Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1s15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

From data month January 2009 the ISC hypocentres are computed using the new ISC location algorithm and all reported IASPEI seismic phases, for which ak135 predictions are available. This algorithm is described in: *Bondár, I. and D.A. Storchak (2011), Improved location procedures at the International Seismological Centre, Geophys. J. Int., 186, 1220-1244, doi:10.1111/j.1365-246X.2011.05107.x*

The alternative locations based on JB-tables are still produced with the original location algorithm for consistency with the past data. It is still the plan that by the middle of calendar year 2014 all ISC locations (1960-2008) are going to be re-computed with the new locatin algorithm and ak135 as part of the ISC Bulletin Re-Build project, sponsored by the US NSF and several agencies from Japan, China and India.

*MOS **01** 00:13:43.2±1.3, 37.°65N×141.°89E, h55km, mb4.5/19, Error ellipse: s-maj=9.7km s-min=6.7km az=98.0*
*JMA **01** 00:13:43.1±0.1, 37.°55N×141.°95E, h43km±2km, M4.3*
JMA Felt II J1.
*NIED **01** 00:13:43.2, 37.°55N×141.°95E, h43km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.96; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.80; $M_{\theta\phi}$-0.86; $M_{\phi r}$-0.15; Fault plane solution: $M_0$2.09000×10^{15} NP1:ϕ_s51.00000°, δ52.00000°, λ113.00000°. NP2:ϕ_s195.00000°, δ43.00000°, λ63.00000°.*
*IDC **01** 00:13:44.9±2.1, 37.°54N×141.°88E, h58km±19km, mb3.9/16, mb1 4.0/22, mb1mx3.9/39, mbtmp4.1/22, ML3.4/6, MS3.4/6, Ms1 3.4/6, ms1mx2.8/88 Error ellipse: s-maj=17.0km s-min=13.0km az=107.0*
*NEIC **01** 00:13:45.2±1.2, 37.°56N±0.°04×141.°85E±0.°08, h55km±5km, mb4.4/63, Error ellipse: s-maj=9.7km s-min=5.5km az=87.0*
ISC 01 00:13:44.4±0.8, **37.°55N**±0.°04×**141.°95E**±0.°06, **h52**km±7km, **n165**, σ**1.s13**/174, **mb4.3**/59, **MS3.5**/5, **10C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.85**	**333**	⇓P	**Pn**	**00 13 58.9**	**-1.3**
JIKH				S	**Sn**	**00 14 09.9**	**-1.8**
JMST	**Minamisoumatoc**	**0.86**	**282**	⇓P	**Pn**	**00 13 58.8**	**-1.5**
JMST				S	**Sn**	**00 14 10.1**	**-1.9**
JFK	**Kawauchi**	**0.88**	**258**	⇓P	**Pn**	**00 13 59.1**	**-1.4**
JFK				S	**Sn**	**00 14 10.4**	**-2.0**
JMM	**Marumori**	**0.97**	**289**	⇓P	**Pn**	**00 14 00.6**	**-1.2**
JMM				S	**Sn**	**00 14 13.2**	**-1.4**
JMM	**Marumori**	**0.97**	**289**		**Pn**	**00 14 00.5**	**-1.2**
JMM				Sn	**Sn**	**00 14 13.0**	**-1.6**
JIO	**Ouri**	**1.02**	**332**	⇓P	**Pn**	**00 14 01.3**	**-1.1**
JIO				S	**Sn**	**00 14 14.0**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.02**	**244**	⇓P	**Pn**	**00 14 01.1**	**-1.4**
ONAJ				S	**Sn**	**00 14 13.8**	**-2.1**
JFT	**Otama**	**1.28**	**269**	⇓P	**Pn**	**00 14 05.7**	**-0.3**
JFT				S	**Sn**	**00 14 22.2**	**+0.1**
JOU	**Okura**	**1.30**	**309**	⇓P	**Pn**	**00 14 05.6**	**-0.7**
JMK	**Ichinoseki**	**1.51**	**338**	⇑P	**Pn**	**00 14 08.5**	**-0.6**
JMK				S	**Sn**	**00 14 27.3**	**-0.4**
JYS	**Shirataka**	**1.64**	**295**	P	**Pn**	**00 14 10.8**	**0.0**
JYS				S	**Sn**	**00 14 32.3**	**+1.6**
JFY	**Yanaizu**	**1.79**	**266**	⇓P	**Pn**	**00 14 12.7**	**-0.2**
JYK	**Kaneyama**	**1.85**	**318**	⇓P	**Pn**	**00 14 13.4**	**-0.4**
JYT	**Yasato**	**1.93**	**227**		**Pn**	**00 14 14.0**	**-0.8**
JYT				Sn	**Sn**	**00 14 35.4**	**-2.5**
JOM	**Ohasama**	**1.99**	**345**	⇑P	**Pn**	**00 14 15.2**	**-0.4**
JOM				S	**Sn**	**00 14 39.5**	**+0.2**
JYA	**Atsumi**	**2.05**	**301**	P	**Pn**	**00 14 16.4**	**0.0**
JSD	**Sado**	**2.96**	**281**	Pn	**Pn**	**00 14 27.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.16**	**253**	P	**Pn**	**00 14 32.4**	**+0.8**
	1.1nm,0.3s,baz=40,slow=8.7,SNR=19						
MJAR				S	**Sn**	**00 15 11.4**	**+3.2**
	1.4nm,0.3s,baz=77,slow=11,SNR=3.0						
MJAR				LR	LR	00 16 06.0	
	comp=Z,524nm,18.2s,baz=57,slow=46						
MJAR	**Matsushiro Arr**	**3.16**	**253**		**Pn**	**00 14 32.0**	**+0.4**
MAJO	**Matsushiro**	**3.16**	**253**	*i* P	**Pn**	**00 14 31.9**	**+0.2**
MAJO	**Matsushiro**	**3.16**	**253**		**Pn**	**00 14 32.4**	**+0.8**
MAT	**Matsushiro**	**3.16**	**253**	P	**Pn**	**00 14 31.8**	**+0.1**
MAT				S	**Sn**	**00 15 10.9**	**+2.8**
MJB9	**Matsu-Tunnel**	**3.16**	**253**	Pn	**Pn**	**00 14 32.3**	**+0.6**
JTM	**Tenmabayashi**	**3.31**	**348**	Pn	**Pn**	**00 14 33.6**	**0.0**
JGF	**Kuroka**	**4.18**	**244**	Pn	**Pn**	**00 14 46.9**	**+1.3**
INU	**Inuyama**	**4.54**	**243**	Pn	**Pn**	**00 14 51.7**	**+1.1**
ERM	**Erimo**	**4.56**	**11**	P	**Pn**	**00 14 50.9**	**+0.2**
ERM	**Erimo**	**4.56**	**11**	Pn	**Pn**	**00 14 50.9**	**+0.2**
JHJ2	**Mitsune**	**4.76**	**202**	Pn	**Pn**	**00 14 52.8**	**-0.8**
JHJ	**Hachijo jima 2**	**4.76**	**202**	P	**Pn**	**00 14 52.7**	**-0.9**
	21nm,0.3s,baz=154,slow=6.6,SNR=1.6						
JHJ				S	**Sn**	**00 15 42.7**	**-4.8**
	75nm,0.3s,baz=226,slow=23,SNR=5.2						
JEW	**Eniwo**	**5.30**	**356**	Pn	**Pn**	**00 15 01.7**	**+0.8**
NMR	**Nemuro--Hokkai**	**6.49**	**25**	*e*P	**Pn**	**00 15 14.2**	**-3.0**
NMR				*e*S	Sn	00 16 21.4	-8.4
JKA	**Kamikawa-asahi**	**6.58**	**4**		**Pn**	**00 15 17.3**	**-1.1**
ASAJ	**Asahikawa**	**6.58**	**4**	P	**Pn**	**00 15 17.7**	**-0.8**
	3.0nm,0.3s,baz=224,slow=15,SNR=7.5						
ASAJ				S	**Sn**	**00 16 30.1**	**-2.0**
	2.0nm,0.3s,baz=122,slow=28,SNR=7.3						
SHO	**Shikotan**	**7.32**	**29**	P	Pn	00 15 24.1	-4.5
JHS	**Saijyo**	**7.58**	**253**	Pn	**Pn**	**00 15 33.2**	**+1.0**
JMN	**Monobe**	**7.60**	**242**	Pn	**Pn**	**00 15 34.5**	**+2.0**
USRK	**Ussuriysk Ar.**	**10.05**	**314**	P	**Pn**	**00 16 04.7**	**-1.3**
	baz=139,slow=43,SNR=2.7						
KSRS	**Korea Array**	**11.15**	**274**	P	**Pn**	**00 16 22.7**	**+1.7**
	0.2nm,0.3s,baz=265,slow=40,SNR=3.6						
KLR	**Kul'dur**	**13.81**	**331**	P	**Pn**	**00 16 58.7**	**+1.3**
	0.1nm,0.3s,baz=142,slow=18,SNR=1.7						
KLR				LR	LR	00 22 13.5	
	comp=Z,96nm,19.5s,baz=140,slow=37						
ZEA	**Zeya**	**19.11**	**333**	*e*P	**Pn**	**00 18 08.1**	**+4.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**22.76**	**12**	P	**P**	**00 18 42.3**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=184,slow=7.9,SNR=8.9						
MA2				LR	LR	00 28 04.7	
	comp=Z,26nm,18.4s,baz=175,slow=38						
MA2	**Magadan**	**22.76**	**12**	*ce*P	**P**	**00 18 41.6**	**-0.5**
MA2				pmax	pmax		
	comp=Z,25nm,2.5s						
MA2	**Magadan**	**22.76**	**12**	P	**P**	**00 18 42.1**	**0.0**
MA2				IAmb	IAmb	00 18 43.9	
	comp=Z,8.6nm,0.9s						
SEY	**Seymchan**	**26.20**	**11**	P	**P**	**00 19 14.0**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=192,slow=7.3,SNR=14						
SEY	**Seymchan**	**26.20**	**11**	*i* P	**P**	**00 19 14.4**	**+0.5**
SMY	**Shemya**	**27.00**	**45**	P	**P**	**00 19 22.3**	**+1.1**
SMY	**Shemya**	**27.00**	**45**	P	**P**	**00 19 22.3**	**+1.1**
ULN	**Ulaanbaatar**	**27.43**	**303**	*ce*P	**P**	**00 19 21.9**	**-3.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.43**	**303**	P	**P**	**00 19 24.9**	**-0.4**
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**00 19 28.5**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=101,slow=8.3,SNR=10.0						
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**00 19 28.5**	**-0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	00 48 59.2	
	SNR=275						
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	00 49 00.6	
	baz=314,slow=74,SNR=247						
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	00 48 59.5	
	baz=198,slow=74,SNR=186						
H11S1	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	00 50 10.4	
	baz=316,slow=76,SNR=142						
H11S3	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	00 50 10.5	
	baz=316,slow=76,SNR=152						
H11S2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	00 50 01.3	
	baz=316,slow=76,SNR=117						
BILL	**Bilibino**	**33.41**	**16**	⇑*e*P	**P**	**00 20 15.1**	**-2.6**
BILL				*PP	**pP**	**00 20 34.0**	**+3.2**
BILL						00 21 29.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,2.5s						
BILL				MLR	MLR		
	comp=Z,47nm,14.0s						
TIXI	**Tiksi**	**34.83**	**353**	*ce*P	**P**	**00 20 27.7**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KWAJ	**Kwajalein Atol**	**36.84**	**134**	P	**P**	**00 20 48.3**	**+0.7**
KWAJ	**Kwajalein Atol**	**36.84**	**134**	P	**P**	**00 20 48.3**	**+0.7**
ZAA0	**Zalesovo Array**	**41.89**	**312**	P	**P**	**00 21 29.1**	**-0.2**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**00 21 29.3**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=79,slow=7.9,SNR=6.6						
ZALV				PcP	**PcP**	**00 23 23.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=152,slow=4.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**00 21 28.6**	**-0.8**
MK31	**Makanchi Array**	**44.21**	**302**	*i* P	**P**	**00 21 48.5**	**+0.2**
MK31	**Makanchi Array**	**44.21**	**302**	P	**P**	**00 21 48.3**	**0.0**
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**00 21 47.7**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=85,slow=9.6,SNR=26						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**00 21 48.2**	**-0.1**
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**00 21 48.2**	**-0.1**
SBUM	**Sibu**	**44.33**	**225**	P	**P**	**00 21 49.1**	**-0.4**
SBUM				IAmb	IAmb	00 21 49.9	
	comp=Z,12nm,1.4s						
MAKZ	**Makanchi**	**44.42**	**302**	P	**P**	**00 21 49.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**44.42**	**302**	P	**P**	**00 21 49.7**	**-0.3**
MAKZ				IAmb	IAmb	00 21 53.2	
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**45.95**	**308**	*ce*P	**P**	**00 22 00.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**45.95**	**308**	P	**P**	**00 22 01.6**	**-0.4**
KDAK	**Kodiak Island**	**46.43**	**42**	LR	LR	00 42 01.7	
	comp=Z,117nm,21.9s,baz=174,slow=36						
TOLK	**Toolik Lake Re**	**47.82**	**27**	P	**P**	**00 22 17.3**	**+0.9**
TOLK				IAmb	IAmb	00 22 18.7	
	comp=Z,6.4nm,1.2s						
CCB	**Clear Creek Bu**	**48.44**	**33**	P	**P**	**00 22 21.3**	**+0.2**
CCB				IAmb	IAmb	00 22 25.2	
	comp=Z,5.9nm,1.4s						
POKR	**Poker Plat Res**	**48.59**	**32**	P	**P**	**00 22 23.2**	**+0.9**
DHY	**Denali Highway**	**48.69**	**35**	P	**P**	**00 22 24.7**	**+1.4**
DHY				IAmb	IAmb	00 22 27.0	
	comp=Z,5.1nm,1.0s						
IL31		**48.83**	**33**	P	**P**	**00 22 24.2**	**+0.1**
IL31				IAmb	IAmb	00 22 25.3	
	comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**00 22 24.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=265,slow=6.6,SNR=23						
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**00 22 24.8**	**+0.6**
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**00 22 24.8**	**+0.6**
AAK	**Ala-Archa**	**50.62**	**298**	*i* P	**P**	**00 22 37.0**	**-1.3**
BCAR	**Beaver Creek A**	**51.23**	**35**	P	**P**	**00 22 42.6**	**+0.2**
I29M	**Ogilvie Camp,**	**52.39**	**31**	P	**P**	**00 22 51.6**	**+0.6**
PSI	**Prapat**	**52.43**	**239**	LR	LR	00 47 02.9	
	comp=Z,111nm,18.1s,baz=212,slow=38						
SVE	**Sverdlovsk**	**55.05**	**318**	*e*P	**P**	**00 23 11.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,6.0nm,0.9s						
A36M	**Sachs Harbour**	**55.62**	**22**	P	**P**	**00 23 15.5**	**+1.1**
CHGR	**Chuyangaron**	**55.83**	**295**	P	**P**	**00 23 17.5**	**+0.9**
CHGR				pmax	pmax		
	comp=Z,13nm,1.1s						
CHGR	**Chuyangaron**	**55.83**	**295**	P	**P**	**00 23 17.5**	**+0.9**
P33M	**Teslin, Yukon**	**56.03**	**37**	P	**P**	**00 23 19.2**	**+1.6**
ARU	**Arti**	**56.26**	**318**	*c i*P	**P**	**00 23 18.8**	**-0.4**
ARU						00 24 15.2	
ARU						00 25 21.4	
ARU				S	**S**	**00 31 04.7**	**-0.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**56.26**	**318**	P	**P**	**00 23 19.0**	**-0.2**
WRA	**Warramunga Arr**	**57.63**	**188**	P	**P**	**00 23 28.3**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=3.5,slow=7.1,SNR=16						
WRA	**Warramunga Arr**	**57.63**	**188**	IAmb	IAmb	00 23 29.7	
	comp=Z,0.2nm,0.8s						
ABKAR	**Akbulak array**	**57.94**	**310**	IAmb	IAmb	00 23 34.1	
	comp=Z,1.7nm,0.7s						
KIRV	**Kirov**	**60.10**	**323**	*ce*P	**P**	**00 23 45.4**	**-0.5**
ASAR	**Alice Springs**	**61.36**	**188**	P	**P**	**00 23 55.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=12,slow=6.6,SNR=16						
ASAR	**Alice Springs**	**61.36**	**188**	P	**P**	**00 23 55.0**	**+0.1**
RES	**Resolute Bay**	**61.99**	**15**	P	**P**	**00 23 58.8**	**+0.3**
RES				pmax	pmax		
	comp=Z,3.0nm,1.2s						
RES	**Resolute Bay**	**61.99**	**15**	P	**P**	**00 23 58.8**	**+0.3**
RES				IAmb	IAmb	00 24 16.0	
	comp=Z,2.5nm,1.2s						
YKA	**Yellowknife Ar**	**63.15**	**30**	P	**P**	**00 24 06.7**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=302,slow=6.6,SNR=17						
OBN	**Obninsk**	**67.94**	**323**	⇑*e*P	**P**	**00 24 36.7**	**-0.7**
OBN				*PP	**pP**	**00 24 53.0**	**+1.2**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VORR	**Voronezh**	**68.55**	**319**	*e*P	**P**	**00 24 39.1**	**-2.3**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**00 24 41.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=54,slow=9.8,SNR=8.9						
KBZ	**Khabaz**	**70.89**	**311**	P	**P**	**00 24 55.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=27,slow=2.8,SNR=5.3						
KIV	**Kislovodsk**	**70.89**	**311**	*e*P	**P**	**00 24 56.6**	**+0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
J08A	**Circle Bar Ran**	**71.41**	**49**	P	**P**	**00 24 59.7**	**+0.5**
J08A				IAmb	IAmb	00 25 01.7	
	comp=Z,9.5nm,1.3s						
ORV	**Oroville**	**71.65**	**54**	P	**P**	**00 25 00.5**	**-0.1**
ORV				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ORV	**Oroville**	**71.65**	**54**	P	**P**	**00 25 00.5**	**-0.1**
ORV				IAmb	IAmb	00 25 06.6	
	comp=Z,5.7nm,1.4s						
PLID	**Pearl Lake**	**71.89**	**47**	P	**P**	**00 25 02.7**	**+0.5**
BEKR	**Beckworth**	**72.20**	**53**	P	**P**	**00 25 04.2**	**+0.1**
BEKR				IAmb	IAmb	00 25 05.9	
	comp=Z,2.9nm,0.8s						
LRM	**Limekiln Ridge**	**73.48**	**45**	P	**P**	**00 25 12.6**	**+0.9**
DLMT	**Dillon**	**73.67**	**45**	P	**P**	**00 25 12.9**	**+0.2**
DLMT				IAmb	IAmb	00 25 15.5	
	comp=Z,5.4nm,0.9s						
NB2	**NORSAR Subarra**	**73.88**	**337**	P	**P**	**00 25 13.5**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.88**	**337**	P	**P**	**00 25 13.4**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=39,slow=6.0,SNR=6.6						
NOA				LR	LR	01 01 20.1	
	comp=Z,24nm,19.4s,baz=250,slow=39						
BOZ	**Bozeman (W)**	**74.07**	**44**	P	**P**	**00 25 15.9**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOZ	**Bozeman (W)**	**74.07**	**44**	P	**P**	**00 25 15.9**	**+0.9**
BOZ				IAmb	IAmb	00 25 16.8	
	comp=Z,3.0nm,0.8s						
RYN	**Ryan**	**74.08**	**53**	P	**P**	**00 25 15.7**	**+0.5**
KVN	**Kaiserville**	**74.11**	**53**	P	**P**	**00 25 15.3**	**-0.1**
KVN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KVN	**Kaiserville**	**74.11**	**53**	P	**P**	**00 25 15.3**	**-0.1**
KVN				IAmb	IAmb	00 25 17.7	
	comp=Z,3.9nm,1.0s						
NAO01	**NORSAR Array S**	**74.13**	**337**	P	**P**	**00 25 14.6**	**-0.3**
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**00 25 14.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=47,slow=6.1,SNR=8.3						
LHV	**Little Huntoon**	**74.31**	**54**	P	**P**	**00 25 16.9**	**+0.6**
LHV				IAmb	IAmb	00 25 18.4	
	comp=Z,9.2nm,1.4s						
NVAR	**Mina Array Bea**	**74.34**	**54**	P	**P**	**00 25 16.8**	**0.0**
	comp=Z,1.8nm,0.8s,baz=282,slow=6.2,SNR=13						
H17A	**Grant Village**	**75.40**	**45**	P	**P**	**00 25 24.3**	**+1.4**
H17A				IAmb	IAmb	00 25 26.7	
	comp=Z,4.8nm,0.8s						
BCW	**Bitter Crk WRg**	**75.64**	**57**	P	**P**	**00 25 24.6**	**+0.4**
MOOW	**Moose Ponds**	**75.71**	**46**	P	**P**	**00 25 25.6**	**+1.0**
TPAW	**Teton Pass**	**75.75**	**46**	P	**P**	**00 25 25.4**	**+0.5**
TPAW				IAmb	IAmb	00 25 27.6	
	comp=Z,3.3nm,1.0s						
R11A	**Troy Canyon, C**	**76.11**	**52**	P	**P**	**00 25 27.5**	**+0.6**
TPNV	**Topopah Spring**	**76.52**	**54**	P	**P**	**00 25 29.6**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TPNV	**Topopah Spring**	**76.52**	**54**	P	**P**	**00 25 29.6**	**+0.3**
GWY	**Greenwater Val**	**76.71**	**55**	P	**P**	**00 25 31.2**	**+0.9**
GWY				IAmb	IAmb	00 25 32.1	
	comp=Z,2.8nm,0.8s						
QSM	**Queen of Sheba**	**76.71**	**55**	P	**P**	**00 25 30.4**	**+0.2**
QSM				IAmb	IAmb	00 25 32.0	
	comp=Z,4.5nm,1.0s						
PD31	**Pinedale Array**	**77.00**	**46**	P	**P**	**00 25 31.9**	**0.0**
PDAR	**Pinedale Array**	**77.00**	**46**	P	**P**	**00 25 32.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=274,slow=2.6,SNR=15						
SHPR	**Sheep Range**	**77.49**	**54**	P	**P**	**00 25 35.6**	**+0.9**
SHPR				IAmb	IAmb	00 25 46.3	
	comp=Z,5.1nm,1.4s						
MPU	**Maple Canyon**	**77.52**	**49**	P	**P**	**00 25 34.9**	**0.0**
MPU				IAmb	IAmb	00 25 36.9	
	comp=Z,3.4nm,0.8s						
CCUT	**Cedar City**	**77.98**	**52**	P	**P**	**00 25 38.7**	**+1.2**
BNN	**Bunyan**	**78.05**	**310**	P	**P**	**00 25 38.1**	**+0.3**
MSU	**Marysvale**	**78.12**	**50**	P	**P**	**00 25 39.4**	**+1.1**
MSU	**Marysvale**	**78.12**	**50**	P	**P**	**00 25 39.4**	**+1.1**
BURAR	**Bucovina Array**	**78.17**	**322**	P	**P**	**00 25 37.8**	**-0.4**
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BURAR	**Bucovina Array**	**78.17**	**322**	P	**P**	**00 25 37.8**	**-0.4**
P17A	**Butcher Ranch,**	**78.39**	**49**	P	**P**	**00 25 40.0**	**+0.3**
P17A				IAmb	IAmb	00 25 41.9	
	comp=Z,5.5nm,1.0s						
MTPU	**Mount Pierson**	**78.41**	**51**	P	**P**	**00 25 39.1**	**-0.9**
MTPU				IAmb	IAmb	00 25 51.7	
	comp=Z,2.8nm,0.7s						
Q16A	**Castle Valley**	**78.48**	**50**	P	**P**	**00 25 40.9**	**+0.7**
Q16A				IAmb	IAmb	00 25 43.6	
	comp=Z,6.0nm,1.2s						
PV21	**Cone Mtn., Par**	**80.03**	**49**	P	**P**	**00 25 49.1**	**+0.4**
PV21				IAmb	IAmb	00 25 50.7	
	comp=Z,3.2nm,0.8s						
PV23	**Carpenter Ridg**	**80.08**	**49**	P	**P**	**00 25 49.2**	**+0.2**
PV23				IAmb	IAmb	00 25 50.7	
	comp=Z,5.6nm,1.0s						
PV20	**West Nyswonger**	**80.18**	**49**	P	**P**	**00 25 49.5**	**0.0**
PV20				IAmb	IAmb	00 25 51.6	
	comp=Z,4.2nm,0.7s						
PV17	**East Wray Mesa**	**80.22**	**49**	P	**P**	**00 25 49.6**	**-0.1**
PV16	**Nyswonger Mesa**	**80.23**	**49**	P	**P**	**00 25 49.6**	**-0.1**
PV16				IAmb	IAmb	00 25 51.8	
	comp=Z,3.2nm,0.9s						
X16A	**Lo Mia Camp, P**	**81.16**	**53**	P	**P**	**00 25 54.8**	**0.0**
NRS	**Narsarsuaq**	**81.45**	**4**	P	**P**	**00 25 55.6**	**+0.1**
NRS				pmax	pmax		
	comp=Z,49nm,1.3s						
NRS	**Narsarsuaq**	**81.45**	**4**	P	**P**	**00 25 55.6**	**+0.1**
214A	**Organ Pipe Nat**	**81.83**	**56**	P	**P**	**00 25 58.4**	**+0.3**
VTS	**Vitosha**	**82.67**	**319**	P	**P**	**00 26 02.0**	**-0.5**
VTS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VTS	**Vitosha**	**82.67**	**319**	P	**P**	**00 26 02.0**	**-0.5**
VTS				IAmb	IAmb	00 26 07.4	
	comp=Z,5.3nm,1.2s						
T25A	**Trinidad**	**83.67**	**47**	P	**P**	**00 26 08.4**	**+0.5**
T25A				IAmb	IAmb	00 26 24.1	
	comp=Z,4.9nm,1.1s						
BSWZ	**Blackbirch Sta**	**84.10**	**157**	P	**P**	**00 26 10.2**	**+0.9**
TXAR	**Lajitas Array**	**89.47**	**53**	P	**P**	**00 26 36.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=308,slow=3.5,SNR=10						
LPAZ	**La Paz**	**146.06**	**60**	PKPbc	**PKPdf**	**00 33 19.2**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=316,slow=1.3,SNR=9.8						
LPAZ	**La Paz**	**146.06**	**60**	PKPdf	**PKPbc**	**00 33 19.8**	**0.0**

IDC 01 00:34:51.6±7.7, **30.°50S**×**178.°20W**, **h0**km, **mb3.5**/2, **mb1 3.8**/2, **mb1mx3.6**/24, **mbtmp3.5**/2, **Error ellipse: s-maj=322.7km s-min=59.1km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.93**	**267**	P	P	00 42 52.1	-0.3
	0.2nm,0.3s,baz=111,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**43.93**	**272**	P	P	00 43 00.5	0.0
	0.2nm,0.3s,baz=111,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	00 54 29.2	-0.8
	1.9nm,0.8s,baz=44,slow=5.1,SNR=5.2						

*UPA **01** 01:08:39.4±1.8, 12.°19N×90.°00W, h133km±184km, MW4.8*
*INET **01** 01:08:42.7±0.8, 12.°89N×88.°98W, h28km, MW5.5*
*IDC **01** 01:08:43.4±0.6, 13.°30N×88.°54W, h67km±4km, mb4.3/31, mb1 4.5/34, mb1mx4.4/51, mbtmp4.6/34, MS4.2/56, Ms1 4.2/56, ms1mx4.2/65, Error ellipse: s-maj=16.3km s-min=8.1km az=55.0*
*SNET **01** 01:08:43.1±1.1, 12.°95N×88.°98W, h48km±10km, ML5.1, MW5.1, Fault plane solution: NP1:ϕ_s233.00000°, δ9.00000°, λ9.00000°.*
*UCR **01** 01:08:43.5±1.4, 12.°98N×88.°98W, h50km±10km, ML5.0, MW5.1, mb5.1(NEIC)*
*NEIC **01** 01:08:43.0±1.7, 13.°08N±0.°03×88.°82W±0.°05, h60km±4km, mb4.9/403, Mwr5.1/29, Md5.1(SNET), Error ellipse: s-maj=7.2km s-min=2.8km az=117.0*
*NEIC **01** 01:08:44.8, 13.°16N×88.°74W, h57km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-5.45; $M_{\theta\theta}$2.41; $M_{\phi\phi}$3.04; $M_{r\theta}$1.87; $M_{\theta\phi}$-3.02; $M_{\phi r}$0.98; Fault plane solution: $M_0$6.00000×10^{16} NP1:ϕ_s299.63000°, δ50.77000°, λ-114.97000°. NP2:ϕ_s156.00000°, δ45.40000°, λ-62.66000°. Principal axes: T 5.7906, Plg3.0000°, Azm47.0000°; N 0.3948, Plg19.0000°, Azm316.0000°; P -6.1855, Plg71.0000°, Azm145.0000°;*
*GCMT **01** 01:08:44.0±0.2, 12.°98N±0.°01×89.°07W±0.°01, h62km±3km, MW5.1/123, Moment Tensor Solution. s79,c110; s123,c183; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.05±.17; $M_{\theta\theta}$-1.01±.14; $M_{\phi\phi}$1.06±.15; $M_{r\theta}$4.58±.12; $M_{\theta\phi}$0.68±.13; $M_{\phi r}$-4.16±.11; Best double couple: $M_0$6.27400×10^{16} NP1:ϕ_s233.00000°, δ9.00000°, λ9.00000°. NP2:ϕ_s134.00000°, δ89.00000°, λ99.00000°. Principal axes: T 5.8850, Plg46.0000°, Azm53.0000°; N 0.7780, Plg9.0000°, Azm313.0000°; P -6.6630, Plg43.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GCG **01** 01:08:53.1±0.3, 13.°91N×89.°57W, h135km±15km, MD4.9*
ISC 01 01:08:42.6±0.4, **13.°08N**±0.°03×**88.°93W**±0.°03, **h68**km±3km, **h68**km**:pP-P, n869**, σ**1.s49**/810, **mb4.9**/188, **7C-13D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.43**	**54**	*e*P	**Pn**	**01 08 54.9**	**+0.3**
ALJI				*e*S	**Sn**	**01 09 04.9**	**+1.5**
ALJI	**Alcalda de J**	**0.43**	**54**	*e*P	**Pn**	**01 08 54.9**	**+0.3**
ALJI				*e*S	**Sn**	**01 09 04.9**	**+1.5**
TECO	**Alcaldia de Te**	**0.48**	**17**	*e*P	**Pn**	**01 08 55.6**	**+0.4**
TECO				*e*S	**Sn**	**01 09 05.6**	**+1.3**
TECO	**Alcaldia de Te**	**0.48**	**17**	*e*P	**Pn**	**01 08 55.6**	**+0.4**
TECO				*e*S	**Sn**	**01 09 05.6**	**+1.3**
SNVI	**San Vicente**	**0.54**	**9**	*i* P	**Pn**	**01 08 56.5**	**+0.6**
SNVI	**San Vicente**	**0.54**	**9**	*i* P	**Pn**	**01 08 56.5**	**+0.6**
SJTE	**Alcalda de S**	**0.54**	**352**	*e*P	**Pn**	**01 08 56.2**	**+0.4**
SJTE				*e*S	**Sn**	**01 09 06.6**	**+1.1**
SJTE				IAML		01 09 07.2	
	comp=Z,42μm,0.3s						
SJTE	**Alcalda de S**	**0.54**	**352**	*e*P	**Pn**	**01 08 56.2**	**+0.4**
SJTE				*e*S	**Sn**	**01 09 06.6**	**+1.1**
SJTE				IAML		01 09 07.2	
	comp=Z,42μm,0.3s						
COEG	**Centro de Oper**	**0.54**	**5**	*i* P	**Pn**	**01 08 56.3**	**+0.5**
COEG				*e*S	**Sn**	**01 09 06.8**	**+1.4**
COEG				IAML		01 09 10.7	
	comp=Z,225μm,0.4s						
COEG	**Centro de Oper**	**0.54**	**5**	*i* P	**Pn**	**01 08 56.3**	**+0.5**
COEG				*e*S	**Sn**	**01 09 06.8**	**+1.4**
COEG				IAML		01 09 10.7	
	comp=Z,225μm,0.4s						
COEG	**Centro de Oper**	**0.54**	**5**	*e*P	**Pn**	**01 08 56.2**	**+0.4**
LFRS	**El Faro**	**0.56**	**346**	⇓*i*P	**Pn**	**01 08 56.1**	**+0.1**
LFRS	**El Faro**	**0.56**	**346**	⇓*i*P	**Pn**	**01 08 56.1**	**+0.1**
LALI	**Alcalda de L**	**0.56**	**317**	*e*P	**Pn**	**01 08 55.7**	**-0.2**
LALI				*e*S	**Sn**	**01 09 05.6**	**-0.1**
LALI				IAML		01 09 06.0	
	comp=Z,56μm,0.3s						
LALI	**Alcalda de L**	**0.56**	**317**	*e*P	**Pn**	**01 08 55.7**	**-0.2**
LALI				*e*S	**Sn**	**01 09 05.6**	**-0.1**
LALI				IAML		01 09 06.0	
	comp=Z,56μm,0.3s						
LALI	**Alcalda de L**	**0.56**	**317**	*e*P	**Pn**	**01 08 55.7**	**-0.2**
COEB	**Comit de Eme**	**0.57**	**43**	*e*P	**Pn**	**01 08 56.9**	**+0.8**
COEB				*e*S	**Sn**	**01 09 07.8**	**+1.8**
COEB				IAML		01 09 10.5	
	comp=Z,172μm,0.4s						
COEB	**Comit de Eme**	**0.57**	**43**	*e*P	**Pn**	**01 08 56.9**	**+0.8**
COEB				*e*S	**Sn**	**01 09 07.8**	**+1.8**
COEB				IAML		01 09 10.5	
	comp=Z,172μm,0.4s						
COEB	**Comit de Eme**	**0.57**	**43**	*e*P	**Pn**	**01 08 56.9**	**+0.8**
UESV	**Universidad de**	**0.57**	**14**	*e*P	**Pn**	**01 08 56.8**	**+0.7**
UESV				*e*S	**Sn**	**01 09 08.0**	**+2.1**
UESV	**Universidad de**	**0.57**	**14**	*e*P	**Pn**	**01 08 56.8**	**+0.7**
UESV				*e*S	**Sn**	**01 09 08.0**	**+2.1**
PAVA	**Las Pavas**	**0.63**	**359**	*e*P	**Pn**	**01 08 57.8**	**+0.9**
PAVA				*e*S	**Sn**	**01 09 09.1**	**+1.9**
PAVA	**Las Pavas**	**0.63**	**359**	*e*P	**Pn**	**01 08 57.8**	**+0.9**
PAVA				*e*S	**Sn**	**01 09 09.1**	**+1.9**
PAVA	**Las Pavas**	**0.63**	**359**	*e*P	**Pn**	**01 08 57.7**	**+0.9**
PQSS	**Presa 15 de Se**	**0.65**	**33**	*e*P	**Pn**	**01 08 58.2**	**+1.3**
PQSS	**Presa 15 de Se**	**0.65**	**33**	*e*P	**Pn**	**01 08 58.2**	**+1.3**
SCLA	**Alcaldia de Sa**	**0.65**	**17**	*e*P	**Pn**	**01 08 58.2**	**+1.3**
SCLA				*e*S	**Sn**	**01 09 09.7**	**+2.3**
SCLA				IAML		01 09 15.2	
	comp=Z,22μm,0.5s						
SCLA	**Alcaldia de Sa**	**0.65**	**17**	*e*P	**Pn**	**01 08 58.2**	**+1.3**
SCLA				*e*S	**Sn**	**01 09 09.7**	**+2.3**

SCLA IAML 01 09 15.2
comp=Z,22µm,0.5s
LBRS Las Brisas 0.67 350 *i* P **Pn 01 08 58.2 +1.1**
LBRS Las Brisas 0.67 350 *i* P **Pn 01 08 58.2 +1.1**
UDBS Universidad Do 0.67 341 *eP* **Pn 01 08 58.0 +0.8**
UDBS *eS* **Sn 01 09 09.6 +1.7**
UDBS Universidad Do 0.67 341 *eP* **Pn 01 08 58.0 +0.8**
UDBS *eS* **Sn 01 09 09.6 +1.7**
SNET Serv Nac Est T 0.68 334 **Pn 01 08 57.5 +0.3**
SNET Serv Nac Est T 0.68 334 *i* P **Pn 01 08 57.6 +0.4**
SNET *eS* **Sn 01 09 08.7 +0.7**
SNET IAML 01 09 17.3
comp=Z,47µm,0.2s
SNET Serv Nac Est T 0.68 334 *i* P **Pn 01 08 57.6 +0.4**
SNET *eS* **Sn 01 09 08.7 +0.7**
SNET IAML 01 09 17.3
comp=Z,47µm,0.2s
SNET Serv Nac Est T 0.68 334 *eP* **Pn 01 08 57.6 +0.3**
UTEC Universidad Te 0.68 337 *eP* **Pn 01 08 58.0 +0.7**
UTEC *eS* **Sn 01 09 09.7 +1.7**
UTEC Universidad Te 0.68 337 *eP* **Pn 01 08 58.0 +0.7**
UTEC *eS* **Sn 01 09 09.7 +1.7**
OPAM Oficina de Pla 0.69 337 *eP* **Pn 01 08 58.1 +0.7**
OPAM *eS* **Sn 01 09 09.9 +1.8**
OPAM Oficina de Pla 0.69 337 *eP* **Pn 01 08 58.1 +0.7**
OPAM *eS* **Sn 01 09 09.9 +1.8**
UESS Universidad de 0.69 337 *eP* **Pn 01 08 58.2 +0.8**
UESS *eS* **Sn 01 09 10.1 +1.7**
UESS IAML 01 09 11.2
comp=Z,50µm,0.1s
UESS Universidad de 0.69 337 *eP* **Pn 01 08 58.2 +0.8**
UESS *eS* **Sn 01 09 10.1 +1.7**
UESS IAML 01 09 11.2
comp=Z,50µm,0.1s
MAGS Ministerio de 0.70 330 *eP* **Pn 01 08 58.0 +0.5**
MAGS *eS* **Sn 01 09 09.7 +1.2**
MAGS IAML 01 09 19.5
comp=Z,104µm,0.5s
PACA Pacayal 0.70 56 *eP* **Pn 01 08 58.9 +1.3**
PACA *eS* **Sn 01 09 11.0 +2.3**
PACA IAML 01 09 12.2
comp=Z,38µm,0.5s
PACA Pacayal 0.70 56 *eP* **Pn 01 08 58.9 +1.3**
PACA *eS* **Sn 01 09 11.0 +2.3**
PACA IAML 01 09 12.2
comp=Z,38µm,0.5s
PACA Pacayal 0.70 56 *eP* **Pn 01 08 58.7 +1.1**
LCY Lacayo 0.70 61 *eP* **Pn 01 08 58.4 +0.8**
LCY Lacayo 0.70 61 *eP* **Pn 01 08 58.4 +0.8**
UEES Universidad Ev 0.70 334 *eP* **Pn 01 08 58.1 +0.5**
UEES Universidad Ev 0.70 334 *eP* **Pn 01 08 58.1 +0.5**
VSM San Miguel 0.72 61 *i* P **Pn 01 08 58.8 +0.8**
VSM San Miguel 0.72 61 *i* P **Pn 01 08 58.8 +0.8**
PMON Piamonte 0.74 329 *eP* **Pn 01 08 58.4 +0.4**
PMON *eS* **Sn 01 09 10.8 +1.6**
PMON Piamonte 0.74 329 *eP* **Pn 01 08 58.4 +0.4**
PMON *eS* **Sn 01 09 10.8 +1.6**
BOQS Boqueron 0.74 332 ‖ *i* P **Pn 01 08 58.8 +0.7**
BOQS Boqueron 0.74 332 ‖ *i* P **Pn 01 08 58.8 +0.7**
CNRM Centro Naciona 0.83 62 *eP* **Pn 01 09 00.1 +1.1**
CNRM *eS* **Sn 01 09 14.1 +3.0**
CNRM Centro Naciona 0.83 62 *eP* **Pn 01 09 00.1 +1.1**
CNRM *eS* **Sn 01 09 14.1 +3.0**
CEDA San Andres 0.85 328 *eP* **Pn 01 08 59.8 +0.5**
CEDA *eS* **Sn 01 09 13.8 +2.2**
CEDA IAML 01 09 27.4
comp=Z,48µm,0.3s
CEDA San Andres 0.85 328 *eP* **Pn 01 08 59.8 +0.5**
CEDA *eS* **Sn 01 09 13.8 +2.2**
CEDA IAML 01 09 27.4
comp=Z,48µm,0.3s
CEDA San Andres 0.85 328 *eP* **Pn 01 08 60.0 +0.7**
TACO Tacachico 0.98 335 *i* P **Pn 01 09 01.8 +0.9**
TACO *eS* **Sn 01 09 17.1 +2.7**
TACO Tacachico 0.98 335 *i* P **Pn 01 09 01.8 +0.9**
TACO *eS* **Sn 01 09 17.1 +2.7**
CEVE Cerro Verde 1.01 318 *eP* **Pn 01 09 02.3 +0.9**
CEVE *eS* **Sn 01 09 18.8 +3.5**
CEVE IAML 01 09 24.5
comp=Z,60µm,0.3s
CEVE Cerro Verde 1.01 318 *eP* **Pn 01 09 02.3 +0.9**
CEVE *eS* **Sn 01 09 18.8 +3.5**
CEVE IAML 01 09 24.5
comp=Z,60µm,0.3s
SBLS San Blas 1.02 318 ‖ *eP* **Pn 01 09 02.3 +0.8**
SBLS San Blas 1.02 318 ‖ *eP* **Pn 01 09 02.3 +0.8**
SNJE San Jose 1.03 320 *i* P **Pn 01 09 02.4 +0.8**
SNJE San Jose 1.03 320 *i* P **Pn 01 09 02.4 +0.8**
LCND La Caada 1.03 77 *eP* **Pn 01 09 02.7 +1.2**
LCND *eS* **Sn 01 09 17.7 +2.2**
RTR El Retiro 1.07 319 *eP* **Pn 01 09 03.3 +1.1**
RTR El Retiro 1.07 319 *eP* **Pn 01 09 03.3 +1.1**
LLGN La Laguna 1.08 359 *eP* **Pn 01 09 03.7 +1.5**
LLGN *eS* **Sn 01 09 19.7 +3.0**
LLGN La Laguna 1.08 359 *eP* **Pn 01 09 03.7 +1.5**
LLGN *eS* **Sn 01 09 19.7 +3.0**
UNIC Universidad Ca 1.08 326 *eP* **Pn 01 09 03.5 +1.3**
UNIC *eS* **Sn 01 09 19.7 +2.9**
UNIC Universidad Ca 1.08 326 *eP* **Pn 01 09 03.5 +1.3**
UNIC *eS* **Sn 01 09 19.7 +2.9**
NUBE Las Nubes 1.17 315 *eP* **Pn 01 09 04.1 +0.8**
NUBE *eS* **Sn 01 09 20.2 +1.4**
NUBE IAML 01 09 22.6
comp=Z,38µm,0.2s
NUBE Las Nubes 1.17 315 *eP* **Pn 01 09 04.1 +0.8**
NUBE *eS* **Sn 01 09 20.2 +1.4**
NUBE IAML 01 09 22.6
comp=Z,38µm,0.2s
LOAL Lomas de Alarc 1.24 318 *eP* **Pn 01 09 05.6 +1.4**
LOAL Lomas de Alarc 1.24 318 *eP* **Pn 01 09 05.6 +1.4**
SLOZ Alcaldia de Sa 1.26 319 *eP* **Pn 01 09 05.7 +1.2**
CSGN Cosiguina Volc 1.34 94 *eP* **Pn 01 09 05.5 0.0**
MTO3 Montecristo 1.38 342 *i* P **Pn 01 09 07.5 +1.3**
MTO3 Sn **Sn 01 09 23.6 -0.2**
MTO3 Montecristo 1.38 342 *eP* **Pn 01 09 07.6 +1.4**
ESQI Esquipulas 1.53 345 **Pn 01 09 08.5 +0.4**
ESQI Esquipulas 1.53 345 *eP* **Pn 01 09 10.1 +2.1**
ESQI *eS* **Sn 01 09 30.5 +3.3**
CRIN San Cristobal 1.87 101 Pn **Pn 01 09 12.1 -0.5**
CRIN San Cristobal 1.87 101 *eP* **Pn 01 09 13.1 +0.6**
TGUH Tegucigalpa,Un 1.88 59 Pn **Pn 01 09 12.8 +0.1**
NBG Las Nubes 2.04 318 *eP* **Pn 01 09 17.7 +2.7**
TEL3 Telica 3 2.09 104 *eP* **Pn 01 09 15.8 +0.2**
PCG Pacaya 2.09 309 *eP* **Pn 01 09 18.6 +2.9**
MRL Marmol 2.12 340 ‖ *eP* **Pn 01 09 19.1 +2.9**
CNGN Cerro Negro 2.25 105 **Pn 01 09 15.8 -1.8**
CNGN Cerro Negro 2.25 105 *eP* **Pn 01 09 17.2 -0.5**
FUG Fuego 3 2.31 306 *eP* **Pn 01 09 20.6 +2.0**
APG El Apazote 2.43 322 P **Pn 01 09 22.2 +2.0**
comp=Z,52nm,0.3s,baz=152,slow=11,SNR=94
APG S **Sn 01 09 52.5 +3.4**
comp=Z,121nm,0.3s,baz=156,slow=20,SNR=4.9
APYN Apoyeque 2.65 108 *eP* **Pn 01 09 22.7 -0.4**
TISN Laguna Tiscapa 2.75 109 *eP* **Pn 01 09 23.5 -1.0**
MGAN Managua 2.77 109 *eP* **Pn 01 09 24.4 -0.3**
HUEN 2.79 105 *eP* **Pn 01 09 24.3 -0.6**
MATN Matagalpa 2.93 93 **Pn 01 09 26.9 -0.1**
MATN Matagalpa 2.93 93 *eP* **Pn 01 09 27.2 +0.2**
STG3 Santiaguito 3, 3.04 303 *eP* **Pn 01 09 31.3 +2.7**
RTAL Retalhuleu 3.05 298 Pn **Pn 01 09 29.9 +1.3**
BOAB BOACO BROADBAN 3.24 101 Pn **Pn 01 09 30.2 -0.9**
BOAB BOACO BROADBAN 3.24 101 *eP* **Pn 01 09 30.5 -0.7**
HUEH Huehuetenango 3.35 312 Pn **Pn 01 09 34.8 +2.0**
HUEH Huehuetenango 3.35 312 *eP* **Pn 01 09 36.5 +3.7**
ACON Acoyapa 3.83 106 **Pn 01 09 37.7 -1.4**
ACON Acoyapa 3.83 106 *eP* **Pn 01 09 38.0 -1.1**
PETF Flores 3.92 347 **Pn 01 09 41.1 +0.6**
PETF Flores 3.92 347 *eP* **Pn 01 09 44.0 +3.6**
HZTE Horizontes, Gu 4.02 125 Pn **Pn 01 09 41.3 -0.4**
HZTE Horizontes, Gu 4.02 125 *eP* **Pn 01 09 43.6 +1.9**
GBS3 Finca Las Img 4.09 124 *eP* **Pn 01 09 44.7 +1.9**
LAPC Finca la Perla 4.12 124 *eP* **Pn 01 09 44.5 +1.3**
BUAI Buenos Aires 4.14 121 *eP* **Pn 01 09 45.3 +1.8**
LIM1 Limonal 4.30 123 *eP* **Pn 01 09 47.5 +1.7**
ORTG Ortega, Santa 4.34 128 Pn **Pn 01 09 45.5 -0.7**
SAJU San Juanillo, 4.34 133 *eP* **Pn 01 09 47.0 +0.7**
VMAR Armenia, Volca 4.35 121 *eP* **Pn 01 09 47.4 +1.1**
GUAI GUAI 4.36 129 *eP* **Pn 01 09 48.1 +1.7**
CCIG Comitan 4.45 316 **Pn 01 09 49.1 +1.3**
DUNO Dulce Nombre, 4.49 131 **Pn 01 09 47.9 -0.3**
PTEN Parque Tenorio 4.51 121 *eP* **Pn 01 09 49.2 +0.6**

ACAL Aguas Claras 4.52 122 *eP* **Pn 01 09 49.5 +0.8**
ESPN Las Esperanzas 4.60 100 **Pn 01 09 49.4 -0.3**
ESPN Las Esperanzas 4.60 100 *eP* **Pn 01 09 49.2 -0.5**
JTS Las Juntas de 4.78 125 Pn **Pn 01 09 51.6 -0.6**
JTS Las Juntas de 4.78 125 *eP* **Pn 01 09 53.2 +1.0**
JTS Las Juntas de 4.78 125 *eP* **Pn** 01 10 01.7 +10
JTS *eS* **Sn 01 10 54.2 +8.0**
ARE1 Arenal 1 4.87 122 *eP* **Pn 01 09 55.6 +2.2**
FORC Fortuna 4.91 121 *eP* **Pn 01 09 56.2 +2.2**
COVE Coope Vega, Sa 5.01 117 Pn **Pn 01 09 53.5 -1.9**
COVE Coope Vega, Sa 5.01 117 *eP* **Pn 01 09 57.2 +1.9**
CAO2 Cobano, Puntar 5.04 132 **Pn 01 09 54.7 -1.0**
CAO2 Cobano, Puntar 5.04 132 *eP* **Pn 01 09 57.2 +1.5**
LAFE Finca La Fe, P 5.10 129 *eP* **Pn 01 09 57.2 +0.6**
SRA1 San Ramn 5.27 124 *eP* **Pn 01 10 01.9 +2.8**
JACO JACO, Garabito 5.39 129 Pn **Pn 01 09 59.2 -1.2**
JACO JACO, Garabito 5.39 129 *eP* **Pn 01 10 01.6 +1.2**
HDC Heredia 5.62 122 Pn **Pn 01 10 02.7 -1.1**
HDC Heredia 5.62 122 *eP* **Pn 01 10 05.6 +1.8**
HDC Heredia 5.62 122 *eP* **Pn 01 10 06.8 +3.0**
HDC *eS* **Sn 01 11 09.9 +2.8**
LCR2 La Lucha 2 5.85 124 *eP* **Pn 01 10 09.2 +2.1**
RIMA Rio Macho 5.95 123 Pn **Pn 01 10 08.4 0.0**
RIMA Rio Macho 5.95 123 *eP* **Pn 01 10 09.4 +1.0**
CDM Cerro de Muert 6.16 124 *eP* **Pn 01 10 13.4 +1.9**
BATAN Batan 6.19 118 **Pn 01 10 09.4 -2.1**
EDDO Dominical 6.25 127 *eP* **Pn 01 10 14.4 +2.1**
PEZE Perez Zeledon, 6.32 125 **Pn 01 10 12.3 -1.1**
PEZE Perez Zeledon, 6.32 125 *eP* **Pn 01 10 15.1 +1.7**
SRBA San Rafael, Bu 6.67 124 Pn **Pn 01 10 18.4 +0.4**
SRBA San Rafael, Bu 6.67 124 *eP* **Pn 01 10 19.9 +1.8**
RIOS Rincon, Osa 6.87 129 **Pn 01 10 19.0 -1.8**
CMIG Matias Romero 7.00 305 P **Pn 01 10 24.6 +2.0**
comp=Z,7.9nm,0.3s,baz=151,slow=12,SNR=72
CMIG S **Sn 01 11 43.4 +2.6**
comp=Z,22nm,0.3s,baz=75,slow=21,SNR=6.5
PIRO Carate, Puerto 7.19 130 *eP* **Pn 01 10 27.2 +2.0**
CNI2 El Empalme, Bo 7.30 119 *eP* **Pn 01 10 30.5 +3.9**
CNI2 *eS* **Sn 01 11 53.9 +5.8**
PRVC Isla de Provid 7.37 87 Pn **Pn 01 10 26.2 -1.4**
PRVC Isla de Provid 7.37 87 ‖ *eP* **Pn 01 10 30.7 +3.1**
CDITO Canoas 7.44 126 **Pn 01 10 27.9 -0.8**
CDITO Canoas 7.44 126 *eP* **Pn 01 10 30.8 +2.2**
CDITO *eS* **Sn 01 11 58.6 +7.0**
BRU2 Volcan 7.46 124 **Pn 01 10 27.3 -1.7**
BRU2 Volcan 7.46 124 *eP* **Pn 01 10 30.7 +1.8**
BRU2 *eS* **Sn 01 11 51.5 -0.6**
BC3P Paso Ancho 7.51 124 *eP* **Pn 01 10 31.7 +2.0**
BC3P *eS* **Sn 01 11 53.3 -0.2**
BCO2 Palmira 7.63 124 *eP* **Pn 01 10 32.6 +1.2**
BCO2 *eS* **Sn 01 11 51.2 -5.2**
PTPM Petroterminale 7.67 129 ‖ *eP* **Pn 01 10 33.3 +1.6**
PTPM *eS* **Sn 01 11 58.8 +1.7**
DVD David 7.86 125 *eP* **Pn 01 10 36.7 +2.4**
DVD *eS* **Sn 01 12 07.7 +5.9**
CHIR3 Chiriqui UPA, 7.98 125 *eP* **Pn 01 10 37.3 +1.3**
CHIR3 *eS* **Sn 01 12 06.5 +1.8**
BCIP Isla Barro Col 9.73 113 Pn **Pn 01 10 59.1 -0.8**
TLIG Tlapa 10.31 297 Pn **Pn 01 11 09.5 +1.5**
SOR Soroa 11.18 29 Pn **Pn 01 11 17.1 -2.6**
SOR Soroa 11.18 29 *eP* **Pn 01 11 24.4 +4.7**
SOR *eS* **Sn 01 13 29.0 +6.0**
SOR IVMs_BB IVMs_BB 01 13 52.4
comp=E,872nm,5.5s
SOR IVMs_BB IVMs_BB 01 14 01.6
comp=N,804nm,3.6s
MTDJ Mount Denham 12.10 64 Pn **Pn 01 11 31.0 -1.4**
MGV Manicaragua 12.38 42 *eP* **Pn 01 11 39.6 +3.5**
MGV IVMs_BB IVMs_BB 01 14 18.5
comp=N,730nm,6.2s
MGV IVMs_BB IVMs_BB 01 14 20.9
comp=E,204nm,3.0s
LMGC Las Mercedes 13.37 57 *eP* **Pn 01 11 52.0 +2.5**
LMGC *eS* **Sn 01 14 21.5 +5.2**
LMGC IVMs_BB IVMs_BB 01 15 29.4
comp=N,485nm,3.2s
LMGC IVMs_BB IVMs_BB 01 15 53.2
comp=E,345nm,4.0s
CCCC Cccc 13.37 51 *eP* **P 01 11 54.9 -1.7**
CCCC *eP* Pn 01 12 02.4 +13
MOTC Monteria, Cord 13.70 107 **Pn 01 11 52.9 -1.0**
MOTC Monteria, Cord 13.70 107 *eP* **Pn 01 11 52.9 -1.0**
PAYG Puerto Ayora 13.73 186 Pn **Pn 01 11 53.9 -0.4**
SJCC San Jacinto, C 13.84 102 Pn **Pn 01 11 55.7 0.0**
SJCC San Jacinto, C 13.84 102 *eP* **P 01 12 00.5 -1.4**
DBBC Dabeiba 13.89 114 *eP* **Pn 01 11 57.7 +1.2**
UREC San Jos de Ur 14.19 111 *eP* **Pn 01 12 01.5 +1.1**
HLGC Holguin 14.55 56 *eP* **Pn 01 12 07.0 +2.0**
HLGC IVMs_BB IVMs_BB 01 15 25.5
comp=N,874nm,4.4s
HLGC IVMs_BB IVMs_BB 01 16 46.3
comp=E,476nm,5.3s
061Z Ochoppi 14.79 29 Pn **Pn 01 12 07.0 -1.1**
HELC Santa Helena 14.87 116 *eP* **P 01 12 14.8 +1.1**
GTBY Guantanamo Bay 14.89 61 *eP* **Pn 01 12 09.2 -0.2**
ZARC Zaragoza, Cauc 14.91 110 Pn **Pn 01 12 10.3 +0.6**
ZARC Zaragoza, Cauc 14.91 110 *eP* **Pn 01 12 09.1 -0.6**
MOAC Moa 15.34 59 *eP* **P 01 12 20.1 +1.6**
YOTC Yotoco, Valle 15.37 125 *eP* **Pn 01 12 14.8 -0.9**
GUY2C Guyana, Caldas 15.49 119 *eP* **Pn 01 12 18.7 +1.1**
PTBC PUERTO BERRIO, 15.66 113 *eP* **Pn 01 12 17.7 -1.7**
LL6C La Loma 6 Bece 15.70 121 *eP* **Pn 01 12 20.8 +0.9**
MASC Masc 15.74 61 *eP* **P 01 12 23.4 +0.4**
NORC Norcasia 15.74 117 ‖ *eP* **Pn 01 12 19.8 -0.6**
ANIL Santa Ana 15.85 121 ‖ *eP* **P 01 12 26.1 +1.5**
BBAC Balboa, Cauca 15.95 133 *eP* **P 01 12 25.6 +0.1**
POPC Popayan, Colom 16.02 130 *eP* **P 01 12 26.3 0.0**
060A Indiantown 16.04 29 Pn **Pn 01 12 23.1 -0.9**
OCAC Ocana 16.07 106 Pn **Pn 01 12 23.2 -1.5**
OCAC Ocana 16.07 106 *eP* **Pn 01 12 23.3 -1.5**
ZAIG Zacatecas 16.16 309 **P 01 12 28.2 +0.3**
ORTC Ortega, Tolima 16.30 123 ‖ *eP* **P 01 12 29.6 +0.3**
SOTA Rioblanco 16.33 131 ‖ *eP* **P 01 12 31.1 +0.9**
PCON Cinco Dias 16.36 130 *eP* **P 01 12 31.1 +0.6**
SPBC San Pablo de B 16.40 115 *eP* **Pn 01 12 28.2 -0.5**
GCUF Volcan Galeras 16.44 135 *eP* **P 01 12 35.9 +4.6**
DWPF Disney Wildern 16.51 24 Pn **Pn 01 12 29.0 -0.9**
DWPF IAmb IAmb 01 12 37.0
comp=Z,113nm,0.8s
DWPF Disney Wildern 16.51 24 P **P 01 12 31.5 +0.1**
baz=206
ROSC El Rosal 16.58 118 P **P 01 12 32.7 -0.1**
comp=Z,0.9nm,0.3s,baz=338,slow=5.0,SNR=8.8
ROSC LR LR 01 20 23.1
comp=Z,445nm,19.9s,baz=318,slow=43
ROSC El Rosal 16.58 118 **Pn 01 12 30.9 -0.4**
URIC Uribia, Colomb 16.60 93 **Pn 01 12 30.6 -0.5**
URIC IAmb IAmb 01 12 52.0
comp=Z,114nm,1.1s
PAMC Pamplona, Colo 16.95 108 *eP* **Pn 01 12 35.2 -0.8**
RUSC La Rusia 17.17 113 *eP* **P 01 12 39.7 +0.3**
CHIC Chingaza 17.19 118 *eP* **P 01 12 40.4 +0.9**
656A Willston 17.26 19 **P 01 12 39.8 0.0**
656A IAmb IAmb 01 12 45.1
comp=Z,70nm,0.8s
FLOC Florencia 17.41 130 ‖ *eP* **P 01 12 41.6 0.0**
553A Crawfordville 17.53 13 P **Pn 01 12 42.0 -0.4**
553A IAmb IAmb 01 12 50.0
comp=Z,109nm,0.8s
451A Vernon 17.70 9 P **Pn 01 12 43.5 -1.1**
451A IAmb IAmb 01 13 17.1
comp=Z,95nm,1.1s
SDDR Presa de Saban 17.93 69 P **P 01 12 46.8 -0.6**
441A DeRidder 18.02 348 P **Pn 01 12 48.9 +0.4**
441A IAmb IAmb 01 12 56.0
comp=Z,153nm,1.2s
833A Chaparral WMA, 18.04 329 P **Pn 01 12 49.6 +0.9**
833A Chaparral WMA, 18.04 329 P **Pn 01 12 50.7 +2.0**
baz=145,SNR=12
BRAL Brewton 18.09 5 P **Pn 01 12 51.7 +2.4**
baz=186
346A Big Creek Wild 18.23 359 P **P 01 12 50.6 +0.2**
346A IAmb IAmb 01 13 14.0
comp=Z,164nm,1.2s
344A Westbrook Farm 18.36 355 P **Pn 01 12 52.8 +0.2**
344A IAmb IAmb 01 13 03.9
comp=Z,102nm,0.8s
SDV Santo Domingo 18.43 101 P **P 01 12 52.1 -0.9**
comp=Z,3.3nm,0.3s,baz=279,slow=5.7,SNR=85
SDV ScP **ScP 01 20 52.9 +1.7**
comp=Z,0.3nm,0.3s,baz=182,slow=6.1,SNR=5.4
SDV LR LR 01 21 29.1

comp=Z,317nm,19.5s,baz=288,slow=42
SDV Santo Domingo 18.43 101 P **P 01 12 52.3 -0.7**
SDV IAmb IAmb 01 12 56.4
comp=Z,83nm,0.9s
SDV ScP **ScP 01 20 51.9 +0.8**
342A Flagon Creek P 18.48 351 P **P 01 12 53.0 -0.1**
342A IAmb IAmb 01 13 14.0
comp=Z,120nm,1.0s
SC01 Santiago de lo 18.57 68 P **P 01 12 53.6 -0.6**
352A Blakely 18.68 11 P **P 01 12 54.4 -1.0**
352A IAmb IAmb 01 13 00.4
comp=Z,103nm,0.9s
456A Hilliard 18.68 19 IAmb IAmb 01 13 00.9
comp=Z,61nm,0.8s
TIGA Tifton 18.92 14 P **P 01 12 57.3 -0.7**
TIGA Tifton 18.92 14 P **Pn 01 13 01.3 +2.0**
baz=196,SNR=31
250A Grady 18.97 7 **P 01 12 57.7 -0.8**
250A IAmb IAmb 01 13 20.1
comp=Z,82nm,1.3s
VBMS Vicksburg 19.11 356 P **P 01 13 00.6 +0.6**
VBMS Vicksburg 19.11 356 P **Pn 01 13 03.7 +2.2**
baz=175,SNR=18
NATX Nacogdoches 19.33 345 P **P 01 13 03.1 +0.6**
NATX IAmb IAmb 01 13 21.3
comp=Z,84nm,0.8s
NATX Nacogdoches 19.33 345 P **Pn 01 13 04.9 +0.8**
baz=163,SNR=5.9
435B Jarrell 19.35 337 P **Pn 01 13 03.6 -0.8**
435B IAmb IAmb 01 13 15.5
comp=Z,71nm,1.0s
435B Jarrell 19.35 337 P **Pn 01 13 04.6 +0.2**
baz=154
146A Union 19.47 360 P **P 01 13 04.5 +0.5**
146A IAmb IAmb 01 13 10.2
comp=Z,56nm,0.8s
DR12 Loma Pena Alta 19.63 71 P **P 01 13 04.5 -1.4**
143A Socs Landing, 19.67 354 P **P 01 13 06.5 +0.3**
143A IAmb IAmb 01 13 22.8
comp=Z,53nm,0.7s
255A Hazlehurst 19.67 16 P **P 01 13 06.1 -0.1**
237A Washetta, Mont 19.87 343 P **P 01 13 09.2 +0.8**
152A Waverly Hall 19.88 10 P **P 01 13 06.4 -2.1**
152A IAmb IAmb 01 13 13.9
comp=Z,67nm,0.8s
LRAL Lakeview Retre 19.95 5 P **P 01 13 08.5 -0.7**
LRAL IAmb IAmb 01 13 14.5
comp=Z,33nm,0.7s
LRAL Lakeview Retre 19.95 5 P **Pn 01 13 11.6 +0.2**
baz=185,SNR=29
JCT Junction City 20.02 332 P **P 01 13 11.0 +0.9**
JCT IAmb IAmb 01 13 17.1
comp=Z,51nm,0.8s
JCT Junction City 20.02 332 P Pn 01 13 11.6 -0.8
baz=147,SNR=22
Z47A Carrollton 20.05 2 P **P 01 13 09.6 -0.6**
Z47A IAmb IAmb 01 13 15.5
comp=Z,70nm,0.7s
257A Skidaway Islan 20.16 20 P **P 01 13 11.3 -0.2**
154A Montrose 20.16 14 P **P 01 13 11.3 -0.2**
WHTX Lake Whitney, 20.39 339 P **P 01 13 15.2 +1.2**
WHTX Lake Whitney, 20.39 339 P Pn 01 13 15.4 -1.2
baz=155,SNR=13
Z41A Richland Creek 20.40 351 P **P 01 13 13.9 -0.2**
Z41A IAmb IAmb 01 13 23.9
comp=Z,66nm,0.8s
Z41A Richland Creek 20.40 351 P Pn 01 13 16.2 -0.5
baz=169
Z51A Franklin 20.44 9 P **P 01 13 15.0 +0.5**
Y45A Yeager Farm, C 20.70 359 P **P 01 13 16.7 -0.6**
Y45A IAmb IAmb 01 13 26.6
comp=Z,55nm,0.7s
Y49A Blount Mountai 20.81 6 P **P 01 13 16.4 -2.2**
Y49A IAmb IAmb 01 13 24.2
comp=Z,37nm,0.8s
Z38A Mt. Pleasant 20.84 346 P **P 01 13 18.8 0.0**
Z38A IAmb IAmb 01 13 25.9
comp=Z,56nm,0.8s
GOGA Godfrey 20.85 13 P **P 01 13 17.7 -1.2**
GOGA Godfrey 20.85 13 P Pn 01 13 21.1 -0.9
baz=195,SNR=68
WLAR White Oak Lake 20.87 350 P **P 01 13 19.6 +0.5**
WLAR IAmb IAmb 01 13 37.7
comp=Z,87nm,1.1s
CCAR Cane Creek 20.91 353 P **P 01 13 20.3 +0.8**
Y52A Lilburn 21.16 11 P **P 01 13 22.0 -0.3**
Y52A IAmb IAmb 01 13 27.6
comp=Z,66nm,0.8s
TXAR Lajitas Array 21.19 322 P **P 01 13 25.3 +2.6**
comp=Z,6.1nm,0.5s,baz=144,slow=12,SNR=111
TXAR PcP **PcP 01 17 27.8 +1.7**
comp=Z,2.4nm,0.8s,baz=171,slow=4.6,SNR=5.1
TXAR ScP **ScP 01 20 59.5 +2.3**
comp=Z,1.9nm,0.8s,baz=157,slow=4.1,SNR=12
TXAR LR LR 01 23 19.2
comp=Z,189nm,20.4s,baz=128,slow=41
TXAR Lajitas Array 21.19 322 P **P 01 13 24.5 +1.8**
TX31 Lajitas Ar. Si 21.19 322 P **P 01 13 22.6 -0.1**
TX31 IAmb IAmb 01 13 40.4
comp=Z,88nm,1.1s
TX32 Lajitas Array 21.19 322 P **P 01 13 24.8 +2.1**
OXF Oxford 21.34 359 P **P 01 13 24.1 -0.1**
OXF Oxford 21.34 359 P **P 01 13 26.0 +1.8**
baz=178,SNR=9.5
X48A Hartselle 21.35 4 P **P 01 13 22.2 -2.1**
NHSC New Hope 21.48 20 P **P 01 13 27.4 +1.8**
baz=204,SNR=13
Z35A Perchaven, San 21.55 341 P **P 01 13 27.4 +1.1**
Z35A IAmb IAmb 01 13 53.4
comp=Z,108nm,1.4s
CRPR Cabo Rojo, PR 21.57 74 P **P 01 13 26.6 -0.2**
CRPR IAmb IAmb 01 13 48.9
comp=Z,59nm,1.1s
FPAL Fort Paine 21.58 7 P **P 01 13 27.8 +1.1**
FPAL IAmb IAmb 01 13 31.5
comp=Z,27nm,0.7s
X40A Basin Creek Fa 21.61 351 P **P 01 13 28.3 +1.3**
X40A IAmb IAmb 01 13 47.7
comp=Z,80nm,1.3s
X40A Basin Creek Fa 21.61 351 P **P 01 13 28.8 +1.8**
baz=169,SNR=11
X51A Calhoun 21.71 9 P **P 01 13 27.2 -0.9**
X51A IAmb IAmb 01 14 15.6
comp=Z,65nm,1.1s
MIAR Mount Ida 21.79 350 P **P 01 13 29.9 +0.9**
MIAR IAmb IAmb 01 13 50.1
comp=Z,71nm,0.8s
MIAR Mount Ida 21.79 350 P **P 01 13 30.6 +1.7**
baz=168,SNR=39
ABTX Abilene, Hawle 21.79 335 P **P 01 13 29.2 +0.2**
ABTX IAmb IAmb 01 13 56.3
comp=Z,31nm,0.8s
ABTX Abilene, Hawle 21.79 335 P **P 01 13 29.9 +0.9**
baz=151,SNR=14
PLAL Pickwick Lake 21.82 2 P **P 01 13 29.5 +0.2**
HODGE Hodges 21.91 15 P **P 01 13 31.5 +1.2**
HODGE IAmb IAmb 01 13 34.1
comp=Z,42nm,1.0s
W45A Hickory Valley 21.98 359 P **P 01 13 29.8 -1.2**
W45A IAmb IAmb 01 13 35.3
comp=Z,57nm,0.8s
X37A Clayton 22.20 346 **P 01 13 33.8 +0.4**
W41B Gary Mavity, V 22.20 353 P **P 01 13 34.0 +0.6**
W41B IAmb IAmb 01 13 54.2
comp=Z,83nm,1.2s
W41B Gary Mavity, V 22.20 353 P **P 01 13 35.1 +1.6**
baz=171,SNR=10
SWET Sewanee 22.21 6 P **P 01 13 34.0 +0.5**
SWET IAmb IAmb 01 13 44.8
comp=Z,35nm,0.8s
JSC Jenkinsville 22.23 17 P **P 01 13 31.2 -2.5**
Y57A Sumter 22.25 19 P **P 01 13 34.1 +0.2**
W50A Signal Mountai 22.27 8 P **P 01 13 33.9 -0.3**
WHAR Wooly Hollow 22.32 353 P **P 01 13 35.7 +1.0**
W52A Murphy 22.38 11 P **P 01 13 33.9 -1.5**
W52A IAmb IAmb 01 14 00.7
comp=Z,32nm,0.9s
Y58A Scranton 22.38 21 P **P 01 13 37.1 +1.8**
HBAR Harrisburg 22.43 356 P **P 01 13 36.4 +0.5**
W39A Magazine 22.46 350 P **P 01 13 37.5 +1.4**
W39A IAmb IAmb 01 14 00.6
comp=Z,104nm,1.4s
W39A Magazine 22.46 350 P **P 01 13 37.8 +1.7**
baz=167,SNR=16
BG3 Lake Jocassee 22.48 13 P **P 01 13 35.9 -0.5**

BG3 IAmb IAmb 01 13 55.5
comp=Z,49nm,1.1s
SJG San Juan 22.49 74 P P 01 13 34.9 -1.8
comp=Z,16nm,0.7s,baz=270,slow=6.1,SNR=4.7
SJG San Juan 22.49 74 P P 01 13 36.6 -0.1
PAULI Pauline 22.59 15 P P 01 13 36.1 -1.4
PAULI IAmb IAmb 01 13 57.4
comp=Z,71nm,1.1s
CPCT Cooper Cave 22.63 9 P P 01 13 38.8 +0.8
ATAH Atahualpa 22.64 152 P P 01 13 40.3 +1.6
comp=Z,24nm,1.0s,baz=351,slow=5.4,SNR=14
V48A Smith Brothers 22.64 4 P P 01 13 37.7 -0.4
Y59A Loris 22.74 22 P P 01 13 38.0 -1.1
BIRD Birdtown, Kers 22.80 18 P P 01 13 39.8 0.0
GNAR Gosnell 22.81 358 P P 01 13 39.4 -0.5
FCAR Ozark Folk Cen 22.90 353 P P 01 13 41.6 +0.8
FCAR IAmb IAmb 01 13 44.7
comp=Z,58nm,0.7s
X34A Smith Ranch, M 22.90 341 P 01 13 41.6 +0.7
TKL Tuckaleechee C 22.96 11 P P 01 13 40.8 -0.6
comp=Z,29nm,0.8s,baz=186,slow=12,SNR=22
TKL LR LR 01 23 08.7
comp=Z,659nm,21.3s,baz=192,slow=38
TKL Tuckaleechee C 22.96 11 P P 01 13 39.2 -2.2
TKL IAmb IAmb 01 13 44.3
comp=Z,46nm,1.1s
WVT Waverly 22.98 2 P P 01 13 40.8 -0.7
WVT Waverly 22.98 2 P P 01 13 41.6 0.0
baz=182
LCAR Lake Charles 22.98 355 P P 01 13 42.4 +0.8
V51A Loudon 23.00 10 P P 01 13 41.5 -0.3
LPIG La Paz 23.01 302 LR LR 01 22 15.3
comp=Z,533nm,21.4s,baz=106,slow=35
KMSC Kings Mountain 23.02 16 P P 01 13 40.4 -1.6
KMSC IAmb IAmb 01 13 45.2
comp=Z,33nm,0.7s
KMSC Kings Mountain 23.02 16 P P 01 13 43.1 +1.1
baz=199,SNR=16
CLTN Cedars of Leba 23.04 5 P P 01 13 42.5 +0.4
CLTN IAmb IAmb 01 13 45.8
comp=Z,29nm,0.7s
MTP Monte Pirata 23.05 75 P P 01 13 39.8 -2.7
MTP IAmb IAmb 01 14 01.8
comp=Z,47nm,0.8s
X58A Rowland 23.08 21 P P 01 13 42.5 -0.1
W35A Tecumseh 23.13 343 P 01 13 43.9 +0.8
W35A IAmb IAmb 01 14 16.7
comp=Z,30nm,0.8s
V53A Saluda 23.16 13 P P 01 13 43.7 +0.2
V53A IAmb IAmb 01 14 06.9
comp=Z,33nm,0.8s
V52A Seiverville 23.17 11 P P 01 13 43.7 +0.2
V52A IAmb IAmb 01 14 07.5
comp=Z,105nm,1.5s
WMOK Wichita Mounta 23.34 339 P P 01 13 46.4 +1.2
baz=155,SNR=21
W57A Gilead 23.42 19 P P 01 13 45.8 +0.1
W57A IAmb IAmb 01 13 48.6
comp=Z,34nm,0.8s
U40A Yellville 23.45 352 IAmb IAmb 01 13 49.5
comp=Z,46nm,0.8s
U40A Yellville 23.45 352 P P 01 13 47.3 +1.2
baz=170,SNR=26
U49A Red Boiling Sp 23.51 6 IAmb IAmb 01 14 05.8
comp=Z,32nm,0.9s
OKCFA Oklahoma City 23.54 342 IAmb IAmb 01 13 48.8
comp=Z,88nm,1.3s
TUL1 Leonard 23.56 346 IAmb IAmb 01 14 13.0
comp=Z,47nm,1.0s
TUL1 Leonard 23.56 346 P P 01 13 47.5 +0.4
baz=163,SNR=10
PBMO Poplar Bluff 23.64 357 IAmb IAmb 01 14 05.5
comp=Z,58nm,0.9s
STVI Saint Thomas 23.65 74 P P 01 13 46.1 -2.0
V55A Taylorsville 23.72 16 IAmb IAmb 01 14 07.5
comp=Z,57nm,1.2s
TZTN Tazewell 23.86 11 IAmb IAmb 01 14 15.9
comp=Z,38nm,1.1s
TZTN Tazewell 23.86 11 P P 01 13 50.6 +0.8
baz=193
MNTX Cornudas Mount 23.92 323 P P 01 13 51.3 +0.9
baz=137,SNR=13
PCRV Puerto La Cruz 23.96 94 P P 01 13 50.1 -0.8
comp=Z,21nm,0.7s,baz=210,slow=6.8,SNR=10
PLCV Puerto La Cruz 24.01 94 P P 01 13 50.1 -1.2
CNNC Cliffs of the 24.22 22 P P 01 13 54.1 +1.1
baz=207
MSTX Muleshoe 24.32 331 IAmb IAmb 01 13 55.8
comp=Z,70nm,1.1s
MSTX Muleshoe 24.32 331 P P 01 13 54.5 +0.4
baz=145,SNR=20
U56A King 24.41 17 IAmb IAmb 01 14 13.5
comp=Z,61nm,1.1s
S44A Carbondale 24.52 359 IAmb IAmb 01 14 16.5
comp=Z,41nm,0.7s
SIUC Southern Illin 24.54 359 IAmb IAmb 01 14 16.7
comp=Z,46nm,0.9s
AMTX Amarillo 24.59 334 IAmb IAmb 01 14 02.6
comp=Z,47nm,0.8s
AMTX Amarillo 24.59 334 P P 01 13 57.5 +0.9
baz=149
USIN University of 24.81 2 IAmb IAmb 01 14 16.3
comp=Z,42nm,0.9s
S39A Bolivar 24.82 352 IAmb IAmb 01 14 03.6
comp=Z,53nm,0.8s
U32A Winter Ranch, 24.91 340 IAmb IAmb 01 14 01.6
comp=Z,49nm,1.2s
CCM Cathedral Cave 24.96 356 P P 01 14 00.3 +0.5
CCM Cathedral Cave 24.96 356 P P 01 14 00.5 +0.8
baz=174
WCI Wyandotte Cave 25.16 5 P P 01 14 01.6 +0.1
WCI IAmb IAmb 01 14 04.0
comp=Z,38nm,0.8s
WCI Wyandotte Cave 25.16 5 P P 01 14 01.6 +0.1
baz=186
BLA Blacksburg 25.21 16 IAmb IAmb 01 14 21.1
comp=Z,45nm,0.9s
BLA Blacksburg 25.21 16 P P 01 14 02.5 +0.4
baz=200
U59A Littleton 25.25 21 IAmb IAmb 01 14 20.7
comp=Z,25nm,0.8s
T57A Hurt 25.35 18 IAmb IAmb 01 14 22.4
comp=Z,60nm,0.9s
OLIL Olney 25.56 1 IAmb IAmb 01 14 23.3
comp=Z,40nm,1.0s
Q44A Meyer Farm, Va 25.72 360 IAmb IAmb 01 14 24.5
comp=Z,64nm,1.2s
R53A Hurricane 25.91 13 IAmb IAmb 01 14 26.8
comp=Z,46nm,1.2s
121A Cookes Peak, D 25.94 321 P P 01 14 11.6 +2.6
baz=134,SNR=6.6
SRIG Santa Rosalia 26.00 307 IAmb IAmb 01 14 29.2
comp=Z,39nm,1.1s
CZSB Cruzeiro do Su 26.21 141 eP P 01 14 13.8 +2.5
R55A Marlinton 26.30 16 P P 01 14 12.2 +0.3
R55A IAmb IAmb 01 14 31.1
comp=Z,44nm,1.1s
Q52A Bidwell 26.45 12 IAmb IAmb 01 14 45.9
comp=Z,31nm,1.1s
Y22D IRIS PASSCAL I 26.54 325 P P 01 14 16.0 +1.7
baz=138
P49A Miami Univ. Ec 26.61 7 P P 01 14 16.3 +1.6
baz=189
R58B Mineral 26.67 20 IAmb IAmb 01 14 34.3
comp=Z,58nm,1.1s
R32A Long Quarter, 26.70 343 IAmb IAmb 01 14 17.5
comp=Z,36nm,1.1s
Q54A Coxs Mills 26.78 14 IAmb IAmb 01 14 35.0
comp=Z,50nm,1.0s
KSU1 Kansas State U 26.80 347 IAmb IAmb 01 14 21.0
comp=Z,24nm,0.6s
KSU1 Kansas State U 26.80 347 P P 01 14 17.0 +0.6
baz=163
ANMO Albuquerque 26.94 327 P P 01 14 19.1 +1.2
comp=Z,1.5nm,0.5s,baz=113,slow=9.2,SNR=7.7
ANMO ScP ScP 01 21 14.2 +1.3
comp=Z,1.2nm,0.8s,baz=104,slow=6.6,SNR=4.0
ANMO LR LR 01 27 21.8
comp=Z,177nm,18.6s,baz=137,slow=42
ANMO Albuquerque 26.94 327 P P 01 14 19.5 +1.5
ANMO Albuquerque 26.94 327 P P 01 14 18.7 +0.8
baz=140
O44A Mansfield 26.97 1 IAmb IAmb 01 14 35.5
comp=Z,22nm,0.9s
CBN Corbin Frederi 27.05 20 P P 01 14 19.6 +1.0
baz=205,SNR=6.0
P52A Corning 27.12 12 IAmb IAmb 01 14 23.9
comp=Z,20nm,0.7s
P52A Corning 27.12 12 P P 01 14 18.9 -0.4
baz=194
P53A Whipple 27.14 13 IAmb IAmb 01 14 21.4
comp=Z,45nm,1.0s
SFIN Lafayette 27.24 3 P P 01 14 20.1 -0.2
baz=184
Q56A Snyder Ridge, 27.26 17 IAmb IAmb 01 14 42.9
comp=Z,32nm,1.1s
O48B Farmland 27.28 6 P P 01 14 20.4 -0.3
baz=188
CBKS Cedar Bluff 27.37 341 IAmb IAmb 01 14 23.6
comp=Z,25nm,0.8s
CBKS Cedar Bluff 27.37 341 P P 01 14 22.5 +0.9
baz=156,SNR=7.1
HDIL Hopedale 27.38 359 P P 01 14 22.3 +0.8
baz=179
ACSO Alum Creek Sta 27.55 10 IAmb IAmb 01 14 29.2
comp=Z,27nm,1.1s
ACSO Alum Creek Sta 27.55 10 P P 01 14 23.2 +0.1
baz=192
N41A Harden Midland 27.58 357 P P
N41A IAmb IAmb 01 14 41.0
comp=Z,54nm,1.1s
NNA Nana 27.64 154 LR LR 01 23 30.8
comp=Z,287nm,21.0s,baz=330,slow=32
O52A Adamsville 27.65 12 IAmb IAmb 01 14 26.3
comp=Z,31nm,0.9s
MCWV Mont Chateau 27.66 15 P P 01 14 24.8 +0.6
baz=199
T25A Trinidad 27.68 333 IAmb IAmb 01 14 28.6
comp=Z,21nm,0.8s
T25A Trinidad 27.68 333 P P 01 14 26.6 +2.0
baz=146,SNR=23
TUC Tucson 27.70 317 P P 01 14 27.6 +2.9
TUC Tucson 27.70 317 P P 01 14 26.5 +1.8
baz=129
O53A New Philadelph 27.91 13 IAmb IAmb 01 14 28.7
comp=Z,29nm,1.0s
O53A New Philadelph 27.91 13 P P 01 14 26.6 +0.4
baz=196
O54A Avella 28.03 14 IAmb IAmb 01 14 28.8
comp=Z,28nm,0.8s
SDMD Soldier's Deli 28.32 20 IAmb IAmb 01 14 48.9
comp=Z,24nm,0.8s
N53A Lisbon 28.52 13 IAmb IAmb 01 14 33.5
comp=Z,23nm,0.7s
KSCO Kaye Shedlock' 28.54 337 IAmb IAmb 01 14 34.6
comp=Z,38nm,1.0s
KSCO Kaye Shedlock' 28.54 337 P P 01 14 33.6 +1.5
baz=151
O56A Blue Knob Stat 28.58 17 P P 01 14 33.0 +0.7
baz=201
SDCO Great Sand Dun 28.67 332 P P 01 14 35.3 +1.8
baz=144,SNR=11
M50A Fremont 28.68 9 IAmb IAmb 01 14 51.0
comp=Z,50nm,1.0s
N54A Moraine State 28.86 14 P P 01 14 35.2 +0.4
baz=198
214A Organ Pipe Nat 28.86 315 P P 01 14 37.4 +2.4
baz=125
L40A Anamosa 28.95 356 IAmb IAmb 01 14 53.4
comp=Z,40nm,1.0s
SCIA State Center 28.96 353 P P 01 14 37.0 +1.3
baz=171
SSPA Standing Stone 29.11 17 P P 01 14 37.6 +0.6
baz=202
M53A WI Miller and 29.16 13 P P 01 14 38.1 +0.7
baz=196
S22A 4UR Ranch, Cre 29.30 330 IAmb IAmb 01 14 43.3
comp=Z,14nm,0.7s
S22A 4UR Ranch, Cre 29.30 330 P P 01 14 40.9 +1.9
baz=142,SNR=32
BGNE Belgrade 29.35 346 P P 01 14 40.2 +1.1
baz=161
M54A Oil Creek Stat 29.46 14 P P 01 14 40.5 +0.4
baz=198
AAM Ann Arbor 29.48 8 P P 01 14 40.8 +0.6
baz=190
Q24A Divide 29.52 334 P P 01 14 42.4 +1.4
baz=146
MVCO Mesa Verde 29.73 327 P P 01 14 44.3 +1.5
baz=139
JFWS Jewell Farm 29.75 358 IAmb IAmb 01 15 07.2
comp=Z,21nm,0.8s
JFWS Jewell Farm 29.75 358 P P 01 14 44.5 +1.9
baz=177
ERPA Erie 29.96 13 P P 01 14 44.6 +0.1
baz=197
M57A Sunshine Farm, 29.98 18 IAmb IAmb 01 15 03.5
comp=Z,66nm,0.9s
113A Mohawk Valley, 29.99 315 P P 01 14 46.8 +1.9
113A PcP 01 17 47.4 +1.5
N59A State Game Lan 30.03 20 P P 01 14 46.1 +0.9
baz=206,SNR=5.2
BOAV Boa Vista 30.04 108 eP P 01 14 43.2 -2.3
OGNE Ogallala 30.04 340 P P 01 14 46.5 +1.1
baz=154
WUAZ Wupatki 30.15 322 P P 01 14 48.5 +2.0
baz=132
BRNJ Basking Ridge 30.25 22 P P 01 14 47.9 +0.9
BRNJ pP 01 15 02.4 -1.0
ISCO Idaho Springs 30.41 334 P P 01 14 50.3 +1.4
baz=146,SNR=15
ODNJ Ogdensburg 30.59 22 P 01 14 50.9 +0.9
ODNJ pP 01 15 04.3 -2.1
I40A Norwalk 30.74 358 IAmb IAmb 01 15 08.8
comp=Z,24nm,1.1s
PV11 David Mesa, Pa 30.75 328 IAmb IAmb 01 15 04.8
comp=Z,20nm,0.7s
PAL Palisades 30.77 23 P 01 14 51.1 -0.5
PAL pP 01 15 06.8 -1.3
PAL Palisades 30.77 23 P P 01 14 51.7 0.0
baz=209
GLA Glamis 30.89 314 P P 01 14 54.3 +1.5
baz=124
PV10 Paradox Valley 30.89 328 IAmb IAmb 01 15 00.7
comp=Z,14nm,0.8s
PV23 Carpenter Ridg 30.93 328 IAmb IAmb 01 14 58.4
comp=Z,18nm,0.7s
BINY Binghamton 31.12 19 P P 01 14 54.5 -0.3
baz=205
PDMCI Paer Dam,Lak 31.14 317 P P 01 14 56.9 +1.9
baz=126,SNR=6.2
ECSD EROS Data Cent 31.26 349 IAmb IAmb 01 16 09.5
comp=Z,16nm,0.9s
ECSD EROS Data Cent 31.26 349 P P 01 14 55.6 -0.3
baz=165,SNR=8.0
N23A Red Feather La 31.47 335 P P 01 14 59.9 +1.8
baz=147
SWSC Sam W. Stewart 31.51 313 P P 01 15 00.3 +2.0
baz=122
IKP In-Ko-Pah, Jac 31.58 313 P P 01 15 01.8 +2.8
baz=122
BC3 Big Chuckawall 31.66 315 P P 01 15 02.1 +2.4
baz=124
IRM Iron Mountain 31.73 316 P P 01 15 02.6 +2.3
baz=125
PTGA Pitinga 31.83 113 P P 01 14 59.5 -1.7
comp=Z,7.9nm,0.8s,baz=303,slow=8.2,SNR=16
PTGA LR LR 01 29 15.5
comp=Z,226nm,21.0s,baz=288,slow=39
GLMI Grayling 31.85 6 P P 01 15 02.9 +1.8
baz=188
O20A White River Ci 31.86 331 P P 01 15 02.4 +0.9
O20A PcP 01 17 52.0 +1.0
O20A White River Ci 31.86 331 P P 01 15 03.6 +2.1
baz=142,SNR=27
MONP2 Monument Peak 31.93 313 P P 01 15 04.3 +2.1
baz=122
ETMB Extrema 32.03 134 eP P 01 15 03.8 +0.8
SPMN Marine on St. 32.21 355 P P 01 15 04.1 -0.2
baz=173,SNR=22
BELC Belle Mtn. Jos 32.23 315 P P 01 15 06.5 +1.8
baz=124
TPFO Pinon Flats 32.33 314 P P 01 15 07.9 +2.3
baz=123
PFO Pinyon Flats O 32.34 314 PcP PcP 01 17 54.1 +1.8
comp=Z,4.4nm,0.8s,baz=54,slow=1.5,SNR=5.5
PFO LR LR 01 28 42.3
comp=Z,454nm,21.1s,baz=122,slow=37
PFO Pinyon Flats O 32.34 314 P P 01 15 07.5 +1.8
baz=123
MACA Manacapuru-AM 32.35 118 eP P 01 15 04.2 -1.6
TRY Troy 32.37 21 P P 01 15 05.2 -0.5
TRY pP 01 15 20.0 -2.1
SUSD Miller 32.42 347 P P 01 15 07.1 +1.0
baz=161
GMRC Granite Mounta 32.44 316 P P 01 15 08.6 +2.0
baz=125
P17A Butcher Ranch, 32.59 328 IAmb IAmb 01 15 12.9
comp=Z,14nm,0.7s
SADO Sadowa 32.67 13 LR LR 01 28 59.1
comp=Z,454nm,20.9s,baz=184,slow=38
F36A Milaca 32.91 354 IAmb IAmb 01 15 28.5
comp=Z,26nm,0.9s
COWI Conover 32.92 360 IAmb IAmb 01 15 12.1
comp=Z,20nm,0.9s
HEC Hector,Ludlow 32.92 316 P P 01 15 12.7 +2.0
baz=124
TUQ Turquoise Moun 32.99 317 P P 01 15 13.4 +2.0
baz=126
BBRC Big Bear Solar 33.01 314 P P 01 15 13.2 +1.6
baz=123
K22A Casper 33.18 336 IAmb IAmb 01 15 15.6
comp=Z,26nm,1.1s
K22A Casper 33.18 336 P P 01 15 14.3 +1.4
baz=147
F33A 5 Mile Ranch, 33.25 351 IAmb IAmb 01 15 33.5
comp=Z,15nm,0.6s
MPU Maple Canyon 33.46 327 IAmb IAmb 01 15 18.9
comp=Z,9.8nm,0.8s
GSC Goldstone, Bar 33.51 316 P P 01 15 17.7 +1.8
baz=124
SCI2 San Clemente I 33.51 311 P P 01 15 17.6 +1.8
baz=119
RSSD Black Hills 33.54 340 P P 01 15 16.7 +0.5
RSSD Black Hills 33.54 340 P P 01 15 18.1 +2.0
baz=152
CIS Catalina Islan 33.62 312 P P 01 15 19.0 +2.2
baz=120
EDW2 Edwards Air Fo 34.09 315 P P 01 15 22.7 +1.8
baz=122
TPNV Topopah Spring 34.10 319 P P 01 15 22.5 +1.5
TPNV PcP PcP 01 17 58.5 +1.3
TPNV Topopah Spring 34.10 319 P P 01 15 23.2 +2.1
baz=127
DUG Dugway, Tooele 34.21 327 P P 01 15 23.0 +1.1
DUG Dugway, Tooele 34.21 327 P P 01 15 24.4 +2.4
baz=135
LBNH Lisbon 34.30 22 P P 01 15 23.9 +1.4
baz=210
SNCC San Nicolas Is 34.36 311 P P 01 15 24.9 +1.8
baz=118
MPMC Manual Prospec 34.39 317 P P 01 15 24.9 +1.2
baz=124
BW06 Boulder Array 34.55 333 P P 01 15 26.1 +1.1
baz=143
PD31 Pinedale Array 34.55 333 P P 01 15 26.5 +1.5
PD31 PcP 01 17 58.9 +0.4
PDAR Pinedale Array 34.55 333 P P 01 15 26.1 +1.1
comp=Z,3.1nm,0.6s,baz=125,slow=11,SNR=21
PDAR PcP PcP 01 17 58.6 +0.2
comp=Z,2.5nm,0.6s,baz=141,slow=5.4,SNR=12
PDAR ScP ScP 01 21 39.8 +1.9
comp=Z,2.1nm,0.9s,baz=144,slow=5.3,SNR=10
PDAR Pinedale Array 34.55 333 PcP 01 17 58.8 +0.4
PDAR ScP ScP 01 21 39.2 +1.3
R11A Troy Canyon, C 34.55 322 P P 01 15 27.2 +2.2
baz=130
HWUT Hardware Ranch 34.60 329 P P 01 15 25.9 +0.6
HWUT IAmb IAmb 01 15 29.2
comp=Z,18nm,1.3s
HWUT PcP PcP 01 17 58.8 +0.3
D32A Dogwood Acres, 34.62 350 P P 01 15 24.9 -0.4
EYMN Ely 34.83 357 P P 01 15 26.4 -0.6
baz=175
MNTQ Montreal, Queb 34.83 19 P P 01 15 26.2 -0.8
MNTQ pP 01 15 44.2 +0.6
CWC Cottonwood Cre 35.00 317 P P 01 15 30.7 +1.8
baz=124
AHID Auburn Hatcher 35.26 331 IAmb IAmb 01 15 34.2
comp=Z,12nm,0.6s
HVU Hansel Valley 35.34 328 P P 01 15 31.8 +0.1
HVU IAmb IAmb 01 15 38.2
comp=Z,8.0nm,0.7s
HVU PcP PcP 01 18 01.6 +0.9
PKM Mcpherson Peak 35.37 313 P P 01 15 34.3 +2.2
baz=120
B35A Bob, Littlefor 35.40 354 IAmb IAmb 01 15 49.9
comp=Z,19nm,0.9s
AGMN Agassiz Nation 35.59 352 P P 01 15 33.5 0.0
baz=168,SNR=11
G62A West of Eustis 35.65 22 P P 01 15 34.3 +0.2
G62A pP pP 01 15 50.0 -0.7
LOHW Long Hollow 35.69 333 P P 01 15 36.5 +1.8
LOHW IAmb IAmb 01 15 39.7
comp=Z,9.7nm,0.7s
LOHW PcP PcP 01 18 02.2 +0.5
LPAZ La Paz 35.69 144 P P 01 15 36.6 +1.2
comp=Z,3.8nm,0.8s,baz=328,slow=8.4,SNR=7.1
LPAZ LR LR 01 28 47.0
comp=Z,192nm,21.6s,baz=312,slow=34
LPAZ La Paz 35.69 144 P P 01 15 35.9 +0.5
LPAZ La Paz 35.69 144 eP P 01 15 36.8 +1.4
TPAW Teton Pass 35.75 332 IAmb IAmb 01 15 57.5
comp=Z,13nm,0.8s
MDND Maddock 35.79 348 P P 01 15 35.7 +0.5
baz=162,SNR=15
MOOW Moose Ponds 35.86 333 P P 01 15 37.1 +1.0
MOOW PcP PcP 01 18 02.7 +0.4
ELK Elko 35.92 325 LR LR 01 32 29.8
comp=Z,367nm,19.4s,baz=142,slow=40
FLWY Flagg Ranch 36.10 333 IAmb IAmb 01 15 57.8
comp=Z,16nm,0.8s
VLDQ Val d'Or 36.21 13 P P 01 15 37.8 -1.0
VLDQ pP 01 15 54.9 -0.6
NVAR Mina Array Bea 36.29 319 P P 01 15 41.4 +1.5
comp=Z,2.7nm,0.6s,baz=132,slow=7.7,SNR=33
NVAR PcP PcP 01 18 05.3 +1.7
comp=Z,4.9nm,0.7s,baz=146,slow=3.3,SNR=10
NVAR pPcP 01 18 22.9
comp=Z,5.0nm,0.7s,baz=133,slow=4.1,SNR=7.3
NVAR LR LR 01 32 22.5
comp=Z,623nm,20.7s,baz=134,slow=39
NVAR Mina Array Bea 36.29 319 P P 01 15 38.9 -1.0
NVAR pP 01 15 56.1 -0.4
NVAR PcP 01 18 05.4 +1.7
H17A Grant Village 36.29 333 P P 01 15 41.9 +1.9
baz=142
RLMT Red Lodge 36.33 335 P P 01 15 41.4 +1.3
baz=145,SNR=22
LKWY Lake 36.35 334 IAmb IAmb 01 16 00.8
comp=Z,11nm,1.0s
YMP Mirror Lake Pl 36.39 334 IAmb IAmb 01 15 47.4
comp=Z,16nm,0.7s
YFT Old Faithful 36.45 333 IAmb IAmb 01 15 52.3
comp=Z,12nm,0.8s
KVN Kaiserville 36.53 320 P P 01 15 43.5 +1.5
KVN PcP PcP 01 18 04.8 +0.5
LAO LASA Array 36.53 340 P P 01 15 43.3 +1.6
baz=151
PB16 IPOC Station P 36.62 148 IAmb IAmb 01 15 54.7
comp=Z,14nm,0.7s
YMR Madison River 36.68 333 IAmb IAmb 01 15 49.5
comp=Z,18nm,0.8s
ITTB Itaituba 37.24 116 eP P 01 15 45.4 -2.7
HLID Hailey 37.46 329 P P 01 15 51.1 +1.3
baz=136,SNR=12
PNTR Pine Nut 37.50 319 P P 01 15 51.9 +1.7
PNTR IAmb IAmb 01 15 55.3
comp=Z,7.4nm,0.7s
DGMT Dagmar 37.50 343 P P 01 15 51.1 +1.2
baz=155,SNR=23
ULM Lac du Bonnet 37.50 353 P P 01 15 49.1 -0.7
comp=Z,18nm,0.9s,baz=168,slow=8.9,SNR=22
ULM LR LR 01 33 06.5
comp=Z,699nm,21.4s,baz=164,slow=39
ULM Lac du Bonnet 37.50 353 IAmb IAmb 01 15 50.2
comp=Z,25nm,1.0s
BOZ Bozeman (W) 37.70 334 P P 01 15 53.5 +1.8
baz=142
LMQ La Malbaie 37.72 21 IAmb IAmb 01 16 09.6
comp=Z,16nm,0.8s
PB11 IPOC Station P 37.74 149 IAmb IAmb 01 16 30.3
comp=Z,17nm,0.9s
GO01 Chusmiza 37.90 149 IAmb IAmb 01 16 20.0
comp=Z,12nm,0.8s
VILB Vilhena 38.47 131 eP P 01 15 58.4 +0.1
LMN Caledonia Moun 38.52 27 P P 01 15 58.0 -0.4
LMN pP 01 16 15.2 0.0
NPGB Novo Progresso 38.88 119 eP P 01 15 59.1 -2.7
MCPB Macapa, AP 38.91 107 eP P 01 16 01.5 -0.6
PB01 IPOC Station P 38.92 150 IAmb IAmb 01 17 03.5

comp=Z,16nm,1.3s
EGMT Eagleton 38.92 338 P P 01 16 03.5 +1.6
baz=146,SNR=55
PLID Pearl Lake 39.35 329 P P 01 16 06.4 +0.8
PLID PcP PcP 01 18 13.8 +0.9
O03E Paynes Creek 39.58 319 P P 01 16 08.6 +1.2
baz=124
MSO Missoula 39.67 333 P P 01 16 09.2 +1.1
baz=140,SNR=6.8
PB09 IPOC Station P 39.68 151 IAmb IAmb 01 16 11.6
comp=Z,21nm,1.0s
SIV San Ignacio 39.91 136 P P 01 16 10.8 +0.4
comp=Z,24nm,0.7s,baz=308,slow=8.1,SNR=93
SIV PcP PcP 01 18 16.1 +1.1
comp=Z,9.0nm,0.9s,baz=322,slow=4.3,SNR=3.3
O02D Mt. Diablo Mer 40.15 319 P P 01 16 12.6 +0.5
baz=123
M04C Macdoel 40.45 321 P P 01 16 15.8 +1.1
baz=125
LVC Limon Verde 40.53 151 P P 01 16 16.6 +0.8
comp=Z,7.6nm,0.8s,baz=300,slow=6.5,SNR=3.5
LVC LR LR 01 30 46.6
comp=Z,141nm,20.8s,baz=312,slow=33
LVC Limon Verde 40.53 151 eP P 01 16 18.3 +2.5
M02C Callahan 40.85 320 P P 01 16 19.3 +1.4
baz=124
PTLB Pontes e Lacer 40.89 133 eP P 01 16 18.8 +0.4
YBH Yreka Blue Hor 40.95 321 LR LR 01 35 19.2
comp=Z,541nm,20.7s,baz=136,slow=39
L04D Klamath Falls 40.98 321 IAmb IAmb 01 17 34.2
comp=Z,32nm,1.4s
L04D Klamath Falls 40.98 321 P P 01 16 19.8 +0.8
baz=125
WALA Waterton Lakes 41.38 335 IAmb IAmb 01 16 26.0
comp=Z,15nm,0.8s
J04D Umpqua Nationa 41.46 323 P P 01 16 24.7 +1.6
baz=126
I05D Terrebonne, OR 41.68 325 P P 01 16 26.7 +2.0
baz=128
I04A Tendick Farm, 41.97 323 P P 01 16 27.9 +0.9
baz=126
NEW Newport 42.18 332 LR LR 01 37 51.8
comp=Z,233nm,18.0s,baz=134,slow=42
NEW Newport 42.18 332 P P 01 16 29.0 +0.4
baz=137
G05D Wamic, OR 42.23 326 P P 01 16 30.5 +1.4
baz=129
H04A Detroit Lake 42.37 325 P P 01 16 31.2 +0.9
I03D Drain, OR 42.46 323 P P 01 16 32.7 +1.7
baz=125
HOOD Mount Hood Mea 42.47 326 IAmb IAmb 01 17 12.5
comp=Z,42nm,1.2s
H04D Lebanon 42.59 324 P P 01 16 33.3 +1.3
baz=127
FFC Flin Flon 42.80 349 P P 01 16 33.6 +0.1
FFC IAmb IAmb 01 16 35.0
comp=Z,18nm,0.7s
TMAB Tom-Au,PA,Br 43.33 108 eP P 01 16 36.8 -1.5
SALV Santo Antonio 43.69 130 eP P 01 16 41.2 -0.1
C06D Leavenworth 43.75 329 P P 01 16 42.7 +1.4
baz=132
AC02 Maricunga 44.09 154 IAmb IAmb 01 16 48.2
comp=Z,29nm,1.4s
B06A Marblemount 44.44 329 IAmb IAmb 01 16 49.3
comp=Z,23nm,0.7s
B05A Bryant 44.58 329 P P 01 16 48.0 +0.1
baz=130
RPN Rapa Nui 44.61 206 LR LR 01 30 36.9
comp=Z,770nm,21.9s,baz=36,slow=29
D03D Eldon 44.63 327 P P 01 16 48.8 +0.5
baz=129
SNDB Serra Nova Dou 44.87 122 eP P 01 16 48.6 -2.0
SCHQ Schefferville 45.11 18 P P 01 16 50.6 -1.5
comp=Z,25nm,0.8s,baz=218,slow=6.4,SNR=61
SCHQ LR LR 01 36 30.6
comp=Z,295nm,18.5s,baz=229,slow=37
SCHQ Schefferville 45.11 18 P P 01 16 51.1 -1.0
A04D Lummi Island 45.19 329 P P 01 16 53.9 +1.2
baz=130
PP1B Ponte de Pedra 45.37 131 eP P 01 16 55.2 +0.6
FCC Fort Churchill 45.76 356 P P 01 16 56.8 -0.3
LLLB Lillooet 46.03 331 IAmb IAmb 01 17 01.0
comp=Z,12nm,1.1s
SMTB Santa Maria do 46.48 116 eP P 01 17 01.1 -2.3
ARAG Araguaiana, MT 46.54 127 eP P 01 17 02.4 -1.4
AQDB Aquidauana 46.68 135 eP P 01 17 05.0 +0.2
ROSB Rosario 47.22 106 eP P 01 17 08.1 -1.1
H03N2 Juan Fernandez 47.23 169 T T 02 07 20.4
baz=347,slow=76,SNR=66
H03N1 Juan Fernandez 47.23 169 T T 02 07 26.2
baz=347,slow=76,SNR=60
H03N3 Juan Fernandez 47.24 169 T T 02 07 33.2
baz=347,slow=76,SNR=59
PEXB Peixe 47.43 120 eP P 01 17 08.5 -2.4
BDFB Brasilia 49.52 124 P P 01 17 25.1 -1.9
comp=Z,12nm,0.6s,baz=295,slow=8.8,SNR=19
BDFB LR LR 01 40 47.1
comp=Z,309nm,18.3s,baz=315,slow=39
BDFB Brasilia 49.52 124 P P 01 17 25.1 -1.9
BDFB IAmb IAmb 01 17 27.1
comp=Z,12nm,0.7s
MT09 Talagante 49.63 160 P P 01 17 27.8 +0.3
MT09 IAmb IAmb 01 17 29.6
comp=Z,16nm,0.9s
CPUP Villa Florida 49.79 142 P P 01 17 28.2 -0.4
comp=Z,5.8nm,1.1s,baz=312,slow=2.1,SNR=3.0
CPUP LR LR 01 40 28.4
comp=Z,139nm,22.0s,baz=331,slow=38
CPUP Villa Florida 49.79 142 IAmb IAmb 01 17 51.0
comp=Z,12nm,1.1s
BO04 La Punta 49.95 160 IAmb IAmb 01 17 31.9
comp=Z,21nm,1.1s
LMEL Las Melosas 49.95 160 IAmb IAmb 01 17 33.8
comp=Z,21nm,1.1s
ITRB Iturama 50.02 130 eP P 01 17 30.1 -0.6
BBB Bella Bella 50.05 330 LR LR 01 42 35.5
comp=Z,363nm,20.1s,baz=138,slow=41
NBPS Pedro II - PI 50.24 107 eP P 01 17 31.6 -1.0
GO05 Huala 50.47 162 P P 01 17 34.0 +0.2
SDBA SAO DESIDERIO 50.47 118 eP P 01 17 32.0 -2.1
PCMB Pacaembu 50.54 133 eP P 01 17 34.8 +0.3
IPMB Ipameri, GO 50.66 127 eP P 01 17 34.7 -0.8
BB19B Bebedouro 52.21 130 eP P 01 17 47.2 +0.1
JANB Januaria 52.26 121 eP P 01 17 46.4 -1.1
FRB Frobisher Bay 52.59 11 LR LR 01 40 41.1
comp=Z,457nm,21.6s,baz=202,slow=37
YKA Yellowknife Ar 52.64 345 P P 01 17 49.6 +0.1
comp=Z,45nm,0.8s,baz=142,slow=7.6,SNR=346
YKA ScP ScP 01 22 48.9 -1.3
comp=Z,1.8nm,0.9s,baz=142,slow=4.2,SNR=7.7
ITQB Itaqui 52.70 144 eP P 01 17 51.5 +1.1
ITAB Concordia 53.67 139 P P 01 17 58.4 +0.7
ITAB Concordia 53.67 139 eP P 01 17 58.4 +0.7
RCLB Rio Claro- Sao 53.76 131 eP P 01 17 58.9 +0.4
NBPN Ponto Novo - B 53.89 114 eP P 01 17 59.6 +0.2
DIAM Diamantina, MG 54.44 124 eP P 01 18 03.1 -0.5
TIJ01 Guaruva-PR 54.50 134 eP P 01 18 04.9 +1.1
VAO Valinhos 54.53 131 eP P 01 18 04.2 +0.1
DLBC Dease Lake 54.73 335 LR LR 01 46 31.8
comp=Z,400nm,18.6s,baz=126,slow=42
PET01 Itanhaem-SP 55.08 132 eP P 01 18 07.7 -0.2
WTLY Watson Lake, Y 55.31 337 P P 01 18 08.9 -0.3
baz=130
TAOE Nuku Hiva Isla 55.34 249 eLR LR 01 34 04.1
comp=Z,1µm,27.7s
TAOE Nuku Hiva Isla 55.34 249 eT T 02 17 29.4
comp=Z,50nm,0.2s
WRGLY Wrigley 55.67 342 P P 01 18 11.4 -0.2
baz=138
GDU01 Guandu, BA 55.67 117 eP P 01 18 12.6 +0.2
PARB Paraibuna 55.72 130 eP P 01 18 13.5 +0.8
RCBR Riachuelo 55.91 106 LR LR 01 45 36.6
comp=Z,312nm,20.8s,baz=78,slow=40
PLTB Pedras Altas 55.98 144 eP P 01 18 16.6 +2.3
TGTN Hyland Airport 56.05 339 P P 01 18 15.5 +1.1
baz=132
NBLA Lagarto - SE 56.10 113 eP P 01 18 15.0 -0.5
PLCA Paso Flores 56.18 163 P P 01 18 16.0 +0.4
comp=Z,10nm,1.0s,baz=337,slow=8.3,SNR=17
PLCA LR LR 01 36 36.3
comp=Z,164nm,21.7s,baz=354,slow=30
PLCA Paso Flores 56.18 163 P P 01 18 15.5 -0.1
PLCA IAmb IAmb 01 18 17.8
comp=Z,18nm,1.1s
PLCA Paso Flores 56.18 163 eP P 01 18 16.9 +1.3
NBIT Itapeh - BA 56.34 118 eP P 01 18 15.7 -1.4

CMC01 Camacan, BA 56.46 118 eP P 01 18 17.5 -0.4
TER01 Tubaro-SC 56.50 138 eP P 01 18 19.0 +0.9
SJMB Sao Joao De Ma 56.67 123 eP P 01 18 18.8 -0.6
MAN01 Angra dos Reis 56.70 129 eP P 01 18 20.0 +0.4
VAS01 Vassouras-RJ 56.77 128 eP P 01 18 20.6 +0.6
GUA01 Guaratinga, BA 56.79 120 eP P 01 18 19.8 -0.5
P33M Teslin, Yukon 56.95 336 P P 01 18 21.5 +0.7
baz=126
NBAN Anadia - AL 56.95 111 eP P 01 18 21.5 0.0
NAN01 Guarapari, ES 57.12 121 eP P 01 18 22.3 -0.3
NUUK Nuuk 57.18 18 iP P 01 18 21.0 -1.2
NUUK IAmb IAmb 01 18 22.5
comp=Z,25nm,0.8s
NRS Narsarsuaq 57.37 23 iP P 01 18 22.0 -1.6
NRS IAmb IAmb 01 18 25.2
comp=Z,17nm,0.6s
DUB01 Friburgo-RJ 57.49 127 eP P 01 18 24.6 -0.6
SKAG Skagway 57.56 334 P P 01 18 26.0 +1.0
baz=123
RIB01 Linhares ES 57.62 123 eP P 01 18 25.5 -0.7
NBRF Rio Formoso - 57.64 109 eP P 01 18 25.4 -0.9
MMPY Sheldon Lake, 57.84 338 P P 01 18 27.8 +0.8
baz=129,SNR=11
CAM01 Campos-RJ 57.91 126 eP P 01 18 27.6 -0.4
ALF01 Guarapari-ES 58.02 125 eP P 01 18 28.6 -0.2
LL02 Futaleuf 58.14 165 IAmb IAmb 01 18 31.0
comp=Z,15nm,1.1s
FARO Faro, Yukon 58.36 337 P P 01 18 30.8 +0.1
baz=127
M31M Drury Creek, Y 58.74 337 P P 01 18 34.0 +0.7
baz=126
N31M Braeburn, Yuko 58.87 336 IAmb IAmb 01 18 35.7
comp=Z,11nm,0.8s
N31M Braeburn, Yuko 58.87 336 P P 01 18 34.9 +0.7
baz=124
HYT Haines Junctio 59.21 335 P P 01 18 37.6 +0.9
baz=122
PNL Peninsula 59.44 333 P P 01 18 38.9 +0.7
baz=119
SFJD Kangerlussuaq 59.52 16 P P 01 18 36.9 -1.7
comp=Z,16nm,0.9s,baz=153,slow=5.5,SNR=6.9
SFJD Kangerlussuaq 59.52 16 iP P 01 18 36.3 -2.2
SFJD IAmb IAmb 01 18 37.2
comp=Z,9.8nm,0.8s
SFJD Kangerlussuaq 59.52 16 P P 01 18 37.5 -1.0
YUK6 Outpost Mounta 59.63 335 P P 01 18 40.6 +0.9
baz=121
M30M Minto, Yukon 59.87 337 IAmb IAmb 01 19 24.7
comp=Z,13nm,1.4s
M30M Minto, Yukon 59.87 337 P P 01 18 41.3 +0.2
baz=123
YUK4 Talbot Arm 59.96 335 P P 01 18 42.3 +0.4
baz=121
COYC Coyhaique 60.33 166 P P 01 18 45.0 +0.7
DY2G Dye2 60.43 18 iP P 01 18 42.5 -2.6
DY2G IAmb IAmb 01 18 44.0
comp=Z,9.5nm,0.6s
C36M Paulatuk 60.47 346 IAmb IAmb 01 18 45.1
comp=Z,7.3nm,0.8s
C36M Paulatuk 60.47 346 P P 01 18 44.1 -0.9
baz=140
CTG Chitna Glacier 60.91 334 P P 01 18 50.1 +1.8
baz=118
YUK3 Moose Creek 60.93 335 P P 01 18 49.3 +0.8
baz=119
DAWY Dawson 61.66 337 P P 01 18 53.1 -0.2
baz=121
RES Resolute Bay 61.69 358 P P 01 18 52.5 -0.7
comp=Z,12nm,0.7s,baz=183,slow=9.4,SNR=52
RES LR LR 01 46 39.4
comp=Z,288nm,20.1s,baz=164,slow=37
RES Resolute Bay 61.69 358 IAmb IAmb 01 18 53.4
comp=Z,14nm,0.9s
M27K Edge Creek, AK 61.79 335 P P 01 18 54.8 +0.5
baz=118
KAIM Kayak Island 61.82 332 P P 01 18 55.4 +1.1
baz=114
MCARA McCarthy VSAT 61.83 334 P P 01 18 55.4 +1.0
baz=116
I29M Ogilvie Camp, 61.96 339 IAmb IAmb 01 18 56.0
comp=Z,5.6nm,0.8s
I29M Ogilvie Camp, 61.96 339 P P 01 18 55.1 -0.1
baz=123
L27K Beaver Creek, 62.11 336 IAmb IAmb 01 18 57.7
comp=Z,7.0nm,0.8s
L27K Beaver Creek, 62.11 336 P P 01 18 56.3 +0.1
baz=118
INK Inuvik 62.18 343 P P 01 18 56.8 +0.1
comp=Z,27nm,0.8s,baz=118,slow=6.9,SNR=98
INK LR LR 01 49 04.6
comp=Z,386nm,21.1s,baz=122,slow=39
INK Inuvik 62.18 343 P P 01 18 56.7 +0.1
baz=129,SNR=35
M26K Nabesna, AK 62.27 335 P P 01 18 57.5 +0.1
baz=117
BMRM Bremner River 62.34 333 P P 01 18 58.7 +0.8
baz=115
N25K Chitina, Valde 62.60 334 IAmb IAmb 01 19 02.4
comp=Z,11nm,1.0s
N25K Chitina, Valde 62.60 334 P P 01 19 00.4 +0.8
baz=115
EGAK Eagle 62.69 338 P P 01 18 60.0 -0.1
EGAK Eagle 62.69 338 P P 01 18 59.8 -0.2
baz=120
L26K Log Cabin Wild 62.70 335 P P 01 19 00.6 +0.4
baz=117
A36M Sachs Harbour 62.75 348 P P 01 18 59.4 -0.9
A36M Sachs Harbour 62.75 348 P P 01 18 59.5 -0.9
baz=139,SNR=26
GO08 Villa O'Higgin 62.97 168 P P 01 19 03.0 +1.0
GO08 IAmb IAmb 01 19 05.2
comp=Z,15nm,1.1s
KLU Klutina 63.14 333 P P 01 19 03.3 +0.1
KLU IAmb IAmb 01 19 18.8
comp=Z,13nm,1.2s
KLU Klutina 63.14 333 P P 01 19 03.6 +0.4
baz=114
HARP HAARP 63.18 334 P P 01 19 04.2 +0.8
baz=115
DOT Dot Lake 63.27 336 IAmb IAmb 01 19 05.4
comp=Z,16nm,1.2s
SCRK Sand Creek 63.39 336 P P 01 19 04.9 +0.1
baz=117
GLI Glacier Island 63.42 332 P P 01 19 05.3 +0.3
baz=112
J26L Joseph Creek 63.46 337 P P 01 19 05.7 +0.4
baz=117
M24K Tolsona, Glenn 63.49 334 P P 01 19 06.0 +0.4
baz=114
PAX Paxson 63.55 335 P P 01 19 06.1 +0.2
baz=115
RIDG Independent Ri 63.63 336 IAmb IAmb 01 19 08.2
comp=Z,13nm,0.9s
RIDG Independent Ri 63.63 336 P P 01 19 06.7 +0.3
baz=116,SNR=5.3
SCM Sheep Creek Mo 63.89 333 P P 01 19 08.5 +0.4
baz=112
ICESG Greenland Ices 64.02 18 iP P 01 19 06.5 -2.7
ICESG IAmb IAmb 01 19 09.8
comp=Z,9.4nm,0.6s
WAT6 Susitna Watana 64.35 334 P P 01 19 11.6 +0.3
baz=112
PMR Palmer 64.60 333 P P 01 19 12.8 +0.2
baz=110
PRP Porcupine Dome 64.67 337 IAmb IAmb 01 19 14.7
comp=Z,7.6nm,0.8s
PRP Porcupine Dome 64.67 337 P P 01 19 13.4 +0.1
baz=116
RC01 Rabbit Creek A 64.70 332 P P 01 19 13.9 +0.6
baz=110
HDA Harding Lake 64.75 336 IAmb IAmb 01 19 14.3
comp=Z,16nm,1.1s
HDA Harding Lake 64.75 336 P P 01 19 13.4 -0.2
baz=114,SNR=5.5
IL31 64.87 336 IAmb IAmb 01 19 16.2
comp=Z,10nm,0.9s
ILAR Eielson Array 64.87 336 P P 01 19 14.2 -0.3
comp=Z,7.3nm,0.8s,baz=127,slow=5.6,SNR=61
ILAR LR LR 01 50 40.8
comp=Z,265nm,21.2s,baz=120,slow=39
KDAK Kodiak Island 65.07 328 LR LR 01 49 12.0
comp=Z,246nm,18.6s,baz=122,slow=37
POKR Poker Plat Res 65.22 337 P P 01 19 16.7 0.0
baz=114
WRH Wood River Hil 65.23 336 IAmb IAmb 01 19 16.9
comp=Z,11nm,1.1s
MCK McKinley 65.29 335 IAmb IAmb 01 19 19.0
comp=Z,11nm,1.0s
MCK McKinley 65.29 335 P P 01 19 17.0 -0.2
baz=112,SNR=5.1
COLA College 65.29 336 P P 01 19 17.1 0.0
baz=113
TCOL CIGO, UAF Yank 65.29 336 P P 01 19 17.1 0.0
baz=113
CUT Chulitna 65.38 333 P P 01 19 18.5 +0.7
baz=110
NEA2 Nenana 65.66 336 P P 01 19 19.2 -0.4
baz=112,SNR=7.7
H24K Noodor Dome 65.69 337 IAmb IAmb 01 19 20.8
comp=Z,8.7nm,0.9s
H24K Noodor Dome 65.69 337 P P 01 19 19.6 -0.1
baz=114
TRF Thorofare Moun 65.75 334 P P 01 19 20.5 +0.2
baz=110
I23K Minto, Yukon-K 65.99 336 IAmb IAmb 01 19 22.8
comp=Z,14nm,0.9s
I23K Minto, Yukon-K 65.99 336 P P 01 19 21.6 +0.1
baz=112,SNR=8.4
BPAW Bear Paw Mtn. 66.27 335 IAmb IAmb 01 19 24.0
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 66.27 335 P P 01 19 23.1 -0.4
baz=110,SNR=7.9
SUMG Summit 66.35 15 iP P 01 19 23.0 -1.3
SUMG IAmb IAmb 01 19 24.4
comp=Z,6.1nm,0.5s
SUMG Summit 66.35 15 P P 01 19 23.6 -0.7
SUMG IAmb IAmb 01 19 47.6
comp=Z,24nm,1.3s
PPLA Purkeypile 66.38 333 P P 01 19 24.0 -0.4
baz=108
MLY Manley 66.49 336 IAmb IAmb 01 19 25.7
comp=Z,20nm,1.0s
MLY Manley 66.49 336 P P 01 19 25.3 +0.4
baz=110
CAST Castle Rocks 66.50 334 P P 01 19 24.6 -0.4
baz=108
O19K Port Alsworth 66.58 330 P P 01 19 25.4 -0.1
baz=105
CHUM Lake Minchumin 66.75 334 P P 01 19 25.8 -0.7
baz=108
N19K Bonanza Creek 66.82 331 P P 01 19 26.7 -0.5
baz=105
L20K Farewell, AK 67.00 333 P P 01 19 27.9 -0.3
baz=106
EUNU Eureka 67.01 0 P P 01 19 27.7 -0.3
EUNU IAmb IAmb 01 19 30.4
comp=Z,8.9nm,0.9s
I21K Tanana 67.03 336 IAmb IAmb 01 20 17.8
comp=Z,16nm,1.4s
I21K Tanana 67.03 336 P P 01 19 28.3 0.0
baz=109
COLD Coldfoot 67.08 338 IAmb IAmb 01 19 32.1
comp=Z,13nm,0.9s
COLD Coldfoot 67.08 338 P P 01 19 29.5 +0.9
baz=112,SNR=11
PPT Papeete 67.16 244 LR LR 01 41 03.1
comp=Z,576nm,19.2s,baz=130,slow=29
PPT2 Papeete2 67.17 244 eLR LR 01 39 39.2
comp=Z,1µm,27.5s
NEEM North Greenlan 67.19 8 iP P 01 19 29.4 -0.1
NEEM IAmb IAmb 01 19 30.2
comp=Z,28nm,1.2s
K20K Telida 67.34 334 IAmb IAmb 01 19 32.2
comp=Z,18nm,1.4s
K20K Telida 67.34 334 P P 01 19 29.8 -0.5
baz=106
TOLK Toolik Lake Re 67.41 340 IAmb IAmb 01 19 32.7
comp=Z,11nm,0.7s
TOLK Toolik Lake Re 67.41 340 P P 01 19 31.0 +0.4
baz=113,SNR=10
H21K Melozitna Rive 67.52 336 P P 01 19 30.8 -0.6
baz=109
J20K Nowinta River 67.61 335 IAmb IAmb 01 19 38.7
comp=Z,16nm,1.4s
J20K Nowinta River 67.61 335 P P 01 19 31.8 -0.1
baz=107
TTA Tatalina 68.07 333 P P 01 19 34.6 -0.4
baz=104
BORG Borgarnes 68.75 25 LR LR 01 49 21.5
comp=Z,63nm,18.3s,baz=266,slow=36
SDPT Sand Point 68.86 324 P P 01 19 40.2 +0.4
baz=98
TBI Tubuai 69.40 239 eLR LR 01 40 41.1
comp=Z,884nm,28.0s
TBI Tubuai 69.40 239 eT T 02 35 01.8
comp=Z,7.6nm,0.3s
SCO Scoresbysund 70.13 19 iP P 01 19 44.3 -3.1
RDOG Red Dog Mine 71.98 338 P P 01 19 58.8 +0.1
baz=100
ANM Nome 72.46 334 P P 01 20 02.0 +0.3
baz=96
DAG Danmarks Havn 72.87 13 iP P 01 20 02.0 -1.8
DAG IAmb IAmb 01 20 03.0
comp=Z,7.5nm,0.5s
NIKH Nikolski High 73.61 322 P P 01 20 09.6 +0.9
baz=90
TNA Tin City 73.63 335 P P 01 20 08.9 +0.4
baz=94,SNR=6.0
PCAS Casmilo, Conde 74.43 52 eP P 01 20 13.8 +0.1
comp=Z,59nm,1.8s
PCAS epP pP 01 20 32.4 +0.3
PTEO Sao Teotonio 74.44 54 epP pP 01 20 32.8 +0.6
COI Coimbra 74.48 52 eP P 01 20 13.7 -0.3
comp=Z,43nm,1.6s
COI epP pP 01 20 32.3 -0.1
MORF Marmelete 74.52 55 epP pP 01 20 33.4 +0.7
PNCL Nicolau / Gran 74.55 54 epP pP 01 20 32.6 -0.2
NOR Nord 74.57 8 iP P 01 20 12.0 -1.8
NOR IAmb IAmb 01 20 14.3
comp=Z,2.0nm,0.7s
PMTG Montargil 74.71 53 epP pP 01 20 33.6 -0.1
PVIS Viseu 74.84 51 eP P 01 20 14.7 -1.4
comp=Z,26nm,1.9s
PVIS epP pP 01 20 34.3 -0.2
EVO Evora 74.92 53 epP pP 01 20 34.8 -0.2
PVRL Vila Real 74.93 50 epP pP 01 20 35.0 0.0
PCVE Castro Verde 74.98 54 epP pP 01 20 37.1 +1.8
PBEJ Beja 75.08 54 epP pP 01 20 36.2 +0.3
MTE Manteigas 75.13 51 epP pP 01 20 36.1 -0.1
GAMB Gambell 75.18 333 P P 01 20 18.6 +1.1
baz=90
PESTR Estremoz 75.22 53 epP pP 01 20 36.8 +0.1
PCBR Castelo Branco 75.22 52 eP P 01 20 14.4 -3.9
comp=Z,22nm,1.7s
PCBR epP pP 01 20 36.6 -0.1
PVAQ Vaqueiros 75.25 54 epP pP 01 20 37.3 +0.4
PMRV Marv??o 75.33 52 epP pP 01 20 37.0 -0.3
MVO Moncorvo 75.46 51 epP pP 01 20 37.9 -0.2
PBRG Braganca 75.62 50 epP pP 01 20 39.1 +0.1
PBAR Barrancos 75.71 54 epP pP 01 20 39.4 -0.2
EKA Eskdalemuir Ar 76.96 36 LR LR 01 49 22.8
comp=Z,136nm,19.4s,baz=190,slow=32
RAR Rarotonga 77.44 245 LR LR 01 45 49.1
comp=Z,225nm,21.3s,baz=66,slow=29
ESDC Sonseca Array 77.94 52 P P 01 20 31.0 -2.7
comp=Z,2.8nm,0.8s,baz=286,slow=6.0,SNR=13
ESDC pP pP 01 20 50.6 -1.6
comp=Z,12nm,0.7s,baz=284,slow=5.7,SNR=28
ESDC LR LR 01 48 54.0
comp=Z,292nm,21.1s,baz=277,slow=31
MDT Midelt 78.32 59 LR LR 01 49 04.6
comp=Z,268nm,20.5s,baz=297,slow=31
PMSA Palmer Station 79.88 169 LR LR 01 50 01.3
comp=Z,143nm,18.8s,baz=300,slow=31
SPITS Spitsbergen Ar 80.39 12 P P 01 20 45.5 -0.7
comp=Z,2.1nm,0.4s,baz=158,slow=0.9,SNR=11
SPITS LR LR 01 56 45.5
comp=Z,229nm,20.5s,baz=26,slow=36
DOU Dourbes 82.33 40 dpP pP 01 21 14.5 -1.2
BGES Gesves 82.58 40 dpP pP 01 21 15.9 -1.1
BCLA Clavier 82.71 40 dpP pP 01 21 16.9 -0.8
DBIC Dimbokro 82.76 85 LR LR 01 54 11.4
comp=Z,116nm,21.5s,baz=304,slow=33
MEM Membach 83.11 40 dpP pP 01 21 19.2 -0.6
BILL Bilibino 83.42 339 P P 01 21 02.1 -0.2
BILL IAmb IAmb 01 21 03.2
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 83.52 29 P P 01 21 02.5 -0.5
comp=Z,5.6nm,1.0s,baz=285,slow=5.3
NOA NORSAR Array B 83.52 29 P P 01 21 02.1 -0.9
comp=Z,1.0nm,0.8s,baz=283,slow=6.8,SNR=3.5
NOA pP pP 01 21 22.0 +0.3
comp=Z,2.2nm,0.8s,baz=286,slow=5.1,SNR=5.3
NOA LR LR 01 54 21.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,173nm,21.7s,baz=275,slow=33						
HFS	**Hagfors**	**84.95**	**29**	LR	LR	01 55 00.8	
	comp=Z,173nm,21.5s,baz=277,slow=33						
ARCES	**ARCESS Array B**	**86.06**	**19**	P	**P**	**01 21 14.1**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=297,slow=4.0,SNR=9.8						
ARCES				pP	**pP**	**01 21 34.4**	**0.0**
	comp=Z,2.5nm,0.7s,baz=319,slow=4.8,SNR=2.1						
AFI	**Afiamalu**	**86.33**	**255**	LR	LR	01 50 16.1	
	comp=Z,171nm,21.5s,baz=82,slow=29						
DAVA	**Damuels**	**86.38**	**42**	*e*P	pP	01 21 36.6	-0.1
	comp=Z,12nm,0.9s						
DAVOX	**Davos/Dischmat**	**86.51**	**43**	LR	LR	01 53 45.2	
	comp=Z,247nm,21.4s,baz=284,slow=31						
RETA	**Reutte**	**86.91**	**42**	*i* P	pP	01 21 39.1	0.0
	comp=Z,12nm,1.1s						
FETA	**Feichten**	**87.01**	**42**	*e*P	pP	01 21 39.4	-0.3
	comp=Z,7.2nm,0.8s						
MOTA	**Moosalm**	**87.17**	**42**	*e*P	pP	01 21 40.2	-0.3
	comp=Z,7.1nm,0.9s						
NKC	**Novy Kostel**	**87.20**	**39**	*e*pP	pP	01 21 40.3	-0.1
CLL	**Collm**	**87.21**	**38**	*i* pP	**pP**	**01 21 40.2**	**-0.2**
	comp=Z,7.0nm,0.7s						
CLL				*e*SKSac	**SKSac**	**01 31 39.0**	**-4.1**
CLL				*e*PS	**PnS**	**01 33 00.0**	**-3.9**
CLL				*e*SS	**SS**	**01 37 42.0**	**+1.4**
CLL				Lm	MLR	08 02 00.0	
	comp=Z,100nm,18.8s						
WATA	**Walderalm**	**87.48**	**42**	*i* P	pP	01 21 42.5	+0.5
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**87.68**	**77**	P	**P**	**01 21 21.7**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=298,slow=4.5,SNR=10						
KHC	**Kasperske Hory**	**88.23**	**40**	*e*P	**P**	**01 21 24.5**	**-2.0**
KHC				*e*pP	**pP**	**01 21 42.5**	**-2.9**
GERES	**GERESS Array B**	**88.39**	**40**	P	**P**	**01 21 25.6**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=289,slow=12,SNR=4.8						
GERES				pP	**pP**	**01 21 45.4**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=264,slow=9.3,SNR=4.6						
KEST	**Kesra**	**89.05**	**54**	LR	LR	01 55 24.5	
	comp=Z,147nm,20.6s,baz=204,slow=32						
OSTC	**Ostas**	**89.38**	**38**	*e*P	**P**	**01 21 30.3**	**-1.6**
OSTC				*e*pP	**pP**	**01 21 50.6**	**-0.2**
DPC	**Dobruska-Polom**	**89.52**	**38**	*e*P	**P**	**01 21 34.8**	**+2.2**
DPC				*e*pP	**pP**	**01 21 50.6**	**-0.8**
VRAC	**Vranov**	**90.04**	**39**	LR	LR	01 57 07.8	
	comp=Z,266nm,21.8s,baz=288,slow=32						
FINES	**FINESS Array B**	**90.04**	**26**	P	**P**	**01 21 34.1**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=354,slow=3.8,SNR=5.5						
FINES				pP	**pP**	**01 21 53.8**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=162,slow=1.2,SNR=2.3						
FINES				LR	LR	02 00 11.4	
	comp=Z,94nm,21.5s,baz=288,slow=34						
SEY	**Seymchan**	**90.81**	**336**	P	**P**	**01 21 38.4**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=99,slow=3.9,SNR=14						
SEY				LR	LR	02 07 48.6	
	comp=Z,96nm,18.1s,baz=3.5,slow=39						
TIXI	**Tiksi**	**91.76**	**349**	P	**P**	**01 21 41.2**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=269,slow=24,SNR=10						
TIXI				LR	LR	02 05 37.1	
	comp=Z,165nm,21.6s,baz=1.5,slow=37						
TIXI	**Tiksi**	**91.76**	**349**	P	**P**	**01 21 41.3**	**-1.1**
TIXI				IAmb	IAmb	01 21 42.2	
	comp=Z,6.3nm,1.0s						
MA2	**Magadan**	**93.25**	**334**	LR	LR	02 09 56.2	
	comp=Z,87nm,18.1s,baz=32,slow=39						
RAO	**Raoul Island**	**95.41**	**241**	LR	LR	01 59 11.8	
	comp=Z,133nm,18.4s,baz=24,slow=32						
MSVF	**Nonsavu**	**96.72**	**253**	LR	LR	01 55 37.8	
	comp=Z,197nm,21.4s,baz=145,slow=29						
AKASG	**Malin Array Be**	**96.82**	**34**	LR	LR	02 03 11.4	
	comp=Z,101nm,18.4s,baz=291,slow=34						
MLR	**Muntele Rosu**	**97.38**	**40**	LR	LR	02 02 46.9	
	comp=Z,119nm,20.5s,baz=290,slow=33						
NRIK	**Noril'sk**	**97.76**	**1**	LR	LR	02 07 40.3	
	comp=Z,394nm,21.9s,baz=342,slow=36						
OBN	**Obninsk**	**98.11**	**28**	LR	LR	02 02 18.4	
	comp=Z,40nm,21.9s,baz=352,slow=33						
YAK	**Yakutsk**	**99.25**	**343**	LR	LR	02 11 30.9	
	comp=Z,224nm,21.9s,baz=77,slow=38						
DZM	**Mont Dzumac**	**108.20**	**251**	*e*PS	PS	01 36 49.9	-3.7
	comp=Z,119nm,29.8s						
DZM	**Mont Dzumac**	**108.20**	**251**	*e*LR	LR	01 58 42.8	
	comp=Z,324nm,29.2s						
ZALV	**Zalesovo Beam**	**113.03**	**4**	PKiKP	**PKiKP**	**01 27 11.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=258,slow=2.4,SNR=6.0						
ZALV				PP	**PP**	**01 27 59.6**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=339,slow=7.9,SNR=8.0						
SYO	**Syowa Base**	**115.36**	**162**⇓	*e*X	**Pdif**	**01 23 32.2**	**+4.1**
SYO	**Syowa Base**	**115.36**	**162**⇓	*i*pPdif	pPdif	01 23 44.0	-3.0
BOSA	**Boshof**	**117.26**	**116**	PKP	**PKPdf**	**01 27 20.9**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=274,slow=4.0,SNR=6.1						
BOSA	**Boshof**	**117.26**	**116**		**PKPdf**	**01 27 20.7**	**-0.3**
SONM	**Songino Array**	**117.84**	**348**	PKP	**PKPdf**	**01 27 21.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=307,slow=0.6,SNR=12						
SONM				PP	**PP**	**01 28 34.7**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=2.2,slow=6.5,SNR=5.6						
SONM	**Songino Array**	**117.84**	**348**	PKPdf	**PKPdf**	**01 27 21.2**	**-0.5**
KSRS	**Korea Array**	**118.97**	**327**	PKP	**PKPdf**	**01 27 23.3**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=8.2,slow=3.0,SNR=3.2						
KSRS				pPKP	**pPKPdf**	**01 27 42.2**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=0.2,slow=1.9,SNR=6.9						
MKAR	**Makanchi Array**	**119.89**	**7**	PKP	**PKPdf**	**01 27 23.9**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=304,slow=3.4,SNR=16						
MKAR				PP	**PP**	**01 28 41.3**	**-7.4**
	comp=Z,0.9nm,0.8s,baz=15,slow=5.0,SNR=5.4						
HHC	**Hu-ho-hao-te**	**123.09**	**342**	*e*PKP	**PKPdf**	**01 27 28.6**	**-3.4**
WMQ	**Urumqi**	**123.30**	**3**	*e*PKP	**PKiKP**	**01 27 33.5**	**+1.0**
WMQ				LR	LR		
	comp=Z,350nm,21.5s						
WMQ				LR	LR		
	comp=Z,300nm,20.9s						
GTA	**Gaotai**	**127.15**	**352**	PKP	**PKPdf**	**01 27 40.0**	**+0.2**
NJ2	**Nanjing**	**127.83**	**330**	*e*PKP	**PKPdf**	**01 27 40.8**	**-0.3**
LZH	**Lanzhou**	**129.64**	**347**	*e*PKP	**PKiKP**	**01 27 45.9**	**+0.5**
LZH				LR	LR		
	comp=Z,310nm,17.9s						
LZH				LR	LR		
	comp=Z,220nm,18.2s						
LZH				LR	LR		
	comp=Z,400nm,20.1s						
STKA	**Stephens Creek**	**130.18**	**239**	PKP	**PKiKP**	**01 27 48.2**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=116,slow=7.4,SNR=6.8						
WRA	**Warramunga Arr**	**138.05**	**255**	PKhKP	PKPpre	01 27 57.1	
	comp=Z,0.6nm,0.5s,baz=91,slow=2.7,SNR=12						
WRA				PKP	**PKiKP**	**01 28 03.5**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=91,slow=2.4,SNR=16						
WRA				SKPbc	**SKiKP**	**01 31 32.5**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=84,slow=2.6,SNR=15						
WRA				SKKPbc	**SKKPbc**	**01 40 15.2**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=289,slow=3.0,SNR=5.1						
WRA	**Warramunga Arr**	**138.05**	**255**		**PKPdf**	**01 28 00.0**	**-0.6**
ASAR	**Alice Springs**	**138.16**	**249**	PKhKP	PKPpre	01 27 56.4	
	comp=Z,0.7nm,0.6s,baz=110,slow=3.8,SNR=8.6						
ASAR				PKP	**PKiKP**	**01 28 03.9**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=106,slow=3.2,SNR=14						
ASAR				SKPbc	**SKiKP**	**01 31 32.8**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=110,slow=3.3,SNR=9.2						
ASAR				SKKPbc	**SKKPbc**	**01 40 14.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=284,slow=4.7,SNR=7.6						
DANN	**Dangsing**	**138.21**	**10**	*e*P	**SKPbc**	**01 31 29.1**	**-0.6**
PYUN	**Piuthan**	**138.32**	**11**	*e*P	**SKPbc**	**01 31 29.0**	**-0.9**
	comp=Z,17nm,0.8s						
GKN	**Gorkha**	**138.69**	**9**	*e*P	**SKPbc**	**01 31 29.8**	**-1.1**
GUN	**Gumba**	**138.95**	**7**	*e*P	**SKPbc**	**01 31 31.2**	**-0.6**
PKIN	**Phulchoki**	**139.22**	**8**	*e*P	**SKPbc**	**01 31 31.3**	**-1.2**
	comp=Z,15nm,0.8s						
PKI	**Pulchoki**	**139.22**	**8**	*e*P	**SKPbc**	**01 31 31.3**	**-1.3**
PZH	**PanZhiHua**	**139.31**	**345**	PKP	**PKPdf**	**01 28 01.8**	**-1.2**
TAPN	**Taplejung**	**139.68**	**5**	*e*P	**SKPbc**	**01 31 32.7**	**-1.1**
HYBB	**Hyderabad (bro**	**147.27**	**23**	*e*PKPdf	**PKPdf**	**01 28 17.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**147.72**	**346**	PKPbc	**PKPdf**	**01 28 19.1**	**+1.4**
	comp=Z,9.5nm,0.8s,baz=343,slow=3.8,SNR=36						
CMAR				SKPbc	**SKiKP**	**01 31 53.5**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=341,slow=2.9,SNR=8.1						
CMAR	**Chiang Mai Arr**	**147.72**	**346**	PKPdf	**PKPdf**	**01 28 17.7**	**0.0**

IDC ***01*** *01:40:52.5±1.4, 3°.91N×125°.99E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.6/40, mbtmp4.0/5, Error ellipse: s-maj=57.9km s-min=17.0km az=74.0*
NEIC ***01*** *01:40:58.1±0.8, 4°.0N±0°.1×126°.3E±0°.2, h35km±2km, mb4.1/12, Error ellipse: s-maj=28.8km s-min=19.8km az=238.0*
DJA ***01*** *01:41:04.5±0.9, 4°N±8°×12°6E±°, h50km±15km, M4.1/7, mb4.1/3, mB4.8/1, MLv4.0/7, Mw(mB)4.1/1*
ISC 01 01:40:58.3±1.0**, 4°.1N**±0°.1×**126°.4E**±0°.1**, h45km, n22,**
σ**1s.54**/23**, mb4.1**/9**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.93**	**244**	P	**Pn**	**01 41 17.4**	**+2.3**
KCP	**Kidapawan**	**3.16**	**336**⇑	*e*P	Pn	01 41 58.1	+12
KCP				*i* S	Sn	01 42 38.7	+17
GTOI	**Gorontalo**	**4.80**	**224**	P	**Pn**	**01 42 08.0**	**-0.2**
MRSI	**Marisa**	**5.70**	**231**	P	**Pn**	**01 42 21.5**	**+1.0**
	0.3nm1μm34nm,0.6s						
TOLI2	**Tolitoli**	**6.32**	**242**	Pn	**Pn**	**01 42 27.2**	**-1.8**
MTN	**Manton Dam**	**17.48**	**164**		**Pn**	**01 44 57.2**	**-1.8**
MTN				IAmb	IAmb	01 45 11.9	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**19.79**	**173**	P	**P**	**01 45 23.8**	**-1.3**
KNRA				IAmb	IAmb	01 45 27.9	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.07**	**182**	P	**P**	**01 45 48.1**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=7.3,slow=7.9,SNR=30						
FITZ				S	**S**	**01 49 50.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=10,slow=3.0,SNR=3.1						
FITZ	**Fitzroy Crossi**	**22.07**	**182**	P	**P**	**01 45 48.0**	**-1.5**
COEN	**Coen**	**24.49**	**137**	P	**P**	**01 46 13.9**	**+0.4**
COEN				IAmb	IAmb	01 46 21.0	
	comp=Z,9.1nm,1.4s						
WB0	**Warramunga Arr**	**24.99**	**162**	P	**P**	**01 46 18.0**	**-0.1**
WRAB	**Tennant Creek**	**25.14**	**162**	P	**P**	**01 46 18.3**	**-1.1**
WRA	**Warramunga Arr**	**25.14**	**162**	P	**P**	**01 46 18.3**	**-1.1**
	comp=Z,5.3nm,0.6s,baz=342,slow=10,SNR=61						
WRA				S	**S**	**01 50 46.3**	**+4.9**
	comp=Z,0.2nm,0.5s,baz=335,slow=22,SNR=5.3						
WRA	**Warramunga Arr**	**25.14**	**162**	P	**P**	**01 46 19.2**	**-0.2**
WB2	**Warramunga Arr**	**25.14**	**162**	P	**P**	**01 46 19.2**	**-0.2**
WR0	**Warramunga Arr**	**25.22**	**162**	P	**P**	**01 46 19.6**	**-0.5**
WR0				IAmb	IAmb	01 46 21.3	
	comp=Z,7.6nm,1.2s						
ASAR	**Alice Springs**	**28.56**	**165**	P	**P**	**01 46 49.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=345,slow=7.6,SNR=14						
STKA	**Stephens Creek**	**38.60**	**159**	P	**P**	**01 48 17.2**	**0.0**
	comp=Z,2.0nm,0.4s,baz=341,slow=7.4,SNR=9.2						
STKA	**Stephens Creek**	**38.60**	**159**	P	**P**	**01 48 17.2**	**0.0**
MKAR	**Makanchi Array**	**57.05**	**325**	P	**P**	**01 50 39.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=119,slow=8.0,SNR=7.8						
MAKZ	**Makanchi**	**57.24**	**325**	P	**P**	**01 50 40.3**	**-0.9**
MAKZ				IAmb	IAmb	01 50 52.7	
	comp=Z,2.7nm,1.4s						
ABKAR	**Akbulak array**	**71.64**	**321**	P	**P**	**01 52 15.8**	**+0.6**
ABKAR				IAmb	IAmb	01 52 23.3	
	comp=Z,1.9nm,1.1s						

IDC 01 02:06:45.3±1.7**, 16°.70S**×**177°.83W, h0km, mb4.0**/5**, mb1 4.3**/5**, mb1mx3.9**/43**, mbtmp4.0**/5**, Error ellipse: s-maj=105.1km s-min=25.1km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.70**	**240**	P	P	02 14 19.5	0.0
	1.8nm,0.4s,baz=90,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**45.41**	**258**	P	P	02 15 06.1	0.0
	1.3nm,0.4s,baz=93,slow=7.1,SNR=85						
ASAR	**Alice Springs**	**45.66**	**253**	P	P	02 15 07.8	-0.3
	3.7nm,0.4s,baz=86,slow=8.7,SNR=50						
ILAR	**Eielson Array**	**84.59**	**13**	P	P	02 19 20.2	+0.1
	0.3nm,0.9s,baz=210,slow=5.3,SNR=4.1						
TXAR	**Lajitas Array**	**84.88**	**58**	P	P	02 19 22.6	0.0
	0.6nm,0.7s,baz=224,slow=5.2,SNR=6.7						

NEIC ***01*** *02:12:25.4±1.0, 11°.96N±0°.07×141°.7E±0°.1, h92km±8km, mb4.5/16, Error ellipse: s-maj=18.2km s-min=10.3km az=89.0*
IDC ***01*** *02:12:25.1±2.9, 11°.95N×141°.66E, h94km±29km, mb4.0/13, mb1 4.1/15, mb1mx3.8/48, mbtmp4.4/15, MS3.4/19, Ms1 3.4/19, ms1mx3.2/75, Error ellipse: s-maj=25.4km s-min=11.0km az=92.0*
ISC 01 02:12:25.7±0.5**, 11°.95N**±0°.07×**141°.73E**±0°.09**, h100km, n45,** σ**0s.88**/37**, mb4.4**/20**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.48**	**62**	P	**Pn**	**02 13 17.5**	**-0.3**
	54nm,0.3s,baz=204,slow=6.4,SNR=27						
GUMO				S	**Sn**	**02 13 59.3**	**+1.2**
	54nm,0.3s,baz=183,slow=22,SNR=5.5						
GUMO	**Guam**	**3.48**	**62**	Pn	**Pn**	**02 13 17.1**	**-0.7**
GUMO				Sn	**Sn**	**02 13 57.0**	**-1.1**
JAY	**Jayapura**	**14.40**	**184**	P	**Pn**	**02 15 44.9**	**0.0**
	2.0nm,0.3s,baz=251,slow=6.7,SNR=5.0						
PMG	**Port Moresby**	**21.89**	**165**	P	**P**	**02 17 09.6**	**-1.1**
	13nm,0.6s,baz=24,slow=13,SNR=6.6						
PMG				LR	LR	02 25 09.7	
	comp=Z,51nm,18.9s,baz=220,slow=35						
PMG	**Port Moresby**	**21.89**	**165**	P	**P**	**02 17 09.3**	**-1.4**
PMG				IAmb	IAmb	02 17 10.4	
	comp=Z,12nm,0.6s						
COEN	**Coen**	**25.77**	**177**	P	**P**	**02 17 46.5**	**-0.9**
HNR	**Honiara**	**27.91**	**139**	LR	LR	02 28 34.3	
	comp=Z,54nm,18.9s,baz=358,slow=35						
KSRS	**Korea Array**	**28.26**	**336**	LR	LR	02 27 33.0	
	comp=Z,66nm,21.7s,baz=50,slow=32						
ASAJ	**Asahikawa**	**32.06**	**1**	LR	LR	02 30 53.9	
	comp=Z,31nm,20.7s,baz=334,slow=35						
CTA	**Charters Tower**	**32.14**	**172**	LR	LR	02 32 49.1	
	comp=Z,79nm,18.0s,baz=20,slow=38						
WB0	**Warramunga Arr**	**32.33**	**193**	P	**P**	**02 18 43.4**	**-2.1**
WB0				IAmb	IAmb	02 18 46.9	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**32.48**	**193**	P	**P**	**02 18 46.5**	**-0.4**
WR0				IAmb	IAmb	02 18 47.8	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**32.51**	**193**	P	**P**	**02 18 47.0**	**-0.1**
WB2				IAmb	IAmb	02 18 48.0	
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**32.51**	**193**	P	**P**	**02 18 46.9**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=12,slow=9.8,SNR=34						
WRA	**Warramunga Arr**	**32.51**	**193**	P	**P**	**02 18 46.9**	**-0.2**
AS31	**Alice Springs**	**36.21**	**192**	P	**P**	**02 19 19.5**	**+0.5**
ASAR	**Alice Springs**	**36.21**	**192**	P	**P**	**02 19 19.6**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=15,slow=12,SNR=52						
ASAR				LR	LR	02 34 38.2	
	comp=Z,78nm,18.4s,baz=82,slow=37						
KLR	**Kul'dur**	**38.08**	**349**	P	**P**	**02 19 35.0**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=155,slow=7.1,SNR=11						
KLR				LR	LR	02 33 12.6	
	comp=Z,73nm,21.6s,baz=189,slow=33						
DZM	**Mont Dzumac**	**41.60**	**144**	P	**P**	**02 20 06.2**	**+2.0**
	comp=Z,4.3nm,0.6s,baz=216,slow=16,SNR=5.3						
DZM				LR	LR	02 34 10.9	
	comp=Z,81nm,21.1s,baz=189,slow=31						
DZM	**Mont Dzumac**	**41.60**	**144**	P	**P**	**02 20 06.5**	**+2.3**
PETK	**Petropavlovsk-**	**43.01**	**14**	LR	LR	02 36 20.3	
	comp=Z,42nm,21.3s,baz=194,slow=33						
STKA	**Stephens Creek**	**43.57**	**180**	P	**P**	**02 20 19.0**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=0.8,slow=8.6,SNR=8.1						
STKA				LR	LR	02 40 53.6	
	comp=Z,44nm,18.1s,baz=11,slow=39						
BBOO	**Buckleboo**	**44.83**	**187**	P	**P**	**02 20 30.4**	**+0.5**
SONM	**Songino Array**	**46.38**	**327**	P	**P**	**02 20 42.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=144,slow=7.9,SNR=8.5						
SONM				LR	LR	02 41 57.0	
	comp=Z,61nm,18.6s,baz=358,slow=38						
SONM	**Songino Array**	**46.38**	**327**	P	**P**	**02 20 42.4**	**+0.3**
MA2	**Magadan**	**48.02**	**6**	LR	LR	02 41 48.8	
	comp=Z,16nm,18.5s,baz=166,slow=37						
YAK	**Yakutsk**	**50.76**	**353**	P	**P**	**02 21 15.8**	**+0.6**
	comp=Z,9.9nm,0.3s,baz=266,slow=1.0,SNR=4.1						
YAK				LR	LR	02 43 09.3	
	comp=Z,26nm,18.7s,baz=268,slow=36						
YAK	**Yakutsk**	**50.76**	**353**	P	**P**	**02 21 15.2**	**0.0**
MK31	**Makanchi Array**	**60.57**	**317**	P	**P**	**02 22 25.6**	**-0.1**
MK31				IAmb	IAmb	02 22 39.8	
	comp=Z,3.8nm,1.0s						
MKAR	**Makanchi Array**	**60.57**	**317**	P	**P**	**02 22 25.1**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=95,slow=9.1,SNR=9.5						
MKAR	**Makanchi Array**	**60.57**	**317**	P	**P**	**02 22 26.1**	**+0.4**
MAKZ	**Makanchi**	**60.78**	**317**	P	**P**	**02 22 27.4**	**+0.2**
MAKZ				IAmb	IAmb	02 22 40.7	
	comp=Z,5.9nm,1.1s						
ZALV	**Zalesovo Beam**	**61.20**	**326**	P	**P**	**02 22 29.2**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=106,slow=4.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**61.20**	**326**	P	**P**	**02 22 29.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.20**	**326**	*i* P	**P**	**02 22 29.2**	**-0.6**
RPZ	**Rata Peaks**	**61.51**	**156**	LR	LR	02 48 14.0	
	comp=Z,69nm,18.2s,baz=51,slow=35						
KURK	**Kurchatov**	**63.88**	**321**	P	**P**	**02 22 47.8**	**0.0**
BRVK	**Borovoye**	**69.39**	**322**	P	**P**	**02 23 22.0**	**-0.7**
BRVK				IAmb	IAmb	02 23 37.5	
	comp=Z,6.2nm,1.0s						
ILAR	**Eielson Array**	**71.36**	**25**	P	**P**	**02 23 33.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=239,slow=5.8,SNR=6.0						
ILAR				LR	LR	02 52 40.3	
	comp=Z,44nm,20.9s,baz=256,slow=34						
ARU	**Arti**	**76.37**	**325**	LR	LR	03 01 11.5	
	comp=Z,31nm,18.8s,baz=103,slow=38						
ARU	**Arti**	**76.37**	**325**	P	**P**	**02 24 03.8**	**0.0**
ARU				IAmb	IAmb	02 24 08.2	
	comp=Z,10nm,1.4s						
YKA	**Yellowknife Ar**	**85.71**	**27**	P	**P**	**02 24 53.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=289,slow=4.9,SNR=2.8						
YKA				LR	LR	03 01 40.6	
	comp=Z,35nm,21.5s,baz=306,slow=34						
ARCES	**ARCESS Array B**	**87.68**	**342**	P	**P**	**02 25 02.5**	**-0.3**
	comp=Z,3.8nm,1.0s,baz=64,slow=8.2,SNR=4.6						
AKASG	**Malin Array Be**	**94.56**	**324**	LR	LR	03 09 09.4	
	comp=Z,41nm,21.8s,baz=104,slow=36						
NOA	**NORSAR Array B**	**97.45**	**338**	LR	LR	03 14 09.1	
	comp=Z,13nm,19.4s,baz=270,slow=38						

MOS ***01*** *02:14:49.6±1.1, 47°.67N×151°.74E, h66km, mb4.6/32, Error ellipse: s-maj=9.0km s-min=4.0km az=66.8*
IDC ***01*** *02:14:50.0±2.7, 47°.59N×151°.69E, h52km±24km, mb4.0/16, mb1 4.2/22, mb1mx4.0/37, mbtmp4.3/22, ML3.3/4, MS3.3/11, Ms1 3.4/11, ms1mx2.9/95, Error ellipse: s-maj=18.8km s-min=12.5km az=139.0*
SKHL ***01*** *02:14:51.9±0.6, 47°.80N×151°.70E, h78km±2km, mb4.5/5*
NEIC ***01*** *02:14:53.7±1.1, 47°.6N±0°.1×151°.8E±0°.1, h81km±7km, mb4.5/69, Error ellipse: s-maj=19.1km s-min=12.4km az=151.0*
ISC 01 02:14:50.2±0.4**, 47°.69N**±0°.05×**151°.74E**±0°.05**, h50km, n216,** σ**1s.39**/214**, mb4.5**/71**, MS3.5**/8**, 3C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.63**	**229**	*e*PN	**Pn**	**02 15 47.9**	**+4.1**
KUR				S	**Sn**	**02 16 30.6**	**+5.2**
KUR				pmax	pmax		
	comp=Z,74nm,0.7s						
KUR	**Kuril'sk**	**3.63**	**229**	*e*P	**Pn**	**02 15 46.7**	**+2.9**
KUR				AMB	AMB	02 15 49.9	
	comp=Z,50nm,0.5s						
KUR				*e*S	**Sn**	**02 16 27.4**	**+2.0**
KUR				A	A	02 16 30.4	
	comp=Z,250nm,0.6s						
KUR				A	A	02 16 30.4	
	comp=Z,110nm,0.6s						
SKR	**Severo-Kuril's**	**4.15**	**42**	*e*PN	**Pn**	**02 15 52.6**	**+1.7**
SKR				*e*S	**Sn**	**02 16 38.2**	**+0.1**
SKR				pmax	pmax		
	comp=Z,76nm,0.5s						
SKR				smax	smax		
	comp=E,74nm,0.7s						
SKR				smax	smax		
	comp=N,70nm,0.6s						
SKR	**Severo-Kuril's**	**4.15**	**42**	*e*P	**Pn**	**02 15 52.4**	**+1.5**
SKR				AMB	AMB	02 15 53.6	
	comp=N,40nm,0.5s						
SKR				*e*S	**Sn**	**02 16 38.2**	**+0.1**
SKR				A	A	02 16 46.4	
	comp=N,80nm,0.4s						
SKR				A	A	02 16 46.4	
	comp=N,100nm,0.4s						
PAU	**Pauzhetka**	**5.02**	**39**	PN	**Pn**	**02 16 04.4**	**+1.6**
PAU				S	**Sn**	**02 17 01.1**	**+1.6**
PAU	**Pauzhetka**	**5.02**	**39**	*e*P	**Pn**	**02 16 04.5**	**+1.6**
PAU				AMB	AMB	02 16 05.9	
	comp=N,90nm,0.6s						
PAU				*e*S	**Sn**	**02 16 59.8**	**+0.3**
PAU				A	A	02 17 08.4	
	comp=N,90nm,0.4s						
PAU				A	A	02 17 08.4	
	comp=N,110nm,0.4s						
KDTR	**Khodutka, Kamc**	**5.82**	**43**	PN	**Pn**	**02 16 12.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**6.04**	**227**	*e*P	**Pn**	**02 16 20.4**	**+3.5**
YSS	**Yuzh-Sakhalins**	**6.15**	**266**	*e*PN	**Pn**	**02 16 18.2**	**-0.2**
YSS				*e*S	**Sn**	**02 17 28.9**	**+1.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				smax	smax		
	comp=E,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
YSS	**Yuzh-Sakhalins**	**6.15**	**266**		Pn	02 16 25.7	+7.3
YSS	**Yuzh-Sakhalins**	**6.15**	**266**	*e*P	**Pn**	**02 16 20.2**	**+1.8**
YSS				AMB	AMB	02 16 27.4	
	comp=Z,20nm,0.6s						
YSS				*e*S	**Sn**	**02 17 28.3**	**+0.9**
YSS				A	A	02 17 31.6	
	comp=Z,10.0nm,0.7s						
YSS				A	A	02 17 31.6	
	comp=Z,30nm,0.7s						
YSS				AMS	AMS	02 18 24.6	
	comp=Z,700nm,14.0s						
APC	**Apacha**	**6.29**	**31**	PN	Pn	02 16 25.9	+5.7
MTVR	**Mutnovka**	**6.34**	**38**	PN	**Pn**	**02 16 22.3**	**+1.2**
GRL	**Gorelyy**	**6.35**	**38**	PN	**Pn**	**02 16 22.7**	**+1.5**
RUS	**Russkaya**	**6.45**	**40**	PN	**Pn**	**02 16 21.3**	**-1.1**
KRMR	**Karymshinskiy**	**6.58**	**36**	PN	**Pn**	**02 16 24.9**	**+0.7**
UGL	**Uglegorsk**	**6.59**	**286**	*e*PN	**Pn**	**02 16 26.3**	**+1.9**
UGL				pmax	pmax		
	comp=Z,110nm,0.6s						
UGL	**Uglegorsk**	**6.59**	**286**	*e*P	**Pn**	**02 16 26.4**	**+2.0**
UGL				AMB	AMB	02 16 28.1	
	comp=Z,10.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**6.63**	**33***c*	*e*PN	**Pn**	**02 16 24.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**6.63**	**33**	Pn	**Pn**	**02 16 29.0**	**+4.0**
PETK	**Petropavlovsk-**	**6.63**	**33**	P	**Pn**	**02 16 26.1**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=200,slow=17,SNR=35						
PETK				LR	LR	02 19 17.9	
	comp=Z,219nm,19.1s,baz=279,slow=40						
PETK	**Petropavlovsk-**	**6.63**	**33**	Pn	**Pn**	**02 16 28.8**	**+3.9**
TYV	**Tymovskoe**	**6.74**	**301**	*e*PN	**Pn**	**02 16 28.2**	**+1.8**
TYV				*e*S	**Sn**	**02 17 42.8**	**+1.1**
TYV				pmax	pmax		
	comp=Z,14nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
TYV				smax	smax		
	comp=N,2.0nm,0.9s						
TYV				smax	smax		
	comp=E,15nm,0.9s						
TYV				smax	smax		
	comp=N,200nm,5.1s						
TYV				smax	smax		
	comp=E,300nm,5.1s						
TYV	**Tymovskoe**	**6.74**	**301**	*e*P	**Pn**	**02 16 28.2**	**+1.8**
TYV				AMB	AMB	02 16 28.5	
	comp=E,10.0nm,0.6s						
TYV				AMB	AMB	02 16 34.8	
	comp=E,100nm,3.0s						
TYV				*e*S	**Sn**	**02 17 41.3**	**-0.4**
TYV				A	A	02 17 46.9	
	comp=E,200nm,5.0s						
TYV				A	A	02 17 46.9	
	comp=E,300nm,5.0s						
TYV				A	A	02 17 46.9	
	comp=E,20nm,0.8s						
TYV				A	A	02 17 46.9	
	comp=E,10.0nm,0.8s						
PET	**Petropavlovsk**	**6.93**	**37**	*e*PN	**Pn**	**02 16 27.4**	**-1.7**
PET				*e*S	**Sn**	**02 17 47.7**	**+1.2**
PET				pmax	pmax		
	comp=Z,33nm,0.7s						
PET				MLR	MLR		
	comp=Z,600nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**6.93**	**37**	Pn	**Pn**	**02 16 30.8**	**+1.7**
PET	**Petropavlovsk**	**6.93**	**37**	*e*P	**Pn**	**02 16 30.8**	**+1.7**
PET				AMB	AMB	02 16 31.8	
	comp=Z,30nm,0.7s						
PET				*e*S	**Sn**	**02 17 46.4**	**-0.1**
PET				A	A	02 17 50.8	
	comp=Z,30nm,0.6s						
PET				A	A	02 17 50.8	
	comp=Z,20nm,0.6s						
PET				AMS	AMS	02 19 26.4	
	comp=Z,600nm,13.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DALK	**Dalny**	**6.98**	**37**	PN	**Pn**	**02 16 30.4**	**+0.7**
KOK	**Koryaka**	**7.13**	**36**	PN	**Pn**	**02 16 34.5**	**+2.7**
KOK	**Koryaka**	**7.13**	**36**	*e*P	**Pn**	**02 16 34.5**	**+2.7**
UGLR	**Uglovaya**	**7.14**	**37**	PN	**Pn**	**02 16 33.7**	**+1.7**
AVH	**Avacha**	**7.15**	**36**	PN	**Pn**	**02 16 34.7**	**+2.6**
SMAR	**Somma**	**7.17**	**36**	PN	**Pn**	**02 16 35.2**	**+2.7**
KRER	**Koryakskii**	**7.18**	**36**	PN	**Pn**	**02 16 35.2**	**+2.5**
GNL	**Ganaly**	**7.19**	**31**	PN	**Pn**	**02 16 36.1**	**+3.4**
SDLR	**Sedlovina**	**7.21**	**36**	PN	**Pn**	**02 16 34.5**	**+1.4**
ASAJ	**Asahikawa**	**7.31**	**244**	LR	LR	02 18 56.5	
	comp=Z,212nm,20.2s,baz=118,slow=34						
SPN	**Mys Shipunski**	**7.57**	**41**	PN	**Pn**	**02 16 36.3**	**-1.5**
TUMR	**Tumrok**	**9.23**	**31**	PN	**Pn**	**02 17 02.7**	**+2.1**
MKZ	**Mys Kozlova**	**9.31**	**39**	PN	**Pn**	**02 16 59.5**	**-2.0**
KMNR	**Kamenistaya**	**9.64**	**30**	PN	**Pn**	**02 17 09.3**	**+3.1**
BZGR	**Bezymyannyi-Gr**	**9.94**	**30**	PN	**Pn**	**02 17 13.1**	**+2.7**
ZLN	**Zelenaya**	**10.04**	**30**	PN	**Pn**	**02 17 14.8**	**+3.1**
KBTR	**Krutoberegovo**	**10.92**	**35**	PN	**Pn**	**02 17 24.1**	**+0.5**
MA2	**Magadan**	**11.93**	**358**	P	**Pn**	**02 17 36.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=169,slow=11,SNR=4.4						
MA2				LR	LR	02 21 46.9	
	comp=Z,63nm,20.5s,baz=280,slow=35						
MA2	**Magadan**	**11.93**	**358***c*	*e*PN	**Pn**	**02 17 35.2**	**-2.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,2.5s						
KLR	**Kul'dur**	**13.36**	**284**	P	**Pn**	**02 17 58.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=1.7						
KLR	**Kul'dur**	**13.36**	**284**	*i* PN	**Pn**	**02 17 58.4**	**+1.5**
KLR	**Kul'dur**	**13.36**	**284**	*e*P	**Pn**	**02 17 56.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**14.17**	**263**	*i* P	**Pn**	**02 18 07.3**	**-0.7**
MJAR	**Matsushiro Arr**	**14.97**	**227**	P	**Pn**	**02 18 16.9**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=41,slow=9.7,SNR=1.6						
SEY	**Seymchan**	**15.29**	**1**	P	**P**	**02 18 24.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=236,slow=4.3,SNR=5.9						
SEY	**Seymchan**	**15.29**	**1**	*i* P	**Pn**	**02 18 22.9**	**+0.5**
SEY	**Seymchan**	**15.29**	**1**	*e*P	**Pn**	**02 18 22.9**	**+0.5**
YAK	**Yakutsk**	**19.03**	**327**	P	**Pn**	**02 19 08.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=314,slow=2.2,SNR=1.9						
YAK				LR	LR	02 27 09.4	
	comp=Z,42nm,18.7s,baz=70,slow=39						
YAK	**Yakutsk**	**19.03**	**327**	*e*P	**Pn**	**02 19 08.2**	**-0.6**
YAK				*e*S	**Sn**	**02 22 41.6**	**+0.8**
YAK				pmax	pmax		
	comp=Z,35nm,1.1s						
YAK				pmax	pmax		
	comp=N,18nm,1.5s						
YAK				pmax	pmax		
	comp=E,22nm,1.5s						
YAK				smax	smax		
	comp=N,246nm,5.1s						
YAK				smax	smax		
	comp=E,158nm,5.8s						
YAK	**Yakutsk**	**19.03**	**327**	P	**Pn**	**02 19 10.0**	**+1.2**
YAK	**Yakutsk**	**19.03**	**327**	*e*P	**Pn**	**02 19 08.2**	**-0.6**
KSRS	**Korea Array**	**20.23**	**248**	P	**P**	**02 19 20.5**	**-0.4**
	comp=E,6.6nm,1.1s,baz=54,slow=11,SNR=7.3						
BOD	**Bodaibo**	**24.67**	**308**	*e*P	**P**	**02 20 07.4**	**+1.4**
BOD				pmax	pmax		
	comp=Z,11nm,1.1s						
TIXI	**Tiksi**	**26.30**	**344**	LR	LR	02 31 06.7	
	comp=Z,62nm,18.2s,baz=184,slow=37						
TIXI	**Tiksi**	**26.30**	**344**	*i* P	**P**	**02 20 20.4**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TIXI	**Tiksi**	**26.30**	**344**	P	**P**	**02 20 19.6**	**-1.0**
TIXI	**Tiksi**	**26.30**	**344**	*e*P	**P**	**02 20 20.4**	**-0.2**
TNA	**Tin City**	**27.79**	**35**	P	**P**	**02 20 35.1**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**30.49**	**151**	T	T	02 52 26.9	
	baz=341,slow=76,SNR=268						
H11N1	**WAKE ISLAND Hy**	**30.50**	**151**	T	T	02 52 28.0	
	baz=341,slow=76,SNR=189						
H11N3	**WAKE ISLAND Hy**	**30.50**	**151**	T	T	02 52 19.2	
	baz=341,slow=76,SNR=99						
ZAK	**Zakamensk**	**31.44**	**293**	*e*P	P	02 21 17.9	+11
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**31.57**	**152**	T	T	02 53 48.4	
	baz=341,slow=76,SNR=513						
H11S3	**WAKE ISLAND Hy**	**31.58**	**152**	T	T	02 53 40.4	
	baz=341,slow=76,SNR=362						
H11S2	**WAKE ISLAND Hy**	**31.59**	**152**	T	T	02 53 41.2	
	baz=341,slow=76,SNR=290						
KTH	**Kantishna Hill**	**34.67**	**42**	P	**P**	**02 21 35.4**	**+0.8**
XAN	**Xi'an**	**34.68**	**263**	P	**P**	**02 21 34.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TOLK	**Toolik Lake Re**	**35.45**	**33**	P	**P**	**02 21 42.2**	**+1.0**
TOLK				IAmb	IAmb	02 21 42.8	
	comp=Z,12nm,1.4s						
NEA2	**Nenana**	**35.47**	**40**	P	**P**	**02 21 41.8**	**+0.4**
NEA2				IAmb	IAmb	02 21 43.6	
	comp=Z,6.3nm,0.7s						
MDM	**Murphy Dome**	**35.83**	**39**	P	**P**	**02 21 45.2**	**+0.7**
MDM				IAmb	IAmb	02 21 46.5	
	comp=Z,6.3nm,0.9s						
SML	**Sawmill**	**35.95**	**44**	P	**P**	**02 21 45.9**	**+0.3**
TCOL	**CIGO, UAF Yank**	**35.99**	**39**	P	**P**	**02 21 46.6**	**+0.8**
COLA	**College**	**35.99**	**39**	*e*P	**P**	**02 21 44.5**	**-1.3**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	**College**	**35.99**	**39**	P	**P**	**02 21 46.4**	**+0.6**
CCB	**Clear Creek Bu**	**36.02**	**40**	P	**P**	**02 21 46.7**	**+0.7**
CCB				IAmb	IAmb	02 21 50.1	
	comp=Z,8.6nm,1.2s						
POKR	**Poker Plat Res**	**36.16**	**39**	P	**P**	**02 21 48.6**	**+1.2**
HDA	**Harding Lake**	**36.40**	**40**	P	**P**	**02 21 50.0**	**+0.7**
HDA				IAmb	IAmb	02 21 50.5	
	comp=Z,4.7nm,0.6s						
IL31		**36.41**	**39**	P	**P**	**02 21 49.7**	**+0.3**
IL31				IAmb	IAmb	02 21 54.9	
	comp=Z,8.7nm,1.2s						
ILAR	**Eielson Array**	**36.41**	**39**	P	**P**	**02 21 49.3**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=262,slow=7.3,SNR=25						
PRP	**Porcupine Dome**	**36.95**	**38**	P	**P**	**02 21 54.4**	**+0.2**
PRP				IAmb	IAmb	02 21 55.8	
	comp=Z,7.0nm,0.9s						
RIDG	**Independent Ri**	**37.37**	**41**	P	**P**	**02 21 57.5**	**-0.1**
NRIK	**Noril'sk**	**37.47**	**328**	*i* P	**P**	**02 21 58.6**	**+0.3**
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DOT	**Dot Lake**	**37.72**	**41**	P	**P**	**02 22 00.3**	**-0.3**
DOT				IAmb	IAmb	02 22 01.5	
	comp=Z,4.1nm,0.8s						
SCRK	**Sand Creek**	**37.72**	**41**	P	**P**	**02 22 00.7**	**0.0**
SCRK				IAmb	IAmb	02 22 10.2	
	comp=Z,6.9nm,1.2s						
M26K	**Nabesna, AK**	**38.37**	**43**	P	**P**	**02 22 07.0**	**+0.9**
M26K				IAmb	IAmb	02 22 11.0	
	comp=Z,13nm,1.2s						
L27K	**Beaver Creek,**	**38.80**	**42**	P	**P**	**02 22 10.8**	**+1.1**
BCAR	**Beaver Creek A**	**38.82**	**42**	P	**P**	**02 22 11.0**	**+1.1**
EGAK	**Eagle**	**38.85**	**39**	P	**P**	**02 22 09.9**	**-0.1**
TABL	**Table Mountain**	**39.60**	**46**	P	**P**	**02 22 15.3**	**-1.3**
ZALV	**Zalesovo Beam**	**41.30**	**305**	PcP	**PcP**	**02 24 25.7**	**-2.4**
	comp=Z,4.2nm,0.7s,baz=66,slow=3.6,SNR=12						
ZALV				LR	LR	02 40 28.9	
	comp=Z,64nm,19.1s,baz=49,slow=37						
INK	**Inuvik**	**41.37**	**33**	P	**P**	**02 22 31.4**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=293,slow=6.4,SNR=12						
INK	**Inuvik**	**41.37**	**33**	P	**P**	**02 22 31.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**41.37**	**33**	P	**P**	**02 22 31.8**	**+1.1**
GOMU	**GeErMu**	**42.97**	**276**	P	**P**	**02 22 44.4**	**-0.3**
GOMU				PcP	**PcP**	**02 24 36.3**	**+1.9**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,86nm,5.3s						
A36M	**Sachs Harbour**	**43.43**	**27**	P	**P**	**02 22 48.7**	**+1.2**
C36M	**Paulatuk**	**44.48**	**30**	P	**P**	**02 22 56.6**	**+0.8**
C36M				IAmb	IAmb	02 22 57.5	
	comp=Z,11nm,1.2s						
MK31	**Makanchi Array**	**45.68**	**296**	*i* P	**P**	**02 23 04.9**	**-0.9**
MK31	**Makanchi Array**	**45.68**	**296**	P	**P**	**02 23 05.9**	**+0.1**
MKAR	**Makanchi Array**	**45.68**	**296**	P	**P**	**02 23 05.9**	**0.0**
	comp=Z,2.3nm,0.7s,baz=67,slow=7.5,SNR=8.9						
MKAR				PcP	**PcP**	**02 24 43.5**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=5.1						
MKAR				LR	LR	02 41 39.1	
	comp=Z,63nm,18.7s,baz=53,slow=35						
MKAR	**Makanchi Array**	**45.68**	**296**	P	**P**	**02 23 06.7**	**+0.8**
MKAR	**Makanchi Array**	**45.68**	**296**	P	**P**	**02 23 06.7**	**+0.8**
MKAR	**Makanchi Array**	**45.68**	**296**	*e*P	**P**	**02 23 07.0**	**+1.2**
MAKZ	**Makanchi**	**45.87**	**296**	P	**P**	**02 23 08.0**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAKZ	**Makanchi**	**45.87**	**296**	P	**P**	**02 23 08.0**	**+0.7**
KURK	**Kurchatov**	**46.07**	**302**	*i* P	**P**	**02 23 08.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**46.07**	**302**	*e*P	**P**	**02 23 08.7**	**0.0**
BRVK	**Borovoye**	**49.58**	**308**	*i* P	**P**	**02 23 34.2**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRVK	**Borovoye**	**49.58**	**308**	P	**P**	**02 23 35.7**	**-0.2**
BRVK	**Borovoye**	**49.58**	**308**	*e*P	**P**	**02 23 34.2**	**-1.7**
RES	**Resolute Bay**	**50.24**	**19**	P	**P**	**02 23 41.1**	**+0.5**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RES	**Resolute Bay**	**50.24**	**19**	P	**P**	**02 23 41.1**	**+0.5**
RES				IAmb	IAmb	02 23 41.6	
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**02 23 44.8**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=298,slow=7.1,SNR=59						
CHTO	**Chiang Mai**	**51.44**	**255**	P	**P**	**02 23 50.5**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.70**	**254**	*i* P	**P**	**02 23 50.7**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**52.58**	**295**	LR	LR	02 47 28.5	
	comp=Z,77nm,18.3s,baz=52,slow=37						
AAK	**Ala-Archa**	**52.58**	**295**	*i* P	**P**	**02 23 58.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**52.58**	**295**	P	**P**	**02 23 58.5**	**-0.3**
AAK				IAmb	IAmb	02 24 00.7	
	comp=Z,3.4nm,0.9s						
AAK	**Ala-Archa**	**52.58**	**295**	*e*P	**P**	**02 23 58.9**	**+0.1**
KSH	**Kashi**	**53.44**	**291**	*e*P	P	02 24 11.0	+5.9
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**53.69**	**316***c*	*i*P	**P**	**02 24 03.1**	**-3.4**
ARU						02 25 08.9	
ARU				S	**S**	**02 31 32.5**	**-4.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PRGR	**Permogore**	**56.07**	**326**	*e*P	**P**	**02 24 24.0**	**+0.4**
PRGR				pmax	pmax		
	comp=Z,98nm,1.5s						
ABKAR	**Akbulak array**	**57.11**	**309**	P	**P**	**02 24 31.7**	**+0.6**
ABKAR	**Akbulak array**	**57.11**	**309**		**P**	**02 24 31.9**	**+0.7**
ABKAR				IAmb	IAmb	02 24 32.2	
	comp=Z,4.0nm,0.8s						
GAR	**Garm**	**57.28**	**294**	P	**P**	**02 24 32.8**	**+0.1**
AKTO	**Aktyubinsk**	**57.40**	**311**	LR	LR	02 49 40.8	
	comp=Z,38nm,19.0s,baz=49,slow=36						
CHGR	**Chuyangaron**	**58.20**	**294**	P	**P**	**02 24 39.0**	**-0.1**
KLMR	**Klimovskoe**	**58.82**	**328**	*e*P	**P**	**02 24 38.9**	**-4.0**
KLMR				pmax	pmax		
	comp=Z,15nm,1.5s						
KLMR	**Klimovskoe**	**58.82**	**328**	*e*P	**P**	**02 24 39.0**	**-4.0**
KLMR				AMP		02 24 42.6	
	comp=Z,15nm,1.5s						
PLID	**Pearl Lake**	**59.90**	**55**	P	**P**	**02 24 50.8**	**-0.2**
MSO	**Missoula**	**59.93**	**52**	P	**P**	**02 24 51.0**	**0.0**
MSO				IAmb	IAmb	02 24 52.6	
	comp=Z,5.0nm,1.0s						
WVOR	**Wild Horse Val**	**60.07**	**59**	P	**P**	**02 24 52.4**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WVOR	**Wild Horse Val**	**60.07**	**59**	P	**P**	**02 24 52.4**	**+0.3**
WVOR				IAmb	IAmb	02 24 53.5	
	comp=Z,5.6nm,1.1s						
FFC	**Flin Flon**	**60.62**	**40**	P	**P**	**02 24 56.5**	**+1.1**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
FFC	**Flin Flon**	**60.62**	**40**	P	**P**	**02 24 56.5**	**+1.1**
FFC				IAmb	IAmb	02 24 57.2	
	comp=Z,7.8nm,1.2s						
BEKR	**Beckworth**	**60.68**	**62**	P	**P**	**02 24 56.8**	**+0.5**
BEKR				IAmb	IAmb	02 24 57.0	
	comp=Z,6.1nm,1.1s						
FCC	**Fort Churchill**	**60.99**	**33**	P	**P**	**02 24 58.2**	**+0.4**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FCC	**Fort Churchill**	**60.99**	**33**	P	**P**	**02 24 58.2**	**+0.4**
FCC				IAmb	IAmb	02 24 59.1	
	comp=Z,3.7nm,0.8s						
LRM	**Limekiln Ridge**	**61.37**	**52**	P	**P**	**02 25 01.0**	**0.0**
BOZ	**Bozeman (W)**	**61.95**	**52**	P	**P**	**02 25 05.2**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ	**Bozeman (W)**	**61.95**	**52**	P	**P**	**02 25 05.2**	**+0.4**
BOZ				IAmb	IAmb	02 25 06.6	
	comp=Z,4.4nm,0.8s						
KVN	**Kaiserville**	**62.54**	**61**	P	**P**	**02 25 09.3**	**+0.4**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVN	**Kaiserville**	**62.54**	**61**	P	**P**	**02 25 09.3**	**+0.4**
KVN				IAmb	IAmb	02 25 10.2	
	comp=Z,5.4nm,1.0s						
RYN	**Ryan**	**62.56**	**62**	P	**P**	**02 25 09.3**	**+0.3**
FINES	**FINESS Array B**	**62.79**	**334**	P	**P**	**02 25 09.1**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=36,slow=10,SNR=7.8						
FINES	**FINESS Array B**	**62.79**	**334**	*i* P	**P**	**02 25 10.1**	**+0.2**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**62.82**	**62**	P	**P**	**02 25 10.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=290,slow=6.9,SNR=16						
NVAR	**Mina Array Bea**	**62.82**	**62**	P	**P**	**02 25 11.2**	**+0.4**
YHH	**Holmes Hill**	**62.90**	**52**	P	**P**	**02 25 11.8**	**+0.5**
YHH				IAmb	IAmb	02 25 13.6	
	comp=Z,4.4nm,1.1s						
MTN	**Manton Dam**	**63.00**	**203**	P	**P**	**02 25 10.9**	**-0.9**
RLMT	**Red Lodge**	**63.52**	**51**	P	**P**	**02 25 15.8**	**+0.5**
RLMT				IAmb	IAmb	02 25 18.1	
	comp=Z,5.5nm,1.1s						
TPAW	**Teton Pass**	**63.70**	**54**	P	**P**	**02 25 17.2**	**+0.5**
TPAW				IAmb	IAmb	02 25 18.0	
	comp=Z,5.3nm,0.9s						
HVU	**Hansel Valley**	**63.83**	**56**	P	**P**	**02 25 18.1**	**+0.8**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HVU	**Hansel Valley**	**63.83**	**56**	P	**P**	**02 25 18.1**	**+0.8**
DUG	**Dugway, Tooele**	**64.86**	**57**	P	**P**	**02 25 24.3**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway, Tooele**	**64.86**	**57**	P	**P**	**02 25 24.3**	**+0.2**
BW06	**Boulder Array**	**64.94**	**53**	P	**P**	**02 25 24.0**	**-0.7**
BW06				IAmb	IAmb	02 25 26.0	
	comp=Z,4.2nm,0.8s						
PD31	**Pinedale Array**	**64.94**	**53**	P	**P**	**02 25 25.0**	**+0.3**
PDAR	**Pinedale Array**	**64.94**	**53**	P	**P**	**02 25 25.2**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=307,slow=1.5,SNR=24						
PDAR	**Pinedale Array**	**64.94**	**53**	P	**P**	**02 25 25.4**	**+0.7**
ULM	**Lac du Bonnet**	**66.42**	**40**	P	**P**	**02 25 33.4**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=275,slow=5.9,SNR=3.8						
ULM	**Lac du Bonnet**	**66.42**	**40**	P	**P**	**02 25 34.2**	**+0.4**
SRU	**San Rafael Swe**	**66.89**	**57**	P	**P**	**02 25 37.0**	**-0.2**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SRU	**San Rafael Swe**	**66.89**	**57**	P	**P**	**02 25 37.0**	**-0.2**
SRU				IAmb	IAmb	02 25 38.3	
	comp=Z,4.3nm,0.9s						
RSSD	**Black Hills**	**66.93**	**49**	P	**P**	**02 25 37.5**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,13nm,0.9s						
RWWY	**Rawlins**	**66.95**	**53**	P	**P**	**02 25 37.3**	**-0.3**
NOA	**NORSAR Array B**	**67.03**	**340**	P	**P**	**02 25 37.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=26,slow=5.9,SNR=3.6						
NOA				LR	LR	02 57 50.3	
	comp=Z,17nm,19.0s,baz=260,slow=38						
U15A	**North Rim**	**67.72**	**60**	P	**P**	**02 25 40.5**	**-2.0**
PV11	**David Mesa, Pa**	**68.39**	**57**	P	**P**	**02 25 46.2**	**-0.5**
PV11				IAmb	IAmb	02 25 50.9	
	comp=Z,5.6nm,1.0s						
PV13	**Radium Mtn., P**	**68.52**	**57**	P	**P**	**02 25 46.7**	**-0.8**
PV13				IAmb	IAmb	02 25 48.6	
	comp=Z,5.3nm,0.7s						
WB0	**Warramunga Arr**	**68.93**	**198**	P	**P**	**02 25 47.8**	**-2.0**
WB0				IAmb	IAmb	02 25 48.8	
	comp=Z,6.2nm,0.8s						
WRAB	**Tennant Creek**	**69.10**	**198**	P	**P**	**02 25 49.2**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**69.11**	**198**	P	**P**	**02 25 49.4**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=17,slow=6.9,SNR=22						
WRA	**Warramunga Arr**	**69.11**	**198**	P	**P**	**02 25 49.3**	**-1.6**
ISCO	**Idaho Springs**	**69.14**	**54**	P	**P**	**02 25 52.5**	**+1.0**
ISCO				pmax	pmax		
	comp=Z,4.0nm,2.2s						
NCK	**Nalchik**	**69.36**	**312**	*i* P	**P**	**02 25 51.1**	**-1.3**
NCK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**69.47**	**313**	*e*P	**P**	**02 25 52.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,33nm,17.0s						
KIV	**Kislovodsk**	**69.47**	**313**	*e*P	**P**	**02 25 52.9**	**-0.3**
KBZ	**Khabaz**	**69.53**	**313**	P	**P**	**02 25 53.1**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=147,slow=6.6,SNR=5.8						
KBZ	**Khabaz**	**69.53**	**313**	*i* P	**P**	**02 25 52.7**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**69.53**	**313**	*e*P	**P**	**02 25 52.7**	**-0.7**
X16A	**Lo Mia Camp, P**	**69.61**	**61**	P	**P**	**02 25 53.6**	**-0.7**
AKASG	**Malin Array Be**	**70.24**	**325**	P	**P**	**02 25 57.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=34,slow=6.3,SNR=6.2						
AKASG	**Malin Array Be**	**70.24**	**325**	*i* P	**P**	**02 25 57.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**70.24**	**325**	P	**P**	**02 25 58.3**	**+0.6**
ECSD	**EROS Data Cent**	**70.90**	**45**	P	**P**	**02 26 01.9**	**+0.1**
ECSD				IAmb	IAmb	02 26 02.6	
	comp=Z,5.9nm,0.8s						
GNI	**Garni**	**71.21**	**309**	LR	LR	03 02 16.5	
	comp=Z,25nm,18.3s,baz=106,slow=40						
ANMO	**Albuquerque**	**72.13**	**58**	P	**P**	**02 26 09.5**	**-0.1**
SCHQ	**Schefferville**	**72.80**	**22**	P	**P**	**02 26 13.0**	**0.0**
	comp=Z,2.4nm,0.4s,baz=338,slow=5.5,SNR=13						
AS31	**Alice Springs**	**72.81**	**197**	P	**P**	**02 26 13.0**	**-0.3**
ASAR	**Alice Springs**	**72.82**	**197**	P	**P**	**02 26 12.2**	**-1.2**
	comp=Z,5.4nm,0.7s,baz=11,slow=5.9,SNR=56						
ASAR	**Alice Springs**	**72.82**	**197**	P	**P**	**02 26 13.3**	**-0.1**
ASAR	**Alice Springs**	**72.82**	**197**	P	**P**	**02 26 13.3**	**-0.1**
319A	**Douglas**	**73.04**	**62**	P	**P**	**02 26 14.0**	**-0.9**
319A				IAmb	IAmb	02 26 16.6	
	comp=Z,8.2nm,1.1s						
MORC	**Moravsky Berou**	**75.17**	**331**	P	**P**	**02 26 28.7**	**+1.7**
TX31	**Lajitas Ar. Si**	**77.84**	**60**	P	**P**	**02 26 42.4**	**0.0**
TX32	**Lajitas Array**	**77.84**	**60**	P	**P**	**02 26 42.4**	**0.0**
TX32				IAmb	IAmb	02 26 43.4	
	comp=Z,4.3nm,0.8s						
TXAR	**Lajitas Array**	**77.84**	**60**	P	**P**	**02 26 42.6**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=298,slow=4.2,SNR=37						
TXAR	**Lajitas Array**	**77.84**	**60**	P	**P**	**02 26 41.9**	**-0.6**
TXAR	**Lajitas Array**	**77.84**	**60**	P	**P**	**02 26 41.9**	**-0.6**
U40A	**Yellville**	**78.40**	**48**	P	**P**	**02 26 44.9**	**-0.5**
U40A				IAmb	IAmb	02 26 45.5	
	comp=Z,6.5nm,0.8s						
WCI	**Wyandotte Cave**	**80.06**	**43**	P	**P**	**02 26 54.5**	**+0.1**
RAYN	**Ar Rayn**	**83.16**	**297**	P	**P**	**02 27 11.2**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RAYN	**Ar Rayn**	**83.16**	**297**	P	**P**	**02 27 11.2**	**+0.2**
H03N2	**Juan Fernandez**	**139.68**	**88**	T	T	05 09 34.4	
	baz=308,slow=77,SNR=51						
H03N1	**Juan Fernandez**	**139.69**	**88**	T	T	05 09 30.7	
	baz=308,slow=77,SNR=70						
H03N3	**Juan Fernandez**	**139.69**	**88**	T	T	05 09 36.2	
	baz=308,slow=77,SNR=70						
PLCA	**Paso Flores**	**149.21**	**93**	PKPbc	**PKiKP**	**02 34 32.9**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=249,slow=1.3,SNR=13						
PLCA	**Paso Flores**	**149.21**	**93**	PKP2	**PKiKP**	**02 34 32.7**	**-1.2**
PLCA	**Paso Flores**	**149.21**	**93**		**PKiKP**	**02 34 32.6**	**-1.2**

OTT 01 02:19:21.0±0.4**, 41.°84N×55.°46W, h18**km**, ML3.9**/6**, Atlantic Ocean. 580km southeast from Louisbourg, Ns, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GBN	**Guysborough**	**5.66**	**311**	PN	Pn	02 20 44.2	+0.1
GBN				SN	Sn	02 21 44.4	-4.1
GBN				Trac		02 21 50.0	
	comp=Z,2.0nm,0.1s						
SJNN	**Saint John's**	**6.09**	**18**	PN	Pn	02 20 48.9	-1.1
SJNN				SN	Sn	02 21 54.5	-4.6
SJNN				Trac		02 21 55.2	
	comp=Z,7.2nm,0.2s						
CHEG	**Cheticamp, Nov**	**6.22**	**325**	PN	Pn	02 20 51.3	-0.5
CHEG				SN	Sn	02 21 57.7	-4.7
CHEG				Trac		02 22 04.9	
	comp=Z,3.5nm,0.1s						
HAL	**Halifax**	**6.57**	**298**	SN	Sn	02 22 05.4	-5.5
DRLN	**Deer Lake**	**7.55**	**350**	PN	Pn	02 21 09.3	-0.8
DRLN				SN	Sn	02 22 30.0	-5.2
DRLN				Trac		02 22 35.6	
	comp=Z,87nm,1.1s						
LMN	**Caledonia Moun**	**7.86**	**304**	PN	Pn	02 21 12.8	-1.4
LMN				SN	Sn	02 22 34.0	-8.8
LMN				Trac		02 22 41.2	
	comp=Z,30nm,0.6s						
SVNB	**Stilesville Qu**	**8.05**	**306**	PN	Pn	02 21 15.5	-1.4
SVNB				SN	Sn	02 22 40.9	-6.4
SVNB				Trac		02 22 45.4	
	comp=Z,1.7nm,0.0s						
ELNB	**Elgin, New Bru**	**8.07**	**303**	PN	Pn	02 21 16.0	-1.2
ELNB				Trac		02 22 41.8	
	comp=Z,1.6nm,0.2s						
ELNB				SN	Sn	02 22 42.9	-5.1
WCNB	**Wards Creek**	**8.21**	**301**	SN	Sn	02 22 43.4	-8.0
WCNB				SN	Sn	02 22 45.6	-5.8
WCNB				Trac		02 22 50.1	
	comp=Z,1.6nm,0.1s						
HKNB	**Havelock Quarr**	**8.27**	**303**	PN	Pn	02 21 18.5	-1.5
HKNB				SN	Sn	02 22 46.7	-6.1
HKNB				Trac		02 22 53.4	
	comp=Z,5.1nm,0.2s						
SRNB	**Snider Mountai**	**8.37**	**302**	PN	Pn	02 21 19.9	-1.4
SRNB				SN	Sn	02 22 48.5	-6.8
SRNB				Trac		02 22 55.1	
	comp=Z,0.3nm,0.0s						
GGN	**Saint George**	**8.90**	**295**	PN	Pn	02 21 28.4	-0.2
GGN				SN	Sn	02 22 59.5	-8.8
GGN				Trac		02 23 03.0	
	comp=Z,80nm,1.1s						

*ARE **01** 02:30:11±3.0, 15.°15S±0.°07×76.°3W±0.°1, h20km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0*

*VAO **01** 02:30:13.7±0.7, 14.°93S×76.°02W, h29km, mb4.3*

*NEIC **01** 02:30:13.7±2.0, 15.°01S±0.°07×76.°0W±0.°1, h31km±3km, mb4.3/15, ML4.7(ARE), Error ellipse: s-maj=17.1km s-min=8.6km az=63.0*

*IDC **01** 02:30:16.6±1.9, 14.°84S×75.°81W, h50km±17km, mb3.8/18, mb1 4.0/23, mb1mx4.0/40, mbtmp4.1/23, ML4.1/5, MS3.9/32, Ms1 3.9/32, ms1mx3.7/63, Error ellipse: s-maj=24.4km s-min=13.0km az=54.0*

ISC 01 02:30:13.2±0.5**, 14.°99S**±0.°06×**76.°00W**±0.°08**, h29**km**, n129, σ1.°04**/103**, mb4.3**/20**, MS4.0**/27**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**3.09**	**344**	P	**Pn**	**02 31 02.1**	**+2.0**
	21nm,0.3s,baz=182,slow=14,SNR=27						
NNA				LR	LR	02 31 38.8	
	comp=Z,249nm,21.0s,baz=132,slow=27						
NNA				S	**Sb**	**02 31 42.4**	**-2.5**
	190nm,0.3s,baz=27,slow=23,SNR=7.4						
NNA	**Nana**	**3.09**	**344**	Pn	**Pn**	**02 30 58.3**	**-1.9**
NNA				Sn	**Sn**	**02 31 35.3**	**-0.9**
AP01	**Chacalluta**	**6.38**	**123**	Pn	**Pn**	**02 31 46.3**	**+1.0**
PB12	**IPOC Station P**	**6.52**	**124**	Pn	**Pn**	**02 31 46.9**	**-0.4**
PB16	**IPOC Station P**	**7.05**	**119**		**Pn**	**02 31 55.3**	**+0.2**
TA02	**Huaiquique**	**7.67**	**134**		**Pn**	**02 32 03.2**	**+0.1**
LPAZ	**La Paz**	**7.69**	**101**	P	**Pn**	**02 32 06.1**	**+2.3**
	4.1nm,0.3s,baz=274,slow=8.8,SNR=41						
LPAZ				LR	LR	02 35 23.3	
	comp=Z,759nm,19.0s,baz=286,slow=41						
LPAZ	**La Paz**	**7.69**	**101**	Pn	**Pn**	**02 32 03.3**	**-0.6**
PB11	**IPOC Station P**	**7.69**	**129**		**Pn**	**02 32 03.3**	**-0.2**
TA01	**Diego Aracena**	**7.84**	**136**		**Pn**	**02 32 05.1**	**-0.3**
GO01	**Chusmiza**	**7.99**	**127**		**Pn**	**02 32 08.4**	**+0.6**
PATCX	**Punta Patache**	**8.04**	**137**	Pn	**Pn**	**02 32 07.4**	**-0.7**
ATAH	**Atahualpa**	**8.15**	**343**	P	**Pn**	**02 32 13.5**	**+3.5**
	1.8nm,0.3s,baz=338,slow=2.3,SNR=9.5						
ATAH				S	**Sn**	**02 33 41.6**	**+0.2**
	2.2nm,0.3s,baz=30,slow=16,SNR=1.1						

PB08 IPOC Station P 8.30 129 Pn 02 32 12.2 +0.2
PB02 IPOC Station P 8.56 138 Pn 02 32 15.2 -0.2
PB01 IPOC Station P 8.64 135 Pn 02 32 15.6 -0.8
PB07 IPOC Station P 8.86 140 Pn 02 32 19.0 -0.6
PB04 IPOC Station P 9.17 144 Pn 02 32 22.7 -1.1
PB09 IPOC Station P 9.32 138 Pn 02 32 26.3 +0.4
PB06 IPOC Station P 9.79 143 Pn 02 32 31.8 -0.5
PB10 IPOC Station P 9.92 150 Pn Pn 02 32 32.8 -1.1
LVC Limon Verde 10.12 140 P Pn 02 32 37.8 +0.8
2.1nm,0.3s,baz=344,slow=9.1,SNR=19
LVC S Sn 02 34 29.3 -0.5
0.9nm,0.3s,baz=102,slow=19,SNR=1.6
LVC LR LR 02 36 01.3
comp=Z,396nm,21.4s,baz=302,slow=34
LVC Limon Verde 10.12 140 Pn Pn 02 32 37.7 +0.6
LVC Limon Verde 10.12 140 *e*P Pn 02 32 38.2 +1.2
PB15 IPOC Station P 10.24 144 Pn 02 32 38.1 -0.4
ETMB Extrema 10.85 63 *e*P Pn 02 32 47.1 +0.5
TBTG Tabatinga, AM 12.29 30 *e*P Pn 02 33 06.3 0.0
SIV San Ignacio 14.42 96 P Pn 02 33 33.9 -1.6
0.4nm,0.3s,baz=270,slow=16,SNR=6.2
SIV LR LR 02 39 38.0
comp=Z,869nm,18.7s,baz=288,slow=39
VILB Vilhena 15.46 84 *e*P Pn 02 33 50.1 +0.7
PTLB Pontes e Lacer 16.28 94 *e*P Pn 02 33 59.9 +0.1
ZON Zonda 17.79 159 Pn 02 34 17.6 -1.2
H03N1 Juan Fernandez 18.57 188 T T 02 53 39.0
baz=9.1,slow=74,SNR=1192
H03N2 Juan Fernandez 18.57 188 T T 02 53 39.3
baz=9.1,slow=74,SNR=953
H03N3 Juan Fernandez 18.58 188 T T 02 53 37.2
baz=9.1,slow=74,SNR=742
PDRB Porto dos Gac 19.05 82 *e*P P 02 34 33.8 +0.5
MACA Manacapuru-AM 19.13 54 *e*P Pn 02 34 35.5 +0.4
SALV Santo Antonio 19.59 95 *e*P P 02 34 40.1 +0.9
ROSC El Rosal 19.77 5 LR LR 02 43 57.1
comp=Z,664nm,20.6s,baz=224,slow=42
AQDB Aquidauana 20.08 109 P P 02 34 43.5 -1.0
AQDB IAmb IAmb 02 34 47.2
comp=Z,6.9nm,0.7s
AQDB Aquidauana 20.08 109 *e*P P 02 34 45.7 +1.2
CLDB Colider 20.10 81 *e*P P 02 34 45.3 +0.5
CPUP Villa Florida 20.77 126 P Pn 02 34 53.8 -0.6
comp=Z,3.4nm,0.7s,baz=303,slow=9.1,SNR=5.4
CPUP LR LR 02 44 03.6
comp=Z,136nm,20.2s,baz=301,slow=40
CPUP Villa Florida 20.77 126 P P 02 34 50.9 -1.0
CPUP IAmb IAmb 02 34 58.0
comp=Z,12nm,1.1s
PTGA Pitinga 21.25 50 P P 02 34 56.3 -0.9
comp=Z,2.2nm,0.5s,baz=225,slow=13,SNR=7.2
PTGA LR LR 02 44 08.5
comp=Z,320nm,19.8s,baz=234,slow=40
NPGB Novo Progresso 21.72 71 *e*P P 02 35 01.1 -1.3
ZARC Zaragoza, Cauc 22.36 3 P P 02 35 09.5 +0.4
ZARC IAmb IAmb 02 35 21.5
comp=Z,10.0nm,0.7s
ITQB Itaqui 23.07 133 P P 02 35 15.3 -1.2
ITQB IAmb IAmb 02 35 21.0
comp=Z,16nm,0.9s
ITQB Itaqui 23.07 133 *e*P P 02 35 18.4 +1.9
BOAV Boa Vista 23.09 43 *e*P P 02 35 16.6 -0.1
ARAG Araguaiana, MT 23.33 95 *e*P P 02 35 19.7 +0.5
SNDB Serra Nova Dou 24.20 86 *e*P P 02 35 27.8 +0.2
SDV Santo Domingo 24.30 13 P P 02 35 27.9 -0.8
comp=Z,6.4nm,0.6s,baz=161,slow=14,SNR=12
SDV Santo Domingo 24.30 13 P P 02 35 26.5 -2.2
SDV IAmb IAmb 02 35 29.8
comp=Z,8.2nm,0.7s
SDV Santo Domingo 24.30 13 *e*P P 02 35 29.1 +0.5
PCMB Pacaembu 24.37 109 *e*P P 02 35 30.8 +1.8
PTGB Pitanga 24.47 117 *e*P P 02 35 30.8 +0.8
SJCC San Jacinto, C 24.73 2 P P 02 35 33.4 +1.0
ITRB Iturama 24.90 105 *e*P P 02 35 35.2 +1.3
PLCA Paso Flores 26.09 171 P P 02 35 45.9 +1.4
comp=Z,1.7nm,0.6s,baz=337,slow=9.8,SNR=6.7
PLCA Paso Flores 26.09 171 P P 02 35 45.1 +0.6
PLCA IAmb IAmb 02 35 53.0
comp=Z,6.9nm,1.1s
PLCA Paso Flores 26.09 171 *e*P P 02 35 45.3 +0.8
IPMB Ipameri, GO 26.80 100 *e*P P 02 35 51.2 +0.1
BDFB Brasilia 26.99 95 P P 02 35 52.1 -0.8
comp=Z,1.6nm,0.5s,baz=241,slow=13,SNR=2.1
BDFB LR LR 02 47 47.9
comp=Z,531nm,20.5s,baz=309,slow=39
BDFB Brasilia 26.99 95 P P 02 35 51.5 -1.4
PEXB Peixe 27.07 87 *e*P P 02 35 53.9 +0.4
MDP Montagnes des 30.56 51 LR LR 02 48 31.2
comp=Z,257nm,18.5s,baz=238,slow=36
JANB Januaria 30.59 94 *e*P P 02 36 24.8 -0.1
DIAM Diamantina, MG 31.12 101 *e*P P 02 36 30.6 +0.9
VAS01 Vassouras-RJ 31.64 108 *e*P P 02 36 34.0 -0.1
RPN Rapa Nui 33.27 243 LR LR 02 47 18.9
comp=Z,207nm,18.5s,baz=19,slow=30
SJG San Juan 34.29 17 LR LR 02 52 19.1
comp=Z,172nm,21.1s,baz=219,slow=39
NAN01 Guarapari, ES 34.49 100 *e*P P 02 37 00.5 +1.5
GUA01 Guaratinga, BA 34.83 98 *e*P P 02 37 02.4 +0.4
NBPN Ponto Novo - B 35.11 88 *e*P P 02 37 04.0 -0.4
GDU01 Guandu, BA 35.28 93 *e*P P 02 37 05.6 -0.3
NBIT Itapeh - BA 35.30 95 *e*P P 02 37 06.7 +0.8
CMIG Matias Romero 36.92 329 LR LR 02 50 35.5
comp=Z,106nm,18.2s,baz=149,slow=33
NBPB Pedra_Branca-C 36.98 79 *e*P P 02 37 20.5 0.0
NBMA Muriti-CE 37.26 82 *e*P P 02 37 24.1 +1.3
RCBR Riachuelo 40.41 81 LR LR 02 55 24.1
comp=Z,438nm,19.1s,baz=38,slow=38
TKL Tuckaleechee C 50.90 352 P P 02 39 11.9 +0.1
comp=Z,2.6nm,0.3s,baz=198,slow=6.4,SNR=15
TKL LR LR 03 01 26.5
comp=Z,76nm,19.2s,baz=166,slow=37
TXAR Lajitas Array 51.53 329 P P 02 39 17.3 +0.6
comp=Z,4.6nm,1.2s,baz=156,slow=9.0,SNR=5.0
TXAR Lajitas Array 51.53 329 P P 02 39 16.7 0.0
ANMO Albuquerque 57.47 330 LR LR 03 03 18.3
comp=Z,96nm,19.3s,baz=162,slow=34
DUG Dugway, Tooele 64.69 329 P P 02 40 47.7 -1.0
DUG IAmb IAmb 02 40 59.4
comp=Z,2.2nm,0.8s
PDAR Pinedale Array 65.22 333 P P 02 40 52.6 +0.3
comp=Z,0.3nm,0.5s,baz=130,slow=8.4,SNR=2.9
PDAR LR LR 03 09 21.3
comp=Z,33nm,19.0s,baz=164,slow=36
NVAR Mina Array Bea 66.28 325 P P 02 41 00.1 +0.9
comp=Z,0.2nm,0.4s,baz=126,slow=4.6,SNR=1.7
ELK Elko 66.32 328 LR LR 03 07 59.0
comp=Z,121nm,18.6s,baz=162,slow=34
ULM Lac du Bonnet 67.27 346 P P 02 41 04.1 -0.8
comp=Z,1.3nm,0.6s,baz=207,slow=11,SNR=2.1
SCHQ Schefferville 69.97 6 P P 02 41 20.9 -0.8
comp=Z,1.8nm,0.7s,baz=192,slow=6.6,SNR=4.7
SCHQ LR LR 03 13 00.4
comp=Z,35nm,18.8s,baz=160,slow=37
SCHQ Schefferville 69.97 6 P P 02 41 21.6 -0.1
DBIC Dimbokro 73.70 78 P P 02 41 44.6 -0.4
comp=Z,3.2nm,0.9s,baz=251,slow=11,SNR=3.1
DBIC LR LR 03 12 39.3
comp=Z,205nm,18.9s,baz=242,slow=35
FRB Frobisher Bay 78.69 3 P P 02 42 12.0 -0.3
comp=Z,1.6nm,0.6s,baz=197,slow=7.1,SNR=9.7
RAR Rarotonga 79.04 251 LR LR 03 10 12.0
comp=Z,96nm,19.0s,baz=206,slow=30
BBB Bella Bella 80.62 330 LR LR 03 21 24.6
comp=Z,96nm,18.2s,baz=180,slow=38
TORD Torodi Ar. Bea 81.80 74 P P 02 42 30.8 +0.6
comp=Z,6.7nm,0.7s,baz=258,slow=4.9,SNR=31
YKA Yellowknife Ar 82.93 343 P P 02 42 35.0 +0.1
comp=Z,0.9nm,0.8s,baz=138,slow=5.4,SNR=12
YKA Yellowknife Ar 82.93 343 P P 02 42 35.2 +0.3
MDT Midelt 83.04 54 LR LR 03 17 18.5
comp=Z,60nm,19.9s,baz=277,slow=34
ESDC Sonseca Array 86.18 47 P P 02 42 51.3 -0.7
comp=Z,0.9nm,0.7s,baz=255,slow=5.6,SNR=8.2
ESDC LR LR 03 16 43.2
comp=Z,79nm,21.7s,baz=240,slow=32
ESDC Sonseca Array 86.18 47 P P 02 42 52.0 0.0
SUR Sutherland 87.71 123 LR LR 03 22 30.2
comp=Z,39nm,19.7s,baz=206,slow=36
RES Resolute Bay 90.27 355 P P 02 43 09.8 -0.8
comp=Z,1.4nm,1.0s,baz=232,slow=6.8,SNR=4.3
BOSA Boshof 92.49 120 LR LR 03 23 40.1
comp=Z,65nm,18.2s,baz=192,slow=35
INK Inuvik 92.62 342 P P 02 43 23.8 +2.2
comp=Z,1.7nm,1.0s,baz=237,slow=6.8,SNR=3.9
INK Inuvik 92.62 342 P P 02 43 22.0 +0.4
EKA Eskdalemuir Ar 92.75 33 LR LR 03 22 37.1
comp=Z,59nm,18.7s,baz=178,slow=34
URZ Urewera 93.59 229 LR LR 03 16 02.2
comp=Z,79nm,18.5s,baz=291,slow=29
LBTB Lobatse 93.91 117 LR LR 03 21 42.8
comp=Z,61nm,21.7s,baz=214,slow=33
KEST Kesra 94.91 54 LR LR 03 26 32.0
comp=Z,55nm,18.9s,baz=248,slow=36
JMIC Jan Mayen 96.98 18 LR LR 03 26 26.4
comp=Z,24nm,19.3s,baz=268,slow=35
DAVOX Davos/Dischmat 97.98 44 LR LR 03 25 10.4
comp=Z,80nm,19.0s,baz=263,slow=34
LSZ Lusaka 99.28 109 LR LR 03 26 57.9
comp=Z,34nm,18.9s,baz=166,slow=34
H11N3 WAKE ISLAND Hy 20.06 284 T T 05 00 23.7
baz=97,slow=74,SNR=40
H11N2 WAKE ISLAND Hy 20.07 284 T T 05 00 18.2
baz=97,slow=74,SNR=37
H11N1 WAKE ISLAND Hy 20.07 284 T T 05 00 23.6
baz=97,slow=74,SNR=16
H11S2 WAKE ISLAND Hy 20.11 283 T T 05 00 24.6
baz=98,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 20.11 283 T T 05 00 23.1
baz=98,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 20.13 283 T T 05 00 26.8
baz=98,slow=75,SNR=25
ASAR Alice Springs 131.73 218 PKP PKiKP 02 49 25.6 +0.3
comp=Z,0.4nm,0.5s,baz=119,slow=1.8,SNR=6.7
ASAR Alice Springs 131.73 218 PKPdf PKPdf 02 49 25.0 +0.7
WRA Warramunga Arr 134.23 222 PKP PKiKP 02 49 30.8 +0.3
comp=Z,0.7nm,0.5s,baz=136,slow=1.8,SNR=12
WRA Warramunga Arr 134.23 222 PKPdf PKPdf 02 49 27.9 -1.2
ZALV Zalesovo Beam 138.31 17 PKP PKiKP 02 49 37.3 -0.4
comp=Z,2.1nm,0.8s,baz=321,slow=2.1,SNR=8.8
ZALV Zalesovo Beam 138.31 17 PKPdf 02 49 36.2 +0.6
MKAR Makanchi Array 143.47 25 PKP PKPdf 02 49 46.6 +1.5
comp=Z,0.6nm,0.8s,baz=279,slow=0.8,SNR=5.1
MKAR Makanchi Array 143.47 25 PKPdf 02 49 44.3 -0.8
SONM Songino Array 147.19 357 PKPbc PKPbc 02 49 54.3 +0.4
comp=Z,1.5nm,0.9s,baz=336,slow=2.8,SNR=7.5
PZH PanZhiHua 168.35 10 PKP PKPdf 02 50 14.7 -3.3

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*KRNET **01** 02:42:16.4±0.1, 42°.33N×72°.90E, h19km, mb2.8*
*SOME **01** 02:42:17.0, 42°.35N×72°.87E, h20km*
*NNC **01** 02:42:17.7±0.7, 42°.41N×72°.90E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=10.8km s-min=3.2km az=178.0*
*KNET **01** 02:42:17.9±0.5, 42°.30N×73°.01E, h16km±1km, ml2.0, Error ellipse: s-maj=3.2km s-min=2.0km az=64.0*
ISC 01 02:42:15.9±1.1**, 42°.40N**±0°.03×**72°.93E**±0°.02**, h18**km±6km**,**
n49, σ1s.13/82**, 21C-13D, Kyrgyzstan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MNAS Manas 0.33 286 ⇑*i*P Pb 02 42 23.5 +0.2
baz=99
MNAS ⇑*i*S Sg 02 42 28.1 +0.3
baz=99
MRKS Merke 0.41 32 *e*P Pn 02 42 27.9 +0.8
11nm,0.1s
MRKS *e*S Sn 02 42 34.6 +0.3
90nm,0.1s
AML Almayashu 0.63 115 ⇓P Pg 02 42 28.4 0.0
49nm,0.2s,SNR=37
AML ⇑S Sg 02 42 37.4 +0.5
47nm,0.2s
EKS2 Erkin-Say 0.68 67 ⇓P Pn 02 42 30.9 +0.2
2.7nm,0.1s,SNR=7.7
EKS2 ⇑S Sn 02 42 41.5 +0.5
10nm,0.1s
ARK Arkit 0.94 231 ⇑*i*P Pb 02 42 32.7 -0.9
baz=33
ARK ⇑*i*S Sb 02 42 44.7 -1.1
baz=33
ARLS Aral 1.17 117 ⇓*i*P Pn 02 42 37.8 +0.3
baz=14
ARLS ⇓*i*S Sn 02 42 53.5 +0.5
baz=14
UCH Uchtor 1.19 98 P Pg 02 42 39.1 +0.2
2.4nm,0.1s,SNR=19
UCH ⇑S Sg 02 42 55.7 +1.2
10nm,0.2s
UCH Uchtor 1.19 98 ⇑*i*P Pb 02 42 38.6 +0.5
baz=94
UCH ⇑*i*S Sg 02 42 54.8 +0.3
baz=94
FRU1 Bishkek 1.32 71 ⇓*i*P Pg 02 42 41.3 -0.1
baz=68
FRU1 ⇓*i*S Sg 02 42 59.4 +0.8
baz=68
USP Ospenovka 1.45 53 ⇑P Pg 02 42 44.9 +1.2
2.0nm,0.1s,SNR=12
USP ⇓S Sg 02 43 05.0 +2.4
17nm,0.2s
USP Ospenovka 1.45 53 ⇓*i*P Pg 02 42 44.0 +0.3
baz=51
USP ⇓*i*S Sg 02 43 04.0 +1.4
baz=51
KBK Karagaybulak 1.51 80 ⇑*i*P Pg 02 42 44.8 -0.3
baz=77
KBK ⇑*i*S Sg 02 43 05.3 +0.5
baz=77
TRKS Terek-Say 1.59 238 ⇑*e*P Pb 02 42 44.8 0.0
baz=37
TRKS ⇑*i*S Sb 02 43 05.6 +0.9
baz=37
KK02 Karatay Array 1.92 292 ⇑Pn Pb 02 42 51.6 +1.3
1.0nm,0.3s,baz=115,slow=15
KK02 ⇑Sn Sg 02 43 17.3 -0.3
4.2nm,0.3s,baz=116,slow=26
TKM2 Tokmak 2 2.04 74 ⇑P Pg 02 42 55.1 +0.1
2.9nm,0.1s,SNR=5.9
TKM2 ⇓S Sg 02 43 22.4 +1.0
14nm,0.1s
TKM2 Tokmak 2 2.04 74 ⇓*i*P Pb 02 42 53.1 +0.7
baz=73
TKM2 ⇓*i*S Sg 02 43 19.7 -1.7
baz=73
TKM2 Tokmak 2 2.04 74 ⇓Pn Pg 02 42 54.5 -0.5
2.7nm,0.3s
TKM2 ⇑Sn Sg 02 43 22.4 +1.0
16nm,0.4s
BOOM Boomskoye usch 2.23 87 ⇑*i*P Pb 02 42 55.4 -0.3
baz=85
BOOM ⇑*i*S Sb 02 43 23.6 +0.5
baz=85
DGS Degeres 2.25 67 *e*P Pg 02 42 59.6 +0.5
3.6nm,0.2s
DGS *e*S Sg 02 43 30.1 +1.6
21nm,0.2s
DGS Degeres 2.25 67 Pg Pg 02 42 59.6 +0.5
3.6nm,0.2s
DGS Lg Lg 02 43 30.1
21nm,0.2s
BRLS Borolday 2.37 287 *e*P Pg 02 43 01.0 -0.2
3.8nm,0.3s
BRLS *e*S Sg 02 43 32.6 +0.7
5.2nm,0.2s
BRLS Borolday 2.37 287 Pg Pg 02 43 01.0 -0.2
3.8nm,0.3s
BRLS Lg Lg 02 43 32.6
5.2nm,0.2s
KRBS Karabastau 2.39 56 *e*P Pg 02 43 01.1 -0.7
1.1nm,0.1s
KRBS *e*S Sg 02 43 33.1 +0.3
15nm,0.2s
MTBS Maitube 2.68 73 *e*P Pg 02 43 06.8 -0.5
0.9nm,0.1s
MTBS *e*S Sg 02 43 42.4 +0.5
10nm,0.3s
MTBS Maitube 2.68 73 Pg Pg 02 43 06.8 -0.5
0.9nm,0.1s
MTBS Lg Lg 02 43 42.4
10nm,0.3s
BTLS Baital 2.76 17 *e*P Pg 02 43 07.5 -1.4
0.5nm,0.2s
BTLS *e*S Sg 02 43 42.7 -1.9
1.9nm,0.3s
BTLS Baital 2.76 17 Pg Pb 02 43 05.9 +1.2
0.7nm,0.1s
BTLS Lg Lg 02 43 40.8
1.9nm,0.3s
IZV Izvestkoviy 2.79 76 *e*P Pg 02 43 08.0 -1.4
1.7nm,0.2s
IZV *e*S Sg 02 43 44.8 -0.7
11nm,0.4s
KUU Kurty 2.91 58 *e*P Pg 02 43 10.5 -1.1
0.7nm,0.2s
KUU *e*S Sg 02 43 48.7 -0.6
10nm,0.3s
KUU Kurty 2.91 58 Pg Pg 02 43 10.5 -1.1
0.7nm,0.2s
KUU Lg Lg 02 43 48.7
10nm,0.3s
TNSS Tian-Shan 3.03 76 *e*P Pg 02 43 13.3 -0.7
2.2nm,0.3s
TNSS *e*S Sg 02 43 53.6 +0.4
5.6nm,0.3s
TNSS Tian-Shan 3.03 76 Pg Pg 02 43 13.3 -0.7
2.2nm,0.3s
TNSS Lg Lg 02 43 53.7
5.6nm,0.3s
KTBS Karatobe 3.05 63 *e*P Pg 02 43 12.8 -1.5
1.1nm,0.3s
KTBS *e*S Sg 02 43 52.6 -1.1
17nm,0.3s
KTBS Karatobe 3.05 63 Pg Pg 02 43 12.8 -1.5
1.1nm,0.3s
KTBS Lg Lg 02 43 52.6
17nm,0.3s
MDOK Medeo 3.13 74 *e*P Pg 02 43 14.6 -1.2
1.9nm,0.3s
MDOK *e*S Sg 02 43 55.8 -0.5
6.8nm,0.2s
MDOK Medeo 3.13 74 ⇑Lg Lg 02 43 56.9
3.6nm,0.4s
MDOK Medeo 3.13 74 Pg Pg 02 43 14.6 -1.2
1.9nm,0.3s
MDOK Lg Lg 02 43 55.8
6.8nm,0.2s
KOTS Kotyrbulak 3.19 73 *e*P Pg 02 43 16.4 -0.6
1.7nm,0.3s
KOTS *e*S Sg 02 43 58.7 +0.4
8.7nm,0.3s
KOTS Kotyrbulak 3.19 73 Pg Pg 02 43 16.4 -0.6
1.7nm,0.3s
KOTS Lg Lg 02 43 58.7
8.7nm,0.3s
CHKK Chushkaly 3.31 63 *e*P Pg 02 43 18.4 -0.9
1.1nm,0.1s
CHKK *e*S Sg 02 44 02.1 0.0
8.8nm,0.2s
CHKK Chushkaly 3.31 63 Pg Pg 02 43 18.4 -0.9
1.1nm,0.1s
CHKK Lg Lg 02 44 02.1
8.8nm,0.2s
ARXS Arharly 4.01 61 *e*P Pg 02 43 30.0 -2.6
1.8nm,0.5s
ARXS *e*S Sg 02 44 22.3 -2.2
7.6nm,0.2s
ARXS Arharly 4.01 61 Pg Pg 02 43 30.0 -2.6
1.8nm,0.5s
ARXS Lg Lg 02 44 22.3
7.6nm,0.2s
SATY Saty 4.09 79 *e*P Pg 02 43 32.9 -1.3
1.0nm,0.2s
SATY *e*S Sg 02 44 27.1 0.0
3.1nm,0.2s
SATY Saty 4.09 79 Pg Pg 02 43 32.9 -1.3
1.0nm,0.2s
SATY Lg Lg 02 44 27.1
3.1nm,0.2s
KPKS Kokpek 4.36 74 *e*P Pg 02 43 37.1 -2.2
2.4nm,0.1s
KPKS *e*S Sg 02 44 34.7 -1.1
5.4nm,0.3s
BLB Baldybastay 4.39 65 *e*P Pg 02 43 38.0 -2.0
3.4nm,0.2s
BLB *e*S Sg 02 44 35.9 -1.0
3.6nm,0.2s
BLB Baldybastay 4.39 65 Pg Pg 02 43 38.0 -2.0
3.4nm,0.2s
BLB Lg Lg 02 44 35.9
3.6nm,0.2s
KAPS Kapalarasan 5.47 56 Pg Pg 02 43 57.7 -2.9
1.0nm,0.4s
KAPS Lg Lg 02 45 10.0
2.7nm,0.4s

IDC 01 02:59:19.6±4.5**, 48°.72S**×**127°.18E, h0**km**, mb4.0**/3**,**
mb1 4.3/3**, mb1mx3.8**/22**, mbtmp4.0**/3**, MS3.4**/7**, Ms1 3.4**/7**,**
ms1mx3.1/45**, Error ellipse: s-maj=118.8km**
s-min=65.6km az=132.0, Western Indian-Antarctic Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ASAR Alice Springs 25.56 14 P P 03 04 50.4 +0.2
3.0nm,0.9s,baz=186,slow=9.8,SNR=24
ASAR LR LR 03 13 36.7
comp=Z,77nm,21.3s,baz=264,slow=34
WRA Warramunga Arr 29.28 14 P P 03 05 23.2 -0.3
0.5nm,0.8s,baz=191,slow=8.1,SNR=2.6
WRA LR LR 03 16 01.2
comp=Z,76nm,21.2s,baz=192,slow=34
FITZ Fitzroy Crossi 30.57 357 LR LR 03 16 54.5
comp=Z,82nm,19.6s,baz=174,slow=34
VNDA Vanda 31.81 166 LR LR 03 17 24.5
comp=Z,128nm,18.9s,baz=310,slow=34
CTA Charters Tower 32.42 35 LR LR 03 19 42.5
comp=Z,78nm,18.1s,baz=256,slow=38
BATI Baumata 38.50 354 LR LR 03 21 37.9
comp=Z,80nm,21.6s,baz=222,slow=35
KAPI Kappang 44.00 349 LR LR 03 25 21.3
comp=Z,11nm,18.7s,baz=224,slow=36
CMAR Chiang Mai Arr 71.45 332 P P 03 10 41.8 0.0
1.4nm,0.3s,baz=180,slow=4.3,SNR=4.1
YKA Yellowknife Ar 144.00 44 PKP PKPdf 03 18 55.2 -0.5
0.9nm,0.9s,baz=269,slow=2.6,SNR=6.7

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*KRNET **01** 03:20:17.7±0.1, 43°.13N×80°.50E, mb3.1*
*NNC **01** 03:20:19.8±0.7, 43°.15N×80°.34E, h7km±2km, mb3.6, mpv3.6, Error ellipse: s-maj=5.4km s-min=2.6km az=148.0*
*SOME **01** 03:20:19.4, 43°.13N×80°.40E, h20km*
ISC 01 03:20:19.6±1.1**, 43°.14N**±0°.04×**80°.31E**±0°.04**, h10**km**, n62,**
σ1s.76/106**, 21C-14D, Kazakhstan-Xinjiang border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KTMS Ketmen 0.31 6 *e*P Pb 03 20 27.0 -0.4
249nm,0.2s
KTMS *e*S Sb 03 20 32.5 0.0
893nm,0.2s
KTMS Ketmen 0.31 6 P Pb 03 20 27.0 -0.4
249nm,0.2s
KTMS S Sb 03 20 32.5 0.0
893nm,0.2s
SHLS Shalkode 0.62 272 *e*P Pg 03 20 27.7 -4.0
171nm,0.1s
SHLS *e*S Sg 03 20 33.6 -6.3
695nm,0.2s
SHLS Shalkode 0.62 272 P Pg 03 20 27.7 -4.0
171nm,0.1s
SHLS S Sg 03 20 33.6 -6.3
695nm,0.2s
PDGK Podgornoye 0.63 288 P Pb 03 20 32.8 0.0
26nm,0.1s
PDGK S Sb 03 20 42.5 +0.8
225nm,0.3s
PDGK Podgornoye 0.63 288 ⇓P Pb 03 20 32.8 0.0
13nm,0.3s
PDGK ⇓S Sb 03 20 42.7 +1.0
108nm,0.2s
UZB Uzynbulak 0.94 271 *e*P Pb 03 20 37.8 -0.4
31nm,0.1s
UZB *e*S Sb 03 20 51.0 +0.2
243nm,0.2s
UZB Uzynbulak 0.94 271 P Pb 03 20 37.8 -0.4
31nm,0.1s
UZB S Sb 03 20 51.0 +0.2
243nm,0.2s
KPKS Kokpek 1.23 286 *e*P Pg 03 20 42.9 -0.4
138nm,0.2s
KPKS *e*S Sn 03 20 59.9 +0.2
344nm,0.3s
DJR Jarkent 1.25 343 *e*P Pg 03 20 42.7 -0.9
17nm,0.1s
DJR *e*S Sn 03 20 59.6 -0.7
106nm,0.2s
DJR Jarkent 1.25 343 P Pg 03 20 42.7 -0.9
17nm,0.1s
DJR S Sn 03 20 59.6 -0.7
106nm,0.2s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZHN	Zhinishke	1.37	272	eP	Pg	03 20 45.5	-0.5
	99nm,0.2s						
ZHN				eS	Sg	03 21 04.1	+0.3
	101nm,0.1s						
ZHN	Zhinishke	1.37	272	P	Pg	03 20 45.5	-0.5
	99nm,0.2s						
ZHN				S	Sg	03 21 04.1	+0.3
	101nm,0.1s						
SATY	Saty	1.40	267	eP	Pg	03 20 46.5	+0.1
	28nm,0.1s						
SATY				eS	Sg	03 21 06.0	+1.4
	194nm,0.1s						
SATY	Saty	1.40	267	P	Pg	03 20 46.5	+0.1
	28nm,0.1s						
SATY				S	Sg	03 21 06.0	+1.4
	194nm,0.1s						
PRZ	Przheval'sk	1.55	246	⇑iP	Pb	03 20 48.1	-0.4
	baz=48						
PRZ				⇑iS	Sg	03 21 10.3	+0.8
	baz=48						
KURS	Kuram	1.60	283	eP	Pb	03 20 49.5	+0.2
	22nm,0.2s						
KURS				eS	Sg	03 21 11.1	0.0
	100nm,0.5s						
KURS	Kuram	1.60	283	P	Pb	03 20 49.5	+0.2
	22nm,0.2s						
KURS				S	Sg	03 21 11.1	0.0
	100nm,0.5s						
BLB	Baldybastay	1.64	306	eP	Pb	03 20 50.1	+0.1
	57nm,0.2s						
BLB				eS	Sg	03 21 12.3	-0.1
	183nm,0.2s						
BLB	Baldybastay	1.64	306	P	Pb	03 20 50.1	+0.1
	57nm,0.2s						
BLB				S	Sg	03 21 12.3	-0.1
	183nm,0.2s						
ANVS	Anan'yevo	1.97	261	⇑iP	Pb	03 20 54.7	-1.0
	baz=61						
ANVS				⇑iS	Sb	03 21 21.4	+0.9
	baz=61						
ARXS	Arharly	2.10	302	eP	Pb	03 20 57.8	0.0
	14nm,0.3s						
ARXS				eS	Sb	03 21 25.4	+1.4
	141nm,0.3s						
ARXS	Arharly	2.10	302	Pg	Pb	03 20 57.8	0.0
	14nm,0.3s						
ARXS				Lg	Lg	03 21 25.4	
	141nm,0.3s						
KAPS	Kapalarasan	2.25	343	eP	Pb	03 21 00.0	-0.4
	11nm,0.1s						
KAPS				eS	Sb	03 21 29.4	+1.0
	108nm,0.3s						
KAPS	Kapalarasan	2.25	343	Pg	Pb	03 21 00.0	-0.4
	11nm,0.1s						
KAPS				Lg	Lg	03 21 29.4	
	108nm,0.3s						
TARG	Taragay, Kyrgy	2.33	234	⇓iP	Pn	03 20 59.2	+0.8
	baz=36						
TARG				⇓iS	Sb	03 21 29.6	-1.3
	baz=36						
KOTS	Kotyrbulak	2.34	273	eP	Pb	03 21 01.6	-0.4
	13nm,0.1s						
KOTS				eS	Sb	03 21 31.9	+0.9
	113nm,0.4s						
KOTS	Kotyrbulak	2.34	273	Pg	Pb	03 21 01.6	-0.4
	13nm,0.1s						
KOTS				Lg	Lg	03 21 31.9	
	113nm,0.4s						
MDOK	Medeo	2.39	272	eP	Pb	03 21 03.0	+0.2
	6.6nm,0.3s						
MDOK				eS	Sb	03 21 34.5	+2.2
	56nm,0.3s						
MDOK	Medeo	2.39	272	⇑Pn	Pb	03 21 00.8	-1.9
	3.6nm,0.6s						
MDOK				Pg	Pg	03 21 05.0	-0.3
	3.7nm,0.4s						
MDOK				⇓Lg	Lg	03 21 35.8	
	42nm,0.5s						
MDOK	Medeo	2.39	272	Pg	Pb	03 21 03.0	+0.2
	6.6nm,0.3s						
MDOK				Lg	Lg	03 21 34.6	
	56nm,0.3s						
KNDC	Almaty	2.45	273	⇓Pg	Pg	03 21 05.2	-1.3
	32nm,0.3s						
KNDC				⇑Lg	Lg	03 21 38.3	
	67nm,0.5s						
TNSS	Tian-Shan	2.47	269	eP	Pb	03 21 04.5	+0.2
	5.7nm,0.2s						
TNSS				eS	Sb	03 21 37.0	+2.1
	23nm,0.2s						
TNSS	Tian-Shan	2.47	269	Pg	Pb	03 21 04.5	+0.2
	5.7nm,0.2s						
TNSS				Lg	Lg	03 21 37.0	
	23nm,0.2s						
AAA	Alma-Ata	2.48	273	eP	Pb	03 21 04.3	-0.1
	47nm,0.1s						
AAA				eS	Sb	03 21 36.6	+1.5
	134nm,0.2s						
AAA	Alma-Ata	2.48	273	Pg	Pb	03 21 04.3	-0.1
	47nm,0.1s						
AAA				Lg	Lg	03 21 36.6	
	134nm,0.2s						
KDJ	Kajisay	2.52	248	⇑iP	Pn	03 21 01.8	+1.0
	baz=49						
KDJ				⇑iS	Sb	03 21 34.1	-2.1
	baz=49						
CHKK	Chushkaly	2.52	288	eP	Pb	03 21 05.2	+0.2
	7.3nm,0.2s						
CHKK				eS	Sb	03 21 38.5	+2.4
	55nm,0.1s						
CHKK	Chushkaly	2.52	288	Pg	Pb	03 21 05.2	+0.2
	7.3nm,0.2s						
CHKK				Lg	Lg	03 21 38.5	
	55nm,0.1s						
KTBS	Karatobe	2.71	283	eP	Pb	03 21 08.5	+0.4
	5.6nm,0.3s						
KTBS				eS	Sb	03 21 43.8	+2.4
	53nm,0.4s						
KTBS	Karatobe	2.71	283	Pg	Pb	03 21 08.5	+0.4
	5.6nm,0.3s						
KTBS				Lg	Lg	03 21 43.8	
	53nm,0.4s						
IZV	Izvestkoviy	2.71	269	eP	Pb	03 21 08.3	0.0
	8.8nm,0.1s						
IZV				eS	Sb	03 21 43.3	+1.7
	84nm,0.3s						
IZV	Izvestkoviy	2.71	269	Pg	Pb	03 21 08.3	0.0
	8.8nm,0.1s						
IZV				Lg	Lg	03 21 43.3	
	84nm,0.3s						
MTBS	Maitube	2.84	271	eP	Pb	03 21 10.8	+0.4
	6.3nm,0.2s						
MTBS				eS	Sb	03 21 47.8	+2.5
	46nm,0.3s						
MTBS	Maitube	2.84	271	Pg	Pb	03 21 10.9	+0.4
	6.3nm,0.2s						
MTBS				Lg	Lg	03 21 47.8	
	46nm,0.3s						
KUU	Kurty	2.99	286	eP	Pb	03 21 13.6	+0.7
	4.9nm,0.3s						
KUU				eS	Sb	03 21 52.5	+3.0
	34nm,0.3s						
KUU	Kurty	2.99	286	Pg	Pb	03 21 13.6	+0.7
	4.9nm,0.3s						
KUU				Lg	Lg	03 21 52.5	
	34nm,0.3s						
ULHL	Ulahol	3.13	255	⇓iP	Pn	03 21 10.5	+1.3
	baz=56						
ULHL				⇓iS	Sn	03 21 49.2	+2.5
	baz=56						
BOOM	Boomskoye usch	3.28	260	⇑iP	Pn	03 21 12.7	+1.5
	baz=61						
BOOM				⇑iS	Sn	03 21 52.9	+2.5
	baz=61						
DGS	Degeres	3.32	273	eP	Pb	03 21 19.6	+1.0
	7.2nm,0.4s						
DGS				eS	Sb	03 22 02.9	+3.7
	29nm,0.5s						
DGS	Degeres	3.32	273	Pg	Pb	03 21 19.6	+1.0
	7.2nm,0.4s						
DGS				Lg	Lg	03 22 02.9	
	29nm,0.5s						
KRBS	Karabastau	3.42	281	eP	Pb	03 21 21.4	+1.1
	3.9nm,0.2s						
KRBS				eS	Sg	03 22 06.1	-3.5
	23nm,0.3s						
KRBS	Karabastau	3.42	281	Pg	Pb	03 21 21.5	+1.1
	3.9nm,0.2s						
KRBS				Lg	Lg	03 22 06.1	
	23nm,0.3s						
TKM2	Tokmak 2	3.46	268	⇑eP	Pn	03 21 15.3	+1.5
	baz=68						
TKM2				⇑iS	Sn	03 21 57.4	+2.4
	baz=68						
TKM2	Tokmak 2	3.46	268	⇑Pn	Pn	03 21 16.1	+2.3
	1.1nm,0.6s						
TKM2				⇑Pg	Pg	03 21 25.0	-0.9
	2.7nm,0.5s						
TKM2				⇓Lg	Lg	03 22 11.9	
	10nm,0.4s						
MAKZ	Makanchi	3.86	17	⇑Pn	Pn	03 21 20.3	+1.3
	0.6nm,0.3s						
MAKZ				⇓Pg	Pb	03 21 28.9	+1.1
	0.6nm,0.3s						
MAKZ				⇑Sn	Sn	03 22 04.9	+0.5
	2.0nm,0.5s						
MAKZ				⇓Lg	Lg	03 22 19.3	
	3.0nm,0.4s						
MK31	Makanchi Array	3.92	20	⇓Pn	Pn	03 21 21.3	+1.5
	0.9nm,0.2s,baz=195,slow=12,SNR=97						
MK31				⇑Pg	Pb	03 21 29.1	+0.4
	0.2nm,0.2s,baz=199,slow=12,SNR=8.2						
MK31				⇑Sn	Sn	03 22 07.7	+1.9
	0.4nm,0.2s,baz=199,slow=15,SNR=4.8						
MK31				⇑Lg	Lg	03 22 20.8	
	1.4nm,0.3s,baz=202,slow=32,SNR=8.0						
BTLS	Baital	4.90	295	eP	Pg	03 21 49.1	-4.2
	2.6nm,0.4s						
BTLS				eS	Sg	03 22 53.5	-3.2
	2.5nm,0.3s						
BTLS	Baital	4.90	295	Pg	Pg	03 21 49.2	-4.2
	2.6nm,0.4s						
BTLS				Lg	Lg	03 22 53.5	
	2.5nm,0.3s						
KK09	Karatay Array	7.18	273	⇑Pg	Pg	03 22 32.5	-4.5
	0.7nm,0.6s						
KK09				⇓Lg	Lg	03 24 09.2	
	2.0nm,0.6s						
OTUK	Ortayu	7.56	315	⇑Lg	Lg	03 24 18.7	
	5.8nm,1.1s						
KURBB	Kurchatov Arra	7.59	351	⇓Lg	Lg	03 24 18.7	
	12nm,0.9s						

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*TUL **01** 03:31:35.5±0.8, 36°.28N±0°.01×97°.50W±0°.02, h7km±5km, ML2.9, mb_Lg2.8/54(NEIC), Error ellipse: s-maj=2.6km s-min=1.5km az=70.0*

NEIC 01 03:31:35.4±0.8**, 36°.278N**±0°.007×**97°.52W**±0°.01**, h10**km±7km**, Error ellipse: s-maj=1.8km s-min=0.9km az=71.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.86	176		Pg	03 31 51.8	-0.2
OKCSW	OKLAHOMA CITY	0.87	176	Pg	Pg	03 31 51.7	-0.5
FNO	Franklin	1.02	175	Pg	Pg	03 31 54.6	-0.5
T35A	Sooner Cattle	1.03	52		Pg	03 31 54.8	-0.5
U32A	Winter Ranch,	1.20	275		Pb	03 31 57.6	-0.7
W35A	Tecumseh	1.24	155		Pn	03 31 57.4	-1.4
TUL1	Leonard	1.45	104		Pn	03 32 00.9	-0.8
X34A	Smith Ranch, M	1.69	189		Pn	03 32 04.8	-0.2
WMOK	Wichita Mounta	1.85	214		Pn	03 32 07.3	0.0
R32A	Long Quarter,	2.34	336		Pn	03 32 14.1	0.0
X37A	Clayton	2.43	133		Pn	03 32 16.1	+0.8
HHAR	Hobbs	2.89	89		Pn	03 32 21.7	+0.2
KSU1	Kansas State U	2.91	14	Pn	Pn	03 32 21.9	0.0
CBKS	Cedar Bluff	3.08	326	Pn	Pn	03 32 23.6	-0.7
W39A	Magazine	3.22	108	Pn	Pn	03 32 27.2	+1.1
W39A				IAmb_Lg		03 33 18.7	
	comp=Z,35nm,0.9s						
S39A	Bolivar	3.64	66	Pn	Pn	03 32 32.2	+0.3
MIAR	Mount Ida	3.66	117	Pn	Pn	03 32 32.8	+0.8
MIAR				IAmb_Lg		03 33 40.7	
	comp=Z,25nm,0.9s						
Z38A	Mt. Pleasant	3.66	145	Pn	Pn	03 32 32.9	+0.7
AMTX	Amarillo	3.67	249	Pn	Pn	03 32 33.9	+1.6
AMTX				IAmb_Lg		03 33 39.7	
	comp=Z,28nm,1.0s						
U40A	Yellville	3.77	87	Pn	Pn	03 32 35.2	+1.6
ABTX	Abilene, Hawle	4.05	206	IAmb_Lg		03 33 45.7	
	comp=Z,31nm,1.0s						
X40A	Basin Creek Fa	4.22	114	IAmb_Lg		03 33 51.3	
	comp=Z,29nm,0.7s						
WHTX	Lake Whitney,	4.28	179	Pn	Pn	03 32 41.2	+0.6
MGMO	Mountain Grove	4.31	77	Pn	Pn	03 32 41.6	+0.5
MGMO				IAmb_Lg		03 33 59.1	
	comp=Z,15nm,0.8s						
WHAR	Wooly Hollow	4.37	102	Pn	Pn	03 32 42.3	+0.5
WHAR				IAmb_Lg		03 33 58.0	
	comp=Z,16nm,0.8s						
FCAR	Ozark Folk Cen	4.39	93	IAmb_Lg		03 33 53.5	
	comp=Z,20nm,0.9s						
W41B	Gary Mavity, V	4.43	103	Pn	Pn	03 32 41.5	-1.2
W41B				IAmb_Lg		03 34 01.7	
	comp=Z,15nm,0.7s						
WLAR	White Oak Lake	4.45	124	Pn	Pn	03 32 42.9	0.0
WLAR				IAmb_Lg		03 34 05.2	
	comp=Z,22nm,0.7s						
P38A	Dawn	4.59	42	Pn	Pn	03 32 46.0	+1.1
P38A				IAmb_Lg		03 34 11.8	
	comp=Z,18nm,1.0s						
R40A	Maddies Statio	4.64	63		Pn	03 32 46.4	+0.8
R40A				IAmb_Lg		03 34 01.8	
	comp=Z,31nm,0.9s						
MSTX	Muleshoe	4.88	243	Pn	Pn	03 32 49.3	+0.2
KSCO	Kaye Shedlock'	4.89	305	IAmb_Lg		03 34 23.9	
	comp=Z,24nm,0.7s						
Z41A	Richland Creek	4.91	126	IAmb_Lg		03 34 24.2	
	comp=Z,22nm,0.8s						
BGNE	Belgrade	5.15	355	IAmb_Lg		03 34 15.9	
	comp=Z,21nm,1.0s						
LCAR	Lake Charles	5.15	90	IAmb_Lg		03 34 23.9	
	comp=Z,17nm,0.9s						
CCM	Cathedral Cave	5.32	69	IAmb_Lg		03 34 29.8	
	comp=Z,12nm,0.8s						
P40A	Paris	5.41	51	IAmb_Lg		03 34 29.0	
	comp=Z,13nm,0.7s						
T25A	Trinidad	5.60	281	IAmb_Lg		03 34 43.4	
	comp=Z,13nm,0.8s						
PBMO	Poplar Bluff	5.73	83	IAmb_Lg		03 34 38.9	
	comp=Z,24nm,0.8s						
OGNE	Ogallala	5.85	324	IAmb_Lg		03 34 47.3	
	comp=Z,20nm,0.8s						
FVM	French Village	5.92	71	IAmb_Lg		03 34 47.6	
	comp=Z,13nm,0.9s						
143A	Socs Landing,	6.18	123	IAmb_Lg		03 34 56.3	
	comp=Z,18nm,0.8s						
K31A	O'Neill	6.41	352	IAmb_Lg		03 35 04.8	
	comp=Z,19nm,0.8s						
Q24A	Divide	6.62	296	IAmb_Lg		03 35 17.2	
	comp=Z,12nm,0.7s						
SIUC	Southern Illin	6.80	75	IAmb_Lg		03 35 20.1	
	comp=Z,11nm,0.8s						
735A	Kenedy	7.41	182	IAmb_Lg		03 35 25.3	
	comp=Z,11nm,0.8s						

IDC 01 04:06:41.7±4.9**, 41°.69N**×**127°.10E, h0**km**, mb1 2.7**/1**, mb1mx2.6**/69**, mbtmp2.7**/1**, ML1.6**/1**, Error ellipse: s-maj=62.0km s-min=21.1km az=104.0, North Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSRS	Korea Array	4.28	171	Pg	Pb	04 07 59.4	+1.7
	0.6nm,0.3s,baz=354,slow=18,SNR=5.7						
KSRS				Lg	Lg	04 08 58.1	
	2.5nm,0.3s,baz=350,slow=28,SNR=14						
I45RU	USSURIYSK INFR	4.38	53	i		04 33 10.0	
	baz=234,slow=327,SNR=1.9						
USRK	Ussuriysk Ar.	4.38	53	Pn	Pn	04 07 50.6	+1.1
	baz=240,slow=14,SNR=1.9						
USRK				Pg	Pb	04 08 00.5	+0.9
	baz=241,slow=18,SNR=5.3						

IDC 01 04:19:12.8±3.3**, 55°.36N**×**86°.50E, h0**km**, mb1 3.0**/2**, mb1mx2.9**/50**, mbtmp3.0**/2**, ML2.4**/2**, Error ellipse: s-maj=28.2km s-min=26.3km az=143.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.72	215	i		04 31 00.0	
	baz=35,slow=336,SNR=5.4						
ZALV	Zalesovo Beam	1.72	215	Pn	Pn	04 19 43.1	-0.8
	2.8nm,0.3s,baz=31,slow=16,SNR=36						
ZALV				Lg	Lg	04 20 07.9	
	2.4nm,0.3s,baz=24,slow=26,SNR=10						
KURBB	Kurchatov Arra	6.76	229	Pn	Pn	04 20 53.3	+0.2
	0.1nm,0.3s,baz=44,slow=13,SNR=1.9						
KURBB				Lg	Lg	04 22 44.8	
	0.0nm,0.3s,baz=45,slow=28,SNR=1.6						
MKAR	Makanchi Array	8.98	199	Pn	Pn	04 21 24.2	+0.6
	0.1nm,0.3s,baz=20,slow=13,SNR=4.3						
MKAR				Lg	Lg	04 23 57.2	
	0.0nm,0.3s,baz=24,slow=30,SNR=2.1						

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*CNRM **01** 04:36:00.7, 35°.36N×3°.72W, h17km, ml3.6*
*IDC **01** 04:36:00.2±1.7, 35°.60N×3°.92W, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/39, mbtmp3.1/4, ML3.0/1, Error ellipse: s-maj=50.2km s-min=26.0km az=80.0*
*MDD **01** 04:36:00.6±0.5, 35°.40N×3°.81W, h5km±4km, mb_Lg3.3/14, Error ellipse: s-maj=3.9km s-min=2.3km az=157.0*
*IGIL **01** 04:36:01.5, 35°.37N×3°.75W, h18km, ML3.1*
*SFS **01** 04:36:02.0, 35°.30N×3°.70W, h22km, ML3.2, ALHUCEMAS (MARRUECOS)*

ISC 01 04:36:00.8±1.0**, 35°.39N**±0°.03×**3°.77W**±0°.02**, h15**km±7km**, n64, σ2s.06**/90**, mb3.3**/3**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.23	219	P	Pg	04 36 05.0	-0.9
PALE				S	Sg	04 36 09.1	-0.2
EMEL	Melilla	0.67	98	Pg	Pb	04 36 13.6	-0.5
EMEL				Sg	Sb	04 36 22.7	-0.6
EALB	Alboran	0.81	47	Pg	Pb	04 36 16.0	-0.6
EALB				Sg	Sb	04 36 27.1	-0.2
TAF	Taforalt	1.25	117	P	Pn	04 36 23.0	-0.8
TAF				S	Sb	04 36 38.0	-2.0
CHEFC	Chefchaouen	1.32	258	P	Pn	04 36 24.2	-0.6
CHEFC				S	Sn	04 36 31.0	-11
SMIR	Smir Dam	1.35	283	P	Pg	04 36 28.9	+2.1
SMIR				S	Sb	04 36 43.4	+0.5
CEU	Ceuta	1.40	292	P	Pn	04 36 21.6	-4.3
CEU	Ceuta	1.40	292	S	Sn	04 36 37.0	-7.1
EMIJ	Mijas	1.43	325	Pn	Pn	04 36 24.7	-1.6
EMIJ				Sn	Sn	04 36 43.7	-1.0
EMAL	Malaga-Limoner	1.47	339	P	Pn	04 36 25.4	-1.4
EMAL	Malaga-Limoner	1.47	339	S	Sn	04 36 44.2	-1.6
ELGU	Los Guajares,	1.48	4	Pn	Pn	04 36 25.0	-2.0
ELGU				Sn	Sn	04 36 44.8	-1.3
ELGU				i Vmb_Lg		04 36 49.9	
EGOR	Sierra Gorda,	1.74	351	Pn	Pn	04 36 29.7	-0.9
EGOR				Sn	Sn	04 36 50.8	-1.8
EGOR				i Vmb_Lg		04 36 57.2	
EJIF	Jimena Fronter	1.74	308	Pn	Pn	04 36 29.6	-0.9
CPS	Cap Spartel	1.79	283	P	Pn	04 36 31.4	+0.2
SICH	Sidi Chahed	1.81	225	P	Pb	04 36 33.5	-0.2
SICH				S	Sn	04 36 54.5	+0.3
EQUE	Quentar	1.83	8	Pn	Pn	04 36 30.6	-1.2
EQUE				Sn	Sn	04 36 53.0	-1.8
LCRM	LCR	1.93	208	P	Pn	04 36 33.5	+0.3
LCRM				S	Sb	04 37 00.1	+0.5
LIJA	Lijar	2.01	319	P	Pn	04 36 35.5	+1.2
LIJA	Lijar	2.01	319	S	Sb	04 37 03.8	+1.7
ENIJ	Nijar	2.02	38	Pn	Pn	04 36 32.9	-1.5
ENIJ				Sn	Sn	04 36 56.6	-2.8
ENIJ				i Vmb_Lg		04 36 57.5	
IFR	Ifrane	2.18	211	P	Pn	04 36 36.6	-0.2
IFR	Ifrane	2.18	211	S	Sn	04 37 03.0	-0.6
CZD	Col de Zad	2.58	205	P	Pn	04 36 43.0	+0.7
MD31	MD31	2.65	198	P	Pn	04 36 43.8	+0.7
MD31				S	Sn	04 37 14.4	-0.6
MDT	Midelt	2.67	195	P	Pn	04 36 43.9	+0.6
TDRA	Tendrara	2.75	148	P	Pg	04 36 53.1	-0.5
EZAR	Zarzadilla de	2.99	33	Pn	Pn	04 36 47.5	-0.2
EZAR				Sn	Sn	04 37 21.7	-1.7
ECAB	El Cabril	2.99	334	Pn	Pn	04 36 47.8	+0.1
ECAB				Sn	Sn	04 37 22.3	-1.0
ECAB				i Vmb_Lg		04 37 36.5	
CART	Cartagena	3.12	45	P	Pn	04 36 48.5	-1.0
CART	Cartagena	3.12	45	S	Sn	04 37 22.0	-4.5
CART	Cartagena	3.12	45	P	Pn	04 36 48.9	-0.6
AVE	Averroes	3.67	236	P	Pn	04 36 58.0	+1.0
AVE	Averroes	3.67	236	P	Pn	04 36 57.2	+0.1
EGRO	El Granado	3.68	307	Pn	Pn	04 36 56.5	-0.7
EGRO				Sn	Sn	04 37 36.2	-4.1
ETOB	Tobarra	3.70	28	Pn	Pn	04 36 59.0	+1.4
ETOB				Sn	Sn	04 37 42.8	+1.9
ETOB				i Vmb_Lg		04 37 58.4	
PVAQ	Vaqueiros	3.77	303	P	Pn	04 36 57.3	-1.1
GOLM	Goulmima	3.81	195	P	Pn	04 37 00.8	+1.7
AFON	Font Roja	4.16	37	Pn	Pn	04 37 03.2	-0.7
AFON				i Vmb_Lg		04 37 04.9	
AFON				Sn	Sn	04 37 52.2	-0.1
PAB	San Pablo	4.17	354	Pn	Pn	04 37 04.1	+0.1
PAB				Sn	Sn	04 37 49.7	-2.9
PAB				i Vmb_Lg		04 38 23.5	
EBAD	Badajoz	4.25	323	Pn	Pn	04 37 04.9	0.0
EBAD				Sn	Sn	04 37 50.7	-3.6
EBAD				i Vmb_Lg		04 37 56.5	
ESDC	Sonseca Array	4.28	358	Pn	Pn	04 37 05.5	0.0
	0.5nm,0.3s,baz=180,slow=12,SNR=15						
ESDC				Sn	Sn	04 37 53.9	-1.3
	0.5nm,0.3s,baz=180,slow=22,SNR=4.5						
ESDC	Sonseca Array	4.28	358	Pn	Pn	04 37 05.9	+0.5
ESDC				Sn	Sn	04 37 53.1	-2.0
ESDC				i Vmb_Lg		04 38 17.4	
MORF	Marmelete	4.38	297	eP	Pn	04 37 05.7	-1.2
MORF				eS	Sn	04 37 52.9	-4.8
MORF				IAML		04 37 57.4	
	comp=N,36nm,0.2s						
PFVI	Vila Bisbo	4.44	294	P	Pn	04 37 07.8	+0.1
PESTR	Estremoz	4.62	320	P	Pn	04 37 10.2	0.0
EVO	Evora	4.62	314	P	Pn	04 37 09.8	-0.4
EVO	Evora	4.62	314	S	Sn	04 38 00.2	-3.4
TZRR	Tazzarine	4.84	199	P	Pn	04 37 13.0	-0.2
UCM	Universidad Co	4.92	5	P	Pn	04 37 15.2	+0.8
UCM	Universidad Co	4.92	5	S	Sb	04 38 32.0	+6.1
EPLA	Plasencia	5.01	339	Pn	Pn	04 37 15.4	-0.2
EPLA				Sn	Sn	04 38 11.0	-2.2
EPLA				i Vmb_Lg		04 41 04.3	
OUZM	OUZ	5.13	210	P	Pn	04 37 17.6	+0.4
OUK	Oukaimeden	5.40	221	P	Pn	04 37 21.3	+0.1
ZGR	Zagora	5.49	197	P	Pn	04 37 22.5	+0.4
ETOR	Torete	5.58	13	Pn	Pn	04 37 23.8	+0.4
ETOR				i Vmb_Lg		04 37 54.0	
ETOR				Sn	Sn	04 38 24.2	-3.2
EAH	EAH	6.13	234	P	Pn	04 37 30.6	-0.2
TTIG	Tnine Tigouga,	6.23	220	P	Pn	04 37 30.3	-2.0
ELOB	Lobios	7.29	334	Pn	Pn	04 37 45.9	-0.9
ELOB				Sn	Sn	04 39 02.7	-6.5
ELOB				i Vmb_Lg		04 40 49.0	
EARI	Arriondas	7.98	352	Pn	Pn	04 37 57.0	+0.7
EALK	Alkurruntz	8.01	12	Pn	Pn	04 37 57.6	+0.9
TORD	Torodi Ar. Bea	22.69	166	P	P	04 41 06.7	+4.8
	comp=N,0.5nm,0.8s,baz=343,slow=12,SNR=2.1						
MKAR	Makanchi Array	62.77	50	P	P	04 46 26.3	+0.8
	comp=N,0.2nm,0.6s,baz=287,slow=7.4,SNR=2.6						
YKA	Yellowknife Ar	67.93	332	P	P	04 46 58.5	-0.1
	comp=N,0.1nm,0.4s,baz=64,slow=5.6,SNR=1.7						

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*JMA **01** 04:39:41.5±0.2, 45°.19N×141°.67E, h294km±2km, M3.2*
*IDC **01** 04:39:42.5±1.2, 45°.20N×141°.63E, h283km±15km, mb2.9/6, mb1 3.2/8, mb1mx3.0/31, mbtmp3.6/8, Error ellipse: s-maj=35.5km s-min=17.5km az=0.0*

ISC 01 04:39:41.8±0.8**, 45°.06N**±0°.09×**141°.7E**±0°.1**, h279**km**, n21, σ1s.60**/23**, mb3.2**/6**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	0.29	26	P	Pn	04 40 19.0	+1.6
JWK2				eS	S	04 40 48.0	+2.3
JRBN	Rebuntou	0.59	309	P	Pn	04 40 19.4	+1.3
JSE	Soyaes	0.62	99	P	Pn	04 40 20.0	+1.7
JSS	Shosan	0.67	171	P	Pn	04 40 20.7	+2.2
ASAJ	Asahikawa	1.13	146	P	Pn	04 40 22.6	+1.9
	12nm,0.3s,baz=317,slow=5.7,SNR=29						
ASAJ	Asahikawa	1.13	146	P	Pn	04 40 22.5	+1.9
JHR	Hokuryu	1.31	180	P	Pn	04 40 24.0	+2.3
JKK2	Kamakawa 2	1.40	148	P	Pn	04 40 24.2	+2.0
JISS	Ishikarishitsu	1.79	187	P	Pn	04 40 27.3	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTKR	**Abashiri--Toko**	**1.91**	**124**	P	**Pn**	**04 40 28.2**	**+2.3**
JCH	**Churui**	**2.72**	**153**	P	**Pn**	**04 40 33.4**	**+0.1**
JCH				*e*S	**S**	**04 41 12.2**	**-2.1**
JAK	**Akkeshi**	**2.98**	**133**	*e*S	**S**	**04 41 18.7**	**-0.2**
NEM2	**Nemuro 2**	**3.35**	**119**	*e*S	**S**	**04 41 25.1**	**-0.9**
KLR	**Kul'dur**	**7.97**	**305**	P	**Pn**	**04 41 34.0**	**-0.7**
	0.2nm,0.3s,baz=111,slow=14,SNR=8.0						
SEY	**Seymchan**	**18.93**	**15**	P	**P**	**04 43 41.7**	**-0.5**
	0.4nm,0.3s,baz=204,slow=9.3,SNR=9.4						
SONM	**Songino Array**	**24.37**	**289**	P	**P**	**04 44 34.1**	**-0.7**
	0.4nm,0.4s,baz=84,slow=8.2,SNR=4.9						
MKAR	**Makanchi Array**	**40.51**	**294**	P	**P**	**04 46 53.2**	**-0.7**
	0.3nm,0.6s,baz=76,slow=8.9,SNR=3.4						
ILAR	**Eielson Array**	**42.76**	**37**	P	**P**	**04 47 10.6**	**-1.0**
	0.5nm,0.6s,baz=282,slow=8.6,SNR=8.4						
YKA	**Yellowknife Ar**	**56.84**	**33**	P	**P**	**04 48 56.8**	**-0.3**
	0.4nm,0.5s,baz=303,slow=6.7,SNR=7.7						
NVAR	**Mina Array Bea**	**70.11**	**55**	P	**P**	**04 50 24.7**	**+0.5**
	0.3nm,0.6s,baz=300,slow=6.8,SNR=4.0						
PDAR	**Pinedale Array**	**71.96**	**47**	P	**P**	**04 50 35.3**	**+0.1**
	0.6nm,0.5s,baz=303,slow=1.2,SNR=7.9						

*SOME **01** 05:05:51.6, 40°.80N×78°.40E, h10km*
*KRNET **01** 05:05:51.9±0.1, 40°.82N×78°.41E, mb3.7*
*NNC **01** 05:05:54.4±0.8, 40°.92N×78°.36E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=5.5km s-min=4.3km az=172.0*
ISC 01 05:05:52.0±1.5**, 40°.80N**±0°.07×**78°.26E**±0°.03**, h10km, n75, σ2.03**/107**, 31C-13D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.56**	**329**	⇑*i*P	**Pg**	**05 06 21.8**	**-0.1**
	baz=25						
KDJ				⇑*i*S	**Sg**	**05 06 43.8**	**+1.6**
	baz=25						
PRZ	**Przheval'sk**	**1.69**	**4**	⇓*i*P	**Pg**	**05 06 23.3**	**-1.1**
	baz=60						
PRZ				⇓*i*S	**Sg**	**05 06 46.4**	**+0.1**
	baz=60						
ANVS	**Anan'yevo**	**2.03**	**348**	⇑*e*P	**Pg**	**05 06 29.7**	**-1.3**
	baz=44						
ANVS				⇑*i*S	**Sg**	**05 06 57.1**	**-0.3**
	baz=44						
ULHL	**Ulahol**	**2.09**	**314**	⇓*e*P	**Pg**	**05 06 31.2**	**-1.0**
	baz=12						
ULHL				⇓*i*S	**Sg**	**05 07 00.2**	**+0.9**
	baz=12						
KSH	**Kashi**	**2.17**	**235**	Pn	Pg	05 06 41.1	+7.5
KSH				Sn	Sg	05 07 20.7	+19
KSH				pmax	pmax		
	comp=Z,43nm,0.7s						
KSH				smax	smax		
	comp=N,230nm,0.7s						
KSH				smax	smax		
	comp=E,250nm,0.7s						
SATY	**Saty**	**2.26**	**3**	*e*P	**Pg**	**05 06 34.2**	**-1.2**
	comp=E,128nm,0.5s						
SATY				⇑*i*S	**Sg**	**05 07 04.8**	**+0.1**
	comp=E,263nm,0.4s						
SATY	**Saty**	**2.26**	**3**	Pg	**Pg**	**05 06 34.2**	**-1.2**
	comp=E,128nm,0.5s						
SATY				Lg	Lg	05 07 04.8	
	comp=E,263nm,0.4s						
UZB	**Uzynbulak**	**2.42**	**13**	*e*P	**Pb**	**05 06 35.5**	**-0.1**
	comp=E,42nm,0.2s						
UZB				*e*S	**Sg**	**05 07 07.1**	**-2.5**
	comp=E,129nm,0.5s						
UZB	**Uzynbulak**	**2.42**	**13**	Pg	**Pb**	**05 06 35.5**	**-0.1**
	comp=E,42nm,0.2s						
UZB				Lg	Lg	05 07 07.1	
	comp=E,129nm,0.5s						
BOOM	**Boomskoye usch**	**2.42**	**315**	⇑*e*P	**Pb**	**05 06 35.9**	**+0.1**
	baz=13						
BOOM				⇑*i*S	**Sb**	**05 07 08.0**	**+2.2**
	baz=13						
TNSS	**Tian-Shan**	**2.44**	**337**	*e*P	**Pg**	**05 06 37.8**	**-1.1**
	comp=E,77nm,0.4s						
TNSS				*e*S	**Sg**	**05 07 11.2**	**+0.7**
	comp=E,84nm,0.6s						
TNSS	**Tian-Shan**	**2.44**	**337**	Pg	**Pg**	**05 06 37.8**	**-1.1**
	comp=E,77nm,0.4s						
TNSS				Lg	Lg	05 07 11.2	
	comp=E,84nm,0.6s						
SHLS	**Shalkode**	**2.52**	**20**	*e*P	**Pg**	**05 06 39.0**	**-1.4**
	comp=E,40nm,0.3s						
SHLS				*e*S	**Sg**	**05 07 13.1**	**0.0**
	comp=E,565nm,0.5s						
SHLS	**Shalkode**	**2.52**	**20**	Pg	**Pg**	**05 06 39.0**	**-1.4**
	comp=E,40nm,0.3s						
SHLS				Lg	Lg	05 07 13.1	
	comp=E,565nm,0.5s						
MDOK	**Medeo**	**2.53**	**340**	*e*P	**Pg**	**05 06 39.4**	**-1.2**
	comp=E,102nm,0.8s						
MDOK				*e*S	**Sg**	**05 07 13.8**	**+0.5**
	comp=E,324nm,0.7s						
MDOK	**Medeo**	**2.53**	**340**	⇑Pn	**Pb**	**05 06 37.1**	**-0.5**
	comp=E,80nm,0.6s						
MDOK				⇑Lg	Lg	05 07 12.5	
	comp=E,365nm,0.7s						
MDOK	**Medeo**	**2.53**	**340**	Pg	**Pg**	**05 06 39.4**	**-1.2**
	comp=E,102nm,0.8s						
MDOK				Lg	Lg	05 07 13.8	
	comp=E,324nm,0.7s						
IZV	**Izvestkoviy**	**2.55**	**332**	*e*P	**Pg**	**05 06 39.4**	**-1.6**
	comp=E,62nm,0.4s						
IZV				*e*S	**Sg**	**05 07 13.8**	**-0.2**
	comp=E,165nm,0.5s						
IZV	**Izvestkoviy**	**2.55**	**332**	Pg	**Pg**	**05 06 39.4**	**-1.6**
	comp=E,62nm,0.4s						
IZV				Lg	Lg	05 07 13.8	
	comp=E,165nm,0.5s						
KOTS	**Kotyrbulak**	**2.58**	**341**	*e*P	**Pg**	**05 06 40.2**	**-1.3**
	comp=E,45nm,0.3s						
KOTS				*e*S	**Sg**	**05 07 15.2**	**+0.3**
	comp=E,257nm,0.6s						
KOTS	**Kotyrbulak**	**2.58**	**341**	Pg	**Pg**	**05 06 40.2**	**-1.3**
	comp=E,45nm,0.3s						
KOTS				Lg	Lg	05 07 15.2	
	comp=E,257nm,0.6s						
KNDC	**Almaty**	**2.60**	**339**	⇑Pn	**Pb**	**05 06 36.7**	**-2.2**
	comp=E,74nm,0.5s						
KNDC				⇓Lg	Lg	05 07 14.4	
	comp=E,327nm,0.5s						
AAA	**Alma-Ata**	**2.61**	**338**	*e*P	**Pg**	**05 06 40.2**	**-1.8**
	comp=E,101nm,0.2s						
AAA				*e*S	**Sg**	**05 07 15.3**	**-0.5**
	comp=E,76nm,0.3s						
AAA	**Alma-Ata**	**2.61**	**338**	Pg	**Pg**	**05 06 40.2**	**-1.8**
	comp=E,101nm,0.2s						
AAA				Lg	Lg	05 07 15.3	
	comp=E,76nm,0.3s						
KPKS	**Kokpek**	**2.69**	**7**	*e*P	**Pb**	**05 06 41.1**	**+0.8**
	comp=E,71nm,0.3s						
KPKS				*e*S	**Sg**	**05 07 16.6**	**-1.7**
	comp=E,502nm,0.4s						
KURS	**Kuram**	**2.69**	**359**	*e*P	**Pb**	**05 06 41.3**	**+1.0**
	comp=E,46nm,0.5s						
KURS				*e*S	**Sg**	**05 07 17.2**	**-1.3**
	comp=E,113nm,1.1s						
KURS	**Kuram**	**2.69**	**359**	Pg	**Pb**	**05 06 41.3**	**+1.0**
	comp=E,46nm,0.5s						
KURS				Lg	Lg	05 07 17.2	
	comp=E,113nm,1.1s						
PDGK	**Podgornoye**	**2.69**	**20**	Pg	**Pb**	**05 06 39.8**	**-0.5**
	comp=E,22nm,0.3s						
PDGK				Lg	Lg	05 07 14.7	
	comp=E,90nm,0.6s						
PDGK	**Podgornoye**	**2.69**	**20**	⇓Pn	**Pb**	**05 06 38.0**	**-2.4**
	comp=E,23nm,0.4s						
PDGK				⇓Lg	Lg	05 07 15.3	
	comp=E,191nm,0.6s						
MTBS	**Maitube**	**2.70**	**330**	*e*P	**Pb**	**05 06 41.8**	**+1.4**
	comp=E,26nm,0.3s						
MTBS				*e*S	**Sg**	**05 07 17.9**	**-0.8**
	comp=E,78nm,0.5s						
MTBS	**Maitube**	**2.70**	**330**	Pg	**Pb**	**05 06 41.8**	**+1.4**
	comp=E,26nm,0.3s						
MTBS				Lg	Lg	05 07 17.9	
	comp=E,78nm,0.5s						
TKM2	**Tokmak 2**	**2.91**	**318**	P	**Pb**	**05 06 44.4**	**+0.3**
	SNR=10						
TKM2	**Tokmak 2**	**2.91**	**318**	⇑*e*P	**Pb**	**05 06 42.5**	**-1.6**
	baz=16						
TKM2				⇑*i*S	**Sb**	**05 07 19.4**	**-0.4**
	baz=16						
TKM2	**Tokmak 2**	**2.91**	**318**	⇑Pn	**Pb**	**05 06 41.9**	**-2.1**
	comp=E,24nm,0.5s						
TKM2				⇓Lg	Lg	05 07 25.9	
	comp=E,68nm,0.6s						
DGS	**Degeres**	**3.06**	**324**	*e*P	**Pg**	**05 06 48.6**	**-2.1**
	comp=E,41nm,0.4s						
DGS				*e*S	**Sg**	**05 07 29.9**	**-0.6**
	comp=E,101nm,0.6s						
DGS	**Degeres**	**3.06**	**324**	Pg	**Pg**	**05 06 48.6**	**-2.1**
	comp=E,41nm,0.4s						
DGS				Lg	Lg	05 07 29.9	
	comp=E,101nm,0.6s						
KTMS	**Ketmen**	**3.07**	**30**	*e*P	**Pb**	**05 06 47.1**	**+0.3**
KTMS				*e*S	**Sg**	**05 07 27.0**	**-3.6**
	comp=E,250nm,0.6s						
KTMS	**Ketmen**	**3.07**	**30**	Pg	**Pb**	**05 06 47.1**	**+0.3**
KTMS				Lg	Lg	05 07 27.0	
	comp=E,250nm,0.6s						
KBK	**Karagaybulak**	**3.10**	**308**	P	**Pb**	**05 06 49.3**	**+2.0**
	SNR=26						
KBK	**Karagaybulak**	**3.10**	**308**	⇑*e*P	**Pb**	**05 06 45.6**	**-1.7**
	baz=6.0						
KBK				⇑*e*S	**Sb**	**05 07 24.5**	**-0.7**
	baz=6.0						
KTBS	**Karatobe**	**3.14**	**339**	*e*P	**Pb**	**05 06 48.5**	**+0.6**
	comp=E,31nm,0.3s						
KTBS				*e*S	**Sg**	**05 07 29.6**	**-3.2**
	comp=E,211nm,0.7s						
KTBS	**Karatobe**	**3.14**	**339**	Pg	**Pb**	**05 06 48.6**	**+0.6**
	comp=E,31nm,0.3s						
KTBS				Lg	Lg	05 07 29.6	
	comp=E,211nm,0.7s						
ARLS	**Aral**	**3.15**	**291**	⇓*e*P	**Pb**	**05 06 46.3**	**-1.9**
	baz=90						
ARLS				⇓*i*S	**Sb**	**05 07 25.9**	**-0.7**
	baz=90						
UCH	**Uchtor**	**3.15**	**298**	P	**Pb**	**05 06 47.3**	**-1.2**
	SNR=26						
UCH	**Uchtor**	**3.15**	**298**	⇑*e*P	**Pb**	**05 06 46.5**	**-1.9**
	baz=97						
UCH				⇑*i*S	**Sb**	**05 07 26.5**	**-0.6**
	baz=97						
CHKK	**Chushkaly**	**3.20**	**343**	*e*P	**Pb**	**05 06 50.1**	**+1.2**
	comp=E,24nm,0.4s						
CHKK				*e*S	**Sg**	**05 07 32.5**	**-2.2**
	comp=E,198nm,0.6s						
CHKK	**Chushkaly**	**3.20**	**343**	Pg	**Pb**	**05 06 50.1**	**+1.2**
	comp=E,24nm,0.4s						
CHKK				Lg	Lg	05 07 32.5	
	comp=E,198nm,0.6s						
BLB	**Baldybastay**	**3.30**	**3**	*e*P	**Pb**	**05 06 52.0**	**+1.2**
	comp=E,70nm,0.2s						
BLB				*e*S	**Sg**	**05 07 35.6**	**-2.5**
	comp=E,208nm,0.4s						
BLB	**Baldybastay**	**3.30**	**3**	Pg	**Pb**	**05 06 52.0**	**+1.2**
	comp=E,70nm,0.2s						
BLB				Lg	Lg	05 07 35.6	
	comp=E,208nm,0.4s						
KUU	**Kurty**	**3.40**	**336**	*e*P	**Pb**	**05 06 53.3**	**+0.9**
	comp=E,17nm,0.3s						
KUU				*e*S	**Sg**	**05 07 37.7**	**-3.6**
	comp=E,109nm,0.7s						
KUU	**Kurty**	**3.40**	**336**	Pg	**Pb**	**05 06 53.3**	**+0.9**
	comp=E,17nm,0.3s						
KUU				Lg	Lg	05 07 37.7	
	comp=E,109nm,0.7s						
CHMS	**Chumysh**	**3.42**	**311**	P	**Pg**	**05 06 55.5**	**-2.0**
	SNR=6.6						
CHMS	**Chumysh**	**3.42**	**311**	⇑*i*P	**Pb**	**05 06 49.6**	**-3.1**
	baz=10.0						
CHMS				⇑*i*S	**Sb**	**05 07 32.0**	**-2.3**
	baz=10.0						
ARXS	**Arharly**	**3.43**	**355**	*e*P	**Pb**	**05 06 53.8**	**+0.9**
	comp=E,25nm,0.4s						
ARXS				*e*S	**Sg**	**05 07 38.7**	**-3.4**
	comp=E,199nm,0.8s						
ARXS	**Arharly**	**3.43**	**355**	Pg	**Pb**	**05 06 53.8**	**+0.9**
	comp=E,25nm,0.4s						
ARXS				Lg	Lg	05 07 38.7	
	comp=E,199nm,0.8s						
KRBS	**Karabastau**	**3.47**	**327**	*e*P	**Pb**	**05 06 55.2**	**+1.5**
	comp=E,18nm,0.5s						
KRBS				*e*S	**Sg**	**05 07 41.0**	**-2.5**
	comp=E,38nm,0.4s						
KRBS	**Karabastau**	**3.47**	**327**	Pg	**Pb**	**05 06 55.2**	**+1.5**
	comp=E,18nm,0.5s						
KRBS				Lg	Lg	05 07 41.0	
	comp=E,38nm,0.4s						
DJR	**Jarkent**	**3.71**	**17**	*e*P	**Pb**	**05 06 58.6**	**+1.0**
	comp=E,12nm,0.3s						
DJR				*e*S	**Sg**	**05 07 46.8**	**-4.3**
	comp=E,68nm,0.3s						
DJR	**Jarkent**	**3.71**	**17**	Pg	**Pb**	**05 06 58.6**	**+1.0**
	comp=E,12nm,0.3s						
DJR				Lg	Lg	05 07 46.8	
	comp=E,68nm,0.3s						
USP	**Ospenovka**	**3.73**	**313**	P	**Pb**	**05 07 00.7**	**+2.7**
	SNR=6.9						
USP	**Ospenovka**	**3.73**	**313**	⇑*e*P	**Pb**	**05 06 54.0**	**-4.0**
	baz=11						
USP				⇑*i*S	**Sb**	**05 07 39.2**	**-4.1**
	baz=11						
EKS2	**Erkin-Say**	**3.83**	**301**	P	**Pg**	**05 07 04.2**	**-1.2**
	SNR=23						
EKS2	**Erkin-Say**	**3.83**	**301**	⇑*i*P	**Pb**	**05 06 55.7**	**-4.2**
	baz=99						
EKS2				⇑*i*S	**Sb**	**05 07 42.3**	**-4.1**
	baz=99						
MRKS	**Merke**	**4.24**	**299**	*e*P	**Pg**	**05 07 11.9**	**-1.3**
	comp=E,9.5nm,0.5s						
MRKS				*e*S	**Sg**	**05 08 09.8**	**+1.8**
	comp=E,16nm,0.4s						
KAPS	**Kapalarasan**	**4.56**	**10**	*e*P	**Pb**	**05 07 14.0**	**+1.9**
	comp=E,9.5nm,0.3s						
KAPS				*e*S	**Sg**	**05 08 13.4**	**-5.0**
	comp=E,49nm,0.5s						
KAPS	**Kapalarasan**	**4.56**	**10**	Pg	**Pb**	**05 07 14.0**	**+1.9**
	comp=E,9.5nm,0.3s						
KAPS				Lg	Lg	05 08 13.4	
	comp=E,49nm,0.5s						
ARK	**Arkit**	**4.85**	**284**	⇑*e*P	Pn	05 07 10.2	+5.1
	baz=83						
ARK				⇑*i*S	**Sn**	**05 08 07.1**	**+5.8**
	baz=83						
BTLS	**Baital**	**5.25**	**325**	*e*P	**Pb**	**05 07 27.4**	**+3.6**
	comp=E,3.8nm,0.7s						
BTLS				*e*S	**Sg**	**05 08 36.3**	**-4.1**
	comp=E,11nm,0.4s						
BTLS	**Baital**	**5.25**	**325**	Pg	**Pb**	**05 07 27.4**	**+3.6**
	comp=E,3.8nm,0.7s						
BTLS				Lg	Lg	05 08 36.3	
	comp=E,11nm,0.4s						
KK02	**Karatay Array**	**6.22**	**294**	⇓Pg	**Pg**	**05 07 49.3**	**-1.8**
	comp=E,3.9nm,0.7s						
KK02				⇑Lg	Lg	05 09 13.5	
	comp=E,6.5nm,0.8s						
MAKZ	**Makanchi**	**6.58**	**23**	⇓Lg	Lg	05 09 19.4	
	comp=E,7.3nm,1.1s						
MK31	**Makanchi Array**	**6.67**	**25**	⇑Pn	**Pn**	**05 07 32.9**	**+2.9**
	comp=E,0.6nm,0.4s,baz=201,slow=14,SNR=15						
MK31				⇑Pg	Pg	05 07 54.7	-5.0
	comp=E,1.2nm,0.5s,baz=191,slow=13,SNR=5.3						
MK31				⇑Sn	**Sn**	**05 08 47.6**	**+1.6**
	comp=E,1.9nm,0.5s						
MK31				⇑Lg	Lg	05 09 22.3	
	comp=E,13nm,0.9s,baz=209,slow=29,SNR=6.0						
WMQ	**Urumqi**	**7.62**	**64**	*e*P	**Pn**	**05 07 45.2**	**+2.1**
WMQ				smax	smax		
	comp=N,16nm,0.7s						
WMQ				smax	smax		
	comp=E,15nm,1.1s						
OTUK	**Ortayu**	**8.56**	**332**	⇓Lg	Lg	05 10 24.5	
	comp=E,20nm,1.2s						
KURBB	**Kurchatov Arra**	**9.83**	**1**	⇑Lg	Lg	05 11 02.9	
	comp=E,27nm,0.8s						

IDC 01 06:20:18.5±3.5**, 53°.45N**×**87°.51E, h0km, mb1 2.6**/1**, mb1mx2.4**/45**, mbtmp2.6**/1**, ML2.5**/1**, Error ellipse: s-maj=31.0km s-min=15.9km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**288**	*i*		06 33 00.0	
	baz=106,slow=332,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.68**	**288**	Pg	Pn	06 20 48.2	-0.9
	0.8nm,0.3s,baz=104,slow=16,SNR=9.0						
ZALV				Lg	Lg	06 21 12.1	
	0.8nm,0.3s,baz=107,slow=26,SNR=7.6						
MKAR	**Makanchi Array**	**7.46**	**209**	Pn	Pn	06 22 10.3	+1.7
	0.1nm,0.3s,baz=27,slow=13,SNR=4.2						
MKAR				Lg	Lg	06 24 13.0	
	0.1nm,0.3s,baz=26,slow=34,SNR=1.6						

*TAP **01** 06:29:46.5, 24°.89N×122°.47E, h33km, ML3.0, C*
*JMA **01** 06:29:47.2±0.2, 24°.82N×122°.44E, h10km±3km, M2.8*
ISC 01 06:29:46.9±1.0**, 24°.84N**±0°.03×**122°.45E**±0°.02**, h25km**±11km**, n49, σ0.68**/93**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**292**	P	**Pb**	**06 29 56.0**	**-0.2**
	baz=285						
TWB1				S	**Sb**	**06 30 02.1**	**-0.4**
	baz=285						
EGS		**0.47**	**271**	*e*P	**Pb**	**06 29 56.6**	**+0.1**
	baz=261						
EGS				*e*S	**Sb**	**06 30 04.2**	**+1.1**
	baz=261						
NTC	**Toucheng**	**0.56**	**272**	*e*S	**Sb**	**06 30 07.0**	**+1.3**
	baz=274						
SXI1	**Grass Mountain**	**0.57**	**296**	P	**Pb**	**06 29 58.8**	**+0.4**
	baz=291						
SXI1				S	**Sb**	**06 30 06.9**	**+0.7**
	baz=291						
TIPB	**Shuangxi**	**0.58**	**283**	*e*P	**Pb**	**06 29 58.7**	**+0.3**
	baz=278						
TIPB				*e*S	**Sb**	**06 30 06.2**	**-0.1**
	baz=278						
TWC	**Suao**	**0.59**	**247**	P	**Pb**	**06 29 58.2**	**-0.3**
	baz=243						
TWC				*e*S	**Sb**	**06 30 05.9**	**-0.6**
	baz=243						
JYNG	**Yonagunijimaku**	**0.60**	**130**	P	**Pb**	**06 29 58.6**	**-0.1**
JYNG				S	**Sb**	**06 30 06.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.64**	**126**	P	**Pb**	**06 29 59.1**	**-0.3**
YOJ				*e*S	**Sb**	**06 30 07.0**	**-0.9**
YOJ	**Yonaguni jima**	**0.64**	**126**	*e*P	**Pb**	**06 29 59.0**	**-0.3**
	baz=126						
YOJ				*e*S	**Sb**	**06 30 07.4**	**-0.5**
	baz=126						
NWF	**Wu-fen Shan**	**0.65**	**291**	P	**Pb**	**06 29 59.6**	**0.0**
	baz=286						
NWF				S	**Sb**	**06 30 08.7**	**+0.5**
	baz=286						
NDS	**Dongshan**	**0.69**	**253**	*e*P	**Pb**	**06 30 00.2**	**-0.1**
	baz=250						
NDS				*e*S	**Sb**	**06 30 10.0**	**+0.5**
	baz=250						
TWE	**Neicheng**	**0.72**	**261**	*e*P	**Pb**	**06 30 00.4**	**-0.3**
	baz=257						
TWE				*e*S	**Sb**	**06 30 10.1**	**0.0**
	baz=257						
EWUT	**Wuta**	**0.72**	**237**	*e*P	**Pb**	**06 30 00.3**	**-0.5**
	baz=235						
EWUT				*e*S	**Sb**	**06 30 11.1**	**+0.8**
	baz=235						
ENA	**Nanau**	**0.76**	**238**	P	**Pb**	**06 30 01.4**	**0.0**
	baz=235						
ENA				S	**Sb**	**06 30 11.5**	**+0.1**
	baz=235						
FUSB	**Fushanzhiwuyua**	**0.78**	**264**	P	**Pn**	**06 30 02.6**	**+0.2**
	baz=268						
FUSB				S	**Sb**	**06 30 12.6**	**+0.5**
	baz=268						
TWA	**Mucha**	**0.79**	**280**	*e*P	**Pb**	**06 30 01.3**	**-0.8**
	baz=266						
TWA				*e*S	**Sb**	**06 30 12.8**	**+0.3**
	baz=266						
ENTT	**Nioudou**	**0.82**	**256**	*e*P	**Pb**	**06 30 02.9**	**+0.3**
	baz=253						
ENTT				*e*S	**Sb**	**06 30 13.4**	**+0.2**
	baz=253						
NHDH	**Xindian Distri**	**0.84**	**279**	*e*S	**Sb**	**06 30 14.0**	**+0.2**
	baz=265						
YM01	**YM01**	**0.85**	**291**	*e*P	**Pb**	**06 30 02.3**	**-0.7**
	baz=287						
YM01				*e*S	**Sb**	**06 30 14.1**	**0.0**
	baz=287						
PCYT	**Pengchaiyu**	**0.86**	**337**	*e*P	**Pb**	**06 30 02.6**	**-0.4**
	baz=322						
PCYT				*e*S	**Sb**	**06 30 13.5**	**-0.6**
	baz=322						
NWLT	**Wulai**	**0.86**	**266**	*e*P	**Pb**	**06 30 02.8**	**-0.3**
	baz=263						
NWLT				*e*S	**Sb**	**06 30 14.2**	**0.0**
	baz=263						
NDT	**Datong Townshi**	**0.88**	**255**	*e*P	**Pb**	**06 30 02.8**	**-0.7**
	baz=252						
NDT				*e*S	**Sb**	**06 30 15.2**	**+0.3**
	baz=252						
LATG	**Datong**	**0.89**	**250**	P	**Pb**	**06 30 03.9**	**+0.2**
	baz=248						
LATG				*e*S	**Sb**	**06 30 15.9**	**+0.7**
	baz=248						
YHNB	**Yeheng**	**0.99**	**260**	*e*P	**Pb**	**06 30 04.9**	**-0.5**
	baz=248						
YHNB				*e*S	**Sb**	**06 30 17.5**	**-0.5**
	baz=248						
NSK	**Sanguang**	**1.00**	**261**	*e*P	**Pn**	**06 30 06.1**	**+0.7**
	baz=248						
NSK				*e*S	**Sb**	**06 30 18.6**	**+0.2**
	baz=248						
NACB	**Ninganchiao**	**1.02**	**230**	P	**Pb**	**06 30 05.8**	**-0.1**
	baz=234						
NACB				S	**Sb**	**06 30 19.5**	**+0.7**
	baz=234						
NNSB	**Datong**	**1.05**	**247**	*e*P	**Pb**	**06 30 06.8**	**+0.3**
	baz=245						
NNSB				*e*S	**Sb**	**06 30 19.2**	**-0.6**
	baz=245						
NNS	**Nan Shan**	**1.05**	**248**	*e*P	**Pb**	**06 30 07.0**	**+0.4**
	baz=245						
NNS				*e*S	**Sb**	**06 30 20.0**	**+0.1**
	baz=245						
ETLH	**Xiulin Townshi**	**1.08**	**234**	*e*P	**Pb**	**06 30 07.2**	**+0.3**
	baz=238						
ETLH				*e*S	**Sb**	**06 30 20.1**	**-0.5**
	baz=238						
NFF	**Wufeng Townshi**	**1.22**	**261**	*e*P	**Pb**	**06 30 09.6**	**+0.3**
	baz=258						
FUSS	**Fushou**	**1.24**	**242**	*e*P	**Pb**	**06 30 10.6**	**+0.8**
	baz=247						
FUSS				*e*S	**Sb**	**06 30 27.1**	**+1.6**
	baz=247						
IRIF	**Iriomote-Funau**	**1.27**	**113**	P	**Pb**	**06 30 10.5**	**+0.3**
IRIF				S	**Sb**	**06 30 27.1**	**+1.0**
WHF	**Hehuan Shan**	**1.28**	**237**	*e*P	**Pb**	**06 30 11.1**	**+0.6**
	baz=236						
TWT	**Tachien**	**1.29**	**243**	*e*P	**Pb**	**06 30 10.8**	**+0.2**
	baz=249						
TWT				*e*S	**Sb**	**06 30 27.4**	**+0.5**
	baz=249						
TDCB	**Techi**	**1.31**	**244**	*e*P	**Pn**	**06 30 10.3**	**+0.6**
	baz=242						
TDCB				*e*S	**Sn**	**06 30 27.3**	**+0.9**
	baz=242						
LIOB	**Emei**	**1.31**	**262**	*e*P	**Pn**	**06 30 09.9**	**+0.2**
	baz=260						
LIOB				*e*S	**Sn**	**06 30 26.6**	**+0.2**
	baz=260						
NSTT	**Nanjuang**	**1.33**	**261**	*e*P	**Pn**	**06 30 09.6**	**-0.3**
	baz=259						
NSTT				*e*S	**Sn**	**06 30 25.7**	**-1.1**
	baz=259						
ESL	**Shilin**	**1.38**	**222**	*e*P	**Pn**	**06 30 09.5**	**-1.0**
	baz=207						
ESL				*e*S	**Sn**	**06 30 27.4**	**-0.5**
	baz=207						
CHGB	**Renai**	**1.39**	**236**	*e*P	**Pn**	**06 30 11.6**	**+0.6**
	baz=241						
CHGB				*e*S	**Sb**	**06 30 30.7**	**+0.9**
	baz=241						
HATJ	**Hateruma jima**	**1.47**	**122**	P	**Pb**	**06 30 14.4**	**+1.0**
HATJ				S	**Sb**	**06 30 33.2**	**+1.6**
WHP	**Taichung City**	**1.48**	**248**	*e*P	**Pb**	**06 30 14.7**	**+1.0**
	baz=253						
WHP				*e*S	**Sn**	**06 30 30.5**	**0.0**
	baz=253						
WUSB	**Renai**	**1.48**	**235**	*e*P	**Pb**	**06 30 13.8**	**+0.1**
	baz=244						
WUSB				*e*S	**Sn**	**06 30 31.8**	**+1.2**
	baz=244						
JKRS	**Kuro-shima**	**1.55**	**113**	P	**Pb**	**06 30 14.5**	**-0.3**
WCS	**Beigang Elemen**	**1.60**	**241**	*e*P	**Pb**	**06 30 15.0**	**-0.7**
	baz=240						

WCS				eS	Sb	06 30 35.4	-0.2
	baz=240						
VWDT	VWDT	1.61	228	eP	Pn	06 30 13.1	-0.5
	baz=213						
VWDT				eS	Sn	06 30 33.3	-0.3
	baz=213						
JIJ	Ishigaki jima	1.62	107	P	Pb	06 30 16.1	+0.1
JIJ				eS	Sb	06 30 36.9	+0.9
SSLB	Suanglung	1.72	233	eP	Pb	06 30 17.1	-0.6
	baz=218						
SSLB				eS	Sn	06 30 35.4	-1.0
	baz=218						
TYC	Yuchr	1.72	238	eP	Pn	06 30 16.6	+1.4
	baz=244						
TYC				eS	Sb	06 30 39.0	0.0
	baz=244						
YULB	Yu-li	1.78	216	eP	Pn	06 30 13.6	-2.5
	baz=215						
YULB				eS	Sn	06 30 37.2	-0.7
	baz=215						

IDC 01 06:54:29.0±48.0**, 19°.32S**×**177°.30W, h0km, mb4.3**/3**, mb1 4.4**/3**, mb1mx3.9**/26**, mbtmp4.3**/3**, Error ellipse: s-maj=891.1km s-min=157.5km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.90	243	P	P	07 01 57.0	+0.5
	1.0nm,0.3s,baz=81,slow=11,SNR=4.8						
WRA	Warramunga Arr	45.42	261	P	P	07 02 49.5	-0.4
	0.9nm,0.3s,baz=97,slow=7.4,SNR=60						
ASAR	Alice Springs	45.44	256	P	P	07 02 49.8	-0.3
	4.5nm,0.5s,baz=96,slow=8.5,SNR=82						

*NOU **01** 06:55:21.3, 40°.13S×174°.78E, h15km, MLv3.5/7, Cook Strait, New Zealand*
*WEL **01** 06:55:21.2±0.3, 40°S±2°×17°5E±°, h12km±3km, M3.1/59, ML3.4/64, MLv3.1/59, Error ellipse: s-maj=0.0km s-min=0.0km az=94.8*
ISC 01 06:55:20.9±1.2**, 40°.12S**±0°.02×**174°.82E**±0°.02**, h11**km±11km**, n104, σ0s78**/113**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.39	19	P	Pb	06 55 30.8	+1.0
OHWZ	Ohakea	0.39	103	P	Pb	06 55 30.4	+0.6
OHWZ				S	Sb	06 55 37.0	+1.1
LREZ	Lake Rotokare	0.73	334	P	Pn	06 55 36.8	-0.4
KIW	Kapiti Island	0.74	175	P	Pg	06 55 35.6	+0.4
KIW				S	Sg	06 55 45.0	0.0
OGWZ	Otaki Gorge	0.74	159	P	Pb	06 55 36.0	0.0
OGWZ				S	Sb	06 55 45.7	-0.4
POWZ	Post Office Ro	0.78	111	P	Pb	06 55 36.6	+0.2
POWZ				S	Sb	06 55 47.0	+0.1
MRZ	Mangatainoka R	0.79	133	P	Pb	06 55 36.8	+0.1
TSZ	Takapari Road	0.88	86	P	Pg	06 55 37.9	+0.1
TSZ				S	Sg	06 55 49.6	+0.3
MTVZ	Mangateitei	0.89	35	P	Pg	06 55 37.9	-0.2
MTVZ				S	Sb	06 55 51.0	+0.7
PKVZ	Pokaka	0.93	26	P	Pg	06 55 38.2	-0.5
PREZ	Palmer Road	0.93	327	P	Pn	06 55 40.1	+0.1
PREZ				S	Sn	06 55 54.6	+1.3
HOWZ	Holdsworth Sta	0.94	146	P	Pb	06 55 39.0	-0.2
HOWZ				S	Sb	06 55 51.7	-0.1
DUWZ	D'Urville Isla	0.96	225	P	Pb	06 55 39.1	-0.6
PRWZ	Pori Road	0.98	117	P	Pg	06 55 40.4	+0.6
TRVZ	Turoa	0.99	35	P	Pb	06 55 39.2	-1.1
WNVZ	Wahianoa	0.99	37	P	Pb	06 55 39.3	-1.0
VRZ	Vera Road	1.00	357	P	Pb	06 55 40.3	+0.1
CAW	Cannon Point	1.00	169	P	Pb	06 55 39.7	-0.6
MOVZ	Moawhango	1.01	46	P	Pb	06 55 39.3	-1.2
MOVZ				S	Sb	06 55 52.6	-1.3
NMEZ	Namu Road	1.01	314	P	Pn	06 55 41.2	+0.2
NEZ	North Egmont	1.02	326	P	Pn	06 55 41.2	0.0
DRZ	Dome Shelter	1.02	34	P	Pb	06 55 40.1	-0.7
WHVZ	Whangaehu Hut	1.03	36	P	Pb	06 55 39.9	-0.9
KHEZ	Kahui Hut	1.03	323	P	Pn	06 55 41.7	+0.3
FWVZ	Far West T-bar	1.03	33	P	Pb	06 55 39.8	-1.2
TIWZ	Tintock	1.04	129	P	Pb	06 55 41.1	+0.1
DREZ	Durham Road	1.05	333	P	Pg	06 55 41.5	+0.5
DVHZ	Dannevirke	1.05	100	P	Pb	06 55 41.3	+0.3
TUVZ	Tukino	1.07	37	P	Pb	06 55 40.5	-1.0
PNHZ	Pukenui	1.08	79	P	Pb	06 55 40.9	-0.7
MHEZ	Mangahewa	1.11	340	P	Pg	06 55 43.5	+1.2
NGZ	Ngauruhoe	1.12	33	P	Pb	06 55 41.1	-1.3
PKE	Pukeiti	1.13	325	P	Pg	06 55 43.0	+0.4
SNVZ	South Ngauruho	1.13	34	P	Pb	06 55 41.3	-1.2
BHHZ	Black Hill Sta	1.15	57	P	Pb	06 55 41.2	-1.6
TWVZ	Taurewa	1.15	25	P	Pb	06 55 41.5	-1.4
OTVZ	Oturere	1.16	35	P	Pb	06 55 41.7	-1.3
MTW	Mount Morrison	1.16	154	P	Pb	06 55 42.6	-0.4
NNVZ	North Ngauruho	1.16	32	P	Pb	06 55 41.9	-1.2
WEL	Wellington	1.16	182	P	Pb	06 55 42.2	-0.8
TCW	Tory Channel	1.16	201	P	Pb	06 55 41.7	-1.3
WTVZ	West Tongariro	1.17	31	P	Pn	06 55 41.7	-1.6
SNZO	South Karori	1.19	184	P	Pn	06 55 42.8	-0.7
ETVZ	East Tongariro	1.20	35	P	Pn	06 55 42.3	-1.4
KRVZ	Karewarewa	1.21	32	P	Pn	06 55 42.4	-1.4
TMVZ	Te Maari	1.21	35	P	Pn	06 55 42.5	-1.5
NTVZ	North Tongarir	1.22	33	P	Pn	06 55 42.7	-1.3
BFZ	Birch Farm	1.23	118	P	Pn	06 55 43.7	-0.3
BFZ	Birch Farm	1.23	118	P	Pn	06 55 44.0	0.0
WPHZ	Waipukurau	1.25	88	P	Pn	06 55 44.3	+0.1
TMWZ	Te Maipa	1.28	141	P	Pn	06 55 44.0	-0.8
KRHZ	Kereru	1.28	69	P	Pn	06 55 44.3	-0.6
BHW	Baring Head	1.29	178	P	Pn	06 55 44.6	-0.2
ANWZ	Angora Road	1.31	105	P	Pn	06 55 44.9	-0.3
CPWZ	Castlepoint	1.32	127	P	Pg	06 55 46.4	+0.2
KATZ	Kakaramea	1.33	31	P	Pn	06 55 44.5	-1.0
MSWZ	Moikau Station	1.33	166	P	Pn	06 55 45.4	-0.1
PAWZ	Paruwai Farm	1.34	160	P	Pn	06 55 45.5	-0.1
RITZ	Rihia Road	1.40	35	P	Pn	06 55 46.7	+0.3
PRHZ	Porangahau	1.40	97	P	Pn	06 55 46.2	-0.2
KWHZ	Kaweka Forest	1.42	61	P	Pn	06 55 46.2	-0.5
TRWZ	Traveller	1.44	153	P	Pn	06 55 47.2	+0.2
TUWZ	Tuamarina	1.47	207	P	Pn	06 55 46.1	-1.2
PLWZ	Palliser	1.48	167	P	Pn	06 55 47.4	-0.2
NNZ	Nelson	1.55	225	P	Pn	06 55 48.2	-0.3
HATZ	Hinemaiaia	1.57	39	P	Pn	06 55 49.4	+0.6
WATZ	Wairara	1.58	27	P	Pb	06 55 49.8	-0.3
MCHZ	McNeill Hill	1.60	66	P	Pn	06 55 49.9	+0.8
BKZ	Black Stump Fm	1.61	54	P	Pn	06 55 49.2	0.0
BKZ	Black Stump Fm	1.61	54	P	Pn	06 55 49.6	+0.3
HIZ	Hauiti	1.61	1	P	Pn	06 55 48.7	-0.6
HIZ	Hauiti	1.61	1	P	Pn	06 55 49.0	-0.2
KAHZ	Kahuranaki	1.61	79	P	Pn	06 55 49.4	0.0
TKNZ	Takaka Hill	1.68	237	P	Pn	06 55 50.2	-0.1
BSWZ	Blackbirch Sta	1.75	204	P	Pn	06 55 51.4	+0.2
MRHZ	Matea Rd	1.78	44	P	Pn	06 55 52.6	+0.8
KUTZ	Kaahu Road	1.81	26	P	Pb	06 55 53.7	-0.3
NMHZ	Naumai	1.84	57	P	Pn	06 55 53.4	+0.8
TLZ	Tolley Road	1.87	18	P	Pn	06 55 52.7	-0.2
QRZ	Quartz Range	1.88	247	P	Pn	06 55 52.6	-0.5
QRZ	Quartz Range	1.88	247	P	Pn	06 55 52.6	-0.5
ALRZ	Allen Road	1.95	38	P	Pn	06 55 55.3	+1.3
MTHZ	Maungataniwha	2.01	52	P	Pn	06 55 54.3	-0.5
MRNZ	Matariki Terra	2.02	230	P	Pn	06 55 55.2	+0.3
PRRZ	Plateau Road	2.03	37	P	Pn	06 55 55.7	+0.7
RAHZ	Arahi	2.13	56	P	Pb	06 55 59.6	+0.2
THZ	Tophouse	2.19	221	P	Pn	06 55 57.7	+0.4
MUGZ	Murupara	2.23	43	P	Pn	06 55 58.0	+0.1
RTZ	Ruatahuna	2.25	49	P	Pn	06 55 58.5	+0.4
TOZ	Tahuroa Road	2.44	13	P	Pn	06 55 59.6	-1.1
KHZ	Kahutara	2.49	202	P	Pn	06 56 00.7	-0.7
KHZ	Kahutara	2.49	202	P	Pn	06 56 00.9	-0.4
URZ	Urewera	2.57	44	P	Pn	06 56 02.0	-0.6
URZ	Urewera	2.57	44	P	Pn	06 56 02.7	+0.2
TGRZ	Tauranga	2.64	26	P	Pn	06 56 05.6	+2.1
OPRZ	Ohinepanea	2.65	31	P	Pn	06 56 03.9	+0.4
RIGZ	Rimuhau	2.68	59	P	Pn	06 56 03.4	-0.6
MWZ	Matawai	2.76	51	P	Pn	06 56 04.6	-0.5
DSZ	Denniston Nort	2.80	234	P	Pn	06 56 05.4	-0.3
RUGZ	Raukumara Rang	3.10	47	P	Pn	06 56 08.7	-1.1
GVZ	Greta Valley S	3.14	205	P	Pn	06 56 09.4	-1.0
LTZ	Lake Taylor	3.28	215	P	Pn	06 56 11.6	-0.7
HAZ	Te Kaha	3.30	45	P	Pn	06 56 10.9	-1.7
INZ	Inchbonnie	3.63	223	P	Pn	06 56 17.0	-0.1

*IDC **01** 06:59:06.5±4.0, 53°.73N×90°.83E, h0km, mb1 3.0/2, mb1mx2.9/46, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=35.0km s-min=26.7km az=65.0*
*NNC **01** 06:59:07.3±2.1, 53°.87N×90°.55E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=16.4km s-min=12.7km az=46.0, Suspected Mining explosion.*
ISC 01 06:59:07.8±4.1**, 53°.8N**±0°.1×**90°.6E**±0°.2**, h0km, n11, σ1s18**/12**, 7C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.43	275	i		07 24 30.0	
	baz=94,slow=323,SNR=3.0						
ZAA0	Zalesovo Array	3.43	275	⇓Pg	Pb	07 00 08.8	-0.5
	5.7nm,0.8s						
ZAA0				⇓Lg	Lg	07 00 55.6	
	29nm,0.9s						
ZALV	Zalesovo Beam	3.43	275	Pn	Pn	07 00 03.4	+0.9
	1.5nm,0.3s,baz=96,slow=12,SNR=38						
ZALV				Lg	Lg	07 00 59.0	
	3.8nm,0.3s,baz=90,slow=25,SNR=12						
KURK	Kurchatov	7.97	252	⇓Pn	Pn	07 01 04.6	-0.3
	4.8nm,0.9s						
KURK				⇑Sn	Sn	07 02 37.1	+1.5
	18nm,1.0s						
KURK				⇓Lg	Lg	07 03 23.5	
	98nm,1.1s						
KURBB	Kurchatov Arra	8.07	252	⇑Pn	Pn	07 01 06.2	0.0
	3.6nm,0.6s						
KURBB				⇓Sn	Sn	07 02 35.9	-2.0
	40nm,0.8s						
KURBB				⇑Lg	Lg	07 03 25.2	
	151nm,1.1s						
MK31	Makanchi Array	8.79	221	Pn	Pn	07 01 15.5	-0.7
	0.3nm,0.3s,baz=162,slow=20,SNR=22						
MK31				Sn	Sn	07 02 56.6	+0.6
	6.6nm,1.0s,baz=44,slow=22,SNR=5.3						
MK31				Lg	Lg	07 03 49.1	
	15nm,0.9s,baz=38,slow=27,SNR=4.2						
MKAR	Makanchi Array	8.79	221	Pn	Pn	07 01 16.0	-0.2
	0.3nm,0.3s,baz=30,slow=12,SNR=17						
MKAR				Sn	Sn	07 02 55.5	-0.5
	0.1nm,0.3s,baz=43,slow=16,SNR=2.2						
MKAR				Lg	Lg	07 03 43.6	
	0.1nm,0.3s,baz=37,slow=24,SNR=7.3						
MAKZ	Makanchi	8.90	222	⇑Pn	Pn	07 01 18.0	+0.3
	2.4nm,0.9s						
MAKZ				⇑Sn	Sn	07 03 00.6	+1.9
	6.6nm,0.8s						
MAKZ				⇑Lg	Lg	07 03 52.6	
	27nm,0.9s						
SONM	Songino Array	11.62	114	Lg	Lg	07 05 02.2	
	0.1nm,0.3s,baz=305,slow=28,SNR=10						
I34MN	SONGINO INFRAS	11.65	115	i		08 04 10.0	
	baz=311,slow=324,SNR=0.5						
OTUK	Ortayu	12.76	252	⇑Lg	Lg	07 05 51.8	
	27nm,1.4s						

*IDC **01** 07:11:03.6±0.8, 54°.04S×1°.64W, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/25, mbtmp4.3/13, ML5.2/1, MS4.2/34, Ms1 4.2/34, ms1mx4.1/47, Error ellipse: s-maj=23.5km s-min=17.2km az=137.0*
*NEIC **01** 07:11:06.0±1.3, 54°.21S±0°.09×1°.43W±0°.09, h15km±3km, mb4.9/36, Error ellipse: s-maj=15.3km s-min=3.3km az=207.0*
*GCMT **01** 07:11:10.1±0.2, 54°.17S±0°.01×1°.36W±0°.02, h19km±1km, MW5.0/108, Moment Tensor Solution. s30,c35; s108,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.03±.17; $M_{\theta\theta}$2.22±.16; $M_{\phi\phi}$-1.19±.13; $M_{r\theta}$0.53±.26; $M_{\theta\phi}$-3.90±.10; $M_{\phi r}$-1.02±.26; Best double couple: $M_0$4.40000×10^{16} NP1:ϕ_s78.00000°, δ75.00000°, λ-178.00000°. NP2:ϕ_s348.00000°, δ89.00000°, λ-15.00000°. Principal axes: T 4.9410, Plg10.0000°, Azm34.0000°; N -1.0840, Plg75.0000°, Azm162.0000°; P -3.8580, Plg12.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 07:11:04.9±0.4**, 54°.11S**±0°.07×**1°.53W**±0°.09**, h10km, n88, σ0s81**/57**, mb4.7**/21**, MS4.3**/36**, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.87	188	P	P	07 15 02.5	-0.4
VNA2	Neumayer--Watz	17.08	187	P	Pn	07 15 04.3	+0.9
	baz=13,slow=15						
VNA3	Neumayer Olymp	17.57	189	P	P	07 15 10.7	+0.2
SNAA	Sanae	17.64	181	P	P	07 15 12.9	+1.5
SNAA	Sanae	17.64	181	P	P	07 15 11.8	+0.4
	7.2nm,0.3s,baz=38,slow=19,SNR=119						
SNAA				LR	LR	07 20 37.7	
	comp=Z,998nm,18.2s,baz=6.0,slow=32						
SNAA	Sanae	17.64	181	P	Pn	07 15 11.3	+0.8
SNAA				IAmb	IAmb	07 15 17.5	
	comp=Z,37nm,0.7s						
TROLL	Troll, Antarti	18.05	176	P	P	07 15 18.5	+2.5
HOPE	Hope Point	20.33	255	P	P	07 15 41.0	+0.1
BELA	Belgrano 2	26.59	195	P	P	07 16 42.3	-0.4
BELA				IAmb	IAmb	07 16 46.4	
	comp=Z,24nm,1.1s						
SUR	Sutherland	26.92	45	LR	LR	07 24 47.3	
	comp=Z,1μm,21.1s,baz=206,slow=31						
BOSA	Boshof	32.09	48	P	P	07 17 31.8	-0.3
	comp=Z,2.7nm,0.9s,baz=169,slow=10,SNR=3.2						
BOSA				LR	LR	07 28 26.4	
	comp=Z,579nm,18.6s,baz=210,slow=32						
BOSA	Boshof	32.09	48	P	P	07 17 32.2	+0.1
PMSA	Palmer Station	32.14	226	LR	LR	07 27 23.2	
	comp=Z,326nm,19.7s,baz=116,slow=30						
MAW	Mawson	32.43	140	LR	LR	07 28 08.3	
	comp=Z,203nm,21.7s,baz=250,slow=32						
CRZF	Crozet Islands	34.25	99	P	P	07 17 50.4	-0.2
QSPA	South Pole Qui	36.14	180	P	P	07 18 06.3	-0.7
QSPA				IAmb	IAmb	07 18 15.2	
	comp=Z,8.4nm,0.8s						
TSUM	Tsumeb	37.81	30	P	P	07 18 21.3	-0.2
	comp=Z,16nm,1.1s,baz=193,slow=9.4,SNR=11						
TSUM	Tsumeb	37.81	30	P	P	07 18 22.7	+1.2
DSPA	Despedida	37.87	242	P	P	07 18 22.1	+0.6
MATP	Matopo	40.66	46	P	P	07 18 45.8	+0.4
	comp=Z,1.2nm,0.6s,baz=208,slow=13,SNR=3.7						
COYC	Coyhaique	44.52	251	P	P	07 19 17.4	+1.1
LSZ	Lusaka	45.16	42	P	P	07 19 22.3	+0.6
	comp=Z,1.5nm,0.4s,baz=128,slow=0.9,SNR=1.8						
LSZ				LR	LR	07 36 01.4	
	comp=Z,1μm,19.8s,baz=208,slow=33						
AY01	Puyuhuapi	45.55	252	P	P	07 19 23.9	-0.6
AY01				IAmb	IAmb	07 19 27.5	
	comp=Z,26nm,0.9s						
LL02	Futaleuf	45.87	254	P	P	07 19 26.9	-0.2
LL02				IAmb	IAmb	07 19 30.1	
	comp=Z,13nm,0.9s						
H10S2	ASCENSION HYDR	46.24	342	T	T	08 09 22.1	
	baz=168,slow=74,SNR=7.4						
H10S3	ASCENSION HYDR	46.25	342	T	T	08 09 23.6	
	baz=52,slow=74,SNR=19						
PLCA	Paso Flores	46.72	257	P	P	07 19 33.4	-0.5
	comp=Z,2.6nm,1.0s,baz=89,slow=7.8,SNR=4.2						
PLCA				LR	LR	07 39 36.3	
	comp=Z,62nm,18.4s,baz=138,slow=37						
PLCA	Paso Flores	46.72	257	P	P	07 19 34.2	+0.3
LL03	Petrohue	47.51	255	P	P	07 19 40.1	+0.2
VNDA	Vanda	48.23	175	P	P	07 19 45.8	+0.8
	comp=Z,6.5nm,0.7s,baz=202,slow=6.6,SNR=7.1						
VNDA				LR	LR	07 39 35.4	
	comp=Z,697nm,20.0s,baz=186,slow=35						
VNDA	Vanda	48.23	175	P	P	07 19 45.3	+0.2
VNDA				IAmb	IAmb	07 19 59.5	
	comp=Z,25nm,1.4s						
CPUP	Villa Florida	49.19	281	P	P	07 19 52.0	-1.0
	comp=Z,3.2nm,0.9s,baz=140,slow=2.5,SNR=3.3						
CPUP				LR	LR	07 37 47.5	
	comp=Z,100nm,20.3s,baz=147,slow=33						
CPUP	Villa Florida	49.19	281	P	P	07 19 52.4	-0.6
CPUP				IAmb	IAmb	07 20 14.5	
	comp=Z,19nm,1.4s						
OPO	Ambohidratompo	51.36	66	LR	LR	07 36 48.2	
	comp=Z,264nm,21.3s,baz=342,slow=30						
BDFB	Brasilia	52.61	298	P	P	07 20 18.2	-0.8
	comp=Z,5.6nm,0.9s,baz=81,slow=8.8,SNR=5.5						
BDFB				LR	LR	07 38 05.4	
	comp=Z,286nm,21.2s,baz=134,slow=31						
BDFB	Brasilia	52.61	298	P	P	07 20 18.9	-0.2
BDFB				IAmb	IAmb	07 20 24.5	
	comp=Z,30nm,1.5s						
AQDB	Aquidauana	52.82	287	P	P	07 20 20.4	0.0
AQDB				IAmb	IAmb	07 20 33.1	
	comp=Z,14nm,1.4s						
RCBR	Riachuelo	55.59	317	LR	LR	07 38 34.9	
	comp=Z,207nm,20.4s,baz=301,slow=30						
LVC	Limon Verde	58.78	274	LR	LR	07 45 49.4	
	comp=Z,37nm,19.2s,baz=154,slow=36						
SIV	San Ignacio	59.44	286	LR	LR	07 42 51.9	
	comp=Z,268nm,20.9s,baz=99,slow=32						
MBAR	Mbarara	59.58	38	LR	LR	07 44 36.6	
	comp=Z,411nm,21.6s,baz=169,slow=34						
DBIC	Dimbokro	60.62	356	P	P	07 21 15.6	-0.2
	comp=Z,4.7nm,0.9s,baz=166,slow=2.2,SNR=3.8						
DBIC				LR	LR	07 41 00.3	
	comp=Z,68nm,21.2s,baz=182,slow=30						
DBIC	Dimbokro	60.62	356	P	P	07 21 16.0	+0.3
DBIC				IAmb	IAmb	07 21 38.6	
	comp=Z,16nm,1.2s						
PATCX	Punta Patache	60.90	274	P	P	07 21 18.1	+0.3
KIBK	Kibwezi	60.90	47	P	P	07 21 18.1	+0.2
KMBO	Kilima Mbogo	61.66	45	LR	LR	07 46 01.6	
	comp=Z,650nm,19.9s,baz=249,slow=34						
LPAZ	La Paz	63.26	279	P	P	07 21 34.6	+0.2
	comp=Z,4.0nm,1.0s,baz=130,slow=5.8,SNR=7.5						
LPAZ				LR	LR	07 46 56.3	
	comp=Z,71nm,21.7s,baz=126,slow=34						
LPAZ	La Paz	63.26	279	P	P	07 21 34.9	+0.5
LPAZ				IAmb	IAmb	07 21 53.1	
	comp=Z,9.6nm,1.2s						
LODK	Lodwar	65.03	41	P	P	07 21 45.8	+0.5
TORD	Torodi Ar. Bea	67.04	3	P	P	07 21 57.8	-0.2
	comp=Z,1.5nm,0.8s,baz=183,slow=5.5,SNR=6.4						
TORD	Torodi Ar. Bea	67.04	3	P	P	07 21 58.1	+0.1
PTGA	Pitinga	71.43	296	LR	LR	07 50 11.6	
	comp=Z,132nm,18.7s,baz=187,slow=33						
NNA	Nana	71.77	275	LR	LR	07 53 24.6	
	comp=Z,79nm,19.5s,baz=138,slow=35						
MDP	Montagnes des	72.73	306	LR	LR	07 51 32.1	
	comp=Z,125nm,18.5s,baz=189,slow=33						
H01W2	Cape Leeuwin H	75.48	130	T	T	08 46 30.8	
	baz=212,slow=75,SNR=4.1						
H01W1	Cape Leeuwin H	75.50	130	T	T	08 46 29.9	
	baz=212,slow=75,SNR=5.8						
H01W3	Cape Leeuwin H	75.50	130	T	T	08 46 28.7	
	baz=212,slow=75,SNR=4.7						
ATAH	Atahualpa	76.55	276	LR	LR	07 56 14.8	
	comp=Z,77nm,20.2s,baz=346,slow=35						
RPN	Rapa Nui	78.11	240	LR	LR	07 49 17.2	
	comp=Z,91nm,21.6s,baz=218,slow=29						
SOCY	Socotra	81.00	55	P	P	07 23 20.0	+0.2
MORW	Morawa	81.25	128	P	P	07 23 20.4	-0.6
MORW				IAmb	IAmb	07 23 25.7	
	comp=Z,22nm,1.5s						
RPZ	Rata Peaks	82.35	175	LR	LR	07 56 42.1	
	comp=Z,229nm,20.4s,baz=232,slow=33						
KHZ	Kahutara	83.76	176	P	P	07 23 32.8	-1.0
ROSC	El Rosal	83.92	287	LR	LR	07 59 19.5	
	comp=Z,289nm,18.7s,baz=190,slow=34						
BIRV	Birongo	84.19	297	P	P	07 23 35.7	-0.6
TOO	Toolangi	84.36	154	P	P	07 23 37.2	+0.1
TOO				IAmb	IAmb	07 24 00.6	
	comp=Z,10nm,1.4s						
THZ	Tophouse	84.38	176	P	P	07 23 37.5	+0.4
FORT	Forrest	84.92	138	P	P	07 23 39.1	-0.8
SDV	Santo Domingo	85.21	292	LR	LR	07 59 44.0	
	comp=Z,164nm,18.3s,baz=128,slow=34						
BBOO	Buckleboo	86.00	145	P	P	07 23 45.0	-0.4
BBOO				IAmb	IAmb	07 23 51.6	
	comp=Z,12nm,1.2s						
MDT	Midelt	86.61	357	LR	LR	07 58 25.5	
	comp=Z,143nm,18.9s,baz=184,slow=33						
URZ	Urewera	88.00	179	LR	LR	07 59 19.6	
	comp=Z,152nm,21.4s,baz=225,slow=33						
STKA	Stephens Creek	88.62	149	P	P	07 23 56.4	-1.7
PSA00	Pilbara Seismi	89.42	127	P	P	07 23 59.3	-2.7
PSA00				IAmb	IAmb	07 24 04.1	
	comp=Z,4.2nm,0.9s						
SJG	San Juan	90.56	301	LR	LR	08 01 38.2	
	comp=Z,117nm,19.5s,baz=150,slow=34						
IDI	Anoyia	91.92	21	LR	LR	08 05 50.7	
	comp=Z,80nm,19.7s,baz=232,slow=36						
VAE	Valguarnera	92.25	13	LR	LR	08 03 51.8	
	comp=Z,83nm,18.5s,baz=326,slow=34						
MMAI	Mount Meron Ar	92.46	30	LR	LR	08 04 49.4	
	comp=Z,163nm,19.2s,baz=26,slow=35						
ESDC	Sonseca Array	93.43	358	LR	LR	08 03 42.1	
	comp=Z,57nm,18.8s,baz=208,slow=34						
ASAR	Alice Springs	93.56	140	P	P	07 24 21.2	+0.1
	comp=Z,0.6nm,0.9s,baz=205,slow=4.1,SNR=2.6						
TBI	Tubuai	98.05	210	eLR	LR	07 56 31.0	
	comp=Z,160nm,24.2s						
BRTR	Keskin Array B	98.24	27	LR	LR	08 08 50.3	
	comp=Z,126nm,21.3s,baz=197,slow=35						
DZM	Mont Dzumac	103.43	169	eLR	LR	07 59 14.1	
	comp=Z,219nm,20.8s						
TAOE	Nuku Hiva Isla	108.24	223	eLR	LR	08 01 11.2	
	comp=Z,194nm,31.5s						
YKA	Yellowknife Ar	145.39	311	PKPbc	PKPbc	07 30 41.0	-0.5
	comp=Z,6.2nm,0.9s,baz=106,slow=3.4,SNR=25						
YKA	Yellowknife Ar	145.39	311		PKPbc	07 30 41.2	-0.3
A36M	Sachs Harbour	150.44	328	PKPdf	PKPdf	07 30 50.4	+0.8
A36M					PKiKP	07 30 56.0	+0.3
A36M				PKPab	PKPab	07 31 03.3	+1.8
ILAR	Eielson Array	159.70	315	PKPab	PKPab	07 31 41.6	+0.3
	comp=Z,0.5nm,1.0s,baz=90,slow=2.7,SNR=2.8						

*IDC **01** 07:33:35.4±0.7, 35°.85N×68°.85E, h0km, mb4.2/19, mb1 4.4/25, mb1mx4.2/41, mbtmp4.3/25, ML4.2/5, MS3.5/23, Ms1 3.5/23, ms1mx3.3/87, Error ellipse: s-maj=15.1km s-min=12.7km az=24.0*
*MOS **01** 07:33:40.2±1.3, 36°.15N×68°.86E, h40km, mb4.5/17, Error ellipse: s-maj=7.5km s-min=4.1km az=76.2*
*BJI **01** 07:33:40.3±0.0, 36°.33N×68°.59E, h53km, mb4.4/32, mB4.9/20, ML4.3/2, Ms4.0/9, Ms7 3.8/10*
*NEIC **01** 07:33:42.0±2.2, 36°.02N±0°.05×68°.71E±0°.07, h35km±5km, mb4.5/36, Error ellipse: s-maj=8.5km s-min=6.5km az=73.0*
*NNC **01** 07:33:41.4±1.4, 36°.16N×68°.69E, h54km±19km, mb4.5, mpv4.7, Error ellipse: s-maj=13.2km s-min=6.9km az=159.0*
ISC 01 07:33:40.9±0.3**, 36°.07N**±0°.04×**68°.80E**±0°.04**, h35km, n217, σ1s82**/231**, mb4.4**/47**, MS3.5**/19**, 17C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.54	173	PN	Pn	07 34 07.9	+1.9
KBL	Kabul	1.54	173	Pn	Pn	07 34 07.9	+1.9
CHGR	Chuyangaron	2.60	6	PN	Pn	07 34 23.3	+2.7
CHGR	Chuyangaron	2.60	6		Pn	07 34 23.3	+2.7
GAR	Garm	3.17	22		Pn	07 34 31.4	+3.1
CEP	Cherat	3.40	130	P	Pn	07 34 35.5	+4.0
CEP				S	Sn	07 35 16.0	+5.4
THW	Thamme Wali	4.07	142	P	Pn	07 34 43.3	+2.6
NIL	Nilore	4.38	122	PN	Pn	07 34 48.5	+3.5
NIL	Nilore	4.38	122	Pn	Pn	07 34 48.5	+3.5
CHCP	Chirah Chowk	4.38	122	P	Pn	07 34 48.5	+3.5
TAS	Tashkent	5.26	4	PN	Pn	07 34 59.0	+1.9
TAS	Tashkent	5.26	4	Pn	Pn	07 34 59.0	+1.9
JMU	Jammu	6.05	122	eP	Pn	07 35 28.2	+20
JMU				eS	Sn	07 36 16.9	+1.1
KSH	Kashi	6.64	57	P	Pn	07 35 14.7	-1.4
KSH				S	Sn	07 36 25.0	-5.6
KSH				pmax	pmax		
	comp=Z,45nm,0.9s						
KSH				smax	smax		
	comp=N,370nm,0.6s						
KSH				smax	smax		
	comp=E,210nm,0.8s						
BRLS	Boroldays	7.00	6	ePN	Pn	07 35 18.7	-2.2
BRLS	Boroldays	7.00	6	eP	Pn	07 35 18.8	-2.2
	baz=4.5						
AML	Almayashu	7.15	31	P	Pn	07 35 25.1	+1.8
	SNR=120						
KKAR	Karatay Array	7.15	10	PN	Pn	07 35 24.7	+1.7
KKAR	Karatay Array	7.15	10	Pn	Pn	07 35 24.7	+1.7
KK09	Karatay Array	7.17	10	⇑Pn	Pn	07 35 23.6	+0.4
	33nm,0.8s						
KK09				⇑Sn	Sn	07 36 43.2	-0.1
	42nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DHRM	DHARAMSHALA	7.29	119	eP	Pn	07 35 26.9	+1.8
DHRM				eS	Sn	07 36 47.9	+1.2
DHRM				IAML		07 36 52.5	
	comp=E,306nm,0.0s						
UCH	Uchtor	7.58	34	P	Pn	07 35 31.2	+1.9
	SNR=68						
EKS2	Erkin-Say	7.63	29	P	Pn	07 35 31.9	+2.3
	SNR=13						
AAK	Ala-Archa	7.90	32	Pn	Pn	07 35 35.3	+1.8
	comp=E,6.8nm,0.3s,baz=203,slow=8.3,SNR=61						
AAK				LR	LR	07 39 17.8	
	comp=E,544nm,18.6s,baz=216,slow=42						
AAK	Ala-Archa	7.90	32	ceP	Pn	07 35 35.2	+1.8
AAK				pmax	pmax		
	comp=Z,32nm,0.6s						
AAK	Ala-Archa	7.90	32		Pn	07 35 35.4	+2.0
KBK	Karagaybulak	8.12	34	P	Pn	07 35 38.9	+2.5
	SNR=15						
CHMS	Chumysh	8.31	32	P	Pn	07 35 40.4	+1.5
	SNR=21						
USP	Ospenovka	8.42	30	P	Pn	07 35 41.5	+1.1
	SNR=21						
ULHL	Ulahol	8.45	41	P	Pn	07 35 43.1	+2.1
	SNR=11						
SMLA	Simla	8.54	123	eP	Pn	07 35 42.8	+0.8
SMLA				eS	Sn	07 37 17.1	0.0
SMLA				IAML		07 37 18.1	
	comp=E,185nm,0.7s						
SMLA				IAML		07 37 18.8	
	comp=N,140nm,0.3s						
TKM2	Tokmak 2	8.62	35	P	Pn	07 35 44.9	+1.5
	SNR=24						
TKM2	Tokmak 2	8.62	35	P	Pn	07 35 43.8	+0.4
TKM2				S	Sn	07 37 19.3	-0.2
TKM2	Tokmak 2	8.62	35	⇑Pn	Pn	07 35 43.8	+0.4
	comp=N,19nm,0.5s						
TKM2				⇑Sn	Sn	07 37 19.3	-0.2
	comp=N,35nm,0.7s						
SGDS	Sogindy	8.63	30	iP	Pn	07 35 44.1	+0.8
	comp=N,4.8nm,0.7s,baz=29						
GEYT	Alibeck	8.75	285	Pn	Pn	07 35 44.1	-0.8
	comp=N,4.8nm,0.3s,baz=119,slow=12,SNR=24						
GEYT				Sn	Sn	07 37 18.4	-3.9
	comp=N,1.7nm,0.3s,baz=85,slow=18,SNR=5.2						
GEYT				LR	LR	07 40 14.8	
	comp=N,278nm,18.6s,baz=126,slow=45						
GEYT	Alibeck	8.75	285		Pn	07 35 45.5	+0.6
GYA0	ALIBECK ARRAY	8.75	285	P	Pn	07 35 44.5	-0.4
GYA0				S	Sn	07 37 19.6	-2.7
GYA0B	ALIBECK ARRAY	8.75	285		Pn	07 35 45.5	+0.5
GYA0B	ALIBECK ARRAY	8.75	285	⇓Pn	Pn	07 35 44.5	-0.5
GYA0B				⇓Sn	Sn	07 37 19.6	-2.8
TARG	Taragay, Kyrgy	9.01	48	P	Pn	07 35 49.7	+0.9
TARG				pmax	pmax		
	comp=Z,28nm,0.6s						
TARG	Taragay, Kyrgy	9.01	48		Pn	07 35 50.2	+1.3
TNSS	Tian-Shan	9.38	40	eP	Pn	07 35 54.1	+0.2
	baz=39						
AAA	Alma-Ata	9.48	39	eP	Pn	07 35 56.3	+1.3
AAA	Alma-Ata	9.48	39	eP	Pn	07 35 56.4	+1.3
	baz=38						
MDOK	Medeo	9.52	39	eP	Pn	07 35 56.0	+0.5
MDOK	Medeo	9.52	39	eP	Pn	07 35 56.1	+0.5
	baz=39						
MDOK	Medeo	9.52	39	⇓Pn	Pn	07 35 55.9	+0.3
	comp=Z,33nm,0.7s						
KUU	Kurty	9.72	34	iP	Pn	07 35 58.8	+0.6
KUU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KUU	Kurty	9.72	34	iP	Pn	07 35 58.9	+0.6
	comp=Z,4.9nm,0.9s,baz=34						
CHKK	Chushkaly	9.99	36	eP	Pn	07 36 02.6	+0.7
	baz=36						
SATY	Saty	10.18	44	eP	Pn	07 36 04.6	0.0
SATY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SATY	Saty	10.18	44	eP	Pn	07 36 04.6	0.0
	comp=Z,1.6nm,0.9s,baz=43						
NDI	New Delhi	10.23	134	eP	Pn	07 36 03.5	-1.8
NDI				eP	Pn	07 36 03.5	-1.8
NDI				eP	Pn	07 36 05.8	+0.5
NDI				eS	Sn	07 37 53.4	-5.4
NDI				eS	S	07 37 54.0	-4.8
NDI				eS	S	07 37 54.0	-4.8
UZB	Uzynbulak	10.58	45	eP	Pn	07 36 10.2	+0.1
UZB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
UZB	Uzynbulak	10.58	45	eP	Pn	07 36 10.3	+0.1
	comp=Z,2.7nm,0.9s,baz=44						
KPKS	Kokpek	10.60	43	eP	Pn	07 36 10.3	0.0
KPKS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KPKS	Kokpek	10.60	43	eP	Pn	07 36 10.4	0.0
	comp=Z,2.2nm,0.8s,baz=42						
AJM	Ajmer	10.78	151	eP	Pn	07 36 13.1	+0.3
SHLS	Shalkode	10.84	46	eP	Pn	07 36 16.2	+2.5
SHLS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SHLS	Shalkode	10.84	46	eP	Pn	07 36 16.2	+2.5
	comp=Z,2.7nm,0.7s,baz=46						
PDGK	Podgornoye	10.96	45	P	Pn	07 36 14.8	-0.5
PDGK				S	Sn	07 38 15.3	-1.5
PDGK	Podgornoye	10.96	45	⇑Pn	Pn	07 36 14.8	-0.5
	comp=Z,7.0nm,0.5s						
PDGK				⇑Sn	Sn	07 38 17.2	+0.4
	comp=Z,26nm,1.3s						
OTUK	Ortayu	12.45	11	P	Pn	07 36 34.8	-0.6
OTUK				S	Sn	07 38 47.7	-5.1
OTUK	Ortayu	12.45	11	⇓Pn	Pn	07 36 34.9	-0.6
	comp=Z,14nm,0.9s						
OTUK				⇓Sn	Sn	07 38 52.1	-0.7
	comp=Z,39nm,0.8s						
BRZS	Berezniki	14.19	10	eP	Pn	07 36 59.1	-0.1
BRZS	Berezniki	14.19	10	eP	Pn	07 36 59.1	-0.1
	baz=9.8						
PYUN	Piuthan	14.40	119	eP	Pn	07 36 59.2	-3.3
MAKZ	Makanchi	14.56	39	P	Pn	07 37 03.2	-1.2
MAKZ	Makanchi	14.56	39		Pn	07 37 03.2	-1.2
MAKZ	Makanchi	14.56	39	⇑Pn	Pn	07 37 03.8	-0.6
	comp=Z,9.1nm,0.6s						
AB31	Akbulak array	14.69	337	P	Pn	07 37 03.8	-2.1
AB31				S	Sn	07 39 38.9	-8.5
AB31	Akbulak array	14.69	337	Pn	Pn	07 37 03.9	-2.1
	comp=Z,9.6nm,0.4s,baz=158,slow=13,SNR=526						
AB31				Sn	Sn	07 39 43.7	-3.7
	comp=Z,17nm,0.8s,baz=160,slow=23,SNR=6.3						
ABKAR	Akbulak array	14.69	337	Pn	Pn	07 37 04.5	-1.5
ABKAR	Akbulak array	14.69	337	Pn	Pn	07 37 04.7	-1.3
MK31	Makanchi Array	14.71	39	iP	Pn	07 37 04.5	-1.9
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	Makanchi Array	14.71	39	Pn	Pn	07 37 05.7	-0.7
MK31	Makanchi Array	14.71	39	⇑Pn	Pn	07 37 05.3	-1.1
	comp=Z,3.2nm,0.5s,baz=223,slow=13,SNR=28						
MKAR	Makanchi Array	14.71	39	Pn	Pn	07 37 05.1	-1.3
	comp=Z,0.1nm,0.3s,baz=229,slow=12,SNR=27						
MKAR				LR	LR	07 43 21.7	
	comp=Z,218nm,18.4s,baz=230,slow=40						
MKAR	Makanchi Array	14.71	39	P	Pn	07 37 05.7	-0.7
MKAR	Makanchi Array	14.71	39	Pn	Pn	07 37 05.7	-0.7
DANN	Dangsing	14.81	117	eP	Pn	07 37 04.7	-3.3
KOLN	Koldanda	15.03	119	eP	Pn	07 37 07.9	-3.0
WSAR	Wadi Sarin	15.53	217	LR	LR	07 44 42.4	
	comp=Z,58nm,18.4s,baz=46,slow=43						
GKN	Gorkha	15.64	116	eP	Pn	07 37 16.1	-2.7
KURBB	Kurchatov Arra	16.16	23	Pn	Pn	07 37 21.7	-3.4
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=14						
KURBB	Kurchatov Arra	16.16	23	⇑Pn	Pn	07 37 21.7	-3.4
	comp=Z,21nm,0.7s						
DMN	Daman	16.20	117	eP	Pn	07 37 23.4	-2.8
KURK	Kurchatov	16.26	23	iP	P	07 37 28.8	-0.4
KURK	Kurchatov	16.26	23	P	P	07 37 29.4	+0.2
KURK	Kurchatov	16.26	23	⇑Pn	Pn	07 37 22.9	-3.6
	comp=Z,10nm,0.8s						
AKTO	Aktyubinsk	16.34	335	Pn	Pn	07 37 26.9	-0.6
	comp=Z,1.7nm,0.3s,baz=131,slow=12,SNR=27						
AKTO				Sn	Sn	07 40 21.9	-5.7
	comp=Z,0.7nm,0.3s,baz=160,slow=22,SNR=4.5						
AKTO				LR	LR	07 44 40.4	
	comp=Z,166nm,18.5s,baz=149,slow=40						
WMQ	Urumqi	16.41	56	eP	P	07 37 29.9	-1.0
WMQ				pP	pP	07 37 41.1	+0.7
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.9s						
WMQ				LR	LR		
	comp=Z,210nm,17.3s						
PKIN	Phulchoki	16.43	116	eP	Pn	07 37 26.7	-2.4
PKI	Pulchoki	16.45	116	eP	Pn	07 37 26.9	-2.4
SEM	Semipalatinsk	16.55	26	eP	Pn	07 37 31.0	+0.6
SEM				pmax	pmax		
	comp=Z,18nm,1.0s						
SEM	Semipalatinsk	16.55	26	eP	Pn	07 37 31.0	+0.6
	comp=Z,18nm,1.0s,baz=26						
GUN	Gumba	16.60	115	eP	Pn	07 37 29.9	-1.4
JIRN	Jiri	16.97	115	eP	Pn	07 37 34.8	-1.1
BVAR	Borovoye Array	16.99	3	Pn	Pn	07 37 34.1	-1.6
	comp=Z,1.1nm,0.3s,baz=203,slow=25,SNR=12						
BRVK	Borovoye	17.02	3	iP	P	07 37 37.1	-0.5
BRVK	Borovoye	17.02	3	P	Pn	07 37 35.5	-0.5
BRVK	Borovoye	17.02	3	⇓Pn	Pn	07 37 34.5	-1.5
	comp=Z,12nm,0.8s						
BRVK				⇓Sn	Sn	07 40 42.3	-1.7
	comp=Z,6.4nm,0.8s						
SEKA	Sheki	17.63	293	P	Pn	07 37 41.1	-2.6
RAMN	Ramite	17.67	116	eP	Pn	07 37 43.0	-1.5
TAPN	Taplejung	18.26	113	eP	Pn	07 37 51.9	+0.1
ODAN	Odare	18.30	115	eP	Pn	07 37 52.0	-0.2
GNI	Garni	19.35	289	iP	Pn	07 38 04.2	-0.6
GNI				pmax	pmax		
	comp=Z,15nm,0.7s						
LSA	Lhasa	19.79	102	P	Pn	07 38 09.8	-0.6
LSA				pmax	pmax		
	comp=Z,19nm,0.7s						
LSA	Lhasa	19.79	102	P	Pn	07 38 09.8	-0.6
LSA				IAmb	IAmb	07 38 16.4	
	comp=Z,19nm,0.7s						
LSA	Lhasa	19.79	102	P	Pn	07 38 10.3	-0.1
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEI	Tsey	20.33	297	eP	Pn	07 38 24.0	+7.6
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HYBB	Hyderabad (bro	20.49	152	eP	P	07 38 15.6	-0.3
GOMU	GeErMu	21.00	82	P	Pn	07 38 23.5	-0.9
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,88nm,4.8s						
ZAA0	Zalesovo Array	21.07	27	P	P	07 38 22.0	+0.1
ZAA0	Zalesovo Array	21.07	27	⇓P	P	07 38 21.3	-0.6
	comp=Z,3.9nm,0.7s						
ZALV	Zalesovo Beam	21.07	27	P	P	07 38 22.0	+0.1
	comp=Z,26nm,0.7s,baz=221,slow=10.0,SNR=102						
ZALV				LR	LR	07 48 00.3	
	comp=Z,69nm,19.7s,baz=228,slow=41						
KBZ	Khabaz	21.24	299	P	P	07 38 24.1	+0.4
	comp=Z,1.6nm,0.9s,baz=117,slow=8.6,SNR=3.7						
KBZ				LR	LR	07 49 25.6	
	comp=Z,86nm,20.0s,baz=125,slow=44						
KBZ	Khabaz	21.24	299	ceP	P	07 38 24.2	+0.5
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIV	Kislovodsk	21.44	300	eP	P	07 38 26.6	+0.6
KIV				eS	S	07 42 23.6	+1.6
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,85nm,14.0s						
SVE	Sverdlovsk	21.48	348	eP	P	07 38 27.9	+1.6
SVE				eS	S	07 42 20.8	-1.6
ARU	Arti	21.52	344	P	P	07 38 27.9	+1.3
	comp=Z,5.2nm,0.5s,baz=187,slow=3.4,SNR=24						
ARU				S	S	07 42 22.3	-0.8
	comp=Z,1.4nm,0.4s,baz=122,slow=23,SNR=4.1						
ARU				LR	LR	07 47 37.6	
	comp=Z,72nm,21.4s,baz=156,slow=39						
ARU	Arti	21.52	344	ceP	P	07 38 28.5	+1.9
ARU				pmax	pmax		
	comp=Z,16nm,0.6s						
ARU	Arti	21.52	344	P	P	07 38 28.6	+1.9
ARU				IAmb	IAmb	07 38 40.9	
	comp=Z,19nm,0.7s						
BELG	Belogornoye	22.16	324	P	P	07 38 34.6	+1.1
	comp=Z,24nm,0.8s,baz=303,slow=1.7,SNR=7.6						
BELG	Belogornoye	22.16	324	iP	P	07 38 34.5	+1.1
BELG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	Gaotai	24.69	73	⇑P	P	07 38 59.7	+1.0
KIRV	Kirov	25.89	337	LR	LR	07 50 21.1	
	comp=Z,101nm,19.4s,baz=155,slow=38						
VORR	Voronezh	26.19	316	eP	P	07 39 06.5	-5.5
BRTR	Keskin Array B	27.88	288	P	P	07 39 28.6	+1.1
BRTR	Keskin Array B	27.88	288	P	P	07 39 28.6	+1.1
LZH	Lanzhou	28.23	79	eP	P	07 39 32.5	+1.8
LZH				pP	pP	07 39 39.9	-1.2
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
ZAK	Zakamensk	28.61	49	eP	P	07 39 35.0	+1.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
OBN	Obninsk	29.13	321	LR	LR	07 53 34.6	
	comp=Z,39nm,19.4s,baz=350,slow=41						
PRGR	Permogore	29.46	338	eP	P	07 39 40.5	-0.6
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PZH	PanZhiHua	29.60	99	P	P	07 39 43.4	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
SONM	Songino Array	30.04	55	P	P	07 39 47.5	+0.8
	comp=Z,4.4nm,0.8s,baz=254,slow=10,SNR=20						
SONM				LR	LR	07 53 44.3	
	comp=Z,152nm,20.6s,baz=234,slow=40						
SONM	Songino Array	30.04	55	P	P	07 39 48.4	+1.8
SONM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	Songino Array	30.04	55	P	P	07 39 48.4	+1.8
ULN	Ulaanbaatar	30.48	55	iP	P	07 39 49.7	-0.9
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	Ulaanbaatar	30.48	55	P	P	07 39 52.1	+1.6
ULN				IAmb	IAmb	07 39 53.5	
	comp=Z,4.3nm,0.8s						
CMAR	Chiang Mai Arr	31.84	115	P	P	07 40 02.4	-0.2
	comp=Z,4.2nm,0.3s,baz=292,slow=8.3,SNR=7.6						
CMAR				LR	LR	07 56 50.8	
	comp=Z,42nm,18.7s,baz=290,slow=44						
CMAR	Chiang Mai Arr	31.84	115	P	P	07 40 03.3	+0.7
CMAR	Chiang Mai Arr	31.84	115	P	P	07 40 03.3	+0.7
AKASG	Malin Array Be	31.84	310	P	P	07 40 03.8	+1.4
	comp=Z,1.4nm,0.5s,baz=85,slow=7.3,SNR=19						
AKASG				LR	LR	07 55 06.8	
	comp=Z,100nm,18.1s,baz=136,slow=40						
AKASG	Malin Array Be	31.84	310	iP	P	07 40 03.7	+1.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	31.84	310	P	P	07 40 03.9	+1.6
AKBB	Malin Array Si	31.84	310	P	P	07 40 03.3	+1.0
AKBB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKBB	Malin Array Si	31.84	310	P	P	07 40 03.3	+1.0
MLR	Muntele Rosu	33.45	300	P	P	07 40 19.6	+3.0
MLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLR	Muntele Rosu	33.45	300	P	P	07 40 19.6	+3.0
MLR				IAmb	IAmb	07 40 30.4	
	comp=Z,6.3nm,0.9s						
HHC	Hu-ho-hao-te	33.58	69	eP	P	07 40 20.2	+2.5
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,260nm,4.9s						
BURAR	Bucovina Array	34.04	304	P	P	07 40 23.0	+1.4
NRIK	Noril'sk	34.89	12	P	P	07 40 29.9	+1.3
	comp=Z,3.6nm,0.5s,baz=189,slow=4.7,SNR=10						
NRIK				LR	LR	07 56 16.2	
	comp=Z,44nm,20.5s,baz=160,slow=39						
NRIK	Noril'sk	34.89	12	ceP	P	07 40 29.2	+0.6
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NRIK	Noril'sk	34.89	12	P	P	07 40 30.2	+1.6
FINES	FINESS Array B	36.87	327	P	P	07 40 46.8	+1.2
	comp=Z,2.5nm,0.6s,baz=114,slow=9.8,SNR=8.0						
FINES	FINESS Array B	36.87	327	iP	P	07 40 47.2	+1.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	36.87	327	P	P	07 40 46.9	+1.3
ARCES	ARCESS Array B	40.88	338	P	P	07 41 20.7	+1.6
	comp=Z,6.6nm,0.9s,baz=122,slow=8.7,SNR=6.9						
ARCES	ARCESS Array B	40.88	338	P	P	07 41 21.9	+2.7
NJ2	Nanjing	41.30	81	eP	P	07 41 23.2	+0.2
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HFS	Hagfors	42.32	322	LR	LR	08 02 38.3	
	comp=Z,144nm,18.6s,baz=124,slow=41						
CN2	Changchun	43.38	62	eP	P	07 41 37.3	-2.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NC303	NORSAR Array S	43.62	324	P	P	07 41 41.9	+0.4
NC303				IAmb	IAmb	07 41 49.7	
	comp=Z,11nm,1.1s						
NB2	NORSAR Subarra	43.66	323	P	P	07 41 42.3	+0.4
	comp=Z,1.4nm,0.5s,baz=98,slow=8.6						
NOA	NORSAR Array B	43.66	323	P	P	07 41 42.8	+0.8
	comp=Z,2.1nm,0.7s,baz=99,slow=8.0,SNR=8.4						
NOA				LR	LR	08 03 13.2	
	comp=Z,68nm,18.4s,baz=110,slow=40						
KSRS	Korea Array	46.70	70	P	P	07 42 06.0	-0.2
	comp=Z,1.5nm,0.6s,baz=270,slow=7.4,SNR=5.2						
KSRS				LR	LR	08 04 16.3	
	comp=Z,81nm,18.3s,baz=325,slow=39						
KLR	Kul'dur	46.83	53	iP	P	07 42 05.6	-1.5
TIXI	Tiksi	46.84	22	LR	LR	08 05 02.9	
	comp=Z,35nm,19.7s,baz=314,slow=40						
TIXI	Tiksi	46.84	22	ceP	P	07 42 06.9	0.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	Tiksi	46.84	22	P	P	07 42 07.5	+0.6
USRK	Ussuriysk Ar.	47.93	60	LR	LR	08 04 47.2	
	comp=Z,97nm,20.0s,baz=328,slow=39						
DAG	Danmarks Havn	54.64	344	P	P	07 43 07.0	+1.4
DAG				pmax	pmax		
	comp=Z,13nm,0.9s						
ASAJ	Asahikawa	55.29	57	LR	LR	08 09 00.1	
	comp=Z,79nm,20.3s,baz=336,slow=38						
MA2	Magadan	55.79	38	ceP	P	07 43 14.5	+0.4
MA2				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ESDC	Sonseca Array	56.08	297	P	P	07 43 17.5	+0.9
	comp=Z,0.9nm,0.6s,baz=64,slow=8.1,SNR=7.3						
ESDC	Sonseca Array	56.08	297	P	P	07 43 16.1	-0.5
ESDC				IAmb	IAmb	07 43 27.4	
	comp=Z,6.6nm,1.5s						
DAV	Davao City (W)	59.19	105	P	P	07 43 39.1	+0.4
TOLI2	Tolitoli	59.32	114	P	P	07 43 40.0	+0.4
EUNU	Eureka	63.30	355	P	P	07 44 08.0	+2.3
EUNU				IAmb	IAmb	07 44 21.6	
	comp=Z,3.4nm,1.2s						
TORD	Torodi Ar. Bea	63.93	268	P	P	07 44 10.3	-0.3
	comp=Z,1.9nm,0.4s,baz=46,slow=6.1,SNR=36						
TORD	Torodi Ar. Bea	63.93	268	P	P	07 44 10.4	-0.3
SFJD	Kangerlussuaq	67.51	338	LR	LR	08 13 22.5	
	comp=Z,80nm,18.1s,baz=144,slow=35						
KOWA	Kowa	67.81	272	P	P	07 44 35.6	-0.1
KOWA				IAmb	IAmb	07 44 36.5	
	comp=Z,3.8nm,0.8s						
TOLK	Toolik Lake Re	71.78	14	P	P	07 45 00.4	+1.1
TOLK				IAmb	IAmb	07 45 10.9	
	comp=Z,3.8nm,0.8s						
A36M	Sachs Harbour	71.79	5	P	P	07 45 00.0	+0.8
A36M				IAmb	IAmb	07 45 10.7	
	comp=Z,4.6nm,0.8s						
IMAR	Indian Mountai	73.11	17	P	P	07 45 08.6	+1.4
LBTB	Lobatse	73.18	220	P	P	07 45 08.6	+0.3
LBTB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LBTB	Lobatse	73.18	220	P	P	07 45 08.6	+0.3
LBTB				IAmb	IAmb	07 45 15.7	
	comp=Z,9.4nm,1.4s						
BMAR	Burnt Mountain	73.77	13	P	P	07 45 12.9	+1.8
C36M	Paulatuk	74.47	5	P	P	07 45 15.5	+0.4
C36M				IAmb	IAmb	07 45 25.6	
	comp=Z,5.2nm,0.8s						
INK	Inuvik	74.60	8	P	P	07 45 17.3	+1.4
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	Inuvik	74.60	8	P	P	07 45 17.3	+1.4
FRB	Frobisher Bay	74.93	342	LR	LR	08 22 51.0	
	comp=Z,45nm,18.1s,baz=202,slow=39						
PSA00	Pilbara Seismi	74.94	131	P	P	07 45 19.1	+0.6
PSA00				IAmb	IAmb	07 45 45.4	
	comp=Z,8.4nm,1.1s						
ILAR	Eielson Array	75.67	15	P	P	07 45 24.7	+2.6
	comp=Z,0.2nm,0.4s,baz=324,slow=6.2,SNR=5.0						
FITZ	Fitzroy Crossi	76.08	125	P	P	07 45 25.9	+0.8
KNRA	Kununurra	76.51	121	P	P	07 45 27.2	-0.3
YKA	Yellowknife Ar	81.74	2	P	P	07 45 55.5	0.0
	comp=Z,0.8nm,0.8s,baz=350,slow=5.5,SNR=15						
YKA	Yellowknife Ar	81.74	2	P	P	07 45 56.3	+0.8
WB0	Warramunga Arr	83.21	120	P	P	07 46 03.7	-0.1
WB0				IAmb	IAmb	07 46 16.2	
	comp=Z,2.5nm,0.9s						
WRA	Warramunga Arr	83.29	120	P	P	07 46 02.8	-1.4
	comp=Z,1.7nm,0.5s,baz=324,slow=4.7,SNR=39						
WRA	Warramunga Arr	83.29	120	P	P	07 46 04.2	0.0
WB2	Warramunga Arr	83.30	120	P	P	07 46 03.4	-0.9
WB2				IAmb	IAmb	07 46 13.5	
	comp=Z,5.2nm,1.2s						
WR0	Warramunga Arr	83.44	120	P	P	07 46 05.0	0.0
WR0				IAmb	IAmb	07 46 25.2	
	comp=Z,3.3nm,0.7s						
AS31	Alice Springs	85.48	123	P	P	07 46 14.5	-0.8
AS31				IAmb	IAmb	07 46 14.5	
	comp=Z,1.1nm,0.5s						
ASAR	Alice Springs	85.48	123	P	P	07 46 14.2	-1.1
	comp=Z,2.3nm,0.5s,baz=310,slow=5.0,SNR=53						
ASAR	Alice Springs	85.48	123	P	P	07 46 15.1	-0.2
ASAR	Alice Springs	85.48	123	P	P	07 46 15.1	-0.2
COEN	Coen	85.91	110	IAmb	IAmb	07 46 16.4	
	comp=Z,2.4nm,0.7s						
COEN				P	P	07 46 17.2	-0.3
FORT	Forrest	86.68	132	P	P	07 46 21.5	+0.6
NEW	Newport	95.88	4	LR	LR	08 35 37.8	
	comp=Z,48nm,18.4s,baz=113,slow=39						
STKA	Stephens Creek	95.98	125	P	P	07 47 02.9	-1.4
	comp=Z,0.8nm,0.8s,baz=334,slow=6.2,SNR=4.4						
PLCA	Paso Flores	148.01	249	PKPbc	PKPbc	07 53 23.1	+0.6
	comp=Z,1.1nm,0.7s,baz=131,slow=3.2,SNR=5.7						
PLCA	Paso Flores	148.01	249	PKIKP	PKPdf	07 53 17.9	-1.5
PLCA						07 53 23.9	
PLCA	Paso Flores	148.01	249		PKPdf	07 53 17.9	-1.5
PLCA				PKPbc	PKiKP	07 53 23.9	-0.5

IDC 01 07:49:43.7±2.5, 3°.15S×128°.65E, h0^{km}, mb3.0/2, mb1 3.2/3, mb1mx3.1/23, mbtmp3.0/3, ML2.6/1, Error ellipse: s-maj=182.7km s-min=30.3km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.59	162	P	Pn	07 53 49.8	-0.7
	0.0nm,0.3s,baz=345,slow=13,SNR=2.1						
ASAR	Alice Springs	21.02	166	P	P	07 54 29.7	+0.5
	0.2nm,0.3s,baz=342,slow=11,SNR=5.3						
MKAR	Makanchi Array	64.29	327	P	P	08 00 20.9	-0.1
	0.1nm,0.4s,baz=130,slow=7.4,SNR=1.7						

*IDC **01** 08:00:33.8±0.5, 47°.51S×99°.96E, h0^{km}, mb4.5/14, mb1 4.6/14, mb1mx4.5/24, mbtmp4.5/14, MS4.3/44, Ms1 4.3/44, ms1mx4.2/56, Error ellipse: s-maj=19.7km s-min=15.4km az=149.0*

*NEIC **01** 08:00:36.0±1.6, 47°.51S±0°.05×99°.8E±0°.1, h16^{km}±3^{km}, mb4.9/40, Error ellipse: s-maj=14.8km s-min=3.2km az=64.0*

*BJI **01** 08:00:37.5±0.0, 47°.07S×99°.86E, h9^{km}, mb4.7/24, mB5.1/13, Ms5.0/11, Ms7 4.7/12*

*GCMT **01** 08:00:39.0±0.2, 47°.47S±0°.01×99°.97E±0°.02, h21^{km}±1^{km}, MW5.2/114, Moment Tensor Solution. s57,c75; s114,c185; Duration: 1^{s}0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$0.72±.02; $M_{\phi\phi}$-0.65±.02; $M_{r\theta}$-0.08±.03; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$0.03±.03; Best double couple: $M_0$0.75300×10^{17} NP1:ϕ_s213.00000°, δ84.00000°, λ179.00000°. NP2:ϕ_s303.00000°, δ89.00000°, λ6.00000°. Principal axes: T 0.7880, Plg5.0000°, Azm168.0000°; N -0.0700, Plg84.0000°, Azm311.0000°; P -0.7180, Plg4.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:00:35.2±0.3**, 47°.58S**±0°.07×**99°.94E**±0°.08**, h11**km**, n148, σ1ˢ.17**/122**, mb4.8**/40**, MS4.4**/50**, 1C-1D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.53**	**45**	T	T	08 21 16.7	
	baz=214,slow=72,SNR=196						
H01W1	**Cape Leeuwin H**	**16.55**	**45**	T	T	08 21 23.8	
	baz=214,slow=72,SNR=96						
H01W3	**Cape Leeuwin H**	**16.55**	**45**	T	T	08 21 17.7	
	baz=214,slow=72,SNR=202						
CASY	**Casey**	**19.56**	**167**	P	**P**	**08 05 03.1**	**+0.5**
CASY				IAmb	IAmb	08 05 09.7	
	comp=Z,102nm,1.4s						
MORW	**Morawa**	**22.31**	**40**	P	**P**	**08 05 33.0**	**+0.4**
MORW				IAmb	IAmb	08 05 39.9	
	comp=Z,41nm,1.3s						
FORT	**Forrest**	**27.30**	**62**	P	**P**	**08 06 20.1**	**+0.4**
FORT				IAmb	IAmb	08 06 28.2	
	comp=Z,26nm,1.0s						
GIRL	**Giralia**	**27.40**	**30**	P	**P**	**08 06 20.2**	**-0.4**
MAW	**Mawson**	**27.52**	**210**	LR	LR	08 14 17.2	
	comp=Z,860nm,20.1s,baz=56,slow=30						
MAW	**Mawson**	**27.52**	**210**	P	**P**	**08 06 21.1**	**-0.3**
PSA00	**Pilbara Seismi**	**30.51**	**39**	P	**P**	**08 06 49.1**	**+0.8**
BBOO	**Buckleboo**	**30.97**	**75**	P	**P**	**08 06 51.5**	**-0.8**
BBOO	**Buckleboo**	**30.97**	**75**	P	**P**	**08 06 51.9**	**-0.4**
TWOA	**Tennyson Woods**	**31.29**	**81**	P	**P**	**08 06 55.0**	**-0.1**
WRKA	**Warakurna**	**31.77**	**55**	P	**P**	**08 06 59.6**	**+0.2**
WHYH	**Whyalla**	**31.82**	**77**	P	**P**	**08 07 00.1**	**+0.3**
NAPP	**Napperby**	**32.11**	**77**	P	**P**	**08 07 02.4**	**+0.1**
HTT	**Hallett**	**32.47**	**78**	P	**P**	**08 07 05.6**	**0.0**
ARPS	**Mount Arapiles**	**32.51**	**86**	P	**P**	**08 07 05.9**	**+0.1**
TAU	**Tasmania Unive**	**33.27**	**100**	P	**P**	**08 07 12.5**	**+0.1**
LCRK	**Leigh Creek**	**33.90**	**74**	P	**P**	**08 07 17.4**	**-0.5**
TOO	**Toolangi**	**34.56**	**90**	P	**P**	**08 07 23.9**	**+0.2**
TOO				IAmb	IAmb	08 07 24.6	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**35.20**	**79**	P	**P**	**08 07 28.5**	**-0.7**
	comp=Z,15nm,0.8s,baz=222,slow=8.6,SNR=29						
STKA				LR	LR	08 19 03.0	
	comp=Z,835nm,21.3s,baz=216,slow=32						
STKA	**Stephens Creek**	**35.20**	**79**	P	**P**	**08 07 28.8**	**-0.5**
STKA	**Stephens Creek**	**35.20**	**79**	P	**P**	**08 07 29.1**	**-0.1**
ASAR	**Alice Springs**	**36.04**	**61**	P	**P**	**08 07 35.9**	**-0.7**
	comp=Z,7.5nm,1.0s,baz=217,slow=7.3,SNR=30						
ASAR				PcP	**PcP**	**08 10 04.5**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=208,slow=2.6,SNR=4.1						
ASAR				LR	LR	08 20 40.2	
	comp=Z,627nm,18.3s,baz=222,slow=34						
ASAR	**Alice Springs**	**36.04**	**61**	P	**P**	**08 07 35.4**	**-1.2**
AS31	**Alice Springs**	**36.04**	**61**	P	**P**	**08 07 35.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**36.15**	**44**	LR	LR	08 21 43.0	
	comp=Z,481nm,18.1s,baz=222,slow=35						
FITZ	**Fitzroy Crossi**	**36.15**	**44**	P	**P**	**08 07 37.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**36.15**	**44**	P	**P**	**08 07 38.2**	**+0.7**
MCQ	**Macquarie Isla**	**36.76**	**123**	P	**P**	**08 07 42.0**	**-0.3**
XMIS	**Christmas Isla**	**37.29**	**9**	P	**P**	**08 07 45.3**	**-1.9**
INKA	**Innaminka**	**37.35**	**73**	P	**P**	**08 07 48.2**	**+0.6**
VNDA	**Vanda**	**38.03**	**162**	P	**P**	**08 07 53.3**	**+0.5**
	comp=Z,32nm,1.2s,baz=285,slow=9.1,SNR=5.6						
VNDA				LR	LR	08 22 03.7	
	comp=Z,1μm,20.8s,baz=294,slow=34						
VNDA	**Vanda**	**38.03**	**162**	P	**P**	**08 07 53.6**	**+0.8**
CMSA	**Cobar Meteorol**	**38.15**	**82**	P	**P**	**08 07 53.6**	**-0.7**
WRA	**Warramunga Arr**	**39.19**	**57**	P	**P**	**08 08 02.6**	**-0.6**
	comp=Z,6.9nm,1.0s,baz=220,slow=9.1,SNR=33						
WRA				PcP	**PcP**	**08 10 11.1**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=214,slow=2.6,SNR=2.2						
WRA				LR	LR	08 22 15.9	
	comp=Z,943nm,21.3s,baz=212,slow=33						
WRA	**Warramunga Arr**	**39.19**	**57**	P	**P**	**08 08 03.3**	**+0.1**
WB2	**Warramunga Arr**	**39.20**	**57**	P	**P**	**08 08 02.7**	**-0.5**
WB2				IAmb	IAmb	08 08 10.3	
	comp=Z,37nm,1.4s						
WRAB	**Tennant Creek**	**39.20**	**57**	P	**P**	**08 08 03.2**	**-0.1**
WRAB				IAmb	IAmb	08 08 10.4	
	comp=Z,46nm,1.4s						
WRAB	**Tennant Creek**	**39.20**	**57**	P	**P**	**08 08 02.8**	**-0.5**
WR0	**Warramunga Arr**	**39.29**	**58**	P	**P**	**08 08 04.4**	**+0.3**
WB0	**Warramunga Arr**	**39.36**	**57**	P	**P**	**08 08 04.0**	**-0.6**
WB0				IAmb	IAmb	08 08 11.5	
	comp=Z,31nm,1.4s						
KNRA	**Kununurra**	**39.74**	**47**	P	**P**	**08 08 06.7**	**-1.1**
QLP	**Quilpie**	**40.40**	**75**	P	**P**	**08 08 13.5**	**+0.3**
LEM	**Lembang**	**41.14**	**12**	LR	LR	08 22 18.1	
	comp=Z,887nm,20.0s,baz=186,slow=32						
QIS	**Mount Isa**	**41.82**	**64**	P	**P**	**08 08 24.6**	**-0.3**
QSPA	**South Pole Qui**	**42.56**	**180**	P	**P**	**08 08 30.7**	**0.0**
QSPA				IAmb	IAmb	08 08 33.7	
	comp=Z,36nm,1.0s						
ARMA	**Armidale**	**42.83**	**86**	P	**P**	**08 08 33.5**	**+0.3**
MTN	**Manton Dam**	**43.33**	**47**	P	**P**	**08 08 36.2**	**-1.1**
MTN				IAmb	IAmb	08 08 44.5	
	comp=Z,22nm,1.4s						
MTN	**Manton Dam**	**43.33**	**47**	P	**P**	**08 08 36.5**	**-0.8**
RMQ	**Roma**	**43.45**	**79**	P	**P**	**08 08 38.7**	**+0.5**
KDU	**Kakadu**	**44.14**	**49**	P	**P**	**08 08 43.6**	**-0.2**
KAPI	**Kappang**	**45.70**	**28**	LR	LR	08 25 59.7	
	comp=Z,166nm,19.8s,baz=214,slow=33						
EIDS	**Eidsvold**	**45.74**	**80**	P	**P**	**08 08 56.1**	**-0.4**
EIDS				IAmb	IAmb	08 08 57.2	
	comp=Z,28nm,1.2s						
H08S2	**Diego Garcia H**	**46.15**	**321**	T	T	08 58 19.2	
	baz=154,slow=76						
H08S1	**Diego Carcia H**	**46.16**	**321**	T	T	08 58 26.4	
	baz=154,slow=76						
H08S3	**Diego Garcia H**	**46.17**	**321**	T	T	08 58 24.0	
	baz=154,slow=76						
CTA	**Charters Tower**	**46.31**	**70**	LR	LR	08 27 06.9	
	comp=Z,391nm,18.6s,baz=220,slow=34						
CTA	**Charters Tower**	**46.31**	**70**	P	**P**	**08 09 01.3**	**+0.3**
MTSU	**Mount Surprise**	**46.54**	**66**	P	**P**	**08 09 03.2**	**+0.4**
SAUI	**Saumlaki**	**47.62**	**44**	P	**P**	**08 09 08.9**	**-2.2**
BKNI	**Bangkinang**	**47.73**	**1**	P	**P**	**08 09 08.7**	**-3.3**
TROLL	**Troll, Antarti**	**47.74**	**205**	P	**P**	**08 09 11.7**	**-0.1**
RPZ	**Rata Peaks**	**48.26**	**113**	LR	LR	08 25 11.2	
	comp=Z,410nm,21.1s,baz=240,slow=31						
COEN	**Coen**	**49.06**	**62**	P	**P**	**08 09 21.6**	**-0.8**
SNAA	**Sanae**	**49.40**	**204**	P	**P**	**08 09 24.5**	**+0.1**
SNAA	**Sanae**	**49.40**	**204**	P	P	08 09 39.7	+15
SNAA	**Sanae**	**49.40**	**204**	P	**P**	**08 09 24.7**	**+0.4**
	comp=Z,23nm,0.9s,baz=123,slow=11,SNR=15						
SNAA				LR	LR	08 28 29.3	
	comp=Z,864nm,19.0s,baz=107,slow=34						
SNAA	**Sanae**	**49.40**	**204**	P	**P**	**08 09 24.9**	**+0.5**
VOI	**Vohitsoka**	**49.45**	**282**	P	**P**	**08 09 25.1**	**-0.4**
VOI				IAmb	IAmb	08 09 32.4	
	comp=Z,18nm,1.2s						
RPSI	**Rantau Prapat**	**50.08**	**359**	P	**P**	**08 09 29.3**	**-0.7**
RPSI				IAmb	IAmb	08 09 33.3	
	comp=Z,14nm,1.1s						
PSI	**Prapat**	**50.18**	**359**	P	**P**	**08 09 29.5**	**-1.5**
	comp=Z,3.4nm,0.4s,baz=154,slow=14,SNR=4.6						
PSI				LR	LR	08 28 56.7	
	comp=Z,302nm,18.1s,baz=194,slow=34						
PSI	**Prapat**	**50.18**	**359**	P	**P**	**08 09 30.8**	**-0.2**
VNA2	**Neumayer--Watz**	**51.04**	**204**	P	**P**	**08 09 37.0**	**+0.2**
	baz=310,slow=11						
TUWZ	**Tuamarina**	**51.28**	**112**	P	**P**	**08 09 40.3**	**+1.4**
VNA1	**Neumayer--Stat**	**51.43**	**204**	P	**P**	**08 09 40.2**	**+0.6**
VNA3	**Neumayer Olymp**	**51.47**	**203**	P	**P**	**08 09 40.3**	**+0.3**
BELA	**Belgrano 2**	**51.76**	**191**	P	**P**	**08 09 41.5**	**-0.5**
BELA				IAmb	IAmb	08 09 54.4	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**54.17**	**111**	P	**P**	**08 10 00.1**	**-0.3**
BKZ				IAmb	IAmb	08 10 13.8	
	comp=Z,18nm,0.9s						
PMG	**Port Moresby**	**55.02**	**62**	LR	LR	08 32 00.2	
	comp=Z,355nm,19.0s,baz=234,slow=34						
PMG	**Port Moresby**	**55.02**	**62**	P	**P**	**08 10 07.1**	**+0.3**
PMG				IAmb	IAmb	08 10 18.3	
	comp=Z,30nm,1.5s						
URZ	**Urewera**	**55.09**	**111**	LR	LR	08 29 24.7	
	comp=Z,199nm,18.6s,baz=246,slow=31						
JAY	**Jayapura**	**57.02**	**51**	LR	LR	08 33 59.7	
	comp=Z,371nm,20.7s,baz=196,slow=35						
PALK	**Pallekele**	**57.21**	**337**	LR	LR	08 29 51.0	
	comp=Z,294nm,19.1s,baz=271,slow=31						
DZM	**Mont Dzumac**	**58.31**	**89**	LR	LR	08 30 36.3	
	comp=Z,165nm,21.3s,baz=212,slow=31						
DAV	**Davao City (W)**	**58.95**	**30**	LR	LR	08 33 11.8	
	comp=Z,92nm,21.8s,baz=165,slow=33						
BOSA	**Boshof**	**59.48**	**260**	P	**P**	**08 10 37.8**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=172,slow=4.9,SNR=5.4						
BOSA				LR	LR	08 31 07.4	
	comp=Z,369nm,19.4s,baz=170,slow=31						
BOSA	**Boshof**	**59.48**	**260**	P	**P**	**08 10 36.2**	**-2.1**
BOSA				IAmb	IAmb	08 11 07.3	
	comp=Z,20nm,1.5s						
SUR	**Sutherland**	**59.98**	**254**	P	**P**	**08 10 41.5**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=153,slow=9.0,SNR=1.9						
SUR				LR	LR	08 30 29.7	
	comp=Z,438nm,21.6s,baz=152,slow=30						
LBTB	**Lobatse**	**61.62**	**263**	P	**P**	**08 10 54.2**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=138,slow=12,SNR=1.7						
LBTB				LR	LR	08 33 25.4	
	comp=Z,212nm,18.2s,baz=134,slow=32						
LBTB	**Lobatse**	**61.62**	**263**	P	**P**	**08 10 52.4**	**-0.6**
MATP	**Matopo**	**62.78**	**269**	LR	LR	08 33 08.3	
	comp=Z,202nm,20.0s,baz=138,slow=31						
RAO	**Raoul Island**	**63.98**	**106**	LR	LR	08 35 35.5	
	comp=Z,121nm,18.0s,baz=124,slow=33						
CM31	**Chiang Mai Arr**	**65.74**	**359**	P	**P**	**08 11 19.5**	**-0.3**
CM31				IAmb	IAmb	08 11 32.6	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**65.74**	**359**	P	**P**	**08 11 19.9**	**0.0**
	comp=Z,4.1nm,0.7s,baz=196,slow=5.7,SNR=24						
CMAR				LR	LR	08 37 10.7	
	comp=Z,427nm,19.4s,baz=180,slow=34						
CMAR	**Chiang Mai Arr**	**65.74**	**359**	P	**P**	**08 11 18.7**	**-1.2**
CHTO	**Chiang Mai**	**66.09**	**359**	P	**P**	**08 11 21.6**	**-0.5**
CHTO				IAmb	IAmb	08 11 33.3	
	comp=Z,18nm,1.4s						
LSZ	**Lusaka**	**66.59**	**273**	LR	LR	08 36 40.6	
	comp=Z,245nm,18.2s,baz=132,slow=32						
QIZ	**Qiongzhong**	**66.90**	**10**	P	**P**	**08 11 30.2**	**+2.9**
QIZ				S	**S**	**08 20 24.3**	**+4.3**
QIZ				LR	LR		
	comp=Z,370nm,20.8s						
QIZ				LR	LR		
	comp=Z,270nm,12.9s						
QIZ				LR	LR		
	comp=Z,380nm,20.6s						
PMSA	**Palmer Station**	**67.28**	**187**	LR	LR	08 40 53.0	
	comp=Z,851nm,19.7s,baz=120,slow=36						
HYBB	**Hyderabad (bro**	**67.49**	**338**	*e*P	**P**	**08 11 30.3**	**-0.9**
MSVF	**Nonsavu**	**69.16**	**94**	LR	LR	08 37 52.7	
	comp=Z,97nm,19.7s,baz=183,slow=32						
TSUM	**Tsumeb**	**70.99**	**262**	LR	LR	08 37 49.8	
	comp=Z,347nm,20.3s,baz=148,slow=32						
KMBO	**Kilima Mbogo**	**71.04**	**290**	P	**P**	**08 11 54.7**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=121,slow=8.1,SNR=4.0						
KMBO				LR	LR	08 37 14.1	
	comp=Z,119nm,19.3s,baz=92,slow=31						
KMI	**Kunming**	**72.41**	**3**	⇓P	**P**	**08 12 05.2**	**+3.8**
KMI				sP	PcP	08 12 13.7	-5.6
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
KMI				LR	LR		
	comp=Z,210nm,23.1s						
KMI				LR	LR		
	comp=Z,250nm,20.9s						
KMI				LR	LR		
	comp=Z,390nm,24.5s						
GUMO	**Guam**	**72.89**	**46**	LR	LR	08 44 11.8	
	comp=Z,29nm,18.6s,baz=212,slow=36						
PZH	**PanZhiHua**	**73.76**	**2**	P	**P**	**08 12 11.5**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
PZH				LR	LR		
	comp=Z,560nm,18.6s						
PZH				LR	LR		
	comp=Z,280nm,18.8s						
PZH				LR	LR		
	comp=Z,580nm,17.7s						
MBAR	**Mbarara**	**75.64**	**285**	LR	LR	08 40 21.6	
	comp=Z,194nm,21.5s,baz=129,slow=32						
ATD	**Arta Tunnel**	**77.63**	**303**	LR	LR	08 40 48.4	
	comp=Z,68nm,18.9s,baz=101,slow=31						
JOW	**Kunigami**	**78.35**	**26**	LR	LR	08 43 21.0	
	comp=Z,56nm,21.3s,baz=3.5,slow=33						
AFI	**Afiamalu**	**78.72**	**98**	LR	LR	08 39 44.2	
	comp=Z,96nm,20.0s,baz=242,slow=30						
WSAR	**Wadi Sarin**	**79.69**	**322**	LR	LR	08 41 19.3	
	comp=Z,288nm,18.8s,baz=174,slow=31						
NJ2	**Nanjing**	**81.08**	**16**	*e*P	**P**	**08 12 53.1**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LZH	**Lanzhou**	**83.37**	**3**	*e*P	**P**	**08 13 02.1**	**0.0**
LZH				sP	pwP	08 13 09.5	+0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
LZH				pmax	pmax		
	comp=Z,290nm,7.3s						
LZH				LR	LR		
	comp=Z,320nm,17.2s						
LZH				LR	LR		
	comp=Z,330nm,17.0s						
LZH				LR	LR		
	comp=Z,370nm,18.5s						
NIL	**Nilore**	**84.34**	**338**	P	**P**	**08 13 06.5**	**-0.5**
NIL				IAmb	IAmb	08 13 14.8	
	comp=Z,12nm,0.7s						
HNS	**HongShan**	**85.63**	**12**	⇑P	**P**	**08 13 15.3**	**+2.1**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KBL	**Kabul**	**86.32**	**335**	P	**P**	**08 13 16.6**	**-0.4**
GTA	**Gaotai**	**86.61**	**360**	*e*P	P	08 13 26.7	+8.4
GTA				pP	pwP	08 13 30.2	+4.9
GTA				sP	sP	08 13 33.8	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**88.28**	**22**	LR	LR	08 50 42.2	
	comp=Z,63nm,22.0s,baz=245,slow=34						
HHC	**Hu-ho-hao-te**	**88.66**	**9**	*e*P	**P**	**08 13 30.6**	**+2.6**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
KSH	**Kashi**	**89.31**	**342**	*e*P	**P**	**08 13 31.6**	**+0.5**
KSH				sP	pwP	08 13 37.1	-1.0
KSH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSH				LR	LR		
	comp=Z,740nm,17.2s						
KSH				LR	LR		
	comp=Z,400nm,17.9s						
PLCA	**Paso Flores**	**91.66**	**187**	P	**P**	**08 13 41.6**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=20,slow=9.5,SNR=3.1						
PLCA				LR	LR	08 53 20.7	
	comp=Z,426nm,20.6s,baz=174,slow=34						
WMQ	**Urumqi**	**91.66**	**351**	*e*P	**P**	**08 13 43.7**	**+1.8**
WMQ				LR	LR		
	comp=Z,290nm,21.1s						
AAK	**Ala-Archa**	**92.62**	**341**	LR	LR	08 51 49.3	
	comp=Z,139nm,20.3s,baz=174,slow=33						
GEYT	**Alibeck**	**92.96**	**328**	LR	LR	08 52 44.7	
	comp=Z,106nm,18.1s,baz=166,slow=34						
CN2	**Changchun**	**93.74**	**18**	*e*P	**P**	**08 13 47.0**	**-4.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**95.20**	**4**	P	**P**	**08 13 57.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=172,slow=3.0,SNR=4.1						
SONM				LR	LR	08 58 14.7	
	comp=Z,161nm,18.6s,baz=164,slow=36						
MKAR	**Makanchi Array**	**95.25**	**348**	P	**P**	**08 13 57.3**	**-1.0**
	comp=Z,0.4nm,1.0s,baz=167,slow=3.8,SNR=2.1						
MKAR				LR	LR	08 53 39.0	
	comp=Z,142nm,20.7s,baz=174,slow=34						
ASAJ	**Asahikawa**	**98.74**	**30**	LR	LR	08 57 21.4	
	comp=Z,56nm,19.2s,baz=112,slow=34						
MMAI	**Mount Meron Ar**	**98.89**	**310**	LR	LR	08 52 04.8	
	comp=Z,114nm,21.2s,baz=280,slow=31						
KURBB	**Kurchatov Arra**	**99.55**	**346**	LR	LR	08 56 09.1	
	comp=Z,140nm,19.2s,baz=160,slow=34						
CLL	**Collm**	**123.39**	**311**	*e*pPKPdf	pPKPdf	08 19 38.0	+4.0
FINES	**FINESS Array B**	**123.72**	**326**	PKP	**PKiKP**	**08 19 32.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=222,slow=3.7,SNR=2.1						
ESDC	**Sonseca Array**	**126.41**	**291**	PKP	**PKiKP**	**08 19 38.5**	**+0.5**
	comp=Z,1.1nm,1.2s,baz=116,slow=3.0,SNR=1.9						
NEEM	**North Greenlan**	**147.96**	**348**	*e*P	**PKiKP**	**08 20 21.2**	**0.0**
SUMG	**Summit**	**148.68**	**337**	*i* P	**PKPab**	**08 20 26.0**	**+0.8**
ICESG	**Greenland Ices**	**150.69**	**332**	*e*P	**PKiKP**	**08 20 27.1**	**+0.1**
ICESG				IAmb	IAmb	08 20 33.5	
	comp=Z,60nm,1.4s						
NVAR	**Mina Array Bea**	**150.83**	**94**	PKPbc	**PKiKP**	**08 20 28.0**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=220,slow=4.1,SNR=14						
NVAR				PKPab	**PKPab**	**08 20 35.6**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=225,slow=2.9,SNR=19						
RES	**Resolute Bay**	**152.06**	**8**	PKPbc	**PKPbc**	**08 20 28.8**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=322,slow=2.8,SNR=14						
RES	**Resolute Bay**	**152.06**	**8**	PKPdf	**PKPdf**	**08 20 21.1**	**-1.2**
RES					**PKiKP**	**08 20 29.4**	**+0.1**
RES				PKPab	**PKPab**	**08 20 39.5**	**+0.9**
TXAR	**Lajitas Array**	**154.21**	**127**	PKPbc	**PKPbc**	**08 20 35.0**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=29,slow=2.9,SNR=3.6						
TXAR				PKPab	**pPKPab**	**08 20 51.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=201,slow=6.7,SNR=5.1						
TXAR	**Lajitas Array**	**154.21**	**127**	PKPdf	**PKPdf**	**08 20 25.9**	**-1.1**
TXAR					**PKPbc**	**08 20 34.5**	**-0.7**
TXAR				PKPab	**PKPab**	**08 20 48.2**	**-0.8**
YKA	**Yellowknife Ar**	**155.61**	**40**	PKP	**PKPdf**	**08 20 29.5**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=276,slow=2.0,SNR=2.2						
YKA				PKPab	**PKPab**	**08 20 53.5**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=293,slow=3.7,SNR=8.0						
YKA	**Yellowknife Ar**	**155.61**	**40**	PKPdf	**PKPdf**	**08 20 27.1**	**-0.6**
YKA					**PKPab**	**08 20 53.1**	**-0.8**
PDAR	**Pinedale Array**	**158.72**	**92**	PKP	**PKPdf**	**08 20 33.8**	**+1.1**
	comp=Z,0.7nm,1.0s,baz=180,slow=0.9,SNR=3.0						
PDAR				PKPab	**PKPab**	**08 21 08.8**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=222,slow=2.0,SNR=5.8						
PDAR	**Pinedale Array**	**158.72**	**92**	PKPdf	**PKPdf**	**08 20 32.4**	**-0.2**
PDAR					**PKPab**	**08 21 08.2**	**-0.1**
SCHQ	**Schefferville**	**168.99**	**316**	PKPab	**PKPab**	**08 21 54.5**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=13,slow=7.8,SNR=1.8						

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*IDC **01** 08:22:42.8±7.8, 8°.52N×82°.52W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/28, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=171.8km s-min=73.3km az=7.0*
*UPA **01** 08:22:43.8±1.1, 8°.28N×82°.91W, h0km±6km, MW4.4*
*UCR **01** 08:22:44.8±2.2, 8°.32N×83°.01W, h1km±7km, MW4.3*
ISC 01 08:22:42.9±1.7**, 8°.28N**±0°.06×**82°.93W**±0°.03**, h0**km±11km**, n38, σ1ˢ.19**/52**, mb3.5**/5**, 7C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.29**	**10**	⇓*i*P	**Pb**	**08 22 50.7**	**-0.4**
CDITO				*e*S	**Sb**	**08 22 56.1**	**-0.4**
PIRO	**Carate, Puerto**	**0.42**	**286**	⇑*e*P	**Pg**	**08 22 52.2**	**+1.1**
DVD	**David**	**0.49**	**72**	⇑*i*P	**Pb**	**08 22 54.8**	**+0.2**
DVD				*i* S	**Sb**	**08 23 02.8**	**+0.5**
MLIR3	**Monte Lirio, C**	**0.52**	**11**	⇓*i*P	**Pb**	**08 22 55.1**	**+0.2**
MLIR3				*i* S	**Sb**	**08 23 05.5**	**+2.5**
EDSV	**San Vito**	**0.54**	**355**	⇓*e*P	**Pb**	**08 22 55.0**	**-0.3**
EDSV				*e*S	**Sb**	**08 23 03.9**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.55**	**75**	⇓*i*P	**Pb**	**08 22 55.6**	**+0.2**
LOMA3				*i* S	**Sb**	**08 23 04.2**	**+0.3**
BRU2	**Volcan**	**0.56**	**25**	⇓*i*P	**Pb**	**08 22 55.8**	**+0.1**
BRU2				*e*S	**Sb**	**08 23 05.4**	**+1.1**
BCO2	**Palmira**	**0.58**	**42**	⇓*i*P	**Pb**	**08 22 56.4**	**+0.2**
BCO2				*i* S	**Sb**	**08 23 05.7**	**+0.7**
CHGR2	**Aguacate**	**1.01**	**50**	*e*P	**Pg**	**08 23 02.2**	**-0.2**
CHGR2				*e*S	**Sn**	**08 23 19.2**	**-0.1**
SRBA	**San Rafael, Bu**	**1.03**	**336**	*e*P	**Pg**	**08 23 02.5**	**-0.4**
CNI2	**El Empalme, Bo**	**1.22**	**22**	⇓*i*P	**Pg**	**08 23 06.2**	**-0.2**
CNI2				*e*S	**Sb**	**08 23 23.3**	**+0.1**
PEZE	**Perez Zeledon,**	**1.32**	**326**	*e*P	**Pg**	**08 23 07.2**	**-1.1**
EDDO	**Dominical**	**1.34**	**316**	*e*P	**Pg**	**08 23 08.0**	**-0.6**
CDM	**Cerro de Muert**	**1.51**	**327**	⇑*e*P	**Pn**	**08 23 10.5**	**-1.2**
CDM				*e*S	**Sg**	**08 23 31.4**	**-0.1**
RIMA	**Rio Macho**	**1.74**	**328**	*e*P	**Pn**	**08 23 13.5**	**-1.1**
LCR2	**La Lucha 2**	**1.80**	**324**	*e*P	**Pn**	**08 23 14.8**	**-0.6**
BATAN	**Batan**	**1.86**	**346**	⇑*e*P	**Pn**	**08 23 17.1**	**+1.1**
BATAN				*e*S	**Sb**	**08 23 41.1**	**-0.5**
HDC	**Heredia**	**2.07**	**326**	⇑*i*P	**Pn**	**08 23 20.4**	**+1.3**
HDC	**Heredia**	**2.07**	**326**	⇑*e*P	**Pn**	**08 23 20.6**	**+1.5**
HDC				*e*S	**Sb**	**08 23 48.1**	**+0.2**
JACO	**JACO, Garabito**	**2.19**	**309**	*e*P	**Pn**	**08 23 19.5**	**-1.2**
SRA1	**San Ramn**	**2.36**	**320**	*e*P	**Pn**	**08 23 24.6**	**+1.6**
LAFE	**Finca La Fe, P**	**2.48**	**308**	*e*P	**Pn**	**08 23 23.8**	**-0.8**
AZU	**Azuero**	**2.67**	**100**	*e*P	**Pn**	**08 23 28.0**	**+0.7**
AZU				*e*S	**Sn**	**08 24 01.6**	**+1.3**
COVE	**Coope Vega, Sa**	**2.82**	**329**	*e*P	**Pn**	**08 23 31.2**	**+1.8**
JTS	**Las Juntas de**	**2.83**	**315**	⇑*i*P	**Pn**	**08 23 30.9**	**+1.5**
JTS	**Las Juntas de**	**2.83**	**315**	*e*P	**Pn**	**08 23 30.9**	**+1.5**
JTS				*e*S	**Sn**	**08 24 05.7**	**+1.6**
GUAI	**GUAI**	**3.23**	**308**	*e*P	**Pn**	**08 23 35.2**	**+0.3**
SAJU	**San Juanillo,**	**3.27**	**303**	*e*P	**Pn**	**08 23 35.1**	**-0.4**
HORNC	**Hornillas**	**3.28**	**318**	*e*P	**Pn**	**08 23 38.4**	**+2.7**
LAPC	**Finca la Perla**	**3.49**	**315**	*e*P	**Pn**	**08 23 40.9**	**+2.3**
BUEV	**Buena Vista**	**3.50**	**316**	*e*P	**Pn**	**08 23 40.9**	**+2.2**
GBS3	**Finca Las Img**	**3.52**	**315**	*e*P	**Pn**	**08 23 41.1**	**+2.1**
APG	**El Apazote**	**9.95**	**313**	Pn	**Pn**	**08 25 10.0**	**+2.5**
	0.2nm,0.3s,baz=140,slow=8.0,SNR=6.5						
PDAR	**Pinedale Array**	**41.55**	**330**	P	**P**	**08 30 31.5**	**-1.2**
	0.2nm,0.6s,baz=131,slow=9.7,SNR=1.4						
ULM	**Lac du Bonnet**	**43.20**	**348**	P	**P**	**08 30 44.7**	**-0.9**
	2.9nm,0.6s,baz=178,slow=6.0,SNR=5.3						
NVAR	**Mina Array Bea**	**43.75**	**319**	P	**P**	**08 30 50.8**	**+0.3**
	0.4nm,0.8s,baz=117,slow=7.3,SNR=2.9						
YKA	**Yellowknife Ar**	**58.81**	**343**	P	**P**	**08 32 41.8**	**-1.1**
	0.8nm,0.8s,baz=137,slow=7.3,SNR=12						
ILAR	**Eielson Array**	**71.61**	**336**	P	**P**	**08 34 05.9**	**0.0**
	0.3nm,0.7s,baz=112,slow=4.6,SNR=3.1						

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*DJA **01** 08:48:15.1±1.1, 0°S±3°×12°5E±°, h12km±9km, M4.5/8, mb4.8/1, MLv4.3/8*
*NEIC **01** 08:48:18.3±2.3, 0°.09S±0°.10×125°.33E±0°.09, h65km±7km, mb4.1/17, Error ellipse: s-maj=15.9km s-min=10.6km az=215.0*
*IDC **01** 08:48:18.0±2.9, 0°.14S×125°.11E, h62km±28km, mb3.8/13, mb1 3.9/16, mb1mx3.6/60, mbtmp4.1/16, ML3.7/3, MS2.8/3, Ms1 2.9/3, ms1mx2.5/74, Error ellipse: s-maj=22.4km s-min=14.8km az=62.0*
ISC 01 08:48:16.7±0.5**, 0°.06S**±0°.06×**125°.38E**±0°.06**, h50**km**, n57, σ1ˢ.74**/57**, mb4.1**/21**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**294**	P	**Pn**	**08 48 39.7**	**-2.0**
SANI	**Sanana**	**2.07**	**163**	P	**Pn**	**08 48 47.5**	**-1.4**
SANI				S	**Sn**	**08 49 16.3**	**+2.8**
GTOI	**Gorontalo**	**2.47**	**286**	P	**Pn**	**08 48 56.4**	**+1.9**
GTOI				S	**Sn**	**08 49 27.1**	**+3.7**
LUWI	**Luwuk**	**2.79**	**250**	Pn	**Pn**	**08 49 00.7**	**+1.9**
LUWI	**Luwuk**	**2.79**	**250**	P	Pn	08 49 02.6	+3.8
LUWI				S	**Sn**	**08 49 36.9**	**+5.7**
MRSI	**Marisa**	**3.48**	**279**	P	**Pn**	**08 49 05.9**	**-2.4**
APSI	**Ampana**	**3.83**	**257**	P	**Pn**	**08 49 13.0**	**-0.1**
TOLI2	**Tolitoli**	**4.74**	**284**		**Pn**	**08 49 26.8**	**+1.1**
MPSI	**Mapaga**	**5.50**	**274**	P	Pn	08 49 30.2	-5.8
SIJI	**Sorong**	**5.94**	**98**	P	Pn	08 49 47.6	+5.5
	1.8nm,0.3s,baz=214,slow=22,SNR=2.2						
SPSI	**Sidrap Palu**	**6.82**	**235**	P	**Pn**	**08 49 54.4**	**+0.2**
FAKI	**Fak Fak**	**7.43**	**113**	Pn	**Pn**	**08 50 04.3**	**+1.7**
KAPI	**Kappang**	**7.47**	**229**	P	**Pn**	**08 50 02.0**	**-1.1**
	5.0nm,0.3s,baz=42,slow=3.1,SNR=4.2						
KAPI				S	**Sn**	**08 51 21.6**	**-5.0**
	1.1nm,0.3s,baz=212,slow=21,SNR=1.7						
KAPI				LR	LR	08 53 26.9	
	comp=Z,69nm,21.6s,baz=76,slow=43						
KAPI	**Kappang**	**7.47**	**229**		**Pn**	**08 50 03.5**	**+0.4**
MYLDM	**Lahad Datu**	**8.62**	**307**		**Pn**	**08 50 20.4**	**+1.5**
BATI	**Baumata**	**10.22**	**190**	LR	LR	08 56 04.2	
	comp=Z,94nm,18.4s,baz=10,slow=46						
KNRA	**Kununurra**	**15.87**	**168**	P	**Pn**	**08 51 57.0**	**+0.1**
KNRA				IAmb	IAmb	08 51 57.1	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.93**	**179**	P	**P**	**08 52 22.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=2.2						
FITZ	**Fitzroy Crossi**	**17.93**	**179**	P	**P**	**08 52 22.8**	**+0.2**
WB0	**Warramunga Arr**	**21.48**	**156**	P	**P**	**08 53 00.7**	**-0.6**
WB0				IAmb	IAmb	08 53 06.2	
	comp=Z,4.6nm,1.0s						
WRAB	**Tennant Creek**	**21.62**	**157**	P	**P**	**08 53 01.6**	**-1.1**
WRAB				IAmb	IAmb	08 53 06.7	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**21.62**	**157**	P	**P**	**08 53 01.9**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=333,slow=11,SNR=20						
WRA	**Warramunga Arr**	**21.62**	**157**	P	**P**	**08 53 01.6**	**-1.2**
WB2	**Warramunga Arr**	**21.62**	**157**	P	**P**	**08 53 02.5**	**-0.3**
WB2				IAmb	IAmb	08 53 14.6	
	comp=Z,4.0nm,0.9s						
WR0	**Warramunga Arr**	**21.72**	**156**	P	**P**	**08 53 02.6**	**-1.1**
COEN	**Coen**	**22.38**	**129**	P	**P**	**08 53 11.8**	**+0.8**
COEN				IAmb	IAmb	08 53 18.9	
	comp=Z,3.1nm,0.7s						

AS31	Alice Springs	24.88	161	P	P	08 53 36.5	+1.5
ASAR	Alice Springs	24.88	161	P	P	08 53 35.5	+0.6
	comp=Z,1.1nm,0.7s,baz=330,slow=7.0,SNR=17						
ASAR				PcP	PcP	08 57 10.5	+0.5
	comp=Z,0.2nm,0.5s,baz=350,slow=1.7,SNR=2.4						
ASAR	Alice Springs	24.88	161	P	P	08 53 35.6	+0.7
CMAR	Chiang Mai Arr	31.83	307	LR	LR	09 07 02.2	
	comp=Z,14nm,20.8s,baz=230,slow=36						
STKA	Stephens Creek	35.17	156	P	P	08 55 06.8	+0.9
	comp=Z,1.6nm,0.6s,baz=322,slow=8.2,SNR=7.3						
STKA	Stephens Creek	35.17	156	P	P	08 55 07.1	+1.3
SONM	Songino Array	50.48	343	P	P	08 57 10.4	+0.6
	comp=Z,0.4nm,0.6s,baz=169,slow=9.6,SNR=4.8						
NIL	Nilore	59.24	310	P	P	08 58 10.8	-2.4
MK31	Makanchi Array	59.94	327	P	P	08 58 17.0	-0.8
MK31				IAmb	IAmb	08 58 19.6	
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	59.94	327	P	P	08 58 16.5	-1.3
	comp=Z,1.1nm,0.4s,baz=121,slow=8.2,SNR=16						
MKAR	Makanchi Array	59.94	327	P	P	08 58 16.8	-1.0
AAK	Ala-Archa	62.30	320	P	P	08 58 34.5	+0.5
	comp=Z,0.6nm,0.3s,baz=98,slow=14,SNR=3.6						
ZALV	Zalesovo Beam	63.37	335	P	P	08 58 40.2	-0.5
	comp=Z,0.6nm,0.5s,baz=137,slow=7.0,SNR=2.8						
ZALV	Zalesovo Beam	63.37	335	P	P	08 58 40.6	-0.1
GAR	Garm	63.54	314	P	P	08 58 42.4	0.0
KURBB	Kurchatov Arra	64.23	329	P	P	08 58 45.3	-1.1
	comp=Z,1.1nm,0.5s,baz=130,slow=6.1,SNR=14						
KURK	Kurchatov	64.23	329	P	P	08 58 45.4	-1.0
KURK				IAmb	IAmb	08 58 48.3	
	comp=Z,3.6nm,0.8s						
BVAR	Borovoye Array	69.78	328	P	P	08 59 21.6	-0.1
	comp=Z,0.5nm,0.3s,baz=153,slow=8.1,SNR=3.8						
SOCY	Socotra	71.84	283	P	P	08 59 32.0	-3.0
SOCY				IAmb	IAmb	08 59 46.7	
	comp=Z,11nm,1.5s						
NRIK	Noril'sk	73.78	347	P	P	08 59 45.9	+0.6
	comp=Z,2.1nm,0.5s,baz=125,slow=8.7,SNR=5.4						
ABKAR	Akbulak array	74.24	322	P	P	08 59 47.8	-0.7
AKTO	Aktyubinsk	75.80	322	P	P	08 59 56.8	-0.6
	comp=Z,1.4nm,0.6s,baz=111,slow=12,SNR=4.8						
VNDA	Vanda	79.87	172	P	P	09 00 18.6	-0.9
IMAR	Indian Mountai	86.33	24	P	P	09 00 54.1	+1.0
KMBO	Kilima Mbogo	88.13	269	P	P	09 01 02.4	-0.8
	comp=Z,0.7nm,0.3s,baz=75,slow=12,SNR=4.2						
KMBO	Kilima Mbogo	88.13	269	P	P	09 01 01.7	-1.5
QSPA	South Pole Qui	89.87	180	P	P	09 01 08.1	-2.0
QSPA				IAmb	IAmb	09 01 22.3	
	comp=Z,4.9nm,1.4s						
BMAR	Burnt Mountain	90.07	23	P	P	09 01 14.0	+3.1
ARCES	ARCESS Array B	93.51	340	P	P	09 01 24.6	-2.2
	comp=Z,5.3nm,1.1s,baz=96,slow=5.5,SNR=2.6						
ARCES	ARCESS Array B	93.51	340	P	P	09 01 25.8	-1.0
TORD	Torodi Ar. Bea	122.72	286	PKP	PKPdf	09 07 07.4	-0.6
	comp=Z,0.2nm,0.5s,baz=37,slow=0.6,SNR=1.5						

*IDC **01** 08:50:10.1±0.3, 7°.91S×74°.50W, h151km±3km, mb4.3/18, mb1 4.4/26, mb1mx4.3/42, mbtmp4.7/26, MS3.7/4, Ms1 3.7/4, ms1mx3.0/60, Error ellipse: s-maj=10.2km s-min=7.7km az=45.0*

*ARE **01** 08:50:10±2.6, 7°.76S±0°.07×74°.56W±0°.08, h170km±5km, Error ellipse: s-maj=11.9km s-min=9.6km az=119.0*

*GCMT **01** 08:50:11.9±0.3, 7°.85S±0°.02×74°.38W±0°.03, h156km±3km, MW5.0/89, Moment Tensor Solution. s26,c27; s89,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.12; $M_{\theta\theta}$-0.85±.12; $M_{\phi\phi}$3.27±.15; $M_{r\theta}$1.33±.08; $M_{\theta\phi}$0.13±.14; $M_{\phi r}$-1.45±.13; Best double couple: $M_0$3.53500×10^{16} NP1:ϕ_s208.00000°,δ38.00000°,λ-46.00000°. NP2: ϕ_s337.00000°,δ64.00000°,λ-119.00000°. Principal axes: T 3.6260, Plg14.0000°, Azm87.0000°; N -0.1790, Plg26.0000°, Azm351.0000°; P -3.4440, Plg60.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 08:50:11.9±1.7, 7°.93S±0°.07×74°.45W±0°.08, h159km±5km, mb4.7/139, ML5.1(ARE) Error ellipse: s-maj=11.4km s-min=9.5km az=115.0*

*VAO **01** 08:50:12.6±0.4, 7°.90S×74°.38W, h162km, mbR4.7*

ISC 01 08:50:09.9±0.3,**7°.87S**±0°.04×**74°.46W**±0°.05,**h148**km±2km, **h148**km**:pP-P,n496,σ0.98s/530,mb4.8**/69**,3C,Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	1.75	85	eP	Pn	08 50 45.0	+3.0
ATAH	Atahualpa	3.97	280	P	Pn	08 51 09.6	-0.5
	267nm,0.3s,baz=76,slow=5.5,SNR=3104						
ATAH				S	Sn	08 51 55.1	-1.7
	48nm,0.3s,baz=127,slow=12,SNR=6.4						
ATAH				LR	LR	08 52 34.7	
	comp=Z,1μm,20.0s,baz=237,slow=37						
NNA	Nana	4.71	210	P	Pn	08 51 19.8	+0.2
	23nm,0.3s,baz=37,slow=3.3,SNR=40						
NNA				S	Sn	08 52 11.7	-2.2
	64nm,0.3s,baz=266,slow=16,SNR=3.8						
NNA	Nana	4.71	210	Pn	Pn	08 51 20.1	+0.5
TBTG	Tabatinga, AM	5.82	51	eP	Pn	08 51 35.6	+1.3
TBTG	Tabatinga, AM	5.82	51	eP	Pn	08 51 35.8	+1.5
PTLC	Puerto Leguiza	8.00	358	eP	Pn	08 51 57.3	-6.0
CUSE	Cuicocha Este	9.02	334	eP	Pn	08 52 18.7	+1.2
TULM	Tulcn-Chalpat	9.15	339	eP	Pn	08 52 18.9	-0.4
CMBC	Cumbal	9.38	339	eP	Pn	08 52 22.8	+0.7
FLOC	Florencia	9.47	353	eP	Pn	08 52 21.9	-1.1
GCUF	Volcan Galeras	9.49	342	eP	Pn	08 52 23.5	-0.1
CCUFI	Cufio, Nario	9.49	342	eP	Pn	08 52 23.8	+0.1
MACC	Macarena, Meta	9.97	4	eP	Pn	08 52 28.3	-1.4
GARC	Garzon, Huila	10.05	354	eP	Pn	08 52 30.4	-0.5
SOTA	Rioblanco	10.17	348	eP	Pn	08 52 32.8	0.0
BBAC	Balboa, Cauca	10.21	344	eP	Pn	08 52 33.0	-0.1
PCON	Cinco Dias	10.32	349	eP	Pn	08 52 34.9	+0.2
LPAZ	La Paz	10.40	144	P	Pn	08 52 35.5	-0.4
	2.0nm,0.3s,baz=323,slow=10,SNR=63						
LPAZ	La Paz	10.40	144	Pn	Pn	08 52 34.9	-1.0
LPAZ	La Paz	10.40	144	eP	Pn	08 52 35.3	-0.6
LPAZ	La Paz	10.40	144	eP	Pn	08 52 35.2	-0.7
GUVC	San Jose del G	10.51	10	eP	Pn	08 52 35.9	-0.9
BETC	Betania	10.53	355	eP	Pn	08 52 38.2	+1.1
POPC	Popayan, Colom	10.58	348	eP	Pn	08 52 38.0	+0.1
ORTC	Ortega, Tolima	11.73	356	eP	Pn	08 52 53.0	+0.1
YOTC	Yotoco, Valle	11.93	351	eP	Pn	08 52 54.9	-0.6
VILC	Villavicencio,	11.93	4	eP	Pn	08 52 55.6	+0.1
ANIL	Santa Ana	12.32	356	eP	Pn	08 53 03.2	+2.4
CHIC	Chingaza	12.44	3	eP	Pn	08 53 01.4	-1.1
ROSC	El Rosal	12.63	1	P	Pn	08 53 07.0	+2.1
	4.1nm,0.3s,baz=252,slow=16,SNR=6.0						
ROSC	El Rosal	12.63	1	Pn	Pn	08 53 07.1	+2.2
PLMC	San Jos del P	12.82	352	eP	Pn	08 53 08.1	+1.0
GUY2C	Guyana, Caldas	13.04	356	eP	Pn	08 53 12.0	+1.7
NORC	Norcasia	13.35	358	eP	Pn	08 53 15.8	+1.9
SPBC	San Pablo de B	13.44	2	eP	Pn	08 53 16.3	+1.3
CBOC	Ciudad Bolivar	13.73	353	eP	Pn	08 53 19.1	+0.3
RUSC	La Rusia	13.74	6	eP	Pn	08 53 19.3	0.0
HELC	Santa Helena	14.01	356	eP	Pn	08 53 22.8	+0.3
PTBC	PUERTO BERRIO,	14.32	0	eP	Pn	08 53 26.5	+0.5
BARC	Barichara	14.43	5	eP	P	08 53 30.5	+0.2
TAMC	Tame, Arauca	14.46	11	eP	Pn	08 53 25.3	-2.6
PAMC	Pamplona, Colo	15.21	7	eP	P	08 53 40.8	+1.5
ZARC	Zaragoza, Cauc	15.27	359		Pn	08 53 38.5	+0.6
ZARC				IAmb	IAmb	08 53 41.3	
	comp=Z,18nm,0.6s						
ZARC	Zaragoza, Cauc	15.27	359	eP	Pn	08 53 38.7	+0.8
SIV	San Ignacio	15.38	123	P	Pn	08 53 39.3	+0.1
	comp=Z,3.2nm,0.3s,baz=302,slow=10,SNR=41						
UREC	San Jos de Ur	15.56	356	eP	Pn	08 53 41.2	-0.3
LVC	Limon Verde	15.60	161	P	Pn	08 53 41.1	-1.1
	baz=323,slow=7.7,SNR=1.5						
LVC				S	Sn	08 56 32.5	-3.5
	comp=Z,0.2nm,0.3s,baz=285,slow=16,SNR=1.2						
OCAC	Ocana	16.05	4	P	P	08 53 48.3	+0.2
OCAC				IAmb	IAmb	08 53 48.8	
	comp=Z,24nm,0.5s						
OCAC	Ocana	16.05	4	eP	Pn	08 53 47.9	+0.3
PTGA	Pitinga	16.09	65	P	P	08 53 49.2	+0.6
	comp=Z,7.9nm,0.3s,baz=247,slow=13,SNR=136						
PTGA				S	S	08 56 39.6	-7.9
	comp=Z,0.5nm,0.3s,baz=151,slow=22,SNR=1.9						
MOTC	Monteria, Cord	16.59	356	P	Pn	08 53 54.6	+0.6
MOTC	Monteria, Cord	16.59	356	eP	Pn	08 53 54.1	0.0
UPD2	Meteti	16.69	348	eP	Pn	08 53 55.6	+0.3
PTLB	Pontes e Lacer	16.78	118	eP	Pn	08 53 57.2	+0.8
SDV	Santo Domingo	17.08	13	P	Pn	08 54 00.2	+0.1
	comp=Z,1.8nm,0.3s,baz=178,slow=17,SNR=20						
SDV				S	S	08 57 03.1	-7.2
	comp=Z,0.5nm,0.3s,baz=285,slow=21,SNR=1.3						
SDV				LR	LR	09 01 00.4	
	comp=Z,83nm,18.8s,baz=194,slow=38						
SDV	Santo Domingo	17.08	13	P	P	08 53 59.3	-0.3
SDV				IAmb	IAmb	08 54 23.2	
	comp=Z,25nm,0.7s						
SDV	Santo Domingo	17.08	13	eP	P	08 53 59.0	-0.6
SDV	Santo Domingo	17.08	13	eP	P	08 53 59.8	+0.2
BOAV	Boa Vista	17.25	54	eP	Pn	08 54 02.4	+0.4
PAYG	Puerto Ayora	17.32	294	P	Pn	08 54 04.1	+1.2
SJCC	San Jacinto, C	17.67	358		Pn	08 54 06.8	-0.3
SJCC	San Jacinto, C	17.67	358	eP	Pn	08 54 07.0	-0.1
BCIP	Isla Barro Col	17.75	342		Pn	08 54 07.9	-0.2
BCIP				IAmb	IAmb	08 54 09.8	
	comp=Z,46nm,1.1s						
PDRB	Porto dos Gac	17.86	103	eP	Pn	08 54 09.3	-0.1
BRU2	Volcan	18.48	333	P	Pn	08 54 15.9	-0.8
BRU2				IAmb	IAmb	08 54 45.2	
	comp=Z,78nm,1.2s						
AC01	Pan de Azucar	18.54	169	P	P	08 54 16.0	+0.7
AC01				IAmb	IAmb	08 54 32.4	
	comp=Z,22nm,0.8s						
CLDB	Colider	18.65	101	eP	P	08 54 17.2	+0.5
RIOS	Rincon, Osa	18.77	331	P	Pn	08 54 19.6	-0.5
RIOS				IAmb	IAmb	08 54 22.4	
	comp=Z,33nm,0.7s						
CRJC	Cerrejon, Guaj	18.84	5	eP	P	08 54 16.9	-1.7
ITTB	Itaituba	18.94	80	eP	P	08 54 20.5	+0.7
NPGB	Novo Progresso	18.96	89	eP	P	08 54 20.0	0.0
DABV	Dabajuro	19.06	12	eP	P	08 54 21.2	+0.2
SRBA	San Rafael, Bu	19.17	332	P	Pn	08 54 24.3	-0.5
PEZE	Perez Zeledon,	19.45	332	P	Pn	08 54 27.4	-0.7
PEZE				IAmb	IAmb	08 54 28.2	
	comp=Z,16nm,0.7s						
URIC	Uribia, Colomb	19.60	7	P	P	08 54 25.0	-1.9
URIC				IAmb	IAmb	08 54 25.6	
	comp=Z,23nm,0.7s						
RIMA	Rio Macho	19.87	332	P	Pn	08 54 31.7	-1.4
BIRV	Birongo	19.97	24		Pn	08 54 33.2	-0.8
BIRV				IAmb	IAmb	08 54 34.8	
	comp=Z,32nm,0.7s						
SALV	Santo Antonio	20.01	115	eP	P	08 54 32.1	+0.8
CVTR	Volcan Turrial	20.04	332	P	Pn	08 54 34.3	-1.1
PCRV	Puerto La Cruz	20.43	29	P	P	08 54 36.4	+0.6
	comp=Z,10nm,0.7s,baz=184,slow=9.3,SNR=3.1						
PCRV				pP	pP	08 55 04.0	+2.0
	comp=Z,41nm,0.9s,baz=199,slow=1.7,SNR=6.0						
JTS	Las Juntas de	20.85	330	P	P	08 54 42.4	+2.1
JTS				IAmb	IAmb	08 54 45.1	
	comp=Z,26nm,1.1s						
MALB	Monte Alegre	20.98	74	eP	P	08 54 42.6	+0.9
PP1B	Ponte de Pedra	21.39	119	eP	P	08 54 47.2	+1.1
AQDB	Aquidauana	22.05	127	P	P	08 54 52.5	-0.5
AQDB				IAmb	IAmb	08 54 56.2	
	comp=Z,37nm,0.8s						
AQDB	Aquidauana	22.05	127	eP	P	08 54 53.4	+0.4
BOAB	BOACO BROADBAN	23.06	331	P	P	08 55 03.9	+1.4
BOAB				IAmb	IAmb	08 55 06.0	
	comp=Z,68nm,1.5s						
SNDB	Serra Nova Dou	23.18	102	eP	P	08 55 03.6	-0.1
CO02	Combarbal	23.44	173	P	P	08 55 07.5	+1.5
ARAG	Araguaiana, MT	23.48	111	eP	P	08 55 06.5	0.0
MCPB	Macapa, AP	23.55	73	eP	P	08 55 07.2	+0.1
PRPB	Parauapebas	24.52	88	eP	P	08 55 17.3	+1.3
CPUP	Villa Florida	24.54	140	P	P	08 55 15.6	-0.4
	comp=Z,10nm,0.6s,baz=330,slow=10,SNR=23						
CPUP	Villa Florida	24.54	140	P	P	08 55 15.9	-0.1
CPUP				IAmb	IAmb	08 55 16.4	
	comp=Z,12nm,0.7s						
CPUP	Villa Florida	24.54	140	eP	P	08 55 15.4	-0.6
VA06	Catapilco	24.74	174	P	P	08 55 18.1	+0.4
VA06				IAmb	IAmb	08 55 22.0	
	comp=Z,20nm,0.8s						
ROC1	El Roble	25.18	173	P	P	08 55 21.4	-0.6
ROC1				IAmb	IAmb	08 55 35.2	
	comp=Z,15nm,0.9s						
MDP	Montagnes des	25.30	60	P	P	08 55 24.3	+1.3
	comp=Z,15nm,0.8s,baz=221,slow=7.5,SNR=9.0						
MT02	Curacav	25.45	174	P	P	08 55 24.3	+0.2
MT02				IAmb	IAmb	08 55 44.6	
	comp=Z,40nm,1.4s						
MT09	Talagante	25.98	173	P	P	08 55 30.3	+1.3
PEXB	Peixe	26.10	101	eP	P	08 55 30.9	+0.7
MTDJ	Mount Denham	26.11	353	P	P	08 55 31.0	+0.7
LMEL	Las Melosas	26.15	172	P	P	08 55 32.2	+1.6
ITRB	Iturama	26.15	119	eP	P	08 55 32.1	+1.5
PCMB	Pacaembu	26.21	124	eP	P	08 55 32.9	+1.7
BO04	La Punta	26.23	173	P	P	08 55 32.2	+1.0
BO04				IAmb	IAmb	08 55 34.4	
	comp=Z,20nm,0.9s						
SMTB	Santa Maria do	26.60	94	eP	P	08 55 35.1	+0.3
MLPR	Magueyes Islan	26.70	16	P	P	08 55 36.3	+0.8
MLPR				IAmb	IAmb	08 55 38.8	
	comp=Z,30nm,0.8s						
TMAB	Tom-Au,PA,Br	26.81	80	eP	P	08 55 37.9	+1.2
SDDR	Presa de Saban	26.87	7	P	P	08 55 40.2	+3.2
SDDR				IAmb	IAmb	08 56 05.3	
	comp=Z,19nm,1.2s						
OBIP	Obispado Ponce	26.89	17	P	P	08 55 36.5	-0.7
OBIP				IAmb	IAmb	08 55 39.0	
	comp=Z,21nm,0.8s						
CELP	Cerrillos	26.93	17	P	P	08 55 37.9	+0.3
CELP				IAmb	IAmb	08 55 39.8	
	comp=Z,22nm,0.7s						
DR12	Loma Pena Alta	26.96	11	P	P	08 55 39.3	+1.4
BDFB	Brasilia	27.00	109	P	P	08 55 38.2	-0.2
	comp=Z,9.3nm,0.8s,baz=264,slow=9.6,SNR=13						
BDFB				pP	pP	08 56 10.6	+1.1
	comp=Z,5.8nm,0.6s,baz=269,slow=15,SNR=3.7						
BDFB	Brasilia	27.00	109	P	P	08 55 38.5	+0.1
BDFB				IAmb	IAmb	08 55 40.2	
	comp=Z,23nm,1.4s						
SJG	San Juan	27.09	18	P	P	08 55 40.5	+1.5
	comp=Z,42nm,0.4s,baz=173,slow=4.9,SNR=20						
SJG	San Juan	27.09	18	P	P	08 55 41.2	+2.2
AOPR	Arecibo Observ	27.14	16	P	P	08 55 39.9	+0.5
PTGB	Pitanga	27.18	131	eP	P	08 55 40.1	+0.3
ITQB	Itaqui	27.40	145	P	P	08 55 42.0	+0.3
ITQB				IAmb	IAmb	08 55 42.9	
	comp=Z,18nm,0.8s						
ITQB	Itaqui	27.40	145	eP	P	08 55 41.6	-0.1
IPMB	Ipameri, GO	27.45	114	eP	P	08 55 42.4	0.0
STVI	Saint Thomas	27.70	20	P	P	08 55 43.9	-0.5
APG	El Apazote	27.72	325	P	P	08 55 45.3	+0.4
	comp=Z,5.4nm,0.8s,baz=139,slow=7.0,SNR=11						
BB19B	Bebedouro	28.27	120	eP	P	08 55 50.5	+0.9
ITAB	Concordia	28.61	135	P	P	08 55 52.3	-0.2
ITAB	Concordia	28.61	135	eP	P	08 55 52.8	+0.3
SDBA	SAO DESIDERIO	29.43	101	eP	P	08 55 59.8	-0.2
RCLB	Rio Claro- Sao	29.67	122	eP	P	08 56 03.3	+1.4
CPSB	Cacapava Do Su	29.83	141	eP	P	08 56 03.2	-0.1
JANB	Januaria	30.37	106	eP	P	08 56 08.7	+0.5
VAO	Valinhos	30.39	123	eP	P	08 56 10.2	+1.9
ROSB	Rosrio	30.59	82	eP	P	08 56 10.6	+0.4
PLTB	Pedras Altas	30.70	144	eP	P	08 56 10.0	-0.9
LC01	Cunco	30.98	176	P	P	08 56 13.6	+0.4
BSCB	Bom Sucesso	31.50	118	eP	P	08 56 19.3	+1.2
DIAM	Diamantina, MG	31.68	112	eP	P	08 56 20.5	+0.7
PLCA	Paso Flores	32.91	175	P	P	08 56 30.9	+0.7
	comp=Z,11nm,0.8s,baz=350,slow=9.2,SNR=42						
PLCA				PcP	PcP	08 59 10.9	-0.3
	comp=Z,1.6nm,0.8s,baz=332,slow=4.9,SNR=3.3						
PLCA	Paso Flores	32.91	175	P	P	08 56 31.1	+1.0
PLCA				IAmb	IAmb	08 56 31.3	
	comp=Z,11nm,0.8s						
PLCA	Paso Flores	32.91	175	eP	P	08 56 31.2	+1.0
LL04	Puerto Octay	32.95	177	P	P	08 56 30.6	+0.2
LL04				IAmb	IAmb	08 56 31.3	
	comp=Z,18nm,0.8s						
NBPS	Pedro II - PI	33.00	86	eP	P	08 56 30.8	-0.6
NBPN	Ponto Novo - B	33.92	98	eP	P	08 56 39.2	-0.1
DUB01	Friburgo-RJ	33.96	118	eP	P	08 56 41.6	+2.0
SJMB	Sao Joao De Ma	34.06	112	eP	P	08 56 40.9	+0.5
061Z	Ochoppi	34.12	350	P	P	08 56 41.7	+1.1
NBMO	Morrinhos-CE	34.54	84	eP	P	08 56 45.3	+0.7
NBPB	Pedra_Branca-C	34.71	88	eP	P	08 56 46.8	+0.8
GDU01	Guandu, BA	34.73	103	eP	P	08 56 45.5	-0.7
NAN01	Guarapari, ES	34.85	110	eP	P	08 56 48.5	+1.4
GUA01	Guaratinga, BA	34.91	108	eP	P	08 56 50.5	+2.8
RIB01	Linhares ES	34.94	113	eP	P	08 56 47.7	-0.2
CMC01	Camacan, BA	34.99	105	eP	P	08 56 49.8	+1.4
NBMA	Muriti-CE	35.38	92	eP	P	08 56 53.0	+1.2
NBCL	Cascavel-CE	36.14	86	eP	P	08 56 59.1	+0.8
NBLA	Lagarto - SE	36.29	98	eP	P	08 56 59.1	-0.5
DWPF	Disney Wildern	36.40	350	P	P	08 57 00.6	+0.4
	baz=168						
NBLV	Livramento - P	37.20	92	eP	P	08 57 08.5	+1.1
COYC	Coyhaique	37.62	177	P	P	08 57 10.7	+0.5
NBAN	Anadia - AL	37.77	96	eP	P	08 57 11.0	-1.0
656A	Willston	37.83	348	P	P	08 57 13.2	+0.9
NBPV	Pedro Velho	38.88	90	eP	P	08 57 22.2	+0.8
553A	Crawfordville	39.04	346	P	P	08 57 23.5	+1.2
451A	Vernon	39.77	345	P	P	08 57 29.3	+0.9
TIGA	Tifton	40.05	348	P	P	08 57 30.9	+0.2
	baz=166						
BRAL	Brewton	40.65	343	P	P	08 57 36.2	+0.5
BRAL	Brewton	40.65	343	P	P	08 57 35.5	-0.1
	baz=161						
154A	Montrose	41.09	349	P	P	08 57 39.9	+0.6
NHSC	New Hope	41.11	353	P	P	08 57 40.0	+0.6
NHSC	New Hope	41.11	353	P	P	08 57 39.5	+0.1
	baz=171,SNR=5.4						
GOGA	Godfrey	41.94	349	P	P	08 57 46.6	+0.5
GOGA	Godfrey	41.94	349	P	P	08 57 45.7	-0.4
	baz=167,SNR=5.2						
Y57A	Sumter	42.04	353	P	P	08 57 47.4	+0.5
LRAL	Lakeview Retre	42.40	344	P	P	08 57 49.5	-0.4
LRAL	Lakeview Retre	42.40	344	P	P	08 57 49.2	-0.6
	baz=162,SNR=5.3						
BIRD	Birdtown, Kers	42.67	353	P	P	08 57 52.5	+0.6
Z47A	Carrollton	42.85	343	P	P	08 57 52.9	-0.6
Z47A				IAmb	IAmb	08 57 53.4	
	comp=Z,18nm,0.7s						
CNNC	Cliffs of the	43.00	356	P	P	08 57 55.1	+0.4
	baz=175						
Y49A	Blount Mountai	43.02	345	P	P	08 57 54.2	-0.7
KMSC	Kings Mountain	43.27	352	P	P	08 57 56.6	-0.3
	baz=170						
833A	Chaparral WMA,	43.30	327	P	P	08 57 58.1	+0.9
	baz=143,SNR=7.9						
FPAL	Fort Paine	43.48	347	P	P	08 57 58.4	-0.2
FPAL				IAmb	IAmb	08 57 59.0	
	comp=Z,12nm,0.8s						
X48A	Hartselle	43.75	345	P	P	08 57 60.0	-0.7
W50A	Signal Mountai	44.05	347	P	P	08 58 02.8	-0.3
CPCT	Cooper Cave	44.12	348	P	P	08 58 03.7	0.0
435B	Jarrell	44.37	331	P	P	08 58 06.4	+0.6
	baz=146						
T57A	Hurt	44.86	355	P	P	08 58 10.1	+0.6
TZTN	Tazewell	45.00	350	P	P	08 58 10.0	-0.6
	baz=167						
BLA	Blacksburg	45.19	353	P	P	08 58 13.1	+0.9
BLA				IAmb	IAmb	08 58 13.5	
	comp=Z,20nm,0.8s						
BLA	Blacksburg	45.19	353	P	P	08 58 12.5	+0.3
	baz=172,SNR=5.6						
JCT	Junction City	45.23	329	P	P	08 58 13.0	+0.4
	baz=144						
WHTX	Lake Whitney,	45.32	332	P	P	08 58 13.8	+0.6
	baz=147						
WVT	Waverly	45.54	345	P	P	08 58 13.8	-1.1
WVT	Waverly	45.54	345	P	P	08 58 13.4	-1.4
	baz=161						
MIAR	Mount Ida	45.90	338	P	P	08 58 16.7	-1.1
	baz=153						
MG03	Isla Dawson	45.96	177	P	P	08 58 19.6	+1.7
MG03				IAmb	IAmb	08 58 20.1	
	comp=Z,22nm,0.7s						
W41B	Gary Mavity, V	45.99	340	P	P	08 58 17.7	-0.7
W41B	Gary Mavity, V	45.99	340	P	P	08 58 17.2	-1.2
	baz=155,SNR=5.7						
WHAR	Wooly Hollow	46.11	340	P	P	08 58 18.9	-0.4
TX31	Lajitas Ar. Si	46.47	324	P	P	08 58 23.1	+0.7
TX31				IAmb	IAmb	08 58 24.1	
	comp=Z,18nm,1.1s						
TXAR	Lajitas Array	46.47	324	P	P	08 58 22.9	+0.6
	comp=Z,3.1nm,0.7s,baz=145,slow=8.8,SNR=37						
TXAR				pP	pP	08 58 56.0	+0.2
	comp=Z,2.7nm,0.9s,baz=145,slow=7.6,SNR=6.5						
TXAR				LR	LR	09 18 47.1	
	comp=Z,101nm,18.0s,baz=199,slow=37						
TXAR	Lajitas Array	46.47	324	P	P	08 58 23.0	+0.6
W39A	Magazine	46.56	338	P	P	08 58 22.3	-0.6
	baz=153,SNR=7.4						
FCAR	Ozark Folk Cen	46.60	340	P	P	08 58 22.3	-0.9
ABTX	Abilene, Hawle	46.88	331	P	P	08 58 26.2	+0.8
	baz=145,SNR=8.2						
Q56A	Snyder Ridge,	46.88	355	P	P	08 58 26.4	+1.1
Q56A				IAmb	IAmb	08 58 27.4	
	comp=Z,22nm,0.9s						
WCI	Wyandotte Cave	47.17	347	P	P	08 58 26.6	-1.0
	baz=164						
U40A	Yellville	47.27	340	P	P	08 58 27.7	-0.6
	baz=155						
MCWV	Mont Chateau	47.55	354	P	P	08 58 31.2	+0.7
	baz=173						
P52A	Corning	47.80	352	P	P	08 58 32.1	-0.3
	baz=170						
TUL1	Leonard	47.96	337	P	P	08 58 33.6	-0.1
	baz=151,SNR=7.1						
O56A	Blue Knob Stat	48.05	356	P	P	08 58 34.6	+0.2
	baz=175						
P49A	Miami Univ. Ec	48.12	349	P	P	08 58 33.6	-1.2
	baz=166						
WMOK	Wichita Mounta	48.22	333	P	P	08 58 35.7	0.0
	baz=147,SNR=9.2						
O53A	New Philadelph	48.29	353	P	P	08 58 35.8	-0.4
	baz=171						
CCM	Cathedral Cave	48.30	342	P	P	08 58 35.0	-1.3
	baz=158						
SSPA	Standing Stone	48.37	357	P	P	08 58 36.2	-0.5
	baz=176						
ACSO	Alum Creek Sta	48.51	351	P	P	08 58 36.9	-0.9
	baz=169						
S39A	Bolivar	48.63	340	P	P	08 58 37.8	-1.1
N54A	Moraine State	48.86	354	P	P	08 58 41.0	+0.5
	baz=173						
O48B	Farmland	48.90	349	P	P	08 58 39.6	-1.2
	baz=166						
M57A	Sunshine Farm,	49.03	357	P	P	08 58 42.8	+1.0
M57A				IAmb	IAmb	08 58 43.3	
	comp=Z,21nm,0.7s						
MNTX	Cornudas Mount	49.21	325	P	P	08 58 43.5	+0.1
MNTX	Cornudas Mount	49.21	325	P	P	08 58 43.4	+0.1
	baz=138,SNR=11						
M54A	Oil Creek Stat	49.37	355	P	P	08 58 44.7	+0.3
	baz=173						
SFIN	Lafayette	49.41	347	P	P	08 58 43.1	-1.6
	baz=164						
MSTX	Muleshoe	49.52	329	P	P	08 58 45.7	-0.1
	baz=142,SNR=5.4						
L56A	Greenwood	49.85	357	P	P	08 58 48.5	+0.4
L56A				IAmb	IAmb	08 58 49.0	
	comp=Z,21nm,0.8s						
BINY	Binghamton	49.85	359	P	P	08 58 47.9	-0.1
BINY	Binghamton	49.85	359	P	P	08 58 48.5	+0.5
	baz=178,SNR=6.5						
HDIL	Hopedale	50.09	345	P	P	08 58 48.8	-1.1
HDIL	Hopedale	50.09	345	P	P	08 58 48.2	-1.6
	baz=161,SNR=5.4						
WVNY	West Valley, N	50.18	356	P	P	08 58 50.8	+0.3
WVNY				IAmb	IAmb	08 58 51.9	
	comp=Z,17nm,0.8s						
HRV	Adam Dziewonsk	50.21	3	P	P	08 58 50.6	-0.1
	baz=184						
K57A	Scipio Center	50.40	358	P	P	08 58 52.0	-0.1
KSU1	Kansas State U	51.06	338	P	P	08 58 55.8	-1.3
	baz=151,SNR=6.3						
121A	Cookes Peak, D	51.21	323	P	P	08 58 59.5	+0.8
	baz=136						
CBKS	Cedar Bluff	52.05	335	P	P	08 59 05.2	+0.6
	baz=148						
ANMO	Albuquerque	52.22	327	P	P	08 59 06.8	+0.7
ANMO	Albuquerque	52.22	327	P	P	08 59 06.4	+0.3
	baz=139						
DELO	Deloro Mine	52.23	357	P	P	08 59 05.8	+0.2
DELO				IAmb	IAmb	08 59 06.2	
	comp=Z,11nm,0.8s						
LONY	Lake Ozonia	52.25	360	P	P	08 59 05.5	-0.3
	baz=180						
JFWS	Jewell Farm	52.55	345	P	P	08 59 06.6	-1.6
	baz=160						
T25A	Trinidad	52.83	330	P	P	08 59 11.2	+0.6
	baz=142,SNR=10.0						
TUC	Tucson	52.88	321	P	P	08 59 11.4	+0.6
TUC	Tucson	52.88	321	P	P	08 59 10.9	+0.1

baz=133
PKME Peaks-Kenny Pk 53.10 5 P P 08 59 12.6 +0.5
baz=186
KSCO Kaye Shedlock' 53.48 333 P P 08 59 14.3 -0.9
baz=145
BGNE Belgrade 53.65 338 P P 08 59 15.9 -0.3
baz=150
SDCO Great Sand Dun 53.85 330 P P 08 59 18.0 0.0
SDCO IAmb IAmb 08 59 19.9
comp=Z,12nm,0.9s
SDCO Great Sand Dun 53.85 330 P P 08 59 18.3 +0.2
baz=141,SNR=17
214A Organ Pipe Nat 53.93 319 P P 08 59 18.8 +0.3
baz=131,SNR=9.6
W18A Petrified Fore 54.19 324 P P 08 59 20.9 +0.4
baz=135,SNR=9.5
S22A 4UR Ranch, Cre 54.52 329 P P 08 59 23.2 +0.2
baz=140,SNR=11
X16A Lo Mia Camp, P 54.71 322 P P 08 59 24.7 +0.4
X16A IAmb IAmb 08 59 26.3
comp=Z,11nm,1.2s
OGNE Ogallala 54.80 335 P P 08 59 24.5 -0.2
baz=146
MVCO Mesa Verde 55.01 327 P P 08 59 27.1 +0.7
MVCO IAmb IAmb 08 59 28.2
comp=Z,18nm,1.5s
MVCO Mesa Verde 55.01 327 P P 08 59 26.5 +0.1
baz=138
ECSD EROS Data Cent 55.15 341 P P 08 59 26.1 -0.9
ECSD EROS Data Cent 55.15 341 P P 08 59 25.5 -1.5
baz=153,SNR=7.3
SPMN Marine on St. 55.37 344 P P 08 59 27.3 -1.3
baz=158
BATG Bathurst New B 55.41 7 P P 08 59 28.9 +0.2
BATG IAmb IAmb 08 59 57.7
comp=Z,27nm,1.4s
WUAZ Wupatki 55.42 323 P P 08 59 29.5 +0.2
baz=134,SNR=9.8
ISCO Idaho Springs 55.50 331 P P 08 59 30.5 +0.5
baz=142
PV13 Radium Mtn., P 55.88 327 P P 08 59 33.4 +0.8
PDMCI Parker Dam,Lak 56.30 321 P P 08 59 35.8 +0.4
baz=131
N23A Red Feather La 56.52 332 P P 08 59 37.7 +0.6
baz=142
SUSD Miller 56.58 339 P P 08 59 36.4 -0.8
baz=151
U15A North Rim 56.59 324 P P 08 59 39.2 +1.4
BC3 Big Chuckawall 56.73 319 P P 08 59 38.6 +0.1
baz=129,SNR=7.7
IRM Iron Mountain 56.84 320 P P 08 59 40.1 +0.8
baz=130,SNR=20
MONP2 Monument Peak 56.89 318 P P 08 59 39.8 -0.1
baz=128
O20A White River Ci 57.05 329 P P 08 59 41.2 +0.4
baz=139,SNR=8.1
BELC Belle Mtn. Jos 57.30 319 P P 08 59 43.2 +0.6
baz=129,SNR=8.9
109C Camp Elliot, M 57.34 317 P P 08 59 43.3 +0.6
baz=127
TPFO Pinon Flats 57.35 318 P P 08 59 43.7 +0.7
baz=128,SNR=5.9
PFO Pinyon Flats O 57.35 318 P P 08 59 44.1 +1.1
baz=128,SNR=5.6
SRU San Rafael Swe 57.48 327 P P 08 59 44.6 +0.8
SRU IAmb IAmb 08 59 44.8
comp=Z,7.2nm,0.9s
LCMT Little Creek M 57.55 324 P P 08 59 45.6 +1.3
LCMT IAmb IAmb 08 59 46.5
comp=Z,8.9nm,1.1s
GMRC Granite Mounta 57.57 320 P P 08 59 45.2 +0.7
baz=130,SNR=6.7
EYMN Ely 57.58 347 P P 08 59 43.1 -1.1
baz=160
MURC Murrieta 57.83 318 P P 08 59 46.6 +0.4
baz=128
HEC Hector,Ludlow 58.03 320 P P 08 59 48.7 +1.0
baz=129,SNR=9.2
BBRC Big Bear Solar 58.06 319 P P 08 59 48.7 +0.7
baz=128
TUQ Turquoise Moun 58.15 320 P P 08 59 49.1 +0.6
baz=130,SNR=7.0
K22A Casper 58.16 333 P P 08 59 48.8 +0.3
baz=142,SNR=7.4
RSSD Black Hills 58.26 335 P P 08 59 49.8 +0.6
RSSD IAmb IAmb 08 59 51.0
comp=Z,17nm,1.1s
RSSD Black Hills 58.26 335 P P 08 59 49.8 +0.6
baz=145
B35A Bob, Littlefor 58.51 345 P P 08 59 49.8 -0.8
B35A IAmb IAmb 08 59 49.8
comp=Z,9.8nm,0.7s
GSC Goldstone, Bar 58.62 320 P P 08 59 52.4 +0.6
baz=129,SNR=5.6
DRLN Deer Lake 58.80 13 P P 08 59 53.1 +0.6
PSUT Pine Spring 58.93 324 P P 08 59 55.3 +1.3
EDW2 Edwards Air Fo 59.13 319 P P 08 59 55.6 +0.3
baz=128
LRMC Laurel Mtn Rad 59.30 319 P P 08 59 57.2 +0.7
baz=128
TPNV Topopah Spring 59.32 322 P P 08 59 57.9 +1.3
TPNV Topopah Spring 59.32 322 P P 08 59 57.2 +0.6
baz=130,SNR=14
FURC Furnace Creek, 59.39 321 P P 08 59 57.3 +0.4
baz=129,SNR=8.8
DUG Dugway, Tooele 59.49 327 P P 08 59 58.8 +1.1
DUG IAmb IAmb 08 59 59.8
comp=Z,19nm,1.1s
DUG Dugway, Tooele 59.49 327 P P 08 59 58.6 +0.8
baz=135,SNR=14
MPMC Manual Prospec 59.53 320 P P 08 59 58.1 0.0
baz=128,SNR=7.0
BW06 Boulder Array 59.68 331 P P 08 59 59.2 +0.1
BW06 IAmb IAmb 09 00 00.0
comp=Z,16nm,1.4s
BW06 Boulder Array 59.68 331 P P 08 59 58.9 -0.2
baz=139,SNR=9.0
PD31 Pinedale Array 59.68 331 P P 08 59 59.1 0.0
PD31 IAmb IAmb 09 00 00.0
comp=Z,14nm,1.4s
PDAR Pinedale Array 59.68 331 P P 08 59 59.0 0.0
comp=Z,6.9nm,1.1s,baz=139,slow=7.9,SNR=22
PDAR pP pP 09 00 34.8 +0.8
comp=Z,1.1nm,0.8s,baz=140,slow=7.7,SNR=2.7
PDAR Pinedale Array 59.68 331 P P 08 59 58.5 -0.6
MDND Maddock 59.77 341 P P 08 59 59.3 0.0
baz=151
R11A Troy Canyon, C 59.82 323 P P 09 00 01.0 +1.0
R11A Troy Canyon, C 59.82 323 P P 09 00 01.0 +1.0
baz=131,SNR=9.3
ISA Isabella, Lake 59.92 319 P P 09 00 01.1 +0.5
baz=128
GRAC Grapevine Rang 60.04 321 P P 09 00 01.7 +0.3
baz=129
CWC Cottonwood Cre 60.14 320 P P 09 00 02.8 +0.5
baz=128
PKM Mcpherson Peak 60.34 318 P P 09 00 03.9 +0.2
baz=126
VES Vestal, Richgr 60.42 319 P P 09 00 05.1 +1.1
baz=127
SMMC Simmler 60.71 318 P P 09 00 06.4 +0.4
baz=126
REDW Red Top Meadow 60.76 330 P P 09 00 06.6 +0.2
REDW IAmb IAmb 09 00 07.7
comp=Z,9.9nm,1.1s
ULM Lac du Bonnet 60.81 344 P P 09 00 05.4 -0.8
comp=Z,10nm,0.6s,baz=160,slow=6.7,SNR=15
ULM pP pP 09 00 40.3 -1.0
comp=Z,23nm,0.9s,baz=157,slow=7.7,SNR=13
ULM Lac du Bonnet 60.81 344 P P 09 00 05.5 -0.7
ULM IAmb IAmb 09 00 06.0
comp=Z,12nm,0.7s
LOHW Long Hollow 60.82 331 P P 09 00 07.1 +0.3
RLMT Red Lodge 61.33 333 P P 09 00 10.1 -0.1
baz=140
H17A Grant Village 61.39 331 P P 09 00 10.9 +0.2
baz=138
OMMB Old Mammoth Mi 61.44 321 P P 09 00 12.1 +0.9
OMMB IAmb IAmb 09 00 13.0
comp=Z,14nm,1.1s
NVAR Mina Array Bea 61.51 322 P P 09 00 12.6 +1.0
comp=Z,2.8nm,0.8s,baz=129,slow=7.4,SNR=22
NVAR pP pP 09 00 47.6 +0.9
comp=Z,3.1nm,0.9s,baz=145,slow=7.1,SNR=5.4
NVAR Mina Array Bea 61.51 322 P P 09 00 11.9 +0.3
YMR Madison River 61.78 331 P P 09 00 14.9 +1.6
YHH Holmes Hill 61.81 331 P P 09 00 14.6 +1.1
YHH IAmb IAmb 09 00 15.7
comp=Z,15nm,0.9s
DGMT Dagmar 61.91 338 P P 09 00 14.6 +0.8
baz=146,SNR=5.0
YHL Hebgen Lake 62.02 331 P P 09 00 16.4 +1.5
HLID Hailey 62.70 328 P P 09 00 20.2 +0.8
HLID Hailey 62.70 328 P P 09 00 19.9 +0.6
baz=134,SNR=8.7
BCYI Bear Canyon 62.72 329 P P 09 00 20.8 +1.3
PNTR Pine Nut 62.72 322 P P 09 00 21.1 +1.5
PNTR IAmb IAmb 09 00 21.8
comp=Z,11nm,0.9s
BOZ Bozeman (W) 62.78 332 P P 09 00 20.5 +0.7
BOZ Bozeman (W) 62.78 332 P P 09 00 20.2 +0.5
baz=138,SNR=20
SCHQ Schefferville 62.80 5 P P 09 00 19.2 -0.3
comp=Z,6.4nm,0.8s,baz=182,slow=3.0,SNR=9.0
SCHQ pP pP 09 00 54.7 0.0
comp=Z,19nm,0.9s,baz=185,slow=5.1,SNR=12
SCHQ Schefferville 62.80 5 P P 09 00 19.2 -0.3
SCHQ IAmb IAmb 09 00 20.4
comp=Z,18nm,1.2s
MCMT McKenzie Canyo 62.81 330 P P 09 00 21.1 +1.0
DLMT Dillon 63.07 331 P P 09 00 22.4 +0.7
DLMT IAmb IAmb 09 00 23.4
comp=Z,10nm,1.1s
LRM Limekiln Ridge 63.34 331 P P 09 00 24.0 +0.4
MFID Camas Ranch 63.35 327 P P 09 00 24.1 +0.6
BEKR Beckworth 63.66 322 P P 09 00 26.9 +1.2
BEKR IAmb IAmb 09 00 27.6
comp=Z,8.3nm,1.0s
HRY Holter Researc 63.70 332 P P 09 00 26.2 +0.4
EGMT Eagleton 63.77 334 P P 09 00 26.4 +0.3
EGMT Eagleton 63.77 334 P P 09 00 26.2 0.0
baz=140,SNR=11
PLID Pearl Lake 64.58 329 P P 09 00 31.5 -0.2
MSO Missoula 64.78 331 P P 09 00 33.8 +1.0
MSO Missoula 64.78 331 P P 09 00 33.6 +0.8
baz=136,SNR=16
O03E Paynes Creek 64.80 322 P P 09 00 32.9 -0.1
baz=126
O02D Mt. Diablo Mer 65.34 321 P P 09 00 36.6 +0.1
baz=126
JTMT Jette 65.60 332 P P 09 00 39.1 +1.1
JTMT IAmb IAmb 09 00 40.0
comp=Z,15nm,0.8s
M04C Macdoel 65.71 323 P P 09 00 39.3 +0.4
baz=127
N02D Trinity Center 65.75 322 P P 09 00 38.3 -0.8
baz=126
I07A Izee 65.79 326 P P 09 00 40.5 +1.1
I07A IAmb IAmb 09 00 41.3
comp=Z,17nm,0.9s
M02C Callahan 66.09 322 P P 09 00 40.9 -0.4
baz=126
L04D Klamath Falls 66.25 323 P P 09 00 42.5 +0.2
baz=127
J05D Fort Rock, OR 66.27 324 P P 09 00 43.2 +0.8
baz=128
FFC Flin Flon 66.50 343 P P 09 00 43.2 -0.3
I05D Terrebonne, OR 66.97 325 P P 09 00 47.3 +0.5
baz=128
L02E Cave Junction 66.99 322 P P 09 00 47.1 +0.2
baz=126
I04A Tendick Farm, 67.25 324 P P 09 00 48.8 +0.2
baz=127
NEW Newport 67.32 331 P P 09 00 49.1 +0.2
baz=133,SNR=8.0
K02D Willamette Mer 67.34 323 P P 09 00 49.9 +0.7
baz=126
G05D Wamic, OR 67.52 326 P P 09 00 50.5 +0.3
baz=129
I02E Swisshome, OR 68.27 324 P P 09 00 55.7 +0.8
baz=126
EDM Edmonton 69.21 336 P P 09 01 00.4 -0.2
B05A Bryant 69.83 328 P P 09 01 04.5 +0.1
baz=129
D03D Eldon 69.90 327 P P 09 01 05.7 +0.8
baz=128
LIC Lamto 70.65 81 eP P 09 01 08.8 -1.3
comp=Z,20nm,0.8s
TIC Tomodi 70.73 80 eP P 09 01 09.1 -1.5
DBIC Dimbokro 70.90 80 P P 09 01 10.8 -0.9
comp=Z,8.4nm,0.5s,baz=259,slow=3.3,SNR=16
DBIC pP pP 09 01 47.0 -0.7
comp=Z,4.3nm,0.6s,baz=263,slow=8.3,SNR=2.5
DBIC Dimbokro 70.90 80 P P 09 01 11.1 -0.5
DBIC IAmb IAmb 09 01 12.2
comp=Z,10nm,0.7s
KIC Kosan Boka 70.95 81 eP P 09 01 10.3 -1.7
comp=Z,22nm,0.8s
FRB Fisher Bay 71.56 3 LR LR 09 34 44.0
comp=Z,67nm,19.6s,baz=324,slow=37
KOWA Kowa 73.30 72 P P 09 01 25.5 -0.4
KOWA IAmb IAmb 09 01 30.3
comp=Z,8.7nm,0.6s
VNA3 Neumayer Olymp 74.62 162 P P 09 01 31.6 -0.9
VNA2 Neumayer--Watz 75.20 162 P P 09 01 35.0 -0.9
baz=296,slow=5.8
YKA Yellowknife Ar 76.64 342 P P 09 01 43.3 -0.7
comp=Z,2.5nm,0.5s,baz=139,slow=6.3,SNR=59
YKA pP pP 09 02 21.1 +0.5
comp=Z,4.9nm,0.9s,baz=137,slow=6.6,SNR=8.1
YKA Yellowknife Ar 76.64 342 P P 09 01 44.8 +0.8
SNAA Sanae 76.83 162 P P 09 01 44.7 -0.4
SNAA Sanae 76.83 162 P P 09 01 44.5 -0.6
comp=Z,6.2nm,0.8s,baz=262,slow=2.6,SNR=9.0
SNAA pP pP 09 02 21.9 +0.3
comp=Z,4.8nm,0.8s,baz=304,slow=7.1,SNR=2.8
SNAA Sanae 76.83 162 P P 09 01 45.2 0.0
SNAA IAmb IAmb 09 02 10.6
comp=Z,20nm,1.4s
DY2G Dye2 76.95 11 i P P 09 01 44.9 -1.1
DY2G IAmb IAmb 09 01 46.3
comp=Z,26nm,0.9s
DY2G epP pP 09 02 21.1 -1.5
TORD Torodi Ar. Bea 78.45 75 P P 09 01 54.4 -0.8
comp=Z,5.8nm,0.7s,baz=268,slow=5.2,SNR=21
TORD pP pP 09 02 30.9 -1.0
comp=Z,4.8nm,0.9s,baz=270,slow=6.4,SNR=4.1
TORD Torodi Ar. Bea 78.45 75 P P 09 01 54.4 -0.8
TROLL Troll, Antarti 78.54 162 P P 09 01 53.1 -1.6
WRGLY Wrigley 80.04 340 P P 09 02 03.6 +0.9
baz=131
ESDC Sonseca Array 80.29 48 P P 09 02 05.1 +0.4
comp=Z,2.8nm,0.9s,baz=258,slow=6.5,SNR=11
ICESG Greenland Ices 80.50 12 i P P 09 02 04.0 -1.5
TGTN Hyland Airport 80.74 337 P P 09 02 07.6 +1.0
baz=126,SNR=5.6
P33M Teslin, Yukon 81.86 335 P P 09 02 12.7 +0.1
baz=122
QSPA South Pole Qui 82.23 180 P P 09 02 15.2 +0.7
QSPA IAmb IAmb 09 02 16.6
comp=Z,15nm,0.8s
MMPY Sheldon Lake, 82.52 337 P P 09 02 16.2 +0.3
baz=123
FARO Faro, Yukon 83.14 336 P P 09 02 19.8 +0.7
baz=121
M31M Drury Creek, Y 83.54 336 P P 09 02 22.2 +1.1
M31M Drury Creek, Y 83.54 336 P P 09 02 22.1 +1.0
baz=120
SUMG Summit 83.59 10 i P P 09 02 21.0 -0.6
SUMG epP pP 09 02 58.0 -0.7
SUMG epP pP 09 02 59.2 +0.5
SUMG Summit 83.59 10 P P 09 02 21.3 -0.3
SUMG IAmb IAmb 09 02 24.3
comp=Z,12nm,0.9s
N31M Braeburn, Yuko 83.76 335 P P 09 02 22.7 +0.4
N31M IAmb IAmb 09 02 40.0
comp=Z,12nm,1.3s
N31M Braeburn, Yuko 83.76 335 P P 09 02 22.9 +0.7
baz=119
HYT Haines Junctio 84.18 334 P P 09 02 25.3 +0.8
baz=118
YUK4 Talbot Arm 84.91 334 P P 09 02 29.0 +0.7
baz=117
CTG Chitna Glacier 85.93 333 P P 09 02 34.0 +0.7
baz=114
NEEM North Greenlan 86.21 5 i P P 09 02 34.6 +0.1
NEEM epP pP 09 03 10.2 -1.6
NEEM epP pP 09 03 11.2 -0.6
A36M Sachs Harbour 86.24 346 P P 09 02 33.7 -0.6
baz=130,SNR=11
BVCY Beaver Creek 86.32 335 P P 09 02 34.9 -0.1
baz=115
INK Inuvik 86.39 341 P P 09 02 34.9 -0.2
baz=122,SNR=8.7
DAWY Dawson 86.42 336 P P 09 02 35.1 -0.4
baz=116
EPYK Eagle Plains 86.48 339 P P 09 02 35.6 -0.1
baz=119
I29M Ogilvie Camp, 86.59 338 P P 09 02 35.7 -0.5
baz=117,SNR=5.1
M27K Edge Creek, AK 86.73 334 P P 09 02 37.5 +0.3
M27K IAmb IAmb 09 03 05.5
comp=Z,18nm,1.4s
M27K Edge Creek, AK 86.73 334 P P 09 02 37.2 +0.1
baz=114
MCARA McCarthy VSAT 86.84 333 P P 09 02 38.0 +0.4
baz=113
BCAR Beaver Creek A 86.97 335 P P 09 02 38.7 +0.5
L27K Beaver Creek, 86.99 335 P P 09 02 39.0 +0.8
L27K IAmb IAmb 09 02 39.8
comp=Z,6.7nm,0.9s
L27K Beaver Creek, 86.99 335 P P 09 02 38.3 0.0
baz=114
EGAK Eagle 87.42 337 P P 09 02 40.5 +0.3
EGAK IAmb IAmb 09 02 41.3
comp=Z,7.1nm,1.0s
EGAK Eagle 87.42 337 P P 09 02 40.4 +0.2
baz=114,SNR=6.8
L26K Log Cabin Wild 87.61 335 P P 09 02 41.3 +0.1
baz=112
N25K Chitina, Valde 87.63 333 P P 09 02 41.7 +0.3
baz=111
KLU Klutina 88.18 333 P P 09 02 44.0 0.0
baz=110
SCRK Sand Creek 88.24 336 P P 09 02 44.5 +0.2
SCRK IAmb IAmb 09 02 45.4
comp=Z,9.2nm,1.0s
SCRK Sand Creek 88.24 336 P P 09 02 44.1 -0.1
baz=112,SNR=5.6
J26L Joseph Creek 88.27 336 P P 09 02 44.6 +0.2
baz=112
PAX Paxson 88.50 334 P P 09 02 45.0 -0.5
baz=110,SNR=6.8
M24K Tolsona, Glenn 88.50 333 P P 09 02 45.6 +0.1
baz=110
RIDG Independent Ri 88.51 335 P P 09 02 45.5 0.0
baz=111
SCM Sheep Creek Mo 88.93 333 P P 09 02 47.8 +0.3
baz=109
PWL Port Wells 89.08 332 P P 09 02 48.3 +0.2
baz=108
VNDA Vanda 89.24 190 P P 09 02 48.2 -0.5
KNK Knik Glacier 89.31 332 P P 09 02 49.2 0.0
baz=108
WAT6 Susitna Watana 89.35 334 P P 09 02 49.3 -0.3
baz=108,SNR=6.2
SML Sawmill 89.37 333 P P 09 02 49.4 -0.2
baz=108,SNR=6.5
SEW Seward 89.39 331 P P 09 02 49.4 -0.1
baz=107
PRP Porcupine Dome 89.41 337 P P 09 02 49.8 0.0
baz=110
HDA Harding Lake 89.61 336 P P 09 02 50.4 -0.1
baz=109,SNR=5.8
IL31 89.70 336 P P 09 02 51.0 +0.2
ILAR Eielson Array 89.70 336 P P 09 02 50.0 -0.9
comp=Z,1.5nm,0.5s,baz=137,slow=4.2,SNR=18
ILAR pP pP 09 03 27.6 -0.9
comp=Z,6.0nm,0.9s,baz=128,slow=3.3,SNR=16
BMAR Burnt Mountain 89.74 339 P P 09 02 51.7 +0.5
BRSE Bradley Lake S 89.91 331 P P 09 02 52.4 +0.4
baz=106
POKR Poker Plat Res 90.03 336 P P 09 02 53.0 +0.5
baz=109
COLA College 90.12 336 P P 09 02 53.1 +0.2
baz=108
TCOL CIGO, UAF Yank 90.13 336 P P 09 02 53.1 +0.2
baz=108
MCK McKinley 90.22 335 P P 09 02 53.6 +0.1
baz=107
DAG Danmarks Havn 90.24 11 i P P 09 02 53.0 -0.3
DAG epP pP 09 03 30.2 -0.6
H24K Noodor Dome 90.44 337 P P 09 02 54.2 -0.2
baz=108,SNR=7.9
NEA2 Nenana 90.53 335 P P 09 02 54.6 -0.3
baz=107,SNR=11
TRF Thorofare Moun 90.72 334 P P 09 02 55.8 -0.2
baz=106
BPAW Bear Paw Mtn. 91.20 335 P P 09 02 57.3 -0.7
baz=106,SNR=6.6
MLY Manley 91.34 336 P P 09 02 58.3 -0.4
baz=106
PPLA Purkeypile 91.41 333 P P 09 02 58.8 -0.3
baz=104
CAST Castle Rocks 91.49 334 P P 09 02 58.4 -0.9
baz=105,SNR=6.3
COLD Coldfoot 91.74 338 P P 09 03 00.7 +0.4
baz=106
DAVOX Davos/Dischmat 91.82 43 P P 09 03 01.6 +0.1
comp=Z,3.1nm,0.7s,baz=330,slow=17,SNR=4.9
TOLK Toolik Lake Re 91.91 339 P P 09 03 01.4 +0.2
baz=107
H21K Melozitna Rive 92.34 336 P P 09 03 02.8 -0.4
baz=104
IMAR Indian Mountai 92.80 336 P P 09 03 04.8 -0.5
AFI Afiamalu 95.16 255 LR LR 09 38 48.8
comp=Z,3um,19.6s,baz=198,slow=31
AKTO Aktyubinsk 122.17 34 PKP PKiKP 09 08 47.6 +0.2
comp=Z,1.3nm,0.7s,baz=34,slow=3.6,SNR=3.6
BVAR Borovoye Array 126.71 26 PKP PKPdf 09 08 55.9 +0.1
comp=Z,1.1nm,0.7s,baz=47,slow=8.7,SNR=6.3
BVAR pPKP pPKPdf 09 09 36.4 +1.3
comp=Z,1.1nm,0.6s,baz=49,slow=12,SNR=3.7
STKA Stephens Creek 127.58 219 PKP PKPdf 09 08 58.4 +0.2
comp=Z,4.5nm,0.7s,baz=0.2,slow=0.2,SNR=13
STKA pPKP pPKPdf 09 09 38.8 +1.3
comp=Z,3.6nm,0.6s,baz=348,slow=23,SNR=5.7
ZALV Zalesovo Beam 131.11 16 PKP PKiKP 09 09 05.0 -0.1
comp=Z,5.3nm,0.8s,baz=323,slow=2.2,SNR=20
ZALV pPKP pPKPdf 09 09 44.8 +1.4
comp=Z,10nm,0.9s,baz=302,slow=2.8,SNR=10
ZALV Zalesovo Beam 131.11 16 PKPdf PKiKP 09 09 05.5 +0.5
CTA Charters Tower 131.25 235 PKP PKPdf 09 09 05.1 -0.3
baz=106
comp=Z,5.0nm,1.0s,baz=16,slow=16,SNR=3.1
CTA pPKP pPKPdf 09 09 46.0 +1.3
comp=Z,2.0nm,0.4s,baz=135,slow=3.7,SNR=2.5
KURBB Kurchatov Arra 131.85 23 PKP PKPdf 09 09 06.0 +0.3
comp=Z,2.2nm,0.8s,baz=312,slow=2.6,SNR=4.2
KURBB pPKP pPKPdf 09 09 46.2 +1.3
comp=Z,6.0nm,1.0s,baz=313,slow=2.5,SNR=13
AAK Ala-Archa 135.91 33 PKP PKiKP 09 09 15.3 -0.1
comp=Z,1.7nm,0.8s,baz=275,slow=12,SNR=3.5
AAK pPKP pPKPdf 09 09 54.7 +1.6
comp=Z,2.5nm,0.9s,baz=221,slow=2.9,SNR=2.8
MKAR Makanchi Array 136.41 23 PKP PKPdf 09 09 14.2 -0.2
comp=Z,1.4nm,0.8s,baz=341,slow=1.8,SNR=13
MKAR pPKP pPKPdf 09 09 55.0 +1.3
comp=Z,2.6nm,0.8s,baz=319,slow=1.9,SNR=10.0
MKAR Makanchi Array 136.41 23 PKPdf 09 09 14.6 +0.2
ASAR Alice Springs 138.16 221 PKhKP PKPpre 09 09 10.4
comp=Z,1.4nm,0.8s,baz=139,slow=2.1,SNR=11
ASAR PKP PKPdf 09 09 17.5 -0.8
comp=Z,3.3nm,0.8s,baz=120,slow=2.0,SNR=18
ASAR pPKP pPKPdf 09 09 58.5 +0.8
comp=Z,1.7nm,0.4s,baz=122,slow=1.8,SNR=5.7
MJAR Matsushiro Arr 138.79 319 PKP PKPdf 09 09 17.5 -1.5
comp=Z,2.7nm,0.8s,baz=122,slow=1.3,SNR=4.3
SONM Songino Array 140.17 359 PKhKP PKPpre 09 09 14.2
comp=Z,0.3nm,0.4s,baz=45,slow=2.7,SNR=1.7
SONM PKP PKPdf 09 09 22.0 +0.6
comp=Z,0.7nm,0.7s,baz=17,slow=2.3,SNR=3.6
WRA Warramunga Arr 140.41 225 PKhKP PKPpre 09 09 15.1
comp=Z,1.2nm,0.5s,baz=128,slow=3.2,SNR=8.3
WRA PKP PKPdf 09 09 22.4 -0.1
comp=Z,4.8nm,0.7s,baz=130,slow=1.7,SNR=22
WRA pPKP pPKPdf 09 10 03.2 +1.4
comp=Z,3.1nm,0.5s,baz=122,slow=2.1,SNR=6.4
WRA Warramunga Arr 140.41 225 PKPdf 09 09 21.8 -0.7
KSRS Korea Array 144.23 329 PKP PKPab 09 09 26.5 -0.3
comp=Z,2.4nm,0.8s,baz=28,slow=1.8,SNR=8.7
KSRS pPKP pPKPdf 09 10 06.2 -1.9
comp=Z,1.3nm,0.7s,baz=28,slow=3.0,SNR=2.7
JNU Nakatsue 145.63 320 PKPbc PKPdf 09 09 29.2 -2.2
comp=Z,5.0nm,0.7s,baz=82,slow=6.1,SNR=4.7
HHC Hu-ho-hao-te 146.73 352 eP PKPab 09 09 36.0 -0.4
BTO Baotou 147.16 354 ePKPbc PKPbc 09 09 35.8 -0.4
FITZ Fitzroy Crossi 147.44 217 PKPbc PKPdf 09 09 35.0 +0.3
comp=Z,20nm,0.7s,baz=176,slow=5.1,SNR=36
FITZ pPKPbc pPKPab 09 10 17.2 -0.5
comp=Z,18nm,1.0s,baz=176,slow=3.1,SNR=6.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	147.44	217		PKPdf	09 09 34.5	-0.3
GTA	Gaotai	148.18	8	⇑P	PKPbc	09 09 39.4	+0.4
GTA				sP	pPKPbc	09 10 17.1	-0.9
HNS	HongShan	149.45	346	⇑P	PKiKP	09 09 42.8	-0.3
GOMU	GeErMu	150.15	18	PKPbc	PKPdf	09 09 41.1	+2.0
GOMU				PP	sPKPdf	09 10 34.3	+0.7
GOMU				SKS	SKSdf	09 16 08.3	-26
PYUN	Piuthan	150.70	44	eP	PKPbc	09 09 45.7	+0.1
DANN	Dangsing	151.06	43	eP	PKiKP	09 09 46.9	-0.2
KOLN	Koldanda	151.33	44	eP	PKPbc	09 09 46.9	-0.2
GKN	Gorkha	151.87	42	eP	PKiKP	09 09 48.7	+0.1
LZH	Lanzhou	151.88	3	eP	PKPbc	09 09 48.0	-0.1
LZH				pP	sPKPbc	09 10 39.9	-2.5
DMN	Daman	152.44	42	eP	PKPbc	09 09 49.0	-0.7
PKI	Pulchoki	152.67	42	eP	PKPbc	09 09 49.8	-0.5
NJ2	Nanjing	152.94	335	eP	PKPdf	09 09 41.9	-1.0
JIRN	Jiri	153.12	41	eP	PKPbc	09 09 51.2	-0.1
XAN	Xi'an	153.77	354	P	PKPab	09 10 31.9	+26
XAN				pP	sPKPdf	09 10 38.8	+0.1
RAMN	Ramite	153.87	41	eP	PKPbc	09 09 52.8	0.0
PZH	PanZhiHua	161.12	11	PKP	PKPdf	09 09 53.9	+0.3
GYA	Guiyang	161.49	357	⇑P	PKPdf	09 09 53.1	-0.9
CMAR	Chiang Mai Arr	167.68	31	PKP	PKPdf	09 09 59.7	+0.2
	comp=Z,1.0nm,0.3s,baz=250,slow=2.7,SNR=5.0						
CMAR				pPKP	pPKPdf	09 10 39.8	+0.7
	comp=Z,1.6nm,0.3s,baz=284,slow=1.9,SNR=1.9						
CMAR				PKPab	PKPab	09 11 07.0	+0.6
	comp=Z,1.8nm,0.3s,baz=320,slow=5.9,SNR=6.6						
CMAR	Chiang Mai Arr	167.68	31		PKPdf	09 09 60.0	+0.5
CMAR				PKPab	PKPab	09 11 07.5	+1.2

GUC 01 08:51:10.4±0.9**, 22°.54S×69°.79W, h53**^{km}±2^{km}**, ML2.6, 4C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB06	IPOC Station P	0.26	129	⇑iP	Pn	08 51 19.3	-0.5
PB06				iS	Sn	08 51 25.4	-1.0
PB06				IAML		08 51 25.7	
	comp=E,2μm,0.2s						
PB04	IPOC Station P	0.39	302	⇓iP	Pn	08 51 20.8	-0.1
PB04				iS	Sn	08 51 28.0	-0.4
PB04				IAML		08 51 30.0	
	comp=N,734nm,0.2s						
PB15	IPOC Station P	0.73	156	⇓iP	Pn	08 51 24.8	-0.1
PB15				iS	Sn	08 51 35.4	0.0
PB07	IPOC Station P	0.81	354	⇓iP	Pn	08 51 25.9	-0.1
PB07				iS	Sn	08 51 37.2	0.0
LVC	Limon Verde	0.82	95	eP	Pn	08 51 26.8	+0.6
LVC				iS	Sn	08 51 38.0	+0.4
PB09	IPOC Station P	0.90	35	⇑iP	Pn	08 51 27.8	+0.8
PB09				iS	Sn	08 51 40.0	+0.7
PB09				IAML		08 51 41.5	
	comp=E,198nm,0.3s						
PB10	IPOC Station P	1.20	216	⇑iP	Pn	08 51 31.1	+0.2
PB02	IPOC Station P	1.22	355	⇑iP	Pn	08 51 31.4	+0.1
PB02				iS	Sn	08 51 47.4	+0.7
PB02				IAML		08 51 53.3	
	comp=E,189nm,0.2s						
PB01	IPOC Station P	1.52	11	⇓iP	Pn	08 51 36.1	+0.9
PB01				iS	Sn	08 51 54.9	+1.0
PB01				IAML		08 51 59.2	
	comp=N,165nm,0.2s						
PATCX	Punta Patache	1.74	349	eP	Pn	08 51 38.8	+0.4
PATCX				IAML		08 52 07.6	
	comp=N,51nm,0.2s						
HMBC	Humberstone	2.25	358	eP	Pn	08 51 46.4	+1.1

*IDC **01** 08:57:59.1±6.4, 24°.82N×122°.64E, h164^{km}±65^{km}, mb3.1/6, mb1 3.3/7, mb1mx3.0/66, mbtmp3.6/7, Error ellipse: s-maj=44.6km s-min=15.3km az=68.0*

ISC 01 08:57:57.7±1.1**, 24°.8N**±0°.1×**122°.6E**±0°.3**, h150**^{km}**, n7, σ0^{s}62**/7**, mb3.4**/6**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	13.43	19	P	Pn	09 01 02.7	+0.4
	0.1nm,0.3s,baz=200,slow=12,SNR=4.9						
SONM	Songino Array	26.34	335	P	P	09 03 19.5	-0.2
	0.4nm,0.6s,baz=159,slow=9.3,SNR=5.0						
MKAR	Makanchi Array	38.81	315	P	P	09 05 08.4	+0.6
	0.6nm,0.7s,baz=103,slow=11,SNR=7.5						
ZALV	Zalesovo Beam	40.45	326	P	P	09 05 20.6	-0.6
	0.7nm,0.6s,baz=102,slow=6.5,SNR=3.5						
WRA	Warramunga Arr	45.91	165	P	P	09 06 05.0	-0.4
	0.9nm,0.6s,baz=346,slow=8.7,SNR=14						
ASAR	Alice Springs	49.40	166	P	P	09 06 32.9	+0.6
	0.3nm,0.5s,baz=349,slow=9.6,SNR=12						
YKA	Yellowknife Ar	81.92	23	P	P	09 09 60.0	-0.3
	0.2nm,0.7s,baz=311,slow=4.9,SNR=4.1						

*IDC **01** 08:58:39.1±5.9, 24°.84N×122°.60E, h158^{km}±58^{km}, mb3.3/9, mb1 3.4/10, mb1mx3.2/65, mbtmp3.7/10, Error ellipse: s-maj=39.7km s-min=14.5km az=69.0*

ISC 01 08:58:38.3±0.9**, 24°.8N**±0°.1×**122°.6E**±0°.2**, h150**^{km}**, n10, σ0^{s}48**/10**, mb3.6**/9**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	13.41	19	P	Pn	09 01 42.9	+0.3
	baz=190,slow=12,SNR=5.1						
SONM	Songino Array	26.30	335	P	P	09 03 59.6	-0.4
	0.8nm,0.8s,baz=160,slow=8.3,SNR=5.8						
MKAR	Makanchi Array	38.77	315	P	P	09 05 48.6	+0.5
	1.0nm,0.8s,baz=106,slow=10,SNR=7.8						
ZALV	Zalesovo Beam	40.41	326	P	P	09 06 01.0	-0.6
	1.1nm,0.8s,baz=120,slow=8.8,SNR=3.9						
KURBB	Kurchatov Arra	42.44	319	P	P	09 06 18.1	-0.1
	0.6nm,0.7s,baz=110,slow=8.2,SNR=5.3						
FITZ	Fitzroy Crossi	42.76	176	P	P	09 06 21.7	+0.7
	1.8nm,1.0s,baz=352,slow=7.1,SNR=3.3						
WRA	Warramunga Arr	45.94	164	P	P	09 06 45.8	-0.5
	4.0nm,0.7s,baz=347,slow=8.6,SNR=6.5						
ASAR	Alice Springs	49.43	166	P	P	09 07 13.2	0.0
	0.3nm,0.7s,baz=349,slow=10,SNR=2.1						
FINES	FINESS Array B	71.53	330	P	P	09 09 42.8	+0.2
	1.5nm,0.8s,baz=54,slow=5.9,SNR=1.9						
YKA	Yellowknife Ar	81.91	23	P	P	09 10 40.6	-0.1
	0.4nm,0.9s,baz=310,slow=4.9,SNR=5.7						

*CNRM **01** 09:10:16.4, 35°.62N×3°.72W, h14^{km}, ml2.6*
*SFS **01** 09:10:16.0, 35°.52N×3°.84W, ML2.6, ALBORAN SUR*
*MDD **01** 09:10:17.2±0.5, 35°.52N×3°.84W, h0^{km}, mb_Lg2.6/7, Error ellipse: s-maj=4.3km s-min=3.3km az=23.0*

ISC 01 09:10:16.8±1.2**, 35°.56N**±0°.03×**3°.79W**±0°.03**, h13**^{km}±11^{km}**, n21, σ1^{s}35**/40**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.37	200	P	Pb	09 10 24.3	-0.9
PALE				S	Sb	09 10 30.3	-0.5
EALB	Alboran	0.72	58	Pg	Pg	09 10 31.4	+0.6
EALB				Sg	Sg	09 10 41.5	+1.2
EALB				iVmb_Lg		09 10 45.1	
EMEL	Melilla	0.73	111	Pg	Pg	09 10 30.5	-0.5
EMEL				Sg	Sg	09 10 39.8	-0.8
EMIJ	Mijas	1.28	322	Pg	Pn	09 10 40.6	+0.2
EMIJ				Sg	Sb	09 10 57.0	-0.1
EMIJ				iVmb_Lg		09 11 03.5	
EMAL	Malaga-Limoner	1.30	337	P	Pn	09 10 40.7	+0.1
EMAL				S	Sb	09 10 57.2	-0.6
ELGU	Los Guajares,	1.31	6	Pg	Pn	09 10 40.5	-0.3
ELGU				Sg	Sb	09 10 57.9	-0.1
ELGU				iVmb_Lg		09 11 02.1	
CEU	Ceuta	1.33	285	P	Pn	09 10 39.0	-2.1
CEU				S	Sb	09 10 54.9	-3.6
CHEFC	Chefchaouen	1.35	251	P	Pg	09 10 43.3	+0.6
CHEFC				S	Sn	09 11 01.3	+2.1
TAF	Taforalt	1.35	123	P	Pn	09 10 40.9	-0.5
TAF				S	Sb	09 10 58.1	-1.1
EGOR	Sierra Gorda,	1.56	351	Pn	Pn	09 10 45.1	+0.6
EGOR				Sn	Sn	09 11 06.3	+1.6
EGOR				iVmb_Lg		09 11 19.4	
IFR	Ifrane	2.32	209	P	Pn	09 10 56.0	+1.1
IFR				S	Sn	09 11 23.3	0.0
CZD	Col de Zad	2.73	203	P	Pn	09 11 02.3	+1.7
CZD				S	Sn	09 11 35.4	+1.9
MD31	MD31	2.81	197	P	Pn	09 11 02.3	+0.9
MD31				S	Sb	09 11 38.4	-2.7
MDT	Midelt	2.83	194	P	Pn	09 11 03.8	+2.0
ECAB	El Cabril	2.83	333	Pn	Pn	09 11 03.4	+1.7
ECAB				Sn	Sn	09 11 35.9	+0.3
ECAB				iVmb_Lg		09 11 55.0	
ZHG	ZHG	3.16	229	P	Pn	09 11 08.4	+2.1
EGRO	El Granado	3.57	305	Pn	Pn	09 11 12.7	+0.9
EGRO				Sn	Sn	09 11 53.3	-0.5
PVAQ	Vaqueiros	3.66	301	P	Pn	09 11 14.2	+1.2
PVAQ				S	Sn	09 11 56.3	+0.2
EBAD	Badajoz	4.10	322	Pn	Pn	09 11 20.3	+1.2
EBAD				Sn	Sn	09 12 07.3	+0.4
PFVI	Vila Bisbo	4.36	293	P	Pn	09 11 23.5	+0.8
PFVI				S	Sn	09 12 13.2	-0.1
PESTR	Estremoz	4.48	319	P	Pn	09 11 24.7	+0.3
PESTR				S	Sn	09 12 14.9	-1.5

*IDC **01** 09:13:25.3±2.2, 6°.62S×130°.16E, h129^{km}±23^{km}, mb3.5/3, mb1 3.9/8, mb1mx3.5/43, mbtmp4.3/8, Error ellipse: s-maj=25.3km s-min=16.5km az=88.0*

ISC 01 09:13:26.7±0.7**, 6°.55S**±0°.06×**130°.15E**±0°.08**, h146**^{km}**, n19, σ2^{s}20**/18**, mb3.6**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.03	353	P	Pn	09 14 04.9	+2.9
SIJI	Sorong	5.75	11	P	Pn	09 14 49.9	-0.3
	9.9nm,0.3s,baz=42,slow=23,SNR=34						
SIJI				S	Sn	09 15 50.5	-4.9
	12nm,0.3s,baz=134,slow=23,SNR=16						
DRS	Darwin Rock St	5.89	173	P	Pn	09 14 51.4	-0.5
SANI	Sanana	6.10	317	P	Pn	09 14 58.9	+4.1
KDU	Kakadu	6.51	160	P	Pn	09 14 59.3	-0.9
BATI	Baumata	7.38	240	P	Pn	09 15 10.9	-0.9
	12nm,0.3s,baz=71,slow=3.4,SNR=6.1						
BATI				S	Sn	09 16 31.4	-2.8
	13nm,0.3s,baz=123,slow=8.8,SNR=2.5						
KNRA	Kununurra	9.17	188	P	Pn	09 15 34.0	-1.8
FITZ	Fitzroy Crossi	12.29	201	P	Pn	09 16 14.4	-2.5
	1.8nm,0.3s,baz=35,slow=11,SNR=49						
FITZ				S	Sn	09 18 21.8	-11
	2.2nm,0.3s,baz=37,slow=22,SNR=7.2						
FITZ	Fitzroy Crossi	12.29	201	P	Pn	09 16 14.8	-2.1
PLAI	Plampang	12.47	259	P	Pn	09 16 20.6	+1.3
WRA	Warramunga Arr	13.92	163	P	Pn	09 16 34.4	-3.4
	1.0nm,0.3s,baz=354,slow=13,SNR=35						
WRA				S	Sn	09 19 00.3	-12
	2.4nm,0.3s,baz=350,slow=21,SNR=11						
COEN	Coen	14.77	121	P	Pn	09 16 50.6	+2.0
QIS	Mount Isa	16.67	148	P	P	09 17 12.2	+0.5
	4.0nm,0.6s						
ASAR	Alice Springs	17.39	168	P	P	09 17 20.2	+0.5
	0.9nm,0.3s,baz=345,slow=9.4,SNR=67						
ASAR				S	S	09 20 23.8	-10
	0.5nm,0.3s,baz=358,slow=26,SNR=5.4						
PSA00	Pilbara Seismi	17.95	213	P	P	09 17 26.9	+1.1
WRKA	Warakurna	18.47	185	P	P	09 17 32.6	+1.2
STKA	Stephens Creek	27.37	158	P	P	09 18 58.1	-0.3
	0.7nm,0.5s,baz=334,slow=10,SNR=4.6						
SONM	Songino Array	58.07	341	P	P	09 23 04.4	-0.2
	0.3nm,0.4s,baz=151,slow=8.0,SNR=2.3						
MKAR	Makanchi Array	67.94	327	P	P	09 24 10.8	+1.1
	0.9nm,0.5s,baz=115,slow=8.1,SNR=21						

*SJA **01** 09:15:29.0±1.6, 30°.61S×71°.99W, h40^{km}, ML3.9, MW4.0*
*NEIC **01** 09:15:30.9±2.4, 30°.63S±0°.04×71°.75W±0°.08, h41^{km}±15^{km}, ML4.0(GUC), Error ellipse: s-maj=10.6km s-min=5.4km az=89.0*
*GUC **01** 09:15:30.5±0.8, 30°.65S×71°.70W, h39^{km}±2^{km}, ML4.0*

ISC 01 09:15:29.3±1.1**, 30°.62S**±0°.02×**71°.94W**±0°.04**, h30**^{km}±7^{km}**, n81, σ2^{s}41**/137**, 4C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.27	101		Pb	09 15 36.3	-0.2
CO06	Fray Jorge	0.27	101	eP	Pb	09 15 36.2	-0.2
CO06				iS	Sb	09 15 39.9	-1.3
CO06				IAML		09 15 41.3	
	comp=E,26μm,0.4s						
CO05	La Serena	0.93	41		Pn	09 15 46.2	-0.1
CO05				Sn	Sn	09 15 57.2	-1.3
CO05	La Serena	0.93	41	⇓iP	Pn	09 15 46.1	-0.1
CO05				IAML		09 16 04.2	
	comp=E,4μm,0.5s						
CO02	Combarbal	1.00	126		Pn	09 15 46.1	-1.2
CO02				Sn	Sn	09 15 57.3	-3.1
CO02	Combarbal	1.00	126	⇓iP	Pn	09 15 46.0	-1.2
CO02				iS	Sn	09 15 57.0	-3.4
CO02				IAML		09 16 01.4	
	comp=N,9μm,0.3s						
CO02	Combarbal	1.00	126	eP	Sn	09 15 57.7	-2.7
CO02				eS	Sb	09 16 01.2	+0.3
CO02				IAML		09 16 01.5	
	comp=Z,2μm,0.5s						
GO04	Tololo Observa	1.08	66		Pn	09 15 47.8	-0.8
GO04	Tololo Observa	1.08	66	⇓iP	Pn	09 15 47.8	-0.8
GO04				iS	Sn	09 16 00.3	-2.4
CO03	El Pedregal	1.10	102		Pn	09 15 47.2	-1.6
CO03				Sn	Sn	09 15 59.2	-3.8
CO03	El Pedregal	1.10	102	⇓iP	Pn	09 15 47.1	-1.6
CO03				iS	Sn	09 15 58.8	-4.1
CO03				IAML		09 16 01.5	
	comp=E,5μm,0.4s						
CO03	El Pedregal	1.10	102	eP	Pn	09 15 47.3	-1.4
CO03				eS	Sn	09 15 59.5	-3.5
CO03				IAML		09 16 02.0	
	comp=Z,2μm,0.6s						
LCO	Las Campanas	1.93	34	Pn	Pn	09 16 01.9	+1.6
LCO	Las Campanas	1.93	34	⇑iP	Pn	09 16 01.6	+1.2
LCO				iS	Sn	09 16 24.9	+1.2
LCO	Las Campanas	1.93	34	eP	Pn	09 16 01.0	+0.7
VA06	Catapilco	2.01	164		Pn	09 16 02.2	+1.1
VA06	Catapilco	2.01	164	⇑iP	Pn	09 16 02.3	+1.1
VA06				iS	Sn	09 16 26.7	+1.4
VA06				IAML		09 16 37.0	
	comp=N,2μm,0.4s						
AROD	Rodeo	2.18	79	eP	Pb	09 16 06.1	-2.1
AROD				eS	Sn	09 16 32.2	+2.2
AROD				eS	Sb	09 16 33.1	-1.9
VA01	Torpederas	2.41	174	Pn	Pn	09 16 07.6	+1.0
VA03	San Esteban	2.44	151		Pn	09 16 08.8	+1.6
VA03	San Esteban	2.44	151	⇑iP	Pn	09 16 09.1	+2.0
VA03				iS	Sn	09 16 37.6	+1.5
VA03				IAML		09 16 47.2	
	comp=E,1μm,0.3s						
VA03	San Esteban	2.44	151	eP	Pn	09 16 09.2	+2.0
VA03				eS	Sn	09 16 33.1	-3.0
VA03				eS	Sb	09 16 38.0	-4.3
VA03				IAML		09 16 47.0	
	comp=Z,656nm,0.6s						
ROCH	El Roble	2.48	162	eP	Pn	09 16 09.1	+1.3
ROCH				IAML		09 16 43.6	
	comp=N,968nm,0.4s						
ROCH				IAML		09 16 45.3	
	comp=N,1μm,0.4s						
ROC1	El Roble	2.48	162		Pn	09 16 07.4	-0.4
ROC1	El Roble	2.48	162	eP	Pn	09 16 07.3	-0.4
ROC1				eS	Sn	09 16 37.2	+0.1
ACDV	Cuesta del Vie	2.48	80	eP	Pb	09 16 10.8	-2.5
ACDV				eS	Sn	09 16 37.6	+0.5
ACDV				IAML		09 16 49.2	
	comp=Z,291nm,0.5s						
ACCO	Cerro Coronel	2.48	90	eP	Pn	09 16 10.0	+2.1
ACCO				eP	Pb	09 16 10.8	-2.6
ACCO				eP	Pb	09 16 11.0	-2.3
ACCO				eS	Sb	09 16 43.4	-0.2
ACCO				IAML		09 16 44.5	
	comp=Z,454nm,0.6s						
AC04	Llanos de Chal	2.52	18		Pn	09 16 09.7	+1.5
AC04	Llanos de Chal	2.52	18	eP	Pn	09 16 09.8	+1.6
AC04				eS	Sb	09 16 42.1	-2.5
AC04				IAML		09 17 00.3	
	comp=Z,262nm,0.7s						
AUSP	Uspallata	2.71	127	eP	Pb	09 16 14.1	-3.1
AUSP				eS	Sb	09 16 49.7	-0.4
MT02	Curacav	2.72	166		Pn	09 16 12.0	+1.1
MT02	Curacav	2.72	166	IAML		09 16 55.0	
	comp=E,323nm,0.5s						
MT02	Curacav	2.72	166	eP	Pn	09 16 12.2	+1.3
MT02				eS	Sn	09 16 35.1	-7.6
MT02				IAML		09 16 58.6	
	comp=Z,307nm,0.8s						
PEL	Peldehue	2.73	157		Pn	09 16 12.3	+1.2
PEL	Peldehue	2.73	157	⇑iP	Pn	09 16 12.8	+1.6
PEL				iS	Sn	09 16 43.6	+0.4
PEL				IAML		09 16 54.8	
	comp=E,618nm,0.5s						
PEL	Peldehue	2.73	157	eP	Pn	09 16 13.0	+1.9
PEL				eS	Sn	09 16 44.6	+1.4
MT05	Renca	2.95	160	eP	Pn	09 16 17.0	+2.9
MT05				eS	Sn	09 16 52.1	+3.6
MT05				eS	Sn	09 16 52.1	+3.6
MT05				IAML		09 17 03.6	
	comp=Z,394nm,0.6s						
ZON	Zonda	2.95	109	eP	Pn	09 16 17.0	+2.9
ZON				eP	Pn	09 16 17.0	+2.9
ZON				eS	Sn	09 16 51.6	+3.1
ZON				IAML		09 17 04.8	
	comp=Z,200nm,0.3s						
VA05	Santo Domingo	3.04	175	Pn	Pn	09 16 17.9	+2.6
RTLL	Cerro Villicun	3.06	104	eP	Pn	09 16 17.8	+2.2
RTLL				eS	Sn	09 16 53.6	+2.3
MT03	Universidad Ad	3.11	157		Pn	09 16 18.4	+2.0
MT03	Universidad Ad	3.11	157	eP	Pn	09 16 18.0	+1.6
MT03				iS	Sn	09 16 53.5	+0.9
MT03				IAML		09 17 12.5	
	comp=N,819nm,0.4s						
MT03	Universidad Ad	3.11	157	eP	Pn	09 16 18.6	+2.2
MT03				eS	Sn	09 16 55.4	+2.8
MT03				IAML		09 17 11.0	
	comp=Z,356nm,0.6s						
RTCV	Cerro Valdivia	3.17	114	eP	Pb	09 16 21.0	-3.9
RTCV				eS	Sb	09 17 08.6	+5.6
MT09	Talagante	3.25	166		Pn	09 16 20.5	+2.2
MT09	Talagante	3.25	166	⇓iP	Pn	09 16 20.2	+1.9
MT09				IAML		09 17 21.0	
	comp=N,411nm,0.2s						
MT01	Popeta	3.29	170		Pn	09 16 19.6	+1.0
MT01	Popeta	3.29	170	eP	Pn	09 16 19.9	+1.2
MT01				IAML		09 17 13.2	
	comp=E,266nm,0.2s						
MT01	Popeta	3.29	170	eP	Pn	09 16 21.0	+2.3
MT01				eS	Sn	09 16 57.6	+0.8
MT01				IAML		09 17 13.9	
	comp=Z,174nm,0.5s						
ASAL	Salagasta	3.30	127	eP	Pn	09 16 22.0	+3.1
ASAL				eS	Sn	09 17 01.1	+3.9
ARCO	CERRO ARCO	3.39	132	eP	Pb	09 16 24.7	-4.0
ARCO				eS	Sb	09 17 14.6	+5.0
ARCO				IAML		09 17 18.7	
	comp=Z,234nm,0.3s						
AC06	Mina Casimiro	3.54	24		Pn	09 16 22.2	0.0
LMEL	Las Melosas	3.54	156		Pn	09 16 23.4	+1.1
BO04	La Punta	3.54	162		Pn	09 16 22.5	+0.2
VCA	Vinchina	3.76	61	eP	Pn	09 16 15.1	-10
VCA				eP	Pb	09 16 24.6	-10
VCA				eS	Sn	09 17 10.6	+2.0
VCA				IAML		09 17 28.5	
	comp=Z,516nm,0.5s						
BO01	Tunca	3.83	169		Pn	09 16 27.2	+1.0
BO01	Tunca	3.83	169	eP	Pn	09 16 28.0	+1.9
BO01				eS	Sn	09 17 11.9	+1.7
BO01				IAML		09 17 30.8	
	comp=Z,100nm,0.4s						
AVFE	Valle Fertil	3.87	92	eP	Pn	09 16 28.0	+1.2
AVFE				eP	Pn	09 16 28.4	+1.7
AVFE				eS	Sn	09 17 14.6	+3.4
AVFE				IAML		09 17 24.1	
	comp=Z,202nm,0.5s						
BO02	Sierra Bellavi	4.27	167		Pn	09 16 34.3	+2.0
BO02	Sierra Bellavi	4.27	167	eP	Pn	09 16 34.0	+1.7
BO02				eS	Sn	09 17 22.7	+1.5
BO02				eS	Sb	09 17 31.6	-3.3
BO02				IAML		09 17 42.0	
	comp=Z,125nm,1.9s						
GO05	Huala	4.38	180	Pn	Pn	09 16 34.4	+0.7
GO05	Huala	4.38	180	eP	Pn	09 16 34.0	+0.3
GO05				eP	Pn	09 16 34.4	+0.7
GO05				eS	Sb	09 17 40.6	+2.8
ACLC	CERRO LA CRUZ	4.49	76	eP	Pn	09 16 37.0	+1.6
ACLC				eP	Pn	09 16 37.6	+2.2
ACLC				eS	Sn	09 17 24.6	-2.1
ACLC				IAML		09 17 41.1	
	comp=Z,284nm,0.4s						
AC02	Maricunga	4.51	34	Pn	Pn	09 16 37.9	+1.9
AC02	Maricunga	4.51	34	eP	Pn	09 16 37.6	+1.6
AC02				eS	Sb	09 17 38.1	-4.0
AC02				IAML		09 17 51.2	
	comp=Z,101nm,0.8s						
ACHE	Chepes	4.57	98	eP	Pn	09 16 40.0	+3.5
ACHE				eP	Pn	09 16 40.6	+4.1
ACHE				eS	Sn	09 17 32.3	+3.6
AC01	Pan de Azucar	4.61	15	Pn	Pn	09 16 36.7	-0.2
AC01	Pan de Azucar	4.61	15	eP	Pn	09 16 37.0	+0.1
AC01				eS	Sb	09 17 45.6	+1.0
AC01				IAML		09 18 04.8	
	comp=Z,71nm,1.1s						
APLL	PUNTA DE LOS L	4.68	89	eP	Pn	09 16 39.6	+1.7
APLL				eS	Sn	09 17 32.2	+1.0
RFA	San Rafael	5.07	146	eP	Pn	09 16 45.0	+1.7
RFA				eS	Sn	09 17 40.5	-0.4
RFA				IAML		09 18 09.6	
	comp=Z,32nm,0.4s						
MRA	San Martin	5.61	110	eP	Pn	09 16 51.6	+0.9
MRA				eP	Pn	09 16 52.1	+1.4
MRA				eS	Sn	09 17 52.1	-2.1
MRA				eS	Sn	09 17 54.6	+0.4
PB14	IPOC Station P	6.13	13	Pn	Pn	09 16 56.7	-1.3
BI05	Punta Hualpn	6.20	189	Pn	Pn	09 16 59.0	+0.4
TCA	Tanti	6.35	98	eP	Pn	09 17 01.0	+0.1
TCA				IAML		09 18 18.2	
	comp=Z,53nm,0.6s						
FSA	Cafayete	6.91	51	eP	Pn	09 17 11.4	+2.7
FSA				eS	Sn	09 18 35.1	+8.7
AHML	Horco Molle	6.95	58	eP	Pn	09 17 10.0	+0.9
AHML				eS	Sn	09 18 31.6	+4.5
PB06	IPOC Station P	8.16	16	Pn	Pn	09 17 25.7	-0.2
LC01	Cunco	8.26	180	Pn	Pn	09 17 27.7	+0.7
LC01	Cunco	8.26	180	eP	Pn	09 17 30.0	+3.0
PLCA	Paso Flores	10.15	174	Pn	Pn	09 17 54.7	+1.7
QSPA	South Pole Qui	59.61	180	P	P	09 25 29.3	-0.8

*ISK **01** 09:15:51.7, 36°.11N×27°.51E, h6^{km}, ML3.0/14*
*ATH **01** 09:15:51.9, 36°.03N×27°.58E, h30^{km}±2^{km}, ML3.1/4, Error ellipse: s-maj=3.1km s-min=1.1km az=70.0*
*NIC **01** 09:15:52.7±0.0, 35°.98N×27°.59E, h10^{km}±1^{km}, Ml3.5/3*
*THE **01** 09:15:52.8, 35°.97N×27°.63E, h6^{km}±2^{km}, ML3.0/3, Error ellipse: s-maj=5.8km s-min=0.5km az=139.0*
*DDA **01** 09:15:53.0±0.0, 36°.07N×27°.66E, h12^{km}±3^{km}, ML2.9*

ISC 01 09:15:52.4±1.0**, 36°.06N**±0°.02×**27°.55E**±0°.02**, h12**^{km}±9^{km}**, n46, σ0^{s}70**/67**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.49	71	P	Pg	09 16 02.2	+0.1
ARG				S	Sb	09 16 09.6	-0.6
ARG				AML	AML	09 16 10.6	
	comp=N,2798μm,0.1s						
ARG				AML	AML	09 16 14.1	
	comp=E,4471μm,0.2s						
ARG	Arkhangelos	0.49	71	P	Pg	09 16 02.2	+0.1
ARG				S	Sg	09 16 09.1	+0.5
	comp=E,2μm,0.2s						
ARG	Arkhangelos	0.49	71	PG	Pg	09 16 02.2	+0.1
ARG				SG	Sb	09 16 09.6	-0.6
ARG	Arkhangelos	0.49	71	P	Pg	09 16 02.1	+0.1
ARG				S	Sb	09 16 09.7	-0.6
KARP	Karpathos	0.60	212	P	Pg	09 16 04.0	0.0
KARP				AML	AML	09 16 15.7	
	comp=E,9599μm,0.1s						
KARP				AML	AML	09 16 16.0	
	comp=N,5916μm,0.2s						
KARP	Karpathos	0.60	212	P	Pg	09 16 04.1	0.0
KARP				S	Sg	09 16 12.7	+0.8
	comp=N,4μm,0.2s						
KARP	Karpathos	0.60	212	PG	Pg	09 16 04.1	0.0
KARP	Karpathos	0.60	212	P	Pg	09 16 04.0	0.0
KARP				S	Sg	09 16 11.9	0.0
KARP				AML	AML	09 16 15.4	
	comp=N,9.5nm,0.2s						
KARP				AML	AML	09 16 15.4	
	comp=N,9.5nm,0.2s						
KARP				AML	AML	09 16 15.7	

	comp=N,5.9nm,0.2s						
KARP				AML	AML	09 16 15.7	
	comp=N,5.9nm,0.2s						
NIS1	Nisyros Isl.	0.62	331	P	Pg	09 16 05.4	+0.8
NIS1				S	Sb	09 16 15.3	+1.3
NIS1				AML	AML	09 16 21.4	
	comp=N,3331µm,0.5s						
NIS1				AML	AML	09 16 23.5	
	comp=E,5136µm,0.4s						
NIS1	Nisyros Isl.	0.62	331	PG	Pg	09 16 03.1	-1.4
TURN	Turunc	0.91	38	PG	Pg	09 16 09.3	-0.7
TURN				SG	Sg	09 16 21.8	-0.1
TURN	Turunc	0.91	38	P	Pg	09 16 09.4	-0.7
TURN				S	Sg	09 16 21.7	-0.1
TURN				*i* AML	AML	09 16 25.0	
	comp=E,403nm,0.2s						
BDRM	Kayabasi	1.01	355	P	Pg	09 16 12.1	+0.2
BDRM				S	Sg	09 16 25.7	+0.6
BODT	Bodrum	1.02	349	PG	Pg	09 16 10.8	-1.3
DALY	Dalyan (Mula)	1.17	49	PN	Pb	09 16 14.1	-0.5
YER	Yerkesik	1.23	29	PN	Pn	09 16 15.4	-0.1
MLSB	Milas	1.25	8	PN	Pn	09 16 15.5	-0.3
MULA	Mugla, Merkez-	1.35	27	P	Pn	09 16 17.8	+0.6
MULA				S	Sb	09 16 35.4	+0.5
FETY	Fethiye	1.37	65	PN	Pn	09 16 17.5	+0.1
FETY	Fethiye	1.37	65	P	Pn	09 16 17.5	+0.1
FETY				S	Sb	09 16 35.4	0.0
FETY				*i* AML	AML	09 16 43.0	
	comp=E,150nm,0.6s						
ZKR	Zakros	1.44	230	P	Pn	09 16 18.2	0.0
ZKR				AML	AML	09 16 41.0	
	comp=E,762µm,0.5s						
ZKR				AML	AML	09 16 42.2	
	comp=N,404µm,0.4s						
ZKR	Zakros	1.44	230	P	Pn	09 16 18.2	0.0
ZKR				S	Sn	09 16 37.0	0.0
	comp=N,292nm,0.3s						
ZKR	Zakros	1.44	230	PN	Pn	09 16 19.1	+0.9
ZKR	Zakros	1.44	230	P	Pn	09 16 18.5	+0.2
ZKR				S	Sn	09 16 37.9	+0.8
AYDN	Tasoluk	1.62	9	P	Pn	09 16 20.6	-0.3
AYDN				S	Sn	09 16 41.9	+0.1
KSL	Kastellorizon	1.65	86	P	Pn	09 16 21.4	+0.2
KSL				S	Sb	09 16 43.6	+0.1
GCAM	G?zelcaml?	1.66	351	PN	Pn	09 16 20.9	-0.4
CAME	Cameli-Denizli	1.67	57	PN	Pb	09 16 22.7	-0.4
AKAS	Kas	1.67	83	PN	Pb	09 16 22.9	-0.4
AKAS	Kas	1.67	83	P	Pb	09 16 22.8	-0.4
AKAS				S	Sb	09 16 44.4	0.0
AKAS				*i* AML	AML	09 16 51.0	
	comp=N,181nm,0.9s						
NPS	Neapolis	1.76	244	P	Pn	09 16 22.4	-0.4
NPS	Neapolis	1.76	244	P	Pn	09 16 22.2	-0.6
CAEL	Denizli, Camel	1.78	53	P	Pb	09 16 25.8	+0.8
CAEL				S	Sg	09 16 51.5	+1.8
CAEL				*i* AML	AML	09 17 12.0	
	comp=N,192nm,0.9s						
TAVA	DENIZLI_Tavas	1.78	37	P	Pb	09 16 25.2	+0.1
TAVA				S	Sg	09 16 49.6	-0.2
ELL	Elmali	2.02	69	PN	Pn	09 16 27.8	+1.3
AKUM	Antalya-Kumluc	2.28	82	P	Pn	09 16 31.2	+1.5
AKUM				S	Sb	09 16 59.6	-1.9
IDI	Anoyia	2.30	251	P	Pn	09 16 30.0	-0.2
IDI	Anoyia	2.30	251	P	Pn	09 16 29.9	-0.2
KORT	Korkueli	2.45	66	P	Pb	09 16 34.7	-1.7
KULA	Kula-Manisa	2.61	20	PN	Pn	09 16 35.1	+0.6
PASA	Karahalli, USA	2.76	33	P	Pn	09 16 37.9	+1.3
OSC1	CSNet OBS 1	3.99	129	P	Pn	09 16 52.3	-1.0
OSC1				S	Sn	09 17 40.2	+0.2
AKMS	Akamas	4.04	103	P	Pn	09 16 54.2	+0.2
AKMS				AML	AML	09 17 41.1	
	comp=N,0.3nm,0.7s						
AKMS				AML	AML	09 17 41.6	
	comp=N,0.4nm,0.4s						
ALFC	Alefka	4.21	101	P	Pn	09 16 56.5	0.0
ALFC				AML	AML	09 17 44.4	
	comp=N,0.2nm,0.3s						
ALFC				AML	AML	09 17 44.5	
	comp=N,0.1nm,0.4s						
SZAC	Souni	4.54	105	P	Pn	09 17 01.1	+0.1
OSC2	CSNet OBS 4	4.90	126	S	Sn	09 18 03.1	+0.7

*BJI **01** 09:26:40.2±0.0, 33°.16S×177°.78W, h12km, mb5.4/30, mB6.0/42, Ms5.5/47, Ms7 5.3/43*

*NEIC **01** 09:26:40.3, 33°.17S×177°.64W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.65; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-2.42; $M_{r\theta}$-0.27; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.46; Fault plane solution: $M_0$2.64000×10^{17} NP1:ϕ_s198.92000°, δ41.14000°, λ100.79000°. NP2:ϕ_s4.73000°, δ49.74000°, λ80.72000°. Principal axes: T 2.7235, Plg82.0000°, Azm223.0000°; N -0.1667, Plg7.0000°, Azm11.0000°; P -2.5568, Plg4.0000°, Azm101.0000°;*

*WEL **01** 09:26:41.9±0.7, 33°S±4°×17°7W±1°2, h33km, M5.3/61, mB5.7/61, ML6.2/56, MLv5.9/56, Mw(mB)5.2/61 Error ellipse: s-maj=0.0km s-min=0.0km az=107.1*

*IDC **01** 09:26:43.5±0.4, 32°.87S×178°.70W, h0km, mb5.0/21, mb1 5.1/25, mb1mx5.1/33, mbtmp5.0/25, ML5.1/4, MS5.4/54, Ms1 5.4/54, ms1mx5.3/62, Error ellipse: s-maj=15.9km s-min=10.4km az=166.0*

*MOS **01** 09:26:44.9±1.2, 32°.85S×178°.51W, h17km, mb5.7/35, MS5.6/25, Error ellipse: s-maj=10.2km s-min=7.9km az=82.4*

*NEIC **01** 09:26:45.4±2.2, 32°.94S±0°.06×178°.4W±0°.1, h10km±1km, mb5.6/220, Ms_20 5.7/336, Mwb5.5/20, Mww5.6, Error ellipse: s-maj=15.0km s-min=9.3km az=108.0*

*NEIC **01** 09:26:46, 33°.08S×177°.59W, h14km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.59; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.68; $M_{r\theta}$1.07; $M_{\theta\phi}$-0.73; $M_{\phi r}$2.91; Fault plane solution: $M_0$3.58000×10^{17} NP1: ϕ_s199.00000°, δ15.00000°, λ89.00000°. NP2:ϕ_s20.00000°, δ75.00000°, λ90.00000°. Principal axes: T 3.3952, Plg60.0000°, Azm290.0000°; N 0.3495, Plg0.0000°, Azm200.0000°; P -3.7447, Plg30.0000°, Azm110.0000°;*

*GCMT **01** 09:26:48.4±0.1, 33°.03S±0°.01×178°.02W±0°.01, h18km, MW5.6/153, Moment Tensor Solution. s122,c217; s153,c277; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.04±.03; $M_{\theta\theta}$-0.20±.02; $M_{\phi\phi}$-1.84±.03; $M_{r\theta}$0.61±.06; $M_{\theta\phi}$-0.60±.02; $M_{\phi r}$2.59±.09; Best double couple: $M_0$3.35100×10^{17} NP1:ϕ_s202.00000°, δ19.00000°, λ97.00000°. NP2:ϕ_s14.00000°, δ71.00000°, λ88.00000°. Principal axes: T 3.3580, Plg64.0000°, Azm280.0000°; N -0.0160, Plg2.0000°, Azm15.0000°; P -3.3440, Plg26.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **01** 09:26:49.6, 33°.29S×178°.07W, h55km, ML5.7/79, South of Kermadec Islands*

ISC 01 09:26:45.4±0.6**, 33°.02S**±0°.04×**178°.15W**±0°.04**, h19**km±2km**, n1058, σ1s98**/953**, mb5.5**/152**, MS5.6**/240**, 23C-13D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.75	3	P	Pn	09 27 39.4	-2.8
GLKZ				S	Sn	09 28 21.4	-4.5
RAO	Raoul Island	3.76	3	Pn	Pn	09 27 40.1	-2.3
	217nm,0.3s,baz=258,slow=4.9,SNR=15						
RAO				Sn	Sn	09 28 23.3	-2.9
	386nm,0.3s,baz=303,slow=22,SNR=5.6						
RAO	Raoul Island	3.76	3	Pn	Pn	09 27 40.5	-1.9
RIZ	Raoul Island	3.77	3	P	Pn	09 27 42.5	0.0
RIZ				S	Sn	09 28 22.2	-4.2
MXZ	Matakaoa Point	5.38	212	P	Pn	09 28 00.8	-3.8
MXZ				S	Sn	09 29 05.6	-0.5
PKGZ	Pakihiroa	5.75	211	P	Pn	09 28 07.6	-2.2
PKGZ				S	Sn	09 29 14.3	-1.0
HAZ	Te Kaha	5.78	214	P	Pn	09 28 08.6	-1.5
HAZ				S	Sn	09 29 17.5	+1.8
PUZ	Puketiti	5.83	209	P	Pn	09 28 08.1	-2.8
PUZ				S	Sn	09 29 15.9	-1.2
RUGZ	Raukumara Rang	5.99	213	P	Pn	09 28 11.9	-1.3
RUGZ				S	Sn	09 29 22.0	+0.7
TWGZ	Tauwhareparae	6.03	210	P	Pn	09 28 11.9	-1.7
TWGZ				S	Sn	09 29 22.2	-0.1
CNGZ	Carnagh Statio	6.20	207	P	Pn	09 28 13.3	-2.6
CNGZ				S	Sn	09 29 25.6	-0.7
WHRZ	Whale Island	6.25	218	P	Pn	09 28 19.1	+2.5
TKGZ	Te Karaka	6.31	210	P	Pn	09 28 14.8	-2.6
TKGZ				S	Sn	09 29 27.4	-1.5
MWZ	Matawai	6.36	212	P	Pn	09 28 15.7	-2.5
MWZ				S	Sn	09 29 28.7	-1.7
URZ	Urewera	6.50	215	Pn	Pn	09 28 18.5	-1.4
	25nm,0.3s,baz=288,slow=3.4,SNR=102						
URZ				Sn	Sn	09 29 30.7	-2.8
	23nm,0.3s,baz=160,slow=17,SNR=17						
URZ	Urewera	6.50	215	P	Pn	09 28 17.8	-2.2
URZ				S	Sn	09 29 31.3	-2.2
URZ	Urewera	6.50	215	P	Pn	09 28 18.9	-1.1
MARZ	Manawahe	6.51	219	P	Pn	09 28 20.9	+0.7
RAGZ	Rawiri	6.54	212	P	Pn	09 28 20.1	-0.6
RAGZ				S	Sn	09 29 31.8	-3.1
EDRZ	Edgecumbe	6.56	218	P	Pn	09 28 21.2	+0.2
RIGZ	Rimuhau	6.57	209	P	Pn	09 28 18.2	-2.8
RIGZ				S	Sn	09 29 34.1	-1.3
PRGZ	Paritu Road	6.71	208	P	Pn	09 28 20.1	-2.9
OMRZ	Omania	6.76	220	P	Pn	09 28 25.2	+1.5
KARZ	Kaharoa	6.76	221	P	Pn	09 28 24.6	+0.9
TARZ	Mount Tarawera	6.78	218	P	Pn	09 28 25.3	+1.3
SNGZ	Shannon Statio	6.81	211	P	Pn	09 28 22.3	-2.1
MUGZ	Murupara	6.83	216	P	Pn	09 28 21.9	-2.7
RTZ	Ruatahuna	6.84	214	P	Pn	09 28 22.9	-1.9
RRRZ	Republican Roa	6.86	218	P	Pn	09 28 25.3	+0.4
HLRZ	Highlands Stat	6.88	219	P	Pn	09 28 26.0	+0.8
KNZ	Kokohu	6.88	208	P	Pn	09 28 23.6	-1.6
HSRZ	Hossack Road	6.98	219	P	Pn	09 28 29.1	+2.5
HRRZ	Handcock Road	7.01	219	P	Pn	09 28 29.0	+1.9
RAHZ	Arahi	7.04	212	P	Pn	09 28 27.2	-0.3
PRRZ	Plateau Road	7.04	218	P	Pn	09 28 27.0	-0.5
GRRZ	Galatos Road	7.08	220	P	Pn	09 28 29.9	+2.0
MTHZ	Maungataniwha	7.10	214	P	Pn	09 28 28.1	-0.2
ALRZ	Allen Road	7.11	217	P	Pn	09 28 29.2	+0.8
OUZ	Omahuta	7.19	250	P	Pn	09 28 32.1	+2.6
MRHZ	Matea Rd	7.28	216	P	Pn	09 28 30.1	-0.7
NMHZ	Naumai	7.31	213	P	Pn	09 28 30.6	-0.6
ARHZ	Aropaoanui	7.36	211	P	Pn	09 28 29.8	-2.1
TLZ	Tolley Road	7.38	222	P	Pn	09 28 33.2	+1.1
BKZ	Black Stump Fm	7.51	214	P	Pn	09 28 30.2	-3.7
BKZ	Black Stump Fm	7.51	214	P	Pn	09 28 32.7	-1.2
WATZ	Wairara	7.54	219	P	Pn	09 28 35.2	+0.9
RATZ	Rangitukua	7.64	218	P	Pn	09 28 35.3	-0.4
MCHZ	McNeill Hill	7.64	212	P	Pn	09 28 32.8	-2.9
CKHZ	Cape Kidnapper	7.66	209	P	Pn	09 28 34.0	-2.0
RITZ	Rihia Road	7.67	218	P	Pn	09 28 35.5	-0.7
KWHZ	Kaweka Forest	7.75	213	P	Pn	09 28 34.6	-2.7
KATZ	Kakaramea	7.76	218	P	Pn	09 28 38.3	+0.9
TMVZ	Te Maari	7.86	218	P	Pn	09 28 37.1	-1.7
KAHZ	Kahuranaki	7.86	209	P	Pn	09 28 34.2	-4.5
NTVZ	North Tongarir	7.86	218	P	Pn	09 28 37.4	-1.4
ETVZ	East Tongariro	7.87	217	P	Pn	09 28 37.5	-1.5
KRVZ	Karewarewa	7.87	218	P	Pn	09 28 38.8	-0.2
HIZ	Hauiti	7.89	224	P	Pn	09 28 38.4	-0.8
OTVZ	Oturere	7.91	217	P	Pn	09 28 38.4	-1.2
NNVZ	North Ngauruho	7.92	218	P	Pn	09 28 39.3	-0.3
WTVZ	West Tongariro	7.92	218	P	Pn	09 28 39.0	-0.5
SNVZ	South Ngauruho	7.94	217	P	Pn	09 28 39.9	-0.1
KRHZ	Kereru	7.95	212	P	Pn	09 28 37.1	-2.9
NGZ	Ngauruhoe	7.96	218	P	Pn	09 28 39.1	-1.0
BHHZ	Black Hill Sta	7.97	214	P	Pn	09 28 38.3	-1.9
TUVZ	Tukino	8.00	217	P	Pn	09 28 40.6	-0.1
FWVZ	Far West T-bar	8.04	218	P	Pn	09 28 40.8	-0.6
MOVZ	Moawhango	8.05	216	P	Pn	09 28 39.6	-1.8
PXZ	Pawanui	8.06	208	P	Pn	09 28 38.1	-3.4
WNVZ	Wahianoa	8.07	217	P	Pn	09 28 40.5	-1.2
TRVZ	Turoa	8.07	217	P	Pn	09 28 41.2	-0.7
PKVZ	Pokaka	8.17	218	P	Pn	09 28 43.4	+0.4
MTVZ	Mangateitei	8.18	217	P	Pn	09 28 41.7	-1.5
PNHZ	Pukenui	8.25	212	P	Pn	09 28 41.3	-2.7
WPHZ	Waipukurau	8.27	210	P	Pn	09 28 41.1	-3.1
PRHZ	Porangahau	8.36	209	P	Pn	09 28 41.4	-4.1
VRZ	Vera Road	8.37	221	P	Pn	09 28 45.1	-0.5
DVHZ	Dannevirke	8.58	211	P	Pn	09 28 45.6	-3.0
ANWZ	Angora Road	8.59	209	P	Pn	09 28 45.6	-3.1
WAZ	Wanganui	8.70	218	P	Pn	09 28 49.1	-1.2
LREZ	Lake Rotokare	8.80	221	P	Pn	09 28 51.9	+0.4
POWZ	Post Office Ro	8.83	212	P	Pn	09 28 49.2	-2.8
NEZ	North Egmont	8.84	223	P	Pn	09 28 56.2	+3.9
PKE	Pukeiti	8.85	224	P	Pn	09 28 56.3	+4.0
BFZ	Birch Farm	8.87	209	P	Pn	09 28 47.6	-4.9
BFZ	Birch Farm	8.87	209	P	Pn	09 28 50.2	-2.3
PRWZ	Pori Road	8.87	210	P	Pn	09 28 49.4	-3.2
KHEZ	Kahui Hut	8.90	223	P	Pn	09 28 57.0	+3.9
TIWZ	Tintock	9.09	210	P	Pn	09 28 53.7	-1.9
MRZ	Mangatainoka R	9.13	212	P	Pn	09 28 50.6	-5.5
HOWZ	Holdsworth Sta	9.35	211	P	Pn	09 28 55.0	-4.2
TMWZ	Te Maipa	9.37	209	P	Pn	09 28 54.8	-4.6
MTW	Mount Morrison	9.57	210	P	Pn	09 28 57.6	-4.6
KIW	Kapiti Island	9.59	213	P	Pn	09 28 58.5	-3.9
CAW	Cannon Point	9.72	212	P	Pn	09 28 59.5	-4.7
PAWZ	Paruwai Farm	9.79	210	P	Pn	09 29 00.4	-4.7
DUWZ	D'Urville Isla	10.03	217	P	Pn	09 29 05.7	-2.7
TCW	Tory Channel	10.16	214	P	Pn	09 29 06.1	-4.1
TUWZ	Tuamarina	10.49	215	P	Pn	09 29 12.2	-2.5
NNZ	Nelson	10.61	217	P	Pn	09 29 12.0	-4.3
TKNZ	Takaka Hill	10.69	219	P	Pn	09 29 14.5	-3.1
BSWZ	Blackbirch Sta	10.74	214	P	Pn	09 29 15.0	-3.3
QRZ	Quartz Range	10.78	221	P	Pn	09 29 18.0	-0.7
KHZ	Kahutara	11.45	213	Pn	Pn	09 29 27.1	-0.8
KHZ	Kahutara	11.45	213	P	Pn	09 29 23.0	-4.9
KHZ	Kahutara	11.45	213	P	Pn	09 29 30.0	+2.1
DSZ	Denniston Nort	11.81	220	P	Pn	09 29 30.5	-2.4
GVZ	Greta Valley S	12.11	212	P	Pn	09 29 31.2	-5.8
INZ	Inchbonnie	12.70	217	P	Pn	09 29 41.0	-3.9
OKCZ	Okains Bay	12.71	210	P	Pn	09 29 40.3	-4.8
RACZ	Rakaia	13.12	213	P	Pn	09 29 46.8	-3.8
WVZ	Waitaha Valley	13.31	218	P	Pn	09 29 50.9	-2.3
WACZ	Wakanui South	13.42	213	P	Pn	09 29 51.4	-3.3
RPZ	Rata Peaks	13.62	215	Pn	Pn	09 29 50.7	-6.8
	3.2nm,0.3s,baz=97,slow=1.9,SNR=16						
RPZ				Sn	Sn	09 32 12.6	-16
	1.2nm,0.3s,baz=328,slow=22,SNR=11						
GCSZ	Gaunt Creek Bo	13.69	218	P	Pn	09 29 56.7	-1.7
ARCZ	Arundel	13.73	214	P	Pn	09 29 55.6	-3.4
FOZ	Fox Glacier	14.11	218	P	Pn	09 30 00.3	-3.9
LBZ	Lake Benmore	14.53	215	P	Pn	09 30 05.6	-4.4
ODZ	Otahua Downs	14.81	213	P	Pn	09 30 14.4	+0.6
EAZ	Earnscleugh	15.58	215	P	Pn	09 30 20.5	-3.4
MSVF	Nonsavu	15.60	346	Pn	Pn	09 30 23.2	-1.3
	0.5nm,0.3s,baz=163,slow=12,SNR=16						
MSVF				LR	LR	09 35 22.6	
	comp=Z,11µm,19.4s,baz=171,slow=34						
MSVF	Nonsavu	15.60	346	*i* P	Pn	09 30 23.4	-1.1
MSVF	Nonsavu	15.60	346	Pn	Pn	09 30 22.1	-2.3
MSZ	Milford Sound	15.88	219	P	Pn	09 30 24.6	-3.2
TUZ	Tuapeka	15.97	212	P	Pn	09 30 27.5	-1.4
MLZ	Mavora Lakes	16.26	217	P	Pn	09 30 29.8	-2.9
PINNC	Pines Island,	16.41	306	Pn	Pn	09 30 31.0	-3.7
PINNC				IAmb	IAmb	09 30 53.9	
	comp=Z,742nm,1.4s						
PINNC	Pines Island,	16.41	306	P	P	09 30 38.9	+1.5
WHZ	Wether Hill Ro	16.72	216	P	Pn	09 30 35.3	-3.2
OUENC	Ouen Island, N	16.96	305		Pn	09 30 41.7	+0.1
OUENC	Ouen Island, N	16.96	305	P	P	09 30 45.7	+2.2
YATNC	Mamie plateau,	17.16	306	P	P	09 30 49.3	+3.5
ONTNC	Ouen Toro	17.30	304	Pn	Pn	09 30 42.2	-3.7
ONTNC				IAmb	IAmb	09 30 55.2	
	comp=Z,781nm,1.6s						
ONTNC	Ouen Toro	17.30	304	P	P	09 30 50.3	+3.1
APZ	The Paps	17.38	213	P	Pn	09 30 43.9	-2.9
DZM	Mont Dzumac	17.46	305	Pn	P	09 30 49.6	+0.4
	comp=Z,1.1nm,0.3s,baz=127,slow=14,SNR=24						
DZM				LR	LR	09 36 24.7	
	comp=Z,32µm,18.4s,baz=134,slow=34						
DZM	Mont Dzumac	17.46	305	*e*Pn	P	09 30 50.9	+1.7
	comp=Z,1µm,1.5s						
DZM				*e*LR	LR	09 34 51.6	
	comp=Z,25µm,22.6s						
DZM	Mont Dzumac	17.46	305		Pn	09 30 47.2	-0.9
DZM				IAmb	IAmb	09 30 55.7	
	comp=Z,776nm,1.4s						
DZM	Mont Dzumac	17.46	305	P	P	09 30 51.9	+2.7
NOUC	Port Laguerre	17.54	304	P	P	09 30 52.6	+2.7
LIFNC	LIFOU	17.82	310	P	P	09 30 53.4	+0.4
LIFNC				IAmb	IAmb	09 31 20.5	
	comp=Z,779nm,1.3s						
LIFNC	LIFOU	17.82	310	P	P	09 30 56.4	+3.4
LHI	Lord Howe Isla	19.33	268	P	P	09 31 08.9	-0.6
	baz=19						
LHI	Lord Howe Isla	19.33	268	P	P	09 31 09.0	-0.6
AFI	Afiamalu	19.89	18	P	P	09 31 16.6	+0.7
	comp=Z,2.8nm,0.3s,baz=30,slow=23,SNR=6.5						
AFI				S	S	09 34 43.6	-16
	comp=Z,0.9nm,0.3s,baz=104,slow=17,SNR=2.1						
AFI	Afiamalu	19.89	18	P	P	09 31 13.7	-2.1
AFI				IAmb	IAmb	09 31 40.4	
	comp=Z,582nm,1.4s						
AFI	Afiamalu	19.89	18	P	Pn	09 31 20.8	+3.3
KOUNC	Koumac, New Ca	19.97	304	P	P	09 31 16.2	-0.4
KOUNC	Koumac, New Ca	19.97	304	P	Pn	09 31 20.1	+1.7
RAR	Rarotonga	20.11	59	P	Pn	09 31 20.4	+0.4
	comp=Z,70nm,0.9s,baz=236,slow=10,SNR=6.0						
RAR				LR	LR	09 38 56.4	
	comp=Z,6µm,18.8s,baz=221,slow=36						
RAR	Rarotonga	20.11	59	P	P	09 31 19.0	+0.8
RAR				IAmb	IAmb	09 31 22.9	
	comp=Z,512nm,1.6s						
RAR	Rarotonga	20.11	59	P	Pn	09 31 19.5	-0.5
SANVU	Saraoutou	21.97	319	P	P	09 31 37.1	-1.1
MGCD	Mangrove Creek	25.71	261	P	P	09 32 14.7	+0.2
	baz=26,SNR=12						
ARMA	Armidale	25.80	268	P	P	09 32 15.6	+0.2
	baz=26,SNR=10						
ARMA	Armidale	25.80	268	P	P	09 32 14.7	-0.8
ARMA				IAmb	IAmb	09 32 32.5	
	comp=Z,343nm,1.8s						
CNB	Canberra Magne	26.92	256	P	P	09 32 24.2	-1.2
	baz=27,SNR=7.1						
TBI	Tubuai	26.99	76	*e*LQ	LQ	09 37 41.8	
	comp=Z,7µm,25.0s						
TBI				*e*LR	LR	09 38 55.5	
	comp=Z,6µm,21.8s,baz=241						
TBI	Tubuai	26.99	76	*e*T	T	09 59 34.5	
	comp=Z,9.0nm,0.3s						
CAN	Canberra	27.21	256	P	P	09 32 26.9	-1.2
CAN				pmax	pmax		
	comp=Z,175nm,1.6s						
CAN				MLR	MLR		
	comp=Z,21µm,18.0s						
CAN	Canberra	27.21	256	P	P	09 32 26.9	-1.2
CAN				IAmb	IAmb	09 32 31.6	
	comp=Z,175nm,1.6s						
CAN				IAMs_20	IAMs_20	09 42 44.3	
	comp=Z,21µm,18.0s						
CAN	Canberra	27.21	256	P	P	09 32 28.5	+0.4
EIDS	Eidsvold	27.85	278	P	P	09 32 33.5	-0.4
	baz=28,SNR=7.6						
EIDS	Eidsvold	27.85	278	P	P	09 32 33.2	-0.7
EIDS				IAmb	IAmb	09 32 49.1	
	comp=Z,226nm,1.6s						
EIDS	Eidsvold	27.85	278	P	P	09 32 36.3	+2.4
TAU	Tasmania Unive	28.79	240	P	P	09 32 41.2	-0.8
TAU				pmax	pmax		
	comp=Z,84nm,1.0s						
TAU				MLR	MLR		
	comp=Z,16µm,18.0s						
TAU	Tasmania Unive	28.79	240	P	P	09 32 41.2	-0.8
TAU				IAmb	IAmb	09 32 44.7	
	comp=Z,84nm,1.0s						
TAU	Tasmania Unive	28.79	240	IAMs_20	IAMs_20	09 44 50.3	
	comp=Z,16µm,18.0s						
TAU	Tasmania Unive	28.79	240	P	P	09 32 43.2	+1.2
MOO	Moorlands	28.81	241	P	P	09 32 43.1	+0.9
	baz=29,SNR=4.5						
MOO	Moorlands	28.81	241	P	P	09 32 43.5	+1.2
RK1H	Rockhampton Ha	29.16	281	P	P	09 32 47.7	+2.2
RMQ	Roma	29.38	274	P	P	09 32 49.6	+2.2
	baz=29,SNR=34						
RMQ	Roma	29.38	274	P	P	09 32 49.5	+2.0
PAE	Paea	29.88	66	*e*T	T	10 03 16.4	
	comp=Z,2.9nm,0.4s						
TOO	Toolangi	29.90	251	P	P	09 32 51.6	-0.5
	baz=30,SNR=8.0						
TOO	Toolangi	29.90	251	P	P	09 32 50.8	-1.2
TOO				pmax	pmax		
	comp=Z,151nm,1.9s						
TOO	Toolangi	29.90	251	P	P	09 32 50.8	-1.2
TOO				IAmb	IAmb	09 32 54.8	
	comp=Z,151nm,1.9s						
TOO	Toolangi	29.90	251	P	P	09 32 53.9	+1.9
PPT2	Papeete2	29.93	66	*e*S	S	09 37 41.8	-7.3
	comp=Z,877nm,24.2s						
PPT2				*e*LQ	LQ	09 38 47.6	
	comp=Z,6µm,24.0s						
PPT2				*e*LR	LR	09 40 14.0	
	comp=Z,5µm,21.0s,baz=224						
PPT	Papeete	29.94	66	LR	LR	09 45 17.7	
	comp=Z,5µm,18.0s,baz=224,slow=37						
CMSA	Cobar Meteorol	30.52	263	P	P	09 32 58.4	+1.0
	baz=30,SNR=43						
CMSA	Cobar Meteorol	30.52	263	P	P	09 32 58.7	+1.2
HNR	Honiara	30.98	314	P	P	09 32 57.3	-4.3
	comp=Z,43nm,0.4s,baz=145,slow=12,SNR=1.3						
HNR				LR	LR	09 44 20.0	
	comp=Z,4µm,18.5s,baz=164,slow=35						
BRAT	Ballarat	31.14	251	P	P	09 33 05.0	+2.1
ARPS	Mount Arapiles	32.87	252	P	P	09 33 18.6	+0.5
	baz=33,SNR=12						
ARPS	Mount Arapiles	32.87	252	P	P	09 33 18.4	+0.3
QLP	Quilpie	33.14	271	P	P	09 33 21.2	+0.6
	baz=33,SNR=13						
QLP	Quilpie	33.14	271	P	P	09 33 21.9	+1.3
STKA	Stephens Creek	33.85	261	P	P	09 33 23.4	-3.3
	comp=Z,8.1nm,0.9s,baz=103,slow=9.8,SNR=16						
STKA				S	S	09 38 47.0	-3.0
	comp=Z,0.5nm,0.4s,baz=181,slow=19,SNR=1.4						
STKA				LR	LR	09 46 47.0	
	comp=Z,17µm,18.0s,baz=94,slow=36						
STKA	Stephens Creek	33.85	261	P	P	09 33 27.1	+0.3
	baz=34,SNR=9.5						
STKA	Stephens Creek	33.85	261	*e*P	P	09 33 25.3	-1.4
STKA	Stephens Creek	33.85	261	P	P	09 33 25.2	-1.5
STKA	Stephens Creek	33.85	261	P	P	09 33 27.4	+0.7
CTA	Charters Tower	34.18	283	P	P	09 33 30.0	+0.3
	baz=117,slow=10						
CTA				S	S	09 38 52.8	-2.6
	comp=Z,8.8nm,1.1s,baz=242,slow=18,SNR=2.5						
CTA				LR	LR	09 45 53.8	
	comp=Z,5µm,18.1s,baz=140,slow=34						
CTA	Charters Tower	34.18	283	P	P	09 33 31.0	+1.3
CTA				pmax	pmax		
	comp=Z,187nm,1.5s						
CTA	Charters Tower	34.18	283	P	P	09 33 31.2	+1.5
INKA	Innaminka	35.69	267	P	P	09 33 44.3	+1.7
TWOA	Tennyson Woods	35.72	254	P	P	09 33 44.0	+1.2
HTT	Hallett	35.73	257	P	P	09 33 42.9	0.0
	baz=36,SNR=12						
HTT	Hallett	35.73	257	P	P	09 33 43.4	+0.4
NAPP	Napperby	36.41	257	P	P	09 33 49.9	+1.1
MTSU	Mount Surprise	36.74	284	P	P	09 33 52.7	+1.0
	baz=37,SNR=30						
MTSU	Mount Surprise	36.74	284	P	P	09 33 53.0	+1.2
WHYH	Whyalla	36.91	258	P	P	09 33 53.3	+0.3
LCRK	Leigh Creek	37.01	262	P	P	09 33 54.1	+0.2
BBOO	Buckleboo	38.21	257	P	P	09 34 03.0	-1.0
	baz=38,SNR=16						
BBOO	Buckleboo	38.21	257	P	P	09 34 02.9	-1.2
BBOO					PcP	09 36 18.2	-0.1
BBOO	Buckleboo	38.21	257	P	P	09 34 03.8	-0.2
QIS	Mount Isa	39.45	278	P	P	09 34 14.6	0.0
	baz=39,SNR=26						
QIS	Mount Isa	39.45	278	P	P	09 34 15.2	+0.6
PMG	Port Moresby	39.68	298	LR	LR	09 50 05.8	
	comp=Z,6µm,18.2s,baz=126,slow=36						
PMG	Port Moresby	39.68	298	*ce*P	P	09 34 16.0	-0.5
PMG				pmax	pmax		
	comp=Z,67nm,1.5s						
PMG				MLR	MLR		
	comp=Z,11µm,16.0s						
PMG	Port Moresby	39.68	298	P	P	09 34 14.5	-2.0
PMG	Port Moresby	39.68	298	IAMs_20	IAMs_20	09 50 21.8	
	comp=Z,8µm,18.0s						
PMG	Port Moresby	39.68	298	P	P	09 34 16.8	+0.3
RABL	Rabaul	39.89	310	P	P	09 34 17.8	-0.5
RABL				IAmb	IAmb	09 34 26.4	
	comp=Z,182nm,0.9s						
RABL	Rabaul	39.89	310	P	P	09 34 19.3	+1.1
OOD	Oodnadatta	39.91	265	P	P	09 34 18.8	+0.5
COEN	Coen	39.94	289	P	P	09 34 18.5	-0.1
COEN	Coen	39.94	289	P	P	09 34 19.0	+0.3
MULG	Mulgathing	40.51	261	P	P	09 34 22.5	-0.7
TAOE	Nuku Hiva Isla	42.51	64	*e*S	S	09 40 54.2	-7.2
	comp=Z,3µm,24.1s						

TAOE eLQ LQ 09 44 14.0
comp=Z,3µm,26.6s
TAOE eLR LR 09 46 03.8
comp=Z,3µm,22.9s,baz=232
AS31 Alice Springs 42.91 270 P **P** **09 34 41.6 -1.5**
ASAR Alice Springs 42.91 270 P **P** **09 34 42.0 -1.1**
comp=Z,36nm,0.8s,baz=111,slow=7.6,SNR=205
ASAR PcP **PcP** **09 36 34.1 +0.4**
comp=Z,14nm,1.0s,baz=110,slow=4.8,SNR=1.5
ASAR ScP **ScP** **09 40 25.7 +1.9**
comp=Z,1.6nm,1.0s,baz=110,slow=4.0,SNR=2.5
ASAR S **S** **09 41 02.5 -4.7**
comp=Z,8.8nm,1.1s,baz=112,slow=15,SNR=8.9
ASAR ScS **ScS** **09 44 42.1 -1.3**
comp=Z,0.5nm,0.7s,baz=112,slow=6.7,SNR=4.0
ASAR LR LR 09 53 03.1
comp=Z,4µm,18.7s,baz=120,slow=37
ASAR Alice Springs 42.91 270 P **P** **09 34 41.2 -1.8**
WR0 Warramunga Arr 43.96 275 P **P** **09 34 50.3 -1.2**
WR0 IAmb IAmb 09 34 51.5
comp=Z,85nm,1.1s
WB2 Warramunga Arr 44.12 275 P **P** **09 34 51.2 -1.6**
WB2 IAmb IAmb 09 34 52.8
comp=Z,109nm,1.1s
WRAB Tennant Creek 44.13 275 *ce*P **P** **09 34 51.6 -1.3**
WRAB pmax pmax
comp=Z,113nm,1.2s
WRAB MLR MLR
comp=Z,6µm,16.0s
WRAB Tennant Creek 44.13 275 P **P** **09 34 51.3 -1.6**
WRAB IAmb IAmb 09 34 52.8
comp=Z,104nm,1.1s
WRAB Tennant Creek 44.13 275 P **P** **09 34 52.3 -0.6**
WRA Warramunga Arr 44.13 275 P **P** **09 34 51.3 -1.7**
comp=Z,26nm,0.4s,baz=115,slow=7.7,SNR=154
WRA PcP **PP** **09 36 36.3 +0.4**
comp=Z,5.2nm,1.0s,baz=128,slow=3.4,SNR=1.1
WRA ScP **ScP** **09 40 29.6 +0.8**
comp=Z,3.9nm,1.1s,baz=118,slow=4.5,SNR=4.7
WRA S **S** **09 41 19.9 -5.2**
comp=Z,7.7nm,1.0s,baz=116,slow=14,SNR=8.2
WRA LR LR 09 52 03.9
comp=Z,4µm,19.9s,baz=122,slow=35
WRA Warramunga Arr 44.13 275 P **P** **09 34 51.2 -1.8**
WB0 Warramunga Arr 44.17 275 P **P** **09 34 51.6 -1.6**
WB0 IAmb IAmb 09 34 53.1
comp=Z,111nm,1.1s
MANU Manus Island 44.66 306 P **P** **09 34 56.4 -0.7**
FORT Forrest 45.31 258 P **P** **09 35 01.6 -0.6**
baz=45,SNR=8.4
FORT Forrest 45.31 258 P **P** **09 35 00.7 -1.4**
FORT IAmb IAmb 09 35 18.0
comp=Z,103nm,0.9s
FORT Forrest 45.31 258 P **P** **09 35 01.5 -0.6**
VNDA Vanda 45.48 186 P **P** **09 35 06.1 +3.2**
comp=Z,7.1nm,1.0s,baz=38,slow=9.1,SNR=3.1
VNDA LR LR 09 51 28.4
comp=Z,4µm,19.7s,baz=18,slow=33
WRKA Warakurna 47.08 265 P **P** **09 35 13.8 -2.5**
baz=47,SNR=71
WRKA Warakurna 47.08 265 P **P** **09 35 15.2 -1.0**
JAY Jayapura 49.03 299 LR LR 09 56 26.1
comp=Z,3µm,18.1s,baz=103,slow=37
JAY Jayapura 49.03 299 P **P** **09 35 30.8 -0.6**
comp=Z,874nmcomp=Z,47nm,1.3s
KDU Kakadu 49.30 282 P **P** **09 35 31.9 -1.4**
baz=49,SNR=19
KDU Kakadu 49.30 282 P **P** **09 35 32.4 -1.0**
GENI Genyem 49.37 299 P **P** **09 35 35.7 +1.8**
comp=Z,3µmcomp=Z,8µmcomp=Z,138nm,1.4s
GENI Genyem 49.37 299 P **P** **09 35 33.6 -0.3**
MTN Manton Dam 50.31 281 P **P** **09 35 39.4 -1.7**
MTN Manton Dam 50.31 281 P **P** **09 35 40.3 -0.8**
DRS Darwin Rock St 50.73 281 P **P** **09 35 43.1 -1.1**
KNRA Kununurra 50.83 277 P **P** **09 35 44.4 -0.6**
baz=51,SNR=31
KNRA Kununurra 50.83 277 P **P** **09 35 42.6 -2.4**
KNRA IAmb IAmb 09 35 45.0
comp=Z,110nm,1.2s
KNRA Kununurra 50.83 277 P **P** **09 35 43.9 -1.1**
SMPI Sarmi 50.85 298 P **P** **09 35 44.3 -0.8**
comp=Z,30nm,1.7s
FITZ Fitzroy Crossi 52.28 272 LR LR 09 58 16.3
comp=Z,7µm,18.6s,baz=114,slow=36
FITZ Fitzroy Crossi 52.28 272 P **P** **09 35 54.3 -1.5**
baz=52,SNR=26
FITZ Fitzroy Crossi 52.28 272 P **P** **09 35 55.0 -0.8**
FITZ Fitzroy Crossi 52.28 272 P **P** **09 35 55.3 -0.5**
CASY Casey 52.78 209 P **P** **09 35 59.9 +1.0**
SAUI Saumlaki 52.88 286 P **P** **09 36 00.5 +0.2**
SAUI Saumlaki 52.88 286 P **P** **09 35 59.1 -1.2**
comp=Z,7µmcomp=Z,148nm,1.3s
SAUI Saumlaki 52.88 286 P **P** **09 36 00.7 +0.4**
KLBR Kellerberrin 53.42 253 P **P** **09 36 03.6 -0.6**
baz=53,SNR=7.8
KLBR Kellerberrin 53.42 253 P **P** **09 36 03.5 -0.6**
MEEK Meekatharra 54.52 259 P **P** **09 36 10.6 -1.7**
baz=54,SNR=7.7
MEEK Meekatharra 54.52 259 P **P** **09 36 11.2 -1.1**
MUN Mundaring 54.53 252 P **P** **09 36 09.7 -2.5**
baz=54,SNR=3.4
MUN Mundaring 54.53 252 P **P** **09 36 13.0 +0.8**
FAKI Fak Fak 55.16 292 P **P** **09 36 15.6 -1.4**
FAKI IAmb IAmb 09 36 16.9
comp=Z,108nm,1.2s
FAKI Fak Fak 55.16 292 P **P** **09 36 15.8 -1.2**
comp=Z,3µmcomp=Z,2µmcomp=Z,97nm,1.5s
FAKI Fak Fak 55.16 292 P **P** **09 36 16.7 -0.3**
PSA00 Pilbara Seismi 55.58 265 P **P** **09 36 17.9 -2.1**
PSA00 IAmb IAmb 09 36 20.5
comp=Z,110nm,1.8s
PSA00 Pilbara Seismi 55.58 265 P **P** **09 36 18.0 -1.9**
PSA00 IAmb IAmb 09 36 20.7
comp=Z,53nm,1.6s
PSA00 Pilbara Seismi 55.58 265 P **P** **09 36 18.1 -1.9**
MORW Morawa 55.70 255 P **P** **09 36 19.6 -1.2**
baz=56,SNR=3.9
MORW Morawa 55.70 255 P **P** **09 36 18.6 -2.1**
MORW IAmb IAmb 09 36 35.7
comp=Z,107nm,1.6s
MORW Morawa 55.70 255 P **P** **09 36 21.7 +0.9**
HUH Hualalai 56.58 25 P **P** **09 36 27.4 +0.1**
HMH Humu'ula Sheep 56.63 26 P **P** **09 36 27.9 +0.2**
POHA Pohakuloa 56.76 26 P **P** **09 36 29.2 +0.7**
POHA Pohakuloa 56.76 26 P **P** **09 36 28.8 +0.3**
QSPA South Pole Qui 57.10 180 P **P** **09 36 31.7 +1.4**
QSPA South Pole Qui 57.10 180 IAMs_20 IAMs_20 09 59 37.8
comp=Z,6µm,18.0s
SIJI Sorong 57.21 293 LR LR 10 00 41.5
comp=Z,3µm,19.0s,baz=147,slow=36
BATI Baumata 57.90 279 LR LR 10 01 41.6
comp=Z,4µm,18.6s,baz=155,slow=36
BATI Baumata 57.90 279 P **P** **09 36 34.2 -2.3**
comp=Z,2µmcomp=Z,1µmcomp=Z,60nm,1.7s
GUMO Guam 58.27 317 LR LR 09 59 15.4
comp=Z,2µm,19.8s,baz=106,slow=34
RPN Rapa Nui 58.90 104 LR LR 09 58 53.5
comp=Z,5µm,18.1s,baz=229,slow=32
GIRL Giralia 59.79 261 P **P** **09 36 50.9 +1.4**
baz=60,SNR=3.2
MMRI Maumere 59.93 280 P **P** **09 36 49.0 -1.6**
MMRI Maumere 59.93 280 P **P** **09 36 50.0 -0.6**
BASI Baing, Sumba 60.46 277 P **P** **09 36 51.3 -2.9**
comp=Z,1µmcomp=Z,2µmcomp=Z,121nm,1.1s
SANI Sanana 60.63 288 P **P** **09 36 53.7 -1.7**
comp=Z,3µmcomp=Z,2µmcomp=Z,106nm,1.5s
SANI Sanana 60.63 288 P **P** **09 36 53.8 -1.7**
TNTI Ternate 61.27 292 P **P** **09 36 56.5 -3.2**
comp=Z,26nm,0.8s
PLAI Plampang 63.53 277 P **P** **09 37 11.8 -3.1**
comp=Z,3µmcomp=Z,1µmcomp=Z,40nm,0.8s
PLAI Plampang 63.53 277 P **P** **09 37 14.2 -0.7**
LUWI Luwuk 63.81 287 P **P** **09 37 15.1 -1.6**
KAPI Kappang 63.98 282 LR LR 10 05 43.8
comp=Z,2µm,18.7s,baz=143,slow=37
KAPI Kappang 63.98 282 P **P** **09 37 16.2 -1.6**
APSI Ampana 64.79 286 P **P** **09 37 21.3 -1.8**
comp=Z,1µmcomp=Z,49nm,1.7s
MRSI Marisa 65.37 288 P **P** **09 37 26.0 -0.9**
comp=Z,2µmcomp=Z,36nm,1.1s
DAV Davao City (W) 66.63 296 LR LR 10 06 14.8
comp=Z,947nm,19.6s,baz=130,slow=36
TOLI2 Tolitoli 66.68 288 P **P** **09 37 33.6 -1.8**
JAGI Jajag, Banyuwa 66.75 275 P **P** **09 37 33.5 -2.4**
JAGI Jajag, Banyuwa 66.75 275 P **P** **09 37 34.2 -1.6**
MPSI Mapaga 66.93 286 P **P** **09 37 35.2 -1.7**
comp=Z,2µmcomp=Z,34nm,1.4s
BELA Belgrano 2 67.21 172 P **P** **09 37 38.4 +0.6**
BELA IAmb IAmb 09 37 53.1
comp=Z,71nm,1.2s
GMJI Gumukmas 67.45 275 P **P** **09 37 39.1 -1.1**
comp=Z,1µmcomp=Z,67nm,1.4s
PCJI Pacitan 69.39 274 P **P** **09 37 48.8 -3.6**
MAW Mawson 69.82 201 P **P** **09 37 55.2 +1.1**
comp=Z,41nm,1.1s,baz=143,slow=6.0,SNR=3.9
MAW LR LR 10 07 05.7
comp=Z,5µm,20.3s,baz=115,slow=35
MAW Mawson 69.82 201 P **P** **09 37 55.2 +1.1**
MAW pmax pmax
comp=Z,73nm,1.9s
MAW Mawson 69.82 201 IAmb IAmb 09 39 19.9
comp=Z,73nm,1.9s
PMSA Palmer Station 69.94 155 LR LR 10 05 14.7
comp=Z,2µm,18.5s,baz=252,slow=33
PMSA Palmer Station 69.94 155 IAMs_20 IAMs_20 10 09 59.8
comp=Z,3µm,18.0s
LEM Lembang 73.10 273 LR LR 10 12 23.8
comp=Z,3µm,18.6s,baz=154,slow=38
MG05 Puerto Natales 73.54 141 P **P** **09 38 19.0 +2.2**
MG05 IAmb IAmb 09 38 22.1
comp=Z,89nm,1.5s
USHA Ushuaia 73.83 145 LR LR 10 06 31.1
comp=Z,3µm,18.1s,baz=188,slow=32
SBUM Sibu 74.39 283 P **P** **09 38 21.4 -1.1**
SYO Syowa Base 74.54 193 ⇑ *e*P **P** **09 38 21.8 -0.6**
SYO Syowa Base 74.54 193 ⇑ *p*P **P** **09 38 24.0 +1.6**
SYO Syowa Base 74.54 193 ‖ *i*S sP 09 38 29.2 +0.8
TGY Tagaytay City 74.64 298 LR LR 10 08 39.8
comp=Z,712nm,21.7s,baz=186,slow=34
GO08 Villa O'Higgin 75.26 138 P **P** **09 38 29.7 +2.8**
TROLL Troll, Antarti 75.26 180 P **P** **09 38 28.4 +1.7**
SNAA Sanae 75.55 178 P **P** **09 38 31.1 +2.8**
SNAA Sanae 75.55 178 LR LR 10 11 48.2
comp=Z,4µm,18.0s,baz=200,slow=36
SNAA Sanae 75.55 178 *i* P **P** **09 38 29.7 +1.4**
SNAA Sanae 75.55 178 P **P** **09 38 30.0 +1.7**
SNAA IAmb IAmb 09 38 41.6
comp=Z,75nm,1.1s
SNAA IAMs_20 IAMs_20 10 12 04.3
comp=Z,4µm,18.0s
VNA3 Neumayer Olymp 75.71 176 P **P** **09 38 30.5 +1.4**
VNA2 Neumayer--Watz 76.14 177 P **P** **09 38 33.2 +1.7**
baz=177,slow=5.4
NVL N'lazarevskaya 76.26 183 ⇑ *i* P P 09 38 37.8 +5.6
NVL *i* 09 41 22.8
NVL *i* PPP PPP 09 43 15.7
NVL *e*S **S** **09 48 14.4 -1.0**
NVL *e* 09 49 03.3
NVL pmax pmax
comp=Z,119nm,1.8s
NVL MLR MLR
comp=N,3µm,18.0s
NVL MLR MLR
comp=E,2µm,18.0s
NVL MLR MLR
comp=Z,4µm,18.0s
VNA1 Neumayer--Stat 76.37 177 P **P** **09 38 35.5 +2.7**
JHJ Hachijo jima 2 76.80 325 LR LR 10 09 57.0
comp=Z,1µm,18.6s,baz=103,slow=34
COYC Coyhaique 77.13 136 P **P** **09 38 38.3 +0.6**
COYC IAmb IAmb 09 38 52.9
comp=Z,79nm,1.2s
COYC Coyhaique 77.13 136 IAMs_20 IAMs_20 10 07 19.1
comp=Z,3µm,19.0s
GO07 Millades Hill, 77.56 133 P **P** **09 38 41.8 +1.7**
PMBI Palembang 77.58 275 IAMs_20 IAMs_20 10 15 44.0
comp=Z,4µm,19.0s
MNAI Manna 78.33 272 IAMs_20 IAMs_20 10 15 55.0
comp=Z,3µm,20.0s
JOW Kunigami 78.33 313 LR LR 10 12 40.9
comp=Z,1µm,18.1s,baz=126,slow=35
LL02 Futaleuf 78.61 134 P **P** **09 38 48.0 +2.1**
LL02 IAmb IAmb 09 39 02.9
comp=Z,49nm,1.1s
LL05 Los Muermos 78.62 132 P **P** **09 38 48.5 +2.5**
LL03 Petrohue 79.44 132 P **P** **09 38 51.6 +1.1**
LL03 IAmb IAmb 09 38 54.6
comp=Z,53nm,0.9s
LL04 Puerto Octay 79.57 132 P **P** **09 38 53.8 +2.6**
MJAR Matsushiro Arr 80.32 326 P **P** **09 38 54.5 -0.6**
comp=Z,5.6nm,1.0s,baz=171,slow=6.6,SNR=4.9
MJAR Matsushiro Arr 80.32 326 P **P** **09 38 53.9 -1.2**
LR03 Panguipulli 80.33 131 P **P** **09 38 57.1 +1.7**
LR03 IAmb IAmb 09 39 12.9
comp=Z,130nm,1.4s
EFI East Falkland 80.67 147 IAMs_20 IAMs_20 10 12 25.3
comp=Z,3µm,19.0s
PLCA Paso Flores 80.82 133 P **P** **09 39 00.9 +2.8**
comp=Z,21nm,1.0s,baz=223,slow=5.6,SNR=32
PLCA LR LR 10 09 13.3
comp=Z,3µm,18.5s,baz=232,slow=31
PLCA Paso Flores 80.82 133 P **P** **09 39 00.6 +2.5**
PLCA IAmb IAmb 09 39 14.2
comp=Z,51nm,1.2s
MYKOM Kota Tinggi 80.92 278 IAMs_20 IAMs_20 10 18 43.9
comp=Z,3µm,19.0s
LC01 Cunco 81.05 131 P **P** **09 39 00.7 +1.4**
LC01 IAmb IAmb 09 39 02.9
comp=Z,47nm,1.1s
ML02 Panimavida 83.17 128 P **P** **09 39 13.2 +2.7**
GO05 Huala 83.27 127 P **P** **09 39 13.5 +2.5**
QZH Quanzhou 83.36 305 ⇑ *i*P **P** **09 39 10.3 -1.0**
QZH S **S** **09 49 32.6 +1.1**
QZH pmax pmax
comp=Z,550nm,9.4s
QZH LR LR
comp=Z,750nm,17.5s
BO02 Sierra Bellavi 84.16 128 P **P** **09 39 18.3 +2.7**
BO01 Tunca 84.20 127 P **P** **09 39 16.1 +0.4**
ADK Adak 84.55 1 IAMs_20 IAMs_20 10 13 50.6
comp=Z,2µm,19.0s
ASAJ Asahikawa 84.70 333 LR LR 10 14 40.1
comp=Z,2µm,18.8s,baz=171,slow=34
BO04 La Punta 84.75 127 IAmb IAmb 09 39 26.8
comp=Z,77nm,1.6s
IPM Ipoh 84.75 279 IAMs_20 IAMs_20 10 22 19.3
comp=Z,3µm,18.0s
MT02 Curacav 84.83 126 P **P** **09 39 21.0 +2.0**
ROC1 El Roble 85.08 126 P **P** **09 39 20.9 +0.4**
ROC1 IAmb IAmb 09 39 36.6
comp=Z,41nm,1.1s
LMEL Las Melosas 85.11 127 P **P** **09 39 20.7 +0.1**
MT03 Universidad Ad 85.11 127 IAmb IAmb 09 39 36.4
comp=Z,80nm,1.4s
PEL Peldehue 85.20 127 IAMs_20 IAMs_20 10 12 19.9
comp=Z,3µm,18.0s
KULM Kulim 85.51 279 IAMs_20 IAMs_20 10 22 34.4
comp=Z,2µm,18.0s
VA03 San Esteban 85.52 126 P **P** **09 39 24.2 +1.6**
PSI Prapat 85.58 276 LR LR 10 18 19.7
comp=Z,2µm,20.1s,baz=138,slow=36
SSE Sheshan 85.74 311 P **P** **09 39 21.0 -2.2**
SSE S **S** **09 49 52.3 -2.7**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,360nm,8.8s
SSE LR LR
comp=Z,250nm,15.1s
SSE LR LR
comp=Z,240nm,14.9s
GSI Gunungsitoli 85.90 274 P **P** **09 39 23.9 -0.7**
GSI Gunungsitoli 85.90 274 P **P** **09 39 24.2 -0.3**
QIZ Qiongzhong 86.00 296 P **P** **09 39 24.1 -0.7**
QIZ sP **pP** **09 39 29.6 +0.4**
QIZ PP **PP** **09 42 48.6 +3.3**
QIZ S **S** **09 50 01.2 +3.1**
QIZ pmax pmax
comp=Z,480nm,3.8s
QIZ LR LR
comp=Z,590nm,16.2s
QIZ LR LR
comp=Z,640nm,14.7s
QIZ LR LR
comp=Z,560nm,18.2s
LPIG La Paz 86.02 58 LR LR 10 12 55.9
comp=Z,3µm,18.0s,baz=228,slow=32
SLBS Sierra La Lagu 86.03 59 P **P** **09 39 25.9 +0.9**
SLBS IAmb IAmb 09 39 32.4
comp=Z,77nm,1.6s
CO02 Combarbal 86.14 125 P **P** **09 39 26.3 +0.7**
KSRS Korea Array 86.26 320 P **P** **09 39 26.3 +0.7**
comp=Z,3.4nm,0.8s,baz=139,slow=5.4,SNR=10
KSRS LR LR 10 15 58.8
comp=Z,856nm,18.9s,baz=125,slow=34
KSAR Wonju Array Be 86.27 320 P **P** **09 39 24.9 -0.8**
KSAR Wonju Array Be 86.27 320 P **P** **09 39 24.9 -0.8**
CO03 El Pedregal 86.57 125 IAmb IAmb 09 39 38.7
comp=Z,62nm,1.1s
CIS Catalina Islan 86.73 46 P **P** **09 39 30.0 +1.9**
baz=226
PKM Mcpherson Peak 86.92 44 P **P** **09 39 30.9 +1.7**
baz=225
HOPE Hope Point 86.96 159 P **P** **09 39 30.2 +1.2**
HOPE pmax pmax
comp=Z,90nm,1.4s
HOPE Hope Point 86.96 159 P **P** **09 39 30.2 +1.2**
YSS Yuzh-Sakhalins 87.05 334 *eP* **P** **09 39 28.8 -0.5**
YSS *e**PP **pwP** **09 39 38.2 -2.9**
YSS *e*S **S** **09 50 08.1 +1.1**
YSS *e*SS **SS** **09 55 54.7 +3.5**
YSS pmax pmax
comp=Z,1µm,4.9s
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=N,2µm,16.0s
YSS Yuzh-Sakhalins 87.05 334 P **P** **09 39 28.2 -1.0**
YSS IAMs_20 IAMs_20 10 16 44.1
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 87.05 334 P **P** **09 39 30.6 +1.3**
SMMC Simmler 87.11 44 P **P** **09 39 33.1 +3.2**
baz=225
109C Camp Elliot, M 87.19 47 IAMs_20 IAMs_20 10 15 12.0
comp=Z,3µm,18.0s
BCW Bitter Crk WRg 87.19 45 P **P** **09 39 31.4 +0.9**
SAO San Andreas Ge 87.30 42 P **P** **09 39 32.4 +1.6**
SAO pmax pmax
comp=Z,56nm,1.6s
SAO MLR MLR
comp=Z,4µm,18.0s
SAO San Andreas Ge 87.30 42 P **P** **09 39 32.4 +1.6**
SAO IAmb IAmb 09 39 48.3
comp=Z,56nm,1.6s
BAR Barrett 87.31 48 IAmb IAmb 09 39 42.3
comp=Z,34nm,1.5s
SFX San Felipe 87.38 50 P **P** **09 39 31.8 +0.5**
PASC Pasadena Art C 87.39 46 IAmb IAmb 09 39 38.3
comp=Z,47nm,1.5s
BBGB Big Mountain B 87.40 43 P **P** **09 39 32.9 +1.5**
ELS Elsinore Mount 87.50 47 P **P** **09 39 33.5 +1.5**
ELS IAmb IAmb 09 39 39.2
comp=Z,47nm,1.5s
ZON Zonda 87.52 126 IAmb IAmb 09 39 48.5
comp=Z,52nm,1.2s
MURC Murrieta 87.61 47 P **P** **09 39 34.6 +2.1**
baz=227,SNR=9.2
MONP2 Monument Peak 87.61 48 P **P** **09 39 34.3 +1.6**
baz=227,SNR=7.4
RMX La Rumorosa 87.63 48 IAmb IAmb 09 39 57.7
comp=Z,32nm,1.3s
IKP In-Ko-Pah, Jac 87.64 48 P **P** **09 39 35.0 +2.3**
baz=227
LCO Las Campanas 87.65 123 P **P** **09 39 36.4 +3.1**
LCO pmax pmax
comp=Z,66nm,1.5s
LCO Las Campanas 87.65 123 P **P** **09 39 36.4 +3.1**
LCO IAmb IAmb 09 39 39.5
comp=Z,66nm,1.5s
ARVC Arvin 87.67 45 P **P** **09 39 35.2 +2.6**
baz=226
PAYG Puerto Ayora 87.84 89 IAMs_20 IAMs_20 10 12 33.7
comp=Z,3µm,19.0s
NJ2 Nanjing 87.85 311 *eP* **P** **09 39 33.6 +0.1**
NJ2 sP **sP** **09 39 41.9 +2.4**
NJ2 PP **PP** **09 43 00.9 +0.9**
NJ2 SKS **SKSac** **09 49 57.3 -3.5**
NJ2 S **SKKSac** **09 50 08.0 -2.7**
NJ2 sS **ScS** **09 50 23.0 +1.1**
NJ2 SS **SS** **09 56 03.5 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,630nm,3.6s
NJ2 LR LR
comp=Z,890nm,18.6s
NJ2 LR LR
comp=Z,1µm,17.8s
NJ2 LR LR
comp=Z,1µm,19.8s
EDW2 Edwards Air Fo 88.00 46 P **P** **09 39 37.0 +2.8**
baz=226,SNR=15
VES Vestal, Richgr 88.01 44 P **P** **09 39 36.5 +2.3**
baz=226
GDXM Geysers 88.01 40 P **P** **09 39 35.8 +1.6**
GDXM IAmb IAmb 09 39 41.7
comp=Z,43nm,1.3s
SWSC Sam W. Stewart 88.03 48 P **P** **09 39 37.5 +3.1**
baz=228,SNR=6.0
PET Petropavlovsk 88.04 346 *ceP* **P** **09 39 34.6 +0.7**
PET *e* 09 50 00.4
PET *e*S **S** **09 50 16.9 +0.7**
PET *e*PS **PS** **09 51 23.8 +2.2**
PET pmax pmax
comp=Z,42nm,1.4s
PET pmax pmax
comp=Z,600nm,7.5s
PET Petropavlovsk 88.04 346 P **P** **09 39 33.7 -0.2**
PET IAMs_20 IAMs_20 10 15 41.7
comp=Z,2µm,19.0s
PET Petropavlovsk 88.04 346 P **P** **09 39 35.6 +1.7**
PFO Pinyon Flats O 88.07 47 P **P** **09 39 37.6 +2.9**
comp=Z,15nm,1.1s,baz=255,slow=3.7,SNR=11
PFO LR LR 10 12 41.6
comp=Z,3µm,19.0s,baz=247,slow=31
PFO Pinyon Flats O 88.07 47 P **P** **09 39 34.7 0.0**
PFO IAmb IAmb 09 39 42.1
comp=Z,50nm,1.5s
PFO Pinyon Flats O 88.07 47 P **P** **09 39 37.3 +2.6**
baz=227,SNR=12
TPFO Pinon Flats 88.07 47 P **P** **09 39 37.2 +2.5**
baz=227,SNR=13
CCAC Calif City Air 88.17 45 P **P** **09 39 37.2 +2.1**
CCAC IAmb IAmb 09 39 51.8
comp=Z,32nm,1.1s
BBRC Big Bear Solar 88.22 47 P **P** **09 39 37.7 +2.1**
baz=227
ISA Isabella, Lake 88.25 45 P **P** **09 39 37.7 +2.3**
baz=226,SNR=30
PEA0B Petropavlovsk- 88.31 346 *i* P **P** **09 39 33.0 -2.2**
PEA0B Petropavlovsk- 88.31 346 P **P** **09 39 35.8 +0.6**
PETK Petropavlovsk- 88.31 346 P **P** **09 39 36.3 +1.1**
comp=Z,21nm,1.1s,baz=106,slow=7.9,SNR=12
PETK LR LR 10 15 55.6
comp=Z,1µm,19.4s,baz=158,slow=34
PETK Petropavlovsk- 88.31 346 P **P** **09 39 35.2 0.0**
MSHR Mys Shultsa 88.43 325 *i* P **P** **09 39 35.9 -0.1**
MSHR pmax pmax
comp=Z,6.0nm,0.8s
KMPM Mount Pierce 88.48 38 P **P** **09 39 38.8 +2.4**
KMPM IAmb IAmb 09 39 59.3
comp=Z,65nm,1.3s
LHMI Lhok Sumawe 88.56 277 IAMs_20 IAMs_20 10 24 43.0
comp=Z,2µm,18.0s
LRMC Laurel Mtn Rad 88.59 45 P **P** **09 39 39.7 +2.5**
baz=226,SNR=18
BELC Belle Mtn. Jos 88.61 47 P **P** **09 39 39.9 +2.5**
baz=227,SNR=30
GLA Glamis 88.72 49 P **P** **09 39 39.3 +1.6**
GLA pmax pmax
comp=Z,68nm,1.5s
GLA Glamis 88.72 49 P **P** **09 39 39.2 +1.6**
GLA IAmb IAmb 09 39 55.9
comp=Z,68nm,1.5s
GLA Glamis 88.72 49 P **P** **09 39 40.7 +3.0**
baz=228
BC3 Big Chuckawall 88.72 48 P **P** **09 39 40.6 +2.8**
baz=228,SNR=28
CMB Columbia Colle 88.79 42 P **P** **09 39 39.5 +1.6**
CMB pmax pmax
comp=Z,49nm,1.5s
CMB MLR MLR
comp=Z,3µm,19.0s
CMB Columbia Colle 88.79 42 P **P** **09 39 39.5 +1.6**
CMB IAmb IAmb 09 39 44.8
comp=Z,48nm,1.4s
CMB IAMs_20 IAMs_20 10 19 31.0
comp=Z,3µm,19.0s

AC06 Mina Casimiro 88.88 122 P P 09 39 41.7 +2.9
HEC Hector,Ludlow 88.96 46 P P 09 39 41.1 +2.2
baz=227,SNR=8.0
GSC Goldstone, Bar 89.00 46 P P 09 39 40.5 +1.5
GSC pmax pmax
comp=Z,48nm,1.3s
GSC Goldstone, Bar 89.00 46 P P 09 39 40.5 +1.5
GSC IAmb IAmb 09 39 46.4
comp=Z,48nm,1.3s
GSC Goldstone, Bar 89.00 46 P P 09 39 41.5 +2.5
baz=227,SNR=25
O02D Mt. Diablo Mer 89.00 39 P P 09 39 41.7 +2.8
baz=223,SNR=15
CWC Cottonwood Cre 89.01 44 P P 09 39 41.3 +2.2
baz=226
UGL Uglegorsk 89.09 335 *d* iP P 09 39 42.3 +3.4
UGL *e*S SKSac 09 50 08.1 +0.8
UGL pmax pmax
comp=Z,100nm,1.3s
UGL smax smax
comp=E,2µm,14.0s
UGL smax smax
comp=N,5µm,16.0s
MPMC Manual Prospec 89.10 45 P P 09 39 41.9 +2.3
baz=226,SNR=21
113A Mohawk Valley, 89.20 49 P P 09 39 42.8 +2.9
113A IAmb IAmb 09 39 47.5
comp=Z,45nm,1.6s
IRM Iron Mountain 89.25 48 P P 09 39 42.6 +2.4
baz=228,SNR=39
ORV Oroville 89.25 40 P P 09 39 42.3 +2.3
ORV pmax pmax
comp=Z,28nm,1.4s
ORV Oroville 89.25 40 P P 09 39 42.3 +2.3
ORV IAMs_20 IAMs_20 10 14 00.1
comp=Z,3µm,20.0s
USA0B Ussuriysk Arra 89.27 327 *i* P P 09 39 40.2 +0.3
USA0B Ussuriysk Arra 89.27 327 P P 09 39 40.0 +0.1
USRK Ussuriysk Ar. 89.27 327 P P 09 39 41.2 +1.2
comp=Z,8.0nm,0.8s,baz=149,slow=3.6,SNR=12
USRK LR LR 10 18 36.8
comp=Z,833nm,18.3s,baz=128,slow=35
USRK Ussuriysk Ar. 89.27 327 P P 09 39 40.5 +0.6
OMMB Old Mammoth Mi 89.28 43 P P 09 39 41.6 +1.0
OMMB IAmb IAmb 09 39 57.2
comp=Z,39nm,1.4s
214A Organ Pipe Nat 89.29 51 P P 09 39 42.7 +2.3
baz=229
GMRC Granite Mounta 89.35 47 P P 09 39 43.2 +2.5
baz=228,SNR=20
BLYC Blythe 89.37 48 IAmb IAmb 09 39 48.4
comp=Z,54nm,1.4s
MLAC Mammoth, Mammo 89.39 43 P P 09 39 43.2 +2.2
baz=226
QSM Queen of Sheba 89.41 45 IAmb IAmb 09 39 48.7
comp=Z,44nm,1.3s
WDC Whiskeytown Da 89.43 39 P P 09 39 42.3 +1.5
WDC pmax pmax
comp=Z,50nm,1.4s
WDC Whiskeytown Da 89.43 39 P P 09 39 42.3 +1.5
WDC IAmb IAmb 09 40 02.2
comp=Z,50nm,1.4s
WDC IAMs_20 IAMs_20 10 14 25.6
comp=Z,3µm,20.0s
EMB Emerald Bay 89.61 41 IAmb IAmb 09 39 48.8
comp=Z,45nm,1.4s
O03E Paynes Creek 89.61 40 IAmb IAmb 09 39 48.3
comp=Z,66nm,1.4s
O03E Paynes Creek 89.61 40 P P 09 39 44.5 +2.8
baz=224,SNR=13
TUQ Turquoise Moun 89.62 46 P P 09 39 44.4 +2.4
baz=227,SNR=21
N02D Trinity Center 89.62 39 IAmb IAmb 09 39 49.3
comp=Z,71nm,1.4s
N02D Trinity Center 89.62 39 P P 09 39 44.6 +2.8
baz=223,SNR=14
RUBR Rubicon Trail 89.63 41 IAmb IAmb 09 39 58.9
comp=Z,57nm,1.3s
GWY Greenwater Val 89.67 45 P P 09 39 44.7 +2.4
GWY IAmb IAmb 09 39 49.3
comp=Z,46nm,1.5s
FURC Furnace Creek, 89.75 45 P P 09 39 45.3 +3.0
baz=227,SNR=8.0
LCH Last Change Ra 89.81 44 P P 09 39 44.4 +1.6
GRAC Grapevine Rang 89.81 44 P P 09 39 45.5 +2.8
baz=227
M02C Callahan 89.85 38 IAmb IAmb 09 39 50.5
comp=Z,82nm,1.6s
M02C IAMs_20 IAMs_20 10 14 57.7
comp=Z,3µm,19.0s
M02C Callahan 89.85 38 P P 09 39 45.9 +3.1
baz=223,SNR=9.2
MPK Martis Peak 89.87 41 P P 09 39 45.1 +1.8
MPK IAmb IAmb 09 39 50.9
comp=Z,68nm,1.3s
PNTR Pine Nut 89.97 42 IAmb IAmb 09 39 50.5
comp=Z,52nm,1.3s
PDMCI Parker Dam,Lak 89.97 48 P P 09 39 45.7 +2.2
baz=228,SNR=10
LHV Little Huntoon 90.01 43 P P 09 39 45.5 +2.0
LHV IAmb IAmb 09 40 02.0
comp=Z,34nm,1.3s
L02E Cave Junction 90.02 37 P P 09 39 46.2 +2.7
baz=223
AC02 Maricunga 90.06 122 IAmb IAmb 09 39 56.2
comp=Z,54nm,1.4s
BEKR Beckworth 90.09 41 P P 09 39 45.3 +1.2
YERR Yerington 90.10 42 P P 09 39 46.6 +2.4
YBH Yreka Blue Hor 90.17 38 P P 09 39 46.4 +2.1
comp=Z,23nm,1.3s,baz=142,slow=6.6,SNR=8.7
YBH LR LR 10 12 54.7
comp=Z,2µm,20.4s,baz=226,slow=31
YBH Yreka Blue Hor 90.17 38 P P 09 39 45.9 +1.6
YBH IAmb IAmb 09 39 52.2
comp=Z,40nm,1.4s
YBH IAMs_20 IAMs_20 10 15 46.0
comp=Z,3µm,20.0s
NVAR Mina Array Bea 90.24 43 P P 09 39 47.5 +2.5
comp=Z,7.3nm,1.0s,baz=220,slow=7.7,SNR=41
NVAR PKPPKP P'P'df 10 05 31.1 +11
comp=Z,0.2nm,0.6s,baz=290,slow=3.1,SNR=3.7
NVAR LR LR 10 16 18.7
comp=Z,1µm,18.6s,baz=218,slow=33
NVAR Mina Array Bea 90.24 43 P P 09 39 47.0 +2.1
NV11 Mina Array Sit 90.33 43 P P 09 39 46.5 +1.2
K02D Willamette Mer 90.38 37 P P 09 39 47.8 +2.5
baz=223
TYV Tymovskoe 90.40 336 *e*P P 09 39 46.7 +1.7
TYV pmax pmax
comp=Z,54nm,1.6s
TYV pmax pmax
comp=Z,1µm,4.7s
TPNV Topopah Spring 90.44 45 P P 09 39 47.9 +2.1
TPNV pmax pmax
comp=Z,13nm,1.2s
TPNV Topopah Spring 90.44 45 P P 09 39 47.9 +2.1
TPNV Topopah Spring 90.44 45 P P 09 39 48.0 +2.1
baz=227,SNR=13
Y14A Wickenburg 90.45 49 IAmb IAmb 09 39 53.3
comp=Z,43nm,1.5s
PAHR Pah Rah Range 90.52 41 P P 09 39 47.2 +1.1
PAHR IAmb IAmb 09 39 54.6
comp=Z,29nm,1.4s
TPH Tonopah 90.62 44 P P 09 39 48.4 +1.7
TPH pmax pmax
comp=Z,133nm,1.3s
TPH Tonopah 90.62 44 P P 09 39 48.4 +1.7
W13A Hualapai Mount 90.65 48 IAmb IAmb 09 39 54.5
comp=Z,41nm,1.4s
M04C Macdoel 90.66 38 P P 09 39 48.4 +1.6
M04C IAmb IAmb 09 39 53.7
comp=Z,53nm,1.4s
M04C IAMs_20 IAMs_20 10 15 44.2
comp=Z,3µm,19.0s
M04C Macdoel 90.66 38 P P 09 39 48.3 +1.6
baz=224,SNR=9.4
HUMO Hull Mountain 90.67 37 IAmb IAmb 09 40 08.5
comp=Z,50nm,1.4s
HUMO IAMs_20 IAMs_20 10 15 39.5
comp=Z,2µm,20.0s
MDJ Mudanjiang 90.71 326 IAmb IAmb 09 39 50.0
comp=Z,79nm,1.6s
MDJ Mudanjiang 90.71 326 P P 09 39 47.3 +0.7
MDJ SKS SKSac 09 50 17.6 +0.5
MDJ S ScS 09 50 48.4 +3.4
MDJ pmax pmax
comp=Z,32nm,1.5s
MDJ pmax pmax
comp=Z,710nm,5.1s
MDJ LR LR
comp=Z,1µm,10.2s
MDJ LR LR
comp=Z,1µm,11.7s
MDJ LR LR
comp=Z,2µm,16.5s
MDJ Mudanjiang 90.71 326 P P 09 39 48.5 +1.9
L04D Klamath Falls 90.73 38 P P 09 39 49.1 +2.1
baz=224
KVN Kaiserville 90.78 42 P P 09 39 50.0 +2.6
KVN pmax pmax
comp=Z,24nm,1.3s
KVN Kaiserville 90.78 42 P P 09 39 50.0 +2.6
DL2 Dalian 90.79 317 ⇑*i*P P 09 39 47.8 +0.7
DL2 SKS SKSac 09 50 17.5 -0.2
DL2 S ScS 09 50 49.4 +3.5
DL2 pmax pmax
comp=Z,20nm,0.8s
DL2 pmax pmax
comp=Z,700nm,4.2s
DL2 LR LR
comp=Z,440nm,14.2s
DL2 LR LR
comp=Z,530nm,14.7s
DL2 LR LR
comp=Z,760nm,18.6s
SHPR Sheep Range 90.79 46 P P 09 39 48.7 +1.2
TUC Tucson 90.84 51 P P 09 39 50.6 +2.9
TUC pmax pmax
comp=Z,46nm,1.6s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 90.84 51 P P 09 39 50.6 +2.9
TUC IAmb IAmb 09 39 55.6
comp=Z,46nm,1.6s
TUC Tucson 90.84 51 IAMs_20 IAMs_20 10 21 59.2
comp=Z,2µm,18.0s
TUC Tucson 90.84 51 P P 09 39 49.1 +1.4
baz=230
ZAIG Zacatecas 90.89 63 IAmb IAmb 09 39 56.4
comp=Z,42nm,1.9s
DBO Dodson Butte 90.90 37 P P 09 39 51.0 +3.2
DBO IAmb IAmb 09 39 56.7
comp=Z,44nm,1.4s
TLIG Tlapa 91.02 70 P P 09 39 50.5 +1.6
TLIG IAmb IAmb 09 39 57.2
comp=Z,65nm,1.6s
S11A Rachel 91.20 45 P P 09 39 50.0 +0.7
I03D Drain, OR 91.27 36 P P 09 39 51.7 +2.4
baz=223
K04D Chiloquin, OR 91.30 38 P P 09 39 51.2 +1.6
baz=224
PRN Pahroc Range 91.45 45 P P 09 39 52.5 +2.0
PRN IAmb IAmb 09 40 10.4
comp=Z,49nm,1.6s
UNM Universidad Na 91.53 68 IAMs_20 IAMs_20 10 13 08.7
comp=Z,2µm,19.0s
MOD Modoc Plateau 91.55 39 IAmb IAmb 09 39 58.1
comp=Z,25nm,1.3s
J04D Umpqua Nationa 91.56 37 IAMs_20 IAMs_20 10 16 30.0
comp=Z,3µm,20.0s
TIA Tai'an 91.66 313 *e*P P 09 39 51.4 +0.1
TIA pmax pmax
comp=Z,23nm,1.6s
TIA pmax pmax
comp=Z,560nm,7.8s
TIA LR LR
comp=Z,670nm,20.8s
TIA LR LR
comp=Z,890nm,18.8s
TIA LR LR
comp=Z,1µm,19.1s
SNY Shenyang 91.73 321 ⇑P P 09 39 50.3 -1.1
SNY pmax pmax
comp=Z,560nm,4.4s
SNY LR LR
comp=Z,540nm,11.4s
SNY LR LR
comp=Z,670nm,15.4s
SNY LR LR
comp=Z,1µm,16.7s
X16A Lo Mia Camp, P 91.75 49 IAmb IAmb 09 39 59.8
comp=Z,29nm,1.4s
R11A Troy Canyon, C 91.76 44 P P 09 39 53.2 +1.2
baz=228
I04A Tendick Farm, 91.81 37 P P 09 39 53.7 +1.9
baz=223
K05A Summer Lake 91.82 38 P P 09 39 53.8 +1.6
K05A IAmb IAmb 09 40 00.0
comp=Z,40nm,1.3s
J05D Fort Rock, OR 92.04 38 P P 09 39 54.7 +1.6
baz=224
CN2 Changchun 92.15 323 *e*P P 09 39 53.9 +0.6
CN2 *e*S S 09 50 55.1 +0.4
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,900nm,19.0s
H04D Lebanon 92.17 36 P P 09 39 56.1 +2.7
baz=223
LCMT Little Creek M 92.28 47 P P 09 39 55.3 +0.9
G03D McMinnville, O 92.41 35 IAMs_20 IAMs_20 10 14 58.5
comp=Z,3µm,20.0s
WUAZ Wupatki 92.49 49 IAmb IAmb 09 40 02.9
comp=Z,36nm,1.5s
WUAZ IAMs_20 IAMs_20 10 23 26.5
comp=Z,2µm,18.0s
WUAZ Wupatki 92.49 49 P P 09 39 57.4 +2.1
baz=230
U15A North Rim 92.49 47 IAmb IAmb 09 40 03.2
comp=Z,34nm,1.5s
KNB Kanab 92.55 47 P P 09 39 58.0 +2.4
KNB pmax pmax
comp=Z,35nm,1.4s
KNB Kanab 92.55 47 P P 09 39 58.0 +2.4
KNB IAmb IAmb 09 40 12.7
comp=Z,35nm,1.4s
PINE Pine Mountain 92.55 38 P P 09 39 55.1 -0.4
GRNR Gornyy 92.56 333 ⇑*i*P P 09 39 56.5 +1.4
GRNR pmax pmax
comp=Z,10.0nm,1.2s
H04A Detroit Lake 92.56 36 P P 09 39 54.9 -0.3
H04A IAmb IAmb 09 40 15.8
comp=Z,45nm,1.3s
CCUT Cedar City 92.56 46 P P 09 39 57.0 +1.2
I05D Terrebonne, OR 92.74 37 P P 09 39 58.4 +2.3
baz=224
GYA Guiyang 92.74 300 ⇓P P 09 39 56.8 +0.1
GYA PP PP 09 43 42.3 +3.1
GYA SKS SKSac 09 50 28.6 -1.1
GYA S ScS 09 51 03.3 +0.2
GYA pmax pmax
comp=Z,15nm,0.7s
GYA pmax pmax
comp=Z,370nm,8.6s
GYA LR LR
comp=Z,280nm,4.7s
GYA LR LR
comp=Z,390nm,5.8s
GYA LR LR
comp=Z,190nm,6.0s
SZCU Shurtz Canyon 92.76 46 P P 09 39 58.3 +1.7
LVC Limon Verde 92.78 119 LR LR 10 13 24.1
comp=Z,1µm,20.6s,baz=214,slow=30
LVC Limon Verde 92.78 119 P P 09 39 57.2 -0.2
LVC pmax pmax
comp=Z,42nm,1.5s
LVC Limon Verde 92.78 119 P P 09 39 57.2 -0.2
LVC IAmb IAmb 09 40 14.6
comp=Z,42nm,1.4s
WVOR Wild Horse Val 92.81 40 P P 09 39 57.7 +1.0
WVOR pmax pmax
comp=Z,30nm,1.5s
WVOR Wild Horse Val 92.81 40 P P 09 39 57.6 +1.0
WVOR IAmb IAmb 09 40 17.8
comp=Z,30nm,1.4s
NNA Nana 92.82 106 *ce*P P 09 40 02.9 +5.6
comp=Z,3µm,18.1s,baz=239,slow=32
NNA pmax pmax
comp=Z,85nm,2.5s
PSUT Pine Spring 92.91 45 P P 09 39 57.2 -0.1
KDAK Kodiak Island 92.98 13 LR LR 10 15 04.4
comp=Z,1µm,21.4s,baz=227,slow=31
NKL Nikolayevsk 92.98 337 *e*P P 09 39 54.7 -2.2
NKL pmax pmax
comp=Z,18nm,1.3s
NKL pmax pmax
comp=E,4.0nm,0.6s
NKL MLR MLR
comp=Z,1µm,20.0s
TA01 Diego Aracena 93.06 117 P P 09 39 59.5 +1.2
PKCU Pink Cliffs 93.13 47 P P 09 39 59.9 +1.4
PKCU IAmb IAmb 09 40 06.5
comp=Z,29nm,1.3s
W18A Petrified Fore 93.28 50 P P 09 39 59.5 +0.5
W18A Petrified Fore 93.28 50 P P 09 40 00.7 +1.6
baz=231
PB01 IPOC Station P 93.30 118 P P 09 40 00.1 +0.7
I07A Izee 93.49 38 IAmb IAmb 09 40 06.5
comp=Z,27nm,1.5s
J08A Circle Bar Ran 93.53 39 P P 09 40 01.7 +1.7
J08A IAmb IAmb 09 40 08.3
comp=Z,36nm,1.4s
ELK Elko 93.55 43 P P 09 40 02.5 +2.2
comp=Z,3.6nm,1.0s,baz=220,slow=5.0,SNR=6.0
ELK LR LR 10 17 54.2
comp=Z,1µm,18.9s,baz=238,slow=33
ELK Elko 93.55 43 IAMs_20 IAMs_20 10 24 08.2
comp=Z,3µm,18.0s
LYN LuoYang 93.56 309 *e*P P 09 40 01.0 +0.9
LYN sP sP 09 40 05.9 -0.1
LYN SKS SKSac 09 50 30.7 -2.8
LYN S ScS 09 51 11.8 +2.6
LYN SS SS 09 57 33.7 +7.8
LYN pmax pmax
comp=Z,10.0nm,1.4s
LYN pmax pmax
comp=Z,320nm,10.7s
LYN LR LR
comp=Z,590nm,16.3s
LYN LR LR
comp=Z,610nm,16.9s
MTPU Mount Pierson 93.59 46 P P 09 40 02.4 +1.8
CMIG Matias Romero 93.68 72 LR LR 10 16 15.7
comp=Z,1µm,18.0s,baz=236,slow=32
NLWA Neilton Lookou 93.71 34 IAMs_20 IAMs_20 10 15 30.8
comp=Z,3µm,20.0s
MSU Marysvale 93.90 46 P P 09 40 03.0 +1.1
MSU Marysvale 93.90 46 P P 09 40 03.0 +1.1
TX31 Lajitas Ar. Si 93.90 57 P P 09 40 03.1 +1.2
TX31 IAmb IAmb 09 40 19.2
comp=Z,57nm,1.5s
TX32 Lajitas Array 93.90 57 P P 09 40 03.4 +1.5
TXAR Lajitas Array 93.90 57 P P 09 40 04.3 +2.4
comp=Z,4.7nm,1.1s,baz=213,slow=6.0,SNR=16
TXAR LR LR 10 17 43.7
comp=Z,2µm,18.2s,baz=234,slow=32
TXAR Lajitas Array 93.90 57 P P 09 40 02.9 +0.9
HNS HongShan 93.91 313 ⇓P P 09 40 03.0 +1.4
HNS SKS SKSac 09 50 38.9 +3.6
HNS S ScS 09 51 13.7 +1.7
HNS pmax pmax
comp=Z,17nm,1.6s
HNS LR LR
comp=Z,450nm,19.8s
HNS LR LR
comp=Z,1µm,20.1s
HNS LR LR
comp=Z,1µm,17.8s
PB11 IPOC Station P 93.94 116 P P 09 40 03.1 +0.6
PB11 IAmb IAmb 09 40 08.9
comp=Z,52nm,1.3s
MNTX Cornudas Mount 94.10 55 P P 09 40 04.7 +2.0
MNTX IAMs_20 IAMs_20 10 18 55.7
comp=Z,2µm,18.0s
MNTX Cornudas Mount 94.10 55 P P 09 40 03.1 +0.5
baz=233
CMAR Chiang Mai Arr 94.14 289 P P 09 40 02.9 -0.3
comp=Z,3.2nm,0.3s,baz=123,slow=3.3,SNR=1.8
CMAR PP PP 09 43 48.1 -2.0
comp=Z,1.6nm,0.5s,baz=138,slow=6.3,SNR=16
ATAH Atahualpa 94.26 101 LR LR 10 16 18.2
comp=Z,2µm,18.4s,baz=253,slow=31
GO01 Chusmiza 94.34 117 P P 09 40 03.2 -1.6
GO01 IAmb IAmb 09 40 22.6
comp=Z,27nm,1.4s
Y22D IRIS PASSCAL I 94.48 52 IAMs_20 IAMs_20 10 19 15.5
comp=Z,3µm,19.0s
DUG Dugway, Tooele 94.59 44 IAMs_20 IAMs_20 10 19 18.0
comp=Z,3µm,19.0s
G08A Pilot Rock 94.61 37 P P 09 40 03.9 -1.0
G08A IAmb IAmb 09 40 11.4
comp=Z,40nm,1.7s
KMI Kunming 94.89 297 ⇑P P 09 40 04.7 -2.0
KMI PP PP 09 43 57.5 +1.4
KMI SKS SKSac 09 50 41.7 0.0
KMI S S 09 51 20.6 +0.4
KMI pmax pmax
comp=Z,220nm,6.1s
KMI LR LR
comp=Z,780nm,21.6s
KMI LR LR
comp=Z,380nm,17.2s
KMI LR LR
comp=Z,1µm,21.6s
PB16 IPOC Station P 94.90 115 P P 09 40 07.0 -0.5
PB16 IAmb IAmb 09 40 26.2
comp=Z,58nm,1.7s
TMUT Trail Mountain 94.98 46 P P 09 40 06.7 -0.2
TMUT IAmb IAmb 09 43 35.1
comp=Z,16nm,0.7s
MFID Camas Ranch 94.99 40 P P 09 40 06.9 +0.2
MFID IAMs_20 IAMs_20 10 21 58.1
comp=Z,2µm,18.0s
E07A Sunnyside 95.04 36 P P 09 40 08.1 +1.5
E07A IAmb IAmb 09 40 15.2
comp=Z,27nm,1.4s
HAWA Hanford 95.08 36 IAmb IAmb 09 40 35.4
comp=Z,39nm,1.9s
HAWA IAMs_20 IAMs_20 10 16 36.1
comp=Z,3µm,20.0s
BMO Blue Mountains 95.17 39 P P 09 40 08.6 +1.2
BMO pmax pmax
comp=Z,8.0nm,1.2s
BMO Blue Mountains 95.17 39 P P 09 40 08.6 +1.2
ANMO Albuquerque 95.31 52 P P 09 40 10.1 +1.7
comp=Z,3.3nm,1.2s,baz=278,slow=8.3,SNR=4.0
ANMO LR LR 10 17 50.5
comp=Z,2µm,18.3s,baz=238,slow=32
ANMO Albuquerque 95.31 52 *i* P P 09 40 05.6 -2.8
ANMO pmax pmax
comp=Z,7.0nm,1.4s
ANMO MLR MLR
comp=Z,2µm,17.0s
ANMO Albuquerque 95.31 52 P P 09 40 10.2 +1.9
ANMO Albuquerque 95.31 52 IAMs_20 IAMs_20 10 19 54.4
comp=Z,3µm,18.0s
ANMO Albuquerque 95.31 52 P P 09 40 09.4 +1.0
baz=233
MVCO Mesa Verde 95.36 49 IAMs_20 IAMs_20 10 19 52.4
comp=Z,2µm,18.0s
BBB Bella Bella 95.46 28 LR LR 10 18 11.0
comp=Z,1µm,19.1s,baz=220,slow=32
XAN Xi'an 95.59 307 P P 09 40 08.5 -1.0
XAN pP pP 09 40 12.6 -1.4
XAN PP PP 09 43 57.3 -3.9
XAN SKS SKSac 09 50 43.7 -1.0
XAN S ScS 09 51 27.4 +1.1
XAN sS sS 09 51 36.4 +4.0
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN pmax pmax
comp=Z,430nm,7.4s
XAN LR LR
comp=Z,450nm,17.5s
XAN LR LR
comp=Z,660nm,17.5s
XAN LR LR
comp=Z,1µm,18.7s
MA2 Magadan 95.78 345 LR LR 10 23 22.2
comp=Z,1µm,18.2s,baz=164,slow=36
MA2 Magadan 95.78 345 *ce*P P 09 40 09.3 -0.3
MA2 pmax pmax

comp=Z,18nm,1.4s
MA2 Magadan 95.78 345 P **P** 09 40 08.6 **-1.1**
MA2 lAmb lAmb 09 40 11.2
comp=Z,25nm,1.5s
MA2 Magadan 95.78 345 P **P** **09 40 10.0 +0.4**
E09A Wood Farm, Sta 95.86 37 P **P** **09 40 11.5 +1.1**
HLID Hailey 95.86 41 IAMs_20 IAMs_20 10 21 16.2
comp=Z,2µm,18.0s
HLID Hailey 95.86 41 P **P** **09 40 11.8 +1.1**
baz=229
F10A Beach Ranch, E 95.97 38 P **P** **09 40 12.1 +1.1**
PLID Pearl Lake 96.01 39 lAmb lAmb 09 40 17.6
comp=Z,23nm,1.4s
APG El Apazote 96.13 76 LR LR 10 15 06.7
comp=Z,2µm,20.1s,baz=234,slow=30
PZH PanZhiHua 96.40 297 P **P** **09 40 12.0 -1.5**
PZH PcP **PcP** **09 40 12.6 -1.0**
PZH PP **PP** **09 44 07.4 -0.3**
PZH SKS **SKSac** **09 50 47.5 -1.9**
PZH S **ScS** **09 51 34.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,250nm,7.3s
PZH LR LR
comp=Z,940nm,18.7s
PZH LR LR
comp=Z,570nm,18.3s
PZH LR LR
comp=Z,1µm,17.8s
SNET Serv Nac Est T 96.44 78 IAMs_20 IAMs_20 10 16 54.2
comp=Z,2µm,19.0s
GLI Glacier Island 96.95 15 IAMs_20 IAMs_20 10 17 17.4
comp=Z,2µm,21.0s
M22K Willow 97.14 13 IAMs_20 IAMs_20 10 27 49.2
comp=Z,2µm,19.0s
LPAZ La Paz 97.18 115 P Pdif 09 40 20.4 +2.3
comp=Z,2.8nm,0.9s,baz=178,slow=4.2,SNR=6.8
LPAZ LR LR 10 15 57.8
comp=Z,646nm,21.4s,baz=234,slow=30
LPAZ La Paz 97.18 115 P **P** **09 40 16.9 -1.0**
LPAZ lAmb lAmb 09 40 28.6
comp=Z,16nm,1.4s
WRAK Wrangell Islan 97.21 24 IAMs_20 IAMs_20 10 23 23.7
comp=Z,2µm,19.0s
AHID Auburn Hatcher 97.22 43 P **P** **09 40 16.9 0.0**
AHID lAmb lAmb 09 40 23.5
comp=Z,17nm,1.5s
AHID IAMs_20 IAMs_20 10 27 57.3
comp=Z,2µm,18.0s
CD2 Chengdu 97.37 302 P **P** **09 40 17.5 -0.2**
CD2 PP **PP** **09 44 16.3 +1.3**
CD2 SKS **SKSac** **09 50 56.1 +2.0**
CD2 pmax pmax
comp=Z,330nm,8.6s
CD2 LR LR
comp=Z,70nm,17.0s
CD2 LR LR
comp=Z,690nm,15.7s
CD2 LR LR
comp=Z,720nm,19.1s
SMCO Snowmass 97.50 48 IAMs_20 IAMs_20 10 21 24.1
comp=Z,2µm,18.0s
MESA MESA 97.52 17 IAMs_20 IAMs_20 10 20 05.7
comp=Z,3µm,20.0s
NEW Newport 97.56 36 LR LR 10 18 11.7
comp=Z,4µm,19.5s,baz=221,slow=32
BMRM Bremner River 97.58 16 IAMs_20 IAMs_20 10 28 05.1
comp=Z,2µm,19.0s
SDCO Great Sand Dun 97.58 50 IAMs_20 IAMs_20 10 26 31.5
comp=Z,2µm,18.0s
CUT Chulitna 97.71 13 IAMs_20 IAMs_20 10 21 46.5
comp=Z,2µm,20.0s
REDW Red Top Meadow 97.73 43 lAmb lAmb 09 40 25.9
comp=Z,18nm,1.4s
REDW IAMs_20 IAMs_20 10 26 51.9
comp=Z,2µm,18.0s
KLU Klutina 97.75 15 IAMs_20 IAMs_20 10 21 41.6
comp=Z,2µm,20.0s
TPAW Teton Pass 97.76 43 IAMs_20 IAMs_20 10 26 41.5
comp=Z,2µm,18.0s
ANM Nome 97.78 6 IAMs_20 IAMs_20 10 21 53.9
comp=Z,2µm,20.0s
ISLE Juniper Island 97.79 17 IAMs_20 IAMs_20 10 20 25.8
comp=Z,3µm,20.0s
SNOW Snow King Moun 97.85 43 P Pdif 09 40 20.1 +0.3
SNOW lAmb lAmb 09 40 36.0
comp=Z,13nm,1.2s
TABL Table Mountain 97.95 18 IAMs_20 IAMs_20 10 20 30.9
comp=Z,2µm,20.0s
HHC Hu-ho-hao-te 97.96 314 *e*P **P** **09 40 19.6 -0.5**
HHC sP pwP 09 40 29.3 -2.7
HHC SKS **SKSac** **09 50 59.2 +2.4**
HHC S **ScS** **09 51 46.2 +0.3**
HHC sS sS 09 51 52.3 -0.2
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.3s
HHC LR LR
comp=Z,440nm,19.8s
HHC LR LR
comp=Z,790nm,18.1s
HHC LR LR
comp=Z,1µm,19.1s
DLMT Dillon 98.02 40 IAMs_20 IAMs_20 10 31 45.2
comp=Z,2µm,18.0s
LOHW Long Hollow 98.03 43 P **P** **09 40 19.4 -1.1**
MOOW Moose Ponds 98.03 43 IAMs_20 IAMs_20 10 22 12.8
comp=Z,2µm,18.0s
JIS Juneau Island 98.04 22 IAMs_20 IAMs_20 10 19 33.7
comp=Z,2µm,20.0s
VRDI Verde Repeater 98.08 16 IAMs_20 IAMs_20 10 21 16.3
comp=Z,2µm,20.0s
BW06 Boulder Array 98.11 44 IAMs_20 IAMs_20 10 22 36.0
comp=Z,3µm,18.0s
PDAR Pinedale Array 98.11 44 P Pdif 09 40 22.8 +1.8
comp=Z,0.6nm,0.9s,baz=186,slow=3.0,SNR=4.8
PDAR LR LR 10 21 33.4
comp=Z,1µm,18.1s,baz=245,slow=34
N25K Chitina, Valde 98.15 15 IAMs_20 IAMs_20 10 21 03.0
comp=Z,2µm,20.0s
FLWY Flagg Ranch 98.27 42 lAmb lAmb 09 40 38.7
comp=Z,24nm,1.5s
FLWY IAMs_20 IAMs_20 10 22 56.0
comp=Z,2µm,19.0s
LOGN Logan Glacier 98.32 17 IAMs_20 IAMs_20 10 21 11.6
comp=Z,2µm,20.0s
CAST Castle Rocks 98.33 12 IAMs_20 IAMs_20 10 28 28.8
comp=Z,3µm,18.0s
CTGM Chitina Glacie 98.36 17 IAMs_20 IAMs_20 10 20 52.7
comp=Z,2µm,20.0s
CPUP Villa Florida 98.45 129 LR LR 10 20 02.4
comp=Z,3µm,18.4s,baz=232,slow=32
AMTX Amarillo 98.46 54 IAMs_20 IAMs_20 10 20 18.2
comp=Z,2µm,18.0s
ZEA Zeya 98.46 331 *e*P **P** **09 40 20.4 -1.5**
ZEA *e* 09 51 04.1
ZEA *e* 09 53 10.5
ZEA pmax pmax
comp=Z,10.0nm,1.4s
SEY Seymchan 98.49 347 LR LR 10 20 02.4
comp=Z,1µm,21.1s,baz=162,slow=33
SEY Seymchan 98.49 347 *i* P **P** **09 40 19.5 -2.3**
YHH Holmes Hill 98.62 42 **P** **09 40 23.3 0.0**
KTH Kantishna Hill 98.65 12 IAMs_20 IAMs_20 10 28 42.2
comp=Z,2µm,20.0s
TRF Thorofare Moun 98.67 12 IAMs_20 IAMs_20 10 28 31.8
comp=Z,2µm,20.0s
BOZ Bozeman (W) 98.69 41 P Pdif 09 40 23.8 +0.4
BOZ pmax pmax
comp=Z,8.0nm,1.4s
BOZ MLR MLR
comp=Z,2µm,18.0s
BOZ Bozeman (W) 98.69 41 P Pdif 09 40 23.8 +0.3
BOZ IAMs_20 IAMs_20 10 24 35.1
comp=Z,2µm,18.0s
ISCO Idaho Springs 98.72 48 IAMs_20 IAMs_20 10 19 43.3
comp=Z,2µm,18.0s
BOAB BOACO BROADBAN 98.73 81 IAMs_20 IAMs_20 10 15 24.0
comp=Z,3µm,21.0s
BTO Baotou 98.75 313 *e*P **P** **09 40 22.9 -0.8**
BTO LR LR
comp=Z,2µm,13.5s
BTO LR LR
comp=Z,2µm,10.2s
RWWY Rawlins 98.85 46 IAMs_20 IAMs_20 10 23 51.8
comp=Z,2µm,18.0s
RND Reindeer 98.89 13 IAMs_20 IAMs_20 10 30 03.6
comp=Z,2µm,18.0s
435B Jarrell 99.07 59 IAMs_20 IAMs_20 10 21 13.8
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 99.15 12 IAMs_20 IAMs_20 10 28 45.4
comp=Z,2µm,19.0s
MCK McKinley 99.17 13 IAMs_20 IAMs_20 10 30 15.1
comp=Z,3µm,19.0s
M27K Edge Creek, AK 99.43 16 IAMs_20 IAMs_20 10 22 10.1
comp=Z,2µm,20.0s
BWN Browne 99.48 12 IAMs_20 IAMs_20 10 29 07.0
comp=Z,3µm,19.0s
DLBC Dease Lake 99.57 23 LR LR 10 15 59.0
comp=Z,703nm,21.8s,baz=226,slow=30
L26K Log Cabin Wild 99.68 15 IAMs_20 IAMs_20 10 22 53.6
comp=Z,2µm,20.0s
RLMT Red Lodge 99.71 42 IAMs_20 IAMs_20 10 23 17.2
comp=Z,2µm,18.0s
RIDG Independent Ri 99.98 14 IAMs_20 IAMs_20 10 19 15.7
comp=Z,2µm,20.0s
WRH Wood River Hil 100.00 13 IAMs_20 IAMs_20 10 27 04.1
comp=Z,2µm,19.0s
L27K Beaver Creek, 100.05 16 IAMs_20 IAMs_20 10 22 22.5
comp=Z,2µm,19.0s
P33M Teslin, Yukon 100.08 21 IAMs_20 IAMs_20 10 22 43.5
comp=Z,2µm,20.0s
LZH Lanzhou 100.18 306 *e*P **Pdif** **09 40 30.0 -0.3**
LZH pP pPdif 09 40 34.2 -0.6
LZH sP sP 09 40 36.5 +0.3
LZH PP **PP** **09 44 34.5 -2.0**
LZH SKS 09 51 10.4
LZH S **Sdif** **09 52 09.8 +5.0**
LZH sS sS 09 52 15.9 +4.1
LZH SS **SS** **09 59 05.9 +6.1**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH pmax pmax
comp=Z,300nm,8.5s
LZH LR LR
comp=Z,1µm,17.2s
LZH LR LR
comp=Z,860nm,17.3s
LZH LR LR
comp=Z,1µm,19.6s
CCB Clear Creek Bu 100.22 13 IAMs_20 IAMs_20 10 30 36.6
comp=Z,2µm,19.0s
N31M Braeburn, Yuko 100.25 19 IAMs_20 IAMs_20 10 25 55.0
comp=Z,2µm,18.0s
H21K Melozitna Rive 100.30 10 IAMs_20 IAMs_20 10 30 12.9
comp=Z,2µm,19.0s
WMOK Wichita Mounta 100.37 55 IAMs_20 IAMs_20 10 22 40.8
comp=Z,2µm,18.0s
I23K Minto, Yukon-K 100.39 12 IAMs_20 IAMs_20 10 30 04.2
comp=Z,3µm,18.0s
TCOL CIGO, UAF Yank 100.41 13 IAMs_20 IAMs_20 10 22 59.8
comp=Z,2µm,20.0s
COLA College 100.41 13 IAMs_20 IAMs_20 10 22 59.8
comp=Z,2µm,20.0s
MDM Murphy Dome 100.42 12 IAMs_20 IAMs_20 10 29 35.0
comp=Z,2µm,19.0s
ILAR Eielson Array 100.50 13 P **Pdif** **09 40 31.2 +0.5**
comp=Z,0.6nm,1.0s,baz=197,slow=8.4,SNR=2.6
ILAR PP **PP** **09 44 41.1 +2.9**
comp=Z,1.5nm,1.1s,baz=191,slow=9.2,SNR=3.0
POKR Poker Flat Res 100.71 13 IAMs_20 IAMs_20 10 23 39.7
comp=Z,2µm,20.0s
M30M Minto, Yukon 100.88 18 IAMs_20 IAMs_20 10 22 54.5
comp=Z,3µm,20.0s
M31M Drury Creek, Y 101.22 19 IAMs_20 IAMs_20 10 23 11.5
comp=Z,3µm,18.0s
RDOG Red Dog Mine 101.41 6 IAMs_20 IAMs_20 10 24 16.0
comp=Z,2µm,20.0s
BILL Bilibino 101.43 354|| *e*P **Pdif** **09 40 35.4 +0.6**
BILL *e*S **SKSac** **09 51 17.1 +4.7**
BILL PS **PS** **09 53 55.0 +6.9**
BILL *e*SS **SS** **09 59 17.8 +2.2**
BILL *e*SSS SSS 10 03 03.4
BILL pmax pmax
comp=Z,14nm,1.9s
BILL MLR MLR
comp=Z,1µm,18.0s
OGNE Ogallala 101.62 49 IAMs_20 IAMs_20 10 22 02.1
comp=Z,3µm,18.0s
EGAK Eagle 101.69 15 IAMs_20 IAMs_20 10 23 34.6
comp=Z,2µm,20.0s
NATX Nacogdoches 101.71 60 IAMs_20 IAMs_20 10 22 49.7
comp=Z,2µm,19.0s
CBKS Cedar Bluff 101.93 51 IAMs_20 IAMs_20 10 26 02.7
comp=Z,3µm,18.0s
DGAR Diego Garcia 101.96 253 IAMs_20 IAMs_20 10 25 21.3
comp=Z,2µm,18.0s
LAO LASA Array 102.35 42 IAMs_20 IAMs_20 10 25 33.1
comp=Z,2µm,18.0s
FYU Fort Yukon 102.42 13 IAMs_20 IAMs_20 10 24 21.9
comp=Z,2µm,20.0s
TUL1 Leonard 103.06 56 IAMs_20 IAMs_20 10 24 36.1
comp=Z,3µm,18.0s
PALK Pallekele 103.26 270 IAMs_20 IAMs_20 10 31 05.8
comp=Z,2µm,18.0s
MIAR Mount Ida 103.92 58 IAMs_20 IAMs_20 10 26 39.8
comp=Z,2µm,18.0s
KSU1 Kansas State U 104.15 53 IAMs_20 IAMs_20 10 23 38.7
comp=Z,2µm,18.0s
X40A Basin Creek Fa 104.42 58 IAMs_20 IAMs_20 10 24 32.3
comp=Z,2µm,18.0s
DGMT Dagmar 104.49 41 IAMs_20 IAMs_20 10 24 46.6
comp=Z,2µm,19.0s
RER Riviere de l'E 105.51 232 IAMs_20 IAMs_20 10 26 47.4
comp=Z,2µm,18.0s
ECSD EROS Data Cent 106.50 48 IAMs_20 IAMs_20 10 32 18.3
comp=Z,2µm,18.0s
OXF Oxford 106.89 60 IAMs_20 IAMs_20 10 26 13.0
comp=Z,2µm,18.0s
CCM Cathedral Cave 107.28 56 IAMs_20 IAMs_20 10 27 24.9
comp=Z,2µm,19.0s
SCIA State Center 107.79 51 IAMs_20 IAMs_20 10 32 40.8
comp=Z,2µm,18.0s
YKA Yellowknife Ar 107.85 26 PKiKP **PKiKP** **09 45 11.5 +0.8**
comp=Z,0.4nm,0.6s,baz=229,slow=2.0,SNR=7.2
YKA PKKPbc **PKKPbc** **09 56 25.4 -0.1**
comp=Z,1.0nm,0.8s,baz=45,slow=3.2,SNR=13
MTDJ Mount Denham 108.40 80 IAMs_20 IAMs_20 10 26 43.4
comp=Z,2µm,18.0s
AGMN Agassiz Nation 109.17 44 IAMs_20 IAMs_20 10 27 37.8
comp=Z,2µm,18.0s
HMDM Hanimaadhoo 109.31 266 IAMs_20 IAMs_20 10 39 06.0
comp=Z,2µm,18.0s
C36M Paulatuk 109.40 18 IAMs_20 IAMs_20 10 28 06.8
comp=Z,2µm,19.0s
SDV Santo Domingo 109.46 92 IAMs_20 IAMs_20 10 25 03.5
comp=Z,2µm,20.0s
HDIL Hopedale 109.78 54 IAMs_20 IAMs_20 10 38 08.9
comp=Z,2µm,18.0s
JFWS Jewell Farm 110.20 51 IAMs_20 IAMs_20 10 30 45.7
comp=Z,2µm,18.0s
HYBB Hyderabad (bro 110.24 278 *e*PP **PP** **09 45 52.5 +1.4**
TIXI Tiksi 110.75 344 PKiKP **PKiKP** **09 45 16.3 +0.4**
comp=Z,1.5nm,0.5s,baz=90,slow=24,SNR=9.1
TIXI Tiksi 110.75 344 *c i* PKiKP **PKiKP** **09 45 15.5 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 110.75 344 PKiKP **PKiKP** **09 45 17.8 +1.9**
L44A Lake County Fo 111.43 53 IAMs_20 IAMs_20 10 29 59.4
comp=Z,2µm,18.0s
TZTN Tazewell 112.07 60 IAMs_20 IAMs_20 10 29 11.1
comp=Z,2µm,18.0s
COWI Conover 112.30 49 IAMs_20 IAMs_20 10 29 01.9
comp=Z,2µm,19.0s
ABPO Ambohimpanom 112.50 227 IAMs_20 IAMs_20 10 27 52.5
comp=Z,2µm,18.0s
HATO Hato, Curacao 112.56 90 IAMs_20 IAMs_20 10 27 34.9
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 114.01 57 IAMs_20 IAMs_20 10 30 03.9
comp=Z,2µm,18.0s
AAM Ann Arbor 114.36 54 IAMs_20 IAMs_20 10 36 27.1
comp=Z,2µm,18.0s
GLMI Grayling 114.70 51 IAMs_20 IAMs_20 10 41 54.7
comp=Z,2µm,18.0s
WMQ Urumqi 114.73 307 *e*PKP PKPdf 09 45 21.8 -2.6
WMQ LR LR
comp=Z,500nm,17.9s
WMQ LR LR
comp=Z,410nm,16.1s
WMQ LR LR
comp=Z,410nm,19.9s
ERPA Erie 116.81 56 IAMs_20 IAMs_20 10 31 51.1
comp=Z,2µm,18.0s
MSEY Mahe Island 116.92 244 IAMs_20 IAMs_20 10 35 12.1
comp=Z,1µm,18.0s
SSPA Standing Stone 117.76 58 IAMs_20 IAMs_20 10 35 21.4
comp=Z,2µm,18.0s
ZSN Zaisan 117.88 310 *e*PKiKP **PKPdf** **09 45 28.7 -1.6**
ZSN Zaisan 117.88 310 *e*PKP **PKPdf** **09 45 28.8 -1.6**
baz=310
MK31 Makanchi Array 119.34 309 *i* PKiKP **PKPdf** **09 45 31.3 -1.9**
MK31 Makanchi Array 119.34 309 **PKPdf** **09 45 32.5 -0.7**
MKAR Makanchi Array 119.34 309 PKP **PKPdf** **09 45 32.7 -0.4**
comp=Z,1.8nm,0.7s,baz=90,slow=1.3,SNR=19
MKAR PKKPbc **PKKPbc** **09 55 47.4 +1.4**
comp=Z,0.6nm,1.0s,baz=276,slow=4.1,SNR=4.0
MKAR Makanchi Array 119.34 309 PKPdf **PKPdf** **09 45 32.6 -0.6**
MAKZ Makanchi 119.55 309 PKiKP **PKPdf** **09 45 33.5 0.0**
MAKZ MLR MLR
comp=Z,600nm,21.0s
MAKZ Makanchi 119.55 309 PKPdf **PKPdf** **09 45 33.5 0.0**
RES Resolute Bay 119.78 18 PKP **PKPdf** **09 45 32.3 -0.8**
comp=Z,9.2nm,1.1s,baz=262,slow=4.2,SNR=17
RES Resolute Bay 119.78 18 PKiKP **PKiKP** **09 45 33.8 +0.6**
RES Resolute Bay 119.78 18 **PKiKP** **09 45 33.8 +0.6**
ZAA0 Zalesovo Array 119.89 317 **PKPdf** **09 45 33.5 -0.4**
ZALV Zalesovo Beam 119.89 317 PKP **PKPdf** **09 45 33.7 -0.2**
comp=Z,2.5nm,0.7s,baz=174,slow=3.0,SNR=9.1
ZALV Zalesovo Beam 119.89 317 PKPdf **PKPdf** **09 45 33.0 -0.9**
SHLS Shalkode 120.10 304 *e*PKiKP **PKPdf** **09 45 32.8 -2.1**
SHLS Shalkode 120.10 304 *e*PKP **PKPdf** **09 45 32.8 -2.1**
baz=304
SEUS St. Eustatius 120.20 88 IAMs_20 IAMs_20 10 39 29.2
comp=Z,1µm,18.0s
BIM Bigot 120.36 92 IAMs_20 IAMs_20 10 35 03.7
comp=Z,1µm,18.0s
FDF Fort de France 120.40 92 IAMs_20 IAMs_20 10 36 11.8
comp=Z,1µm,18.0s
UZB Uzynbulak 120.41 304 *e*PKiKP **PKPdf** **09 45 34.1 -1.4**
UZB Uzynbulak 120.41 304 *e*PKP **PKPdf** **09 45 34.1 -1.4**
baz=304
SVN Savane Anatole 120.44 92 IAMs_20 IAMs_20 10 36 12.7
comp=Z,1µm,19.0s
MPOM Morne Pois Mar 120.50 92 IAMs_20 IAMs_20 10 34 51.4
comp=Z,1µm,19.0s
CBE Ff, Capester 120.67 90 IAMs_20 IAMs_20 10 38 40.7
comp=Z,2µm,18.0s
KPKS Kokpek 120.74 304 *e*PKiKP **PKPdf** **09 45 34.5 -1.5**
KPKS Kokpek 120.74 304 *e*PKP **PKPdf** **09 45 34.6 -1.5**
baz=304
SATY Saty 120.81 304 *e*PKiKP **PKPdf** **09 45 34.8 -1.4**
SATY Saty 120.81 304 *e*PKP **PKPdf** **09 45 34.9 -1.4**
baz=304
TARG Taragay, Kyrgy 120.82 302 PKPdf **PKPdf** **09 45 35.9 -0.8**
ZHN Zhinishke 120.82 304 *e*PKiKP **PKPdf** **09 45 34.3 -1.9**
ZHN Zhinishke 120.82 304 *e*PKP **PKPdf** **09 45 34.4 -1.9**
baz=304
KSH Kashi 121.44 299 PKP **PKiKP** **09 45 39.3 +1.6**
KSH PP **PP** **09 47 09.6 -0.1**
KSH SKS **SKSdf** **09 52 41.7 -6.9**
KSH AMB AMB
comp=Z,280nm,5.8s
KSH LR LR
comp=Z,330nm,14.1s
KSH LR LR
comp=Z,700nm,18.9s
KSH LR LR
comp=Z,840nm,17.2s
SEM Semipalatinsk 121.66 313 *e*PKiKP **PKPdf** **09 45 36.0 -1.8**
SEM Semipalatinsk 121.66 313 *e*PKP **PKPdf** **09 45 36.0 -1.8**
baz=312
SEM LR LR 10 39 28.9
comp=Z,314nm,18.6s,baz=312
MDOK Medeo 121.79 304 *e*PKiKP **PKPdf** **09 45 36.1 -2.0**
MDOK Medeo 121.79 304 *e*PKP **PKPdf** **09 45 36.1 -2.0**
baz=304
MDOK LR LR 10 39 26.6
comp=Z,236nm,14.7s,baz=304
TNSS Tian-Shan 121.82 304 *e*PKP **PKPdf** **09 45 37.1 -1.4**
baz=303
AAA Alma-Ata 121.89 304 *e*PKiKP **PKPdf** **09 45 36.8 -1.4**
AAA Alma-Ata 121.89 304 *e*PKP **PKPdf** **09 45 36.8 -1.4**
baz=304
NRIK Noril'sk 121.97 335 PKP **PKPdf** **09 45 37.2 -0.3**
comp=Z,5.3nm,0.7s,baz=175,slow=3.0,SNR=3.5
NRIK Noril'sk 121.97 335 *c i* PKiKP **PKPdf** **09 45 37.5 +0.1**
NRIK MLR MLR
comp=Z,742nm,18.0s
NRIK Noril'sk 121.97 335 PKPdf **PKPdf** **09 45 37.6 +0.1**
CHKK Chushkaly 122.03 304 *e*PKP **PKPdf** **09 45 36.7 -1.7**
baz=304
ULHL Ulahol 122.08 302 P **PKiKP** **09 45 40.1 +1.1**
SNR=10
KUU Kurty 122.49 304 *e*PKiKP **PKPdf** **09 45 37.3 -2.0**
KUU Kurty 122.49 304 *e*PKP **PKPdf** **09 45 37.3 -2.0**
baz=304
EUNU Eureka 122.58 12 PKPdf **PKiKP** **09 45 39.5 +0.7**
HNH Hanover 122.68 56 IAMs_20 IAMs_20 10 35 30.4
comp=Z,2µm,19.0s
BRYW Bryant College 122.70 58 IAMs_20 IAMs_20 10 35 59.2
comp=Z,2µm,20.0s
TKM2 Tokmak 2 122.74 303 P **PKiKP** **09 45 40.4 +0.1**
SNR=6.7
KURK Kurchatov 122.75 313 *c i* PKiKP **PKPdf** **09 45 38.7 -0.8**
KURK pmax pmax
comp=Z,30nm,1.7s
KURK MLR MLR
comp=Z,874nm,19.0s
KURK Kurchatov 122.75 313 PKPdf **PKPdf** **09 45 39.1 -0.3**
KURK Kurchatov 122.75 313 pPKPdf **PKiKP** **09 45 39.7 0.0**
UCH Uchtor 123.31 302 P **PKiKP** **09 45 42.4 +0.7**
SNR=11
AAK Ala-Archa 123.44 302 PKKPbc PKKPbc 09 55 33.3 +2.9
comp=Z,0.8nm,0.4s,baz=250,slow=5.4,SNR=3.8
AAK Ala-Archa 123.44 302 *c i* PKiKP **PKPdf** **09 45 41.2 -0.1**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 123.44 302 PKPdf **PKPdf** **09 45 41.4 +0.1**
AAK Ala-Archa 123.44 302 pPKPdf **PKPdf** **09 45 40.9 -0.5**
AAK Ala-Archa 123.44 302 PKiKP **PKiKP** **09 45 41.7 +0.1**
SGDS Sogindy 123.56 303 *e*PKP **PKPdf** **09 45 39.7 -1.7**
baz=303
AML Almayashu 123.87 302 P **PKiKP** **09 45 42.9 +0.1**
SNR=13
AML Almayashu 123.87 302 PKiKP **PKiKP** **09 45 43.5 +0.7**
EKS2 Erkin-Say 123.95 302 P **PKiKP** **09 45 43.4 +0.8**
SNR=5.6
BTLS Baital 124.38 305 *e*PKiKP **PKPdf** **09 45 41.4 -1.4**
BTLS Baital 124.38 305 *e*PKP **PKPdf** **09 45 41.4 -1.4**
baz=305
KBL Kabul 125.10 292 PKiKP **PKiKP** **09 45 45.7 +0.5**
KBL Kabul 125.10 292 PKPdf **PKiKP** **09 45 45.7 +0.5**
KBL Kabul 125.10 292 pPKiKP **PKiKP** **09 45 46.9 +1.7**
SNR=10
GAR Garm 125.47 297 **PKiKP** **09 45 45.7 0.0**
CHGR Chuyangaron 126.24 296 **PKiKP** **09 45 47.2 0.0**
BRZS Berezniki 126.32 311 *e*PKiKP **PKPdf** **09 45 45.2 -1.2**
BRZS Berezniki 126.32 311 *e*PKP **PKPdf** **09 45 45.2 -1.2**
baz=311
KKAR Karatay Array 126.39 302 PKiKP **PKPdf** **09 45 45.7 -1.1**
KKAR Karatay Array 126.39 302 PKPdf **PKPdf** **09 45 45.7 -1.1**
FRB Frobisher Bay 127.67 32 PKP **PKiKP** **09 45 49.5 +0.4**
comp=Z,9.4nm,1.1s,baz=284,slow=1.7,SNR=7.7
SOCY Socotra 128.17 259 PKPdf **PKPdf** **09 45 50.9 -0.2**
SOCY Socotra 128.17 259 pPKPdf **PKPdf** **09 45 49.7 -1.4**
SNR=6.6
BRVK Borovoye 128.23 314 *c i* PKiKP **PKiKP** **09 45 50.6 +0.1**
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK MLR MLR
comp=Z,875nm,19.0s
BRVK Borovoye 128.23 314 PKPdf **PKiKP** **09 45 50.7 +0.2**
BRVK Borovoye 128.23 314 pPKPdf **PKiKP** **09 45 50.6 +0.1**
SCHQ Schefferville 128.25 43 PKP **PKiKP** **09 45 50.5 -0.1**
comp=Z,16nm,1.3s,baz=355,slow=2.2,SNR=3.8
SCHQ Schefferville 128.25 43 PKPdf **PKiKP** **09 45 51.4 +0.8**
LMN Caledonia Moun 128.36 55 **PKiKP** **09 45 52.0 +0.9**
JLN Jalan Bani Buh 128.40 273 pPKiKP **PKiKP** **09 45 52.1 +0.2**
SNR=5.9
WBK Wadi Bani Khal 128.96 274 pPKiKP **PKiKP** **09 45 54.0 +1.0**
MHTO MHTO 129.11 271 pPKiKP **PKiKP** **09 45 53.6 +0.3**
SNR=7.8
SHAO Shalim 129.74 267 pPKPdf **PKPdf** **09 45 52.6 -1.3**
SHAO Shalim 129.74 267 PKPdf **PKPdf** **09 45 49.4 -4.5**
NEEM North Greenlan 129.80 13 *i* P **PKiKP** **09 45 53.4 0.0**
SMDO Samad 129.92 274 pPKiKP **PKiKP** **09 45 56.6 +1.5**
SNR=5.7
BIDO Bidbid 130.04 274 pPKiKP **PKiKP** **09 45 57.0 +1.8**

SNR=6.6
DMTO DMTO 130.16 266 pPKiKP **PKiKP** **09 45 56.0 +0.5**
SNR=9.0
BSY Bisya 130.50 273 pPKiKP **PKiKP** **09 45 56.6 +0.5**
SNR=5.3
RBK Rabkut 130.68 265 pPKiKP **PKiKP** **09 45 57.7 +1.1**
SNR=13
HOQ Hoqain 130.75 274 pPKiKP **PKiKP** **09 45 58.0 +1.4**
SNR=5.5
KIBK Kibwezi 130.95 231 IAMs_20 IAMs_20 10 41 14.4
comp=Z,1μm,18.0s
WHFO Wadi Hawf 131.24 265 pPKiKP **PKiKP** **09 45 57.9 +0.2**
SNR=7.2
DOK Doka 131.27 266 pPKiKP **PKiKP** **09 45 58.2 +0.5**
SNR=8.7
ABTO Aybut 131.37 264 pPKiKP **PKiKP** **09 45 58.6 +0.6**
SNR=7.9
SOHO SOHO 131.63 274 pPKPdf **PKPdf** **09 45 57.4 +0.1**
SOHO SOHO 131.63 274 PKiKP **PKPdf** **09 45 57.0 -0.3**
UMZA Um Al Zommool 132.20 272 pPKPdf **PKPdf** **09 45 57.7 -0.8**
UOSS Minazif 132.22 275 PKiKP **PKPdf** **09 45 56.7 -1.7**
UOSS Minazif 132.22 275 PKiKP **PKPdf** **09 45 58.9 +0.5**
HATD Hatta, Dubai 132.23 275 PKiKP **PKPdf** **09 45 57.1 -1.3**
HATD Hatta, Dubai 132.23 275 PKiKP **PKiKP** **09 45 59.6 0.0**
ASHO Ashiyiah 132.24 275 pPKPdf **PKPdf** **09 45 57.8 -0.7**
ALNE Al Ain 132.25 274 pPKPdf **PKPdf** **09 45 58.0 -0.6**
KMBO Kilima Mbogo 132.38 232 PKP **PKiKP** **09 46 00.6 +0.1**
comp=Z,0.9nm,0.4s,baz=114,slow=2.3,SNR=7.6
KMBO SKPbc **SKPab** **09 49 28.3 +1.9**
comp=Z,19nm,1.1s,baz=104,slow=2.4,SNR=19
KMBO Kilima Mbogo 132.38 232 PKiKP **PKiKP** **09 46 02.4 +1.9**
KMBO Kilima Mbogo 132.38 232 PKPdf **PKiKP** **09 46 02.4 +1.9**
KMBO Kilima Mbogo 132.38 232 IAMs_20 IAMs_20 10 35 56.6
comp=Z,1μm,21.0s
MSFE Esma-Masafi 132.42 276 PKiKP **PKPdf** **09 45 58.5 -0.3**
MASF Masafi 132.42 276 PKiKP **PKPdf** **09 45 57.7 -1.1**
FAQ Al Faqa, Dubai 132.65 275 PKiKP **PKPdf** **09 45 57.3 -1.9**
SHME Shamm 132.69 276 pPKPdf **PKPdf** **09 45 58.9 -0.3**
AJN Ajban 133.09 274 PKiKP **PKPdf** **09 45 58.6 -1.4**
ABKAR Akbulak array 134.48 309 PKPdf **PKPdf** **09 46 02.6 +0.7**
GEYT Alibeck 134.50 293 PKP **PKiKP** **09 46 03.7 -0.1**
comp=Z,3.0nm,0.7s,baz=47,slow=11,SNR=5.6
ARU Arti 135.00 319 *i* PKIKP **PKPdf** **09 46 02.2 -0.4**
ARU 09 48 35.9
ARU Arti 135.00 319 PKPdf **PKiKP** **09 46 04.5 +0.4**
DAG Danmarks Havn 135.16 7 *i* P **PKPdf** **09 46 01.0 -1.4**
SUMG Summit 135.25 16 *i* P **PKiKP** **09 46 04.6 -0.1**
AKTO Aktyubinsk 135.74 310 PKhKP PKPpre 09 46 00.7
comp=Z,1.9nm,0.8s,baz=39,slow=5.4,SNR=2.8
DY2G Dye2 136.21 26 *i* P **PKiKP** **09 46 07.4 +0.8**
LODK Lodwar 137.01 234 IAMs_20 IAMs_20 10 50 59.2
comp=Z,1μm,18.0s
ICESG Greenland Ices 137.06 20 *i* P **PKPdf** **09 46 06.4 -0.2**
DBG Daneborg 137.21 9 *i* P **PKPdf** **09 46 05.0 -1.3**
FURI Furi 138.40 243 IAMs_20 IAMs_20 10 41 10.5
comp=Z,1μm,20.0s
KIRV Kirov 139.37 324 PKP **PKPdf** **09 46 11.4 +0.8**
comp=Z,9.4nm,0.6s,baz=66,slow=5.1,SNR=6.0
KIRV Kirov 139.37 324*c* *i* PKIKP **PKPdf** **09 46 09.3 -1.3**
KIRV *i* 09 46 12.1
KEV Kevo 140.64 347 IAMs_20 IAMs_20 10 50 17.8
comp=Z,1μm,20.0s
RAYN Ar Rayn 140.64 268 PKIKP **PKPdf** **09 46 13.4 -0.7**
RAYN MLR MLR
comp=Z,2μm,18.0s
RAYN Ar Rayn 140.64 268 **PKPdf** **09 46 13.4 -0.7**
RAYN Ar Rayn 140.64 268 IAMs_20 IAMs_20 10 48 51.4
comp=Z,2μm,18.0s
RAYN Ar Rayn 140.64 268 PKPdf **PKPdf** **09 46 11.1 -3.0**
RAYN Ar Rayn 140.64 268 PKiKP **PKPdf** **09 46 14.5 +0.4**
ARA0 ARCESS Array S 141.11 347 *e*PKPdf **PKPdf** **09 46 11.1 -2.4**
ARCES ARCESS Array B 141.11 347 PKhKP PKPpre 09 46 08.7
comp=Z,6.9nm,0.8s,baz=359,slow=4.9,SNR=16
ARCES SKPbc **SKPbc** **09 49 49.6 +0.3**
comp=Z,1.9nm,0.8s,baz=60,slow=5.3,SNR=1.3
BELG Belogornoye 141.97 315 PKP **PKPdf** **09 46 16.9 +1.4**
comp=Z,43nm,1.0s,baz=356,slow=4.2,SNR=5.5
KTK1 Kautokeino 141.98 348 *e* **PKPdf** **09 46 16.5 +1.4**
KLMR Klimovskoe 142.99 330 *e*PKHKP PKPpre 09 46 12.6
KLMR *e* 09 49 24.7
KLMR *e*SS SS 10 07 57.0 -7.2
KLMR pmax pmax
comp=Z,93nm,1.5s
KLMR Klimovskoe 142.99 330 *e*PKPdf 09 46 12.7
KLMR AMP 09 46 16.4
comp=Z,93nm,1.5s
KLMR *e*PP **PP** **09 49 24.7 -2.3**
KLMR *e*SS **SS** **10 07 57.0 -7.2**
KLMR *e*SS **SS** **10 07 57.0 -7.2**
KLMR *e*SSS SSS 10 13 33.7
KLMR *e*SSS SSS 10 13 33.7
KLMR LQ LQ 10 40 48.9
KLMR LQ LQ 10 40 48.9
KLMR LR LR 10 44 21.9
MAK Makhachkala 143.07 299 *e*PKHKP PKPpre 09 46 10.3
MAK *e* 09 49 22.2
MAK *e* 09 53 17.7
MAK *e*SS SS 10 08 05.0 -1.8
MAK pmax pmax
comp=Z,103nm,0.9s
STEI Steigen 144.20 351 *e*PKPdf **PKPab** **09 46 16.6 -0.2**
FAUS Fauske 144.71 351 *ep*PKPbc PKPbc 09 46 19.3 +0.4
GNI Garni 145.10 294 pPKPdf **PKPbc** **09 46 20.9 -0.3**
GNI Garni 145.10 294 PKPab **PKPbc** **09 46 19.1 -2.1**
ZEI Tsey 145.72 299 *i* PKP2 **PKPdf** **09 46 20.2 -2.5**
ZEI pmax pmax
comp=Z,43nm,1.4s
VRH Novokhopyorsk 145.82 314 *e*PKIKP **PKPdf** **09 46 22.1 -0.2**
VRH pmax pmax
comp=Z,130nm,1.2s
KONS Konsvik 145.82 352 *ep*PKPdf **PKPab** **09 46 22.9 +0.1**
MOR8 Moi Rana 145.97 351 *ep*PKPdf **PKPbc** **09 46 23.0 +0.1**
GOF Gofitskoye 146.17 303 *i* PKP2 **PKPbc** **09 46 24.6 +0.4**
GOF pmax pmax
comp=Z,163nm,1.0s
MOS Moscow 146.39 323 *i* PKIKP **PKPdf** **09 46 22.1 -1.0**
MOS *e* 09 49 46.2
MOS pmax pmax
comp=Z,1μm,2.1s
MOS pmax pmax
comp=Z,550nm,1.5s
KBZ Khabaz 146.40 301 PKPbc **PKPbc** **09 46 24.7 -0.1**
comp=Z,24nm,0.9s,baz=106,slow=1.9,SNR=50
KBZ Khabaz 146.40 301*c* *i* PKIKP **PKPdf** **09 46 21.4 -2.1**
KBZ *i* 09 46 23.1
MQOL MQOL 146.43 257 *i* **PKPab** **09 46 26.3 -0.2**
baz=243,slow=18
MQOL *i* P **PKPbc** **09 46 26.4 +0.8**
KIV Kislovodsk 146.53 301 *e*PKHKP PKPpre 09 46 20.0
KIV *i* 09 46 24.3
KIV *e* 09 49 45.7
KIV *e*SS SS 10 08 44.1 -2.5
KIV *e*SSS SSS 10 14 17.4
KIV pmax pmax
comp=Z,35nm,1.0s
KIV Kislovodsk 146.53 301 PKPdf **PKPbc** **09 46 25.5 +0.1**
KIV Kislovodsk 146.53 301 PKiKP **PKPbc** **09 46 25.1 -0.3**
KIV Kislovodsk 146.53 301 PKPdf **PKPdf** **09 46 20.0 -3.9**
LPSR Galich'ya Gora 147.00 318 *e*PKP2 **PKPbc** **09 46 25.9 -0.4**
LPSR pmax pmax
comp=Z,270nm,1.3s
JAWL J.Aulia 147.08 245 *i* P **PKPab** **09 46 29.4 +0.2**
JAWL *i* 09 46 29.8
baz=327,slow=16
GURO Guroymak-BITLI 147.13 291 **PKPbc** **09 46 26.8 -0.6**
VORR Voronezh 147.16 316 *e*PKIKP **PKPdf** **09 46 23.5 -1.0**
VORR pmax pmax
comp=Z,138nm,0.5s
OBN Obninsk 147.21 323 PKPbc **PKPbc** **09 46 25.9 -0.8**
comp=Z,7.9nm,0.4s,baz=135,slow=0.4,SNR=27
OBN Obninsk 147.21 323*i* *e*PKIKP **PKPdf** **09 46 23.5 -1.0**
OBN *i* 09 46 26.9
OBN *e*PPS PPS 10 02 41.7
OBN *e*SS SS 10 08 53.2 +0.4
OBN pmax pmax
comp=Z,87nm,2.4s
OBN pmax pmax
comp=Z,426nm,1.8s
OBN MLR MLR
comp=Z,518nm,21.0s
OBN Obninsk 147.21 323 PKPbc **PKPab** **09 46 28.0 -0.5**
PUL Pulkovo 147.30 333*c* *i* PKP2 **PKPbc** **09 46 26.3 -0.6**
PUL pmax pmax
comp=Z,475nm,1.7s

VSR Storozhevoye 147.34 315 *e*PKP2 **PKPbc** **09 46 27.1 -0.2**
VSR pmax pmax
comp=Z,220nm,1.7s
VORD Divnogorie 147.35 315 *e*PKP2 **PKPbc** **09 46 27.0 -0.3**
VORD pmax pmax
comp=Z,40nm,1.2s
FIA1 FINESS Array S 147.54 338 PKPbc **PKPbc** **09 46 27.9 +0.4**
FINES FINESS Array B 147.54 338 PKPbc **PKPbc** **09 46 27.3 -0.2**
comp=Z,68nm,0.7s,baz=48,slow=3.0,SNR=65
FINES FINESS Array B 147.54 338 PKP2 **PKPbc** **09 46 28.4 +0.9**
FINES FINESS Array B 147.54 338 PKPbc **PKPbc** **09 46 28.4 +0.9**
NSS Namsos 147.85 352 *e*PKPab **PKPbc** **09 46 27.9 -0.4**
SOC Sochi 148.71 301 *i* PKIKP **PKPdf** **09 46 28.0 +0.6**
SOC *e*SSS SSS 10 14 45.1
SOC pmax pmax
comp=Z,39nm,0.9s
MRWI Hamdab 149.39 250 *i* P **PKiKP** **09 46 35.3 +0.6**
MRWI *i* 09 46 40.4
baz=338,slow=5.9
VSU Vasula 149.54 334 *e*P **PKPbc** **09 46 32.2 -0.6**
ANN Anapa 150.15 304 *i* PKHKP PKPpre 09 46 33.7
ANN pmax pmax
comp=Z,106nm,1.0s
MOL Molde 150.21 355 *ep*PKPbc **PKiKP** **09 46 35.6 +0.6**
AAL Aland 150.32 342 *e*P **PKPbc** **09 46 33.7 -0.9**
MTSE Matsula 150.37 337 *e*P **PKPbc** **09 46 33.7 -1.1**
DOMB Dombas 150.59 353 *ep*PKPbc **PKiKP** **09 46 36.1 +0.1**
AKN Aaknes 150.64 355 *e* **PKPdf** **09 46 28.5 -1.4**
AKN *ep*PKPbc **PKiKP** **09 46 36.7 +0.6**
NC303 NORSAR Array S 151.11 350 **PKiKP** **09 46 37.5 +0.5**
NC204 NORSAR Array S 151.15 351 **PKiKP** **09 46 38.0 +0.8**
NC405 NORSAR Array S 151.17 350 PKPdf **PKPdf** **09 46 30.8 0.0**
NC405 **PKiKP** **09 46 37.2 0.0**
NC405 PKPab **PKPab** **09 46 44.7 +0.3**
UPP Uppsala 151.19 343 *e*P **PKPdf** **09 46 33.2 +2.5**
NB201 NORSAR Array S 151.29 350 PKPdf **PKPdf** **09 46 31.9 +1.0**
NB201 **PKiKP** **09 46 38.0 +0.5**
NB201 PKPab **PKPab** **09 46 46.4 +1.4**
NB2 NORSAR Subarra151.31 351 PKP **PKiKP** **09 46 37.7 +0.2**
comp=Z,166nm,1.4s,baz=18,slow=2.6
NB2 NORSAR Subarra151.31 351 PKP **PKiKP** **09 46 37.7 +0.2**
baz=18,slow=2.6
NOA NORSAR Array B 151.31 351 PKPbc **PKiKP** **09 46 37.4 -0.2**
comp=Z,8.1nm,0.8s,baz=21,slow=4.7,SNR=30
FOO Floro 151.33 357 *ep*PKPbc **PKiKP** **09 46 38.5 +1.1**
NBO00 NORSAR Array S 151.38 351 PKPdf **PKPdf** **09 46 30.1 -0.9**
NBO00 **PKiKP** **09 46 38.1 +0.5**
NBO00 PKPab **PKPab** **09 46 46.7 +1.3**
GHAJ Ghor Haditha 151.47 276 IAMs_20 IAMs_20 10 56 52.0
comp=Z,1μm,19.0s
NAO01 NORSAR Array S 151.54 351 **PKiKP** **09 46 38.7 +0.8**
NAO01 PKPab **PKPab** **09 46 46.7 +0.6**
NC602 NORSAR Array S 151.56 350 **PKiKP** **09 46 38.1 +0.1**
NC602 PKPab **PKPab** **09 46 46.7 +0.6**
NC602 NORSAR Array S 151.56 350 *ep*PKPbc **PKiKP** **09 46 38.4 +0.4**
HYA Hoyanger 151.70 356 *e* **PKiKP** **09 46 42.3 +4.1**
IDID Didziasalis 151.72 329 *e*P **PKPbc** **09 46 38.0 -0.1**
MNK Minsk 151.75 327 *i* PKIKP **PKPdf** **09 46 30.9 -0.8**
MNK *i* 09 50 20.2
MNK *i* 09 53 42.8
MNK pmax pmax
comp=Z,107nm,1.4s
MNK pmax pmax
comp=N,38nm,1.1s
MNK pmax pmax
comp=E,10.0nm,1.4s
MNK Minsk 151.75 327 *i* PKP **PKPdf** **09 46 30.9 -0.8**
comp=E,10.0nm,1.4s
MNK *i* PKP **PKPdf** **09 46 30.9 -0.8**
comp=N,38nm,1.1s
MNK *i* PKP **PKPdf** **09 46 30.9 -0.8**
comp=Z,107nm,1.4s,baz=49
MNK *i* PP **PP** **09 50 20.3 +1.8**
MNK *i* SKS **SKSdf** **09 53 42.8 +4.8**
MNK *i* SKKS SKKSdf 10 02 01.4 -25
MNK *i* SS **SS** **10 09 50.4 +7.2**
MNK *i* LR LR 10 50 39.8
MNK *i* LRM MLR 10 55 41.1
comp=E,136nm,18.1s
MNK *i* LRM MLR 10 55 41.1
comp=N,869nm,22.2s
MNK *i* LRM MLR 10 55 41.1
comp=Z,866nm,21.5s
ISAL Salakas 151.81 330 *e*P **PKPbc** **09 46 38.5 +0.2**
IIGN Ignalina 151.92 330 *e*P **PKPbc** **09 46 37.7 -0.8**
NACGM Naroch 151.98 329 *i* PKP **PKiKP** **09 46 39.6 +0.7**
LIC Lamto 152.58 165 *e*PKIKP **PKiKP** **09 46 42.1 +0.6**
comp=Z,176nm,1.3s
PABE Paberze 152.73 332 *e*P **PKPbc** **09 46 39.7 -0.5**
KIC Kosan Boka 152.77 166 *e*PKIKP **PKiKP** **09 46 42.6 +0.7**
comp=Z,145nm,1.3s
KONO Kongsberg 152.87 351 PKIKP **PKiKP** **09 46 41.8 +1.1**
KONO 09 46 52.6
KONO Kongsberg 152.87 351 **PKiKP** **09 46 41.8 +1.1**
KONO PKPab **PKPab** **09 46 52.6 +1.0**
KONO Kongsberg 152.87 351 *ep*PKPbc **PKiKP** **09 46 41.5 +0.8**
ODD1 Odda 152.91 355 *ep*PKPbc pPKPbc 09 46 43.0 -2.0
TIC Toumodi 152.99 165 *e*PKIKP **PKiKP** **09 46 42.6 +0.2**
DBIC Dimbokro 153.05 165 PKPbc **PKiKP** **09 46 44.2 +1.7**
comp=Z,11nm,1.0s,baz=224,slow=2.3,SNR=6.6
DBIC Dimbokro 153.05 165 PKIKP **PKPbc** **09 46 40.3 -2.0**
DBIC Dimbokro 153.05 165 **PKPbc** **09 46 40.3 -2.0**
AKASG Malin Array Be 153.25 319 PKP **PKPdf** **09 46 34.0 -0.1**
comp=Z,1.7nm,0.8s,baz=55,slow=1.6,SNR=8.4
AKASG PKPbc **PKiKP** **09 46 41.9 +0.2**
comp=Z,9.4nm,0.7s,baz=59,slow=2.1,SNR=38
AKASG Malin Array Be 153.25 319 PKIKP **PKiKP** **09 46 42.3 +0.5**
AKASG Malin Array Be 153.25 319 **PKPdf** **09 46 33.5 -0.6**
AKASG PKPbc **PKiKP** **09 46 42.3 +0.5**
AKBB Malin Array Si 153.25 319 PKIKP **PKPdf** **09 46 34.6 +0.5**
AKBB Malin Array Si 153.25 319 PKPdf **PKPdf** **09 46 34.6 +0.5**
BR131 Keskin Array S 153.64 294 PKIKP **PKiKP** **09 46 43.2 +0.1**
BR131 Keskin Array S 153.64 294 **PKiKP** **09 46 43.2 +0.1**
BR131 Keskin Array S 153.64 294 pPKPbc **PKiKP** **09 46 43.4 +0.2**
SNR=8.3
BRTR Keskin Array B 153.64 294 PKPbc **PKiKP** **09 46 43.2 +0.1**
comp=Z,8.1nm,0.8s,baz=143,slow=3.1,SNR=25
BRTR Keskin Array B 153.64 294 **PKPdf** **09 46 35.2 0.0**
BRTR **PKiKP** **09 46 43.5 +0.4**
CSS Mathiatis 153.88 283 **PKiKP** **09 46 44.3 +0.7**
CSS IAMs_20 IAMs_20 10 52 54.4
comp=Z,1μm,20.0s
SUW Suwalki 154.12 331 *e*P **PKiKP** **09 46 47.3 +3.9**
ANTO Ankara 154.27 294 IAMs_20 IAMs_20 11 01 03.1
comp=Z,974nm,20.0s
HOMB Homborsund 154.35 352 *e* **PKiKP** **09 46 46.3 +2.6**
MDUB Mudurnu 155.41 296 PKPdf 09 46 47.1 +9.4
ISP Isparta 156.20 290 IAMs_20 IAMs_20 11 10 30.5
comp=Z,1μm,18.0s
LVV L'vov 156.51 322 *e*PKIKP **PKPdf** **09 46 43.6 +5.0**
BURAR Bucovina Array 157.10 316 **PKPdf** **09 46 40.2 +0.5**
MLR Muntele Rosu 157.67 311 PKIKP **PKPdf** **09 46 39.4 -1.1**
MLR Muntele Rosu 157.67 311 PKPdf **PKPdf** **09 46 39.4 -1.1**
MLR IAMs_20 IAMs_20 11 01 32.8
comp=Z,1μm,21.0s
UZH Uzhgorod 158.14 322 *e*PKIKP PKPdf 09 46 51.4 +11
UZH *e* 09 46 59.0
UZH *e* 09 47 11.8
OJC Ojcow 158.29 328 *e*PKP **PKPdf** **09 46 41.3 +0.4**
OJC Ojcow 158.29 328 PKIKP **PKPdf** **09 46 41.8 +0.9**
OJC Ojcow 158.29 328 **PKPdf** **09 46 41.8 +0.9**
CRVS Cervenica-Dubn 158.40 323 *e*PKIKP **PKPdf** **09 46 43.6 +2.5**
CRVS *e* 09 47 16.4
CRVS Cervenica-Dubn 158.40 323 *e*PKP **PKPdf** **09 46 43.6 +2.5**
CRVS *e* 09 47 16.4
NIE Niedzica 158.62 325 *e*PKP **PKPdf** **09 46 43.5 +2.2**
RUE Ruedersdorf 158.72 340 *e*P **PKPab** **09 47 15.7 -1.1**
LANS Liptovska Anna 159.20 326 *e*PKIKP **PKPdf** **09 46 43.9 +1.8**
LANS Liptovska Anna 159.20 326 *e*PKP **PKPdf** **09 46 43.9 +1.8**
LANS *e* 09 47 20.0
OKC Ostrava-Krasne 159.30 329 AMS AMS 11 10 20.0
comp=Z,900nm,15.1s
OSTC Ostas 159.53 333 AMS AMS 11 08 30.0
comp=Z,1μm,16.6s
CHVC Chvalec 159.56 333 *e*PKPAB **PKPab** **09 47 20.4 -0.2**
CHVC AMS AMS 11 18 00.0
comp=Z,1μm,17.2s
MORC Moravsky Berou 159.61 330 PKP2 **PKPab** **09 47 21.1 +0.2**
MORC 10 46 42.7
MORC Moravsky Berou 159.61 330 **PKPdf** **09 46 42.7 +0.2**
MORC PKPab **PKPab** **09 47 21.1 +0.2**
MORC Moravsky Berou 159.61 330 *e*PKP **PKPdf** **09 46 42.8 +0.3**
MORC *e* 09 47 21.6

UPC Upice 159.65 333 *e*PKP2 **PKPab** **09 47 20.8 -0.2**
UPC MLR MLR
comp=Z,1μm,17.9s
UPC Upice 159.65 333 *e*PKPAB **PKPab** **09 47 20.8 -0.2**
UPC AMS AMS 11 11 00.0
comp=Z,1μm,17.9s
DPC Dobruska-Polom 159.65 333 *e*PKIKP **PKPdf** **09 46 43.9 +1.4**
DPC MLR MLR
comp=Z,900nm,16.7s
DPC Dobruska-Polom 159.65 333 *e*PKPDF **PKPdf** **09 46 43.9 +1.4**
DPC *e*PKPAB **PKPab** **09 47 21.5 +0.4**
DPC AMS AMS 11 10 30.0
comp=Z,900nm,16.7s
VYHS Vyhne 159.96 325 *e*PKP2 **PKPab** **09 47 23.2 +0.8**
CLL Collm 159.99 339 *i* PKP2 **PKPab** **09 47 22.2 -0.2**
CLL pmax pmax
comp=Z,80nm,1.4s
CLL MLR MLR
comp=Z,900nm,19.0s
CLL Collm 159.99 339 PKPdf **PKPdf** **09 46 42.7 -0.1**
CLL PKPab **PKPab** **09 47 21.1 -1.3**
CLL Collm 159.99 339 *e*PKPdf **PKPdf** **09 46 40.0 -2.8**
CLL *i* PKPab **PKPab** **09 47 22.2 -0.2**
comp=Z,80nm,1.4s
CLL *e*PP **PP** **09 51 09.0 +5.0**
CLL *e*SKKSac SKKSac 09 57 56.0 +4.2
CLL *ex* x 09 58 49.0
CLL *e*PSKS 10 01 27.0
CLL *e*SKKSdf **SKKSdf** **10 02 20.0 +10**
CLL *e*PPS PPS 10 04 18.0
CLL *ex* x 10 05 56.0
CLL *ex* x 10 07 24.0
CLL *e*SS **SS** **10 11 11.0 -0.5**
CLL *e*SSS SSS 10 17 13.0
CLL *e*PSSrev 10 19 12.0
CLL *e*SSSS 10 21 18.0
CLL LmV 11 13 00.0
comp=Z,900nm,19.0s
BRG Berggiesshubel 160.07 337 *e*PKP **PKPdf** **09 46 43.8 +0.9**
BRG Amp 09 46 34.0
comp=Z,33nm,2.0s
BRG PKPab **PKPab** **09 47 23.5 +0.8**
BRG Amp 09 47 25.8
comp=Z,82nm,1.7s
BRG Berggiesshubel 160.07 337 *e*PKIKP **PKPdf** **09 46 43.8 +0.9**
BRG pmax pmax
comp=Z,33nm,2.0s
PVCC Panska Ves 160.15 336 AMS AMS 11 03 50.0
comp=Z,1μm,20.2s
TORD Torodi Ar. Bea 160.22 180 PKP **PKPdf** **09 46 45.0 +0.9**
comp=Z,4.8nm,1.1s,baz=314,slow=0.9,SNR=13
TORD PKPab **pPKPab** **09 47 26.5 -2.1**
comp=Z,11nm,1.0s,baz=185,slow=1.9,SNR=10
TORD Torodi Ar. Bea 160.22 180 **PKPdf** **09 46 44.7 +0.5**
JAVC Velka Javorina 160.24 328 *e*PKP **PKPdf** **09 46 44.0 +0.7**
JAVC *e* 09 47 25.5
VRAC Vranov 160.36 330 *e*PKP **PKPdf** **09 46 43.7 +0.4**
VRAC *e* 09 47 23.7
PRU Pruhonice 160.61 335 *e*PKP2 **PKPab** **09 47 25.6 +0.4**
PRU MLR MLR
comp=Z,2μm,17.6s
PRU Pruhonice 160.61 335 *e*PKPAB **PKPab** **09 47 25.6 +0.4**
PRU AMS AMS 11 11 00.0
comp=Z,2μm,17.6s
KRUC Moravsky 160.64 330 *e*PKP **PKPdf** **09 46 43.4 -0.2**
KRUC *e* 09 47 25.6
TREC Trest 160.82 332 AMS AMS 11 04 20.0
comp=Z,1μm,19.8s
NKC Novy Kostel 161.10 339 *e*PKIKP **PKPdf** **09 46 49.3 +5.2**
NKC MLR MLR
comp=Z,2μm,15.8s
NKC Novy Kostel 161.10 339 *ep*PKP **PKPdf** **09 46 49.3 +5.2**
NKC *e*PKPAB **PKPab** **09 47 28.4 +1.1**
NKC AMS AMS 11 20 40.0
comp=Z,2μm,15.8s
CKRC Cesky Krumlov 161.66 333 *e*PKPDF **PKPdf** **09 46 45.5 +0.7**
CKRC *e*PKPAB **PKPab** **09 47 30.3 +0.5**
KHC Kasperske Hory 161.68 335 PKIKP **PKPdf** **09 46 45.1 +0.3**
KHC Kasperske Hory 161.68 335 *e*PKPDF **PKPdf** **09 46 44.8 0.0**
KHC *ex* x 09 46 54.5
KHC *e*PKPAB **PKPab** **09 47 29.7 -0.2**
KHC AMS AMS 11 10 20.0
comp=Z,1μm,17.9s
KHC Kasperske Hory 161.68 335 PKPdf **PKPdf** **09 46 45.1 +0.3**
CONA Conrad Observa 161.73 329 *e*P **PKPdf** **09 46 42.4 -2.5**
comp=Z,15nm,2.0s
CONA *e*P **PKPab** **09 47 30.9 +0.6**
comp=Z,27nm,1.4s
GERES GERESS Array B 161.87 334 PKP **PKPdf** **09 46 45.6 +0.5**
comp=Z,0.4nm,0.2s,baz=249,slow=5.6,SNR=4.4
GERES PKPab **PKPab** **09 47 31.1 +0.2**
comp=Z,3.7nm,0.9s,baz=270,slow=6.4,SNR=8.2
DIVS Divibare 162.05 313 PKPdf **PKPdf** **09 46 45.1 -0.3**
MEM Membach 162.16 351 *d*PKPab **PKPab** **09 47 33.1 +1.3**
BTNL Ternell 162.17 351 *d*PKPdf **PKPdf** **09 46 41.4 -3.8**
BTNL *d*PKPab **PKPab** **09 47 31.4 -0.5**
BSTI Sart Tilman 162.24 352 *d*PKPab **PKPab** **09 47 32.7 +0.5**
ARSA Arzberg 162.40 328 *e*P **PKPdf** **09 46 42.2 -3.4**
comp=Z,9.0nm,1.2s
ARSA *e*P **PKPab** **09 47 32.2 -1.0**
comp=Z,13nm,1.3s
BHOU Houvegnez 162.41 351 *d*PKPab **PKPab** **09 47 34.0 +1.0**
BGES Gesves 162.49 353 *d*PKPab **PKPab** **09 47 33.1 -0.2**
BMRD Maredsous 162.60 354 *d*PKPab **PKPab** **09 47 33.6 -0.1**
SOKA Soboth 163.05 327 *e*P **PKPdf** **09 46 44.7 -1.6**
comp=Z,13nm,1.7s
SOKA *e*P **PKPab** **09 47 33.9 -2.2**
comp=Z,16nm,1.2s
WLF Walferdange 163.07 350 PKIKP **PKPdf** **09 46 45.3 -0.8**
WLF Walferdange 163.07 350 PKPdf **PKPdf** **09 46 45.3 -0.8**
WLF PKPab **PKPab** **09 47 37.2 +1.4**
WLF Walferdange 163.07 350 *d*PKPab **PKPab** **09 47 36.9 +1.0**
OBKA Obir 163.40 328 *e*P **PKPdf** **09 46 42.7 -3.9**
comp=Z,14nm,1.4s
OBKA *e*P **PKPab** **09 47 34.7 -2.9**
comp=Z,15nm,1.4s
KBA Koelnbreinsper 163.46 331 P **PKPdf** **09 46 43.7 -3.1**
comp=Z,14nm,1.3s
KBA *e*P **PKPab** **09 47 35.7 -2.2**
comp=Z,14nm,1.3s
BFO Black Forest 163.95 344 PKP2 **PKPab** **09 47 39.7 -0.1**
BFO Black Forest 163.95 344 PKPab **PKPab** **09 47 39.7 -0.1**
WTTA Wattenberg 163.95 335 *e*P **PKPdf** **09 46 44.4 -2.9**
comp=Z,30nm,1.4s
PMOZ Porto Moniz, M 164.00 86 *e*LR LR 10 56 39.4
comp=Z,1μm,16.0s
RETA Reutte 164.05 338 *e*P **PKPdf** **09 46 41.6 -5.5**
comp=Z,21nm,1.9s
RETA *e*P **PKPab** **09 47 41.1 +0.7**
comp=Z,41nm,1.5s
ABTA Abfaltersbach 164.06 332 *e*P **PKPdf** **09 46 45.3 -1.9**
comp=Z,14nm,1.3s
ABTA *e*P **PKPab** **09 47 39.4 -1.1**
comp=Z,24nm,1.3s
MOTA Moosalm 164.06 337 *e*P **PKPdf** **09 46 44.4 -3.0**
comp=Z,20nm,1.3s
MOTA *i* P **PKPab** **09 47 41.0 +0.5**
comp=Z,24nm,1.4s
ECH Echery 164.30 347 PKIKP **PKPdf** **09 46 47.5 +0.2**
ECH 09 47 41.7
ECH Echery 164.30 347 PKPdf **PKPdf** **09 46 47.5 +0.2**
ECH PKPab **PKPab** **09 47 41.7 +0.3**
FETA Feichten 164.47 337 *e*P **PKPdf** **09 46 45.1 -2.6**
comp=Z,20nm,1.3s
FETA *e*P **PKPab** **09 47 43.0 +0.7**
comp=Z,14nm,1.2s
DAVA Damuels 164.50 339 *i* P **PKPab** **09 47 43.1 +0.6**
comp=Z,43nm,1.2s
TUE Stuetta 165.39 339 PKPab **PKPab** **09 47 46.6 +0.1**
SENIN Lac Senin/Sane 166.04 344 PKPdf **PKPdf** **09 46 49.3 +0.2**
SENIN PKPab **PKPab** **09 47 49.3 -0.1**
PGAV Gavieira, Arco 168.00 39 *e*LQ LQ 10 53 09.8
PGAV A A 11 10 38.9
comp=Z,2μm,18.0s
MVO Moncorvo 169.22 39 *e*SKS 10 13 00.3
MVO Moncorvo 169.22 39 *e*LR LR 10 54 09.6
comp=Z,2μm,18.0s
MTE Manteigas 169.47 43 *e*SKS 10 13 00.8
MTE Manteigas 169.47 43 *e*LQ LQ 10 39 45.5
MTE Manteigas 169.47 43 *e*LR LR 10 57 57.1
comp=Z,2μm,18.0s
PCBR Castelo Branco 169.87 45 *e*PKPdf **PKPdf** **09 46 54.3 +2.6**
PNCL Nicolau / Gran 170.14 56 *e*PKPdf **PKPdf** **09 46 54.7 +2.8**
PMRV Marv??o 170.17 47 *e*PKPdf **PKPdf** **09 46 53.3 +1.4**

PMRV	Marv??o	170.17	47	eLR	LR	10 52 46.8	
	comp=Z,2µm,18.0s						
EVO	Evora	170.28	53	ePKPdf	PKPdf	09 46 54.3	+2.3
PESTR	Estremoz	170.38	50	ePKPdf	PKPdf	09 46 55.5	+3.5
MORF	Marmelete	170.40	61	ePKPdf	PKPdf	09 46 47.3	-4.8
MORF				ePP	PP	09 51 52.9	-6.6
MORF				IAMs_20	IAMs_20	11 07 45.5	
	comp=Z,2µm,14.7s						
MORF	Marmelete	170.40	61	ePKPdf	PKPdf	09 46 47.1	-5.0
MORF	Marmelete	170.40	61	ePKIKP	PKPdf	09 46 47.3	-4.8
PBEJ	Beja	170.64	55	ePKPdf	PKPdf	09 46 55.1	+2.9
PCVE	Castro Verde	170.70	58	ePKPdf	PKPdf	09 46 55.5	+3.3
PBDV	Barranco-do-Ve	170.95	60	ePKPdf	PKPdf	09 46 56.0	+3.6
PVAQ	Vaqueiros	171.03	58	eLR	LR	10 52 29.6	
	comp=Z,2µm,18.0s						
PBAR	Barrancos	171.12	52	ePKPdf	PKPdf	09 46 55.4	+3.0
ESDC	Sonseca Array	171.87	34	PKP	PKPdf	09 46 53.9	+1.0
	comp=Z,0.7nm,0.4s,baz=326,slow=3.2,SNR=13						
ESDC				PKPab	PKPab	09 48 16.7	+1.5
	comp=Z,5.3nm,1.3s,baz=308,slow=3.4,SNR=2.4						
ESDC	Sonseca Array	171.87	34		PKPdf	09 46 54.8	+2.0
ESDC				PKPab	PKPab	09 48 15.6	+0.4

*IDC **01** 09:27:19.9±1.4, 10°.55S×79°.03W, h0^{km}, mb3.3/4, mb1 3.8/7, mb1mx3.6/43, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=36.8km s-min=20.1km az=44.0*
*ARE **01** 09:27:23±2.9, 10°.49S±0°.10×78°.9W±0°.2, h22^{km}±7^{km}, ML4.5, mb4.3/3(NEIC), Error ellipse: s-maj=23.5km s-min=13.5km az=94.0*
*NEIC **01** 09:27:25.1±2.5, 10°.51S±0°.10×78°.8W±0°.2, h35^{km}±2^{km}, Error ellipse: s-maj=26.7km s-min=16.4km az=268.0*
ISC 01 09:27:24.5±0.9**, 10°.64S**±0°.08×**79°.0W**±0°.1**, h40^{km}, n14, σ1ˢ.68**/16**, mb3.6**/6**, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	2.54	122	Pn	Pn	09 28 04.3	+1.1
	9.1nm,0.3s,baz=344,slow=6.6,SNR=29						
NNA				Sn	Sn	09 28 35.5	+2.6
	36nm,0.3s,baz=302,slow=12,SNR=6.8						
NNA	Nana	2.54	122	Pn	Pn	09 28 04.5	+1.3
ATAH	Atahualpa	3.54	10	Pn	Pn	09 28 17.3	0.0
	6.3nm,0.3s,baz=183,slow=7.4,SNR=75						
ATAH				Sn	Sn	09 28 59.2	+1.1
	22nm,0.3s,baz=290,slow=22,SNR=12						
AP01	Chacalluta	11.40	133	Pn	Pn	09 30 03.0	-1.8
PB16	IPOC Station P	11.98	131	Pn	Pn	09 30 10.4	-2.9
PB11	IPOC Station P	12.81	136	Pn	Pn	09 30 23.1	-1.1
SIV	San Ignacio	18.27	109	Pn	Pn	09 31 34.0	-1.1
	0.2nm,0.3s,baz=270,slow=12,SNR=1.3						
PTGA	Pitinga	21.35	64	P	P	09 32 07.4	-1.1
	0.4nm,0.4s,baz=178,slow=24,SNR=2.1						
BO04	La Punta	24.49	163	P	P	09 32 39.4	-0.7
BO04				IAmb	IAmb	09 32 59.6	
	comp=Z,5.5nm,0.8s						
STVI	Saint Thomas	31.98	26	P	P	09 33 46.5	-0.5
STVI				IAmb	IAmb	09 34 07.4	
	comp=Z,26nm,0.9s						
TXAR	Lajitas Array	46.30	330	P	P	09 35 45.1	-1.5
	comp=Z,0.3nm,0.9s,baz=135,slow=10,SNR=1.6						
NVAR	Mina Array Bea	61.04	325	P	P	09 37 37.1	+2.6
	comp=Z,0.2nm,0.5s,baz=152,slow=6.7,SNR=2.5						
YKA	Yellowknife Ar	77.95	344	P	P	09 39 18.6	+0.6
	comp=Z,0.3nm,0.4s,baz=142,slow=6.0,SNR=12						
WRA	Warramunga Arr	135.25	227	PKP	PKiKP	09 46 42.9	+0.6
	comp=Z,0.2nm,0.6s,baz=126,slow=1.9,SNR=1.3						

*INET **01** 09:44:02.0±0.3, 7°.86N×83°.54W, h8^{km}±3^{km}, MW3.4*
*UPA **01** 09:44:06.1±1.1, 8°.35N×82°.93W, h7^{km}±2^{km}, MW4.3*
*UCR **01** 09:44:06.4±1.9, 8°.34N×82°.95W, h5^{km}, MW4.3*
ISC 01 09:44:05.5±0.9**, 8°.31N**±0°.03×**82°.97W**±0°.02**, h15^{km}**±7^{km}**, n55, σ1ˢ.53**/76**, 6C-11D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.13	139	⇑iP	Pg	09 44 09.4	+0.3
PTPM				iS	Sb	09 44 13.4	+0.8
CDITO	Canoas	0.28	19	⇓iP	Pg	09 44 11.8	+0.3
CDITO				eS	Sg	09 44 15.4	-0.1
PIRO	Carate, Puerto	0.38	285	eP	Pg	09 44 13.4	+0.3
PIRO				eS	Sn	09 44 21.9	-1.5
PIRO	Carate, Puerto	0.38	285	eP	Pg	09 44 13.6	+0.4
PIRO				eS	Sb	09 44 20.9	+1.4
PIRO	Carate, Puerto	0.38	285	eP	Pg	09 44 13.4	+0.3
MLIR3	Monte Lirio, C	0.50	16	⇓iP	Pb	09 44 16.2	+0.1
MLIR3				eS	Sg	09 44 22.4	+0.1
EDSV	San Vito	0.51	359	⇓iP	Pg	09 44 16.0	+0.4
DVD	David	0.53	76	⇑iP	Pg	09 44 15.9	0.0
DVD				eS	Sb	09 44 24.0	+0.2
BRU2	Volcan	0.56	29	⇓iP	Pg	09 44 16.9	+0.4
BRU2				eS	Sb	09 44 26.0	+1.2
LOMA3	Las Lomas, Chi	0.58	78	⇓iP	Pg	09 44 16.8	-0.2
LOMA3				eS	Sb	09 44 25.4	-0.2
BCO2	Palmira	0.60	47	⇓iP	Pg	09 44 17.4	+0.2
BCO2				eS	Sb	09 44 26.7	+0.6
CHIR3	Chiriqui UPA,	0.64	82	⇓iP	Pg	09 44 17.5	-0.5
CHIR3				eS	Sg	09 44 26.8	+0.3
RIOS	Rincon, Osa	0.67	306	eP	Pg	09 44 17.7	-0.9
RIOS				eS	Sn	09 44 29.9	-0.7
EDPN	Palmar Norte	0.81	323	eP	Pb	09 44 20.2	-1.1
EDBA	Buenos Aires	0.90	340	eP	Pb	09 44 22.8	-0.1
SRBA	San Rafael, Bu	1.00	337	⇓iP	Pb	09 44 23.3	-1.3
SRBA				eS	Sn	09 44 39.3	+0.3
CHGR2	Aguacate	1.03	52	eP	Pb	09 44 23.2	-1.8
CHGR2				eS	Sb	09 44 36.8	-1.5
REME3	Remedios, Chir	1.13	94	⇑eP	Pb	09 44 25.7	-1.0
REME3				eS	Sg	09 44 42.9	+0.9
CNI2	El Empalme, Bo	1.21	24	⇓iP	Pn	09 44 27.3	-0.6
CNI2				eS	Sb	09 44 43.9	+0.3
PEZE	Perez Zeledon,	1.28	327	⇓eP	Pn	09 44 28.3	-0.6
PEZE	Perez Zeledon,	1.28	327	eP	Pn	09 44 28.3	-0.6
EDDO	Dominical	1.29	317	eP	Pn	09 44 29.2	+0.2
CDM	Cerro de Muert	1.47	328	eP	Pn	09 44 31.4	-0.5
CDM				eS	Sg	09 44 52.7	-0.3
CDM	Cerro de Muert	1.47	328	eP	Pn	09 44 31.6	-0.2
RIMA	Rio Macho	1.70	329	eP	Pn	09 44 34.8	0.0
RIMA	Rio Macho	1.70	329	eP	Pn	09 44 34.8	0.0
LCR2	La Lucha 2	1.76	324	eP	Pn	09 44 35.9	+0.3
GMAL	Guarumal, Vera	1.80	107	eP	Pn	09 44 34.7	-1.3
BATAN	Batan	1.82	347	eP	Pb	09 44 38.2	-0.4
BATAN				eS	Sn	09 44 59.5	+0.3
HDC	Heredia	2.03	326	⇑eP	Pb	09 44 41.5	-0.6
HDC	Heredia	2.03	326	eP	Pb	09 44 41.0	-1.2
HDC				eS	Sb	09 45 09.2	+2.0
CACAO	El Cacao, Vera	2.29	114	eP	Pn	09 44 43.6	+0.7
CACAO	El Cacao, Vera	2.29	114	⇑eP	Pn	09 44 44.4	+1.6
CACAO				eS	Sb	09 45 14.4	-0.5
SRA1	San Ramn	2.31	320	eP	Pb	09 44 45.4	-1.6
LAFE	Finca La Fe, P	2.43	308	eP	Pn	09 44 44.8	+0.1
AZU	Azuero	2.72	101	eP	Pn	09 44 50.1	+1.5
AZU	Azuero	2.72	101	⇑eP	Pn	09 44 50.3	+1.7
AZU				eS	Sn	09 45 22.7	+1.5
CEDE	Laguna Cedeo	2.76	322	eP	Pb	09 44 52.9	-1.7
JTS	Las Juntas de	2.78	315	eP	Pn	09 44 50.5	+1.0
JTS	Las Juntas de	2.78	315	eP	Pn	09 44 50.8	+1.3
JTS				eS	Sb	09 45 26.2	-2.6
COVE	Coope Vega, Sa	2.78	330	eP	Pb	09 44 52.7	-2.3
ACAL	Aguas Claras	3.08	319	eP	Pb	09 44 57.4	-2.7
GUAI	GUAI	3.18	308	eP	Pn	09 44 56.3	+1.3
CUI	Cuipilapa	3.19	317	⇓iP	Pn	09 44 58.2	+3.1
COLC	Colonia	3.22	317	eP	Pn	09 44 58.7	+3.2
CHOR3	La Chorrera	3.22	79	eP	Pb	09 44 59.4	-3.0
CHOR3				eS	Sn	09 45 34.8	+1.1
SAJU	San Juanillo,	3.22	303	eP	Pn	09 44 55.9	+0.3
HORNC	Hornillas	3.24	318	eP	Pn	09 44 59.0	+3.1
GPS2	Hotel Rincn d	3.38	316	eP	Pn	09 45 01.2	+3.4
LAPC	Finca la Perla	3.45	315	eP	Pn	09 45 02.3	+3.5
BUEV	Buena Vista	3.45	316	eP	Pn	09 45 02.7	+3.9
UPA	Univ. de Panam	3.46	79	eP	Pg	09 45 26.4	+15
GBS3	Finca Las Img	3.47	315	eP	Pn	09 45 02.0	+2.9
HZTE	Horizontes, Gu	3.53	313	eP	Pn	09 45 03.1	+3.4
PRVC	Isla de Provid	5.28	17	eP	Pn	09 45 24.8	+0.9

*MEX **01** 09:45:19.0±0.5, 14°.60N×93°.31W, h20^{km}±58^{km}, MD3.8*
*IDC **01** 09:45:20.4±4.4, 14°.95N×93°.19W, h100^{km}±18^{km}, mb3.3/4, mb1 3.6/4, mb1mx3.2/49, mbtmp3.6/4, MS4.1/2, Ms1 4.1/2, ms1mx3.2/32, Error ellipse: s-maj=75.1km s-min=10.6km az=25.0*
ISC 01 09:45:15.2±2.4**, 14°.5N**±0°.2×**93°.35W**±0°.10**, h69^{km}**±17^{km}**, n14, σ1ˢ.99**/20**, mb3.7**/4**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.16	6	eP	Pn	09 45 36.0	+0.3
PCIG				eS	Sn	09 45 49.4	-1.7
PATR	El Naranjo	1.22	62	eP	Pn	09 45 37.0	+0.4
PATR				iS	Sn	09 45 51.1	-1.6
PAVE	Pavencul	1.30	60	eP	Pn	09 45 38.4	+0.6
PAVE				iS	Sn	09 45 53.8	-0.8
CHUJ	Union Juarez	1.32	65	eP	Pn	09 45 38.7	+0.8
CHUJ				iS	Sn	09 45 53.3	-1.7
CCIG	Comitan	2.09	34	eP	Pn	09 45 51.9	+3.7
CCIG				eS	Sn	09 46 13.6	+0.3
TGIG		2.23	6	eP	Pn	09 45 52.7	+2.7
TGIG				eS	Sn	09 46 17.4	+0.7
APG	El Apazote	2.83	80	P	Pn	09 46 01.6	+3.4
	0.5nm,0.3s,baz=286,slow=18,SNR=15						
APG				S	Sn	09 46 33.7	+2.3
	0.4nm,0.3s,baz=78,slow=11,SNR=3.1						
CMIG	Matias Romero	2.94	330	P	Pn	09 46 02.1	+2.6
	0.5nm,0.3s,baz=145,slow=12,SNR=10						
CMIG				S	Sn	09 46 34.5	+0.8
	0.8nm,0.3s,baz=228,slow=20,SNR=3.1						
SDV	Santo Domingo	22.93	102	LR	LR	09 59 50.7	
	comp=Z,458nm,20.4s,baz=294,slow=38						
NVAR	Mina Array Bea	32.44	322	P	P	09 51 37.6	-1.5
	0.2nm,0.7s,baz=124,slow=9.0,SNR=2.0						
ULM	Lac du Bonnet	35.67	357	P	P	09 52 04.5	-2.2
	2.4nm,0.7s,baz=157,slow=7.7,SNR=3.7						
MDP	Montagnes des	41.13	99	LR	LR	10 11 19.8	
	comp=Z,233nm,20.3s,baz=230,slow=38						
YKA	Yellowknife Ar	50.21	347	P	P	09 54 03.8	-0.1
	0.6nm,0.8s,baz=139,slow=7.0,SNR=13						
ILAR	Eielson Array	61.83	337	P	P	09 55 27.3	+0.5
	0.3nm,0.5s,baz=116,slow=5.2,SNR=4.3						

GUC 01 09:47:06.9±0.7**, 30°.74S**×**71°.34W, h53^{km}**±2^{km}**, ML3.8, 2C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.26	284	⇑iP	Pn	09 47 15.5	-0.5
CO06				iS	Sn	09 47 22.1	-0.5
CO06				IAML		09 47 23.0	
	comp=E,5µm,0.2s						
CO02	Combarbal	0.55	148	⇓iP	Pn	09 47 19.0	-0.1
CO02				iS	Sn	09 47 27.8	-0.1
CO03	El Pedregal	0.57	101	⇓iP	Pn	09 47 19.2	-0.1
CO03				iS	Sn	09 47 28.4	+0.1
CO03				IAML		09 47 29.1	
	comp=N,7µm,0.1s						
GO04	Tololo Observa	0.73	40	⇓iP	Pn	09 47 21.6	+0.2
GO04				iS	Sn	09 47 32.3	+0.3
GO04				IAML		09 47 34.9	
	comp=N,15µm,0.4s						
CO05	La Serena	0.82	6	eP	Pn	09 47 22.5	+0.2
CO05				iS	Sn	09 47 33.0	-0.6
LCO	Las Campanas	1.81	18	⇓iP	Pn	09 47 36.4	+0.5
LCO				iS	Sn	09 47 58.9	+1.1
VA06	Catapilco	1.82	179	eP	Pn	09 47 36.4	+0.5
VA06				iS	Sn	09 47 59.2	+1.5
VA06				IAML		09 48 02.5	
	comp=E,734nm,0.3s						
VA03	San Esteban	2.13	162	⇑iP	Pn	09 47 41.5	+1.3
VA03				iS	Sn	09 48 07.5	+2.0
VA03				IAML		09 48 16.7	
	comp=E,852nm,0.3s						
ROCH	El Roble	2.25	173	eP	Pn	09 47 42.8	+0.9
ROCH				eS	Sn	09 48 09.8	+1.3
ROCH				IAML		09 48 26.1	
	comp=N,473nm,0.6s						
PEL	Peldehue	2.46	167	IAML		09 48 23.2	
	comp=N,231nm,0.1s						
MT02	Curacav	2.52	176	eP	Pn	09 47 45.7	+0.3
MT02				eS	Sn	09 48 15.4	+0.4
AC04	Llanos de Chal	2.53	5	⇓iP	Pn	09 47 46.5	+0.9
AC04				eS	Sn	09 48 16.3	+1.1
AC04				IAML		09 48 30.2	
	comp=E,231nm,0.5s						
MT05	Renca	2.70	169	eP	Pn	09 47 49.2	+1.4
MT05				IAML		09 48 36.1	
	comp=E,694nm,0.4s						
MT03	Universidad Ad	2.84	166	eP	Pn	09 47 50.8	+1.0
MT03				eS	Sn	09 48 23.4	+0.5
MT03				IAML		09 48 38.8	
	comp=E,487nm,0.4s						
MT09	Talagante	3.05	174	⇓iP	Pn	09 47 53.7	+0.9
MT09				eS	Sn	09 48 28.9	+0.9
MT09				IAML		09 48 43.4	
	comp=N,253nm,0.4s						
MT01	Popeta	3.12	179	iP	Pn	09 47 53.9	+0.3
MT01				eS	Sn	09 48 29.1	-0.6
MT01				IAML		09 48 45.0	
	comp=E,139nm,0.4s						
LMEL	Las Melosas	3.25	163	eP	Pn	09 47 57.7	+2.2
LMEL				eS	Sn	09 48 35.6	+2.6
LMEL				IAML		09 48 54.5	
	comp=N,195nm,0.4s						
BO04	La Punta	3.30	169	eP	Pn	09 47 57.1	+1.0
BO04				IAML		09 48 53.5	
	comp=N,138nm,0.3s						
AC06	Mina Casimiro	3.48	15	eP	Pn	09 47 59.8	+1.2
AC06				eS	Sn	09 48 39.9	+1.4
AC06				IAML		09 48 55.8	
	comp=N,132nm,0.3s						
BO02	Sierra Bellavi	4.07	173	eP	Pn	09 48 07.4	+0.6
BO02				IAML		09 49 19.2	
	comp=N,123nm,0.3s						

*IDC **01** 09:53:13.4±3.0, 32°.89S×178°.34W, h0^{km}, mb3.8/2, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=70.8km s-min=44.7km az=125.0*
*NEIC **01** 09:53:13.6±0.6, 32°.92S±0°.09×177°.97W±0°.05, h10^{km}±2^{km}, mb4.2/8, Error ellipse: s-maj=14.6km s-min=7.8km az=179.0*
ISC 01 09:53:13.3±1.4**, 33°.0S**±0°.1×**178°.2W**±0°.2**, h10^{km}, n14, σ1ˢ.32**/15**, mb4.2**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.70	3	Pn	Pn	09 54 08.1	-2.4
URZ	Urewera	6.54	215	Pn	Pn	09 54 49.2	-0.3
	1.4nm,0.3s,baz=236,slow=1.5,SNR=11						
URZ				Sn	Sn	09 56 01.2	-2.9
	2.9nm,0.3s,baz=77,slow=23,SNR=14						
URZ	Urewera	6.54	215		Pn	09 54 50.3	+0.8
HNR	Honiara	30.93	314	P	P	09 59 31.8	+1.4
AS31	Alice Springs	42.90	270	P	P	10 01 12.9	+0.7
ASAR	Alice Springs	42.90	270	P	P	10 01 12.7	+0.5
	0.7nm,0.7s,baz=109,slow=7.7,SNR=14						
WR0	Warramunga Arr	43.94	275	P	P	10 01 21.4	+0.8
WB2	Warramunga Arr	44.11	275	P	P	10 01 22.7	+0.7
WB2				IAmb	IAmb	10 01 23.2	
	comp=Z,5.3nm,1.2s						
WRAB	Tennant Creek	44.11	275	P	P	10 01 22.6	+0.6
WRAB				IAmb	IAmb	10 01 37.6	
	comp=Z,4.8nm,1.2s						
WRA	Warramunga Arr	44.12	275	P	P	10 01 22.4	+0.3
	comp=Z,0.7nm,0.4s,baz=113,slow=7.6,SNR=26						
WB0	Warramunga Arr	44.15	275	P	P	10 01 23.1	+0.8
WB0				IAmb	IAmb	10 01 31.0	
	comp=Z,4.2nm,1.1s						
QSPA	South Pole Qui	57.16	180	P	P	10 03 00.7	+0.7
QSPA				IAmb	IAmb	10 03 14.5	
	comp=Z,2.6nm,1.0s						
FINES	FINESS Array B	147.48	338	PKPbc	PKPbc	10 12 57.6	+0.8
	comp=Z,1.1nm,0.4s,baz=46,slow=6.0,SNR=7.6						
FINES	FINESS Array B	147.48	338		PKPbc	10 12 57.1	+0.3

IDC 01 10:00:32.1±3.2**, 32°.92S**×**178°.84W, h0^{km}, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.5**/36**, mbtmp3.4**/3**, ML3.5**/1**, Error ellipse: s-maj=73.2km s-min=37.0km az=112.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.26	211	Pn	Pn	10 02 05.4	-0.3
	1.1nm,0.3s,baz=278,slow=3.1,SNR=6.6						
URZ				Sn	Sn	10 03 17.9	-0.1
	1.0nm,0.3s,baz=135,slow=11,SNR=2.0						
ASAR	Alice Springs	42.33	270	P	P	10 08 27.9	-0.1
	0.2nm,0.7s,baz=110,slow=8.0,SNR=2.0						
WRA	Warramunga Arr	43.55	275	P	P	10 08 37.8	-0.1
	0.3nm,0.4s,baz=114,slow=7.5,SNR=7.7						
FINES	FINESS Array B	147.24	338	PKPbc	PKPbc	10 20 15.9	-0.7
	0.7nm,0.6s,baz=17,slow=2.0,SNR=4.4						

*ISU **01** 10:00:56, 38°.20N×68°.00E, h10^{km}*
ISC 01 10:00:58.7±1.3**, 38°.98N**±0°.08×**68°.06E**±0°.04**, h10^{km}, n7, σ1ˢ.66**/12**, 3C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKMR	Pachkamar	1.38	252	iP	Pg	10 01 27.0	+1.9
PKMR				S	Sb	10 01 41.0	-1.2
BTK	Batken	2.39	62	P	Pb	10 01 41.0	-0.9
BTK				eS	Sb	10 02 12.0	+0.6
NUT	Nurota	2.42	311	P	Pb	10 01 43.0	+0.8
NUT				S	Sb	10 02 13.0	+0.9
CHMG	Chimgan	2.97	30	eP	Pg	10 02 01.0	+5.4
CHMG				S	Sg	10 02 34.0	-0.1
DZN	Dzhankel'dy	4.08	299	eS	Sg	10 03 09.0	-0.7
KK02	Karatay Array	4.52	23	⇑Pn	Pn	10 02 07.1	-0.1
	0.5nm,0.4s						
KK02				⇑Pg	Pb	10 02 20.6	+2.5
	1.7nm,0.5s						
KK02				⇑Lg	Lg	10 03 23.0	
	7.1nm,0.5s						
AB31	Akbulak array	11.80	333	Pn	Pn	10 03 45.7	-1.3
	0.2nm,0.3s,baz=154,slow=13,SNR=18						
AB31				⇓Sn	Sn	10 05 55.8	-2.9
	1.6nm,0.8s,baz=148,slow=25,SNR=3.7						

*IDC **01** 10:10:02.4±1.1, 33°.22S×177°.99W, h0^{km}, mb4.5/4, mb1 4.5/7, mb1mx4.0/48, mbtmp4.5/7, ML3.9/3, MS4.1/1, Ms1 4.1/1, ms1mx3.3/58, Error ellipse: s-maj=31.2km s-min=26.0km az=134.0*
*WEL **01** 10:10:05.7±1.1, 33°S±10°×17°8W±2°6, h33^{km}, M4.6/9, mB4.9/6, ML4.9/10, MLv4.9/9, Mw(mB)4.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*
*NEIC **01** 10:10:05.7±2.1, 33°.72S±0°.06×178°.4W±0°.2, h10^{km}±1^{km}, mb4.5/12, Error ellipse: s-maj=27.5km s-min=5.5km az=108.0*
ISC 01 10:10:06.2±0.8**, 33°.12S**±0°.06×**177°.8W**±0°.1**, h34^{km}, n47, σ1ˢ.80**/56**, mb4.5**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.84	359	P	Pn	10 11 00.0	-3.0
GLKZ				S	Sn	10 11 42.9	-4.0
RAO	Raoul Island	3.86	359	Pn	Pb	10 11 12.5	-1.1
MXZ	Matakaoa Point	5.45	214	Pn	Pn	10 11 16.0	-9.0
MXZ	Matakaoa Point	5.45	214	P	Pn	10 11 25.2	+0.2
MXZ				S	Sn	10 12 25.3	-1.2
PKGZ	Pakihiroa	5.82	214	P	Pn	10 11 29.1	-1.1
PKGZ				S	Sn	10 12 35.6	-0.2
HAZ	Te Kaha	5.86	217	P	Pn	10 11 30.7	+0.1
HAZ				S	Sn	10 12 37.8	+1.2
PUZ	Puketiti	5.89	212	P	Pn	10 11 30.1	-1.0
PUZ				S	Sn	10 12 36.8	-0.6
RUGZ	Raukumara Rang	6.07	216	P	Pn	10 11 33.4	-0.3
RUGZ				S	Sn	10 12 41.1	-1.0
TWGZ	Tauwhareparae	6.10	213	P	Pn	10 11 33.5	-0.5
TWGZ				S	Sn	10 12 41.1	-1.4
CNGZ	Carnagh Statio	6.25	210	P	Pn	10 11 35.0	-1.1
TKGZ	Te Karaka	6.37	212	P	Pn	10 11 36.9	-0.8
URZ	Urewera	6.58	217	Pn	Pn	10 11 38.7	-1.8
	3.8nm,0.3s,baz=261,slow=3.0,SNR=26						
URZ				Sn	Sn	10 12 52.3	-2.2
	7.9nm,0.3s,baz=204,slow=10,SNR=14						
URZ	Urewera	6.58	217		Pn	10 11 31.1	-10
URZ	Urewera	6.58	217	P	Pn	10 11 40.5	-0.1
URZ				S	Sn	10 12 53.1	-1.4
RAGZ	Rawiri	6.62	214	P	Pn	10 11 40.9	-0.2
RAGZ				S	Sn	10 12 53.3	-2.1
RIGZ	Rimuhau	6.63	212	P	Pn	10 11 39.0	-2.3
RIGZ				S	Sn	10 12 54.9	-0.7
RPZ	Rata Peaks	13.70	216	Pn	Pn	10 13 14.6	-3.4
	0.5nm,0.3s,baz=293,slow=22,SNR=1.7						
RPZ				Sn	Sn	10 15 33.7	-15
	0.7nm,0.3s,baz=127,slow=24,SNR=13						
PINNC	Pines Island,	16.70	305		P	10 14 03.4	+3.8
PINNC				IAmb	IAmb	10 14 28.8	
	comp=Z,60nm,1.4s						
OUENC	Ouen Island, N	17.24	304	P	P	10 14 08.6	+2.9
ONTNC	Ouen Toro	17.58	304	P	P	10 14 12.6	+3.1
ONTNC				IAmb	IAmb	10 14 38.0	
	comp=Z,42nm,1.1s						
DZM	Mont Dzumac	17.75	304	P	P	10 14 12.3	+1.0
	comp=Z,0.3nm,0.3s,baz=120,slow=14,SNR=11						
DZM				LR	LR	10 18 53.8	
	comp=Z,592nm,19.1s,baz=180,slow=30						
DZM	Mont Dzumac	17.75	304	P	P	10 14 13.4	+2.1
KOUNC	Koumac, New Ca	20.25	304	P	Pn	10 14 40.9	+0.1
KOUNC				IAmb	IAmb	10 14 56.6	
	comp=Z,32nm,1.1s						
SANVU	Saraoutou	22.22	319	P	P	10 15 04.2	+4.2
SANVU				IAmb	IAmb	10 15 20.5	
	comp=Z,16nm,0.7s						
CTA	Charters Tower	34.48	283	P	P	10 16 51.8	+0.7
	comp=Z,4.5nm,0.7s,baz=117,slow=11,SNR=7.2						
PMG	Port Moresby	39.97	298	P	P	10 17 37.7	0.0
	comp=Z,3.5nm,0.4s,baz=166,slow=12,SNR=2.2						
ASAR	Alice Springs	43.19	270	P	P	10 18 04.0	-0.1
	comp=Z,3.8nm,0.7s,baz=111,slow=7.9,SNR=25						
ASAR				PcP	PcP	10 19 54.3	+1.1
	comp=Z,1.0nm,1.1s,baz=113,slow=4.0,SNR=0.9						
WB2	Warramunga Arr	44.41	275	P	P	10 18 12.2	-1.7
WRAB	Tennant Creek	44.41	275	P	P	10 18 13.0	-0.9
WRA	Warramunga Arr	44.42	275	P	P	10 18 13.5	-0.5
	comp=Z,2.5nm,0.4s,baz=114,slow=7.6,SNR=16						
WRA	Warramunga Arr	44.42	275	P	P	10 18 12.8	-1.1
WB0	Warramunga Arr	44.45	275	P	P	10 18 13.3	-1.0
WB0				IAmb	IAmb	10 18 33.6	
	comp=Z,7.3nm,0.7s						
KNRA	Kununurra	51.12	276	P	P	10 19 04.2	-1.6
QSPA	South Pole Qui	57.00	180	P	P	10 19 46.8	-1.5
QSPA				IAmb	IAmb	10 20 01.8	
	comp=Z,5.2nm,1.1s						
LRM	Limekiln Ridge	98.28	40	P	Pdif	10 23 46.4	+6.1
MKAR	Makanchi Array	119.62	309	PKP	PKiKP	10 28 53.5	+1.2
	comp=Z,0.1nm,0.4s,baz=143,slow=0.7,SNR=2.0						
ZALV	Zalesovo Beam	120.15	317	PKP	PKPdf	10 28 52.4	-0.5
	comp=Z,0.4nm,0.3s,baz=135,slow=30,SNR=1.9						
ARCES	ARCESS Array B	141.27	347	PKP	PKiKP	10 29 33.8	-1.3
	comp=Z,4.2nm,1.1s,baz=359,slow=7.2,SNR=1.3						
KBZ	Khabaz	146.69	301	PKPbc	PKPab	10 29 45.2	-0.2
	comp=Z,1.4nm,0.8s,baz=356,slow=4.5,SNR=2.5						
FINES	FINESS Array B	147.74	339	PKPbc	PKiKP	10 29 48.6	0.0
	comp=Z,5.8nm,0.7s,baz=40,slow=3.2,SNR=13						
FINES	FINESS Array B	147.74	339		PKPab	10 29 49.1	+0.2
NB2	NORSAR Subarra	151.45	351	PKP	PKiKP	10 29 58.1	+1.8
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.45	351	PKPbc	PKiKP	10 29 57.2	+0.9
	comp=Z,1.5nm,0.8s,baz=14,slow=3.7,SNR=3.7						
AKASG	Malin Array Be	153.51	320	PKPbc	PKPbc	10 30 00.2	-0.4
	comp=Z,0.3nm,0.4s,baz=72,slow=2.3,SNR=5.0						
AKASG	Malin Array Be	153.51	320	PKPdf	PKPdf	10 29 55.9	+2.9
AKASG				PKPbc	sPKPdf	10 30 03.4	-1.0
TORD	Torodi Ar. Bea	160.12	179	PKPab	PKPab	10 30 45.4	+3.0
	comp=Z,0.6nm,1.0s,baz=194,slow=3.0,SNR=2.0						
GERES	GERESS Array B	162.08	335	PKPab	PKPab	10 30 53.2	+2.8
	comp=Z,0.3nm,0.4s,baz=344,slow=6.2,SNR=1.1						

*IDC **01** 10:12:51.1±1.2, 9°.49S×114°.74E, h0^{km}, mb3.8/6, mb1 4.1/8, mb1mx3.7/40, mbtmp3.9/8, ML4.1/2, Error ellipse: s-maj=53.4km s-min=17.2km az=51.0*
*DJA **01** 10:13:00.1±0.7, 10°S±4°×11°5E±°, h20^{km}±5^{km}, M4.3/13, mb4.3/2, MLv4.3/13*
*NEIC **01** 10:13:01.1±2.1, 9°.3S±0°.1×115°.2E±0°.1, h60^{km}±6^{km}, mb3.9/10, Error ellipse: s-maj=22.6km s-min=12.3km az=218.0*
ISC 01 10:12:59.9±0.8**, 9°.45S**±0°.06×**115°.21E**±0°.04**, h61^{km}**±8^{km}**, n50, σ2ˢ.37**/54**, mb3.9**/10**, South of Bali**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGBI	Denpasar	0.63	355	P	Pn	10 13 14.1	+0.7
IGBI				S	Sn	10 13 23.5	+0.2
JAGI	Jajag, Banyuwa	1.43	313		Pn	10 13 24.1	+0.5
JAGI	Jajag, Banyuwa	1.43	313	P	Pn	10 13 24.4	+0.8
JAGI				S	Sn	10 13 41.8	+0.3
JAGI	Jajag, Banyuwa	1.43	313	P	Pn	10 13 24.6	+0.9
ABJI	Asem Bagus	1.90	330	P	Pn	10 13 32.0	+1.9
ABJI				S	Sn	10 13 57.3	+4.3
GMJI	Gumukmas	2.10	304	P	Pn	10 13 34.2	+1.5
GMJI				S	Sn	10 13 58.2	+0.5
BLJI	Banyuglugur	2.33	317	P	Pn	10 13 38.0	+2.2
BLJI				S	Sn	10 14 07.6	+4.3
PLAI	Plampang	2.61	77	P	Pn	10 13 42.5	+2.8
PLAI				S	Sn	10 14 14.4	+4.1
PLAI	Plampang	2.61	77	P	Pn	10 13 44.0	+4.3
PWJI	Pagerwojo	3.65	293	P	Pn	10 13 56.5	+2.6
GRJI	Gresik	3.69	313	P	Pn	10 13 55.1	+0.6
WBSI	Waikabubak, Su	4.13	93	P	Pn	10 14 00.3	-0.3
PCJI	Pacitan	4.17	287	P	Pn	10 14 03.1	+2.0
UGM	Wanagama	4.88	288		Pn	10 14 13.3	+2.5
UGM	Wanagama	4.88	288	P	Pn	10 14 14.2	+3.4
UGM	Wanagama	4.88	288	P	Pn	10 14 05.7	-5.1
KAPI	Kappang	6.30	46	Pn	Pn	10 14 31.1	+0.8
	1.2nm,0.3s,baz=216,slow=3.9,SNR=2.2						
KAPI				Sn	Sn	10 15 39.6	-1.4
	3.1nm,0.3s,baz=233,slow=20,SNR=9.5						
BKSI	Bulukumba	6.37	50	P	Pn	10 14 33.0	+1.8
XMI	Christmas Isla	9.43	263	P	Pn	10 15 05.3	-7.8
GIRL	Giralia	13.15	184	Pn	Pn	10 16 03.5	-0.4
GIRL	Giralia	13.15	184	P	Pn	10 16 03.5	-0.4
FITZ	Fitzroy Crossi	13.28	131	Pn	Pn	10 16 04.3	-1.4
	1.5nm,0.3s,baz=318,slow=8.8,SNR=35						
FITZ				Sn	Sn	10 18 24.6	-7.2
	0.3nm,0.3s,baz=291,slow=5.9,SNR=3.2						
FITZ	Fitzroy Crossi	13.28	131		Pn	10 16 04.6	-1.1
FITZ	Fitzroy Crossi	13.28	131	P	Pn	10 16 06.6	+0.9
KNRA	Kununurra	14.60	116	Pn	Pn	10 16 22.3	-1.0
KNRA	Kununurra	14.60	116	P	Pn	10 16 22.2	-1.1
MTN	Manton Dam	15.98	104	Pn	Pn	10 16 40.8	-0.2
MTN				IAmb	IAmb	10 17 01.7	
	comp=Z,5.3nm,0.5s						
FAKI	Fak Fak	18.14	70	P	P	10 17 06.4	-0.9
WRA	Warramunga Arr	21.22	122	P	P	10 17 42.4	+1.5
	comp=Z,0.8nm,0.4s,baz=296,slow=12,SNR=19						
WRA				S	S	10 21 34.5	+0.8
	comp=Z,0.3nm,0.6s,baz=297,slow=21,SNR=2.5						
WRA	Warramunga Arr	21.22	122	IAmb	IAmb	10 18 03.9	
	comp=Z,0.3nm,1.4s						
WRAB	Tennant Creek	21.22	122	P	P	10 17 42.4	+1.5
WRAB				IAmb	IAmb	10 17 44.3	
	comp=Z,4.4nm,1.2s						
WB2	Warramunga Arr	21.23	122	P	P	10 17 42.9	+1.9
WB2				IAmb	IAmb	10 18 05.5	
	comp=Z,7.1nm,1.4s						
WR0	Warramunga Arr	21.40	121	P	P	10 17 44.0	+1.2
WR0				IAmb	IAmb	10 18 13.2	
	comp=Z,11nm,1.3s						
AS31	Alice Springs	22.78	131	P	P	10 17 59.8	+2.2
ASAR	Alice Springs	22.78	131	P	P	10 17 59.0	+1.4
	comp=Z,1.9nm,0.6s,baz=305,slow=9.1,SNR=48						
ASAR				PcP	PcP	10 21 47.6	+0.2
	comp=Z,0.3nm,0.8s,baz=287,slow=1.0,SNR=2.0						
ASAR				S	S	10 22 09.0	+6.7
	comp=Z,0.4nm,0.7s,baz=309,slow=24,SNR=1.4						
ASAR	Alice Springs	22.78	131	P	P	10 18 00.7	-3.4
ASAR	Alice Springs	22.78	131	P	P	10 18 00.3	+2.7
CMAR	Chiang Mai Arr	32.04	330	P	P	10 19 17.5	-3.5
	comp=Z,1.5nm,0.4s,baz=162,slow=7.9,SNR=5.5						
STKA	Stephens Creek	33.11	136	P	P	10 19 32.5	+2.2
	comp=Z,1.4nm,0.6s,baz=284,slow=5.1,SNR=4.5						
STKA	Stephens Creek	33.11	136	IAmb	IAmb	10 19 32.8	
	comp=Z,2.8nm,1.5s						
H08S2	Diego Garcia H	42.26	269	T	T	11 05 47.9	
	baz=95						
H08S3	Diego Garcia H	42.27	269	T	T	11 05 53.1	
	baz=95,slow=74						
H08S1	Diego Carcia H	42.28	269	T	T	11 05 47.6	
	baz=95,slow=74						
SONM	Songino Array	57.56	353	P	P	10 22 42.0	-1.4
	comp=Z,0.4nm,0.4s,baz=111,slow=8.2,SNR=1.6						
MK31	Makanchi Array	63.22	335	P	P	10 23 21.8	-0.1
MK31				IAmb	IAmb	10 23 26.2	
	comp=Z,1.1nm,1.2s						
MKAR	Makanchi Array	63.22	335	P	P	10 23 20.9	-1.0
	comp=Z,0.3nm,0.3s,baz=145,slow=7.0,SNR=16						
KKAR	Karatay Array	66.26	326	P	P	10 23 40.9	-0.8
ABKAR	Akbulak array	75.81	326	P	P	10 24 39.1	-0.3
YKA	Yellowknife Ar	116.11	23	PKP	PKPdf	10 31 35.5	-0.3
	comp=Z,0.1nm,0.6s,baz=289,slow=2.2,SNR=2.4						
TKL	Tuckaleechee C	148.70	31	PKPbc	PKPbc	10 32 40.4	-0.4
	comp=Z,2.2nm,0.7s,baz=272,slow=16,SNR=2.2						

*NEIC **01** 10:14:41.5±0.3, 33°.99S±0°.10×176°.8W±0°.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=26.5km s-min=16.3km az=101.0*
*IDC **01** 10:14:49.3±3.1, 33°.08S×178°.36W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.5/37, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=73.8km s-min=36.6km az=117.0*
ISC 01 10:14:41.0±1.5, **33°.9S**±0°.1×**176°.8W**±0°.2, **h10**km, **n15**, σ**1^{s}66**/15, **mb4.2**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.72	348	Pn	Pn	10 15 54.1	+1.9
URZ	Urewera	6.61	227	Pn	Pn	10 16 23.7	+5.6
	1.3nm,0.3s,baz=275,slow=3.3,SNR=8.7						
URZ				Sn	Sn	10 17 37.1	+3.7
	2.0nm,0.3s,baz=226,slow=3.1,SNR=8.6						
URZ	Urewera	6.61	227	Pn	Pn	10 16 16.9	-1.2
OUENC	Ouen Island, N	18.40	304	P	P	10 18 54.9	-1.3
COEN	Coen	41.31	289	P	P	10 22 25.3	-1.7
COEN				IAmb	IAmb	10 22 29.1	
	comp=Z,6.9nm,1.4s						
AS31	Alice Springs	44.06	270	P	P	10 22 49.2	-0.1
ASAR	Alice Springs	44.06	270	P	P	10 22 48.5	-0.9
	comp=Z,0.4nm,0.4s,baz=114,slow=8.0,SNR=5.1						
WR0	Warramunga Arr	45.18	275	P	P	10 22 57.6	-0.7
WR0				IAmb	IAmb	10 22 59.2	
	comp=Z,4.3nm,1.4s						
WB2	Warramunga Arr	45.35	275	P	P	10 22 58.9	-0.7
WB2				IAmb	IAmb	10 23 13.6	
	comp=Z,6.0nm,1.3s						
WRAB	Tennant Creek	45.35	275	P	P	10 22 58.7	-0.9
WRA	Warramunga Arr	45.36	275	P	P	10 22 58.3	-1.3
	comp=Z,0.7nm,0.3s,baz=114,slow=7.7,SNR=11						
WB0	Warramunga Arr	45.40	275	P	P	10 22 59.3	-0.7
WB0				IAmb	IAmb	10 23 16.6	
	comp=Z,5.3nm,1.2s						
KNRA	Kununurra	52.07	276	P	P	10 23 50.7	-0.5
QSPA	South Pole Qui	56.24	180	P	P	10 24 20.9	-0.3
FINES	FINESS Array B	148.77	339	PKPbc	PKPab	10 34 33.8	+2.2
	comp=Z,1.1nm,0.5s,baz=38,slow=3.4,SNR=5.1						

IDC 01 10:15:39.6±3.5, **33°.06S**×**178°.23W**, **h0**km, **mb3.5**/2, **mb1 3.8**/3, **mb1mx3.3**/37, **mbtmp3.6**/3, **ML3.3**/1, **Error ellipse: s-maj=82.3km s-min=38.7km az=116.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.43	215	Pn	Pn	10 17 15.6	0.0
	0.7nm,0.3s,baz=159,slow=18,SNR=1.3						
URZ				Sn	Sn	10 18 28.5	-1.1
	0.9nm,0.3s,baz=66,slow=20,SNR=2.6						
ASAR	Alice Springs	42.84	270	P	P	10 23 39.6	0.0
	0.5nm,0.8s,baz=105,slow=7.9,SNR=2.0						
WRA	Warramunga Arr	44.07	275	P	P	10 23 49.6	+0.1
	0.2nm,0.3s,baz=114,slow=7.6,SNR=4.8						
FINES	FINESS Array B	147.55	338	PKPbc	PKPbc	10 35 24.1	-0.9
	1.1nm,0.8s,baz=336,slow=3.0,SNR=1.1						

*IDC **01** 10:17:13.1±3.0, 33°.12S×178°.19W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/37, mbtmp3.9/5, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/58, Error ellipse: s-maj=68.0km s-min=46.9km az=129.0*
*NEIC **01** 10:17:15.5±1.9, 32°.17S±0°.06×178°.1W±0°.2, h10km±2km, mb4.3/6, Error ellipse: s-maj=30.9km s-min=7.1km az=106.0*
ISC 01 10:17:14.7±1.3, **32°.2S**±0°.1×**178°.1W**±0°.2, **h10**km, **n16**, σ**1^{s}23**/14, **mb4.1**/8, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.92	3	Pn	Pn	10 17 59.9	-1.3
URZ	Urewera	7.23	212	Pn	Pn	10 18 48.4	-12
	2.4nm,0.3s,baz=310,slow=17,SNR=1.5						
URZ	Urewera	7.23	212	Pn	Pn	10 18 58.4	-2.0
RAR	Rarotonga	19.64	61	LR	LR	10 30 34.0	
	comp=Z,123nm,18.2s,baz=260,slow=40						
CTA	Charters Tower	34.06	282	P	P	10 24 01.6	+2.3
	1.1nm,0.5s,baz=39,slow=2.7,SNR=1.3						
ASAR	Alice Springs	42.98	269	P	P	10 25 13.5	-0.8
	0.7nm,0.7s,baz=109,slow=7.4,SNR=5.7						
WR0	Warramunga Arr	43.95	274	P	P	10 25 22.1	-0.1
WR0				IAmb	IAmb	10 25 47.7	
	comp=Z,4.2nm,1.3s						
WB2	Warramunga Arr	44.12	274	P	P	10 25 23.4	-0.1
WB2				IAmb	IAmb	10 25 43.0	
	comp=Z,7.7nm,1.3s						
WRAB	Tennant Creek	44.12	274	P	P	10 25 23.4	-0.2
WRAB				IAmb	IAmb	10 25 29.6	
	comp=Z,6.6nm,1.4s						
WRA	Warramunga Arr	44.13	274	P	P	10 25 22.6	-1.1
	comp=Z,0.7nm,0.3s,baz=115,slow=7.9,SNR=15						
WB0	Warramunga Arr	44.16	274	P	P	10 25 23.8	0.0
KNRA	Kununurra	50.80	276	P	P	10 26 15.1	-0.4
KNRA				IAmb	IAmb	10 26 40.6	
	comp=Z,4.3nm,1.3s						
FITZ	Fitzroy Crossi	52.31	271	P	P	10 26 25.9	-1.0
	comp=Z,2.1nm,1.0s,baz=111,slow=6.5,SNR=2.6						
QSPA	South Pole Qui	57.94	180	P	P	10 27 08.6	+1.5
FINES	FINESS Array B	146.78	339	PKPbc	PKPab	10 36 58.0	+0.5
	comp=Z,0.9nm,0.5s,baz=32,slow=3.9,SNR=6.1						
FINES	FINESS Array B	146.78	339		PKPbc	10 36 56.2	0.0

*IDC **01** 10:18:12.7±2.0, 32°.73S×176°.37W, h0km, mb3.6/2, mb1 4.1/4, mb1mx3.6/36, mbtmp4.0/4, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx3.0/43, Error ellipse: s-maj=51.6km s-min=36.3km az=126.0*
*NEIC **01** 10:18:13.2±2.7, 32°.66S±0°.04×176°.2W±0°.2, h10km±2km, mb4.3/7, Error ellipse: s-maj=27.3km s-min=5.2km az=98.0*
ISC 01 10:18:17.1±1.3, **32°.49S**±0°.07×**176°.6W**±0°.2, **h35**km, **n32**, σ**2^{s}21**/34, **mb4.2**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.43	340	P	Pn	10 19 05.3	-2.7
GLKZ				S	Sn	10 19 44.8	-2.6
RAO	Raoul Island	3.44	340	Pn	Pn	10 19 09.4	+1.3
URZ	Urewera	7.73	220	Pn	Pn	10 20 04.0	-3.1
	2.1nm,0.3s,baz=164,slow=15,SNR=2.6						
URZ				Sn	Sn	10 21 32.6	-0.8
	6.3nm,0.3s,baz=94,slow=9.8,SNR=4.3						
URZ	Urewera	7.73	220	Pn	Pn	10 20 05.6	-1.5
RTZ	Ruatahuna	8.06	219	P	Pn	10 20 11.0	-0.7
RTZ				S	Sn	10 21 41.2	-0.5
MUGZ	Murupara	8.08	220	P	Pn	10 20 09.8	-2.0
MUGZ				S	Sn	10 21 36.8	-5.1
RRRZ	Republican Roa	8.12	222	S	Sn	10 21 44.3	+1.2
RAHZ	Arahi	8.23	217	P	Pn	10 20 16.7	+2.7
RAHZ				S	Sn	10 21 44.6	-1.1
MTHZ	Maungataniwha	8.31	218	P	Pn	10 20 16.6	+1.5
MTHZ				S	Sn	10 21 49.7	+1.9
NMHZ	Naumai	8.51	217	P	Pn	10 20 22.1	+4.2
NMHZ				S	Sn	10 21 52.1	-0.6
ARHZ	Aropaoanui	8.54	216	P	Pn	10 20 16.6	-1.6
ARHZ				P	Sn	10 21 54.0	+0.7
BKZ	Black Stump Fm	8.73	218	P	Pn	10 20 20.2	-0.6
BKZ				S	Sn	10 21 55.9	-2.0
HATZ	Hinemaiaia	8.74	221	S	Sn	10 21 59.6	+1.3
RPZ	Rata Peaks	14.83	217	Pn	Pn	10 21 41.6	-2.6
	0.7nm,0.3s,baz=35,slow=20,SNR=1.5						
RPZ				Sn	Sn	10 24 17.2	-10
	1.3nm,0.3s,baz=330,slow=20,SNR=11						
MSVF	Nonsavu	15.48	340	LR	LR	10 26 10.4	
	comp=Z,149nm,21.2s,baz=140,slow=30						
WHZ	Wether Hill Ro	17.94	217	Pn	Pn	10 22 21.9	-1.7
WHZ				IAmb	IAmb	10 22 51.1	
	comp=Z,25nm,1.1s						
SANVU	Saraoutou	22.49	315	P	P	10 23 15.9	+2.4
AS31	Alice Springs	44.26	268	P	P	10 26 26.2	+2.8
ASAR	Alice Springs	44.26	268	P	P	10 26 26.2	+2.8
	comp=Z,0.7nm,0.7s,baz=104,slow=7.0,SNR=3.6						
WR0	Warramunga Arr	45.25	274	P	P	10 26 32.6	+1.3
WR0				IAmb	IAmb	10 26 43.6	
	comp=Z,3.5nm,1.1s						
WB2	Warramunga Arr	45.42	273	P	P	10 26 34.8	+2.2
WB2				IAmb	IAmb	10 26 53.3	
	comp=Z,6.5nm,1.3s						
WRA	Warramunga Arr	45.43	273	P	P	10 26 35.0	+2.2
	comp=Z,0.5nm,0.5s,baz=114,slow=7.9,SNR=2.5						
WB0	Warramunga Arr	45.46	274	P	P	10 26 34.8	+1.8
WB0				IAmb	IAmb	10 26 38.0	
	comp=Z,8.0nm,1.4s						
QSPA	South Pole Qui	57.62	180	P	P	10 28 02.0	-1.4
QSPA				IAmb	IAmb	10 28 18.9	
	comp=Z,2.7nm,1.1s						
H03S2	Juan Fernandez	78.29	123	T	T	11 55 41.3	
	baz=235						
H03S1	Juan Fernandez	78.31	123	T	T	11 55 46.2	
	baz=235						
H03S3	Juan Fernandez	78.31	123	T	T	11 55 42.8	
	baz=235						
H03N3	Juan Fernandez	78.49	122	T	T	11 55 55.9	
	baz=241						
H03N2	Juan Fernandez	78.50	122	T	T	11 55 52.6	
	baz=241						
H03N1	Juan Fernandez	78.51	122	T	T	11 55 52.8	
	baz=241						
FINES	FINESS Array B	147.53	340	PKPbc	PKPbc	10 37 56.7	0.0
	comp=Z,1.5nm,0.8s,baz=60,slow=5.5,SNR=2.1						
TORD	Torodi Ar. Bea	160.68	175	PKPab	PKPab	10 38 56.1	+0.6
	comp=Z,0.6nm,1.1s,baz=184,slow=3.0,SNR=2.8						

JMA 01 10:41:58.0, 36°.49N×140°.75E, h60km±1km, M3.5, 4C-1D Broadband fault plane solution: P waves. NP1: ϕ_s168.00000°, δ80.00000°, λ67.00000°. **NP2:** ϕ_s55.00000°, δ25.00000°, λ155.00000°. **Principal axes:** T Plg50.0000°, Azm52.0000°; N Plg23.0000°, Azm172.0000°; P Plg31.0000°, Azm277.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.19	310	⇑P	Pn	10 42 07.5	+0.1
JHO				S	Sn	10 42 14.1	-0.1
JHYU	Hitachinakayam	0.20	221	⇑P	Pn	10 42 07.6	+0.2
JHYU				S	Sn	10 42 14.4	+0.2
JYT	Yasato	0.52	240	⇑P	Pn	10 42 10.3	+0.2
JYT				S	Sn	10 42 19.0	0.0
ONAJ	Iwakimizuishiy	0.61	4	P	Pn	10 42 10.8	-0.5
ONAJ				S	Sn	10 42 20.1	-0.9
JSB	Shiboa	0.82	306	P	Pn	10 42 14.1	+0.3
JSB				S	Sn	10 42 25.8	+0.4
JSMT	Sammumatsuo	0.88	196	⇑P	Pn	10 42 15.2	+0.7
JAG	Ashikaga	1.05	267	⇓P	Pn	10 42 17.1	+0.5
JAG				S	Sn	10 42 30.8	+0.3
MAT	Matsushiro	2.05	272	P	Pn	10 42 31.3	+1.2
MAT				S	Sn	10 42 56.9	+2.3

IDC 01 10:42:52.9±3.2, **32°.88S**×**178°.37W**, **h0**km, **mb3.7**/2, **mb1 3.9**/3, **mb1mx3.7**/34, **mbtmp3.7**/3, **ML3.1**/1 **Error ellipse: s-maj=72.7km s-min=37.3km az=117.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.51	213	Pn	Pn	10 44 29.7	-0.1
	0.4nm,0.3s,baz=55,slow=17,SNR=1.4						
URZ				Sn	Sn	10 45 43.6	-1.2
	2.5nm,0.3s,baz=249,slow=14,SNR=8.2						
ASAR	Alice Springs	42.73	270	P	P	10 50 52.5	+0.4
	0.7nm,0.8s,baz=104,slow=8.0,SNR=7.6						
WRA	Warramunga Arr	43.94	275	P	P	10 51 01.4	-0.4
	0.8nm,0.5s,baz=114,slow=7.6,SNR=17						
FINES	FINESS Array B	147.35	338	PKPbc	PKPbc	11 02 36.9	-0.8
	0.5nm,0.4s,baz=29,slow=3.2,SNR=5.0						

*IDC **01** 10:45:32.7±1.0, 27°.58N×85°.48E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/52, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=38.1km s-min=17.8km az=62.0*
ISC 01 10:45:37.7±0.9, **27°.6N**±0°.1×**85°.4E**±0°.1, **h35**km, **n14**, σ**0^{s}83**/14, **mb3.8**/9, **Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	12.11	303	P	Pn	10 48 28.4	+0.7
CEP	Cherat	13.20	301	P	Pn	10 48 41.1	-1.6
CMAR	Chiang Mai Arr	15.38	123	Pn	Pn	10 49 11.6	-0.6
	0.1nm,0.3s,baz=313,slow=11,SNR=1.2						
WMQ	Urumqi	16.31	6	eP	Pn	10 49 24.4	+0.4
MKAR	Makanchi Array	19.34	353	P	P	10 49 59.5	-0.5
	0.3nm,0.3s,baz=171,slow=9.8,SNR=9.6						
KURBB	Kurchatov Arra	23.61	349	P	P	10 50 45.4	+0.2
	0.6nm,0.7s,baz=152,slow=10,SNR=3.1						
SONM	Songino Array	26.00	33	P	P	10 51 06.5	-0.9
	0.8nm,0.7s,baz=218,slow=9.9,SNR=5.7						
ZALV	Zalesovo Beam	26.35	359	P	P	10 51 11.3	+1.1
	1.3nm,0.6s,baz=172,slow=9.7,SNR=6.3						
FINES	FINESS Array B	51.59	328	P	P	10 54 39.6	-0.6
	1.6nm,0.8s,baz=110,slow=11,SNR=1.8						
ARCES	ARCESS Array B	54.02	338	P	P	10 54 58.8	+0.8
	2.1nm,0.8s,baz=102,slow=8.5,SNR=1.6						
WRA	Warramunga Arr	66.87	130	P	P	10 56 26.3	-0.2
	0.7nm,0.6s,baz=323,slow=6.7,SNR=12						
ASAR	Alice Springs	69.16	133	P	P	10 56 41.5	+0.7
	0.6nm,0.7s,baz=315,slow=6.7,SNR=11						
TORD	Torodi Ar. Bea	78.56	279	P	P	10 57 36.7	+0.6
	0.3nm,0.6s,baz=32,slow=5.0,SNR=1.6						
YKA	Yellowknife Ar	88.81	9	P	P	10 58 27.7	0.0
	0.1nm,0.4s,baz=56,slow=9.0,SNR=1.6						

*IDC **01** 10:57:45.6±1.6, 4°.28N×127°.41E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.2/53, mbtmp3.3/5, Error ellipse: s-maj=106.9km s-min=20.9km az=73.0*
*DJA **01** 10:57:55.1±1.3, 4°N±13°×12°7E±°, h42km±20km, M4.3/8, mb5.1/3, mB5.3/1, MLv3.9/8, Mw(mB)4.8/1*
ISC 01 10:57:51.6±1.2, **4°.1N**±0°.1×**126°.88E**±0°.10, **h36**km, **n11**, σ**1^{s}63**/12, **mb3.2**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.40	255	P	Pn	10 58 15.6	+1.0
SGSI				S	Sn	10 58 31.6	-0.2
TNTI	Ternate	3.30	172	P	Pn	10 58 41.2	+0.4
KMSI	Cibinong	4.51	220	P	Pn	10 58 57.8	+0.3
GTOI	Gorontalo	5.15	229	P	Pn	10 59 03.1	-3.1
MRSI	Marisa	6.08	234	P	Pn	10 59 21.2	+2.2
	0.1nm25nm,0.6s						
LUWI	Luwuk	6.52	219	P	Pn	10 59 23.4	-1.7
FITZ	Fitzroy Crossi	22.05	183	P	P	11 02 44.4	+1.0
	0.7nm,0.8s,baz=347,slow=14,SNR=1.2						
WRA	Warramunga Arr	24.96	163	P	P	11 03 10.9	-0.9
	0.5nm,1.1s,baz=344,slow=11,SNR=7.1						
ASAR	Alice Springs	28.40	166	P	P	11 03 43.7	+0.8
	0.2nm,0.9s,baz=349,slow=10,SNR=2.1						
SONM	Songino Array	47.03	341	P	P	11 06 18.1	-1.5
	0.3nm,0.5s,baz=165,slow=6.0,SNR=1.8						
MKAR	Makanchi Array	57.37	325	P	P	11 07 37.1	+0.7
	0.5nm,0.6s,baz=125,slow=7.5,SNR=8.8						

*HEL **01** 11:00:25.1, 67°.64N×20°.89E, h0km, ML1.3, Explosion*
HEL 01 11:00:25.8±0.1, **67°.65N**×**21°.02E**, **h0**km, **ML1.3**, **ML1.2**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.42	117	iP	Pg	11 00 33.1	-0.8
MASU				iS	Sg	11 00 38.7	-0.6
LANU	Lannavaara	0.55	42	eP	Pg	11 00 35.5	-0.7
DUNU	Dundret	0.56	198	iP	Pg	11 00 35.7	-0.8
DUNU				iS	Sg	11 00 43.2	-0.4
KOVU	Salmi	0.66	331	iP	Pg	11 00 37.9	-0.6
NIKU	Nikkaluokta	0.79	287	iP	Pg	11 00 40.0	-0.9
SALU	Saltoluokta	1.00	256	eP	Pg	11 00 43.7	-1.3
PAJU	Pajala	1.02	127	eP	Pg	11 00 43.8	-1.6
PAJU				eSB	Sg	11 00 58.1	-0.5
ERTU	Ertsjaerv	1.19	157	eP	Pg	11 00 46.9	-1.7
KLF	Kolari	1.21	109	eP	Pg	11 00 47.5	-1.4
	baz=293						
KLF				eSB	Sg	11 01 04.3	-0.3
HEF	Hetta	1.25	51	ePB	Pg	11 00 48.4	-1.4
	baz=235						
HEF				MSG		11 01 04.2	
	comp=Z,1.1nm,0.2s						
HEF				eSB	Sg	11 01 05.3	-0.6
KIF	Kilpisjarvi	1.36	357	eP	Pg	11 00 50.6	-1.3
KIF				MSG		11 01 07.6	
	comp=Z,4.1nm,0.2s						
KIF				eSB	Sb	11 01 10.1	-0.1
HARU	Harads	1.49	181	eP	Pn	11 00 52.2	-1.6
KALU	Kalix	2.02	152	eSG	Sb	11 01 28.6	-0.3
TOF	Tornio	2.05	139	ePG	Pb	11 01 02.7	-1.1
	baz=318						
TOF				MSG		11 01 26.8	
	comp=Z,1.2nm,0.2s						
TOF				eSG	Sb	11 01 29.3	-0.4
SGF	Sodankyl	2.12	93	ePG	Pb	11 01 03.8	-1.3
RNF	Rovaniemi	2.21	116	ePB	Pn	11 01 04.8	+1.1
	baz=300						
RNF				eSG	Sb	11 01 34.1	-0.4
ARA0	ARCESS Array S	2.51	39	ePB	Pn	11 01 08.9	+1.1

UPP 01 11:01:02.3±0.1, **67°.71N**×**20°.79E**, **h0**km, **ML1.7**, **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.53	118	P	Pg	11 01 12.4	0.0
KOVU	Salmi	0.57	336	P	Pg	11 01 13.0	-0.2
KOVU				S	Sg	11 01 20.8	+0.2
DUNU	Dundret	0.59	188	P	Pg	11 01 13.5	-0.2
DUNU				S	Sg	11 01 22.1	+0.8
NIKU	Nikkaluokta	0.69	284	P	Pg	11 01 15.3	-0.1
SALU	Saltoluokta	0.94	250	P	Pg	11 01 19.8	-0.4
ERTU	Ertsjaerv	1.28	154	P	Pg	11 01 25.7	-1.1
HARU	Harads	1.55	177	P	Pn	11 01 30.2	-0.9
KTK1	Kautokeino	1.59	34	eP	Pn	11 01 31.4	-0.3
KEV	Kevo	3.06	45	eP	Pn	11 01 52.5	+0.6

*KRNET **01** 11:02:11.5±0.1, 41°.18N×70°.00E, h12km, mb2.8*
ISC 01 11:02:13.8±1.4, **41°.10N**±0°.03×**70°.17E**±0°.08, **h18**km±14km, **n6**, σ**1^{s}76**/12, **9C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.85	59	⇑iP	Pg	11 02 29.5	-0.9
	baz=72						
TRKS				⇑iS	Sb	11 02 42.3	+1.0
	baz=72						
BTK	Batken	1.15	154	⇑iP	Pg	11 02 36.0	-0.1
	baz=51						
BTK				⇑iS	Sg	11 02 53.8	+2.6
	baz=51						
ARK	Arkit	1.52	62	⇑iP	Pg	11 02 41.8	-1.3
	baz=67						
ARK				⇑iS	Sg	11 03 03.7	+0.8
	baz=67						
KK02	Karatay Array	2.02	7	⇑Pn	Pg	11 02 51.6	-1.0
	2.1nm,0.4s,baz=183,slow=14						
KK02				⇓Sn	Sg	11 03 21.7	+2.9
	5.8nm,0.6s,baz=187,slow=26						
GAR	Garm	2.10	177	⇓eP	Pb	11 02 51.2	-0.3
	baz=73						
GAR				⇓eS	Sg	11 03 20.4	-1.1
	baz=73						
MNAS	Manas	2.23	51	⇑iP	Pb	11 02 52.4	-1.3
	baz=54						
MNAS				⇑iS	Sb	11 03 22.4	+1.3
	baz=54						

*SIGU **01** 11:06:11.7, 45°.84N×26°.98E, h77km*
*BUC **01** 11:06:13.0±0.2, 45°.81N×26°.98E, h65km±2km, ml4.1/60, Error ellipse: s-maj=1.2km s-min=1.0km az=9.0*
*NEIC **01** 11:06:13.4±1.3, 45°.82N±0°.03×26°.97E±0°.05, h59km±5km, Error ellipse: s-maj=6.0km s-min=3.8km az=123.0*
*MCSM **01** 11:06:13.3±1.2, 46°N±8°×2°7E±°, h71km±3km, ML3.9*

IASPEI ***01*** *11:06:13.7±1.3, 45.°83N±0.°03×26.°98E±0.°02, h61km±6km, mb3.8/8, Error ellipse: s-maj=4.2km s-min=3.6km az=165.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

IDC ***01*** *11:06:13.3±0.6, 45.°83N×26.°92E, h61km±7km, mb3.5/8, mb1 3.6/13, mb1mx3.4/39, mbtmp3.7/13, Error ellipse: s-maj=19.9km s-min=8.2km az=151.0*

ISC 01 11:06:12.9±0.6**, 45.°82N**±0.°02×**26.°98E**±0.°02**, h66**km±4km**, n187, σ1.°29**/271**, mb3.8**/8**, 82C-48D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ODBI	Odobesti	0.08	137	⇑P	Pn	11 06 23.1	+0.5
ODBI				⇓S	Sn	11 06 30.6	+0.9
ODBI	Odobesti	0.08	137		Pn	11 06 23.1	+0.5
PANC	Panciu	0.13	68	⇑P	Pn	11 06 22.9	+0.1
PANC				⇓S	Sn	11 06 29.9	0.0
PANC	Panciu	0.13	68		Pn	11 06 22.9	+0.1
VRI	Vrincioaia	0.18	284	⇓P	Pn	11 06 22.9	-0.1
VRI				⇓S	Sn	11 06 29.7	-0.6
VRI	Vrincioaia	0.18	284		Pn	11 06 22.8	-0.1
VRI					Sn	11 06 29.4	-1.0
PLOR	Plostina	0.23	277	⇓P	Pn	11 06 23.2	-0.1
PLOR				⇑S	Sn	11 06 30.2	-0.7
PLOR	Plostina	0.23	277		Pn	11 06 23.2	-0.1
BISRR	Bisoca	0.33	214	⇓P	Pn	11 06 24.2	+0.2
BISRR				⇑S	Sn	11 06 32.8	+0.7
BISRR	Bisoca	0.33	214		Pn	11 06 24.2	+0.2
GRER		0.44	180	⇓S	Sn	11 06 34.3	+0.7
GRER		0.44	180		Pn	11 06 25.9	+1.0
TUDR		0.54	115	⇓P	Pn	11 06 25.6	-0.2
TUDR				⇑S	Sn	11 06 35.0	-0.1
TUDR		0.54	115		Pn	11 06 25.6	-0.2
SLCR	Slobozia Conac	0.60	113	⇑P	Pn	11 06 26.2	-0.3
SLCR				⇑S	Sn	11 06 35.8	-0.5
SLCR	Slobozia Conac	0.60	113		Pn	11 06 26.2	-0.3
VARL	Varlezi	0.61	83	⇓P	Pn	11 06 27.1	+0.5
VARL				⇑S	Sn	11 06 36.9	+0.4
VARL	Varlezi	0.61	83		Pn	11 06 27.1	+0.5
NEHR	Nehoiu	0.62	231	⇓P	Pn	11 06 27.6	+0.9
NEHR				⇑S	Sn	11 06 37.9	+1.1
NEHR	Nehoiu	0.62	231		Pn	11 06 27.6	+0.9
IZVR	Izvoarele	0.62	117	⇑P	Pn	11 06 26.3	-0.4
IZVR				⇑S	Sn	11 06 36.1	-0.6
IZVR	Izvoarele	0.62	117		Pn	11 06 26.3	-0.4
BIR	Birlad	0.63	45	⇑P	Pn	11 06 27.5	+0.7
BIR				⇑S	Sn	11 06 37.6	+0.6
BIR	Birlad	0.63	45		Pn	11 06 27.5	+0.7
SCHL	Schela	0.68	118	⇑P	Pn	11 06 26.9	-0.3
SCHL				⇑S	Sn	11 06 37.2	-0.6
SCHL	Schela	0.68	118		Pn	11 06 26.9	-0.3
TESR	Tescani	0.72	342	⇑P	Pn	11 06 27.9	+0.1
TESR				⇓S	Sn	11 06 38.5	-0.3
TESR	Tescani	0.72	342		Pn	11 06 27.9	+0.1
SCTR	Scanteiesti	0.73	101	⇑P	Pn	11 06 28.3	+0.4
SCTR				⇓S	Sn	11 06 39.2	+0.3
ISR	Istrita	0.77	203	⇓P	Pn	11 06 29.3	+0.9
ISR				⇓S	Sn	11 06 40.2	+0.4
ISR	Istrita	0.77	203		Pn	11 06 29.3	+0.9
VLDR	Vladesti	0.77	88	⇑P	Pn	11 06 29.2	+0.8
VLDR				⇑S	Sn	11 06 40.7	+0.9
VLDR	Vladesti	0.77	88		Pn	11 06 29.2	+0.8
TATR	Tatarca	0.79	106	⇑P	Pn	11 06 28.9	+0.4
TATR				⇑S	Sn	11 06 40.2	+0.2
TATR	Tatarca	0.79	106		Pn	11 06 28.9	+0.4
MLR	Muntele Rosu	0.80	246	⇓P	Pn	11 06 29.4	+0.6
MLR				⇑S	Sn	11 06 41.0	+0.5
MLR	Muntele Rosu	0.80	246	P	Pn	11 06 29.3	+0.6
	223nm,0.3s,baz=33,slow=3.2,SNR=2537						
MLR				S	Sn	11 06 40.9	+0.4
	422nm,0.3s,baz=53,slow=20,SNR=21						
MLR	Muntele Rosu	0.80	246		Pn	11 06 29.0	+0.1
GISR	Galati	0.85	116	⇑P	Pn	11 06 29.8	+0.5
GISR				⇑S	Sn	11 06 41.3	-0.1
OZUR		0.87	289	⇓P	Pn	11 06 29.8	+0.1
OZUR				⇓S	Sn	11 06 41.6	-0.5
PGOR	Pogoanele	0.92	180	⇑P	Pn	11 06 30.0	-0.1
PGOR				⇓S	Sn	11 06 43.5	+0.6
GIUM	Giurgiulesti	0.93	111	⇓P	Pn	11 06 31.2	+0.9
GIUM				⇑S	Sn	11 06 43.9	+0.8
GIUM	Giurgiulesti	0.93	111	P	Pn	11 06 31.2	+0.9
GIUM				S	Sn	11 06 43.9	+0.8
VASR	Vaslui	0.99	34	⇑P	Pn	11 06 31.9	+0.7
VASR				⇓S	Sn	11 06 45.6	+0.9
SECR		1.01	219	⇓P	Pn	11 06 32.5	+1.1
SECR				⇓S	Sn	11 06 45.7	+0.6
CFR	Carcaliu	1.04	128	⇑P	Pn	11 06 31.5	-0.2
CFR				⇑S	Sn	11 06 45.1	-0.6
LEOM	Leova	1.10	53	⇑P	Pn	11 06 33.3	+0.8
LEOM				⇑S	Sn	11 06 47.9	+0.9
LEOM	Leova	1.10	53	P	Pn	11 06 33.2	+0.8
LEOM				S	Sn	11 06 47.8	+0.9
DOPR	Dopca	1.12	278	⇓P	Pn	11 06 33.1	+0.4
DOPR				⇓S	Sn	11 06 47.7	+0.2
AMRR	Amara	1.24	168	⇑P	Pn	11 06 34.7	+0.4
AMRR				⇓S	Sn	11 06 50.6	+0.4
SULR		1.25	204	⇓P	Pn	11 06 35.4	+0.9
SULR				⇑S	Sn	11 06 51.1	+0.5
HARR	Harsova	1.32	149	⇑P	Pn	11 06 35.2	-0.1
JOSR	Joseni	1.34	312	⇑S	Sn	11 06 52.9	+0.1
LEHL	Lehliu	1.35	185	⇑P	Pn	11 06 36.7	+0.9
LEHL				⇑S	Sn	11 06 53.8	+0.8
TPGR	Topolog	1.41	133	⇑P	Pn	11 06 36.7	+0.2
TPGR				⇑S	Sn	11 06 53.5	-0.7
VOIR		1.41	255	⇓P	Pn	11 06 36.5	-0.1
VOIR				⇑S	Sn	11 06 54.0	-0.3
IAS	Iasi	1.43	16	⇑P	Pn	11 06 37.1	+0.3
IAS				⇑S	Sn	11 06 55.1	+0.4
TLCR		1.44	116	⇑P	Pn	11 06 37.6	+0.7
TLBR	Topalu	1.49	149	⇓P	Pn	11 06 37.7	+0.1
TLBR				⇓S	Sn	11 06 55.4	-0.7
INCR	INCERC-Sediu C	1.50	203	⇑S	Sn	11 06 57.0	+0.6
RASA	Rasa	1.61	176	⇑P	Pn	11 06 39.5	+0.2
BUC1	Bucharest	1.62	205	⇑P	Pn	11 06 39.4	0.0
BUC1				⇑S	Sn	11 06 59.8	+0.5
PRAR	RASCA	1.62	342	⇑P	Pn	11 06 39.7	+0.3
CVDA	Cernavoda	1.67	153	⇑P	Pn	11 06 40.1	+0.1
CVDA				⇑S	Sn	11 06 59.6	-0.9
MILM	Milestii Mici	1.68	49	⇑P	Pn	11 06 40.8	+0.7
MILM				⇓S	Sn	11 07 00.3	-0.5
MILM	Milestii Mici	1.68	49	P	Pn	11 06 40.8	+0.7
MILM				S	Sn	11 07 00.2	-0.5
TIRR	Tirgusor	1.70	143	⇓P	Pn	11 06 40.6	+0.2
TIRR				⇓S	Sn	11 06 59.9	-1.4
TIRR	Tirgusor	1.70	143		Pn	11 06 40.5	0.0
ARR	Arges	1.71	255	⇑P	Pn	11 06 41.3	+0.7
ARR				⇓S	Sn	11 07 02.3	+0.8
STFAR	Stefanesti-Arg	1.71	237	⇑P	Pn	11 06 41.8	+1.2
STFAR				⇓S	Sn	11 07 02.4	+0.8
KIS	Kishinev	1.73	47	⇓P	Pn	11 06 41.6	+0.8
KIS				⇑S	Sn	11 07 01.7	-0.3
KIS	Kishinev	1.73	47	P	Pn	11 06 41.6	+0.8
KIS				S	Sn	11 07 01.7	-0.3
SGRR	Singureni	1.75	204	⇑P	Pn	11 06 41.3	+0.2
ICOR	Ion Corvin	1.81	161	⇑P	Pn	11 06 42.1	+0.3
ICOR				⇑S	Sn	11 07 03.6	-0.1
MDB	Medias	1.84	281	⇑P	Pn	11 06 43.3	+1.1
TGMR	Targu Mures	1.84	293	⇓S	Sn	11 07 05.2	+0.5
HUMR	Humele	1.92	228	⇓P	Pn	11 06 43.4	+0.1
HUMR				⇑S	Sn	11 07 06.0	-0.4
MFTR	Murfatlar	1.94	148	⇑S	Sn	11 07 06.1	-0.9
TSSL	Sulina	2.04	108	⇑S	Sn	11 07 09.8	+0.3
TSCT	Constanta Port	2.05	144	⇑S	Sn	11 07 09.5	0.0
COPA	Copaceanca	2.10	217	⇑P	Pn	11 06 45.6	-0.2
COPA				⇑S	Sn	11 07 10.8	-0.1
EFOR	EFORIE	2.10	145	⇑P	Pn	11 06 45.4	-0.5
EFOR				⇑S	Sn	11 07 10.1	-0.9
BURAR	Bucovina Array	2.16	327	⇓P	Pn	11 06 48.6	+1.9
BURAR	Bucovina Array	2.16	327	Pn	Pn	11 06 47.3	+0.5
BUR08	Bucovina Ar. S	2.19	327	Pn	Pn	11 06 48.2	+1.1
LOT	Lotru	2.28	262	⇑P	Pn	11 06 48.6	+0.2
LOT				⇑S	Sn	11 07 14.6	-0.8
MANR	Mangalia	2.31	150	⇑S	Sn	11 07 15.6	-0.4
ZIMR		2.45	208	⇓S	Sn	11 07 18.5	-0.9
SORM	Soroca	2.50	22	⇑P	Pn	11 06 50.9	-0.3
SORM	Soroca	2.50	22	P	Pn	11 06 50.8	-0.3
CHRU	Chernivtsi	2.58	344	*i* S	Sn	11 07 22.2	-0.3
CHRU	Chernivtsi	2.58	344	Pn	Pn	11 06 51.1	-1.2
VLAD	Vladila	2.58	226	⇓P	Pn	11 06 51.8	-0.6
VLAD				⇓S	Sn	11 07 22.0	-0.6
KALB	Balgarevo	2.63	156	⇑P	Pn	11 06 53.6	+0.6
KALB				⇑S	Sn	11 07 23.1	-0.6
KMPD	K-Podol'skiy	2.76	353	*e*P	Pn	11 06 54.7	-0.1
KMPD				*i* S	Sn	11 07 24.8	-2.2
KMPD	K-Podol'skiy	2.76	353	Pn	Pn	11 06 53.5	-1.3
KMPD				Sn	Sn	11 07 25.4	-1.6
NDNU	Novodnistrovsk	2.79	5	*e*P	Pn	11 06 54.7	-0.4
NDNU				Pm		11 06 56.0	
NDNU				*i* S	Sn	11 07 25.3	-2.2
NDNU				Sm		11 07 38.1	
KSV	Kosov	2.81	333	*e*P	Pn	11 06 55.6	+0.1
KSV				Pm		11 06 57.6	
KSV				*e*S	Sn	11 07 28.6	+0.3
KSV				Sm		11 07 28.8	
DEV	Deva	2.85	273	⇓P	Pn	11 06 56.6	+0.6
DEV				⇑S	Sn	11 07 29.6	+0.5
SRE	Strehaia	2.91	248	⇓P	Pn	11 06 57.0	+0.3
SRE				⇑S	Sn	11 07 30.9	+0.4
RAKU	Rahkiv	2.92	320	*e*P	Pn	11 06 58.0	+1.0
RAKU				Pm		11 06 58.4	
RAKU				*i* S	Sn	11 07 31.2	+0.2
RAKU				Sm		11 07 38.1	
NSLU	Nyzhne Selyshc	2.93	325	P	Pn	11 07 03.4	+6.3
NSLU				Pm		11 07 34.2	
NSLU				*e*S	Sn	11 07 42.0	+11
NSLU				Sm		11 07 47.7	
GZR	Gura Zlata	2.98	263	⇑P	Pn	11 06 58.4	+0.6
GZR				⇑S	Sn	11 07 31.8	-0.6
BMR	Baia Mare	3.02	309	⇑P	Pn	11 06 58.2	-0.2
MESR	Meseseni	3.08	297	⇑S	Sn	11 07 34.7	-0.1
DRGR		3.11	290	⇓P	Pn	11 06 59.7	+0.1
DRGR				⇓S	Sn	11 07 35.3	-0.3
PUNG	Punghina	3.25	243	⇓P	Pn	11 07 00.4	-1.1
STNU	Starunia	3.34	331	*e*P	Pn	11 07 03.0	+0.3
STNU				*e*S	Sn	11 07 41.8	+0.6
HERR	Herculane	3.35	255	⇑P	Pn	11 07 03.1	+0.3
HORU	Horodok	3.41	354	*e*P	Pn	11 07 04.0	+0.3
HORU				Pm		11 07 09.2	
HORU				*i* S	Sn	11 07 43.5	+0.6
HORU				Sm		11 07 43.6	
SIRR	Siria	3.73	279	⇓P	Pn	11 07 07.8	-0.2
BZS	Buzias	3.76	269	⇑P	Pn	11 07 08.4	0.0
TRPA	Tarpa	3.81	309	PN	Pn	11 07 09.2	+0.1
MDVR	Moldovita	3.86	256	⇓P	Pn	11 07 10.1	+0.3
MDVR				⇑S	Sn	11 07 53.4	-0.5
MORS	Morshin	3.92	329	*e*P	Pn	11 07 11.0	+0.5
MORS				*e*S	Sn	11 07 56.1	+0.9
MUKU	Mukachevo	3.94	314	*i* S	Sn	11 07 56.5	+0.9
LUBAR	Lubar, Ukraine	4.13	7	Pn	Pn	11 07 13.5	0.0
LUBAR				sP		11 07 32.4	
VTS	Vitosha	4.18	221	Pn	Pn	11 07 14.1	-0.3
STZU	Stuzhytsa	4.35	319	*e*P	Pn	11 07 17.0	+0.5
STZU				*e*S	Sn	11 08 06.5	+0.6
CRVS	Cervenica-Dubn	4.85	311	*e*P	Pn	11 07 24.5	+1.2
CRVS				*e*S	Sn	11 08 17.6	-0.5
SEV	Sevastopol'	4.90	103	*e*P	Pn	11 07 24.2	+0.2
SEV				Pm		11 07 25.1	
SEV				*e*S	Sn	11 08 17.1	-2.2
SEV				Sm		11 08 19.5	
AK07	Malin Array Si	4.96	17	Pn	Pn	11 07 24.5	-0.3
ALN	Alexandroupoli	4.97	188	Pn	Pn	11 07 25.2	+0.3
AK13	Malin Array Si	4.99	15	Pn	Pn	11 07 24.8	-0.4
AK06	Malin Array Si	4.99	17	Pn	Pn	11 07 24.9	-0.3
MI30	MI30,Zelenitsa	4.99	9	Pn	Pn	11 07 25.0	-0.2
MI30				sP		11 07 44.0	
AK10	Malin Array Si	5.01	17	Pn	Pn	11 07 25.1	-0.4
AK14	Malin Array Si	5.02	16	Pn	Pn	11 07 25.1	-0.4
AK05	Malin Array Si	5.03	16	Pn	Pn	11 07 25.3	-0.4
AK09	Malin Array Si	5.04	17	Pn	Pn	11 07 25.4	-0.4
AK12	Malin Array Si	5.04	16	Pn	Pn	11 07 25.3	-0.5
AK08	Malin Array Si	5.05	17	Pn	Pn	11 07 25.6	-0.4
AK17	Malin Array Si	5.06	15	Pn	Pn	11 07 25.6	-0.5
AK02	Malin Array Si	5.06	16	Pn	Pn	11 07 25.7	-0.4
AK11	Malin Array Si	5.07	16	Pn	Pn	11 07 25.8	-0.5
AK15	Malin Array Si	5.08	16	Pn	Pn	11 07 25.8	-0.6
AK19	Malin Array Si	5.09	15	Pn	Pn	11 07 25.9	-0.6
AK01	Malin Array Si	5.09	16	Pn	Pn	11 07 26.2	-0.4
AK18	Malin Array Si	5.10	15	Pn	Pn	11 07 26.1	-0.5
AKASG	Malin Array Be	5.11	16	P	Pn	11 07 25.7	-1.1
	5.0nm,0.3s,baz=200,slow=11,SNR=22						
AKASG				S	Sn	11 08 20.4	-3.9
	27nm,0.3s,baz=200,slow=22,SNR=8.4						
AKASG	Malin Array Be	5.11	16		Pn	11 07 25.1	-1.7
AKBB	Malin Array Si	5.11	16	Pn	Pn	11 07 26.4	-0.4
AKBB	Malin Array Si	5.11	16	Pn	Pn	11 07 26.3	-0.5
SIM	Simferopol'	5.11	97	*e*P	Pn	11 07 26.3	-0.5
SIM				Pm		11 07 26.6	
SIM				*e*S	Sn	11 08 20.4	-4.0
SIM				Sm		11 08 20.4	
AK22	Malin Array Si	5.13	15	Pn	Pn	11 07 26.6	-0.6
AK21	Malin Array Si	5.14	15	Pn	Pn	11 07 26.7	-0.6
AK23	Malin Array Si	5.15	15	Pn	Pn	11 07 26.9	-0.4
KECS	Kecovo	5.16	303	*e*P	Pn	11 07 28.8	+1.2
DIVS	Divibare	5.25	253		Pn	11 07 28.7	-0.1
YAL	Yalta	5.25	102	⇑*e*P	Pn	11 07 28.0	-0.8
YAL				Pm		11 07 28.9	
YAL				*e*S	Sn	11 08 25.0	-2.9
YAL				Sm		11 08 27.5	
PSZ	Piszkesteto	5.29	296		Pn	11 07 29.3	0.0
PSZ	Piszkesteto	5.29	296	PN	Pn	11 07 29.4	0.0
PSZ				SN	Sn	11 08 26.0	-2.9
ALU	Alushta	5.37	100	*e*P	Pn	11 07 30.5	+0.1
ALU				Pm		11 07 31.1	
ALU				*e*S	Sn	11 08 28.5	-2.3
ALU				Sm		11 08 30.3	
STIP	Stip	5.39	222	*i* Pn	Pn	11 07 27.9	-2.8
STIP				*e*Sn	Sn	11 08 22.9	-8.5
VAY	Valandovo	5.52	217	*i* Pn	Pn	11 07 32.7	+0.2
VAY				*e*Sn	Sn	11 08 28.4	-6.2
SUDU	Sudak	5.73	97	*e*P	Pn	11 07 34.7	-0.6
SUDU				Pm		11 07 35.9	
SUDU				*e*S	Sn	11 08 36.6	-3.1
SUDU				Sm		11 08 41.0	
MORH	Mrgy, Hungar	5.82	277	PN	Pn	11 07 36.5	0.0
MORH				SN	Sn	11 08 37.4	-4.3
FEO	Feodosiya	5.98	95	*e*P	Pn	11 07 39.6	+0.9
FEO				Pm		11 07 39.8	
FEO				*e*S	Sn	11 08 46.6	+0.9
FEO				Sm		11 08 48.4	
LANS	Liptovska Anna	6.08	306	*e*S	Sn	11 08 48.5	+0.2
VYHS	Vyhne	6.16	299	*e*S	Sn	11 08 51.0	+0.8
KOVH	Kovagotottos	6.19	276	PN	Pn	11 07 41.8	+0.1
BZK	Bozkurt	6.38	125	Pn	Pn	11 07 42.1	-2.1
BORA	Eskisehir	6.47	156	Pn	Pn	11 07 43.2	-2.3
FNA	Florina	6.48	221	Pn	Pn	11 07 46.2	+0.4
LIT	Litokhoron	6.60	211	Pn	Pn	11 07 47.6	+0.4
BRTR	Keskin Array B	7.82	139	P	Pn	11 08 03.9	-0.1
	0.2nm,0.3s,baz=327,slow=12,SNR=5.6						
NACGM	Naroch	9.09	359	*i* P	Pn	11 08 36.0	+15
PABE	Paberze	9.88	350	Pn	Pn	11 08 32.0	+0.1
KBZ	Khabaz	11.51	95	P	Pn	11 08 53.6	-0.7
	0.2nm,0.3s,baz=309,slow=4.5,SNR=4.0						
KBZ				S	Sn	11 10 58.6	-2.5
	0.3nm,0.3s,baz=351,slow=19,SNR=2.3						
FINES	FINESS Array B	15.66	358	P	Pn	11 09 45.7	-3.6
	0.1nm,0.3s,baz=162,slow=14,SNR=0.9						
FINES				S	Sn	11 12 30.3	-11
	0.4nm,0.3s,baz=183,slow=21,SNR=2.3						
FINES	FINESS Array B	15.66	358	Pn	Pn	11 09 48.2	-1.0
FIA1	FINESS Array S	15.66	358	Pn	Pn	11 09 49.2	0.0
FIA1				IAmb	IAmb	11 09 58.7	
	comp=Z,11nm,1.3s						
HFS	Hagfors	16.36	336	P	Pn	11 09 58.6	+0.5
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=1.5						
HFS				S	Sn	11 12 49.1	-10
	comp=Z,0.1nm,0.3s,baz=155,slow=24,SNR=1.7						
NAO01	NORSAR Array S	17.77	334		Pn	11 10 14.5	-1.0
NAO01				IAmb	IAmb	11 10 37.4	
	comp=Z,74nm,1.4s						
NOA	NORSAR Array B	17.82	334	P	P	11 10 15.6	-0.5
	comp=Z,0.0nm,0.3s,baz=143,slow=11,SNR=2.5						
AKTO	Aktyubinsk	21.14	66	P	P	11 10 52.4	+0.2
	comp=Z,4.5nm,0.5s,baz=272,slow=9.7,SNR=14						
ARU	Arti	22.28	50	P	P	11 11 04.6	+0.2
	comp=Z,8.4nm,0.6s,baz=252,slow=12,SNR=32						
ARU	Arti	22.28	50	P	P	11 11 04.8	+0.4
ABKAR	Akbulak array	22.42	69	P	P	11 11 07.3	+1.4
ESDC	Sonseca Array	23.44	266	P	P	11 11 15.5	-0.8
	comp=Z,0.3nm,0.3s,baz=64,slow=11,SNR=1.5						
ZALV	Zalesovo Beam	37.19	56	P	P	11 13 19.2	+1.8
	comp=Z,0.3nm,0.3s,baz=276,slow=9.7,SNR=2.2						
ZALV				pP	pP	11 13 32.9	-0.7
	comp=Z,0.3nm,0.4s,baz=279,slow=2.9,SNR=3.1						
MKAR	Makanchi Array	37.55	68	P	P	11 13 22.1	+1.6
	comp=Z,0.2nm,0.5s,baz=276,slow=7.5,SNR=4.6						
MKAR				pP	pP	11 13 37.2	+0.5
	comp=Z,0.2nm,0.5s,baz=270,slow=7.1,SNR=3.2						
TORD	Torodi Ar. Bea	38.97	221	P	P	11 13 33.4	+0.8
	comp=Z,2.2nm,0.6s,baz=21,slow=7.5,SNR=12						
TORD				pP	pP	11 13 49.8	+0.6
	comp=Z,1.0nm,0.5s,baz=27,slow=8.7,SNR=3.4						
TORD	Torodi Ar. Bea	38.97	221	P	P	11 13 33.0	+0.4
SONM	Songino Array	52.07	57	P	P	11 15 17.5	+1.6
	comp=Z,0.5nm,0.6s,baz=301,slow=8.7,SNR=2.3						
YKA	Yellowknife Ar	67.74	342	P	P	11 17 04.0	+1.1
	comp=Z,0.8nm,0.6s,baz=26,slow=6.1,SNR=12						
YKA				pP	pP	11 17 21.5	+0.8
	comp=Z,0.1nm,0.5s,baz=28,slow=5.9,SNR=2.0						
IMAR	Indian Mountai	68.53	0	P	P	11 17 10.1	+2.3

IDC ***01*** *11:06:47.6±1.0, 33.°23S×178.°18W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.0/34, mbtmp4.2/10, ML3.8/3, Error ellipse: s-maj=25.0km s-min=19.1km az=171.0*

WEL ***01*** *11:06:48.6±1.0, 33°S±8°×17°8W±2°2, h33km, M4.5/10, mB4.9/7, ML5.0/12, MLv4.7/10, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*

NEIC ***01*** *11:06:50.7±1.2, 32.°98S±0.°09×178.°3W±0.°2, h10km±1km, mb4.3/15, Error ellipse: s-maj=23.6km s-min=13.1km az=112.0*

ISC 01 11:06:50.4±1.2**, 33.°08S**±0.°06×**177.°9W**±0.°1**, h34**km**, n47, σ1.°46**/54**, mb4.3**/11**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.80	359	P	Pn	11 07 42.2	-4.3
GLKZ				S	Sn	11 08 26.9	-3.2
RAO	Raoul Island	3.81	359	Pn	Pn	11 07 47.0	+0.3
MXZ	Matakaoa Point	5.47	214	P	Pn	11 08 08.9	-0.5
MXZ				S	Sn	11 09 10.9	-0.1
PKGZ	Pakihiroa	5.84	214	P	Pn	11 08 13.6	-0.9
PKGZ				S	Sn	11 09 20.2	0.0
HAZ	Te Kaha	5.87	216	P	Pn	11 08 14.4	-0.5
HAZ				S	Sn	11 09 22.7	+1.6
PUZ	Puketiti	5.91	211	P	Pn	11 08 11.5	-3.9
PUZ				S	Sn	11 09 21.9	0.0
RUGZ	Raukumara Rang	6.09	216	P	Pn	11 08 13.1	-4.9
TWGZ	Tauwhareparae	6.12	213	P	Pn	11 08 15.7	-2.7
TWGZ				S	Sn	11 09 27.6	+0.5
CNGZ	Carnagh Statio	6.27	210	P	Pn	11 08 18.4	-2.0
CNGZ				S	Sn	11 09 31.8	+0.9
TKGZ	Te Karaka	6.39	212	P	Pn	11 08 22.1	+0.1
TKGZ				S	Sn	11 09 33.5	-0.3
MWZ	Matawai	6.45	214	P	Pn	11 08 23.4	+0.5
MWZ				S	Sn	11 09 34.6	-0.8
URZ	Urewera	6.60	217	Pn	Pn	11 08 23.8	-1.0
	3.5nm,0.3s,baz=266,slow=2.9,SNR=26						
URZ				Sn	Sn	11 09 36.8	-2.1
	6.3nm,0.3s,baz=165,slow=22,SNR=8.6						
URZ	Urewera	6.60	217		Pn	11 08 23.1	-1.8
URZ	Urewera	6.60	217	P	Pn	11 08 24.8	-0.1
URZ				S	Sn	11 09 38.0	-0.9
RAGZ	Rawiri	6.63	214	P	Pn	11 08 26.1	+0.6
RAGZ				S	Sn	11 09 40.5	+0.5
RIGZ	Rimuhau	6.65	211	P	Pn	11 08 26.5	+0.9
RIGZ				S	Sn	11 09 40.5	+0.3
MUGZ	Murupara	6.94	218	P	Pn	11 08 28.8	-0.8
MUGZ				S	Sn	11 09 45.4	-1.9
BKZ	Black Stump Fm	7.60	215		Pn	11 08 37.6	-1.1
RPZ	Rata Peaks	13.71	216	Pn	Pn	11 09 59.5	-2.8
	0.5nm,0.3s,baz=152,slow=22,SNR=1.5						
RPZ				Sn	Sn	11 12 19.1	-14
	0.6nm,0.3s,baz=36,slow=19,SNR=1.6						
OUENC	Ouen Island, N	17.19	304		Pn	11 10 48.2	+0.3
OUENC				IAmb	IAmb	11 11 08.9	
	comp=Z,23nm,1.1s						
DZM	Mont Dzumac	17.70	304	P	P	11 10 55.3	+0.3
	comp=Z,0.2nm,0.3s,baz=124,slow=11,SNR=5.2						
DZM				S	Sn	11 14 12.2	+1.6
	comp=Z,0.1nm,0.3s,baz=131,slow=19,SNR=1.0						
DZM	Mont Dzumac	17.70	304	IAmb	IAmb	11 11 00.8	
	comp=Z,15nm,1.0s						
RAR	Rarotonga	19.93	58	P	Pn	11 11 25.4	+4.2
	comp=Z,14nm,0.4s,baz=180,slow=12,SNR=1.9						
STKA	Stephens Creek	34.08	261	P	P	11 13 31.6	-0.1
	comp=Z,0.4nm,0.3s,baz=160,slow=13,SNR=1.6						
CTA	Charters Tower	34.44	283	P	P	11 13 35.8	+0.9
	comp=Z,2.2nm,0.6s,baz=132,slow=8.0,SNR=5.4						
COEN	Coen	40.19	289	P	P	11 14 24.3	+0.7
COEN				IAmb	IAmb	11 14 26.9	
	comp=Z,2.8nm,0.9s						
AS31	Alice Springs	43.16	270	P	P	11 14 47.5	-0.5
ASAR	Alice Springs	43.16	270	P	P	11 14 47.6	-0.3
	comp=Z,3.5nm,0.9s,baz=112,slow=7.5,SNR=17						
WR0	Warramunga Arr	44.21	275	P	P	11 14 56.3	-0.1
WR0				IAmb	IAmb	11 14 57.2	
	comp=Z,6.7nm,1.1s						
WB2	Warramunga Arr	44.38	275	P	P	11 14 57.5	-0.2
WRAB	Tennant Creek	44.38	275	P	P	11 14 57.4	-0.4
WRAB				IAmb	IAmb	11 15 11.6	
	comp=Z,3.7nm,0.7s						
WRA	Warramunga Arr	44.38	275	P	P	11 14 57.4	-0.5
	comp=Z,2.4nm,0.6s,baz=114,slow=7.8,SNR=36						
WRA	Warramunga Arr	44.38	275	P	P	11 14 57.6	-0.3
WB0	Warramunga Arr	44.42	275	P	P	11 14 57.8	-0.4
WB0				IAmb	IAmb	11 15 16.2	
	comp=Z,8.3nm,1.2s						
MTN	Manton Dam	50.57	281	P	P	11 15 46.6	+0.7
MTN				IAmb	IAmb	11 16 03.7	
	comp=Z,6.8nm,1.1s						
KNRA	Kununurra	51.08	276	P	P	11 15 48.6	-1.1
KNRA				IAmb	IAmb	11 16 03.8	
	comp=Z,5.6nm,1.1s						
FITZ	Fitzroy Crossi	52.53	272	P	P	11 15 59.8	-0.8
	comp=Z,1.9nm,1.0s,baz=123,slow=4.4,SNR=2.9						
FITZ	Fitzroy Crossi	52.53	272	P	P	11 15 59.3	-1.2
FITZ				IAmb	IAmb	11 16 12.1	
	comp=Z,2.4nm,0.8s						
QSPA	South Pole Qui	57.04	180	P	P	11 16 38.5	+5.8
SNAA	Sanae	75.48	178	P	P	11 18 44.9	+14
VNA3	Neumayer Olymp	75.63	176	P	P	11 18 46.4	+15
VNA2	Neumayer--Watz	76.07	177	P	P	11 18 49.4	+15
	baz=163,slow=3.7						
PDAR	Pinedale Array	97.98	44	P	Pdif	11 20 27.5	+4.4
	comp=Z,0.2nm,0.2s,baz=228,slow=13,SNR=6.4						
MKAR	Makanchi Array	119.57	309	PKP	PKiKP	11 25 37.9	+1.6
	comp=Z,0.4nm,0.9s,baz=76,slow=0.6,SNR=2.3						
FINES	FINESS Array B	147.69	339	PKPbc	PKPab	11 26 32.7	-0.2
	comp=Z,2.3nm,0.5s,baz=50,slow=2.6,SNR=12						
HFS	Hagfors	151.88	348	PKPbc	PKiKP	11 26 43.7	+2.5
	comp=Z,2.9nm,0.9s,baz=329,slow=2.6,SNR=2.1						
AKASG	Malin Array Be	153.46	320	PKPbc	PKiKP	11 26 47.0	+2.2
	comp=Z,0.2nm,0.3s,baz=58,slow=2.0,SNR=2.1						

WEL 01 11:11:30.0±0.9**, 33°S**±11°×**17°9W**±2°8**, h33**km**, M4.4**/11**, mB4.6**/4**, ML4.8**/12**, MLv4.6**/11**, Mw(mB)3.8**/4**, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.60	9	P	Pn	11 12 22.7	-0.7
GLKZ				S	Sn	11 13 04.5	-0.2
PKGZ	Pakihiroa	5.75	208	P	Pn	11 12 51.9	-1.2
PKGZ				S	Sn	11 13 57.8	-0.2
HAZ	Te Kaha	5.76	210	P	Pn	11 12 54.0	+0.9
HAZ				S	Sn	11 14 01.1	+3.1
PUZ	Puketiti	5.84	206	P	Pn	11 12 53.8	-0.5
PUZ				S	Sn	11 14 00.1	-0.1
RUGZ	Raukumara Rang	5.98	210	P	Pn	11 12 56.7	+0.4
TWGZ	Tauwhareparae	6.04	207	P	Pn	11 12 57.3	+0.3
TWGZ				S	Sn	11 14 05.9	+0.8
CNGZ	Carnagh Statio	6.23	204	P	Pn	11 12 58.3	-1.2
TKGZ	Te Karaka	6.32	207	P	Pn	11 13 01.6	+0.8
TKGZ				S	Sn	11 14 11.4	-0.4
MWZ	Matawai	6.36	209	P	Pn	11 13 02.2	+0.8
MWZ				S	Sn	11 14 11.3	-1.4
OPRZ	Ohinepanea	6.41	217	P	Pn	11 13 05.0	+3.0
URZ	Urewera	6.47	212	P	Pn	11 13 03.5	+0.6

URZ				S	Sn	11 14 16.6	+1.0
RAGZ	Rawiri	6.54	209	P	Pn	11 13 04.9	+1.0
RAGZ				S	Sn	11 14 18.4	+1.0
RIGZ	Rimuhau	6.59	206	P	Pn	11 13 04.1	-0.4
RIGZ				S	Sn	11 14 18.2	-0.2
RTZ	Ruatahuna	6.82	211	P	Pn	11 13 08.3	+0.5
RTZ				S	Sn	11 14 23.4	-0.9
RAHZ	Arahi	7.03	209	P	Pn	11 13 11.9	+1.3
RAHZ				S	Sn	11 14 29.9	+0.5
MTHZ	Maungataniwha	7.08	211	P	Pn	11 13 12.1	+0.9
MTHZ				S	Sn	11 14 31.2	+0.5

*IDC **01** 11:12:54.2±3.1, 32°.94S×178°.41W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/30, mbtmp4.0/5, ML4.2/1, Error ellipse: s-maj=67.5km s-min=47.8km az=123.0*

*NEIC **01** 11:12:59.2±1.2, 34°.1S±0°.1×179°.0W±0°.2, h10km±2km, mb4.2/10, Error ellipse: s-maj=29.6km s-min=15.0km az=112.0*

ISC 01 11:12:52.5±1.5**, 33°.1S**±0°.1×**177°.9W**±0°.2**, h10km, n29, σ1s.32**/30**, mb4.1**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.87	359	Pn	Pg	11 14 13.1	+6.3
URZ	Urewera	6.54	217	Pn	Pn	11 14 30.1	+1.3
	4.8nm,0.3s,baz=352,slow=21,SNR=2.4						
URZ	Urewera	6.54	217		Pn	11 14 15.4	-13
RAHZ	Arahi	7.07	214	P	Pn	11 14 30.7	-5.3
ARHZ	Aropaoanui	7.39	213	P	Pn	11 14 36.9	-3.5
ARHZ				S	Sb	11 16 30.9	+1.9
MCHZ	McNeill Hill	7.67	213	P	Pn	11 14 43.6	-0.7
MCHZ				S	Sb	11 16 37.6	+0.5
KWHZ	Kaweka Forest	7.78	215	P	Pn	11 14 45.5	-0.4
KWHZ				S	Sb	11 16 39.0	-1.4
KAHZ	Kahuranaki	7.88	211	P	Pn	11 14 42.8	-4.4
KAHZ				S	Sb	11 16 43.8	+0.8
TMVZ	Te Maari	7.91	219	P	Pn	11 14 49.7	+2.0
KRHZ	Kereru	7.98	214	P	Pn	11 14 49.0	+0.5
KRHZ				S	Sb	11 16 43.0	-3.0
NGZ	Ngauruhoe	8.01	219	P	Pn	11 14 51.8	+2.7
NGZ				S	Sb	11 16 47.4	+0.5
PXZ	Pawanui	8.08	210	P	Pn	11 14 49.5	-0.4
PXZ				S	Sb	11 16 46.0	-2.8
BFZ	Birch Farm	8.88	210	P	Pn	11 15 01.0	+0.1
BFZ				S	Sn	11 17 04.3	+23
CTA	Charters Tower	34.43	283	P	P	11 19 39.4	-1.1
	1.7nm,0.5s,baz=117,slow=11,SNR=1.8						
COEN	Coen	40.19	289	P	P	11 20 29.8	+0.4
COEN				IAmb	IAmb	11 20 38.4	
	comp=Z,7.3nm,1.5s						
AS31	Alice Springs	43.14	270	P	P	11 20 51.2	-2.3
ASAR	Alice Springs	43.14	270	P	P	11 20 53.0	-0.5
	comp=Z,1.3nm,0.6s,baz=108,slow=7.7,SNR=6.2						
ASAR	Alice Springs	43.14	270	P	P	11 20 51.6	-1.9
WR0	Warramunga Arr	44.20	275	P	P	11 21 01.5	-0.5
WR0				IAmb	IAmb	11 21 10.6	
	comp=Z,3.8nm,1.2s						
WB2	Warramunga Arr	44.36	275	P	P	11 21 02.5	-0.8
WB2				IAmb	IAmb	11 21 03.7	
	comp=Z,9.4nm,1.4s						
WRAB	Tennant Creek	44.37	275	P	P	11 21 02.5	-0.8
WRAB				IAmb	IAmb	11 21 03.7	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	44.37	275	P	P	11 21 02.7	-0.7
	comp=Z,1.7nm,0.6s,baz=116,slow=7.7,SNR=9.8						
WRA	Warramunga Arr	44.37	275	P	P	11 21 02.3	-1.1
WB0	Warramunga Arr	44.41	275	P	P	11 21 03.0	-0.7
WB0				IAmb	IAmb	11 21 06.0	
	comp=Z,8.0nm,1.4s						
KNRA	Kununurra	51.07	276	P	P	11 21 54.9	-0.4
FITZ	Fitzroy Crossi	52.51	272	P	P	11 22 06.0	-0.2
	comp=Z,0.5nm,0.5s,baz=117,slow=6.8,SNR=1.0						
FITZ	Fitzroy Crossi	52.51	272	P	P	11 22 05.9	-0.2
FITZ				IAmb	IAmb	11 22 18.7	
	comp=Z,1.4nm,0.9s						
QSPA	South Pole Qui	56.98	180	P	P	11 22 37.9	-0.1
FINES	FINESS Array B	147.74	339	PKPbc	PKPbc	11 32 38.3	+1.6
	comp=Z,1.7nm,0.5s,baz=41,slow=4.6,SNR=4.7						

*IDC **01** 11:13:22.8±2.7, 33°.14S×178°.23W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/31, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=61.7km s-min=37.3km az=119.0*

*NEIC **01** 11:13:24.1±0.4, 33°.23S±0°.09×178°.08W±0°.07, h10km±2km, mb4.6/8, Error ellipse: s-maj=15.1km s-min=9.4km az=173.0*

ISC 01 11:13:26.9±1.4**, 33°.23S**±0°.10×**178°.0W**±0°.2**, h34km, n17, σ1s.05**/19**, mb4.3**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.96	2	Pn	Pn	11 14 23.4	-1.9
MXZ	Matakaoa Point	5.25	214	Pn	Pn	11 14 40.3	-2.7
PKGZ	Pakihiroa	5.62	213	S	Sn	11 15 53.3	+1.7
URZ	Urewera	6.38	217	Pn	Pn	11 14 58.9	+0.4
	2.4nm,0.3s,baz=54,slow=16,SNR=1.3						
URZ				Sn	Sn	11 16 10.7	+0.5
	4.5nm,0.3s,baz=136,slow=21,SNR=3.6						
WPHZ	Waipukurau	8.14	211	S	Sn	11 16 53.3	0.0
CTA	Charters Tower	34.32	283	P	P	11 20 11.0	+0.6
	2.2nm,0.5s,baz=128,slow=12,SNR=2.3						
ASAR	Alice Springs	43.00	270	P	P	11 21 22.3	-0.9
	1.2nm,0.6s,baz=108,slow=7.6,SNR=2.7						
ASAR				PcP	PcP	11 23 13.4	+0.2
	0.5nm,0.7s,baz=116,slow=6.3,SNR=0.7						
WR0	Warramunga Arr	44.06	275	P	P	11 21 31.4	-0.4
WB2	Warramunga Arr	44.23	275	P	P	11 21 32.6	-0.5
WRAB	Tennant Creek	44.24	275	P	P	11 21 32.7	-0.5
WRA	Warramunga Arr	44.24	275	P	P	11 21 32.2	-1.0
	1.3nm,0.3s,baz=116,slow=7.7,SNR=16						
WB0	Warramunga Arr	44.28	275	P	P	11 21 33.1	-0.4
WB0				IAmb	IAmb	11 22 10.8	
	comp=Z,5.7nm,0.6s						
KNRA	Kununurra	50.94	277	P	P	11 22 25.2	0.0
KNRA				IAmb	IAmb	11 24 04.6	
	comp=Z,11nm,1.3s						
FITZ	Fitzroy Crossi	52.38	272	P	P	11 22 35.7	-0.3
	comp=Z,1.0nm,0.8s,baz=135,slow=4.3,SNR=0.9						
FITZ	Fitzroy Crossi	52.38	272	P	P	11 22 35.6	-0.3
QSPA	South Pole Qui	56.89	180	P	P	11 23 08.7	+0.5
QSPA				IAmb	IAmb	11 24 00.5	
	comp=Z,10nm,1.1s						
FINES	FINESS Array B	147.77	338	PKPbc	PKPbc	11 33 07.8	+0.5
	comp=Z,2.4nm,0.6s,baz=42,slow=4.5,SNR=4.4						

*IDC **01** 11:14:01.5±1.6, 33°.26S×178°.40W, h0km, mb4.5/5, mb1 4.5/6, mb1mx4.0/31, mbtmp4.5/6, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/55, Error ellipse: s-maj=49.2km s-min=34.6km az=160.0*

*NEIC **01** 11:14:05.2±1.4, 33°.24S±0°.07×178°.7W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=30.7km s-min=6.8km az=109.0*

ISC 01 11:14:07.0±1.1**, 33°.3S**±0°.1×**178°.6W**±0°.2**, h32km, n23, σ0s.74**/25**, mb4.5**/10**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.03	9	Pn	Pn	11 15 05.7	-0.8
URZ	Urewera	6.09	214	Pn	Pn	11 15 34.5	-0.3
	6.0nm,0.3s,baz=8.7,slow=13,SNR=2.6						
URZ				Sn	Sn	11 16 43.0	-0.4
	6.5nm,0.3s,baz=350,slow=23,SNR=3.1						
URZ	Urewera	6.09	214		Pn	11 15 33.2	-1.7
MSVF	Nonsavu	15.74	348	LR	LR	11 22 46.4	
	comp=Z,129nm,20.0s,baz=165,slow=33						
CTA	Charters Tower	33.86	284	P	P	11 20 48.2	+1.4
	3.4nm,0.5s,baz=124,slow=9.9,SNR=7.4						
PMG	Port Moresby	39.45	299	P	P	11 21 34.9	+0.5
	1.9nm,0.3s,baz=221,slow=9.3,SNR=1.5						
COEN	Coen	39.65	290	P	P	11 21 37.1	+1.0
COEN				IAmb	IAmb	11 21 45.9	
	comp=Z,12nm,1.4s						
AS31	Alice Springs	42.52	270	P	P	11 21 59.2	-0.5
ASAR	Alice Springs	42.52	270	P	P	11 22 00.1	+0.4
	comp=Z,6.9nm,0.7s,baz=111,slow=7.5,SNR=18						
ASAR				PcP	PcP	11 23 51.3	-0.7
	comp=Z,0.5nm,0.6s,baz=110,slow=4.2,SNR=2.2						
WR0	Warramunga Arr	43.59	276	P	P	11 22 08.3	-0.1
WR0				IAmb	IAmb	11 22 23.7	
	comp=Z,7.1nm,1.1s						
WB2	Warramunga Arr	43.76	275	P	P	11 22 09.5	-0.2
WB2				IAmb	IAmb	11 22 10.5	
	comp=Z,5.5nm,0.7s						
WRAB	Tennant Creek	43.77	275	P	P	11 22 09.2	-0.5
WRAB				IAmb	IAmb	11 22 10.5	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	43.77	275	P	P	11 22 10.0	+0.2
	comp=Z,5.0nm,0.8s,baz=116,slow=7.7,SNR=8.6						
WRA				PcP	PcP	11 23 55.9	-0.4
	comp=Z,0.7nm,1.0s,baz=120,slow=3.4,SNR=2.1						
WRA	Warramunga Arr	43.77	275	P	P	11 22 09.1	-0.8
WB0	Warramunga Arr	43.80	276	P	P	11 22 10.0	-0.1
KNRA	Kununurra	50.47	277	P	P	11 23 02.1	0.0
KNRA				IAmb	IAmb	11 23 03.4	
	comp=Z,5.8nm,1.0s						
FITZ	Fitzroy Crossi	51.90	272	P	P	11 23 13.0	+0.2
	comp=Z,2.6nm,0.7s,baz=114,slow=9.4,SNR=6.5						
FITZ	Fitzroy Crossi	51.90	272	P	P	11 23 12.3	-0.5
FITZ				IAmb	IAmb	11 23 13.9	
	comp=Z,3.9nm,0.9s						
QSPA	South Pole Qui	56.87	180	P	P	11 23 50.0	+1.5
FINES	FINESS Array B	147.61	338	PKPbc	PKPbc	11 33 47.0	-0.3
	comp=Z,3.1nm,0.8s,baz=42,slow=3.1,SNR=1.9						
HFS	Hagfors	151.91	347	PKPbc	PKPbc	11 33 57.4	-0.6
	comp=Z,1.9nm,0.7s,baz=343,slow=2.4,SNR=1.9						
AKASG	Malin Array Be	153.17	319	PKPbc	PKiKP	11 34 01.5	+0.4
	comp=Z,0.2nm,0.3s,baz=57,slow=2.1,SNR=4.1						
BRTR	Keskin Array B	153.38	293	PKPbc	PKiKP	11 34 02.1	-0.1
	comp=Z,1.4nm,0.7s,baz=129,slow=3.5,SNR=3.8						

*IDC **01** 11:27:42.6±0.8, 67°.16N×20°.81E, h0km, mb1 3.5/6, mb1mx3.2/46, mbtmp3.5/6, ML2.8/5, Error ellipse: s-maj=13.4km s-min=7.0km az=112.0*

*HEL **01** 11:27:42.3, 67°.19N×20°.60E, h1km, ML2.1, Confirmed Induced event*

*NAO **01** 11:27:42.4±0.7, 67°.13N×20°.98E, ML2.9*

*DNK **01** 11:27:42.3±0.5, 67°.19N×20°.67E, h0km, ML2.9(UPP), Suspected explosion*

*HEL **01** 11:27:42.5±0.0, 67°.19N×20°.66E, h1km, ML2.1, ML2.9(UPP), Confirmed Induced event*

*KOLA **01** 11:27:42.5, 67°.23N×20°.56E, h0km, ML2.5*

*BER **01** 11:27:44.4±3.7, 67°.11N×20°.77E, h1km, ML2.4, ML2.9(NAO), Confirmed Induced event*

ISC 01 11:27:40.5±0.6**, 67°.16N**±0°.02×**20°.69E**±0°.02**, h0km, n59, σ1s.72**/100**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	234	P	Pg	11 27 43.8	+2.2
DUNU				S	Sg	11 27 44.9	+2.6
DUNU	Dundret	0.06	234	*i* P	Pg	11 27 43.8	+2.2
DUNU				*i* S	Sg	11 27 44.9	+2.6
MASU	Masugnsbyn	0.59	59	P	Pg	11 27 53.2	+1.4
MASU	Masugnsbyn	0.59	59	*i* P	Pg	11 27 53.2	+1.4
ERTU	Ertsjaerv	0.85	135	P	Pg	11 27 58.1	+1.4
ERTU	Ertsjaerv	0.85	135	*i* P	Pg	11 27 58.1	+1.4
SALU	Saltoluokta	0.88	286	P	Pg	11 27 58.1	+0.8
SALU	Saltoluokta	0.88	286	*i* P	Pg	11 27 58.1	+0.8
NIKU	Nikkaluokta	0.96	319	P	Pg	11 27 59.1	+0.3
NIKU	Nikkaluokta	0.96	319	*e*P	Pg	11 27 59.1	+0.3
PAJU	Pajala	0.96	97	*e*P	Pg	11 27 60.0	+1.2
PAJU				*e*S	Sb	11 28 13.6	+0.5
LANU	Lannavaara	1.03	28	P	Pg	11 28 00.4	+0.3
LANU	Lannavaara	1.03	28	*e*P	Pg	11 28 00.4	+0.3
LANU				*e*S	Sg	11 28 13.9	+0.5
KOVU	Salmi	1.09	350	P	Pg	11 28 01.2	-0.2
KOVU				S	Sg	11 28 15.9	+0.4
KOVU	Salmi	1.09	350	*e*P	Pg	11 28 01.2	-0.2
KOVU				*e*S	Sg	11 28 15.9	+0.4
KLF	Kolari	1.28	85	*e*P	Pg	11 28 05.6	+0.6
KLF				*e*S	Sb	11 28 23.1	+0.7
KALU	Kalix	1.69	139	*e*P	Pb	11 28 12.8	+0.5
KALU				*e*S	Sg	11 28 35.4	+0.9
HEF	Hetta	1.69	41	Pn	Pn	11 28 12.1	+0.8
HEF				Sn	Sn	11 28 33.8	+0.2
HEF	Hetta	1.69	41	Pn	Pn	11 28 12.1	+0.8
HEF				Sn	Sn	11 28 33.8	+0.2
HEF	Hetta	1.69	41	*e*P	Pn	11 28 12.1	+0.8
HEF				*e*S	Sn	11 28 33.8	+0.2
HEF				MSG		11 28 38.3	
	comp=Z,12nm,0.1s						
TOF	Tornio	1.81	125	*e*P	Pb	11 28 15.2	+0.7
TOF				*e*S	Sb	11 28 38.9	+1.3
TOF				MSG		11 28 44.2	
	comp=Z,11nm,0.1s						
KIF	Kilpisjarvi	1.86	1	Pn	Pb	11 28 15.4	+0.1
KIF				Sn	Sg	11 28 40.5	+0.4
KIF	Kilpisjarvi	1.86	1	Pn	Pb	11 28 15.4	+0.1
KIF				Sn	Sg	11 28 40.5	+0.4
KIF	Kilpisjarvi	1.86	1	*e*P	Pb	11 28 15.3	0.0
KIF				*e*S	Sg	11 28 40.1	0.0
KTK1	Kautokeino	2.10	26	Pn	Pb	11 28 19.0	-0.3
KTK1				Sn	Sb	11 28 46.1	+0.2
KTK1	Kautokeino	2.10	26	*e*P	Pb	11 28 19.0	-0.3
KTK1				*e*S	Sb	11 28 45.4	-0.5
KTK1				IAML		11 28 48.4	
	comp=Z,78nm,0.5s						
FAUS	Fauske	2.11	279	*e*P	Pb	11 28 19.5	-0.1
FAUS				*e*S	Sg	11 28 48.5	+0.3
FAUS				IAML		11 28 49.9	
	comp=Z,49nm,0.5s						
RNF	Rovaniemi	2.17	102	*e*PB	Pb	11 28 20.5	-0.1
RNF				*e*SG	Sb	11 28 49.3	+1.3
STEI	Steigen	2.23	293	*e*P	Pn	11 28 19.9	+1.2
STEI				*e*S	Sn	11 28 46.7	-0.2
STEI				IAML		11 28 53.7	
	comp=Z,26nm,0.6s						
SGF	Sodankyl	2.28	80	*e*PB	Pb	11 28 22.4	-0.1
SGF				*e*SG	Sb	11 28 53.1	+1.8
JETT	Jettan, Norway	2.41	358	Pn	Pb	11 28 24.1	-0.7
OBF4	Vikkela, Lumij	2.96	140	MSG		11 29 22.7	
	comp=Z,6.2nm,0.2s						
OUL	Oulu	2.97	132	MSG		11 29 22.7	
	comp=Z,11nm,0.3s						
ARA0	ARCESS Array S	2.98	35	Pn	Pn	11 28 30.5	+1.5
	baz=210,slow=16						
ARA0				Sn	Sn	11 29 07.4	+2.0
	baz=215,slow=28						
ARA0	ARCESS Array S	2.98	35	Pn	Pn	11 28 30.5	+1.5
	baz=210,slow=16						
ARA0				Sn	Sn	11 29 07.4	+2.0
	baz=215,slow=28						
ARA0	ARCESS Array S	2.98	35	*e*P	Pn	11 28 30.8	+1.8
ARA0				*e*S	Sn	11 29 07.7	+2.3
ARCES	ARCESS Array B	2.98	35	Pn	Pn	11 28 30.5	+1.5
	baz=215,slow=13,SNR=184						
ARCES				Sn	Sn	11 29 07.9	+2.4
	baz=218,slow=19,SNR=1.4						
ARCES	ARCESS Array B	2.98	35	P	Pn	11 28 30.4	+1.3
ARCES				S	Sn	11 29 06.0	+0.5
APA0	Apatity Array	4.77	79	Pn	Pn	11 28 54.1	+0.6
	baz=268,slow=12						
APA0				Sn	Sn	11 29 48.1	-1.3
	baz=265,slow=28						
APA0				Lg	Lg	11 30 06.4	
APA0	Apatity Array	4.77	79	Pn	Pn	11 28 54.1	+0.6
	baz=268,slow=12						
APA0				Sn	Sn	11 29 48.1	-1.3
	baz=265,slow=28						
APA0	Apatity Array	4.77	79	P	Pn	11 28 54.9	+1.4
APA0				S	Sn	11 29 49.1	-0.4
PRVG	Vayda Guba	4.97	53	P	Pn	11 28 56.8	+0.5
LVZ	Lovozero	5.41	76	P	Pn	11 29 03.1	+0.8
LVZ				S	Sn	11 30 05.5	+0.3
TERR	Teriberka	5.75	63	S	Sn	11 30 10.3	-3.2
FIA0	FINESS Array S	6.19	155	Pn	Pn	11 29 15.6	+2.5
	baz=347,slow=16						
FIA0				Sn	Sn	11 30 25.1	+0.6
	baz=345,slow=28						
FIA0				Lg	Lg	11 30 53.1	
	baz=350,slow=28						
FIA0	FINESS Array S	6.19	155	Pn	Pn	11 29 15.6	+2.5
	baz=347,slow=16						
FIA0				Sn	Sn	11 30 25.1	+0.6
	baz=345,slow=28						
FIA0				Sg	Sg	11 30 53.1	-6.1
	baz=350,slow=28						
FINES	FINESS Array B	6.19	155	Pn	Pn	11 29 15.6	+2.5
	comp=Z,0.9nm,0.3s,baz=348,slow=12,SNR=25						
FINES				Sn	Sn	11 30 25.2	+0.8
	comp=Z,0.8nm,0.3s,baz=344,slow=22,SNR=5.8						
FINES				Lg	Lg	11 30 56.2	
	comp=Z,1.1nm,0.3s,baz=346,slow=29,SNR=6.9						
NB2	NORSAR Subarra	7.40	218	Pn	Pn	11 29 31.6	+1.9
	baz=19,slow=12						
NB2				Sn	Sn	11 30 51.1	-3.1
NB2	NORSAR Subarra	7.40	218	Pn	Pn	11 29 31.6	+1.9
	baz=19,slow=12						
NB2				Sn	Sn	11 30 51.1	-3.1
NOA	NORSAR Array B	7.40	218	Pn	Pn	11 29 30.6	+0.9
	comp=Z,0.0nm,0.3s,baz=28,slow=11,SNR=5.6						
NOA				Sn	Sn	11 30 51.2	-3.0
	comp=Z,0.0nm,0.3s,baz=37,slow=21,SNR=4.6						
NOA				Lg	Lg	11 31 34.0	
	comp=Z,0.1nm,0.3s,baz=45,slow=27,SNR=3.7						
NRA0	NORESS Array S	7.59	216	Pn	Pn	11 29 33.9	+1.6
	baz=25,slow=16						
NRA0				Sn	Sn	11 30 56.5	-2.3
	baz=23,slow=28						
NRA0				Lg	Lg	11 31 37.1	
	baz=37,slow=28						
NRA0	NORESS Array S	7.59	216	Pn	Pn	11 29 33.9	+1.6
	baz=25,slow=16						
NRA0				Sn	Sn	11 30 56.5	-2.3
	baz=23,slow=28						
NRA0				Sg	Sg	11 31 37.1	-6.9
	baz=37,slow=28						
HFS	Hagfors	7.70	207	Pn	Pn	11 29 34.6	+0.9
	comp=Z,0.7nm,0.3s,baz=16,slow=11,SNR=15						
HFS				Sn	Sn	11 31 00.5	-1.0
	comp=Z,0.7nm,0.3s,baz=27,slow=17,SNR=6.5						
HFS				Lg	Lg	11 31 44.3	
	comp=Z,0.6nm,0.3s,baz=22,slow=23,SNR=2.0						
HFS	Hagfors	7.70	207	Pn	Pn	11 29 34.4	+0.7
	baz=21,slow=10						
HFS				Sn	Sn	11 31 00.3	-1.2
	baz=27,slow=18						
HFS	Hagfors	7.70	207	Pn	Pn	11 29 34.4	+0.7
	baz=21,slow=10						
HFS				Sn	Sn	11 31 00.3	-1.2
	baz=27,slow=18						
SPA0	Spitsbergen Ar	11.15	355	Pn	Pn	11 30 21.2	+0.4
	baz=158,slow=16						
SPA0	Spitsbergen Ar	11.15	355	Pn	Pn	11 30 21.2	+0.4
	baz=158,slow=16						
SPITS	Spitsbergen Ar	11.15	355	Pn	Pn	11 30 21.0	+0.1
	baz=168,slow=13,SNR=1.7						
AKASG	Malin Array Be	17.05	161	Pn	Pn	11 31 35.0	-5.0
	comp=Z,0.6nm,0.3s,baz=343,slow=12,SNR=3.1						

EAF 01 11:34:19.6±0.8**, 29°.29S**×**22°.22E, h10km, MD3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	Boshof	2.75	77	*i* P	Pn	11 35 04.2	+0.3
BOSA				*i* S	Sn	11 35 35.2	-2.0
BOSA	Boshof	2.75	77	*i* P	Pn	11 35 04.2	+0.3
BOSA				*i* S	Sn	11 35 35.2	-2.0
LBTB	Lobatse	5.21	36	*i* P	Pn	11 35 36.6	-1.1
LBTB				*i* S	Sn	11 36 34.1	-4.0
LBTB	Lobatse	5.21	36	*i* P	Pn	11 35 36.6	-1.1
LBTB				*i* S	Sn	11 36 34.1	-4.0
MATP	Matopo	10.50	34	*i* P	Pn	11 36 47.2	-3.3
MATP				*i* S	Sn	11 38 35.9	-12

*NOU **01** 11:36:11.5, 18°.69S×169°.31E, h252km, mb4.4/46, Vanuatu Islands*

*NEIC **01** 11:36:11.5±1.2, 18°.61S±0°.08×169°.27E±0°.09, h253km±5km, mb4.4/23, Error ellipse: s-maj=13.0km s-min=10.6km az=106.0*

*IDC **01** 11:36:11.7±1.1, 18°.63S×169°.27E, h261km±11km, mb3.7/13, mb1 4.0/17, mb1mx3.9/27, mbtmp4.4/17, Error ellipse: s-maj=16.6km s-min=9.2km az=159.0*

ISC 01 11:36:10.8±0.5**, 18°.65S**±0°.05×**169°.31E**±0°.06**, h250km, n99, σ1s.02**/104**, mb4.4**/33**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTV	Rentapao	1.20	316	P	Pn	11 36 48.5	+1.5
DVP	Devils Point	1.41	311	P	Pn	11 36 50.0	+1.5
LIFNC	LIFOU	2.87	222	Pn	Pn	11 37 01.5	-0.4
LIFNC	LIFOU	2.87	222	P	Pn	11 37 01.8	-0.1
SANVU	Saraoutou	3.77	327	Pn	Pn	11 37 11.7	-0.3
SANVU	Saraoutou	3.77	327	P	Pn	11 37 12.9	+0.9
YATNC	Mamie plateau,	4.08	213	P	Pn	11 37 14.7	-0.8
PINNC	Pines Island,	4.31	204	Pn	Pn	11 37 19.0	+0.8
PINNC	Pines Island,	4.31	204	P	Pn	11 37 18.7	+0.5
DZM	Mont Dzumac	4.33	218	P	Pn	11 37 19.3	+0.7
	6.6nm,0.3s,baz=24,slow=20,SNR=62						
DZM				S	S	11 38 13.2	+0.6
	5.7nm,0.3s,baz=45,slow=20,SNR=5.2						
DZM	Mont Dzumac	4.33	218	P	Pn	11 37 19.5	+0.9
OUENC	Ouen Island, N	4.40	211	Pn	Pn	11 37 20.1	+0.8
OUENC	Ouen Island, N	4.40	211	P	Pn	11 37 20.6	+1.3
NOUC	Port Laguerre	4.44	219	P	Pn	11 37 21.0	+1.2
ONTNC	Ouen Toro	4.51	216	Pn	Pn	11 37 21.6	+0.9
ONTNC	Ouen Toro	4.51	216	P	Pn	11 37 21.8	+1.1
KOUNC	Koumac, New Ca	5.09	247	Pn	Pn	11 37 30.1	+2.3
KOUNC	Koumac, New Ca	5.09	247	P	Pn	11 37 29.8	+2.1
MSVF	Nonsavu	8.36	85	P	Pn	11 38 10.4	+1.6
	1.3nm,0.3s,baz=280,slow=17,SNR=5.6						
MSVF	Nonsavu	8.36	85	Pn	Pn	11 38 10.0	+1.1
MSVF	Nonsavu	8.36	85	P	Pn	11 38 10.6	+1.8
HNR	Honiara	12.90	314	P	Pn	11 39 05.5	-0.1
	8.5nm,0.3s,baz=154,slow=3.8,SNR=3.9						
EIDS	Eidsvold	18.16	245	P	P	11 40 07.1	+1.9
EIDS				IAmb	IAmb	11 40 18.4	
	comp=Z,25nm,1.4s						
EIDS	Eidsvold	18.16	245	P	P	11 40 05.5	+0.3
AFI	Afiamalu	18.76	78	P	P	11 40 12.5	+0.7
	comp=Z,1.1nm,0.3s,baz=243,slow=18,SNR=1.5						
ARMA	Armidale	19.86	231	P	P	11 40 23.5	0.0
ARMA	Armidale	19.86	231	P	P	11 40 23.7	+0.2
RMQ	Roma	20.50	244	P	P	11 40 30.2	0.0
URZ	Urewera	20.69	162	P	P	11 40 33.5	+1.5
	comp=Z,7.1nm,0.6s,baz=262,slow=2.3,SNR=6.9						
URZ	Urewera	20.69	162	P	P	11 40 33.6	+1.6
URZ				IAmb	IAmb	11 40 38.0	
	comp=Z,26nm,1.2s						
URZ	Urewera	20.69	162	P	P	11 40 32.1	0.0
BKZ	Black Stump Fm	21.37	165	P	P	11 40 39.1	+0.1
BKZ				IAmb	IAmb	11 40 45.5	
	comp=Z,16nm,1.3s						
BKZ	Black Stump Fm	21.37	165	P	P	11 40 38.3	-0.7
	comp=Z,134nm,2.9s						
CTA	Charters Tower	21.79	262	P	P	11 40 43.6	+0.5
	comp=Z,5.4nm,0.5s,baz=88,slow=9.2,SNR=12						
CTA	Charters Tower	21.79	262	P	P	11 40 44.8	+1.7
	comp=Z,9.3nm,0.6s						
MGCD	Mangrove Creek	21.81	225	P	P	11 40 43.4	+0.3
PMG	Port Moresby	23.34	290	P	P	11 40 58.3	+1.1
	comp=Z,29nm,0.7s,baz=101,slow=6.1,SNR=34						
PMG	Port Moresby	23.34	290	P	P	11 40 56.7	-0.5
MTSU	Mount Surprise	23.71	267	P	P	11 41 02.0	+1.4
QLP	Quilpie	24.42	247	P	P	11 41 06.9	0.0
	comp=Z,18nm,0.9s						
CMSA	Cobar Meteorol	24.87	234	P	P	11 41 10.5	-0.4
	comp=Z,11nm,0.7s						
COEN	Coen	25.50	277	P	P	11 41 17.0	+0.2
COEN	Coen	25.50	277	P	P	11 41 16.8	+0.1
INKA	Innaminka	27.71	246	P	P	11 41 37.0	+0.7
	comp=Z,11nm,0.7s						
QIS	Mount Isa	28.03	261	P	P	11 41 40.4	+1.2
STKA	Stephens Creek	28.21	237	P	P	11 41 41.3	+0.6
	comp=Z,9.4nm,0.6s,baz=66,slow=8.9,SNR=36						
STKA	Stephens Creek	28.21	237	P	P	11 41 41.4	+0.6
STKA	Stephens Creek	28.21	237	P	P	11 41 41.1	+0.4
MMPI	Merauke	29.84	286	P	P	11 41 54.2	-1.0
	comp=Z,149nm,0.6s						
LCRK	Leigh Creek	30.52	241	P	P	11 42 00.9	-0.2
HTT	Hallett	30.87	236	P	P	11 42 04.2	0.0
OOD	Oodnadatta	32.12	247	P	P	11 42 15.6	+0.5
WR0	Warramunga Arr	32.80	262	P	P	11 42 20.2	-0.9
WR0				IAmb	IAmb	11 42 20.8	
	comp=Z,9.8nm,1.1s						
BBOO	Buckleboo	32.95	238	P	P	11 42 21.9	-0.3
BBOO				IAmb	IAmb	11 42 24.0	
	comp=Z,8.2nm,1.1s						
BBOO	Buckleboo	32.95	238	P	P	11 42 22.7	+0.5
WB0	Warramunga Arr	32.95	262	P	P	11 42 21.4	-1.0
WB0				IAmb	IAmb	11 42 22.1	
	comp=Z,9.4nm,0.6s						

WB2	Warramunga Arr	32.98	262	P	P	11 42 21.6	-1.0
WB2				IAmb	IAmb	11 42 22.4	
	comp=Z,6.0nm,0.8s						
WRAB	Tennant Creek	32.98	262	P	P	11 42 21.2	-1.5
WRAB	Tennant Creek	32.98	262	P	P	11 42 22.8	+0.1
WRA	Warramunga Arr	32.99	262	P	P	11 42 21.6	-1.1
	comp=Z,5.2nm,0.6s,baz=82,slow=6.0,SNR=132						
WRA				S	S	11 47 20.0	-2.5
	comp=Z,1.3nm,1.0s,baz=90,slow=16,SNR=5.8						
WRA				ScP	ScP	11 48 19.9	-0.9
	comp=Z,0.5nm,1.0s,baz=90,slow=3.5,SNR=2.2						
WRA	Warramunga Arr	32.99	262	P	P	11 42 20.8	-1.9
AS31	Alice Springs	33.33	255	P	P	11 42 25.3	-0.4
ASAR	Alice Springs	33.33	255	P	P	11 42 25.2	-0.5
	comp=Z,34nm,0.4s,baz=82,slow=8.9,SNR=941						
ASAR				S	S	11 47 26.0	-1.7
	comp=Z,0.5nm,0.8s,baz=84,slow=17,SNR=3.7						
ASAR				ScP	ScP	11 48 21.9	0.0
	comp=Z,0.2nm,0.6s,baz=92,slow=4.1,SNR=1.6						
ASAR	Alice Springs	33.33	255	P	P	11 42 25.4	-0.3
MULG	Mulgathing	33.97	243	P	P	11 42 31.0	-0.1
KDU	Kakadu	35.91	274	P	P	11 42 48.5	+0.8
	comp=Z,5.5nm,0.9s						
MTN	Manton Dam	37.14	273	P	P	11 42 57.7	-0.4
MTN				IAmb	IAmb	11 42 58.3	
	comp=Z,14nm,0.7s						
MTN	Manton Dam	37.14	273	P	P	11 42 57.2	-0.9
WRKA	Warakurna	38.48	253	P	P	11 43 09.4	+0.1
KNRA	Kununurra	38.79	268	P	P	11 43 11.3	-0.6
KNRA	Kununurra	38.79	268	P	P	11 43 12.1	+0.2
FAKI	Fak Fak	39.49	289	P	P	11 43 16.8	-0.9
FAKI				IAmb	IAmb	11 43 17.9	
	comp=Z,19nm,0.9s						
FITZ	Fitzroy Crossi	41.37	264	P	P	11 43 33.2	+0.3
	comp=Z,9.9nm,0.6s,baz=109,slow=9.8						
FITZ	Fitzroy Crossi	41.37	264	P	P	11 43 33.3	+0.3
FITZ				IAmb	IAmb	11 43 33.9	
	comp=Z,9.9nm,0.7s						
FITZ	Fitzroy Crossi	41.37	264	P	P	11 43 33.7	+0.8
BATI	Baumata	44.89	274	P	P	11 44 01.2	0.0
	comp=Z,9.9nm,1.2s						
PSA00	Pilbara Seismi	46.38	258	P	P	11 44 13.0	+0.3
PSA00				IAmb	IAmb	11 44 13.3	
	comp=Z,9.5nm,0.7s						
PSA00	Pilbara Seismi	46.38	258	P	P	11 44 13.4	+0.7
MEEK	Meekatharra	47.21	251	P	P	11 44 19.3	+0.2
KLBR	Kellerberrin	48.02	244	P	P	11 44 24.4	-0.8
	comp=Z,28nm,0.9s						
TOLI2	Tolitoli	51.56	287	P	P	11 44 51.4	-0.6
TOLI2				IAmb	IAmb	11 44 52.2	
	comp=Z,14nm,0.8s						
TOLI2	Tolitoli	51.56	287	P	P	11 44 52.5	+0.5
	comp=Z,18nm,0.9s						
QSPA	South Pole Qui	71.40	180	P	P	11 47 02.3	-1.4
QSPA				IAmb	IAmb	11 47 03.2	
	comp=Z,8.3nm,1.1s						
PEA0B	Petropavlovsk-	72.17	353	P	P	11 47 08.6	+0.5
PETK	Petropavlovsk-	72.17	353	P	P	11 47 07.8	-0.4
	comp=Z,1.3nm,0.5s,baz=162,slow=10.0,SNR=5.5						
PETK	Petropavlovsk-	72.17	353	P	P	11 47 08.1	0.0
CMAR	Chiang Mai Arr	78.32	294	P	P	11 47 44.3	+0.4
	comp=Z,0.8nm,0.3s,baz=121,slow=4.3,SNR=4.2						
PZH	PanZhiHua	79.45	303	P	P	11 47 51.6	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,6.3s						
HHC	Hu-ho-hao-te	79.82	319	*e*P	P	11 47 53.5	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,6.5s						
LZH	Lanzhou	82.39	312	*e*P	P	11 48 06.2	+0.9
LZH				pP	pP	11 49 11.7	+7.0
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
SONM	Songino Array	86.79	323	P	P	11 48 26.5	-0.5
	comp=Z,0.4nm,0.6s,baz=127,slow=9.2,SNR=3.9						
NVAR	Mina Array Bea	88.37	48	P	P	11 48 34.1	-0.7
	comp=Z,0.8nm,0.7s,baz=228,slow=8.3,SNR=9.1						
ILAR	Eielson Array	89.66	17	P	P	11 48 37.5	-2.4
	comp=Z,0.7nm,0.7s,baz=236,slow=5.2,SNR=11						
PDAR	Pinedale Array	96.17	47	P	P	11 49 10.3	-0.5
	comp=Z,0.3nm,0.8s,baz=210,slow=5.2,SNR=1.7						
TXAR	Lajitas Array	96.43	61	P	P	11 49 11.5	-0.6
	comp=Z,0.4nm,0.6s,baz=226,slow=5.1,SNR=6.8						
WMQ	Urumqi	96.85	314	*e*P	P	11 49 15.2	+1.7
WMQ				LR	LR		
	comp=E,490nm,17.1s						
WMQ				LR	LR		
	comp=Z,250nm,19.3s						
YKA	Yellowknife Ar	100.12	27	P	Pdif	11 49 27.7	+0.1
	comp=Z,0.8nm,0.8s,baz=251,slow=4.6,SNR=10						
ARCES	ARCESS Array B	124.52	345	PKP	PKPdf	11 54 38.0	-1.7
	comp=Z,2.0nm,0.8s,baz=72,slow=2.9,SNR=9.9						
TORD	Torodi Ar. Bea	166.89	247	PKP	PKPdf	11 55 45.0	-2.4
	comp=Z,1.0nm,1.1s,baz=108,slow=3.2,SNR=4.0						

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*KRNET **01** 11:39:57.8±0.1, 41°01N×70°30E, h15km, mb2.9*
ISC 01 11:39:56.8±1.6, **41°05N**±0°04×**70°22E**±0°08, **h14**km±15km, **n7**, σ**0s92**/13, **10C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.84	55	⇑*i*P	Pg	11 40 13.0	-0.1
	baz=55						
TRKS				⇑*i*S	Sg	11 40 24.5	+0.3
	baz=55						
BTK	Batken	1.09	155	⇑*e*P	Pg	11 40 17.6	-0.3
	baz=57						
BTK				⇑*i*S	Sn	11 40 31.9	-0.8
	baz=57						
ARK	Arkit	1.51	60	⇑*i*P	Pg	11 40 25.7	0.0
	baz=57						
ARK				⇑*i*S	Sg	11 40 46.1	+0.8
	baz=57						
OHH	Osh	2.02	104	⇑*i*P	Pb	11 40 33.9	+0.7
	baz=4.0						
OHH				⇑*i*S	Sg	11 41 00.5	-1.1
	baz=4.0						
GAR	Garm	2.05	178	⇓*i*P	Pb	11 40 35.1	+1.2
	baz=80						
GAR				⇓*i*S	Sg	11 41 02.1	-0.7
	baz=80						
KK02	Karatay Array	2.06	6	⇑Pn	Pb	11 40 33.9	0.0
	3.2nm,0.5s,baz=185,slow=14						
KK02				⇑Lg	Lg	11 41 04.0	
	4.8nm,0.6s,baz=183,slow=28						
MNAS	Manas	2.23	49	⇓*i*P	Pb	11 40 37.8	+0.9
	baz=47						
MNAS				⇓*i*S	Sg	11 41 07.1	-1.3
	baz=47						

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*ISK **01** 11:58:07.8, 37°00N×36°09E, h9km, ML2.8/18*
*DDA **01** 11:58:08.2±0.0, 36°97N×36°05E, h5km±3km, ML2.6*
ISC 01 11:58:08.4±1.1, **36°99N**±0°02×**36°07E**±0°02, **h9**km±9km, **n37**, σ**0s64**/53, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.26	274	PG	Pg	11 58 13.8	+0.2
CEYT				SG	Sb	11 58 18.5	-1.2
YURE	YUREGIR	0.39	244	P	Pg	11 58 16.1	+0.1
KOZT	Kozan	0.52	339	PG	Pg	11 58 18.1	-0.5
KOZT				SG	Sg	11 58 26.4	+0.9
TAHT	Tahtakopru-Hat	0.62	171	PG	Pg	11 58 20.3	-0.2
TAHT				SG	Sb	11 58 29.7	-0.6
ANDN	Andirin	0.63	21	P	Pg	11 58 20.2	-0.3
ANDN				S	Sb	11 58 30.6	+0.1
ANDN				*i* AML	AML	11 58 32.0	
	comp=N,381nm,0.5s						
ANDN				*i* AML	AML	11 58 33.0	
	comp=E,300nm,0.3s						
KRTD	Karatas-Adana	0.66	233	PG	Pb	11 58 21.4	-0.6
AKO	Adana	0.68	314	P	Pg	11 58 21.4	-0.2
AKO				S	Sg	11 58 30.5	0.0
AKO				*i* AML	AML	11 58 36.0	
	comp=N,145nm,0.3s						
KUZU	Kuzuini	0.84	105	P	Pb	11 58 25.0	-0.1
KUZU				S	Sb	11 58 36.7	+0.2
KUZU				*i* AML	AML	11 58 37.0	
	comp=E,884nm,0.5s						
KUZU				*i* AML	AML	11 58 38.0	
	comp=N,1µm,0.2s						
KARA	Karaisali	0.85	289	PG	Pb	11 58 24.9	-0.4
KAHM	Kahramanmaras,	0.90	54	P	Pb	11 58 26.4	+0.2
KAHM				S	Sb	11 58 38.6	+0.2
KAHM				*i* AML	AML	11 58 40.0	
	comp=E,142nm,0.2s						
KAHM				*i* AML	AML	11 58 41.0	
	comp=N,297nm,0.5s						
KHMN	Narli-Kahraman	0.96	65	PG	Pg	11 58 26.5	-0.3
YAYL	Yayladag	0.96	178	PG	Pb	11 58 26.7	-0.5
YAYL				SG	Sb	11 58 40.6	+0.6
YAYL	Yayladag	0.96	178	P	Pb	11 58 26.8	-0.5
YAYL				*i* AML	AML	11 58 41.0	
	comp=N,480nm,0.8s						
YAYL				S	Sn	11 58 41.3	-0.6
SAIM	ADANA	0.98	1	P	Pb	11 58 27.6	-0.1
SAIM				S	Sn	11 58 42.3	-0.1
SAIM				*i* AML	AML	11 58 44.0	
	comp=E,222nm,0.5s						
SAIM				*i* AML	AML	11 58 45.0	
	comp=N,167nm,0.2s						
CMRD	Camardi-Nigde	1.09	308	PN	Pb	11 58 29.3	-0.1
YAHY	KAYSERI_Yahyal	1.23	333	P	Pg	11 58 31.8	-0.3
YAHY				S	Sb	11 58 48.3	+0.3
YAHY				*i* AML	AML	11 58 50.0	
	comp=N,34nm,0.8s						
YAHY				*i* AML	AML	11 58 51.0	
	comp=E,42nm,0.7s						
MERS	Mersin	1.24	265	PN	Pb	11 58 31.3	-0.8
GZT	Gaziantep	1.25	73	P	Pg	11 58 31.6	-0.8
GZT				S	Sn	11 58 49.3	+0.1
GZT				*i* AML	AML	11 58 50.0	
	comp=E,351nm,0.5s						
GZT				*i* AML	AML	11 58 50.0	
	comp=N,338nm,0.3s						
SARI	SarD1z-Kayseri	1.44	11	PN	Pn	11 58 34.6	-0.2
KERG	Konya-Eregli	1.61	286	P	Pb	11 58 38.2	-0.1
KERG				S	Sg	11 58 59.7	-0.3
KERG				*i* AML	AML	11 59 01.0	
	comp=E,36nm,0.2s						
KERG				*i* AML	AML	11 59 02.0	
	comp=N,114nm,0.3s						
KIZK	Mersin	1.63	252	PN	Pn	11 58 37.6	+0.4
KIZK	Mersin	1.63	252	P	Pb	11 58 37.8	-0.8
KIZK				S	Sb	11 58 59.7	+0.5
KIZK				*i* AML	AML	11 59 01.0	
	comp=E,34nm,0.3s						
KIZK				*i* AML	AML	11 59 01.0	
	comp=N,36nm,0.2s						
SLFK	Silifke-Mersin	1.81	251	PN	Pn	11 58 40.1	+0.5
SILI	Silifke-Mersin	1.83	251	PN	Pn	11 58 40.6	+0.6
BNN	Bunyan	1.86	355	PN	Pn	11 58 40.8	+0.2
KEBE	Keben-Mersin	1.97	255	PN	Pn	11 58 42.6	+0.7
GULA	Gulagac	1.98	313	PN	Pn	11 58 42.6	+0.4
YESY	Yesilyurt	2.01	294	PN	Pn	11 58 42.9	+0.3
KARG	Kargicak-Mersi	2.05	248	PN	Pn	11 58 43.8	+0.7
IKL	Isikli	2.06	249	PN	Pn	11 58 43.7	+0.6
TISA	Tisan-Mersin	2.09	247	PN	Pn	11 58 44.3	+0.7
EREN	Erenkoy	2.12	227	PN	Pn	11 58 44.9	+1.0
TEVE	Tevekalti-Mers	2.18	256	PN	Pn	11 58 45.5	+0.6
GULN	MERSIN_Gulnar	2.19	249	P	Pn	11 58 45.5	+0.6
GULN				S	Sn	11 59 12.9	+0.9
GULN				*i* AML	AML	11 59 14.0	
	comp=E,26nm,0.4s						
GULN				*i* AML	AML	11 59 16.0	
	comp=N,23nm,0.4s						
AKKU	Akkuyu-Mersin	2.19	248	PN	Pn	11 58 45.6	+0.7
BERE	Bereket-Mersin	2.38	255	PN	Pn	11 58 48.3	+0.7
KKBE	Karaman, Kazim	2.51	276	P	Pn	11 58 51.4	+2.0
KKBE				*i* AML	AML	11 59 23.0	
	comp=N,13nm,0.9s						
KKBE				S	Sb	11 59 23.1	-1.6
KKBE				*i* AML	AML	11 59 37.0	
	comp=E,12nm,0.7s						

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*MOS **01** 11:58:07.5±1.2, 85°19N×11°47E, h10km, mb4.6/40, Error ellipse: s-maj=73.0km s-min=5.4km az=90.7*
*IDC **01** 11:58:07.6±0.5, 85°27N×12°64E, h0km, mb3.9/24, mb1 4.2/25, mb1mx4.1/39, mbtmp4.0/25, ML5.0/2, MS4.0/55, Ms1 4.0/55, ms1mx3.9/88, Error ellipse: s-maj=14.4km s-min=10.4km az=58.0*
*NEIC **01** 11:58:09.6±2.2, 85°18N±0°08×11°7E±1°0, h10km±1km, mb4.6/65, Error ellipse: s-maj=14.9km s-min=11.2km az=50.0*
*GCMT **01** 11:58:09.6±0.2, 85°30N±0°02×13°1E±0°2, h12km, MW4.9/121, Moment Tensor Solution. s34,c40; s121,c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.06±.07; $M_{\theta\theta}$1.92±.06; $M_{\phi\phi}$1.14±.07; $M_{r\theta}$0.15±.28; $M_{\theta\phi}$1.07±.06; $M_{\phi r}$-0.78±.27; Best double couple: $M_0$2.95500×10^{16} NP1:ϕ_s246.00000°, δ43.00000°, λ-73.00000°. NP2:ϕ_s44.00000°, δ49.00000°, λ-105.00000°. Principal axes: T 2.6880, Plg3.0000°, Azm144.0000°; N 0.5340, Plg11.0000°, Azm53.0000°; P -3.2210, Plg78.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IEPN **01** 11:58:12.0, 84°96N×14°50E, h10km*
ISC 01 11:58:09.4±0.3, **85°18N**±0°04×**12°17E**±0°04, **h10**km, **n276**, σ**2s42**/273, **mb4.5**/80, **MS4.0**/58, **8C-3D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	4.81	238	Pn	Pn	11 59 24.6	+3.0
NOR	Nord	4.81	238	P	Pn	11 59 24.0	+2.3
NOR	Nord	4.81	238	*i* P	Pn	11 59 24.0	+2.3
NOR	Nord	4.81	238	*i* P	Pn	11 59 24.0	+2.3
ZFI2	Zemlya Franca-	6.00	117	*e*P	Pn	11 59 35.9	-2.0
ZFI2				*e*S	Sn	12 00 38.4	-8.1
ZFI	Zemlya Franca-	6.00	117	*e*P	Pn	11 59 35.9	-2.1
ZFI				*e*S	Sn	12 00 38.5	-8.0
	220nm,1.1s						
KBS	Kingsbay	6.30	180	Pn	Pn	11 59 40.1	-2.0
KBS				Sn	Sn	12 00 48.3	-5.5
KBS	Kingsbay	6.30	180	*i* P	Pn	11 59 41.5	-0.5
KBS	Kingsbay	6.30	180	*i* P	Pn	11 59 40.1	-2.0
KBS				*i* S	Sn	12 00 48.4	-5.4
KBS	Kingsbay	6.30	180		Pn	11 59 40.9	-1.1
KBS	Kingsbay	6.30	180	*e*P	Pn	11 59 41.0	-1.0
KBS				*e*S	Sn	12 00 48.3	-5.5
KBS				IAML		12 00 51.5	
	comp=Z,75nm,0.3s						
KBS	Kingsbay	6.30	180	*e*P	Pn	11 59 40.1	-2.0
KBS				*e*S	Sn	12 00 46.9	-7.0
SPA0	Spitsbergen Ar	7.07	173	Pn	Pn	11 59 51.1	-1.6
	baz=7.0,slow=12						
SPA0	Spitsbergen Ar	7.07	173	Pn	Pn	11 59 51.1	-1.6
	baz=7.0,slow=12						
SPA0				*e*S	Sn	12 01 07.0	-6.0
SPITS	Spitsbergen Ar	7.07	173	Pn	Pn	11 59 50.6	-2.0
	baz=23,slow=11,SNR=1095						
SPITS				Sn	Sn	12 01 07.6	-5.3
	baz=31,slow=17,SNR=1.0						
SPITS				LR	LR	12 02 22.7	
	comp=Z,2µm,20.1s,baz=327,slow=36						
SPITS	Spitsbergen Ar	7.07	173	P	Pn	11 59 52.0	-0.7
SPB2	Spitsbergen Ar	7.07	173	Pn	Pn	11 59 52.2	-0.5
BRBB	Barentsburg B	7.14	177	Pn	Pn	11 59 51.9	-1.6
BRBB				Sn	Sn	12 01 09.0	-5.6
BRBB	Barentsburg B	7.14	177	*e*P	Pn	11 59 52.0	-1.6
BRBB				*e*S	Sn	12 01 08.9	-5.6
BRBA	Barentsburg A	7.17	177	Pn	Pn	11 59 52.4	-1.7
BRBA				Sn	Sn	12 01 10.6	-4.8
BRBA	Barentsburg A	7.17	177	*e*P	Pn	11 59 52.7	-1.3
BRBA				*e*S	Sn	12 01 10.0	-5.4
BRBA				IAML		12 01 27.1	
	comp=Z,36nm,0.8s						
HSPB	Hornsund (broa	8.24	175	Pn	Pn	12 00 07.9	-0.8
HSPB				Sn	Sn	12 01 37.0	-4.7
HSPB	Hornsund (broa	8.24	175	P	Pn	12 00 09.1	+0.4
HSPB				pmax	pmax		
	comp=Z,83nm,1.4s						
HSPB	Hornsund (broa	8.24	175	*e*P	Pn	12 00 07.7	-1.0
HSPB				*e*S	Sn	12 01 36.0	-5.7
HSPB	Hornsund (broa	8.24	175	*e*P	Pn	12 00 07.6	-1.1
HSPB				*e*S	Sn	12 01 35.6	-6.1
HOPEN	Hopen	8.91	160	Pn	Pn	12 00 15.6	-2.2
HOPEN				Sn	Sn	12 01 48.2	-10
HOPEN	Hopen	8.91	160	*e*P	Pn	12 00 15.9	-2.0
HOPEN				*e*S	Sn	12 01 48.1	-10
HOPEN	Hopen	8.91	160	*e*P	Pn	12 00 15.6	-2.2
HOPEN				*e*S	Sn	12 01 48.0	-10
DAG	Danmarks Havn	9.47	226	P	Pn	12 00 28.0	+2.4
DAG				pmax	pmax		
	comp=Z,39nm,1.4s						
DAG	Danmarks Havn	9.47	226	*e*P	Pn	12 00 25.9	+0.4
DAG				IAML		12 01 04.6	
	comp=Z,8.4nm,0.8s						
DAG	Danmarks Havn	9.47	226	*e*P	Pn	12 00 25.9	+0.4
DAG				IAML		12 01 04.6	
	comp=Z,8.4nm,0.8s						
BJO1	Bjornoya	10.80	170	Pn	Pn	12 00 42.3	-1.3
BJO1	Bjornoya	10.80	170	*e*P	Pn	12 00 41.1	-2.5
BJO1				*e*S	Sn	12 02 34.7	-10
BJO1	Bjornoya	10.80	170	*e*P	Pn	12 00 42.6	-1.0
BJO1				*i* S	Sn	12 02 34.6	-10
NEEM	North Greenlan	11.30	265	*i* P	Pn	12 00 47.5	-3.3
NEEM				*e*S	Sn	12 02 46.9	-10
NEEM				IAML		12 02 53.2	
	comp=Z,8.7nm,0.7s						
NEEM	North Greenlan	11.30	265	*i* P	Pn	12 00 47.5	-3.3
NEEM				*e*S	Sn	12 02 46.9	-10
NEEM				IAML		12 02 53.2	
	comp=Z,8.7nm,0.7s						
EUNU	Eureka	11.75	302	Pn	Pn	12 00 53.8	-2.9
DBG	Daneborg	11.97	225	Pn	Pn	12 00 59.4	-0.4
DBG	Daneborg	11.97	225	*i* P	Pn	12 00 58.3	-1.4
DBG	Daneborg	11.97	225	*i* P	Pn	12 00 58.3	-1.4
TULEG	Thule	13.64	281	*i* P	Pn	12 01 18.9	-3.6
TULEG	Thule	13.64	281		Pn	12 01 19.1	-3.3
TULEG	Thule	13.64	281	*i* P	Pn	12 01 18.9	-3.6
HAMF	Hammerfest	14.76	165	*e*P	Pn	12 01 35.1	-2.6
SUMG	Summit	14.92	245	P	Pn	12 01 37.6	-2.7
SUMG	Summit	14.92	245	*i* P	Pn	12 01 36.9	-3.4
SUMG	Summit	14.92	245	Pn	Pn	12 01 37.6	-2.7
SUMG	Summit	14.92	245	*i* P	Pn	12 01 36.9	-3.4
TRO	Tromso	15.69	171	P	Pn	12 01 48.7	-1.2
TRO	Tromso	15.69	171	*e*	Pn	12 01 49.9	-0.1
KEV	Kevo	15.73	161	P	Pn	12 01 48.4	-2.1
KEV	Kevo	15.73	161	P	Pn	12 01 49.2	-1.3
KEV				pmax	pmax		
	comp=Z,73nm,1.3s						
KEV	Kevo	15.73	161	Pn	Pn	12 01 49.2	-1.3
KEV				IAmb	IAmb	12 02 00.1	
	comp=Z,73nm,1.3s						
KEV	Kevo	15.73	161	*e*P	Pn	12 01 48.3	-2.2
KEV				*e*		12 04 31.9	
JETT	Jettan, Norway	15.78	169	P	Pn	12 01 51.0	-0.4
ARA0	ARCESS Array S	15.91	163	P	Pn	12 01 49.5	-3.4
	baz=354,slow=11						
ARA0	ARCESS Array S	15.91	163	P	Pn	12 01 49.5	-3.4
	baz=354,slow=11						
ARCES	ARCESS Array B	15.91	163	Pn	Pn	12 01 49.5	-3.4
	baz=352,slow=12,SNR=48						
ARCES				Sn	Sn	12 04 33.7	-15
	baz=1.0,slow=21,SNR=2.0						
ARCES				LR	LR	12 07 29.4	
	comp=Z,590nm,21.7s,baz=4.0,slow=35						
ARCES	ARCESS Array B	15.91	163	P	Pn	12 01 50.5	-2.4
ARCES				pmax	pmax		
	comp=Z,27nm,1.2s						
ARCES	ARCESS Array B	15.91	163	Pn	Pn	12 01 50.5	-2.4
KIF	Kilpisjarvi	16.34	169	P	Pn	12 01 57.6	-0.8
KIF	Kilpisjarvi	16.34	169	*e*	Pn	12 01 57.6	-0.8
KTK1	Kautokeino	16.38	166	*e*P	Pn	12 01 57.4	-1.5
HEF	Hetta	17.00	165	*e*P	Pn	12 02 04.9	-1.8
RES	Resolute Bay	17.45	302	P	Pn	12 02 08.2	-4.1
	comp=Z,0.3nm,0.3s,baz=15,slow=13,SNR=18						
RES				S	Sn	12 05 13.7	-12
	comp=Z,0.1nm,0.3s,baz=100,slow=18,SNR=2.5						
RES				LR	LR	12 09 02.8	
	comp=Z,815nm,19.5s,baz=30,slow=38						
RES	Resolute Bay	17.45	302	P	Pn	12 02 08.5	-3.7
RES				pmax	pmax		
	comp=Z,25nm,1.2s						
RES	Resolute Bay	17.45	302		Pn	12 02 08.5	-3.7
AMDE	Amderma	17.59	119	*e*P	Pn	12 02 12.5	-1.6
	comp=Z,19nm,1.1s						
AMDE				S	Sn	12 05 14.7	-15
LVZ	Lovozero	17.85	152	*i* P	Pn	12 02 14.5	-2.8
LVZ	Lovozero	17.85	152	Pn	Pn	12 02 15.1	-2.2
LVZ				IAmb	IAmb	12 02 15.9	
	comp=Z,46nm,0.9s						
FAUS	Fauske	17.91	176	*e*	P	12 02 22.9	+4.2
SALU	Saltoluokta	17.94	172	*e*P	P	12 02 19.4	+0.3
SGF	Sodankyl	18.03	162	P	Pn	12 02 19.6	0.0
SGF				pmax	pmax		
	comp=Z,49nm,1.9s						
APA0	Apatity Array	18.07	154	P	Pn	12 02 16.4	-3.6
	slow=9.3						
APA0	Apatity Array	18.07	154	P	Pn	12 02 16.4	-3.6
	slow=9.3						
APA	Apatity	18.13	153	⇓*i*P	Pn	12 02 15.3	-5.4
APA				*i*		12 05 32.4	
APA				pmax	pmax		
	comp=Z,14nm,0.7s						
ICESG	Greenland Ices	18.42	243	*i* P	P	12 02 23.8	-0.8
ICESG	Greenland Ices	18.42	243	*i* P	P	12 02 23.8	-0.8
MSF	Maaselka	19.64	159	P	P	12 02 38.0	+0.4
MSF				pmax	pmax		
	comp=Z,42nm,1.4s						
NRIK	Noril'sk	20.09	92	P	P	12 02 42.0	-0.5
	comp=Z,6.2nm,0.5s,baz=357,slow=9.6,SNR=18						
NRIK				S	S	12 06 11.4	-16
	comp=Z,2.3nm,0.8s,baz=338,slow=18,SNR=2.2						
NRIK				LR	LR	12 10 16.9	
	comp=Z,249nm,21.7s,baz=340,slow=36						
NRIK	Noril'sk	20.09	92	*i* P	P	12 02 42.9	+0.3
NRIK				pmax	pmax		
	comp=Z,39nm,1.5s						
NRIK	Noril'sk	20.09	92	P	P	12 02 42.5	0.0
TIXI	Tiksi	21.08	52	P	P	12 02 52.0	-1.2
	comp=Z,0.8nm,0.5s,baz=288,slow=15,SNR=1.3						
TIXI				LR	LR	12 09 46.8	
	comp=Z,303nm,21.5s,baz=359,slow=33						
TIXI	Tiksi	21.08	52	*ce*P	P	12 02 54.2	+1.0
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI	Tiksi	21.08	52	P	P	12 02 55.9	+2.7
SFJD	Kangerlussuaq	21.34	254	LR	LR	12 11 03.6	
	comp=Z,198nm,19.4s,baz=360,slow=36						
SFJD	Kangerlussuaq	21.34	254	P	P	12 02 57.5	+1.5
SFJD				pmax	pmax		
	comp=Z,23nm,1.1s						
SFJD	Kangerlussuaq	21.34	254	P	P	12 02 57.5	+1.5
SFJD				IAmb	IAmb	12 03 13.2	
	comp=Z,23nm,1.1s						
LSH	Leshukonskoye	21.39	140	*e*P	P	12 02 57.2	+0.7
	comp=Z,69nm,0.8s						
LSH				S	S	12 06 40.2	-13
A36M	Sachs Harbour	21.94	326	P	P	12 03 01.5	-0.8
A36M				IAmb	IAmb	12 03 15.3	
	comp=Z,25nm,0.9s						
FIA1	FINESS Array S	24.03	164	P	P	12 03 22.8	-1.1
FIA0	FINESS Array S	24.04	164	P	P	12 03 24.5	+0.5
	baz=14,slow=12						
FIA0	FINESS Array S	24.04	164	P	P	12 03 24.5	+0.5
	baz=14,slow=12						
FINES	FINESS Array B	24.04	164	P	P	12 03 24.0	0.0
	comp=Z,5.5nm,0.7s,baz=0.7,slow=12,SNR=7.9						
FINES				LR	LR	12 12 19.4	
	comp=Z,339nm,19.6s,baz=344,slow=35						
FINES	FINESS Array B	24.04	164	P	P	12 03 23.9	0.0
NB2	NORSAR Subarra	24.27	181	P	P	12 03 27.6	+1.4
	comp=Z,25nm,1.4s,baz=0.3,slow=9.3						
NOA	NORSAR Array B	24.27	181	P	P	12 03 27.2	+1.0
	comp=Z,5.0nm,0.9s,baz=0.9,slow=8.9,SNR=8.7						
NOA				LR	LR	12 11 20.9	
	comp=Z,271nm,21.1s,baz=345,slow=33						
C36M	Paulatuk	24.50	324	P	P	12 03 28.0	-0.1
NRA0	NORESS Array S	24.58	181	P	P	12 03 31.0	+2.1
NRA0	NORESS Array S	24.58	181	P	P	12 03 31.0	+2.1
PRGR	Permogore	24.61	141	*e*P	P	12 03 29.6	+0.4
PRGR				*e*S	S	12 07 57.5	+7.7
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PRGR	Permogore	24.61	141	*e*P	P	12 03 28.8	-0.4
KLMR	Klimovskoe	25.09	148	*e*P	P	12 03 33.4	-0.1
KLMR				pmax	pmax		
	comp=Z,51nm,1.5s						
KLMR	Klimovskoe	25.09	148	*e*P	P	12 03 33.3	-0.1
	comp=Z,52nm,1.1s						
KLMR	Klimovskoe	25.09	148	*e*P	P	12 03 33.5	-0.1
KLMR				AMP		12 03 37.8	
	comp=Z,51nm,1.5s						

KLMR LQ LQ 12 11 33.5
KLMR LQ LQ 12 11 33.5
KLMR LR LR 12 12 08.1
HFS Hagfors 25.18 178 P **P** **12 03 34.8 +0.4**
comp=Z,5.3nm,0.8s,baz=355,slow=3.7,SNR=6.3
HFS Hagfors 25.18 178 P **P** **12 03 36.6 +2.2**
slow=4.0
HFS Hagfors 25.18 178 P **P** **12 03 36.6 +2.2**
slow=4.0
INK Inuvik 25.97 331 P **P** **12 03 41.1 -0.3**
comp=Z,11nm,1.1s,baz=12,slow=15,SNR=16
INK LR LR 12 14 36.1
comp=Z,407nm,21.2s,baz=6.5,slow=38
INK Inuvik 25.97 331 P **P** **12 03 40.4 -1.0**
INK IAmb IAmb 12 03 45.3
comp=Z,33nm,1.4s
FRB Frobisher Bay 26.04 271 P **P** **12 03 42.1 +0.1**
comp=Z,2.2nm,0.8s,baz=18,slow=11,SNR=3.7
FRB LR LR 12 13 49.6
comp=Z,324nm,18.1s,baz=6.0,slow=36
TOLK Toolik Lake Re 26.14 345 P **P** **12 03 44.1 +1.0**
TOLK IAmb IAmb 12 03 53.9
comp=Z,18nm,1.4s
BILL Bilibino 26.54 22⇓*e*P **P** **12 03 46.2 -0.4**
BILL *e**PP **sP** **12 03 51.3 +2.3**
BILL 12 04 28.0
BILL S **S** **12 08 17.0 -3.4**
BILL pmax pmax
comp=Z,16nm,1.4s
BILL MLR MLR
comp=Z,214nm,17.0s
BILL Bilibino 26.54 22 P **P** **12 03 46.1 -0.5**
BILL IAmb IAmb 12 04 01.9
comp=Z,15nm,1.3s
BMAR Burnt Mountain 27.23 341 P **P** **12 03 54.2 +1.3**
COLD Coldfoot 27.57 345 P **P** **12 03 57.3 +1.4**
COLD IAmb IAmb 12 04 11.8
comp=Z,16nm,1.3s
KIRV Kirov 27.86 137 P **P** **12 03 58.5 0.0**
comp=Z,12nm,0.5s,baz=350,slow=1.8,SNR=1.6
KIRV LR LR 12 16 15.4
comp=Z,481nm,20.7s,baz=351,slow=39
EPYK Eagle Plains 28.03 334 P **P** **12 04 02.0 +2.0**
EPYK IAmb IAmb 12 04 28.3
comp=Z,22nm,1.2s
FYU Fort Yukon 28.11 341 P **P** **12 04 03.1 +2.4**
I29M Ogilvie Camp, 29.10 335 P **P** **12 04 09.2 -0.3**
I29M IAmb IAmb 12 04 18.1
comp=Z,7.7nm,1.0s
ILAR Eielson Array 29.95 342 P **P** **12 04 16.3 -0.8**
comp=Z,1.2nm,0.9s,baz=3.3,slow=8.4,SNR=11
ILAR PcP **PcP** **12 07 18.2 -0.8**
comp=Z,0.5nm,0.7s,baz=336,slow=3.9,SNR=4.1
ILAR LR LR 12 15 57.0
comp=Z,483nm,19.4s,baz=4.0,slow=36
ILAR Eielson Array 29.95 342 P **P** **12 04 18.1 +1.0**
ILAR 12 07 18.2
ILAR Eielson Array 29.95 342 P **P** **12 04 18.1 +1.0**
EKA Eskdalemuir Ar 30.19 197 LR LR 12 13 40.2
comp=Z,236nm,20.3s,baz=1.5,slow=31
ANM Nome 30.43 358 P **P** **12 04 21.9 +0.6**
ANM pmax pmax
comp=Z,17nm,1.4s
ANM Nome 30.43 358 P **P** **12 04 21.9 +0.6**
ANM IAmb IAmb 12 04 39.3
comp=Z,17nm,1.4s
DAWY Dawson 30.43 336 P **P** **12 04 22.3 +0.9**
DAWY IAmb IAmb 12 04 31.6
comp=Z,12nm,1.2s
ARU Arti 30.58 128 LR LR 12 18 52.7
comp=Z,267nm,18.9s,baz=347,slow=41
ARU Arti 30.58 128*d*iP **P** **12 04 26.8 +4.1**
ARU 12 05 23.9
ARU S **S** **12 09 31.3 +7.3**
ARU SS **ScP** **12 11 04.9 +2.2**
ARU pmax pmax
comp=Z,7.0nm,1.7s
NACGM Naroch 30.61 163 *i*P **P** **12 04 24.1 +1.2**
YAK Yakutsk 30.65 55 LR LR 12 16 39.9
comp=Z,304nm,18.9s,baz=42,slow=36
YAK Yakutsk 30.65 55 *e*P **P** **12 04 21.4 -1.8**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
OBN Obninsk 30.71 152 LR LR 12 16 52.8
comp=E,81nm,20.6s,baz=357,slow=37
OBN Obninsk 30.71 152⇑*e*P **P** **12 04 26.6 +2.9**
OBN *e* 12 04 34.3
OBN *e* 12 05 19.6
OBN *e*S **S** **12 09 33.7 +7.8**
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,312nm,18.0s
YKA Yellowknife Ar 30.80 313 P **P** **12 04 24.3 -0.2**
comp=Z,3.8nm,1.2s,baz=4.4,slow=8.1,SNR=20
YKA PcP **PcP** **12 07 20.7 -0.5**
comp=Z,0.8nm,0.8s,baz=353,slow=2.4,SNR=7.9
YKA LR LR 12 16 34.4
comp=Z,252nm,21.8s,baz=3.0,slow=36
YKA Yellowknife Ar 30.80 313 *i*P **P** **12 04 24.5 +0.1**
YKA pmax pmax
comp=Z,6.0nm,1.3s
YKA Yellowknife Ar 30.80 313 P **P** **12 04 24.6 +0.1**
SEY Seymchan 31.09 35 LR LR 12 16 34.9
comp=Z,196nm,19.6s,baz=312,slow=36
SEY Seymchan 31.09 35 *i*P **P** **12 04 27.6 +0.5**
CAST Castle Rocks 31.43 346 P **P** **12 04 31.6 +1.4**
BCAR Beaver Creek A 31.52 338 P **P** **12 04 32.7 +1.8**
M30M Minto, Yukon 31.83 333 P **P** **12 04 34.6 +0.9**
M30M IAmb IAmb 12 04 43.7
comp=Z,13nm,1.1s
M31M Drury Creek, Y 32.11 331 P **P** **12 04 36.6 +0.5**
FCC Fort Churchill 33.06 293 P **P** **12 04 43.6 -0.8**
FCC pmax pmax
comp=Z,7.0nm,1.5s
FCC Fort Churchill 33.06 293 P **P** **12 04 43.6 -0.8**
BOD Bodaibo 33.65 71 *e*P **P** **12 04 46.3 -3.2**
BOD pmax pmax
comp=Z,20nm,1.5s
BELG Belogornoye 33.94 140 LR LR 12 20 39.9
comp=Z,324nm,18.4s,baz=359,slow=40
BELG Belogornoye 33.94 140 *i*P **P** **12 04 55.1 +3.0**
BELG pmax pmax
comp=Z,4.0nm,1.6s
CLL Collm 34.03 179 *i*P **P** **12 04 53.8 +0.9**
CLL *e*S **S** **12 10 23.0 +5.2**
CLL pmax pmax
comp=Z,28nm,1.8s
CLL MLR MLR
comp=Z,300nm,20.1s
CLL Collm 34.03 179 *i*P **P** **12 04 53.8 +0.9**
comp=Z,28nm,1.8s
CLL *e*PP **PnPn** **12 06 08.0 +2.1**
CLL *e*S **S** **12 10 23.0 +5.2**
CLL *e*SSS SSS 12 12 48.0
CLL Lm MLR 12 17 00.0
comp=N,300nm,19.1s
CLL Lm MLR 12 17 00.0
comp=E,100nm,20.4s
CLL Lm MLR 12 17 00.0
comp=Z,300nm,20.1s
MA2 Magadan 34.37 37 LR LR 12 18 13.1
comp=Z,133nm,21.0s,baz=14,slow=35
MA2 Magadan 34.37 37 *i*P **P** **12 04 55.6 -0.2**
MA2 pmax pmax
comp=Z,2.0nm,0.4s
BRG Berggiesshubel 34.47 178 *e*P **P** **12 05 00.2 +3.4**
BRG Amp 12 05 02.4
comp=Z,12nm,1.5s
BRG Berggiesshubel 34.47 178 *e*P **P** **12 05 00.1 +3.4**
BRG pmax pmax
comp=Z,13nm,1.5s
SCHQ Schefferville 34.71 266 P **P** **12 04 59.2 +0.4**
comp=Z,1.2nm,0.6s,baz=16,slow=10,SNR=1.6
SCHQ LR LR 12 19 05.3
comp=Z,189nm,18.9s,baz=30,slow=36
BRVK Borovoye 34.77 116 *i*P **P** **12 05 00.9 +1.6**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 34.77 116 P **P** **12 05 00.1 +0.7**
BRVK IAmb IAmb 12 05 10.5
comp=Z,14nm,1.5s
AKASG Malin Array Be 34.87 161 P **P** **12 05 00.2 0.0**
comp=Z,1.4nm,0.6s,baz=356,slow=8.9,SNR=14
AKASG LR LR 12 19 22.4
comp=Z,295nm,20.6s,baz=350,slow=36
AKASG Malin Array Be 34.87 161 *i*P **P** **12 05 00.5 +0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 34.87 161 P **P** **12 05 01.1 +0.9**
AKBB Malin Array Si 34.87 161 P **P** **12 05 01.0 +0.8**
AKBB pmax pmax
comp=Z,15nm,1.3s
AKBB Malin Array Si 34.87 161 P **P** **12 05 01.0 +0.8**
AKBB IAmb IAmb 12 05 10.4
comp=Z,15nm,1.2s
ZALV Zalesovo Beam 35.05 101 P **P** **12 05 01.6 -0.1**
comp=Z,1.5nm,0.6s,baz=345,slow=5.1,SNR=8.2
ZALV PcP **PcP** **12 07 33.6 +0.4**
comp=Z,1.1nm,0.8s,baz=300,slow=3.2,SNR=3.0
ZALV LR LR 12 22 19.5
comp=Z,241nm,18.6s,baz=353,slow=41
ZALV Zalesovo Beam 35.05 101 *i*P **P** **12 05 04.5 +2.8**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 35.05 101 P **P** **12 05 02.4 +0.6**
DLBC Dease Lake 35.68 326 LR LR 12 19 55.4
comp=Z,190nm,20.9s,baz=34,slow=37
DLBC Dease Lake 35.68 326 P **P** **12 05 09.2 +2.0**
VRAC Vranov 36.05 175 LR LR 12 19 48.5
comp=Z,230nm,21.0s,baz=354,slow=36
GERES GERESS Array B 36.50 178 P **P** **12 05 15.1 +0.8**
comp=Z,0.5nm,0.5s,baz=36,slow=17,SNR=1.1
AKTO Aktyubinsk 36.51 130 LR LR 12 23 47.4
comp=Z,228nm,18.6s,baz=4.2,slow=42
KDAK Kodiak Island 37.09 346 LR LR 12 21 35.8
comp=Z,314nm,18.9s,baz=43,slow=38
KURK Kurchatov 37.76 108*ce*P **P** **12 05 27.4 +2.6**
KURK pmax pmax
comp=Z,11nm,2.5s
KURK Kurchatov 37.76 108 P **P** **12 05 25.4 +0.6**
KURK IAmb IAmb 12 05 38.5
comp=Z,12nm,1.5s
ABKAR Akbulak array 37.82 128 P **P** **12 05 24.8 -0.5**
BUR08 Bucovina Ar. S 37.83 166 P **P** **12 05 26.1 +0.4**
KURBB Kurchatov Arra 37.84 108 LR LR 12 24 31.9
comp=Z,175nm,18.9s,baz=341,slow=42
BURAR Bucovina Array 37.86 166 P **P** **12 05 26.7 +0.8**
BURAR pmax pmax
comp=Z,4.0nm,1.1s
BURAR Bucovina Array 37.86 166 P **P** **12 05 26.2 +0.3**
DAVOX Davos/Dischmat 38.56 183 LR LR 12 20 35.6
comp=Z,205nm,21.6s,baz=358,slow=35
MOY Mondy 38.68 85 *e*P **P** **12 05 33.8 +1.1**
MOY pmax pmax
comp=Z,26nm,3.1s
ZEA Zeya 38.72 59 *e*P **P** **12 05 32.9 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
EDM Edmonton 39.95 310 P **P** **12 05 43.2 0.0**
EDM pmax pmax
comp=Z,32nm,1.4s
EDM Edmonton 39.95 310 P **P** **12 05 43.2 0.0**
EDM IAmb IAmb 12 05 55.1
comp=Z,32nm,1.4s
MLR Muntele Rosu 40.00 165 LR LR 12 23 28.1
comp=Z,285nm,19.0s,baz=9.5,slow=38
ZAK Zakamensk 40.15 83 *e*P **P** **12 05 44.9 -0.1**
ZAK *e* 12 07 18.2
ZAK pmax pmax
comp=Z,4.0nm,1.6s
ZAK pmax pmax
comp=Z,5.0nm,1.7s
PETK Petropavlovsk- 41.16 31 P **P** **12 05 51.0 -2.1**
comp=Z,2.5nm,0.8s,baz=243,slow=6.5,SNR=1.5
PETK LR LR 12 21 50.3
comp=Z,120nm,20.8s,baz=355,slow=35
ULM Lac du Bonnet 41.66 293 LR LR 12 22 28.2
comp=Z,184nm,18.7s,baz=23,slow=35
BBB Bella Bella 41.83 324 LR LR 12 24 52.0
comp=Z,147nm,19.5s,baz=349,slow=38
MAKZ Makanchi 41.91 105 P **P** **12 06 00.2 +0.8**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 41.91 105 P **P** **12 06 00.2 +0.8**
MKAR Makanchi Array 41.95 105 P **P** **12 05 58.2 -1.5**
comp=Z,0.1nm,0.3s,baz=359,slow=7.2,SNR=3.1
MKAR PP **PP** **12 07 34.2 -2.3**
comp=Z,0.8nm,0.9s,baz=359,slow=5.3,SNR=3.5
MKAR LR LR 12 26 24.1
comp=Z,288nm,19.9s,baz=348,slow=40
MKAR Makanchi Array 41.95 105 *i*P P 12 06 05.5 +5.8
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 41.95 105 P **P** **12 06 00.7 +1.0**
SHEM Shemya Is, Ala 42.09 16 LR LR 12 23 58.8
comp=Z,82nm,18.7s,baz=97,slow=37
KIV Kislovodsk 42.11 147 *e*P **P** **12 06 02.9 +1.7**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,180nm,16.0s
KBZ Khabaz 42.35 147 P **P** **12 06 03.8 +0.8**
comp=Z,1.7nm,0.8s,baz=308,slow=3.8,SNR=2.7
KBZ LR LR 12 25 07.0
comp=Z,328nm,18.3s,baz=6.0,slow=38
KBZ Khabaz 42.35 147*ce*P **P** **12 06 07.6 +4.6**
SONM Songino Array 42.94 81 P **P** **12 06 08.2 +0.3**
comp=Z,2.1nm,0.9s,baz=343,slow=7.7,SNR=11
SONM PcP **PcP** **12 07 57.2 -1.0**
comp=Z,1.2nm,1.1s,baz=352,slow=5.8,SNR=2.4
SONM LR LR 12 24 15.9
comp=Z,142nm,21.1s,baz=354,slow=37
SONM Songino Array 42.94 81 P **P** **12 06 08.0 +0.1**
ULN Ulaanbaatar 42.96 80*ce*P **P** **12 06 09.4 +1.3**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 42.96 80 P **P** **12 06 09.0 +0.9**
ZEI Tsey 43.34 146 *e*P **P** **12 06 06.8 -4.5**
ZEI pmax pmax
comp=Z,6.0nm,1.5s
MAK Makhachkala 43.34 142 *e*P **P** **12 06 07.6 -3.4**
MAK *e*S **S** **12 12 32.4 -5.8**
MAK *e*SS **SS** **12 15 49.1 -2.1**
MAK *e*SSS SSS 12 16 30.5
MAK pmax pmax
comp=Z,140nm,1.2s
MAK MLR MLR
comp=Z,637nm,16.0s
KLR Kul'dur 43.52 56*ce*P **P** **12 06 12.1 -0.3**
KKAR Karatay Array 44.69 118 P **P** **12 06 22.5 +0.6**
KKAR Karatay Array 44.69 118 P **P** **12 06 22.4 +0.6**
NEW Newport 45.13 313 LR LR 12 27 05.1
comp=Z,161nm,18.2s,baz=3.5,slow=38
B08A Colville Reser 45.17 315 P **P** **12 06 26.7 +1.0**
WMQ Urumqi 45.35 100 *e*P **P** **12 06 28.9 +1.7**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
WMQ LR LR
comp=E,400nm,16.9s
WMQ LR LR
comp=Z,260nm,20.7s
AAK Ala-Archa 45.46 114 LR LR 12 28 53.2
comp=Z,191nm,18.0s,baz=352,slow=41
AAK Ala-Archa 45.46 114*ce*P **P** **12 06 30.9 +2.7**
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 45.46 114 P **P** **12 06 28.6 +0.4**
AAK IAmb IAmb 12 06 43.0
comp=Z,10nm,1.3s
ESDC Sonseca Array 45.87 197 P **P** **12 06 32.1 +0.7**
comp=Z,0.3nm,0.6s,baz=358,slow=7.1,SNR=4.8
LAO LASA Array 45.97 303 P **P** **12 06 34.1 +2.0**
BR131 Keskin Array S 45.97 157 P **P** **12 06 33.1 +0.8**
BR131 pmax pmax
comp=Z,13nm,1.0s
BR131 Keskin Array S 45.97 157 P **P** **12 06 33.1 +0.8**
BRTR Keskin Array B 45.98 157 P **P** **12 06 32.6 +0.4**
comp=Z,1.2nm,0.7s,baz=5.4,slow=8.3,SNR=5.2
BRTR LR LR 12 26 46.4
comp=Z,250nm,21.8s,baz=360,slow=37
BRTR Keskin Array B 45.98 157 *i*P **P** **12 06 36.0 +3.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 45.98 157 P **P** **12 06 32.2 0.0**
HRY Holter Researc 46.33 308 P **P** **12 06 34.6 -0.4**
MSO Missoula 46.35 310 P **P** **12 06 35.8 +0.6**
BNN Bunyan 46.92 155 P **P** **12 06 40.1 +0.4**
BOZ Bozeman (W) 47.43 308 P **P** **12 06 43.2 -0.4**
BOZ pmax pmax
comp=Z,17nm,1.5s
BOZ Bozeman (W) 47.43 308 P **P** **12 06 43.2 -0.4**
ECSD EROS Data Cent 48.19 293 P **P** **12 06 49.7 +0.4**
MCMT McKenzie Canyo 48.28 309 P **P** **12 06 51.0 +0.7**
RSSD Black Hills 48.37 300 P **P** **12 06 51.1 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 48.37 300 P **P** **12 06 51.1 +0.1**
RSSD IAmb IAmb 12 07 01.6
comp=Z,7.2nm,0.9s
USRK Ussuriysk Ar. 48.55 56 LR LR 12 26 51.1
comp=Z,166nm,20.5s,baz=4.9,slow=36
GAR Garm 48.75 118 P **P** **12 06 53.5 -0.4**
GEYT Alibeck 48.97 131 LR LR 12 31 44.3
comp=Z,408nm,20.1s,baz=19,slow=41
MOOW Moose Ponds 49.21 307 P **P** **12 06 57.7 +0.2**
MOOW IAmb IAmb 12 07 09.3
comp=Z,7.7nm,1.4s
ASAJ Asahikawa 49.33 46 LR LR 12 27 58.1
comp=Z,125nm,18.4s,baz=356,slow=36
KEST Kesra 49.61 183 LR LR 12 28 37.7
comp=Z,87nm,19.4s,baz=318,slow=37
BW06 Boulder Array 50.10 305 P **P** **12 07 04.4 +0.1**
BW06 IAmb IAmb 12 07 14.8
comp=Z,5.3nm,1.1s
PD31 Pinedale Array 50.10 305 P **P** **12 07 03.4 -0.9**
PDAR Pinedale Array 50.10 305 P **P** **12 07 03.7 -0.6**
comp=Z,0.5nm,0.7s,baz=352,slow=5.5,SNR=5.1
PDAR LR LR 12 28 38.5
comp=Z,297nm,18.3s,baz=28,slow=37
IDI Anoyia 50.17 166 LR LR 12 29 39.5
comp=Z,112nm,20.8s,baz=312,slow=38
HHC Hu-ho-hao-te 50.30 77 *e*P **P** **12 07 06.4 +0.8**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.3s
SMCO Snowmass 53.49 302 P **P** **12 07 28.2 -1.6**
SMCO IAmb IAmb 12 07 41.5
comp=Z,9.7nm,1.1s
GOMU GeErMu 53.51 94 P **P** **12 07 30.1 +0.2**
GOMU pP pP 12 07 31.9 +0.2
GOMU sP sP 12 07 33.4 +1.1
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU pmax pmax
comp=Z,83nm,5.3s
TMUT Trail Mountain 53.67 306 P **P** **12 07 31.6 +0.6**
TMUT IAmb IAmb 12 07 45.8
comp=Z,5.9nm,1.1s
Q16A Castle Valley 54.05 306 P **P** **12 07 33.8 +0.2**
Q16A IAmb IAmb 12 07 45.0
comp=Z,12nm,1.2s
LZH Lanzhou 54.39 85 *e*P **P** **12 07 37.2 +1.1**
LZH pP pwP 12 07 42.6 -1.1
LZH sP sP 12 07 47.2 +8.7
LZH pmax pmax
comp=Z,18nm,1.3s
LZH LR LR
comp=N,430nm,15.0s
LZH LR LR
comp=E,380nm,14.7s
LZH LR LR
comp=Z,480nm,18.2s
PV13 Radium Mtn., P 54.64 304 P **P** **12 07 38.3 +0.4**
PV13 IAmb IAmb 12 07 48.9
comp=Z,9.2nm,1.0s
S22A 4UR Ranch, Cre 54.91 302 P **P** **12 07 40.0 0.0**
S22A IAmb IAmb 12 07 51.5
comp=Z,5.5nm,1.1s
KSRS Korea Array 54.96 61 LR LR 12 31 06.7
comp=Z,55nm,19.4s,baz=0.0,slow=36
NVAR Mina Array Bea 54.99 313 P **P** **12 07 40.0 -0.5**
comp=Z,0.7nm,0.9s,baz=1.3,slow=3.9,SNR=3.6
MVCO Mesa Verde 55.56 304 P **P** **12 07 44.9 +0.3**
X40A Basin Creek Fa 57.08 288 P **P** **12 07 55.0 -0.2**
X40A IAmb IAmb 12 08 04.9
comp=Z,6.1nm,1.1s
QSM Queen of Sheba 57.36 312 P **P** **12 07 57.8 +0.7**
WUAZ Wupatki 57.44 306 P **P** **12 07 58.9 +1.0**
WUAZ IAmb IAmb 12 08 09.4
comp=Z,8.1nm,1.1s
ANMO Albuquerque 57.66 301*ce*P **P** **12 08 02.8 +3.2**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 57.66 301 P **P** **12 07 58.7 -0.8**
NJ2 Nanjing 59.63 71 *e*P **P** **12 08 14.3 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PFO Pinyon Flats O 59.67 311 LR LR 12 36 02.5
comp=Z,423nm,18.0s,baz=132,slow=38
TUC Tucson 60.59 305 P **P** **12 08 18.7 -1.0**
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC Tucson 60.59 305 P **P** **12 08 18.7 -1.0**
TUC IAmb IAmb 12 08 31.0
comp=Z,5.1nm,1.1s
JCT Junction City 61.60 294 P **P** **12 08 24.6 -2.0**
JCT pmax pmax
comp=Z,10.0nm,1.2s
JCT Junction City 61.60 294 P **P** **12 08 24.6 -2.0**
JCT IAmb IAmb 12 08 29.9
comp=Z,9.7nm,1.2s
RAYN Ar Rayn 62.59 145 P **P** **12 08 33.4 +0.1**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 62.59 145 P **P** **12 08 33.4 +0.1**
RAYN IAmb IAmb 12 08 44.6
comp=Z,3.6nm,0.9s
TX31 Lajitas Ar. Si 63.03 298 P **P** **12 08 35.4 -0.8**
TX31 IAmb IAmb 12 08 46.3
comp=Z,6.9nm,0.9s
TX32 Lajitas Array 63.03 298 P **P** **12 08 35.1 -1.1**
TXAR Lajitas Array 63.03 298 P **P** **12 08 35.3 -0.9**
comp=Z,0.7nm,0.7s,baz=8.5,slow=3.3,SNR=8.0
TXAR LR LR 12 35 39.6
comp=Z,213nm,21.2s,baz=352,slow=36
WSAR Wadi Sarin 63.61 132 LR LR 12 40 14.0
comp=Z,100nm,21.3s,baz=14,slow=40
PZH PanZhiHua 63.72 88 P **P** **12 08 45.4 +4.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,5.2s
CMAR Chiang Mai Arr 71.45 92 P **P** **12 09 29.1 -0.4**
comp=Z,1.9nm,0.8s,baz=346,slow=7.5,SNR=10
TORD Torodi Ar. Bea 72.17 191 P **P** **12 09 34.3 +0.4**
comp=Z,4.2nm,0.9s,baz=0.7,slow=5.7,SNR=15
TORD Torodi Ar. Bea 72.17 191 P **P** **12 09 33.8 -0.1**
TORD IAmb IAmb 12 09 35.8
comp=Z,5.0nm,1.0s
ATD Arta Tunnel 74.39 149 LR LR 12 45 19.8
comp=Z,55nm,18.9s,baz=20,slow=38
CMIG Matias Romero 74.50 288 LR LR 12 44 58.3
comp=Z,55nm,20.9s,baz=20,slow=38
APG El Apazote 76.20 284 LR LR 12 44 42.4
comp=Z,93nm,20.1s,baz=28,slow=37
PALK Pallekele 81.03 111 LR LR 12 51 35.2
comp=Z,70nm,19.2s,baz=92,slow=40
PSI Prapat 86.95 93 LR LR 12 53 36.5
comp=Z,116nm,20.0s,baz=4.5,slow=38
ASAR Alice Springs 116.01 60 PKP **PKPdf** **12 16 49.5 -2.1**
comp=Z,1.3nm,1.1s,baz=8.5,slow=1.9,SNR=4.8

JMA 01 11:59:33.7, 35°38N×138°00E, h9km±1km, M2.8, 3D
Broadband fault plane solution: P waves. NP1:
ϕ_S49.00000°, δ82.00000°, λ157.00000°. **NP2:**
ϕ_S143.00000°, δ67.00000°, λ9.00000°. **Principal axes:** T Plg22.0000°, Azm4.0000°; N Plg66.0000°, Azm211.0000°; P Plg10.0000°, Azm98.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**0.12**	**259**	⇓P		Pg		11 59 36.6	+0.1
JNY				*e*S		Sg		11 59 38.5	+0.1
SHZ3	**Shizuoka 3**	**0.36**	**151**	P		Pg		11 59 40.9	+0.1
SHZ3				S		Sg		11 59 45.7	+0.2
JYN	**Shimob**	**0.46**	**75**	⇓P		Pg		11 59 43.2	+0.5
JOD2	**Odawara 2**	**0.90**	**97**	⇓P		Pg		11 59 50.8	-0.2
JRY	**Ryogami san**	**0.97**	**49**	P		Pg		11 59 51.8	-0.6
JIZS	**Izushimoda**	**0.98**	**132**	P		Pg		11 59 52.0	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	1.17	8	P	Pb	11 59 55.1	-1.1
MAT				eS	Sg	12 00 10.3	-1.2

NEIC **01** 12:17:15.9±2.9, 14.75N±0.05×93.26W±0.05, h50km±5km, mb4.9/321, Md5.2/74(MEX) Error ellipse: s-maj=8.5km s-min=5.6km az=211.0

MOS **01** 12:17:15.2±1.6, 15.01N×93.04W, h41km, mb5.1/34, Error ellipse: s-maj=10.8km s-min=5.4km az=101.9

IDC **01** 12:17:16.0±2.8, 14.82N×92.96W, h33km±20km, mb4.3/24, mb1 4.5/27, mb1mx4.3/52, mbtmp4.6/27, ML5.0/3, MS4.1/47, Ms1 4.1/47, ms1mx4.1/63, Error ellipse: s-maj=20.1km s-min=8.8km az=49.0

MEX **01** 12:17:16.6±1.8, 14.75N×93.25W, h76km±47km, MD5.2

GCMT **01** 12:17:18.9±0.3, 14.82N±0.02×93.37W±0.03, h42km±2km, MW5.0/84, Moment Tensor Solution. s31,c37; s84,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.72±.20; $M_{\theta\theta}$-0.54±.12; $M_{\phi\phi}$2.26±.13; $M_{r\theta}$-1.65±.12; $M_{\theta\phi}$-0.32±.13; $M_{\phi r}$2.36±.14; Best double couple: $M_0$3.54400×10^{16} NP1:ϕ_s20.00000°, δ24.00000°, λ-43.00000°. NP2: ϕ_s150.00000°, δ74.00000°, λ-108.00000°. Principal axes: T 3.6080, Plg27.0000°, Azm254.0000°; N -0.1320, Plg17.0000°, Azm155.0000°; P -3.4800, Plg57.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

INET **01** 12:17:26.4±1.2, 14.74N×92.47W, h15km, MW4.9

GCG **01** 12:17:37.6±2.9, 14.60N×91.68W, h23km±21km, MD4.8

ISC 01 12:17:16.9±0.4, **14.79N**±0.03×**93.20W**±0.03, **h48**km±4km, **n850**, σ1s**92**/773, **mb4.9**/150, **MS4.2**/49, **10C-3D**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.91	359		Pn	12 17 33.7	+0.4
PCIG					Sn	12 17 46.2	+0.9
PCIG		0.91	359	eP	Pn	12 17 33.7	+0.4
PCIG				eS	Sn	12 17 46.2	+0.9
THIG		0.91	83		Pn	12 17 33.3	-0.1
THIG					Sn	12 17 46.7	+1.2
THIG		0.91	83	eP	Pn	12 17 33.2	-0.2
THIG				eP	Pn	12 17 33.3	-0.1
THIG				eS	Sn	12 17 46.7	+1.2
PATR	El Naranjo	0.99	71	eP	Pn	12 17 34.6	-0.1
PATR				eS	Sn	12 17 48.9	+1.2
PAVE	Pavencul	1.07	68	eP	Pn	12 17 36.0	+0.2
PAVE				eS	Sn	12 17 51.4	+1.8
CHUJ	Union Juarez	1.10	74	eP	Pn	12 17 36.2	+0.1
CHUJ				eS	Sn	12 17 51.3	+0.9
RTAL	Retalhuleu	1.48	100		Pn	12 17 41.1	-0.1
STG3	Santiaguito 3,	1.58	93⇑	eP	Pn	12 17 43.1	+0.4
CARR	Arriaga	1.60	335	eP	Pn	12 17 43.7	+0.9
CARR				iS	Sn	12 18 04.1	+1.8
HUEH	Huehuetenango	1.72	72		Pn	12 17 46.6	+1.9
CCIG	Comitan	1.80	35		Pn	12 17 49.1	+3.4
CCIG	Comitan	1.80	35	eP	Pn	12 17 49.5	+3.8
CCIG				eS	Sn	12 18 10.8	+3.4
TGIG		1.97	2		Pn	12 17 50.4	+2.4
TGIG					Sn	12 18 14.1	+2.5
TGIG		1.97	2	eP	Pn	12 17 50.4	+2.4
TGIG				eS	Sn	12 18 14.1	+2.5
FUG	Fuego 3	2.31	98⇑	eP	Pn	12 17 53.7	+1.0
PCG	Pacaya	2.54	99⇑	iP	Pn	12 17 57.6	+1.6
APG	El Apazote	2.65	85	Pg	Pn	12 17 59.1	+1.6
	231nm,0.3s,baz=291,slow=10.0,SNR=620						
APG				Lg	Lg	12 18 35.1	
	160nm,0.3s,baz=292,slow=18,SNR=8.3						
UXUV	UXUV	2.67	340	eP	Pn	12 18 00.0	+2.6
UXUV				eS	Sn	12 18 32.8	+4.3
NBG	Las Nubes	2.77	94	eP	Pn	12 18 01.8	+2.7
CMIG	Matias Romero	2.80	325	Pn	Pn	12 17 59.8	+0.6
	201nm,0.3s,baz=173,slow=9.0,SNR=1463						
CMIG				Sn	Sn	12 18 33.1	+1.3
	613nm,0.3s,baz=257,slow=22,SNR=5.7						
CMIG				LR	LR	12 18 40.0	
	comp=Z,360nm,21.1s,baz=130,slow=29						
CMIG	Matias Romero	2.80	325		Pn	12 17 59.4	+0.2
CMIG					Sn	12 18 33.5	+1.7
CMIG	Matias Romero	2.80	325	eP	Pn	12 17 59.4	+0.2
CMIG				eS	Sn	12 18 33.5	+1.7
HUIG	Huatulco	2.97	289		Pn	12 17 59.4	-2.1
HUIG	Huatulco	2.97	289	eP	Pn	12 17 59.4	-2.1
HUIG				eS	Sn	12 18 29.6	-6.4
SLOZ	Alcaldia de Sa	3.40	103	eP	Pn	12 18 08.5	+1.0
MRL	Marmol	3.41	85⇓	eP	Pn	12 18 10.3	+2.5
TUIG	Tuzandepetl	3.43	340		Pn	12 18 08.6	+0.8
TUIG					Sn	12 18 50.4	+3.2
TUIG	Tuzandepetl	3.43	340	eP	Pn	12 18 08.6	+0.8
TUIG				eS	Sn	12 18 50.4	+3.2
NUBE	Las Nubes	3.43	105	eP	Pn	12 18 09.0	+0.9
NUBE	Las Nubes	3.43	105	eP	Pn	12 18 09.0	+0.9
CEVE	Cerro Verde	3.60	105	eP	Pn	12 18 11.3	+0.9
CEVE	Cerro Verde	3.60	105	eP	Pn	12 18 11.3	+0.9
MTO3	Montecristo	3.74	96		Pn	12 18 12.8	+0.5
ESQI	Esquipulas	3.74	93		Pn	12 18 13.8	+1.5
JAYA	Jayaque - finc	3.81	107	eP	Pn	12 18 13.3	0.0
JAYA	Jayaque - finc	3.81	107	eP	Pn	12 18 13.3	0.0
TACO	Tacachico	3.82	102	eP	Pn	12 18 13.5	+0.2
TACO	Tacachico	3.82	102	eP	Pn	12 18 13.5	+0.2
NEUV	Arroyo Zacate	3.83	320	e	Pn	12 18 13.1	-0.3
NEUV				e		12 18 55.0	
PETF	Flores	3.84	56		Pn	12 18 16.1	+2.5
PETF	Flores	3.84	56	eP	Pn	12 18 16.0	+2.5
LALI	Alcalda de L	3.98	109	eP	Pn	12 18 15.2	-0.3
LALI	Alcalda de L	3.98	109	eP	Pn	12 18 15.2	-0.3
LALI	Alcalda de L	3.98	109	eP	Pn	12 18 15.0	-0.4
PEIG	Puerto Escondi	3.99	288	e	Pn	12 18 13.6	-2.0
SNET	Serv Nac Est T	4.00	105		Pn	12 18 15.2	-0.6
VHO	Vista Hermosa	4.08	304	e	Pn	12 18 19.1	+2.1
SJTE	Alcalda de S	4.23	106	eP	Pn	12 18 19.7	+0.7
SJTE	Alcalda de S	4.23	106	eP	Pn	12 18 19.7	+0.7
PAVA	Las Pavas	4.27	104	eP	Pn	12 18 20.4	+0.8
PAVA	Las Pavas	4.27	104	eP	Pn	12 18 20.4	+0.8
PAVA	Las Pavas	4.27	104	eP	Pn	12 18 19.9	+0.3
COEG	Centro de Oper	4.35	105	eP	Pn	12 18 21.7	+1.1
COEG	Centro de Oper	4.35	105	eP	Pn	12 18 21.7	+1.1
TECO	Alcaldia de Te	4.47	106	eP	Pn	12 18 23.0	+0.9
TECO	Alcaldia de Te	4.47	106	eP	Pn	12 18 23.0	+0.9
SCLA	Alcaldia de Sa	4.47	104	eP	Pn	12 18 22.8	+0.5
SCLA	Alcaldia de Sa	4.47	104	eP	Pn	12 18 22.8	+0.5
SCIG	Sabancuy	4.58	25		Pn	12 18 26.3	+2.7
SCIG	Sabancuy	4.58	25	e	Pn	12 18 26.3	+2.7
YOIG	Yosondua	4.66	297	e	Pn	12 18 25.5	+0.5
COEB	Comit de Eme	4.71	105	eP	Pn	12 18 26.3	+0.7
COEB	Comit de Eme	4.71	105	eP	Pn	12 18 26.3	+0.7
ALJI	Alcalda de J	4.72	107	eP	Pn	12 18 30.1	+4.4
ALJI	Alcalda de J	4.72	107	eP	Pn	12 18 30.1	+4.4
TOIG	Toxpalan	4.95	312	e	Pn	12 18 30.7	+1.8
PNIG	Pinotepa	5.01	289		Pn	12 18 28.3	-1.2
PNIG	Pinotepa	5.01	289	e	Pn	12 18 28.3	-1.2
TXIG	Tlaxiaco	5.03	300	e	Pn	12 18 31.2	+1.1
TPIG	Tehuac#an	5.38	313		Pn	12 18 36.8	+2.0
TPIG	Tehuac#an	5.38	313	e	Pn	12 18 36.8	+2.0
FTIG	Fresnillo de T	5.66	304	e	Pn	12 18 41.4	+2.8
JAUV	Jalcomulco	5.70	323	e	Pn	12 18 38.6	-0.6
JAUV				e		12 19 40.4	
MGIG	Malinaltepec	5.76	296	e	Pn	12 18 41.1	+1.1
CSGN	Cosiguina Volc	5.77	108	eP	Pn	12 18 40.0	-0.1
TGUH	Tegucigalpa,Un	5.79	97	Pn	Pn	12 18 40.7	+0.3
TGUH	Tegucigalpa,Un	5.79	97	eP	Pn	12 18 42.5	+2.0
TLIG	Tlapa	5.84	299	Pn	Pn	12 18 42.5	+1.4
TLIG	Tlapa	5.84	299	e	Pn	12 18 43.1	+1.9
CRIG	Cruz Grande	6.03	289		Pn	12 18 43.1	-0.5
CRIG	Cruz Grande	6.03	289	e	Pn	12 18 43.1	-0.5
CRIN	San Cristobal	6.33	108		Pn	12 18 47.4	-0.4
CRIN	San Cristobal	6.33	108	eP	Pn	12 18 48.0	+0.2
DAIG	Los Arroyos	6.59	290		Pn	12 18 51.2	-0.1
DAIG	Los Arroyos	6.59	290	e	Pn	12 18 51.2	-0.1
PPM	Popocatepetl	6.71	310	e	Pn	12 18 56.3	+2.9
CNGN	Cerro Negro	6.72	109		Pn	12 18 53.6	+0.4
AMVM	AMECAMECA	6.87	310		Pn	12 18 59.9	+4.6
AMVM	AMECAMECA	6.87	310	e	Pn	12 18 59.9	+4.6
MEIG	Mezcala	6.90	298		Pn	12 18 57.8	+2.1
MEIG	Mezcala	6.90	298	e	Pn	12 18 57.8	+2.1
YAIG	Yautepec	6.92	307		Pn	12 18 58.9	+3.0
YAIG	Yautepec	6.92	307	e	Pn	12 18 58.9	+3.0
PLIG	Platanillo	7.02	301		Pn	12 18 60.0	+2.7
PLIG	Platanillo	7.02	301	e	Pn	12 18 60.0	+2.7
THVM	De Xico	7.12	310	e	Pn	12 19 03.3	+4.5
CAIG	El Cayaco	7.16	289		Pn	12 18 59.3	+0.3
CAIG	El Cayaco	7.16	289	e	Pn	12 18 59.3	+0.3
XCVM	Xochimilco	7.19	309	e	Pn	12 19 04.0	+4.2
TLVM	San Miguel Top	7.19	308	e	Pn	12 19 04.1	+4.3
HUEN		7.26	109	eP	Pn	12 19 01.7	+1.3
VTVM	Tizayuca	7.27	314		Pn	12 19 06.2	+5.4
VTVM	Tizayuca	7.27	314	e	Pn	12 19 06.2	+5.4
VRVM	Mexico City	7.29	310	e	Pn	12 19 06.4	+5.3
MATN	Matagalpa	7.30	104		Pn	12 19 01.9	+0.7
MATN	Matagalpa	7.30	104	eP	Pn	12 19 02.0	+0.8
MAVM	Malinalco, Edo	7.31	305		Pn	12 19 04.7	+3.3
MAVM	Malinalco, Edo	7.31	305	e	Pn	12 19 04.7	+3.3
GMVM	Gustavo A Made	7.33	310	e	Pn	12 19 05.1	+3.4
PTVM	Pico Tres Padr	7.39	311		Pn	12 19 07.8	+5.2
PTVM	Pico Tres Padr	7.39	311	e	Pn	12 19 07.8	+5.2
INVM	La Marquesa	7.41	308	e	Pn	12 19 06.2	+3.3
AZVM	Cuida Lopez Ma	7.51	310		Pn	12 19 08.3	+4.1
AZVM	Cuida Lopez Ma	7.51	310	e	Pn	12 19 08.3	+4.1
ZUVM	ZUMPANGO	7.52	313		Pn	12 19 08.6	+4.3
ZUVM	ZUMPANGO	7.52	313	e	Pn	12 19 08.6	+4.3
ARIG	Puente Sto Nin	7.68	298		Pn	12 19 06.2	0.0
ARIG	Puente Sto Nin	7.68	298	e	Pn	12 19 06.2	0.0
BOAB	BOACO BROADBAN	7.69	107	Pn	Pn	12 19 06.2	-0.1
DEIG	Demacu	7.81	315	e	Pn	12 19 12.5	+4.3
ACON	Acoyapa	8.30	109		Pn	12 19 15.4	+0.7
ZIIG	Zihuatanejo	8.42	291		Pn	12 19 17.3	+1.0
ZIIG	Zihuatanejo	8.42	291	e	Pn	12 19 17.3	+1.0
HZTE	Horizontes, Gu	8.46	118	Pn	Pn	12 19 17.1	+0.2
HZTE	Horizontes, Gu	8.46	118	eP	Pn	12 19 18.6	+1.7
SAJU	San Juanillo,	8.69	122	eP	Pn	12 19 21.6	+1.4
ORTG	Ortega, Santa	8.75	119		Pn	12 19 20.9	-0.1
DUNO	Dulce Nombre,	8.87	121		Pn	12 19 21.5	-1.0
DUNO	Dulce Nombre,	8.87	121	eP	Pn	12 19 24.3	+1.8
INDI	Punta indio, G	8.97	122	eP	Pn	12 19 25.3	+1.3
ESPN	Las Esperanzas	9.03	106		Pn	12 19 23.6	-1.2
JTS	Las Juntas de	9.21	118	iP	Pn	12 19 28.5	+1.3
JTS	Las Juntas de	9.21	118	Pn	Pn	12 19 28.6	+1.3
JTS	Las Juntas de	9.21	118	eP	Pn	12 19 29.1	+1.8
ARE1	Arenal 1	9.33	117	eP	Pn	12 19 31.3	+2.4
CAO2	Cobano, Puntar	9.40	122		Pn	12 19 31.7	+1.9
LAFE	Finca La Fe, P	9.50	121	eP	Pn	12 19 33.3	+2.2
RPIG	Rio Verde	9.55	319	e	Pn	12 19 36.0	+4.1
JACO	JACO, Garabito	9.78	120		Pn	12 19 36.8	+1.7
HDC	Heredia	10.07	117	Pn	Pn	12 19 40.5	+1.3
LCR2	La Lucha 2	10.29	118	eP	Pn	12 19 44.1	+1.9
CVTR	Volcan Turrial	10.37	116		Pn	12 19 43.9	+0.4
RIMA	Rio Macho	10.40	118	Pn	Pn	12 19 44.7	+1.0
RIMA	Rio Macho	10.40	118	eP	Pn	12 19 46.2	+2.5
RIMA	Rio Macho	10.40	118	eP	Pn	12 19 45.7	+1.9
CDM	Cerro de Muert	10.59	118	eP	Pn	12 19 48.9	+2.4
PEZE	Perez Zeledon,	10.75	119		Pn	12 19 50.0	+1.5
COIG	Colima	10.94	295	e	Pn	12 19 54.2	+3.2
JUBC	Volcan de Coli	10.96	297⇑	e	Pn	12 19 55.5	+4.0
EZ5V		10.98	297		Pn	12 19 55.9	+4.3
EZ5V		10.98	297	e	Pn	12 19 55.9	+4.3
MNGA	Volcan de Coli	10.99	296⇑	e	Pn	12 19 55.8	+4.0
INCO	Volcan de Coli	11.00	297	e	Pn	12 19 55.9	+3.9
SRBA	San Rafael, Bu	11.10	119		Pn	12 19 54.5	+1.3
SRBA	San Rafael, Bu	11.10	119	eP	Pn	12 19 55.1	+2.0
CDAR	Ciudad de Arme	11.14	293	e	Pn	12 19 53.8	+0.2
R15V		11.19	294		Pn	12 19 55.6	+1.1
R15V		11.19	294⇓	e	Pn	12 19 55.6	+1.1
AAIG	Aguscalientes	11.26	311	e	Pn	12 19 58.9	+3.5
PIRO	Carate, Puerto	11.56	122	eP	Pn	12 20 03.7	+4.3
CDITO	Canoas	11.85	120		Pn	12 20 02.5	-0.9
BRU2	Volcan	11.89	119		Pn	12 20 03.5	-0.5
BRU2	Volcan	11.89	119	eP	Pn	12 20 04.7	+0.6
ANIG	Ahuacatlan	12.44	302		Pn	12 20 15.3	+3.8
ANIG	Ahuacatlan	12.44	302	e	Pn	12 20 15.3	+3.8
SOR	Soroa	12.50	49	P	Pn	12 20 10.5	-1.7
SOR	Soroa	12.50	49	Pn	Pn	12 20 10.5	-1.7
833A	Chaparral WMA,	14.64	338		Pn	12 20 43.5	+2.4
833A	Chaparral WMA,	14.64	338	P	Pn	12 20 43.2	+2.0
	baz=156,SNR=28						
MTDJ	Mount Denham	15.40	75	Pn	Pn	12 20 49.7	-1.6
MTDJ				IAmb	IAmb	12 21 08.5	
	comp=Z,63nm,0.8s						
441A	DeRidder	15.88	0	Pn	Pn	12 20 54.4	-2.8
061Z	Ochoppi	15.93	44		Pn	12 20 54.7	-3.2
061Z				IAmb	IAmb	12 21 22.2	
	comp=Z,134nm,0.9s						
435B	Jarrell	16.41	347	P	P	12 21 06.2	0.0
	baz=165						
342A	Flagon Creek P	16.52	3	Pn	Pn	12 21 03.5	-1.8
342A				IAmb	IAmb	12 21 11.7	
	comp=Z,71nm,0.7s						
JCT	Junction City	16.75	340	P	Pn	12 21 07.3	-1.0
JCT				pmax	pmax		
	comp=Z,41nm,0.7s						
JCT	Junction City	16.75	340		Pn	12 21 07.3	-1.0
JCT	Junction City	16.75	340	P	P	12 21 09.9	0.0
	baz=158,SNR=23						
346A	Big Creek Wild	16.87	11		Pn	12 21 07.1	-2.5
346A				IAmb	IAmb	12 21 25.7	
	comp=Z,100nm,0.8s						
NATX	Nacogdoches	16.94	356	Pn	Pn	12 21 08.0	-2.6
NATX				IAmb	IAmb	12 21 30.5	
	comp=Z,58nm,0.8s						
NATX	Nacogdoches	16.94	356	P	Pn	12 21 11.5	+0.9
	baz=175						
060A	Indiantown	17.08	42	P	P	12 21 14.6	+1.1
451A	Vernon	17.17	22		P	12 21 15.6	+1.0
451A				IAmb	IAmb	12 21 32.6	
	comp=Z,115nm,1.1s						
DWPF	Disney Wildern	17.17	38		Pn	12 21 12.3	-1.1
DWPF				IAmb	IAmb	12 21 27.1	
	comp=Z,97nm,0.8s						
DWPF	Disney Wildern	17.17	38	P	Pn	12 21 13.8	+0.4
	baz=221						
BRAL	Brewton	17.25	18		P	12 21 16.0	+0.7
BRAL	Brewton	17.25	18	P	P	12 21 15.8	+0.5
	baz=200,SNR=6.5						
237A	Washetta, Mont	17.29	353		Pn	12 21 13.9	-1.1
237A				IAmb	IAmb	12 21 37.6	
	comp=Z,72nm,0.8s						
553A	Crawfordville	17.32	26		Pn	12 21 13.9	-1.4
TX31	Lajitas Ar. Si	17.40	328	Pn	Pn	12 21 13.9	-2.5
TX31				IAmb	IAmb	12 21 25.6	
	comp=Z,150nm,1.0s						
TX32	Lajitas Array	17.40	328		Pn	12 21 14.3	-2.2
TXAR	Lajitas Array	17.40	328	Pn	P	12 21 19.9	+2.6
	comp=Z,1.0nm,0.3s,baz=147,slow=14,SNR=60						
TXAR	Lajitas Array	17.40	328		Pn	12 21 14.7	-1.7
VBMS	Vicksburg	17.52	8		Pn	12 21 15.8	-1.9
VBMS	Vicksburg	17.52	8	P	P	12 21 18.8	+0.5
	baz=188,SNR=6.2						
656A	Willston	17.53	32		Pn	12 21 16.6	-1.3
WHTX	Lake Whitney,	17.55	348		Pn	12 21 16.3	-1.9
WHTX				IAmb	IAmb	12 21 42.4	
	comp=Z,83nm,0.8s						
WHTX	Lake Whitney,	17.55	348	P	P	12 21 19.6	+0.9
	baz=166,SNR=34						
143A	Socs Landing,	17.90	5		Pn	12 21 21.7	-0.8
GTBY	Guantanamo Bay	18.00	71		P	12 21 24.0	+0.3
GTBY				IAmb	IAmb	12 21 46.4	
	comp=Z,100nm,1.2s						
SLBS	Sierra La Lagu	18.10	302	P	P	12 21 21.9	-3.0
146A	Union	18.16	11	P	P	12 21 23.6	-1.8
146A				IAmb	IAmb	12 21 42.5	
	comp=Z,83nm,0.8s						
MOTC	Monteria, Cord	18.17	107	P	P	12 21 24.7	-1.0
SJCC	San Jacinto, C	18.26	103	P	P	12 21 24.9	-1.8
SJCC				IAmb	IAmb	12 21 54.7	
	comp=Z,54nm,0.4s						
Z41A	Richland Creek	18.39	1	P	P	12 21 25.7	-2.1
Z41A				IAmb	IAmb	12 21 47.1	
	comp=Z,105nm,0.9s						
Z41A	Richland Creek	18.39	1	P	Pn	12 21 29.4	+1.1
	baz=181,SNR=8.4						
Z38A	Mt. Pleasant	18.45	355	P	P	12 21 26.0	-2.6
Z38A				IAmb	IAmb	12 21 35.2	
	comp=Z,78nm,0.9s						
LPIG	La Paz	18.58	302	P	Pn	12 21 33.3	+2.5
	comp=Z,8.1nm,0.3s,baz=190,slow=5.0,SNR=7.0						
LPIG				LR	LR	12 28 48.6	
	comp=Z,484nm,18.2s,baz=117,slow=37						
ABTX	Abilene, Hawle	18.69	343	P	P	12 21 30.7	-0.6
ABTX				IAmb	IAmb	12 21 49.8	
	comp=Z,56nm,0.8s						
ABTX	Abilene, Hawle	18.69	343	P	Pn	12 21 33.3	+1.2
	baz=160,SNR=12						
TIGA	Tifton	18.76	26	P	P	12 21 30.7	-1.3
TIGA	Tifton	18.76	26	P	Pn	12 21 33.7	+0.8
	baz=210,SNR=16						
WLAR	White Oak Lake	18.81	0	P	P	12 21 30.5	-2.0
WLAR				IAmb	IAmb	12 21 39.8	
	comp=Z,82nm,0.8s						
Z47A	Carrollton	18.91	13	P	P	12 21 31.1	-2.5
Z47A				IAmb	IAmb	12 21 55.0	
	comp=Z,73nm,0.7s						
LRAL	Lakeview Retre	19.02	16	P	P	12 21 32.8	-2.0
LRAL				IAmb	IAmb	12 21 51.4	
	comp=Z,70nm,1.1s						
LRAL	Lakeview Retre	19.02	16	P	Pn	12 21 36.7	+0.8
	baz=198,SNR=26						
CBOC	Ciudad Bolivar	19.08	116	eP	Pn	12 21 37.6	+0.5
CCAR	Cane Creek	19.08	4	P	P	12 21 33.2	-2.3
Y45A	Yeager Farm, C	19.27	9	P	P	12 21 35.1	-2.5
ZARC	Zaragoza, Cauc	19.39	110	P	P	12 21 37.2	-1.9
152A	Waverly Hall	19.40	22	P	P	12 21 39.8	+0.8
152A				IAmb	IAmb	12 21 45.3	
	comp=Z,70nm,0.7s						
X40A	Basin Creek Fa	19.61	1	P	P	12 21 39.2	-2.1
X40A	Basin Creek Fa	19.61	1	P	Pn	12 21 43.1	+0.1
	baz=181,SNR=13						
255A	Hazlehurst	19.67	28	P	P	12 21 39.9	-2.0
MIAR	Mount Ida	19.67	359	P	P	12 21 40.5	-1.4
MIAR				pmax	pmax		
	comp=Z,180nm,0.9s						
MIAR	Mount Ida	19.67	359	P	P	12 21 40.5	-1.4
YOTC	Yotoco, Valle	19.78	121	eP	Pn	12 21 44.9	-0.4
X37A	Clayton	19.81	355		P	12 21 42.1	-1.3
X37A				IAmb	IAmb	12 22 01.9	
	comp=Z,58nm,0.8s						
Z51A	Franklin	19.83	20	P	P	12 21 41.8	-1.9
Z51A				IAmb	IAmb	12 22 04.5	
	comp=Z,44nm,0.8s						
OXF	Oxford	19.93	9	P	P	12 21 44.0	-0.8
OXF				pmax	pmax		
	comp=Z,127nm,0.9s						
OXF	Oxford	19.93	9		P	12 21 44.0	-0.8
OXF	Oxford	19.93	9	P	Pn	12 21 47.3	+0.6
	baz=191,SNR=9.4						
Y49A	Blount Mountai	19.95	17		P	12 21 45.5	+0.5
Y49A				IAmb	IAmb	12 22 10.7	
	comp=Z,30nm,0.7s						
GUY2C	Guyana, Caldas	19.96	117	eP	Pn	12 21 47.7	0.0
154A	Montrose	19.98	26	P	P	12 21 44.2	-1.1
X34A	Smith Ranch, M	20.16	349		P	12 21 44.0	-3.3
MNTX	Cornudas Mount	20.18	329	P	P	12 21 43.8	-3.7
MNTX				IAmb	IAmb	12 21 56.9	
	comp=Z,34nm,0.8s						
MNTX	Cornudas Mount	20.18	329	P	Pn	12 21 49.8	0.0
	baz=144,SNR=72						
BBAC	Balboa, Cauca	20.23	127	eP	P	12 21 47.5	-0.9
ANIL	Santa Ana	20.29	119	eP	Pn	12 21 51.3	-0.3
W41B	Gary Mavity, V	20.31	2	P	P	12 21 46.6	-2.3
W41B				IAmb	IAmb	12 21 57.1	
	comp=Z,84nm,1.1s						
W41B	Gary Mavity, V	20.31	2	P	Pn	12 21 50.9	-0.4
	baz=183,SNR=45						
W39A	Magazine	20.32	359	P	P	12 21 47.2	-1.8
W39A				IAmb	IAmb	12 22 01.4	
	comp=Z,43nm,0.8s						
W39A	Magazine	20.32	359	P	Pn	12 21 50.7	-0.7
	baz=178,SNR=18						
X48A	Hartselle	20.35	15	P	P	12 21 47.5	-1.8
POPC	Popayan, Colom	20.35	125	eP	P	12 21 49.9	+0.2
257A	Skidaway Islan	20.40	31	P	P	12 21 48.9	-0.9
WHAR	Wooly Hollow	20.43	2	P	P	12 21 49.7	-0.4
WHAR				IAmb	IAmb	12 21 58.3	
	comp=Z,135nm,1.4s						
WMOK	Wichita Mounta	20.48	347	P	P	12 21 52.3	+1.4
	baz=164						
GOGA	Godfrey	20.53	24	P	P	12 21 50.6	-0.7
GOGA				pmax	pmax		
	comp=Z,82nm,0.8s						
GOGA	Godfrey	20.53	24	P	P	12 21 50.6	-0.7
GOGA				IAmb	IAmb	12 21 59.8	
	comp=Z,82nm,0.8s						
GOGA	Godfrey	20.53	24	P	P	12 21 52.8	+1.5
	baz=208,SNR=32						
W35A	Tecumseh	20.54	351		P	12 21 50.8	-0.6
SOTA	Rioblanco	20.65	126	eP	Pn	12 21 58.2	+2.2
TULM	Tulcn-Chalpat	20.68	131	eP	Pn	12 22 02.7	+6.4
PCON	Cinco Dias	20.70	125	eP	P	12 21 48.8	-5.1
Y52A	Lilburn	20.71	22	P	P	12 21 52.8	-0.5
FNO	Franklin	20.72	350		P	12 21 52.8	-0.6
ORTC	Ortega, Tolima	20.73	120	eP	P	12 21 54.1	+0.4
HBAR	Harrisburg	20.80	6	P	P	12 21 53.8	-0.4
FPAL	Fort Paine	20.82	18	P	P	12 21 51.9	-2.6
FPAL				IAmb	IAmb	12 22 03.4	
	comp=Z,76nm,0.8s						
OKCFA	Oklahoma City	20.89	350	P	P	12 21 52.8	-2.4
MSTX	Muleshoe	20.96	337	P	P	12 21 55.8	-0.3
MSTX				IAmb	IAmb	12 22 04.6	
	comp=Z,84nm,0.8s						
MSTX	Muleshoe	20.96	337	P	P	12 21 57.4	+1.3
	baz=154,SNR=32						
FCAR	Ozark Folk Cen	21.03	2	P	P	12 21 55.8	-0.9
ROSC	El Rosal	21.05	116	P	P	12 22 01.0	+3.5
	comp=Z,49nm,0.9s,baz=325,slow=13,SNR=23						
ROSC				LR	LR	12 31 34.3	
	comp=Z,228nm,18.7s,baz=250,slow=41						
ROSC	El Rosal	21.05	116	P	P	12 21 54.6	-2.9
ROSC				pmax	pmax		
	comp=Z,69nm,1.0s						
ROSC	El Rosal	21.05	116	P	P	12 21 54.6	-2.9
ROSC				IAmb	IAmb	12 22 03.4	
	comp=Z,69nm,0.9s						
X51A	Calhoun	21.08	19	P	P	12 21 57.1	-0.1
X51A				IAmb	IAmb	12 22 06.6	
	comp=Z,56nm,0.9s						
TUL1	Leonard	21.16	354	P	P	12 22 00.1	+2.1
	baz=173,SNR=17						
LCAR	Lake Charles	21.27	5	P	P	12 21 58.1	-1.1
LCAR				IAmb	IAmb	12 22 18.4	
	comp=Z,52nm,0.9s						
GNAR	Gosnell	21.27	7	P	P	12 21 57.0	-2.3
BARC	Barichara	21.28	110	eP	P	12 22 04.0	+4.3
SWET	Sewanee	21.36	17	P	P	12 21 58.2	-2.0
SWET				IAmb	IAmb	12 22 26.8	
	comp=Z,47nm,0.9s						
HHAR	Hobbs	21.41	358	P	P	12 21 60.0	-0.8
HHAR				IAmb	IAmb	12 22 22.7	
	comp=Z,60nm,1.0s						
AMTX	Amarillo	21.41	341	P	P	12 22 02.1	+1.2
AMTX	Amarillo	21.41	341	P	P	12 22 02.3	+1.4
	baz=157						
PAMC	Pamplona, Colo	21.43	108	eP	P	12 22 03.9	+2.3
U40A	Yellville	21.48	1	P	P	12 21 58.6	-2.8
U40A				IAmb	IAmb	12 22 25.3	
	comp=Z,34nm,0.8s						
U40A	Yellville	21.48	1	P	P	12 22 03.3	+1.8
	baz=181,SNR=29						
LNXT	Lenox	21.48	8	P	P	12 22 02.4	+1.0
V48A	Smith Brothers	21.63	14	P	P	12 22 01.1	-2.0
V48A				IAmb	IAmb	12 22 13.3	
	comp=Z,32nm,0.7s						
RUSC	La Rusia	21.66	112	eP	P	12 22 04.1	0.0
CHIC	Chingaza	21.66	116	eP	P	12 22 05.3	+1.2
SRIG	Santa Rosalia	21.67	308	P	P	12 21 59.4	-4.2
SRIG				IAmb	IAmb	12 22 09.4	
	comp=Z,44nm,1.0s						
NHSC	New Hope	21.73	31	P	P	12 22 04.3	+0.1
NHSC	New Hope	21.73	31	P	P	12 22 05.8	+1.6
	baz=216,SNR=12						
FLOC	Florencia	21.74	126	eP	P	12 22 16.3	+12
WVT	Waverly	21.78	12	P	P	12 22 04.4	-0.4
WVT				pmax	pmax		
	comp=Z,92nm,0.8s						
WVT	Waverly	21.78	12	P	P	12 22 04.3	-0.4
WVT	Waverly	21.78	12	P	P	12 22 06.7	+2.0
	baz=194						
W52A	Murphy	21.87	21	P	P	12 22 03.9	-1.8
W52A				IAmb	IAmb	12 22 27.1	
	comp=Z,33nm,0.8s						
SC01	Santiago de lo	21.96	75	P	P	12 22 07.5	+0.7
CPCT	Cooper Cave	22.00	19	P	P	12 22 06.4	-0.7
CPCT				IAmb	IAmb	12 22 26.4	
	comp=Z,26nm,0.7s						
PBMO	Poplar Bluff	22.03	6	P	P	12 22 05.2	-2.2
CLTN	Cedars of Leba	22.08	15	P	P	12 22 05.5	-2.5
CLTN				IAmb	IAmb	12 22 31.1	

comp=Z,37nm,0.9s
121A Cookes Peak, D 22.10 326 P P 12 22 11.1 +2.7
baz=140,SNR=204
U32A Winter Ranch, 22.11 347 P P 12 22 05.2 -3.2
BG3 Lake Jocassee 22.14 23 P P 12 22 07.7 -0.8
JSC Jenkinsville 22.20 27 P P 12 22 06.8 -2.4
JSC pmax pmax
comp=Z,71nm,0.9s
JSC Jenkinsville 22.20 27 P P 12 22 06.8 -2.4
JSC IAmb IAmb 12 22 24.8
comp=Z,71nm,0.9s
T42A Van Buren 22.23 4 P P 12 22 09.1 -0.4
T42A IAmb IAmb 12 22 20.3
comp=Z,37nm,0.8s
MGMO Mountain Grove 22.29 2 P P 12 22 08.1 -2.1
MGMO IAmb IAmb 12 22 31.5
comp=Z,95nm,1.3s
V51A Loudon 22.38 19 IAmb IAmb 12 22 30.7
comp=Z,30nm,0.8s
TKL Tuckaleechee C 22.43 20 P P 12 22 13.4 +1.6
comp=Z,6.5nm,0.6s,baz=198,slow=12,SNR=6.1
TKL Tuckaleechee C 22.43 20 P P 12 22 13.4 +1.6
TKL pmax pmax
comp=Z,34nm,0.6s
TKL Tuckaleechee C 22.43 20 IAmb IAmb 12 22 31.6
comp=Z,34nm,0.6s
T45A Paducah 22.50 10 P P 12 22 12.5 0.0
U49A Red Boiling Sp 22.62 16 P P 12 22 12.8 -0.9
U49A IAmb IAmb 12 22 23.4
comp=Z,30nm,0.8s
T47A Sharon Grove 22.76 13 P P 12 22 14.0 -1.2
T47A IAmb IAmb 12 22 40.6
comp=Z,42nm,0.7s
V53A Saluda 22.78 22 P P 12 22 16.5 +1.0
V53A IAmb IAmb 12 22 35.5
comp=Z,64nm,0.9s
S39A Bolivar 22.81 360 P P 12 22 13.9 -1.7
S39A IAmb IAmb 12 22 18.6
comp=Z,27nm,0.6s
SDV Santo Domingo 22.84 102 P P 12 22 16.3 -0.2
comp=Z,5.7nm,0.6s,baz=295,slow=6.6,SNR=7.8
SDV LR LR 12 31 59.8
comp=Z,180nm,20.4s,baz=293,slow=39
SDV Santo Domingo 22.84 102 P P 12 22 14.3 -2.2
SDV Santo Domingo 22.84 102 *e*P P 12 22 14.8 -1.7
SDV Santo Domingo 22.84 102 *e*P P 12 22 17.5 +1.0
Y22D IRIS PASSCAL I 22.86 330 P P 12 22 17.1 +0.8
baz=144
BIRD Birdtown, Kers 22.86 28 P P 12 22 15.3 -1.0
BIRD IAmb IAmb 12 22 32.6
comp=Z,82nm,1.0s
KMSC Kings Mountain 22.90 26 P P 12 22 15.4 -1.3
KMSC IAmb IAmb 12 22 38.5
comp=Z,44nm,0.7s
KMSC Kings Mountain 22.90 26 P P 12 22 18.2 +1.5
baz=210,SNR=9.2
S44A Carbondale 23.07 8 P P 12 22 17.8 -0.6
SIUC Southern Illin 23.10 8 P P 12 22 16.7 -1.9
FVM French Village 23.23 6 P P 12 22 17.6 -2.3
FVM pmax pmax
comp=Z,22nm,0.8s
FVM French Village 23.23 6 P P 12 22 17.6 -2.3
CCM Cathedral Cave 23.23 4 P P 12 22 17.3 -2.7
CCM pmax pmax
comp=Z,39nm,0.9s
CCM Cathedral Cave 23.23 4 P P 12 22 17.3 -2.7
CCM IAmb IAmb 12 22 33.6
comp=Z,39nm,0.8s
CCM Cathedral Cave 23.23 4 P P 12 22 19.6 -0.3
baz=185
TZTN Tazewell 23.31 20 P P 12 22 20.9 +0.1
TZTN IAmb IAmb 12 22 45.8
comp=Z,56nm,0.9s
TZTN Tazewell 23.31 20 P P 12 22 20.8 +0.1
baz=204
ANMO Albuquerque 23.35 332 P P 12 22 23.5 +2.1
comp=Z,17nm,0.8s,baz=148,slow=12,SNR=49
ANMO Albuquerque 23.35 332 *i* P P 12 22 23.8 +2.5
ANMO pmax pmax
comp=Z,30nm,0.9s
ANMO Albuquerque 23.35 332 P P 12 22 18.6 -2.8
ANMO Albuquerque 23.35 332 P P 12 22 23.5 +2.1
baz=146
R40A Maddies Statio 23.42 2 P P 12 22 20.5 -1.3
R40A IAmb IAmb 12 22 36.4
comp=Z,37nm,0.8s
W57A Gilead 23.50 28 P P 12 22 19.8 -2.7
W57A IAmb IAmb 12 22 43.4
comp=Z,39nm,0.8s
V55A Taylorsville 23.56 25 P P 12 22 22.1 -1.1
V55A IAmb IAmb 12 22 39.6
comp=Z,47nm,1.1s
TUC Tucson 23.68 320 P P 12 22 20.4 -4.0
TUC pmax pmax
comp=Z,37nm,1.0s
TUC Tucson 23.68 320 P P 12 22 20.4 -4.0
TUC IAmb IAmb 12 22 40.7
comp=Z,37nm,1.0s
TUC Tucson 23.68 320 P P 12 22 26.8 +2.4
baz=134
WCI Wyandotte Cave 24.13 13 P P 12 22 26.4 -2.0
WCI pmax pmax
comp=Z,50nm,0.8s
WCI Wyandotte Cave 24.13 13 P P 12 22 26.4 -2.0
WCI Wyandotte Cave 24.13 13 P P 12 22 29.9 +1.5
baz=196
OLIL Olney 24.27 10 P P 12 22 26.6 -2.9
OLIL IAmb IAmb 12 22 43.4
comp=Z,64nm,1.1s
Q44A Meyer Farm, Va 24.30 8 IAmb IAmb 12 22 54.6
comp=Z,46nm,0.8s
U56A King 24.33 26 IAmb IAmb 12 22 36.3
comp=Z,45nm,0.7s
T25A Trinidad 24.39 338 P P 12 22 29.5 -1.5
T25A IAmb IAmb 12 22 50.5
comp=Z,48nm,0.9s
T25A Trinidad 24.39 338 P P 12 22 32.2 +1.2
baz=153,SNR=50
KSU1 Kansas State U 24.40 354 P P 12 22 30.6 -0.2
KSU1 Kansas State U 24.40 354 P P 12 22 30.4 -0.4
baz=172
CNNC Cliffs of the 24.57 31 P P 12 22 32.3 -0.1
CBKS Cedar Bluff 24.61 348 P P 12 22 32.2 -0.6
CBKS pmax pmax
comp=Z,50nm,0.9s
CBKS Cedar Bluff 24.61 348 P P 12 22 32.2 -0.6
CBKS IAmb IAmb 12 22 49.2
comp=Z,50nm,0.9s
CBKS Cedar Bluff 24.61 348 P P 12 22 33.2 +0.4
baz=165,SNR=12
P40A Paris 24.66 2 P P 12 22 32.6 -0.6
P40A IAmb IAmb 12 22 34.7
comp=Z,32nm,0.7s
P38A Dawn 24.74 359 IAmb IAmb 12 22 47.0
comp=Z,23nm,0.7s
214A Organ Pipe Nat 24.74 317 P P 12 22 33.9 -0.2
214A Organ Pipe Nat 24.74 317 P P 12 22 36.6 +2.5
baz=129,SNR=15
X18A Snowflake 24.79 325 IAmb IAmb 12 23 07.6
comp=Z,23nm,0.8s
P43A Skaggs, Pawnee 24.96 7 P P 12 22 32.7 -3.2
P43A IAmb IAmb 12 22 58.0
comp=Z,52nm,1.1s
BLO Bloomington 24.98 12 P P 12 22 35.2 -0.9
BLO pmax pmax
comp=Z,25nm,0.8s
BLO Bloomington 24.98 12 P P 12 22 35.2 -0.9
BLO IAmb IAmb 12 22 53.6
comp=Z,25nm,0.8s
BLA Blacksburg 25.05 25 P P 12 22 32.9 -3.9
BLA pmax pmax
comp=Z,32nm,0.8s
BLA Blacksburg 25.05 25 P P 12 22 32.9 -3.9
BLA IAmb IAmb 12 22 44.9
comp=Z,32nm,0.8s
BLA Blacksburg 25.05 25 P P 12 22 38.9 +2.1
baz=210,SNR=6.8
W18A Petrified Fore 25.11 327 P P 12 22 33.4 -4.2
W18A Petrified Fore 25.11 327 P P 12 22 39.3 +1.7
baz=140
SDCO Great Sand Dun 25.33 337 P P 12 22 35.3 -4.3
SDCO Great Sand Dun 25.33 337 P P 12 22 42.2 +2.5
baz=151,SNR=37
T57A Hurt 25.36 27 P P 12 22 38.0 -1.5
R53A Hurricane 25.47 21 P P 12 22 37.2 -3.3
P48A Milroy 25.50 14 P P 12 22 39.7 -1.2

U59A Littleton 25.50 30 P P 12 22 38.2 -2.6
U59A IAmb IAmb 12 22 58.5
comp=Z,30nm,1.0s
KSCO Kaye Shedlock' 25.51 343 P P 12 22 42.6 +1.5
baz=158
X16A Lo Mia Camp, P 25.55 323 P P 12 22 41.0 -0.5
SFX San Felipe 25.59 313 P P 12 22 39.4 -2.3
O44A Mansfield 25.60 8 P P 12 22 40.9 -0.8
O44A IAmb IAmb 12 22 59.7
comp=Z,45nm,1.2s
Q51A Peebles 25.65 18 P P 12 22 40.5 -1.7
Q51A IAmb IAmb 12 22 58.1
comp=Z,29nm,0.9s
S22A 4UR Ranch, Cre 25.86 335 P P 12 22 42.0 -2.4
S22A 4UR Ranch, Cre 25.86 335 P P 12 22 46.5 +2.1
baz=149,SNR=22
113A Mohawk Valley, 25.88 317 P P 12 22 41.2 -3.1
HDIL Hopedale 25.89 7 P P 12 22 44.5 +0.2
HDIL IAmb IAmb 12 23 14.4
comp=Z,32nm,0.8s
HDIL Hopedale 25.89 7 P P 12 22 45.4 +1.1
baz=189
N38A Joes South For 25.90 360 P P 12 22 41.5 -2.9
Q52A Bidwell 25.93 20 P P 12 22 42.5 -2.2
Q52A IAmb IAmb 12 23 03.4
comp=Z,32nm,1.0s
SFIN Lafayette 26.04 11 P P 12 22 47.6 +1.9
baz=193
N35A Tabor 26.06 356 P P 12 22 44.5 -1.3
R55A Marlinton 26.10 24 P P 12 22 45.1 -1.2
N33A J Bar K, Exete 26.11 353 P P 12 22 45.4 -1.0
T59A Double "B" Far 26.12 29 P P 12 22 45.1 -1.3
SJG San Juan 26.14 79 LR LR 12 34 15.2
comp=Z,217nm,19.3s,baz=240,slow=39
MVCO Mesa Verde 26.14 331 P P 12 22 45.9 -1.1
MVCO IAmb IAmb 12 22 56.8
comp=Z,35nm,0.8s
MVCO Mesa Verde 26.14 331 P P 12 22 48.4 +1.4
baz=145,SNR=37
P51A Williamsport 26.16 18 P P 12 22 45.2 -1.6
ATAH Atahualpa 26.27 145 LR LR 12 31 56.3
comp=Z,269nm,20.1s,baz=334,slow=34
Q24A Divide 26.28 339 P P 12 22 46.2 -2.0
Q24A Divide 26.28 339 P P 12 22 50.4 +2.2
baz=153,SNR=7.2
WUAZ Wupatki 26.30 325 P P 12 22 45.6 -2.7
WUAZ Wupatki 26.30 325 P P 12 22 50.7 +2.4
baz=137,SNR=12
O48B Farmland 26.32 14 P P 12 22 50.8 +2.6
baz=198
Q54A Coxs Mills 26.44 22 P P 12 22 48.9 -0.5
O49A Covington 26.46 15 P P 12 22 50.4 +0.9
JSRW J. Sargeant Re 26.55 28 P P 12 22 48.4 -1.9
P52A Corning 26.58 19 P P 12 22 53.2 +2.6
baz=204
P53A Whipple 26.70 21 P P 12 22 48.7 -2.9
P53A IAmb IAmb 12 23 17.6
comp=Z,35nm,1.1s
GLA Glamis 26.76 317 P P 12 22 55.0 +2.7
baz=128
R58B Mineral 26.77 28 P P 12 22 48.6 -3.7
BGNE Belgrade 26.86 352 P P 12 22 56.2 +3.0
baz=169
BLYC Blythe 26.99 318 P P 12 22 51.2 -3.2
SCIA State Center 27.02 360 P P 12 22 51.0 -3.5
PV15 Paradox Valley 27.07 333 P P 12 22 52.3 -3.0
PV15 IAmb IAmb 12 23 12.8
comp=Z,42nm,0.9s
PDMCI Parker Dam,Lak 27.10 320 P P 12 22 57.9 +2.6
baz=131,SNR=17
SMCO Snowmass 27.14 336 P P 12 22 54.0 -2.2
OGNE Ogallala 27.17 345 P P 12 22 52.6 -3.3
OGNE IAmb IAmb 12 23 17.7
comp=Z,32nm,0.8s
OGNE Ogallala 27.17 345 P P 12 22 57.2 +1.3
baz=161
ISCO Idaho Springs 27.18 339 P P 12 22 53.4 -3.0
ISCO pmax pmax
comp=Z,25nm,1.5s
ISCO Idaho Springs 27.18 339 P P 12 22 53.4 -3.0
ISCO Idaho Springs 27.18 339 P P 12 22 57.5 +1.1
baz=153,SNR=5.9
PV11 David Mesa, Pa 27.20 332 P P 12 22 54.9 -1.6
L42A Oliver, Polo 27.29 6 P P 12 22 55.6 -1.2
L42A IAmb IAmb 12 23 22.2
comp=Z,40nm,1.1s
SWSC Sam W. Stewart 27.35 315 P P 12 23 00.1 +2.5
baz=126,SNR=8.3
IKP In-Ko-Pah, Jac 27.39 314 P P 12 23 00.9 +2.8
baz=125,SNR=8.3
MCWV Mont Chateau 27.40 23 P P 12 22 59.0 +1.1
baz=209
BC3 Big Chuckawall 27.54 317 P P 12 23 02.2 +2.8
baz=128,SNR=38
IRM Iron Mountain 27.65 318 P P 12 23 03.4 +3.1
baz=129,SNR=17
L44A Lake County Fo 27.67 8 P P 12 23 02.2 +1.9
baz=191
MONP2 Monument Peak 27.74 315 P P 12 23 03.5 +2.1
baz=125
BELC Belle Mtn. Jos 28.11 317 P P 12 23 07.3 +2.7
baz=128,SNR=9.2
JFWS Jewell Farm 28.14 5 P P 12 23 00.4 -4.1
JFWS pmax pmax
comp=Z,19nm,0.7s
JFWS Jewell Farm 28.14 5 P P 12 23 00.3 -4.1
JFWS IAmb IAmb 12 23 08.4
comp=Z,19nm,0.7s
JFWS Jewell Farm 28.14 5 P P 12 23 07.7 +3.2
baz=186
K31A O'Neill 28.14 351 P P 12 23 01.0 -3.6
TPFO Pinon Flats 28.18 316 P P 12 23 08.2 +3.1
baz=126
PFO Pinyon Flats O 28.19 316 P P 12 23 07.8 +2.6
comp=Z,5.3nm,0.8s,baz=122,slow=8.6,SNR=5.6
PFO Pinyon Flats O 28.19 316 *ce*P P 12 23 08.7 +3.5
PFO Pinyon Flats O 28.19 316 P P 12 23 01.1 -4.1
PFO Pinyon Flats O 28.19 316 P P 12 23 08.2 +3.0
baz=126
KNB Kanab 28.19 325 P P 12 23 00.7 -4.6
KNB pmax pmax
comp=Z,12nm,0.8s
KNB Kanab 28.19 325 P P 12 23 00.7 -4.6
109C Camp Elliot, M 28.22 314 P P 12 23 07.7 +2.4
baz=124
PKCU Pink Cliffs 28.23 327 P P 12 23 03.3 -2.5
N23A Red Feather La 28.27 339 P P 12 23 03.7 -2.4
N23A Red Feather La 28.27 339 P P 12 23 08.2 +2.1
baz=153
GMRC Granite Mounta 28.37 319 P P 12 23 09.6 +2.8
baz=129,SNR=12
O56A Blue Knob Stat 28.42 24 P P 12 23 10.4 +3.3
baz=211
O20A White River Ci 28.47 335 P P 12 23 10.5 +2.7
baz=148,SNR=8.2
PHWY Pilot Hill 28.48 340 P P 12 23 06.0 -1.9
N54A Moraine State 28.50 21 P P 12 23 10.4 +2.7
baz=207
MURC Murrieta 28.68 315 P P 12 23 12.4 +2.9
baz=125
HEC Hector,Ludlow 28.84 318 P P 12 23 13.4 +2.5
baz=128
ELS Elsinore Mount 28.86 315 P P 12 23 08.0 -3.2
CCUT Cedar City 28.88 325 P P 12 23 10.0 -1.4
BBRC Big Bear Solar 28.88 316 P P 12 23 14.1 +2.7
baz=127,SNR=6.1
TUQ Turquoise Moun 28.95 319 P P 12 23 13.6 +1.6
baz=130,SNR=12
MSU Marysvale 28.96 328 P P 12 23 09.7 -2.5
MSU Marysvale 28.96 328 P P 12 23 09.7 -2.5
ECSD EROS Data Cent 28.99 355 P P 12 23 11.4 -0.7
ECSD IAmb IAmb 12 23 17.5
comp=Z,12nm,0.6s
ECSD EROS Data Cent 28.99 355 P P 12 23 13.3 +1.2
baz=173
TMUT Trail Mountain 29.09 330 P P 12 23 10.6 -2.8
SHPR Sheep Range 29.18 322 P P 12 23 13.0 -1.0
CIS Catalina Islan 29.41 313 P P 12 23 18.0 +2.0
baz=123
RWWY Rawlins 29.42 338 P P 12 23 14.4 -1.9
RWWY IAmb IAmb 12 23 20.6
comp=Z,36nm,0.9s
GSC Goldstone, Bar 29.43 318 P P 12 23 18.7 +2.5
baz=128
PRN Pahroc Range 29.73 323 P P 12 23 15.6 -3.3

PSUT Pine Spring 29.86 326 P P 12 23 15.8 -4.3
QSM Queen of Sheba 29.88 319 P P 12 23 18.1 -2.0
GWY Greenwater Val 29.89 320 P P 12 23 16.8 -3.6
SUSD Miller 29.95 352 P P 12 23 20.3 -0.3
SUSD IAmb IAmb 12 23 26.1
comp=Z,25nm,0.8s
SUSD Miller 29.95 352 P P 12 23 22.2 +1.6
baz=169
EDW2 Edwards Air Fo 29.96 316 P P 12 23 22.8 +1.9
baz=126
K22A Casper 30.04 340 P P 12 23 23.3 +1.7
baz=154
LRMC Laurel Mtn Rad 30.11 318 P P 12 23 25.0 +2.8
baz=127,SNR=7.0
N59A State Game Lan 30.12 27 P P 12 23 24.0 +1.9
baz=215
TPNV Topopah Spring 30.13 321 P P 12 23 25.1 +2.6
baz=131,SNR=7.3
FURC Furnace Creek, 30.19 320 P P 12 23 25.9 +3.2
baz=130,SNR=8.3
CZSB Cruzeiro do Su 30.23 136 *e*P P 12 23 25.5 +2.2
MPMC Manual Prospec 30.33 319 P P 12 23 26.3 +2.0
baz=128,SNR=12
SPMN Marine on St. 30.33 1 P P 12 23 24.8 +0.8
SPMN Marine on St. 30.33 1 P P 12 23 25.1 +1.2
baz=181
DUG Dugway, Tooele 30.57 330 P P 12 23 28.9 +2.7
baz=140
RSSD Black Hills 30.66 345 P P 12 23 24.1 -3.0
RSSD pmax pmax
comp=Z,17nm,0.7s
RSSD Black Hills 30.66 345 P P 12 23 24.1 -3.0
RSSD IAmb IAmb 12 23 30.3
comp=Z,17nm,0.7s
RSSD Black Hills 30.66 345 P P 12 23 28.5 +1.4
baz=159
ARVC Arvin 30.66 316 P P 12 23 28.9 +1.9
baz=125
R11A Troy Canyon, C 30.68 324 P P 12 23 29.7 +2.4
baz=134,SNR=8.1
ISA Isabella, Lake 30.73 317 P P 12 23 24.1 -3.6
ISA pmax pmax
comp=Z,10.0nm,1.3s
ISA Isabella, Lake 30.73 317 P P 12 23 24.1 -3.6
ISA Isabella, Lake 30.73 317 P P 12 23 30.6 +2.9
baz=126
GRAC Grapevine Rang 30.84 320 P P 12 23 31.0 +2.4
baz=130
CWC Cottonwood Cre 30.94 319 P P 12 23 32.4 +2.8
baz=128
HWUT Hardware Ranch 31.10 333 P P 12 23 28.7 -2.3
NNA Nana 31.16 148 LR LR 12 33 49.7
comp=Z,227nm,21.0s,baz=331,slow=32
LCH Last Change Ra 31.16 320 P P 12 23 30.3 -1.3
PKM Mcpherson Peak 31.20 315 P P 12 23 34.5 +2.6
baz=124
BW06 Boulder Array 31.23 336 P P 12 23 34.0 +1.9
baz=148,SNR=9.9
PDAR Pinedale Array 31.23 336 P P 12 23 33.7 +1.6
comp=Z,4.7nm,0.9s,baz=133,slow=9.6,SNR=32
PDAR PcP PcP 12 26 26.3 +0.4
comp=Z,0.5nm,0.4s,baz=148,slow=5.3,SNR=2.4
PDAR Pinedale Array 31.23 336 P P 12 23 29.9 -2.3
BGU Big Grassy Mou 31.23 330 P P 12 23 30.2 -1.9
VES Vestal, Richgr 31.24 317 P P 12 23 34.7 +2.6
baz=126,SNR=9.8
TIN Tinemaha, Big 31.42 320 P P 12 23 35.8 +2.1
baz=128
SMMC Simmler 31.55 315 P P 12 23 37.2 +2.3
baz=124
HVU Hansel Valley 31.78 332 P P 12 23 32.9 -4.0
HVU pmax pmax
comp=Z,22nm,0.9s
HVU Hansel Valley 31.78 332 P P 12 23 32.9 -4.0
HVU IAmb IAmb 12 23 47.2
comp=Z,22nm,0.9s
AHID Auburn Hatcher 31.84 335 IAmb IAmb 12 24 01.9
comp=Z,23nm,1.1s
MLAC Mammoth, Mammo 32.15 320 P P 12 23 42.5 +2.1
baz=128
SADO Sadowa 32.17 19 LR LR 12 38 44.0
comp=Z,462nm,18.2s,baz=202,slow=40
ELK Elko 32.20 328 LR LR 12 38 34.9
comp=Z,856nm,18.4s,baz=145,slow=40
ELK Elko 32.20 328 P P 12 23 36.6 -4.1
ELK pmax pmax
comp=Z,11nm,1.2s
ELK Elko 32.20 328 P P 12 23 36.5 -4.1
REDW Red Top Meadow 32.24 336 P P 12 23 39.4 -1.6
OMMB Old Mammoth Mi 32.24 320 P P 12 23 39.3 -1.9
SNOW Snow King Moun 32.28 336 P P 12 23 39.0 -2.4
E28A Huff 32.30 350 P P 12 23 37.6 -3.6
NVAR Mina Array Bea 32.33 321 P P 12 23 45.3 +3.5
comp=Z,36nm,1.0s,baz=136,slow=8.6,SNR=153
NVAR PcP PcP 12 26 30.9 +1.8
comp=Z,2.0nm,0.8s,baz=126,slow=4.6,SNR=3.8
NVAR LR LR 12 38 34.1
comp=Z,573nm,20.9s,baz=132,slow=40
LHV Little Huntoon 32.34 321 P P 12 23 39.5 -2.2
LHV IAmb IAmb 12 23 46.9
comp=Z,18nm,0.9s
LOHW Long Hollow 32.35 336 IAmb IAmb 12 23 50.2
comp=Z,19nm,0.8s
TPAW Teton Pass 32.38 336 P P 12 23 40.3 -2.1
PMPB Monarch Peak 32.60 316 IAmb IAmb 12 23 48.2
comp=Z,28nm,0.9s
KVN Kaiserville 32.61 323 IAmb IAmb 12 23 48.8
comp=Z,15nm,1.0s
FLWY Flagg Ranch 32.78 336 P P 12 23 46.5 +0.7
FLWY IAmb IAmb 12 23 54.9
comp=Z,16nm,0.8s
H17A Grant Village 33.00 337 IAmb IAmb 12 24 05.9
comp=Z,19nm,1.1s
H17A Grant Village 33.00 337 P P 12 23 50.3 +2.6
baz=148,SNR=9.0
BMN Battle Mountai 33.04 325 P P 12 23 45.1 -2.9
BMN pmax pmax
comp=Z,13nm,0.9s
BMN Battle Mountai 33.04 325 P P 12 23 45.1 -2.9
LKWY Lake 33.08 337 IAmb IAmb 12 24 05.2
comp=Z,28nm,1.1s
YMP Mirror Lake Pl 33.13 338 P P 12 23 48.7 -0.3
YMP IAmb IAmb 12 23 56.7
comp=Z,13nm,0.7s
YFT Old Faithful 33.15 337 IAmb IAmb 12 23 58.4
comp=Z,14nm,0.8s
RLMT Red Lodge 33.15 339 P P 12 23 47.4 -1.5
RLMT IAmb IAmb 12 23 52.3
comp=Z,12nm,0.8s
RLMT Red Lodge 33.15 339 P P 12 23 50.8 +1.9
baz=151,SNR=16
YERR Yerington 33.25 321 IAmb IAmb 12 23 54.5
comp=Z,35nm,1.5s
YNR Norris Junctio 33.31 337 P P 12 23 48.0 -2.4
MDND Maddock 33.38 352 P P 12 23 51.6 +0.9
baz=169
YHH Holmes Hill 33.44 337 P P 12 23 51.8 +0.3
YHH IAmb IAmb 12 24 07.7
comp=Z,24nm,1.4s
AGMN Agassiz Nation 33.48 357 P P 12 23 51.7 +0.2
baz=175
PNTR Pine Nut 33.53 321 IAmb IAmb 12 23 57.1
comp=Z,19nm,0.9s
LAO LASA Array 33.61 344 P P 12 23 52.0 -0.7
LAO IAmb IAmb 12 23 57.3
comp=Z,15nm,0.8s
LAO LASA Array 33.61 344 P P 12 23 53.8 +1.0
baz=157,SNR=8.6
LONY Lake Ozonia 33.67 24 P P 12 23 54.1 +0.8
baz=214
RUBR Rubicon Trail 33.84 321 IAmb IAmb 12 24 03.0
comp=Z,28nm,1.1s
HLID Hailey 33.93 332 IAmb IAmb 12 24 12.0
comp=Z,19nm,1.2s
HLID Hailey 33.93 332 P P 12 23 58.0 +2.3
baz=141,SNR=16
BCYI Bear Canyon 34.07 334 P P 12 23 55.0 -2.0
MCMT McKenzie Canyo 34.26 335 P P 12 23 56.2 -2.4
BOZ Bozeman (W) 34.41 337 P P 12 24 00.7 +0.8
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 34.41 337 P P 12 24 00.7 +0.8
BOZ IAmb IAmb 12 24 08.1
comp=Z,13nm,0.9s
BOZ Bozeman (W) 34.41 337 P P 12 24 02.0 +2.2
baz=147,SNR=21

MFID Camas Ranch 34.48 330 P P 12 24 00.8 +0.4
BOAV Boa Vista 34.51 108 *e*P **P 12 24 02.0 +1.1**
DLMT Dillon 34.59 336 P **P 12 24 03.1 +1.7**
DGMT Dagmar 34.78 347 P **P 12 24 03.0 +0.2**
DGMT Dagmar 34.78 347 P **P 12 24 04.4 +1.5**
baz=161,SNR=11
WVOR Wild Horse Val 35.19 327 P **P 12 24 05.8 -0.8**
WVOR pmax pmax
comp=Z,15nm,1.1s
WVOR Wild Horse Val 35.19 327 P **P 12 24 05.8 -0.8**
WVOR IAmb IAmb 12 24 30.2
comp=Z,15nm,1.1s
ULM Lac du Bonnet 35.43 357 P **P 12 24 07.3 -1.0**
comp=Z,5.9nm,0.7s,baz=177,slow=11,SNR=7.1
ULM LR LR 12 41 49.3
comp=Z,212nm,20.3s,baz=167,slow=42
ULM Lac du Bonnet 35.43 357 P **P 12 24 07.4 -0.9**
ULM pmax pmax
comp=Z,8.0nm,0.8s
ULM Lac du Bonnet 35.43 357 P **P 12 24 07.4 -0.9**
HRY Holter Researc 35.43 338 P **P 12 24 07.1 -1.4**
O03E Paynes Creek 35.61 321 P **P 12 24 10.8 +0.7**
O03E IAmb IAmb 12 24 31.7
comp=Z,10nm,0.8s
O03E Paynes Creek 35.61 321 P **P 12 24 12.2 +2.1**
baz=128
PLID Pearl Lake 35.83 332 IAmb IAmb 12 24 21.1
comp=Z,17nm,0.8s
EGMT Eagleton 35.86 341 P **P 12 24 13.5 +1.4**
EGMT IAmb IAmb 12 24 15.9
comp=Z,22nm,0.8s
EGMT Eagleton 35.86 341 P **P 12 24 14.1 +1.9**
baz=152,SNR=15
O02D Mt. Diablo Mer 36.14 320 P **P 12 24 15.9 +1.2**
baz=126
ETMB Extrema 36.24 131 *e*P **P 12 24 16.1 +0.3**
BMO Blue Mountains 36.26 331 P **P 12 24 14.1 -1.5**
BMO pmax pmax
comp=Z,10.0nm,1.2s
BMO Blue Mountains 36.26 331 P **P 12 24 14.1 -1.5**
PTGA Pitinga 36.31 112 P **P 12 24 16.0 -0.4**
comp=Z,6.6nm,0.8s,baz=316,slow=9.2,SNR=9.3
PTGA LR LR 12 40 28.6
comp=Z,215nm,21.7s,baz=294,slow=39
MSO Missoula 36.33 336 P **P 12 24 13.6 -2.7**
MSO IAmb IAmb 12 24 31.8
comp=Z,30nm,1.4s
MSO Missoula 36.33 336 P **P 12 24 17.9 +1.6**
baz=145,SNR=13
PKME Peaks-Kenny Pk 36.47 29 P **P 12 24 18.4 +1.1**
baz=221
M04C Macdoel 36.55 323 P **P 12 24 20.7 +2.5**
baz=129
N02D Trinity Center 36.57 321 P **P 12 24 19.4 +1.1**
baz=127
MACA Manacapuru-AM 36.82 116 *e*P **P 12 24 21.6 +0.9**
M02C Callahan 36.91 322 P **P 12 24 22.4 +1.2**
baz=127
YBH Yreka Blue Hor 37.03 322 LR LR 12 41 31.6
comp=Z,575nm,18.3s,baz=144,slow=39
K04D Chiloquin, OR 37.03 324 P **P 12 24 23.8 +1.5**
baz=130
L04D Klamath Falls 37.09 323 P **P 12 24 24.9 +2.0**
baz=129
J05D Fort Rock, OR 37.17 325 P **P 12 24 24.9 +1.4**
baz=131
JTMT Jette 37.22 336 P **P 12 24 22.8 -1.1**
JTMT IAmb IAmb 12 24 39.7
comp=Z,18nm,1.0s
J04D Umpqua Nationa 37.63 325 P **P 12 24 28.8 +1.4**
baz=130
L02E Cave Junction 37.81 322 P **P 12 24 30.8 +2.0**
baz=127
E09A Wood Farm, Sta 37.89 332 P **P 12 24 27.1 -2.2**
E09A IAmb IAmb 12 24 38.6
comp=Z,9.2nm,0.7s
I04A Tendick Farm, 38.15 325 P **P 12 24 33.9 +2.3**
baz=130
WALA Waterton Lakes 38.16 338 P **P 12 24 28.7 -3.1**
WALA IAmb IAmb 12 24 49.7
comp=Z,17nm,1.3s
K02D Willamette Mer 38.18 323 P **P 12 24 34.0 +2.1**
baz=128
HAWA Hanford 38.45 330 P **P 12 24 30.9 -3.2**
I03D Drain, OR 38.61 324 P **P 12 24 37.5 +2.1**
baz=129
E07A Sunnyside 38.72 330 P **P 12 24 34.5 -1.9**
E07A IAmb IAmb 12 24 45.2
comp=Z,9.0nm,0.7s
HOOD Mount Hood Mea 38.76 328 P **P 12 24 35.7 -1.1**
NEW Newport 38.78 334 P **P 12 24 38.2 +1.3**
comp=Z,1.6nm,0.6s,baz=134,slow=9.9
NEW LR LR 12 43 24.0
comp=Z,424nm,18.1s,baz=140,slow=40
NEW Newport 38.78 334 P **P 12 24 38.2 +1.3**
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 38.78 334 IAmb IAmb 12 24 46.1
comp=Z,4.7nm,0.7s
NEW Newport 38.78 334 P **P 12 24 39.2 +2.3**
baz=141
H04D Lebanon 38.80 326 P **P 12 24 39.1 +2.0**
baz=131
C09A Chrisman Ranch 38.91 333 P **P 12 24 36.3 -1.7**
C09A IAmb IAmb 12 24 46.8
comp=Z,19nm,0.7s
F05D White Salmon 39.04 328 P **P 12 24 37.5 -1.6**
F05D IAmb IAmb 12 24 49.8
comp=Z,25nm,0.8s
F05D White Salmon 39.04 328 P **P 12 24 41.6 +2.5**
baz=134
LPAZ La Paz 39.58 140 P **P 12 24 44.5 0.0**
comp=Z,3.1nm,0.8s,baz=347,slow=12,SNR=8.2
LPAZ LR LR 12 40 30.3
comp=Z,170nm,21.8s,baz=338,slow=35
LPAZ La Paz 39.58 140 *e*P **P 12 24 44.9 +0.3**
LTY Liberty 39.61 330 P **P 12 24 41.9 -1.9**
B08A Colville Reser 39.80 333 P **P 12 24 44.0 -1.4**
FFC Flin Flon 40.43 352 P **P 12 24 47.7 -2.7**
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 40.43 352 P **P 12 24 47.7 -2.7**
B05A Bryant 41.01 331 P **P 12 24 57.2 +1.9**
baz=135
PB11 IPOC Station P 41.42 145 IAmb IAmb 12 25 00.7
comp=Z,16nm,0.9s
EDM Edmonton 41.52 342 P **P 12 24 58.4 -1.0**
EDM pmax pmax
comp=Z,37nm,0.7s
EDM Edmonton 41.52 342 P **P 12 24 58.4 -1.0**
GO01 Chusmiza 41.60 145 P **P 12 24 59.0 -2.0**
ITTB Itaituba 41.73 114 *e*P **P 12 25 01.0 -0.7**
MALB Monte Alegre 41.94 110 *e*P **P 12 25 03.4 0.0**
LLLB Lillooet 42.59 333 P **P 12 25 04.9 -3.4**
VILB Vilhena 42.75 129 *e*P **P 12 25 10.4 +0.5**
NPGB Novo Progresso 43.34 117 *e*P **P 12 25 14.1 -0.8**
MCPB Macapa, AP 43.38 107 *e*P **P 12 25 15.7 +0.6**
FCC Fort Churchill 43.90 359 P **P 12 25 16.9 -1.7**
FCC pmax pmax
comp=Z,8.0nm,1.0s
FCC Fort Churchill 43.90 359 P **P 12 25 16.9 -1.7**
SIV San Ignacio 44.08 133 P **P 12 25 20.0 -0.7**
comp=Z,7.6nm,0.9s,baz=301,slow=9.7,SNR=19
SIV LR LR 12 42 58.2
comp=Z,181nm,20.1s,baz=277,slow=35
LVC Limon Verde 44.14 147 P **P 12 25 22.6 +1.2**
comp=Z,8.2nm,1.1s,baz=229,slow=15,SNR=3.3
LVC LR LR 12 40 58.7
comp=Z,98nm,21.0s,baz=321,slow=32
RPN Rapa Nui 44.52 201 LR LR 12 39 08.5
comp=Z,327nm,20.8s,baz=296,slow=29
PDRB Porto dos Gac 44.65 124 *e*P **P 12 25 25.0 -0.3**
SCHQ Schefferville 44.90 21 LR LR 12 46 44.9
comp=Z,568nm,18.2s,baz=220,slow=40
CLDB Colider 44.99 122 *e*P **P 12 25 27.9 -0.1**
PTLB Pontes e Lacer 45.13 130 *e*P **P 12 25 29.5 +0.5**
BBB Bella Bella 46.50 331 LR LR 12 48 43.4
comp=Z,233nm,19.7s,baz=137,slow=40
TMAB Tom-Au,PA,Br 47.80 107 *e*P **P 12 25 51.7 +1.7**
SALV Santo Antonio 47.99 128 *e*P **P 12 25 51.5 +0.1**
SNDB Serra Nova Dou 49.30 120 *e*P **P 12 26 01.5 -0.1**
YKA Yellowknife Ar 49.99 347 P **P 12 26 06.7 +0.6**
comp=Z,6.7nm,0.6s,baz=152,slow=7.3,SNR=124
YKA PcP **PcP 12 27 25.9 +0.4**
comp=Z,2.3nm,0.7s,baz=154,slow=3.8,SNR=4.1
CO03 El Pedregal 50.27 155 IAmb IAmb 12 26 10.0
comp=Z,13nm,0.9s
CO02 Combarbal 50.46 155 P **P 12 26 09.0 -1.3**
CRAG Craig 50.88 332 P **P 12 26 14.5 +1.6**
baz=127
ARAG Araguaiana, MT 50.90 125 *e*P **P 12 26 13.2 -0.4**
SMTB Santa Maria do 50.96 115 *e*P **P 12 26 14.8 +0.6**
WRAK Wrangell Islan 51.11 333 P **P 12 26 16.2 +1.6**
baz=128
DLBC Dease Lake 51.46 336 P **P 12 26 15.9 -1.5**
ROSB Rosario 51.68 106 *e*P **P 12 26 19.6 +0.1**
FRB Frobisher Bay 51.81 14 P **P 12 26 20.5 +0.7**
comp=Z,1.8nm,0.4s,baz=219,slow=9.0,SNR=8.4
FRB LR LR 12 50 58.0
comp=Z,436nm,18.3s,baz=210,slow=39
PEXB Peixe 51.88 119 *e*P **P 12 26 21.4 +0.3**
TAOE Nuku Hiva Isla 52.14 246 *e*S **S 12 33 50.0 +5.6**
comp=Z,125nm,26.1s
TAOE *e*LR LR 12 41 06.7
comp=Z,547nm,26.8s
TAOE Nuku Hiva Isla 52.14 246 *e*T T 13 21 51.9
comp=Z,37nm,0.2s
WTLY Watson Lake, Y 52.15 338 P **P 12 26 24.4 +2.0**
baz=135
WRGLY Wrigley 52.80 343 P **P 12 26 29.1 +2.0**
baz=142,SNR=11
TGTN Hyland Airport 52.98 340 P **P 12 26 31.2 +2.6**
baz=136,SNR=5.9
LMEL Las Melosas 53.11 156 P **P 12 26 26.6 -3.4**
LMEL IAmb IAmb 12 26 31.8
comp=Z,15nm,0.8s
P33M Teslin, Yukon 53.71 337 P **P 12 26 36.0 +2.0**
baz=130
CPUP Villa Florida 53.74 139 P **P 12 26 33.5 -1.0**
comp=Z,4.1nm,0.8s,baz=329,slow=10,SNR=4.2
CPUP LR LR 12 50 54.5
comp=Z,101nm,18.8s,baz=33,slow=38
CPUP Villa Florida 53.74 139 P **P 12 26 33.5 -1.0**
CPUP pmax pmax
comp=Z,10.0nm,1.2s
CPUP Villa Florida 53.74 139 IAmb IAmb 12 26 34.3
comp=Z,10nm,1.1s
CPUP Villa Florida 53.74 139 *e*P **P 12 26 33.7 -0.8**
BDFB Brasilia 53.93 122 P **P 12 26 35.6 -0.6**
comp=Z,3.9nm,0.8s,baz=302,slow=8.4,SNR=4.6
BDFB Brasilia 53.93 122 IAmb IAmb 12 26 37.1
comp=Z,21nm,1.4s
SKAG Skagway 54.23 335 P **P 12 26 39.4 +1.8**
baz=127
MMPY Sheldon Lake, 54.75 340 P **P 12 26 43.0 +1.5**
baz=133,SNR=8.1
PCMB Pacaembu 54.78 130 *e*P **P 12 26 42.9 +0.7**
SDBA SAO DESIDERIO 54.94 117 *e*P **P 12 26 43.9 +0.4**
IPMB Ipameri, GO 55.02 125 *e*P **P 12 26 43.9 -0.2**
FARO Faro, Yukon 55.21 338 P **P 12 26 46.5 +1.7**
baz=131
M31M Drury Creek, Y 55.57 338 P **P 12 26 44.7 -2.6**
M31M IAmb IAmb 12 27 04.6
comp=Z,28nm,1.5s
M31M Drury Creek, Y 55.57 338 P **P 12 26 48.8 +1.5**
baz=130
NBMO Morrinhos-CE 55.64 105 *e*P **P 12 26 49.0 +0.5**
N31M Braeburn, Yuko 55.64 337 P **P 12 26 50.3 +2.5**
baz=128
PNL Peninsula 56.05 334 P **P 12 26 52.5 +1.7**
baz=123
PTGB Pitanga 56.15 134 *e*P **P 12 26 51.7 -0.4**
YUK6 Outpost Mounta 56.33 335 P **P 12 26 54.7 +1.6**
baz=125
YUK4 Talbot Arm 56.67 336 P **P 12 26 58.3 +2.9**
baz=125
M30M Minto, Yukon 56.68 338 P **P 12 26 57.9 +2.6**
baz=127
MAYO Mayo, Yukon 56.99 339 P **P 12 27 00.6 +3.2**
baz=129
LC01 Cunco 57.02 160 P **P 12 26 56.8 -1.1**
LC01 IAmb IAmb 12 26 58.6
comp=Z,11nm,0.9s
CTG Chitna Glacier 57.56 335 P **P 12 27 03.9 +2.3**
baz=122
YUK3 Moose Creek 57.63 336 P **P 12 27 03.9 +1.6**
baz=123
C36M Paulatuk 57.87 348 P **P 12 27 03.1 -0.3**
C36M IAmb IAmb 12 27 05.5
comp=Z,11nm,1.1s
C36M Paulatuk 57.87 348 P **P 12 27 04.0 +0.6**
baz=144,SNR=6.9
BVCY Beaver Creek 58.14 336 P **P 12 27 07.3 +1.8**
baz=123
J29M Klondike Camp 58.32 339 P **P 12 27 08.9 +2.0**
baz=127
NBPN Ponto Novo - B 58.37 113 *e*P **P 12 27 08.8 +0.9**
KAIM Kayak Island 58.38 333 P **P 12 27 09.2 +2.0**
baz=118
MCARA McCarthy VSAT 58.48 334 P **P 12 27 10.4 +2.5**
baz=120
DAWY Dawson 58.51 338 P **P 12 27 09.8 +1.7**
baz=125
M27K Edge Creek, AK 58.51 336 P **P 12 27 10.7 +2.4**
baz=122
VAO Valinhos 58.81 129 *e*P **P 12 27 11.5 +0.6**
BCAR Beaver Creek A 58.85 336 P **P 12 27 10.4 -0.1**
DIAM Diamantina, MG 58.85 122 *e*P **P 12 27 13.3 +2.0**
L27K Beaver Creek, 58.86 336 P **P 12 27 12.8 +2.2**
baz=122
I29M Ogilvie Camp, 58.90 340 P **P 12 27 12.3 +1.5**
baz=127
BMRM Bremner River 58.95 334 P **P 12 27 12.6 +1.4**
baz=118
M26K Nabesna, AK 58.98 335 P **P 12 27 14.0 +2.5**
baz=120
EPYK Eagle Plains 59.01 341 P **P 12 27 08.4 -3.1**
EPYK IAmb IAmb 12 27 26.2
comp=Z,13nm,1.0s
EPYK Eagle Plains 59.01 341 P **P 12 27 13.6 +2.0**
baz=129
Q23K Middleton Isla 59.03 332 P **P 12 27 13.6 +1.9**
baz=116
CPSB Cacapava Do Su 59.03 140 *e*P **P 12 27 12.9 +0.7**
PLCA Paso Flores 59.11 160 P **P 12 27 12.2 -0.4**
comp=Z,5.1nm,0.9s,baz=342,slow=7.0,SNR=12
PLCA LR LR 12 47 58.2
comp=Z,106nm,18.2s,baz=12,slow=31
PLCA Paso Flores 59.11 160 P **P 12 27 09.2 -3.4**
PLCA IAmb IAmb 12 27 13.5
comp=Z,9.1nm,1.1s
PLCA Paso Flores 59.11 160 *e*P **P 12 27 12.9 +0.3**
SFJD Kangerlussuaq 59.12 18 LR LR 12 54 45.5
comp=Z,471nm,18.4s,baz=223,slow=38
N25K Chitina, Valde 59.25 334 P **P 12 27 15.4 +2.1**
baz=118
INK Inuvik 59.35 344 P **P 12 27 14.8 +0.9**
comp=Z,22nm,0.9s,baz=121,slow=6.1,SNR=60
INK Inuvik 59.35 344 P **P 12 27 10.3 -3.5**
INK Inuvik 59.35 344 P **P 12 27 15.3 +1.5**
baz=133,SNR=27
L26K Log Cabin Wild 59.44 336 P **P 12 27 16.8 +2.2**
baz=120
EGAK Eagle 59.55 338 P **P 12 27 17.1 +1.9**
baz=124
KLU Klutina 59.75 334 P **P 12 27 19.7 +2.9**
baz=117
HARP HAARP 59.85 335 P **P 12 27 20.1 +2.7**
baz=118
RES Resolute Bay 59.90 359 P **P 12 27 17.4 -0.1**
comp=Z,11nm,0.6s,baz=183,slow=11,SNR=80
RES LR LR 12 56 24.9
comp=Z,156nm,18.6s,baz=171,slow=39
RES Resolute Bay 59.90 359 P **P 12 27 16.9 -0.6**
DOT Dot Lake 60.03 336 P **P 12 27 18.8 +0.2**
DOT IAmb IAmb 12 27 47.4
comp=Z,15nm,1.0s
GDU01 Guandu, BA 60.15 116 *e*P **P 12 27 20.8 +0.6**
SCRK Sand Creek 60.17 337 P **P 12 27 21.7 +2.1**
baz=120
A36M Sachs Harbour 60.25 349 P **P 12 27 19.4 -0.5**
A36M Sachs Harbour 60.25 349 P **P 12 27 20.4 +0.5**
baz=144,SNR=29
PAX Paxson 60.25 335 P **P 12 27 22.0 +1.8**
baz=118
J26L Joseph Creek 60.27 337 P **P 12 27 22.5 +2.2**
baz=121
RCBR Riachuelo 60.38 106 LR LR 12 58 03.0
comp=Z,138nm,18.3s,baz=87,slow=41
RCBR Riachuelo 60.38 106 *ce*P **P 12 27 24.0 +2.2**
RCBR pmax pmax
comp=Z,28nm,1.3s
RCBR Riachuelo 60.38 106 *e*P **P 12 27 23.2 +1.4**
RIDG Independent Ri 60.38 336 P **P 12 27 23.2 +2.1**
baz=119
NBLA Lagarto - SE 60.59 112 *e*P **P 12 27 23.5 +0.3**
TER01 Tubaro-SC 60.60 135 *e*P **P 12 27 22.8 -0.2**
SEW Seward 60.74 331 P **P 12 27 25.6 +2.2**
baz=113
KNK Knik Glacier 60.82 333 P **P 12 27 25.9 +1.9**
baz=114
CMC01 Camacan, BA 60.93 117 *e*P **P 12 27 26.1 +0.7**
WAT6 Susitna Watana 61.01 334 P **P 12 27 27.7 +2.2**
baz=116
GUA01 Guaratinga, BA 61.24 119 *e*P **P 12 27 28.2 +0.6**
NBAN Anadia - AL 61.44 110 *e*P **P 12 27 29.8 +0.8**
PRP Porcupine Dome 61.51 338 P **P 12 27 27.5 -1.3**
PRP IAmb IAmb 12 27 45.1
comp=Z,14nm,1.0s
PRP Porcupine Dome 61.51 338 P **P 12 27 30.4 +1.6**
baz=120,SNR=10
HDA Harding Lake 61.51 337 P **P 12 27 28.7 +0.1**
HDA Harding Lake 61.51 337 P **P 12 27 29.9 +1.3**
baz=118
IL31 61.66 337 P **P 12 27 26.6 -3.0**
IL31 IAmb IAmb 12 27 32.9
comp=Z,19nm,1.1s
ILAR Eielson Array 61.66 337 P **P 12 27 30.6 +1.0**
comp=Z,5.4nm,0.8s,baz=154,slow=4.7,SNR=49
ILAR LR LR 12 58 19.8
comp=Z,200nm,18.1s,baz=140,slow=40
ILAR Eielson Array 61.66 337 P **P 12 27 27.7 -2.0**
RND Reindeer 61.82 335 P **P 12 27 28.6 -2.2**
RND pmax pmax
comp=Z,59nm,1.2s
RND Reindeer 61.82 335 P **P 12 27 28.6 -2.2**
CCB Clear Creek Bu 61.95 337 P **P 12 27 31.0 -0.6**
CCB IAmb IAmb 12 27 57.6
comp=Z,11nm,1.3s
MCK McKinley 61.99 335 P **P 12 27 33.4 +1.5**
baz=115
POKR Poker Plat Res 62.02 337 P **P 12 27 29.8 -2.2**
POKR IAmb IAmb 12 27 36.4
comp=Z,8.9nm,0.8s
POKR Poker Plat Res 62.02 337 P **P 12 27 33.2 +1.1**
baz=117,SNR=6.0
RIB01 Linhares ES 62.04 122 *e*P **P 12 27 33.3 +0.4**
COLA College 62.07 337 *i* P **P 12 27 33.7 +1.4**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 62.07 337 P **P 12 27 29.9 -2.4**
COLA IAmb IAmb 12 27 36.9
comp=Z,10nm,0.8s
COLA College 62.07 337 P **P 12 27 34.1 +1.7**
baz=117
TCOL CIGO, UAF Yank 62.07 337 P **P 12 27 30.6 -1.8**
TCOL IAmb IAmb 12 27 36.9
comp=Z,11nm,0.8s
TCOL CIGO, UAF Yank 62.07 337 P **P 12 27 34.1 +1.7**
baz=117
NBRF Rio Formoso - 62.12 108 *e*P **P 12 27 34.5 +1.0**
BMAR Burnt Mountain 62.15 340 P **P 12 27 31.6 -1.4**
SPCR Spurr Chakacha 62.41 332 P **P 12 27 35.4 +0.6**
baz=111
ALF01 Guarapari-ES 62.41 123 *e*P **P 12 27 37.2 +1.8**
NEA2 Nenana 62.41 336 P **P 12 27 36.3 +1.6**
baz=116
TRF Thorofare Moun 62.43 335 P **P 12 27 36.0 +1.0**
baz=114,SNR=6.4
H24K Noodor Dome 62.52 338 P **P 12 27 36.5 +1.1**
baz=117
I23K Minto, Yukon-K 62.77 337 P **P 12 27 38.9 +1.9**
baz=115,SNR=12
BPAW Bear Paw Mtn. 62.97 335 P **P 12 27 35.1 -3.4**
BPAW IAmb IAmb 12 27 53.5
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 62.97 335 P **P 12 27 39.9 +1.4**
baz=113
PPLA Purkeypile 63.01 334 P **P 12 27 40.3 +1.4**
baz=112
O19K Port Alsworth 63.05 331 P **P 12 27 40.4 +1.4**
baz=108
CAST Castle Rocks 63.16 334 P **P 12 27 40.8 +1.1**
baz=112,SNR=6.6
MLY Manley 63.25 336 P **P 12 27 41.9 +1.6**
baz=114
N19K Bonanza Creek 63.32 331 P **P 12 27 42.4 +1.5**
baz=108
O18K Koktuh Hills 63.37 330 P **P 12 27 42.9 +1.7**
baz=107
L20K Farewell, AK 63.59 333 P **P 12 27 44.0 +1.4**
baz=110
M19K Big River Lodg 63.63 332 P **P 12 27 44.2 +1.4**
baz=109
I21K Tanana 63.79 336 P **P 12 27 40.2 -3.6**
I21K IAmb IAmb 12 28 01.7
comp=Z,21nm,1.4s
I21K Tanana 63.79 336 P **P 12 27 44.8 +1.0**
baz=113
L19K White Mountain 63.92 333 P **P 12 27 46.5 +1.7**
baz=109
COLD Coldfoot 63.97 339 P **P 12 27 43.7 -1.2**
COLD IAmb IAmb 12 27 48.5
comp=Z,13nm,1.2s
COLD Coldfoot 63.97 339 P **P 12 27 46.9 +1.9**
baz=116,SNR=8.0
K20K Telida 63.97 334 P **P 12 27 43.0 -2.1**
K20K IAmb IAmb 12 27 47.4
comp=Z,12nm,0.8s
K20K Telida 63.97 334 P **P 12 27 46.3 +1.2**
baz=110
CHGN Chignik 64.11 326 P **P 12 27 48.0 +2.0**
baz=103
J20K Nowinta River 64.29 335 P **P 12 27 48.5 +1.4**
baz=110
H21K Melozitna Rive 64.29 337 P **P 12 27 48.5 +1.4**
baz=112
TOLK Toolik Lake Re 64.38 340 P **P 12 27 44.6 -3.1**
TOLK IAmb IAmb 12 28 03.6
comp=Z,10nm,0.6s
TOLK Toolik Lake Re 64.38 340 P **P 12 27 49.6 +1.9**
baz=117,SNR=8.7
TTA Tatalina 64.67 333 P **P 12 27 50.7 +1.0**
baz=108
EUNU Eureka 65.36 1 P **P 12 27 51.7 -2.2**
NEEM North Greenlan 66.14 9 *i* P **P 12 28 00.5 +1.3**
NEEM IAmb IAmb 12 28 02.4
comp=Z,41nm,1.2s
FALS False Pass 66.65 324 P **P 12 28 03.6 +1.1**
baz=98
TBI Tubuai 66.81 236 *e*LR LR 12 48 10.0
comp=Z,415nm,27.8s
TBI Tubuai 66.81 236 *e*T T 13 40 14.8
comp=Z,5.8nm,0.3s
A21K Barrow 67.69 342 P **P 12 28 10.5 +1.7**
baz=111,SNR=5.5
UNV Unalaska Valle 68.34 322 P **P 12 28 16.2 +3.1**
baz=95
RDOG Red Dog Mine 68.82 338 P **P 12 28 17.9 +1.9**
baz=103
BORG Borgarnes 69.00 26 LR LR 12 58 15.8
comp=Z,185nm,18.1s,baz=266,slow=36
ANM Nome 69.10 334 P **P 12 28 13.9 -3.8**
ANM pmax pmax
comp=Z,5.0nm,0.7s
ANM Nome 69.10 334 P **P 12 28 13.9 -3.8**
ANM Nome 69.10 334 P **P 12 28 20.2 +2.4**
baz=100
TNA Tin City 70.32 335 P **P 12 28 23.3 -1.9**
TNA Tin City 70.32 335 P **P 12 28 26.9 +1.7**
baz=98,SNR=5.3
DAG Danmarks Havn 72.16 13 *i* P **P 12 28 36.0 -0.2**
DAG IAmb IAmb 12 28 38.2
comp=Z,6.6nm,0.6s
NOR Nord 73.49 9 *i* P **P 12 28 45.4 +1.4**
NOR IAmb IAmb 12 28 47.0
comp=Z,10nm,0.8s
RAR Rarotonga 74.48 243 LR LR 12 52 34.1
comp=Z,92nm,20.6s,baz=159,slow=28
EKA Eskdalemuir Ar 78.00 36 LR LR 13 04 35.5
comp=Z,209nm,18.0s,baz=202,slow=36
SPITS Spitsbergen Ar 79.54 11 P **P 12 29 19.7 +1.4**
comp=Z,3.4nm,0.5s,baz=323,slow=0.7,SNR=14
SPITS LR LR 13 06 15.9
comp=Z,285nm,21.3s,baz=40,slow=37
SHEM Shemya Is, Ala 80.00 322 LR LR 13 02 53.0
comp=Z,29nm,20.4s,baz=32,slow=34
ESDC Sonseca Array 80.14 52 P **P 12 29 20.7 -1.6**
comp=Z,0.8nm,0.7s,baz=276,slow=5.7,SNR=4.7
ESDC LR LR 12 59 19.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,174nm,21.6s,baz=294,slow=32						
BILL	Bilibino	80.29	338	ceP	P	12 29 23.8	+1.3
BILL				e*PP	pP	12 29 35.5	-0.9
BILL				i *SP	sP	12 29 37.2	-4.6
BILL				SS	SS	12 44 35.0	-0.4
BILL				pmax	pmax		
	comp=Z,34nm,1.3s						
MDT	Midelt	80.98	58	LR	LR	13 01 08.7	
	comp=Z,124nm,18.3s,baz=343,slow=33						
AFI	Afiamalu	82.80	254	LR	LR	12 57 01.3	
	comp=Z,104nm,20.9s,baz=80,slow=29						
NB2	NORSAR Subarra	84.00	28	P	P	12 29 43.1	+1.0
	comp=Z,3.5nm,1.1s,baz=293,slow=5.1						
NOA	NORSAR Array B	84.00	28	P	P	12 29 41.5	-0.6
	comp=Z,3.3nm,1.0s,baz=290,slow=5.2,SNR=4.9						
NOA				LR	LR	13 05 53.4	
	comp=Z,164nm,21.4s,baz=285,slow=35						
HFS	Hagfors	85.47	29	LR	LR	13 06 26.1	
	comp=Z,212nm,21.5s,baz=278,slow=35						
ARCES	ARCESS Array B	85.75	18	P	P	12 29 50.4	-0.3
	comp=Z,2.8nm,0.6s,baz=297,slow=5.3,SNR=12						
DBIC	Dimbokro	86.73	84	P	P	12 29 56.2	-0.4
	comp=Z,3.7nm,0.8s,baz=242,slow=7.8,SNR=3.6						
DBIC				LR	LR	13 02 18.0	
	comp=Z,72nm,21.7s,baz=290,slow=31						
DBIC	Dimbokro	86.73	84	P	P	12 29 51.5	-5.1
DBIC				IAmb	IAmb	12 29 57.9	
	comp=Z,6.1nm,0.9s						
SEY	Seymchan	87.55	335	i P	P	12 30 01.6	+2.0
DAVOX	Davos/Dischmat	88.06	42	LR	LR	13 04 27.7	
	comp=Z,162nm,21.8s,baz=262,slow=32						
PET	Petropavlovsk	88.84	325	i P	P	12 30 08.2	+2.3
PET				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	Tiksi	89.24	348	LR	LR	13 17 49.0	
	comp=Z,66nm,18.6s,baz=2.0,slow=41						
TIXI	Tiksi	89.24	348	⇓iP	P	12 30 08.7	+1.3
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIXI	Tiksi	89.24	348	P	P	12 30 04.4	-2.9
TIXI				IAmb	IAmb	12 30 08.9	
	comp=Z,8.4nm,0.9s						
MA2	Magadan	89.86	333	⇑iP	P	12 30 11.8	+1.2
MA2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MA2	Magadan	89.86	333	P	P	12 30 06.8	-3.8
MA2				IAmb	IAmb	12 30 27.8	
	comp=Z,8.4nm,1.0s						
FINES	FINESS Array B	90.27	25	P	P	12 30 12.0	-0.4
	comp=Z,3.2nm,0.9s,baz=349,slow=5.7,SNR=3.3						
FINES	FINESS Array B	90.27	25	P	P	12 30 12.0	-0.4
FINES	FINESS Array B	90.27	25	P	P	12 30 09.6	-2.8
VRAC	Vranov	91.29	38	LR	LR	13 12 25.3	
	comp=Z,107nm,18.3s,baz=292,slow=36						
MSVF	Nonsavu	93.25	253	LR	LR	13 02 01.0	
	comp=Z,176nm,21.0s,baz=102,slow=29						
VAE	Valguarnera	94.54	50	LR	LR	13 09 21.8	
	comp=Z,177nm,18.2s,baz=322,slow=33						
NRIK	Noril'sk	96.09	360	LR	LR	13 19 11.6	
	comp=Z,88nm,18.7s,baz=336,slow=39						
YAK	Yakutsk	96.34	341	LR	LR	13 20 07.4	
	comp=Z,62nm,19.7s,baz=78,slow=39						
YAK	Yakutsk	96.34	341	i P	P	12 30 42.2	+1.9
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	Malin Array Be	97.70	33	LR	LR	13 18 50.9	
	comp=Z,71nm,18.1s,baz=340,slow=38						
OBN	Obninsk	98.50	27	LR	LR	13 14 45.8	
	comp=Z,37nm,20.5s,baz=352,slow=35						
URZ	Urewera	98.76	233	LR	LR	13 05 37.4	
	comp=Z,117nm,20.9s,baz=49,slow=29						
DZM	Mont Dzumac	104.84	251	eLR	LR	13 05 48.0	
	comp=Z,256nm,23.6s						
ZALV	Zalesovo Beam	111.51	1	PP	PP	12 36 26.6	+0.3
	comp=Z,0.9nm,0.7s,baz=12,slow=7.8,SNR=3.5						
SONM	Songino Array	115.24	346	PKP	PKPdf	12 35 54.2	+0.7
	comp=Z,0.5nm,0.7s,baz=342,slow=1.8,SNR=2.5						
SONM				PP	PP	12 36 54.9	+1.8
	comp=Z,0.6nm,0.8s,baz=14,slow=5.6,SNR=4.3						
MKAR	Makanchi Array	118.56	4	PKP	PKPdf	12 35 59.0	-0.8
	comp=Z,0.6nm,0.7s,baz=339,slow=3.0,SNR=5.2						
MKAR	Makanchi Array	118.56	4	PKIKP	PKPdf	12 35 59.5	-0.2
MKAR	Makanchi Array	118.56	4	PKPdf	PKPdf	12 35 59.5	-0.2
HHC	Hu-ho-hao-te	120.06	338	eP	PKiKP	12 36 04.5	+1.5
BOSA	Boshof	121.74	115	PKP	PKiKP	12 36 07.0	+0.4
	comp=Z,3.0nm,0.8s,baz=220,slow=3.8,SNR=4.5						
BOSA	Boshof	121.74	115	PKIKP	PKiKP	12 36 07.0	+0.4
BOSA	Boshof	121.74	115	PKPdf	PKPdf	12 36 05.5	-0.8
NJ2	Nanjing	124.20	327	eP	PKiKP	12 36 12.5	+1.3
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
GTA	Gaotai	124.72	348	PKPbc	PKiKP	12 36 16.5	+4.3
LZH	Lanzhou	126.89	343	ePKP	PKiKP	12 36 18.0	+1.3
LZH				pPKP	pPKPdf	12 36 27.4	-3.4
LZH				sPKP		12 36 33.0	
XAN	Xi'an	127.06	337	P	PKPdf	12 36 16.7	+0.3
XAN				pP	PKiKP	12 36 21.2	+4.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
STKA	Stephens Creek	127.43	241	PKP	PKPdf	12 36 16.9	-0.1
	comp=Z,5.3nm,0.7s,baz=89,slow=0.9,SNR=16						
STKA	Stephens Creek	127.43	241	PKPdf	PKPdf	12 36 16.0	-1.1
WB2	Warramunga Arr	134.44	256	PKPdf	PKPdf	12 36 27.8	-2.8
WRAB	Tennant Creek	134.44	256	c iPKIKP	PKiKP	12 36 32.9	+0.9
WRAB				pmax	pmax		
	comp=Z,12nm,2.5s						
WRA	Warramunga Arr	134.45	256	PKP	PKPdf	12 36 30.9	+0.2
	comp=Z,2.5nm,0.7s,baz=90,slow=2.0,SNR=27						
ASAR	Alice Springs	134.82	251	PKhKP	PKPpre	12 36 18.6	
	comp=Z,0.6nm,0.7s,baz=107,slow=2.9,SNR=7.1						
ASAR				PKP	PKPdf	12 36 31.6	+0.2
	comp=Z,1.9nm,0.7s,baz=77,slow=1.7,SNR=20						
PZH	PanZhiHua	136.45	340	PKP	PKPdf	12 36 35.6	+1.1
FITZ	Fitzroy Crossi	142.65	259	PKhKP	PKPpre	12 36 42.5	
	comp=Z,2.7nm,0.7s,baz=170,slow=3.9,SNR=9.6						
FITZ	Fitzroy Crossi	142.65	259	PKPdf	PKPdf	12 36 42.1	-3.6
CHTO	Chiang Mai	144.53	340	PKIKP	PKPbc	12 36 48.5	+0.9
CMAR	Chiang Mai Arr	144.86	340	PKP	PKPbc	12 36 49.4	+0.7
	comp=Z,11nm,0.9s,baz=343,slow=4.1,SNR=54						
CMAR	Chiang Mai Arr	144.86	340	PKPdf	PKPab	12 36 48.5	-0.1
KAPI	Kappang	146.16	283	PKPbc	PKPab	12 36 53.8	+0.1
	comp=Z,10nm,0.8s,baz=102,slow=5.1,SNR=5.6						
HYBB	Hyderabad (bro	146.97	15	ePKPab	PKPdf	12 36 51.5	-1.7

IDC 01 12:19:12.1±2.1, 27°.37N×142°.75E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/51, mbtmp3.7/4, Error ellipse: s-maj=227.3km s-min=30.4km az=110.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.73	191	P	P	12 27 50.9	0.0
	0.8nm,0.4s,baz=12,slow=8.6,SNR=45						
FITZ	Fitzroy Crossi	48.14	202	P	P	12 27 53.9	-0.2
	0.5nm,0.3s,baz=43,slow=10,SNR=1.9						
ASAR	Alice Springs	51.45	190	P	P	12 28 19.0	-0.2
	0.2nm,0.4s,baz=3.1,slow=6.1,SNR=6.6						
YKA	Yellowknife Ar	71.67	29	P	P	12 30 35.4	0.0
	0.3nm,0.6s,baz=296,slow=5.9,SNR=3.2						

*IDC **01** 12:23:05.7±7.2, 14°.82S×167°.20E, h104km±71km, mb3.3/5, mb1 3.6/6, mb1mx3.4/44, mbtmp3.8/6, ML4.8/1, Error ellipse: s-maj=59.0km s-min=32.5km az=150.0*
*NOU **01** 12:23:06.5, 14°.79S×167°.35E, h89km, MLv5.0/16, Vanuatu Islands*
ISC 01 12:23:05.5±1.0, 14°.66S±0°.08×167°.3E±0°.1, h100km, n23, σ1s.90/24, mb3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.79	185	P	Pn	12 23 23.6	-0.2
DVP	Devils Point	3.17	164	P	Pn	12 23 52.4	-1.2
RTV	Rentapao	3.31	161	P	Pn	12 23 54.9	-0.5
LIFNC	LIFOU	6.08	180	P	Pn	12 24 31.5	-1.5
KOUNC	Koumac, New Ca	6.51	205	P	Pn	12 24 38.9	+0.1
YATNC	Mamie plateau,	7.37	183	P	Sn	12 26 15.8	+3.3
YATNC	Mamie plateau,	7.37	183	P	Pn	12 24 49.3	-1.2
DZM	Mont Dzumac	7.41	186	P	Pn	12 24 49.4	-1.7
	16nm,0.3s,baz=19,slow=16,SNR=99						
DZM				S	Sn	12 26 10.1	-3.7
	12nm,0.3s,baz=322,slow=20,SNR=9.0						
DZM	Mont Dzumac	7.41	186	P	Sn	12 26 16.5	+2.8
DZM	Mont Dzumac	7.41	186	P	Pn	12 24 50.4	-0.7
NOUC	Port Laguerre	7.46	187	P	Sn	12 26 18.5	+3.8
NOUC	Port Laguerre	7.46	187	P	Pn	12 24 51.6	-0.1
ONTNC	Ouen Toro	7.65	186	P	Sn	12 26 20.3	+1.0
ONTNC	Ouen Toro	7.65	186	P	Pn	12 24 54.0	-0.2
OUENC	Ouen Island, N	7.73	183	P	Pn	12 24 54.3	-1.0
PINNC	Pines Island,	7.91	179	P	Pn	12 24 56.9	-0.9
STKA	Stephens Creek	29.04	229	P	P	12 28 55.6	-0.7
	1.0nm,0.6s,baz=48,slow=12,SNR=4.8						
WRA	Warramunga Arr	31.84	256	P	P	12 29 18.8	-2.4
	0.2nm,0.5s,baz=85,slow=9.1,SNR=2.0						
ASAR	Alice Springs	32.70	249	P	P	12 29 26.9	-1.7
	0.5nm,0.5s,baz=79,slow=8.9,SNR=12						
SONM	Songino Array	82.44	324	P	P	12 35 18.7	+1.8
	0.3nm,0.5s,baz=149,slow=6.7,SNR=2.0						
ILAR	Eielson Array	86.46	18	P	P	12 35 35.9	-0.7
	0.4nm,0.7s,baz=213,slow=7.6,SNR=2.3						
WMQ	Urumqi	92.68	315	eP	P	12 36 08.5	+2.1
WMQ				pmax	pmax		
	comp=Z,410nm,5.1s						
WMQ				LR	LR		
	comp=Z,280nm,24.3s						
ARCES	ARCESS Array B	120.19	345	PKP	PKPdf	12 41 43.8	-0.4
	comp=Z,1.5nm,0.8s,baz=72,slow=1.9,SNR=4.9						

IDC 01 12:29:12.6±2.3, 3°.73N×126°.90E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/37, mbtmp3.2/3, Error ellipse: s-maj=185.8km s-min=28.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.63	163	P	P	12 34 34.7	-0.3
	0.5nm,0.8s,baz=343,slow=11,SNR=4.6						
ASAR	Alice Springs	28.07	166	P	P	12 35 06.5	+0.4
	0.3nm,0.9s,baz=341,slow=10.0,SNR=2.0						
MKAR	Makanchi Array	57.66	325	P	P	12 39 04.7	-0.1
	0.2nm,0.4s,baz=125,slow=7.0,SNR=4.8						

*KRNET **01** 12:31:08.3±0.1, 40°.52N×69°.67E, h20km, mb2.6*
ISC 01 12:31:09.0±1.5, 40°.55N±0°.04×69°.70E±0°.08, h28km±19km, n8, σ1s.37/15, 12C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	Batken	0.98	119	⇑iP	Pn	12 31 27.1	0.0
	baz=17						
BTK				⇑eS	Sn	12 31 40.5	+0.4
	baz=17						
TRKS	Terek-Say	1.47	47	⇑eP	Pb	12 31 35.6	-0.2
	baz=50						
TRKS				⇑iS	Sb	12 31 55.6	+1.5
	baz=50						
GAR	Garm	1.62	163	⇑eP	Pb	12 31 37.5	-0.8
	baz=61						
GAR				⇑eS	Sb	12 31 59.0	+0.7
	baz=61						
CHGR	Chuyangaron	1.93	193	⇑eP	Pb	12 31 42.9	-0.7
	baz=92						
CHGR				⇑eS	Sb	12 32 07.7	+0.3
	baz=92						
DRK	Karamyk	1.93	123	⇓eP	Pb	12 31 43.4	-0.4
	baz=21						
DRK				⇓iS	Sb	12 32 09.2	+1.6
	baz=21						
ARK	Arkit	2.12	53	⇓iP	Pb	12 31 46.4	-0.4
	baz=53						
ARK				⇓iS	Sb	12 32 14.1	+1.4
	baz=53						
KK02	Karatay Array	2.63	13	⇑Pg	Pb	12 31 56.4	+1.0
	0.4nm,0.2s,baz=193,slow=18						
KK02				⇑Lg	Lg	12 32 33.1	
	2.0nm,0.5s,baz=195,slow=33						
MNAS	Manas	2.86	46	⇑eP	Pb	12 31 57.0	-2.5
	baz=46						
MNAS				⇑iS	Sb	12 32 32.1	-2.1
	baz=46						

IDC 01 12:34:43.0±326.0, 57°.54N×32°.57E, h0km, Error ellipse: s-maj=84.8km s-min=40.2km az=144.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	2.66	106	i		12 54 18.3	
	baz=288,slow=308,SNR=3.8						
I37NO	I37NO	13.12	338	i		13 50 40.0	
	baz=145,slow=326,SNR=0.6						
I31KZ	AKTYUBINSK INF	16.52	105	i		14 16 00.0	
	baz=309,slow=300,SNR=0.7						
I46RU	ZALESOVO INFRA	29.02	74	i		15 30 43.7	
	baz=291,slow=306						

JMA 01 12:54:48.4±0.2, 25°.46N×123°.64E, h186km±4km, M3.3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	1.06	145	P	Pn	12 55 17.2	0.0
JISG				S	Sn	12 55 39.6	+0.2
IRIF	Iriomote-Funau	1.12	176	P	Pn	12 55 17.5	-0.2
IRIF				S	Sn	12 55 40.9	+0.6
YOJ	Yonaguni jima	1.15	210	P	Pn	12 55 18.1	+0.3
YOJ				eS	Sn	12 55 41.0	+0.4
JIJ	Ishigaki jima	1.18	157	P	Pn	12 55 18.1	-0.1
JIJ				S	Sn	12 55 40.8	-0.4
JYNG	Yonagunijimaku	1.19	212	P	Pn	12 55 18.5	+0.3
JTJ	Tarama	1.26	130	P	Pn	12 55 19.0	+0.2
JTJ				S	Sn	12 55 42.8	+0.6
JKRS	Kuro-shima	1.26	165	P	Pn	12 55 19.1	+0.3
JKRS				S	Sn	12 55 42.7	+0.4
HATJ	Hateruma jima	1.41	174	P	Pn	12 55 20.4	+0.4
HATJ				eS	Sn	12 55 44.3	-0.2
JIRB	Irabujima	1.52	114	P	Pn	12 55 21.0	-0.1
JIRB				S	Sn	12 55 46.3	-0.1
JIKM	Ikemajima	1.55	110	P	Pn	12 55 21.7	+0.4
JIKM				S	Sn	12 55 47.1	+0.3
JMJ2	Miyako jima3	1.69	115	P	Pn	12 55 23.1	+0.4
JMJ2				S	Sn	12 55 49.7	+0.5
JOGS	Gusukube	1.75	113	P	Pn	12 55 23.8	+0.5
JOGS				S	Sn	12 55 50.6	+0.4

TAP 01 12:55:43.2, 24°.44N×121°.89E, h32km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.13	266	eP	Pb	12 55 49.7	+0.5
	baz=264						
ENA				eS	Sb	12 55 53.8	+0.6
	baz=264						
LATG	Datong	0.34	287	eP	Pn	12 55 52.3	+0.3
	baz=286						
LATG				eS	Sn	12 55 58.3	+0.4
	baz=286						
ENTT	Nioudou	0.35	305	eP	Pn	12 55 52.3	+0.2
	baz=305						
ENTT				eS	Sn	12 55 58.3	+0.2
	baz=305						
NACB	Ninganchiao	0.37	225	eP	Pb	12 55 52.1	+0.2
	baz=225						
NACB				S	Sn	12 55 59.0	+0.5
	baz=225						
NDT	Datong Townshi	0.38	296	eS	Sn	12 55 59.1	+0.5
	baz=295						
FUSB	Fushanzhiwuyua	0.42	320	eP	Pn	12 55 52.9	-0.2
	baz=319						
FUSB				eS	Sn	12 55 59.7	-0.1
	baz=319						
ETLH	Xiulin Townshi	0.43	238	eP	Pn	12 55 53.5	+0.2
	baz=237						
ETLH				eS	Sn	12 56 00.6	+0.4
	baz=237						
TWD	Chiawan	0.44	217	eP	Pn	12 55 53.6	+0.2
	baz=215						
TWD				eS	Sn	12 56 00.8	+0.5
	baz=215						
NNSB	Datong	0.46	269	eP	Pn	12 55 53.7	+0.1
	baz=268						
NNSB				eS	Sn	12 56 01.2	+0.4
	baz=268						
NNS	Nan Shan	0.47	270	eP	Pn	12 55 53.7	-0.1
	baz=269						
NNS				S	Sn	12 56 01.3	+0.3
	baz=269						
FUSS	Fushou	0.61	252	eP	Pn	12 55 56.2	+0.3
	baz=252						
FUSS				eS	Sn	12 56 05.1	+0.2
	baz=252						
WHF	Hehuan Shan	0.64	243	eP	Pn	12 55 56.8	+0.4
	baz=242						
WHF				eS	Sn	12 56 06.1	+0.5
	baz=242						
TDCB	Techi	0.69	255	eP	Pb	12 55 57.2	+0.3
	baz=254						
TDCB				eS	Sb	12 56 06.3	0.0
	baz=254						
CHGB	Renai	0.75	240	eP	Pb	12 55 58.0	-0.1
	baz=239						
CHGB				eS	Sn	12 56 08.2	+0.1
	baz=239						
WUSB	Renai	0.83	238	eS	Sb	12 56 10.7	+0.4
	baz=237						
WHP	Taichung City	0.87	260	eP	Pb	12 55 59.9	-0.1
	baz=259						
WHP				eS	Sb	12 56 11.6	+0.2
	baz=259						
WCS	Beigang Elemen	0.97	247	eS	Sn	12 56 12.6	-0.5
	baz=246						

*SSNC **01** 13:31:21.2±4.5, 17°.94N×70°.78W, h25km±70km, ML3.8, MW3.8*
*OSPL **01** 13:31:29.9±3.3, 18°.13N×71°.54W, h5km±29km, ML3.3, Fault plane solution: NP1:ϕs330.40000°, δ57.10000°, λ-171.20000°.*
ISC 01 13:31:30.0±1.4, 18°.17N±0°.07×71°.40W±0°.05, h35km, n11, σ2s.25/16, 2C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOBA2	Hotel Casa Bon	0.31	107	ASPG		13 31 36.5	
	comp=Z,4µm,0.3s						
LOBA2				⇑iP	Pn	13 31 36.9	-1.1
LOBA2				ATPG		13 31 38.5	
	comp=Z,12µm,0.3s						
LOBA2				ASSG		13 31 44.8	
	comp=Z,6µm,0.3s						
LOBA2				eS	Sn	13 31 45.2	+1.7
LOBA2				ATSG		13 31 46.7	
	comp=Z,16µm,0.3s						
LOBA2				IAML		13 31 49.7	
	comp=Z,2µm,0.7s						
LOPE2	Hotel El Peder	0.36	247	ASPG		13 31 32.8	
	comp=Z,23µm,0.3s						
LOPE2				⇓iP	Pn	13 31 33.2	-5.5
LOPE2				ATPG		13 31 34.5	
	comp=Z,70µm,0.3s						
LOPE2				ASSG		13 31 37.5	
	comp=Z,76µm,0.3s						
LOPE2				eS	Sn	13 31 37.9	-6.7
LOPE2				ATSG		13 31 38.9	
	comp=Z,208µm,0.3s						
LOPE2				IAML		13 31 41.8	
	comp=Z,9µm,0.7s						
LONE2	Loma La Sidra	0.39	350	ASPG		13 31 35.8	
	comp=Z,2µm,0.3s						
LONE2				⇓iP	Pn	13 31 36.2	-2.9
LONE2				ATPG		13 31 37.9	
	comp=Z,4µm,0.4s						
LONE2				ASSG		13 31 43.8	
	comp=Z,11µm,0.3s						
LONE2				eS	Sn	13 31 44.2	-1.3
LONE2				IAML		13 31 45.4	
	comp=Z,4µm,0.5s						
LONE2				ATSG		13 31 45.8	
	comp=Z,40µm,0.3s						
SDDR	Presa de Saban	0.81	8	ASPG		13 31 43.5	
	comp=Z,122nm,0.3s						
SDDR				⇓iP	Pn	13 31 43.9	-1.1
SDDR				ATPG		13 31 45.0	
	comp=Z,378nm,0.3s						
SDDR				ASSG		13 31 57.5	
	comp=Z,778nm,0.3s						
SDDR				eS	Sn	13 31 58.0	+2.1
SDDR				ATSG		13 31 59.5	
	comp=Z,3µm,0.3s						
SDDR				IAML		13 32 09.4	
	comp=Z,462nm,0.5s						
JAKH	Jacmel	1.06	274	i P	Pn	13 31 44.9	-3.5
LGNH	Logne	1.19	287	⇑iP	Pn	13 31 48.6	-1.5
LGNH				eS	Sn	13 32 05.5	+0.3
MASC	Masc	3.33	307	eP	Pn	13 32 19.7	+0.1
MASC				eS	Sn	13 32 59.5	+1.5
GTBY	Guantanamo Bay	3.92	297	eP	Pn	13 32 27.5	-0.1
GTBY				eS	Sn	13 33 17.6	+5.1
GTBY				eSg	Sn	13 33 22.5	+10
GTBY				IAML		13 33 25.7	
	comp=Z,59nm,0.6s						
GTBY				IAML		13 33 26.6	
	comp=Z,41nm,0.7s						
GTBY	Guantanamo Bay	3.92	297	i P	Pn	13 32 28.1	+0.5
GTMO	Guantanamo	4.01	299	eP	Pn	13 32 23.6	-5.3
RCC	Rio Carpintero	4.45	295	eP	Pn	13 32 33.8	-1.2
RCC				eS	Sn	13 33 26.4	+0.9
RCC				IAML		13 33 39.0	
	comp=E,20nm,0.6s						
RCC				IAML		13 33 42.9	
	comp=N,18nm,0.9s						

*DJA **01** 13:32:47.4±0.2, 6°S±2°×13°0E±°, h161km±5km, M4.6/12, mB5.2/8, mb4.7/12, MLv4.7/12, Mw(mB)4.5/8*
*IDC **01** 13:32:47.7±1.9, 6°.43S×130°.15E, h128km±17km, mb3.4/5, mb1 3.8/8, mb1mx3.4/43, mbtmp4.1/8, Error ellipse: s-maj=24.9km s-min=17.8km az=82.0*
*NEIC **01** 13:33:05.1±0.8, 7°.9S±0°.1×130°.9E±0°.2, h130km±7km, mb4.3/7, Error ellipse: s-maj=25.3km s-min=15.4km az=93.0*
ISC 01 13:32:48.2±0.6, 6°.55S±0°.06×130°.14E±0°.06, h146km, n40, σ2s.51/41, mb3.7/9, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.83	141	Pn	Pn	13 33 22.2	+1.0
SAUI				Sn	Sn	13 33 37.8	-8.7
SAUI	Saumlaki	1.83	141	P	Pn	13 33 22.4	+1.2
SAUI				S	Sn	13 33 48.2	+1.7
MSAI	Masohi	3.40	339	P	Pn	13 33 39.9	-0.7
AAI	Ambon	3.44	326	P	Pn	13 33 39.7	-1.4
SIJI	Sorong	5.75	11	P	Pn	13 34 07.7	-3.9
	18nm,0.3s,baz=212,slow=9.5,SNR=64						
SIJI				S	Sn	13 35 06.4	-10
	16nm,0.3s,baz=167,slow=8.3,SNR=5.1						
SWI	Sorong	5.75	11	P	Pn	13 34 08.0	-3.7
SANI	Sanana	6.09	317	P	Pn	13 34 16.8	+0.7
	0.2nm830nm53nm,1.0s						
MTN	Manton Dam	6.33	171	Pn	Pn	13 34 19.3	-0.1
LBMI	Labuha	6.43	336	P	Pn	13 34 19.5	-1.2
	0.4nm922nm95nm,0.5s						
BATI	Baumata	7.37	240	P	Pn	13 34 34.1	+0.9
	51nm,0.3s,baz=122,slow=4.3,SNR=31						
BATI				S	Sn	13 35 53.0	-2.6
	12nm,0.3s,baz=195,slow=20,SNR=2.8						
BATI	Baumata	7.37	240	P	Pn	13 34 34.0	+0.8
	0.5nm2µm142nm,0.6s						
BAKI	Biak	7.98	48	P	Pn	13 34 41.3	-0.2
KNRA	Kununurra	9.18	188	Pn	Pn	13 34 56.0	-1.4
MRSI	Marisa	10.75	310	P	Pn	13 35 18.2	-0.1
	52nm,1.0s						
WBSI	Waikabubak, Su	11.08	253	P	Pn	13 35 21.2	-1.5
	19nm,1.0s						
JAY	Jayapura	11.27	70	P	Pn	13 35 25.4	+0.2
	0.9nm,0.3s,baz=233,slow=8.3,SNR=2.1						
FITZ	Fitzroy Crossi	12.29	201	P	Pn	13 35 35.7	-2.8
	2.7nm,0.3s,baz=34,slow=10,SNR=57						
FITZ				S	Sn	13 37 43.6	-11
	2.7nm,0.3s,baz=66,slow=19,SNR=8.1						
FITZ	Fitzroy Crossi	12.29	201	Pn	Pn	13 35 36.0	-2.5
WB0	Warramunga Arr	13.78	163	Pn	Pn	13 35 55.1	-2.5
WRAB	Tennant Creek	13.92	163		Pn	13 35 56.8	-2.6
WRA	Warramunga Arr	13.93	163	P	Pn	13 35 56.6	-2.9
	6.3nm,0.3s,baz=348,slow=13,SNR=77						
WRA				S	Sn	13 38 24.5	-9.3
	3.8nm,0.3s,baz=341,slow=22,SNR=8.6						
WB2	Warramunga Arr	13.93	163	Pn	Pn	13 35 56.9	-2.6
WR0	Warramunga Arr	14.00	163		Pn	13 35 58.2	-2.2
COEN	Coen	14.79	121	Pn	Pn	13 36 10.2	-0.1
PMG	Port Moresby	17.09	101	P	Pn	13 36 41.7	+3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.3s,baz=282,slow=3.1,SNR=6.5						
PMG				S	S	13 39 39.5	-9.4
	0.7nm,0.3s,baz=190,slow=22,SNR=6.4						
AS31	Alice Springs	17.40	168	P	P	13 36 42.5	+1.1
AS31				IAmb	IAmb	13 36 45.9	
	comp=Z,7.0nm,0.5s						
ASAR	Alice Springs	17.40	168	P	P	13 36 42.3	+1.0
	comp=Z,3.2nm,0.3s,baz=341,slow=8.7,SNR=154						
ASAR				S	S	13 39 52.4	-2.8
	comp=Z,1.0nm,0.3s,baz=342,slow=26,SNR=5.7						
ASAR				ScP	ScP	13 44 38.4	+1.5
	comp=Z,0.0nm,0.3s,baz=347,slow=1.8,SNR=2.0						
ASAR	Alice Springs	17.40	168	P	P	13 36 42.5	+1.1
FORT	Forrest	24.19	184	P	P	13 37 55.1	+4.0
FORT				IAmb	IAmb	13 37 59.7	
	comp=Z,16nm,0.8s						
BBOO	Buckleboo	26.71	169	P	P	13 38 16.4	+2.5
BBOO				IAmb	IAmb	13 38 41.0	
	comp=Z,12nm,1.3s						
STKA	Stephens Creek	27.38	158	P	P	13 38 22.2	+2.3
	comp=Z,0.5nm,0.3s,baz=340,slow=11,SNR=4.8						
STKA	Stephens Creek	27.38	158	P	P	13 38 21.9	+2.0
CMAR	Chiang Mai Arr	39.55	309	P	P	13 40 05.5	+0.2
	comp=Z,0.6nm,0.3s,baz=134,slow=6.4,SNR=2.4						
MJAR	Matsushiro Arr	43.52	9	P	P	13 41 05.2	+28
MJAR				IAmb	IAmb	13 41 16.7	
	comp=Z,2.3nm,1.1s						
MAJO	Matsushiro	43.52	9	P	P	13 41 05.0	+28
MJB9	Matsu-Tunnel	43.53	9	P	P	13 41 05.0	+28
MJB9				IAmb	IAmb	13 41 10.3	
	comp=Z,24nm,1.2s						
SONM	Songino Array	58.06	341	P	P	13 42 27.5	+1.3
	comp=Z,0.3nm,0.5s,baz=153,slow=7.1,SNR=2.1						
MKAR	Makanchi Array	67.92	327	P	P	13 43 32.0	+0.8
	comp=Z,0.3nm,0.3s,baz=115,slow=8.2,SNR=15						
SEY	Seymchan	71.34	11	P	P	13 43 53.2	+1.5
	comp=Z,0.6nm,0.5s,baz=219,slow=14,SNR=4.1						
TORD	Torodi Ar. Bea	128.86	282	PKP	PKPdf	13 51 41.0	+1.5
	comp=Z,0.1nm,0.3s,baz=105,slow=1.0,SNR=1.5						

*JMA **01** 13:55:03.2±0.1, 42°.38N×143°.04E, h52^{km}±1^{km}, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s35.00000°, δ49.00000°, λ70.00000°. NP2:ϕ_s244.00000°, δ45.00000°, λ111.00000°. Principal axes: T Plg75.0000°, Azm238.0000°; N Plg15.0000°, Azm48.0000°; P Plg2.0000°, Azm139.0000°;*

*IDC **01** 13:55:03.3±4.0, 42°.38N×143°.16E, h77^{km}±21^{km}, mb3.5/5, mb1 3.5/6, mb1mx3.1/43, mbtmp3.7/6 Error ellipse: s-maj=72.5km s-min=28.1km az=107.0*

ISC 01 13:55:02.2±1.0, **42°.38N**±0°.06×**143°.07E**±0°.06, **h58**^{km}±8^{km}, **n26**, σ**0^{s}96**/21, **mb3.8**/5, **7C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTHR	Tokachihiroo	0.19	116	⇑P	Pn	13 55 11.8	+0.4
JTHR				eS	Sn	13 55 18.7	+0.6
JNBK	Urakawa-nobuka	0.25	248	⇑P	Pn	13 55 11.7	-0.1
JCH	Churui	0.32	42	⇑P	Pn	13 55 12.7	+0.3
JEM	Erimo	0.37	170	⇑P	Pn	13 55 13.3	+0.6
JSHD	Hidakashinhida	0.45	275	⇓P	Pn	13 55 14.0	+0.5
JBT2	Biratori 2	0.66	308	⇓P	Pn	13 55 16.5	+0.6
JOB	Onbets	0.77	47	⇑P	Pn	13 55 18.7	+1.4
JFR	Furan	0.86	336	⇓P	Pn	13 55 18.0	-0.5
JIAM	Iburiatsuma	0.88	287	⇓P	Pn	13 55 20.1	+1.4
JAR	Ashorobuto	1.05	29	⇑P	Pn	13 55 21.6	+0.7
JEW	Eniwo	1.28	292	⇓P	Pn	13 55 24.7	+0.8
JAB	Ashibetsu	1.29	331	P	Pn	13 55 25.4	+1.4
JAK	Akkeshi	1.35	62	⇑P	Pn	13 55 25.5	+0.7
ASAJ	Asahikawa	1.77	349	P	Pn	13 55 32.2	+1.6
	13nm,0.3s,baz=205,slow=14,SNR=171						
MJAR	Matsushiro Arr	6.93	214	P	Pn	13 56 42.7	+1.5
	0.1nm,0.3s,baz=24,slow=13,SNR=4.2						
SONM	Songino Array	26.28	295	P	P	14 00 31.7	-0.4
	0.5nm,0.6s,baz=77,slow=9.4,SNR=3.5						
H11N2	WAKE ISLAND Hy	30.25	131	T	T	14 32 38.4	
	baz=324,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	30.26	131	T	T	14 32 44.2	
	baz=324,slow=75,SNR=34						
H11N3	WAKE ISLAND Hy	30.26	131	T	T	14 32 40.0	
	baz=324,slow=75,SNR=27						
H11S1	WAKE ISLAND Hy	31.12	133	T	T	14 33 48.8	
	baz=325,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	31.13	133	T	T	14 33 43.1	
	baz=325,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	31.14	133	T	T	14 33 46.6	
	baz=325,slow=76,SNR=17						
ZALV	Zalesovo Beam	39.45	308	P	P	14 02 25.9	-0.5
	0.5nm,0.4s,baz=90,slow=7.2,SNR=4.3						
MKAR	Makanchi Array	42.57	298	P	P	14 02 52.0	-0.2
	0.6nm,0.6s,baz=81,slow=10.0,SNR=8.7						
FINES	FINESS Array B	64.70	332	P	P	14 05 32.9	-0.8
	1.3nm,0.7s,baz=41,slow=7.4,SNR=4.3						
NOA	NORSAR Array B	69.76	337	P	P	14 06 04.9	-0.9
	1.8nm,1.0s,baz=34,slow=6.4,SNR=2.7						

*DJA **01** 13:59:25.8±0.3, 7°S±3°×12°5E±°, h559^{km}±4^{km}, M4.1/16, mB4.8/5, mb4.0/16, MLv4.1/15, Mw(mB)4.0/5*

*NEIC **01** 13:59:26.0±1.6, 7°.08S±0°.05×124°.8E±0°.1, h566^{km}±9^{km}, mb4.2/30, Error ellipse: s-maj=16.3km s-min=7.7km az=98.0*

*IDC **01** 13:59:26.0±1.2, 7°.06S×124°.77E, h570^{km}±17^{km}, mb3.2/6, mb1 3.3/10, mb1mx3.0/34, mbtmp4.2/10, Error ellipse: s-maj=41.1km s-min=10.3km az=62.0*

ISC 01 13:59:24.8±0.4, **7°.05S**±0°.06×**124°.75E**±0°.08, **h550**^{km}, **n107**, σ**1^{s}25**/113, **mb4.0**/24, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	2.94	237	P	P	14 00 40.9	+1.4
MMRI	Maumere	2.94	237	P	P	14 00 41.1	+1.6
MMRI	Maumere	2.94	237	P	P	14 00 41.4	+1.9
BATI	Baumata	3.31	199	P	P	14 00 44.0	+2.2
	137nm,0.3s,baz=88,slow=2.6,SNR=161						
BATI				S	S	14 01 45.9	+1.2
	15nm,0.3s,baz=44,slow=19,SNR=13						
BATI	Baumata	3.31	199	P	P	14 00 44.1	+2.2
BATI				S	S	14 01 46.3	+1.6
BSSI	Bau Bau, Buton	4.32	282	P	P	14 00 52.4	+3.2
BKSI	Bulukumba	4.91	290	P	P	14 00 55.0	+1.1
SANI	Sanana	5.12	14	P	P	14 00 57.2	+1.5
	0.1nm34nm,0.7s						
SANI	Sanana	5.12	14	P	P	14 00 57.7	+2.0
BASI	Baing, Sumba	5.19	232	P	P	14 00 57.3	+1.0
	0.5nm30nm,0.7s						
BASI				S	S	14 02 09.8	-1.1
	0.5nm30nm,0.7s						
BNSI	Bone	5.31	299	P	P	14 00 59.1	+1.7
	0.1nm42nm,0.7s						
KAPI	Kappang	5.36	292	P	P	14 01 01.5	+3.7
	3.9nm,0.3s,baz=136,slow=4.7,SNR=16						
KAPI	Kappang	5.36	292	P	P	14 01 01.1	+3.3
KAPI	Kappang	5.36	292	P	P	14 00 59.6	+1.8
SPSI	Sidrap Palu	5.82	301	P	P	14 01 04.8	+2.9
	0.2nm55nm,0.6s						
WBSI	Waikabubak, Su	5.89	244	P	P	14 01 02.6	+0.1
	0.3nm575nm19nm,0.7s						
LUWI	Luwuk	6.28	342	P	P	14 01 08.2	+2.1
TTSI	Tana Toraja	6.32	309	P	P	14 01 08.1	+1.7
	0.1nm38nm,0.8s						
SAUI	Saumlaki	6.56	99	P	P	14 01 09.1	+0.4
SAUI	Saumlaki	6.56	99	P	P	14 01 11.3	+2.6
	0.5nm4μm88nm,0.5s						
APSI	Ampana	6.83	333	P	P	14 01 14.1	+2.8
	0.1nm24nm,0.8s						
PLAI	Plampang	7.13	255	P	P	14 01 14.7	+0.7
	0.1nm21nm,0.6s						
PLAI	Plampang	7.13	255	P	P	14 01 14.5	+0.5
GTOI	Gorontalo	7.83	347	P	P	14 01 24.5	+3.6
	16nm,0.7s						
MRSI	Marisa	7.98	339	P	P	14 01 24.2	+1.7
	39nm,0.8s						
DRS	Darwin Rock St	8.09	132	P	P	14 01 24.5	+1.1
MTN	Manton Dam	8.53	133	P	P	14 01 28.1	+0.3
MTN	Manton Dam	8.53	133	P	P	14 01 28.4	+0.6
MPSI	Mapaga	8.79	326	P	P	14 01 32.4	+1.9
	20nm,1.2s						
TOLI2	Tolitoli	9.02	334	P	P	14 01 33.9	+1.0
TOLI2	Tolitoli	9.02	334	P	P	14 01 34.2	+1.4
KNRA	Kununurra	9.44	156	P	P	14 01 37.6	+0.7
KNRA	Kununurra	9.44	156	P	P	14 01 37.9	+0.9
JAGI	Jajag, Banyuwa	10.59	262	P	P	14 01 48.1	-0.8
JAGI	Jajag, Banyuwa	10.59	262	P	P	14 01 48.9	0.0
FITZ	Fitzroy Crossi	11.02	176	P	P	14 01 53.8	+0.6
	0.9nm,0.3s,baz=9.1,slow=9.1,SNR=38						
FITZ				S	S	14 03 53.9	-1.3
	0.3nm,0.3s,baz=260,slow=21,SNR=8.7						
FITZ	Fitzroy Crossi	11.02	176	P	P	14 01 54.0	+0.8
PCJI	Pacitan	13.50	264	P	P	14 02 18.4	-0.5
	18nm,1.0s						
PSA00	Pilbara Seismi	15.20	198	P	P	14 02 37.0	+0.7
PSA00				IAmb	IAmb	14 02 48.7	
	comp=Z,14nm,1.3s						
WB0	Warramunga Arr	15.73	144	P	P	14 02 40.7	-1.2
WRAB	Tennant Creek	15.84	145	P	P	14 02 41.6	-1.3
WRAB				IAmb	IAmb	14 02 43.6	
	comp=Z,5.9nm,0.8s						
WRAB	Tennant Creek	15.84	145	P	P	14 02 42.0	-0.9
WRA	Warramunga Arr	15.84	145	P	P	14 02 41.6	-1.2
	comp=Z,3.0nm,0.3s,baz=323,slow=11,SNR=94						
WRA	Warramunga Arr	15.84	145	P	P	14 02 40.8	-2.1
WB2	Warramunga Arr	15.85	145	P	P	14 02 41.7	-1.3
WB2				IAmb	IAmb	14 02 42.3	
	comp=Z,6.7nm,0.5s						
WR0	Warramunga Arr	15.97	144	P	P	14 02 43.1	-1.0
CBJI	Citeko	17.78	271	P	P	14 03 00.0	-0.8
WRKA	Warakurna	18.21	170	P	P	14 03 05.2	+0.6
AS31	Alice Springs	18.72	153	P	P	14 03 09.4	+0.1
AS31				IAmb	IAmb	14 03 13.2	
	comp=Z,2.9nm,0.6s						
ASAR	Alice Springs	18.72	153	P	P	14 03 09.6	+0.2
	comp=Z,2.0nm,0.3s,baz=337,slow=10,SNR=101						
ASAR				S	S	14 06 11.4	-0.4
	baz=343,slow=22,SNR=4.2						
ASAR				ScP	ScP	14 09 50.1	-2.9
	comp=Z,0.1nm,0.3s,baz=331,slow=2.0,SNR=4.9						
ASAR	Alice Springs	18.72	153	P	P	14 03 09.8	+0.4
COEN	Coen	19.37	112		P	14 03 14.4	-0.9
COEN	Coen	19.37	112	P	P	14 03 14.6	-0.7
QIS	Mount Isa	19.69	134	P	P	14 03 17.8	-0.4
MEEK	Meekatharra	20.34	196	P	P	14 03 24.3	+0.3
MTSU	Mount Surprise	22.02	122	P	P	14 03 39.2	-0.1
OOD	Oodnadatta	23.09	155	P	P	14 03 48.7	+0.1
MORW	Morawa	23.39	199	P	P	14 03 51.5	+0.2
FORT	Forrest	23.81	173	P	P	14 03 55.0	+0.1
FORT	Forrest	23.81	173	P	P	14 03 55.1	+0.1
MULG	Mulgathing	24.71	160	P	P	14 04 03.3	+0.3
INKA	Innaminka	25.56	146	P	P	14 04 11.4	+0.9
LCRK	Leigh Creek	26.49	153	P	P	14 04 19.0	+0.3
QLP	Quilpie	26.86	139	P	P	14 04 21.7	-0.3
BBOO	Buckleboo	27.71	159	P	P	14 04 28.9	-0.4
BBOO				IAmb	IAmb	14 04 29.5	
	comp=Z,6.6nm,0.5s						
BBOO	Buckleboo	27.71	159	P	P	14 04 29.2	-0.1
STKA	Stephens Creek	29.28	150	P	P	14 04 43.3	+0.3
	comp=Z,2.6nm,0.3s,baz=322,slow=7.1,SNR=21						
STKA	Stephens Creek	29.28	150	P	P	14 04 43.2	+0.2
STKA	Stephens Creek	29.28	150	P	P	14 04 43.3	+0.3
HTT	Hallett	29.36	155	P	P	14 04 44.3	+0.6
TPUB	Ta-pu	30.43	353	P	P	14 04 52.2	-0.9
CMSA	Cobar Meteorol	31.25	144	P	P	14 05 00.5	+0.5
ARPS	Mount Arapiles	33.44	155	P	P	14 05 19.2	+0.7
TOO	Toolangi	35.76	151	P	P	14 05 39.1	+1.2
TOO				IAmb	IAmb	14 05 59.7	
	comp=Z,4.7nm,1.1s						
TOO	Toolangi	35.76	151	P	P	14 05 38.2	+0.3
CAN	Canberra	35.89	145	P	P	14 05 40.1	+1.1
CMAR	Chiang Mai Arr	35.92	315	P	P	14 05 40.4	+0.9
	comp=Z,0.5nm,0.6s,baz=133,slow=7.0,SNR=4.8						
TAPN	Taplejung	49.53	315	eP	P	14 07 25.5	-0.6
	comp=Z,4.1nm,0.5s						
RAMN	Ramite	50.07	314	eP	P	14 07 30.0	0.0
	comp=Z,9.5nm,0.4s						
JIRN	Jiri	50.79	314	eP	P	14 07 35.4	0.0
GUN	Gumba	51.16	315	eP	P	14 07 38.2	+0.2
PKI	Pulchoki	51.29	314	eP	P	14 07 38.9	-0.1
	comp=Z,5.3nm,0.5s						
PKIN	Phulchoki	51.31	314	eP	P	14 07 39.1	+0.1
GKN	Gorkha	52.10	314	eP	P	14 07 44.6	0.0
	comp=Z,7.3nm,0.4s						
KOLN	Koldanda	52.71	313	eP	P	14 07 49.2	+0.2
	comp=Z,5.3nm,0.3s						
DANN	Dangsing	52.93	314	eP	P	14 07 50.8	+0.1
PYUN	Piuthan	53.34	313	eP	P	14 07 53.6	+0.1
	comp=Z,9.1nm,0.6s						
WHZ	Wether Hill Ro	53.66	144	P	P	14 07 54.8	-0.4
WHZ				IAmb	IAmb	14 08 10.6	
	comp=Z,38nm,1.4s						
RPZ	Rata Peaks	54.47	140	P	P	14 08 00.8	-0.1
RPZ				IAmb	IAmb	14 08 01.7	
	comp=Z,22nm,1.1s						
KHZ	Kahutara	55.52	137	P	P	14 08 07.8	-0.4
KHZ				IAmb	IAmb	14 08 31.6	
	comp=Z,50nm,1.4s						
SONM	Songino Array	57.00	345	P	P	14 08 17.8	-0.6
	comp=Z,0.4nm,0.4s,baz=162,slow=7.7,SNR=5.5						
MK31	Makanchi Array	65.51	329	P	P	14 09 14.0	0.0
MKAR	Makanchi Array	65.51	329	P	P	14 09 13.9	-0.1
	comp=Z,1.3nm,0.5s,baz=125,slow=7.1,SNR=30						
MAKZ	Makanchi	65.68	329	P	P	14 09 15.0	-0.1
PEA0B	Petropavlovsk-	66.12	21	P	P	14 09 18.0	+0.3
PEA0B				IAmb	IAmb	14 09 29.5	
	comp=Z,29nm,1.2s						
PETK	Petropavlovsk-	66.12	21	P	P	14 09 17.8	+0.1
	comp=Z,2.3nm,0.7s,baz=208,slow=2.9,SNR=6.4						
AAK	Ala-Archa	67.29	322	P	P	14 09 25.6	+0.2
GAR	Garm	68.07	317	P	P	14 09 29.6	-0.5
GAR				IAmb	IAmb	14 09 30.9	
	comp=Z,3.0nm,1.0s						
ZAA0	Zalesovo Array	69.42	336	P	P	14 09 36.9	-0.8
ZAA0				IAmb	IAmb	14 09 37.5	
	comp=Z,2.7nm,1.1s						
ZALV	Zalesovo Beam	69.42	336	P	P	14 09 36.1	-1.6
	comp=Z,1.7nm,0.4s,baz=133,slow=5.5,SNR=8.0						
ZALV	Zalesovo Beam	69.42	336	P	P	14 09 36.9	-0.8
KURK	Kurchatov	69.93	331	P	P	14 09 40.7	-0.1
KURK				IAmb	IAmb	14 09 41.1	
	comp=Z,7.9nm,1.5s						
SOCY	Socotra	72.89	285	P	P	14 09 58.5	-0.5
SOCY				IAmb	IAmb	14 09 59.3	
	comp=Z,5.9nm,0.8s						
BRVK	Borovoye	75.46	330	P	P	14 10 12.4	-0.2
VOI	Vohitsoka	76.25	249	P	P	14 10 17.9	0.0
VOI				IAmb	IAmb	14 10 20.3	
	comp=Z,24nm,1.5s						
TIXI	Tiksi	78.58	1	P	P	14 10 28.2	-1.0
TIXI				IAmb	IAmb	14 10 29.2	
	comp=Z,5.1nm,1.4s						
ABKAR	Akbulak array	79.35	323	P	P	14 10 32.9	-0.8

*TUL **01** 14:30:17.5±0.9, 36°.19N±0°.01×97°.32W±0°.02, h6^{km}±5^{km}, ML2.4, mb_Lg2.4/7(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=59.0*

NEIC 01 14:30:17.2±0.6, **36°.20N**±0°.01×**97°.34W**±0°.01, **h7**^{km}±5^{km}, **Error ellipse: s-maj=1.8km s-min=1.3km az=211.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.78	187	Pg	Pg	14 30 32.2	-0.1
FNO	Franklin	0.94	183	Pg	Pg	14 30 35.0	-0.2
T35A	Sooner Cattle	0.98	42	Pg	Pg	14 30 35.8	-0.2
W35A	Tecumseh	1.10	160	Pg	Pg	14 30 37.6	-0.9
TUL1	Leonard	1.28	102	Pn	Pn	14 30 40.5	-1.1
U32A	Winter Ranch,	1.36	278	Pn	Pn	14 30 42.5	-0.1
X34A	Smith Ranch, M	1.64	194	Pn	Pn	14 30 46.3	-0.3
WMOK	Wichita Mounta	1.87	219	Pn	Pn	14 30 49.6	-0.1
X37A	Clayton	2.27	134	Pn	Pn	14 30 55.0	-0.1
X37A				IAmb_Lg		14 31 34.7	
	comp=Z,13nm,1.1s						
Z35A	Perchaven, San	2.86	179	IAmb_Lg		14 31 52.6	
	comp=Z,8.8nm,0.7s						
W39A	Magazine	3.06	108	IAmb_Lg		14 31 58.1	
	comp=Z,17nm,1.2s						
S39A	Bolivar	3.54	64	Pn	Pn	14 31 12.8	+0.1
CCAR	Cane Creek	5.10	115	IAmb_Lg		14 32 54.6	
	comp=Z,56nm,0.9s						

PRU 01 14:36:57.4±0.0, **51°.43N**×**16°.31E**, **h0**^{km}, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.86	191	ePG	Pg	14 37 13.8	0.0
CHVC				eSG	Sg	14 37 24.8	-0.1
OSTC	Ostas	0.88	184	ePG	Pg	14 37 13.9	-0.3
OSTC				eSG	Sg	14 37 25.7	+0.2
	comp=Z,5.5nm,0.9s						
UPC	Upice	0.94	192	ePG	Pg	14 37 14.6	-0.8
UPC				eSG	Sg	14 37 26.8	-0.8
	comp=Z,5.9nm,0.4s						
DPC	Dobruska-Polom	1.08	180	ePG	Pg	14 37 16.8	-1.3
DPC				eSG	Sg	14 37 32.0	-0.1
	comp=Z,2.5nm,0.7s						

BER 01 14:37:13.9±2.1, **59°.83N**×**13°.62E**, **h0**^{km}, **ML1.1**, **ML1.4**(UPP), **Suspected explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINU	Finntorp	0.72	234	P	Pg	14 37 26.3	-1.3
FINU				S	Sg	14 37 36.3	-0.7
NRAU	Nora	0.77	109	P	Pg	14 37 27.8	-0.8
NRAU				S	Sg	14 37 38.1	-0.4
NASU	Vaermlandsnaes	0.93	194	P	Pg	14 37 30.8	-0.9
ASKU	Askersund	1.12	146	P	Pg	14 37 34.8	-0.6
FALU	Falun	1.29	58	P	Pg	14 37 36.2	-2.4
NC602	NORSAR Array S	1.38	312	eP	Pg	14 37 36.7	-3.5
NC602				eS	Sg	14 37 54.7	-3.4
STRU	Stroemstad	1.48	238	P	Pn	14 37 40.0	-1.7
NB201	NORSAR Array S	1.68	318	eP	Pn	14 37 42.0	-2.6
NB201				eS	Sn	14 38 04.6	-2.2
NAO01	NORSAR Array S	1.70	308	eP	Pn	14 37 42.1	-2.7
NC303	NORSAR Array S	1.79	323	eP	Pn	14 37 43.8	-2.2
NC303				eS	Sn	14 38 07.5	-1.9
NC303				IAML		14 38 09.0	
	comp=Z,3.0nm,0.6s						
NBO00	NORSAR Array S	1.85	312	eP	Pn	14 37 45.0	-1.9
NBO00				eS	Sn	14 38 09.4	-1.6
NBO00				IAML		14 38 10.1	
	comp=Z,2.7nm,0.3s						
NC204	NORSAR Array S	2.02	317	eP	Pn	14 37 46.6	-2.7
NC204				eS	Sn	14 38 13.7	-1.6

*JMA **01** 14:42:10.8±0.1, 23°.92N×121°.51E, h13^{km}±1^{km}, M3.6*

*NIED **01** 14:42:10.9, 23°.92N×121°.51E, h13^{km}, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}2.53; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-3.07; $M_{r\theta}$3.04; $M_{\theta\phi}$-4.07; $M_{\phi r}$-1.76; Fault plane solution: $M_0$6.05000×10^{14} NP1:ϕ_s70.00000°, δ63.00000°, λ146.00000°. NP2:ϕ_s177.00000°, δ60.00000°, λ32.00000°.*

*BJI **01** 14:42:11.8±0.0, 24°.11N×121°.77E, h30^{km}, mb3.9/9, mB4.3/6, ML3.7/3, Ms4.0/2, Ms7 3.8/4*

*NEIC **01** 14:42:12.3±1.8, 24°.00N±0°.04×121°.56E±0°.05, h22^{km}±3^{km}, mb4.5/37, ML4.3(TAP), Error ellipse: s-maj=7.2km s-min=4.8km az=108.0*

*ASIES **01** 14:42:12.8, 24°.08N×121°.52E, h24^{km}, MW3.7*

*TAP **01** 14:42:13.5, 24°.08N×121°.50E, h19^{km}, ML4.3, B*

*IDC **01** 14:42:15.4±3.4, 24°.03N×121°.74E, h49^{km}±36^{km}, mb3.4/9, mb1 3.6/10, mb1mx3.4/38, mbtmp3.7/10, ML3.8/1, MS3.1/4, Ms1 3.2/4, ms1mx2.7/52, Error ellipse: s-maj=23.4km s-min=16.5km az=65.0*

ISC 01 14:42:12.4±0.6, **24°.03N**±0°.01×**121°.57E**±0°.01, **h25**^{km}±3^{km}, **n239**, σ**1^{s}06**/333, **mb4.3**/27, **MS3.0**/4, **11C-35D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.05	25	⇓iP	Pb	14 42 17.3	+0.4
	baz=89						
TWD				iS	Sb	14 42 20.1	+0.3
	baz=89						
HWA	Hwalien	0.06	151	⇓iP	Pb	14 42 18.0	+1.1
	baz=135						
HWA				iS	Sb	14 42 21.6	+1.7
	baz=135						
ETM	Tongmen	0.10	227	⇑iP	Pb	14 42 17.5	+0.4
	baz=183						
ETM				iS	Sb	14 42 20.4	+0.1
	baz=183						
ETL	Fush Village	0.13	20	⇓iP	Pb	14 42 17.6	+0.2
	baz=55						
ETL				iS	Sb	14 42 20.8	-0.1
	baz=55						
NACB	Ninganchiao	0.14	9		Pb	14 42 17.1	-0.4
NACB	Ninganchiao	0.14	9	⇓iP	Pb	14 42 17.5	0.0
	baz=43						
NACB				iS	Sb	14 42 20.6	-0.3
	baz=43						
TEYL	Yanliau Villag	0.17	172	⇓iP	Pb	14 42 18.5	+0.8
	baz=152						
TEYL				S	Sb	14 42 22.5	+1.2
	baz=152						
ETLH	Xiulin Townshi	0.19	335	⇑iP	Pb	14 42 17.9	-0.2
	baz=353						
ETLH				iS	Sb	14 42 20.9	-1.1
	baz=353						
ESL	Shilin	0.25	210	⇓iP	Pb	14 42 19.0	+0.2
	baz=191						
ESL				iS	Sb	14 42 23.3	+0.2
	baz=191						
WHF	Hehuan Shan	0.30	292	⇑iP	Pb	14 42 19.5	-0.4
	baz=287						
WHF				iS	Sb	14 42 23.7	-1.2
	baz=287						
EHP	Heping Village	0.32	29	iP	Pb	14 42 20.4	+0.6
	baz=45						
EHP				S	Sb	14 42 25.3	+0.6
	baz=45						
TEGC	Jichi Village	0.32	185	P	Pn	14 42 21.1	-0.4
	baz=173						
TEGC				eS	Sn	14 42 27.4	+0.1
	baz=173						
CHGB	Renai	0.36	274	⇑iP	Pb	14 42 20.6	0.0
	baz=266						
CHGB				S	Sb	14 42 25.7	-0.5
	baz=266						
FUSS	Fushou	0.37	306	⇓iP	Pb	14 42 20.6	-0.2
	baz=306						
FUSS				S	Sb	14 42 25.3	-1.1
	baz=306						
WUSB	Renai	0.42	265	⇑iP	Pb	14 42 21.6	+0.2
	baz=256						
WUSB				S	Sb	14 42 26.7	-0.8
	baz=256						
ENA	Nanau	0.42	21	⇑iP	Pb	14 42 21.6	+0.2
	baz=33						
ENA				S	Sb	14 42 27.2	-0.3
	baz=33						
TWT	Tachien	0.42	301	⇓iP	Pb	14 42 21.7	+0.2
	baz=299						
TWT				eS	Sb	14 42 27.1	-0.6
	baz=299						
NNSB	Datong	0.43	336	⇓iP	Pb	14 42 21.5	-0.1
	baz=343						
NNSB				S	Sb	14 42 26.8	-1.1
	baz=343						
TDCB	Techi	0.44	300	⇓iP	Pb	14 42 21.7	0.0
	baz=299						
TDCB				S	Sb	14 42 27.2	-0.9
	baz=299						
NNS	Nan Shan	0.44	336	⇓iP	Pb	14 42 21.6	-0.2
	baz=343						
NNS				eS	Sb	14 42 27.6	-0.7
	baz=343						
EWUT	Wuta	0.45	25	⇑iP	Pb	14 42 22.0	+0.1
	baz=35						
EWUT				eS	Sb	14 42 28.1	-0.2
	baz=35						
VWDT	VWDT	0.48	235	⇑iP	Pb	14 42 22.9	+0.6
	baz=225						
VWDT				eS	Sb	14 42 30.2	+1.1
	baz=225						
LATG	Datong	0.50	355	⇓iP	Pb	14 42 22.6	-0.2
	baz=3.0						
LATG				eS	Sb	14 42 29.4	-0.4
	baz=3.0						
HGSD	Ruisui	0.56	194	P	Pb	14 42 23.9	+0.3
	baz=187						
HGSD				eS	Sn	14 42 33.9	+0.8
	baz=187						
WPL	Puli Township	0.56	268	⇓P	Pb	14 42 23.8	+0.1
	baz=263						
WPL				eS	Sb	14 42 30.9	-0.4
	baz=263						
NDT	Datong Townshi	0.57	355	eP	Pb	14 42 23.8	-0.1
	baz=1.0						
NDT				eS	Sb	14 42 31.3	-0.3

baz=1.0
EHY Hungye 0.57 204 ⇓P Pb 14 42 23.2 -0.6
baz=195
EHY eS Sb 14 42 31.9 +0.3
baz=195
DPDB Guoxing 0.59 270 ⇓iP Pb 14 42 24.4 +0.2
baz=265
DPDB eS Sb 14 42 31.6 -0.6
baz=265
WCS Beigang Elemen 0.60 272 ⇓iP Pb 14 42 24.5 +0.1
baz=268
WCS eS Sb 14 42 31.2 -1.3
baz=268
ENTT Nioudou 0.60 360 P Pb 14 42 24.5 +0.1
baz=7.0
ENTT eS Sb 14 42 33.0 +0.4
baz=7.0
NDS Dongshan 0.61 12 P Pb 14 42 24.5 -0.1
baz=20
NDS eS Sb 14 42 32.6 -0.2
baz=20
SSLB Suanglung 0.62 247 Pn Pb 14 42 24.6 0.0
SSLB Suanglung 0.62 247 ⇑iP Pb 14 42 24.7 0.0
baz=240
SSLB eS Sb 14 42 32.0 -0.9
baz=240
WHP Taichung City 0.62 293 ⇓P Pb 14 42 24.6 -0.1
baz=291
WHP eS Sb 14 42 32.8 -0.4
baz=291
TWC Suao 0.63 24 eP Pb 14 42 24.8 0.0
baz=32
TWC eS Sb 14 42 33.7 +0.5
baz=32
SMLT Sun Moon Lake 0.63 257 P Pb 14 42 25.2 +0.3
baz=250
SMLT eS Sb 14 42 33.1 -0.3
baz=250
YHNB Yeheng 0.66 344 Pn Pb 14 42 25.1 -0.2
YHNB Yeheng 0.66 344 ⇓P Pb 14 42 25.2 -0.2
baz=349
YHNB eS Sb 14 42 33.4 -0.8
baz=349
TYC Yuchr 0.67 259 ⇓iP Pb 14 42 25.5 +0.1
baz=253
TYC eS Sb 14 42 33.5 -0.8
baz=253
NSK Sanguang 0.67 343 ⇓P Pb 14 42 25.3 -0.2
baz=348
NSK eS Sb 14 42 33.9 -0.6
baz=348
YULB Yu-li 0.69 202 Pn Pb 14 42 24.7 -1.0
YULB Yu-li 0.69 202 ⇓P Pb 14 42 24.8 -1.0
baz=195
YULB eS Sb 14 42 35.5 +0.6
baz=195
TWE Neicheng 0.69 7 P Pb 14 42 25.9 0.0
baz=15
TWE eS Sb 14 42 35.0 -0.1
baz=15
EYUL Yuli 0.72 199 eP Pb 14 42 25.5 -0.8
baz=193
EYUL eS Sn 14 42 37.6 +0.4
baz=193
ECBN Changbin 0.72 189 eP Pn 14 42 27.1 +0.1
baz=183
ECBN eS Sn 14 42 37.8 +0.6
baz=183
TWF1 Yuli 0.72 200 eP Pb 14 42 25.3 -1.0
baz=194
TWF1 eS Sn 14 42 37.5 +0.2
baz=194
FUSB Fushanzhiwuyua 0.72 1 ⇑iP Pb 14 42 26.5 0.0
baz=7.0
FUSB eS Sb 14 42 35.5 -0.5
baz=7.0
NFF Wufeng Townshi 0.73 325 ⇓P Pb 14 42 26.5 0.0
baz=328
NFF eS Sb 14 42 35.7 -0.4
baz=328
NWLT Wulai 0.74 355 ⇓P Pb 14 42 26.8 0.0
NWLT eS Sb 14 42 35.7 -0.9
ILA Ilan 0.75 12 eP Pn 14 42 27.4 +0.1
baz=19
ILA eS Sn 14 42 37.5 -0.3
baz=19
YUS Yu-Shan 0.78 227 ⇓P Pn 14 42 28.3 0.0
baz=220
YUS eS Sb 14 42 38.3 +0.2
baz=220
NSTT Nanjuang 0.79 319 ⇓P Pn 14 42 27.9 0.0
baz=321
NSTT eS Sb 14 42 37.4 -0.5
baz=321
LIOB Emei 0.79 320 ⇓P Pn 14 42 28.1 +0.1
baz=322
LIOB eS Sb 14 42 38.1 +0.1
baz=322
TWQ1 Liyutan 0.79 293 ⇓eP Pn 14 42 28.2 +0.2
baz=292
TWQ1 eS Sb 14 42 38.6 +0.6
baz=292
WWF Wufeng 0.80 271 eP Pn 14 42 29.1 +1.1
baz=267
WWF eS Sn 14 42 40.8 +1.7
baz=267
WJS Zhushan 0.80 255 ⇓eP Pn 14 42 28.9 +0.8
baz=250
WJS eS Sn 14 42 40.0 +0.8
baz=250
WNT1 Nantou City 0.82 261 eP Pn 14 42 29.4 +1.0
baz=257
WNT1 eS Sn 14 42 41.5 +1.8
baz=257
WNT Mingjian 0.83 259 ⇓eP Pn 14 42 29.3 +0.9
baz=255
WNT eS Sn 14 42 41.0 +1.2
baz=255
TCU Taichung 0.83 278 ⇓eP Pn 14 42 29.3 +0.9
baz=275
TCU eS Sn 14 42 40.7 +0.9
baz=275
NJD Zhudong 0.83 328 eP Pn 14 42 29.3 +0.8
baz=330
NSY Sanyi 0.83 297 ⇓eP Pn 14 42 29.4 +0.9
baz=297
NSY eS Sn 14 42 39.9 -0.1
baz=297
NTC Toucheng 0.85 16 eP Pb 14 42 28.7 +0.2
baz=21
NTC eS Sn 14 42 41.2 +0.7
baz=21
FULB Fuli 0.87 197 eP Pb 14 42 28.3 -0.5
baz=192
FULB eS Sn 14 42 43.2 +2.3
baz=192
NMLH Miaoli 0.87 305 ⇓eP Pn 14 42 30.0 +1.0
baz=305
NMLH eS Sn 14 42 41.5 +0.6
baz=305
EGS 0.87 22 eP Pb 14 42 28.4 -0.5
baz=28
ALS Alishan 0.87 234 eP Pn 14 42 29.9 +0.6
baz=228
ALS eS Sn 14 42 41.8 +0.4
baz=228
HSN1 Hsinchu 0.90 326 eP Pb 14 42 30.6 +1.3
baz=328
WDJ Dajia District 0.91 290 eP Pb 14 42 30.3 +0.8
baz=289
WYL Yuanlin Townsh 0.91 266 eP Pb 14 42 31.0 +1.5
baz=262
WYL eS Sn 14 42 43.6 +1.8
baz=262
CHN5 Tsauling 0.93 242 eP Pb 14 42 30.9 +1.0
baz=237
SBCB Hsinchu 0.93 325 eP Pb 14 42 31.1 +1.2
baz=327
NHDH Xindian Distri 0.93 357 eP Pb 14 42 30.1 +0.3
baz=2.0
NHDH eS Sn 14 42 42.4 +0.1
baz=2.0
WCHH Zhanghua 0.93 273 eP Pb 14 42 30.8 +0.9
baz=270
TATO Taipei 0.94 355 Pn Pb 14 42 30.6 +0.5
TATO Taipei 0.94 355 eP Pb 14 42 30.6 +0.5
baz=360
TATO eS Sb 14 42 42.5 +0.3
baz=360
HSN Hsinchu 0.94 325 eP Pb 14 42 31.3 +1.2
baz=329
TWA Mucha 0.94 1 ⇓eP Pb 14 42 30.7 +0.6
baz=5.0
TWA eS Sn 14 42 42.9 +0.1
baz=5.0
CHKT Chengkung 0.95 192 eP Pn 14 42 29.7 -0.4
baz=187
CHKT eS Sn 14 42 43.4 +0.6
baz=187
TIPB Shuangxi 0.96 14 ⇑eP Pn 14 42 30.3 0.0
baz=19
TIPB eS Sb 14 42 43.0 +0.2
baz=19
BACT New Taipei Cit 0.97 353 eP Pb 14 42 31.7 +1.1
baz=357
ELDTW Lidau 0.98 211 ⇓eP Pn 14 42 29.7 -1.0
baz=206
ELDTW eS Sn 14 42 44.3 +0.5
baz=206
ECS Chishang 0.99 199 eP Pb 14 42 31.3 +0.4
baz=195
WGK Gukeng 0.99 250 eP Pb 14 42 32.1 +1.2
baz=245
NTY Taoyuan 0.99 346 eP Pb 14 42 32.2 +1.2
baz=349
NCUH Zhongli 1.00 339 eP Pb 14 42 32.9 +1.9
baz=342
NCUH eS Sn 14 42 46.6 +2.6
baz=342
NCU National Centr 1.00 340 eP Pb 14 42 32.3 +1.2
baz=343
NCU eS Sn 14 42 46.5 +2.5
baz=343
NHY Taipei 1.00 360 eP Pb 14 42 32.7 +1.6
baz=4.0
TAP1 Taipei 1.00 357 eP Pb 14 42 31.9 +0.8
baz=1.0
TAP Taipei 1.00 357 eP Pb 14 42 32.3 +1.1
baz=1.0
WDLH Douliu 1.01 250 eP Pb 14 42 32.3 +1.1
baz=246
WDLH eS Sn 14 42 46.0 +1.8
baz=246
TWB1 Santiao Chiao 1.04 21 eP Pb 14 42 32.2 +0.4
baz=26
TWB1 eS Sb 14 42 45.8 +0.8
baz=26
NWF Wu-fen Shan 1.05 10 eP Pb 14 42 32.1 +0.1
baz=15
WFSB Wu-fen Shan 1.05 10 eP Pb 14 42 32.1 +0.2
baz=15
WFSB eS Sb 14 42 46.3 +1.0
baz=15
TWS1 Kuangyinshan 1.07 353 eP Pb 14 42 32.9 +0.6
baz=356
TWS1 eS Sb 14 42 48.6 +2.6
baz=356
NHW Xinwu Township 1.08 334 eP Pb 14 42 33.2 +0.8
baz=336
NHW eS Sb 14 42 49.0 +2.8
baz=336
EDH Donghe 1.08 193 eP Pn 14 42 31.5 -0.5
baz=189
EDH eS Sb 14 42 47.0 +0.8
baz=189
SXI1 Grass Mountain 1.09 15 eP Pb 14 42 32.6 -0.1
baz=19
SXI1 eS Sb 14 42 47.1 +0.5
baz=19
WRL Guolierlin Hig 1.10 263 eP Pb 14 42 33.3 +0.5
baz=260
WRL eS Sb 14 42 47.8 +1.1
baz=260
CHN2 Minshiung 1.12 244 eP Pb 14 42 34.3 +1.2
baz=240
CHN2 eS Sb 14 42 50.4 +3.1
baz=240
CHN4 Tsaushan 1.12 233 eP Pb 14 42 34.4 +1.2
baz=229
CHN4 eS Sb 14 42 50.1 +2.7
baz=229
STYH Taoyuan 1.13 221 eP Pb 14 42 33.4 +0.2
baz=216
STYH eS Sb 14 42 48.3 +0.8
baz=216
TNOU National Taiwa 1.13 9 eP Pn 14 42 32.9 +0.4
baz=13
TPUB Ta-pu 1.13 230 Pn Pb 14 42 34.3 +1.0
TPUB Ta-pu 1.13 230 eP Pb 14 42 34.4 +1.0
baz=226
TPUB eS Sb 14 42 49.3 +1.7
baz=226
NTST Danshui 1.13 354 eP Pb 14 42 34.3 +0.9
baz=358
NTST eS Sb 14 42 49.5 +1.9
baz=358
WTK Tuku 1.14 253 eP Pb 14 42 34.2 +0.9
baz=249
WTK eS Sb 14 42 49.0 +1.3
baz=249
STYT Tauyuan 1.14 221 eP Pb 14 42 33.9 +0.3
baz=216
STYT eS Sb 14 42 49.3 +1.3
baz=216
ANP Anpu 1.15 358 eP Pb 14 42 33.6 -0.1
baz=1.0
ANP eS Sb 14 42 48.8 +0.5
baz=1.0
YM08 YM08 1.15 1 eP Pn 14 42 32.8 -0.1
baz=4.0
YM08 eS Sb 14 42 48.4 +0.2
baz=4.0
WTP Ta-pu 1.18 228 ⇓eP Pb 14 42 35.0 +0.9
baz=224
CHY Chiayi 1.18 243 eP Pb 14 42 35.2 +1.1
baz=239
CHY eS Sb 14 42 51.2 +2.2
baz=239
LONT Longtian 1.19 200 eP Pn 14 42 32.7 -0.7
baz=196
WTCT Ta-ch'eng 1.19 262 eP Pb 14 42 35.1 +0.8
baz=259
WTCT eS Sb 14 42 51.4 +2.1
baz=259
TWY Chenhua 1.24 1 eP Pb 14 42 34.9 -0.2
baz=5.0
TWK Hsinying 1.25 233 eP Pb 14 42 36.6 +1.2
baz=228
SNST Tainan City 1.27 231 eP Pb 14 42 37.1 +1.4
baz=227
CHN1 Nanshi 1.28 229 eP Pb 14 42 37.0 +1.2
baz=225
CHN1 eS Sb 14 42 54.2 +2.4
baz=225
TWG Pinlang 1.29 201 Pn Pn 14 42 33.0 -1.8
TWG Pinlang 1.29 201 eP Pn 14 42 33.6 -1.2
baz=197
TWGBT Beinan 1.29 201 eP Pn 14 42 33.6 -1.2
baz=197
WSF Szhu 1.30 253 eP Pb 14 42 36.7 +0.6
baz=249
WSF eS Sb 14 42 53.5 +1.2
baz=249
SGST Jiashian 1.31 224 eP Pb 14 42 36.5 +0.1
baz=220
SGST eS Sb 14 42 55.1 +2.3
baz=220
JYNG Yonagunijimaku 1.32 71 P Pb 14 42 36.5 0.0
JYNG S Sb 14 42 54.1 +1.0
WSL Shuilin Townsh 1.33 248 eP Pb 14 42 37.2 +0.5
baz=245
WSL eS Sb 14 42 55.1 +1.8
baz=245
SLGT Liugui 1.34 220 eP Pb 14 42 37.2 +0.4
baz=216
LDUT Ludao 1.36 184 eP Pn 14 42 35.2 -0.5
baz=181
LDUT eS Sb 14 42 54.0 0.0
baz=181
ICHU Yijhu 1.36 241 eP Pb 14 42 37.8 +0.6
baz=237
YOJ Yonaguni jima 1.38 72 P Pb 14 42 37.3 -0.3
YOJ eS Sb 14 42 55.9 +1.1
YOJ Yonaguni jima 1.38 72 Pb 14 42 37.1 -0.5
YOJ Yonaguni jima 1.38 72 P Pb 14 42 37.4 -0.1
baz=74
YOJ eS Sb 14 42 55.4 +0.6
baz=74
CHN8 Yiju 1.42 242 eP Pb 14 42 38.5 +0.2
baz=238
CHN3 Shinhua 1.46 230 eP Pb 14 42 39.1 +0.2
baz=226
SHHT Tainan City 1.51 228 eP Pb 14 42 41.6 +1.9
baz=225
SCST Cishan 1.51 221 eP Pb 14 42 41.1 +1.3
baz=218
SCLT Jiali 1.52 236 eP Pb 14 42 41.2 +1.2
baz=233
ECL Taimali 1.54 202 eP Pn 14 42 37.6 -0.6
baz=198
SSD Sandimen 1.54 214 eP Pb 14 42 39.6 -0.8
baz=211
TSMG Majia 1.57 213 eP Pb 14 42 40.9 +0.1
baz=210
TSMG eS Sb 14 43 00.9 +0.6
baz=210
TWM1 Shoushan 1.60 221 eP Pb 14 42 42.8 +1.5
baz=218
PCYT Pengchaiyu 1.65 16 eP Pn 14 42 40.5 +0.7
baz=19
MASBT Mashibuluo 1.66 212 eP Pn 14 42 40.7 +0.9
baz=209
EAST Anshuo 1.77 202 eP Pn 14 42 42.9 +1.4
baz=199
SSPT Xinbi 1.80 211 eP Pb 14 42 44.9 +0.3
baz=208
TAWH Dawu Township 1.80 201 eP Pb 14 42 44.6 -0.1
baz=198
SCZT Fangliau 1.87 208 eP Pb 14 42 44.8 -1.1
baz=205
PHUB P'eng-hu 1.90 255 eP Pn 14 42 44.1 +0.9
baz=252
PHUB eS Sn 14 43 07.4 +1.0
baz=252
PNG Penghu 1.90 256 eP Pn 14 42 44.2 +1.0
baz=254
PNG eS Sn 14 43 08.0 +1.6
baz=254
WDGT Dungji 1.91 247 eP Pn 14 42 44.9 +1.6
baz=244
SLIU Shizi 1.94 202 eP Pb 14 42 46.1 -1.0
baz=199
LAY Lan-yu 1.98 181 eP Pn 14 42 44.4 0.0
baz=178
IRIF Iriomote-Funau 1.99 81 P Pn 14 42 45.7 +1.2
IRIF S Sb 14 43 11.5 -0.9
LYUB Lan-yu 2.02 180 eP Pn 14 42 43.9 -1.0
baz=178
HATJ Hateruma jima 2.04 89 S Sb 14 43 12.3 -1.5
VCHM Qimei 2.13 248 eP Pn 14 42 47.9 +1.5
baz=245
JKRS Kuro-shima 2.24 84 P Pn 14 42 49.9 +2.1
JKRS S Sb 14 43 18.2 -1.2
JIJ Ishigaki jima 2.37 81 P Pn 14 42 50.9 +1.2
JIJ S Sn 14 43 18.8 +0.9
PTMZ Houxiangcun 2.45 295 eP Pn 14 42 48.4 -2.3
baz=294
JISG Ishigakijimahi 2.56 77 P Pn 14 42 53.5 +1.3
JISG S Sn 14 43 23.9 +1.3
MATB Ma-tsu 2.57 325 eP Pn 14 42 52.7 +0.3
baz=325
QZH Quanzhou 2.86 289 ePn Pn 14 42 56.8 +0.4
QZH Sn Sn 14 43 28.9 -1.2
KNM Kinmen 2.89 278 eP Pn 14 42 58.7 +1.9
baz=276
JTJ Tarama 2.92 77 P Pn 14 42 59.3 +2.1
JTJ eS Sn 14 43 35.3 +3.8
KNMB Chin-men Tao 2.94 279 Pn Pn 14 42 57.9 +0.4
KNMB Chin-men Tao 2.94 279 eP Pn 14 42 57.8 +0.4
baz=278
LYJJ Jianjiangzhen 3.00 327 eP Pn 14 42 51.7 -6.6
baz=327
MHZQ Yeshan 3.09 312 eP Pn 14 43 00.0 +0.5
baz=312
XPSS Dashiqiu 3.14 337 eP Pn 14 43 00.4 +0.1
baz=337
JIRB Irabujima 3.38 76 S Sn 14 43 46.1 +3.3
AXDP Jialang 3.39 285 eP Pn 14 43 03.4 -0.3
baz=284
JIKM Ikemajima 3.46 74 eS Sn 14 43 48.3 +3.4
JMJ2 Miyako jima3 3.50 78 P Pn 14 43 07.6 +2.5
JMJ2 S Sn 14 43 48.9 +3.2
ZPLA Ao Xicun 3.50 269 eP Pn 14 43 05.8 +0.6
baz=268
ZPLA eS Sn 14 43 45.5 -0.2
baz=268
JOW Kunigami 6.67 64 P Pn 14 43 49.1 +0.4
4.6nm,0.3s,baz=165,slow=12,SNR=9.2
KSRS Korea Array 14.44 21 P P 14 45 42.9 +1.1
0.3nm,0.3s,baz=201,slow=12,SNR=12
XAN Xi'an 14.88 315 P P 14 45 44.4 -2.3
XAN pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 21.80 260 P P 14 47 05.2 +2.5
1.3nm,0.9s,baz=53,slow=8.6,SNR=9.9
CMAR Chiang Mai Arr 21.80 260 P P 14 47 03.6 +0.9
KLR Kul'dur 26.39 15 LR LR 14 58 39.6
comp=Z,30nm,18.8s,baz=178,slow=37
SONM Songino Array 26.64 337 P P 14 47 49.5 +0.4
1.3nm,0.8s,baz=166,slow=11,SNR=6.2
SONM LR LR 14 59 47.3
comp=Z,67nm,18.2s,baz=50,slow=39
SONM Songino Array 26.64 337 IAmb IAmb 14 47 52.1
comp=Z,2.9nm,1.2s
KAPI Kappang 28.93 184 LR LR 14 59 55.7
comp=Z,1.1nm,20.8s,baz=112,slow=37
MK31 Makanchi Array 38.69 316 P P 14 49 34.8 +0.6
MKAR Makanchi Array 38.69 316 P P 14 49 35.4 +1.2
comp=Z,2.5nm,0.7s,baz=107,slow=9.8,SNR=30
MKAR Makanchi Array 38.69 316 P P 14 49 35.0 +0.9
MAKZ Makanchi 38.90 316 P P 14 49 37.0 +1.1
KNRA Kununurra 40.09 169 P P 14 49 44.4 -1.5
KNRA IAmb IAmb 14 49 48.3
comp=Z,7.5nm,1.4s
ZALV Zalesovo Beam 40.56 327 P P 14 49 49.4 -0.2
comp=Z,0.9nm,0.7s,baz=115,slow=7.0,SNR=4.1
H11N1 WAKE ISLAND Hy 42.14 87 T T 15 35 31.7
baz=278
H11N2 WAKE ISLAND Hy 42.14 87 T T 15 35 10.0
baz=278
H11N3 WAKE ISLAND Hy 42.16 87 T T 15 35 14.1
baz=278
H11S3 WAKE ISLAND Hy 42.27 89 T T 15 35 17.3
baz=281,slow=74
H11S1 WAKE ISLAND Hy 42.28 89 T T 15 35 18.5
baz=281,slow=74
H11S2 WAKE ISLAND Hy 42.29 89 T T 15 35 14.6
baz=281
KURK Kurchatov 42.44 320 P P 14 50 06.7 +1.8
KURK Kurchatov 42.44 320 IAmb IAmb 14 50 10.1
comp=Z,3.5nm,1.1s
KURBB Kurchatov Arra 42.45 320 P P 14 50 06.7 +1.6
comp=Z,0.5nm,0.5s,baz=112,slow=9.7,SNR=5.1
COEN Coen 43.26 149 P P 14 50 13.3 +1.3
COEN IAmb IAmb 14 50 14.6
comp=Z,8.4nm,1.4s
WB0 Warramunga Arr 45.29 163 P P 14 50 28.6 +0.4
WB0 IAmb IAmb 14 50 30.9
comp=Z,5.9nm,1.4s
WRAB Tennant Creek 45.44 163 P P 14 50 29.0 -0.4
WRAB IAmb IAmb 14 50 55.7
comp=Z,5.0nm,1.4s
WRA Warramunga Arr 45.45 163 P P 14 50 28.9 -0.6
comp=Z,0.5nm,0.5s,baz=344,slow=8.7,SNR=10
WRA Warramunga Arr 45.45 163 IAmb IAmb 14 50 36.6
comp=Z,0.2nm,0.6s
WB2 Warramunga Arr 45.45 163 P P 14 50 29.0 -0.5
WB2 IAmb IAmb 14 50 39.4
comp=Z,7.7nm,1.4s
WR0 Warramunga Arr 45.52 163 P P 14 50 29.3 -0.7
WR0 IAmb IAmb 14 50 29.6
comp=Z,5.9nm,1.4s
BRVK Borovoye 48.09 321 P P 14 50 51.0 +1.3
ASAR Alice Springs 48.90 165 P P 14 50 56.3 -0.1
comp=Z,0.2nm,0.3s,baz=340,slow=7.1,SNR=20
ASAR Alice Springs 48.90 165 P P 14 50 55.4 -0.9
BILL Bilibino 51.71 20 P P 14 51 16.5 -0.5
BILL IAmb IAmb 14 51 32.4
comp=Z,7.5nm,1.4s
HRA Herat 52.16 296 P P 14 51 20.2 -1.1
HRA IAmb IAmb 14 51 21.0
comp=Z,1.7nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORW	**Morawa**	**53.06**	**186**	P	**P**	**14 51 24.8**	**-2.8**
ABKAR	**Akbulak array**	**53.80**	**314**	P	**P**	**14 51 33.8**	**+0.9**
ABKAR	**Akbulak array**	**53.80**	**314**	P	**P**	**14 51 33.7**	**+0.9**
ABKAR				IAmb	IAmb	14 51 36.0	
	comp=Z,1.6nm,0.8s						
KIWB	**Kanaga Island**	**53.83**	**42**	P	**P**	**14 51 31.2**	**-1.7**
BBOO	**Buckleboo**	**58.19**	**166**	P	**P**	**14 52 02.9**	**-1.4**
DZM	**Mont Dzumac**	**63.27**	**133**	P	**P**	**14 52 37.3**	**-2.0**
L19K	**White Mountain**	**66.07**	**31**	P	**P**	**14 52 57.6**	**+0.7**
L19K				IAmb	IAmb	14 53 20.7	
	comp=Z,3.0nm,0.9s						
IMAR	**Indian Mountai**	**66.16**	**26**	P	**P**	**14 52 57.6**	**+0.2**
H21K	**Melozitna Rive**	**66.58**	**27**	P	**P**	**14 53 00.9**	**+0.8**
PPLA	**Purkeypile**	**67.20**	**30**	P	**P**	**14 53 04.3**	**0.0**
TOLK	**Toolik Lake Re**	**67.45**	**23**	P	**P**	**14 53 05.8**	**+0.2**
TOLK				IAmb	IAmb	14 53 14.9	
	comp=Z,6.6nm,1.4s						
MDM	**Murphy Dome**	**68.58**	**27**	P	**P**	**14 53 13.2**	**+0.4**
MDM				IAmb	IAmb	14 53 35.0	
	comp=Z,11nm,1.5s						
RND	**Reindeer**	**68.61**	**29**	P	**P**	**14 53 12.8**	**-0.3**
ILAR	**Eielson Array**	**69.19**	**27**	P	**P**	**14 53 16.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=277,slow=5.4,SNR=7.1						
ILAR	**Eielson Array**	**69.19**	**27**	P	**P**	**14 53 16.8**	**+0.3**
DHY	**Denali Highway**	**69.33**	**29**	P	**P**	**14 53 18.1**	**+0.5**
DHY				IAmb	IAmb	14 53 26.1	
	comp=Z,8.5nm,1.4s						
PWL	**Port Wells**	**69.36**	**32**	P	**P**	**14 53 17.3**	**-0.4**
BMAR	**Burnt Mountain**	**69.52**	**24**	P	**P**	**14 53 19.7**	**+1.1**
KLU	**Klutina**	**70.36**	**31**	P	**P**	**14 53 24.2**	**+0.3**
KLU				IAmb	IAmb	14 53 24.8	
	comp=Z,9.4nm,1.3s						
SCRK	**Sand Creek**	**70.60**	**28**	P	**P**	**14 53 26.0**	**+0.6**
SCRK				IAmb	IAmb	14 53 45.4	
	comp=Z,7.5nm,1.5s						
MENT	**Mentasta**	**70.99**	**29**	P	**P**	**14 53 29.2**	**+1.6**
MENT				IAmb	IAmb	14 53 39.5	
	comp=Z,3.4nm,1.1s						
BMRM	**Bremner River**	**71.11**	**31**	P	**P**	**14 53 28.4**	**0.0**
M26K	**Nabesna, AK**	**71.45**	**29**	P	**P**	**14 53 30.9**	**+0.4**
EGAK	**Eagle**	**71.56**	**27**	P	**P**	**14 53 31.5**	**+0.5**
L27K	**Beaver Creek,**	**71.78**	**28**	P	**P**	**14 53 33.2**	**+0.8**
L27K				IAmb	IAmb	14 53 46.2	
	comp=Z,7.3nm,1.4s						
BCAR	**Beaver Creek A**	**71.80**	**28**	P	**P**	**14 53 33.5**	**+0.9**
M27K	**Edge Creek, AK**	**71.97**	**29**	P	**P**	**14 53 34.8**	**+1.1**
M27K				IAmb	IAmb	14 53 35.2	
	comp=Z,11nm,1.4s						
DAWY	**Dawson**	**72.51**	**27**	P	**P**	**14 53 37.1**	**+0.3**
DAWY				IAmb	IAmb	14 53 55.3	
	comp=Z,6.9nm,1.4s						
CTGM	**Chitina Glacie**	**72.64**	**30**	P	**P**	**14 53 38.7**	**+1.0**
NOA	**NORSAR Array B**	**78.52**	**332**	LR	LR	15 30 14.3	
	comp=Z,38nm,20.3s,baz=265,slow=37						
YKA	**Yellowknife Ar**	**82.97**	**23**	P	**P**	**14 54 34.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=312,slow=5.0,SNR=6.9						

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*TRN **01** 14:48:33.3, 17°.58N×61°.66W, h24km, MD3.8*
*IDC **01** 14:48:36.0±1.8, 17°.53N×61°.64W, h68km±22km, mb3.0/4, mb1 3.5/5, mb1mx3.2/33, mbtmp3.4/5, Error ellipse: s-maj=31.7km s-min=11.6km az=37.0*
ISC 01 14:48:32.6±1.6**, 17°.73N**±0°.07×**61°.55W**±0°.07**, h29**km±9km**, n26,** σ**1s.00**/42**, mb3.5**/4**, 1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.23**	**255**	⇓*i*P	**Pn**	**14 48 39.7**	**-0.4**
ANWB				*e*S	**Sb**	**14 48 44.5**	**+1.1**
ANBD	**Bethesda, Anti**	**0.71**	**197**	*e*P	**Pb**	**14 48 45.4**	**-1.0**
ANBD				*e*S	**Sb**	**14 48 54.9**	**-1.0**
SKI	**Saint Kitts**	**1.20**	**251**	*e*P	**Pb**	**14 48 54.3**	**-0.4**
SKI				*e*S	**Sb**	**14 49 09.5**	**-0.3**
ABD	**La Joyeuse, An**	**1.25**	**177**	*e*P	**Pn**	**14 48 54.2**	**+0.1**
ABD				*e*S	**Sb**	**14 49 11.8**	**+0.5**
SEUS	**St. Eustatius**	**1.38**	**260**	*e*P	**Pn**	**14 48 56.1**	**+0.2**
SEUS				*e*S	**Sb**	**14 49 14.5**	**-0.6**
SMRT	**St. Maarten**	**1.48**	**283**	*e*P	**Pb**	**14 48 58.5**	**-1.1**
SMRT				*e*S	**Sb**	**14 49 18.4**	**+0.4**
H05N1	**Guadeloupe/Mar**	**1.48**	**161**	P	**Pn**	**14 48 57.7**	**+0.3**
H05N1				S	**Sn**	**14 49 15.7**	**-0.1**
	SNR=563						
CBE	**Ff, Capester**	**1.65**	**182**	*e*P	**Pn**	**14 49 00.5**	**+0.8**
CBE				*e*S	**Sn**	**14 49 20.1**	**+0.2**
MAGL	**Barre de l'ile**	**1.79**	**172**	*e*P	**Pn**	**14 49 02.9**	**+1.3**
MAGL				*e*S	**Sn**	**14 49 24.4**	**+1.0**
TBG	**Guadaloupe-3**	**1.87**	**183**	*e*P	**Pn**	**14 49 03.9**	**+1.2**
TBG				*e*S	**Sn**	**14 49 25.8**	**+0.5**
TDBA	**Terre de Bas,**	**1.87**	**182**	*e*P	**Pn**	**14 49 04.0**	**+1.3**
TDBA				*e*S	**Sn**	**14 49 26.4**	**+1.0**
MDCT	**Cottage Hill,**	**2.10**	**178**	*e*P	**Pn**	**14 49 08.3**	**+2.4**
MDCT				*e*S	**Sn**	**14 49 30.9**	**-0.2**
DSLB	**Salisbury**	**2.28**	**177**	*e*P	**Pn**	**14 49 09.8**	**+1.5**
DSLB				*e*S	**Sn**	**14 49 36.1**	**+0.5**
FDF	**Fort de France**	**3.00**	**173**	*e*P	**Pn**	**14 49 19.2**	**+0.9**
FDF				*e*S	**Sn**	**14 49 53.1**	**-0.3**
BIM	**Bigot**	**3.23**	**172**	*e*P	**Pn**	**14 49 23.4**	**+2.0**
BIM				*e*S	**Sn**	**14 49 59.0**	**+0.1**
MPOM	**Morne Pois Mar**	**3.33**	**168**	*e*P	**Pn**	**14 49 23.8**	**+1.0**
MPOM				*e*S	**Sn**	**14 50 01.0**	**-0.5**
H05S1	**Guadeloupe/Mar**	**3.36**	**168**	P	**Pn**	**14 49 24.1**	**+0.9**
H05S1				S	**Sn**	**14 50 00.8**	**-1.2**
	SNR=14						
SLBI	**Saint Lucia, B**	**3.73**	**171**	*e*P	**Pn**	**14 49 29.2**	**+1.0**
SLBI				*e*S	**Sn**	**14 50 11.3**	**+0.1**
SJG	**San Juan**	**4.39**	**276**	P	**Pn**	**14 49 39.1**	**+1.7**
	6.2nm,0.3s,baz=108,slow=14,SNR=11						
SJG				S	**Sn**	**14 50 29.6**	**+2.0**
	3.0nm,0.3s,baz=343,slow=18,SNR=1.9						
TXAR	**Lajitas Array**	**40.10**	**295**	P	**P**	**14 56 05.8**	**-0.2**
	0.2nm,0.7s,baz=108,slow=8.6,SNR=2.0						
PDAR	**Pinedale Array**	**47.59**	**312**	P	**P**	**14 57 05.7**	**-0.5**
	0.3nm,0.6s,baz=112,slow=10,SNR=3.6						
H10N3	**ASCENSION HYDR**	**52.96**	**115**	T	T	15 54 56.0	
	baz=299,slow=75,SNR=9.9						
H10N2	**ASCENSION HYDR**	**52.97**	**115**	T	T	15 54 56.4	
	baz=299,slow=75,SNR=15						
H10N1	**ASCENSION HYDR**	**52.98**	**115**	T	T	15 54 50.9	
	baz=299,slow=75,SNR=17						
YKA	**Yellowknife Ar**	**57.72**	**334**	P	**P**	**14 58 20.4**	**-0.1**
	0.5nm,0.7s,baz=106,slow=7.4,SNR=7.2						
ILAR	**Eielson Array**	**72.14**	**333**	P	**P**	**14 59 54.0**	**-0.2**
	0.3nm,0.7s,baz=100,slow=5.0,SNR=3.2						

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*IDC **01** 15:01:13.3±2.5, 33°.03S×178°.38W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/24, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=61.7km s-min=34.8km az=122.0*
*WEL **01** 15:01:15.6±0.9, 33°S±9°×17°8W±2°2, h33km, M4.3/9, mB4.9/8, ML4.8/13, MLv4.5/9, Mw(mB)4.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7*
*NEIC **01** 15:01:15±0.6, 33°.2S±0°.2×178°.3W±0°.2, h10km±2km, mb4.2/9, Error ellipse: s-maj=35.9km s-min=19.9km az=130.0*
ISC 01 15:01:13.1±1.7**, 33°.1S**±0°.1×**178°.1W**±0°.3**, h10**km**, n34,** σ**1s.50**/53**, mb4.2**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.81**	**3**	P	**Pn**	**15 02 11.6**	**-0.1**
GLKZ				S	**Sn**	**15 02 53.2**	**-3.4**
MXZ	**Matakaoa Point**	**5.34**	**212**	P	**Pn**	**15 02 35.6**	**+2.8**
MXZ				S	**Sn**	**15 03 33.8**	**-0.7**
PKGZ	**Pakihiroa**	**5.71**	**212**	P	**Pn**	**15 02 38.6**	**+0.5**
PKGZ				S	**Sn**	**15 03 42.4**	**-1.3**
HAZ	**Te Kaha**	**5.74**	**214**	P	**Pn**	**15 02 39.4**	**+1.1**
HAZ				S	**Sn**	**15 03 46.5**	**+2.3**
PUZ	**Puketiti**	**5.79**	**210**	P	**Pn**	**15 02 37.7**	**-1.3**
PUZ				S	**Sn**	**15 03 44.9**	**-0.6**
RUGZ	**Raukumara Rang**	**5.96**	**214**	P	**Pn**	**15 02 40.2**	**-1.2**
RUGZ				S	**Sn**	**15 03 51.4**	**+1.6**
TWGZ	**Tauwhareparae**	**6.00**	**211**	P	**Pn**	**15 02 41.8**	**-0.1**
TWGZ				S	**Sn**	**15 03 50.6**	**0.0**
CNGZ	**Carnagh Statio**	**6.16**	**208**	P	**Pn**	**15 02 43.5**	**-0.7**
CNGZ				S	**Sn**	**15 03 57.2**	**+2.5**
TKGZ	**Te Karaka**	**6.27**	**210**	P	**Pn**	**15 02 47.6**	**+1.9**
TKGZ				S	**Sn**	**15 03 58.0**	**+0.6**
MWZ	**Matawai**	**6.33**	**213**	P	**Pn**	**15 02 46.7**	**+0.3**
MWZ				S	**Sn**	**15 03 57.2**	**-1.6**
URZ	**Urewera**	**6.46**	**216**	Pn	**Pn**	**15 02 48.7**	**+0.5**
	5.9nm,0.3s,baz=266,slow=2.4,SNR=57						
URZ				Sn	**Sn**	**15 04 01.1**	**-0.9**
	3.3nm,0.3s,baz=4.6,slow=22,SNR=6.8						
URZ	**Urewera**	**6.46**	**216**	P	**Pn**	**15 02 46.7**	**-1.5**
URZ				S	**Sn**	**15 04 02.9**	**+0.9**
RAGZ	**Rawiri**	**6.51**	**213**	P	**Pn**	**15 02 49.7**	**+0.8**
RAGZ				S	**Sn**	**15 04 05.3**	**+2.0**
RIGZ	**Rimuhau**	**6.53**	**210**	P	**Pn**	**15 02 49.2**	**-0.1**
RIGZ				S	**Sn**	**15 04 00.4**	**-3.4**
PRGZ	**Paritu Road**	**6.67**	**208**	P	**Pn**	**15 02 51.4**	**+0.3**
PRGZ				S	**Sn**	**15 04 03.7**	**-3.5**
SNGZ	**Shannon Statio**	**6.78**	**212**	P	**Pn**	**15 02 53.3**	**+0.7**
SNGZ				S	**Sn**	**15 04 09.4**	**-0.4**
MUGZ	**Murupara**	**6.80**	**216**	P	**Pn**	**15 02 54.1**	**+1.2**
MUGZ				S	**Sn**	**15 04 07.8**	**-2.6**
RAHZ	**Arahi**	**7.00**	**212**	P	**Pn**	**15 02 58.2**	**+2.5**
RAHZ				S	**Sn**	**15 04 15.2**	**-0.2**
BKZ	**Black Stump Fm**	**7.47**	**214**	Pn	**Pn**	**15 03 02.0**	**-0.2**
BFZ	**Birch Farm**	**8.83**	**209**	Pn	**Pn**	**15 03 20.0**	**-0.7**
THZ	**Tophouse**	**11.22**	**217**	Pn	**Pn**	**15 03 52.6**	**-0.9**
RPZ	**Rata Peaks**	**13.58**	**215**	Pn	**Pn**	**15 04 22.3**	**-3.5**
	0.2nm,0.3s,baz=90,slow=16,SNR=1.7						
RPZ				Sn	Sn	15 06 40.1	-17
	0.3nm,0.3s,baz=71,slow=11,SNR=1.5						
COEN	**Coen**	**39.97**	**289**	P	**P**	**15 08 49.2**	**+1.2**
COEN				IAmb	IAmb	15 09 16.4	
	comp=Z,8.3nm,1.4s						
AS31	**Alice Springs**	**42.93**	**270**	P	**P**	**15 09 12.2**	**-0.1**
ASAR	**Alice Springs**	**42.93**	**270**	P	**P**	**15 09 12.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.8,SNR=24						
ASAR				PcP	**PcP**	**15 11 03.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=126,slow=4.3,SNR=1.6						
WR0	**Warramunga Arr**	**43.98**	**275**	P	**P**	**15 09 20.6**	**-0.2**
WR0				IAmb	IAmb	15 09 24.5	
	comp=Z,8.3nm,1.5s						
WB2	**Warramunga Arr**	**44.15**	**275**	P	**P**	**15 09 22.1**	**0.0**
WB2				IAmb	IAmb	15 09 22.6	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**44.15**	**275**	P	**P**	**15 09 21.9**	**-0.3**
WRAB				IAmb	IAmb	15 09 43.4	
	comp=Z,6.7nm,1.4s						
WRA	**Warramunga Arr**	**44.16**	**275**	P	**P**	**15 09 22.2**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=115,slow=7.7,SNR=37						
WB0	**Warramunga Arr**	**44.19**	**275**	P	**P**	**15 09 22.3**	**-0.2**
KNRA	**Kununurra**	**50.85**	**277**	P	**P**	**15 10 14.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.30**	**272**	P	**P**	**15 10 25.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=135,slow=8.3,SNR=2.1						
FITZ	**Fitzroy Crossi**	**52.30**	**272**	P	**P**	**15 10 24.8**	**-0.2**
FITZ				IAmb	IAmb	15 10 47.2	
	comp=Z,1.9nm,1.1s						
FINES	**FINESS Array B**	**147.60**	**338**	PKPbc	**PKPbc**	**15 20 57.9**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=35,slow=3.5,SNR=13						

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*NEIC **01** 15:04:42.1±1.8, 32°.86S±0°.05×178°.2W±0°.2, h10km±1km, mb4.1/11, Error ellipse: s-maj=28.5km s-min=5.9km az=102.0*
*IDC **01** 15:04:42.1±2.9, 32°.82S×178°.51W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/31, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=69.6km s-min=44.6km az=125.0*
*WEL **01** 15:04:44.8±0.8, 33°S±14°×17°9W±3°5, h33km, M4.2/7, mB4.7/4, ML4.6/12, MLv4.3/7, Mw(mB)4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=111.3*
ISC 01 15:04:41.8±1.0**, 32°.92S**±0°.08×**178°.4W**±0°.2**, h10**km**, n34,** σ**1s.57**/48**, mb4.0**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.67**	**6**	P	**Pn**	**15 05 37.9**	**-0.6**
GLKZ				S	**Sn**	**15 06 18.6**	**-3.2**
RAO	**Raoul Island**	**3.67**	**6**	Pn	**Pn**	**15 05 36.7**	**-2.0**
MXZ	**Matakaoa Point**	**5.38**	**210**	Pn	**Pn**	**15 06 02.5**	**+0.4**
PKGZ	**Pakihiroa**	**5.75**	**209**	P	**Pn**	**15 06 06.9**	**-0.4**
PKGZ				S	**Sn**	**15 07 10.4**	**-2.9**
HAZ	**Te Kaha**	**5.76**	**212**	P	**Pn**	**15 06 09.0**	**+1.7**
HAZ				S	**Sn**	**15 07 12.9**	**-0.7**
PUZ	**Puketiti**	**5.83**	**207**	P	**Pn**	**15 06 07.0**	**-1.4**
PUZ				S	**Sn**	**15 07 13.7**	**-1.7**
RUGZ	**Raukumara Rang**	**5.98**	**212**	P	**Pn**	**15 06 11.3**	**+0.8**
RUGZ				S	**Sn**	**15 07 18.6**	**-0.6**
TWGZ	**Tauwhareparae**	**6.03**	**209**	P	**Pn**	**15 06 11.6**	**+0.5**
TWGZ				S	**Sn**	**15 07 19.4**	**-0.9**
CNGZ	**Carnagh Statio**	**6.21**	**206**	P	**Pn**	**15 06 13.0**	**-0.6**
TKGZ	**Te Karaka**	**6.31**	**208**	P	**Pn**	**15 06 15.9**	**+1.0**
TKGZ				S	**Sn**	**15 07 24.7**	**-2.3**
MWZ	**Matawai**	**6.36**	**211**	P	**Pn**	**15 06 14.7**	**-0.8**
MWZ				S	**Sn**	**15 07 25.6**	**-2.7**
URZ	**Urewera**	**6.48**	**213**	Pn	**Pn**	**15 06 17.7**	**+0.6**
	2.1nm,0.3s,baz=262,slow=4.6,SNR=7.9						
URZ				Sn	**Sn**	**15 07 28.4**	**-2.8**
	0.8nm,0.3s,baz=348,slow=11,SNR=2.0						
URZ	**Urewera**	**6.48**	**213**	Pn	**Pn**	**15 06 17.5**	**+0.2**
URZ	**Urewera**	**6.48**	**213**	P	**Pn**	**15 06 17.8**	**+0.6**
URZ				S	**Sn**	**15 07 28.8**	**-2.4**
RIGZ	**Rimuhau**	**6.58**	**208**	P	**Pn**	**15 06 18.1**	**-0.5**
RIGZ				S	**Sn**	**15 07 32.9**	**-0.7**
SNGZ	**Shannon Statio**	**6.81**	**210**	P	**Pn**	**15 06 22.8**	**+1.0**
SNGZ				S	**Sn**	**15 07 37.0**	**-2.4**
MUGZ	**Murupara**	**6.81**	**214**	P	**Pn**	**15 06 22.7**	**+0.8**
MUGZ				S	**Sn**	**15 07 36.2**	**-3.3**
RAHZ	**Arahi**	**7.03**	**210**	P	**Pn**	**15 06 24.3**	**-0.6**
RAHZ				S	**Sn**	**15 07 41.1**	**-3.7**
BKZ	**Black Stump Fm**	**7.50**	**212**	Pn	**Pn**	**15 06 30.9**	**-0.3**
COEN	**Coen**	**39.73**	**289**	P	**P**	**15 12 17.2**	**+2.4**
COEN				IAmb	IAmb	15 12 37.8	
	comp=Z,3.5nm,1.2s						
AS31	**Alice Springs**	**42.73**	**270**	P	**P**	**15 12 39.1**	**-0.3**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**15 12 40.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=110,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**15 12 39.4**	**0.0**
WR0	**Warramunga Arr**	**43.77**	**275**	P	**P**	**15 12 48.2**	**+0.4**
WR0				IAmb	IAmb	15 13 07.7	
	comp=Z,3.0nm,1.2s						
WB2	**Warramunga Arr**	**43.93**	**275**	P	**P**	**15 12 49.9**	**+0.7**
WB2				IAmb	IAmb	15 12 50.8	
	comp=Z,5.3nm,1.1s						
WRAB	**Tennant Creek**	**43.94**	**275**	P	**P**	**15 12 49.6**	**+0.4**
WRAB				IAmb	IAmb	15 12 54.6	
	comp=Z,5.0nm,1.4s						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**15 12 50.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=112,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**15 12 49.8**	**+0.5**
WB0	**Warramunga Arr**	**43.98**	**275**	P	**P**	**15 12 50.1**	**+0.6**
WB0				IAmb	IAmb	15 13 15.3	
	comp=Z,4.3nm,1.2s						
KNRA	**Kununurra**	**50.64**	**277**	P	**P**	**15 13 41.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.09**	**272**	P	**P**	**15 13 53.2**	**+0.9**
FITZ				IAmb	IAmb	15 14 20.0	
	comp=Z,4.2nm,1.2s						
SDHHI	**Sand Hill**	**56.49**	**26**	P	**P**	**15 14 24.0**	**-0.3**
QSPA	**South Pole Qui**	**57.20**	**180**	P	**P**	**15 14 31.0**	**+2.1**
QSPA				IAmb	IAmb	15 14 53.7	
	comp=Z,1.7nm,1.1s						
FINES	**FINESS Array B**	**147.38**	**338**	PKPbc	**PKPbc**	**15 24 25.9**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=45,slow=3.1,SNR=9.2						

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*IDC **01** 15:17:08.3±2.4, 5°.21S×133°.88E, h0km, mb3.5/1, mb1 4.0/6, mb1mx3.6/46, mbtmp3.8/6, ML3.8/5, Error ellipse: s-maj=65.4km s-min=25.6km az=83.0*
ISC 01 15:17:11.4±1.3**, 5°.30S**±0°.07×**133°.8E**±0°.1**, h35**km**, n6,** σ**3s.40**/11**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.08**	**330**	Pn	**Pn**	**15 18 25.0**	**-0.1**
	1.2nm,0.3s,baz=128,slow=24,SNR=1.7						
SIJI				Sn	**Sn**	**15 19 17.9**	**-4.6**
	4.9nm,0.3s,baz=231,slow=22,SNR=8.7						
BATI	**Baumata**	**11.16**	**243**	Pn	**Pn**	**15 19 51.1**	**+2.5**
	1.6nm,0.3s,baz=90,slow=20,SNR=2.0						
BATI				Sn	**Sn**	**15 21 54.0**	**+1.8**
	1.5nm,0.3s,baz=276,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**14.56**	**178**	Pn	**Pn**	**15 20 35.9**	**+0.8**
	0.2nm,0.3s,baz=354,slow=14,SNR=15						
WRA				Sn	**Sn**	**15 23 14.8**	**-0.6**
	0.3nm,0.3s,baz=356,slow=24,SNR=4.6						
FITZ	**Fitzroy Crossi**	**15.01**	**211**	Pn	**P**	**15 20 43.3**	**-2.8**
	0.9nm,0.3s,baz=39,slow=12,SNR=31						
FITZ				Sn	**Sn**	**15 23 21.6**	**-4.6**
	1.2nm,0.3s,baz=191,slow=16,SNR=18						
ASAR	**Alice Springs**	**18.26**	**180**	P	**Pn**	**15 21 24.9**	**+2.7**
	0.6nm,0.3s,baz=6.9,slow=11,SNR=57						
ASAR				S	**Sn**	**15 24 40.8**	**-4.4**
	0.1nm,0.3s,baz=177,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**68.95**	**325**	P	**P**	**15 28 15.3**	**+2.2**
	0.5nm,0.8s,baz=118,slow=7.8,SNR=6.0						

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*IDC **01** 15:25:18.4±3.8, 18°.34N×146°.49E, h84km±33km, mb3.4/12, mb1 3.5/13, mb1mx3.3/63, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.4/39, Error ellipse: s-maj=45.4km s-min=15.4km az=87.0*
*NEIC **01** 15:25:18.2±0.9, 18°.40N±0°.10×146°.4E±0°.2, h72km±7km, mb4.4/16, Error ellipse: s-maj=24.0km s-min=13.4km az=99.0*
ISC 01 15:25:17.0±0.6**, 18°.40N**±0°.07×**146°.5E**±0°.2**, h64**km**, n34,** σ**0s.88**/33**, mb4.0**/20**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.02**	**198**	P	**Pn**	**15 26 31.4**	**+1.6**
	8.2nm,0.3s,baz=157,slow=18,SNR=1.7						
GUMO				S	**Sn**	**15 27 26.8**	**+0.3**
	7.5nm,0.3s,baz=168,slow=22,SNR=1.4						
JOW	**Kunigami**	**18.75**	**300**	P	**P**	**15 29 30.9**	**+0.1**
HNR	**Honiara**	**30.69**	**153**	LR	LR	15 43 33.2	
	comp=Z,54nm,18.8s,baz=132,slow=36						
KLR	**Kul'dur**	**32.97**	**342**	P	**P**	**15 31 46.4**	**+0.9**
	2.5nm,0.7s,baz=163,slow=6.2,SNR=10						
MTN	**Manton Dam**	**34.53**	**207**	P	**P**	**15 31 59.1**	**-0.3**
MTN				IAmb	IAmb	15 32 22.6	
	comp=Z,9.5nm,1.3s						
KNRA	**Kununurra**	**38.09**	**208**	P	**P**	**15 32 29.4**	**-0.3**
KNRA				IAmb	IAmb	15 32 33.8	
	comp=Z,9.8nm,1.3s						
WB0	**Warramunga Arr**	**39.73**	**198**	P	**P**	**15 32 43.5**	**0.0**
WB0				IAmb	IAmb	15 33 08.3	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**39.87**	**198**	P	**P**	**15 32 43.7**	**-0.9**
WR0				IAmb	IAmb	15 32 47.5	
	comp=Z,4.5nm,1.5s						
WRAB	**Tennant Creek**	**39.91**	**198**	P	**P**	**15 32 44.5**	**-0.3**
WRAB				IAmb	IAmb	15 33 00.2	
	comp=Z,2.9nm,1.0s						
WB2	**Warramunga Arr**	**39.91**	**198**	P	**P**	**15 32 44.1**	**-0.9**
WB2				IAmb	IAmb	15 33 08.3	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**39.92**	**198**	P	**P**	**15 32 44.2**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=23,slow=9.1,SNR=4.4						
WRA				PcP	**PcP**	**15 34 49.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=12,slow=3.4,SNR=1.4						
FITZ	**Fitzroy Crossi**	**41.65**	**211**	P	**P**	**15 32 58.5**	**-0.7**
AS31	**Alice Springs**	**43.57**	**197**	P	**P**	**15 33 14.5**	**-0.3**
ASAR	**Alice Springs**	**43.57**	**197**	P	**P**	**15 33 13.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=21,slow=6.5,SNR=8.5						
ASAR	**Alice Springs**	**43.57**	**197**	P	**P**	**15 33 14.9**	**+0.1**
SONM	**Songino Array**	**43.83**	**321**	P	**P**	**15 33 16.6**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=114,slow=6.8,SNR=2.6						
SONM	**Songino Array**	**43.83**	**321**	IAmb	IAmb	15 33 18.5	
	comp=Z,0.3nm,0.8s						
KIWB	**Kanaga Island**	**43.93**	**32**	P	**P**	**15 33 17.2**	**-0.1**
SEY	**Seymchan**	**44.68**	**4**	P	**P**	**15 33 24.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=62,slow=22,SNR=1.9						
STKA	**Stephens Creek**	**50.21**	**185**	P	**P**	**15 34 05.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=338,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**50.21**	**185**	P	**P**	**15 34 06.0**	**-0.5**
BBOO	**Buckleboo**	**51.88**	**191**	P	**P**	**15 34 18.7**	**-0.3**
ZALV	**Zalesovo Beam**	**58.69**	**322**	P	**P**	**15 35 07.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=100,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**59.19**	**314**	P	**P**	**15 35 11.0**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=92,slow=6.4,SNR=4.2						
KURK	**Kurchatov**	**61.98**	**318**	P	**P**	**15 35 30.0**	**-0.2**
KURK	**Kurchatov**	**61.98**	**318**	IAmb	IAmb	15 35 31.1	
	comp=Z,5.2nm,1.4s						
KURBB	**Kurchatov Arra**	**62.02**	**318**	P	**P**	**15 35 30.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=89,slow=7.2,SNR=1.3						
BMAR	**Burnt Mountain**	**65.10**	**23**	P	**P**	**15 35 52.1**	**+1.5**
ABKAR	**Akbulak array**	**74.05**	**317**	P	**P**	**15 36 45.6**	**-0.4**
YKA	**Yellowknife Ar**	**77.91**	**28**	P	**P**	**15 37 05.7**	**-2.0**
	comp=Z,0.1nm,0.6s,baz=289,slow=5.4,SNR=2.1						
K05A	**Summer Lake**	**79.64**	**48**	P	**P**	**15 37 17.5**	**-0.4**
K05A				IAmb	IAmb	15 37 24.4	
	comp=Z,1.4nm,0.6s						
TULEG	**Thule**	**82.91**	**8**	P	**P**	**15 37 36.3**	**+2.0**
ARCES	**ARCESS Array B**	**83.00**	**342**	P	**P**	**15 37 34.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=70,slow=7.8,SNR=5.0						
FINES	**FINESS Array B**	**87.46**	**335**	P	**P**	**15 37 55.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=90,slow=2.8,SNR=5.1						

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*SFS **01** 15:39:15.0, 36°.62N×7°.27W, h4km, ML2.7, GOLFO DE CADIZ*
*MDD **01** 15:39:15.8±0.5, 36°.63N×7°.27W, h4km±3km, mb_Lg2.7/9, Error ellipse: s-maj=3.4km s-min=2.9km az=37.0*
*CNRM **01** 15:39:17.5, 36°.52N×7°.50W, h53km, ml1.7*
*INMG **01** 15:39:18.7±1.6, 36°.60N×7°.30W, h28km±10km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.0km az=42.0*
*IGIL **01** 15:39:20.0, 36°.64N×7°.30W, h31km, ML2.3*
ISC 01 15:39:17.7±1.1**, 36°.65N**±0°.03×**7°.28W**±0°.03**, h44**km±27km**, n44,** σ**1s.38**/85**, 6D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARNO	**Arenosillo**	**0.62**	**44**	S	**Sn**	**15 39 39.6**	**+0.5**
PBDV	**Barranco-do-Ve**	**0.79**	**319**	⇓*e*P	**Pn**	**15 39 33.0**	**+0.5**
PBDV				*e*S	**Sn**	**15 39 43.2**	**0.0**
PBDV				A	A	15 39 44.5	
	35nm,0.3s						
PVAQ	**Vaqueiros**	**0.83**	**335**	⇓*i*P	**Pn**	**15 39 33.5**	**+0.5**
PVAQ				*e*S	**Sn**	**15 39 44.2**	**+0.1**
PVAQ				A	A	15 39 44.7	
	57nm,0.4s						
PVAQ	**Vaqueiros**	**0.83**	**335**	P	**Pn**	**15 39 33.7**	**+0.7**
PVAQ				S	**Sn**	**15 39 45.1**	**+1.0**
EGRO	**El Granado**	**0.90**	**349**	Pg	**Pn**	**15 39 34.3**	**+0.4**
EGRO				Sg	**Sn**	**15 39 45.2**	**-0.5**
EGRO				*i* Vmb_Lg		15 39 47.0	
PCVE	**Castro Verde**	**1.15**	**328**	⇓*e*P	**Pn**	**15 39 38.1**	**+0.7**
PCVE				*e*S	**Sn**	**15 39 52.4**	**+0.4**
PCVE				A	A	15 39 52.6	
	18nm,0.4s						
MORF	**Marmelete**	**1.28**	**301**	*e*P	**Pn**	**15 39 39.4**	**+0.3**
MORF				*e*S	**Sn**	**15 39 54.0**	**-1.2**
MORF				IAML		15 39 56.4	
	comp=N,45nm,0.2s						
MORF	**Marmelete**	**1.28**	**301**	*e*P	**Pn**	**15 39 39.5**	**+0.3**
MORF				*e*S	**Sn**	**15 39 54.8**	**-0.4**
MORF				A	A	15 39 55.8	
	comp=N,30nm,0.1s						
PFVI	**Vila Bisbo**	**1.33**	**292**	*e*P	**Pn**	**15 39 40.3**	**+0.5**
PFVI				*e*S	**Sn**	**15 39 56.1**	**-0.3**
PFVI				A	A	15 39 57.5	
	comp=N,17nm,0.1s						
PFVI	**Vila Bisbo**	**1.33**	**292**	P	**Pn**	**15 39 40.3**	**+0.5**
PFVI				S	**Sn**	**15 39 55.1**	**-1.3**
PBEJ	**Beja**	**1.45**	**341**	*e*P	**Pn**	**15 39 42.1**	**+0.6**
PBEJ				*e*S	**Sn**	**15 39 59.5**	**+0.2**
PBEJ				A	A	15 40 08.6	
	comp=N,6.2nm,0.3s						
PTEO	**Sao Teotonio**	**1.46**	**308**	⇓*e*P	**Pn**	**15 39 42.4**	**+0.8**
PTEO				*e*S	**Sn**	**15 39 59.8**	**+0.3**
PTEO				A	A	15 40 03.7	
	comp=N,11nm,0.6s						
PBAR	**Barrancos**	**1.53**	**7**	⇓*e*P	**Pn**	**15 39 43.1**	**+0.5**
PBAR				*e*S	**Sn**	**15 40 01.0**	**-0.3**
PBAR				A	A	15 40 07.8	
	comp=N,12nm,0.4s						
PNCL	**Nicolau / Gran**	**1.77**	**326**	⇓*i*Pn	**Pn**	**15 39 46.5**	**+0.7**
PNCL				*e*Sn	**Sn**	**15 40 06.1**	**-0.9**
PNCL				A	A	15 40 17.9	
	comp=N,8.2nm,0.4s						
SMIR	**Smir Dam**	**1.81**	**122**	P	**Pn**	**15 39 45.4**	**-1.0**
SMIR				S	**Sn**	**15 40 10.7**	**+2.6**
EVO	**Evora**	**1.97**	**343**	P	Pn	15 39 43.5	-5.1
EVO				S	**Sn**	**15 40 10.9**	**-1.0**
EVO	**Evora**	**1.97**	**343**	*e*Pn	**Pn**	**15 39 49.2**	**+0.7**
EVO				*e*Sn	**Sn**	**15 40 11.1**	**-0.9**
EVO				A	A	15 40 12.8	
	comp=N,16nm,0.1s						
EMIJ	**Mijas**	**2.02**	**92**	Pn	**Pn**	**15 39 48.9**	**-0.3**
EMIJ				Sn	**Sn**	**15 40 13.2**	**-0.1**
EMIJ				*i* Vmb_Lg		15 40 17.3	
ECAB	**El Cabril**	**2.05**	**46**	Pn	**Pn**	**15 39 49.3**	**-0.4**
ECAB				Sn	**Sn**	**15 40 13.6**	**-0.5**
ECAB				*i* Vmb_Lg		15 40 15.2	
EBAD	**Badajoz**	**2.11**	**6**	Pn	**Pn**	**15 39 50.7**	**+0.2**
EBAD				Sn	**Sn**	**15 40 16.4**	**+0.8**

EBAD				*i* Vmb_Lg		15 40 17.4	
PESTR	**Estremoz**	**2.23**	**354**	*e*Pn	**Pn**	**15 39 52.4**	**+0.3**
PESTR				*e*Sn	**Sn**	**15 40 18.3**	**-0.1**
PESTR				A	A	15 40 36.8	
	comp=N,3.9nm,0.5s						
PESTR	**Estremoz**	**2.23**	**354**	P	**Pn**	**15 39 53.5**	**+1.4**
PESTR				S	**Sn**	**15 40 21.6**	**+3.2**
PMTG	**Montargil**	**2.53**	**343**	*e*Pn	**Pn**	**15 39 56.8**	**+0.6**
PMTG				*e*Sn	**Sn**	**15 40 25.5**	**-0.3**
PMTG				A	A	15 40 29.0	
	comp=N,4.0nm,0.3s						
PMRV	**Marv??o**	**2.77**	**358**	*e*Pn	**Pn**	**15 40 00.1**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 40 31.6**	**-0.3**
PMRV				A	A	15 40 32.4	
	comp=N,6.6nm,0.2s						
PMAFR	**Mafra**	**2.80**	**326**	*e*Pn	**Pn**	**15 40 01.1**	**+1.2**
PMAFR				*e*Sn	**Sn**	**15 40 33.5**	**+1.1**
ELGU	**Los Guajares,**	**2.94**	**85**	Pn	**Pn**	**15 40 01.6**	**-0.4**
ELGU				Sn	**Sn**	**15 40 35.8**	**-0.2**
ELGU				*i* Vmb_Lg		15 40 41.8	
PCBR	**Castelo Branco**	**3.19**	**357**	*e*Pn	**Pn**	**15 40 06.0**	**+0.7**
PCBR				*e*Sn	**Sn**	**15 40 41.0**	**-1.0**
ZHG	**ZHG**	**3.24**	**171**	P	**Pn**	**15 40 06.5**	**+0.4**
ZHG				S	**Sn**	**15 40 44.4**	**+0.9**
PCAS	**Casmilo, Conde**	**3.53**	**345**	*e*Pn	**Pn**	**15 40 10.8**	**+0.8**
PCAS				*e*Sn	**Sn**	**15 40 49.9**	**-0.6**
EPLA	**Plasencia**	**3.54**	**15**	Pn	**Pn**	**15 40 10.4**	**+0.4**
EPLA				*i* Vmb_Lg		15 40 50.9	
EPLA				Sn	**Sn**	**15 40 51.1**	**+0.4**
PAB	**San Pablo**	**3.70**	**38**	Pn	**Pn**	**15 40 12.3**	**-0.1**
PAB				*i* Vmb_Lg		15 40 52.2	
PAB				Sn	**Sn**	**15 40 53.8**	**-1.0**
MTE	**Manteigas**	**3.75**	**357**	*e*Pn	**Pn**	**15 40 14.0**	**+0.9**
CZD	**Col de Zad**	**4.05**	**152**	P	**Pn**	**15 40 19.0**	**+1.6**
CZD				S	**Sn**	**15 41 06.6**	**+2.8**
SRHM	**Skhour des Reh**	**4.20**	**187**	P	**Pn**	**15 40 20.1**	**+0.8**
SRHM				S	**Sn**	**15 41 12.0**	**+4.8**
MD31	**MD31**	**4.31**	**151**	P	**Pn**	**15 40 20.9**	**+0.2**
MD31				S	**Sn**	**15 41 10.0**	**+0.2**
MDT	**Midelt**	**4.41**	**149**	P	**Pn**	**15 40 22.2**	**0.0**
MDT				S	**Sn**	**15 41 12.3**	**-0.2**
MVO	**Moncorvo**	**4.51**	**2**	*e*Pn	**Pn**	**15 40 24.1**	**+0.6**
MVO				*e*Sn	**Sn**	**15 41 11.9**	**-2.8**
POLO	**Lamas de Olo**	**4.73**	**355**	*e*Pn	**Pn**	**15 40 26.9**	**+0.3**
POLO				*e*Sn	**Sn**	**15 41 18.7**	**-1.5**
ETOB	**Tobarra**	**4.96**	**65**	Pn	**Pn**	**15 40 29.4**	**-0.3**
ETOB				*i* Vmb_Lg		15 41 23.4	
ETOB				Sn	**Sn**	**15 41 26.0**	**+0.2**
PGAV	**Gavieira, Arco**	**5.36**	**352**	*e*Pn	**Pn**	**15 40 35.9**	**+0.7**
PGAV				*e*Sn	**Sn**	**15 41 33.5**	**-2.2**
OUK	**Oukaimeden**	**5.45**	**185**	P	**Pn**	**15 40 36.5**	**-0.2**
OUK				S	**Sn**	**15 41 35.8**	**-2.5**
OUZM	**OUZ**	**5.74**	**176**	P	**Pn**	**15 40 40.6**	**+0.1**
OUZM				S	**Sn**	**15 41 43.3**	**-1.9**
ETOR	**Torete**	**5.83**	**43**	Pn	**Pn**	**15 40 42.0**	**+0.3**
ETOR				*i* Vmb_Lg		15 41 46.0	
ETOR				Sn	**Sn**	**15 41 48.0**	**+0.8**
TTIG	**Tnine Tigouga,**	**6.17**	**189**	P	**Pn**	**15 40 43.1**	**-3.3**
TTIG				S	**Sn**	**15 41 49.3**	**-6.3**

IDC ***01*** *15:45:03.3±0.7, 19°.09N×121°.46E, h0km, mb3.8/15, mb1 3.9/16, mb1mx3.7/67, mbtmp3.8/16, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/89, Error ellipse: s-maj=27.0km s-min=15.1km az=73.0*
MAN ***01*** *15:45:09.9, 19°.06N×121°.10E, h14km, mb4.5, ML3.3, MS3.1*
NEIC ***01*** *15:45:09.6±1.2, 19°.04N±0°.10×121°.5E±0°.2, h45km±1km, mb4.2/14, Error ellipse: s-maj=23.5km s-min=14.0km az=85.0*
ISC 01 15:45:06.5±0.5**, 19°.13N**±0°.03×**121°.08E**±0°.08**, h10km, n47, σ1^{s}90**/41**, mb4.1**/20**, 1C-7D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.33**	**206**	⇓*e*P	**Pn**	**15 45 30.2**	**-1.0**
SIPP				*e*S	Sg	15 46 02.0	+12
BBP	**Basco**	**1.55**	**32**	⇓*e*P	**Pn**	**15 45 36.4**	**+2.1**
BBP				*e*S	**Sb**	**15 45 59.6**	**+4.5**
CVP	**Callao Caves**	**1.58**	**153**	⇓*i*P	**Pn**	**15 45 36.2**	**+1.6**
CVP				*i* S	**Sn**	**15 45 55.9**	**+0.8**
SAMP	**Sagada Mountai**	**2.04**	**185**	⇓*e*P	**Pn**	**15 45 43.5**	**+2.6**
SAMP				*e*S	**Sb**	**15 46 11.0**	**+1.8**
BOLP	**Bolinao**	**2.95**	**202**	⇓*e*P	**Pn**	**15 45 56.2**	**+2.7**
BOLP				*e*S	**Sb**	**15 46 39.2**	**+3.9**
SMPP	**San Manuel, Pa**	**2.98**	**187**	⇓*e*P	**Pn**	**15 45 57.0**	**+3.1**
SMPP				*e*S	**Sb**	**15 46 38.2**	**+1.8**
BALP	**Baler**	**3.40**	**172**	⇓*e*P	**Pb**	**15 46 06.4**	**-0.5**
BALP				*e*S	**Sb**	**15 46 46.8**	**-1.5**
PCPH	**Palayan**	**3.54**	**180**	⇑*e*P	**Pn**	**15 46 05.8**	**+4.2**
PCPH				*e*S	**Sb**	**15 46 51.6**	**-0.9**
TWG	**Pinlang**	**3.68**	**360**	Pn	**Pn**	**15 46 05.6**	**+2.1**
YULB	**Yu-li**	**4.25**	**3**	Pn	**Pn**	**15 46 13.5**	**+2.1**
SSLB	**Suanglung**	**4.64**	**359**	Pn	**Pn**	**15 46 18.1**	**+1.3**
LQP	**Lukban**	**5.00**	**175**	*e*P	**Pb**	**15 46 35.8**	**+1.4**
YHNB	**Yeheng**	**5.52**	**3**	Pn	**Pn**	**15 46 30.3**	**+1.4**
DAV	**Davao City (W)**	**12.76**	**159**	LR	LR	15 53 23.4	
	comp=Z,130nm,18.3s,baz=318,slow=40						
KSRS	**Korea Array**	**19.22**	**17**	P	**P**	**15 49 28.6**	**-2.1**
	0.1nm,0.3s,baz=196,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**20.97**	**272**	P	**P**	**15 49 53.5**	**+3.5**
	0.7nm,0.6s,baz=85,slow=10,SNR=4.8						
SONM	**Songino Array**	**31.03**	**341**	P	**P**	**15 51 23.9**	**-0.7**
	0.7nm,0.9s,baz=159,slow=8.4,SNR=4.2						
SONM				PcP	**PcP**	**15 54 19.6**	**-0.7**
	0.2nm,0.7s,baz=158,slow=4.7,SNR=2.0						
SONM	**Songino Array**	**31.03**	**341**	IAmb	IAmb	15 51 27.6	
	comp=Z,0.9nm,1.1s						
WB0	**Warramunga Arr**	**40.80**	**161**	P	P	15 52 44.1	-4.2
WB0				IAmb	IAmb	15 52 59.2	
	comp=Z,4.3nm,1.2s						
WRAB	**Tennant Creek**	**40.94**	**161**	P	P	15 52 45.3	-4.1
WRAB				IAmb	IAmb	15 52 51.9	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**40.95**	**161**	P	P	15 52 45.4	-4.1
	comp=Z,0.2nm,0.4s,baz=325,slow=12,SNR=7.7						
WRA				PcP	**PcP**	**15 54 48.8**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=348,slow=3.3,SNR=7.0						
WB2	**Warramunga Arr**	**40.95**	**161**	P	P	15 52 45.7	-3.9
WB2				IAmb	IAmb	15 52 46.1	
	comp=Z,6.1nm,1.5s						
WR0	**Warramunga Arr**	**41.02**	**161**	P	P	15 52 46.1	-4.0
WR0				IAmb	IAmb	15 53 01.9	
	comp=Z,3.5nm,1.3s						
MK31	**Makanchi Array**	**42.01**	**320**	P	**P**	**15 52 58.4**	**+0.3**
MKAR	**Makanchi Array**	**42.01**	**320**	P	**P**	**15 52 58.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=113,slow=9.7,SNR=6.6						
MKAR				PcP	**PcP**	**15 54 52.4**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=119,slow=4.7,SNR=4.0						
PETK	**Petropavlovsk-**	**44.16**	**31**	P	P	15 53 11.5	-3.9
	comp=Z,4.7nm,0.9s,baz=256,slow=5.8,SNR=2.7						
ASAR	**Alice Springs**	**44.34**	**163**	P	P	15 53 13.7	-3.3
	comp=Z,0.5nm,0.7s,baz=342,slow=6.9,SNR=17						
ASAR				PcP	**PP**	**15 54 59.6**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=340,slow=3.9,SNR=1.5						
ASAR	**Alice Springs**	**44.34**	**163**	P	P	15 53 13.0	-4.1
ZALV	**Zalesovo Beam**	**44.49**	**330**	P	**P**	**15 53 18.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=130,slow=10.0,SNR=2.0						
KURK	**Kurchatov**	**45.99**	**323**	P	**P**	**15 53 29.8**	**0.0**
KURK	**Kurchatov**	**45.99**	**323**	IAmb	IAmb	15 53 39.5	
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.99**	**323**	P	**P**	**15 53 29.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=120,slow=7.3,SNR=2.0						
SEY	**Seymchan**	**48.76**	**18**	P	P	15 53 49.7	-1.6
	comp=Z,0.4nm,0.5s,baz=197,slow=7.9,SNR=3.9						
TIXI	**Tiksi**	**52.73**	**3**	P	P	15 54 18.7	-2.4
	comp=Z,1.7nm,0.7s,baz=89,slow=23,SNR=12						
TIXI	**Tiksi**	**52.73**	**3**	P	P	15 54 19.7	-1.3
TIXI				IAmb	IAmb	15 54 20.9	
	comp=Z,3.3nm,1.0s						
NRIK	**Noril'sk**	**54.25**	**346**	P	P	15 54 31.0	-1.3
	comp=Z,2.8nm,0.5s,baz=113,slow=8.0,SNR=7.8						
NRIK	**Noril'sk**	**54.25**	**346**	P	**P**	**15 54 31.5**	**-0.8**
NRIK				IAmb	IAmb	15 54 33.3	
	comp=Z,3.3nm,0.6s						
BILL	**Bilibino**	**56.47**	**19**	P	**P**	**15 54 47.5**	**-0.8**
ABKAR	**Akbulak array**	**56.97**	**317**	P	**P**	**15 54 52.5**	**+0.3**
AKTO	**Aktyubinsk**	**58.38**	**318**	P	**P**	**15 55 01.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=85,slow=20,SNR=2.2						
ARU	**Arti**	**59.12**	**325**	P	**P**	**15 55 06.5**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=122,slow=9.5,SNR=4.9						
TTA	**Tatalina**	**69.94**	**29**	P	P	15 56 14.8	-3.1
TTA				IAmb	IAmb	15 56 40.4	
	comp=Z,4.8nm,1.5s						
BMAR	**Burnt Mountain**	**74.17**	**24**	P	**P**	**15 56 42.4**	**-0.7**
ARCES	**ARCESS Array B**	**74.18**	**339**	P	**P**	**15 56 42.2**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=59,slow=2.3,SNR=4.3						
CLL	**Collm**	**86.02**	**323**	*e*P	P	15 57 46.0	-1.3
YKA	**Yellowknife Ar**	**87.65**	**23**	P	**P**	**15 57 54.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=310,slow=4.5,SNR=17						
TXAR	**Lajitas Array**	**115.32**	**43**	PKP	**PKiKP**	**16 03 47.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=263,slow=0.7,SNR=2.9						

IDC 01 15:51:29.1±376.0**, 57°.52N**×**33°.12E, h0km, Error ellipse: s-maj=107.2km s-min=49.4km az=136.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.38**	**108**	*i*		16 08 39.8	
	baz=290,slow=309,SNR=0.3						
I37NO	**I37NO**	**13.25**	**337**	*i*		17 01 20.0	
	baz=144,slow=328,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**16.23**	**105**	*i*		17 27 05.1	
	baz=313,slow=304,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**28.75**	**75**	*i*		18 45 00.0	
	baz=290,slow=320,SNR=1.1						

SKO 01 15:52:05.5, 41°.36N×**22°.61E, h5km, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.05**	**218**	*i* Pg	Pg	15 52 06.3	-0.4
VAY				*i* Sg	Sg	15 52 08.6	+1.0
VAY				*e*Lg	Lg	15 52 08.7	
	comp=N,38nm,0.2s						
VAY				*e*Lg	Lg	15 52 08.8	
	comp=E,34nm,0.4s						
STIP	**Stip**	**0.46**	**317**	*i* Pg	Pg	15 52 13.3	-1.1
STIP				*i* Sg	Sg	15 52 20.0	-0.4
VTS	**Vitosha**	**1.34**	**20**	*e*Pg	Pn	15 52 29.7	-1.3
VTS				*i* Sg	Sg	15 52 46.6	-1.9

ATH 01 15:52:27.5, 40°.49N×**21°.76E, h15km**±7km**, ML1.5**/1**, Error ellipse: s-maj=7.9km s-min=2.2km az=181.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.18**	**177**	P	Pg	15 52 30.8	-1.1
KZN				S	Sg	15 52 35.4	+0.6
KZN				AML	AML	15 52 36.3	
	comp=E,358µm,0.5s						
KZN				AML	AML	15 52 36.4	
	comp=N,350µm,2.9s						
FNA	**Florina**	**0.41**	**316**	P	Pg	15 52 35.6	-0.2
NEST	**Nestorio**	**0.55**	**262**	P	Pg	15 52 38.3	0.0
PENT	**Pentalofos**	**0.56**	**238**	P	Pg	15 52 38.3	-0.2
KPRO	**Kipourio**	**0.61**	**210**	P	Pg	15 52 39.2	-0.3
LIT	**Litokhoron**	**0.68**	**124**	P	Pb	15 52 41.0	-0.1

NEIC ***01*** *16:02:43.6±1.2, 5°.3S±0°.1×147°.1E±0°.2, h225km±8km, mb4.1/9, Error ellipse: s-maj=22.4km s-min=14.5km az=97.0*
IDC ***01*** *16:02:44.3±1.9, 5°.42S×147°.05E, h225km±14km, mb3.5/3, mb1 3.7/6, mb1mx3.1/41, mbtmp4.0/6, Error ellipse: s-maj=30.5km s-min=17.5km az=92.0*
ISC 01 16:02:43.7±1.3**, 5°.31S**±0°.10×**146°.9E**±0°.1**, h200km, n23, σ2^{s}13**/25**, mb4.1**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.08**	**176**	P	**Pn**	**16 03 48.0**	**+1.5**
	2.9nm,0.3s,baz=276,slow=9.9,SNR=3.1						
PMG				S	**Sn**	**16 04 35.6**	**-0.4**
	5.8nm,0.3s,baz=195,slow=20,SNR=6.0						
PMG	**Port Moresby**	**4.08**	**176**		**Pn**	**16 03 47.8**	**+1.2**
PMG	**Port Moresby**	**4.08**	**176**	P	**Pn**	**16 03 48.3**	**+1.8**
JAY	**Jayapura**	**6.74**	**294**	P	**Pn**	**16 04 23.4**	**+2.7**
	0.8nm,0.3s,baz=121,slow=12,SNR=2.2						
COEN	**Coen**	**9.33**	**203**		**Pn**	**16 04 56.5**	**+2.1**
MTSU	**Mount Surprise**	**12.99**	**191**	P	**Pn**	**16 05 43.3**	**+2.1**
QIS	**Mount Isa**	**16.72**	**204**	P	**P**	**16 06 27.4**	**+1.7**
WB0	**Warramunga Arr**	**18.81**	**219**	P	**P**	**16 06 47.9**	**-0.7**
WB0				IAmb	IAmb	16 06 52.4	
	comp=Z,6.1nm,1.0s						
WR0	**Warramunga Arr**	**18.86**	**218**	P	**P**	**16 06 48.5**	**-0.6**
WR0				IAmb	IAmb	16 06 52.9	
	comp=Z,5.5nm,0.6s						
WRAB	**Tennant Creek**	**18.96**	**219**	P	**P**	**16 06 49.5**	**-0.6**
WRAB				IAmb	IAmb	16 06 53.8	
	comp=Z,5.5nm,0.7s						
WRAB	**Tennant Creek**	**18.96**	**219**	P	**P**	**16 06 50.0**	**-0.1**
WB2	**Warramunga Arr**	**18.97**	**219**	P	**P**	**16 06 49.6**	**-0.6**
WRA	**Warramunga Arr**	**18.98**	**219**	P	**P**	**16 06 49.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=46,slow=12,SNR=73						
WRA				S	**S**	**16 10 08.3**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=43,slow=21,SNR=5.4						
EIDS	**Eidsvold**	**20.35**	**169**	P	**P**	**16 07 04.2**	**-0.8**
KNRA	**Kununurra**	**20.55**	**239**	P	**P**	**16 07 06.0**	**-1.1**
KNRA				IAmb	IAmb	16 07 25.0	
	comp=Z,6.0nm,1.1s						
AS31	**Alice Springs**	**22.11**	**213**	P	**P**	**16 07 22.5**	**-0.6**
ASAR	**Alice Springs**	**22.11**	**213**	P	**P**	**16 07 22.7**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=44,slow=7.5,SNR=150						
ASAR				S	**S**	**16 11 09.2**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=40,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**22.11**	**213**	P	**P**	**16 07 22.1**	**-1.0**
INKA	**Innaminka**	**23.05**	**194**	P	**P**	**16 07 32.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.32**	**237**	P	**P**	**16 07 42.5**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=60,slow=12,SNR=21						
FITZ	**Fitzroy Crossi**	**24.32**	**237**	P	**P**	**16 07 42.3**	**-0.9**
FITZ				IAmb	IAmb	16 07 45.0	
	comp=Z,3.3nm,0.7s						
CAN	**Canberra**	**29.93**	**177**	P	P	16 08 28.1	-5.1
ILAR	**Eielson Array**	**84.90**	**23**	P	**P**	**16 14 52.9**	**-2.9**
	comp=Z,0.5nm,0.9s,baz=264,slow=4.4,SNR=3.1						

WEL ***01*** *16:18:47.7±0.6, 33°S±8°×18°0W±1°8, h33km, M4.3/16, mB4.9/13, ML4.8/40, MLv4.4/16, Mw(mB)4.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4*
NOU ***01*** *16:19:49.9, 37°.21S×178°.08E, h0km, MLv4.1/4, Off E. Coast of N. Island, N.Z.*
ISC 01 16:18:48.1±1.5**, 32°.7S**±0°.1×**179°.3W**±0°.3**, h35km, n56, σ2^{s}18**/61**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.62**	**20**	S	**Sn**	**16 20 23.4**	**+0.2**
HAZ	**Te Kaha**	**5.58**	**204**	P	**Pn**	**16 20 10.9**	**+2.2**
PKGZ	**Pakihiroa**	**5.61**	**201**	P	**Pn**	**16 20 12.9**	**+3.8**
PUZ	**Puketiti**	**5.72**	**199**	P	**Pn**	**16 20 12.3**	**+1.6**
RUGZ	**Raukumara Rang**	**5.81**	**204**	P	**Pn**	**16 20 14.6**	**+2.8**
TWGZ	**Tauwhareparae**	**5.90**	**201**	P	Pn	16 20 17.5	+4.4
CNGZ	**Carnagh Statio**	**6.12**	**198**	P	**Pn**	**16 20 18.1**	**+2.0**
OPRZ	**Ohinepanea**	**6.15**	**212**	P	**Pn**	**16 20 18.9**	**+2.5**
TKGZ	**Te Karaka**	**6.18**	**201**	P	**Pn**	**16 20 15.5**	**-1.4**
TKGZ				S	**Sn**	**16 21 28.4**	**+2.0**
MWZ	**Matawai**	**6.19**	**204**	P	**Pn**	**16 20 18.0**	**+0.9**
URZ	**Urewera**	**6.27**	**207**	P	**Pn**	**16 20 19.5**	**+1.3**
URZ	**Urewera**	**6.27**	**207**	P	**Pn**	**16 20 14.0**	**-4.1**
RAGZ	**Rawiri**	**6.37**	**204**	P	**Pn**	**16 20 21.2**	**+1.6**
RIGZ	**Rimuhau**	**6.46**	**201**	P	**Pn**	**16 20 22.1**	**+1.4**
RIGZ				S	**Sn**	**16 21 34.3**	**+1.2**
MUGZ	**Murupara**	**6.59**	**208**	P	**Pn**	**16 20 22.6**	**0.0**
PRGZ	**Paritu Road**	**6.62**	**199**	P	**Pn**	**16 20 25.6**	**+2.7**
PRGZ				S	**Sn**	**16 21 41.1**	**+3.9**
RTZ	**Ruatahuna**	**6.63**	**206**	P	**Pn**	**16 20 20.9**	**-2.3**
SNGZ	**Shannon Statio**	**6.66**	**203**	P	**Pn**	**16 20 18.7**	**-4.8**
SNGZ				S	**Sn**	**16 21 34.3**	**-3.8**
NMHZ	**Naumai**	**7.12**	**205**	P	**Pn**	**16 20 30.6**	**+0.7**
ARHZ	**Aropaoanui**	**7.21**	**203**	P	**Pn**	**16 20 31.3**	**+0.3**
ARHZ				S	**Sn**	**16 21 53.0**	**+1.5**
BKZ	**Black Stump Fm**	**7.30**	**206**	P	**Pn**	**16 20 31.7**	**-0.6**
BKZ	**Black Stump Fm**	**7.30**	**206**	P	**Pn**	**16 20 29.8**	**-2.5**
MCHZ	**McNeill Hill**	**7.47**	**204**	P	**Pn**	**16 20 34.4**	**-0.2**
MCHZ				S	**Sn**	**16 21 56.4**	**-1.7**
HIZ	**Hauiti**	**7.50**	**218**	P	**Pn**	**16 20 36.9**	**+2.0**
HIZ	**Hauiti**	**7.50**	**218**	P	**Pn**	**16 20 36.7**	**+1.8**
KWHZ	**Kaweka Forest**	**7.55**	**206**	P	**Pn**	**16 20 35.0**	**-0.7**
NTVZ	**North Tongarir**	**7.57**	**211**	P	**Pn**	**16 20 35.5**	**-0.6**
TMVZ	**Te Maari**	**7.57**	**211**	P	**Pn**	**16 20 35.5**	**-0.6**
WTVZ	**West Tongariro**	**7.62**	**211**	P	**Pn**	**16 20 36.4**	**-0.4**
NNVZ	**North Ngauruho**	**7.63**	**211**	P	**Pn**	**16 20 37.8**	**+0.9**
OTVZ	**Oturere**	**7.63**	**211**	P	**Pn**	**16 20 35.3**	**-1.6**
TWVZ	**Taurewa**	**7.65**	**212**	P	**Pn**	**16 20 36.6**	**-0.6**
SNVZ	**South Ngauruho**	**7.66**	**211**	P	**Pn**	**16 20 35.9**	**-1.4**
NGZ	**Ngauruhoe**	**7.67**	**211**	P	**Pn**	**16 20 36.7**	**-0.7**
TUVZ	**Tukino**	**7.72**	**210**	P	**Pn**	**16 20 37.1**	**-1.1**
KAHZ	**Kahuranaki**	**7.73**	**202**	P	**Pn**	**16 20 37.2**	**-0.9**
BHHZ	**Black Hill Sta**	**7.74**	**207**	P	**Pn**	**16 20 36.6**	**-1.8**
FWVZ	**Far West T-bar**	**7.75**	**211**	P	**Pn**	**16 20 37.5**	**-1.2**
KRHZ	**Kereru**	**7.76**	**205**	P	**Pn**	**16 20 36.7**	**-1.9**
TRVZ	**Turoa**	**7.79**	**211**	P	**Pn**	**16 20 37.7**	**-1.5**
WNVZ	**Wahianoa**	**7.79**	**210**	P	**Pn**	**16 20 37.5**	**-1.7**
MOVZ	**Moawhango**	**7.80**	**209**	P	**Pn**	**16 20 37.1**	**-2.1**
PKVZ	**Pokaka**	**7.87**	**212**	P	**Pn**	**16 20 39.2**	**-1.0**
MTVZ	**Mangateitei**	**7.90**	**211**	P	**Pn**	**16 20 39.0**	**-1.6**
VRZ	**Vera Road**	**8.01**	**215**	P	**Pn**	**16 20 41.6**	**-0.5**
PNHZ	**Pukenui**	**8.06**	**205**	P	**Pn**	**16 20 40.2**	**-2.6**
WPHZ	**Waipukurau**	**8.11**	**204**	P	**Pn**	**16 20 41.5**	**-1.9**
PRHZ	**Porangahau**	**8.23**	**202**	P	**Pn**	**16 20 43.0**	**-2.0**
WAZ	**Wanganui**	**8.41**	**211**	P	**Pn**	**16 20 44.9**	**-2.7**
DVHZ	**Dannevirke**	**8.42**	**204**	P	**Pn**	**16 20 44.5**	**-3.1**
ANWZ	**Angora Road**	**8.46**	**202**	P	**Pn**	**16 20 46.1**	**-2.1**
POWZ	**Post Office Ro**	**8.64**	**206**	P	**Pn**	**16 20 47.3**	**-3.4**
PRWZ	**Pori Road**	**8.71**	**204**	P	**Pn**	**16 20 48.7**	**-2.9**
BFZ	**Birch Farm**	**8.73**	**203**	P	**Pn**	**16 20 48.7**	**-3.3**
BFZ	**Birch Farm**	**8.73**	**203**	P	**Pn**	**16 20 48.6**	**-3.3**
TIWZ	**Tintock**	**8.94**	**204**	P	**Pn**	**16 20 51.1**	**-3.7**

VAO 01 16:20:03.8±1.6**, 16°.89S**×**46°.46W, h0km, mb4.1, Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIAM	**Diamantina, MG**	**3.00**	**118**	*e*P	Pg	16 21 11.2	+10
DIAM				*e*S	Sn	16 21 30.8	+1.2
BSCB	**Bom Sucesso**	**4.39**	**159**	*e*P	Pb	16 21 20.5	-1.4
SJMB	**Sao Joao De Ma**	**5.33**	**111**	*e*P	Pn	16 21 23.3	-1.5
VAS01	**Vassouras-RJ**	**6.07**	**153**	*e*P	Pn	16 21 32.1	-2.7
RIB01	**Linhares ES**	**6.25**	**114**	*e*P	Pn	16 21 31.5	-5.9
DUB01	**Friburgo-RJ**	**6.44**	**144**	*e*P	Pn	16 21 31.4	-8.6
ALF01	**Guarapari-ES**	**6.57**	**125**	*e*P	Pn	16 21 31.5	-10

NEIC ***01*** *16:31:44.9±1.8, 10°.2S±0°.1×108°.42E±0°.07, h8km±5km, mb4.0/6, Error ellipse: s-maj=16.2km s-min=9.5km az=171.0*
IDC ***01*** *16:31:44.6±2.0, 9°.97S×108°.49E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/39, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=94.6km s-min=15.5km az=53.0*
DJA ***01*** *16:31:46.3±0.4, 10°S±4°×10°9E±°, h10km, M4.3/20, mb4.2/6, mB5.0/2, MLv4.3/20, Mw(mB)4.3/2*
ISC 01 16:31:48.3±0.8**, 9°.92S**±0°.09×**108°.51E**±0°.06**, h25km, n46, σ1^{s}23**/47**, mb4.0**/9**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.12**	**358**	P	**Pn**	**16 32 23.3**	**+1.2**
KPJI	**Karang Pucung**	**2.60**	**9**	P	**Pn**	**16 32 30.4**	**+1.6**
YOGI	**Yogyakarta**	**2.73**	**40**	P	**Pn**	**16 32 31.4**	**+0.8**
UGM	**Wanagama**	**2.82**	**45**		**Pn**	**16 32 32.4**	**+0.6**
UGM	**Wanagama**	**2.82**	**45**	P	**Pn**	**16 32 32.5**	**+0.7**
UGM				S	**Sn**	**16 33 05.1**	**+0.1**
XMIS	**Christmas Isla**	**2.86**	**258**	Pn	Pn	16 32 29.3	-3.2
CNJI	**Cibinong**	**2.92**	**332**	P	**Pn**	**16 32 33.8**	**+0.6**
CNJI				S	**Sn**	**16 33 08.4**	**+0.8**
PCJI	**Pacitan**	**3.15**	**57**	P	**Pn**	**16 32 36.0**	**-0.3**
LEM	**Lembang**	**3.19**	**344**	Pn	**Pn**	**16 32 37.8**	**+0.7**
	12nm,0.3s,baz=124,slow=11,SNR=10						
LEM				Sn	**Sn**	**16 33 10.0**	**-4.4**
	19nm,0.3s,baz=285,slow=23,SNR=2.7						
LEM	**Lembang**	**3.19**	**344**	P	**Pn**	**16 32 40.3**	**+3.2**
SMRI	**Semarang**	**3.43**	**34**	Pn	**Pn**	**16 32 42.9**	**+2.6**
SMRI	**Semarang**	**3.43**	**34**	P	**Pn**	**16 32 40.5**	**+0.3**
SKJI	**Sukabumi**	**3.48**	**326**	P	**Pn**	**16 32 41.0**	**+0.2**
PWJI	**Pagerwojo**	**3.76**	**60**	P	**Pn**	**16 32 45.3**	**+0.5**
UWJI	**Ujung Watu**	**4.23**	**35**	P	**Pn**	**16 32 53.5**	**+2.3**
CGJI	**Cibinong**	**4.30**	**319**	P	**Pn**	**16 32 53.2**	**+1.0**
GRJI	**Gresik**	**4.94**	**53**	P	**Pn**	**16 33 01.2**	**+0.3**
GMJI	**Gumukmas**	**5.14**	**72**	P	**Pn**	**16 33 03.0**	**-0.8**
	0.2nm1µm30nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.76**	**76**		**Pn**	**16 33 11.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**5.76**	**76**	P	**Pn**	**16 33 11.7**	**-0.5**
	0.3nm1µm41nm,0.4s						
KASI	**Kota Agung**	**5.90**	**317**	P	**Pn**	**16 33 15.0**	**+0.8**
	0.2nm40nm,1.5s						
KLSI		**6.40**	**324**	P	**Pn**	**16 33 22.6**	**+1.5**
	0.0nm7.9nm,0.8s						
LWLI	**Liwa**	**6.56**	**318**	P	**Pn**	**16 33 25.1**	**+1.7**
IGBI	**Denpasar**	**6.64**	**81**	P	**Pn**	**16 33 24.5**	**+0.1**
	0.3nm37nm,0.8s						
SRBI	**Singaraja**	**6.87**	**75**	P	**Pn**	**16 33 28.0**	**+0.5**
	0.2nm46nm,1.4s						
MDSI	**Maura Dua**	**6.89**	**321**	P	**Pn**	**16 33 28.8**	**+1.0**
	0.0nm5.7nm,0.9s						
MNAI	**Manna**	**7.79**	**315**	Pn	**Pn**	**16 33 39.6**	**-0.6**
GIRL	**Giralia**	**13.79**	**157**	Pn	Pn	16 34 53.7	-8.6
FITZ	**Fitzroy Crossi**	**18.50**	**118**	P	**P**	**16 36 02.1**	**-0.6**
	0.3nm,0.3s,baz=288,slow=11,SNR=10						
FITZ	**Fitzroy Crossi**	**18.50**	**118**	P	**P**	**16 36 02.2**	**-0.6**
KNRA	**Kununurra**	**20.56**	**108**	P	**P**	**16 36 24.1**	**-1.3**
KNRA				IAmb	IAmb	16 36 30.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**26.84**	**115**	P	**P**	**16 37 26.7**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=285,slow=12,SNR=92						
ASAR	**Alice Springs**	**27.83**	**123**	P	**P**	**16 37 35.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=299,slow=8.4,SNR=7.6						
ASAR				PcP	**PcP**	**16 40 51.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=295,slow=1.9,SNR=4.9						
CMAR	**Chiang Mai Arr**	**29.73**	**341**	P	**P**	**16 37 52.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=179,slow=7.6,SNR=7.2						
STKA	**Stephens Creek**	**37.61**	**130**	P	**P**	**16 39 01.9**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=291,slow=7.8,SNR=6.1						
SONM	**Songino Array**	**57.52**	**358**	P	**P**	**16 41 36.0**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=177,slow=7.2,SNR=7.7						
SONM	**Songino Array**	**57.52**	**358**	IAmb	IAmb	16 41 50.2	
	comp=Z,0.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**57.92**	**20**	P	**P**	**16 41 37.4**	**-0.9**
MK31	**Makanchi Array**	**61.12**	**340**	P	**P**	**16 42 00.6**	**+0.2**
MK31				IAmb	IAmb	16 42 02.3	
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**61.12**	**340**	P	**P**	**16 42 01.2**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=147,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**61.12**	**340**	P	**P**	**16 42 00.6**	**+0.2**
KURK	**Kurchatov**	**65.73**	**340**	P	**P**	**16 42 31.0**	**+0.2**
KURK				IAmb	IAmb	16 42 32.1	
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**66.71**	**345**	P	**P**	**16 42 38.1**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=3.0						
ABKAR	**Akbulak array**	**72.66**	**329**	P	**P**	**16 43 14.2**	**+0.4**
TIXI	**Tiksi**	**82.51**	**6**	P	**P**	**16 44 07.8**	**-0.6**
TXAR	**Lajitas Array**	**144.25**	**53**	PKP	**PKPab**	**16 51 21.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=267,slow=1.8,SNR=4.0						

IDC ***01*** *16:34:35.5±2.9, 33°.14S×178°.34W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/26, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=66.5km s-min=35.6km az=120.0*
WEL ***01*** *16:34:38.0±0.9, 33°S±12°×17°9W±3°1, h33km, M4.4/6, mB4.7/2, ML4.7/11, MLv4.4/6, Mw(mB)3.9/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*
NEIC ***01*** *16:34:38.7±0.8, 33°.3S±0°.1×178°.4W±0°.4, h12km±10km, mb4.3/9, Error ellipse: s-maj=45.0km s-min=10.7km az=109.0*
ISC 01 16:34:37.8±1.5**, 33°.0S**±0°.1×**178°.1W**±0°.3**, h35km, n29, σ1^{s}71**/39**, mb4.0**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.71**	**3**	P	**Pn**	**16 35 29.7**	**-2.8**
GLKZ				S	**Sn**	**16 36 14.0**	**-1.0**
RAO	**Raoul Island**	**3.71**	**3**	Pn	Pn	16 35 40.6	+7.9
HAZ	**Te Kaha**	**5.83**	**214**	P	**Pn**	**16 36 02.1**	**+0.3**
HAZ				S	**Sn**	**16 37 08.4**	**+1.0**
PUZ	**Puketiti**	**5.89**	**209**	P	**Pn**	**16 36 01.1**	**-1.4**
PUZ				S	**Sn**	**16 37 07.0**	**-1.7**
RUGZ	**Raukumara Rang**	**6.05**	**213**	P	**Pn**	**16 36 02.4**	**-2.5**
RUGZ				S	**Sn**	**16 37 12.4**	**-0.5**
TWGZ	**Tauwhareparae**	**6.09**	**210**	P	**Pn**	**16 36 05.1**	**-0.2**
TWGZ				S	**Sn**	**16 37 13.9**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	6.26	208	P	Pn	16 36 06.3	-1.3
CNGZ				S	Sn	16 37 19.2	+1.3
MWZ	Matawai	6.42	212	P	Pn	16 36 09.1	-0.7
MWZ				S	Sn	16 37 19.6	-2.3
URZ	Urewera	6.55	215	Pn	Pn	16 36 09.7	-1.9
	1.4nm,0.3s,baz=270,slow=3.9,SNR=9.8						
URZ				Sn	Sn	16 37 21.9	-3.3
	2.7nm,0.3s,baz=41,slow=21,SNR=7.7						
URZ	Urewera	6.55	215	P	Pn	16 36 11.8	+0.1
URZ				S	Sn	16 37 23.0	-2.1
RIGZ	Rimuhau	6.63	209	P	Pn	16 36 12.7	0.0
RIGZ				S	Sn	16 37 23.9	-3.1
SNGZ	Shannon Statio	6.87	211	P	Pn	16 36 16.0	-0.1
SNGZ				S	Sn	16 37 31.8	-1.3
MUGZ	Murupara	6.89	216	P	Pn	16 36 16.4	+0.1
MUGZ				S	Sn	16 37 30.2	-3.3
MTHZ	Maungataniwha	7.15	214	P	Pn	16 36 20.6	+0.7
BKZ	Black Stump Fm	7.57	214	Pn	Pn	16 36 22.3	-3.3
BKZ	Black Stump Fm	7.57	214	P	Pn	16 36 24.7	-0.9
AS31	Alice Springs	42.94	270	P	P	16 42 34.9	+1.4
ASAR	Alice Springs	42.94	270	P	P	16 42 35.0	+1.5
	0.6nm,0.5s,baz=110,slow=7.9,SNR=24						
WR0	Warramunga Arr	43.99	275	P	P	16 42 43.4	+1.4
WR0				IAmb	IAmb	16 42 53.1	
	comp=Z,3.9nm,1.3s						
WB2	Warramunga Arr	44.15	275	P	P	16 42 44.0	+0.7
WB2				IAmb	IAmb	16 43 07.4	
	comp=Z,5.4nm,1.3s						
WRA	Warramunga Arr	44.16	275	P	P	16 42 44.6	+1.2
	comp=Z,0.8nm,0.5s,baz=115,slow=7.8,SNR=18						
WB0	Warramunga Arr	44.20	275	P	P	16 42 44.8	+1.2
WB0				IAmb	IAmb	16 43 05.6	
	comp=Z,6.2nm,1.4s						
KNRA	Kununurra	50.86	276	P	P	16 43 36.8	+1.4
KNRA				IAmb	IAmb	16 43 43.4	
	comp=Z,6.0nm,1.1s						
FITZ	Fitzroy Crossi	52.31	272	P	P	16 43 47.6	+1.4
	comp=Z,0.8nm,0.8s,baz=101,slow=5.2,SNR=1.7						
FITZ	Fitzroy Crossi	52.31	272	IAmb	IAmb	16 44 12.2	
	comp=Z,5.6nm,1.4s						
CASY	Casey	52.84	209	P	P	16 43 50.2	+0.8
MORW	Morawa	55.75	255	P	P	16 44 13.3	+2.1
FINES	FINESS Array B	147.51	339	PKPbc	PKPab	16 54 20.2	+0.7
	comp=Z,1.8nm,0.7s,baz=26,slow=3.5,SNR=9.2						
FINES	FINESS Array B	147.51	339	PKPdf	PKPbc	16 54 18.9	+1.5

IDC 01 16:49:47.2±104.0**, 47°.35S**×**102°.78E, h0**km**, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.6**/37**, mbtmp3.7**/3**, MS3.3**/2**, Ms1 3.2**/2**, ms1mx2.7**/50**, Error ellipse: s-maj=1792.0km s-min=153.4km az=63.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.08	38	T	T	17 10 08.2	
	baz=215,slow=74,SNR=16						
H01W1	Cape Leeuwin H	15.09	38	T	T	17 10 06.0	
	baz=215,slow=74,SNR=46						
H01W3	Cape Leeuwin H	15.09	38	T	T	17 10 01.8	
	baz=215,slow=74,SNR=23						
STKA	Stephens Creek	33.27	76	P	P	16 56 26.1	-0.1
	1.6nm,0.9s,baz=229,slow=8.6,SNR=1.2						
STKA				LR	LR	17 08 08.6	
	comp=Z,39nm,18.5s,baz=206,slow=33						
ASAR	Alice Springs	34.27	57	P	P	16 56 35.0	0.0
	0.6nm,0.8s,baz=212,slow=8.3,SNR=7.4						
WRA	Warramunga Arr	37.47	54	P	P	16 57 02.2	-0.2
	0.6nm,0.8s,baz=220,slow=9.1,SNR=5.9						
WRA				LR	LR	17 11 25.0	
	comp=Z,52nm,20.3s,baz=142,slow=35						

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*IDC **01** 16:51:12.7±3.0, 33°.38S×178°.35W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/44, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=64.8km s-min=36.0km az=117.0*

*NEIC **01** 16:51:15.1±0.6, 33°.4S±0°.1×178°.38W±0°.06, h10km±2km, mb4.0/5, Error ellipse: s-maj=24.7km s-min=9.4km az=182.0*

ISC 01 16:51:13.7±2.9**, 33°.4S**±0°.2×**178°.3W**±0°.4**, h10**km**, n15, σ0ˢ.50**/15**, mb3.9**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.14	217	Pn	Pn	16 52 44.7	+0.3
	2.3nm,0.3s,baz=260,slow=4.5,SNR=32						
URZ				Sn	Sn	16 53 54.4	-0.3
	1.8nm,0.3s,baz=173,slow=16,SNR=7.6						
URZ	Urewera	6.14	217		Pn	16 52 44.4	0.0
BKZ	Black Stump Fm	7.15	215	Pn	Pn	16 52 58.6	+0.3
RPZ	Rata Peaks	13.26	216	Pn	Pn	16 54 12.9	-9.0
	0.3nm,0.3s,baz=165,slow=20,SNR=1.3						
RPZ				Sn	Sn	16 56 33.3	-16
	0.2nm,0.3s,baz=257,slow=24,SNR=1.2						
CTA	Charters Tower	34.19	284	P	P	16 58 00.1	+0.7
	3.2nm,0.9s,baz=119,slow=10,SNR=1.1						
AS31	Alice Springs	42.82	270	P	P	16 59 11.6	-0.4
AS31				IAmb	IAmb	16 59 12.7	
	comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	42.82	270	P	P	16 59 11.9	-0.1
	comp=Z,1.4nm,0.6s,baz=108,slow=7.4,SNR=29						
WR0	Warramunga Arr	43.91	275	P	P	16 59 20.6	-0.2
WB2	Warramunga Arr	44.07	275	P	P	16 59 21.4	-0.7
WB2				IAmb	IAmb	16 59 29.6	
	comp=Z,6.2nm,1.4s						
WRA	Warramunga Arr	44.08	275	P	P	16 59 21.6	-0.5
	comp=Z,0.8nm,0.5s,baz=117,slow=7.8,SNR=20						
WRA	Warramunga Arr	44.08	275	P	P	16 59 21.4	-0.7
WB0	Warramunga Arr	44.12	276	P	P	16 59 22.0	-0.5
WB0				IAmb	IAmb	16 59 22.5	
	comp=Z,2.3nm,0.7s						
FITZ	Fitzroy Crossi	52.20	272	P	P	17 00 24.4	-0.6
	comp=Z,1.1nm,0.8s,baz=90,slow=6.1,SNR=2.0						
FITZ	Fitzroy Crossi	52.20	272	P	P	17 00 24.9	-0.1
FINES	FINESS Array B	147.87	338	PKPbc	PKPbc	17 10 58.0	-0.1
	comp=Z,2.3nm,1.0s,baz=52,slow=3.1,SNR=5.8						

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*NEIC **01** 17:03:20.1±1.7, 43°.70N±0°.04×105°.24W±0°.07, h0km±2km, ML3.1/52, Error ellipse: s-maj=9.3km s-min=5.6km az=308.0*

*IDC **01** 17:03:21.2±1.1, 44°.04N×105°.64W, h0km, mb1 3.5/5, mb1mx3.3/42, mbtmp3.1/5, ML2.9/4, Error ellipse: s-maj=23.8km s-min=8.9km az=147.0*

ISC 01 17:03:19.6±1.0**, 43°.76N**±0°.05×**105°.17W**±0°.07**, h0**km**, n49, σ1ˢ.21**/48**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.90	66	Pg	Pb	17 03 38.4	+0.2
K22A	Casper	1.49	222	Pn	Pn	17 03 46.7	-1.0
K22A				IAML		17 04 10.8	
	comp=N,297nm,0.4s						
K22A				IAML		17 04 10.9	
	comp=E,315nm,0.3s						
PHWY	Pilot Hill	2.47	185		Pn	17 04 00.8	-0.6
PHWY				IAML		17 04 39.2	
	comp=E,64nm,0.4s						
PHWY				IAML		17 04 40.8	
	comp=E,63nm,0.4s						
RWWY	Rawlins	2.56	217		Pn	17 04 02.9	+0.4
RWWY				IAML		17 04 40.6	
	comp=E,92nm,0.5s						
N23A	Red Feather La	2.92	192		Pn	17 04 07.4	-0.2
N23A				IAML		17 04 52.7	
	comp=N,69nm,0.4s						
N23A				IAML		17 04 57.1	
	comp=E,50nm,0.5s						
LAO	LASA Array	3.02	346		Pn	17 04 09.2	+0.4
RLMT	Red Lodge	3.23	296	Pn	Pn	17 04 11.9	+0.1
RLMT				IAML		17 05 06.9	
	comp=E,38nm,0.6s						
RLMT				IAML		17 05 08.4	
	comp=E,41nm,1.1s						
BW06	Boulder Array	3.35	254		Pn	17 04 14.3	+0.8
BW06				IAML		17 05 07.8	
	comp=E,31nm,0.5s						
PD31	Pinedale Array	3.35	254		Pn	17 04 13.7	+0.2
PDAR	Pinedale Array	3.35	254	Pn	Pn	17 04 14.6	+1.1
	comp=E,9.6nm,0.3s,baz=75,slow=18,SNR=31						
PDAR				Lg	Lg	17 04 58.8	
	comp=E,9.2nm,0.3s,baz=68,slow=32,SNR=11						
PDAR	Pinedale Array	3.35	254		Pn	17 04 14.4	+1.0
OGNE	Ogallala	3.65	139		Pn	17 04 17.6	+0.2
YMP	Mirror Lake Pl	3.71	287	Pn	Pn	17 04 18.9	+0.5
YMP				IAML		17 05 19.5	
	comp=N,51nm,0.9s						
GCMT	Greycliff	3.79	304	Pn	Pn	17 04 19.5	+0.1
LKWY	Lake	3.85	284		Pn	17 04 15.8	-4.4
LKWY				IAML		17 04 46.3	
	comp=N,27nm,0.5s						
LKWY				IAML		17 05 32.2	
	comp=N,22nm,1.6s						
LOHW	Long Hollow	3.94	270		Pn	17 04 20.0	-1.5
H17A	Grant Village	3.94	281		Pn	17 04 21.0	-0.6
ISCO	Idaho Springs	3.97	185	Pn	Pn	17 04 22.1	+0.1
FLWY	Flagg Ranch	4.01	277		Pn	17 04 22.6	+0.1
FLWY				IAML		17 05 35.4	
	comp=N,42nm,2.8s						
FLWY				IAML		17 05 37.8	
	comp=N,29nm,1.7s						
MOOW	Moose Ponds	4.04	272		Pn	17 04 23.4	+0.6
REDW	Red Top Meadow	4.15	266		Pn	17 04 24.5	+0.1
REDW				IAML		17 05 37.8	
	comp=N,38nm,1.5s						
REDW				IAML		17 05 42.2	
	comp=N,31nm,1.4s						
TPAW	Teton Pass	4.20	268		Pn	17 04 25.6	+0.4
TPAW				IAML		17 05 48.2	
	comp=N,23nm,1.0s						
TPAW				IAML		17 06 08.1	
	comp=N,14nm,1.9s						
YHH	Holmes Hill	4.21	286		Pn	17 04 24.7	-0.5
E28A	Huff	4.24	47	Pn	Pn	17 04 26.8	+1.4
O20A	White River Ci	4.29	213	Pn	Pn	17 04 25.6	-0.7
O20A				IAML		17 05 51.0	
	comp=N,30nm,1.9s						
AHID	Auburn Hatcher	4.44	259		Pn	17 04 28.0	-0.4
AHID				IAML		17 05 42.5	
	comp=N,21nm,1.7s						
AHID				IAML		17 05 43.0	
	comp=N,20nm,2.5s						
ECR	Eagle Creek	4.57	263		Pn	17 04 30.1	0.0
DGMT	Dagmar	4.76	8	Pn	Pn	17 04 33.0	+0.4
SMCO	Snowmass	4.78	197		Pn	17 04 32.3	-0.8
SMCO				IAML		17 06 00.7	
	comp=N,13nm,0.7s						
SMCO				IAML		17 06 02.9	
	comp=N,16nm,0.8s						
Q24A	Divide	4.79	180		Pn	17 04 32.6	-0.7
Q24A				IAML		17 05 52.1	
	comp=E,23nm,0.3s						
Q24A				IAML		17 06 52.2	
	comp=N,10.0nm,2.4s						
EGMT	Eagleton	5.33	325	Pn	Pn	17 04 40.0	-0.5
HRY	Holter Researc	5.55	304		Pn	17 04 41.8	-1.8
LRM	Limekiln Ridge	5.58	294	Pn	Pn	17 04 42.9	-1.1
P18A	Preston Nutter	5.61	224	Pn	Pn	17 04 44.6	0.0
MCMT	McKenzie Canyo	5.61	284	Pn	Pn	17 04 42.6	-1.9
BGNE	Belgrade	5.69	112	Pn	Pn	17 04 46.0	+0.6
PV07	Paradox Valley	5.93	207	Pn	Pn	17 04 47.6	-1.2
HVU	Hansel Valley	5.94	253	Pn	Pn	17 04 48.6	-0.2
BCYI	Bear Canyon	5.96	278	Pn	Pn	17 04 49.0	-0.3
PV15	Paradox Valley	5.96	206	Pn	Pn	17 04 47.2	-2.1
P17A	Butcher Ranch,	5.98	226	Pn	Pn	17 04 46.8	-2.7
SDCO	Great Sand Dun	6.01	182	Pn	Pn	17 04 49.1	-1.0
PV23	Carpenter Ridg	6.04	210	Pn	Pn	17 04 50.9	+0.5
PV11	David Mesa, Pa	6.13	208	Pn	Pn	17 04 49.3	-2.3
I10CA	LAC DU BONNET	8.97	41	*i*		18 02 50.0	
	baz=221,slow=337,SNR=2.7						
ULM	Lac du Bonnet	9.08	41	Pn	Pn	17 05 30.9	-0.9
	comp=N,0.9nm,0.3s,baz=232,slow=14,SNR=5.7						
ULM				Lg	Lg	17 08 03.3	
	comp=N,0.5nm,0.3s,baz=128,slow=18,SNR=5.6						
NVAR	Mina Array Bea	11.24	246	Pn	Pn	17 06 03.5	+1.8
	comp=N,0.1nm,0.3s,baz=57,slow=12,SNR=2.2						
TXAR	Lajitas Array	14.45	175	Pn	P	17 06 53.6	+1.1
	comp=N,0.0nm,0.3s,baz=3.9,slow=14,SNR=2.1						
YKA	Yellowknife Ar	19.56	347	P	P	17 07 48.2	-0.4
	comp=N,0.1nm,0.3s,baz=160,slow=11,SNR=2.7						

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*IDC **01** 17:31:49.3±0.9, 36°.79N×69°.02E, h0km, mb3.6/8, mb1 3.7/14, mb1mx3.6/47, mbtmp3.6/14, ML3.2/6, MS3.4/1, Ms1 3.4/1, ms1mx2.3/82, Error ellipse: s-maj=16.3km s-min=14.7km az=120.0*

ISC 01 17:31:54.2±0.7**, 36°.91N**±0°.08×**68°.90E**±0°.07**, h37**km**, n21, σ2ˢ.14**/23**, mb3.6**/7**, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.16	35	Pn	Pn	17 33 38.2	+1.8
	3.4nm,0.3s,baz=206,slow=8.9,SNR=97						
AAK				Sn	Sn	17 34 59.4	+2.9
	baz=167,slow=15,SNR=1.2						
AAK				Lg	Lg	17 35 36.9	
	0.2nm,0.3s,baz=82,slow=2.1,SNR=1.8						
GEYT	Alibeck	8.64	280	Pn	Pn	17 33 55.9	-0.8
	0.3nm,0.3s,baz=100,slow=15,SNR=1.4						
GEYT				Sn	Sn	17 35 33.4	+0.5
	1.1nm,0.3s,baz=103,slow=24,SNR=5.2						
MKAR	Makanchi Array	14.02	41	Pn	Pn	17 35 09.4	-0.7
	0.1nm,0.3s,baz=235,slow=13,SNR=11						
PYUN	Piuthan	14.77	122	*e*P	Pn	17 35 18.5	-2.0
	3.6nm,0.4s						
DANN	Dangsing	15.14	120	*e*P	Pn	17 35 23.8	-1.7
KURBB	Kurchatov Arra	15.35	24	Pn	Pn	17 35 24.2	-3.7
	0.0nm,0.3s,baz=213,slow=10,SNR=2.0						
AKTO	Aktyubinsk	15.62	333	Pn	Pn	17 35 29.1	-2.3
	0.2nm,0.3s,baz=150,slow=12,SNR=3.8						
AKTO				Sn	Sn	17 38 18.7	-4.6
	0.1nm,0.3s,baz=198,slow=20,SNR=1.4						
GKN	Gorkha	15.96	119	*e*P	Pn	17 35 34.3	-1.8
BVAR	Borovoye Array	16.15	3	Pn	Pn	17 35 34.8	-3.4
	0.1nm,0.3s,baz=229,slow=29,SNR=2.6						
PKIN	Phulchoki	16.75	119	*e*P	Pn	17 35 45.4	-0.8
PKI	Pulchoki	16.76	119	*e*P	Pn	17 35 45.6	-0.8
	17nm,0.7s						
GUN	Gumba	16.89	117	*e*P	Pn	17 35 47.0	-1.1
	8.9nm,0.5s						
ZALV	Zalesovo Beam	20.29	28	P	P	17 36 25.7	-0.8
	0.8nm,0.4s,baz=216,slow=11,SNR=5.8						
BELG	Belogornoye	21.53	323	P	P	17 36 41.4	+1.6
	6.4nm,0.7s,baz=65,slow=1.8,SNR=6.3						
AKASG	Malin Array Be	31.38	309	P	P	17 38 13.6	+2.4
	0.1nm,0.4s,baz=86,slow=6.8,SNR=4.8						
CMAR	Chiang Mai Arr	32.14	117	P	P	17 38 18.2	-0.1
	0.6nm,0.7s,baz=293,slow=8.1,SNR=6.1						
DAV	Davao City (W)	59.33	105	LR	LR	18 10 06.8	
	comp=Z,31nm,21.0s,baz=316,slow=39						
TORD	Torodi Ar. Bea	64.05	267	P	P	17 42 25.7	+1.3
	0.7nm,0.8s,baz=52,slow=7.2,SNR=3.9						
YKA	Yellowknife Ar	80.90	2	P	P	17 44 05.9	+1.8
	0.4nm,0.5s,baz=350,slow=5.6,SNR=11						
WRA	Warramunga Arr	83.64	121	P	P	17 44 18.9	-0.1
	0.3nm,0.7s,baz=319,slow=5.1,SNR=4.6						
ASAR	Alice Springs	85.88	124	P	P	17 44 29.8	-0.5
	0.3nm,0.7s,baz=308,slow=4.8,SNR=6.4						

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*IDC **01** 18:12:21.6±1.3, 13°.94N×92°.49W, h0km, mb4.0/6, mb1 4.3/9, mb1mx3.9/49, mbtmp4.0/9, ML3.9/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/69, Error ellipse: s-maj=33.9km s-min=18.7km az=36.0*

*NEIC **01** 18:12:25.7±2.3, 14°.05N±0°.05×92°.44W±0°.05, h20km±5km, mb4.2/33, Md4.3/24(MEX), Error ellipse: s-maj=7.4km s-min=7.3km az=188.0*

*MEX **01** 18:12:26.2±0.9, 13°.96N×92°.39W, h20km±58km, MD4.3*

*GCG **01** 18:12:28.1±0.9, 14°.19N×92°.28W, h16km, MD4.4*

ISC 01 18:12:22.9±2.2**, 14°.05N**±0°.06×**92°.44W**±0°.05**, h7**km±13km**, n96, σ1ˢ.46**/111**, mb4.1**/20**, 2C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.86	57		Pn	18 12 41.8	+0.4
RTAL				Sg	Sb	18 12 49.2	-2.7
THIG		0.87	11		Pn	18 12 41.8	+0.4
THIG					Sn	18 12 53.9	-0.4
THIG		0.87	11	*i* P	Pn	18 12 41.8	+0.4
THIG				*i* S	Sn	18 12 53.9	-0.4
STG3	Santiaguito 3,	1.07	52⇑	*e*P	Pn	18 12 44.8	+0.4
PATR	El Naranjo	1.08	11	*i* P	Pb	18 12 44.4	+0.4
PATR				*i* S	Sg	18 12 58.0	+0.4
CHUJ	Union Juarez	1.08	17	*i* P	Pb	18 12 44.4	+0.3
CHUJ				*i* S	Sn	18 12 58.4	-1.7
PAVE	Pavencul	1.16	13	*i* P	Pb	18 12 45.9	+0.4
PAVE				*i* S	Sg	18 13 00.2	-0.2
HUEH	Huehuetenango	1.55	36		Pb	18 12 52.5	+0.4
PCIG		1.81	335		Pn	18 12 54.6	+0.2
PCIG					Sn	18 13 16.7	-0.9
PCIG		1.81	335	*e*P	Pn	18 12 54.6	+0.2
PCIG				*e*S	Sn	18 13 16.7	-0.9
PCG	Pacaya	1.81	79⇑	*i*P	Pn	18 12 55.7	+1.0
NBG	Las Nubes	2.10	75	*e*P	Pb	18 13 01.0	-0.4
APG	El Apazote	2.13	63	Pn	Pn	18 13 00.9	+1.8
	67nm,0.3s,baz=258,slow=9.5,SNR=300						
APG				Sn	Sb	18 13 28.0	-0.8
	78nm,0.3s,baz=222,slow=16,SNR=6.5						
CCIG	Comitan	2.24	7		Pb	18 13 03.5	-0.3
CCIG	Comitan	2.24	7		Sg	18 13 32.7	-2.1
CCIG	Comitan	2.24	7	*e*P	Pb	18 13 04.3	+0.5
CCIG				*i* S	Sg	18 13 32.7	-2.1
CARR	Arriaga	2.60	327	*e*P	Pn	18 13 06.5	+1.2
CARR				*i* S	Sn	18 13 38.5	+1.2
TGBT	Tuxtla Gutierr	2.78	347		Pn	18 13 10.1	+2.3
TGBT	Tuxtla Gutierr	2.78	347	*e*P	Pn	18 13 10.1	+2.3
TGIG		2.79	346		Pn	18 13 09.8	+1.8
TGIG					Sn	18 13 42.0	+0.1
TGIG		2.79	346	*e*P	Pn	18 13 09.8	+1.8
TGIG				*e*S	Sn	18 13 42.0	+0.1
MRL	Marmol	2.86	69	*e*P	Pn	18 13 11.0	+1.9
MTO3	Montecristo	3.01	83		Pn	18 13 11.4	+0.2
SNET	Serv Nac Est T	3.14	96	Pn	Pn	18 13 13.7	+0.9
UXUV	UXUV	3.64	333	*e*P	Pn	18 13 22.4	+2.8
UXUV				*e*S	Sn	18 14 04.4	+1.6
PETF	Flores	3.78	41		Pn	18 13 23.8	+2.2
CMIG	Matias Romero	3.83	322	Pn	Pn	18 13 23.2	+0.9
	7.3nm,0.3s,baz=159,slow=13,SNR=38						
CMIG				Sn	Sn	18 14 09.9	+2.3
	36nm,0.3s,baz=79,slow=22,SNR=7.6						
CMIG				LR	LR	18 14 52.5	
	comp=Z,109nm,20.0s,baz=130,slow=39						
HUIG	Huatulco	3.94	296		Pn	18 13 24.7	+1.0
HUIG					Sn	18 14 06.4	-3.8
HUIG	Huatulco	3.94	296	*e*P	Pn	18 13 24.7	+1.0
HUIG				*e*S	Sn	18 14 06.4	-3.8
NEUV	Arroyo Zacate	4.87	319	*e*P	Pn	18 13 37.3	+0.8
NEUV				*e*S	Sn	18 14 30.4	-2.8
TGUH	Tegucigalpa,Un	5.01	89		Pn	18 13 40.0	+1.4
CRIN	San Cristobal	5.42	104		Pn	18 13 45.4	+1.3
CNGN	Cerro Negro	5.80	105		Pn	18 13 50.3	+0.9
MATN	Matagalpa	6.43	99		Pn	18 13 59.0	+0.8
JAUV	Jalcomulco	6.74	322	*e*P	Pn	18 14 02.1	-0.2
BOAB	BOACO BROADBAN	6.79	103	Pn	Pn	18 14 01.7	-1.2
TLIG	Tlapa	6.85	301	Pn	Pn	18 14 05.0	+1.1
HZTE	Horizontes, Gu	7.46	116	Pn	Pn	18 14 14.2	+1.9
ORTG	Ortega, Santa	7.75	117		Pn	18 14 16.5	+0.3
DUNO	Dulce Nombre,	7.86	119	Pn	Pn	18 14 19.5	+1.8
JTS	Las Juntas de	8.22	116	Pn	Pn	18 14 25.5	+2.9
CAO2	Cobano, Puntar	8.38	120	Pn	Pn	18 14 27.8	+2.9
RIMA	Rio Macho	9.41	116		Pn	18 14 40.9	+1.7
PEZE	Perez Zeledon,	9.75	117	Pn	Pn	18 14 44.5	+0.7
SRBA	San Rafael, Bu	10.10	117		Pn	18 14 49.8	+1.3
DRK0	Durika	10.19	117	Pn	Pn	18 14 49.7	-0.1
RIOS	Rincon, Osa	10.24	120	Pn	Pn	18 14 51.3	+1.0
061Z	Ochoppi	15.97	41	Pn	Pn	18 16 08.1	-0.1
TXAR	Lajitas Array	18.42	327	P	P	18 16 40.2	+1.3
	0.1nm,0.3s,baz=152,slow=14,SNR=16						
TXAR	Lajitas Array	18.42	327	P	Pn	18 16 40.4	+1.5
TX31	Lajitas Ar. Si	18.42	327	P	P	18 16 40.3	+1.4
TX32	Lajitas Array	18.42	327	P	P	18 16 39.6	+0.7
LPIG	La Paz	19.60	303	LR	LR	18 23 21.9	
	comp=Z,45nm,18.4s,baz=178,slow=34						
MIAR	Mount Ida	20.43	357	P	P	18 16 59.8	-0.9
MIAR				IAmb	IAmb	18 17 07.1	
	comp=Z,7.2nm,0.8s						
X37A	Clayton	20.62	353	P	P	18 17 02.9	+0.1
X37A				IAmb	IAmb	18 17 08.0	
	comp=Z,7.0nm,0.8s						
GOGA	Godfrey	20.93	21	P	P	18 17 06.0	-0.1
GOGA				IAmb	IAmb	18 17 12.2	
	comp=Z,12nm,1.2s						
W41B	Gary Mavity, V	21.03	0	P	P	18 17 08.7	+1.4
MNTX	Cornudas Mount	21.19	328	P	P	18 17 10.6	+1.5
FPAL	Fort Paine	21.31	16	P	P	18 17 09.9	-0.4
FPAL				IAmb	IAmb	18 17 12.6	
	comp=Z,7.8nm,0.8s						
W35A	Tecumseh	21.39	350	P	P	18 17 11.4	+0.3
W35A				IAmb	IAmb	18 17 12.5	
	comp=Z,8.3nm,0.6s						
LCAR	Lake Charles	21.95	3	P	P	18 17 16.9	-0.3
V48A	Smith Brothers	22.18	12	P	P	18 17 16.6	-3.0
AMTX	Amarillo	22.36	340	P	P	18 17 21.9	+0.3
AMTX				IAmb	IAmb	18 17 27.4	
	comp=Z,12nm,0.7s						
CPCT	Cooper Cave	22.47	17	P	P	18 17 22.6	-0.1
CPCT				IAmb	IAmb	18 17 41.5	
	comp=Z,14nm,1.4s						
CLTN	Cedars of Leba	22.62	13	P	P	18 17 22.9	-1.5
CLTN				IAmb	IAmb	18 17 24.9	
	comp=Z,6.1nm,0.8s						
V51A	Loudon	22.85	17	P	P	18 17 24.9	-1.8
V51A				IAmb	IAmb	18 17 46.2	
	comp=Z,7.0nm,0.9s						
121A	Cookes Peak, D	23.12	325	P	P	18 17 29.6	-0.2
121A				IAmb	IAmb	18 17 35.0	
	comp=Z,5.5nm,0.9s						
S44A	Carbondale	23.72	6	P	P	18 17 34.7	-0.7
BNM	Barren Site	23.78	330	P	P	18 17 37.3	+0.8
LENM	Lemitar	23.96	329	P	P	18 17 40.1	+1.9
ANMO	Albuquerque	24.35	331	P	P	18 17 42.8	+1.1
	comp=Z,1.6nm,0.7s,baz=155,slow=11,SNR=4.6						
ANMO	Albuquerque	24.35	331	P	P	18 17 41.0	-0.7
WCI	Wyandotte Cave	24.69	12	P	P	18 17 43.7	-0.8
Q44A	Meyer Farm, Va	24.94	6	P	P	18 17 46.5	-0.3
T25A	Trinidad	25.35	337	P	P	18 17 51.6	+0.8
T25A				IAmb	IAmb	18 17 54.5	
	comp=Z,6.7nm,1.1s						
SJG	San Juan	25.57	77	LR	LR	18 27 46.0	
	comp=Z,39nm,20.4s,baz=192,slow=36						
S22A	4UR Ranch, Cre	26.84	334	P	P	18 18 05.1	+0.8
S22A				IAmb	IAmb	18 18 08.1	
	comp=Z,3.4nm,0.9s						
R58B	Mineral	27.10	26	P	P	18 18 06.1	-0.2
MVCO	Mesa Verde	27.15	331	P	P	18 18 06.5	-0.6
MVCO				IAmb	IAmb	18 18 11.2	
	comp=Z,9.1nm,1.0s						
PV13	Radium Mtn., P	28.06	332	P	P	18 18 15.8	+0.6
PV13				IAmb	IAmb	18 18 18.8	
	comp=Z,9.1nm,1.2s						
PV23	Carpenter Ridg	28.39	332	P	P	18 18 20.1	+1.9
PV23				IAmb	IAmb	18 18 22.4	
	comp=Z,5.4nm,0.9s						
N59A	State Game Lan	30.46	25	P	P	18 18 32.5	-3.8
PDAR	Pinedale Array	32.20	336	P	P	18 18 53.3	+1.5
	comp=Z,0.3nm,0.5s,baz=146,slow=9.8,SNR=2.7						
SADO	Sadowa	32.64	18	LR	LR	18 33 24.7	
	comp=Z,43nm,19.5s,baz=352,slow=39						
ELK	Elko	33.22	327	P	P	18 19 02.5	+1.8
ELK				IAmb	IAmb	18 19 06.1	
	comp=Z,1.6nm,0.8s						
NVAR	Mina Array Bea	33.36	321	P	P	18 19 01.8	-0.3
	comp=Z,2.0nm,0.8s,baz=134,slow=8.5,SNR=12						
MCMT	McKenzie Canyo	35.24	335	P	P	18 19 20.9	+2.6
J08A	Circle Bar Ran	36.77	328	P	P	18 19 33.4	+2.1
PLID	Pearl Lake	36.83	332	P	P	18 19 33.7	+1.9
PLID				IAmb	IAmb	18 19 34.8	
	comp=Z,3.8nm,1.0s						
F10A	Beach Ranch, E	38.06	332	P	P	18 19 42.6	+0.5
SIV	San Ignacio	43.04	133	P	P	18 20 22.9	-0.7
	comp=Z,1.2nm,0.5s,baz=286,slow=9.9,SNR=7.5						
YKA	Yellowknife Ar	50.88	347	P	P	18 21 23.4	-0.8
	comp=Z,3.9nm,0.6s,baz=151,slow=7.3,SNR=8.1						
ILAR	Eielson Array	62.62	337	P	P	18 22 47.9	+0.3
	comp=Z,1.2nm,0.8s,baz=173,slow=4.5,SNR=9.3						
PZH	PanZhiHua	137.39	341	PKP	PKPdf	18 31 47.1	-1.1
CMAR	Chiang Mai Arr	145.80	341	PKPbc	PKPdf	18 32 03.8	+0.5
	comp=Z,3.1nm,0.8s,baz=336,slow=3.3,SNR=18						
CMAR	Chiang Mai Arr	145.80	341		PKPdf	18 32 03.4	+0.1

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*IDC **01** 18:21:57.0±1.1, 5°.07S×129°.30E, h228km±12km, mb3.4/6, mb1 3.4/12, mb1mx3.3/43, mbtmp4.0/12, Error ellipse: s-maj=15.8km s-min=8.9km az=85.0*

*NEIC **01** 18:21:57.8±2.1, 5°.18S±0°.08×129°.42E±0°.10, h243km±9km, mb4.0/19, Error ellipse: s-maj=14.4km s-min=11.1km az=66.0*

ISC 01 18:21:57.4±0.5**, 5°.22S**±0°.05×**129°.44E**±0°.06**, h250**km**, n63, σ1ˢ.97**/70**, mb4.1**/24**, Banda Sea**

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

BNDI	Bandanaira	0.83	34	P	Pn	18 22 33.4	+1.8
SAUI	Saumlaki	3.31	146		Pn	18 22 55.3	+2.0
SAUI				Sn	S	18 23 35.1	-2.5
SAUI	Saumlaki	3.31	146	P	Pn	18 22 55.4	+2.1
SIJI	Sorong	4.69	23	P	Pn	18 23 09.1	-0.4
	3.4nm,0.3s,baz=46,slow=20,SNR=16						
SIJI				S	S	18 24 02.2	-4.7
	11nm,0.3s,baz=242,slow=23,SNR=20						
DRS	Darwin Rock St	7.31	169	P	Pn	18 23 43.1	+1.1
BATI	Baumata	7.57	229	P	Pn	18 23 46.1	+0.7
	5.4nm,0.3s,baz=101,slow=4.1,SNR=14						
BATI				S	S	18 25 10.2	-2.0
	0.7nm,0.3s,baz=232,slow=20,SNR=2.2						
MTN	Manton Dam	7.76	168		Pn	18 23 47.9	+0.2
MTN				Sn	S	18 25 12.4	-4.1
MTN	Manton Dam	7.76	168	P	Pn	18 23 48.6	+0.9
LUWI	Luwuk	7.85	302	P	Pn	18 23 53.4	+4.6
KDU	Kakadu	8.00	158	P	Pn	18 23 51.4	+0.7
KNRA	Kununurra	10.41	184	Pn	Pn	18 24 21.5	+0.3
KNRA					S	18 26 12.3	-5.9
KNRA	Kununurra	10.41	184	P	Pn	18 24 21.6	+0.4
TOLI2	Tolitoli	10.70	306	Pn	P	18 24 27.6	-2.0
TOLI2	Tolitoli	10.70	306	P	P	18 24 30.2	+0.6
PLAI	Plampang	12.12	252	P	P	18 24 44.6	-0.8
FITZ	Fitzroy Crossi	13.33	196	P	Pn	18 24 57.6	+0.2
	0.3nm,0.3s,baz=15,slow=9.0,SNR=22						
FITZ				S	S	18 27 19.4	-6.0
	0.3nm,0.3s,baz=222,slow=14,SNR=2.2						
FITZ	Fitzroy Crossi	13.33	196	P	Pn	18 24 57.9	+0.5
WB0	Warramunga Arr	15.24	162	P	P	18 25 21.0	+1.1
WB0				IAmb	IAmb	18 25 42.4	
	comp=Z,5.9nm,1.2s						
WRAB	Tennant Creek	15.38	162	P	P	18 25 20.8	-0.7
WRAB				IAmb	IAmb	18 25 23.0	
	comp=Z,12nm,1.4s						
WRAB	Tennant Creek	15.38	162	P	Pn	18 25 22.9	+0.6
WRA	Warramunga Arr	15.39	162	P	P	18 25 22.8	+1.1
	comp=Z,0.3nm,0.3s,baz=345,slow=13,SNR=27						
WRA				S	S	18 28 08.9	-2.6
	comp=Z,0.8nm,0.3s,baz=324,slow=25,SNR=6.7						
WRA	Warramunga Arr	15.39	162	P	P	18 25 20.7	-0.9
WB2	Warramunga Arr	15.39	162	P	P	18 25 22.5	+0.8
WB2				IAmb	IAmb	18 25 31.1	
	comp=Z,10.0nm,1.6s						
WR0	Warramunga Arr	15.47	162	P	P	18 25 22.2	-0.3
JAGI	Jajag, Banyuwa	15.52	257	P	P	18 25 21.4	-1.7
COEN	Coen	16.07	124	P	Pn	18 25 30.8	+0.3
COEN	Coen	16.07	124	P	Pn	18 25 31.6	+1.1
KKM	Kota Kinabalu	17.31	310	P	P	18 25 43.1	+0.3
PMG	Port Moresby	18.05	104	P	Pn	18 25 55.3	+1.5
	comp=Z,0.8nm,0.3s,baz=285,slow=5.9,SNR=7.5						
PMG	Port Moresby	18.05	104	P	Pn	18 25 55.7	+1.9
PMG				IAmb	IAmb	18 25 57.1	
	comp=Z,6.0nm,0.7s						
PSA00	Pilbara Seismi	18.73	209	P	P	18 25 58.8	+0.8
PSA00	Pilbara Seismi	18.73	209	P	P	18 25 57.9	-0.1
PSA00				IAmb	IAmb	18 26 14.5	
	comp=Z,5.1nm,1.4s						
AS31	Alice Springs	18.84	167	P	P	18 26 00.3	+1.1
ASAR	Alice Springs	18.84	167	P	P	18 26 01.8	+2.6
	comp=Z,0.3nm,0.3s,baz=348,slow=12,SNR=32						
ASAR				S	S	18 29 26.4	+6.5
	comp=Z,0.1nm,0.3s,baz=344,slow=27,SNR=2.7						
ASAR	Alice Springs	18.84	167	P	P	18 26 01.0	+1.8
CMAR	Chiang Mai Arr	38.18	309	P	P	18 28 54.1	+0.7
	comp=Z,1.4nm,0.5s,baz=134,slow=7.1,SNR=13						
CHTO	Chiang Mai	38.38	309	P	P	18 28 55.9	+0.8
CHTO				IAmb	IAmb	18 28 57.1	
	comp=Z,9.3nm,1.4s						
ODAN	Odare	51.69	310	eP	P	18 30 37.8	-1.8
	comp=Z,2.6nm,0.2s						
TAPN	Taplejung	51.70	311	eP	P	18 30 36.7	-3.1
	comp=Z,12nm,0.4s						
RAMN	Ramite	52.33	310	eP	P	18 30 44.6	+0.2
	comp=Z,31nm,0.4s						
JIRN	Jiri	53.01	310	eP	P	18 30 49.4	-0.1
	comp=Z,6.0nm,0.3s						
GUN	Gumba	53.38	311	eP	P	18 30 51.9	-0.2
	comp=Z,14nm,0.4s						
PKI	Pulchoki	53.56	310	eP	P	18 30 53.0	-0.4
	comp=Z,1.9nm,0.2s						
PKIN	Phulchoki	53.57	310	eP	P	18 30 52.7	-0.8
	comp=Z,4.6nm,0.3s						
KKN	Kakani	53.77	310	eP	P	18 30 54.6	-0.2
	comp=Z,4.5nm,0.4s						
DMN	Daman	53.81	310	eP	P	18 30 55.2	0.0
	comp=Z,6.4nm,0.4s						
GKN	Gorkha	54.37	310	eP	P	18 30 59.0	-0.1
	comp=Z,16nm,0.3s						
KOLN	Koldanda	55.05	309	eP	P	18 31 04.0	0.0
	comp=Z,9.9nm,0.4s						
DANN	Dangsing	55.21	310	eP	P	18 31 05.0	-0.3
	comp=Z,5.3nm,0.4s						
PYUN	Piuthan	55.68	309	eP	P	18 31 08.8	+0.3
	comp=Z,5.4nm,0.3s						
SONM	Songino Array	56.59	342	P	P	18 31 15.1	+0.6
	comp=Z,0.3nm,0.5s,baz=160,slow=8.7,SNR=2.5						
MK31	Makanchi Array	66.44	327	P	P	18 32 20.7	+0.7
MK31				IAmb	IAmb	18 32 21.8	
	comp=Z,1.9nm,1.1s						
MKAR	Makanchi Array	66.44	327	P	P	18 32 20.6	+0.6
	comp=Z,1.7nm,0.6s,baz=115,slow=8.1,SNR=30						
MKAR	Makanchi Array	66.44	327	P	P	18 32 20.4	+0.3
MAKZ	Makanchi	66.62	327	P	P	18 32 21.5	+0.4
MAKZ				IAmb	IAmb	18 32 22.3	
	comp=Z,2.7nm,1.2s						
AAK	Ala-Archa	68.83	320	P	P	18 32 34.8	-0.4
	comp=Z,0.2nm,0.3s,baz=233,slow=6.1,SNR=4.0						
AAK	Ala-Archa	68.83	320	IAmb	IAmb	18 32 46.7	
	comp=Z,4.0nm,1.6s						
ZALV	Zalesovo Beam	69.75	334	P	P	18 32 40.3	0.0
	comp=Z,0.7nm,0.4s,baz=122,slow=5.8,SNR=3.8						
KURBB	Kurchatov Arra	70.71	328	P	P	18 32 46.6	+0.3
	comp=Z,2.0nm,0.7s,baz=130,slow=5.0,SNR=21						
KURK	Kurchatov	70.72	329	P	P	18 32 46.6	+0.4
KURK				IAmb	IAmb	18 32 47.6	
	comp=Z,2.5nm,0.9s						
SBA	Scott Base	75.16	172	P	P	18 33 13.6	+1.8
SOCY	Socotra	76.96	284	P	P	18 33 21.5	-1.8
SOCY				IAmb	IAmb	18 33 38.1	
	comp=Z,5.4nm,1.0s						
ABKAR	Akbulak array	80.78	322	P	P	18 33 42.4	-0.8

*RSPR **01** 18:23:43.0, 18°.10N×68°.77W, h156km±1km, MD3.8/8*
*OSPL **01** 18:23:43.8±0.8, 17°.74N×68°.78W, h160km±12km, ML2.8*
*NEIC **01** 18:23:43.2±1.6, 18°.3N±0°.2×68°.82W±0°.08, h147km±12km, Error ellipse: s-maj=27.1km s-min=7.3km az=196.0*
ISC 01 18:23:43.7±1.5**, 18°.3N**±0°.1×**68°.80W**±0°.03**, h144**km±11km**, n51,** σ1.**15**/54**, 7C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.46	59		Pn	18 24 03.6	-0.6
PCDR				Sn	Sn	18 24 19.0	-0.7
DR12	Loma Pena Alta	0.75	313		Pn	18 24 05.0	-1.0
SDD	Santo Domingo	1.07	280	Pn	Pn	18 24 07.3	-1.3
SDD				IAML		18 24 26.8	
	comp=E,158nm,1.0s						
SDD				IAML		18 24 28.6	
	comp=N,143nm,0.3s						
IDE	Isla Desecheo	1.26	85	⇑eP	Pn	18 24 10.2	-0.2
IDE	Isla Desecheo	1.26	85	eS	Sn	18 24 32.0	+1.3
BANI	BANI	1.49	275		Pn	18 24 12.8	-0.1
AGPR	Aguadilla, PR	1.61	83	⇑eP	Pn	18 24 14.6	+0.5
AGPR	Aguadilla, PR	1.61	83	eS	Sn	18 24 38.8	+1.5
AGPR	Aguadilla, PR	1.61	83		Pn	18 24 14.6	+0.5
AGPR					Sn	18 24 38.8	+1.5
AGPR	Aguadilla, PR	1.61	83	IAML		18 24 41.3	
	comp=E,130nm,1.2s						
AGPR				IAML		18 24 41.5	
	comp=N,118nm,0.5s						
AGPR	Aguadilla, PR	1.61	83	i P	Pn	18 24 15.1	+1.0
AGPR				eS	Sn	18 24 38.7	+1.5
AGPR				IAML		18 24 39.7	
	comp=Z,75nm,0.7s						
CRPR	Cabo Rojo, PR	1.63	99	⇑eP	Pn	18 24 13.7	-0.5
CRPR	Cabo Rojo, PR	1.63	99	eS	Sn	18 24 37.9	+0.3
CRPR	Cabo Rojo, PR	1.63	99		Pn	18 24 13.2	-1.0
CRPR	Cabo Rojo, PR	1.63	99		Sn	18 24 37.9	+0.3
CRPR	Cabo Rojo, PR	1.63	99	IAML		18 24 43.8	
	comp=E,57nm,2.4s						
CRPR				IAML		18 25 00.3	
	comp=N,46nm,2.1s						
CRPR	Cabo Rojo, PR	1.63	99	i P	Pn	18 24 13.8	-0.4
CRPR				eS	Sn	18 24 36.4	-1.1
CRPR				IAML		18 24 49.5	
	comp=Z,41nm,1.4s						
MLPR	Magueyes Islan	1.70	100	Pn	Pn	18 24 13.0	-2.0
AOPR	Arecibo Observ	1.94	88	⇑eP	Pn	18 24 17.9	0.0
AOPR	Arecibo Observ	1.94	88	eS	Sn	18 24 44.9	+0.9
AOPR	Arecibo Observ	1.94	88		Pn	18 24 17.9	0.0
AOPR					Sn	18 24 44.9	+0.9
OBIP	Obispado Ponce	2.10	96	Pn	Pn	18 24 19.0	-0.6
CELP	Cerrillos	2.12	95	⇑eP	Pn	18 24 19.6	-0.3
CELP	Cerrillos	2.12	95	eS	Sn	18 24 48.2	+0.5
CELP	Cerrillos	2.12	95		Pn	18 24 19.6	-0.3
CELP					Sn	18 24 48.2	+0.5
CELP	Cerrillos	2.12	95	IAML		18 24 51.7	
	comp=N,45nm,0.3s						
CELP				IAML		18 24 52.6	
	comp=E,45nm,0.3s						
EMPR	Esperanza - Ma	2.17	84	⇓eP	Pn	18 24 20.3	-0.1
EMPR				eS	Sn	18 24 49.5	+0.9
EMPR	Esperanza - Ma	2.17	84		Pn	18 24 20.3	-0.1
EMPR	Esperanza - Ma	2.17	84		Sn	18 24 49.5	+0.9
EMPR	Esperanza - Ma	2.17	84	IAML		18 24 40.6	
	comp=N,141nm,2.7s						
EMPR	Esperanza - Ma	2.17	84	IAML		18 25 16.6	
	comp=E,168nm,1.9s						
LOBA2	Hotel Casa Bon	2.19	265	i P	Pn	18 24 21.2	+0.4
LOBA2				eS	Sn	18 24 47.3	-1.9
LOBA2				IAML		18 24 49.7	
	comp=Z,38nm,0.9s						
SDDR	Presa de Saban	2.46	287		Pn	18 24 23.7	-0.5
SDDR				IAML		18 25 00.9	
	comp=Z,93nm,0.7s						
SDDR				IAML		18 25 03.2	
	comp=Z,75nm,0.6s						
SDDR	Presa de Saban	2.46	287	i P	Pn	18 24 25.8	+1.6
SDDR				eS	Sn	18 24 58.5	+3.2
SDDR				IAML		18 25 05.9	
	comp=Z,37nm,0.3s						
LONE2	Loma La Sidra	2.55	277	i P	Pn	18 24 26.2	+0.9
LONE2				eS	Sn	18 24 57.5	+0.1
LONE2				IAML		18 25 06.6	
	comp=Z,23nm,0.4s						
GCPR	Guaynabo City	2.58	89	Pn	Pn	18 24 25.2	-0.3
PDPR	Patillas Dam,	2.65	95	Pn	Pn	18 24 23.4	-3.0
PDPR				IAML		18 25 21.3	
	comp=E,36nm,0.9s						
CBYP	Canovanas	2.80	90	⇑eP	Pn	18 24 27.9	-0.4
CBYP	Canovanas	2.80	90	eS	Sn	18 25 03.3	+0.6
CBYP	Canovanas	2.80	90		Pn	18 24 27.4	-0.9
CBYP	Canovanas	2.80	90		Sn	18 25 03.3	+0.6
CBYP	Canovanas	2.80	90	IAML		18 25 08.8	
	comp=N,183nm,0.2s						
CBYP				IAML		18 25 09.8	
	comp=E,204nm,0.2s						
HUMP	Col San Antoni	2.81	92	Pn	Pn	18 24 28.1	-0.3
HUMP				IAML		18 25 07.9	
	comp=N,45nm,0.3s						
MTP	Monte Pirata	3.09	93	⇑eP	Pn	18 24 32.2	+0.1
MTP	Monte Pirata	3.09	93	eS	Sn	18 25 09.7	+0.4
MTP	Monte Pirata	3.09	93		Pn	18 24 31.2	-0.8
MTP	Monte Pirata	3.09	93		Sn	18 25 09.7	+0.4
MTP	Monte Pirata	3.09	93	IAML		18 25 15.2	
	comp=E,24nm,0.6s						
MTP				IAML		18 25 35.4	
	comp=N,20nm,3.6s						
CUPR	Culebra, Puert	3.34	89	Pn	Pn	18 24 33.0	-2.2
STVI	Saint Thomas	3.65	88	Pn	Pn	18 24 39.9	+0.6
STVI				IAML		18 25 26.7	
	comp=N,35nm,1.6s						
GRTK	Grand Turk	3.90	326	Pn	Pn	18 24 39.9	-2.6

*NEIC **01** 18:30:36.0±1.8, 4°.71S±0°.07×153°.32E±0°.06, h47km±6km, mb4.7/39, Error ellipse: s-maj=11.3km s-min=7.4km az=210.0*
*IDC **01** 18:30:36.9±1.2, 4°.70S×153°.27E, h64km±9km, mb3.8/16, mb1 4.0/19, mb1mx3.7/49, mbtmp4.1/19, MS3.2/10, Ms1 3.2/10, ms1mx2.9/59, Error ellipse: s-maj=12.6km s-min=10.0km az=49.0*
*DJA **01** 18:30:38.1±0.6, 5°S±8°×15°3E±°, h73km±7km, M4.7/10, mB4.3/1, mb4.4/10, MLv4.9/3, Mw(mB)3.4/1*
ISC 01 18:30:36.0±0.4**, 4°.69S**±0°.05×**153°.29E**±0°.05**, h50**km**, n107,** σ1.**21**/109**, mb4.5**/36**, MS3.1**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.23	294		Pn	18 30 57.0	+0.1
RABL				Sn	Sn	18 31 13.7	+1.3
RABL	Rabaul	1.23	294	P	Pn	18 30 57.4	+0.6
KRVT	Keravat (AS076	1.32	287	P	Pn	18 30 59.4	+1.4
	baz=127,slow=20						
KRVT				S	Sn	18 31 15.5	+1.0
	baz=218,slow=19						
MANU	Manus Island	6.47	294		Pn	18 32 09.1	+0.3
PMG	Port Moresby	7.68	232	P	Pn	18 32 26.7	+1.4
	3.2nm,0.3s,baz=39,slow=16,SNR=19						
PMG				S	Sn	18 33 51.5	+0.5
	10nm,0.3s,baz=177,slow=20,SNR=13						
PMG				LR	LR	18 35 38.2	
	comp=Z,187nm,21.1s,baz=54,slow=39						
PMG	Port Moresby	7.68	232	Pn	Pn	18 32 25.2	-0.1
PMG				Sn	Sn	18 33 48.9	-2.0
PMG	Port Moresby	7.68	232	P	Pn	18 32 27.7	+2.4
HNR	Honiara	8.11	126	P	Pn	18 32 33.6	+2.3
	17nm,0.3s,baz=222,slow=4.8,SNR=11						
HNR				S	Sn	18 34 03.9	+2.3
	2.6nm,0.3s,baz=158,slow=12,SNR=1.3						
HNR				LR	LR	18 35 49.4	
	comp=Z,227nm,21.1s,baz=300,slow=38						
HNR	Honiara	8.11	126		Pn	18 32 30.2	-1.1
HNR				Sn	Sn	18 34 01.8	+0.2
HNR	Honiara	8.11	126	P	Pn	18 32 35.0	+3.8
PATS	Pohnpei	12.50	24	Pn	Pn	18 33 30.6	-0.7
COEN	Coen	13.57	227		Pn	18 33 43.6	-2.4
COEN	Coen	13.57	227	P	Pn	18 33 48.5	+2.5
CTA	Charters Tower	16.77	204	P	Pn	18 34 26.7	-0.8
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.1						
CTA				LR	LR	18 40 10.9	
	comp=Z,104nm,19.3s,baz=26,slow=34						
GUMO	Guam	19.99	335	LR	LR	18 43 35.3	
	comp=Z,26nm,18.9s,baz=176,slow=39						
QIS	Mount Isa	20.64	219	P	Pn	18 35 13.0	-1.2
LIFNC	LIFOU	20.96	141	P	P	18 35 14.4	-0.6
DZM	Mont Dzumac	21.47	145	P	P	18 35 20.0	-0.5
	12nm,0.5s,baz=274,slow=5.1,SNR=28						
DZM	Mont Dzumac	21.47	145	eP	P	18 35 20.6	+0.1
	49nm,1.1s						
DZM				eLR	LR	18 41 08.0	
	comp=Z,165nm,28.4s						
DZM	Mont Dzumac	21.47	145	P	P	18 35 19.3	-1.2
DZM				IAmb	IAmb	18 35 22.8	
	comp=Z,53nm,1.4s						
DZM	Mont Dzumac	21.47	145	P	P	18 35 21.5	+1.0
ONTNC	Ouen Toro	21.66	145	P	P	18 35 22.2	-0.2
ONTNC				IAmb	IAmb	18 35 24.9	
	comp=Z,72nm,1.7s						
OUENC	Ouen Island, N	21.97	145	P	P	18 35 25.6	-0.2
OUENC				IAmb	IAmb	18 35 28.2	
	comp=Z,62nm,1.8s						
KDU	Kakadu	22.04	248	P	P	18 35 25.6	-1.0
RMQ	Roma	22.10	191	P	P	18 35 28.1	+0.9
SIJI	Sorong	22.32	279	P	P	18 35 29.4	-0.2
	comp=Z,5.3nm,0.6s,baz=144,slow=18,SNR=2.0						
MTN	Manton Dam	23.33	248	P	P	18 35 39.5	-0.5
MTN				IAmb	IAmb	18 35 53.5	
	comp=Z,20nm,1.2s						
MTN					S	18 39 48.3	-0.9
MTN	Manton Dam	23.33	248	P	P	18 35 41.3	+1.3
DRS	Darwin Rock St	23.42	249	P	P	18 35 41.4	+0.5
WB0	Warramunga Arr	23.74	229	P	P	18 35 42.9	-0.9
WB0				IAmb	IAmb	18 36 06.0	
	comp=Z,19nm,1.2s						
WR0	Warramunga Arr	23.74	229	P	P	18 35 42.7	-1.2
WRAB	Tennant Creek	23.87	229	P	P	18 35 43.9	-1.1
WRAB				IAmb	IAmb	18 35 45.7	
	comp=Z,7.9nm,0.7s						
WRAB	Tennant Creek	23.87	229	P	P	18 35 45.0	-0.1
WB2	Warramunga Arr	23.87	229	P	P	18 35 44.0	-1.1
WB2				IAmb	IAmb	18 35 45.9	
	comp=Z,6.9nm,0.7s						
WRA	Warramunga Arr	23.88	229	P	P	18 35 44.8	-0.4
	comp=Z,6.4nm,0.7s,baz=53,slow=10.0,SNR=68						
WRA				PcP	PcP	18 39 26.4	-0.8
	comp=Z,0.7nm,0.7s,baz=56,slow=3.1,SNR=4.1						
WRA				S	S	18 40 00.1	+2.0
	comp=Z,0.6nm,0.9s,baz=52,slow=19,SNR=3.9						
WRA				ScP	ScP	18 42 59.8	-1.8
	comp=Z,0.7nm,1.0s,baz=50,slow=3.0,SNR=3.4						
WRA				LR	LR	18 44 17.2	
	comp=Z,53nm,21.7s,baz=355,slow=34						
WRA	Warramunga Arr	23.88	229	P	P	18 35 43.7	-1.5
ARMA	Armidale	25.64	183	P	P	18 36 02.1	+0.9
ARMA				IAmb	IAmb	18 36 03.0	
	comp=Z,22nm,1.4s						
KNRA	Kununurra	26.46	244	P	P	18 36 07.5	-1.1
KNRA				IAmb	IAmb	18 36 13.3	
	comp=Z,11nm,0.6s						
KNRA	Kununurra	26.46	244	P	P	18 36 09.3	+0.7
	comp=Z,18nm,0.8s						
AS31	Alice Springs	26.56	223	P	P	18 36 08.6	-0.9
H11S3	WAKE ISLAND Hy	26.56	29	T	T	19 04 50.0	
	baz=208,slow=74						
ASAR	Alice Springs	26.56	223	P	P	18 36 08.6	-0.9
	comp=Z,1.1nm,0.7s,baz=55,slow=9.1,SNR=16						
ASAR				PcP	PcP	18 39 32.8	-0.4
	comp=Z,0.9nm,0.8s,baz=67,slow=2.4,SNR=4.5						
ASAR				S	S	18 40 39.9	-0.8
	comp=Z,0.5nm,1.0s,baz=36,slow=17,SNR=2.5						
ASAR				LR	LR	18 46 56.0	
	comp=Z,41nm,18.5s,baz=92,slow=37						
ASAR	Alice Springs	26.56	223	P	P	18 36 08.9	-0.6
H11S2	WAKE ISLAND Hy	26.56	29	T	T	19 04 56.7	
	baz=208,slow=74						
H11S1	WAKE ISLAND Hy	26.57	29	T	T	19 04 51.6	
	baz=208						
STKA	Stephens Creek	29.18	201	P	P	18 36 31.6	-1.2
	comp=Z,2.8nm,0.8s,baz=359,slow=5.7,SNR=8.1						
STKA				LR	LR	18 48 15.5	
	comp=Z,52nm,18.3s,baz=17,slow=36						
STKA	Stephens Creek	29.18	201	P	P	18 36 32.5	-0.3
BATI	Baumata	29.87	258	LR	LR	18 49 48.9	
	comp=Z,89nm,18.2s,baz=92,slow=39						
FITZ	Fitzroy Crossi	30.14	242	P	P	18 36 40.2	-1.2
	comp=Z,2.6nm,0.6s,baz=42,slow=7.6,SNR=22						
FITZ	Fitzroy Crossi	30.14	242	P	P	18 36 39.8	-1.6
FITZ	Fitzroy Crossi	30.14	242	P	P	18 36 40.2	-1.2
WRKA	Warakurna	31.39	227	P	P	18 36 51.1	-1.4
HTT	Hallett	31.57	203	P	P	18 36 54.0	0.0
GHSS	Government Hou	33.01	202	P	P	18 37 08.3	+1.9
KAPI	Kappang	33.42	268	LR	LR	18 53 03.1	
	comp=Z,20nm,18.5s,baz=90,slow=40						
ARPS	Mount Arapiles	33.61	197	P	P	18 37 11.7	0.0
FORT	Forrest	35.18	220	P	P	18 37 24.2	-1.1
OUZ	Omahuta	35.71	151	P	P	18 37 29.8	0.0
MEEK	Meekatharra	39.66	233	P	P	18 38 04.3	+0.9
QRZ	Quartz Range	39.91	157	P	P	18 38 05.2	-0.1
BKZ	Black Stump Fm	40.25	152	P	P	18 38 07.7	-0.4
NNZ	Nelson	40.58	157	P	P	18 38 11.4	+0.7
THZ	Tophouse	40.86	157	P	P	18 38 12.9	-0.2
TUWZ	Tuamarina	40.98	156	P	P	18 38 14.2	+0.1
SNZO	South Karori	41.20	155	P	P	18 38 15.8	0.0
BSWZ	Blackbirch Sta	41.20	156	P	P	18 38 14.7	-1.1
BFZ	Birch Farm	41.35	153	P	P	18 38 16.0	-1.1
LTZ	Lake Taylor	41.51	159	P	P	18 38 18.1	-0.3
KHZ	Kahutara	41.66	157	P	P	18 38 18.3	-1.3
KHZ				IAmb	IAmb	18 38 19.7	
	comp=Z,19nm,1.0s						
OXZ	Oxford	41.90	159	P	P	18 38 21.7	+0.2
OXZ				IAmb	IAmb	18 38 47.1	
	comp=Z,52nm,1.7s						
RPZ	Rata Peaks	41.91	161	P	P	18 38 20.5	-1.1
	comp=Z,21nm,0.9s,baz=245,slow=5.1,SNR=6.6						
RPZ	Rata Peaks	41.91	161	P	P	18 38 21.8	+0.1
RPZ				IAmb	IAmb	18 38 23.3	
	comp=Z,32nm,1.0s						
LBZ	Lake Benmore	42.23	162	P	P	18 38 24.5	+0.2
MLZ	Mavora Lakes	42.54	165	P	P	18 38 25.7	-1.1
NJ2	Nanjing	49.07	321	eP	P	18 39 20.0	+1.6
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
ASAJ	Asahikawa	49.53	350	LR	LR	18 58 56.9	
	comp=Z,20nm,19.1s,baz=160,slow=34						
KLR	Kul'dur	56.88	343	P	P	18 40 15.1	-0.6
	comp=Z,1.0nm,0.8s,baz=161,slow=4.1,SNR=3.8						
CMAR	Chiang Mai Arr	58.27	295	P	P	18 40 25.4	-0.6
	comp=Z,0.6nm,0.8s,baz=125,slow=4.8,SNR=5.7						
PZH	PanZhiHua	58.71	305	P	P	18 40 30.7	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,60nm,4.7s						
HHC	Hu-ho-hao-te	59.25	324	eP	P	18 40 34.5	+2.0
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
LZH	Lanzhou	61.49	316	eP	P	18 40 38.7	-9.4
LZH				pP	pP	18 40 48.7	-13
LZH				sP	sP	18 41 09.0	+1.8
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
MA2	Magadan	64.10	359	P	P	18 41 04.2	-0.5
	comp=Z,0.6nm,0.3s,baz=130,slow=2.1,SNR=3.5						
MA2	Magadan	64.10	359	IAmb	IAmb	18 41 43.5	
	comp=Z,8.1nm,1.7s						
GTA	Gaotai	65.91	317	eP	P	18 41 18.0	+0.9
GTA				pP	pP	18 41 25.0	-5.9
GTA				sP	pwP	18 41 28.5	-2.4
GTA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	66.50	328	P	P	18 41 19.8	-0.8
	comp=Z,0.1nm,0.5s,baz=131,slow=4.4,SNR=1.6						
SONM	Songino Array	66.50	328	P	P	18 41 20.8	+0.1
VNDA	Vanda	72.92	178	P	P	18 41 59.1	-0.4
	comp=Z,4.7nm,0.6s,baz=344,slow=4.9,SNR=8.7						
VNDA	Vanda	72.92	178	P	P	18 42 00.3	+0.8
VNDA				IAmb	IAmb	18 42 01.1	
	comp=Z,26nm,1.6s						
WMQ	Urumqi	76.00	317	eP	P	18 42 22.6	+4.5
WMQ				pP	pP	18 42 31.3	+0.1
WMQ				pmax	pmax		
	comp=Z,71nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.7s						
L19K	White Mountain	77.47	22	P	P	18 42 26.3	+0.4
L19K				IAmb	IAmb	18 42 43.3	
	comp=Z,23nm,1.4s						
IMAR	Indian Mountai	80.12	19	P	P	18 42 39.5	-0.9
RND	Reindeer	80.44	23	P	P	18 42 41.6	-0.7
RND				IAmb	IAmb	18 42 43.5	
	comp=Z,30nm,1.8s						
MK31	Makanchi Array	80.57	319	P	P	18 42 43.4	+0.1
MKAR	Makanchi Array	80.57	319	P	P	18 42 43.1	-0.1
	comp=Z,0.7nm,0.6s,baz=93,slow=8.2,SNR=13						
MKAR	Makanchi Array	80.57	319	P	P	18 42 43.3	+0.1
MAKZ	Makanchi	80.78	319	P	P	18 42 44.2	-0.1
ILAR	Eielson Array	81.88	22	P	P	18 42 48.0	-1.7
	comp=Z,0.4nm,0.8s,baz=256,slow=5.5,SNR=2.0						
ILAR				pP	pP	18 43 03.6	+0.8
	comp=Z,0.5nm,0.7s,baz=233,slow=5.8,SNR=4.8						
KSH	Kashi	83.24	311	eP	P	18 42 59.2	+1.6
KSH				pmax	pmax		
	comp=Z,3.0nm,2.3s						
KURK	Kurchatov	83.98	322	P	P	18 43 00.7	-0.3
AAK	Ala-Archa	84.95	313	P	P	18 43 06.6	+0.3
AAK				IAmb	IAmb	18 43 07.4	
	comp=Z,3.5nm,0.7s						
NRIK	Noril'sk	86.02	341	P	P	18 43 09.1	-1.6
	comp=Z,2.3nm,0.5s,baz=52,slow=5.2,SNR=3.8						
NRIK	Noril'sk	86.02	341	IAmb	IAmb	18 43 12.1	
	comp=Z,2.4nm,0.8s						
YKA	Yellowknife Ar	95.10	28	P	P	18 43 52.4	-1.0
	comp=Z,0.2nm,0.6s,baz=271,slow=7.4,SNR=2.2						
AKASG	Malin Array Be	114.69	325	PKP	PKiKP	18 49 09.7	-1.2
	comp=Z,0.7nm,0.6s,baz=59,slow=2.3,SNR=6.4						
CLL	Collm	122.99	331	ePKPdf	PKPdf	18 49 27.0	+0.1
TORD	Torodi Ar. Bea	150.74	289	PKPbc	PKPbc	18 50 22.9	-1.0
	comp=Z,3.1nm,0.7s,baz=55,slow=2.4,SNR=18						
TORD	Torodi Ar. Bea	150.74	289		PKPbc	18 50 23.1	-0.7

*SFS **01** 18:32:12.0, 35°.50N×3°.75W, ML2.7, ALBORAN SUR*
*MDD **01** 18:32:13.8±0.4, 35°.54N×3°.77W, h0km, mb_Lg2.7/7, Error ellipse: s-maj=3.6km s-min=2.8km az=8.0*
*CNRM **01** 18:32:15.9, 35°.40N×3°.71W, h20km, ml2.9*
ISC 01 18:32:14.5±1.0**, 35°.52N**±0°.02×**3°.71W**±0°.02**, h16**km±8km**, n28,** σ1.**60**/56**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**212**	P	**Pg**	**18 32 20.4**	**-1.4**
PALE				S	**Sg**	**18 32 25.6**	**-1.1**
EMEL	**Melilla**	**0.65**	**109**	Pg	**Pb**	**18 32 27.2**	**-0.3**
EMEL				Sg	**Sb**	**18 32 36.6**	**+0.2**
GOG	**Mont Gurugu**	**0.66**	**117**	P	**Pn**	**18 32 30.0**	**+0.8**
GOG				S	**Sg**	**18 32 37.0**	**+1.0**
EALB	**Alboran**	**0.69**	**52**	Pg	**Pb**	**18 32 28.1**	**-0.1**
EALB				Sg	**Sb**	**18 32 38.2**	**+0.7**
EALB				*i* Vmb_Lg		18 32 39.1	
TAF	**Taforalt**	**1.27**	**123**	P	**Pn**	**18 32 36.1**	**-1.6**
TAF				S	**Sb**	**18 32 54.3**	**0.0**
ELGU	**Los Guajares,**	**1.35**	**3**	Pg	**Pn**	**18 32 37.5**	**-1.3**
ELGU				Sg	**Sn**	**18 32 53.3**	**-3.1**
ELGU				*i* Vmb_Lg		18 33 00.6	
EMIJ	**Mijas**	**1.35**	**321**	Pg	**Pn**	**18 32 38.6**	**-0.2**
EMIJ				Sg	**Sn**	**18 32 53.8**	**-2.6**
EMIJ				*i* Vmb_Lg		18 33 04.1	
EMAL	**Malaga-Limoner**	**1.37**	**335**	P	**Pn**	**18 32 39.0**	**+0.1**
EMAL				S	**Sn**	**18 32 55.3**	**-1.5**
SMIR	**Smir Dam**	**1.37**	**277**	P	**Pg**	**18 32 42.7**	**+1.9**
SMIR				S	**Sg**	**18 32 59.3**	**+0.6**
CHEFC	**Chefchaouen**	**1.39**	**253**	P	**Pb**	**18 32 41.0**	**+0.8**
CHEFC				S	**Sg**	**18 32 59.8**	**+0.4**
CEU	**Ceuta**	**1.40**	**286**	P	**Pn**	**18 32 36.1**	**-3.3**
CEU				S	**Sn**	**18 32 53.1**	**-4.5**
EGOR	**Sierra Gorda,**	**1.62**	**349**	Pn	**Pn**	**18 32 42.7**	**+0.1**
EGOR				Sn	**Sn**	**18 33 01.4**	**-1.8**
EGOR				*i* Vmb_Lg		18 33 17.7	
SICH	**Sidi Chahed**	**1.93**	**224**	P	**Pn**	**18 32 48.0**	**+1.3**
SICH				S	**Sn**	**18 33 12.0**	**+1.3**
LCRM	**LCR**	**2.06**	**208**	P	**Pb**	**18 32 52.0**	**+0.4**
LCRM				S	**Sb**	**18 33 16.7**	**-0.3**
IFR	**Ifrane**	**2.31**	**211**	P	**Pn**	**18 32 51.4**	**-0.7**
IFR				S	**Sn**	**18 33 17.4**	**-3.0**
CZD	**Col de Zad**	**2.71**	**204**	P	**Pn**	**18 32 58.5**	**+0.8**
CZD				S	**Sn**	**18 33 29.3**	**-1.0**
MD31	**MD31**	**2.78**	**198**	P	**Pn**	**18 32 59.3**	**+0.8**
MD31				S	**Sn**	**18 33 31.0**	**-0.8**
MDT	**Midelt**	**2.80**	**196**	P	**Pn**	**18 32 59.4**	**+0.7**
MDT				S	**Sn**	**18 33 31.5**	**-0.6**
TDRA	**Tendrara**	**2.84**	**150**	P	**Pn**	**18 32 59.0**	**-0.3**
TDRA				S	**Sn**	**18 33 33.5**	**+0.2**
ECAB	**El Cabril**	**2.90**	**332**	Pn	**Pn**	**18 33 02.5**	**+2.6**
ECAB				Sn	**Sn**	**18 33 33.5**	**-1.0**
ECAB				*i* Vmb_Lg		18 33 51.1	
ZHG	**ZHG**	**3.18**	**230**	P	**Pn**	**18 33 03.7**	**-0.3**
ZHG				S	**Sn**	**18 33 45.3**	**+3.7**
ETOB	**Tobarra**	**3.57**	**28**	Pn	**Pn**	**18 33 11.1**	**+1.9**
ETOB				Sn	**Sn**	**18 33 52.3**	**+1.1**
EGRO	**El Granado**	**3.64**	**305**	Pn	**Pn**	**18 33 09.9**	**-0.3**
EGRO				Sn	**Sn**	**18 33 50.4**	**-2.5**
PVAQ	**Vaqueiros**	**3.74**	**301**	P	**Pn**	**18 33 13.3**	**+1.8**
PVAQ				S	**Sn**	**18 33 55.5**	**+0.4**
FIGM	**Figuig**	**3.94**	**148**	P	**Pn**	**18 33 15.3**	**+0.8**
FIGM				S	**Sn**	**18 33 57.2**	**-3.3**
PAB	**San Pablo**	**4.05**	**353**	Pn	**Pn**	**18 33 16.7**	**+0.8**
PAB				Sn	**Sn**	**18 34 02.5**	**-0.5**
EBAD	**Badajoz**	**4.17**	**322**	Pn	**Pn**	**18 33 17.4**	**0.0**
EBAD				Sn	**Sn**	**18 34 05.0**	**-0.9**
EBAD				*i* Vmb_Lg		18 34 07.8	
OUZM	**OUZ**	**5.26**	**210**	P	**Pn**	**18 33 32.9**	**+0.4**
OUZM				S	**Sn**	**18 34 32.5**	**-0.4**

IDC 01 18:34:45.1±3.2**, 33°.19S**×**178°.26W, h0km, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.2**/46**, mbtmp3.4**/3**, ML3.0**/1**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.5**/15**, Error ellipse: s-maj=80.1km s-min=37.8km az=119.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.31**	**215**	Pn	Pn	18 36 19.6	+0.3
	0.3nm,0.3s,baz=205,slow=15,SNR=1.5						
URZ				Sn	Sn	18 37 31.3	-0.7
	0.5nm,0.3s,baz=187,slow=18,SNR=1.9						
HNR	**Honiara**	**31.03**	**315**	LR	LR	18 51 05.9	
	comp=Z,62nm,18.4s,baz=22,slow=32						
ASAR	**Alice Springs**	**42.81**	**270**	P	P	18 42 45.1	+0.2
	0.2nm,0.4s,baz=110,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**44.05**	**275**	P	P	18 42 54.6	-0.4
	0.3nm,0.5s,baz=116,slow=7.6,SNR=2.3						
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	PKPbc	18 54 29.9	-0.8
	1.1nm,0.7s,baz=41,slow=4.4,SNR=5.0						

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*LDG **01** 18:40:27.8±0.0, 43°.08N×0°.37W, h2km, Md2.2/2, Ml2.3/9, Error ellipse: s-maj=0.6km s-min=0.5km az=170.0*
*STR **01** 18:40:27.9±0.3, 43°N±3°×°±°, h0km, MLv1.7/7, preliminary*
*MDD **01** 18:40:29.4±0.2, 43°.04N×0°.42W, h0km, mb_Lg2.6/6, Error ellipse: s-maj=2.6km s-min=1.7km az=27.0*
ISC 01 18:40:27.7±0.9**, 43°.04N**±0°.02×**0°.39W**±0°.02**, h15**km±6km**, n26, σ1^{s}75**/53**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.19**	**221**	*e*Pg	**Pb**	**18 40 32.5**	**-0.4**
ETSF				*e*Sg	**Sb**	**18 40 35.6**	**-0.8**
	30nm,0.2s						
ATE	**Arette**	**0.23**	**281**	Pg	**Pg**	**18 40 32.5**	**-0.4**
ATE				Sg	**Sg**	**18 40 36.1**	**-0.3**
PYLO	**Lourdes**	**0.26**	**77**	Pg	**Pg**	**18 40 32.7**	**-0.5**
PYLO				Sg	**Sg**	**18 40 36.2**	**-0.8**
VIEF	**Viey**	**0.34**	**118**	Pg	**Pg**	**18 40 34.6**	**-0.2**
VIEF				Sg	**Sg**	**18 40 39.1**	**-0.5**
EPF	**Esparros**	**0.53**	**91**	*e*Pg	**Pg**	**18 40 37.7**	**-0.6**
EPF				*e*Sg	**Sg**	**18 40 45.2**	**-0.2**
	8.5nm,0.2s						
ECHI	**Chisagues Biel**	**0.57**	**131**	Pg	**Pg**	**18 40 38.9**	**-0.1**
ECHI	**Chisagues Biel**	**0.57**	**131**	Sg	**Sg**	**18 40 46.3**	**-0.3**
ECHI	**Chisagues Biel**	**0.57**	**131**	Pg	**Pg**	**18 40 38.9**	**-0.1**
ECHI				Sg	**Sb**	**18 40 47.0**	**-0.4**
ECHI				*i* Vmb_Lg		18 40 50.5	
SJPF	**Ste Jean**	**0.62**	**277**	*e*Pg	**Pg**	**18 40 39.7**	**-0.1**
SJPF				*e*Sg	**Sg**	**18 40 47.8**	**-0.2**
	5.9nm,0.3s						
EORO	**Oroz-Betelu**	**0.69**	**258**	Pg	**Pb**	**18 40 41.6**	**+0.2**
EORO				Sg	**Sb**	**18 40 51.9**	**+1.1**
EORO				*i* Vmb_Lg		18 40 54.2	
EALK	**Alkurruntz**	**0.84**	**283**	Sg	**Sb**	**18 40 55.5**	**+0.5**
EALK	**Alkurruntz**	**0.84**	**283**	*i* Vmb_Lg		18 40 43.7	
EALK				Pg	**Pb**	**18 40 44.3**	**+0.4**
EALK				Sg	**Sg**	**18 40 54.1**	**-0.9**
MLS	**Moulis**	**1.09**	**94**	Pn	**Pg**	**18 40 50.1**	**+1.4**
PAND	**Andorre**	**1.52**	**109**	Pn	**Pb**	**18 40 56.1**	**+0.5**
PAND				Sn	**Sg**	**18 41 17.4**	**+0.8**
MONQ	**Montcuq**	**1.75**	**40**	Pn	**Pb**	**18 40 59.6**	**+0.1**
MONQ				Sn	**Sb**	**18 41 21.8**	**+0.6**
MTLF	**Montolieu**	**1.93**	**80**	*e*Pg	**Pb**	**18 41 03.4**	**+0.9**
MTLF				*e*Sn	**Sn**	**18 41 22.8**	**-1.0**
MTLF				*e*Sg	**Sb**	**18 41 28.2**	**+1.9**
	3.5nm,0.3s						
MTLF	**Montolieu**	**1.93**	**80**	Pn	**Pb**	**18 41 01.9**	**-0.6**
MTLF				Sn	**Sb**	**18 41 27.6**	**+1.2**
EPOB	**Poblet**	**2.01**	**147**	Pg	**Pg**	**18 41 05.8**	**-0.5**
EPOB				Sn	**Sb**	**18 41 28.6**	**-0.1**
EPOB				Sg	**Sg**	**18 41 32.4**	**+0.1**
EPOB				*i* Vmb_Lg		18 41 35.1	
LFF	**La Frestale**	**2.06**	**23**	*e*Pg	**Pb**	**18 41 05.3**	**+0.5**
LFF				*e*Sn	**Sn**	**18 41 25.4**	**-1.7**
LFF				*e*Sg	**Sb**	**18 41 31.4**	**+1.2**
	5.4nm,0.3s						
ETOR	**Torete**	**2.55**	**210**	Pn	**Pn**	**18 41 09.5**	**+1.0**
ETOR				Sn	**Sn**	**18 41 40.8**	**+1.6**
CAF	**Calviac**	**2.58**	**42**	*e*Pn	**Pn**	**18 41 08.3**	**-0.6**
CAF	**Calviac**	**2.58**	**42**	*e*Pg	**Pb**	**18 41 15.1**	**+1.4**
CAF				*e*Sn	**Sn**	**18 41 38.1**	**-1.9**
CAF				*e*Sg	**Sb**	**18 41 47.8**	**+2.6**
	2.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.64**	**31**	*e*Pg	**Pb**	**18 41 16.1**	**+1.4**
RJF				*e*Sn	**Sn**	**18 41 39.4**	**-2.1**
RJF				*e*Sg	**Sb**	**18 41 49.6**	**+2.7**
	2.9nm,0.2s						
MFF	**Saint Martin d**	**3.56**	**3**	*e*Pg	**Pb**	**18 41 32.9**	**+2.6**
MFF				*e*Sn	**Sn**	**18 42 01.3**	**-2.8**
MFF				*e*Sg	**Sb**	**18 42 18.2**	**+4.9**
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**4.20**	**32**	*e*Pg	**Pb**	**18 41 44.7**	**+3.5**
BGF				*e*Sg	**Sg**	**18 42 38.6**	**-3.9**
	8.4nm,0.5s						
AVF	**Avril sur Loir**	**4.59**	**34**	*e*Sn	**Sn**	**18 42 25.9**	**-3.6**
	0.9nm,0.3s						
AVF				*e*Sg	**Sg**	**18 42 50.4**	**-4.7**
	0.3nm,0.2s						

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*IDC **01** 18:45:18.7±1.1, 15°.02S×168°.21E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.0/36, mbtmp4.1/14, ML4.3/1, MS3.5/8, Ms1 3.5/8, ms1mx3.0/56, Error ellipse: s-maj=35.3km s-min=18.8km az=134.0*
*NOU **01** 18:45:19.7, 14°.92S×168°.11E, h0km, MLv5.1/14, Vanuatu Islands*
*NEIC **01** 18:45:22.5±1.5, 15°.07S±0°.06×168°.16E±0°.06, h21km±5km, mb4.6/30, Error ellipse: s-maj=11.2km s-min=6.0km az=223.0*
ISC 01 18:45:24.1±0.5**, 15°.02S**±0°.06×**168°.08E**±0°.07**, h36km, n70, σ1^{s}11**/67**, mb4.4**/24**, MS3.6**/7**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.94**	**243**		**Pn**	**18 45 38.1**	**-2.8**
SANVU	**Saraoutou**	**0.94**	**243**	P	**Pn**	**18 45 38.4**	**-2.4**
DVP	**Devils Point**	**2.69**	**178**	P	**Pn**	**18 46 06.9**	**+2.1**
RTV	**Rentapao**	**2.77**	**173**	P	**Pn**	**18 46 06.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.58**	**213**	Pn	**Pn**	**18 46 57.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.58**	**213**	P	**Pn**	**18 47 00.8**	**+2.5**
YATNC	**Mamie plateau,**	**7.09**	**189**	P	**Pn**	**18 47 04.8**	**-0.5**
DZM	**Mont Dzumac**	**7.18**	**192**	Pn	**Pn**	**18 47 06.4**	**-0.2**
	4.7nm,0.3s,baz=2.9,slow=12,SNR=39						
DZM				Sn	**Sn**	**18 48 24.9**	**-2.1**
	baz=311,slow=23,SNR=1.2						
DZM	**Mont Dzumac**	**7.18**	**192**		**Pn**	**18 47 07.0**	**+0.3**
DZM	**Mont Dzumac**	**7.18**	**192**	P	**Pn**	**18 47 07.4**	**+0.7**
NOUC	**Port Laguerre**	**7.24**	**193**	P	**Pn**	**18 47 08.9**	**+1.5**
ONTNC	**Ouen Toro**	**7.41**	**192**	Pn	**Pn**	**18 47 08.7**	**-1.0**
ONTNC	**Ouen Toro**	**7.41**	**192**	P	**Pn**	**18 47 10.4**	**+0.7**
OUENC	**Ouen Island, N**	**7.45**	**189**	Pn	**Pn**	**18 47 10.0**	**-0.3**
OUENC	**Ouen Island, N**	**7.45**	**189**	P	**Pn**	**18 47 12.3**	**+2.0**
PINNC	**Pines Island,**	**7.57**	**184**	Pn	**Pn**	**18 47 09.8**	**-2.1**
HNR	**Honiara**	**9.70**	**304**	Sn	**Sn**	**18 49 31.6**	**+2.7**
	4.3nm,0.3s,baz=239,slow=19,SNR=2.0						
HNR	**Honiara**	**9.70**	**304**		**Pn**	**18 47 41.2**	**0.0**
MSVF	**Nonsavu**	**9.94**	**107**	LR	LR	18 50 37.6	
	comp=Z,147nm,18.2s,baz=267,slow=32						
PMG	**Port Moresby**	**21.19**	**283**	P	**P**	**18 50 08.1**	**+1.5**
	3.7nm,1.0s,baz=74,slow=5.2,SNR=3.7						
PMG	**Port Moresby**	**21.19**	**283**	P	**P**	**18 50 07.1**	**+0.5**
CTA	**Charters Tower**	**21.40**	**253**	P	**P**	**18 50 10.4**	**+1.5**
	3.1nm,0.8s,baz=74,slow=13,SNR=2.0						
CTA				LR	LR	18 57 20.0	
	comp=Z,72nm,21.0s,baz=84,slow=34						
ARMA	**Armidale**	**21.52**	**222**		**P**	**18 50 10.5**	**+0.3**
ARMA				IAmb	IAmb	18 50 20.2	
	comp=Z,26nm,1.5s						
COEN	**Coen**	**24.13**	**269**	P	**P**	**18 50 38.6**	**+1.7**
MXZ	**Matakaoa Point**	**24.21**	**160**	P	**P**	**18 50 36.6**	**-0.8**
STKA	**Stephens Creek**	**29.41**	**231**	P	**P**	**18 51 24.6**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=45,slow=7.2,SNR=6.3						
STKA				LR	LR	19 01 48.1	
	comp=Z,61nm,20.2s,baz=24,slow=34						
STKA	**Stephens Creek**	**29.41**	**231**	IAmb	IAmb	18 51 31.3	
	comp=Z,1.2nm,1.1s						
TOO	**Toolangi**	**30.09**	**218**	P	**P**	**18 51 31.2**	**+1.0**
TOO				IAmb	IAmb	18 51 37.4	
	comp=Z,9.5nm,1.2s						
RAR	**Rarotonga**	**31.13**	**106**	LR	LR	19 01 45.6	
	comp=Z,65nm,20.5s,baz=254,slow=32						
WR0	**Warramunga Arr**	**32.33**	**256**	P	**P**	**18 51 50.1**	**0.0**
WB0	**Warramunga Arr**	**32.46**	**257**	P	**P**	**18 51 51.1**	**-0.2**
WB0				IAmb	IAmb	18 51 56.2	
	comp=Z,4.7nm,0.7s						
WB2	**Warramunga Arr**	**32.51**	**256**	P	**P**	**18 51 51.9**	**+0.2**
WRAB	**Tennant Creek**	**32.51**	**256**	P	**P**	**18 51 52.2**	**+0.5**
WRAB				IAmb	IAmb	18 51 56.5	
	comp=Z,5.7nm,0.9s						
WRA	**Warramunga Arr**	**32.52**	**256**	P	**P**	**18 51 51.7**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=87,slow=8.7,SNR=17						
WRA				PcP	**PcP**	**18 54 39.1**	**+0.9**
	comp=Z,1.2nm,1.1s,baz=78,slow=2.7,SNR=4.3						
WRA				LR	LR	19 04 13.7	
	comp=Z,127nm,18.7s,baz=16,slow=35						
WRA	**Warramunga Arr**	**32.52**	**256**	IAmb	IAmb	18 51 56.7	
	comp=Z,0.5nm,1.2s						
WRA					**PcP**	**18 54 38.5**	**+0.3**
AS31	**Alice Springs**	**33.30**	**250**	P	**P**	**18 51 58.9**	**+0.2**
AS31				IAmb	IAmb	18 52 04.6	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**33.30**	**250**	P	**P**	**18 51 59.4**	**+0.7**
	comp=Z,12nm,0.8s,baz=79,slow=9.1,SNR=104						
ASAR				PcP	**PcP**	**18 54 41.1**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=108,slow=2.4,SNR=3.8						
ASAR				LR	LR	19 04 24.6	
	comp=Z,119nm,20.7s,baz=97,slow=34						
ASAR	**Alice Springs**	**33.30**	**250**	P	**P**	**18 51 58.7**	**0.0**
BBOO	**Buckleboo**	**34.02**	**233**	P	**P**	**18 52 06.6**	**+1.8**
BBOO				IAmb	IAmb	18 52 07.5	
	comp=Z,9.4nm,1.0s						
KNRA	**Kununurra**	**37.88**	**264**	P	**P**	**18 52 37.3**	**-0.7**
KNRA				IAmb	IAmb	18 52 43.9	
	comp=Z,9.8nm,0.8s						
JOHN	**Johnston Islan**	**38.52**	**36**	P	**P**	**18 52 42.3**	**-1.0**
FORT	**Forrest**	**39.82**	**240**	P	**P**	**18 52 53.9**	**-0.3**
MCQ	**Macquarie Isla**	**40.03**	**188**	P	**P**	**18 52 54.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**40.73**	**260**	LR	LR	19 09 28.1	
	comp=Z,87nm,18.6s,baz=92,slow=36						
FITZ	**Fitzroy Crossi**	**40.73**	**260**	P	**P**	**18 53 02.4**	**+0.6**
FITZ				IAmb	IAmb	18 53 07.7	
	comp=Z,7.4nm,0.8s						
PSA00	**Pilbara Seismi**	**46.11**	**254**	P	**P**	**18 53 45.4**	**+0.2**
PSA00				IAmb	IAmb	18 53 52.2	
	comp=Z,7.1nm,1.1s						
PSA00	**Pilbara Seismi**	**46.11**	**254**	P	**P**	**18 53 45.0**	**-0.2**
PSA00				IAmb	IAmb	18 54 12.1	
	comp=Z,21nm,1.3s						
LUWI	**Luwuk**	**46.84**	**283**	P	**P**	**18 53 50.7**	**-0.3**
KAPI	**Kappang**	**48.52**	**277**	P	**P**	**18 54 02.9**	**-1.1**
KAPI				IAmb	IAmb	18 54 10.9	
	comp=Z,13nm,0.8s						
WRMHI	**West Rim**	**49.69**	**48**	P	**P**	**18 54 12.0**	**-0.9**
MORW	**Morawa**	**49.85**	**245**	P	**P**	**18 54 13.8**	**-0.2**
XMIS	**Christmas Isla**	**60.89**	**266**	P	**P**	**18 55 33.2**	**-0.6**
SBA	**Scott Base**	**62.85**	**180**	P	**P**	**18 55 45.3**	**-0.5**
USA0B	**Ussuriysk Arra**	**67.50**	**333**	P	**P**	**18 56 16.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**67.50**	**333**	P	**P**	**18 56 17.0**	**+0.6**
KIWB	**Kanaga Island**	**67.82**	**10**	P	**P**	**18 56 17.9**	**-0.4**
BKNI	**Bangkinang**	**67.95**	**277**	P	**P**	**18 56 19.1**	**-0.8**
KLR	**Kul'dur**	**71.59**	**336**	P	**P**	**18 56 42.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=135,slow=6.6,SNR=2.6						
MA2	**Magadan**	**75.66**	**351**	P	**P**	**18 57 05.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=23,SNR=1.5						
CMAR	**Chiang Mai Arr**	**75.78**	**294**	P	**P**	**18 57 08.1**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=124,slow=4.6,SNR=9.6						
CMAR	**Chiang Mai Arr**	**75.78**	**294**	P	**P**	**18 57 07.4**	**+0.6**
CHTO	**Chiang Mai**	**75.91**	**294**	P	**P**	**18 57 09.0**	**+1.4**
CHTO				IAmb	IAmb	18 57 10.1	
	comp=Z,9.5nm,1.5s						
ULN	**Ulaanbaatar**	**82.84**	**324**	P	**P**	**18 57 46.0**	**+1.1**
ULN				IAmb	IAmb	18 57 47.3	
	comp=Z,8.7nm,1.1s						
SONM	**Songino Array**	**83.20**	**323**	P	**P**	**18 57 47.3**	**+0.6**
	comp=Z,2.6nm,1.1s,baz=134,slow=4.5,SNR=11						
PFO	**Pinyon Flats O**	**86.53**	**54**	LR	LR	19 35 12.1	
	comp=Z,25nm,18.4s,baz=9.5,slow=35						
ILAR	**Eielson Array**	**86.56**	**18**	P	**P**	**18 58 02.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=243,slow=5.2,SNR=9.4						
NVAR	**Mina Array Bea**	**86.87**	**49**	P	**P**	**18 58 05.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=242,slow=9.1,SNR=2.9						
YKA	**Yellowknife Ar**	**97.45**	**27**	P	**P**	**18 58 53.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=253,slow=4.9,SNR=5.3						
YKA	**Yellowknife Ar**	**97.45**	**27**	P	**P**	**18 58 52.6**	**-1.1**
MKAR	**Makanchi Array**	**97.96**	**316**	P	Pdif	18 58 56.9	+0.4
	comp=Z,1.1nm,0.7s,baz=92,slow=5.6,SNR=13						

IDC 01 18:56:36.8±3.5**, 33°.13S**×**178°.43W, h0km, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.5**/40**, mbtmp3.5**/3**, ML3.1**/1**, Error ellipse: s-maj=78.0km s-min=38.5km az=115.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.28**	**214**	Pn	Pn	18 58 10.7	+0.1
	0.4nm,0.3s,baz=278,slow=8.6,SNR=1.8						
URZ				Sn	Sn	18 59 22.5	-0.6
	0.5nm,0.3s,baz=3.8,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**42.67**	**270**	P	P	19 04 35.1	-0.4
	0.3nm,0.6s,baz=112,slow=7.9,SNR=6.3						
WRA	**Warramunga Arr**	**43.91**	**275**	P	P	19 04 45.7	+0.3
	0.3nm,0.5s,baz=115,slow=7.6,SNR=7.9						
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	PKPbc	19 16 21.3	-0.8
	2.5nm,1.0s,baz=35,slow=3.4,SNR=1.7						

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*JMA **01** 18:59:43.8±0.2, 24°.29N×121°.74E, h29km±4km, M2.5*
*TAP **01** 18:59:44.0, 24°.39N×121°.80E, h9km, ML3.2, B*
ISC 01 18:59:43.0±1.0**, 24°.35N**±0°.01×**121°.89E**±0°.02**, h5**km±8km**, n96, σ0^{s}91**/169**, 15C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14**	**313**	⇑*i*P	**Pg**	**18 59 46.3**	**+0.3**
	baz=339						
EWUT				*i* S	**Sg**	**18 59 47.5**	**-0.3**
	baz=339						
EHP	**Heping Village**	**0.14**	**254**	P	**Pg**	**18 59 46.7**	**+0.8**
	baz=212						
EHP				*e*S	**Sg**	**18 59 48.6**	**+0.8**
	baz=212						
ENA	**Nanau**	**0.16**	**300**	⇑*i*P	**Pg**	**18 59 46.4**	**+0.1**
	baz=309						
ENA				*i* S	**Sg**	**18 59 47.7**	**-0.7**
	baz=309						
TWC	**Suao**	**0.26**	**351**	⇓*i*P	**Pg**	**18 59 49.0**	**+0.8**
	baz=7.0						
TWC				*i* S	**Sg**	**18 59 51.9**	**+0.2**
	baz=7.0						
ETL	**Fush Village**	**0.31**	**232**	⇓*i*P	**Pb**	**18 59 50.0**	**-1.1**
	baz=206						
ETL				*i* S	**Sb**	**18 59 54.0**	**-2.5**
	baz=206						
NACB	**Ninganchiao**	**0.32**	**237**	⇓*i*P	**Pb**	**18 59 50.0**	**-1.3**
	baz=212						
NACB				*i* S	**Sg**	**18 59 54.2**	**+0.7**
	baz=212						
NDS	**Dongshan**	**0.33**	**331**	⇑*i*P	**Pg**	**18 59 49.8**	**+0.4**
	baz=347						
NDS				S	**Sg**	**18 59 53.1**	**-0.6**
	baz=347						
TWD	**Chiawan**	**0.38**	**225**	⇓*i*P	**Pb**	**18 59 51.3**	**-0.9**
	baz=211						
TWD				*i* S	**Sb**	**18 59 56.4**	**-2.0**
	baz=211						
LATG	**Datong**	**0.38**	**299**	⇑*i*P	**Pg**	**18 59 50.5**	**+0.1**
	baz=301						
LATG				*i* S	**Sg**	**18 59 54.4**	**-1.1**
	baz=301						
ETLH	**Xiulin Townshi**	**0.40**	**249**	*i* P	**Pg**	**18 59 51.2**	**+0.4**
	baz=239						
ETLH				S	**Sg**	**18 59 56.5**	**+0.4**
	baz=239						
ENTT	**Nioudou**	**0.41**	**314**	⇑*i*P	**Pg**	**18 59 51.3**	**+0.2**
	baz=320						
ENTT				S	**Sg**	**18 59 56.2**	**-0.4**
	baz=320						
TWE	**Neicheng**	**0.42**	**331**	⇑*i*P	**Pg**	**18 59 51.7**	**+0.4**
	baz=342						
TWE				*i* S	**Sg**	**18 59 56.4**	**-0.4**
	baz=342						
NDT	**Datong Townshi**	**0.43**	**306**	⇑*i*P	**Pg**	**18 59 51.6**	**+0.3**
	baz=309						
NDT				*e*S	**Sg**	**18 59 56.0**	**-1.0**
	baz=309						
ILA	**Ilan**	**0.43**	**343**	⇑*i*P	**Pg**	**18 59 52.3**	**+0.8**
	baz=346						
ILA				*i* S	**Sg**	**18 59 57.7**	**+0.5**
	baz=346						
HWA	**Hwalien**	**0.45**	**215**	P	**Pb**	**18 59 53.6**	**0.0**
	baz=203						
HWA				*e*S	**Sb**	**19 00 00.8**	**+0.3**
	baz=203						
NNS	**Nan Shan**	**0.48**	**281**	⇑*i*P	**Pg**	**18 59 52.4**	**0.0**
	baz=278						
NNS				*i* S	**Sg**	**18 59 57.6**	**-1.0**
	baz=278						
FUSB	**Fushanzhiwuyua**	**0.49**	**326**	⇑*i*P	**Pg**	**18 59 53.1**	**+0.5**
	baz=332						
FUSB				S	**Sg**	**18 59 58.2**	**-0.9**
	baz=332						
NTC	**Toucheng**	**0.51**	**354**	*e*P	**Pg**	**18 59 53.4**	**+0.6**
	baz=3.0						
NTC				*e*S	**Sg**	**18 59 59.3**	**-0.1**
	baz=3.0						
ETM	**Tongmen**	**0.53**	**224**	⇓*i*P	**Pb**	**18 59 53.9**	**-0.9**
	baz=214						
ETM				*e*S	**Sb**	**19 00 00.6**	**-2.1**
	baz=214						
TEYL	**Yanliau Villag**	**0.55**	**209**	*e*P	**Pb**	**18 59 54.9**	**-0.2**
	baz=209						
NWLT	**Wulai**	**0.56**	**320**	P	**Pg**	**18 59 54.1**	**+0.4**
	baz=325						
NWLT				*e*S	**Sg**	**19 00 00.1**	**-0.9**
	baz=325						
YHNB	**Yeheng**	**0.57**	**304**	⇑*i*P	**Pg**	**18 59 54.3**	**+0.3**
	baz=312						
YHNB				S	**Sg**	**19 00 00.4**	**-1.0**
	baz=312						
NSK	**Sanguang**	**0.58**	**304**	⇑*i*P	**Pg**	**18 59 54.5**	**+0.2**
	baz=306						
NSK				*e*S	**Sg**	**19 00 00.9**	**-1.1**
	baz=306						
FUSS	**Fushou**	**0.60**	**260**	P	**Pg**	**18 59 55.0**	**+0.4**
	baz=255						
FUSS				*e*S	**Sg**	**19 00 01.9**	**-0.5**
	baz=255						
WHF	**Hehuan Shan**	**0.61**	**251**	⇓*i*P	**Pg**	**18 59 55.1**	**+0.3**
	baz=244						
WHF				S	**Sg**	**19 00 03.0**	**+0.3**
	baz=244						
TIPB	**Shuangxi**	**0.62**	**354**	P	**Pb**	**18 59 56.3**	**-0.2**
	baz=2.0						
TIPB				*e*S	**Sg**	**19 00 03.2**	**0.0**
	baz=2.0						
TWT	**Tachien**	**0.66**	**262**	*e*P	**Pb**	**18 59 56.5**	**-0.6**
	baz=257						
TWT				*e*S	**Sg**	**19 00 04.2**	**-0.1**
	baz=257						
TWB1	**Santiao Chiao**	**0.66**	**8**	*e*P	**Pb**	**18 59 56.9**	**-0.2**
	baz=16						
TWB1				*e*S	**Sg**	**19 00 04.8**	**+0.4**
	baz=16						
TDCB	**Techi**	**0.68**	**262**	*e*P	**Pb**	**18 59 56.5**	**-0.9**
	baz=258						
TDCB				*e*S	**Sg**	**19 00 04.0**	**-0.8**
	baz=258						
ESL	**Shilin**	**0.68**	**218**	⇓*i*P	**Pb**	**18 59 56.7**	**-0.6**
	baz=210						
ESL				S	**Sb**	**19 00 05.6**	**-1.5**
	baz=210						
TWA	**Mucha**	**0.69**	**336**	*e*P	**Pg**	**18 59 56.9**	**+0.6**
	baz=342						
TWA				*e*S	**Sg**	**19 00 04.7**	**-0.6**
	baz=342						
NHDH	**Xindian Distri**	**0.70**	**331**	*e*P	**Pg**	**18 59 57.2**	**+0.7**
	baz=336						
NHDH				*e*S	**Sg**	**19 00 05.4**	**-0.1**
	baz=336						
CHGB	**Renai**	**0.71**	**246**	⇓*i*P	**Pb**	**18 59 57.2**	**-0.9**
	baz=241						
CHGB				S	**Sg**	**19 00 06.5**	**+0.4**
	baz=241						
NWF	**Wu-fen Shan**	**0.73**	**352**	P	**Pb**	**18 59 58.2**	**-0.1**
	baz=349						
NWF				S	**Sg**	**19 00 06.8**	**+0.3**
	baz=349						
WFSB	**Wu-fen Shan**	**0.73**	**352**	*e*P	**Pb**	**18 59 58.0**	**-0.2**
	baz=349						
WFSB				S	**Sg**	**19 00 06.6**	**+0.1**
	baz=349						
SXI1	**Grass Mountain**	**0.74**	**359**	*e*P	**Pb**	**18 59 59.1**	**+0.5**
	baz=12						
SXI1				*e*S	**Sg**	**19 00 07.5**	**+0.5**
	baz=12						
NFF	**Wufeng Townshi**	**0.76**	**292**	*e*P	**Pg**	**18 59 57.9**	**+0.3**
	baz=301						
NFF				*e*S	**Sg**	**19 00 06.6**	**-0.9**
	baz=301						
WUSB	**Renai**	**0.79**	**244**	⇓*i*P	**Pb**	**18 59 58.8**	**-0.6**
	baz=238						
WUSB				S	**Sb**	**19 00 08.9**	**-1.5**
	baz=238						
TNOU	**National Taiwa**	**0.81**	**352**	*e*S	**Sg**	**19 00 08.9**	**-0.1**
	baz=350						

NTY	**Taoyuan**	**0.84**	**320**	*e*P	**Pn**	**19 00 00.9**	**-0.8**
	baz=332						
LIOB	**Emei**	**0.85**	**291**	*e*P	**Pb**	**19 00 00.1**	**-0.3**
	baz=290						
LIOB				*e*S	**Sg**	**19 00 09.9**	**-0.6**
	baz=290						
NSTT	**Nanjuang**	**0.86**	**289**	⇑*i*P	**Pb**	**19 00 00.1**	**-0.4**
	baz=289						
NSTT				S	**Sg**	**19 00 09.7**	**-1.1**
	baz=289						
TWS1	**Kuangyinshan**	**0.86**	**330**	P	**Pb**	**19 00 00.9**	**+0.3**
	baz=334						
TWS1				*e*S	**Sb**	**19 00 13.4**	**+1.0**
	baz=334						
WHP	**Taichung City**	**0.87**	**266**	P	**Pb**	**19 00 00.4**	**-0.3**
	baz=263						
WHP				S	**Sg**	**19 00 10.8**	**-0.2**
	baz=263						
NCUH	**Zhongli**	**0.89**	**314**	*e*P	**Pn**	**19 00 01.6**	**-0.7**
	baz=316						
NCUH				*e*S	**Sn**	**19 00 15.0**	**-0.6**
	baz=316						
ANP	**Anpu**	**0.90**	**338**	*e*P	**Pb**	**19 00 01.2**	**0.0**
	baz=343						
VWDT	**VWDT**	**0.91**	**229**	P	**Pb**	**19 00 00.7**	**-0.5**
	baz=215						
VWDT				*e*S	**Sb**	**19 00 12.9**	**-0.7**
	baz=215						
NTST	**Danshui**	**0.91**	**334**	*e*P	**Pn**	**19 00 01.9**	**-0.6**
	baz=337						
NTST				*e*S	**Sn**	**19 00 15.1**	**-0.9**
	baz=337						
WPL	**Puli Township**	**0.92**	**249**	P	**Pb**	**19 00 01.2**	**-0.2**
	baz=244						
DPDB	**Guoxing**	**0.94**	**251**	*e*P	**Pb**	**19 00 01.7**	**-0.1**
	baz=246						
WCS	**Beigang Elemen**	**0.94**	**252**	*e*P	**Pb**	**19 00 01.7**	**-0.1**
	baz=248						
HGSD	**Ruisui**	**0.95**	**207**	*e*P	**Pn**	**19 00 02.7**	**-0.4**
	baz=218						
TWY	**Chenhua**	**0.96**	**344**	*e*P	**Pn**	**19 00 04.3**	**+1.1**
	baz=348						
TWY				*e*S	**Sb**	**19 00 15.9**	**+0.7**
	baz=348						
JYNG	**Yonagunijimaku**	**0.97**	**84**	P	**Pn**	**19 00 03.8**	**+0.5**
JYNG				S	**Sn**	**19 00 17.2**	**-0.2**
EHY	**Hungye**	**0.99**	**212**	P	**Pn**	**19 00 02.5**	**-1.1**
	baz=213						
EHY				*e*S	**Sb**	**19 00 15.4**	**-0.6**
	baz=213						
SMLT	**Sun Moon Lake**	**1.02**	**243**	⇓*i*P	**Pn**	**19 00 03.1**	**-1.0**
	baz=239						
SMLT				S	**Sg**	**19 00 15.4**	**-0.4**
	baz=239						
TWQ1	**Liyutan**	**1.02**	**270**	*e*P	**Pn**	**19 00 05.3**	**+1.2**
	baz=268						
TWQ1				*e*S	**Sb**	**19 00 16.5**	**-0.5**
	baz=268						
NMLH	**Miaoli**	**1.02**	**281**	*e*P	**Pn**	**19 00 04.6**	**+0.6**
	baz=280						
NMLH				*e*S	**Sb**	**19 00 16.4**	**-0.6**
	baz=280						
SSLB	**Suanglung**	**1.02**	**237**	⇓*i*P	**Pb**	**19 00 02.8**	**-0.5**
	baz=233						
SSLB				S	**Sg**	**19 00 15.0**	**-1.0**
	baz=233						
YOJ	**Yonaguni jima**	**1.03**	**83**	P	**Pn**	**19 00 04.4**	**+0.3**
YOJ				S	**Sn**	**19 00 18.9**	**0.0**
YOJ	**Yonaguni jima**	**1.03**	**83**	*e*P	**Pn**	**19 00 04.4**	**+0.3**
	baz=72						
YOJ				*e*S	**Sn**	**19 00 18.8**	**0.0**
	baz=72						
NSY	**Sanyi**	**1.03**	**274**	*e*P	**Pn**	**19 00 04.2**	**-0.1**
	baz=272						
NSY				*e*S	**Sb**	**19 00 16.8**	**-0.6**
	baz=272						
YULB	**Yu-li**	**1.10**	**210**	P	**Pn**	**19 00 04.1**	**-1.0**
	baz=217						
YULB				*e*S	**Sn**	**19 00 20.0**	**-0.6**
	baz=217						
EYUL	**Yuli**	**1.13**	**208**	*e*P	**Pn**	**19 00 06.0**	**+0.5**
	baz=215						
TCU	**Taichung**	**1.13**	**260**	*e*P	**Pn**	**19 00 06.4**	**+0.9**
	baz=268						
TCU				*e*S	**Sn**	**19 00 21.0**	**-0.4**
	baz=268						
TWF1	**Yuli**	**1.13**	**209**	*e*P	**Pn**	**19 00 05.3**	**-0.3**
	baz=216						
WDJ	**Dajia District**	**1.14**	**270**	*e*P	**Pn**	**19 00 07.2**	**+1.5**
	baz=268						
WDJ				*e*S	**Sn**	**19 00 22.1**	**+0.4**
	baz=268						
WJS	**Zhushan**	**1.19**	**244**	P	**Pn**	**19 00 06.8**	**+0.5**
	baz=235						
WJS				S	**Sn**	**19 00 24.1**	**+1.2**
	baz=235						
WNT	**Mingjian**	**1.20**	**247**	*e*P	**Pn**	**19 00 07.3**	**+0.8**
	baz=238						
WNT				*e*S	**Sn**	**19 00 24.4**	**+1.2**
	baz=238						
YUS	**Yu-Shan**	**1.21**	**225**	P	**Pn**	**19 00 06.8**	**-0.3**
	baz=230						
FULB	**Fuli**	**1.27**	**206**	*e*P	**Pn**	**19 00 09.0**	**+1.5**
	baz=214						
ALS	**Alishan**	**1.30**	**230**	P	**Pb**	**19 00 08.2**	**+0.1**
	baz=210						
CHN5	**Tsauling**	**1.34**	**236**	⇑*i*P	**Pg**	**19 00 09.9**	**+1.2**
	baz=222						
CHN5				S	**Sn**	**19 00 28.4**	**+1.6**
	baz=222						
WDLH	**Douliu**	**1.40**	**242**	*e*P	**Pg**	**19 00 10.7**	**+0.8**
	baz=254						
WDLH				*e*S	**Sg**	**19 00 31.1**	**+3.0**
	baz=254						
ELDTW	**Lidau**	**1.41**	**215**	⇓*i*P	**Pg**	**19 00 10.5**	**+0.5**
	baz=210						
WRL	**Guolierlin Hig**	**1.45**	**252**	*e*P	**Pg**	**19 00 10.7**	**-0.2**
	baz=250						
WRL				*e*S	**Sg**	**19 00 30.2**	**+0.4**
	baz=250						
EDH	**Donghe**	**1.47**	**202**	*e*P	**Pg**	**19 00 10.9**	**-0.4**
	baz=181						
WTK	**Tuku**	**1.52**	**245**	*e*P	**Pg**	**19 00 12.8**	**+0.6**
	baz=242						
WTK				*e*S	**Sg**	**19 00 34.7**	**+2.6**
	baz=242						
CHN4	**Tsaushan**	**1.55**	**230**	⇑*i*P	**Pg**	**19 00 13.8**	**+1.0**
	baz=214						
CHN4				S	**Sg**	**19 00 35.1**	**+2.2**
	baz=214						
STYH	**Taoyuan**	**1.56**	**221**	*e*P	**Pg**	**19 00 12.8**	**-0.1**
	baz=217						
TPUB	**Ta-pu**	**1.56**	**228**	P	**Pg**	**19 00 13.2**	**+0.2**
	baz=209						
STYT	**Tauyuan**	**1.57**	**222**	*e*P	**Pg**	**19 00 13.7**	**+0.5**
	baz=217						
WTP	**Ta-pu**	**1.60**	**227**	*e*P	**Pg**	**19 00 13.8**	**0.0**
	baz=213						
WTP				*e*S	**Sg**	**19 00 37.3**	**+2.7**
	baz=213						
IRIF	**Iriomote-Funau**	**1.68**	**90**	P	**Pb**	**19 00 13.9**	**-0.5**
IRIF				S	**Sg**	**19 00 35.9**	**-1.1**
TWK	**Hsinying**	**1.68**	**230**	P	**Pg**	**19 00 16.0**	**+0.8**
	baz=213						
TWK				*e*S	**Sg**	**19 00 38.7**	**+1.7**
	baz=213						
CHN1	**Nanshi**	**1.70**	**227**	*e*P	**Pg**	**19 00 16.6**	**+0.9**
	baz=211						
CHN1				*e*S	**Sg**	**19 00 40.7**	**+2.8**
	baz=211						
WSL	**Shuilin Townsh**	**1.73**	**242**	*e*P	**Pg**	**19 00 16.3**	**0.0**
	baz=254						
WSL				*e*S	**Sg**	**19 00 40.6**	**+1.9**
	baz=254						
SGST	**Jiashian**	**1.74**	**224**	*e*P	**Pg**	**19 00 16.3**	**-0.1**
	baz=207						
HATJ	**Hateruma jima**	**1.77**	**99**	*e*S	**Sg**	**19 00 38.7**	**-1.3**
JKRS	**Kuro-shima**	**1.94**	**93**	P	**Pb**	**19 00 18.2**	**-0.6**
JKRS				S	**Sb**	**19 00 42.7**	**-0.6**
SSD	**Sandimen**	**1.97**	**216**	*e*P	**Pg**	**19 00 20.2**	**-0.6**
	baz=212						
TSMG	**Majia**	**2.00**	**215**	*e*P	**Pg**	**19 00 20.0**	**-1.3**
	baz=212						
JIJ	**Ishigaki jima**	**2.05**	**89**	P	**Pb**	**19 00 19.3**	**-1.5**
JIJ				S	**Sn**	**19 00 43.8**	**-0.4**
MASBT	**Mashibuluo**	**2.08**	**214**	*e*P	**Pb**	**19 00 21.0**	**-0.2**
	baz=211						
JISG	**Ishigakijimahi**	**2.22**	**83**	P	**Pn**	**19 00 21.2**	**+0.7**
JISG				S	**Sn**	**19 00 48.7**	**+0.4**
JTJ	**Tarama**	**2.58**	**83**	P	**Pn**	**19 00 27.0**	**+1.6**
JTJ				S	**Sn**	**19 00 58.6**	**+1.4**

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*IDC **01** 19:07:01.0±0.9, 37.°86N×110.°42W, h0^{km}, mb3.9/1, mb1 3.6/6, mb1mx3.4/48, mbtmp3.3/6, ML3.6/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/88, Error ellipse: s-maj=13.4km s-min=9.3km az=57.0*

*UUSS **01** 19:07:02.6±2.1, 37.°76N±0.°02×110.°64W±0.°03, h14^{km}±5^{km}, ML3.8/17, ML4.0/115(NEIC), Error ellipse: s-maj=3.8km s-min=2.4km az=75.0*

*NEIC **01** 19:07:03.6±2.1, 37.°78N±0.°03×110.°68W±0.°03, h16^{km}±7^{km}, Error ellipse: s-maj=4.3km s-min=3.6km az=176.0*

*ANF **01** 19:07:04.1±1.2, 37.°76N×110.°64W, h17^{km}±9^{km}, ML4.1/19, Error ellipse: s-maj=2.3km s-min=1.6km az=169.0*

ISC 01 19:07:05.7±0.9, **37.°80N**±0.°03×**110.°66W**±0.°02, **h27**^{km}±9^{km}, **n159**, σ**1^{s}50**/178, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMU	**Henry Mountain**	**0.15**	**335**		**Pb**	**19 07 10.8**	**-0.7**
MMU	**Miners Mountai**	**0.64**	**309**		**Pb**	**19 07 15.4**	**-3.1**
BTU	**Barney Top**	**0.96**	**268**		**Pn**	**19 07 21.4**	**-2.4**
PGAZ	**Page**	**1.10**	**216**		**Pn**	**19 07 22.2**	**-3.2**
OWUT	**Old Woman Plat**	**1.15**	**329**		**Pn**	**19 07 24.8**	**-1.5**
Q16A	**Castle Valley**	**1.19**	**340**		**Pn**	**19 07 24.9**	**-1.8**
Q16A				Sg	**Sn**	**19 07 41.3**	**-0.8**
Q16A				IAML		19 07 43.2	
	comp=N,2μm,0.5s						
Q16A				IAML		19 07 48.2	
	comp=E,2μm,0.5s						
R19A	**Curley Farm, L**	**1.21**	**66**		**Pn**	**19 07 25.1**	**-2.0**
MTPU	**Mount Pierson**	**1.23**	**282**		**Pn**	**19 07 26.1**	**-1.4**
MTPU				Sn	**Sn**	**19 07 42.1**	**-1.3**
MTPU				IAML		19 07 43.2	
	comp=E,2μm,0.6s						
MTPU				IAML		19 07 43.9	
	comp=N,2μm,0.4s						
SRU	**San Rafael Swe**	**1.31**	**5**		**Pn**	**19 07 27.1**	**-1.4**
SRU				Sn	**Sn**	**19 07 44.4**	**-0.9**
SRU				IAML		19 07 47.7	
	comp=N,3μm,0.6s						
SRU				IAML		19 07 48.3	
	comp=E,4μm,0.5s						
PKCU	**Pink Cliffs**	**1.36**	**255**		**Pn**	**19 07 28.1**	**-1.1**
PKCU				Sn	**Sn**	**19 07 45.3**	**-1.1**
MSU	**Marysvale**	**1.39**	**301**		**Pn**	**19 07 29.0**	**-0.6**
PV10	**Paradox Valley**	**1.40**	**65**		**Pn**	**19 07 27.8**	**-1.9**
PV23	**Carpenter Ridg**	**1.46**	**63**		**Pn**	**19 07 29.4**	**-1.1**
PV23				Sn	**Sn**	**19 07 49.2**	**+0.4**
PV11	**David Mesa, Pa**	**1.50**	**70**		**Pn**	**19 07 30.0**	**-1.0**
PV13	**Radium Mtn., P**	**1.50**	**76**	Sn	**Sn**	**19 07 49.7**	**-0.1**
DBD	**Des Bee Dove**	**1.55**	**348**		**Pn**	**19 07 31.8**	**0.0**
TMUT	**Trail Mountain**	**1.56**	**344**		**Pn**	**19 07 32.0**	**0.0**
TMUT				IAML		19 07 55.9	
	comp=E,2μm,0.7s						
TMUT				IAML		19 07 59.0	
	comp=N,3μm,0.6s						
WCU	**Willow Creek**	**1.62**	**316**		**Pn**	**19 07 33.1**	**+0.3**
TCRU	**Three Creeks R**	**1.62**	**300**		**Pn**	**19 07 32.8**	**+0.1**
EKU	**East Kanab**	**1.63**	**244**		**Pn**	**19 07 32.1**	**-0.7**
SNO	**Snow College**	**1.66**	**336**		**Pn**	**19 07 34.0**	**+0.7**
P17A	**Butcher Ranch,**	**1.67**	**358**		**Pn**	**19 07 33.5**	**+0.1**
P17A				IAML		19 07 55.7	
	comp=N,3μm,0.5s						
PV07	**Paradox Valley**	**1.71**	**68**	Pn	**Pn**	**19 07 33.8**	**-0.2**
PV15	**Paradox Valley**	**1.80**	**72**		**Pn**	**19 07 34.9**	**-0.4**
MVCO	**Mesa Verde**	**1.82**	**108**		**Pn**	**19 07 34.6**	**-0.9**
MVCO				IAML		19 08 01.7	
	comp=N,2μm,0.5s						
MVCO				IAML		19 08 05.4	
	comp=N,2μm,0.5s						
MVCO	**Mesa Verde**	**1.82**	**108**	P	**Pn**	**19 07 34.6**	**-0.9**
	baz=289,SNR=503						
MVCO				S	**Sn**	**19 07 57.8**	**+0.1**
	baz=289						
P18A	**Preston Nutter**	**1.85**	**10**		**Pn**	**19 07 36.4**	**+0.4**
P18A				IAML		19 08 03.5	
	comp=N,2μm,0.3s						
P18A				IAML		19 08 04.2	
	comp=E,2μm,0.4s						
KNB	**Kanab**	**1.89**	**246**		**Pn**	**19 07 35.5**	**-0.9**
KNB				IAML		19 08 02.0	
	comp=N,3μm,0.2s						
U15A	**North Rim**	**1.89**	**224**		**Pn**	**19 07 35.5**	**-1.0**
U15A				IAML		19 08 01.7	
	comp=E,2μm,0.5s						
U15A				IAML		19 08 02.1	
	comp=N,2μm,0.3s						
SZCU	**Shurtz Canyon**	**1.94**	**265**		**Pn**	**19 07 36.8**	**-0.2**
SZCU				IAML		19 08 05.1	
	comp=N,3μm,0.3s						
CCUT	**Cedar City**	**2.16**	**264**		**Pn**	**19 07 39.6**	**-0.5**
CCUT				IAML		19 08 09.9	
	comp=N,690nm,0.7s						
CCUT				IAML		19 08 12.0	
	comp=E,492nm,0.4s						
LCMT	**Little Creek M**	**2.20**	**250**		**Pn**	**19 07 40.0**	**-0.6**
MPU	**Maple Canyon**	**2.34**	**341**		**Pn**	**19 07 43.5**	**+1.0**
MPU				IAML		19 08 18.6	
	comp=E,374nm,0.8s						
WUAZ	**Wupatki**	**2.35**	**194**		**Pn**	**19 07 42.0**	**-0.7**
WUAZ	**Wupatki**	**2.35**	**194**	P	**Pn**	**19 07 42.0**	**-0.7**
	baz=15,SNR=929						
WUAZ				S	**Sn**	**19 08 11.9**	**+1.2**
	baz=15						
PSUT	**Pine Spring**	**2.62**	**287**		**Pn**	**19 07 46.5**	**0.0**
W18A	**Petrified Fore**	**2.78**	**164**		**Pn**	**19 07 47.2**	**-1.4**
W18A				IAML		19 08 32.1	
	comp=E,851nm,0.4s						
W18A				IAML		19 08 38.4	
	comp=N,823nm,0.8s						
W18A	**Petrified Fore**	**2.78**	**164**	P	**Pn**	**19 07 47.6**	**-1.0**
	baz=345,SNR=128						
JLU	**Jordanelle**	**2.87**	**348**		**Pn**	**19 07 50.9**	**+1.0**
JLU				IAML		19 08 34.3	
	comp=N,235nm,0.9s						
JLU				IAML		19 08 39.3	
	comp=E,260nm,0.8s						
DUG	**Dugway, Tooele**	**2.92**	**326**		**Pn**	**19 07 50.2**	**-0.4**
DUG	**Dugway, Tooele**	**2.92**	**326**	P	**Pn**	**19 07 51.1**	**+0.6**
	baz=144						
DUG				Sb	**Sb**	**19 08 33.8**	**+1.3**
	baz=144						
O20A	**White River Ci**	**3.00**	**38**		**Pn**	**19 07 52.0**	**+0.3**
O20A				IAML		19 08 41.0	
	comp=N,851nm,0.8s						
O20A	**White River Ci**	**3.00**	**38**	P	**Pn**	**19 07 52.1**	**+0.3**
	baz=219						
S22A	**4UR Ranch, Cre**	**3.04**	**90**		**Pn**	**19 07 51.6**	**-0.7**
S22A	**4UR Ranch, Cre**	**3.04**	**90**	P	**Pn**	**19 07 51.6**	**-0.7**
	baz=271,SNR=53						
S22A				Sb	**Sb**	**19 08 36.5**	**+0.5**
	baz=271						
SMCO	**Snowmass**	**3.20**	**63**		**Pn**	**19 07 54.7**	**+0.1**
SMCO				IAML		19 08 40.8	
	comp=N,729nm,0.4s						
X18A	**Snowflake**	**3.31**	**170**	Pn	**Pn**	**19 07 54.5**	**-1.5**
X18A					**Pn**	**19 07 55.2**	**-0.8**
X18A				IAML		19 08 46.2	
	comp=N,536nm,0.9s						
X16A	**Lo Mia Camp, P**	**3.43**	**191**		**Pn**	**19 07 56.7**	**-0.9**
X16A				IAML		19 08 53.0	
	comp=E,553nm,0.8s						
X16A				IAML		19 08 58.7	
	comp=N,375nm,0.7s						
PRN	**Pahroc Range**	**3.51**	**265**		**Pn**	**19 07 58.0**	**-0.6**
PRN				IAML		19 09 00.8	
	comp=N,299nm,0.7s						
PRN				IAML		19 09 07.5	
	comp=E,340nm,0.8s						
BGU	**Big Grassy Mou**	**3.62**	**330**		**Pn**	**19 08 00.1**	**-0.1**
W13A	**Hualapai Mount**	**3.74**	**225**	Pn	**Pn**	**19 08 00.6**	**-1.3**
W13A				IAML		19 09 28.0	
	comp=N,364nm,1.6s						
SHPR	**Sheep Range**	**3.82**	**252**		**Pn**	**19 08 01.8**	**-1.1**
SHPR				IAML		19 09 00.8	
	comp=E,367nm,0.5s						
R11A	**Troy Canyon, C**	**3.92**	**280**		**Pn**	**19 08 03.4**	**-0.9**
R11A	**Troy Canyon, C**	**3.92**	**280**	P	**Pn**	**19 08 03.7**	**-0.6**
	baz=97,SNR=26						
R11A				Sb	**Sb**	**19 09 04.1**	**+2.7**
	baz=97						
S11A	**Rachel**	**4.04**	**269**		**Pn**	**19 08 05.2**	**-0.6**
S11A				IAML		19 09 10.8	
	comp=E,301nm,0.8s						
S11A				IAML		19 09 15.7	
	comp=N,357nm,0.8s						
SDCO	**Great Sand Dun**	**4.09**	**89**	Pn	**Pn**	**19 08 06.8**	**+0.1**
SDCO	**Great Sand Dun**	**4.09**	**89**	Sb	**Sb**	**19 09 07.4**	**+1.2**
	baz=272						
HVU	**Hansel Valley**	**4.30**	**338**		**Pn**	**19 08 09.9**	**+0.5**
Y14A	**Wickenburg**	**4.30**	**207**		**Pn**	**19 08 07.2**	**-2.2**
Y14A				IAML		19 09 18.6	
	comp=N,218nm,0.6s						
Y14A				IAML		19 09 20.7	
	comp=E,122nm,0.6s						
ISCO	**Idaho Springs**	**4.42**	**62**		**Pn**	**19 08 10.2**	**-1.1**
ISCO	**Idaho Springs**	**4.42**	**62**	P	**Pn**	**19 08 10.7**	**-0.6**
	baz=244,SNR=10						
ISCO				Sb	**Sb**	**19 09 17.9**	**+2.1**
	baz=244						
ANMO	**Albuquerque**	**4.43**	**129**	Pn	**Pn**	**19 08 09.7**	**-1.6**
	comp=E,5.0nm,0.3s,baz=317,slow=12,SNR=61						
ANMO				Pg	**Pb**	**19 08 23.9**	**+1.0**
	comp=E,6.9nm,0.3s,baz=311,slow=13,SNR=9.4						
ANMO				Lg	Lg	19 09 15.8	
	comp=E,5.6nm,0.3s,baz=211,slow=23,SNR=9.9						
ANMO	**Albuquerque**	**4.43**	**129**		**Pn**	**19 08 10.1**	**-1.3**
ANMO	**Albuquerque**	**4.43**	**129**	P	**Pn**	**19 08 09.8**	**-1.5**
	baz=311						
ANMO				Sb	**Sb**	**19 09 16.1**	**+0.2**
	baz=311						
PDMCI	**Parker Dam,Lak**	**4.49**	**220**	P	**Pn**	**19 08 10.7**	**-1.2**
	baz=38						
PDMCI				Sb	**Sb**	**19 09 18.7**	**+1.3**
	baz=38						
Q24A	**Divide**	**4.49**	**73**		**Pn**	**19 08 11.6**	**-0.6**
Q24A				IAML		19 09 22.3	
	comp=N,88nm,0.7s						
Q24A				IAML		19 09 28.1	
	comp=E,71nm,0.3s						
Q24A	**Divide**	**4.49**	**73**	Sb	**Sb**	**19 09 19.9**	**+2.3**
	baz=256						
TPNV	**Topopah Spring**	**4.53**	**261**		**Pn**	**19 08 11.4**	**-1.3**
TPNV				IAML		19 09 27.0	
	comp=E,65nm,0.5s						
TPNV	**Topopah Spring**	**4.53**	**261**	P	**Pn**	**19 08 11.7**	**-1.0**
	baz=78,SNR=21						
TPNV				Sb	**Sb**	**19 09 21.5**	**+2.6**
	baz=78						
ELK	**Elko**	**4.61**	**311**	Pn	**Pn**	**19 08 16.0**	**+2.1**
	comp=E,0.5nm,0.3s,baz=118,slow=15,SNR=6.0						
ELK				Pg	Pb	19 08 31.5	+5.5
	comp=E,0.9nm,0.3s,baz=114,slow=10,SNR=6.6						
ELK				Lg	Lg	19 09 25.2	
	comp=E,1.2nm,0.3s,baz=27,slow=22,SNR=6.6						
ELK	**Elko**	**4.61**	**311**		**Pn**	**19 08 12.4**	**-1.5**
LENM	**Lemitar**	**4.70**	**139**		**Pn**	**19 08 11.7**	**-3.3**
RWWY	**Rawlins**	**4.71**	**33**		**Pn**	**19 08 14.1**	**-1.1**
N23A	**Red Feather La**	**4.79**	**48**		**Pn**	**19 08 17.4**	**+1.1**
N23A				IAML		19 09 36.5	
	comp=N,152nm,0.8s						
N23A				IAML		19 09 37.4	
	comp=E,216nm,0.6s						
N23A	**Red Feather La**	**4.79**	**48**	P	**Pn**	**19 08 16.8**	**+0.5**
	baz=231,SNR=11						
N23A				Sb	**Sb**	**19 09 27.7**	**+1.4**
	baz=231						
Y22D	**IRIS PASSCAL I**	**4.80**	**140**		**Pn**	**19 08 16.3**	**0.0**
Y22D	**IRIS PASSCAL I**	**4.80**	**140**	Sb	**Sb**	**19 09 28.0**	**+1.5**
	baz=322						
TUQ	**Turquoise Moun**	**4.84**	**242**	P	**Pn**	**19 08 15.8**	**-1.1**
	baz=60						
BNM	**Barren Site**	**4.89**	**137**		**Pn**	**19 08 16.1**	**-1.7**
AHID	**Auburn Hatcher**	**4.97**	**356**		**Pn**	**19 08 18.9**	**+0.2**
AHID				IAML		19 09 45.5	
	comp=E,115nm,0.7s						
AHID				IAML		19 09 52.0	
	comp=E,97nm,0.7s						
T25A	**Trinidad**	**5.02**	**96**		**Pn**	**19 08 18.1**	**-1.3**
T25A				IAML		19 09 40.9	
	comp=N,122nm,1.0s						
T25A				IAML		19 09 43.2	
	comp=E,101nm,0.8s						
T25A	**Trinidad**	**5.02**	**96**	P	**Pn**	**19 08 19.3**	**-0.1**
	baz=279,SNR=8.2						
BW06	**Boulder Array**	**5.03**	**9**		**Pn**	**19 08 19.3**	**-0.3**
BW06				IAML		19 09 53.6	
	comp=E,60nm,0.6s						
BW06				IAML		19 09 54.0	
	comp=E,100nm,0.8s						
BW06	**Boulder Array**	**5.03**	**9**	P	**Pn**	**19 08 19.6**	**0.0**
	baz=190						
PD31	**Pinedale Array**	**5.03**	**9**		**Pn**	**19 08 19.0**	**-0.7**
PDAR	**Pinedale Array**	**5.03**	**9**	Pn	**Pn**	**19 08 18.8**	**-0.8**
	comp=E,0.9nm,0.3s,baz=177,slow=11,SNR=16						
PDAR				Pg	**Pb**	**19 08 32.5**	**-0.7**
	comp=E,2.9nm,0.3s,baz=162,slow=12,SNR=11						
PDAR				Lg	Lg	19 09 34.3	
	comp=E,3.5nm,0.3s,baz=172,slow=20,SNR=1.8						
PDAR				LR	LR	19 10 25.9	
	comp=E,81nm,21.2s,baz=162,slow=41						
PDAR	**Pinedale Array**	**5.03**	**9**		**Pn**	**19 08 19.7**	**0.0**
GMRC	**Granite Mounta**	**5.03**	**235**	P	**Pn**	**19 08 18.0**	**-1.5**
	baz=52,SNR=32						
GWY	**Greenwater Val**	**5.07**	**253**		**Pn**	**19 08 18.1**	**-2.0**
GWY				IAML		19 09 49.8	
	comp=N,80nm,0.9s						
GWY				IAML		19 09 50.6	
	comp=E,73nm,1.0s						
BLYC	**Blythe**	**5.12**	**219**		**Pn**	**19 08 18.5**	**-2.0**
BLYC				IAML		19 09 46.5	
	comp=N,116nm,0.9s						
BLYC				IAML		19 09 46.8	
	comp=E,98nm,1.0s						
IRM	**Iron Mountain**	**5.14**	**226**	P	**Pn**	**19 08 19.7**	**-1.3**
	baz=44						
TPH	**Tonopah**	**5.19**	**275**		**Pn**	**19 08 20.0**	**-1.8**
Q09A	**Carvers**	**5.23**	**283**	Pn	**Pn**	**19 08 23.4**	**+1.1**
Q09A				IAML		19 09 48.0	
	comp=E,121nm,0.8s						
ECR	**Eagle Creek**	**5.28**	**354**		**Pn**	**19 08 21.9**	**-1.1**
QSM	**Queen of Sheba**	**5.30**	**252**		**Pn**	**19 08 23.0**	**-0.2**
QSM				IAML		19 10 00.7	
	comp=N,40nm,0.8s						
QSM				IAML		19 10 00.8	
	comp=E,41nm,0.8s						
PHWY	**Pilot Hill**	**5.33**	**47**		**Pn**	**19 08 24.3**	**+0.5**
PHWY				IAML		19 09 54.4	
	comp=E,53nm,0.6s						
PHWY				IAML		19 09 57.5	
	comp=E,61nm,0.9s						
GRAC	**Grapevine Rang**	**5.40**	**263**		**Pn**	**19 08 23.9**	**-0.6**
HEC	**Hector,Ludlow**	**5.46**	**239**	P	**Pn**	**19 08 23.8**	**-1.5**
	baz=56,SNR=22						
TUC	**Tucson**	**5.48**	**181**		**Pn**	**19 08 21.6**	**-4.1**
TUC	**Tucson**	**5.48**	**181**	Pb	**Pb**	**19 08 40.2**	**-0.5**
	baz=1.2						
GSC	**Goldstone, Bar**	**5.54**	**245**		**Pn**	**19 08 23.1**	**-3.3**
REDW	**Red Top Meadow**	**5.56**	**359**		**Pn**	**19 08 23.7**	**-3.2**
LCH	**Last Change Ra**	**5.58**	**266**		**Pn**	**19 08 24.5**	**-2.5**
113A	**Mohawk Valley,**	**5.62**	**208**		**Pn**	**19 08 24.1**	**-3.5**
SNOW	**Snow King Moun**	**5.66**	**359**		**Pn**	**19 08 26.3**	**-2.0**
TPAW	**Teton Pass**	**5.69**	**358**		**Pn**	**19 08 27.1**	**-1.6**
BMN	**Battle Mountai**	**5.74**	**299**	Pn	**Pn**	**19 08 26.9**	**-2.4**
MPMC	**Manual Prospec**	**5.74**	**254**	P	**Pn**	**19 08 29.0**	**-0.3**
	baz=71						
BELC	**Belle Mtn. Jos**	**5.75**	**230**	P	**Pn**	**19 08 28.3**	**-1.2**
	baz=48						
121A	**Cookes Peak, D**	**5.76**	**155**		**Pn**	**19 08 26.4**	**-3.2**
K22A	**Casper**	**5.79**	**32**		**Pn**	**19 08 27.3**	**-2.7**
K22A	**Casper**	**5.79**	**32**	P	**Pn**	**19 08 29.8**	**-0.1**
	baz=214						
LOHW	**Long Hollow**	**5.81**	**0**		**Pn**	**19 08 28.9**	**-1.4**
GLA	**Glamis**	**5.83**	**217**		**Pn**	**19 08 29.0**	**-1.4**
GLA	**Glamis**	**5.83**	**217**	P	**Pn**	**19 08 29.5**	**-0.9**
	baz=35						
NV11	**Mina Array Sit**	**5.94**	**278**		**Pn**	**19 08 30.7**	**-1.4**
MOOW	**Moose Ponds**	**5.94**	**359**		**Pn**	**19 08 29.9**	**-2.3**
KVN	**Kaiserville**	**5.97**	**284**		**Pn**	**19 08 29.5**	**-3.0**
NVAR	**Mina Array Bea**	**6.06**	**278**	Pn	**Pn**	**19 08 36.0**	**+2.3**
	comp=E,0.5nm,0.3s,baz=94,slow=13,SNR=8.2						
NVAR				Pg	**Pb**	**19 08 52.4**	**+1.7**
	comp=E,1.8nm,0.3s,baz=266,slow=28,SNR=9.1						
NVAR				Lg	Lg	19 10 08.7	
	baz=313,slow=55,SNR=1.4						
NVAR	**Mina Array Bea**	**6.06**	**278**		**Pn**	**19 08 31.5**	**-2.2**

214A	Organ Pipe Nat	6.09	197		Pn	19 08 31.1	-2.9
214A	Organ Pipe Nat	6.09	197	P	Pn	19 08 34.5	+0.5
	baz=16,SNR=12						
LHV	Little Huntoon	6.21	277		Pn	19 08 33.9	-1.6
RYN	Ryan	6.25	280		Pn	19 08 33.0	-3.2
FLWY	Flagg Ranch	6.28	360		Pn	19 08 36.5	-0.2
PFO	Pinyon Flats O	6.30	230	Pn	Pn	19 08 36.2	-0.8
	comp=E,0.5nm,0.3s,baz=37,slow=10,SNR=4.0						
PFO				Lg	Lg	19 10 17.0	
	comp=E,1.2nm,0.3s,baz=348,slow=7.7,SNR=3.9						
PFO	Pinyon Flats O	6.30	230		Pn	19 08 34.6	-2.4
PFO	Pinyon Flats O	6.30	230	P	Pn	19 08 35.6	-1.4
	baz=47						
SWSC	Sam W. Stewart	6.41	222	P	Pn	19 08 37.2	-1.1
	baz=40						
HLID	Hailey	6.42	335		Pn	19 08 39.3	+0.6
CCAC	Calif City Air	6.49	248		Pn	19 08 40.4	+1.0
319A	Douglas	6.51	170		Pn	19 08 38.3	-1.5
H17A	Grant Village	6.59	1		Pn	19 08 40.9	-0.1
ISA	Isabella, Lake	6.63	254		Pn	19 08 39.4	-1.9
YFT	Old Faithful	6.65	359		Pn	19 08 40.9	-0.9
YUH	Yuha Desert	6.70	222		Pn	19 08 41.4	-1.0
LKWY	Lake	6.76	2		Pn	19 08 40.6	-2.8
MONP2	Monument Peak	6.79	226	P	Pn	19 08 42.5	-1.3
	baz=42						
IKP	In-Ko-Pah, Jac	6.80	223	P	Pn	19 08 43.3	-0.5
	baz=40						
RMX	La Rumorosa	6.82	222		Pn	19 08 41.3	-2.8
BCYI	Bear Canyon	6.83	343		Pn	19 08 43.1	-1.2
YERR	Yerington	6.84	283	Pn	Pn	19 08 43.4	-1.1
ELS	Elsinore Mount	6.89	235		Pn	19 08 44.1	-0.8
YMP	Mirror Lake Pl	6.95	3	Pn	Pn	19 08 43.2	-2.7
YHH	Holmes Hill	6.98	359		Pn	19 08 44.9	-1.6
PAHR	Pah Rah Range	7.08	288	Pn	Pn	19 08 47.1	-0.5
BAR	Barrett	7.09	226		Pn	19 08 45.1	-2.5
PNTR	Pine Nut	7.13	283	Pn	Pn	19 08 48.0	-0.5
MCMT	McKenzie Canyo	7.21	348	Pn	Pn	19 08 48.6	-0.9
CBX	Cerro Bola	7.36	224		Pn	19 08 50.1	-1.4
OGNE	Ogallala	7.38	62		Pn	19 08 50.3	-1.5
RLMT	Red Lodge	7.39	8		Pn	19 08 51.6	-0.4
MNTX	Cornudas Mount	7.48	143		Pn	19 08 51.2	-1.8
BEKR	Beckworth	7.85	288	Pn	Pn	19 08 59.4	+1.2
RSSD	Black Hills	8.06	36		Pn	19 09 00.3	-0.8
RSSD	Black Hills	8.06	36	P	Pn	19 09 00.4	-0.8
	baz=220						
LAO	LASA Array	9.47	19	Pn	Pn	19 09 18.7	-1.7
TXAR	Lajitas Array	10.26	143	Pn	Pn	19 09 29.3	-1.9
	comp=E,0.1nm,0.3s,baz=323,slow=11,SNR=1.3						
TXAR				Lg	Lg	19 12 23.4	
	comp=E,0.3nm,0.3s,baz=336,slow=27,SNR=5.9						
YKA	Yellowknife Ar	24.84	356	P	P	19 12 25.8	+0.3
	comp=E,2.0nm,0.6s,baz=170,slow=9.9,SNR=32						

*IDC **01** 19:12:33.2±1.6, 61°.46N×152°.47W, h116km±27km, mb3.3/4, mb1 3.2/8, mb1mx3.1/53, mbtmp3.6/8, Error ellipse: s-maj=40.7km s-min=9.6km az=112.0*

*NEIC **01** 19:12:34.5±1.3, 61°.47N±0°.04×152°.43W±0°.08, h146km±4km, Error ellipse: s-maj=5.7km s-min=5.5km az=132.0*

*AEIC **01** 19:12:35±1.3, 61°.45N±0°.04×152°.39W±0°.08, h144km±4km, ML3.2, ML3.5/154(NEIC), Error ellipse: s-maj=5.9km s-min=5.5km az=187.0*

*ANF **01** 19:12:35.8±0.2, 61°.46N×152°.38W, h128km±3km, ML3.7/47, ML3.7/48, Error ellipse: s-maj=2.1km s-min=1.9km az=88.0*

ISC 01 19:12:35.1±0.7**, 61°.45N**±0°.03×**152°.40W**±0°.03**, h146**km±5km**, n204,** σ1.08/256**, mb3.6**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNN	North Nagishla	0.17	239		Pn	19 12 54.5	-0.5
SPNN					Sn	19 13 09.2	-0.9
BGL	Barrier Glacie	0.19	178		Pn	19 12 54.7	-0.3
SPWE	Spurr West	0.19	202		Pn	19 12 54.6	-0.4
SPCG	Spurr Capps Gl	0.24	131		Pn	19 12 54.3	-0.8
SPCG					Sn	19 13 09.6	-0.7
SPCN	Chakachatna No	0.25	155		Pn	19 12 54.4	-0.6
SPCR	Spurr Chakacha	0.27	160		Pn	19 12 54.3	-0.8
SPCR					Sn	19 13 09.8	-0.5
SPCR	Spurr Chakacha	0.27	160	P	Pn	19 12 54.4	-0.8
	baz=341,SNR=60						
SPCR				S	Sn	19 13 09.1	-1.2
	baz=341						
STLK	Strandline Lak	0.28	80		Pn	19 12 54.6	-0.5
SPU	Mount Spurr	0.32	148		Pn	19 12 54.5	-0.8
DFR	Drift River	0.88	189		Pn	19 12 58.1	-0.5
RDT	Redoubt	0.88	180		Pn	19 12 58.0	-0.6
CAPN	Captain Cook N	0.92	138	Pn	Pn	19 12 59.7	+1.0
CAPN				Sn	Sn	19 13 18.8	+2.2
CAPN	Captain Cook N	0.92	138	P	Pn	19 12 59.6	+1.0
	baz=319						
NCT	North Crescent	0.93	196		Pn	19 12 58.6	-0.3
NCT					Sn	19 13 16.3	-0.8
RSO	Redoubt South	1.01	190		Pn	19 12 59.3	-0.5
M19K	Big River Lodg	1.05	296		Pn	19 12 59.4	-0.5
M19K				Sn	Sn	19 13 17.5	-1.2
FIS	Fire Island	1.10	105	Pn	Pn	19 13 00.7	+0.5
FIS				Sn	Sn	19 13 19.1	-0.3
FIS				IAML		19 13 21.8	
	comp=E,2μm,0.7s						
FIS				IAML		19 13 22.0	
	comp=N,1μm,0.7s						
M22K	Willow	1.13	74		Pn	19 13 00.0	-0.5
M22K				Sn	Sn	19 13 19.3	-0.6
M22K				IAML		19 13 20.5	
	comp=N,1μm,0.6s						
M22K				IAML		19 13 20.6	
	comp=E,2μm,0.7s						
M22K	Willow	1.13	74	P	Pn	19 13 00.1	-0.5
	baz=255,SNR=27						
M22K				S	Sn	19 13 19.6	-0.4
	baz=255						
N19K	Bonanza Creek	1.20	238		Pn	19 13 00.6	-0.7
N19K				Sn	Sn	19 13 19.6	-1.7
L20K	Farewell, AK	1.24	327		Pn	19 13 01.4	-0.3
RC01	Rabbit Creek A	1.34	105		Pn	19 13 02.0	-0.6
RC01				Sn	Sn	19 13 22.4	-1.2
RC01				IAML		19 13 24.1	
	comp=E,605nm,0.4s						
RC01				IAML		19 13 24.4	
	comp=N,664nm,0.2s						
RC01	Rabbit Creek A	1.34	105	P	Pn	19 13 02.0	-0.6
	baz=287,SNR=13						
RC01				S	Sn	19 13 23.0	-0.6
	baz=287						
L19K	White Mountain	1.37	303		Pn	19 13 02.5	-0.5
L19K				Sn	Sn	19 13 23.1	-1.3
L19K	White Mountain	1.37	303	P	Pn	19 13 02.7	-0.3
	baz=121,SNR=39						
L19K				S	Sn	19 13 23.3	-1.0
	baz=121						
O20K	Slope Mountain	1.38	185		Pn	19 13 02.7	-0.5
O20K					Sn	19 13 23.7	-0.8
O20K	Slope Mountain	1.38	185	P	Pn	19 13 02.6	-0.5
	baz=4.8						
O20K				S	Sn	19 13 23.6	-0.9
	baz=4.8						
CUT	Chulitna	1.39	46		Pn	19 13 02.7	-0.3
CUT				Sn	Sn	19 13 23.9	-0.7
CUT				IAML		19 13 25.3	
	comp=N,776nm,0.8s						
CUT	Chulitna	1.39	46	P	Pn	19 13 02.8	-0.3
	baz=227,SNR=40						
CUT				S	Sn	19 13 23.9	-0.7
	baz=227						
SLKM	Skilak Lake	1.43	131		Pn	19 13 03.0	-0.6
PPLA	Purkeypile	1.45	4		Pn	19 13 03.8	-0.2
PPLA	Purkeypile	1.45	4	P	Pn	19 13 03.7	-0.2
	baz=184,SNR=25						
PPLA				S	Sn	19 13 24.9	-1.1
	baz=184						
O19K	Port Alsworth	1.57	217	Pn	Pn	19 13 04.6	-0.4
O19K				Sn	Sn	19 13 27.2	-0.7
O19K				IAML		19 13 28.0	
	comp=N,262nm,0.6s						
O19K				IAML		19 13 28.8	
	comp=E,455nm,0.5s						
O19K	Port Alsworth	1.57	217	P	Pn	19 13 04.7	-0.4
	baz=36,SNR=7.1						
O19K				S	Sn	19 13 27.4	-0.5
	baz=36						
PMR	Palmer	1.57	83		Pn	19 13 03.7	-1.3
PMR				Sn	Sn	19 13 26.0	-2.0
PMR				IAML		19 13 27.2	
	comp=E,329nm,0.6s						
PMR				IAML		19 13 27.2	
	comp=N,337nm,0.3s						
PMR	Palmer	1.57	83	P	Pn	19 13 03.7	-1.3
	baz=266,SNR=6.9						
PMR				S	Sn	19 13 26.4	-1.5
	baz=266						
SVW2	Sparrevohn	1.58	258	Pn	Pn	19 13 02.9	-2.2
SVW2				Sn	Sn	19 13 25.3	-2.8
O22K	Cooper Landing	1.63	126		Pn	19 13 05.1	-0.6
O22K				Sn	Sn	19 13 26.6	-2.5
O22K	Cooper Landing	1.63	126	P	Pn	19 13 05.3	-0.3
	baz=308,SNR=12						
O22K				S	Sn	19 13 27.2	-1.9
	baz=308						
GHO	Glory Hole Cre	1.69	78		Pn	19 13 05.4	-1.1
GHO	Glory Hole Cre	1.69	78	IAML		19 13 30.2	
	comp=E,249nm,0.5s						
GHO				IAML		19 13 30.9	
	comp=N,382nm,0.5s						
HOM	Homer	1.84	168	Pn	Pn	19 13 06.0	-2.1
HOM				Sn	Sn	19 13 33.1	-0.1
HOM				IAML		19 13 34.0	
	comp=N,659nm,1.6s						
HOM				IAML		19 13 36.5	
	comp=E,629nm,0.6s						
HOM	Homer	1.84	168	S	Sn	19 13 33.2	-0.1
	baz=349						
BRLK	Bradley Lake	1.85	156		Pn	19 13 07.0	-1.2
BRLK				Sn	Sn	19 13 31.4	-2.2
BRLK				IAML		19 13 34.5	
	comp=E,582nm,0.2s						
BRLK				IAML		19 13 35.0	
	comp=N,587nm,0.1s						
OPT	Oil Point	1.85	193		Pn	19 13 08.2	-0.1
KNK	Knik Glacier	1.90	89		Pn	19 13 07.6	-1.1
KNK				Sn	Sn	19 13 33.2	-1.3
KNK				IAML		19 13 34.3	
	comp=N,426nm,0.6s						
KNK				IAML		19 13 34.5	
	comp=E,344nm,0.4s						
KNK	Knik Glacier	1.90	89	P	Pn	19 13 07.7	-1.1
	baz=273,SNR=14						
KNK				S	Sn	19 13 33.1	-1.4
	baz=273						
BRSE	Bradley Lake S	1.90	154		Pn	19 13 07.7	-1.1
BRSE	Bradley Lake S	1.90	154	P	Pn	19 13 07.7	-1.1
	baz=335						
BRSE				S	Sn	19 13 32.1	-2.5
	baz=335						
SML	Sawmill	1.98	78		Pn	19 13 08.5	-1.2
SML				Sn	Sn	19 13 34.6	-1.6
SML				IAML		19 13 37.3	
	comp=N,214nm,0.5s						
SML				IAML		19 13 37.9	
	comp=E,193nm,0.7s						
SML	Sawmill	1.98	78	P	Pn	19 13 08.5	-1.2
	baz=261,SNR=6.4						
SML				S	Sn	19 13 34.9	-1.4
	baz=261						
CAST	Castle Rocks	1.98	4	Pn	Pn	19 13 09.0	-0.7
CAST				Sn	Sn	19 13 33.2	-3.0
CAST	Castle Rocks	1.98	4	P	Pn	19 13 09.2	-0.5
	baz=184,SNR=26						
CAST				S	Sn	19 13 34.0	-2.2
	baz=184						
SEW	Seward	1.98	132		Pn	19 13 08.8	-0.8
SEW	Seward	1.98	132	P	Pn	19 13 08.9	-0.8
	baz=314,SNR=5.7						
SEW				S	Sn	19 13 33.8	-2.3
	baz=314						
CNPM	China Poot	2.02	163	Pn	Pn	19 13 09.1	-1.0
CNPM				IAML		19 13 39.8	
	comp=E,451nm,0.4s						
CNPM				IAML		19 13 40.5	
	comp=N,310nm,0.3s						
PWL	Port Wells	2.06	105		Pn	19 13 09.3	-1.3
PWL	Port Wells	2.06	105	P	Pn	19 13 09.2	-1.3
	baz=288,SNR=6.6						
PWL				S	Sn	19 13 36.1	-1.8
	baz=288						
K20K	Telida	2.06	339		Pn	19 13 09.9	-0.7
K20K				Sn	Sn	19 13 36.4	-1.6
KTH	Kantishna Hill	2.22	17	Pn	Pn	19 13 11.7	-0.8
TRF	Thorofare Moun	2.23	25	Pn	Pn	19 13 12.0	-0.8
TRF				IAML		19 13 41.7	
	comp=N,319nm,0.9s						
TRF				IAML		19 13 41.9	
	comp=E,177nm,0.4s						
TRF	Thorofare Moun	2.23	25	P	Pn	19 13 12.5	-0.3
	baz=207,SNR=13						
TRF				S	Sn	19 13 41.1	-0.8
	baz=207						
TT01	Tatalina	2.24	312		Pn	19 13 12.4	-0.3
TTA	Tatalina	2.25	313	Pn	Pn	19 13 12.5	-0.4
TTA	Tatalina	2.25	313	P	Pn	19 13 12.5	-0.4
	baz=130,SNR=50						
TTA				S	Sn	19 13 41.3	-0.8
	baz=130						
CHUM	Lake Minchumin	2.44	1		Pn	19 13 14.7	-0.5
CHUM	Lake Minchumin	2.44	1	P	Pn	19 13 14.7	-0.5
	baz=181,SNR=15						
CHUM				S	Sn	19 13 44.7	-1.4
	baz=181						
SCM	Sheep Creek Mo	2.45	79		Pn	19 13 14.6	-0.8
SCM				IAML		19 13 47.7	
	comp=E,275nm,0.9s						
SCM	Sheep Creek Mo	2.45	79	P	Pn	19 13 14.6	-0.8
	baz=263,SNR=6.5						
SCM				S	Sn	19 13 45.5	-0.9
	baz=263						
WAT6	Susitna Watana	2.47	61		Pn	19 13 15.2	-0.6
WAT6	Susitna Watana	2.47	61	P	Pn	19 13 15.1	-0.6
	baz=245						
WAT6				S	Sn	19 13 45.5	-1.6
	baz=245						
P18K	Big Mountain,	2.50	215	Pn	Pn	19 13 15.6	-0.3
P18K	Big Mountain,	2.50	215	P	Pn	19 13 15.7	-0.3
	baz=33,SNR=14						
P18K				S	Sn	19 13 45.7	-1.7
	baz=33						
RND	Reindeer	2.56	39	Pn	Pn	19 13 16.4	-0.3
RND				IAML		19 13 48.8	
	comp=E,189nm,0.3s						
RND				IAML		19 13 49.9	
	comp=N,97nm,0.4s						
Q19K	Cape Douglas,	2.61	194	Pn	Pn	19 13 16.4	-0.9
Q19K				IAML		19 13 41.3	
	comp=N,145nm,2.2s						
Q19K				IAML		19 14 14.6	
	comp=E,254nm,1.8s						
Q19K	Cape Douglas,	2.61	194	P	Pn	19 13 16.7	-0.7
	baz=13						
GLI	Glacier Island	2.64	100		Pn	19 13 16.1	-1.5
GLI				IAML		19 13 51.2	
	comp=E,286nm,0.7s						
GLI	Glacier Island	2.64	100	P	Pn	19 13 15.9	-1.7
	baz=285						
GLI				S	Sn	19 13 48.2	-2.2
	baz=285						
BPAW	Bear Paw Mtn.	2.74	13	Pn	Pn	19 13 18.1	-0.8
BPAW				IAML		19 13 51.3	
	comp=N,84nm,1.0s						
BPAW	Bear Paw Mtn.	2.74	13	P	Pn	19 13 18.0	-0.8
	baz=194,SNR=11						
BPAW				S	Sn	19 13 50.2	-2.5
	baz=194						
MCK	McKinley	2.79	34	Pn	Pn	19 13 19.5	-0.1
MCK				IAML		19 13 54.1	
	comp=E,86nm,0.5s						
MCK	McKinley	2.79	34	P	Pn	19 13 19.2	-0.4
	baz=216						
MCK				S	Sn	19 13 52.7	-1.3
	baz=216						
JPK	Jack Peak	2.83	96		Pn	19 13 19.0	-1.1
J20K	Nowinta River	2.85	344		Pn	19 13 19.6	-0.6
DHY	Denali Highway	2.86	53		Pn	19 13 20.0	-0.6
DHY				IAML		19 13 56.7	
	comp=N,147nm,0.4s						
DHY	Denali Highway	2.86	53	P	Pn	19 13 20.3	-0.3
	baz=237						
DHY				S	Sn	19 13 54.5	-1.2
	baz=237						
FID	Port Fidalgo	2.96	101	Pn	Pn	19 13 19.8	-2.0
M24K	Tolsona, Glenn	3.03	75	Pn	Pn	19 13 22.9	+0.2
M24K				IAML		19 14 01.8	
	comp=N,159nm,1.3s						
M24K				IAML		19 14 02.3	
	comp=E,230nm,0.8s						
M24K	Tolsona, Glenn	3.03	75	P	Pn	19 13 22.8	+0.2
	baz=260						
BWN	Browne	3.04	25		Pn	19 13 22.1	-0.6
BWN				IAML		19 14 22.9	
	comp=E,78nm,1.0s						
BWN				IAML		19 14 26.4	
	comp=N,103nm,0.8s						
KLU	Klutina	3.11	86		Pn	19 13 22.6	-1.1
KLU				IAML		19 14 01.2	
	comp=N,160nm,0.5s						
KLU				IAML		19 14 02.8	
	comp=E,93nm,0.5s						
KLU	Klutina	3.11	86	P	Pn	19 13 22.7	-0.9
	baz=272						
DIV	Divide	3.22	93		Pn	19 13 24.1	-1.0
PS11	TAPS Pump St11	3.35	76		Pn	19 13 27.0	+0.3
EYAK	Cordova Ski Ar	3.37	103	Pn	Pn	19 13 25.5	-1.3
EYAK	Cordova Ski Ar	3.37	103	S	Sn	19 14 05.6	-1.3
	baz=288						
NEA2	Nenana	3.50	24		Pn	19 13 27.8	-0.7
NEA2	Nenana	3.50	24	P	Pn	19 13 27.8	-0.7
	baz=207,SNR=6.4						
HARP	HAARP	3.56	71		Pn	19 13 30.1	+0.7
HARP	HAARP	3.56	71	P	Pn	19 13 29.7	+0.3
	baz=258						
PAX	Paxson	3.59	62	Pn	Pn	19 13 29.8	0.0
PAX	Paxson	3.59	62	P	Pn	19 13 30.0	+0.2
	baz=248						
PAX				S	Sn	19 14 11.5	-0.8
	baz=248						
WRH	Wood River Hil	3.61	31		Pn	19 13 29.4	-0.7
Q23K	Middleton Isla	3.62	121	Pn	Pn	19 13 30.1	-0.1
MID	Middleton Isla	3.63	121	Pn	Pn	19 13 29.8	-0.4
PS10	TAPS Pump St10	3.66	54		Pn	19 13 31.2	+0.5
MLY	Manley	3.67	11		Pn	19 13 30.3	-0.5
KDAK	Kodiak Island	3.68	182	P	Pn	19 13 29.6	-1.4
	comp=E,2.5nm,0.3s,baz=63,slow=11,SNR=59						
KDAK				S	Sn	19 14 10.9	-3.5
	comp=E,4.5nm,0.3s,baz=142,slow=23,SNR=12						
KDAK	Kodiak Island	3.68	182	Pn	Pn	19 13 29.0	-2.0
KDAK				IAML		19 14 39.2	
	comp=E,130nm,4.2s						
KDAK				IAML		19 15 33.9	
	comp=E,98nm,4.7s						
N25K	Chitina, Valde	3.74	84	Pn	Pn	19 13 31.1	-0.7
N25K				IAML		19 14 16.9	
	comp=E,69nm,0.6s						
N25K				IAML		19 14 17.1	
	comp=N,75nm,0.5s						
N25K	Chitina, Valde	3.74	84	P	Pn	19 13 31.2	-0.7
	baz=271						
I21K	Tanana	3.75	3		Pn	19 13 31.5	-0.3
I21K				IAML		19 14 14.1	
	comp=E,43nm,0.9s						
I21K				IAML		19 14 44.4	
	comp=N,37nm,4.3s						
BMRM	Bremner River	3.80	94		Pn	19 13 31.1	-1.6
BMRM				IAML		19 14 17.6	
	comp=N,62nm,0.8s						
BMRM				IAML		19 14 19.2	
	comp=E,80nm,1.3s						
BMRM	Bremner River	3.80	94	P	Pn	19 13 31.4	-1.2
	baz=281						
CCB	Clear Creek Bu	3.83	31	Pn	Pn	19 13 32.0	-0.8
HDA	Harding Lake	3.88	38		Pn	19 13 32.6	-0.9
HDA				IAML		19 14 19.9	
	comp=E,113nm,0.6s						
HDA	Harding Lake	3.88	38	P	Pn	19 13 33.1	-0.4
	baz=222,SNR=8.1						
GCSA	Galena City Sc	3.88	330	P	Pn	19 13 33.1	-0.3
	baz=146,SNR=15						
RAGM	Ragged Mountai	3.92	102	Pn	Pn	19 13 32.8	-1.3
I23K	Minto, Yukon-K	3.96	19		Pn	19 13 34.2	-0.3
I23K	Minto, Yukon-K	3.96	19	P	Pn	19 13 33.9	-0.5
	baz=202,SNR=12						
MDM	Murphy Dome	3.99	26		Pn	19 13 34.2	-0.9
TCOL	CIGO, UAF Yank	4.00	29		Pn	19 13 35.0	0.0
TCOL				IAML		19 14 27.3	
	comp=N,108nm,0.5s						
TCOL				IAML		19 14 41.6	
	comp=E,78nm,0.5s						
TCOL	CIGO, UAF Yank	4.00	29	P	Pn	19 13 34.7	-0.4
	baz=213						
COLA	College	4.01	29		Pn	19 13 35.0	-0.2
COLA				IAML		19 14 41.6	
	comp=E,89nm,0.5s						
COLA	College	4.01	29	P	Pn	19 13 35.0	-0.2
	baz=213						
GLB	Gilahina Butte	4.13	86	Pn	Pn	19 13 36.2	-0.6
GLB				IAML		19 14 24.2	
	comp=E,65nm,1.1s						
GLB				IAML		19 14 25.0	
	comp=N,59nm,0.6s						
HMT	Hamilton	4.13	102	Pn	Pn	19 13 35.8	-1.1
IL31		4.17	35		Pn	19 13 36.7	-0.5
ILAR	Eielson Array	4.17	35	P	Pn	19 13 36.2	-1.1
	comp=N,5.4nm,0.3s,baz=223,slow=12,SNR=151						
ILAR				S	Sn	19 14 22.7	-3.0
	comp=N,4.4nm,0.3s,baz=217,slow=18,SNR=6.1						
RIDG	Independent Ri	4.18	53		Pn	19 13 38.0	+0.5
RIDG				IAML		19 14 31.4	
	comp=N,89nm,0.7s						
RIDG	Independent Ri	4.18	53	P	Pn	19 13 37.9	+0.4
	baz=240						
KAIM	Kayak Island	4.21	108	Pn	Pn	19 13 38.2	+0.3
H21K	Melozitna Rive	4.22	358		Pn	19 13 37.6	-0.4
OHAK	Old Harbor	4.27	186	Pn	Pn	19 13 35.7	-2.9
POKR	Poker Plat Res	4.31	29		Pn	19 13 38.7	-0.4
POKR	Poker Plat Res	4.31	29	P	Pn	19 13 39.1	-0.1
	baz=214						
VRDI	Verde Repeater	4.32	89	Pn	Pn	19 13 38.4	-1.0
VRDI				IAML		19 14 47.5	
	comp=N,43nm,2.6s						
VRDI				IAML		19 14 54.5	
	comp=E,33nm,4.1s						
MENT	Mentasta	4.33	66		Pn	19 13 39.8	+0.2
MENT				IAML		19 14 50.7	
	comp=N,70nm,0.6s						
MENT				IAML		19 14 50.8	
	comp=E,66nm,0.8s						
DOT	Dot Lake	4.45	57		Pn	19 13 40.7	-0.3
MCARA	McCarthy VSAT	4.51	87	Pn	Pn	19 13 42.2	+0.4
MCARA				IAML		19 14 41.8	
	comp=E,68nm,0.7s						
MCARA	McCarthy VSAT	4.51	87	P	Pn	19 13 42.4	+0.7
	baz=275						
L26K	Log Cabin Wild	4.52	66		Pn	19 13 42.8	+0.7
L26K				IAML		19 14 59.0	
	comp=N,64nm,0.5s						
L26K	Log Cabin Wild	4.52	66	P	Pn	19 13 42.7	+0.7
	baz=254						
IM03		4.59	353		Pn	19 13 42.6	-0.2
IMAR	Indian Mountai	4.59	353	Pn	Pn	19 13 42.5	-0.3
SCRK	Sand Creek	4.63	53	Pn	Pn	19 13 43.0	-0.4
SCRK				IAML		19 14 34.9	
	comp=E,34nm,0.5s						
SCRK				IAML		19 14 35.2	
	comp=N,31nm,0.4s						
SCRK	Sand Creek	4.63	53	P	Pn	19 13 43.1	-0.4
	baz=240						
WAX	Waxell Ridge	4.76	98		Pn	19 13 44.5	-0.7
PTPK	Patty Peak	4.80	89		Pn	19 13 46.0	+0.1
H24K	Noodor Dome	4.84	23		Pn	19 13 45.4	-0.8
H24K				IAML		19 15 11.0	
	comp=N,17nm,3.8s						
H24K				IAML		19 16 03.1	
	comp=E,18nm,4.9s						
SNH	Sunshine Point	4.85	101	Pn	Pn	19 13 46.1	-0.3
BALM	Baldy	4.88	90		Pn	19 13 46.6	-0.2
KIAG	Kiagna River	4.89	92		Pn	19 13 47.1	+0.1
ISLE	Juniper Island	4.97	95	Pn	Pn	19 13 48.2	+0.2
ISLE				IAML		19 14 47.5	
	comp=E,54nm,0.7s						
SII	Sitkinak Islan	4.99	191	Pn	Pn	19 13 48.1	-0.2
M27K	Edge Creek, AK	5.06	75		Pn	19 13 50.4	+1.2
M27K				IAML		19 15 25.2	
	comp=N,36nm,4.9s						
M27K				IAML		19 15 32.6	
	comp=E,24nm,4.4s						

M27K	Edge Creek, AK	5.06	75	P	Pn	19 13 50.2	+1.0
	baz=264						
PRP	Porcupine Dome	5.11	34	Pn	Pn	19 13 50.0	+0.1
PRP				IAML		19 14 48.6	
	comp=E,30nm,0.7s						
PRP				IAML		19 14 48.8	
	comp=N,22nm,0.6s						
PRP	Porcupine Dome	5.11	34	P	Pn	19 13 49.9	+0.1
	baz=220						
L27K	Beaver Creek,	5.20	67		Pn	19 13 51.2	+0.2
L27K				IAML		19 15 02.7	
	comp=N,17nm,4.7s						
L27K				IAML		19 15 12.1	
	comp=E,15nm,4.8s						
BARN	Barnard Glacie	5.20	90		Pn	19 13 51.5	+0.4
BARN				IAML		19 15 00.3	
	comp=N,23nm,2.9s						
BARN				IAML		19 15 00.7	
	comp=E,28nm,3.5s						
BC03		5.22	67		Pn	19 13 51.6	+0.5
BCAR	Beaver Creek A	5.22	67	Pn	Pn	19 13 50.1	-1.2
MESA	MESA	5.27	99	Pn	Pn	19 13 53.0	+0.8
MESA	MESA	5.27	99	P	Pn	19 13 52.4	+0.2
	baz=288						
CTG	Chitna Glacier	5.37	90	P	Pn	19 13 53.8	+0.4
	baz=280						
CTGM	Chitina Glacie	5.38	90	Pn	Pn	19 13 53.9	+0.5
CTGM				IAML		19 14 59.5	
	comp=N,40nm,3.9s						
CTGM				IAML		19 15 01.5	
	comp=E,20nm,2.7s						
YUK2	White River	5.53	81		Pn	19 13 56.0	+0.6
BVCY	Beaver Creek	5.54	75	P	Pn	19 13 56.3	+0.9
	baz=265						
LOGN	Logan Glacier	5.56	91		Pn	19 13 55.8	-0.1
TABL	Table Mountain	5.58	96	Pn	Pn	19 13 56.9	+0.6
YUK3	Moose Creek	5.71	82		Pn	19 13 58.3	+0.4
YUK3	Moose Creek	5.71	82	P	Pn	19 13 58.4	+0.4
	baz=272						
COLD	Coldfoot	5.88	8	Pn	Pn	19 13 59.3	-0.6
COLD	Coldfoot	5.88	8	P	Pn	19 13 59.3	-0.6
	baz=190,SNR=6.3						
CHIR	Chirikof Islan	5.89	198	Pn	Pn	19 14 00.8	+0.7
FYU	Fort Yukon	6.02	28		Pn	19 14 00.3	-1.5
CHGN	Chignik	6.03	214	Pn	Pn	19 14 00.7	-1.3
EGAK	Eagle	6.09	52		Pn	19 14 02.9	+0.1
DAWY	Dawson	6.52	61	Pn	Pn	19 14 08.4	-0.2
DAWY	Dawson	6.52	61	P	Pn	19 14 09.2	+0.6
	baz=252						
YUK4	Talbot Arm	6.61	85	P	Pn	19 14 10.9	+1.0
	baz=276						
PNL	Peninsula	6.66	100	P	Pn	19 14 11.0	+0.6
	baz=291						
ANM	Nome	6.67	304	Pn	Pn	19 14 10.9	+0.4
YUK6	Outpost Mounta	6.81	88	P	Pn	19 14 12.8	+0.3
	baz=280						
BMAR	Burnt Mountain	6.88	26	Pn	Pn	19 14 12.3	-1.0
HYT	Haines Junctio	7.24	88	Pn	Pn	19 14 17.2	-1.1
HYT	Haines Junctio	7.24	88	P	Pn	19 14 18.4	+0.1
	baz=281						
TOLK	Toolik Lake Re	7.32	8	Pn	Pn	19 14 19.9	+0.7
TOLK	Toolik Lake Re	7.32	8	P	Pn	19 14 20.0	+0.8
	baz=191						
M30M	Minto, Yukon	7.43	74	Pn	Pn	19 14 22.5	+1.7
SDPT	Sand Point	7.44	218	Pn	Pn	19 14 18.9	-1.9
SDPT	Sand Point	7.44	218	P	Pn	19 14 22.3	+1.4
	baz=31						
CNBA	Chernabura Isl	7.66	213	Pn	Pn	19 14 22.2	-1.6
M31M	Drury Creek, Y	8.55	77	Pn	Pn	19 14 37.4	+1.7
INK	Inuvik	10.52	41	P	Pn	19 15 02.5	+0.8
	comp=E,0.2nm,0.3s,baz=235,slow=12,SNR=9.6						
INK				S	Sn	19 16 54.0	-3.9
	baz=300,slow=16,SNR=1.8						
A36M	Sachs Harbour	14.87	34		Pn	19 15 56.7	-0.9
A36M	Sachs Harbour	14.87	34	P	Pn	19 15 56.9	-0.7
	baz=239,SNR=8.3						
YKA	Yellowknife Ar	17.63	70	P	Pn	19 16 32.5	+1.2
	comp=E,0.0nm,0.3s,baz=81,slow=36,SNR=2.4						
SONM	Songino Array	54.18	305	P	P	19 21 47.0	+1.9
	comp=E,1.3nm,0.8s,baz=46,slow=7.4,SNR=11						
ZALV	Zalesovo Beam	56.38	323	P	P	19 22 01.0	+0.5
	comp=E,0.7nm,0.5s,baz=47,slow=8.9,SNR=4.0						
MKAR	Makanchi Array	63.48	321	P	P	19 22 49.4	+0.3
	comp=E,0.1nm,0.3s,baz=48,slow=6.8,SNR=9.4						
AKASG	Malin Array Be	68.19	359	P	P	19 23 20.1	+1.0
	comp=E,0.2nm,0.3s,baz=3.9,slow=6.4,SNR=5.1						

*ANF **01** 19:15:21.8±0.8, 31.°74N×117.°03W, h0km±4km, ML2.6/7, Error ellipse: s-maj=6.6km s-min=3.8km az=99.0*
*ECX **01** 19:15:22.7±0.5, 31.°60N×116.°93W, h10km±20km, MD2.8, ML3.0*
*PAS **01** 19:15:22.4±3.1, 31.°60N±0.°04×116.°95W±0.°05, h18km±7km, Error ellipse: s-maj=7.0km s-min=5.8km az=218.0*
*MEX **01** 19:15:23.1±0.8, 31.°59N×117.°14W, h17km±999km, MD3.7*
*NEIC **01** 19:15:23.7±2.2, 31.°70N±0.°04×116.°98W±0.°02, h18km±3km, Error ellipse: s-maj=6.1km s-min=2.4km az=193.0*
ISC 01 19:15:21.0±1.7, **31.°58N**±0.°05×**117.°00W**±0.°06, **h15**km±9km, **n49**, σ**1.s32**/70, **5C-5D, Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCX	Cicese	0.41	45		Pg	19 15 29.6	+0.3
CCX				Sg	Sg	19 15 34.4	-0.4
CCX	Cicese	0.41	45	eP	Pg	19 15 29.6	+0.3
CCX				eS	Sg	19 15 34.4	-0.4
SVX	San Vicente	0.69	111	⇑eP	Pb	19 15 33.9	-0.9
SVX				eS	Sb	19 15 42.8	-1.4
SVX				IAML		19 15 45.0	
	comp=N,566nm,0.1s						
SVX				⇓e		19 15 45.0	
CBX	Cerro Bola	0.79	21		Pg	19 15 36.3	0.0
CBX				Sg	Sb	19 15 46.2	-0.8
CBX				IAML		19 15 47.6	
	comp=N,599nm,0.4s						
CBX	Cerro Bola	0.79	21	iP	Pg	19 15 36.1	-0.3
CBX				iS	Sb	19 15 46.3	-0.7
CBX	Cerro Bola	0.79	21	⇓iP	Pg	19 15 36.3	0.0
CBX				eS	Sb	19 15 46.3	-0.7
CBX				⇑e		19 15 47.9	
CBX				IAML		19 15 47.9	
	comp=E,774nm,0.3s						
TJIG	Tijuana	0.89	18	eP	Pb	19 15 37.8	-0.5
TJIG				eS	Sb	19 15 48.7	-1.4
TJIG	Tijuana	0.89	18	⇓eP	Pb	19 15 37.8	-0.5
OLP	Otay Lakes Par	1.02	3	eP	Pb	19 15 40.0	-0.6
TKX	Tecate	1.04	19		Pb	19 15 40.0	-0.8
TKX				Sg	Sb	19 15 53.1	-1.2
TKX	Tecate	1.04	19	eP	Pb	19 15 40.2	-0.6
TKX				eS	Sb	19 15 53.4	-0.9
BAR	Barrett	1.13	14		Pb	19 15 41.8	-0.6
BAR				IAML		19 15 57.1	
	comp=N,412nm,0.2s						
BAR	Barrett	1.13	14	⇑iP	Pb	19 15 41.7	-0.6
BAR				IAML		19 15 56.7	
	comp=E,506nm,0.2s						
BAR				⇑e		19 15 56.7	
BAR				IAML		19 15 57.1	
	comp=N,417nm,0.2s						
BAR				⇑e		19 15 57.1	
SDRC	San Diego Road	1.15	3	eP	Pb	19 15 42.1	-0.6
RMX	La Rumorosa	1.28	37		Pn	19 15 44.1	-0.5
RMX				Sg	Sb	19 16 00.1	-1.3
RMX				IAML		19 16 01.4	
	comp=E,250nm,0.3s						
RMX	La Rumorosa	1.28	37	⇓eP	Pn	19 15 44.3	-0.4
RMX				eS	Sb	19 16 00.3	-1.2
109C	Camp Elliot, M	1.31	356		Pn	19 15 43.5	-1.3
109C					Sb	19 16 00.3	-1.6
109C				IAML		19 16 02.7	
	comp=N,190nm,0.3s						
109C				IAML		19 16 03.2	
	comp=E,141nm,0.2s						
IKP	In-Ko-Pah, Jac	1.31	35	⇓eP	Pn	19 15 44.7	-0.2
IKP	In-Ko-Pah, Jac	1.31	35	P	Pn	19 15 44.7	-0.2
	baz=214						
IKP				S	Sn	19 16 01.4	-0.7
	baz=214						
MONP2	Monument Peak	1.40	20	P	Pn	19 15 45.8	-0.4
	baz=199						
MONP2				S	Sn	19 16 04.0	-0.5
	baz=199						
YUH	Yuha Desert	1.40	40		Pn	19 15 46.3	+0.2
YUH				Sg	Sn	19 16 03.9	-0.5
YUH				IAML		19 16 04.9	
	comp=E,177nm,0.5s						
YUH				IAML		19 16 05.1	
	comp=N,116nm,0.4s						
YUH2	Yuha Desert	1.40	40	eP	Pn	19 15 46.3	+0.2
YUH2				eS	Sb	19 16 04.1	-0.6
SPIG	San Pedro Mart	1.42	112	eP	Pn	19 15 46.5	-0.1
SPIG				iS	Sn	19 16 04.1	-1.2
SPIG	San Pedro Mart	1.42	112	eP	Pn	19 15 46.5	-0.1
SPIG				eS	Sn	19 16 04.6	-0.6
CPBX	Cerro Prieto	1.67	59		Pn	19 15 51.2	+1.5
SWSC	Sam W. Stewart	1.70	37	Pb	Pb	19 15 51.9	-0.1
	baz=216						
MBIG	Mexicali	1.74	61	eP	Pn	19 15 51.5	+0.8
MBIG				eS	Sn	19 16 12.9	+0.3
GUVIX	Guadalupe Vict	1.79	66		Pn	19 15 52.7	+1.3
SFX	San Felipe	1.92	106	Pn	Pn	19 15 55.9	+2.7
SFX				IAML		19 16 21.7	
	comp=N,62nm,0.4s						
TPFO	Pinon Flats	2.07	13	Pb	Pb	19 15 57.8	-0.7
	baz=192						
TPFO				Sb	Sb	19 16 24.4	+0.4
	baz=192						
PFO	Pinyon Flats O	2.08	13	Pn	Pn	19 15 57.4	+1.9
PFO				IAML		19 16 26.7	
	comp=N,36nm,0.6s						
PFO	Pinyon Flats O	2.08	13	Pb	Pb	19 15 57.8	-0.7
	baz=192						
PFO				Sb	Sb	19 16 23.9	-0.2
	baz=192						
ELS	Elsinore Mount	2.09	350		Pn	19 15 57.2	+1.5
ELS				IAML		19 16 25.8	
	comp=E,35nm,0.5s						
GLA	Glamis	2.35	51		Pn	19 16 00.2	+1.0
GLA				IAML		19 16 41.9	
	comp=E,50nm,0.8s						
GLA				IAML		19 16 46.9	
	comp=N,31nm,1.0s						
GLA	Glamis	2.35	51	P	Pn	19 16 00.8	+1.6
	baz=232						
BELC	Belle Mtn. Jos	2.56	19	Pb	Pb	19 16 06.9	+0.2
	baz=199						
113A	Mohawk Valley,	2.99	66	Pn	Pn	19 16 09.1	+1.2
214A	Organ Pipe Nat	3.59	83	Pn	Pn	19 16 17.2	+1.0
GSC	Goldstone, Bar	3.71	2		Pn	19 16 18.4	+0.4
GSC				IAML		19 17 21.4	
	comp=E,17nm,4.9s						
GSC				IAML		19 18 38.6	
	comp=N,24nm,0.1s						
ISA	Isabella, Lake	4.25	344		Pn	19 16 26.8	+1.5
ISA				IAML		19 18 10.3	
	comp=E,11nm,1.1s						
QSM	Queen of Sheba	4.37	1	Pn	Pn	19 16 27.4	+0.4
GWY	Greenwater Val	4.60	3	Pn	Pn	19 16 32.2	+2.0
TPNV	Topopah Spring	5.39	6	Pn	Pn	19 16 44.0	+2.9
TPNV				IAML		19 17 41.9	
	comp=E,4.7nm,5.0s						
TPNV				IAML		19 17 49.0	
	comp=E,5.1nm,5.0s						
X16A	Lo Mia Camp, P	5.46	57	Pn	Pn	19 16 44.8	+2.7
PRN	Pahroc Range	6.03	15	Pn	Pn	19 16 52.8	+2.9
LHV	Little Huntoon	6.77	350	Pn	Pn	19 17 00.0	+0.2
NV11	Mina Array Sit	6.90	352	Pn	Pn	19 17 04.6	+2.8
NVAR	Mina Array Bea	6.92	351	Pn	Pn	19 17 05.9	+3.8
W18A	Petrified Fore	7.03	58	Pn	Pn	19 17 07.3	+3.7

IDC 01 19:21:37.5±2.3, **4.°32N**×**123.°20E, h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.2**/51, **mbtmp3.4**/3, **Error ellipse: s-maj=325.0km s-min=26.0km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.48	156	P	P	19 27 16.8	+0.1
	0.2nm,0.3s,baz=335,slow=9.7,SNR=10						
ASAR	Alice Springs	29.70	160	P	P	19 27 45.5	-0.1
	0.2nm,0.3s,baz=337,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	55.10	327	P	P	19 31 11.5	-0.1
	0.2nm,0.3s,baz=122,slow=8.4,SNR=6.8						

*GCG **01** 19:38:15.5±0.7, 14.°63N×92.°64W, h25km, MD4.4*
*MEX **01** 19:38:15.0±1.1, 14.°73N×92.°60W, h83km±14km, MD4.4*
*SNET **01** 19:38:16.5±1.1, 14.°52N×92.°49W, h15km±999km, ML4.3*
*UCR **01** 19:38:16.4±1.1, 14.°52N×92.°51W, h20km±999km, ML4.0*
*IDC **01** 19:38:17.8±4.1, 15.°08N×92.°48W, h83km±16km, mb3.2/4, mb1 3.6/6, mb1mx3.3/40, mbtmp3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=102.1km s-min=15.2km az=27.0*
ISC 01 19:38:14.6±1.0, **14.°70N**±0.°06×**92.°67W**±0.°04, **h64**km±8km, **n52**, σ**1.s22**/79, **mb3.6**/4, **1C-2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.44	62	eP	Pn	19 38 26.3	0.0
THIG				iS	Sn	19 38 35.7	+0.8
PATR	El Naranjo	0.59	45	eP	Pn	19 38 27.7	-0.4
PATR				iS	Sn	19 38 38.0	+0.1
CHUJ	Union Juarez	0.67	54	eP	Pn	19 38 28.9	-0.1
CHUJ				iS	Sn	19 38 39.6	+0.1
PAVE	Pavencul	0.68	44	eP	Pn	19 38 29.1	0.0
PAVE				iS	Sn	19 38 40.3	+0.5
STG3	Santiaguito 3,	1.06	89	⇑eP	Pn	19 38 34.5	+0.8
PCIG		1.13	332	iP	Pn	19 38 34.8	+0.3
PCIG				iS	Sn	19 38 49.6	+0.2
CCIG	Comitan	1.66	18	eP	Pn	19 38 43.7	+2.0
CCIG				eS	Sn	19 39 03.8	+1.7
CARR	Arriaga	1.95	322	eP	Pn	19 38 46.5	+1.0
CARR				iS	Sn	19 39 09.8	+0.9
PCG	Pacaya	2.02	98	⇓iP	Pn	19 38 48.8	+2.2
TGBT	Tuxtla Gutierr	2.11	349	iP	Pn	19 38 49.2	+1.7
TGBT				eS	Sn	19 39 12.7	0.0
TGIG		2.11	348	eP	Pn	19 38 47.8	+0.1
TGIG				eS	Sn	19 39 13.7	+0.7
APG	El Apazote	2.15	82	P	Pn	19 38 49.5	+1.1
	32nm,0.3s,baz=83,slow=22,SNR=186						
APG				S	Sn	19 39 08.7	-5.5
	51nm,0.3s,baz=297,slow=6.0,SNR=9.3						
NBG	Las Nubes	2.25	93	eP	Pn	19 38 51.8	+2.0
SLOZ	Alcaldia de Sa	2.87	103	eP	Pn	19 38 59.5	+1.4
SLOZ				eS	Sn	19 39 31.9	+0.4
SLOZ				IAML		19 39 39.4	
	comp=Z,362nm,0.5s						
MRL	Marmol	2.91	82	⇓eP	Pn	19 39 00.4	+1.7
NUBE	Las Nubes	2.91	105	eP	Pn	19 38 59.7	+1.1
NUBE				eS	Sn	19 39 31.7	-0.8
NUBE	Las Nubes	2.91	105	eP	Pn	19 38 59.7	+1.1
NUBE				eS	Sn	19 39 31.7	-0.8
UXUV	UXUV	2.97	332	e	Pn	19 39 00.2	+0.9
UXUV				e		19 39 35.4	
CEVE	Cerro Verde	3.08	106	eP	Pn	19 39 02.6	+1.6
CEVE				eS	Sn	19 39 37.7	+0.9
CEVE				IAML		19 39 49.1	
	comp=Z,3µm,0.4s						
CEVE	Cerro Verde	3.08	106	eP	Pn	19 39 02.6	+1.6
CEVE				eS	Sn	19 39 37.7	+0.9
CEVE				IAML		19 39 49.1	
	comp=Z,3µm,0.4s						
CMIG	Matias Romero	3.19	318	P	Pn	19 39 03.4	+1.0
	comp=Z,9.4nm,0.3s,baz=154,slow=13,SNR=51						
CMIG				S	Sn	19 39 40.2	+0.9
	comp=Z,42nm,0.3s,baz=244,slow=23,SNR=3.3						
JAYA	Jayaque - finc	3.29	108	eS	Sn	19 39 41.8	-0.1
JAYA	Jayaque - finc	3.29	108	eS	Sn	19 39 41.8	-0.1
TACO	Tacachico	3.29	102	eP	Pn	19 39 04.5	+0.7
TACO				eS	Sn	19 39 42.0	+0.2
TACO	Tacachico	3.29	102	eP	Pn	19 39 04.5	+0.7
TACO				eS	Sn	19 39 42.0	+0.2
LALI	Alcalda de L	3.46	110	eS	Sn	19 39 45.5	-0.4
LALI	Alcalda de L	3.46	110	eS	Sn	19 39 45.5	-0.4
UEES	Universidad Ev	3.47	106	IAML		19 39 52.1	
	comp=Z,747nm,0.1s						
UEES	Universidad Ev	3.47	106	IAML		19 39 52.1	
	comp=Z,747nm,0.1s						
HUIG	Huatulco	3.49	288	eP	Pn	19 39 05.4	-1.0
HUIG				e		19 39 40.5	
SJTE	Alcalda de S	3.71	106	eP	Pn	19 39 09.9	+0.4
SJTE				eS	Sn	19 39 53.1	+1.0
SJTE	Alcalda de S	3.71	106	eP	Pn	19 39 09.9	+0.4
SJTE				eS	Sn	19 39 53.1	+1.0
COEG	Centro de Oper	3.83	106	eP	Pn	19 39 11.4	+0.3
COEG				eS	Sn	19 39 55.1	+0.2
COEG	Centro de Oper	3.83	106	eP	Pn	19 39 11.4	+0.3
COEG				eS	Sn	19 39 55.1	+0.2
TECO	Alcaldia de Te	3.94	107	eP	Pn	19 39 12.7	0.0
TECO				eS	Sn	19 39 58.1	+0.3
TECO	Alcaldia de Te	3.94	107	eP	Pn	19 39 12.7	0.0
TECO				eS	Sn	19 39 58.1	+0.3
SCLA	Alcaldia de Sa	3.95	104	eP	Pn	19 39 13.8	+1.0
SCLA				eS	Sn	19 39 59.2	+1.3
SCLA	Alcaldia de Sa	3.95	104	eP	Pn	19 39 13.8	+1.0
SCLA				eS	Sn	19 39 59.2	+1.3
COEB	Comit de Eme	4.19	106	eP	Pn	19 39 18.0	+1.9
COEB				eS	Sn	19 40 05.2	+1.4
COEB				IAML		19 40 11.0	
	comp=Z,572nm,0.3s						
COEB	Comit de Eme	4.19	106	eP	Pn	19 39 18.0	+1.9
COEB				eS	Sn	19 40 05.2	+1.4
COEB				IAML		19 40 11.0	
	comp=Z,572nm,0.3s						
NEUV	Arroyo Zacate	4.25	315	eP	Pn	19 39 17.3	+0.5
PEIG	Puerto Escondi	4.51	287	eP	Pn	19 39 19.7	-0.7
PEIG				eS	Sn	19 40 12.6	+0.9
VHO	Vista Hermosa	4.57	302	eP	Pn	19 39 23.6	+2.2
VHO				eS	Sn	19 40 12.0	-1.3
YOIG	Yosondua	5.16	295	eP	Pn	19 39 31.2	+1.6
YOIG				eS	Sn	19 40 28.1	+0.1
PNIG	Pinotepa	5.52	288	eP	Pn	19 39 34.4	+0.1
PNIG				e		19 40 31.3	
TXAR	Lajitas Array	17.76	327	P	Pn	19 42 18.4	+0.9
	comp=Z,0.0nm,0.3s,baz=220,slow=52,SNR=7.0						
PDAR	Pinedale Array	31.52	336	LR	LR	20 00 23.5	
	comp=Z,24nm,18.2s,baz=266,slow=42						
NVAR	Mina Array Bea	32.72	321	P	P	19 44 41.9	+0.4
	comp=Z,0.4nm,0.5s,baz=118,slow=9.4,SNR=2.7						
YKA	Yellowknife Ar	50.20	347	P	P	19 47 01.4	-2.2
	comp=Z,0.3nm,0.5s,baz=154,slow=7.5,SNR=4.0						
INK	Inuvik	59.59	344	P	P	19 48 10.4	-0.9
	comp=Z,0.6nm,0.5s,baz=135,slow=9.0,SNR=5.0						
ILAR	Eielson Array	61.95	337	P	P	19 48 27.2	-0.3
	comp=Z,0.4nm,0.6s,baz=140,slow=5.0,SNR=5.2						
CMAR	Chiang Mai Arr	145.12	340	PKP	PKPab	19 57 45.1	-0.2
	comp=Z,0.5nm,0.6s,baz=326,slow=3.7,SNR=5.9						

*IDC **01** 19:41:16.8±1.0, 2.°85S×129.°50E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/39, mbtmp3.9/9, ML3.7/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/70, Error ellipse: s-maj=28.3km s-min=18.4km az=89.0*
*DJA **01** 19:41:20.0±0.9, 3°S±4°×12°9E±°, h12km±8km, M4.0/8, mb4.5/4, mB4.8/1, MLv3.8/8, Mw(mB)4.0/1*
ISC 01 19:41:21.2±0.7, **2.°83S**±0.°07×**129.°44E**±0.°06, **h28**km, **n27**, σ**0.s91**/27, **mb4.0**/5, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.72	225	P	Pb	19 41 34.9	-0.4
AAI	Ambon	1.51	236	P	Pb	19 41 48.6	0.0
BNDI	Bandanaira	1.74	165	P	Pb	19 41 53.6	+1.1
SIJI	Sorong	2.67	43	Pn	Pn	19 42 02.4	0.0
	30nm,0.3s,baz=238,slow=13,SNR=56						
SIJI				Sn	Sn	19 42 33.1	-0.7
	17nm,0.3s,baz=54,slow=22,SNR=14						
SIJI				LR	LR	19 43 35.9	
	comp=Z,176nm,19.2s,baz=58,slow=53						
SWI	Sorong	2.67	43	P	Pn	19 42 02.3	-0.1
SWI				S	Sn	19 42 33.9	+0.1
LBMI	Labuha	2.92	318	P	Pn	19 42 05.8	0.0
SANI	Sanana	3.54	283	P	Pn	19 42 14.5	+0.2
SANI	Sanana	3.54	283	P	Pn	19 42 15.0	+0.7
APSI	Ampana	8.02	284	P	Pn	19 43 16.7	+0.7
	538nm45nm,0.5s						
MRSI	Marisa	8.19	294	P	Pn	19 43 17.6	-0.7
	36nm,0.6s						
BATI	Baumata	9.31	218	Pn	Pn	19 43 34.0	+0.4
	0.9nm,0.3s,baz=51,slow=17,SNR=1.9						
TOLI2	Tolitoli	9.50	294	P	Pn	19 43 37.1	+0.8
KAPI	Kappang	9.91	257	LR	LR	19 47 56.8	
	comp=Z,44nm,20.5s,baz=102,slow=40						
KDU	Kakadu	10.24	163	P	Pn	19 43 47.4	+1.0
KNRA	Kununurra	12.78	183	P	Pn	19 44 21.9	+0.7
FITZ	Fitzroy Crossi	15.62	194	Pn	Pn	19 44 58.3	-1.3
	0.1nm,0.3s,baz=24,slow=20,SNR=3.9						
FITZ	Fitzroy Crossi	15.62	194	P	Pn	19 44 59.6	0.0
COEN	Coen	17.50	130	P	Pn	19 45 22.6	-0.8
WRAB	Tennant Creek	17.66	165	P	Pn	19 45 23.9	-1.4
WRA	Warramunga Arr	17.66	165	P	Pn	19 45 23.0	-2.4
	0.2nm,0.3s,baz=344,slow=12,SNR=16						
ASAR	Alice Springs	21.16	169	P	P	19 46 03.6	-0.7
	6.9nm,0.7s,baz=348,slow=9.5,SNR=68						
ASAR				PcP	PcP	19 50 09.5	-0.3
	0.4nm,0.6s,baz=5.5,slow=2.1,SNR=6.6						
CTA	Charters Tower	23.73	138	LR	LR	19 57 02.0	
	comp=Z,63nm,19.4s,baz=88,slow=40						
CMAR	Chiang Mai Arr	36.73	306	P	P	19 48 27.8	+1.3
	0.6nm,0.9s,baz=132,slow=7.1,SNR=5.0						
MKAR	Makanchi Array	64.47	326	P	P	19 51 55.5	+0.1
	0.5nm,0.6s,baz=115,slow=8.2,SNR=8.0						
ZALV	Zalesovo Beam	67.63	333	P	P	19 52 14.1	-1.3
	0.9nm,0.7s,baz=108,slow=9.5,SNR=4.6						
KURBB	Kurchatov Arra	68.70	328	P	P	19 52 22.7	+0.5
	1.4nm,0.7s,baz=128,slow=5.9,SNR=18						
OBN	Obninsk	93.95	325	LR	LR	20 39 51.4	
	comp=Z,7.1nm,19.0s,baz=77,slow=37						

*IDC **01** 19:55:52.9±0.7, 55.°82S×124.°20W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.1/25, mbtmp4.2/6, MS3.8/16, Ms1 3.8/16, ms1mx3.6/46, Error ellipse: s-maj=78.2km s-min=18.5km az=165.0*
*NEIC **01** 19:55:54.3±1.8, 55.°3S±0.°1×124.°4W±0.°2, h10km±1km, mb4.6/14, Error ellipse: s-maj=22.8km s-min=18.9km az=280.0*
ISC 01 19:55:54.1±0.7, **55.°5S**±0.°2×**124.°3W**±0.°1, **h10**km, **n62**, σ**0.s66**/28, **mb4.5**/11, **MS3.9**/19, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMSA	Palmer Station	30.22	132	LR	LR	20 10 38.0	
	comp=Z,169nm,20.1s,baz=268,slow=30						
MG03	Isla Dawson	30.52	110	P	P	20 02 07.3	+0.2
DSPA	Despedida	31.65	111	P	P	20 02 15.5	-1.5
BELA	Belgrano 2	36.42	159	P	P	20 02 58.8	+0.6
BELA				IAmb	IAmb	20 03 09.4	
	comp=Z,21nm,1.9s						
TBI	Tubuai	37.13	320	eLR	LR	20 12 56.6	
	comp=Z,186nm,29.2s						
TBI	Tubuai	37.13	320	eT	T	20 42 14.5	
	comp=Z,82nm,0.4s						
PLCA	Paso Flores	37.80	90	P	P	20 03 11.2	+0.8
	comp=Z,1.5nm,1.0s,baz=232,slow=8.7,SNR=2.9						
PLCA				LR	LR	20 14 46.3	
	comp=Z,82nm,19.1s,baz=216,slow=30						
PLCA	Paso Flores	37.80	90	IAmb	IAmb	20 03 19.2	
	comp=Z,4.6nm,1.2s						
H03S2	Juan Fernandez	37.96	74	T	T	20 43 31.9	
	SNR=40						
H03S1	Juan Fernandez	37.97	74	T	T	20 43 32.5	
	SNR=49						
H03S3	Juan Fernandez	37.98	74	T	T	20 43 32.4	
	SNR=42						
H03N3	Juan Fernandez	38.25	74	T	T	20 43 52.2	
	baz=222,slow=72,SNR=100						
H03N2	Juan Fernandez	38.26	74	T	T	20 43 46.5	
	baz=222,slow=72,SNR=210						
H03N1	Juan Fernandez	38.27	74	T	T	20 43 51.8	
	baz=222,slow=72,SNR=99						
URZ	Urewera	42.22	269	LR	LR	20 17 05.2	
	comp=Z,754nm,19.1s,baz=29,slow=30						
PPT2	Papeete2	42.48	323	eLR	LR	20 15 41.2	
	comp=Z,246nm,24.8s						
SNAA	Sanae	46.65	158	LR	LR	20 23 51.5	
	comp=Z,158nm,18.2s,baz=226,slow=36						
SNAA	Sanae	46.65	158	P	P	20 04 21.8	-0.3
TAOE	Nuku Hiva Isla	48.21	339	eLR	LR	20 18 20.3	
	comp=Z,228nm,25.5s						
CPUP	Villa Florida	55.77	87	LR	LR	20 26 14.6	
	comp=Z,86nm,18.4s,baz=219,slow=33						
NNA	Nana	56.91	59	LR	LR	20 24 27.9	
	comp=Z,35nm,19.3s,baz=261,slow=30						
MAW	Mawson	57.07	183	LR	LR	20 27 45.3	
	comp=Z,121nm,20.3s,baz=232,slow=34						
LPAZ	La Paz	57.77	71	P	P	20 05 46.5	+0.5
	comp=Z,2.0nm,0.9s,baz=198,slow=4.4,SNR=4.7						
LPAZ				LR	LR	20 25 42.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,52nm,20.0s,baz=256,slow=31						
LPAZ	La Paz	57.77	71	P	P	20 05 45.6	-0.4
LPAZ				IAmb	IAmb	20 05 48.6	
	comp=Z,8.2nm,1.5s						
SIV	San Ignacio	61.86	77	P	P	20 06 13.4	-0.2
	comp=Z,2.9nm,0.7s,baz=201,slow=6.9,SNR=12						
SIV				LR	LR	20 29 54.7	
	comp=Z,53nm,18.9s,baz=272,slow=33						
STKA	Stephens Creek	66.57	248	P	P	20 06 44.9	+0.7
	comp=Z,2.9nm,0.6s,baz=126,slow=8.7,SNR=8.0						
STKA	Stephens Creek	66.57	248	IAmb	IAmb	20 06 45.7	
	comp=Z,3.6nm,1.6s						
BBOO	Buckleboo	68.69	243	P	P	20 06 58.3	+0.7
H01W1	Cape Leeuwin H	77.06	226	T	T	21 33 12.0	
	baz=150,slow=75,SNR=51						
H01W2	Cape Leeuwin H	77.07	226	T	T	21 33 12.3	
	baz=150,slow=75,SNR=56						
H01W3	Cape Leeuwin H	77.08	226	T	T	21 33 13.2	
	baz=150,slow=75,SNR=42						
ASAR	Alice Springs	77.19	247	P	P	20 07 48.2	+0.1
	comp=Z,1.2nm,0.7s,baz=158,slow=6.3,SNR=12						
ASAR	Alice Springs	77.19	247	P	P	20 07 47.2	-1.0
WR0	Warramunga Arr	79.89	250	P	P	20 08 02.9	-0.1
WR0				IAmb	IAmb	20 08 06.3	
	comp=Z,18nm,1.8s						
WB2	Warramunga Arr	80.00	249	P	P	20 08 03.6	0.0
WB2				IAmb	IAmb	20 08 19.0	
	comp=Z,13nm,1.6s						
WRA	Warramunga Arr	80.01	249	P	P	20 08 03.1	-0.6
	comp=Z,2.5nm,0.8s,baz=143,slow=5.0,SNR=18						
WRAB	Tennant Creek	80.01	249	P	P	20 08 03.4	-0.3
WRAB				IAmb	IAmb	20 08 13.8	
	comp=Z,7.2nm,1.4s						
WB0	Warramunga Arr	80.12	250	P	P	20 08 03.2	-1.2
WB0				IAmb	IAmb	20 08 05.6	
	comp=Z,5.0nm,1.1s						
MDP	Montagnes des	83.94	72	LR	LR	20 40 49.8	
	comp=Z,51nm,18.9s,baz=208,slow=32						
SUR	Sutherland	87.50	151	LR	LR	20 43 19.9	
	comp=Z,55nm,18.0s,baz=176,slow=33						
PFO	Pinyon Flats O	89.03	7	LR	LR	20 38 52.1	
	comp=Z,64nm,19.5s,baz=170,slow=29						
BOSA	Boshof	92.24	154	LR	LR	20 48 24.2	
	comp=Z,53nm,19.2s,baz=206,slow=34						
H11S2	WAKE ISLAND Hy	93.78	297	T	T	21 53 20.2	
	baz=148,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy	93.79	297	T	T	21 53 20.8	
	baz=148,slow=76,SNR=9.7						
H11S1	WAKE ISLAND Hy	93.79	297	T	T	21 53 32.7	
	baz=148,slow=76,SNR=7.8						
H11N3	WAKE ISLAND Hy	94.71	298	T	T	21 54 30.6	
	baz=148,slow=76,SNR=4.7						
H11N1	WAKE ISLAND Hy	94.71	298	T	T	21 54 35.8	
	baz=148,slow=76,SNR=4.2						
H11N2	WAKE ISLAND Hy	94.72	298	T	T	21 54 32.1	
	baz=148,slow=76,SNR=3.7						
LBTB	Lobatse	95.77	153	LR	LR	20 49 26.3	
	comp=Z,37nm,18.5s,baz=168,slow=34						
YBH	Yreka Blue Hor	96.89	1	LR	LR	20 42 26.4	
	comp=Z,76nm,21.4s,baz=182,slow=29						
TSUM	Tsumeb	98.85	144	LR	LR	20 48 22.4	
	comp=Z,30nm,18.8s,baz=190,slow=32						
ILAR	Eielson Array	121.21	349	PKP	PKiKP	20 14 46.0	+0.2
	comp=Z,0.3nm,0.8s,baz=187,slow=1.7,SNR=2.0						
TIXI	Tiksi	146.34	327	PKPbc	PKPab	20 15 34.2	-0.1
	comp=Z,0.3nm,0.4s,baz=270,slow=23,SNR=7.7						
TIXI	Tiksi	146.34	327		PKPbc	20 15 33.3	-0.1
SONM	Songino Array	148.27	278	PKPbc	PKiKP	20 15 41.1	-0.2
	comp=Z,1.4nm,0.8s,baz=124,slow=2.4,SNR=11						
SONM	Songino Array	148.27	278		PKPbc	20 15 40.0	+0.4
MKAR	Makanchi Array	161.27	253	PKPab	PKPab	20 16 37.3	-0.6
	comp=Z,0.3nm,0.5s,baz=100,slow=5.7,SNR=7.6						
MKAR	Makanchi Array	161.27	253		PKPab	20 16 36.9	-1.0
ZALV	Zalesovo Beam	163.16	277	PKPab	PKPab	20 16 46.0	+0.1
	comp=Z,1.2nm,0.6s,baz=104,slow=4.7,SNR=6.4						
ZALV	Zalesovo Beam	163.16	277		PKPab	20 16 44.8	-1.1
KURK	Kurchatov	165.45	260		PKPab	20 16 56.4	+0.4
KURBB	Kurchatov Arra	165.46	260	PKPab	PKPab	20 16 56.4	+0.3
	comp=Z,0.2nm,0.3s,baz=116,slow=36,SNR=2.2						

*NEIC **01** 20:12:31.4±2.9, 33°.23S±0°.07×177°.96W±0°.05, h10km±1km, mb4.7/34, Error ellipse: s-maj=11.4km s-min=7.0km az=180.0*

*IDC **01** 20:12:32.8±0.9, 33°.00S×178°.38W, h0km, mb4.4/6, mb1 4.6/10, mb1mx4.1/49, mbtmp4.5/10, ML4.3/4, MS3.8/30, Ms1 3.9/30, ms1mx3.7/54, Error ellipse: s-maj=29.2km s-min=19.3km az=127.0*

*WEL **01** 20:12:35.4±0.8, 33°S±8°×17°8W±1°9, h33km, M4.8/18, mB5.3/10, ML5.5/19, MLv5.1/18, Mw(mB)4.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8*

ISC 01 20:12:32.4±0.5**, 33°.10S**±0°.05×**178°.09W**±0°.08**, h10km, n160,** σ1**s92**/136**, mb4.8**/19**, MS3.9**/30**, 1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.83	2	P	Pn	20 13 28.2	-3.1
GLKZ				S	Sn	20 14 12.4	-3.9
RAO	Raoul Island	3.84	2	Pn	Pn	20 13 32.1	+0.7
	108nm,0.3s,baz=76,slow=23,SNR=2.4						
RAO				Sn	Sn	20 14 17.5	+0.9
	82nm,0.3s,baz=113,slow=22,SNR=1.6						
RAO	Raoul Island	3.84	2		Pn	20 13 31.0	-0.5
MXZ	Matakaoa Point	5.34	212	P	Pn	20 13 54.4	+2.3
MXZ				S	Sn	20 14 56.4	+2.8
PKGZ	Pakihiroa	5.71	212	P	Pn	20 13 58.3	+1.0
PKGZ				S	Sn	20 15 04.3	+1.3
HAZ	Te Kaha	5.74	215	P	Pn	20 13 58.7	+1.1
HAZ				S	Sn	20 15 04.7	+1.1
PUZ	Puketiti	5.79	210	P	Pn	20 13 59.6	+1.3
PUZ				S	Sn	20 15 07.3	+2.6
RUGZ	Raukumara Rang	5.96	214	P	Pn	20 14 01.5	+0.8
RUGZ				S	Sn	20 15 12.2	+3.1
TWGZ	Tauwhareparae	5.99	211	P	Pn	20 14 02.5	+1.3
TWGZ				S	Sn	20 15 12.3	+2.5
CNGZ	Carnagh Statio	6.16	208	P	Pn	20 14 04.1	+0.8
CNGZ				S	Sn	20 15 16.6	+2.7
TKGZ	Te Karaka	6.27	211	P	Pn	20 14 07.4	+2.6
TKGZ				S	Sn	20 15 16.9	+0.3
MWZ	Matawai	6.32	213	P	Pn	20 14 06.8	+1.1
MWZ				S	Sn	20 15 18.4	+0.4
OPRZ	Ohinepanea	6.44	221	P	Pn	20 14 09.8	+2.5
OPRZ				S	Sn	20 15 22.2	+1.4
URZ	Urewera	6.46	216	Pn	Pn	20 14 08.9	+1.4
	11nm,0.3s,baz=274,slow=5.0,SNR=40						
URZ				Sn	Sn	20 15 21.7	+0.4
	12nm,0.3s,baz=138,slow=21,SNR=7.1						
URZ	Urewera	6.46	216	Pn	Pn	20 14 07.5	0.0
URZ	Urewera	6.46	216	P	Pn	20 14 08.9	+1.4
URZ				S	Sn	20 15 20.5	-0.8
RAGZ	Rawiri	6.51	213	P	Pn	20 14 11.3	+3.1
RAGZ				S	Sn	20 15 24.2	+1.6
RIGZ	Rimuhau	6.53	210	P	Pn	20 14 10.1	+1.6
RIGZ				S	Sn	20 15 25.1	+2.1
SNGZ	Shannon Statio	6.77	212	P	Pn	20 14 14.2	+2.4
SNGZ				S	Sn	20 15 30.6	+1.5
MUGZ	Murupara	6.80	216	P	Pn	20 14 13.7	+1.5
RTZ	Ruatahuna	6.80	215	P	Pn	20 14 13.6	+1.2
RTZ				S	Sn	20 15 29.5	-0.4
TOZ	Tahuroa Road	6.98	227	P	Pn	20 14 18.0	+3.3
RAHZ	Arahi	7.00	213	P	Pn	20 14 17.5	+2.6
MTHZ	Maungataniwha	7.06	214	P	Pn	20 14 17.7	+1.9
WHHZ	Waihua	7.06	211	P	Pn	20 14 20.3	+4.5
OUZ	Omahuta	7.21	251	Pn	Pn	20 14 21.1	+3.3
MRHZ	Matea Rd	7.25	216	P	Pn	20 14 23.2	+4.8
NMHZ	Naumai	7.27	213	P	Pn	20 14 21.1	+2.3
ARHZ	Aropaoanui	7.32	211	P	Pn	20 14 21.2	+1.9
BKZ	Black Stump Fm	7.47	214	Pn	Pn	20 14 21.5	0.0
BKZ	Black Stump Fm	7.47	214	P	Pn	20 14 22.4	+0.9
KWHZ	Kaweka Forest	7.71	213	P	Pn	20 14 25.6	+0.9
HIZ	Hauiti	7.87	225	Pn	Pn	20 14 26.9	0.0
BFZ	Birch Farm	8.82	209	Pn	Pn	20 14 37.3	-2.6
PLWZ	Palliser	9.97	210	Pn	Pn	20 14 54.3	-1.5
SNZO	South Karori	10.01	213	Pn	Pn	20 14 52.9	-3.2
TUWZ	Tuamarina	10.46	215	Pn	Pn	20 15 00.8	-1.5
NNZ	Nelson	10.58	218	Pn	Pn	20 15 01.9	-2.0
CMWZ	Cape Campbell	10.58	213	Pn	Pn	20 15 02.1	-1.8
BSWZ	Blackbirch Sta	10.71	214	Pn	Pn	20 15 04.0	-1.8
QRZ	Quartz Range	10.76	222	Pn	Pn	20 15 04.3	-2.1
THZ	Tophouse	11.22	217	Pn	Pn	20 15 10.0	-2.8
KHZ	Kahutara	11.41	213	Pn	Pn	20 15 12.9	-2.5
LTZ	Lake Taylor	12.29	215	Pn	Pn	20 15 24.5	-2.9
OXZ	Oxford	12.81	214	Pn	Pn	20 15 31.4	-3.2
RPZ	Rata Peaks	13.58	216	Pn	Pn	20 15 44.4	-0.6
	1.2nm,0.3s,baz=158,slow=18,SNR=2.8						
RPZ				Sn	Sn	20 18 01.4	-15
	0.5nm,0.3s,baz=308,slow=21,SNR=1.7						
RPZ	Rata Peaks	13.58	216	Pn	Pn	20 15 41.9	-3.1
FOZ	Fox Glacier	14.08	219	Pn	Pn	20 15 49.4	-2.4
LBZ	Lake Benmore	14.50	216	Pn	Pn	20 15 54.7	-2.9
ODZ	Otahua Downs	14.77	213	Pn	Pn	20 15 55.0	-6.3
WKZ	Wanaka	15.39	217	Pn	Pn	20 16 05.0	-4.6
WKZ				IAmb	IAmb	20 16 45.4	
	comp=Z,90nm,1.4s						
MSVF	Nonsavu	15.69	346	LR	LR	20 21 28.6	
	comp=Z,561nm,18.1s,baz=166,slow=34						
MSVF	Nonsavu	15.69	346	Pn	Pn	20 16 10.3	-3.3
MSVF				IAmb	IAmb	20 16 45.4	
	comp=Z,73nm,1.7s						
NIUE	Niue	15.76	30	Pn	Pn	20 16 15.3	+0.9
MLZ	Mavora Lakes	16.23	217	Pn	Pn	20 16 13.7	-6.7
PINNC	Pines Island,	16.49	306	Pn	Pn	20 16 24.3	+0.4
PINNC				IAmb	IAmb	20 16 34.7	
	comp=Z,47nm,1.1s						
WHZ	Wether Hill Ro	16.68	216	Pn	Pn	20 16 21.6	-4.6
WHZ				IAmb	IAmb	20 17 04.7	
	comp=Z,67nm,1.7s						
DCZ	Deep Cove	16.79	218	Pn	Pn	20 16 24.9	-2.6
DCZ				IAmb	IAmb	20 16 40.5	
	comp=Z,74nm,1.7s						
OUENC	Ouen Island, N	17.04	305	Pn	Pn	20 16 30.3	-0.4
DZM	Mont Dzumac	17.54	305	P	Pn	20 16 37.0	-0.2
	comp=Z,0.2nm,0.3s,baz=111,slow=14,SNR=5.1						
DZM				LR	LR	20 22 10.2	
	comp=Z,1µm,21.2s,baz=180,slow=33						
DZM	Mont Dzumac	17.54	305	*e*Pn	P	20 16 39.8	+1.5
	comp=Z,60nm,1.1s						
DZM				*e*LR	LR	20 20 43.3	
	comp=Z,1µm,22.9s						
DZM	Mont Dzumac	17.54	305	P	Pn	20 16 38.0	+0.8
RAR	Rarotonga	20.11	59	LR	LR	20 22 55.4	
	comp=Z,129nm,20.8s,baz=289,slow=31						
SANVU	Saraoutou	22.06	319	P	P	20 17 30.2	+2.8
SANVU				IAmb	IAmb	20 17 32.0	
	comp=Z,25nm,0.7s						
ARMA	Armidale	25.84	268	P	P	20 18 02.9	-1.3
ARMA				IAmb	IAmb	20 18 24.2	
	comp=Z,32nm,1.6s						
TBI	Tubuai	26.96	76	*e*LR	LR	20 25 07.6	
	comp=Z,288nm,27.5s						
TBI	Tubuai	26.96	76	*e*T	T	20 46 40.8	
	comp=Z,10nm,0.3s						
EIDS	Eidsvold	27.91	278	P	P	20 18 20.6	-2.1
EIDS				IAmb	IAmb	20 18 24.3	
	comp=Z,27nm,1.2s						
TAU	Tasmania Unive	28.79	240	P	P	20 18 27.2	-3.2
PAE	Paea	29.87	66	*e*T	T	20 50 00.7	
	comp=Z,3.2nm,0.3s						
PPT2	Papeete2	29.91	66	*e*LR	LR	20 26 23.3	
	comp=Z,246nm,25.0s						
TOO	Toolangi	29.92	251	P	P	20 18 39.2	-1.4
TOO				IAmb	IAmb	20 18 53.6	
	comp=Z,16nm,1.4s						
HNR	Honiara	31.06	314	LR	LR	20 30 05.9	
	comp=Z,91nm,19.2s,baz=164,slow=34						
STKA	Stephens Creek	33.88	261	P	P	20 19 16.2	+0.9
	comp=Z,1.7nm,0.8s,baz=81,slow=9.8,SNR=3.2						
STKA	Stephens Creek	33.88	261	P	P	20 19 13.6	-1.7
CTA	Charters Tower	34.24	283	LR	LR	20 31 39.3	
	comp=Z,151nm,18.4s,baz=107,slow=34						
BBOO	Buckleboo	38.24	258	P	P	20 19 51.9	-0.7
BBOO				IAmb	IAmb	20 20 13.3	
	comp=Z,12nm,1.1s						
PMG	Port Moresby	39.75	298	P	P	20 20 06.1	+0.6
	comp=Z,2.8nm,0.5s,baz=70,slow=7.7,SNR=3.6						
PMG				LR	LR	20 33 28.5	
	comp=Z,161nm,19.4s,baz=152,slow=32						
RABL	Rabaul	39.97	310	P	P	20 20 07.6	+0.3
COEN	Coen	40.01	289	P	P	20 20 08.2	+0.6
COEN				IAmb	IAmb	20 20 09.5	
	comp=Z,40nm,1.7s						
AS31	Alice Springs	42.95	270	P	P	20 20 31.4	-0.4
ASAR	Alice Springs	42.96	270	P	P	20 20 31.4	-0.5
	comp=Z,4.1nm,0.5s,baz=110,slow=7.7,SNR=111						
ASAR	Alice Springs	42.96	270	P	P	20 20 30.4	-1.4
WR0	Warramunga Arr	44.01	275	P	P	20 20 39.9	-0.4
WR0				IAmb	IAmb	20 20 41.6	
	comp=Z,19nm,1.1s						
WB2	Warramunga Arr	44.18	275	P	P	20 20 41.2	-0.4
WRAB	Tennant Creek	44.18	275	P	P	20 20 40.9	-0.7
WRA	Warramunga Arr	44.19	275	P	P	20 20 40.9	-0.9
	comp=Z,15nm,0.6s,baz=116,slow=7.5,SNR=158						
WRA	Warramunga Arr	44.19	275	P	P	20 20 40.1	-1.6
WB0	Warramunga Arr	44.22	275	P	P	20 20 41.0	-1.0
FORT	Forrest	45.34	258	P	P	20 20 50.0	-0.8
SBA	Scott Base	45.35	184	P	P	20 20 48.3	-1.9
JAY	Jayapura	49.11	299	LR	LR	20 41 26.4	
	comp=Z,80nm,19.2s,baz=154,slow=36						
MTN	Manton Dam	50.38	281	P	P	20 21 29.1	-0.9
KNRA	Kununurra	50.88	277	P	P	20 21 33.4	-0.4
KNRA				IAmb	IAmb	20 21 40.5	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	52.33	272	P	P	20 21 44.1	-0.5
FITZ				IAmb	IAmb	20 21 44.8	
	comp=Z,5.4nm,0.7s						
CASY	Casey	52.73	209	P	P	20 21 47.3	+0.4
H11N1	WAKE ISLAND Hy	54.44	343	T	T	21 19 26.1	
	SNR=5.1						
H11N3	WAKE ISLAND Hy	54.44	343	T	T	21 19 26.6	
H11N2	WAKE ISLAND Hy	54.45	343	T	T	21 19 26.6	
SIJI	Sorong	57.29	293	LR	LR	20 45 02.0	
	comp=Z,112nm,21.6s,baz=91,slow=34						
GIRL	Giralia	59.83	261	P	P	20 22 38.8	+0.5
KAPI	Kappang	64.04	282	LR	LR	20 50 03.2	
	comp=Z,75nm,20.6s,baz=142,slow=35						
DAV	Davao City (W)	66.71	296	LR	LR	20 51 59.7	
	comp=Z,52nm,19.7s,baz=117,slow=36						
LEM	Lembang	73.15	273	LR	LR	20 56 41.9	
	comp=Z,84nm,20.1s,baz=151,slow=36						
DSPA	Despedida	74.33	145	P	P	20 24 06.0	-3.9
TROLL	Troll, Antarti	75.18	180	P	P	20 24 16.0	+1.3
SNAA	Sanae	75.47	178	P	P	20 24 17.7	+1.5
SNAA	Sanae	75.47	178	P	P	20 24 17.3	+1.0
SNAA				IAmb	IAmb	20 24 49.1	
	comp=Z,14nm,1.2s						
VNA3	Neumayer Olymp	75.63	176	P	P	20 24 20.3	+3.2
VNA2	Neumayer--Watz	76.06	177	P	P	20 24 23.2	+3.6
	baz=168,slow=5.2						
H03N3	Juan Fernandez	79.26	123	T	T	21 53 46.0	
	baz=240,slow=72,SNR=5.3						
H03N2	Juan Fernandez	79.26	123	T	T	21 53 42.6	
	baz=240,slow=72,SNR=3.1						
H03N1	Juan Fernandez	79.27	123	T	T	21 53 39.7	
	baz=240,slow=72,SNR=7.3						
MJAR	Matsushiro Arr	80.41	326	LR	LR	20 54 26.4	
	comp=Z,42nm,21.6s,baz=158,slow=31						
PLCA	Paso Flores	80.73	133	LR	LR	20 54 47.2	
	comp=Z,67nm,18.1s,baz=223,slow=31						
ASAJ	Asahikawa	84.79	333	LR	LR	20 54 57.5	
	comp=Z,72nm,21.6s,baz=162,slow=30						
SHEM	Shemya Is, Ala	85.74	355	LR	LR	20 58 21.1	
	comp=Z,88nm,19.4s,baz=108,slow=32						
LPIG	La Paz	86.02	58	LR	LR	20 56 38.2	
	comp=Z,57nm,19.1s,baz=205,slow=31						
KSRS	Korea Array	86.35	320	LR	LR	21 01 52.0	
	comp=Z,31nm,19.2s,baz=115,slow=34						
NJ2	Nanjing	87.94	311	*e*P	P	20 25 24.2	+1.8
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PETK	Petropavlovsk-	88.40	346	P	P	20 25 24.6	+0.6
	comp=Z,4.4nm,0.8s,baz=111,slow=6.4,SNR=5.6						
PETK				LR	LR	20 57 44.5	
	comp=Z,78nm,21.9s,baz=141,slow=31						
YBH	Yreka Blue Hor	90.20	38	LR	LR	21 01 40.6	
	comp=Z,43nm,19.8s,baz=194,slow=33						
NVAR	Mina Array Bea	90.27	43	P	P	20 25 36.1	+2.5
	comp=Z,1.1nm,1.0s,baz=224,slow=9.1,SNR=4.2						
NVAR				LR	LR	21 01 02.6	
	comp=Z,67nm,18.1s,baz=252,slow=32						
LVC	Limon Verde	92.70	119	LR	LR	20 57 21.0	
	comp=Z,42nm,20.6s,baz=228,slow=29						
NNA	Nana	92.75	106	LR	LR	20 58 31.1	
	comp=Z,58nm,20.4s,baz=226,slow=30						
KLR	Kul'dur	93.32	330	LR	LR	21 03 37.1	
	comp=Z,45nm,19.4s,baz=144,slow=33						
CMIG	Matias Romero	93.66	72	LR	LR	20 57 36.1	
	comp=Z,30nm,22.0s,baz=190,slow=29						
TXAR	Lajitas Array	93.90	57	LR	LR	21 03 29.8	
	comp=Z,42nm,18.3s,baz=176,slow=32						
MA2	Magadan	95.86	345	LR	LR	21 03 55.5	
	comp=Z,63nm,21.0s,baz=150,slow=32						
PZH	PanZhiHua	96.47	297	P	P	20 26 03.5	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,200nm,5.1s						
LPAZ	La Paz	97.11	115	LR	LR	21 00 15.9	
	comp=Z,61nm,21.7s,baz=298,slow=29						
NEW	Newport	97.59	36	LR	LR	21 03 53.4	
	comp=Z,88nm,19.4s,baz=219,slow=32						
HHC	Hu-ho-hao-te	98.04	314	*e*P	Pdif	20 26 10.8	+1.8
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,76nm,4.8s						
PDAR	Pinedale Array	98.13	44	LR	LR	21 05 27.6	
	comp=Z,37nm,18.1s,baz=226,slow=32						
CPUP	Villa Florida	98.37	129	LR	LR	21 01 58.7	
	comp=Z,41nm,21.0s,baz=212,slow=30						
LZH	Lanzhou	100.26	306	⇓P	Pdif	20 26 20.4	+1.3
LZH				pP	sP	20 26 23.0	+2.2
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
WMQ	Urumqi	114.81	307	*e*P	PKiKP	20 31 13.4	+0.3
MKAR	Makanchi Array	119.42	309	PKP	PKiKP	20 31 22.9	+1.0
	comp=Z,0.5nm,0.7s,baz=183,slow=2.0,SNR=5.4						
ZALV	Zalesovo Beam	119.97	317	PKP	PKiKP	20 31 23.6	+0.9
	comp=Z,0.6nm,0.6s,baz=163,slow=5.6,SNR=3.6						
ARU	Arti	135.09	319	PKP	PKiKP	20 31 54.4	+1.6
	comp=Z,0.8nm,0.5s,baz=78,slow=2.3,SNR=5.6						
ARCES	ARCESS Array B	141.20	347	PKP	PKiKP	20 32 03.6	-1.3
	comp=Z,3.9nm,1.0s,baz=78,slow=2.4,SNR=5.0						
KBZ	Khabaz	146.48	301	PKPbc	PKPab	20 32 14.7	+0.1
	comp=Z,4.0nm,1.0s,baz=208,slow=1.0,SNR=4.4						
FIA1	FINESS Array S	147.63	338		PKiKP	20 32 16.8	-1.5
FINES	FINESS Array B	147.63	338	PKPbc	PKiKP	20 32 17.3	-1.0
	comp=Z,8.3nm,0.5s,baz=47,slow=3.8,SNR=55						
FINES	FINESS Array B	147.63	338		PKPbc	20 32 16.6	+0.4
VSU	Vasula	149.63	334	*e*P	PKiKP	20 32 22.7	+0.2
NB2	NORSAR Subarra	151.40	351	PKP	PKiKP	20 32 27.0	+0.9
	comp=Z,9.4nm,0.8s,baz=16,slow=4.1						
NOA	NORSAR Array B	151.40	351	PKPbc	PKiKP	20 32 27.1	+0.9
	comp=Z,2.8nm,0.8s,baz=20,slow=4.7,SNR=18						
IDID	Didziasalis	151.81	329	*e*P	PKiKP	20 32 27.9	+0.8
ISAL	Salakas	151.90	330	*e*P	PKiKP	20 32 27.4	+0.1
IIGN	Ignalina	152.01	330	*e*P	PKiKP	20 32 29.3	+1.8
LIC	Lamto	152.49	165	*e*PKIKP	PKPab	20 32 39.9	+0.2
	comp=Z,23nm,1.1s						
KIC	Kosan Boka	152.69	165	*e*PKIKP	PKPab	20 32 39.7	-0.8
	comp=Z,13nm,1.0s						
PABE	Paberze	152.82	332	*e*P	PKiKP	20 32 29.8	+0.6
TIC	Toumodi	152.90	165	*e*PKIKP	PKPab	20 32 39.4	-2.0
AKASG	Malin Array Be	153.34	319	PKPbc	PKiKP	20 32 31.9	+1.4
	comp=Z,0.9nm,0.4s,baz=58,slow=2.3,SNR=13						
AKASG	Malin Array Be	153.34	319		PKiKP	20 32 32.2	+1.8
BRTR	Keskin Array B	153.71	294	PKPbc	PKiKP	20 32 32.5	+0.8
	comp=Z,1.7nm,0.6s,baz=150,slow=3.0,SNR=6.1						
CLL	Collm	160.07	339	*i* PKPab	PKPab	20 33 11.5	+0.3
TORD	Torodi Ar. Bea	160.14	179	PKPab	PKPab	20 33 15.7	+3.3
	comp=Z,0.4nm,0.5s,baz=147,slow=2.9,SNR=2.7						

IDC 01 20:21:01.2±3.1**, 32°.86S**×**178°.56W, h0km, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.6**/46**, mbtmp3.6**/3**, ML3.5**/1**, Error ellipse: s-maj=73.8km s-min=46.3km az=119.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.44	212	Pn	Pn	20 22 36.5	-0.8
	0.9nm,0.3s,baz=271,slow=6.0,SNR=9.0						
URZ				Sn	Sn	20 23 48.3	-3.1
	1.0nm,0.3s,baz=42,slow=13,SNR=2.0						
ASAR	Alice Springs	42.56	270	P	P	20 28 58.9	-0.1
	0.3nm,0.6s,baz=105,slow=7.3,SNR=2.1						
WRA	Warramunga Arr	43.77	275	P	P	20 29 08.8	0.0
	0.6nm,0.4s,baz=114,slow=7.7,SNR=11						
FINES	FINESS Array B	147.27	338	PKPbc	PKPbc	20 40 45.1	-0.7
	1.2nm,0.6s,baz=29,slow=4.4,SNR=5.1						

*IDC **01** 20:22:43.3±2.8, 32°.80S×178°.56W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/46, mbtmp4.1/4, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/56, Error ellipse: s-maj=66.2km s-min=43.4km az=128.0*

*NEIC **01** 20:22:46.6±1.1, 33°.00S±0°.09×178°.7W±0°.2, h10km±1km, mb4.3/10, Error ellipse: s-maj=26.7km s-min=9.7km az=116.0*

*WEL **01** 20:22:47.4±0.6, 33°S±14°×17°9W±3°6, h33km, M4.4/6, mB4.7/3, ML4.8/9, MLv4.5/6, Mw(mB)4.0/3, Error ellipse: s-maj=0.1km s-min=0.0km az=111.4*

ISC 01 20:22:46.3±1.5**, 32°.92S**±0°.09×**178°.4W**±0°.2**, h32km, n39,** σ1**s59**/47**, mb4.2**/8**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.67	7	P	Pn	20 23 39.6	-1.3
GLKZ				S	Sn	20 24 20.4	-2.6
RAO	Raoul Island	3.68	7	Pn	Pn	20 23 44.7	+3.7
RIZ	Raoul Island	3.68	6	S	Sn	20 24 23.7	+0.3
MXZ	Matakaoa Point	5.36	209	Pn	Pn	20 24 04.3	+0.2
MXZ	Matakaoa Point	5.36	209	P	Pn	20 24 05.4	+1.3
MXZ				S	Sn	20 25 03.6	-1.1
HAZ	Te Kaha	5.75	212	P	Pn	20 24 10.5	+1.1
HAZ				S	Sn	20 25 15.3	+1.1
PUZ	Puketiti	5.82	207	P	Pn	20 24 09.7	-0.8
PUZ				S	Sn	20 25 14.5	-1.6
RUGZ	Raukumara Rang	5.97	211	P	Pn	20 24 14.6	+2.0
RUGZ				S	Sn	20 25 22.7	+2.9
CNGZ	Carnagh Statio	6.20	205	P	Pn	20 24 17.1	+1.4
CNGZ				S	Sn	20 25 29.3	+3.8
MWZ	Matawai	6.34	210	P	Pn	20 24 17.1	-0.5
MWZ				S	Sn	20 25 27.7	-1.3
URZ	Urewera	6.46	213	Pn	Pn	20 24 20.0	+0.8
	4.5nm,0.3s,baz=301,slow=4.1,SNR=6.8						
URZ				Sn	Sn	20 25 30.9	-1.0
	5.3nm,0.3s,baz=139,slow=23,SNR=9.0						
URZ	Urewera	6.46	213		Pn	20 24 19.4	+0.2
URZ	Urewera	6.46	213	P	Pn	20 24 20.4	+1.1
URZ				S	Sn	20 25 30.9	-1.0
MUGZ	Murupara	6.80	214	P	Pn	20 24 22.0	-1.9
MUGZ				S	Sn	20 25 38.3	-1.8
RTZ	Ruatahuna	6.81	212	P	Pn	20 24 22.8	-1.3
RTZ				S	Sn	20 25 39.2	-1.5
MTHZ	Maungataniwha	7.07	212	P	Pn	20 24 27.7	+0.1
MTHZ				S	Sn	20 25 46.5	-0.4
BKZ	Black Stump Fm	7.48	212	Pn	Pn	20 24 32.0	-1.3
HIZ	Hauiti	7.83	223	Pn	Pn	20 24 36.7	-1.3
BFZ	Birch Farm	8.86	207	Pn	Pn	20 24 49.8	-2.3
MSWZ	Moikau Station	9.88	209	Pn	Pn	20 25 03.9	-2.2
PLWZ	Palliser	10.01	209	Pn	Pn	20 25 07.9	+0.1
TUWZ	Tuamarina	10.46	214	Pn	Pn	20 25 13.0	-1.0
LTZ	Lake Taylor	12.29	214	Pn	Pn	20 25 36.2	-2.9
DZM	Mont Dzumac	17.23	305	LR	LR	20 32 01.5	
	comp=Z,215nm,19.7s,baz=230,slow=33						
COEN	Coen	39.71	289	P	P	20 30 17.3	+1.4
COEN				IAmb	IAmb	20 30 32.3	
	comp=Z,5.9nm,1.4s						
XMAS	Kiritimati	40.02	34	P	P	20 30 21.4	+3.0
AS31	Alice Springs	42.70	270	P	P	20 30 41.3	+0.8
ASAR	Alice Springs	42.70	270	P	P	20 30 41.5	+0.9
	comp=Z,1.1nm,0.6s,baz=112,slow=7.3,SNR=18						
WR0	Warramunga Arr	43.74	275	P	P	20 30 50.1	+1.2
WR0				IAmb	IAmb	20 31 10.9	
	comp=Z,5.9nm,1.3s						
WB2	Warramunga Arr	43.91	275	P	P	20 30 51.3	+1.1
WB2				IAmb	IAmb	20 30 51.8	
	comp=Z,3.9nm,0.6s						
WRAB	Tennant Creek	43.91	275	P	P	20 30 51.3	+1.1
WRAB				IAmb	IAmb	20 30 52.1	
	comp=Z,2.9nm,0.6s						
WRA	Warramunga Arr	43.92	275	P	P	20 30 51.1	+0.8
	comp=Z,2.7nm,0.5s,baz=116,slow=7.5,SNR=32						
WB0	Warramunga Arr	43.95	275	P	P	20 30 51.4	+0.7
KNRA	Kununurra	50.61	277	P	P	20 31 43.1	+0.7
FITZ	Fitzroy Crossi	52.06	272	P	P	20 31 52.8	-0.6
	comp=Z,1.5nm,0.7s,baz=106,slow=2.3,SNR=5.3						
MHA	Mahukona	57.02	25	P	P	20 32 34.2	+5.1
QSPA	South Pole Qui	57.20	180	P	P	20 32 33.5	+3.4
QSPA				IAmb	IAmb	20 32 45.0	
	comp=Z,4.8nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc	**PKiKP**	**20 42 27.1**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=40,slow=4.0,SNR=17						
FINES	**FINESS Array B**	**147.37**	**338**		**PKiKP**	**20 42 26.9**	**-1.3**

*IDC **01** 20:24:21.9±1.8, 59.°68N×153.°42W, h90km±31km, mb3.1/3, mb1 3.0/6, mb1mx2.9/59, mbtmp3.3/6, Error ellipse: s-maj=40.4km s-min=11.8km az=105.0*
*NEIC **01** 20:24:22.7±1.4, 59.°66N±0.°03×153.°35W±0.°06, h118km±4km, Error ellipse: s-maj=5.1km s-min=4.1km az=209.0*
*ANF **01** 20:24:23.2±0.3, 59.°65N×153.°23W, h107km±5km, ML3.5/24, Error ellipse: s-maj=3.3km s-min=2.3km az=119.0*
*AEIC **01** 20:24:24.0±1.5, 59.°65N±0.°04×153.°33W±0.°07, h115km±4km, ML2.9/80, ML3.4/112(NEIC), Error ellipse: s-maj=5.7km s-min=5.3km az=136.0*
ISC 01 20:24:23.0±0.8**, 59.°65N**±0.°03×**153.°26W**±0.°03**, h120**km±5km**, n181, σ1.°10**/224**, mb3.6**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.01**	**72**		**Pn**	**20 24 39.1**	**-0.3**
AUL	**Augustine Lava**	**0.28**	**199**		**Pn**	**20 24 40.0**	**+0.1**
AUL					**Sn**	**20 24 52.1**	**-0.5**
AUH	**Augustine H**	**0.30**	**198**		**Pn**	**20 24 40.1**	**0.0**
AUQ	**Augustine Qik'**	**0.30**	**195**		**Pn**	**20 24 40.0**	**0.0**
O20K	**Slope Mountain**	**0.54**	**36**		**Pn**	**20 24 41.1**	**-0.2**
O20K					**Sn**	**20 24 54.5**	**-0.7**
O20K	**Slope Mountain**	**0.54**	**36**	P	**Pn**	**20 24 41.1**	**-0.2**
	baz=220,SNR=8.0						
O20K				S	**Sn**	**20 24 53.9**	**-1.2**
	baz=220						
Q19K	**Cape Douglas,**	**0.75**	**195**	Pn	**Pn**	**20 24 42.8**	**-0.1**
Q19K				Sn	**Sn**	**20 24 56.8**	**-0.9**
Q19K	**Cape Douglas,**	**0.75**	**195**	P	**Pn**	**20 24 42.8**	**-0.1**
	baz=12						
Q19K				S	**Sn**	**20 24 56.9**	**-0.8**
	baz=12						
O19K	**Port Alsworth**	**0.77**	**316**	Pn	**Pn**	**20 24 42.2**	**-0.6**
O19K				Sn	**Sn**	**20 24 55.9**	**-2.0**
O19K				IAML		20 24 56.7	
	comp=N,2μm,0.5s						
O19K				IAML		20 24 57.7	
	comp=E,2μm,0.4s						
O19K	**Port Alsworth**	**0.77**	**316**	P	**Pn**	**20 24 42.2**	**-0.6**
	baz=137,SNR=5.9						
O19K				S	**Sn**	**20 24 56.0**	**-1.9**
	baz=137						
HOM	**Homer**	**0.82**	**89**		**Pn**	**20 24 43.3**	**-0.1**
HOM				Sn	**Sn**	**20 24 59.2**	**+0.4**
HOM				IAML		20 25 00.0	
	comp=E,1μm,0.7s						
HOM				IAML		20 25 01.1	
	comp=N,1μm,0.4s						
HOM	**Homer**	**0.82**	**89**	P	**Pn**	**20 24 43.6**	**+0.3**
	baz=270,SNR=6.0						
HOM				S	**Sn**	**20 24 58.9**	**+0.2**
	baz=270						
RSO	**Redoubt South**	**0.86**	**17**		**Pn**	**20 24 43.6**	**-0.3**
NCT	**North Crescent**	**0.93**	**10**		**Pn**	**20 24 44.1**	**-0.4**
DFR	**Drift River**	**0.99**	**17**		**Pn**	**20 24 44.8**	**-0.3**
RDT	**Redoubt**	**1.02**	**24**		**Pn**	**20 24 45.1**	**-0.2**
P18K	**Big Mountain,**	**1.04**	**257**	Pn	**Pn**	**20 24 44.6**	**-0.8**
P18K				Sn	**Sn**	**20 25 00.5**	**-1.9**
P18K	**Big Mountain,**	**1.04**	**257**	P	**Pn**	**20 24 44.6**	**-0.8**
	baz=74						
P18K				S	**Sn**	**20 25 00.1**	**-2.2**
	baz=74						
CNPM	**China Poot**	**1.04**	**96**	Pn	**Pn**	**20 24 45.4**	**0.0**
CNPM				Sn	**Sn**	**20 25 01.6**	**-0.8**
BRLK	**Bradley Lake**	**1.21**	**83**		**Pn**	**20 24 47.0**	**-0.2**
BRLK				Sn	**Sn**	**20 25 04.5**	**-1.1**
BRLK				IAML		20 25 06.2	
	comp=N,403nm,0.1s						
BRSE	**Bradley Lake S**	**1.28**	**85**		**Pn**	**20 24 48.0**	**0.0**
BRSE					**Sn**	**20 25 06.4**	**-0.5**
BRSE	**Bradley Lake S**	**1.28**	**85**	P	**Pn**	**20 24 47.8**	**-0.1**
	baz=267,SNR=5.4						
BRSE				S	**Sn**	**20 25 06.1**	**-0.8**
	baz=267						
N19K	**Bonanza Creek**	**1.32**	**333**		**Pn**	**20 24 47.8**	**-0.7**
N19K				Sn	**Sn**	**20 25 05.9**	**-2.0**
N19K	**Bonanza Creek**	**1.32**	**333**	P	**Pn**	**20 24 48.0**	**-0.5**
	baz=153,SNR=27						
N19K				S	**Sn**	**20 25 05.8**	**-2.0**
	baz=153						
CAPN	**Captain Cook N**	**1.54**	**42**	Pn	**Pn**	**20 24 52.6**	**+1.8**
CAPN				IAML		20 25 39.7	
	comp=E,562nm,1.8s						
CAPN				IAML		20 25 44.9	
	comp=N,535nm,3.4s						
CKL	**Chakachamna La**	**1.62**	**16**		**Pn**	**20 24 52.1**	**+0.2**
SPCR	**Spurr Chakacha**	**1.64**	**18**		**Pn**	**20 24 52.2**	**0.0**
SPCR					**Sn**	**20 25 14.9**	**+0.5**
SPCR	**Spurr Chakacha**	**1.64**	**18**	P	**Pn**	**20 24 52.1**	**0.0**
	baz=200,SNR=7.7						
SPCR				S	**Sn**	**20 25 13.6**	**-0.8**
	baz=200						
SPU	**Mount Spurr**	**1.65**	**21**		**Pn**	**20 24 52.2**	**-0.1**
SPCN	**Chakachatna No**	**1.67**	**18**		**Pn**	**20 24 52.7**	**+0.2**
SPNN	**North Nagishla**	**1.75**	**9**		**Pn**	**20 24 53.6**	**+0.1**
SPNN					**Sn**	**20 25 16.3**	**-0.5**
SLKM	**Skilak Lake**	**1.75**	**59**		**Pn**	**20 24 53.9**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.76**	**20**		**Pn**	**20 24 53.7**	**+0.1**
SVW2	**Sparrevohn**	**1.86**	**323**		**Pn**	**20 24 53.9**	**-0.8**
KDAK	**Kodiak Island**	**1.90**	**169**	P	**Pn**	**20 24 54.8**	**-0.4**
	comp=N,5.9nm,0.3s,baz=40,slow=7.9,SNR=90						
KDAK				S	**Sn**	**20 25 17.5**	**-2.4**
	comp=N,20nm,0.3s,baz=283,slow=23,SNR=10						
KDAK	**Kodiak Island**	**1.90**	**169**		**Pn**	**20 24 54.7**	**-0.5**
KDAK				Sn	**Sn**	**20 25 17.8**	**-2.1**
KDAK				IAML		20 25 20.5	
	comp=N,185nm,0.5s						
KDAK	**Kodiak Island**	**1.90**	**169**	P	**Pn**	**20 24 54.9**	**-0.4**
	baz=349						
KDAK				S	**Sn**	**20 25 18.3**	**-1.5**
	baz=349						
O22K	**Cooper Landing**	**1.96**	**63**	Pn	**Pn**	**20 24 56.4**	**+0.5**
O22K				Sn	**Sn**	**20 25 19.8**	**-1.3**
O22K				IAML		20 25 27.1	
	comp=N,506nm,0.8s						
O22K				IAML		20 25 31.1	
	comp=E,450nm,0.8s						
O22K	**Cooper Landing**	**1.96**	**63**	P	**Pn**	**20 24 56.3**	**+0.4**
	baz=247						
O22K				S	**Sn**	**20 25 19.8**	**-1.3**
	baz=247						
SEW	**Seward**	**1.97**	**75**		**Pn**	**20 24 56.2**	**+0.2**
SEW	**Seward**	**1.97**	**75**	P	**Pn**	**20 24 56.3**	**+0.2**
	baz=259						
SEW				S	**Sn**	**20 25 19.7**	**-1.7**
	baz=259						
STLK	**Strandline Lak**	**1.99**	**20**		**Pn**	**20 24 56.9**	**+0.6**
FIS	**Fire Island**	**2.13**	**44**	Pn	**Pn**	**20 24 57.9**	**-0.1**
FIS				IAML		20 25 45.0	
	comp=N,427nm,1.2s						
FIS				IAML		20 26 00.6	
	comp=E,311nm,1.7s						
RC01	**Rabbit Creek A**	**2.27**	**49**		**Pn**	**20 25 00.1**	**+0.3**
RC01				Sn	**Sn**	**20 25 26.2**	**-1.8**
RC01				IAML		20 25 28.4	
	comp=N,294nm,0.5s						
RC01				IAML		20 25 29.5	
	comp=E,346nm,0.4s						
RC01	**Rabbit Creek A**	**2.27**	**49**	P	**Pn**	**20 25 00.1**	**+0.3**
	baz=233						
RC01				S	**Sn**	**20 25 26.7**	**-1.4**
	baz=233						
M19K	**Big River Lodg**	**2.33**	**347**		**Pn**	**20 25 00.3**	**-0.3**
OHAK	**Old Harbor**	**2.43**	**180**	Pn	**Pn**	**20 25 01.1**	**-0.8**
OHAK				IAML		20 25 29.1	
	comp=E,125nm,3.7s						
OHAK				Sn	**Sn**	**20 25 29.2**	**-2.5**
OHAK	**Old Harbor**	**2.43**	**180**	P	**Pn**	**20 25 01.3**	**-0.6**
	baz=360						
OHAK				S	**Sn**	**20 25 29.3**	**-2.4**
	baz=360						
M22K	**Willow**	**2.62**	**35**	Pn	**Pn**	**20 25 03.2**	**-1.0**
M22K				Sn	**Sn**	**20 25 35.8**	**-0.1**
M22K				IAML		20 25 41.3	
	comp=E,254nm,0.4s						
M22K				IAML		20 25 44.0	
	comp=N,243nm,0.6s						
M22K	**Willow**	**2.62**	**35**	S	**Sn**	**20 25 35.9**	**-0.1**
	baz=218						
L19K	**White Mountain**	**2.66**	**344**	Pn	**Pn**	**20 25 04.4**	**-0.4**
L19K	**White Mountain**	**2.66**	**344**	P	**Pn**	**20 25 04.4**	**-0.4**
	baz=163,SNR=8.3						
L19K				S	**Sn**	**20 25 35.7**	**-1.3**
	baz=163						
PWL	**Port Wells**	**2.74**	**62**	Pn	**Pn**	**20 25 05.3**	**-0.5**
PWL				Sn	**Sn**	**20 25 36.6**	**-2.3**
PWL				IAML		20 25 38.7	
	comp=N,236nm,0.4s						
PWL	**Port Wells**	**2.74**	**62**	P	**Pn**	**20 25 05.4**	**-0.5**
	baz=246						
PWL				S	**Sn**	**20 25 37.0**	**-1.9**
	baz=246						
PMR	**Palmer**	**2.82**	**44**		**Pn**	**20 25 06.2**	**-0.6**
PMR				Sn	**Sn**	**20 25 36.9**	**-3.7**
PMR	**Palmer**	**2.82**	**44**	P	**Pn**	**20 25 06.6**	**-0.2**
	baz=228						
PMR				S	**Sn**	**20 25 37.9**	**-2.7**
	baz=228						
KNK	**Knik Glacier**	**2.96**	**51**	Pn	**Pn**	**20 25 08.1**	**-0.6**
KNK				IAML		20 25 43.4	
	comp=E,128nm,0.3s						
KNK	**Knik Glacier**	**2.96**	**51**	P	**Pn**	**20 25 08.3**	**-0.5**
	baz=236						
KNK				S	**Sn**	**20 25 41.8**	**-2.2**
	baz=236						
GHO	**Glory Hole Cre**	**3.01**	**43**		**Pn**	**20 25 08.9**	**-0.5**
GHO				IAML		20 25 45.1	
	comp=E,96nm,0.3s						
GHO				IAML		20 25 46.1	
	comp=N,98nm,0.4s						
CUT	**Chulitna**	**3.13**	**26**		**Pn**	**20 25 10.5**	**-0.4**
CUT				IAML		20 25 51.6	
	comp=E,93nm,0.3s						
CUT				IAML		20 25 53.4	
	comp=N,101nm,3.0s						
CUT	**Chulitna**	**3.13**	**26**	S	**Sn**	**20 25 47.3**	**-0.5**
	baz=210						
SII	**Sitkinak Islan**	**3.14**	**189**	Pn	**Pn**	**20 25 08.0**	**-3.0**
SII	**Sitkinak Islan**	**3.14**	**189**	P	**Pn**	**20 25 10.6**	**-0.4**
	baz=8.0						
SII				S	**Sn**	**20 25 45.8**	**-2.3**
	baz=8.0						
SML	**Sawmill**	**3.25**	**46**	Pn	**Pn**	**20 25 12.0**	**-0.5**
SML				IAML		20 26 16.2	
	comp=N,56nm,4.7s						
SML				IAML		20 26 17.1	
	comp=E,52nm,4.2s						
SML	**Sawmill**	**3.25**	**46**	P	**Pn**	**20 25 12.0**	**-0.5**
	baz=231						
PPLA	**Purkeypile**	**3.30**	**9**		**Pn**	**20 25 13.5**	**+0.2**
PPLA	**Purkeypile**	**3.30**	**9**	P	**Pn**	**20 25 14.3**	**+1.0**
	baz=190						
GLI	**Glacier Island**	**3.31**	**65**	Pn	**Pn**	**20 25 12.8**	**-0.5**
GLI				IAML		20 25 51.0	
	comp=E,112nm,0.4s						
GLI				IAML		20 25 56.6	
	comp=N,57nm,0.6s						
GLI	**Glacier Island**	**3.31**	**65**	S	**Sn**	**20 25 49.2**	**-3.0**
	baz=251						
Q23K	**Middleton Isla**	**3.53**	**91**	Pn	**Pn**	**20 25 15.6**	**-0.6**
TT01	**Tatalina**	**3.53**	**339**		**Pn**	**20 25 15.8**	**-0.4**
MID	**Middleton Isla**	**3.53**	**91**	Pn	**Pn**	**20 25 16.8**	**+0.5**
TTA	**Tatalina**	**3.55**	**339**	Pn	**Pn**	**20 25 15.8**	**-0.8**
TTA	**Tatalina**	**3.55**	**339**	P	**Pn**	**20 25 15.9**	**-0.6**
	baz=157,SNR=7.7						
FID	**Port Fidalgo**	**3.56**	**69**	Pn	**Pn**	**20 25 15.3**	**-1.3**
FID					**Sn**	**20 25 53.0**	**-5.1**
FID				IAML		20 25 56.4	
	comp=E,112nm,0.2s						
FID				IAML		20 25 57.7	
	comp=N,89nm,0.3s						
SCM	**Sheep Creek Mo**	**3.65**	**50**	Pn	**Pn**	**20 25 17.4**	**-0.4**
SCM				IAML		20 26 01.3	
	comp=E,56nm,0.9s						
SCM				IAML		20 27 08.4	
	comp=N,54nm,3.5s						
SCM	**Sheep Creek Mo**	**3.65**	**50**	P	**Pn**	**20 25 17.5**	**-0.3**
	baz=236						
SCM				S	**Sn**	**20 25 58.6**	**-1.6**
	baz=236						
K20K	**Telida**	**3.74**	**354**		**Pn**	**20 25 19.2**	**+0.1**
CAST	**Castle Rocks**	**3.83**	**8**	Pn	**Pn**	**20 25 20.1**	**-0.1**
CAST	**Castle Rocks**	**3.83**	**8**	P	**Pn**	**20 25 20.5**	**+0.3**
	baz=190,SNR=12						
EYAK	**Cordova Ski Ar**	**3.87**	**73**	Pn	**Pn**	**20 25 20.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.87**	**73**	P	**Pn**	**20 25 20.9**	**+0.3**
	baz=260						
WAT6	**Susitna Watana**	**3.98**	**40**		**Pn**	**20 25 22.0**	**-0.3**
WAT6	**Susitna Watana**	**3.98**	**40**	P	**Pn**	**20 25 22.0**	**-0.3**
	baz=225						
DIV	**Divide**	**4.00**	**65**	Pn	**Pn**	**20 25 22.4**	**-0.2**
CHIR	**Chirikof Islan**	**4.04**	**199**	Pn	**Pn**	**20 25 21.1**	**-1.9**
KLU	**Klutina**	**4.07**	**60**	Pn	**Pn**	**20 25 22.7**	**-0.8**
KLU				IAML		20 26 09.7	
	comp=N,77nm,0.4s						
KLU				IAML		20 26 11.1	
	comp=E,54nm,0.2s						
KLU	**Klutina**	**4.07**	**60**	P	**Pn**	**20 25 23.0**	**-0.4**
	baz=246						
KLU				S	**Sn**	**20 26 07.3**	**-3.0**
	baz=246						
TRF	**Thorofare Moun**	**4.07**	**19**	Pn	**Pn**	**20 25 23.2**	**-0.3**
TRF				IAML		20 27 19.5	
	comp=N,41nm,4.3s						
TRF				IAML		20 27 31.2	
	comp=E,40nm,3.5s						
TRF	**Thorofare Moun**	**4.07**	**19**	P	**Pn**	**20 25 23.3**	**-0.3**
	baz=202						
KTH	**Kantishna Hill**	**4.08**	**15**		**Pn**	**20 25 22.6**	**-0.9**
M24K	**Tolsona, Glenn**	**4.25**	**51**	Pn	**Pn**	**20 25 26.1**	**+0.3**
M24K	**Tolsona, Glenn**	**4.25**	**51**	P	**Pn**	**20 25 26.1**	**+0.3**
	baz=238						
CHUM	**Lake Minchumin**	**4.27**	**6**	P	**Pn**	**20 25 26.8**	**+0.7**
	baz=187						
RND	**Reindeer**	**4.32**	**27**	Pn	**Pn**	**20 25 26.6**	**-0.2**
RND				IAML		20 26 36.8	
	comp=N,24nm,4.2s						
RND				IAML		20 27 35.0	
	comp=E,31nm,5.0s						
CHGN	**Chignik**	**4.33**	**221**	Pn	**Pn**	**20 25 27.2**	**+0.4**
CHGN	**Chignik**	**4.33**	**221**	P	**Pn**	**20 25 27.3**	**+0.4**
	baz=37						
RAGM	**Ragged Mountai**	**4.37**	**77**	Pn	**Pn**	**20 25 27.6**	**+0.1**
DHY	**Denali Highway**	**4.45**	**37**		**Pn**	**20 25 28.2**	**-0.4**
DHY				IAML		20 26 21.4	
	comp=E,21nm,1.6s						
DHY				IAML		20 26 22.8	
	comp=N,22nm,0.9s						
DHY	**Denali Highway**	**4.45**	**37**	P	**Pn**	**20 25 28.4**	**-0.3**
	baz=222						
KAIM	**Kayak Island**	**4.48**	**83**	Pn	**Pn**	**20 25 29.6**	**+0.8**
BMRM	**Bremner River**	**4.50**	**69**	Pn	**Pn**	**20 25 28.7**	**-0.6**
BMRM					**Sn**	**20 26 16.8**	**-3.9**
BMRM				IAML		20 27 00.6	
	comp=E,49nm,4.6s						
BMRM				IAML		20 27 05.2	
	comp=N,49nm,4.7s						
BMRM	**Bremner River**	**4.50**	**69**	P	**Pn**	**20 25 29.7**	**+0.5**
	baz=257						
J20K	**Nowinta River**	**4.56**	**355**		**Pn**	**20 25 29.9**	**-0.1**
J20K				IAML		20 27 50.0	
	comp=E,23nm,4.5s						
HMT	**Hamilton**	**4.57**	**77**	Pn	**Pn**	**20 25 29.8**	**-0.3**
MCK	**McKinley**	**4.59**	**25**	Pn	**Pn**	**20 25 29.9**	**-0.4**
MCK				IAML		20 26 28.6	
	comp=N,26nm,3.7s						
MCK				IAML		20 27 46.1	
	comp=E,35nm,4.9s						
MCK	**McKinley**	**4.59**	**25**	P	**Pn**	**20 25 30.6**	**+0.3**
	baz=209						
BPAW	**Bear Paw Mtn.**	**4.60**	**13**	Pn	**Pn**	**20 25 29.7**	**-0.7**
BPAW				IAML		20 26 12.5	
	comp=N,19nm,4.7s						
BPAW				IAML		20 26 21.9	
	comp=E,24nm,4.9s						
BPAW	**Bear Paw Mtn.**	**4.60**	**13**	P	**Pn**	**20 25 30.4**	**0.0**
	baz=195						
N25K	**Chitina, Valde**	**4.70**	**62**	Pn	**Pn**	**20 25 31.6**	**-0.3**
N25K				IAML		20 26 26.8	
	comp=N,32nm,0.7s						
N25K				IAML		20 27 09.6	
	comp=E,38nm,4.3s						
N25K	**Chitina, Valde**	**4.70**	**62**	P	**Pn**	**20 25 31.6**	**-0.3**
	baz=249						
HARP	**HAARP**	**4.81**	**52**	P	**Pn**	**20 25 33.2**	**-0.2**
	baz=239						
BERG	**Berg Lake**	**4.85**	**77**	Pn	**Pn**	**20 25 34.2**	**+0.3**
BWN	**Browne**	**4.88**	**20**	Pn	**Pn**	**20 25 32.7**	**-1.5**
BWN				IAML		20 27 28.8	
	comp=N,47nm,3.4s						
GLB	**Gilahina Butte**	**5.00**	**65**	Pn	**Pn**	**20 25 35.3**	**-0.6**
GLB				IAML		20 26 34.1	
	comp=N,35nm,0.9s						
GLB				IAML		20 26 41.4	
	comp=E,27nm,4.5s						
PAX	**Paxson**	**5.02**	**45**	Pn	**Pn**	**20 25 36.2**	**0.0**
PAX	**Paxson**	**5.02**	**45**	P	**Pn**	**20 25 36.2**	**0.0**
	baz=232						
VRDI	**Verde Repeater**	**5.11**	**68**	Pn	**Pn**	**20 25 37.7**	**+0.2**
VRDI				IAML		20 26 52.4	
	comp=E,25nm,4.8s						
VRDI				IAML		20 27 41.0	
	comp=N,32nm,4.0s						
SNH	**Sunshine Point**	**5.27**	**80**	Pn	**Pn**	**20 25 39.8**	**+0.3**
WAX	**Waxell Ridge**	**5.28**	**77**	Pn	**Pn**	**20 25 40.2**	**+0.5**
NEA2	**Nenana**	**5.34**	**20**		**Pn**	**20 25 39.2**	**-1.2**
NEA2				IAML		20 26 49.5	
	comp=E,25nm,4.2s						
NEA2				IAML		20 27 30.7	
	comp=N,20nm,4.1s						
NEA2	**Nenana**	**5.34**	**20**	P	**Pn**	**20 25 39.7**	**-0.7**
	baz=204,SNR=5.8						
MCARA	**McCarthy VSAT**	**5.35**	**67**	Pn	**Pn**	**20 25 40.9**	**+0.4**
MCARA				IAML		20 27 09.4	
	comp=E,33nm,4.8s						
WRH	**Wood River Hil**	**5.42**	**24**	Pn	**Pn**	**20 25 40.2**	**-1.2**
MLY	**Manley**	**5.53**	**11**	Pn	**Pn**	**20 25 41.5**	**-1.5**
ISLE	**Juniper Island**	**5.54**	**75**	Pn	**Pn**	**20 25 43.6**	**+0.3**
KIAG	**Kiagna River**	**5.57**	**72**		**Pn**	**20 25 43.7**	**0.0**
I21K	**Tanana**	**5.58**	**6**	Pn	**Pn**	**20 25 43.0**	**-0.6**
HDA	**Harding Lake**	**5.62**	**29**		**Pn**	**20 25 43.8**	**-0.5**
HDA	**Harding Lake**	**5.62**	**29**	P	**Pn**	**20 25 43.7**	**-0.5**
	baz=215						
CCB	**Clear Creek Bu**	**5.63**	**25**	Pn	**Pn**	**20 25 43.4**	**-0.9**
BAGL	**Bagley Icefiel**	**5.66**	**77**		**Pn**	**20 25 45.3**	**+0.7**
MESA	**MESA**	**5.72**	**80**	Pn	**Pn**	**20 25 45.0**	**-0.7**
MESA	**MESA**	**5.72**	**80**	P	**Pn**	**20 25 45.0**	**-0.7**
	baz=270						
RIDG	**Independent Ri**	**5.73**	**41**		**Pn**	**20 25 46.2**	**+0.5**
RIDG	**Independent Ri**	**5.73**	**41**	P	**Pn**	**20 25 46.1**	**+0.3**
	baz=228						
I23K	**Minto, Yukon-K**	**5.81**	**16**		**Pn**	**20 25 46.5**	**-0.1**
I23K	**Minto, Yukon-K**	**5.81**	**16**	P	**Pn**	**20 25 46.7**	**+0.1**
	baz=200						
TCOL	**CIGO, UAF Yank**	**5.82**	**23**	Pn	**Pn**	**20 25 46.2**	**-0.6**
TCOL	**CIGO, UAF Yank**	**5.82**	**23**	P	**Pn**	**20 25 46.6**	**-0.2**
	baz=208						
COLA	**College**	**5.82**	**23**	Pn	**Pn**	**20 25 46.3**	**-0.5**
COLA	**College**	**5.82**	**23**	P	**Pn**	**20 25 46.6**	**-0.2**
	baz=208						
MDM	**Murphy Dome**	**5.82**	**22**	Pn	**Pn**	**20 25 46.4**	**-0.5**
BARN	**Barnard Glacie**	**5.93**	**71**	Pn	**Pn**	**20 25 49.9**	**+1.4**
DOT	**Dot Lake**	**5.94**	**44**	Pn	**Pn**	**20 25 48.8**	**+0.3**
IL31		**5.94**	**27**		**Pn**	**20 25 47.8**	**-0.7**
ILAR	**Eielson Array**	**5.94**	**27**	P	**Pn**	**20 25 48.0**	**-0.5**
	comp=E,1.2nm,0.3s,baz=216,slow=14,SNR=69						
ILAR				S	**Sn**	**20 26 53.3**	**-1.9**
	comp=E,0.7nm,0.3s,baz=11,slow=25,SNR=7.2						
ILAR	**Eielson Array**	**5.94**	**27**	Pn	**Pn**	**20 25 47.3**	**-1.2**
H21K	**Melozitna Rive**	**6.04**	**2**		**Pn**	**20 25 49.4**	**-0.3**
CTGM	**Chitina Glacie**	**6.07**	**72**	Pn	**Pn**	**20 25 51.3**	**+0.9**
POKR	**Poker Plat Res**	**6.12**	**24**	Pn	**Pn**	**20 25 51.3**	**+0.4**
POKR	**Poker Plat Res**	**6.12**	**24**	P	**Pn**	**20 25 50.8**	**-0.1**
	baz=209						
TABL	**Table Mountain**	**6.12**	**77**	Pn	**Pn**	**20 25 51.9**	**+0.7**
M27K	**Edge Creek, AK**	**6.17**	**59**	Pn	**Pn**	**20 25 52.4**	**+0.7**
SCRK	**Sand Creek**	**6.17**	**41**	Pn	**Pn**	**20 25 50.6**	**-1.1**
SCRK	**Sand Creek**	**6.17**	**41**	P	**Pn**	**20 25 51.3**	**-0.4**
	baz=230						
J25K	**Salcha River,**	**6.20**	**33**		**Pn**	**20 25 51.5**	**-0.5**
LOGN	**Logan Glacier**	**6.22**	**74**	Pn	**Pn**	**20 25 53.1**	**+0.7**
IM03		**6.36**	**358**		**Pn**	**20 25 54.5**	**+0.4**
IMAR	**Indian Mountai**	**6.36**	**358**	Pn	**Pn**	**20 25 54.2**	**0.0**
L27K	**Beaver Creek,**	**6.47**	**53**	Pn	**Pn**	**20 25 56.4**	**+0.7**
BC03		**6.49**	**53**		**Pn**	**20 25 55.6**	**-0.3**
BCAR	**Beaver Creek A**	**6.49**	**53**	Pn	**Pn**	**20 25 55.9**	**-0.1**
PCA	**Pinnacle**	**6.56**	**80**	Pn	**Pn**	**20 25 58.0**	**+1.0**
H24K	**Noodor Dome**	**6.68**	**19**	Pn	**Pn**	**20 25 58.0**	**-0.5**
PRP	**Porcupine Dome**	**6.88**	**28**	Pn	**Pn**	**20 26 01.1**	**-0.2**
PRP	**Porcupine Dome**	**6.88**	**28**	P	**Pn**	**20 26 01.1**	**-0.2**
	baz=215						
EGAK	**Eagle**	**7.64**	**43**	Pn	**Pn**	**20 26 09.5**	**-1.9**
COLD	**Coldfoot**	**7.73**	**9**	Pn	**Pn**	**20 26 11.0**	**-1.6**
FYU	**Fort Yukon**	**7.83**	**24**	Pn	**Pn**	**20 26 13.9**	**0.0**
DAWY	**Dawson**	**7.91**	**50**	Pn	**Pn**	**20 26 14.2**	**-0.8**
HYT	**Haines Junctio**	**7.93**	**75**	Pn	**Pn**	**20 26 14.5**	**-1.0**
M30M	**Minto, Yukon**	**8.49**	**63**	Pn	**Pn**	**20 26 21.2**	**-1.7**
BMAR	**Burnt Mountain**	**8.71**	**23**	Pn	**Pn**	**20 26 23.5**	**-2.4**
N31M	**Braeburn, Yuko**	**8.80**	**70**	Pn	**Pn**	**20 26 27.2**	**+0.1**
TOLK	**Toolik Lake Re**	**9.17**	**9**	Pn	**Pn**	**20 26 29.6**	**-2.5**
INK	**Inuvik**	**12.20**	**36**	P	**Pn**	**20 27 13.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=225,slow=7.1,SNR=1.6						
YKA	**Yellowknife Ar**	**18.72**	**65**	P	**Pn**	**20 28 33.8**	**+0.1**
	comp=E,0.0nm,0.3s,baz=274,slow=9.9,SNR=2.1						
SONM	**Songino Array**	**54.89**	**306**	P	**P**	**20 33 42.4**	**+1.6**
	comp=E,0.3nm,0.4s,baz=55,slow=6.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.58**	**324**	P	**P**	**20 34 00.4**	**+0.8**
	comp=E,0.5nm,0.5s,baz=47,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**64.62**	**321**	P	**P**	**20 34 48.9**	**+1.6**
	comp=E,0.2nm,0.9s,baz=38,slow=6.5,SNR=1.9						

*IDC **01** 21:20:16.5±1.1, 17.°19S×174.°58E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/29, mbtmp3.8/8, ML4.7/1, MS3.4/11, Ms1 3.4/11, ms1mx3.0/59, Error ellipse: s-maj=54.9km s-min=21.5km az=162.0*
ISC 01 21:20:18.0±0.8**, 17.°2S**±0.°2×**174.°7E**±0.°1**, h10**km**, n16, σ1.°72**/8**, mb3.9**/6**, MS3.4**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.28**	**99**	Pn	**Pn**	**21 21 08.8**	**-0.8**
	3.3nm,0.3s,baz=264,slow=10,SNR=6.2						
MSVF				LR	LR	21 22 14.8	
	comp=Z,879nm,20.1s,baz=189,slow=35						
DZM	**Mont Dzumac**	**9.11**	**237**	Pn	**Pn**	**21 22 30.6**	**+0.9**
	0.2nm,0.3s,baz=82,slow=21,SNR=1.4						
DZM				LR	LR	21 24 48.2	
	comp=Z,92nm,18.3s,baz=56,slow=30						
AFI	**Afiamalu**	**13.48**	**78**	LR	LR	21 27 11.6	
	comp=Z,126nm,21.6s,baz=266,slow=31						
HNR	**Honiara**	**16.27**	**297**	LR	LR	21 29 25.2	
	comp=Z,48nm,20.4s,baz=166,slow=34						
STKA	**Stephens Creek**	**33.26**	**238**	LR	LR	21 39 00.1	
	comp=Z,88nm,21.5s,baz=27,slow=34						
WRA	**Warramunga Arr**	**38.24**	**259**	P	**P**	**21 27 36.6**	**-2.1**
	0.5nm,0.8s,baz=95,slow=8.6,SNR=3.0						
ASAR	**Alice Springs**	**38.62**	**254**	P	**P**	**21 27 41.2**	**-0.6**
	1.5nm,0.7s,baz=83,slow=9.1,SNR=16						
ASAJ	**Asahikawa**	**67.72**	**336**	LR	LR	21 59 53.9	
	comp=Z,9.4nm,18.9s,baz=196,slow=35						
PETK	**Petropavlovsk-**	**71.56**	**349**	LR	LR	22 03 32.4	
	comp=Z,17nm,18.7s,baz=194,slow=36						
KLR	**Kul'dur**	**76.31**	**333**	LR	LR	21 59 07.5	
	comp=Z,23nm,21.8s,baz=131,slow=31						
CMAR	**Chiang Mai Arr**	**82.46**	**292**	P	**P**	**21 32 41.5**	**+0.2**
	0.2nm,0.5s,baz=126,slow=4.7,SNR=3.0						
LPIG	**La Paz**	**83.92**	**63**	LR	LR	22 02 15.2	
	comp=Z,35nm,19.1s,baz=350,slow=30						
ILAR	**Eielson Array**	**86.86**	**15**	P	**P**	**21 33 00.7**	**-1.8**
	0.9nm,1.0s,baz=208,slow=5.1,SNR=4.4						
ILAR				LR	LR	22 02 26.3	
	comp=Z,19nm,21.7s,baz=260,slow=29						
NEW	**Newport**	**88.98**	**38**	LR	LR	22 13 28.3	
	comp=Z,55nm,18.1s,baz=263,slow=36						
TXAR	**Lajitas Array**	**91.30**	**60**	P	**P**	**21 33 26.1**	**+1.6**
	1.2nm,0.9s,baz=231,slow=4.3,SNR=7.6						
YKA	**Yellowknife Ar**	**96.57**	**26**	P	**P**	**21 33 49.4**	**+1.7**
	0.3nm,0.8s,baz=251,slow=3.8,SNR=2.7						

IDC 01 21:20:45.1±2.9**, 32.°95S**×**178.°25W, h0**km**, mb4.1**/3**, mb1 4.3**/4**, mb1mx4.0**/25**, mbtmp4.1**/4**, ML3.2**/1**, Error ellipse: s-maj=63.4km s-min=35.7km az=117.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.51**	**214**	Pn	Pn	21 22 22.8	+0.7

	0.5nm,0.3s,baz=14,slow=4.2,SNR=8.5						
URZ				Sn	Sn	21 23 36.7	-0.4
	4.0nm,0.3s,baz=210,slow=20,SNR=7.1						
DZM	Mont Dzumac	17.35	305	eLR	LR	21 24 54.4	
	comp=Z,463nm,25.4s						
CTA	Charters Tower	34.08	283	P	P	21 27 33.1	+1.7
	2.7nm,0.5s,baz=126,slow=12,SNR=2.1						
ASAR	Alice Springs	42.82	270	P	P	21 28 45.0	0.0
	1.2nm,0.7s,baz=112,slow=7.7,SNR=6.5						
WRA	Warramunga Arr	44.04	275	P	P	21 28 53.5	-1.3
	1.5nm,0.5s,baz=116,slow=7.5,SNR=27						
FINES	FINESS Array B	147.44	338	PKPbc	PKPbc	21 40 29.4	-0.8
	2.1nm,0.7s,baz=64,slow=4.4,SNR=8.5						

*IDC **01** 21:39:02.1±5.0, 5°.87S×146°.74E, h105km±54km, mb3.3/6, mb1 3.5/8, mb1mx3.3/25, mbtmp3.6/8, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=47.2km s-min=28.4km az=137.0*

ISC 01 21:39:01.8±1.1**, 5°.83S**±0°.10×**146°.7E**±0°.2**, h100km, n9, σ0s.59**/10**, mb3.5**/6**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.58	173	P	Pn	21 39 55.7	+0.3
	6.3nm,0.3s,baz=354,slow=9.1,SNR=7.4						
PMG				S	Sn	21 40 36.5	-0.2
	12nm,0.3s,baz=208,slow=19,SNR=8.1						
PMG				LR	LR	21 41 47.0	
	comp=Z,95nm,21.4s,baz=328,slow=47						
WRA	Warramunga Arr	18.47	219	P	P	21 43 09.2	-0.8
	0.2nm,0.3s,baz=41,slow=11,SNR=5.5						
ASAR	Alice Springs	21.59	214	P	P	21 43 44.0	+0.2
	0.4nm,0.3s,baz=42,slow=8.0,SNR=9.6						
FITZ	Fitzroy Crossi	23.90	238	P	P	21 44 06.5	-0.1
	2.5nm,0.6s,baz=59,slow=8.2,SNR=13						
CMAR	Chiang Mai Arr	52.91	298	P	P	21 48 08.7	+0.6
	0.3nm,0.5s,baz=124,slow=6.0,SNR=1.9						
MKAR	Makanchi Array	77.18	321	P	P	21 50 44.7	-0.1
	0.6nm,0.9s,baz=90,slow=12,SNR=4.2						
ZALV	Zalesovo Beam	78.71	328	P	P	21 50 52.0	-1.1
	0.3nm,0.5s,baz=121,slow=7.6,SNR=2.2						
ILAR	Eielson Array	85.44	23	P	P	21 51 28.2	+0.1
	0.3nm,0.5s,baz=260,slow=5.2,SNR=5.6						
TORD	Torodi Ar. Bea	144.76	284	PKP	PKPab	21 58 27.4	+0.2
	0.3nm,0.5s,baz=77,slow=2.8,SNR=5.5						

*IDC **01** 21:56:23.9±1.6, 7°.40S×128°.64E, h120km±16km, mb4.0/9, mb1 4.0/13, mb1mx3.7/38, mbtmp4.4/13, MS3.1/2, Ms1 3.1/2, ms1mx2.3/70, Error ellipse: s-maj=12.8km s-min=10.6km az=58.0*

*NEIC **01** 21:56:23.8±1.7, 7°.43S±0°.07×128°.77E±0°.07, h119km±7km, mb4.5/37, Error ellipse: s-maj=10.7km s-min=9.7km az=217.0*

*DJA **01** 21:56:24.8±0.3, 8°S±3°×12°9E±°, h108km±7km, M4.4/11, mB5.0/6, mb4.4/11, MLv4.5/6, Mw(mB)4.3/6*

ISC 01 21:56:22.1±0.4**, 7°.41S**±0°.05×**128°.70E**±0°.04**, h100km, n107, σ1s.52**/108**, mb4.6**/39**, 1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.64	103	Pn	Pn	21 57 05.0	+1.9
SAUI				Sn	Sn	21 57 34.1	-0.5
SAUI	Saumlaki	2.64	103	P	Pn	21 57 05.9	+2.8
SAUI	Saumlaki	2.64	103	P	Pn	21 57 07.3	+4.2
DRS	Darwin Rock St	5.44	157	P	Pn	21 57 42.8	+1.9
BATI	Baumata	5.70	240	P	Pn	21 57 46.9	+2.4
	22nm,0.3s,baz=79,slow=3.6,SNR=16						
BATI				S	Sn	21 58 49.9	+1.3
	28nm,0.3s,baz=284,slow=22,SNR=13						
BATI	Baumata	5.70	240	P	Pn	21 57 46.1	+1.7
	0.3nm33nm,0.4s						
MTN	Manton Dam	5.91	156	Pn	Pn	21 57 48.4	+1.1
MTN	Manton Dam	5.91	156	P	Pn	21 57 48.8	+1.6
KDU	Kakadu	6.43	145	P	Pn	21 57 55.0	+0.7
MMRI	Maumere	6.51	259	Pn	Pn	21 57 58.8	+3.4
SIJI	Sorong	6.98	22	P	Pn	21 58 04.3	+2.5
	4.6nm,0.3s,baz=219,slow=10,SNR=13						
SIJI				S	Sn	21 59 22.2	+2.5
	2.6nm,0.3s,baz=282,slow=18,SNR=10						
SWI	Sorong	6.98	22	P	Pn	21 58 07.6	+5.8
KNRA	Kununurra	8.22	180		Pn	21 58 18.8	+0.1
KNRA	Kununurra	8.22	180	P	Pn	21 58 19.1	+0.5
BASI	Baing, Sumba	8.50	250	P	Pn	21 58 25.8	+3.4
	27nm,0.6s						
WBSI	Waikabubak, Su	9.47	256	P	Pn	21 58 39.1	+3.4
	27nm,1.0s						
PLAI	Plampang	10.90	262	P	Pn	21 58 57.8	+2.6
	652nm21nm,0.8s						
FITZ	Fitzroy Crossi	11.04	195	P	Pn	21 58 55.2	-1.8
	0.9nm,0.3s,baz=11,slow=8.7,SNR=32						
FITZ				S	Sn	22 00 49.7	-8.8
	1.8nm,0.3s,baz=147,slow=23,SNR=7.4						
FITZ	Fitzroy Crossi	11.04	195	P	Pn	21 58 58.2	+1.2
WRA	Warramunga Arr	13.61	157	P	Pn	21 59 28.0	-3.1
	2.0nm,0.3s,baz=345,slow=13,SNR=84						
WRA				S	Sn	22 01 48.6	-12
	4.2nm,0.3s,baz=335,slow=22,SNR=11						
WRA	Warramunga Arr	13.61	157	Pn	Pn	21 59 27.5	-3.6
WB2	Warramunga Arr	13.62	157	Pn	Pn	21 59 28.8	-2.4
JAGI	Jajag, Banyuwa	14.45	265		Pn	21 59 43.5	+1.6
COEN	Coen	15.64	116		Pn	21 59 55.1	-1.9
COEN				IAmb	IAmb	22 00 01.0	
	comp=Z,38nm,1.4s						
COEN	Coen	15.64	116	P	Pn	21 59 57.6	+0.6
PSA00	Pilbara Seismi	16.48	210	Pn	Pn	22 00 06.2	-1.2
PSA00				IAmb	IAmb	22 00 29.9	
	comp=Z,48nm,1.9s						
PSA00	Pilbara Seismi	16.48	210	Pn	Pn	22 00 06.4	-1.0
PSA00				IAmb	IAmb	22 00 28.6	
	comp=Z,15nm,1.9s						
QIS	Mount Isa	16.81	142	P	Pn	22 00 10.8	-0.7
AS31	Alice Springs	16.92	163	P	Pn	22 00 11.5	-1.4
ASAR	Alice Springs	16.92	163	P	Pn	22 00 11.9	-0.9
	comp=Z,1.5nm,0.3s,baz=337,slow=8.8,SNR=81						
ASAR				S	Sn	22 03 08.7	-12
	comp=Z,1.5nm,0.3s,baz=346,slow=25,SNR=11						
ASAR	Alice Springs	16.92	163	P	Pn	22 00 11.3	-1.5
WRKA	Warakurna	17.54	181	P	P	22 00 21.2	+1.2
PBKI	Pangkalan Bun	17.59	285	P	Pn	22 00 25.4	+4.4
	comp=Z,1μmcomp=Z,114nm,1.0s						
UGM	Wanagama	18.02	267	P	P	22 00 24.8	-0.7
PMG	Port Moresby	18.37	98	P	P	22 00 30.1	+0.9
	comp=Z,1.5nm,0.3s,baz=275,slow=13,SNR=7.9						
PMG				LR	LR	22 09 35.2	
	comp=Z,50nm,19.1s,baz=144,slow=43						
PMG	Port Moresby	18.37	98	P	P	22 00 29.4	+0.2
PMG				IAmb	IAmb	22 00 33.2	
	comp=Z,18nm,1.0s						
PMG	Port Moresby	18.37	98	P	Pn	22 00 32.6	+2.2
	comp=Z,22nm,1.0s						
MTSU	Mount Surprise	18.57	127	P	P	22 00 32.6	+1.1
SBUM	Sibu	19.14	300	P	P	22 00 39.2	+1.6
KSM	Kuching	20.36	295	P	P	22 00 51.2	+0.4
KSM				IAmb	IAmb	22 00 55.9	
	comp=Z,19nm,0.9s						
CTA	Charters Tower	21.18	128	P	P	22 01 00.2	+0.6
	comp=Z,3.2nm,0.2s,baz=297,slow=13,SNR=9.3						
CTA				S	S	22 04 51.6	+1.9
	comp=Z,1.0nm,0.2s,baz=354,slow=17,SNR=1.7						
OOD	Oodnadatta	21.33	163	P	P	22 01 01.5	+0.3
FORT	Forrest	23.26	181	P	P	22 01 21.4	+0.4
FORT				IAmb	IAmb	22 01 38.8	
	comp=Z,22nm,1.0s						
QLP	Quilpie	24.12	144	P	P	22 01 29.6	+0.8
MORW	Morawa	24.63	207	P	P	22 01 33.9	+0.6
BBOO	Buckleboo	26.19	166	P	P	22 01 46.8	-0.6
BBOO				IAmb	IAmb	22 02 18.9	
	comp=Z,31nm,1.6s						
STKA	Stephens Creek	27.16	155	P	P	22 01 56.0	-0.2
	comp=Z,2.6nm,0.4s,baz=329,slow=9.4,SNR=14						
STKA	Stephens Creek	27.16	155	P	P	22 01 55.7	-0.4
KULM	Kulim	30.70	293	P	P	22 02 26.7	-1.1
RPSI	Rantau Prapat	31.36	288	P	P	22 02 33.1	-0.5
RPSI				IAmb	IAmb	22 02 34.8	
	comp=Z,6.5nm,0.7s						
PSI	Prapat	31.39	288	P	P	22 02 32.6	-1.4
	comp=Z,8.0nm,0.7s,baz=106,slow=7.6,SNR=7.7						
ARPS	Mount Arapiles	31.59	160	P	P	22 02 36.5	+1.2
UBPT	Khong Chiam	32.22	314	P	P	22 02 40.4	-0.6
TOO	Toolangi	33.68	156	P	P	22 02 54.1	+0.5
TOO				IAmb	IAmb	22 03 30.4	
	comp=Z,12nm,1.3s						
CMAR	Chiang Mai Arr	39.02	312	P	P	22 03 39.8	+0.5
	comp=Z,1.5nm,0.4s,baz=141,slow=7.3,SNR=14						
CMAR	Chiang Mai Arr	39.02	312	P	P	22 03 38.4	-0.8
CHTO	Chiang Mai	39.24	312	P	P	22 03 40.5	-0.5
CHTO				IAmb	IAmb	22 03 42.1	
	comp=Z,4.5nm,0.8s						
NJ2	Nanjing	40.35	347	eP	P	22 03 52.1	+2.1
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PZH	PanZhiHua	42.66	323	P	P	22 04 09.5	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
KSRS	Korea Array	44.63	359	P	P	22 04 23.8	-0.9
	comp=Z,1.1nm,0.5s,baz=179,slow=9.3,SNR=4.8						
XAN	Xi'an	45.28	337	P	P	22 04 27.8	-2.1
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,5.3s						
LZH	Lanzhou	49.17	333	⇑P	P	22 04 53.7	-6.5
LZH				pP	pP	22 05 23.9	+0.9
LZH				sP	sP	22 05 40.0	+6.3
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC	Hu-ho-hao-te	50.54	343	eP	P	22 05 12.6	+2.1
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,6.3s						
LSA	Lhasa	51.61	317	P	P	22 05 18.5	-0.6
LSA				IAmb	IAmb	22 05 20.2	
	comp=Z,6.0nm,0.6s						
ODAN	Odare	52.56	312	eP	P	22 05 24.8	-1.1
	comp=Z,8.9nm,0.5s						
TAPN	Taplejung	52.60	313	eP	P	22 05 25.7	-0.6
	comp=Z,12nm,0.4s						
RAMN	Ramite	53.19	312	eP	P	22 05 30.1	-0.5
	comp=Z,17nm,0.5s						
BKZ	Black Stump Fm	53.24	134	P	P	22 05 30.7	+0.1
GTA	Gaotai	53.72	332	⇓P	P	22 05 34.0	-0.1
GTA				pP	pwP	22 06 06.0	+5.2
GTA				sP	sP	22 06 18.3	+10
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JIRN	Jiri	53.89	312	eP	P	22 05 34.8	-1.0
GUN	Gumba	54.26	312	eP	P	22 05 37.8	-0.7
PKI	Pulchoki	54.42	312	eP	P	22 05 38.6	-1.0
	comp=Z,7.3nm,0.6s						
PKIN	Phulchoki	54.43	312	eP	P	22 05 38.4	-1.2
	comp=Z,7.7nm,0.5s						
KKN	Kakani	54.63	312	eP	P	22 05 40.1	-1.0
GKN	Gorkha	55.22	312	eP	P	22 05 44.3	-1.0
	comp=Z,15nm,0.5s						
KOLN	Koldanda	55.88	311	eP	P	22 05 49.3	-0.7
PYUN	Piuthan	56.51	311	eP	P	22 05 53.6	-0.9
	comp=Z,22nm,0.8s						
SONM	Songino Array	58.43	343	P	P	22 06 07.0	-0.4
	comp=Z,0.9nm,0.5s,baz=168,slow=7.4,SNR=12						
SONM	Songino Array	58.43	343	P	P	22 06 07.7	+0.2
WMQ	Urumqi	63.04	328	eP	P	22 06 38.6	-0.2
WMQ				pP	pP	22 07 10.0	+6.8
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
PEA0B	Petropavlovsk-	65.12	19	P	P	22 06 51.8	-0.3
PETK	Petropavlovsk-	65.12	19	P	P	22 06 51.3	-0.8
	comp=Z,2.2nm,0.6s,baz=188,slow=5.2,SNR=5.3						
PETK	Petropavlovsk-	65.12	19	P	P	22 06 51.6	-0.5
NIL	Nilore	66.51	311	P	P	22 07 00.2	-1.3
KSH	Kashi	67.45	318	P	P	22 07 08.3	+0.8
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	Makanchi Array	67.86	328	P	P	22 07 09.6	-0.2
MK31				IAmb	IAmb	22 07 10.3	
	comp=Z,5.4nm,0.7s						
MKAR	Makanchi Array	67.86	328	P	P	22 07 09.4	-0.4
	comp=Z,7.9nm,0.6s,baz=124,slow=7.8,SNR=102						
MAKZ	Makanchi	68.04	327	P	P	22 07 10.6	-0.3
MAKZ				IAmb	IAmb	22 07 11.2	
	comp=Z,5.3nm,0.7s						
AAK	Ala-Archa	70.02	320	P	P	22 07 22.7	-0.7
GAR	Garm	71.04	315	P	P	22 07 28.8	-0.9
GAR				IAmb	IAmb	22 07 30.6	
	comp=Z,8.5nm,1.1s						
ZAA0	Zalesovo Array	71.38	334	P	P	22 07 29.9	-1.2
ZAA0				IAmb	IAmb	22 07 31.0	
	comp=Z,5.9nm,0.7s						
ZALV	Zalesovo Beam	71.38	334	P	P	22 07 30.1	-1.1
	comp=Z,5.2nm,0.6s,baz=127,slow=4.9,SNR=28						
ZALV	Zalesovo Beam	71.38	334	P	P	22 07 29.7	-1.5
CHGR	Chuyangaron	71.70	315	P	P	22 07 32.3	-1.3
CHGR				IAmb	IAmb	22 07 33.6	
	comp=Z,10nm,1.1s						
KURK	Kurchatov	72.20	329	P	P	22 07 35.6	-0.5
KKAR	Karatay Array	72.80	319	P	P	22 07 39.1	-0.9
HRA	Herat	75.19	308	P	P	22 07 53.6	-0.7
SOCY	Socotra	76.77	284	P	P	22 08 02.7	-0.8
SOCY				IAmb	IAmb	22 08 27.5	
	comp=Z,10nm,1.3s						
BRVK	Borovoye	77.79	328	P	P	22 08 07.7	-0.5
TIXI	Tiksi	78.89	0	P	P	22 08 11.9	-2.0
TIXI				IAmb	IAmb	22 08 34.4	
	comp=Z,9.1nm,1.7s						
VOI	Vohitsoka	79.79	249	P	P	22 08 19.2	-0.9
ABKAR	Akbulak array	82.03	322	P	P	22 08 30.0	-1.2
ABKAR	Akbulak array	82.03	322	P	P	22 08 29.9	-1.2
ABKAR				IAmb	IAmb	22 08 31.9	
	comp=Z,13nm,2.0s						
ARU	Arti	85.37	328	LR	LR	22 47 14.3	
	comp=Z,15nm,21.6s,baz=303,slow=36						
ARU	Arti	85.37	328	P	P	22 08 47.4	-0.7
ARU				IAmb	IAmb	22 10 55.6	
	comp=Z,16nm,1.8s						
TORD	Torodi Ar. Bea	127.62	281	PKP	PKPdf	22 15 15.1	-1.6
	comp=Z,0.3nm,0.5s,baz=69,slow=1.9,SNR=4.2						
TORD	Torodi Ar. Bea	127.62	281		PKPdf	22 15 15.7	-1.0

*NEIC **01** 22:08:02.1±1.2, 23°.7S±0°.2×179°.7W±0°.1, h540km±13km, mb4.3/16, Error ellipse: s-maj=23.3km s-min=18.7km az=155.0*

*IDC **01** 22:08:02.6±2.2, 23°.66S×179°.88W, h536km±24km, mb3.5/9, mb1 3.7/11, mb1mx3.4/42, mbtmp4.4/11, Error ellipse: s-maj=30.9km s-min=16.9km az=158.0*

ISC 01 22:08:01.6±0.7**, 23°.7S**±0°.1×**179°.78W**±0°.09**, h532km, n33, σ0s.72**/33**, mb4.3**/17**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.28	341	P	P	22 09 42.7	+0.5
	4.9nm,0.3s,baz=164,slow=9.0,SNR=17						
NIUE	Niue	10.27	65	P	P	22 10 21.6	-0.5
DZM	Mont Dzumac	12.80	275	P	P	22 10 50.2	+1.5
URZ	Urewera	14.75	190	P	P	22 11 09.0	+0.4
	1.3nm,0.3s,baz=305,slow=2.2,SNR=5.9						
URZ	Urewera	14.75	190	P	P	22 11 08.5	-0.1
QRZ	Quartz Range	18.25	199	P	P	22 11 43.3	+0.8
EIDS	Eidsvold	26.54	260	P	P	22 12 57.3	+0.3
EIDS				IAmb	IAmb	22 13 10.1	
	comp=Z,13nm,1.2s						
PMG	Port Moresby	34.62	289	P	P	22 14 06.5	0.0
	comp=Z,8.2nm,0.4s,baz=124,slow=5.1,SNR=6.6						
PMG	Port Moresby	34.62	289	P	P	22 14 05.9	-0.7
STKA	Stephens Creek	34.98	248	P	P	22 14 10.0	+0.6
	comp=Z,1.1nm,0.5s,baz=55,slow=9.8,SNR=3.6						
STKA	Stephens Creek	34.98	248	P	P	22 14 09.7	+0.3
COEN	Coen	36.28	279	P	P	22 14 20.7	+0.3
COEN				IAmb	IAmb	22 14 48.1	
	comp=Z,6.8nm,1.4s						
BBOO	Buckleboo	39.71	247	P	P	22 14 47.6	-0.5
BBOO				IAmb	IAmb	22 14 48.4	
	comp=Z,8.7nm,1.1s						
ASAR	Alice Springs	42.27	260	P	P	22 15 08.8	+0.1
	comp=Z,2.6nm,0.5s,baz=97,slow=7.9,SNR=26						
ASAR	Alice Springs	42.27	260	P	P	22 15 08.5	-0.1
WR0	Warramunga Arr	42.43	266	P	P	22 15 09.2	-0.7
WRA	Warramunga Arr	42.62	266	P	P	22 15 10.9	-0.5
	comp=Z,2.7nm,0.3s,baz=95,slow=8.3,SNR=261						
WRA	Warramunga Arr	42.62	266	P	P	22 15 10.1	-1.3
JAY	Jayapura	43.62	293	P	P	22 15 19.1	-0.2
	comp=Z,9.8nm,0.7s,baz=108,slow=9.6,SNR=4.3						
FORT	Forrest	46.57	249	P	P	22 15 40.5	-1.1
MTN	Manton Dam	47.64	274	P	P	22 15 49.1	-0.8
MTN				IAmb	IAmb	22 16 02.2	
	comp=Z,13nm,1.2s						
KNRA	Kununurra	48.89	270	P	P	22 15 59.1	-0.1
KNRA				IAmb	IAmb	22 15 60.0	
	comp=Z,7.1nm,0.8s						
FITZ	Fitzroy Crossi	51.05	265	P	P	22 16 15.4	+0.4
SIJI	Sorong	52.56	288	P	P	22 16 25.9	-0.2
	comp=Z,17nm,0.7s,baz=86,slow=5.3,SNR=10						
PSA00	Pilbara Seismi	55.40	259	P	P	22 16 44.3	-1.6
MORW	Morawa	57.13	250	P	P	22 16 57.6	-0.1
MORW				IAmb	IAmb	22 16 58.5	
	comp=Z,14nm,1.2s						
KKM	Kota Kinabalu	69.04	287	P	P	22 18 14.0	-0.7
NVAR	Mina Array Bea	84.47	44	P	P	22 19 39.4	+0.8
	comp=Z,0.2nm,0.3s,baz=229,slow=8.2,SNR=2.6						
TRF	Thorofare Moun	89.92	13	P	P	22 20 03.1	-0.5
TRF				IAmb	IAmb	22 20 09.0	
	comp=Z,11nm,1.4s						
TX31	Lajitas Ar. Si	90.16	58	P	P	22 20 06.0	+0.5
TX31				IAmb	IAmb	22 20 07.7	
	comp=Z,6.3nm,1.0s						
TXAR	Lajitas Array	90.16	58	P	P	22 20 06.8	+1.3
	comp=Z,1.1nm,0.7s,baz=222,slow=6.2,SNR=14						
PDAR	Pinedale Array	92.41	44	P	P	22 20 15.8	0.0
	comp=Z,0.6nm,0.8s,baz=227,slow=4.8,SNR=4.2						
AKASG	Malin Array Be	144.91	328	PKP	PKPdf	22 26 37.5	-0.4
	comp=Z,0.3nm,0.3s,baz=39,slow=4.3,SNR=4.2						

IDC 01 22:18:03.1±3.1**, 5°.61S**×**152°.78E, h0km, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.1**/38**, mbtmp3.3**/3**, Error ellipse: s-maj=63.8km s-min=16.5km az=78.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.50	330	Pg	Pn	22 18 28.7	-2.6
KRVT				Lg	Lg	22 18 51.8	
WRA	Warramunga Arr	22.90	230	P	P	22 23 07.2	-1.5
	0.3nm,0.5s,baz=54,slow=10,SNR=5.2						
ASAR	Alice Springs	25.54	223	P	P	22 23 35.4	+1.5
	0.4nm,0.8s,baz=53,slow=8.6,SNR=2.5						
H11S3	WAKE ISLAND Hy	27.60	29	T	T	22 52 08.5	
	baz=208						
H11S2	WAKE ISLAND Hy	27.61	30	T	T	22 52 10.8	
	baz=208						
H11S1	WAKE ISLAND Hy	27.62	30	T	T	22 52 02.2	
	baz=208						
MKAR	Makanchi Array	80.92	319	P	P	22 30 19.9	+0.4
	0.5nm,0.8s,baz=110,slow=7.0,SNR=4.0						

*SJA **01** 23:03:32.4±0.7, 31°.77S×72°.54W, h16km±5km, ML3.9, MW4.2*

*IDC **01** 23:03:35.5±2.3, 31°.79S×71°.91W, h0km, mb4.3/2, mb1 4.0/5, mb1mx3.8/42, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=78.5km s-min=32.2km az=103.0*

*GUC **01** 23:03:37.6±0.8, 31°.80S×72°.16W, h41km±4km, ML3.9*

*NEIC **01** 23:03:37.8±1.8, 31°.80S±0°.03×72°.18W±0°.09, h20km±4km, mb4.0/4, ML3.9(GUC), Error ellipse: s-maj=11.6km s-min=4.1km az=99.0*

ISC 01 23:03:35.2±1.5**, 31°.79S**±0°.02×**72°.30W**±0°.05**, h11km**±9km**, n85, σ1s.25**/118**, 12C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA06	Catapilco	1.14	132		Pb	23 03 56.8	-0.2
VA06				Sn	Sb	23 04 10.5	-1.4
VA06	Catapilco	1.14	132	⇑eP	Pb	23 03 56.5	-0.6
VA06				eS	Sb	23 04 10.7	-1.2
VA06				IAML		23 04 18.1	
	comp=E,6μm,0.4s						
CO06	Fray Jorge	1.25	27		Pn	23 03 58.6	-0.1
CO06	Fray Jorge	1.25	27	⇑eP	Pn	23 03 58.5	-0.1
CO06				eS	Sb	23 04 14.3	-0.6
CO02	Combarbal	1.25	63	Pn	Pn	23 03 58.4	-0.4
CO02				Sn	Sb	23 04 13.4	-1.7
CO02	Combarbal	1.25	63	⇑iP	Pn	23 03 58.2	-0.6
CO02				iS	Sb	23 04 13.5	-1.7
CO02				IAML		23 04 14.8	
	comp=N,8μm,0.7s						
CO02	Combarbal	1.25	63	eP	Pg	23 03 59.7	+0.4
CO02				IAML		23 04 21.6	
	comp=Z,2μm,0.5s						
VA01	Torpederas	1.35	156	Pn	Pn	23 04 00.2	+0.3
VA01	Torpederas	1.35	156	⇑eP	Pn	23 04 00.3	+0.4
VA01				eS	Sn	23 04 14.9	-3.0
ROC1	El Roble	1.60	138	Pn	Pn	23 04 02.4	-1.3
ROC1	El Roble	1.60	138	eP	Pn	23 04 04.7	+0.9
ROC1				eS	Sg	23 04 29.6	+2.7
ROCH	El Roble	1.60	138	⇑iP	Pn	23 04 04.1	+0.3
ROCH				eS	Sn	23 04 22.9	-1.7
ROCH				IAML		23 04 28.2	
	comp=N,2μm,0.4s						
CO03	El Pedregal	1.67	56		Pn	23 04 04.9	+0.4
CO03				Sn	Sb	23 04 25.5	-1.7
CO03	El Pedregal	1.67	56	⇑eP	Pn	23 04 04.7	+0.2
CO03				eS	Sb	23 04 25.8	-1.4
CO03				IAML		23 04 33.9	
	comp=E,1μm,0.4s						
CO03	El Pedregal	1.67	56	eP	Pb	23 04 05.5	-0.6
CO03				eS	Sb	23 04 26.6	-0.6
CO03				IAML		23 04 29.7	
	comp=Z,1μm,0.4s						
MT02	Curacav	1.76	147		Pn	23 04 06.0	+0.3
MT02				Sn	Sn	23 04 26.8	-1.4
MT02	Curacav	1.76	147	eP	Pn	23 04 05.8	+0.1
MT02				eS	Sn	23 04 26.9	-1.2
MT02	Curacav	1.76	147	eP	Pn	23 04 06.6	+0.9
MT02				eS	Sb	23 04 28.9	-0.9
MT02				IAML		23 04 35.2	
	comp=Z,629nm,0.8s						
VA03	San Esteban	1.77	124		Pn	23 04 06.3	+0.4
VA03				Sn	Sn	23 04 26.8	-1.6
VA03	San Esteban	1.77	124	⇑iP	Pn	23 04 06.3	+0.4
VA03				eS	Sn	23 04 27.4	-1.1
VA03				IAML		23 04 33.7	
	comp=N,5μm,0.6s						
VA03	San Esteban	1.77	124	eP	Pn	23 04 06.6	+0.7
VA03				eP	Pb	23 04 06.8	-0.9
VA03				eS	Sg	23 04 32.3	+0.2
VA03				IAML		23 04 36.9	
	comp=Z,2μm,0.8s						
PEL	Peldehue	1.92	135		Pn	23 04 08.5	+0.6
PEL	Peldehue	1.92	135	⇑iP	Pn	23 04 08.5	+0.6
PEL				eS	Sn	23 04 31.4	-0.7
PEL				IAML		23 04 39.0	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.92	135	eP	Pn	23 04 09.0	+1.1
PEL				eS	Sg	23 04 36.6	-0.3
VA05	Santo Domingo	1.95	163	Pn	Pn	23 04 08.9	+0.7
VA05	Santo Domingo	1.95	163	⇑eP	Pn	23 04 09.0	+0.7
VA05				eS	Sn	23 04 32.2	-0.5
VA05				IAML		23 04 50.3	
	comp=E,1μm,0.5s						
GO04	Tololo Observa	2.06	39	Pn	Pn	23 04 10.8	+0.7
GO04	Tololo Observa	2.06	39	eP	Pn	23 04 10.6	+0.5
GO04				eS	Sn	23 04 35.9	0.0
GO04				IAML		23 04 48.7	
	comp=E,5μm,0.6s						
GO04	Tololo Observa	2.06	39	eP	Pn	23 04 11.0	+0.9
GO04				eS	Sg	23 04 40.6	-0.9
MT05	Renca	2.07	141	Pn	Pn	23 04 10.6	+0.6
MT05	Renca	2.07	141	eP	Pn	23 04 11.1	+1.1
MT05				eS	Sn	23 04 35.2	-0.6
MT05				IAML		23 04 46.0	
	comp=E,2μm,0.3s						
MT05	Renca	2.07	141	eP	Pn	23 04 07.6	-2.4
MT05				eP	Pb	23 04 11.3	-1.6
MT05				eS	Sg	23 04 40.8	-0.9
MT05				IAML		23 04 45.8	
	comp=Z,977nm,0.3s						
CO05	La Serena	2.08	26		Pn	23 04 10.8	+0.8
CO05	La Serena	2.08	26	eP	Pn	23 04 10.4	+0.4
CO05				eS	Sn	23 04 35.0	-0.9
CO05				IAML		23 04 44.7	
	comp=E,1μm,0.4s						
MT01	Popeta	2.25	157	Pn	Pn	23 04 13.2	+0.8
MT01	Popeta	2.25	157	⇑eP	Pn	23 04 13.1	+0.8
MT01				eS	Sn	23 04 37.8	-2.4
MT01				IAML		23 04 50.9	
	comp=E,522nm,0.5s						
MT01	Popeta	2.25	157	eP	Pn	23 04 07.6	-4.8

MT01				eP	Pb	23 04 13.0	-2.9
MT01				eS	Sb	23 04 42.6	-1.1
MT09	Talagante	2.27	151		Pn	23 04 14.2	+1.4
MT09	Talagante	2.27	151	eP	Pn	23 04 14.2	+1.4
MT09				eS	Sn	23 04 40.0	-0.8
MT09				IAML		23 04 56.6	
	comp=E,844nm,0.8s						
MT03	Universidad Ad	2.27	139	Pn	Pn	23 04 13.6	+0.8
MT03	Universidad Ad	2.27	139⇑	eP	Pn	23 04 13.8	+1.0
MT03				eS	Sn	23 04 40.2	-0.7
MT03				IAML		23 04 51.3	
	comp=E,2μm,0.5s						
MT03	Universidad Ad	2.27	139	eP	Pn	23 04 14.0	+1.2
MT03				eS	Sb	23 04 43.6	-0.9
MT03				IAML		23 04 56.6	
	comp=Z,810nm,0.9s						
AUSP	Uspallata	2.51	101	eP	Pb	23 04 19.0	-1.5
AUSP				eS	Sg	23 04 54.0	-1.9
BO04	La Punta	2.61	148	Pn	Pn	23 04 18.8	+1.3
LMEL	Las Melosas	2.71	140⇑	eP	Pn	23 04 20.4	+1.5
LMEL				eS	Sn	23 04 51.0	-0.7
LMEL				IAML		23 05 08.0	
	comp=E,383nm,0.5s						
BO01	Tunca	2.79	159		Pn	23 04 20.6	+0.8
BO01	Tunca	2.79	159	eP	Pn	23 04 21.0	+1.2
BO01				eS	Sn	23 04 54.9	+1.4
BO01				IAML		23 05 11.5	
	comp=Z,267nm,0.8s						
AROD	Rodeo	2.92	57	eP	Pn	23 04 24.1	+2.2
AROD				eS	Sb	23 05 00.6	-2.6
ACCO	Cerro Coronel	3.02	67	eP	Pn	23 04 25.5	+2.2
ACCO				eS	Sb	23 05 07.6	+1.4
ARCO	CERRO ARCO	3.04	111	eP	Pn	23 04 25.2	+1.8
ARCO				eS	Sb	23 05 08.1	+1.6
ARCO				IAML		23 05 17.2	
	comp=Z,340nm,0.6s						
ASAL	Salagasta	3.04	106	eP	Pn	23 04 25.2	+1.8
ASAL				eS	Sb	23 05 05.6	-1.1
AAGR	Agrelo	3.20	115	eP	Pn	23 04 27.7	+2.0
AAGR				eS	Sg	23 05 19.2	+1.0
GO05	Huala	3.23	175	Pn	Pn	23 04 26.7	+0.8
GO05	Huala	3.23	175	eP	Pn	23 04 26.7	+0.8
GO05				eS	Sg	23 05 19.1	+0.3
BO02	Sierra Bellavi	3.25	157		Pn	23 04 28.0	+1.7
BO02	Sierra Bellavi	3.25	157	eP	Pn	23 04 28.0	+1.7
BO02				eS	Sn	23 05 06.5	+1.5
BO02				IAML		23 05 23.0	
	comp=Z,286nm,1.1s						
AC06	Mina Casimiro	4.73	21	Pn	Pn	23 04 47.0	+0.4
BI05	Punta Hualpn	5.00	188	Pn	Pn	23 04 50.7	+0.5
APLL	PUNTA DE LOS L	5.14	76	eP	Pn	23 04 54.9	+2.7
AC02	Maricunga	5.66	30	Pn	Pn	23 05 00.8	+1.1
AC01	Pan de Azucar	5.82	15	Pn	Pn	23 05 01.4	-0.1
H03N1	Juan Fernandez	5.82	252	T	T	23 11 58.0	
	baz=81,slow=72,SNR=103						
H03N3	Juan Fernandez	5.83	252	T	T	23 11 56.2	
	baz=81,slow=72,SNR=104						
H03N2	Juan Fernandez	5.83	252	T	T	23 11 55.7	
	baz=81,slow=72,SNR=97						
H03S3	Juan Fernandez	5.93	248	T	T	23 11 50.2	
	baz=84						
H03S1	Juan Fernandez	5.93	248	T	T	23 12 03.5	
	baz=84						
H03S2	Juan Fernandez	5.94	248	T	T	23 11 53.7	
	baz=84						
LC01	Cunco	7.10	177	Pn	Pn	23 05 19.7	+0.7
PLCA	Paso Flores	9.04	172	Pn	Pn	23 05 47.4	+1.7
	comp=Z,0.4nm,0.3s,baz=335,slow=12,SNR=15						
PLCA	Paso Flores	9.04	172	Pn	Pn	23 05 47.0	+1.3
PATCX	Punta Patache	11.09	10	Pn	Pn	23 06 14.1	+0.1
LPAZ	La Paz	15.89	15	Pn	Pn	23 07 21.1	+1.5
	comp=Z,0.1nm,0.3s,baz=180,slow=7.4,SNR=4.0						
LPAZ	La Paz	15.89	15	P	Pn	23 07 21.5	+2.0
PLTB	Pedras Altas	15.90	95	P	P	23 07 23.7	+1.0
PLTB				IAmb	IAmb	23 07 26.9	
	comp=Z,21nm,1.5s						
SIV	San Ignacio	18.76	36	P	Pn	23 07 55.1	+0.2
	baz=256,slow=17,SNR=1.6						
BDFB	Brasilia	27.34	60	P	P	23 09 19.5	-1.0
	comp=Z,4.7nm,0.9s,baz=262,slow=8.5,SNR=4.3						
TORD	Torodi Ar. Bea	83.67	70	P	P	23 16 05.1	+0.7
	comp=Z,1.9nm,0.8s,baz=252,slow=5.7,SNR=10						
TORD	Torodi Ar. Bea	83.67	70	P	P	23 16 04.3	0.0
H11S2	WAKE ISLAND Hy	125.55	271	T	T	01 41 41.6	
	baz=120						
H11S1	WAKE ISLAND Hy	125.56	271	T	T	01 41 38.5	
	baz=120						
H11S3	WAKE ISLAND Hy	125.57	271	T	T	01 41 44.3	
	baz=120						
ZALV	Zalesovo Beam	152.45	30	PKPbc	PKiKP	23 23 32.8	+1.5
	comp=Z,0.9nm,0.5s,baz=315,slow=2.9,SNR=5.6						
ZALV	Zalesovo Beam	152.45	30		PKPbc	23 23 31.7	+0.7
MKAR	Makanchi Array	155.42	45	PKPab	PKPab	23 23 53.7	-0.5
	comp=Z,0.3nm,0.8s,baz=299,slow=2.9,SNR=4.0						
MKAR	Makanchi Array	155.42	45		PKPab	23 23 53.8	-0.3

DSN 01 23:05:19.7±1.9,27°.82N×58°.46E,h10km,ML3.7/5,Error ellipse: s-maj=48.7km s-min=12.2km az=148.0
TEH 01 23:05:25.4,28°.12N×57°.58E,h12km,ML3.7
OMAN 01 23:05:51.7±1.0,26°.08N×57°.00E,h20km±9km,ml2.3/7,Error ellipse: s-maj=12.4km s-min=7.6km az=347.0
ISC 01 23:05:26.6±1.0,27°.95N±0°.05×57°.64E±0°.06,h25km±7km, n66,σ1s.43/70,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.06	89	ePg	Pb	23 05 30.2	-0.8
KHNJ				eSg	Sb	23 05 34.5	+0.5
KBAM	BAM	1.38	31	ePg	Pn	23 05 49.5	-0.9
KBAM				eSg	Sn	23 06 07.7	-0.3
KBAM				e		23 06 11.2	
	comp=Z,11μm,0.4s						
GENO	Geno	1.41	248	ePg	Pn	23 05 51.5	+0.6
GENO				e		23 05 52.6	
	comp=Z,8μm,0.5s						
NGRK	Negar Kerman	1.87	335	ePn	Pn	23 05 57.0	-0.4
NGRK				e		23 06 29.4	
	comp=Z,6μm,0.3s						
CHMN	Cheshme madani	1.91	357	ePn	Pn	23 05 58.0	+0.1
CHMN				e		23 06 02.6	
	comp=Z,3μm,0.3s						
KRBR	Kerman	2.17	339	ePn	Pn	23 06 03.3	+1.9
TVBK	TV Kerman	2.17	339	ePn	Pn	23 06 01.3	-0.2
TVBK				e		23 06 41.8	
	comp=Z,11μm,0.4s						
SHME	Shamm	2.31	216	ePn	Pn	23 06 04.1	+1.0
SHME	Shamm	2.31	216	P	Pn	23 06 03.3	+0.1
	SNR=11						
SHME	Shamm	2.31	216	P	Pn	23 06 03.6	+0.4
SHME				S	Sb	23 06 36.6	+0.8
BANOM	Banah	2.34	211	ePn	Pn	23 06 04.7	+1.1
BANOM	Banah	2.34	211	P	Pn	23 06 04.2	+0.6
	SNR=44						
BANOM	Banah	2.34	211	P	Pn	23 06 03.9	+0.3
BANOM				S	Sb	23 06 38.0	+1.3
KHGB	Koh Gabri	2.62	337	e		23 06 13.3	
	comp=Z,3μm,0.7s						
KHGB				ePn	Pn	23 06 08.7	+1.1
MASF	Masafi	2.89	208	P	Pn	23 06 11.4	+0.3
MASF				S	Sn	23 06 24.7	-20
MSFE	Esma-Masafi	2.90	208	ePn	Pn	23 06 12.6	+1.4
MSFE	Esma-Masafi	2.90	208	P	Pn	23 06 10.7	-0.5
LAR1	LAR	2.91	265	ePn	Pn	23 06 13.3	+2.0
LAR1				e		23 07 25.4	
	comp=Z,3μm,0.7s						
ZHDN	Zahedan	3.14	62	ePn	Pn	23 06 15.8	+1.2
UOSS	Minazif	3.25	204	ePn	Pn	23 06 18.1	+2.0
UOSS	Minazif	3.25	204	P	Pn	23 06 15.7	-0.4
UOSS	Minazif	3.25	204	P	Pn	23 06 13.4	-2.7
HATD	Hatta, Dubai	3.39	204	ePn	Pn	23 06 19.6	+1.6
HATD	Hatta, Dubai	3.39	204	P	Pn	23 06 15.5	-2.5
NAZ	Nazwa, Dubai	3.44	211	ePn	Pn	23 06 20.1	+1.5
ASHO	Ashiyiah	3.55	204	ePn	Pn	23 06 21.4	+1.3
ASHO	Ashiyiah	3.55	204	P	Pn	23 06 20.5	+0.4
ASHO	Ashiyiah	3.55	204	P	Pn	23 06 19.5	-0.7
JHRM	Jahrom	3.63	280	ePn	Pn	23 06 22.2	+0.9
FAQ	Al Faqa, Dubai	3.68	210	ePn	Pn	23 06 22.7	+0.8
FAQ	Al Faqa, Dubai	3.68	210	P	Pn	23 06 22.6	+0.6
ASUD	Al Ashush, Dub	3.90	213	ePn	Pn	23 06 26.3	+1.3
ASUD	Al Ashush, Dub	3.90	213	P	Pn	23 06 26.2	+1.2
	SNR=7.4						
LMD1	Lamerd	4.02	262	ePn	Pn	23 06 27.9	+1.3
LMD1				e		23 07 18.3	
	comp=Z,1μm,0.3s						
NHDN	Nehbandan	4.02	31	ePn	Pn	23 06 27.0	+0.2
NHDN				e		23 07 41.4	
	comp=Z,2μm,0.6s						
IBAF	Bafgh	4.05	334	ePn	Pn	23 06 27.2	0.0
GHIR	Ghir-Karzin	4.12	276	ePn	Pn	23 06 28.9	+0.8
AJN	Ajban	4.13	216	P	Pn	23 06 28.8	+0.7
ALNE	Al Ain	4.23	204	ePn	Pn	23 06 31.6	+2.1
SRVN	Saravan	4.25	96	ePn	Pn	23 06 33.0	+3.1
IMEH	Mehriz	4.33	323	ePn	Pn	23 06 31.8	+0.8
IKOO	Kooshah	4.62	14	ePn	Pn	23 06 35.7	+0.7
SMDO	Samad	4.88	176	P	Pn	23 06 39.9	+1.4
ITEG	Tejag	5.03	11	ePn	Pn	23 06 40.9	+0.3
TPRV	Parvadeh(Tabas	5.13	351	ePn	Pn	23 06 40.9	-1.0
IDAH	Dahanechah	5.15	21	ePn	Pn	23 06 43.6	+1.2
IDAH				e		23 08 30.3	
	comp=N,457nm,0.6s						
YZKH	Yazd	5.16	330	ePn	Pn	23 06 44.2	+1.9
ISAD	Sadrabad	5.24	320	ePn	Pn	23 06 44.5	+0.9
IMON	Monand	5.51	18	ePn	Pn	23 06 49.0	+1.7
AFRZ	Afriz	5.59	12	ePn	Pn	23 06 49.1	+0.8
TKDS	Koohdasht(Taba	5.67	356	ePn	Pn	23 06 49.1	-0.2
UMZA	Um Al Zommool	5.67	204	ePn	Pn	23 06 50.3	+1.0
TABS	Tabas	5.70	356	ePn	Pn	23 06 52.7	+2.9
IRAM	Ramesheh	5.97	311	ePn	Pn	23 06 53.8	+0.2
KLNJ	Kolanjah	6.09	302	ePn	Pn	23 06 55.4	0.0
SHRT	Shahrakht	6.12	21	ePn	Pn	23 06 59.4	+3.9
MZR	Muzera	6.19	218	ePn	Pn	23 06 57.4	+0.9
ANAR	Anarak	6.22	328	ePn	Pn	23 06 57.0	+0.1
NASN	Na'in	6.39	320	ePn	Pn	23 07 01.1	+1.7
TRNA	Turayna	6.59	242	S	Sn	23 08 11.9	-4.4
IZEF	Zefreh	6.73	318	ePn	Pn	23 07 04.2	+0.1
SHK1	Shahrekord	7.30	308	ePn	Pn	23 07 10.8	-1.1
IPIR	Pirpir	7.50	311	ePn	Pn	23 07 15.6	+0.9
ISFB	Sefidab	7.88	325	ePn	Pn	23 07 21.1	+1.4
AMIS	Naft Sefid	8.15	299	ePn	Pn	23 07 23.0	-0.3
ASAO	Ashtian	9.26	317	ePn	Pn	23 07 40.5	+1.7

TUL 01 23:08:56.1±0.5,35°.72N±0°.01×97°.17W±0°.02,h5km±3km, ML3.4,mb_Lg3.1/73(NEIC),Error ellipse: s-maj=2.0km s-min=1.7km az=131.0
NEIC 01 23:08:56.7±0.5,35°.720N±0°.010×97°.17W±0°.01,h6km±4km, Error ellipse: s-maj=2.0km s-min=0.9km az=129.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.07	192		Pg	23 08 58.1	-0.3
OK001	Jones High Sch	0.18	211	Pg	Pg	23 09 00.2	-0.2
OK009	Oakdale Elemen	0.24	236		Pg	23 09 01.5	0.0
OKCFA	Oklahoma City	0.38	217	Pg	Pg	23 09 03.9	-0.1
OKCFA				Sg	Sg	23 09 09.5	+0.5
OKCSW	OKLAHOMA CITY	0.38	215	Pg	Pg	23 09 03.9	-0.2
OKCSW				Sg	Sg	23 09 09.4	+0.3
FNO	Franklin	0.50	202	Pg	Pg	23 09 06.0	-0.3
FNO				Sg	Sg	23 09 13.2	+0.4
W35A	Tecumseh	0.62	157	Pg	Pg	23 09 08.0	-0.6
W35A				Sg	Sg	23 09 16.6	+0.1
TUL1	Leonard	1.14	80	Pg	Pg	23 09 17.4	-1.1
TUL1				Sg	Sg	23 09 32.5	-0.9
X34A	Smith Ranch, M	1.24	206		Pg	23 09 19.5	-1.0
T35A	Sooner Cattle	1.31	24		Pn	23 09 20.1	-1.5
U32A	Winter Ranch,	1.62	295		Pn	23 09 25.5	-0.3
U32A				IAmb_Lg		23 09 51.3	
	comp=Z,98nm,0.8s						
WMOK	Wichita Mounta	1.64	234		Pn	23 09 25.5	-0.6
X37A	Clayton	1.86	127	Pn	Pn	23 09 29.0	0.0
X37A				IAmb_Lg		23 09 56.8	
	comp=Z,82nm,0.9s						
Z35A	Perchaven, San	2.38	182	IAmb_Lg		23 10 15.2	
	comp=Z,47nm,1.1s						
HHAR	Hobbs	2.68	77	IAmb_Lg		23 10 25.8	
	comp=Z,41nm,0.8s						
W39A	Magazine	2.82	100		Pn	23 09 42.1	-0.2
Z38A	Mt. Pleasant	3.05	143	Pn	Pn	23 09 44.1	-1.4
MIAR	Mount Ida	3.17	111		Pn	23 09 47.6	+0.5
MIAR				IAmb_Lg		23 10 42.5	
	comp=Z,60nm,1.1s						
KSU1	Kansas State U	3.41	7	Pn	Pn	23 09 49.7	-0.7
KSU1				IAmb_Lg		23 10 49.8	
	comp=Z,40nm,0.7s						
U40A	Yellville	3.56	78	Pn	Pn	23 09 51.8	-0.6
U40A				IAmb_Lg		23 10 54.1	
	comp=Z,41nm,0.9s						
S39A	Bolivar	3.67	56	Pn	Pn	23 09 53.3	-0.7
CBKS	Cedar Bluff	3.70	327	IAmb_Lg		23 10 58.4	
	comp=Z,42nm,0.7s						
ABTX	Abilene, Hawle	3.71	214	Pn	Pn	23 09 54.0	-0.5
ABTX				IAmb_Lg		23 11 00.9	
	comp=Z,31nm,1.0s						
X40A	Basin Creek Fa	3.77	108	Pn	Pn	23 09 55.1	-0.1
X40A				IAmb_Lg		23 11 02.5	
	comp=Z,42nm,0.8s						
AMTX	Amarillo	3.78	259	IAmb_Lg		23 10 60.0	
	comp=Z,38nm,0.9s						
WHAR	Wooly Hollow	4.01	95		Pn	23 09 57.6	-1.0
W41B	Gary Mavity, V	4.06	96		Pn	23 09 59.2	-0.1
W41B				IAmb_Lg		23 11 14.8	
	comp=Z,28nm,1.0s						
FCAR	Ozark Folk Cen	4.11	86	IAmb_Lg		23 11 10.2	
	comp=Z,44nm,0.9s						
MGMO	Mountain Grove	4.21	69	IAmb_Lg		23 11 16.1	
	comp=Z,58nm,0.8s						
R40A	Maddies Statio	4.69	55	IAmb_Lg		23 11 26.3	
	comp=Z,28nm,0.7s						
P38A	Dawn	4.85	35	IAmb_Lg		23 11 38.4	
	comp=Z,24nm,0.7s						
LCAR	Lake Charles	4.90	84	IAmb_Lg		23 11 37.9	
	comp=Z,25nm,0.9s						
MSTX	Muleshoe	4.92	251	Pn	Pn	23 10 10.3	-1.0
435B	Jarrell	4.94	184	IAmb_Lg		23 11 37.5	
	comp=Z,25nm,0.9s						
N33A	J Bar K, Exete	5.01	358	IAmb_Lg		23 11 45.5	
	comp=Z,28nm,0.9s						
N35A	Tabor	5.27	13	Pn	Pn	23 10 15.1	-0.9
N35A				IAmb_Lg		23 11 54.5	
	comp=Z,55nm,0.7s						
CCM	Cathedral Cave	5.29	62	IAmb_Lg		23 11 43.6	
	comp=Z,48nm,1.0s						
HBAR	Harrisburg	5.31	90	Pn	Pn	23 10 14.6	-1.9
KSCO	Kaye Shedlock'	5.45	309	IAmb_Lg		23 11 54.2	
	comp=Z,19nm,0.7s						
P40A	Paris	5.57	45	IAmb_Lg		23 12 08.4	
	comp=Z,31nm,0.8s						
JCT	Junction City	5.67	204	IAmb_Lg		23 12 02.7	
	comp=Z,53nm,1.1s						
BGNE	Belgrade	5.73	353	IAmb_Lg		23 12 09.9	
	comp=Z,56nm,0.8s						
FVM	French Village	5.86	65	IAmb_Lg		23 12 03.9	
	comp=Z,24nm,0.8s						
N38A	Joes South For	5.94	30	IAmb_Lg		23 12 09.9	
	comp=Z,49nm,0.8s						
T25A	Trinidad	6.00	286	IAmb_Lg		23 12 16.4	
	comp=Z,24nm,1.1s						
SLM	Saint Louis	6.26	60	IAmb_Lg		23 12 13.4	
	comp=Z,40nm,0.8s						
OGNE	Ogallala	6.46	325	IAmb_Lg		23 12 34.5	
	comp=Z,40nm,0.8s						
W45A	Hickory Valley	6.54	93	IAmb_Lg		23 12 36.9	
	comp=Z,23nm,0.8s						
SIUC	Southern Illin	6.69	70	IAmb_Lg		23 12 27.9	
	comp=Z,43nm,0.8s						
SCIA	State Center	6.91	25	IAmb_Lg		23 12 39.2	
	comp=Z,21nm,0.8s						
SDCO	Great Sand Dun	6.99	289	Pn	Pn	23 10 40.3	+0.5
ISCO	Idaho Springs	7.83	304	Pn	Pn	23 10 50.4	-1.0
ECSD	EROS Data Cent	8.02	3	Pn	Pn	23 10 51.3	-2.4
PHWY	Pilot Hill	8.55	313	Pn	Pn	23 11 01.3	-0.1
PHWY				IAmb_Lg		23 13 44.7	
	comp=Z,20nm,1.1s						
N23A	Red Feather La	8.61	309	IAmb_Lg		23 13 40.5	
	comp=Z,19nm,0.9s						

MOS 01 23:54:18.9±1.0,34°.48N×25°.33E,h79km,mb4.9/21,Error ellipse: s-maj=6.6km s-min=3.7km az=88.6
ISK 01 23:54:18.0,34°.34N×25°.43E,h94km±2km,ML4.3/11
THE 01 23:54:19.9,34°.33N×25°.41E,h94km±3km,ML4.2/24,Error ellipse: s-maj=3.7km s-min=0.9km az=350.0
NEIC 01 23:54:19.8±1.5,34°.42N±0°.09×25°.42E±0°.08,h72km±7km, mb4.5/70,ML4.1(ATH),ML4.2(THE),Error ellipse: s-maj=13.2km s-min=9.0km az=188.0
ATH 01 23:54:19.0,34°.32N×25°.39E,h72km±8km,ML4.1/8,Error ellipse: s-maj=9.6km s-min=1.5km az=354.0
HLW 01 23:54:20.9,34°.12N×25°.83E,h22km±23km,Md4.5,Ml4.6
IDC 01 23:54:21.0±1.6,34°.53N×25°.35E,h83km±11km,mb4.1/22, mb1 4.1/31,mb1mx4.0/55,mbtmp4.3/31,MS3.1/2, Ms1 3.2/2,ms1mx2.4/85,Error ellipse: s-maj=20.8km s-min=12.5km az=170.0
NIC 01 23:54:23.1±0.0,34°.13N×26°.20E,h24km±7km,Ml4.7/6
ISC 01 23:54:20.0±0.7,34°.46N±0°.05×25°.45E±0°.03,h77km±4km, n464,σ1s.78/488,mb4.5/66,26C-9D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	Ierapetra Chan	0.60	23	P	Pn	23 54 35.8	+1.4
SIVA	Sivas	0.76	317	P	Pn	23 54 36.3	+0.2
SIVA				S	Sn	23 54 48.9	+0.9
SIVA				AML	AML	23 54 52.1	
	comp=E,26046μm,0.3s						
SIVA				AML	AML	23 54 53.1	
	comp=N,21195μm,0.6s						
SIVA	Sivas	0.76	317	P	Pn	23 54 36.3	+0.2
SIVA				S	Sn	23 54 48.9	+0.9
	comp=N,14μm,0.6s						
NPS	Neapolis	0.81	10	P	Pn	23 54 38.0	+1.4
NPS				S	Sn	23 54 51.8	+2.7
NPS				AML	AML	23 55 00.3	
	comp=N,6593μm,0.3s						
NPS				AML	AML	23 55 01.1	
	comp=E,8329μm,0.4s						
NPS	Neapolis	0.81	10	P	Pn	23 54 38.2	+1.5
TMBK	Timbaki Herakl	0.83	318	P	Pn	23 54 37.2	+0.4
TMBK				S	Sn	23 54 50.7	+1.4
	comp=E,4μm,0.5s						
HRKL	Herakleio	0.90	342	P	Pn	23 54 39.2	+1.6
HRKL				S	Sn	23 54 54.2	+3.5
	comp=E,12μm,0.6s						
HRKL	Herakleio	0.90	342	PG	Pn	23 54 38.8	+1.2
HRKL				SG	Sn	23 54 54.0	+3.3
KSTL	Kastelli Herak	0.90	340	P	Pn	23 54 37.1	-0.5
KSTL				S	Sn	23 54 50.5	-0.2
IACM	Heraklion	0.90	340	P	Pn	23 54 39.0	+1.4
IACM				S	Sn	23 54 53.1	+2.4
IACM	Heraklion	0.90	340	P	Pn	23 54 39.3	+1.7
ZKR	Zakros	0.91	44	P	Pn	23 54 39.1	+1.4
ZKR				S	Sn	23 54 54.0	+2.9
ZKR				AML	AML	23 54 54.8	
	comp=E,6857μm,0.6s						
ZKR				AML	AML	23 54 57.1	
	comp=N,3836μm,0.6s						
ZKR	Zakros	0.91	44	P	Pn	23 54 39.1	+1.4
ZKR				S	Sn	23 54 53.4	+2.3
	comp=N,3μm,0.6s						
ZKR	Zakros	0.91	44	P	Pn	23 54 39.2	+1.4
ZKR				S	Sn	23 54 52.6	+1.5
IDI	Anoyia	0.94	331	P	Pn	23 54 39.1	+0.8
	comp=N,264nm,0.3s,baz=176,slow=9.2,SNR=1918						
IDI				S	Sn	23 54 54.8	+2.9
	comp=N,617nm,0.3s,baz=40,slow=19,SNR=34						
IDI	Anoyia	0.94	331	P	Pn	23 54 39.1	+0.8
IDI				S	Sn	23 54 54.0	+2.1
IDI				AML	AML	23 54 56.0	
	comp=N,11570μm,0.5s						
IDI				AML	AML	23 54 59.6	
	comp=E,9362μm,0.5s						
IDI	Anoyia	0.94	331	P	Pn	23 54 39.0	+0.8
IDI				S	Sn	23 54 55.0	+3.1
	comp=E,5μm,0.5s						
IDI	Anoyia	0.94	331	PG	Pn	23 54 39.3	+1.0
IDI				SG	Sn	23 54 54.8	+2.9
IDI	Anoyia	0.94	331		Pn	23 54 38.7	+0.4
GVDS	Gavdos	1.18	289	P	Pn	23 54 41.4	+0.3
GVDS				S	Sn	23 54 57.4	+0.5
	comp=E,4μm,0.4s						
GVD	Gavdhos	1.18	289	P	Pn	23 54 41.1	+0.1
GVD				AML	AML	23 55 01.2	
	comp=E,13269μm,0.6s						
GVD				AML	AML	23 55 01.6	
	comp=N,12684μm,0.4s						
GVD	Gavdhos	1.18	289	P	Pn	23 54 41.2	+0.1
GVD				S	Sn	23 54 57.3	+0.4
	comp=N,7μm,0.5s						
GVD	Gavdhos	1.18	289	PN	Pn	23 54 41.2	+0.1
PRNS	Prines Rethymn	1.19	320	P	Pn	23 54 42.6	+1.4
PRNS				S	Sn	23 54 59.5	+2.4
	comp=N,2μm,0.4s						
VAM	Vamos	1.39	313	P	Pn	23 54 44.5	+0.7
VAM				S	Sn	23 55 03.5	+1.8
VAM				AML	AML	23 55 04.2	
	comp=E,11609μm,0.6s						
VAM				AML	AML	23 55 05.4	
	comp=N,15246μm,0.3s						
VAM	Vamos	1.39	313	P	Pn	23 54 44.8	+1.0
VAM	Vamos	1.39	313	P	Pn	23 54 44.4	+0.7
VAM				S	Sn	23 55 03.5	+1.8
IMMV	Iera Moni Meta	1.56	310	P	Pn	23 54 46.9	+0.9
IMMV				AML	AML	23 55 08.2	
	comp=N,14237μm,0.4s						
IMMV				AML	AML	23 55 08.8	
	comp=E,11172μm,0.5s						
IMMV	Iera Moni Meta	1.56	310	P	Pn	23 54 47.0	+1.0
IMMV				S	Sn	23 55 07.2	+1.5
	comp=E,6μm,0.5s						
IMMV	Iera Moni Meta	1.56	310	PN	Pn	23 54 46.9	+0.9
RODP	Rodopos	1.77	309	P	Pn	23 54 49.7	+1.0
RODP				S	Sn	23 55 12.3	+1.8
KARP	Karpathos	1.78	52	P	Pn	23 54 50.6	+1.7
KARP				S	Sn	23 55 13.5	+2.7
KARP				AML	AML	23 55 14.1	
	comp=E,19914μm,0.4s						
KARP				AML	AML	23 55 14.9	
	comp=N,20281μm,0.5s						
KARP	Karpathos	1.78	52	P	Pn	23 54 50.6	+1.7
KARP				S	Sn	23 55 13.3	+2.5
	comp=N,10μm,0.4s						
KARP	Karpathos	1.78	52		Pn	23 54 50.6	+1.7
KARP	Karpathos	1.78	52	P	Pn	23 54 50.5	+1.6
KARP				S	Sn	23 55 11.0	+0.2
KARP				AML	AML	23 55 13.7	
	comp=N,20nm,0.4s						
KARP				AML	AML	23 55 13.7	
	comp=N,20nm,0.4s						
KARP				AML	AML	23 55 14.5	
	comp=N,20nm,0.5s						
KARP				AML	AML	23 55 14.5	
	comp=N,20nm,0.5s						
THR6	Thira Island,	1.89	359	P	Pn	23 54 51.2	+0.9
THR8	Santorini-Mono	1.94	1	P	Pn	23 54 51.1	+0.1
THR3	Thira Island,	1.95	359	P	Pn	23 54 51.5	+0.5
THR5	Thira Island,	1.96	358	P	Pn	23 54 51.8	+0.6
SFIR	Foira Santorin	1.96	360	P	Pn	23 54 52.1	+0.9
SAP3	Santorini-Thir	1.97	358	P	Pn	23 54 52.1	+0.7
THR2	Thira island,	1.98	360	P	Pn	23 54 52.2	+0.6
CMBO	Columbo, Santo	2.01	359	P	Pn	23 54 52.7	+0.8
ANKY	Antikythira Is	2.25	309	P	Pn	23 54 56.4	+1.3
ANKY	Antikythira Is	2.25	309	P	Pn	23 54 56.4	+1.3
ANKY				S	Sn	23 55 23.9	+1.9
	comp=N,2μm,0.6s						
MHLO	Agia Marina, M	2.38	339	P	Pn	23 54 57.2	+0.3
MHLO				S	Sn	23 55 26.2	+1.0
NISR	Nisiros	2.55	32	P	Pn	23 55 00.0	+0.9
NISR				S	Sn	23 55 29.9	+0.7
	comp=N,1μm,0.3s						
NIS1	Nisyros Isl.	2.56	33	P	Pn	23 55 00.5	+1.1
NIS1	Nisyros Isl.	2.56	33	PN	Pn	23 55 00.4	+1.1
KOSK	Kos Island	2.61	28	P	Pn	23 55 00.7	+0.8
KOSK	Kos Island	2.61	28	PN	Pn	23 55 00.6	+0.7
KTHA	Kythira Island	2.65	313	P	Pn	23 55 00.6	+0.1
KTHA				S	Sn	23 55 32.7	+1.1
	comp=N,2μm,0.4s						
KTHR	Kythira	2.69	313	P	Pn	23 55 01.9	+0.9
KTHR				S	Sn	23 55 34.1	+1.6
	comp=N,2μm,0.3s						
ARG	Arkhangelos	2.81	51	P	Pn	23 55 03.9	+1.3
ARG				S	Sn	23 55 36.5	+1.1
	comp=N,1μm,0.3s						
ARG	Arkhangelos	2.81	51	P	Pn	23 55 03.9	+1.3
ARG				S	Sn	23 55 36.5	+1.1
ARG	Arkhangelos	2.81	51	PN	Pn	23 55 03.6	+1.0
ARG	Arkhangelos	2.81	51	P	Pn	23 55 03.9	+1.3
ARG				S	Sn	23 55 35.3	-0.1
SLUM	Salum	2.97	184	P	Pn	23 55 02.2	-2.6

baz=192
SLUM S Sn 23 55 31.8 -7.5
baz=192
BODT Bodrum 3.01 30 P Pn 23 55 06.2 +0.8
VLI Veliai 3.04 319 P Pn 23 55 05.4 -0.4
VLI S Sn **23 55 41.1 -0.1**
comp=N,2µm,0.5s
MRSB Marmaris-Mugla 3.18 44 PN Pn 23 55 08.5 +0.8
TURN Turunc 3.25 44 PN Pn 23 55 09.3 +0.7
MLSB Milas 3.41 33 PN Pn 23 55 11.9 +1.1
SMG Samos 3.43 19 P Pn 23 55 11.7 +0.6
SMG S Sn **23 55 51.1 +0.4**
comp=N,450nm,0.4s
KRND KRANIDI 3.46 328 P Pn 23 55 11.5 0.0
KRND S Sn **23 55 51.5 +0.2**
comp=N,1µm,0.3s
DALY Dalyan (Mula) 3.52 47 PN Pn 23 55 13.2 +1.0
YER Yerkesik 3.53 40 P Pn 23 55 13.7 +1.2
YER Yerkesik 3.53 40 P Pn 23 55 13.7 +1.2
YER Yerkesik 3.53 40 PN Pn 23 55 13.4 +0.9
VLY Voula,Athens 3.64 339 P Pn 23 55 14.4 +0.5
KARY Karystos 3.66 347 P Pn 23 55 15.0 +0.8
EPID Epidavros 3.67 330 P Pn 23 55 14.3 -0.1
ATHU Athens Univers 3.75 339 P Pn 23 55 15.7 +0.3
ATHU S Sn **23 55 58.4 0.0**
ATH Athens Observa 3.77 339 P Pn 23 55 16.2 +0.5
ATH S Sn **23 55 59.6 +0.6**
comp=N,422nm,0.4s
ATH Athens Observa 3.77 339 P Pn 23 55 16.2 +0.5
ATH S Sn **23 55 59.6 +0.6**
KSL Kastellorizon 3.78 62 P Pn 23 55 15.8 0.0
KSL S Sn **23 55 56.6 -2.5**
KSL AML AML 23 56 00.8
comp=N,2.8nm,0.5s
KSL AML AML 23 56 00.8
comp=N,2.8nm,0.5s
KSL AML AML 23 56 01.1
comp=N,1.5nm,0.3s
KSL AML AML 23 56 01.1
comp=N,1.5nm,0.3s
PTL Penteli 3.80 341 P Pn 23 55 16.8 +0.6
PTL S Sn **23 55 59.8 +0.1**
comp=N,780nm,0.5s
DION Dionisos Attik 3.81 342 P Pn 23 55 16.9 +0.6
DION S Sn **23 56 00.4 +0.4**
AKAS Kas 3.83 61 Pn Pn 23 55 17.5 +0.8
PYL PYLOS 3.87 310 P Pn 23 55 15.8 -1.3
ITM Ithomi 3.94 315 P Pn 23 56 02.0 -1.1
ITM S Sn **23 56 02.0 -1.1**
comp=N,808nm,0.3s
ITM Ithomi 3.94 315 Pn Pn 23 55 17.6 -0.5
CHOS Chios island 3.95 7 P Pn 23 55 19.2 +1.0
CHOS S Sn **23 56 04.0 +0.6**
comp=N,305nm,0.8s
VILL Villia 4.08 336 P Pn 23 55 20.1 +0.1
VILL S Sn **23 56 06.0 -0.5**
comp=N,982nm,0.6s
LTK Loutraki 4.08 331 P Pn 23 55 20.1 +0.1
LTK S Sn **23 56 05.9 -0.6**
comp=N,620nm,0.5s
THAL Thalero 4.22 329 P Pn 23 55 21.3 -0.5
ELL Elmali 4.29 57 P Pn 23 55 23.8 +0.8
ELL Elmali 4.29 57 Pn Pn 23 55 23.8 +0.8
ELL Elmali 4.29 57 P Pn 23 55 23.5 +0.6
KYMI Kymi, Euboea I 4.30 346 P Pn 23 55 23.4 +0.4
KLV Kalavryta, Ach 4.46 324 P Pn 23 55 24.6 -0.6
DRO Drossia 4.61 320 P Pn 23 55 27.8 +0.6
LKR Lokris 4.62 336 P Pn 23 55 27.2 -0.1
ATAL Atalanti 4.65 336 P Pn 23 55 27.8 +0.1
ATAL S Sn **23 56 19.7 -0.8**
LAKA Lakka 4.70 324 P Pn 23 55 27.7 -0.7
MANT Manisa 4.74 31 Pn Pn 23 55 30.3 +1.1
SIGR SIGRI 4.75 4 P Pn 23 55 30.0 +0.9
RLS Riolos of Patr 4.82 319 P Pn 23 55 30.4 +0.4
EFP Efpalio 4.88 325 P Pn 23 55 30.8 0.0
OSC1 CSNet OBS 1 4.94 100 P Pn 23 55 27.8 -3.9
OSC1 S Sn 23 56 18.4 -9.0
LTHK Lithakia 4.94 312 P Pn 23 55 29.4 -2.3
ANX Ano Chora 5.01 327 P Pn 23 55 32.2 -0.5
AGG Agios Georgios 5.20 332 P Pn 23 55 35.4 +0.2
AGG S Sn **23 56 34.8 +1.0**
AGG Agios Georgios 5.20 332 P Pn 23 55 35.4 +0.2
AGG Agios Georgios 5.20 332 Pn Pn 23 55 35.4 +0.2
SWA2 5.20 180 P Pn 23 55 32.4 -2.8
baz=184
XOR Xorichti 5.22 340 P Pn 23 55 35.7 +0.2
MAKR Makrakomi, Fth 5.27 331 P Pn 23 55 36.9 +0.8
ISP Isparta 5.30 49 *i* P Pn 23 55 37.0 +0.3
ISP Isparta 5.30 49 Pn Pn 23 55 37.0 +0.3
EVR Evrytania 5.32 326 P Pn 23 55 38.1 +1.1
PSDA Pessada-Kefalo 5.36 314 P Pn 23 55 35.1 -1.9
VLS Valsamata 5.40 315 P Pn 23 55 36.0 -1.9
VLS Valsamata 5.40 315 P Pn 23 55 36.0 -1.9
KEF4 Livadi, Kephal 5.55 315 P Pn 23 55 38.2 -1.7
KEF3 Kipouria, Keph 5.56 314 P Pn 23 55 38.0 -2.1
DMLN Damoulianata-K 5.56 314 P Pn 23 55 38.2 -2.0
FSK Fiskardo 5.61 317 P Pn 23 55 40.0 -0.7
EVGI Lefkada island 5.67 319 P Pn 23 55 40.7 -0.9
AKMS Akamas 5.70 82 P Pn 23 55 39.1 -3.0
AKMS S Sn **23 56 39.2 -6.9**
NYDR Nydri-Lefkada 5.71 319 P Pn 23 55 41.5 -0.6
LKD2 Lefkada island 5.79 320 P Pn 23 55 42.4 -0.8
THL Klokotos Trika 5.79 333 P Pn 23 55 43.6 +0.4
OSC2 CSNet OBS 4 5.85 102 P Pn 23 55 40.1 -4.0
OSC2 S Sn 23 56 39.7 -10
NATA Nata 5.88 85 P Pn 23 55 41.8 -2.8
NATA AML AML 23 56 47.5
comp=N,3.9nm,0.3s
NATA AML AML 23 56 48.4
comp=N,4.7nm,0.4s
ALFC Alefka 5.93 81 P Pn 23 55 42.3 -2.9
ALFC AML AML 23 56 45.6
comp=N,3.2nm,0.2s
ALFC AML AML 23 56 45.8
comp=N,3.2nm,0.2s
LIT Litokhoron 6.10 338 P Pn 23 55 47.6 0.0
LIT Litokhoron 6.10 338 P Pn 23 55 47.7 +0.2
LIT Litokhoron 6.10 338 Pn Pn 23 55 47.7 +0.2
SZAC Souni 6.14 85 P Pn 23 55 45.1 -3.0
SZAC AML AML 23 56 52.8
comp=N,2.9nm,0.3s
SZAC AML AML 23 56 54.1
comp=N,2.0nm,0.2s
JAN Janina 6.36 326 P Pn 23 55 49.6 -1.4
JAN Janina 6.36 326 P Pn 23 55 49.6 -1.4
KPRO Kipourio 6.38 330 P Pn 23 55 51.3 -0.1
ASGA Asgata 6.44 85 P Pn 23 55 49.7 -2.5
ASGA AML AML 23 56 59.1
comp=N,1.7nm,0.2s
ASGA AML AML 23 56 59.4
comp=N,1.4nm,0.2s
ALN Alexandroupoli 6.45 4 P Pn 23 55 52.7 +0.5
ALN Alexandroupoli 6.45 4 Pn Pn 23 55 52.7 +0.5
HMYD Mayadein 6.50 134 P Pn 23 55 50.0 -3.0
baz=134
IGT Igoumenitsa 6.51 323 P Pn 23 55 51.5 -1.6
IGT Igoumenitsa 6.51 323 P Pn 23 55 51.5 -1.6
HNAT Natroun 6.51 136 P Pn 23 55 49.5 -3.7
baz=136
CSS Mathiatis 6.51 83 Pn 23 55 50.4 -2.7
CSS Mathiatis 6.51 83 P Pn 23 55 50.3 -2.9
KZN Kozani 6.53 334 P Pn 23 55 53.5 +0.1
KZN Kozani 6.53 334 P Pn 23 55 53.5 +0.1
ATHAL Athalassa 6.58 82 P Pn 23 55 52.0 -2.0
MVOU Mavrovouni 6.76 83 P Pn 23 55 54.0 -2.6
KEK Kerkira 6.92 321 P Pn 23 55 56.5 -2.1
SRN Sarande 6.94 323 P Pn 23 55 57.0 -1.9
HSAF As Saff 7.08 131 P Pn 23 55 57.3 -3.7
baz=131
FNA Florina 7.09 334 P Pn 23 56 00.4 -0.7
FNA Florina 7.09 334 P Pn 23 56 00.4 -0.7
FNA Florina 7.09 334 Pn Pn 23 56 00.3 -0.7
PARAL Paralimni 7.10 83 P Pn 23 55 59.0 -2.1
KBN Korca 7.18 330 P Pn 23 56 01.8 -0.5
KBN Korca 7.18 330 P Pn 23 56 01.8 -0.5
GLL Jalalah 7.21 131 P Pn 23 55 59.2 -3.5
baz=130
HHAG Hagoal 7.21 127 P Pn 23 55 58.9 -3.8
baz=126
VAY Valandovo 7.22 342 *i* Pn Pn 23 56 03.4 +0.7
VAY *e*Sg **Sn 23 57 23.1 0.0**
OHR Ohrid 7.59 332 *i* Pn Pn 23 56 06.7 -1.2
OHR *e*Sg **Sn 23 57 28.6 -3.8**
NBNS Bani Suef 7.67 138 P Pn 23 56 05.1 -3.8
baz=138
STIP Stip 7.67 341 *i* Pn Pn 23 56 09.0 +0.2
STIP *e*Sg **Sn 23 57 40.2 +6.1**
SUZ Suez 7.77 124 P Pn 23 56 06.5 -3.8
baz=123
SCTE Santa Cesarea 7.89 317 Pn Pn 23 56 09.5 -2.4
BR231 Keskin MP Arra 7.94 45 Pn Pn 23 56 13.6 +0.8
ZAF Zafarana 7.94 129 P Pn 23 56 09.0 -3.7
baz=128
ANTO Ankara 7.97 45 P Pn 23 56 13.1 0.0
ANTO Ankara 7.97 45 Pn Pn 23 56 13.1 0.0
SKO Skopje 8.13 338 *i* Pn Pn 23 56 14.1 -1.2
SKO *e*Sg **Sn 23 57 43.5 -2.0**
TIR Tirane 8.17 329 ⇑P Pn 23 56 14.8 -0.9
TIR Tirane 8.17 329 ⇑P Pn 23 56 14.8 -0.9
TIR Tirane 8.17 329 Pn Pn 23 56 14.5 -1.1
TAMRE El Minia 8.22 144 P Pn 23 56 13.2 -3.4
baz=144
VTS Vitosha 8.33 349 ⇓P Pn 23 56 19.7 +1.7
VTS Vitosha 8.33 349 ⇓P Pn 23 56 19.7 +1.7
VTS Vitosha 8.33 349 Pn Pn 23 56 18.1 +0.1
BRTR Keskin Array B 8.39 49 P Pn 23 56 19.6 +0.7
comp=N,0.4nm,0.3s,baz=224,slow=13,SNR=6.3
BRTR S Sn **23 57 48.8 -3.4**
comp=N,0.7nm,0.3s,baz=219,slow=25,SNR=7.9
BRTR Keskin Array B 8.39 49*ce*P Pn 23 56 19.6 +0.7
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 8.39 49 Pn Pn 23 56 19.4 +0.5
BR131 Keskin Array S 8.39 49 *i* P Pn 23 56 19.9 +1.0
BR131 Keskin Array S 8.39 49 Pn Pn 23 56 18.9 0.0
TIP Timpagrande 8.41 307 ⇑P Pn 23 56 16.5 -2.6
TIP Timpagrande 8.41 307 Pn Pn 23 56 16.1 -2.9
MMAI Mount Meron Ar 8.42 97 P Pn 23 56 15.5 -3.7
comp=Z,14nm,0.3s,baz=294,slow=11,SNR=46
MMAI S Sn 23 57 44.9 -7.9
comp=Z,12nm,0.3s,baz=264,slow=14,SNR=2.1
DQRL Deir Qamar 8.43 92 *e*P Pn 23 56 15.0 -4.5
QRWL Qaraoun 8.55 93 *e*P Pn 23 56 17.1 -3.9
CEL Celeste 8.59 299 Pn 23 56 19.3 -2.2
SHBL Chebaa 8.63 94 *e*P Pn 23 56 18.4 -3.8
RCY Rachaya 8.68 93 *e*P Pn 23 56 19.0 -3.9
HWQ Hawqa 8.69 88 *e*P Pn 23 56 19.5 -3.4
GRB Gharib 8.80 133 P Pn 23 56 20.3 -4.1
baz=132
GHAJ Ghor Haditha 9.07 107 Pn 23 56 25.5 -2.6
DRME Dracevica, Mon 9.15 329 *e*Pn Pn 23 56 25.5 -3.6
MATE Matera 9.29 314 ⇓P Pn 23 56 29.2 -1.7
PDG Podgorica 9.32 330 ⇑P Pn 23 56 29.1 -2.3
PDG Podgorica 9.32 330 Pn Pn 23 56 28.2 -3.1
PDG Podgorica 9.32 330 *e*Pn Pn 23 56 27.3 -4.1
HKAT Jabal Katrina 9.39 127 P Pn 23 56 28.4 -4.2
baz=126
BNN Bunyan 9.44 59 Pn Pn 23 56 32.4 -0.8
VAE Valguarnera 9.44 292 P Pn 23 56 32.7 -0.4
comp=Z,5.9nm,0.3s,baz=130,slow=14,SNR=27
VAE S Sn 23 58 08.2 -9.4
comp=Z,5.0nm,0.3s,baz=159,slow=7.1,SNR=4.1
HCY Herceg Novi 9.66 328 *e*Pn Pn 23 56 31.7 -4.3
ASF Jabal Asfar 9.85 100 P Pn 23 56 35.2 -3.6
comp=Z,2.2nm,0.3s,baz=286,slow=6.5,SNR=11
ASF S Sn 23 58 18.7 -9.0
comp=Z,1.3nm,0.3s,baz=14,slow=14,SNR=1.9
TREB Trebinje 9.94 328 *e*Pn Pn 23 56 35.0 -4.8
DBRK Dubrovnik 9.99 327 *e*Pn Pn 23 56 35.9 -4.6
BRY Bratogost 10.01 329 *e*Pn Pn 23 56 36.5 -4.4
UPM Unac-Piva 10.11 332 *e*Pn Pn 23 56 39.4 -2.9
RUDO Rudo 10.29 335 *e*Pn Pn 23 56 39.7 -4.9
STON Ston 10.35 327 *e*Pn Pn 23 56 41.0 -4.4
STON Ston 10.35 327 *e*Pn Pn 23 56 40.2 -5.2
CLTB Caltabellotta 10.38 291 Pn Pn 23 56 45.3 -0.7
BBLS Lazići 10.49 335 *e*Pn Pn 23 56 43.4 -4.1
DIVS Divibare 10.51 338 *e*Pn Pn 23 56 42.5 -5.2
SGRT San Giovanni R 10.55 316 Pn Pn 23 56 44.7 -3.6
LSTV Lastovo 10.65 324 *e*Pn Pn 23 56 44.6 -5.0
LSTV Sn Sn 23 58 33.6 -13
PAOL Paolisi 10.82 310 Pn Pn 23 56 48.6 -3.4
MLR Muntele Rosu 11.03 2 ⇑P Pn 23 56 55.7 +0.9
MLR Muntele Rosu 11.03 2 P Pn 23 56 54.3 -0.5
comp=Z,0.2nm,0.3s,baz=147,slow=5.9,SNR=8.1
MLR Muntele Rosu 11.03 2 ⇑P Pn 23 56 55.7 +0.9
MLR Muntele Rosu 11.03 2 Pn 23 56 54.7 0.0
RICI Ricice 11.10 327 *e*Pn Pn 23 56 51.0 -4.7
RICI Sn Sn 23 58 40.3 -18
HVAR Hvar 11.17 324 *e*Pn Pn 23 56 52.0 -4.7
PLOR Plostina 11.42 4 ⇑P Pn 23 57 03.2 +3.2
PLOR Plostina 11.42 4 ⇑P Pn 23 57 03.2 +3.2
VRI Vrincioaia 11.44 5 ⇓P Pn 23 57 02.7 +2.5
VRI Vrincioaia 11.44 5 ⇓P Pn 23 57 02.7 +2.5
BZS Buzias 11.52 346 ⇑P Pn 23 57 00.8 -0.6
BZS Buzias 11.52 346 ⇑P Pn 23 57 00.8 -0.6
FRGS Fruska Gora 11.53 340 *e*Pn Pn 23 56 57.4 -4.1
KIJV Kijevo 11.82 326 *e*Pn Pn 23 57 00.9 -4.6
MGRS Mrkonjic Grad 11.85 330 *e*Pn Pn 23 57 01.5 -4.4
ZIRJ Zirje 11.92 323 *e*Pn Pn 23 57 02.3 -4.5
MORI Morici 12.05 324 *e*Pn Pn 23 57 04.7 -3.9
TESR Tescani 12.07 4 ⇑P Pn 23 57 11.1 +2.2
BLY Banja Luka 12.08 331 *e*Pn Pn 23 57 02.6 -6.4
AQU L'Aquila 12.29 313 P Pn 23 57 11.6 -0.4
AQU L'Aquila 12.29 313 Pn Pn 23 57 11.6 -0.4
AQU L'Aquila 12.29 313 *e*Pn Pn 23 57 10.7 -1.3
A252A Venje 12.41 334 *e*Pn Pn 23 57 08.7 -4.8
MRAK Mrakovica 12.41 331 *e*Pn Pn 23 57 08.5 -5.1
DUGI Dugi Otok 12.46 323 *e*Pn Pn 23 57 10.3 -3.8
UDBI Udbina 12.52 326 *e*Pn Pn 23 57 10.8 -4.2
NRCA Norcia 12.75 311 Pn Pn 23 57 17.1 -1.1
A251A Rujevac 12.77 329 *e*Pn Pn 23 57 14.3 -4.1
NVLJ Novalja 12.97 324 *e*Pn Pn 23 57 16.6 -4.4
MOSL Moslavina 12.97 332 *e*Pn Pn 23 57 15.8 -5.3
BURAR Bucovina Array 13.14 359 ⇑P Pn 23 57 26.5 +3.0
BURAR Bucovina Array 13.14 359 ⇑P Pn 23 57 26.5 +3.0
RABC Rab 13.15 325 *e*Pn Pn 23 57 18.7 -4.7
BUR08 Bucovina Ar. S 13.17 359 Pn Pn 23 57 24.3 +0.4
A250A Rusevo Krmpots 13.34 326 *e*Pn Pn 23 57 21.6 -4.4
MURB Monte Urbino 13.35 315 Pn Pn 23 57 26.1 -0.1
KALN Kalnik 13.52 332 *e*Pn Pn 23 57 22.6 -5.7
PTJ Puntijarka 13.52 331 *e*Pn Pn 23 57 23.5 -4.9
CRES Cresnjev 13.67 329 *e*Pn Pn 23 57 24.9 -5.4
LOBO Lobor 13.69 331 *e*Pn Pn 23 57 25.1 -5.4
RIY Rijeka 13.72 326 *e*Pn Pn 23 57 27.0 -3.9
SORM Soroca 13.84 8 ⇓P P 23 57 37.4 -0.8
SORM Soroca 13.84 8 ⇓P P 23 57 37.4 -0.8
GURO Guroymak-BITLI 13.95 68 P 23 57 39.8 0.0
CEY Cerknica 14.05 327 *e*Pn Pn 23 57 30.9 -4.5
SKDS Skadanscina 14.10 325 *e*Pn Pn 23 57 30.3 -5.7
SOKA Soboth 14.53 330 Pg Pn 23 57 37.0 -4.6
comp=Z,1.6nm,0.4s,SNR=4.2
OBKA Obir 14.60 329 *e*Pn Pn 23 57 38.1 -4.3
comp=Z,0.5nm,0.2s
GEVA Gevas 14.70 70 P P 23 57 50.1 +2.0
SOP Sopron 14.80 336 P P 23 57 50.0 +1.1
SOP pmax pmax
comp=Z,21nm,0.7s
ZCCA Zocca 14.90 316 P P 23 57 50.2 +0.1
STAL STALIGIAL 15.24 324 Pn Pn 23 57 47.0 -3.8
CTI Castel Tesino 15.62 322 P Pn 23 57 53.3 -2.3
CTI pmax pmax
comp=Z,5.0nm,0.7s
CTI Castel Tesino 15.62 322 Pn Pn 23 57 53.2 -2.3
ABTA Abfaltersbach 15.69 325 *e*Pn Pn 23 57 53.9 -2.6
comp=Z,1.3nm,0.4s
ABTA *e*P **P 23 58 00.7 +1.7**
comp=Z,5.1nm,0.6s
ABTA *e*Sn **Sn 00 00 39.7 -10**
comp=Z,4.0nm,0.5s
MOA Molln 15.78 331 *e*Pn Pn 23 57 56.7 -0.9
comp=Z,1.1nm,0.3s
MOA *e*Sn **Sn 00 00 41.3 -10**
comp=Z,2.2nm,0.5s
SALO Salr 15.93 319 P Pn 23 58 00.7 +1.2
KRUC Moravsky 16.06 338 *e*P P 23 58 03.8 +0.9
VRAC Vranov 16.22 339 ⇑P P 23 58 05.2 +0.5
VRAC Vranov 16.22 339 P Pn 23 58 03.7 +0.8
comp=Z,0.4nm,0.3s,baz=149,slow=7.5,SNR=8.7
VRAC Vranov 16.22 339 ⇑P P 23 58 05.2 +0.5
VRAC Vranov 16.22 339 *e*P P 23 58 06.1 +1.4
ONI Oni 16.24 55 P P 23 58 06.1 +1.0
ONI pmax pmax
comp=Z,4.0nm,0.8s
ONI Oni 16.24 55 P P 23 58 06.1 +1.0

KIV Kislovodsk 16.36 49 *e*P P 23 58 07.1 +0.7
KIV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 16.36 49 P P 23 58 07.1 +0.7
KIV IAmb IAmb 23 58 09.8
comp=Z,15nm,0.9s
GNI Garni 16.36 64 P P 23 58 07.3 +0.8
comp=Z,0.4nm,0.3s,baz=292,slow=6.6,SNR=6.6
GNI Garni 16.36 64 P P 23 58 07.2 +0.7
MORC Moravsky Berou 16.38 342 *e*P Pn 23 58 04.1 -0.8
KBZ Khabaz 16.38 50 P P 23 58 06.4 -0.1
comp=Z,0.5nm,0.3s,baz=222,slow=8.3,SNR=17
KBZ Khabaz 16.38 50*ce*P P 23 58 06.4 -0.1
KBZ pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 16.46 9 P Pn 23 58 05.1 -0.8
comp=Z,5.3nm,0.3s,baz=199,slow=10,SNR=34
AKASG S **S 00 01 10.3 -5.3**
baz=200,slow=22,SNR=2.0
AKASG Malin Array Be 16.46 9*ce*P Pn 23 58 05.4 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 16.46 9 P Pn 23 58 04.3 -1.7
AKBB Malin Array Si 16.46 9*ce*P Pn 23 58 05.5 -0.5
AKBB Malin Array Si 16.46 9 Pn Pn 23 58 05.2 -0.8
AKBB IAmb IAmb 23 58 07.7
comp=Z,11nm,0.8s
WTTA Wattenberg 16.48 325 *e*Pn Pn 23 58 03.7 -2.7
comp=Z,1.1nm,0.2s
CKRC Cesky Krumlov 16.56 333 *e*P P 23 58 08.9 +0.4
WATA Walderalm 16.56 325 *e*Pn Pn 23 58 06.2 -1.1
comp=Z,4.9nm,0.5s
ZEI Tsey 16.62 55 *e*P P 23 58 11.2 +1.7
ZEI pmax pmax
comp=Z,7.0nm,1.0s
FETA Feichten 16.75 323 *e*Pn Pn 23 58 10.1 +0.4
comp=Z,1.3nm,0.4s
GERES GERESS Array B 16.81 332 P P 23 58 11.7 +0.3
comp=Z,0.6nm,0.3s,baz=119,slow=10,SNR=7.1
DAVOX Davos/Dischmat 17.02 321 P P 23 58 14.0 +0.2
comp=Z,0.4nm,0.3s,baz=176,slow=12,SNR=4.3
DAVOX S **Sn 00 01 12.2 -10**
comp=Z,0.6nm,0.3s,baz=345,slow=23,SNR=3.5
RETA Reutte 17.06 324 *e*Pn Pn 23 58 13.0 -0.4
comp=Z,0.5nm,0.3s
RETA *e*Sn Sn 00 01 10.4 -12
comp=Z,1.8nm,0.4s
KHC Kasperske Hory 17.09 333 *e*P P 23 58 15.0 +0.6
KHC Kasperske Hory 17.09 333 *e*P P 23 58 15.0 +0.6
KHC Kasperske Hory 17.09 333 P P 23 58 14.5 +0.2
TUE Stuetta 17.11 319 P Pn 23 58 14.3 +0.2
DPC Dobruska-Polom 17.23 340 *e*P P 23 58 16.1 +0.2
DPC Dobruska-Polom 17.23 340 *e*P P 23 58 16.1 +0.2
DAVA Damuels 17.36 322 *e*Pn P 23 58 18.8 +1.4
comp=Z,0.8nm,0.2s
DAVA Sn Sn 00 01 18.3 -12
comp=Z,6.1nm,0.5s
OSTC Ostas 17.44 340 *e*P P 23 58 27.3 +9.1
CHVC Chvalec 17.52 340 *e*P P 23 58 19.1 0.0
SENIN Lac Senin/Sane 18.18 316 P P 23 58 27.1 +0.5
GRA1 Grafenberg Arr 18.47 330 P P 23 58 28.8 -0.8
GRF Grafenberg Arr 18.47 330 P P 23 58 28.8 -0.8
GRF pmax pmax
comp=Z,13nm,1.1s
CLL Collm 19.10 336 *i* P Pn 23 58 37.6 -0.4
CLL Collm 19.10 336 *i* P Pn 23 58 37.6 -0.4
CLL *i* x x 23 58 45.3
VORD Divnogorie 19.33 27 *e*P Pn 23 58 40.8 +0.2
VORD pmax pmax
comp=Z,60nm,0.7s
SUW Suwalki 19.61 356 P P 23 58 41.9 0.0
SUW pmax pmax
comp=Z,56nm,0.6s
SUW Suwalki 19.61 356 *e*P P 23 58 40.9 -1.0
VORR Voronezh 19.87 26 *e*P P 23 58 42.2 -2.5
VORR pmax pmax
comp=Z,20nm,0.4s
MNK Minsk 20.11 4 *i* P P 23 58 34.9 -12
MNK pmax pmax
comp=N,14nm,1.2s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK Minsk 20.11 4 *i* P P 23 58 34.9 -12
comp=E,2.0nm,1.4s,baz=186
MNK *i* P P 23 58 34.9 -12
comp=N,14nm,1.2s
MNK *i* P P 23 58 34.9 -12
comp=Z,6.0nm,0.7s
MNK *i* pP **Pn 23 58 52.1 +2.3**
MNK *i* S S 00 02 09.9 -19
MNK *i* LQ LQ 00 04 37.5
MNK *i* LR LR 00 06 07.2
NACGM Naroch 20.46 2 *i* P P 23 58 51.0 -0.1
VRH Novokhopyorsk 20.48 30 *e*P P 23 58 51.4 +0.1
VRH pmax pmax
comp=Z,100nm,0.8s
LPSR Galich'ya Gora 20.54 24 *e*P P 23 58 51.1 -0.8
LPSR pmax pmax
comp=Z,20nm,1.3s
RAYN Ar Rayn 20.62 117 P P 23 58 53.4 +0.3
RAYN pmax pmax
comp=Z,12nm,1.0s
RAYN Ar Rayn 20.62 117 P P 23 58 53.4 +0.3
RAYN IAmb IAmb 23 58 58.0
comp=Z,12nm,1.0s
IDID Didziasalis 20.87 2 *e*P P 23 58 54.6 -0.9
IIGN Ignalina 20.90 1 *e*P P 23 58 55.2 -0.6
PABE Paberze 21.07 358 P P 23 58 56.0 -1.6
PABE IAmb IAmb 23 59 00.3
comp=Z,25nm,1.0s
ISAL Salakas 21.12 1 *e*P P 23 58 57.7 -0.5
IZAR Zarasai 21.30 1 *e*P P 23 59 02.8 +2.8
BMRD Maredsous 21.89 323 *b*P P 23 59 07.9 +1.5
OBN Obninsk 22.06 17 P P 23 59 08.8 +0.6
comp=Z,6.8nm,0.4s,baz=345,slow=5.6,SNR=7.7
OBN Obninsk 22.06 17*c i*P P 23 59 08.7 +0.6
OBN *PP **pP 23 59 24.0 -0.1**
OBN *SP **sP 23 59 35.0 +1.2**
OBN *e* 00 03 55.8
OBN pmax pmax
comp=Z,17nm,0.5s
OBN Obninsk 22.06 17 P P 23 59 08.7 +0.6
LUNU Lund 22.74 342 *i* P P 23 59 13.0 -2.5
DEL Delary 23.40 344 *i* P P 23 59 19.7 -2.1
BELG Belogornoye 23.94 35 P P 23 59 26.9 +0.2
comp=Z,11nm,0.3s,baz=297,slow=1.5,SNR=15
ESBB Sonseca Array 23.98 291 P P 23 59 27.7 +0.4
ESDC Sonseca Array 23.98 291 P P 23 59 27.4 +0.2
comp=Z,0.4nm,0.4s,baz=82,slow=9.4,SNR=8.9
ESDC Sonseca Array 23.98 291 P P 23 59 27.2 -0.1
VSU Vasula 24.03 2 *e*P P 23 59 27.2 -0.2
AAL Aland 25.98 354 *e*P P 23 59 44.4 -0.7
HFS Hagfors 26.81 347 P P 23 59 52.0 -0.6
comp=Z,3.5nm,0.6s,baz=157,slow=9.0,SNR=14
HFS Hagfors 26.81 347 P P 23 59 52.0 -0.6
FINES FINESS Array B 27.00 1 P P 23 59 53.6 -0.7
comp=Z,2.8nm,0.3s,baz=159,slow=11,SNR=58
FINES FINESS Array B 27.00 1 P P 23 59 53.5 -0.9
FINES PcP **PcP 00 03 14.0 +0.2**
FIA1 FINESS Array S 27.01 1 P P 23 59 53.5 -0.9
FIA1 IAmb IAmb 00 00 19.8
comp=Z,15nm,1.1s
NC602 NORSAR Array S 27.79 345 P P 23 59 59.2 -2.2
NC602 IAmb IAmb 00 00 15.9
comp=Z,26nm,1.4s
KLMR Klimovskoe 27.93 15 *e*P P 00 00 00.7 -1.9
KLMR pmax pmax
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 28.14 345 P P 00 00 04.1 -0.4
comp=Z,1.1nm,0.4s,baz=158,slow=11
NB2 NORSAR Subarra 28.14 345 P P 00 00 04.1 -0.4
baz=158,slow=11
NOA NORSAR Array B 28.14 345 P P 00 00 03.6 -0.9
comp=Z,1.1nm,0.4s,baz=147,slow=8.9,SNR=15
NOA LR LR 00 14 10.5
comp=Z,19nm,18.9s,baz=350,slow=42
AKTO Aktyubinsk 28.56 46 P P 00 00 08.5 +0.1
comp=Z,1.2nm,0.3s,baz=231,slow=6.5,SNR=5.7
EKA Eskdalemuir Ar 28.75 325 P P 00 00 09.7 -0.3
comp=Z,0.7nm,0.4s,baz=115,slow=10,SNR=4.8
KIRV Kirov 28.92 26 P P 00 00 10.8 -0.7
comp=Z,9.9nm,0.4s,baz=228,slow=6.4,SNR=8.9
KIRV Kirov 28.92 26*ce*P P 00 00 11.2 -0.2
ABKAR Akbulak array 29.34 49 P P 00 00 16.0 +0.7
PRGR Permogore 30.09 19 *e*P P 00 00 20.6 -1.1

PRGR *e* 00 03 22.0
PRGR pmax pmax
comp=Z,37nm,0.7s
TORD Torodi Ar. Bea 30.23 231 P **P** **00 00 22.6 -0.8**
comp=Z,0.5nm,0.4s,baz=32,slow=8.7,SNR=5.9
TORD Torodi Ar. Bea 30.23 231 P **P** **00 00 22.8 -0.6**
NSS Namsos 31.21 349 *eP* **P** **00 00 31.4 -0.1**
ARU Arti 31.48 36 *d iP* **P** **00 00 34.2 +0.1**
ARU 00 01 36.2
ARU S **S** **00 05 39.3 +2.9**
ARU pmax pmax
comp=Z,15nm,1.9s
ARU Arti 31.48 36 P **P** **00 00 33.0 -1.1**
ARU IAmb IAmb 00 00 44.3
comp=Z,3.9nm,1.0s
MOR8 Moi Rana 32.41 352 *eP* **P** **00 00 42.1 -0.1**
FAUS Fauske 33.49 353 *eP* **P** **00 00 51.0 -0.5**
LVZ Lovozero 33.90 6 *ceP* **P** **00 00 52.6 -2.5**
LVZ pmax pmax
comp=Z,62nm,2.5s
STEI Steigen 34.02 353 *eP* **P** **00 00 55.8 -0.3**
KTK1 Kautokeino 34.62 359 *eP* **P** **00 01 00.8 -0.5**
ARA0 ARCESS Array S 35.13 0 *eP* **P** **00 01 04.9 -0.8**
ARCES ARCESS Array B 35.13 0 P **P** **00 01 04.5 -1.2**
comp=Z,1.7nm,0.3s,baz=180,slow=8.2,SNR=58
ARCES ARCESS Array B 35.13 0 P **P** **00 01 04.6 -1.1**
ARCES pmax pmax
comp=Z,11nm,1.2s
ARCES ARCESS Array B 35.13 0 P **P** **00 01 04.6 -1.1**
ARCES IAmb IAmb 00 01 20.7
comp=Z,11nm,1.1s
JETT Jettan, Norway 35.26 357 *eP* **P** **00 01 05.9 -0.9**
KEV Kevo 35.36 1 P **P** **00 01 07.3 -0.3**
KEV pmax pmax
comp=Z,35nm,1.5s
KEV Kevo 35.36 1 P **P** **00 01 07.3 -0.3**
TRO Tromso 35.41 356 *eP* **P** **00 01 07.9 -0.1**
KKAR Karatay Array 35.81 62 P **P** **00 01 13.1 +1.2**
KKAR Karatay Array 35.81 62 P **P** **00 01 13.1 +1.2**
GAR Garm 35.97 69 P **P** **00 01 13.6 +0.2**
GAR IAmb IAmb 00 01 15.4
comp=Z,2.6nm,0.5s
BRVK Borovoye 36.61 46 *i P* **P** **00 01 19.4 +0.9**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 38.76 63 *i P* **P** **00 01 37.9 +0.9**
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 38.76 63 P **P** **00 01 38.2 +1.2**
AAK IAmb IAmb 00 01 38.7
comp=Z,2.2nm,0.5s
KURK Kurchatov 41.44 50 P **P** **00 01 59.7 +0.8**
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 41.44 50 P **P** **00 01 59.6 +0.8**
KURK IAmb IAmb 00 01 59.9
comp=Z,4.4nm,0.6s
MAKZ Makanchi 43.75 56 P **P** **00 02 18.3 +0.7**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 43.75 56 P **P** **00 02 18.3 +0.7**
MAKZ IAmb IAmb 00 02 18.9
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 43.97 56 P **P** **00 02 20.2 +0.8**
MK31 00 04 04.6
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 43.97 56 P **P** **00 02 20.2 +0.8**
MK31 IAmb IAmb 00 02 21.0
comp=Z,5.6nm,0.7s
MK31 PcP **PcP** **00 04 04.5 +0.6**
MKAR Makanchi Array 43.97 56 P **P** **00 02 20.2 +0.8**
comp=Z,6.0nm,0.6s,baz=271,slow=7.4,SNR=73
MKAR PcP **PcP** **00 04 04.5 +0.6**
comp=Z,0.9nm,0.7s,baz=256,slow=4.0,SNR=3.2
MKAR Makanchi Array 43.97 56 P **P** **00 02 20.2 +0.8**
MKAR PP **PP** **00 04 03.0 0.0**
SPB2 Spitsbergen Ar 43.99 357 P **P** **00 02 19.1 -0.1**
SPITS Spitsbergen Ar 44.00 357 P **P** **00 02 19.1 -0.1**
SPITS pmax pmax
comp=Z,74nm,1.4s
KBS Kingsbay 44.93 356 P **P** **00 02 27.0 +0.4**
KBS pmax pmax
comp=Z,42nm,1.4s
KBS Kingsbay 44.93 356 P **P** **00 02 27.0 +0.4**
ZAA0 Zalesovo Array 45.32 46 P **P** **00 02 30.3 +0.3**
ZALV Zalesovo Beam 45.32 46 P **P** **00 02 30.2 +0.2**
comp=Z,10nm,0.4s,baz=269,slow=8.4,SNR=58
WMQ Urumqi 48.16 59 *eP* **P** **00 02 54.7 +2.3**
NRIK Noril'sk 48.41 25 P **P** **00 02 54.6 +0.8**
comp=Z,3.2nm,0.6s,baz=236,slow=3.6,SNR=9.1
NRIK Noril'sk 48.41 25 *ceP* **P** **00 02 54.3 +0.4**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
NRIK Noril'sk 48.41 25 P **P** **00 02 55.0 +1.2**
NRIK IAmb IAmb 00 02 55.6
comp=Z,3.7nm,0.8s
SUMG Summit 49.72 339 P **P** **00 03 05.5 +1.3**
SUMG Summit 49.72 339 P **P** **00 03 05.5 +1.3**
ZAK Zakamensk 57.03 48 *eP* **P** **00 03 58.8 +0.9**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 59.75 50 P **P** **00 04 18.1 +1.2**
comp=Z,4.4nm,0.5s,baz=285,slow=7.5,SNR=49
SONM Songino Array 59.75 50 P **P** **00 04 18.0 +1.2**
EUNU Eureka 59.92 349 P **P** **00 04 18.1 +0.7**
EUNU IAmb IAmb 00 04 29.6
comp=Z,7.7nm,1.5s
ULN Ulaanbaatar 60.16 50 *ceP* **P** **00 04 20.4 +0.7**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 60.16 50 P **P** **00 04 20.3 +0.7**
SCHQ Schefferville 63.87 320 P **P** **00 04 44.4 +0.2**
comp=Z,3.9nm,0.3s,baz=66,slow=5.4,SNR=26
SCHQ Schefferville 63.87 320 P **P** **00 04 44.4 +0.2**
SCHQ IAmb IAmb 00 05 05.9
comp=Z,15nm,1.5s
RES Resolute Bay 64.40 345 P **P** **00 04 48.2 +0.9**
RES pmax pmax
comp=Z,3.0nm,1.2s
RES Resolute Bay 64.40 345 P **P** **00 04 48.2 +0.9**
PZH PanZhiHua 64.83 74 P **P** **00 04 51.0 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.6s
YAK Yakutsk 66.36 30 LR LR 00 36 41.8
comp=Z,28nm,19.1s,baz=272,slow=38
BATG Bathurst New B 66.56 312 P **P** **00 05 01.4 -0.3**
D62A Allapoint, All 68.47 313 P **P** **00 05 14.2 +0.4**
KLR Kul'dur 74.14 41 P **P** **00 05 48.2 +0.3**
comp=Z,1.2nm,0.8s,baz=280,slow=11,SNR=3.2
FCC Fort Churchill 74.43 332 P **P** **00 05 49.8 +0.5**
FCC Fort Churchill 74.43 332 P **P** **00 05 49.8 +0.5**
NJ2 Nanjing 75.18 61 *eP* **P** **00 05 55.3 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
SADO Sadowa 75.69 315 P **P** **00 05 57.6 +0.6**
MA2 Magadan 76.01 25 *ceP* **P** **00 05 59.4 +0.9**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 76.34 352 P **P** **00 06 00.4 +0.2**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 76.34 352 P **P** **00 06 00.4 +0.2**
INK IAmb IAmb 00 06 02.0
comp=Z,5.1nm,1.2s
TOLK Toolik Lake Re 77.14 358 P **P** **00 06 05.7 +1.0**
TOLK IAmb IAmb 00 06 15.7
comp=Z,4.6nm,1.4s
USRK Ussuriysk Ar. 77.17 45 P **P** **00 06 05.6 +0.3**
comp=Z,3.5nm,0.5s,baz=293,slow=4.8,SNR=14
USRK Ussuriysk Ar. 77.17 45 P **P** **00 06 05.7 +0.4**
USRK Ussuriysk Ar. 77.17 45 P **P** **00 06 05.7 +0.4**
BMAR Burnt Mountain 78.15 356 P **P** **00 06 11.7 +1.4**
YKA Yellowknife Ar 78.19 342 P **P** **00 06 10.8 +0.3**
comp=Z,1.4nm,0.5s,baz=31,slow=5.3,SNR=24
YKA Yellowknife Ar 78.19 342 P **P** **00 06 10.7 +0.1**
KSRS Korea Array 78.52 52 P **P** **00 06 13.4 +0.5**
comp=Z,1.7nm,0.6s,baz=315,slow=4.7,SNR=5.7
IMAR Indian Mountai 79.88 360 P **P** **00 06 20.5 +0.7**
PRP Porcupine Dome 80.10 356 P **P** **00 06 22.0 +0.8**
H21K Melozitna Rive 80.20 359 P **P** **00 06 23.3 +1.7**
H21K IAmb IAmb 00 06 24.2
comp=Z,5.3nm,0.8s
COWI Conover 80.48 320 P **P** **00 06 24.3 +0.9**
EYMN Ely 80.49 323 P **P** **00 06 24.0 +0.5**
EYMN IAmb IAmb 00 06 43.3
comp=Z,14nm,1.4s
EGAK Eagle 80.53 354 P **P** **00 06 23.8 +0.5**
EGAK IAmb IAmb 00 06 34.9
comp=Z,5.1nm,1.4s
I23K Minto, Yukon-K 80.64 358 P **P** **00 06 25.2 +1.4**
I23K IAmb IAmb 00 06 26.1
comp=Z,2.7nm,0.7s
MDM Murphy Dome 80.78 357 P **P** **00 06 25.8 +1.1**
MDM IAmb IAmb 00 06 26.6
comp=Z,6.0nm,0.7s
IL31 80.91 357 P **P** **00 06 25.6 +0.3**
IL31 IAmb IAmb 00 06 28.2
comp=Z,3.4nm,1.4s
ILAR Eielson Array 80.91 357 P **P** **00 06 25.8 +0.4**
comp=Z,1.1nm,0.6s,baz=347,slow=3.5,SNR=16
ILAR Eielson Array 80.91 357 P **P** **00 06 26.2 +0.8**
ILAR Eielson Array 80.91 357 P **P** **00 06 26.2 +0.8**
J25K Salcha River, 80.99 356 P **P** **00 06 27.6 +1.8**
DAWY Dawson 81.07 353 P **P** **00 06 27.6 +1.3**
DAWY IAmb IAmb 00 06 28.2
comp=Z,5.6nm,0.7s
CCB Clear Creek Bu 81.08 357 P **P** **00 06 26.4 +0.1**
CCB IAmb IAmb 00 06 27.7
comp=Z,3.1nm,0.8s
WRH Wood River Hil 81.27 357 P **P** **00 06 27.9 +0.7**
SCRK Sand Creek 81.54 355 P **P** **00 06 30.2 +1.4**
SCRK IAmb IAmb 00 06 31.2
comp=Z,2.9nm,0.8s
J20K Nowinta River 81.69 360 P **P** **00 06 30.2 +0.7**
J20K IAmb IAmb 00 06 31.7
comp=Z,4.9nm,0.8s
BPAW Bear Paw Mtn. 81.73 358 P **P** **00 06 30.1 +0.4**
BPAW IAmb IAmb 00 06 30.5
comp=Z,4.0nm,0.7s
DOT Dot Lake 81.87 355 P **P** **00 06 31.7 +1.2**
DOT IAmb IAmb 00 06 32.6
comp=Z,4.8nm,0.8s
KTH Kantishna Hill 82.28 358 P **P** **00 06 33.6 +1.0**
KTH IAmb IAmb 00 06 34.5
comp=Z,16nm,1.4s
RND Reindeer 82.36 357 P **P** **00 06 32.7 -0.4**
RND pmax pmax
comp=Z,4.0nm,0.8s
RND Reindeer 82.36 357 P **P** **00 06 32.7 -0.4**
RND IAmb IAmb 00 06 34.4
comp=Z,3.6nm,0.8s
TRF Thorofare Moun 82.36 358 P **P** **00 06 33.8 +0.6**
DHY Denali Highway 82.63 357 P **P** **00 06 35.3 +0.7**
DHY IAmb IAmb 00 06 36.6
comp=Z,6.9nm,0.7s
PPLA Purkeypile 82.96 359 P **P** **00 06 37.0 +0.7**
N31M Braeburn, Yuko 83.18 351 P **P** **00 06 37.3 -0.1**
N31M IAmb IAmb 00 07 05.5
comp=Z,14nm,1.4s
L19K White Mountain 83.70 0 P **P** **00 06 41.1 +1.1**
L19K IAmb IAmb 00 06 51.2
comp=Z,12nm,1.4s
SML Sawmill 83.94 357 P **P** **00 06 42.0 +0.8**
SML pmax pmax
comp=Z,24nm,1.5s
SML Sawmill 83.94 357 P **P** **00 06 42.0 +0.8**
CTGM Chitina Glacie 84.30 354 P **P** **00 06 44.2 +1.0**
CTGM IAmb IAmb 00 07 03.9
comp=Z,8.9nm,1.2s
RC01 Rabbit Creek A 84.71 358 P **P** **00 06 45.7 +0.6**
MJAR Matsushiro Arr 85.62 48 P **P** **00 06 50.6 +0.5**
comp=Z,1.4nm,0.5s,baz=289,slow=7.3,SNR=2.1
PDAR Pinedale Array 92.82 329 P **P** **00 07 23.8 -0.5**
comp=Z,0.4nm,0.6s,baz=52,slow=5.8,SNR=5.4

*KRNET **01** 23:55:07.4±0.1, 39°.28N×73°.90E, mb3.5*
*SOME **01** 23:55:09.1, 39°.62N×73°.68E, h5km*
*NNC **01** 23:55:12.5±1.6, 39°.57N×73°.78E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=13.1km s-min=6.8km az=172.0
ISC 01 23:55:11.6±1.4, **39°.34N**±0°.07×**73°.61E**±0°.03, **h10km, n58,**
σ1s74/89, 23C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.34**	**332**	⇑*iP*	**Pn**	**23 55 35.8**	**-0.7**
	baz=26						
OHH				⇑*iS*	**Sg**	**23 55 56.5**	**+1.7**
	baz=26						
DRK	**Karamyk**	**1.41**	**276**	⇓*eP*	**Pb**	**23 55 38.1**	**-0.1**
	baz=78						
DRK				⇑*iS*	**Sg**	**23 56 00.6**	**+3.5**
	baz=78						
BTK	**Batken**	**2.27**	**289**	⇑*iP*	**Pb**	**23 55 51.4**	**-1.4**
	baz=89						
BTK				⇑*iS*	**Sg**	**23 56 23.4**	**-1.2**
	baz=89						
ARLS	**Aral**	**2.57**	**12**	⇓*eP*	**Pn**	**23 55 52.6**	**-0.9**
	baz=7.0						
ARLS				⇑*eS*	**Sn**	**23 56 25.7**	**+0.7**
	baz=7.0						
ARK	**Arkit**	**2.75**	**333**	⇓*iP*	**Pn**	**23 55 57.1**	**+1.1**
	baz=30						
ARK				⇓*iS*	**Sb**	**23 56 33.5**	**-1.4**
	baz=30						
AML	**Almayashu**	**2.79**	**1**	P	**Pn**	**23 55 56.4**	**-0.2**
	SNR=59						
TRKS	**Terek-Say**	**2.89**	**320**	⇓*iP*	**Pn**	**23 55 58.5**	**+0.7**
	baz=17						
TRKS				⇓*iS*	**Sb**	**23 56 35.9**	**-2.9**
	baz=17						
UCH	**Uchtor**	**2.96**	**13**	P	**Pn**	**23 56 00.5**	**+1.4**
	SNR=73						
UCH	**Uchtor**	**2.96**	**13**	⇑*iP*	**Pn**	**23 55 58.0**	**-1.1**
	baz=9.0						
UCH				⇑*iS*	**Sn**	**23 56 35.1**	**+0.1**
	baz=9.0						
EKS2	**Erkin-Say**	**3.32**	**2**	P	**Pn**	**23 56 04.4**	**+0.7**
	SNR=6.2						
EKS2	**Erkin-Say**	**3.32**	**2**	⇓*iP*	**Pn**	**23 56 03.6**	**-0.1**
	baz=58						
EKS2				⇓*iS*	**Sn**	**23 56 44.6**	**+1.3**
	baz=58						
MRKS	**Merke**	**3.41**	**355**	*eP*	**Pn**	**23 56 07.0**	**+2.0**
	4.6nm,0.2s						
MRKS				*eS*	**Sn**	**23 56 48.1**	**+2.5**
	33nm,0.6s						
KBK	**Karagaybulak**	**3.46**	**17**	P	**Pn**	**23 56 06.8**	**+1.1**
	SNR=22						
KBK	**Karagaybulak**	**3.46**	**17**	⇑*iP*	**Pn**	**23 56 04.8**	**-0.9**
	baz=13						
KBK				⇑*eS*	**Sn**	**23 56 46.8**	**-0.1**
	baz=13						
ULHL	**Ulahol**	**3.52**	**34**	P	**Pb**	**23 56 11.5**	**-2.6**
	SNR=29						
ULHL	**Ulahol**	**3.52**	**34**	⇑*iP*	**Pn**	**23 56 04.7**	**-1.9**
	baz=30						
ULHL				⇑*iS*	**Sn**	**23 56 46.5**	**-1.9**
	baz=30						
BOOM	**Boomskoye usch**	**3.60**	**29**	⇑*eP*	**Pn**	**23 56 06.2**	**-1.5**
	baz=25						
BOOM				⇑*iS*	**Sn**	**23 56 49.1**	**-1.3**
	baz=25						
CHMS	**Chumysh**	**3.75**	**13**	P	**Pn**	**23 56 10.2**	**+0.6**
	SNR=8.6						
TKM2	**Tokmak 2**	**3.88**	**22**	P	**Pn**	**23 56 13.4**	**+2.0**
	SNR=7.3						
TKM2	**Tokmak 2**	**3.88**	**22**	⇓Pn	**Pn**	**23 56 11.3**	**-0.1**
	4.1nm,0.6s						
TKM2				⇑Lg	Lg	23 57 08.2	
	21nm,0.7s						
USP	**Ospenovka**	**3.98**	**9**	P	**Pb**	**23 56 19.7**	**-2.1**
	SNR=6.8						
USP	**Ospenovka**	**3.98**	**9**	⇑*iP*	**Pn**	**23 56 12.3**	**-0.4**
	baz=6.0						
USP				⇑*iS*	**Sn**	**23 56 59.6**	**+0.2**
	baz=6.0						
DGS	**Degeres**	**4.22**	**22**	*eP*	**Pb**	**23 56 24.3**	**-1.7**
	7.7nm,0.5s						
DGS				*eS*	**Sb**	**23 57 17.9**	**+0.8**
	23nm,0.7s						
DGS	**Degeres**	**4.22**	**22**	Pg	**Pb**	**23 56 24.3**	**-1.7**
	7.7nm,0.5s						
DGS				Lg	Lg	23 57 17.9	
	23nm,0.7s						
MTBS	**Maitube**	**4.34**	**28**	*eP*	**Pb**	**23 56 26.3**	**-1.7**
	2.9nm,0.3s						
MTBS				*eS*	**Sb**	**23 57 21.7**	**+1.2**
	42nm,0.5s						
MTBS	**Maitube**	**4.34**	**28**	Pg	**Pb**	**23 56 26.3**	**-1.7**
	2.9nm,0.3s						
MTBS				Lg	Lg	23 57 21.7	
	42nm,0.5s						
KK02	**Karatay Array**	**4.42**	**329**	⇑Pn	**Pn**	**23 56 19.7**	**+0.8**
	1.1nm,0.2s,baz=167,slow=17						
KK02				⇑Pg	**Pb**	**23 56 31.0**	**+1.6**
	3.2nm,0.4s,baz=141,slow=16						
KK03	**Karatay Array**	**4.43**	**329**	⇓Sn	**Sn**	**23 57 13.3**	**+2.8**
	3.9nm,0.3s,baz=142,slow=24						
KK03				⇑Lg	Lg	23 57 29.8	
	11nm,0.5s,baz=150,slow=32						
TNSS	**Tian-Shan**	**4.47**	**33**	*eP*	**Pb**	**23 56 28.9**	**-1.4**
	4.2nm,0.6s						
TNSS				*eS*	**Sb**	**23 57 25.8**	**+1.4**
	14nm,0.6s						
TNSS	**Tian-Shan**	**4.47**	**33**	Pg	**Pb**	**23 56 29.0**	**-1.4**
	4.2nm,0.6s						
TNSS				Lg	Lg	23 57 25.8	
	14nm,0.6s						
MDOK	**Medeo**	**4.61**	**33**	*eP*	**Pb**	**23 56 31.3**	**-1.4**
	7.1nm,0.6s						
MDOK				*eS*	**Sb**	**23 57 30.1**	**+1.8**
	18nm,0.8s						
MDOK	**Medeo**	**4.61**	**33**	Pn	**Pn**	**23 56 20.4**	**-1.1**
	1.6nm,0.6s						
MDOK				⇓Pg	**Pb**	**23 56 32.2**	**-0.5**
	4.9nm,0.5s						
MDOK				⇑Lg	Lg	23 57 31.5	
	29nm,0.8s						
MDOK	**Medeo**	**4.61**	**33**	Pg	**Pb**	**23 56 31.3**	**-1.4**
	7.1nm,0.6s						
MDOK				Lg	Lg	23 57 30.1	
	18nm,0.8s						
KRBS	**Karabastau**	**4.62**	**19**	*eP*	**Pb**	**23 56 31.4**	**-1.3**
	7.1nm,0.4s						
KRBS				*eS*	**Sb**	**23 57 30.0**	**+1.6**
	20nm,0.8s						
KRBS	**Karabastau**	**4.62**	**19**	Pg	**Pb**	**23 56 31.4**	**-1.3**
	7.1nm,0.4s						
KRBS				Lg	Lg	23 57 30.0	
	20nm,0.8s						
KNDC	**Almaty**	**4.62**	**32**	⇓Lg	Lg	23 57 31.8	
	130nm,0.8s						
BRLS	**Borolday**	**4.66**	**323**	*eP*	**Pb**	**23 56 32.0**	**-1.4**
	3.3nm,0.3s						
BRLS				*eS*	**Sb**	**23 57 31.3**	**+1.8**
	31nm,0.7s						
BRLS	**Borolday**	**4.66**	**323**	Pg	**Pb**	**23 56 32.0**	**-1.4**
	3.3nm,0.3s						
BRLS				Lg	Lg	23 57 31.3	
	31nm,0.7s						
KOTS	**Kotyrbulak**	**4.70**	**33**	*eP*	**Pb**	**23 56 33.0**	**-1.1**
	7.8nm,0.4s						
KOTS				*eS*	**Sb**	**23 57 32.8**	**+2.0**
	60nm,0.7s						
KOTS	**Kotyrbulak**	**4.70**	**33**	Pg	**Pb**	**23 56 33.0**	**-1.1**
	7.8nm,0.4s						
KOTS				Lg	Lg	23 57 32.8	
	60nm,0.7s						
KTBS	**Karatobe**	**4.94**	**27**	*eP*	**Pb**	**23 56 37.1**	**-1.1**
	4.9nm,0.6s						
KTBS				*eS*	**Sb**	**23 57 39.6**	**+2.1**
	34nm,0.5s						
KTBS	**Karatobe**	**4.94**	**27**	Pg	**Pb**	**23 56 37.1**	**-1.1**
	4.9nm,0.6s						
KTBS				Lg	Lg	23 57 39.6	
	34nm,0.5s						
KUU	**Kurty**	**4.98**	**23**	*eP*	**Pb**	**23 56 37.4**	**-1.5**
	1.7nm,0.5s						
KUU				*eS*	**Sb**	**23 57 40.4**	**+1.5**
	25nm,0.9s						
KUU	**Kurty**	**4.98**	**23**	Pg	**Pb**	**23 56 37.4**	**-1.5**
	1.7nm,0.5s						
KUU				Lg	Lg	23 57 40.4	
	25nm,0.9s						
CHKK	**Chushkaly**	**5.17**	**28**	*eP*	**Pb**	**23 56 41.5**	**-0.6**
	1.4nm,0.5s						
CHKK				*eS*	**Sb**	**23 57 47.0**	**+2.8**
	25nm,0.7s						
CHKK	**Chushkaly**	**5.17**	**28**	Pg	**Pb**	**23 56 41.5**	**-0.6**
	1.4nm,0.5s						
CHKK				Lg	Lg	23 57 47.0	
	25nm,0.7s						
SATY	**Saty**	**5.18**	**43**	*eP*	**Pb**	**23 56 42.6**	**+0.2**
	7.1nm,1.0s						
SATY				*eS*	**Sb**	**23 57 48.8**	**+4.1**
	16nm,1.2s						
SATY	**Saty**	**5.18**	**43**	Pg	**Pb**	**23 56 42.6**	**+0.2**
	7.1nm,1.0s						
SATY				Lg	Lg	23 57 48.8	
	16nm,1.2s						
KURS	**Kuram**	**5.37**	**38**	*eP*	**Pb**	**23 56 45.7**	**+0.1**
	2.7nm,0.3s						
KURS				*eS*	**Sb**	**23 57 54.4**	**+4.2**
	6.4nm,1.1s						
KURS	**Kuram**	**5.37**	**38**	Pg	**Pb**	**23 56 45.7**	**+0.1**
	2.7nm,0.3s						
KURS				Lg	Lg	23 57 54.4	
	6.4nm,1.1s						
UZB	**Uzynbulak**	**5.57**	**45**	*eP*	**Pb**	**23 56 48.8**	**-0.3**
	4.0nm,0.3s						
UZB				*eS*	**Sb**	**23 57 59.8**	**+3.7**
	5.2nm,0.5s						
UZB	**Uzynbulak**	**5.57**	**45**	Pg	**Pb**	**23 56 48.8**	**-0.3**
	4.0nm,0.3s						
UZB				Lg	Lg	23 57 59.8	
	5.2nm,0.5s						
KPKS	**Kokpek**	**5.61**	**41**	*eP*	**Pb**	**23 56 50.1**	**+0.4**
	2.7nm,0.3s						
KPKS				*eS*	**Sb**	**23 58 01.6**	**+4.6**
	18nm,0.6s						
BTLS	**Baital**	**5.70**	**3**	*eP*	**Pb**	**23 56 50.1**	**-1.1**
	1.2nm,0.3s						
BTLS				*eS*	**Sb**	**23 58 02.0**	**+2.4**
	5.1nm,0.7s						
BTLS	**Baital**	**5.70**	**3**	Pg	**Pb**	**23 56 50.1**	**-1.1**
	1.2nm,0.3s						
BTLS				Lg	Lg	23 58 02.0	
	5.1nm,0.7s						
SHLS	**Shalkode**	**5.83**	**47**	*eP*	**Pg**	**23 56 60.0**	**-3.2**
	3.0nm,0.7s						
SHLS				*eS*	**Sg**	**23 58 19.6**	**+0.9**
	5.3nm,0.5s						
SHLS	**Shalkode**	**5.83**	**47**	Pg	**Pg**	**23 56 60.0**	**-3.2**
	3.0nm,0.7s						
SHLS				Lg	Lg	23 58 19.5	
	5.3nm,0.5s						
PDGK	**Podgornoye**	**5.95**	**46**	⇓Pn	**Pn**	**23 56 40.0**	**+0.1**
	2.3nm,0.7s						
PDGK				⇓Pg	**Pb**	**23 56 57.5**	**+2.0**
	4.8nm,0.9s						
PDGK				⇓Lg	Lg	23 58 15.5	
	10nm,0.8s						

*NEIC **01** 23:58:40±1.5, 20°.91S±0°.09×173°.7W±0°.1, h10km±1km,*
mb4.5/16, Error ellipse: s-maj=21.9km s-min=11.9km
az=122.0
*IDC **01** 23:58:40.2±1.2, 21°.00S×174°.01W, h0km, mb4.0/8,*
mb1 4.2/10, mb1mx4.1/38, mbtmp4.0/10, ML4.1/2, Error
ellipse: s-maj=54.5km s-min=18.7km az=140.0
ISC 01 23:58:40.5±0.6, **20°.98S**±0°.09×**173°.7W**±0°.1, **h10km, n38,**
σ1s55/34, mb4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.01**	**62**	Pn	**Pn**	**23 59 39.6**	**-2.4**
AFI	**Afiamalu**	**7.26**	**15**	Pn	**Pn**	**00 00 28.2**	**+1.4**
	3.0nm,0.3s,baz=272,slow=19,SNR=1.6						
AFI				Sn	**Sn**	**00 01 46.2**	**-3.3**
	5.2nm,0.3s,baz=40,slow=19,SNR=4.3						
AFI	**Afiamalu**	**7.26**	**15**	Pn	**Pn**	**00 00 25.5**	**-1.3**
URZ	**Urewera**	**18.97**	**203**	P	**P**	**00 03 00.8**	**-1.1**
	0.7nm,0.3s,baz=21,slow=8.6,SNR=1.6						
URZ	**Urewera**	**18.97**	**203**	P	**P**	**00 03 01.6**	**-0.4**
URZ				IAmb	IAmb	00 03 07.8	
	comp=Z,34nm,1.2s						
SNZO	**South Karori**	**22.53**	**203**	P	**P**	**00 03 39.4**	**-1.1**
PLWZ	**Palliser**	**22.56**	**202**	P	**P**	**00 03 42.2**	**+1.3**
LTZ	**Lake Taylor**	**24.73**	**205**	P	**P**	**00 04 02.9**	**+0.9**
LTZ				IAmb	IAmb	00 04 13.7	
	comp=Z,37nm,1.5s						
FOZ	**Fox Glacier**	**26.37**	**208**		**P**	**00 04 16.8**	**0.0**
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**00 06 24.7**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.5nm,0.5s,baz=110,slow=12,SNR=4.4						
STKA	Stephens Creek	41.24	245		P	00 06 24.9	-1.1
COEN	Coen	41.64	272	P	P	00 06 29.6	+0.2
BBOO	Buckleboo	45.97	244		P	00 07 02.4	-1.6
AS31	Alice Springs	48.34	257		P	00 07 21.0	-1.7
ASAR	Alice Springs	48.34	257	P	P	00 07 21.4	-1.3
	comp=Z,3.9nm,0.8s,baz=91,slow=8.1,SNR=38						
ASAR	Alice Springs	48.34	257		P	00 07 20.9	-1.8
WR0	Warramunga Arr	48.34	262		P	00 07 21.4	-1.3
WR0				IAmb	IAmb	00 07 28.1	
	comp=Z,6.7nm,1.4s						
WB0	Warramunga Arr	48.52	262		P	00 07 22.4	-1.7
WB0				IAmb	IAmb	00 07 25.1	
	comp=Z,5.6nm,1.1s						
WB2	Warramunga Arr	48.52	262		P	00 07 22.7	-1.4
WB2				IAmb	IAmb	00 07 37.4	
	comp=Z,4.6nm,1.1s						
WRA	Warramunga Arr	48.53	262	P	P	00 07 22.3	-1.9
	comp=Z,1.6nm,0.8s,baz=92,slow=6.0,SNR=25						
WRA				PcP	PcP	00 08 51.3	+1.2
	comp=Z,0.5nm,0.7s,baz=96,slow=2.9,SNR=2.4						
WRA	Warramunga Arr	48.53	262		P	00 07 22.6	-1.6
FITZ	Fitzroy Crossi	56.96	262	P	P	00 08 25.9	-0.6
	comp=Z,1.1nm,0.9s,baz=101,slow=5.2,SNR=2.3						
FITZ	Fitzroy Crossi	56.96	262		P	00 08 25.2	-1.3
FITZ				IAmb	IAmb	00 08 41.6	
	comp=Z,4.1nm,1.4s						
MORW	Morawa	63.38	247	P	P	00 09 11.2	+0.7
QSPA	South Pole Qui	69.09	180		P	00 09 46.9	+0.2
QSPA				IAmb	IAmb	00 09 51.4	
	comp=Z,8.6nm,1.2s						
BELA	Belgrano 2	78.54	172	P	P	00 10 41.5	-0.2
BELA				IAmb	IAmb	00 10 41.5	
	comp=Z,2.1nm,1.0s						
NVAR	Mina Array Bea	78.66	41	P	P	00 10 45.8	+2.7
	comp=Z,1.6nm,0.9s,baz=219,slow=5.6,SNR=7.1						
H03S2	Juan Fernandez	82.37	123	T	T	01 43 34.3	
	baz=247						
H03S1	Juan Fernandez	82.38	123	T	T	01 43 34.7	
	baz=247						
H03S3	Juan Fernandez	82.39	123	T	T	01 43 34.2	
	baz=247						
H03N2	Juan Fernandez	82.50	123	T	T	01 43 36.9	
	baz=253						
H03N3	Juan Fernandez	82.50	123	T	T	01 43 50.6	
	baz=253						
H03N1	Juan Fernandez	82.52	123	T	T	01 43 37.2	
	baz=253						
PDAR	Pinedale Array	86.59	42	P	P	00 11 26.3	+1.9
	comp=Z,0.2nm,0.5s,baz=223,slow=3.2,SNR=1.9						
ILAR	Eielson Array	87.94	11	P	P	00 11 31.8	+1.7
	comp=Z,0.7nm,1.0s,baz=206,slow=6.0,SNR=4.6						
YKA	Yellowknife Ar	95.30	24	P	P	00 12 06.1	+1.9
	comp=Z,0.4nm,0.8s,baz=229,slow=4.4,SNR=5.4						
AKASG	Malin Array Be	145.30	334	PKPbc	PKPdf	00 18 19.1	+0.7
	comp=Z,0.2nm,0.3s,baz=36,slow=4.3,SNR=5.0						
AKASG	Malin Array Be	145.30	334		PKPbc	00 18 16.8	-1.4

*MAN **02** 00:03:12.0, 10°.43N×126°.11E, h10km, mb4.9, ML3.8, MS3.8*
*IDC **02** 00:03:20.2±3.2, 10°.36N×125°.99E, h110km±30km, mb3.7/15, mb1 3.9/17, mb1mx3.7/41, mbtmp4.1/17, MS3.4/19, Ms1 3.4/19, ms1mx3.1/83, Error ellipse: s-maj=28.7km s-min=12.6km az=72.0*
*NEIC **02** 00:03:20.5±2.1, 10°.42N±0°.09×126°.0E±0°.1, h101km±7km, mb4.2/33, Error ellipse: s-maj=16.3km s-min=13.2km az=79.0*
ISC 02 00:03:14.5±0.9**, 10°.42N**±0°.04×**126°.15E**±0°.06**, h54**km±8km**, n103,** σ**1s.56**/97**, mb4.3**/36**, MS3.2**/16**, 15C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.63	182	⇑eP	Pn	00 03 24.9	-2.7
GLSP				eS	Sn	00 03 36.4	-0.7
SCPH	Surigao	0.91	226	⇑eP	Pn	00 03 29.2	-2.0
SCPH				eS	Sn	00 03 40.2	-3.2
MSLP	Maasin	1.30	257	⇑eP	Pn	00 03 35.0	-1.4
MSLP				eS	Sn	00 03 53.4	+0.7
BESP	Borongan	1.36	329	⇓eP	Pn	00 03 37.2	-0.1
BESP				eS	Sn	00 03 58.1	+3.8
BUTP	Butuan	1.54	200	⇑eP	Pn	00 03 40.0	+0.4
BUTP				eS	Sn	00 04 01.1	+2.7
LLP	Lapu-Lapu	2.15	267	⇑iP	Pn	00 03 48.0	0.0
LLP				iS	Sn	00 04 15.5	+2.0
BIPH	Bislig	2.23	175	⇑eP	Pn	00 03 48.8	-0.3
BIPH				eS	Sn	00 04 14.5	-1.1
TBP	Tagbilaran	2.37	252	⇓eP	Pn	00 03 51.0	0.0
TBP				iS	Sn	00 04 19.7	+0.9
DCPH	Dipolog City	3.31	237	⇑eP	Pn	00 04 04.0	+0.2
DAV	Davao City (W)	3.38	190	P	Pn	00 04 11.0	+6.2
	61nm,0.3s,baz=346,slow=18,SNR=3.5						
DAV				S	Sn	00 04 53.4	+10
	75nm,0.3s,baz=305,slow=21,SNR=5.7						
DAV				LR	LR	00 06 01.5	
	comp=Z,586nm,21.9s,baz=327,slow=49						
DAV	Davao City (W)	3.38	190		Pn	00 04 11.9	+7.1
CNOP	Candoni, Negro	3.51	261	⇑eP	Pn	00 04 06.8	+0.3
CNOP				eS	Sn	00 04 47.8	+1.0
RCP	Roxas	3.53	289	⇑eP	Pn	00 04 07.5	+0.7
KCP	Kidapawan	3.55	197	⇑eP	Pn	00 04 07.7	+0.5
KCP				iS	Sn	00 04 51.7	+3.7
CTBH	Cotabato--PC H	3.69	211	⇓iP	Pn	00 04 10.1	+0.9
CTBH				iS	Sn	00 04 55.0	+3.6
PVCP	Virac	3.71	328	⇑eP	Pn	00 04 15.4	+6.1
PAGZ	Pagadian	3.74	227	⇑eP	Pn	00 04 11.2	+1.4
JAP	San Jose, Anti	4.14	275	⇑eP	Pn	00 04 16.4	+1.1
DDMP	Don Marcelino,	4.31	186	⇑eP	Pn	00 04 09.9	-7.7
JCNP	Jose Panganiba	5.11	319	⇑eP	Pn	00 04 29.2	+0.6
MYLDM	Lahad Datu	9.19	236	Pn	Pn	00 05 27.1	+2.6
KKM	Kota Kinabalu	10.75	247		Pn	00 05 49.5	+3.5
FAKI	Fak Fak	14.58	155	P	P	00 06 46.5	+3.5
SBUM	Sibu	15.94	241	P	P	00 06 59.4	+1.3
JOW	Kunigami	16.45	7	LR	LR	00 12 35.6	
	comp=Z,78nm,20.3s,baz=85,slow=34						
KAPI	Kappang	16.61	203	P	P	00 07 06.7	+1.2
	0.8nm,0.3s,baz=203,slow=17,SNR=3.6						
GUMO	Guam	18.58	78	LR	LR	00 14 57.3	
	comp=Z,79nm,18.7s,baz=282,slow=37						
BATI	Baumata	20.64	187	LR	LR	00 17 08.3	
	comp=Z,72nm,19.4s,baz=236,slow=40						
MTN	Manton Dam	23.64	168	P	P	00 08 22.4	+1.3
LEM	Lembang	25.18	228	LR	LR	00 19 09.1	
	comp=Z,64nm,18.3s,baz=206,slow=38						
INU	Inuyama	26.71	20	P	P	00 08 50.1	+1.3
INU				IAmb	IAmb	00 09 11.6	
	comp=Z,9.6nm,0.9s						
KSRS	Korea Array	26.96	3	LR	LR	00 19 06.7	
	comp=Z,35nm,21.2s,baz=150,slow=35						
CM31	Chiang Mai Arr	27.50	290	P	P	00 08 55.8	-0.3
CM31				IAmb	IAmb	00 09 09.7	
	comp=Z,6.7nm,0.9s						
CMAR	Chiang Mai Arr	27.50	290	P	P	00 08 55.8	-0.4
	comp=Z,3.4nm,0.3s,baz=103,slow=7.1,SNR=14						
CMAR				LR	LR	00 19 25.4	
	comp=Z,35nm,21.5s,baz=115,slow=35						
CMAR	Chiang Mai Arr	27.50	290	P	P	00 08 55.5	-0.7
PSI	Prapat	28.06	256	LR	LR	00 22 15.9	
	comp=Z,66nm,20.2s,baz=16,slow=41						
MJAR	Matsushiro Arr	28.20	21	LR	LR	00 18 17.4	
	comp=Z,53nm,22.0s,baz=212,slow=32						
XAN	Xi'an	28.32	329	Pn	P	00 09 02.4	-0.8
XAN				Pg	pP	00 09 15.2	-1.7
XAN				Sn		00 10 15.4	
XAN				Sg		00 10 33.3	
XAN				smax	smax		
	comp=N,35nm,0.9s						
XAN				smax	smax		
	comp=E,32nm,0.8s						
FITZ	Fitzroy Crossi	28.34	181	P	P	00 09 03.6	+0.1
	comp=E,1.5nm,0.4s,baz=347,slow=8.0,SNR=13						
FITZ	Fitzroy Crossi	28.34	181	P	P	00 09 03.1	-0.4
FITZ				IAmb	IAmb	00 09 04.2	
	comp=Z,4.0nm,1.1s						
COEN	Coen	29.53	145	P	P	00 09 14.9	+0.8
COEN				IAmb	IAmb	00 09 21.7	
	comp=Z,2.8nm,0.8s						
WB0	Warramunga Arr	31.08	165	P	P	00 09 26.9	-0.9
WRAB	Tennant Creek	31.23	165	P	P	00 09 28.3	-0.7
WRAB				IAmb	IAmb	00 09 47.6	
	comp=Z,3.4nm,1.1s						
WRA	Warramunga Arr	31.23	165	P	P	00 09 28.1	-1.0
	comp=Z,0.4nm,0.5s,baz=344,slow=8.8,SNR=4.8						
WRA	Warramunga Arr	31.23	165	P	P	00 09 28.4	-0.8
WB2	Warramunga Arr	31.23	165	P	P	00 09 28.4	-0.7
WB2				IAmb	IAmb	00 09 46.1	
	comp=Z,3.1nm,1.0s						
WR0	Warramunga Arr	31.30	165	P	P	00 09 29.8	0.0
PSA00	Pilbara Seismi	32.39	191	P	P	00 09 38.8	-0.5
ASAR	Alice Springs	34.72	167	P	P	00 09 59.3	-0.2
	comp=Z,0.7nm,0.4s,baz=352,slow=7.0,SNR=13						
ASAR				S	S	00 15 21.1	-4.9
	comp=Z,0.6nm,0.8s,baz=355,slow=20,SNR=4.8						
ASAR				LR	LR	00 25 46.8	
	comp=Z,46nm,18.7s,baz=340,slow=39						
ASAJ	Asahikawa	36.47	20	LR	LR	00 26 52.6	
	comp=Z,20nm,18.3s,baz=198,slow=39						
KLR	Kul'dur	38.97	6	P	P	00 10 36.0	+0.7
	comp=Z,1.0nm,0.6s,baz=168,slow=5.1,SNR=7.2						
TAPN	Taplejung	39.87	300	eP	P	00 10 42.2	-1.4
	comp=Z,8.7nm,0.4s						
ODAN	Odare	40.00	300	eP	P	00 10 43.4	-1.2
	comp=Z,6.7nm,0.4s						
H11N1	WAKE ISLAND Hy	40.32	72	T	T	00 53 59.0	
	baz=264,slow=74,SNR=112						
H11N2	WAKE ISLAND Hy	40.33	72	T	T	00 54 00.1	
	baz=264,slow=74,SNR=72						
H11N3	WAKE ISLAND Hy	40.34	72	T	T	00 54 00.3	
	baz=264,slow=74,SNR=98						
MORW	Morawa	40.45	194	P	P	00 10 48.3	+0.4
ULN	Ulaanbaatar	40.64	340	P	P	00 10 51.6	+2.2
SONM	Songino Array	40.84	340	P	P	00 10 51.0	0.0
	comp=Z,0.4nm,0.3s,baz=157,slow=8.3,SNR=3.6						
SONM				PcP	PcP	00 12 50.8	-0.3
	comp=Z,0.2nm,0.4s,baz=165,slow=4.7,SNR=4.5						
SONM				LR	LR	00 28 31.5	
	comp=Z,27nm,21.4s,baz=174,slow=37						
FORT	Forrest	41.00	177	P	P	00 10 52.3	-0.1
JIRN	Jiri	41.25	300	eP	P	00 10 53.4	-1.7
	comp=Z,6.9nm,0.3s						
GUN	Gumba	41.59	300	eP	P	00 10 56.7	-1.1
	comp=Z,6.2nm,0.4s						
BBOO	Buckleboo	44.02	168	P	P	00 11 17.4	+0.5
BBOO				PcP	PcP	00 13 02.0	+0.2
PYUN	Piuthan	44.10	300	eP	P	00 11 17.3	-0.7
	comp=Z,3.8nm,0.3s						
STKA	Stephens Creek	44.58	161	P	P	00 11 21.2	-0.2
	comp=Z,0.7nm,0.3s,baz=336,slow=7.6,SNR=4.6						
STKA	Stephens Creek	44.58	161	P	P	00 11 22.0	+0.6
PALK	Pallekele	44.99	270	LR	LR	00 31 59.8	
	comp=Z,52nm,18.2s,baz=209,slow=38						
MK31	Makanchi Array	51.84	323	P	P	00 12 16.5	-0.8
MKAR	Makanchi Array	51.84	323	P	P	00 12 16.8	-0.5
	comp=Z,1.4nm,0.3s,baz=121,slow=7.7,SNR=71						
MAKZ	Makanchi	52.03	323	P	P	00 12 18.2	-0.5
MAKZ				PcP	PcP	00 13 29.9	-0.4
ZALV	Zalesovo Beam	54.44	331	P	P	00 12 34.6	-1.6
	comp=Z,0.9nm,0.3s,baz=108,slow=8.7,SNR=7.0						
ZALV	Zalesovo Beam	54.44	331	P	P	00 12 35.9	-0.2
AAK	Ala-Archa	55.14	315	LR	LR	00 39 25.9	
	comp=Z,63nm,18.7s,baz=98,slow=39						
KURK	Kurchatov	55.88	325	P	P	00 12 46.0	-0.6
KKAR	Karatay Array	58.06	315	P	P	00 13 01.3	-1.0
NRIK	Noril'sk	63.84	346	P	P	00 13 40.7	-0.3
	comp=Z,1.3nm,0.3s,baz=136,slow=4.9,SNR=6.2						
GEYT	Alibeck	66.36	307	LR	LR	00 45 52.5	
	comp=Z,44nm,18.1s,baz=136,slow=38						
ABKAR	Akbulak array	66.68	319	P	P	00 13 58.3	-1.4
URZ	Urewera	67.86	139	LR	LR	00 45 58.2	
	comp=Z,62nm,18.5s,baz=204,slow=38						
ARU	Arti	69.03	327	P	P	00 14 13.1	-1.3
ARU				IAmb	IAmb	00 14 14.7	
	comp=Z,3.1nm,0.7s						
SOCY	Socotra	70.59	279	P	P	00 14 23.3	-1.6
SOCY				IAmb	IAmb	00 14 29.0	
	comp=Z,5.6nm,1.1s						
IMAR	Indian Mountai	76.52	24	P	P	00 15 00.6	+2.0
H21K	Melozitna Rive	76.88	25	P	P	00 15 02.5	+1.8
H21K				IAmb	IAmb	00 15 30.1	
	comp=Z,2.5nm,1.1s						
CAST	Castle Rocks	77.06	27	P	P	00 15 03.4	+1.7
CAST				IAmb	IAmb	00 15 17.7	
	comp=Z,3.6nm,0.9s						
I21K	Tanana	77.19	25	P	P	00 15 04.8	+2.4
I21K				IAmb	IAmb	00 15 09.8	
	comp=Z,5.7nm,1.1s						
RAYN	Ar Rayn	77.40	292	P	P	00 15 03.7	-0.8
RAYN				IAmb	IAmb	00 15 04.2	
	comp=Z,3.2nm,0.8s						
BPAW	Bear Paw Mtn.	77.58	27	P	P	00 15 06.6	+2.0
BPAW				IAmb	IAmb	00 15 28.4	
	comp=Z,2.5nm,0.8s						
MLY	Manley	77.71	26	P	P	00 15 06.9	+1.5
MLY				IAmb	IAmb	00 15 21.4	
	comp=Z,6.6nm,1.2s						
KBZ	Khabaz	78.02	313	LR	LR	00 52 35.0	
	comp=Z,36nm,19.4s,baz=182,slow=38						
TOLK	Toolik Lake Re	78.28	22	P	P	00 15 10.5	+2.1
TOLK				IAmb	IAmb	00 15 30.6	
	comp=Z,2.6nm,0.8s						
MCK	McKinley	78.48	27	P	P	00 15 10.4	+0.8
MCK				IAmb	IAmb	00 15 11.2	
	comp=Z,6.1nm,1.2s						
CCB	Clear Creek Bu	78.96	26	P	P	00 15 13.2	+1.0
ILAR	Eielson Array	79.36	26	P	P	00 15 14.4	+0.1
	comp=Z,0.4nm,0.7s,baz=233,slow=4.9,SNR=7.8						
ILAR	Eielson Array	79.36	26	P	P	00 15 14.0	-0.3
BMAR	Burnt Mountain	80.18	23	P	P	00 15 21.5	+2.7
RIDG	Independent Ri	80.30	27	P	P	00 15 20.2	+0.7
RIDG				IAmb	IAmb	00 15 45.3	
	comp=Z,6.5nm,1.2s						
ARCES	ARCESS Array B	84.01	340	P	P	00 15 38.1	-0.8
	comp=Z,4.5nm,0.9s,baz=83,slow=7.2,SNR=12						
INK	Inuvik	84.19	22	LR	LR	00 59 09.1	
	comp=Z,34nm,18.0s,baz=97,slow=40						
FINES	FINESS Array B	85.70	332	P	P	00 15 46.2	-1.2
	comp=Z,2.3nm,0.7s,baz=151,slow=4.4,SNR=11						
AKASG	Malin Array Be	86.37	321	P	P	00 15 49.2	-1.8
	comp=Z,0.6nm,0.4s,baz=67,slow=4.1,SNR=5.5						
YKA	Yellowknife Ar	93.67	24	P	P	00 16 26.4	+1.5
	comp=Z,0.7nm,0.8s,baz=300,slow=4.9,SNR=8.7						
MBAR	Mbarara	95.43	270	LR	LR	00 59 00.9	
	comp=Z,32nm,18.9s,baz=152,slow=35						
TORD	Torodi Ar. Bea	120.10	292	PKP	PKPdf	00 21 59.7	-0.6
	comp=Z,0.4nm,0.3s,baz=59,slow=1.8,SNR=8.8						

*NNC **02** 00:21:02.2±3.6, 38°.39N×83°.81E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=29.2km s-min=23.7km az=15.0*
*IDC **02** 00:21:03.2±1.4, 38°.39N×84°.20E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.3/50, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=55.7km s-min=21.4km az=64.0*
ISC 02 00:21:03.5±1.3**, 38°.34N**±0°.10×**83°.8E**±0°.1**, h10**km**, n11,** σ**1s.52**/16**, mb3.6**/3**, 8C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	5.96	328	⇑Pn	Pn	00 22 32.0	+0.1
	3.8nm,0.6s						
PDGK				⇓Sn	Sn	00 23 41.5	+1.1
	13nm,0.5s						
PDGK				⇑Lg	Lg	00 24 10.9	
	25nm,0.7s						
MDOK	Medeo	7.04	315	Pn	Pn	00 22 47.2	+0.5
	3.0nm,0.6s						
MDOK				Sn	Sn	00 24 08.0	+1.1
	2.9nm,0.4s						
MDOK				⇑Lg	Lg	00 24 49.0	
	4.9nm,0.6s						
TKM2	Tokmak 2	7.74	309	⇑Pn	Pn	00 22 53.4	-3.0
	1.0nm,0.3s						
TKM2				⇓Sn	Sn	00 24 25.7	+1.4
	2.3nm,0.5s						
TKM2				⇓Lg	Lg	00 25 04.8	
	3.4nm,0.6s						
AAK	Ala-Archa	8.29	304	Pn	Pn	00 23 09.9	+5.9
	0.2nm,0.3s,baz=100,slow=5.1,SNR=7.3						
MK31	Makanchi Array	8.52	353	⇑Pn	Pn	00 23 06.8	-0.1
	0.2nm,0.2s,baz=180,slow=13,SNR=30						
MK31				⇑Sn	Sn	00 24 43.0	-0.1
	0.4nm,0.2s,baz=177,slow=21,SNR=6.6						
MKAR	Makanchi Array	8.52	353	Pn	Pn	00 23 07.6	+0.7
	0.5nm,0.3s,baz=166,slow=13,SNR=24						
MKAR				Sn	Sn	00 24 43.8	+0.7
	1.1nm,0.3s,baz=171,slow=24,SNR=6.6						
MAKZ	Makanchi	8.57	352	⇑Pn	Pn	00 23 06.7	-0.9
	0.4nm,0.2s						
MAKZ				⇑Sn	Sn	00 24 43.4	-0.9
	1.4nm,0.5s						
ZALV	Zalesovo Beam	15.62	2	Pn	P	00 24 44.9	-2.9
	0.2nm,0.3s,baz=178,slow=13,SNR=2.3						
WRA	Warramunga Arr	74.88	131	P	P	00 32 44.0	-0.5
	0.7nm,1.1s,baz=325,slow=6.1,SNR=5.2						
ASAR	Alice Springs	77.53	134	P	P	00 33 00.1	+0.5
	0.2nm,0.3s,baz=323,slow=7.2,SNR=1.7						
YKA	Yellowknife Ar	78.42	9	P	P	00 33 06.1	+2.1
	0.3nm,0.7s,baz=342,slow=5.2,SNR=4.4						

IDC 02 00:39:24.4±3.2**, 10°.21N**×**93°.27E, h0**km**, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.5**/30**, mbtmp3.6**/5**, Error ellipse: s-maj=139.9km s-min=21.4km az=63.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.63	348	P	P	00 46 41.0	-0.1
	0.9nm,0.9s,baz=159,slow=8.6,SNR=7.5						
SONM	Songino Array	39.10	14	P	P	00 46 53.5	-0.1
	0.2nm,0.6s,baz=207,slow=5.8,SNR=2.6						
ZALV	Zalesovo Beam	44.14	353	P	P	00 47 34.3	-0.2
	0.8nm,0.4s,baz=175,slow=8.9,SNR=5.9						
WRA	Warramunga Arr	50.33	127	P	P	00 48 23.1	-0.2
	0.6nm,0.6s,baz=306,slow=8.7,SNR=11						
ASAR	Alice Springs	52.08	131	P	P	00 48 36.5	0.0
	0.8nm,0.8s,baz=308,slow=7.4,SNR=9.9						

*GCG **02** 00:55:42.8±0.8, 14°.23N×92°.37W, h73km±46km, MD3.8*
*IDC **02** 00:55:43.8±7.1, 14°.13N×92°.49W, h39km±41km, mb3.5/2, mb1 3.8/5, mb1mx3.4/39, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=87.7km s-min=25.6km az=15.0*
*MEX **02** 00:55:43.6±0.7, 14°.05N×92°.35W, h38km±58km, MD4.2*
ISC 02 00:55:40.1±1.9**, 14°.07N**±0°.07×**92°.47W**±0°.04**, h17**km±10km**, n25,** σ**1s.87**/44**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.86	13	iP	Pg	00 55 57.4	+0.6
THIG				iS	Sn	00 56 09.8	+0.1
PATR	El Naranjo	1.07	12	iP	Pb	00 56 00.1	-0.3
PATR				iS	Sb	00 56 13.8	-0.3
CHUJ	Union Juarez	1.08	19	iP	Pb	00 56 00.2	-0.3
CHUJ				iS	Sb	00 56 14.0	-0.4
STG3	Santiaguito 3,	1.08	54	eP	Pn	00 56 00.9	+0.1
STG3				eS	Sg	00 56 15.5	+0.3
PAVE	Pavencul	1.15	14	iP	Pn	00 56 01.5	-0.3
PAVE				iS	Sb	00 56 15.1	-1.5
PCIG		1.78	336	iP	Pn	00 56 09.7	-0.5
PCIG				iS	Sn	00 56 32.6	+0.2
PCG	Pacaya	1.83	80	eP	Pn	00 56 11.6	+0.5
PCG				eS	Sn	00 56 34.5	+0.4
NBG	Las Nubes	2.12	76	eP	Pn	00 56 16.4	+1.3
NBG				eS	Sn	00 56 40.9	-0.4
APG	El Apazote	2.15	64	Pn	Pn	00 56 16.8	+1.3
	14nm,0.3s,baz=236,slow=7.3,SNR=104						
APG				Sn	Sb	00 56 44.8	-0.5
	17nm,0.3s,baz=306,slow=9.3,SNR=9.4						
CCIG	Comitan	2.22	8	iP	Pb	00 56 20.1	0.0
CCIG				iS	Sg	00 56 50.4	-1.4
CARR	Arriaga	2.58	327	eP	Pn	00 56 22.1	+0.9
CARR				iS	Sn	00 56 54.6	+2.4
TGIG		2.77	347	iP	Pn	00 56 25.8	+2.0
TGIG				iS	Sn	00 56 59.7	+2.7
MRL	Marmol	2.88	69	eP	Pb	00 56 29.7	-1.5
UXUV	UXUV	3.61	334	iP	Pn	00 56 37.5	+2.1
UXUV				iS	Sb	00 57 24.2	-3.1
CMIG	Matias Romero	3.80	323	Pn	Pn	00 56 38.4	+0.4
	2.8nm,0.3s,baz=140,slow=9.9,SNR=18						
CMIG				Sn	Sn	00 57 24.2	+1.8
	6.6nm,0.3s,baz=54,slow=19,SNR=6.8						
CMIG	Matias Romero	3.80	323	iP	Pn	00 56 38.6	+0.6
CMIG				iS	Sn	00 57 25.3	+2.9
HUIG	Huatulco	3.90	296	iP	Pn	00 56 39.2	-0.3
HUIG				iS	Sn	00 57 21.5	-3.5
NEUV	Arroyo Zacate	4.84	319	iP	Pn	00 56 54.0	+1.7
NEUV				iS	Sb	00 57 58.6	-4.0
YOIG	Yosondua	5.63	300	eP	Pn	00 57 07.1	+3.8
YOIG				eS	Sn	00 58 10.2	+2.4
TOIG	Toxpalan	5.96	313	eP	Pn	00 57 14.3	+6.5
TOIG				eS	Sn	00 58 16.2	+0.3
JAUV	Jalcomulco	6.71	322	iP	Pn	00 57 20.7	+2.7
JAUV				iS	Sn	00 58 29.4	-4.8
TXAR	Lajitas Array	18.39	327	P	Pn	00 59 56.1	+1.5
	0.0nm,0.3s,baz=141,slow=9.2,SNR=2.2						
YKA	Yellowknife Ar	50.86	347	P	P	01 04 39.0	-0.8
	1.4nm,0.6s,baz=150,slow=7.4,SNR=20						
ILAR	Eielson Array	62.60	337	P	P	01 06 03.2	0.0
	0.4nm,0.9s,baz=131,slow=4.9,SNR=4.6						
CMAR	Chiang Mai Arr	145.78	340	PKPbc	PKPbc	01 15 19.4	+0.1
	1.3nm,0.3s,baz=339,slow=2.2,SNR=5.2						

IDC 02 01:03:16.2±46.0**, 18°.37S**×**177°.35W, h0**km**, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.8**/33**, mbtmp4.1**/3**, Error ellipse: s-maj=849.9km s-min=164.9km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.30	242	P	P	01 10 47.4	+0.4
	0.7nm,0.3s,baz=94,slow=10.0,SNR=1.6						
WRA	Warramunga Arr	45.54	260	P	P	01 11 37.5	-0.5
	0.8nm,0.5s,baz=97,slow=7.0,SNR=24						
ASAR	Alice Springs	45.64	255	P	P	01 11 38.8	-0.1
	4.5nm,0.6s,baz=89,slow=8.9,SNR=51						

*IDC **02** 01:09:59.8±4.4, 2°.26S×140°.59E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/40, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=159.2km s-min=33.1km az=88.0*
*DJA **02** 01:10:01.8±0.7, 2°S±5°×14°0E±°, h10km, M3.0/3, MLv3.0/3*
ISC 02 01:10:03.3±1.3**, 2°.4S**±0°.1×**140°.34E**±0°.08**, h24**km**, n6,** σ**1s.71**/7**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.26	220	P	Pb	01 10 08.5	-1.2
GENI				S	Sb	01 10 13.8	-0.2
JAY	Jayapura	0.39	109	P	Pn	01 10 12.0	-1.5
SMPI	Sarmi	1.67	284	P	Pn	01 10 29.7	-1.4
WRA	Warramunga Arr	18.40	198	P	Pn	01 14 17.9	+0.9
	0.1nm,0.3s,baz=21,slow=12,SNR=2.5						
ASAR	Alice Springs	22.05	196	P	P	01 14 58.5	+2.0
	0.3nm,0.5s,baz=25,slow=9.6,SNR=4.8						
MKAR	Makanchi Array	70.54	322	P	P	01 21 17.4	+1.1
	0.2nm,0.6s,baz=121,slow=7.7,SNR=1.9						

*INET **02** 01:11:47.2±0.2, 9°.83N×83°.04W, h12km±2km, MW3.3*
*UCR **02** 01:11:48.1±1.7, 9°.84N×83°.03W, h10km±10km, MW4.1*
ISC 02 01:11:46.4±1.0**, 9°.88N**±0°.05×**82°.96W**±0°.03**, h20**km**, n22,** σ**1s.51**/28**, 3C, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RGM0	Gandoca	0.46	129	eP	Pb	01 11 56.9	+1.2
EDBA	Buenos Aires	0.78	203	⇑iP	Pb	01 12 01.4	+0.1
EDBA				eS	Sn	01 12 12.3	-1.0
CDM	Cerro de Muert	0.85	248	⇑eP	Pb	01 12 02.4	-0.4
CDM	Cerro de Muert	0.85	248	eP	Pb	01 12 02.5	-0.4
PEZE	Perez Zeledon,	0.86	235	⇑iP	Pb	01 12 02.3	-0.4
PEZE				eS	Sb	01 12 13.9	0.0
PEZE	Perez Zeledon,	0.86	235	eP	Pb	01 12 02.3	-0.4
PEZE				eS	Sb	01 12 13.9	0.0
RIMA	Rio Macho	0.89	263	eP	Pb	01 12 03.2	-0.2
RIMA				eS	Sb	01 12 15.2	+0.2
RIMA	Rio Macho	0.89	263	eP	Pb	01 12 03.2	-0.2
EDPN	Palmar Norte	1.03	208	eP	Pn	01 12 06.2	+0.4
LCR2	La Lucha 2	1.04	262	eP	Pb	01 12 05.6	-0.2
EDSV	San Vito	1.05	180	eP	Pn	01 12 07.3	+1.1
EDDO	Dominical	1.08	235	eP	Pn	01 12 07.7	+1.2
HDC	Heredia	1.14	276	eP	Pb	01 12 08.1	+0.6
PIRO	Carate, Puerto	1.51	194	eP	Pn	01 12 13.2	+0.8
COVE	Coope Vega, Sa	1.64	301	eP	Pb	01 12 15.8	-0.2
CEDE	Laguna Cedeo	1.81	290	iP	Pb	01 12 19.4	+0.4
SAJU	San Juanillo,	2.71	274	eP	Pn	01 12 31.5	+2.6
BCIP	Isla Barro Col	3.17	103	eP	Pn	01 12 35.4	+0.2
BCIP				eS	Sn	01 13 09.6	-2.7
CACAO	El Cacao, Vera	3.27	140	eP	Pn	01 12 38.9	+2.4
AZU	Azuero	3.37	128	eP	Pn	01 12 40.1	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PRVC	**Isla de Provid**	**3.81**	**24**	*e*P	**Pn**	**01 12 45.7**	**+1.6**
SJCC	**San Jacinto, C**	**7.67**	**89**	*e*P	**Pn**	**01 13 38.9**	**+1.7**
SJCC				*e*S	**Sn**	**01 14 59.1**	**-4.5**

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*IDC **02** 01:19:25.7±9.6, 52°.02N×178°.68E, h81km±86km, mb3.3/10, mb1 3.6/11, mb1mx3.3/57, mbtmp3.7/11, ML4.2/1, Error ellipse: s-maj=55.0km s-min=15.8km az=2.0*
*NEIC **02** 01:19:26.9±1.4, 51°.7N±0°.1×178°.68E±0°.07, h102km±10km, mb3.9/64, ML3.4/21(AEIC), Error ellipse: s-maj=18.1km s-min=5.9km az=173.0*
*AEIC **02** 01:19:27.9±2.2, 51°.6N±0°.2×178°.65E±0°.08, h85km±7km, Error ellipse: s-maj=23.3km s-min=7.0km az=183.0*
ISC 02 01:19:26.8±1.2**, 51°.8N**±0°.2×**178°.69E**±0°.05**, h102**km±9km**, n101, σ0s.84**/107**, mb3.8**/33**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.52**	**88**		**Pn**	**01 19 53.6**	**+0.2**
GASW					**Sn**	**01 20 13.5**	**-0.1**
GANO	**Gareloi North**	**1.56**	**87**		**Pn**	**01 19 54.0**	**+0.2**
GANO					**Sn**	**01 20 15.0**	**+0.6**
GAKI	**Gareloi-Kavalg**	**1.57**	**97**		**Pn**	**01 19 53.8**	**-0.1**
TASE	**Tanaga Southea**	**2.03**	**87**		**Pn**	**01 20 00.1**	**+0.3**
TAFP	**Tanaga Falls P**	**2.07**	**85**		**Pn**	**01 20 00.5**	**+0.2**
TAFP					**Sn**	**01 20 25.2**	**-0.7**
TAPA	**Tanaga Point A**	**2.17**	**87**		**Pn**	**01 20 01.9**	**+0.2**
TAPA					**Sn**	**01 20 28.5**	**+0.2**
KIMD	**Kanaga Island**	**2.53**	**88**		**Pn**	**01 20 06.5**	**+0.3**
KIKV	**Kanaga Island**	**2.57**	**86**		**Pn**	**01 20 07.3**	**+0.5**
KIKV					**Sn**	**01 20 38.1**	**+0.5**
KIWB	**Kanaga Island**	**2.58**	**86**		**Pn**	**01 20 07.1**	**+0.2**
ADK	**Adak**	**2.87**	**86**	Pn	**Pn**	**01 20 10.8**	**0.0**
SMY	**Shemya**	**2.99**	**291**	Pn	**Pn**	**01 20 12.6**	**+0.4**
SMY				Sn	**Sn**	**01 20 46.8**	**-0.6**
GSTD	**Great Sitkin T**	**3.21**	**83**		**Pn**	**01 20 15.4**	**0.0**
GSMY	**Great Sitkin M**	**3.26**	**83**		**Pn**	**01 20 16.1**	**+0.1**
ATKA	**Atka Island**	**4.42**	**81**		**Pn**	**01 20 32.1**	**+0.6**
UNV	**Unalaska Valle**	**9.21**	**71**	Pn	**Pn**	**01 21 37.8**	**+1.3**
SVW2	**Sparrevohn**	**16.91**	**46**	Pn	**Pn**	**01 23 14.8**	**-2.0**
SVW2				IAmb	IAmb	01 23 17.2	
	comp=Z,4.1nm,0.8s						
OHAK	**Old Harbor**	**17.10**	**60**		**P**	**01 23 17.7**	**-1.5**
KDAK	**Kodiak Island**	**17.54**	**59**	P	**P**	**01 23 22.1**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=255,slow=4.6,SNR=11						
KDAK	**Kodiak Island**	**17.54**	**59**		**P**	**01 23 23.9**	**-0.3**
L19K	**White Mountain**	**17.66**	**44**		**P**	**01 23 26.7**	**+1.3**
K20K	**Telida**	**18.48**	**41**	P	**P**	**01 23 35.1**	**+0.7**
J20K	**Nowinta River**	**18.83**	**38**	P	**P**	**01 23 39.4**	**+1.2**
CAST	**Castle Rocks**	**19.32**	**42**	P	**P**	**01 23 45.5**	**+1.9**
KTH	**Kantishna Hill**	**19.86**	**42**	P	**P**	**01 23 50.9**	**+1.5**
KTH				IAmb	IAmb	01 23 54.6	
	comp=Z,4.4nm,0.8s						
IMAR	**Indian Mountai**	**19.90**	**34**	P	**P**	**01 23 50.1**	**+0.3**
BPAW	**Bear Paw Mtn.**	**20.04**	**40**	P	**P**	**01 23 50.0**	**-1.3**
BPAW				IAmb	IAmb	01 24 18.9	
	comp=Z,5.1nm,1.2s						
H21K	**Melozitna Rive**	**20.06**	**35**	P	**P**	**01 23 52.9**	**+1.3**
I21K	**Tanana**	**20.13**	**37**	P	**P**	**01 23 53.0**	**+0.7**
I21K				IAmb	IAmb	01 23 54.5	
	comp=Z,3.4nm,0.9s						
GHO	**Glory Hole Cre**	**20.16**	**48**	P	**P**	**01 23 52.2**	**-0.5**
GHO				IAmb	IAmb	01 24 19.9	
	comp=Z,7.4nm,1.0s						
PWL	**Port Wells**	**20.22**	**50**	P	**P**	**01 23 52.1**	**-1.2**
KNK	**Knik Glacier**	**20.29**	**49**	P	**P**	**01 23 54.0**	**0.0**
KNK				IAmb	IAmb	01 24 00.1	
	comp=Z,6.9nm,1.0s						
SML	**Sawmill**	**20.44**	**48**	P	**P**	**01 23 55.1**	**-0.6**
SML				IAmb	IAmb	01 24 00.1	
	comp=Z,8.4nm,1.0s						
RND	**Reindeer**	**20.67**	**43**	P	**P**	**01 23 59.4**	**+1.2**
GLI	**Glacier Island**	**20.82**	**51**	P	**P**	**01 23 59.3**	**-0.4**
SCM	**Sheep Creek Mo**	**20.91**	**48**	P	**P**	**01 24 00.5**	**-0.2**
SCM				IAmb	IAmb	01 24 01.7	
	comp=Z,5.6nm,0.8s						
NEA2	**Nenana**	**21.01**	**40**	P	**P**	**01 24 02.4**	**+0.7**
NEA2				IAmb	IAmb	01 24 26.8	
	comp=Z,3.9nm,0.8s						
FID	**Port Fidalgo**	**21.10**	**51**	P	**P**	**01 24 01.3**	**-1.4**
DHY	**Denali Highway**	**21.21**	**45**	P	**P**	**01 24 05.0**	**+1.0**
DHY				IAmb	IAmb	01 24 06.9	
	comp=Z,3.3nm,0.6s						
WRH	**Wood River Hil**	**21.35**	**41**	P	**P**	**01 24 05.2**	**-0.2**
MDM	**Murphy Dome**	**21.48**	**39**	P	**P**	**01 24 07.7**	**+0.9**
KLU	**Klutina**	**21.49**	**49**	P	**P**	**01 24 07.3**	**+0.3**
KLU				IAmb	IAmb	01 24 32.3	
	comp=Z,6.3nm,1.2s						
M24K	**Tolsona, Glenn**	**21.50**	**48**	P	**P**	**01 24 08.2**	**+1.1**
RAGM	**Ragged Mountai**	**21.93**	**53**	P	**P**	**01 24 12.3**	**+0.8**
ILAR	**Eielson Array**	**21.95**	**40**	P	**P**	**01 24 10.8**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=258,slow=12,SNR=4.8						
ILAR	**Eielson Array**	**21.95**	**40**	P	**P**	**01 24 12.2**	**+0.5**
H24K	**Noodor Dome**	**21.96**	**37**	P	**P**	**01 24 12.7**	**+0.9**
PAX	**Paxson**	**22.02**	**46**	P	**P**	**01 24 12.2**	**-0.4**
BMRM	**Bremner River**	**22.04**	**51**	P	**P**	**01 24 11.6**	**-1.1**
BMRM				IAmb	IAmb	01 24 36.0	
	comp=Z,13nm,1.1s						
N25K	**Chitina, Valde**	**22.14**	**49**	P	**P**	**01 24 12.8**	**-1.0**
N25K				IAmb	IAmb	01 24 32.7	
	comp=Z,7.1nm,1.1s						
RIDG	**Independent Ri**	**22.48**	**44**	P	**P**	**01 24 17.5**	**+0.2**
RIDG				IAmb	IAmb	01 24 31.0	
	comp=Z,4.0nm,1.1s						
GLB	**Gilahina Butte**	**22.48**	**50**	P	**P**	**01 24 17.6**	**+0.2**
GLB				IAmb	IAmb	01 24 23.9	
	comp=Z,4.6nm,1.0s						
J25K	**Salcha River,**	**22.51**	**41**	P	**P**	**01 24 18.2**	**+0.5**
VRDI	**Verde Repeater**	**22.63**	**51**	P	**P**	**01 24 19.0**	**0.0**
VRDI				IAmb	IAmb	01 24 36.4	
	comp=Z,6.2nm,1.1s						
TOLK	**Toolik Lake Re**	**22.69**	**30**	P	**P**	**01 24 18.9**	**-0.6**
PRP	**Porcupine Dome**	**22.74**	**39**	P	**P**	**01 24 20.2**	**+0.1**
DOT	**Dot Lake**	**22.80**	**44**	P	**P**	**01 24 19.8**	**-0.7**
WAX	**Waxell Ridge**	**22.83**	**53**	P	**P**	**01 24 21.1**	**+0.2**
SCRK	**Sand Creek**	**22.91**	**43**	P	**P**	**01 24 20.7**	**-1.0**
ISLE	**Juniper Island**	**23.10**	**52**	P	**P**	**01 24 23.2**	**-0.3**
GRNC	**Granite Creek**	**23.40**	**52**	P	**P**	**01 24 26.2**	**-0.2**
BARN	**Barnard Glacie**	**23.47**	**51**	P	**P**	**01 24 27.2**	**+0.1**
BARN				IAmb	IAmb	01 24 29.5	
	comp=Z,6.4nm,0.7s						
M27K	**Edge Creek, AK**	**23.53**	**48**	P	**P**	**01 24 29.0**	**+1.5**
CTGM	**Chitina Glacie**	**23.62**	**51**	P	**P**	**01 24 28.2**	**-0.1**
CTGM				IAmb	IAmb	01 24 38.7	
	comp=Z,10nm,1.1s						
L27K	**Beaver Creek,**	**23.66**	**46**	P	**P**	**01 24 29.8**	**+1.2**
L27K				IAmb	IAmb	01 24 30.6	
	comp=Z,7.5nm,1.1s						
BCAR	**Beaver Creek A**	**23.68**	**46**	P	**P**	**01 24 29.9**	**+1.1**
LOGN	**Logan Glacier**	**23.77**	**52**	P	**P**	**01 24 29.9**	**+0.2**
BMAR	**Burnt Mountain**	**23.80**	**35**	P	**P**	**01 24 30.3**	**+0.6**
EGAK	**Eagle**	**24.30**	**42**	P	**P**	**01 24 34.2**	**0.0**
EGAK				IAmb	IAmb	01 24 34.9	
	comp=Z,6.3nm,1.1s						
DAWY	**Dawson**	**24.91**	**44**	P	**P**	**01 24 40.9**	**+1.0**
DAWY				IAmb	IAmb	01 24 42.4	
	comp=Z,2.4nm,0.8s						
INK	**Inuvik**	**28.05**	**36**	P	**P**	**01 25 06.2**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=314,slow=33,SNR=7.3						
INK	**Inuvik**	**28.05**	**36**	P	**P**	**01 25 06.7**	**-1.3**
KLR	**Kul'dur**	**29.57**	**284**	P	**P**	**01 25 22.0**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=74,slow=6.6,SNR=6.9						
A36M	**Sachs Harbour**	**31.52**	**30**	P	**P**	**01 25 39.9**	**+1.4**
A36M				IAmb	IAmb	01 25 40.7	
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**01 26 18.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=281,slow=7.5,SNR=5.1						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**01 26 19.1**	**+0.8**
EDM	**Edmonton**	**39.98**	**60**	P	**P**	**01 26 51.1**	**+0.1**
BEKR	**Beckworth**	**42.91**	**81**	P	**P**	**01 27 16.5**	**+1.3**
BEKR				IAmb	IAmb	01 27 42.9	
	comp=Z,1.9nm,1.1s						
PNTR	**Pine Nut**	**43.84**	**82**	P	**P**	**01 27 21.8**	**-1.1**
BCYI	**Bear Canyon**	**44.50**	**72**	P	**P**	**01 27 27.7**	**-0.3**
NVAR	**Mina Array Bea**	**45.05**	**81**	P	**P**	**01 27 33.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=296,slow=7.2,SNR=4.2						
NVAR	**Mina Array Bea**	**45.05**	**81**	P	**P**	**01 27 33.3**	**+0.9**
SONM	**Songino Array**	**45.07**	**295**	P	**P**	**01 27 32.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=55,slow=11,SNR=3.5						
SONM	**Songino Array**	**45.07**	**295**	P	**P**	**01 27 33.2**	**+0.8**
YHH	**Holmes Hill**	**45.73**	**70**	P	**P**	**01 27 37.6**	**-0.2**
YHH				IAmb	IAmb	01 28 04.8	
	comp=Z,1.7nm,1.2s						
R11A	**Troy Canyon, C**	**46.77**	**80**	P	**P**	**01 27 46.5**	**+0.7**
R11A				IAmb	IAmb	01 27 47.2	
	comp=Z,1.7nm,1.1s						
DUG	**Dugway, Tooele**	**47.30**	**76**	P	**P**	**01 27 49.9**	**0.0**
DUG				IAmb	IAmb	01 28 16.5	
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**47.67**	**71**	P	**P**	**01 27 52.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=325,slow=7.6,SNR=4.5						
PDAR	**Pinedale Array**	**47.67**	**71**	P	**P**	**01 27 51.9**	**-1.1**
PV13	**Radium Mtn., P**	**50.99**	**75**	P	**P**	**01 28 18.3**	**+0.1**
KURK	**Kurchatov**	**57.61**	**312**	P	**P**	**01 29 06.3**	**+0.7**
KURK				IAmb	IAmb	01 29 07.8	
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.72**	**312**	P	**P**	**01 29 06.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=40,slow=6.7,SNR=14						
MK31	**Makanchi Array**	**58.56**	**307**	P	**P**	**01 29 12.3**	**-0.1**
MKAR	**Makanchi Array**	**58.56**	**307**	P	**P**	**01 29 12.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=51,slow=6.9,SNR=13						
MAKZ	**Makanchi**	**58.71**	**307**	P	**P**	**01 29 12.9**	**-0.5**
MAKZ				IAmb	IAmb	01 29 14.5	
	comp=Z,0.6nm,0.7s						
BRVK	**Borovoye**	**59.59**	**318**	P	**P**	**01 29 19.9**	**+0.5**
BRVK				IAmb	IAmb	01 29 39.0	
	comp=Z,1.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**60.13**	**80**	P	**P**	**01 29 22.8**	**-0.8**
TX31				IAmb	IAmb	01 29 42.8	
	comp=Z,1.3nm,0.9s						
TX32	**Lajitas Array**	**60.13**	**80**	P	**P**	**01 29 22.6**	**-0.9**
TX32				IAmb	IAmb	01 29 43.9	
	comp=Z,1.3nm,1.1s						
TXAR	**Lajitas Array**	**60.13**	**80**	P	**P**	**01 29 24.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=304,slow=5.1,SNR=4.0						
FCAR	**Ozark Folk Cen**	**62.33**	**66**	P	**P**	**01 29 36.7**	**-1.4**
ABKAR	**Akbulak array**	**66.67**	**321**	P	**P**	**01 30 07.2**	**+1.0**
KKAR	**Karatay Array**	**66.96**	**311**	P	**P**	**01 30 08.3**	**+0.1**

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*IDC **02** 01:20:02.6±1.1, 9°.06S×107°.68E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.6/52, mbtmp3.9/9, ML3.6/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/77, Error ellipse: s-maj=47.3km s-min=16.4km az=56.0*
*DJA **02** 01:20:08.0±0.3, 9°S±3°×10°8E±°, h10km, M4.3/17, mb4.7/6, mB5.0/2, MLv4.1/17, Mw(mB)4.3/2*
*NEIC **02** 01:20:09.1±2.7, 8°.93S±0°.06×108°.15E±0°.03, h35km±2km, mb4.2/12, Error ellipse: s-maj=10.2km s-min=5.2km az=191.0*
ISC 02 01:20:08.0±0.6**, 8°.86S**±0°.05×**108°.11E**±0°.05**, h30**km**, n54, σ1s.18**/56**, mb4.2**/14**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.11**	**17**	P	**Pn**	**01 20 27.6**	**0.0**
CMJI				S	**Sn**	**01 20 40.8**	**-1.2**
KPJI	**Karang Pucung**	**1.71**	**28**	P	**Pb**	**01 20 38.2**	**-0.7**
CNJI	**Cibinong**	**1.82**	**328**	P	**Pb**	**01 20 38.7**	**-2.0**
LEM	**Lembang**	**2.08**	**346**	Pn	**Pn**	**01 20 42.6**	**+1.6**
	36nm,0.3s,baz=191,slow=23,SNR=11						
LEM				Sn	**Sb**	**01 21 10.9**	**+0.3**
	28nm,0.3s,baz=211,slow=19,SNR=5.0						
LEM				LR	LR	01 21 49.8	
	comp=Z,229nm,19.0s,baz=224,slow=48						
LEM	**Lembang**	**2.08**	**346**	P	**Pb**	**01 20 44.1**	**-1.1**
LEM				S	**Sb**	**01 21 10.6**	**0.0**
YOGI	**Yogyakarta**	**2.39**	**65**	P	**Pn**	**01 20 47.1**	**+1.9**
SKJI	**Sukabumi**	**2.40**	**320**	P	**Pn**	**01 20 47.3**	**+2.0**
UGM	**Wanagama**	**2.56**	**69**	Pn	**Pn**	**01 20 47.8**	**+0.3**
UGM	**Wanagama**	**2.56**	**69**	P	**Pn**	**01 20 47.9**	**+0.3**
XMIS	**Christmas Isla**	**2.92**	**236**		**Pn**	**01 20 53.1**	**+0.7**
SMRI	**Semarang**	**2.92**	**52**	Pn	**Pn**	**01 20 53.9**	**+1.4**
SMRI	**Semarang**	**2.92**	**52**	P	**Pn**	**01 20 53.8**	**+1.3**
PCJI	**Pacitan**	**3.10**	**78**	P	**Pn**	**01 20 55.4**	**+0.5**
PCJI				S	**Sn**	**01 21 31.3**	**+0.3**
CGJI	**Cibinong**	**3.27**	**313**	P	**Pn**	**01 20 58.6**	**+1.3**
CGJI				S	**Sn**	**01 21 37.4**	**+2.1**
UWJI	**Ujung Watu**	**3.71**	**49**	P	**Pn**	**01 21 04.8**	**+1.5**
PWJI	**Pagerwojo**	**3.74**	**77**	P	**Pn**	**01 21 05.0**	**+1.2**
PWJI				S	**Sn**	**01 21 47.6**	**+0.7**
GMJI	**Gumukmas**	**5.30**	**84**	P	**Pn**	**01 21 27.0**	**+1.7**
	0.2nm18nm,0.4s						
JAGI	**Jajag, Banyuwa**	**5.98**	**87**	Pn	**Pn**	**01 21 36.3**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.98**	**87**	P	**Pn**	**01 21 36.4**	**+1.8**
	0.3nm2μm47nm,0.5s						
MNAI	**Manna**	**6.80**	**311**	Pn	**Pn**	**01 21 47.5**	**+1.7**
MNAI	**Manna**	**6.80**	**311**	P	**Pn**	**01 21 47.8**	**+2.0**
	0.6nm134nm,1.1s						
SRBI	**Singaraja**	**7.06**	**84**	P	**Pn**	**01 21 51.1**	**+1.6**
	0.3nm47nm,1.0s						
PLAI	**Plampang**	**9.55**	**91**	P	**Pn**	**01 22 24.7**	**+1.1**
KAPI	**Kappang**	**12.17**	**72**	LR	LR	01 27 42.8	
	comp=Z,21nm,21.5s,baz=266,slow=36						
GIRL	**Giralia**	**14.92**	**158**	Pn	**Pn**	**01 23 34.7**	**-2.2**
PSA00	**Pilbara Seismi**	**16.96**	**140**	Pn	**Pn**	**01 24 02.2**	**-1.0**
PSA00				IAmb	IAmb	01 24 23.9	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.35**	**120**	P	**Pn**	**01 24 33.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=266,slow=6.8,SNR=6.3						
FITZ	**Fitzroy Crossi**	**19.35**	**120**	P	**Pn**	**01 24 33.1**	**+0.6**
WB0	**Warramunga Arr**	**27.63**	**116**	P	**P**	**01 25 54.5**	**+1.2**
WB0				IAmb	IAmb	01 25 56.0	
	comp=Z,8.1nm,1.3s						
WRA	**Warramunga Arr**	**27.64**	**116**	P	**P**	**01 25 54.5**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=289,slow=12,SNR=11						
WRA	**Warramunga Arr**	**27.64**	**116**	P	**P**	**01 25 53.5**	**+0.1**
WB2	**Warramunga Arr**	**27.65**	**116**	P	**P**	**01 25 54.2**	**+0.7**
WB2				IAmb	IAmb	01 26 08.2	
	comp=Z,8.6nm,1.4s						
WR0	**Warramunga Arr**	**27.83**	**116**	P	**P**	**01 25 55.7**	**+0.6**
ASAR	**Alice Springs**	**28.73**	**124**	P	**P**	**01 26 04.7**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=305,slow=8.5,SNR=4.1						
COEN	**Coen**	**34.72**	**102**	P	**P**	**01 26 56.7**	**+1.0**
COEN				IAmb	IAmb	01 27 23.6	
	comp=Z,3.4nm,1.1s						
XAN	**Xi'an**	**42.66**	**1**	P	P	01 28 11.9	+10
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**56.46**	**359**	P	**P**	**01 29 46.3**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=186,slow=7.3,SNR=3.8						
SONM	**Songino Array**	**56.46**	**359**	P	**P**	**01 29 47.3**	**+0.1**
KSH	**Kashi**	**56.61**	**330**	P	**P**	**01 29 47.0**	**-1.4**
KSH				pP	pwP	01 30 07.0	+6.7
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GAR	**Garm**	**59.16**	**326**	P	**P**	**01 30 04.9**	**-1.4**
MK31	**Makanchi Array**	**60.00**	**340**	P	**P**	**01 30 11.6**	**-0.2**
MK31				IAmb	IAmb	01 30 12.4	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**60.00**	**340**	P	**P**	**01 30 11.3**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=151,slow=8.1,SNR=24						
MKAR	**Makanchi Array**	**60.00**	**340**	P	**P**	**01 30 11.2**	**-0.6**
KKAR	**Karatay Array**	**62.01**	**330**	P	**P**	**01 30 25.5**	**0.0**
KURBB	**Kurchatov Arra**	**64.56**	**340**	P	**P**	**01 30 42.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=156,slow=5.4,SNR=16						
KURK	**Kurchatov**	**64.61**	**340**	P	**P**	**01 30 42.4**	**-0.2**
ZALV	**Zalesovo Beam**	**65.60**	**345**	P	**P**	**01 30 47.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=98,slow=11,SNR=4.3						
BVAR	**Borovoye Array**	**69.50**	**337**	P	**P**	**01 31 13.5**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=79,slow=16,SNR=15						
BRVK	**Borovoye**	**69.56**	**337**	P	**P**	**01 31 13.8**	**-0.2**
BRVK				IAmb	IAmb	01 31 14.2	
	comp=Z,2.7nm,1.0s						
ABKAR	**Akbulak array**	**71.56**	**329**	P	**P**	**01 31 25.9**	**-0.3**
SHEM	**Shemya Is, Ala**	**82.92**	**34**	LR	LR	02 07 50.0	
	comp=Z,24nm,20.7s,baz=136,slow=34						
ARCES	**ARCESS Array B**	**95.65**	**339**	LR	LR	02 22 05.7	
	comp=Z,25nm,19.4s,baz=232,slow=39						
LPAZ	**La Paz**	**154.74**	**188**	PKPbc	**PKPbc**	**01 40 07.5**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=233,slow=5.1,SNR=9.7						
LPAZ	**La Paz**	**154.74**	**188**		**PKPbc**	**01 40 07.3**	**-0.8**

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*UPA **02** 01:47:10.3±1.3, 8°.86N×84°.27W, h10km±7km, MW3.8*
*INET **02** 01:47:12.4±0.2, 9°.01N×84°.15W, h6km±3km, MW3.0*
ISC 02 01:47:10.2±1.6**, 8°.92N**±0°.05×**84°.25W**±0°.05**, h11**km±11km**, n14, σ0s.80**/23**, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.73**	**50**	*e*P	**Pg**	**01 47 23.9**	**-0.4**
CDM	**Cerro de Muert**	**0.79**	**37**	*e*P	**Pg**	**01 47 25.2**	**-0.4**
CDM				*e*S	**Sg**	**01 47 36.6**	**+0.5**
RIMA	**Rio Macho**	**0.93**	**24**	*e*P	**Pg**	**01 47 27.3**	**-0.8**
PIRO	**Carate, Puerto**	**1.03**	**119**	*e*P	**Pg**	**01 47 29.8**	**-0.4**
PIRO				*e*S	**Sb**	**01 47 44.5**	**+0.7**
PIRO	**Carate, Puerto**	**1.03**	**119**	*e*P	**Pg**	**01 47 29.7**	**-0.4**
HDC	**Heredia**	**1.09**	**7**	*e*P	**Pg**	**01 47 30.9**	**-0.2**
HDC				*e*S	**Sg**	**01 47 46.0**	**+0.6**
LAFE	**Finca La Fe, P**	**1.10**	**324**	*e*P	**Pg**	**01 47 30.8**	**-0.6**
BATAN	**Batan**	**1.45**	**36**	*e*P	**Pn**	**01 47 36.9**	**+0.5**
BATAN				*e*S	**Sg**	**01 47 58.0**	**+0.9**
PTPM	**Petroterminale**	**1.53**	**118**	*e*P	**Pg**	**01 47 40.3**	**+0.7**
PTPM				*e*S	**Sn**	**01 47 56.1**	**-1.3**
JTS	**Las Juntas de**	**1.53**	**333**	*e*P	**Pn**	**01 47 37.1**	**-0.5**
JTS				*e*S	**Sn**	**01 47 58.9**	**+1.3**
BRU2	**Volcan**	**1.54**	**94**	*e*P	**Pn**	**01 47 37.6**	**-0.2**
BRU2				*e*S	**Sn**	**01 47 58.3**	**+0.3**
BCO2	**Palmira**	**1.71**	**96**	*e*P	**Pn**	**01 47 40.0**	**-0.1**
BCO2				*e*S	**Sn**	**01 48 02.7**	**+0.6**
CNI2	**El Empalme, Bo**	**1.82**	**74**	*e*P	**Pn**	**01 47 39.8**	**-1.8**
CNI2				*e*S	**Sn**	**01 48 04.0**	**-0.7**
DVD	**David**	**1.84**	**105**	*e*S	**Sn**	**01 48 05.2**	**+0.1**

IDC 02 01:58:48.0±5.0**, 5°.54S**×**132°.05E, h0**km**, mb4.0**/1**, mb1 3.4**/3**, mb1mx3.3**/28**, mbtmp3.3**/3**, ML3.3**/2**, Error ellipse: s-maj=341.7km s-min=30.9km az=74.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.49**	**171**	Pn	Pn	02 02 13.9	-0.6
	0.1nm,0.3s,baz=352,slow=13,SNR=13						
WRA				Sn	Sn	02 04 45.6	-10
	0.3nm,0.3s,baz=333,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**18.11**	**175**	P	P	02 03 01.5	-0.2
	0.1nm,0.3s,baz=345,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**68.15**	**326**	P	P	02 09 50.1	0.0
	0.6nm,0.4s,baz=114,slow=8.0,SNR=23						

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*NEIC **02** 02:35:50.8±2.5, 47°.92N±0°.01×122°.15W±0°.03, h30km±8km, Error ellipse: s-maj=3.7km s-min=1.3km az=64.0*
*SEA **02** 02:35:51.2±2.2, 47°.86N±0°.02×122°.13W±0°.04, h27km±6km, ML2.3/55, ML2.4/18(NEIC), Error ellipse: s-maj=3.4km s-min=3.2km az=98.0*
*PGC **02** 02:35:51.2, 47°.86N×122°.13W, h27km, ML2.3, ML2.2/16, 32km northeast of Seattle, Wa Washington*
ISC 02 02:35:51.2±0.8**, 47°.87N**±0°.02×**122°.15W**±0°.02**, h31**km±4km**, n108, σ0s.97**/160**, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BEVT	**Boeing Everett**	**0.10**	**303**		**Pb**	**02 35 56.0**	**-0.7**
LEOT	**Leota Junior H**	**0.10**	**167**		**Pb**	**02 35 56.0**	**-0.8**
LEOT					**Sb**	**02 35 59.9**	**-0.5**
LYNC	**Lynnwood City**	**0.11**	**248**		**Pb**	**02 35 55.9**	**-0.8**
LYNC					**Sb**	**02 35 59.7**	**-0.8**
NIHS	**Ingelmoor High**	**0.14**	**202**		**Pb**	**02 35 56.5**	**-0.4**
NIHS					**Sb**	**02 36 01.3**	**+0.4**
BRKS	**Brookside Elem**	**0.15**	**221**		**Sb**	**02 36 01.0**	**0.0**
EARN	**East Ridge Ele**	**0.15**	**150**		**Pb**	**02 35 56.3**	**-0.8**
EVCC	**Everett Colleg**	**0.15**	**345**		**Pn**	**02 35 57.3**	**0.0**
EVCC					**Sb**	**02 36 00.7**	**-0.4**
FINN	**Finn Hill Juni**	**0.16**	**201**		**Pn**	**02 35 58.0**	**+0.5**
FINN					**Sb**	**02 36 01.9**	**+0.8**
MBPA	**Monroe Substat**	**0.18**	**79**		**Pb**	**02 35 56.1**	**-1.3**
MBPA					**Sb**	**02 35 59.6**	**-1.9**
SCCW	**Shoreline CC**	**0.18**	**231**		**Pb**	**02 35 57.1**	**-0.3**
NOWS	**NOAA--Sand Poi**	**0.19**	**202**		**Pn**	**02 35 59.8**	**+1.8**
NOWS					**Sb**	**02 36 03.0**	**+1.3**
SWID	**South Whidbey**	**0.23**	**309**		**Pb**	**02 35 57.3**	**-0.6**
SWID					**Sb**	**02 36 02.5**	**0.0**
ALCT	**Alcott Element**	**0.23**	**161**		**Pb**	**02 35 57.5**	**-0.4**
WISC	**Wilburton Inst**	**0.26**	**184**		**Pb**	**02 35 58.3**	**+0.1**
WISC					**Sn**	**02 36 04.5**	**+0.8**
HTW	**Haystack Looko**	**0.26**	**104**		**Pb**	**02 35 57.3**	**-1.1**
LAWT	**Lawton Element**	**0.27**	**218**		**Sn**	**02 36 05.1**	**+1.2**
SP2	**Seward Park 2**	**0.32**	**192**		**Pb**	**02 35 59.0**	**0.0**
SP2					**Sn**	**02 36 05.3**	**+0.1**
ALKI	**Alki Wastewate**	**0.34**	**212**		**Pb**	**02 35 59.7**	**+0.4**
ALKI					**Sb**	**02 36 04.5**	**-0.3**
TTW	**Tolt Reservoir**	**0.35**	**119**		**Pb**	**02 35 58.5**	**-1.0**
TTW					**Sb**	**02 36 03.8**	**-1.5**
C05A	**Tolt Reservoir**	**0.35**	**119**		**Pb**	**02 35 58.4**	**-1.1**
C05A					**Sb**	**02 36 03.7**	**-1.5**
C05A	**Tolt Reservoir**	**0.35**	**119**	P	**Pb**	**02 35 58.5**	**-1.1**
C05A				S	**Sb**	**02 36 03.5**	**-1.7**
MPL	**Maple valley S**	**0.40**	**184**		**Pb**	**02 35 59.8**	**-0.3**
MPL					**Sn**	**02 36 06.7**	**-0.5**
B05A	**Bryant**	**0.40**	**5**		**Pb**	**02 35 59.0**	**-1.1**
B05A					**Sb**	**02 36 05.0**	**-1.3**
ELW	**Echo Lake**	**0.42**	**153**		**Pb**	**02 35 59.6**	**-0.8**
KNEL	**Kent Elementar**	**0.49**	**188**		**Sn**	**02 36 10.4**	**+0.9**
RATT	**Rattlesnake La**	**0.50**	**152**		**Pb**	**02 36 00.8**	**-0.9**
RATT					**Sb**	**02 36 08.5**	**-0.4**
B013	**Quilcene**	**0.52**	**264**		**Pb**	**02 36 01.0**	**-1.0**
B013					**Sb**	**02 36 08.3**	**-1.0**
CDMR	**Cedar Moraine**	**0.52**	**149**		**Pb**	**02 36 01.2**	**-0.7**
SVOH	**Skagit Valley**	**0.53**	**323**	P	**Pb**	**02 36 01.9**	**-0.3**
GMW	**Gold Mountain**	**0.54**	**234**		**Pb**	**02 36 01.4**	**-0.9**
GNW	**Green Mountain**	**0.55**	**237**		**Pb**	**02 36 01.5**	**-0.9**
GNW					**Sb**	**02 36 09.4**	**-0.8**
GNW	**Green Mountain**	**0.55**	**237**	P	**Pb**	**02 36 01.5**	**-0.9**
GNW				S	**Sb**	**02 36 09.3**	**-0.8**
CMW	**Cultus Mountai**	**0.56**	**2**	P	**Pb**	**02 36 01.9**	**-0.8**
C04A	**Brinnon**	**0.57**	**255**		**Sb**	**02 36 09.9**	**-1.0**
HDW	**Hoodsport**	**0.65**	**251**		**Pb**	**02 36 03.1**	**-1.1**
HDW					**Sb**	**02 36 12.1**	**-1.0**
HDW	**Hoodsport**	**0.65**	**251**	P	**Pb**	**02 36 03.0**	**-1.1**
HDW				S	**Sb**	**02 36 12.0**	**-1.0**
D05A	**Enumclaw**	**0.69**	**171**		**Pb**	**02 36 04.4**	**-0.4**
D05A				Sn	**Sn**	**02 36 14.7**	**+0.3**
D05A	**Enumclaw**	**0.69**	**171**	P	**Pb**	**02 36 04.4**	**-0.4**
GSM	**Grass Mountain**	**0.70**	**160**		**Pb**	**02 36 04.1**	**-1.1**
D03D	**Eldon**	**0.72**	**243**		**Pb**	**02 36 04.0**	**-1.2**
RPW	**Rockport**	**0.72**	**36**		**Pb**	**02 36 04.6**	**-0.8**
RPW	**Rockport**	**0.72**	**36**	P	**Pb**	**02 36 04.6**	**-0.8**
RPW				S	**Sb**	**02 36 13.8**	**-1.3**
GPW	**Glacier Peak**	**0.72**	**69**		**Pb**	**02 36 04.8**	**-0.8**
GPW	**Glacier Peak**	**0.72**	**69**	P	**Pb**	**02 36 04.7**	**-0.8**
GPW				S	**Sb**	**02 36 13.8**	**-1.5**
B06A	**Marblemount**	**0.79**	**34**		**Pb**	**02 36 05.5**	**-0.9**
B06A				Sn	**Sb**	**02 36 16.0**	**-0.8**
B06A				IAML		02 36 18.0	
	comp=N,111nm,0.3s						
B06A				IAML		02 36 18.1	
	comp=E,116nm,0.2s						
B06A	**Marblemount**	**0.79**	**34**	P	**Pb**	**02 36 05.6**	**-0.9**
B06A				S	**Sb**	**02 36 16.0**	**-0.8**
GHW	**Garrison Hill**	**0.83**	**186**		**Pb**	**02 36 05.9**	**-1.2**
C06D	**Leavenworth**	**0.85**	**86**		**Sb**	**02 36 17.5**	**-1.0**
B941	**Kapowsin**	**0.88**	**183**		**Pn**	**02 36 06.6**	**-0.8**
B04A	**Port Angeles**	**0.93**	**282**		**Pn**	**02 36 07.6**	**-0.5**
B04A	**Port Angeles**	**0.93**	**282**	Pn	**Pn**	**02 36 07.6**	**-0.5**
B04A				Sn	**Sb**	**02 36 20.0**	**-0.9**
RVC	**Mount Rainier-**	**0.93**	**173**		**Pn**	**02 36 07.9**	**-0.3**
A04D	**Lummi Island**	**0.93**	**337**		**Pn**	**02 36 08.1**	**-0.1**
MBW	**Mount Baker**	**0.93**	**10**		**Pn**	**02 36 08.4**	**0.0**
MBW	**Mount Baker**	**0.93**	**10**	P	**Pn**	**02 36 08.3**	**0.0**
MBW				S	**Sb**	**02 36 20.7**	**-0.4**
MCW	**Mount Constitu**	**0.93**	**331**		**Pn**	**02 36 07.9**	**-0.3**
MCW	**Mount Constitu**	**0.93**	**331**	P	**Pn**	**02 36 07.9**	**-0.3**
MCW				S	**Sb**	**02 36 20.0**	**-1.0**
VGZ	**Gonzales**	**0.96**	**305**		**Pn**	**02 36 07.7**	**-0.8**
VGZ	**Gonzales**	**0.96**	**305**	P	**Pn**	**02 36 07.7**	**-0.8**
VGZ				S	**Sb**	**02 36 19.6**	**-2.1**
FMW	**Mount Fremont**	**0.99**	**161**		**Pn**	**02 36 08.7**	**-0.5**
FMW	**Mount Fremont**	**0.99**	**161**	P	**Pn**	**02 36 08.7**	**-0.5**
FMW				S	**Sb**	**02 36 21.2**	**-1.5**
RCS	**Mount Rainier-**	**1.03**	**164**		**Pn**	**02 36 09.7**	**-0.2**
SHUK	**Shuksan-Mt. Ba**	**1.04**	**17**		**Pn**	**02 36 10.1**	**+0.4**
OSD	**Olympics--Snow**	**1.05**	**268**	P	**Pn**	**02 36 10.2**	**+0.2**
STW	**Striped Peak**	**1.06**	**286**	P	**Pn**	**02 36 09.5**	**-0.4**
STW				S	**Sn**	**02 36 23.2**	**-0.4**
PANH	**Panhandle Gap,**	**1.06**	**161**		**Pn**	**02 36 10.2**	**0.0**
REMR	**Mount Rainier-**	**1.07**	**169**		**Pn**	**02 36 10.1**	**-0.1**
A05A	**Maple Falls**	**1.13**	**2**	P	**Pn**	**02 36 11.7**	**+0.8**
A05A				S	**Sn**	**02 36 26.3**	**+0.9**
SNB	**Saturna Island**	**1.14**	**323**	P	**Pn**	**02 36 11.2**	**+0.2**
SNB				S	**Sn**	**02 36 26.0**	**+0.5**
LON	**Longmire**	**1.14**	**168**		**Pn**	**02 36 11.2**	**+0.2**
VDB	**Vedder Mountai**	**1.16**	**1**		**Pn**	**02 36 11.9**	**+0.6**
VDB	**Vedder Mountai**	**1.16**	**1**	P	**Pn**	**02 36 11.9**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VDB				S	Sn	02 36 26.5	+0.4
B011	North Saanich	1.17	313		Pn	02 36 11.2	-0.3
B011	North Saanich	1.17	313	P	Pn	02 36 11.1	-0.3
B011				S	Sn	02 36 25.7	-0.6
B009	North Saanich	1.17	312	P	Pn	02 36 11.1	-0.3
B009				S	Sn	02 36 25.9	-0.4
B010	North Saanich	1.17	313	P	Pn	02 36 11.2	-0.3
B010				S	Sn	02 36 26.0	-0.3
PGC	Sidney	1.17	313	Pn	Pn	02 36 11.0	-0.4
PGC				Sn	Sn	02 36 26.1	-0.2
PGC				IAML		02 36 26.9	
	comp=E,69nm,0.4s						
PGC				IAML		02 36 49.4	
	comp=N,53nm,3.0s						
PGC	Sidney	1.17	313	P	Pn	02 36 11.2	-0.3
PGC				S	Sn	02 36 25.8	-0.5
NLW	Nelson Butte	1.23	79		Pb	02 36 13.5	-0.6
E04D	Cinebar	1.34	192	Pn	Pn	02 36 14.4	+0.6
E04D				Sn	Sb	02 36 32.2	-0.3
E04D				IAML		02 36 33.3	
	comp=N,50nm,1.7s						
E04D				IAML		02 36 57.1	
	comp=E,59nm,4.5s						
GOBB	Galiano Island	1.41	321	P	Pn	02 36 15.4	+0.6
EBG	Ellensburg	1.44	131		Pb	02 36 17.5	0.0
NAC	Naches	1.45	141		Pb	02 36 17.0	-0.5
HNBB	Haney	1.45	349	P	Pn	02 36 15.8	+0.5
HNBB				S	Sn	02 36 34.2	+0.9
B201	Coldwater, Mou	1.57	183		Pn	02 36 18.1	+1.1
ERK	Elk Rock	1.57	185		Pn	02 36 18.2	+1.2
CLRS	Cowichan Lake	1.63	307	Pn	Pn	02 36 17.7	0.0
CLRS				IAML		02 36 30.0	
	comp=N,51nm,3.5s						
B926	Mesachie Lake	1.63	307	P	Pn	02 36 18.3	+0.5
B926				S	Sn	02 36 38.3	+0.6
E03A	Lebam	1.64	217	Pn	Pn	02 36 19.1	+1.3
BOLM	Sugar Bowl	1.65	181		Pb	02 36 20.0	-1.1
SEPW	September Lobe	1.67	181		Pb	02 36 20.8	-0.6
FL2	Flat Top 2	1.68	185		Pn	02 36 20.1	+1.6
PFB	Port Renfrew	1.69	296	P	Pn	02 36 19.1	+0.6
PFB				S	Sn	02 36 40.2	+1.1
BIB	Bowen Island	1.72	334	P	Pn	02 36 20.2	+1.3
BIB				S	Sn	02 36 41.9	+2.0
RVW	Rose Valley	1.77	194		Pb	02 36 21.4	-1.5
NLLB	Nanaimo Lost L	1.83	319	P	Pn	02 36 21.6	+1.1
NLLB				S	Sn	02 36 44.1	+1.5
SAW	Saint Andrews	1.86	94		Pn	02 36 21.4	+0.5
B023	Clatskanie	1.87	200		Pb	02 36 23.0	-1.6
WPB	Watts Point	1.93	339	P	Pn	02 36 22.6	+0.8
WPB				S	Sn	02 36 47.3	+2.4
F04A	Amboy	1.94	186	Pn	Pn	02 36 23.9	+1.9
F04A				IAML		02 37 17.6	
	comp=N,39nm,4.3s						
B08A	Colville Reser	1.95	74	Sg	Sb	02 36 50.3	+0.3
MGB	Mount Grey	2.04	305	P	Pn	02 36 24.6	+1.1
MGB				S	Sn	02 36 49.7	+1.7
SHB	Sechelt	2.08	327	P	Pn	02 36 25.4	+1.4
SHB				S	Sn	02 36 51.5	+2.7
PNT	Penticton	2.22	48	P	Pb	02 36 30.6	-0.1
PNT				S	Sn	02 36 54.0	+1.7
PNT				Sg	Sb	02 36 58.8	+1.0
WSLR	Whistler	2.32	348	P	Pn	02 36 29.9	+2.6
TXB	Texada	2.38	321	P	Pn	02 36 30.1	+2.1
LLLB	Lillooet	2.75	4	P	Pn	02 36 34.3	+1.1
NEW	Newport	3.39	81	Pn	Pn	02 36 41.8	-0.2
NEW				IAML		02 37 15.0	
	comp=N,11nm,4.4s						
NEW				IAML		02 38 26.3	
	comp=N,12nm,4.2s						

*ASRS **02** 02:48:47.5±0.3, 51˚N±1˚×8˚9E±˚, h10km, MLh4.0/15, Error ellipse: s-maj=3.4km s-min=2.1km az=135.7, confirmed*
*IDC **02** 02:48:49.2±1.6, 50.˚67N×89.˚56E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.3/45, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=21.1km s-min=14.3km az=130.0*
*NNC **02** 02:48:50.0±3.3, 50.˚70N×89.˚35E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=26.0km s-min=13.8km az=95.0*
ISC 02 02:48:48.4±1.2**, 50.˚77N**±0.˚03×**89.˚43E**±0.˚03**, h1**km±10km**, n37,** σ1.˚93/51**, 8C-5D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULGR	Ulagan, Altay	0.94	261	Pg	Pn	02 49 08.4	-0.5
ULGR				Sg	Sn	02 49 21.4	-1.7
CUR	Chagan-Uzun	0.96	226	Pg	Pg	02 49 06.7	-0.1
CUR				Sg	Sg	02 49 18.4	-0.9
AKAR	Aktash	1.24	249	Pg	Pg	02 49 12.7	+0.6
AKAR				Sg	Sn	02 49 28.6	-1.7
CHBI	Chibit, Altay	1.31	250	Pg	Pg	02 49 15.0	+1.6
CHBI				Sg	Sg	02 49 31.6	+1.2
ARTR	Artybash	1.69	308	Pg	Pg	02 49 22.1	+1.3
ARTR				Sg	Sg	02 49 44.5	+1.8
TASR	Tashtagol	2.21	335	Pg	Pg	02 49 31.9	+1.2
TASR				Sg	Sg	02 50 02.8	+3.4
DJO	Djoy, Khakassi	2.30	28	Pg	Pg	02 49 31.8	-0.7
DJO				Sg	Sg	02 50 02.2	0.0
DJOS	Djoyskaya Sosn	2.37	30	Pg	Pg	02 49 34.2	+0.5
DJOS				Sg	Sg	02 50 05.1	+0.7
CERR	Cheremushki	2.42	30	Pg	Pg	02 49 35.7	+1.0
CERR				Sg	Sg	02 50 08.4	+2.3
LUZB	Luzhba, Kemero	2.91	354	Pg	Pg	02 49 43.3	-0.9
LUZB				Sg	Sg	02 50 22.8	+0.9
UKR	Ust'-Kan	2.95	275	Pg	Pg	02 49 44.1	-0.8
UKR				Sg	Sg	02 50 24.0	+0.8
ELT	Eltsovka	3.18	323	Pg	Pb	02 49 44.7	-0.9
ELT				Sg	Sg	02 50 28.7	-1.7
KZLR	Kyzyl	3.30	72	Sg	Sg	02 50 31.9	-2.3
KOST	Kostenkovo, Ku	3.30	332	Pg	Pg	02 49 52.3	+0.7
KOST				Sg	Sg	02 50 36.8	+2.6
ERU	Erunakovo, Kuz	3.60	340	Pg	Pg	02 49 54.2	-3.1
ERU				Sg	Sg	02 50 39.1	-4.7
VCHU	Verkh-Chumysh,	3.67	331	Pg	Pb	02 49 53.1	-0.9
VCHU				Sg	Sg	02 50 48.7	+2.3
KOTO	Kotino, Kuzbas	3.75	337	Sg	Sg	02 50 51.2	+2.6
SHRR	Shira	3.75	7	Pg	Pg	02 49 58.4	-1.8
SHRR				Sg	Sg	02 50 48.6	-0.3
POMOR	Pomortsevo, Ku	4.05	335	Sg	Sg	02 51 01.1	+2.8
BJR2	Bachatsky-2, K	4.05	331	Sg	Sg	02 51 00.2	+1.8
ZAA0	Zalesovo Array	4.25	320	⇑Pg	Pg	02 50 06.0	-3.8
	1.2nm,0.5s						
ZAA0				⇑Lg	Lg	02 51 03.7	
	9.6nm,0.6s						
ZALV	Zalesovo Beam	4.25	320	Pn	Pb	02 49 57.1	-6.7
	1.6nm,0.3s,baz=139,slow=13,SNR=19						
ZALV				Sn	Sb	02 50 51.4	-4.3
	4.9nm,0.3s,baz=125,slow=18,SNR=6.4						
ZALV				Lg	Lg	02 51 07.2	
	7.7nm,0.3s,baz=132,slow=29,SNR=8.3						
ZSN	Zaisan	4.47	224	Pg	Pg	02 50 14.3	+0.3
	14nm,0.4s						
ZSN				Lg	Lg	02 51 11.6	
	100nm,0.9s						
SEM	Semipalatinsk	5.86	270	Pg	Pg	02 50 39.5	-1.0
	8.5nm,0.2s						
SEM				Lg	Lg	02 51 54.3	
	59nm,0.5s						
MK31	Makanchi Array	6.17	233	⇓Pn	Pn	02 50 22.9	+2.2
	3.3nm,0.3s,baz=54,slow=15,SNR=264						
MK31				⇓Sn	Sn	02 51 32.2	+0.4
	4.5nm,0.4s,baz=34,slow=30,SNR=4.3						
MK31				⇓Lg	Lg	02 52 05.8	
	10nm,0.5s,baz=52,slow=28,SNR=4.1						
MKAR	Makanchi Array	6.17	233	Pn	Pn	02 50 23.2	+2.6
	5.0nm,0.3s,baz=53,slow=14,SNR=304						
MKAR				Sn	Sn	02 51 32.5	+0.7
	2.3nm,0.3s,baz=56,slow=26,SNR=9.6						
MKAR				Lg	Lg	02 52 05.2	
	3.5nm,0.3s,baz=51,slow=26,SNR=5.4						
MAKZ	Makanchi	6.32	234	⇓Pn	Pn	02 50 24.7	+2.0
	2.5nm,0.3s						
MAKZ				⇑Sn	Sn	02 51 35.7	+0.3
	4.5nm,0.4s						
MAKZ				⇑Lg	Lg	02 52 05.8	
	29nm,1.1s						
KURBB	Kurchatov Arra	6.92	273	⇑Pn	Pn	02 50 33.0	+2.1
	6.0nm,0.5s						
KURBB				⇑Sn	Sn	02 51 51.1	+0.9
	24nm,0.7s						
KURBB				⇑Lg	Lg	02 52 27.9	
	64nm,0.7s						
KAPS	Kapalarasan	8.70	235	Pg	Pg	02 51 33.4	-1.4
	1.4nm,0.3s						
KAPS				Lg	Lg	02 53 26.4	
	9.3nm,0.7s						
DJR	Jarkent	9.16	229	Pg	Pn	02 51 42.9	+41
	1.4nm,0.4s						
DJR				Lg	Lg	02 53 42.1	
	5.0nm,0.5s						
BLB	Baldybastay	9.97	232	Pg	Pn	02 51 56.1	+43
	3.0nm,0.1s						
BLB				Lg	Lg	02 54 05.4	
	7.5nm,0.4s						
SHLS	Shalkode	10.21	226	Pg	Pn	02 51 58.6	+43
	2.9nm,0.5s						
SHLS				Lg	Lg	02 54 08.8	
	6.6nm,1.1s						
ARXS	Arharly	10.22	235	Pg	Pn	02 51 59.6	+43
	1.4nm,0.6s						
ARXS				Lg	Lg	02 54 11.4	
	7.3nm,0.6s						
KUU	Kurty	11.22	237	Pg	Pn	02 52 16.5	+47
	2.0nm,0.9s						
KUU				Lg	Lg	02 54 40.3	
	3.8nm,0.6s						
OTUK	Ortayu	11.39	264	⇓Pn	Pn	02 51 32.0	-0.2
	1.4nm,0.6s						
OTUK				⇑Lg	Lg	02 54 44.5	
	11nm,1.0s						
SONM	Songino Array	11.46	98	Pg	Pn	02 52 17.9	+45
	0.1nm,0.3s,baz=287,slow=18,SNR=2.9						
SONM				Lg	Lg	02 54 49.9	
	0.1nm,0.3s,baz=285,slow=26,SNR=5.9						
YKA	Yellowknife Ar	65.48	12	P	P	02 59 33.6	+1.1
	0.3nm,0.8s,baz=341,slow=7.2,SNR=2.4						

*RSNC **02** 02:58:07.9±1.0, 7.˚21N×72.˚24W, h3km±4km, ML3.1, Mw3.6*
*IDC **02** 02:58:09.7±1.9, 7.˚12N×72.˚20W, h50km±19km, mb3.5/3, mb1 3.7/6, mb1mx3.4/39, mbtmp3.8/6, ML2.1/2, Error ellipse: s-maj=29.4km s-min=15.3km az=122.0*
*FUNV **02** 02:58:09.5, 7.˚21N×71.˚94W, h5km, MW3.9*
ISC 02 02:58:05.1±1.2**, 7.˚23N**±0.˚03×**72.˚11W**±0.˚02**, h8**km±8km**, n52,** σ2.˚11/90**, mb3.8**/3**, 4C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	Pamplona, Colo	0.60	281	⇓*i*P	Pg	02 58 15.5	-1.3
PAMC				*e*S	Sg	02 58 22.5	-2.2
PAMC				*i*		02 58 24.4	
	comp=Z,529nm,0.3s						
TAMC	Tame, Arauca	0.85	158	⇑*i*P	Pg	02 58 23.5	+2.0
TAMC				*e*S	Sn	02 58 36.0	-0.1
TAMC				*i*		02 58 41.3	
	comp=Z,374nm,0.2s						
BARC	Barichara	1.24	239	⇓*i*P	Pn	02 58 27.5	-1.6
BARC				*e*S	Sb	02 58 43.0	-2.3
BARC				*i*		02 58 44.9	
	comp=Z,461nm,0.4s						
OCAC	Ocana	1.57	310	⇓*i*P	Pn	02 58 33.5	0.0
OCAC				*e*S	Sn	02 58 53.0	-1.0
RUSC	La Rusia	1.65	216	*e*P	Pn	02 58 35.0	+0.2
RUSC				*e*S	Sn	02 58 57.2	+0.8
RUSC				*i*		02 59 00.3	
	comp=Z,154nm,0.4s						
SDV	Santo Domingo	2.20	41	P	Pb	02 58 45.3	0.0
	comp=Z,33nm,0.3s,baz=199,slow=9.4,SNR=111						
SDV				S	Sb	02 59 14.5	+1.7
	comp=Z,136nm,0.3s,baz=298,slow=20,SNR=25						
SDV	Santo Domingo	2.20	41	*e*P	Pb	02 58 45.3	0.0
SDV				*e*S	Sg	02 59 15.7	-0.2
SDV				*i*		02 59 20.0	
	comp=Z,359nm,0.3s						
PTBC	PUERTO BERRIO,	2.43	254	*e*P	Pn	02 58 45.7	+0.5
PTBC				*e*S	Sn	02 59 18.6	+3.3
PTBC				*i*		02 59 20.0	
	comp=Z,219nm,0.3s						
SPBC	San Pablo de B	2.51	231	⇑*i*P	Pn	02 58 48.3	+2.0
SPBC				*e*S	Sb	02 59 22.4	+0.9
SPBC				*i*		02 59 26.7	
	comp=Z,129nm,0.4s						
ELOV	Elorza	2.61	95	*e*P	Pn	02 58 50.1	+2.4
ELOV				*e*S	Sg	02 59 29.7	+0.6
ELOV	Elorza	2.61	95	*e*P	Pn	02 58 48.8	+1.1
ELOV				*e*S	Sn	02 59 18.1	-1.6
ZARC	Zaragoza, Cauc	2.74	276	⇑*e*P	Pn	02 58 50.6	+1.1
ZARC				*e*S	Sn	02 59 22.8	-0.1
ZARC				*i*		02 59 29.9	
	comp=Z,101nm,0.5s						
LL6C	La Loma 6 Bece	2.74	335	*e*P	Pn	02 58 53.3	+3.8
LL6C				*e*S	Sb	02 59 29.6	+1.3
LL6C				*i*		02 59 33.3	
	comp=Z,57nm,0.3s						
MCQV	Machiques	2.83	351	*e*P	Pb	02 58 55.2	-0.8
MCQV				*e*S	Sb	02 59 29.4	-1.6
PTGC	Puerto Gaitan,	3.01	181	*e*P	Pn	02 58 54.4	+1.2
PTGC				*e*S	Sn	02 59 31.8	+2.3
CHIC	Chingaza	3.05	212	⇑*e*P	Pn	02 58 55.4	+1.3
CHIC				*e*S	Sn	02 59 31.0	0.0
CHIC				*i*		02 59 53.7	
	comp=Z,43nm,0.6s						
NORC	Norcasia	3.21	239	*e*P	Pn	02 58 58.4	+2.5
ROSC	El Rosal	3.24	223	P	Pn	02 58 56.3	-0.4
	comp=Z,1.2nm,0.3s,baz=66,slow=20,SNR=4.6						
ROSC	El Rosal	3.24	223	*e*P	Pn	02 58 59.0	+2.4
ROSC				*e*S	Sb	02 59 43.9	+0.9
ROSC				*i*		02 59 59.5	
	comp=Z,52nm,0.5s						
SANV	Sanarito	3.40	48	*e*P	Pn	02 59 00.5	+1.8
SANV				*e*S	Sn	02 59 38.3	-1.0
UREC	San Jos de Ur	3.44	279	*e*P	Pn	02 59 01.0	+1.9
UREC				*e*S	Sn	02 59 43.4	+3.3
UREC				*i*		02 59 52.2	
	comp=Z,48nm,0.3s						
VILC	Villavicencio,	3.48	207	*e*P	Pn	02 59 00.8	+1.0
CURV	Curarigua	3.48	37	*e*P	Pn	02 59 02.5	+2.7
CURV				*e*S	Sn	02 59 41.5	+0.2
HELC	Santa Helena	3.55	253	*e*P	Pn	02 59 01.9	+0.9
HELC				*e*S	Sn	02 59 43.9	+0.4
HELC				*i*		02 59 57.5	
	comp=Z,37nm,0.5s						
GUY2C	Guyana, Caldas	3.80	239	*e*P	Pn	02 59 06.2	+1.7
GUY2C				*e*S	Sn	02 59 50.7	+0.9
GUY2C				*i*		03 00 07.9	
	comp=Z,44nm,0.7s						
CRJC	Cerrejon, Guaj	3.84	349	*e*P	Pn	02 59 07.0	+2.3
CRJC				*e*S	Sn	02 59 51.0	+0.8
CRJC				*i*		03 00 16.8	
	comp=Z,62nm,0.3s						
MOTC	Monteria, Cord	3.85	294	*e*P	Pn	02 59 06.3	+1.6
MOTC				*e*S	Sn	02 59 51.0	+0.9
MOTC				*i*		03 00 07.1	
	comp=Z,14nm,0.3s						
DABV	Dabajuro	3.94	21	*e*S	Sn	02 59 53.3	+0.7
SJCC	San Jacinto, C	4.03	311	*e*P	Pn	02 59 09.6	+2.3
SJCC				*e*S	Sn	02 59 58.0	+3.1
SJCC				*i*		03 00 01.4	
	comp=Z,27nm,0.4s						
DBBC	Dabeiba	4.08	267	*e*P	Pn	02 59 11.2	+3.3
SIQV	Siquisique	4.09	34	*e*P	Pn	02 59 09.8	+1.8
SIQV				*e*S	Sn	02 59 55.5	-0.6
CBOC	Ciudad Bolivar	4.11	251	*e*P	Pn	02 59 11.4	+2.9
CBOC				*e*S	Sb	03 00 06.4	-1.5
CBOC				*i*		03 00 20.2	
	comp=Z,19nm,0.6s						
ANIL	Santa Ana	4.26	231	*e*P	Pn	02 59 12.4	+1.7
ANIL				*e*S	Sn	03 00 03.0	+2.2
MAPV	Macapo	4.44	54	*e*P	Pn	02 59 14.2	+1.3
MAPV				*e*S	Sn	03 00 02.9	-1.9
ORTC	Ortega, Tolima	4.54	224	*e*P	Pn	02 59 15.6	+1.2
GUVC	San Jose del G	4.68	186	*e*P	Pn	02 59 16.9	+0.7
GUVC				*e*S	Sn	03 00 09.9	-0.9
GUVC				*i*		03 00 12.2	
	comp=Z,64nm,0.3s						
PLMC	San Jos del P	4.75	241	*e*P	Pn	02 59 19.9	+2.6
PLMC				*e*S	Sn	03 00 16.1	+3.4
PAYV	Puerto Ayacuch	4.77	112	*e*P	Pn	02 59 18.6	+1.1
PAYV				*e*S	Sn	03 00 09.9	-3.2
BENV	Beln	5.22	58	*e*P	Pn	02 59 25.0	+1.4
BENV				*e*S	Sn	03 00 20.6	-3.5
TURV	Turiamo	5.29	52	*e*P	Pn	02 59 25.9	+1.3
TURV				*e*S	Sn	03 00 21.8	-3.9
CACV	CAICARA DEL OR	5.53	86	*e*P	Pb	02 59 36.0	-6.0
CACV				*e*S	Sn	03 00 39.3	+7.6
GARC	Garzon, Huila	6.04	214	*e*P	Pn	02 59 35.6	+0.5
GARC				*e*S	Sn	03 00 44.4	-0.2
GARC				*i*		03 00 55.1	
	comp=Z,17nm,0.3s						
MERV	Las Mercedes	6.09	70	*e*P	Pn	02 59 36.0	+0.5
MERV				*e*S	Sn	03 00 41.3	-4.2
BIRV	Birongo	6.61	60	*e*P	Pn	02 59 43.0	+0.3
BIRV				*e*S	Sn	03 00 52.6	-5.6
FLOC	Florencia	6.63	212	*e*P	Pn	02 59 43.3	+0.3
FLOC				*e*S	Sn	03 00 57.1	-1.8
FLOC				*i*		03 01 06.2	
	comp=Z,8.9nm,0.6s						
PCRV	Puerto La Cruz	7.94	68	P	Pn	03 00 03.0	+1.9
	comp=Z,1.1nm,0.3s,baz=266,slow=4.8,SNR=2.2						
SIV	San Ignacio	25.53	155	P	P	03 03 33.8	-0.7
	comp=Z,0.7nm,0.3s,baz=318,slow=8.4,SNR=4.5						
TXAR	Lajitas Array	36.95	311	PcP	PcP	03 07 36.0	-0.6
	comp=Z,0.5nm,0.9s,baz=144,slow=3.4,SNR=2.6						
YKA	Yellowknife Ar	63.23	339	P	P	03 08 33.0	-0.9
	comp=Z,0.5nm,0.5s,baz=130,slow=6.9,SNR=13						
TORD	Torodi Ar. Bea	72.67	79	P	P	03 09 33.1	-1.1
	comp=Z,0.6nm,1.1s,baz=277,slow=6.0,SNR=1.6						
ASAR	Alice Springs	150.16	234	PKPbc	PKPdf	03 17 55.8	+3.2
	comp=Z,0.3nm,0.5s,baz=100,slow=3.1,SNR=4.1						
WRA	Warramunga Arr	151.42	241	PKPbc	PKPbc	03 17 58.5	-2.1
	comp=Z,0.4nm,0.5s,baz=106,slow=2.6,SNR=7.9						

NNC 02 03:02:46.8±2.1**, 41.˚43N×83.˚43E, h0km, mb3.5, mpv3.2, 9C-3D, Error ellipse: s-maj=14.5km s-min=9.8km az=151.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.42	302	Pg	Pn	03 03 44.2	+2.7
	3.2nm,0.2s						
SHLS				Lg	Lg	03 04 28.5	
	30nm,0.4s						
PDGK	Podgornoye	3.48	304	Pg	Pb	03 03 48.8	-0.6
	1.0nm,0.4s						
PDGK				Lg	Lg	03 04 36.4	
	4.9nm,0.5s						
PDGK	Podgornoye	3.48	304	⇑Pg	Pg	03 03 53.0	-0.6
	2.4nm,0.6s						
PDGK				⇑Sn	Sn	03 04 25.7	+1.3
	7.9nm,0.5s						
PDGK				⇑Lg	Lg	03 04 38.0	
	13nm,0.6s						
UZB	Uzynbulak	3.70	299	Pg	Pb	03 03 52.8	-0.3
	2.8nm,0.2s						
UZB				Lg	Lg	03 04 43.2	
	15nm,0.6s						
DJR	Jarkent	3.95	319	Pg	Pg	03 04 00.3	-2.2
	3.9nm,0.5s						
DJR				Lg	Lg	03 04 56.5	
	8.7nm,0.8s						
ZHN	Zhinishke	4.09	297	Pg	Pb	03 04 00.9	+1.1
	4.4nm,0.1s						
ZHN				Lg	Lg	03 04 57.2	
	19nm,0.4s						
KAPS	Kapalarasan	4.87	324	Pg	Pg	03 04 16.8	-3.2
	2.0nm,0.6s						
KAPS				Lg	Lg	03 05 24.1	
	5.0nm,0.5s						
ARXS	Arharly	4.97	306	Pg	Pg	03 04 19.9	-2.3
	1.5nm,0.6s						
ARXS				Lg	Lg	03 05 29.3	
	8.8nm,0.6s						
TNSS	Tian-Shan	5.08	291	Pg	Pb	03 04 19.7	+2.9
	1.0nm,0.3s						
TNSS				Lg	Lg	03 05 29.3	
	3.9nm,0.7s						
IZV	Izvestkoviy	5.31	290	Pg	Pb	03 04 23.3	+2.6
	2.0nm,0.4s						
IZV				Lg	Lg	03 05 35.1	
	7.7nm,0.6s						
MK31	Makanchi Array	5.43	352	⇑Pg	Pg	03 04 27.7	-3.1
	0.2nm,0.3s,baz=180,slow=16,SNR=4.8						
MK31				⇓Sn	Sn	03 05 11.5	-0.6
	1.3nm,0.6s,baz=39,slow=12,SNR=4.1						
MK31				⇑Lg	Lg	03 05 42.1	
	2.1nm,0.5s,baz=173,slow=26						
MAKZ	Makanchi	5.48	349	⇑Pg	Pg	03 04 28.0	-3.8
	0.5nm,0.5s						
MAKZ				⇓Sn	Sn	03 05 11.9	-1.6
	1.5nm,0.5s						
MAKZ				⇑Lg	Lg	03 05 37.4	
	0.8nm,0.5s						
KTBS	Karatobe	5.48	297	Pg	Pb	03 04 26.3	+2.9
	1.0nm,0.5s						
KTBS				Lg	Lg	03 05 40.3	
	5.1nm,0.4s						
KUU	Kurty	5.78	298	Pg	Pb	03 04 31.7	+3.2
	0.5nm,0.1s						
KUU				Lg	Lg	03 05 50.7	
	1.7nm,0.1s						
DGS	Degeres	5.96	290	Pg	Pb	03 04 34.6	+3.0
	0.9nm,0.3s						
DGS				Lg	Lg	03 05 54.6	
	4.7nm,0.7s						
TKM2	Tokmak 2	6.01	287	⇓Pg	Pg	03 04 39.8	-2.2
	1.4nm,0.6s						
TKM2				⇑Sn	Sn	03 05 27.2	+0.4
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	03 05 56.6	
	4.7nm,0.6s						
SGDS	Sogindy	6.82	290	Pg	Pb	03 04 49.8	+3.5
	0.5nm,0.2s						
SGDS				Lg	Lg	03 06 20.9	
	1.9nm,0.5s						

*IDC **02** 03:13:24.9±1.6, 60.˚52N×60.˚67E, h0km, mb1 3.5/7, mb1mx3.2/51, mbtmp3.5/7, ML2.7/7, Error ellipse: s-maj=18.9km s-min=16.5km az=12.0*
*MIRAS **02** 03:13:30.9±0.0, 60.˚25N×60.˚00E, h1km, ML3.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IEPN **02** 03:13:32.0, 60.˚66N×59.˚29E, h0km*
ISC 02 03:13:22.7±1.3**, 60.˚30N**±0.˚04×**60.˚17E**±0.˚04**, h5**km±8km**, n19,** σ1.˚98/61**, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	Severouralsk	0.14	223	*i* P	Pg	03 13 25.3	-0.2
SVUR				*i* P	Pg	03 13 25.3	-0.2
SVUR				*i* P	Pg	03 13 25.3	-0.2
SVUR				*i* S	Sg	03 13 26.1	-1.1
SVUR				*i* S	Sg	03 13 26.1	-1.1
SVUR				*i* S	Sg	03 13 26.1	-1.1
SVUR				*i* AML	AML	03 13 26.6	
	7µm,0.7s						
PR7R	Sarany	1.89	203	*i* P	Pn	03 13 56.0	+0.4
	32nm,0.6s						
PR7R				*i* P	Pn	03 13 56.0	+0.4
PR7R				*i* P	Pn	03 13 56.0	+0.4
PR7R				*i* S	Sn	03 14 20.5	+0.7
PR7R				*i* S	Sn	03 14 20.5	+0.7
PR7R				*i* S	Sn	03 14 20.5	+0.7
	141nm,0.6s						
PR7R				*i* AML	AML	03 14 22.1	
	692nm,0.6s						
PR1R	Pomanovo	2.06	239	*i* P	Pb	03 14 00.7	+0.2
	29nm,0.2s						
PR1R				*i* P	Pb	03 14 00.7	+0.2
PR1R				*i* P	Pb	03 14 00.7	+0.2
PR1R				*i* S	Sb	03 14 26.9	+0.5
PR1R				*i* S	Sb	03 14 26.9	+0.5
PR1R				*i* S	Sb	03 14 26.9	+0.5
	130nm,0.4s						
PR1R				*i* AML	AML	03 14 27.6	
	233nm,0.3s						
PR0R	Verkhnechusovs	2.62	218	*i* P	Pn	03 14 08.4	+2.9
	3.8nm,0.3s						
PR0R				*i* P	Pn	03 14 08.4	+2.9
PR0R				*i* S	Sb	03 14 40.9	-1.4
PR0R				*i* S	Sb	03 14 40.9	-1.4
	45nm,0.9s						
PR0R				*i* AML	AML	03 14 44.1	
	69nm,0.6s						
PR3R	Kungur	3.30	211	*i* P	Pn	03 14 17.7	+2.8
	15nm,0.5s						
PR3R				*i* P	Pn	03 14 17.7	+2.8
PR3R				*i* P	Pn	03 14 17.7	+2.8
PR3R				*i* S	Sn	03 14 57.6	+3.2
PR3R				*i* S	Sn	03 14 57.6	+3.2
PR3R				*i* S	Sn	03 14 57.6	+3.2

PR3R				*i* AML	AML	03 14 59.0	
	97nm,0.3s						
PR4R	**Vlasy**	**3.33**	**226**	*i* P	**Pn**	**03 14 15.9**	**+0.6**
	6.1nm,0.2s						
PR4R				*i* P	**Pn**	**03 14 15.9**	**+0.6**
PR4R				*i* P	**Pn**	**03 14 15.9**	**+0.6**
PR4R				*i* S	**Sn**	**03 14 56.1**	**+0.9**
PR4R				*i* S	**Sn**	**03 14 56.1**	**+0.9**
PR4R				*i* S	**Sn**	**03 14 56.1**	**+0.9**
	82nm,0.7s						
PR4R				*i* AML	AML	03 15 01.7	
	196nm,0.3s						
KAUR	**Kamensk Uralsk**	**3.94**	**169**	*i* P	**Pb**	**03 14 33.0**	**+0.4**
	14nm,0.3s						
KAUR				*i* P	**Pb**	**03 14 33.0**	**+0.4**
KAUR				*i* P	**Pb**	**03 14 33.0**	**+0.4**
KAUR				*i* S	**Sb**	**03 15 20.6**	**+0.1**
KAUR				*i* S	**Sb**	**03 15 20.6**	**+0.1**
KAUR				*i* S	**Sb**	**03 15 20.6**	**+0.1**
	28nm,0.5s						
KAUR				*i* AML	AML	03 15 25.0	
	150nm,0.5s						
ARU	**Arti**	**3.97**	**193**	Pn	**Pb**	**03 14 31.5**	**-1.6**
	0.0nm,0.3s,baz=0.3,slow=12,SNR=6.5						
ARU				Sn	**Sb**	**03 15 21.8**	**+0.4**
	0.0nm,0.3s,baz=160,slow=21,SNR=11						
ARU	**Arti**	**3.97**	**193**	*i* P	**Pb**	**03 14 32.0**	**-1.1**
	2.2nm,0.3s						
ARU				*i* P	**Pb**	**03 14 32.0**	**-1.1**
ARU				*i* P	**Pb**	**03 14 32.0**	**-1.1**
ARU				*i* S	**Sb**	**03 15 19.5**	**-1.8**
ARU				*i* S	**Sb**	**03 15 19.5**	**-1.8**
ARU				*i* S	**Sb**	**03 15 19.5**	**-1.8**
	17nm,0.6s						
ARU				*i* AML	AML	03 15 32.0	
	46nm,0.5s						
BA1R	**Ufa**	**6.21**	**205**	*e*P	Pn	03 15 03.0	+8.2
LSH	**Leshukonskoye**	**8.08**	**311**	*e*P	**Pn**	**03 15 22.4**	**+1.9**
LSH				*e*S	**Sn**	**03 16 49.1**	**-2.9**
	26nm,2.8s						
BVAR	**Borovoye Array**	**9.20**	**138**	Pn	**Pn**	**03 15 37.9**	**+2.0**
	0.5nm,0.3s,baz=8.5,slow=20,SNR=19						
BVAR				Sn	**Sn**	**03 17 13.9**	**-5.8**
	0.7nm,0.3s,baz=133,slow=3.3,SNR=3.2						
AMDE	**Amderma**	**9.52**	**3**	*e*P	**Pn**	**03 15 42.7**	**+2.5**
AMDE				*e*S	**Sn**	**03 17 25.3**	**-2.1**
AKTO	**Aktyubinsk**	**9.96**	**188**	Pn	**Pn**	**03 15 48.8**	**+2.5**
	0.1nm,0.3s,baz=9.6,slow=14,SNR=2.1						
KLMR	**Klimovskoe**	**10.17**	**282**	*e*P	**Pn**	**03 15 48.7**	**-0.3**
KLMR				*e*S	**Sn**	**03 17 36.1**	**-7.1**
KURBB	**Kurchatov Arra**	**14.18**	**125**	Pn	**Pn**	**03 16 42.4**	**-1.5**
	0.0nm,0.3s,baz=319,slow=13,SNR=8.5						
FINES	**FINESS Array B**	**16.53**	**289**	Pn	**Pn**	**03 17 14.7**	**-0.1**
	0.1nm,0.3s,baz=67,slow=11,SNR=1.2						
ARCES	**ARCESS Array B**	**17.09**	**317**	P	**P**	**03 17 24.8**	**+1.1**
	baz=94,slow=14,SNR=8.0						
MKAR	**Makanchi Array**	**18.73**	**126**	P	**P**	**03 17 42.9**	**+1.0**
	0.0nm,0.3s,baz=333,slow=11,SNR=6.0						

IDC 02 03:19:53.3±3.1**,7.72S×147.45E,h0^{km},mb3.3**/1**, mb1 3.6**/2**,mb1mx3.3**/28**,mbtmp3.3**/2**,ML3.2**/1**,Error ellipse: s-maj=74.6km s-min=18.8km az=92.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.70**	**190**	Pg	Pn	03 20 24.4	+0.1
	19nm,0.3s,baz=8.2,slow=9.9,SNR=36						
PMG				Lg	Lg	03 20 47.6	
	14nm,0.3s,baz=162,slow=17,SNR=9.1						
WRA	**Warramunga Arr**	**17.58**	**225**	P	Pn	03 23 58.8	-1.2
	0.1nm,0.3s,baz=52,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**20.50**	**218**	P	P	03 24 32.5	-0.7
	1.4nm,0.8s,baz=37,slow=12,SNR=16						
TORD	**Torodi Ar. Bea**	**145.91**	**282**	PKPbc	PKPbc	03 39 35.7	-0.3
	0.2nm,0.5s,baz=68,slow=4.1,SNR=5.9						

*DSN **02** 03:42:11.6±2.3,27.21N×53.66E,h10^{km},ML3.8/8,Error ellipse: s-maj=32.2km s-min=14.8km az=1.0*
*TEH **02** 03:42:17.9,26.73N×54.12E,h9^{km},ML3.7*
*OMAN **02** 03:42:21.2±0.1,26.61N×53.94E,h128^{km}±2^{km},mb4.8/3, ml3.7/21,Error ellipse: s-maj=3.1km s-min=1.3km az=357.0*
*IDC **02** 03:42:22.0±3.0,26.68N×54.07E,h44^{km}±31^{km},mb3.5/12, mb1 3.7/13,mb1mx3.5/55,mbtmp3.8/13,ML3.1/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/73,Error ellipse: s-maj=24.3km s-min=17.0km az=36.0*
ISC 02 03:42:20.0±1.2**,26.68N**±0.04×**53.99E**±0.04**,h28**^{km}±10^{km}**, n99,**σ1§**65**/115**,mb3.8**/12**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.99**	**312**	*e*Pg	**Pn**	**03 42 38.2**	**+0.1**
LMD1				*e*Sg	**Sb**	**03 42 53.8**	**+2.6**
LAR1	**LAR**	**1.05**	**19**	*e*Pg	**Pn**	**03 42 36.7**	**-2.3**
LAR1				*e*Sg	**Sb**	**03 42 50.6**	**-2.3**
LAR1				*e*		03 42 54.2	
	comp=Z,38μm,0.5s						
GHIR	**Ghir-Karzin**	**1.83**	**331**	*e*Pg	**Pn**	**03 42 50.7**	**+0.9**
JHRM	**Jahrom**	**1.86**	**349**	*e*Pg	**Pn**	**03 42 52.0**	**+1.9**
JHRM				*e*		03 43 31.5	
	comp=Z,11μm,0.4s						
UMQ	**Umm Al-Quwin**	**1.89**	**127**	*e*Pn	**Pb**	**03 42 53.5**	**-0.4**
UMQ	**Umm Al-Quwin**	**1.89**	**127**	P	**Pb**	**03 42 53.2**	**-0.7**
UMQ				S	**Sb**	**03 43 19.5**	**+2.3**
QIR1	**Qir**	**1.98**	**335**	*e*Pn	**Pn**	**03 42 53.0**	**+1.2**
QIR1				*e*		03 43 38.4	
	comp=Z,7μm,0.5s						
SHME	**Shamm**	**2.03**	**107**	*e*Pn	**Pn**	**03 42 51.7**	**-0.7**
SHME	**Shamm**	**2.03**	**107**	P	**Pn**	**03 42 52.4**	**-0.1**
SHME				S	**Sb**	**03 43 22.6**	**+1.5**
SHME	**Shamm**	**2.03**	**107**	P	**Pn**	**03 42 52.2**	**-0.3**
GENO	**Geno**	**2.08**	**69**	*e*Pn	**Pn**	**03 42 53.2**	**0.0**
GENO				*e*		03 43 36.3	
	comp=Z,4μm,0.4s						
BANOM	**Banah**	**2.21**	**109**	*e*Pn	**Pn**	**03 42 56.0**	**+1.1**
BANOM	**Banah**	**2.21**	**109**	P	**Pn**	**03 42 55.3**	**+0.4**
BANOM	**Banah**	**2.21**	**109**	P	**Pn**	**03 42 55.7**	**+0.9**
BANOM				S	**Sb**	**03 43 28.7**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.26**	**138**	*e*Pn	**Pn**	**03 42 57.2**	**+1.6**
NAZ	**Nazwa, Dubai**	**2.26**	**138**	P	**Pn**	**03 42 58.0**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.26**	**138**	P	**Pn**	**03 42 57.8**	**+2.2**
AJN	**Ajban**	**2.29**	**157**	*e*Pn	**Pn**	**03 42 58.7**	**+2.7**
AJN	**Ajban**	**2.29**	**157**	P	**Pn**	**03 42 59.0**	**+3.0**
MASF	**Masafi**	**2.35**	**123**	P	**Pb**	**03 42 59.3**	**-2.4**
MASF				S	**Sb**	**03 43 29.1**	**-1.2**
MSFE	**Esma-Masafi**	**2.35**	**123**	*e*Pn	**Pb**	**03 42 59.6**	**-2.2**
MSFE	**Esma-Masafi**	**2.35**	**123**	P	**Pn**	**03 42 58.3**	**+1.4**
ASUD	**Al Ashush, Dub**	**2.38**	**149**	*e*Pn	**Pb**	**03 43 00.8**	**-1.3**
ASUD	**Al Ashush, Dub**	**2.38**	**149**	P	**Pn**	**03 42 60.0**	**+2.8**
	SNR=8.2						
FAQ	**Al Faqa, Dubai**	**2.41**	**143**	*e*Pn	**Pb**	**03 43 00.9**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.41**	**143**	P	**Pb**	**03 43 00.8**	**-1.8**
FAQ	**Al Faqa, Dubai**	**2.41**	**143**	P	**Pb**	**03 43 00.9**	**-1.8**
KHOR	**Al-Khor Airpor**	**2.46**	**245**	P	**Pn**	**03 42 58.7**	**+0.4**
UOSS	**Minazif**	**2.64**	**130**	*e*Pn	**Pn**	**03 43 02.7**	**+1.9**
UOSS	**Minazif**	**2.64**	**130**	P	**Pn**	**03 43 02.3**	**+1.5**
UOSS	**Minazif**	**2.64**	**130**	P	**Pn**	**03 43 01.9**	**+1.1**
HATD	**Hatta, Dubai**	**2.67**	**133**	*e*Pn	**Pn**	**03 43 04.3**	**+3.0**
HATD	**Hatta, Dubai**	**2.67**	**133**	P	**Pn**	**03 43 03.6**	**+2.3**
HATD	**Hatta, Dubai**	**2.67**	**133**	P	**Pn**	**03 43 01.7**	**+0.5**
ASHO	**Ashiyiah**	**2.73**	**136**	*e*Pn	**Pn**	**03 43 04.0**	**+2.0**
ASHO	**Ashiyiah**	**2.73**	**136**	P	**Pn**	**03 43 04.1**	**+2.0**
	SNR=8.8						
ASHO	**Ashiyiah**	**2.73**	**136**	P	**Pn**	**03 43 03.9**	**+2.0**
GHWR	**Ruwais**	**2.88**	**201**	P	**Pn**	**03 43 05.2**	**+1.1**
MZWR	**Madinat Zayed**	**2.91**	**182**	P	**Pn**	**03 43 05.6**	**+1.2**
ALNE	**Al Ain**	**3.06**	**148**	*e*Pn	**Pn**	**03 43 10.1**	**+3.5**
ALNE	**Al Ain**	**3.06**	**148**	P	**Pn**	**03 43 09.7**	**+3.1**
TRNA	**Turayna**	**3.16**	**233**	P	**Pn**	**03 43 08.1**	**+0.1**
SAKB	**Bahrain**	**3.17**	**258**	P	**Pn**	**03 43 08.7**	**+0.5**
SHI	**Shiraz**	**3.23**	**337**	*e*Pn	**Pn**	**03 43 11.7**	**+2.7**
SLWR	**Sila**	**3.33**	**219**	P	**Pn**	**03 43 10.0**	**-0.2**
SOHO	**SOHO**	**3.42**	**137**	P	**Pn**	**03 43 13.1**	**+1.5**
SOHO	**SOHO**	**3.42**	**137**	P	**Pn**	**03 43 11.8**	**+0.2**
KHNJ	**Kahnooj**	**3.54**	**68**	*e*Pn	**Pn**	**03 43 12.9**	**-0.3**
KHNJ				*e*		03 43 15.5	
	comp=Z,1μm,0.4s						
MZR	**Muzera**	**3.69**	**187**	*e*Pn	**Pn**	**03 43 18.1**	**+2.9**
MZR	**Muzera**	**3.69**	**187**	P	**Pn**	**03 43 16.1**	**+0.8**
NGRK	**Negar Kerman**	**3.82**	**39**	*e*Pn	**Pn**	**03 43 17.1**	**-0.3**
NGRK				*e*		03 43 25.5	
	comp=Z,854nm,0.3s						
ARQ	**Araqi**	**4.04**	**145**	P	**Pn**	**03 43 21.5**	**+1.3**
UMZA	**Um Al Zommool**	**4.09**	**165**	P	**Pn**	**03 43 22.2**	**+1.5**
UMZA				S	**Sn**	**03 44 08.9**	**+1.3**
KRBR	**Kerman**	**4.10**	**36**	*e*Pn	**Pn**	**03 43 22.0**	**+0.8**
KHGB	**Koh Gabri**	**4.29**	**30**	*e*Pn	**Pn**	**03 43 24.3**	**+0.6**
KHGB				*e*		03 44 47.4	
	comp=Z,467nm,0.8s						
HOQ	**Hoqain**	**4.31**	**135**	P	**Pn**	**03 43 25.7**	**+1.9**
HOQ				S	**Sn**	**03 44 14.7**	**+1.5**
CHMN	**Cheshme madani**	**4.46**	**44**	*e*Pn	**Pn**	**03 43 26.6**	**+0.5**
CHMN				*e*		03 43 28.9	
	comp=Z,2μm,0.4s						
KBAM	**BAM**	**4.65**	**57**	*e*Pn	**Pn**	**03 43 28.8**	**+0.3**
KBAM				*e*		03 43 36.4	
	comp=Z,680nm,0.4s						
IMEH	**Mehriz**	**4.73**	**7**	*e*Pn	**Pn**	**03 43 30.9**	**+1.2**
KLNJ	**Kolanjah**	**4.80**	**335**	*e*Pn	**Pn**	**03 43 33.5**	**+2.7**
BSY	**Bisya**	**4.88**	**143**	P	**Pn**	**03 43 34.0**	**+2.3**
BSY				S	**Sn**	**03 44 30.2**	**+2.8**
IBAF	**Bafgh**	**5.09**	**15**	*e*Pn	**Pn**	**03 43 35.3**	**+0.7**
SMDO	**Samad**	**5.16**	**133**	P	**Pn**	**03 43 36.1**	**+0.6**
SMDO				S	**Sn**	**03 44 35.4**	**+1.2**
IRAM	**Ramesheh**	**5.30**	**345**	*e*Pn	**Pn**	**03 43 38.5**	**+0.9**
WSAR	**Wadi Sarin**	**5.43**	**128**	P	**Pn**	**03 43 38.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=323,slow=14,SNR=1.8						
WSAR				S	**Sn**	**03 44 41.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=243,slow=19,SNR=1.6						
WSAR	**Wadi Sarin**	**5.43**	**128**	P	**Pn**	**03 43 39.8**	**+0.6**
WSAR				S	**Sn**	**03 44 41.5**	**+0.7**
JMDO	**Jabal Madar**	**5.70**	**138**	P	**Pn**	**03 43 43.3**	**+0.5**
YZKH	**Yazd**	**5.72**	**5**	*e*Pn	**Pn**	**03 43 43.4**	**+0.2**
NASN	**Na'in**	**6.19**	**351**	*e*Pn	**Pn**	**03 43 49.3**	**-0.5**
IPIR	**Pirpir**	**6.56**	**337**	*e*Pn	**Pn**	**03 43 57.2**	**+2.2**
ZHSF	**Zahedan**	**6.67**	**62**	*e*Pn	**Pn**	**03 43 57.5**	**+1.2**
JLN	**Jalan Bani Buh**	**6.69**	**131**	P	**Pn**	**03 43 56.9**	**+0.4**
MHTO	**MHTO**	**6.74**	**146**	P	**Pn**	**03 43 59.0**	**+1.9**
	SNR=8.2						
MHTO				S	**Sn**	**03 45 11.6**	**-1.3**
TPRV	**Parvadeh(Tabas**	**6.75**	**20**	*e*Pn	**Pn**	**03 43 58.6**	**+1.2**
TABS	**Tabas**	**7.46**	**21**	*e*Pn	**Pn**	**03 44 07.4**	**+0.3**
DQM	**DQM**	**7.47**	**153**	P	**Pn**	**03 44 09.2**	**+2.0**
DQM				S	**Sn**	**03 45 28.5**	**-2.5**
SRVN	**Saravan**	**7.54**	**83**	*e*Pn	**Pn**	**03 44 08.3**	**+0.1**
TNSJ	**Nastanj**	**7.61**	**17**	*e*Pn	**Pn**	**03 44 10.4**	**+1.3**
ISFB	**Sefidab**	**7.80**	**349**	*e*Pn	**Pn**	**03 44 12.7**	**+1.0**
KHMZ	**Khomeyn**	**7.85**	**335**	*e*Pn	**Pn**	**03 44 13.4**	**+0.8**
DOK	**Doka**	**8.02**	**179**	P	**Pn**	**03 44 15.0**	**+0.2**
DOK				S	**Sn**	**03 45 40.8**	**-3.9**
IMON	**Monand**	**8.15**	**36**	*e*Pn	**Pn**	**03 44 18.2**	**+1.5**
ASAO	**Ashtian**	**8.55**	**337**	*e*Pn	**Pn**	**03 44 23.4**	**+1.1**
WHFO	**Wadi Hawf**	**8.72**	**181**	P	**Pn**	**03 44 24.7**	**+0.3**
	SNR=5.7						
WHFO				S	**Sn**	**03 45 58.5**	**-3.4**
SHRT	**Shahrakht**	**8.83**	**37**	*e*Pn	**Pn**	**03 44 26.5**	**+0.6**
ABTO	**Aybut**	**9.30**	**184**	P	**Pn**	**03 44 32.4**	**0.0**
ABTO				S	**Sn**	**03 46 11.9**	**-4.3**
GEYT	**Alibeck**	**11.75**	**16**	LR	LR	03 50 04.8	
	comp=Z,40nm,19.2s,baz=194,slow=40						
BRTR	**Keskin Array B**	**21.37**	**313**	P	**P**	**03 47 05.9**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=126,slow=13,SNR=5.2						
AAK	**Ala-Archa**	**23.10**	**41**	P	**P**	**03 47 23.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=190,slow=17,SNR=1.9						
MKAR	**Makanchi Array**	**30.03**	**41**	P	**P**	**03 48 26.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=228,slow=9.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**35.48**	**31**	P	**P**	**03 49 13.1**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=239,slow=9.8,SNR=13						
FINES	**FINESS Array B**	**39.51**	**339**	P	**P**	**03 49 49.3**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=142,slow=9.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**42.14**	**92**	P	**P**	**03 50 10.9**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=285,slow=10.0,SNR=5.1						
SONM	**Songino Array**	**45.75**	**48**	P	**P**	**03 50 38.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=263,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**	**46.00**	**347**	P	**P**	**03 50 40.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=127,slow=7.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**50.65**	**265**	P	**P**	**03 51 17.8**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=47,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**90.59**	**112**	P	**P**	**03 55 19.4**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=316,slow=3.7,SNR=4.8						
YKA	**Yellowknife Ar**	**90.67**	**355**	P	**P**	**03 55 19.3**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=4.4,slow=4.6,SNR=2.3						
ASAR	**Alice Springs**	**91.98**	**115**	P	**P**	**03 55 25.3**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=300,slow=4.9,SNR=2.0						

*NSSP **02** 03:43:53.9,41.35N×43.97E,h10^{km},Ms3.0*
*TIF **02** 03:43:54.1,41.39N×43.96E,h14^{km}*
*ISK **02** 03:43:54.7,41.34N×43.95E,h5^{km},ML3.2/9*
*NORS **02** 03:43:54.2±0.0,41.48N×43.83E,h5^{km},MPVA4.1*
*AZER **02** 03:43:55.6±0.1,41.37N×44.27E,h2^{km},Error ellipse: s-maj=2.9km s-min=1.3km az=18.0*
*DDA **02** 03:43:55.5±0.0,41.39N×43.93E,h8^{km},ML3.1*
*MOS **02** 03:43:56.0±0.0,41.46N×43.94E,h5^{km},MPVA4.0*
ISC 02 03:43:55.1±0.9**,41.39N**±0.01×**43.97E**±0.01**,h8**^{km}±7^{km}**, n96,**σ1§**25**/167**,Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.18**	**108**	P	**Pg**	**03 43 58.9**	**+0.1**
DMNI				S	**Sg**	**03 44 01.7**	**+0.3**
TRLG	**Trialeti**	**0.18**	**33**	P	**Pg**	**03 43 58.8**	**-0.2**
TRLG				S	**Sg**	**03 44 01.9**	**+0.2**
BRNG	**Burnasheti**	**0.26**	**336**	P	**Pg**	**03 44 00.6**	**+0.2**
BRNG				S	**Sb**	**03 44 05.1**	**-1.7**
BGD	**Bogdanovka**	**0.30**	**247**	P	**Pg**	**03 44 01.1**	**-0.1**
BGD				S	**Sg**	**03 44 05.8**	**+0.5**
AKH	**Akhalkalaki**	**0.36**	**274**	P	**Pg**	**03 44 02.0**	**-0.2**
AKH				S	**Sg**	**03 44 07.1**	**+0.2**
AKH	**Akhalkalaki**	**0.36**	**274**	PG	**Pg**	**03 44 01.9**	**-0.3**
AKH				SG	**Sg**	**03 44 07.1**	**+0.2**
STE	**Stepanavan**	**0.49**	**142**	*i* P	**Pg**	**03 44 04.4**	**-0.2**
STE				*i* S	**Sg**	**03 44 11.3**	**+0.2**
BTNK	**Botanikuri**	**0.69**	**64**	P	**Pg**	**03 44 04.7**	**-3.8**
BTNK				S	**Sg**	**03 44 15.1**	**-2.4**
BTNK	**Botanikuri**	**0.69**	**64**	P	**Pg**	**03 44 04.7**	**-3.8**
SEAG	**Tbilisi Sea**	**0.73**	**59**	P	**Pg**	**03 44 08.7**	**-0.5**
SEAG				S	**Sg**	**03 44 19.1**	**+0.3**
EAK	**Akyaka**	**0.75**	**201**	P	**Pg**	**03 44 08.7**	**-0.9**
EAK				*i* AML	AML	03 44 19.0	
	comp=E,1μm,0.2s						
EAK				S	**Sg**	**03 44 19.1**	**-0.2**
EPOS	**Posof**	**0.94**	**278**	P	**Pg**	**03 44 12.4**	**-0.8**
EPOS				S	**Sb**	**03 44 25.2**	**-1.2**
EPOS				*i* AML	AML	03 44 31.0	
	comp=N,472nm,1.0s						
ABS	**Abastumani**	**0.94**	**294**	P	**Pg**	**03 44 12.3**	**-0.9**
ABS				S	**Sb**	**03 44 25.6**	**-0.9**
KARS	**Kars**	**1.01**	**222**	PG	**Pg**	**03 44 13.8**	**-0.8**
KARS				SG	**Sg**	**03 44 27.4**	**-0.3**
DGRG	**David-gareji**	**1.06**	**86**	P	**Pg**	**03 44 14.8**	**-0.7**
DIGO	**Kars**	**1.07**	**205**	P	**Pg**	**03 44 14.7**	**-0.9**
DIGO				S	**Sg**	**03 44 29.0**	**-0.5**
DIGO				*i* AML	AML	03 44 30.0	
	comp=N,1μm,0.5s						
DIGO				*i* AML	AML	03 44 30.0	
	comp=E,1μm,0.4s						
QZX	**Qazax, Azerbai**	**1.11**	**107**	P	**Pg**	**03 44 14.8**	**-1.6**
	SNR=1410						
QZX				S	**Sg**	**03 44 29.8**	**-1.0**
GUDG	**Gudauri**	**1.14**	**19**	P	**Pg**	**03 44 16.1**	**-0.9**
GUDG				S	**Sb**	**03 44 32.1**	**-0.2**
KAPZ	**Kaputan**	**1.20**	**152**	*i* P	**Pg**	**03 44 17.2**	**-0.9**
KAPZ				*i* S	**Sg**	**03 44 33.1**	**-0.5**
TKB	**Tkibuli**	**1.21**	**323**	P	**Pg**	**03 44 17.2**	**-1.1**
TKB				S	**Sb**	**03 44 33.6**	**-0.4**
METS	**Metsamor**	**1.24**	**176**	*i* P	**Pg**	**03 44 17.6**	**-1.2**
METS				*i* S	**Sg**	**03 44 34.7**	**-0.2**
ONI	**Oni**	**1.26**	**343**	P	**Pg**	**03 44 18.0**	**-1.4**
ONI				S	**Sb**	**03 44 35.4**	**-0.2**
ONI	**Oni**	**1.26**	**343**	*i* Pg	**Pn**	**03 44 19.0**	**-0.1**
ONI				*e*Sg	**Sb**	**03 44 35.5**	**-0.2**
VNNZ	**Vanand**	**1.28**	**185**	*i* P	**Pn**	**03 44 18.4**	**-1.0**
VNNZ				*i* S	**Sn**	**03 44 37.0**	**+0.2**
PNSH	**Pansheti**	**1.34**	**21**	P	**Pn**	**03 44 19.6**	**-0.7**
PNSH				S	**Sn**	**03 44 38.4**	**+0.1**
GNI	**Garni**	**1.37**	**154**	*i* P	**Pn**	**03 44 20.7**	**+0.1**
GNI				*i* S	**Sn**	**03 44 39.4**	**+0.4**
GNI	**Garni**	**1.37**	**154**	PN	**Pn**	**03 44 20.3**	**-0.3**
GNI				SN	**Sn**	**03 44 39.3**	**+0.4**
ZEI	**Tsey**	**1.40**	**358**	*e*Pg	**Pn**	**03 44 20.9**	**-0.3**
ZEI				*e*Sg	**Sn**	**03 44 39.9**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.42**	**172**	PN	**Pn**	**03 44 20.2**	**-1.0**
LACR	**Lac**	**1.46**	**10**	*i* Pg	**Pg**	**03 44 22.8**	**-0.4**
LACR				*e*Sg	**Sn**	**03 44 41.5**	**+0.2**
NRKZ	**NAREK**	**1.48**	**159**	*i* P	**Pg**	**03 44 23.3**	**-0.2**
NRKZ				*i* S	**Sg**	**03 44 42.9**	**+0.2**
GDB	**GEDABAY**	**1.50**	**116**	P	**Pn**	**03 44 21.2**	**-1.3**
	SNR=13						
GDB				S	**Sn**	**03 44 40.5**	**-1.9**
IGDI	**IGDIR**	**1.52**	**177**	P	**Pn**	**03 44 22.0**	**-0.6**
IGDI				S	**Sn**	**03 44 42.0**	**-0.6**
IGDI				*i* AML	AML	03 44 43.0	
	comp=N,191nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.54**	**349**	*i* Pg	**Pg**	**03 44 24.0**	**-0.6**
DIGR				*e*Sg	**Sg**	**03 44 44.5**	**-0.2**
DAGI	**Agillar**	**1.58**	**259**	P	**Pn**	**03 44 23.6**	**+0.2**
DAGI				S	**Sg**	**03 44 44.8**	**-1.0**
DDFL	**Dedoflistskaro**	**1.62**	**87**	P	**Pb**	**03 44 25.4**	**+0.1**
DDFL	**Dedoflistskaro**	**1.62**	**87**	P	**Pb**	**03 44 25.4**	**+0.1**
DDFL				S	**Sg**	**03 44 50.3**	**+3.2**
DDFL				*i* AML	AML	03 44 54.0	
	comp=N,254nm,0.4s						
DDFL				*i* AML	AML	03 44 55.0	
	comp=E,317nm,0.4s						
KOTA	**Agri, Merkez-K**	**1.68**	**200**	P	**Pg**	**03 44 26.9**	**-0.5**
KOTA				*i* AML	AML	03 45 00.0	
	comp=E,37nm,1.3s						
KORR	**Kora**	**1.70**	**2**	*e*Pg	**Pg**	**03 44 27.1**	**-0.7**
KORR				*e*Sg	**Sg**	**03 44 50.5**	**+0.7**
DBOC	**Borcka**	**1.73**	**269**	P	**Pb**	**03 44 26.1**	**-1.1**
DBOC				S	**Sb**	**03 44 48.7**	**-0.4**
DBOC				*i* AML	AML	03 44 52.0	
	comp=E,258nm,0.3s						
VLKR	**Vladikavkaz**	**1.74**	**17**	*e*Pg	**Pg**	**03 44 27.9**	**-0.6**
VLKR				*e*Sg	**Sg**	**03 44 51.6**	**+0.5**
DDEM	**Demirkent**	**1.75**	**254**	P	**Pn**	**03 44 26.2**	**+0.4**
DDEM				S	**Sb**	**03 44 49.6**	**+0.1**
DDEM				*i* AML	AML	03 44 51.0	
	comp=E,357nm,0.3s						
DDEM				*i* AML	AML	03 44 52.0	
	comp=N,545nm,0.3s						
DBAD	**Bademkaya**	**1.75**	**259**	P	**Pn**	**03 44 26.3**	**+0.4**
DBAD				S	**Sb**	**03 44 49.2**	**-0.6**
DBAD				*i* AML	AML	03 44 50.0	
	comp=E,254nm,0.6s						
DBAD				*i* AML	AML	03 44 51.0	
	comp=N,238nm,0.3s						
HYR	**Heyderabad**	**1.80**	**158**	Pn	**Pb**	**03 44 27.6**	**-0.6**
	SNR=6.8						
HYR				Sn	**Sg**	**03 44 52.4**	**-0.4**
KMGR	**Komgaron**	**1.80**	**21**	*e*Pg	**Pb**	**03 44 28.5**	**+0.2**
KMGR				*e*Sg	**Sg**	**03 44 53.6**	**+0.7**
ARNR	**Ardon**	**1.81**	**7**	*e*Pg	**Pg**	**03 44 28.9**	**-0.9**
ARNR				*e*Sg	**Sg**	**03 44 53.1**	**-0.1**
DYDN	**Diyadin**	**1.85**	**187**	P	**Pn**	**03 44 27.9**	**+0.6**
EATA	**Eleskirt**	**1.89**	**217**	P	**Pb**	**03 44 30.2**	**+0.2**
LSNR	**Lesken**	**1.90**	**357**	*e*Pg	**Pb**	**03 44 30.0**	**+0.1**
LSNR				*e*Sg	**Sg**	**03 44 55.3**	**-0.7**
GANJ	**Ganja**	**1.93**	**112**	Pn	**Pn**	**03 44 28.4**	**+0.2**
	SNR=123						
GANJ				Sn	**Sn**	**03 44 53.1**	**+0.4**
CHVG	**Ch'k'valeri**	**1.93**	**314**	P	**Pg**	**03 44 31.0**	**-1.2**
CHVG				S	**Sg**	**03 44 56.6**	**-0.7**
STDR	**Stavd-Durt**	**1.98**	**2**	*e*Pg	**Pb**	**03 44 31.6**	**+0.1**
STDR				*e*Sg	**Sg**	**03 44 57.8**	**-1.1**
ZKTA	**Zakatala**	**2.01**	**82**	Pn	**Pn**	**03 44 29.8**	**+0.4**
	SNR=20						
ZKTA				Sn	**Sb**	**03 44 57.2**	**+0.2**
BTKR	**Batakoyurt**	**2.03**	**12**	*i* Pg	**Pb**	**03 44 32.4**	**+0.1**
HOMI	**Horasan**	**2.06**	**230**	P	**Pb**	**03 44 32.9**	**0.0**
NEY	**Neytrino**	**2.08**	**334**	*e*Pg	**Pb**	**03 44 32.4**	**-0.8**
NEY				*e*Sg	**Sb**	**03 44 58.6**	**-0.6**
BTLR	**Botlikh**	**2.11**	**52**	*e*Pg	**Pb**	**03 44 32.9**	**-0.7**
BTLR				*i* Sg	**Sb**	**03 45 01.1**	**+1.1**
KOPR	**Koprukoy-ERZUR**	**2.13**	**230**	PN	**Pn**	**03 44 31.6**	**+0.5**
NCK	**Nalchik**	**2.13**	**353**	*e*Pg	**Pb**	**03 44 34.0**	**+0.1**
NCK				*e*Sg	**Sb**	**03 45 00.3**	**-0.1**
CLDR	**Caldiran**	**2.24**	**181**	PN	**Pn**	**03 44 33.2**	**+0.5**
CLDR	**Caldiran**	**2.24**	**181**	P	**Pb**	**03 44 35.4**	**-0.5**
DVE	**Vedeno**	**2.25**	**45**	*e*Pn	**Pb**	**03 44 35.6**	**-0.4**
DVE				*e*Sn	**Sb**	**03 45 05.2**	**+1.4**
XNZR	**Khunzakh**	**2.35**	**60**	*e*Pn	**Pb**	**03 44 37.2**	**-0.5**
PRTR	**Priterechnaya**	**2.38**	**6**	*e*Pn	**Pg**	**03 44 42.2**	**+1.6**
PRTR				*i* Sn	**Sg**	**03 45 12.8**	**+1.4**
TRKR	**Terskaya**	**2.40**	**13**	*e*Pn	**Pg**	**03 44 42.8**	**+1.7**
TRKR				*e*Sn	**Sg**	**03 45 13.2**	**+0.9**
CHOM	**Cayeli-Rize**	**2.44**	**264**	PN	**Pn**	**03 44 36.1**	**+0.9**
MNGR	**Mingechevir, A**	**2.44**	**104**	Pn	**Pn**	**03 44 37.0**	**+1.8**
MNGR				Sn	**Sb**	**03 45 08.7**	**-0.5**
SEKA	**Sheki**	**2.44**	**93**	Pn	**Pn**	**03 44 35.7**	**+0.5**
SEKA				Sn	**Sb**	**03 45 09.6**	**+0.1**
GNBR	**Gunib**	**2.45**	**65**	*e*Pn	**Pb**	**03 44 38.3**	**-1.1**
GNBR				*e*Sn	**Sb**	**03 45 09.7**	**-0.1**
ERZM	**Erzurum**	**2.47**	**234**	PN	**Pn**	**03 44 36.6**	**+0.7**
ERZM	**Erzurum**	**2.47**	**234**	P	**Pb**	**03 44 39.5**	**-0.4**
KBZ	**Khabaz**	**2.47**	**342**	*i* Pn	**Pb**	**03 44 37.8**	**-1.9**
MLAZ	**Malazgirt-MUS**	**2.49**	**206**	PN	**Pn**	**03 44 36.4**	**+0.3**
NAX	**Nakhchivan**	**2.50**	**152**	Pn	**Pb**	**03 44 39.8**	**-0.5**
NAX				Sn	**Sg**	**03 45 14.2**	**-1.2**
KRIK	**Erzurum-spir**	**2.53**	**247**	P	**Pb**	**03 44 41.5**	**+0.6**
EJDE	**Erzurum, Palan**	**2.55**	**233**	PN	**Pn**	**03 44 37.5**	**+0.4**
BRDA	**Brd**	**2.68**	**114**	Pn	**Pn**	**03 44 40.1**	**+1.6**
BRDA				Sg	**Sb**	**03 45 15.6**	**-0.8**
AGDM	**Agdam**	**2.71**	**117**	Pn	**Pb**	**03 44 41.6**	**-2.1**
AGDM				Sg	**Sb**	**03 45 17.8**	**+0.7**
KIV	**Kislovodsk**	**2.74**	**340**	*e*Pn	**Pn**	**03 44 41.4**	**+2.0**
KIV				*e*Sn	**Sb**	**03 45 15.2**	**-2.8**
AKT	**Akhty**	**2.83**	**87**	*e*Pn	**Pb**	**03 44 43.7**	**-2.2**
AKT				*e*Sn	**Sb**	**03 45 18.9**	**-1.8**
ORD	**Ordubad**	**2.90**	**147**	Pn	**Pb**	**03 44 44.6**	**-2.5**
ORD				Sg	**Sb**	**03 45 25.5**	**+2.7**
VRTB	**Varto-Mus**	**2.94**	**222**	PN	**Pn**	**03 44 42.9**	**+0.7**
BAYT	**Aydıntepe-Bayb**	**3.06**	**252**	PN	**Pn**	**03 44 44.8**	**+0.8**
XNQ	**Khinaliq**	**3.15**	**92**	Pn	**Pn**	**03 44 46.2**	**+1.0**
XNQ				Sg	**Sb**	**03 45 29.7**	**-0.4**
QRD	**Qoradiz**	**3.20**	**126**	Pg	**Pn**	**03 44 48.9**	**+3.3**
QRD				Sg	**Sb**	**03 45 32.6**	**+1.3**
BLQ	**Beylaqan**	**3.20**	**120**	Pn	**Pn**	**03 44 47.4**	**+1.8**
BLQ				Sg	**Sb**	**03 45 32.2**	**+0.9**
QSAR	**Qusar**	**3.23**	**86**	Pn	**Pn**	**03 44 47.9**	**+1.8**
QSAR				Sg	**Sb**	**03 45 31.2**	**-1.0**
IML	**Ismayilli**	**3.24**	**99**	Pn	**Pn**	**03 44 48.0**	**+1.8**
IML				Sg	**Sb**	**03 45 30.5**	**-2.0**
YEDI	**Yedisu-Bingol**	**3.26**	**234**	PN	**Pn**	**03 44 47.4**	**+0.8**
QUBA	**Quba, Azerbaij**	**3.41**	**89**	Pn	**Pn**	**03 44 49.9**	**+1.3**
PQL	**Pirkuli**	**3.55**	**98**	Pn	**Pn**	**03 44 52.7**	**+2.1**
PQL				Sg	**Sb**	**03 45 42.0**	**+0.6**
RPOR	**Krasnaya Polya**	**3.58**	**311**	*e*Pn	**Pn**	**03 44 52.8**	**+1.9**
SIZA	**Siyzn**	**3.73**	**93**	Pn	**Pn**	**03 44 55.1**	**+2.1**
SIZA				Sg	**Sg**	**03 45 53.5**	**-1.4**
GUZR	**Guzeripl'**	**3.85**	**314**	*i* Pn	**Pn**	**03 44 56.2**	**+1.5**
GUZR				*e*Sn	**Sn**	**03 45 42.2**	**+2.0**
YRD	**Yardimli**	**4.10**	**126**	Pn	**Pn**	**03 45 00.5**	**+2.3**
YRD				Sg	**Sb**	**03 46 00.0**	**+2.7**
LRK	**Lerik**	**4.33**	**128**	Pn	**Pn**	**03 45 06.1**	**+4.7**
LRK				Sg	**Sb**	**03 46 07.4**	**+3.4**

*IDC **02** 03:47:51.0±1.1,26.13N×128.56E,h0^{km},mb3.7/7, mb1 3.8/7,mb1mx3.6/49,mbtmp3.7/7,MS3.1/1,Ms1 3.1/1, ms1mx2.4/87,Error ellipse: s-maj=56.4km s-min=14.2km az=72.0*
*JMA **02** 03:47:54.5±0.2,26.13N×128.68E,h37^{km}±4^{km},M3.3*
ISC 02 03:47:51.2±2.1**,26.10N**±0.05×**128.73E**±0.04**,h7**^{km}±13^{km}**, n20,**σ1§**32**/31**,mb3.9**/7**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.76**	**303**	P	**Pn**	**03 48 07.8**	**-0.5**
JNTH				S	**Sn**	**03 48 17.6**	**-2.5**
JOW	**Kunigami**	**0.84**	**331**	Pn	**Pn**	**03 48 08.7**	**-0.8**
	173nm,0.3s,baz=140,slow=17,SNR=364						
JOW				Sn	**Sn**	**03 48 20.1**	**-1.9**
	331nm,0.3s,baz=148,slow=16,SNR=19						
JOW	**Kunigami**	**0.84**	**331**	P	**Pn**	**03 48 09.3**	**-0.1**
JOW				S	**Sn**	**03 48 20.1**	**-1.9**
JJT3	**Tamagusuku3**	**0.85**	**273**	P	**Pn**	**03 48 09.8**	**+0.2**
JJT3				*e*S	**Sn**	**03 48 20.4**	**-1.9**
JYRO	**Yoronjima**	**0.95**	**345**	P	**Pn**	**03 48 11.0**	**0.0**
JYRO				S	**Sn**	**03 48 23.6**	**-1.3**
JIH	**Iheya**	**1.16**	**324**	P	**Pn**	**03 48 14.3**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIH				eS	Sn	03 48 29.0	-0.8
JOKE	**Okinoerabujima**	**1.26**	**354**	P	**Pn**	**03 48 15.9**	**+0.6**
JOKE				eS	**Sb**	**03 48 31.5**	**-0.4**
JAGN	**Aguni-jima**	**1.42**	**290**	P	**Pg**	**03 48 18.1**	**-0.4**
JAGN				eS	**Sn**	**03 48 35.5**	**-0.9**
JTK	**Tokunoshima**	**1.69**	**7**	P	**Pn**	**03 48 21.8**	**+0.6**
JTK				eS	**Sn**	**03 48 41.5**	**-1.6**
JKE	**Kume jima 2**	**1.76**	**278**	P	**Pn**	**03 48 22.0**	**-0.1**
JKE				eS	**Sn**	**03 48 42.9**	**-1.9**
JMZ	**Minamidaito 2**	**2.26**	**97**	P	**Pn**	**03 48 28.7**	**-0.3**
JMZ				S	**Sn**	**03 48 54.3**	**-2.8**
JKDJ	**Kitadaitoujima**	**2.31**	**93**	P	**Pn**	**03 48 29.7**	**0.0**
JKDJ				eS	**Sn**	**03 48 56.2**	**-2.3**
SIJI	**Sorong**	**26.92**	**174**	LR	LR	04 01 53.0	
	comp=Z,44nm,20.0s,baz=154,slow=31						
SONM	**Songino Array**	**27.91**	**327**	P	**P**	**03 53 42.9**	**+1.0**
	1.3nm,0.6s,baz=139,slow=10,SNR=11						
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**03 55 42.7**	**0.0**
	0.7nm,0.6s,baz=98,slow=11,SNR=9.6						
WRA	**Warramunga Arr**	**46.09**	**173**	P	**P**	**03 56 16.6**	**+0.6**
	0.8nm,0.6s,baz=354,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**49.73**	**174**	P	**P**	**03 56 45.4**	**+1.2**
	0.4nm,0.5s,baz=7.8,slow=12,SNR=5.9						
AKASG	**Malin Array Be**	**75.92**	**320**	P	**P**	**03 59 38.4**	**-0.2**
	0.4nm,0.4s,baz=60,slow=6.4,SNR=5.4						
BRTR	**Keskin Array B**	**77.47**	**308**	P	**P**	**03 59 47.8**	**+0.1**
	0.7nm,0.5s,baz=101,slow=4.6,SNR=1.7						
YKA	**Yellowknife Ar**	**78.45**	**25**	P	**P**	**03 59 54.2**	**+1.6**
	0.1nm,0.7s,baz=302,slow=5.8,SNR=1.9						

*IDC **02** 03:55:29.7±2.8, 33°.07S×178°.34W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.7/35, mbtmp4.1/4, ML3.6/1, Error ellipse: s-maj=62.1km s-min=35.2km az=118.0*
*NEIC **02** 03:55:30.3±1.5, 33°.35S±0°.07×178°.3W±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=21.2km s-min=11.8km az=81.0*
ISC 02 03:55:33.4±1.2**, 33°.3S**±0°.1×**178°.2W**±0°.2**, h34**km**, n19, σ1s.39**/21**, mb4.5**/8**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.24**	**216**	Pn	**Pn**	**03 57 04.7**	**+1.7**
	1.3nm,0.3s,baz=243,slow=5.9,SNR=17						
URZ				Sn	**Sn**	**03 58 16.3**	**+3.2**
	6.4nm,0.3s,baz=163,slow=18,SNR=13						
URZ	**Urewera**	**6.24**	**216**	Pn	**Pn**	**03 57 02.6**	**-0.4**
URZ				Sn	**Sn**	**03 58 12.1**	**-1.1**
BKZ	**Black Stump Fm**	**7.25**	**214**	Pn	**Pn**	**03 57 16.3**	**-0.7**
BFZ	**Birch Farm**	**8.60**	**209**	Pn	**Pn**	**03 57 33.1**	**-2.4**
ARMA	**Armidale**	**25.71**	**268**	P	**P**	**04 00 58.9**	**-1.8**
ARMA				IAmb	IAmb	04 01 06.3	
	comp=Z,24nm,1.4s						
EIDS	**Eidsvold**	**27.81**	**278**	P	**P**	**04 01 17.8**	**-1.7**
EIDS				IAmb	IAmb	04 01 45.3	
	comp=Z,18nm,1.2s						
CTA	**Charters Tower**	**34.17**	**284**	P	**P**	**04 02 17.1**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=96,slow=9.3,SNR=2.2						
COEN	**Coen**	**39.95**	**289**	P	**P**	**04 03 05.6**	**+0.9**
ASAR	**Alice Springs**	**42.83**	**270**	P	**P**	**04 03 29.1**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=107,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**42.83**	**270**	P	**P**	**04 03 28.7**	**+0.3**
WB2	**Warramunga Arr**	**44.07**	**275**	P	**P**	**04 03 37.7**	**-0.6**
WB2				IAmb	IAmb	04 03 39.3	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**04 03 38.1**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=113,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**04 03 37.8**	**-0.7**
WB0	**Warramunga Arr**	**44.12**	**276**	P	**P**	**04 03 37.9**	**-0.8**
WB0				IAmb	IAmb	04 03 51.1	
	comp=Z,5.2nm,0.7s						
MTN	**Manton Dam**	**50.29**	**281**	P	**P**	**04 04 25.8**	**-1.0**
SNAA	**Sanae**	**75.29**	**178**	P	**P**	**04 07 12.6**	**0.0**
SNAA				IAmb	IAmb	04 07 41.9	
	comp=Z,14nm,1.4s						
F10A	**Beach Ranch, E**	**96.22**	**38**	P	**P**	**04 08 58.9**	**+1.0**
FINES	**FINESS Array B**	**147.76**	**338**	PKPbc	**PKPbc**	**04 15 14.2**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=66,slow=4.6,SNR=10						
FINES	**FINESS Array B**	**147.76**	**338**		**PKPbc**	**04 15 13.3**	**-0.5**

*IDC **02** 03:59:23.9±5.2, 8°.53S×118°.92E, h144km±47km, mb3.5/4, mb1 3.5/8, mb1mx3.2/42, mbtmp3.9/8, MS3.6/2, Ms1 3.6/2, ms1mx2.6/43, Error ellipse: s-maj=100.4km s-min=16.3km az=63.0*
*DJA **02** 03:59:24.8±0.3, 9°S±4°×11°9E±°, h136km±4km, M4.2/13, mb4.1/6, mB4.9/1, MLv4.2/13, Mw(mB)4.2/1*
ISC 02 03:59:23.9±0.8**, 8°.66S**±0°.07×**119°.08E**±0°.06**, h156**km**, n22, σ1s.26**/24**, mb4.1**/3**, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.02**	**162**	P	**Pn**	**03 59 49.7**	**+0.2**
WBSI				S	**Sn**	**04 00 08.6**	**-0.6**
PLAI	**Plampang**	**1.29**	**263**	P	**Pn**	**03 59 52.1**	**+0.2**
PLAI				S	**Sn**	**04 00 12.0**	**-1.3**
BASI	**Baing, Sumba**	**2.14**	**136**	P	**Pn**	**04 00 02.2**	**+1.1**
BSSI	**Bau Bau, Buton**	**2.87**	**29**	P	**Pn**	**04 00 09.6**	**-0.3**
BKSI	**Bulukumba**	**3.48**	**17**	P	**Pn**	**04 00 17.9**	**+0.3**
KAPI	**Kappang**	**3.69**	**11**	P	**Pn**	**04 00 19.7**	**-0.6**
	1.7nm,0.3s,baz=200,slow=5.7,SNR=8.7						
SRBI	**Singaraja**	**3.86**	**278**	P	**Pn**	**04 00 23.6**	**+1.0**
IGBI	**Denpasar**	**3.89**	**267**	P	**Pn**	**04 00 23.4**	**+0.5**
BATI	**Baumata**	**4.78**	**109**	P	**Pn**	**04 00 36.5**	**+1.8**
	30nm,0.3s,baz=303,slow=8.1,SNR=7.3						
BATI				S	**Sn**	**04 01 30.0**	**+0.3**
	64nm,0.3s,baz=166,slow=21,SNR=11						
BATI	**Baumata**	**4.78**	**109**	P	**Pn**	**04 00 36.3**	**+1.7**
JAGI	**Jajag, Banyuwa**	**4.87**	**272**	P	**Pn**	**04 00 34.4**	**-1.4**
PWJI	**Pagerwojo**	**7.22**	**275**	P	**Pn**	**04 01 07.7**	**+0.7**
	0.1nm31nm,1.3s						
PCJI	**Pacitan**	**7.83**	**273**	P	**Pn**	**04 01 16.4**	**+1.3**
	0.2nm24nm,2.5s						
FITZ	**Fitzroy Crossi**	**11.35**	**146**	P	**Pn**	**04 02 02.6**	**+1.0**
	1.5nm,0.3s,baz=343,slow=8.6,SNR=64						
FITZ				S	**Sn**	**04 04 04.1**	**-3.1**
	1.0nm,0.3s,baz=201,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**18.54**	**129**	P	**Pn**	**04 03 30.8**	**-0.2**
	0.2nm,0.3s,baz=304,slow=12,SNR=4.6						
WRA				S	**S**	**04 06 50.8**	**-1.4**
	0.5nm,0.3s,baz=319,slow=26,SNR=8.0						
ASAR	**Alice Springs**	**20.60**	**138**	P	Pn	04 03 55.6	+0.5
	0.4nm,0.3s,baz=316,slow=10,SNR=7.2						
ASAR				S	Sn	04 07 42.8	-6.0
	0.5nm,0.6s,baz=315,slow=24,SNR=5.3						
JHJ	**Hachijo jima 2**	**45.99**	**24**	LR	LR	04 26 36.2	
	comp=Z,175nm,21.4s,baz=318,slow=36						
USRK	**Ussuriysk Ar.**	**53.90**	**11**	LR	LR	04 30 50.4	
	comp=Z,24nm,20.9s,baz=29,slow=35						
MKAR	**Makanchi Array**	**64.19**	**333**	P	**P**	**04 09 42.8**	**+0.8**
	1.7nm,0.6s,baz=152,slow=9.0,SNR=8.0						
KURBB	**Kurchatov Arra**	**68.70**	**334**	P	**P**	**04 10 09.9**	**-0.6**
	0.6nm,0.6s,baz=140,slow=5.5,SNR=7.2						
ZALV	**Zalesovo Beam**	**68.75**	**339**	P	**P**	**04 10 10.4**	**-0.3**
	1.5nm,0.5s,baz=137,slow=4.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**118.47**	**280**	PKP	**PKiKP**	**04 17 56.0**	**+1.9**
	0.2nm,0.5s,baz=69,slow=2.0,SNR=4.5						

*IDC **02** 04:03:46.8±1.2, 26°.43N×95°.35E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/36, mbtmp3.6/7, ML4.4/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/76, Error ellipse: s-maj=61.9km s-min=17.9km az=64.0*
*NDI **02** 04:03:50.7±3.0, 26°.73N×95°.31E, h12km±9km, ML3.9, mb4.1(NEIC)*
*NEIC **02** 04:03:50.4±1.0, 26°.48N±0°.09×95°.4E±0°.1, h22km±7km, mb4.1/8, Error ellipse: s-maj=15.0km s-min=12.2km az=52.0*
ISC 02 04:03:48.5±0.8**, 26°.69N**±0°.06×**95°.41E**±0°.05**, h10**km**, n32, σ2s.09**/30**, mb4.1**/10**, MS3.0**/4**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOKO	**MOKOCHONG**	**0.88**	**246**	eP	**Pg**	**04 04 06.7**	**+1.2**
MOKO				IAML		04 04 23.9	
	comp=E,4μm,0.3s						
JORH	**JORHAT**	**1.04**	**273**	eP	**Pb**	**04 04 09.3**	**+0.8**
JORH				eS	**Sb**	**04 04 22.5**	**+0.3**
KOHI	**KOHIMA**	**1.51**	**231**	eP	**Pn**	**04 04 17.8**	**+2.0**
KOHI				eS	**Sb**	**04 04 37.5**	**+1.5**
KOHI				IAML		04 04 41.4	
	comp=E,5μm,0.5s						
ITAN	**ITANAGAR**	**1.57**	**287**	eP	**Pg**	**04 04 19.2**	**+0.5**
ITAN				eS	**Sg**	**04 04 38.4**	**-0.7**
IMP	**Imphal**	**2.27**	**216**	eP	**Pn**	**04 04 27.9**	**+1.8**
SILR	**SILCHAR**	**3.02**	**232**	eS	**Sn**	**04 05 14.7**	**+2.1**
SHL	**Shillong**	**3.36**	**251**		**Pn**	**04 04 40.8**	**-0.4**
SHL	**Shillong**	**3.36**	**251**	eP	**Pn**	**04 04 40.8**	**-0.4**
SHL				i x	x	04 04 50.2	
SHL				IAML		04 05 19.5	
	comp=N,456nm,0.4s						
SHL				eS	**Sn**	**04 05 19.6**	**-1.6**
SHL				IAML		04 05 20.2	
	comp=E,663nm,0.4s						
SHL				i x	x	04 05 33.0	
GUWA	**GUWAHATI**	**3.37**	**262**	ex	x	04 04 51.8	
GTK	**Tadong**	**6.11**	**277**	eS	**Sn**	**04 06 22.8**	**-6.2**
GTK				IAML		04 06 23.8	
	comp=E,122nm,0.6s						
CMAR	**Chiang Mai Arr**	**8.81**	**158**	Pn	Pn	04 05 53.0	-3.0
	comp=E,1.2nm,0.3s,baz=330,slow=12,SNR=1.7						
CMAR				LR	LR	04 09 45.4	
	comp=E,41nm,19.3s,baz=320,slow=42						
CMAR	**Chiang Mai Arr**	**8.81**	**158**		Pn	04 05 53.3	-2.7
PBA	**Port Blair**	**15.16**	**190**	Pn	**Pn**	**04 07 20.5**	**-2.3**
KULM	**Kulim**	**21.86**	**166**	P	**P**	**04 08 39.1**	**-2.2**
KULM				IAmb	IAmb	04 08 52.4	
	comp=Z,19nm,1.3s						
MK31	**Makanchi Array**	**22.60**	**336**	P	**P**	**04 08 50.9**	**+1.7**
MKAR	**Makanchi Array**	**22.60**	**336**	P	**P**	**04 08 51.7**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=144,slow=9.6,SNR=4.7						
MKAR				LR	LR	04 19 24.2	
	comp=Z,38nm,21.5s,baz=357,slow=41						
MKAR	**Makanchi Array**	**22.60**	**336**	P	**P**	**04 08 50.9**	**+1.7**
SONM	**Songino Array**	**22.80**	**19**	P	**P**	**04 08 53.7**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=195,slow=10,SNR=6.2						
SONM	**Songino Array**	**22.80**	**19**	P	**P**	**04 08 52.4**	**+0.9**
KURBB	**Kurchatov Arra**	**27.17**	**336**	P	**P**	**04 09 35.4**	**+3.5**
	comp=Z,0.2nm,0.5s,baz=150,slow=9.6,SNR=1.9						
KURK	**Kurchatov**	**27.21**	**336**	P	**P**	**04 09 34.7**	**+2.4**
KURK				IAmb	IAmb	04 09 44.9	
	comp=Z,2.8nm,1.1s						
JOW	**Kunigami**	**29.30**	**82**	LR	LR	04 21 29.4	
	comp=Z,38nm,18.2s,baz=244,slow=36						
KSRS	**Korea Array**	**29.44**	**60**	LR	LR	04 23 11.5	
	comp=Z,25nm,19.7s,baz=25,slow=39						
FITZ	**Fitzroy Crossi**	**53.32**	**143**	P	**P**	**04 13 06.4**	**-1.6**
FITZ				IAmb	IAmb	04 13 28.6	
	comp=Z,4.6nm,1.4s						
PSA00	**Pilbara Seismi**	**53.49**	**151**	P	**P**	**04 13 07.3**	**-1.8**
PSA00				IAmb	IAmb	04 13 09.4	
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**57.08**	**328**	P	**P**	**04 13 34.5**	**-0.1**
	comp=Z,3.2nm,1.0s,baz=103,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**57.08**	**328**	P	**P**	**04 13 35.1**	**+0.5**
WB0	**Warramunga Arr**	**59.68**	**137**	P	**P**	**04 13 52.4**	**-0.9**
WRA	**Warramunga Arr**	**59.78**	**137**	P	**P**	**04 13 52.7**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=322,slow=7.5,SNR=17						
WB2	**Warramunga Arr**	**59.79**	**137**	P	**P**	**04 13 52.3**	**-1.7**
ASAR	**Alice Springs**	**62.37**	**140**	P	**P**	**04 14 10.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=321,slow=6.9,SNR=7.3						
KEST	**Kesra**	**71.96**	**301**	LR	LR	04 55 32.0	
	comp=Z,75nm,18.3s,baz=246,slow=43						

*VAO **02** 04:09:22.3±0.8, 6°.59S×77°.90W, h10km, mb4.3*
*IDC **02** 04:09:50.6±15.0, 2°.99S×75°.71W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/22, mbtmp3.4/3, Error ellipse: s-maj=599.4km s-min=40.4km az=28.0*
ISC 02 04:09:35.7±1.8**, 6°.9S**±0°.3×**76°.9W**±0°.2**, h35**km**, n12, σ1s.01**/11**, mb3.3**/3**, Northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBTG	**Tabatinga, AM**	**7.45**	**69**	eP	**Pn**	**04 11 23.1**	**+1.1**
MACA	**Manacapuru-AM**	**16.55**	**78**	eP	**Pn**	**04 13 25.3**	**-0.1**
BOAV	**Boa Vista**	**18.76**	**61**	eP	**P**	**04 13 50.2**	**-1.8**
PDRB	**Porto dos Gac**	**20.42**	**105**	eP	**P**	**04 14 11.2**	**+1.1**
CLDB	**Colider**	**21.19**	**102**	eP	**P**	**04 14 18.6**	**+0.1**
MALB	**Monte Alegre**	**23.09**	**78**	eP	**P**	**04 14 37.6**	**-1.1**
MCPB	**Macapa, AP**	**25.60**	**76**	eP	**P**	**04 15 01.6**	**-0.4**
SNDB	**Serra Nova Dou**	**25.72**	**103**	eP	**P**	**04 15 02.6**	**-0.5**
SDBA	**SAO DESIDERIO**	**31.97**	**102**	eP	**P**	**04 15 58.3**	**-0.6**
TXAR	**Lajitas Array**	**44.31**	**326**	P	**P**	**04 17 42.4**	**-0.2**
	0.1nm,0.3s,baz=130,slow=12,SNR=2.4						
YKA	**Yellowknife Ar**	**75.01**	**343**	P	**P**	**04 21 14.0**	**+0.7**
	0.2nm,0.6s,baz=132,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**80.53**	**75**	P	P	04 21 54.1	+9.0
	0.6nm,1.0s,baz=274,slow=5.1,SNR=6.2						

*IDC **02** 04:17:15.3±1.0, 42°.85N×96°.37E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/51, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=27.4km s-min=19.7km az=41.0*
ISC 02 04:17:16.8±0.7**, 42°.75N**±0°.06×**96°.35E**±0°.06**, h10**km**, n13, σ1s.98**/18**, mb3.5**/4**, Gansu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.24**	**141**	Pn	**Pn**	**04 18 24.0**	**+2.5**
GTA				Pg	**Pb**	**04 18 33.7**	**+2.2**
GTA				Sn	**Sn**	**04 19 08.3**	**-2.8**
GTA				Sg	**Sg**	**04 19 29.8**	**-3.1**
GTA				smax	smax		
	comp=N,57nm,0.8s						
GTA				smax	smax		
	comp=E,50nm,0.9s						
GTA				LR	LR		
	comp=N,160nm,6.0s						
GTA				LR	LR		
	comp=E,160nm,7.2s						
GTA				LR	LR		
	comp=Z,150nm,8.0s						
WMQ	**Urumqi**	**6.41**	**283**	ePn	**Pn**	**04 18 51.9**	**+0.7**
WMQ				Sn	**Sn**	**04 20 03.8**	**-0.6**
WMQ				smax	smax		
	comp=N,68nm,0.7s						
WMQ				smax	smax		
	comp=E,45nm,0.9s						
GOMU	**GeErMu**	**6.65**	**191**	Pn	**Pn**	**04 18 57.6**	**+2.8**
GOMU				Pg	**Pg**	**04 19 21.8**	**-2.2**
GOMU				Sn	**Sg**	**04 20 50.6**	**+0.5**
GOMU				Sg	Sb	04 20 59.5	+27
GOMU				smax	smax		
	comp=N,19nm,0.8s						
GOMU				smax	smax		
	comp=E,36nm,0.8s						
SONM	**Songino Array**	**8.72**	**51**	Pn	**Pn**	**04 19 23.7**	**+0.8**
	comp=E,1.0nm,0.3s,baz=232,slow=15,SNR=30						
SONM				Lg	Lg	04 21 46.7	
	comp=E,2.1nm,0.3s,baz=233,slow=31,SNR=7.0						
LZH	**Lanzhou**	**8.82**	**136**	eP	**Pn**	**04 19 25.1**	**+0.6**
LZH				pmax	pmax		
	comp=Z,12nm,1.5s						
MKAR	**Makanchi Array**	**10.78**	**297**	Pn	**Pn**	**04 19 50.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=98,slow=15,SNR=23						
ZALV	**Zalesovo Beam**	**13.56**	**330**	Pn	**Pn**	**04 20 26.8**	**-2.1**
	baz=139,slow=11,SNR=2.0						
KURBB	**Kurchatov Arra**	**14.52**	**309**	Pn	**Pn**	**04 20 39.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=114,slow=14,SNR=4.6						
BVAR	**Borovoye Array**	**20.11**	**310**	P	Pn	04 21 49.8	-2.5
	comp=Z,2.0nm,0.7s,baz=124,slow=8.9,SNR=8.2						
WRA	**Warramunga Arr**	**71.53**	**142**	P	**P**	**04 28 38.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=337,slow=5.7,SNR=1.9						
YKA	**Yellowknife Ar**	**72.20**	**15**	P	**P**	**04 28 41.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=334,slow=5.6,SNR=3.0						
ASAR	**Alice Springs**	**74.61**	**145**	P	**P**	**04 28 56.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=331,slow=5.8,SNR=5.7						
STKA	**Stephens Creek**	**85.08**	**143**	P	**P**	**04 29 52.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=337,slow=14,SNR=4.2						

*IDC **02** 04:29:52.0±2.0, 0°.01S×125°.88E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/49, mbtmp3.1/3, Error ellipse: s-maj=180.5km s-min=26.7km az=65.0*
*DJA **02** 04:29:55.5±1.2, 0°N±5°×12°7E±°, h13km±12km, M3.1/7, MLv3.1/7*
ISC 02 04:29:54.4±1.0**, 0°.15N**±0°.09×**126°.63E**±0°.07**, h10**km**, n8, σ2s.26**/8**, mb3.2**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**50**	P	**Pg**	**04 30 13.2**	**+0.3**
LBMI	**Labuha**	**1.17**	**132**	P	**Pn**	**04 30 18.5**	**+1.7**
SANI	**Sanana**	**2.28**	**196**	P	**Pn**	**04 30 33.4**	**+1.3**
GTOI	**Gorontalo**	**3.66**	**278**	P	**Pn**	**04 30 54.7**	**+3.6**
LUWI	**Luwuk**	**4.04**	**253**	P	**Pn**	**04 30 56.1**	**-0.3**
WRA	**Warramunga Arr**	**21.35**	**160**	P	**P**	**04 34 42.1**	**+0.2**
	0.1nm,0.3s,baz=336,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**24.70**	**164**	P	**P**	**04 35 15.8**	**-0.2**
	0.4nm,0.7s,baz=346,slow=9.6,SNR=5.9						
MKAR	**Makanchi Array**	**60.45**	**326**	P	**P**	**04 40 01.6**	**-2.8**
	0.1nm,0.3s,baz=120,slow=6.4,SNR=5.8						

*AUST **02** 04:36:27.7±1.0, 33°.48S×117°.71E, h15km, Error ellipse: s-maj=12.3km s-min=9.8km az=117.0*
*CUPWA **02** 04:36:28.7±2.4, 33°.37S×117°.65E, h5km±55km, Region: WESTERN AUSTRALIA*
ISC 02 04:36:29.0±1.2**, 33°.42S**±0°.03×**117°.71E**±0°.05**, h33**km±5km**, n20, σ1s.51**/32**, Western Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNOW	**Gnowangerup**	**0.48**	**161**	i P	**Pb**	**04 36 39.1**	**-0.2**
GNOW				i S	**Sb**	**04 36 46.9**	**+0.6**
AUKUL	**Kulin High Sch**	**0.83**	**26**	i P	**Pn**	**04 36 44.4**	**0.0**
AUKUL				i S	**Sb**	**04 36 55.4**	**-0.7**
PING	**Pingelly**	**1.09**	**326**	P	**Pn**	**04 36 48.2**	**+0.1**
PING				i S	**Sn**	**04 37 02.6**	**+0.6**
RKGY	**Rocky Gully**	**1.33**	**207**	P	**Pn**	**04 36 51.5**	**+0.2**
	baz=1.3,SNR=15						
RKGY				S	**Sn**	**04 37 08.2**	**+0.3**
	baz=1.3,SNR=8.3						
RKGY	**Rocky Gully**	**1.33**	**207**	P	**Pn**	**04 36 51.4**	**+0.1**
RKGY				S	**Sn**	**04 37 08.2**	**+0.3**
QUAI	**Quairading**	**1.43**	**349**	S	**Sb**	**04 37 13.1**	**+0.1**
KLBR	**Kellerberrin**	**1.82**	**1**	P	**Pn**	**04 37 00.2**	**+2.1**
	baz=1.9,SNR=29						
KLBR				S	**Sb**	**04 37 23.9**	**-0.4**
	baz=1.9,SNR=22						
KLBR	**Kellerberrin**	**1.82**	**1**	P	**Pn**	**04 37 00.2**	**+2.1**
KLBR				S	**Sb**	**04 37 23.9**	**-0.4**
MUN	**Mundaring**	**1.92**	**318**	P	**Pn**	**04 37 00.8**	**+1.4**
	baz=2.0,SNR=10						
MUN				S	**Sb**	**04 37 25.6**	**-1.3**
	baz=2.0,SNR=7.7						
MUN	**Mundaring**	**1.92**	**318**	P	**Pn**	**04 37 00.8**	**+1.4**
MUN				S	**Sb**	**04 37 25.6**	**-1.3**
BLDU	**Ballidu**	**2.92**	**343**	P	**Pn**	**04 37 14.2**	**+1.0**
	baz=3.0,SNR=7.6						
BLDU	**Ballidu**	**2.92**	**343**	P	**Pn**	**04 37 14.2**	**+1.0**
KMBL	**Kambalda**	**4.08**	**61**	P	**Pn**	**04 37 31.4**	**+2.3**
	baz=4.1						
KMBL				S	**Sn**	**04 38 18.1**	**+2.3**
	baz=4.1						
KMBL	**Kambalda**	**4.08**	**61**	P	**Pn**	**04 37 31.4**	**+2.3**
MORW	**Morawa**	**4.57**	**341**	P	**Pn**	**04 37 36.9**	**+1.1**
	baz=4.6						
MORW	**Morawa**	**4.57**	**341**	P	**Pn**	**04 37 36.9**	**+1.1**
MEEK	**Meekatharra**	**6.81**	**7**	P	**Pn**	**04 38 08.4**	**+1.8**
	baz=6.9						
MEEK				S	**Sn**	**04 39 21.1**	**-1.9**
	baz=6.9						
MEEK	**Meekatharra**	**6.81**	**7**	P	**Pn**	**04 38 08.4**	**+1.8**
FORT	**Forrest**	**9.16**	**76**	P	**Pn**	**04 38 39.9**	**+1.0**
	baz=9.2						
FORT				S	**Sn**	**04 40 17.2**	**-3.7**
	baz=9.2						
WRKA	**Warakurna**	**12.45**	**51**	P	**Pn**	**04 39 23.2**	**-0.8**
	baz=12						

*IDC **02** 04:40:10.8±2.8, 32°.95S×178°.56W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/35, mbtmp3.9/3, ML3.7/1, MS3.5/2, Ms1 3.4/2, ms1mx2.7/54, Error ellipse: s-maj=67.3km s-min=35.3km az=117.0*
*WEL **02** 04:40:13.9±0.9, 33°S±10°×17°9W±2°5, h33km, M4.3/7, mB4.7/4, ML4.7/12, MLv4.4/7, Mw(mB)4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5*
ISC 02 04:40:13.0±2.0**, 33°.0S**±0°.1×**178°.1W**±0°.3**, h35**km**, n22, σ1s.21**/34**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.75**	**3**	P	**Pn**	**04 41 09.8**	**+1.5**
GLKZ				S	**Sn**	**04 41 48.9**	**-2.2**
PKGZ	**Pakihiroa**	**5.76**	**211**	P	**Pn**	**04 41 35.9**	**-0.3**
PKGZ				S	**Sn**	**04 42 40.6**	**-0.4**
HAZ	**Te Kaha**	**5.79**	**214**	P	**Pn**	**04 41 37.4**	**+1.0**
HAZ				S	**Sn**	**04 42 44.3**	**+2.7**
PUZ	**Puketiti**	**5.84**	**209**	P	**Pn**	**04 41 34.2**	**-3.0**
PUZ				S	**Sn**	**04 42 42.9**	**0.0**
RUGZ	**Raukumara Rang**	**6.01**	**214**	P	**Pn**	**04 41 39.9**	**+0.4**
RUGZ				S	**Sn**	**04 42 47.2**	**+0.1**
CNGZ	**Carnagh Statio**	**6.22**	**208**	P	**Pn**	**04 41 42.1**	**-0.2**
MWZ	**Matawai**	**6.38**	**212**	P	**Pn**	**04 41 44.7**	**+0.2**
MWZ				S	**Sn**	**04 42 56.8**	**+0.8**
URZ	**Urewera**	**6.51**	**215**	Pn	**Pn**	**04 41 46.0**	**-0.2**
	1.5nm,0.3s,baz=242,slow=4.1,SNR=21						
URZ				Sn	**Sn**	**04 42 58.0**	**-1.3**
	2.1nm,0.3s,baz=145,slow=20,SNR=6.6						
URZ	**Urewera**	**6.51**	**215**	P	**Pn**	**04 41 46.1**	**-0.2**
URZ				S	**Sn**	**04 42 58.4**	**-0.9**
RIGZ	**Rimuhau**	**6.59**	**209**	P	**Pn**	**04 41 47.4**	**0.0**
RIGZ				S	**Sn**	**04 43 02.1**	**+0.8**
MUGZ	**Murupara**	**6.85**	**216**	P	**Pn**	**04 41 51.4**	**+0.5**
MUGZ				S	**Sn**	**04 43 06.7**	**-1.0**
RTZ	**Ruatahuna**	**6.86**	**214**	P	**Pn**	**04 41 51.2**	**+0.1**
RAHZ	**Arahi**	**7.05**	**212**	P	**Pn**	**04 41 54.5**	**+0.8**
RAHZ				S	**Sn**	**04 43 10.4**	**-2.2**
MTHZ	**Maungataniwha**	**7.11**	**214**	P	**Pn**	**04 41 55.3**	**+0.8**
NMHZ	**Naumai**	**7.33**	**213**	P	**Pn**	**04 41 59.2**	**+1.6**
NMHZ				S	**Sn**	**04 43 20.3**	**+0.9**
KWHZ	**Kaweka Forest**	**7.76**	**213**	P	**Pn**	**04 42 03.3**	**-0.2**
KWHZ				S	**Sn**	**04 43 28.3**	**-2.0**
OTVZ	**Oturere**	**7.93**	**218**	P	**Pn**	**04 42 06.6**	**+0.7**
OTVZ				S	**Sn**	**04 43 33.5**	**-0.9**
DZM	**Mont Dzumac**	**17.47**	**305**	LR	LR	04 49 20.3	
	comp=Z,193nm,19.5s,baz=248,slow=32						
STKA	**Stephens Creek**	**33.87**	**261**	LR	LR	05 00 44.3	
	comp=Z,59nm,18.4s,baz=90,slow=37						
ASAR	**Alice Springs**	**42.92**	**270**	P	**P**	**04 48 08.6**	**0.0**
	0.8nm,0.7s,baz=110,slow=7.3,SNR=8.3						
WRA	**Warramunga Arr**	**44.15**	**275**	P	**P**	**04 48 18.4**	**-0.1**
	1.5nm,0.5s,baz=114,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**147.54**	**338**	PKPbc	**PKPab**	**04 59 54.8**	**-0.1**
	1.8nm,0.6s,baz=34,slow=4.3,SNR=11						

DJA 02 05:00:36.4±0.4**, 8°S**±5°×**12°4E**±°**, h268**km±5km**, M3.9**/8**, mb3.9**/6**, mB4.8**/2**, MLv3.9**/8**, Mw(mB)4.1**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.66**	**229**	P	Pn	05 01 17.3	-0.4
BATI	**Baumata**	**2.66**	**177**	P	Pn	05 01 26.0	-0.6
BSSI	**Bau Bau, Buton**	**3.29**	**295**	P	Pn	05 01 34.3	+1.2
BASI	**Baing, Sumba**	**3.93**	**227**	P	Pn	05 01 39.8	-0.5
WBSI	**Waikabubak, Su**	**4.57**	**242**	P	Pn	05 01 46.7	-1.1
PLAI	**Plampang**	**5.81**	**257**	P	Pn	05 02 02.5	-0.1
	0.1nm17nm,1.4s						
JAGI	**Jajag, Banyuwa**	**9.30**	**264**	P	Pn	05 02 45.8	-0.4
	6.3nm,0.8s						
GMJI	**Gumukmas**	**9.99**	**265**	P	Pn	05 02 54.7	0.0
	9.5nm,1.4s						
PCJI	**Pacitan**	**12.23**	**266**	P	Pn	05 03 22.4	-0.1
	27nm,1.0s						
UGM	**Wanagama**	**12.87**	**267**	P	Pn	05 03 30.9	+0.5

IDC 02 05:12:48.3±2.9**, 32°.80S**×**178°.64W, h0**km**, mb3.7**/2**, mb1 3.9**/3**, mb1mx3.4**/38**, mbtmp3.7**/3**, ML3.5**/1**, Error ellipse: s-maj=68.2km s-min=35.9km az=116.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**211**	Pn	Pn	05 14 25.4	+0.8
	1.1nm,0.3s,baz=259,slow=3.8,SNR=9.1						
URZ				Sn	Sn	05 15 38.1	-0.9
	0.8nm,0.3s,baz=339,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**42.50**	**270**	P	P	05 20 45.7	+0.1
	0.5nm,0.6s,baz=115,slow=8.1,SNR=6.4						
WRA	**Warramunga Arr**	**43.70**	**275**	P	P	05 20 55.0	-0.3
	0.7nm,0.5s,baz=116,slow=7.4,SNR=12						
FINES	**FINESS Array B**	**147.19**	**338**	PKPbc	PKPbc	05 32 31.8	-0.9
	2.3nm,0.9s,baz=48,slow=4.6,SNR=9.2						

IDC 02 05:13:39.4±1.9,6°.03S×122°.99E,h0km,mb3.1/2, mb1 3.4/4,mb1mx3.1/37,mbtmp3.2/4,ML3.1/2,MS2.5/1, Ms1 2.5/1,ms1mx2.0/20,Error ellipse: s-maj=66.6km s-min=23.9km az=41.0
DJA 02 05:13:40.6±0.6,6°S±6°×12°3E±°,h10km,M3.5/7,MLv3.5/7
ISC 02 05:13:43.5±1.2**,6°.0S**±0°.1×**123°.0E**±0°.1**,h35km,n10, σ1s.41**/10**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.66**	**316**	P	**Pn**	**05 13 54.0**	**-2.5**
BSSI	**Bau Bau, Buton**	**2.54**	**266**	P	**Pn**	**05 14 21.0**	**-1.2**
BKSI	**Bulukumba**	**2.97**	**282**	P	**Pn**	**05 14 27.1**	**-1.1**
BNSI	**Bone**	**3.31**	**298**	P	**Pn**	**05 14 32.2**	**-0.6**
KAPI	**Kappang**	**3.40**	**286**	Pn	**Pn**	**05 14 33.5**	**-0.7**
	1.0nm,0.3s,baz=144,slow=10.0,SNR=4.9						
KAPI				Sn	**Sn**	**05 15 13.9**	**+0.5**
	5.1nm,0.3s,baz=61,slow=23,SNR=10						
SPSI	**Sidrap Palu**	**3.81**	**301**	P	**Pn**	**05 14 39.9**	**+0.1**
BATI	**Baumata**	**4.26**	**172**	LR	LR	05 16 52.1	
	comp=Z,55nm,20.3s,baz=312,slow=46						
WRA	**Warramunga Arr**	**17.71**	**143**	P	**Pn**	**05 17 46.7**	**-0.9**
	0.1nm,0.3s,baz=318,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**20.47**	**150**	P	**P**	**05 18 18.9**	**+0.5**
	0.2nm,0.3s,baz=334,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**63.72**	**330**	P	**P**	**05 24 13.4**	**+1.7**
	0.2nm,0.6s,baz=124,slow=6.7,SNR=2.4						

IDC 02 05:19:08.4±1.7,5°.07S×38°.89W,h0km,mb4.0/1,mb1 4.0/3, mb1mx3.5/36,mbtmp4.1/3,ML4.0/2,Error ellipse: s-maj=51.9km s-min=24.9km az=153.0
VAO 02 05:19:17.3±0.2,8°.32S×36°.17W,h0km,mbR3.5
ISC 02 05:19:17.7±0.7**,8°.32S**±0°.04×**36°.17W**±0°.05**,h10km,n41, σ1s.65**/50**,Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBRF	**Rio Formoso -**	**1.09**	**109**	eP	**Pn**	**05 19 38.5**	**-0.5**
NBRF				eS	**Sg**	**05 19 52.3**	**-0.7**
NBLV	**Livramento - P**	**1.21**	**322**	eP	**Pg**	**05 19 41.5**	**+0.6**
NBLV				eS	**Sn**	**05 19 57.6**	**+0.4**
NBAN	**Anadia - AL**	**1.35**	**184**	eP	**Pg**	**05 19 44.2**	**+0.7**
NBAN				eS	**Sg**	**05 20 01.6**	**+0.5**
NBPV	**Pedro Velho**	**2.08**	**25**	eP	**Pn**	**05 19 53.0**	**+0.3**
NBPV				eS	**Sb**	**05 20 20.4**	**-1.1**
RCBR	**Riachuelo**	**2.49**	**6**	Pn	**Pn**	**05 19 59.2**	**+0.8**
	12nm,0.3s,baz=335,slow=14,SNR=51						
RCBR				Sn	**Sb**	**05 20 35.0**	**+1.7**
	266nm,0.3s,baz=244,slow=23,SNR=30						
RCBR	**Riachuelo**	**2.49**	**6**	eP	**Pn**	**05 19 58.8**	**+0.5**
RCBR				eS	**Sb**	**05 20 30.9**	**-2.4**
NBMA	**Muriti-CE**	**2.74**	**290**	eP	**Pn**	**05 20 02.5**	**+0.7**
NBMA				eS	**Sn**	**05 20 37.3**	**+2.3**
NBLA	**Lagarto - SE**	**3.10**	**211**	eP	**Pn**	**05 20 08.3**	**+1.6**
NBPB	**Pedra_Branca-C**	**4.37**	**309**	eP	**Pn**	**05 20 24.9**	**+0.7**
NBCL	**Cascavel-CE**	**4.58**	**332**	eP	**Pn**	**05 20 27.8**	**+0.8**
NBPN	**Ponto Novo - B**	**4.70**	**237**	eP	**Pn**	**05 20 29.3**	**+0.5**
NBMO	**Morrinhos-CE**	**6.29**	**322**	eP	**Pn**	**05 20 51.1**	**+0.5**
GDU01	**Guandu, BA**	**6.32**	**212**	eP	**Pn**	**05 20 52.6**	**+1.6**
NBPS	**Pedro II - PI**	**6.53**	**306**	eP	**Pn**	**05 20 54.5**	**+0.5**
NBIT	**Itapeh - BA**	**7.31**	**206**	eP	**Pn**	**05 21 05.0**	**+0.4**
CMC01	**Camacan, BA**	**7.73**	**205**	eP	**Pn**	**05 21 10.8**	**+0.4**
GUA01	**Guaratinga, BA**	**8.95**	**203**	eP	**Pn**	**05 21 27.5**	**+0.4**
SDBA	**SAO DESIDERIO**	**9.50**	**244**	eP	**Pn**	**05 21 35.0**	**+0.2**
ROSB	**Rosrio**	**9.57**	**304**	eP	**Pn**	**05 21 36.6**	**+0.9**
NAN01	**Guarapari, ES**	**10.22**	**202**	eP	**Pn**	**05 21 45.0**	**+0.4**
SMTB	**Santa Maria do**	**11.30**	**266**	eP	**Pn**	**05 21 58.9**	**-0.5**
SJMB	**Sao Joao De Ma**	**11.41**	**205**	eP	**Pn**	**05 22 01.7**	**+0.8**
RIB01	**Linhares ES**	**11.67**	**200**	eP	**Pn**	**05 22 04.8**	**+0.4**
DIAM	**Diamantina, MG**	**12.31**	**216**	eP	**Pn**	**05 22 13.7**	**+0.4**
PEXB	**Peixe**	**12.52**	**251**	eP	**Pn**	**05 22 16.0**	**-0.1**
ALF01	**Guarapari-ES**	**12.99**	**199**	eP	**Pn**	**05 22 23.4**	**+0.8**
BDFB	**Brasilia**	**13.68**	**237**	Pn	**Pn**	**05 22 27.6**	**-4.4**
	0.5nm,0.3s,baz=86,slow=11,SNR=6.2						
BDFB				Sn	**Sn**	**05 24 55.7**	**-8.4**
	0.8nm,0.3s,baz=117,slow=14,SNR=3.5						
BDFB				Lg	Lg	05 26 26.0	
	1.2nm,0.3s,baz=141,slow=18,SNR=3.8						
PRPB	**Parauapebas**	**13.70**	**278**	eP	**Pn**	**05 22 32.4**	**+0.1**
CAM01	**Campos-RJ**	**14.43**	**201**	eP	**Pn**	**05 22 42.6**	**+0.4**
CAM01				eS	**Sn**	**05 25 24.9**	**+2.6**
DUB01	**Friburgo-RJ**	**14.93**	**203**	eP	**Pn**	**05 22 49.4**	**+0.3**
BSCB	**Bom Sucesso**	**15.10**	**212**	eP	**Pn**	**05 22 50.9**	**-0.4**
SNDB	**Serra Nova Dou**	**15.32**	**255**	eP	**Pn**	**05 22 54.1**	**-0.2**
VAS01	**Vassouras-RJ**	**15.54**	**206**	eP	**Pn**	**05 22 57.7**	**+0.6**
MAN01	**Angra dos Reis**	**16.29**	**206**	eP	**Pn**	**05 23 07.2**	**+0.5**
BB19B	**Bebedouro**	**17.40**	**222**	eP	**P**	**05 23 21.5**	**-0.7**
PARB	**Paraibuna**	**17.47**	**210**	eP	**P**	**05 23 22.3**	**-0.5**
MALB	**Monte Alegre**	**19.12**	**289**	eP	**Pn**	**05 23 42.2**	**+0.2**
ITTB	**Itaituba**	**19.83**	**280**	eP	**Pn**	**05 23 49.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**43.23**	**61**	P	**P**	**05 27 19.5**	**-0.1**
	1.4nm,0.6s,baz=239,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**146.76**	**163**	PKPbc	**PKPab**	**05 39 02.4**	**+0.3**
	0.8nm,0.7s,baz=207,slow=1.9,SNR=8.6						
WRA	**Warramunga Arr**	**150.40**	**162**	PKPbc	**PKiKP**	**05 39 11.8**	**+0.5**
	0.6nm,0.9s,baz=209,slow=2.6,SNR=3.4						

IDC 02 05:38:51.1±2.9**,32°.97S**×**178°.43W,h0km,mb3.9**/3**, mb1 4.1**/4**,mb1mx3.6**/35**,mbtmp3.9**/4**,ML3.5**/1**,Error ellipse: s-maj=66.4km s-min=35.6km az=119.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.41**	**213**	Pn	Pn	05 40 27.3	+0.5
	1.0nm,0.3s,baz=260,slow=4.3,SNR=7.4						
URZ				Sn	Sn	05 41 40.3	-0.3
	2.2nm,0.3s,baz=131,slow=20,SNR=6.8						
ASAR	**Alice Springs**	**42.68**	**270**	P	P	05 46 50.0	+0.2
	0.5nm,0.5s,baz=111,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**43.90**	**275**	P	P	05 46 59.7	0.0
	2.1nm,0.6s,baz=116,slow=7.5,SNR=29						
FITZ	**Fitzroy Crossi**	**52.04**	**272**	P	P	05 48 02.1	-0.7
	1.0nm,0.7s,baz=90,slow=2.0,SNR=3.9						
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc	PKPbc	05 58 35.3	-0.8
	2.1nm,0.6s,baz=37,slow=4.4,SNR=10						

IDC 02 05:44:42.0±13.0,51°.47S×160°.28E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/30,mbtmp3.7/4,ML3.9/1,MS3.6/6, Ms1 3.6/6,ms1mx3.2/39,Error ellipse: s-maj=253.2km s-min=34.8km az=165.0
ISC 02 05:44:40.3±4.1**,51°.9S**±0°.5×**160°.5E**±0°.2**,h10km,n30, σ1s.51**/12**,mb3.6**/3**,MS3.5**/4**,North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**7.06**	**47**	P	**Pn**	**05 46 24.1**	**+0.5**
WHZ	**Wether Hill Ro**	**7.77**	**42**	P	**Pn**	**05 46 35.1**	**+1.7**
SYZ	**Scrubby Hill**	**7.81**	**50**	P	**Pn**	**05 46 34.5**	**+0.7**
DCZ	**Deep Cove**	**7.81**	**37**	P	Pn	05 46 40.6	+6.7
MLZ	**Mavora Lakes**	**8.27**	**41**	P	**Pn**	**05 46 43.1**	**+2.8**
TUZ	**Tuapeka**	**8.47**	**49**	P	**Pn**	**05 46 43.8**	**+0.9**
MSZ	**Milford Sound**	**8.78**	**37**	P	Pn	05 46 53.6	+6.5
EAZ	**Earnscleugh**	**8.88**	**45**	P	**Pn**	**05 46 49.8**	**+1.2**
WKZ	**Wanaka**	**9.08**	**42**	P	Pn	05 46 54.7	+3.3
ODZ	**Otahua Downs**	**9.62**	**48**	P	**Pn**	**05 46 59.4**	**+0.6**
RPZ	**Rata Peaks**	**10.84**	**45**	Pn	**Pn**	**05 47 16.2**	**+0.7**
	0.9nm,0.3s,baz=270,slow=7.1,SNR=3.8						
RPZ				Sn	**Sn**	**05 49 14.8**	**-2.0**
	1.8nm,0.3s,baz=309,slow=23,SNR=3.6						
RPZ				LR	LR	05 51 08.0	
	comp=Z,290nm,18.6s,baz=216,slow=36						
URZ	**Urewera**	**17.94**	**47**	LR	LR	05 56 16.4	
	comp=Z,213nm,18.6s,baz=232,slow=39						
STKA	**Stephens Creek**	**24.34**	**318**	P	**P**	**05 49 58.6**	**+0.5**
	0.5nm,0.3s,baz=139,slow=11,SNR=1.9						
STKA				LR	LR	05 57 41.8	
	comp=Z,118nm,19.0s,baz=201,slow=33						
CTA	**Charters Tower**	**33.66**	**335**	LR	LR	06 03 34.2	
	comp=Z,62nm,18.9s,baz=84,slow=34						
ASAR	**Alice Springs**	**34.80**	**314**	P	**P**	**05 51 30.2**	**-0.9**
	0.8nm,0.8s,baz=144,slow=8.4,SNR=7.5						
H01W1	**Cape Leeuwin H**	**37.01**	**279**	T	T	06 30 59.9	
	baz=133,slow=75,SNR=293						
H01W2	**Cape Leeuwin H**	**37.02**	**279**	T	T	06 31 00.3	
	baz=133,slow=75,SNR=272						
H01W3	**Cape Leeuwin H**	**37.03**	**279**	T	T	06 31 01.2	
	baz=133,slow=75,SNR=280						
WRA	**Warramunga Arr**	**37.89**	**318**	P	**P**	**05 51 56.6**	**-0.9**
	1.3nm,1.1s,baz=150,slow=8.2,SNR=5.7						
HNR	**Honiara**	**42.37**	**359**	LR	LR	06 08 26.2	
	comp=Z,75nm,18.7s,baz=277,slow=34						
DAV	**Davao City (W)**	**65.92**	**322**	LR	LR	06 24 57.2	
	comp=Z,58nm,20.3s,baz=66,slow=37						
H03S2	**Juan Fernandez**	**80.04**	**133**	T	T	07 25 02.3	
	baz=211,SNR=35						
H03S1	**Juan Fernandez**	**80.05**	**133**	T	T	07 25 03.6	
	baz=211,SNR=33						
H03S3	**Juan Fernandez**	**80.06**	**133**	T	T	07 25 00.1	
	baz=211,SNR=40						
H03N3	**Juan Fernandez**	**80.36**	**133**	T	T	07 25 20.2	
	baz=218,slow=74,SNR=43						
H03N2	**Juan Fernandez**	**80.37**	**133**	T	T	07 25 25.6	
	baz=218,slow=74,SNR=53						
H03N1	**Juan Fernandez**	**80.38**	**133**	T	T	07 25 18.3	
	baz=218,slow=74,SNR=22						
H08S2	**Diego Garcia H**	**82.81**	**267**	T	T	07 28 02.4	
	baz=141,slow=76,SNR=18						
H08S1	**Diego Carcia H**	**82.82**	**267**	T	T	07 28 04.4	
	baz=141,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**82.83**	**267**	T	T	07 28 03.9	
	baz=141,slow=76,SNR=21						

MOS 02 05:45:56.5±0.9,52°.18N×153°.31E,h421km,mb3.9/1,Error ellipse: s-maj=13.9km s-min=8.3km az=50.5
IDC 02 05:45:57.8±1.5,52°.33N×153°.32E,h415km±16km, mb3.1/18,mb1 3.2/20,mb1mx3.1/59,mbtmp3.9/20,Error ellipse: s-maj=17.3km s-min=12.1km az=167.0
KRSC 02 05:45:58.6±2.4,51°.92N×154°.58E,h445km±27km,ML4.3
ISC 02 05:46:00.4±1.1**,52°.0N**±0°.1×**154°.5E**±0°.2**,h432km**±8km**,n76, σ1s.39**/82**,mb3.5**/18**,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.50**	**108**	PN	**P**	**05 46 56.6**	**-0.1**
PAU	**Pauzhetka**	**1.50**	**108**	eP	**P**	**05 46 56.6**	**-0.1**
APC	**Apacha**	**1.88**	**58**	PN	**P**	**05 46 57.2**	**-1.3**
APC	**Apacha**	**1.88**	**58**	eP	**P**	**05 46 57.2**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.21**	**93**	PN	**P**	**05 47 00.2**	**-0.2**
KDTR				S	**S**	**05 47 47.4**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.21**	**93**	eP	**P**	**05 47 00.2**	**-0.2**
KDTR				eS	**S**	**05 47 47.4**	**-1.8**
PETK	**Petropavlovsk-**	**2.25**	**58**	P	**P**	**05 46 59.3**	**-1.4**
	2.3nm,0.3s,baz=254,slow=3.5,SNR=47						
GRL	**Gorelyy**	**2.26**	**73**	PN	**P**	**05 47 01.9**	**+1.0**
GRL	**Gorelyy**	**2.26**	**73**	eP	**P**	**05 47 01.9**	**+1.0**
MTVR	**Mutnovka**	**2.31**	**76**	PN	**P**	**05 47 02.8**	**+1.6**
MTVR				S	**S**	**05 47 51.9**	**+1.2**
MTVR	**Mutnovka**	**2.31**	**76**	eP	**P**	**05 47 02.8**	**+1.6**
MTVR				eS	**S**	**05 47 51.9**	**+1.2**
KRMR	**Karymshinskiy**	**2.37**	**67**	PN	**P**	**05 47 01.7**	**+0.3**
KRMR				S	**S**	**05 47 50.3**	**-0.8**
KRMR	**Karymshinskiy**	**2.37**	**67**	eP	**P**	**05 47 01.7**	**+0.3**
KRMR				eS	**S**	**05 47 50.3**	**-0.8**
RUS	**Russkaya**	**2.50**	**78**	PN	**P**	**05 47 02.5**	**+0.2**
RUS				S	**S**	**05 47 53.3**	**+0.7**
RUS	**Russkaya**	**2.50**	**78**	eP	**P**	**05 47 02.5**	**+0.2**
RUS				eS	**S**	**05 47 53.3**	**+0.7**
GNL	**Ganaly**	**2.70**	**49**	PN	**P**	**05 47 03.4**	**-0.4**
GNL	**Ganaly**	**2.70**	**49**	eP	**P**	**05 47 03.4**	**-0.4**
PET	**Petropavlovsk**	**2.74**	**66**	ePN	**P**	**05 47 04.3**	**+0.4**
PET				eS	**S**	**05 47 57.8**	**+2.1**
PET				pmax	pmax		
	comp=Z,47nm,0.6s						
PET				smax	smax		
	comp=E,43nm,0.6s						
PET				smax	smax		
	comp=N,68nm,0.7s						
PET	**Petropavlovsk**	**2.74**	**66**	eP	**P**	**05 47 04.6**	**+0.7**
DALK	**Dalny**	**2.80**	**66**	PN	**P**	**05 47 05.0**	**+0.6**
DALK				S	**S**	**05 47 57.5**	**+1.0**
DALK	**Dalny**	**2.80**	**66**	eP	**P**	**05 47 05.0**	**+0.6**
DALK				eS	**S**	**05 47 57.5**	**+1.0**
KOK	**Koryaka**	**2.84**	**60**	PN	**P**	**05 47 05.4**	**+0.6**
KOK	**Koryaka**	**2.84**	**60**	eP	**P**	**05 47 05.4**	**+0.6**
AVH	**Avacha**	**2.88**	**61**	PN	**P**	**05 47 05.6**	**+0.5**
AVH	**Avacha**	**2.88**	**61**	eP	**P**	**05 47 05.6**	**+0.5**
UGLR	**Uglovaya**	**2.90**	**63**	PN	**P**	**05 47 04.7**	**-0.6**
UGLR				S	**S**	**05 47 58.4**	**+0.2**
UGLR	**Uglovaya**	**2.90**	**63**	eP	**P**	**05 47 04.7**	**-0.6**
UGLR				eS	**S**	**05 47 58.4**	**+0.2**
SMAR	**Somma**	**2.91**	**62**	PN	**P**	**05 47 06.6**	**+1.1**
SMAR	**Somma**	**2.91**	**62**	eP	**P**	**05 47 06.6**	**+1.1**
SDLR	**Sedlovina**	**2.96**	**62**	PN	**P**	**05 47 05.6**	**-0.2**
SDLR	**Sedlovina**	**2.96**	**62**	eP	**P**	**05 47 05.6**	**-0.2**
NLC	**Nalytchevo**	**3.18**	**66**	eS	**S**	**05 48 02.2**	**+0.4**
SPN	**Mys Shipunski**	**3.54**	**69**	PN	**P**	**05 47 10.5**	**+0.2**
SPN	**Mys Shipunski**	**3.54**	**69**	eP	**P**	**05 47 10.5**	**+0.2**
SPN				eS	**S**	**05 48 04.7**	**-2.6**
TUMR	**Tumrok**	**4.72**	**43**	PN	**P**	**05 47 22.2**	**+1.2**
TUMR	**Tumrok**	**4.72**	**43**	P	**P**	**05 47 22.4**	**+1.4**
TUMR				eS	**S**	**05 48 26.4**	**-0.5**
TUMD	**Tumrok D**	**4.77**	**45**	eP	**P**	**05 47 22.2**	**+0.8**
MKZ	**Mys Kozlova**	**5.04**	**56**	PN	**P**	**05 47 24.0**	**-0.1**
MKZ	**Mys Kozlova**	**5.04**	**56**	eP	**P**	**05 47 24.0**	**-0.1**
MKZ				eS	**S**	**05 48 28.1**	**-4.4**
KMNR	**Kamenistaya**	**5.08**	**39**	PN	**P**	**05 47 25.7**	**+1.1**
KMNR				S	**S**	**05 48 33.6**	**+0.1**
KMNR	**Kamenistaya**	**5.08**	**39**	eP	**P**	**05 47 25.7**	**+1.1**
KMNR				eS	**S**	**05 48 33.6**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**5.40**	**40**	PN	**P**	**05 47 29.8**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**5.40**	**40**	eP	**P**	**05 47 29.8**	**+2.1**
ZLN	**Zelenaya**	**5.50**	**40**	PN	**P**	**05 47 30.4**	**+1.7**
ZLN	**Zelenaya**	**5.50**	**40**	eP	**P**	**05 47 30.4**	**+1.7**
LGNR	**Loginova**	**5.50**	**39**	PN	**P**	**05 47 30.4**	**+1.5**
LGNR	**Loginova**	**5.50**	**39**	eP	**P**	**05 47 30.4**	**+1.5**
CIRR	**Tsirk**	**5.54**	**39**	PN	**P**	**05 47 31.5**	**+2.3**
CIRR	**Tsirk**	**5.54**	**39**	eP	**P**	**05 47 31.5**	**+2.3**
KRSR	**Krestovskiy**	**5.55**	**37**	PN	**P**	**05 47 30.1**	**+0.9**
KRSR	**Krestovskiy**	**5.55**	**37**	eP	**P**	**05 47 30.1**	**+0.9**
KBG	**Krutoberegovo**	**6.45**	**45**	eS	**S**	**05 48 55.0**	**-4.0**
KBTR	**Krutoberegovo**	**6.47**	**46**	PN	**P**	**05 47 38.5**	**-0.2**
KBTR	**Krutoberegovo**	**6.47**	**46**	eP	**P**	**05 47 38.5**	**-0.2**
KBTR				eS	**S**	**05 48 54.7**	**-4.7**
BKI	**Bering**	**7.54**	**60**	eS	**S**	**05 49 21.8**	**+1.1**
KLR	**Kul'dur**	**14.71**	**268**	P	P	05 49 00.4	-8.3
	comp=N,0.3nm,0.3s,baz=75,slow=11,SNR=9.4						
TIXI	**Tiksi**	**22.81**	**339**	P	P	05 50 21.4	-6.4
	comp=N,1.9nm,0.4s,baz=287,slow=15,SNR=8.2						
SONM	**Songino Array**	**30.82**	**282**	P	P	05 51 30.4	-8.6
	comp=N,0.2nm,0.5s,baz=88,slow=6.4,SNR=1.8						
ILAR	**Eielson Array**	**32.01**	**44**	P	**P**	**05 51 49.8**	**+1.0**
	comp=N,0.3nm,0.6s,baz=281,slow=13,SNR=4.8						
INK	**Inuvik**	**36.81**	**36**	P	**P**	**05 52 29.8**	**+0.5**
	comp=N,1.4nm,0.3s,baz=292,slow=8.3,SNR=29						
KURK	**Kurchatov**	**45.40**	**300**	P	P	05 53 31.9	-6.3
KURBB	**Kurchatov Arra**	**45.49**	**300**	P	P	05 53 31.9	-7.1
	comp=N,1.4nm,0.4s,baz=58,slow=7.0,SNR=7.4						
MKAR	**Makanchi Array**	**45.53**	**294**	P	P	05 53 32.1	-7.2
	comp=N,0.2nm,0.4s,baz=64,slow=7.4,SNR=6.5						
YKA	**Yellowknife Ar**	**46.26**	**40**	P	**P**	**05 53 45.1**	**+0.5**
	comp=N,0.9nm,0.6s,baz=300,slow=7.1,SNR=13						
YKA				PcP	**PcP**	**05 55 11.2**	**-0.3**
	comp=N,0.2nm,0.4s,baz=309,slow=3.6,SNR=7.8						
ARU	**Arti**	**51.87**	**315**	P	P	05 54 19.9	-6.6
	comp=N,1.7nm,0.2s,baz=336,slow=7.9,SNR=5.0						
AAK	**Ala-Archa**	**52.47**	**294**	P	P	05 54 24.6	-6.8
	comp=N,1.6nm,0.7s,baz=132,slow=5.4,SNR=4.9						
ARCES	**ARCESS Array B**	**53.24**	**340**	P	P	05 54 30.0	-6.3
	comp=N,1.2nm,0.5s,baz=41,slow=7.4,SNR=12						
AKTO	**Aktyubinsk**	**56.01**	**310**	P	P	05 54 49.0	-7.1
	comp=N,1.0nm,0.4s,baz=74,slow=7.1,SNR=5.9						
AKTO	**Aktyubinsk**	**56.01**	**310**	P	P	05 54 49.0	-7.1
FINES	**FINESS Array B**	**59.73**	**334**	P	P	05 55 15.5	-5.8
	comp=N,1.7nm,0.4s,baz=38,slow=6.8,SNR=19						
NOA	**NORSAR Array B**	**63.59**	**341**	P	P	05 55 40.9	-5.9
	comp=N,1.3nm,0.7s,baz=27,slow=6.5,SNR=4.8						
AKASG	**Malin Array Be**	**67.73**	**326**	P	P	05 56 06.2	-6.7
	comp=N,0.7nm,0.5s,baz=35,slow=6.2,SNR=4.3						
SCHQ	**Schefferville**	**68.16**	**24**	P	**P**	**05 56 13.3**	**-2.2**
	comp=N,1.0nm,0.4s,baz=343,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**73.74**	**200**	P	**P**	**05 56 48.0**	**-0.9**
	comp=N,0.7nm,1.1s,baz=15,slow=5.8,SNR=3.2						
TXAR	**Lajitas Array**	**74.19**	**63**	P	**P**	**05 56 53.8**	**+2.1**
	comp=N,0.1nm,0.5s,baz=318,slow=3.4,SNR=3.9						
ASAR	**Alice Springs**	**77.44**	**199**	P	**P**	**05 57 09.4**	**-0.2**
	comp=N,0.6nm,1.0s,baz=22,slow=5.2,SNR=4.2						

TUL 02 06:05:30.6±1.2,36°.67N±0°.02×97°.74W±0°.02,h7km±7km, ML3.1,mb_Lg2.8/69(NEIC),Error ellipse: s-maj=2.3km s-min=1.7km az=157.0
NEIC 02 06:05:30.7±0.8**,36°.647N**±0°.009×**97°.74W**±0°.02**,h5km**±2km**, Error ellipse: s-maj=3.1km s-min=3.0km az=291.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.02**	**74**	Pg	Pg	06 05 49.9	-0.5
U32A	**Winter Ranch,**	**1.05**	**256**		Pg	06 05 50.1	-0.7
FNO	**Franklin**	**1.42**	**169**		Pn	06 05 56.6	-0.5
TUL1	**Leonard**	**1.74**	**114**	Pn	Pn	06 06 02.0	+0.4
R32A	**Long Quarter,**	**1.93**	**337**	IAmb_Lg		06 06 36.4	
	comp=Z,34nm,0.7s						
X34A	**Smith Ranch, M**	**2.04**	**182**		Pb	06 06 07.2	-1.1
X34A				IAmb_Lg		06 06 37.1	
	comp=Z,33nm,0.8s						
WMOK	**Wichita Mounta**	**2.08**	**204**		Pn	06 06 06.8	+0.5
WMOK				IAmb_Lg		06 06 40.6	
	comp=Z,36nm,0.8s						
KSU1	**Kansas State U**	**2.61**	**20**	Pn	Pn	06 06 13.9	+0.3
X37A	**Clayton**	**2.82**	**136**	Pn	Pn	06 06 18.6	+2.2
X37A				IAmb_Lg		06 07 03.9	
	comp=Z,46nm,0.8s						
HHAR	**Hobbs**	**3.09**	**96**	Pn	Pn	06 06 20.6	+0.5
W39A	**Magazine**	**3.52**	**113**	IAmb_Lg		06 07 30.2	
	comp=Z,42nm,0.8s						
AMTX	**Amarillo**	**3.65**	**242**	IAmb_Lg		06 07 35.2	
	comp=Z,35nm,0.8s						
S39A	**Bolivar**	**3.68**	**72**	Pn	Pn	06 06 27.9	-0.4
S39A				IAmb_Lg		06 07 31.0	
	comp=Z,22nm,1.0s						
U40A	**Yellville**	**3.95**	**93**		Pn	06 06 31.4	-0.6
U40A				IAmb_Lg		06 07 35.5	
	comp=Z,18nm,0.7s						
MIAR	**Mount Ida**	**3.99**	**120**	Pn	Pn	06 06 35.8	+3.3
MIAR				IAmb_Lg		06 07 43.7	
	comp=Z,31nm,0.7s						
Z38A	**Mt. Pleasant**	**4.07**	**145**	Pn	Pn	06 06 36.5	+2.9
N33A	**J Bar K, Exete**	**4.09**	**3**	IAmb_Lg		06 07 45.5	
	comp=Z,16nm,0.9s						
ABTX	**Abilene, Hawle**	**4.31**	**202**	IAmb_Lg		06 07 47.5	
	comp=Z,15nm,1.1s						
MGMO	**Mountain Grove**	**4.42**	**82**		Pn	06 06 39.3	+0.9
P38A	**Dawn**	**4.46**	**47**	IAmb_Lg		06 07 50.1	
	comp=Z,17nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.53**	**303**	IAmb_Lg		06 08 04.4	
	comp=Z,18nm,0.8s						
X40A	**Basin Creek Fa**	**4.54**	**117**	IAmb_Lg		06 07 58.2	
	comp=Z,22nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.60**	**98**	IAmb_Lg		06 07 53.8	
	comp=Z,17nm,1.0s						
WHTX	**Lake Whitney,**	**4.65**	**177**	Pn	Pn	06 06 41.7	+0.1
R40A	**Maddies Statio**	**4.66**	**68**	IAmb_Lg		06 07 56.5	
	comp=Z,14nm,0.7s						
W41B	**Gary Mavity, V**	**4.70**	**107**	IAmb_Lg		06 07 57.4	
	comp=Z,18nm,0.7s						
WLAR	**White Oak Lake**	**4.81**	**127**	IAmb_Lg		06 08 09.3	
	comp=Z,26nm,0.8s						
Z41A	**Richland Creek**	**5.28**	**128**	IAmb_Lg		06 08 21.7	
	comp=Z,19nm,0.7s						
LCAR	**Lake Charles**	**5.35**	**94**	IAmb_Lg		06 08 27.8	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.37**	**73**	IAmb_Lg		06 08 25.0	
	comp=Z,20nm,0.7s						
T25A	**Trinidad**	**5.37**	**277**		Pn	06 06 51.9	+0.3
T25A				IAmb_Lg		06 08 32.1	
	comp=Z,22nm,1.1s						
OGNE	**Ogallala**	**5.44**	**323**	IAmb_Lg		06 08 28.0	
	comp=Z,13nm,0.7s						
PBMO	**Poplar Bluff**	**5.88**	**87**	IAmb_Lg		06 08 42.1	
	comp=Z,11nm,0.7s						
FVM	**French Village**	**5.98**	**75**	IAmb_Lg		06 08 43.0	
	comp=Z,13nm,0.8s						
SLM	**Saint Louis**	**6.28**	**69**	IAmb_Lg		06 08 51.3	
	comp=Z,18nm,0.9s						
Q24A	**Divide**	**6.30**	**294**	IAmb_Lg		06 08 56.3	
	comp=Z,12nm,0.9s						
JCT	**Junction City**	**6.39**	**196**	IAmb_Lg		06 09 10.9	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**6.86**	**79**	IAmb_Lg		06 09 06.5	
	comp=Z,18nm,0.7s						
SIUC	**Southern Illin**	**6.89**	**79**	IAmb_Lg		06 09 05.4	
	comp=Z,16nm,0.8s						
W45A	**Hickory Valley**	**7.10**	**100**	IAmb_Lg		06 09 22.5	
	comp=Z,13nm,0.8s						
N23A	**Red Feather La**	**7.68**	**306**	IAmb_Lg		06 09 46.5	
	comp=Z,14nm,0.8s						
JFWS	**Jewell Farm**	**8.51**	**40**	IAmb_Lg		06 10 07.7	
	comp=Z,14nm,0.8s						
K22A	**Casper**	**9.04**	**314**	IAmb_Lg		06 10 37.6	
	comp=Z,10nm,0.9s						

IDC 02 06:05:51.5±3.0,32°.76S×178°.65W,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.4/36,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=71.3km s-min=45.5km az=119.0
WEL 02 06:05:54.5±1.0,33°S±11°×17°9W±2°9,h33km,M4.2/5, mB4.8/2,ML4.6/13,MLv4.2/5,Mw(mB)4.0/2,Error ellipse: s-maj=0.0km s-min=0.0km az=110.8
ISC 02 06:05:52.7±2.1**,33°.0S**±0°.1×**178°.1W**±0°.3**,h34km,n19, σ1s.47**/30**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.74**	**2**	P	**Pn**	**06 06 48.5**	**+0.5**
GLKZ				S	**Sn**	**06 07 29.4**	**-1.5**
PKGZ	**Pakihiroa**	**5.78**	**212**	P	**Pn**	**06 07 16.3**	**+0.3**
PKGZ				S	**Sn**	**06 08 19.9**	**-1.2**
HAZ	**Te Kaha**	**5.80**	**214**	P	**Pn**	**06 07 17.7**	**+1.4**
HAZ				S	**Sn**	**06 08 24.2**	**+2.6**
PUZ	**Puketiti**	**5.85**	**209**	P	**Pn**	**06 07 16.6**	**-0.5**
PUZ				S	**Sn**	**06 08 23.3**	**+0.3**
RUGZ	**Raukumara Rang**	**6.02**	**214**	P	**Pn**	**06 07 20.4**	**+1.0**
RUGZ				S	**Sn**	**06 08 28.4**	**+1.1**
CNGZ	**Carnagh Statio**	**6.23**	**208**	P	**Pn**	**06 07 22.4**	**+0.3**
MWZ	**Matawai**	**6.39**	**213**	P	**Pn**	**06 07 25.7**	**+1.2**
MWZ				S	**Sn**	**06 08 35.3**	**-0.9**
URZ	**Urewera**	**6.52**	**215**	Pn	**Pn**	**06 07 27.4**	**+1.2**
	1.1nm,0.3s,baz=267,slow=4.7,SNR=12						
URZ				Sn	**Sn**	**06 08 38.0**	**-1.4**
	0.8nm,0.3s,baz=84,slow=10,SNR=2.1						
URZ	**Urewera**	**6.52**	**215**	P	**Pn**	**06 07 27.2**	**+0.9**
URZ				S	**Sn**	**06 08 38.0**	**-1.4**
RIGZ	**Rimuhau**	**6.60**	**209**	P	**Pn**	**06 07 28.0**	**+0.7**
RIGZ				S	**Sn**	**06 08 40.5**	**-0.8**
MUGZ	**Murupara**	**6.86**	**216**	P	**Pn**	**06 07 33.2**	**+2.3**
MTHZ	**Maungataniwha**	**7.12**	**214**	P	**Pn**	**06 07 36.1**	**+1.6**
MTHZ				S	**Sn**	**06 08 54.2**	**-0.1**
TLZ	**Tolley Road**	**7.41**	**222**	P	Pn	06 07 44.0	+5.6
BKZ	**Black Stump Fm**	**7.54**	**214**	P	**Pn**	**06 07 41.1**	**+0.9**
BKZ				S	**Sn**	**06 09 00.7**	**-3.8**
KWHZ	**Kaweka Forest**	**7.78**	**213**	P	**Pn**	**06 07 43.8**	**+0.3**
KWHZ				S	**Sn**	**06 09 07.3**	**-3.1**
TRVZ	**Turoa**	**8.10**	**217**	P	**Pn**	**06 07 49.0**	**+0.9**
ASAR	**Alice Springs**	**42.94**	**270**	P	**P**	**06 13 48.0**	**-0.6**
	0.2nm,0.5s,baz=108,slow=8.3,SNR=2.6						
WRA	**Warramunga Arr**	**44.17**	**275**	P	**P**	**06 13 58.9**	**+0.4**
	0.7nm,0.4s,baz=114,slow=7.8,SNR=23						
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	**PKPab**	**06 25 35.0**	**+0.3**
	0.7nm,0.5s,baz=20,slow=4.4,SNR=6.3						

KRSC 02 06:08:04.8±0.9,55°.98N×162°.85E,h7km±9km,ML3.9
IDC 02 06:08:06.8±1.4,56°.17N×162°.56E,h0km,mb3.5/10, mb1 3.7/11,mb1mx3.5/55,mbtmp3.4/11,ML2.1/1,Error ellipse: s-maj=41.7km s-min=19.5km az=171.0
ISC 02 06:08:06.9±1.2**,56°.04N**±0°.04×**162°.67E**±0°.03**,h6km**±8km**, n49,σ1s.14**/57**,mb3.5**/10**,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.19**	**26**	eP	**Pg**	**06 08 10.8**	**+0.2**
KBTR				eS	**Sg**	**06 08 14.0**	**+0.8**
KBG	**Krutoberegovo**	**0.22**	**5**	eP	**Pg**	**06 08 11.5**	**+0.3**
KBG				eS	**Sg**	**06 08 15.4**	**+1.3**
SMKR	**Semkarok**	**0.86**	**309**	eP	**Pb**	**06 08 23.5**	**-0.8**
BDR	**Baidarnaya**	**0.97**	**304**	eP	**Pb**	**06 08 25.7**	**-0.5**
SRKR	**Sorokina**	**1.04**	**307**	eP	**Pb**	**06 08 26.6**	**-0.7**
ZLN	**Zelenaya**	**1.05**	**269**	eP	**Pn**	**06 08 27.6**	**-0.6**
CIRR	**Tsirk**	**1.08**	**275**	eP	**Pn**	**06 08 27.9**	**-0.8**
LGNR	**Loginova**	**1.11**	**273**	eP	**Pn**	**06 08 28.6**	**-0.6**
LGNR				eS	**Sn**	**06 08 44.8**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.12**	**266**	eP	**Pb**	**06 08 28.3**	**-0.3**

KLY	Klyuchi	1.16	284	eP	Pg	06 08 26.9	-2.3
KRSR	Krestovskiy	1.19	279	eP	Pg	06 08 29.1	-0.7
KRSR				eS	Sb	06 08 45.5	-0.2
BZWR	Bezymyannyi-We	1.23	267	eP	Pb	06 08 30.1	-0.4
KIRR	Kirishev	1.31	267	eP	Pb	06 08 31.5	-0.5
KIRR				eS	Sn	06 08 50.1	+0.4
KPT	Kopyto	1.38	268	eP	Pb	06 08 32.5	-0.6
KMNR	Kamenistaya	1.40	259	eP	Pn	06 08 32.8	-0.2
TUMD	Tumrok D	1.54	238	eP	Pn	06 08 34.5	-0.3
TUMD				eS	Sn	06 08 55.4	+0.3
KOZ	Kozyrevsk	1.57	272	eP	Pb	06 08 35.7	-0.6
MKZ	Mys Kozlova	1.58	200	eP	Pn	06 08 35.5	+0.1
TUMR	Tumrok	1.62	243	eP	Pb	06 08 36.6	-0.6
TUMR				eS	Sg	06 08 59.0	+0.1
BKI	Bering	2.05	113	eP	Pn	06 08 40.6	-1.2
BKI				eS	Sn	06 09 05.4	-2.3
ESO	Esso	2.24	269	eP	Pn	06 08 45.3	+0.9
KII	Karymskiy	2.73	224	eP	Pn	06 08 53.0	+1.7
OSSR	Ossora	3.23	4	eP	Pn	06 08 58.4	+0.4
SPN	Mys Shipunski	3.33	209	eP	Pn	06 08 59.0	-0.4
SPN				eS	Sn	06 09 37.3	-1.9
PALN	Palana	3.39	336	eP	Pb	06 09 04.6	-2.6
NLC	Nalytchevo	3.47	215	eS	Sn	06 09 42.9	+0.3
SDLR	Sedlovina	3.54	220	eP	Pn	06 09 03.6	+1.2
SMAR	Somma	3.58	221	eP	Pn	06 09 03.9	+0.9
AVH	Avacha	3.60	221	eP	Pn	06 09 03.6	+0.4
GNL	Ganaly	3.60	231	eP	Pn	06 09 05.6	+2.3
UGLR	Uglovaya	3.61	220	eP	Pn	06 09 05.9	+2.5
KOK	Koryaka	3.62	222	eP	Pn	06 09 05.1	+1.6
DALK	Dalny	3.78	219	eP	Pn	06 09 06.6	+1.0
PETK	Petropavlovsk-	4.12	227	Pn	Pn	06 09 11.1	+0.8
	0.6nm,0.3s,baz=62,slow=16,SNR=2.8						
PETK				Sn	Sb	06 10 07.8	-2.0
	0.1nm,0.3s,baz=66,slow=18,SNR=1.1						
KRMR	Karymshinskiy	4.17	221	eP	Pn	06 09 12.6	+1.7
RUS	Russkaya	4.36	216	eP	Pn	06 09 13.6	0.0
RUS				eS	Sn	06 10 07.1	+2.5
ILAR	Eielson Array	25.71	50	P	P	06 13 38.2	+0.8
	0.4nm,0.9s,baz=276,slow=8.1,SNR=2.7						
SONM	Songino Array	34.76	281	P	P	06 14 58.3	+0.5
	0.3nm,0.6s,baz=44,slow=8.5,SNR=2.2						
H11N2	WAKE ISLAND Hy	36.39	173	T	T	06 53 49.3	
	baz=356,slow=76						
H11N3	WAKE ISLAND Hy	36.41	173	T	T	06 53 51.0	
	baz=356,slow=76						
H11N1	WAKE ISLAND Hy	36.41	173	T	T	06 53 50.6	
	baz=356,slow=76						
YKA	Yellowknife Ar	40.00	46	P	P	06 15 41.7	-0.1
	0.3nm,0.6s,baz=300,slow=7.9,SNR=3.5						
KURBB	Kurchatov Arra	47.58	301	P	P	06 16 42.5	-0.4
	0.2nm,0.3s,baz=52,slow=7.6,SNR=3.2						
MKAR	Makanchi Array	48.26	295	P	P	06 16 48.0	-0.2
	0.1nm,0.4s,baz=46,slow=8.3,SNR=1.6						
PDAR	Pinedale Array	54.83	64	P	P	06 17 38.2	+0.5
	0.3nm,0.7s,baz=319,slow=2.6,SNR=3.7						
FINES	FINESS Array B	58.00	337	P	P	06 17 59.5	-0.2
	1.8nm,0.9s,baz=38,slow=9.6,SNR=4.2						
AKASG	Malin Array Be	66.84	330	P	P	06 18 58.6	-0.4
	0.2nm,0.3s,baz=29,slow=6.8,SNR=2.2						
TXAR	Lajitas Array	68.15	70	P	P	06 19 09.2	+1.4
	0.5nm,0.8s,baz=313,slow=5.7,SNR=6.5						
GERES	GERESS Array B	72.32	339	P	P	06 19 33.6	+0.6
	0.4nm,0.4s,baz=22,slow=8.5,SNR=1.9						

*IDC **02** 06:09:12.0±0.5, 8.°53S×112.°54E, h77^{km}±4^{km}, mb4.7/37, mb1 4.6/41, mb1mx4.5/55, mbtmp5.0/41, MS3.6/25, Ms1 3.7/25, ms1mx3.5/69, Error ellipse: s-maj=12.0km s-min=8.3km az=49.0*

*GCMT **02** 06:09:11.9±0.3, 8.°99S±0.°02×112.°57E±0.°02, h74^{km}±2^{km}, MW4.9/80, Moment Tensor Solution. s44,c52; s80,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.12; $M_{\theta\theta}$-3.07±.10; $M_{\phi\phi}$0.61±.13; $M_{r\theta}$0.93±.08; $M_{\theta\phi}$0.41±.10; $M_{\phi r}$0.11±.08; Best double couple: $M_0$2.93800×10^{16} NP1:ϕ_s283.00000°, δ36.00000°, λ100.00000°. NP2: ϕ_s91.00000°, δ54.00000°, λ83.00000°. Principal axes: T 2.6170, Plg79.0000°, Azm332.0000°; N 0.6410, Plg6.0000°, Azm95.0000°; P -3.2590, Plg9.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 06:09:12.9±2.5, 8.°62S±0.°07×112.°54E±0.°05, h78^{km}±4^{km}, mb5.1/78 Error ellipse: s-maj=10.5km s-min=7.0km az=189.0*

*MOS **02** 06:09:12.0±1.1, 8.°42S×112.°62E, h89^{km}, mb5.1/47, Error ellipse: s-maj=8.2km s-min=4.8km az=127.2*

*DJA **02** 06:09:12.2±0.1, 9°S±2°×11°2E±°, h74^{km}±2^{km}, M4.9/81, mb5.1/81, mB5.4/35, MLv5.4/30, Mw(mB)4.9/35, MwMwp4.8/5, Mwp5.1/5*

ISC 02 06:09:12.1±0.3, **8.°70S**±0.°04×**112.°51E**±0.°03, **h81**^{km}±2^{km}, **h81**^{km}**:pP-P, n553,** σ1**.**°**44**/569, **mb5.0**/129, **68C-21D, Fault plane solution: NP1:**ϕ_s93.41189°, δ64.22193°, λ110.80287°. **NP2:**ϕ_s232.27106°**,** δ32.67136°**,** λ53.66964°. **Principal axes:** T Plg64.5206°**,** Azm39.1283°**;** N Plg18.6515°**,** Azm264.0301°**;** P Plg16.7214°**,** Azm168.2101°**; Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PWJI	Pagerwojo	0.97	314	P	Pn	06 09 30.7	-0.1
PWJI				S	Sn	06 09 44.6	-0.1
GMJI	Gumukmas	1.02	65	P	Pn	06 09 30.5	-0.9
GMJI				S	Sn	06 09 45.4	-0.5
PCJI	Pacitan	1.41	291	P	Pn	06 09 36.1	-0.1
PCJI				S	Sn	06 09 53.8	-0.6
BLJI	Banyuglugur	1.44	49	P	Pn	06 09 37.8	+1.2
BLJI				S	Sn	06 09 57.0	+1.9
JAGI	Jajag, Banyuwa	1.65	82	Pn	Pn	06 09 39.2	-0.1
JAGI	Jajag, Banyuwa	1.65	82	P	Pn	06 09 39.2	-0.1
JAGI				S	Sn	06 09 58.8	-1.2
JAGI	Jajag, Banyuwa	1.65	82	P	Pn	06 09 39.4	+0.1
GRJI	Gresik	1.77	359	P	Pn	06 09 43.0	+2.0
ABJI	Asem Bagus	1.93	62	P	Pn	06 09 44.5	+1.4
TBJI	Tambak Boyo	1.98	341	P	Pn	06 09 45.6	+1.8
UGM	Wanagama	2.11	292	Pn	Pn	06 09 46.0	+0.5
UGM	Wanagama	2.11	292	P	Pn	06 09 46.0	+0.5
UGM	Wanagama	2.11	292	P	Pn	06 09 47.0	+1.5
KMMI	Kalianget	2.19	42	P	Pn	06 09 46.6	+0.1
YOGI	Yogyakarta	2.36	292	P	Pn	06 09 48.9	+0.1
IGBI	Denpasar	2.61	93	P	Pn	06 09 52.6	+0.4
SMRI	Semarang	2.62	309		Pn	06 09 53.9	+1.5
SMRI	Semarang	2.62	309	P	Pn	06 09 54.0	+1.7
SMRI	Semarang	2.62	309	P	Pn	06 09 54.1	+1.7
DNP	Denpasar	2.67	90	P	Pn	06 09 54.7	+1.7
DNP	Denpasar	2.67	90	P	Pn	06 09 54.7	+1.7
UWJI	Ujung Watu	2.74	326	P	Pn	06 09 55.5	+1.5
SRBI	Singaraja	2.75	77	P	Pn	06 09 54.4	+0.4
BWJI	Bawean	2.83	3	P	Pn	06 09 57.5	+2.3
KPJI	Karang Pucung	3.79	291	P	Pn	06 10 09.9	+1.7
CMJI	Cimerak	4.12	282	P	Pn	06 10 12.6	0.0
JCJI	Jatiwangi	4.74	297	P	Pn	06 10 21.1	0.0
LEM	Lembang	5.19	291	P	Pn	06 10 28.9	+1.5
	27nm,0.3s,baz=131,slow=9.2,SNR=24						
LEM				S	Sn	06 11 30.0	+3.9
	35nm,0.3s,baz=186,slow=16,SNR=6.5						
LEM				LR	LR	06 12 41.0	
	comp=Z,803nm,21.5s,baz=65,slow=40						
LEM	Lembang	5.19	291	P	Pn	06 10 29.0	+1.6
	2.1nm808nm2µm173nm,0.8s						
PLAI	Plampang	5.21	92	P	Pn	06 10 28.8	+1.2
	3.8nm5µm483nm,0.9s						
PLAI	Plampang	5.21	92	P	Pn	06 10 29.8	+2.2
CNJI	Cibinong	5.50	284	P	Pn	06 10 31.7	+0.2
	6.0nm7µm372nm,0.8s						
PBKI	Pangkalan Bun	6.01	352	P	Pn	06 10 41.4	+2.9
	2.8nm9µm685nm,0.7s						
CBJI	Citeko	6.05	292	P	Pn	06 10 38.8	-0.2
	4.2nm19µm423nm,0.7s						
DBJI	Dramaga	6.09	290	P	Pn	06 10 41.9	+2.3
	1.9nm261nm,0.9s						
SKJI	Sukabumi	6.13	286	P	Pn	06 10 40.6	+0.5
	3.9nm5µm388nm,0.7s						
WBSI	Waikabubak, Su	6.86	98	P	Pn	06 10 47.6	-2.5
	2.1nm3µm487nm,0.9s						
XMI	Christmas Isla	6.94	255	P	Pn	06 10 49.0	-2.2
XMIS	Christmas Isla	6.99	255	Pn	Pn	06 10 49.2	-2.6
XMIS	Christmas Isla	6.99	255	P	Pn	06 10 49.4	-2.4
CGJI	Cibinong	7.06	287	P	Pn	06 10 54.3	+1.5
	3.2nm10µm712nm,0.5s						
TPI	Tanjungpandan	7.63	320	P	Pn	06 11 01.5	+1.0
	0.2nm611nm63nm,1.0s						
BLSI	Bandar Lampung	7.93	294	P	Pn	06 11 06.5	+1.8
	0.9nm180nm,0.4s						
MTKI	Muara Teweh, K	8.07	17	P	Pn	06 11 09.2	+2.6
	6µm216nm,1.0s						
KAPI	Kappang	8.07	63	P	Pn	06 11 04.9	-1.7
	1.4nm,0.3s,baz=126,slow=19,SNR=5.5						
KAPI				S	Sn	06 12 34.4	-2.0
	baz=279,slow=19,SNR=1.4						
KAPI				LR	LR	06 14 35.4	
	comp=Z,228nm,19.7s,baz=234,slow=41						
BASI	Baing, Sumba	8.11	101	P	Pn	06 11 06.1	-1.0
	684nm2µm194nm,1.0s						
BKSI	Bulukumba	8.27	67	P	Pn	06 11 10.0	+0.7
	682nm68nm,1.1s						
BSSI	Bau Bau, Buton	8.32	73	P	Pn	06 11 11.1	+1.1
	103nm,1.0s						
KLI	Kotabumi	8.50	296	P	Pn	06 11 15.7	+3.3
KLI				pmax	pmax		
	comp=Z,239nm,0.8s						
KLI	Kotabumi	8.50	296	P	Pn	06 11 14.6	+2.2
	comp=Z,6µmcomp=Z,201nm,0.5s						
KASI	Kota Agung	8.55	291	P	Pn	06 11 15.2	+2.0
	comp=Z,2µmcomp=Z,148nm,0.6s						
SPSI	Sidrap Palu	8.62	57	P	Pn	06 11 15.6	+1.6
	comp=Z,140nm,1.1s						
BNSI	Bone	8.68	61	P	Pn	06 11 17.4	+2.5
	comp=Z,2µmcomp=Z,177nm,1.2s						
KLSI		8.69	297	P	Pn	06 11 18.2	+3.2
	comp=Z,386nmcomp=Z,42nm,0.9s						
STKI	Sintang	8.77	353	P	Pn	06 11 20.0	+3.9
	comp=Z,8µmcomp=Z,169nm,0.9s						
PPBI	Pangkal Pinang	9.07	315	P	Pn	06 11 23.2	+2.9
LWLI	Liwa	9.15	293	P	Pn	06 11 22.9	+1.5
	comp=Z,38µmcomp=Z,278nm,0.6s						
TTSI	Tana Toraja	9.19	53	P	Pn	06 11 25.6	+3.7
MDSI	Maura Dua	9.27	296	P	Pn	06 11 25.5	+2.5
	comp=Z,30nm,1.1s						
MMRI	Maumere	9.62	90	Pn	Pn	06 11 27.9	+0.1
MMRI	Maumere	9.62	90	P	Pn	06 11 28.0	+0.2
MMRI	Maumere	9.62	90	P	Pn	06 11 28.6	+0.8
KSM	Kuching	10.34	348	Pn	Pn	06 11 39.4	+1.8
KSM	Kuching	10.34	348	P	Pn	06 11 40.5	+2.9
MNAI	Manna	10.42	294	Pn	Pn	06 11 39.3	+0.6
MNAI	Manna	10.42	294	P	Pn	06 11 39.5	+0.9
	comp=Z,7µmcomp=Z,829nm,0.8s						
MNAI	Manna	10.42	294	P	Pn	06 11 39.6	+0.9
KSI	Kapahiang	11.06	296	P	Pn	06 11 48.7	+1.3
KSI				pmax	pmax		
	comp=Z,999nm,0.8s						
SBUM	Sibu	11.08	359		Pn	06 11 51.9	+4.3
BATI	Baumata	11.11	99	P	Pn	06 11 47.1	-0.9
	comp=Z,12nm,0.3s,baz=141,slow=2.4,SNR=5.1						
BATI				S	Sn	06 13 44.6	-6.0
	comp=Z,3.0nm,0.3s,baz=315,slow=20,SNR=0.8						
BATI	Baumata	11.11	99	P	Pn	06 11 47.6	-0.5
	comp=Z,58nm,0.8s						
DSRI	Dabo	11.36	316	P	Pn	06 11 54.9	+3.4
	comp=Z,66nm,1.0s						
MASI	Maura Aman, Be	11.61	298	P	Pn	06 11 56.0	+1.1
	comp=Z,5µmcomp=Z,600nm,0.8s						
MPSI	Mapaga	11.61	40	P	Pn	06 11 56.5	+1.6
	comp=Z,743nmcomp=Z,56nm,1.4s						
APSI	Ampana	11.95	50	P	Pn	06 12 02.3	+2.8
	comp=Z,716nmcomp=Z,67nm,1.1s						
LUWI	Luwuk	12.74	54	P	Pn	06 12 14.1	+3.9
	comp=Z,104nm,1.1s						
LUWI	Luwuk	12.74	54	P	Pn	06 12 13.9	+3.7
TOLI2	Tolitoli	12.77	41	Pn	Pn	06 12 13.8	+3.2
TOLI2	Tolitoli	12.77	41	P	P	06 12 14.6	-3.9
KRJI	Kerinci	12.80	300	P	Pn	06 12 10.9	-0.2
	comp=Z,696nm,0.8s						
MRSI	Marisa	13.10	46	P	Pn	06 12 17.6	+2.6
	comp=Z,1µmcomp=Z,94nm,0.9s						
MYKOM	Kota Tinggi	13.53	320	P	P	06 12 31.6	+4.7
PPSI	Pulau Pagai	13.76	295	P	Pn	06 12 21.6	-2.1
	comp=Z,2µmcomp=Z,118nm,0.8s						
GIRL	Giralia	13.96	173	P	Pn	06 12 21.7	-4.6
	baz=14,SNR=31						
GIRL	Giralia	13.96	173		Pn	06 12 21.8	-4.5
GIRL	Giralia	13.96	173	P	Pn	06 12 22.1	-4.2
GTOI	Gorontalo	13.99	49	P	P	06 12 30.0	-2.0
	comp=Z,643nmcomp=Z,85nm,0.8s						
PPI	Padang Panjang	14.58	304	P	Pn	06 12 32.8	-1.5
PSA00	Pilbara Seismi	14.62	152	P	Pn	06 12 31.6	-3.3
	comp=Z,48nm,1.3s						
SANI	Sanana	14.96	65	P	P	06 12 41.5	-1.3
	comp=Z,81nm,1.0s						
SANI	Sanana	14.96	65	P	P	06 12 42.1	-0.7
	comp=Z,81nm,0.8s						
MYLDM	Lahad Datu	15.03	24	P	P	06 12 45.4	+1.8
KKM	Kota Kinabalu	15.11	14	P	P	06 12 45.9	+1.3
FITZ	Fitzroy Crossi	15.82	128	P	Pn	06 12 47.9	-2.2
	comp=Z,1.3nm,0.3s,baz=276,slow=8.0,SNR=78						
FITZ				S	Sn	06 15 32.3	-13
	comp=Z,1.1nm,0.3s,baz=219,slow=13,SNR=6.2						
FITZ				LR	LR	06 19 11.0	
	comp=Z,239nm,21.4s,baz=308,slow=38						
LBMI	Labuha	16.95	63	P	P	06 13 07.4	+2.5
	comp=Z,1µmcomp=Z,130nm,1.2s						
MSAI	Masohi	17.17	73	P	P	06 13 09.3	+1.9
	comp=Z,12nm,0.6s						
KNRA	Kununurra	17.33	115	P	Pn	06 13 08.9	0.0
	baz=17,SNR=17						
KNRA	Kununurra	17.33	115	P	Pn	06 13 08.8	-0.1
KNRA				IAmb	IAmb	06 13 38.8	
	comp=Z,56nm,0.7s						
KNRA	Kununurra	17.33	115	P	P	06 13 09.8	+0.7
TNTI	Ternate	17.55	58	P	P	06 13 14.1	+2.6
	comp=Z,94nm,1.1s						
RPSI	Rantau Prapat	17.65	309	P	Pn	06 13 12.7	-0.1
PSI	Prapat	17.72	310	P	P	06 13 12.7	-0.9
	comp=Z,0.4nm,0.3s,baz=166,slow=12,SNR=2.1						
PSI				LR	LR	06 21 01.9	
	comp=Z,250nm,20.1s,baz=134,slow=40						
BNDI	Bandanaira	17.77	78	P	Pn	06 13 17.1	+2.8
GSI	Gunungsitoli	17.89	303	P	P	06 13 12.7	-2.6
MTN	Manton Dam	18.75	104	P	P	06 13 25.3	+0.4
	baz=19,SNR=10						
MTN	Manton Dam	18.75	104	P	P	06 13 25.2	+0.4
MTN	Manton Dam	18.75	104	P	P	06 13 25.2	+0.4
MEEK	Meekatharra	18.76	163	P	P	06 13 25.7	+0.9
	baz=19,SNR=12						
KCSI	Kotacane, Aceh	19.06	309	P	Pn	06 13 29.3	-0.5
	comp=Z,15nm,0.7s						
KDU	Kakadu	20.01	103	P	P	06 13 37.8	-0.7
	baz=20,SNR=14						
KDU	Kakadu	20.01	103	P	P	06 13 39.4	+0.9
SWI	Sorong	20.23	68	P	P	06 13 41.7	+0.8
SWI				pmax	pmax		
	comp=Z,119nm,1.0s						
SWI	Sorong	20.23	68	P	Pn	06 13 43.9	+0.4
	comp=Z,1µmcomp=Z,121nm,1.0s						
SIJI	Sorong	20.24	68	P	P	06 13 41.1	+0.1
	comp=Z,63nm,0.7s,baz=264,slow=9.2,SNR=11						
SIJI				LR	LR	06 21 46.1	
	comp=Z,144nm,20.8s,baz=138,slow=37						
FAKI	Fak Fak	20.46	75	P	P	06 13 42.2	-1.1
FAKI	Fak Fak	20.46	75	P	P	06 13 42.2	-1.1
	comp=Z,46nm,1.1s						
FAKI	Fak Fak	20.46	75	P	Pn	06 13 44.9	-1.3
	comp=Z,47nm,1.1s						
MORW	Morawa	20.53	171	P	Pn	06 13 47.0	+0.1
	baz=21,SNR=9.0						
MORW	Morawa	20.53	171	P	Pn	06 13 47.1	+0.2
WRKA	Warakurna	22.15	139	P	P	06 14 01.4	0.0
	baz=22,SNR=16						
WRKA	Warakurna	22.15	139	P	P	06 14 02.9	+1.5
	comp=Z,43nm,1.2s						
BLDU	Ballidu	22.15	170	P	P	06 14 01.4	+0.1
	baz=22,SNR=8.6						
BLDU	Ballidu	22.15	170	P	P	06 14 01.5	+0.1
KLBR	Kellerberrin	23.30	169	P	P	06 14 13.6	+0.6
	baz=23,SNR=7.2						
KLBR	Kellerberrin	23.30	169	P	P	06 14 13.9	+0.9
	comp=Z,50nm,0.8s						
MUN	Mundaring	23.42	172	P	P	06 14 15.0	+0.9
	baz=24,SNR=5.1						
WRA	Warramunga Arr	23.89	120	P	P	06 14 18.5	0.0
	comp=Z,10nm,0.9s,baz=297,slow=11,SNR=91						
WRA				PcP	PcP	06 18 00.4	+0.9
	comp=Z,3.4nm,0.7s,baz=310,slow=1.8,SNR=5.1						
WRA				S	S	06 18 30.3	+1.2
	comp=Z,2.1nm,1.0s,baz=273,slow=17,SNR=3.3						
WRA				ScP	ScP	06 21 30.6	-0.2
	comp=Z,1.9nm,0.5s,baz=308,slow=2.0,SNR=8.1						
WRA				LR	LR	06 23 49.1	
	comp=Z,88nm,20.9s,baz=294,slow=37						
WRAB	Tennant Creek	23.90	120	ceP	P	06 14 17.5	-1.1
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s						
WRAB	Tennant Creek	23.90	120	P	P	06 14 18.6	0.0
	comp=Z,31nm,0.8s						
ASAR	Alice Springs	25.32	129	P	P	06 14 32.0	+0.5
	comp=Z,24nm,0.9s,baz=303,slow=8.3,SNR=56						
ASAR				PcP	PcP	06 18 03.6	+1.0
	comp=Z,5.2nm,0.7s,baz=316,slow=1.6,SNR=8.3						
ASAR				S	S	06 18 58.7	+6.8
	comp=Z,2.0nm,1.0s,baz=316,slow=24,SNR=2.6						
ASAR				ScP	ScP	06 21 34.5	-0.4
	comp=Z,2.4nm,0.9s,baz=270,slow=2.5,SNR=5.0						
ASAR				LR	LR	06 26 23.3	
	comp=Z,74nm,18.4s,baz=308,slow=41						
AS31	Alice Springs	25.32	129	P	P	06 14 31.8	+0.3
FORT	Forrest	26.33	149	P	P	06 14 42.0	+1.5
	baz=26,SNR=15						
FORT	Forrest	26.33	149	P	P	06 14 41.8	+1.3
FORT	Forrest	26.33	149	P	P	06 14 42.4	+1.9
	comp=Z,154nm,1.1s						
QIS	Mount Isa	28.69	117	P	P	06 15 01.8	+0.1
	baz=29,SNR=6.1						
QIS	Mount Isa	28.69	117	P	P	06 15 02.6	+0.8
	comp=Z,19nm,1.1s						
OOD	Oodnadatta	28.97	134	P	P	06 15 05.4	+1.3
	comp=Z,35nm,0.9s						
MULG	Mulgathing	29.45	140	P	P	06 15 09.1	+0.8
CMAR	Chiang Mai Arr	30.12	334	P	P	06 15 13.6	-0.8
	comp=Z,7.6nm,0.8s,baz=169,slow=8.2,SNR=41						
CMAR				PcP	PcP	06 18 15.8	+1.6
	comp=Z,5.4nm,0.6s,baz=201,slow=3.1,SNR=12						
CMAR				LR	LR	06 30 02.9	
	comp=Z,137nm,18.5s,baz=160,slow=42						
CMAR	Chiang Mai Arr	30.12	334	iP	P	06 15 15.3	+0.9
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	Chiang Mai	30.44	334	P	P	06 15 20.6	+3.5
CHTO	Chiang Mai	30.44	334	P	P	06 15 19.8	+2.7
	comp=Z,3.9nm,0.7s						
COEN	Coen	30.50	103	P	P	06 15 18.7	+0.8
COEN				IAmb	IAmb	06 15 19.2	
	comp=Z,23nm,0.8s						
COEN	Coen	30.50	103	P	P	06 15 18.5	+0.7
MTSU	Mount Surprise	32.28	110	P	P	06 15 35.1	+1.6
	baz=32,SNR=11						
MTSU	Mount Surprise	32.28	110	P	P	06 15 35.4	+1.9
	comp=Z,9.7nm,0.9s						
LCRK	Leigh Creek	32.33	136	P	P	06 15 35.5	+1.8
	comp=Z,29nm,1.1s						
BBOO	Buckleboo	32.41	141	P	P	06 15 34.9	+0.5
BBOO				IAmb	IAmb	06 15 55.9	
	comp=Z,33nm,1.3s						
NAPP	Napperby	33.97	140	P	P	06 15 50.6	+2.6
	comp=Z,23nm,0.8s						
PMG	Port Moresby	34.22	94	LR	LR	06 31 49.4	
	comp=Z,91nm,18.1s,baz=270,slow=40						
PMG	Port Moresby	34.22	94	ceP	P	06 15 48.7	-1.7
PMG				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PMG	Port Moresby	34.22	94	P	P	06 15 52.1	+1.7
	comp=Z,14nm,0.9s						
CTA	Charters Tower	34.52	113	LR	LR	06 31 12.3	
	comp=Z,114nm,20.0s,baz=264,slow=38						
HTT	Hallett	34.63	139	P	P	06 15 55.3	+1.5
	baz=35,SNR=5.2						
HTT	Hallett	34.63	139	P	P	06 15 55.2	+1.5
QLP	Quilpie	34.93	125	P	P	06 15 58.6	+2.3
	baz=35,SNR=5.4						
QLP	Quilpie	34.93	125	P	P	06 15 58.3	+2.0
	comp=Z,36nm,1.3s						
KMI	Kunming	34.94	344	⇓P	P	06 16 01.8	+5.2
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
GYA	Guiyang	35.41	351	⇓P	P	06 16 03.5	+3.0
GYA				pmax	pmax		
	comp=Z,20nm,0.6s						
PALK	Pallekele	35.45	296	LR	LR	06 31 23.7	
	comp=Z,56nm,18.9s,baz=223,slow=38						
STKA	Stephens Creek	35.51	135	P	P	06 16 02.3	+1.0
	comp=Z,26nm,0.7s,baz=310,slow=8.7,SNR=63						
STKA				PcP	PcP	06 18 30.2	+1.1
	comp=Z,15nm,0.6s,baz=312,slow=3.7,SNR=6.2						
STKA				LR	LR	06 31 11.3	
	comp=Z,293nm,21.9s,baz=297,slow=37						
STKA	Stephens Creek	35.51	135	P	P	06 16 02.6	+1.3
	baz=36,SNR=28						
STKA	Stephens Creek	35.51	135	P	P	06 16 01.9	+0.6
STKA	Stephens Creek	35.51	135	P	P	06 16 02.6	+1.3
	comp=Z,8.9nm,0.9s						
PZH	PanZhiHua	36.52	344	P	P	06 16 11.1	+1.1
PZH				S	S	06 21 47.2	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
PZH				LR	LR		
	comp=Z,340nm,22.7s						
PZH				LR	LR		
	comp=Z,460nm,21.6s						
PZH				LR	LR		
	comp=Z,550nm,22.2s						
BRDH	Bariadhala	37.28	327	P	P	06 16 16.2	-0.2
	comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=1.5						
CMSA	Cobar Meteorol	38.31	131	P	P	06 16 27.0	+2.0
	baz=38,SNR=6.8						
CMSA	Cobar Meteorol	38.31	131	P	P	06 16 27.1	+2.1
	comp=Z,31nm,1.2s						
JOW	Kunigami	38.49	23	P	P	06 16 25.8	-0.8
	comp=Z,20nm,0.8s,baz=200,slow=6.5,SNR=3.6						
JOW				LR	LR	06 36 04.6	
	comp=Z,48nm,18.2s,baz=192,slow=42						
JOW	Kunigami	38.49	23	IAmb	IAmb	06 16 27.9	
	comp=Z,39nm,0.9s						
ARPS	Mount Arapiles	38.59	141	P	P	06 16 27.8	+0.5
GUMO	Guam	39.02	56	LR	LR	06 33 12.9	
	comp=Z,27nm,18.2s,baz=218,slow=37						
WHN	Wuhan	39.06	3	P	P	06 16 39.0	+7.8
SHL	Shillong	39.54	330	P	P	06 16 35.8	+0.3
SHL				pmax	pmax		
	comp=Z,89nm,0.6s						
SHL	Shillong	39.54	330	P	P	06 16 35.8	+0.3
H08S2	Diego Garcia H	39.61	269	T	T	06 58 10.8	
	baz=95,slow=76						
H08S3	Diego Garcia H	39.62	269	T	T	06 58 36.7	
	baz=95,slow=76						
H08S1	Diego Carcia H	39.63	269	T	T	06 58 40.0	
	baz=95,slow=76						
CD2	Chengdu	40.27	348	P	P	06 16 41.5	+0.2
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2	Nanjing	40.97	8	eP	P	06 16 50.1	+3.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TOO	Toolangi	41.40	139	P	P	06 16 51.9	+1.3
	baz=41,SNR=4.2						
ARMA	Armidale	42.42	126	P	P	06 17 01.8	+2.7
ARMA				IAmb	IAmb	06 18 18.8	
	comp=Z,79nm,2.0s						
HYBB	Hyderabad (bro	42.42	308	eP	P	06 16 57.7	-1.4
XAN	Xi'an	42.64	356	P	P	06 17 00.0	-0.7
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,220nm,5.0s						
ODAN	Odare	42.93	326	eP	P	06 17 02.8	-0.6
	comp=Z,75nm,0.7s						
TAPN	Taplejung	43.15	327	eP	P	06 17 04.9	-0.3
	comp=Z,78nm,0.8s						
LSA	Lhasa	43.36	333	IAmb	IAmb	06 17 08.8	
	comp=Z,30nm,0.7s						
RAMN	Ramite	43.44	325	eP	P	06 17 07.4	-0.1
	comp=Z,15nm,0.5s						
JIRN	Jiri	44.22	326	eP	P	06 17 13.2	-0.7
	comp=Z,61nm,0.7s						
GUN	Gumba	44.59	326	eP	P	06 17 16.2	-0.6
	comp=Z,78nm,0.7s						
PKI	Pulchoki	44.59	325	eP	P	06 17 15.6	-1.2
PKIN	Phulchoki	44.60	325	eP	P	06 17 15.5	-1.3
	comp=Z,14nm,0.5s						
DMN	Daman	44.80	325	eP	P	06 17 17.4	-0.9
	comp=Z,48nm,0.6s						
TIA	Tai'an	44.88	5	⇓P	P	06 17 18.3	-0.3
TIA				pmax	pmax		
	comp=Z,9.0nm,0.5s						

JNU Nakatsue 45.12 22 P **P** 06 17 19.4 -1.1
comp=Z,12nm,0.9s,baz=184,slow=9.1,SNR=3.0

LZH Lanzhou 45.29 350 ⇓P **P** 06 17 23.1 +1.1
LZH pP pP 06 17 43.9 +2.1
LZH sP sP 06 17 53.5 +2.5
LZH PcP **PcP** 06 19 02.4 +1.8
LZH pmax pmax
comp=Z,37nm,1.5s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=Z,210nm,11.4s
LZH LR LR
comp=Z,340nm,10.3s
LZH LR LR
comp=Z,330nm,10.8s

GKN Gorkha 45.36 324 *eP* **P** 06 17 21.8 -0.9
KOLN Koldanda 45.79 323 *eP* **P** 06 17 25.1 -1.1
comp=Z,54nm,0.6s

HNS HongShan 45.90 2 ⇑P **P** 06 17 26.9 +0.3
HNS pmax pmax
comp=Z,11nm,0.8s

DANN Dangsing 46.13 324 *eP* **P** 06 17 27.8 -1.1
comp=Z,64nm,0.7s

PYUN Piuthan 46.40 323 *eP* **P** 06 17 29.8 -1.1
HNR Honiara 46.83 95 LR LR 06 39 26.8
comp=Z,55nm,18.9s,baz=211,slow=39

JHS Saijyo 47.63 23 P **P** 06 17 40.3 +0.1
GOMU GeErMu 47.66 341 P **P** 06 17 41.0 +0.2
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GOMU pmax pmax
comp=Z,89nm,5.3s

KSRS Korea Array 48.13 17 P **P** 06 17 44.1 +0.2
comp=Z,12nm,0.7s,baz=204,slow=8.4,SNR=35
KSRS pP **pP** 06 18 03.0 -0.9
comp=Z,3.4nm,0.7s,baz=203,slow=6.2,SNR=3.5
KSRS sP **sP** 06 18 11.9 -1.2
comp=Z,3.5nm,0.8s,baz=197,slow=8.2,SNR=2.8
KSRS PcP **PcP** 06 19 10.0 -0.3
comp=Z,3.4nm,0.8s,baz=191,slow=4.1,SNR=4.4
KSRS LR LR 06 38 46.3
comp=Z,25nm,21.3s,baz=205,slow=37

BJT Baijiatuau 48.59 4 P **P** 06 17 47.4 -0.1
BJT pmax pmax
comp=Z,11nm,0.6s

BJT Baijiatuau 48.59 4 P **P** 06 17 47.4 -0.1
BJT lAmb lAmb 06 17 52.1
comp=Z,11nm,0.6s

BJI Beijing 48.61 4 P **P** 06 17 47.3 -0.3
BJI PcP **PcP** 06 19 13.2 +1.2
BJI pmax pmax
comp=Z,11nm,0.7s

HHC Hu-ho-hao-te 49.31 359 *eP* **P** 06 17 52.9 -0.2
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.2s

MAJO Matsushiro 51.07 27 *i* P **P** 06 18 04.5 -1.9
MAJO pmax pmax
comp=Z,17nm,1.1s

MAJO Matsushiro 51.07 27 P **P** 06 18 05.3 -1.0
MAJO lAmb lAmb 06 18 05.9
comp=Z,55nm,1.5s

MJAR Matsushiro Arr 51.08 27 P **P** 06 18 04.6 -1.8
comp=Z,18nm,0.9s,baz=202,slow=7.2,SNR=18
MJAR pP **pP** 06 18 24.9 -1.7
comp=Z,5.9nm,0.6s,baz=206,slow=8.2,SNR=3.0
MJAR LR LR 06 43 23.1
comp=Z,30nm,18.1s,baz=218,slow=40

MJAR Matsushiro Arr 51.08 27 lAmb lAmb 06 18 05.8
comp=Z,22nm,1.3s

MJB9 Matsu-Tunnel 51.08 27 lAmb lAmb 06 18 10.8
comp=Z,13nm,0.8s

DZM Mont Dzumac 53.42 111 LR LR 06 41 39.8
comp=Z,36nm,18.7s,baz=350,slow=36

CN2 Changchun 53.56 12 *eP* **P** 06 18 22.5 -2.1
CN2 *e*PP **PP** 06 20 26.6 +0.4
CN2 *e*S **S** 06 25 47.9 -3.8
CN2 *e*sS sS 06 26 29.1 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,320nm,16.0s
CN2 LR LR
comp=Z,310nm,16.0s
CN2 LR LR
comp=Z,290nm,17.0s

MDJ Mudanjiang 55.27 15 lAmb lAmb 06 18 37.6
comp=Z,34nm,1.0s

MDJ Mudanjiang 55.27 15 P **P** 06 18 36.6 -0.4
MDJ pmax pmax
comp=Z,38nm,1.2s
MDJ pmax pmax
comp=Z,230nm,5.5s

USA0B Ussuriysk Arra 55.53 17 *i* P **P** 06 18 37.6 -1.3
USA0B Ussuriysk Arra 55.53 17 P **P** 06 18 38.9 0.0
USRK Ussuriysk Ar. 55.53 17 P **P** 06 18 38.6 -0.3
comp=Z,38nm,0.8s,baz=200,slow=4.6,SNR=58

BNX BinXian 55.82 13 ⇑P **P** 06 18 40.1 -0.8
BNX pmax pmax
comp=Z,42nm,0.7s
BNX pmax pmax
comp=Z,260nm,3.5s

JTM Tenmabayashi 55.84 26 P **P** 06 18 41.4 +0.2
NIL Nilore 56.24 321 P **P** 06 18 42.6 -1.6
NIL pmax pmax
comp=Z,25nm,0.8s

NIL Nilore 56.24 321 P **P** 06 18 42.6 -1.6
NIL lAmb lAmb 06 18 43.1
comp=Z,25nm,0.8s

ULN Ulaanbaatar 56.52 356 *ce*P **P** 06 18 45.7 -0.4
ULN pmax pmax
comp=Z,8.0nm,0.6s

ULN Ulaanbaatar 56.52 356 P **P** 06 18 46.0 -0.1
ULN lAmb lAmb 06 18 46.7
comp=Z,10.0nm,0.7s

SONM Songino Array 56.55 355 P **P** 06 18 45.8 -0.4
comp=Z,9.5nm,0.7s,baz=176,slow=8.5,SNR=93
SONM PcP **PcP** 06 19 41.5 -0.4
comp=Z,4.6nm,0.8s,baz=157,slow=4.5,SNR=7.3

SONM Songino Array 56.55 355 P **P** 06 18 46.2 0.0
SONM pmax pmax
comp=Z,10.0nm,0.7s

SONM Songino Array 56.55 355 P **P** 06 18 46.2 0.0
SONM lAmb lAmb 06 18 46.9
comp=Z,9.6nm,0.7s

WMQ Urumqi 56.92 339 *eP* **P** 06 18 49.2 +0.3
WMQ sP sP 06 19 20.5 +2.3
WMQ PcP **PcP** 06 19 44.6 +1.2
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ LR LR
comp=Z,770nm,13.1s
WMQ LR LR
comp=Z,800nm,14.5s
WMQ LR LR
comp=Z,670nm,17.1s

KSH Kashi 58.72 327 P **P** 06 19 00.3 -1.4
KSH pP pP 06 19 23.2 +1.1
KSH PcP **PcP** 06 19 51.2 +0.5
KSH pmax pmax
comp=Z,15nm,0.8s

ASAJ Asahikawa 59.21 25 P **P** 06 19 03.8 -1.1
comp=Z,12nm,0.6s,baz=235,slow=7.1,SNR=7.0
ASAJ LR LR 06 45 26.9
comp=Z,33nm,21.8s,baz=124,slow=37

ZAK Zakamensk 59.38 353 *eP* **P** 06 19 04.8 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.4s

TARG Taragay, Kyrgy 59.42 330 lAmb lAmb 06 19 15.6
comp=Z,14nm,1.1s

KBL Kabul 59.50 319 P **P** 06 19 05.7 -1.6
KBL pmax pmax
comp=Z,12nm,0.7s

KBL Kabul 59.50 319 P **P** 06 19 05.7 -1.6
KBL lAmb lAmb 06 19 06.2
comp=Z,12nm,0.7s

SHLS Shalkode 59.73 332 *c i*P **P** 06 19 07.1 -1.5
SHLS pmax pmax
comp=Z,14nm,0.7s

SHLS Shalkode 59.73 332 ⇑ *i*P **P** 06 19 07.2 -1.5
comp=Z,14nm,0.7s,baz=333

PDGK Podgornoye 59.85 333 P **P** 06 19 08.4 -1.0

UZB Uzynbulak 59.93 332 *c i*P **P** 06 19 09.6 -0.3
UZB pmax pmax
comp=Z,13nm,0.7s

UZB Uzynbulak 59.93 332 ⇑ *i*P **P** 06 19 09.6 -0.3
comp=Z,13nm,0.7s,baz=332

KLR Kul'dur 60.11 14 P **P** 06 19 09.9 -1.0
comp=Z,8.8nm,0.5s,baz=194,slow=5.2,SNR=46

KLR Kul'dur 60.11 14 *ce*P **P** 06 19 08.9 -1.9
KLR pmax pmax
comp=Z,26nm,1.3s

SATY Saty 60.15 332 *c i*P **P** 06 19 11.0 -0.4
SATY pmax pmax
comp=Z,8.0nm,0.7s

SATY Saty 60.15 332 ⇑ *i*P **P** 06 19 11.1 -0.4
comp=Z,7.8nm,0.7s,baz=332

ZHN Zhinishke 60.22 332 *eP* **P** 06 19 11.2 -0.7
ZHN Zhinishke 60.22 332 *eP* **P** 06 19 11.2 -0.7
baz=332

KPKS Kokpek 60.33 332 *c i*P **P** 06 19 12.0 -0.6
KPKS pmax pmax
comp=Z,16nm,0.8s

KPKS Kokpek 60.33 332 ⇑ *i*P **P** 06 19 12.0 -0.6
comp=Z,16nm,0.8s,baz=332

TNSS Tian-Shan 60.82 331 *eP* **P** 06 19 15.5 -0.9
baz=331

MDOK Medeo 60.87 331 *i* P **P** 06 19 15.8 -0.6
MDOK Medeo 60.87 331 *i* P **P** 06 19 15.8 -0.6
baz=331

AAA Alma-Ata 60.97 331 *eP* **P** 06 19 16.5 -0.4
AAA pmax pmax
comp=Z,19nm,0.5s

AAA Alma-Ata 60.97 331 *eP* **P** 06 19 16.5 -0.4
comp=Z,19nm,0.5s,baz=331

ZSN Zaisan 61.05 339 *eP* **P** 06 19 17.0 -0.3
ZSN Zaisan 61.05 339 *eP* **P** 06 19 17.1 -0.3
baz=339

ARXS Arharly 61.30 332 *eP* **P** 06 19 18.0 -1.2
TKM2 Tokmak 2 61.40 330 P **P** 06 19 19.5 -0.6
SNR=44

TKM2 Tokmak 2 61.40 330 P **P** 06 19 18.9 -1.1
CHKK Chushkaly 61.42 331 *eP* **P** 06 19 18.7 -1.2
baz=331

MK31 Makanchi Array 61.46 337 *i* P **P** 06 19 19.0 -1.1
MK31 Makanchi Array 61.46 337 P **P** 06 19 19.7 -0.4
MK31 lAmb lAmb 06 19 20.4
comp=Z,12nm,0.8s

MKAR Makanchi Array 61.46 337 P **P** 06 19 19.4 -0.7
comp=Z,18nm,0.7s,baz=148,slow=7.2,SNR=173

MKAR Makanchi Array 61.46 337 *i* P **P** 06 19 19.3 -0.8
MKAR pmax pmax
comp=Z,19nm,0.7s

MKAR Makanchi Array 61.46 337 P **P** 06 19 19.7 -0.4
RPZ Rata Peaks 61.48 135 P **P** 06 19 21.4 +1.0
comp=Z,34nm,1.1s,baz=350,slow=7.2,SNR=4.9
RPZ pP **pP** 06 19 40.8 +0.4
comp=Z,27nm,0.9s,baz=359,slow=1.0,SNR=5.3
RPZ LR LR 06 47 25.5
comp=Z,188nm,18.3s,baz=264,slow=37

RPZ Rata Peaks 61.48 135 P **P** 06 19 22.8 +2.4
KBK Karagaybulak 61.53 329 P **P** 06 19 20.9 0.0
SNR=52

GAR Garm 61.54 323 P **P** 06 19 19.2 -1.7
GAR lAmb lAmb 06 19 21.4
comp=Z,25nm,0.8s

MAKZ Makanchi 61.59 337 P **P** 06 19 20.0 -1.1
MAKZ pmax pmax
comp=Z,8.0nm,0.9s

MAKZ Makanchi 61.59 337 P **P** 06 19 19.9 -1.1
YSS Yuzh-Sakhalins 61.60 23 *eP* **P** 06 19 20.8 -0.2
YSS *e* 06 19 43.9
YSS pmax pmax
comp=Z,50nm,1.1s

YSS Yuzh-Sakhalins 61.60 23 P **P** 06 19 20.6 -0.4
AAK Ala-Archa 61.75 329 P **P** 06 19 21.7 -0.6
comp=Z,20nm,0.9s,baz=153,slow=6.0,SNR=42

AAK Ala-Archa 61.75 329 *ce*P **P** 06 19 22.0 -0.3
AAK pmax pmax
comp=Z,24nm,0.9s

AAK Ala-Archa 61.75 329 P **P** 06 19 22.1 -0.3
AAK lAmb lAmb 06 19 23.6
comp=Z,24nm,0.9s

AAK Ala-Archa 61.75 329 *i* P **P** 06 19 22.1 -0.3
SNR=31

KUU Kurty 61.76 331 *c i*P **P** 06 19 21.2 -1.0
KUU Kurty 61.76 331 ⇑ *i*P **P** 06 19 21.3 -1.0
baz=331

AML Almayashu 61.80 328 P **P** 06 19 22.4 -0.5
SNR=32

AML Almayashu 61.80 328 *i* P **P** 06 19 22.5 -0.5
SNR=44

EKS2 Erkin-Say 62.13 329 P **P** 06 19 24.8 -0.1
SNR=24

USP Ospenovka 62.20 329 P **P** 06 19 24.3 -0.9
SNR=16

SGDS Sogindy 62.27 330 ⇑ *i*P **P** 06 19 24.9 -0.8
comp=Z,9.1nm,0.7s,baz=330

ZEA Zeya 63.44 10 *eP* **P** 06 19 33.2 0.0
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s

DZA Taraz 63.58 327 *eP* **P** 06 19 33.0 -1.3
DZA pmax pmax
comp=Z,7.0nm,0.6s

DZA Taraz 63.58 327 *eP* **P** 06 19 33.0 -1.3
comp=Z,7.2nm,0.6s,baz=327

BTLS Baital 63.71 331 *c i*P **P** 06 19 33.8 -1.3
BTLS Baital 63.71 331 ⇑ *i*P **P** 06 19 33.9 -1.3
baz=330

UOSS Minazif 64.22 303 P **P** 06 19 38.7 -0.2
UOSS lAmb lAmb 06 19 38.8
comp=Z,52nm,1.5s

UOSS Minazif 64.22 303 P **P** 06 19 38.1 -0.8
HATD Hatta, Dubai 64.23 303 P **P** 06 19 38.7 -0.3
ASHO Ashiyiah 64.24 303 P **P** 06 19 38.6 -0.5
VOI Vohitsoka 64.32 250 P **P** 06 19 41.8 +2.0
VOI lAmb lAmb 06 20 07.2
comp=Z,20nm,1.2s

BRLS Boroldoy 64.48 327 *eP* **P** 06 19 38.6 -1.6
BRLS Boroldoy 64.48 327 *eP* **P** 06 19 38.7 -1.6
baz=326

BANOM Banah 64.54 304 P **P** 06 19 40.3 -0.7
FAQ Al Faqa, Dubai 64.65 303 *i* P **P** 06 19 41.1 -0.6
SNR=9.6

URZ Urewera 64.76 128 LR LR 06 47 30.5
comp=Z,135nm,20.7s,baz=264,slow=36

ASUD Al Ashush, Dub 64.82 302 P **P** 06 19 42.5 -0.2
SEM Semipalatinsk 65.20 338 *eP* **P** 06 19 43.6 -1.4
SEM pmax pmax
comp=Z,16nm,1.1s

SEM Semipalatinsk 65.20 338 *eP* **P** 06 19 43.7 -1.3
comp=Z,16nm,1.1s,baz=338

KURBB Kurchatov Arra 66.02 337 P **P** 06 19 48.9 -1.1
comp=Z,7.8nm,0.6s,baz=152,slow=5.6,SNR=44

KURK Kurchatov 66.06 337 *ce*P **P** 06 19 49.2 -1.0
KURK pmax pmax
comp=Z,16nm,0.8s

KURK Kurchatov 66.06 337 P **P** 06 19 49.4 -0.8
KURK lAmb lAmb 06 19 50.3
comp=Z,16nm,0.8s

ZAA0 Zalesovo Array 66.66 343 P **P** 06 19 52.9 -1.1
ZAA0 lAmb lAmb 06 19 53.7
comp=Z,18nm,0.9s

ZALV Zalesovo Beam 66.66 343 P **P** 06 19 52.7 -1.2
comp=Z,20nm,0.8s,baz=150,slow=4.4,SNR=46
ZALV pP **pP** 06 20 13.6 -1.2
comp=Z,4.5nm,0.6s,baz=158,slow=4.4,SNR=3.3

MAW Mawson 67.41 198 LR LR 06 42 19.6
comp=Z,152nm,19.7s,baz=55,slow=29

BRZS Berezniki 67.95 334 *eP* **P** 06 20 01.7 -0.6
BRZS pmax pmax
comp=Z,11nm,1.0s

BRZS Berezniki 67.95 334 *eP* **P** 06 20 01.7 -0.6
comp=Z,11nm,1.0s,baz=333

GEYT Alibeck 68.70 316 P **P** 06 20 06.5 -0.8
comp=Z,5.4nm,0.7s,baz=103,slow=4.6,SNR=6.4

BVAR Borovoye Array 71.14 335 P **P** 06 20 20.5 -1.3
comp=Z,5.7nm,0.8s,baz=157,slow=8.6,SNR=25

BRVK Borovoye 71.21 335 *ce*P **P** 06 20 20.8 -1.5
BRVK pmax pmax
comp=Z,8.0nm,1.3s

BRVK Borovoye 71.21 335 P **P** 06 20 21.3 -0.9
YAK Yakutsk 71.77 8 P **P** 06 20 24.9 -0.5
comp=Z,20nm,0.4s,baz=166,slow=2.0,SNR=8.6

YAK Yakutsk 71.77 8 *e*P **P** 06 20 23.8 -1.6
YAK *e**PP **PcP** 06 20 44.6 +0.7
YAK *e* 06 23 10.5
YAK *e*S **S** 06 29 36.1 -3.0
YAK *e**SS **pS** 06 30 03.9 -1.2
YAK *e* 06 30 30.8
YAK *e*SS **SS** 06 34 20.6 +3.8
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,138nm,3.8s
YAK pmax pmax
comp=N,126nm,3.8s
YAK pmax pmax
comp=E,102nm,3.5s
YAK smax smax
comp=N,67nm,3.4s
YAK smax smax
comp=E,157nm,3.6s

PETK Petropavlovsk- 72.53 27 P **P** 06 20 29.6 -0.6
comp=E,17nm,0.9s,baz=208,slow=5.0,SNR=6.8

RAYN Ar Rayn 72.85 298 P **P** 06 20 32.2 -0.5
RAYN pmax pmax
comp=Z,14nm,0.9s

RAYN Ar Rayn 72.85 298 P **P** 06 20 32.2 -0.5
RAYN lAmb lAmb 06 20 33.2
comp=Z,14nm,0.8s

RAYN Ar Rayn 72.85 298 *i* P **P** 06 20 32.3 -0.5
SNR=11

VNDA Vanda 73.33 170 LR LR 06 49 44.8
comp=Z,118nm,21.7s,baz=308,slow=33

AB31 Akbulak array 73.72 327 *i* P **P** 06 20 36.3 -1.0
ABKAR Akbulak array 73.72 327 P **P** 06 20 36.4 -0.9
KIBK Kibwezi 74.29 270 lAmb lAmb 06 20 43.9
comp=Z,18nm,0.8s

MA2 Magadan 74.59 19 P **P** 06 20 41.4 -0.7
comp=Z,23nm,0.8s,baz=195,slow=5.2,SNR=31

MA2 Magadan 74.59 19 ⇑ *eP* **P** 06 20 42.3 +0.2
MA2 pmax pmax
comp=Z,25nm,0.8s

MA2 Magadan 74.59 19 P **P** 06 20 42.2 +0.1
MA2 lAmb lAmb 06 20 43.1
comp=Z,25nm,0.9s

KMBO Kilima Mbogo 75.25 271 P **P** 06 20 48.4 +1.2
comp=Z,6.6nm,0.9s,baz=58,slow=7.4,SNR=16

KMBO Kilima Mbogo 75.25 271 P **P** 06 20 48.1 +0.9
KMBO Kilima Mbogo 75.25 271 *i* P **P** 06 20 48.8 +1.6
SNR=7.6

AKTO Aktyubinsk 75.42 327 P **P** 06 20 46.4 -0.7
comp=Z,12nm,0.7s,baz=120,slow=3.7,SNR=41

SYO Syowa Base 75.83 201 ⇑ *eX* **P** 06 20 48.1 -1.0
SYO Syowa Base 75.83 201 ⇓ *es*P sP 06 21 21.6 +3.0
SEY Seymchan 77.68 17 *i* P **P** 06 20 58.2 -1.3
SEKA Sheki 77.70 315 P **P** 06 20 59.4 -0.9
SVE Sverdlovsk 77.87 334 *eP* **P** 06 21 00.8 0.0
SVE pmax pmax
comp=Z,29nm,1.0s

GANJ Ganja 78.10 315 P **P** 06 21 01.7 -0.7
NAX Nakhchivan 78.14 313 P **P** 06 21 02.2 -0.5
ZKTA Zakatala 78.27 316 P **P** 06 21 02.6 -0.7
ARU Arti 78.56 333 P **P** 06 21 03.8 -0.8
comp=Z,1.4nm,0.3s,baz=143,slow=3.9,SNR=14

ARU Arti 78.56 333 *c i*P **P** 06 21 03.6 -1.0
ARU S **S** 06 30 53.9 -0.7
ARU pmax pmax
comp=Z,24nm,1.1s

ARU Arti 78.56 333 P **P** 06 21 03.7 -0.8
ARU lAmb lAmb 06 21 04.9
comp=Z,24nm,1.1s

GNI Garni 79.03 314 *ce*P **P** 06 21 08.2 +0.4
GNI pmax pmax
comp=Z,10.0nm,1.0s

NRIK Noril'sk 79.77 351 P **P** 06 21 10.1 -0.8
comp=Z,6.3nm,0.6s,baz=139,slow=4.6,SNR=9.9

NRIK Noril'sk 79.77 351 *ce*P **P** 06 21 10.0 -0.9
NRIK pmax pmax
comp=Z,13nm,0.9s

AKH Akhalkalaki 80.37 315 ⇑P **P** 06 21 15.2 +0.2
AKH Akhalkalaki 80.37 315 P **P** 06 21 15.2 +0.2
GURO Guroymak-BITLI 80.45 311 lAmb lAmb 06 21 16.4
comp=Z,12nm,0.6s

ZEI Tsey 80.57 316 *eP* **P** 06 21 15.7 -0.4
ZEI pmax pmax
comp=Z,18nm,0.8s

TIXI Tiksi 80.91 5 P **P** 06 21 15.7 -1.3
comp=Z,29nm,0.8s,baz=91,slow=24,SNR=82

TIXI Tiksi 80.91 5 *ce*P **P** 06 21 15.9 -1.1
TIXI pmax pmax
comp=Z,36nm,0.8s

TIXI Tiksi 80.91 5 P **P** 06 21 15.8 -1.1
TIXI lAmb lAmb 06 21 16.8
comp=Z,36nm,0.9s

QSPA South Pole Qui 81.30 180 P **P** 06 21 20.2 +0.8
QSPA lAmb lAmb 06 21 41.4
comp=Z,32nm,1.2s

KBZ Khabaz 81.59 317 P **P** 06 21 21.4 +0.3
comp=Z,21nm,0.9s,baz=124,slow=3.3,SNR=25

KBZ Khabaz 81.59 317 *ce*P **P** 06 21 20.9 -0.2
KBZ pmax pmax
comp=Z,27nm,0.9s

MBAR Mbarara 81.77 271 *ce*P **P** 06 21 24.7 +1.7
MBAR pmax pmax
comp=Z,31nm,1.1s

MBAR Mbarara 81.77 271 P **P** 06 21 23.9 +0.9
MBAR lAmb lAmb 06 21 25.6
comp=Z,22nm,0.9s

KIV Kislovodsk 81.81 317 *eP* **P** 06 21 23.5 +1.0
KIV pmax pmax
comp=Z,22nm,1.1s

KIV Kislovodsk 81.81 317 P **P** 06 21 23.0 +0.5
KIV lAmb lAmb 06 21 24.8
comp=Z,16nm,0.8s

BELG Belogornoye 82.04 326 P **P** 06 21 22.7 -0.6
comp=Z,34nm,1.0s,baz=137,slow=6.3,SNR=11

BELG Belogornoye 82.04 326 *i* P **P** 06 21 23.0 -0.3
BELG pmax pmax
comp=Z,7.0nm,1.0s

LSZ Lusaka 82.31 256 P **P** 06 21 26.4 +0.7
LSZ pmax pmax
comp=Z,18nm,0.7s

LSZ Lusaka 82.31 256 P **P** 06 21 26.4 +0.7
LSZ lAmb lAmb 06 21 28.1
comp=Z,18nm,0.7s

BOSA Boshof 83.49 242 P **P** 06 21 32.6 +0.9
comp=Z,7.4nm,0.9s,baz=114,slow=6.1,SNR=8.5
BOSA pP **pP** 06 21 52.4 -0.5
comp=Z,5.2nm,0.8s,baz=123,slow=7.9,SNR=3.7
BOSA LR LR 06 52 07.2
comp=Z,83nm,19.2s,baz=46,slow=31

BOSA Boshof 83.49 242 lAmb lAmb 06 21 34.3
comp=Z,18nm,1.1s

LBTB Lobatse 83.59 246 lAmb lAmb 06 21 34.9
comp=Z,18nm,1.1s

SOC Sochi 83.72 316 *eP* **P** 06 21 31.8 -0.4
SOC *e* 06 24 43.1
SOC *e*S **S** 06 31 45.9 -2.7
SOC *e*SSS SSS 06 40 48.9
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,188nm,15.0s

KIRV Kirov 83.89 332 P **P** 06 21 32.1 -0.6
comp=Z,23nm,0.7s,baz=62,slow=1.6,SNR=10.0

KIRV Kirov 83.89 332 *ce*P **P** 06 21 31.8 -0.9
BILL Bilibino 85.38 18 *eP* **P** 06 21 38.7 -1.4
BILL *e**PP **pP** 06 22 03.7 +2.0
BILL *e**SP **sP** 06 22 11.4 +1.0
BILL *e* 06 25 00.7
BILL *e*PPP PPP 06 26 54.0
BILL pmax pmax
comp=Z,7.0nm,1.2s

ANN Anapa 85.65 316 *eP* **P** 06 21 38.1 -3.8
ANN *e**PP **pP** 06 22 02.1 -1.3
ANN *e*PPP PPP 06 26 53.1
ANN *e*S **SKSac** 06 31 54.0 -6.2
ANN *e*SS **SS** 06 37 45.6 -0.3
ANN pmax pmax
comp=Z,55nm,1.2s

CSS Mathiatis 86.17 306 lAmb lAmb 06 21 46.5
comp=Z,26nm,1.0s

VORR Voronezh 86.60 323 *eP* **P** 06 21 45.5 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VORR				pmax	pmax		
	comp=Z,60nm,0.4s						
PRGR	**Permogore**	**86.94**	**334**	*e*P	**P**	**06 21 44.0**	**-3.8**
PRGR				pmax	pmax		
	comp=Z,99nm,1.6s						
BR131	**Keskin Array S**	**87.04**	**311**	*i* P	**P**	**06 21 49.3**	**+0.2**
BRTR	**Keskin Array B**	**87.04**	**311**	P	**P**	**06 21 48.9**	**-0.2**
	comp=Z,17nm,0.8s,baz=126,slow=6.4,SNR=53						
BRTR				pP	**pP**	**06 22 09.0**	**-1.7**
	comp=Z,4.3nm,0.9s,baz=87,slow=6.3,SNR=3.2						
BZK	**Bozkurt**	**87.31**	**313**	⇑P	**P**	**06 21 49.5**	**-0.6**
ANTO	**Ankara**	**87.71**	**311**	P	**P**	**06 21 54.0**	**+1.8**
MOS	**Moscow**	**88.75**	**327**	*e*P	**P**	**06 21 52.3**	**-4.3**
OBN	**Obninsk**	**89.14**	**326**	P	**P**	**06 21 58.1**	**-0.3**
	comp=Z,5.9nm,0.4s,baz=145,slow=4.3,SNR=6.2						
OBN	**Obninsk**	**89.14**	**326**	⇓*e*P	**P**	**06 21 58.5**	**+0.1**
OBN				*e**PP	**pP**	**06 22 19.4**	**-0.6**
OBN				*e**SP	**sP**	**06 22 30.5**	**+1.9**
OBN				*e*		06 25 28.7	
OBN				*e*PPP	PPP	06 27 28.4	
OBN				pmax	pmax		
	comp=Z,26nm,0.6s						
OBN				MLR	MLR		
	comp=Z,209nm,15.0s						
KLMR	**Klimovskoe**	**89.39**	**332**	*e*P	**P**	**06 21 57.8**	**-1.7**
KLMR				*e*		06 25 32.9	
KLMR				pmax	pmax		
	comp=Z,18nm,1.3s						
KLMR	**Klimovskoe**	**89.39**	**332**	*e*P	**P**	**06 21 57.9**	**-1.6**
KLMR				AMP		06 21 59.9	
	comp=Z,18nm,1.3s						
KLMR				*e*PP	**PP**	**06 25 32.9**	**+1.3**
KLMR				LQ	LQ	06 55 20.9	
KLMR				LQ	LQ	06 55 20.9	
KLMR				LR	LR	06 57 22.4	
BORA	**Eskisehir**	**89.47**	**310**	IAmb	IAmb	06 22 01.5	
	comp=Z,11nm,0.8s						
SNAA	**Sanae**	**89.50**	**197**	P	**P**	**06 22 01.9**	**+1.8**
SNAA	**Sanae**	**89.50**	**197**	LR	LR	06 59 49.9	
	comp=Z,74nm,19.9s,baz=180,slow=34						
SNAA	**Sanae**	**89.50**	**197**	*ce*P	**P**	**06 22 01.6**	**+1.6**
SNAA				pmax	pmax		
	comp=Z,18nm,2.5s						
SNAA	**Sanae**	**89.50**	**197**	P	**P**	**06 22 01.0**	**+0.9**
VNA2	**Neumayer--Watz**	**91.15**	**197**	P	**P**	**06 22 09.5**	**+1.9**
	baz=74,slow=3.0						
VNA3	**Neumayer Olymp**	**91.61**	**196**	P	**P**	**06 22 12.0**	**+2.2**
BELA	**Belgrano 2**	**91.64**	**187**	P	**P**	**06 22 11.1**	**+1.3**
TIRR	**Tirgusor**	**91.83**	**315**	⇓P	**P**	**06 22 11.5**	**+0.2**
TIRR	**Tirgusor**	**91.83**	**315**	P	**P**	**06 22 11.4**	**+0.2**
TPGR	**Topolog**	**91.90**	**315**	⇓P	**P**	**06 22 11.3**	**-0.3**
CFR	**Carcaliu**	**92.16**	**315**	⇓P	**P**	**06 22 12.6**	**-0.2**
CFR	**Carcaliu**	**92.16**	**315**	P	**P**	**06 22 12.5**	**-0.2**
HARR	**Harsova**	**92.22**	**315**	⇓P	**P**	**06 22 13.4**	**+0.3**
HARR	**Harsova**	**92.22**	**315**	P	**P**	**06 22 13.3**	**+0.3**
AKASG	**Malin Array Be**	**92.43**	**321**	P	**P**	**06 22 12.7**	**-1.1**
	comp=Z,5.5nm,0.7s,baz=85,slow=4.5,SNR=33						
AKASG	**Malin Array Be**	**92.43**	**321**	*i* P	**P**	**06 22 12.6**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKBB	**Malin Array Si**	**92.43**	**321**	*ce*P	**P**	**06 22 12.2**	**-1.7**
AKBB	**Malin Array Si**	**92.43**	**321**	IAmb	IAmb	06 22 13.6	
	comp=Z,10nm,0.8s						
SORM	**Soroca**	**92.53**	**318**	⇓P	**P**	**06 22 13.7**	**-0.6**
SORM	**Soroca**	**92.53**	**318**	P	**P**	**06 22 13.7**	**-0.6**
VRI	**Vrincioaia**	**93.25**	**316**	⇑P	**P**	**06 22 17.7**	**-0.1**
VRI	**Vrincioaia**	**93.25**	**316**	P	**P**	**06 22 17.7**	**-0.1**
PLOR	**Plostina**	**93.30**	**316**	⇑P	**P**	**06 22 18.5**	**+0.4**
PLOR	**Plostina**	**93.30**	**316**	P	**P**	**06 22 18.4**	**+0.4**
TESR	**Tescani**	**93.40**	**316**	⇑P	**P**	**06 22 18.2**	**-0.3**
MLR	**Muntele Rosu**	**93.73**	**315**	⇓P	**P**	**06 22 19.1**	**-1.1**
MLR	**Muntele Rosu**	**93.73**	**315**	IAmb	IAmb	06 22 20.8	
	comp=Z,8.4nm,1.0s						
MNK	**Minsk**	**93.90**	**324**	*i* P	**P**	**06 22 17.4**	**-3.1**
MNK				*i* *PP	**pP**	**06 22 41.4**	**-0.7**
MNK				*i*		06 26 02.7	
MNK				*i* S	**SKSac**	**06 32 43.4**	**-4.5**
MNK				*i* *SS	**ScS**	**06 33 27.1**	**+2.0**
MNK				*i* SS	**SS**	**06 39 45.6**	**+0.8**
MNK				*i* SSS	SSS	06 43 26.6	
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,15nm,1.3s						
MNK				pmax	pmax		
	comp=N,34nm,1.3s						
MNK				MLR	MLR		
	comp=N,312nm,13.0s						
MNK				MLR	MLR		
	comp=Z,490nm,13.0s						
MNK				MLR	MLR		
	comp=E,76nm,18.0s						
MNK	**Minsk**	**93.90**	**324**	*i* P	**P**	**06 22 17.4**	**-3.1**
	comp=E,3.0nm,0.8s						
MNK				*i* P	**P**	**06 22 17.4**	**-3.1**
	comp=N,34nm,1.3s						
MNK				*i* P	**P**	**06 22 17.4**	**-3.1**
	comp=Z,15nm,1.3s,baz=99						
MNK				*i* pP	**pP**	**06 22 41.5**	**-0.7**
MNK				*i* PP	**PP**	**06 26 02.8**	**-4.5**
MNK				*i* PPP	PPP	06 28 02.9	
MNK				*i* S	**SKSac**	**06 32 43.5**	**-4.5**
MNK				*i* sS	**ScS**	**06 33 27.1**	**+2.0**
MNK				*i* SS	**SS**	**06 39 45.6**	**+0.8**
MNK				*i* SSS	SSS	06 43 26.7	
MNK				*i* LQ	LQ	06 57 40.2	
MNK				*i* LR	LR	07 00 51.9	
MNK				*i* LRM	MLR	07 03 04.4	
	comp=N,312nm,13.4s						
MNK				*i* LRM	MLR	07 03 18.5	
	comp=Z,490nm,13.4s						
MNK				*i* LRM	MLR	07 03 28.1	
	comp=E,76nm,17.9s						
BURAR	**Bucovina Array**	**94.53**	**317**	⇑P	**P**	**06 22 23.7**	**-0.1**
BURAR	**Bucovina Array**	**94.53**	**317**	P	**P**	**06 22 23.7**	**-0.1**
NACGM	**Naroch**	**94.59**	**325**	*i* P	**P**	**06 22 22.7**	**-1.0**
LIT	**Litokhoron**	**95.55**	**310**	IAmb	IAmb	06 22 28.2	
	comp=Z,11nm,0.9s						
FINES	**FINESS Array B**	**95.87**	**331**	P	**P**	**06 22 28.1**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=104,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**95.87**	**331**	*i* P	**P**	**06 22 28.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TTA	**Tatalina**	**98.36**	**28**	P	Pdif	06 22 41.5	+0.7
	baz=267						
A21K	**Barrow**	**98.46**	**19**	P	Pdif	06 22 41.5	+0.6
	baz=268						
K20K	**Telida**	**99.25**	**27**	P	**Pdif**	**06 22 45.1**	**+0.5**
	baz=269						
H21K	**Melozitna Rive**	**99.80**	**25**	P	**Pdif**	**06 22 48.6**	**+1.6**
	baz=271						
KDAK	**Kodiak Island**	**99.92**	**33**	P	**Pdif**	**06 22 50.1**	**+2.5**
	baz=270						
BPAW	**Bear Paw Mtn.**	**100.62**	**26**	P	**Pdif**	**06 22 51.3**	**+0.6**
	baz=272						
TOLK	**Toolik Lake Re**	**100.94**	**22**	P	**Pdif**	**06 22 52.9**	**+0.8**
	baz=274						
I23K	**Minto, Yukon-K**	**101.26**	**25**	P	**Pdif**	**06 22 53.6**	**+0.1**
	baz=274						
MCK	**McKinley**	**101.54**	**27**	P	**Pdif**	**06 22 55.8**	**+1.0**
	baz=274						
N25K	**Chitina, Valde**	**103.74**	**29**	P	**Pdif**	**06 23 05.4**	**+0.7**
	baz=277						
SKAG	**Skagway**	**108.64**	**30**	P	**PKiKP**	**06 27 32.8**	**+1.4**
	baz=285						
TORD	**Torodi Ar. Bea**	**112.09**	**281**	PKiKP	**PKiKP**	**06 27 38.8**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=72,slow=1.8,SNR=17						
ESDC	**Sonseca Array**	**115.83**	**310**	PKP	**PKPdf**	**06 27 45.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=29,slow=2.8,SNR=4.5						
YKA	**Yellowknife Ar**	**116.46**	**22**	PKP	**PKPdf**	**06 27 46.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=318,slow=1.8,SNR=53						
YKA				pPKP	pPKPdf	06 28 06.8	-1.8
	comp=Z,1.2nm,0.7s,baz=314,slow=1.8,SNR=3.9						
YKA				SKP		06 31 14.5	
	comp=Z,0.4nm,0.8s,baz=300,slow=1.7,SNR=3.7						
YKA	**Yellowknife Ar**	**116.46**	**22**	PKPdf	**PKPdf**	**06 27 45.7**	**-0.5**
KOWA	**Kowa**	**117.71**	**282**	PKPdf	**PKPdf**	**06 27 49.3**	**-0.7**
KIC	**Kosan Boka**	**117.80**	**273**	*e*PKP1	**PKPdf**	**06 27 49.6**	**-0.6**
	comp=Z,8.9nm,0.7s						
DBIC	**Dimbokro**	**117.95**	**273**	PKP	**PKiKP**	**06 27 50.7**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=117,slow=1.5,SNR=9.7						
LIC	**Lamto**	**118.07**	**272**	*e*PKP1	**PKPdf**	**06 27 50.0**	**-0.7**
	comp=Z,20nm,0.7s						
TIC	**Toumodi**	**118.11**	**273**	*e*PKP1	**PKPdf**	**06 27 50.6**	**-0.2**
B05A	**Bryant**	**119.64**	**39**	P	**PKiKP**	**06 27 53.1**	**+0.3**
	baz=292						
E04D	**Cinebar**	**119.96**	**41**	P	**PKiKP**	**06 27 54.4**	**+0.9**
	baz=291						
G03D	**McMinnville, O**	**119.96**	**42**	P	**PKiKP**	**06 27 54.3**	**+0.7**
	baz=289						
H04D	**Lebanon**	**120.54**	**43**	P	**PKiKP**	**06 27 56.0**	**+1.3**
	baz=290						
M02C	**Callahan**	**121.45**	**47**	P	**PKiKP**	**06 27 57.7**	**+1.0**
	baz=288						
L04D	**Klamath Falls**	**121.59**	**45**	P	**PKPdf**	**06 27 57.0**	**+0.1**
	baz=288						
N02D	**Trinity Center**	**121.69**	**47**	P	**PKiKP**	**06 27 57.9**	**+0.7**
	baz=288						
O02D	**Mt. Diablo Mer**	**121.86**	**48**	P	**PKiKP**	**06 27 58.2**	**+0.6**
	baz=287						
J05D	**Fort Rock, OR**	**121.98**	**44**	P	**PKiKP**	**06 27 58.4**	**+0.6**
	baz=290						
M04C	**Macdoel**	**122.06**	**46**	P	**PKiKP**	**06 27 58.6**	**+0.6**
	baz=289						
O03E	**Paynes Creek**	**122.55**	**47**	P	**PKiKP**	**06 27 59.5**	**+0.6**
	baz=288						
NEW	**Newport**	**122.66**	**37**	P	**PKiKP**	**06 27 59.7**	**+0.8**
	baz=297						
BMO	**Blue Mountains**	**124.02**	**41**	PKIKP	**PKPdf**	**06 28 00.6**	**-0.8**
BMO	**Blue Mountains**	**124.02**	**41**	PKPdf	**PKPdf**	**06 28 00.6**	**-0.8**
MSO	**Missoula**	**125.24**	**38**	P	**PKiKP**	**06 28 04.3**	**+0.2**
	baz=299						
SMMC	**Simmler**	**125.36**	**53**	P	**PKiKP**	**06 28 05.6**	**+1.0**
	baz=286						
PKM	**Mcpherson Peak**	**125.62**	**53**	P	**PKPdf**	**06 28 05.1**	**+0.2**
	baz=286						
NVAR	**Mina Array Bea**	**125.71**	**49**	PKP	**PKiKP**	**06 28 06.5**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=238,slow=2.6,SNR=18						
VES	**Vestal, Richgr**	**125.92**	**52**	P	**PKiKP**	**06 28 05.9**	**+0.3**
	baz=287						
HLID	**Hailey**	**126.45**	**41**	P	**PKiKP**	**06 28 07.8**	**+1.1**
	baz=296						
ISA	**Isabella, Lake**	**126.45**	**52**	P	**PKiKP**	**06 28 07.2**	**+0.5**
	baz=287						
CWC	**Cottonwood Cre**	**126.52**	**51**	P	**PKiKP**	**06 28 07.7**	**+0.6**
	baz=288						
FFC	**Flin Flon**	**126.52**	**24**	PKIKP	**PKiKP**	**06 28 06.5**	**+0.3**
FFC	**Flin Flon**	**126.52**	**24**	PKPdf	**PKiKP**	**06 28 06.5**	**+0.3**
GRAC	**Grapevine Rang**	**126.88**	**50**	P	**PKiKP**	**06 28 08.2**	**+0.6**
	baz=289						
EDW2	**Edwards Air Fo**	**127.05**	**53**	P	**PKiKP**	**06 28 08.4**	**+0.4**
	baz=287						
EGMT	**Eagleton**	**127.06**	**34**	P	**PKiKP**	**06 28 08.2**	**+0.5**
	baz=304						
MPMC	**Manual Prospec**	**127.09**	**51**	P	**PKiKP**	**06 28 09.0**	**+0.8**
	baz=288						
CIS	**Catalina Islan**	**127.14**	**55**	P	**PKiKP**	**06 28 09.0**	**+0.8**
	baz=286						
BOZ	**Bozeman (W)**	**127.24**	**38**	P	**PKiKP**	**06 28 08.5**	**+0.4**
	baz=300						
FURC	**Furnace Creek,**	**127.44**	**50**	P	**PKiKP**	**06 28 09.5**	**+1.0**
	baz=289						
R11A	**Troy Canyon, C**	**127.74**	**48**	P	**PKiKP**	**06 28 10.5**	**+1.1**
	baz=292						
GSC	**Goldstone, Bar**	**127.86**	**52**	P	**PKiKP**	**06 28 11.4**	**+1.7**
	baz=288						
HEC	**Hector,Ludlow**	**128.37**	**52**	P	**PKiKP**	**06 28 11.8**	**+1.1**
	baz=288						
TUQ	**Turquoise Moun**	**128.50**	**51**	P	**PKPdf**	**06 28 10.7**	**+0.3**
	baz=289						
PFO	**Pinyon Flats O**	**128.64**	**54**	P	**PKiKP**	**06 28 11.3**	**-0.1**
	baz=287						
TPFO	**Pinon Flats**	**128.65**	**54**	P	**PKiKP**	**06 28 12.0**	**+0.7**
	baz=287						
MONP2	**Monument Peak**	**128.88**	**55**	P	**PKPdf**	**06 28 11.4**	**+0.2**
	baz=287						
BELC	**Belle Mtn. Jos**	**128.89**	**53**	P	**PKiKP**	**06 28 12.0**	**+0.2**
	baz=288						
GMRC	**Granite Mounta**	**128.91**	**52**	P	**PKPdf**	**06 28 11.3**	**+0.2**
	baz=289						
DUG	**Dugway, Tooele**	**128.98**	**44**	P	**PKPdf**	**06 28 11.6**	**+0.4**
	baz=295						
IKP	**In-Ko-Pah, Jac**	**129.21**	**55**	P	**PKPdf**	**06 28 12.0**	**+0.3**
	baz=287						
SWSC	**Sam W. Stewart**	**129.37**	**54**	P	**PKiKP**	**06 28 12.6**	**0.0**
	baz=287						
BC3	**Big Chuckawall**	**129.43**	**53**	P	**PKiKP**	**06 28 13.3**	**+0.5**
	baz=288						
IRM	**Iron Mountain**	**129.51**	**53**	P	**PKiKP**	**06 28 12.7**	**-0.2**
	baz=289						
DGMT	**Dagmar**	**129.77**	**31**	P	**PKiKP**	**06 28 13.1**	**+0.1**
	baz=310						
LAO	**LASA Array**	**129.79**	**34**	P	**PKiKP**	**06 28 14.1**	**+0.9**
	baz=306						
BW06	**Boulder Array**	**129.95**	**40**	P	**PKiKP**	**06 28 14.7**	**+0.9**
	baz=300						
PDAR	**Pinedale Array**	**129.95**	**40**	PKP	**PKiKP**	**06 28 13.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=231,slow=0.9,SNR=6.9						
PLCA	**Paso Flores**	**130.73**	**177**	SKPbc	**SKPab**	**06 31 33.1**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=220,slow=2.6,SNR=4.3						
K22A	**Casper**	**131.92**	**39**	P	**PKiKP**	**06 28 17.6**	**-0.1**
	baz=303						
WUAZ	**Wupatki**	**131.93**	**49**	P	**PKiKP**	**06 28 17.6**	**-0.4**
	baz=293						
214A	**Organ Pipe Nat**	**132.07**	**55**	P	**PKPdf**	**06 28 17.4**	**+0.3**
	baz=289						
O20A	**White River Ci**	**132.12**	**42**	PKPdf	**PKiKP**	**06 28 18.7**	**+0.5**
O20A	**White River Ci**	**132.12**	**42**	P	**PKiKP**	**06 28 18.2**	**0.0**
	baz=300						
ULM	**Lac du Bonnet**	**132.35**	**24**	PKP	**PKPdf**	**06 28 17.1**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=318,slow=4.9,SNR=7.1						
ULM				SKPbc	**SKPbc**	**06 31 36.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=358,slow=6.6,SNR=3.6						
MDND	**Maddock**	**132.47**	**29**	P	**PKiKP**	**06 28 18.9**	**+0.4**
	baz=315						
RSSD	**Black Hills**	**132.56**	**36**	PKIKP	**PKiKP**	**06 28 18.8**	**-0.2**
RSSD	**Black Hills**	**132.56**	**36**	PKPdf	**PKiKP**	**06 28 18.8**	**-0.2**
RSSD	**Black Hills**	**132.56**	**36**	P	**PKiKP**	**06 28 19.1**	**+0.1**
	baz=307						
TUC	**Tucson**	**133.58**	**53**	P	**PKiKP**	**06 28 20.9**	**-0.3**
	baz=291						
AGMN	**Agassiz Nation**	**133.85**	**26**	P	**PKiKP**	**06 28 21.4**	**+0.2**
	baz=319						
SCHQ	**Schefferville**	**133.99**	**359**	PKP	**PKPdf**	**06 28 19.8**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=268,slow=3.2,SNR=8.5						
SDCO	**Great Sand Dun**	**135.16**	**44**	P	**PKiKP**	**06 28 24.5**	**0.0**
	baz=300						
ANMO	**Albuquerque**	**135.82**	**48**	P	**PKiKP**	**06 28 26.1**	**+0.3**
	baz=297						
T25A	**Trinidad**	**136.22**	**44**	P	**PKiKP**	**06 28 26.7**	**0.0**
	baz=301						
ECSD	**EROS Data Cent**	**136.85**	**31**	P	**PKiKP**	**06 28 27.8**	**+0.4**
	baz=315						
TXAR	**Lajitas Array**	**140.36**	**54**	PKhKP	PKPpre	06 28 23.4	
	comp=Z,0.9nm,0.7s,baz=264,slow=2.4,SNR=9.5						
TXAR				PKP	**PKPdf**	**06 28 33.0**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=305,slow=0.9,SNR=5.8						
TXAR	**Lajitas Array**	**140.36**	**54**	PKIKP	**PKPdf**	**06 28 33.0**	**+0.4**
CCM	**Cathedral Cave**	**143.77**	**33**	PKIKP	PKPbc	06 28 35.8	-0.2
CCM	**Cathedral Cave**	**143.77**	**33**		PKPbc	06 28 35.8	-0.2
CPUP	**Villa Florida**	**143.81**	**196**	PKP	**PKPdf**	**06 28 38.1**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=159,slow=1.8,SNR=12						
CPUP	**Villa Florida**	**143.81**	**196**		PKPbc	06 28 37.7	+1.3
WHTX	**Lake Whitney,**	**143.81**	**46**	PKPdf	PKPbc	06 28 36.7	+0.3
833A	**Chaparral WMA,**	**144.18**	**53**	PKPdf	PKPbc	06 28 37.8	+0.2
Z38A	**Mt. Pleasant**	**144.77**	**42**	PKPdf	**PKPdf**	**06 28 40.3**	**+0.2**
O48B	**Farmland**	**144.85**	**24**	P	**PKPab**	**06 28 39.4**	**+0.1**
	baz=329,SNR=9.0						
MIAR	**Mount Ida**	**144.87**	**39**	P	**PKPdf**	**06 28 40.1**	**-0.2**
	baz=311,SNR=25						
WHAR	**Wooly Hollow**	**145.15**	**37**		**PKPbc**	**06 28 39.9**	**-0.5**
W41B	**Gary Mavity, V**	**145.25**	**37**	P	**PKPbc**	**06 28 40.7**	**-0.1**
	baz=314,SNR=13						
X40A	**Basin Creek Fa**	**145.36**	**38**	P	**PKPdf**	**06 28 41.4**	**+0.2**
	baz=312,SNR=7.1						
M53A	**WI Miller and**	**145.37**	**18**	P	**PKPab**	**06 28 41.4**	**+0.3**
	baz=337,SNR=7.1						
M54A	**Oil Creek Stat**	**145.60**	**16**	P	**PKPab**	**06 28 42.0**	**-0.1**
	baz=338,SNR=6.7						
P49A	**Miami Univ. Ec**	**145.65**	**24**	P	**PKPab**	**06 28 42.1**	**-0.1**
	baz=329,SNR=17						
ACSO	**Alum Creek Sta**	**145.70**	**21**	P	**PKPab**	**06 28 42.4**	**0.0**
	baz=332,SNR=22						
BINY	**Binghamton**	**145.81**	**11**	P	**PKPab**	**06 28 42.7**	**-0.1**
	baz=345,SNR=16						
N54A	**Moraine State**	**146.01**	**17**	P	**PKPbc**	**06 28 43.3**	**+0.3**
	baz=338,SNR=6.3						
WCI	**Wyandotte Cave**	**146.07**	**27**	P	**PKPab**	**06 28 43.6**	**-0.3**
	baz=325						
Z41A	**Richland Creek**	**146.19**	**40**	P	**PKPab**	**06 28 44.6**	**+0.1**
	baz=311						
P52A	**Corning**	**146.53**	**21**	P	**PKPbc**	**06 28 44.7**	**+0.2**
	baz=333,SNR=9.0						
SSPA	**Standing Stone**	**146.88**	**15**		**PKPbc**	**06 28 45.4**	**-0.1**
SSPA	**Standing Stone**	**146.88**	**15**	P	**PKPbc**	**06 28 46.0**	**+0.5**
	baz=341						
WVT	**Waverly**	**147.00**	**31**	PKP2	**PKPbc**	**06 28 46.4**	**+0.4**
WVT	**Waverly**	**147.00**	**31**	PKPab	**PKPbc**	**06 28 46.4**	**+0.4**
WVT	**Waverly**	**147.00**	**31**	P	**PKPbc**	**06 28 46.6**	**+0.6**
	baz=321						
O56A	**Blue Knob Stat**	**147.05**	**16**	P	**PKPbc**	**06 28 46.3**	**+0.3**
	baz=340,SNR=5.7						
N59A	**State Game Lan**	**147.09**	**12**	P	**PKPbc**	**06 28 47.0**	**+0.9**
	baz=345						
MCWV	**Mont Chateau**	**147.25**	**18**	P	**PKPbc**	**06 28 47.3**	**+0.7**
	baz=337						
PAL	**Palisades**	**147.33**	**9**	P	**PKPbc**	**06 28 47.3**	**+0.6**
	baz=348						
OXF	**Oxford**	**147.37**	**35**	P	**PKPbc**	**06 28 47.5**	**+0.5**
	baz=317						
VBMS	**Vicksburg**	**148.32**	**39**	P	**PKPbc**	**06 28 50.5**	**+0.8**
	baz=313						
TZTN	**Tazewell**	**148.67**	**25**	P	**PKPbc**	**06 28 51.0**	**+0.6**
	baz=328						
AQDB	**Aquidauana**	**148.77**	**202**		**PKPdf**	**06 28 48.9**	**+1.6**
BDFB	**Brasilia**	**149.06**	**219**	PKPbc	**PKiKP**	**06 28 53.5**	**+0.1**
	comp=Z,11nm,0.5s,baz=151,slow=2.4,SNR=24						
BDFB	**Brasilia**	**149.06**	**219**	PKPab	**PKiKP**	**06 28 53.1**	**-0.3**
BLA	**Blacksburg**	**149.29**	**20**	P	**PKPbc**	**06 28 52.3**	**+0.2**
	baz=334						
PB09	**IPOC Station P**	**149.64**	**177**		**PKPab**	**06 28 57.0**	**-1.7**
LRAL	**Lakeview Retre**	**149.81**	**34**	P	**PKPbc**	**06 28 53.9**	**+0.5**
	baz=319						
KMSC	**Kings Mountain**	**150.79**	**24**	P	**PKiKP**	**06 28 56.1**	**-0.2**
	baz=331						
BRAL	**Brewton**	**151.16**	**36**	P	**PKiKP**	**06 28 57.3**	**+0.1**
	baz=317						
GOGA	**Godfrey**	**151.33**	**29**	P	**PKiKP**	**06 28 57.4**	**0.0**
	baz=326						
LPAZ	**La Paz**	**155.16**	**179**	PKP	**PKPdf**	**06 28 57.2**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=177,slow=18,SNR=6.7						
LPAZ				PKPab	**PKPab**	**06 29 24.1**	**+1.7**
	comp=Z,3.3nm,0.7s,baz=129,slow=3.2,SNR=8.8						
LPAZ				pPKPab	**pPKPab**	**06 29 44.6**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=162,slow=5.3,SNR=9.0						
LPAZ	**La Paz**	**155.16**	**179**	PKPab	**PKPab**	**06 29 23.3**	**+0.8**

IDC 02 06:15:50.7±2.5**, 54°.14N**×**86°.51E, h0**km**, mb1 3.0**/2**, mb1mx2.9**/51**, mbtmp3.0**/2**, ML2.8**/2 **Error ellipse: s-maj=19.7km s-min=13.0km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**260**	*i*		06 24 10.0	
	baz=82,slow=330,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.01**	**260**	Pg	Pg	06 16 09.1	-1.0
	1.1nm,0.3s,baz=78,slow=17,SNR=13						
ZALV				Lg	Lg	06 16 24.0	
	2.5nm,0.3s,baz=76,slow=27,SNR=23						
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn	Pn	06 17 21.7	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=12						
KURBB				Sn	Sn	06 18 31.2	+0.6
	baz=38,slow=24,SNR=1.4						
KURBB				Lg	Lg	06 19 02.9	
	0.0nm,0.3s,baz=51,slow=28,SNR=3.0						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	06 17 47.0	+1.1
	0.2nm,0.3s,baz=25,slow=13,SNR=15						

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*IDC **02** 06:24:59.5±0.8, 29°.49N×69°.68E, h0km, mb3.7/13, mb1 3.8/16, mb1mx3.7/51, mbtmp3.7/16, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/89, Error ellipse: s-maj=20.3km s-min=17.6km az=61.0*

ISC 02 06:25:03.2±0.6**, 29°.52N**±0°.07×**69°.75E**±0°.07**, h29**km**, n28,** σ**2s.18**/29**, mb3.7**/14**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.89**	**59**	*e*P	**Pn**	**06 26 32.0**	**+3.5**
THN				*e*S	**Sn**	**06 27 36.5**	**+1.5**
PYUN	**Piuthan**	**11.70**	**94**	*e*P	**Pn**	**06 27 47.5**	**-1.0**
	10nm,0.3s						
WSAR	**Wadi Sarin**	**11.76**	**240**	Pn	**Pn**	**06 27 46.2**	**-3.0**
	0.7nm,0.3s,baz=104,slow=11,SNR=1.4						
KOLN	**Koldanda**	**12.29**	**95**	*e*P	**Pn**	**06 27 54.3**	**-2.2**
	14nm,0.3s						
DANN	**Dangsing**	**12.33**	**92**	*e*P	**Pn**	**06 27 55.7**	**-1.4**
	27nm,0.4s						
GEYT	**Alibeck**	**12.80**	**314**	LR	LR	06 33 07.9	
	comp=Z,98nm,18.6s,baz=181,slow=38						
GKN	**Gorkha**	**13.15**	**93**	*e*P	**Pn**	**06 28 05.7**	**-2.5**
	13nm,0.3s						
AAK	**Ala-Archa**	**13.64**	**15**	Pn	**Pn**	**06 28 13.5**	**-1.3**
	0.4nm,0.3s,baz=204,slow=9.6,SNR=4.9						
AAK				Sn	**Sn**	**06 30 39.6**	**-5.7**
	0.1nm,0.3s,baz=302,slow=19,SNR=2.1						
PKIN	**Phulchoki**	**13.89**	**94**	*e*P	**Pn**	**06 28 15.8**	**-2.6**
	12nm,0.4s						
PKI	**Pulchoki**	**13.90**	**94**	*e*P	**Pn**	**06 28 15.8**	**-2.9**
	7.0nm,0.3s						
GUN	**Gumba**	**14.25**	**93**	*e*P	**Pn**	**06 28 20.3**	**-3.1**
	44nm,0.4s						
HYBB	**Hyderabad (bro**	**14.49**	**144**	*e*P	**Pn**	**06 28 25.6**	**-0.9**
JIRN	**Jiri**	**14.56**	**93**	*e*P	**Pn**	**06 28 25.4**	**-2.3**
	26nm,0.5s						
MKAR	**Makanchi Array**	**19.82**	**26**	P	**P**	**06 29 31.0**	**-0.5**
	0.3nm,0.3s,baz=206,slow=11,SNR=11						
KURBB	**Kurchatov Arra**	**22.09**	**15**	P	**P**	**06 29 55.3**	**-0.6**
	5.1nm,0.6s,baz=207,slow=9.6,SNR=27						
AKTO	**Aktyubinsk**	**22.69**	**340**	P	**P**	**06 30 02.7**	**+0.4**
	0.4nm,0.5s,baz=145,slow=17,SNR=2.8						
BVAR	**Borovoye Array**	**23.49**	**1**	P	**P**	**06 30 10.8**	**+0.4**
	0.9nm,0.5s,baz=120,slow=9.0,SNR=7.6						
ZALV	**Zalesovo Beam**	**26.76**	**20**	P	**P**	**06 30 43.0**	**+2.7**
	0.9nm,0.5s,baz=215,slow=12,SNR=5.3						
BRTR	**Keskin Array B**	**31.23**	**299**	P	**P**	**06 31 21.2**	**+0.8**
	0.6nm,0.5s,baz=113,slow=11,SNR=1.5						
SONM	**Songino Array**	**33.55**	**47**	P	**P**	**06 31 42.4**	**+1.8**
	0.6nm,0.7s,baz=260,slow=9.0,SNR=5.7						
AKASG	**Malin Array Be**	**36.90**	**317**	P	**P**	**06 32 09.8**	**+0.6**
	0.2nm,0.3s,baz=100,slow=7.5,SNR=5.2						
ARCES	**ARCESS Array B**	**47.27**	**340**	P	**P**	**06 33 33.6**	**+0.1**
	3.0nm,0.9s,baz=113,slow=5.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**64.65**	**271**	P	**P**	**06 35 39.1**	**+0.3**
	0.3nm,0.5s,baz=60,slow=4.0,SNR=5.0						
BATI	**Baumata**	**65.23**	**119**	P	**P**	**06 35 43.8**	**+1.4**
	38nm,0.5s,baz=44,slow=7.2,SNR=4.4						
WRA	**Warramunga Arr**	**79.30**	**120**	P	**P**	**06 37 07.2**	**+0.8**
	0.5nm,0.6s,baz=320,slow=5.3,SNR=7.9						
ASAR	**Alice Springs**	**81.22**	**123**	P	**P**	**06 37 17.4**	**+0.8**
	0.7nm,0.8s,baz=305,slow=5.2,SNR=7.1						
ILAR	**Eielson Array**	**81.77**	**15**	P	**P**	**06 37 20.1**	**+1.2**
	0.2nm,0.6s,baz=60,slow=20,SNR=4.1						
YKA	**Yellowknife Ar**	**88.24**	**2**	P	**P**	**06 37 53.2**	**+1.7**
	0.3nm,0.5s,baz=350,slow=4.9,SNR=7.1						

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*IDC **02** 06:35:08.7±0.5, 29°.69N×69°.90E, h0km, mb4.3/33, mb1 4.4/37, mb1mx4.4/51, mbtmp4.3/37, ML4.2/4, MS4.2/67, Ms1 4.2/67, ms1mx4.2/84, Error ellipse: s-maj=13.0km s-min=11.0km az=21.0*

*NDI **02** 06:35:09.4±3.9, 29°.70N×69°.62E, h10km, ML4.6, mb4.6(NEIC)*

*NEIC **02** 06:35:11.2±1.7, 29°.74N±0°.08×69°.92E±0°.09, h10km±1km, mb4.6/45, Error ellipse: s-maj=14.4km s-min=11.8km az=126.0*

*MOS **02** 06:35:11.0±1.6, 29°.90N×70°.06E, h16km, mb4.7/36, Error ellipse: s-maj=6.8km s-min=4.0km az=84.1*

*BJI **02** 06:35:12.3±0.0, 30°.08N×70°.15E, h9km, mb4.6/48, mB4.8/31, Ms4.7/42, Ms7 4.4/39*

*GCMT **02** 06:35:12.2±0.3, 29°.57N±0°.02×69°.90E±0°.02, h12km±2km, MW4.8/92, Moment Tensor Solution. s12,c12; s92,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.07; $M_{\theta\theta}$-0.17±.07; $M_{\phi\phi}$0.20±.08; $M_{r\theta}$-0.09±.19; $M_{\theta\phi}$-1.97±.08; $M_{\phi r}$-0.87±.26; Best double couple: $M_0$2.16400×10^{16} NP1:ϕ_s93.00000°, δ66.00000°, λ-178.00000°. NP2: ϕ_s2.00000°, δ89.00000°, λ-24.00000°. Principal axes: T 2.1600, Plg16.0000°, Azm50.0000°; N 0.0090, Plg66.0000°, Azm179.0000°; P -2.1680, Plg18.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 06:35:13.9±0.3**, 29°.69N**±0°.04×**69°.83E**±0°.03**, h35**km**, n291,**

σ2.54/272, mb4.5/79, MS4.3/76, 12C-16D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	Jaisalmer	2.91	161	eP	Pn	06 35 57.2	-0.5
SARP	Sargodha	3.31	47	P	Pn	06 36 02.0	-1.2
THW	Thamme Wali	3.50	27	P	Pn	06 36 05.8	-0.1
CEP	Cherat	4.49	23	P	Pn	06 36 19.4	-0.2
KBL	Kabul	4.89	352	P	Pn	06 36 26.3	+1.2
KBL	Kabul	4.89	352	Pn	Pn	06 36 26.3	+1.2
NIL	Nilore	4.91	36	P	Pn	06 36 25.0	-0.2
NIL	Nilore	4.91	36	Pn	Pn	06 36 25.0	-0.2
CHCP	Chirah Chowk	4.92	36	P	Pn	06 36 24.8	-0.6
JMU	Jammu	5.29	54	eP	Pn	06 36 30.6	+0.2
AJM	Ajmer	5.32	126	eP	Pn	06 36 30.0	-0.8
THN	Thein Dam	5.74	60	eP	Pn	06 36 37.3	+0.6
THN				eP	Pn	06 36 38.0	+1.4
THN				eS	Sn	06 37 41.9	+0.6
THN				eS	Sn	06 37 42.5	+1.2
KUDL	Kundal	6.03	103	eP	Pn	06 36 39.2	-1.4
KUDL				eS	Sn	06 37 47.8	-0.7
DHRM	DHARAMSHALA	6.11	64	eP	Pn	06 36 41.7	-0.2
DHRM				eS	Sn	06 37 53.0	+2.2
DHRM				i x	x	06 38 30.5	
DHRM				IAML		06 38 43.3	
	comp=E,4μm,1.0s						
DHRM				IAML		06 38 43.5	
	comp=N,3μm,1.0s						
BHUJ	Bhuj	6.41	181	eP	Pn	06 36 43.9	-1.9
BHUJ				eS	Sn	06 37 55.3	-2.4
BHUJ				IAML		06 37 59.5	
	comp=E,345nm,0.6s						
BHUJ				IAML		06 37 59.6	
	comp=N,258nm,0.8s						
SMLA	Simla	6.50	75	eP	Pn	06 36 45.3	-1.7
SMLA				eS	Sn	06 37 58.6	-1.3
SMLA				IAML		06 38 03.5	
	comp=N,1μm,0.8s						
SMLA				IAML		06 38 04.9	
	comp=E,1μm,0.5s						
SMLA				i x	x	06 38 39.7	
NDI	New Delhi	6.53	97	eP	Pn	06 36 48.5	+1.0
NDI				eS	Sn	06 38 02.0	+1.2
CHGR	Chuyangaron	8.97	357		Pn	06 37 20.3	-0.7
PTH	Pithoragarh	9.04	88	eP	Pn	06 37 16.8	-5.3
PTH				eP	Pn	06 37 25.9	+3.8
PTH				eS	Sn	06 38 57.9	-4.9
LGTI	Lohaghat	9.07	89	eP	Pn	06 37 18.4	-3.9
LGTI				eS	Sn	06 38 33.2	-30
LGTI				ex	Sn	06 38 52.5	-11
GAR	Garm	9.30	2	Pn	Pn	06 37 23.9	-1.6
BHPL	Bhopal	9.35	132	eP	Pn	06 37 25.2	-1.1
BHPL				ex	Sn	06 39 09.8	-0.3
BHPL				IAML		06 39 15.4	
	comp=E,117nm,0.5s						
BHPL				IAML		06 39 15.4	
	comp=N,42nm,0.5s						
KSH	Kashi	11.03	26	P	Pn	06 37 44.0	-5.3
KSH				sP		06 37 49.5	
KSH				PP	PnPn	06 37 51.3	-5.8
KSH				S	Sn	06 39 39.5	-12
KSH				pmax	pmax		
	comp=N,62nm,0.6s						
KSH				LR	LR		
	comp=N,2μm,7.0s						
KSH				LR	LR		
	comp=N,2μm,10.0s						
KSH				LR	LR		
	comp=N,3μm,13.1s						
JBP	Jabalpur	11.17	123	eP	Pn	06 37 47.0	-4.1
JBP				eP	Pn	06 37 48.7	-2.4
JBP				eS	Sn	06 39 47.5	-7.2
JBP				eS	Sn	06 39 48.1	-6.7
PYUN	Piuthan	11.64	95	eP	Pn	06 37 54.6	-3.1
PYUN				eS	Sn	06 40 03.5	-3.1
POO	Poona	11.69	161	ex	x	06 38 05.0	
POO				IAmb	IAmb	06 38 07.3	
	comp=Z,52nm,1.3s						
WSAR	Wadi Sarin	11.91	240	Pn	Pn	06 37 58.4	-2.9
	comp=Z,1.2nm,0.3s,baz=113,slow=9.8,SNR=5.9						
WSAR				Sn	Sn	06 40 01.3	-12
	comp=Z,0.8nm,0.3s,baz=355,slow=3.8,SNR=4.5						
KOLN	Koldanda	12.23	96	eP	Pn	06 38 03.0	-2.9
DANN	Dangsing	12.26	93	eP	Pn	06 38 03.5	-2.8
	comp=Z,270nm,0.7s						
BANOM	Banah	12.55	256	Pn	Pn	06 38 03.7	-6.4
BANOM				Sn	Sn	06 40 14.6	-14
GEYT	Alibeck	12.74	313	Pn	Pn	06 38 10.5	-2.1
	comp=Z,0.9nm,0.3s,baz=128,slow=22,SNR=2.5						
GEYT				LR	LR	06 43 17.2	
	comp=Z,953nm,21.4s,baz=152,slow=38						
AML	Almayashu	12.81	13	P	Pn	06 38 11.3	-2.4
	SNR=19						
MSFE	Esma-Masafi	12.87	254	Pn	Pn	06 38 09.4	-5.0
UOSS	Minazif	13.00	252	Pn	Pn	06 38 14.0	-2.2
UCH	Uchtor	13.07	16	P	Pn	06 38 14.0	-3.5
	SNR=24						
GKN	Gorkha	13.09	94	eP	Pn	06 38 13.6	-3.9
	comp=Z,98nm,0.5s						
SOHO	SOHO	13.09	248	Pn	Pn	06 38 11.8	-5.5
HATD	Hatta, Dubai	13.11	252	Pn	Pn	06 38 14.4	-3.3
ASHO	Ashiyiah	13.23	251	Pn	Pn	06 38 16.6	-2.7
ASHO				Sn	Sn	06 40 37.5	-7.7
DZA	Taraz	13.23	5	eP	Pn	06 38 16.0	-3.3
DZA	Taraz	13.23	5	eP	Pn	06 38 16.0	-3.3
	baz=4.0						
BRLS	Borolday	13.32	0	eP	Pn	06 38 14.4	-6.0
BRLS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRLS	Borolday	13.32	0	eP	Pn	06 38 14.5	-5.9
	comp=Z,2.4nm,0.7s,baz=359						
BRLS				i S	Sn	06 40 38.6	-8.6
	baz=359						
EKS2	Erkin-Say	13.33	13	P	Pn	06 38 18.8	-1.9
	SNR=15						
KKAR	Karatay Array	13.40	2	P	Pn	06 38 18.5	-3.1
KKAR	Karatay Array	13.40	2	Pn	Pn	06 38 18.5	-3.1
AAK	Ala-Archa	13.46	15	Pn	Pn	06 38 19.9	-2.6
	comp=Z,2.1nm,0.3s,baz=193,slow=7.6,SNR=21						
AAK				Sn	Sn	06 40 44.0	-6.8
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=1.4						
AAK				LR	LR	06 44 27.0	
	comp=Z,2μm,19.4s,baz=199,slow=42						
AAK	Ala-Archa	13.46	15	deP	Pn	06 38 19.8	-2.6
AAK				pmax	pmax		
	comp=Z,22nm,1.3s						
ULHL	Ulahol	13.56	21	P	Pn	06 38 21.5	-2.4
	SNR=9.6						
DMN	Daman	13.57	95	eP	Pn	06 38 20.7	-3.5
TARG	Taragay, Kyrgy	13.64	26	Pn	Pn	06 38 22.8	-2.4
PKIN	Phulchoki	13.83	95	eP	Pn	06 38 23.1	-4.6
PKI	Pulchoki	13.84	95	eP	Pn	06 38 23.3	-4.7
CHMS	Chumysh	13.86	15	P	Pn	06 38 28.1	+0.3
	SNR=5.8						
TKM2	Tokmak 2	14.00	18	P	Pn	06 38 28.1	-1.8
	SNR=14						
TKM2	Tokmak 2	14.00	18	P	Pn	06 38 27.2	-2.7
GUN	Gumba	14.18	93	eP	Pn	06 38 27.9	-4.7
	comp=Z,339nm,0.6s						
SGDS	Sogindy	14.27	14	eP	Pn	06 38 29.9	-3.5
	baz=14						
SGDS				i S	Sn	06 41 06.2	-4.2
	baz=14						
TNSS	Tian-Shan	14.50	21	eP	Pn	06 38 33.2	-3.6
	baz=21						
JIRN	Jiri	14.50	94	eP	Pn	06 38 32.3	-4.7
HYBB	Hyderabad (bro	14.59	145	eP	Pn	06 38 37.7	-0.1
HYBB				eSn	Sn	06 41 20.7	+2.3
HYB	Hyderabad	14.59	145	eP	P	06 38 43.7	-0.2
AAA	Alma-Ata	14.64	21	eP	Pn	06 38 35.2	-3.3
AAA				pmax	pmax		
	comp=Z,21nm,0.8s						
AAA	Alma-Ata	14.64	21	eP	Pn	06 38 35.2	-3.3
	comp=Z,21nm,0.8s,baz=20						
MDOK	Medeo	14.64	21	eP	Pn	06 38 34.9	-3.7
MDOK	Medeo	14.64	21	eP	Pn	06 38 34.9	-3.7
	baz=21						
SATY	Saty	15.01	25	eP	Pn	06 38 39.2	-4.3
SATY	Saty	15.01	25	eP	Pn	06 38 39.3	-4.3
	baz=25						
RAMN	Ramite	15.02	96	eP	Pn	06 38 38.9	-4.9
	comp=Z,84nm,0.5s						
KUU	Kurty	15.10	18	eP	Pn	06 38 40.2	-4.4
KUU				pmax	pmax		
	comp=Z,26nm,1.6s						
KUU	Kurty	15.10	18	eP	Pn	06 38 40.2	-4.4
	comp=Z,26nm,1.6s,baz=18						
CHKK	Chushkaly	15.25	20	eP	Pn	06 38 42.5	-4.0
	baz=20						
UZB	Uzynbulak	15.32	26	eP	Pn	06 38 43.9	-3.7
UZB	Uzynbulak	15.32	26	eP	Pn	06 38 43.9	-3.7
	baz=26						
UZB				i S	Sn	06 41 31.2	-5.0
	baz=26						
KPKS	Kokpek	15.47	25	eP	Pn	06 38 45.1	-4.3
KPKS	Kokpek	15.47	25	eP	Pn	06 38 45.2	-4.3
	baz=25						
SHLS	Shalkode	15.50	27	eP	Pn	06 38 47.7	-2.2
SHLS	Shalkode	15.50	27	eP	Pn	06 38 47.8	-2.2
	baz=28						
BTLS	Baital	15.69	11	eP	Pn	06 38 47.8	-4.3
BTLS	Baital	15.69	11	eP	Pn	06 38 47.9	-4.3
	baz=11						
ODAN	Odare	15.72	96	eP	Pn	06 38 48.5	-4.5
	comp=Z,71nm,0.8s						
ARXS	Arharly	15.83	22	eP	Pn	06 38 49.8	-4.4
TAPN	Taplejung	15.89	94	eP	Pn	06 38 50.9	-4.3
	comp=Z,28nm,0.6s						
LSA	Lhasa	18.52	85	P	P	06 39 25.9	-1.9
LSA				pmax	pmax		
	comp=Z,15nm,0.9s						
LSA	Lhasa	18.52	85	P	P	06 39 25.9	-1.9
MAKZ	Makanchi	19.54	26	P	P	06 39 36.6	-1.7
MAKZ				pmax	pmax		
	comp=Z,21nm,0.8s						
MAKZ	Makanchi	19.54	26	P	P	06 39 36.6	-1.7
MAKZ				IAmb	IAmb	06 39 46.7	
	comp=Z,21nm,0.8s						
MK31	Makanchi Array	19.64	26	i P	P	06 39 37.9	-1.6
MK31	Makanchi Array	19.64	26	P	P	06 39 38.0	-1.5
MKAR	Makanchi Array	19.64	26	P	P	06 39 37.7	-1.8
	comp=Z,0.9nm,0.3s,baz=214,slow=11,SNR=29						
MKAR				S	S	06 43 14.6	-4.6
	baz=205,slow=26,SNR=1.1						
MKAR				LR	LR	06 48 20.5	
	comp=Z,2μm,18.3s,baz=216,slow=40						
MKAR	Makanchi Array	19.64	26	ceP	P	06 39 38.2	-1.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	19.64	26		P	06 39 38.4	-1.1
SHL	Shillong	19.96	97	P	P	06 39 42.9	-0.4
SHL				pmax	pmax		
	comp=Z,17nm,0.6s						
SHL	Shillong	19.96	97	P	P	06 39 42.9	-0.4
SHL				IAmb	IAmb	06 40 07.0	
	comp=Z,17nm,0.6s						
WMQ	Urumqi	20.04	40	eP	P	06 39 44.2	+0.3
WMQ				pP	Pn	06 39 48.7	+2.9
WMQ				sP	pP	06 39 55.0	+1.7
WMQ				PP	PnPn	06 40 04.6	+4.1
WMQ				S	S	06 43 26.1	-1.1
WMQ				SS	SnSn	06 43 49.3	+4.5
WMQ				pmax	pmax		
	comp=Z,45nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,300nm,7.3s						
WMQ				LR	LR		
	comp=Z,1μm,15.5s						
WMQ				LR	LR		
	comp=Z,1μm,16.5s						
WMQ				LR	LR		
	comp=Z,780nm,19.3s						
BRZS	Berezniki	20.39	5	eP	P	06 39 46.4	-1.1
BRZS				pmax	pmax		
	comp=Z,14nm,1.2s						
BRZS	Berezniki	20.39	5	eP	P	06 39 46.4	-1.1
	comp=Z,14nm,1.2s,baz=4.8						
AB31	Akbulak array	20.95	342	P	P	06 39 52.9	-0.7
ABKAR	Akbulak array	20.95	342	P	P	06 39 53.6	0.0
ABKAR	Akbulak array	20.95	342	P	P	06 39 53.2	-0.4
ZSN	Zaisan	21.21	29	eP	P	06 39 54.1	-2.4
ZSN				pmax	pmax		
	comp=Z,14nm,1.2s						
ZSN	Zaisan	21.21	29	eP	P	06 39 54.2	-2.4
	comp=Z,14nm,1.2s,baz=29						
KURBB	Kurchatov Arra	21.91	15	P	P	06 40 02.6	-1.4
	comp=Z,21nm,0.7s,baz=208,slow=9.4,SNR=72						
GOMU	GeErMu	21.92	66	P	P	06 40 05.3	+0.8
GOMU				S	S	06 44 04.2	-0.8
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,180nm,5.4s						
GOMU				LR	LR		
	comp=Z,800nm,12.6s						
GOMU				LR	LR		
	comp=Z,250nm,13.3s						
GOMU				LR	LR		
	comp=Z,200nm,13.7s						
KURK	Kurchatov	22.02	15	P	P	06 40 03.1	-2.0
KURK	Kurchatov	22.02	15	P	P	06 40 02.8	-2.3
KURK				IAmb	IAmb	06 40 06.5	
	comp=Z,20nm,0.8s						
SEM	Semipalatinsk	22.14	18	eP	P	06 40 04.1	-2.5
SEM	Semipalatinsk	22.14	18	eP	P	06 40 04.2	-2.4
	baz=18						
MAK	Makhachkala	22.26	313	eP	P	06 40 05.7	-2.0
MAK				eS	S	06 44 08.6	-1.9
MAK				pmax	pmax		
	comp=Z,229nm,1.2s						
AKTO	Aktyubinsk	22.56	340	P	P	06 40 11.1	+0.2
	comp=Z,7.5nm,0.8s,baz=125,slow=13,SNR=9.0						
AKTO				LR	LR	06 50 26.3	
	comp=Z,711nm,18.2s,baz=150,slow=41						
LGD	Lagodekhi	22.58	309	P	P	06 40 13.6	+2.4
RAYN	Ar Rayn	22.58	260	P	P	06 40 11.1	-0.3
RAYN				pmax	pmax		
	comp=Z,14nm,0.9s						
RAYN	Ar Rayn	22.58	260	P	P	06 40 11.1	-0.3
RAYN				IAmb	IAmb	06 40 17.0	
	comp=Z,14nm,0.8s						
SOCY	Socotra	22.80	224	P	P	06 40 12.6	-1.2
SOCY				IAmb	IAmb	06 40 29.2	
	comp=Z,23nm,1.2s						
GNI	Garni	23.00	304	P	P	06 40 16.3	+0.6
	comp=Z,14nm,0.9s,baz=168,slow=5.2,SNR=9.1						
GNI				LR	LR	06 50 54.3	
	comp=Z,438nm,21.3s,baz=114,slow=41						
GNI	Garni	23.00	304	c iP	P	06 40 19.6	+3.8
GNI				pmax	pmax		
	comp=Z,35nm,0.9s						
GNI	Garni	23.00	304	P	P	06 40 17.5	+1.7
BVAR	Borovoye Array	23.32	1	P	P	06 40 18.0	-0.7
	comp=Z,9.1nm,0.7s,baz=97,slow=11,SNR=36						
BRVK	Borovoye	23.36	1	⇓eP	P	06 40 18.0	-1.0
BRVK				pmax	pmax		
	comp=Z,29nm,1.0s						
BRVK	Borovoye	23.36	1	P	P	06 40 17.8	-1.2
AKH	Akhalkalaki	24.32	306	P	P	06 40 32.8	+4.4
PALK	Pallekele	24.53	153	LR	LR	06 49 25.8	
	comp=Z,384nm,18.9s,baz=88,slow=35						
ZEI	Tsey	24.55	309	eP	P	06 40 32.5	+1.9
ZEI				pmax	pmax		
	comp=Z,13nm,0.8s						
ONI	Oni	24.78	308	P	P	06 40 40.6	+8.1
KBZ	Khabaz	25.61	311	P	P	06 40 41.4	+1.6
	comp=Z,3.8nm,0.8s,baz=110,slow=9.3,SNR=8.8						
KBZ				LR	LR	06 53 40.7	
	comp=Z,276nm,20.4s,baz=94,slow=43						
KBZ	Khabaz	25.61	311	d iP	P	06 40 41.7	+1.9
KBZ				pmax	pmax		
	comp=Z,21nm,1.1s						
KIV	Kislovodsk	25.84	311	eP	P	06 40 45.5	+3.4
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,190nm,15.0s						
GTA	Gaotai	26.43	60	⇑P	P	06 40 48.3	+0.8
GTA				pP	pP	06 40 52.6	-5.1
GTA				sP	sP	06 40 57.5	-4.5
GTA				S	S	06 45 24.9	+6.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,86nm,5.6s						
GTA				LR	LR		
	comp=Z,870nm,18.3s						
GTA				LR	LR		
	comp=Z,880nm,16.3s						
GTA				LR	LR		
	comp=Z,1μm,15.9s						
ZAA0	Zalesovo Array	26.58	20	P	P	06 40 48.4	-0.2
ZALV	Zalesovo Beam	26.58	20	P	P	06 40 48.3	-0.2
	comp=Z,5.7nm,0.4s,baz=223,slow=9.6,SNR=24						
ZALV				LR	LR	06 52 20.4	
	comp=Z,654nm,19.3s,baz=204,slow=39						
ZALV	Zalesovo Beam	26.58	20	i P	P	06 40 48.7	+0.2
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZALV	Zalesovo Beam	26.58	20	P	P	06 40 48.1	-0.4
ARU	Arti	27.90	347	P	P	06 41 00.7	+0.4
	comp=Z,0.7nm,0.3s,baz=142,slow=17,SNR=1.7						
ARU				LR	LR	06 52 12.4	
	comp=Z,313nm,20.4s,baz=156,slow=37						
ARU	Arti	27.90	347	c iP	P	06 41 02.4	+2.1
ARU				S	S	06 45 46.9	+5.5
ARU				pmax	pmax		
	comp=Z,13nm,1.4s						
ARU	Arti	27.90	347	IAmb	IAmb	06 41 17.2	
	comp=Z,8.4nm,1.1s						
BELG	Belogornoye	27.99	330	P	P	06 41 01.0	-0.1
	comp=Z,7.1nm,0.7s,baz=213,slow=2.1,SNR=4.5						
BELG				LR	LR	06 56 17.6	
	comp=Z,1μm,18.1s,baz=157,slow=45						
BELG	Belogornoye	27.99	330	⇑eP	P	06 41 02.1	+1.0
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PZH	PanZhiHua	28.28	89	P	P	06 41 05.6	+1.4
PZH				S	S	06 45 50.0	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,170nm,4.5s						
PZH				LR	LR		
	comp=Z,770nm,18.6s						
PZH				LR	LR		
	comp=Z,1μm,18.6s						
PZH				LR	LR		
	comp=Z,1μm,17.6s						
ASF	Jabal al Asfar	28.30	283	P	P	06 41 06.5	+2.2
	comp=Z,10nm,0.8s,baz=16,slow=13,SNR=8.5						
CHTO	Chiang Mai	28.59	106	P	P	06 41 06.8	-0.1
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	Chiang Mai	28.59	106	P	P	06 41 06.8	-0.1
CHTO				IAmb	IAmb	06 41 09.2	
	comp=Z,11nm,0.8s						
CMAR	Chiang Mai Arr	28.75	106	P	P	06 41 08.4	0.0
	comp=Z,4.9nm,0.8s,baz=299,slow=8.2,SNR=19						
CMAR				LR	LR	06 53 58.2	
	comp=Z,295nm,20.1s,baz=310,slow=39						
CMAR	Chiang Mai Arr	28.75	106	ceP	P	06 41 08.8	+0.4
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	Chiang Mai Arr	28.75	106	P	P	06 41 08.3	-0.1
LZH	Lanzhou	29.16	68	eP	P	06 41 13.3	+1.2
LZH				pP	pP	06 41 17.4	-5.0
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
LZH				LR	LR		
	comp=Z,1μm,15.2s						
LZH				LR	LR		
	comp=Z,650nm,15.2s						
LZH				LR	LR		
	comp=Z,600nm,16.3s						
KNGR	Kungurtug, Tuv	29.45	37	⇓eP	P	06 41 16.1	+1.7
KMI	Kunming	29.51	91	⇑P	P	06 41 17.1	+1.8
KMI				sP	pP	06 41 23.9	-1.6
KMI				S	S	06 46 10.1	+2.3
KMI				SS	SnSn	06 47 32.9	-4.0
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				LR	LR		
	comp=Z,1μm,17.2s						
KMI				LR	LR		
	comp=Z,450nm,14.5s						
KMI				LR	LR		
	comp=Z,350nm,13.4s						
ANN	Anapa	29.65	310	eP	P	06 41 16.5	+0.5
ANN				e*PP	pP	06 41 19.8	-6.6
ANN				ePPP	PPP	06 42 20.6	
ANN				eS	S	06 46 13.5	+4.4
ANN				pmax	pmax		
	comp=Z,26nm,1.2s						
ATD	Arta Tunnel	30.92	240	LR	LR	06 56 43.5	
	comp=Z,220nm,18.3s,baz=41,slow=42						
BR131	Keskin Array S	31.21	298	⇓iP	P	06 41 34.3	+4.2
BRTR	Keskin Array B	31.21	298	P	P	06 41 31.1	+0.9
	comp=Z,3.3nm,1.0s,baz=104,slow=8.3,SNR=9.0						
BRTR				LR	LR	06 56 56.3	
	comp=Z,392nm,18.7s,baz=117,slow=42						
BRTR	Keskin Array B	31.21	298	ceP	P	06 41 34.7	+4.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	Keskin Array B	31.21	298	P	P	06 41 30.9	+0.8
KIRV	Kirov	32.13	340	LR	LR	06 56 27.9	
	comp=Z,392nm,18.8s,baz=147,slow=40						
KIRV	Kirov	32.13	340	deP	P	06 41 39.2	+1.5
ZAK	Zakamensk	32.51	41	eP	P	06 41 41.7	+0.4
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GYA	Guiyang	32.57	87	⇓P	P	06 41 43.8	+1.7
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN	Xi'an	33.34	72	P	P	06 41 49.3	+0.6
XAN				S	S	06 47 10.9	+3.6
XAN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
XAN				LR	LR		
	comp=Z,660nm,15.6s						
XAN				LR	LR		
	comp=Z,550nm,14.6s						
XAN				LR	LR		
	comp=Z,880nm,21.8s						
SONM	Songino Array	33.38	47	P	P	06 41 50.1	+1.1
	comp=Z,4.1nm,0.7s,baz=251,slow=7.1,SNR=29						
SONM				LR	LR	06 57 43.0	
	comp=Z,1μm,18.8s,baz=235,slow=41						
SONM	Songino Array	33.38	47	P	P	06 41 50.8	+1.8
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	33.38	47	P	P	06 41 50.8	+1.8
SONM				IAmb	IAmb	06 41 53.4	
	comp=Z,4.7nm,0.8s						
ULN	Ulaanbaatar	33.81	47	⇑eP	P	06 41 53.9	+1.1
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ELL	Elmali	33.95	293	P	P	06 41 59.5	+5.4
BTO	Baotou	34.35	61	eP	P	06 41 58.0	+0.5
BTO				S	S	06 47 26.9	+4.0
BTO				LR	LR		
	comp=Z,2μm,12.0s						
BTO				LR	LR		
	comp=Z,2μm,12.8s						
OBN	Obninsk	34.78	326	LR	LR	06 59 16.5	
	comp=Z,172nm,19.9s,baz=125,slow=42						
OBN	Obninsk	34.78	326	eP	P	06 42 01.8	+1.0
OBN				e		06 43 18.3	
OBN				ePPP	PPP	06 43 30.3	
OBN				e		06 44 36.4	
OBN				pmax	pmax		
	comp=Z,104nm,3.4s						
HHC	Hu-ho-hao-te	35.54	60	eP	P	06 42 08.3	+0.5
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,4.9s						
HHC				LR	LR		
	comp=Z,530nm,12.7s						
HHC				LR	LR		
	comp=Z,810nm,14.0s						
HHC				LR	LR		
	comp=Z,1μm,14.0s						
PRGR	Permogore	35.72	340	eP	P	06 42 08.9	+0.1
PRGR				pmax	pmax		
	comp=Z,41nm,1.3s						
UBPT	Khong Chiam	35.75	106	P	P	06 42 09.7	+0.1
AKASG	Malin Array Be	36.84	316	P	P	06 42 18.7	+0.2
	comp=Z,4.3nm,0.8s,baz=94,slow=7.4,SNR=27						
AKASG				PcP	PcP	06 44 40.6	+0.7
	comp=Z,0.3nm,0.4s,baz=81,slow=3.3,SNR=2.5						
AKASG				LR	LR	07 01 15.9	
	comp=Z,318nm,18.3s,baz=150,slow=42						
AKASG	Malin Array Be	36.84	316	ceP	P	06 42 19.7	+1.2
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKBB	Malin Array Si	36.84	316	⇓eP	P	06 42 18.6	+0.1

AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 36.84 316 P **P 06 42 19.3 +0.8**
AKBB lAmb lAmb 06 42 28.8
comp=Z,13nm,1.2s
KLMR Klimovskoe 37.12 336 *e*P **P 06 42 20.4 -0.4**
KLMR *e* 06 43 45.6
KLMR *e* 06 44 43.8
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 37.12 336 *e*P **P 06 42 20.4 -0.4**
KLMR AMP 06 42 33.2
comp=Z,18nm,1.4s
KLMR *e*PP **PP 06 43 45.6 0.0**
KLMR *e*PcP **PcP 06 44 43.8 +3.3**
MLR Muntele Rosu 37.69 307 LR LR 07 01 45.5
comp=Z,120nm,19.8s,baz=75,slow=42
MLR Muntele Rosu 37.69 307 P **P 06 42 27.4 +1.4**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 37.69 307 P **P 06 42 27.4 +1.4**
MLR lAmb lAmb 06 42 41.0
comp=Z,6.6nm,0.8s
WHN Wuhan 38.33 77 P **P 06 42 32.6 +1.2**
PSI Prapat 38.42 129 LR LR 06 59 37.4
comp=Z,846nm,19.3s,baz=316,slow=38
BURAR Bucovina Array 38.56 310 P **P 06 42 33.8 +0.5**
BJI Beijing 39.02 62 P P 06 42 42.8 +5.7
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI LR LR
comp=Z,380nm,14.9s
BJI LR LR
comp=Z,330nm,14.7s
BJI LR LR
comp=Z,500nm,19.8s
NACGM Naroch 39.69 322 *i* P **P 06 42 42.3 -0.2**
NRIK Noril'sk 40.99 9 P **P 06 42 52.9 -0.1**
comp=Z,3.0nm,0.7s,baz=156,slow=4.2,SNR=4.9
NRIK LR LR 07 02 34.2
comp=Z,720nm,18.1s,baz=188,slow=40
NRIK Noril'sk 40.99 9⇓ *i*P **P 06 42 53.4 +0.4**
NRIK pmax pmax
comp=Z,9.0nm,1.2s
NRIK Noril'sk 40.99 9 P **P 06 42 53.1 +0.1**
CRVS Cervenica-Dubn 41.27 312 *e*P **P 06 42 58.1 +2.5**
CRVS Cervenica-Dubn 41.27 312 *e*P **P 06 42 58.1 +2.5**
NJ2 Nanjing 41.86 74 *e*P **P 06 43 00.1 -0.6**
NJ2 pmax pmax
comp=Z,14nm,0.6s
PSZ Piszkesteto 42.16 310 P **P 06 43 04.1 +1.1**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 42.16 310 P **P 06 43 04.1 +1.1**
PSZ lAmb lAmb 06 43 06.3
comp=Z,8.8nm,1.0s
FINES FINESS Array B 42.77 331 P **P 06 43 07.8 +0.1**
comp=Z,2.1nm,0.7s,baz=101,slow=9.9,SNR=6.3
FINES LR LR 07 03 35.0
comp=Z,842nm,19.3s,baz=104,slow=40
FINES FINESS Array B 42.77 331 *i* P **P 06 43 09.0 +1.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
LVZ Lovozero 43.51 342⇓ *e*P **P 06 43 14.6 +0.9**
LVZ pmax pmax
comp=Z,142nm,2.2s
KMBO Kilima Mbogo 43.66 231 P **P 06 43 17.2 +1.5**
comp=Z,0.9nm,0.5s,baz=60,slow=7.9,SNR=3.6
KMBO LR LR 07 04 03.7
comp=Z,125nm,18.9s,baz=82,slow=40
KMBO Kilima Mbogo 43.66 231 *i* P **P 06 43 20.2 +4.5**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 43.66 231 lAmb lAmb 06 43 20.7
comp=Z,3.4nm,1.1s
VRAC Vranov 44.49 312 LR LR 07 06 57.2
comp=Z,204nm,20.9s,baz=120,slow=43
CLL Collm 46.97 314 *e*P **P 06 43 46.0 +4.8**
CLL MLR MLR
comp=Z,300nm,19.1s
CLL Collm 46.97 314 *e*Px Px 06 43 46.0
CLL Lm MLR 07 05 00.0
comp=N,400nm,18.9s
CLL Lm MLR 07 05 00.0
comp=E,300nm,18.1s
CLL Lm MLR 07 05 00.0
comp=Z,300nm,19.1s
ARCES ARCESS Array B 47.14 340 P **P 06 43 42.6 +0.2**
comp=Z,4.8nm,0.7s,baz=135,slow=7.9,SNR=22
ARCES ARCESS Array B 47.14 340 lAmb lAmb 06 43 49.2
comp=Z,5.2nm,0.9s
HFS Hagfors 47.99 326 LR LR 07 06 41.5
comp=Z,586nm,21.1s,baz=100,slow=39
KSRS Korea Array 48.36 65 P **P 06 43 52.6 +0.4**
comp=Z,3.5nm,0.7s,baz=266,slow=8.2,SNR=11
KSRS LR LR 07 06 45.6
comp=Z,359nm,20.9s,baz=245,slow=39
NB2 NORSAR Subarra 49.38 327 P **P 06 44 00.1 +0.3**
comp=Z,1.0nm,0.5s,baz=102,slow=7.9
NOA NORSAR Array B 49.38 327 P **P 06 43 59.1 -0.7**
comp=Z,2.3nm,0.8s,baz=103,slow=7.7,SNR=7.3
NOA LR LR 07 08 11.1
comp=Z,708nm,19.1s,baz=105,slow=40
KLR Kul'dur 50.16 49 LR LR 07 07 12.4
comp=Z,265nm,18.3s,baz=266,slow=38
KLR Kul'dur 50.16 49⇓ *e*P **P 06 44 06.3 +0.4**
KLR pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 50.16 32 LR LR 07 07 04.8
comp=Z,488nm,18.5s,baz=265,slow=38
YAK Yakutsk 50.16 32 *e*P **P 06 44 06.3 +0.7**
YAK pmax pmax
comp=Z,17nm,0.7s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.0s
MSHR Mys Shultsa 50.16 58⇓ *e*P **P 06 44 06.4 +0.4**
MSHR pmax pmax
comp=Z,23nm,1.6s
KEST Kesra 50.56 294 P **P 06 44 10.3 +1.1**
comp=Z,4.5nm,0.5s,baz=354,slow=3.1,SNR=8.0
KEST LR LR 07 10 00.9
comp=Z,184nm,18.3s,baz=178,slow=41
USRK Ussuriysk Ar. 50.61 55 P **P 06 44 09.1 -0.2**
comp=Z,0.5nm,0.5s,baz=250,slow=6.2,SNR=1.8
USRK LR LR 07 08 59.9
comp=Z,426nm,18.2s,baz=247,slow=40
JOW Kunigami 51.09 78 LR LR 07 08 59.5
comp=Z,226nm,19.2s,baz=310,slow=40
LEM Lembang 51.34 129 LR LR 07 09 34.4
comp=Z,339nm,18.4s,baz=328,slow=40
TIXI Tiksi 52.47 20 LR LR 07 08 19.5
comp=Z,325nm,19.4s,baz=194,slow=38
TIXI Tiksi 52.47 20⇑ *e*P **P 06 44 23.8 +1.0**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 56.61 64 LR LR 07 11 05.7
comp=Z,177nm,21.8s,baz=286,slow=38
EKA Eskdalemuir Ar 56.65 319 LR LR 07 14 30.2
comp=Z,540nm,21.4s,baz=85,slow=42
EKA Eskdalemuir Ar 56.65 319 P **P 06 44 52.4 -0.9**
YSS Yuzh-Sakhalins 57.72 51 *e*P **P 06 45 04.0 +2.9**
YSS pmax pmax
comp=Z,20nm,1.2s
ASAJ Asahikawa 58.16 54 LR LR 07 13 21.1
comp=Z,289nm,18.4s,baz=316,slow=39
JMIC Jan Mayen 58.46 338 LR LR 07 12 20.4
comp=Z,207nm,19.2s,baz=18,slow=38
KAPI Kappang 58.98 117 LR LR 07 14 26.6
comp=Z,64nm,18.5s,baz=330,slow=40
ESDC Sonseca Array 59.95 301 P **P 06 45 17.0 +0.2**
comp=Z,1.6nm,0.8s,baz=73,slow=6.0,SNR=6.6
ESDC LR LR 07 12 59.3
comp=Z,91nm,20.4s,baz=16,slow=38
ESDC Sonseca Array 59.95 301 lAmb lAmb 06 45 23.9
comp=Z,1.5nm,1.1s
LSZ Lusaka 60.09 228 LR LR 07 11 54.2
comp=Z,261nm,20.8s,baz=22,slow=37
MA2 Magadan 60.40 35 LR LR 07 14 03.1
comp=Z,223nm,18.5s,baz=274,slow=39
MA2 Magadan 60.40 35⇑ *e*P **P 06 45 21.3 +1.8**
MA2 pmax pmax
comp=Z,10.0nm,2.1s
SEY Seymchan 60.67 31 LR LR 07 13 26.1
comp=Z,167nm,18.3s,baz=80,slow=38
SEY Seymchan 60.67 31 *de*P **P 06 45 20.1 -1.1**
DAG Danmarks Havn 61.00 345 *i* P **P 06 45 24.0 +0.7**
DBG Daneborg 61.71 342 *e*P **P 06 45 30.4 +2.3**
MDT Midelt 62.46 294 LR LR 07 18 49.5
comp=Z,96nm,18.4s,baz=62,slow=42
MATP Matopo 63.78 224 LR LR 07 13 09.8
comp=Z,66nm,20.7s,baz=56,slow=36
BORG Borgarnes 64.05 332 LR LR 07 17 08.0
comp=Z,363nm,18.1s,baz=92,slow=39
MSNA Messina 64.37 221 *i* P **P 06 45 49.4 +3.0**
MSNA Messina 64.37 221 *i* P **P 06 45 49.4 +3.0**
MOPA Mopani 64.52 219 *i* P **P 06 45 44.0 -3.4**
MOPA Mopani 64.52 219 *i* P **P 06 45 44.0 -3.4**
TORD Torodi Ar. Bea 64.72 271 P **P 06 45 47.9 -1.1**
comp=Z,1.3nm,0.6s,baz=63,slow=5.5,SNR=12
TORD Torodi Ar. Bea 64.72 271 P **P 06 45 49.8 +0.8**
BILL Bilibino 65.18 24 *e*P **P 06 45 52.0 +0.9**
BILL *e* 06 46 26.2
BILL *e* 06 48 13.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
BATI Baumata 65.24 119 LR LR 07 17 18.1
comp=Z,305nm,21.7s,baz=282,slow=39
PEA0B Petropavlovsk- 65.63 41⇓ *e*P **P 06 45 54.6 +0.3**
PETK Petropavlovsk- 65.63 41 LR LR 07 18 16.1
comp=Z,379nm,20.4s,baz=282,slow=39
SIJI Sorong 65.88 106 LR LR 07 17 26.9
comp=Z,35nm,18.6s,baz=112,slow=39
TSUM Tsumeb 69.98 233 LR LR 07 17 17.4
comp=Z,257nm,21.9s,baz=332,slow=36
GUMO Guam 70.52 85 LR LR 07 17 13.9
comp=Z,74nm,20.2s,baz=298,slow=36
FITZ Fitzroy Crossi 71.76 124 P **P 06 46 33.0 0.0**
comp=Z,2.9nm,0.9s,baz=276,slow=6.8,SNR=6.3
FITZ LR LR 07 22 10.2
comp=Z,74nm,18.5s,baz=318,slow=39
BOSA Boshof 71.93 220 P **P 06 46 34.4 +0.5**
comp=Z,3.1nm,0.8s,baz=56,slow=6.5,SNR=4.2
BOSA LR LR 07 17 27.1
comp=Z,187nm,20.0s,baz=32,slow=35
BOSA Boshof 71.93 220 P **P 06 46 34.4 +0.5**
BOSA pmax pmax
comp=Z,14nm,1.5s
DBIC Dimbokro 73.44 268 P **P 06 46 43.6 +0.6**
comp=Z,1.2nm,0.5s,baz=24,slow=9.5,SNR=2.3
DBIC LR LR 07 22 14.2
comp=Z,133nm,18.2s,baz=62,slow=38
DBIC Dimbokro 73.44 268 P **P 06 46 43.6 +0.6**
DBIC pmax pmax
comp=Z,17nm,1.5s
SFJD Kangerlussuaq 73.76 339 LR LR 07 20 36.9
comp=Z,152nm,20.6s,baz=38,slow=37
SHEM Shemya Is, Ala 74.89 38 LR LR 07 23 41.0
comp=Z,132nm,18.2s,baz=306,slow=39
TOLK Toolik Lake Re 77.75 14 P **P 06 47 07.5 +0.6**
TOLK lAmb lAmb 06 47 23.2
comp=Z,8.7nm,1.2s
A36M Sachs Harbour 78.06 5 P **P 06 47 09.3 +0.8**
COLD Coldfoot 78.78 15 lAmb lAmb 06 47 28.8
comp=Z,7.2nm,1.2s
IMAR Indian Mountai 78.96 17 P **P 06 47 14.0 +0.4**
WB0 Warramunga Arr 79.26 120 P **P 06 47 15.8 -0.1**
WB0 lAmb lAmb 06 47 17.5
comp=Z,3.8nm,0.7s
WRA Warramunga Arr 79.32 120 P **P 06 47 15.8 -0.4**
comp=Z,5.3nm,0.8s,baz=320,slow=5.3,SNR=56
WRA LR LR 07 27 53.9
comp=Z,69nm,18.0s,baz=306,slow=40
WRA Warramunga Arr 79.32 120 P **P 06 47 16.7 +0.4**
WRA Warramunga Arr 79.32 120 P **P 06 47 16.7 +0.4**
WRAB Tennant Creek 79.33 120 *de*P **P 06 47 17.5 +1.2**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 79.33 120 P **P 06 47 17.1 +0.8**
WB2 Warramunga Arr 79.33 120 P **P 06 47 16.0 -0.4**
WB2 lAmb lAmb 06 47 20.7
comp=Z,6.7nm,0.8s
WR0 Warramunga Arr 79.48 120 P **P 06 47 17.3 +0.2**
WR0 lAmb lAmb 06 47 18.3
comp=Z,3.8nm,0.7s
BMAR Burnt Mountain 79.78 13 P **P 06 47 19.2 +1.1**
C36M Paulatuk 80.73 5 lAmb lAmb 06 47 31.4
comp=Z,6.1nm,0.8s
INK Inuvik 80.77 9 P **P 06 47 22.9 -0.4**
comp=Z,2.4nm,0.5s,baz=0.6,slow=3.7,SNR=24
INK LR LR 07 28 10.3
comp=Z,50nm,18.4s,baz=358,slow=39
INK Inuvik 80.77 9 lAmb lAmb 06 47 39.7
comp=Z,12nm,1.4s
MDM Murphy Dome 81.12 15 lAmb lAmb 06 47 45.2
comp=Z,4.1nm,0.8s
NEA2 Nenana 81.24 16 lAmb lAmb 06 47 31.4
comp=Z,8.8nm,1.2s
AS31 Alice Springs 81.25 123 P **P 06 47 26.2 -0.4**
ASAR Alice Springs 81.25 123 P **P 06 47 25.9 -0.7**
comp=Z,3.5nm,0.6s,baz=309,slow=5.3,SNR=64
ASAR LR LR 07 26 16.8
comp=Z,153nm,19.8s,baz=298,slow=38
ASAR Alice Springs 81.25 123 P **P 06 47 27.6 +1.0**
ASAR Alice Springs 81.25 123 P **P 06 47 27.6 +1.0**
FRB Frobisher Bay 81.26 343 LR LR 07 26 10.3
comp=Z,112nm,18.9s,baz=36,slow=38
COLA College 81.28 15⇓ *e*P **P 06 47 26.6 +0.5**
COLA pmax pmax
comp=Z,11nm,1.8s
ILAR Eielson Array 81.59 15 P **P 06 47 26.4 -1.4**
comp=Z,0.5nm,0.6s,baz=306,slow=4.4,SNR=8.5
ILAR LR LR 07 29 05.2
comp=Z,146nm,18.0s,baz=320,slow=40
DAWY Dawson 83.77 12 P **P 06 47 39.7 +0.5**
DAWY lAmb lAmb 06 47 48.2
comp=Z,2.6nm,0.8s
KDAK Kodiak Island 85.88 21 LR LR 07 32 29.5
comp=Z,138nm,18.2s,baz=314,slow=40
SCHQ Schefferville 87.95 337 P **P 06 48 00.1 0.0**
comp=Z,2.2nm,0.9s,baz=326,slow=7.3,SNR=1.5
SCHQ LR LR 07 30 14.3
comp=Z,151nm,18.5s,baz=78,slow=38
SCHQ Schefferville 87.95 337 lAmb lAmb 06 48 03.3
comp=Z,12nm,1.4s
YKA Yellowknife Ar 88.08 2 P **P 06 48 00.7 +0.2**
comp=Z,2.4nm,0.6s,baz=348,slow=4.9,SNR=41
CTA Charters Tower 88.64 114 LR LR 07 35 55.5
comp=Z,79nm,18.1s,baz=265,slow=41
STKA Stephens Creek 91.56 126 P **P 06 48 18.1 +1.0**
comp=Z,1.9nm,0.8s,baz=344,slow=5.6,SNR=3.4
STKA LR LR 07 30 10.3
comp=Z,150nm,21.5s,baz=270,slow=36
BBB Bella Bella 96.97 11 LR LR 07 36 43.1
comp=Z,82nm,21.4s,baz=2.0,slow=38
MAW Mawson 97.13 183 LR LR 07 25 47.3
comp=Z,151nm,19.3s,baz=54,slow=31
ULM Lac du Bonnet 99.41 351 LR LR 07 39 18.3
comp=Z,209nm,18.0s,baz=2.5,slow=39

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*IDC **02** 06:54:39.1±1.0,36.˙50N×98.˙64W,h0km,mb3.3/2, mb1 3.8/8,mb1mx3.6/54,mbtmp3.5/8,ML3.4/6,MS3.1/3, Ms1 3.0/3,ms1mx2.7/34,Error ellipse: s-maj=14.1km s-min=11.7km az=89.0*
*TUL **02** 06:54:40.5±0.7,36.˙46N±0.˙01×98.˙76W±0.˙05,h7km±7km, ML3.9,mb_Lg4.0/116(NEIC),Mwr3.7/64(NEIC),Error ellipse: s-maj=5.7km s-min=1.0km az=101.0*
*ANF **02** 06:54:40.9±0.2,36.˙45N×98.˙72W,h10km,ML4.9/17,Error ellipse: s-maj=2.6km s-min=1.9km az=31.0*
*NEIC **02** 06:54:41.9,36.˙47N×98.˙71W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.78; $M_{\theta\theta}$=4.59; $M_{\phi\phi}$=-3.80; $M_{r\theta}$=-0.44; $M_{\theta\phi}$=-0.21; $M_{r\phi}$=0.74; Fault plane solution: $M_0$4.34000×10^{14} NP1:ϕ_s135.71000°, δ84.43000°,λ-12.67000°. NP2:ϕ_s226.96000°,δ77.39000°, λ-174.29000°. Principal axes: T 4.6341, Plg5.0000°, Azm182.0000°; N -0.6583, Plg76.0000°, Azm292.0000°; P -3.9758, Plg13.0000°, Azm91.0000°;*
*NEIC **02** 06:54:41.6±0.6,36.˙46N±0.˙03×98.˙71W±0.˙05,h5km±6km Error ellipse: s-maj=5.6km s-min=3.7km az=115.0*
ISC 02 06:54:40.9±0.6,**36.˙47N**±0.˙04×**98.˙69W**±0.˙04,**h10km,n117,**
σ0**99**/98,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.27**	**251**	Pg	**Pg**	**06 54 45.3**	**-1.1**
U32A				Sg	**Sg**	**06 54 48.6**	**-1.4**
OKCSW	**OKLAHOMA CITY**	**1.47**	**136**		**Pn**	**06 55 07.9**	**+0.4**
FNO	**Franklin**	**1.60**	**139**	Pn	**Pn**	**06 55 10.0**	**+0.8**

WMOK Wichita Mounta 1.73 183 **Pn** **06 55 10.0 -0.2**
WMOK Wichita Mounta 1.73 183 P **Pn** **06 55 10.7 -0.4**
baz=1.9,SNR=160
WMOK S **Sn** **06 55 33.4 +0.3**
baz=1.9
T35A Sooner Cattle 1.81 75 Pn **Pn** **06 55 13.2 +1.1**
R32A Long Quarter, 1.95 359 Pn **Pn** **06 55 15.0 +0.8**
W35A Tecumseh 1.97 131 Pn **Pn** **06 55 15.1 +0.6**
X34A Smith Ranch, M 1.99 159 Pn **Pn** **06 55 16.2 +1.6**
TUL1 Leonard 2.41 102 Pn **Pn** **06 55 21.4 +1.0**
TUL1 lAmb_Lg 06 55 58.0
comp=Z,589nm,0.9s
TUL1 Leonard 2.41 102 P **Pn** **06 55 21.2 +0.8**
baz=284,SNR=105
CBKS Cedar Bluff 2.49 341 **Pn** **06 55 22.5 +1.0**
CBKS lAmb_Lg 06 56 03.1
comp=Z,371nm,0.8s
CBKS Cedar Bluff 2.49 341 P **Pn** **06 55 22.2 +0.7**
baz=161
AMTX Amarillo 2.91 238 P **Pn** **06 55 27.7 +0.4**
baz=56
AMTX Sb **Sb** **06 56 09.6 +1.1**
baz=56
KSU1 Kansas State U 3.10 31 Pn **Pn** **06 55 31.4 +1.5**
KSU1 lAmb_Lg 06 56 25.4
comp=Z,336nm,0.8s
KSU1 Kansas State U 3.10 31 P **Pn** **06 55 31.3 +1.3**
baz=213,SNR=24
X37A Clayton 3.29 124 Pn **Pn** **06 55 33.4 +0.8**
Z35A Perchaven, San 3.34 159 **Pn** **06 55 34.1 +0.8**
HHAR Hobbs 3.83 91 Pn **Pn** **06 55 40.6 +0.5**
HHAR lAmb_Lg 06 56 42.2
comp=Z,281nm,0.7s
ABTX Abilene, Hawle 3.91 192 Pn **Pn** **06 55 41.1 0.0**
ABTX Abilene, Hawle 3.91 192 P **Pn** **06 55 41.1 0.0**
baz=11,SNR=24
KSCO Kaye Shedlock' 4.03 310 lAmb_Lg 06 56 58.2
comp=Z,334nm,0.8s
KSCO Kaye Shedlock' 4.03 310 P **Pn** **06 55 43.0 +0.2**
baz=128
KSCO Sb **Sb** **06 56 43.6 +2.7**
baz=128
MSTX Muleshoe 4.17 235 lAmb_Lg 06 56 55.9
comp=Z,384nm,0.7s
MSTX Muleshoe 4.17 235 P **Pn** **06 55 44.4 -0.4**
baz=52,SNR=20
W39A Magazine 4.18 106 Pn **Pn** **06 55 45.5 +0.7**
W39A lAmb_Lg 06 57 01.4
comp=Z,384nm,0.9s
W39A Magazine 4.18 106 P **Pn** **06 55 45.3 +0.6**
baz=289,SNR=6.4
W39A S **Sn** **06 56 34.4 +0.7**
baz=289
N33A J Bar K, Exete 4.37 12 **Pn** **06 55 47.1 -0.3**
N33A lAmb_Lg 06 57 05.2
comp=Z,222nm,0.7s
Z38A Mt. Pleasant 4.42 135 Pn **Pn** **06 55 48.6 +0.6**
Z38A lAmb_Lg 06 57 03.0
comp=Z,356nm,0.8s
S39A Bolivar 4.46 73 Pn **Pn** **06 55 49.1 +0.5**
S39A lAmb_Lg 06 57 01.8
comp=Z,234nm,0.7s
WHTX Lake Whitney, 4.58 167 Pn **Pn** **06 55 50.3 +0.1**
WHTX Lake Whitney, 4.58 167 P **Pn** **06 55 50.4 +0.1**
baz=347,SNR=14
MIAR Mount Ida 4.59 113 **Pn** **06 55 51.1 +0.7**
MIAR lAmb_Lg 06 57 18.5
comp=Z,245nm,0.8s
MIAR Mount Ida 4.59 113 P **Pn** **06 55 50.9 +0.5**
baz=296,SNR=6.8
MIAR S **Sn** **06 56 44.2 +0.4**
baz=296
T25A Trinidad 4.64 280 **Pn** **06 55 51.1 -0.3**
T25A lAmb_Lg 06 57 04.8
comp=Z,403nm,0.8s
T25A Trinidad 4.64 280 P **Pn** **06 55 51.0 -0.3**
baz=97,SNR=13
T25A S **Sn** **06 56 44.0 -1.4**
baz=97
U40A Yellville 4.71 90 lAmb_Lg 06 57 18.0
comp=Z,315nm,1.0s
U40A Yellville 4.71 90 P **Pn** **06 55 52.6 +0.6**
baz=273,SNR=16
BGNE Belgrade 4.95 5 Pn **Pn** **06 55 55.7 +0.3**
BGNE lAmb_Lg 06 57 30.8
comp=Z,288nm,0.8s
BGNE Belgrade 4.95 5 P **Pn** **06 55 56.0 +0.6**
baz=185
BGNE S **Sn** **06 56 53.3 +0.6**
baz=185
237A Washetta, Mont 5.05 151 lAmb_Lg 06 57 30.7
comp=Z,217nm,0.9s
P38A Dawn 5.15 51 Pn **Pn** **06 55 59.0 +0.9**
P38A lAmb_Lg 06 57 25.8
comp=Z,171nm,0.7s
X40A Basin Creek Fa 5.17 111 **Pn** **06 55 59.8 +1.4**
X40A lAmb_Lg 06 57 34.8
comp=Z,246nm,0.9s
X40A Basin Creek Fa 5.17 111 P **Pn** **06 55 59.1 +0.8**
baz=294,SNR=6.0
X40A S **Sn** **06 56 58.0 0.0**
baz=294
OGNE Ogallala 5.18 331 Pn **Pn** **06 55 59.2 +0.6**
OGNE lAmb_Lg 06 57 36.9
comp=Z,270nm,0.7s
OGNE Ogallala 5.18 331 P **Pn** **06 55 59.2 +0.6**
baz=149,SNR=9.4
OGNE S **Sn** **06 56 58.1 -0.4**
baz=149
MGMO Mountain Grove 5.20 81 **Pn** **06 55 59.7 +0.9**
MGMO lAmb_Lg 06 57 27.6
comp=Z,161nm,0.8s
FCAR Ozark Folk Cen 5.34 94 lAmb_Lg 06 57 31.5
comp=Z,196nm,0.7s
WLAR White Oak Lake 5.35 120 lAmb_Lg 06 57 36.6
comp=Z,201nm,0.8s
W41B Gary Mavity, V 5.39 102 **Pn** **06 56 02.0 +0.7**
W41B lAmb_Lg 06 57 33.3
comp=Z,276nm,0.9s
W41B Gary Mavity, V 5.39 102 P **Pn** **06 56 01.9 +0.5**
baz=286
W41B S **Sn** **06 57 01.5 -1.9**
baz=286
R40A Maddies Statio 5.43 68 **Pn** **06 56 02.2 +0.3**
R40A lAmb_Lg 06 57 37.5
comp=Z,143nm,0.9s
SDCO Great Sand Dun 5.59 285 Pn **Pn** **06 56 05.2 +0.7**
SDCO lAmb_Lg 06 57 45.3
comp=Z,192nm,1.1s
SDCO Great Sand Dun 5.59 285 P **Pn** **06 56 04.6 +0.1**
baz=101,SNR=25
Q24A Divide 5.70 298 **Pn** **06 56 05.6 -0.3**
Q24A lAmb_Lg 06 57 47.1
comp=Z,188nm,0.7s
Q24A Divide 5.70 298 P **Pn** **06 56 05.5 -0.3**
baz=114
435B Jarrell 5.74 170 lAmb_Lg 06 57 50.1
comp=Z,241nm,0.9s
435B Jarrell 5.74 170 P **Pn** **06 56 06.4 +0.1**
baz=351
435B S **Sn** **06 57 11.7 -0.5**
baz=351
NATX Nacogdoches 5.76 143 lAmb_Lg 06 57 56.9
comp=Z,248nm,0.9s
JCT Junction City 6.04 189 lAmb_Lg 06 58 08.8
comp=Z,210nm,0.8s
JCT Junction City 6.04 189 P **Pn** **06 56 10.1 -0.3**
baz=8.4
CCM Cathedral Cave 6.14 73 **Pn** **06 56 12.8 +1.1**
CCM lAmb_Lg 06 58 01.6
comp=Z,260nm,0.9s
CCM Cathedral Cave 6.14 73 P **Pn** **06 56 12.2 +0.4**
baz=257
K31A O'Neill 6.15 360 **Pn** **06 56 12.0 +0.2**
K31A lAmb_Lg 06 57 60.0
comp=Z,215nm,0.8s
CCAR Cane Creek 6.21 112 lAmb_Lg 06 58 05.1
comp=Z,220nm,0.9s
ISCO Idaho Springs 6.39 303 Pn **Pn** **06 56 15.9 +0.4**
ISCO lAmb_Lg 06 58 15.5
comp=Z,126nm,0.8s
ISCO Idaho Springs 6.39 303 P **Pn** **06 56 15.5 +0.1**
baz=119
ISCO S **Sn** **06 57 26.4 -2.3**
baz=119
ANMO Albuquerque 6.50 259 Pn **Pn** **06 56 16.6 -0.2**
comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=17

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANMO				Pg	Pb	06 56 37.3	+3.0
	comp=Z,1.2nm,0.3s,baz=81,slow=16,SNR=17						
ANMO				Lg	Lg	06 58 02.5	
	comp=Z,6.4nm,0.3s,baz=343,slow=20,SNR=3.6						
ANMO	Albuquerque	6.50	259	P	Pn	06 56 16.4	-0.4
	baz=74						
PBMO	Poplar Bluff	6.65	85	IAmb_Lg		06 58 22.6	
	comp=Z,160nm,0.7s						
FVM	French Village	6.76	75	IAmb_Lg		06 58 20.2	
	comp=Z,142nm,0.8s						
SCIA	State Center	6.90	36	IAmb_Lg		06 58 26.2	
	comp=Z,191nm,0.7s						
SCIA	State Center	6.90	36	P	Pn	06 56 22.5	+0.5
	baz=220						
SLM	Saint Louis	7.05	70	IAmb_Lg		06 58 25.6	
	comp=Z,235nm,0.9s						
143A	Socs Landing,	7.08	120	IAmb_Lg		06 58 35.9	
	comp=Z,105nm,0.9s						
PHWY	Pilot Hill	7.15	314	IAmb_Lg		06 58 41.5	
	comp=Z,212nm,1.0s						
N23A	Red Feather La	7.19	310	P	Pn	06 56 26.3	-0.1
	baz=126						
MET	Memphis--Engin	7.24	98	IAmb_Lg		06 58 43.8	
	comp=Z,198nm,0.8s						
MNTX	Cornudas Mount	7.31	231	Pn	Pn	06 56 27.7	-0.1
MNTX				IAmb_Lg		06 58 30.2	
	comp=Z,125nm,0.8s						
MNTX	Cornudas Mount	7.31	231	P	Pn	06 56 27.2	-0.7
	baz=47						
ECSD	EROS Data Cent	7.43	12	P	Pn	06 56 27.6	-1.8
	baz=193,SNR=9.0						
HALT	Halls	7.58	91	IAmb_Lg		06 58 43.1	
	comp=Z,203nm,0.9s						
735A	Kenedy	7.63	174	IAmb_Lg		06 58 53.8	
	comp=Z,122nm,1.0s						
S44A	Carbondale	7.64	78	IAmb_Lg		06 58 45.8	
	comp=Z,153nm,0.8s						
SIUC	Southern Illin	7.67	78	IAmb_Lg		06 58 47.9	
	comp=Z,169nm,0.8s						
OXF	Oxford	7.81	102	IAmb_Lg		06 58 58.3	
	comp=Z,176nm,1.1s						
OXF	Oxford	7.81	102	P	Pn	06 56 34.7	+0.1
	baz=287,SNR=5.9						
W45A	Hickory Valley	7.83	97	IAmb_Lg		06 58 52.4	
	comp=Z,164nm,0.9s						
UTMT	University of	7.92	88	IAmb_Lg		06 59 03.3	
	comp=Z,201nm,0.9s						
Y45A	Yeager Farm, C	7.92	106	IAmb_Lg		06 59 16.9	
	comp=Z,106nm,0.8s						
SUSD	Miller	7.97	359	IAmb_Lg		06 58 57.3	
	comp=Z,105nm,0.8s						
SUSD	Miller	7.97	359	P	Pn	06 56 37.6	+0.8
	baz=179						
VBMS	Vicksburg	7.97	120	IAmb_Lg		06 59 13.5	
	comp=Z,89nm,1.1s						
833A	Chaparral WMA,	8.14	184	IAmb_Lg		06 59 02.9	
	comp=Z,90nm,0.9s						
833A	Chaparral WMA,	8.14	184	P	Pn	06 56 39.8	+0.6
	baz=3.9						
TXAR	Lajitas Array	8.25	212	Pn	Pn	06 56 39.6	-1.2
	comp=Z,1.1nm,0.3s,baz=40,slow=11,SNR=58						
TXAR				Pg	Pb	06 57 07.1	+3.1
	comp=Z,2.2nm,0.3s,baz=33,slow=14,SNR=15						
TXAR				Lg	Lg	06 58 52.9	
	comp=Z,2.4nm,0.3s,baz=327,slow=9.0,SNR=3.7						
HDIL	Hopedale	8.42	58	P	Pn	06 56 42.8	-0.1
	baz=244,SNR=7.1						
RWWY	Rawlins	8.43	311	IAmb_Lg		06 59 07.2	
	comp=Z,193nm,1.3s						
K22A	Casper	8.64	318	IAmb_Lg		06 59 23.3	
	comp=Z,161nm,0.9s						
RSSD	Black Hills	8.67	334	P	Pn	06 56 47.0	+0.4
	baz=150						
WVT	Waverly	8.77	89	P	Pn	06 56 48.4	+0.6
	baz=275						
JFWS	Jewell Farm	9.15	43	IAmb_Lg		06 59 56.9	
	comp=Z,123nm,0.8s						
JFWS	Jewell Farm	9.15	43	P	Pn	06 56 53.1	+0.1
	baz=228						
F33A	5 Mile Ranch,	9.54	10	IAmb_Lg		06 59 44.9	
	comp=Z,119nm,1.3s						
I40A	Norwalk	9.64	37	IAmb_Lg		06 59 56.9	
	comp=Z,86nm,0.9s						
SPMN	Marine on St.	9.81	25	P	Pn	06 57 00.1	-1.9
	baz=209						
SFIN	Lafayette	9.90	63	P	Pn	06 57 03.9	+0.7
	baz=250						
WCI	Wyandotte Cave	10.02	76	P	Pn	06 57 05.0	0.0
	baz=264						
LRAL	Lakeview Retre	10.21	106	P	Pn	06 57 07.8	+0.3
	baz=293						
PDAR	Pinedale Array	10.48	310	Pn	Pn	06 57 11.1	-0.4
	comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=5.1						
PDAR				Pg		06 57 49.4	
	comp=Z,0.4nm,0.3s,baz=106,slow=18,SNR=4.9						
PDAR				Sn	Sn	06 59 09.2	+0.2
	comp=Z,0.3nm,0.3s,baz=104,slow=18,SNR=1.8						
PDAR				Lg	Lg	07 00 06.7	
	comp=Z,1.4nm,0.3s,baz=127,slow=32,SNR=11						
PDAR				LR	LR	07 01 42.7	
	comp=Z,82nm,20.6s,baz=352,slow=40						
AGMN	Agassiz Nation	12.01	9	P	Pn	06 57 29.3	-2.7
	baz=191						
TKL	Tuckaleechee C	12.10	89	Pn	Pn	06 57 31.1	-2.3
	comp=Z,0.3nm,0.3s,baz=258,slow=9.2,SNR=2.9						
TKL				Lg	Lg	07 00 54.4	
	comp=Z,0.7nm,0.3s,baz=165,slow=20,SNR=4.1						
TKL				LR	LR	07 02 09.3	
	comp=Z,115nm,19.0s,baz=6.0,slow=37						
ULM	Lac du Bonnet	13.93	8	Pn	Pn	06 57 51.1	-7.2
	comp=Z,0.5nm,0.3s,baz=191,slow=17,SNR=3.0						
ULM				Sn	Sn	07 00 20.9	-12
	comp=Z,0.5nm,0.3s,baz=106,slow=20,SNR=3.2						
ULM				Lg	Lg	07 01 56.4	
	comp=Z,0.4nm,0.3s,baz=100,slow=22,SNR=4.0						
PFO	Pinyon Flats O	14.84	264	LR	LR	07 03 05.0	
	comp=Z,54nm,21.0s,baz=18,slow=34						
NVAR	Mina Array Bea	15.71	283	Pn	Pn	06 58 23.4	+0.9
	comp=Z,0.0nm,0.3s,baz=84,slow=9.2,SNR=1.9						
YKA	Yellowknife Ar	27.87	344	P	P	07 00 30.6	+0.2
	comp=Z,0.2nm,0.6s,baz=151,slow=8.6,SNR=4.4						
YKA				Lg	Lg	07 09 16.8	
	comp=Z,1.1nm,1.0s,baz=144,slow=28,SNR=3.2						
ILAR	Eielson Array	40.10	330	P	P	07 02 16.4	+0.1
	comp=Z,0.5nm,0.9s,baz=106,slow=6.7,SNR=4.3						

*JMA **02** 07:02:57.7±0.2, 36°.15N×137°.01E, h277km±2km, M3.0*
*IDC **02** 07:02:58.0±0.6, 36°.23N×137°.13E, h278km±9km, mb3.2/4, mb1 3.4/8, mb1mx3.0/58, mbtmp3.9/8, Error ellipse: s-maj=31.8km s-min=13.8km az=63.0*
ISC 02 07:02:57.8±0.9**, 36°.18N**±0°.09×**136°.98E**±0°.08**, h274**km±7km**, n23,** σ0s.**72**/30**, mb3.4**/4**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.28	80	P	Pn	07 03 33.4	+0.4
JKG	Kaga	0.53	281	P	Pn	07 03 34.0	+0.6
JNG	Nsakai	0.94	75	P	Pn	07 03 35.8	+0.7
JNG				eS	S	07 04 04.9	+0.3
MAT	Matsushiro	1.06	69	P	Pn	07 03 36.1	+0.5
MAT				eS	S	07 04 06.2	+0.6
MAT	Matsushiro	1.06	69	P	Pn	07 03 35.9	+0.3
MAT				S	S	07 04 06.1	+0.5
MJAR	Matsushiro Arr	1.06	69	P	Pn	07 03 36.1	+0.5
	0.4nm,0.3s,baz=216,slow=4.4,SNR=7.0						
MJAR				S	S	07 04 06.0	+0.4
	0.2nm,0.3s,baz=254,slow=12,SNR=6.5						
JWT	Wachi	1.56	236	P	Pn	07 03 38.9	+0.1
JWT				eS	S	07 04 10.4	-0.9
JRY	Ryogami san	1.57	95	P	Pn	07 03 39.0	+0.1
JRY				eS	S	07 04 10.3	-1.1
JKY	Yasaka	1.61	251	P	Pn	07 03 39.3	+0.1
JKY				eS	S	07 04 11.2	-0.8
JIE	Ise	1.79	187	P	Pn	07 03 41.1	+0.5
JOD2	Odawara 2	1.94	117	P	Pn	07 03 42.2	+0.4
JKSM	Kasumi	1.97	253	P	Pn	07 03 42.2	+0.3
JAG	Ashikaga	2.02	82	P	Pn	07 03 42.1	-0.2
JSD	Sado	2.12	29	P	Pn	07 03 43.8	+0.6
JTNC	Tanabenakahech	2.60	206	P	Pn	07 03 48.1	+0.2
KSRS	Korea Array	7.37	283	P	Pn	07 04 44.2	+1.0
	0.1nm,0.3s,baz=97,slow=13,SNR=5.1						
USRK	Ussuriysk Ar.	8.88	336	P	Pn	07 05 02.8	+0.9
	baz=121,slow=10,SNR=6.0						
ASAJ	Asahikawa	9.02	27	P	Pn	07 05 01.9	-1.8
	7.2nm,0.3s,baz=232,slow=9.7,SNR=19						
KLR	Kul'dur	13.60	345	P	Pn	07 05 58.9	-1.2
	0.7nm,0.3s,baz=161,slow=11,SNR=14						
MKAR	Makanchi Array	41.55	302	P	P	07 10 19.5	+0.6
	0.6nm,0.7s,baz=97,slow=10,SNR=7.8						
KURBB	Kurchatov Arra	43.72	308	P	P	07 10 36.4	+0.4
	1.3nm,0.8s,baz=86,slow=7.9,SNR=12						
WRA	Warramunga Arr	55.87	183	P	P	07 12 07.3	0.0
	0.8nm,0.3s,baz=0.2,slow=7.6,SNR=14						
ASAR	Alice Springs	59.59	183	P	P	07 12 33.5	+0.3
	0.4nm,0.3s,baz=355,slow=5.3,SNR=8.6						

IDC 02 07:05:52.4±5.0**, 4°.25S**×**153°.25E, h127**km±31km**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.2**/33**, mbtmp3.9**/3**, Error ellipse: s-maj=86.0km s-min=29.8km az=117.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.22	267	P	Pn	07 06 17.0	-0.2
	14nm,0.3s,baz=90,slow=4.0,SNR=1.9						
KRVT				S	Sn	07 06 36.1	0.0
	18nm,0.3s,baz=148,slow=23,SNR=10						
PMG	Port Moresby	7.93	229	P	Pn	07 07 46.4	+1.5
	4.9nm,0.3s,baz=37,slow=8.5,SNR=6.5						
PMG				S	Sn	07 09 13.3	+0.3
	2.2nm,0.3s,baz=128,slow=22,SNR=14						
WRA	Warramunga Arr	24.14	228	P	P	07 10 57.0	+0.1
	1.7nm,0.5s,baz=54,slow=9.9,SNR=27						
ASAR	Alice Springs	26.86	222	P	P	07 11 20.9	-0.5
	0.2nm,0.5s,baz=56,slow=9.0,SNR=4.7						
TORD	Torodi Ar. Bea	150.56	289	PKPbc	PKPbc	07 25 30.2	-0.2
	0.7nm,0.7s,baz=62,slow=2.6,SNR=4.8						

IDC 02 07:08:23.0±3.6**, 55°.59N**×**86°.47E, h0**km**, mb1 2.6**/2**, mb1mx2.5**/48**, mbtmp2.6**/2**, ML2.3**/2**, Error ellipse: s-maj=30.0km s-min=28.0km az=2.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.91	211	*i*		07 21 16.3	
	baz=31,slow=342,SNR=3.1						
ZALV	Zalesovo Beam	1.91	211	Pn	Pn	07 08 55.9	-0.8
	1.1nm,0.3s,baz=28,slow=14,SNR=12						
ZALV				Lg	Lg	07 09 22.7	
	0.6nm,0.3s,baz=27,slow=27,SNR=4.6						
KURBB	Kurchatov Arra	6.90	227	Pn	Pn	07 10 05.0	-0.3
	0.1nm,0.3s,baz=40,slow=13,SNR=2.2						
KURBB				Lg	Lg	07 12 04.5	
	0.0nm,0.3s,baz=40,slow=30,SNR=1.6						
MKAR	Makanchi Array	9.19	198	Pn	Pn	07 10 37.5	+0.8
	0.0nm,0.3s,baz=21,slow=12,SNR=1.6						

*DSN **02** 07:16:06.0±1.2, 28°.05N×57°.62E, h10km, ML3.4/4, Error ellipse: s-maj=46.7km s-min=8.5km az=125.0*
*TEH **02** 07:16:07.4, 27°.76N×57°.63E, h17km, ML3.1*
ISC 02 07:16:09.2±1.2**, 27°.80N**±0°.05×**57°.59E**±0°.06**, h10**km±11km**, n18,** σ0s.**60**/22**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.18	36	*e*Pg	Pg	07 16 12.6	-0.4
KHNJ				*e*Sg	Sg	07 16 16.2	+0.6
GENO	Geno	1.32	253	*e*Pg	Pn	07 16 33.0	-0.9
GENO				*e*Sg	Sb	07 16 51.6	+0.4
KBAM	BAM	1.53	30	*e*Pn	Pn	07 16 35.2	-1.5
KBAM				*e*		07 16 43.3	
	comp=Z,2μm,0.4s						
NGRK	Negar Kerman	1.98	338	*e*Pn	Pn	07 16 42.8	-0.4
NGRK				*e*		07 17 15.6	
	comp=Z,2μm,0.2s						
CHMN	Cheshme madani	2.05	359	*e*Pn	Pn	07 16 44.0	-0.1
CHMN				*e*		07 16 48.1	
	comp=Z,1μm,0.8s						
SHME	Shamm	2.17	217	P	Pn	07 16 45.3	-0.1
SHME				S	Sb	07 17 16.1	+0.5
BANOM	Banah	2.20	212	P	Pn	07 16 45.4	-0.4
BANOM				S	Sb	07 17 16.0	-0.4
KRBR	Kerman	2.29	342	*e*Pn	Pn	07 16 47.5	+0.2
TVBK	TV Kerman	2.29	342	*e*Pn	Pn	07 16 47.1	-0.3
TVBK				*e*		07 16 53.4	
	comp=Z,2μm,0.3s						
KHGB	Koh Gabri	2.74	339	*e*Pn	Pn	07 16 53.5	0.0
KHGB				*e*		07 17 41.1	
	comp=Z,475nm,0.6s						
MSFE	Esma-Masafi	2.75	208	P	Pn	07 16 53.1	-0.3
ZHSF	Zahedan	3.33	56	*e*Pn	Pn	07 17 01.4	-0.1
ASHO	Ashiyiah	3.40	204	P	Pn	07 17 03.3	+1.0
GHIR	Ghir-Karzin	4.09	278	*e*Pn	Pn	07 17 11.4	-0.6
BSRN	Basiran	4.36	17	*e*Pn	Pn	07 17 16.0	+0.4
IKOO	Kooshah	4.76	15	*e*Pn	Pn	07 17 21.9	+0.6
TABS	Tabas	5.84	356	*e*Pn	Pn	07 17 36.3	+0.3
KLNJ	Kolanjah	6.13	303	*e*Pn	Pn	07 17 40.4	+0.3

*IDC **02** 07:22:32.1±2.6, 53°.56N×87°.85E, h0km, mb1 3.3/2, mb1mx3.1/40, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=24.6km s-min=15.0km az=68.0*
*NNC **02** 07:22:33.9±2.4, 53°.50N×87°.69E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=18.6km s-min=11.3km az=59.0, Suspected Mining explosion.*
ISC 02 07:22:32.2±3.3**, 53°.6N**±0°.1×**87°.8E**±0°.2**, h0**km**, n8,** σ1s.**32**/12**, 8C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.77	281	*i*		07 36 10.0	
	baz=98,slow=338,SNR=4.6						
ZAA0	Zalesovo Array	1.77	281	⇑P	Pb	07 23 04.4	-1.1
	0.9nm,0.5s						
ZAA0				⇓S	Sg	07 23 29.8	+0.9
	2.5nm,0.5s						
ZALV	Zalesovo Beam	1.77	281	Pn	Pn	07 23 04.2	+0.2
	3.3nm,0.3s,baz=101,slow=16,SNR=46						
ZALV				Lg	Lg	07 23 29.8	
	1.4nm,0.3s,baz=101,slow=28,SNR=4.5						
KURK	Kurchatov	6.33	246	⇑Pn	Pn	07 24 08.5	+1.8
	0.4nm,0.2s						
KURK				⇑Sn	Sn	07 25 19.9	+0.2
	0.3nm,0.2s						
KURK				⇑Lg	Lg	07 25 54.6	
	0.6nm,0.2s						
KURBB	Kurchatov Arra	6.43	246	Pn	Pn	07 24 08.9	+0.8
	0.2nm,0.3s,baz=62,slow=14,SNR=16						
KURBB				Lg	Lg	07 25 56.9	
	0.1nm,0.3s,baz=64,slow=32,SNR=12						
KURBB	Kurchatov Arra	6.43	246	⇑Pn	Pn	07 24 09.0	+1.0
	1.6nm,0.3s						
KURBB				⇓Sn	Sn	07 25 21.1	-0.9
	4.1nm,0.8s						
KURBB				⇑Lg	Lg	07 25 55.0	
	7.7nm,0.8s						
MK31	Makanchi Array	7.69	209	Pn	Pn	07 24 26.7	+1.3
	0.1nm,0.2s,baz=29,slow=13,SNR=25						
MK31				⇑Sn	Sn	07 25 52.4	-0.8
	0.2nm,0.5s,baz=31,slow=25,SNR=4.3						
MK31				⇑Lg	Lg	07 26 34.2	
	2.5nm,0.9s,baz=33,slow=30,SNR=3.8						
MKAR	Makanchi Array	7.69	209	Pn	Pn	07 24 26.5	+1.1
	0.3nm,0.3s,baz=28,slow=13,SNR=23						
MKAR				Sn	Sn	07 25 51.2	-2.1
	0.1nm,0.3s,baz=33,slow=24,SNR=7.4						
MKAR				Lg	Lg	07 26 34.2	
	0.1nm,0.3s,baz=33,slow=29,SNR=5.2						

*IDC **02** 08:07:49.6±1.2, 2°.85S×140°.50E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/41, mbtmp3.6/4, ML3.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/36, Error ellipse: s-maj=37.8km s-min=8.0km az=123.0*
*DJA **02** 08:07:53.5±0.6, 3°S±8°×14°1E±°, h10km, M3.4/4, MLv3.4/4*
ISC 02 08:07:50.5±1.0**, 2°.86S**±0°.06×**140°.61E**±0°.07**, h10**km**, n13,** σ1s.**98**/13**, mb3.4**/3**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.35	15	Pg	Pg	08 07 57.7	+0.1
	414nm,0.3s,baz=213,slow=12,SNR=1624						
JAY				Lg	Lg	08 08 02.0	
	860nm,0.3s,baz=150,slow=20,SNR=30						
JAY				LR	LR	08 08 25.4	
	comp=Z,1μm,21.4s,baz=357,slow=92						
JAY	Jayapura	0.35	15	P	Pg	08 07 57.7	+0.1
JAY				S	Sg	08 08 02.3	0.0
GENI	Genyem	0.52	301	P	Pg	08 08 01.0	+0.4
GENI				S	Sb	08 08 07.6	-1.6
SMPI	Sarmi	2.09	294	P	Pb	08 08 28.7	+0.2
WAMI	Wamena	2.15	242	P	Pn	08 08 29.8	+3.3
SIJI	Sorong	9.55	282	LR	LR	08 14 48.2	
	comp=Z,37nm,19.8s,baz=8.0,slow=44						
WRA	Warramunga Arr	18.05	199	P	Pn	08 12 02.3	+0.7
	0.3nm,0.3s,baz=26,slow=13,SNR=23						
WRA				S	Sn	08 15 13.8	-9.4
	0.1nm,0.3s,baz=29,slow=21,SNR=3.6						
WRA				LR	LR	08 20 09.6	
	comp=Z,57nm,20.1s,baz=114,slow=41						
FITZ	Fitzroy Crossi	21.09	223	P	P	08 12 35.0	-0.3
	1.1nm,0.7s,baz=45,slow=11,SNR=3.3						
FITZ				S	S	08 16 25.6	-4.6
	1.5nm,0.8s,baz=229,slow=18,SNR=3.8						
ASAR	Alice Springs	21.68	197	P	P	08 12 41.9	+0.2
	0.8nm,0.6s,baz=32,slow=9.6,SNR=25						
ASAR				S	S	08 16 40.1	-1.7
	0.2nm,0.7s,baz=347,slow=37,SNR=2.4						
H11S3	WAKE ISLAND Hy	33.31	49	T	T	08 49 18.8	
	baz=232,slow=76						
H11S2	WAKE ISLAND Hy	33.32	49	T	T	08 49 15.1	
	baz=232,slow=76						
H11S1	WAKE ISLAND Hy	33.33	49	T	T	08 49 18.8	
	baz=232,slow=76						
MKAR	Makanchi Array	71.07	322	P	P	08 19 08.3	-0.8
	0.4nm,0.7s,baz=104,slow=6.1,SNR=3.1						

*NNC **02** 08:12:17.7±5.7, 54°.51N×87°.89E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=56.0km s-min=36.8km az=175.0, Suspected Mining explosion.*
IDC 02 08:12:23.0±3.0**, 54°.43N**×**87°.28E, h0**km**, mb1 3.0**/2**, mb1mx2.9**/51**, mbtmp3.0**/2**, ML2.8**/2**, 6C-2D, Error ellipse: s-maj=24.8km s-min=18.2km az=38.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	253	*i*		08 22 42.9	
	baz=73,slow=346,SNR=5.8						
ZAA0	Zalesovo Array	1.52	253	⇓P	Pn	08 12 49.9	-1.5
	0.3nm,0.3s						
ZAA0				⇑S	Sn	08 13 17.1	+5.2
	0.6nm,0.2s						
ZALV	Zalesovo Beam	1.52	253	Pg	Pn	08 12 48.8	-2.6
	1.6nm,0.3s,baz=68,slow=16,SNR=15						
ZALV				Lg	Lg	08 13 12.1	
	1.5nm,0.3s,baz=156,slow=10,SNR=8.1						
KURBB	Kurchatov Arra	6.56	238	Pn	Pn	08 14 01.0	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=4.2						
KURBB				Sn	Sn	08 15 14.9	-1.1
	0.1nm,0.3s,baz=186,slow=10,SNR=2.2						
KURBB				Lg	Lg	08 15 53.3	
	0.0nm,0.3s,baz=292,slow=18,SNR=1.2						
KURBB	Kurchatov Arra	6.56	238	⇑Pn	Pn	08 14 01.4	+0.8
	0.6nm,0.3s						
KURBB				⇑Sn	Sn	08 15 19.5	+3.5
	0.8nm,0.3s						
KURBB				⇑Lg	Lg	08 15 52.0	
	2.7nm,0.7s						
MK31	Makanchi Array	8.27	205	⇑Pn	Pn	08 14 28.0	+3.8
	0.3nm,0.6s,baz=26,slow=14,SNR=2.7						
MK31				⇓Sn	Sn	08 16 00.0	+1.7
	0.2nm,0.5s,baz=325,slow=24,SNR=4.4						
MK31				⇑Lg	Lg	08 16 42.1	
	0.1nm,0.5s						
MKAR	Makanchi Array	8.27	205	Pn	Pn	08 14 25.9	+1.7
	0.2nm,0.3s,baz=15,slow=12,SNR=12						
MKAR				Sn	Sn	08 15 56.9	-1.4
	0.0nm,0.3s,baz=22,slow=26,SNR=3.5						
MKAR				Lg	Lg	08 16 40.2	
	baz=14,slow=6.5,SNR=1.2						

*IDC **02** 08:19:21.8±1.7, 23°.92S×179°.80W, h495km±14km, mb3.6/11, mb1 3.7/14, mb1mx3.4/46, mbtmp4.4/14, Error ellipse: s-maj=25.4km s-min=17.2km az=129.0*
*NEIC **02** 08:19:23.0±2.5, 23°.8S±0°.1×179°.9W±0°.2, h500km±7km, mb4.3/17, Error ellipse: s-maj=23.2km s-min=15.8km az=119.0*
ISC 02 08:19:23.8±0.6**, 23°.90S**±0°.06×**179°.89W**±0°.09**, h518**km**, n57,** σ1s.**80**/69**, mb4.3**/18**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	5.62	162	P	P	08 20 57.7	+0.5
GLKZ				S	S	08 22 13.5	-0.2
MSVF	Nonsavu	6.43	342	P	P	08 20 58.8	-6.5
MARNC	Mare, Loyalty	11.41	280	P	P	08 21 56.5	+0.3
PINNC	Pines Island,	11.71	274	P	P	08 22 01.2	+1.8
AFI	Afiamalu	12.55	39	P	P	08 22 05.3	-3.0
	3.0nm,0.3s,baz=27,slow=1.0,SNR=6.2						
OUZ	Omahuta	12.62	205	P	P	08 22 10.9	+2.3
OUZ	Omahuta	12.62	205	P	P	08 22 11.1	+2.4
DZM	Mont Dzumac	12.72	276	P	P	08 22 07.6	-2.4
	0.2nm,0.3s,baz=112,slow=19,SNR=1.7						
WCZ	Waipu Caves	12.99	201	P	P	08 22 15.9	+3.3
WIAZ	Waiheke Island	13.54	197	P	P	08 22 26.6	+8.3
HAZ	Te Kaha	13.95	188	P	P	08 22 23.9	+1.3
HAZ				S	S	08 24 49.7	-0.4
PUZ	Puketiti	14.21	186	P	P	08 22 28.1	+2.7
PUZ				S	S	08 24 53.9	-1.2
TOZ	Tahuroa Road	14.34	195	P	P	08 22 30.0	+3.4
URZ	Urewera	14.54	189	P	P	08 22 27.6	-1.1
	1.7nm,0.3s,baz=267,slow=4.6,SNR=11						
URZ				S	S	08 24 57.8	-3.5
	0.6nm,0.3s,baz=238,slow=22,SNR=7.9						
URZ	Urewera	14.54	189	P	P	08 22 27.8	-1.0
URZ	Urewera	14.54	189	P	P	08 22 28.9	+0.1
URZ				S	S	08 24 58.1	-3.2
MWZ	Matawai	14.56	188	P	P	08 22 29.9	+1.0
MWZ				S	S	08 24 57.9	-3.8
RIGZ	Rimuhau	14.89	187	P	P	08 22 34.2	+1.7
RIGZ				S	S	08 25 07.5	-0.6
KUTZ	Kaahu Road	14.99	193	P	P	08 22 37.0	+3.4
KUTZ				S	S	08 25 12.7	+2.7
MTHZ	Maungataniwha	15.16	190	P	P	08 22 36.9	+1.6
MTHZ				S	S	08 25 11.6	-1.6
HIZ	Hauiti	15.24	196	P	P	08 22 39.3	+3.2
NMHZ	Naumai	15.41	190	P	P	08 22 38.9	+1.0
BKZ	Black Stump Fm	15.53	191	P	P	08 22 37.3	-1.8
BKZ				IAmb	IAmb	08 23 03.8	
	comp=Z,8.8nm,1.1s						
NTVZ	North Tongarir	15.61	193	P	P	08 22 40.8	+0.7
TMVZ	Te Maari	15.62	193	P	P	08 22 40.5	+0.3
TUWZ	Tuamarina	18.23	195	P	P	08 23 05.1	0.0
LTZ	Lake Taylor	19.92	197	P	P	08 23 18.8	-1.8
RPZ	Rata Peaks	21.12	198	P	P	08 23 30.6	-0.9
	comp=Z,7.0nm,1.0s,baz=41,slow=9.3,SNR=1.6						
RPZ	Rata Peaks	21.12	198	IAmb	IAmb	08 23 57.9	
	comp=Z,13nm,1.2s						
PMG	Port Moresby	34.59	289	P	P	08 25 30.2	+0.9
PMG				IAmb	IAmb	08 25 30.6	
	comp=Z,13nm,0.8s						
STKA	Stephens Creek	34.82	248	P	P	08 25 31.6	+0.5
	comp=Z,0.8nm,0.4s,baz=108,slow=6.4,SNR=1.9						
STKA	Stephens Creek	34.82	248	IAmb	IAmb	08 25 32.5	
	comp=Z,1.4nm,1.4s						
BBOO	Buckleboo	39.54	247	P	P	08 26 08.9	-0.9
AS31	Alice Springs	42.13	261	P	P	08 26 30.6	-0.1
ASAR	Alice Springs	42.14	261	P	P	08 26 30.9	+0.1
	comp=Z,4.2nm,0.7s,baz=96,slow=7.9,SNR=41						
ASAR				ScP	ScP	08 31 16.6	+2.1
	comp=Z,0.9nm,0.8s,baz=92,slow=4.6,SNR=5.6						
ASAR				S	S	08 32 10.2	-2.8
	comp=Z,0.2nm,0.6s,baz=87,slow=16,SNR=2.5						
WR0	Warramunga Arr	42.32	266	P	P	08 26 31.8	-0.4
WR0				IAmb	IAmb	08 26 32.4	
	comp=Z,5.3nm,0.8s						
WB2	Warramunga Arr	42.50	266	P	P	08 26 33.3	-0.2
WB2				IAmb	IAmb	08 26 33.9	
	comp=Z,8.5nm,0.7s						
WRAB	Tennant Creek	42.50	266	P	P	08 26 33.2	-0.4
WRAB				IAmb	IAmb	08 26 33.8	
	comp=Z,8.5nm,0.9s						
WB0	Warramunga Arr	42.50	266	P	P	08 26 33.2	-0.4
WB0				IAmb	IAmb	08 26 33.9	
	comp=Z,11nm,0.7s						
WRA	Warramunga Arr	42.51	266	P	P	08 26 33.1	-0.5
	comp=Z,7.2nm,0.5s,baz=90,slow=6.1,SNR=222						

WRA				PcP	**PcP**	**08 28 14.8**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=96,slow=2.5,SNR=3.2						
WRA				ScP	**ScP**	**08 31 19.7**	**+3.7**
	comp=Z,0.6nm,0.9s,baz=81,slow=5.2,SNR=2.8						
WRA				S	**S**	**08 32 13.1**	**-5.2**
	comp=Z,0.2nm,0.6s,baz=95,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**08 26 32.4**	**-1.3**
JAY	**Jayapura**	**43.61**	**293**	P	**P**	**08 26 41.6**	**-0.7**
	comp=Z,22nm,1.0s,baz=101,slow=3.7,SNR=4.6						
FORT	**Forrest**	**46.41**	**250**	P	**P**	**08 27 02.9**	**-0.7**
MTN	**Manton Dam**	**47.56**	**274**	P	**P**	**08 27 12.0**	**-0.5**
MTN				IAmb	IAmb	08 27 12.2	
	comp=Z,5.1nm,0.8s						
KNRA	**Kununurra**	**48.79**	**270**	P	**P**	**08 27 21.8**	**+0.2**
KNRA				IAmb	IAmb	08 27 22.5	
	comp=Z,8.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.93**	**266**	P	**P**	**08 27 37.7**	**+0.4**
	comp=Z,2.6nm,0.4s,baz=118,slow=7.1,SNR=18						
FITZ	**Fitzroy Crossi**	**50.93**	**266**	P	**P**	**08 27 37.3**	**0.0**
KSRS	**Korea Array**	**78.31**	**320**	P	**P**	**08 30 31.4**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=130,slow=4.9,SNR=3.3						
PETK	**Petropavlovsk-**	**79.12**	**346**	P	**P**	**08 30 34.7**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=117,slow=8.7,SNR=1.9						
SEY	**Seymchan**	**89.29**	**348**	P	**P**	**08 31 24.4**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=149,slow=5.9						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**08 31 27.3**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=113,slow=4.1,SNR=2.9						
ILAR	**Eielson Array**	**92.01**	**14**	P	**P**	**08 31 36.4**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=224,slow=3.8,SNR=1.8						
ARCES	**ARCESS Array B**	**131.91**	**348**	PKP	**PKPdf**	**08 37 37.9**	**+0.5**
	comp=Z,3.1nm,1.1s,baz=86,slow=3.7,SNR=0.8						
FINES	**FINESS Array B**	**138.48**	**341**	PKP	**PKPdf**	**08 37 50.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.1,SNR=1.5						
FINES				SKPbc	**SKPbc**	**08 40 36.0**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=46,slow=5.5,SNR=4.1						
AKASG	**Malin Array Be**	**145.03**	**327**	PKPbc	**PKPdf**	**08 38 01.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=45,slow=4.4,SNR=11						
AKASG				SKPbc	**SKiKP**	**08 40 53.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=46,slow=2.5,SNR=4.0						
BRTR	**Keskin Array B**	**147.66**	**307**	PKPbc	**PKPbc**	**08 38 09.8**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=75,slow=6.1,SNR=4.4						
CLL	**Collm**	**150.89**	**343**	*e*PKPbc	**PKiKP**	**08 38 18.0**	**+0.2**

*TUL **02** 08:22:51.7±0.5, 36°.47N±0°.02×98°.76W±0°.01, h7^{km}±1^{km}, ML3.0, mb_Lg2.7/37(NEIC), Error ellipse: s-maj=3.3km s-min=0.5km az=151.0*

NEIC 02 08:22:52.5±0.5**, 36°.46N**±0°.03×**98°.75W**±0°.02**, h5**^{km}±2^{km}**, Error ellipse: s-maj=4.2km s-min=1.6km az=150.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.22**	**250**	Sg	Sg	08 23 00.2	+0.5
FNO	**Franklin**	**1.62**	**137**	Pn	Pn	08 23 21.5	-0.2
WMOK	**Wichita Mounta**	**1.71**	**181**	Pn	Pn	08 23 22.2	-0.8
T35A	**Sooner Cattle**	**1.85**	**75**		Pn	08 23 25.0	0.0
R32A	**Long Quarter,**	**1.96**	**1**		Pn	08 23 26.7	+0.2
X34A	**Smith Ranch, M**	**1.99**	**158**	Pn	Pn	08 23 27.6	+0.8
X34A				IAmb_Lg		08 23 57.8	
	comp=Z,51nm,0.7s						
TUL1	**Leonard**	**2.45**	**102**	IAmb_Lg		08 24 08.5	
	comp=Z,29nm,1.0s						
KSU1	**Kansas State U**	**3.14**	**32**	IAmb_Lg		08 24 36.1	
	comp=Z,19nm,0.8s						
MSTX	**Muleshoe**	**4.13**	**234**	IAmb_Lg		08 25 10.1	
	comp=Z,23nm,0.9s						
W39A	**Magazine**	**4.22**	**106**	IAmb_Lg		08 25 06.2	
	comp=Z,20nm,0.8s						
Z38A	**Mt. Pleasant**	**4.44**	**135**	IAmb_Lg		08 25 20.3	
	comp=Z,16nm,0.7s						
S39A	**Bolivar**	**4.51**	**73**	IAmb_Lg		08 25 25.6	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**4.60**	**280**	IAmb_Lg		08 25 24.4	
	comp=Z,14nm,1.0s						
P38A	**Dawn**	**5.19**	**51**	IAmb_Lg		08 25 40.6	
	comp=Z,9.9nm,0.7s						
MGMO	**Mountain Grove**	**5.24**	**80**	IAmb_Lg		08 25 41.1	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**5.37**	**101**	IAmb_Lg		08 25 45.9	
	comp=Z,13nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.38**	**94**	IAmb_Lg		08 25 49.2	
	comp=Z,11nm,0.8s						
W41B	**Gary Mavity, V**	**5.43**	**102**	IAmb_Lg		08 25 45.3	
	comp=Z,13nm,0.9s						
Q24A	**Divide**	**5.66**	**298**	IAmb_Lg		08 25 57.4	
	comp=Z,9.1nm,0.8s						
JCT	**Junction City**	**6.03**	**189**	IAmb_Lg		08 26 19.6	
	comp=Z,12nm,0.8s						
K31A	**O'Neill**	**6.16**	**360**	IAmb_Lg		08 26 13.4	
	comp=Z,18nm,0.7s						
CCM	**Cathedral Cave**	**6.19**	**73**	IAmb_Lg		08 26 13.0	
	comp=Z,18nm,0.9s						
PBMO	**Poplar Bluff**	**6.70**	**85**	IAmb_Lg		08 26 42.2	
	comp=Z,9.2nm,0.7s						
Y22D	**IRIS PASSCAL I**	**7.10**	**253**	IAmb_Lg		08 26 51.2	
	comp=Z,14nm,0.8s						

*IDC **02** 08:24:00.4±0.6, 8°.54N×121°.68E, h0^{km}, mb4.0/17, mb1 4.2/17, mb1mx4.0/48, mbtmp4.0/17, MS3.1/11, Ms1 3.1/11, ms1mx2.8/84, Error ellipse: s-maj=32.5km s-min=13.7km az=71.0*

*MAN **02** 08:24:03.6, 8°.65N×121°.71E, h31^{km}, mb4.9, ML3.8, MS3.8*

*NEIC **02** 08:24:07.0±1.5, 8°.52N±0°.09×121°.7E±0°.1, h38^{km}±6^{km}, mb4.5/28, Error ellipse: s-maj=16.4km s-min=12.0km az=68.0*

ISC 02 08:24:05.8±0.4**, 8°.57N**±0°.04×**121°.77E**±0°.05**, h35**^{km}**, n76,** σ**1^{s}21**/70**, mb4.2**/28**, MS3.0**/8**, 12C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**1.51**	**34**	⇑*i*P	**Pn**	**08 24 28.1**	**-2.2**
DCPH	**Dipolog City**	**1.56**	**90**	⇑*e*P	**Pn**	**08 24 29.9**	**-1.1**
DCPH				*e*S	**Sn**	**08 24 50.4**	**+0.4**
ZCP	**Zamboanga City**	**1.66**	**170**	⇓*i*P	Pn	08 24 44.1	+12
ZCP				*i* S	**Sn**	**08 24 50.8**	**-1.6**
PAGZ	**Pagadian**	**1.75**	**114**	⇓*e*P	**Pn**	**08 24 33.4**	**-0.2**
JAP	**San Jose, Anti**	**2.17**	**4**	⇑*e*P	**Pn**	**08 24 43.4**	**+4.0**
TBP	**Tagbilaran**	**2.34**	**62**	⇑*i*P	**Pn**	**08 24 40.8**	**-1.0**
LLP	**Lapu-Lapu**	**2.77**	**51**	⇑*i*P	**Pn**	**08 24 47.0**	**-0.7**
LLP				*i* S	**Sn**	**08 25 19.7**	**-0.3**
CTBH	**Cotabato--PC H**	**2.79**	**119**	⇓*i*P	**Pn**	**08 24 47.9**	**-0.1**
CTBH				*i* S	**Sn**	**08 25 19.3**	**-1.2**
RCP	**Roxas**	**3.12**	**18**	⇓*e*P	**Pn**	**08 24 52.0**	**-0.5**
RCP				*e*S	**Sn**	**08 25 29.6**	**+1.1**
BUKP	**Musuan**	**3.33**	**102**	⇑*i*P	**Pn**	**08 24 58.2**	**+2.8**
MSLP	**Maasin**	**3.42**	**63**	⇓*e*P	**Pn**	**08 24 57.0**	**+0.4**
OCLP	**Ormoc**	**3.72**	**48**	⇑*i*P	**Pn**	**08 25 00.1**	**-0.7**
BUSP	**Coron**	**3.74**	**336**	⇑*i*P	Pn	08 25 08.4	+7.4
SJMP	**San Jose**	**3.92**	**351**	⇑*i*P	**Pn**	**08 25 05.0**	**+1.6**
BATP	**Bataraza**	**3.93**	**274**	⇑*i*P	**Pn**	**08 24 59.2**	**-4.5**
DAV	**Davao City (W)**	**4.05**	**111**	LR	LR	08 26 48.7	
	comp=Z,426nm,21.4s,baz=330,slow=41						
GLSP	**General Luna,**	**4.46**	**74**	⇑*e*P	**Pn**	**08 25 10.3**	**-0.6**
DDMP	**Don Marcelino,**	**4.61**	**122**	⇑*e*P	**Pn**	**08 25 14.8**	**+1.8**
MYLDM	**Lahad Datu**	**4.68**	**224**		**Pn**	**08 25 14.2**	**+0.2**
KKM	**Kota Kinabalu**	**6.06**	**246**		**Pn**	**08 25 32.1**	**-0.9**
TOLI2	**Tolitoli**	**7.48**	**188**	Pn	**Pn**	**08 25 51.1**	**-1.4**
SBUM	**Sibu**	**11.29**	**238**		**Pn**	**08 26 44.5**	**-0.1**
SIJI	**Sorong**	**13.32**	**134**	LR	LR	08 32 43.4	
	comp=Z,40nm,19.2s,baz=262,slow=39						
JOW	**Kunigami**	**19.18**	**18**	LR	LR	08 34 51.2	
	comp=Z,34nm,21.9s,baz=174,slow=34						
LEM	**Lembang**	**20.81**	**223**	LR	LR	08 37 36.6	
	comp=Z,62nm,18.3s,baz=54,slow=39						
GUMO	**Guam**	**23.20**	**76**	LR	LR	08 39 24.4	
	comp=Z,25nm,19.1s,baz=226,slow=40						
MTN	**Manton Dam**	**23.22**	**156**	P	**P**	**08 29 10.7**	**+0.8**
PSI	**Prapat**	**23.44**	**257**	LR	LR	08 38 31.2	
	comp=Z,36nm,19.9s,baz=93,slow=37						
CMAR	**Chiang Mai Arr**	**24.25**	**296**	P	**P**	**08 29 19.0**	**-0.7**
	1.7nm,0.4s,baz=118,slow=8.8,SNR=6.0						
CMAR				LR	LR	08 38 01.1	
	comp=Z,57nm,19.9s,baz=105,slow=35						
FITZ	**Fitzroy Crossi**	**26.77**	**172**	P	**P**	**08 29 41.2**	**-1.4**
	1.9nm,0.6s,baz=26,slow=8.2,SNR=5.7						
FITZ	**Fitzroy Crossi**	**26.77**	**172**	P	**P**	**08 29 41.9**	**-0.6**
KSRS	**Korea Array**	**29.29**	**10**	LR	LR	08 41 30.3	
	comp=Z,15nm,21.7s,baz=150,slow=36						
WB0	**Warramunga Arr**	**30.78**	**156**	P	**P**	**08 30 18.3**	**0.0**
WB0				IAmb	IAmb	08 30 18.5	
	comp=Z,9.3nm,1.4s						
WRAB	**Tennant Creek**	**30.91**	**157**	P	**P**	**08 30 19.5**	**+0.1**
WRAB				IAmb	IAmb	08 30 20.2	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**30.92**	**157**	P	**P**	**08 30 19.0**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=337,slow=9.6,SNR=19						
WB2	**Warramunga Arr**	**30.92**	**157**	P	**P**	**08 30 18.7**	**-0.7**
WB2				IAmb	IAmb	08 30 21.6	
	comp=Z,6.1nm,1.2s						
PMG	**Port Moresby**	**30.95**	**125**	LR	LR	08 43 16.4	
	comp=Z,53nm,18.3s,baz=326,slow=37						
WR0	**Warramunga Arr**	**31.01**	**156**	P	**P**	**08 30 20.4**	**+0.1**
ASAR	**Alice Springs**	**34.17**	**160**	P	**P**	**08 30 48.1**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=344,slow=7.4,SNR=24						
ASAR	**Alice Springs**	**34.17**	**160**	P	**P**	**08 30 47.1**	**-0.8**
FORT	**Forrest**	**39.59**	**171**	P	**P**	**08 31 34.7**	**+0.8**
PALK	**Pallekele**	**40.69**	**271**	LR	LR	08 48 54.3	
	comp=Z,41nm,18.9s,baz=173,slow=37						
SONM	**Songino Array**	**41.24**	**344**	P	**P**	**08 31 47.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=160,slow=8.6,SNR=2.9						
KLR	**Kul'dur**	**41.38**	**10**	P	**P**	**08 31 48.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=196,slow=5.3,SNR=4.0						
HNR	**Honiara**	**42.01**	**114**	LR	LR	08 47 58.4	
	comp=Z,34nm,20.8s,baz=63,slow=34						
BBOO	**Buckleboo**	**43.35**	**162**	P	**P**	**08 32 05.2**	**+0.5**
BBOO				IAmb	IAmb	08 32 33.7	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**44.46**	**156**	P	**P**	**08 32 14.1**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=346,slow=8.2,SNR=6.8						
STKA	**Stephens Creek**	**44.46**	**156**	IAmb	IAmb	08 32 15.7	
	comp=Z,0.9nm,0.9s						
CAN	**Canberra**	**50.66**	**151**	P	**P**	**08 33 02.9**	**+1.1**
MK31	**Makanchi Array**	**50.80**	**326**	P	**P**	**08 33 03.4**	**+0.6**
MKAR	**Makanchi Array**	**50.80**	**326**	P	**P**	**08 33 03.4**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=123,slow=8.3,SNR=16						
MKAR				PcP	**PcP**	**08 34 18.6**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=117,slow=4.5,SNR=6.7						
MKAR	**Makanchi Array**	**50.80**	**326**	P	**P**	**08 33 03.5**	**+0.8**
NIL	**Nilore**	**51.09**	**307**	P	**P**	**08 33 05.7**	**+0.5**
ZALV	**Zalesovo Beam**	**54.08**	**334**	P	**P**	**08 33 26.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=118,slow=6.0,SNR=2.5						
GAR	**Garm**	**55.04**	**312**	P	**P**	**08 33 33.7**	**-0.6**
KURK	**Kurchatov**	**55.04**	**328**	P	**P**	**08 33 34.0**	**+0.1**
KURK				IAmb	IAmb	08 33 35.2	
	comp=Z,12nm,1.5s						
KURK					**pP**	**08 33 44.2**	**+1.3**
MA2	**Magadan**	**55.41**	**17**	P	**P**	**08 33 37.3**	**+0.9**
	comp=Z,1.5nm,0.2s,baz=174,slow=18,SNR=2.2						
MA2	**Magadan**	**55.41**	**17**	IAmb	IAmb	08 33 47.4	
	comp=Z,4.1nm,0.9s						
KKAR	**Karatay Array**	**56.35**	**317**	P	**P**	**08 33 43.3**	**-0.2**
SEY	**Seymchan**	**58.60**	**16**	P	**P**	**08 33 59.9**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=156,slow=10.0,SNR=1.7						
BRVK	**Borovoye**	**60.68**	**327**	P	**P**	**08 34 14.4**	**+1.0**
BRVK				IAmb	IAmb	08 34 15.1	
	comp=Z,4.5nm,1.1s						
ABKAR	**Akbulak array**	**65.31**	**321**	P	**P**	**08 34 44.7**	**+0.5**
ABKAR				IAmb	IAmb	08 34 45.4	
	comp=Z,1.9nm,0.9s						
ABKAR	**Akbulak array**	**65.31**	**321**	P	**P**	**08 34 44.5**	**+0.2**
SOCY	**Socotra**	**66.63**	**280**	P	**P**	**08 34 52.4**	**-1.1**
SOCY				IAmb	IAmb	08 34 53.6	
	comp=Z,4.1nm,0.8s						
BKZ	**Black Stump Fm**	**69.46**	**137**	P	**P**	**08 35 11.0**	**+0.2**
H21K	**Melozitna Rive**	**80.36**	**25**	P	**P**	**08 36 15.2**	**+1.9**
H21K					**sP**	**08 36 24.5**	**-1.6**
H21K				IAmb	IAmb	08 36 25.0	
	comp=Z,2.8nm,0.8s						
CAST	**Castle Rocks**	**80.67**	**27**	P	**P**	**08 36 15.8**	**+0.9**
CAST				IAmb	IAmb	08 36 26.3	
	comp=Z,9.6nm,1.0s						
ILAR	**Eielson Array**	**82.88**	**26**	P	**P**	**08 36 26.2**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=238,slow=5.2,SNR=3.3						
ARCES	**ARCESS Array B**	**84.22**	**339**	P	**P**	**08 36 33.4**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=81,slow=5.8,SNR=4.7						
AKASG	**Malin Array Be**	**85.05**	**320**	P	**P**	**08 36 37.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=70,slow=4.6,SNR=8.5						
FINES	**FINESS Array B**	**85.26**	**331**	P	**P**	**08 36 38.2**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=48,slow=6.2,SNR=6.0						
L27K	**Beaver Creek,**	**85.32**	**27**	P	**P**	**08 36 41.0**	**+2.0**
L27K					**sP**	**08 36 50.7**	**-1.2**
L27K				IAmb	IAmb	08 36 51.5	
	comp=Z,7.4nm,1.1s						
INK	**Inuvik**	**87.47**	**21**	P	**P**	**08 36 49.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=283,slow=5.2,SNR=4.3						
INK	**Inuvik**	**87.47**	**21**	IAmb	IAmb	08 36 54.0	
	comp=Z,5.0nm,1.5s						
YKA	**Yellowknife Ar**	**97.07**	**23**	P	**P**	**08 37 32.9**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=304,slow=4.4,SNR=2.2						
TXAR	**Lajitas Array**	**122.26**	**47**	PKP	**PKiKP**	**08 42 58.8**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=235,slow=0.5,SNR=8.7						

*IDC **02** 08:31:25.8±0.8, 36°.92N×144°.65E, h0^{km}, mb3.8/9, mb1 4.0/14, mb1mx3.8/41, mbtmp3.8/14, ML3.7/4, MS2.7/2, Ms1 2.8/2, ms1mx2.2/87, Error ellipse: s-maj=23.2km s-min=17.0km az=103.0*

*NIED **02** 08:31:31.3, 37°.10N×144°.34E, h63^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.93; $M_{\theta\theta}$0.32; $M_{\phi\phi}$3.60; $M_{r\theta}$-0.23; $M_{\theta\phi}$0.45; $M_{\phi r}$0.94; Fault plane solution: $M_0$3.92000×10^{14} NP1: ϕ_s183.00000°, δ52.00000°, λ-96.00000°. NP2: ϕ_s12.00000°, δ38.00000°, λ-83.00000°.*

*JMA **02** 08:31:31.3±0.2, 37°.10N×144°.34E, h63^{km}, M4.3*

ISC 02 08:31:29.9±2.9**, 37°.11N**±0°.06×**144°.50E**±0°.06**, h27**^{km}±22^{km}**, n35,** σ**1^{s}72**/42**, mb3.9**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.69**	**297**	P	**Pn**	**08 32 11.8**	**+0.5**
JIKH				*e*S	**Sn**	**08 32 42.3**	**-0.6**
JIO	**Ouri**	**2.83**	**299**	P	**Pn**	**08 32 13.9**	**+0.6**
JIO				S	**Sn**	**08 32 45.8**	**-0.7**
JFK	**Kawauchi**	**2.90**	**276**	P	**Pn**	**08 32 14.5**	**+0.2**
JFK				*e*S	**Sn**	**08 32 47.0**	**-1.3**
JKMT	**Kesennumamotoy**	**2.93**	**306**	P	**Pn**	**08 32 15.1**	**+0.4**
JKMT				S	**Sn**	**08 32 47.8**	**-1.2**
JMST	**Minamisoumatoc**	**2.94**	**283**	P	**Pn**	**08 32 14.9**	**+0.1**
JMST				S	**Sn**	**08 32 46.7**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.96**	**271**	P	**Pn**	**08 32 15.1**	**0.0**
ONAJ				S	**Sn**	**08 32 48.0**	**-1.7**
JMK	**Ichinoseki**	**3.17**	**306**	P	**Pn**	**08 32 18.6**	**+0.6**
JMK				S	**Sn**	**08 32 54.5**	**-0.5**
JFT	**Otama**	**3.34**	**278**	P	**Pn**	**08 32 21.5**	**+1.2**
JFT				*e*S	**Sn**	**08 32 58.9**	**-0.2**
JRY	**Ryogami san**	**4.63**	**258**	P	**Pn**	**08 32 38.1**	**0.0**
JRY				*e*S	**Sn**	**08 33 28.6**	**-2.5**
MJAR	**Matsushiro Arr**	**5.08**	**265**	Pn	**Pn**	**08 32 45.6**	**+1.4**
	1.6nm,0.3s,baz=87,slow=15,SNR=32						
MJAR				Sn	**Sn**	**08 33 40.4**	**-1.5**
	0.7nm,0.3s,baz=136,slow=43,SNR=2.0						
MJAR				LR	LR	08 34 37.2	
	comp=Z,58nm,20.4s,baz=64,slow=37						
MAT	**Matsushiro**	**5.08**	**265**	P	**Pn**	**08 32 45.8**	**+1.6**
MAT				*e*S	**Sn**	**08 33 38.3**	**-3.7**
JHJ2	**Mitsune**	**5.53**	**225**	P	**Pn**	**08 32 48.8**	**-1.7**
JHJ	**Hachijo jima 2**	**5.55**	**226**	Pn	**Pn**	**08 32 49.0**	**-1.7**
	18nm,0.3s,baz=344,slow=23,SNR=16						
JHJ				Sn	Sn	08 33 47.0	-6.5
	80nm,0.3s,baz=100,slow=23,SNR=10.0						
JCH	**Churui**	**5.57**	**351**	P	**Pn**	**08 32 50.3**	**-0.6**
JCH				*e*S	Sn	08 33 49.3	-4.7
NEM2	**Nemuro 2**	**6.32**	**8**	P	Pn	08 32 58.5	-2.7
NEM2				*e*S	**Sn**	**08 34 08.1**	**-4.4**
JTKR	**Abashiri--Toko**	**6.87**	**356**	P	**Pn**	**08 33 08.1**	**-0.7**
JTKR				*e*S	**Sn**	**08 34 22.4**	**-3.6**
ASAJ	**Asahikawa**	**7.15**	**349**	Pn	**Pn**	**08 33 13.0**	**+0.4**
	1.0nm,0.3s,baz=191,slow=26,SNR=4.7						
ASAJ				Sn	**Sn**	**08 34 30.0**	**-2.9**
	0.6nm,0.3s,baz=43,slow=19,SNR=1.5						
USRK	**Ussuriysk Ar.**	**11.84**	**311**	Pn	**Pn**	**08 34 18.5**	**+1.6**
	baz=106,slow=13,SNR=1.7						
KSRS	**Korea Array**	**13.21**	**276**	Pn	**Pn**	**08 34 38.1**	**+2.5**
	0.4nm,0.3s,baz=83,slow=14,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**26.12**	**125**	T	T	09 03 49.5	
	baz=316,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**26.13**	**125**	T	T	09 03 48.2	
	baz=316,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**26.14**	**125**	T	T	09 03 49.8	
	baz=316,slow=75,SNR=71						
SEY	**Seymchan**	**26.30**	**8**	P	**P**	**08 37 04.8**	**+1.9**
	1.6nm,0.3s,baz=163,slow=19,SNR=2.0						
H11S1	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	09 04 46.0	
	baz=319,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	09 04 47.5	
	baz=319,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**26.91**	**128**	T	T	09 04 52.5	
	baz=319,slow=76,SNR=15						
CMAR	**Chiang Mai Arr**	**43.91**	**258**	LR	LR	08 58 02.5	
	comp=Z,13nm,21.5s,baz=135,slow=36						
MKAR	**Makanchi Array**	**46.16**	**303**	P	**P**	**08 39 53.6**	**+1.6**
	1.2nm,0.7s,baz=85,slow=9.5,SNR=14						
MKAR				PcP	**PcP**	**08 41 28.7**	**+1.0**
	0.2nm,0.7s,baz=84,slow=4.5,SNR=2.2						
WRA	**Warramunga Arr**	**57.55**	**191**	P	**P**	**08 41 15.6**	**-1.5**
	1.1nm,0.5s,baz=9.2,slow=7.0,SNR=23						
FITZ	**Fitzroy Crossi**	**57.72**	**201**	P	**P**	**08 41 17.4**	**-0.9**
	1.1nm,0.9s,baz=12,slow=8.5,SNR=2.2						
ASAR	**Alice Springs**	**61.27**	**191**	P	**P**	**08 41 41.7**	**-1.1**
	1.0nm,0.7s,baz=12,slow=8.1,SNR=12						
YKA	**Yellowknife Ar**	**62.49**	**31**	P	**P**	**08 41 51.1**	**+0.6**
	0.3nm,0.7s,baz=295,slow=6.5,SNR=2.8						
NVAR	**Mina Array Bea**	**72.95**	**55**	P	**P**	**08 42 58.2**	**+1.0**
	0.2nm,0.5s,baz=294,slow=4.8,SNR=2.4						
AKASG	**Malin Array Be**	**75.72**	**324**	P	**P**	**08 43 13.6**	**+0.8**
	0.1nm,0.3s,baz=46,slow=5.5,SNR=4.4						
TXAR	**Lajitas Array**	**88.10**	**54**	P	**P**	**08 44 19.0**	**+0.7**
	0.2nm,0.6s,baz=306,slow=2.1,SNR=2.6						

IDC 02 08:48:10.7±6.5**, 6°.34S**×**154°.60E, h120**^{km}±50^{km}**, mb3.4**/3**, mb1 3.5**/4**, mb1mx3.2**/37**, mbtmp3.8**/4**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.4**/30**, Error ellipse: s-maj=82.0km s-min=42.6km az=66.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.26**	**308**	P	Pn	08 49 01.4	+1.0
	baz=217,slow=20						
KRVT				S	Sn	08 49 39.0	+0.2
	baz=143,slow=20						
PMG	**Port Moresby**	**7.98**	**247**	P	Pn	08 50 03.8	0.0
	1.2nm,0.3s,baz=61,slow=5.6,SNR=3.8						
PMG				S	Sn	08 51 29.0	-3.6
	0.3nm,0.3s,baz=295,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**23.88**	**234**	P	P	08 53 14.4	+1.0
	0.7nm,0.4s,baz=57,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**26.32**	**227**	P	P	08 53 35.4	-0.1
	0.3nm,0.6s,baz=58,slow=8.8,SNR=4.3						
STKA	**Stephens Creek**	**28.17**	**204**	P	P	08 53 50.8	-1.0
	1.5nm,0.3s,baz=339,slow=16,SNR=7.9						
RAO	**Raoul Island**	**34.52**	**135**	LR	LR	09 06 23.4	
	comp=Z,126nm,20.5s,baz=80,slow=32						

*SOME **02** 08:59:16.3, 43°.57N×76°.50E, h5^{km}*

*NNC **02** 08:59:16.4±0.2, 43°.56N×76°.49E, h0^{km}, mb3.5, mpv3.6, Error ellipse: s-maj=1.3km s-min=1.0km az=10.0*

*KRNET **02** 08:59:16.3±0.1, 43°.57N×76°.50E, h17^{km}, mb3.5*

*KNET **02** 08:59:18.0±1.4, 43°.46N×76°.36E, h0^{km}, ml2.5, Error ellipse: s-maj=8.5km s-min=3.4km az=40.0*

ISC 02 08:59:16.6±1.0**, 43°.56N**±0°.01×**76°.49E**±0°.01**, h5**^{km}±8^{km}**, n85,** σ**0^{s}94**/161**, 26C-18D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTBS	**Karatobe**	**0.21**	**43**	*e*P	**Pg**	**08 59 20.6**	**-0.2**
	baz=42						
KTBS				*e*S	**Sg**	**08 59 23.3**	**-0.3**
	baz=42						
KTBS	**Karatobe**	**0.21**	**43**	*e*P	**Pg**	**08 59 20.6**	**-0.2**
	140nm,0.1s						
KTBS				*e*S	**Sg**	**08 59 23.3**	**-0.3**
	5μm,0.3s						
KTBS	**Karatobe**	**0.21**	**43**	P	**Pg**	**08 59 20.6**	**-0.2**
	140nm,0.1s						
KTBS				S	**Sg**	**08 59 23.3**	**-0.3**
	5μm,0.3s						
KUU	**Kurty**	**0.35**	**342**	*e*P	**Pg**	**08 59 23.3**	**-0.2**
	baz=41						
KUU				*e*S	**Sg**	**08 59 28.3**	**+0.2**
	baz=41						
KUU	**Kurty**	**0.35**	**342**	*e*P	**Pg**	**08 59 23.3**	**-0.2**
	71nm,0.2s						
KUU				*e*S	**Sg**	**08 59 28.4**	**+0.2**
	534nm,0.3s						
KUU	**Kurty**	**0.35**	**342**	P	**Pg**	**08 59 23.3**	**-0.2**
	71nm,0.2s						
KUU				S	**Sg**	**08 59 28.4**	**+0.2**
	534nm,0.3s						
MTBS	**Maitube**	**0.43**	**186**	*e*P	**Pg**	**08 59 25.0**	**0.0**
	baz=87						
MTBS				*e*S	**Sg**	**08 59 30.9**	**+0.3**
	baz=87						
MTBS	**Maitube**	**0.43**	**186**	*e*P	**Pg**	**08 59 25.0**	**0.0**
	80nm,0.1s						
MTBS				*e*S	**Sg**	**08 59 30.9**	**+0.3**
	228nm,0.2s						
MTBS	**Maitube**	**0.43**	**186**	P	**Pg**	**08 59 25.0**	**0.0**
	80nm,0.1s						
MTBS				S	**Sg**	**08 59 30.9**	**+0.3**
	228nm,0.2s						
CHKK	**Chushkaly**	**0.47**	**51**	*e*P	**Pg**	**08 59 25.5**	**-0.2**
	baz=51						
CHKK				*e*S	**Sg**	**08 59 31.7**	**-0.1**
	baz=51						
CHKK	**Chushkaly**	**0.47**	**51**	*e*P	**Pg**	**08 59 25.5**	**-0.2**
	34nm,0.1s						
CHKK				*e*S	**Sg**	**08 59 31.7**	**-0.1**
	319nm,0.4s						
CHKK	**Chushkaly**	**0.47**	**51**	P	**Pg**	**08 59 25.5**	**-0.2**
	47nm,0.2s						
CHKK				S	**Sg**	**08 59 31.7**	**-0.1**
	319nm,0.4s						
AAA	**Alma-Ata**	**0.47**	**138**	*e*P	**Pg**	**08 59 26.1**	**+0.4**
	baz=39						
AAA				*e*S	**Sg**	**08 59 32.7**	**+0.9**
	baz=39						
AAA	**Alma-Ata**	**0.47**	**138**	*e*P	**Pg**	**08 59 26.1**	**+0.4**
	59nm,0.2s						
AAA				*e*S	**Sg**	**08 59 32.7**	**+0.9**
	412nm,0.2s						
AAA	**Alma-Ata**	**0.47**	**138**	P	**Pg**	**08 59 26.1**	**+0.4**
	59nm,0.2s						
AAA				S	**Sg**	**08 59 32.7**	**+0.9**
	412nm,0.2s						
KNDC	**Almaty**	**0.49**	**134**	⇑P	**Pg**	**08 59 26.2**	**+0.2**
	26nm,0.2s						
KNDC				⇑S	**Sg**	**08 59 33.2**	**+0.8**
	389nm,0.6s						
IZV	**Izvestkoviy**	**0.53**	**170**	*e*P	**Pg**	**08 59 26.9**	**0.0**
	baz=71						
IZV				*e*S	**Sg**	**08 59 34.1**	**+0.3**
	baz=71						
IZV	**Izvestkoviy**	**0.53**	**170**	*e*P	**Pg**	**08 59 26.9**	**0.0**
	70nm,0.1s						
IZV				*e*S	**Sg**	**08 59 34.1**	**+0.3**
	249nm,0.2s						
IZV	**Izvestkoviy**	**0.53**	**170**	P	**Pg**	**08 59 26.9**	**0.0**
	70nm,0.1s						
IZV				S	**Sg**	**08 59 34.1**	**+0.3**
	249nm,0.2s						
KOTS	**Kotyrbulak**	**0.56**	**125**	*e*P	**Pg**	**08 59 27.4**	**0.0**
	baz=26						
KOTS				*e*S	**Sg**	**08 59 35.0**	**+0.3**
	baz=26						
KOTS	**Kotyrbulak**	**0.56**	**125**	*e*P	**Pg**	**08 59 27.4**	**0.0**
	48nm,0.1s						
KOTS				*e*S	**Sg**	**08 59 35.0**	**+0.3**
	198nm,0.4s						
KOTS	**Kotyrbulak**	**0.56**	**125**	P	**Pg**	**08 59 27.4**	**0.0**
	48nm,0.1s						
KOTS				S	**Sg**	**08 59 35.0**	**+0.3**
	198nm,0.4s						
MDOK	**Medeo**	**0.57**	**134**	*e*P	**Pg**	**08 59 27.3**	**-0.3**
	baz=35						
MDOK				*e*S	**Sg**	**08 59 34.8**	**-0.2**
	baz=35						
MDOK	**Medeo**	**0.57**	**134**	*e*P	**Pg**	**08 59 27.3**	**-0.3**
	45nm,0.3s						
MDOK				*e*S	**Sg**	**08 59 34.8**	**-0.2**
	150nm,0.5s						
MDOK	**Medeo**	**0.57**	**134**	⇓P	**Pg**	**08 59 27.3**	**-0.3**
	17nm,0.4s						
MDOK				⇑S	**Sg**	**08 59 35.0**	**-0.1**
	129nm,0.6s						
MDOK	**Medeo**	**0.57**	**134**	Pg	**Pg**	**08 59 27.3**	**-0.3**
	45nm,0.3s						
MDOK				Lg	Lg	08 59 34.8	
	150nm,0.5s						
KRBS	**Karabastau**	**0.60**	**283**	*e*P	**Pg**	**08 59 28.3**	**0.0**
	baz=83						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRBS	baz=83			*e*S	Sg	08 59 36.5	+0.3
KRBS	Karabastau 57nm,0.1s	0.60	283	*e*P	Pg	08 59 28.3	0.0
KRBS	150nm,0.1s			*e*S	Sg	08 59 36.5	+0.3
KRBS	Karabastau 57nm,0.1s	0.60	283	P	Pg	08 59 28.3	0.0
KRBS	150nm,0.1s			S	Sg	08 59 36.5	+0.3
DGS	Degeres baz=39	0.61	239	*e*P	Pg	08 59 28.5	+0.1
DGS	baz=39			*e*S	Sg	08 59 36.8	+0.4
DGS	Degeres 43nm,0.2s	0.61	239	*e*P	Pg	08 59 28.4	+0.1
DGS	110nm,0.4s			*e*S	Sg	08 59 36.8	+0.4
DGS	Degeres 43nm,0.2s	0.61	239	P	Pg	08 59 28.5	+0.1
DGS	110nm,0.4s			S	Sg	08 59 36.8	+0.4
TNSS	Tian-Shan baz=48	0.62	147	*e*P	Pg	08 59 28.6	0.0
TNSS	baz=48			*e*S	Sg	08 59 37.1	+0.3
TNSS	Tian-Shan 11nm,0.1s	0.62	147	*e*P	Pg	08 59 28.6	0.0
TNSS	150nm,0.2s			*e*S	Sg	08 59 37.1	+0.3
TNSS	Tian-Shan 11nm,0.1s	0.62	147	P	Pg	08 59 28.6	0.0
TNSS	150nm,0.2s			S	Sg	08 59 37.1	+0.3
TKM2	Tokmak 2 7.1nm,0.1s,SNR=29	0.91	226	⇑P	Pg	08 59 33.9	-0.2
TKM2	Tokmak 2 baz=26	0.91	226	⇓*e*P	Pg	08 59 33.7	-0.5
TKM2	baz=26			⇓*i*S	Sg	08 59 46.4	+0.4
TKM2	Tokmak 2 4.1nm,0.3s	0.91	226	⇑P	Pg	08 59 34.0	-0.2
TKM2	11nm,0.3s			⇑S	Sg	08 59 46.8	+0.8
BOOM	Boomskoye usch baz=1.0	1.14	201	⇓*i*P	Pg	08 59 37.3	-1.2
BOOM	baz=1.0			⇓*i*S	Sg	08 59 52.9	-0.5
ANVS	Anan'yevo baz=32	1.16	132	⇓*e*P	Pg	08 59 37.8	-1.1
ANVS	baz=32			⇓*i*S	Sg	08 59 53.9	-0.1
ARXS	Arharly 9.6nm,0.1s	1.17	56	*e*P	Pg	08 59 38.2	-0.8
ARXS	57nm,0.4s			*e*S	Sg	08 59 53.5	-0.7
ARXS	Arharly 9.6nm,0.1s	1.17	56	P	Pg	08 59 38.2	-0.8
ARXS	57nm,0.4s			S	Sg	08 59 53.5	-0.7
KURS	Kuram 12nm,0.2s	1.23	93	*e*P	Pn	08 59 40.7	+0.3
KURS	25nm,0.3s			*e*S	Sn	08 59 57.9	+0.5
KURS	Kuram 12nm,0.2s	1.23	93	P	Pn	08 59 40.7	+0.3
KURS	25nm,0.3s			S	Sn	08 59 57.9	+0.5
ULHL	Ulahol 9.9nm,0.1s,SNR=31	1.33	188	⇓P	Pn	08 59 41.2	-0.8
ULHL	18nm,0.2s			⇑S	Sb	08 59 59.1	-0.4
ULHL	Ulahol baz=88	1.33	188	⇓*i*P	Pn	08 59 40.5	-1.5
ULHL	baz=88			⇓*i*S	Sb	08 59 58.3	-1.1
SGDS	Sogindy 18nm,0.4s	1.36	266	*e*P	Pn	08 59 41.9	-0.4
SGDS	30nm,0.1s			*e*S	Sb	08 59 59.8	-0.4
SGDS	Sogindy 18nm,0.4s	1.36	266	P	Pn	08 59 41.9	-0.4
SGDS	30nm,0.1s			S	Sb	08 59 59.8	-0.4
CHMS	Chumysh 26nm,0.2s,SNR=21	1.39	247	⇑P	Pn	08 59 42.2	-0.4
CHMS	50nm,0.2s			⇓S	Sb	09 00 00.9	-0.1
CHMS	Chumysh baz=47	1.39	247	⇑*i*P	Pn	08 59 42.2	-0.4
CHMS	baz=47			⇑*i*S	Sb	09 00 01.0	-0.1
KBK	Karagaybulak 14nm,0.1s,SNR=6.3	1.45	232	⇓P	Pb	08 59 43.9	-0.2
KBK	21nm,0.1s			⇓S	Sg	09 00 03.9	+0.9
KBK	Karagaybulak baz=32	1.45	232	⇑*e*P	Pn	08 59 43.1	-0.5
KBK	baz=32			⇑*i*S	Sn	09 00 02.5	-0.5
ZHN	Zhinishke 40nm,0.2s	1.47	105	*e*P	Pg	08 59 44.4	-0.5
ZHN	163nm,0.2s			*e*S	Sg	09 00 04.2	+0.2
ZHN	Zhinishke 40nm,0.2s	1.47	105	P	Pg	08 59 44.4	-0.5
ZHN	163nm,0.2s			S	Sg	09 00 04.2	+0.2
USP	Ospenovka 42nm,0.3s,SNR=65	1.48	259	⇑P	Pn	08 59 43.4	-0.5
USP	66nm,0.3s			⇑S	Sn	09 00 03.7	+0.1
USP	Ospenovka baz=59	1.48	259	⇑*i*P	Pn	08 59 43.8	-0.1
USP	baz=59			⇑*i*S	Sn	09 00 03.7	+0.1
SATY	Saty baz=9.0	1.49	109	*e*P	Pn	08 59 43.8	-0.4
SATY	baz=9.0			*e*S	Sn	09 00 03.3	-0.7
SATY	Saty 50nm,0.1s	1.49	109	*e*P	Pn	08 59 43.8	-0.4
SATY	74nm,0.1s			*e*S	Sn	09 00 03.2	-0.7
SATY	Saty 50nm,0.1s	1.49	109	P	Pn	08 59 43.7	-0.4
SATY	74nm,0.1s			S	Sn	09 00 03.2	-0.7
KDJ	Kajisay baz=60	1.52	160	⇑*e*P	Pn	08 59 44.3	-0.3
KDJ	baz=60			⇑*i*S	Sb	09 00 05.1	+0.2
BLB	Baldybastay 123nm,0.3s	1.54	69	*e*P	Pn	08 59 44.4	-0.5
BLB	383nm,0.5s			*e*S	Sn	09 00 04.0	-1.2
BLB	Baldybastay 123nm,0.3s	1.54	69	P	Pn	08 59 44.4	-0.5
BLB	383nm,0.5s			S	Sn	09 00 04.1	-1.2
KPKS	Kokpek baz=93	1.60	93	*e*P	Pb	08 59 45.7	-1.0
KPKS	baz=93			*e*S	Sb	09 00 06.4	-0.8
KPKS	Kokpek 68nm,0.2s	1.60	93	*e*P	Pb	08 59 45.7	-1.0
KPKS	66nm,0.2s			*e*S	Sb	09 00 06.5	-0.8
UZB	Uzynbulak baz=2.0	1.89	102	*e*P	Pb	08 59 50.9	-0.9
UZB	baz=2.0			*e*S	Sb	09 00 15.6	-0.2
UZB	Uzynbulak 115nm,0.2s	1.89	102	*e*P	Pb	08 59 50.9	-0.9
UZB	51nm,0.3s			*e*S	Sb	09 00 15.6	-0.2
UZB	Uzynbulak 115nm,0.2s	1.89	102	P	Pb	08 59 50.9	-0.9
UZB	51nm,0.3s			S	Sb	09 00 15.5	-0.2
TARG	Taragay, Kyrgy baz=52	2.07	152	⇑*i*P	Pn	08 59 53.2	+0.8
TARG	baz=52			⇑*e*S	Sb	09 00 19.9	-1.2
EKS2	Erkin-Say baz=47	2.18	247	⇓*i*P	Pn	08 59 55.0	+1.4
EKS2	baz=47			⇓*i*S	Sb	09 00 22.9	-1.0
PDGK	Podgornoye 8.1nm,0.2s	2.20	95	Pg	Pb	08 59 55.9	-1.0
PDGK	21nm,0.4s			Lg	Lg	09 00 24.2	
PDGK	Podgornoye 4.9nm,0.3s	2.20	95	⇓Pn	Pb	08 59 55.0	-1.9
PDGK	21nm,0.4s			⇑Sn	Sb	09 00 24.6	+0.1
SHLS	Shalkode 4.3nm,0.2s	2.21	99	*e*P	Pg	09 00 02.0	+3.0
SHLS	21nm,0.3s			*e*S	Sg	09 00 34.5	+7.0
SHLS	Shalkode 4.3nm,0.2s	2.21	99	Pg	Pg	09 00 02.0	+3.0
SHLS	21nm,0.3s			Lg	Lg	09 00 34.5	
BTLS	Baital 6.5nm,0.2s	2.29	311	*e*P	Pb	08 59 58.6	+0.1
BTLS	18nm,0.4s			*e*S	Sb	09 00 28.5	+1.3
BTLS	Baital 6.5nm,0.2s	2.29	311	Pg	Pb	08 59 58.6	+0.1
BTLS	18nm,0.4s			Lg	Lg	09 00 28.5	
ARLS	Aral baz=24	2.33	224	⇑*e*P	Pn	08 59 56.8	+1.1
ARLS	baz=24			⇑*i*S	Sn	09 00 26.4	+1.6
DJR	Jarkent 5.4nm,0.3s	2.51	71	*e*P	Pb	09 00 01.5	-0.7
DJR	37nm,0.5s			*e*S	Sb	09 00 33.7	+0.4
DJR	Jarkent 5.4nm,0.3s	2.51	71	Pg	Pb	09 00 01.5	-0.7
DJR	37nm,0.5s			Lg	Lg	09 00 33.7	
MRKS	Merke 3.0nm,0.2s	2.52	252	*e*P	Pg	09 00 04.2	-0.8
MRKS	34nm,0.3s			*e*S	Sg	09 00 38.0	+0.4
KAPS	Kapalarasan 2.8nm,0.1s	2.68	49	*e*P	Pb	09 00 04.7	-0.4
KAPS	63nm,0.3s			*e*S	Sb	09 00 39.2	+0.8
KAPS	Kapalarasan 2.8nm,0.1s	2.68	49	Pg	Pb	09 00 04.7	-0.4
KAPS	63nm,0.3s			Lg	Lg	09 00 39.2	
KK02	Karatay Array 1.1nm,0.4s	4.38	266	⇓Pg	Pb	09 00 37.0	+2.9
KK02	6.8nm,0.5s			⇓Lg	Lg	09 01 34.8	
BRLS	Borolday	4.88	266	*e*P	Pg	09 00 48.8	-1.4
BRLS				*e*S	Sg	09 01 54.4	+0.9
BRLS	Borolday 1.4nm,0.1s	4.88	266	Pg	Pg	09 00 48.8	-1.4
BRLS	9.4nm,0.7s			Lg	Lg	09 01 54.4	
MK31	Makanchi Array 0.1nm,0.2s,baz=225,slow=14,SNR=9.2	5.22	50	⇑Pn	Pn	09 00 36.4	+1.0
MK31	0.2nm,0.3s,baz=230,slow=14,SNR=5.8			⇑Pg	Pb	09 00 51.2	+2.8
MK31	2.1nm,0.6s,baz=230,slow=28,SNR=4.9			⇑Lg	Lg	09 02 01.5	

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*IDC **02** 09:03:33.1±1.0, 5.°82S×154.°18E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/35, mbtmp3.7/9, ML2.2/1, Error ellipse: s-maj=25.5km s-min=17.5km az=44.0*

ISC 02 09:03:40.0±0.9**, 5.°87S**±0.°09×**154.°0E**±0.°1**, h48**km**, n14, σ0.s73**/15**, mb3.6**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076 baz=107,slow=19	2.50	308	Pn	Pn	09 04 18.5	+0.2
KRVT	baz=127,slow=20			Sn	Sn	09 04 47.5	-0.1
KRVT	baz=128,slow=19			Lg	Lg	09 04 58.3	
PMG	Port Moresby 1.9nm,0.3s,baz=71,slow=4.8,SNR=5.7	7.63	242	Pn	Pn	09 05 28.4	-0.3
PMG	0.7nm,0.3s,baz=105,slow=22,SNR=1.5			Sn	Sn	09 06 54.0	+0.1
DZM	Mont Dzumac 1.9nm,0.6s,baz=40,slow=19,SNR=1.3	20.11	144	P	P	09 08 09.5	-0.5
WRA	Warramunga Arr 0.5nm,0.8s,baz=57,slow=10,SNR=4.2	23.68	232	P	P	09 08 49.1	+1.6
WRA	0.3nm,0.5s,baz=54,slow=2.8,SNR=6.5			PcP	PcP	09 12 32.1	+1.1
ASAR	Alice Springs 0.5nm,0.8s,baz=59,slow=9.6,SNR=6.5	26.21	225	P	P	09 09 11.2	+0.6
ASAR	0.4nm,0.5s,baz=54,slow=2.5,SNR=7.4			PcP	PcP	09 12 37.8	+1.2
H11S3	WAKE ISLAND Hy baz=208,slow=76,SNR=17	27.25	27	T	T	09 37 38.5	
H11S2	WAKE ISLAND Hy baz=208,slow=76,SNR=18	27.26	27	T	T	09 37 36.8	
H11S1	WAKE ISLAND Hy baz=208,slow=76,SNR=22	27.27	27	T	T	09 37 37.6	
FITZ	Fitzroy Crossi 1.5nm,0.9s,baz=95,slow=11,SNR=2.5	30.23	244	P	P	09 09 46.2	-0.2
CMAR	Chiang Mai Arr 0.8nm,0.3s,baz=266,slow=23,SNR=1.1	59.41	295	P	P	09 13 37.5	-0.6
SONM	Songino Array 0.2nm,0.4s,baz=163,slow=4.2,SNR=1.6	67.86	328	P	P	09 14 33.4	-0.1
MKAR	Makanchi Array 0.3nm,0.4s,baz=103,slow=4.6,SNR=4.8	81.91	319	P	P	09 15 54.4	-0.2
NVAR	Mina Array Bea 0.1nm,0.3s,baz=253,slow=6.1,SNR=1.8	91.81	52	P	P	09 16 43.4	0.0
TORD	Torodi Ar. Bea 0.3nm,0.4s,baz=102,slow=2.1,SNR=2.5	151.76	287	PKPbc	PKiKP	09 23 30.6	-0.3

IDC 02 09:16:45.0±4.0**, 12.°57N×142.°37E, h139**km±43km**, mb2.9**/4**, mb1 3.2**/5**, mb1mx2.9**/53**, mbtmp3.4**/5**, Error ellipse: s-maj=57.2km s-min=19.6km az=100.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam 6.6nm,0.3s,baz=252,slow=20,SNR=6.1	2.64	67	P	Pn	09 17 28.4	+1.1
GUMO	7.3nm,0.3s,baz=5.6,slow=15,SNR=1.6			S	Sn	09 18 00.0	+0.1
USRK	Ussuriysk Ar. 0.5nm,0.3s,baz=192,slow=7.4,SNR=5.1	32.76	346	P	P	09 23 04.5	0.0
WRA	Warramunga Arr 0.2nm,0.4s,baz=11,slow=9.4,SNR=10	33.26	194	P	P	09 23 09.1	-0.1
ASAR	Alice Springs 0.2nm,0.5s,baz=25,slow=12,SNR=5.7	36.95	193	P	P	09 23 40.7	-0.2
YKA	Yellowknife Ar 0.2nm,0.9s,baz=297,slow=5.5,SNR=1.6	84.87	27	P	P	09 29 04.0	+0.1

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*NOU **02** 09:35:50.7, 38.°07S×176.°46E, h208km, MLv3.8/7, North Island, New Zealand*

*WEL **02** 09:36:00.8, 38°S±7°×17°6E±°, h125km±12km, M2.7/48, ML2.4/27, MLv2.7/48, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4*

ISC 02 09:35:54.4±2.1**, 38.°24S**±0.°08×**176.°23E**±0.°06**, h181**km±13km**, n95, σ0.s64**/96**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	Hossack Road	0.08	170	P	Pn	09 36 18.0	-0.3
GRRZ	Galatos Road	0.15	220	P	Pn	09 36 17.9	-0.5
PRRZ	Plateau Road	0.29	154	P	Pn	09 36 17.2	-1.4
ALRZ	Allen Road	0.34	165	P	Pn	09 36 18.0	-0.7
KUTZ	Kaahu Road	0.41	232	P	Pn	09 36 18.7	-0.2
MUGZ	Murupara	0.49	120	P	Pn	09 36 19.1	-0.1
TLZ	Tolley Road	0.55	260	P	Pn	09 36 19.4	-0.1
WATZ	Wairara	0.61	219	P	Pn	09 36 19.8	0.0
MRHZ	Matea Rd	0.61	166	P	Pn	09 36 19.6	-0.2
HATZ	Hinemaiaia	0.66	189	P	Pn	09 36 19.7	-0.3
URZ	Urewera	0.69	92	P	Pn	09 36 19.4	-0.7
URZ				P	Pn	09 36 19.5	-0.7
URZ	Urewera	0.69	92	P	Pn	09 36 19.6	-0.6
RTZ	Ruatahuna	0.70	123	P	Pn	09 36 20.2	-0.1
RATZ	Rangitukua	0.72	210	P	Pn	09 36 20.3	-0.1
TOZ	Tahuroa Road	0.77	311	P	Pn	09 36 20.5	-0.1
MTHZ	Maungataniwha	0.78	142	P	Pn	09 36 20.9	+0.2
RITZ	Rihia Road	0.79	201	P	Pn	09 36 21.2	+0.5
KATZ	Kakaramea	0.85	209	P	Pn	09 36 21.3	0.0
BKZ	Black Stump Fm	0.95	168	P	Pn	09 36 21.9	0.0
BKZ	Black Stump Fm	0.95	168	P	Pn	09 36 21.9	0.0
RAHZ	Arahi	0.95	136	P	Pn	09 36 22.5	+0.7
NTVZ	North Tongarir	0.96	207	P	Pn	09 36 22.2	+0.2
TMVZ	Te Maari	0.97	205	P	Pn	09 36 22.1	+0.1
NMHZ	Naumai	0.97	152	P	Pn	09 36 23.2	+1.2
KRVZ	Karewarewa	0.97	208	P	Pn	09 36 22.1	+0.1
ETVZ	East Tongariro	0.98	204	P	Pn	09 36 22.3	+0.2
WTVZ	West Tongariro	1.01	209	P	Pn	09 36 22.4	0.0
NNVZ	North Ngauruho	1.01	208	P	Pn	09 36 22.6	+0.2
OTVZ	Oturere	1.02	205	P	Pn	09 36 22.9	+0.4
MWZ	Matawai	1.03	96	P	Pn	09 36 22.4	0.0
TWVZ	Taurewa	1.04	216	P	Pn	09 36 22.6	+0.1
SNVZ	South Ngauruho	1.05	206	P	Pn	09 36 22.9	+0.1
NGZ	Ngauruhoe	1.06	207	P	Pn	09 36 23.3	+0.5
HIZ	Hauiti	1.11	255	P	Pn	09 36 23.4	+0.4
HIZ	Hauiti	1.11	255	P	Pn	09 36 23.5	+0.5
TUVZ	Tukino	1.12	203	P	Pn	09 36 23.6	+0.3
FWVZ	Far West T-bar	1.15	207	P	Pn	09 36 23.6	+0.1
WHVZ	Whangaehu Hut	1.16	205	P	Pn	09 36 23.9	+0.3
RUGZ	Raukumara Rang	1.18	77	P	Pn	09 36 22.8	-0.8
TRVZ	Turoa	1.19	206	P	Pn	09 36 24.1	+0.2
ARHZ	Aropaoanui	1.19	150	P	Pn	09 36 24.5	+1.0
WNVZ	Wahianoa	1.20	204	P	Pn	09 36 24.1	+0.2
MOVZ	Moawhango	1.23	198	P	Pn	09 36 23.9	-0.1
PKVZ	Pokaka	1.26	213	P	Pn	09 36 24.6	+0.3
BHHZ	Black Hill Sta	1.26	186	P	Pn	09 36 24.4	+0.1
MCHZ	McNeill Hill	1.26	163	P	Pn	09 36 25.3	+1.1
MTVZ	Mangateitei	1.29	207	P	Pn	09 36 24.9	+0.4
TKGZ	Te Karaka	1.29	100	P	Pn	09 36 23.7	-0.7
RIGZ	Rimuhau	1.29	112	P	Pn	09 36 25.2	+0.7
HAZ	Te Kaha	1.32	69	P	Pn	09 36 24.2	-0.5
TWGZ	Tauwhareparae	1.38	88	P	Pn	09 36 26.1	+0.8
KRHZ	Kereru	1.41	176	P	Pn	09 36 26.1	+0.5
VRZ	Vera Road	1.45	232	P	Pn	09 36 26.7	+0.8
PKGZ	Pakihiroa	1.50	77	P	Pn	09 36 26.9	+0.5
CKHZ	Cape Kidnapper	1.57	155	P	Pn	09 36 28.1	+1.1
CNGZ	Carnagh Statio	1.57	100	P	Pn	09 36 28.3	+1.3
PUZ	Puketiti	1.61	85	P	Pn	09 36 27.6	+0.2
KAHZ	Kahuranaki	1.64	162	P	Pn	09 36 28.7	+1.0
PNHZ	Pukenui	1.68	181	P	Pn	09 36 28.4	+0.3
MXZ	Matakaoa Point	1.78	68	P	Pn	09 36 29.9	+0.8
WAZ	Wanganui	1.80	212	P	Pn	09 36 30.0	+0.6
TSZ	Takapari Road	1.83	186	P	Pn	09 36 30.0	+0.4
WPHZ	Waipukurau	1.83	175	P	Pn	09 36 30.1	+0.5
LREZ	Lake Rotokare	1.88	229	P	Pn	09 36 31.4	+1.3
NEZ	North Egmont	1.96	238	P	Pn	09 36 32.6	+1.5
PKE	Pukeiti	2.00	241	P	Pn	09 36 32.0	+0.6
KHEZ	Kahui Hut	2.03	238	P	Pn	09 36 33.3	+1.5
PRHZ	Porangahau	2.05	171	P	Pn	09 36 32.6	+0.6
DVHZ	Dannevirke	2.06	181	P	Pn	09 36 32.2	+0.1
POWZ	Post Office Ro	2.18	189	P	Pn	09 36 33.5	+0.1
ANWZ	Angora Road	2.23	175	P	Pn	09 36 34.6	+0.6
PRWZ	Pori Road	2.32	185	P	Pn	09 36 35.4	+0.4
BFZ	Birch Farm	2.44	180	P	Pn	09 36 36.5	+0.1
BFZ	Birch Farm	2.44	180	P	Pn	09 36 36.8	+0.4
MRZ	Mangatainoka R	2.47	192	P	Pn	09 36 36.6	-0.2
TIWZ	Tintock	2.55	186	P	Pn	09 36 37.7	0.0
OGWZ	Otaki Gorge	2.70	197	P	Pn	09 36 39.3	-0.2
HOWZ	Holdsworth Sta	2.71	192	P	Pn	09 36 39.1	-0.4
KIW	Kapiti Island	2.81	201	P	Pn	09 36 40.2	-0.5
TMWZ	Te Maipa	2.88	185	P	Pn	09 36 41.2	-0.3
MTW	Mount Morrison	2.97	191	P	Pn	09 36 41.9	-0.7
CAW	Cannon Point	3.00	197	P	Pn	09 36 42.5	-0.5
TRWZ	Traveller	3.19	187	P	Pn	09 36 44.7	-0.6
PAWZ	Paruwai Farm	3.20	191	P	Pn	09 36 44.7	-0.8
WEL	Wellington	3.25	200	P	Pn	09 36 45.3	-0.7
MSWZ	Moikau Station	3.26	193	P	Pn	09 36 45.3	-0.9
SNZO	South Karori	3.29	200	P	Pn	09 36 46.0	-0.5
TCW	Tory Channel	3.33	206	P	Pn	09 36 46.3	-0.7
PLWZ	Palliser	3.41	192	P	Pn	09 36 47.1	-1.0
TUWZ	Tuamarina	3.64	208	P	Pn	09 36 50.0	-0.9
QRZ	Quartz Range	3.86	227	P	Pn	09 36 54.8	+1.2
BSWZ	Blackbirch Sta	3.92	207	P	Pn	09 36 53.5	-0.8
THZ	Tophouse	4.35	215	P	Pn	09 36 59.0	-0.9
KHZ	Kahutara	4.65	205	P	Pn	09 37 02.7	-1.0
KHZ	Kahutara	4.65	205	P	Pn	09 37 03.0	-0.7

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*SOME **02** 09:46:00.6, 40.°48N×74.°75E, h0km*

*NNC **02** 09:46:01.7±1.1, 40.°44N×74.°74E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=9.3km s-min=5.5km az=161.0*

*KRNET **02** 09:46:01.6±0.1, 40.°45N×74.°67E, h10km, mb3.0*

ISC 02 09:46:03.4±1.0**, 40.°51N**±0.°05×**74.°64E**±0.°02**, h10**km**, n59, σ1.s66**/89**, 24C-9D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral baz=50	1.37	350	⇑*i*P	Pn	09 46 28.5	-0.2
ARLS	baz=50			⇑*i*S	Sg	09 46 47.9	+0.4
OHH	Osh baz=74	1.41	271	⇑*i*P	Pn	09 46 28.5	-0.7
OHH	baz=74			⇑*i*S	Sg	09 46 48.4	-0.4
UCH	Uchtor SNR=39	1.72	357	P	Pb	09 46 34.5	-0.8
UCH	Uchtor baz=56	1.72	357	⇑*e*P	Pb	09 46 34.7	-0.6
UCH	baz=56			⇑*i*S	Sg	09 46 59.6	+0.9
AML	Almayashu SNR=17	1.77	337	P	Pb	09 46 35.5	-0.6
ULHL	Ulahol SNR=16	2.11	34	P	Pb	09 46 40.8	-1.0
ULHL	Ulahol baz=33	2.11	34	⇑*i*P	Pb	09 46 40.7	-1.2
ULHL	baz=33			⇑*i*S	Sb	09 47 09.2	+0.9
KBK	Karagaybulak SNR=38	2.16	6	P	Pb	09 46 42.6	0.0
KBK	Karagaybulak baz=5.0	2.16	6	⇑*e*P	Pb	09 46 41.5	-1.1
KBK	baz=5.0			⇑*i*S	Sg	09 47 10.7	-2.0
BOOM	Boomskoye usch baz=25	2.21	26	⇓*i*P	Pb	09 46 42.2	-1.3
BOOM	baz=25			⇓*i*S	Sb	09 47 11.6	+0.7
EKS2	Erkin-Say SNR=6.7	2.24	344	P	Pb	09 46 44.4	+0.4
EKS2	Erkin-Say baz=44	2.24	344	⇓*i*P	Pb	09 46 42.8	-1.3
EKS2	baz=44			⇓*i*S	Sg	09 47 12.9	-2.6
DRK	Karamyk baz=47	2.41	246	⇑*i*P	Pn	09 46 44.2	+1.1
DRK	baz=47			⇑*i*S	Sb	09 47 15.4	-1.5
MRKS	Merke 2.0nm,0.2s	2.47	335	*e*P	Pg	09 46 49.5	-1.2
MRKS	24nm,0.3s			*e*S	Sg	09 47 24.7	+2.0
CHMS	Chumysh SNR=7.1	2.49	2	P	Pb	09 46 48.6	+0.4
KDJ	Kajisay baz=48	2.51	49	⇑*e*P	Pn	09 46 46.2	+1.8
KDJ	baz=48			⇑*i*S	Sb	09 47 18.4	-1.2
TKM2	Tokmak 2 SNR=19	2.51	16	P	Pb	09 46 48.8	+0.1
TKM2	Tokmak 2 baz=15	2.51	16	⇓*i*P	Pn	09 46 46.4	+1.9
TKM2	baz=15			⇓*i*S	Sb	09 47 19.2	-0.6
TKM2	Tokmak 2 4.5nm,0.3s	2.51	16	⇑Pg	Pb	09 46 48.1	-0.7
TKM2	12nm,0.5s			⇑Lg	Lg	09 47 23.4	
MNAS	Manas baz=22	2.54	322	⇑*i*P	Pb	09 46 46.9	-2.3
MNAS	baz=22			⇑*i*S	Sb	09 47 20.1	-0.5
USP	Ospenovka SNR=9.6	2.76	358	P	Pb	09 46 52.8	+0.1
TRKS	Terek-Say baz=92	2.83	292	⇑*i*P	Pn	09 46 50.1	+1.2
TRKS	baz=92			⇑*i*S	Sn	09 47 25.6	+2.4
DGS	Degeres 4.9nm,0.2s	2.86	17	*e*P	Pb	09 46 54.7	+0.2
DGS	15nm,0.6s			*e*S	Sg	09 47 33.7	-1.5
DGS	Degeres 4.9nm,0.2s	2.86	17	Pg	Pb	09 46 54.7	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DGS				Lg	Lg	09 47 34.3	
	15nm,0.6s						
MTBS	**Maitube**	**2.94**	**27**	*e*P	**Pb**	**09 46 56.2**	**+0.3**
	3.1nm,0.2s						
MTBS				*e*S	**Sg**	**09 47 36.5**	**-1.3**
	19nm,0.3s						
MTBS	**Maitube**	**2.94**	**27**	Pg	**Pb**	**09 46 56.2**	**+0.3**
	3.1nm,0.2s						
MTBS				Lg	Lg	09 47 36.5	
	19nm,0.3s						
BTK	**Batken**	**2.96**	**262**	⇑*i*P	**Pn**	**09 46 52.2**	**+1.7**
	baz=64						
BTK				⇑*i*S	**Sn**	**09 47 28.8**	**+2.8**
	baz=64						
TNSS	**Tian-Shan**	**3.06**	**34**	*e*P	**Pb**	**09 46 58.1**	**0.0**
	5.0nm,0.2s						
TNSS				*e*S	**Sg**	**09 47 39.5**	**-2.2**
	6.1nm,0.3s						
TNSS	**Tian-Shan**	**3.06**	**34**	Pg	**Pb**	**09 46 58.1**	**0.0**
	5.0nm,0.2s						
TNSS				Lg	Lg	09 47 39.5	
	6.1nm,0.3s						
MDOK	**Medeo**	**3.20**	**33**	*e*P	**Pb**	**09 47 00.9**	**+0.4**
	3.5nm,0.4s						
MDOK				*e*S	**Sg**	**09 47 44.8**	**-1.5**
	24nm,0.6s						
MDOK	**Medeo**	**3.20**	**33**	Pg	**Pb**	**09 47 00.3**	**-0.1**
	3.9nm,0.5s						
MDOK				Lg	Lg	09 47 44.7	
	13nm,0.6s						
MDOK	**Medeo**	**3.20**	**33**	Pg	**Pb**	**09 47 00.9**	**+0.4**
	3.5nm,0.4s						
MDOK				Lg	Lg	09 47 44.8	
	24nm,0.6s						
ANVS	**Anan'yevo**	**3.21**	**44**	⇑*i*P	**Pn**	**09 46 56.0**	**+2.0**
	baz=43						
ANVS				⇑*i*S	**Sn**	**09 47 35.4**	**+2.9**
	baz=43						
KRBS	**Karabastau**	**3.27**	**13**	*e*P	**Pb**	**09 47 02.6**	**+1.0**
	12nm,0.3s						
KRBS				*e*S	**Sg**	**09 47 47.6**	**-1.0**
	7.4nm,0.4s						
KRBS	**Karabastau**	**3.27**	**13**	Pg	**Pb**	**09 47 02.6**	**+1.0**
	12nm,0.3s						
KRBS				Lg	Lg	09 47 47.6	
	7.4nm,0.4s						
KOTS	**Kotyrbulak**	**3.29**	**33**	*e*P	**Pb**	**09 47 03.0**	**+1.1**
	3.9nm,0.2s						
KOTS				*e*S	**Sg**	**09 47 48.5**	**-0.6**
	47nm,0.8s						
KOTS	**Kotyrbulak**	**3.29**	**33**	Pg	**Pb**	**09 47 03.0**	**+1.1**
	3.9nm,0.2s						
KOTS				Lg	Lg	09 47 48.5	
	47nm,0.8s						
KTBS	**Karatobe**	**3.54**	**25**	*e*P	**Pb**	**09 47 07.5**	**+1.3**
	3.7nm,0.2s						
KTBS				*e*S	**Sg**	**09 47 56.0**	**-1.1**
	19nm,0.6s						
KTBS	**Karatobe**	**3.54**	**25**	Pg	**Pb**	**09 47 07.5**	**+1.3**
	3.7nm,0.2s						
KTBS				Lg	Lg	09 47 56.0	
	19nm,0.6s						
KUU	**Kurty**	**3.61**	**20**	*e*P	**Pb**	**09 47 08.3**	**+1.0**
	2.3nm,0.2s						
KUU				*e*S	**Sg**	**09 47 57.4**	**-1.9**
	12nm,0.6s						
KUU	**Kurty**	**3.61**	**20**	Pg	**Pb**	**09 47 08.3**	**+1.0**
	2.3nm,0.2s						
KUU				Lg	Lg	09 47 57.8	
	12nm,0.6s						
CHKK	**Chushkaly**	**3.77**	**27**	*e*P	**Pb**	**09 47 11.4**	**+1.4**
	2.9nm,0.1s						
CHKK				*e*S	**Sg**	**09 48 02.8**	**-1.6**
	9.2nm,0.3s						
CHKK	**Chushkaly**	**3.77**	**27**	Pg	**Pb**	**09 47 11.4**	**+1.4**
	2.9nm,0.1s						
CHKK				Lg	Lg	09 48 02.8	
	9.2nm,0.3s						
SATY	**Saty**	**3.80**	**47**	*e*P	**Pb**	**09 47 11.0**	**+0.5**
SATY				*e*S	**Sg**	**09 48 01.9**	**-3.4**
	6.8nm,0.3s						
SATY	**Saty**	**3.80**	**47**	Pg	**Pb**	**09 47 11.0**	**+0.5**
SATY				Lg	Lg	09 48 01.9	
	6.8nm,0.3s						
ZHN	**Zhinishke**	**3.88**	**46**	*e*P	**Pb**	**09 47 12.0**	**0.0**
	2.0nm,0.1s						
ZHN				*e*S	**Sb**	**09 48 03.5**	**+4.3**
	5.3nm,0.2s						
ZHN	**Zhinishke**	**3.88**	**46**	Pg	**Pb**	**09 47 12.0**	**0.0**
	2.0nm,0.1s						
ZHN				Lg	Lg	09 48 03.5	
	5.3nm,0.2s						
KURS	**Kuram**	**3.97**	**40**	*e*P	**Pb**	**09 47 14.2**	**+0.7**
	1.8nm,0.4s						
KURS				*e*S	**Sg**	**09 48 07.4**	**-3.5**
	5.3nm,0.7s						
KURS	**Kuram**	**3.97**	**40**	Pg	**Pb**	**09 47 14.2**	**+0.7**
	1.8nm,0.4s						
KURS				Lg	Lg	09 48 07.4	
	5.3nm,0.7s						
KK08	**Karatay Array**	**4.04**	**311**	⇓Pg	**Pg**	**09 47 18.2**	**-2.6**
	0.8nm,0.4s,baz=135,slow=17						
KK08				⇓Lg	Lg	09 48 09.3	
	2.7nm,0.5s,baz=125,slow=28						
UZB	**Uzynbulak**	**4.20**	**50**	*e*P	**Pb**	**09 47 17.7**	**+0.2**
	2.4nm,0.3s						
UZB				*e*S	**Sg**	**09 48 13.3**	**-5.0**
	3.8nm,0.7s						
UZB	**Uzynbulak**	**4.20**	**50**	Pg	**Pb**	**09 47 17.7**	**+0.2**
	2.4nm,0.3s						
UZB				Lg	Lg	09 48 13.3	
	3.8nm,0.7s						
KPKS	**Kokpek**	**4.22**	**44**	*e*P	**Pb**	**09 47 18.1**	**+0.4**
	0.7nm,0.1s						
KPKS				*e*S	**Sg**	**09 48 14.3**	**-4.5**
	8.7nm,0.5s						
BRLS	**Borolday**	**4.38**	**307**	*e*P	**Pb**	**09 47 22.3**	**+1.8**
	2.1nm,0.2s						
BRLS				*e*S	**Sg**	**09 48 21.0**	**-3.1**
	3.9nm,0.5s						
BRLS	**Borolday**	**4.38**	**307**	Pg	**Pb**	**09 47 22.3**	**+1.8**
	2.1nm,0.2s						
BRLS				Lg	Lg	09 48 21.0	
	3.9nm,0.5s						
SHLS	**Shalkode**	**4.47**	**52**	*e*P	**Pg**	**09 47 26.8**	**-2.2**
	1.4nm,0.2s						
SHLS				*e*S	**Sg**	**09 48 28.9**	**+2.0**
	2.2nm,0.5s						
SHLS	**Shalkode**	**4.47**	**52**	Pg	**Pg**	**09 47 26.8**	**-2.2**
	1.4nm,0.2s						
SHLS				Lg	Lg	09 48 28.9	
	2.2nm,0.5s						
PDGK	**Podgornoye**	**4.59**	**51**	Pg	**Pb**	**09 47 24.5**	**+0.5**
	0.8nm,0.6s						
PDGK				Lg	Lg	09 48 25.0	
	2.7nm,0.8s						
PDGK	**Podgornoye**	**4.59**	**51**	⇓Lg	Lg	09 48 25.6	
	4.7nm,0.7s						

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*IDC **02** 09:46:49.6±2.2, 6°.21S×147°.42E, h195^{km}±49^{km}, mb2.8/4, mb1 2.9/6, mb1mx2.6/56, mbtmp3.3/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/12, Error ellipse: s-maj=106.8km s-min=24.2km az=112.0*

ISC 02 09:46:50.0±1.8**, 6°.3S**±0°.1×**147°.4E**±0°.4**, h200**^{km}**, n6, σ1^{s}57**/7**, mb3.3**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**184**	P	**Pn**	**09 47 40.2**	**-1.0**
	4.7nm,0.3s,baz=355,slow=11,SNR=7.7						
PMG				S	**Sn**	**09 48 22.5**	**+1.2**
	2.8nm,0.3s,baz=348,slow=20,SNR=9.1						
WRA	**Warramunga Arr**	**18.58**	**222**	P	**Pn**	**09 50 54.1**	**-0.8**
	0.1nm,0.3s,baz=48,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**21.61**	**215**	P	**P**	**09 51 25.5**	**+1.0**
	0.1nm,0.5s,baz=49,slow=8.7,SNR=4.6						
ASAR				LR	LR	10 01 38.1	
	comp=Z,51nm,18.6s,baz=102,slow=41						
FITZ	**Fitzroy Crossi**	**24.24**	**239**	P	**P**	**09 51 48.9**	**+0.1**
	0.8nm,0.7s,baz=85,slow=11						
KSRS	**Korea Array**	**47.13**	**339**	P	**P**	**09 55 03.9**	**+1.8**
	0.6nm,0.5s,baz=150,slow=7.5,SNR=1.8						
SONM	**Songino Array**	**64.81**	**331**	P	**P**	**09 57 05.8**	**-1.7**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=0.9						

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*JMA **02** 09:47:55.9±0.1, 39°.77N×142°.44E, h22^{km}±1^{km}, M3.7*
JMA Felt I J1.
*NIED **02** 09:47:56.0, 39°.77N×142°.44E, h22^{km}, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M$_{rr}$-0.13; M$_{\theta\theta}$0.49; M$_{\phi\phi}$-0.36; M$_{r\theta}$-1.13; M$_{\theta\phi}$1.97; M$_{\phi r}$-0.21; Fault plane solution: M$_0$2.30000×10^{14} NP1: ϕ_s276.00000°, δ87.00000°, λ28.00000°. NP2: ϕ_s184.00000°, δ62.00000°, λ177.00000°.*
*IDC **02** 09:47:59.9±2.5, 39°.84N×142°.43E, h44^{km}±23^{km}, mb3.4/12, mb1 3.6/14, mb1mx3.4/71, mbtmp3.7/14, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/61 Error ellipse: s-maj=25.2km s-min=14.0km az=105.0*

ISC 02 09:47:55.5±1.9**, 39°.79N**±0°.04×**142°.45E**±0°.08**, h12**^{km}±11^{km}**, n30, σ1^{s}26**/32**, mb3.6**/12**, 1C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.48**	**289**	P	**Pg**	**09 48 05.6**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.53**	**247**	⇓P	**Pg**	**09 48 06.2**	**+0.3**
MIYJ				S	**Sg**	**09 48 13.2**	**+0.3**
JKEN	**Kujiedanarisaw**	**0.71**	**306**	⇓P	**Pg**	**09 48 09.0**	**-0.2**
JKZ	**Kuzumaki**	**0.89**	**283**	P	**Pb**	**09 48 12.5**	**-0.3**
JANG	**Nango**	**0.93**	**309**	⇓P	**Pb**	**09 48 12.3**	**-1.2**
JANG				*e*S	**Sb**	**09 48 24.4**	**-1.4**
OFUJ	**Ofunato**	**0.93**	**221**	⇑P	**Pb**	**09 48 12.5**	**-1.0**
OFUJ				S	**Sb**	**09 48 24.2**	**-1.6**
JOM	**Ohasama**	**0.95**	**251**	P	**Pb**	**09 48 13.3**	**-0.6**
JOM				S	**Sb**	**09 48 25.3**	**-1.1**
JKMT	**Kesennumamotoy**	**1.24**	**218**	P	**Pn**	**09 48 17.4**	**-1.1**
JKMT				S	**Sb**	**09 48 32.8**	**-1.8**
JMK	**Ichinoseki**	**1.27**	**229**	P	**Pn**	**09 48 18.3**	**-0.7**
JMK				*e*S	**Sb**	**09 48 34.5**	**-1.0**
ASAJ	**Asahikawa**	**4.33**	**1**	P	**Pn**	**09 49 02.5**	**+1.5**
	1.7nm,0.3s,baz=206,slow=11,SNR=8.8						
ASAJ				S	**Sn**	**09 49 51.3**	**-0.1**
	baz=230,slow=29,SNR=1.5						
ASAJ				LR	LR	09 51 00.7	
	comp=Z,61nm,18.2s,baz=136,slow=42						
MAT	**Matsushiro**	**4.66**	**227**	P	**Pn**	**09 49 08.4**	**+2.8**
MAT				*e*S	**Sn**	**09 50 01.9**	**+2.3**
MJAR	**Matsushiro Arr**	**4.66**	**227**	P	**Pn**	**09 49 08.4**	**+2.8**
	0.4nm,0.3s,baz=34,slow=13,SNR=24						
SEY	**Seymchan**	**23.93**	**11**	P	**P**	**09 53 10.1**	**+1.0**
	1.0nm,0.7s,baz=168,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**27.04**	**299**	P	**P**	**09 53 38.2**	**+0.6**
	0.4nm,0.3s,baz=122,slow=5.4,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.99**	**126**	T	T	10 24 23.9	
	baz=319,slow=75,SNR=284						
H11N1	**WAKE ISLAND Hy**	**29.00**	**126**	T	T	10 24 19.1	
	baz=319,slow=75,SNR=343						
H11N3	**WAKE ISLAND Hy**	**29.01**	**126**	T	T	10 24 21.1	
	baz=319,slow=75,SNR=302						
H11S1	**WAKE ISLAND Hy**	**29.80**	**128**	T	T	10 25 22.1	
	baz=320,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.80**	**128**	T	T	10 25 20.1	
	baz=320,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**29.82**	**128**	T	T	10 25 22.3	
	baz=320,slow=76,SNR=30						
TIXI	**Tiksi**	**32.67**	**352**	P	**P**	**09 54 26.6**	**-0.4**
	2.4nm,0.3s,baz=273,slow=22,SNR=17						
ZALV	**Zalesovo Beam**	**40.72**	**310**	P	**P**	**09 55 34.1**	**-1.6**
	0.3nm,0.3s,baz=90,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**43.40**	**300**	P	**P**	**09 55 58.1**	**+0.2**
	0.5nm,0.6s,baz=83,slow=11,SNR=5.5						
KURBB	**Kurchatov Arra**	**45.00**	**306**	P	**P**	**09 56 10.1**	**-0.4**
	0.4nm,0.4s,baz=80,slow=8.6,SNR=3.4						
ILAR	**Eielson Array**	**46.74**	**34**	P	**P**	**09 56 23.1**	**-1.1**
	0.2nm,0.7s,baz=224,slow=5.0,SNR=3.1						
INK	**Inuvik**	**51.57**	**28**	P	**P**	**09 57 01.1**	**+0.2**
	0.8nm,0.9s,baz=219,slow=6.5,SNR=2.0						
WRA	**Warramunga Arr**	**59.90**	**189**	P	**P**	**09 58 01.2**	**0.0**
	1.1nm,0.6s,baz=7.3,slow=6.9,SNR=7.5						
YKA	**Yellowknife Ar**	**61.03**	**31**	P	**P**	**09 58 08.7**	**+0.2**
	0.2nm,0.7s,baz=270,slow=7.3,SNR=3.8						
ASAR	**Alice Springs**	**63.63**	**189**	P	**P**	**09 58 26.6**	**+0.3**
	0.6nm,0.7s,baz=7.7,slow=5.2,SNR=5.5						
AKASG	**Malin Array Be**	**72.62**	**322**	P	**P**	**09 59 22.6**	**+0.1**
	0.3nm,0.4s,baz=44,slow=6.7,SNR=4.3						

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*BJI **02** 09:49:51.5±0.0, 18°.84S×70°.51W, h22^{km}, mB5.3/11, Ms7 4.8/3*
*MOS **02** 09:49:52.5±1.6, 18°.62S×70°.59W, h33^{km}, mb5.2/19, Error ellipse: s-maj=15.4km s-min=8.3km az=109.7*
*IDC **02** 09:49:53.7±1.7, 18°.63S×70°.41W, h34^{km}±12^{km}, mb4.6/21, mb1 4.7/25, mb1mx4.6/36, mbtmp4.8/25, ML4.2/4, MS4.3/53, Ms1 4.3/53, ms1mx4.2/60, Error ellipse: s-maj=12.4km s-min=10.7km az=54.0*
*NEIC **02** 09:49:53.9, 18°.69S×70°.75W, h38^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.49; M$_{\theta\theta}$0.74; M$_{\phi\phi}$-3.22; M$_{r\theta}$0.68; M$_{\theta\phi}$0.94; M$_{\phi r}$-1.46; Fault plane solution: M$_0$3.47000×10^{16} NP1:ϕ_s358.76000°, δ31.94000°, λ107.27000°. NP2:ϕ_s158.64000°, δ59.66000°, λ79.51000°. Principal axes: T 2.9369, Plg73.0000°, Azm42.0000°; N 0.8918, Plg9.0000°, Azm164.0000°; P -3.8287, Plg14.0000°, Azm256.0000°;*
*VAO **02** 09:49:53.7±0.4, 18°.66S×70°.49W, h33^{km}, mb4.9*
*NEIC **02** 09:49:53.7±1.8, 18°.69S±0°.04×70°.74W±0°.06, h33^{km}±3^{km}, mb5.2/224, Mwr5.0/44, Mww5.2, ML4.9(ARE), ML5.1(GUC), Error ellipse: s-maj=7.9km s-min=4.8km az=107.0*
*ARE **02** 09:49:55±2.4, 18°.64S±0°.05×70°.77W±0°.06, h39^{km}±4^{km}, Error ellipse: s-maj=7.8km s-min=5.8km az=123.0*
*GUC **02** 09:49:55.1±0.8, 18°.65S×70°.61W, h48^{km}±4^{km}, ML5.1, MW5.1*
*NEIC **02** 09:49:57, 18°.79S×70°.85W, h50^{km}, Moment Tensor Solution. Duration: 8^{s}0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$6.41; M$_{\theta\theta}$0.16; M$_{\phi\phi}$-6.57; M$_{r\theta}$1.74; M$_{\theta\phi}$0.62; M$_{\phi r}$-5.11; Fault plane solution: M$_0$8.47000×10^{16} NP1:ϕ_s4.00000°, δ26.00000°, λ106.00000°. NP2:ϕ_s166.00000°, δ65.00000°, λ82.00000°. Principal axes: T 8.4314, Plg69.0000°, Azm61.0000°; N 0.0677, Plg7.0000°, Azm169.0000°; P -8.4991, Plg20.0000°, Azm262.0000°;*
*GCMT **02** 09:49:58.7±0.2, 18°.79S±0°.01×70°.98W±0°.01, h60^{km}±1^{km}, MW5.2/110, Moment Tensor Solution. s89, c117; s110, c171; Duration: 1^{s}0 Moment tensor: Scale 10^{17} Nm; M$_{rr}$0.59±.02; M$_{\theta\theta}$0.07±.01; M$_{\phi\phi}$-0.66±.01; M$_{r\theta}$0.11±.01; M$_{\theta\phi}$0.23±.01; M$_{\phi r}$-0.41±.01; Best double couple: M$_0$0.78600×10^{17} NP1:ϕ_s343.00000°, δ29.00000°, λ89.00000°. NP2:ϕ_s165.00000°, δ61.00000°, λ91.00000°. Principal axes: T 0.7160, Plg74.0000°, Azm76.0000°; N 0.1400, Plg1.0000°, Azm344.0000°; P -0.8560, Plg16.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:49:54.0±0.3**, 18°.64S**±0°.03×**70°.58W**±0°.03**, h36**^{km}**, n539, σ1^{s}51**/432**, mb5.1**/122**, MS4.3**/55**, 14C-17D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.24**	**84**		**Pn**	**09 50 03.2**	**+0.8**
PB12				Sg	**Sn**	**09 50 09.2**	**-0.8**
PB12	**IPOC Station P**	**0.24**	**84**	⇓*i*P	**Pn**	**09 50 03.3**	**+0.9**
PB12				*i* S	**Sn**	**09 50 09.4**	**-0.6**
PB12				IAML		09 50 09.8	
	comp=N,240μm,0.3s						
AP01	**Chacalluta**	**0.35**	**40**		**Pn**	**09 50 04.7**	**+2.4**
AP01					**Sn**	**09 50 12.1**	**+3.1**
AP01	**Chacalluta**	**0.35**	**40**	⇓*i*P	**Pn**	**09 50 04.8**	**+2.4**
AP01				*i* S	**Sn**	**09 50 11.5**	**+2.5**
AP01				IAML		09 50 13.3	
	comp=N,298μm,0.2s						
PB16	**IPOC Station P**	**1.06**	**74**	Pn	**Pn**	**09 50 14.9**	**+2.2**
PB16	**IPOC Station P**	**1.06**	**74**	⇓*i*P	**Pn**	**09 50 15.0**	**+2.2**
PB16				*e*S	**Sn**	**09 50 29.8**	**+3.2**
PB11	**IPOC Station P**	**1.42**	**142**		**Pn**	**09 50 18.6**	**+1.3**
PB11				Sn	**Sn**	**09 50 36.8**	**+1.9**
PB11	**IPOC Station P**	**1.42**	**142**	⇓*i*P	**Pn**	**09 50 18.6**	**+1.3**
PB11				*e*S	**Sn**	**09 50 36.5**	**+1.7**
PB11				IAML		09 50 38.7	
	comp=E,43μm,0.7s						
GO01	**Chusmiza**	**1.66**	**128**		**Pn**	**09 50 23.4**	**+2.4**
GO01	**Chusmiza**	**1.66**	**128**	⇓*i*P	**Pn**	**09 50 23.3**	**+2.3**
GO01				*e*S	**Sn**	**09 50 44.5**	**+3.2**
GO01				IAML		09 50 48.2	
	comp=N,27μm,0.2s						
TA02	**Huaiquique**	**1.68**	**165**		**Pn**	**09 50 21.5**	**+0.7**
TA02	**Huaiquique**	**1.68**	**165**	*e*P	**Pn**	**09 50 21.7**	**+1.0**
TA02				*e*S	**Sn**	**09 50 40.9**	**-0.2**
TA02				IAML		09 50 48.4	
	comp=N,17μm,0.5s						
HMBC	**Humberstone**	**1.76**	**158**	⇑*i*P	**Pn**	**09 50 22.6**	**+0.6**
HMBC				*e*S	**Sn**	**09 50 45.0**	**+1.8**
HMBC				IAML		09 50 51.8	
	comp=E,22μm,0.6s						
TA01	**Diego Aracena**	**1.95**	**169**		**Pn**	**09 50 25.0**	**+0.4**
TA01	**Diego Aracena**	**1.95**	**169**	⇓*i*P	**Pn**	**09 50 25.2**	**+0.6**
TA01				*e*S	**Sn**	**09 50 48.9**	**+1.0**
TA01				IAML		09 51 01.0	
	comp=E,11μm,0.5s						
PB08	**IPOC Station P**	**2.01**	**138**		**Pn**	**09 50 27.5**	**+1.8**
PB08	**IPOC Station P**	**2.01**	**138**	⇑*i*P	**Pn**	**09 50 27.4**	**+1.8**
PB08				*e*S	**Sn**	**09 50 52.1**	**+2.3**
PB08				IAML		09 50 58.0	
	comp=N,10μm,0.4s						
PATCX	**Punta Patache**	**2.21**	**170**	Pn	**Pn**	**09 50 28.6**	**+0.5**
PATCX	**Punta Patache**	**2.21**	**170**	*e*P	**Pn**	**09 50 28.4**	**+0.3**
PATCX				*e*S	**Sn**	**09 50 55.0**	**+0.7**
PATCX				IAML		09 51 08.4	
	comp=E,10μm,0.8s						
PB01	**IPOC Station P**	**2.60**	**157**		**Pn**	**09 50 34.0**	**+0.4**
PB01	**IPOC Station P**	**2.60**	**157**	⇑*i*P	**Pn**	**09 50 34.1**	**+0.5**
PB01				*e*S	**Sn**	**09 51 05.1**	**+1.0**
PB01				IAML		09 51 24.8	
	comp=E,7μm,0.7s						
PB02	**IPOC Station P**	**2.74**	**167**		**Pn**	**09 50 35.9**	**+0.4**
PB02	**IPOC Station P**	**2.74**	**167**	*e*P	**Pn**	**09 50 35.4**	**-0.1**
PB02				IAML		09 51 28.4	
	comp=E,11μm,0.5s						
PB07	**IPOC Station P**	**3.14**	**168**	⇑*i*P	**Pn**	**09 50 41.6**	**+0.5**
PB07				IAML		09 51 38.6	
	comp=E,7μm,0.5s						
LPAZ	**La Paz**	**3.31**	**45**	Pn	Pn	09 50 50.4	+6.7
	comp=E,16nm,0.3s,baz=218,slow=8.4,SNR=263						
LPAZ				Sn	**Sn**	**09 51 16.9**	**-5.2**
	comp=E,47nm,0.3s,baz=291,slow=19,SNR=7.0						
LPAZ	**La Paz**	**3.31**	**45**	P	Pn	09 50 50.6	+6.9
LPAZ	**La Paz**	**3.31**	**45**	Pn	Pn	09 50 50.6	+6.9
PB09	**IPOC Station P**	**3.38**	**158**		**Pn**	**09 50 45.6**	**+1.2**
PB09	**IPOC Station P**	**3.38**	**158**	⇑*e*P	**Pn**	**09 50 45.5**	**+1.1**
PB09				*e*S	**Sn**	**09 51 25.4**	**+2.0**
PB04	**IPOC Station P**	**3.70**	**174**		**Pn**	**09 50 48.0**	**-0.7**
PB04	**IPOC Station P**	**3.70**	**174**	*e*P	**Pn**	**09 50 48.2**	**-0.5**
PB04				IAML		09 51 51.1	
	comp=E,5μm,0.5s						
PB06	**IPOC Station P**	**4.16**	**167**		**Pn**	**09 50 54.7**	**-0.3**
PB06	**IPOC Station P**	**4.16**	**167**	⇑*i*P	**Pn**	**09 50 54.6**	**-0.3**
PB06				*e*S	**Sn**	**09 51 39.1**	**-3.3**
LVC	**Limon Verde**	**4.25**	**159**	Pn	**Pn**	**09 50 57.7**	**+1.3**
	comp=E,35nm,0.3s,baz=13,slow=7.3,SNR=170						
LVC				Sn	**Sn**	**09 51 45.1**	**0.0**
	comp=E,97nm,0.3s,baz=353,slow=15,SNR=3.1						
LVC				LR	LR	09 52 40.0	
	comp=E,5μm,21.0s,baz=340,slow=40						
LVC	**Limon Verde**	**4.25**	**159**	P	**Pn**	**09 50 55.9**	**-0.6**
LVC	**Limon Verde**	**4.25**	**159**		**Pn**	**09 50 55.9**	**-0.6**
PB15	**IPOC Station P**	**4.66**	**167**		**Pn**	**09 51 01.2**	**-0.8**
PB10	**IPOC Station P**	**4.85**	**180**	Pn	**Pn**	**09 51 02.9**	**-1.5**
PB14	**IPOC Station P**	**5.96**	**178**	Pn	**Pn**	**09 51 18.2**	**-1.7**
AC01	**Pan de Azucar**	**7.47**	**180**		**Pn**	**09 51 37.6**	**-2.8**
AC02	**Maricunga**	**8.27**	**171**	Pn	**Pn**	**09 51 50.8**	**-1.0**
AC06	**Mina Casimiro**	**8.68**	**179**	Pn	**Pn**	**09 51 54.9**	**-2.2**
NNA	**Nana**	**8.96**	**317**	Pn	**Pn**	**09 52 02.5**	**+1.7**
	comp=E,3.1nm,0.3s,baz=130,slow=8.2,SNR=4.6						
NNA				Sn	**Sn**	**09 53 37.0**	**-3.6**
	comp=E,3.2nm,0.3s,baz=104,slow=12,SNR=1.7						
NNA	**Nana**	**8.96**	**317**	P	**Pn**	**09 51 59.2**	**-1.7**
NNA	**Nana**	**8.96**	**317**	Pn	**Pn**	**09 51 59.2**	**-1.7**
SIV	**San Ignacio**	**9.45**	**75**	Pn	**Pn**	**09 52 08.6**	**+0.9**
	comp=E,8.8nm,0.3s,baz=250,slow=12,SNR=60						
SIV				Sn	**Sn**	**09 53 52.9**	**+0.1**
	comp=E,4.6nm,0.3s,baz=152,slow=21,SNR=1.8						
SIV				Lg	Lg	09 54 45.1	
	comp=E,1.9nm,0.3s,baz=360,slow=23,SNR=1.3						
SIV				LR	LR	09 56 25.5	
	comp=E,7μm,20.2s,baz=277,slow=42						
AC04	**Llanos de Chal**	**9.53**	**183**	Pn	**Pn**	**09 52 04.5**	**-4.2**
LCO	**Las Campanas**	**10.33**	**181**	P	**Pn**	**09 52 18.5**	**-1.3**
LCO	**Las Campanas**	**10.33**	**181**	Pn	**Pn**	**09 52 18.5**	**-1.3**
CZSB	**Cruzeiro do Su**	**11.04**	**349**	*e*P	**Pn**	**09 52 29.9**	**+0.5**
CO05	**La Serena**	**11.25**	**183**	Pn	**Pn**	**09 52 30.1**	**-2.0**
CO06	**Fray Jorge**	**12.02**	**184**	Pn	**Pn**	**09 52 38.0**	**-4.8**
CO03	**El Pedregal**	**12.15**	**180**		**Pn**	**09 52 40.4**	**-4.1**
ATAH	**Atahualpa**	**13.73**	**325**	Pn	**Pn**	**09 53 07.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=84,slow=19,SNR=1.6						
ATAH				LR	LR	09 58 43.2	
	comp=E,2μm,21.2s,baz=156,slow=38						
VA06	**Catapilco**	**13.88**	**183**		**Pn**	**09 53 05.9**	**-2.2**
AQDB	**Aquidauana**	**14.14**	**100**		**Pn**	**09 53 12.1**	**+0.3**
AQDB	**Aquidauana**	**14.14**	**100**	*e*P	**Pn**	**09 53 12.1**	**+0.3**
TBTG	**Tabatinga, AM**	**14.38**	**3**	*e*P	**Pn**	**09 53 16.4**	**+1.4**
CPUP	**Villa Florida**	**14.44**	**124**	Pn	**Pn**	**09 53 15.3**	**-0.4**
	comp=E,0.8nm,0.3s,baz=303,slow=12,SNR=18						
CPUP				Sn	**Sn**	**09 55 54.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=295,slow=14,SNR=1.5						
CPUP				Lg	Lg	09 57 13.8	
	comp=E,0.1nm,0.3s,baz=171,slow=6.9,SNR=3.3						
CPUP				LR	LR	09 59 48.0	
	comp=E,1μm,19.9s,baz=306,slow=42						
CPUP	**Villa Florida**	**14.44**	**124**	P	**Pn**	**09 53 16.1**	**+0.4**
CPUP	**Villa Florida**	**14.44**	**124**	Pn	**Pn**	**09 53 16.1**	**+0.4**
CPUP	**Villa Florida**	**14.44**	**124**	*e*P	**Pn**	**09 53 15.1**	**-0.6**
SALV	**Santo Antonio**	**14.48**	**81**	*e*P	**Pn**	**09 53 15.2**	**-1.1**
PP1B	**Ponte de Pedra**	**14.96**	**89**	*e*P	**Pn**	**09 53 21.9**	**-1.0**
BO04	**La Punta**	**15.29**	**180**		**Pn**	**09 53 26.9**	**-0.2**
BO01	**Tunca**	**15.70**	**182**		**Pn**	**09 53 32.2**	**-0.2**
BO02	**Sierra Bellavi**	**16.09**	**181**	P	**Pn**	**09 53 37.2**	**-0.3**
CLDB	**Colider**	**16.24**	**64**	*e*P	**Pn**	**09 53 39.2**	**-0.2**
H03N1	**Juan Fernandez**	**16.52**	**205**	T	T	09 53 42.7	
	baz=112,slow=14,SNR=15						
H03N1				T	T	10 10 37.3	
	baz=31,slow=73,SNR=34						
H03N2	**Juan Fernandez**	**16.53**	**205**	T	T	09 53 42.8	
	baz=112,slow=14,SNR=10						
H03N2				T	T	10 10 37.5	
	baz=31,slow=73,SNR=1000						
H03N3	**Juan Fernandez**	**16.54**	**205**	T	T	09 53 42.4	
	baz=112,slow=14,SNR=16						
H03N3				T	T	10 10 36.3	
	baz=31,slow=73,SNR=616						
ITQB	**Itaqui**	**16.80**	**133**	P	**P**	**09 53 48.1**	**-0.2**
ARAG	**Araguaiana, MT**	**18.17**	**84**	*e*P	**Pn**	**09 54 03.1**	**-0.4**
MACA	**Manacapuru-AM**	**18.18**	**33**	*e*P	**Pn**	**09 54 03.5**	**-0.1**
PTGB	**Pitanga**	**18.23**	**113**	*e*P	**P**	**09 54 03.3**	**-1.0**
PCMB	**Pacaembu**	**18.38**	**102**	*e*P	**P**	**09 54 05.8**	**0.0**
NPGB	**Novo Progresso**	**18.77**	**54**	*e*P	**P**	**09 54 09.4**	**-0.8**
ITAB	**Concordia**	**19.01**	**120**	P	**P**	**09 54 12.3**	**-0.3**
ITAB				IAmb	IAmb	09 54 17.8	
	comp=Z,86nm,0.8s						
ITRB	**Iturama**	**19.13**	**96**	*e*P	**P**	**09 54 13.7**	**-0.4**
SNDB	**Serra Nova Dou**	**19.74**	**73**	*e*P	**P**	**09 54 19.9**	**-0.9**
PLTB	**Pedras Altas**	**20.13**	**134**	P	**P**	**09 54 24.1**	**-0.9**
PLTB	**Pedras Altas**	**20.13**	**134**	*e*P	**P**	**09 54 23.9**	**-1.1**
FRTB	**Fartura**	**20.17**	**107**	*e*P	**P**	**09 54 24.8**	**-0.6**
LC01	**Cunco**	**20.22**	**183**	P	**P**	**09 54 25.8**	**0.0**
ITTB	**Itaituba**	**20.29**	**47**	*e*P	**P**	**09 54 26.0**	**-0.8**
TULM	**Tulcn-Chalpat**	**20.50**	**339**	*e*P	Pn	09 54 31.9	+0.1
PTGA	**Pitinga**	**20.62**	**32**	P	**P**	**09 54 29.1**	**-1.2**
	comp=Z,32nm,0.3s,baz=220,slow=14,SNR=203						
PTGA				S	**S**	**09 58 11.8**	**-7.2**
	comp=Z,5.5nm,0.9s,baz=329,slow=22,SNR=1.5						
PTGA				Lg	Lg	10 00 34.3	
	comp=Z,9.0nm,0.9s,baz=113,slow=20,SNR=2.2						
PTGA				LR	LR	10 03 20.8	
	comp=Z,2μm,21.7s,baz=210,slow=39						
FLOC	**Florencia**	**20.70**	**346**	*e*P	Pn	09 54 35.2	+1.5
CMBC	**Cumbal**	**20.72**	**339**	*e*P	Pn	09 54 35.2	+0.9
GCUF	**Volcan Galeras**	**20.83**	**341**	*e*P	Pn	09 54 35.2	-0.5
BB19B	**Bebedouro**	**20.88**	**100**	*e*P	**P**	**09 54 31.7**	**-1.4**
MACC	**Macarena, Meta**	**20.90**	**351**	*e*P	Pn	09 54 42.9	+6.9
IPMB	**Ipameri, GO**	**21.25**	**92**	*e*P	**P**	**09 54 35.6**	**-1.5**
SOTA	**Rioblanco**	**21.48**	**343**	*e*P	**P**	**09 54 41.2**	**+1.1**
BBAC	**Balboa, Cauca**	**21.55**	**342**	*e*P	**P**	**09 54 42.8**	**+2.2**
PCON	**Cinco Dias**	**21.61**	**344**	*e*P	**P**	**09 54 38.4**	**-3.1**
BDFB	**Brasilia**	**21.77**	**86**	P	**P**	**09 54 41.4**	**-1.4**
	comp=Z,27nm,0.8s,baz=257,slow=9.6,SNR=16						
BDFB				S	**S**	**09 58 38.1**	**-3.8**
	comp=Z,1.5nm,0.4s,baz=168,slow=24,SNR=1.3						
BDFB				Lg	Lg	10 01 17.9	
	comp=Z,15nm,1.2s,baz=198,slow=16,SNR=2.2						

BDFB Brasilia 21.77 86 P P 09 54 42.5 -0.3
BDFB pmax pmax
comp=Z,28nm,0.8s
BDFB Brasilia 21.77 86 P P 09 54 42.5 -0.3
RCLB Rio Claro- Sao 21.90 104 *eP* **P 09 54 42.9 -1.3**
PLCA Paso Flores 22.02 180 P P 09 54 44.6 -0.7
comp=Z,8.2nm,0.7s,baz=358,slow=11,SNR=28
PLCA Paso Flores 22.02 180 P P 09 54 44.3 -1.0
PLCA pmax pmax
comp=Z,34nm,1.1s
PLCA Paso Flores 22.02 180 P P 09 54 44.3 -1.0
PLCA Paso Flores 22.02 180 *eP* **P 09 54 45.2 -0.1**
LL04 Puerto Octay 22.25 184 P P 09 54 46.1 -1.6
PET01 Itanhaem-SP 22.39 109 *eP* **P 09 54 49.0 -0.3**
PEXB Peixe 22.43 76 *eP* **P 09 54 48.4 -1.4**
VAO Valinhos 22.49 105 *eP* **P 09 54 48.5 -2.0**
GR1C Gorgona, Isla 22.77 340 *eP* **P 09 54 51.1 -2.2**
VILC Villavicencio, 22.81 352 *eP* **P 09 54 51.1 -2.8**
MALB Monte Alegre 23.11 46 *eP* **P 09 54 55.9 -1.0**
BOAV Boa Vista 23.13 26 *eP* **P 09 54 56.7 -0.3**
YOTC Yotoco, Valle 23.19 345 *eP* **P 09 54 55.8 -2.0**
ANIL Santa Ana 23.47 348 *eP* **P 09 54 59.9 -0.8**
ROSC El Rosal 23.62 351 P P 09 55 02.4 +0.1
comp=Z,23nm,0.5s,baz=136,slow=16,SNR=4.3
ROSC LR LR 10 05 26.1
comp=Z,1μm,19.8s,baz=202,slow=39
PRPB Parauapebas 23.73 61 *eP* **P 09 55 01.4 -1.5**
PARB Paraibuna 23.75 106 *eP* **P 09 55 03.4 +0.2**
PLMC San Jos del P 24.06 346 *eP* **P 09 55 00.7 -5.4**
SMTB Santa Maria do 24.33 70 *eP* **P 09 55 07.3 -1.2**
SPBC San Pablo de B 24.38 352 *eP* **P 09 55 07.7 -1.3**
BSCB Bom Sucesso 24.38 100 *eP* **P 09 55 08.0 -1.1**
RUSC La Rusia 24.50 354 *eP* **P 09 55 03.9 -6.7**
CBOC Ciudad Bolivar 24.93 347 *eP* **P 09 55 14.6 +0.5**
TAMC Tame, Arauca 24.94 357 *eP* **P 09 55 14.4 +0.3**
MAN01 Angra dos Reis 25.23 104 *eP* **P 09 55 17.5 +0.9**
JANB Januaria 25.38 86 *eP* **P 09 55 17.2 -0.9**
SDBA SAO DESIDERIO 25.49 80 *eP* **P 09 55 17.5 -1.6**
DIAM Diamantina, MG 25.52 94 *eP* **P 09 55 18.0 -1.4**
VASO1 Vassouras-RJ 25.67 103 *eP* **P 09 55 17.4 -1.2**
MCPB Macapa, AP 25.70 47 *eP* **P 09 55 20.8 -0.2**
PAMC Pamplona, Colo 25.90 355 *eP* **P 09 55 16.6 -6.6**
ZARC Zaragoza, Cauc 26.31 350 P P 09 55 25.6 -0.7
ZARC IAmb IAmb 09 55 27.2
comp=Z,39nm,0.5s
DUB01 Friburgo-RJ 26.65 102 *eP* **P 09 55 28.7 -0.9**
UREC San Jos de Ur 26.67 349 *eP* **P 09 55 26.3 -3.4**
CAM01 Campos-RJ 27.30 102 *eP* **P 09 55 34.8 -0.5**
TMAB Tom-Au,PA,Br 27.32 56 *eP* **P 09 55 36.5 +1.0**
SDV Santo Domingo 27.35 360 P P 09 55 35.0 -0.9
comp=Z,12nm,0.8s,baz=175,slow=11,SNR=14
SDV Santo Domingo 27.35 360 P P 09 55 35.1 -0.9
SDV Santo Domingo 27.35 360 *eP* **P 09 55 35.5 -0.5**
SJMB Sao Joao De Ma 27.84 95 *eP* **P 09 55 38.5 -1.7**
ALF01 Guarapari-ES 28.17 99 *eP* **P 09 55 42.3 -0.9**
RIB01 Linhares ES 28.54 96 *eP* **P 09 55 44.8 -1.6**
SJCC San Jacinto, C 28.71 351 P P 09 55 47.6 -0.4
SJCC IAmb IAmb 09 55 49.4
comp=Z,52nm,1.2s
NAN01 Guarapari, ES 28.92 93 *eP* **P 09 55 48.6 -1.3**
PCRV Puerto La Cruz 29.23 12 P P 09 55 51.4 -1.1
comp=Z,12nm,0.4s,baz=274,slow=3.7,SNR=12
BIRV Birongo 29.24 9 IAmb IAmb 09 55 53.6
comp=Z,46nm,0.8s
GUA01 Guaratinga, BA 29.39 91 *eP* **P 09 55 53.3 -0.7**
MDP Montagnes des 29.48 39 P P 09 55 54.2 -0.6
comp=Z,12nm,0.8s,baz=212,slow=11,SNR=4.8
MDP LR LR 10 08 13.9
comp=Z,858nm,21.9s,baz=198,slow=38
CMC01 Camacan, BA 29.86 89 *eP* **P 09 55 56.9 -1.4**
NBIT Itapeh - BA 30.02 88 *eP* **P 09 55 59.9 +0.3**
GDU01 Guandu, BA 30.15 85 *eP* **P 09 55 59.0 -1.8**
ROSB Rosrio 30.26 62 *eP* **P 09 56 02.2 +0.5**
NBPN Ponto Novo - B 30.35 80 *eP* **P 09 56 01.4 -1.2**
NBPS Pedro II - PI 31.79 67 *eP* **P 09 56 14.5 -0.8**
NBLA Lagarto - SE 32.56 81 *eP* **P 09 56 19.9 -2.1**
NBMA Muriti-CE 32.90 74 *eP* **P 09 56 24.6 -0.5**
NBPB Pedra_Branca-C 32.91 71 *eP* **P 09 56 24.8 -0.3**
NBMO Morrinhos-CE 33.53 67 *eP* **P 09 56 30.7 +0.2**
NBAN Anadia - AL 34.38 80 *eP* **P 09 56 36.7 -1.2**
FDF Fort de France 34.44 16 P P 09 56 37.4 -0.9
FDF pmax pmax
comp=Z,44nm,0.9s
FDF Fort de France 34.44 16 P P 09 56 37.4 -0.9
NBLV Livramento - P 34.59 76 *eP* **P 09 56 39.0 -0.7**
NBCL Cascavel-CE 34.65 70 *eP* **P 09 56 40.2 0.0**
NBRF Rio Formoso - 35.78 79 *eP* **P 09 56 49.5 -0.4**
RCBR Riachuelo 36.12 74 P P 09 56 51.9 -0.9
comp=Z,33nm,0.9s,baz=29,slow=8.0,SNR=8.0
RCBR LR LR 10 12 36.3
comp=Z,2μm,20.7s,baz=32,slow=38
RCBR Riachuelo 36.12 74 P P 09 56 52.5 -0.4
RCBR pmax pmax
comp=Z,32nm,0.9s
RCBR Riachuelo 36.12 74 P P 09 56 52.5 -0.4
RCBR IAmb IAmb 09 56 53.8
comp=Z,32nm,0.9s
RCBR Riachuelo 36.12 74 *eP* **P 09 56 52.6 -0.2**
USHA Ushuaia 36.17 178 P P 09 56 51.9 -0.8
comp=Z,22nm,0.8s,baz=47,slow=0.0,SNR=2.1
NBPV Pedro Velho 36.44 75 *eP* **P 09 56 55.0 -0.6**
ICMP Isla Caja de M 36.51 6 P P 09 56 55.4 -0.6
MLPR Magueyes Islan 36.55 6 P P 09 56 54.5 -1.7
RPN Rapa Nui 36.57 245 LR LR 10 08 12.7
comp=Z,1μm,19.0s,baz=56,slow=30
CRPR Cabo Rojo, PR 36.58 6 P P 09 56 55.6 -1.0
OBIP Obispado Ponce 36.66 6 IAmb IAmb 09 56 57.9
comp=Z,34nm,0.8s
SJG San Juan 36.78 7 P P 09 56 56.5 -1.8
comp=Z,37nm,0.7s,baz=188,slow=4.8,SNR=12
SJG LR LR 10 13 01.2
comp=Z,385nm,21.3s,baz=188,slow=38
SJG San Juan 36.78 7 P P 09 56 56.8 -1.5
SJG pmax pmax
comp=Z,44nm,1.0s
SJG San Juan 36.78 7 P P 09 56 56.8 -1.5
SJG IAmb IAmb 09 56 57.5
comp=Z,44nm,0.9s
MTP Monte Pirata 36.84 8 P P 09 56 57.1 -1.7
HUMP Col San Antoni 36.84 8 IAmb IAmb 09 57 10.9
comp=Z,25nm,0.8s
APG El Apazote 38.75 328 LR LR 10 12 59.1
comp=Z,506nm,19.1s,baz=142,slow=36
CMIG Matias Romero 42.80 325 LR LR 10 14 44.7
comp=Z,314nm,21.5s,baz=142,slow=35
PMSA Palmer Station 46.31 176 LR LR 10 17 15.8
comp=Z,367nm,18.9s,baz=349,slow=36
TIGA Tifton 51.33 346 P P 09 58 54.9 +0.2
baz=164
BRAL Brewton 51.99 342 P P 09 59 00.0 +0.3
baz=160
NHSC New Hope 52.27 350 P P 09 59 03.0 +1.3
baz=169
154A Montrose 52.35 347 IAmb IAmb 09 59 04.5
comp=Z,32nm,0.8s
152A Waverly Hall 52.78 345 IAmb IAmb 09 59 20.8
comp=Z,22nm,1.1s
GOGA Godfrey 53.20 347 P P 09 59 08.9 +0.3
baz=165
LRAL Lakeview Retre 53.73 343 P P 09 59 12.5 0.0
baz=161
Z47A Carrollton 54.19 342 IAmb IAmb 09 59 17.4
comp=Z,18nm,1.1s
W57A Gilead 54.24 350 IAmb IAmb 09 59 18.0
comp=Z,27nm,0.9s
833A Chaparral WMA, 54.37 328 IAmb IAmb 09 59 19.1
comp=Z,12nm,0.7s
833A Chaparral WMA, 54.37 328 P P 09 59 18.4 +1.1
baz=146
KMSC Kings Mountain 54.45 349 IAmb IAmb 09 59 38.8
comp=Z,18nm,1.0s
KMSC Kings Mountain 54.45 349 P P 09 59 18.4 +0.7
baz=168
X48A Hartselle 55.07 343 IAmb IAmb 09 59 22.8
comp=Z,10nm,0.7s
V55A Taylorsville 55.12 349 IAmb IAmb 09 59 43.8
comp=Z,19nm,0.8s
W50A Signal Mountai 55.34 345 IAmb IAmb 09 59 47.3
comp=Z,13nm,0.8s
CPCT Cooper Cave 55.39 346 IAmb IAmb 09 59 37.8
comp=Z,19nm,1.3s
TKL Tuckaleechee C 55.43 347 LR LR 10 23 33.2
comp=Z,286nm,21.7s,baz=164,slow=36
TKL Tuckaleechee C 55.43 347 IAmb IAmb 09 59 25.9
comp=Z,17nm,0.9s
SWET Sewanee 55.51 345 IAmb IAmb 09 59 26.9
comp=Z,13nm,0.7s
V52A Sevierville 55.57 347 IAmb IAmb 09 59 27.0
comp=Z,26nm,0.9s
435B Jarrell 55.58 332 P P 09 59 27.0 +1.1
baz=149
V51A Loudon 55.70 346 IAmb IAmb 09 59 27.3
comp=Z,50nm,1.6s
T59A Double "B" Far 55.70 353 IAmb IAmb 09 59 28.4
comp=Z,27nm,0.8s
OXF Oxford 55.81 341 P P 09 59 27.1 -0.4
baz=159
237A Washetta, Mont 55.86 334 IAmb IAmb 09 59 30.9
comp=Z,31nm,0.9s
U54A Nelsons Funny 55.88 349 IAmb IAmb 09 59 29.8
comp=Z,21nm,0.9s
T57A Hurt 55.94 352 IAmb IAmb 09 59 30.4
comp=Z,39nm,1.1s
TZTN Tazewell 56.23 347 P P 09 59 30.6 0.0
baz=165
BLA Blacksburg 56.32 351 P P 09 59 32.1 +0.9
baz=169
JCT Junction City 56.35 330 P P 09 59 32.1 +0.5
baz=146
CLTN Cedars of Leba 56.44 345 IAmb IAmb 09 59 54.5
comp=Z,27nm,1.3s
WHTX Lake Whitney, 56.55 333 IAmb IAmb 09 59 35.1
comp=Z,17nm,0.8s
WHTX Lake Whitney, 56.55 333 P P 09 59 33.9 +1.0
baz=149,SNR=6.7
Z38A Mt. Pleasant 56.63 336 IAmb IAmb 09 59 36.0
comp=Z,25nm,0.8s
R58B Mineral 56.72 353 IAmb IAmb 09 59 35.5
comp=Z,34nm,1.3s
WVT Waverly 56.87 343 P P 09 59 34.6 -0.4
WVT pmax pmax
comp=Z,14nm,0.8s
WVT Waverly 56.87 343 P P 09 59 34.6 -0.4
WVT IAmb IAmb 09 59 35.4
comp=Z,14nm,0.8s
WVT Waverly 56.87 343 P P 09 59 34.1 -0.9
baz=161
T50A Nancy 56.97 346 P P 09 59 35.8 0.0
T50A IAmb IAmb 09 59 58.5
comp=Z,60nm,1.9s
S54A Dingess, Beckl 57.04 350 IAmb IAmb 09 59 51.3
comp=Z,24nm,0.9s
MIAR Mount Ida 57.24 337 IAmb IAmb 09 59 39.4
comp=Z,15nm,0.7s
MIAR Mount Ida 57.24 337 P P 09 59 38.3 +0.6
baz=154,SNR=11
R55A Marlinton 57.32 351 IAmb IAmb 09 59 59.2
comp=Z,31nm,1.1s
W41B Gary Mavity, V 57.34 339 P P 09 59 38.7 +0.3
baz=156
TXAR Lajitas Array 57.39 326 P P 09 59 39.5 +0.5
comp=Z,2.2nm,0.7s,baz=150,slow=8.8,SNR=32
TXAR LR LR 10 24 43.0
comp=Z,98nm,18.9s,baz=131,slow=36
T47A Sharon Grove 57.48 344 IAmb IAmb 10 00 02.5
comp=Z,32nm,1.0s
Z35A Perchaven, San 57.61 334 IAmb IAmb 09 59 42.9
comp=Z,34nm,1.1s
W39A Magazine 57.89 338 IAmb IAmb 09 59 44.6
comp=Z,15nm,0.8s
W39A Magazine 57.89 338 P P 09 59 43.3 +1.0
baz=154,SNR=8.9
ABTX Abilene, Hawle 58.06 331 IAmb IAmb 09 59 45.2
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 58.06 331 P P 09 59 44.3 +0.7
baz=147
Q54A Coxs Mills 58.12 351 IAmb IAmb 09 59 58.7
comp=Z,29nm,1.2s
PBMO Poplar Bluff 58.22 341 IAmb IAmb 09 59 45.1
comp=Z,15nm,0.7s
WCI Wyandotte Cave 58.46 346 P P 09 59 46.1 -0.1
WCI pmax pmax
comp=Z,21nm,0.9s
WCI Wyandotte Cave 58.46 346 P P 09 59 46.1 -0.1
WCI IAmb IAmb 10 00 08.4
comp=Z,21nm,0.9s
WCI Wyandotte Cave 58.46 346 P P 09 59 45.9 -0.3
baz=163
U40A Yellville 58.61 339 IAmb IAmb 09 59 48.6
comp=Z,12nm,0.8s
U40A Yellville 58.61 339 P P 09 59 47.6 +0.2
baz=155,SNR=10
MCWV Mont Chateau 58.63 352 P P 09 59 48.3 +0.9
baz=170,SNR=5.1
T42A Van Buren 58.66 341 IAmb IAmb 10 00 21.7
comp=Z,8.1nm,0.8s
HHAR Hobbs 58.92 338 IAmb IAmb 09 59 51.0
comp=Z,20nm,1.3s
P52A Corning 58.96 350 P P 09 59 49.4 -0.3
baz=167
O56A Blue Knob Stat 59.07 353 P P 09 59 51.6 +1.1
baz=171
MGMO Mountain Grove 59.14 340 IAmb IAmb 09 59 52.3
comp=Z,12nm,0.9s
TUL1 Leonard 59.27 336 IAmb IAmb 09 59 53.8
comp=Z,24nm,1.0s
TUL1 Leonard 59.27 336 P P 09 59 52.7 +0.7
baz=152,SNR=7.2
SSPA Standing Stone 59.36 354 P P 09 59 53.3 +0.9
baz=172
O53A New Philadelph 59.41 351 P P 09 59 53.1 +0.3
baz=168
N59A State Game Lan 59.45 355 P P 09 59 53.5 +0.4
baz=174
N58A Sunbury 59.45 355 IAmb IAmb 09 59 55.0
comp=Z,26nm,0.9s
WMOK Wichita Mounta 59.47 333 P P 09 59 53.6 +0.3
baz=149
CCM Cathedral Cave 59.65 341 P P 09 59 53.9 -0.5
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 59.65 341 P P 09 59 53.9 -0.5
CCM IAmb IAmb 10 00 34.4
comp=Z,10nm,0.8s
CCM Cathedral Cave 59.65 341 P P 09 59 54.4 -0.1
baz=157
ACSO Alum Creek Sta 59.70 349 P P 09 59 55.2 +0.5
baz=167
M65A Busby, Falmout 59.89 360 P P 09 59 57.9 +1.9
baz=180
N54A Moraine State 59.94 352 P P 09 59 57.2 +0.8
baz=170
S39A Bolivar 59.98 339 IAmb IAmb 09 59 58.0
comp=Z,14nm,0.8s
O48B Farmland 60.15 347 P P 09 59 57.5 -0.4
baz=164
MNTX Cornudas Mount 60.16 326 P P 09 59 58.5 +0.4
baz=142,SNR=11
R40A Maddies Statio 60.18 340 IAmb IAmb 10 00 24.1
comp=Z,12nm,0.7s
M54A Oil Creek Stat 60.43 352 P P 10 00 00.6 +0.8
baz=170
M53A Wi Miller and 60.50 351 P P 09 59 59.6 -0.6
baz=169
P43A Skaggs, Pawnee 60.62 343 IAmb IAmb 10 00 24.1
comp=Z,22nm,0.8s
MSTX Muleshoe 60.65 329 P P 10 00 01.8 +0.3
baz=145,SNR=8.3
SFIN Lafayette 60.70 346 P P 10 00 00.4 -1.2
baz=162
BINY Binghamton 60.74 355 P P 10 00 02.9 +1.0
baz=174
HRV Adm Dziewonsk 60.84 359 P P 10 00 01.9 -0.6
baz=179
AMTX Amarillo 60.88 331 P P 10 00 03.3 +0.2
baz=146
ERPA Erie 61.07 352 P P 10 00 04.9 +0.8
baz=170
P40A Paris 61.24 341 IAmb IAmb 10 00 06.4
comp=Z,47nm,1.6s
HDIL Hopedale 61.41 344 IAmb IAmb 10 00 14.4
comp=Z,15nm,0.7s
HDIL Hopedale 61.41 344 P P 10 00 06.4 0.0
baz=160
BELA Belgrano 2 61.79 172 P P 10 00 08.9 +0.3
BELA IAmb IAmb 10 00 29.2
comp=Z,18nm,1.4s
P38A Dawn 61.80 340 IAmb IAmb 10 00 10.8
comp=Z,14nm,0.8s
319A Douglas 62.07 323 IAmb IAmb 10 00 14.1
comp=Z,13nm,0.9s
121A Cookes Peak, D 62.10 325 IAmb IAmb 10 00 14.0
comp=Z,8.8nm,0.7s
121A Cookes Peak, D 62.10 325 P P 10 00 13.4 +1.9
baz=140,SNR=7.6
KSU1 Kansas State U 62.39 337 IAmb IAmb 10 00 31.7
comp=Z,13nm,0.8s
KSU1 Kansas State U 62.39 337 P P 10 00 13.2 +0.1
baz=152,SNR=5.2
LBNH Lisbon 62.58 359 P P 10 00 15.4 +1.1
baz=179
R32A Long Quarter, 62.60 335 IAmb IAmb 10 00 16.4
comp=Z,14nm,0.8s
Y22D IRIS PASSCAL I 62.82 326 IAmb IAmb 10 00 18.6
comp=Z,17nm,0.8s
ANMO Albuquerque 63.26 327 LR LR 10 29 17.2
comp=Z,109nm,18.5s,baz=138,slow=37
ANMO Albuquerque 63.26 327 *d iP* **P 10 00 19.7 +0.5**
ANMO pmax pmax
comp=Z,13nm,2.5s
ANMO Albuquerque 63.26 327 P P 10 00 18.4 -0.8
ANMO Albuquerque 63.26 327 P P 10 00 20.3 +1.2
baz=142
VNA3 Neumayer Olymp 63.27 162 P P 10 00 19.4 +0.8
CBKS Cedar Bluff 63.35 335 P P 10 00 20.1 +0.6
baz=149
VNA1 Neumayer--Stat 63.49 161 P P 10 00 19.4 -0.5
G62A West of Eustis 63.55 0 P P 10 00 21.1 +0.5
SADO Sadowa 63.58 353 LR LR 10 28 31.1
comp=Z,145nm,21.3s,baz=174,slow=36
SADO Sadowa 63.58 353 P P 10 00 20.8 -0.1
SADO IAmb IAmb 10 00 22.2
comp=Z,22nm,0.8s
PKME Peaks-Kenny Pk 63.60 1 P P 10 00 22.8 +1.8
baz=182
TUC Tucson 63.62 322 P P 10 00 21.0 -0.5
TUC pmax pmax
comp=Z,21nm,2.0s
TUC Tucson 63.62 322 P P 10 00 21.0 -0.5
TUC IAmb IAmb 10 00 24.6
comp=Z,21nm,1.9s
TUC Tucson 63.62 322 P P 10 00 23.0 +1.4
baz=137
SCIA State Center 63.78 341 IAmb IAmb 10 00 22.9
comp=Z,16nm,0.8s
SCIA State Center 63.78 341 P P 10 00 22.3 +0.1
baz=156,SNR=5.4
VNA2 Neumayer--Watz 63.86 161 P P 10 00 22.7 +0.3
baz=300,slow=7.9
JFWS Jewell Farm 63.87 344 IAmb IAmb 10 00 54.4
comp=Z,22nm,0.8s
JFWS Jewell Farm 63.87 344 P P 10 00 22.8 0.0
baz=159
T25A Trinidad 63.99 330 P P 10 00 25.5 +1.4
baz=144
214A Organ Pipe Nat 64.57 321 IAmb IAmb 10 00 38.4
comp=Z,29nm,1.9s
214A Organ Pipe Nat 64.57 321 P P 10 00 29.8 +2.1
baz=135
TRQ Mont Tremblant 64.65 357 IAmb IAmb 10 00 29.6
comp=Z,25nm,0.8s
KSCO Kaye Shedlock' 64.72 333 IAmb IAmb 10 00 30.6
comp=Z,16nm,0.8s
KSCO Kaye Shedlock' 64.72 333 P P 10 00 29.6 +0.9
baz=146
BGNE Belgrade 64.98 337 P P 10 00 30.6 +0.4
baz=151,SNR=7.5
SDCO Great Sand Dun 65.00 330 IAmb IAmb 10 00 33.3
comp=Z,10nm,0.8s
SDCO Great Sand Dun 65.00 330 P P 10 00 32.1 +1.4
baz=144,SNR=15
W18A Petrified Fore 65.11 325 P P 10 00 33.5 +2.1
baz=139
D62A Allapoint, All 65.43 1 P P 10 00 33.2 +0.3
SNAA Sanae 65.48 161 P P 10 00 32.9 -0.2
SNAA Sanae 65.48 161 P P 10 00 31.9 -1.2
comp=Z,6.2nm,0.5s,baz=290,slow=9.5,SNR=34
SNAA LR LR 10 29 02.4
comp=Z,102nm,19.0s,baz=351,slow=36
SNAA Sanae 65.48 161 *|| eP* **P 10 00 32.9 -0.2**
SNAA pmax pmax
comp=Z,34nm,1.5s
SNAA Sanae 65.48 161 P P 10 00 32.3 -0.8
S22A 4UR Ranch, Cre 65.64 329 P P 10 00 36.2 +1.3
baz=142,SNR=6.5
I37A Lemond, Waseca 65.76 342 P P 10 00 35.4 +0.3
Q24A Divide 65.81 331 P P 10 00 35.0 -0.9
Q24A IAmb IAmb 10 00 38.5
comp=Z,11nm,1.0s
Q24A Divide 65.81 331 P P 10 00 37.2 +1.3
baz=144
LMQ La Malbaie 65.88 0 P P 10 00 36.1 +0.3
MVCO Mesa Verde 66.05 328 IAmb IAmb 10 02 10.5
comp=Z,12nm,0.6s
MVCO Mesa Verde 66.05 328 P P 10 00 38.8 +1.4
baz=141,SNR=6.0
WUAZ Wupatki 66.30 324 P P 10 00 40.7 +1.7
baz=138
ECSD EROS Data Cent 66.50 340 IAmb IAmb 10 00 41.5
comp=Z,42nm,1.4s
ECSD EROS Data Cent 66.50 340 P P 10 00 40.1 +0.2
baz=153,SNR=16
ISCO Idaho Springs 66.70 331 P P 10 00 42.8 +1.2
baz=144,SNR=5.7
SPMN Marine on St. 66.70 343 IAmb IAmb 10 00 42.2
comp=Z,18nm,0.9s
SPMN Marine on St. 66.70 343 P P 10 00 41.1 0.0
baz=157,SNR=7.0
VLDQ Val d'Or 66.73 355 IAmb IAmb 10 00 43.1
comp=Z,25nm,1.1s
IKP In-Ko-Pah, Jac 67.06 319 P P 10 00 46.4 +2.6
baz=133
SWSC Sam W. Stewart 67.07 320 P P 10 00 46.1 +2.5
baz=133
BC3 Big Chuckawall 67.34 320 P P 10 00 47.7 +2.1
baz=134
MONP2 Monument Peak 67.42 319 P P 10 00 48.4 +2.2
baz=133
F36A Milaca 67.48 343 IAmb IAmb 10 00 47.3
comp=Z,17nm,0.8s
IRM Iron Mountain 67.50 321 P P 10 00 48.6 +2.1
baz=134,SNR=6.0
N23A Red Feather La 67.73 332 P P 10 00 49.1 +1.0
baz=144
PHWY Pilot Hill 67.84 332 IAmb IAmb 10 01 43.2
comp=Z,12nm,0.9s
BELC Belle Mtn. Jos 67.91 320 P P 10 00 51.7 +2.5
baz=134
TPFO Pinon Flats 67.92 320 P P 10 00 51.8 +2.6
baz=133
SUSD Miller 67.92 338 P P 10 00 49.2 +0.3
baz=151
PFO Pinyon Flats O 67.92 320 LR LR 10 27 40.3
comp=Z,121nm,21.6s,baz=161,slow=33
TAOE Nuku Hiva Isla 67.93 268 *eS* **S 10 09 46.4 -0.2**
comp=Z,120nm,28.1s
TAOE Nuku Hiva Isla 67.93 268 *e*LR LR 10 21 16.1
comp=Z,411nm,30.4s
TAOE Nuku Hiva Isla 67.93 268 *eT* T 11 14 40.4
comp=Z,18nm,0.2s
O20A White River Ci 68.19 330 IAmb IAmb 10 00 53.1
comp=Z,11nm,1.0s
O20A White River Ci 68.19 330 P P 10 00 52.3 +1.4
baz=142,SNR=5.7
GMRC Granite Mounta 68.24 321 P P 10 00 53.6 +2.3
baz=134
F33A 5 Mile Ranch, 68.28 341 IAmb IAmb 10 00 52.2
comp=Z,10nm,0.7s
HEC Hector,Ludlow 68.68 321 P P 10 00 56.5 +2.6
baz=134
P17A Butcher Ranch, 68.92 328 IAmb IAmb 10 00 58.2
comp=Z,11nm,0.8s
LIC Lamto 69.15 76 *eP* **P 10 00 58.9 +1.7**
comp=Z,38nm,1.1s
GSC Goldstone, Bar 69.28 321 P P 10 00 60.0 +2.3
baz=133
TIC Toumodi 69.32 75 *eP* **P 10 01 00.0 +1.7**
K22A Casper 69.40 332 P P 10 00 59.6 +1.3
baz=144
KIC Kosan Boka 69.46 76 *eP* **P 10 01 01.0 +1.8**
comp=Z,44nm,0.8s
DBIC Dimbokro 69.48 75 P P 10 00 58.0 -1.3
comp=Z,31nm,1.0s,baz=259,slow=6.4,SNR=8.6
DBIC LR LR 10 31 24.1
comp=Z,182nm,18.4s,baz=248,slow=36
DBIC Dimbokro 69.48 75 P P 10 00 57.8 -1.4
DBIC pmax pmax
comp=Z,34nm,1.0s
DBIC Dimbokro 69.48 75 P P 10 00 57.8 -1.4

RSSD	Black Hills	69.55	335	P	P	10 00 59.0	-0.3
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RSSD	Black Hills	69.55	335	P	P	10 00 59.0	-0.3
RSSD	Black Hills	69.55	335	P	P	10 01 00.4	+1.1
	baz=146						
EDW2	Edwards Air Fo	69.72	320	P	P	10 01 02.5	+2.1
	baz=132						
B35A	Bob, Littlefor	69.83	344	IAmb	IAmb	10 01 06.5	
	comp=Z,24nm,1.4s						
TPNV	Topopah Spring	70.08	322	P	P	10 01 05.3	+2.6
	baz=134,SNR=6.6						
FURC	Furnace Creek,	70.11	322	P	P	10 01 05.2	+2.6
	baz=134,SNR=8.3						
JLU	Jordanelle	70.12	328	IAmb	IAmb	10 01 05.4	
	comp=Z,8.8nm,0.8s						
MPMC	Manual Prospec	70.20	321	P	P	10 01 05.2	+1.7
	baz=133						
AGMN	Agassiz Nation	70.36	342	IAmb	IAmb	10 01 05.1	
	comp=Z,11nm,0.7s						
AGMN	Agassiz Nation	70.36	342	P	P	10 01 04.2	+0.2
	baz=155,SNR=10						
ARVC	Arvin	70.39	320	P	P	10 01 07.1	+2.8
	baz=132						
DUG	Dugway, Tooele	70.52	327	IAmb	IAmb	10 01 08.5	
	comp=Z,14nm,1.1s						
DUG	Dugway, Tooele	70.52	327	P	P	10 01 07.2	+2.0
	baz=138,SNR=11						
ISA	Isabella, Lake	70.53	320	P	P	10 01 07.7	+2.4
	baz=132						
R11A	Troy Canyon, C	70.68	324	P	P	10 01 08.6	+2.3
	baz=135,SNR=8.6						
GRAC	Grapevine Rang	70.76	322	P	P	10 01 09.2	+2.5
	baz=133						
CWC	Cottonwood Cre	70.81	321	P	P	10 01 09.6	+2.4
	baz=132						
PKM	Mcpherson Peak	70.85	319	P	P	10 01 09.6	+2.2
	baz=131						
BW06	Boulder Array	70.86	331	P	P	10 01 08.9	+1.5
	baz=141						
PDAR	Pinedale Array	70.86	331	P	P	10 01 08.0	+0.6
	comp=Z,1.9nm,0.8s,baz=139,slow=6.9,SNR=14						
PDAR				LR	LR	10 34 11.9	
	comp=Z,124nm,19.5s,baz=134,slow=38						
VES	Vestal, Richgr	71.02	320	P	P	10 01 11.1	+2.9
	baz=132						
MDND	Maddock	71.11	340	P	P	10 01 09.8	+1.3
	baz=151,SNR=19						
SMMC	Simmler	71.24	319	P	P	10 01 12.6	+3.0
	baz=131						
QSPA	South Pole Qui	71.54	180	P	P	10 01 11.6	+0.5
AHID	Auburn Hatcher	71.59	330	IAmb	IAmb	10 01 21.8	
	comp=Z,40nm,1.9s						
HVU	Hansel Valley	71.67	328	P	P	10 01 13.7	+1.5
HVU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HVU	Hansel Valley	71.67	328	P	P	10 01 13.7	+1.5
REDW	Red Top Meadow	71.92	330	P	P	10 01 12.7	-1.1
MLAC	Mammoth, Mammo	72.06	321	P	P	10 01 16.9	+2.2
	baz=132						
TPAW	Teton Pass	72.07	330	P	P	10 01 12.9	-1.8
TPAW				IAmb	IAmb	10 01 23.0	
	comp=Z,24nm,1.6s						
ULM	Lac du Bonnet	72.13	343	P	P	10 01 14.4	-0.1
	comp=Z,9.3nm,0.6s,baz=152,slow=5.9,SNR=3.7						
ULM				LR	LR	10 36 08.0	
	comp=Z,135nm,19.0s,baz=142,slow=38						
ULM	Lac du Bonnet	72.13	343	IAmb	IAmb	10 01 15.5	
	comp=Z,11nm,0.7s						
ELK	Elko	72.19	326	LR	LR	10 32 09.5	
	comp=Z,196nm,20.9s,baz=136,slow=35						
NVAR	Mina Array Bea	72.28	322	P	P	10 01 17.8	+1.8
	comp=Z,2.6nm,0.8s,baz=149,slow=7.1,SNR=22						
NVAR				LR	LR	10 32 49.3	
	comp=Z,97nm,18.1s,baz=162,slow=36						
FLWY	Flagg Ranch	72.40	331	IAmb	IAmb	10 01 32.7	
	comp=Z,17nm,1.1s						
LAO	LASA Array	72.54	335	IAmb	IAmb	10 01 19.7	
	comp=Z,16nm,1.1s						
LAO	LASA Array	72.54	335	P	P	10 01 18.3	+1.1
	baz=145,SNR=5.7						
RLMT	Red Lodge	72.56	332	P	P	10 01 19.1	+1.5
	baz=142						
TBI	Tubuai	72.95	251	eS	S	10 10 45.0	+0.3
	comp=Z,204nm,28.8s						
TBI	Tubuai	72.95	251	eLR	LR	10 23 43.0	
	comp=Z,970nm,28.2s						
DGMT	Dagmar	73.24	337	P	P	10 01 21.3	+0.1
DGMT				IAmb	IAmb	10 01 23.8	
	comp=Z,18nm,0.8s						
DGMT	Dagmar	73.24	337	P	P	10 01 22.9	+1.7
	baz=147,SNR=8.2						
SCHQ	Schefferville	73.24	2	P	P	10 01 21.1	0.0
	comp=Z,15nm,0.8s,baz=205,slow=3.8,SNR=17						
SCHQ				LR	LR	10 37 22.8	
	comp=Z,58nm,18.1s,baz=208,slow=39						
SCHQ	Schefferville	73.24	2	P	P	10 01 21.4	+0.3
SCHQ				IAmb	IAmb	10 01 22.6	
	comp=Z,21nm,0.9s						
GCMT	Greycliff	73.26	333	P	P	10 01 22.1	+0.5
KOWA	Kowa	73.37	68	P	P	10 01 21.6	-1.1
KOWA				IAmb	IAmb	10 01 25.6	
	comp=Z,14nm,0.8s						
HLID	Hailey	73.80	328	P	P	10 01 26.8	+2.0
	baz=137,SNR=9.6						
BOZ	Bozeman (W)	73.99	331	IAmb	IAmb	10 01 28.6	
	comp=Z,37nm,1.9s						
BOZ	Bozeman (W)	73.99	331	P	P	10 01 27.2	+1.3
	baz=140						
PPT2	Papeete2	74.45	256	eS	S	10 11 00.4	-1.6
	comp=Z,223nm,28.2s						
PPT2	Papeete2	74.45	256	eLR	LR	10 24 25.4	
	comp=Z,413nm,28.2s						
EGMT	Eagleton	75.05	334	IAmb	IAmb	10 01 48.6	
	comp=Z,16nm,1.1s						
EGMT	Eagleton	75.05	334	P	P	10 01 33.0	+1.2
	baz=142,SNR=5.5						
O03E	Paynes Creek	75.55	322	P	P	10 01 35.7	+0.8
	baz=130						
MOD	Modoc Plateau	75.75	324	IAmb	IAmb	10 01 55.8	
	comp=Z,60nm,2.0s						
MSO	Missoula	75.97	331	P	P	10 01 38.7	+1.5
	baz=138						
M04C	Macdoel	76.53	323	P	P	10 01 42.5	+1.9
	baz=131						
M02C	Callahan	76.86	322	P	P	10 01 43.7	+1.4
	baz=130						
YBH	Yreka Blue Hor	77.00	323	LR	LR	10 35 29.2	
	comp=Z,128nm,18.2s,baz=131,slow=36						
L02E	Cave Junction	77.78	323	P	P	10 01 49.5	+2.1
	baz=129						
FFC	Flin Flon	77.83	342	P	P	10 01 48.1	+0.7
FFC				pmax	pmax		
	comp=Z,42nm,2.0s						
FFC	Flin Flon	77.83	342	P	P	10 01 48.1	+0.7
FFC				IAmb	IAmb	10 01 54.7	
	comp=Z,42nm,1.9s						
TORD	Torodi Ar. Bea	77.91	72	P	P	10 01 47.2	-1.5
	comp=Z,33nm,0.9s,baz=256,slow=5.5,SNR=57						
TORD				S	S	10 11 41.4	+1.6
	comp=Z,1.2nm,0.8s,baz=259,slow=13,SNR=4.9						
TORD	Torodi Ar. Bea	77.91	72	P	P	10 01 47.4	-1.3
I05D	Terrebonne, OR	77.93	325	P	P	10 01 49.5	+1.3
	baz=132						
NEW	Newport	78.50	330	LR	LR	10 41 20.1	
	comp=Z,108nm,18.9s,baz=122,slow=39						
NEW	Newport	78.50	330	P	P	10 01 52.6	+1.3
	baz=136						
G05D	Wamic, OR	78.51	326	P	P	10 01 52.8	+1.4
	baz=132						
VNDA	Vanda	79.38	190	LR	LR	10 33 06.8	
	comp=Z,108nm,18.1s,baz=140,slow=33						
FCC	Fort Churchill	79.51	348	P	P	10 01 56.7	+0.2
FCC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FCC	Fort Churchill	79.51	348	P	P	10 01 56.7	+0.2
SYO	Syowa Base	79.72	160⇑	eP	P	10 01 56.0	-1.6
SYO	Syowa Base	79.72	160⇓	ePcP	PcP	10 02 03.6	-1.7
EDM	Edmonton	80.52	336	P	P	10 02 02.1	-0.1
EDM				pmax	pmax		
	comp=Z,25nm,0.7s						
EDM	Edmonton	80.52	336	P	P	10 02 02.0	-0.1
EDM				IAmb	IAmb	10 02 03.5	
	comp=Z,25nm,0.7s						
MDT	Midelt	81.15	51	LR	LR	10 36 43.5	
	comp=Z,126nm,20.7s,baz=253,slow=35						
SUR	Sutherland	81.38	121	LR	LR	10 35 23.7	
	comp=Z,140nm,18.9s,baz=246,slow=34						
FRB	Frobisher Bay	82.13	1	LR	LR	10 39 54.3	
	comp=Z,86nm,21.6s,baz=190,slow=36						
TSUM	Tsumeb	82.38	108	LR	LR	10 36 12.4	
	comp=Z,262nm,20.6s,baz=325,slow=34						
TSUM	Tsumeb	82.38	108	P	P	10 02 13.0	0.0
TSUM				IAmb	IAmb	10 02 13.8	
	comp=Z,20nm,1.1s						
RAR	Rarotonga	82.72	250	LR	LR	10 29 18.9	
	comp=Z,302nm,21.9s,baz=138,slow=28						
PAB	San Pablo	84.60	45	P	P	10 02 24.0	+0.2
PAB				pmax	pmax		
	comp=Z,21nm,0.9s						
PAB	San Pablo	84.60	45	P	P	10 02 24.0	+0.2
PAB				IAmb	IAmb	10 02 43.3	
	comp=Z,20nm,0.9s						
ESDC	Sonseca Array	84.93	45	P	P	10 02 25.4	0.0
	comp=Z,3.7nm,0.9s,baz=242,slow=5.8,SNR=16						
ESDC				LR	LR	10 37 24.4	
	comp=Z,231nm,20.3s,baz=243,slow=34						
ESDC	Sonseca Array	84.93	45	IAmb	IAmb	10 02 33.9	
	comp=Z,32nm,1.4s						
ESBB	Sonseca Array	84.93	45	P	P	10 02 25.8	+0.3
ESBB				IAmb	IAmb	10 02 45.5	
	comp=Z,21nm,1.1s						
BOSA	Boshof	86.18	119	LR	LR	10 37 21.7	
	comp=Z,260nm,21.9s,baz=236,slow=33						
BBB	Bella Bella	86.38	329	LR	LR	10 44 39.9	
	comp=Z,83nm,18.7s,baz=126,slow=38						
SFJD	Kangerlussuaq	86.67	8	LR	LR	10 39 31.4	
	comp=Z,102nm,21.9s,baz=197,slow=34						
DY2G	Dye2	86.80	10	i P	P	10 02 35.4	+1.1
DY2G				IAmb	IAmb	10 02 35.8	
	comp=Z,176nm,1.7s						
MAW	Mawson	87.50	164	LR	LR	10 43 18.7	
	comp=Z,134nm,18.2s,baz=236,slow=37						
LBTB	Lobatse	87.65	115	LR	LR	10 38 28.0	
	comp=Z,146nm,19.0s,baz=246,slow=33						
YKA	Yellowknife Ar	87.98	341	P	P	10 02 40.2	+0.5
	comp=Z,13nm,0.6s,baz=135,slow=4.8,SNR=254						
YKA				LR	LR	10 45 14.5	
	comp=Z,153nm,19.9s,baz=162,slow=38						
ICESG	Greenland Ices	90.26	11	i P	P	10 02 52.0	+1.2
ICESG				IAmb	IAmb	10 02 53.0	
	comp=Z,14nm,0.9s						
DLBC	Dease Lake	90.95	333	LR	LR	10 46 53.4	
	comp=Z,45nm,19.7s,baz=110,slow=38						
BORG	Borgarnes	91.23	19	LR	LR	10 39 50.7	
	comp=Z,108nm,22.0s,baz=230,slow=33						
MATP	Matopo	91.73	112	LR	LR	10 42 47.3	
	comp=Z,109nm,18.1s,baz=243,slow=35						
KEST	Kesra	92.85	53	LR	LR	10 45 40.2	
	comp=Z,235nm,19.9s,baz=198,slow=36						
LSZ	Lusaka	93.23	107	LR	LR	10 44 27.9	
	comp=Z,206nm,18.1s,baz=275,slow=35						
SUMG	Summit	93.50	9	i P	P	10 03 06.0	+0.2
RES	Resolute Bay	94.39	354	P	P	10 03 08.1	-1.2
	comp=Z,0.5nm,0.6s,baz=257,slow=2.0,SNR=1.9						
RES				LR	LR	10 49 01.4	
	comp=Z,122nm,19.5s,baz=123,slow=38						
URZ	Urewera	95.02	227	LR	LR	10 37 28.8	
	comp=Z,231nm,20.4s,baz=182,slow=30						
RAO	Raoul Island	95.31	237	LR	LR	10 36 17.0	
	comp=Z,168nm,20.4s,baz=114,slow=29						
AFI	Afiamalu	95.91	253	LR	LR	10 35 35.7	
	comp=Z,94nm,22.0s,baz=105,slow=28						
RPZ	Rata Peaks	96.19	220	LR	LR	10 36 21.7	
	comp=Z,234nm,21.7s,baz=101,slow=29						
NEEM	North Greenlan	96.57	4	i P	P	10 03 19.6	-0.1
DAVOX	Davos/Dischmat	97.05	43	LR	LR	10 46 45.0	
	comp=Z,111nm,18.1s,baz=261,slow=35						
VAE	Valguarnera	97.27	53	LR	LR	10 46 44.2	
	comp=Z,145nm,21.8s,baz=248,slow=35						
INK	Inuvik	97.73	340	LR	LR	10 52 51.4	
	comp=Z,103nm,18.2s,baz=112,slow=39						
ILAR	Eielson Array	101.00	335	PP	PP	10 07 51.5	+3.4
	comp=Z,0.3nm,0.7s,baz=117,slow=5.6,SNR=4.0						
DZM	Mont Dzumac	111.10	237	eLR	LR	10 41 18.3	
	comp=Z,276nm,21.7s						
OBN	Obninsk	114.87	37	i PKIKP	PKPdf	10 08 29.6	-0.9
OBN				e		10 09 27.8	
OBN				ePPP	PPP	10 11 58.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,103nm,13.0s						
BILL	Bilibino	119.30	339	i PKIKP	PKiKP	10 08 39.3	+0.5
BILL				e		10 09 57.4	
BILL				ePPP	PPP	10 12 31.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KIV	Kislovodsk	119.36	50	ePKIKP	PKPdf	10 08 39.4	-0.3
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	Khabaz	119.52	50	PKP	PKiKP	10 08 40.4	+0.6
	comp=Z,4.7nm,0.9s,baz=107,slow=6.3,SNR=3.3						
KBZ	Khabaz	119.52	50⇓	iPKIKP	PKiKP	10 08 41.7	+1.8
GOF	Gofitskoye	119.56	48⇑	eP	Pdif	10 05 02.8	+0.5
GOF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIXI	Tiksi	125.77	353	PKP	PKiKP	10 08 51.2	-0.2
	comp=Z,0.5nm,0.3s,baz=279,slow=19,SNR=1.1						
TIXI	Tiksi	125.77	353⇑	iPKIKP	PKiKP	10 08 51.5	+0.1
H11S2	WAKE ISLAND Hy	125.91	280	T	T	12 27 50.6	
	baz=100,slow=75,SNR=622						
H11S1	WAKE ISLAND Hy	125.92	280	T	T	12 27 29.7	
	baz=100,slow=75,SNR=199						
H11N3	WAKE ISLAND Hy	125.92	281	T	T	12 27 50.5	
	baz=100,slow=75,SNR=261						
H11S3	WAKE ISLAND Hy	125.92	280	T	T	12 27 49.7	
	baz=100,slow=75,SNR=404						
H11N2	WAKE ISLAND Hy	125.93	281	T	T	12 27 51.4	
	baz=100,slow=75,SNR=197						
H11N1	WAKE ISLAND Hy	125.94	281	T	T	12 27 51.7	
	baz=100,slow=75,SNR=94						
ARU	Arti	126.63	32	PKP	PKiKP	10 08 53.6	0.0
	comp=Z,3.7nm,0.2s,baz=263,slow=8.1,SNR=5.0						
ARU	Arti	126.63	32	i PKIKP	PKiKP	10 08 54.0	+0.5
ARU						10 10 49.4	
ARU						10 16 02.5	
ARU	Arti	126.63	32		PKiKP	10 08 54.0	+0.5
SEY	Seymchan	126.86	337⇓	iPKIKP	PKiKP	10 08 53.7	-0.1
CTA	Charters Tower	127.22	225	PKP	PKiKP	10 08 56.1	+0.2
	comp=Z,3.3nm,0.7s,baz=205,slow=4.9,SNR=2.1						
PEA0B	Petropavlovsk-	129.34	324⇓	iPKIKP	PKiKP	10 08 59.9	+0.8
MA2	Magadan	129.47	334⇑	iPKIKP	PKPdf	10 08 57.8	-0.6
MA2				pmax	pmax		
	comp=Z,12nm,2.5s						
ASAR	Alice Springs	131.64	211	PKP	PKPdf	10 09 03.5	-0.3
	comp=Z,2.0nm,0.8s,baz=129,slow=1.6,SNR=23						
ASAR				SKPbc	SKPbc	10 12 24.8	-1.8
	comp=Z,1.1nm,1.0s,baz=155,slow=4.1,SNR=5.0						
BRVK	Borovoye	134.20	32d	iPKIKP	PKiKP	10 09 09.1	+0.2
WRA	Warramunga Arr	134.53	214	PKP	PKPdf	10 09 09.1	-0.2
	comp=Z,2.1nm,0.5s,baz=139,slow=1.7,SNR=40						
WRA				SKPbc	SKPbc	10 12 35.1	-1.4
	comp=Z,2.3nm,1.0s,baz=138,slow=2.8,SNR=6.4						
WRAB	Tennant Creek	134.53	214⇓	iPKIKP	PKPdf	10 09 09.9	+0.6
KURBB	Kurchatov Arra	139.75	30	PKhKP	PKPpre	10 09 09.4	
	comp=Z,0.3nm,0.5s,baz=271,slow=13,SNR=6.3						
KURBB				PKP	PKPdf	10 09 18.6	+0.8
	comp=Z,1.9nm,0.8s,baz=316,slow=2.5,SNR=9.0						
ZALV	Zalesovo Beam	139.98	22	PKhKP	PKPpre	10 09 11.4	
	comp=Z,8.6nm,0.8s,baz=356,slow=2.4,SNR=15						
ZALV				PKP	PKPdf	10 09 18.8	+0.6
	comp=Z,8.6nm,0.8s,baz=299,slow=3.1,SNR=26						
FITZ	Fitzroy Crossi	140.16	205	PKhKP	PKPpre	10 09 13.7	
	comp=Z,0.7nm,0.6s,baz=210,slow=13,SNR=1.8						
YSS	Yuzh-Sakhalins	140.72	324⇓	ePKIKP	PKPdf	10 09 19.8	0.0
AAK	Ala-Archa	142.00	43	PKP	PKPdf	10 09 22.8	+0.4
	comp=Z,3.5nm,0.9s,baz=201,slow=7.8,SNR=6.0						
AAK	Ala-Archa	142.00	43⇑	iPKIKP	PKPdf	10 09 23.8	+1.3
MK31	Makanchi Array	144.16	32d	iPKIKP	PKPbc	10 09 24.5	+0.4
MKAR	Makanchi Array	144.16	32	PKP	PKPbc	10 09 24.4	+0.3
	comp=Z,2.1nm,0.5s,baz=303,slow=3.2,SNR=37						
KSH	Kashi	144.42	47	PKP	PKPdf	10 09 26.4	-0.4
KSH				pPKP	pPKPdf	10 09 37.0	-1.3
KLR	Kul'dur	144.57	335	PKP	PKPab	10 09 24.8	-0.3
	comp=Z,2.7nm,0.8s,baz=18,slow=5.8,SNR=8.9						
KLR	Kul'dur	144.57	335	i PKIKP	PKPdf	10 09 26.0	-0.6
MOY	Mondy	146.38	9	ePKP2	PKPab	10 09 32.0	+0.1
MOY				pmax	pmax		
	comp=Z,30nm,1.6s						
KNGR	Kungurtug, Tuv	146.72	14⇓	ePKP2	PKPbc	10 09 32.2	+0.1
ZAK	Zakamensk	147.95	7	ePKIKP	PKPdf	10 09 33.3	+0.9
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s						
USA0B	Ussuriysk Arra	148.26	328c	iPKP2	PKPbc	10 09 36.9	+0.6
USRK	Ussuriysk Ar.	148.26	328	PKPbc	PKPbc	10 09 35.4	-0.9
	comp=Z,11nm,0.8s,baz=11,slow=1.2,SNR=14						
WMQ	Urumqi	148.96	31	ePKPbc	PKPdf	10 09 35.2	+1.0
WMQ				pPKP	PKiKP	10 09 39.6	0.0
WMQ				sPKP		10 09 47.1	
WMQ				PP	PP	10 13 14.9	+6.3
WMQ				AMB	AMB		
	comp=Z,290nm,6.1s						
WMQ				LR	LR		
	comp=Z,140nm,18.5s						
MJAR	Matsushiro Arr	149.04	311	PKPbc	PKPbc	10 09 39.1	+0.4
	comp=Z,14nm,0.9s,baz=325,slow=0.6,SNR=18						
MAJO	Matsushiro	149.04	311c	iPKP2	PKiKP	10 09 39.3	-0.6
MAT	Matsushiro	149.04	311	PKP	PKiKP	10 09 39.3	-0.6
BNX	BinXian	149.13	335	PKPbc	PKPbc	10 09 38.8	+0.3
BNX				AMB	AMB		
	comp=Z,260nm,6.8s						
HYBB	Hyderabad (bro	150.64	87	ePKPbc	PKPbc	10 09 43.1	0.0
SONM	Songino Array	150.77	4	PKP	PKPdf	10 09 37.4	+0.3
	comp=Z,1.3nm,1.0s,baz=321,slow=1.8,SNR=7.3						
SONM				PKPbc	PKiKP	10 09 43.2	0.0
	comp=Z,6.1nm,1.0s,baz=314,slow=1.6,SNR=27						
SONM	Songino Array	150.77	4	PKIKP	PKiKP	10 09 43.5	+0.2
SONM	Songino Array	150.77	4	PKPdf	PKPdf	10 09 37.7	+0.7
SONM				PKPbc	PKiKP	10 09 43.5	+0.2
ULN	Ulaanbaatar	150.78	3c	iPKIKP	PKiKP	10 09 43.7	+0.4
SIJI	Sorong	151.07	230	PKPbc	PKPbc	10 09 44.2	0.0
	comp=Z,8.6nm,0.7s,baz=49,slow=6.0,SNR=6.3						
KSRS	Korea Array	155.22	323	PKP	PKPdf	10 09 44.8	+1.2
	comp=Z,2.6nm,0.8s,baz=82,slow=0.8,SNR=7.3						
GTA	Gaotai	157.69	20	PKP	PKPdf	10 09 48.3	+1.3
HHC	Hu-ho-hao-te	157.79	356	ePKP	PKPdf	10 09 44.5	-2.5
GOMU	GeErMu	158.27	33	PKP	PKPdf	10 09 49.5	+1.4
GOMU				pPKP	pPKPdf	10 09 52.5	-7.2
GOMU				AMB	AMB		
	comp=Z,160nm,5.6s						
TIA	Tai'an	161.22	340	PKP	PKPdf	10 09 52.2	+1.2
NJ2	Nanjing	164.17	329	ePKP	PKPdf	10 09 53.1	-0.9
XAN	Xi'an	164.66	2	PKP	PKPdf	10 09 55.2	+0.8
XAN				AMB	AMB		
	comp=Z,160nm,4.5s						
PZH	PanZhiHua	169.44	41	PKP	PKPdf	10 09 58.5	+0.2
CMAR	Chiang Mai Arr	170.06	89	PKP	PKPdf	10 09 57.8	-0.9
	comp=Z,1.1nm,0.4s,baz=288,slow=2.7,SNR=9.1						
CMAR				PKPab	PKPab	10 11 13.6	-0.6
	comp=Z,5.1nm,1.0s,baz=268,slow=5.7,SNR=23						
CMAR	Chiang Mai Arr	170.06	89	PKIKP	PKPdf	10 09 57.6	-1.1
CMAR						10 11 14.3	
CMAR	Chiang Mai Arr	170.06	89		PKPdf	10 09 57.6	-1.1
CMAR					PKPab	10 11 14.3	+0.1

UPA 02 09:52:36.6±0.3, 10°05N×79°68W, h33km±10km, MW3.7, 4D, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRIJ	El Hiral	0.83	183⇓	eP	Pn	09 52 51.4	-0.6
FRIJ				eS	Sn	09 53 02.7	-0.3
BCIP	Isla Barro Col	0.89	190⇓	iP	Pn	09 52 52.6	-0.3
BCIP				eS	Sn	09 53 04.9	+0.2
CHPO	Chepo, Panama	1.04	147	eP	Pn	09 52 54.7	-0.2
ARRA3	Arraijan, Pana	1.08	179⇓	iP	Pn	09 52 55.4	-0.1
ZANG	Zanguenga, Cho	1.10	190⇓	eP	Pn	09 52 55.6	-0.2
ZANG				eS	Sb	09 53 11.8	+0.5
FLAM	Flamenco Islan	1.14	173	eP	Pn	09 52 56.4	0.0
FLAM				eS	Sb	09 53 11.6	-0.8
CHOR3	La Chorrera	1.15	184	eP	Pn	09 52 56.5	+0.1
CHOR3				eS	Sb	09 53 12.4	-0.2
UPD2	Meteti	2.22	132	eP	Pb	09 53 16.1	-0.1
UPD2				eS	Sn	09 53 37.5	-0.1
AZU	Azuero	2.32	195	eP	Pn	09 53 12.3	-0.2
AZU				eS	Sn	09 53 40.1	+0.1

IDC 02 09:59:40.1±3.0, 64°69N×31°55E, h0km, mb1 3.0/3, mb1mx2.9/47, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=44.4km s-min=10.7km az=100.0
UPP 02 09:59:41.7±2.6, 64°59N×30°67E, h0km, ML1.8, Suspected explosion
NAO 02 09:59:43.4±1.6, 64°82N×30°36E, ML2.5
KOLA 02 09:59:43.4, 64°84N×30°35E, h0km, ML2.3
HEL 02 09:59:45.0±0.5, 64°95N×30°41E, h0km, ML2.1, Explosion
BER 02 09:59:45.8±3.2, 64°88N×30°12E, h0km, ML2.5(NAO), Suspected explosion

ISC 02 09:59:42.4±0.9, 64°84N±0°03×30°50E±0°04, h0km, n46, σ1§67/79, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.22	348	PG	Pg	10 00 04.8	-1.0
	baz=168						
KU6				MSG		10 00 18.4	
	comp=Z,12nm,0.2s						
KU6				SN	Sg	10 00 22.6	+1.1
MSF	Maaselka	1.24	331	PG	Pg	10 00 05.4	-0.7
MSF				SN	Sg	10 00 23.2	+1.1
OUL	Oulu	1.97	279	PB	Pn	10 00 18.0	+1.0
OUL				SG	Sb	10 00 44.8	+0.5
OUF	Merijarvi	2.53	262	PN	Pn	10 00 26.3	+1.6
OUF				MSG		10 00 59.1	
	comp=Z,16nm,0.2s						
OUF				SG	Sb	10 01 01.0	+0.7
RNF	Rovaniemi	2.57	316	PB	Pn	10 00 27.1	+1.9
RNF				SG	Sb	10 01 03.2	+1.9
OBF0	Syolatti, Pyha	2.71	266	PN	Pn	10 00 28.8	+1.6
OBF0				SG	Sg	10 01 08.9	-0.6
TOF	Tornio	2.86	299	PN	Pn	10 00 30.9	+1.6
TOF				MSG		10 01 06.6	
	comp=Z,7.9nm,0.2s						
TOF				SG	Sb	10 01 10.9	+1.1
SUF	Sumiainen	2.87	224	PN	Pn	10 00 30.3	+0.9
SUF				SB	Sb	10 01 09.2	-0.9
SUF				MSG		10 01 11.0	
	comp=Z,8.3nm,0.2s						
VRF	Varrio	2.94	353	PN	Pn	10 00 31.2	+0.8
	baz=170						
VRF				MSG		10 01 08.2	
	comp=Z,3.2nm,0.2s						
VRF				SG	Sb	10 01 11.2	-1.0
APA0	Apatity Array	2.96	19	Pn	Pn	10 00 30.4	-0.2
	baz=203,slow=12						
APA0				Sn	Sn	10 01 07.7	+1.0
	baz=200,slow=28						
APA0				Lg	Lg	10 01 19.8	
APA0	Apatity Array	2.96	19	Pn	Pn	10 00 30.4	-0.2
	baz=203,slow=12						
APA0				Sn	Sn	10 01 07.7	+1.0
	baz=200,slow=28						
APA0				Sg	Sg	10 01 19.8	+2.5
APA0	Apatity Array	2.96	19	P	Pn	10 00 31.0	+0.4
APA0				S	Sn	10 01 07.0	+0.4
APA	Apatity	2.98	22	P	Pn	10 00 31.8	+0.8
APA				S	Sn	10 01 08.8	+1.4
SGF	Sodankyl	3.07	330	PN	Pn	10 00 32.9	+0.7
SGF				SG	Sb	10 01 16.5	+0.7
KALU	Kalix	3.16	292	P	Pn	10 00 34.9	+1.5
KALU				S	Sn	10 01 15.7	+3.9
KALU	Kalix	3.16	292	PB	Pn	10 00 35.8	+2.4
KALU				SG	Sg	10 01 23.1	-0.9
KAF	Kangasniemi	3.32	216	PN	Pn	10 00 37.3	+1.8
	baz=36						
LVZ	Lovozero	3.50	27	P	Pn	10 00 38.3	+0.3
LVZ				S	Sn	10 01 19.4	-0.6
KLF	Kolari	3.59	315	PN	Pn	10 00 41.1	+1.8
KEF	Keuruu	3.68	226	PN	Pn	10 00 43.0	+2.5
PAJU	Pajala	3.74	309	P	Pn	10 00 42.7	+1.4
PAJU				S	Sn	10 01 27.7	+1.8
PAJU	Pajala	3.74	309	PB	Pb	10 00 47.7	-1.5
SJUU	Sjulsmark	3.81	284	P	Pn	10 00 43.4	+1.1
ERTU	Ertsjaerv	3.84	300	PN	Pn	10 00 45.0	+2.2
VAF	Ylistaro	3.90	246	PB	Pb	10 00 49.3	-2.6
VAF				SG	Sg	10 01 45.9	-1.5
FIA0	FINESS Array S	3.96	212	Pn	Pn	10 00 44.2	0.0
FIA0				Sn	Sn	10 01 31.4	+0.2
	baz=36,slow=28						
FIA0				Lg	Lg	10 01 45.5	
	baz=28,slow=28						
FIA0	FINESS Array S	3.96	212	Pn	Pn	10 00 44.2	0.0
FIA0				Sn	Sn	10 01 31.4	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=36,slow=28						
FIA0				Sg	Sb	10 01 45.5	+4.3
	baz=28,slow=28						
FIA0	FINESS Array S	3.96	212	PN	Pn	10 00 44.4	+0.2
	baz=24						
FIA0				SB	Sb	10 01 44.0	+2.8
FINES	FINESS Array B	3.96	212	Pn	Pn	10 00 43.2	-1.1
	comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=9.7						
FINES				Sn	Sn	10 01 31.6	+0.3
	comp=Z,0.4nm,0.3s,baz=37,slow=24,SNR=6.2						
FINES				Lg	Lg	10 01 44.4	
	comp=Z,1.3nm,0.3s,baz=33,slow=26,SNR=12						
ODEU	Stanfors	4.23	269	P	Pn	10 00 47.5	-0.5
ODEU				S	Sn	10 01 37.9	-0.2
MASU	Masugnsbyn	4.34	311	P	Pn	10 00 51.6	+2.1
HEF	Hetta	4.50	326	PN	Pn	10 00 54.3	+2.5
HEF				SG	Sg	10 02 03.0	-3.8
VJF	Virojoki	4.53	199	SB	Sb	10 02 01.2	+3.7
LILU	Lilltraesk	4.53	280	P	Pn	10 00 52.6	+0.4
LANU	Lannavaara	4.69	317	PN	Pn	10 00 55.6	+1.2
TERR	Teriberka	4.74	20	P	Pn	10 00 55.0	0.0
TERR				S	Sn	10 01 48.7	-1.8
PRVG	Vayda Guba	4.97	7	P	Pn	10 00 58.5	+0.3
ARA0	ARCESS Array S	5.10	340	Pn	Pn	10 00 59.6	-0.3
	baz=154,slow=14						
ARA0				Sn	Sn	10 01 57.7	-1.8
	baz=158,slow=28						
ARA0				Lg	Lg	10 02 19.4	
	baz=159,slow=28						
ARA0	ARCESS Array S	5.10	340	Pn	Pn	10 00 59.6	-0.3
	baz=154,slow=14						
ARA0				Sn	Sn	10 01 57.7	-1.8
	baz=158,slow=28						
ARA0				Sg	Sb	10 02 19.4	+5.3
	baz=159,slow=28						
ARCES	ARCESS Array B	5.10	340	Pn	Pn	10 00 59.7	-0.3
	baz=154,slow=13,SNR=45						
ARCES				Sn	Sn	10 01 58.9	-0.5
	baz=154,slow=26,SNR=6.4						
ARCES				Lg	Lg	10 02 21.2	
	baz=155,slow=29,SNR=19						
ARCES	ARCESS Array B	5.10	340	P	Pn	10 00 59.7	-0.3
ARCES				S	Sn	10 01 57.4	-2.1
NB2	NORSAR Subarra	9.56	255	Pn	Pn	10 02 01.6	+0.5
	baz=65,slow=12						
NB2	NORSAR Subarra	9.56	255	Pn	Pn	10 02 01.6	+0.5
	baz=65,slow=12						
NOA	NORSAR Array B	9.56	255	Pn	Pn	10 02 00.4	-0.8
	comp=Z,0.0nm,0.3s,baz=62,slow=10,SNR=2.7						
NRA0	NORESS Array S	9.59	253	Pn	Pn	10 02 02.1	+0.6
	baz=61,slow=11						
NRA0	NORESS Array S	9.59	253	Pn	Pn	10 02 02.1	+0.6
	baz=61,slow=11						

*MOS **02** 10:04:02.4±0.0, 43°02N×46°58E, h8^{km}, MPVA3.8*
*TIF **02** 10:04:02.0, 43°11N×46°54E, h10^{km}±4^{km}*
*DRS **02** 10:04:03.6±0.0, 43°11N×46°53E, h16^{km}*
*NORS **02** 10:04:03.8±0.0, 43°04N×46°55E, h6^{km}, MPVA3.9*
ISC 02 10:04:03.6±1.1, **43°10N**±0°03×**46°56E**±0°02, **h6**^{km}±9^{km}, **n39**, σ**1s22**/78, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBC	Dubki	0.21	111	ePg	Pg	10 04 07.8	0.0
DBC				eSg	Sg	10 04 11.5	+0.8
DVE	Vedeno	0.34	246	ePg	Pg	10 04 10.3	0.0
DVE				eSg	Sg	10 04 15.9	+1.1
KRNR	Karanay	0.37	136	ePg	Pg	10 04 10.3	-0.5
KRNR				eSg	Sg	10 04 16.0	+0.3
UNCR	Uncukul	0.42	155	ePg	Pg	10 04 11.5	-0.2
UNCR				eSg	Sg	10 04 17.8	+0.6
BUJR	Buynaksk	0.49	124	ePg	Pg	10 04 13.5	+0.6
BUJR				eSg	Sb	10 04 21.0	-1.0
BTLR	Botlikh	0.50	210	ePg	Pg	10 04 12.8	-0.3
BTLR				ePg	Pg	10 04 12.8	-0.3
BTLR				eSg	Sg	10 04 20.1	+0.5
BTLR				eSg	Sg	10 04 20.2	+0.5
XNZR	Khunzakh	0.56	169	ePg	Pg	10 04 14.4	-0.1
XNZR				eSg	Sg	10 04 22.6	+0.8
ARKR	Arakani	0.59	147	ePg	Pg	10 04 14.5	-0.4
ARKR				eSg	Sg	10 04 23.0	+0.4
KANR	Karaman	0.69	81	ePg	Pg	10 04 17.2	+0.4
KANR				eSg	Sb	10 04 28.1	+0.3
MAK	Makhachkala	0.71	101	ePg	Pb	10 04 18.3	0.0
MAK				eSg	Sb	10 04 28.8	+0.5
GNBR	Gunib	0.77	157	ePg	Pg	10 04 18.2	0.0
GNBR				eSg	Sg	10 04 29.0	+0.8
KMKR	Kumukh	1.04	157	ePg	Pg	10 04 22.8	-0.8
KMKR				eSg	Sg	10 04 37.6	+0.5
URKR	Urkarakh	1.22	139	ePg	Pn	10 04 26.4	-1.0
URKR				eSg	Sn	10 04 43.7	-0.6
KMGR	Komgaron	1.24	269	ePg	Pg	10 04 27.4	+0.1
KMGR				eSg	Sn	10 04 47.0	+2.4
LGD	Lagodekhi	1.28	191	P	Pn	10 04 27.0	-1.1
LGD				S	Sb	10 04 44.8	-0.1
VLKR	Vladikavkaz	1.38	269	ePg	Pg	10 04 30.7	+0.7
VLKR				eSg	Sg	10 04 50.0	+2.2
TRKR	Terskaya	1.47	296	ePg	Pg	10 04 31.7	0.0
BTKR	Batakoyurt	1.50	281	ePg	Pg	10 04 32.7	+0.5
BTKR				eSg	Sg	10 04 53.4	+1.7
PNSH	Pansheti	1.50	253	P	Pn	10 04 30.0	-1.2
PNSH				S	Sb	10 04 50.6	-0.6
GUDG	Gudauri	1.66	248	P	Pb	10 04 33.7	-0.9
GUDG				S	Sb	10 04 55.6	-0.2
ARNR	Ardon	1.67	274	ePg	Pg	10 04 35.1	-0.3
ARNR				i Sg	Sg	10 04 57.5	+0.4
LACR	Lac	1.68	262	ePg	Pn	10 04 33.2	-0.4
LACR				eSg	Sb	10 04 56.3	-0.1
DDFL	Dedoflistskaro	1.68	191	P	Pg	10 04 36.4	+0.6
DDFL				S	Sg	10 05 04.0	+6.5
DRN	Derbent	1.69	128	ePg	Pn	10 04 32.7	-0.9
DRN				eSg	Sb	10 04 55.9	-0.6
PRTR	Priterechnaya	1.78	292	ePg	Pg	10 04 37.1	-0.6
PRTR				eSg	Sg	10 05 00.5	-0.3
KORR	Kora	1.82	271	ePg	Pb	10 04 36.6	-0.8
KORR				eSg	Sb	10 05 00.7	+0.2
AKT	Akhty	1.83	151	ePg	Pb	10 04 36.5	-1.1
AKT				eSg	Sb	10 05 00.6	-0.3
STDR	Stavd-Durt	1.84	279	ePg	Pb	10 04 37.0	-0.7
STDR				eSg	Sg	10 05 02.6	-0.1
BTNK	Botanikuri	1.92	223	P	Pn	10 04 35.0	-1.9
ZEI	Tsey	1.97	262	ePg	Pb	10 04 38.8	-1.3
ZEI				eSg	Sb	10 05 04.3	-0.6
LSNR	Lesken	2.00	276	ePg	Pb	10 04 40.1	-0.4
LSNR				eSg	Sg	10 05 06.6	-1.3
DIGR	Digorskoe uzhe	2.19	266	ePg	Pn	10 04 40.5	-0.3
DIGR				eSg	Sb	10 05 09.2	-2.0
ONI	Oni	2.34	259	P	Pn	10 04 43.0	+0.3
ONI				S	Sg	10 05 17.4	-1.2
TRLG	Trialeti	2.39	230	P	Pn	10 04 44.3	+0.8
TRLG				S	Sb	10 05 18.3	+1.3
DMNI	Dmanisi	2.49	226	P	Pn	10 04 45.1	+0.3
DMNI				S	Sb	10 05 18.7	-1.1
KBZ	Khabaz	2.74	285	ePn	Pn	10 04 49.3	+1.3
KBZ				i Sn	Sn	10 05 23.0	+1.5
NEY	Neytrino	2.81	274	ePn	Pb	10 04 52.3	-1.9
NEY				eSn	Sb	10 05 26.3	-2.7
SHA1	Shidzhatmaz	2.91	284	i Pn	Pn	10 04 51.0	+0.3
SHA1				eSn	Sn	10 05 27.3	+1.1
KIV	Kislovodsk	2.94	288	ePn	Pn	10 04 51.7	+0.8
KIV				eSn	Sn	10 05 28.0	+1.3

MAN 02 10:09:29.5, 10°16N×122°12E, h18^{km}, mb4.2, ML3.0, MS2.7, 7C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNOP	Candoni, Negro	0.60	123	⇑eP	Pg	10 09 41.8	+0.2
JAP	San Jose, Anti	0.61	343	⇑eP	Pb	10 09 41.6	-0.1
JAP				eS	Sg	10 09 49.6	-0.3
CUYO	Cuyo Island	1.29	302	⇑eP	Pn	10 09 52.9	+0.3
RCP	Roxas	1.52	24	⇑eP	Pn	10 09 54.9	-1.0
RCP				eS	Sn	10 10 15.7	+0.5
LLP	Lapu-Lapu	1.82	85	⇑eP	Pn	10 10 00.0	0.0
LLP				i S	Sb	10 10 24.1	-0.8
PAGZ	Pagadian	2.61	151	⇑eP	Pb	10 10 14.5	-1.3
MSLP	Maasin	2.69	90	⇑eP	Pn	10 10 13.3	+1.4

IDC 02 10:16:32.6±1.7, **6°97S**×**128°99E**, **h0**^{km}, **mb3.6**/2, **mb1 3.8**/4, **mb1mx3.5**/30, **mbtmp3.6**/4, **ML3.8**/2, **Error ellipse: s-maj=113.1km s-min=26.7km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.90	159	Pn	Pn	10 19 52.5	+1.4
	0.5nm,0.3s,baz=337,slow=13,SNR=31						
WRA				Sn	Sn	10 22 18.2	-8.0
	0.5nm,0.3s,baz=333,slow=22,SNR=6.1						
ASAR	Alice Springs	17.26	165	P	P	10 20 36.6	-0.2
	0.3nm,0.3s,baz=343,slow=13,SNR=38						
ASAR				S	Sn	10 23 37.2	-11
	0.1nm,0.3s,baz=345,slow=26,SNR=4.5						
STKA	Stephens Creek	27.43	156	P	P	10 22 19.1	-1.1
	0.5nm,0.4s,baz=342,slow=6.4,SNR=3.0						
MKAR	Makanchi Array	67.66	327	P	P	10 27 31.7	+0.1
	0.2nm,0.4s,baz=110,slow=6.9,SNR=5.6						

IDC 02 10:21:42.0±4.7, **17°91S**×**178°91W**, **h0**^{km}, **mb3.4**/3, **mb1 3.7**/3, **mb1mx3.5**/24, **mbtmp3.4**/3, **Error ellipse: s-maj=348.5km s-min=34.0km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.16	260	P	P	10 29 52.0	-0.9
	0.1nm,0.3s,baz=96,slow=7.6,SNR=4.7						
ASAR	Alice Springs	44.33	254	P	P	10 29 54.6	+0.4
	0.6nm,0.4s,baz=89,slow=7.9,SNR=20						
NVAR	Mina Array Bea	79.76	44	P	P	10 33 52.4	0.0
	0.1nm,0.5s,baz=216,slow=7.5,SNR=1.6						

IDC 02 10:38:18.1±8.1, **17°41S**×**172°89W**, **h0**^{km}, **mb3.4**/3, **mb1 3.8**/3, **mb1mx3.5**/23, **mbtmp3.4**/3, **Error ellipse: s-maj=350.5km s-min=41.6km az=140.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.89	258	P	P	10 47 13.4	-0.4
	0.1nm,0.3s,baz=96,slow=7.4,SNR=10						
ASAR	Alice Springs	49.98	253	P	P	10 47 14.7	+0.2
	0.3nm,0.4s,baz=90,slow=8.3,SNR=10						
ILAR	Eielson Array	84.32	11	P	P	10 50 51.5	-0.1
	0.3nm,0.9s,baz=212,slow=6.4,SNR=1.9						

IDC 02 10:40:35.2±2.8, **52°35N**×**35°25E**, **h0**^{km}, **mb1 3.8**/4, **mb1mx3.3**/40, **mbtmp3.7**/4, **ML2.9**/5, **Error ellipse: s-maj=30.4km s-min=12.2km az=116.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKASG	Malin Array Be	4.11	249	Pn	Pn	10 41 37.6	-1.7
	0.8nm,0.3s,baz=63,slow=15,SNR=2.4						
AKASG				Pg	Pb	10 41 47.6	-0.8
	2.2nm,0.3s,baz=62,slow=16,SNR=6.6						
AKASG				Sn	Sn	10 42 25.7	-2.3
	1.7nm,0.3s,baz=62,slow=22,SNR=2.5						
AKASG				Lg	Lg	10 42 42.5	
	3.7nm,0.3s,baz=66,slow=29,SNR=4.7						
I43RU	DUBNA INFRASON	4.53	14	*i*		11 06 00.0	
	baz=187,slow=302,SNR=16						
FINES	FINESS Array B	10.39	335	Pn	Pn	10 43 00.3	-5.1
	0.3nm,0.3s,baz=143,slow=14,SNR=1.3						
FINES				Sn	Sn	10 44 52.5	-10
	0.3nm,0.3s,baz=142,slow=23,SNR=2.1						
HFS	Hagfors	14.24	312	Pn	Pn	10 43 49.9	-8.0
	0.1nm,0.3s,baz=110,slow=12,SNR=1.7						
HFS				Sn	Sn	10 46 19.9	-17
	0.1nm,0.3s,baz=126,slow=20,SNR=2.5						
NOA	NORSAR Array B	15.73	313	Pn	Pn	10 44 09.5	-8.4
	0.0nm,0.3s,baz=113,slow=13,SNR=3.9						
ARCES	ARCESS Array B	17.84	349	Pn	Pn	10 44 38.7	-5.8
	baz=161,slow=11,SNR=11						

IDC 02 11:03:41.4±7.9, **17°19S**×**172°84W**, **h0**^{km}, **mb3.9**/4, **mb1 4.1**/4, **mb1mx3.6**/42, **mbtmp3.9**/4, **Error ellipse: s-maj=342.1km s-min=40.3km az=140.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.98	258	P	P	11 12 36.9	-0.9
	0.4nm,0.6s,baz=97,slow=7.2,SNR=16						
ASAR	Alice Springs	50.09	253	P	P	11 12 38.8	+0.2
	3.8nm,0.6s,baz=88,slow=8.1,SNR=103						
FITZ	Fitzroy Crossi	58.38	259	P	P	11 13 39.9	+0.8
	0.4nm,0.4s,baz=71,slow=6.0,SNR=1.5						
ILAR	Eielson Array	84.09	11	P	P	11 16 13.7	-0.1
	0.7nm,1.1s,baz=198,slow=5.7,SNR=2.3						

IDC 02 11:09:41.8±1.9, **2°31S**×**125°61E**, **h0**^{km}, **mb3.2**/2, **mb1 3.4**/3, **mb1mx3.1**/36, **mbtmp3.2**/3, **ML3.1**/1, **Error ellipse: s-maj=161.5km s-min=27.8km az=64.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.49	155	P	P	11 14 10.2	-0.4
	0.1nm,0.3s,baz=333,slow=11,SNR=5.4						
ASAR	Alice Springs	22.70	160	P	P	11 14 45.5	+0.2
	1.0nm,0.9s,baz=346,slow=11,SNR=7.5						
MKAR	Makanchi Array	61.94	328	P	P	11 20 03.5	0.0
	0.1nm,0.6s,baz=122,slow=7.0,SNR=3.6						

*IDC **02** 11:10:46.2±1.4, 23°29S×174°60W, h0^{km}, mb4.0/7, mb1 4.4/8, mb1mx4.0/37, mbtmp4.0/8, ML5.5/1, Error ellipse: s-maj=64.0km s-min=22.3km az=162.0*
ISC 02 11:10:51.9±1.3, **23°2S**±0°3×**174°7W**±0°2, **h36**^{km}, **n11**, σ**0s87**/9, **mb4.0**/7, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.72	307	Pn	Pn	11 12 55.8	+0.1
	1.7nm,0.3s,baz=126,slow=14,SNR=13						
AFI	Afiamalu	9.63	17	Pn	Pn	11 12 55.5	-13
	1.5nm,0.3s,baz=250,slow=21,SNR=1.8						
RAR	Rarotonga	13.93	85	Pn	Pn	11 14 00.6	-6.3
	1.3nm,0.3s,baz=109,slow=22,SNR=1.6						
RAR				Sn	Sn	11 16 20.7	-20
	2.2nm,0.3s,baz=175,slow=17,SNR=1.9						
ASAR	Alice Springs	46.98	259	P	P	11 19 19.9	+0.1
	1.2nm,0.7s,baz=101,slow=7.1,SNR=23						
WRA	Warramunga Arr	47.35	264	P	P	11 19 21.7	-1.0
	0.3nm,0.3s,baz=90,slow=5.8,SNR=21						
NVAR	Mina Array Bea	80.91	41	P	P	11 23 03.2	+0.5
	1.2nm,0.8s,baz=221,slow=9.7,SNR=8.2						
TXAR	Lajitas Array	85.94	56	P	P	11 23 29.4	+0.7
	1.5nm,1.1s,baz=216,slow=6.3,SNR=9.2						
PDAR	Pinedale Array	88.83	42	P	P	11 23 41.4	-1.1
	0.2nm,0.4s,baz=214,slow=5.0,SNR=3.8						
ILAR	Eielson Array	90.28	12	P	P	11 23 47.6	-0.8
	2.2nm,1.2s,baz=208,slow=6.5,SNR=4.2						
CMAR	Chiang Mai Arr	93.91	288	P	P	11 24 07.3	+1.0
	0.9nm,0.3s,baz=97,slow=2.2,SNR=1.4						
AKASG	Malin Array Be	146.84	332	PKPbc	PKPbc	11 30 30.1	0.0
	0.3nm,0.3s,baz=39,slow=3.9,SNR=6.2						

*IDC **02** 11:14:35.0±3.6, 9°27S×113°12E, h0^{km}, mb3.5/3, mb1 3.5/4, mb1mx3.1/35, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=194.8km s-min=26.3km az=52.0*
*DJA **02** 11:14:40.4±0.7, 9°S±9°×11°3E±°, h10^{km}, M3.4/11, MLv3.4/11*
ISC 02 11:14:39.8±1.1, **9°6S**±0°1×**112°87E**±0°06, **h36**^{km}, **n15**, σ**2s09**/15, **mb3.6**/3, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.41	24	P	Pn	11 15 03.3	+0.4
JAGI	Jajag, Banyuwa	1.67	50	P	Pn	11 15 08.0	+1.4
PWJI	Pagerwojo	1.86	326	P	Pn	11 15 10.5	+1.4
BLJI	Banyuglugur	1.95	22	P	Pn	11 15 11.5	+1.2
PCJI	Pacitan	2.15	309	P	Pn	11 15 14.8	+1.6
ABJI	Asem Bagus	2.22	38	P	Pn	11 15 15.6	+1.5
IGBI	Denpasar	2.37	72	P	Pn	11 15 18.5	+2.3
SRBI	Singaraja	2.75	58	P	Pn	11 15 24.0	+2.7
UGM	Wanagama	2.84	305	P	Pn	11 15 24.9	+2.2
CMJI	Cimerak	4.71	292	P	Pn	11 15 50.7	+2.3
PLAI	Plampang	4.90	82	P	Pn	11 15 54.1	+3.1
FITZ	Fitzroy Crossi	15.02	126	Pn	Pn	11 18 06.7	-2.8
	0.1nm,0.3s,baz=304,slow=11,SNR=1.4						
ASAR	Alice Springs	24.51	127	P	P	11 19 56.4	+0.4
	0.4nm,0.7s,baz=305,slow=8.0,SNR=7.0						
SONM	Songino Array	57.43	355	P	P	11 24 23.8	-1.2
	0.3nm,0.5s,baz=173,slow=7.6,SNR=4.5						
MKAR	Makanchi Array	62.39	337	P	P	11 24 58.4	-0.6
	0.4nm,0.5s,baz=144,slow=6.8,SNR=7.3						

*NEIC **02** 11:22:28.6±2.2, 11°68S±0°06×75°70W±0°06, h10^{km}±1^{km}, mb4.1/9, ML4.1(ARE), Error ellipse: s-maj=11.2km s-min=7.3km az=136.0*
*ARE **02** 11:22:28±12.0, 11°20S±0°08×75°90W±0°07, h10^{km}±5^{km}, Error ellipse: s-maj=0.0km s-min=0.0km az=50.0*
*IDC **02** 11:22:31.9±2.6, 11°66S×75°81W, h32^{km}±23^{km}, mb3.4/7, mb1 3.8/10, mb1mx3.7/31, mbtmp3.7/10, ML3.8/3, Error ellipse: s-maj=31.3km s-min=23.1km az=9.0*
ISC 02 11:22:31.6±0.6, **11°64S**±0°06×**75°72W**±0°08, **h35**^{km}, **n23**, σ**1s26**/25, **mb3.6**/9, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	1.15	252	Pg	Pn	11 22 51.6	+0.3
	59nm,0.3s,baz=63,slow=13,SNR=90						
NNA				Lg	Lg	11 23 07.1	
	157nm,0.3s,baz=159,slow=18,SNR=34						
NNA	Nana	1.15	252		Pn	11 22 51.9	+0.6
NNA				Sn	Sn	11 23 06.7	+0.8
ATAH	Atahualpa	5.20	329	Pn	Pn	11 23 46.9	-0.4
	7.8nm,0.3s,baz=156,slow=5.5,SNR=53						
ATAH				Sn	Sn	11 24 44.5	-1.7
	3.9nm,0.3s,baz=126,slow=21,SNR=6.1						
ATAH				Lg	Lg	11 25 05.6	
	2.6nm,0.3s,baz=340,slow=9.2,SNR=3.7						
LPAZ	La Paz	8.69	123	Pn	Pn	11 24 34.1	-1.4
PB11	IPOC Station P	9.96	145	Pn	Pn	11 24 51.8	-0.7
SIV	San Ignacio	14.87	109	Pn	Pn	11 26 01.3	+1.9
	0.2nm,0.3s,baz=336,slow=17,SNR=1.0						
SIV				Lg	Lg	11 30 20.2	
	0.5nm,0.3s,baz=22,slow=22,SNR=4.0						
PTGA	Pitinga	19.03	56	P	Pn	11 26 52.8	+1.2
	0.4nm,0.3s,baz=278,slow=19,SNR=7.4						
PTGA				Lg	Lg	11 32 23.6	
	0.6nm,0.3s,baz=329,slow=23,SNR=2.6						
ZARC	Zaragoza, Cauc	19.03	3	P	Pn	11 26 51.7	+0.1
OCAC	Ocana	19.89	7	P	P	11 26 57.7	-2.7
OCAC				IAmb	IAmb	11 27 05.0	
	comp=Z,3.2nm,0.6s						
SDV	Santo Domingo	21.01	14	P	P	11 27 13.9	+1.4
	comp=Z,1.5nm,0.3s,baz=234,slow=14,SNR=1.6						
SDV	Santo Domingo	21.01	14	P	P	11 27 12.7	+0.2
SDV				IAmb	IAmb	11 27 22.2	
	comp=Z,7.8nm,1.0s						
SJCC	San Jacinto, C	21.40	1	P	P	11 27 16.3	-0.3
SJCC				IAmb	IAmb	11 27 32.2	
	comp=Z,21nm,1.0s						
VA03	San Esteban	21.55	168	P	P	11 27 16.7	-1.4
VA03				IAmb	IAmb	11 27 36.4	
	comp=Z,25nm,1.4s						
VA01	Torpederas	21.61	171	P	P	11 27 16.5	-2.1
TXAR	Lajitas Array	48.85	327	P	P	11 31 14.5	+0.4
	comp=Z,0.3nm,0.7s,baz=153,slow=8.8,SNR=5.1						
TXAR	Lajitas Array	48.85	327	P	P	11 31 13.5	-0.5
WVT	Waverly	48.87	347	P	P	11 31 13.3	-0.5
PDAR	Pinedale Array	62.38	332	P	P	11 32 50.9	-0.2
	comp=Z,0.2nm,0.6s,baz=119,slow=7.3,SNR=1.7						
NVAR	Mina Array Bea	63.74	324	P	P	11 33 01.2	+1.0
	comp=Z,0.3nm,0.7s,baz=129,slow=7.1,SNR=2.2						
ULM	Lac du Bonnet	64.11	346	P	P	11 33 04.5	+2.4
	comp=Z,2.6nm,0.7s,baz=166,slow=4.9,SNR=5.0						
YKA	Yellowknife Ar	79.83	343	P	P	11 34 35.5	-0.6
	comp=Z,0.3nm,0.4s,baz=142,slow=5.8,SNR=11						
TORD	Torodi Ar. Bea	80.64	74	P	P	11 34 41.6	+0.1
	comp=Z,0.3nm,0.8s,baz=262,slow=4.1,SNR=1.5						
WRA	Warramunga Arr	136.87	224	PKP	PKiKP	11 41 53.2	-0.2
	comp=Z,0.2nm,0.6s,baz=141,slow=1.8,SNR=1.2						

KRSZO 02 11:23:51.5, 45°85N×18°40E, h0^{km}, Explosion. locality : Nagyharsny I. GT info : GT2 explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOVH	Kovagotottos	0.31	319	Pg	Pg	11 23 58.8	+1.2
KOVH				Lg	Lg	11 24 03.5	
KOVH	Kovagotottos	0.31	319	P	Pg	11 23 58.8	+1.2
KOVH				S	Sg	11 24 03.5	+1.9
MORH	Mrgy, Hungar	0.40	25	Pg	Pg	11 24 00.3	+1.0
MORH				Lg	Lg	11 24 06.3	
MORH	Mrgy, Hungar	0.40	25	P	Pg	11 24 00.3	+1.0
MORH				S	Sg	11 24 06.3	+1.9

*TAP **02** 11:32:25.8, 24°85N×122°21E, h11^{km}, ML3.2, C*
*JMA **02** 11:32:26.9, 24°76N×122°23E, h33^{km}±4^{km}, M2.4*
ISC 02 11:32:25.4±1.0, **24°82N**±0°02×**122°26E**±0°02, **h8**^{km}±9^{km}, **n76**, σ**0s61**/136, **3C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.31	307	⇑iP	Pg	11 32 31.5	0.0
	baz=307						
TWB1				i S	Sg	11 32 35.2	-0.6
	baz=307						
NTC	Toucheng	0.40	275	i P	Pg	11 32 33.5	+0.3
	baz=271						
NTC				S	Sg	11 32 39.1	+0.7
	baz=271						
TIPB	Shuangxi	0.42	291	i P	Pg	11 32 33.9	+0.2
	baz=288						
TIPB				S	Sg	11 32 39.0	-0.3
	baz=288						
TWC	Suao	0.43	241	⇑iP	Pg	11 32 33.8	-0.1
	baz=235						
TWC				i S	Sg	11 32 39.8	+0.3
	baz=235						
SXI1	Grass Mountain	0.44	308	⇑P	Pg	11 32 34.2	+0.1
	baz=307						
SXI1				S	Sg	11 32 39.8	-0.2
	baz=307						
NWF	Wu-fen Shan	0.50	300	i P	Pb	11 32 36.7	+0.1
	baz=298						
NWF				i S	Sg	11 32 41.6	-0.3
	baz=298						
WFSB	Wu-fen Shan	0.50	300	P	Pb	11 32 36.2	-0.4
	baz=298						
WFSB				S	Sg	11 32 41.6	-0.2
	baz=298						
NDS	Dongshan	0.53	249	P	Pg	11 32 35.7	0.0
	baz=240						
NDS				S	Sg	11 32 42.1	-0.6
	baz=240						
TNOU	National Taiwa	0.55	306	P	Pb	11 32 37.2	-0.1
	baz=305						
TNOU				S	Sg	11 32 42.7	-0.6
	baz=305						
TWE	Neicheng	0.55	260	i P	Pg	11 32 36.0	-0.1
	baz=248						
TWE				S	Sg	11 32 43.5	+0.2
	baz=248						
EWUT	Wuta	0.58	230	P	Pg	11 32 37.1	+0.5
	baz=217						
EWUT				S	Sg	11 32 44.3	+0.1
	baz=217						
ENA	Nanau	0.62	231	P	Pg	11 32 37.2	-0.2
	baz=215						
ENA				S	Sg	11 32 44.9	-0.5
	baz=215						
FUSB	Fushanzhiwuyua	0.62	264	P	Pg	11 32 37.7	+0.3
	baz=251						
FUSB				S	Sb	11 32 46.5	-0.9
	baz=251						
TWA	Mucha	0.64	284	i P	Pb	11 32 39.1	+0.3
	baz=283						
TWA				i S	Sb	11 32 47.2	-0.7
	baz=283						
ENTT	Nioudou	0.66	254	P	Pg	11 32 38.6	+0.4
	baz=251						
ENTT				i S	Sg	11 32 47.3	+0.5
	baz=251						
NWRT	Kuosheng	0.67	305	eP	Pb	11 32 39.0	-0.3
	baz=309						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWRT				S	Sb	11 32 48.1	-0.6
	baz=309						
NHDH	Xindian Distri	0.69	282	*i* P	Pb	11 32 40.2	+0.5
	baz=273						
NHDH				S	Sb	11 32 49.4	+0.1
	baz=273						
NWLT	Wulai	0.69	266	*e*P	Pb	11 32 39.4	-0.4
	baz=257						
NWLT				S	Sb	11 32 49.4	-0.2
	baz=257						
YM01	YM01	0.71	297	P	Pg	11 32 39.5	+0.4
	baz=295						
YM01				*e*S	Sg	11 32 48.8	+0.5
	baz=295						
NDT	Datong Townshi	0.72	252	*i* P	Pg	11 32 39.2	0.0
	baz=250						
NDT				S	Sb	11 32 49.5	-0.7
	baz=250						
JYNG	Yonagunijimaku	0.72	121	P	Pb	11 32 40.4	+0.2
JYNG				*e*S	Sb	11 32 50.4	+0.1
LATG	Datong	0.73	247	P	Pg	11 32 39.9	+0.4
	baz=244						
LATG				S	Sg	11 32 48.9	-0.1
	baz=244						
TWY	Chenhua	0.75	307	*i* P	Pb	11 32 40.6	-0.2
	baz=306						
TWY				*i* S	Sb	11 32 50.7	-0.5
	baz=306						
YOJ	Yonaguni jima	0.77	118	P	Pb	11 32 41.2	+0.2
YOJ				S	Sg	11 32 51.5	+1.3
YOJ	Yonaguni jima	0.77	118	P	Pb	11 32 41.2	+0.2
	baz=119						
YOJ				S	Sb	11 32 52.5	+0.9
	baz=119						
NTST	Danshui	0.81	295	*e*P	Pn	11 32 42.5	-0.7
	baz=304						
NTST				*e*S	Sb	11 32 53.2	+0.2
	baz=304						
TWS1	Kuangyinshan	0.82	290	P	Pb	11 32 41.8	0.0
	baz=300						
TWS1				S	Sb	11 32 53.2	+0.2
	baz=300						
YHNB	Yeheng	0.82	260	P	Pg	11 32 41.0	-0.3
	baz=252						
YHNB				*e*S	Sg	11 32 52.0	+0.1
	baz=252						
PCYT	Pengchaiyu	0.82	348	*i* P	Pg	11 32 41.7	+0.4
	baz=347						
PCYT				S	Sb	11 32 53.5	+0.2
	baz=347						
NSK	Sanguang	0.84	260	P	Pg	11 32 41.3	-0.3
	baz=252						
NSK				S	Sg	11 32 50.8	-1.6
	baz=252						
ETL	Fush Village	0.88	222	P	Pg	11 32 42.3	-0.1
	baz=220						
ETL				*e*S	Sg	11 32 54.1	+0.2
	baz=220						
NACB	Ninganchiao	0.89	223	P	Pg	11 32 42.2	-0.3
	baz=222						
NACB				S	Sg	11 32 53.6	-0.5
	baz=222						
NNSB	Datong	0.89	244	P	Pg	11 32 42.6	0.0
	baz=247						
NNSB				S	Sg	11 32 53.7	-0.5
	baz=247						
NNS	Nan Shan	0.90	245	P	Pg	11 32 42.9	+0.2
	baz=232						
NNS				S	Sg	11 32 53.6	-0.8
	baz=232						
ETLH	Xiulin Townshi	0.94	229	P	Pg	11 32 43.5	0.0
	baz=228						
ETLH				*e*S	Sg	11 32 55.4	-0.3
	baz=228						
TWD	Chiawan	0.96	220	*i* P	Pg	11 32 43.8	-0.1
	baz=218						
TWD				*i* S	Sn	11 32 58.4	-0.6
	baz=218						
NFF	Wufeng Townshi	1.06	260	*e*P	Pg	11 32 45.8	0.0
	baz=272						
NFF				*e*S	Sg	11 32 58.5	-1.0
	baz=272						
FUSS	Fushou	1.09	239	P	Pg	11 32 46.1	-0.3
	baz=237						
FUSS				S	Sg	11 33 00.1	-0.5
	baz=237						
WHF	Hehuan Shan	1.13	234	*i* P	Pb	11 32 47.5	-0.1
	baz=232						
WHF				S	Sg	11 33 01.4	-0.6
	baz=232						
TWT	Tachien	1.14	240	*i* P	Pn	11 32 48.3	+0.4
	baz=231						
TWT				*i* S	Sb	11 33 02.5	-0.1
	baz=231						
LIOB	Emei	1.15	261	P	Pn	11 32 48.8	+1.0
	baz=259						
LIOB				S	Sn	11 33 04.8	+1.1
	baz=259						
TDCB	Techi	1.16	241	P	Pn	11 32 48.1	+0.1
	baz=232						
TDCB				S	Sb	11 33 02.9	0.0
	baz=232						
NSTT	Nanjuang	1.16	261	*i* P	Pn	11 32 48.7	+0.7
	baz=259						
NSTT				S	Sn	11 33 04.3	+0.2
	baz=259						
CHGB	Renai	1.25	233	P	Pg	11 32 49.5	+0.1
	baz=232						
CHGB				S	Sb	11 33 05.6	-0.1
	baz=232						
ESL	Shilin	1.26	217	P	Pn	11 32 48.7	-0.6
	baz=201						
WHP	Taichung City	1.32	246	*i* P	Pg	11 32 50.6	-0.1
	baz=245						
WHP				*e*S	Sn	11 33 08.1	+0.1
	baz=245						
WUSB	Renai	1.33	232	P	Pg	11 32 51.0	0.0
	baz=231						
WUSB				S	Sb	11 33 07.4	-0.6
	baz=231						
NMLH	Miaoli	1.37	258	*e*P	Pg	11 32 52.5	+0.8
	baz=256						
NMLH				*e*S	Sg	11 33 10.4	+0.9
	baz=256						
IRIF	Iriomote-Funau	1.42	110	P	Pn	11 32 50.2	-1.3
IRIF				*e*S	Sn	11 33 08.8	-1.6
NSY	Sanyi	1.43	254	P	Pg	11 32 53.6	+0.8
	baz=265						
NSY				S	Sg	11 33 13.8	+2.5
	baz=265						
TWQ1	Liyutan	1.44	251	P	Pg	11 32 54.3	+1.3
	baz=267						
TWQ1				S	Sg	11 33 12.1	+0.4
	baz=267						
WCS	Beigang Elemen	1.45	239	*e*P	Pg	11 32 53.3	+0.1
	baz=238						
WCS				*e*S	Sb	11 33 11.2	0.0
	baz=238						
VWDT	VWDT	1.48	224	P	Pg	11 32 53.6	-0.2
	baz=232						
VWDT				S	Sg	11 33 13.2	+0.2
	baz=232						
HGSD	Ruisui	1.53	210	*e*P	Pn	11 32 53.5	+0.4
	baz=199						
WDJ	Dajia District	1.55	253	*e*S	Sg	11 33 17.0	+1.7
	baz=251						
SMLT	Sun Moon Lake	1.56	233	P	Pg	11 32 55.5	+0.2
	baz=232						
SMLT				S	Sg	11 33 16.3	+0.8
	baz=232						
EHY	Hungye	1.57	213	*e*P	Pb	11 32 54.6	-0.1
	baz=209						
TYC	Yuchr	1.57	235	P	Pg	11 32 55.5	-0.1
	baz=234						
TYC				*e*S	Sg	11 33 15.5	-0.6
	baz=234						
SSLB	Suanglung	1.58	230	P	Pb	11 32 55.2	+0.4
	baz=212						
HATJ	Hateruma jima	1.60	118	P	Pn	11 32 53.7	-0.3
YULB	Yu-li	1.68	212	*e*P	Pn	11 32 55.4	+0.3
	baz=207						
JKRS	Kuro-shima	1.69	110	P	Pn	11 32 55.5	+0.2
JKRS				*e*S	Sn	11 33 15.8	-1.3
WJS	Zhushan	1.72	235	*e*P	Pg	11 32 59.5	+1.1
	baz=219						
WNT	Mingjian	1.72	237	*e*P	Pg	11 32 58.0	-0.5
	baz=234						
WNT				*e*S	Sg	11 33 22.6	+1.8
	baz=234						
JIJ	Ishigaki jima	1.77	105	P	Pn	11 32 56.6	+0.2
JIJ				*e*S	Sn	11 33 19.8	+0.7
YUS	Yu-Shan	1.79	222	*e*P	Pb	11 32 58.7	-0.1
	baz=217						
FULB	Fuli	1.84	209	*e*P	Pn	11 32 58.1	+0.7
	baz=199						
ALS	Alishan	1.86	226	*e*P	Pb	11 33 00.4	+0.5
	baz=211						
ALS				*e*S	Sg	11 33 25.5	0.0
	baz=211						
JISG	Ishigakijimahi	1.88	97	P	Pb	11 32 59.5	-0.4
JISG				*e*S	Sb	11 33 24.1	+0.5
CHN5	Tsauling	1.89	230	P	Pb	11 33 00.7	+0.4
	baz=224						
ELDTW	Lidau	1.99	215	*e*P	Pn	11 32 59.8	+0.3
	baz=203						
ELDTW				*e*S	Sn	11 33 24.2	-0.3
	baz=203						
EDH	Donghe	2.04	206	*e*P	Pn	11 32 59.8	-0.3
	baz=198						
TPUB	Ta-pu	2.13	225	*e*P	Pb	11 33 03.5	-0.8
	baz=205						
STYH	Taoyuan	2.13	220	*e*P	Pb	11 33 03.6	-0.8
	baz=203						
TWK	Hsinying	2.24	227	*e*P	Pb	11 33 05.6	-0.6
	baz=220						
CHN1	Nanshi	2.27	225	*e*P	Pb	11 33 06.9	+0.1
	baz=218						

*IDC **02** 11:42:56.3±1.0, 5°.35S×151°.83E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/35, mbtmp3.9/9, ML1.7/1, Error ellipse: s-maj=32.9km s-min=20.8km az=125.0*

ISC 02 11:43:02.6±0.9**, 5°.5S**±0°.1×**151°.8E**±0°.1**, h45**km**, n10,** σ**0s.73**/11**, mb3.9**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.05	229	Pn	Pn	11 44 30.2	+0.7
	1.1nm,0.3s,baz=35,slow=11,SNR=8.7						
PMG				Sn	Sn	11 45 36.8	-0.7
	0.9nm,0.3s,baz=260,slow=4.1,SNR=3.1						
DZM	Mont Dzumac	21.76	141	P	P	11 47 50.7	+0.1
	9.4nm,1.0s,baz=286,slow=22,SNR=3.1						
WRA	Warramunga Arr	22.27	228	P	P	11 47 55.6	-0.5
	3.8nm,0.5s,baz=52,slow=9.8,SNR=47						
ASAR	Alice Springs	25.00	222	P	P	11 48 23.5	+1.1
	3.3nm,0.6s,baz=57,slow=8.8,SNR=66						
FITZ	Fitzroy Crossi	28.47	242	P	P	11 48 53.0	-0.7
	3.6nm,0.6s,baz=70,slow=5.0,SNR=18						
SONM	Songino Array	66.36	328	P	P	11 53 47.9	+1.0
	0.2nm,0.3s,baz=139,slow=7.1,SNR=1.8						
ZALV	Zalesovo Beam	81.15	327	P	P	11 55 12.8	-0.5
	0.2nm,0.3s,baz=116,slow=6.7,SNR=2.1						
ILAR	Eielson Array	83.14	22	P	P	11 55 23.2	-0.3
	0.3nm,0.8s,baz=236,slow=5.1,SNR=1.6						
NVAR	Mina Array Bea	93.27	52	P	P	11 56 12.9	-0.2
	0.2nm,0.5s,baz=257,slow=7.3,SNR=2.5						
TORD	Torodi Ar. Bea	149.56	287	PKPbc	PKPbc	12 02 47.9	-0.3
	0.4nm,0.3s,baz=94,slow=2.6,SNR=5.3						

*UPA **02** 11:51:55.5±0.5, 7°.02N×78°.11W, h4km±24km, MW3.9*
*RSNC **02** 11:51:55.5±0.8, 6°.87N×77°.73W, h11km±6km, ML2.7*

ISC 02 11:51:53.7±1.0**, 6°.89N**±0°.03×**77°.88W**±0°.03**, h27**km±9km**, n27,** σ**1s.64**/45**, 1C, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.27	16⇑	*i*P	Pb	11 52 00.7	+0.2
PTAC				*e*S	Sb	11 52 05.3	+0.3
SOLC	Bahia Solano	0.81	145	*e*P	Pb	11 52 07.8	-1.4
SOLC				*e*S	Sb	11 52 18.1	-1.7
SOLC				*i*		11 52 21.6	
	comp=Z,861nm,0.2s						
UPD2	Meteti	1.65	355	*e*P	Pn	11 52 21.9	+1.0
UPD2				*e*S	Sb	11 52 43.1	-0.8
CBOC	Ciudad Bolivar	2.12	119	*e*P	Pn	11 52 26.6	-0.9
CBOC				*e*S	Sn	11 52 51.6	-1.5
CBOC				*i*		11 52 52.6	
	comp=Z,28nm,0.2s						
HELC	Santa Helena	2.44	106	*e*P	Pn	11 52 32.6	+0.5
HELC				*e*S	Sn	11 53 01.8	+0.6
HELC				*i*		11 53 06.7	
	comp=Z,19nm,0.4s						
LCBC	Los crdobas,	2.46	37	*e*P	Pn	11 52 34.3	+2.3
UREC	San Jos de Ur	2.48	70	*e*P	Pn	11 52 33.1	+0.7
UREC				*e*S	Sn	11 53 01.6	-0.1
UREC				*i*		11 53 04.5	
	comp=Z,58nm,0.3s						
PLMC	San Jos del P	2.53	141	*e*P	Pn	11 52 34.3	+1.2
PLMC				*e*S	Sn	11 52 58.6	-4.6
PLMC				*i*		11 53 06.5	
	comp=Z,33nm,0.2s						
AZU	Azuero	2.54	291	*e*P	Pn	11 52 33.7	+0.7
AZU				*e*S	Sn	11 53 01.3	-1.8
AZU	Azuero	2.54	291	*e*P	Pn	11 52 33.8	+0.7
AZU				*e*S	Sn	11 53 01.4	-1.8
CHPO	Chepo, Panama	2.57	332	*e*S	Sn	11 53 03.8	-0.2
TOSI3	Tonosi	2.59	282	*e*S	Sn	11 53 03.3	-1.1
UPA	Univ. de Panam	2.64	322	*e*P	Pb	11 52 55.0	+15
UPA				*e*S	Sb	11 53 26.7	+14
UPA				*i*		11 53 33.1	
	comp=Z,18nm,0.3s						
CHIT3	Chitre	2.73	293	*e*P	Pn	11 52 36.5	+0.8
CHIT3				*e*S	Sn	11 53 06.7	-1.2
CHOR3	La Chorrera	2.73	317	*e*S	Sn	11 53 08.4	+0.5
ZANG	Zanguenga, Cho	2.84	316	*e*P	Pn	11 52 37.3	0.0
CACAO	El Cacao, Vera	2.99	279	*e*P	Pn	11 52 39.6	+0.3
CACAO				*e*S	Sn	11 53 13.5	-0.8
GUY2C	Guyana, Caldas	3.00	123	*e*P	Pn	11 52 40.8	+0.9
GUY2C				*e*S	Sn	11 53 14.7	-0.6
GUY2C				*i*		11 53 17.9	
	comp=Z,17nm,0.4s						
ZARC	Zaragoza, Cauc	3.06	79	*e*P	Pn	11 52 41.2	+0.9
ZARC				*e*S	Sn	11 53 14.6	-1.4
ZARC				*i*		11 53 17.1	
	comp=Z,40nm,0.5s						
PTBC	PUERTO BERRIO,	3.42	96	*e*P	Pn	11 52 47.0	+1.7
PTBC				*e*S	Sn	11 53 25.9	+0.9
PTBC				*i*		11 53 30.4	
	comp=Z,13nm,0.4s						
ANIL	Santa Ana	3.43	134	*e*P	Pn	11 52 45.9	+0.2
ANIL				*e*S	Sn	11 53 24.5	-1.1
ANIL				*i*		11 53 33.2	
	comp=Z,18nm,0.5s						
GMAL	Guarumal, Vera	3.44	285	*e*P	Pn	11 52 47.4	+1.9
GMAL				*e*S	Sn	11 53 25.8	+0.5
MARP	Paez Belalcaza	4.46	154	*e*P	Pn	11 53 04.3	+4.6
MARP				*e*S	Sn	11 53 55.1	+4.2
POPC	Popayan, Colom	4.49	164	*e*P	Pn	11 53 01.1	+1.0
POPC				*e*S	Sn	11 53 53.1	+1.5
POPC				*i*		11 53 59.0	
	comp=Z,6.4nm,0.4s						
BARC	Barichara	4.68	93	*e*P	Pn	11 53 01.6	-1.1
BARC				*e*S	Sn	11 53 56.1	-0.2
BARC				*i*		11 54 02.8	
	comp=Z,8.9nm,0.4s						
BBAC	Balboa, Cauca	4.88	173	*e*P	Pn	11 53 07.6	+2.1
PAMC	Pamplona, Colo	5.16	85	*e*P	Pn	11 53 15.6	+5.9
PAMC				*e*S	Sn	11 54 09.2	+0.6
PAMC				*i*		11 54 11.0	
	comp=Z,8.2nm,0.5s						

*IDC **02** 12:01:02.9±1.4, 36°.13S×104°.40W, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.3/22, mbtmp4.2/9, MS4.0/21, Ms1 4.0/21, ms1mx3.9/47, Error ellipse: s-maj=44.7km s-min=24.6km az=14.0*
*NEIC **02** 12:01:05.9±0.8, 36°.0S±0°.1×104°.3W±0°.2, h10km±1km, mb4.6/26, Error ellipse: s-maj=25.8km s-min=18.6km az=256.0*

ISC 02 12:01:04.8±0.7**, 35°.9S**±0°.1×**104°.5W**±0°.1**, h10**km**, n63,** σ**1s.28**/40**, mb4.5**/20**, MS4.0**/22**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	9.68	334	LR	LR	12 06 07.1	
	comp=Z,1μm,19.1s,baz=136,slow=31						
H03S2	Juan Fernandez	21.08	92	T	T	12 27 19.9	
	baz=257,SNR=9.0						
H03S1	Juan Fernandez	21.09	92	T	T	12 27 19.3	
	baz=257,SNR=5.4						
H03S3	Juan Fernandez	21.09	92	T	T	12 27 19.6	
	baz=257,SNR=9.0						
H03N2	Juan Fernandez	21.16	91	T	T	12 27 19.4	
	baz=248,slow=72,SNR=10.0						
H03N3	Juan Fernandez	21.17	91	T	T	12 27 21.7	
	baz=248,slow=72,SNR=9.5						
H03N1	Juan Fernandez	21.18	91	T	T	12 27 20.3	
	baz=248,slow=72,SNR=11						
LL04	Puerto Octay	25.56	111	P	P	12 06 32.8	-0.9
LL04				IAmb	IAmb	12 06 40.2	
	comp=Z,8.9nm,1.0s						
LL03	Petrohue	25.57	112	P	P	12 06 32.8	-1.0
LC01	Cunco	26.02	106	P	P	12 06 37.5	-0.4
LL02	Futaleuf	26.09	116	P	P	12 06 37.5	-1.0
LL02				IAmb	IAmb	12 06 47.6	
	comp=Z,21nm,1.6s						
GO05	Huala	26.49	98	P	P	12 06 41.1	-1.2
GO05				IAmb	IAmb	12 06 46.2	
	comp=Z,18nm,1.1s						
VA05	Santo Domingo	27.04	95	P	P	12 06 46.5	-0.7
VA06	Catapilco	27.59	93	P	P	12 06 51.4	-0.8
VA06				IAmb	IAmb	12 07 04.8	
	comp=Z,21nm,1.3s						
VA03	San Esteban	28.14	94	P	P	12 06 56.5	-0.6
LMEL	Las Melosas	28.14	96	P	P	12 06 56.7	-0.5
LMEL				IAmb	IAmb	12 06 59.3	
	comp=Z,16nm,0.9s						
AC02	Maricunga	31.39	83	P	P	12 07 26.2	-0.4
AC02				IAmb	IAmb	12 07 29.5	
	comp=Z,12nm,1.5s						
LVC	Limon Verde	33.58	77	P	P	12 07 44.9	-0.7
	comp=Z,5.6nm,0.9s,baz=241,slow=7.2,SNR=3.5						
LVC				LR	LR	12 17 53.9	
	comp=Z,112nm,18.9s,baz=246,slow=30						
LVC	Limon Verde	33.58	77	P	P	12 07 44.9	-0.7
LVC				IAmb	IAmb	12 07 47.3	
	comp=Z,9.5nm,1.2s						
NNA	Nana	34.52	53	LR	LR	12 18 13.9	
	comp=Z,674nm,19.6s,baz=225,slow=30						
PB08	IPOC Station P	34.72	73	P	P	12 07 55.1	-0.4
PB08				IAmb	IAmb	12 08 02.9	
	comp=Z,6.4nm,0.9s						
ATAH	Atahualpa	37.31	46	LR	LR	12 19 55.9	
	comp=Z,273nm,18.0s,baz=240,slow=30						
PMSA	Palmer Station	37.59	153	LR	LR	12 19 39.3	
	comp=Z,432nm,18.4s,baz=271,slow=30						
LPAZ	La Paz	37.77	68	P	P	12 08 21.5	-0.5
	comp=Z,5.0nm,1.2s,baz=234,slow=5.8,SNR=5.5						
LPAZ				LR	LR	12 20 48.0	
	comp=Z,159nm,19.0s,baz=242,slow=31						
LPAZ	La Paz	37.77	68	P	P	12 08 20.6	-1.3
CPUP	Villa Florida	41.17	90	LR	LR	12 22 37.8	
	comp=Z,127nm,18.5s,baz=246,slow=32						
TAOE	Nuku Hiva Isla	42.16	301	*e*S	S	12 15 13.0	-4.9
	comp=Z,92nm,25.6s						
TAOE				*e*LR	LR	12 20 36.0	
	comp=Z,324nm,23.9s						
SIV	San Ignacio	43.38	74	P	P	12 09 06.9	-0.7
	comp=Z,3.5nm,0.8s,baz=231,slow=10,SNR=13						
SIV				LR	LR	12 24 24.1	
	comp=Z,83nm,20.1s,baz=282,slow=32						
PPT2	Papeete2	43.76	282	*e*LR	LR	12 21 32.8	
	comp=Z,306nm,23.8s						
PPT	Papeete	43.77	283	LR	LR	12 22 13.8	
	comp=Z,258nm,20.2s,baz=193,slow=29						
AQDB	Aquidauana	45.23	84	P	P	12 09 21.4	-0.9
AQDB				IAmb	IAmb	12 09 22.6	
	comp=Z,11nm,1.0s						
ROSC	El Rosal	49.44	41	P	P	12 09 56.4	+0.7
	comp=Z,8.2nm,0.4s,baz=311,slow=18,SNR=3.8						
ROSC				LR	LR	12 27 51.1	
	comp=Z,214nm,18.9s,baz=228,slow=32						
ROSC	El Rosal	49.44	41	P	P	12 09 56.3	+0.7
RAR	Rarotonga	50.08	271	LR	LR	12 25 50.0	
	comp=Z,82nm,20.3s,baz=172,slow=30						
APG	El Apazote	52.36	17	LR	LR	12 26 44.2	
	comp=Z,234nm,19.9s,baz=208,slow=29						
TLIG	Tlapa	53.48	7	P	P	12 10 26.1	+0.7
CMIG	Matias Romero	53.50	11	LR	LR	12 27 25.4	
	comp=Z,93nm,20.6s,baz=184,slow=30						
BDFB	Brasilia	53.97	83	P	P	12 10 28.6	-0.6
	comp=Z,1.3nm,0.4s,baz=252,slow=11,SNR=3.4						
BDFB	Brasilia	53.97	83	P	P	12 10 28.6	-0.6
BDFB				IAmb	IAmb	12 10 36.7	
	comp=Z,9.0nm,1.3s						
PTGA	Pitinga	54.13	60	LR	LR	12 30 45.0	
	comp=Z,234nm,19.0s,baz=214,slow=33						
SDV	Santo Domingo	54.81	42	LR	LR	12 30 28.0	
	comp=Z,106nm,21.2s,baz=228,slow=32						
SBA	Scott Base	54.93	195	P	P	12 10 37.0	+1.8
VNDA	Vanda	56.02	195	LR	LR	12 29 22.6	
	comp=Z,110nm,21.3s,baz=108,slow=30						
SNAA	Sanae	59.86	159	P	P	12 11 09.6	-0.6
SNAA				IAmb	IAmb	12 11 10.8	
	comp=Z,8.9nm,1.4s						
RPZ	Rata Peaks	62.66	234	LR	LR	12 35 42.4	
	comp=Z,42nm,18.1s,baz=83,slow=33						
MDP	Montagnes des	63.41	61	LR	LR	12 36 10.0	
	comp=Z,221nm,19.7s,baz=236,slow=33						
AFI	Afiamalu	63.63	272	LR	LR	12 32 07.6	
	comp=Z,87nm,21.5s,baz=118,slow=29						
SJG	San Juan	64.86	41	LR	LR	12 38 36.1	
	comp=Z,91nm,18.0s,baz=237,slow=35						
TX32	Lajitas Array	64.91	1	P	P	12 11 45.4	+1.0
TXAR	Lajitas Array	64.91	1	P	P	12 11 45.4	+1.0
	comp=Z,1.1nm,0.7s,baz=181,slow=8.6,SNR=16						
TXAR				LR	LR	12 33 58.3	
	comp=Z,71nm,19.0s,baz=137,slow=30						
TXAR	Lajitas Array	64.91	1	P	P	12 11 45.2	+0.8
TX31	Lajitas Ar. Si	64.91	1	P	P	12 11 45.1	+0.7
TX31				IAmb	IAmb	12 11 49.2	
	comp=Z,6.6nm,0.9s						
NVAR	Mina Array Bea	75.07	349	P	P	12 12 48.8	+2.0
	comp=Z,1.3nm,0.8s,baz=182,slow=7.2,SNR=9.4						
NVAR	Mina Array Bea	75.07	349	P	P	12 12 48.6	+1.8
KVN	Kaiserville	75.65	349	P	P	12 12 52.0	+2.0
PDAR	Pinedale Array	78.44	356	P	P	12 13 06.8	+1.0
	comp=Z,1.2nm,0.8s,baz=160,slow=6.3,SNR=11						
PDAR	Pinedale Array	78.44	356	P	P	12 13 06.3	+0.5
HLID	Hailey	79.62	353	P	P	12 13 13.6	+1.5
HLID				IAmb	IAmb	12 13 40.2	
	comp=Z,6.0nm,1.4s						
YKA	Yellowknife Ar	98.41	355	P	P	12 14 41.9	-0.3
	comp=Z,0.3nm,0.9s,baz=163,slow=4.5,SNR=3.1						
NRIK	Noril'sk	145.87	352	PKPbc	PKPdf	12 20 42.5	-0.1
	comp=Z,1.1nm,0.4s,baz=53,slow=5.1,SNR=2.1						
BRTR	Keskin Array B	146.94	71	PKPbc	PKPdf	12 20 46.4	+0.8
	comp=Z,0.6nm,0.4s,baz=242,slow=3.1,SNR=1.9						
CMAR	Chiang Mai Arr	152.95	236	PKPbc	PKPbc	12 21 03.4	+0.6
	comp=Z,0.3nm,0.3s,baz=160,slow=2.9,SNR=1.0						
SONM	Songino Array	154.27	307	PKPbc	PKPbc	12 21 04.0	-0.9
	comp=Z,0.4nm,0.8s,baz=76,slow=1.8,SNR=2.7						

*IDC **02** 12:12:44.2±3.5, 2°.59S×102°.98E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, Error ellipse: s-maj=187.5km s-min=29.0km az=54.0*
*DJA **02** 12:13:15.9±0.5, 3°S±7°×10°3E±°, h296km±6km, M3.6/9, mb3.6/1, MLv3.5/9*

ISC 02 12:13:15.7±0.9**, 2°.9S**±0°.1×**103°.2E**±0°.1**, h300**km**, n15,** σ**1s.16**/18**, mb3.3**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	Lahat	1.01	163	P	Pn	12 13 56.4	+0.3
MASI	Maura Aman, Be	1.02	254	P	Pn	12 13 56.7	+0.5
MASI				S	S	12 14 27.5	-0.9
MNAI	Manna	1.52	190	P	Pn	12 13 59.1	+0.1
MNAI				S	S	12 14 32.0	-1.4
MDSI	Maura Dua	1.88	149	P	Pn	12 14 01.3	-0.2
MDSI				S	S	12 14 36.7	-1.3
KRJI	Kerinci	1.91	293	P	Pn	12 14 02.3	+0.4
KLSI		2.36	140	P	Pn	12 14 05.8	+0.3
KASI	Kota Agung	2.94	154	P	Pn	12 14 10.1	-0.7
PPSI	Pulau Pagai	3.21	272	P	Pn	12 14 13.9	+0.4
PPI	Padang Panjang	3.69	310	P	Pn	12 14 18.1	-0.5
SISI	Saibi	4.40	290	P	Pn	12 14 25.9	-0.4
CGJI	Cibinong	4.47	147	P	Pn	12 14 25.3	-1.9
WRA	Warramunga Arr	34.80	122	P	P	12 19 39.9	+1.0
	0.3nm,0.6s,baz=298,slow=9.6,SNR=16						
ASAR	Alice Springs	36.17	128	P	P	12 19 51.8	+1.3
	0.8nm,0.5s,baz=301,slow=7.9,SNR=30						
STKA	Stephens Creek	46.20	133	P	P	12 21 13.4	+2.0
	0.9nm,0.3s,baz=302,slow=8.6,SNR=7.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.77**	**342**	P	**P**	**12 21 58.6**	**-1.9**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.1						

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*UCR **02** 12:25:07.8±1.5, 9°.88N×83°.91W, h5km±1km, MW3.6*
*INET **02** 12:25:08.1±0.2, 9°.80N×83°.86W, h9km, MW2.5*
ISC 02 12:25:07.6±0.8**, 9°.86N**±0°.02×**83°.89W**±0°.03**, h14**km±3km**,**
n27, σ**0^{s}61**/42**, 8C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCM	**Ochomogo**	**0.08**	**292**	⇑*i*P	**Pg**	**12 25 09.5**	**-1.2**
OCM				*e*S	**Sg**	**12 25 10.6**	**-2.3**
RIMA	**Rio Macho**	**0.10**	**167**	⇓*i*P	**Pb**	**12 25 11.1**	**+0.1**
RIMA				*e*S	**Sg**	**12 25 13.2**	**0.0**
RIMA	**Rio Macho**	**0.10**	**167**	*e*P	**Pb**	**12 25 11.0**	**+0.1**
RIMA				*e*S	**Sg**	**12 25 13.3**	**0.0**
RAFA	**San Farael, Vo**	**0.12**	**38**	⇓*e*P	**Pg**	**12 25 12.3**	**+1.0**
RAFA				*e*S	**Sg**	**12 25 14.7**	**+0.9**
LCR2	**La Lucha 2**	**0.17**	**224**	⇓*i*P	**Pg**	**12 25 12.0**	**+0.1**
LCR2				*e*S	**Sg**	**12 25 14.9**	**+0.1**
VTCV	**VTCV, Calle Va**	**0.20**	**53**	*e*P	**Pb**	**12 25 12.7**	**-0.5**
CVTR	**Volcan Turrial**	**0.20**	**39**	*e*P	**Pb**	**12 25 12.8**	**-0.5**
HDC3	**Heredia 3**	**0.26**	**302**	⇑*i*P	**Pg**	**12 25 13.3**	**+0.1**
HDC3				*e*S	**Sg**	**12 25 17.5**	**+0.4**
HDC3	**Heredia 3**	**0.26**	**302**	*e*P	**Pg**	**12 25 13.4**	**+0.1**
HDC	**Heredia**	**0.26**	**301**	⇑*i*P	**Pg**	**12 25 13.4**	**+0.1**
HDC				*e*S	**Sg**	**12 25 17.6**	**+0.5**
CDM	**Cerro de Muert**	**0.33**	**159**	⇓*i*P	**Pb**	**12 25 15.5**	**-0.1**
CDM				*e*S	**Sb**	**12 25 21.1**	**+0.1**
CDM	**Cerro de Muert**	**0.33**	**159**	*e*P	**Pb**	**12 25 15.5**	**-0.1**
CDM				*e*S	**Sb**	**12 25 21.1**	**+0.1**
MRVA	**Moravia de Chi**	**0.44**	**95**	⇑*i*P	**Pb**	**12 25 17.5**	**+0.2**
MRVA				*e*S	**Sb**	**12 25 24.3**	**+0.5**
RIFO	**Rio Frio, Sara**	**0.45**	**355**	⇑*e*P	**Pb**	**12 25 17.0**	**-0.4**
RIFO				*e*S	**Sb**	**12 25 23.5**	**-0.5**
CRPO	**Crater poas**	**0.47**	**314**	⇓*i*P	**Pb**	**12 25 17.4**	**-0.5**
CRPO				*e*S	**Sg**	**12 25 24.0**	**+0.6**
PEZE	**Perez Zeledon,**	**0.52**	**157**	*e*P	**Pb**	**12 25 18.4**	**-0.2**
JACO	**JACO, Garabito**	**0.79**	**255**	⇑*e*P	**Pg**	**12 25 22.8**	**-0.2**
JACO				*e*S	**Sb**	**12 25 34.2**	**+0.5**
SRBA	**San Rafael, Bu**	**0.81**	**140**	*e*P	**Pb**	**12 25 23.5**	**-0.2**
SRBA				*e*S	**Sb**	**12 25 34.8**	**+0.2**
DRK0	**Durika**	**0.87**	**133**	⇓*e*P	**Pn**	**12 25 24.6**	**-1.0**
COVE	**Coope Vega, Sa**	**0.99**	**329**	*e*P	**Pb**	**12 25 26.3**	**-0.3**
LAFE	**Finca La Fe, P**	**1.01**	**267**	⇑*e*P	**Pb**	**12 25 27.1**	**+0.2**
LAFE	**Finca La Fe, P**	**1.01**	**267**	*e*P	**Pb**	**12 25 27.0**	**0.0**
LAFE				*e*S	**Sn**	**12 25 41.7**	**+0.3**
JTS	**Las Juntas de**	**1.13**	**292**	*e*P	**Pb**	**12 25 28.5**	**-0.5**
RIOS	**Rincon, Osa**	**1.21**	**162**	*e*P	**Pb**	**12 25 30.2**	**-0.1**
RIOS	**Rincon, Osa**	**1.21**	**162**	*e*P	**Pg**	**12 25 30.6**	**-0.4**
ORTG	**Ortega, Santa**	**1.63**	**288**	*e*P	**Pn**	**12 25 36.1**	**+0.2**
SAJU	**San Juanillo,**	**1.81**	**277**	⇑*e*P	**Pn**	**12 25 39.4**	**+1.0**

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*NEIC **02** 12:31:20.5±0.5, 2°.3N±0°.1×128°.40E±0°.10, h234km±10km, mb4.0/14, Error ellipse: s-maj=19.6km s-min=12.3km az=208.0*
*IDC **02** 12:31:20.6±1.9, 2°.28N×128°.48E, h243km±20km, mb3.2/6, mb1 3.4/8, mb1mx3.1/46, mbtmp4.0/8, Error ellipse: s-maj=38.4km s-min=13.3km az=76.0*
ISC 02 12:31:21.2±0.8**, 2°.26N**±0°.08×**128°.37E**±0°.10**, h250**km**, n39,**
σ**0^{s}82**/41**, mb3.9**/12**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**214**		**Pn**	**12 32 00.2**	**-1.6**
TNTI	**Ternate**	**1.78**	**214**	P	**Pn**	**12 32 00.7**	**-1.1**
SIJI	**Sorong**	**4.25**	**137**	P	**Pn**	**12 32 26.8**	**-1.2**
	2.8nm,0.3s,baz=336,slow=14,SNR=9.6						
SANI	**Sanana**	**4.89**	**209**	P	**Pn**	**12 32 34.9**	**-0.9**
FAKI	**Fak Fak**	**6.44**	**143**	Pn	**Pn**	**12 32 54.2**	**-0.8**
FAKI				Sn	**S**	**12 34 09.6**	**-0.5**
FAKI	**Fak Fak**	**6.44**	**143**	P	**Pn**	**12 32 54.4**	**-0.6**
BATI	**Baumata**	**13.24**	**201**	P	**P**	**12 34 22.4**	**+0.7**
	3.6nm,0.3s,baz=74,slow=7.3,SNR=4.1						
DRS	**Darwin Rock St**	**14.81**	**170**	P	**Pn**	**12 34 39.8**	**+0.6**
MTN	**Manton Dam**	**15.25**	**170**	P	**P**	**12 34 43.7**	**-0.3**
MTN				IAmb	IAmb	12 34 47.2	
	comp=Z,6.1nm,0.8s						
MTN	**Manton Dam**	**15.25**	**170**	P	**Pn**	**12 34 45.2**	**+0.7**
KDU	**Kakadu**	**15.39**	**165**	P	**Pn**	**12 34 45.9**	**-0.4**
	comp=Z,4.1nm,0.5s						
KNRA	**Kununurra**	**17.82**	**179**	P	**Pn**	**12 35 13.4**	**-1.4**
KNRA	**Kununurra**	**17.82**	**179**	P	**Pn**	**12 35 13.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**20.40**	**187**	P	**P**	**12 35 39.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=21,slow=9.6,SNR=9.4						
FITZ	**Fitzroy Crossi**	**20.40**	**187**	P	**P**	**12 35 39.6**	**-0.1**
FITZ				IAmb	IAmb	12 35 59.1	
	comp=Z,6.6nm,1.5s						
WB0	**Warramunga Arr**	**22.67**	**165**	P	**P**	**12 36 01.7**	**+0.2**
WB0				IAmb	IAmb	12 36 03.0	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**22.82**	**165**	P	**P**	**12 36 03.1**	**+0.3**
WRAB				IAmb	IAmb	12 36 05.1	
	comp=Z,4.9nm,0.6s						
WRAB	**Tennant Creek**	**22.82**	**165**	P	**P**	**12 36 03.6**	**+0.7**
WRA	**Warramunga Arr**	**22.83**	**165**	P	**P**	**12 36 02.8**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=344,slow=9.2,SNR=62						
WRA				ScP	**ScP**	**12 43 00.9**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=355,slow=3.3,SNR=2.6						
WRA	**Warramunga Arr**	**22.83**	**165**	P	**P**	**12 36 02.5**	**-0.4**
WB2	**Warramunga Arr**	**22.83**	**165**	P	**P**	**12 36 03.2**	**+0.2**
WB2				IAmb	IAmb	12 36 05.1	
	comp=Z,4.7nm,0.7s						
WR0	**Warramunga Arr**	**22.89**	**165**	P	**P**	**12 36 03.6**	**+0.1**
WR0				IAmb	IAmb	12 36 05.8	
	comp=Z,6.1nm,1.1s						
QIS	**Mount Isa**	**25.21**	**155**	P	**P**	**12 36 25.1**	**+0.6**
AS31	**Alice Springs**	**26.32**	**168**	P	**P**	**12 36 35.0**	**+0.5**
ASAR	**Alice Springs**	**26.32**	**168**	P	**P**	**12 36 34.9**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=355,slow=8.2,SNR=35						
WRKA	**Warakurna**	**27.13**	**180**	P	**P**	**12 36 42.4**	**+0.8**
OOD	**Oodnadatta**	**30.70**	**167**	P	**P**	**12 37 14.3**	**+1.3**
MULG	**Mulgathing**	**32.81**	**171**	P	**P**	**12 37 32.7**	**+1.3**
LCRK	**Leigh Creek**	**33.85**	**165**	P	**P**	**12 37 42.4**	**+2.0**
	comp=Z,11nm,1.2s						
KSRS	**Korea Array**	**35.03**	**359**	P	**P**	**12 37 49.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=165,slow=10,SNR=2.8						
BBOO	**Buckleboo**	**35.63**	**169**	P	**P**	**12 37 56.2**	**+0.7**
BBOO	**Buckleboo**	**35.63**	**169**	P	**P**	**12 37 56.5**	**+0.9**
STKA	**Stephens Creek**	**36.20**	**161**	P	**P**	**12 37 59.7**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=340,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**36.20**	**161**	P	**P**	**12 38 00.8**	**+0.4**
MK31	**Makanchi Array**	**59.69**	**325**	P	**P**	**12 40 59.8**	**+0.2**
MK31				IAmb	IAmb	12 41 23.8	
	comp=Z,1.9nm,1.5s						
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**12 40 60.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=115,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**59.69**	**325**	P	**P**	**12 40 59.8**	**+0.2**
KURK	**Kurchatov**	**63.85**	**327**	P	**P**	**12 41 27.6**	**+0.4**
KURK				IAmb	IAmb	12 41 50.1	
	comp=Z,2.1nm,1.1s						
SML	**Sawmill**	**84.85**	**28**	P	**P**	**12 43 27.8**	**+0.1**

IDC 02 12:43:01.4±1.8**, 2°.21N**×**128°.20E, h0**km**, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.4**/37**, mbtmp3.6**/5**, ML3.8**/1**, Error ellipse: s-maj=88.6km s-min=25.8km az=62.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.33**	**135**	Pn	Pn	12 44 09.2	+0.7
	5.7nm,0.3s,baz=200,slow=22,SNR=28						
SIJI				Sn	Sn	12 44 53.5	-6.3
	3.2nm,0.3s,baz=351,slow=22,SNR=8.7						
WRA	**Warramunga Arr**	**22.82**	**165**	P	P	12 48 05.4	-0.7
	1.7nm,0.8s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.31**	**168**	P	P	12 48 39.9	+1.0
	0.5nm,0.9s,baz=350,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**36.20**	**161**	P	P	12 50 04.8	-1.2
	0.8nm,0.4s,baz=348,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**59.63**	**325**	P	P	12 53 07.8	+0.5
	0.1nm,0.5s,baz=122,slow=7.8,SNR=1.2						

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*IDC **02** 12:49:44.0±0.3, 4°.87S×94°.14E, h0km, mb6.0/33, mb1 6.1/35, mb1mx6.1/36, mbtmp6.0/35, ML5.8/2, MS7.5/75, Ms1 7.5/75, ms1mx7.5/86, Error ellipse: s-maj=11.1km s-min=9.7km az=50.0*
*BJI **02** 12:49:45.8±0.0, 4°.90S×94°.21E, h20km, mb6.5/62, mB7.5/62, Ms7.9/93, Ms7 7.7/88*
*BGR **02** 12:49:45.3±0.0, 5°.01S×93°.93E, h10km, mb7.3, Ms7.5*
*NEIC **02** 12:49:46.3, 4°.91S×94°.24E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}0.12; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$0.81; $M_{r\theta}$0.07; $M_{\theta\phi}$-5.47; $M_{\phi r}$0.47; Fault plane solution: M_o5.56000×10^{20} NP1:ϕ_s274.51000°, δ85.11000°, λ-179.83000°. NP2:ϕ_s184.49000°, δ89.83000°, λ-4.89000°. Principal axes: T 5.4972, Plg3.0000°, Azm230.0000°; N 0.1240, Plg85.0000°, Azm2.0000°; P -5.6211, Plg4.0000°, Azm139.0000°;*
*KLM **02** 12:49:46, 4°.85S×94°.03E, h10km, mb7.4*
*MOS **02** 12:49:46.2±1.4, 4°.78S×94°.26E, h23km, mb7.1/69, MS7.5/62, Mw7.5, Error ellipse: s-maj=5.2km s-min=3.5km az=118.6 Broadband fault plane solution: P waves. M_o1.80000×10^{20} NP1:ϕ_s269.00000°, δ78.00000°, λ168.00000°. NP2:ϕ_s1.00000°, δ78.00000°, λ12.00000°. Principal axes: T Plg16.0000°, Azm225.0000°; N Plg74.0000°, Azm45.0000°; P Plg0.0000°, Azm315.0000°;*
*DJA **02** 12:49:47.4±0.7, 5°S±2°×9°4E±°, h19km±5km, M7.6/159, mB7.7/159, mb6.9/156, MLv8.0/7, Mw(mB)7.8/159, MwMwp7.5/158, Mwp7.1/158*
*NEIC **02** 12:49:48.1±2.3, 4°.95S±0°.06×94°.33E±0°.07, h24km±1km, mb7.1/265, Ms_20 7.8/281, Mwb7.8/53, Mwc7.8/160, Mww7.8, Error ellipse: s-maj=12.1km s-min=10.7km az=270.0*
*NEIC **02** 12:50:04, 4°.71S×94°.44E, h40km, Moment Tensor Solution. Duration: 36^{s}0 Moment tensor: Scale 10^{20}Nm; M_{rr}0.33; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$0.69; $M_{r\theta}$-1.01; $M_{\theta\phi}$-5.66; $M_{\phi r}$0.60; Fault plane solution: M_o5.85000×10^{20} NP1:ϕ_s5.00000°, δ79.00000°, λ6.00000°. NP2:ϕ_s274.00000°, δ84.00000°, λ169.00000°. Principal axes: T 5.7876, Plg12.0000°, Azm229.0000°; N 0.1209, Plg78.0000°, Azm66.0000°; P -5.9084, Plg3.0000°, Azm320.0000°;*
*GCMT **02** 12:50:05.1±0.1, 4°.75S×94°.22E, h37km, MW7.8/173, Moment Tensor Solution. s173,c449; s170,c878; Duration: 19^{s}0 Moment tensor: Scale 10^{20}Nm; M_{rr}0.16±.02; $M_{\theta\theta}$-1.11±.01; $M_{\phi\phi}$0.94±.01; $M_{r\theta}$0.01±.07; $M_{\theta\phi}$-5.83±.01; $M_{\phi r}$0.28±.07; Best double couple: M_o5.92700×10^{20} NP1:ϕ_s275.00000°, δ87.00000°, λ180.00000°. NP2:ϕ_s5.00000°, δ90.00000°, λ3.00000°. Principal axes: T 5.8440, Plg2.0000°, Azm230.0000°; N 0.1610, Plg87.0000°, Azm11.0000°; P -6.0090, Plg2.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*
*NEIC **02** 12:50:15.1, 4°.97S×93°.97E, h44km, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}0.05; $M_{\theta\theta}$-1.06; $M_{\phi\phi}$1.00; $M_{r\theta}$1.52; $M_{\theta\phi}$-5.78; $M_{\phi r}$-0.67; Fault plane solution: M_o6.10000×10^{20} NP1:ϕ_s185.70000°, δ75.22000°, λ4.68000°. NP2:ϕ_s94.50000°, δ85.47000°, λ165.17000°. Principal axes: T 6.2057, Plg14.0000°, Azm49.0000°; N -0.2137, Plg75.0000°, Azm258.0000°; P -5.9921, Plg7.0000°, Azm141.0000°;*
ISC 02 12:49:48.9±0.2**, 4°.92S**±0°.02×**94°.25E**±0°.03**, h26**km±1km**, h26**km**:pP-P, n2624,** σ**2^{s}41**/2695**, mb7.0**/370**, MS7.7**/308**, 178C-449D, Fault plane solution: NP1:**ϕ_s5.27457°, δ77.53507°, λ0.73094°. **NP2:**ϕ_s275.11679°, δ89.28629°, λ167.53409°. **Principal axes:** T Plg9.2900°, Azm229.5127°; N Plg77.5140°, Azm91.8919°; P Plg8.2687°, Azm320.8749°; **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**6.01**	**54**	P	**Pn**	**12 51 14.6**	**-1.5**
	666nm174µm,0.9s						
PPSI	**Pulau Pagai**	**6.13**	**70**	P	**Pn**	**12 51 16.5**	**-1.3**
	704nm137µm,0.7s						
PPSI				S	**Sn**	**12 52 23.4**	**-3.8**
	704nm137µm,0.7s						
GSI	**Gunungsitoli**	**7.02**	**28**	Pn	**Pn**	**12 51 27.8**	**-2.3**
GSI	**Gunungsitoli**	**7.02**	**28**	⇑P	**Pn**	**12 51 27.7**	**-2.3**
GSI	**Gunungsitoli**	**7.02**	**28**	P	**Pn**	**12 51 28.9**	**-1.1**
	490nm47µm,0.7s						
GSI	**Gunungsitoli**	**7.02**	**28**	P	**Pn**	**12 51 29.9**	**-0.1**
SNSI	**Sinabang, Aceh**	**7.57**	**16**	P	**Pn**	**12 51 36.6**	**-1.0**
	606nm448µm29µm,1.0s						
COCO	**West Island**	**7.66**	**161**	Pn	**Pn**	**12 51 35.4**	**-3.5**
KRJI	**Kerinci**	**7.73**	**69**	P	**Pn**	**12 51 38.0**	**-1.8**
	2µm259µm,0.9s						
MASI	**Maura Aman, Be**	**8.16**	**78**	P	**Pn**	**12 51 42.5**	**-3.3**
	65µm,0.6s						
KSI	**Kapahiang**	**8.41**	**82**	P	**Pn**	**12 51 47.1**	**-2.1**
BKNI	**Bangkinang**	**8.55**	**53**		**Pn**	**12 51 50.0**	**-1.1**
BKNI	**Bangkinang**	**8.55**	**53**	⇑P	**Pn**	**12 51 49.8**	**-1.3**
BKNI	**Bangkinang**	**8.55**	**53**	P	**Pn**	**12 51 50.4**	**-0.7**
	156µm,0.8s						
BKNI	**Bangkinang**	**8.55**	**53**	P	**Pn**	**12 51 52.9**	**+1.8**
MNAI	**Manna**	**8.70**	**87**	Pn	**Pn**	**12 51 50.7**	**-2.4**
MNAI	**Manna**	**8.70**	**87**	⇑P	**Pn**	**12 51 49.9**	**-3.2**
MNAI	**Manna**	**8.70**	**87**	P	**Pn**	**12 51 50.7**	**-2.4**
	516µm27µm,0.8s						
MNAI	**Manna**	**8.70**	**87**	P	**Pn**	**12 51 53.2**	**+0.1**
RPSI	**Rantau Prapat**	**8.89**	**32**	Pn	**Pn**	**12 51 54.6**	**-1.1**
RPSI	**Rantau Prapat**	**8.89**	**32**		**Pn**	**12 51 55.7**	**0.0**
PSI	**Prapat**	**8.98**	**31**	Pn	**Pn**	**12 51 55.7**	**-1.4**
	73nm,0.3s,baz=194,slow=8.6,SNR=110						
PSI				LR	LR	12 55 14.6	
	comp=Z,4602µm,19.5s,baz=138,slow=37						
PSI	**Prapat**	**8.98**	**31**	P	**Pn**	**12 51 56.5**	**-0.6**
KCSI	**Kotacane, Aceh**	**9.09**	**23**	P	**Pn**	**12 51 56.3**	**-2.2**
	339µm13µm,1.1s						
RGRI	**Rengat**	**9.26**	**61**	P	**Pn**	**12 52 00.0**	**-0.8**
	406µm34µm,1.0s						
TSI	**Tuntungan**	**9.41**	**27**	P	**Pn**	**12 52 02.3**	**-0.5**
	552µm31µm,0.8s						
LWLI	**Liwa**	**9.77**	**91**	P	**Pn**	**12 52 06.6**	**-1.3**
	383µm28µm,0.9s						
MDSI	**Maura Dua**	**9.90**	**88**	P	**Pn**	**12 52 06.3**	**-3.3**
	121µm7µm,0.8s						
JMBI	**JAMBI**	**9.93**	**71**	P	**Pn**	**12 52 07.2**	**-2.7**
	360µm17µm,0.9s						
KASI	**Kota Agung**	**10.22**	**94**	P	**Pn**	**12 52 11.3**	**-2.7**
	228µm21µm,0.7s						
LHMI	**Lhok Sumawe**	**10.43**	**15**	Pn	**Pn**	**12 52 16.9**	**0.0**
LHMI	**Lhok Sumawe**	**10.43**	**15**	⇑P	**Pn**	**12 52 16.5**	**-0.4**
LHMI	**Lhok Sumawe**	**10.43**	**15**	P	**Pn**	**12 52 16.0**	**-0.9**
	370µm11µm,0.9s						
LHMI	**Lhok Sumawe**	**10.43**	**15**	P	**Pn**	**12 52 19.5**	**+2.6**
KLSI		**10.45**	**89**	P	**Pn**	**12 52 14.7**	**-2.4**
	891µm69µm3µm,1.0s						
KLI	**Kotabumi**	**10.57**	**90**	P	**Pn**	**12 52 19.5**	**+0.8**
KLI	**Kotabumi**	**10.57**	**90**	P	**Pn**	**12 52 18.3**	**-0.4**
	220µm12µm,1.0s						
PMBI	**Palembang**	**10.68**	**80**		**Pn**	**12 52 17.1**	**-3.2**
PMBI	**Palembang**	**10.68**	**80**	⇑P	**Pn**	**12 52 16.7**	**-3.6**
PMBI	**Palembang**	**10.68**	**80**	P	**Pn**	**12 52 16.7**	**-3.6**
	409µm33µm,0.9s						
PMBI	**Palembang**	**10.68**	**80**	P	**Pn**	**12 52 19.1**	**-1.2**
BLSI	**Bandar Lampung**	**10.96**	**93**	P	**Pn**	**12 52 22.4**	**-1.7**
	147µm13µm,0.7s						
DSRI	**Dabo**	**11.22**	**67**	P	**Pn**	**12 52 25.1**	**-2.5**
	217µm10µm,1.6s						
CGJI	**Cibinong**	**11.51**	**99**	P	**Pn**	**12 52 29.0**	**-2.6**
	173µm8µm,0.8s						
IPM	**Ipoh**	**11.53**	**36**	Pn	**Pn**	**12 52 31.9**	**-0.1**
IPM	**Ipoh**	**11.53**	**36**	P	**Pn**	**12 52 32.0**	**0.0**
IPM	**Ipoh**	**11.53**	**36**	P	**Pn**	**12 52 33.4**	**+1.4**
MYKOM	**Kota Tinggi**	**11.68**	**55**		**Pn**	**12 52 32.6**	**-1.4**
MYKOM	**Kota Tinggi**	**11.68**	**55**	⇑P	**Pn**	**12 52 32.1**	**-1.9**
MYKOM	**Kota Tinggi**	**11.68**	**55**	P	**Pn**	**12 52 34.0**	**+0.1**
TPRI	**Tanjung Pinang**	**11.79**	**61**	P	**Pn**	**12 52 34.4**	**-1.1**
	388µm21µm,1.4s						
KULM	**Kulim**	**11.99**	**32**	Pn	**Pn**	**12 52 36.3**	**-1.9**
KULM	**Kulim**	**11.99**	**32**	⇑P	**Pn**	**12 52 36.1**	**-2.1**
KULM	**Kulim**	**11.99**	**32**	P	**Pn**	**12 52 36.0**	**-2.1**
PPBI	**Pangkal Pinang**	**12.17**	**77**	P	**Pn**	**12 52 39.8**	**-0.9**
	175µm7µm,1.0s						
TNG	**Tangerang**	**12.40**	**96**	P	**Pn**	**12 52 42.5**	**-1.3**
	29µm,2.0s,354µm						
TNG				P	**Pn**	**12 52 44.8**	**+1.0**
	20µm,2.0s,237µm						
SKJI	**Sukabumi**	**12.41**	**100**	P	**Pn**	**12 52 42.8**	**-1.2**
	14µm67µm5µm,0.8s						
DBJI	**Dramaga**	**12.54**	**98**	P	**Pn**	**12 52 44.3**	**-1.5**
	233µm8µm,1.1s						
XMIS	**Christmas Isla**	**12.57**	**117**	Pn	Pn	12 52 38.5	-7.7
CBJI	**Citeko**	**12.63**	**97**	P	**Pn**	**12 52 47.6**	**+0.7**
	288µm22µm,0.7s						
CNJI	**Cibinong**	**13.02**	**101**	P	**Pn**	**12 52 49.3**	**-3.0**
	192µm11µm,0.9s						
LEM	**Lembang**	**13.43**	**99**	Pn	**Pn**	**12 52 58.3**	**+0.2**
	80nm,0.3s,baz=187,slow=12,SNR=22						
LEM				Sn	**Sn**	**12 55 23.9**	**-2.8**
	167nm,0.3s,baz=338,slow=19,SNR=3.1						
JCJI	**Jatiwangi**	**14.04**	**97**	P	**Pn**	**12 53 04.8**	**-1.4**
	209µm9µm,1.6s						
CMJI	**Cimerak**	**14.39**	**102**	P	**Pn**	**12 53 07.6**	**-3.5**
	162µm7µm,0.9s						
SRIT	**Nakonsritamara**	**14.45**	**22**	Pn	**Pn**	**12 53 09.3**	**-2.5**
KPJI	**Karang Pucung**	**14.79**	**100**	P	**Pn**	**12 53 14.6**	**-1.9**
	198µm7µm,1.1s						
YOGI	**Yogyakarta**	**16.20**	**101**	P	**Pn**	**12 53 32.2**	**-2.7**
	322µm12µm,1.8s						
SMRI	**Semarang**	**16.24**	**98**		**Pn**	**12 53 33.9**	**-1.5**
SMRI				IAmb	IAmb	12 54 12.8	
	comp=Z,15µm,1.2s						
SMRI	**Semarang**	**16.24**	**98**	⇓P	**Pn**	**12 53 34.2**	**-1.2**
SMRI	**Semarang**	**16.24**	**98**	P	**Pn**	**12 53 34.5**	**-0.9**
	comp=Z,475µmcomp=Z,12µm,2.0s						
SMRI	**Semarang**	**16.24**	**98**	P	**P**	**12 53 37.0**	**-1.3**
UGM	**Wanagama**	**16.44**	**101**	Pn	**Pn**	**12 53 35.6**	**-2.4**
UGM				IAmb	IAmb	12 54 01.4	
	comp=Z,28µm,1.2s						
UGM	**Wanagama**	**16.44**	**101**	P	**Pn**	**12 53 34.9**	**-3.1**
	comp=Z,616µmcomp=Z,24µm,1.6s						
UGM	**Wanagama**	**16.44**	**101**	P	**Pn**	**12 53 38.4**	**+0.4**
PBA	**Port Blair**	**16.54**	**355**	*e*P	**Pn**	**12 53 38.3**	**-0.8**
PBA				IAMs_20	IAMs_20	13 03 43.4	
	comp=Z,3193µm,11.7s						
UWJI	**Ujung Watu**	**16.68**	**96**	P	**Pn**	**12 53 41.1**	**+0.1**
	comp=Z,484µmcomp=Z,11µm,1.9s						
PCJI	**Pacitan**	**17.13**	**102**	P	**Pn**	**12 53 43.5**	**-3.1**
	comp=Z,290µmcomp=Z,12µm,2.2s						
KSM	**Kuching**	**17.25**	**69**	P	**Pn**	**12 53 47.0**	**-1.1**
KSM				IAmb	IAmb	12 54 08.0	
	comp=Z,15µm,1.2s						
KSM	**Kuching**	**17.25**	**69**	⇑P	**Pn**	**12 53 46.7**	**-1.5**
KSM	**Kuching**	**17.25**	**69**	P	**P**	**12 53 49.0**	**-0.5**
KSM	**Kuching**	**17.25**	**69**	P	**P**	**12 53 50.0**	**+0.5**
PBKI	**Pangkalan Bun**	**17.52**	**83**	P	**Pn**	**12 53 51.4**	**-0.1**
	comp=Z,236µmcomp=Z,9µm,1.2s						
TBJI	**Tambak Boyo**	**17.61**	**97**	P	**Pn**	**12 53 51.3**	**-1.3**
	comp=Z,215µmcomp=Z,5µm,2.7s						
PWJI	**Pagerwojo**	**17.71**	**101**	P	**Pn**	**12 53 51.0**	**-2.8**
	comp=Z,275µmcomp=Z,8µm,2.0s						
STKI	**Sintang**	**17.90**	**74**	P	**P**	**12 53 56.8**	**+0.1**
	comp=Z,213µmcomp=Z,7µm,2.2s						
DGPR	**DIGLIPUR**	**18.03**	**356**	⇓*i*P	**Pn**	**12 53 56.2**	**-1.5**
DGPR				IAmb	IAmb	12 54 05.5	
	comp=Z,7µm,1.2s						
DGPR				IAMs_20	IAMs_20	13 04 39.2	
	comp=Z,3192µm,14.8s						
PALK	**Pallekele**	**18.15**	**312**	P	**Pn**	**12 53 59.2**	**-0.2**
	comp=Z,36nm,0.3s,baz=233,slow=12,SNR=111						
PALK				S	Sn	12 57 10.1	-11
	comp=Z,135nm,0.3s,baz=312,slow=16,SNR=4.7						
PALK				LR	LR	12 59 44.7	
	comp=Z,1998µm,20.2s,baz=225,slow=33						
PALK	**Pallekele**	**18.15**	**312**	P	**Pn**	**12 53 59.0**	**-0.3**
PALK	**Pallekele**	**18.15**	**312**	P	**Pn**	**12 53 59.0**	**-0.3**
PALK				IAmb	IAmb	12 54 23.1	
	comp=Z,44µm,1.9s						
PALK	**Pallekele**	**18.15**	**312**	P	**P**	**12 54 00.9**	**+1.4**
PALK	**Pallekele**	**18.15**	**312**	⇓P	**Pn**	**12 53 59.0**	**-0.3**
GRJI	**Gresik**	**18.24**	**97**	P	**Pn**	**12 54 00.1**	**-0.3**
	comp=Z,25µmcomp=Z,67µmcomp=Z,5µm,1.3s						
BWJI	**Bawean**	**18.35**	**94**	P	**Pn**	**12 54 02.0**	**+0.3**
	comp=Z,787µmcomp=Z,201µmcomp=Z,6µm,1.4s						
GMJI	**Gumukmas**	**19.35**	**101**	P	**P**	**12 54 10.7**	**-1.9**
	comp=Z,381µmcomp=Z,7µm,2.5s						
SBUM	**Sibu**	**19.39**	**68**		**P**	**12 54 13.3**	**+0.3**
SBUM	**Sibu**	**19.39**	**68**	⇑P	**P**	**12 54 13.3**	**+0.3**
SBUM	**Sibu**	**19.39**	**68**	P	**Pn**	**12 54 15.0**	**+0.7**
BLJI	**Banyuglugur**	**19.43**	**99**	P	**P**	**12 54 13.0**	**-0.5**
	comp=Z,262µmcomp=Z,5µm,1.6s						
KMMI	**Kalianget**	**19.72**	**97**	P	**P**	**12 54 15.5**	**-1.2**
	comp=Z,710µmcomp=Z,9µm,1.2s						
ABJI	**Asem Bagus**	**20.06**	**99**	P	**P**	**12 54 20.2**	**-0.2**
	comp=Z,768µmcomp=Z,12µm,1.2s						
JAGI	**Jajag, Banyuwa**	**20.07**	**101**	P	**P**	**12 54 18.9**	**-1.7**
JAGI				IAmb	IAmb	12 54 47.1	
	comp=Z,12µm,1.3s						
JAGI	**Jajag, Banyuwa**	**20.07**	**101**	⇓P	**P**	**12 54 17.6**	**-3.0**
JAGI	**Jajag, Banyuwa**	**20.07**	**101**	P	**P**	**12 54 18.9**	**-1.7**
	comp=Z,387µmcomp=Z,7µm,2.0s						
JAGI	**Jajag, Banyuwa**	**20.07**	**101**	P	Pn	12 54 21.8	-0.7
MTKI	**Muara Teweh, K**	**20.99**	**80**	P	**P**	**12 54 31.2**	**+0.7**
	comp=Z,216µmcomp=Z,7µm,1.0s						
SRBI	**Singaraja**	**21.06**	**100**	P	**P**	**12 54 30.2**	**-1.0**
	comp=Z,446µmcomp=Z,12µm,1.4s						
IGBI	**Denpasar**	**21.10**	**102**	P	**P**	**12 54 29.6**	**-2.0**
	comp=Z,886µmcomp=Z,248µmcomp=Z,6µm,1.2s						
DNP	**Denpasar**	**21.14**	**101**	P	**P**	**12 54 32.6**	**+0.5**
DNP	**Denpasar**	**21.14**	**101**	P	**P**	**12 54 32.7**	**+0.6**
	comp=Z,502µmcomp=Z,13µm,1.2s						
I52GB	**DIEGO GARCIA I**	**21.78**	**262**	P	**P**	**12 54 40.4**	**+1.5**
	baz=108,slow=14,SNR=4.5						
H08S2	**Diego Garcia H**	**21.79**	**262**	P	**P**	**12 54 39.5**	**+0.6**
	baz=61,slow=14,SNR=4598						
H08S2				T	T	13 16 46.9	
	baz=83,slow=74,SNR=10						
H08S3	**Diego Garcia H**	**21.80**	**262**	P	**P**	**12 54 39.2**	**+0.3**
	baz=61,slow=14						
H08S3				T	T	13 16 45.2	
	baz=83,slow=74,SNR=12						
TRD	**Trivandrum**	**21.80**	**308**	*e*x	**P**	**12 54 41.6**	**+2.4**
DGAR	**Diego Garcia**	**21.81**	**262**	*ce*P	**P**	**12 54 39.2**	**-0.1**
DGAR	**Diego Garcia**	**21.81**	**262**	P	**P**	**12 54 38.9**	**-0.4**
DGAR	**Diego Garcia**	**21.81**	**262**	⇑P	**P**	**12 54 39.1**	**-0.2**
H08S1	**Diego Carcia H**	**21.81**	**262**	P	**P**	**12 54 40.5**	**+1.4**
	baz=61,slow=14,SNR=2012						
H08S1				T	T	13 16 47.8	
	baz=83,slow=74,SNR=9.3						
KAAM	**Kaadhehdhoo**	**21.90**	**284**	P	**P**	**12 54 40.3**	**+0.1**
KAAM				IAMs_20	IAMs_20	13 00 57.7	
	comp=Z,2567µm,20.0s						
KAAM	**Kaadhehdhoo**	**21.90**	**284**	P	**P**	**12 54 43.8**	**+3.6**
	SNR=167						
KAAM	**Kaadhehdhoo**	**21.90**	**284**	⇑P	**P**	**12 54 41.1**	**+0.9**
KBKI	**Kotabaru**	**21.92**	**87**	P	**P**	**12 54 42.0**	**+1.6**
	comp=Z,40µmcomp=Z,60µmcomp=Z,7µm,1.1s						
DLV	**T Lat**	**21.93**	**40**	P	**P**	**12 54 40.6**	**-0.1**
DLV				IAMs_20	IAMs_20	13 02 31.2	
	comp=Z,3019µm,21.0s						
DLV	**T Lat**	**21.93**	**40**	P	**P**	**12 54 43.1**	**+2.3**
MDRS	**Chennai**	**22.65**	**322**	⇓*i*P	**P**	**12 54 48.6**	**+0.4**
MDRS				IAMs_20	IAMs_20	13 04 32.7	
	comp=Z,1070µm,15.2s						
UBPT	**Khong Chiam**	**22.94**	**29**	P	**P**	**12 54 50.0**	**-1.3**
UBPT				IAmb	IAmb	12 55 25.6	
	comp=Z,4µm,1.1s						
UBPT	**Khong Chiam**	**22.94**	**29**	⇓P	**P**	**12 54 49.5**	**-1.8**
SMKI	**Samarinda**	**23.35**	**80**	P	**P**	**12 54 58.1**	**+2.6**
	comp=Z,312µmcomp=Z,10µm,1.4s						
PLAI	**Plampang**	**23.67**	**101**	P	**P**	**12 54 57.4**	**-1.2**
	comp=Z,558µmcomp=Z,19µm,1.8s						
PLAI	**Plampang**	**23.67**	**101**	P	**P**	**12 54 59.0**	**+0.4**
CM31	**Chiang Mai Arr**	**23.68**	**11**	P	**P**	**12 54 56.5**	**-2.2**
CM31				IAmb	IAmb	12 55 28.9	
	comp=Z,8µm,1.1s						
CM31	**Chiang Mai Arr**	**23.68**	**11**	P	**P**	**12 54 58.0**	**-0.6**
	SNR=1389						
CM31				P	**P**	**12 54 58.0**	**-0.6**
	SNR=1389						
CM31				P	**P**	**12 54 58.0**	**-0.6**
	SNR=1389						
CMAR	**Chiang Mai Arr**	**23.68**	**11**	P	**P**	**12 54 57.8**	**-0.9**
	comp=Z,176nm,0.8s,baz=202,slow=8.0,SNR=105						
CMAR				S	**S**	**12 59 15.3**	**+3.1**
	comp=Z,159nm,1.1s,baz=220,slow=3.2,SNR=3.2						
CMAR				LR	LR	13 04 15.9	
	comp=Z,1453µm,18.4s,baz=210,slow=37						
CMAR				P3KPbc		13 28 19.8	
	comp=Z,3.8nm,1.0s,baz=352,slow=6.1,SNR=12						
CMAR	**Chiang Mai Arr**	**23.68**	**11**	*i* P	**P**	**12 54 57.7**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,190nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.68**	**11**	P	**P**	**12 54 58.1**	**-0.5**
HMDM	**Hanimaadhoo**	**24.02**	**299**	P	**P**	**12 55 02.8**	**+0.9**
HMDM	**Hanimaadhoo**	**24.02**	**299**	P	**P**	**12 55 07.7**	**+5.8**
	SNR=84						
HMDM	**Hanimaadhoo**	**24.02**	**299**	⇓P	**P**	**12 55 02.4**	**+0.4**
CHTO	**Chiang Mai**	**24.03**	**11**	P	**P**	**12 55 00.9**	**-1.1**

CHTO MLR MLR
comp=Z,1470µm,20.0s
CHTO Chiang Mai 24.03 11 P P 12 55 00.9 -1.1
CHTO Chiang Mai 24.03 11 ⇓P P 12 55 00.8 -1.1
CHTO Chiang Mai 24.03 11 P P 12 55 02.3 +0.4
SPMM Sapulut 24.16 67 P P 12 55 04.0 +0.7
KKM Kota Kinabalu 24.48 64 P P 12 55 06.3 0.0
KKM Kota Kinabalu 24.48 64 ⇑P P 12 55 06.4 0.0
KKM Kota Kinabalu 24.48 64 P P 12 55 07.3 +1.0
WBSI Waikabubak, Su 25.37 102 P P 12 55 11.8 -2.4
comp=Z,299µmcomp=Z,7µm,0.9s
KAPI Kappang 25.41 91 P P 12 55 13.8 -0.7
comp=Z,634nm,1.2s,baz=282,slow=6.1,SNR=32
KAPI S **S 12 59 48.3 +8.3**
comp=Z,14nm,0.4s,baz=150,slow=20,SNR=2.3
KAPI LR LR 13 05 26.8
comp=Z,1092µm,20.8s,baz=302,slow=37
KAPI Kappang 25.41 91 P P 12 55 14.0 -0.5
KAPI pmax pmax
comp=Z,5µm,1.2s
KAPI MLR MLR
comp=Z,1329µm,21.0s
KAPI Kappang 25.41 91 P P 12 55 14.0 -0.5
KAPI IAmb IAmb 12 55 41.9
comp=Z,5µm,1.1s
KAPI Kappang 25.41 91 ⇓P P 12 55 13.1 -1.4
KAPI Kappang 25.41 91 P P 12 55 15.7 +1.2
SPSI Sidrap Palu 25.46 89 P P 12 55 13.5 -1.5
comp=Z,166µmcomp=Z,4µm,1.1s
TTSI Tana Toraja 25.57 87 P P 12 55 16.2 +0.1
comp=Z,140µmcomp=Z,3µm,1.3s
BKSI Bulukumba 25.77 92 P P 12 55 17.1 -0.8
comp=Z,743µmcomp=Z,152µmcomp=Z,4µm,1.4s
BNSI Bone 25.77 90 P P 12 55 17.8 -0.1
comp=Z,229µmcomp=Z,9µm,1.6s
BSSI Bau Bau, Buton 26.14 94 P P 12 55 19.9 -1.4
comp=Z,376µmcomp=Z,90µmcomp=Z,3µm,1.1s
MPSI Mapaga 26.14 79 P P 12 55 22.9 +1.7
comp=Z,146µmcomp=Z,2µm,1.3s
GIRL Giralia 26.15 134 P P 12 55 22.8 +1.6
baz=26,SNR=11
GIRL Giralia 26.15 134 P P 12 55 20.8 -0.4
GIRL IAmb IAmb 12 55 46.2
comp=Z,11µm,1.7s
GIRL Giralia 26.15 134 ⇓P P 12 55 21.9 +0.8
GIRL Giralia 26.15 134 P P 12 55 21.7 +0.5
MYLDM Lahad Datu 26.21 68 P P 12 55 22.7 +0.8
MYLDM Lahad Datu 26.21 68 ⇑P P 12 55 23.4 +1.6
BASI Baing, Sumba 26.61 103 P P 12 55 25.1 -0.4
comp=Z,768µmcomp=Z,182µmcomp=Z,12µm,1.2s
HYB Hyderabad 27.07 325 *eP* **P 12 55 31.1 +1.5**
HYBB Hyderabad (bro 27.07 325 ⇓*eP* **P 12 55 29.4 -0.2**
HYBB IVmB_BB 12 55 51.8
comp=Z,111µm,10.8s
HYBB *e*S **S 13 00 07.9 +1.6**
HYBB IVMs_BB IVMs_BB 13 03 01.2
comp=Z,164µm,40.3s
BATP Bataraza 27.15 60 ⇓*eP* **P 12 55 30.6 +0.3**
TOLI2 Tolitoli 27.17 78 P P 12 55 30.6 +0.1
TOLI2 Tolitoli 27.17 78 P P 12 55 32.1 +1.6
BRDH Bariadhala 27.55 355 P P 12 55 33.3 -0.4
comp=Z,0.7nm,0.4s,baz=360,slow=24,SNR=21
APSI Ampana 27.64 83 P P 12 55 35.2 +0.4
comp=Z,741µmcomp=Z,72µmcomp=Z,2µm,2.6s
MMRI Maumere 28.03 99 P P 12 55 34.5 -3.7
MMRI Maumere 28.03 99 ⇓P P 12 55 33.8 -4.4
MMRI Maumere 28.03 99 P P 12 55 35.3 -2.9
comp=Z,366µmcomp=Z,131µmcomp=Z,5µm,1.4s
MMRI Maumere 28.03 99 P P 12 55 38.0 -0.2
BELO BELONIA 28.13 355 *eP* **P 12 55 40.7 +1.8**
MRSI Marisa 28.17 80 P P 12 55 38.4 -1.1
comp=Z,84µmcomp=Z,2µm,1.0s
BBSI Bau Bau 28.21 92 P P 12 55 40.2 +0.4
comp=Z,2µmcomp=Z,6µmcomp=Z,613nm,1.1s
QIZ Qiongzhong 28.32 32 IAmb IAmb 12 56 05.7
comp=Z,6µm,1.6s
QIZ Qiongzhong 28.32 32 P P 12 55 42.7 +2.0
QIZ S S 13 00 14.5 -11
QIZ pmax pmax
comp=Z,330nm,1.2s
QIZ LR LR
comp=Z,1999µm,17.6s
QIZ LR LR
comp=Z,1715µm,16.7s
QIZ LR LR
comp=Z,694µm,14.9s
PPR Puerto Princes 28.43 59 ⇑*eP* **P 12 55 44.8 +3.1**
GOA Goa 28.64 315 *eP* **P 12 55 45.0 +1.4**
GOA *i* x x 12 56 00.7
LUWI Luwuk 28.74 83 IAmb IAmb 12 56 47.7
comp=Z,8µm,1.2s
LUWI Luwuk 28.74 83 ⇓P **P 12 55 44.6 +0.1**
LUWI Luwuk 28.74 83 P P 12 55 45.2 +0.7
comp=Z,854µmcomp=Z,99µmcomp=Z,3µm,1.3s
LUWI Luwuk 28.74 83 P P 12 55 45.4 +0.9
AGT Agartala 28.78 354 *eP* **P 12 55 46.0 +1.4**
AGT IAmb IAmb 12 55 53.4
comp=Z,4µm,1.3s
AGT *i* x x 12 56 00.4
GTOI Gorontalo 29.25 80 P P 12 55 47.3 -1.8
comp=Z,390µmcomp=Z,31µmcomp=Z,600nm,0.9s
SILR SILCHAR 29.56 357 *eP* **P 12 55 52.4 +0.8**
IMP Imphal 29.57 359 *eP* **P 12 55 52.0 +0.1**
BATI Baumata 29.61 102 P P 12 55 52.0 -0.4
comp=Z,1µm,1.3s,baz=182,slow=3.0,SNR=40
BATI S **S 13 00 52.4 +6.0**
comp=Z,53nm,0.6s,baz=63,slow=11,SNR=1.3
BATI Baumata 29.61 102 P P 12 55 50.8 -1.5
comp=Z,223µmcomp=Z,62µmcomp=Z,2µm,0.5s
PSA00 Pilbara Seismi 29.83 126 P P 12 55 52.9 -1.2
PSA00 IAmb IAmb 12 56 12.1
comp=Z,7µm,1.8s
PSA00 Pilbara Seismi 29.83 126 P P 12 55 54.4 +0.3
ZCP Zamboanga City 30.16 67 ⇓*eP* P 12 56 04.9 +7.7
KMSI Cibinong 30.19 80 P P 12 55 59.9 +2.5
comp=Z,5µmcomp=Z,21µmcomp=Z,2µm,1.2s
SHL Shillong 30.39 356 *eP* **P 12 55 59.4 +0.2**
KOHI KOHIMA 30.46 360 *eP* **P 12 55 59.9 +0.1**
POO Poona 30.78 320 *eP* **P 12 56 04.4 +1.8**
POO *i* x x 12 56 18.5
CUYO Cuyo Island 30.91 59 ⇓*eP* **P 12 56 06.8 +3.0**
KMI Kunming 30.98 15 ⇓P **P 12 56 04.6 +0.1**
KMI pP pP 12 56 10.2 -0.5
KMI sP sP 12 56 12.3 -1.0
KMI PP **PnPn 12 57 09.1 +3.2**
KMI S **S 13 01 10.3 +2.4**
KMI pmax pmax
comp=Z,380nm,0.9s
KMI LR LR
comp=Z,1146µm,17.8s
KMI LR LR
comp=Z,2364µm,16.3s
KMI LR LR
comp=Z,1608µm,20.1s
GUWA GUWAHATI 31.03 356 *eP* **P 12 56 04.3 -0.3**
DHUB DHUBRI 31.03 353 *ex* **P 12 56 04.8 +0.2**
MOKO MOKOCHONG 31.06 0 *eP* **P 12 56 04.4 -0.6**
JBP Jabalpur 31.20 334 *eP* **P 12 56 06.9 +0.8**
JBP IAmb IAmb 12 56 31.8
comp=Z,21µm,1.9s
JBP *e*S **S 13 01 18.1 +7.2**
JBP Jabalpur 31.20 334 *eP* **P 12 56 05.9 -0.3**
JBP IAmb IAmb 12 56 31.8
comp=Z,21µm,1.9s
JBP *ex* x 13 01 21.4
MNI Manado 31.21 79 P **P 12 56 08.0 +1.6**
MNI pmax pmax
comp=Z,2µm,1.1s
JORH JORHAT 31.48 0 *eP* **P 12 56 09.1 +0.6**
JAP San Jose, Anti 31.66 60 ⇓*eP* P 12 56 15.2 +4.9
MORW Morawa 31.67 142 P **P 12 56 07.4 -2.9**
baz=32,SNR=41
MORW Morawa 31.67 142 P **P 12 56 09.3 -0.9**
MORW Morawa 31.67 142 ⇑P **P 12 56 09.1 -1.2**
MORW Morawa 31.67 142 P **P 12 56 11.2 +0.9**
PAGZ Pagadian 31.71 67 ⇓*eP* **P 12 56 11.5 +0.7**
MEEK Meekatharra 31.75 135 P **P 12 56 09.2 -1.8**
baz=32,SNR=110
MEEK Meekatharra 31.75 135 P **P 12 56 11.4 +0.4**
LUBP Lubang 31.77 54 ⇓*eP* **P 12 56 13.9 +2.6**
SJMP San Jose 31.80 57 ⇓*eP* **P 12 56 12.8 +1.2**
SANI Sanana 31.80 86 ⇓P **P 12 56 09.6 -2.0**
SANI Sanana 31.80 86 P **P 12 56 10.5 -1.1**
comp=Z,514µmcomp=Z,65µmcomp=Z,1µm,1.6s

SANI Sanana 31.80 86 P **P 12 56 12.1 +0.5**
CNOP Candoni, Negro 31.85 63 ⇓*eP* **P 12 56 12.9 +0.8**
ITAN ITANAGAR 31.88 359 *eP* **P 12 56 12.9 +0.8**
DCPH Dipolog City 31.97 65 ⇑*eP* P 12 56 22.6 +10
PZH PanZhiHua 32.07 13 ⇓P **P 12 56 12.7 -1.2**
PZH pP **pP 12 56 19.5 -0.6**
PZH PP **PnPn 12 57 20.3 +0.4**
PZH PcP **PcP 12 59 06.0 +2.8**
PZH S **S 13 01 26.5 +1.8**
PZH sS **sS 13 01 40.2 +5.2**
PZH pmax pmax
comp=Z,170nm,0.9s
PZH pmax pmax
comp=Z,8µm,5.3s
PZH LR LR
comp=Z,1327µm,16.3s
PZH LR LR
comp=Z,911µm,15.3s
PZH LR LR
comp=Z,1482µm,15.3s
LKP Lekhapani 32.10 3 *eP* **P 12 56 12.8 -1.2**
DIBR DIBRUGARH 32.20 1 *eP* **P 12 56 12.9 -2.0**
PGP Puerto Galera 32.22 55 ⇑*eP* **P 12 56 16.3 +1.1**
CTBH Cotabato--PC H 32.27 68 ⇑*iP* **P 12 56 18.8 +3.0**
ODAN Odare 32.28 348 *eP* **P 12 56 15.0 -0.9**
SGSI Sangihe 32.40 75 P **P 12 56 19.3 +2.5**
comp=Z,8µmcomp=Z,4µm,1.2s
BHPL Bhopal 32.46 330 *eP* **P 12 56 19.1 +1.8**
BHPL *i* x x 12 56 33.8
GTK Tadong 32.51 351 *eP* **P 12 56 19.2 +1.4**
TGY Tagaytay City 32.53 54 P **P 12 56 19.1 +1.1**
comp=Z,3µm,0.8s,baz=196,slow=15
TGY LR LR 13 09 23.5
comp=Z,1223µm,20.2s,baz=208,slow=36
TGY Tagaytay City 32.53 54 ⇓*eP* **P 12 56 20.9 +2.9**
RAMN Ramite 32.53 347 *eP* **P 12 56 17.6 -0.5**
GSPH General Santos 32.54 71 ⇓*eP* P 12 56 30.5 +12
TAPN Taplejung 32.70 349 *eP* **P 12 56 18.9 -0.7**
RCP Roxas 32.74 60 ⇑*eP* **P 12 56 21.2 +1.5**
MCO Taipa Grande 32.86 34 P **P 12 56 25.0 +4.3**
TBP Tagbilaran 32.88 64 ⇑*iP* **P 12 56 21.3 +0.2**
TBP *i* S S 13 01 49.1 +12
KCP Kidapawan 32.98 69 ⇑*iP* **P 12 56 23.8 +1.7**
LQP Lukban 33.02 55 ⇑*eP* **P 12 56 23.5 +1.0**
BLDU Ballidu 33.18 143 P **P 12 56 21.4 -2.1**
baz=33,SNR=37
BLDU Ballidu 33.18 143 P **P 12 56 23.9 +0.4**
HKPS Hong Kong Po S 33.31 35 P **P 12 56 23.7 -1.0**
HKPS IAmb IAmb 12 56 50.0
comp=Z,8µm,1.9s
JIRN Jiri 33.31 347 *eP* **P 12 56 23.9 -1.2**
HKC Hong Kong Obse 33.35 35 ⇑P **P 12 56 28.0 +3.0**
FITZ Fitzroy Crossi 33.35 116 P **P 12 56 25.6 +0.5**
comp=Z,66nm,0.9s,baz=298,slow=7.9,SNR=1.3
FITZ S **S 13 01 52.7 +8.0**
comp=Z,100nm,1.2s,baz=74,slow=14,SNR=1.5
FITZ LR LR 13 08 05.3
comp=Z,789µm,21.1s,baz=303,slow=33
FITZ Fitzroy Crossi 33.35 116 P **P 12 56 24.3 -0.9**
baz=33,SNR=77
FITZ Fitzroy Crossi 33.35 116 P **P 12 56 24.0 -1.2**
PKI Pulchoki 33.41 346 *eP* **P 12 56 26.4 +0.5**
PKIN Phulchoki 33.42 346 *eP* **P 12 56 26.4 +0.5**
GYA Guiyang 33.43 20 ⇑P **P 12 56 28.2 +2.4**
GYA sP pwP 12 56 39.1 +0.4
GYA S **S 13 01 50.8 +4.9**
GYA pmax pmax
comp=Z,190nm,1.0s
GYA pmax pmax
comp=Z,57µm,13.4s
GYA LR LR
comp=Z,913µm,17.1s
GYA LR LR
comp=Z,845µm,16.3s
GYA LR LR
comp=Z,650µm,20.5s
DAV Davao City (W) 33.46 69 P **P 12 56 27.4 +1.3**
comp=Z,185nm,0.4s,baz=349,slow=1.0,SNR=0.5
DAV S **S 13 01 55.0 +8.5**
comp=Z,117nm,0.3s,baz=323,slow=20,SNR=1.5
DAV LR LR 13 10 15.5
comp=Z,888µm,20.8s,baz=231,slow=37
DAV Davao City (W) 33.46 69 ⇑P **P 12 56 27.1 +1.0**
DAV Davao City (W) 33.46 69 P **P 12 56 27.1 +1.0**
LBMI Labuha 33.47 84 P **P 12 56 26.4 +0.1**
comp=Z,361µmcomp=Z,88µmcomp=Z,3µm,0.9s
GZH Guangzhou 33.51 33 P P 12 56 34.1 +7.7
GZH pP pwP 12 56 40.2 +1.0
GZH S S 13 01 58.6 +12
GZH SS **SS 13 04 06.9 -5.3**
GZH pmax pmax
comp=Z,73µm,7.1s
GZH LR LR
comp=N,1989µm,20.3s
GZH LR LR
comp=E,1817µm,18.1s
GZH Guangzhou 33.51 33 P P 12 56 32.0 +5.6
GZH sP pwP 12 56 41.1 +1.9
GZH S S 13 01 58.4 +12
GZH SS **SS 13 04 06.5 -5.7**
GZH LR LR
comp=E,1470µm,19.3s
DMN Daman 33.52 345 *eP* **P 12 56 25.3 -1.5**
TNTI Ternate 33.56 81 P **P 12 56 26.4 -0.7**
TNTI IAmb IAmb 12 56 50.5
comp=Z,3µm,1.3s
TNTI Ternate 33.56 81 ⇑P **P 12 56 26.6 -0.4**
TNTI Ternate 33.56 81 P **P 12 56 26.2 -0.8**
comp=Z,358µmcomp=Z,43µmcomp=Z,2µm,1.2s
TNTI Ternate 33.56 81 P **P 12 56 28.8 +1.8**
GUN Gumba 33.62 347 *eP* **P 12 56 26.5 -1.3**
KKN Kakani 33.65 346 *eP* **P 12 56 26.3 -1.6**
GQP Guinayangan 33.66 56 ⇓*eP* **P 12 56 28.8 +1.0**
AAI Ambon 33.87 89 P **P 12 56 27.3 -2.4**
AAI pmax pmax
comp=Z,446nm,1.1s
AAI Ambon 33.87 89 P P 12 56 24.9 -4.8
comp=Z,428µmcomp=Z,28µmcomp=Z,453nm,1.1s
GULI GuiLin 33.87 27 ⇑P **P 12 56 30.6 +1.1**
GULI pP **pP 12 56 34.4 -1.4**
GULI sP **sP 12 56 38.3 -0.1**
GULI PP **PP 12 57 46.2 -0.3**
GULI pmax pmax
comp=Z,2µm,1.1s
GULI LR LR
comp=Z,1862µm,17.9s
GULI LR LR
comp=Z,1910µm,15.7s
GULI LR LR
comp=Z,1141µm,14.1s
MUN Mundaring 33.88 145 P **P 12 56 27.9 -1.7**
baz=34,SNR=47
MUN Mundaring 33.88 145 P **P 12 56 29.4 -0.2**
GKN Gorkha 34.02 345 *eP* **P 12 56 29.4 -1.6**
KOLN Koldanda 34.09 343 *eP* **P 12 56 30.1 -1.5**
KLBR Kellerberrin 34.50 143 P **P 12 56 33.9 -1.1**
baz=34,SNR=56
KLBR Kellerberrin 34.50 143 P **P 12 56 35.4 +0.4**
LSA Lhasa 34.55 355 P **P 12 56 35.8 -0.1**
LSA pmax pmax
comp=Z,14µm,1.8s
LSA MLR MLR
comp=Z,559µm,19.0s
LSA Lhasa 34.55 355 P **P 12 56 35.8 -0.1**
LSA Lhasa 34.55 355 P **P 12 56 35.9 0.0**
LSA S **S 13 01 56.9 -6.9**
LSA pmax pmax
comp=Z,100nm,0.7s
LSA LR LR
comp=N,893µm,22.1s
LSA LR LR
comp=E,718µm,17.1s
LSA LR LR
comp=Z,364µm,19.9s
LSA Lhasa 34.55 355 P **P 12 56 35.7 -0.2**
BIPH Bislig 34.57 68 ⇑*eP* **P 12 56 37.2 +1.4**
PYUN Piuthan 34.58 342 *eP* **P 12 56 34.0 -1.9**
DANN Dangsing 34.59 344 *eP* **P 12 56 34.2 -1.9**
MSAI Masohi 34.62 89 P **P 12 56 34.7 -1.6**
baz=298,slow=6.7,SNR=120
comp=Z,486nmcomp=Z,2µmcomp=Z,50nm,1.0s
H01W3 Cape Leeuwin H 35.04 151 P **P 12 56 41.5 +2.2**
H01W3 T T 13 34 41.9
baz=327,slow=74

H01W2 Cape Leeuwin H 35.05 151 P **P 12 56 39.8 +0.4**
baz=298,slow=6.7,SNR=170
H01W2 T T 13 34 37.4
baz=327,slow=74
H01W1 Cape Leeuwin H 35.05 151 P **P 12 56 40.3 +0.9**
baz=298,slow=6.7,SNR=170
H01W1 T T 13 34 37.9
baz=327
KNRA Kununurra 35.54 110 P **P 12 56 42.4 -1.7**
baz=35,SNR=134
KNRA Kununurra 35.54 110 P **P 12 56 42.9 -1.2**
KNRA IAmb IAmb 12 56 59.3
comp=Z,7µm,1.8s
KNRA Kununurra 35.54 110 P **P 12 56 44.3 +0.2**
AIS Amsterdam Isla 36.09 203 P **P 12 56 48.1 -0.5**
AIS IAmb IAmb 12 57 00.7
comp=Z,6µm,1.8s
AIS IAMs_20 IAMs_20 13 08 26.8
comp=Z,1279µm,19.0s
AIS Amsterdam Isla 36.09 203 ⇓P **P 12 56 49.0 +0.5**
RKGY Rocky Gully 36.28 147 P **P 12 56 48.2 -2.0**
baz=36,SNR=26
RKGY Rocky Gully 36.28 147 P **P 12 56 51.0 +0.8**
CD2 Chengdu 36.77 14 ⇓P **P 12 56 52.8 -1.7**
CD2 pP pP 12 56 59.6 -1.2
CD2 S **S 13 02 38.2 +1.2**
CD2 pmax pmax
comp=Z,710nm,1.0s
CD2 pmax pmax
comp=Z,70µm,11.3s
CD2 LR LR
comp=Z,4185µm,19.6s
CD2 LR LR
comp=Z,1731µm,17.1s
BHUJ Bhuj 36.89 320 *eP* **P 12 56 58.0 +2.5**
BHUJ *i* x x 12 57 12.1
BHUJ *ex* x 12 58 27.0
SAUI Saumlaki 36.93 97 IAmb IAmb 12 57 22.0
comp=Z,4µm,1.1s
SAUI Saumlaki 36.93 97 ⇓P **P 12 56 51.7 -4.4**
SAUI Saumlaki 36.93 97 P **P 12 56 57.0 +0.9**
comp=Z,246µmcomp=Z,54µmcomp=Z,3µm,1.2s
SAUI Saumlaki 36.93 97 P **P 12 56 57.0 +0.9**
DRS Darwin Rock St 36.95 104 P **P 12 56 56.6 +0.4**
SWI Sorong 37.17 85 P **P 12 56 57.8 -0.3**
SWI pmax pmax
comp=Z,2µm,1.3s
SWI Sorong 37.17 85 P **P 12 56 56.6 -1.5**
comp=Z,405µmcomp=Z,56µmcomp=Z,2µm,1.3s
SIJI Sorong 37.18 85 LR LR 13 14 31.5
comp=Z,384µm,19.2s,baz=260,slow=40
NDI New Delhi 37.22 335 *eP* **P 12 56 58.0 -0.3**
MTN Manton Dam 37.24 105 P **P 12 56 56.2 -2.5**
baz=37,SNR=76
MTN Manton Dam 37.24 105 P **P 12 56 57.2 -1.5**
MTN Manton Dam 37.24 105 ⇑P **P 12 56 56.2 -2.5**
MTN Manton Dam 37.24 105 P **P 12 56 59.0 +0.3**
KNMB Chin-men Tao 37.49 38 IAMs_20 IAMs_20 13 12 54.2
comp=Z,1077µm,19.0s
CNSH ChangSha 37.51 28 ⇓P P 12 56 46.7 -14
CNSH PP **PP 12 58 22.5 -4.2**
CNSH S S 13 02 29.4 -19
CNSH pmax pmax
comp=Z,54µm,7.3s
CNSH LR LR
comp=N,1326µm,15.7s
CNSH LR LR
comp=E,1598µm,15.7s
CNSH LR LR
comp=Z,1239µm,14.6s
ENH Enshi 37.91 22 P **P 12 57 02.2 -2.0**
ENH IAmb IAmb 12 57 41.7
comp=Z,4µm,1.1s
FAKI Fak Fak 37.96 88 P **P 12 57 02.5 -2.4**
FAKI IAmb IAmb 12 57 28.9
comp=Z,3µm,1.2s
FAKI Fak Fak 37.96 88 ⇑P **P 12 57 02.4 -2.4**
FAKI ⇑P **P 12 57 02.6 -2.2**
FAKI ⇓s **sP 12 57 16.3 +2.7**
FAKI Fak Fak 37.96 88 P **P 12 57 02.4 -2.4**
comp=Z,378µmcomp=Z,69µmcomp=Z,2µm,1.3s
FAKI Fak Fak 37.96 88 P **P 12 57 05.5 +0.7**
QZH Quanzhou 37.97 37 ⇑*iP* **P 12 57 06.3 +1.7**
QZH S **S 13 03 03.1 +7.8**
QZH pmax pmax
comp=Z,2µm,2.1s
QZH pmax pmax
comp=Z,63µm,4.9s
QZH LR LR
comp=Z,1128µm,17.5s
QZH LR LR
comp=Z,887µm,17.5s
TWG Pinlang 38.04 42 IAmb IAmb 12 57 26.9
comp=Z,6µm,1.5s
TPUB Ta-pu 38.08 41 P **P 12 57 07.3 +1.6**
WRKA Warakurna 38.30 125 P **P 12 57 05.8 -1.8**
baz=38,SNR=205
WRKA Warakurna 38.30 125 ⇓P **P 12 57 05.0 -2.6**
WRKA Warakurna 38.30 125 P **P 12 57 07.5 -0.1**
DDI Dehra Dun 38.32 337 *eP* **P 12 57 06.3 -1.3**
DDI IAmb IAmb 12 57 14.7
comp=Z,2µm,0.9s
DDI *i* x x 12 57 22.0
KDU Kakadu 38.51 104 P **P 12 57 07.1 -2.3**
baz=38,SNR=44
KDU Kakadu 38.51 104 ⇓P **P 12 57 07.2 -2.2**
KDU Kakadu 38.51 104 P **P 12 57 09.9 +0.5**
YULB Yu-li 38.59 42 IAmb IAmb 12 57 34.5
comp=Z,11µm,2.0s
SSLB Suanglung 38.63 41 IAmb IAmb 12 57 28.0
comp=Z,3µm,1.1s
SSLB Suanglung 38.63 41 P **P 12 57 10.5 +0.2**
MSEY Mahe Island 38.63 269 P **P 12 57 09.9 -0.7**
MSEY pmax pmax
comp=Z,4µm,1.9s
MSEY Mahe Island 38.63 269 P **P 12 57 09.8 -0.7**
MSEY Mahe Island 38.63 269 P **P 12 57 11.8 +1.3**
MSEY Mahe Island 38.63 269 ⇑P **P 12 57 10.4 -0.2**
MSEY Mahe Island 38.63 269 *iP* **P 12 57 09.3 -1.2**
SNR=28
NACB Ninganchiao 39.32 41 IAmb IAmb 12 58 01.9
comp=Z,3µm,1.3s
KMPI Kaimana, Papua 39.36 90 P **P 12 57 15.0 -1.6**
comp=Z,3µm,0.6s
SMLA Simla 39.38 337 *eP* **P 12 57 16.6 +0.2**
YHNB Yeheng 39.52 41 IAmb IAmb 12 57 43.3
comp=Z,8µm,1.8s
YHNB Yeheng 39.52 41 P **P 12 57 18.9 +1.1**
TATO Taipei 39.80 40 P **P 12 57 19.5 -0.6**
TATO IAmb IAmb 12 57 44.5
comp=Z,4µm,1.4s
WHN Wuhan 40.17 27 ⇓P **P 12 57 21.8 -1.2**
WHN S **S 13 03 36.4 +8.2**
WHN LR LR
comp=Z,2113µm,14.7s
WHN LR LR
comp=Z,2684µm,15.9s
YOJ Yonaguni jima 40.46 43 P **P 12 57 27.6 +2.1**
YOJ pmax pmax
comp=Z,2µm,2.2s
YOJ Yonaguni jima 40.46 43 IAmb IAmb 12 57 48.9
comp=Z,5µm,1.7s
YOJ Yonaguni jima 40.46 43 ⇑P **P 12 57 26.5 +1.0**
YOJ Yonaguni jima 40.46 43 P **P 12 57 27.1 +1.6**
RER Riviere de l'E 40.68 243 P **P 12 57 27.3 -0.2**
RER IAmb IAmb 12 58 00.8
comp=Z,3µm,1.0s
RER Riviere de l'E 40.68 243 P **P 12 57 28.3 +0.8**
SNR=33
RER S **S 13 03 42.9 +6.4**
RER Riviere de l'E 40.68 243 ⇑P **P 12 57 26.9 -0.6**
DHRM DHARAMSHALA 40.72 336 *eP* **P 12 57 27.2 -0.6**
DHRM IAmb IAmb 12 57 36.0
comp=Z,1µm,1.0s
DHRM *i* x x 12 57 41.9
DHRM *ex* x 12 59 08.2
FORT Forrest 40.90 133 P **P 12 57 27.8 -1.2**
baz=41,SNR=54
FORT Forrest 40.90 133 P **P 12 57 27.7 -1.4**
FORT IAmb IAmb 12 57 44.5
comp=Z,10µm,1.8s
FORT Forrest 40.90 133 ⇑P **P 12 57 27.6 -1.4**
FORT Forrest 40.90 133 P **P 12 57 29.5 +0.4**
GOMU GeErMu 40.91 1 P **P 12 57 28.3 -1.2**
GOMU pP pP 12 57 35.6 -0.2

GOMU sP pwP 12 57 40.4 -2.0
GOMU PcP **PcP** **12 59 28.3 -1.5**
GOMU S **S** **13 03 41.6 +1.7**
GOMU ScS **ScS** **13 07 32.3 -1.0**
GOMU LR LR
comp=Z,282µm,17.5s
GOMU LR LR
comp=Z,632µm,18.0s
GOMU LR LR
comp=Z,262µm,17.5s
XAN Xi'an 41.76 19 ⇓P **P** **12 57 29.2 -2.0**
XAN pP pP 12 57 36.4 -1.1
XAN sP sP 12 57 40.0 -0.1
XAN S **S** **13 03 41.4 -1.6**
XAN sS sS 13 03 54.2 +0.7
XAN SS **SS** **13 06 40.3 -6.3**
XAN ScS **ScS** **13 07 32.4 -1.8**
XAN pmax pmax
comp=Z,690nm,0.8s
XAN pmax pmax
comp=Z,84µm,6.5s
XAN LR LR
comp=Z,1281µm,17.9s
XAN LR LR
comp=Z,1263µm,17.5s
WRA Warramunga Arr 41.76 115 P **P** **12 57 34.5 -1.8**
comp=Z,218nm,1.1s,baz=288,slow=9.0,SNR=119
WRA S **S** **13 03 57.5 +5.1**
comp=Z,21nm,1.0s,baz=276,slow=13,SNR=2.0
WRA LR LR 13 13 11.8
comp=Z,765µm,21.5s,baz=289,slow=34
WRA P3KPbc 13 27 06.5
comp=Z,3.3nm,0.8s,baz=96,slow=4.3,SNR=5.2
WRA PKPPKP P'P'df 13 29 31.4 -15
comp=Z,8.6nm,0.9s,baz=122,slow=1.9,SNR=5.4
WRA Warramunga Arr 41.76 115 P **P** **12 57 34.4 -1.9**
WB0 Warramunga Arr 41.76 114 P **P** **12 57 34.4 -1.9**
WRAB Tennant Creek 41.76 115 *d* iP **P** **12 57 36.8 +0.4**
WRAB pmax pmax
comp=Z,5µm,2.5s
WRAB Tennant Creek 41.76 115 P **P** **12 57 35.3 -1.1**
WRAB pwP **sP** **12 57 46.5 +1.2**
WRAB Tennant Creek 41.76 115 ⇓P **P** **12 57 34.5 -1.9**
WRAB Tennant Creek 41.76 115 P **P** **12 57 36.1 -0.3**
WB2 Warramunga Arr 41.77 115 P **P** **12 57 35.3 -1.1**
LZH Lanzhou 41.77 12 ⇓P **P** **12 57 34.6 -1.7**
LZH pP pP 12 57 41.6 -1.1
LZH sP pwP 12 57 47.4 -1.9
LZH S **S** **13 03 46.5 -5.8**
LZH sS sS 13 04 06.0 +3.2
LZH SS SS 13 06 47.5 -11
LZH pmax pmax
comp=Z,2µm,1.5s
LZH pmax pmax
comp=Z,56µm,5.4s
LZH LR LR
comp=Z,335µm,16.3s
LZH LR LR
comp=Z,1486µm,15.7s
LZH LR LR
comp=Z,900µm,16.3s
WR0 Warramunga Arr 41.94 114 IAmb IAmb 12 57 54.2
comp=Z,6µm,1.8s
SRPI Serui, Papua 42.02 87 P **P** **12 57 36.8 -1.7**
comp=Z,201µmcomp=Z,26µmcomp=Z,910nm,0.9s
JMJ Miyako jima 2 42.25 44 P **P** **12 57 41.8 +1.6**
ASAR Alice Springs 42.49 120 P **P** **12 57 40.7 -1.6**
comp=Z,117nm,1.0s,baz=293,slow=7.2,SNR=79
ASAR S **S** **13 04 11.0 +7.8**
comp=Z,11nm,0.9s,baz=297,slow=6.1,SNR=2.8
ASAR LR LR 13 14 37.5
comp=Z,932µm,20.5s,baz=299,slow=35
ASAR P3KPbc 13 27 02.7
comp=Z,0.8nm,0.8s,baz=116,slow=3.7,SNR=5.4
ASAR PKPPKP P'P'df 13 29 29.1 -17
comp=Z,9.0nm,0.9s,baz=91,slow=2.3,SNR=6.3
ASAR Alice Springs 42.49 120 P **P** **12 57 40.6 -1.7**
LYN LuoYang 42.85 22 ⇓P **P** **12 57 44.0 -1.0**
LYN pP pP 12 57 47.5 -3.8
LYN S **S** **13 04 10.6 +2.6**
LYN SS **SS** **13 07 14.7 -5.3**
LYN pmax pmax
comp=Z,160nm,1.0s
LYN pmax pmax
comp=Z,64µm,13.4s
LYN LR LR
comp=Z,2059µm,15.9s
LYN LR LR
comp=Z,868µm,15.7s
NIL Nilore 43.20 334 P **P** **12 57 45.4 -2.5**
NIL pmax pmax
comp=Z,12µm,1.9s
NIL MLR MLR
comp=Z,615µm,18.0s
NIL Nilore 43.20 334 P **P** **12 57 45.4 -2.5**
NIL Nilore 43.20 334 S **S** **13 04 17.8 +4.6**
JLN Jalan Bani Buh 43.43 310 P **P** **12 57 52.0 +2.1**
SNR=97
JLN P **P** **12 57 52.0 +2.1**
SNR=97
JLN P **P** **12 57 52.0 +2.1**
SNR=97
SOCY Socotra 43.49 293 P **P** **12 57 49.7 -0.9**
SOCY IAmb IAmb 12 58 13.0
comp=Z,4µm,1.6s
SOCY Socotra 43.49 293 P **P** **12 57 50.2 -0.4**
SNR=210
SOCY Socotra 43.49 293 ⇓P **P** **12 57 49.6 -0.9**
NJ2 Nanjing 43.59 31 ⇑ *i* P **P** **12 57 52.5 +1.5**
NJ2 pP **pP** **12 57 56.2 -1.1**
NJ2 sP **sP** **12 58 00.6 +0.7**
NJ2 PP **PcP** **12 59 42.7 +4.4**
NJ2 PcP PP 12 59 51.4 +19
NJ2 S **S** **13 04 20.9 +2.0**
NJ2 sS **sS** **13 04 31.1 +1.7**
NJ2 SS **ScS** **13 07 42.7 -6.4**
NJ2 pmax pmax
comp=Z,290nm,1.1s
NJ2 pmax pmax
comp=Z,61µm,6.1s
NJ2 LR LR
comp=N,1700µm,16.7s
NJ2 LR LR
comp=E,2580µm,17.6s
NJ2 LR LR
comp=Z,1471µm,18.6s
DQM DQM 43.73 306 P **P** **12 57 54.1 +1.8**
SNR=90
DQM P **P** **12 57 54.1 +1.8**
SNR=90
DQM P **P** **12 57 54.1 +1.8**
SNR=90
MHTO MHTO 43.93 307 P **P** **12 57 52.0 -1.8**
SNR=176
MHTO P **P** **12 57 52.0 -1.8**
SNR=176
MHTO P **P** **12 57 52.0 -1.8**
SNR=176
SSE Sheshan 44.09 34 P **P** **12 57 57.4 +2.4**
SSE S **S** **13 04 25.5 -0.7**
SSE pmax pmax
comp=Z,85nm,0.7s
SSE pmax pmax
comp=Z,1µm,3.5s
SSE LR LR
comp=N,7µm,16.5s
SSE LR LR
comp=E,7µm,18.2s
SHAO Shalim 44.40 302 P **P** **12 57 60.0 +2.3**
SNR=44
SHAO P **P** **12 57 60.0 +2.3**
SNR=44
SHAO P **P** **12 57 60.0 +2.3**
SNR=44
SHAO Shalim 44.40 302 *i* P **P** **12 57 58.8 +1.1**
SNR=44
GTA Gaotai 44.41 6 ⇓P **P** **12 57 55.9 -1.7**
GTA pP pP 12 58 03.4 -0.6
GTA sP sP 12 58 08.1 +1.6
GTA S **S** **13 04 29.5 -1.4**
GTA sS sS 13 04 45.4 +4.0
GTA pmax pmax
comp=E,14µm,9.2s
GTA LR LR
comp=E,595µm,18.7s
GTA LR LR
comp=E,680µm,16.3s
GTA LR LR
comp=E,571µm,18.3s
SBV Sambava 44.51 256 P **P** **12 57 59.0 +0.4**
SNR=80
SBV Sambava 44.51 256 ⇑P **P** **12 57 57.5 -1.2**
SBV Sambava 44.51 256 P **P** **12 57 58.6 0.0**
JMDO Jabal Madar 44.56 309 P **P** **12 58 01.0 +2.0**
SNR=69
JMDO P **P** **12 58 01.0 +2.0**
SNR=69
JMDO P **P** **12 58 01.0 +2.0**
SNR=69
WSAR Wadi Sarin 44.64 310 P **P** **12 57 58.3 -1.2**
comp=E,295nm,0.9s,baz=145,slow=6.2,SNR=28
WSAR LR LR 13 14 55.0
comp=E,660µm,18.6s,baz=171,slow=34
WSAR Wadi Sarin 44.64 310 P **P** **12 58 02.7 +3.1**
SNR=37
DMTO DMTO 44.84 301 P **P** **12 58 04.0 +2.8**
SNR=34
DMTO P **P** **12 58 04.0 +2.8**
SNR=34
DMTO P **P** **12 58 04.0 +2.8**
SNR=34
SMDO Samad 44.98 310 P **P** **12 58 04.0 +1.6**
SNR=71
SMDO P **P** **12 58 04.0 +1.6**
SNR=71
SMDO P **P** **12 58 04.0 +1.6**
SNR=71
BIDO Bidbid 45.18 310 P **P** **12 58 03.5 -0.3**
SNR=76
BIDO P **P** **12 58 03.5 -0.3**
SNR=76
MULG Mulgathing 45.18 129 P **P** **12 58 04.7 +0.9**
RBK Rabkut 45.38 300 P **P** **12 58 05.2 -0.4**
SNR=158
RBK P **P** **12 58 05.2 -0.4**
SNR=158
RBK P **P** **12 58 05.2 -0.4**
SNR=158
BSY Bisya 45.47 309 P **P** **12 58 06.0 -0.2**
SNR=177
BSY P **P** **12 58 06.0 -0.2**
SNR=177
BSY P **P** **12 58 06.0 -0.2**
SNR=177
OOD Oodnadatta 45.47 125 P **P** **12 58 06.3 +0.2**
JOW Kunigami 45.60 44 LR LR 13 18 23.2
comp=E,402µm,18.4s,baz=202,slow=38
JOW Kunigami 45.60 44 ⇑P **P** **12 58 06.0 -1.2**
JOW Kunigami 45.60 44 P **P** **12 58 08.2 +1.1**
TIY Taiyuan 45.67 20 ⇑P **P** **12 58 08.8 +1.2**
TIY sP **sP** **12 58 16.4 -0.1**
TIY S **S** **13 04 51.6 +2.6**
TIY sS **sS** **13 04 59.4 -0.2**
TIY pmax pmax
comp=E,230nm,0.9s
TIY pmax pmax
comp=E,54µm,7.5s
TIY LR LR
comp=E,747µm,18.5s
TIY LR LR
comp=E,837µm,20.6s
HOQ Hoqain 45.83 310 P **P** **12 58 10.8 +1.7**
SNR=134
HOQ P **P** **12 58 10.8 +1.7**
SNR=134
HOQ P **P** **12 58 10.8 +1.7**
SNR=134
GENI Genyem 45.87 89 ⇑P **P** **12 58 07.9 -1.6**
GENI ⇓P **P** **12 58 09.3 -0.2**
GENI ⇓s **sP** **12 58 21.2 +2.8**
GENI Genyem 45.87 89 P **P** **12 58 09.1 -0.4**
comp=E,336µmcomp=E,70µmcomp=E,3µm,1.3s
GENI Genyem 45.87 89 P **P** **12 58 10.3 +0.8**
KBL Kabul 45.89 331 P **P** **12 58 07.8 -1.7**
KBL pmax pmax
comp=Z,6µm,1.6s
KBL Kabul 45.89 331 P **P** **12 58 07.8 -1.7**
KBL IAmb IAmb 12 58 32.8
comp=Z,6µm,1.6s
MMPI Merauke 45.93 97 P **P** **12 58 08.6 -1.4**
comp=Z,236µmcomp=Z,84µmcomp=Z,5µm,1.9s
WHFO Wadi Hawf 45.93 301 P **P** **12 58 08.4 -1.5**
SNR=141
WHFO P **P** **12 58 08.4 -1.5**
SNR=141
WHFO P **P** **12 58 08.4 -1.5**
SNR=141
DOK Doka 45.93 302 P **P** **12 58 08.5 -1.3**
SNR=126
DOK P **P** **12 58 08.5 -1.3**
SNR=126
DOK P **P** **12 58 08.5 -1.3**
SNR=126
ABTO Aybut 46.10 300 P **P** **12 58 10.3 -1.0**
SNR=246
ABTO P **P** **12 58 10.3 -1.0**
SNR=246
ABTO P **P** **12 58 10.3 -1.0**
SNR=246
TIA Tai'an 46.19 26 ⇓P **P** **12 58 09.3 -2.3**
TIA sP **sP** **12 58 21.1 +0.6**
TIA S **S** **13 04 59.2 +2.8**
TIA sS **sS** **13 05 11.1 +4.1**
TIA LR LR
comp=Z,685µm,22.1s
TIA LR LR
comp=Z,1263µm,19.1s
TIA LR LR
comp=Z,672µm,23.5s
HNS HongShan 46.22 23 ⇓P **P** **12 58 10.8 -1.0**
HNS pP **pP** **12 58 17.2 -1.0**
HNS sP **sP** **12 58 21.8 +1.1**
HNS S **S** **13 05 00.8 +4.0**
HNS sS **sS** **13 05 09.3 +2.0**
HNS pmax pmax
comp=Z,790nm,0.9s
HNS LR LR
comp=Z,600µm,21.6s
HNS LR LR
comp=Z,1384µm,19.4s
HNS LR LR
comp=Z,820µm,22.4s
ARQ Araqi 46.31 309 P **P** **12 58 11.9 -0.9**
SNR=140
ARQ P **P** **12 58 11.9 -0.9**
SNR=140
ARQ P **P** **12 58 11.9 -0.9**
SNR=140
JAY Jayapura 46.41 89 LR LR 13 19 56.5
comp=Z,241µm,20.9s,slow=39
JAY Jayapura 46.41 89 P **P** **12 58 12.8 -1.0**
JAY pmax pmax
comp=Z,1µm,1.2s
JAY Jayapura 46.41 89 P **P** **12 58 12.9 -0.9**
comp=Z,159µmcomp=Z,20µmcomp=Z,737nm,1.1s
QIS Mount Isa 46.70 114 P **P** **12 58 14.6 -1.3**
baz=47,SNR=128
QIS Mount Isa 46.70 114 P **P** **12 58 16.1 +0.2**
SOHO SOHO 46.73 310 *i* P **P** **12 58 15.4 -0.7**
SNR=136
UMZA Um Al Zommool 47.05 307 P **P** **12 58 17.2 -1.4**
UMZA P **P** **12 58 17.2 -1.4**
UMZA P **P** **12 58 17.2 -1.4**
ALNE Al Ain 47.29 309 P **P** **12 58 20.6 +0.2**
SNR=160
ALNE P **P** **12 58 20.6 +0.2**
SNR=160
ALNE P **P** **12 58 20.6 +0.2**
SNR=160
ALNE Al Ain 47.29 309 *i* P **P** **12 58 21.4 +0.9**
SNR=32
KSH Kashi 47.32 341 P **P** **12 58 17.0 -3.6**
KSH pP pP 12 58 24.4 -2.6
KSH sP pwP 12 58 34.0 +0.4
KSH PP PP 13 00 03.0 -9.1
KSH S S 13 05 02.3 -11
KSH sS pS 13 05 17.6 -2.8
KSH pmax pmax
comp=Z,110nm,0.9s
KSH pmax pmax
comp=Z,17µm,5.1s
KSH LR LR
comp=Z,663µm,15.9s
KSH LR LR
comp=Z,474µm,15.9s
KSH LR LR
comp=Z,675µm,14.6s
ASHO Ashiyiah 47.39 310 P **P** **12 58 20.8 -0.5**
SNR=128
ASHO P **P** **12 58 20.8 -0.5**
SNR=128
ASHO P **P** **12 58 20.8 -0.5**
SNR=128
ASHO Ashiyiah 47.39 310 *i* P **P** **12 58 21.0 -0.3**
SNR=41
HATD Hatta, Dubai 47.41 310 P **P** **12 58 22.1 +0.7**
SNR=88
HATD P **P** **12 58 22.1 +0.7**
SNR=88
HATD P **P** **12 58 22.1 +0.7**
SNR=88
HATD Hatta, Dubai 47.41 310 *i* P **P** **12 58 21.9 +0.5**
SNR=81
UOSS Minazif 47.42 311 P **P** **12 58 20.1 -1.4**
UOSS IAmb IAmb 12 58 38.7
comp=Z,3µm,1.6s
UOSS Minazif 47.42 311 ⇓P **P** **12 58 18.8 -2.7**
UOSS Minazif 47.42 311 *i* P **P** **12 58 21.1 -0.4**
SNR=41
BTO Baotou 47.56 16 *e* P **P** **12 58 21.8 -0.6**
BTO S **S** **13 05 17.9 +1.8**
MSFE Esma-Masafi 47.69 311 *i* P **P** **12 58 24.5 +1.0**
SNR=28
MASF Masafi 47.69 311 P **P** **12 58 23.9 +0.3**
SNR=94
MASF P **P** **12 58 23.9 +0.3**
SNR=94
FAQ Al Faqa, Dubai 47.78 310 P **P** **12 58 23.4 -0.8**
SNR=122
FAQ P **P** **12 58 23.4 -0.8**
SNR=122
FAQ P **P** **12 58 23.4 -0.8**
SNR=122
FAQ Al Faqa, Dubai 47.78 310 *i* P **P** **12 58 25.0 +0.7**
SNR=114
BBOO Buckleboo 47.83 131 P **P** **12 58 23.4 -1.1**
baz=48,SNR=47
BBOO Buckleboo 47.83 131 P **P** **12 58 23.2 -1.3**
BBOO IAmb IAmb 12 58 40.6
comp=Z,1µm,1.0s
BBOO Buckleboo 47.83 131 P **P** **12 58 24.9 +0.3**
NAZ Nazwa, Dubai 47.86 310 P **P** **12 58 24.2 -0.6**
SNR=83
NAZ P **P** **12 58 24.2 -0.6**
SNR=83
NAZ P **P** **12 58 24.2 -0.6**
SNR=83
NAZ Nazwa, Dubai 47.86 310 *i* P **P** **12 58 25.0 +0.2**
SNR=57
BANOM Banah 47.90 312 P **P** **12 58 30.0 +4.8**
SNR=38
BANOM P **P** **12 58 30.0 +4.8**
SNR=38
BANOM Banah 47.90 312 *i* P **P** **12 58 25.2 0.0**
SNR=18
ABPO Ambohimpanom 47.92 249 P **P** **12 58 23.8 -1.9**
ABPO pmax pmax
comp=Z,1µm,1.2s
ABPO Ambohimpanom 47.92 249 P **P** **12 58 23.8 -1.9**
ABPO Ambohimpanom 47.92 249 IAMs_20 IAMs_20 13 14 23.4
comp=Z,857µm,20.0s
ABPO Ambohimpanom 47.92 249 ⇓P **P** **12 58 24.2 -1.5**
ASUD Al Ashush, Dub 47.92 310 P **P** **12 58 27.0 +1.7**
SNR=67
ASUD P **P** **12 58 27.0 +1.7**
SNR=67
ASUD P **P** **12 58 27.0 +1.7**
SNR=67
ASUD Al Ashush, Dub 47.92 310 *i* P **P** **12 58 26.4 +1.1**
SNR=39
SHME Shamm 48.08 312 P P 12 58 31.9 +5.3
SNR=39
SHME P P 12 58 31.9 +5.3
SNR=39
SHME P P 12 58 31.9 +5.3
SNR=39
SHME Shamm 48.08 312 *i* P **P** **12 58 27.0 +0.4**
SNR=50
AJN Ajban 48.15 309 P **P** **12 58 28.1 +1.0**
SNR=57
AJN P **P** **12 58 28.1 +1.0**
SNR=57
AJN P **P** **12 58 28.1 +1.0**
SNR=57
AJN Ajban 48.15 309 *i* P **P** **12 58 27.6 +0.5**
SNR=61
UMQ Umm Al-Quwin 48.15 311 P **P** **12 58 30.8 +3.7**
SNR=50
UMQ P **P** **12 58 30.8 +3.7**
SNR=50
UMQ P **P** **12 58 30.8 +3.7**
SNR=50
UMQ Umm Al-Quwin 48.15 311 *i* P **P** **12 58 28.1 +1.0**
SNR=58
HHC Hu-ho-hao-te 48.23 18 *e* P **P** **12 58 28.9 +1.3**
HHC S **S** **13 05 28.6 +2.9**
HHC SS **SS** **13 08 51.1 -4.4**
HHC pmax pmax
comp=Z,1µm,1.6s
HHC LR LR
comp=Z,1465µm,20.3s
HHC LR LR
comp=Z,3581µm,19.0s
HHC LR LR
comp=Z,1592µm,18.9s
LCRK Leigh Creek 48.53 127 P **P** **12 58 31.2 +1.2**
MZR Muzera 48.53 307 P **P** **12 58 29.3 -0.8**
SNR=163
MZR P **P** **12 58 29.3 -0.8**
SNR=163
MZR P **P** **12 58 29.3 -0.8**
SNR=163
MZR Muzera 48.53 307 *i* P **P** **12 58 31.0 +0.9**
SNR=261
PAF Port-aux-Franc 48.74 201 P **P** **12 58 29.3 -1.9**
PAF pmax pmax
comp=Z,2µm,1.2s
PAF Port-aux-Franc 48.74 201 P **P** **12 58 29.3 -1.9**
PAF IAmb IAmb 12 58 47.1
comp=Z,2µm,1.2s
PAF Port-aux-Franc 48.74 201 ⇑P **P** **12 58 32.2 +1.0**
WMQ Urumqi 48.88 354 ⇓ *i* P **P** **12 58 31.3 -1.1**
WMQ pP pP 12 58 39.5 +0.6
WMQ sP pwP 12 58 44.0 -1.5
WMQ S **S** **13 05 35.2 +0.6**
WMQ sS sS 13 05 46.5 +1.3
WMQ pmax pmax
comp=Z,77µm,4.3s
WMQ LR LR
comp=Z,121µm,18.9s
WMQ LR LR
comp=Z,221µm,20.1s
WMQ LR LR
comp=Z,195µm,20.1s
VOI Vohitsoka 48.91 245 P **P** **12 58 32.1 -1.1**
VOI IAmb IAmb 12 59 01.7
comp=Z,2µm,1.5s
VOI IAMs_20 IAMs_20 13 15 51.5
comp=Z,672µm,19.0s
VOI Vohitsoka 48.91 245 P **P** **12 58 32.8 -0.4**
SNR=93
VOI Vohitsoka 48.91 245 ⇑P **P** **12 58 31.8 -1.4**
VOI Vohitsoka 48.91 245 P **P** **12 58 32.4 -0.9**
COEN Coen 49.00 104 P **P** **12 58 32.9 -1.0**
COEN Coen 49.00 104 ⇑P **P** **12 58 32.6 -1.3**
COEN Coen 49.00 104 P **P** **12 58 35.9 +2.0**
BJT Baijiatuau 49.06 22 P **P** **12 58 32.6 -1.2**
BJT pmax pmax
comp=Z,6µm,1.7s
BJT MLR MLR
comp=Z,695µm,18.0s
BJT Baijiatuau 49.06 22 P **P** **12 58 32.6 -1.2**
BJT Baijiatuau 49.06 22 IAMs_20 IAMs_20 13 22 30.5
comp=Z,695µm,18.0s
WHYH Whyalla 49.07 130 P **P** **12 58 34.7 +0.6**
BJI Beijing 49.08 22 P **P** **12 58 32.8 -1.2**
BJI pP **pP** **12 58 38.7 -1.7**
BJI sP **sP** **12 58 42.0 -0.9**

BJI PcP **PcP** 12 59 55.3 -2.1
BJI S **S** 13 05 38.2 +0.9
BJI pmax pmax
comp=Z,380nm,0.8s
BJI pmax pmax
comp=Z,6µm,6.7s
BJI LR LR
comp=Z,690µm,16.7s
BJI LR LR
comp=Z,716µm,15.5s
BJI LR LR
comp=Z,924µm,16.5s
CHGR Chuyangaron 49.20 334 P **P** 12 58 32.9 -2.2
PTPS Port Pirie 49.45 130 P **P** 12 58 37.2 +0.2
GHWR Ruwais 49.49 307 P **P** 12 58 36.6 -0.8
GHWR P **P** 12 58 36.6 -0.8
GHWR P **P** 12 58 36.6 -0.8
NAPP Napperby 49.57 130 P **P** 12 58 38.2 +0.3
SHLS Shalkode 49.69 346 *e*P **P** 12 58 35.2 -3.6
SHLS *e*S **S** 13 05 41.9 -4.2
SHLS pmax pmax
comp=Z,9µm,2.9s
SHLS Shalkode 49.69 346 *e*P **P** 12 58 35.2 -3.6
baz=346
SHLS *e*tx tx 12 58 52.0
comp=Z,9µm,2.9s,baz=346
SHLS *e*S **S** 13 05 41.9 -4.2
baz=346
ULHL Ulahol 49.72 342 P **P** 12 58 37.0 -2.1
SNR=19
UZB Uzynbulak 49.79 345 *e*P **P** 12 58 36.3 -3.2
UZB *e*S **S** 13 05 43.4 -4.2
UZB pmax pmax
comp=Z,10µm,2.6s
UZB Uzynbulak 49.79 345 *e*P **P** 12 58 36.4 -3.2
baz=346
UZB *e*tx tx 12 58 53.4
comp=Z,10µm,2.6s,baz=346
UZB *e*S **S** 13 05 43.5 -4.2
baz=346
SATY Saty 49.87 345 *e*P **P** 12 58 36.7 -3.4
SATY *e*S **S** 13 05 44.9 -3.7
SATY pmax pmax
comp=Z,10µm,2.8s
SATY Saty 49.87 345 *e*P **P** 12 58 36.7 -3.4
baz=345
SATY *e*tx tx 12 58 53.8
comp=Z,10µm,2.8s,baz=345
SATY *e*S **S** 13 05 45.0 -3.7
baz=345
ZHN Zhinishke 49.96 345 *e*P **P** 12 58 38.0 -2.8
ZHN pmax pmax
comp=Z,2µm,3.3s
ZHN Zhinishke 49.96 345 *e*P **P** 12 58 38.0 -2.8
baz=345
ZHN *e*tx tx 12 58 55.5
comp=Z,2µm,3.3s,baz=345
JSU Suzuyama 50.03 41 ⇑P **P** 12 58 38.5 -3.0
KPKS Kokpek 50.18 345 *e*P **P** 12 58 38.6 -3.8
KPKS pmax pmax
comp=Z,9µm,2.6s
KPKS Kokpek 50.18 345 *e*P **P** 12 58 38.7 -3.8
baz=345
KPKS *e*tx tx 12 58 56.1
comp=Z,9µm,2.6s,baz=345
TNSS Tian-Shan 50.24 344 *e*P **P** 12 58 39.8 -3.5
baz=344
UCH Uchtor 50.24 341 P **P** 12 58 41.4 -2.0
SNR=65
HTT Hallett 50.26 130 P **P** 12 58 41.9 -1.4
baz=50,SNR=104
HTT Hallett 50.26 130 ⇓P **P** 12 58 41.4 -1.9
HTT Hallett 50.26 130 P **P** 12 58 43.7 +0.4
MDOK Medeo 50.33 344 *e*P **P** 12 58 40.6 -3.1
MDOK *e*S **S** 13 05 52.3 -2.8
MDOK MLR MLR
comp=Z,235µm,15.0s
MDOK Medeo 50.33 344 *e*P **P** 12 58 40.6 -3.1
baz=344
MDOK *e*S **S** 13 05 52.4 -2.8
baz=344
MDOK LR LR 13 22 31.4
comp=Z,235µm,15.3s,baz=344
AAA Alma-Ata 50.41 344 *e*P **P** 12 58 44.4 +0.2
AAA Alma-Ata 50.41 344 *e*P **P** 12 58 41.8 -2.4
baz=344
AAA *e*tx tx 12 58 59.5
comp=Z,41µm,3.2s,baz=344
AAA LR LR 13 22 35.9
comp=Z,346µm,15.4s,baz=344
DL2 Dalian 50.43 28⇑ *i*P **P** 12 58 43.0 -1.3
DL2 S **S** 13 05 56.8 +0.5
DL2 SS **SS** 13 09 25.5 -5.1
DL2 pmax pmax
comp=Z,2µm,1.4s
DL2 pmax pmax
comp=Z,56µm,6.6s
DL2 LR LR
comp=Z,343µm,14.9s
DL2 LR LR
comp=Z,1029µm,16.9s
DL2 LR LR
comp=Z,668µm,25.3s
AML Almayashu 50.43 340 P **P** 12 58 42.8 -1.9
SNR=136
AML Almayashu 50.43 340 *i*P **P** 12 58 44.6 -0.1
SNR=246
SLWR Sila 50.48 307 P **P** 12 58 43.2 -1.7
SLWR P **P** 12 58 43.2 -1.7
SLWR P **P** 12 58 43.2 -1.7
KBK Karagaybulak 50.49 342 P **P** 12 58 43.4 -1.6
SNR=49
TKM2 Tokmak 2 50.53 342 P **P** 12 58 43.2 -2.1
SNR=137
MTSU Mount Surprise 50.61 109 P **P** 12 58 44.7 -1.4
baz=50,SNR=164
MTSU Mount Surprise 50.61 109 P **P** 12 58 45.6 -0.5
AAK Ala-Archa 50.62 341 LR LR 13 21 19.9
comp=Z,707µm,20.9s,baz=164,slow=38
AAK Ala-Archa 50.62 341 *d i*P **P** 12 58 43.9 -2.0
AAK pmax pmax
comp=Z,6µm,3.6s
AAK MLR MLR
comp=Z,501µm,17.0s
AAK Ala-Archa 50.62 341 P **P** 12 58 44.4 -1.5
AAK IAmb IAmb 12 59 03.6
comp=Z,4µm,1.6s
AAK Ala-Archa 50.62 341 IAMs_20 IAMs_20 13 20 56.9
comp=Z,725µm,21.0s
AAK Ala-Archa 50.62 341 ⇓P **P** 12 58 43.9 -2.0
AAK Ala-Archa 50.62 341 *i* P **P** 12 58 45.8 -0.1
SNR=105
TWOA Tennyson Woods 50.68 132 P **P** 12 58 46.8 +0.5
CHMS Chumysh 50.86 342 P **P** 12 58 45.2 -2.3
SNR=60
EKS2 Erkin-Say 50.88 341 P **P** 12 58 46.1 -1.7
SNR=129
CHKK Chushkaly 50.99 344 *e*P **P** 12 58 45.0 -3.4
baz=344
ARXS Arharly 51.09 345 *e*P **P** 12 58 46.4 -2.9
USP Ospenovka 51.19 342 P **P** 12 58 47.8 -2.2
SNR=290
TRNA Turayna 51.19 307 P **P** 12 58 50.6 +0.3
KUU Kurty 51.20 343 *e*P **P** 12 58 46.6 -3.5
KUU *e*S **S** 13 06 03.7 -3.2
KUU pmax pmax
comp=Z,29µm,3.2s
KUU MLR MLR
comp=Z,122µm,14.0s
KUU Kurty 51.20 343 *e*P **P** 12 58 46.6 -3.5
baz=344
KUU *e*tx tx 12 59 04.4
comp=Z,29µm,3.2s,baz=344
KUU *e*S **S** 13 06 03.7 -3.2
baz=344
KUU LR LR 13 22 16.3
comp=Z,122µm,14.3s,baz=344
SGDS Sogindy 51.31 342 *e*P **P** 12 58 48.1 -2.8
SGDS pmax pmax
comp=Z,8µm,2.7s
SGDS Sogindy 51.31 342 *e*P **P** 12 58 46.8 -4.1
baz=342
SGDS *e*tx tx 12 59 05.7
comp=Z,8µm,2.7s,baz=342
JNU Nakatsue 51.34 40 LR LR 13 20 49.2
comp=Z,647µm,20.0s,baz=224,slow=36

JNU Nakatsue 51.34 40 IAmb IAmb 12 59 12.5
comp=Z,6µm,1.6s
JNU Nakatsue 51.34 40 ⇑P **P** 12 58 49.5 -1.9
JNU Nakatsue 51.34 40 P **P** 12 58 51.8 +0.5
JTU Tsushima 51.35 37 P **P** 12 58 50.4 -0.9
JTU Tsushima 51.35 37 ⇑P **P** 12 58 53.0 +1.7
TAS Tashkent 51.37 336 P **P** 12 58 49.9 -1.4
TAS pmax pmax
comp=Z,8µm,1.6s
TAS Tashkent 51.37 336 P **P** 12 58 49.9 -1.4
KHOR Al-Khor Airpor 51.39 308 P **P** 12 58 51.9 +0.1
TJN Taejon 51.45 34*c i*P **P** 12 58 52.9 +0.9
TJN Taejon 51.45 34 P **P** 12 58 51.2 -0.8
TJN Taejon 51.45 34 P **P** 12 58 53.2 +1.2
comp=Z,6µm,2.4s
STKA Stephens Creek 51.75 127 P **P** 12 58 55.1 +0.8
comp=Z,133nm,0.8s,baz=299,slow=7.7,SNR=44
STKA S **S** 13 06 13.5 -1.4
comp=Z,30nm,1.1s,baz=7.6,slow=14,SNR=2.4
STKA LR LR 13 19 31.8
comp=Z,1043µm,21.8s,baz=284,slow=34
STKA PKPPKP P'P'df 13 29 21.7 -12
comp=Z,12nm,0.9s,baz=63,slow=3.0,SNR=5.6
STKA Stephens Creek 51.75 127 P **P** 12 58 52.7 -1.6
baz=52,SNR=164
STKA Stephens Creek 51.75 127 P **P** 12 58 52.8 -1.6
STKA Stephens Creek 51.75 127 P **P** 12 58 55.2 +0.8
HJU Haeju 51.78 32 P **P** 12 58 55.6 +1.2
HJU sP **sP** 12 59 03.9 +0.5
HJU S **S** 13 06 20.0 +5.0
HJU AmB
comp=Z,31µm,2.5s
HJU AMS AMS
comp=N,691µm,32.0s
HJU AMS AMS
comp=E,695µm,32.2s
HJU AMS AMS
comp=Z,502µm,23.2s
INCN Inchon 51.85 33 P **P** 12 58 53.6 -1.4
INCN pmax pmax
comp=Z,3µm,1.9s
INCN MLR MLR
comp=Z,999µm,20.0s
INCN Inchon 51.85 33 P **P** 12 58 53.5 -1.4
INCN IAmb IAmb 12 59 15.5
comp=Z,3µm,1.9s
INCN Inchon 51.85 33 IAMs_20 IAMs_20 13 20 58.3
comp=Z,999µm,20.0s
INCN Inchon 51.85 33 ⇓P **P** 12 58 52.4 -2.6
INCN Inchon 51.85 33 P **P** 12 58 55.9 +0.9
DZA Taraz 51.93 339 *e*P **P** 12 58 52.5 -3.0
DZA pmax pmax
comp=Z,6µm,3.4s
DZA Taraz 51.93 339 *e*P **P** 12 58 52.6 -3.0
baz=339
DZA *e*tx tx 12 59 09.8
comp=Z,6µm,3.4s,baz=339
SHMA Al-Shehemyia 51.94 308 P **P** 12 58 55.8 -0.1
QLP Quilpie 52.29 120 P **P** 12 58 57.4 -1.1
baz=52,SNR=101
QLP Quilpie 52.29 120 ⇓P **P** 12 58 57.4 -1.1
QLP Quilpie 52.29 120 P **P** 12 58 58.9 +0.4
SAKB Bahrain 52.33 308 P **P** 12 58 59.0 +0.3
KKAR Karatay Array 52.41 338 P **P** 12 58 56.5 -2.6
KKAR Karatay Array 52.41 338 P **P** 12 58 56.5 -2.6
KKAR pwP **pwP** 12 59 12.9 +0.7
XiLinHaoTe 52.43 20⇓ *i*P **P** 12 58 59.8 +0.5
XLT pP pP 12 59 05.0 -0.8
XLT sP pwP 12 59 11.5 -0.9
XLT PcS **PcS** 13 04 11.3 +3.1
XLT S **S** 13 06 23.3 -0.6
XLT sS sS 13 06 40.3 +5.7
XLT SS **SS** 13 09 56.2 -6.1
XLT pmax pmax
comp=Z,440nm,1.9s
XLT pmax pmax
comp=Z,67µm,7.5s
XLT LR LR
comp=Z,1374µm,15.6s
XLT LR LR
comp=Z,880µm,21.8s
KSRS Korea Array 52.53 34 P **P** 12 59 00.7 +0.7
comp=Z,334nm,1.0s,baz=220,slow=8.0,SNR=65
KSRS S **S** 13 06 26.9 +1.6
comp=Z,4.1nm,1.0s,baz=249,slow=4.6,SNR=2.3
KSRS LR LR 13 22 59.7
comp=Z,903µm,18.0s,baz=220,slow=38
KSRS PKPPKP **P'P'df** 13 29 26.6 -2.5
comp=Z,4.4nm,0.9s,baz=346,slow=2.4,SNR=4.6
KSRS P4KPbc 13 36 30.9
comp=Z,3.9nm,1.0s,baz=206,slow=6.9,SNR=5.0
KS19 Wonju Array Si 52.54 34 P **P** 12 58 58.3 -1.8
KS19 IAmb IAmb 12 59 22.2
comp=Z,4µm,1.7s
PYAG Pyongyang 52.55 31 P **P** 12 59 00.4 +0.2
PYAG pP **pP** 12 59 05.2 -1.5
PYAG sP **sP** 12 59 09.3 +0.2
PYAG S **S** 13 06 28.1 +2.5
PYAG AmB
comp=Z,21µm,2.7s
PYAG AMS AMS
comp=N,705µm,28.3s
PYAG AMS AMS
comp=E,809µm,32.5s
PYAG AMS AMS
comp=Z,981µm,39.4s
MK31 Makanchi Array 52.57 350 P **P** 12 58 59.1 -1.1
MK31 pmax pmax
comp=Z,2µm,1.4s
MK31 Makanchi Array 52.57 350 P **P** 12 58 59.1 -1.1
MKAR Makanchi Array 52.57 350 P **P** 12 58 57.7 -2.5
comp=Z,84nm,0.9s,baz=156,slow=7.6,SNR=91
MKAR S **S** 13 06 23.2 -2.4
comp=Z,15nm,1.0s,baz=164,slow=9.6,SNR=2.7
MKAR LR LR 13 25 11.3
comp=Z,272µm,19.6s,baz=162,slow=40
MKAR PKPPKP **P'P'df** 13 29 22.5 -5.4
comp=Z,5.8nm,0.9s,baz=295,slow=3.7,SNR=5.8
MKAR Makanchi Array 52.57 350 P **P** 12 58 57.4 -2.8
BRLS Borolday 52.60 338 *e*P **P** 12 58 57.5 -3.0
BRLS *e*S **S** 13 06 22.8 -3.4
BRLS Borolday 52.60 338 *e*P **P** 12 58 57.6 -3.0
baz=337
BRLS *e*S **S** 13 06 22.9 -3.4
baz=337
MAKZ Makanchi 52.64 349 P **P** 12 58 57.7 -3.0
MAKZ pmax pmax
comp=Z,5µm,1.9s
MAKZ Makanchi 52.64 349 P **P** 12 58 57.7 -3.0
MAKZ IAmb IAmb 12 59 17.1
comp=Z,5µm,1.9s
PMG Port Moresby 52.65 98 LR LR 13 23 16.3
comp=Z,375µm,20.9s,baz=270,slow=38
PMG Port Moresby 52.65 98 P **P** 12 59 00.4 -0.9
PMG pmax pmax
comp=Z,6µm,1.6s
PMG Port Moresby 52.65 98 P **P** 12 59 00.3 -0.9
PMG IAmb IAmb 12 59 27.9
comp=Z,6µm,1.6s
PMG Port Moresby 52.65 98 ⇓P **P** 12 59 00.6 -0.7
PMG Port Moresby 52.65 98 P **P** 12 59 02.5 +1.2
PMG Port Moresby 52.65 98 P **P** 12 59 02.3 +1.0
CTA Charters Tower 52.73 111 LR LR 13 22 27.1
comp=Z,635µm,19.7s,baz=281,slow=37
CTA Charters Tower 52.73 111 P **P** 12 59 02.3 +0.4
SUJ Sinuiju 52.73 29 P **P** 12 59 03.2 +1.8
SUJ sP **sP** 12 59 10.3 -0.2
SUJ S **S** 13 06 33.4 +5.5
SUJ AmB
SUJ AMS AMS
comp=N,560µm,16.9s
SUJ AMS AMS
comp=E,515µm,15.5s
SUJ AMS AMS
ZSN Zaisan 52.80 352 *e*P **P** 12 58 58.9 -3.0
ZSN pmax pmax
comp=Z,13µm,3.0s
ZSN Zaisan 52.80 352 *e*P **P** 12 59 59.0 -3.0
baz=352
ZSN *e*tx tx 12 59 16.8
comp=Z,13µm,3.0s,baz=352
BTLS Baital 52.93 342 *e*P **P** 12 58 59.4 -3.4
BTLS Baital 52.93 342 *e*P **P** 12 58 59.5 -3.4
baz=342
MANU Manus Island 53.08 89 ⇓P **P** 12 59 05.7 +1.1

GUMO Guam 53.50 69 LR LR 13 21 14.3
comp=Z,195µm,21.9s,baz=238,slow=35
GUMO Guam 53.50 69 ⇑P **P** 12 59 12.2 +4.6
GUMO Guam 53.50 69 P **P** 12 59 08.8 +1.2
I34MN SONGINO INFRAS 53.58 10 P **P** 12 59 07.5 -0.2
baz=165,slow=12,SNR=3.4
SONM Songino Array 53.61 10 P **P** 12 59 06.2 -1.8
comp=Z,184nm,0.8s,baz=191,slow=8.8,SNR=334
SONM S **S** 13 06 43.6 +3.7
comp=Z,8.5nm,0.8s,baz=223,slow=6.7,SNR=2.3
SONM LR LR 13 23 20.2
comp=Z,448µm,18.4s,baz=186,slow=38
SONM PKPPKP P'P'df 13 29 17.5 -9.0
comp=Z,8.4nm,1.1s,baz=299,slow=1.7,SNR=6.5
SNY Shenyang 53.66 27 ⇓P **P** 12 59 07.8 -0.4
SNY S **S** 13 06 49.1 +8.6
SNY pmax pmax
comp=Z,310nm,1.7s
SNY pmax pmax
comp=Z,55µm,12.0s
SNY LR LR
comp=Z,915µm,18.6s
SNY LR LR
comp=Z,724µm,16.2s
SNY LR LR
comp=Z,980µm,21.6s
JMN Monobe 53.67 41 P **P** 12 59 06.9 -1.6
JMN Monobe 53.67 41 ⇑P **P** 12 59 07.0 -1.5
ATD Arta Tunnel 53.68 288 LR LR 13 17 03.1
comp=Z,558µm,21.2s,baz=103,slow=31
ATD Arta Tunnel 53.68 288 P **P** 12 59 11.0 +2.0
SNR=51
ATD Arta Tunnel 53.68 288 ⇑P **P** 12 59 09.9 +0.9
ATD Arta Tunnel 53.68 288 *e*P **P** 12 59 10.4 +1.4
ATD *e*S **S** 13 06 44.0 +2.1
ATD Arta Tunnel 53.68 288 *i* P P 12 59 16.5 +7.5
ATD ⇓*e*S S 13 06 57.6 +16
ATD Arta Tunnel 53.68 288 *e*P **P** 12 59 10.4 +1.4
ATD *e*S **S** 13 06 44.0 +2.1
ATD IAMs_20 IAMs_20 13 12 22.9
comp=N,1923µm,60.8s
ATD Arta Tunnel 53.68 288 *i* P P 12 59 16.5 +7.5
ATD ⇓*e*S S 13 06 57.6 +16
ATD IAMs_20 IAMs_20 13 12 27.3
comp=E,861µm,52.1s
ULN Ulaanbaatar 53.76 11 *d i*P **P** 12 59 07.0 -2.0
ULN pmax pmax
comp=Z,3µm,1.9s
ULN MLR MLR
comp=Z,405µm,17.0s
ULN Ulaanbaatar 53.76 11 P **P** 12 59 07.4 -1.7
ULN IAmb IAmb 12 59 33.0
comp=Z,5µm,1.9s
ULN Ulaanbaatar 53.76 11 ⇓P **P** 12 59 07.1 -2.0
ARPS Mount Arapiles 53.82 133 P **P** 12 59 07.7 -1.9
baz=54,SNR=54
ARPS Mount Arapiles 53.82 133 P **P** 12 59 10.3 +0.7
JHS Saijyo 53.97 40 ⇑P **P** 12 59 09.4 -1.3
HHU Hamhung 54.12 31 P **P** 12 59 13.4 +1.7
HHU sP **sP** 12 59 21.4 +0.7
HHU S **S** 13 06 46.7 -0.1
HHU AmB
comp=Z,16µm,2.4s
HHU AMS AMS
comp=N,526µm,56.2s
HHU AMS AMS
comp=E,427µm,45.7s
HHU AMS AMS
comp=Z,225µm,24.1s
GEYT Alibeck 54.25 325 P **P** 12 59 11.4 -1.4
comp=Z,256nm,0.9s,baz=152,slow=9.9,SNR=39
GEYT S **S** 13 06 53.2 +4.3
comp=Z,22nm,1.1s,baz=119,slow=26,SNR=1.9
GEYT LR LR 13 22 31.6
comp=Z,747µm,21.9s,baz=144,slow=36
GEYT PKP2bc 13 29 46.9
comp=Z,18nm,1.1s,baz=251,slow=11,SNR=3.9
GEYT Alibeck 54.25 325 P **P** 12 59 11.4 -1.4
GEYT pwP **pwP** 12 59 28.0 +2.1
GYA0B ALIBECK ARRAY 54.25 325 P **P** 12 59 11.6 -1.2
CMSA Cobar Meteorol 54.93 125 P **P** 12 59 16.3 -1.4
baz=55,SNR=487
CMSA Cobar Meteorol 54.93 125 P **P** 12 59 18.3 +0.5
CRZF Crozet Islands 55.21 215 P **P** 12 59 18.7 -0.8
CRZF IAmb IAmb 12 59 30.7
comp=Z,2µm,1.4s
CRZF Crozet Islands 55.21 215 ⇑P **P** 12 59 19.1 -0.4
RAYN Ar Rayn 55.30 303 P **P** 12 59 18.3 -2.4
RAYN pmax pmax
comp=Z,1µm,1.1s
RAYN Ar Rayn 55.30 303 P **P** 12 59 18.3 -2.4
RAYN Ar Rayn 55.30 303 IAMs_20 IAMs_20 13 19 19.5
comp=Z,739µm,22.0s
RAYN Ar Rayn 55.30 303 ⇓P **P** 12 59 18.2 -2.5
RAYN Ar Rayn 55.30 303 *i* P **P** 12 59 19.9 -0.7
SNR=169
KNGR Kungurtug, Tuv 55.37 3*de*P **P** 12 59 19.1 -1.6
TEND Ethiopian Broa 55.49 288 *e*P P 12 59 29.5 +7.3
TEND *e*S **PnS** 13 07 27.6 +9.4
ZAK Zakamensk 55.63 7 *e*P **P** 12 59 20.2 -2.4
ZAK pmax pmax
comp=Z,2µm,1.8s
CN2 Changchun 56.06 27 *e*P **P** 12 59 22.0 -3.6
CN2 *e*PP **PP** 13 01 29.3 -1.6
CN2 *e*S **S** 13 07 09.8 -2.9
CN2 *e*SS **SS** 13 10 56.5 -2.9
CN2 LR LR
comp=Z,437µm,16.0s
CN2 LR LR
comp=Z,829µm,16.0s
CN2 LR LR
comp=Z,673µm,17.0s
KIBK Kibwezi 56.14 270 IAmb IAmb 12 59 48.3
comp=Z,2µm,1.4s
KIBK Kibwezi 56.14 270 P **P** 12 59 26.9 0.0
SNR=336
JCJ Chichijima 56.19 53 P **P** 12 59 25.6 -1.3
JCJ IAmb IAmb 12 59 42.5
comp=Z,2µm,0.8s
JCJ Chichijima 56.19 53 P **P** 12 59 27.4 +0.5
ANKE Ethiopia-Afar 56.20 285 *i* P P 12 59 35.4 +7.8
ANKE ⇓*e*S **PnS** 13 07 34.8 +6.2
ANKE Ethiopia-Afar 56.20 285 *i* P P 12 59 35.4 +7.8
ANKE ⇓*e*S **PnS** 13 07 34.8 +6.2
ANKE IAMs_20 IAMs_20 13 07 43.2
comp=E,67µm,22.0s
RMQ Roma 56.20 119 P **P** 12 59 28.4 +1.3
baz=56,SNR=33
RMQ Roma 56.20 119 P **P** 12 59 28.6 +1.5
DESE Dese 56.64 287 *e*P **P** 12 59 35.5 +4.8
DESE *e*S **S** 13 07 29.0 +7.0
DESE Dese 56.64 287 *i* P P 12 59 39.2 +8.5
DESE Dese 56.64 287 *e*P **P** 12 59 35.5 +4.8
DESE *e*S **S** 13 07 29.0 +7.0
DESE IAMs_20 IAMs_20 13 14 21.3
comp=N,1783µm,33.0s
DESE Dese 56.64 287 *i* P P 12 59 39.2 +8.5
MOY Mondy 56.66 5 *e*P **P** 12 59 29.9 0.0
MOY pmax pmax
comp=Z,5µm,3.1s
INU Inuyama 56.71 42 IAmb IAmb 12 59 52.1
comp=Z,2µm,1.4s
INU Inuyama 56.71 42 ⇑P **P** 12 59 31.6 +1.1
INU Inuyama 56.71 42 P **P** 12 59 31.7 +1.3
TOO Toolangi 56.81 132 P **P** 12 59 30.7 -0.5
baz=57,SNR=44
TOO Toolangi 56.81 132 P **P** 12 59 30.9 -0.4
TOO pmax pmax
comp=Z,2µm,1.3s
TOO Toolangi 56.81 132 P **P** 12 59 30.9 -0.4
TOO Toolangi 56.81 132 ⇓P **P** 12 59 31.1 -0.2
TOO Toolangi 56.81 132 P **P** 12 59 31.8 +0.5
DILA Dilla 56.99 281 *i* P P 12 59 40.3 +7.2
DILA ⇓*e*S S 13 07 40.8 +14
DILA Dilla 56.99 281 *i* P P 12 59 40.3 +7.2
DILA ⇓*e*S S 13 07 40.8 +14
DILA IAMs_20 IAMs_20 13 08 07.7
comp=E,467µm,26.0s
AAE Adis Abeba 57.02 284 *e*P **P** 12 59 37.1 +3.7
AAE *e*S **S** 13 07 33.8 +6.7
AAE Adis Abeba 57.02 284 *i* P P 12 59 43.0 +10
AAE ⇓*e*S S 13 07 38.4 +11
AAE Adis Abeba 57.02 284 *e*P **P** 12 59 37.1 +3.7
AAE *e*S **S** 13 07 33.8 +6.7

AAE IAMs_20 IAMs_20 13 14 14.7
comp=N,16300µm,43.8s
AAE Adis Abeba 57.02 284 *i* P P 12 59 43.0 +10
AAE ⇓*e*S S 13 07 38.4 +11
AAE IAMs_20 IAMs_20 13 08 09.2
comp=E,861µm,28.4s
KMBO Kilima Mbogo 57.03 272 P **P** **12 59 32.4 -1.0**
comp=E,87nm,1.1s,baz=54,slow=9.1,SNR=40
KMBO S **S** **13 07 27.7 +0.6**
comp=E,2.9nm,0.8s,baz=142,slow=20,SNR=3.0
KMBO LR LR 13 19 42.2
comp=E,309µm,20.9s,baz=96,slow=32
KMBO PKP2bc 13 29 35.0
comp=E,3.2nm,0.9s,baz=194,slow=6.8,SNR=3.2
KMBO Kilima Mbogo 57.03 272 ⇑*i* P **P** **12 59 32.9 -0.6**
KMBO IAmb IAmb 12 59 53.1
comp=Z,44µm,2.7s
KMBO Kilima Mbogo 57.03 272 P **P** **12 59 32.3 -1.1**
KMBO IAmb IAmb 12 59 55.0
comp=Z,4µm,1.9s
KMBO Kilima Mbogo 57.03 272 *i* P **P** **12 59 34.3 +0.9**
KMBO Kilima Mbogo 57.03 272 ⇑P **P** **12 59 32.4 -1.0**
KMBO Kilima Mbogo 57.03 272 *i* P **P** **12 59 34.3 +0.9**
KMBO Kilima Mbogo 57.03 272 *eP* **P** **12 59 34.0 +0.6**
KMBO *eS* **S** **13 07 26.5 -0.6**
KMBO Kilima Mbogo 57.03 272 *eP* **P** **12 59 35.4 +2.0**
KMBO *eS* S 13 07 42.0 +15
KMBO Kilima Mbogo 57.03 272 *eP* **P** **12 59 34.0 +0.6**
KMBO *eS* **S** **13 07 26.5 -0.6**
KMBO IAMs_20 IAMs_20 13 13 58.2
comp=Z,1241µm,32.3s
KMBO Kilima Mbogo 57.03 272 *eP* **P** **12 59 35.4 +2.0**
KMBO *eS* S 13 07 42.0 +15
KMBO IAMs_20 IAMs_20 13 07 59.0
comp=Z,261µm,25.1s
KMBO Kilima Mbogo 57.03 272 *i* P **P** **12 59 32.1 -1.3**
SNR=94
KURK Kurchatov 57.03 348*d i*P **P** **12 59 31.2 -1.2**
KURK pmax pmax
comp=Z,3µm,1.6s
KURK MLR MLR
comp=Z,463µm,20.0s
KURK Kurchatov 57.03 348 P **P** **12 59 29.4 -3.0**
KURK IAmb IAmb 12 59 48.8
comp=Z,5µm,1.6s
KURK Kurchatov 57.03 348 ⇓P **P** **12 59 29.4 -3.0**
FURI Furi 57.08 284 *i* P **P** **12 59 36.2 +2.4**
FURI Furi 57.08 284 ⇓P **P** **12 59 36.5 +2.7**
FURI Furi 57.08 284 *i* P **P** **12 59 36.2 +2.4**
FURI Furi 57.08 284 *eP* **P** **12 59 36.9 +3.1**
FURI *eS* **S** **13 07 34.9 +7.0**
FURI Furi 57.08 284 *i* P P 12 59 43.0 +9.2
FURI ⇓*e*S S 13 07 48.0 +20
FURI IAMs_20 IAMs_20 13 08 10.6
comp=Z,785µm,27.1s
JGF Kuroka 57.08 42 IAmb IAmb 12 59 55.8
comp=Z,3µm,1.6s
JGF Kuroka 57.08 42 ⇑P **P** **12 59 33.1 0.0**
RK1H Rockhampton Ha 57.16 115 P **P** **12 59 34.4 +0.5**
IRK Irkutsk 57.58 7 *eP* **P** **12 59 37.3 +1.0**
IRK *eS* **S** **13 07 34.0 +1.4**
IRK pmax pmax
comp=Z,9µm,2.4s
RABL Rabaul 57.72 92 P **P** **12 59 37.1 -1.0**
RABL Rabaul 57.72 92 ⇓P **P** **12 59 35.0 -3.0**
RABL Rabaul 57.72 92 P **P** **12 59 39.8 +1.8**
BRZS Berezniki 57.78 344 *eP* **P** **12 59 34.1 -3.6**
BRZS pmax pmax
comp=Z,4µm,2.5s
BRZS Berezniki 57.78 344 *eP* **P** **12 59 34.2 -3.6**
baz=344
BRZS *e*tx tx 12 59 51.3
comp=Z,4µm,2.5s,baz=344
MSHR Mys Shultsa 57.93 32*d i*P **P** **12 59 40.4 +1.5**
MSHR pmax pmax
comp=Z,2µm,1.7s
MSHR MLR MLR
comp=Z,291µm,16.0s
EIDS Eidsvold 58.03 117 P **P** **12 59 39.8 -0.1**
baz=58,SNR=15
EIDS Eidsvold 58.03 117 P **P** **12 59 38.6 -1.4**
EIDS Eidsvold 58.03 117 ⇑P **P** **12 59 39.9 -0.1**
EIDS Eidsvold 58.03 117 P **P** **12 59 40.2 +0.2**
MAJO Matsushiro 58.19 41*c i*P **P** **12 59 41.7 +0.8**
MAJO pmax pmax
comp=Z,3µm,1.9s
MAJO MLR MLR
comp=Z,553µm,18.0s
MAJO Matsushiro 58.19 41 P **P** **12 59 39.6 -1.3**
MAJO IAmb IAmb 13 00 02.6
comp=Z,6µm,1.9s
MAJO Matsushiro 58.19 41 IAMs_20 IAMs_20 13 26 25.4
comp=Z,583µm,19.0s
MAJO Matsushiro 58.19 41 ⇓P **P** **12 59 38.6 -2.3**
MAJO Matsushiro 58.19 41 P **P** **12 59 41.1 +0.2**
MAT Matsushiro 58.19 41 P **P** **12 59 37.7 -3.2**
MAT S **S** **13 07 39.0 -2.1**
MJB9 Matsu-Tunnel 58.19 41 IAmb IAmb 13 00 02.5
comp=Z,6µm,2.0s
MJAR Matsushiro Arr 58.19 41 P **P** **12 59 40.5 -0.4**
comp=Z,92nm,0.9s,baz=237,slow=7.6,SNR=44
MJAR S **S** **13 07 36.2 -5.0**
comp=Z,3.2nm,1.0s,baz=212,slow=23,SNR=2.0
MJAR LR LR 13 26 45.0
comp=Z,533µm,18.4s,baz=232,slow=38
MJAR PKPPKP **P'P'df** **13 29 17.7 -3.8**
comp=Z,5.3nm,1.0s,baz=357,slow=3.2,SNR=4.2
MJAR Matsushiro Arr 58.19 41 IAmb IAmb 13 00 01.6
comp=Z,3µm,1.6s
KOND Kondoa 58.23 267 *i* P **P** **12 59 40.8 -0.9**
BBAT Babati 58.29 268 *i* P **P** **12 59 42.2 0.0**
HIA Hailar 58.35 19*d i*P **P** **12 59 40.3 -1.4**
HIA pmax pmax
comp=Z,1µm,1.2s
HIA MLR MLR
comp=Z,684µm,16.0s
HIA Hailar 58.35 19 P **P** **12 59 39.5 -2.2**
HIA Hailar 58.35 19 IAMs_20 IAMs_20 13 25 10.4
comp=Z,785µm,20.0s
BNX BinXian 58.44 27 ⇑P **P** **12 59 40.5 -1.9**
BNX S **S** **13 07 39.5 -4.5**
BNX pmax pmax
comp=Z,89nm,1.0s
BNX pmax pmax
comp=Z,63µm,3.8s
BNX LR LR
comp=Z,732µm,14.1s
BNX LR LR
comp=Z,440µm,13.2s
BNX LR LR
comp=Z,1299µm,15.5s
MDJ Mudanjiang 58.61 29 P **P** **12 59 43.2 -0.5**
MDJ IAmb IAmb 13 00 05.4
comp=Z,2µm,1.6s
MDJ Mudanjiang 58.61 29 P **P** **12 59 44.6 +1.0**
MDJ pP sP 12 59 52.4 -0.3
MDJ S **S** **13 07 53.2 +6.9**
MDJ pmax pmax
comp=Z,190nm,1.8s
MDJ pmax pmax
comp=Z,56µm,11.7s
MDJ LR LR
comp=Z,1100µm,17.5s
MDJ LR LR
comp=Z,306µm,22.8s
VLA Vladivostok 58.69 32*d i*P **P** **12 59 44.9 +0.7**
VLA pmax pmax
comp=Z,5µm,2.0s
VLA MLR MLR
comp=Z,436µm,17.0s
CAN Canberra 58.72 129 P **P** **12 59 45.0 +0.3**
CAN Canberra 58.72 129 IAmb IAmb 13 00 00.5
comp=Z,4µm,1.3s
CAN Canberra 58.72 129 ⇓P **P** **12 59 43.9 -0.8**
CAN Canberra 58.72 129 P **P** **12 59 46.2 +1.5**
CNB Canberra Magne 59.00 128 P **P** **12 59 46.5 -0.2**
baz=59,SNR=11
CNB Canberra Magne 59.00 128 P **P** **12 59 47.5 +0.8**
CIT Chita 59.06 14 *eP* **P** **12 59 47.4 +0.7**
CIT *e* 13 08 01.4
CIT pmax pmax
comp=Z,9µm,2.2s
JSD Sado 59.10 40 P **P** **12 59 46.5 -0.6**
JSD IAmb IAmb 13 00 09.8
comp=Z,1µm,1.1s
JSD Sado 59.10 40 ⇑P **P** **12 59 47.8 +0.6**
ZAA0 Zalesovo Array 59.18 354 P **P** **12 59 44.5 -2.9**
ZALV Zalesovo Beam 59.18 354 P **P** **12 59 44.6 -2.8**
comp=Z,291nm,0.5s,baz=176,slow=6.6,SNR=691
ZALV S **S** **13 07 47.6 -5.8**
comp=Z,17nm,1.0s,baz=140,slow=3.2,SNR=2.2
ZALV LR LR 13 28 05.2
comp=Z,273µm,18.7s,baz=177,slow=39
ZALV PKPPKP **P'P'df** **13 29 14.5 -3.5**
comp=Z,18nm,1.1s,baz=300,slow=3.3,SNR=7.8
ZALV Zalesovo Beam 59.18 354 *i* P **P** **12 59 44.4 -3.0**
ZALV pmax pmax
comp=Z,291nm,0.5s
ZALV Zalesovo Beam 59.18 354 P **P** **12 59 44.3 -3.0**
I46RU ZALESOVO INFRA 59.19 354 P **P** **12 59 45.0 -2.4**
baz=154,slow=10,SNR=2.3
SINGT Singida 59.28 267 *i* P **P** **12 59 49.5 +0.4**
JYT Yasato 59.33 42 IAmb IAmb 13 00 04.5
comp=Z,1µm,1.1s
JYT Yasato 59.33 42 ⇑P **P** **12 59 47.5 -1.3**
MILA Mila 59.38 130 P **P** **12 59 47.0 -2.2**
baz=59,SNR=6.6
MILA Mila 59.38 130 ⇑P **P** **12 59 51.1 +1.8**
LODK Lodwar 59.41 277 IAmb IAmb 13 00 35.2
comp=Z,5µm,2.0s
LODK Lodwar 59.41 277 P **P** **12 59 51.0 +1.1**
SNR=382
LODK Lodwar 59.41 277 *eP* **P** **12 59 51.3 +1.4**
LODK *eS* **S** **13 08 01.4 +3.5**
LODK Lodwar 59.41 277 *eP* P 12 59 55.9 +6.1
LODK ⇓*e*S **S** **13 08 02.4 +4.5**
LODK Lodwar 59.41 277 *eP* **P** **12 59 51.3 +1.4**
LODK *e*S **S** **13 08 01.4 +3.5**
LODK IAMs_20 IAMs_20 13 15 07.2
comp=N,3184µm,33.8s
LODK Lodwar 59.41 277 *eP* P 12 59 55.9 +6.1
LODK ⇓*e*S **S** **13 08 02.4 +4.5**
LODK IAMs_20 IAMs_20 13 08 36.6
comp=N,394µm,28.3s
USA0B Ussuriysk Arra 59.50 31*de*P **P** **12 59 47.8 -2.0**
USA0B Ussuriysk Arra 59.50 31 P **P** **12 59 47.9 -1.9**
USRK Ussuriysk Ar. 59.50 31 P **P** **12 59 47.8 -2.0**
comp=N,176nm,0.7s,baz=234,slow=6.1,SNR=50
USRK S **S** **13 07 56.0 -1.8**
comp=N,3.1nm,0.8s,baz=201,slow=20,SNR=1.9
USRK LR LR 13 25 51.0
comp=N,878µm,20.1s,baz=212,slow=36
USRK PKPPKP **P'P'df** **13 29 13.2 -5.4**
comp=N,4.9nm,0.9s,baz=11,slow=1.9,SNR=4.3
ARMA Armidale 59.54 122 P **P** **12 59 49.4 -1.1**
baz=60,SNR=56
ARMA Armidale 59.54 122 IAmb IAmb 13 00 06.9
comp=Z,4µm,1.7s
ARMA Armidale 59.54 122 ⇑P **P** **12 59 50.9 +0.4**
ARMA Armidale 59.54 122 P **P** **12 59 51.0 +0.4**
SYDH Sydney Hard Ro 59.65 126 P **P** **12 59 51.6 +0.6**
MGCD Mangrove Creek 59.79 126 P **P** **12 59 51.9 -0.2**
baz=60,SNR=14
MGCD Mangrove Creek 59.79 126 P **P** **12 59 52.9 +0.8**
MOO Moorlands 59.88 137 P **P** **12 59 55.1 +2.5**
baz=60,SNR=8.7
MOO Moorlands 59.88 137 P **P** **12 59 53.1 +0.5**
GLAD Gladstone 59.89 135 P **P** **12 59 53.5 +0.9**
RIV Riverview 60.00 126 P **P** **12 59 56.4 +2.9**
baz=60,SNR=7.1
RIV Riverview 60.00 126 ⇓P **P** **12 59 54.5 +1.0**
TAU Tasmania Unive 60.16 137 P **P** **12 59 54.2 -0.2**
TAU pmax pmax
comp=Z,2µm,1.4s
TAU Tasmania Unive 60.16 137 P **P** **12 59 54.1 -0.2**
TAU IAmb IAmb 13 00 09.8
comp=Z,2µm,1.4s
TAU Tasmania Unive 60.16 137 ⇑P **P** **12 59 54.9 +0.5**
LKRN Lenkeran, Azer 60.42 320 P **P** **12 59 56.9 +0.7**
TETE Tete 60.49 254 ⇑*i*P **P** **12 59 56.9 -0.3**
TETE IAmb IAmb 13 00 16.7
comp=Z,1µm,1.1s
TETE Tete 60.49 254 *i* P **P** **12 59 55.8 -1.4**
TETE Tete 60.49 254 *i* P **P** **12 59 52.4 -4.7**
TETE Tete 60.49 254 *i* P **P** **12 59 55.8 -1.4**
TETE Tete 60.49 254 *i* P **P** **12 59 52.4 -4.7**
JMM Marumori 60.64 41 P **P** **12 59 55.0 -2.7**
JMM Marumori 60.64 41 ⇓P **P** **12 59 55.6 -2.1**
BRVK Borovoye 61.21 344*d i*P **P** **13 00 00.3 -1.0**
BRVK pmax pmax
comp=Z,2µm,1.4s
BRVK MLR MLR
comp=Z,240µm,17.0s
BRVK Borovoye 61.21 344 P **P** **12 59 58.4 -2.9**
BRVK IAmb IAmb 13 00 17.5
comp=Z,2µm,1.4s
BRVK Borovoye 61.21 344 IAMs_20 IAMs_20 13 25 44.6
comp=Z,578µm,22.0s
BRVK Borovoye 61.21 344 ⇓P **P** **12 59 57.7 -3.6**
ABKAR Akbulak array 61.65 335 P **P** **13 00 02.4 -2.0**
ABKAR Akbulak array 61.65 335 ⇓P **P** **13 00 02.1 -2.3**
CASY Casey 62.30 173 P **P** **13 00 06.9 -1.6**
CASY IAmb IAmb 13 00 30.6
comp=Z,3µm,1.6s
CASY Casey 62.30 173 IAMs_20 IAMs_20 13 23 12.1
comp=Z,608µm,18.0s
CASY Casey 62.30 173 ⇑P **P** **13 00 06.5 -2.0**
JTM Tenmabayashi 62.47 39 ⇑P **P** **13 00 10.2 +0.1**
TEY Ternei 62.48 33⇓*eP* **P** **13 00 10.0 0.0**
TEY *e* 13 08 44.9
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
MNGR Mingechevir, A 62.67 321 P **P** **13 00 11.7 +0.3**
NAX Nakhchivan 62.81 319 P **P** **13 00 12.8 +0.3**
CNG Changalane 62.83 243 ⇑*i*P **P** **13 00 11.0 -1.8**
CNG IAmb IAmb 13 00 34.4
comp=Z,450nm,1.1s
CNG Changalane 62.83 243 *i* P **P** **13 00 11.5 -1.3**
CNG Changalane 62.83 243 *i* P **P** **13 00 14.4 -2.0**
CNG Changalane 62.83 243 *i* P **P** **13 00 11.5 -1.3**
CNG Changalane 62.83 243 *i* P **P** **13 00 10.8 -2.0**
SEKA Sheki 62.85 322 P **P** **13 00 14.0 +1.3**
KLR Kul'dur 63.01 27 LR LR 13 27 21.1
comp=Z,270µm,20.3s,baz=216,slow=36
KLR Kul'dur 63.01 27*d i*P **P** **13 00 11.0 -2.5**
KLR pmax pmax
comp=Z,4µm,2.4s
KLR MLR MLR
comp=Z,484µm,16.0s
CUKT Cukurca 63.07 316 P **P** **13 00 13.9 -0.4**
GANJ Ganja 63.08 321 P **P** **13 00 15.2 +1.0**
MOPA Mopani 63.19 246 *eP* **P** **13 00 14.0 -1.2**
MOPA IAmb IAmb 13 00 37.0
comp=Z,936nm,1.2s
MOPA Mopani 63.19 246 *i* P **P** **13 00 14.1 -1.2**
MOPA Mopani 63.19 246 *i* P **P** **13 00 11.8 -3.5**
MOPA Mopani 63.19 246 *i* P **P** **13 00 14.1 -1.2**
MOPA Mopani 63.19 246 *i* P **P** **13 00 11.8 -3.5**
AKTO Aktyubinsk 63.35 335 LR LR 13 29 08.6
comp=Z,123µm,19.3s,baz=137,slow=37
POGA Pongola 63.41 242 ⇑*i*P **P** **13 00 15.2 -1.5**
POGA IAmb IAmb 13 00 38.5
comp=Z,2µm,1.3s
POGA Pongola 63.41 242 *i* P **P** **13 00 14.3 -2.3**
POGA Pongola 63.41 242 *i* P **P** **13 00 14.3 -2.3**
ZKTA Zakatala 63.45 322 P **P** **13 00 16.3 -0.3**
MBAR Mbarara 63.56 272 LR LR 13 23 52.0
comp=Z,312µm,20.0s,baz=78,slow=32
MBAR Mbarara 63.56 272 P **P** **13 00 16.7 -1.4**
MBAR pmax pmax
comp=Z,2µm,1.6s
MBAR Mbarara 63.56 272 P **P** **13 00 16.7 -1.4**
MBAR IAmb IAmb 13 00 39.3
comp=Z,2µm,1.6s
MBAR Mbarara 63.56 272 *i* P **P** **13 00 21.3 +3.2**
MBAR Mbarara 63.56 272 ⇑P **P** **13 00 16.6 -1.5**
MBAR ⇓s **pP** **13 00 26.4 +1.7**
MBAR Mbarara 63.56 272 *i* P **P** **13 00 21.3 +3.2**
MBAR Mbarara 63.56 272 *eP* **P** **13 00 18.6 +0.6**
MBAR *e*S **S** **13 08 53.3 +2.5**
MBAR Mbarara 63.56 272 *eP* **P** **13 00 18.6 +0.6**
MBAR *e*S **S** **13 08 53.3 +2.5**
MBAR IAMs_20 IAMs_20 13 16 41.4
comp=Z,3864µm,46.7s
DDFL Dedoflistskaro 63.66 321 P **P** **13 00 18.3 +0.3**
MAK Makhachkala 63.68 323*c i*P P 13 00 10.6 -7.4
MAK *e*S S 13 08 41.0 -10
MAK pmax pmax
comp=Z,75µm,4.8s
MAK pmax pmax
comp=Z,10µm,2.3s
LGD Lagodekhi 63.80 322 P **P** **13 00 17.7 -1.2**
GNI Garni 63.82 319 LR LR 13 27 35.2
comp=Z,193µm,21.7s,baz=107,slow=36
GNI Garni 63.82 319 P **P** **13 00 15.1 -4.2**
GNI Garni 63.82 319*d i*P **P** **13 00 17.6 -1.7**
GNI pmax pmax
comp=Z,4µm,1.5s
GNI MLR MLR
comp=Z,177µm,17.0s
GNI Garni 63.82 319 P **P** **13 00 17.9 -1.4**
GNI Garni 63.82 319 ⇓P **P** **13 00 17.9 -1.4**
GNI Garni 63.82 319 P **P** **13 00 18.7 -0.6**
CLDR Caldiran 63.83 318 P **P** **13 00 17.9 -1.5**
JEW Eniwo 63.88 37 P **P** **13 00 17.8 -1.6**
JEW IAmb IAmb 13 00 42.6
comp=Z,2µm,0.9s
JEW Eniwo 63.88 37 ⇓P **P** **13 00 18.5 -0.9**
VANB Van 63.90 317 P **P** **13 00 17.1 -2.7**
AKDM Akdamar-Van 64.05 317 P **P** **13 00 19.1 -1.7**
TASB TASBURUN-IGDIR 64.06 319 P **P** **13 00 19.5 -1.2**
MSNA Messina 64.32 248 ⇑*i*P **P** **13 00 21.9 -0.9**
MSNA IAmb IAmb 13 00 31.0
comp=Z,3µm,2.1s
MSNA Messina 64.32 248 *i* P **P** **13 00 21.3 -1.5**
MSNA Messina 64.32 248 *i* P **P** **13 00 21.5 -1.3**
MSNA Messina 64.32 248 *i* P **P** **13 00 21.3 -1.5**
MSNA Messina 64.32 248 *i* P **P** **13 00 21.5 -1.3**
ERM Erimo 64.45 38*ce*P **P** **13 00 23.0 -0.1**
ERM pmax pmax
comp=Z,1µm,1.2s
ERM MLR MLR
comp=Z,341µm,17.0s
ERM Erimo 64.45 38 ⇓P **P** **13 00 25.8 +2.6**
ERM ⇑p **P** **13 00 26.0 +2.9**
ERM ⇓s **pP** **13 00 31.4 +1.7**
BOD Bodaibo 64.54 12 *eP* **P** **13 00 21.4 -2.0**
BOD pmax pmax
comp=Z,3µm,2.1s
ZEA Zeya 64.67 21 *eP* **P** **13 00 22.0 -2.3**
ZEA *e* 13 02 51.9
ZEA *e*S **S** **13 09 07.0 +4.3**
ZEA pmax pmax
comp=E,70nm,1.2s
ZEA pmax pmax
comp=N,100nm,1.1s
ZEA pmax pmax
comp=Z,170nm,1.0s
ZEA pmax pmax
comp=E,5µm,7.8s
ZEA pmax pmax
comp=N,8µm,7.5s
ZEA pmax pmax
comp=Z,19µm,7.7s
ZEA pmax pmax
comp=E,4µm,11.7s
ZEA pmax pmax
comp=N,5µm,15.2s
ZEA pmax pmax
comp=Z,15µm,11.2s
ZEA pmax pmax
comp=N,280µm,16.0s
ZEA pmax pmax
comp=Z,390µm,16.0s
CRLN Carolina, Mapu 64.72 244 ⇑*i*P **P** **13 00 24.8 -0.7**
MLAZ Malazgirt-MUS 64.74 318 P **P** **13 00 24.3 -1.0**
GURO Guroymak-BITLI 64.80 317 P **P** **13 00 24.3 -1.4**
GURO Guroymak-BITLI 64.80 317 IAmb IAmb 13 00 43.4
comp=Z,3µm,1.6s
PATS Pohnpei 65.00 80 P **P** **13 00 27.9 +0.7**
baz=65,SNR=5.5
NWCL Newcastle 65.06 242 *i* P **P** **13 00 25.4 -2.2**
NWCL IAmb IAmb 13 00 49.2
comp=Z,2µm,1.1s
BGD Bogdanovka 65.15 320 P **P** **13 00 28.0 0.0**
KARS Kars 65.15 319 P **P** **13 00 26.8 -1.1**
SVAN Silvan-Diyarba 65.18 316 P **P** **13 00 26.2 -1.9**
GUDG Gudauri 65.24 322 P **P** **13 00 27.3 -1.3**
HNR Honiara 65.26 98 P **P** **13 00 28.7 -0.3**
HNR pmax pmax
comp=Z,3µm,0.9s
HNR Honiara 65.26 98 P **P** **13 00 28.7 -0.3**
HNR Honiara 65.26 98 ⇓P **P** **13 00 28.6 -0.3**
AKH Akhalkalaki 65.29 320 ⇓P **P** **13 00 28.8 -0.1**
AKH Akhalkalaki 65.29 320 P **P** **13 00 27.4 -1.5**
AKH Akhalkalaki 65.29 320 P **P** **13 00 28.5 -0.4**
JKA Kamikawa-asahi 65.30 36 IAmb IAmb 13 00 56.5
comp=Z,5µm,2.0s
BLWY Bulawayo 65.46 250 ⇑*i*P **P** **13 00 28.4 -1.9**
BLWY IAmb IAmb 13 00 45.1
comp=Z,4µm,1.4s
BLWY Bulawayo 65.46 250 *i* P **P** **13 00 28.6 -1.7**
BLWY Bulawayo 65.46 250 *i* P **P** **13 00 28.7 -1.7**
BLWY Bulawayo 65.46 250 *i* P **P** **13 00 28.6 -1.7**
BLWY Bulawayo 65.46 250 *i* P **P** **13 00 28.7 -1.7**
VRTB Varto-Mus 65.49 317 P **P** **13 00 29.1 -1.1**
MATP Matopo 65.58 250 LR LR 13 24 09.7
comp=Z,308µm,21.8s,baz=82,slow=32
MATP Matopo 65.58 250 *i* P **P** **13 00 29.8 -1.4**
MATP Matopo 65.58 250 *i* P **P** **13 00 30.0 -1.1**
MATP Matopo 65.58 250 *i* P **P** **13 00 29.8 -1.4**
MATP Matopo 65.58 250 *i* P **P** **13 00 30.0 -1.1**
KOPR Koprukoy-ERZUR 65.64 318 P **P** **13 00 30.0 -1.1**
LSZ Lusaka 65.64 256 LR LR 13 25 16.5
comp=Z,320µm,20.8s,baz=83,slow=32
LSZ Lusaka 65.64 256 ⇑*i*P **P** **13 00 29.8 -1.7**
LSZ IAmb IAmb 13 00 50.3
comp=Z,6µm,0.9s
LSZ Lusaka 65.64 256 P **P** **13 00 29.3 -2.3**
LSZ pmax pmax
comp=Z,666nm,0.9s
LSZ Lusaka 65.64 256 P **P** **13 00 29.3 -2.3**
LSZ Lusaka 65.64 256 *i* P **P** **13 00 30.9 -0.6**
LSZ Lusaka 65.64 256 *i* P **P** **13 00 30.9 -0.6**
ASF Jabal al Asfar 65.75 308 LR LR 13 27 24.5
comp=Z,757µm,20.6s,baz=120,slow=34
ZEI Tsey 65.77 322 *eP* **P** **13 00 30.1 -1.9**
ZEI pmax pmax
comp=Z,468nm,0.8s
KARO Karliova-Bingo 65.84 317 P **P** **13 00 29.1 -3.4**
EJDE Erzurum, Palan 65.92 318 P **P** **13 00 29.9 -3.3**
BNGB Bingl 65.94 317 P **P** **13 00 31.4 -1.6**
ONI Oni 65.94 321 P **P** **13 00 31.8 -1.1**
ONI Oni 65.94 321 IAmb IAmb 13 01 00.6
comp=Z,3µm,1.3s
LHI Lord Howe Isla 66.02 122 P **P** **13 00 35.0 +1.5**
baz=66,SNR=9.0
LHI Lord Howe Isla 66.02 122 ⇓P **P** **13 00 35.6 +2.0**
MAW Mawson 66.13 193 P **P** **13 00 33.3 -0.2**
comp=Z,160nm,1.0s,baz=66,slow=9.7,SNR=15
MAW S **S** **13 09 19.6 -0.6**
comp=Z,57nm,1.3s,baz=78,slow=19,SNR=1.6
MAW LR LR 13 25 07.0
comp=Z,294µm,18.1s,baz=32,slow=32
MAW PKP2bc 13 29 12.6
comp=Z,31nm,1.0s,baz=148,slow=19,SNR=2.6
MAW Mawson 66.13 193 P **P** **13 00 34.5 +1.0**
baz=66,SNR=14
MAW Mawson 66.13 193 P **P** **13 00 32.5 -1.0**
MAW Mawson 66.13 193 ⇑P **P** **13 00 33.5 -0.1**
GRNR Gornyy 66.23 28 ⇓*i*P **P** **13 00 32.4 -2.1**
GRNR *e* 13 02 59.4
GRNR *e*S **S** **13 09 22.7 +0.7**
GRNR smax smax
comp=E,6.0nm,0.7s
GRNR MLR MLR
comp=E,155µm,16.0s
GRNR MLR MLR
comp=N,359µm,15.0s
GRNR MLR MLR
comp=Z,555µm,16.0s
SLR Silverton 66.25 244 ⇑*i*P **P** **13 00 33.7 -1.7**
SLR IAmb IAmb 13 00 56.8

comp=Z,1μm,1.0s
NCK Nalchik 66.34 322 ⇑*i* P **P 13 00 34.4 -1.0**
NCK pmax pmax
comp=Z,10μm,3.3s
NCK MLR MLR
comp=Z,117μm,17.0s
EIL Elat 66.37 305 LR LR 13 28 21.7
comp=Z,461μm,18.6s,baz=116,slow=35
EIL Elat 66.37 305 P **P 13 00 34.0 -1.9**
EIL Elat 66.37 305 ⇓P **P 13 00 33.9 -1.9**
BATM Batumi 66.55 320 ⇓P **P 13 00 37.6 +0.8**
BATM Batumi 66.55 320 P **P 13 00 34.3 -2.4**
BATM Batumi 66.55 320 P **P 13 00 37.5 +0.8**
KOPT Kop Dagi 66.56 318 P **P 13 00 36.3 -0.9**
SVRC Sivrice-ELAZID 66.60 315 P **P 13 00 35.7 -1.7**
NEY Neytrino 66.75 321 *de*P **P 13 00 37.3 -0.9**
NEY pmax pmax
comp=Z,2μm,2.0s
NEY MLR MLR
comp=Z,128μm,17.0s
UJAP Al Uja 66.79 308 P **P 13 00 36.8 -1.6**
CHVG Ch'k'valeri 66.87 321 ⇓P **P 13 00 38.9 +0.1**
ERZN Erzincan 66.88 317 P **P 13 00 39.7 +0.7**
KBZ Khabaz 66.89 322 P **P 13 00 37.5 -1.4**
comp=Z,472nm,1.2s,baz=112,slow=5.4,SNR=35
KBZ S **S 13 09 26.5 -3.7**
comp=Z,20nm,1.1s,baz=241,slow=13,SNR=2.7
KBZ PKP2bc 13 29 11.9
comp=Z,5.0nm,1.0s,baz=280,slow=1.3,SNR=6.2
KBZ Khabaz 66.89 322 *d* iP **P 13 00 37.2 -1.6**
KBZ pmax pmax
comp=Z,1μm,1.0s
KBZ MLR MLR
comp=Z,149μm,20.0s
CHOM Cayeli-Rize 66.91 319 P **P 13 00 37.3 -1.7**
BAYT Aydıntepe-Bayb 66.98 318 P **P 13 00 37.2 -2.5**
MMLI Mount Malkishu 67.01 308 P **P 13 00 38.7 -1.2**
YSS Yuzh-Sakhalins 67.03 34 *de*P **P 13 00 37.6 -2.1**
YSS pmax pmax
comp=Z,3μm,1.4s
YSS MLR MLR
comp=Z,549μm,19.0s
YSS Yuzh-Sakhalins 67.03 34 P **P 13 00 38.0 -1.7**
YSS IAmb IAmb 13 01 03.4
comp=Z,3μm,1.3s
YSS Yuzh-Sakhalins 67.03 34 ⇓P **P 13 00 38.7 -1.0**
WDLM Western Deep L 67.09 244 *e*P **P 13 00 39.3 -1.5**
WDLM IAmb IAmb 13 01 02.1
comp=Z,582nm,1.0s
SHBL Chebaa 67.10 309 *e*P **P 13 00 39.7 -1.0**
KIV Kislovodsk 67.14 322 P **P 13 00 38.9 -1.7**
KIV Kislovodsk 67.14 322 *e*P **P 13 00 38.9 -1.7**
KIV *e* 13 03 06.8
KIV *e*PPP PPP 13 04 43.0
KIV *e*S **S 13 09 32.0 -1.5**
KIV *e*SS **SS 13 13 57.5 +4.3**
KIV pmax pmax
comp=Z,3μm,4.9s
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,157μm,17.0s
KIV Kislovodsk 67.14 322 P **P 13 00 39.1 -1.5**
KIV IAmb IAmb 13 00 59.2
comp=Z,2μm,1.2s
KIV Kislovodsk 67.14 322 ⇓P **P 13 00 38.9 -1.7**
KIV ⇑P **P 13 00 39.5 -1.1**
KIV Kislovodsk 67.14 322 *i* P **P 13 00 39.4 -1.2**
SNR=201
PRYS Parys 67.20 243 ⇑*i* P **P 13 00 40.0 -1.4**
PRYS IAmb IAmb 13 01 02.6
comp=Z,514nm,1.0s
YUK Yuzh-Kuril'sk 67.22 38 *d* iP **P 13 00 40.5 -0.4**
YUK *e* 13 01 03.2
YUK *i* S **S 13 09 39.4 +5.3**
YUK *i* 13 10 34.6
YUK pmax pmax
comp=Z,7μm,2.4s
YUK pmax pmax
comp=Z,2μm,2.1s
YUK pmax pmax
comp=N,2μm,1.0s
YUK pmax pmax
comp=E,1μm,1.2s
YUK MLR MLR
comp=E,178μm,17.0s
YUK MLR MLR
comp=Z,337μm,17.0s
YUK MLR MLR
comp=N,317μm,18.0s
MMAI Mount Meron Ar 67.24 309 LR LR 13 30 29.9
comp=N,583μm,18.0s,baz=276,slow=36
HWQ Hawqa 67.31 310 *e*P **P 13 00 40.9 -1.0**
SVE Sverdlovsk 67.36 341 *ce*P **P 13 00 39.3 -2.2**
SVE *e*S **S 13 09 33.3 -2.0**
SVE pmax pmax
comp=Z,6μm,1.3s
SVE pmax pmax
comp=Z,37μm,11.4s
SVE MLR MLR
comp=Z,377μm,19.0s
SVE MLR MLR
comp=N,187μm,21.0s
SVE MLR MLR
comp=E,344μm,16.0s
BHL Bhannes 67.39 310 *e*P **P 13 00 41.3 -1.0**
KSR Koster 67.50 244 *e*P **P 13 00 42.2 -1.2**
KSR IAmb IAmb 13 01 04.9
comp=Z,2μm,1.6s
KTUT Trabzon 67.51 318 ⇓P **P 13 00 43.6 +0.7**
KTUT Trabzon 67.51 318 P **P 13 00 39.1 -3.7**
GOF Gofitskoye 67.52 323 ⇑*i* P **P 13 00 43.0 +0.2**
GOF *e*S **S 13 09 38.9 +1.1**
GOF pmax pmax
comp=Z,2μm,1.3s
GOF smax smax
comp=N,301nm,1.3s
ARPR Arapgir-MALATY 67.60 316 P **P 13 00 42.3 -1.4**
ILIC ilic-Erzincan 67.60 316 P **P 13 00 42.3 -1.4**
ARU Arti 67.75 340 LR LR 13 32 21.7
comp=N,424μm,18.2s,baz=136,slow=38
ARU Arti 67.75 340 *d* iP **P 13 00 41.4 -2.6**
ARU 13 01 10.7
ARU 13 03 15.5
ARU PPP PPP 13 04 49.0
ARU S **S 13 09 38.3 -1.7**
ARU SS **SS 13 13 53.1 -8.7**
ARU SSS SSS 13 16 58.2
ARU pmax pmax
comp=Z,110nm,0.5s
ARU pmax pmax
comp=Z,38μm,10.3s
ARU MLR MLR
comp=Z,423μm,18.0s
ARU Arti 67.75 340 P **P 13 00 41.4 -2.6**
ARU IAMs_20 IAMs_20 13 32 00.6
comp=Z,384μm,18.0s
YAYL Yayladag 67.89 312 P **P 13 00 44.2 -1.3**
UGL Uglegorsk 67.93 32 *e*P **P 13 00 44.8 -0.5**
UGL *e*S **S 13 09 42.0 -0.4**
UGL pmax pmax
comp=Z,43μm,7.6s
UGL smax smax
comp=E,74μm,14.0s
TAHT Tahtakopru-Hat 67.97 312 P **P 13 00 44.5 -1.4**
CEYT Ceyhan 68.55 313 P **P 13 00 47.2 -2.3**
LBTB Lobatse 68.60 245 LR LR 13 26 26.8
comp=E,648μm,19.1s,baz=84,slow=32
LBTB Lobatse 68.60 245 *i* P **P 13 00 48.3 -1.9**
LBTB IAmb IAmb 13 01 05.5
comp=Z,10μm,3.0s
LBTB Lobatse 68.60 245 P **P 13 00 48.3 -1.9**
LBTB pmax pmax
comp=Z,390nm,0.7s
LBTB Lobatse 68.60 245 P **P 13 00 48.3 -1.9**
LBTB Lobatse 68.60 245 *i* P **P 13 00 48.4 -1.9**
LBTB Lobatse 68.60 245 *i* P **P 13 00 48.3 -1.9**
LBTB Lobatse 68.60 245 ⇑P **P 13 00 47.9 -2.4**
LBTB ⇓P **P 13 00 48.1 -2.0**
LBTB ⇓P **pwP 13 01 05.8 +2.3**
LBTB Lobatse 68.60 245 *i* P **P 13 00 48.4 -1.9**
LBTB Lobatse 68.60 245 *i* P **P 13 00 48.3 -1.9**
SARI SarD1z-Kayseri 68.65 314 P **P 13 00 48.8 -1.5**
KOZT Kozan 68.69 313 P **P 13 00 48.5 -1.9**

SOC Sochi 68.80 321 *d* iP **P 13 00 50.5 -0.4**
SOC *e*PPP PPP 13 05 06.7
SOC *e*S **S 13 09 55.7 +2.6**
SOC pmax pmax
comp=Z,2μm,1.3s
SOC MLR MLR
comp=Z,248μm,21.0s
RSDY Resadiye-TOKAT 68.88 317 P **P 13 00 49.9 -1.6**
SWZ Schweizer 69.03 243 *e*P **P 13 00 52.0 -0.9**
SWZ IAmb IAmb 13 01 14.3
comp=Z,894nm,1.0s
KUR Kuril'sk 69.06 38 *e*P **P 13 00 53.4 +0.9**
KUR *e* 13 01 17.9
KUR 13 03 25.8
KUR *e*S **S 13 09 59.1 +3.0**
KUR *e* 13 10 42.1
KUR pmax pmax
comp=Z,44μm,7.2s
KUR pmax pmax
comp=E,20μm,8.2s
KUR pmax pmax
comp=N,8μm,8.6s
KUR pmax pmax
comp=Z,4μm,2.6s
KUR pmax pmax
comp=N,1μm,2.9s
KUR pmax pmax
comp=E,1μm,1.0s
KUR MLR MLR
comp=N,267μm,17.0s
KUR MLR MLR
comp=Z,223μm,17.0s
KUR MLR MLR
comp=E,44μm,19.0s
EREN Erenkoy 69.14 311 P P 13 00 45.9 -7.3
KARA Karaisali 69.16 313 P **P 13 00 51.6 -1.7**
BOSA Boshof 69.23 241 P **P 13 00 51.2 -2.9**
comp=E,167nm,0.9s,baz=89,slow=6.3,SNR=72
BOSA S **S 13 09 54.4 -4.7**
comp=E,19nm,1.2s,baz=27,slow=4.5,SNR=1.9
BOSA LR LR 13 25 21.4
comp=E,429μm,21.5s,baz=100,slow=31
BOSA PKP2bc 13 29 04.3
comp=E,34nm,1.3s,baz=279,slow=2.6,SNR=7.5
BOSA Boshof 69.23 241 ⇑*i* P **P 13 00 51.9 -2.2**
BOSA IAmb IAmb 13 01 01.9
comp=Z,4μm,1.9s
BOSA Boshof 69.23 241 P **P 13 00 51.4 -2.7**
BOSA pmax pmax
comp=Z,4μm,2.0s
BOSA Boshof 69.23 241 P **P 13 00 51.4 -2.7**
BOSA IAmb IAmb 13 01 02.4
comp=Z,4μm,2.0s
BOSA Boshof 69.23 241 *i* P **P 13 00 51.8 -2.2**
BOSA Boshof 69.23 241 *i* P **P 13 00 52.0 -2.2**
BOSA Boshof 69.23 241 ⇑P **P 13 00 51.2 -2.9**
BOSA ⇓P **P 13 00 51.7 -2.4**
BOSA Boshof 69.23 241 *i* P **P 13 00 51.8 -2.2**
BOSA Boshof 69.23 241 *i* P **P 13 00 52.0 -2.2**
HVD Gariep Dam 69.24 239 ⇑*i* P **P 13 00 53.2 -1.0**
HVD IAmb IAmb 13 01 02.5
comp=Z,3μm,1.9s
BNN Bunyan 69.25 315 P **P 13 00 51.9 -2.0**
TYV Tymovskoe 69.31 30 *e*P **P 13 00 57.1 +3.2**
TYV pmax pmax
comp=Z,4μm,4.3s
TYV pmax pmax
comp=Z,249nm,1.5s
TOKT Tokat 69.38 316 P **P 13 00 52.8 -1.9**
BELG Belogornoye 69.39 332 *d* iP **P 13 00 51.4 -2.9**
BELG pmax pmax
comp=Z,749nm,1.1s
MERS Mersin 69.40 312 P **P 13 00 52.3 -2.5**
TOKA Tokat 69.43 316 IAmb IAmb 13 01 23.6
comp=Z,4μm,1.8s
KIZK Mersin 69.53 312 P **P 13 00 55.7 +0.2**
CSS Mathiatis 69.56 310 P **P 13 00 53.8 -2.1**
CSS Mathiatis 69.56 310 IAMs_20 IAMs_20 13 31 25.0
comp=Z,577μm,19.0s
CSS Mathiatis 69.56 310 ⇓P **P 13 00 54.0 -1.8**
KOUNC Koumac, New Ca 69.60 110 ⇑P **P 13 00 56.2 -0.1**
KOUNC ⇓P **pwP 13 01 11.2 +1.6**
SILI Silifke-Mersin 69.65 312 P **P 13 00 54.8 -1.5**
IKL Isikli 69.78 311 P P 13 00 52.2 -4.9
NKL Nikolayevsk 69.78 28 *e*P **P 13 00 56.0 -0.7**
NKL *e* 13 03 37.6
NKL *e*S **S 13 10 03.9 -0.3**
NKL pmax pmax
comp=N,463nm,0.6s
NKL pmax pmax
comp=Z,1μm,1.1s
NKL smax smax
comp=E,12nm,0.8s
NKL smax smax
comp=N,617nm,1.5s
NKL MLR MLR
comp=Z,318μm,16.0s
KEBE Keben-Mersin 69.83 312 P **P 13 00 55.7 -1.8**
AKKU Akkuyu-Mersin 69.84 311 P **P 13 00 57.9 +0.4**
TEVE Tevekalti-Mers 70.03 311 P **P 13 00 57.2 -1.6**
KVT Kavak 70.06 317 P **P 13 00 55.7 -3.1**
BERE Bereket-Mersin 70.16 311 P **P 13 00 58.0 -1.7**
TEKE Tekeli-Mersin 70.17 311 P **P 13 00 57.3 -2.2**
GULA Gulagac 70.19 314 P **P 13 01 00.0 +0.3**
KROM Kromhout 70.41 236 *e*P **P 13 00 59.7 -1.4**
ROSN Rosenhof 70.47 236 *e*P **P 13 00 59.7 -1.8**
CORM Corum 70.65 316 P **P 13 01 00.2 -2.4**
GAZI Gazipasa 70.80 311 P **P 13 01 00.9 -2.5**
ANN Anapa 70.83 321 *d* iP **P 13 01 02.6 -0.7**
ANN *e*PP **pP 13 01 07.2 -2.8**
ANN *i* S **S 13 10 18.6 +1.8**
ANN pmax pmax
comp=E,51nm,0.7s
ANN pmax pmax
comp=Z,568nm,1.5s
ANN pmax pmax
comp=N,281nm,1.6s
SERE Sereflikochisa 70.91 314 P **P 13 01 01.8 -2.3**
HDMB Hadim 70.94 312 P **P 13 01 02.3 -2.2**
KAMT Kaman 70.97 314 P **P 13 01 01.7 -2.8**
BR131 Keskin Array S 71.16 315 *d* iP **P 13 01 02.8 -2.9**
BR131 Keskin Array S 71.16 315 IAmb IAmb 13 01 34.4
comp=Z,1μm,1.1s
BR131 Keskin Array S 71.16 315 P **P 13 01 03.0 -2.7**
SNR=197
BR131 P **P 13 01 03.0 -2.7**
SNR=197
BRTR Keskin Array B 71.16 315 P **P 13 01 02.8 -2.9**
comp=Z,88nm,0.6s,baz=132,slow=6.7,SNR=42
BRTR S S 13 10 10.6 -11
comp=Z,10nm,1.1s,baz=164,slow=5.8,SNR=2.2
BRTR PKP2bc 13 29 00.8
comp=Z,25nm,1.2s,baz=256,slow=2.0,SNR=19
BRTR LR LR 13 34 05.0
comp=Z,242μm,18.4s,baz=132,slow=38
BRTR Keskin Array B 71.16 315 *i* P **P 13 01 02.7 -2.9**
BRTR pmax pmax
comp=Z,89nm,0.6s
KONT Konya--Tatoy 71.40 313 P **P 13 01 03.7 -3.3**
AFSR Afar-Bala (An 71.46 314 P **P 13 01 04.9 -2.5**
MCQ Macquarie Isla 71.49 146 P **P 13 01 07.5 +0.3**
baz=71,SNR=3.8
LADK Ladik-KONYA 71.49 313 P **P 13 01 05.1 -2.6**
CANT Cankiri 71.53 316 P **P 13 01 05.4 -2.4**
VRH Novokhopyorsk 71.63 328 *e*P **P 13 01 07.7 -0.3**
VRH *e* 13 01 10.4
VRH *e* 13 03 55.1
VRH *e*PPP PPP 13 05 29.4
VRH *e*S **S 13 10 25.0 -0.9**
VRH *e*SS **SS 13 15 01.2 -0.6**
VRH pmax pmax
comp=Z,3μm,1.3s
VRH smax smax
comp=E,65μm,14.7s
VRH MLR MLR
comp=Z,325μm,18.0s
DZM Mont Dzumac 71.67 112 LR LR 13 35 00.5
comp=Z,526μm,18.2s,baz=276,slow=38
DZM Mont Dzumac 71.67 112 *e*P **P 13 01 09.1 0.0**
comp=Z,2μm,1.6s
DZM *e*S **S 13 10 26.9 -0.8**
comp=Z,1128μm,31.9s
DZM *e*LQ LQ 13 19 53.5
comp=Z,2234μm,32.8s
DZM *e*LR LR 13 23 00.7

comp=Z,1044μm,24.8s
DZM Mont Dzumac 71.67 112 IAmb IAmb 13 01 24.2
comp=Z,2μm,1.7s
DZM Mont Dzumac 71.67 112 ⇓P **P 13 01 09.6 +0.5**
DZM ⇓P **P 13 01 10.7 +1.6**
DZM Mont Dzumac 71.67 112 P **P 13 01 10.6 +1.6**
BZK Bozkurt 71.82 317 ⇓P **P 13 01 09.6 +0.2**
BZK Bozkurt 71.82 317 P **P 13 01 06.9 -2.5**
ANTO Ankara 71.82 315 P **P 13 01 07.0 -2.6**
ANTO Ankara 71.82 315 P **P 13 01 07.3 -2.3**
ANTO pmax pmax
comp=Z,1μm,1.0s
ANTO MLR MLR
comp=Z,238μm,19.0s
ANTO Ankara 71.82 315 P **P 13 01 07.3 -2.3**
LOD Lodumlu 71.85 315 P **P 13 01 07.1 -2.6**
OUENC Ouen Island, N 72.05 112 P **P 13 01 10.7 -0.5**
YAK Yakutsk 72.08 17 LR LR 13 35 19.8
comp=Z,572μm,18.2s,baz=214,slow=38
YAK Yakutsk 72.08 17 *e*P **P 13 01 09.6 -0.9**
YAK *e**PP **pwP 13 01 23.0 -0.8**
YAK *e* 13 01 29.0
YAK *e* 13 03 47.6
YAK *e*PPP PPP 13 05 35.9
YAK *e*S **S 13 10 29.0 -1.7**
YAK *e* 13 11 12.2
YAK *e*SS **SS 13 15 09.5 +1.2**
YAK pmax pmax
comp=Z,1μm,1.1s
YAK pmax pmax
comp=N,553nm,1.3s
YAK pmax pmax
comp=E,614nm,1.4s
YAK pmax pmax
comp=Z,2μm,1.8s
YAK pmax pmax
comp=N,869nm,1.6s
YAK pmax pmax
comp=E,886nm,1.5s
YAK smax smax
comp=N,34μm,7.1s
YAK smax smax
comp=E,29μm,6.5s
YAK MLR MLR
comp=Z,597μm,16.0s
YAK MLR MLR
comp=N,363μm,18.0s
YAK MLR MLR
comp=E,517μm,17.0s
YAK Yakutsk 72.08 17 P **P 13 01 07.4 -3.1**
YAK IAMs_20 IAMs_20 13 36 51.2
comp=Z,515μm,18.0s
KIZT Kizilcal 72.10 313 P P 13 01 05.5 -5.8
SUTC Sutluce-Ispart 72.23 312 P **P 13 01 07.8 -4.4**
GRAN Grantham 72.25 238 *e*P **P 13 01 10.7 -1.6**
GRAN IAmb IAmb 13 01 21.6
comp=Z,2μm,1.8s
SANVU Saraoutou 72.29 105 ⇑P **P 13 01 13.9 +1.2**
SANVU ⇑P **PcP 13 01 28.4 -2.3**
BCK Bucak 72.53 312 P **P 13 01 12.8 -1.1**
KORT Korkueli 72.55 311 P **P 13 01 11.9 -2.2**
AUSIV SIVRIHISAR 72.55 314 P **P 13 01 11.5 -2.5**
SVRH Sivrihisar-ESK 72.57 314 P **P 13 01 11.6 -2.5**
KURC Kurucasile-Bar 72.63 317 P P 13 01 08.7 -5.6
KIRV Kirov 72.69 337 *d* iP **P 13 01 12.0 -2.2**
ISP Isparta 72.71 312 P **P 13 01 11.8 -3.2**
ISP Isparta 72.71 312 IAMs_20 IAMs_20 13 36 11.6
comp=Z,393μm,18.0s
UPI Upington 72.72 242 ⇑*i* P **P 13 01 14.5 -0.7**
UPI IAmb IAmb 13 01 23.7
comp=Z,1μm,1.5s
ELL Elmali 72.80 311 P **P 13 01 13.4 -2.1**
VORD Divnogorie 72.80 327 *e*P **P 13 01 15.9 +0.9**
VORD *e* 13 04 05.0
VORD *e*PPP PPP 13 05 39.8
VORD *e*S **S 13 10 42.9 +3.6**
VORD pmax pmax
comp=Z,620nm,0.8s
VORD pmax pmax
comp=Z,840nm,0.9s
VORD smax smax
comp=N,51μm,12.9s
VORD MLR MLR
comp=Z,22μm,19.0s
AKAS Kas 72.85 310 P **P 13 01 14.7 -1.2**
AKAS Kas 72.85 310 IAmb IAmb 13 01 43.9
comp=Z,1μm,1.1s
CIFT Cifteler, Eski 72.87 314 P **P 13 01 13.4 -2.4**
SHUT Suhut-Afyon 72.95 313 P **P 13 01 13.9 -2.5**
KEIM Keimoes 72.99 242 *e*P **P 13 01 15.6 -1.2**
KEIM IAmb IAmb 13 01 32.7
comp=Z,454nm,1.2s
SIM Simferopol' 73.00 320 *e*P **P 13 01 14.0 -2.4**
SIM *e* 13 01 31.0
SIM *e*S **S 13 10 38.0 -3.9**
SIM *e*SS **SS 13 15 24.0 +0.9**
SIM pmax pmax
comp=Z,2μm,1.7s
MARNC Mare, Loyalty 73.13 111 ⇑P **P 13 01 19.7 +2.1**
MARNC ⇓P **pP 13 01 21.5 -2.8**
MARNC ⇓S P 13 01 24.8 +7.2
MARNC ⇓S P 13 01 25.0 +7.4
MDUB Mudurnu 73.18 315 P **P 13 01 15.1 -2.6**
VORR Voronezh 73.21 328 *e*P **P 13 01 16.6 -0.9**
VORR *e* 13 04 04.3
VORR *e*S **S 13 10 41.7 -2.2**
VORR pmax pmax
comp=Z,1μm,1.4s
VORR pmax pmax
comp=Z,630nm,1.0s
VORR smax smax
comp=N,3μm,3.0s
SYO Syowa Base 73.31 198 ⇑*i* P **P 13 01 16.4 -1.4**
SYO Syowa Base 73.31 198 ⇓*i* pP pP 13 01 25.2 +0.7
SYO Syowa Base 73.31 198 ⇑*i* sP sP 13 01 28.2 +1.2
SYO Syowa Base 73.31 198 *i* PcP **PcP 13 01 32.0 -2.0**
KDZE Karadeniz Ereo 73.32 316 ⇓P **P 13 01 17.6 -0.9**
KDZE Karadeniz Ereo 73.32 316 P **P 13 01 15.1 -3.3**
FETY Fethiye 73.38 310 P **P 13 01 18.3 -0.6**
FETY Fethiye 73.38 310 P **P 13 01 18.4 -0.5**
SUR Sutherland 73.40 238 LR LR 13 27 36.5
comp=N,453μm,21.1s,baz=104,slow=31
SUR Sutherland 73.40 238 P **P 13 01 18.1 -1.2**
SUR IAmb IAmb 13 01 29.6
comp=Z,5μm,1.6s
SUR Sutherland 73.40 238 IAMs_20 IAMs_20 13 27 57.5
comp=Z,402μm,20.0s
BORA Eskisehir 73.49 314 P **P 13 01 16.9 -2.6**
AUGR Augrabies 73.54 242 *e*P **P 13 01 20.6 +0.5**
MATJ Matjiesfontein 73.67 237 ⇑*i* P P 13 01 15.6 -5.2
MATJ IAmb IAmb 13 01 48.1
comp=Z,2μm,1.5s
DALY Dalyan (Mula) 73.77 310 P **P 13 01 18.9 -2.2**
SAUV Serdivan-Sakar 73.89 315 P **P 13 01 18.9 -2.8**
GEDZ Gediz 73.95 313 P **P 13 01 19.9 -2.3**
ARG Arkhangelos 73.98 310 P **P 13 01 23.1 +0.8**
ARG Arkhangelos 73.98 310 P **P 13 01 24.2 +1.9**
TVSB Tavsanli 74.06 313 P **P 13 01 18.7 -4.2**
TURN Turunc 74.07 310 P **P 13 01 21.9 -0.9**
YER Yerkesik 74.15 311 P **P 13 01 23.4 0.0**
YER Yerkesik 74.15 311 P **P 13 01 23.5 0.0**
YER Yerkesik 74.15 311 P **P 13 01 24.7 +1.3**
CVNA Calvinia 74.22 239 ⇑*i* P **P 13 01 22.5 -1.6**
CVNA IAmb IAmb 13 01 48.3
comp=Z,2μm,1.5s
NRIK Noril'sk 74.24 358 P **P 13 01 20.5 -2.7**
comp=Z,302nm,1.1s,baz=152,slow=4.7,SNR=72
NRIK S **SKiKP 13 10 48.1 -0.8**
comp=Z,18nm,1.1s,baz=96,slow=9.2,SNR=2.0
NRIK PKPPKP **P'P'df 13 28 55.5 +2.6**
comp=Z,1.5nm,0.4s,baz=17,slow=14,SNR=2.0
NRIK LR LR 13 36 13.6
comp=Z,410μm,19.9s,baz=170,slow=38
NRIK Noril'sk 74.24 358 *d* iP **P 13 01 20.4 -2.7**
NRIK MLR MLR
comp=Z,422μm,19.0s
NRIK Noril'sk 74.24 358 IAmb IAmb 13 01 38.8
comp=Z,4μm,1.2s
SIMA Simav-Kutahya 74.28 313 P **P 13 01 21.9 -2.3**
PYZ Puysegur Point 74.32 137 IAmb IAmb 13 01 39.3
comp=Z,3μm,1.8s
PYZ IAMs_20 IAMs_20 13 31 14.3
comp=Z,383μm,22.0s
KULA Kula-Manisa 74.32 312 P **P 13 01 24.6 +0.2**

KULA Kula-Manisa 74.32 312 P **P** **13 01 24.4 0.0**
HRT Hereke 74.39 315 P **P** **13 01 22.0 -2.7**
MANT Manisa 74.39 312 IAmb IAmb 13 01 54.2
comp=Z,2µm,1.4s
KWAJ Kwajalein Atol 74.39 79 P **P** **13 01 26.5 +1.3**
ELIM Elim 74.47 236 *eP* **P** **13 01 24.1 -1.2**
ELIM IAmb IAmb 13 01 35.2
comp=Z,3µm,1.7s
YLV Yalova 74.51 314 P **P** **13 01 22.9 -2.5**
KARP Karpathos 74.51 309 P **P** **13 01 24.1 -1.4**
KARP Karpathos 74.51 309 ⇑P **P** **13 01 27.8 +2.3**
KARP Karpathos 74.51 309 ⇑⇑P **P** **13 01 29.9 -1.6**
KARP ⇑⇑P **P** **13 01 26.6 +1.0**
KARP ⇓P **PcP** **13 01 41.2 +1.3**
SILT Sile 74.53 315 P **P** **13 01 22.1 -3.3**
DCZ Deep Cove 74.53 136 IAMs_20 IAMs_20 13 31 50.1
comp=Z,482µm,19.0s
MLSB Milas 74.59 311 P **P** **13 01 25.8 -0.1**
GEMT Gemlik 74.60 314 P **P** **13 01 25.7 -0.1**
NIS1 Nisyros Isl. 74.83 310 P **P** **13 01 24.9 -2.4**
NIS1 Nisyros Isl. 74.83 310 P **P** **13 01 27.8 +0.5**
NISR Nisiros 74.87 310 P **P** **13 01 26.9 -0.6**
BODT Bodrum 74.87 310 P **P** **13 01 24.8 -2.7**
BODT Bodrum 74.87 310 P **P** **13 01 27.8 +0.3**
KAVV Kandilli-Istan 74.91 315 P **P** **13 01 24.9 -2.7**
ISK Istanbul-Kandi 74.91 315 P **P** **13 01 24.8 -2.8**
ISK Istanbul-Kandi 74.91 315 P **P** **13 01 25.2 -2.4**
KLYT Kilyos 74.99 315 P **P** **13 01 25.4 -2.7**
H11S3 WAKE ISLAND Hy 75.02 69 P **P** **13 01 29.8 +1.3**
baz=259,slow=11,SNR=7.6
KOSK Kos Island 75.02 310 P **P** **13 01 28.4 0.0**
H11S1 WAKE ISLAND Hy 75.03 69 P **P** **13 01 29.9 +1.3**
baz=259,slow=11,SNR=10
H11S2 WAKE ISLAND Hy 75.04 69 P **P** **13 01 27.8 -0.8**
baz=259,slow=11,SNR=12
ZKR Zakros 75.12 308 P **P** **13 01 29.6 +0.5**
ZKR Zakros 75.12 308 P **P** **13 01 29.5 +0.5**
GCAM G?zelcaml? 75.12 311 P **P** **13 01 26.9 -2.0**
WAKE Wake Island 75.13 69 P **P** **13 01 30.8 +1.5**
WHZ Wether Hill Ro 75.15 136 IAMs_20 IAMs_20 13 32 29.3
comp=Z,564µm,19.0s
BGKT Bogazkoy 75.15 315 P **P** **13 01 28.9 -0.1**
MLZ Mavora Lakes 75.19 136 IAMs_20 IAMs_20 13 34 19.5
comp=Z,534µm,20.0s
CTKS Kestanelik-??a 75.36 315 P **P** **13 01 26.9 -3.3**
SMG Samos 75.43 311 P **P** **13 01 30.3 -0.4**
H11N1 WAKE ISLAND Hy 75.43 68 P **P** **13 01 33.3 +2.4**
baz=238,slow=6.0,SNR=52
H11N2 WAKE ISLAND Hy 75.44 68 P **P** **13 01 33.6 +2.8**
baz=238,slow=6.0,SNR=30
H11N3 WAKE ISLAND Hy 75.45 68 P **P** **13 01 33.7 +2.8**
baz=238,slow=6.0,SNR=73
FRMA Ierapetra Chan 75.47 308 P **P** **13 01 31.2 +0.2**
EDC Edincik 75.52 314 P **P** **13 01 31.1 -0.1**
EDC Edincik 75.52 314 P **P** **13 01 31.2 0.0**
SLVT Silivri 75.57 315 P **P** **13 01 28.5 -2.9**
CTYL Yalikoy Yolu 75.59 315 P **P** **13 01 28.2 -3.4**
NPS Neapolis 75.64 308 P **P** **13 01 32.9 +0.9**
WKZ Wanaka 75.75 135 pwP pwP 13 01 43.1 -2.8
DKL Dikili 75.80 312 P **P** **13 01 30.6 -2.2**
URLA Izmir 75.81 311 P **P** **13 01 29.7 -3.2**
TSUM Tsumeb 75.82 252 LR LR 13 31 20.7
comp=Z,611µm,20.2s,baz=85,slow=33
TSUM Tsumeb 75.82 252 *i*⇑P **P** **13 01 32.4 -1.1**
TSUM Tsumeb 75.82 252 P **P** **13 01 32.1 -1.4**
TSUM Tsumeb 75.82 252 *i*P **P** **13 01 32.1 -1.4**
TSUM Tsumeb 75.82 252 ⇓P **P** **13 01 32.0 -1.5**
TSUM ⇑⇑P **P** **13 01 32.0 -1.5**
TSUM Tsumeb 75.82 252 *i*P **P** **13 01 32.1 -1.5**
KRBG Karabiga-Canak 75.94 314 P **P** **13 01 31.9 -1.7**
MAR3 Marsite Statio 76.06 314 P **P** **13 01 33.7 -0.6**
MAR6 Marsite Statio 76.07 314 P **P** **13 01 34.0 -0.3**
KOMG Komaggas 76.09 241 *eP* **S** **13 11 11.9 -5.2**
KOMG IAmb IAmb 13 11 46.3
comp=Z,13µm,7.1s
RKY Sarkoy-Tekirda 76.12 314 P **P** **13 01 34.0 -0.7**
MOS Moscow 76.13 331 *eP* **P** **13 01 29.8 -4.5**
MOS *i* 13 04 30.0
MOS *i*S **S** **13 11 13.2 -3.2**
MOS *i*SS **SS** **13 16 08.1 -2.1**
MOS pmax pmax
comp=Z,6µm,1.8s
MOS pmax pmax
comp=Z,4µm,1.3s
MOS MLR MLR
comp=Z,265µm,19.0s
MOS MLR MLR
comp=N,213µm,20.0s
MOS MLR MLR
comp=E,297µm,19.0s
PRGR Permogore 76.13 338 *i*⇓P **P** **13 01 31.5 -2.7**
PRGR *e*S **S** **13 11 19.5 +3.3**
PRGR pmax pmax
comp=Z,3µm,0.8s
THR3 Thira Island, 76.13 309 P **P** **13 01 33.7 -1.1**
SAP3 Santorini-Thir 76.18 309 P **P** **13 01 33.7 -1.4**
PHSR Pinarhisar 76.19 315 P **P** **13 01 35.0 0.0**
MANR Mangalia 76.20 317 ⇓P **P** **13 01 34.8 -0.2**
IDI Anoyia 76.21 308 ⇓P **P** **13 01 34.1 -1.3**
IDI Anoyia 76.21 308 LR LR 13 35 23.0
comp=Z,274µm,21.7s,baz=90,slow=36
IDI Anoyia 76.21 308 P **P** **13 01 34.0 -1.3**
IDI Anoyia 76.21 308 P **P** **13 01 34.6 -0.7**
IDI Anoyia 76.21 308 IAmb IAmb 13 02 04.8
comp=Z,3µm,1.7s
IDI Anoyia 76.21 308 ⇑P **P** **13 01 33.5 -1.8**
IDI ⇑P **P** **13 01 34.3 -1.0**
IDI ⇓P **P** **13 01 36.9 +1.5**
APE Apeiranthos 76.22 310 P **P** **13 01 34.6 -0.8**
EFOR EFORIE 76.27 317 ⇓P **P** **13 01 35.5 +0.2**
PRK Paraskevi 76.33 312 P **P** **13 01 37.1 +1.3**
OBN Obninsk 76.33 330 LR LR 13 38 25.0
comp=Z,62µm,19.6s,baz=111,slow=38
OBN Obninsk 76.33 330 *d*⇓P **P** **13 01 35.0 -0.4**
OBN *e* 13 04 27.6
OBN PPP PPP 13 06 11.1
OBN *i*S **S** **13 11 12.3 -6.3**
OBN pmax pmax
comp=Z,4µm,1.3s
OBN pmax pmax
comp=Z,19µm,2.0s
OBN MLR MLR
comp=Z,257µm,19.0s
OBN Obninsk 76.33 330 P **P** **13 01 35.3 -0.1**
JURR Jurilovca 76.35 318 ⇓P **P** **13 01 34.0 -1.8**
MFTR Murfatlar 76.44 318 ⇓P **P** **13 01 36.8 +0.5**
EZN Ezine 76.47 313 P **P** **13 01 36.6 0.0**
EZN Ezine 76.47 313 P **P** **13 01 35.4 -1.1**
EZN Ezine 76.47 313 P **P** **13 01 35.5 -1.1**
SKR Severo-Kuril's 76.52 35 *eP* **P** **13 01 37.9 +1.3**
SKR *e*S **S** **13 11 22.4 +1.6**
SKR pmax pmax
comp=Z,18µm,8.1s
SKR pmax pmax
comp=Z,13µm,13.1s
SKR MLR MLR
comp=Z,112µm,19.0s
LBZ Lake Benmore 76.53 134 P **P** **13 01 35.3 -1.7**
GELI Tayfur-Gelibol 76.54 313 P **P** **13 01 36.8 -0.2**
PRNS Prines Rethymn 76.54 308 P **P** **13 01 37.1 0.0**
TLCR 76.55 319 ⇓P **P** **13 01 36.9 0.0**
TLCR 76.55 319 P **P** **13 01 36.8 0.0**
TIRR Tirgusor 76.55 318 ⇓P **P** **13 01 34.7 -2.2**
TIRR Tirgusor 76.55 318 P **P** **13 01 34.3 -2.6**
TIRR pmax pmax
comp=Z,4µm,1.3s
TIRR MLR MLR
comp=Z,780µm,22.0s
TIRR Tirgusor 76.55 318 P **P** **13 01 34.2 -2.6**
TIRR IAmb IAmb 13 02 08.8
comp=Z,4µm,1.3s
TIRR Tirgusor 76.55 318 ⇓P **P** **13 01 34.4 -2.6**
TIRR ⇓P **P** **13 01 34.5 -2.4**
TIRR ⇑P **P** **13 01 37.3 +0.3**
ERIK Erikli-Kesan 76.60 314 P **P** **13 01 34.9 -2.4**
SIGR SIGRI 76.62 312 P **P** **13 01 37.5 0.0**
SIGR SIGRI 76.62 312 P **P** **13 01 36.3 -1.2**
BOZC Bozcaada 76.67 313 P P 13 01 32.8 -4.9
GVDS Gavdos 76.72 307 P **P** **13 01 37.1 -1.0**
GVD Gavdhos 76.72 307 P **P** **13 01 36.0 -2.2**
GVD Gavdhos 76.72 307 P **P** **13 01 37.1 -1.1**
CVDA Cernavoda 76.76 318 ⇓P **P** **13 01 36.5 -1.6**
VAM Vamos 76.79 308 P **P** **13 01 39.7 +1.2**

PRD Provadia 76.80 316 P **P** **13 01 38.5 +0.1**
EDRB Edirne 76.81 315 P **P** **13 01 36.0 -2.5**
EDRB Edirne 76.81 315 P **P** **13 01 37.1 -1.4**
TLBR Topalu 76.83 318 ⇓P **P** **13 01 36.2 -2.3**
I43RU DUBNA INFRASON 76.83 332 P P 13 01 46.3 +8.0
baz=124,slow=14,SNR=1.4
ICOR Ion Corvin 76.84 317 ⇓P **P** **13 01 36.5 -2.1**
ENEZ Enez 76.88 314 P **P** **13 01 36.4 -2.5**
ENEZ Enez 76.88 314 P **P** **13 01 38.8 -0.1**
GADA Gvkgeada 76.89 313 P **P** **13 01 39.0 0.0**
GADA Gvkgeada 76.89 313 P **P** **13 01 38.0 -1.0**
ODZ Otahua Downs 76.92 135 ⇓P **P** **13 01 40.8 +1.7**
HARR Harsova 76.95 318 ⇓P **P** **13 01 37.6 -1.6**
HARR Harsova 76.95 318 P **P** **13 01 37.6 -1.6**
IMMV Iera Moni Meta 76.97 308 P **P** **13 01 40.3 +0.7**
IMMV Iera Moni Meta 76.97 308 P **P** **13 01 39.7 +0.1**
MHLO Agia Marina, M 76.98 309 P **P** **13 01 39.5 -0.1**
CFR Carcaliu 76.99 318 ⇓P **P** **13 01 37.2 -2.2**
CFR Carcaliu 76.99 318 P **P** **13 01 37.2 -2.2**
ALN Alexandroupoli 77.00 314 P **P** **13 01 36.9 -2.7**
ALN Alexandroupoli 77.00 314 P **P** **13 01 38.8 -0.8**
ALN Alexandroupoli 77.00 314 IAmb IAmb 13 02 08.7
comp=Z,2µm,1.5s
RPZ Rata Peaks 77.08 134 LR LR 13 35 34.0
comp=Z,854µm,19.1s,baz=285,slow=36
RPZ Rata Peaks 77.08 134 P **P** **13 01 41.1 +1.0**
JMB Yambol 77.12 315 P **P** **13 01 40.7 +0.5**
KNDR Palaiochora Ch 77.15 308 P **P** **13 01 41.1 +0.6**
RODP Rodopos 77.18 308 P **P** **13 01 40.5 -0.2**
KIS Kishinev 77.21 320 ⇓P **P** **13 01 40.2 -0.4**
SMTH Samothraki Isl 77.25 313 P **P** **13 01 40.5 -0.5**
SCTR Scanteiesti 77.26 319 ⇓P **P** **13 01 40.1 -0.8**
VLDR Vladesti 77.26 319 ⇑P **P** **13 01 40.8 -0.1**
SCHL Schela 77.31 319 ⇓P **P** **13 01 41.1 -0.1**
RASA Rasa 77.32 317 ⇓P **P** **13 01 41.3 +0.1**
AMRR Amara 77.33 318 ⇓P **P** **13 01 41.3 0.0**
LIA Limnos Island 77.33 313 P **P** **13 01 39.7 -1.7**
KARY Karystos 77.34 311 P **P** **13 01 41.4 -0.1**
IZVR Izvoarele 77.36 319 ⇓P **P** **13 01 40.2 -1.2**
LEOM Leova 77.38 320 ⇓P **P** **13 01 40.0 -1.5**
LEOM Leova 77.38 320 P **P** **13 01 40.0 -1.5**
VARL Varlezi 77.43 319 ⇓P **P** **13 01 42.2 +0.3**
RDO Rodhopi 77.45 314 P **P** **13 01 39.1 -3.0**
RDO Rodhopi 77.45 314 P **P** **13 01 40.5 -1.6**
RAZG Razgrad 77.54 316 ⇓P **P** **13 01 40.5 -2.1**
ANKY Antikythira Is 77.62 308 P **P** **13 01 44.0 +0.9**
PGOR Pogoanele 77.66 318 ⇓P **P** **13 01 42.7 -0.5**
KDZ Kurdzhali 77.69 314 P **P** **13 01 43.3 -0.2**
DION Dionisos Attik 77.73 310 P **P** **13 01 44.8 +1.0**
VASR Vaslui 77.73 320 ⇓P **P** **13 01 42.2 -1.4**
KYMI Kymi, Euboea I 77.76 311 P **P** **13 01 42.2 -1.7**
VLY Voula,Athens 77.77 310 P **P** **13 01 43.1 -0.9**
PTL Penteli 77.77 310 P **P** **13 01 45.7 +1.7**
PETR Petresti 77.78 319 ⇓P **P** **13 01 48.0 +4.2**
GHRR 77.78 319 ⇓P **P** **13 01 42.4 -1.4**
ATHU Athens Univers 77.81 310 P **P** **13 01 44.0 -0.2**
GRER 77.83 318 ⇓P **P** **13 01 43.4 -0.8**
SZH Strazhica 77.83 316 P **P** **13 01 41.7 -2.5**
ATH Athens Observa 77.86 310 P **P** **13 01 45.7 +1.2**
THAS Thassos island 77.88 313 P **P** **13 01 45.7 +1.2**
PANC Panciu 77.88 319 ⇓P **P** **13 01 44.3 -0.1**
KTHA Kythira Island 77.91 309 P **P** **13 01 44.8 0.0**
ODBI Odobesti 77.91 319 ⇓P **P** **13 01 43.8 -0.8**
SORM Soroca 77.92 321 ⇓P **P** **13 01 41.9 -2.6**
SORM Soroca 77.92 321 P **P** **13 01 41.9 -2.6**
KTHR Kythira 77.95 309 P **P** **13 01 44.8 -0.2**
ISR Istrita 78.03 318 ⇓P **P** **13 01 45.1 -0.3**
ISR Istrita 78.03 318 P **P** **13 01 45.0 -0.3**
KLMR Klimovskoe 78.03 336 *eP* **P** **13 01 41.8 -3.1**
KLMR *e* 13 04 37.4
KLMR *e*S **S** **13 11 35.6 -1.3**
KLMR *e*SS **SS** **13 16 36.2 -2.4**
KLMR pmax pmax
comp=Z,2µm,1.4s
KLMR MLR MLR
comp=Z,211µm,18.0s
KLMR Klimovskoe 78.03 336 *e*P **P** **13 01 41.8 -3.1**
KLMR AMP 13 01 57.6
comp=Z,2µm,1.4s
KLMR *e*PP **PP** **13 04 37.5 -3.9**
KLMR *e*S **S** **13 11 35.6 -1.3**
KLMR *e*S **S** **13 11 35.6 -1.3**
KLMR *e*SS **SS** **13 16 36.3 -2.4**
KLMR *e*SS **SS** **13 16 36.3 -2.4**
KLMR LQ LQ 13 29 52.8
KLMR LQ LQ 13 29 52.8
KLMR LR LR 13 35 03.6
KLMR AMP 13 39 03.9
comp=Z,211µm,17.6s
BISRR Bisoca 78.06 318 ⇑P **P** **13 01 44.8 -0.7**
SULR 78.08 317 ⇓P **P** **13 01 46.3 +0.8**
IAS Iasi 78.08 320 ⇓P **P** **13 01 43.9 -1.5**
MA2 Magadan 78.09 26 LR LR 13 37 09.0
comp=Z,500µm,21.2s,baz=238,slow=36
MA2 Magadan 78.09 26 *d*⇓P **P** **13 01 42.5 -2.7**
MA2 pmax pmax
comp=Z,981nm,1.3s
MA2 MLR MLR
comp=Z,501µm,17.0s
MA2 Magadan 78.09 26 P **P** **13 01 42.6 -2.6**
MA2 IAmb IAmb 13 02 07.9
comp=Z,4µm,1.7s
MA2 Magadan 78.09 26 P **P** **13 01 48.0 +2.8**
VLI Veliai 78.12 309 P **P** **13 01 44.8 -1.2**
KRND KRANIDI 78.14 310 P **P** **13 01 43.1 -2.9**
KAVA Kavala 78.14 313 P **P** **13 01 44.0 -1.9**
VRI Vrincioaia 78.16 319 ⇑P **P** **13 01 44.6 -1.4**
VRI Vrincioaia 78.16 319 P **P** **13 01 44.3 -1.7**
VRI Vrincioaia 78.16 319 P **P** **13 01 44.6 -1.4**
RZN Rozhen 78.20 314 P **P** **13 01 46.4 -0.1**
PLOR Plostina 78.20 319 ⇓P **P** **13 01 46.6 +0.4**
PLOR Plostina 78.20 319 P **P** **13 01 45.2 -1.1**
EPID Epidavros 78.22 310 P **P** **13 01 44.0 -2.5**
VILL Villia 78.22 310 P **P** **13 01 44.8 -1.8**
NEHR Nehoiu 78.30 318 ⇓P **P** **13 01 47.1 +0.3**
SECR 78.32 318 ⇑P **P** **13 01 46.3 -0.5**
OUR Ouranopolis 78.33 313 P **P** **13 01 46.8 -0.2**
OUR Ouranopolis 78.33 313 P **P** **13 01 45.7 -1.3**
PLD Plovdiv 78.34 315 P **P** **13 01 46.9 -0.1**
AKASG Malin Array Be 78.36 324 P **P** **13 01 44.3 -2.7**
comp=Z,146nm,0.5s,baz=95,slow=4.1,SNR=94
AKASG PP **PP** **13 04 41.6 -2.8**
comp=Z,75nm,1.1s,baz=103,slow=4.4,SNR=1.4
AKASG S **S** **13 11 34.1 -6.8**
comp=Z,0.9nm,0.5s,baz=73,slow=3.4,SNR=3.2
AKASG PKKPbc **PKKPbc** **13 20 49.5 +2.6**
comp=Z,2.3nm,0.7s,baz=284,slow=3.0,SNR=5.1
AKASG PKPPKP **P'P'df** **13 28 49.3 +2.3**
comp=Z,0.9nm,0.7s,baz=288,slow=1.8,SNR=5.5
AKASG LR LR 13 40 35.6
comp=Z,169µm,18.6s,baz=120,slow=39
AKASG Malin Array Be 78.36 324 pwP **pwP** **13 02 01.7 +1.4**
AKASG IAmb IAmb 13 02 19.4
comp=Z,2µm,1.2s
AKBB Malin Array Si 78.36 324 *d*⇓P **P** **13 01 44.1 -2.8**
AKBB pmax pmax
comp=Z,658nm,0.9s
AKBB MLR MLR
comp=Z,158µm,18.0s
AKBB Malin Array Si 78.36 324 IAmb IAmb 13 02 10.4
comp=Z,2µm,1.2s
TESR Tescani 78.43 319 ⇓P **P** **13 01 46.0 -1.4**
PEA0B Petropavlovsk- 78.43 33 *de*P **P** **13 01 47.4 +0.1**
PEA0B Petropavlovsk- 78.43 33 P **P** **13 01 46.3 -1.0**
PETK Petropavlovsk- 78.43 33 P **P** **13 01 45.4 -1.9**
comp=Z,19nm,0.7s,baz=222,slow=1.9,SNR=17
PETK S **S** **13 11 37.0 -4.6**
comp=Z,6.6nm,1.1s,baz=233,slow=35,SNR=2.5
PETK PKKPbc **PKKPbc** **13 20 45.7 -1.1**
comp=Z,6.1nm,1.0s,baz=108,slow=4.8,SNR=4.3
PETK PKPPKP 13 28 45.9
comp=Z,6.9nm,1.0s,baz=48,slow=14,SNR=3.6
PETK LR LR 13 37 00.0
comp=Z,314µm,19.8s,baz=240,slow=36
PETK Petropavlovsk- 78.43 33 P **P** **13 01 45.0 -2.3**
PAIG Paliouri 78.44 312 P **P** **13 01 48.2 +0.6**
PAIG Paliouri 78.44 312 P **P** **13 01 46.9 -0.7**
KOKK Kokkinochori, 78.46 313 P **P** **13 01 47.4 -0.3**
MLR Muntele Rosu 78.55 318 ⇓P **P** **13 01 47.4 -0.9**
MLR Muntele Rosu 78.55 318 LR LR 13 39 52.3
comp=Z,359µm,20.2s,baz=108,slow=38
MLR Muntele Rosu 78.55 318 IAMs_20 IAMs_20 13 39 20.4
comp=Z,373µm,20.0s
ATAL Atalanti 78.59 311 P **P** **13 01 46.5 -2.0**
LKR Lokos 78.59 311 P **P** **13 01 46.5 -2.0**
NNZ Nelson 78.60 131 IAMs_20 IAMs_20 13 32 58.9
comp=Z,526µm,21.0s
NNZ Nelson 78.60 131 P **P** **13 01 47.8 -0.7**
COPA Copaceanca 78.60 317 ⇓P **P** **13 01 48.8 +0.4**
NEO Neokhori 78.61 312 P **P** **13 01 47.4 -1.2**
XOR Xorichti 78.64 312 P **P** **13 01 47.4 -1.4**
NVR Nevrokopi 78.71 314 P **P** **13 01 48.2 -1.0**
PLG Polygyros 78.74 313 P **P** **13 01 48.2 -1.1**
TARA Tarawa 78.83 88 P **P** **13 01 52.0 +1.6**
SRS Serrai 78.84 313 P **P** **13 01 49.9 0.0**
OZUR 78.85 319 ⇓P **P** **13 01 49.7 -0.1**
NBEZ Newall Road No 78.87 129 P **P** **13 01 52.0 +2.0**
MMB Musomiste 78.88 314 P **P** **13 01 49.5 -0.6**
NMEZ Namu Road 78.88 129 P **P** **13 01 51.2 +1.1**
HUMR Humele 78.89 317 ⇓P **P** **13 01 48.4 -1.6**
PET Petropavlovsk 78.92 34 *de*P **P** **13 01 47.7 -2.3**
PET *e* 13 04 53.8
PET *e*PPP PPP 13 06 32.4
PET *e*S **S** **13 11 42.9 -3.8**
PET *e*PPS PPS 13 12 40.3
PET *e*SS **SS** **13 16 50.9 -1.5**
PET pmax pmax
comp=Z,40µm,7.9s
PET pmax pmax
comp=Z,3µm,1.2s
PET pmax pmax
comp=Z,24µm,16.8s
PET smax smax
comp=N,249µm,25.8s
PET Petropavlovsk 78.92 34 P **P** **13 01 48.0 -2.0**
PET IAmb IAmb 13 02 07.5
comp=Z,3µm,1.3s
PET Petropavlovsk 78.92 34 P **P** **13 01 50.7 +0.7**
SOH Sokhos 78.93 313 P **P** **13 01 49.1 -1.3**
KHEZ Kahui Hut 78.98 129 P **P** **13 01 53.0 +2.2**
DUWZ D'Urville Isla 78.98 130 P **P** **13 01 53.2 +2.5**
STFAR Stefanesti-Arg 79.01 317 ⇓P **P** **13 01 50.2 -0.5**
ITM Ithomi 79.03 309 P **P** **13 01 50.2 -0.8**
ITM Ithomi 79.03 309 P **P** **13 01 49.9 -1.1**
ITM Ithomi 79.03 309 IAmb IAmb 13 02 19.9
comp=Z,4µm,1.6s
TUWZ Tuamarina 79.03 131 P **P** **13 01 52.0 +1.1**
DRBR Darabani 79.03 321 ⇓P **P** **13 01 48.6 -2.1**
NEZ North Egmont 79.04 129 P **P** **13 01 51.7 +0.5**
MTUR Matau 79.05 318 ⇓P **P** **13 01 49.7 -1.3**
HORT Hortiatis 79.05 313 P **P** **13 01 50.4 -0.7**
HORT Hortiatis 79.05 313 P **P** **13 01 49.9 -1.2**
DOPR Dopca 79.07 319 ⇓P **P** **13 01 49.5 -1.6**
KLV Kalavryta, Ach 79.08 310 P **P** **13 01 49.7 -2.2**
VLAD Vladila 79.12 316 ⇓P **P** **13 01 52.0 +0.7**
DREZ Durham Road 79.12 129 P **P** **13 01 52.5 +1.0**
VOIR 79.13 318 ⇓P **P** **13 01 50.8 -0.7**
VOIR 79.13 318 P **P** **13 01 50.7 -0.7**
THE Thessaloniki 79.16 313 P **P** **13 01 49.9 -1.7**
THE Thessaloniki 79.16 313 *i*P **P** **13 01 51.6 0.0**
AGG Agios Georgios 79.20 311 P **P** **13 01 50.7 -1.1**
AGG Agios Georgios 79.20 311 P **P** **13 01 50.8 -1.1**
AGG Agios Georgios 79.20 311 IAmb IAmb 13 02 19.9
comp=Z,3µm,1.6s
TRIZ Trizonia 79.22 310 P **P** **13 01 50.8 -1.1**
CMWZ Cape Campbell 79.25 131 P **P** **13 01 53.6 +1.5**
LAKA Lakka 79.26 310 P **P** **13 01 52.5 +0.3**
TCW Tory Channel 79.27 131 P **P** **13 01 50.9 -1.3**
LREZ Lake Rotokare 79.29 129 P **P** **13 01 53.6 +1.3**
MAKR Makrakomi, Fth 79.34 311 P **P** **13 01 49.9 -2.8**
KNT Kendrikon 79.36 313 P **P** **13 01 49.7 -3.0**
KNT Kendrikon 79.36 313 P **P** **13 01 52.5 -0.2**
LIT Litokhoron 79.36 312 P **P** **13 01 49.9 -2.9**
LIT Litokhoron 79.36 312 P **P** **13 01 50.9 -1.9**
LIT Litokhoron 79.36 312 IAmb IAmb 13 02 21.1
comp=Z,2µm,1.4s
ARR Arges 79.39 318 ⇓P **P** **13 01 52.8 0.0**
KKB Krupnik 79.42 314 P **P** **13 01 52.5 -0.5**
VTS Vitosha 79.53 315 ⇑P **P** **13 01 51.6 -2.2**
VTS Vitosha 79.53 315 P **P** **13 01 53.6 -0.1**
VRZ Vera Road 79.55 129 P **P** **13 01 57.1 +3.3**
EVR Evrytania 79.56 311 P **P** **13 01 51.6 -2.3**
THL Klokotos Trika 79.58 312 P **P** **13 01 49.9 -4.0**
RLS Riolos of Patr 79.60 310 P **P** **13 01 53.3 -0.7**
SNZO South Karori 79.60 131 P **P** **13 01 52.8 -1.2**
SNZO South Karori 79.60 131 IAMs_20 IAMs_20 13 36 41.4
comp=Z,478µm,20.0s
SNZO South Karori 79.60 131 P **P** **13 01 54.9 +0.9**
HIZ Hauiti 79.61 128 IAMs_20 IAMs_20 13 41 36.7
comp=Z,487µm,18.0s
HIZ Hauiti 79.61 128 P **P** **13 01 55.6 +1.5**
VAY Valandovo 79.64 313 *i*P **P** **13 01 51.0 -3.2**
GRG Griva 79.66 313 P **P** **13 01 51.2 -3.2**
GRG Griva 79.66 313 P **P** **13 01 50.8 -3.6**
TIXI Tiksi 79.69 11 LR LR 13 39 40.9
comp=Z,512µm,18.8s,baz=189,slow=38
TIXI Tiksi 79.69 11 *d*⇓P **P** **13 01 53.0 -0.8**
TIXI pmax pmax
comp=Z,3µm,1.2s
TIXI MLR MLR
comp=Z,526µm,17.0s
TIXI Tiksi 79.69 11 P **P** **13 01 50.7 -3.1**
TIXI IAmb IAmb 13 02 10.3
comp=Z,3µm,1.2s
BURAR Bucovina Array 79.72 320 ⇓P **P** **13 01 53.4 -1.3**
BURAR Bucovina Array 79.72 320 P **P** **13 01 53.3 -1.3**
BURAR Bucovina Array 79.72 320 P **P** **13 01 53.7 -0.9**
KIW Kapiti Island 79.74 130 P **P** **13 01 54.0 -0.8**
BUR08 Bucovina Ar. S 79.74 320 IAmb IAmb 13 02 22.2
comp=Z,2µm,1.1s
CAW Cannon Point 79.86 131 P **P** **13 01 52.2 -3.3**
OGWZ Otaki Gorge 79.93 130 P **P** **13 01 52.5 -3.3**
LOT Lotru 79.99 318 ⇓P **P** **13 01 54.0 -2.1**
LOT Lotru 79.99 318 P **P** **13 01 55.6 -0.5**
PKVZ Pokaka 80.01 129 P **P** **13 01 57.0 +0.6**
STIP Stip 80.02 314 *i*P **P** **13 01 52.0 -4.2**
PLWZ Palliser 80.03 131 P **P** **13 01 57.0 +0.6**
TWVZ Taurewa 80.08 129 P **P** **13 01 58.1 +1.3**
TOZ Tahuroa Road 80.09 127 P **P** **13 01 58.4 +1.6**
ARCR ARCALIA 80.11 319 ⇓P **P** **13 01 55.6 -1.0**
SRE Strehaia 80.14 317 ⇓P **P** **13 01 56.5 -0.3**
SRE Strehaia 80.14 317 P **P** **13 01 56.5 -0.3**
PAWZ Paruwai Farm 80.15 131 P **P** **13 01 58.1 +1.1**
KPRO Kipourio 80.16 312 P **P** **13 01 55.9 -1.2**
TRVZ Turoa 80.17 129 P **P** **13 01 55.7 -1.7**
FWVZ Far West T-bar 80.17 129 P **P** **13 01 55.7 -1.8**
MTW Mount Morrison 80.19 131 P **P** **13 01 55.9 -1.3**
HOWZ Holdsworth Sta 80.20 131 P **P** **13 01 54.9 -2.4**
WTVZ West Tongariro 80.20 129 P **P** **13 01 55.6 -1.9**
NGZ Ngauruhoe 80.21 129 P **P** **13 01 59.1 +1.5**
WNVZ Wahianoa 80.21 129 P **P** **13 01 55.5 -2.1**
PUNG Punghina 80.21 316 ⇓P **P** **13 01 57.2 0.0**
NNVZ North Ngauruho 80.22 129 P **P** **13 01 58.5 +0.8**
MRZ Mangatainoka R 80.24 130 P **P** **13 01 56.5 -1.0**
SNVZ South Ngauruho 80.24 129 P **P** **13 01 59.6 +1.9**
TUVZ Tukino 80.25 129 P **P** **13 01 57.5 -0.3**
OTVZ Oturere 80.26 129 P **P** **13 01 55.9 -1.9**
NTVZ North Tongarir 80.26 129 P **P** **13 01 59.8 +2.0**
KATZ Kakaramea 80.28 129 P **P** **13 02 00.2 +2.3**
TMVZ Te Maari 80.29 129 P **P** **13 01 59.4 +1.4**
ETVZ East Tongariro 80.29 129 P **P** **13 01 59.6 +1.6**
WATZ Wairara 80.30 128 P **P** **13 01 58.8 +0.9**
MOVZ Moawhango 80.33 129 P **P** **13 02 00.0 +1.9**
RATZ Rangitukua 80.33 128 P **P** **13 02 00.4 +2.2**
TRWZ Traveller 80.34 131 P **P** **13 01 57.1 -1.0**
FNA Florina 80.37 313 P **P** **13 01 54.5 -3.7**
FNA Florina 80.37 313 *i*P **P** **13 01 57.1 -1.1**
FNA Florina 80.37 313 *i*P **P** **13 01 57.5 -0.7**
POWZ Post Office Ro 80.37 130 P **P** **13 01 58.6 +0.3**
LKD2 Lefkada island 80.40 311 *i*P **P** **13 01 58.5 +0.2**
LKD2 Lefkada island 80.40 311 *i*P **P** **13 02 00.0 +1.6**
VNDA Vanda 80.46 168 P **P** **13 01 56.7 -1.3**
comp=Z,72nm,0.9s,baz=290,slow=6.2,SNR=21
VNDA S **S** **13 12 00.1 -2.2**
comp=Z,4.5nm,1.0s,baz=283,slow=19,SNR=1.8
VNDA PKKPbc **PKKPbc** **13 20 43.6 +1.0**
comp=Z,4.2nm,0.8s,baz=338,slow=3.8,SNR=4.0
VNDA PKPPKP **P'P'df** **13 28 44.8 +0.7**
comp=Z,20nm,1.2s,baz=140,slow=7.2,SNR=4.1
VNDA LR LR 13 31 48.8
comp=Z,523µm,21.6s,baz=300,slow=31
VNDA Vanda 80.46 168 P **P** **13 01 57.1 -0.9**
VNDA pmax pmax
comp=Z,1µm,1.4s

VNDA	Vanda	80.46	168	P	P	13 01 57.1	-0.9
TIWZ	Tintock	80.47	130	P	P	13 01 59.2	+0.4
TMWZ	Te Maipa	80.49	131	P	P	13 01 56.9	-2.0
SEY	Seymchan	80.51	23	LR	LR	13 42 02.4	
	comp=Z,634µm,18.2s,baz=238,slow=39						
SEY	Seymchan	80.51	23	*d i*P	P	13 01 58.3	-0.1
TSZ	Takapari Road	80.51	130	P	P	13 02 00.9	+1.9
PRWZ	Pori Road	80.53	130	P	P	13 01 58.3	-0.8
BHHZ	Black Hill Sta	80.58	129	P	P	13 01 59.2	-0.2
MNK	Minsk	80.58	327	*i* P	P	13 01 55.7	-3.1
MNK				*i*		13 04 56.5	
MNK				*i* PPP	PPP	13 06 47.2	
MNK				*i* S	S	13 11 58.7	-5.5
MNK				*i* SS	SS	13 17 11.4	-5.7
MNK				*i* SSS	SSS	13 20 38.3	
MNK				pmax	pmax		
	comp=Z,482nm,1.2s						
MNK				pmax	pmax		
	comp=N,203nm,1.3s						
MNK				pmax	pmax		
	comp=E,63nm,1.3s						
MNK				MLR	MLR		
	comp=N,132µm,20.0s						
MNK				MLR	MLR		
	comp=Z,173µm,21.0s						
MNK				MLR	MLR		
	comp=E,37µm,23.0s						
MNK	Minsk	80.58	327	*i* P	P	13 01 55.8	-3.1
	comp=E,63nm,1.3s						
MNK				*i* P	P	13 01 55.8	-3.1
	comp=N,203nm,1.3s						
MNK				*i* P	P	13 01 55.8	-3.1
	comp=Z,482nm,1.2s,baz=112						
MNK				*i* PP	PP	13 04 56.5	-6.2
MNK				*i* PPP	PPP	13 06 47.3	
MNK				*i* S	S	13 11 58.8	-5.5
MNK				*i* SS	SS	13 17 11.4	-5.7
MNK				*i* SSS	SSS	13 20 38.3	
MNK				*i* LQ	LQ	13 31 28.0	
MNK				*i* LR	LR	13 37 39.2	
MNK				*i* LRM	MLR	13 41 46.4	
MNK				*i* LRM	MLR	13 42 01.2	
MNK				*i* LRM	MLR	13 42 04.5	
	comp=E,37µm,23.2s						
HATZ	Hinemaiaia	80.58	128	P	P	13 01 59.5	+0.1
SKO	Skopje	80.63	314	*i* P	P	13 01 59.0	-0.6
GZR	Gura Zlata	80.64	317	⇓P	P	13 01 58.0	-1.6
DVHZ	Dannevirke	80.67	130	P	P	13 02 00.4	+0.5
PNHZ	Pukenui	80.69	129	P	P	13 02 00.3	+0.3
HERR	Herculane	80.74	317	⇓P	P	13 01 57.8	-2.2
BFZ	Birch Farm	80.75	130	IAmb	IAmb	13 02 15.3	
	comp=Z,4µm,1.9s						
BFZ	Birch Farm	80.75	130	P	P	13 01 58.2	-2.0
BFZ	Birch Farm	80.75	130	P	P	13 01 59.9	-0.3
KBN	Korca	80.76	312	*i* P	P	13 02 00.3	0.0
KBN	Korca	80.76	312	*i* P	P	13 02 03.7	+3.4
LSK	Leskovik	80.78	312	*i* P	P	13 01 51.2	-9.3
KRHZ	Kereru	80.81	129	P	P	13 02 01.6	+1.0
IGT	Igoumenitsa	80.83	311	*i* P	P	13 02 00.5	-0.1
IGT	Igoumenitsa	80.83	311	*i* P	P	13 02 00.8	+0.1
BMR	Baia Mare	80.84	320	⇓P	P	13 01 59.8	-0.7
KWHZ	Kaweka Forest	80.85	129	P	P	13 02 01.8	+0.9
OHR	Ohrid	80.87	313	*i* P	P	13 01 57.2	-3.7
WPHZ	Waipukurau	80.88	130	P	P	13 02 01.5	+0.6
BOVS	Bovan	80.89	315	⇓P	P	13 02 00.1	-0.8
BKZ	Black Stump Fm	80.90	129	IAMs_20	IAMs_20	13 35 18.9	
	comp=Z,489µm,19.0s						
BKZ	Black Stump Fm	80.90	129	P	P	13 01 58.3	-2.8
BKZ	Black Stump Fm	80.90	129	P	P	13 02 02.0	+0.8
ANWZ	Angora Road	80.91	130	P	P	13 02 03.0	+1.9
PRHZ	Porangahau	81.03	130	P	P	13 02 04.0	+2.2
MESR	Meseseni	81.04	319	⇓P	P	13 02 01.0	-0.6
MCHZ	McNeill Hill	81.06	129	P	P	13 02 03.8	+1.8
DRGR		81.09	319	⇓P	P	13 02 00.2	-1.8
DRGR		81.09	319	P	P	13 02 00.2	-1.8
MUGZ	Murupara	81.11	128	P	P	13 02 03.2	+1.0
NMHZ	Naumai	81.14	129	P	P	13 02 02.2	-0.3
SRN	Sarande	81.16	311	*i* P	P	13 02 03.3	+1.0
MTHZ	Maungataniwha	81.17	128	P	P	13 02 00.0	-2.5
LVV	L'vov	81.17	322	*e*P	P	13 02 02.6	+0.4
LVV				*e*		13 05 12.7	
LVV				*e*S	S	13 12 09.5	-1.1
LVV				*e*		13 13 11.0	
MDVR	Moldovita	81.19	317	⇓P	P	13 02 01.1	-1.4
KAHZ	Kahuranaki	81.21	129	P	P	13 02 01.6	-1.1
PHP	Peshkopia	81.28	313	*i* P	P	13 02 02.3	-0.7
PHP	Peshkopia	81.28	313	*i* P	P	13 02 02.5	-0.6
NACGM	Naroch	81.32	327	*i* P	P	13 01 59.7	-3.2
URZ	Urewera	81.37	128	LR	LR	13 37 22.5	
	comp=Z,609µm,19.5s,baz=288,slow=35						
PUL	Pulkovo	81.48	333	⇑*e*P	P	13 02 03.3	-0.3
PUL				pmax	pmax		
	comp=Z,2µm,1.0s						
PUL				MLR	MLR		
	comp=Z,327µm,18.0s						
PUL	Pulkovo	81.48	333	*e*P	P	13 02 04.2	+0.5
BZS	Buzias	81.49	317	⇓P	P	13 02 02.6	-1.4
BZS	Buzias	81.49	317	P	P	13 02 02.5	-1.4
IDID	Didziasalis	81.49	328	*e*P	P	13 02 04.2	+0.4
SBA	Scott Base	81.56	168	P	P	13 02 04.0	+0.2
SBA				pmax	pmax		
	comp=Z,3µm,1.6s						
SBA	Scott Base	81.56	168	P	P	13 02 04.0	+0.2
SBA				IAmb	IAmb	13 02 51.2	
	comp=Z,3µm,1.6s						
SBA	Scott Base	81.56	168	IAMs_20	IAMs_20	13 32 32.1	
	comp=Z,443µm,21.0s						
TRPA	Tarpa	81.59	320	⇓P	P	13 02 03.7	-0.8
TRPA	Tarpa	81.59	320	P	P	13 02 02.8	-1.7
TRPA				PCP	PcP	13 02 06.8	-3.5
TIR	Tirane	81.61	313	⇓P	P	13 02 04.1	-0.7
TIR	Tirane	81.61	313	P	P	13 02 04.1	-0.7
TIR	Tirane	81.61	313	IAmb	IAmb	13 02 42.5	
	comp=Z,1µm,1.0s						
TIR	Tirane	81.61	313	*i* P	P	13 02 08.6	+3.9
VLO	Vlora	81.67	312	*i* P	P	13 02 09.4	+4.3
VLO	Vlora	81.67	312	*i* P	P	13 02 06.8	+1.8
BCI	Bajram Curri	81.72	314	*i* P	P	13 02 06.3	+0.9
BCI	Bajram Curri	81.72	314	*i* P	P	13 02 04.6	-0.7
BANR	Banloc	81.75	317	⇓P	P	13 02 05.4	0.0
TIM	Timisoara	81.79	317	⇓P	P	13 02 04.7	-0.9
TIM	Timisoara	81.79	317	P	P	13 02 04.6	-0.9
LTVH	Ltavrtes, Hu	81.79	319	⇓P	P	13 02 05.1	-0.5
LTVH	Ltavrtes, Hu	81.79	319	P	P	13 02 07.3	+1.8
LTVH				PCP	PcP	13 02 07.4	-3.8
PVY	Plav	81.85	314	⇓*i*P	P	13 02 03.9	-2.3
RIGZ	Rimuhau	81.89	128	P	P	13 02 07.6	+1.2
UZH	Uzhgorod	81.89	320	*e*P	P	13 02 05.0	-1.1
UZH				*e*		13 02 07.6	
UZH				*i*		13 02 14.0	
UZH				*e*		13 05 14.0	
UZH				*e*S	S	13 12 14.4	-3.8
UZH				*e*PS		13 13 10.2	
ISAL	Salakas	81.91	328	*e*P	P	13 02 07.1	+1.1
IZAR	Zarasai	81.91	328	*e*P	P	13 02 07.1	+1.1
IVA	Berane	81.97	314	⇓*i*P	P	13 02 03.9	-2.8
DIVS	Divibare	82.20	316	IAmb	IAmb	13 02 43.0	
	comp=Z,2µm,1.3s						
DIVS	Divibare	82.20	316	⇓*i*P	P	13 02 05.5	-2.4
ULC	Ulcinj	82.21	313	⇓*i*P	P	13 02 06.4	-1.5
KOME	Kolasin	82.23	314	⇓*i*P	P	13 02 05.5	-2.6
DRME	Dracevica, Mon	82.31	314	⇓*i*P	P	13 02 05.7	-2.7
DRME	Dracevica, Mon	82.31	314	⇓*i*P	P	13 02 06.1	-2.3
PDG	Podgorica	82.32	314	⇓P	P	13 02 06.6	-1.8
PDG	Podgorica	82.32	314	IAmb	IAmb	13 02 32.1	
	comp=Z,2µm,1.2s						
PDG	Podgorica	82.32	314	⇓*i*P	P	13 02 05.5	-2.9
TTG	Podgorica	82.32	314	⇓*i*P	P	13 02 05.9	-2.5
SCTE	Santa Cesarea	82.35	311	IAmb	IAmb	13 02 37.9	
	comp=Z,2µm,1.1s						
SCTE	Santa Cesarea	82.35	311	*i* P	P	13 02 10.7	+2.0
PLE	Pljevlja	82.44	315	⇓*i*P	P	13 02 06.6	-2.6
CRVS	Cervenica-Dubn	82.50	321	*e*P	P	13 02 07.9	-1.4
CRVS				*e*S	S	13 12 27.6	+3.2
CRVS	Cervenica-Dubn	82.50	321	*e*P	P	13 02 07.9	-1.4
CRVS				*e*PP	PP	13 05 35.4	+17
CRVS				*e*S	S	13 12 27.6	+3.2
CRVS				*e*L	L	13 31 25.8	
RUDO	Rudo	82.52	315	*e*P	P	13 02 10.8	+1.3
BUM	Brajici-Budva	82.55	314	⇓*i*P	P	13 02 08.0	-1.7
BBLS	Lazići	82.56	315	⇓*i*P	P	13 02 10.1	+0.3
CEME	Cevo	82.59	314	⇓*i*P	P	13 02 07.5	-2.4
FRGS	Fruska Gora	82.59	317	⇓P	P	13 02 09.4	-0.5
FRGS	Fruska Gora	82.59	317	⇓*i*P	P	13 02 08.9	-1.0
NKME	Niksic	82.61	314	⇓*i*P	P	13 02 07.3	-2.7
MSVF	Nonsavu	82.62	107	LR	LR	13 40 37.4	
	comp=Z,312µm,19.5s,baz=266,slow=37						
MSVF	Nonsavu	82.62	107	P	P	13 02 12.2	+1.5
TEKS	Tekeris	82.64	316	⇓*i*P	P	13 02 07.1	-3.0
VSU	Vasula	82.66	331	*ce*P	P	13 02 07.7	-2.1
VSU				pmax	pmax		
	comp=Z,7µm,1.4s						
VSU				MLR	MLR		
	comp=Z,453µm,20.0s						
VSU	Vasula	82.66	331	*e*P	P	13 02 10.2	+0.4
UPM	Unac-Piva	82.75	315	*e*P	P	13 02 08.1	-2.8
UPM	Unac-Piva	82.75	315	⇓*i*P	P	13 02 07.8	-3.1
STHS	Stebnicka Huta	82.78	321	*e*P	P	13 02 12.1	+1.4
STHS				pmax	pmax		
	comp=Z,1µm,1.0s						
STHS	Stebnicka Huta	82.78	321	*e*P	P	13 02 12.1	+1.4
BSZH	Besenyszg	82.84	319	⇓P	P	13 02 11.2	+0.2
BSZH	Besenyszg	82.84	319	P	P	13 02 10.3	-0.7
BSZH				PCP	PcP	13 02 13.2	-2.6
HCY	Herceg Novi	82.87	314	*e*P	P	13 02 11.8	+0.5
HCY	Herceg Novi	82.87	314	⇓*i*P	P	13 02 09.3	-2.0
BLJ	Bijeljina	82.88	316	*e*P	P	13 02 12.6	+1.3
NVL	N'lazarevskaya	82.88	199	⇓*i*P	P	13 02 18.6	+7.8
NVL				*e*S	S	13 12 34.7	+7.2
NVL				pmax	pmax		
	comp=Z,3µm,2.1s						
NVL				MLR	MLR		
	comp=N,98µm,17.0s						
NVL				MLR	MLR		
	comp=E,214µm,17.0s						
NVL				MLR	MLR		
	comp=Z,198µm,17.0s						
BRY	Bratogost	82.94	314	*e*P	P	13 02 11.4	-0.5
BRY	Bratogost	82.94	314	⇓*i*P	P	13 02 09.1	-2.8
SUW	Suwalki	82.99	326	*e*P	P	13 02 11.4	-0.2
SUW				*e*PP	PP	13 05 36.0	+13
SUW				*e*SS	SS	13 18 08.2	+15
SUW				*e*L	L	13 46 09.2	
	comp=Z,246µm,17.9s						
SUW	Suwalki	82.99	326	*e*P	P	13 02 12.3	+0.7
KECS	Kecovo	83.01	320	*e*P	P	13 02 10.7	-1.2
KECS				pmax	pmax		
	comp=Z,2µm,1.2s						
KECS	Kecovo	83.01	320	*e*P	P	13 02 10.7	-1.2
TREB	Trebinje	83.03	314	*e*P	P	13 02 09.8	-2.4
PABE	Paberze	83.04	327	IAmb	IAmb	13 02 31.8	
	comp=Z,2µm,1.1s						
PABE				IAMs_20	IAMs_20	13 44 48.6	
	comp=Z,299µm,18.0s						
PABE	Paberze	83.04	327	*e*P	P	13 02 12.1	+0.2
DBRK	Dubrovnik	83.17	314	*i* P	P	13 02 12.2	-0.6
PSZ	Piszkesteto	83.24	319	⇓P	P	13 02 12.0	-1.3
PSZ	Piszkesteto	83.24	319	IAmb	IAmb	13 02 51.6	
	comp=Z,3µm,1.4s						
PSZ	Piszkesteto	83.24	319	P	P	13 02 11.6	-1.6
PSZ				PCP	PcP	13 02 15.1	-2.5
NIE	Niedzica	83.38	321	*e*P	P	13 02 15.5	+1.7
NIE				*e*PP	PP	13 05 45.1	+19
NIE				*e*ScS	S	13 12 44.9	+12
NIE				*e*SS	SS	13 18 36.1	+37
NIE				*e*L	L	13 38 58.7	
	comp=Z,129µm,24.7s						
TIP	Timpagrande	83.45	310	⇓P	P	13 02 13.7	-0.8
TIP	Timpagrande	83.45	310	IAmb	IAmb	13 02 50.4	
	comp=Z,2µm,1.3s						
IZAB	Izabela	83.53	320	*e*P	P	13 02 13.2	-1.4
IZAB				pmax	pmax		
	comp=Z,761nm,1.3s						
STON	Ston	83.53	314	*i* P	P	13 02 14.1	-0.6
LVZ	Lovozero	83.57	341	*d i*P	P	13 02 14.5	+0.1
LVZ				pmax	pmax		
	comp=Z,4µm,2.0s						
LVZ				MLR	MLR		
	comp=Z,309µm,19.0s						
LVZ	Lovozero	83.57	341	P	P	13 02 11.9	-2.5
LVZ				IAmb	IAmb	13 02 42.9	
	comp=Z,1µm,0.9s						
LVZ				IAMs_20	IAMs_20	13 42 08.9	
	comp=Z,328µm,19.0s						
MORH	Mrgy, Hungar	83.65	317	⇓P	P	13 02 13.1	-2.1
MORH	Mrgy, Hungar	83.65	317	⇓*i*P	P	13 02 15.4	+0.2
MORH	Mrgy, Hungar	83.65	317	P	P	13 02 13.7	-1.5
MORH				PCP	PcP	13 02 16.9	-2.5
BUD	Budapest	83.70	319	P	P	13 02 14.7	-0.8
BUD				PCP	PcP	13 02 17.3	-2.3
BEL	Belsk	83.73	323	*e*P	P	13 02 16.4	+0.9
BEL				*e*PP	PP	13 05 48.4	+20
BEL				*e*S	S	13 12 37.3	+0.6
BEL				*e*ScS	ScS	13 13 01.1	+11
BEL				*e*SS	SS	13 18 16.2	+12
BEL				*e*L	L	13 42 11.2	
	comp=Z,207µm,22.4s						
MATE	Matera	83.79	312	⇓P	P	13 02 14.8	-1.3
LANS	Liptovska Anna	83.83	320	*e*P	P	13 02 18.8	+2.6
LANS				pmax	pmax		
	comp=Z,301nm,1.1s						
LANS	Liptovska Anna	83.83	320	*e*P	P	13 02 18.8	+2.6
OJC	Ojcow	83.90	322	*e*P	P	13 02 17.4	+0.9
OJC				*e*PP	PP	13 05 50.3	+20
OJC				*e*SKSac	S	13 12 38.9	+0.3
OJC				*e*SS	SS	13 18 19.6	+13
OJC				*e*L	L	13 41 50.3	
	comp=Z,171µm,22.4s						
OJC	Ojcow	83.90	322	IAmb	IAmb	13 02 46.5	
	comp=Z,2µm,1.3s						
CEL	Celeste	83.93	309	IAmb	IAmb	13 02 38.0	
	comp=Z,1µm,1.0s						
KOVH	Kovagotottos	83.98	317	P	P	13 02 14.7	-2.3
FIA1	FINESS Array S	84.07	333	IAmb	IAmb	13 02 36.9	
	comp=Z,1µm,1.1s						
FINES	FINESS Array B	84.07	333	P	P	13 02 15.1	-1.9
	comp=Z,73nm,0.6s,baz=111,slow=5.2,SNR=49						
FINES				S	S	13 12 34.4	-5.3
	comp=Z,9.6nm,1.0s,baz=45,slow=14,SNR=2.8						
FINES				PKKPbc	PKKPbc	13 20 33.1	-1.1
	comp=Z,5.1nm,1.0s,baz=358,slow=7.0,SNR=2.2						
FINES				PKPPKP		13 28 38.9	
	comp=Z,3.5nm,1.0s,baz=61,slow=3.5,SNR=1.8						
FINES				LR	LR	13 43 43.8	
	comp=Z,297µm,18.2s,baz=104,slow=39						
FINES	FINESS Array B	84.07	333	*i* P	P	13 02 15.0	-2.0
FINES				pmax	pmax		
	comp=Z,73nm,0.6s						
FINES	FINESS Array B	84.07	333	P	P	13 02 14.7	-2.3
VYHS	Vyhne	84.07	320	*e*P	P	13 02 17.0	-0.4
VYHS				pmax	pmax		
	comp=Z,11µm,2.5s						
VYHS	Vyhne	84.07	320	*e*P	P	13 02 17.0	-0.4
VYHS				*e*PP	PP	13 05 46.8	+15
VYHS				*e*S	S	13 12 41.7	+1.3
VYHS				*e*L	L	13 41 10.1	
RICI	Ricice	84.08	315	*i* P	P	13 02 15.5	-2.0
LSTV	Lastovo	84.09	314	*i* P	P	13 02 18.2	+0.6
CSKK	Cskako	84.17	318	P	P	13 02 16.1	-1.8
MTSE	Matsula	84.18	330	*e*P	P	13 02 18.9	+1.3
SRO2	Moca	84.18	319	*e*P	P	13 02 18.1	+0.2
SRO2	Moca	84.18	319	*e*P	P	13 02 18.1	+0.2
SRO	Srobarova	84.25	319	*e*P	P	13 02 19.1	+0.9
SRO				pmax	pmax		
	comp=Z,9µm,2.6s						
SRO	Srobarova	84.25	319	*e*P	P	13 02 19.1	+0.9
MRVN	Minervino Murg	84.25	312	*i* P	P	13 02 19.9	+1.4
PBUR	Paburge	84.30	327	*e*P	P	13 02 17.1	-1.2
MGRS	Mrkonjic Grad	84.31	315	*e*P	P	13 02 17.0	-1.7
TIH	Tihany	84.31	318	P	P	13 02 19.3	+0.7
BLY	Banja Luka	84.31	316	⇓*i*P	P	13 02 16.2	-2.5
KOLL	Kolacno	84.37	320	*e*P	P	13 02 17.6	-1.3
HVAR	Hvar	84.50	314	*i* P	P	13 02 19.8	+0.1
MRAK	Mrakovica	84.56	316	⇓*i*P	P	13 02 20.2	+0.2
SLIT	Slitere, Latvi	84.60	329	*e*P	P	13 02 18.9	-0.8
MPLH	Magyarpolny	84.61	318	P	P	13 02 19.3	-0.8
KIJV	Kijevo	84.70	315	*i* P	P	13 02 19.6	-1.0
MOSL	Moslavina	84.79	317	*i* P	P	13 02 18.3	-2.8
EGYH	Egyhazaskeszo	84.80	318	P	P	13 02 20.5	-0.6
KLNR	Kaliningrad	84.83	326	*d i*P	P	13 02 21.3	+0.3
KLNR				pmax	pmax		
	comp=Z,5µm,1.3s						
OKC	Ostrava-Krasne	84.83	321	⇓*i*P	P	13 02 22.0	+0.8
OKC				*e**PP	pwP	13 02 36.7	+2.1
OKC				MLR	MLR		
	comp=Z,140µm,23.0s						
OKC	Ostrava-Krasne	84.83	321	⇓*i*P	P	13 02 22.0	+0.8
OKC				*e*pP	pwP	13 02 36.7	+2.1
OKC				AMS	AMS	13 41 20.0	
	comp=Z,140µm,23.0s						
RAC	Raciborz	84.86	321	*e*P	P	13 02 18.7	-2.6
RAC	Raciborz	84.86	321	*e*P	P	13 02 18.7	-2.6
RAC				*e*		13 12 39.8	
RAC				*e*S	S	13 12 46.5	-1.6
RAC				MLR	MLR		
	comp=Z,157µm,21.9s						
JAVC	Velka Javorina	84.91	320	*e*P	P	13 02 22.6	+0.9
JAVC				*e*		13 02 38.2	
JAVC				*e*		13 05 58.4	
JAVC				*e*S	S	13 12 50.5	+1.7
SMOL	Smolenice	84.98	319	*e*P	P	13 02 22.3	+0.3
SMOL				pmax	pmax		
	comp=Z,3µm,2.5s						
SMOL	Smolenice	84.98	319	*e*P	P	13 02 22.3	+0.3
QSPA	South Pole Qui	85.07	180	P	P	13 02 21.1	-1.2
KALN	Kalnik	85.11	317	*i* P	P	13 02 22.1	-0.6
ZST	Bratislava	85.13	319	*e*P	P	13 02 22.0	-0.7
ZST				*e*S	S	13 12 45.9	-4.9
ZST	Bratislava	85.13	319	*e*P	P	13 02 22.0	-0.7
ZST				*e*PP	PP	13 05 55.7	+15
ZST				*e*S	S	13 12 45.9	-4.9
MORI	Morici	85.16	315	*i* P	P	13 02 20.0	-3.0
ZIRJ	Zirje	85.17	314	*i* P	P	13 02 20.0	-3.0
MORC	Moravsky Berou	85.20	321	⇓P	P	13 02 22.1	-1.0
MORC	Moravsky Berou	85.20	321	*e*P	P	13 02 23.4	+0.3
MORC				*e*		13 02 38.9	
MORC				*e*		13 05 59.6	
MORC				*e*S	S	13 12 52.0	+0.4
UDBI	Udbina	85.25	315	*i* P	P	13 02 21.0	-2.5
SOP	Sopron	85.37	319	P	P	13 02 23.7	-0.2
PTJ	Puntijarka	85.39	317	*i* P	P	13 02 21.9	-2.3
PLIT	Plitvice	85.42	316	*i* P	P	13 02 24.1	-0.2
PAOL	Paolisi	85.45	312	IAmb	IAmb	13 02 57.8	
	comp=Z,1µm,1.3s						
DUGI	Dugi Otok	85.65	315	*i* P	P	13 02 24.5	-0.9
OZLJ	Ozalj	85.68	316	*i* P	P	13 02 25.7	+0.2
VRAC	Vranov	85.70	320	LR	LR	13 43 35.5	
	comp=Z,87µm,20.9s,baz=102,slow=38						
VRAC	Vranov	85.70	320	*e*P	P	13 02 25.9	+0.3
VRAC				*e*		13 02 41.4	
VRAC				*e*		13 06 02.3	
VRAC				*e*S	S	13 12 54.4	-2.1
CRES	Cresnjev	85.73	317	⇓*i*P	P	13 02 26.2	+0.4
RAO	Raoul Island	85.73	119	PP	PP	13 05 43.0	-2.5
	comp=Z,126nm,0.3s,baz=268,slow=22,SNR=1.0						
RAO				LR	LR	13 38 02.3	
	comp=Z,399µm,21.2s,baz=271,slow=34						
RAO	Raoul Island	85.73	119	IAMs_20	IAMs_20	13 37 40.2	
	comp=Z,443µm,21.0s						
KRUC	Moravsky	85.77	320	*e*P	P	13 02 25.9	0.0
KRUC				*e*		13 02 41.6	
KRUC				*e*		13 06 03.1	
KRUC				*e*S	S	13 12 55.9	-1.3
BOJS	Bojanci	85.81	316	*e*P	P	13 02 24.0	-2.2
CONA	Conrad Observa	85.88	319	*i* P	P	13 02 26.4	-0.2
	comp=Z,201nm,1.3s,SNR=48						
CONA				*e*PP	PP	13 05 45.1	-1.4
CONA				*e*S	S	13 12 59.0	+0.5
CONA				*e*P	PKKPbc	13 20 34.2	+4.7
	comp=Z,35nm,1.4s						
CONA	Conrad Observa	85.88	319	*e*P	P'P'df	13 28 39.4	+5.4
	comp=Z,27nm,1.5s						
NVLJ	Novalja	85.89	315	*i* P	P	13 02 23.6	-3.0
ARSA	Arzberg	85.97	318	*e*P	P	13 02 25.4	-1.6
	comp=Z,470nm,1.1s,SNR=145						
ARSA				*e*P	PKiKP	13 07 45.3	+10
ARSA				*e*S	S	13 12 57.9	-1.4
RABC	Rab	85.99	315	*i* P	P	13 02 26.4	-0.6
DPC	Dobruska-Polom	86.10	321	⇓*i*P	P	13 02 28.9	+1.4
DPC				*e**PP	pwP	13 02 42.3	+1.3
DPC				MLR	MLR		
	comp=Z,180µm,21.0s						
DPC	Dobruska-Polom	86.10	321	⇓*i*P	P	13 02 28.9	+1.4
DPC				*e*pP	pwP	13 02 42.3	+1.3
DPC				AMS	AMS	13 41 30.0	
	comp=Z,180µm,21.0s						
SOKA	Soboth	86.18	317	*i* P	P	13 02 26.8	-1.3
	comp=Z,361nm,1.3s,SNR=190						
GKP	Gorka Klasztor	86.19	324	*e*P	P	13 02 29.2	+1.4
GKP				*e*PP	PP	13 06 07.3	+19
GKP				*e*SKSac	S	13 12 58.5	-2.6
GKP				*e*S	SKKSac	13 13 01.1	+1.2
GKP				*e*ScS	ScS	13 13 10.8	+1.0
GKP				*e*SS	SS	13 18 58.6	+18
GKP				*e*L	L	13 39 53.0	
	comp=Z,175µm,24.5s						
GKP	Gorka Klasztor	86.19	324	*e*P	P	13 02 29.0	+1.1
OSTC	Ostas	86.21	321	⇓*i*P	P	13 02 29.1	+1.0
OSTC				*e*pP	pwP	13 02 44.3	+2.8
OSTC				*e*S	S	13 13 01.9	+0.5
OSTC				AMS	AMS	13 41 40.0	
	comp=Z,159µm,21.9s						
KSP	Ksiaz	86.22	322	*e*P	P	13 02 29.3	+1.3
KSP				*e*PP	PP	13 06 10.2	+21
KSP				*e*S	S	13 13 02.9	+1.4
KSP				*e*ScS	ScS	13 13 12.2	+2.0
KSP				*e*SS	SS	13 19 02.0	+21
KSP				*e*L	L	13 43 09.9	
	comp=Z,151µm,22.5s						
RIY	Rijeka	86.30	316	*i* P	P	13 02 28.1	-0.5
CHVC	Chvalec	86.31	321	⇓*i*P	P	13 02 29.6	+1.0
UPC	Upice	86.32	321	⇓*i*P	P	13 02 29.6	+1.0
UPC				*e**PP	pwP	13 02 43.3	+1.3
UPC				MLR	MLR		
	comp=Z,159µm,22.3s						
UPC	Upice	86.32	321	⇓*i*P	P	13 02 29.6	+1.0
UPC				*e*pP	pwP	13 02 43.3	+1.3
UPC				AMS	AMS	13 41 50.0	
	comp=Z,159µm,22.3s						
TREC	Trest	86.40	320	⇓*i*P	P	13 02 29.6	+0.5
TREC				MLR	MLR		
	comp=Z,181µm,20.1s						
TREC	Trest	86.40	320	⇓*i*P	P	13 02 29.6	+0.5
TREC				AMS	AMS	13 41 30.0	
	comp=Z,181µm,20.1s						
LJU	Ljubljana	86.41	317	⇓*i*P	P	13 02 29.6	+0.5
LJU	Ljubljana	86.41	317	*i* P	P	13 02 27.4	-1.7
LJU				*i* PcP	PcP	13 02 31.3	-0.3
LJU				*i* pP	pP	13 02 32.2	-3.7
LJU				*e*		13 02 44.9	
LJU				*e*PP	PP	13 05 49.0	-1.7
LJU				*e*SKSac	SKSac	13 12 51.7	-2.3
LJU				*e*		13 13 15.8	
LJU				*e*		13 14 22.2	
LJU				*e*		13 18 34.5	
LJU				*e*		13 31 21.1	
CEY	Cerknica	86.42	316	⇓*i*P	P	13 02 29.2	0.0
SMRN	Sveta Marina	86.48	316	*i* P	P	13 02 26.4	-3.1
OBKA	Obir	86.48	317	*i* P	P	13 02 28.0	-1.6
	comp=Z,49nm,1.5s,SNR=78						
OBKA	Obir	86.48	317	*e*P	P'P'df	13 28 34.5	+1.6
	comp=Z,12nm,1.5s						
AAL	Aland	86.48	331	*e*P	P	13 02 29.8	+0.7
AQU	L'Aquila	86.54	313	P	P	13 02 30.6	+0.6
AQU	L'Aquila	86.54	313	⇓*i*P	P	13 02 30.5	+0.6
SKDS	Skadanscina	86.67	316	⇓*i*P	P	13 02 30.1	-0.3
BRJN	Brijuni	86.74	315	*i* P	P	13 02 30.3	-0.4
NRCA	Norcia	86.83	313	IAmb	IAmb	13 03 06.8	
	comp=Z,1µm,1.2s						
VOJS	Vojsko	86.84	317	*i* P	P	13 02 28.8	-2.6
VOJS				*e*		13 02 46.5	
TRI	Trieste	86.87	316	P	P	13 02 30.5	-0.9
KEV	Kevo	86.89	341	P	P	13 02 30.9	0.0
KEV				pmax	pmax		
	comp=Z,2µm,1.7s						
KEV				MLR	MLR		
	comp=Z,294µm,18.0s						
KEV	Kevo	86.89	341	P	P	13 02 30.9	0.0
KEV				IAmb	IAmb	13 02 49.2	
	comp=Z,2µm,1.7s						
KEV				IAMs_20	IAMs_20	13 44 10.5	
	comp=Z,295µm,18.0s						
MOA	Molln	86.92	318	*i* P	P	13 02 29.8	-1.9
	comp=Z,211nm,1.4s,SNR=28						
MOA	Molln	86.92	318	*e*P	P'P'df	13 28 42.4	+10
	comp=Z,15nm,1.8s						
CKRC	Cesky Krumlov	87.07	319	⇓*i*P	P	13 02 33.1	+0.8
CKRC				*e*pP	pwP	13 02 46.6	+0.8

CKRC eS S 13 13 15.1 +5.2
CKRC AMS AMS 13 47 20.0
comp=Z,141µm,18.0s
MYKA Terra Mystica 87.12 317 *i* P P **13 02 30.9 -1.7**
comp=Z,49nm,0.9s,SNR=64
ROBS Robic 87.14 317 *e*P P **13 02 30.2 -2.4**
ROBS *e* 13 02 48.2
ROBS *e*SKSac **SKSac 13 12 54.8 -3.7**
PRU Pruhonice 87.14 321 ⇓ *i*P P **13 02 33.5 +0.9**
PRU *e* 13 05 53.5
PRU eS S **13 13 12.6 +2.1**
PRU MLR MLR
comp=Z,166µm,21.7s
PRU Pruhonice 87.14 321 ⇓ *i*P P **13 02 33.5 +0.9**
PRU *e*pP **pwP 13 02 48.9 +2.8**
PRU *e*PP **PP 13 05 53.5 -3.0**
PRU eS S **13 13 12.6 +2.1**
PRU AMS AMS 13 41 20.0
comp=Z,166µm,21.7s
PVCC Panska Ves 87.23 321 ⇓ *i*P P **13 02 33.9 +0.9**
PVCC *e**PP **pwP 13 02 47.0 +0.5**
PVCC eS S **13 13 12.3 +1.0**
PVCC MLR MLR
comp=Z,196µm,20.1s
PVCC Panska Ves 87.23 321 ⇓ *i*P P **13 02 33.9 +0.9**
PVCC *e*pP **pwP 13 02 47.0 +0.5**
PVCC eS S **13 13 12.3 +1.0**
PVCC AMS AMS 13 42 10.0
comp=Z,196µm,20.1s
ARA0 ARCESS Array S 87.29 341 *e*P P **13 02 31.3 -1.6**
ARA0 eS S 13 12 57.6 -14
ARA0 IVMs_BB IVMs_BB 13 46 11.2
comp=Z,105µm,16.5s
ARCES ARCESS Array B 87.29 341 P P **13 02 33.4 +0.5**
comp=Z,267nm,1.0s,baz=98,slow=4.3,SNR=54
ARCES S S 13 12 55.9 -15
comp=Z,7.9nm,1.0s,baz=127,slow=24,SNR=2.1
ARCES PKKPbc **PKKPbc 13 20 24.4 -2.3**
comp=Z,5.4nm,0.9s,baz=318,slow=1.6,SNR=4.8
ARCES PKPPKP **P'P'df 13 28 34.3 +4.4**
comp=Z,5.0nm,0.9s,baz=42,slow=15,SNR=3.9
ARCES LR LR 13 43 24.2
comp=Z,235µm,20.9s,baz=116,slow=37
ARCES ARCESS Array B 87.29 341 IAmb IAmb 13 02 52.9
comp=Z,1µm,1.1s
MURB Monte Urbino 87.33 314 IAmb IAmb 13 03 25.0
comp=Z,1µm,1.2s
KBA Koelnbreinsper 87.39 318 *e*P P **13 02 31.5 -2.6**
comp=Z,31nm,1.4s,SNR=57
KBA Koelnbreinsper 87.39 318 *e*P P'P'df 13 28 43.4 +12
comp=Z,12nm,1.2s
PBCC Pribram 87.43 320 ⇓ *i*P P **13 02 34.7 +0.7**
GERES GERESS Array B 87.47 319 P P **13 02 33.1 -1.3**
comp=Z,115nm,1.0s,baz=231,slow=7.9,SNR=76
GERES PKKPbc **PKKPbc 13 20 28.1 +2.4**
comp=Z,2.6nm,0.9s,baz=251,slow=12,SNR=6.3
GERES PKPPKP 13 28 33.7
comp=Z,0.4nm,0.2s,baz=139,slow=5.2,SNR=2.0
UPP Uppsala 87.55 331 *e*P P **13 02 35.3 +1.0**
SNAA Sanae 87.60 198 P P **13 02 34.0 -0.5**
SNAA Sanae 87.60 198 PKKPbc PKKPbc 13 20 23.6 -2.2
comp=Z,7.4nm,0.8s,baz=224,slow=1.9,SNR=3.6
SNAA LR LR 13 37 08.8
comp=Z,151µm,18.2s,baz=106,slow=32
SNAA Sanae 87.60 198 P P **13 02 34.4 -0.1**
SNAA pmax pmax
comp=Z,6µm,1.8s
SNAA Sanae 87.60 198 P P **13 02 34.4 -0.1**
KHC Kasperske Hory 87.60 320 *d i*P P **13 02 35.6 +0.7**
KHC pmax pmax
comp=Z,760nm,0.8s
KHC MLR MLR
comp=Z,324µm,21.0s
KHC Kasperske Hory 87.60 320 ⇓ *i*P P **13 02 35.7 +0.8**
KHC *e*pP **pwP 13 02 49.0 +0.6**
KHC *e*PP **PP 13 05 53.5 -6.8**
KHC eS S **13 13 14.9 -0.1**
KHC AMS AMS 13 41 50.0
comp=Z,165µm,20.3s
KHC Kasperske Hory 87.60 320 IAmb IAmb 13 02 51.8
comp=Z,2µm,1.8s
BRG Berggiesshubel 87.69 321 *i* P P **13 02 33.6 -1.7**
BRG Amp 13 02 41.0
comp=Z,465nm,1.4s
BRG *e*x x 13 02 49.4
BRG Amp 13 02 55.7
comp=Z,6µm,2.3s
BRG PP **PP 13 05 59.9 -1.0**
BRG Amp 13 06 33.7
comp=Z,4µm,2.8s
BRG Berggiesshubel 87.69 321 SS SS 13 19 08.0 +5.7
BRG PKKP 13 20 29.5
BRG Amp 13 20 38.0
comp=Z,116nm,2.0s
BRG PKPPKP 13 28 41.9
BRG Amp 13 28 46.8
comp=Z,139nm,2.5s
BRG Amp 13 41 43.0
comp=Z,177nm,22.4s
BRG Amp 13 41 49.0
comp=E,105nm,20.3s
BRG Amp 13 41 51.0
comp=N,232nm,22.8s
BRG PKPPKP' 13 49 15.6
BRG Amp 13 49 35.3
comp=Z,79nm,2.2s
BRG Berggiesshubel 87.69 321 *i* P P **13 02 33.5 -1.7**
BRG 13 05 59.8
BRG S S **13 13 18.0 +2.3**
BRG S **SS 13 19 08.0 +5.7**
BRG pmax pmax
comp=Z,465nm,1.4s
BRG pmax pmax
comp=Z,4µm,2.8s
BRG MLR MLR
comp=Z,177µm,22.4s
BRG MLR MLR
comp=E,105µm,20.3s
BRG MLR MLR
comp=N,232µm,22.8s
BRG Berggiesshubel 87.69 321 *e*P P **13 02 33.8 -1.5**
comp=N,6µm,2.3s,baz=99,slow=4.7
VIKU Vikbolandet 87.69 329 *e*P P **13 02 35.6 +0.5**
SHEM Shemya Is, Ala 87.75 37 LR LR 13 40 17.4
comp=N,123µm,22.0s,baz=260,slow=35
SMY Shemya 87.75 37 IAmb IAmb 13 02 53.2
comp=Z,2µm,1.4s
KTK1 Kautokeino 87.86 340 *e*P P **13 02 33.8 -1.9**
KTK1 IVmBBB 13 02 54.0
comp=Z,23µm,2.5s
KTK1 eS **SKSac 13 12 59.9 -2.0**
KTK1 IVMs_BB IVMs_BB 13 43 30.0
comp=Z,118µm,18.4s
RJOB Jochberg 87.88 318 *e*P P **13 02 33.8 -2.5**
comp=Z,7µm,2.5s,baz=99,slow=4.7
BILL Bilibino 87.89 21 *c i*P P **13 02 34.7 -1.1**
BILL *e* 13 06 04.4
BILL *e*PPP PPP 13 07 57.4
BILL eS **SKSac 13 13 03.4 +1.3**
BILL eSS **SS 13 19 06.6 +2.0**
BILL eSSS SSS 13 22 40.1
BILL pmax pmax
comp=Z,707nm,1.2s
BILL pmax pmax
comp=Z,7µm,3.3s
BILL Bilibino 87.89 21 P P **13 02 35.2 -0.7**
ABTA Abfaltersbach 87.90 317 *i* P P **13 02 33.8 -2.7**
comp=Z,9.4nm,1.0s,SNR=46
ABTA Abfaltersbach 87.90 317 *e*P P'P'df 13 28 39.0 +8.6
comp=Z,17nm,1.6s
BSD Bornholm Skovb 87.92 326 *i* P P **13 02 37.6 +1.4**
BSD IAmb IAmb 13 02 52.4
comp=Z,6µm,2.3s
BSD IVmB_BB 13 02 53.1
comp=Z,22µm,4.3s
BSD Bornholm Skovb 87.92 326 *e*P P **13 02 37.1 +0.9**
WET Wettzell 88.06 319 *e*P P **13 02 35.4 -1.6**
comp=Z,8µm,2.3s,baz=99,slow=4.7
FBE Freiberg 88.06 321 *e*P P **13 02 35.7 -1.3**
comp=Z,9µm,2.6s,baz=99,slow=4.7
RUE Ruedersdorf 88.08 323 *e*P P **13 02 37.4 +0.4**
RUE Ruedersdorf 88.08 323 *e*P P **13 02 35.2 -1.8**
comp=Z,3µm,1.3s,baz=99,slow=4.7
TEOL Teolo 88.26 316 IAmb IAmb 13 03 02.8
comp=Z,2µm,1.2s

HAMF Hammerfest 88.27 342 *e*P P **13 02 37.6 +0.1**
HAMF IVmBBB 13 02 56.1
comp=Z,24µm,3.0s
HAMF eS **SKSac 13 13 03.3 -0.9**
HAMF IVMs_BB IVMs_BB 13 47 30.5
comp=Z,98µm,16.3s
OSSC Osservatorio P 88.29 314 IAmb IAmb 13 03 04.1
comp=Z,1µm,1.4s
CLL Collm 88.35 322 *e*P P **13 02 39.0 +0.7**
CLL *e* 13 02 46.0
CLL eS S **13 13 24.0 +2.1**
CLL pmax pmax
comp=Z,5µm,2.5s
CLL MLR MLR
comp=Z,222µm,18.9s
CLL Collm 88.35 322 *e*P P **13 02 39.0 +0.7**
comp=Z,687nm,1.8s
CLL *e*pP **pP 13 02 46.0 +0.8**
comp=Z,244nm,1.1s
CLL *e*Pmax 13 02 53.0
comp=Z,5µm,2.5s
CLL *e*Pmax 13 02 58.0
CLL *e*x x 13 04 09.0
CLL *e*(PP) 13 05 57.0
CLL *e*PPmax 13 06 22.0
CLL *e*x x 13 06 48.0
CLL *e*PPPmax 13 08 23.0
CLL *e*PPPP 13 09 30.0
CLL *e*PPPPmax 13 10 12.0
CLL eS S **13 13 24.0 +2.1**
comp=N,143µm,31.9s
CLL eS S **13 13 24.0 +2.1**
comp=E,229µm,27.8s
CLL *e*(sS) 13 13 39.0
CLL *e*x x 13 14 45.0
CLL *e*PPS PPS 13 14 52.0
CLL *e*x x 13 15 31.0
CLL *e*x x 13 15 59.0
CLL eSS **SS 13 19 15.0 +3.1**
CLL *e*pPKKPbc 13 20 26.0
CLL eSSS SSS 13 23 06.0
CLL *e*SSSS 13 26 06.0
CLL Lm MLR 13 32 00.0
comp=Z,207µm,20.2s
CLL LmV 13 48 00.0
comp=Z,222µm,18.9s
CLL Lmax 13 48 00.0
CLL LmV(360 15 18 00.0
comp=Z,28µm,20.3s
CLL Collm 88.35 322 *e*P P **13 02 36.3 -2.0**
comp=Z,5µm,2.5s,baz=99,slow=4.7
CTI Castel Tesino 88.38 316 IAmb IAmb 13 03 06.2
comp=Z,1µm,1.1s
CASP Castiglione de 88.46 313 IAmb IAmb 13 03 03.2
comp=Z,1µm,1.3s
NKC Novy Kostel 88.51 321 ⇓ *i*P P **13 02 40.1 +0.9**
NKC *e* 13 06 03.6
NKC MLR MLR
comp=Z,189µm,19.7s
NKC Novy Kostel 88.51 321 ⇓ *i*P P **13 02 40.1 +0.9**
NKC *e*PP **PP 13 06 03.6 -3.9**
NKC AMS AMS 13 46 50.0
comp=Z,189µm,19.7s
TANN Tannenbergstha 88.53 321 *e*P P **13 02 37.7 -1.6**
comp=Z,3µm,2.4s,baz=99,slow=4.7
WERN Wernitzgruen 88.57 321 *e*P P **13 02 38.0 -1.5**
comp=Z,3µm,2.1s,baz=99,slow=4.7
WTTA Wattenberg 88.58 317 *i*P P **13 02 37.2 -2.6**
comp=Z,1µm,2.0s,SNR=79
WTTA Wattenberg 88.58 317 *e*P P'P'df 13 28 37.3 +8.1
comp=Z,58nm,1.6s
ROTZ Rotzenmuhle 88.59 320 *e*P P **13 02 38.3 -1.3**
comp=Z,1µm,2.6s,baz=99,slow=4.7
GUNZ Gunzen 88.61 321 *e*P P **13 02 38.1 -1.5**
comp=Z,2µm,1.7s,baz=99,slow=4.7
WATA Walderalm 88.63 318 *i*P P **13 02 37.7 -2.2**
comp=Z,338nm,1.1s,SNR=43
WATA Walderalm 88.63 318 *e*P P'P'df 13 28 37.2 +8.2
comp=Z,44nm,2.0s
WERD Werda 88.64 321 *e*P P **13 02 38.1 -1.7**
comp=Z,2µm,1.8s,baz=99,slow=4.7
MANZ Manzenberg 88.69 320 *e*P P **13 02 38.9 -1.2**
comp=Z,2µm,2.3s,baz=99,slow=4.7
KEST Kesra 88.71 306 P P **13 02 41.1 +0.6**
comp=Z,108nm,0.7s,baz=6.0,slow=0.6,SNR=41
KEST S S 13 13 11.2 -15
comp=Z,18nm,1.2s,baz=53,slow=20,SNR=1.7
KEST LR LR 13 40 13.2
comp=Z,168µm,21.8s,baz=55,slow=34
KEST Kesra 88.71 306 IAmb IAmb 13 03 06.3
comp=Z,2µm,1.2s
KEST Kesra 88.71 306 P P **13 02 42.5 +2.0**
SNR=61
KEST P P **13 02 42.5 +2.0**
SNR=61
RGN Rugen 88.72 325 *e*P P **13 02 41.6 +1.6**
RGN Rugen 88.72 325 *e*P P **13 02 38.5 -1.5**
comp=Z,9µm,2.3s,baz=99,slow=4.7
PLN Plauen 88.74 321 *e*P P **13 02 38.5 -1.7**
comp=Z,4µm,2.5s,baz=99,slow=4.7
DEL Delary 88.77 327 *e*P P **13 02 40.8 +0.7**
MOTA Moosalm 88.95 318 *i*P P **13 02 39.0 -2.5**
comp=Z,187nm,0.9s,SNR=68
MOTA Moosalm 88.95 318 *e*P P'P'df 13 28 37.7 +9.2
comp=Z,37nm,1.8s
FUR Furstenfeldbru 88.95 318 *e*P P **13 02 39.1 -2.2**
comp=Z,7µm,2.3s,baz=99,slow=4.7
JETT Jettan, Norway 88.99 340 *e*P P **13 02 40.7 -0.4**
JETT IVmBBB 13 03 00.6
comp=Z,28µm,3.0s
JETT eS **SKSac 13 13 11.3 +2.6**
JETT IVMs_BB IVMs_BB 13 44 04.7
comp=Z,120µm,19.2s
VLC Villacollemand 89.00 314 IAmb IAmb 13 03 19.2
comp=Z,2µm,1.7s
NEUB Neuenburg 89.09 321 *e*P P **13 02 40.0 -1.8**
comp=Z,1µm,1.1s,baz=99,slow=4.7
MOX Moxa 89.11 321 *e*P P **13 02 40.3 -1.6**
comp=Z,4µm,2.3s,baz=99,slow=4.7
MOX *e*L L 13 49 16.4
comp=Z,251µm,19.3s
VSL Villasalto 89.14 310 IAmb IAmb 13 03 12.2
comp=Z,1µm,1.3s
FETA Feichten 89.15 317 *i*P P **13 02 40.7 -1.7**
comp=Z,462nm,1.3s,SNR=132
FETA eS S **13 13 28.3 -1.8**
comp=Z,42µm,11.7s
VNA2 Neumayer--Watz 89.18 199 P P **13 02 40.8 -1.1**
baz=86,slow=4.6
RETA Reutte 89.20 318 *i*P P **13 02 40.6 -1.9**
comp=Z,1µm,1.7s,SNR=105
GRF Grafenberg Arr 89.21 320 *e*P P **13 02 41.1 -1.4**
comp=Z,3µm,1.6s,baz=99,slow=4.7
GRF *e*L L 13 48 58.5
comp=Z,143µm,18.9s
GRFO Grafenberg 89.21 320 P P **13 02 41.3 -1.2**
GRFO pmax pmax
comp=Z,3µm,1.6s
GRFO Grafenberg 89.21 320 P P **13 02 41.3 -1.2**
GRFO IAmb IAmb 13 03 15.8
comp=Z,3µm,1.6s
COP Copenhagen 89.42 326 *i*P P **13 02 45.6 +2.3**
COP IVmB_BB 13 03 01.2
comp=Z,181µm,4.1s
COP IAmb IAmb 13 03 08.4
comp=Z,6µm,0.9s
LLD Lille Linde 89.49 326 *i*P P **13 02 45.6 +2.0**
LLD IAmb IAmb 13 03 22.2
comp=Z,6µm,1.8s
TRO Tromso 89.51 340 *e*P P **13 02 43.6 +0.3**
TRO IVmB_BB 13 03 01.2
comp=Z,13µm,2.4s
TRO eS S 13 13 12.4 -20
TRO IVMs_BB IVMs_BB 13 44 30.4
comp=Z,128µm,18.1s
VNA1 Neumayer--Stat 89.52 199 P P **13 02 43.2 -0.3**
HFS Hagfors 89.54 330 LR LR 13 47 43.2
comp=Z,164µm,18.3s,baz=94,slow=39
FLTG Flechtingen 89.59 322 *e*P P **13 02 41.9 -2.3**
comp=Z,5µm,2.4s,baz=99,slow=4.7
MSSA Maissana 89.64 314 IAmb IAmb 13 03 13.5
comp=Z,1µm,1.3s
UBR Ueberruh 89.66 318 *e*P P **13 02 42.8 -1.9**
comp=Z,2µm,1.3s,baz=99,slow=4.7
DAVOX Davos/Dischmat 89.70 317 LR LR 13 48 16.2
comp=Z,128µm,18.6s,baz=92,slow=39

DAVA Damuels 89.76 317 *i*P P **13 02 43.8 -1.5**
comp=Z,1µm,0.9s,SNR=98
PGF Pioggiola 89.80 313 *e*P P **13 02 43.2 -2.3**
PGF pmax pmax
comp=Z,518nm,1.4s
VNA3 Neumayer Olymp 89.82 198 P P **13 02 43.5 -1.5**
ASSE Asse, Remlinge 89.91 322 *e*P P **13 02 43.8 -1.7**
comp=Z,5µm,2.3s,baz=99,slow=4.7
HOPEN Hopen 89.99 347 *e*P P **13 02 44.7 -0.8**
HOPEN IVmBBB 13 03 04.1
comp=Z,17µm,2.3s
HOPEN eS **SKSac 13 13 14.3 0.0**
HOPEN IVMs_BB IVMs_BB 13 38 37.4
comp=Z,85µm,24.5s
TUE Stuetta 90.02 316 IAmb IAmb 13 03 17.4
comp=Z,1µm,1.1s
CLZ Clausthal 90.05 322 *e*P P **13 02 44.8 -1.6**
comp=Z,6µm,2.3s,baz=99,slow=4.7
UBBA Unterbreizbach 90.14 321 *e*P P **13 02 45.2 -1.5**
comp=Z,4µm,2.2s,baz=99,slow=4.7
GTTG Gottingen 90.26 322 *e*P P **13 02 45.7 -1.6**
comp=Z,2µm,1.2s,baz=99,slow=4.7
FAUS Fauske 90.27 338 *e*P P **13 02 48.0 +1.0**
FAUS IVmB_BB 13 03 07.6
comp=Z,11µm,4.4s
FAUS eS **SKSac 13 13 22.0 +5.8**
FAUS IVMs_BB IVMs_BB 13 47 23.3
comp=Z,85µm,17.1s
ABSA Djebel Ababsia 90.28 306 P P **13 02 52.3 +4.4**
NRDL Niedersach Rie 90.30 323 *e*P P **13 02 46.2 -1.2**
comp=Z,3µm,1.6s,baz=99,slow=4.7
MOR8 Moi Rana 90.36 336 *e*P P **13 02 47.1 -0.3**
MOR8 IVmB_BB 13 03 05.5
comp=Z,14µm,2.8s
MOR8 eS **SKSac 13 13 17.7 +0.9**
MOR8 IVMs_BB IVMs_BB 13 47 03.4
comp=Z,81µm,21.1s
CMAH Djebel Manchou 90.36 307 P P **13 02 48.9 +0.7**
BSEG Bad Segeberg 90.37 324 *e*P P **13 02 46.2 -1.5**
comp=Z,1µm,1.2s,baz=99,slow=4.7
STU Stuttgart 90.41 319 IAmb IAmb 13 03 18.0
comp=Z,1µm,1.5s
STU Stuttgart 90.41 319 *e*P P **13 02 46.2 -1.9**
comp=Z,13µm,2.4s,baz=99,slow=4.7
STEI Steigen 90.41 338 *e*P P **13 02 47.6 0.0**
STEI IVmB_BB 13 03 05.9
comp=Z,16µm,2.7s
STEI eS **SKSac 13 13 18.6 +1.7**
STEI IVMs_BB IVMs_BB 13 38 11.0
comp=Z,93µm,28.1s
NC602 NORSAR Array S 90.69 331 IAmb IAmb 13 03 34.8
comp=Z,2µm,1.3s
NC602 NORSAR Array S 90.69 331 IVmB_BB 13 03 08.4
comp=Z,16µm,4.7s
NC602 IVMs_BB IVMs_BB 13 51 47.2
comp=Z,112µm,16.0s
RETH Rethem/Aller, 90.78 323 *e*P P **13 02 48.1 -1.6**
comp=Z,1µm,1.2s,baz=99,slow=4.7
BJO1 Bjornoya 90.79 345 eS **SKSac 13 13 17.0 -1.9**
BJO1 IVMs_BB IVMs_BB 13 36 19.9
comp=Z,75µm,50.6s
OVD Ostervraa, Den 90.89 327 *i*P P **13 02 51.5 +1.5**
OVD IAmb IAmb 13 03 21.3
comp=Z,16µm,2.5s
NB2 NORSAR Subarra 90.89 331 P P **13 02 47.6 -2.5**
comp=Z,7µm,3.3s,baz=98,slow=5.1
NB2 NORSAR Subarra 90.89 331 P P **13 02 47.6 -2.5**
baz=98,slow=5.1
NOA NORSAR Array B 90.89 331 P P **13 02 49.8 -0.3**
comp=Z,69nm,1.1s,baz=97,slow=4.7,SNR=21
NOA PP **PP 13 06 20.0 -6.2**
comp=Z,31nm,0.9s,baz=113,slow=9.2,SNR=3.5
NOA S **SKSac 13 13 19.3 -0.9**
comp=Z,2.1nm,0.9s,baz=130,slow=5.3,SNR=1.4
NOA PKKPbc PKKPbc 13 20 26.2 +8.6
comp=Z,2.5nm,0.9s,baz=287,slow=2.4,SNR=3.9
NOA LR LR 13 45 14.8
comp=Z,185µm,20.3s,baz=100,slow=37
CKFL Kef-Lekhel 90.90 306 P P **13 02 52.7 +1.9**
BFO Black Forest 90.92 318 P P **13 02 48.8 -1.7**
BFO pmax pmax
comp=Z,2µm,1.9s
BFO Black Forest 90.92 318 P P **13 02 48.8 -1.7**
BFO IAmb IAmb 13 03 11.0
comp=Z,2µm,1.9s
BFO Black Forest 90.92 318 *e*P P **13 02 48.3 -2.2**
comp=Z,2µm,1.9s,baz=99,slow=4.7
KONS Konsvik 90.94 337 *e*P P **13 02 49.4 -0.7**
KONS eS **SKSac 13 13 25.3 +5.3**
STOK Stokkvaagen 90.95 336 *e*P P **13 02 50.2 +0.1**
STOK eS **SKSac 13 13 14.2 -5.9**
OSL Oslo 90.98 330 *e*P P **13 02 51.6 +1.2**
OSL IVmBBB 13 03 09.1
comp=Z,25µm,2.2s
OSL eS **SKSac 13 13 23.0 +2.5**
OSL IVMs_BB IVMs_BB 13 48 25.7
comp=Z,121µm,17.8s
NAO01 NORSAR Array S 91.03 331 *e*P P **13 02 50.7 0.0**
TNS Taunus Mts 91.06 320 *e*P P **13 02 49.6 -1.6**
comp=Z,1µm,1.2s,baz=99,slow=4.7
CASM Ain Smara 91.07 306 P P **13 02 53.7 +2.2**
LOF Lofoten 91.07 338 *e*P P **13 02 51.6 +0.9**
LOF IVmB_BB 13 03 09.4
comp=Z,14µm,4.0s
LOF eS **SKSac 13 13 22.9 +2.2**
LOF IVMs_BB IVMs_BB 13 46 54.3
comp=Z,89µm,17.4s
SBF Sospel 91.08 314 *e*P P **13 02 48.4 -3.0**
SBF pmax pmax
comp=Z,210nm,1.0s
NSS Namsos 91.09 335 *e*P P **13 02 48.6 -2.3**
NSS IVmB_BB 13 03 08.9
comp=Z,11µm,2.0s
NSS eS **SKSac 13 13 20.4 -0.6**
NSS IVMs_BB IVMs_BB 13 51 26.3
comp=Z,93µm,17.9s
CTEI Djebel Teioual 91.12 306 P P **13 02 53.9 +2.0**
KASTN Kahler Asten 91.19 321 *e*P P **13 02 50.1 -1.6**
comp=Z,1µm,1.3s,baz=99,slow=4.7
MUD Monsted U'grnd 91.34 326 *i*P P **13 02 54.5 +2.4**
MUD IAmb IAmb 13 03 32.3
comp=Z,2µm,1.5s
KONO Kongsberg 91.50 330 *d i*P P **13 02 54.3 +1.4**
KONO pmax pmax
comp=Z,874nm,1.3s
KONO Kongsberg 91.50 330 P P **13 02 53.3 +0.4**
KONO IAmb IAmb 13 03 27.3
comp=Z,924nm,1.3s
KONO Kongsberg 91.50 330 IAMs_20 IAMs_20 13 48 45.3
comp=Z,244µm,19.0s
KONO Kongsberg 91.50 330 *e*P P **13 02 52.8 -0.1**
DFRA Djebel Bou Aff 91.59 306 P P **13 02 58.4 +4.4**
FRF La Foret Royal 91.62 313 *e*P P **13 02 51.6 -2.2**
FRF pmax pmax
comp=Z,398nm,1.5s
CDF Champ du Feu 91.63 318 *e*P P **13 02 53.4 -0.5**
CDF pmax pmax
comp=Z,228nm,1.5s
MBDF Montbardon 91.63 315 *e*P P **13 02 54.4 +0.3**
MBDF pmax pmax
comp=Z,430nm,1.7s
TBLU Trondheim 91.65 333 *e*P P **13 02 53.9 +0.4**
TBLU IVmB_BB 13 03 12.4
comp=Z,12µm,3.5s
TBLU eS **SKSac 13 13 27.8 +3.6**
TBLU IVMs_BB IVMs_BB 13 48 11.7
comp=Z,113µm,19.2s
ECH Echery 91.69 318 P P **13 02 54.4 +0.3**
ECH Echery 91.69 318 IAmb IAmb 13 03 23.7
comp=Z,714nm,1.2s
IBBN Ibbenburen 91.71 322 *e*P P **13 02 52.5 -1.5**
comp=Z,3µm,1.2s,baz=99,slow=4.7
LPG La Plagne 91.72 315 *e*P P **13 02 51.5 -3.1**
LPG pmax pmax
comp=Z,124nm,1.1s
BNI Bardonecchia 91.73 315 P P **13 02 54.9 +0.4**
BNI Bardonecchia 91.73 315 IAmb IAmb 13 03 23.7
comp=Z,629nm,1.1s
LPL La Plagne 91.73 315 *e*P P **13 02 51.5 -3.1**
LPL pmax pmax
comp=Z,140nm,0.9s
HLG Helgoland 91.82 324 *e*P P **13 02 53.2 -1.3**
comp=Z,5µm,2.0s,baz=99,slow=4.7
CKHR Kef el Ahmar 91.84 306 P P 13 03 03.9 +8.7
HINF Hinteralfeld 91.86 318 *e*P P **13 02 55.2 +0.3**
HINF pmax pmax

comp=Z,330nm,2.2s
HOMB Homborsund 91.91 328 *e*P **P** **13 02 55.7 +1.0**
HOMB IVmBBB 13 03 14.9
comp=Z,16µm,4.3s
HOMB *e*S **SKSac** **13 13 21.6 -4.2**
HOMB IVMs_BB IVMs_BB 13 44 37.6
comp=Z,58µm,20.3s
BUG Bochum--Univer 91.92 321 *e*P **P** **13 02 53.4 -1.6**
comp=Z,1µm,1.2s,baz=99,slow=4.7
SET Setif 91.94 306 P P 13 03 05.0 +9.4
AHRW Bad Neuenahr-A 91.96 320 *e*P **P** **13 02 53.8 -1.4**
comp=Z,1µm,1.2s,baz=99,slow=4.7
DOMB Dombas 92.05 332 *e*P **P** **13 02 55.4 -0.1**
DOMB IVmB_BB 13 03 15.0
comp=Z,13µm,4.3s
DOMB *e*S **SKSac** **13 13 32.1 +5.4**
DOMB IVMs_BB IVMs_BB 13 50 19.0
comp=Z,111µm,16.8s
HAU Haudompre 92.21 318 *e*P **P** **13 02 56.0 -0.5**
HAU pmax pmax
comp=Z,292nm,1.3s
HSPB Hornsund (broa 92.23 347 *e*P **P** **13 02 57.1 +1.2**
HSPB *e*PP PP 13 06 52.5 +16
HSPB *e*SKSac **SKSac** **13 13 24.8 -2.2**
HSPB *e*ScS **ScS** **13 14 06.0 +6.9**
HSPB *e*SS **SS** **13 20 13.3 +6.4**
HSPB *e*L L 13 48 50.0
comp=Z,353µm,20.0s
HSPB Hornsund (broa 92.23 347 *e*P **P** **13 02 56.6 +0.8**
HSPB IVmB_BB 13 03 14.2
comp=Z,9µm,2.3s
HSPB *e*S **SKSac** **13 13 28.8 +1.8**
HSPB IVMs_BB IVMs_BB 13 48 36.9
comp=Z,114µm,19.5s
SKAR Skarslia 92.26 331 *e*P **P** **13 02 58.5 +2.1**
SKAR IVmB_BB 13 03 16.3
comp=Z,10µm,3.4s
SKAR *e*S **SKSac** **13 13 33.8 +5.9**
SKAR IVMs_BB IVMs_BB 13 52 32.9
comp=Z,90µm,17.4s
SPB2 Spitsbergen Ar 92.30 348 IAmb IAmb 13 03 26.7
comp=Z,1µm,1.5s
SPA0 Spitsbergen Ar 92.31 348 *e*P **P** **13 02 57.5 +1.1**
SPA0 IVmB_BB 13 03 14.4
comp=Z,13µm,2.3s
SPA0 *e*S **SKSac** **13 13 33.4 +5.9**
SPA0 IVMs_BB IVMs_BB 13 46 39.5
comp=Z,148µm,21.1s
SPITS Spitsbergen Ar 92.31 348 LR LR 13 47 26.0
comp=Z,371µm,22.0s,baz=195,slow=38
WLF Walferdange 92.48 319 P **P** **13 02 57.2 -0.5**
WLF pmax pmax
comp=Z,667nm,1.2s
WLF Walferdange 92.48 319 P **P** **13 02 57.2 -0.5**
WLF IAmb IAmb 13 03 28.0
comp=Z,667nm,1.2s
WLF Walferdange 92.48 319 *e*P **P** **13 02 56.1 -1.5**
comp=Z,4µm,2.6s,baz=99,slow=4.7
WLF Walferdange 92.48 319 *d*P **P** **13 02 58.1 +0.5**
comp=Z,241nm,1.2s
BTNL Ternell 92.57 320 *d*P **P** **13 02 58.7 +0.6**
comp=Z,226nm,1.2s
SNART Snartemo 92.59 328 *e*P **P** **13 02 59.2 +1.3**
SNART *e*S **SKSac** **13 13 33.2 +3.5**
BHOU Houvegnez 92.63 320 *d*P **P** **13 02 59.3 +0.9**
comp=Z,108nm,2.1s
MEM Membach 92.65 320 *d*P **P** **13 02 59.0 +0.6**
comp=Z,134nm,1.1s
AFI Afiamalu 92.67 104 PP **PP** **13 06 47.9 +6.5**
comp=Z,35nm,1.0s,baz=108,slow=23,SNR=1.6
AFI Afiamalu 92.67 104 P **P** **13 03 01.0 +1.6**
BELA Belgrano 2 92.81 189 IAmb IAmb 13 03 13.9
comp=Z,676nm,1.4s
MOL Molde 92.81 332 *e*P **P** **13 03 00.3 +1.5**
MOL IVmB_BB 13 03 18.5
comp=Z,10µm,3.8s
MOL *e*S **SKSac** **13 13 33.3 +2.6**
MOL IVMs_BB IVMs_BB 13 53 08.4
comp=Z,81µm,16.5s
ATAF Djebel Tarf 92.83 306 P P 13 03 05.5 +5.8
BEBN Eben Emael 92.87 321 *d*P **P** **13 03 00.4 +1.0**
comp=Z,184nm,1.1s
BEBN *d*pP **pP** **13 03 06.7 +0.4**
ODD1 Odda 93.02 330 *e*P **P** **13 03 01.7 +1.7**
ODD1 *e*S **SKSac** **13 13 35.5 +3.4**
AKN Aaknes 93.03 332 *e*P **P** **13 03 00.8 +0.8**
AKN IVmB_BB 13 03 22.5
comp=Z,12µm,3.9s
AKN *e*S **SKSac** **13 13 32.8 +0.8**
AKN IVMs_BB IVMs_BB 13 50 57.9
comp=Z,98µm,17.0s
BLS5 Blasjo 93.07 329 *e*P **P** **13 03 01.5 +1.3**
BLS5 IVmB_BB 13 03 19.9
comp=Z,13µm,3.7s
BLS5 *e*S **SKSac** **13 13 40.9 +8.4**
BLS5 IVMs_BB IVMs_BB 13 43 17.9
comp=Z,61µm,23.0s
BCLA Clavier 93.08 320 *d*P **P** **13 03 00.5 0.0**
comp=Z,144nm,1.2s
BCLA *d*pP **pP** **13 03 08.3 +1.1**
RCHB Rochefort 93.11 320 *d*P **P** **13 03 01.3 +0.7**
comp=Z,128nm,1.2s
AKET Djebel Ketaf 93.16 306 P **P** **13 03 03.6 +2.3**
BGES Gesves 93.22 320 *d*P **P** **13 03 01.4 +0.3**
comp=Z,124nm,1.2s
SSB Saint Sauveur 93.25 315 IAmb IAmb 13 03 31.2
comp=Z,647nm,1.2s
ADK Adak 93.25 38 P **P** **13 03 00.6 -0.5**
ADK pmax pmax
comp=Z,2µm,1.4s
ADK Adak 93.25 38 P **P** **13 03 00.6 -0.5**
ADK Adak 93.25 38 P **P** **13 03 02.7 +1.6**
KBS Kingsbay 93.31 349 *e*P **P** **13 03 01.2 +0.3**
KBS pmax pmax
comp=Z,259nm,1.2s
KBS MLR MLR
comp=Z,400µm,20.0s
KBS Kingsbay 93.31 349 *i* P **P** **13 02 59.5 -1.4**
KBS Kingsbay 93.31 349 P **P** **13 02 59.9 -1.0**
KBS Kingsbay 93.31 349 IAMs_20 IAMs_20 13 47 56.0
comp=Z,415µm,20.0s
KBS Kingsbay 93.31 349 *e*P **P** **13 02 59.0 -1.9**
HYA Hoyanger 93.34 331 *e*P **P** **13 03 01.8 +0.5**
HYA *e*S **SKSac** **13 13 40.2 +6.6**
HYA IVMs_BB IVMs_BB 13 51 35.3
comp=Z,66µm,16.1s
BMRD Maredsous 93.42 320 *d*P **P** **13 03 02.5 +0.6**
comp=Z,123nm,1.0s
DOU Dourbes 93.52 320 *d*P **P** **13 03 02.9 +0.5**
comp=Z,149nm,1.3s
ADJB Djebel Djouab 93.53 306 P **P** **13 03 05.5 +2.5**
ABMS Boumerdes 93.53 306 P **P** **13 03 06.4 +3.6**
TORD Torodi Ar. Bea 93.58 283 P **P** **13 03 01.2 -2.3**
comp=Z,82nm,1.1s,baz=82,slow=4.8,SNR=48
TORD PP **PP** **13 06 49.3 +0.7**
comp=Z,26nm,1.1s,baz=106,slow=6.0,SNR=2.0
TORD PKKPbc **PKKPbc** **13 20 13.1 +4.2**
comp=Z,7.9nm,1.0s,baz=314,slow=2.7,SNR=4.4
TORD PKPPKP **P'P'df** **13 28 24.5 +2.6**
comp=Z,28nm,1.0s,baz=279,slow=2.9,SNR=5.7
TORD Torodi Ar. Bea 93.58 283 P **P** **13 03 01.0 -2.5**
KMY Karmoy 93.68 329 *e*P **P** **13 03 04.8 +1.9**
KMY *e*S **SKSac** **13 13 43.0 +7.3**
BER Bergen 93.70 330 *e*P **P** **13 03 05.0 +2.0**
BER IVmB_BB 13 03 19.2
comp=Z,9µm,2.8s
BER *e*S **SKSac** **13 13 44.5 +8.8**
BER IVMs_BB IVMs_BB 13 49 58.3
comp=Z,79µm,18.1s
SNF Seneffe 93.74 320 *d*P **P** **13 03 03.8 +0.4**
comp=Z,220nm,1.0s
ASK Askoy 93.78 330 *e*P **P** **13 03 05.0 +1.6**
ASK IVmB_BB 13 03 22.7
comp=Z,22µm,3.7s
ASK *e*S **SKSac** **13 13 31.1 -5.0**
ASK IVMs_BB IVMs_BB 13 50 02.0
comp=Z,188µm,18.4s
ABA Alger-Bouzarea 93.89 306 P P 13 03 11.8 +7.3
NIUE Niue 93.89 109 P **P** **13 03 06.4 +1.5**
FOO Floro 93.91 331 *e*P **P** **13 03 06.4 +2.5**
FOO *e*S **SKSac** **13 13 35.9 -0.9**
FOO IVMs_BB IVMs_BB 13 49 37.9
comp=Z,88µm,18.4s
EMHD Djebel Mahouad 93.92 306 P **P** **13 03 07.8 +3.0**
SUE Sulen 94.02 331 *e*P **P** **13 03 06.3 +1.9**
SUE IVmBBB 13 03 24.2
comp=Z,11µm,4.7s
SUE *e*S **SKSac** **13 13 37.1 -0.4**
SUE IVMs_BB IVMs_BB 13 51 46.7
comp=Z,111µm,16.7s
ATKA Atka Island 94.81 38 P **P** **13 03 09.6 +1.3**
CLF Chambon-Foret 94.95 318 P **P** **13 03 08.2 -0.9**
CLF IAmb IAmb 13 03 42.0
comp=Z,1µm,1.8s
CAF Calviac 94.99 315 *e*P **P** **13 03 10.6 +1.2**
CAF pmax pmax
comp=Z,184nm,1.6s
EBNR Beni Rached 95.07 306 P **P** **13 03 14.0 +4.0**
ECHA Ech Chlef 95.20 306 P P 13 03 17.5 +7.1
RJF Les Rejaudoux 95.39 315 *e*P **P** **13 03 11.3 +0.1**
RJF pmax pmax
comp=Z,136nm,1.2s
EANR 'Ain N'Sour 95.41 306 P P 13 03 22.0 +10
OJGS Djebel Guires 95.68 305 P P 13 03 26.0 +13
OJBR Djebel Berber 96.01 305 P P 13 03 22.0 +7.7
WACR West Acre 96.08 322 *e*P **P** **13 03 16.1 +2.0**
WACR IAMs_20 IAMs_20 13 37 35.3
comp=Z,272µm,38.9s
GAMB Gambell 96.17 26 P **P** **13 03 13.7 -0.5**
GAMB IAMs_20 IAMs_20 13 48 12.2
comp=Z,352µm,19.0s
GAMB Gambell 96.17 26 P **P** **13 03 13.6 -0.7**
baz=272
GAMB S **S** **13 14 39.9 +8.2**
baz=272
ODJA Bouhanifia 96.41 305 P P 13 03 23.0 +6.9
LMK Market Rasen 96.65 323 *e*P **P** **13 03 19.4 +2.8**
LMK IAMs_20 IAMs_20 13 36 24.7
comp=Z,515µm,58.2s
GDLE Glaisdale, N Y 96.92 324 *e*P **P** **13 03 19.7 +1.8**
GDLE IAMs_20 IAMs_20 13 36 32.6
comp=Z,455µm,50.9s
OTSS Djebel Tessala 96.93 305 P P 13 03 29.0 +10
GRR Gorron 97.05 318 *e*P Pdif 13 03 19.3 +0.6
GRR pmax pmax
comp=Z,109nm,1.2s
SPIA Saint Paul Isl 97.09 33 P **P** **13 03 18.0 -0.6**
baz=272
SPIA S **S** **13 14 48.3 +8.4**
baz=272
CWF Charnwood Fore 97.26 322 *e*P Pdif 13 03 19.6 +0.1
CWF IAMs_20 IAMs_20 13 36 44.5
comp=Z,308µm,48.1s
HPK Haverah Park 97.41 324 *e*P **P** **13 03 18.7 -1.4**
HPK IAMs_20 IAMs_20 13 36 43.7
comp=Z,427µm,50.8s
LBWR Ladybower, Pea 97.49 323 *e*P Pdif 13 03 21.0 +0.5
LBWR IAMs_20 IAMs_20 13 36 48.4
comp=Z,470µm,54.6s
EDMD Edmundbyers 97.58 325 *e*P Pdif 13 03 22.4 +1.5
EDMD IAMs_20 IAMs_20 13 36 49.6
comp=Z,473µm,52.4s
SWN1 Swindon 97.59 321 *e*P Pdif 13 03 25.2 +4.2
SWN1 IAMs_20 IAMs_20 13 38 17.3
comp=Z,426µm,43.3s
TNA Tin City 97.69 25 P **P** **13 03 20.3 -0.8**
TNA Tin City 97.69 25 P **P** **13 03 20.4 -0.8**
baz=275,SNR=27
TNA S **S** **13 14 49.9 +5.1**
baz=275
DRUM Mains of Drumt 97.78 327 *e*P **P** **13 03 19.4 -2.3**
DRUM IAMs_20 IAMs_20 13 49 09.2
comp=Z,201µm,21.1s
STRD Stroud 97.81 321 *e*P **P** **13 03 21.8 -0.1**
STRD IAMs_20 IAMs_20 13 38 22.5
comp=Z,426µm,40.3s
NOR Nord 97.85 352 *i* P **P** **13 03 20.4 -1.1**
NOR IAmb IAmb 13 03 47.1
comp=Z,911nm,1.9s
ESY Stoneypath 97.90 326 *e*P Pdif 13 03 25.7 +3.4
NIKH Nikolski High 98.06 37 P **P** **13 03 22.7 -0.3**
baz=273
NIKH S **S** **13 14 51.5 +3.1**
baz=273
EDU Dundee 98.09 326 *e*P Pdif 13 03 26.5 +3.4
EDI Edinburgh 98.22 326 *e*P Pdif 13 03 24.9 +1.2
EDI IAMs_20 IAMs_20 13 50 04.0
comp=Z,272µm,20.0s
SHEL Horse Pasture 98.23 253 IAMs_20 IAMs_20 13 43 25.0
comp=Z,266µm,20.0s
EKA Eskdalemuir Ar 98.24 325 LR LR 13 52 32.2
comp=Z,117µm,19.5s,baz=82,slow=38
ESK Eskdalemuir 98.27 325 *e*P Pdif 13 03 24.9 +0.9
ESK IAMs_20 IAMs_20 13 37 34.2
comp=Z,498µm,49.4s
ESK Eskdalemuir 98.27 325 P **P** **13 03 23.4 -0.5**
ESK pmax pmax
comp=Z,174nm,1.2s
ESK Eskdalemuir 98.27 325 P **P** **13 03 23.4 -0.5**
MCH1 Michaelchurch 98.32 322 *e*P Pdif 13 03 28.6 +4.4
MCH1 IAMs_20 IAMs_20 13 38 38.9
comp=Z,357µm,40.1s
FOEL Foel Wylfa 98.40 323 *e*P Pdif 13 03 26.4 +1.8
FOEL IAMs_20 IAMs_20 13 51 45.4
comp=Z,209µm,23.0s
JMIC Jan Mayen 98.78 341 *e*P Pdif 13 03 29.0 +3.2
JMIC IVmB_BB 13 03 40.3
comp=Z,11µm,6.4s
JMIC *e*S **SKSac** **13 14 02.8 +0.8**
JMIC IVMs_BB IVMs_BB 13 40 50.5
comp=Z,59µm,29.6s
NEWG New Galloway 98.87 325 *e*P **P** **13 03 21.9 -4.7**
NEWG IAMs_20 IAMs_20 13 37 48.2
comp=Z,498µm,53.3s
UCM Universidad Co 98.88 310 P Pdif 13 03 41.2 +14
UCM S SKSac 13 14 16.6 +13
ANM Nome 98.88 25 IAMs_20 IAMs_20 13 55 37.6
comp=Z,217µm,19.0s
ANM Nome 98.88 25 P **P** **13 03 26.2 -0.3**
baz=277
ANM S **S** **13 15 00.5 +5.6**
baz=277
KOWA Kowa 99.20 284 LR LR 13 47 06.3
comp=Z,208µm,19.2s,baz=96,slow=35
KOWA Kowa 99.20 284 **Pdif** **13 03 27.9 -1.1**
KOWA IAmb IAmb 13 03 50.0
comp=Z,1µm,1.9s
RDOG Red Dog Mine 99.33 22 P **Pdif** **13 03 28.6 +0.2**
baz=280,SNR=13
UNV Unalaska Valle 99.41 36 P **Pdif** **13 03 28.4 -0.6**
baz=275
ESDC Sonseca Array 99.44 309 P **Pdif** **13 03 27.6 -2.1**
comp=Z,8.3nm,1.1s,baz=70,slow=3.7,SNR=18
ESDC PP **PP** **13 07 28.4 -4.8**
comp=Z,39nm,1.0s,baz=76,slow=5.8,SNR=6.3
ESDC PKKPbc **PKKPbc** **13 19 55.5 +1.6**
comp=Z,9.0nm,1.1s,baz=267,slow=4.0,SNR=5.2
ESDC LR LR 13 50 55.4
comp=Z,59µm,19.4s,baz=73,slow=37
KIC Kosan Boka 99.45 276 *e*P **Pdif** **13 03 29.4 -0.8**
comp=Z,552nm,1.4s
KPL Plockton 99.47 327 *e*P **Pdif** **13 03 33.3 +4.1**
KPL IAMs_20 IAMs_20 13 37 28.5
comp=Z,586µm,63.9s
DBIC Dimbokro 99.58 276 P **Pdif** **13 03 30.6 -0.1**
comp=Z,36nm,1.1s,baz=100,slow=4.9,SNR=15
DBIC PP **PP** **13 07 31.7 -3.2**
comp=Z,33nm,1.1s,baz=106,slow=9.0,SNR=1.4
DBIC S **SKSac** **13 14 05.1 -3.2**
comp=Z,5.1nm,0.8s,baz=318,slow=14,SNR=1.2
DBIC PKKPbc **PKKPdf** **13 19 54.8 -2.3**
comp=Z,15nm,1.0s,baz=316,slow=3.1,SNR=5.9
DBIC LR LR 13 47 03.4
comp=Z,157µm,19.8s,baz=106,slow=35
DBIC Dimbokro 99.58 276 *i* P **Pdif** **13 03 30.1 -0.6**
LIC Lamto 99.72 275 *e*P **Pdif** **13 03 32.0 +0.6**
comp=Z,546nm,1.5s
TIC Toumodi 99.74 276 *e*P **Pdif** **13 03 31.3 -0.2**
EMAL Malaga-Limoner 99.88 306 P **Pdif** **13 03 45.6 +14**
EMAL S **SKSac** **13 14 11.3 +2.4**
DAG Danmarks Havn 99.92 348 P **Pdif** **13 03 30.7 -0.1**
DAG Danmarks Havn 99.92 348 *i* P **Pdif** **13 03 30.0 -0.8**
DAG IAmb IAmb 13 03 46.1
comp=Z,1µm,3.0s
MDT Midelt 100.09 302 PKKPbc PKKPbc 13 19 56.2 +4.4
comp=Z,1.7nm,0.6s,baz=260,slow=3.2,SNR=2.2
MDT LR LR 13 48 15.3
comp=Z,277µm,19.7s,baz=105,slow=35
LIJA Lijar 100.65 306 P **Pdif** **13 03 37.8 +2.6**
CEU Ceuta 100.66 305 P **Pdif** **13 03 48.4 +13**
CEU S **SKSac** **13 14 14.7 +2.0**
A21K Barrow 100.71 18 P **Pdif** **13 03 33.9 -0.5**
baz=287
FALS False Pass 101.10 35 P **Pdif** **13 03 36.1 -0.4**
baz=277
DBG Daneborg 101.20 345 *e*P **Pdif** **13 03 33.4 -3.2**
DBG IAmb IAmb 13 03 52.9
comp=Z,738nm,2.9s
SFS San Fernando 101.31 306 P **Pdif** **13 03 53.4 +15**
SFS S SKSac 13 14 30.3 +14
SFS San Fernando 101.31 306 IAMs_20 IAMs_20 13 53 51.7
comp=Z,251µm,19.0s
PBRG Braganca 101.46 312 *e*P **Pdif** **13 03 49.3 +11**
PBRG Braganca 101.46 312 *e*PP PKiKP 13 07 49.5 -13
ARNO Arenosillo 101.71 307 P **Pdif** **13 03 54.5 +15**
ARNO S SKSac 13 14 32.1 +14
MVO Moncorvo 101.71 311 *e*P **Pdif** **13 03 44.8 +5.1**
MVO Moncorvo 101.71 311 *e*PP **PP** **13 07 50.5 +0.1**
MVO *e*SKS 13 14 31.1
MVO *e*SS **SS** **13 22 32.8 +10**
MVO *e*LQ LQ 13 32 15.4
MVO *e*LR LR 13 39 28.0
comp=Z,74µm,20.0s
ALE Alert 101.80 357 IAMs_20 IAMs_20 13 51 57.1
comp=Z,212µm,21.0s
PBAR Barrancos 101.90 308 *e*P **Pdif** **13 03 46.3 +5.8**
PBAR Barrancos 101.90 308 *e*PP **PP** **13 07 52.6 +0.8**
PMRV Marv??o 102.10 309 *e*P **Pdif** **13 03 47.7 +6.3**
PMRV Marv??o 102.10 309 *e*PP PKiKP 13 07 53.4 -10
PMRV *e*SKS 13 14 32.0
PMRV *e*SS **SS** **13 22 36.9 +8.9**
PMRV *e*LQ LQ 13 32 26.9
PMRV *e*LR LR 13 39 18.2
comp=Z,90µm,18.0s
PCBR Castelo Branco 102.14 310 *e*P **Pdif** **13 03 45.1 +3.6**
PCBR Castelo Branco 102.14 310 *e*PP **PP** **13 07 53.6 0.0**
MTE Manteigas 102.15 310 *e*P **Pdif** **13 03 48.5 +6.8**
MTE Manteigas 102.15 310 *e*PP **PP** **13 07 53.6 -0.1**
MTE *e*SKS 13 14 39.6
MTE *e*SS **SS** **13 22 38.3 +10**
MTE Manteigas 102.15 310 *e*LQ LQ 13 33 07.0
MTE *e*LR LR 13 39 26.1
comp=Z,76µm,18.0s
PVRL Vila Real 102.22 311 *e*P Pdif 13 03 58.8 +17
PVRL Vila Real 102.22 311 *e*PP **PP** **13 07 54.0 -0.2**
POLO Lamas de Olo 102.27 311 *e*P **Pdif** **13 03 52.2 +10**
POLO Lamas de Olo 102.27 311 *e*PP **PP** **13 07 54.4 -0.2**
PESTR Estremoz 102.29 309 *e*P **Pdif** **13 03 47.9 +5.6**
PESTR Estremoz 102.29 309 *e*PP **PP** **13 07 55.2 +0.4**
PVIS Viseu 102.40 310 *e*P **Pdif** **13 03 45.1 +2.3**
PVIS *e*SKS 13 08 01.1
GCSA Galena City Sc 102.43 25 P **Pdif** **13 03 41.6 -0.6**
baz=285
PVAQ Vaqueiros 102.48 307 *e*P **Pdif** **13 03 48.4 +5.3**
PVAQ Vaqueiros 102.48 307 *e*PP **PP** **13 07 56.0 -0.2**
PVAQ *e*SKS 13 14 36.1
PVAQ *e*SS **SS** **13 22 38.0 +4.7**
PVAQ Vaqueiros 102.48 307 *e*LQ LQ 13 33 15.8
PVAQ *e*LR LR 13 38 24.6
comp=Z,90µm,18.0s
PBEJ Beja 102.56 308 *e*P **Pdif** **13 03 50.5 +7.0**
PBEJ Beja 102.56 308 *e*PP **PP** **13 07 58.5 +1.7**
PGAV Gavieira, Arco 102.58 312 *e*P **Pdif** **13 03 50.3 +6.7**
PGAV Gavieira, Arco 102.58 312 *e*PP **PP** **13 07 58.3 +1.4**
PGAV *e*SKS 13 14 36.9
PGAV *e*SS **SS** **13 22 39.7 +5.0**
PGAV Gavieira, Arco 102.58 312 *e*LQ LQ 13 33 21.3
PGAV *e*LR LR 13 40 20.0
comp=Z,72µm,20.0s
EVO Evora 102.64 308 *e*P **Pdif** **13 03 50.2 +6.4**
EVO Evora 102.64 308 *e*PP **PP** **13 07 57.5 +0.1**
PBDV Barranco-do-Ve 102.66 307 *e*P **Pdif** **13 03 50.6 +6.6**
PBDV Barranco-do-Ve 102.66 307 *e*PP **PP** **13 07 57.4 -0.2**
SDPT Sand Point 102.70 34 P **Pdif** **13 03 42.8 -0.8**
baz=280
PCVE Castro Verde 102.72 307 *e*P **Pdif** **13 03 50.1 +5.9**
PCVE Castro Verde 102.72 307 *e*PP **PP** **13 07 59.2 +1.2**
PMTG Montargil 102.77 309 *e*P **Pdif** **13 03 51.6 +7.2**
PMTG Montargil 102.77 309 *e*PP **PP** **13 07 57.7 -0.6**
COI Coimbra 102.83 310 *e*P **Pdif** **13 03 50.5 +5.9**
COI Coimbra 102.83 310 *e*PP **PP** **13 07 59.3 +0.6**
PCAS Casmilo, Conde 102.91 310 *e*P **Pdif** **13 03 51.6 +6.6**
PCAS Casmilo, Conde 102.91 310 *e*PP **PP** **13 08 00.1 +0.8**
RAR Rarotonga 103.02 113 PP **PP** **13 08 01.7 +1.2**
comp=Z,24nm,0.9s,baz=20,slow=10,SNR=2.0
PNCL Nicolau / Gran 103.07 308 *e*P **Pdif** **13 03 52.0 +6.3**
PNCL Nicolau / Gran 103.07 308 *e*PP **PKiKP** **13 08 00.3 -5.3**
PSBE So Bento 103.18 309 *e*P **Pdif** **13 03 56.3 +10**
PSBE So Bento 103.18 309 *e*PP **PKiKP** **13 08 01.7 -4.1**
SCO Scoresbysund 103.18 342 *e*P **Pdif** **13 03 44.8 -0.7**
MORF Marmelete 103.23 307 *e*Pdif **Pdif** **13 03 47.1 +0.6**
MORF *e*PP **PP** **13 08 02.5 +0.7**
MORF *e*SS SS 13 22 45.7 +2.0
MORF IAMs_20 IAMs_20 13 41 26.5
comp=Z,224µm,43.9s
MORF Marmelete 103.23 307 *e*P **Pdif** **13 03 52.5 +6.0**
MORF Marmelete 103.23 307 *e*PP **PKiKP** **13 08 01.5 -4.5**
MORF Marmelete 103.23 307 *e*P **Pdif** **13 03 47.1 +0.6**
MORF *e* 13 08 02.5
PACT Alcochete 103.27 309 *e*P Pdif 13 04 03.7 +17
PACT Alcochete 103.27 309 *e*PP **PP** **13 08 02.0 0.0**
PTEO Sao Teotonio 103.27 307 *e*P **Pdif** **13 03 58.6 +12**
TTA Tatalina 103.28 26 P **Pdif** **13 03 44.9 -1.3**
baz=286,SNR=7.8
PFVI Vila Bisbo 103.38 307 *e*P **Pdif** **13 03 49.9 +2.8**
PFVI Vila Bisbo 103.38 307 *e*PP **PP** **13 08 02.1 -0.8**
LIS Lisbon 103.52 308 *e*Pdif **Pdif** **13 03 48.5 +0.8**
LIS *e*PP **PP** **13 08 04.7 +0.8**
LIS *e*SS SS 13 22 49.7 +2.2
LIS IAMs_20 IAMs_20 13 50 25.1
comp=N,125µm,14.2s
LIS Lisbon 103.52 308 *e*P **Pdif** **13 03 53.6 +5.9**
LIS Lisbon 103.52 308 *e*P **Pdif** **13 03 48.4 +0.8**
LIS *e* 13 08 04.6
PMST Lisbon--Monsan 103.54 309 *e*P **Pdif** **13 03 55.9 +8.1**
PMST Lisbon--Monsan 103.54 309 *e*PP **PP** **13 08 05.0 +0.9**
PMAFR Mafra 103.60 309 *e*P **Pdif** **13 03 53.5 +5.4**
PMAFR Mafra 103.60 309 *e*PP **PP** **13 08 05.5 +1.0**
CHGN Chignik 103.66 33 P **Pdif** **13 03 48.2 +0.3**
baz=282
J20K Nowinta River 103.72 25 P **Pdif** **13 03 47.9 -0.1**
baz=288
H21K Melozitna Rive 103.80 23 P **Pdif** **13 03 47.8 -0.6**
baz=288
TOLK Toolik Lake Re 103.90 20 P **Pdif** **13 03 49.3 +0.5**
baz=293,SNR=18
L19K White Mountain 104.00 27 P **Pdif** **13 03 48.9 -0.4**
baz=286,SNR=7.5
K20K Telida 104.00 26 IAMs_20 IAMs_20 13 58 39.8
comp=Z,230µm,18.0s
K20K Telida 104.00 26 P **Pdif** **13 03 48.5 -0.8**
baz=287
COLD Coldfoot 104.23 21 P **Pdif** **13 03 50.5 +0.3**
baz=292
I21K Tanana 104.28 23 P **Pdif** **13 03 50.2 -0.2**
baz=290
M19K Big River Lodg 104.29 27 IAMs_20 IAMs_20 13 56 19.2
comp=Z,207µm,19.0s
M19K Big River Lodg 104.29 27 P **Pdif** **13 03 49.9 -0.7**
baz=287
L20K Farewell, AK 104.35 26 P **Pdif** **13 03 50.6 -0.4**
baz=287
O18K Koktuh Hills 104.48 29 IAMs_20 IAMs_20 13 57 28.6
comp=Z,229µm,18.0s
O18K Koktuh Hills 104.48 29 P **Pdif** **13 03 49.8 -1.8**
baz=286
N19K Bonanza Creek 104.56 28 IAMs_20 IAMs_20 13 53 44.9
comp=Z,232µm,20.0s
N19K Bonanza Creek 104.56 28 P **Pdif** **13 03 51.1 -0.8**
baz=286
CHUM Lake Minchumin 104.58 25 P **Pdif** **13 03 51.8 0.0**
baz=289,SNR=7.1
P18K Big Mountain, 104.59 30 P **Pdif** **13 03 51.2 -0.9**
baz=285
O19K Port Alsworth 104.81 29 IAMs_20 IAMs_20 13 50 15.1
comp=Z,219µm,22.0s
O19K Port Alsworth 104.81 29 P **Pdif** **13 03 52.6 -0.3**
baz=286
MLY Manley 104.83 23 P **Pdif** **13 03 52.6 -0.4**
baz=291
CAST Castle Rocks 104.83 25 P **Pdif** **13 03 52.6 -0.4**
baz=289,SNR=17
PPLA Purkeypile 104.96 26 P **Pdif** **13 03 53.2 -0.5**
baz=289

BPAW	Bear Paw Mtn.	105.06	24	IAMs_20	IAMs_20	13 50 24.3	
	comp=Z,273µm,22.0s						
BPAW	Bear Paw Mtn.	105.06	24	P	Pdif	13 03 55.5	+1.4
	baz=290						
CHIR	Chirikof Islan	105.30	33	IAMs_20	IAMs_20	13 56 24.2	
	comp=Z,204µm,20.0s						
CHIR	Chirikof Islan	105.30	33	P	Pdif	13 03 57.2	+2.0
	baz=284						
I23K	Minto, Yukon-K	105.33	23	P	Pdif	13 03 55.5	+0.3
	baz=292						
P19K	Oil Pt	105.49	29	IAMs_20	IAMs_20	13 50 38.5	
	comp=Z,190µm,20.0s						
P19K	Oil Pt	105.49	29	P	Pdif	13 03 54.1	-2.0
	baz=287						
Q19K	Cape Douglas,	105.50	30	IAMs_20	IAMs_20	13 55 48.4	
	comp=Z,228µm,20.0s						
Q19K	Cape Douglas,	105.50	30	P	Pdif	13 03 59.7	+3.6
	baz=287						
TRF	Thorofare Moun	105.58	25	P	Pdif	13 03 59.6	+3.1
	baz=291						
H24K	Noodor Dome	105.63	22	P	Pdif	13 03 59.2	+2.7
	baz=294						
NEA2	Nenana	105.66	24	IAMs_20	IAMs_20	13 53 41.7	
	comp=Z,302µm,20.0s						
NEA2	Nenana	105.66	24	P	Pdif	13 03 57.7	+1.1
	baz=292						
O20K	Slope Mountain	105.66	29	P	Pdif	13 03 56.6	-0.2
	baz=288						
SII	Sitkinak Islan	105.89	32	P	Pdif	13 03 59.2	+1.4
	baz=286						
CUT	Chulitna	105.96	26	IAMs_20	IAMs_20	13 52 03.3	
	comp=Z,223µm,20.0s						
CUT	Chulitna	105.96	26	P	Pdif	13 03 57.5	-0.5
	baz=291						
TCOL	CIGO, UAF Yank	106.02	23	IAMs_20	IAMs_20	13 57 49.7	
	comp=Z,285µm,20.0s						
TCOL	CIGO, UAF Yank	106.02	23	P	Pdif	13 03 57.6	-0.6
	baz=294						
COLA	College	106.03	23	IAMs_20	IAMs_20	13 57 49.7	
	comp=Z,270µm,20.0s						
COLA	College	106.03	23	P	Pdif	13 03 58.4	+0.1
	baz=294						
MCK	McKinley	106.04	24	P	Pdif	13 03 58.8	+0.4
	baz=292						
POKR	Poker Plat Res	106.09	23	IAMs_20	IAMs_20	13 53 58.5	
	comp=Z,245µm,20.0s						
POKR	Poker Plat Res	106.09	23	P	Pdif	13 04 00.2	+1.6
	baz=294						
WRH	Wood River Hil	106.09	24	IAMs_20	IAMs_20	13 53 55.6	
	comp=Z,241µm,20.0s						
CAPN	Captain Cook N	106.13	28	IAMs_20	IAMs_20	13 53 55.3	
	comp=Z,269µm,21.0s						
CAPN	Captain Cook N	106.13	28	P	Pdif	13 03 59.3	+0.5
	baz=290						
CCB	Clear Creek Bu	106.14	23	IAMs_20	IAMs_20	13 57 53.7	
	comp=Z,281µm,20.0s						
OHAK	Old Harbor	106.17	32	P	Pdif	13 04 00.5	+1.4
	baz=287						
M22K	Willow	106.26	27	P	Pdif	13 04 00.3	+0.9
	baz=291						
FYU	Fort Yukon	106.29	21	IAMs_20	IAMs_20	13 54 05.3	
	comp=Z,255µm,20.0s						
KDAK	Kodiak Island	106.37	31	P	Pdif	13 03 59.4	-0.5
	baz=287						
ILAR	Eielson Array	106.44	23	Pdiff	Pdif	13 03 58.1	-2.1
	comp=Z,0.7nm,0.9s,baz=292,slow=3.9,SNR=3.1						
ILAR				PP	PKiKP	13 08 16.9	+5.8
	comp=Z,12nm,0.9s,baz=289,slow=6.7,SNR=4.3						
ILAR				PKKPbc	PKKPbc	13 19 28.8	-5.1
	comp=Z,7.0nm,1.0s,baz=142,slow=2.5,SNR=5.5						
ILAR				PKPPKP	P'P'df	13 27 58.3	+4.1
	comp=Z,2.9nm,1.1s,baz=142,slow=4.5,SNR=2.5						
CNPM	China Poot	106.50	29	IAMs_20	IAMs_20	13 54 51.7	
	comp=Z,255µm,19.0s						
SUMG	Summit	106.55	347	*i* P	Pdif	13 04 01.0	+0.1
SUMG				IAmb	IAmb	13 04 29.0	
	comp=Z,2µm,3.0s						
SUMG	Summit	106.55	347	IAMs_20	IAMs_20	13 59 00.8	
	comp=Z,222µm,19.0s						
HDA	Harding Lake	106.57	23	IAMs_20	IAMs_20	13 58 16.3	
	comp=Z,291µm,20.0s						
HDA	Harding Lake	106.57	23	P	Pdif	13 04 01.0	+0.2
	baz=294						
PRP	Porcupine Dome	106.65	22	IAMs_20	IAMs_20	13 54 47.8	
	comp=Z,296µm,20.0s						
PRP	Porcupine Dome	106.65	22	P	Pdif	13 04 02.4	+1.2
	baz=296						
BRSE	Bradley Lake S	106.66	29	P	Pdif	13 04 01.8	+0.6
	baz=290						
RC01	Rabbit Creek A	106.67	27	P	Pdif	13 04 01.7	+0.5
	baz=291						
PMR	Palmer	106.76	27	P	Pdif	13 04 01.2	-0.4
	baz=292						
O22K	Cooper Landing	106.89	28	IAMs_20	IAMs_20	13 54 41.4	
	comp=Z,268µm,21.0s						
O22K	Cooper Landing	106.89	28	P	Pdif	13 04 01.1	-1.1
	baz=291						
DHY	Denali Highway	106.94	25	P	Pdif	13 04 02.6	0.0
	baz=294						
WAT6	Susitna Watana	106.98	25	P	Pdif	13 04 02.6	-0.2
	baz=293						
SML	Sawmill	107.03	26	P	Pdif	13 04 02.8	-0.1
	baz=292						
J25K	Salcha River,	107.10	23	IAMs_20	IAMs_20	13 53 52.3	
	comp=Z,346µm,22.0s						
J25K	Salcha River,	107.10	23	P	Pdif	13 04 03.3	+0.1
	baz=296						
KNK	Knik Glacier	107.12	27	P	Pdif	13 04 05.3	+2.0
	baz=292						
SEW	Seward	107.15	28	P	Pdif	13 04 05.2	+1.9
	baz=291						
PWL	Port Wells	107.39	27	P	Pdif	13 04 05.6	+1.2
	baz=292						
SCM	Sheep Creek Mo	107.46	26	P	Pdif	13 04 06.5	+1.7
	baz=293						
RIDG	Independent Ri	107.69	24	P	Pdif	13 04 06.2	+0.4
	baz=296						
PAX	Paxson	107.78	24	P	Pdif	13 04 06.0	-0.3
	baz=295						
TULEG	Thule	107.83	356	IAMs_20	IAMs_20	14 00 49.3	
	comp=Z,183µm,20.0s						
M24K	Tolsona, Glenn	107.84	25	P	Pdif	13 04 07.9	+1.4
	baz=294						
J26L	Joseph Creek	107.85	23	P	Pdif	13 04 08.3	+1.8
	baz=298						
SCRK	Sand Creek	107.93	23	IAMs_20	IAMs_20	13 54 28.1	
	comp=Z,298µm,22.0s						
SCRK	Sand Creek	107.93	23	P	Pdif	13 04 08.5	+1.5
	baz=297						
GLI	Glacier Island	107.94	27	P	Pdif	13 04 07.4	+0.5
	baz=293						
HARP	HAARP	108.15	25	P	Pdif	13 04 08.1	+0.3
	baz=296						
HOPE	Hope Point	108.20	208	IAMs_20	IAMs_20	13 44 22.9	
	comp=Z,221µm,20.0s						
KLU	Klutina	108.21	26	P	Pdif	13 04 08.6	+0.4
	baz=295						
L26K	Log Cabin Wild	108.62	24	P	Pdif	13 04 10.1	+0.2
	baz=298						
EGAK	Eagle	108.62	22	P	Pdif	13 04 09.4	-0.5
	baz=300						
PMSA	Palmer Station	108.65	190	PP	PP	13 08 39.4	-0.9
	comp=Z,68nm,1.1s,baz=87,slow=5.1,SNR=2.4						
PMSA	Palmer Station	108.65	190	IAMs_20	IAMs_20	13 55 57.1	
	comp=Z,239µm,18.0s						
A36M	Sachs Harbour	108.67	12	P	Pdif	13 04 09.7	-0.2
	baz=318,SNR=13						
EYAK	Cordova Ski Ar	108.68	27	P	Pdif	13 04 13.5	+3.4
	baz=294						
N25K	Chitina, Valde	108.73	26	P	Pdif	13 04 09.5	-1.0
	baz=296						
BMRM	Bremner River	109.01	26	P	Pdif	13 04 12.3	+0.6
	baz=296						
INK	Inuvik	109.15	17	P	Pdif	13 04 13.9	+1.9
	baz=309						
L27K	Beaver Creek,	109.21	24	IAMs_20	IAMs_20	13 57 56.1	
	comp=Z,269µm,21.0s						
L27K	Beaver Creek,	109.21	24	P	Pdif	13 04 13.1	+0.6
	baz=299						
RAGM	Ragged Mountai	109.23	27	IAMs_20	IAMs_20	13 56 56.3	
	comp=Z,279µm,19.0s						
I29M	Ogilvie Camp,	109.35	21	P	Pdif	13 04 13.8	+0.8
	baz=303						
HMT	Hamilton	109.44	27	IAMs_20	IAMs_20	13 57 02.8	
	comp=Z,261µm,20.0s						
MCARA	McCarthy VSAT	109.51	25	P	Pdif	13 04 15.5	+1.7
	baz=297						
M27K	Edge Creek, AK	109.53	24	P	Pdif	13 04 14.6	+0.5
	baz=299						
DAWY	Dawson	109.65	22	P	Pdif	13 04 16.2	+1.7
	baz=302						
BERG	Berg Lake	109.66	27	IAMs_20	IAMs_20	13 51 44.2	
	comp=Z,262µm,22.0s						
J29M	Klondike Camp	109.88	21	P	Pdif	13 04 16.2	+0.7
	baz=303						
PMPST	Porto Santo, M	109.90	303	*e*P	Pdif	13 04 32.4	+16
PMPST	Porto Santo, M	109.90	303	*e*PP	PP	13 08 50.6	-0.4
PMPS	Porto Santo	109.90	303	*e*PP	PP	13 08 51.0	0.0
BVCY	Beaver Creek	109.92	24	P	Pdif	13 04 15.8	+0.1
	baz=300						
WAX	Waxell Ridge	110.01	26	IAMs_20	IAMs_20	13 53 52.4	
	comp=Z,262µm,20.0s						
YUK3	Moose Creek	110.40	24	P	Pdif	13 04 17.2	-0.9
	baz=300						
CTG	Chitna Glacier	110.43	25	P	Pdif	13 04 17.7	-0.4
	baz=299						
PMOZ	Porto Moniz, M	110.65	303	*e*PP	PP	13 08 56.0	-0.6
PMOZ	Porto Moniz, M	110.65	303	*e*SS	SS	13 24 44.3	+19
PMOZ	Porto Moniz, M	110.65	303	*e*LQ	LQ	13 35 33.8	
PMOZ				*e*LR	LR	13 42 20.2	
	comp=Z,166µm,18.0s						
ANGG	Ammassalik, Gr	110.71	341	IAMs_20	IAMs_20	13 59 40.1	
	comp=Z,197µm,20.0s						
C36M	Paulatuk	110.92	14	P	Pdif	13 04 19.9	+0.1
	baz=319						
MAYO	Mayo, Yukon	111.20	22	P	Pdif	13 04 22.3	+1.0
	baz=305						
PINM	Pinnacle	111.32	26	P	Pdif	13 04 18.6	-3.5
	baz=300						
YUK4	Talbot Arm	111.37	24	P	Pdif	13 04 23.1	+0.7
	baz=302						
M30M	Minto, Yukon	111.44	23	P	Pdif	13 04 24.6	+2.1
	baz=304						
YUK6	Outpost Mounta	111.70	25	P	Pdif	13 04 25.1	+1.2
	baz=302						
ILULI	Ilulissat	111.85	347	IAMs_20	IAMs_20	13 59 30.9	
	comp=Z,301µm,20.0s						
PNL	Peninsula	111.91	26	P	Pdif	13 04 25.5	+0.9
	baz=300						
HYT	Haines Junctio	112.11	25	P	Pdif	13 04 24.1	-1.5
	baz=302						
N31M	Braeburn, Yuko	112.45	23	IAMs_20	IAMs_20	13 59 03.6	
	comp=Z,253µm,19.0s						
N31M	Braeburn, Yuko	112.45	23	P	Pdif	13 04 28.3	+1.3
	baz=304						
M31M	Drury Creek, Y	112.58	22	P	Pdif	13 04 27.2	-0.3
	baz=306						
FARO	Faro, Yukon	112.95	22	P	Pdif	13 04 28.8	-0.4
	baz=307						
PPT2	Papeete2	113.18	111	*e*Pdif	Pdif	13 04 31.9	+0.7
	comp=Z,5µm,28.2s						
PPT2	Papeete2	113.18	111	*e*PP	PP	13 09 10.8	-4.2
	comp=Z,37µm,29.5s						
PPT2				*e*SKSac	SKSac	13 15 06.8	-1.8
	comp=Z,41µm,28.5s						
PPT2				*e*Sdif	SKKSac	13 16 52.9	+37
	comp=Z,104µm,31.8s						
PPT2	Papeete2	113.18	111	*e*PS	PS	13 18 45.2	-6.0
	comp=Z,289µm,38.0s						
PPT2				*e*SS	SS	13 24 59.4	+0.4
	comp=Z,508µm,28.5s						
PPT2	Papeete2	113.18	111	*e*LQ	LQ	13 37 09.9	
	comp=Z,1446µm,36.0s						
PPT2				*e*LR	LR	13 42 11.5	
	comp=Z,311µm,22.0s						
WHY	Whitehorse	113.28	24	P	Pdif	13 04 27.9	-2.9
	baz=305						
MMPY	Sheldon Lake,	113.47	21	P	Pdif	13 04 32.4	+0.9
	baz=309						
SFJD	Kangerlussuaq	113.49	346	*e*P	Pdif	13 04 32.8	+1.4
SKAG	Skagway	113.78	25	P	Pdif	13 04 34.5	+1.6
	baz=304						
P33M	Teslin, Yukon	114.37	24	P	Pdif	13 04 37.9	+2.3
	baz=307						
JIS	Juneau Island	114.85	26	IAMs_20	IAMs_20	14 00 25.3	
	comp=Z,254µm,20.0s						
SIT	Sitka	115.11	27	P	PKiKP	13 08 24.8	-2.8
	baz=303						
TGTN	Hyland Airport	115.26	21	P	PKiKP	13 08 24.4	-3.4
	baz=312						
WRGLY	Wrigley	115.65	18	P	PKiKP	13 08 28.1	-0.3
	baz=318						
WTLY	Watson Lake, Y	116.00	22	P	PKiKP	13 08 27.0	-2.3
	baz=311						
PSMN	Pico do Norte,	116.21	309	*e*Pdif	Pdif	13 04 55.6	+11
PSMN	Pico do Norte,	116.21	309	*e*PP	PP	13 09 32.2	-3.5
PSMN	Pico do Norte,	116.21	309	*e*LQ	LQ	13 38 55.6	
PSMN				*e*LR	LR	13 46 15.3	
	comp=Z,25µm,22.5s						
PSMA	Santa Maria	116.26	309	*e*PP	PP	13 09 35.2	-0.9
NRS	Narsarsuaq	116.28	340	*e*P	Pdif	13 04 47.6	+3.7
CMLA	Cha da Macela	116.36	310	*e*Pdif	Pdif	13 04 57.8	+13
CMLA	Cha da Macela	116.36	310	*e*PP	PP	13 09 30.7	-6.1
CMLA	Cha da Macela	116.36	310	*e*LQ	LQ	13 39 03.4	
CMLA				*e*LR	LR	13 46 30.8	
	comp=Z,13µm,19.3s						
GRON	Grota Negra	116.37	310	*e*PP	PP	13 09 31.5	-5.4
PSET	Sete Cidades	116.50	310	*e*Pdif	Pdif	13 04 54.0	+8.5
PSET	Sete Cidades	116.50	310	*e*PP	PP	13 09 34.8	-3.0
WRAK	Wrangell Islan	116.83	27	P	PKPdf	13 08 30.1	-0.8
	baz=306						
CRAG	Craig	117.02	28	P	PKPdf	13 08 28.9	-2.4
	baz=305						
PAGU	Agualva, Azore	117.34	311	*e*PP	PP	13 09 40.8	-2.8
PAGU	Agualva, Azore	117.34	311	*e*LQ	LQ	13 38 59.5	
PAGU				*e*LR	LR	13 46 07.6	
	comp=Z,17µm,21.4s						
PGRA	Graciosa	117.86	312	*e*Pdif	Pdif	13 05 00.0	+8.5
PGRA	Graciosa	117.86	312	*e*PP	PP	13 09 45.3	-1.9
PGRA	Graciosa	117.86	312	*e*LQ	LQ	13 39 24.7	
PGRA				*e*LR	LR	13 45 57.9	
	comp=Z,14µm,18.6s						
PMAN	Manadas	118.06	311	*e*PP	PP	13 09 45.6	-3.0
ROSA	Rosais	118.15	312	*e*Pdif	Pdif	13 05 01.8	+9.0
ROSA	Rosais	118.15	312	*e*PP	PP	13 09 38.2	-11
ROSA	Rosais	118.15	312	*e*LQ	LQ	13 39 34.4	
ROSA				*e*LR	LR	13 46 09.5	
	comp=Z,26µm,20.7s						
PPNO	Prainha do Nor	118.24	311	*e*PP	PP	13 09 46.7	-3.2
PICO	Pico	118.35	311	*e*Pdif	Pdif	13 04 58.7	+4.9
PICO	Pico	118.35	311	*e*PP	PP	13 09 44.5	-6.2
PICO	Pico	118.35	311	*e*LQ	LQ	13 39 28.6	
PICO				*e*LR	LR	13 46 07.6	
	comp=Z,13µm,15.2s						
PCAN	Candelaria	118.41	311	*e*PP	PP	13 09 52.7	+1.7
PCED	Cedros	118.52	312	*e*PP	PP	13 09 45.6	-6.1
CALA	Caldeira	118.53	312	*e*Pdif	Pdif	13 04 55.3	+0.7
CALA	Caldeira	118.53	312	*e*PP	PP	13 09 53.1	+1.2
H02S1	DAWSON INLET T	118.61	30	PKP	PKPdf	13 08 33.5	-0.9
YKA	Yellowknife Ar	118.73	15	PKP	PKPdf	13 08 33.9	-0.5
	comp=Z,13nm,0.9s,baz=330,slow=2.0,SNR=8.5						
YKA				PKKPbc	PKKPbc	13 18 48.1	-4.5
	comp=Z,5.1nm,0.6s,baz=147,slow=3.8,SNR=15						
YKA				SKKPbc	SKKPbc	13 22 39.5	+0.2
	comp=Z,4.4nm,0.8s,baz=144,slow=2.5,SNR=3.9						
YKA				P5KP		13 47 47.1	
	comp=Z,0.4nm,0.8s,baz=325,slow=4.9,SNR=4.5						
USHA	Ushuaia	118.74	191	PKP	PKiKP	13 08 34.9	+0.1
	comp=Z,23nm,0.8s,baz=108,slow=1.9,SNR=3.2						
USHA				PP	PP	13 09 55.7	+3.8
	comp=Z,32nm,0.9s,baz=89,slow=2.9,SNR=1.3						
EFI	East Falkland	118.86	199	PKIKP	PKPdf	13 08 32.6	-2.4
EFI	East Falkland	118.86	199		PKPdf	13 08 32.6	-2.4
H07N1	FLORES T-PHASE	119.95	313	PKP	PKPdf	13 08 36.8	-0.7
H07S1	FLORES T-PHASE	120.12	313	PKP	PKPdf	13 08 34.9	-2.9
H07S1	FLORES T-PHASE	120.12	313	*e*Pdif	Pdif	13 04 59.3	-2.3
TAOE	Nuku Hiva Isla	124.07	104	*e*PP	PP	13 10 29.0	-1.5
	comp=Z,20µm,26.4s						
TAOE	Nuku Hiva Isla	124.07	104	*e*SS	SS	13 27 15.9	-4.5
	comp=Z,207µm,32.2s						
TAOE	Nuku Hiva Isla	124.07	104	*e*LQ	LQ	13 41 41.8	
	comp=Z,289µm,32.9s						
TAOE				*e*LR	LR	13 47 10.5	
	comp=Z,305µm,32.1s						
FCC	Fort Churchill	125.91	5	PKIKP	PKPdf	13 08 45.7	-2.6
FCC	Fort Churchill	125.91	5	PKPdf	PKPdf	13 08 45.7	-2.6
A04D	Lummi Island	126.23	30	P	PKPdf	13 08 47.5	-1.7
	baz=312						
EDM	Edmonton	126.80	20	PKIKP	PKPdf	13 08 48.0	-2.2
EDM	Edmonton	126.80	20	PKPdf	PKPdf	13 08 48.0	-2.2
D03D	Eldon	126.83	31	P	PKPdf	13 08 49.4	-1.0
	baz=311,SNR=15						
B05A	Bryant	126.84	30	P	PKPdf	13 08 48.8	-1.6
	baz=313,SNR=19						
D04E	Lakebay	127.23	31	P	PKPdf	13 08 50.4	-0.7
	baz=311						
PTCN	Pitcairn Islan	127.61	127	IAMs_20	IAMs_20	13 56 58.8	
	comp=Z,210µm,22.0s						
C06D	Leavenworth	127.66	29	P	PKPdf	13 08 49.9	-2.2
	baz=314						
E04D	Cinebar	127.74	32	P	PKPdf	13 08 50.4	-1.8
	baz=311,SNR=5.8						
NBRF	Rio Formoso -	127.75	255	*e*P	PKPdf	13 08 52.7	-0.4
F04D	Rainier, OR	127.81	32	P	PKPdf	13 08 49.2	-3.2
	baz=310						
SCHQ	Schefferville	127.94	346	PKP	PKPdf	13 08 52.4	0.0
	comp=Z,22nm,0.8s,baz=62,slow=4.2,SNR=16						
SCHQ				PP	PP	13 10 53.1	-1.0
	comp=Z,49nm,1.1s,baz=55,slow=2.1,SNR=1.9						
SCHQ				SKKPbc	SKKPbc	13 22 03.2	-5.2
	comp=Z,21nm,1.0s,baz=104,slow=1.6,SNR=3.7						
SCHQ	Schefferville	127.94	346	PKPdf	PKPdf	13 08 50.5	-1.8
G03D	McMinnville, O	128.24	33	P	PKPdf	13 08 50.3	-2.9
	baz=310						
COYC	Coyhaique	128.27	192	PKPdf	PKPdf	13 08 51.0	-2.2
NBPV	Pedro Velho	128.38	258	*e*P	PKPdf	13 08 54.2	-0.2
I02E	Swisshome, OR	128.60	35	P	PKPdf	13 08 51.5	-2.4
	baz=308						
NBAN	Anadia - AL	128.62	254	*e*P	PKPdf	13 08 55.1	+0.3
FFC	Flin Flon	128.63	12	PKIKP	PKPdf	13 08 52.8	-0.9
FFC	Flin Flon	128.63	12	PKPdf	PKPdf	13 08 52.8	-0.9
FFC	Flin Flon	128.63	12	IAMs_20	IAMs_20	14 14 54.9	
	comp=Z,157µm,18.0s						
F05D	White Salmon	128.76	32	P	PKPdf	13 08 52.8	-1.4
	baz=312						
H04D	Lebanon	128.96	34	P	PKPdf	13 08 53.8	-0.8
	baz=310,SNR=18						
ALF01	Guarapari-ES	129.04	239	*e*P	PKiKP	13 08 56.2	+0.1
RCBR	Riachuelo	129.09	258	PKP	PKPdf	13 08 54.7	-1.1
	comp=Z,70nm,1.1s,baz=280,slow=3.1,SNR=8.6						
RCBR	Riachuelo	129.09	258	IAMs_20	IAMs_20	13 58 15.3	
	comp=Z,152µm,21.0s						
RCBR	Riachuelo	129.09	258	*e*P	PKPdf	13 08 55.4	-0.4
J01E	Myrtle Point	129.13	36	P	PKPdf	13 08 53.6	-1.3
	baz=308						
I03D	Drain, OR	129.14	35	P	PKPdf	13 08 54.2	-0.8
	baz=308,SNR=13						
NEW	Newport	129.18	27	IAMs_20	IAMs_20	14 10 07.4	
	comp=Z,150µm,20.0s						
NEW	Newport	129.18	27	P	PKPdf	13 08 53.9	-1.1
	baz=318,SNR=15						
G05D	Wamic, OR	129.26	32	P	PKPdf	13 08 52.7	-2.5
	baz=312						
RIB01	Linhares ES	129.29	240	*e*P	PKPdf	13 08 55.9	0.0
CAM01	Campos-RJ	129.31	237	*e*P	PKPdf	13 08 56.1	+0.3
K02D	Willamette Mer	129.57	36	P	PKPdf	13 08 52.8	-3.2
	baz=308						
I04A	Tendick Farm,	129.61	34	P	PKPdf	13 08 53.8	-2.1
	baz=310						
NBLA	Lagarto - SE	129.72	251	*e*P	PKPdf	13 08 57.1	+0.2
NBLV	Livramento - P	129.77	256	*e*P	PKiKP	13 08 57.7	-0.2
DUB01	Friburgo-RJ	129.78	236	*e*P	PKPdf	13 08 56.5	-0.4
GUA01	Guaratinga, BA	129.81	244	*e*P	PKPdf	13 08 56.2	-0.8
I05D	Terrebonne, OR	129.85	33	P	PKPdf	13 08 54.4	-1.9
	baz=311						
L02E	Cave Junction	129.94	37	P	PKPdf	13 08 55.3	-1.2
	baz=307						
CMC01	Camacan, BA	129.98	245	*e*P	PKPdf	13 08 57.1	-0.2
HUMO	Hull Mountain	130.04	36		PKPdf	13 08 55.0	-1.8
NBIT	Itapeh - BA	130.05	246	*e*P	PKPdf	13 08 57.4	-0.1
J04D	Umpqua Nationa	130.13	35	PKPdf	PKPdf	13 08 55.4	-1.7
J04D	Umpqua Nationa	130.13	35	P	PKPdf	13 08 55.5	-1.7
	baz=310						
SJMB	Sao Joao De Ma	130.22	241	*e*P	PKiKP	13 08 58.2	-0.3
VAS01	Vassouras-RJ	130.57	235	*e*P	PKiKP	13 08 59.1	-0.1
GDU01	Guandu, BA	130.57	247	*e*P	PKPdf	13 08 58.1	-0.3
J05D	Fort Rock, OR	130.59	34	P	PKPdf	13 08 56.5	-1.4
	baz=310						
L04D	Klamath Falls	130.66	36	P	PKPdf	13 08 55.8	-2.3
	baz=309						
MAN01	Angra dos Reis	130.72	234	*e*P	PKPdf	13 08 58.2	-0.4
K04D	Chiloquin, OR	130.72	35	P	PKPdf	13 08 56.2	-2.0
	baz=310						
YBH	Yreka Blue Hor	130.72	36	PP	PP	13 11 15.0	+1.9
	comp=Z,22nm,1.1s,baz=33,slow=5.6,SNR=1.6						
M02C	Callahan	130.84	37	P	PKPdf	13 08 57.6	-0.8
	baz=308,SNR=22						
N02D	Trinity Center	131.19	37	P	PKPdf	13 08 58.2	-0.8
	baz=307,SNR=20						
M04C	Macdoel	131.20	36	P	PKPdf	13 08 57.9	-1.2
	baz=309,SNR=12						
TER01	Tubaro-SC	131.54	225	*e*P	PKPdf	13 09 00.3	+0.2
NBMA	Muriti-CE	131.55	256	*e*P	PKPdf	13 09 00.8	+0.3
O02D	Mt. Diablo Mer	131.61	38	P	PKPdf	13 08 59.2	-0.7
	baz=307,SNR=22						
MSO	Missoula	131.68	26	P	PKPdf	13 08 59.5	-0.3
	baz=321						
NBCL	Cascavel-CE	131.73	260	*e*P	PKPdf	13 09 00.3	-0.5
PARB	Paraibuna	131.81	233	*e*P	PKPdf	13 09 00.8	+0.1
NBPN	Ponto Novo - B	132.03	251	*e*P	PKiKP	13 09 01.9	-0.4
O03E	Paynes Creek	132.15	37	P	PKPdf	13 08 59.9	-1.0
	baz=308						
BSCB	Bom Sucesso	132.26	236	*e*P	PKPdf	13 09 01.6	0.0
PLTB	Pedras Altas	132.38	218	PKPdf	PKPdf	13 08 59.4	-2.1
PLTB	Pedras Altas	132.38	218	*e*P	PKPdf	13 09 01.7	+0.2
EGMT	Eagleton	132.39	22	P	PKPdf	13 09 00.7	-0.4
	baz=327						
LPA	La Plata	132.51	211	PKIKP	PKiKP	13 09 02.5	-0.2
LPA				PP	PP	13 11 26.1	+1.9
LPA				pPP		13 11 35.5	
LPA				SKP		13 12 19.4	
LPA				SKIKP		13 12 32.4	
LPA				PPP	PPP	13 14 12.7	
LPA				SKIKS		13 15 58.1	
LPA				SDIFF		13 19 43.8	
LPA				PS	PS	13 21 37.7	-3.7
LPA				PSP	PSP	13 23 25.3	
LPA				SS	SS	13 29 03.8	+2.0
LPA				SSS	SSS	13 33 58.1	
LPA				SSS	SSS	13 54 17.6	
DIAM	Diamantina, MG	132.53	240	*e*P	PKPdf	13 09 01.7	-0.6
PET01	Itanhaem-SP	132.61	230	*e*P	PKPdf	13 09 01.7	-0.4
NBPB	Pedra_Branca-C	132.74	258	*e*P	PKPdf	13 09 01.9	-0.7
VAO	Valinhos	133.04	232	*e*P	PKPdf	13 09 02.9	-0.2
TIJ01	Guaruva-PR	133.34	228	*e*P	PKPdf	13 09 04.0	+0.4
DLMT	Dillon	133.40	26		PKPdf	13 09 00.0	-3.2
NBMO	Morrinhos-CE	133.61	261	*e*P	PKPdf	13 09 04.3	0.0
BOZ	Bozeman (W)	133.63	25	P	PKPdf	13 09 00.8	-2.9
	baz=323						
RCLB	Rio Claro- Sao	133.79	232	*e*P	PKPdf	13 09 04.3	-0.2
DGMT	Dagmar	133.84	17	P	PKPdf	13 09 03.1	-0.7
	baz=334,SNR=6.9						
HLID	Hailey	133.95	29	P	PKPdf	13 09 01.4	-3.0
	baz=318						
ULM	Lac du Bonnet	134.03	9	PKhKP	PKPpre	13 08 55.4	
	comp=Z,4.9nm,0.7s,baz=315,slow=2.7,SNR=6.3						
ULM				PKP	PKPdf	13 09 04.4	+0.4
	comp=Z,51nm,1.0s,baz=341,slow=2.8,SNR=20						
ULM				PP	PP	13 11 37.7	+4.3
	comp=Z,33nm,1.0s,baz=319,slow=4.4,SNR=1.5						
ULM				SKKPbc	SKKPbc	13 21 35.5	-11
	comp=Z,28nm,1.1s,baz=161,slow=4.5,SNR=4.1						
ULM	Lac du Bonnet	134.03	9	PKIKP	PKPdf	13 09 03.1	-0.9
ULM	Lac du Bonnet	134.03	9	PKPdf	PKPdf	13 09 03.1	-0.9
JANB	Januaria	134.40	243	*e*P	PKiKP	13 09 07.7	+0.6
ITAB	Concordia	134.43	224	*e*P	PKPdf	13 09 06.0	+0.5
LAO	LASA Array	134.78	20	P	PKPdf	13 09 02.7	-2.9
	baz=331,SNR=14						
NBPS	Pedro II - PI	134.79	259	*e*P	PKiKP	13 09 07.7	-0.3
FRTB	Fartura	134.88	230	*e*P	PKPdf	13 09 06.8	+0.4
RLMT	Red Lodge	134.99	24	P	PKPdf	13 09 03.4	-2.9
	baz=326						
H17A	Grant Village	135.04	25	P	PKPdf	13 09 00.5	-6.0
	baz=324						
BB19B	Bebedouro	135.28	233	*e*P	PKPdf	13 09 07.5	+0.2
NVAR	Mina Array Bea	135.42	37	PKhKP	PKPpre	13 08 55.1	
	comp=Z,3.1nm,0.8s,baz=303,slow=2.2,SNR=6.1						
NVAR				SKKPbc	SKKPbc	13 21 43.7	+2.7
	comp=Z,17nm,1.1s,baz=129,slow=4.3,SNR=4.3						
MDND	Maddock	135.61	13	P	PKPdf	13 09 05.4	-1.7
	baz=340						
MLAC	Mammoth, Mammo	135.61	38	P	PKPdf	13 09 05.2	-2.5
	baz=309						
PQI	Presque Isle	135.67	343	IAMs_20	IAMs_20	14 18 17.9	
	comp=Z,201µm,20.0s						
ITQB	Itaqui	135.69	217	*e*P	PKPdf	13 09 08.0	+0.2
SDBA	SAO DESIDERIO	135.90	247	*e*P	PKPdf	13 09 08.0	-0.6
AGMN	Agassiz Nation	135.92	10	IAMs_20	IAMs_20	14 11 27.6	
	comp=Z,192µm,22.0s						

AGMN	Agassiz Nation	135.92	10	P	PKPdf	13 09 06.4	-1.2
	baz=346						
PTGB	Pitanga	135.94	226	eP	PKPdf	13 09 08.8	+0.4
VOG	Valley Oaks Go	136.07	40	P	PKPdf	13 09 05.4	-2.9
	baz=307						
SMMC	Simmler	136.27	42	P	PKPdf	13 09 06.4	-2.3
	baz=306						
TIN	Tinemaha, Big	136.35	38	P	PKPdf	13 09 07.4	-1.5
	baz=309						
VES	Vestal, Richgr	136.55	40	P	PKPdf	13 09 05.1	-4.0
	baz=307						
PKM	Mcpherson Peak	136.64	42	P	PKPdf	13 09 05.9	-3.8
	baz=306						
BW06	Boulder Array	136.79	26	P	PKPdf	13 09 04.9	-4.8
	baz=324						
PDAR	Pinedale Array	136.79	26	PKhKP	PKPpre	13 09 03.6	
	comp=Z,3.9nm,0.8s,baz=328,slow=3.9,SNR=6.4						
CWC	Cottonwood Cre	136.83	39	P	PKPdf	13 09 05.6	-4.3
	baz=309						
EYMN	Ely	136.85	6	P	PKPdf	13 09 07.4	-2.0
	baz=352,SNR=12						
GRAC	Grapevine Rang	136.91	38	P	PKPdf	13 09 08.7	-1.1
	baz=310						
BI05	Punta Hualpn	136.92	195	eP	PKPdf	13 09 07.3	-2.5
SBC	Santa Barbara	136.96	43	P	PKPdf	13 09 08.4	-1.5
	baz=306						
ISA	Isabella, Lake	137.06	40	PKIKP	PKPdf	13 09 06.7	-3.5
ISA	Isabella, Lake	137.06	40	PKPdf	PKPdf	13 09 06.7	-3.5
ISA	Isabella, Lake	137.06	40	P	PKPdf	13 09 07.2	-3.0
	baz=308						
R11A	Troy Canyon, C	137.07	35	P	PKPdf	13 09 08.0	-2.3
	baz=313						
PCMB	Pacaembu	137.14	231	eP	PKPdf	13 09 10.9	+0.2
ARVC	Arvin	137.15	41	P	PKPdf	13 09 05.5	-4.8
	baz=307,SNR=8.1						
EMMW	East Machias	137.25	341	IAMs_20	IAMs_20	14 18 01.8	
	comp=Z,229µm,21.0s						
DUG	Dugway, Tooele	137.26	31	P	PKPdf	13 09 08.3	-2.2
	baz=318						
PKME	Peaks-Kenny Pk	137.32	343	P	PKPdf	13 09 08.0	-2.2
	baz=25						
BDFB	Brasilia	137.42	241	PKhKP	PKPpre	13 09 04.4	
	comp=Z,6.0nm,0.6s,baz=112,slow=10,SNR=6.5						
MPMC	Manual Prospec	137.44	39	P	PKPdf	13 09 08.6	-2.5
	baz=309						
ITRB	Iturama	137.45	234	eP	PKPdf	13 09 11.6	+0.3
OSI	Osito Audit: C	137.53	42	P	PKPdf	13 09 08.6	-2.5
	baz=307						
FURC	Furnace Creek,	137.56	38	P	PKPdf	13 09 06.3	-4.6
	baz=310						
TPNV	Topopah Spring	137.62	37	P	PKPdf	13 09 07.0	-4.3
	baz=312						
LRMC	Laurel Mtn Rad	137.68	40	P	PKPdf	13 09 09.2	-2.3
	baz=309						
ROSB	Rosrio	137.70	260	eP	PKiKP	13 09 12.9	-0.9
RSSD	Black Hills	137.77	20	IAMs_20	IAMs_20	14 11 01.0	
	comp=Z,185µm,21.0s						
RSSD	Black Hills	137.77	20	P	PKPdf	13 09 08.2	-3.3
	baz=332						
SNCC	San Nicolas Is	137.78	44	P	PKPdf	13 09 09.2	-2.3
	baz=305						
EDW2	Edwards Air Fo	137.84	41	P	PKPdf	13 09 07.6	-4.1
	baz=308,SNR=8.0						
DECC	Green Verdugo	138.00	42	P	PKPdf	13 09 08.3	-3.6
	baz=307						
WVL	Waterville	138.06	343	IAMs_20	IAMs_20	14 17 06.3	
	comp=Z,213µm,20.0s						
K22A	Casper	138.14	23	P	PKPdf	13 09 07.9	-4.2
	baz=328,SNR=8.1						
FMP	Fort Macarthur	138.34	42	P	PKPdf	13 09 07.8	-4.7
	baz=306						
GSC	Goldstone, Bar	138.34	39	PKIKP	PKPdf	13 09 08.9	-3.7
GSC	Goldstone, Bar	138.34	39	PKPdf	PKPdf	13 09 08.9	-3.7
GSC	Goldstone, Bar	138.34	39	P	PKPdf	13 09 09.5	-3.1
	baz=310						
CIS	Catalina Islan	138.45	43	P	PKPdf	13 09 09.9	-2.9
	baz=306						
CPUP	Villa Florida	138.49	220	PKhKP	PKPpre	13 09 03.7	
	comp=Z,6.4nm,0.8s,baz=124,slow=2.1,SNR=7.4						
CPUP	Villa Florida	138.49	220	eP	PKPdf	13 09 13.8	+0.8
RRX	Edison Barstow	138.49	40	P	PKPdf	13 09 10.1	-2.7
	baz=309						
SCI2	San Clemente I	138.60	44	P	PKPdf	13 09 08.3	-4.7
	baz=306						
BO04	La Punta	138.74	199	eP	PKPdf	13 09 10.4	-3.0
TUQ	Turquoise Moun	138.81	39	P	PKPdf	13 09 10.9	-2.6
	baz=311						
BBRC	Big Bear Solar	138.92	41	P	PKPdf	13 09 11.4	-2.5
	baz=308						
HEC	Hector,Ludlow	138.94	40	P	PKPdf	13 09 11.2	-2.6
	baz=310						
SUSD	Miller	138.96	14	P	PKPdf	13 09 11.4	-2.0
	baz=340						
LBNH	Lisbon	138.99	345	IAMs_20	IAMs_20	14 13 35.7	
	comp=Z,172µm,22.0s						
LBNH	Lisbon	138.99	345	P	PKPdf	13 09 11.3	-2.2
	baz=21						
PEXB	Peixe	139.10	245	eP	PKPdf	13 09 15.2	+0.8
VT1	Waterbury	139.12	346	IAMs_20	IAMs_20	14 20 20.1	
	comp=Z,199µm,21.0s						
MURC	Murrieta	139.15	42	P	PKPdf	13 09 10.3	-3.8
	baz=308						
LONY	Lake Ozonia	139.26	348	IAMs_20	IAMs_20	14 14 21.6	
	comp=Z,186µm,22.0s						
LONY	Lake Ozonia	139.26	348	P	PKPdf	13 09 08.4	-5.5
	baz=17						
SPMN	Marine on St.	139.38	8	P	PKPdf	13 09 08.6	-5.5
	baz=349						
GMRC	Granite Mounta	139.40	39	P	PKPdf	13 09 11.3	-3.3
	baz=310,SNR=12						
O20A	White River Ci	139.50	27	P	PKPdf	13 09 11.3	-3.5
	baz=324						
SMTB	Santa Maria do	139.57	250	eP	PKPdf	13 09 15.6	+0.3
HNH	Hanover	139.59	345	IAMs_20	IAMs_20	14 20 50.3	
	comp=Z,190µm,22.0s						
PFO	Pinyon Flats O	139.62	41	P	PKPdf	13 09 11.4	-3.7
	baz=308						
TPFO	Pinon Flats	139.63	41	P	PKPdf	13 09 11.6	-3.5
	baz=308						
109C	Camp Elliot, M	139.63	43	P	PKPdf	13 09 11.6	-3.3
	baz=307						
FFD	Franklin Falls	139.64	344	IAMs_20	IAMs_20	14 16 20.7	
	comp=Z,153µm,20.0s						
BELC	Belle Mtn. Jos	139.68	40	P	PKPdf	13 09 12.5	-2.7
	baz=309,SNR=6.6						
PHWY	Pilot Hill	139.71	23	IAMs_20	IAMs_20	14 13 21.5	
	comp=Z,175µm,22.0s						
N23A	Red Feather La	139.86	24	P	PKPdf	13 09 13.3	-2.2
	baz=328						
SADO	Sadowa	139.89	353	PKhKP	PKPpre	13 09 10.2	
	comp=Z,46nm,1.1s,baz=5.8,slow=1.0,SNR=2.3						
SADO				PP	PP	13 12 09.6	-0.4
	comp=Z,36nm,0.9s,baz=280,slow=4.2,SNR=1.4						
SADO	Sadowa	139.89	353	PKPdf	PKPdf	13 09 12.1	-2.9
NEE2	Needles Airpor	140.06	38	P	PKPdf	13 09 13.6	-2.0
	baz=312						
MONP2	Monument Peak	140.09	42	P	PKPdf	13 09 13.0	-3.1
	baz=308,SNR=8.1						
IRM	Iron Mountain	140.13	39	P	PKPdf	13 09 12.6	-3.2
	baz=310,SNR=12						
ECSD	EROS Data Cent	140.17	12	P	PKPdf	13 09 14.1	-1.5
	baz=343,SNR=15						
GLMI	Grayling	140.24	359	IAMs_20	IAMs_20	14 20 43.2	
	comp=Z,196µm,20.0s						
GLMI	Grayling	140.24	359	P	PKPdf	13 09 13.1	-2.6
	baz=1.8						
BC3	Big Chuckawall	140.25	40	P	PKPdf	13 09 13.3	-2.8
	baz=310,SNR=10						
IKP	In-Ko-Pah, Jac	140.45	42	P	PKPdf	13 09 12.8	-3.7
	baz=308,SNR=12						
SWSC	Sam W. Stewart	140.47	41	P	PKPdf	13 09 13.9	-2.5
	baz=309,SNR=6.2						
HRV	Adam Dziewonsk	140.50	343	IAMs_20	IAMs_20	14 21 26.7	
	comp=Z,204µm,21.0s						
HRV	Adam Dziewonsk	140.50	343	P	PKPpre	13 09 10.4	
	baz=22						
BCX	Boston College	140.55	343	IAMs_20	IAMs_20	14 15 43.9	
	comp=Z,205µm,22.0s						
ARAG	Araguaiana, MT	140.65	238	eP	PKPdf	13 09 17.4	+0.2
PDMCI	Parker Dam,Lak	140.66	38	P	PKPdf	13 09 15.4	-1.3
	baz=312						
TRY	Troy	140.85	346	IAMs_20	IAMs_20	14 15 43.6	
	comp=Z,180µm,22.0s						
SMCO	Snowmass	140.85	26	IAMs_20	IAMs_20	14 25 06.7	
	comp=Z,137µm,20.0s						
L61B	Northampton	140.86	345	IAMs_20	IAMs_20	13 52 21.1	
	comp=Z,220µm,22.0s						
H03S1	Juan Fernandez	140.91	189	PKP	PKPdf	13 09 15.7	-1.2
	baz=241						
H03S2	Juan Fernandez	140.92	189	PKP	PKPdf	13 09 15.6	-1.2
	baz=241						
ISCO	Idaho Springs	140.92	25	P	PKPdf	13 09 14.9	-2.5
	baz=328						
H03S3	Juan Fernandez	140.93	189	PKP	PKPdf	13 09 15.7	-1.2
	baz=241						
QUA2	Belchertown	140.93	344	IAMs_20	IAMs_20	14 17 17.0	
	comp=Z,190µm,22.0s						
BRYW	Bryant College	141.04	343	IAMs_20	IAMs_20	14 21 42.9	
	comp=Z,203µm,22.0s						
GLA	Glamis	141.04	40	P	PKPpre	13 09 11.3	
	baz=310						
M65A	Busby, Falmout	141.10	342	IAMs_20	IAMs_20	14 16 57.6	
	comp=Z,207µm,21.0s						
M65A	Busby, Falmout	141.10	342	P	PKPdf	13 09 14.6	-2.6
	baz=24						
AQDB	Aquidauana	141.17	228	eP	PKPdf	13 09 17.9	-0.1
OGNE	Ogallala	141.27	20	IAMs_20	IAMs_20	14 20 56.7	
	comp=Z,190µm,19.0s						
OGNE	Ogallala	141.27	20	P	PKPpre	13 09 12.0	
	baz=334						
H03N3	Juan Fernandez	141.29	189	PKP	PKPdf	13 09 14.1	-3.5
	baz=123,slow=74						
H03N1	Juan Fernandez	141.30	189	PKP	PKPdf	13 09 14.2	-3.4
	baz=123,slow=74						
H03N2	Juan Fernandez	141.31	189	PKP	PKPdf	13 09 14.1	-3.5
	baz=123						
CO02	Combarbal	141.42	200	eP	PKPdf	13 09 10.1	-8.3
WUAZ	Wupatki	141.46	34	P	PKPdf	13 09 12.9	-5.5
	baz=316,SNR=12						
TMAB	Tom-Au,PA,Br	141.69	260	eP	PKPdf	13 09 17.3	-1.8
MVCO	Mesa Verde	141.71	30	P	PKPdf	13 09 13.8	-5.1
	baz=322,SNR=16						
Q24A	Divide	141.81	25	P	PKPdf	13 09 15.7	-3.4
	baz=328,SNR=11						
SNDB	Serra Nova Dou	141.85	244	eP	PKPdf	13 09 19.7	+0.3
BINY	Binghamton	141.87	348	IAMs_20	IAMs_20	14 24 22.7	
	comp=Z,172µm,20.0s						
BINY	Binghamton	141.87	348	P	PKPpre	13 09 13.5	
	baz=16						
JFWS	Jewell Farm	141.95	5	P	PKPpre	13 09 10.1	
	baz=353,SNR=11						
YLE	Yale	141.99	344	IAMs_20	IAMs_20	14 16 48.0	
	comp=Z,140µm,22.0s						
BGNE	Belgrade	142.01	15	P	PKPdf	13 09 14.2	-4.8
	baz=340,SNR=12						
S22A	4UR Ranch, Cre	142.08	28	P	PKPdf	13 09 14.0	-5.6
	baz=324,SNR=11						
PP1B	Ponte de Pedra	142.19	233	eP	PKPdf	13 09 20.0	0.0
WSPT	Westport, CT	142.23	345	IAMs_20	IAMs_20	14 25 22.3	
	comp=Z,160µm,19.0s						
SFX	San Felipe	142.28	43	PKPdf	PKPdf	13 09 16.8	-2.9
PRPB	Parauapebas	142.47	253	eP	PKPdf	13 09 20.9	+0.3
PAL	Palisades	142.53	345	IAMs_20	IAMs_20	14 18 24.3	
	comp=Z,155µm,21.0s						
PAL	Palisades	142.53	345	P	PKPdf	13 09 15.6	-4.3
	baz=20						
SCIA	State Center	142.57	9	IAMs_20	IAMs_20	14 10 46.5	
	comp=Z,196µm,22.0s						
SCIA	State Center	142.57	9	P	PKPdf	13 09 14.7	-5.2
	baz=348						
ERPA	Erie	142.61	353	P	PKPdf	13 09 13.9	-6.1
	baz=9.5,SNR=8.9						
W18A	Petrified Fore	142.66	33	P	PKPdf	13 09 16.8	-3.7
	baz=318,SNR=34						
SDCO	Great Sand Dun	142.68	26	P	PKPdf	13 09 17.5	-3.2
	baz=326,SNR=31						
AAM	Ann Arbor	142.73	357	P	PKPdf	13 09 17.9	-2.3
	baz=3.5						
KSCO	Kaye Shedlock’	142.77	22	P	PKPdf	13 09 18.1	-2.5
	baz=332,SNR=14						
L44A	Lake County Fo	142.85	3	P	PKPdf	13 09 17.4	-3.0
	baz=356						
214A	Organ Pipe Nat	143.04	40	P	PKPdf	13 09 20.2	-0.9
	baz=311,SNR=22						
N59A	State Game Lan	143.06	347	IAMs_20	IAMs_20	14 20 49.1	
	comp=Z,176µm,20.0s						
N59A	State Game Lan	143.06	347	P	PKPbc	13 09 17.8	+0.2
	baz=17						
M54A	Oil Creek Stat	143.16	352	P	PKPbc	13 09 17.6	-0.3
	baz=10,SNR=6.1						
LCO	Las Campanas	143.29	202	IAMs_20	IAMs_20	14 09 31.1	
	comp=Z,163µm,20.0s						
M53A	WI Miller and	143.36	354	IAMs_20	IAMs_20	14 20 48.6	
	comp=Z,179µm,20.0s						
M53A	WI Miller and	143.36	354	P	PKPab	13 09 17.0	-0.3
	baz=8.5						
T25A	Trinidad	143.66	26	P	PKPab	13 09 18.8	-0.2
	baz=328,SNR=38						
N54A	Moraine State	143.75	353	P	PKPab	13 09 18.8	0.0
	baz=9.7,SNR=14						
SSPA	Standing Stone	143.75	350		PKPbc	13 09 20.8	+1.2
SSPA	Standing Stone	143.75	350	P	PKPab	13 09 19.0	+0.2
	baz=13						
SALV	Santo Antonio	143.77	235	eP	PKPab	13 09 19.9	+0.3
CBKS	Cedar Bluff	143.95	19	P	PKPab	13 09 19.7	-0.1
	baz=336						
TUC	Tucson	144.07	38	PKIKP	PKPab	13 09 19.9	-0.6
TUC	Tucson	144.07	38		PKPab	13 09 19.9	-0.6
TUC	Tucson	144.07	38	P	PKPab	13 09 20.5	+0.1
	baz=314						
O56A	Blue Knob Stat	144.22	351	IAMs_20	IAMs_20	14 25 34.6	
	comp=Z,150µm,19.0s						
O56A	Blue Knob Stat	144.22	351	P	PKPab	13 09 20.4	-0.3
	baz=12,SNR=56						
HDIL	Hopedale	144.38	5	P	PKPab	13 09 20.6	-0.5
	baz=354						
ANMO	Albuquerque	144.51	30	PKP	PKPab	13 09 22.0	-0.1
	comp=Z,285nm,1.1s,baz=337,slow=2.6,SNR=63						
ANMO	Albuquerque	144.51	30	PKPdf	PKPab	13 09 20.6	-1.5
ANMO	Albuquerque	144.51	30	P	PKPab	13 09 22.1	-0.1
	baz=323						
KSU1	Kansas State U	144.58	15	IAMs_20	IAMs_20	14 26 46.9	
	comp=Z,169µm,20.0s						
KSU1	Kansas State U	144.58	15	P	PKPab	13 09 21.4	-0.6
	baz=341						
O53A	New Philadelph	144.59	354	P	PKPab	13 09 21.5	-0.5
	baz=7.8,SNR=124						
SFIN	Lafayette	144.68	2	P	PKPbc	13 09 22.4	-0.1
	baz=358,SNR=123						
ACSO	Alum Creek Sta	144.76	356	P	PKPab	13 09 22.0	-0.6
	baz=4.8,SNR=85						
O48B	Farmland	144.81	359	P	PKPab	13 09 22.0	-0.8
	baz=1.1,SNR=97						
Y22D	IRIS PASSCAL I	144.96	31	P	PKPdf	13 09 24.2	-0.4
	baz=321,SNR=20						
MCWV	Mont Chateau	145.01	352	P	PKPab	13 09 22.6	-0.9
	baz=10,SNR=84						
P52A	Corning	145.29	355	P	PKPbc	13 09 23.0	-1.4
	baz=6.3,SNR=136						
P49A	Miami Univ. Ec	145.53	359	P	PKPdf	13 09 24.1	-1.1
	baz=1.8,SNR=58						
121A	Cookes Peak, D	145.67	34	P	PKPab	13 09 26.7	+0.2
	baz=319,SNR=156						
MCPB	Macapa, AP	145.94	262	eP	PKPdf	13 09 25.7	-0.9
CBN	Corbin Frederi	146.00	348	P	PKPbc	13 09 26.8	+0.1
	baz=15						
CLDB	Colider	146.31	242	eP	PKPbc	13 09 27.8	-0.6
CCM	Cathedral Cave	146.64	8	PKIKP	PKPdf	13 09 24.7	-2.4
CCM	Cathedral Cave	146.64	8		PKPdf	13 09 24.7	-2.4
CCM	Cathedral Cave	146.64	8	P	PKPdf	13 09 27.8	+0.7
	baz=350						
AMTX	Amarillo	146.74	24	IAMs_20	IAMs_20	14 23 23.7	
	comp=Z,173µm,20.0s						
AMTX	Amarillo	146.74	24	P	PKPbc	13 09 28.7	-0.5
	baz=330						
PTLB	Pontes e Lacer	146.77	232	eP	PKPdf	13 09 28.1	+0.2
PDRB	Porto dos Gac	146.79	240	eP	PKPdf	13 09 28.7	+0.7
WCI	Wyandotte Cave	146.84	1	PKP2	PKPdf	13 09 26.4	-1.1
WCI	Wyandotte Cave	146.84	1		PKPdf	13 09 26.4	-1.1
WCI	Wyandotte Cave	146.84	1	IAMs_20	IAMs_20	14 23 42.8	
	comp=Z,193µm,20.0s						
WCI	Wyandotte Cave	146.84	1	P	PKPbc	13 09 28.5	-0.7
	baz=359						
MDP	Montagnes des	147.02	272	PKPbc	PKPdf	13 09 28.7	+0.2
	comp=Z,227nm,1.0s,baz=85,slow=5.5,SNR=21						
MSTX	Muleshoe	147.05	27	P	PKPdf	13 09 29.1	+1.0
	baz=328,SNR=65						
NPGB	Novo Progresso	147.42	249	eP	PKPdf	13 09 29.8	+0.7
BLA	Blacksburg	147.49	352	P	PKPbc	13 09 30.5	-0.6
	baz=9.9,SNR=20						
MNTX	Cornudas Mount	147.62	32	P	PKPdf	13 09 30.2	+1.2
	baz=322,SNR=51						
TUL1	Leonard	147.80	15	P	PKPbc	13 09 31.0	-1.0
	baz=341,SNR=43						
MALB	Monte Alegre	147.83	259	eP	PKPdf	13 09 29.8	0.0
SIV	San Ignacio	147.94	229	PKPbc	PKPdf	13 09 31.1	+1.2
	comp=Z,151nm,0.9s,baz=114,slow=4.8,SNR=37						
WMOK	Wichita Mounta	147.97	20	P	PKPbc	13 09 31.2	-1.3
	baz=335,SNR=55						
U40A	Yellville	148.04	11	P	PKPbc	13 09 31.2	-1.4
	baz=347,SNR=91						
LVC	Limon Verde	148.07	210	PKPbc	PKPdf	13 09 31.8	+1.4
	comp=Z,212nm,1.0s,baz=22,slow=0.8,SNR=32						
LVC	Limon Verde	148.07	210	PKIKP	PKPdf	13 09 30.4	0.0
LVC	Limon Verde	148.07	210		PKPdf	13 09 30.4	0.0
LVC	Limon Verde	148.07	210	eP	PKPdf	13 09 29.8	-0.6
TZTN	Tazewell	148.46	357	P	PKPdf	13 09 31.5	+1.3
	baz=4.2,SNR=52						
ITTB	Itaituba	148.63	253	eP	PKPdf	13 09 31.8	+0.8
WVT	Waverly	148.88	3	PKIKP	PKPdf	13 09 29.7	-1.1
WVT	Waverly	148.88	3	PKPdf	PKPdf	13 09 29.7	-1.1
WVT	Waverly	148.88	3	IAMs_20	IAMs_20	14 22 12.7	
	comp=Z,164µm,20.0s						
WVT	Waverly	148.88	3	P	PKPdf	13 09 32.2	+1.3
	baz=356						
CNNC	Cliffs of the	148.97	347	P	PKPdf	13 09 32.3	+1.3
	baz=15						
W39A	Magazine	148.97	13	P	PKPdf	13 09 31.9	+0.9
	baz=344,SNR=43						
VILB	Vilhena	149.02	235	eP	PKPdf	13 09 32.0	+0.3
W41B	Gary Mavity, V	149.30	10	P	PKPdf	13 09 32.7	+1.1
	baz=347,SNR=26						
TKL	Tuckaleechee C	149.36	357	PKPbc	PKPdf	13 09 33.8	+2.1
	comp=Z,119nm,0.8s,baz=131,slow=6.4,SNR=20						
TKL				PP	PP	13 13 11.7	+5.1
	comp=Z,60nm,0.9s,baz=337,slow=8.2,SNR=1.5						
ABTX	Abilene, Hawle	149.53	24	P	PKPdf	13 09 34.1	+2.1
	baz=332,SNR=36						
LPIG	La Paz	149.63	49	PKPbc	PKPbc	13 09 36.4	-0.6
	comp=Z,416nm,1.2s,baz=250,slow=0.4,SNR=31						
MIAR	Mount Ida	149.64	13	IAMs_20	IAMs_20	14 23 50.8	
	comp=Z,141µm,20.0s						
MIAR	Mount Ida	149.64	13	P	PKPdf	13 09 33.8	+1.7
	baz=344,SNR=86						
KMSC	Kings Mountain	149.65	353	P	PKPdf	13 09 34.0	+1.8
	baz=8.7						
X40A	Basin Creek Fa	149.85	12	P	PKPdf	13 09 34.0	+1.6
	baz=346,SNR=44						
OXF	Oxford	150.36	6	IAMs_20	IAMs_20	14 26 51.6	
	comp=Z,163µm,21.0s						
OXF	Oxford	150.36	6	P	PKPdf	13 09 34.9	+1.7
	baz=353,SNR=53						
TX31	Lajitas Ar. Si	150.38	33		PKPdf	13 09 31.5	-2.1
TXAR	Lajitas Array	150.38	33	PKP	PKPdf	13 09 31.6	-2.0
	comp=Z,18nm,0.8s,baz=216,slow=1.2,SNR=50						
TXAR				PKPbc	PKPbc	13 09 39.0	+0.2
	comp=Z,84nm,0.8s,baz=270,slow=1.4,SNR=37						
TXAR	Lajitas Array	150.38	33	PKPdf	PKPdf	13 09 31.0	-2.6
PB11	IPOC Station P	150.81	212	eP	PKPdf	13 09 30.5	-4.1
WHTX	Lake Whitney,	150.92	21	P	PKPdf	13 09 36.2	+2.0
	baz=336,SNR=20						
Z41A	Richland Creek	151.05	12	P	PKPdf	13 09 36.7	+2.3
	baz=346,SNR=16						
JCT	Junction City	151.33	26	PKIKP	PKPdf	13 09 32.6	-2.4
JCT	Junction City	151.33	26	PKPdf	PKPdf	13 09 32.6	-2.4
JCT				IAMs_20	IAMs_20	14 26 29.6	
	comp=Z,183µm,21.0s						
JCT	Junction City	151.33	26	P	PKPdf	13 09 36.8	+1.9
	baz=330,SNR=129						
NHSC	New Hope	151.48	350	P	PKPdf	13 09 37.1	+2.1
	baz=12						
GOGA	Godfrey	151.57	356	IAMs_20	IAMs_20	14 26 37.2	
	comp=Z,182µm,20.0s						
GOGA	Godfrey	151.57	356	P	PKPdf	13 09 37.2	+2.1
	baz=4.8,SNR=50						
435B	Jarrell	151.96	22	P	PKPdf	13 09 37.9	+2.0
	baz=334						
LRAL	Lakeview Retre	152.00	2	P	PKPdf	13 09 37.9	+2.1
	baz=357,SNR=31						
NATX	Nacogdoches	152.02	16	P	PKPdf	13 09 37.8	+1.9
	baz=341						
VBMS	Vicksburg	152.48	9	IAMs_20	IAMs_20	14 28 36.8	
	comp=Z,175µm,19.0s						
VBMS	Vicksburg	152.48	9	P	PKPdf	13 09 38.6	+2.1
	baz=350,SNR=8.2						
LPAZ	La Paz	152.65	219	PKP	PKPdf	13 09 37.2	-0.8
	comp=Z,26nm,1.0s,baz=45,slow=3.6,SNR=31						
LPAZ				PKPbc	PKPbc	13 09 44.6	-0.4
	comp=Z,54nm,0.9s,baz=84,slow=2.6,SNR=29						
LPAZ				PP	PP	13 13 28.5	+1.3
	comp=Z,16nm,0.9s,baz=200,slow=18,SNR=0.7						
LPAZ	La Paz	152.65	219	eP	PKPdf	13 09 37.5	-0.5
LPAZ	La Paz	152.65	219	eP	PKPdf	13 09 37.3	-0.7
BBSP	Saint Philip	152.81	289	eP	PKiKP	13 09 49.7	+4.9
BBGH	Gun Hill	152.90	289	eP	PKPbc	13 09 43.3	-1.5
BCHC	Barbados, Cave	152.97	289	eP	PKiKP	13 09 50.3	+5.1
H05N1	Guadeloupe/Mar	153.26	297	PKPbc	PKPdf	13 09 39.8	+1.7
	SNR=194						
ANWB	Willy Bob	153.35	300	eP	PKPdf	13 09 39.9	+1.8
833A	Chaparral WMA,	153.36	28	P	PKPdf	13 09 40.3	+2.4
	baz=329,SNR=34						
TIGA	Tifton	153.54	356	P	PKPdf	13 09 40.3	+2.2
	baz=4.8						
ABD	La Joyeuse, An	153.58	298	eP	PKPdf	13 09 41.0	+2.5
ANBD	Bethesda, Anti	153.59	299	eP	PKPdf	13 09 41.0	+2.5
MAGL	Barre de l’ile	153.60	296	eP	PKPbc	13 09 43.3	-3.1
ILAM	Ilet Lapin Mar	153.64	294	IAMs_20	IAMs_20	14 30 26.3	
	comp=Z,139µm,22.0s						
ILAM	Ilet Lapin Mar	153.64	294	eP	PKPdf	13 09 42.0	+3.4
ILAM	Ilet Lapin Mar	153.64	294	e		13 33 35.1	
PTGA	Pitinga	153.64	258	PKP	PKPdf	13 09 38.3	-0.5
	comp=Z,24nm,1.0s,baz=61,slow=2.4,SNR=14						
PTGA				PKPbc	pPKPdf	13 09 44.8	-1.0
	comp=Z,272nm,1.2s,baz=88,slow=2.2,SNR=32						
MACA	Manacapuru-AM	153.70	253	eP	PKPdf	13 09 38.2	-0.6
H05S1	Guadeloupe/Mar	153.72	293	PKPbc	PKPdf	13 09 40.4	+1.7
	SNR=32						
MPOM	Morne Pois Mar	153.73	293	IAMs_20	IAMs_20	14 32 20.7	
	comp=Z,164µm,21.0s						
MPOM	Morne Pois Mar	153.73	293	eP	PKPdf	13 09 40.3	+1.6
MPOM	Morne Pois Mar	153.73	293	e		13 33 35.1	
DLPL	La Plaine	153.79	295	eP	PKPdf	13 09 42.0	+3.1
MDVC	Dominica, Viel	153.83	296	eP	PKPbc	13 09 43.9	-2.9
CBE	Ff, Capester	153.84	297	eP	PKPdf	13 09 41.9	+2.9
BRAL	Brewton	153.86	3	P	PKPdf	13 09 40.9	+2.3
	baz=357						
BIM	Bigot	153.90	293	IAMs_20	IAMs_20	14 30 10.2	
	comp=Z,130µm,21.0s						
BIM	Bigot	153.90	293	eP	PKPdf	13 09 40.2	+1.1
BIM	Bigot	153.90	293	e		13 33 35.1	
GDHS	Morne Mazeau,	153.90	297	IAMs_20	IAMs_20	14 14 56.4	
	comp=Z,183µm,22.0s						
FDF	Fort de France	153.90	294	eP	PKPdf	13 09 41.5	+2.4
DSLB	Salisbury	153.91	295	eP	PKiKP	13 09 48.0	+0.9
MDN	Morne-Daniel	153.92	295	eP	PKPdf	13 09 42.6	+3.6
MDN	Morne-Daniel	153.92	295	e		13 33 55.0	
TDBA	Terre de Bas,	153.95	296	IAMs_20	IAMs_20	14 31 14.7	
	comp=Z,132µm,22.0s						
TDBA	Terre de Bas,	153.95	296	eP	PKPdf	13 09 42.2	+3.1
TDBA	Terre de Bas,	153.95	296	e		13 33 31.1	
TBG	Guadaloupe-3	153.96	296	eP	PKPbc	13 09 44.2	-2.9
SLBI	Saint Lucia, B	153.97	292	eP	PKPdf	13 09 39.6	+0.5
MCLT	Moule a Chique	154.03	291	eP	PKPdf	13 09 42.3	+3.1
MCLT	Moule a Chique	154.03	291	e		13 33 31.1	
TOSP	Speyside	154.26	286	eP	PKPdf	13 09 42.1	+2.5
TOSP	Speyside	154.26	286	e		13 33 51.0	
SMRT	St. Maarten	154.28	302	eP	PKPdf	13 09 42.8	+3.3
SKI	Saint Kitts	154.31	301	eP	PKPbc	13 09 46.0	-1.9
SKI	Saint Kitts	154.31	301	e		13 33 39.1	
SEUS	St. Eustatius	154.45	301	IAMs_20	IAMs_20	14 18 23.5	
	comp=Z,173µm,22.0s						
SEUS	St. Eustatius	154.45	301	eP	PKPdf	13 09 38.8	-1.0
BOAV	Boa Vista	154.70	265	eP	PKPdf	13 09 39.6	-0.7
GCMP	Grenada, Carri	154.83	289	eP	PKPdf	13 09 42.1	+1.7
GCMP	Grenada, Carri	154.83	289	e		13 33 47.0	
GRSS	Sisters	155.05	289	eP	PKPdf	13 09 46.6	+6.0
GRHS	Sauteurs	155.10	288	eP	PKPdf	13 09 36.8	-3.9
GRGR	Grenville	155.13	288	eP	PKPdf	13 09 42.7	+1.9
GRGR	Grenville	155.13	288	e		13 33 47.0	
TRN	Trinidad (W)	155.23	285	eP	PKPdf	13 09 42.9	+2.0
GRFF	Grenada Fort F	155.23	288	eP	PKPdf	13 09 40.6	-0.4
TPP	Pointe-a-Pierr	155.34	284	eP	PKPdf	13 09 50.2	+9.2
ETMB	Extrema	155.65	233	eP	PKPdf	13 09 41.8	+0.3
DWPF	Disney Wildern	156.57	350	P	PKPdf	13 09 43.9	+1.6
	baz=11						
SJG	San Juan	156.78	306	PKP	PKPdf	13 09 42.3	-0.6
	comp=Z,13nm,0.5s,baz=60,slow=16,SNR=2.0						
SJG				PKPab	PKPab	13 10 12.1	-0.2
	comp=Z,82nm,1.0s,baz=64,slow=11,SNR=5.5						
SJG	San Juan	156.78	306	IAMs_20	IAMs_20	14 12 15.7	

	comp=Z,128µm,22.0s						
SJG	San Juan	156.78	306	eP	PKPdf	13 09 42.5	-0.3
AOPR	Arecibo Observ	157.14	307	eP	PKPdf	13 09 43.4	0.0
GRTK	Grand Turk	158.25	321	IAMs_20	IAMs_20	14 35 17.5	
	comp=Z,121µm,20.0s						
PCRV	Puerto La Cruz	158.44	285	PKP	PKPdf	13 09 44.0	-1.1
	comp=Z,16nm,0.9s,baz=50,slow=9.3,SNR=8.6						
PCRV				PP	PP	13 14 02.5	+2.4
	comp=Z,16nm,1.0s,baz=52,slow=14,SNR=1.4						
NNA	Nana	161.01	208	PKP	PKPdf	13 09 47.7	-0.3
	comp=Z,11nm,0.7s,baz=319,slow=4.2,SNR=4.3						
NNA				PKPab	PKPab	13 10 31.1	+0.4
	comp=Z,115nm,1.0s,baz=285,slow=2.9,SNR=5.3						
NNA				PP	PP	13 14 15.3	+3.1
	comp=Z,22nm,0.9s,baz=122,slow=2.4,SNR=2.4						
MASC	Masc	161.14	325	eP	PKPdf	13 09 49.2	+1.3
TBTG	Tabatinga, AM	161.77	241	eP	PKPdf	13 09 45.9	-2.9
TBTG	Tabatinga, AM	161.77	241	eP	PKPdf	13 09 48.8	-0.1
CZSB	Cruzeiro do Su	161.91	226	eP	PKPdf	13 09 49.3	+0.4
MGV	Manicaragua	162.02	342	eP	PKPdf	13 09 48.5	-0.3
SOR	Soroa	162.04	352	eP	PKPdf	13 09 50.1	+1.2
CCCC	Cccc	162.06	335	eP	PKPdf	13 09 50.1	+1.2
CCCC				IAMs_20	IAMs_20	14 03 32.9	
	comp=N,388µm,49.3s						
CCCC				IAMs_20	IAMs_20	14 04 18.0	
	comp=E,417µm,34.9s						
RCC	Rio Carpintero	162.10	328	eP	PKPdf	13 09 49.4	+0.4
LMGC	Las Mercedes	162.71	331	eP	PKPdf	13 09 49.0	-0.5
ELOV	Elorza	163.69	278	eP	PKPdf	13 09 52.0	+1.3
DABV	Dabajuro	163.89	293	eP	PKPdf	13 09 49.5	-1.3
BBJ	Bamboo Saint A	164.26	329	i P	PKPdf	13 09 57.9	+6.8
STH	Stony Hill	164.27	327	i P	PKPdf	13 09 56.5	+5.4
SDV	Santo Domingo	164.49	286	PKP	PKPdf	13 09 51.3	-0.3
	comp=E,48nm,1.1s,baz=130,slow=3.0,SNR=18						
SDV				PKPab	PKPab	13 10 46.5	+0.1
	comp=E,89nm,1.1s,baz=357,slow=5.2,SNR=3.0						
SDV				PP	PP	13 14 36.7	+4.0
	comp=E,33nm,1.0s,baz=55,slow=15,SNR=3.1						
SDV	Santo Domingo	164.49	286		PKPdf	13 09 48.5	-3.1
SDV	Santo Domingo	164.49	286	eP	PKPdf	13 09 50.9	-0.8
SDV	Santo Domingo	164.49	286	eP	PKPdf	13 09 50.6	-1.1
URIC	Uribia, Colomb	164.82	297	eP	PKPdf	13 09 50.9	-0.8
MCJ	Malvern	164.86	329	i P	PKPdf	13 09 56.7	+5.0
CMIG	Matias Romero	164.95	36	PKP	PKPdf	13 09 51.6	-0.1
	comp=E,27nm,0.9s,baz=16,slow=1.9,SNR=14						
CMIG				PKPab	PKPab	13 10 47.2	-0.7
	comp=E,102nm,1.1s,baz=356,slow=5.9,SNR=5.6						
CMIG				PP	PP	13 14 36.1	+2.7
	comp=E,27nm,1.2s,baz=276,slow=4.2,SNR=1.8						
CRJC	Cerrejon, Guaj	165.89	296	eP	PKPdf	13 09 51.8	-0.9
ATAH	Atahualpa	165.96	212	PKP	PKPdf	13 09 53.2	0.0
	comp=E,5.6nm,0.9s,baz=176,slow=4.0,SNR=8.0						
ATAH				PKPab	PKPab	13 10 51.7	-1.1
	comp=E,63nm,1.0s,baz=350,slow=4.0,SNR=3.9						
TAMC	Tame, Arauca	166.03	277	eP	PKPdf	13 09 56.2	+3.5
TAMC	Tame, Arauca	166.03	277	eP	PKPdf	13 09 52.0	-0.7
PTGC	Puerto Gaitan,	166.41	268	eP	PKPdf	13 09 51.7	-1.3
LL6C	La Loma 6 Bece	166.73	292	eP	PKPdf	13 09 51.8	-1.4
PAMC	Pamplona, Colo	166.80	281	eP	PKPdf	13 09 58.1	+4.2
SMRC	Santa Marta, M	167.01	299	eP	PKPdf	13 09 51.8	-1.7
LL1C	La Loma 1 Cana	167.06	291	eP	PKPdf	13 09 55.0	+1.5
OCAC	Ocana	167.22	286	eP	PKPdf	13 09 52.8	-1.0
RUSC	La Rusia	167.35	275	eP	PKPdf	13 09 52.4	-1.9
BARC	Barichara	167.39	278	eP	PKPdf	13 09 53.3	-0.8
MACC	Macarena, Meta	167.81	257	eP	PKPdf	13 09 52.6	-1.4
VILC	Villavicencio,	167.96	267	eP	PKPdf	13 09 56.1	+1.8
CHIC	Chingaza	168.02	269⇑	eP	PKPdf	13 09 52.6	-2.2
PTLC	Puerto Leguiza	168.09	247	eP	PKPdf	13 09 51.7	-2.5
SPBC	San Pablo de B	168.35	274	eP	PKPdf	13 09 53.1	-1.4
SJCC	San Jacinto, C	168.41	296	eP	PKPdf	13 09 51.9	-2.6
ROSC	El Rosal	168.61	270	PKP	PKPdf	13 09 53.0	-2.1
	comp=E,35nm,0.7s,baz=117,slow=2.3,SNR=11						
ROSC				PP	PP	13 15 01.9	+7.4
	comp=E,63nm,1.0s,baz=227,slow=6.1,SNR=3.2						
ROSC	El Rosal	168.61	270	PKIKP	PKPdf	13 09 53.0	-2.1
ROSC	El Rosal	168.61	270	eP	PKPdf	13 09 53.6	-1.5
CROSA	EL ROSAL, CUND	168.61	270	eP	PKPdf	13 09 58.8	+3.7
PTBC	PUERTO BERRIO,	168.65	279	eP	PKPdf	13 09 51.5	-3.2
ZARC	Zaragoza, Cauc	168.88	284	eP	PKPdf	13 09 52.8	-2.0
APG	El Apazote	168.96	25	PKP	PKPdf	13 09 54.8	-0.3
	comp=E,54nm,1.1s,baz=271,slow=6.8,SNR=13						
APG				PKPab	PKPab	13 11 06.3	+0.5
	comp=E,68nm,1.0s,baz=279,slow=13,SNR=2.0						
NORC	Norcasia	169.15	274	eP	PKPdf	13 09 52.4	-2.6
CNOCA	NORCASIA, CALD	169.15	274	eP	PKPdf	13 09 59.6	+4.6
MOTC	Monteria, Cord	169.28	291	eP	PKPdf	13 09 55.1	+0.1
FLOC	Florencia	169.39	252	eP	PKPdf	13 09 53.4	-1.7
GARC	Garzon, Huila	169.41	256⇑	eP	PKPdf	13 09 54.2	-1.2
UREC	San Jos de Ur	169.46	286	eP	PKPdf	13 09 53.9	-1.3
BETC	Betania	169.48	258	eP	PKPdf	13 10 00.1	+4.9
ORTC	Ortega, Tolima	169.48	265	eP	PKPdf	13 09 53.0	-2.2
GUY2C	Guyana, Caldas	169.65	272	eP	PKPdf	13 09 54.5	-1.4
ANIL	Santa Ana	169.68	268	eP	PKPdf	13 09 53.7	-2.0
HELC	Santa Helena	169.75	278	eP	PKPdf	13 09 54.6	-1.2
CBOC	Ciudad Bolivar	170.26	276	eP	PKPdf	13 09 52.6	-3.3
PCON	Cinco Dias	170.32	255	eP	PKPdf	13 09 57.6	+1.3
SOTA	Rioblanco	170.47	253	eP	PKPdf	13 09 55.0	-1.3
PRVC	Isla de Provid	170.55	333	eP	PKPdf	13 10 00.5	+4.9
PLMC	San Jos del P	170.57	270	eP	PKPdf	13 09 54.1	-1.8
YOTC	Yotoco, Valle	170.58	265	eP	PKPdf	13 09 55.2	-0.7
POPC	Popayan, Colom	170.64	256	eP	PKPdf	13 09 55.5	-0.6
GCUF	Volcan Galeras	170.84	247⇑	eP	PKPdf	13 09 56.3	-0.2
CCUFI	Cufio, Nario	170.84	247	eP	PKPdf	13 10 01.4	+4.9
TULM	Tulcn-Chalpat	171.02	243	eP	PKPdf	13 09 56.4	-0.2
BBAC	Balboa, Cauca	171.04	252⇑	eP	PKPdf	13 09 55.0	-1.3
CUSE	Cuicocha Este	171.35	238	eP	PKPdf	13 09 58.0	+1.3
UPD2	Meteti	171.52	296	eP	PKPdf	13 09 57.4	+1.2
PIZC	Pizarro, Choco	171.64	271	eP	PKPdf	13 09 58.3	+2.0
PAC1	Pacto, Paraso	171.65	237	eP	PKPdf	13 09 56.5	0.0
PTAC	Punta Ardita,	171.80	286	eP	PKPdf	13 09 54.8	-1.5
GR1C	Gorgona, Isla	172.20	256	eP	PKPdf	13 10 00.8	+4.2
CTUM2	Tumaco	172.34	247	eP	PKPdf	13 10 00.1	+3.4
BCIP	Isla Barro Col	172.77	306	eP	PKPdf	13 09 54.1	-2.7
PNME	Penonome	173.55	304	eP	PKPdf	13 10 00.8	+3.7
AZU	Azuero	173.86	298	eP	PKPdf	13 09 54.1	-3.1
CACAO	El Cacao, Vera	174.57	297	eP	PKPdf	13 09 58.4	+1.0
BRU2	Volcan	175.10	322	eP	PKPdf	13 09 54.5	-3.3

*ISK **02** 13:11:59.6, 38°.27N×44°.34E, h5^{km}, ML3.0/4*
*AZER **02** 13:12:06.3±0.9, 38°.43N×44°.29E, h23^{km}±3^{km}, Error ellipse: s-maj=25.7km s-min=18.4km az=296.0*
ISC 02 13:12:02.7±1.3, **38°.29N**±0°.05×**44°.07E**±0°.04, **h16**^{km}±12^{km}, **n8**, σ**1^{s}28**/14, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.61	300	PG	Pg	13 12 14.9	+0.1
VANB				SG	Sn	13 12 26.1	-0.5
CLDR	Caldiran	0.86	352	PG	Pb	13 12 18.2	-1.1
CLDR				SG	Sg	13 12 31.1	+0.4
AKDM	Akdamar-Van	0.86	273	PG	Pn	13 12 20.5	+0.2
AKDM				SG	Sn	13 12 35.7	+3.0
CUKT	Cukurca	1.11	200	PN	Pb	13 12 22.2	-1.3
NAX	Nakhchivan	1.42	51	P	Pg	13 12 30.6	+0.6
NAX				S	Sg	13 12 48.0	-0.5
SBZ	Shahbuz	1.60	46	P	Pb	13 12 31.7	-0.2
SBZ				S	Sg	13 12 54.9	+0.7
ORD	Ordubad	1.63	67	P	Pb	13 12 32.0	-0.5
ORD				S	Sg	13 12 56.2	+0.9
GNI	Garni	1.93	15	PN	Pn	13 12 33.7	-1.3

*NIC **02** 13:21:24.1±0.0, 35°.86N×28°.70E, h1^{km}±1^{km}, Ml3.5/3*
*DDA **02** 13:21:26.4±0.0, 36°.01N×28°.57E, h6^{km}±5^{km}, ML3.6*
*ISK **02** 13:21:26.6, 36°.03N×28°.61E, h22^{km}, ML3.2/12*
ISC 02 13:21:25.6±1.3, **36°.00N**±0°.03×**28°.67E**±0°.03, **h17**^{km}±10^{km}, **n30**, σ**0^{s}68**/42, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.49	296	PG	Pb	13 21 36.5	+0.7
ARG	Arkhangelos	0.49	296	P	Pb	13 21 36.4	+0.5
ARG				S	Sn	13 21 46.1	0.0
FETY	Fethiye	0.72	28	PG	Pn	13 21 40.9	-0.2
FETY				SG	Sn	13 21 51.9	+0.1
FETY	Fethiye	0.72	28	P	Pn	13 21 40.6	-0.5
FETY				S	Sn	13 21 52.4	+0.6
KSL	Kastellorizon	0.76	78	S	Sn	13 21 52.2	-0.4
AKAS	Kas	0.79	73	PG	Pn	13 21 43.1	+0.9
AKAS				SG	Sn	13 21 55.4	+1.7
AKAS	Kas	0.79	73	P	Pn	13 21 42.9	+0.7
AKAS				S	Sn	13 21 55.5	+1.8
AKAS				i AML	AML	13 22 23.0	
	comp=N,2µm,1.2s						
DALY	Dalyan (Mula)	0.82	359	PG	Pn	13 21 42.0	-0.4
DALY				SG	Sn	13 21 54.2	+0.1
TURN	Turunc	0.85	336	PG	Pn	13 21 42.6	-0.2
TURN				SG	Sn	13 21 54.5	-0.4
TURN	Turunc	0.85	336	P	Pn	13 21 42.6	-0.2
TURN				S	Sn	13 21 54.3	-0.6
CAME	Cameli-Denizli	1.07	28	PG	Pg	13 21 46.8	+0.4
YER	Yerkesik	1.18	345	PN	Pb	13 21 47.7	+0.1
MULA	Mugla, Merkez-	1.29	348	P	Pg	13 21 50.1	-0.4
MULA				S	Sg	13 22 06.4	-0.9
KARP	Karpathos	1.31	250	PN	Pb	13 21 49.7	-0.1
KARP	Karpathos	1.31	250	P	Pn	13 21 49.2	0.0
KARP				S	Sg	13 22 08.5	+0.6
KARP				AML	AML	13 22 12.4	
	0.3nm,0.3s						
KARP				AML	AML	13 22 12.4	
	0.3nm,0.3s						
NIS1	Nisyros Isl.	1.35	297	PN	Pn	13 21 49.7	0.0
TAVA	DENIZLI_Tavas	1.48	8	P	Pg	13 21 54.0	-0.2
TAVA				S	Sn	13 22 10.4	-0.2
TAVA				i AML	AML	13 22 33.0	
	comp=E,776nm,1.1s						
MLSB	Milas	1.48	331	PN	Pn	13 21 52.0	+0.4
BODT	Bodrum	1.52	315	PN	Pn	13 21 51.9	-0.3
YKAV	Yalikavak-Bodr	1.59	316	PN	Pn	13 21 53.1	+0.1
KORT	Korkueli	1.68	53	PN	Pb	13 21 56.1	-0.2
AYDN	Tasoluk	1.78	339	P	Pn	13 21 56.4	+0.7
AYDN				S	Sn	13 22 17.0	-0.9
AYDN				i AML	AML	13 22 44.0	
	comp=E,712nm,1.3s						
GCAM	G?zelcaml?	2.05	326	PN	Pn	13 22 00.3	+0.9
ZKR	Zakros	2.19	247	PN	Pn	13 22 02.0	+0.8
AKMS	Akamas	3.15	107	P	Pn	13 22 14.3	-0.2
AKMS				AML	AML	13 22 23.2	
	0.4nm,1.2s						
AKMS				AML	AML	13 22 34.1	
	0.6nm,2.5s						
OSC1	CSNet OBS 1	3.29	139	S	Sn	13 22 54.1	-1.0
ALFC	Alefka	3.31	104	P	Pn	13 22 16.4	-0.4
ALFC				AML	AML	13 22 30.9	
	0.3nm,1.8s						
ALFC				AML	AML	13 22 36.9	
	0.3nm,1.9s						
NATA	Nata	3.41	110	P	Pn	13 22 17.9	-0.2
SZAC	Souni	3.66	109	P	Pn	13 22 21.2	-0.4
OSC2	CSNet OBS 4	4.16	133	S	Sn	13 23 15.2	-1.4

*IDC **02** 13:33:43.7±0.9, 4°.78S×94°.16E, h0^{km}, mb3.9/10, mb1 4.1/10, mb1mx3.8/46, mbtmp3.9/10, Error ellipse: s-maj=29.1km s-min=22.7km az=54.0*
*NEIC **02** 13:33:45.9±1.3, 4°.69S±0°.08×94°.3E±0°.1, h10^{km}±1^{km}, mb4.6/10, Error ellipse: s-maj=21.8km s-min=13.6km az=273.0*
ISC 02 13:33:48.8±0.6, **4°.73S**±0°.08×**94°.3E**±0°.1, **h35**^{km}, **n32**, σ**1^{s}11**/32, **mb4.1**/15, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	6.81	28	Pn	Pn	13 35 24.6	-1.7
COCO	West Island	7.81	162	Pn	Pn	13 35 39.2	-0.9
IPM	Ipoh	11.32	36	Pn	Pn	13 36 29.1	+0.8
KULM	Kulim	11.78	32	Pn	Pn	13 36 33.7	-0.8
CM31	Chiang Mai Arr	23.48	11	P	P	13 38 54.5	-1.1
CMAR	Chiang Mai Arr	23.48	11	P	P	13 38 56.6	+1.1
	2.7nm,0.8s,baz=203,slow=8.1,SNR=13						
CMAR	Chiang Mai Arr	23.48	11	P	P	13 38 54.9	-0.7
LUWI	Luwuk	28.62	84	P	P	13 39 42.6	+0.3
ENH	Enshi	37.70	22	P	P	13 41 00.7	-0.5
ENH				IAmb	IAmb	13 41 16.2	
	comp=Z,14nm,1.3s						
WRA	Warramunga Arr	41.75	115	P	P	13 41 34.7	-0.4
	comp=Z,0.7nm,0.7s,baz=284,slow=9.0,SNR=3.2						
WRA	Warramunga Arr	41.75	115	IAmb	IAmb	13 41 37.3	
	comp=Z,9.6nm,0.8s						
WB2	Warramunga Arr	41.76	115	P	P	13 41 35.1	-0.1
WR0	Warramunga Arr	41.94	115	P	P	13 41 36.7	+0.1
ASAR	Alice Springs	42.51	120	P	P	13 41 44.1	+2.9
	comp=Z,1.1nm,1.1s,baz=306,slow=7.9,SNR=2.3						
KKAR	Karatay Array	52.27	338	P	P	13 42 56.6	-0.2
KSAR	Wonju Array Be	52.29	34	P	P	13 42 56.4	-0.6
MK31	Makanchi Array	52.40	350	P	P	13 42 57.4	-0.2
MKAR	Makanchi Array	52.40	350	P	P	13 42 57.7	+0.1
	comp=Z,0.7nm,0.8s,baz=149,slow=7.9,SNR=5.1						
MKAR				ScP	ScP	13 48 06.5	+3.6
	comp=Z,1.4nm,1.2s,baz=158,slow=4.2,SNR=5.0						
SONM	Songino Array	53.40	10	P	P	13 43 05.9	+0.7
	comp=Z,1.0nm,0.7s,baz=203,slow=7.3,SNR=4.7						
ZAA0	Zalesovo Array	59.00	353	P	P	13 43 45.0	+0.1
ZAA0				IAmb	IAmb	13 43 46.5	
	comp=Z,4.8nm,0.9s						
ZALV	Zalesovo Beam	59.00	353	P	P	13 43 44.3	-0.6
	comp=Z,2.7nm,0.7s,baz=180,slow=7.4,SNR=9.8						
BRVK	Borovoye	61.05	344	P	P	13 43 59.5	+0.5
ABKAR	Akbulak array	61.51	335	P	P	13 44 02.0	-0.1
ABKAR				IAmb	IAmb	13 44 04.1	
	comp=Z,12nm,1.4s						
BOSA	Boshof	69.40	241	P	P	13 44 52.2	-1.6
	comp=Z,0.9nm,0.7s,baz=90,slow=3.0,SNR=1.6						
BRTR	Keskin Array B	71.09	315	P	P	13 45 04.0	+0.1
	comp=Z,1.0nm,0.6s,baz=161,slow=6.1,SNR=3.7						
SUR	Sutherland	73.58	238	P	P	13 45 19.7	+0.7
SUR				IAmb	IAmb	13 45 42.2	
	comp=Z,4.4nm,1.0s						
KARP	Karpathos	74.47	309	P	P	13 45 24.6	+0.6
AKASG	Malin Array Be	78.26	324	P	P	13 45 45.3	+0.3
	comp=Z,0.9nm,0.5s,baz=94,slow=4.1,SNR=6.5						
MLR	Muntele Rosu	78.47	318	P	P	13 45 47.2	+0.7
	comp=Z,1.3nm,0.5s,baz=170,slow=11,SNR=4.7						
BELA	Belgrano 2	93.01	189	P	P	13 46 57.6	-0.7
TORD	Torodi Ar. Bea	93.63	283	P	P	13 47 02.5	+0.1
	comp=Z,57nm,0.8s,baz=88,slow=3.7,SNR=6.0						
TXAR	Lajitas Array	150.17	33	PKPbc	PKiKP	13 53 37.5	-0.3
	comp=Z,0.6nm,0.8s,baz=48,slow=1.9,SNR=4.3						

*IDC **02** 13:41:05.5±1.0, 36°.25N×8°.26W, h0^{km}, mb3.6/6, mb1 3.9/7, mb1mx3.6/43, mbtmp3.7/7, ML4.3/2, Error ellipse: s-maj=33.7km s-min=19.7km az=71.0*
*NEIC **02** 13:41:07.6±1.9, 36°.20N±0°.05×8°.17W±0°.06, h10^{km}±1^{km}, mb4.3/5, Error ellipse: s-maj=10.0km s-min=7.1km az=229.0*
*CNRM **02** 13:41:08.0, 36°.06N×8°.25W, h70^{km}, ml4.3*
*MDD **02** 13:41:11.6±0.4, 36°.20N×8°.15W, h30^{km}, mb_Lg4.0/24, Error ellipse: s-maj=3.2km s-min=2.1km az=39.0*
*SFS **02** 13:41:11.0, 36°.20N×8°.00W, h10^{km}, ML4.0, GOLFO DE CADIZ*
*LDG **02** 13:41:11.6±0.2, 36°.28N×8°.09W, h10^{km}, Ml4.0/8, Error ellipse: s-maj=4.3km s-min=2.6km az=21.0*
*IGIL **02** 13:41:12.8, 36°.19N×8°.17W, h31^{km}, ML3.7*
*INMG **02** 13:41:12.4±2.7, 36°.20N×8°.15W, h31^{km}±5^{km}, MD3.0, ML3.8, Error ellipse: s-maj=3.7km s-min=3.5km az=78.0*
ISC 02 13:41:08.8±0.5, **36°.13N**±0°.03×**8°.16W**±0°.03, **h30**^{km}, **n156**, σ**2^{s}91**/262, **mb3.6**/8, **1C-11D**, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFARO	Faro	0.92	12	eP	Pb	13 41 27.8	+1.7
PFARO				eS	Sn	13 41 37.8	0.0
PFARO				A	A	13 41 48.8	
	3µm,0.2s						
PALBU	Albufeira	0.97	356	eP	Pb	13 41 27.4	+0.4
PALBU				eS	Sn	13 41 38.6	-0.5
PALBU				A	A	13 41 40.1	
	2µm,0.1s						
PPOR	Portimao	1.05	343	eP	Pb	13 41 28.6	+0.2
PPOR				eS	Sn	13 41 41.2	+0.1
PPOR				A	A	13 41 48.0	
	1µm,0.1s						
PLAGO	Lagos	1.06	336	eP	Pb	13 41 28.6	+0.1
PLAGO				eS	Sn	13 41 41.5	+0.2
PLAGO				A	A	13 41 47.7	
	2µm,0.2s						
PTAV	Tavira	1.07	22	eP	Pb	13 41 30.1	+1.3
PTAV				eS	Sb	13 41 41.9	-0.6
PTAV				A	A	13 41 52.5	
	504nm,0.2s						
PSVI	Cabo S. Vicent	1.12	323	eP	Pn	13 41 29.1	+0.7
PSVI				eS	Sn	13 41 42.1	-0.8
PSVI				A	A	13 41 51.7	
	1µm,0.3s						
PBDV	Barranco-do-Ve	1.13	9⇓	eP	Pb	13 41 29.5	-0.2
PBDV				eS	Sn	13 41 42.3	-0.8
PBDV				A	A	13 41 49.9	
	571nm,0.3s						
PFVI	Vila Bisbo	1.14	332⇓	iP	Pn	13 41 29.5	+0.8
PFVI				eS	Sn	13 41 42.7	-0.6
PFVI				A	A	13 41 44.0	
	1µm,0.2s						
PFVI	Vila Bisbo	1.14	332		Pn	13 41 29.3	+0.6
PFVI	Vila Bisbo	1.14	332	P	Pn	13 41 28.9	+0.2
PFVI				S	Sn	13 41 41.4	-2.0
MORF	Marmelete	1.24	341	eP	Pn	13 41 31.1	+0.9
MORF				eS	Sn	13 41 44.5	-1.4
MORF				IAML		13 41 50.0	
	comp=N,1µm,0.1s						
MORF	Marmelete	1.24	341⇓	iP	Pn	13 41 31.1	+0.9
MORF				eS	Sn	13 41 45.8	-0.2
MORF				A	A	13 41 49.1	
	comp=N,2µm,0.1s						
PALJ	Aljezur	1.30	337	eP	Pn	13 41 31.8	+1.0
PALJ				eS	Sn	13 41 46.7	-0.5
PALJ				A	A	13 41 48.5	
	comp=N,1µm,0.3s						
PVAQ	Vaqueiros	1.32	15	eP	Pn	13 41 32.1	+0.9
PVAQ				eS	Sn	13 41 47.1	-0.7
PVAQ				A	A	13 41 56.0	
	comp=N,918nm,0.3s						
PVAQ	Vaqueiros	1.32	15		Pn	13 41 31.9	+0.7
PVAQ	Vaqueiros	1.32	15	P	Pn	13 41 31.7	+0.5
PVAQ				S	Sb	13 41 49.4	-0.2
PTEO	Sao Teotonio	1.49	342⇓	iP	Pn	13 41 34.7	+1.2
PTEO				eS	Sn	13 41 51.7	-0.2
ARNO	Arenosillo	1.50	49	P	Pn	13 41 34.0	+0.3
ARNO				S	Sn	13 41 52.8	+0.6
EGRO	El Granado	1.50	21	P	Pn	13 41 34.9	+1.1
EGRO				S	Sn	13 41 51.7	-0.6
EGRO				i Vmb_Lg		13 41 58.4	
PCVE	Castro Verde	1.51	4⇓	iP	Pn	13 41 34.9	+1.2
PCVE				eS	Sn	13 41 51.4	-1.0
PCVE				A	A	13 41 53.5	
	comp=N,508nm,0.2s						
SFS	San Fernando	1.61	77	P	Pb	13 41 37.4	-0.4
SFS				S	Sb	13 41 57.5	-0.3
SFS	San Fernando	1.61	77	Pn	Pn	13 41 36.3	+1.1
CNIL	Conil	1.71	81	P	Pb	13 41 46.2	+6.6
CNIL				S	Sb	13 42 09.0	+8.2
CPS	Cap Spartel	1.85	100	P	Pb	13 41 42.0	-0.1
PBEJ	Beja	1.91	7⇑	ePn	Pn	13 41 40.2	+0.9
PBEJ				eSn	Sn	13 42 00.8	-1.5
PBEJ				A	A	13 42 04.3	
	comp=N,301nm,0.1s						
PNCL	Nicolau / Gran	2.00	352⇓	ePn	Pn	13 41 41.4	+0.8
PNCL				eSn	Sn	13 42 03.4	-1.2
PNCL				A	A	13 42 12.0	
	comp=N,398nm,0.1s						
EJIF	Jimena Fronter	2.19	81	⇓P	Pn	13 41 45.7	+2.5
EJIF				S	Sn	13 42 11.6	+2.2
PBAR	Barrancos	2.23	23	ePn	Pn	13 41 44.8	+1.1
PBAR				eSn	Sn	13 42 09.3	-0.9
PBAR				A	A	13 42 22.5	
	comp=N,164nm,0.1s						
CEU	Ceuta	2.27	95	P	Pn	13 41 47.5	+3.4
CEU				S	Sb	13 42 15.2	-1.4
LIJA	Lijar	2.35	70	P	Pn	13 41 39.0	-6.4
LIJA				S	Sn	13 41 53.0	-20
EVO	Evora	2.40	3	P	Pn	13 41 46.9	+0.9
EVO	Evora	2.40	3	P	Pb	13 41 55.4	+4.1
EVO				S	Sn	13 42 12.5	-2.0
EVO				S	Sb	13 42 27.4	+6.9
EVO	Evora	2.40	3	ePn	Pn	13 41 47.0	+0.9
EVO				eSn	Sn	13 42 12.7	-1.8
EVO				A	A	13 42 15.7	
	comp=N,936nm,0.2s						
PSETU	Setºbal	2.47	347	eSn	Sn	13 42 16.4	+0.2
CHEFC	Chefchaouen	2.51	113	P	Pn	13 41 50.3	+2.7
CHEFC				S	Sn	13 42 17.8	+0.5
PACT	Alcochete	2.69	349	ePn	Pn	13 41 51.7	+1.7
PACT				eSn	Sn	13 42 22.1	+0.5
PACT				A	A	13 42 25.8	
	comp=N,303nm,0.6s						
LIS	Lisbon	2.70	343	ePn	Pn	13 41 52.2	+2.0
LIS				eSn	Sn	13 42 22.2	+0.3
LIS				A	A	13 42 24.7	
	comp=N,386nm,0.2s						
PMST	Lisbon--Monsan	2.73	343	ePn	Pn	13 41 52.1	+1.5
PMST				eSn	Sn	13 42 22.8	+0.2
PMST				A	A	13 42 26.1	
	comp=N,294nm,0.4s						
INMG	Instituto de M	2.75	344	ePn	Pn	13 41 52.9	+2.0
INMG				eSn	Sn	13 42 24.4	+1.3
EMIJ	Mijas	2.77	80	⇓P	Pn	13 41 52.2	+1.2
EMIJ				S	Sn	13 42 23.4	-0.1
EMIJ				i Vmb_Lg		13 42 33.2	
PESTR	Estremoz	2.77	9	ePn	Pn	13 41 51.9	+0.8
PESTR				eSn	Sn	13 42 21.7	-1.9
PESTR				A	A	13 42 51.3	
	comp=N,121nm,0.5s						
PESTR	Estremoz	2.77	9		Pn	13 41 52.0	+0.8
PESTR	Estremoz	2.77	9	P	Pn	13 41 51.9	+0.8
PESTR				S	Sn	13 42 21.6	-2.1
EBAD	Badajoz	2.78	19	P	Pn	13 41 51.9	+0.7
EBAD				S	Sn	13 42 21.6	-2.1
EBAD				i Vmb_Lg		13 42 23.5	
PVERD	Verdizela	2.82	340	ePn	Pn	13 41 47.6	-4.1
PVERD				eSn	Sn	13 42 16.8	-7.8
PVERD				A	A	13 42 25.7	
	comp=N,1µm,0.5s						
PCASC	Cascais	2.85	339	ePn	Pn	13 41 54.2	+2.1
PCASC				eSn	Sn	13 42 24.3	-1.1
PBEN	Benavente	2.87	349	eSn	Sn	13 42 26.5	+0.6
ECAB	El Cabril	2.93	48	P	Pn	13 41 54.4	+1.1
ECAB				S	Sn	13 42 24.9	-2.6
ECAB				i Vmb_Lg		13 42 30.0	
PMTG	Montargil	2.94	359⇓	ePn	Pn	13 41 54.2	+0.8
PMTG				eSn	Sn	13 42 25.9	-1.8
PMTG				A	A	13 42 27.4	
	comp=N,425nm,0.1s						
ZHG	ZHG	2.95	155	P	Pn	13 41 54.8	+1.2
ZHG				S	Sn	13 42 28.7	+0.6
PMAFR	Mafra	2.96	343	ePn	Pn	13 41 55.3	+1.5
PMAFR				eSn	Sn	13 42 27.9	-0.4
PMAFR				A	A	13 42 28.8	
	comp=N,756nm,0.2s						
EMAL	Malaga-Limoner	3.07	77	P	Pn	13 41 57.0	+1.8
EMAL				S	Sn	13 42 30.6	-0.3
SICH	Sidi Chahed	3.08	130	P	Pn	13 41 56.4	+1.0
SICH				S	Sn	13 42 31.5	+0.3
PMRV	Marv??o	3.35	10⇓	ePn	Pn	13 41 59.9	+0.8
PMRV				eSn	Sn	13 42 35.4	-2.5
EGOR	Sierra Gorda,	3.40	72	P	Pn	13 42 01.9	+2.0
EGOR				S	Sn	13 42 38.5	-0.8
EGOR				i Vmb_Lg		13 42 46.3	
PSBE	So Bento	3.42	352	ePn	Pn	13 42 01.3	+1.2
PSBE				eSn	Sn	13 42 37.2	-2.4
PSBE				A	A	13 42 40.1	
	comp=N,196nm,0.4s						
LCRM	LCR	3.64	131	P	Pn	13 42 04.0	+0.7
LCRM				S	Sn	13 42 42.4	-2.9
SRHM	Skhour des Reh	3.65	177	P	Pn	13 42 05.6	+2.3
SRHM				S	Sn	13 42 44.9	-0.5
ELGU	Los Guajares,	3.72	77	P	Pn	13 42 05.1	+0.8
ELGU				S	Sn	13 42 45.9	-1.3
ELGU				i Vmb_Lg		13 42 52.5	
PCBR	Castelo Branco	3.75	8	ePn	Pn	13 42 05.5	+1.0
PCBR				eSn	Sn	13 42 45.6	-2.0
PCBR				A	A	13 42 46.8	
	comp=N,131nm,0.2s						
PCAS	Casmilo, Conde	3.93	356	ePn	Pn	13 42 08.2	+1.1
PCAS				eSn	Sn	13 42 49.0	-3.1
EQUE	Quentar	3.94	73	⇓P	Pn	13 42 09.4	+2.1
EQUE				S	Sn	13 42 51.5	-1.0
EQUE				i Vmb_Lg		13 42 57.8	
CZD	Col de Zad	4.02	139	P	Pn	13 42 10.4	+1.9
CZD				S	Sn	13 42 51.6	-3.1
COI	Coimbra	4.08	357	ePn	Pn	13 42 10.2	+1.1
COI				eSn	Sn	13 42 52.6	-3.2
COI				A	A	13 42 55.5	
	comp=N,145nm,0.1s						
COI	Coimbra	4.08	357	Pn	Pn	13 42 09.7	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	4.15	91	P	Pn	13 42 10.5	+0.4
EALB				S	Sn	13 42 53.8	-3.9
EALB				*i* Vmb_Lg		13 42 59.7	
EPLA	Plasencia	4.26	22	P	Pn	13 42 12.8	+1.2
EPLA				S	Sn	13 42 57.2	-3.1
EPLA				*i* Vmb_Lg		13 43 03.6	
MD31	MD31	4.29	138	P	Pn	13 42 15.0	+2.9
MD31				S	Sn	13 42 57.4	-3.9
MTE	Manteigas	4.29	6	*e*Pn	Pn	13 42 12.8	+0.7
MTE				*e*Sn	Sn	13 42 58.3	-2.9
MTE				A	A	13 43 30.9	
	comp=N,133nm,0.4s						
MTE	Manteigas	4.29	6		Pn	13 42 11.6	-0.5
GOG	Mont Gurugu	4.30	101	P	Pn	13 42 12.3	+0.2
GOG				S	Sn	13 43 00.5	-0.8
EMEL	Melilla	4.31	100	P	Pn	13 42 13.0	+0.7
EMEL				S	Sn	13 42 57.9	-3.6
MDT	Midelt	4.42	137	Pn	Pn	13 42 15.5	+1.6
	comp=N,87nm,0.3s,baz=169,slow=15,SNR=1857						
MDT				Sn	Sn	13 43 02.3	-2.0
	comp=N,81nm,0.3s,baz=168,slow=16,SNR=23						
MDT	Midelt	4.42	137	P	Pn	13 42 15.7	+1.8
MDT				S	Sn	13 43 01.3	-3.0
PAB	San Pablo	4.55	40		Pn	13 42 15.7	0.0
PAB	San Pablo	4.55	40	P	Pn	13 42 16.6	+0.9
PAB				S	Sn	13 43 02.2	-5.5
PAB				*i* Vmb_Lg		13 43 05.3	
PVIS	Viseu	4.59	2	*e*Pn	Pn	13 42 16.9	+0.8
PVIS				*e*Sn	Sn	13 43 05.4	-3.0
PVIS				A	A	13 43 07.8	
	comp=N,76nm,0.1s						
ESDC	Sonseca Array	4.85	42	Pn	Pn	13 42 20.8	+1.0
	comp=N,2.4nm,0.3s,baz=226,slow=13,SNR=64						
ESDC				Sn	Sn	13 43 10.7	-4.2
	comp=N,6.0nm,0.3s,baz=227,slow=22,SNR=25						
ESDC	Sonseca Array	4.85	42		Pn	13 42 18.6	-1.2
ESDC	Sonseca Array	4.85	42	P	Pn	13 42 20.6	+0.8
ESDC				S	Sn	13 43 09.0	-6.0
ESDC				S	Sb	13 43 09.5	-21
ESDC				*i* Vmb_Lg		13 43 14.7	
ESBB	Sonseca Array	4.85	42		Pn	13 42 19.3	-0.5
ENIJ	Nijar	4.86	78	P	Pn	13 42 20.8	+0.9
ENIJ				S	Sn	13 43 13.1	-2.1
ENIJ				*i* Vmb_Lg		13 43 19.2	
PTO	Porto	5.02	356	*e*Pn	Pn	13 42 23.0	+1.0
PTO				*e*Sn	Sn	13 43 15.1	-3.8
PTO				A	A	13 43 17.4	
	comp=N,399nm,0.1s						
MVO	Moncorvo	5.11	10	*e*Pn	Pn	13 42 24.0	+0.7
MVO				*e*Sn	Sn	13 43 16.9	-4.4
MVO				A	A	13 43 20.3	
	comp=N,88nm,0.2s						
PVRL	Vila Real	5.15	4	*e*Pn	Pn	13 42 24.5	+0.6
PVRL				*e*Sn	Sn	13 43 19.3	-3.1
PVRL				A	A	13 43 21.6	
	comp=N,115nm,0.1s						
POLO	Lamas de Olo	5.25	3	*e*Pn	Pn	13 42 26.0	+0.8
POLO				*e*Sn	Sn	13 43 20.6	-4.2
POLO				A	A	13 43 23.8	
	comp=N,66nm,0.2s						
TLOR	Lorca, Murcia	5.40	72	S	Sn	13 43 25.5	-3.0
EZAR	Zarzadilla de	5.46	69	P	Pn	13 42 29.3	+1.1
EZAR				S	Sn	13 43 27.3	-2.7
GUD	Guadarrama	5.50	34	P	Pn	13 42 29.7	+1.0
GUD				S	Sn	13 43 26.3	-4.6
GUD				*i* Vmb_Lg		13 43 30.9	
PCAB	Cabril	5.58	1	*e*Pn	Pn	13 42 30.5	+0.8
PCAB				*e*Sn	Sn	13 43 28.1	-4.7
PCAB				A	A	13 43 32.3	
	comp=N,69nm,0.1s						
UCM	Universidad Co	5.69	41	P	Pn	13 42 33.1	+1.9
UCM				S	Sn	13 43 31.3	-4.3
ELOB	Lobios	5.73	1	P	Pn	13 42 32.4	+0.5
ELOB				S	Sn	13 43 31.1	-5.7
ELOB				*i* Vmb_Lg		13 43 35.2	
PBRG	Braganca	5.78	11	*e*Pn	Pn	13 42 33.1	+0.6
PBRG				*e*Sn	Sn	13 43 32.8	-4.9
PBRG				A	A	13 43 36.1	
	comp=N,27nm,0.3s						
ETOB	Tobarra	5.83	62	P	Pn	13 42 33.6	+0.4
ETOB				S	Sn	13 43 34.9	-4.2
ETOB				*i* Vmb_Lg		13 43 38.5	
PGAV	Gavieira, Arco	5.83	359	*e*Pn	Pn	13 42 34.2	+0.9
PGAV				*e*Sn	Sn	13 43 34.8	-4.3
PGAV				A	A	13 43 38.6	
	comp=N,34nm,0.2s						
CART	Cartagena	5.92	74	P	Pn	13 42 34.6	+0.2
CART				S	Sn	13 43 35.9	-5.3
CART	Cartagena	5.92	74	Pn	Pn	13 42 34.1	-0.3
EZAM	Zamans	6.03	356	P	Pn	13 42 36.8	+0.9
EZAM				S	Sn	13 43 38.1	-5.8
EZAM				*i* Vmb_Lg		13 43 43.9	
EVIV	Cofrentes, Val	6.40	59	P	Pn	13 42 41.3	+0.3
EVIV				S	Sn	13 43 48.2	-4.9
AFON	Font Roja	6.57	65	P	Pn	13 42 43.9	+0.5
AFON				S	Sn	13 43 52.2	-5.1
AFON				*i* Vmb_Lg		13 43 56.1	
ECHE	Chera	6.65	57	P	Pn	13 42 45.1	+0.6
ECHE				S	Sn	13 43 51.0	-8.4
EAGO	Agolada(Pontev	6.67	0	P	Pn	13 42 44.9	+0.2
EAGO				S	Sn	13 43 53.5	-6.1
EAGO				*i* Vmb_Lg		13 43 57.6	
ETOR	Torete	6.70	44	P	Pn	13 42 46.5	+1.4
ETOR				S	Sn	13 43 54.6	-5.9
ETOR				*i* Vmb_Lg		13 44 02.1	
EBEN2	Beniarda presa	6.83	66	P	Pn	13 42 47.1	+0.2
EBEN2				S	Sn	13 43 58.2	-5.5
EBEN2				*i* Vmb_Lg		13 44 01.5	
EMAZ	Mazaricos	6.84	355	P	Pn	13 42 47.6	+0.5
EMAZ				S	Sn	13 43 57.0	-6.9
EMAZ				*i* Vmb_Lg		13 44 03.5	
PMPST	Porto Santo, M	7.40	248	*e*Pn	Pn	13 42 55.6	+0.9
PMPST				*e*Sn	Sn	13 44 11.6	-6.0
PMPST				A	A	13 44 20.0	
	comp=N,39nm,0.6s						
PMPS	Porto Santo	7.41	248	*e*Pn	Pn	13 42 56.6	+1.8
PMPS				*e*Sn	Sn	13 44 12.5	-5.3
PMPS				A	A	13 44 19.2	
	comp=N,30nm,0.2s						
EARI	Arriondas	7.52	17	P	Pn	13 42 57.9	+1.6
EARI				S	Sn	13 44 15.9	-4.6
ECOL	Islas Columbre	7.93	59	P	Pn	13 43 02.9	+0.9
ECOL				S	Sn	13 44 26.2	-4.3
ELAN	Lanestosa	7.97	26	P	Pn	13 43 03.8	+1.2
ELAN				S	Sn	13 44 24.9	-6.9
PMOZ	Porto Moniz, M	8.16	249	*e*Sn	Sn	13 44 30.1	-6.4
PMOZ	Porto Moniz, M	8.16	249	Pn	Pn	13 43 06.2	+0.9
EARA	Aranguren	8.36	35	P	Pn	13 43 10.1	+2.2
EARA				S	Sn	13 44 36.0	-5.2
EORO	Oroz-Betelu	8.58	36	P	Pn	13 43 12.8	+1.9
EORO				S	Sn	13 44 38.0	-8.7
EALK	Alkurruntz	8.74	34	P	Pn	13 43 15.2	+2.1
EALK				S	Sn	13 44 45.5	-5.2
SJPF	Ste Jean	8.79	35	*e*Pn	Pn	13 43 13.9	+0.1
SJPF				*e*Sn	Sn	13 44 45.9	-5.8
	comp=N,38nm,0.5s						
EPOB	Poblet	8.90	51	P	Pn	13 43 16.3	+0.9
EPOB				S	Sn	13 44 45.9	-8.7
CFUE	Fuerteventura	8.91	215	S	Sn	13 44 49.7	-5.2
ETSF	Etsaut	8.95	39	*e*Pn	Pn	13 43 16.2	+0.1
ETSF				*e*Sn	Sn	13 44 49.7	-6.2
	comp=N,9.0nm,0.3s						
CFTV	Fuerteventura	9.18	215	S	Sn	13 44 56.6	-4.9
ECHI	Chisagues Biel	9.18	42	P	Pn	13 43 21.1	+1.9
ECHI				S	Sn	13 44 56.2	-5.5
CGIN	Giniginamar, F	9.36	214	S	Sn	13 44 59.8	-6.0
EMIR	Miracle	9.49	50	P	Pn	13 43 25.6	+2.1
EPF	Esparros	9.51	41	*e*Pn	Pn	13 43 24.1	+0.4
EPF				*e*Sn	Sn	13 45 03.2	-6.4
	comp=N,19nm,0.4s						
MACI	Morro de la Ar	10.57	224	Pn	Pn	13 43 40.6	+2.3
MTLF	Montolieu	10.75	45	*e*Pn	Pn	13 43 40.9	+0.3
MTLF				*e*Sn	Sn	13 45 33.0	-6.9
	comp=N,4.3nm,0.4s						
LFF	La Frestale	11.10	35	*e*Pn	Pn	13 43 45.8	+0.5
CAF	Calviac	11.73	38	*e*Pn	Pn	13 43 54.6	+0.6
CAF				*e*Sn	Sn	13 45 56.0	-7.8
	comp=N,3.2nm,0.3s						
RJF	Les Rejaudoux	11.73	36	*e*Pn	Pn	13 43 54.7	+0.6
RJF				*e*Sn	Sn	13 45 56.3	-7.7
	comp=N,2.0nm,0.2s						
MFF	Saint Martin d	12.06	27	*e*Pn	Pn	13 43 58.6	0.0
MFF				*e*Sn	Sn	13 46 04.1	-7.9
	comp=N,2.3nm,0.3s						
LASF	Ste Croix	12.14	45	*e*Pn	Pn	13 43 59.7	+0.1
QUIF	Quistinic	12.35	16	*e*Pn	Pn	13 44 02.4	0.0
QUIF				*e*Sn	Sn	13 46 10.3	-8.6
TCF	Toulx Ste Croi	12.79	34	*e*Pn	Pn	13 44 08.8	+0.3
SGMF	Saint Gilles	12.80	17	*e*Pn	Pn	13 44 08.9	+0.2
VIVF	Saint-Julien-l	13.08	44	*e*Pn	Pn	13 44 12.6	+0.2
BGF	Bois d'Agland	13.29	35	*e*Pn	Pn	13 44 15.7	+0.4
AVF	Avril sur Loir	13.69	35	*e*Pn	Pn	13 44 20.8	0.0
LDF	La Druitiere	13.79	23	*e*Pn	Pn	13 44 21.3	-0.8
SMF	Signal de Mont	13.82	37	*e*Pn	Pn	13 44 23.3	+0.7
FLN	La Foliniere	13.83	22	*e*Pn	Pn	13 44 22.4	-0.2
	baz=202						
LOR	Lormes	14.28	35	*e*Pn	Pn	13 44 28.9	+0.1
LOR	Lormes	14.28	35	*e*P	P	13 44 33.8	-1.9
	baz=210						
GRFO	Grafenberg	19.55	40	P	P	13 45 34.1	+0.3
GRFO				IAmb	IAmb	13 45 43.6	
	comp=Z,20nm,1.4s						
GRA1	Grafenberg Arr	19.55	40	P	P	13 45 34.2	+0.3
GRA1				IAmb	IAmb	13 45 43.7	
	comp=Z,25nm,1.5s						
KHC	Kasperske Hory	20.52	44	P	P	13 45 44.3	-0.2
KOWA	Kowa	21.86	169	P	P	13 46 02.5	+3.5
	comp=Z,1.2nm,0.5s,baz=4.9,slow=5.6,SNR=3.9						
TIR	Tirane	22.42	68	P	P	13 46 05.3	+0.4
TIR				IAmb	IAmb	13 46 28.9	
	comp=Z,17nm,0.8s						
TORD	Torodi Ar. Bea	24.54	156	P	P	13 46 27.9	+2.1
	comp=Z,70nm,0.8s,baz=339,slow=9.9,SNR=1.6						
IDI	Anoyia	26.78	82	P	P	13 46 47.7	+1.6
FINES	FINESS Array B	33.24	30	P	P	13 47 44.0	+1.1
ARCES	ARCESS Array B	38.14	18	P	P	13 48 26.2	+1.3
	comp=Z,2.8nm,0.8s,baz=228,slow=9.5,SNR=1.9						
MKAR	Makanchi Array	65.03	49	P	P	13 51 45.9	-0.2
	comp=Z,0.3nm,0.7s,baz=280,slow=8.6,SNR=2.7						
YKA	Yellowknife Ar	65.58	331	P	P	13 51 50.2	+0.9
	comp=Z,0.5nm,0.8s,baz=65,slow=7.0,SNR=5.2						
PDAR	Pinedale Array	73.78	311	P	P	13 52 40.7	+0.2
	comp=Z,0.5nm,0.8s,baz=40,slow=4.8,SNR=3.7						
ILAR	Eielson Array	74.36	343	P	P	13 52 43.6	+0.4
	comp=Z,0.3nm,0.6s,baz=18,slow=4.9,SNR=7.3						
ASAR	Alice Springs	145.06	80	PKPbc	PKPab	14 00 44.2	+1.2
	comp=Z,0.4nm,0.6s,baz=293,slow=2.9,SNR=5.0						

NNC ***02*** *13:46:51.3±4.6, 36°.72N×70°.96E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=39.5km s-min=27.1km az=161.0*
IDC ***02*** *13:46:55.4±11.0, 37°.85N×70°.59E, h0km, mb4.4/1, mb1 3.9/4, mb1mx3.4/51, mbtmp3.8/4, ML3.2/3, Error ellipse: s-maj=229.3km s-min=24.9km az=162.0*
ISC 02 13:46:52.2±2.2**, 36°.4N**±0°.2×**71°.1E**±0°.1**, h100km, n13, σ1s.38**/16**, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	6.07	19	P	Pn	13 48 20.0	+0.3
	SNR=19						
UCH	Uchtor	6.40	24	P	Pn	13 48 24.3	+0.1
	SNR=6.3						
EKS2	Erkin-Say	6.59	18	P	Pn	13 48 27.2	+0.6
	SNR=6.4						
KK09	Karatay Array	6.72	356	⇑P	Pn	13 48 28.9	+0.6
	12nm,0.5s,baz=178,slow=13						
KK09				⇑S	Sn	13 49 42.2	-1.2
	6.6nm,0.6s,baz=177,slow=23						
CHMS	Chumysh	7.17	22	P	Pn	13 48 35.0	+0.6
	SNR=5.8						
TKM2	Tokmak 2	7.38	27	P	Pn	13 48 37.8	+0.4
	SNR=7.6						
TKM2	Tokmak 2	7.38	27	⇓P	Pn	13 48 36.8	-0.6
	9.1nm,0.8s						
TKM2				⇓S	Sn	13 49 59.8	+0.2
	0.8nm,0.5s						
GEYT	Alibeck	10.46	282	Pn	Pn	13 49 18.3	-0.8
	0.6nm,0.3s,baz=101,slow=15,SNR=2.3						
GEYT				Sn	Sn	13 51 12.5	-1.8
	2.6nm,0.3s,baz=71,slow=19,SNR=12						
MKAR	Makanchi Array	13.33	35	Pn	Pn	13 49 54.8	-2.5
	0.0nm,0.3s,baz=224,slow=12,SNR=5.0						
AB31	Akbulak array	15.20	331	P	Pn	13 50 21.1	-0.1
	0.2nm,0.3s,baz=138,slow=12,SNR=16						
AKTO	Aktyubinsk	16.89	330	⇑P	P	13 50 44.0	+1.3
	2.6nm,0.8s						
ZALV	Zalesovo Beam	19.98	24	P	P	13 51 14.8	-1.6
	0.6nm,0.3s,baz=209,slow=11,SNR=13						
FINES	FINESS Array B	37.60	326	P	P	13 53 59.4	+2.7
	4.0nm,1.1s,baz=124,slow=12,SNR=2.1						

IDC 02 13:57:36.8±4.6**, 4°.93S**×**94°.65E, h0km, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.3**/46**, mbtmp3.6**/3**, Error ellipse: s-maj=173.8km s-min=36.4km az=55.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.39	115	P	P	14 05 24.8	-0.4
	0.4nm,0.9s,baz=281,slow=9.1,SNR=2.3						
SONM	Songino Array	53.55	10	P	P	14 06 59.6	+0.1
	0.4nm,0.5s,baz=192,slow=9.2,SNR=3.9						
ZALV	Zalesovo Beam	59.24	353	P	P	14 07 39.4	-0.4
	0.9nm,0.5s,baz=188,slow=8.7,SNR=5.9						
TXAR	Lajitas Array	150.17	33	PKPbc	PKPbc	14 17 30.8	+0.1
	0.2nm,0.4s,baz=246,slow=0.2,SNR=4.7						

IDC ***02*** *14:06:58.1±1.4, 22°.90N×120°.43E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/56, mbtmp3.3/4, Error ellipse: s-maj=76.9km s-min=28.8km az=66.0*
TAP ***02*** *14:07:02.0, 22°.87N×120°.23E, h33km, ML4.0, B*
JMA ***02*** *14:07:03.6±0.3, 22°.86N×120°.64E, h0km, M3.3*
ISC 02 14:07:02.6±0.8**, 22°.87N**±0°.02×**120°.19E**±0°.02**, h33km**±3km**, n129, σ0s.84**/208**, mb3.2**/4**, 33C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAI	Tainan	0.12	3	P	Pn	14 07 08.2	+0.7
	baz=347						
TAI				S	Sb	14 07 12.9	+0.4
	baz=347						
TAI1	Yung-k'ang	0.17	12	⇓*i*P	Pn	14 07 08.9	+0.4
	baz=2.0						
TAI1				*i* S	Sb	14 07 14.2	+1.1
	baz=2.0						
SNJT	Kaohsiung City	0.18	131	⇑*i*P	Pn	14 07 08.4	-0.1
	baz=139						
SNJT				*e*S	Sb	14 07 13.3	+0.1
	baz=139						
SHHT	Tainan City	0.21	44	⇓*i*P	Pn	14 07 09.2	+0.1
	baz=35						
SHHT				S	Sb	14 07 14.4	+0.6
	baz=35						
TWM1	Shoushan	0.22	103	⇓*i*P	Pn	14 07 09.4	+0.1
	baz=103						
TWM1				*e*S	Sb	14 07 16.0	+2.0
	baz=103						
WSSB	Gushan	0.24	164	⇓*i*P	Pn	14 07 09.6	0.0
	baz=172						
WSSB				*e*S	Sb	14 07 15.6	+1.3
	baz=172						
CHN3	Shinhua	0.26	38	⇓*i*P	Pn	14 07 10.0	0.0
	baz=31						
CHN3				*e*S	Sb	14 07 16.1	+1.4
	baz=31						
SSHA	Shanhua	0.28	19	⇓P	Pn	14 07 10.4	0.0
	baz=12						
SSHA				*e*S	Sb	14 07 16.6	+1.5
	baz=12						
SCST	Cishan	0.28	87	⇑*i*P	Pb	14 07 10.0	0.0
	baz=85						
SCST				S	Sb	14 07 16.7	+1.5
	baz=85						
SCLT	Jiali	0.30	1	⇓*i*P	Pb	14 07 10.5	+0.1
	baz=355						
SCLT				*i* S	Sb	14 07 17.0	+1.3
	baz=355						
SGLT	Jiouru	0.31	118	⇑*i*P	Pb	14 07 10.5	0.0
	baz=120						
SGLT				*e*S	Sn	14 07 17.3	+1.2
	baz=120						
KAU	Kaohsiung	0.32	160	P	Pb	14 07 10.6	0.0
	baz=165						
KAU				*e*S	Sn	14 07 17.1	+0.8
	baz=165						
TSPT	Pingtung City	0.34	124	⇑*i*P	Pb	14 07 10.9	+0.1
	baz=128						
TSPT				S	Sn	14 07 17.9	+1.0
	baz=128						
SGST	Jiashian	0.42	60	⇑*i*P	Pb	14 07 10.8	-1.2
	baz=57						
SGST				*e*S	Sb	14 07 18.7	+0.3
	baz=57						
SSD	Sandimen	0.43	107	⇑*i*P	Pb	14 07 11.6	-0.5
	baz=108						
SSD				*i* S	Sb	14 07 18.7	+0.1
	baz=108						
SLGT	Liugui	0.44	74	⇑P	Pb	14 07 11.7	-0.6
	baz=72						
SLGT				*e*S	Sb	14 07 18.2	-0.7
	baz=72						
CHN1	Nanshi	0.44	45	⇑*i*P	Pb	14 07 12.0	-0.3
	baz=41						
CHN1				*e*S	Sb	14 07 18.9	-0.1
	baz=41						
SNST	Tainan City	0.45	39	*e*P	Pb	14 07 12.2	-0.2
	baz=35						
SNST				*e*S	Sb	14 07 19.3	+0.2
	baz=35						
TSMG	Majia	0.45	111	⇑*i*P	Pb	14 07 11.8	-0.6
	baz=113						
TSMG				*i* S	Sb	14 07 18.9	-0.3
	baz=113						
CHN8	Yiju	0.47	2	⇑*e*P	Pb	14 07 12.8	0.0
	baz=359						
CHN8				*e*S	Sb	14 07 21.1	+1.4
	baz=359						
TWK	Hsinying	0.48	35	⇓*i*P	Pb	14 07 12.6	-0.3
	baz=32						
TWK				*e*S	Sb	14 07 20.5	+0.5
	baz=32						
MASBT	Mashibuluo	0.48	122	⇑*i*P	Pb	14 07 12.4	-0.5
	baz=124						
MASBT				S	Sb	14 07 20.3	+0.3
	baz=124						
ICHU	Yijhu	0.49	10	⇓P	Pb	14 07 12.5	-0.5
	baz=5.0						
ICHU				*e*S	Sb	14 07 20.8	+0.5
	baz=5.0						
SSPT	Xinbi	0.52	138	⇑P	Pb	14 07 13.5	0.0
	baz=140						
SSPT				*e*S	Sb	14 07 22.4	+1.4
	baz=140						
WTP	Ta-pu	0.54	46	⇑*i*P	Pn	14 07 13.2	-0.9
	baz=44						
WTP				*e*S	Sb	14 07 21.3	-0.3
	baz=44						
TWP	Hsiaoliuchiu	0.55	163	*e*P	Pn	14 07 14.1	+0.1
	baz=166						
TWP				*e*S	Sn	14 07 23.7	+1.6
	baz=166						
WLCH	Liuqiu	0.55	161	⇑*i*P	Pn	14 07 14.5	+0.4
	baz=165						
WLCH				*e*S	Sn	14 07 24.1	+2.0
	baz=165						
TPUB	Ta-pu	0.59	43	⇑P	Pn	14 07 13.7	-1.0
	baz=40						
TPUB				*e*S	Sb	14 07 22.2	-0.7
	baz=40						
STYT	Tauyuan	0.60	61	⇓P	Pn	14 07 14.3	-0.5
	baz=59						
STYT				*e*S	Sb	14 07 22.5	-0.6
	baz=59						
CHN4	Tsaushan	0.60	38	⇓*e*P	Pn	14 07 14.1	-0.8
	baz=35						
CHN4				*e*S	Sn	14 07 23.0	-0.6
	baz=35						
STYH	Taoyuan	0.62	61	*e*P	Pn	14 07 14.1	-1.0
	baz=58						
STYH				*e*S	Sn	14 07 23.0	-0.8
	baz=58						
WDGT	Dungji	0.62	308	*i* P	Pn	14 07 14.4	-0.7
	baz=307						
WDGT				S	Sn	14 07 23.1	-0.8
	baz=307						
SCZT	Fangliau	0.64	141	⇑*i*P	Pn	14 07 14.9	-0.4
	baz=143						
SCZT				*e*S	Sn	14 07 24.2	-0.1
	baz=143						
WSL	Shuilin Townsh	0.65	3	⇑*i*P	Pn	14 07 15.0	-0.5
	baz=360						
WSL				S	Sn	14 07 24.4	-0.2
	baz=360						
CHY	Chiayi	0.66	19	*e*P	Pn	14 07 15.0	-0.7
	baz=17						
CHY				*e*S	Sn	14 07 24.6	-0.3
	baz=17						
CHN2	Minshiung	0.71	22	*e*P	Pn	14 07 15.1	-1.2
	baz=19						
CHN2				*e*S	Sn	14 07 26.1	0.0
	baz=19						
ECL	Taimali	0.76	111	⇑*i*P	Pn	14 07 16.4	-0.5
	baz=112						
ECL				*e*S	Sn	14 07 26.9	-0.4
	baz=112						
WSF	Szhu	0.76	2	*e*P	Pn	14 07 16.6	-0.5
WSF				*e*S	Sn	14 07 27.7	+0.2
VCHM	Qimei	0.78	296	⇑*i*P	Pn	14 07 16.5	-0.7
	baz=295						
VCHM				*e*S	Sn	14 07 27.0	-0.7
	baz=295						
EAST	Anshuo	0.78	129	⇑*i*P	Pn	14 07 16.9	-0.4
	baz=130						
EAST				*e*S	Sn	14 07 28.5	+0.6
	baz=130						
TWGBT	Beinan	0.82	94	⇑*i*P	Pn	14 07 17.6	-0.3
	baz=93						
TWGBT				*e*S	Sn	14 07 29.0	+0.1
	baz=93						
ELDTW	Lidau	0.82	67	⇑*e*P	Pn	14 07 17.4	-0.6
	baz=66						
ELDTW				*e*S	Sn	14 07 28.5	-0.6
	baz=66						
TAW	Tawu	0.83	128	*e*P	Pn	14 07 18.3	+0.3
	baz=129						
WTK	Tuku	0.83	13	⇓*e*P	Pn	14 07 17.2	-0.8
	baz=10.0						
WTK				*e*S	Sn	14 07 28.5	-0.7
	baz=10.0						
TAWH	Dawu Township	0.83	129	⇑P	Pn	14 07 17.5	-0.5
	baz=131						
TAWH				*e*S	Sn	14 07 28.6	-0.5
	baz=131						
CHN5	Tsauling	0.85	32	⇓*e*P	Pn	14 07 17.5	-0.8
	baz=30						
CHN5				*e*S	Sn	14 07 29.2	-0.5
	baz=30						
ALS	Alishan	0.85	42	⇑*e*P	Pn	14 07 17.9	-0.7
	baz=40						
ALS				*e*S	Sn	14 07 29.5	-0.6
	baz=40						
PHUB	P'eng-hu	0.85	318	⇓*i*P	Pn	14 07 17.5	-0.9
	baz=317						
PHUB				*i* S	Sn	14 07 28.8	-0.9
	baz=317						
SLIU	Shizi	0.86	139	⇑*i*P	Pn	14 07 17.9	-0.5
	baz=141						
SLIU				*e*S	Sn	14 07 27.7	-2.2
	baz=141						
LONT	Longtian	0.87	88	⇑P	Pn	14 07 18.2	-0.3
	baz=87						
LONT				*e*S	Sn	14 07 29.7	-0.3
	baz=87						
WDLH	Douliu	0.87	21	⇓*e*P	Pn	14 07 18.0	-0.6
	baz=19						
WDLH				*e*S	Sn	14 07 30.0	-0.2
	baz=19						
WGK	Gukeng	0.88	23	*e*P	Pn	14 07 18.2	-0.4
	baz=21						
WGK				*e*S	Sn	14 07 30.8	+0.5
	baz=21						
TTN	Taitung	0.89	97	*e*P	Pn	14 07 19.7	+0.9
	baz=98						
TTN				*e*S	Sn	14 07 32.2	+1.7
	baz=98						
PNG	Penghu	0.91	320	*i* P	Pn	14 07 18.3	-0.8
	baz=319						
PNG				S	Sn	14 07 30.1	-0.8
	baz=319						
YUS	Yu-Shan	0.93	49	*e*P	Pn	14 07 19.4	-0.5
	baz=47						
YUS				*e*S	Sn	14 07 31.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=47						
ECS	Chishang	0.97	77	eP	Pn	14 07 19.8	-0.2
	baz=76						
ECS				eS	Sn	14 07 33.4	+0.7
	baz=76						
WTCT	Ta-ch'eng	0.99	5	eP	Pn	14 07 20.2	0.0
	baz=3.0						
HEN	Hengchun	1.00	149	eP	Pn	14 07 20.4	+0.1
	baz=151						
HEN				eS	Sb	14 07 36.4	+2.1
	baz=151						
EDH	Donghe	1.03	84⇑	eP	Pn	14 07 20.6	-0.2
	baz=84						
EDH				eS	Sn	14 07 34.4	+0.3
	baz=84						
SMST	Manzhou Townsh	1.04	145	eP	Pn	14 07 20.6	-0.2
	baz=146						
WRL	Guolierlin Hig	1.04	9	eP	Pn	14 07 20.2	-0.7
	baz=8.0						
WRL				eS	Sn	14 07 34.1	-0.2
	baz=8.0						
WJS	Zhushan	1.07	27⇑	eP	Pn	14 07 20.9	-0.4
	baz=26						
WJS				eS	Sn	14 07 35.0	0.0
	baz=26						
FULB	Fuli	1.07	72⇑	eP	Pn	14 07 21.6	+0.4
	baz=71						
FULB				eS	Sn	14 07 36.5	+1.5
	baz=71						
TWK1	Hengchun	1.08	148	eP	Pn	14 07 21.2	-0.3
	baz=150						
TWKBT	Hengchun	1.09	148	eP	Pn	14 07 21.2	-0.3
	baz=150						
WNT	Mingjian	1.10	24	eP	Pn	14 07 21.4	-0.3
	baz=23						
WNT				eS	Sn	14 07 36.2	+0.4
	baz=23						
CHKT	Chengkung	1.11	78	eP	Pn	14 07 21.4	-0.4
	baz=78						
WNT1	Nantou City	1.12	23	eP	Pn	14 07 22.7	+0.7
	baz=22						
TWF1	Yuli	1.13	65⇑	eP	Pn	14 07 22.0	-0.1
	baz=64						
TWF1				eS	Sn	14 07 35.7	-0.7
	baz=64						
EYUL	Yuli	1.14	65	eP	Pn	14 07 22.3	+0.1
	baz=64						
EYUL				eS	Sn	14 07 37.6	+0.8
	baz=64						
YULB	Yu-li	1.14	63⇑	eP	Pn	14 07 22.1	-0.2
	baz=62						
YULB				eS	Sn	14 07 36.7	-0.2
	baz=62						
SSLB	Suanglung	1.15	37	eP	Pn	14 07 22.0	-0.4
	baz=36						
SSLB				eS	Sn	14 07 36.7	-0.4
	baz=36						
TSEB	Hengchuen, Pin	1.17	146	eP	Pn	14 07 22.3	-0.3
	baz=149						
TSEB				eS	Sn	14 07 36.6	-0.8
	baz=149						
LDUT	Ludao	1.20	99⇑	eP	Pn	14 07 22.6	-0.4
	baz=99						
LDUT				eS	Sn	14 07 37.8	-0.3
	baz=99						
TYC	Yuchr	1.20	31	eP	Pn	14 07 22.9	-0.2
	baz=30						
TYC				eS	Sn	14 07 38.2	+0.1
	baz=30						
SMLT	Sun Moon Lake	1.20	33	eP	Pn	14 07 22.7	-0.5
	baz=32						
SMLT				eS	Sn	14 07 37.9	-0.5
	baz=32						
EHY	Hungye	1.22	59	eP	Pn	14 07 23.1	-0.3
	baz=58						
VWDT	VWDT	1.24	45	eP	Pn	14 07 23.8	+0.2
	baz=44						
VWDT				eS	Sn	14 07 39.1	-0.1
	baz=44						
WCHH	Zhanghua	1.25	16	eP	Pn	14 07 23.9	+0.1
	baz=14						
WWF	Wufeng	1.26	22	eP	Pn	14 07 23.9	+0.1
	baz=20						
HGSD	Ruisui	1.29	61⇑	eP	Pn	14 07 25.0	+0.7
	baz=60						
HGSD				eS	Sn	14 07 42.2	+1.7
	baz=60						
WPL	Puli Township	1.34	32	eP	Pn	14 07 24.7	-0.2
	baz=30						
DPDB	Guoxing	1.34	30	eP	Pn	14 07 24.8	-0.2
	baz=29						
TCU	Taichung	1.35	19	eP	Pn	14 07 26.5	+1.4
	baz=18						
WCS	Beigang Elemen	1.35	29	eP	Pn	14 07 25.3	+0.1
	baz=28						
WCS				eS	Sn	14 07 43.1	+1.1
	baz=28						
WUSB	Renai	1.40	37	eP	Pn	14 07 25.9	-0.1
	baz=36						
ESL	Shilin	1.48	50	eP	Pn	14 07 26.9	0.0
	baz=50						
CHGB	Renai	1.49	37	eP	Pn	14 07 27.6	+0.3
	baz=36						
LAY	Lan-yu	1.51	123	eP	Pn	14 07 26.1	-1.2
	baz=124						
LAY				eS	Sn	14 07 43.4	-2.5
	baz=124						
WDJ	Dajia District	1.53	16	eP	Pn	14 07 28.3	+0.8
	baz=14						
LYUB	Lan-yu	1.55	124	eP	Pn	14 07 25.6	-2.3
	baz=124						
LYUB				eS	Sn	14 07 43.1	-3.9
	baz=124						
WHP	Taichung City	1.56	26	eP	Pn	14 07 28.3	+0.2
	baz=25						
TWQ1	Liyutan	1.56	20	eP	Pn	14 07 28.7	+0.6
	baz=19						
WHF	Hehuan Shan	1.61	38	eP	Pn	14 07 29.3	+0.2
	baz=37						
ETM	Tongmen	1.62	47	eP	Pn	14 07 30.0	+1.1
	baz=47						
NSY	Sanyi	1.62	19	eP	Pn	14 07 31.5	+2.5
	baz=18						
NSY				eS	Sn	14 07 49.8	+1.0
	baz=18						
TDCB	Techi	1.64	33	eP	Pn	14 07 29.5	+0.3
	baz=32						
TDCB				eS	Sn	14 07 49.8	+0.5
	baz=32						
TWT	Tachien	1.65	33	eP	Pn	14 07 29.9	+0.5
	baz=32						
FUSS	Fushou	1.68	35	eP	Pn	14 07 30.4	+0.5
	baz=34						
NMLH	Miaoli	1.75	18	eP	Pn	14 07 31.6	+0.9
	baz=17						
TWD	Chiawan	1.76	47	eP	Pn	14 07 31.7	+0.8
	baz=46						
ETLH	Xiulin Townshi	1.78	41	eP	Pn	14 07 32.3	+1.2
	baz=41						
NACB	Ninganchiao	1.83	45	eP	Pn	14 07 32.5	+0.8
	baz=44						
NNSB	Datong	1.90	35	eP	Pn	14 07 34.0	+1.2
	baz=34						
NNS	Nan Shan	1.90	35	eP	Pn	14 07 33.7	+0.8
	baz=34						
NSTT	Nanjuang	1.90	23	eP	Pn	14 07 32.4	-0.3
	baz=22						
LIOB	Emei	1.92	23	eP	Pn	14 07 33.0	0.0
	baz=22						
NFF	Wufeng Townshi	1.95	26	eP	Pn	14 07 33.5	+0.1
	baz=25						
LATG	Datong	2.06	36	eP	Pn	14 07 36.1	+1.1
	baz=36						
NSK	Sanguang	2.09	31	eP	Pn	14 07 36.5	+1.1
	baz=30						
YHNB	Yeheng	2.09	31	eP	Pn	14 07 35.8	+0.4
	baz=30						
ENTT	Nioudou	2.17	35	eP	Pn	14 07 37.7	+1.4
	baz=35						
KNM	Kinmen	2.23	314	eP	Pn	14 07 38.1	+0.9
	baz=311						
KNMB	Chin-men Tao	2.29	314	eP	Pn	14 07 37.9	-0.2
	baz=313						
KNMB				eS	Sn	14 08 03.8	-1.3
	baz=313						
ZPLA	Ao Xicun	2.48	296	eP	Pn	14 07 40.4	-0.2
	baz=295						
DSXP	Dongshan	2.67	289	eP	Pn	14 07 43.3	-0.1
	baz=288						
JYNG	Yonagunijimaku	2.98	58	P	Pn	14 07 48.7	+1.2
JYNG				eS	Sn	14 08 22.0	-0.1
YOJ	Yonaguni jima	3.03	58	P	Pn	14 07 49.3	+1.0
YOJ				eS	Sn	14 08 24.3	+0.8
MATB	Ma-tsu	3.27	356	eP	Pn	14 07 51.4	-0.2
	baz=355						
HATJ	Hateruma jima	3.52	70	P	Pn	14 07 56.2	+1.2
HATJ				eS	Sn	14 08 35.1	-0.5
IRIF	Iriomote-Funau	3.56	65	P	Pn	14 07 56.9	+1.4
IRIF				eS	Sn	14 08 36.2	-0.2
LYJJ	Jianjiangzhen	3.68	354	eP	Pn	14 07 56.8	-0.5
	baz=353						
JKRS	Kuro-shima	3.76	68	P	Pn	14 07 59.0	+0.7
JKRS				eS	Sn	14 08 41.5	+0.1
JIJ	Ishigaki jima	3.92	67	P	Pn	14 08 00.9	+0.4
JIJ				eS	Sn	14 08 44.3	-1.0
JISG	Ishigakijimahi	4.14	65	P	Pn	14 08 04.0	+0.4
JISG				S	Sn	14 08 49.8	-1.1
SONM	Songino Array	27.25	339	P	P	14 12 44.1	+0.4
	0.5nm,0.8s,baz=140,slow=7.5,SNR=1.8						
MKAR	Makanchi Array	38.66	318	P	P	14 14 24.6	+1.5
	0.6nm,0.8s,baz=105,slow=9.8,SNR=5.1						
ASAR	Alice Springs	48.14	163	P	P	14 15 39.6	-0.1
	0.2nm,0.7s,baz=351,slow=9.5,SNR=4.4						
YKA	Yellowknife Ar	84.53	22	P	P	14 19 32.5	+0.5
	0.1nm,0.6s,baz=310,slow=4.9,SNR=4.4						

MAN 02 14:28:34.9, 16°.32N×120°.17E, h31km, mb3.9, ML2.6, MS2.1, Luzon

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*IDC **02** 15:01:22.3±1.4, 65°.44N×12°.78E, h0km, mb1 3.0/4, mb1mx2.9/52, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=21.0km s-min=8.7km az=116.0*
*NAO **02** 15:01:22.9±1.5, 65°.41N×12°.75E, h7km±13km, ML2.6*
*BER **02** 15:01:23.5±3.4, 65°.34N×12°.88E, h0km±9km, ML1.7, ML2.6(NAO)*
ISC 02 15:01:22.3±1.2**, 65°.36N**±0°.02×**12°.87E**±0°.07**, h8**km±10km**, n33,** σ1ˢ.77/54**, Northern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NSS	Namsos	0.92	205	eP	Pg	15 01 38.4	-1.6
NSS				eS	Sg	15 01 50.7	-1.2
NSS				IAML		15 01 52.3	
	comp=Z,30nm,0.2s						
NBB14	Nordeng Farm	0.96	11	eP	Pg	15 01 40.4	-0.4
NBB14	Nordeng Farm	0.96	11	IAML		15 01 55.5	
	comp=Z,8.1nm,0.2s						
STOK	Stokkvaagen	0.98	3	Pg	Pg	15 01 40.5	-0.5
STOK				Lg	Lg	15 01 53.8	
STOK	Stokkvaagen	0.98	3	eP	Pg	15 01 40.5	-0.5
STOK				eS	Sg	15 01 53.6	-0.1
MOR8	Moi Rana	1.04	38	Pg	Pb	15 01 43.8	+1.2
MOR8				Lg	Lg	15 01 56.4	
MOR8	Moi Rana	1.04	38	eP	Pn	15 01 44.4	+1.2
MOR8				eS	Sn	15 02 01.7	+3.8
MOR8				IAML		15 02 03.2	
	comp=Z,22nm,0.2s						
KONS	Konsvik	1.15	5	Pg	Pb	15 01 43.5	-0.8
KONS				Lg	Lg	15 02 00.1	
KONS	Konsvik	1.15	5	eP	Pb	15 01 43.6	-0.8
KONS				eS	Sb	15 02 00.2	+0.9
KONS				IAML		15 02 03.0	
	comp=Z,24nm,0.3s						
NBB40	Tonnes	1.16	3	eP	Pb	15 01 44.1	-0.5
NBB40				eS	Sb	15 02 00.7	+1.0
NBB40				IAML		15 02 06.0	
	comp=Z,14nm,0.2s						
NBB13	Alf Garage	1.28	8	eP	Pn	15 01 46.2	-0.3
NBB13	Alf Garage	1.28	8	eS	Sb	15 02 04.0	+0.7
NBB30	Finnes	1.66	12	eP	Pn	15 01 52.2	+0.6
NBB30				eSg	Sg	15 02 16.7	+1.3
NBB30				IAML		15 02 18.4	
	comp=Z,24nm,0.2s						
NBB03	Karbol	1.94	25	eP	Pn	15 01 57.0	+1.4
NBB03				eSg	Sb	15 02 24.2	+2.0
NBB03				IAML		15 02 27.8	
	comp=Z,19nm,0.2s						
NOD	Norderasen	2.11	155	eP	Pn	15 01 59.0	+1.1
NOD				eSg	Sb	15 02 27.3	+0.1
FAUS	Fauske	2.25	25	eP	Pn	15 02 02.1	+2.4
FAUS				eSg	Sb	15 02 32.8	+1.8
FAUS				IAML		15 02 35.4	
	comp=Z,16nm,0.3s						
STEI	Steigen	2.75	19	eP	Pn	15 02 09.2	+2.6
STEI				IAML		15 02 50.4	
	comp=Z,6.4nm,0.3s						
N2HS	Hamsund	2.95	20	e	Sb	15 02 51.5	+0.4
AKN	Aaknes	4.12	222	Pn	Pn	15 02 26.6	+1.1
AKN	Aaknes	4.12	222	Pn	Pn	15 02 26.6	+1.1
NC204	NORSAR Array S	4.21	194	eP	Pn	15 02 27.6	+0.8
NB2	NORSAR Subarra	4.40	191	Pn	Pn	15 02 30.1	+0.6
	baz=11,slow=14						
NB2				Sn	Sn	15 03 22.0	+1.2
NB2				Lg	Lg	15 03 37.6	
	baz=8.9,slow=37						
NB2	NORSAR Subarra	4.40	191	Pn	Pn	15 02 30.1	+0.6
	baz=11,slow=14						
NB2				Sg	Sb	15 03 37.6	+4.6
	baz=8.9,slow=37						
NOA	NORSAR Array B	4.40	191	Pn	Pn	15 02 29.9	+0.5
	comp=Z,0.0nm,0.3s,baz=6.3,slow=12,SNR=5.8						
NOA				Pg	Pb	15 02 39.6	-0.3
	comp=Z,0.0nm,0.3s,baz=13,slow=18,SNR=8.2						
NOA				Lg	Lg	15 03 35.0	
	comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=1.9						
NRA0	NORESS Array S	4.69	188	Pn	Pn	15 02 33.5	+0.3
	baz=13,slow=14						
NRA0				Sn	Sn	15 03 27.5	-0.2
	baz=17,slow=28						
NRA0				Lg	Lg	15 03 47.2	
	baz=9.5,slow=37						
NRA0	NORESS Array S	4.69	188	Pn	Pn	15 02 33.5	+0.3
	baz=13,slow=14						
NRA0				Sn	Sn	15 03 27.5	-0.2
	baz=17,slow=28						
NRA0				Sg	Sb	15 03 47.2	+6.1
	baz=9.5,slow=37						
HFS	Hagfors	5.26	175	Pn	Pn	15 02 41.7	+0.6
	comp=Z,0.5nm,0.3s,baz=342,slow=8.2,SNR=22						
HFS				Sn	Sn	15 03 41.9	0.0
	comp=Z,0.3nm,0.3s,baz=352,slow=28,SNR=1.9						
HFS				Lg	Lg	15 04 04.9	
	comp=Z,0.8nm,0.3s,baz=343,slow=29,SNR=9.4						
HFS	Hagfors	5.26	175	Pn	Pn	15 02 41.3	+0.1
	baz=346,slow=8.6						
HFS				Sn	Sn	15 03 41.7	-0.2
	baz=346,slow=18						
HFS				Lg	Lg	15 04 05.7	
	baz=350,slow=28						
HFS	Hagfors	5.26	175	Pn	Pn	15 02 41.3	+0.1
	baz=346,slow=8.6						
HFS				Sn	Sn	15 03 41.7	-0.2
	baz=346,slow=18						
ARA0	ARCESS Array S	6.41	44	Pn	Pn	15 02 56.8	0.0
	baz=233,slow=14						
ARA0				Sn	Sn	15 04 06.7	-3.3
	baz=234,slow=22						
ARA0				Lg	Lg	15 04 41.8	
	baz=222,slow=28						
ARA0	ARCESS Array S	6.41	44	Pn	Pn	15 02 56.8	0.0
	baz=233,slow=14						
ARA0				Sn	Sn	15 04 06.7	-3.3
	baz=234,slow=22						
ARCES	ARCESS Array B	6.41	44	Pn	Pn	15 02 56.5	-0.4
	baz=232,slow=13,SNR=18						
ARCES				Sn	Sn	15 04 06.3	-3.7
	baz=233,slow=22,SNR=5.1						
FINES	FINESS Array B	7.11	117	Pn	Pn	15 03 07.2	+0.8
	comp=Z,0.1nm,0.3s,baz=311,slow=12,SNR=1.7						
FINES				Sn	Sn	15 04 25.3	-2.0
	comp=Z,0.1nm,0.3s,baz=313,slow=20,SNR=1.4						
FINES				Lg	Lg	15 05 01.5	
	comp=Z,0.4nm,0.3s,baz=320,slow=27,SNR=7.2						

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*BJI **02** 15:10:33.9±0.0, 15°.46S×167°.58E, h149km, mb4.6/10*
*NEIC **02** 15:10:34.9±1.4, 14°.84S±0°.08×167°.4E±0°.1, h120km±6km, mb4.6/38, Error ellipse: s-maj=18.4km s-min=3.5km az=53.0*
*IDC **02** 15:10:35.5±0.9, 14°.89S×167°.33E, h127km±6km, mb4.1/13, mb1 4.2/15, mb1mx3.9/41, mbtmp4.6/15, Error ellipse: s-maj=16.9km s-min=12.3km az=81.0*
*NOU **02** 15:10:35.1, 14°.88S×167°.40E, h119km, mb4.9/44, Vanuatu Islands*
ISC 02 15:10:35.6±0.5**, 14°.90S**±0°.05×**167°.40E**±0°.08**, h129**km**, n125,** σ1ˢ.00/130**, mb4.5**/32**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.57	199	Pn	Pn	15 10 53.2	-1.8
SANVU	Saraoutou	0.57	199	P	Pn	15 10 53.8	-1.2
DVP	Devils Point	2.91	165	P	Pn	15 11 21.2	+0.3
RTV	Rentapao	3.04	161	P	Pn	15 11 22.2	-0.4
LIFNC	LIFOU	5.84	181	Pn	Pn	15 11 57.9	-2.0
LIFNC	LIFOU	5.84	181	P	Pn	15 11 57.7	-2.3
KOUNC	Koumac, New Ca	6.35	207	P	Pn	15 12 07.2	+0.4
MARNC	Mare, Loyalty	6.57	175		Pn	15 12 07.3	-2.4
MARNC	Mare, Loyalty	6.57	175	P	Pn	15 12 07.7	-2.0
YATNC	Mamie plateau,	7.13	184	P	Pn	15 12 15.9	-1.5
YATNC	Mamie plateau,	7.13	184	P	Pn	15 12 16.4	-1.0
DZM	Mont Dzumac	7.19	187	P	Pn	15 12 18.3	+0.2
	19nm,0.3s,baz=328,slow=7.1,SNR=131						
DZM				S	Sn	15 13 35.3	-3.1
	4.9nm,0.3s,baz=320,slow=22,SNR=1.7						
DZM	Mont Dzumac	7.19	187	ePn	Pn	15 12 18.3	+0.2
	167nm,0.4s						
DZM				eSn	Sn	15 13 36.7	-1.7
	221nm,0.6s						
DZM	Mont Dzumac	7.19	187	Pn	Pn	15 12 17.8	-0.3
DZM	Mont Dzumac	7.19	187	P	Pn	15 12 18.8	+0.6
DZM	Mont Dzumac	7.19	187	P	Pn	15 12 18.9	+0.7
NOUC	Port Laguerre	7.23	188	P	Pn	15 12 19.3	+0.6
NOUC	Port Laguerre	7.23	188	P	Pn	15 12 19.8	+1.1
ONTNC	Ouen Toro	7.42	187	Pn	Pn	15 12 21.1	-0.1
ONTNC	Ouen Toro	7.42	187	P	Pn	15 12 21.5	+0.3
ONTNC	Ouen Toro	7.42	187	P	Pn	15 12 21.9	+0.7
OUENC	Ouen Island, N	7.49	184	Pn	Pn	15 12 22.1	-0.1
OUENC	Ouen Island, N	7.49	184	P	Pn	15 12 22.8	+0.6
OUENC	Ouen Island, N	7.49	184	P	Pn	15 12 23.1	+0.9
PINNC	Pines Island,	7.67	180	Pn	Pn	15 12 24.4	-0.2
PINNC	Pines Island,	7.67	180	P	Pn	15 12 24.7	+0.2
PINNC	Pines Island,	7.67	180	P	Pn	15 12 25.8	+1.3
HNR	Honiara	9.09	306	P	Pn	15 12 43.6	-0.2
	62nm,0.3s,baz=188,slow=7.3,SNR=33						
HNR				S	Sn	15 14 23.2	-1.2
	29nm,0.3s,baz=82,slow=19,SNR=2.5						
HNR	Honiara	9.09	306	Pn	Pn	15 12 42.6	-1.2
HNR	Honiara	9.09	306	P	Pn	15 12 44.0	+0.2
MSVF	Nonsavu	10.60	107	P	Pn	15 13 14.6	+10
	0.4nm,0.3s,baz=275,slow=7.0,SNR=8.8						
EIDS	Eidsvold	18.50	233	P	Pn	15 14 43.8	+0.2
EIDS				IAmb	IAmb	15 14 44.6	
	comp=Z,15nm,0.7s						
EIDS	Eidsvold	18.50	233	P	P	15 14 42.4	+0.5
CTA	Charters Tower	20.81	253	P	P	15 15 07.4	+0.5
	comp=Z,7.6nm,0.8s,baz=77,slow=13,SNR=7.5						
CTA	Charters Tower	20.81	253	P	P	15 15 07.5	+0.5
RMQ	Roma	20.87	234	P	P	15 15 08.0	+0.5
OUZ	Omahuta	20.98	166	P	P	15 15 10.5	+1.9
OUZ				IAmb	IAmb	15 15 11.3	
	comp=Z,72nm,0.9s						
OUZ	Omahuta	20.98	166	P	P	15 15 09.3	+0.7
ARMA	Armidale	21.18	221	P	P	15 15 12.2	+1.4
ARMA				IAmb	IAmb	15 15 14.7	
	comp=Z,21nm,1.1s						
MTSU	Mount Surprise	22.36	259	P	P	15 15 22.4	-0.8
MGCD	Mangrove Creek	23.47	216	P	P	15 15 33.6	+0.1
HIZ	Hauiti	24.42	166	P	P	15 15 42.4	+0.3
HIZ	Hauiti	24.42	166	P	P	15 15 43.3	+1.2
URZ	Urewera	24.80	162	P	P	15 15 45.9	+0.4
	comp=Z,36nm,0.7s,baz=190,slow=1.3,SNR=17						
URZ	Urewera	24.80	162	P	P	15 15 46.0	+0.4
URZ				IAmb	IAmb	15 15 50.1	
	comp=Z,46nm,0.8s						
URZ	Urewera	24.80	162	P	P	15 15 46.2	+0.7
BKZ	Black Stump Fm	25.46	163	P	P	15 15 51.8	+0.2
BKZ	Black Stump Fm	25.46	163	P	P	15 15 52.1	+0.5
CMSA	Cobar Meteorol	25.84	226	P	P	15 15 55.5	+0.4
CNB	Canberra Magne	25.99	215	P	P	15 15 57.4	+0.9
QRZ	Quartz Range	26.21	171	P	P	15 15 59.6	+1.3
BFZ	Birch Farm	26.82	165	P	P	15 16 03.2	-0.6
BFZ				IAmb	IAmb	15 16 05.9	
	comp=Z,31nm,1.0s						
BFZ	Birch Farm	26.82	165	P	P	15 16 02.9	-0.8
SNZO	South Karori	27.07	168	P	P	15 16 06.6	+0.7
THZ	Tophouse	27.18	171	P	P	15 16 07.4	+0.3
THZ				IAmb	IAmb	15 16 08.0	
	comp=Z,21nm,0.8s						
INKA	Innaminka	27.85	238	P	P	15 16 13.5	+0.4
KHZ	Kahutara	27.92	170	P	P	15 16 14.4	+0.9
LTZ	Lake Taylor	28.10	172	P	P	15 16 15.4	+0.3
OXZ	Oxford	28.60	173	P	P	15 16 19.2	-0.4
FOZ	Fox Glacier	28.61	176	P	P	15 16 20.0	+0.4
RPZ	Rata Peaks	28.88	175	P	P	15 16 22.5	+0.4
	comp=Z,20nm,0.8s,baz=170,slow=12,SNR=10						
RPZ	Rata Peaks	28.88	175	P	P	15 16 22.3	+0.2
RPZ				IAmb	IAmb	15 16 23.9	
	comp=Z,33nm,1.0s						
RPZ	Rata Peaks	28.88	175	P	P	15 16 22.8	+0.7
STKA	Stephens Creek	28.98	230	P	P	15 16 23.7	+0.6
	comp=Z,4.1nm,0.3s,baz=55,slow=9.2,SNR=30						
STKA	Stephens Creek	28.98	230	P	P	15 16 24.0	+0.9
STKA	Stephens Creek	28.98	230	P	P	15 16 24.3	+1.2
TOO	Toolangi	29.79	217	P	P	15 16 31.1	+0.9
TOO				IAmb	IAmb	15 16 31.8	
	comp=Z,14nm,1.1s						
ODZ	Otahua Downs	30.17	175	P	P	15 16 33.0	-0.4
ODZ				IAmb	IAmb	15 16 44.7	
	comp=Z,26nm,1.2s						
ODZ	Otahua Downs	30.17	175	P	P	15 16 34.0	+0.6
WHZ	Wether Hill Ro	30.89	179	P	P	15 16 39.9	+0.1
WHZ				IAmb	IAmb	15 16 45.8	
	comp=Z,16nm,1.0s						
HTT	Hallett	31.70	229	P	P	15 16 48.7	+1.5
WR0	Warramunga Arr	31.72	256	P	P	15 16 46.1	-1.3
WB0	Warramunga Arr	31.84	257	P	P	15 16 47.3	-1.2
WB2	Warramunga Arr	31.89	256	P	P	15 16 47.4	-1.6
WRAB	Tennant Creek	31.89	256	P	P	15 16 47.4	-1.6
WRAB	Tennant Creek	31.89	256	P	P	15 16 49.6	+0.6
WRA	Warramunga Arr	31.91	256	P	P	15 16 47.6	-1.5
	comp=Z,1.1nm,0.7s,baz=85,slow=9.0,SNR=12						
WRA				pP	pP	15 17 16.1	-0.1
	comp=Z,0.9nm,0.8s,baz=86,slow=9.1,SNR=4.4						
AS31	Alice Springs	32.73	249	P	P	15 16 54.9	-1.3
ASAR	Alice Springs	32.73	249	P	P	15 16 55.0	-1.3
	comp=Z,2.2nm,0.7s,baz=79,slow=9.1,SNR=78						
ASAR				pP	pP	15 17 22.0	-1.9
	comp=Z,2.6nm,0.7s,baz=76,slow=9.3,SNR=5.5						
ASAR				ScP	ScP	15 23 11.4	+0.3
	comp=Z,1.3nm,0.9s,baz=81,slow=4.4,SNR=4.1						
ASAR	Alice Springs	32.73	249	P	P	15 16 54.8	-1.5
ASAR				PcP	PcP	15 19 38.3	-0.7
BBOO	Buckleboo	33.57	232	P	P	15 17 04.0	+0.6
BBOO				IAmb	IAmb	15 17 28.4	
	comp=Z,4.9nm,1.1s						
BBOO	Buckleboo	33.57	232	P	P	15 17 03.8	+0.4
	comp=Z,28nm,2.2s						
MULG	Mulgathing	34.22	238	P	P	15 17 08.5	-0.6
	comp=Z,7.7nm,1.4s						
KNRA	Kununurra	37.24	264	P	P	15 17 33.8	-1.2
KNRA				IAmb	IAmb	15 17 34.4	
	comp=Z,10nm,1.1s						
KNRA	Kununurra	37.24	264	P	P	15 17 34.9	-0.1
WRKA	Warakurna	37.99	248	P	P	15 17 40.2	-1.1
FORT	Forrest	39.32	239	P	P	15 17 51.5	-0.8
FORT				IAmb	IAmb	15 18 01.1	
	comp=Z,10nm,0.8s						
FORT	Forrest	39.32	239	P	P	15 17 52.3	+0.1
	comp=Z,21nm,1.4s						
FITZ	Fitzroy Crossi	40.11	260	P	P	15 17 58.1	-0.8
RKGY	Rocky Gully	49.27	237	P	P	15 19 13.7	+2.3
	baz=37,SNR=8.0						
JOW	Kunigami	56.26	317	P	P	15 20 03.4	+0.6
MJAR	Matsushiro Arr	58.12	332	P	P	15 20 15.4	-0.3
MJAR				IAmb	IAmb	15 20 25.0	
	comp=Z,3.7nm,1.1s						
MAJO	Matsushiro	58.12	332	P	P	15 20 14.2	-1.5
MAJO				IAmb	IAmb	15 20 31.0	
	comp=Z,5.1nm,0.9s						
MAT	Matsushiro	58.12	332	P	P	15 20 15.5	-0.2
TPUB	Ta-pu	59.45	309	P	P	15 20 24.5	-0.7
YHNB	Yeheng	59.69	311	P	P	15 20 28.1	+1.2
VNDA	Vanda	62.69	181	P	P	15 20 46.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,7.4nm,0.9s,baz=7.7,slow=6.1,SNR=7.7						
VNDA	Vanda	62.69	181	P	P	15 20 46.9	+0.7
VNDA				IAmb	IAmb	15 20 49.1	
	comp=Z,6.3nm,0.8s						
SBA	Scott Base	62.96	180	P	P	15 20 49.4	+1.5
NJ2	Nanjing	65.89	316	*e*P	P	15 21 08.9	+1.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PETK	Petropavlovsk-	68.25	354	P	P	15 21 21.9	-0.3
	comp=Z,5.8nm,1.0s,baz=160,slow=9.0,SNR=2.4						
PETK	Petropavlovsk-	68.25	354	P	P	15 21 21.7	-0.5
SNY	Shenyang	69.42	326	⇑P	P	15 21 36.1	+6.5
SNY				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SNY				LR	LR		
	comp=Z,5µm,19.1s						
SNY				LR	LR		
	comp=Z,8µm,20.6s						
SNY				LR	LR		
	comp=Z,17µm,18.6s						
BNX	BinXian	70.35	331	⇑P	P	15 21 35.6	+0.3
BNX				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KLR	Kul'dur	71.22	336	P	P	15 21 41.1	+0.7
	comp=Z,1.3nm,0.7s,baz=136,slow=6.2,SNR=7.1						
CMAR	Chiang Mai Arr	75.14	294	P	P	15 22 04.8	+0.7
	comp=Z,1.3nm,0.7s,baz=120,slow=5.3,SNR=6.0						
CMAR				pP	pP	15 22 35.4	-0.7
	comp=Z,1.8nm,0.9s,baz=110,slow=4.2,SNR=4.0						
CMAR	Chiang Mai Arr	75.14	294	P	P	15 22 03.8	-0.3
HHC	Hu-ho-hao-te	75.80	320	*e*P	P	15 22 08.7	+1.1
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
PZH	PanZhiHua	75.90	303	P	P	15 22 09.0	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BTO	Baotou	76.64	319	*e*P	P	15 22 21.6	+9.3
YAK	Yakutsk	82.23	343	P	P	15 22 42.3	+0.3
	comp=Z,8.7nm,0.6s,baz=348,slow=0.7,SNR=8.4						
SONM	Songino Array	82.71	324	P	P	15 22 44.9	-0.1
SONM				IAmb	IAmb	15 22 46.8	
	comp=Z,4.1nm,0.9s						
PPLA	Purkeypile	83.69	17	P	P	15 22 50.0	+0.3
CAST	Castle Rocks	84.12	17	P	P	15 22 50.8	-1.0
CAST				IAmb	IAmb	15 22 51.5	
	comp=Z,6.3nm,0.9s						
J20K	Nowinta River	84.16	16	P	P	15 22 51.7	-0.1
TRF	Thorofare Moun	84.67	18	P	P	15 22 54.1	-0.5
TRF				IAmb	IAmb	15 22 54.5	
	comp=Z,3.5nm,0.9s						
N25K	Chitina, Valde	85.14	21	P	P	15 22 57.0	0.0
IL31		86.65	18	P	P	15 23 04.0	-0.2
IL31				IAmb	IAmb	15 23 04.1	
	comp=Z,3.6nm,0.9s						
ILAR	Eielson Array	86.65	18	P	P	15 23 02.8	-1.5
	comp=Z,1.7nm,0.8s,baz=235,slow=5.7,SNR=15						
ILAR				pP	pwP	15 23 38.3	-1.9
	comp=Z,1.2nm,0.8s,baz=246,slow=5.6,SNR=3.8						
ILAR	Eielson Array	86.65	18	P	P	15 23 03.8	-0.4
WMQ	Urumqi	92.94	315	*e*P	P	15 23 35.9	+1.6
MKAR	Makanchi Array	97.42	316	P	Pdif	15 23 54.7	+0.1
	comp=Z,0.9nm,0.7s,baz=100,slow=5.1,SNR=1.6						
MKAR	Makanchi Array	97.42	316	P	P	15 23 54.5	-0.1
ARCES	ARCESS Array B	120.45	345	PKP	PKPdf	15 29 10.9	-0.3
	comp=Z,2.0nm,0.8s,baz=29,slow=1.8,SNR=6.3						
ARCES	ARCESS Array B	120.45	345		PKPdf	15 29 10.7	-0.5

*NEIC **02** 15:12:05.2±2.1, 4.°82S±0.°06×94.°27E±0.°07, h12km±3km, mb5.1/72, Error ellipse: s-maj=11.1km s-min=7.6km az=130.0*

*IDC **02** 15:12:05.7±0.4, 4.°56S×94.°31E, h0km, mb4.8/33, mb1 4.8/36, mb1mx4.6/56, mbtmp4.8/36, ML4.7/3, Error ellipse: s-maj=12.6km s-min=10.9km az=170.0*

*BJI **02** 15:12:06.5±0.0, 4.°50S×94.°40E, h10km, mb4.8/56, mB5.1/2, Ms5.6/2, Ms7 5.3/3*

*DJA **02** 15:12:07.5±0.1, 5°S±2°×9°4E±°, h10km, M5.8/84, mb5.1/84, mB6.2/12, MLv5.8/8, Mw(mB)5.8/12, MwMwp7.3/3, Mwp7.0/3*

*KLM **02** 15:12:08, 4.°31S×94.°20E, h9km, mb5.3*

*MOS **02** 15:12:09.4±1.1, 4.°31S×94.°39E, h29km, mb5.2/75, Error ellipse: s-maj=8.6km s-min=4.5km az=110.8*

ISC 02 15:12:06.1±0.3**, 4.°69S**±0.°05**×94.°28E**±0.°04**, h10km, n460, σ1.s71**/461**, mb5.1**/165**, MS5.6**/3**, 13C-46D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	5.85	55	P	Pn	15 13 31.7	-1.3
	3.5nm754nm,0.4s						
PPSI	Pulau Pagai	6.03	72	P	Pn	15 13 34.4	-1.0
	3.9nm1µm,1.0s						
GSI	Gunungsitoli	6.80	29	Pn	Pn	15 13 43.3	-2.8
GSI	Gunungsitoli	6.80	29	P	Pn	15 13 43.5	-2.6
	2.3nm459nm,0.6s						
GSI	Gunungsitoli	6.80	29	P	Pn	15 13 43.9	-2.2
PPI	Padang Panjang	7.42	56	P	Pn	15 13 53.0	-1.5
	2.1nm7µm418nm,0.6s						
KRJI	Kerinci	7.62	70	P	Pn	15 13 56.3	-1.1
	7.0nm25µm2µm,0.7s						
COCO	West Island	7.87	161	Pn	Pn	15 13 54.5	-6.2
MASI	Maura Aman, Be	8.09	79	P	Pn	15 14 02.3	-1.5
	2.2nm9µm339nm,0.7s						
KSI	Kapahiang	8.36	83	P	Pn	15 14 06.5	-1.0
BKNI	Bangkinang	8.39	54		Pn	15 14 06.5	-1.4
BKNI	Bangkinang	8.39	54	P	Pn	15 14 07.0	-0.9
	467nm,0.8s						
BKNI	Bangkinang	8.39	54	P	Pn	15 14 06.1	-1.8
MNAI	Manna	8.66	88	Pn	Pn	15 14 09.7	-1.8
MNAI	Manna	8.66	88	P	Pn	15 14 10.8	-0.7
	245nm,0.6s						
MNAI	Manna	8.66	88	P	Pn	15 14 10.4	-1.1
RPSI	Rantau Prapat	8.68	32	Pn	Pn	15 14 09.3	-2.5
RPSI	Rantau Prapat	8.68	32		Sn	15 15 51.6	+1.8
PSI	Prapat	8.77	32	Pn	Pn	15 14 10.6	-2.5
	2.6nm,0.3s,baz=191,slow=9.9,SNR=14						
PSI				Sn	Sn	15 15 51.6	-0.6
	1.7nm,0.3s,baz=202,slow=14,SNR=3.9						
KCSI	Kotacane, Aceh	8.87	23	P	Pn	15 14 12.6	-1.9
	121nm,0.5s						
RGRI	Rengat	9.13	62	P	Pn	15 14 17.8	-0.2
	241nm,0.5s						
TSI	Tuntungan	9.19	28	P	Pn	15 14 18.2	-0.7
	8µm143nm,0.5s						
LHSI	Lahat	9.26	85	P	Pn	15 14 18.9	-0.9
LWLI	Liwa	9.75	92	P	Pn	15 14 25.7	-1.0
	202nm,0.6s						
JMBI	JAMBI	9.83	72	P	Pn	15 14 26.0	-1.6
	109nm,0.5s						
MDSI	Maura Dua	9.87	89	P	Pn	15 14 26.6	-1.6
	44nm,1.1s						
LHMI	Lhok Sumawe	10.21	15	Pn	Pn	15 14 31.1	-1.7
KASI	Kota Agung	10.21	95	P	Pn	15 14 31.9	-1.0
	79nm,0.8s						
KLSI		10.42	90	P	Pn	15 14 34.3	-1.4
PMBI	Palembang	10.62	81	Pn	Pn	15 14 35.8	-2.6
PMBI	Palembang	10.62	81	P	Pn	15 14 36.5	-1.9
	271nm,0.5s						
BLSI	Bandar Lampung	10.95	94	P	Pn	15 14 43.4	+0.5
	92nm,0.4s						
DSRI	Dabo	11.10	68	P	Pn	15 14 43.5	-1.6
	43nm,0.6s						
IPM	Ipoh	11.33	37	Pn	Pn	15 14 48.2	0.0
IPM	Ipoh	11.33	37	P	Pn	15 14 48.7	+0.5
CGJI	Cibinong	11.52	100	P	Pn	15 14 51.0	+0.2
MYKOM	Kota Tinggi	11.53	56		Pn	15 14 49.5	-1.4
MYKOM	Kota Tinggi	11.53	56	P	Pn	15 14 51.0	+0.1
TPRI	Tanjung Pinang	11.65	62	P	Pn	15 14 51.7	-0.9
	138nm,1.2s						
KULM	Kulim	11.78	33	Pn	Pn	15 14 51.3	-3.1
KULM	Kulim	11.78	33	P	Pn	15 14 52.0	-2.3
JRMM	Jerantut	11.82	44	P	Pn	15 14 54.0	-0.9
DBJI	Dramaga	12.55	99	P	Pn	15 15 04.3	-0.6
	68nm,1.4s						
CBJI	Citeko	12.63	98	P	Pn	15 15 08.7	+2.7
	112nm,0.8s						
CNJI	Cibinong	13.04	102	P	Pn	15 15 12.3	+0.7
	72nm,1.4s						
LEM	Lembang	13.44	100	Pn	Pn	15 15 19.5	+2.3
	4.1nm,0.3s,baz=282,slow=7.4,SNR=5.9						
LEM				Sn	Sn	15 17 46.8	-0.1
	4.6nm,0.3s,baz=298,slow=20,SNR=4.1						
LEM	Lembang	13.44	100	P	Pn	15 15 18.7	+1.5
	71nm,1.5s						
SRIT	Nakonsritamara	14.22	22	Pn	Pn	15 15 25.5	-2.3
KPJI	Karang Pucung	14.81	101	P	Pn	15 15 37.1	+1.4
	12µm51nm,1.3s						
YOGI	Yogyakarta	16.22	102	P	P	15 15 55.0	-2.4
	56nm,1.1s						
SMRI	Semarang	16.25	99		P	15 15 55.4	-2.3
SMRI				IAmb	IAmb	15 16 23.7	
	comp=Z,168nm,1.4s						
UGM	Wanagama	16.46	102		Pn	15 15 55.1	-2.3
UGM				IAmb	IAmb	15 16 20.7	
	comp=Z,275nm,1.4s						
UGM	Wanagama	16.46	102	P	Pn	15 15 56.6	-0.8
	comp=Z,122nm,1.3s						
UGM	Wanagama	16.46	102	P	P	15 15 58.9	-1.2
KSM	Kuching	17.14	69	Pn	Pn	15 16 04.6	-1.4
PCJI	Pacitan	17.15	103	P	Pn	15 16 05.4	-0.6
	comp=Z,14µmcomp=Z,46nm,1.5s						
PWJI	Pagerwojo	17.73	102	P	Pn	15 16 12.5	-0.8
	comp=Z,889µmcomp=Z,47nm,1.2s						
STKI	Sintang	17.82	75	P	P	15 16 15.7	+0.6
PALK	Pallekele	18.02	311	P	P	15 16 17.7	+0.3
	comp=Z,8.6nm,0.3s,baz=235,slow=12,SNR=47						
PALK				S	Sn	15 19 20.9	-17
	comp=Z,1.2nm,0.3s,baz=123,slow=18,SNR=3.1						
PALK	Pallekele	18.02	311	P	Pn	15 16 16.7	-0.3
PALK				pmax	pmax		
	comp=Z,81nm,1.0s						
PALK	Pallekele	18.02	311		Pn	15 16 16.7	-0.3
SBUM	Sibu	19.28	69		P	15 16 30.8	-0.5
GMJI	Gumukmas	19.37	102	P	Pn	15 16 33.7	+0.4
BLJI	Banyuglugur	19.44	100	P	Pn	15 16 33.5	-0.6
	comp=Z,9µmcomp=Z,36nm,1.2s						
ABJI	Asem Bagus	20.07	100	P	Pn	15 16 42.2	+0.5
	comp=Z,107nm,2.1s						
JAGI	Jajag, Banyuwa	20.09	102	P	P	15 16 37.0	-3.2
JAGI	Jajag, Banyuwa	20.09	102	P	P	15 16 39.8	-0.3
	comp=Z,34nm,1.0s						
MTKI	Muara Teweh, K	20.92	80	P	Pn	15 16 50.7	-1.0
	comp=Z,124nm,0.8s						
SRBI	Singaraja	21.07	100	P	P	15 16 51.2	+0.4
	comp=Z,122nm,1.6s						
IGBI	Denpasar	21.12	102	P	P	15 16 52.8	+1.5
	comp=Z,61nm,1.4s						
H08S2	Diego Garcia H	21.86	261	T	T	15 39 20.3	
	baz=82,slow=74,SNR=10.0						
H08S3	Diego Garcia H	21.86	261	T	T	15 39 21.6	
	baz=82,slow=74,SNR=18						
DGAR	Diego Garcia	21.87	262	P	P	15 16 54.7	-4.6
DGAR				pmax	pmax		
	comp=Z,108nm,0.8s						
DGAR	Diego Garcia	21.87	262	P	P	15 16 54.7	-4.6
H08S1	Diego Carcia H	21.87	261	T	T	15 39 22.5	
	baz=82,slow=74,SNR=13						
KBKI	Kotabaru	21.88	87	P	P	15 16 58.5	-0.9
	comp=Z,40nm,0.9s						
UBPT	Khong Chiam	22.73	29	P	P	15 17 08.1	-0.4
CM31	Chiang Mai Arr	23.45	11	P	P	15 17 14.7	-1.3
CM31				IAmb	IAmb	15 17 36.4	
	comp=Z,121nm,1.4s						
CMAR	Chiang Mai Arr	23.45	11	P	P	15 17 16.0	+0.1
	comp=Z,22nm,1.0s,baz=200,slow=8.3,SNR=45						
CMAR	Chiang Mai Arr	23.45	11	P	P	15 17 15.3	-0.6
CMAR	Chiang Mai Arr	23.45	11	P	P	15 17 15.2	-0.6
PLAI	Plampang	23.69	101	P	P	15 17 18.5	+0.2
	comp=Z,6µmcomp=Z,149nm,1.1s						
PLAI	Plampang	23.69	101	P	P	15 17 20.2	+1.9
CHTO	Chiang Mai	23.80	11	P	P	15 17 18.5	-0.8
CHTO				pmax	pmax		
	comp=Z,46nm,1.1s						
CHTO	Chiang Mai	23.80	11	P	P	15 17 18.5	-0.8
CHTO				IAmb	IAmb	15 17 30.9	
	comp=Z,46nm,1.1s						
SPMM	Sapulut	24.05	67	P	P	15 17 24.0	+2.2
KKM	Kota Kinabalu	24.36	64	P	P	15 17 24.4	-0.4
KKM	Kota Kinabalu	24.36	64	P	P	15 17 25.4	+0.7
KAPI	Kappang	25.38	92	P	P	15 17 35.9	+2.0
	comp=Z,37nm,1.0s,baz=278,slow=8.4,SNR=5.7						
KAPI	Kappang	25.38	92	P	P	15 17 30.0	-3.9
KAPI				pmax	pmax		
	comp=Z,71nm,1.2s						
KAPI	Kappang	25.38	92		P	15 17 30.0	-3.9
KAPI				IAmb	IAmb	15 17 44.6	
	comp=Z,71nm,1.1s						
WBSI	Waikabubak, Su	25.39	103	P	P	15 17 32.6	-1.4
	comp=Z,170nm,1.3s						
SPSI	Sidrap Palu	25.43	89	P	P	15 17 35.8	+1.5
	comp=Z,39nm,1.0s						
TTSI	Tana Toraja	25.53	87	P	P	15 17 38.6	+3.3
	comp=Z,65nm,1.6s						
BNSI	Bone	25.75	90	P	P	15 17 40.7	+3.5
	comp=Z,72nm,1.4s						
BKSI	Bulukumba	25.75	93	P	P	15 17 38.8	+1.6
	comp=Z,45nm,0.9s						
MPSI	Mapaga	26.07	80	P	P	15 17 43.6	+3.4
	comp=Z,5µmcomp=Z,25nm,1.0s						
MYLDM	Lahad Datu	26.10	68	P	P	15 17 39.7	-0.7
BASI	Baing, Sumba	26.64	103	P	P	15 17 44.9	-0.4
	comp=Z,166nm,1.7s						
HYBB	Hyderabad (bro	26.90	325	*e*P	P	15 17 48.5	+0.9
TOLI2	Tolitoli	27.10	78	P	P	15 17 47.5	-2.0
TOLI2				IAmb	IAmb	15 18 09.4	
	comp=Z,27nm,0.9s						
TOLI2	Tolitoli	27.10	78	P	P	15 17 50.3	+0.9
APSI	Ampana	27.59	83	P	P	15 17 55.5	+1.7
	comp=Z,29nm,1.2s						
MMRI	Maumere	28.04	100	P	P	15 17 56.6	-1.3
	comp=Z,70nm,1.4s						
BATI	Baumata	29.63	102	P	P	15 18 13.3	+1.2
	comp=Z,18nm,0.7s,baz=308,slow=5.4,SNR=5.2						
BATI	Baumata	29.63	102	P	P	15 18 13.1	+1.0
	comp=Z,20nm,1.0s						
KMI	Kunming	30.75	15	⇑P	P	15 18 24.9	+2.8
KMI				pP	pwP	15 18 27.7	-2.5
KMI				sP	sP	15 18 31.5	+7.3
KMI				pmax	pmax		
	comp=Z,19nm,0.9s						
KMI				LR	LR		
	comp=Z,11µm,37.5s						
PZH	PanZhiHua	31.84	13	P	P	15 18 33.3	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MEEK	Meekatharra	31.89	136	P	P	15 18 33.6	+1.7
	baz=32,SNR=3.1						
ODAN	Odare	32.06	348	*e*P	P	15 18 34.5	+0.9
	comp=Z,157nm,1.0s						
RAMN	Ramite	32.32	347	*e*P	P	15 18 36.9	+1.1
	comp=Z,20nm,0.7s						
TAPN	Taplejung	32.48	349	*e*P	P	15 18 38.2	+0.9
	comp=Z,67nm,1.1s						
JIRN	Jiri	33.09	347	*e*P	P	15 18 43.5	+0.7
	comp=Z,139nm,1.1s						
PKI	Pulchoki	33.20	346	*e*P	P	15 18 43.7	+0.1
PKIN	Phulchoki	33.20	346	*e*P	P	15 18 43.6	0.0
GYA	Guiyang	33.21	21	⇑P	P	15 18 46.5	+3.0
GYA				pmax	pmax		
	comp=Z,11nm,1.1s						
DMN	Daman	33.31	345	*e*P	P	15 18 44.9	+0.4
GUN	Gumba	33.41	346	*e*P	P	15 18 45.9	+0.4
	comp=Z,78nm,0.8s						
LBMI	Labuha	33.42	84	P	P	15 18 46.4	+1.0
	comp=Z,4µmcomp=Z,42nm,1.0s						
FITZ	Fitzroy Crossi	33.43	116	P	P	15 18 42.5	-2.9
KKN	Kakani	33.44	345	*e*P	P	15 18 46.0	+0.4
TNTI	Ternate	33.50	82	P	P	15 18 45.5	-0.6
	comp=Z,20nm,1.0s						
GKN	Gorkha	33.81	345	*e*P	P	15 18 48.8	+0.1
	comp=Z,85nm,1.1s						
KOLN	Koldanda	33.88	343	*e*P	P	15 18 49.6	+0.2
	comp=Z,95nm,1.0s						
LSA	Lhasa	34.32	355	P	P	15 18 53.2	-0.4
LSA				pmax	pmax		
	comp=Z,57nm,1.2s						
LSA	Lhasa	34.32	355	P	P	15 18 53.2	-0.4
LSA	Lhasa	34.32	355	P	P	15 18 54.7	+1.1
LSA				pmax	pmax		
	comp=Z,49nm,1.3s						
PYUN	Piuthan	34.37	342	*e*P	P	15 18 53.6	-0.1
	comp=Z,58nm,0.9s						
DANN	Dangsing	34.38	343	*e*P	P	15 18 53.7	-0.1
	comp=Z,57nm,1.1s						
H01W3	Cape Leeuwin H	35.22	151	T	T	15 56 50.6	
	baz=328,slow=74,SNR=2.9						
H01W2	Cape Leeuwin H	35.23	151	T	T	15 57 07.3	
	baz=328,slow=74,SNR=3.0						
H01W1	Cape Leeuwin H	35.24	151	T	T	15 56 50.8	
	baz=328,slow=74,SNR=3.1						
KNRA	Kununurra	35.59	110	P	P	15 19 04.5	+0.4
	baz=36,SNR=4.2						
CD2	Chengdu	36.54	14	P	P	15 19 12.6	+0.5
CD2				pP	pwP	15 19 19.7	-0.6
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
ENH	Enshi	37.69	22	P	P	15 19 20.5	-1.4
ENH				IAmb	IAmb	15 19 39.2	
	comp=Z,32nm,0.9s						
WRKA	Warakurna	38.41	125	P	P	15 19 29.8	+1.6
	baz=38,SNR=6.3						
WHN	Wuhan	39.95	27	⇓P	P	15 19 42.0	+1.2
GOMU	GeErMu	40.68	1	P	P	15 19 47.9	+0.7
GOMU				pP	sP	15 19 52.2	+2.8
GOMU				sP	pwP	15 19 56.6	+1.3
GOMU				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN	Xi'an	40.93	19	P	P	15 19 49.2	+0.3
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
LZH	Lanzhou	41.54	12	*e*P	P	15 19 57.3	+3.2
LZH				pP	pwP	15 20 02.5	+0.3
LZH				sP	sP	15 20 04.2	+7.9
LZH				pmax	pmax		
	comp=Z,26nm,1.5s						
WRA	Warramunga Arr	41.83	115	P	P	15 19 57.7	+1.1
	comp=Z,6.5nm,0.8s,baz=290,slow=8.9,SNR=23						
WB0	Warramunga Arr	41.83	115	P	P	15 19 54.3	-2.2
WB0				IAmb	IAmb	15 20 08.5	
	comp=Z,27nm,1.2s						
WRAB	Tennant Creek	41.83	115	⇓*i*P	P	15 19 57.5	+0.9
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	Tennant Creek	41.83	115	P	P	15 19 52.7	-3.9
WRAB				IAmb	IAmb	15 20 09.4	
	comp=Z,30nm,1.2s						
WB2	Warramunga Arr	41.84	115	P	P	15 19 52.1	-4.5
WB2				IAmb	IAmb	15 20 09.4	
	comp=Z,29nm,1.2s						
ASAR	Alice Springs	42.58	120	P	P	15 20 04.0	+1.3
	comp=Z,5.4nm,1.0s,baz=290,slow=7.1,SNR=20						
ASAR				PcP	PcP	15 21 55.9	+0.8
	comp=Z,1.2nm,0.8s,baz=304,slow=3.3,SNR=2.3						
ASAR	Alice Springs	42.58	120	P	P	15 20 01.7	-1.0
ASAR	Alice Springs	42.58	120	P	P	15 20 01.7	-1.0
AS31	Alice Springs	42.58	120	P	P	15 19 57.9	-4.9
LYN	LuoYang	42.63	22	*e*P	P	15 20 05.1	+2.3
LYN				pP	pwP	15 20 08.9	-2.1
LYN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NIL	Nilore	43.01	334	P	P	15 20 05.0	-1.0
NIL				pmax	pmax		
	comp=Z,32nm,1.1s						
NIL	Nilore	43.01	334	P	P	15 20 05.0	-1.0
NIL				IAmb	IAmb	15 20 06.9	
	comp=Z,32nm,1.1s						
NJ2	Nanjing	43.38	31	*e*P	P	15 20 10.5	+1.6
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
SOCY	Socotra	43.42	293	P	P	15 20 09.2	-0.5
GTA	Gaotai	44.18	6	⇓P	P	15 20 16.0	+0.6
GTA				pP	pwP	15 20 20.9	-2.6
GTA				sP	sP	15 20 23.8	+6.2
GTA				pmax	pmax		
	comp=Z,22nm,1.3s						
KBL	Kabul	45.70	331	P	P	15 20 23.5	-4.2
KBL				pmax	pmax		
	comp=Z,26nm,1.1s						
KBL	Kabul	45.70	331	P	P	15 20 23.5	-4.2
KBL				IAmb	IAmb	15 20 30.7	
	comp=Z,26nm,1.1s						
HNS	HongShan	45.99	23	⇑P	P	15 20 31.2	+1.5
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
QIS	Mount Isa	46.76	114	P	P	15 20 37.6	+1.4
	baz=47,SNR=6.2						
KSH	Kashi	47.12	341	P	P	15 20 37.2	-1.5
KSH				sP	pwP	15 20 46.2	-0.6
KSH				pmax	pmax		
	comp=Z,15nm,1.1s						
OPO	Ambohidratompo	47.98	249	P	P	15 20 48.2	+2.4
	comp=Z,15nm,1.0s,baz=70,slow=11,SNR=8.9						
HHC	Hu-ho-hao-te	48.01	18	*e*P	P	15 20 48.6	+3.1
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ	Urumqi	48.65	354	*e*P	P	15 20 51.5	+1.1
WMQ				sP	pwP	15 21 00.3	+1.7
WMQ				PcP	PcP	15 22 20.8	+5.0
WMQ				S	S	15 27 54.3	+1.7
WMQ				pmax	pmax		
	comp=Z,110nm,1.5s						
GAR	Garm	48.79	335	P	P	15 20 49.6	-2.1
BJT	Baijiatuau	48.84	22	P	P	15 20 50.6	-1.2
BJT				pmax	pmax		
	comp=Z,38nm,1.3s						
BJT	Baijiatuau	48.84	22	P	P	15 20 50.6	-1.2
BJT				IAmb	IAmb	15 21 03.8	
	comp=Z,38nm,1.3s						
BJI	Beijing	48.86	22	P	P	15 20 52.1	+0.2
BJI				pP	sP	15 20 56.0	+1.9
BJI				PcP	PcP	15 22 15.6	-0.9
BJI				S	S	15 27 56.8	+1.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHGR	Chuyangaron	49.00	334	P	P	15 20 52.5	-0.7
CHGR				pmax	pmax		
	comp=Z,67nm,1.0s						
CHGR	Chuyangaron	49.00	334	P	P	15 20 50.0	-3.2
HRA	Herat	49.22	325	P	P	15 20 54.2	-1.0
HRA				IAmb	IAmb	15 20 57.4	
	comp=Z,43nm,1.2s						
SHLS	Shalkode	49.48	346	*e*P	P	15 20 55.1	-1.7
SHLS				pmax	pmax		
	comp=Z,19nm,1.2s						
SHLS	Shalkode	49.48	346	*e*P	P	15 20 55.2	-1.7
	comp=Z,19nm,1.2s,baz=346						
UZB	Uzynbulak	49.58	345	*e*P	P	15 20 56.4	-1.2
UZB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UZB	Uzynbulak	49.58	345	*e*P	P	15 20 56.5	-1.2
	comp=Z,10nm,0.7s,baz=345						
PDGK	Podgornoye	49.63	346	P	P	15 20 57.7	-0.3
SATY	Saty	49.65	345	*e*P	P	15 20 56.9	-1.2
SATY				pmax	pmax		
	comp=Z,18nm,0.9s						
SATY	Saty	49.65	345	*e*P	P	15 20 57.0	-1.2
	comp=Z,18nm,0.9s,baz=345						
ZHN	Zhinishke	49.75	345	*e*P	P	15 20 58.7	-0.2
ZHN	Zhinishke	49.75	345	*e*P	P	15 20 58.8	-0.2
	baz=345						
JSU	Suzuyama	49.84	41	P	P	15 20 59.1	-0.5
JSU				IAmb	IAmb	15 21 00.6	
	comp=Z,12nm,0.7s						
KPKS	Kokpek	49.96	345	*e*P	P	15 20 59.0	-1.5
KPKS				pmax	pmax		
	comp=Z,12nm,1.0s						
KPKS	Kokpek	49.96	345	*e*P	P	15 20 59.0	-1.5
	comp=Z,12nm,1.0s,baz=345						
TNSS	Tian-Shan	50.03	343	*e*P	P	15 21 01.1	-0.3
	baz=343						
MDOK	Medeo	50.12	344	*e*P	P	15 20 59.9	-1.8
MDOK	Medeo	50.12	344	*e*P	P	15 20 59.9	-1.8
	baz=344						
AAA	Alma-Ata	50.20	343	*e*P	P	15 21 01.3	-0.9
AAA	Alma-Ata	50.20	343	*e*P	P	15 21 01.3	-0.9
	baz=343						
AML	Almayashu	50.22	340	P	P	15 21 03.3	+0.5
	SNR=14						
KBK	Karagaybulak	50.28	341	P	P	15 21 04.1	+1.1
	SNR=15						
TKM2	Tokmak 2	50.32	342	P	P	15 21 03.6	+0.2
	SNR=20						
TKM2	Tokmak 2	50.32	342	P	P	15 21 02.8	-0.6
HTT	Hallett	50.39	130	P	P	15 21 05.9	+2.0
	baz=50,SNR=3.8						
AAK	Ala-Archa	50.41	341	⇓*i*P	P	15 21 04.3	+0.3
AAK				pmax	pmax		
	comp=Z,19nm,1.4s						
AAK	Ala-Archa	50.41	341	P	P	15 21 03.4	-0.6
CHMS	Chumysh	50.66	342	P	P	15 21 06.1	+0.4
	SNR=9.0						
EKS2	Erkin-Say	50.67	340	P	P	15 21 06.6	+0.7
	SNR=14						
USP	Ospenovka	50.98	341	P	P	15 21 08.1	0.0
	SNR=21						

KUU Kurty 50.99 343 *e*P **P 15 21 06.5 -1.6**
KUU pmax pmax
comp=Z,65nm,1.4s
KUU Kurty 50.99 343 *e*P **P 15 21 06.6 -1.6**
comp=Z,65nm,1.4s,baz=343
SGDS Sogindy 51.10 342 *e*P **P 15 21 07.5 -1.5**
baz=342
DZA Taraz 51.72 339 *e*P **P 15 21 12.7 -1.0**
DZA Taraz 51.72 339 *e*P **P 15 21 12.7 -1.0**
baz=338
STKA Stephens Creek 51.86 127 P **P 15 21 16.4 +1.5**
comp=Z,4.1nm,0.8s,baz=303,slow=6.6,SNR=8.8
STKA Stephens Creek 51.86 127 P **P 15 21 16.6 +1.6**
baz=52,SNR=5.5
STKA Stephens Creek 51.86 127 P **P 15 21 12.7 -2.3**
STKA pmax pmax
comp=Z,5.0nm,1.3s
STKA Stephens Creek 51.86 127 P **P 15 21 12.7 -2.3**
KKAR Karatay Array 52.21 338 P **P 15 21 16.4 -0.9**
KKAR Karatay Array 52.21 338 P **P 15 21 16.4 -0.9**
KSRS Korea Array 52.33 34 P **P 15 21 18.6 +0.3**
comp=Z,3.1nm,0.7s,baz=219,slow=8.1,SNR=7.7
MK31 Makanchi Array 52.35 350 P **P 15 21 17.0 -1.3**
MK31 pmax pmax
comp=Z,14nm,1.0s
MK31 Makanchi Array 52.35 350 P **P 15 21 17.0 -1.3**
MKAR Makanchi Array 52.35 350 P **P 15 21 17.8 -0.4**
comp=Z,13nm,0.9s,baz=160,slow=8.7,SNR=109
MKAR Makanchi Array 52.35 350 *i* P **P 15 21 17.7 -0.6**
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 52.35 350 P **P 15 21 16.4 -1.8**
MAKZ Makanchi 52.42 349 P **P 15 21 16.1 -2.7**
MAKZ pmax pmax
comp=Z,17nm,1.2s
MAKZ Makanchi 52.42 349 P **P 15 21 16.1 -2.7**
ZSN Zaisan 52.58 352 *e*P **P 15 21 19.1 -0.8**
ZSN pmax pmax
comp=Z,20nm,1.1s
ZSN Zaisan 52.58 352 *e*P **P 15 21 19.1 -0.8**
comp=Z,20nm,1.1s,baz=352
PMG Port Moresby 52.65 98⇓*e*P **P 15 21 21.6 +0.6**
BTLS Baital 52.72 342 *e*P **P 15 21 19.3 -1.7**
BTLS Baital 52.72 342 *e*P **P 15 21 19.3 -1.7**
baz=342
SONM Songino Array 53.38 10 P **P 15 21 26.5 +0.6**
comp=Z,2.2nm,0.5s,baz=193,slow=9.0,SNR=21
SONM Songino Array 53.38 10 P **P 15 21 24.4 -1.6**
SONM pmax pmax
comp=Z,33nm,1.4s
SONM Songino Array 53.38 10 P **P 15 21 24.4 -1.6**
SONM lAmb lAmb 15 21 37.4
comp=Z,33nm,1.4s
ULN Ulaanbaatar 53.52 11⇓*e*P **P 15 21 27.1 0.0**
ULN pmax pmax
comp=Z,25nm,1.4s
ULN Ulaanbaatar 53.52 11 P **P 15 21 25.8 -1.3**
ULN lAmb lAmb 15 21 38.3
comp=Z,26nm,1.4s
ARPS Mount Arapiles 53.95 133 P **P 15 21 32.3 +2.0**
baz=54,SNR=5.4
GEYT Alibeck 54.08 325 P **P 15 21 32.5 +1.2**
comp=Z,24nm,0.9s,baz=187,slow=16,SNR=31
CMSA Cobar Meteorol 55.04 125 P **P 15 21 40.2 +1.9**
baz=55,SNR=29
RAYN Ar Rayn 55.20 303 P **P 15 21 37.8 -1.8**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 55.20 303 P **P 15 21 37.8 -1.8**
ZAK Zakamensk 55.40 7 *e*P **P 15 21 40.9 +0.3**
ZAK *e* 15 22 46.9
ZAK *e* 15 23 46.3
ZAK pmax pmax
comp=Z,19nm,1.4s
ZAK pmax pmax
comp=Z,10.0nm,1.5s
CN2 Changchun 55.84 27 *e*P **P 15 21 42.8 -1.0**
MOY Mondy 56.43 5 *e*P **P 15 21 48.8 +0.8**
MOY pmax pmax
comp=Z,20nm,1.7s
KURK Kurchatov 56.81 348⇓*i*P **P 15 21 49.7 -0.8**
KURK pmax pmax
comp=Z,34nm,1.4s
KURK Kurchatov 56.81 348 P **P 15 21 47.5 -3.0**
KURK lAmb lAmb 15 21 51.2
comp=Z,34nm,1.3s
KMBO Kilima Mbogo 57.05 272 P **P 15 21 56.0 +2.7**
comp=Z,1.5nm,0.5s,baz=89,slow=6.0,SNR=12
IRK Irkutsk 57.35 7 *e*P **P 15 21 54.8 +0.4**
IRK pmax pmax
comp=Z,47nm,1.7s
BRZS Berezniki 57.57 344 *e*P **P 15 21 54.4 -1.6**
BRZS pmax pmax
comp=Z,14nm,1.3s
BRZS Berezniki 57.57 344 *e*P **P 15 21 54.5 -1.6**
comp=Z,14nm,1.3s,baz=344
MAT Matsushiro 58.00 41 P **P 15 21 58.1 -1.2**
MJAR Matsushiro Arr 58.00 41 P **P 15 21 58.8 -0.5**
comp=Z,3.7nm,0.9s,baz=76,slow=23,SNR=3.2
MJAR Matsushiro Arr 58.00 41 P **P 15 21 58.1 -1.2**
MJAR pmax pmax
comp=Z,10.0nm,1.2s
MJAR Matsushiro Arr 58.00 41 P **P 15 21 58.1 -1.2**
BNX BinXian 58.22 27⇑P **P 15 22 01.6 +1.0**
BNX pmax pmax
comp=Z,31nm,1.3s
ZAA0 Zalesovo Array 58.96 353 P **P 15 22 04.3 -1.3**
ZALV Zalesovo Beam 58.96 353 P **P 15 22 05.0 -0.6**
comp=Z,26nm,0.7s,baz=177,slow=6.1,SNR=111
ZALV Zalesovo Beam 58.96 353 *i* P **P 15 22 05.0 -0.6**
ZALV pmax pmax
comp=Z,25nm,0.6s
ZALV Zalesovo Beam 58.96 353 P **P 15 22 04.1 -1.5**
USA0B Ussuriysk Arra 59.29 31⇓*e*P **P 15 22 09.0 +0.9**
USRK Ussuriysk Ar. 59.29 31 P **P 15 22 08.5 +0.4**
comp=Z,9.2nm,0.7s,baz=234,slow=6.5,SNR=12
USRK Ussuriysk Ar. 59.29 31 P **P 15 22 08.2 +0.1**
USRK Ussuriysk Ar. 59.29 31 P **P 15 22 08.2 +0.1**
BRVK Borovoye 61.00 344⇑*i*P **P 15 22 19.0 -0.6**
BRVK pmax pmax
comp=Z,15nm,1.3s
BRVK Borovoye 61.00 344 P **P 15 22 18.2 -1.4**
BRVK lAmb lAmb 15 22 19.8
comp=Z,12nm,1.1s
AB31 Akbulak array 61.45 335 *i* P **P 15 22 23.0 +0.2**
ABKAR Akbulak array 61.45 335 P **P 15 22 22.7 -0.1**
KLR Kul'dur 62.79 27 P **P 15 22 32.0 +0.3**
comp=Z,4.9nm,0.7s,baz=282,slow=4.3,SNR=10
KLR Kul'dur 62.79 27⇑*e*P **P 15 22 34.5 +2.7**
KLR pmax pmax
comp=Z,17nm,1.5s
DDFL Dedoflistskaro 63.49 321 P **P 15 22 41.1 +4.4**
MBAR Mbarara 63.58 272 P **P 15 22 39.6 +1.6**
comp=Z,2.1nm,0.2s,baz=67,slow=4.3,SNR=5.0
LGD Lagodekhi 63.64 322 P **P 15 22 41.8 +4.2**
GNI Garni 63.66 319*de*P **P 15 22 39.1 +1.1**
GNI pmax pmax
comp=Z,23nm,1.3s
GNI Garni 63.66 319 P **P 15 22 37.3 -0.7**
BOD Bodaibo 64.31 12 *e*P **P 15 22 41.5 -0.1**
BOD pmax pmax
comp=Z,34nm,1.9s
ZEA Zeya 64.44 21 *e*P **P 15 22 44.5 +1.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
GURO Guroymak-BITLI 64.65 317 P **P 15 22 43.1 -1.4**
GURO lAmb lAmb 15 23 11.4
comp=Z,21nm,1.3s
GUDG Gudauri 65.08 321 P **P 15 22 49.2 +1.9**
ZEI Tsey 65.61 321 *e*P **P 15 22 51.4 +0.7**
ZEI pmax pmax
comp=Z,10.0nm,1.2s
MATP Matopo 65.69 250 P **P 15 22 52.6 +1.1**
comp=Z,9.6nm,1.0s,baz=80,slow=12,SNR=13
LSZ Lusaka 65.72 255 P **P 15 22 53.2 +1.4**
comp=Z,11nm,1.0s,baz=93,slow=5.7,SNR=12
LSZ Lusaka 65.72 255 P **P 15 22 49.2 -2.7**
LSZ pmax pmax
comp=Z,22nm,1.2s
LSZ Lusaka 65.72 255 P **P 15 22 49.2 -2.7**
LSZ lAmb lAmb 15 22 54.4
comp=Z,22nm,1.2s
NCK Nalchik 66.18 322⇑*e*P **P 15 22 55.4 +1.3**
NCK pmax pmax
comp=Z,48nm,1.3s

KBZ Khabaz 66.73 322 P **P 15 22 59.1 +1.6**
comp=Z,11nm,0.8s,baz=127,slow=6.0,SNR=16
KBZ Khabaz 66.73 322⇓*i*P **P 15 22 58.9 +1.3**
KBZ pmax pmax
comp=Z,19nm,1.0s
YSS Yuzh-Sakhalins 66.83 34⇓*e*P **P 15 23 00.2 +2.1**
YSS pmax pmax
comp=Z,28nm,1.2s
KIV Kislovodsk 66.98 322 *e*P **P 15 23 00.3 +1.0**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 66.98 322 P **P 15 22 56.7 -2.6**
KIV lAmb lAmb 15 23 01.8
comp=Z,22nm,1.0s
SVE Sverdlovsk 67.15 341⇓*e*P **P 15 23 00.9 +0.9**
SVE pmax pmax
comp=Z,65nm,1.1s
ARU Arti 67.54 339*d i*P **P 15 23 02.5 0.0**
ARU S **S 15 32 00.3 +1.4**
ARU pmax pmax
comp=Z,39nm,1.2s
ARU Arti 67.54 339 P **P 15 23 00.3 -2.1**
SOC Sochi 68.64 321 *e*P **P 15 23 07.0 -2.7**
SOC *e* 15 25 41.3
SOC *e*S **S 15 32 08.1 -4.5**
SOC pmax pmax
comp=Z,27nm,1.0s
TYV Tymovskoe 69.10 30 *e*P P 15 23 21.5 +9.2
TYV pmax pmax
comp=Z,8.0nm,1.6s
BELG Belogornoye 69.20 332 P **P 15 23 13.3 +0.4**
comp=Z,36nm,0.9s,baz=146,slow=1.6,SNR=13
BELG Belogornoye 69.20 332*c i*P **P 15 23 13.4 +0.4**
BELG pmax pmax
comp=Z,9.0nm,1.0s
BOSA Boshof 69.37 241 P **P 15 23 15.8 +1.1**
comp=Z,6.7nm,1.0s,baz=104,slow=5.1,SNR=6.0
BOSA Boshof 69.37 241 P **P 15 23 10.9 -3.8**
BOSA pmax pmax
comp=Z,37nm,1.5s
BOSA Boshof 69.37 241 P **P 15 23 10.9 -3.8**
BOSA lAmb lAmb 15 23 17.0
comp=Z,37nm,1.4s
BR131 Keskin Array S 71.02 315*d i*P **P 15 23 24.5 -0.2**
BR131 Keskin Array S 71.02 315 P **P 15 23 24.0 -0.6**
BR131 lAmb lAmb 15 23 25.7
comp=Z,13nm,0.8s
BRTR Keskin Array B 71.02 315 P **P 15 23 24.8 +0.1**
comp=Z,7.7nm,0.8s,baz=127,slow=7.5,SNR=27
BRTR Keskin Array B 71.02 315 P **P 15 23 24.4 -0.2**
VRH Novokhopyorsk 71.45 328 *e*P **P 15 23 26.6 -0.1**
VRH pmax pmax
comp=Z,40nm,0.9s
ANTO Ankara 71.68 315 P **P 15 23 28.8 +0.3**
ANTO pmax pmax
comp=Z,14nm,0.8s
ANTO Ankara 71.68 315 P **P 15 23 28.8 +0.3**
ANTO lAmb lAmb 15 23 30.4
comp=Z,14nm,0.8s
YAK Yakutsk 71.86 17 P **P 15 23 29.0 0.0**
comp=Z,4.5nm,0.5s,baz=190,slow=0.1,SNR=2.4
YAK Yakutsk 71.86 17 *e*P **P 15 23 28.2 -0.7**
YAK *e**PP **PcP 15 23 42.7 -5.0**
YAK *e* 15 23 48.8
YAK *e*PPP PPP 15 27 53.1
YAK *e*S **S 15 32 45.1 -4.4**
YAK *e**SS **SKSac 15 33 29.3 -3.3**
YAK *e*SS **SS 15 37 26.2 +0.2**
YAK *e*SSS SSS 15 40 24.1
YAK pmax pmax
comp=Z,48nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax smax
comp=N,4μm,11.9s
YAK smax smax
comp=E,2μm,9.7s
KIRV Kirov 72.49 337⇑*i*P **P 15 23 33.9 +1.1**
ELL Elmali 72.67 311 P **P 15 23 36.3 +1.8**
SIM Simferopol' 72.84 320 *e*P **P 15 23 35.9 +0.7**
SIM pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 73.03 328 *e*P **P 15 23 35.6 -0.6**
VORR pmax pmax
comp=Z,80nm,0.4s
SYO Syowa Base 73.54 198⇓*e*P **P 15 23 37.0 -1.9**
SUR Sutherland 73.55 238 P **P 15 23 42.1 +2.2**
comp=Z,17nm,0.9s,baz=87,slow=0.1,SNR=6.7
SUR Sutherland 73.55 238 P **P 15 23 39.9 -0.1**
NRIK Noril'sk 74.02 358 P **P 15 23 42.3 +0.7**
comp=Z,14nm,0.9s,baz=162,slow=4.7,SNR=16
NRIK Noril'sk 74.02 358⇑*i*P **P 15 23 41.9 +0.3**
NRIK pmax pmax
comp=Z,46nm,1.4s
NRIK Noril'sk 74.02 358 P **P 15 23 41.6 0.0**
TSUM Tsumeb 75.92 251 P **P 15 23 55.6 +1.8**
comp=Z,8.0nm,1.0s,baz=82,slow=6.8,SNR=5.4
TSUM Tsumeb 75.92 251 P **P 15 23 54.6 +0.8**
TSUM lAmb lAmb 15 23 56.5
comp=Z,18nm,1.2s
PRGR Permogore 75.93 338 *e*P **P 15 23 51.5 -1.3**
PRGR pmax pmax
comp=Z,49nm,0.9s
MOS Moscow 75.94 331 *e*P **P 15 23 52.2 -0.8**
MOS *e* 15 24 01.1
MOS pmax pmax
comp=Z,69nm,0.9s
OBN Obninsk 76.15 330 *e*P **P 15 23 54.5 +0.3**
OBN *e* 15 24 07.1
OBN *e* 15 26 46.0
OBN *e*PPP PPP 15 28 30.2
OBN pmax pmax
comp=Z,59nm,1.7s
OBN MLR MLR
comp=Z,4μm,17.0s
JURR Jurilovca 76.20 318⇓P **P 15 23 55.0 +0.2**
TIRR Tirgusor 76.40 318⇓P **P 15 23 56.5 +0.6**
TIRR Tirgusor 76.40 318 P **P 15 23 55.8 -0.1**
TIRR pmax pmax
comp=Z,26nm,1.0s
TIRR Tirgusor 76.40 318 P **P 15 23 55.8 -0.1**
TIRR lAmb lAmb 15 23 57.9
comp=Z,26nm,1.0s
TPGR Topolog 76.54 318⇓P **P 15 23 57.3 +0.6**
HARR Harsova 76.80 318⇓P **P 15 23 59.0 +0.8**
HARR Harsova 76.80 318 P **P 15 23 58.9 +0.8**
CFR Carcaliu 76.84 318⇓P **P 15 23 58.1 -0.2**
CFR Carcaliu 76.84 318 P **P 15 23 58.1 -0.2**
ALN Alexandroupoli 76.87 314 P **P 15 23 58.9 +0.3**
ALN pmax pmax
comp=Z,18nm,1.3s
ALN Alexandroupoli 76.87 314 P **P 15 23 58.9 +0.3**
ALN lAmb lAmb 15 24 21.7
comp=Z,18nm,1.3s
SORM Soroca 77.76 321⇓P **P 15 24 04.0 +0.6**
SORM Soroca 77.76 321 P **P 15 24 04.0 +0.6**
KLMR Klimovskoe 77.83 336 *e*P **P 15 24 02.6 -1.0**
KLMR pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 77.83 336 *e*P **P 15 24 02.6 -1.0**
KLMR AMP 15 24 05.0
comp=Z,18nm,1.0s
MA2 Magadan 77.87 26⇓*i*P **P 15 24 04.0 +0.2**
MA2 pmax pmax
comp=Z,9.0nm,1.1s
MA2 Magadan 77.87 26 P **P 15 24 03.8 0.0**
VRI Vrincioaia 78.00 319⇓P **P 15 24 06.4 +1.5**
VRI Vrincioaia 78.00 319 P **P 15 24 06.0 +1.1**
VRI pmax pmax
comp=Z,46nm,0.9s
PLOR Plostina 78.05 319⇓P **P 15 24 06.7 +1.4**
PLOR Plostina 78.05 319 P **P 15 24 06.6 +1.4**
AKASG Malin Array Be 78.19 324 P **P 15 24 06.0 +0.2**
comp=Z,8.7nm,0.9s,baz=94,slow=4.4,SNR=46
AKASG PP **PP 15 27 07.3 +4.7**
comp=Z,2.3nm,0.9s,baz=105,slow=6.7,SNR=4.1
AKBB Malin Array Si 78.19 324*j i*P **P 15 24 05.8 0.0**
AKBB pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 78.19 324 lAmb lAmb 15 24 07.0
comp=Z,12nm,0.8s
PEA0B Petropavlovsk- 78.22 33⇓*e*P **P 15 24 07.9 +1.9**

TESR Tescani 78.27 319⇓P **P 15 24 07.3 +0.9**
MLR Muntele Rosu 78.40 318⇓P **P 15 24 09.3 +2.1**
MLR Muntele Rosu 78.40 318 P **P 15 24 08.9 +1.6**
MLR pmax pmax
comp=Z,45nm,1.0s
PET Petropavlovsk 78.72 34 *e*P **P 15 24 07.5 -1.1**
PET pmax pmax
comp=Z,43nm,1.6s
PRAR RASCA 78.83 320⇓P **P 15 24 10.2 +0.8**
DOPR Dopca 78.92 318⇓P **P 15 24 11.4 +1.5**
VOIR 78.98 318⇓P **P 15 24 11.2 +0.8**
VOIR 78.98 318 P **P 15 24 11.0 +0.6**
VOIR pmax pmax
comp=Z,8.0nm,1.0s
VTS Vitosha 79.39 315⇓P **P 15 24 13.3 +0.5**
VTS Vitosha 79.39 315 P **P 15 24 12.4 -0.4**
VTS pmax pmax
comp=Z,9.0nm,1.1s
VTS Vitosha 79.39 315 P **P 15 24 12.4 -0.4**
TIXI Tiksi 79.46 11⇑*e*P **P 15 24 12.8 +0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 79.46 11 P **P 15 24 11.7 -0.6**
TIXI lAmb lAmb 15 24 20.0
comp=Z,36nm,1.5s
BURAR Bucovina Array 79.56 320⇓P **P 15 24 16.0 +2.5**
BURAR Bucovina Array 79.56 320 P **P 15 24 16.0 +2.5**
BUR08 Bucovina Ar. S 79.58 320 P **P 15 24 15.0 +1.3**
BUR08 lAmb lAmb 15 24 19.3
comp=Z,14nm,0.9s
SEY Seymchan 80.29 23⇓*i*P **P 15 24 18.1 +1.1**
GZR Gura Zlata 80.49 317⇓P **P 15 24 19.6 +1.0**
HERR Herculane 80.59 317⇓P **P 15 24 19.1 +0.1**
DRGR 80.94 319 P **P 15 24 22.6 +1.6**
DRGR pmax pmax
comp=Z,13nm,0.7s
LVV L'vov 81.01 322 *e*P **P 15 24 21.9 +0.7**
MDVR Moldovita 81.05 317⇓P **P 15 24 22.7 +1.2**
NACGM Naroch 81.14 327 *i* P **P 15 24 22.1 +0.3**
IDID Didziasalis 81.31 328 *e*P **P 15 24 23.7 +1.1**
BZS Buzias 81.34 317⇓P **P 15 24 24.3 +1.3**
TRPA Tarpa 81.44 320⇓P **P 15 24 25.1 +1.6**
TRPA Tarpa 81.44 320 P **P 15 24 24.8 +1.3**
SIRR Siria 81.49 318⇓P **P 15 24 25.1 +1.3**
IIGN Ignalina 81.60 328 *e*P **P 15 24 25.6 +1.4**
UZH Uzhgorod 81.74 320 *e*P **P 15 24 21.7 -3.3**
UZH *e* 15 24 26.0
UZH *e* 15 24 33.0
KWP Kalwaria Pacla 81.77 321 P **P 15 24 27.3 +2.1**
KWP pmax pmax
comp=Z,39nm,1.0s
DIVS Divibare 82.06 316 lAmb lAmb 15 24 50.6
comp=Z,17nm,1.2s
PDG Podgorica 82.18 314⇓P **P 15 24 28.1 +0.6**
PDG Podgorica 82.18 314 lAmb lAmb 15 24 28.9
comp=Z,14nm,0.7s
CRVS Cervenica-Dubn 82.34 320 *e*P **P 15 24 30.0 +1.7**
CRVS Cervenica-Dubn 82.34 320 *e*P **P 15 24 30.0 +1.7**
VSU Vasula 82.47 331⇑*e*P **P 15 24 29.3 +0.7**
VSU pmax pmax
comp=Z,51nm,0.8s
VSU Vasula 82.47 331 *e*P **P 15 24 29.6 +1.0**
SUW Suwalki 82.82 326 P **P 15 24 31.0 +0.5**
SUW pmax pmax
comp=Z,76nm,1.2s
SUW Suwalki 82.82 326 P **P 15 24 31.0 +0.5**
SUW Suwalki 82.82 326 *e*P **P 15 24 31.1 +0.5**
KECS Kecovo 82.85 320 *e*P **P 15 24 32.2 +1.3**
KECS Kecovo 82.85 320 *e*P **P 15 24 32.2 +1.3**
PABE Paberze 82.86 327 *e*P **P 15 24 31.5 +0.8**
LVZ Lovozero 83.36 341⇓*e*P **P 15 24 33.4 +0.2**
LVZ pmax pmax
comp=Z,24nm,1.0s
MORH Mrgy, Hungar 83.50 317⇓P **P 15 24 35.3 +1.0**
MORH Mrgy, Hungar 83.50 317 P **P 15 24 34.7 +0.4**
KOVH Kovagotottos 83.83 317 P **P 15 24 36.6 +0.5**
FINES FINESS Array B 83.88 333 P **P 15 24 36.8 +0.9**
comp=Z,6.3nm,0.7s,baz=101,slow=4.9,SNR=14
VYHS Vyhne 83.92 320 *e*P **P 15 24 38.1 +1.7**
VYHS Vyhne 83.92 320 *e*P **P 15 24 38.1 +1.7**
MSF Maaselka 84.42 338 P **P 15 24 38.4 -0.2**
MSF pmax pmax
comp=Z,18nm,1.2s
MPLH Magyarpolny 84.46 318 P **P 15 24 40.9 +1.8**
EGYH Egyhazaskeszo 84.65 318 P **P 15 24 40.8 +0.7**
JAVC Velka Javorina 84.75 320 *e*P **P 15 24 42.6 +1.9**
SMOL Smolenice 84.83 319 *e*P **P 15 24 43.6 +2.6**
SMOL Smolenice 84.83 319 *e*P **P 15 24 43.6 +2.6**
MORC Moravsky Berou 85.04 321⇓P **P 15 24 43.5 +1.4**
MORC Moravsky Berou 85.04 321 P **P 15 24 43.5 +1.4**
MORC Moravsky Berou 85.04 321 *e*P **P 15 24 43.8 +1.7**
OUL Oulu 85.30 337 P **P 15 24 44.2 +1.2**
OUL pmax pmax
comp=Z,22nm,1.6s
KRUC Moravsky 85.62 320 P **P 15 24 46.8 +1.9**
KRUC pmax pmax
comp=Z,13nm,2.2s
KRUC Moravsky 85.62 320 *e*P **P 15 24 46.6 +1.7**
CONA Conrad Observa 85.73 319 *e*P **P 15 24 47.1 +1.4**
comp=Z,3.6nm,0.8s
ARSA Arzberg 85.82 318 *e*P **P 15 24 48.2 +2.2**
comp=Z,11nm,0.8s
DPC Dobruska-Polom 85.94 321 *e*P **P 15 24 48.7 +2.1**
DPC *e* 15 24 58.5
DPC Dobruska-Polom 85.94 321 *e*P **P 15 24 48.7 +2.1**
DPC *ex* x 15 24 58.5
SGF Sodankyl 85.95 339 P **P 15 24 47.8 +1.6**
SGF pmax pmax
comp=Z,16nm,0.5s
PERS Pernice 85.97 317 *i* P **P 15 24 48.3 +1.5**
SOKA Soboth 86.03 317 P **P 15 24 48.8 +1.6**
comp=Z,15nm,1.1s,SNR=5.3
OSTC Ostas 86.05 321 *e*P **P 15 24 49.0 +1.9**
KSP Ksiaz 86.06 322 P **P 15 24 46.9 -0.2**
KSP pmax pmax
comp=Z,11nm,1.0s
CHVC Chvalec 86.15 321 *e*P **P 15 24 49.5 +1.9**
UPC Upice 86.16 321 P **P 15 24 50.1 +2.5**
UPC pmax pmax
comp=Z,11nm,2.0s
OBKA Obir 86.33 317 *e*P **P 15 24 49.9 +1.2**
comp=Z,11nm,1.7s
CKRC Cesky Krumlov 86.92 319 *e*P **P 15 24 53.4 +2.0**
CKRC *ex* x 15 25 04.1
MYKA Terra Mystica 86.97 317 *e*P **P 15 24 53.1 +1.3**
comp=Z,12nm,1.3s
PRU Pruhonice 86.98 321 *e*P **P 15 24 53.7 +2.0**
PRU Pruhonice 86.98 321 *e*P **P 15 24 53.7 +2.0**
ARCES ARCESS Array B 87.08 341 P **P 15 24 53.4 +1.7**
comp=Z,7.3nm,0.8s,baz=126,slow=3.5,SNR=9.2
KBA Koelnbreinsper 87.25 317 *e*P **P 15 24 54.4 +1.1**
comp=Z,7.9nm,1.2s
KBA Koelnbreinsper 87.25 317 P **P 15 24 54.4 +1.1**
KBA pmax pmax
comp=Z,8.0nm,1.4s
GERES GERESS Array B 87.32 319 P **P 15 24 54.9 +1.5**
comp=Z,3.4nm,0.6s,baz=226,slow=5.4,SNR=16
KHC Kasperske Hory 87.45 320 *e*P **P 15 24 55.6 +1.6**
KHC Kasperske Hory 87.45 320 *e*P **P 15 24 55.6 +1.6**
BRG Berggiesshubel 87.53 321 *e*P **P 15 24 56.2 +1.9**
BRG Amp 15 24 59.2
comp=Z,17nm,1.4s
BRG Berggiesshubel 87.53 321 *e*P **P 15 24 56.1 +1.9**
BRG pmax pmax
comp=Z,17nm,1.4s
STAL STALIGIAL 87.54 317 lAmb lAmb 15 25 12.9
comp=Z,10nm,1.1s
BILL Bilibino 87.67 21 *e*P **P 15 24 55.5 +0.9**
BILL *e* 15 28 17.1
BILL *e*PPP PPP 15 30 18.1
BILL pmax pmax
comp=Z,10.0nm,2.1s
BILL MLR MLR
comp=Z,2μm,15.0s
ABTA Abfaltersbach 87.75 317 *e*P **P 15 24 57.2 +1.6**
comp=Z,7.1nm,1.3s
SNAA Sanae 87.83 198 P **P 15 24 58.2 +2.8**
SNAA Sanae 87.83 198⇑*e*P **P 15 24 58.0 +2.6**
SNAA pmax pmax
comp=Z,55nm,1.7s
SNAA Sanae 87.83 198 P **P 15 24 57.5 +2.1**
WET Wettzell 87.90 319 P **P 15 24 57.7 +1.5**
CLL Collm 88.19 322 *i* P **P 15 24 58.3 +0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLL				i		15 25 06.6	
CLL				pmax	pmax		
	comp=Z,16nm,1.3s						
CLL	Collm	88.19	322	iP	P	15 24 58.3	+0.9
	comp=Z,16nm,1.3s						
CLL				ix	x	15 25 06.6	
CTI	Castel Tesino	88.24	316	IAmb	IAmb	15 25 02.1	
	comp=Z,20nm,1.2s						
WTTA	Wattenberg	88.43	317	eP	P	15 24 59.4	+0.5
	comp=Z,9.1nm,0.8s						
WTTA	Wattenberg	88.43	317	P	P	15 24 59.5	+0.6
WTTA				pmax	pmax		
	comp=Z,15nm,0.9s						
WATA	Walderalm	88.48	318	eP	P	15 24 59.7	+0.6
	comp=Z,7.4nm,0.7s						
KEST	Kesra	88.60	306	P	P	15 25 02.3	+2.5
	comp=Z,7.6nm,0.6s,baz=271,slow=2.3,SNR=7.2						
MOTA	Moosalm	88.80	318	P	P	15 25 01.5	+0.9
	comp=Z,14nm,1.0s,SNR=5.3						
FETA	Feichten	89.00	317	eP	P	15 25 02.9	+1.3
	comp=Z,6.5nm,0.8s						
RETA	Reutte	89.05	318	iP	P	15 25 02.9	+1.2
	comp=Z,8.1nm,0.7s,SNR=4.2						
VNA2	Neumayer--Watz	89.40	199	P	P	15 25 04.7	+1.9
	baz=75,slow=3.9						
DAVA	Damuels	89.61	317	P	P	15 25 06.3	+1.8
	comp=Z,16nm,0.7s,SNR=4.5						
VNA1	Neumayer--Stat	89.75	199	P	P	15 25 06.5	+2.1
VNA3	Neumayer Olymp	90.05	198	P	P	15 25 08.4	+2.5
BCLA	Clavier	92.92	320	dP	P	15 25 18.1	-1.4
BCLA				dpP	sP	15 25 23.8	+2.0
TORD	Torodi Ar. Bea	93.56	283	P	P	15 25 24.1	+0.8
	comp=Z,11nm,1.0s,baz=85,slow=5.0,SNR=7.7						
YKA	Yellowknife Ar	118.50	15	PKP	PKiKP	15 30 53.3	-0.6
	comp=Z,0.2nm,0.6s,baz=348,slow=1.8,SNR=3.0						
NVAR	Mina Array Bea	135.22	37	PKP	PKiKP	15 31 28.8	+0.5
	comp=Z,0.3nm,0.6s,baz=48,slow=1.3,SNR=3.6						
ANMO	Albuquerque	144.30	30	PKIKP	PKPab	15 31 40.5	-0.7
ANMO	Albuquerque	144.30	30	PKPdf	PKPab	15 31 40.5	-0.7
U40A	Yellville	147.81	11	PKPdf	PKPdf	15 31 45.8	-3.2
LVC	Limon Verde	148.28	211	PKHKP	PKPdf	15 31 44.9	-5.8
LVC	Limon Verde	148.28	211	PKPdf	PKPdf	15 31 44.9	-5.8
FCAR	Ozark Folk Cen	148.39	10	PKPbc	PKPbc	15 31 52.1	-1.3
TXAR	Lajitas Array	150.17	33	PKPbc	PKiKP	15 31 59.0	-0.1
	comp=Z,1.9nm,0.6s,baz=79,slow=0.2,SNR=21						
TXAR	Lajitas Array	150.17	33		PKPdf	15 31 54.1	+0.9
LPAZ	La Paz	152.85	219	PKPbc	PKiKP	15 32 06.0	+0.5
	comp=Z,1.2nm,0.3s,baz=12,slow=1.3,SNR=7.2						
URIC	Uribia, Colomb	164.74	298	PKPdf	PKPdf	15 32 06.4	-5.1
URIC				PKPab	PKPab	15 33 01.9	-5.1

IDC 02 15:19:57.9±45.0**,18°.52S**×**175°.41W,h0km,mb4.1**/3**, mb1 4.3**/3**,mb1mx3.9**/27**,mbtmp4.1**/3**,Error ellipse: s-maj=852.2km s-min=168.7km az=81.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.86	242	P	P	15 27 41.6	-0.1
	0.7nm,0.5s,baz=83,slow=13,SNR=3.6						
WRA	Warramunga Arr	47.33	260	P	P	15 28 33.6	-0.2
	1.4nm,0.5s,baz=96,slow=7.2,SNR=41						
ASAR	Alice Springs	47.38	255	P	P	15 28 34.1	-0.1
	4.4nm,0.6s,baz=91,slow=8.4,SNR=111						

PRU 02 15:22:18.4±0.0**,50°.31N**×**18°.95E,h0km,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	1.05	240	ePG	Pg	15 22 38.8	+0.2
MORC				eSG	Sg	15 22 52.0	-0.2
DPC	Dobruska-Polom	1.69	272	ePG	Pn	15 22 49.0	-0.1
DPC				eSG	Sg	15 23 12.6	+0.1

NEIC 02 15:49:37.7±1.1,32°.892N±0°.010×116°.26W±0°.01, h13km±4km,Error ellipse: s-maj=1.6km s-min=1.1km az=135.0
ANF 02 15:49:37.1±0.2,32°.92N×116°.23W,h14km±2km,ML2.8/17, Error ellipse: s-maj=2.1km s-min=1.7km az=10.0
ECX 02 15:49:38.6±0.8,32°.88N×116°.25W,h5km±15km,MD2.8, ML3.1
PAS 02 15:49:38.2±1.3,32°.88N±0°.01×116°.25W±0°.01,h6km±4km, ML3.0/126,ML2.9/28(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=176.0
ISC 02 15:49:38.1±0.8**,32°.90N**±0°.02×**116°.24W**±0°.02**,h15km**±6km**, n61,**σ**1ˢ09**/93**,10C-7D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MONP2	Monument Peak	0.15	267	⇑iP	Pg	15 49 41.5	-0.7
MONP2				iS	Sg	15 49 43.7	-1.3
MONP2	Monument Peak	0.15	267	P	Pg	15 49 41.5	-0.7
	baz=82,SNR=1000						
MONP2				S	Sg	15 49 43.8	-1.2
	baz=82						
CRR	Carrizo Plain	0.23	93	⇑iP	Pg	15 49 42.8	-0.5
CRR				eS	Sg	15 49 46.2	-0.5
IKP	In-Ko-Pah, Jac	0.27	156	⇓iP	Pg	15 49 43.3	-0.7
IKP				eS	Sg	15 49 47.2	-0.9
IKP	In-Ko-Pah, Jac	0.27	156	P	Pg	15 49 43.3	-0.7
	baz=339,SNR=940						
IKP				S	Sg	15 49 47.2	-0.9
	baz=339						
RMX	La Rumorosa	0.33	155		Pg	15 49 45.3	+0.4
RMX				Sg	Sg	15 49 50.5	+0.8
RMX				IAML		15 49 51.2	
	comp=N,2μm,0.1s						
RMX	La Rumorosa	0.33	155	⇓iP	Pg	15 49 45.4	+0.4
RMX				eS	Sg	15 49 50.6	+0.8
RMX				IAML		15 49 51.0	
	comp=E,4μm,0.2s						
RMX				⇓e		15 49 51.0	
RMX				IAML		15 49 51.3	
	comp=N,2μm,0.2s						
RMX				e		15 49 51.3	
SUP	Superstition M	0.36	81		Pg	15 49 45.1	-0.3
SUP	Superstition M	0.36	81		Sg	15 49 50.3	-0.1
YUH	Yuha Desert	0.37	133	Pg	Pg	15 49 45.0	-0.7
YUH				Sg	Sg	15 49 49.8	-1.0
YUH				IAML		15 49 50.3	
	comp=E,2μm,0.2s						
YUH				IAML		15 49 50.3	
	comp=N,2μm,0.2s						
YUH2	Yuha Desert	0.37	133	⇑eP	Pg	15 49 45.0	-0.7
YUH2				eS	Sg	15 49 49.9	-0.9
SWSC	Sam W. Stewart	0.37	83	⇑iP	Pg	15 49 45.5	-0.3
SWSC				eS	Sg	15 49 50.6	-0.3
SWSC	Sam W. Stewart	0.37	83	P	Pg	15 49 45.4	-0.4
	baz=265,SNR=107						
SWSC				S	Sg	15 49 50.4	-0.6
	baz=265						
BAR	Barrett	0.42	239		Pg	15 49 46.2	-0.5
BAR				Sg	Sg	15 49 51.4	-1.0
BAR	Barrett	0.42	239	⇑eP	Pg	15 49 46.1	-0.5
BAR				eS	Sg	15 49 51.6	-0.8
BAR				IAML		15 49 52.0	
	comp=N,4μm,0.2s						
BAR				⇓e		15 49 52.1	
BAR				IAML		15 49 52.1	
	comp=E,2μm,0.2s						
MATG	Mataguay Scout	0.45	311	⇑iP	Pg	15 49 47.1	-0.1
MATG				eS	Sg	15 49 53.2	-0.2
WESC	Westside Schoo	0.45	108	⇑iP	Pg	15 49 47.3	+0.1
TKX	Tecate	0.45	223		Pg	15 49 46.6	-0.6
TKX				Sg	Sg	15 49 52.5	-0.9
SGL	Mount Signal	0.50	120	⇑iP	Pg	15 49 47.8	-0.3
SGL				eS	Sg	15 49 54.6	-0.2
CEA0	Mexicali	0.54	117	eP	Pg	15 49 48.5	-0.3
TJIG	Tijuana	0.59	218	⇓iP	Pg	15 49 49.0	-0.7
TJIG				eS	Sg	15 49 56.6	-1.0
SDRC	San Diego Road	0.61	255	⇑iP	Pg	15 49 49.5	-0.7
SDRC				eS	Sg	15 49 57.3	-1.0
OLP	Otay Lakes Par	0.65	243	eP	Pg	15 49 50.2	-0.6
OLP				eS	Sg	15 49 58.4	-1.1
DREC	Desert Rsrch C	0.68	98	eP	Pg	15 49 51.6	+0.3
CBX	Cerro Bola	0.69	211		Pg	15 49 50.7	-0.8
CBX				Sg	Sg	15 49 59.7	-1.0
CBX				IAML		15 50 01.8	
	comp=N,373nm,0.5s						
CBX				IAML		15 50 02.4	
	comp=E,403nm,0.3s						
CBX	Cerro Bola	0.69	211	⇓eP	Pg	15 49 50.8	-0.8
CBX				eS	Sg	15 50 00.1	-0.6
109C	Camp Elliot, M	0.73	269		Pg	15 49 51.4	-0.9
109C				Sg	Sg	15 50 00.7	-1.1
109C				IAML		15 50 01.2	
	comp=E,733nm,0.3s						
109C				IAML		15 50 03.5	
	comp=N,498nm,0.3s						
109C	Camp Elliot, M	0.73	269	P	Pg	15 49 51.4	-0.9
	baz=88,SNR=25						
109C				S	Sg	15 50 00.8	-1.1
	baz=88						
UABX	UABC, Campus M	0.73	111	Pg	Pg	15 49 52.5	+0.2
PFO	Pinyon Flats O	0.73	346		Pg	15 49 51.9	-0.5
PFO				Sg	Sg	15 50 01.5	-0.7
PFO	Pinyon Flats O	0.73	346	P	Pg	15 49 51.8	-0.6
	baz=165,SNR=46						
PFO				S	Sg	15 50 01.6	-0.6
	baz=165						
GVDA	Garner Valley	0.85	335		Sg	15 50 05.1	-0.7
CPBX	Cerro Prieto	0.93	121	Pg	Pg	15 49 55.0	-1.0
CPBX				IAML		15 50 15.6	
	comp=N,573nm,0.4s						
CPBX	Cerro Prieto	0.93	121	eP	Pg	15 49 55.2	-0.9
CPBX				IAML		15 50 13.5	
	comp=N,741nm,0.2s						
CPBX				⇓e		15 50 13.5	
CPBX				IAML		15 50 13.5	
	comp=E,856nm,0.3s						
CPBX				⇑e		15 50 13.5	
BC3	Big Chuckawall	1.00	41	P	Pg	15 49 56.1	-1.4
	baz=222,SNR=31						
BC3				S	Sg	15 50 09.0	-1.6
	baz=222						
MURC	Murrieta	1.06	311	P	Pg	15 49 57.3	-1.3
	baz=130,SNR=30						
MURC				S	Sg	15 50 11.8	-0.7
	baz=130						
EMSC	East Mesa	1.07	98	eP	Pg	15 49 57.1	-1.7
EMSC				eS	Sg	15 50 11.6	-1.1
CCX	Cicese	1.09	199		Pg	15 49 57.7	-1.5
CCX				Sg	Sg	15 50 11.9	-1.5
CCX				IAML		15 50 14.6	
	comp=N,250nm,0.4s						
CCX				IAML		15 50 15.6	
	comp=E,190nm,0.3s						
BELC	Belle Mtn. Jos	1.11	10	P	Pg	15 49 58.2	-1.5
	baz=190,SNR=101						
BELC				Sg	Sg	15 50 13.9	-0.4
	baz=190						
GLA	Glamis	1.20	82		Pg	15 49 58.7	-2.5
GLA				IAML		15 50 22.4	
	comp=E,124nm,0.8s						
GLA	Glamis	1.20	82	eP	Pg	15 49 58.8	-2.4
GLA	Glamis	1.20	82	P	Pg	15 49 58.8	-2.4
	baz=264,SNR=11						
GLA				S	Sg	15 50 13.7	-3.2
	baz=264						
ELS	Elsinore Mount	1.24	307		Pg	15 50 00.3	-1.7
BBRC	Big Bear Solar	1.47	338	Pg	Pn	15 50 05.7	+1.3
	baz=157						
IRM	Iron Mountain	1.55	36	P	Pn	15 50 04.3	-0.9
	baz=216						
BLYC	Blythe	1.67	59	Pn	Pn	15 50 08.0	+1.1
CIS	Catalina Islan	1.89	286	P	Pn	15 50 09.5	-0.4
	baz=104						
HEC	Hector,Ludlow	1.93	358	Pg	Pb	15 50 14.0	+1.0
	baz=177						
GMRC	Granite Mounta	1.94	14	P	Pn	15 50 10.0	-0.7
	baz=194,SNR=28						
SCI2	San Clemente I	1.94	273	P	Pn	15 50 10.4	-0.2
	baz=91						
SCI2				S	Sn	15 50 34.8	+0.2
	baz=91						
113A	Mohawk Valley,	2.09	93	Pn	Pn	15 50 11.4	-1.1
GSC	Goldstone, Bar	2.44	349	Pg	Pb	15 50 23.4	+1.7
	baz=169						
EDW2	Edwards Air Fo	2.45	324	Pg	Pb	15 50 23.3	+1.3
	baz=143						
TUQ	Turquoise Moun	2.54	6	Pg	Pb	15 50 25.2	+1.7
	baz=186						
MPMC	Manual Prospec	3.31	342	Pg	Pb	15 50 39.2	+2.4
	baz=161						
BCW	Bitter Crk WRg	3.33	309	Pn	Pn	15 50 30.2	+0.5
TPNV	Topopah Spring	4.04	360	Pn	Pn	15 50 41.2	+1.6
LCH	Last Change Ra	4.47	345	Pn	Pn	15 50 45.9	+0.4
PRN	Pahroc Range	4.60	12	Pn	Pn	15 50 48.4	+1.1
LCMT	Little Creek M	4.78	30	Pn	Pn	15 50 50.3	+0.5
U15A	North Rim	4.79	42	Pn	Pn	15 50 51.0	+0.9

IDC 02 15:55:05.2±1.9,56°.37S×27°.96W,h0km,mb3.8/1, mb1 3.8/1,mb1mx3.5/15,mbtmp3.8/1,Error ellipse: s-maj=112.4km s-min=76.8km az=150.0
ISC 02 15:55:06.8±1.5**,55°.3S**±0°.5×**2°7W**±°**,h10km,n8,**σ**0ˢ27**/7**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.53	159	P	P	15 59 12.2	+0.3
VNA3	Neumayer Olymp	17.73	161	P	Pn	15 59 13.5	+0.1
VNA2	Neumayer--Watz	17.93	159	P	P	15 59 16.1	-0.3
	baz=314,slow=13						
SNAA	Sanae	19.47	157	P	P	15 59 33.0	-0.3
TORD	Torodi Ar. Bea	72.48	30	P	P	16 06 39.7	+6.3
	0.9nm,1.0s,baz=207,slow=4.8,SNR=1.0						
YKA	Yellowknife Ar	135.53	319	PKP	PKPdf	16 14 25.5	0.0
	0.2nm,0.6s,baz=132,slow=1.2,SNR=3.3						
ILAR	Eielson Array	149.52	313	PKPbc	PKiKP	16 14 55.8	0.0
	0.9nm,0.6s,baz=120,slow=2.9,SNR=14						
SONM	Songino Array	150.81	85	PKPbc	PKiKP	16 14 59.3	+0.1
	0.7nm,0.5s,baz=226,slow=3.9,SNR=4.4						

NEIC 02 16:00:35.5±1.0,19°.57N±0°.10×65°.35W±0°.09,h38km±46km, Error ellipse: s-maj=16.0km s-min=8.6km az=214.0
RSPR 02 16:00:37.0,19°.55N×65°.34W,h61km±11km,MD3.3/7
ISC 02 16:00:33.5±2.1**,19°.51N**±0°.09×**65°.38W**±0°.07**,h12km**±11km**, n33,**σ**0ˢ91**/40**,7C-1D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.20	175	⇑eP	Pg	16 00 57.3	+0.7
CUPR	Culebra, Puert	1.20	175	eS	Sg	16 01 13.5	+1.3
CUPR	Culebra, Puert	1.20	175		Pg	16 00 56.2	-0.5
CUPR					Sn	16 01 12.2	-0.1
STVI	Saint Thomas	1.22	161	⇑eP	Pg	16 00 57.2	+0.1
STVI	Saint Thomas	1.22	161	eS	Sg	16 01 13.5	+0.6
STVI	Saint Thomas	1.22	161	Pn	Pg	16 00 56.9	-0.2
STVI				Sn	Sg	16 01 13.0	0.0
TBVI	Tortola	1.31	146	⇑eP	Pg	16 00 58.5	-0.1
CBYP	Canovanas	1.31	200	⇓eP	Pg	16 00 58.8	0.0
CBYP	Canovanas	1.31	200	eS	Sb	16 01 16.1	+1.2
CBYP	Canovanas	1.31	200	Pn	Pb	16 00 58.0	-0.1
CBYP				Sn	Sb	16 01 15.9	+0.9
GCPR	Guaynabo City	1.37	209	Pn	Pb	16 00 58.1	-0.9
MTP	Monte Pirata	1.42	187	⇑eP	Pg	16 01 00.5	-0.2
MTP	Monte Pirata	1.42	187	eS	Sb	16 01 18.2	+0.3
MTP	Monte Pirata	1.42	187	Pn	Pb	16 00 59.2	-0.7
MTP				Sn	Sn	16 01 17.5	-0.2
MTP				IAML		16 01 20.8	
	comp=N,67nm,0.6s						
MTP				IAML		16 01 24.3	
	comp=E,112nm,0.3s						
HUMP	Col San Antoni	1.43	198	eS	Sb	16 01 18.9	+0.6
HUMP	Col San Antoni	1.43	198	Pn	Pb	16 00 59.0	-1.1
HUMP				Sn	Sn	16 01 16.9	-1.1
HUMP				IAML		16 01 20.5	
	comp=N,79nm,0.2s						
EMPR	Esperanza - Ma	1.50	227	Pn	Pb	16 01 00.5	-0.7
EMPR				IAML		16 01 29.2	
	comp=N,130nm,0.7s						
SJG	San Juan	1.57	208	Pn	Pb	16 01 02.1	-0.4
SJG				IAML		16 01 24.7	
	comp=N,58nm,0.5s						
SJG				IAML		16 01 28.1	
	comp=N,69nm,0.4s						
PDPR	Patillas Dam,	1.60	202	Sn	Sb	16 01 23.1	-0.2
AOPR	Arecibo Observ	1.74	229	⇑eP	Pb	16 01 04.8	-0.6
AOPR	Arecibo Observ	1.74	229	eS	Sn	16 01 26.5	+0.8
AOPR	Arecibo Observ	1.74	229		Pb	16 01 04.5	-0.9
AOPR				Sn	Sn	16 01 25.4	-0.3
CELP	Cerrillos	1.82	219	⇑eP	Pb	16 01 05.8	-1.0
CELP	Cerrillos	1.82	219	eS	Sb	16 01 29.0	-0.6
CELP	Cerrillos	1.82	219		Pb	16 01 05.4	-1.5
CELP				Sn	Sn	16 01 28.0	+0.3
CELP				IAML		16 01 31.9	
	comp=E,38nm,0.6s						
CDVI	St. Croix	1.84	161	Pn	Pg	16 01 07.8	-1.1
OBIP	Obispado Ponce	1.86	219	Pn	Pb	16 01 05.7	-1.9
OBIP				IAML		16 01 34.4	
	comp=N,46nm,0.7s						
AGPR	Aguadilla, PR	1.94	238	Pn	Pb	16 01 07.5	-1.3
AGPR				IAML		16 01 36.1	
	comp=N,91nm,2.6s						
MLPR	Magueyes Islan	2.20	226	Pn	Pn	16 01 09.9	+0.1
MLPR				IAML		16 02 16.2	
	comp=E,27nm,2.0s						
CRPR	Cabo Rojo, PR	2.22	228	⇑eP	Pb	16 01 11.7	-1.8
CRPR	Cabo Rojo, PR	2.22	228	Pn	Pn	16 01 10.3	+0.2
CRPR				IAML		16 01 33.2	
	comp=E,28nm,2.1s						
CRPR				IAML		16 02 14.4	
	comp=N,38nm,1.8s						
DR12	Loma Pena Alta	3.85	260	Pn	Pn	16 01 32.6	0.0
SDDR	Presa de Saban	5.61	266	Pn	Pn	16 01 58.9	+2.2

TEH 02 16:07:06.4,37°.88N×58°.33E,h13km,ML3.4
ISC 02 16:07:04.8±0.9**,38°.00N**±0°.05×**58°.36E**±0°.05**,h10km,n29,** σ**1ˢ86**/33**,3C,Turkmenistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJRD	Bojnurd	0.81	248	ePg	Pg	16 07 19.7	-0.8
ISFR	Sfrayin	0.99	197	ePg	Pb	16 07 23.7	-0.5
ISFR				eSg	Sb	16 07 35.7	-1.7
ISFR				e		16 07 41.8	
	comp=Z,16μm,0.2s						
IAKL	Akhelmad	1.43	167	ePg	Pg	16 07 32.2	-0.2
IAKL				eSg	Sn	16 07 50.3	+0.1
IAKL				e		16 07 58.3	
	comp=Z,7μm,0.2s						
IKRD	Kardeh	1.53	143	ePg	Pg	16 07 34.1	-0.1
IKRD				eSg	Sg	16 07 53.6	-0.5
IKRD				e		16 08 04.4	
	comp=Z,10μm,0.1s						
IPAY	Payeh	1.63	162	ePg	Pg	16 07 35.3	-0.8
IPAY				eSg	Sg	16 07 56.4	-0.9
IPAY				e		16 08 00.7	
	comp=Z,6μm,0.3s						
SBZV	Sabzevar	1.72	201	ePg	Pg	16 07 37.2	-0.6
MRVT	Maraveh tapeh	1.83	260	ePn	Pn	16 07 37.9	+1.5
IMOG	Moghan	2.05	157	ePn	Pb	16 07 41.3	-1.0
IMOG				e		16 08 13.1	
	comp=Z,3μm,0.3s						
IMYA	Miami	2.17	139	ePn	Pb	16 07 43.5	-0.7
IMND	Minoodasht	2.46	253	ePn	Pn	16 07 47.4	+2.4
SHRO	Shahrood	2.75	224	ePn	Pn	16 07 50.5	+1.4
TBJM	Torbat-e-JAM	3.16	149	ePn	Pn	16 07 56.9	+2.1
IGLO	Ghaloghah	3.91	249	ePn	Pn	16 08 07.8	+2.6
IGLO				e		16 09 18.7	
	comp=Z,502nm,0.8s						
TNSJ	Nastanj	4.27	200	ePn	Pn	16 08 12.1	+2.1
TNSJ				e		16 09 32.2	
	comp=Z,348nm,0.8s						
IANJ	Anjilo	4.38	236	ePn	Pn	16 08 13.4	+1.8
TABS	Tabas	4.46	193	ePn	Pn	16 08 14.4	+1.8
TKDS	Koohdasht(Taba	4.49	193	ePn	Pn	16 08 15.2	+2.1
ISHM	Shahmirzad	4.61	243	ePn	Pn	16 08 16.6	+1.7
ISHM				e		16 09 41.5	
	comp=Z,225nm,0.6s						
SHRT	Shahrakht	4.62	160	ePn	Pn	16 08 16.9	+2.1
IMON	Monand	4.92	167	ePn	Pn	16 08 21.3	+2.3
IMON				e		16 08 32.2	
	comp=Z,234nm,0.2s						
ITEG	Tejag	5.10	176	ePn	Pn	16 08 23.4	+1.9
IPRN	Peran	5.12	252	ePn	Pn	16 08 23.5	+1.8
TPRV	Parvadeh(Tabas	5.15	196	ePn	Pn	16 08 24.2	+2.2
TPRV				e		16 09 55.6	
	comp=Z,129nm,1.0s						
IKOO	Kooshah	5.59	174	ePn	Pn	16 08 30.0	+1.7
BSRN	Basiran	6.06	174	ePn	Pn	16 08 36.7	+2.1
ISFB	Sefidab	6.14	235	ePn	Pn	16 08 37.2	+1.5
QALM	Alamut, Qazvin	6.35	258	ePn	Pn	16 08 41.0	+2.3
AB31	Akbulak array	11.31	5	Pn	Pn	16 09 53.2	+6.8
	comp=Z,0.3nm,0.3s,baz=188,slow=13,SNR=7.5						
AB31				⇑Sn	Sn	16 11 47.6	-5.1
	comp=Z,0.6nm,0.3s,baz=187,slow=25,SNR=10.0						
AKTO	Aktyubinsk	12.43	359	⇑Pn	Pn	16 10 03.5	+1.7
	comp=Z,0.7nm,0.5s						
AKTO				⇑Sn	Sn	16 12 16.1	-4.2
	comp=Z,2.7nm,0.6s						

IDC 02 16:08:10.7±1.2,4°.85S×94°.09E,h0km,mb4.0/12, mb1 4.1/13,mb1mx3.9/40,mbtmp4.1/13,ML3.9/1,Error ellipse: s-maj=34.9km s-min=19.7km az=51.0
NEIC 02 16:08:12.3±1.7,4°.98S±0°.08×94°.01E±0°.09,h14km±4km, mb4.3/23,Error ellipse: s-maj=15.4km s-min=7.3km az=53.0
DJA 02 16:08:19.0±2.9,5°S±13°×9°5E±2°3,h10km,M5.2/13, mB6.0/1,mb4.9/13,MLv5.3/6,Mw(mB)5.7/1
ISC 02 16:08:16.7±0.7**,4°.72S**±0°.09×**94°.28E**±0°.08**,h35km,n76,** σ**1ˢ21**/73**,mb4.2**/24**,2C,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	Saibi	5.87	55	P	Pn	16 09 41.8	+0.6
	3.6nm14μm620nm,0.5s						
PPSI	Pulau Pagai	6.04	71	P	Pn	16 09 43.6	+0.1
	1.9nm492nm,0.9s						
GSI	Gunungsitoli	6.83	29		Pn	16 09 54.0	-0.4
GSI	Gunungsitoli	6.83	29	P	Pn	16 09 54.3	-0.2
	0.5nm38nm,0.6s						
PPI	Padang Panjang	7.43	55	P	Pn	16 10 02.9	+0.2
KRJI	Kerinci	7.63	70	P	Pn	16 10 05.1	-0.4
	1.7nm338nm,0.4s						
COCO	West Island	7.84	161	Pn	Pn	16 10 00.0	-8.2
MASI	Maura Aman, Be	8.09	79	P	Pn	16 10 11.3	-0.5
	0.5nm134nm,0.7s						
BKNI	Bangkinang	8.41	54	Pn	Pn	16 10 17.0	+0.8
MNAI	Manna	8.65	88	Pn	Pn	16 10 18.2	-1.3
MNAI	Manna	8.65	88	P	Pn	16 10 18.7	-0.8
	82nm,1.0s						
PSI	Prapat	8.80	32	Pn	Pn	16 10 20.8	-0.7
	1.2nm,0.3s,baz=101,slow=1.2,SNR=4.4						
PSI				Sn	Sn	16 11 55.6	-4.0
	1.3nm,0.3s,baz=330,slow=8.0,SNR=3.5						
KCSI	Kotacane, Aceh	8.90	23	P	Pn	16 10 23.4	+0.5
	22nm,0.7s						
LHSI	Lahat	9.26	85	P	Pn	16 10 27.8	0.0
MDSI	Maura Dua	9.87	89	P	Pn	16 10 36.7	+0.6
	7.1nm,0.7s						
KASI	Kota Agung	10.21	95	P	Pn	16 10 39.1	-1.7
	35nm,0.6s						
KLSI		10.41	90	P	Pn	16 10 43.1	-0.5
	6.5nm,0.8s						
IPM	Ipoh	11.36	36	Pn	Pn	16 10 58.4	+1.8
CGJI	Cibinong	11.51	100	P	Pn	16 11 01.5	+2.9
	27nm,1.0s						
MYKOM	Kota Tinggi	11.54	56	Pn	Pn	16 10 59.4	+0.2
KULM	Kulim	11.81	33	Pn	Pn	16 11 02.4	-0.3
UGM	Wanagama	16.45	102	P	P	16 12 07.2	-0.2
UGM				IAmb	IAmb	16 12 09.0	
	comp=Z,41nm,1.0s						
KSM	Kuching	17.15	69	P	P	16 12 16.4	+1.2
KSM				IAmb	IAmb	16 12 18.7	
	comp=Z,28nm,0.8s						
PALK	Pallekele	18.05	311	P	P	16 12 26.3	+1.2
	comp=Z,5.4nm,0.3s,baz=237,slow=12,SNR=31						
PALK				S	Sn	16 15 32.5	-13
	comp=Z,1.1nm,0.3s,baz=125,slow=21,SNR=4.7						
PALK	Pallekele	18.05	311	P	P	16 12 26.1	+1.1
PALK				IAmb	IAmb	16 12 52.6	
	comp=Z,50nm,1.4s						
SBUM	Sibu	19.29	69	P	Pn	16 12 40.4	+0.5
MTKI	Muara Teweh, K	20.93	80	P	P	16 12 58.0	+1.5
H08S2	Diego Garcia H	21.85	261	T	T	16 35 13.3	
	baz=79,slow=74						
H08S3	Diego Garcia H	21.86	261	T	T	16 35 01.3	
	baz=79						
H08S1	Diego Carcia H	21.87	261	T	T	16 35 26.4	
	baz=79,slow=74						
UBPT	Khong Chiam	22.76	29	P	P	16 13 17.5	+1.4
UBPT				IAmb	IAmb	16 13 32.8	
	comp=Z,14nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CM31	Chiang Mai Arr	23.49	11	P	P	16 13 24.1	+0.6
CM31				IAmb	IAmb	16 13 42.7	
	comp=Z,4.7nm,0.8s						
CMAR	Chiang Mai Arr	23.49	11	P	P	16 13 24.9	+1.5
	comp=Z,1.9nm,0.6s,baz=200,slow=9.5,SNR=20						
CMAR	Chiang Mai Arr	23.49	11	P	P	16 13 23.7	+0.2
PLAI	Plampang	23.68	101	P	P	16 13 24.9	-0.5
CHTO	Chiang Mai	23.84	11	P	P	16 13 27.8	+1.1
CHTO				IAmb	IAmb	16 13 28.7	
	comp=Z,3.6nm,0.8s						
MYLDM	Lahad Datu	26.11	68	P	P	16 13 49.8	+2.2
KNRA	Kununurra	35.58	110	P	P	16 15 10.5	-0.5
SSLB	Suanglung	38.46	41	P	P	16 15 37.4	+1.8
SSLB				IAmb	IAmb	16 15 37.6	
	comp=Z,11nm,0.8s						
XAN	Xi'an	40.96	19	P	P	16 15 56.5	+0.3
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRA	Warramunga Arr	41.81	115	P	P	16 16 03.3	-0.1
	comp=Z,1.2nm,0.7s,baz=288,slow=9.0,SNR=10						
WRA	Warramunga Arr	41.81	115	P	P	16 16 02.4	-1.0
WRAB	Tennant Creek	41.81	115	P	P	16 16 03.0	-0.4
WRAB				IAmb	IAmb	16 16 04.1	
	comp=Z,6.3nm,1.4s						
WB2	Warramunga Arr	41.82	115	P	P	16 16 02.9	-0.6
WR0	Warramunga Arr	41.99	115	P	P	16 16 03.9	-1.0
WR0				IAmb	IAmb	16 16 05.4	
	comp=Z,3.4nm,0.7s						
ASAR	Alice Springs	42.56	120	P	P	16 16 09.7	+0.2
	comp=Z,0.5nm,0.7s,baz=304,slow=8.2,SNR=9.0						
ASAR	Alice Springs	42.56	120	P	P	16 16 08.5	-1.0
AS31	Alice Springs	42.56	120	P	P	16 16 08.7	-0.8
GTA	Gaotai	44.21	6	⇑P	P	16 16 23.2	+0.6
GTA				pP	pP	16 16 26.9	-4.5
GTA				sP	sP	16 16 31.1	-3.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HNS	HongShan	46.02	23	⇑P	P	16 16 38.4	+1.5
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CHGR	Chuyangaron	49.03	334	P	P	16 16 59.3	-1.1
CHGR				IAmb	IAmb	16 17 23.1	
	comp=Z,5.0nm,0.8s						
KSRS	Korea Array	52.35	34	P	P	16 17 25.3	0.0
	comp=Z,3.3nm,1.0s,baz=218,slow=9.0,SNR=5.2						
MK31	Makanchi Array	52.38	350	P	P	16 17 24.8	-0.6
MKAR	Makanchi Array	52.38	350	P	P	16 17 25.0	-0.4
	comp=Z,0.9nm,0.9s,baz=153,slow=8.7,SNR=6.8						
MKAR	Makanchi Array	52.38	350	P	P	16 17 24.6	-0.8
SONM	Songino Array	53.41	10	P	P	16 17 34.0	+0.9
	comp=Z,3.7nm,0.9s,baz=190,slow=9.0,SNR=21						
SONM	Songino Array	53.41	10	P	P	16 17 33.8	+0.7
SONM				IAmb	IAmb	16 17 34.9	
	comp=Z,2.6nm,0.8s						
KURK	Kurchatov	56.84	348	P	P	16 17 57.0	-0.6
KURK				IAmb	IAmb	16 18 14.9	
	comp=Z,2.9nm,1.1s						
ZAA0	Zalesovo Array	58.99	353	P	P	16 18 11.7	-1.0
ZALV	Zalesovo Beam	58.99	353	P	P	16 18 12.5	-0.2
	comp=Z,4.4nm,0.6s,baz=174,slow=6.5,SNR=29						
USRK	Ussuriysk Ar.	59.32	31	P	P	16 18 15.2	+0.1
	comp=Z,3.9nm,0.8s,baz=231,slow=6.7,SNR=7.6						
USRK	Ussuriysk Ar.	59.32	31	P	P	16 18 15.6	+0.5
ABKAR	Akbulak array	61.48	335	P	P	16 18 30.1	+0.3
BRTR	Keskin Array B	71.05	315	P	P	16 19 30.9	-0.6
	comp=Z,0.9nm,0.7s,baz=120,slow=8.5,SNR=2.4						
NRIK	Noril'sk	74.05	358	P	P	16 19 48.1	-0.5
	comp=Z,1.5nm,0.5s,baz=158,slow=6.3,SNR=5.7						
AKASG	Malin Array Be	78.22	324	P	P	16 20 11.9	-0.8
	comp=Z,0.8nm,0.5s,baz=94,slow=4.4,SNR=6.3						
TIXI	Tiksi	79.50	11	P	P	16 20 18.7	-0.5
TIXI				IAmb	IAmb	16 20 19.5	
	comp=Z,4.3nm,0.7s						
BURAR	Bucovina Array	79.59	320	P	P	16 20 19.0	-1.4
ARCES	ARCESS Array B	87.12	341	P	P	16 20 58.9	+0.3
	comp=Z,1.9nm,0.8s,baz=96,slow=8.3,SNR=1.4						
ANMO	Albuquerque	144.32	30	PKPdf	PKPdf	16 27 49.1	-0.8
WVT	Waverly	148.69	3	PKPbc	PKPbc	16 28 00.5	-0.2
CPCT	Cooper Cave	149.40	358	PKPbc	PKPbc	16 28 02.4	-0.2
TX31	Lajitas Ar. Si	150.20	33	PKPbc	PKPdf	16 28 00.6	+0.8
TX32	Lajitas Array	150.20	33		PKPdf	16 28 01.2	+1.4
TXAR	Lajitas Array	150.20	33	PKPbc	PKPbc	16 28 04.9	0.0
	comp=Z,0.8nm,0.6s,baz=160,slow=1.1,SNR=9.8						
TXAR	Lajitas Array	150.20	33	PKPdf	PKPdf	16 27 54.5	-5.2

*NEIC **02** 16:12:24.0±1.0, 19°.60N±0°.09×65°.3W±0°.1, h38km±47km, Error ellipse: s-maj=16.1km s-min=10.3km az=48.0*
*RSPR **02** 16:12:24.8, 19°.64N×65°.30W, h77km±7km, MD3.1/4*
ISC 02 16:12:23.6±2.4**, 19°.5N**±0°.1×**65°.34W**±0°.08**, h16km, n18,** σ**0s.76**/22**, 4C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.20	177	⇑eP	Pg	16 12 46.6	-0.2
CUPR	Culebra, Puert	1.20	177	eS	Sg	16 13 03.3	+0.9
CUPR	Culebra, Puert	1.20	177	Pn	Pb	16 12 45.8	-0.2
CUPR					Sn	16 13 01.3	-0.3
STVI	Saint Thomas	1.21	162	Pn	Pb	16 12 45.6	-0.6
CBYP	Canovanas	1.33	202	⇑eP	Pg	16 12 48.9	-0.3
CBYP	Canovanas	1.33	202		Pb	16 12 47.4	-0.8
MTP	Monte Pirata	1.42	188	⇑eP	Pg	16 12 50.2	-0.8
MTP	Monte Pirata	1.42	188	eS	Sg	16 13 09.9	+0.4
MTP	Monte Pirata	1.42	188		Pn	16 12 48.6	-0.2
MTP					Sb	16 13 08.9	+1.3
MTP				IAML		16 13 11.9	
	comp=E,41nm,0.5s						
MTP				IAML		16 13 12.5	
	comp=N,26nm,0.3s						
HUMP	Col San Antoni	1.45	200		Pn	16 12 48.9	-0.2
HUMP				IAML		16 13 10.0	
	comp=N,35nm,0.4s						
AOPR	Arecibo Observ	1.77	229	⇓eP	Pb	16 12 54.5	-1.2
AOPR	Arecibo Observ	1.77	229	eS	Sb	16 13 17.7	0.0
AOPR	Arecibo Observ	1.77	229	Pn	Pn	16 12 53.7	+0.2
AOPR					Sn	16 13 16.8	+1.0
AOPR				IAML		16 13 22.8	
	comp=N,70nm,0.5s						
CELP	Cerrillos	1.85	220	⇑eP	Pb	16 12 55.8	-1.3
CELP	Cerrillos	1.85	220	eS	Sb	16 13 19.9	-0.1
CELP	Cerrillos	1.85	220	Pn	Pn	16 12 54.6	0.0
CELP				Sn	Sn	16 13 18.8	+1.1
CELP				IAML		16 13 28.8	
	comp=E,22nm,2.9s						
CELP				IAML		16 13 32.6	
	comp=N,26nm,2.6s						
OBIP	Obispado Ponce	1.89	220	Pn	Pn	16 12 54.8	-0.4
OBIP				IAML		16 13 20.1	
	comp=N,31nm,2.5s						
SDDR	Presa de Saban	5.64	266	Pn	Pn	16 13 48.0	+1.1

*BJI **02** 16:34:11.0±0.0, 31°.00S×58°.69E, h11km, mb5.2/57, mB5.6/9, Ms5.3/6, Ms7 5.3/5*
*IDC **02** 16:34:12.7±0.4, 31°.08S×59°.13E, h0km, mb4.9/32, mb1 5.0/33, mb1mx4.8/46, mbtmp4.9/33, ML4.6/1, Error ellipse: s-maj=16.9km s-min=10.1km az=10.0*
*MOS **02** 16:34:12.5±0.9, 31°.09S×59°.11E, h10km, mb5.4/71, Error ellipse: s-maj=10.3km s-min=4.9km az=102.3*
*NEIC **02** 16:34:15.0±1.8, 31°.01S±0°.09×59°.1E±0°.1, h10km±1km, mb5.4/103, Error ellipse: s-maj=16.6km s-min=13.5km az=227.0*
ISC 02 16:34:14.5±0.3**, 30°.95S**±0°.06×**59°.05E**±0°.05**, h10km, n737,** σ**1s.16**/720**, mb5.3**/196**, MS5.1**/3**, 13C-67D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.19	342	Pn	Pn	16 36 38.0	-2.9
RER	Riviere de l'E	10.19	342	P	Pn	16 36 39.3	-1.6
	SNR=6.0						
VOI	Vohitsoka	14.19	306		Pn	16 37 36.8	+1.1
VOI	Vohitsoka	14.19	306	P	Pn	16 37 37.6	+1.9
	SNR=7.8						
VOI	Vohitsoka	14.19	306	P	Pn	16 37 37.6	+1.9
ABPO	Ambohimpanom	15.98	315	P	Pn	16 38 00.9	+1.3
ABPO				pmax	pmax		
	comp=Z,46nm,0.9s						
ABPO	Ambohimpanom	15.98	315	Pn	Pn	16 38 00.9	+1.3
OPO	Ambohidratompo	16.35	316	Pn	P	16 38 06.9	-0.3
	comp=Z,2.4nm,0.3s,baz=137,slow=12,SNR=20						
OPO				Sn	Sn	16 40 57.3	-8.6
	comp=Z,2.4nm,0.3s,baz=286,slow=12,SNR=5.8						
AIS	Amsterdam Isla	16.74	119		P	16 38 10.2	-1.1
AIS				IAmb	IAmb	16 38 13.1	
	comp=Z,403nm,1.3s						
SBV	Sambava	19.33	332	P	Pn	16 38 41.4	+0.4
	SNR=6.4						
SBV	Sambava	19.33	332	P	Pn	16 38 43.8	+2.8
MSEY	Mahe Island	26.35	352	P	P	16 39 52.8	+1.9
H08S1	Diego Carcia H	26.36	31	T	T	17 07 22.3	
	baz=206,slow=75,SNR=29						
H08S2	Diego Garcia H	26.37	31	T	T	17 07 10.7	
	baz=206,slow=75,SNR=21						
H08S3	Diego Garcia H	26.39	31	T	T	17 07 20.3	
	baz=206,slow=75,SNR=54						
BOSA	Boshof	29.36	266	P	P	16 40 16.3	-1.6
	comp=Z,4.8nm,0.9s,baz=103,slow=9.5,SNR=6.3						
BOSA	Boshof	29.36	266	P	P	16 40 16.7	-1.2
BOSA				pmax	pmax		
	comp=Z,12nm,1.1s						
BOSA	Boshof	29.36	266	P	P	16 40 16.7	-1.2
MATP	Matopo	29.37	284	P	P	16 40 16.7	-1.3
	comp=Z,3.4nm,0.8s,baz=116,slow=15,SNR=9.1						
LBTB	Lobatse	30.05	273	P	P	16 40 22.9	-1.1
LBTB				pmax	pmax		
	comp=Z,51nm,1.2s						
LBTB	Lobatse	30.05	273	P	P	16 40 22.9	-1.1
LBTB				IAmb	IAmb	16 40 24.8	
	comp=Z,51nm,1.1s						
LSZ	Lusaka	32.24	292	P	P	16 40 44.0	+0.6
LSZ				pmax	pmax		
	comp=Z,48nm,1.0s						
LSZ	Lusaka	32.24	292	P	P	16 40 44.0	+0.6
LSZ				IAmb	IAmb	16 40 45.7	
	comp=Z,48nm,0.9s						
SUR	Sutherland	32.46	257	P	P	16 40 44.9	-0.4
	comp=Z,8.8nm,0.9s,baz=90,slow=7.5,SNR=7.0						
SUR	Sutherland	32.46	257	P	P	16 40 45.4	+0.1
KIBK	Kibwezi	34.69	321	P	P	16 41 05.7	+0.9
KIBK	Kibwezi	34.69	321	P	P	16 41 07.6	+2.9
	SNR=8.3						
KMBO	Kilima Mbogo	36.14	321	P	P	16 41 20.1	+2.7
	comp=Z,7.5nm,1.0s,baz=135,slow=6.7,SNR=11						
KMBO				PcP	PcP	16 43 44.7	+1.5
	comp=Z,5.7nm,1.0s,baz=111,slow=1.4,SNR=5.6						
KMBO	Kilima Mbogo	36.14	321	P	P	16 41 19.3	+1.9
KMBO					PcP	16 43 44.5	+1.3
KMBO	Kilima Mbogo	36.14	321	i P	P	16 41 20.2	+2.9
	SNR=7.7						
TSUM	Tsumeb	39.12	277	P	P	16 41 43.7	+1.2
	comp=Z,67nm,1.0s,baz=118,slow=8.1,SNR=38						
TSUM	Tsumeb	39.12	277	P	P	16 41 43.0	+0.5
TSUM				IAmb	IAmb	16 41 45.0	
	comp=Z,114nm,1.1s						
SYO	Syowa Base	39.72	191	⇑eP	P	16 41 47.0	+0.4
SYO	Syowa Base	39.72	191	⇓epP	pP	16 41 50.2	+1.8
MBAR	Mbarara	40.38	313	ceP	P	16 41 52.8	-0.2
MBAR	Mbarara	40.38	313	P	P	16 41 53.6	+0.6
LODK	Lodwar	40.97	322	P	P	16 41 59.3	+1.6
LODK	Lodwar	40.97	322	P	P	16 42 01.0	+3.3
	SNR=8.0						
SOCY	Socotra	43.16	353	P	P	16 42 18.4	+2.9
SOCY	Socotra	43.16	353	P	P	16 42 19.0	+3.4
	SNR=6.7						
PALK	Pallekele	43.29	32	P	P	16 42 15.4	-1.2
	comp=Z,15nm,1.0s,baz=37,slow=5.1,SNR=3.5						
PALK	Pallekele	43.29	32	P	P	16 42 17.8	+1.2
PALK				pmax	pmax		
	comp=Z,37nm,1.4s						
PALK	Pallekele	43.29	32	P	P	16 42 17.8	+1.2
PALK	Pallekele	43.29	32	P	P	16 42 15.9	-0.8
ATD	Arta Tunnel	45.01	337	P	P	16 42 32.6	+2.2
H01W2	Cape Leeuwin H	45.92	110	T	T	17 31 56.4	
	baz=258,slow=75,SNR=25						
H01W3	Cape Leeuwin H	45.93	110	T	T	17 31 54.8	
	baz=258,slow=75,SNR=29						
H01W1	Cape Leeuwin H	45.94	110	T	T	17 32 00.4	
	baz=258,slow=75,SNR=27						
SISI	Saibi	47.98	60	P	P	16 42 57.4	+3.6
	comp=Z,20nm,1.8s						
ABTO	Aybut	48.34	353	P	P	16 42 57.8	+1.4
	SNR=6.1						
DMTO	DMTO	48.54	355	P	P	16 42 58.6	+0.7
SHAO	Shalim	48.80	356	P	P	16 43 01.3	+1.4
SHAO	Shalim	48.80	356	P	P	16 43 01.3	+1.4
WHFO	Wadi Hawf	48.85	353	P	P	16 43 01.0	+0.7
KRJI	Kerinci	49.27	63	P	P	16 43 05.5	+1.6
	comp=Z,91nm,0.9s						
DOK	Doka	49.50	354	P	P	16 43 06.4	+1.1
PPI	Padang Panjang	49.53	60	P	P	16 43 18.6	+13
KASI	Kota Agung	49.54	69	P	P	16 43 07.1	+1.3
	comp=Z,53nm,1.1s						
MDSI	Maura Dua	49.91	67	P	P	16 43 09.8	+1.2
	comp=Z,10.0nm,1.1s						
BKNI	Bangkinang	50.53	60	P	P	16 43 15.2	+1.9
RPSI	Rantau Prapat	50.60	56	P	P	16 43 14.2	+0.4
RPSI				IAmb	IAmb	16 43 17.1	
	comp=Z,33nm,1.2s						
DQM	DQM	50.60	358	P	P	16 43 14.7	+1.1
PSI	Prapat	50.67	56	P	P	16 43 15.0	+0.5
	comp=Z,9.3nm,0.7s,baz=198,slow=7.7,SNR=13						
PSI	Prapat	50.67	56	P	P	16 43 15.0	+0.5
PSI	Prapat	50.67	56	P	P	16 43 16.3	+1.8
CBJI	Citeko	50.92	72	P	P	16 43 18.5	+2.2
LHMI	Lhok Sumawe	51.03	52	P	P	16 43 17.8	+0.7
LEM	Lembang	51.32	73	P	P	16 43 20.7	+1.2
	comp=Z,7.4nm,0.4s,baz=190,slow=12,SNR=5.4						
HYBB	Hyderabad (bro	51.61	24	eP	P	16 43 21.9	+0.5
MHTO	MHTO	51.64	359	P	P	16 43 21.7	+0.3
SNAA	Sanae	52.16	201	P	P	16 43 23.5	-1.4
SNAA	Sanae	52.16	201	P	P	16 43 24.3	-0.6
	comp=Z,12nm,1.0s,baz=134,slow=0.9,SNR=13						
SNAA	Sanae	52.16	201	⇓eP	P	16 43 23.3	-1.5
SNAA				pmax	pmax		
	comp=Z,19nm,1.0s						
SNAA	Sanae	52.16	201	P	P	16 43 22.6	-2.3
JLN	Jalan Bani Buh	52.79	0	P	P	16 43 30.5	+0.6
IPM	Ipoh	53.34	56	P	P	16 43 34.6	+0.4
IPM	Ipoh	53.34	56	P	P	16 43 35.9	+1.7
VNA2	Neumayer--Watz	53.41	202	P	P	16 43 32.7	-1.3
	baz=68,slow=6.8						
VNA2	Neumayer--Watz	53.41	202	PcP	PcP	16 44 40.0	-1.1
	baz=52,slow=6.9						
BSY	Bisya	53.41	358	P	P	16 43 35.6	+1.0
UMZA	Um Al Zommool	53.48	356	P	P	16 43 35.8	+0.8
PCJI	Pacitan	53.52	76	P	P	16 43 36.6	+1.0
	comp=Z,56nm,1.3s						
KULM	Kulim	53.64	55	IAmb	IAmb	16 43 38.3	
	comp=Z,43nm,1.2s						
SMDO	Samad	53.70	359	P	P	16 43 37.2	+0.5
MZR	Muzera	53.91	354	P	P	16 43 39.7	+1.6
	SNR=6.6						
MZR	Muzera	53.91	354	i P	P	16 43 39.8	+1.6
	SNR=16						
ARQ	Araqi	54.03	357	P	P	16 43 40.0	+1.0
BIDO	Bidbid	54.16	359	P	P	16 43 41.5	+1.5
VNA3	Neumayer Olymp	54.19	202	P	P	16 43 38.7	-1.1
VNA3	Neumayer Olymp	54.19	202	PP	PP	16 45 37.5	-3.6
VNA3	Neumayer Olymp	54.19	202	PcP	PcP	16 44 42.8	-1.4
HOQ	Hoqain	54.24	358	P	P	16 43 41.3	+0.7
MZWR	Madinat Zayed	54.62	354	P	P	16 43 44.8	+1.5
ASUD	Al Ashush, Dub	55.37	356	P	P	16 43 49.8	+1.1
ASUD	Al Ashush, Dub	55.37	356	P	P	16 43 50.4	+1.7
GMJI	Gumukmas	55.38	78	P	P	16 43 50.8	+1.7
	comp=Z,1μmcomp=Z,26nm,1.6s						
ASHO	Ashiyiah	55.39	357	P	P	16 43 49.8	+0.8
ASHO	Ashiyiah	55.39	357	i P	P	16 43 49.8	+0.8
	SNR=6.4						
FAQ	Al Faqa, Dubai	55.47	356	P	P	16 43 50.7	+1.2
HATD	Hatta, Dubai	55.52	357	P	P	16 43 50.8	+0.9
HATD	Hatta, Dubai	55.52	357	P	P	16 43 50.6	+0.7
UOSS	Minazif	55.64	357	P	P	16 43 51.1	+0.3
UOSS	Minazif	55.64	357	P	P	16 43 51.0	+0.3
RAYN	Ar Rayn	55.69	345	P	P	16 43 52.1	+1.0
RAYN				pmax	pmax		
	comp=Z,35nm,0.9s						
RAYN	Ar Rayn	55.69	345	P	P	16 43 52.1	+1.0
RAYN				IAmb	IAmb	16 43 54.0	
	comp=Z,35nm,0.9s						
RAYN	Ar Rayn	55.69	345	i P	P	16 43 53.0	+1.8
	SNR=41						
NAZ	Nazwa, Dubai	55.71	356	P	P	16 43 52.6	+1.4
	SNR=5.7						
NAZ	Nazwa, Dubai	55.71	356	P	P	16 43 52.2	+1.0
JAGI	Jajag, Banyuwa	55.87	79	P	P	16 43 51.1	-1.5
JAGI				IAmb	IAmb	16 43 53.6	
	comp=Z,46nm,1.0s						
JAGI	Jajag, Banyuwa	55.87	79	P	P	16 43 52.8	+0.1
	comp=Z,2μmcomp=Z,48nm,1.1s						
JAGI	Jajag, Banyuwa	55.87	79	P	P	16 43 52.6	-0.1
TRNA	Turayna	55.87	351	P	P	16 43 53.6	+1.3
MSFE	Esma-Masafi	56.05	357	i P	P	16 43 54.5	+0.8
	SNR=8.6						
MASF	Masafi	56.07	357	P	P	16 43 54.5	+0.8
BANOM	Banah	56.61	357	P	P	16 43 57.7	0.0
BANOM	Banah	56.61	357	P	P	16 43 57.6	-0.1
SHME	Shamm	56.74	357	P	P	16 43 58.2	-0.3
SHME	Shamm	56.74	357	P	P	16 43 58.1	-0.4
SRBI	Singaraja	56.96	79	P	P	16 44 02.4	+1.9
	comp=Z,50nm,1.1s						
SHMA	Al-Shehemyia	57.01	351	P	P	16 44 01.2	+0.8
SAKB	Bahrain	57.19	351	P	P	16 44 03.0	+1.4
STKI	Sintang	58.45	68	P	P	16 44 22.5	+12
PLAI	Plampang	58.75	81	P	P	16 44 13.6	+0.6
	comp=Z,56nm,1.0s						
PLAI	Plampang	58.75	81	P	P	16 44 13.2	+0.2
WBSI	Waikabubak, Su	59.72	83	P	P	16 44 21.3	+1.5
	comp=Z,1μmcomp=Z,37nm,1.2s						
KBKI	Kotabaru	60.34	75	P	P	16 44 35.1	+11
MTKI	Muara Teweh, K	60.62	72	P	P	16 44 27.2	+1.3
FITZ	Fitzroy Crossi	61.14	95	P	P	16 44 27.9	-1.5
	comp=Z,13nm,1.0s,baz=225,slow=6.5,SNR=16						
FITZ	Fitzroy Crossi	61.14	95	P	P	16 44 27.7	-1.7
CM31	Chiang Mai Arr	62.31	43	P	P	16 44 36.9	-0.3
CM31	Chiang Mai Arr	62.31	43	P	P	16 44 38.0	+0.8
	SNR=29						
CMAR	Chiang Mai Arr	62.31	43	P	P	16 44 37.2	+0.1
	comp=Z,36nm,0.9s,baz=231,slow=7.1,SNR=303						
CMAR	Chiang Mai Arr	62.31	43	i P	P	16 44 37.2	+0.1
CMAR				pmax	pmax		
	comp=Z,37nm,0.9s						
CMAR	Chiang Mai Arr	62.31	43	P	P	16 44 37.0	-0.2
KAPI	Kappang	62.41	79	P	P	16 44 36.6	-1.4
	comp=Z,20nm,1.0s,baz=251,slow=13,SNR=3.9						
KAPI	Kappang	62.41	79	P	P	16 44 37.2	-0.8
CHTO	Chiang Mai	62.59	43	P	P	16 44 38.8	-0.2
CHTO				pmax	pmax		
	comp=Z,33nm,1.2s						
CHTO	Chiang Mai	62.59	43	P	P	16 44 38.8	-0.2
CHTO				IAmb	IAmb	16 44 40.2	
	comp=Z,33nm,1.1s						
CHTO	Chiang Mai	62.59	43	P	P	16 44 39.5	+0.5
MMRI	Maumere	62.65	84	P	P	16 44 39.6	0.0
	comp=Z,67nm,1.1s						
MMRI	Maumere	62.65	84	P	P	16 44 39.2	-0.4
KOLN	Koldanda	62.91	24	eP	P	16 44 41.0	-0.3
PYUN	Piuthan	63.00	24	eP	P	16 44 41.5	-0.3
	comp=Z,92nm,1.0s						
BNSI	Bone	63.03	78	P	P	16 44 43.6	+1.5
	comp=Z,31nm,1.3s						
BATI	Baumata	63.09	86	P	P	16 44 43.5	+0.9
	comp=Z,19nm,0.9s,baz=272,slow=7.4,SNR=5.9						
BATI	Baumata	63.09	86	P	P	16 44 43.9	+1.3
	comp=Z,846nmcomp=Z,15nm,1.1s						
RAMN	Ramite	63.30	28	eP	P	16 44 44.1	+0.2
PKI	Pulchoki	63.40	26	eP	P	16 44 43.6	-1.0
PKIN	Phulchoki	63.40	26	eP	P	16 44 43.7	-0.9
DANN	Dangsing	63.50	24	eP	P	16 44 44.6	-0.6
	comp=Z,52nm,0.9s						
GKN	Gorkha	63.50	25	eP	P	16 44 44.6	-0.5
TTSI	Tana Toraja	63.52	77	P	P	16 44 49.4	+4.0
	comp=Z,34nm,1.2s						
ODAN	Odare	63.54	28	eP	P	16 44 45.3	-0.2
	comp=Z,58nm,1.0s						
KKN	Kakani	63.55	26	eP	P	16 44 45.0	-0.5
JIRN	Jiri	63.78	27	eP	P	16 44 46.8	-0.4
GUN	Gumba	63.88	26	eP	P	16 44 47.5	-0.3
UBPT	Khong Chiam	64.05	51	P	P	16 44 48.0	-0.8
UBPT				IAmb	IAmb	16 44 49.9	
	comp=Z,48nm,1.3s						
TAPN	Taplejung	64.11	28	eP	P	16 44 48.5	-0.8
	comp=Z,36nm,0.9s						
KNRA	Kununurra	64.89	94	IAmb	IAmb	16 44 57.0	
	comp=Z,45nm,1.2s						
HRA	Herat	65.05	3	P	P	16 44 55.1	-0.1
MPSI	Mapaga	65.45	74	P	P	16 45 01.7	+3.7
	comp=Z,15nm,1.0s						
NIL	Nilore	65.64	13	P	P	16 44 58.2	-0.6
NIL				pmax	pmax		
	comp=Z,19nm,1.0s						
NIL	Nilore	65.64	13	P	P	16 44 58.2	-0.6
NIL				IAmb	IAmb	16 44 59.7	
	comp=Z,20nm,1.0s						
ASAR	Alice Springs	65.80	104	P	P	16 44 58.9	-1.3
	comp=Z,15nm,1.1s,baz=238,slow=6.0,SNR=61						
ASAR	Alice Springs	65.80	104	P	P	16 44 58.4	-1.8
AS31	Alice Springs	65.80	104	P	P	16 44 58.4	-1.9
KBL	Kabul	65.81	9	P	P	16 45 00.8	+0.7
KBL				pmax	pmax		
	comp=Z,12nm,0.9s						
KBL	Kabul	65.81	9	P	P	16 45 00.8	+0.7
APSI	Ampana	66.21	76	P	P	16 45 03.3	+0.4
	comp=Z,1μmcomp=Z,34nm,1.4s						
TOLI2	Tolitoli	66.61	74	P	P	16 45 06.3	+0.8
LSA	Lhasa	67.61	30	IAmb	IAmb	16 45 14.0	
	comp=Z,22nm,1.0s						
LSA	Lhasa	67.61	30	P	P	16 45 12.0	0.0
LSA				pmax	pmax		
	comp=Z,27nm,1.2s						
WRA	Warramunga Arr	67.75	101	P	P	16 45 11.5	-1.2
	comp=Z,26nm,1.1s,baz=242,slow=5.4,SNR=72						
WB2	Warramunga Arr	67.76	101	IAmb	IAmb	16 45 15.6	
	comp=Z,45nm,1.1s						
WRAB	Tennant Creek	67.76	101	d iP	P	16 45 11.4	-1.4
WRAB				pmax	pmax		
	comp=Z,37nm,1.0s						
WRAB	Tennant Creek	67.76	101	P	P	16 45 11.2	-1.5
WRAB				IAmb	IAmb	16 45 15.6	
	comp=Z,43nm,1.1s						
WRAB	Tennant Creek	67.76	101	P	P	16 45 12.4	-0.4
WB0	Warramunga Arr	67.87	100	P	P	16 45 12.2	-1.3
WB0				IAmb	IAmb	16 45 16.2	
	comp=Z,38nm,1.1s						
WR0	Warramunga Arr	67.91	101	P	P	16 45 12.4	-1.4
WR0				IAmb	IAmb	16 45 16.4	
	comp=Z,24nm,1.1s						
GEYT	Alibeck	68.52	359	P	P	16 45 17.9	+0.8
	comp=Z,3.8nm,0.8s,baz=194,slow=11,SNR=6.7						
STKA	Stephens Creek	68.67	115	P	P	16 45 17.2	-1.1
	comp=Z,7.1nm,0.8s,baz=308,slow=6.6,SNR=9.7						
STKA	Stephens Creek	68.67	115	P	P	16 45 17.1	-1.3
STKA	Stephens Creek	68.67	115	P	P	16 45 17.7	-0.6
KDU	Kakadu	69.46	93	P	P	16 45 22.3	-1.1
KMI	Kunming	69.69	42	⇑P	P	16 45 25.4	+0.6
KMI				pP	pwP	16 45 33.3	+0.6
KMI				pmax	pmax		
	comp=Z,32nm,0.9s						
INKA	Innaminka	69.70	111	P	P	16 45 24.8	0.0
CHGR	Chuyangaron	69.88	8	IAmb	IAmb	16 45 27.5	
	comp=Z,56nm,1.2s						
CSS	Mathiatis	69.89	338	IAmb	IAmb	16 45 27.9	
	comp=Z,39nm,1.0s						
LKRN	Lenkeran, Azer	69.96	351	P	P	16 45 27.3	+1.5
PZH	PanZhiHua	70.20	40	P	P	16 45 27.1	-0.7
PZH				pmax	pmax		
	comp=Z,40nm,1.0s						
TORD	Torodi Ar. Bea	70.37	299	P	P	16 45 29.6	+0.7
	comp=Z,14nm,0.9s,baz=120,slow=5.3,SNR=63						
TORD	Torodi Ar. Bea	70.37	299	IAmb	IAmb	16 45 30.4	
	comp=Z,19nm,1.0s						
GAR	Garm	70.38	9	P	P	16 45 27.8	-0.8
GAR				IAmb	IAmb	16 45 29.6	
	comp=Z,22nm,1.1s						
SAUI	Saumlaki	70.73	88	P	P	16 45 32.9	+1.6
	comp=Z,78nm,0.9s						
SAUI	Saumlaki	70.73	88	P	P	16 45 33.3	+2.0
NAX	Nakhchivan	70.89	349	P	P	16 45 33.6	+1.9
GURO	Guroymak-BITLI	70.94	346	IAmb	IAmb	16 45 35.4	
	comp=Z,30nm,1.2s						
LBMI	Labuha	71.27	79	P	P	16 45 35.0	+0.5
	comp=Z,81nm,1.2s						
KIC	Kosan Boka	71.28	290	eP	P	16 45 35.4	+0.8
	comp=Z,38nm,1.0s						
LIC	Lamto	71.44	289	eP	P	16 45 36.4	+0.9
	comp=Z,96nm,1.3s						
DBIC	Dimbokro	71.56	290	P	P	16 45 37.4	+1.2
	comp=Z,24nm,1.0s,baz=128,slow=7.4,SNR=14						
DBIC	Dimbokro	71.56	290	P	P	16 45 37.4	+1.2
DBIC				pmax	pmax		
	comp=Z,44nm,1.1s						
DBIC	Dimbokro	71.56	290	P	P	16 45 37.4	+1.2
DBIC				IAmb	IAmb	16 45 38.5	

comp=Z,44nm,1.1s
TIC Toumodi 71.67 290 *e*P P 16 45 37.7 +0.8
KSH Kashi 71.85 14 P P 16 45 35.3 -2.2
KSH sP pwP 16 45 43.6 -1.8
KSH pmax pmax
comp=Z,29nm,1.0s
QIS Mount Isa 71.90 103 P P **16 45 37.6 -0.7**
GNI Garni 71.97 349*d* iP P **16 45 40.1 +1.8**
GNI pmax pmax
comp=Z,94nm,1.7s
GNI Garni 71.97 349 P P **16 45 39.6 +1.4**
GNI Garni 71.97 349 P P **16 45 40.3 +2.0**
CMSA Cobar Meteorol 71.99 116 P P **16 45 39.2 +0.6**
GANJ Ganja 72.20 350 P P **16 45 40.9 +1.4**
MNGR Mingechevir, A 72.21 350 P P **16 45 42.1 +2.6**
KARP Karpathos 72.62 333 P P **16 45 42.5 +0.4**
SEKA Sheki 72.62 351 P P **16 45 43.9 +1.9**
GYA Guiyang 73.00 44 ⇓P P **16 45 47.3 +2.6**
GYA pmax pmax
comp=Z,18nm,1.2s
QLP Quilpie 73.01 111 P P **16 45 45.1 +0.3**
DDFL Dedoflistskaro 73.01 350 P P **16 45 47.5 +3.2**
ZKTA Zakatala 73.13 350 P P **16 45 46.9 +1.9**
IDI Anoyia 73.30 331 ⇑P P **16 45 46.5 +0.3**
LGD Lagodekhi 73.38 350 P P **16 45 48.3 +1.9**
KTUT Trabzon 73.76 345 ⇓P P **16 45 49.5 +0.8**
BR131 Keskin Array S 74.17 340*d* iP P **16 45 51.4 +0.1**
BR131 Keskin Array S 74.17 340 IAmb IAmb 16 45 52.8
comp=Z,28nm,0.9s
BR131 Keskin Array S 74.17 340 P P **16 45 52.2 +0.9**
SNR=14
BRTR Keskin Array B 74.17 340 P P **16 45 52.0 +0.7**
comp=Z,12nm,0.8s,baz=167,slow=7.6,SNR=51
BRTR Keskin Array B 74.17 340 P P **16 45 52.0 +0.7**
GUDG Gudauri 74.27 349 P P **16 45 53.3 +1.4**
SWI Sorong 74.33 81 P P **16 45 53.0 +0.3**
SWI pmax pmax
comp=Z,62nm,1.1s
SWI Sorong 74.33 81 P P **16 45 53.2 +0.5**
comp=Z,62nm,1.1s
SIJI Sorong 74.33 81 P P **16 45 52.5 -0.2**
comp=Z,40nm,0.9s,baz=296,slow=3.0,SNR=18
DZA Taraz 74.34 9 *e*P P **16 45 52.5 +0.5**
DZA pmax pmax
comp=Z,16nm,1.2s
DZA Taraz 74.34 9 *e*P P **16 45 52.6 +0.5**
comp=Z,16nm,1.2s,baz=9.3
BR231 Keskin MP Arra 74.53 339 P P **16 45 54.1 +0.7**
BR231 IAmb IAmb 16 45 55.3
comp=Z,56nm,1.4s
ANTO Ankara 74.55 339 P P **16 45 53.9 +0.5**
ANTO pmax pmax
comp=Z,23nm,0.9s
ANTO Ankara 74.55 339 P P **16 45 53.9 +0.5**
ANTO IAmb IAmb 16 45 55.3
comp=Z,23nm,0.9s
AAK Ala-Archa 74.59 12*d* iP P **16 45 54.6 +0.9**
AAK pmax pmax
comp=Z,40nm,1.7s
AAK Ala-Archa 74.59 12 P P **16 45 54.0 +0.3**
AAK IAmb IAmb 16 45 56.1
comp=Z,36nm,1.4s
AAK Ala-Archa 74.59 12 *i* P P **16 45 54.7 +1.1**
SNR=14
ZEI Tsey 74.68 348 *e*P P **16 45 54.1 -0.2**
ZEI pmax pmax
comp=Z,23nm,1.3s
CD2 Chengdu 74.74 39 P P **16 45 53.6 -1.1**
CD2 pmax pmax
comp=Z,60nm,0.8s
GOMU GeErMu 74.75 29 P P **16 45 55.3 +0.3**
GOMU pP sP 16 45 58.1 +0.6
GOMU sP pwP 16 46 01.1 -1.8
GOMU pmax pmax
comp=Z,8.0nm,1.0s
KVT Kavak 74.76 342 P P **16 45 56.2 +1.7**
TKM2 Tokmak 2 75.06 13 P P **16 45 57.5 +1.0**
TKM2 pmax pmax
comp=Z,21nm,1.2s
USP Ospenovka 75.20 12 P P **16 45 58.1 +1.1**
USP pmax pmax
comp=Z,28nm,1.6s
NEY Neytrino 75.34 348 ⇓*i*P P **16 46 00.4 +2.4**
NEY pmax pmax
comp=Z,7.0nm,1.0s
SGDS Sogindy 75.40 12 ⇓*i*P P **16 45 58.5 +0.3**
baz=12
SGDS *e*S S **16 55 39.7 +1.6**
baz=12
NCK Nalchik 75.42 348 ⇓*i*P P **16 46 00.3 +2.0**
NCK pmax pmax
comp=Z,11nm,0.4s
TNSS Tian-Shan 75.43 13 *i* P P **16 45 59.7 +0.9**
baz=13
MDOK Medeo 75.58 14 *i* P P **16 45 59.7 +0.4**
MDOK Medeo 75.58 14 *i* P P **16 45 59.7 +0.4**
baz=13
AAA Alma-Ata 75.59 13 *e*P P **16 45 59.7 +0.4**
AAA pmax pmax
comp=Z,38nm,1.3s
AAA Alma-Ata 75.59 13 *e*P P **16 45 59.7 +0.4**
comp=Z,38nm,1.3s,baz=13
SATY Saty 75.76 15*de*P P **16 46 01.0 +0.6**
SATY pmax pmax
comp=Z,14nm,1.2s
SATY Saty 75.76 15⇓*e*P P **16 46 01.0 +0.6**
comp=Z,14nm,1.2s,baz=14
KBZ Khabaz 75.77 348 P P **16 46 01.0 +0.8**
comp=Z,8.4nm,1.0s,baz=170,slow=4.8,SNR=8.7
KBZ Khabaz 75.77 348 ⇓*i*P P **16 46 00.7 +0.5**
KBZ pmax pmax
comp=Z,17nm,1.2s
UZB Uzynbulak 75.98 15 *e*P P **16 46 02.1 +0.5**
UZB pmax pmax
comp=Z,14nm,0.9s
UZB Uzynbulak 75.98 15 *e*P P **16 46 02.1 +0.5**
comp=Z,14nm,0.9s,baz=15
KIV Kislovodsk 76.03 348 ⇓P P **16 46 02.6 +0.8**
KIV Kislovodsk 76.03 348 *e*P P **16 46 02.2 +0.4**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 76.03 348 P P **16 46 02.5 +0.7**
KIV IAmb IAmb 16 46 06.4
comp=Z,30nm,1.2s
KIV Kislovodsk 76.03 348 P P **16 46 03.2 +1.4**
SHLS Shalkode 76.08 15 *e*P P **16 46 03.4 +1.2**
SHLS pmax pmax
comp=Z,11nm,0.8s
SHLS Shalkode 76.08 15 *e*P P **16 46 03.4 +1.2**
comp=Z,10nm,0.8s,baz=16
KUU Kurty 76.14 13 *e*P P **16 46 02.5 +0.1**
KUU pmax pmax
comp=Z,18nm,1.0s
KUU Kurty 76.14 13 *e*P P **16 46 02.5 +0.1**
comp=Z,18nm,1.0s,baz=13
KPKS Kokpek 76.21 15 *e*P P **16 46 03.2 +0.4**
KPKS pmax pmax
comp=Z,18nm,1.1s
KPKS Kokpek 76.21 15 *e*P P **16 46 03.3 +0.4**
comp=Z,18nm,1.1s,baz=14
CHKK Chushkaly 76.23 13 *e*P P **16 46 02.7 -0.2**
baz=13
SOC Sochi 76.25 346 *e*P P **16 46 01.5 -1.5**
SOC *e* 16 48 52.6
SOC *e*PPP PPP 16 50 50.2
SOC *e*S **S** **16 55 47.3 0.0**
SOC *e*SS **SS** **17 00 39.9 -2.0**
SOC *e*SSS SSS 17 03 59.2
SOC pmax pmax
comp=Z,16nm,0.8s
EZN Ezine 76.69 335 P P **16 46 06.5 +1.0**
BTLS Baital 76.85 11*d* iP P **16 46 06.6 +0.3**
BTLS pmax pmax
comp=Z,13nm,1.3s
BTLS Baital 76.85 11 ⇓*i*P P **16 46 06.7 +0.4**
comp=Z,13nm,1.3s,baz=11
MTSU Mount Surprise 76.96 103 P P **16 46 08.0 +0.2**
GOF Gofitskoye 77.03 348⇑ *e*P P **16 46 10.3 +2.9**
ARMA Armidale 77.04 118 IAmb IAmb 16 46 09.6
comp=Z,36nm,1.1s
ARMA Armidale 77.04 118 P P **16 46 08.7 +0.5**
ENH Enshi 77.48 43 IAmb IAmb 16 46 11.3
comp=Z,39nm,0.9s
AGG Agios Georgios 77.55 332 IAmb IAmb 16 46 12.5
comp=Z,50nm,1.0s

CTA Charters Tower 77.64 106 P P **16 46 11.0 -0.6**
comp=Z,20nm,1.0s,baz=61,slow=2.2,SNR=6.2
CTA Charters Tower 77.64 106 P P **16 46 11.0 -0.6**
ALN Alexandroupoli 77.73 335 P P **16 46 11.8 +0.4**
ALN Alexandroupoli 77.73 335 IAmb IAmb 16 46 12.9
comp=Z,28nm,1.1s
PAIG Paliouri 77.78 333 P P **16 46 12.4 +0.7**
ANN Anapa 77.92 344 *e*P P **16 46 10.0 -2.3**
ANN *e*'PP **pP** **16 46 13.7 -0.4**
ANN *e*S **S** **16 56 03.0 -2.3**
ANN pmax pmax
comp=Z,49nm,1.2s
LIT Litokhoron 78.40 332 P P **16 46 15.4 +0.2**
LIT Litokhoron 78.40 332 IAmb IAmb 16 46 16.6
comp=Z,44nm,1.0s
LZH Lanzhou 78.83 36 ⇑P P **16 46 18.3 +0.5**
LZH pP pwP 16 46 24.2 -1.5
LZH sP PcP 16 46 27.8 +1.3
LZH pmax pmax
comp=Z,25nm,1.5s
LZH LR LR
comp=Z,1μm,12.5s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,2μm,19.1s
SIM Simferopol' 78.87 342 *e*P P **16 46 17.9 +0.3**
SIM *e* 16 46 26.0
SIM pmax pmax
comp=Z,60nm,1.2s
WMQ Urumqi 78.89 21 *e*P P **16 46 17.8 0.0**
WMQ sP PcP 16 46 27.1 +0.6
WMQ pmax pmax
comp=Z,17nm,1.3s
EIDS Eidsvold 79.02 113 P P **16 46 18.9 -0.2**
VAY Valandovo 79.41 333 *i* P P **16 46 20.5 -0.1**
FNA Florina 79.43 332 P P **16 46 21.4 +0.6**
KBN Korca 79.53 331 P P **16 46 21.9 +0.5**
KBN pmax pmax
comp=Z,45nm,1.2s
KBN Korca 79.53 331 P P **16 46 21.9 +0.5**
KBN IAmb IAmb 16 46 23.9
comp=Z,45nm,1.2s
GTA Gaotai 79.60 31 ⇓P P **16 46 22.0 +0.1**
GTA pP sP 16 46 26.8 +2.5
GTA sP pwP 16 46 29.5 -0.3
GTA pmax pmax
comp=Z,39nm,1.0s
GTA LR LR
comp=Z,330nm,15.5s
GTA LR LR
comp=Z,510nm,16.7s
GTA LR LR
comp=Z,610nm,19.1s
ABKAR Akbulak array 79.84 1 IAmb IAmb 16 46 24.5
comp=Z,34nm,1.1s
STIP Stip 79.88 333 *i* P P **16 46 23.2 0.0**
OHR Ohrid 79.94 332 *i* P P **16 46 24.7 +1.1**
XAN Xi'an 79.94 40 P P **16 46 23.1 -0.7**
XAN pP sP 16 46 26.2 0.0
XAN pmax pmax
comp=Z,44nm,1.2s
TIRR Tirgusor 80.08 338 ⇓P P **16 46 24.3 +0.1**
TIRR Tirgusor 80.08 338 P P **16 46 24.9 +0.7**
TIRR pmax pmax
comp=Z,81nm,1.2s
MAKZ Makanchi 80.12 16 P P **16 46 23.8 -0.6**
MAKZ pmax pmax
comp=Z,28nm,1.4s
MAKZ Makanchi 80.12 16 P P **16 46 23.8 -0.6**
MK31 Makanchi Array 80.18 16*d* iP P **16 46 24.6 -0.1**
MKAR Makanchi Array 80.18 16 P P **16 46 25.0 +0.3**
comp=Z,6.7nm,0.9s,baz=210,slow=4.2,SNR=44
VTS Vitosha 80.26 334 ⇓P P **16 46 25.6 +0.2**
VTS Vitosha 80.26 334 P P **16 46 26.0 +0.6**
VTS pmax pmax
comp=Z,15nm,1.5s
SKO Skopje 80.41 333 *i* P P **16 46 26.9 +0.8**
TPGR Topolog 80.44 338 ⇓P P **16 46 26.2 +0.1**
HARR Harsova 80.44 338 ⇓P P **16 46 26.3 +0.1**
HARR Harsova 80.44 338 P P **16 46 26.2 +0.1**
SSLB Suanglung 80.48 55 IAmb IAmb 16 46 29.0
comp=Z,70nm,1.3s
SSLB Suanglung 80.48 55 P P **16 46 28.9 +2.0**
TIR Tirane 80.52 331 P P **16 46 27.4 +0.7**
TIR pmax pmax
comp=Z,36nm,0.8s
TIR Tirane 80.52 331 P P **16 46 27.4 +0.7**
TIR IAmb IAmb 16 46 29.0
comp=Z,36nm,0.8s
WHN Wuhan 80.61 46 ⇑P P **16 46 27.9 +0.5**
CFR Carcaliu 80.81 338 ⇓P P **16 46 28.3 +0.2**
CFR Carcaliu 80.81 338 P P **16 46 28.2 +0.2**
EFI East Falkland 80.99 214 ⇓*i*P P **16 46 29.0 -0.2**
EFI pmax pmax
comp=Z,59nm,2.5s
KEST Kesra 81.10 321 P P **16 46 31.7 +1.7**
comp=Z,11nm,0.9s,baz=335,slow=4.0,SNR=5.4
KEST Kesra 81.10 321 P P **16 46 33.1 +3.1**
ISR Istrita 81.28 337 ⇓P P **16 46 31.6 +0.9**
ISR Istrita 81.28 337 P P **16 46 31.5 +0.9**
HUMR Humele 81.29 336 ⇓P P **16 46 31.0 +0.3**
MATE Matera 81.31 329 ⇓P P **16 46 31.6 +0.8**
ZSN Zaisan 81.42 17*d* iP P **16 46 32.2 +0.8**
ZSN pmax pmax
comp=Z,13nm,1.1s
ZSN Zaisan 81.42 17 ⇓*i*P P **16 46 32.2 +0.8**
comp=Z,13nm,1.1s,baz=17
BRZS Berezniki 81.47 9 *e*P P **16 46 31.8 +0.3**
BRZS Berezniki 81.47 9 *e*P P **16 46 31.9 +0.3**
baz=8.8
PDG Podgorica 81.67 331 ⇓P P **16 46 33.7 +0.9**
PDG Podgorica 81.67 331 IAmb IAmb 16 46 34.8
comp=Z,20nm,1.0s
MLR Muntele Rosu 81.80 337 ⇓P P **16 46 33.8 +0.2**
MLR Muntele Rosu 81.80 337 P P **16 46 33.8 +0.2**
MLR pmax pmax
comp=Z,38nm,1.3s
MLR Muntele Rosu 81.80 337 IAmb IAmb 16 46 35.1
comp=Z,52nm,1.2s
VRI Vrincioaia 81.88 338 ⇓P P **16 46 34.5 +0.7**
VRI Vrincioaia 81.88 338 P P **16 46 34.3 +0.5**
VRI pmax pmax
comp=Z,87nm,1.2s
PLOR Plostina 81.89 338 ⇓P P **16 46 34.3 +0.4**
PLOR Plostina 81.89 338 P P **16 46 34.2 +0.4**
VOIR 82.06 337 ⇓P P **16 46 34.4 -0.4**
VOIR 82.06 337 P P **16 46 34.6 -0.2**
VOIR pmax pmax
comp=Z,27nm,1.2s
ARR Arges 82.14 336 ⇓P P **16 46 35.0 -0.2**
MILM Milestii Mici 82.17 340 ⇓P P **16 46 35.4 +0.1**
MILM Milestii Mici 82.17 340 P P **16 46 35.3 +0.1**
LYN LuoYang 82.31 42 ⇓P P **16 46 36.6 +0.3**
LYN pP sP 16 46 40.0 +1.2
LYN pmax pmax
comp=Z,20nm,1.2s
OZUR 82.39 337 ⇓P P **16 46 36.1 -0.4**
DOPR Dopca 82.41 337 ⇓P P **16 46 36.2 -0.4**
HERR Herculane 82.51 335 ⇓P P **16 46 37.2 +0.1**
LOT Lotru 82.51 336 ⇓P P **16 46 37.3 +0.1**
MDVR Moldovita 82.69 334 ⇓P P **16 46 37.4 -0.7**
DIVS Divibare 82.77 333 IAmb IAmb 16 46 40.8
comp=Z,36nm,1.3s
GZR Gura Zlata 82.82 335 ⇓P P **16 46 39.1 +0.3**
KURK Kurchatov 83.13 12*d* iP P **16 46 40.6 +0.5**
KURK pmax pmax
comp=Z,65nm,1.7s
KURK Kurchatov 83.13 12 P P **16 46 40.6 +0.5**
KURK IAmb IAmb 16 46 41.9
comp=Z,45nm,1.2s
SEM Semipalatinsk 83.15 13 *e*P P **16 46 41.0 +0.4**
SEM pmax pmax
comp=Z,26nm,1.3s
SEM Semipalatinsk 83.15 13 *e*P P **16 46 41.0 +0.4**
comp=Z,26nm,1.3s,baz=13
VRH Novokhopyorsk 83.21 349 *e*P P **16 46 39.9 -0.6**
VRH pmax pmax
comp=Z,50nm,1.3s
SORM Soroca 83.40 340 ⇓P P **16 46 41.3 -0.3**
SORM Soroca 83.40 340 P P **16 46 41.3 -0.3**
VORD Divnogorie 83.40 348 *e*P P **16 46 41.2 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s

BZS Buzias 83.43 335 ⇓P P **16 46 42.3 +0.4**
BZS Buzias 83.43 335 P P **16 46 42.3 +0.4**
BZS pmax pmax
comp=Z,26nm,1.2s
BELG Belogornoye 83.58 353*d* iP P **16 46 42.2 -0.2**
BELG pmax pmax
comp=Z,12nm,1.0s
PMG Port Moresby 83.63 97 P P **16 46 44.0 +0.3**
comp=Z,17nm,1.1s,baz=341,slow=3.1,SNR=8.4
PMG Port Moresby 83.63 97*c* iP P **16 46 43.9 +0.2**
PMG pmax pmax
comp=Z,24nm,1.3s
PMG Port Moresby 83.63 97 P P **16 46 44.2 +0.5**
PMG Port Moresby 83.63 97 P P **16 46 44.6 +0.9**
FRGS Fruska Gora 83.73 333 ⇓P P **16 46 42.3 -1.1**
ARCR ARCALIA 83.73 337 ⇓P P **16 46 44.1 +0.8**
BURAR Bucovina Array 83.91 338 ⇓P P **16 46 45.5 +1.1**
BURAR Bucovina Array 83.91 338 P P **16 46 45.5 +1.1**
BURAR Bucovina Array 83.91 338 IAmb IAmb 16 46 46.9
comp=Z,18nm,1.1s
BUR08 Bucovina Ar. S 83.94 338 IAmb IAmb 16 46 46.8
comp=Z,27nm,1.3s
SIRR Siria 83.97 335 ⇓P P **16 46 45.4 +0.8**
DRGR 84.04 336 ⇓P P **16 46 46.4 +1.3**
DRGR 84.04 336 P P **16 46 44.9 -0.2**
DRGR pmax pmax
comp=Z,18nm,1.4s
VORR Voronezh 84.09 348 *e*P P **16 46 42.8 -2.3**
VORR pmax pmax
comp=Z,70nm,0.5s
AQU L'Aquila 84.16 328 P P **16 46 47.9 +2.2**
AQU pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 84.22 7*d* iP P **16 46 45.9 +0.2**
BRVK pmax pmax
comp=Z,42nm,1.7s
BRVK Borovoye 84.22 7 P P **16 46 45.6 -0.1**
BRVK IAmb IAmb 16 46 47.4
comp=Z,26nm,1.1s
KMPD K-Podol'skiy 84.35 339 P P **16 46 45.0 -1.5**
LTZ Lake Taylor 84.44 137 P P **16 46 46.8 -0.7**
NJ2 Nanjing 84.45 48⇑ *i*P P **16 46 47.5 +0.1**
NJ2 pmax pmax
comp=Z,29nm,1.0s
KSV Kosov 84.57 338 P P **16 46 46.3 -1.3**
NRCA Norcia 84.67 328 P P **16 46 47.9 -0.5**
NRCA IAmb IAmb 16 46 49.3
comp=Z,20nm,1.1s
HORU Horodok 84.94 339 P P **16 46 48.7 -0.7**
MORH Mrgy, Hungar 85.06 333 ⇓P P **16 46 49.9 -0.2**
MORH Mrgy, Hungar 85.06 333 P P **16 46 50.3 +0.2**
TRSU Trosnyk 85.08 337 P P **16 46 49.6 -0.5**
KOVH Kovagotottos 85.17 333 P P **16 46 50.7 0.0**
TRPA Tarpa 85.25 336 ⇓P P **16 46 51.4 +0.4**
TRPA Tarpa 85.25 336 P P **16 46 51.0 0.0**
BTO Baotou 85.40 36 *e*P P **16 46 52.6 +0.5**
AKASG Malin Array Be 85.46 342 P P **16 46 52.0 0.0**
comp=Z,7.4nm,0.9s,baz=169,slow=4.6,SNR=32
AKBB Malin Array Si 85.46 342*ce*P P **16 46 52.3 +0.3**
AKBB pmax pmax
comp=Z,28nm,1.4s
AKBB Malin Array Si 85.46 342 IAmb IAmb 16 46 53.1
comp=Z,29nm,1.2s
HNS HongShan 85.61 41 ⇓P P **16 46 53.2 +0.1**
HNS pmax pmax
comp=Z,61nm,1.1s
GO10 Punta Arenas 85.69 208 P P **16 46 53.0 -0.5**
UZH Uzhgorod 85.77 337*c* iP P **16 46 53.0 -0.6**
UZH *e* 16 46 55.5
UZH *e* 16 46 59.1
PSZ Piszkesteto 86.01 335 ⇓P P **16 46 54.6 -0.4**
PSZ Piszkesteto 86.01 335 P P **16 46 54.5 -0.4**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
TIA Tai'an 86.19 43 P P **16 46 55.9 -0.1**
TIA pmax pmax
comp=Z,35nm,1.0s
VISS Visnje 86.26 331 *i* P P **16 46 56.0 -0.2**
DOBS Dobrina 86.28 331 *i* P P **16 46 56.6 +0.4**
CRVS Cervenica-Dubn 86.28 336 *e*P P **16 46 56.8 +0.6**
CRVS pmax pmax
comp=Z,40nm,1.5s
CRVS Cervenica-Dubn 86.28 336 *e*P P **16 46 56.8 +0.6**
HHC Hu-ho-hao-te 86.38 37 *e*P P **16 46 57.6 +0.6**
HHC pmax pmax
comp=Z,25nm,0.9s
SRO2 Moca 86.44 334 *e*P P **16 46 56.6 -0.3**
SRO2 Moca 86.44 334 *e*P P **16 46 56.6 -0.3**
KWP Kalwaria Pacla 86.49 337 P P **16 46 56.0 -1.1**
KWP pmax pmax
comp=Z,27nm,2.5s
SRO Srobarova 86.51 334 *e*P P **16 46 57.7 +0.4**
SRO Srobarova 86.51 334 *e*P P **16 46 57.7 +0.4**
VOJS Vojsko 86.85 330 *i* P P **16 46 59.0 -0.2**
VYHS Vyhne 86.88 335 *e*P P **16 47 00.2 +1.1**
VYHS pmax pmax
comp=Z,37nm,1.4s
VYHS Vyhne 86.88 335 *e*P P **16 47 00.2 +1.1**
SOKA Soboth 86.88 331 *i* P P **16 46 59.6 +0.3**
comp=Z,18nm,1.2s,SNR=7.6
OBKA Obir 86.95 331 *i* P P **16 47 00.5 +0.9**
comp=Z,28nm,1.4s,SNR=6.6
ARU Arti 87.03 360*d* iP P **16 47 00.1 +0.5**
ARU 16 50 25.6
ARU PPP PPP 16 52 17.4
ARU S S 16 57 27.1 -11
ARU pmax pmax
comp=Z,50nm,1.4s
ARU Arti 87.03 360 P P **16 46 59.6 0.0**
SOP Sopron 87.08 333 P P **16 47 00.9 +0.8**
SOP pmax pmax
comp=Z,24nm,1.6s
KOLL Kolacno 87.11 334 *e*P P **16 47 01.2 +1.0**
ARSA Arzberg 87.14 332 *e*P P **16 47 01.3 +0.9**
comp=Z,16nm,1.2s
LANS Liptovska Anna 87.20 335 *e*P P **16 47 02.0 +1.3**
LANS pmax pmax
comp=Z,15nm,1.4s
LANS Liptovska Anna 87.20 335 *e*P P **16 47 02.0 +1.3**
ZST Bratislava 87.29 333 *e*P P **16 47 01.5 +0.4**
ZST Bratislava 87.29 333 *e*P P **16 47 01.5 +0.4**
MG05 Puerto Natales 87.39 208 P P **16 47 00.5 -1.3**
MYKA Terra Mystica 87.42 331 *e*P P **16 47 02.7 +0.8**
comp=Z,14nm,1.6s
SMOL Smolenice 87.42 334 *e*P P **16 47 02.1 +0.4**
SMOL pmax pmax
comp=Z,9.0nm,1.4s
SMOL Smolenice 87.42 334 *e*P P **16 47 02.1 +0.4**
SVE Sverdlovsk 87.44 1⇓ *e*P P **16 47 02.7 +1.1**
SVE pmax pmax
comp=Z,35nm,1.6s
ZAA0 Zalesovo Array 87.44 15 IAmb IAmb 16 47 02.1
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 87.44 15 P P **16 47 00.8 -0.9**
comp=Z,18nm,1.0s,baz=220,slow=3.9,SNR=46
ZALV Zalesovo Beam 87.44 15 P P **16 47 00.5 -1.1**
STAL STALIGIAL 87.53 330 IAmb IAmb 16 47 03.8
comp=Z,26nm,1.3s
CONA Conrad Observa 87.56 333 *e*P P **16 47 02.8 +0.3**
comp=Z,43nm,1.2s,SNR=17
JAVC Velka Javorina 87.62 334 *e*P P **16 47 03.9 +1.2**
OBN Obninsk 87.86 347*d* iPP P **16 47 04.3 +0.7**
OBN *e*PPP PPP 16 52 26.7
OBN pmax pmax
comp=Z,80nm,1.7s
KBA Koelnbreinsper 87.90 331 *i* P P **16 47 04.8 +0.5**
comp=Z,25nm,1.3s,SNR=8.6
KBA Koelnbreinsper 87.90 331 P P **16 47 05.1 +0.8**
KBA pmax pmax
comp=Z,16nm,1.5s
OJC Ojcow 87.98 336 *e*P P **16 47 03.6 -0.7**
OJC Ojcow 87.98 336 P P **16 47 04.7 +0.4**
OJC pmax pmax
comp=Z,33nm,1.9s
ABTA Abfaltersbach 88.00 330 *i* P P **16 47 05.7 +1.1**
comp=Z,44nm,1.2s,SNR=17
KNGR Kungurtug, Tuv 88.03 23⇓ *e*P P **16 47 04.3 -0.5**
MOA Molln 88.13 332 *i* P P **16 47 05.5 +0.4**
comp=Z,31nm,1.2s,SNR=12
MOS Moscow 88.26 348 *e*P P **16 47 04.8 -0.7**
MOS pmax pmax
comp=Z,87nm,1.4s
KRUC Moravsky 88.27 334 P P **16 47 06.1 +0.4**
KRUC pmax pmax

comp=Z,26nm,1.4s
KRUC **Moravsky** 88.27 334 *e*P P 16 47 05.8 +0.1
BJI **Beijing** 88.27 40 P P 16 47 05.9 -0.1
BJI sP **sP** 16 47 10.0 +1.6
VRAC **Vranov** 88.39 334 P P 16 47 06.9 +0.6
VRAC pmax pmax
comp=Z,13nm,1.5s
VRAC **Vranov** 88.39 334 *e*P P 16 47 06.5 +0.2
MORC **Moravsky Berou** 88.42 335 ⇓P P 16 47 06.7 +0.2
MORC **Moravsky Berou** 88.42 335 P P 16 47 07.2 +0.7
MORC pmax pmax
comp=Z,18nm,1.6s
MORC **Moravsky Berou** 88.42 335 IAmb IAmb 16 47 07.9
comp=Z,25nm,1.2s
MORC **Moravsky Berou** 88.42 335 *e*P P 16 47 06.9 +0.4
WTTA **Wattenberg** 88.78 330 *i* P P 16 47 09.0 +0.6
comp=Z,45nm,1.0s,SNR=14
WTTA **Wattenberg** 88.78 330 P P 16 47 09.0 +0.6
WTTA pmax pmax
comp=Z,47nm,1.2s
TREC **Trest** 88.81 333 P P 16 47 08.8 +0.5
TREC pmax pmax
comp=Z,80nm,1.0s
WATA **Walderalm** 88.86 330 *i* P P 16 47 09.4 +0.6
comp=Z,41nm,1.1s,SNR=12
CKRC **Cesky Krumlov** 88.89 332 *e*P P 16 47 09.1 +0.4
FETA **Feichten** 88.98 329 *i* P P 16 47 10.4 +1.0
comp=Z,38nm,1.0s,SNR=10
MOTA **Moosalm** 89.07 330 *i* P P 16 47 10.5 +0.7
comp=Z,41nm,1.0s,SNR=12
GERES **GERESS Array B** 89.15 332 P P 16 47 08.8 -1.2
comp=Z,2.2nm,0.8s,baz=224,slow=9.3,SNR=12
TUE **Stuetta** 89.18 328 IAmb IAmb 16 47 11.7
comp=Z,25nm,1.0s
SONM **Songino Array** 89.19 30 P P 16 47 10.1 -0.2
comp=Z,6.7nm,0.9s,baz=211,slow=4.9,SNR=42
MNK **Minsk** 89.25 342 *i* P P 16 47 08.7 -1.4
MNK *i* S **SKSac** 16 57 38.4 -1.3
MNK *i* SS **SS** 17 03 52.0 -2.4
MNK *i* SSS SSS 17 07 28.9
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=Z,30nm,1.1s
MNK pmax pmax
comp=N,12nm,1.1s
MNK MLR MLR
comp=N,482nm,23.0s
MNK MLR MLR
comp=Z,782nm,18.0s
MNK MLR MLR
comp=E,65nm,13.0s
MNK **Minsk** 89.25 342 *i* P P 16 47 08.8 -1.4
comp=E,2.0nm,1.1s
MNK *i* P P 16 47 08.8 -1.4
comp=N,12nm,1.1s
MNK *i* P P 16 47 08.8 -1.4
comp=Z,30nm,1.1s,baz=154
MNK *i* PP PP 16 50 35.4 -5.8
MNK *i* PPP PPP 16 52 31.8
MNK *i* S **SKSac** 16 57 38.4 -1.3
MNK *i* SS **SS** 17 03 52.0 -2.4
MNK *i* SSS SSS 17 07 28.9
MNK *i* LQ LQ 17 21 08.8
MNK *i* LR LR 17 23 03.2
MNK *i* LRM MLR 17 25 14.3
comp=N,482nm,22.9s
MNK *i* LRM MLR 17 25 35.9
comp=Z,782nm,17.8s
MNK *i* LRM MLR 17 25 58.8
comp=E,65nm,12.7s
RETA **Reutte** 89.33 330 *i* P P 16 47 11.7 +0.9
comp=E,35nm,1.1s,SNR=7.2
DPC **Dobruska-Polom** 89.34 334 *e*P P 16 47 10.9 +0.1
DPC **Dobruska-Polom** 89.34 334 *e*P P 16 47 10.9 +0.1
BNI **Bardonecchia** 89.37 326 P P 16 47 11.4 +0.2
BNI pmax pmax
comp=Z,12nm,1.0s
KHC **Kasperske Hory** 89.43 332 *e*P P 16 47 10.9 -0.4
KHC **Kasperske Hory** 89.43 332 *e*P P 16 47 10.9 -0.4
ULN **Ulaanbaatar** 89.50 30⇓*e*P P 16 47 10.9 -0.9
ULN pmax pmax
comp=Z,13nm,0.8s
ULN **Ulaanbaatar** 89.50 30 P P 16 47 10.6 -1.1
OSTC **Ostas** 89.55 334 *e*P P 16 47 12.8 +1.0
KIRV **Kirov** 89.55 355⇓*e*P P 16 47 11.6 +0.1
DAVA **Damuels** 89.56 329 *i* P P 16 47 12.7 +0.6
comp=Z,34nm,1.0s,SNR=5.4
FUR **Furstenfeldbru** 89.63 330 P P 16 47 13.7 +1.5
FUR pmax pmax
comp=Z,106nm,1.3s
CHVC **Chvalec** 89.64 334 *e*P P 16 47 12.9 +0.7
PBCC **Pribram** 89.70 333 *e*P P 16 47 12.8 +0.3
WET **Wettzell** 89.72 332 P P 16 47 12.7 +0.1
WET pmax pmax
comp=Z,11nm,1.9s
PRU **Pruhonice** 89.73 333 *e*P P 16 47 12.9 +0.3
PRU **Pruhonice** 89.73 333 *e*P P 16 47 12.9 +0.3
KSP **Ksiaz** 89.75 335 *e*P P 16 47 13.5 +0.8
KSP **Ksiaz** 89.75 335 P P 16 47 14.0 +1.3
KSP pmax pmax
comp=Z,21nm,1.6s
NACGM **Naroch** 89.89 342 *i* P P 16 47 14.6 +1.4
ZAK **Zakamensk** 89.94 27 *e*P P 16 47 12.7 -1.0
ZAK pmax pmax
comp=Z,8.0nm,1.4s
SUW **Suwalki** 90.12 340 *e*P P 16 47 14.3 +0.1
SUW **Suwalki** 90.12 340 P P 16 47 15.0 +0.7
SUW pmax pmax
comp=Z,60nm,1.1s
PVCC **Panska Ves** 90.15 333 P P 16 47 15.8 +1.3
PVCC pmax pmax
comp=Z,32nm,1.4s
MTLF **Montolieu** 90.40 322 P P 16 47 17.9 +2.0
MTLF pmax pmax
comp=Z,30nm,1.8s
BRG **Berggiesshubel** 90.67 333 *e*P P 16 47 17.9 +0.9
BRG Amp 16 47 19.8
comp=Z,35nm,1.4s
BRG **Berggiesshubel** 90.67 333 *e*P P 16 47 17.8 +0.9
BRG pmax pmax
comp=Z,35nm,1.5s
NKC **Novy Kostel** 90.75 332⇓*e*P P 16 47 18.6 +1.2
NKC **Novy Kostel** 90.75 332 *e*P P 16 47 18.6 +1.2
CLL **Collm** 91.37 333 *e*P P 16 47 21.0 +0.8
CLL pmax pmax
comp=Z,66nm,2.3s
CLL **Collm** 91.37 333 *e*P P 16 47 21.0 +0.8
comp=Z,24nm,1.6s
ESBB **Sonseca Array** 91.40 317 IAmb IAmb 16 47 23.6
comp=Z,29nm,1.1s
ESDC **Sonseca Array** 91.40 317 P P 16 47 22.8 +2.1
comp=Z,13nm,1.0s,baz=120,slow=3.5,SNR=42
ESDC **Sonseca Array** 91.40 317 P P 16 47 21.4 +0.7
ESDC IAmb IAmb 16 47 23.6
comp=Z,23nm,1.1s
PAB **San Pablo** 91.55 316 P P 16 47 20.6 -0.8
PAB pmax pmax
comp=Z,31nm,1.1s
PAB **San Pablo** 91.55 316 P P 16 47 20.6 -0.8
KLMR **Klimovskoe** 92.85 351 *e*P P 16 47 24.5 -2.2
KLMR *e* 16 51 06.6
KLMR *e*PPP PPP 16 53 09.6
KLMR pmax pmax
comp=Z,24nm,1.3s
KLMR **Klimovskoe** 92.85 351 *e*P P 16 47 24.6 -2.2
KLMR AMP 16 47 27.5
comp=Z,24nm,1.3s
KLMR *e*PP **PP** 16 51 06.7 -3.0
KLMR *e*PPP PPP 16 53 09.7
PRGR **Permogore** 92.89 354 *e*P P 16 47 23.7 -3.2
PRGR pmax pmax
comp=Z,22nm,1.6s
VSU **Vasula** 93.07 344⇓*e*P P 16 47 28.2 +0.3
VSU pmax pmax
comp=Z,104nm,1.5s
PESTR **Estremoz** 93.08 314 *e*P P 16 47 31.0 +2.5
comp=Z,34nm,1.7s
PNCL **Nicolau / Gran** 93.21 313 *e*P P 16 47 29.8 +0.8
comp=Z,30nm,1.8s
PMTG **Montargil** 93.60 314 *e*P P 16 47 33.6 +2.8
comp=Z,21nm,1.6s
KSRS **Korea Array** 93.64 48 P P 16 47 29.6 -1.4
comp=Z,6.1nm,1.1s,baz=232,slow=6.5,SNR=8.5
MVO **Moncorvo** 94.15 316 *e*P P 16 47 34.5 +1.1
comp=Z,45nm,1.3s
CN2 **Changchun** 95.96 42 *e*P P 16 47 39.2 -2.3
MA2 **Magadan** 116.97 35⇑*i*PKIKP PKPdf 16 52 57.6 -1.2
MA2 pmax pmax
comp=Z,6.0nm,1.3s
SEY **Seymchan** 118.55 31⇑*i*PKIKP PKPdf 16 53 01.3 -0.4
BILL **Bilibino** 124.74 26 *i*PKIKP PKPdf 16 53 13.5 0.0
BILL *e* 16 55 02.0
BILL *e*PPP PPP 16 57 46.4
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL **Bilibino** 124.74 26 PKPdf PKPdf 16 53 12.7 -0.8
RES **Resolute Bay** 134.30 351 PKIKP PKPdf 16 53 30.9 -0.6
RES **Resolute Bay** 134.30 351 PKPdf PKPdf 16 53 30.9 -0.6
GAMB **Gambell** 134.42 29 P PKiKP 16 53 33.2 -0.2
baz=291
TNA **Tin City** 135.17 26 PKPdf PKiKP 16 53 34.2 -0.6
TNA **Tin City** 135.17 26 P PKiKP 16 53 34.4 -0.5
baz=297
ANM **Nome** 136.59 26 P PKiKP 16 53 37.4 -0.4
baz=299
TOLK **Toolik Lake Re** 138.80 15 P PKPdf 16 53 41.0 +0.9
baz=321
A36M **Sachs Harbour** 138.84 2 P PKPdf 16 53 41.0 +1.0
baz=354
HRV **Adam Dziewonsk** 139.28 301 P PKPdf 16 53 42.0 +0.3
baz=90
LBNH **Lisbon** 139.52 303 P PKPdf 16 53 42.9 +0.8
baz=88
IMAR **Indian Mountai** 139.68 20 PKPpre 16 53 32.9
COLD **Coldfoot** 139.74 17 P PKiKP 16 53 43.3 -0.9
baz=319
H21K **Melozitna Rive** 140.19 20 P PKiKP 16 53 44.0 -1.1
baz=315
UNV **Unalaska Valle** 140.24 41 P PKiKP 16 53 44.6 -1.0
baz=286
TTA **Tatalina** 140.96 25 P PKiKP 16 53 46.1 -0.8
baz=308
MLY **Manley** 141.24 20 P PKiKP 16 53 46.4 -1.0
baz=317
K20K **Telida** 141.37 23 PKPpre 16 53 39.1
K20K **Telida** 141.37 23 P PKiKP 16 53 46.5 -1.2
baz=311
C36M **Paulatuk** 141.51 2 P PKiKP 16 53 46.4 -1.3
baz=356
I23K **Minto, Yukon-K** 141.55 19 P PKiKP 16 53 46.7 -1.2
baz=319
M19K **Big River Lodg** 142.20 25 PKPpre 16 53 39.7
PRP **Porcupine Dome** 142.26 16 PKPpre 16 53 42.2
PRP **Porcupine Dome** 142.26 16 P PKPdf 16 53 47.7 +1.2
baz=324
PPLA **Purkeypile** 142.31 23 P PKiKP 16 53 48.5 -1.3
baz=313
ILAR **Eielson Array** 142.51 18 PKhKP PKPpre 16 53 41.6
comp=Z,1.6nm,0.8s,baz=320,slow=3.9,SNR=10.0
TRF **Thorofare Moun** 142.53 21 P PKPdf 16 53 48.6 +1.5
baz=316
MCK **McKinley** 142.74 20 P PKiKP 16 53 49.0 -1.5
baz=318
HDA **Harding Lake** 142.78 18 P PKiKP 16 53 49.1 -1.4
baz=321
SDMD **Soldier's Deli** 143.27 296 PKPpre 16 53 44.5
SCRK **Sand Creek** 143.90 17 PKPdf PKPbc 16 53 47.4 +0.1
SSPA **Standing Stone** 144.06 298 PKPab 16 53 48.0 +0.2
SML **Sawmill** 144.35 22 PKPab 16 53 48.2 -0.2
O56A **Blue Knob Stat** 144.59 297 PKPab 16 53 50.0 +0.1
O56A **Blue Knob Stat** 144.59 297 P PKPab 16 53 49.2 -0.7
baz=88
KNK **Knik Glacier** 144.60 23 P PKPab 16 53 49.0 -0.3
baz=317,SNR=11
SCM **Sheep Creek Mo** 144.65 21 P PKPab 16 53 49.4 0.0
baz=319,SNR=15
HOM **Homer** 144.68 27 P PKPab 16 53 49.5 0.0
baz=310
J29M **Klondike Camp** 144.77 13 P PKPbc 16 53 50.2 +0.3
baz=334,SNR=9.7
M24K **Tolsona, Glenn** 144.80 20 P PKPbc 16 53 50.4 +0.4
baz=320,SNR=9.3
TGUH **Tegucigalpa,Un** 144.82 249 PKPdf PKPab 16 53 50.9 -0.6
O22K **Cooper Landing** 144.83 24 P PKPbc 16 53 50.3 +0.2
baz=314,SNR=6.1
L26K **Log Cabin Wild** 144.85 18 P PKPbc 16 53 50.3 +0.2
baz=325,SNR=18
HARP **HAARP** 144.86 19 P PKPbc 16 53 50.6 +0.4
baz=322,SNR=22
DAWY **Dawson** 144.88 14 P PKPab 16 53 50.0 -0.2
baz=332,SNR=60
CNPM **China Poot** 144.92 27 PKPdf PKPab 16 53 48.9 -1.6
BRSE **Bradley Lake S** 144.97 26 P PKPbc 16 53 50.2 -0.4
baz=312
PWL **Port Wells** 145.05 23 P PKPbc 16 53 50.5 -0.4
baz=316,SNR=21
SEW **Seward** 145.19 25 PKPbc 16 53 50.5 -0.8
SEW **Seward** 145.19 25 P PKPbc 16 53 50.8 -0.4
baz=314,SNR=7.1
L27K **Beaver Creek,** 145.20 17 P PKPbc 16 53 51.4 +0.1
baz=327
CHIR **Chirikof Islan** 145.21 34 P PKPbc 16 53 51.5 0.0
baz=301
KLU **Klutina** 145.35 21 P PKPbc 16 53 51.6 -0.3
baz=320,SNR=27
M54A **Oil Creek Stat** 145.35 299 PKPdf PKPbc 16 53 51.4 -1.0
M54A **Oil Creek Stat** 145.35 299 P PKPbc 16 53 51.7 -0.8
baz=86,SNR=18
GLI **Glacier Island** 145.44 22 P PKPdf 16 53 51.2 -0.9
baz=318,SNR=5.1
KDAK **Kodiak Island** 145.48 30 PKIKP PKPdf 16 53 52.1 -0.1
KDAK **Kodiak Island** 145.48 30 PKPdf PKPdf 16 53 52.1 -0.1
KDAK **Kodiak Island** 145.48 30 P PKPdf 16 53 52.2 0.0
baz=307
SII **Sitkinak Islan** 145.49 32 P PKPdf 16 53 52.3 0.0
baz=304
NHSC **New Hope** 145.51 285 P PKPdf 16 53 52.6 -0.5
baz=98
OHAK **Old Harbor** 145.51 31 P PKPdf 16 53 52.1 -0.1
baz=306
ERPA **Erie** 145.55 300 P PKPdf 16 53 52.8 -0.1
baz=85
MCWV **Mont Chateau** 145.59 296 P PKPdf 16 53 52.9 -0.2
baz=88
DWPF **Disney Wildern** 145.62 275 P PKPdf 16 53 53.1 -0.2
baz=105
N54A **Moraine State** 145.64 298 P PKPdf 16 53 53.1 0.0
baz=86
N25K **Chitina, Valde** 145.66 20 P PKPab 16 53 53.2 0.0
baz=322,SNR=51
DIV **Divide** 145.67 21 PKPdf PKPdf 16 53 52.5 -0.1
M27K **Edge Creek, AK** 145.78 17 P PKPbc 16 53 53.3 0.0
baz=327,SNR=21
MAYO **Mayo, Yukon** 145.98 12 P PKPbc 16 53 53.9 +0.2
baz=337
BVCY **Beaver Creek** 145.99 16 P PKPbc 16 53 53.7 0.0
baz=328,SNR=22
BLA **Blacksburg** 146.04 292 P PKPdf 16 53 54.4 +0.5
baz=92
M53A **WI Miller and** 146.12 299 P PKPdf 16 53 54.1 +0.3
baz=85
EYAK **Cordova Ski Ar** 146.13 22 P PKPbc 16 53 53.9 -0.3
baz=320,SNR=6.8
BMRM **Bremner River** 146.16 21 P PKPbc 16 53 54.3 -0.1
baz=322,SNR=12
MCARA **McCarthy VSAT** 146.28 19 P PKPbc 16 53 54.7 0.0
baz=324,SNR=34
O53A **New Philadelph** 146.61 297 P PKPbc 16 53 56.3 0.0
baz=86,SNR=20
M52A **Chesterland** 146.62 300 PKPdf PKPdf 16 53 54.8 +0.1
YUK3 **Moose Creek** 146.63 17 P PKPbc 16 53 55.4 -0.6
baz=328,SNR=12
KMSC **Kings Mountain** 146.68 288 P PKPdf 16 53 55.7 +0.7
baz=344
FCC **Fort Churchill** 146.73 335 PKP2 PKPbc 16 53 55.9 -0.1
FCC **Fort Churchill** 146.73 335 PKPbc 16 53 55.9 -0.1
M30M **Minto, Yukon** 146.74 13 P PKPbc 16 53 55.3 -0.7
baz=335
CTG **Chitna Glacier** 147.09 18 P PKPbc 16 53 56.8 -0.4
baz=326,SNR=23
U54A **Nelsons Funny** 147.14 290 PKPdf 16 53 55.1 -0.7
P52A **Corning** 147.35 296 P PKPbc 16 53 57.8 -0.6
baz=87,SNR=16
YUK4 **Talbot Arm** 147.44 16 P PKPbc 16 53 58.1 -0.1
baz=331,SNR=27
M31M **Drury Creek, Y** 147.54 12 P PKPbc 16 53 57.5 -0.7
baz=338,SNR=16
MMPY **Sheldon Lake,** 147.62 9 P PKPbc 16 53 58.4 -0.1
baz=343,SNR=48
FARO **Faro, Yukon** 147.69 11 P PKPbc 16 53 58.0 -0.7
baz=340
YUK6 **Outpost Mounta** 147.86 16 P PKPbc 16 53 58.9 -0.6
baz=331,SNR=5.4
V53A **Saluda** 147.91 289 PKPbc 16 53 59.8 -0.4
N31M **Braeburn, Yuko** 147.94 13 P PKPbc 16 53 58.5 -0.8
baz=335,SNR=21
ACSO **Alum Creek Sta** 147.96 297 P PKPbc 16 53 59.5 -0.5
baz=85,SNR=7.5
P51A **Williamsport** 148.08 296 PKPdf 16 53 55.9 -1.3
P51A PKPbc pPKPdf 16 53 59.4 +0.4
TIGA **Tifton** 148.13 281 P PKPbc 16 53 59.6 -1.2
baz=99
HYT **Haines Junctio** 148.17 15 P PKPbc 16 54 00.1 0.0
baz=332,SNR=30
YKA **Yellowknife Ar** 148.17 354 PKPbc PKPbc 16 53 59.5 -0.4
comp=Z,29nm,0.9s,baz=357,slow=2.5,SNR=97
YKA PP PP 16 57 31.0 +3.1
comp=Z,0.9nm,0.8s,baz=0.4,slow=6.6,SNR=4.0
YKA **Yellowknife Ar** 148.17 354 PKPdf PKPdf 16 53 55.2 -1.4
YKA PKPbc PKPbc 16 53 59.5 -0.4
PNL **Peninsula** 148.71 18 P PKPbc 16 54 00.9 -0.5
baz=328,SNR=6.8
WHY **Whitehorse** 148.87 13 PKPbc PKPbc 16 54 01.1 -0.8
WHY **Whitehorse** 148.87 13 P PKPbc 16 54 01.1 -0.8
baz=336,SNR=5.5
TGTN **Hyland Airport** 149.03 7 P PKPbc 16 54 02.0 -0.2
baz=348,SNR=12
152A **Waverly Hall** 149.25 283 PKPdf PKPdf 16 53 56.9 -2.4
P49A **Miami Univ. Ec** 149.35 296 PKPdf PKPdf 16 53 57.9 -1.3
P49A **Miami Univ. Ec** 149.35 296 P PKPbc 16 54 02.3 -1.3
baz=85,SNR=7.8
O48B **Farmland** 149.62 298 P PKPbc 16 54 03.0 -1.3
baz=84
P33M **Teslin, Yukon** 149.67 12 P PKPbc 16 54 03.2 -0.6
baz=339
SKAG **Skagway** 149.88 15 P PKPbc 16 54 03.9 -0.3
baz=335
N47A **Urbana** 149.94 299 PKPbc PKPbc 16 54 03.7 -1.4
U49A **Red Boiling Sp** 150.33 290 PKPbc PKPbc 16 54 04.5 -1.6
WTLY **Watson Lake, Y** 150.36 8 P PKPbc 16 54 05.0 -0.5
baz=346
WCI **Wyandotte Cave** 150.68 294 PKIKP PKPbc 16 54 05.8 -1.1
WCI **Wyandotte Cave** 150.68 294 PKPbc PKPbc 16 54 05.8 -1.1
WCI **Wyandotte Cave** 150.68 294 P PKPbc 16 54 05.5 -1.4
baz=86
BRAL **Brewton** 151.02 279 P PKPbc 16 54 06.0 -1.9
baz=99
SFIN **Lafayette** 151.07 298 P PKPbc 16 54 06.1 -1.6
baz=82
LRAL **Lakeview Retre** 151.19 283 P PKPbc 16 54 07.5 -0.8
baz=95
L44A **Lake County Fo** 151.36 302 P PKPbc 16 54 08.2 -0.1
baz=78
T47A **Sharon Grove** 151.39 291 PKPbc 16 54 07.4 -1.2
T47A PKPab 16 54 15.8 -1.0
DLBC **Dease Lake** 151.82 10 PKPbc PKPbc 16 54 08.6 -0.4
DLBC PKPab PKPab 16 54 17.4 -0.5
EYMN **Ely** 151.85 316 P PKPbc 16 54 08.9 -0.4
baz=64,SNR=35
WVT **Waverly** 151.99 290 PKIKP PKPbc 16 54 07.7 -2.3
WVT **Waverly** 151.99 290 PKPbc PKPbc 16 54 07.7 -2.3
WVT **Waverly** 151.99 290 P PKPbc 16 54 08.9 -1.1
baz=89
G40A **Rib Lake** 152.09 310 PKPbc PKPbc 16 54 09.2 -0.8
G40A PKPab PKPab 16 54 19.7 +0.1
HDIL **Hopedale** 152.70 299 P PKPbc 16 54 11.0 -0.4
baz=80
JFWS **Jewell Farm** 152.85 305 P PKPbc 16 54 11.2 -0.5
baz=74
B35A **Bob, Littlefor** 152.97 318 PKPdf PKPdf 16 54 02.7 -1.9
B35A PKPab PKPab 16 54 23.0 -0.1
W45A **Hickory Valley** 153.11 288 PKPab 16 54 23.3 -0.8
ULM **Lac du Bonnet** 153.11 323 PKPbc PKPbc 16 54 11.3 -0.7
comp=Z,28nm,0.9s,baz=49,slow=2.5,SNR=33
OXF **Oxford** 153.28 286 P PKPbc 16 54 11.2 -1.8
baz=91
SPMN **Marine on St.** 153.81 311 P PKPbc 16 54 12.6 -1.1
baz=67
AGMN **Agassiz Nation** 154.22 319 P PKPbc 16 54 14.0 -0.5
baz=57
CCM **Cathedral Cave** 154.58 294 PKIKP PKPbc 16 54 14.9 -0.7
CCM 16 54 29.5
CCM **Cathedral Cave** 154.58 294 PKPbc 16 54 14.9 -0.7
CCM PKPab 16 54 29.5 -0.8
CCM **Cathedral Cave** 154.58 294 P PKPbc 16 54 15.1 -0.5
baz=83
FCAR **Ozark Folk Cen** 155.48 289 PKPab 16 54 33.3 -0.9
U40A **Yellville** 156.04 291 P PKPab 16 54 35.9 -0.7
baz=85
Z41A **Richland Creek** 156.07 283 P PKPab 16 54 36.4 -0.4
baz=92
X40A **Basin Creek Fa** 156.11 286 P PKPab 16 54 37.5 +0.5
baz=90
MDND **Maddock** 156.52 322 P PKPab 16 54 37.9 -0.3
baz=52
MIAR **Mount Ida** 156.72 286 P PKPab 16 54 39.1 -0.5
baz=89
W39A **Magazine** 156.87 288 P PKPab 16 54 40.3 +0.2
baz=87
ECSD **EROS Data Cent** 156.91 310 PKPab PKPab 16 54 40.0 -0.1
ECSD **EROS Data Cent** 156.91 310 P PKPab 16 54 40.6 +0.5
baz=64
SUSD **Miller** 158.07 314 P PKPab 16 54 45.3 +0.3
baz=59
X37A **Clayton** 158.20 286 PKPab 16 54 46.0 +0.1
DGMT **Dagmar** 158.34 329 P PKPab 16 54 47.5 +1.4
baz=42
TUL1 **Leonard** 158.45 290 P PKPab 16 54 47.1 +0.1
baz=84
BGNE **Belgrade** 158.90 306 P PKPab 16 54 49.8 +1.0
baz=68
WHTX **Lake Whitney,** 159.93 279 P PKPab 16 54 54.3 +0.7
baz=93
435B **Jarrell** 159.94 276 P PKPab 16 54 53.2 -0.4
baz=97
LAO **LASA Array** 160.59 328 P PKPab 16 54 56.2 +0.3
baz=41
CBKS **Cedar Bluff** 160.93 300 P PKPab 16 54 57.7 0.0
baz=72
WMOK **Wichita Mounta** 161.00 287 P PKPab 16 54 58.2 0.0
baz=85
833A **Chaparral WMA,** 161.08 268 P PKPab 16 54 58.9 +0.2
baz=104
RSSD **Black Hills** 161.26 319 P PKPab 16 54 60.0 +0.8
baz=51
OGNE **Ogallala** 161.75 308 P PKPab 16 55 02.0 +0.7
baz=63
JCT **Junction City** 161.80 274 PKIKP PKPdf 16 54 15.4 -0.8
JCT 16 55 00.7
JCT **Junction City** 161.80 274 PKPdf PKPdf 16 54 15.4 -0.8
JCT PKPab PKPab 16 55 00.7 -1.2
JCT **Junction City** 161.80 274 P PKPab 16 55 01.5 -0.3
baz=97
NEW **Newport** 162.46 351 P PKPab 16 55 05.0 +1.0
baz=11
RLMT **Red Lodge** 163.14 330 P PKPab 16 55 07.7 +0.4
baz=37
MSO **Missoula** 163.24 343 P PKPab 16 55 07.1 -0.4
baz=21
K22A **Casper** 163.59 319 P PKPab 16 55 09.9 +0.5
baz=49
BOZ **Bozeman (W)** 163.66 336 P PKPab 16 55 09.9 +0.4
baz=29
D04E **Lakebay** 163.73 4 P PKPab 16 55 10.2 +0.8
baz=354
H17A **Grant Village** 164.28 332 P PKPab 16 55 12.8 +0.4
baz=35
N23A **Red Feather La** 164.32 313 P PKPab 16 55 13.3 +0.5
baz=55
MSTX **Muleshoe** 164.36 286 P PKPab 16 55 13.7 +0.6
baz=84
ISCO **Idaho Springs** 164.70 309 P PKPdf 16 54 19.1 +0.1
baz=59
Q24A **Divide** 164.78 306 P PKPdf 16 54 19.4 +0.3
baz=63
TXAR **Lajitas Array** 164.95 268 PKP PKPdf 16 54 19.2 -0.1
comp=Z,1.9nm,1.0s,baz=132,slow=1.9,SNR=10
TXAR PKPab PKPab 16 55 16.1 +0.3
comp=Z,5.4nm,1.0s,baz=118,slow=7.1,SNR=21
TXAR **Lajitas Array** 164.95 268 PKPdf PKPdf 16 54 17.9 -1.4
TXAR PKPab 16 55 15.5 -0.3
T25A **Trinidad** 164.97 299 P PKPdf 16 54 18.7 -0.5
baz=71
PD31 **Pinedale Array** 165.10 326 PKPdf PKPdf 16 54 16.5 -2.7
PD31 PKPab PKPab 16 55 14.6 -1.5
PDAR **Pinedale Array** 165.10 326 PKP PKPdf 16 54 18.4 -0.8
comp=Z,5.2nm,1.1s,baz=117,slow=1.7,SNR=22

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR				PKPab	PKPab	16 55 16.0	-0.1
	comp=Z,3.5nm,1.0s,baz=41,slow=4.7,SNR=8.6						
PDAR				PP	PP	16 59 06.6	+4.2
	comp=Z,0.4nm,0.4s,baz=31,slow=3.5,SNR=6.3						
PDAR	Pinedale Array	165.10	326		PKPdf	16 54 17.6	-1.6
PDAR					PKPab	16 55 15.0	-1.1
PLID	Pearl Lake	165.36	346	PKPdf	PKPdf	16 54 17.4	-2.0
SDCO	Great Sand Dun	165.55	302	P	PKPdf	16 54 19.9	+0.1
	baz=67						
G03D	McMinnville, O	165.64	7	P	PKPdf	16 54 19.0	-0.2
	baz=352						
G05D	Wamic, OR	165.72	1	P	PKPdf	16 54 19.8	+0.5
	baz=358						
O20A	White River Ci	166.19	315	P	PKPdf	16 54 19.6	-0.6
	baz=52						
H04D	Lebanon	166.37	5	P	PKPdf	16 54 20.1	+0.3
	baz=353						
HLID	Hailey	166.38	339	P	PKPdf	16 54 20.3	+0.2
	baz=24						
S22A	4UR Ranch, Cre	166.51	304	P	PKPdf	16 54 21.1	+0.5
	baz=64						
MNTX	Cornudas Mount	166.66	277	P	PKPdf	16 54 20.9	+0.4
	baz=91						
ANMO	Albuquerque	167.19	292	P	PKPdf	16 54 20.7	-0.3
	baz=76						
J05D	Fort Rock, OR	167.68	1	P	PKPdf	16 54 22.0	+0.9
	baz=358						
K04D	Chiloquin, OR	168.32	3	P	PKPdf	16 54 22.8	+1.3
	baz=356						
L02E	Cave Junction	168.61	10	P	PKPdf	16 54 22.0	+0.4
	baz=348						
DUG	Dugway, Tooele	168.64	327	PKP2	PKPab	16 55 30.3	-1.3
DUG						17 54 20.9	
DUG	Dugway, Tooele	168.64	327	PKPdf	PKPdf	16 54 20.9	-0.9
DUG				PKPab	PKPab	16 55 30.3	-1.3
DUG	Dugway, Tooele	168.64	327	P	PKPdf	16 54 22.6	+0.8
	baz=38						
121A	Cookes Peak, D	168.68	281	P	PKPdf	16 54 22.6	+0.5
	baz=86						
O02D	Mt. Diablo Mer	170.67	9	P	PKPdf	16 54 24.0	+1.1
	baz=350						
WUAZ	Wupatki	170.77	302	P	PKPdf	16 54 24.1	+0.8
	baz=63						
TUC	Tucson	171.22	282	P	PKPdf	16 54 24.5	+1.0
	baz=84						
NVAR	Mina Array Bea	172.22	344	PKP	PKPdf	16 54 25.5	+1.6
	comp=Z,1.6nm,0.9s,baz=191,slow=1.5,SNR=9.3						
NVAR				PKPab	PKPab	16 55 48.3	+0.8
	comp=Z,1.0nm,0.8s,baz=27,slow=4.4,SNR=7.7						
TPNV	Topopah Spring	172.85	328	P	PKPdf	16 54 24.3	+0.1
	baz=34						
214A	Organ Pipe Nat	172.97	280	P	PKPdf	16 54 25.3	+1.1
	baz=84						
PDMCI	Parker Dam,Lak	173.35	302	P	PKPdf	16 54 25.1	+0.9
	baz=62						
FURC	Furnace Creek,	173.52	329	P	PKPdf	16 54 25.4	+1.2
	baz=32						
TUQ	Turquoise Moun	173.85	318	P	PKPdf	16 54 25.7	+1.1
	baz=44						
GMRC	Granite Mounta	174.13	312	P	PKPdf	16 54 26.2	+1.5
	baz=51						
MPMC	Manual Prospec	174.14	331	P	PKPdf	16 54 25.6	+0.8
	baz=30						
IRM	Iron Mountain	174.14	305	P	PKPdf	16 54 26.0	+1.4
	baz=58						
GSC	Goldstone, Bar	174.43	322	P	PKPdf	16 54 25.9	+1.2
	baz=40						
HEC	Hector,Ludlow	174.51	316	P	PKPdf	16 54 26.3	+1.6
	baz=46						
BC3	Big Chuckawall	174.62	302	P	PKPdf	16 54 26.4	+1.5
	baz=62						
LRMC	Laurel Mtn Rad	174.71	330	P	PKPdf	16 54 25.8	+0.9
	baz=32						
BELC	Belle Mtn. Jos	174.82	307	P	PKPdf	16 54 26.0	+1.1
	baz=55						
ISA	Isabella, Lake	174.86	337	P	PKPdf	16 54 25.8	+1.0
	baz=24						
SWSC	Sam W. Stewart	175.19	296	P	PKPdf	16 54 26.4	+1.5
	baz=67						
EDW2	Edwards Air Fo	175.35	328	P	PKPdf	16 54 27.0	+2.0
	baz=33						
TPFO	Pinon Flats	175.36	306	P	PKPdf	16 54 26.8	+1.7
	baz=56						
PFO	Pinyon Flats O	175.36	306	P	PKPdf	16 54 26.8	+1.7
	baz=56						
IKP	In-Ko-Pah, Jac	175.54	294	P	PKPdf	16 54 26.6	+1.5
	baz=69						
SMMC	Simmler	175.57	350	P	PKPdf	16 54 26.6	+1.7
	baz=9.9						
MONP2	Monument Peak	175.69	298	P	PKPdf	16 54 26.9	+1.6
	baz=65						

MAN 02 16:34:43.4, 9°.82N×123°.25E, h15km, mb4.4, ML3.2, MS3.0, Negros

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*JMA **02** 17:15:25.1±0.2, 28°.43N×140°.31E, h454km, M3.5*
*IDC **02** 17:15:28.4±4.3, 28°.39N×139°.93E, h448km±44km, mb3.0/5, mb1 3.1/7, mb1mx2.8/37, mbtmp3.9/7, Error ellipse: s-maj=60.3km s-min=15.0km az=76.0*
ISC 02 17:15:26.6±0.8, **28°.42N**±0°.07×**140°.0E**±0°.1, **h421**km, **n17**, σ**0.98**/20, **mb3.3**/5, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.34	124	P	P	17 16 27.1	+0.4
CBIJ				S	S	17 17 15.7	+0.4
JHH2	Haha-jima-NKT2	2.63	132	S	S	17 17 19.8	+0.9
BSO1	Boso 1	6.27	7	P	P	17 17 03.3	+1.4
BSO1				S	S	17 18 20.4	+0.2
BSO3	Boso 3	6.38	4	P	P	17 17 04.4	+1.1
BSO4	Boso 4	6.56	2	eS	S	17 18 26.6	0.0
JRY	Ryogami san	7.63	353	P	P	17 17 18.9	+1.1
JYT	Yasato	7.79	1	P	P	17 17 19.0	-0.4
JAG	Ashikaga	8.00	357	P	P	17 17 20.9	-0.8
JHO	Hitachi	8.18	3	P	P	17 17 24.1	+0.5
JOW	Kunigami	10.52	264	P	P	17 17 51.1	+1.5
	2.0nm,0.3s,baz=107,slow=12,SNR=6.0						
USRK	Ussuriysk Ar.	17.00	340	P	P	17 19 00.9	+1.3
	baz=156,slow=9.3,SNR=1.9						
SONM	Songino Array	32.42	316	P	P	17 21 19.7	-0.1
	0.3nm,0.3s,baz=128,slow=8.0,SNR=4.7						
ZALV	Zalesovo Beam	47.22	319	PcP	PcP	17 24 41.3	-1.4
	0.7nm,0.6s,baz=69,slow=4.8,SNR=2.9						
MKAR	Makanchi Array	48.14	309	P	P	17 23 25.6	-0.8
	0.2nm,0.3s,baz=95,slow=8.9,SNR=8.3						
WRA	Warramunga Arr	48.39	187	P	P	17 23 27.6	-1.0
	1.0nm,0.4s,baz=3.5,slow=7.6,SNR=49						
WRA				PcP	PcP	17 24 47.5	+0.1
	0.2nm,0.4s,baz=358,slow=3.9,SNR=1.9						
ASAR	Alice Springs	52.12	187	P	P	17 23 55.2	-0.8
	0.7nm,0.5s,baz=6.0,slow=6.2,SNR=38						
FINES	FINESS Array B	75.90	333	P	P	17 26 27.0	-1.1
	1.5nm,0.8s,baz=74,slow=5.9,SNR=1.4						

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*DJA **02** 17:20:04.4±1.7, 5°S±6°×9°4E±°, h22km±17km, M4.8/13, mB5.7/4, mb4.6/13, MLv4.7/5, Mw(mB)5.3/4*
*IDC **02** 17:20:05.8±2.3, 4°.59S×94°.21E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/36, mbtmp3.5/7, ML4.1/1, Error ellipse: s-maj=68.3km s-min=24.7km az=60.0*
ISC 02 17:20:12.4±1.7, **4°.4S**±0°.2×**94°.6E**±0°.2, **h35**km, **n23**, σ**1.02**/23, **mb3.4**/6, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	Saibi	5.45	56	P	Pn	17 21 31.7	+0.6
	0.3nm1µm84nm,0.6s						
PPSI	Pulau Pagai	5.66	73	P	Pn	17 21 33.7	-0.3
	0.3nm101nm,0.6s						
GSI	Gunungsitoli	6.42	28	P	Pn	17 21 43.6	-1.0
	0.2nm28nm,0.6s						
PPI	Padang Panjang	7.01	56	P	Pn	17 21 53.0	+0.3
KRJI	Kerinci	7.24	72	P	Pn	17 21 56.3	+0.4
MASI	Maura Aman, Be	7.74	81	P	Pn	17 22 02.3	-0.4
MNAI	Manna	8.35	90	P	Pn	17 22 10.7	-0.3
	76nm,0.9s						
PSI	Prapat	8.38	31	Pn	Pn	17 22 11.9	+0.4
	2.2nm,0.3s,baz=210,slow=8.1,SNR=2.7						
TSI	Tuntungan	8.82	27	P	Pn	17 22 17.0	-0.4
	48nm,1.7s						
LHSI	Lahat	8.93	87	P	Pn	17 22 20.2	+1.2
	37nm,0.9s						
LWLI	Liwa	9.46	94	P	Pn	17 22 24.0	-2.4
	26µm22nm,0.6s						
MDSI	Maura Dua	9.56	91	P	Pn	17 22 27.7	0.0
	3.1nm,1.9s						
LHMI	Lhok Sumawe	9.87	14	P	Pn	17 22 30.1	-1.8
	73nm,1.2s						
KASI	Kota Agung	9.93	97	P	Pn	17 22 32.3	-0.5
	13nm,0.5s						
KLSI		10.12	92	P	Pn	17 22 35.4	+0.1
	3.4nm,1.0s						
CGJI	Cibinong	11.27	102	P	Pn	17 22 49.4	-1.6
CMAR	Chiang Mai Arr	23.14	11	P	P	17 25 16.7	+1.0
	0.6nm,0.3s,baz=209,slow=9.0,SNR=5.7						
WRA	Warramunga Arr	41.66	115	P	P	17 27 58.3	+0.4
	0.4nm,0.8s,baz=286,slow=9.0,SNR=2.9						
ASAR	Alice Springs	42.45	121	P	P	17 28 04.6	+0.2
	0.3nm,0.9s,baz=294,slow=7.0,SNR=2.2						
MKAR	Makanchi Array	52.14	349	P	P	17 29 18.3	-1.0
	0.5nm,0.8s,baz=156,slow=6.8,SNR=6.1						
SONM	Songino Array	53.06	10	P	P	17 29 26.0	-0.2
	0.3nm,0.8s,baz=197,slow=4.5,SNR=2.5						
ZALV	Zalesovo Beam	58.73	353	P	P	17 30 05.9	-0.7
	1.0nm,0.7s,baz=188,slow=5.2,SNR=5.3						
TXAR	Lajitas Array	149.78	33	PKPab	PKPab	17 40 06.5	+1.7
	0.1nm,0.5s,baz=296,slow=2.9,SNR=2.0						

OMAN 02 17:21:20.0±6.0, **13°.13N**×**50°.60E**, **h4**km, **mb4.9**/2, **Error ellipse: s-maj=74.1km s-min=21.3km az=65.0, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOCY	Socotra	3.43	106	P	Pn	17 22 12.4	-1.9
	SNR=160						
ABTO	Aybut	4.94	31	P	Pn	17 22 34.9	-0.1
ABTO				S	Sn	17 23 26.8	-5.9
RBK	Rabkut	5.56	38	P	Pn	17 22 44.0	+0.4
	SNR=5.5						
WHFO	Wadi Hawf	5.65	32	P	Pn	17 22 44.5	-0.3
	SNR=23						
DMTO	DMTO	6.19	42	P	Pn	17 22 53.4	+1.2
	SNR=6.6						
DOK	Doka	6.42	31	P	Pn	17 22 55.8	+0.3
DQM	DQM	9.48	44	P	Pn	17 23 38.3	+0.9

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*IDC **02** 17:54:31.8±0.9, 6°.81N×72°.99W, h161km±18km, mb3.1/1, mb1 3.4/3, mb1mx3.0/29, mbtmp3.6/3, Error ellipse: s-maj=71.1km s-min=7.6km az=132.0*
*RSNC **02** 17:54:33.2±1.2, 6°.82N×73°.14W, h143km±5km, ML3.0, Mw3.4*
ISC 02 17:54:31.6±1.0, **6°.83N**±0°.04×**73°.10W**±0°.04, **h151**km±7km, **n25**, σ**1.14**/48, **1C-2D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	199	⇑iP	Pn	17 54 52.6	+0.2
BARC				eS	Sn	17 55 07.4	-0.9
BARC				i		17 55 08.6	
	comp=Z,232nm,0.2s						
PAMC	Pamplona, Colo	0.64	38	⇓iP	Pn	17 54 55.4	+1.0
PAMC				eS	Sn	17 55 12.3	+0.5
PAMC				i		17 55 14.9	
	comp=Z,177nm,0.5s						
RUSC	La Rusia	0.94	179	eP	Pn	17 54 56.5	-0.1
RUSC				eS	Sn	17 55 15.3	-0.2
RUSC				i		17 55 16.1	
	comp=Z,88nm,0.3s						
TAMC	Tame, Arauca	1.36	107	⇓iP	Pn	17 55 00.9	+1.1
TAMC				eS	Sn	17 55 22.4	+1.1
TAMC				i		17 55 22.9	
	comp=Z,60nm,0.3s						
PTBC	PUERTO BERRIO,	1.38	258	eP	Pn	17 54 59.1	-0.9
PTBC				eS	Sn	17 55 20.2	-1.5
PTBC				i		17 55 22.2	
	comp=Z,106nm,0.3s						
OCAC	Ocana	1.41	351	eP	Pn	17 55 01.3	+0.8
OCAC				eS	Sn	17 55 22.8	+0.1
OCAC				i		17 55 26.9	
	comp=Z,182nm,0.4s						
SPBC	San Pablo de B	1.52	220	eP	Pn	17 55 01.5	-0.1
SPBC				eS	Sn	17 55 24.4	-0.2
SPBC				i		17 55 30.4	
	comp=Z,172nm,0.3s						
ZARC	Zaragoza, Cauc	1.86	291	eP	Pn	17 55 06.4	+1.2
ZARC				eS	Sn	17 55 31.2	+0.2
ZARC				i		17 55 37.0	
	comp=Z,145nm,0.2s						
NORC	Norcasia	2.17	234	eP	Pn	17 55 08.6	-0.2
NORC				eS	Sn	17 55 36.4	-1.0
NORC				i		17 55 43.3	
	comp=Z,91nm,0.3s						
CHIC	Chingaza	2.28	196	eP	Pn	17 55 10.7	+0.2
CHIC				eS	Sn	17 55 40.5	+0.1
CHIC				i		17 55 50.2	
	comp=Z,30nm,0.4s						
ROSC	El Rosal	2.33	212	P	Pn	17 55 12.1	+1.1
	comp=Z,16nm,0.3s,baz=90,slow=20,SNR=35						
ROSC				S	Sn	17 55 43.8	+2.4
	comp=Z,23nm,0.3s,baz=197,slow=20,SNR=18						
ROSC	El Rosal	2.33	212	eP	Pn	17 55 12.3	+1.3
ROSC				eS	Sn	17 55 43.8	+2.4
ROSC				i		17 55 48.5	
	comp=Z,95nm,0.5s						
HELC	Santa Helena	2.50	255	eP	Pn	17 55 12.9	-0.2
HELC				eS	Sn	17 55 45.1	+0.1
HELC				i		17 55 51.4	
	comp=Z,192nm,0.9s						
UREC	San Jos de Ur	2.58	291	eP	Pn	17 55 13.7	-0.1
UREC				eS	Sn	17 55 45.7	-0.7
UREC				i		17 55 57.2	
	comp=Z,54nm,0.2s						
GUY2C	Guyana, Caldas	2.77	235	eP	Pn	17 55 18.0	+1.5
GUY2C				eS	Sn	17 55 51.4	+0.3
GUY2C				i		17 55 59.2	
	comp=Z,87nm,0.4s						
VILC	Villavicencio,	2.77	192	eP	Pn	17 55 16.1	-0.1
VILC				eS	Sn	17 55 51.0	+0.3
PTGC	Puerto Gaitan,	2.79	160	eP	Pn	17 55 15.7	-0.7
PTGC				eS	Sn	17 55 48.6	-2.4
PTGC				i		17 55 51.6	
	comp=Z,29nm,0.1s						
CBOC	Ciudad Bolivar	3.05	252	eP	Pn	17 55 20.5	+0.7
CBOC				eS	Sn	17 55 56.7	-0.4
CBOC				i		17 56 09.4	
	comp=Z,22nm,0.2s						
DBBC	Dabeiba	3.10	274	eP	Pn	17 55 20.6	+0.3
DBBC				eS	Sn	17 55 58.7	+0.7
SDV	Santo Domingo	3.18	50	P	Pn	17 55 22.3	+0.8
	comp=Z,6.0nm,0.3s,baz=232,slow=10,SNR=12						
SDV				S	Sn	17 55 59.7	-0.4
	comp=Z,5.8nm,0.3s,baz=63,slow=23,SNR=20						
SDV	Santo Domingo	3.18	50	eP	Pn	17 55 22.2	+0.8
SDV				eS	Sn	17 56 01.0	+0.9
SDV				i		17 56 04.1	
	comp=Z,17nm,0.7s						
ANIL	Santa Ana	3.27	225	eP	Pn	17 55 24.1	+1.5
ANIL				eS	Sn	17 56 05.8	+3.6
ANIL				i		17 56 09.1	
	comp=Z,119nm,0.3s						
ORTC	Ortega, Tolima	3.61	216	eP	Pn	17 55 27.2	+0.4
ORTC				eS	Sn	17 56 11.2	+1.4
ORTC				i		17 56 15.4	
	comp=Z,27nm,0.5s						
YKA	Yellowknife Ar	63.26	340	P	P	18 04 43.3	-0.4
	comp=Z,0.3nm,0.5s,baz=131,slow=7.1,SNR=5.8						
ASAR	Alice Springs	149.14	234	PKPbc	PKPbc	18 14 01.5	-1.5
	comp=Z,0.2nm,0.6s,baz=110,slow=3.5,SNR=1.4						

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*IDC **02** 18:02:18.6±1.6, 17°.65S×178°.55W, h486km±20km, mb3.4/13, mb1 3.6/15, mb1mx3.3/43, mbtmp4.2/15, Error ellipse: s-maj=25.7km s-min=12.8km az=152.0*
*NEIC **02** 18:02:20.7±1.5, 17°.6S±0°.2×178°.2W±0°.1, h536km±11km, mb4.5/32, Error ellipse: s-maj=22.8km s-min=19.6km az=157.0*
ISC 02 18:02:22.8±0.6, **17°.55S**±0°.10×**178°.6W**±0°.1, **h547**km, **n59**, σ**1.71**/60, **mb4.4**/27, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.17	266	P	P	18 03 37.0	-1.8
	2.3nm,0.3s,baz=129,slow=9.0,SNR=15						
MSVF	Nonsavu	3.17	266	P	P	18 03 37.3	-1.5
AFI	Afiamalu	7.53	62	P	P	18 04 09.8	-6.1
	9.4nm,0.3s,baz=183,slow=1.1,SNR=13						
AFI				S	S	18 05 38.0	-11
	1.3nm,0.3s,baz=205,slow=23,SNR=1.0						
AFI	Afiamalu	7.53	62	P	P	18 04 10.5	-5.5
FUNA	Funafuti	9.21	346	P	P	18 04 30.3	-2.5
MARNC	Mare, Loyalty	13.17	251	P	P	18 05 11.9	-1.5
LIFNC	LIFOU	13.73	254	P	P	18 05 16.8	-2.5
SANVU	Saraoutou	13.75	277	P	P	18 05 18.0	-1.5
PINNC	Pines Island,	14.01	247	P	P	18 05 20.5	-1.7
OUENC	Ouen Island, N	14.49	248	P	P	18 05 26.8	-0.3
DZM	Mont Dzumac	14.75	250	P	P	18 05 28.0	-1.9
	0.5nm,0.3s,baz=68,slow=16,SNR=2.6						
DZM	Mont Dzumac	14.75	250	P	P	18 05 28.3	-1.6
DZM				IAmb	IAmb	18 05 44.0	
	comp=Z,27nm,1.4s						
KNTN	Kanton	16.18	26	P	P	18 05 41.0	-3.3
URZ	Urewera	20.97	189	P	P	18 06 25.4	-2.2
	comp=Z,6.8nm,0.7s,baz=0.0,slow=2.0,SNR=6.8						
BKZ	Black Stump Fm	21.95	190	P	P	18 06 34.7	-1.9
BKZ				IAmb	IAmb	18 06 56.8	
	comp=Z,22nm,1.4s						
BFZ	Birch Farm	23.47	190	P	P	18 06 47.9	-2.2
CMWZ	Cape Campbell	24.89	193	P	P	18 07 00.7	-1.9
THZ	Tophouse	25.20	195	P	P	18 07 04.2	-1.2
LTZ	Lake Taylor	26.32	195	P	P	18 07 13.1	-2.2
FOZ	Fox Glacier	27.69	198	P	P	18 07 26.1	-1.0
FOZ				IAmb	IAmb	18 07 37.5	
	comp=Z,12nm,1.1s						
WKZ	Wanaka	29.10	198	P	P	18 07 38.1	-1.5
EIDS	Eidsvold	29.19	249	P	P	18 07 40.0	-0.6
EIDS				IAmb	IAmb	18 07 53.2	
	comp=Z,18nm,1.4s						
MLZ	Mavora Lakes	29.86	199	P	P	18 07 45.7	-0.4
MLZ				IAmb	IAmb	18 08 11.8	
	comp=Z,26nm,1.3s						
ARMA	Armidale	29.94	239	P	P	18 07 48.2	+1.1
ARMA				IAmb	IAmb	18 07 50.8	
	comp=Z,22nm,1.4s						
WHZ	Wether Hill Ro	30.39	199	P	P	18 07 50.8	+0.1
WHZ				IAmb	IAmb	18 08 11.9	
	comp=Z,26nm,1.3s						
CTA	Charters Tower	33.30	260	P	P	18 08 15.6	-0.2
	comp=Z,4.4nm,0.7s,baz=94,slow=11,SNR=7.1						
CAN	Canberra	33.75	232	P	P	18 08 20.3	+0.9
CAN				IAmb	IAmb	18 08 23.8	
	comp=Z,20nm,1.2s						
COEN	Coen	36.89	270	P	P	18 08 46.6	+0.9
COEN				IAmb	IAmb	18 08 55.5	
	comp=Z,18nm,1.4s						
TOO	Toolangi	37.23	230	P	P	18 08 49.1	+0.8
STKA	Stephens Creek	38.62	241	P	P	18 09 00.2	+0.6
	comp=Z,6.7nm,0.5s,baz=89,slow=10,SNR=26						
STKA	Stephens Creek	38.62	241	P	P	18 09 00.7	+1.1
BBOO	Buckleboo	43.40	241	P	P	18 09 38.2	+0.7
BBOO				IAmb	IAmb	18 09 39.0	
	comp=Z,15nm,1.1s						
WR0	Warramunga Arr	44.30	259	P	P	18 09 44.1	-0.6
WB0	Warramunga Arr	44.45	259	P	P	18 09 45.3	-0.6
WB2	Warramunga Arr	44.48	259	P	P	18 09 45.6	-0.5
WRAB	Tennant Creek	44.48	259	P	P	18 09 45.5	-0.6
WRA	Warramunga Arr	44.49	259	P	P	18 09 45.6	-0.6
	comp=Z,1.5nm,0.5s,baz=93,slow=7.8,SNR=26						
WRA	Warramunga Arr	44.49	259	P	P	18 09 44.8	-1.4
AS31	Alice Springs	44.68	254	P	P	18 09 47.9	+0.3
AS31				IAmb	IAmb	18 09 48.5	
	comp=Z,7.3nm,0.6s						
ASAR	Alice Springs	44.69	254	P	P	18 09 47.9	+0.3
	comp=Z,19nm,0.5s,baz=89,slow=7.9,SNR=574						
ASAR				PcP	PcP	18 11 19.9	+1.5
	comp=Z,0.5nm,0.4s,baz=103,slow=4.0,SNR=3.0						
ASAR				ScP	ScP	18 14 25.4	+6.7
	comp=Z,0.4nm,0.8s,baz=95,slow=5.6,SNR=4.4						
ASAR				S	S	18 15 43.1	-1.6
	comp=Z,0.6nm,0.9s,baz=90,slow=15,SNR=4.8						
FORT	Forrest	49.97	244	P	P	18 10 27.3	+0.2
KNRA	Kununurra	50.31	264	P	P	18 10 30.7	+0.8
KNRA				IAmb	IAmb	18 10 30.9	
	comp=Z,9.6nm,0.7s						
SIJI	Sorong	51.95	283	P	P	18 10 43.0	+1.2
	comp=Z,14nm,0.8s,baz=118,slow=6.1,SNR=9.2						
FITZ	Fitzroy Crossi	52.88	260	P	P	18 10 49.2	+0.9
	comp=Z,1.0nm,0.3s,baz=117,slow=9.0,SNR=17						
FITZ	Fitzroy Crossi	52.88	260	P	P	18 10 48.5	+0.1
MORW	Morawa	60.43	246	P	P	18 11 40.4	+0.3
MORW				IAmb	IAmb	18 11 41.1	
	comp=Z,17nm,1.4s						
GIRL	Giralia	62.79	253	P	P	18 11 57.4	+1.8
JAGI	Jajag, Banyuwa	65.84	268	P	P	18 12 15.1	+0.2
JAGI				IAmb	IAmb	18 12 33.0	
	comp=Z,8.3nm,0.9s						
SSLB	Suanglung	71.86	303	P	P	18 12 52.1	+1.1
SSLB				IAmb	IAmb	18 12 52.3	
	comp=Z,7.3nm,0.6s						
TPUB	Ta-pu	71.89	302	P	P	18 12 51.9	+0.7
TPUB				IAmb	IAmb	18 12 52.0	
	comp=Z,20nm,1.0s						
QSPA	South Pole Qui	72.50	180	P	P	18 12 53.1	-1.1
NVAR	Mina Array Bea	79.31	44	P	P	18 13 34.2	+1.9
	comp=Z,0.5nm,0.4s,baz=234,slow=5.5,SNR=1.4						
ILAR	Eielson Array	85.59	13	P	P	18 14 03.2	+0.1
	comp=Z,0.3nm,0.4s,baz=223,slow=5.4,SNR=2.0						
TXAR	Lajitas Array	85.98	58	P	P	18 14 08.3	+2.3
	comp=Z,0.4nm,0.8s,baz=205,slow=4.0,SNR=4.4						
TXAR	Lajitas Array	85.98	58	P	P	18 14 02.8	-3.1
PDAR	Pinedale Array	87.24	44	P	P	18 14 13.0	+1.3
	comp=Z,0.2nm,0.5s,baz=234,slow=3.0,SNR=2.4						
CMAR	Chiang Mai Arr	88.56	290	P	P	18 14 20.9	+2.7
	comp=Z,0.6nm,0.8s,baz=125,slow=3.9,SNR=6.5						
CMAR	Chiang Mai Arr	88.56	290	P	P	18 14 17.1	-1.1
YKA	Yellowknife Ar	94.10	25	P	P	18 14 43.5	+1.0
	comp=Z,0.2nm,0.6s,baz=238,slow=4.3,SNR=2.5						

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*IDC **02** 18:15:50.7±2.3, 33°.09S×178°.31W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/35, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=56.9km s-min=41.2km az=140.0*
*WEL **02** 18:15:54.5±0.8, 33°S±11°×17°9W±2°9, h33km, M4.4/9, mB4.9/6, ML4.8/14, MLv4.6/9, Mw(mB)4.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2*
*NEIC **02** 18:15:55.5±1.5, 33°.63S±0°.09×178°.8W±0°.1, h10km±1km, mb4.4/13, Error ellipse: s-maj=21.2km s-min=13.4km az=111.0*
ISC 02 18:15:55.8±0.9, **33°.66S**±0°.07×**179°.0W**±0°.1, **h10**km, **n45**, σ**2.10**/38, **mb4.3**/10, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.48	12	P	Pn	18 16 49.5	-14
GLKZ				S	Sn	18 17 31.2	-25
MXZ	Matakaoa Point	4.48	209	Pn	Pn	18 17 10.0	+6.2
MXZ	Matakaoa Point	4.48	209	P	Pn	18 17 09.7	+5.9
MXZ				S	Sb	18 18 09.7	+1.0
RAO	Raoul Island	4.49	12	Pn	Pn	18 17 03.2	-0.7
PKGZ	Pakihiroa	4.86	209	P	Pn	18 17 12.7	+3.7
PKGZ				S	Sb	18 18 19.0	-0.6
HAZ	Te Kaha	4.87	212	P	Pb	18 17 17.5	-3.7
HAZ				S	Sb	18 18 21.2	+1.4
PUZ	Puketiti	4.95	206	P	Pb	18 17 18.1	-4.5
PUZ				S	Sb	18 18 21.2	-0.9
RUGZ	Raukumara Rang	5.09	212	P	Pn	18 17 18.5	+6.2
RUGZ				S	Sb	18 18 26.1	-0.2
TWGZ	Tauwhareparae	5.14	208	P	Pb	18 17 20.8	-5.1
TWGZ				S	Sb	18 18 28.2	+0.4
CNGZ	Carnagh Statio	5.33	205	P	Pn	18 17 18.6	+3.1
CNGZ				S	Sb	18 18 32.0	-1.1
MWZ	Matawai	5.46	210	P	Pn	18 17 24.5	+7.2
MWZ				S	Sb	18 18 33.5	-3.4
URZ	Urewera	5.58	214	Pn	Pn	18 17 25.4	+6.4
	3.1nm,0.3s,baz=262,slow=3.7,SNR=17						
URZ				Sn	Sb	18 18 36.8	-3.7
	3.9nm,0.3s,baz=115,slow=22,SNR=8.3						
URZ	Urewera	5.58	214	Pn	Pn	18 17 22.6	+3.6
URZ	Urewera	5.58	214	P	Pn	18 17 25.8	+6.8
URZ				S	Sb	18 18 36.7	-3.7
RIGZ	Rimuhau	5.69	207	P	Pn	18 17 27.4	+7.0
RIGZ				S	Sb	18 18 39.8	-3.7
RTZ	Ruatahuna	5.93	212	P	Pn	18 17 30.2	+6.3
RTZ				S	Sn	18 18 43.8	+12
MTHZ	Maungataniwha	6.19	212	P	Pn	18 17 33.9	+6.6
MTHZ				S	Sb	18 18 52.4	-5.5
OUZ	Omahuta	6.34	254	Pn	Pn	18 17 32.3	+2.9
NMHZ	Naumai	6.41	211	P	Pn	18 17 37.1	+6.7

NMHZ				S	Sb	18 18 57.0	-7.2
BKZ	Black Stump Fm	6.60	212	Pn	Pn	18 17 33.4	+0.4
BKZ	Black Stump Fm	6.60	212	P	Pn	18 17 41.5	+8.5
BKZ				S	Sn	18 18 59.2	+11
TMVZ	Te Maari	6.94	217	P	Pn	18 17 45.3	+7.7
ETVZ	East Tongariro	6.95	217	P	Pn	18 17 45.0	+7.1
SNVZ	South Ngauruho	7.02	217	P	Pn	18 17 46.3	+7.4
NNZ	Nelson	9.69	217	Pn	Pn	18 18 17.0	+1.7
CTA	Charters Tower	33.68	285	P	P	18 22 38.4	+1.3
	3.6nm,0.7s,baz=115,slow=11,SNR=7.4						
COEN	Coen	39.51	291	P	P	18 23 27.4	+0.5
COEN				IAmb	IAmb	18 23 50.5	
	comp=Z,9.7nm,1.1s						
AS31	Alice Springs	42.23	271	P	P	18 23 49.7	+0.3
ASAR	Alice Springs	42.23	271	P	P	18 23 49.5	+0.1
	comp=Z,1.9nm,0.6s,baz=107,slow=7.4,SNR=54						
ASAR	Alice Springs	42.23	271	P	P	18 23 48.9	-0.5
WR0	Warramunga Arr	43.34	276	P	P	18 23 58.4	0.0
WB2	Warramunga Arr	43.51	276	P	P	18 23 59.2	-0.5
WB2				IAmb	IAmb	18 24 15.7	
	comp=Z,6.6nm,1.2s						
WRAB	Tennant Creek	43.51	276	P	P	18 23 59.6	-0.2
WRAB				IAmb	IAmb	18 24 00.2	
	comp=Z,3.1nm,0.6s						
WRA	Warramunga Arr	43.52	276	P	P	18 23 59.8	-0.1
	comp=Z,2.1nm,0.5s,baz=114,slow=7.9,SNR=23						
WRA	Warramunga Arr	43.52	276	P	P	18 23 59.6	-0.2
WB0	Warramunga Arr	43.56	276	P	P	18 23 59.7	-0.4
WB0				IAmb	IAmb	18 24 00.6	
	comp=Z,3.7nm,0.5s						
FORT	Forrest	44.51	259	P	P	18 24 08.3	+0.6
MTN	Manton Dam	49.78	282	P	P	18 24 47.8	-1.2
MTN				IAmb	IAmb	18 25 11.4	
	comp=Z,7.3nm,1.1s						
KNRA	Kununurra	50.23	278		P	18 24 52.0	-0.3
FITZ	Fitzroy Crossi	51.62	273	P	P	18 25 02.7	-0.1
	comp=Z,0.7nm,0.6s,baz=127,slow=5.1,SNR=1.6						
FITZ	Fitzroy Crossi	51.62	273	IAmb	IAmb	18 25 07.6	
	comp=Z,6.2nm,1.4s						
QSPA	South Pole Qui	56.46	180		P	18 25 38.5	+0.8
QSPA				IAmb	IAmb	18 26 03.6	
	comp=Z,5.8nm,1.3s						
SNAA	Sanae	74.92	179	P	P	18 27 36.7	+0.1
FINES	FINESS Array B	147.88	338	PKPbc	PKPdf	18 35 35.4	-2.0
	comp=Z,1.7nm,0.5s,baz=46,slow=4.0,SNR=9.7						
BRTR	Keskin Array B	153.27	293	PKPbc	PKPbc	18 35 51.4	-2.8
	comp=Z,0.4nm,0.5s,baz=135,slow=4.5,SNR=2.3						

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*NEIC **02** 18:16:06.3±1.3, 61.°38N±0.°04×152.°58W±0.°09, h148km±2km, Error ellipse: s-maj=6.2km s-min=5.9km az=213.0*

*AEIC **02** 18:16:08±1.0, 61.°40N±0.°04×152.°47W±0.°08, h131km±5km, ML2.8, ML3.1/144(NEIC), Error ellipse: s-maj=5.8km s-min=5.4km az=49.0*

*IDC **02** 18:16:09.5±2.7, 61.°12N×151.°14W, h68km±47km, mb2.9/1, mb1 3.6/4, mb1mx3.0/52, mbtmp3.5/4, ML3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx3.3/10, Error ellipse: s-maj=88.8km s-min=16.2km az=108.0*

ISC 02 18:16:07.6±1.0**, 61.°40N**±0.°03×**152.°45W**±0.°03**, h136**km±6km**, n170, σ0.s95**/142**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPNN	North Nagishla	0.12	256		Pn	18 16 25.6	-0.6
SPNN					Sn	18 16 39.3	-1.0
SPBG	Spurr Blockage	0.14	164		Pn	18 16 25.8	-0.4
SPBG					Sn	18 16 39.7	-0.6
SPCN	Chakachatna No	0.22	143		Pn	18 16 26.0	-0.3
SPCG	Spurr Capps Gl	0.23	117		Pn	18 16 26.0	-0.4
SPU	Mount Spurr	0.29	138		Pn	18 16 25.8	-0.7
STLK	Strandline Lak	0.31	71		Pn	18 16 26.0	-0.6
DFR	Drift River	0.82	188		Pn	18 16 29.2	-0.4
DFR					Sn	18 16 45.8	-0.4
RDT	Redoubt	0.83	179		Pn	18 16 29.1	-0.5
RDJH	Redoubt Jeurge	0.83	192		Pn	18 16 29.6	-0.2
NCT	North Crescent	0.87	196		Pn	18 16 29.8	-0.3
CAPN	Captain Cook N	0.89	135		Pn	18 16 31.3	+1.2
CAPN	Captain Cook N	0.89	135	IAML		18 16 50.6	
	comp=N,720nm,0.8s						
CAPN				IAML		18 16 51.2	
	comp=E,638nm,0.4s						
RDWB	Redoubt West	0.93	192		Pn	18 16 30.3	-0.3
RDWB					Sn	18 16 47.8	-0.3
RSO	Redoubt South	0.95	189		Pn	18 16 30.6	-0.2
RED	Redoubt Volcan	0.99	189		Pn	18 16 30.7	-0.4
M19K	Big River Lodg	1.06	300		Pn	18 16 30.9	-0.6
M19K					Sn	18 16 48.9	-0.9
FIS	Fire Island	1.11	102		Pn	18 16 32.7	+0.7
FIS	Fire Island	1.11	102	IAML		18 16 53.2	
	comp=E,304nm,0.7s						
FIS				IAML		18 16 54.0	
	comp=N,300nm,0.9s						
N19K	Bonanza Creek	1.15	240		Pn	18 16 31.8	-0.7
N19K					Sn	18 16 50.1	-1.4
M22K	Willow	1.17	71		Pn	18 16 32.8	+0.2
M22K					Sn	18 16 51.9	+0.3
M22K	Willow	1.17	71	IAML		18 16 56.5	
	comp=N,589nm,0.5s						
L20K	Farewell, AK	1.28	329		Pn	18 16 33.3	-0.5
L20K					Sn	18 16 52.7	-1.0
O20K	Slope Mountain	1.32	184		Pn	18 16 34.1	-0.2
RC01	Rabbit Creek A	1.35	102		Pn	18 16 34.1	-0.3
L19K	White Mountain	1.39	306		Pn	18 16 34.4	-0.5
L19K					Sn	18 16 54.5	-1.2
SLKM	Skilak Lake	1.41	128		Pn	18 16 34.8	-0.4
CUT	Chulitna	1.45	45		Pn	18 16 35.4	0.0
CUT	Chulitna	1.45	45	IAML		18 16 58.4	
	comp=N,376nm,0.3s						
PPLA	Purkeypile	1.51	5		Pn	18 16 36.5	+0.2
O19K	Port Alsworth	1.52	218		Pn	18 16 35.9	-0.3
O19K	Port Alsworth	1.52	218	IAML		18 16 58.3	
	comp=E,220nm,0.9s						
SVW2	Sparrevohn	1.54	260		Pn	18 16 35.8	-0.8
PMR	Palmer	1.60	82		Pn	18 16 36.1	-1.1
PMR	Palmer	1.60	82	IAML		18 16 59.4	
	comp=E,236nm,0.3s						
PMR				IAML		18 16 59.4	
	comp=N,191nm,0.3s						
O22K	Cooper Landing	1.62	123		Pn	18 16 37.2	-0.1
GHO	Glory Hole Cre	1.73	76		Pn	18 16 37.9	-0.8
GHO	Glory Hole Cre	1.73	76	IAML		18 17 02.3	
	comp=E,210nm,0.4s						
GHO				IAML		18 17 03.4	
	comp=N,153nm,0.4s						
HOM	Homer	1.79	167		Pn	18 16 39.5	+0.2
HOM	Homer	1.79	167	IAML		18 17 05.5	
	comp=E,275nm,0.6s						
HOM				IAML		18 17 10.1	
	comp=N,183nm,0.9s						
OPT	Oil Point	1.79	193		Pn	18 16 39.7	+0.3
P19K	Oil Pt	1.79	193		Pn	18 16 39.6	+0.1
P19K	Oil Pt	1.79	193	IAML		18 17 07.0	
	comp=E,131nm,0.4s						
BRLK	Bradley Lake	1.81	154		Pn	18 16 38.8	-0.9
BRLK	Bradley Lake	1.81	154	IAML		18 17 07.0	
	comp=N,155nm,0.5s						
BRLK				IAML		18 17 07.1	
	comp=E,201nm,0.4s						
BRSE	Bradley Lake S	1.86	152		Pn	18 16 39.5	-0.8
KNK	Knik Glacier	1.92	88		Pn	18 16 39.9	-1.0
KNK	Knik Glacier	1.92	88	IAML		18 17 06.6	
	comp=N,184nm,0.2s						
KNK				IAML		18 17 06.7	
	comp=E,194nm,0.5s						
SEW	Seward	1.96	130		Pn	18 16 40.6	-0.7
CNPM	China Poot	1.97	162		Pn	18 16 40.6	-1.0
CNPM	China Poot	1.97	162	IAML		18 17 07.6	
	comp=E,136nm,0.3s						
CNPM				IAML		18 17 10.2	
	comp=N,135nm,0.4s						
SML	Sawmill	2.01	76		Pn	18 16 41.1	-0.9
SML	Sawmill	2.01	76	IAML		18 17 08.9	
	comp=E,102nm,0.8s						
SML				IAML		18 17 09.8	
	comp=N,102nm,0.5s						
CAST	Castle Rocks	2.04	5		Pn	18 16 42.0	-0.2
O18K	Koktuh Hills	2.06	222		Pn	18 16 42.3	-0.3
PWL	Port Wells	2.07	103		Pn	18 16 41.5	-1.2
AUL	Augustine Lava	2.08	194		Pn	18 16 43.1	+0.3
AU22	Augustine Moun	2.08	193		Pn	18 16 42.7	-0.1
AUH	Augustine H	2.10	194		Pn	18 16 43.4	+0.3
AUQ	Augustine Qik'	2.10	194		Pn	18 16 43.3	+0.2
K20K	Telida	2.11	340		Pn	18 16 42.5	-0.6
TT01	Tatalina	2.26	314		Pn	18 16 44.6	-0.4
TTA	Tatalina	2.27	314		Pn	18 16 44.7	-0.5
KTH	Kantishna Hill	2.28	17		Pn	18 16 44.9	-0.4
KTH	Kantishna Hill	2.28	17	IAML		18 17 14.1	
	comp=E,69nm,0.5s						
KTH				IAML		18 17 15.3	
	comp=N,75nm,0.8s						
TRF	Thorofare Moun	2.29	25		Pn	18 16 45.5	0.0
TRF	Thorofare Moun	2.29	25	IAML		18 17 17.2	
	comp=E,107nm,0.7s						
TRF				IAML		18 17 17.3	
	comp=N,152nm,0.4s						
P18K	Big Mountain,	2.44	216		Pn	18 16 47.1	-0.2
SCM	Sheep Creek Mo	2.48	78		Pn	18 16 47.1	-0.7
CHUM	Lake Minchumin	2.50	1		Pn	18 16 47.5	-0.4
WAT6	Susitna Watana	2.52	60		Pn	18 16 47.8	-0.6
Q19K	Cape Douglas,	2.55	194		Pn	18 16 48.6	-0.1
Q19K	Cape Douglas,	2.55	194	IAML		18 17 59.6	
	comp=N,90nm,1.2s						
RND	Reindeer	2.62	38		Pn	18 16 49.2	-0.3
RND	Reindeer	2.62	38	IAML		18 17 21.4	
	comp=E,72nm,0.3s						
RND				IAML		18 17 22.8	
	comp=N,55nm,0.3s						
GLI	Glacier Island	2.65	99		Sn	18 17 20.5	-1.9
GLI	Glacier Island	2.65	99		Pn	18 16 48.0	-1.8
BPAW	Bear Paw Mtn.	2.79	13		Pn	18 16 50.9	-0.8
JPK	Jack Peak	2.85	94		Pn	18 16 51.4	-1.1
MCK	McKinley	2.85	33		Pn	18 16 52.5	+0.1
MCK	McKinley	2.85	33	IAML		18 17 28.9	
	comp=E,52nm,0.4s						
MCK				IAML		18 17 32.3	
	comp=N,42nm,0.5s						
J20K	Nowinta River	2.90	345		Pn	18 16 52.3	-0.7
DHY	Denali Highway	2.91	52		Pn	18 16 52.9	-0.4
DHY	Denali Highway	2.91	52	IAML		18 17 29.9	
	comp=N,52nm,0.5s						
DHY				IAML		18 17 30.2	
	comp=E,64nm,0.7s						
FID	Port Fidalgo	2.97	100		Sn	18 17 27.2	-2.7
FID	Port Fidalgo	2.97	100		Pn	18 16 52.0	-1.9
M24K	Tolsona, Glenn	3.07	74		Pn	18 16 55.4	+0.2
M24K	Tolsona, Glenn	3.07	74	IAML		18 17 34.2	
	comp=E,71nm,0.6s						
M24K				IAML		18 17 35.1	
	comp=N,62nm,0.8s						
BWN	Browne	3.10	25		Pn	18 16 55.5	-0.1
BWN	Browne	3.10	25	IAML		18 17 34.1	
	comp=E,37nm,2.3s						
BWN				IAML		18 17 46.0	
	comp=N,48nm,1.4s						
KLU	Klutina	3.14	85		Pn	18 16 55.0	-1.1
KLU	Klutina	3.14	85	IAML		18 17 34.6	
	comp=E,40nm,0.4s						
DIV	Divide	3.24	92		Pn	18 16 56.4	-1.0
NEA2	Nenana	3.56	24		Pn	18 17 00.9	-0.6
HARP	HAARP	3.59	71		Pn	18 17 02.2	+0.1
KDAK	Kodiak Island	3.63	181	P	Pn	18 17 00.5	-2.0
	comp=E,2.2nm,0.3s,baz=20,slow=9.5,SNR=40						
KDAK				S	Sn	18 17 40.4	-4.6
	comp=E,3.9nm,0.3s,baz=210,slow=18,SNR=10.0						
KDAK	Kodiak Island	3.63	181	IAML		18 17 38.7	
	comp=E,41nm,3.4s						
PAX	Paxson	3.63	61		Pn	18 17 02.8	+0.1
WRH	Wood River Hil	3.67	31		Pn	18 17 02.2	-0.8
WRH	Wood River Hil	3.67	31	IAML		18 17 45.6	
	comp=N,21nm,0.6s						
WRH				IAML		18 18 06.7	
	comp=E,19nm,4.6s						
MLY	Manley	3.73	11		Pn	18 17 03.0	-0.8
N25K	Chitina, Valde	3.77	83		Pn	18 17 04.1	-0.4
N25K	Chitina, Valde	3.77	83	IAML		18 17 49.0	
	comp=E,28nm,0.5s						
N25K				IAML		18 17 49.2	
	comp=N,27nm,0.7s						
I21K	Tanana	3.80	3		Pn	18 17 04.0	-0.7
I21K	Tanana	3.80	3	IAML		18 17 40.6	
	comp=E,21nm,4.9s						
I21K				IAML		18 18 02.0	
	comp=N,17nm,4.8s						
BMRM	Bremner River	3.82	93		Pn	18 17 03.9	-1.2
BMRM	Bremner River	3.82	93	IAML		18 17 50.1	
	comp=E,30nm,0.8s						
BMRM				IAML		18 18 05.7	
	comp=N,25nm,0.7s						
CCB	Clear Creek Bu	3.89	31		Pn	18 17 05.1	-0.8
HDA	Harding Lake	3.93	37		Pn	18 17 05.9	-0.6
RAGM	Ragged Mountai	3.93	102	Pn	Pn	18 17 06.4	-0.2
I23K	Minto, Yukon-K	4.01	19		Pn	18 17 07.0	-0.5
I23K	Minto, Yukon-K	4.01	19	IAML		18 18 04.3	
	comp=N,16nm,3.9s						
MDM	Murphy Dome	4.05	26		Pn	18 17 07.5	-0.5
MDM	Murphy Dome	4.05	26	IAML		18 18 13.8	
	comp=N,15nm,4.7s						
TCOL	CIGO, UAF Yank	4.06	29		Pn	18 17 07.4	-0.7
COLA	College	4.07	29	Pn	Pn	18 17 08.0	-0.1
PS08	TAPS Pump Stn8	4.07	37		Pn	18 17 07.6	-0.7
GLB	Gilahina Butte	4.15	86		Pn	18 17 09.7	+0.3
GLB	Gilahina Butte	4.15	86	IAML		18 17 56.8	
	comp=N,21nm,3.5s						
GLB				IAML		18 17 58.0	
	comp=E,21nm,1.1s						
OHAK	Old Harbor	4.21	186		Pn	18 17 07.7	-2.4
IL31		4.22	34		Pn	18 17 09.7	-0.6
ILAR	Eielson Array	4.22	34	P	Pn	18 17 09.7	-0.7
	comp=E,1.9nm,0.3s,baz=212,slow=13,SNR=58						
ILAR				S	Sn	18 17 54.1	-4.9
	comp=E,1.6nm,0.3s,baz=212,slow=23,SNR=4.0						
RIDG	Independent Ri	4.23	53		Pn	18 17 10.9	+0.5
RIDG	Independent Ri	4.23	53	IAML		18 18 04.3	
	comp=N,32nm,0.8s						
H21K	Melozitna Rive	4.28	358		Pn	18 17 10.4	-0.7
VRDI	Verde Repeater	4.34	88		Pn	18 17 12.2	+0.1
VRDI	Verde Repeater	4.34	88	IAML		18 19 03.4	
	comp=N,15nm,4.1s						
VRDI				IAML		18 19 25.7	
	comp=E,16nm,4.9s						
POKR	Poker Plat Res	4.37	29		Pn	18 17 12.1	-0.1
POKR	Poker Plat Res	4.37	29	IAML		18 18 00.1	
	comp=N,18nm,4.7s						
POKR				IAML		18 19 27.0	
	comp=E,14nm,4.5s						
MENT	Mentasta	4.38	66		Pn	18 17 12.2	-0.1
MENT				IAML		18 18 20.4	
	comp=E,29nm,0.7s						
MENT				IAML		18 18 25.4	
	comp=N,26nm,0.6s						
DOT	Dot Lake	4.49	56		Pn	18 17 13.8	-0.1
MCARA	McCarthy VSAT	4.53	86		Pn	18 17 14.8	+0.4
J25K	Salcha River,	4.56	42		Pn	18 17 15.1	+0.3
J25K	Salcha River,	4.56	42	IAML		18 18 07.7	
	comp=N,24nm,0.8s						
L26K	Log Cabin Wild	4.56	65		Pn	18 17 15.3	+0.4
L26K				IAML		18 18 29.2	
	comp=N,24nm,0.4s						
L26K				IAML		18 18 34.7	
	comp=E,23nm,0.5s						
KHIT	Khitrov Hills	4.59	98		Pn	18 17 15.3	0.0
IM03		4.64	353		Pn	18 17 15.4	-0.3
IMAR	Indian Mountai	4.64	353	Pn	Pn	18 17 15.3	-0.5
SCRK	Sand Creek	4.68	53		Pn	18 17 16.0	-0.5
SCRK	Sand Creek	4.68	53	IAML		18 18 09.4	
	comp=E,16nm,4.2s						
SCRK				IAML		18 18 57.7	
	comp=N,14nm,4.7s						
WAX	Waxell Ridge	4.78	97		Pn	18 17 17.9	+0.2
PTPK	Patty Peak	4.82	88		Pn	18 17 18.5	+0.1
BALM	Baldy	4.90	90		Pn	18 17 19.8	+0.4
H24K	Noodor Dome	4.90	23		Pn	18 17 19.2	-0.1
H24K	Noodor Dome	4.90	23	IAML		18 18 07.8	
	comp=E,11nm,4.6s						
H24K				IAML		18 18 12.6	
	comp=N,16nm,4.7s						
KIAG	Kiagna River	4.91	91		Pn	18 17 19.7	+0.1
ISLE	Juniper Island	4.99	95		Pn	18 17 20.4	-0.2
M27K	Edge Creek, AK	5.09	74		Pn	18 17 23.2	+1.1
M27K				IAML		18 19 07.0	
	comp=E,13nm,4.4s						
BAGL	Bagley Icefiel	5.13	96		Pn	18 17 21.6	-0.8
PRP	Porcupine Dome	5.17	34		Pn	18 17 22.8	-0.2
PRP	Porcupine Dome	5.17	34	IAML		18 18 23.0	
	comp=E,13nm,0.6s						
PRP				IAML		18 18 23.5	
	comp=N,17nm,0.7s						
BARN	Barnard Glacie	5.22	89		Pn	18 17 23.9	0.0
BARN	Barnard Glacie	5.22	89	IAML		18 18 08.3	
	comp=E,15nm,4.5s						
BARN				IAML		18 18 32.9	
	comp=N,13nm,3.5s						
L27K	Beaver Creek,	5.24	67		Pn	18 17 24.0	+0.1
L27K				IAML		18 19 27.3	
	comp=E,12nm,4.8s						
BC03		5.26	67		Pn	18 17 24.2	+0.2
BCAR	Beaver Creek A	5.26	67	Pn	Pn	18 17 24.1	-0.1
CTGM	Chitina Glacie	5.40	90		Pn	18 17 26.1	0.0
YUK2	White River	5.56	81		Pn	18 17 28.4	+0.2
LOGN	Logan Glacier	5.58	91		Pn	18 17 28.4	-0.1
TABL	Table Mountain	5.60	95	Pn	Pn	18 17 29.0	+0.1
YUK3	Moose Creek	5.74	81		Pn	18 17 31.0	+0.3
FYU	Fort Yukon	6.08	28	Pn	Pn	18 17 34.2	-0.8
PCA	Pinnacle	6.12	97		Pn	18 17 35.9	+0.2
EGAK	Eagle	6.14	52		Pn	18 17 35.8	-0.1
DAWY	Dawson	6.57	60		Pn	18 17 40.9	-0.7
BMAR	Burnt Mountain	6.94	26	Pn	Pn	18 17 45.8	-0.8
HYT	Haines Junctio	7.26	88	Pn	Pn	18 17 51.0	-0.1
TOLK	Toolik Lake Re	7.37	8	Pn	Pn	18 17 52.7	+0.3
YKA	Yellowknife Ar	17.67	70	P	Pn	18 20 05.8	+0.9
	comp=E,0.2nm,0.3s,baz=279,slow=11,SNR=16						
MA2	Magadan	27.28	292	LR	LR	18 34 09.9	
	comp=E,178nm,19.3s,baz=259,slow=39						
TXAR	Lajitas Array	45.24	112	P	P	18 24 14.1	+2.9
	comp=E,0.2nm,0.6s,baz=338,slow=6.9,SNR=3.0						

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*IDC **02** 18:34:59.0±2.8, 3.°68S×129.°34E, h0km, mb3.0/2, mb1 3.1/3, mb1mx3.1/31, mbtmp3.0/3, ML2.6/1, Error ellipse: s-maj=217.2km s-min=29.0km az=69.0*

*DJA **02** 18:35:01.8±0.6, 4°S±6°×12°9E±°, h10km, M2.9/7, MLv2.9/7*

ISC 02 18:35:04.1±1.0**, 3.°67S**±0.°09×**129.°36E**±0.°06**, h35**km**, n8, σ1.s45**/10**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.54	307	P	Pn	18 35 13.8	-1.5
MSAI				S	Sn	18 35 21.8	-1.3
AAI	Ambon	1.16	269	P	Pn	18 35 23.4	-0.5
AAI				S	Sn	18 35 41.0	+2.4
FAKI	Fak Fak	2.98	76	P	Pn	18 35 49.0	0.0
SWI	Sorong	3.37	34	P	Pn	18 35 54.1	-0.2
LBMI	Labuha	3.54	328	P	Pn	18 35 58.1	+1.5
WRA	Warramunga Arr	16.89	164	Pn	Pn	18 38 58.5	+0.6
	0.0nm,0.3s,baz=347,slow=13,SNR=1.7						
ASAR	Alice Springs	20.36	168	P	P	18 39 36.5	-1.4
	0.1nm,0.4s,baz=347,slow=11,SNR=9.0						
MKAR	Makanchi Array	65.11	326	P	P	18 45 41.7	+0.3
	0.2nm,0.5s,baz=111,slow=7.8,SNR=6.0						

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*UPA **02** 18:37:34.1±1.2, 7.°86N×82.°46W, h14km±4km, MW4.3*

*UCR **02** 18:37:35.0±1.7, 7.°74N×82.°58W, h35km±6km, MW4.1*

ISC 02 18:37:33.5±1.3**, 7.°95N**±0.°04×**82.°41W**±0.°03**, h15**km±10km**, n35, σ0.s89**/57**, 13C-3D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOMA3	Las Lomas, Chi	0.48	2	eP	Pn	18 37 45.6	-0.3
LOMA3				eS	Sn	18 37 55.0	+0.8
DVD	David	0.49	356	⇓iP	Pn	18 37 45.6	-0.4
DVD				eS	Sn	18 37 53.8	-0.5
PTPM	Petroterminale	0.53	299	⇑iP	Pn	18 37 45.8	-0.7
PTPM				eS	Sn	18 37 56.1	+0.8
REME3	Remedios, Chir	0.64	64	⇑iP	Pn	18 37 47.6	-0.5
REME3				eS	Sn	18 37 58.6	+0.6
CDITO	Canoas	0.77	324	⇑eP	Pn	18 37 49.2	-0.7
CDITO				eS	Sb	18 37 59.6	+0.6
BCO2	Palmira	0.78	351	⇑iP	Pn	18 37 50.0	-0.2
BCO2				eS	Sn	18 38 01.8	+0.1
BRU2	Volcan	0.89	342	⇑iP	Pn	18 37 51.3	-0.4
BRU2				eS	Sn	18 38 04.6	+0.3
MLIR3	Monte Lirio, C	0.94	334	⇑eP	Pn	18 37 52.6	+0.3
MLIR3				eS	Sn	18 38 07.3	+1.8
CHGR2	Aguacate	1.02	15	⇓eP	Pb	18 37 52.0	-1.0
CHGR2				eS	Sb	18 38 03.4	-2.8
PIRO	Carate, Puerto	1.02	297	⇑iP	Pb	18 37 52.0	-1.0
PIRO	Carate, Puerto	1.02	297	⇓iP	Pg	18 37 52.4	-0.9
EDSV	San Vito	1.03	328	eP	Pn	18 37 53.7	+0.1
GMAL	Guarumal, Vera	1.18	99	eP	Pn	18 37 55.1	-0.4
GMAL				eS	Sb	18 38 09.9	-0.9
GMAL	Guarumal, Vera	1.18	99	eP	Pn	18 37 55.2	-0.3
GMAL				eS	Sn	18 38 11.4	0.0
MARI3	Mariato, Verag	1.44	102	eP	Pb	18 37 59.5	-0.5
MARI3				eS	Sg	18 38 22.1	+2.1
EDPN	Palmar Norte	1.45	314	eP	Pb	18 37 59.4	-0.8
CNI2	El Empalme, Bo	1.47	358	⇑eP	Pb	18 38 00.9	+0.3
CNI2				eS	Sg	18 38 21.0	0.0
DRK0	Durika	1.55	328	eP	Pn	18 38 01.1	+0.4
DRK0				eS	Sg	18 38 24.4	+0.9
SRBA	San Rafael, Bu	1.59	324	⇑iP	Pn	18 38 01.1	-0.1
SRBA				eS	Sb	18 38 23.1	+0.6
RGM0	Gandoca	1.65	353	eP	Pg	18 38 05.0	-0.2
RGM0				eS	Sg	18 38 28.6	+2.0
CACAO	El Cacao, Vera	1.65	111	eP	Pn	18 38 01.7	-0.3
CACAO				eS	Sb	18 38 23.6	-0.7
CACAO	El Cacao, Vera	1.65	111	eP	Pn	18 38 01.8	-0.1
CACAO				eS	Sn	18 38 23.3	+0.4
PEZE	Perez Zeledon,	1.90	319	eP	Pn	18 38 06.0	+0.5
PEZE				eS	Sb	18 38 31.6	0.0
EDDO	Dominical	1.94	312	eP	Pn	18 38 06.2	+0.2
AZU	Azuero	2.12	94	eP	Pn	18 38 09.1	+0.7
AZU				eS	Sb	18 38 38.7	+0.7
AZU	Azuero	2.12	94	⇑eP	Pn	18 38 09.2	+0.7
AZU				eS	Sn	18 38 36.4	+1.7
RIMA	Rio Macho	2.31	322	⇑eP	Pn	18 38 11.9	+0.7
LCR2	La Lucha 2	2.38	319	eP	Pn	18 38 12.9	+0.6
LCR2				eS	Sn	18 38 41.5	+0.2
HDC	Heredia	2.65	321	⇑eP	Pn	18 38 16.6	+0.8
JACO	JACO, Garabito	2.80	308	eP	Pn	18 38 17.2	-0.7
BCIP	Isla Barro Col	2.82	64	eP	Pb	18 38 22.4	-1.2
BCIP				eS	Sb	18 38 57.3	-0.7
UPA	Univ. de Panam	3.03	70	eP	Pg	18 38 45.5	+14
UPA				eS	Sg	18 39 26.6	+16
JTS	Las Juntas de	3.42	313	eP	Pn	18 38 26.8	+0.4
SAJU	San Juanillo,	3.88	303	⇑iP	Pn	18 38 32.0	-0.7
VMAR	Armenia, Volca	3.91	317	eP	Pn	18 38 34.5	+1.4

IDC 02 18:41:02.6±2.4**, 4.°13N×126.°06E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/33**, mbtmp3.2**/3**, Error ellipse: s-maj=203.9km s-min=28.4km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.27	162	P	P	18 46 31.1	+0.4
	0.2nm,0.7s,baz=340,slow=10,SNR=5.0						
ASAR	Alice Springs	28.67	165	P	P	18 47 00.8	-0.5
	0.2nm,0.8s,baz=339,slow=7.2,SNR=2.4						
MKAR	Makanchi Array	56.85	325	P	P	18 50 49.1	0.0
	0.1nm,0.3s,baz=123,slow=8.5,SNR=4.4						

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*DJA **02** 18:48:56.7±3.1, 5°S±14°×9°4E±2°3, h10km, M4.7/13, mB5.2/9, mb4.7/13, MLv4.8/7, Mw(mB)4.6/9*

*IDC **02** 18:48:56.0±1.8, 4.°57S×94.°43E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.5/32, mbtmp3.5/8, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/31, Error ellipse: s-maj=51.7km s-min=23.1km az=56.0*

ISC 02 18:49:00.9±1.3**, 4.°5S**±0.°1×**94.°6E**±0.°1**, h35**km**, n34, σ1.s99**/30**, mb3.5**/6**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISI	Saibi	5.51	55	P	Pn	18 50 21.0	+0.5
	0.3nm1µm74nm,0.6s						
PPSI	Pulau Pagai	5.69	72	P	Pn	18 50 23.5	+0.5
	0.5nm2µm97nm,0.9s						
GSI	Gunungsitoli	6.52	27	P	Pn	18 50 33.6	-0.8
	0.2nm2µm48nm,0.9s						
PPI	Padang Panjang	7.07	55	P	Pn	18 50 42.4	+0.4
	0.2nm673nm34nm,0.6s						
KRJI	Kerinci	7.28	71	P	Pn	18 50 46.7	+1.8
	1.7nm3µm152nm,0.6s						
SBSI	Sibolga	7.41	36	P	Pn	18 50 48.3	+1.6
MASI	Maura Aman, Be	7.76	80	P	Pn	18 50 51.6	+0.1
	0.8nm40nm,1.0s						
KSI	Kapahiang	8.03	84	P	Pn	18 50 56.3	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2µm29nm,0.7s						
BKNI	Bangkinang	8.05	53	P	Pn	18 50 58.7	+3.3
	56nm,0.8s						
MNAI	Manna	8.35	89	P	Pn	18 50 58.4	-1.1
PSI	Prapat	8.47	31	Pn	Pn	18 51 00.8	-0.5
	0.1nm,0.3s,baz=184,slow=16,SNR=1.2						
KCSI	Kotacane, Aceh	8.61	22	P	Pn	18 51 01.2	-1.9
RGRI	Rengat	8.78	62	P	Pn	18 51 05.5	0.0
LWLI	Liwa	9.45	93	P	Pn	18 51 12.7	-2.1
MDSI	Maura Dua	9.56	90	P	Pn	18 51 18.7	+2.5
	699nm3.7nm,0.6s						
KASI	Kota Agung	9.92	96	P	Pn	18 51 19.8	-1.3
	20nm,0.8s						
LHMI	Lhok Sumawe	9.97	14	P	Pn	18 51 18.3	-3.5
KLSI		10.11	91	P	Pn	18 51 21.8	-1.9
KLI	Kotabumi	10.24	92	P	Pn	18 51 23.5	-2.0
PMBI	Palembang	10.29	81	P	Pn	18 51 23.9	-2.2
CGJI	Cibinong	11.25	101	P	Pn	18 51 35.1	-4.2
SKJI	Sukabumi	12.16	102	P	Pn	18 51 47.5	-4.3
PALK	Pallekele	18.15	310	P	Pn	18 53 08.1	-2.3
	0.5nm,0.3s,baz=103,slow=2.7,SNR=1.8						
H08S2	Diego Garcia H	22.18	261	T	T	19 15 54.6	
	baz=82						
H08S3	Diego Garcia H	22.19	261	T	T	19 15 46.8	
	baz=82						
H08S1	Diego Carcia H	22.20	261	T	T	19 16 04.9	
	baz=82						
CMAR	Chiang Mai Arr	23.24	11	P	P	18 54 05.7	+0.4
	1.4nm,1.0s,baz=202,slow=9.3,SNR=9.0						
FITZ	Fitzroy Crossi	33.23	116	LR	LR	19 06 12.4	
	comp=Z,84nm,20.2s,baz=12,slow=31						
WRA	Warramunga Arr	41.62	115	P	P	18 56 46.5	+0.5
	0.4nm,0.7s,baz=287,slow=9.2,SNR=3.4						
ASAR	Alice Springs	42.40	121	P	P	18 56 53.6	+1.2
	0.1nm,0.7s,baz=292,slow=7.8,SNR=1.0						
MKAR	Makanchi Array	52.24	349	P	P	18 58 08.4	-0.2
	0.8nm,0.9s,baz=168,slow=8.8,SNR=4.7						
SONM	Songino Array	53.16	10	P	P	18 58 16.8	+1.3
	0.3nm,0.6s,baz=197,slow=8.3,SNR=3.0						
ZALV	Zalesovo Beam	58.84	353	P	P	18 58 56.5	+0.7
	0.6nm,0.5s,baz=170,slow=8.8,SNR=4.6						
TXAR	Lajitas Array	149.87	33	PKPbc	PKiKP	19 08 50.2	+0.9
	0.2nm,0.6s,baz=270,slow=1.8,SNR=2.3						

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*NEIC **02** 19:04:36.6±1.4, 43°.72N±0°.05×105°.26W±0°.04, h0km±1km, ML3.1/42, Error ellipse: s-maj=9.1km s-min=4.7km az=166.0*

*IDC **02** 19:04:36.2±1.5, 43°.96N×105°.71W, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.4/40, mbtmp3.3/5, ML3.2/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/82, Error ellipse: s-maj=41.7km s-min=9.5km az=146.0*

ISC 02 19:04:35.7±0.9, **43°.74N**±0°.06×**105°.30W**±0°.06, **h0**km, **n41**, σ1s**15**/41, **Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.99	67		Pg	19 04 54.8	0.0
K22A	Casper	1.41	220		Pn	19 05 01.7	-1.0
K22A				IAML		19 05 28.7	
	comp=E,395nm,0.3s						
PHWY	Pilot Hill	2.44	183	Pn	Pn	19 05 18.1	+1.0
PHWY				IAML		19 05 58.7	
	comp=E,84nm,0.4s						
RWWY	Rawlins	2.48	215	Pn	Pn	19 05 18.4	+0.7
RWWY				IAML		19 05 54.9	
	comp=E,145nm,0.7s						
N23A	Red Feather La	2.88	190		Pn	19 05 24.6	+1.5
N23A				IAML		19 06 08.3	
	comp=E,57nm,0.3s						
N23A				IAML		19 06 09.4	
	comp=N,92nm,0.3s						
LAO	LASA Array	3.02	348		Pn	19 05 27.6	+2.8
RLMT	Red Lodge	3.16	297		Pn	19 05 27.2	+0.3
RLMT				IAML		19 06 18.1	
	comp=N,68nm,0.3s						
RLMT				IAML		19 06 18.6	
	comp=N,49nm,0.3s						
BW06	Boulder Array	3.26	254		Pn	19 05 28.8	+0.6
BW06				IAML		19 06 17.0	
	comp=N,46nm,0.3s						
BW06				IAML		19 06 18.3	
	comp=N,44nm,0.3s						
PD31	Pinedale Array	3.26	254		Pn	19 05 28.8	+0.5
PDAR	Pinedale Array	3.26	254	Pn	Pn	19 05 28.7	+0.5
	comp=N,2.8nm,0.3s,baz=70,slow=16,SNR=44						
PDAR				Pg	Pb	19 05 34.0	-0.5
	comp=N,15nm,0.3s,baz=68,slow=19,SNR=63						
PDAR				Lg	Lg	19 06 12.9	
	comp=N,22nm,0.3s,baz=68,slow=34,SNR=2.9						
PDAR	Pinedale Array	3.26	254		Pn	19 05 28.6	+0.3
YMP	Mirror Lake Pl	3.63	288		Pn	19 05 34.2	+0.7
OGNE	Ogallala	3.70	138		Pn	19 05 35.1	+1.0
GCMT	Greycliff	3.72	305	Pn	Pn	19 05 36.1	+1.5
LOHW	Long Hollow	3.85	270		Pn	19 05 37.7	+1.3
H17A	Grant Village	3.86	282		Pn	19 05 38.6	+2.1
FLWY	Flagg Ranch	3.92	277		Pn	19 05 38.2	+0.9
FLWY				IAML		19 07 12.4	
	comp=N,26nm,2.5s						
FLWY				IAML		19 07 16.5	
	comp=N,22nm,2.1s						
ISCO	Idaho Springs	3.94	183		Pn	19 05 38.5	+0.7
ISCO				IAML		19 06 45.3	
	comp=N,20nm,1.0s						
MOOW	Moose Ponds	3.94	272		Pn	19 05 39.4	+1.7
REDW	Red Top Meadow	4.05	267		Pn	19 05 40.1	+0.9
REDW				IAML		19 06 46.1	
	comp=N,33nm,0.7s						
REDW				IAML		19 07 11.4	
	comp=N,24nm,1.1s						
TPAW	Teton Pass	4.11	268		Pn	19 05 39.6	-0.4
TPAW				IAML		19 06 56.6	
	comp=N,17nm,1.1s						
TPAW				IAML		19 07 07.8	
	comp=N,31nm,0.9s						
AHID	Auburn Hatcher	4.35	259	Pn	Pn	19 05 44.3	+1.1
AHID				IAML		19 07 00.0	
	comp=N,24nm,1.4s						
AHID				IAML		19 07 03.0	
	comp=N,26nm,0.8s						
Q24A	Divide	4.77	179	Pn	Pn	19 05 49.7	+0.5
Q24A				IAML		19 07 10.6	
	comp=E,23nm,0.3s						
Q24A				IAML		19 07 17.3	
	comp=N,14nm,0.3s						
DGMT	Dagmar	4.79	9		Pn	19 05 50.0	+0.8
BOZ	Bozeman (W)	4.88	295		Pn	19 05 51.2	+0.7
BOZ				IAML		19 07 08.5	
	comp=N,13nm,1.1s						
BOZ				IAML		19 07 20.6	
	comp=N,14nm,2.4s						
LRM	Limekiln Ridge	5.50	295	Pn	Pn	19 06 00.5	+1.5
P18A	Preston Nutter	5.53	224		Pn	19 06 00.4	+0.8
PV10	Paradox Valley	6.06	209	Pn	Pn	19 06 08.7	+2.0
SRU	San Rafael Swe	6.06	222		Pn	19 06 08.1	+1.3
PV11	David Mesa, Pa	6.07	208		Pn	19 06 08.0	+1.1
PV13	Radium Mtn., P	6.18	207	Pn	Pn	19 06 09.2	+0.8
ECSD	EROS Data Cent	6.29	87	Pn	Pn	19 06 10.4	+0.6
Q16A	Castle Valley	6.54	225	Pn	Pn	19 06 14.0	+0.8
DUG	Dugway, Tooele	6.62	240		Pn	19 06 14.8	+0.3
JTMT	Jette	7.45	306	Pn	Pn	19 06 26.8	+1.1
F36A	Milaca	8.64	72	Pn	Pn	19 06 41.3	-0.6
ULM	Lac du Bonnet	9.15	41	Pn	Pn	19 06 47.9	-1.1
	comp=N,1.0nm,0.3s,baz=227,slow=11,SNR=4.8						
ULM				Lg	Lg	19 09 16.6	
	comp=N,0.3nm,0.3s,baz=136,slow=19,SNR=1.7						
NVAR	Mina Array Bea	11.15	246	Pn	Pn	19 07 18.0	+1.4
	comp=N,0.1nm,0.3s,baz=52,slow=12,SNR=2.7						
YKA	Yellowknife Ar	19.56	347	P	P	19 09 03.4	-1.4
	comp=N,0.1nm,0.3s,baz=157,slow=12,SNR=4.3						
SJG	San Juan	41.63	115	LR	LR	19 30 12.4	
	comp=N,76nm,20.8s,baz=141,slow=37						
MKAR	Makanchi Array	89.60	355	P	P	19 17 34.5	-0.6
	comp=N,0.3nm,0.6s,baz=9.4,slow=5.5,SNR=2.8						

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*IDC **02** 19:07:51.4±0.5, 30°.22S×176°.35W, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.7/27, mbtmp4.6/20, ML4.1/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/53, Error ellipse: s-maj=20.2km s-min=14.1km az=12.0*

*BJI **02** 19:07:51.6±0.0, 30°.23S×176°.03W, h11km, mb5.3/17, mB5.5/7*

*NEIC **02** 19:07:52.8±1.7, 30°.42S±0°.07×176°.40W±0°.10, h10km±1km, mb4.9/64, Error ellipse: s-maj=15.4km s-min=10.9km az=60.0*

ISC 02 19:07:52.6±0.3, **30°.43S**±0°.05×**176°.41W**±0°.06, **h10**km, **n243**, σ1s**61**/255, **mb4.9**/49, **MS4.1**/8, **4C**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.75	311	P	Pn	19 08 23.1	+0.1
GLKZ				S	Sn	19 08 44.0	-1.3
RAO	Raoul Island	1.76	311	Pn	Pn	19 08 22.9	-0.1
	1µm,0.3s,baz=75,slow=20,SNR=34						
RAO				Sn	Sn	19 08 43.3	-2.1
	3µm,0.3s,baz=115,slow=23,SNR=21						
RAO				LR	LR	19 08 48.8	
	comp=Z,3µm,20.8s,baz=18,slow=34						
RAO	Raoul Island	1.76	311		Pn	19 08 23.2	+0.2
RAO	Raoul Island	1.76	311	Sn	Sn	19 08 44.0	-1.4
RIZ	Raoul Island	1.77	311	P	Pn	19 08 23.5	+0.3
RIZ				S	Sn	19 08 44.0	-1.7
MXZ	Matakaoa Point	8.36	210	Pn	Pn	19 09 52.9	-0.8
MXZ	Matakaoa Point	8.36	210	P	Pn	19 09 52.5	-1.2
MXZ				S	Sn	19 11 29.1	+1.0
PKGZ	Pakihiroa	8.73	210	P	Pn	19 09 58.0	-0.9
PKGZ				S	Sn	19 11 38.2	+0.8
PUZ	Puketiti	8.81	209	P	Pn	19 09 58.2	-1.7
PUZ				S	Sn	19 11 40.7	+1.4
URZ	Urewera	9.47	213	Pn	Pn	19 10 08.2	-0.8
	5.5nm,0.3s,baz=114,slow=19,SNR=16						
URZ				Sn	Sn	19 11 55.5	+0.1
	19nm,0.3s,baz=168,slow=23,SNR=12						
URZ	Urewera	9.47	213	Pn	Pn	19 10 08.0	-1.0
OUZ	Omahuta	9.67	238	Pn	Pn	19 10 17.2	+5.5
RAHZ	Arahi	10.02	211	P	Pn	19 10 16.0	-0.5
RAHZ				S	Sn	19 12 09.3	+0.3
MTHZ	Maungataniwha	10.07	212	P	Pn	19 10 16.6	-0.7
MTHZ				S	Sn	19 12 09.5	-0.9
NMHZ	Naumai	10.29	211	P	Pn	19 10 19.1	-1.2
NMHZ				S	Sn	19 12 16.6	+0.9
BKZ	Black Stump Fm	10.48	212	Pn	Pn	19 10 20.2	-2.8
BKZ	Black Stump Fm	10.48	212	P	Pn	19 10 19.9	-3.0
BKZ				S	Sn	19 12 17.5	-3.1
MCHZ	McNeill Hill	10.62	210	P	Pn	19 10 25.4	+0.6
MCHZ				P	Sn	19 12 23.9	+0.1
KWHZ	Kaweka Forest	10.73	211	P	Pn	19 10 25.2	-1.1
KWHZ				S	Sn	19 12 25.0	-1.5
KAHZ	Kahuranaki	10.84	209	P	Pn	19 10 25.0	-2.8
KAHZ				S	Sn	19 12 27.9	-1.2
KRHZ	Kereru	10.93	211	P	Pn	19 10 25.8	-3.2
KRHZ				S	Sn	19 12 25.8	-5.5
BHHZ	Black Hill Sta	10.94	212	P	Pn	19 10 27.5	-1.8
BHHZ				S	Sn	19 12 25.8	-5.9
WNVZ	Wahianoa	11.03	214	P	Pn	19 10 29.6	-1.0
WNVZ				S	Sn	19 12 30.4	-3.7
PNHZ	Pukenui	11.22	211	P	Pn	19 10 31.7	-1.4
PNHZ				S	Sn	19 12 35.0	-3.6
WPHZ	Waipukurau	11.25	209	P	Pn	19 10 35.4	+2.1
WPHZ				S	Sn	19 12 36.7	-2.4
PRHZ	Porangahau	11.34	208	P	Pn	19 10 29.6	-5.0
PRHZ				S	Sn	19 12 37.9	-3.3
BFZ	Birch Farm	11.84	208	Pn	Pn	19 10 36.6	-4.9
TUWZ	Tuamarina	13.46	213		Pn	19 10 59.3	-4.3
MSVF	Nonsavu	13.61	337	Pn	Pn	19 11 03.9	-1.8
	2.7nm,0.3s,baz=166,slow=17,SNR=3.9						
MSVF	Nonsavu	13.61	337		Pn	19 11 03.9	-1.8
BSWZ	Blackbirch Sta	13.72	212	Pn	Pn	19 11 02.4	-4.7
KHZ	Kahutara	14.43	211	Pn	Pn	19 11 13.0	-3.8
LTZ	Lake Taylor	15.30	213	Pn	Pn	19 11 25.4	-3.2
OXZ	Oxford	15.82	212	P	Pn	19 11 33.0	-2.4
OXZ				IAmb	IAmb	19 11 58.8	
	comp=Z,54nm,0.7s						
RPZ	Rata Peaks	16.59	213	Pn	Pn	19 11 43.7	-1.4
	comp=Z,6.9nm,0.3s,baz=86,slow=1.6,SNR=23						
RPZ				Sn	Sn	19 14 35.9	-13
	comp=Z,1.4nm,0.3s,baz=195,slow=23,SNR=2.6						
RPZ	Rata Peaks	16.59	213		Pn	19 11 43.4	-1.8
AFI	Afiamalu	16.99	16	Pn	Pn	19 11 47.6	-2.8
	comp=Z,2.1nm,0.3s,baz=245,slow=6.5,SNR=3.5						
AFI				Sn	Sn	19 14 35.9	-23
	comp=Z,2.1nm,0.3s,baz=162,slow=23,SNR=1.5						
AFI				LR	LR	19 21 06.0	
	comp=Z,68nm,18.8s,baz=150,slow=47						
AFI	Afiamalu	16.99	16	P	Pn	19 11 47.6	-2.8
AFI	Afiamalu	16.99	16	IAmb	IAmb	19 11 50.6	
	comp=Z,68nm,1.1s						
FOZ	Fox Glacier	17.06	216	P	Pn	19 11 47.8	-3.4
DZM	Mont Dzumac	17.47	294	P	P	19 12 01.2	+3.5
	comp=Z,1.3nm,0.3s,baz=94,slow=13,SNR=14						
DZM	Mont Dzumac	17.47	294	P	Pn	19 11 54.1	-2.4
DZM				IAmb	IAmb	19 12 06.9	
	comp=Z,60nm,1.0s						
LBZ	Lake Benmore	17.50	214	Pn	Pn	19 11 52.1	-4.6
RAR	Rarotonga	17.55	62	P	Pn	19 11 54.6	-2.8
	comp=Z,2.0nm,0.3s,baz=239,slow=5.9,SNR=4.2						
RAR				S	Sn	19 14 48.1	-25
	comp=Z,1.7nm,0.3s,baz=117,slow=21,SNR=2.6						
RAR				LR	LR	19 17 08.3	
	comp=Z,636nm,19.7s,baz=223,slow=32						
RAR	Rarotonga	17.55	62	P	Pn	19 11 54.6	-2.8
RAR	Rarotonga	17.55	62	IAmb	IAmb	19 12 07.8	
	comp=Z,57nm,0.8s						
ODZ	Otahua Downs	17.79	211	Pn	Pn	19 11 58.4	-1.9
MLZ	Mavora Lakes	19.22	215	P	P	19 12 14.3	-2.5
DCZ	Deep Cove	19.77	216	P	P	19 12 21.1	-1.7
LHI	Lord Howe Isla	21.05	261	P	P	19 12 41.7	+5.0
	baz=21						
PPT	Papeete	27.57	68	LR	LR	19 23 19.6	
	comp=Z,221nm,19.0s,baz=138,slow=34						
QLP	Quilpie	34.68	266	P	P	19 14 44.5	+2.0
	baz=35,SNR=3.4						
CTA	Charters Tower	35.16	278	P	P	19 14 47.6	+0.9
	comp=Z,7.0nm,0.5s,baz=100,slow=10,SNR=22						
STKA	Stephens Creek	35.81	257	P	P	19 14 54.2	+2.0
	comp=Z,2.5nm,0.6s,baz=94,slow=11,SNR=6.3						
STKA	Stephens Creek	35.81	257	P	P	19 14 54.5	+2.3
	baz=36,SNR=5.4						
STKA	Stephens Creek	35.81	257	P	P	19 14 52.1	-0.1
MTSU	Mount Surprise	37.65	280	P	P	19 15 10.3	+2.2
	baz=38,SNR=9.4						
HTT	Hallett	37.81	254	P	P	19 15 11.4	+2.1
	baz=38,SNR=9.7						
PMG	Port Moresby	39.86	294	P	P	19 15 26.4	-0.2
	comp=Z,5.7nm,0.7s,baz=135,slow=6.2,SNR=4.8						
PMG	Port Moresby	39.86	294	P	P	19 15 26.4	-0.2
PMG	Port Moresby	39.86	294	IAmb	IAmb	19 15 30.0	
	comp=Z,6.2nm,0.8s						
BBOO	Buckleboo	40.28	254	P	P	19 15 31.0	+1.1
	baz=40,SNR=9.0						
BBOO	Buckleboo	40.28	254	P	P	19 15 30.7	+0.7
BBOO				IAmb	IAmb	19 15 48.6	
	comp=Z,24nm,0.8s						
AS31	Alice Springs	44.48	266	P	P	19 16 03.7	-0.6
ASAR	Alice Springs	44.48	266	P	P	19 16 03.8	-0.5
	comp=Z,6.2nm,0.7s,baz=104,slow=6.7,SNR=115						
ASAR				PcP	PcP	19 17 48.2	+0.5
	comp=Z,3.2nm,0.7s,baz=114,slow=3.9,SNR=6.9						
ASAR	Alice Springs	44.48	266	P	P	19 16 03.7	-0.5
ASAR	Alice Springs	44.48	266		PcP	19 17 48.2	+0.5
WR0	Warramunga Arr	45.29	271	P	P	19 16 10.0	-0.7
WR0				IAmb	IAmb	19 16 16.1	
	comp=Z,16nm,1.1s						
WB2	Warramunga Arr	45.46	271	P	P	19 16 11.5	-0.6
WB2				IAmb	IAmb	19 16 17.5	
	comp=Z,11nm,0.8s						
WRAB	Tennant Creek	45.46	271	P	P	19 16 11.5	-0.6
WRAB				IAmb	IAmb	19 16 17.4	
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	45.47	271	P	P	19 16 11.4	-0.8
	comp=Z,6.7nm,0.5s,baz=112,slow=7.3,SNR=114						
WRA				PcP	PcP	19 17 52.0	+0.8
	comp=Z,5.5nm,0.9s,baz=110,slow=3.7,SNR=8.0						
WRA				S	S	19 22 50.9	-3.1
	comp=Z,0.8nm,0.8s,baz=107,slow=14,SNR=2.7						
WRA	Warramunga Arr	45.47	271	P	P	19 16 11.5	-0.6
WRA	Warramunga Arr	45.47	271		PcP	19 17 52.0	+0.8
WB0	Warramunga Arr	45.49	272	P	P	19 16 11.7	-0.6
WB0				IAmb	IAmb	19 16 17.7	
	comp=Z,12nm,0.7s						
FORT	Forrest	47.36	255	P	P	19 16 27.1	+0.3
	baz=47,SNR=17						
FORT	Forrest	47.36	255	P	P	19 16 27.2	+0.3
WRKA	Warakurna	48.84	262	P	P	19 16 38.9	+0.4
	baz=49,SNR=9.2						
KDU	Kakadu	50.27	279	P	P	19 16 48.5	-1.0
	baz=50,SNR=3.8						
MTN	Manton Dam	51.34	278	P	P	19 16 55.4	-2.1
MTN				IAmb	IAmb	19 16 59.0	
	comp=Z,9.5nm,0.6s						
KNRA	Kununurra	52.08	273	P	P	19 17 02.8	-0.2
	baz=52,SNR=7.9						
MORW	Morawa	57.84	253	P	P	19 17 45.6	+1.0
	baz=58,SNR=4.2						
RPN	Rapa Nui	58.10	105	LR	LR	19 40 10.8	
	comp=Z,122nm,18.3s,baz=357,slow=33						
BATI	Baumata	59.02	276	LR	LR	19 42 40.4	
	comp=Z,103nm,20.5s,baz=79,slow=35						
KAPI	Kappang	64.96	279	LR	LR	19 47 57.1	
	comp=Z,57nm,18.1s,baz=106,slow=37						
PMSA	Palmer Station	71.67	155	LR	LR	19 47 49.7	
	comp=Z,107nm,18.9s,baz=331,slow=33						
JOW	Kunigami	77.70	311	P	P	19 19 50.6	+0.9
	comp=Z,17nm,0.8s,baz=227,slow=6.7,SNR=6.1						
SNAA	Sanae	78.08	178	P	P	19 19 52.6	+1.4
SNAA	Sanae	78.08	178	P	P	19 19 51.1	-0.2
VNA3	Neumayer Olymp	78.18	176	P	P	19 19 53.0	+1.3
VNA2	Neumayer--Watz	78.63	176	P	P	19 19 56.2	+2.0
	baz=168,slow=4.5						
VNA1	Neumayer--Stat	78.85	176	P	P	19 19 56.9	+1.5
MJAR	Matsushiro Arr	79.05	324	P	P	19 19 56.0	-0.9
	comp=Z,3.9nm,0.9s,baz=162,slow=5.9,SNR=4.2						
MAT	Matsushiro	79.06	324	P	P	19 19 56.7	-0.2
JSU	Suzuyama	79.60	316	P	P	19 19 59.7	-0.3
PLCA	Paso Flores	81.48	132	P	P	19 20 11.9	+1.6
	comp=Z,4.4nm,0.9s,baz=197,slow=4.9,SNR=8.3						
PLCA	Paso Flores	81.48	132	P	P	19 20 11.9	+1.6
PLCA	Paso Flores	81.48	132	IAmb	IAmb	19 20 13.0	
	comp=Z,13nm,1.3s						
SHEM	Shemya Is, Ala	83.22	354	LR	LR	19 51 20.7	
	comp=Z,132nm,20.2s,baz=225,slow=31						
BO02	Sierra Bellavi	84.57	127	P	P	19 20 26.9	+0.5
MT01	Popeta	84.75	126	P	P	19 20 27.6	+0.4
PFO	Pinyon Flats O	85.22	46	P	P	19 20 29.2	-0.3
PFO				IAmb	IAmb	19 20 30.3	
	comp=Z,7.2nm,1.1s						
KSRS	Korea Array	85.26	319	P	P	19 20 30.6	+1.1
	comp=Z,1.7nm,0.9s,baz=148,slow=7.4,SNR=4.5						
ISA	Isabella, Lake	85.36	44	P	P	19 20 30.0	-0.1
ISA				IAmb	IAmb	19 20 31.1	
	comp=Z,12nm,1.4s						
YSS	Yuzh-Sakhalins	85.38	333	P	P	19 20 30.4	+0.7
LMEL	Las Melosas	85.49	127	P	P	19 20 31.1	-0.1
LMEL				IAmb	IAmb	19 20 36.9	
	comp=Z,9.7nm,0.9s						
CMB	Columbia Colle	85.87	41	P	P	19 20 31.7	-0.8
GLA	Glamis	85.89	48	P	P	19 20 32.5	-0.2
GSC	Goldstone, Bar	86.13	45	P	P	19 20 33.8	-0.1
PETK	Petropavlovsk-	86.19	345	P	P	19 20 33.3	-0.3
	comp=Z,7.6nm,0.8s,baz=145,slow=8.0,SNR=7.7						
PETK	Petropavlovsk-	86.19	345	P	P	19 20 33.3	-0.3
CO02	Combarbal	86.38	124	P	P	19 20 35.7	+0.1
113A	Mohawk Valley,	86.39	49	P	P	19 20 35.4	+0.2
WDC	Whiskeytown Da	86.48	38	P	P	19 20 34.8	-0.6
WDC				IAmb	IAmb	19 20 36.2	
	comp=Z,7.1nm,0.9s						
QSM	Queen of Sheba	86.53	44	P	P	19 20 35.5	-0.3
QSM				IAmb	IAmb	19 20 36.5	
	comp=Z,8.4nm,1.1s						
N02D	Trinity Center	86.68	38	P	P	19 20 36.5	0.0
RPSI	Rantau Prapat	86.75	275	P	P	19 20 36.9	-0.5
GWY	Greenwater Val	86.80	44	P	P	19 20 37.0	-0.3
PSI	Prapat	86.80	275	P	P	19 20 36.9	-0.9
	comp=Z,6.8nm,1.0s,baz=56,slow=12,SNR=5.0						
LCH	Last Change Ra	86.91	43	P	P	19 20 37.0	-0.8
LCH				IAmb	IAmb	19 20 38.2	
	comp=Z,4.9nm,1.1s						
LHV	Little Huntoon	87.10	42	P	P	19 20 38.5	+0.1
LHV				IAmb	IAmb	19 20 39.5	
	comp=Z,8.1nm,1.1s						
NJ2	Nanjing	87.31	310	*e*P	P	19 20 41.6	+2.0
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NVAR	Mina Array Bea	87.34	42	P	P	19 20 39.2	-0.8
	comp=Z,4.2nm,0.9s,baz=219,slow=8.0,SNR=23						
NVAR	Mina Array Bea	87.34	42	P	P	19 20 39.5	-0.5
TPNV	Topopah Spring	87.55	44	P	P	19 20 40.5	-0.5
Y14A	Wickenburg	87.63	48	P	P	19 20 40.7	-0.5
TPH	Tonopah	87.72	43	P	P	19 20 41.4	-0.4
KVN	Kaiserville	87.87	42	P	P	19 20 41.7	-0.8
KVN				IAmb	IAmb	19 20 42.9	
	comp=Z,5.4nm,1.0s						
TUC	Tucson	88.06	51	P	P	19 20 43.1	-0.3
TUC				IAmb	IAmb	19 20 44.9	
	comp=Z,11nm,1.4s						
PRN	Pahroc Range	88.58	44	P	P	19 20 45.5	-0.3
PRN				IAmb	IAmb	19 20 47.2	
	comp=Z,7.8nm,1.0s						
X16A	Lo Mia Camp, P	88.94	49	P	P	19 20 48.1	+0.5
X16A				IAmb	IAmb	19 20 49.1	
	comp=Z,6.3nm,1.1s						
WHN	Wuhan	89.46	306	⇑P	P	19 20 51.6	+1.7
U15A	North Rim	89.65	47	P	P	19 20 50.1	-0.9
WUAZ	Wupatki	89.66	48	P	P	19 20 50.8	-0.1
WUAZ				IAmb	IAmb	19 20 52.2	
	comp=Z,10nm,1.1s						
CCUT	Cedar City	89.69	45	P	P	19 20 51.4	+0.3
CCUT				IAmb	IAmb	19 20 52.6	
	comp=Z,6.4nm,1.2s						
SZCU	Shurtz Canyon	89.89	45	P	P	19 20 51.6	-0.4
KDAK	Kodiak Island	90.13	12	LR	LR	20 01 41.5	
	comp=Z,66nm,19.1s,baz=216,slow=36						
TIA	Tai'an	91.00	312	⇑P	P	19 20 58.6	+1.6
TIA				pmax	pmax		
	comp=Z,15nm,0.9s						
TX31	Lajitas Ar. Si	91.25	57	P	P	19 20 58.0	-0.4
TX32	Lajitas Array	91.25	57	P	P	19 20 57.9	-0.6
TX32				IAmb	IAmb	19 20 59.3	
	comp=Z,6.3nm,1.2s						
TXAR	Lajitas Array	91.25	57	P	P	19 20 58.0	-0.4
	comp=Z,3.0nm,1.1s,baz=216,slow=6.2,SNR=14						
MFID	Camas Ranch	92.06	39	P	P	19 21 01.4	-0.4
MFID				IAmb	IAmb	19 21 01.9	
	comp=Z,6.1nm,1.1s						
ENH	Enshi	92.75	304	P	P	19 21 06.5	+1.2
GYA	Guiyang	92.76	299	⇑P	P	19 21 07.2	+1.7
GYA				pmax	pmax		
	comp=Z,15nm,1.1s						
HLID	Hailey	92.94	40	P	P	19 21 04.4	-1.6
HLID				IAmb	IAmb	19 21 06.7	
	comp=Z,2.7nm,0.8s						
F10A	Beach Ranch, E	93.01	37	P	P	19 21 05.1	-1.1
F10A				IAmb	IAmb	19 21 05.7	
	comp=Z,4.4nm,0.7s						
PLID	Pearl Lake	93.07	38	P	P	19 21 05.9	-0.8
PLID				IAmb	IAmb	19 21 06.8	
	comp=Z,6.6nm,0.9s						
HNS	HongShan	93.26	312	⇑P	P	19 21 09.3	+2.0
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJI	Beijing	93.91	315	P	P	19 21 14.6	+4.3
BJI				S	S	19 32 21.1	+0.9
CMAR	Chiang Mai Arr	94.71	289	P	P	19 21 15.5	+1.0
	comp=Z,1.3nm,1.0s,baz=137,slow=3.5,SNR=10.0						
CMAR	Chiang Mai Arr	94.71	289	P	P	19 21 13.2	-1.3
PDAR	Pinedale Array	95.22	43	P	P	19 21 15.3	-1.3
	comp=Z,0.6nm,0.9s,baz=180,slow=3.9,SNR=4.5						
PDAR	Pinedale Array	95.22	43	P	P	19 21 15.2	-1.3
XAN	Xi'an	95.23	306	P	P	19 21 19.0	+2.4
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,170nm,4.0s						
BOZ	Bozeman (W)	95.77	40	P	P	19 21 18.3	-0.6
BOZ				IAmb	IAmb	19 21 19.4	
	comp=Z,2.9nm,0.9s						
SEY	Seymchan	96.32	346	LR	LR	19 59 25.5	
	comp=Z,80nm,19.8s,baz=134,slow=32						
PZH	PanZhiHua	96.54	297	P	P	19 21 23.9	+1.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,60nm,6.5s						
LPAZ	La Paz	96.88	113	P	P	19 21 25.6	+0.3
	comp=Z,1.3nm,0.7s,baz=208,slow=6.6,SNR=4.2						
LPAZ	La Paz	96.88	113	P	P	19 21 25.6	+0.3
LPAZ	La Paz	96.88	113	IAmb	IAmb	19 21 27.4	
	comp=Z,2.3nm,0.9s						
HHC	Hu-ho-hao-te	97.24	313	*e*P	P	19 21 25.8	+0.1
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						

HHC				pmax	pmax		
	comp=Z,110nm,6.5s						
ILAR	Eielson Array	97.65	12	P	P	19 21 25.4	-1.4
	comp=Z,0.8nm,0.9s,baz=211,slow=7.0,SNR=5.1						
SONM	Songino Array	104.08	317	Pdiff	Pdif	19 21 59.1	+3.1
	comp=Z,0.2nm,0.7s,baz=104,slow=6.1,SNR=1.4						
WMQ	Urumqi	114.32	308	ePKP	PKPdf	19 26 32.1	-0.3
BOSA	Boshof	117.75	202	PKP	PKiKP	19 26 40.7	+1.0
	comp=Z,2.8nm,0.9s,baz=106,slow=0.7,SNR=4.5						
BOSA	Boshof	117.75	202		PKiKP	19 26 40.7	+1.0
MKAR	Makanchi Array	118.84	310	PKP	PKPdf	19 26 40.3	-0.7
	comp=Z,2.1nm,0.9s,baz=90,slow=2.4,SNR=11						
MKAR				PKKPbc	PKKPab	19 36 57.2	+0.3
	comp=Z,0.6nm,0.7s,baz=264,slow=2.9,SNR=5.0						
MKAR	Makanchi Array	118.84	310	PKPdf	PKPdf	19 26 40.4	-0.6
MKAR	Makanchi Array	118.84	310		PKKPab	19 36 57.2	+0.3
ZALV	Zalesovo Beam	118.97	318	PKP	PKPdf	19 26 39.7	-1.2
	comp=Z,1.0nm,0.7s,baz=90,slow=0.6,SNR=6.7						
ZALV	Zalesovo Beam	118.97	318		PKPdf	19 26 39.7	-1.2
NRIK	Noril'sk	120.22	336	PKP	PKPdf	19 26 42.7	-0.2
	comp=Z,2.6nm,0.7s,baz=85,slow=4.9,SNR=2.0						
AAK	Ala-Archa	123.27	303	PKP	PKPdf	19 26 49.8	0.0
	comp=Z,1.6nm,1.0s,baz=123,slow=6.5,SNR=4.0						
AAK	Ala-Archa	123.27	303	PKPdf	PKPdf	19 26 49.7	-0.1
KMBO	Kilima Mbogo	135.15	232	PKP	PKiKP	19 27 15.4	+0.5
	comp=Z,1.1nm,0.7s,baz=49,slow=6.8,SNR=4.0						
ARCES	ARCESS Array B	138.90	348	PKhKP	PKPpre	19 27 07.9	
	comp=Z,3.0nm,0.8s,baz=45,slow=1.9,SNR=7.5						
ARCES				PKP	sPKPdf	19 27 20.0	+0.4
	comp=Z,3.7nm,0.6s,baz=43,slow=2.3,SNR=9.7						
ARCES	ARCESS Array B	138.90	348		PKPpre	19 27 07.9	
ARCES	ARCESS Array B	138.90	348		PKPdf	19 27 18.3	+0.1
KLMR	Klimovskoe	141.42	333	AMP		19 27 24.4	
	comp=Z,23nm,1.5s						
KLMR	Klimovskoe	141.42	333	ePKPdf	PKPdf	19 27 19.8	-3.3
FINES	FINESS Array B	145.63	341	PKPbc	PKPdf	19 27 30.5	+0.1
	comp=Z,47nm,0.8s,baz=58,slow=3.2,SNR=93						
FINES	FINESS Array B	145.63	341	PKPdf	PKPdf	19 27 30.0	-0.4
KBZ	Khabaz	146.26	304	PKPbc	PKPbc	19 27 33.6	+0.4
	comp=Z,3.0nm,0.8s,baz=154,slow=5.8,SNR=6.5						
MOL	Molde	147.74	357	eP	PKPbc	19 27 36.9	+0.1
VSU	Vasula	147.79	337	eP	PKPbc	19 27 37.6	+0.6
AKN	Aaknes	148.16	357	eP	PKPbc	19 27 38.3	+0.3
DOMB	Dombas	148.17	355	eP	PKPbc	19 27 37.9	-0.1
AAL	Aland	148.28	344	eP	PKPbc	19 27 37.6	-0.6
MTSE	Matsula	148.52	340	eP	PKPbc	19 27 38.9	0.0
FOO	Floro	148.81	359	eP	PKPbc	19 27 39.7	+0.1
NB2	NORSAR Subarra	148.97	353	PKP	PKPbc	19 27 40.1	0.0
	comp=Z,8.4nm,0.7s,baz=9.8,slow=2.7						
NB2	NORSAR Subarra	148.97	353	PKP	PKPbc	19 27 40.1	0.0
	baz=9.8,slow=2.7						
NOA	NORSAR Array B	148.97	353	PKPbc	PKPbc	19 27 39.8	-0.3
	comp=Z,20nm,0.9s,baz=15,slow=4.3,SNR=41						
NC602	NORSAR Array S	149.23	352	eP	PKPbc	19 27 40.6	-0.1
SUE	Sulen	149.35	359	eP	PKPbc	19 27 41.3	+0.3
SKAR	Skarslia	149.58	355	eP	PKPbc	19 27 42.2	+0.5
IDID	Didziasalis	150.16	333	eP	PKPbc	19 27 43.8	+0.6
MNK	Minsk	150.28	331	i PKP	PKPbc	19 27 43.2	-0.3
	comp=E,3.0nm,1.3s						
MNK				i PKP	PKPbc	19 27 43.2	-0.3
	comp=N,26nm,1.6s						
MNK				i PKP	PKPbc	19 27 43.2	-0.3
	comp=Z,55nm,1.3s,baz=46						
MNK				i SKP		19 31 16.3	
MNK				i PKS	PP	19 31 17.9	-0.7
MNK				i PP	PP	19 31 23.5	+4.9
MNK				i PPP	PPP	19 34 45.2	
MNK				i SKS	SKSdf	19 34 51.2	+5.2
MNK				i SKKS	SKKSdf	19 43 40.9	+1.5
MNK				i SS	SS	19 50 43.5	+7.0
MNK				i SSS	SSS	19 56 22.8	
MNK				i LR	LR	20 37 05.5	
IIGN	Ignalina	150.34	334	eP	PKiKP	19 27 45.5	+1.1
ODD1	Odda	150.44	357	eP	PKPbc	19 27 44.1	+0.3
NACGM	Naroch	150.45	333	i PKP	PKiKP	19 27 44.4	-0.2
KONO	Kongsberg	150.50	354	eP	PKPbc	19 27 44.1	+0.3
VIKU	Vikbolandet	150.52	346	eP	PKPbc	19 27 44.0	+0.1
STRU	Stroemstad	150.93	352	eP	PKPbc	19 27 45.0	+0.2
PABE	Paberze	151.05	336	eP	PKiKP	19 27 46.0	+0.2
KMY	Karmoy	151.19	358	eP	PKPbc	19 27 45.8	+0.4
PBUR	Paburge	151.32	338	eP	PKPbc	19 27 44.9	-1.0
HOMB	Homborsund	151.96	354	eP	PKiKP	19 27 47.8	+0.2
SNART	Snartemo	151.98	356	eP	PKiKP	19 27 47.8	+0.2
AKASG	Malin Array Be	152.14	324	PKPbc	PKPbc	19 27 47.9	0.0
	comp=Z,11nm,0.7s,baz=44,slow=2.6,SNR=36						
AKASG	Malin Array Be	152.14	324	PKPdf	PKPdf	19 27 38.6	-2.7
AKASG					PKPbc	19 27 47.1	-0.8
SUW	Suwalki	152.50	335	eP	PKPbc	19 27 48.6	0.0
DEL	Delary	152.98	347	eP	PKPbc	19 27 48.8	-0.8
BRTR	Keskin Array B	153.81	299	PKPab	PKPab	19 28 06.0	+0.7
	comp=Z,1.4nm,0.9s,baz=106,slow=3.1,SNR=2.9						
BRTR	Keskin Array B	153.81	299		PKPab	19 28 06.0	+0.7
BRTR	Keskin Array B	153.81	299	PKPdf	PKPdf	19 27 40.8	-3.5
LIC	Lamto	154.60	160	ePKP1	PKiKP	19 27 55.4	+0.9
	comp=Z,25nm,0.9s						
KIC	Kosan Boka	154.81	160	ePKP1	PKiKP	19 27 55.8	+0.9
	comp=Z,8.5nm,1.0s						
TIC	Toumodi	155.00	159	ePKP1	PKiKP	19 27 56.4	+1.1
DBIC	Dimbokro	155.07	160	PKPab	PKPab	19 28 10.9	0.0
	comp=Z,1.6nm,0.8s,baz=156,slow=5.8,SNR=4.1						
OSTC	Ostas	157.78	338	ePKPAB	PKPab	19 28 23.0	+1.4
CHVC	Chvalec	157.80	339	ePKPAB	PKPab	19 28 22.5	+0.8
DPC	Dobruska-Polom	157.92	338	ePKPAB	PKPab	19 28 22.9	+0.6
CLL	Collm	157.99	344	ePKPdf	PKPdf	19 27 51.0	+1.8
CLL				i PKPab	PKPab	19 28 21.9	-0.5
	comp=Z,10.0nm,0.9s						
PVCC	Panska Ves	158.30	341	ePKPAB	PKPab	19 28 24.1	+0.3
PRU	Pruhonice	158.79	340	ePKPAB	PKPab	19 28 26.0	+0.1
NKC	Novy Kostel	159.12	344	ePKPAB	PKPab	19 28 27.4	0.0
KHC	Kasperske Hory	159.84	341	ePKPAB	PKPab	19 28 31.0	+0.4
CKRC	Cesky Krumlov	159.90	339	ePKPAB	PKPab	19 28 31.1	+0.3
GERES	GERESS Array B	160.06	340	PKPab	PKPab	19 28 31.3	-0.4
	comp=Z,1.5nm,0.7s,baz=10,slow=6.1,SNR=6.1						
CONA	Conrad Observa	160.15	335	i P	PKPab	19 28 32.8	+0.8
	comp=Z,8.7nm,0.9s,SNR=4.8						
MOA	Molln	160.76	338	eP	PKPab	19 28 35.3	+0.7
	comp=Z,8.3nm,1.5s						
SOKA	Soboth	161.50	334	i P	PKPab	19 28 37.9	-0.1
	comp=Z,8.6nm,1.1s,SNR=5.1						
KBA	Koelnbreinsper	161.74	338	eP	PKPab	19 28 39.0	-0.1
	comp=Z,2.9nm,0.6s						
OBKA	Obir	161.82	335	eP	PKPab	19 28 39.4	0.0
	comp=Z,5.9nm,1.1s						
WATA	Walderalm	162.03	342	eP	PKPab	19 28 40.5	+0.2
	comp=Z,17nm,1.5s						
WTTA	Wattenberg	162.07	342	eP	PKPab	19 28 41.0	+0.4
	comp=Z,8.0nm,0.8s						
RETA	Reutte	162.09	344	eP	PKPab	19 28 40.4	-0.1
	comp=Z,16nm,1.5s						
MOTA	Moosalm	162.14	343	eP	PKPab	19 28 40.9	+0.1
	comp=Z,12nm,1.2s						
ABTA	Abfaltersbach	162.29	339	i P	PKPab	19 28 40.8	-0.7
	comp=Z,7.9nm,0.9s,SNR=4.9						
DAVA	Damuels	162.48	346	eP	PKPab	19 28 42.6	+0.3
	comp=Z,5.5nm,0.8s						
TORD	Torodi Ar. Bea	162.72	174	PKP	PKPdf	19 27 55.6	+0.1
	comp=Z,2.1nm,1.1s,baz=261,slow=1.7,SNR=6.7						
TORD				PKPab	sPKPab	19 28 45.5	+0.4
	comp=Z,8.4nm,0.9s,baz=193,slow=3.6,SNR=24						
DAVOX	Davos/Dischmat	162.96	345	PKPab	PKPab	19 28 44.3	-0.1
	comp=Z,4.3nm,0.8s,baz=39,slow=8.5,SNR=3.9						
DAVOX	Davos/Dischmat	162.96	345		PKPab	19 28 44.3	-0.1

*SKHL **02** 19:17:27.1±0.5, 45°.20N×150°.60E, h47km±2km, mb4.3/4*
*JMA **02** 19:17:27.3±0.6, 45°.44N×150°.45E, h30km, M4.1*
ISC 02 19:17:27.9±4.3**, 45°.0N**±0°.1×**150°.6E**±0°.2**, h39km, n19, σ1.s96**/29**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.95	278	eP	Pn	19 17 56.9	-1.5
KUR				AMB	AMB	19 18 03.4	
	100nm,0.4s						
KUR				i S	Sn	19 18 18.9	-2.7
KUR				A	A	19 18 23.6	
	360nm,0.4s						
KUR				A	A	19 18 23.6	
	230nm,0.4s						
SHO	Shikotan	2.93	248	eP	Pn	19 18 12.2	+0.3
SHO				AMB	AMB	19 18 15.5	
	40nm,0.3s						
SHO				eS	Sn	19 18 46.4	+0.6
SHO				A	A	19 19 01.2	
	160nm,0.4s						
SHO				A	A	19 19 01.2	
	170nm,0.4s						
YUK	Yuzh-Kuril'sk	3.53	256	eP	Pn	19 18 21.0	+0.9
YUK				AMB	AMB	19 18 22.7	
	70nm,0.4s						
YUK				eS	Sn	19 19 01.8	+1.3
YUK				A	A	19 19 10.3	
	210nm,0.6s						
YUK				A	A	19 19 10.3	
	290nm,0.6s						
GLVR	Golovnino	3.86	253	eP	Pn	19 18 25.7	+1.1
GLVR				eS	Sn	19 19 10.0	+1.3
NEM2	Nemuro 2	3.86	247	P	Pn	19 18 25.0	+0.3
NEM2				eS	Sn	19 19 07.9	-0.9
NMR	Nemuro--Hokkai	3.87	247	eP	Pn	19 18 25.7	+0.9
NMR				eS	Sn	19 19 08.9	-0.1
JRA	Rausu	4.07	257	P	Pn	19 18 29.9	+2.4
JNK	Nakash	4.46	253	P	Pn	19 18 33.7	+0.8
AKK	Akkeshi	4.61	246	eP	Pn	19 18 35.8	+0.9
AKK				eS	Sn	19 19 27.2	+0.1
JAK	Akkeshi	4.71	247	P	Pn	19 18 36.7	+0.4
JAK				eS	Sn	19 19 28.3	-1.4
JTKR	Abashiri--Toko	4.90	260	P	Pn	19 18 41.0	+2.1
JAR	Ashorobuto	5.21	253	P	Pn	19 18 45.3	+2.2
JAR				eS	Sn	19 19 44.1	+2.2
JMP	Maruseppu	5.28	262	P	Pn	19 18 46.6	+2.5
JKK2	Kamakawa 2	5.74	261	P	Pn	19 18 52.1	+1.6
JCH	Churui	5.76	248	P	Pn	19 18 51.7	+1.0
JCH				eS	Sn	19 19 54.9	-0.6
YSS	Yuzh-Sakhalins	5.80	292	eP	Pn	19 18 51.7	+0.4
YSS				AMB	AMB	19 18 52.0	
	10.0nm,0.3s						
JNBK	Urakawa-nobuka	6.32	247	P	Pn	19 18 59.1	+0.7
JKB	Kayabe	7.63	249	P	Pn	19 19 16.9	+0.5
JANG	Nango	8.14	238	eS	Sn	19 20 47.1	-7.0

*DSN **02** 19:22:15.6±1.6, 24°.52N×60°.91E, h10km, ML3.2/7, Error ellipse: s-maj=28.9km s-min=13.4km az=16.0*
*OMAN **02** 19:22:16.2±0.2, 23°.87N×60°.87E, h39km±16km, mb5.1/3, ml3.6/17, Error ellipse: s-maj=3.9km s-min=2.2km az=252.0*
ISC 02 19:22:14.8±2.9**, 23°.90N**±0°.06×**61°.0E**±0°.2**, h35km, n30, σ1.s23**/51**, Gulf of Oman**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	2.23	253	P	Pn	19 22 49.6	+0.3
WSAR				S	Sn	19 23 15.4	-0.2
JLN	Jalan Bani Buh	2.25	219	P	Pn	19 22 49.4	-0.1
	SNR=424						
JLN				S	Sn	19 23 16.7	+0.6
	SNR=6.1						
BIDO	Bidbid	2.62	262	P	Pn	19 22 54.8	+0.2
BIDO				S	Sn	19 23 24.7	-0.5
SMDO	Samad	2.80	253	P	Pn	19 22 57.3	+0.1
	SNR=16						
SMDO				S	Sn	19 23 28.0	-1.7
	SNR=5.5						
JMDO	Jabal Madar	3.04	240	P	Pn	19 23 00.6	+0.2
	SNR=14						
JMDO				S	Sn	19 23 36.0	+0.5
	SNR=8.1						
HOQ	Hoqain	3.35	265	P	Pn	19 23 05.5	+0.7
	SNR=8.8						
BSY	Bisya	3.64	252	P	Pn	19 23 08.9	+0.3
	SNR=7.7						
BSY				S	Sn	19 23 50.9	+0.5
	SNR=8.1						
MHTO	MHTO	4.01	224	P	Pn	19 23 14.1	+0.4
MHTO				S	Sn	19 23 59.3	-0.1
ARQ	Araqi	4.10	263	P	Pn	19 23 15.2	+0.2
	SNR=61						
ARQ				S	Sn	19 24 02.1	+0.2
	SNR=18						
UOSS	Minazif	4.45	284	P	Pn	19 23 19.8	0.0
UOSS				S	Sn	19 24 06.1	-4.4
UOSS	Minazif	4.45	284	i P	Pn	19 23 19.0	-0.8
	SNR=19						
HATD	Hatta, Dubai	4.49	283	P	Pn	19 23 21.5	+1.1
ASHO	Ashiyiah	4.53	281	P	Pn	19 23 21.5	+0.5
ASHO				S	Sn	19 24 12.9	+0.4
	SNR=7.2						
ASHO	Ashiyiah	4.53	281	P	Pn	19 23 22.0	+1.0
ASHO				S	Sn	19 24 15.2	+2.6
MSFE	Esma-Masafi	4.60	289	P	Pn	19 23 21.6	-0.2
BANOM	Banah	4.68	296	P	Pn	19 23 22.8	-0.2
	SNR=61						
BANOM				S	Sn	19 24 15.4	-0.7
BANOM	Banah	4.68	296	i P	Pn	19 23 22.7	-0.3
	SNR=61						
BANOM				S	Sn	19 24 14.7	-1.4
ALNE	Al Ain	4.76	273	P	Pn	19 23 24.0	-0.1
	SNR=5.3						
ALNE				S	Sn	19 24 18.3	+0.2
SHME	Shamm	4.86	297	P	Pn	19 23 26.1	+0.6
	SNR=20						
SHME				S	Sn	19 24 20.2	-0.3
SHME	Shamm	4.86	297	i P	Pn	19 23 26.0	+0.6
	SNR=19						
FAQ	Al Faqa, Dubai	4.96	281	P	Pn	19 23 27.2	+0.3
	SNR=12						
FAQ				S	Sn	19 24 23.7	+0.6
FAQ	Al Faqa, Dubai	4.96	281	i P	Pn	19 23 30.3	+3.4
	SNR=12						
DQM	DQM	5.07	219	P	Pn	19 23 28.6	+0.3
DQM				S	Sn	19 24 25.5	-0.1
ASUD	Al Ashush, Dub	5.18	279	P	Pn	19 23 30.2	+0.3
	SNR=9.1						
ASUD				S	Sn	19 24 28.9	+0.4
ASUD	Al Ashush, Dub	5.18	279	i P	Pn	19 23 33.3	+3.5
	SNR=9.1						
UMZA	Um Al Zommool	5.46	259	P	Pn	19 23 33.7	+0.1
UMZA				S	Sn	19 24 35.6	+0.4
MZR	Muzera	6.92	264	P	Pn	19 23 53.8	0.0
MZR				S	Sn	19 25 10.2	-1.2
DOK	Doka	8.25	232	P	Pn	19 24 12.5	+0.4
	SNR=19						
DOK				S	Sn	19 25 41.5	-2.7
RBK	Rabkut	8.97	226	P	Pn	19 24 22.6	+0.6
WHFO	Wadi Hawf	8.97	230	P	Pn	19 24 22.0	+0.1
	SNR=18						

*NEIC **02** 19:23:47.3±1.5, 4°.50N±0°.08×95°.02E±0°.03, h53km±10km, mb4.2/12, Error ellipse: s-maj=12.0km s-min=3.9km az=171.0*
*IDC **02** 19:23:49.0±4.2, 4°.62N×95°.13E, h75km±38km, mb3.6/9, mb1 3.7/10, mb1mx3.3/69, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=41.0km s-min=16.4km az=59.0*
*DJA **02** 19:23:50.8±0.9, 4°N±3°×9°5E±1°0, h98km±15km, M4.1/11, mb4.0/9, mB4.5/2, MLv4.1/11, Mw(mB)3.6/2*
ISC 02 19:23:45.5±0.7**, 4°.48N**±0°.07×**94°.94E**±0°.08**, h48km, n43, σ1.s30**/44**, mb4.2**/15**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.13	69		Pn	19 24 20.1	+1.5
LHMI	Lhok Sumawe	2.13	69	P	Pn	19 24 20.3	+1.6
LHMI				S	Sn	19 24 45.2	+1.2
KCSI	Kotacane, Aceh	2.98	108	P	Pn	19 24 32.0	+1.7
KCSI				S	Sn	19 25 02.0	-2.8
TSI	Tuntungan	3.74	105	P	Pn	19 24 40.7	-0.1
GSI	Gunungsitoli	4.10	140	Pn	Pn	19 24 45.7	-0.1
GSI	Gunungsitoli	4.10	140	P	Pn	19 24 45.7	-0.1
PSI	Prapat	4.31	113	P	Pn	19 24 51.1	+2.4
	3.3nm,0.3s,baz=322,slow=15,SNR=4.4						
PSI				S	Sn	19 25 40.5	+2.8
	2.8nm,0.3s,baz=322,slow=21,SNR=1.9						
RPSI	Rantau Prapat	4.35	114		Sn	19 25 40.5	+1.9
KULM	Kulim	5.74	82		Pn	19 25 08.9	+0.6
KULM					Sn	19 26 11.0	-2.0
IPM	Ipoh	6.06	90		Pn	19 25 13.3	+0.6
SRIT	Nakonsritamara	6.18	48	Pn	Pn	19 25 14.5	+0.2
SISI	Saibi	7.10	144	P	Pn	19 25 27.2	+0.3
	0.4nm527nm9.4nm,1.4s						
BKNI	Bangkinang	7.35	124	P	Pn	19 25 29.4	-1.0
	0.3nm44nm,0.6s						
PPSI	Pulau Pagai	8.79	145	P	Pn	19 25 51.1	+1.0
	45nm,0.8s						
KRJI	Kerinci	9.22	135	P	Pn	19 25 56.0	-0.1
	56nm,0.7s						
MDSI	Maura Dua	12.82	134	P	Pn	19 26 42.3	-2.9
	3.3nm,0.9s						
CMAR	Chiang Mai Arr	14.44	15	P	P	19 27 11.7	-1.2
	0.4nm,0.3s,baz=209,slow=11,SNR=25						
CMAR	Chiang Mai Arr	14.44	15	P	P	19 27 11.4	-1.5
H08S2	Diego Garcia H	25.43	242	T	T	19 55 13.7	
	baz=62,slow=76,SNR=20						
H08S3	Diego Garcia H	25.43	242	T	T	19 55 16.3	
	baz=62,slow=76,SNR=13						
H08S1	Diego Carcia H	25.45	242	T	T	19 55 15.1	
	baz=62,slow=76,SNR=4.3						
TARG	Taragay, Kyrgy	40.13	340	P	P	19 31 18.3	+1.0
TARG				IAmb	IAmb	19 31 19.2	
	comp=Z,4.3nm,0.9s						
GAR	Garm	40.99	330	P	P	19 31 25.7	+1.6
GAR				IAmb	IAmb	19 31 33.2	
	comp=Z,5.9nm,1.2s						
AAK	Ala-Archa	42.13	337	P	P	19 31 35.3	+1.9
	comp=Z,0.5nm,0.3s,baz=151,slow=13,SNR=4.2						
AAK	Ala-Archa	42.13	337	P	P	19 31 34.4	+1.0
MK31	Makanchi Array	43.56	347	P	P	19 31 44.0	-0.7
MK31				IAmb	IAmb	19 31 45.1	
	comp=Z,1.2nm,0.8s						
MKAR	Makanchi Array	43.56	347	P	P	19 31 44.2	-0.5
	comp=Z,0.9nm,0.3s,baz=167,slow=7.5,SNR=23						
MKAR	Makanchi Array	43.56	347	P	P	19 31 43.9	-0.8
KKAR	Karatay Array	44.14	334	P	P	19 31 50.2	+0.7
SONM	Songino Array	44.30	11	P	P	19 31 49.8	-1.1
	comp=Z,0.3nm,0.6s,baz=180,slow=9.5,SNR=3.0						
WB0	Warramunga Arr	45.65	123	P	P	19 32 01.6	-0.2
WRA	Warramunga Arr	45.69	123	P	P	19 32 02.2	+0.1
	comp=Z,0.9nm,0.8s,baz=302,slow=9.1,SNR=11						
WRA	Warramunga Arr	45.69	123	P	P	19 32 01.9	-0.2
WRAB	Tennant Creek	45.70	123	P	P	19 32 01.9	-0.3
WB2	Warramunga Arr	45.70	123	P	P	19 32 02.1	-0.1
WB2				IAmb	IAmb	19 32 21.9	
	comp=Z,3.5nm,0.8s						
WR0	Warramunga Arr	45.87	123	P	P	19 32 04.0	+0.5
WR0				IAmb	IAmb	19 32 22.9	
	comp=Z,3.7nm,0.8s						
AS31	Alice Springs	47.17	128	P	P	19 32 13.8	+0.1
ASAR	Alice Springs	47.17	128	P	P	19 32 14.1	+0.4
	comp=Z,0.4nm,0.5s,baz=299,slow=7.7,SNR=19						
ZAA0	Zalesovo Array	50.01	352	P	P	19 32 34.0	-0.9
ZAA0				IAmb	IAmb	19 32 35.7	
	comp=Z,2.5nm,1.0s						
ZALV	Zalesovo Beam	50.01	352	P	P	19 32 33.9	-1.0
	comp=Z,0.9nm,0.3s,baz=168,slow=7.9,SNR=8.8						
BOSA	Boshof	74.49	239	P	P	19 35 21.1	+1.4
	comp=Z,2.8nm,1.2s,baz=76,slow=8.3,SNR=1.5						
FINES	FINESS Array B	76.07	332	P	P	19 35 27.8	0.0
	comp=Z,3.3nm,0.9s,baz=111,slow=8.4,SNR=4.3						
ARCES	ARCESS Array B	78.71	340	P	P	19 35 42.6	+0.1
	comp=Z,3.4nm,1.0s,baz=98,slow=6.7,SNR=7.8						

*IDC **02** 19:26:11.2±0.9, 4°.63S×94°.25E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.8/68, mbtmp4.0/18, ML4.5/1, Error ellipse: s-maj=29.8km s-min=19.6km az=46.0*
*DJA **02** 19:26:14.4±3.3, 4°S±14°×9°4E±2°6, h10km, M4.8/13, mb4.8/13, mB5.2/6, MLv4.8/7, Mw(mB)4.6/6, MwMwp6.0/2, Mwp6.0/2*
*NEIC **02** 19:26:14.7±1.4, 4°.5S±0°.1×94°.3E±0°.2, h16km±5km, mb4.4/17, Error ellipse: s-maj=22.9km s-min=20.1km az=75.0*
ISC 02 19:26:12.8±0.8**, 4°.6S**±0°.1×**94°.29E**±0°.09**, h10km, n55, σ0.s87**/52**, mb4.2**/24**, 1D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISI	Saibi	5.78	56	P	Pn	19 27 38.5	-0.3
	0.4nm1μm75nm,0.5s						
PPSI	Pulau Pagai	5.99	73	P	Pn	19 27 40.3	-1.3
	0.4nm132nm,0.8s						
GSI	Gunungsitoli	6.71	29		Pn	19 27 49.6	-1.9
GSI	Gunungsitoli	6.71	29	P	Pn	19 27 49.7	-1.8
	0.3nm85nm,0.7s						
PPI	Padang Panjang	7.35	56	P	Pn	19 28 00.1	-0.2
	795nm73nm,0.7s						
KRJI	Kerinci	7.57	71	P	Pn	19 28 03.8	+0.3
	0.6nm82μm2μm148nm,0.8s						
MASI	Maura Aman, Be	8.06	80	P	Pn	19 28 09.6	-0.5
	0.2nm66μm47nm,0.7s						
BKNI	Bangkinang	8.32	54	P	Pn	19 28 13.0	-0.7
	92nm,0.7s						
KSI	Kapahiang	8.33	84	P	Pn	19 28 13.7	-0.2
LHSI	Lahat	9.24	86	P	Pn	19 28 26.0	-0.2
	2μm70nm,0.9s						
MDSI	Maura Dua	9.86	90	P	Pn	19 28 34.1	-0.6
	5.2nm,0.8s						
KASI	Kota Agung	10.21	96	P	Pn	19 28 40.0	+0.5
	15nm,0.6s						
IPM	Ipoh	11.24	37		Pn	19 28 54.6	+0.9
KULM	Kulim	11.69	33		Pn	19 28 59.9	+0.1
PALK	Pallekele	17.96	311	P	Pn	19 30 23.7	+0.7
	1.6nm,0.3s,baz=101,slow=5.2,SNR=8.3						
PALK	Pallekele	17.96	311	IAmb	IAmb	19 30 26.7	
	comp=Z,18nm,1.1s						
MTKI	Muara Teweh, K	20.89	81	P	P	19 30 56.4	+0.8
CM31	Chiang Mai Arr	23.35	11	P	P	19 31 19.7	-1.9
CM31				IAmb	IAmb	19 31 32.9	
	comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	23.35	11	P	P	19 31 22.6	+1.0
	comp=Z,4.0nm,0.8s,baz=201,slow=8.6,SNR=25						
CMAR	Chiang Mai Arr	23.35	11	P	P	19 31 21.4	-0.2
CHTO	Chiang Mai	23.70	11	P	P	19 31 24.8	-0.3
CD2	Chengdu	36.44	14	P	P	19 33 18.6	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GOMU	GeErMu	40.58	1	P	P	19 33 54.4	+1.3
GOMU				pP	sP	19 33 58.2	+2.9
GOMU				sP	pwP	19 34 02.0	+0.8
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,70nm,4.4s						
WRA	Warramunga Arr	41.85	115	P	P	19 34 03.6	+0.1
	comp=Z,0.7nm,0.9s,baz=288,slow=8.9,SNR=4.2						
ASAR	Alice Springs	42.62	120	P	P	19 34 08.7	-1.0
	comp=Z,0.6nm,1.0s,baz=305,slow=6.7,SNR=3.5						
GTA	Gaotai	44.08	6	⇓P	P	19 34 22.1	+0.8
GTA				pP	sP	19 34 26.8	+3.3
GTA				sP	pwP	19 34 30.0	+0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GAR	Garm	48.70	335	P	P	19 34 57.5	-0.2
GAR				IAmb	IAmb	19 34 58.1	
	comp=Z,11nm,1.3s						
AAK	Ala-Archa	50.32	341	P	P	19 35 12.0	+1.9
	comp=Z,0.5nm,0.5s,baz=198,slow=4.5,SNR=2.0						
MK31	Makanchi Array	52.25	350	P	P	19 35 22.8	-1.5
MKAR	Makanchi Array	52.25	350	P	P	19 35 24.1	-0.2
	comp=Z,1.0nm,0.8s,baz=163,slow=8.7,SNR=11						
MKAR	Makanchi Array	52.25	350	P	P	19 35 23.8	-0.5
SONM	Songino Array	53.27	10	P	P	19 35 32.7	+0.7
	comp=Z,1.5nm,0.7s,baz=190,slow=9.0,SNR=13						
SONM	Songino Array	53.27	10	P	P	19 35 32.2	+0.2
GEYT	Alibeck	54.01	325	P	P	19 35 36.6	-0.8
KURBB	Kurchatov Arra	56.64	348	P	P	19 35 55.0	-1.1
	comp=Z,0.6nm,0.3s,baz=172,slow=7.3,SNR=6.6						
KURK	Kurchatov	56.71	348	P	P	19 35 55.0	-1.6
KURK	Kurchatov	56.71	348	IAmb	IAmb	19 36 05.5	
	comp=Z,2.3nm,0.8s						
ZAA0	Zalesovo Array	58.86	353	P	P	19 36 10.8	-0.8
ZALV	Zalesovo Beam	58.86	353	P	P	19 36 11.2	-0.5
	comp=Z,5.8nm,0.6s,baz=182,slow=6.0,SNR=31						
ZALV	Zalesovo Beam	58.86	353	P	P	19 36 10.8	-0.8
BVAR	Borovoye Array	60.84	344	P	P	19 36 24.4	-0.9
	comp=Z,0.7nm,0.8s,baz=104,slow=12,SNR=2.4						
ABKAR	Akbulak array	61.37	335	P	P	19 36 28.9	0.0
ABKAR	Akbulak array	61.37	335	P	P	19 36 29.1	+0.2
AKTO	Aktyubinsk	63.07	335	P	P	19 36 40.8	+0.4
	comp=Z,1.1nm,0.7s,baz=150,slow=8.1,SNR=2.7						
LSZ	Lusaka	65.76	255	P	P	19 36 58.8	0.0
	comp=Z,0.7nm,0.3s,baz=74,slow=7.4,SNR=1.4						
ARU	Arti	67.45	339	P	P	19 37 08.0	-0.6
	comp=Z,0.6nm,0.6s,baz=170,slow=6.1,SNR=3.9						
BELG	Belogornoye	69.12	332	P	P	19 37 17.9	-1.2
	comp=Z,7.6nm,1.1s,baz=107,slow=14,SNR=2.8						
NRIK	Noril'sk	73.92	358	P	P	19 37 47.7	-0.1
NRIK				IAmb	IAmb	19 37 57.6	
	comp=Z,3.4nm,0.9s						
AKASG	Malin Array Be	78.12	324	P	P	19 38 11.9	-0.2
	comp=Z,0.1nm,0.3s,baz=95,slow=4.4,SNR=5.3						
AKASG	Malin Array Be	78.12	324	IAmb	IAmb	19 38 21.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.4nm,1.1s						
MLR	**Muntele Rosu**	**78.33**	**318**	P	**P**	**19 38 14.2**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=107,slow=3.7,SNR=6.2						
MLR	**Muntele Rosu**	**78.33**	**318**	IAmb	IAmb	19 38 15.2	
	comp=Z,3.4nm,0.9s						
SEY	**Seymchan**	**80.19**	**23**	P	**P**	**19 38 23.1**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=251,slow=13,SNR=3.9						
FINES	**FINESS Array B**	**83.80**	**333**	P	**P**	**19 38 42.4**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=76,slow=5.9,SNR=3.4						
TXAR	**Lajitas Array**	**150.08**	**33**	PKPbc	**PKPbc**	**19 46 05.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=11,slow=1.9,SNR=3.9						
TXAR				PKPab	**pPKPab**	**19 46 12.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=291,slow=0.8,SNR=7.2						

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*IDC **02** 19:29:54.8±2.2, 61°.10N×152°.08W, h70km±24km, mb3.2/4, mb1 3.4/7, mb1mx3.1/63, mbtmp3.3/7, Error ellipse: s-maj=25.7km s-min=16.6km az=101.0*
*NEIC **02** 19:29:56.0±1.3, 61°.14N±0°.04×151°.90W±0°.07, h98km±4km, Error ellipse: s-maj=5.5km s-min=4.6km az=135.0*
*AEIC **02** 19:29:57±1.2, 61°.16N±0°.03×151°.83W±0°.07, h93km±4km, ML2.9, ML3.1/138(NEIC), Error ellipse: s-maj=5.4km s-min=4.5km az=137.0*
ISC 02 19:29:56.8±0.8**, 61°.14N**±0°.03×**151°.82W**±0°.03**, h99**km±5km**, n152,** σ1s.**24**/134**, mb3.4**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPU	**Mount Spurr**	**0.12**	**292**		**Pn**	**19 30 09.6**	**-1.1**
SPCG	**Spurr Capps Gl**	**0.18**	**329**		**Pn**	**19 30 09.8**	**-1.1**
SPCG					**Sn**	**19 30 20.0**	**-1.4**
SPCN	**Chakachatna No**	**0.20**	**297**		**Pn**	**19 30 10.0**	**-0.9**
SPBG	**Spurr Blockage**	**0.29**	**295**		**Pn**	**19 30 10.3**	**-1.0**
SPBG					**Sn**	**19 30 21.1**	**-1.0**
STLK	**Strandline Lak**	**0.36**	**359**		**Pn**	**19 30 10.6**	**-1.1**
CAPN	**Captain Cook N**	**0.49**	**138**		**Pn**	**19 30 13.3**	**+1.0**
CAPN	**Captain Cook N**	**0.49**	**138**	IAML		19 30 21.1	
	comp=E,603nm,0.4s						
CAPN				IAML		19 30 24.4	
	comp=N,527nm,0.5s						
RDT	**Redoubt**	**0.63**	**207**		**Pn**	**19 30 12.6**	**-1.0**
DFR	**Drift River**	**0.69**	**218**		**Pn**	**19 30 13.1**	**-1.0**
DFR					**Sn**	**19 30 25.9**	**-1.1**
RDJH	**Redoubt Jeurge**	**0.73**	**222**		**Pn**	**19 30 13.6**	**-0.9**
RDJH					**Sn**	**19 30 26.7**	**-1.0**
FIS	**Fire Island**	**0.78**	**89**		**Pn**	**19 30 15.5**	**+0.7**
FIS	**Fire Island**	**0.78**	**89**	IAML		19 30 31.3	
	comp=N,1µm,0.4s						
FIS				IAML		19 30 34.0	
	comp=E,914nm,0.4s						
RSO	**Redoubt South**	**0.82**	**214**		**Pn**	**19 30 14.5**	**-0.9**
RDWB	**Redoubt West**	**0.82**	**218**		**Pn**	**19 30 14.4**	**-1.0**
RDWB					**Sn**	**19 30 28.1**	**-1.2**
RED	**Redoubt Volcan**	**0.86**	**213**		**Pn**	**19 30 14.8**	**-0.8**
RED					**Sn**	**19 30 28.9**	**-1.0**
SLKM	**Skilak Lake**	**1.01**	**128**		**Pn**	**19 30 16.6**	**-0.6**
SLKM					**Sn**	**19 30 32.1**	**-0.5**
RC01	**Rabbit Creek A**	**1.01**	**92**		**Pn**	**19 30 16.8**	**-0.4**
RC01					**Sn**	**19 30 32.5**	**-0.1**
RC01	**Rabbit Creek A**	**1.01**	**92**	IAML		19 30 32.8	
	comp=N,625nm,0.4s						
RC01				IAML		19 30 33.6	
	comp=E,713nm,0.4s						
M22K	**Willow**	**1.03**	**52**		**Pn**	**19 30 17.2**	**-0.1**
M22K					**Sn**	**19 30 33.1**	**+0.3**
O20K	**Slope Mountain**	**1.13**	**201**		**Pn**	**19 30 18.3**	**-0.3**
O22K	**Cooper Landing**	**1.22**	**122**		**Pn**	**19 30 19.2**	**-0.3**
O22K					**Sn**	**19 30 36.1**	**-0.6**
N19K	**Bonanza Creek**	**1.34**	**257**		**Pn**	**19 30 20.3**	**-0.8**
N19K	**Bonanza Creek**	**1.34**	**257**	IAML		19 30 39.0	
	comp=N,189nm,0.8s						
PMR	**Palmer**	**1.38**	**69**		**Pn**	**19 30 20.3**	**-1.0**
PMR					**Sn**	**19 30 38.5**	**-1.4**
PMR	**Palmer**	**1.38**	**69**	IAML		19 30 40.6	
	comp=N,264nm,0.2s						
PMR				IAML		19 30 43.0	
	comp=E,193nm,0.3s						
M19K	**Big River Lodg**	**1.45**	**303**		**Pn**	**19 30 21.8**	**-0.5**
M19K	**Big River Lodg**	**1.45**	**303**	IAML		19 30 41.6	
	comp=E,137nm,0.8s						
BRLK	**Bradley Lake**	**1.45**	**161**		**Pn**	**19 30 21.6**	**-0.8**
BRLK	**Bradley Lake**	**1.45**	**161**	IAML		19 30 42.0	
	comp=N,300nm,0.2s						
BRLK				IAML		19 30 44.5	
	comp=E,214nm,0.2s						
CUT	**Chulitna**	**1.47**	**29**		**Pn**	**19 30 22.4**	**-0.2**
BRSE	**Bradley Lake S**	**1.50**	**159**		**Pn**	**19 30 22.2**	**-0.8**
BRSE					**Sn**	**19 30 41.7**	**-1.0**
GHO	**Glory Hole Cre**	**1.53**	**64**		**Pn**	**19 30 22.5**	**-0.9**
GHO	**Glory Hole Cre**	**1.53**	**64**	IAML		19 30 49.4	
	comp=N,253nm,0.5s						
O19K	**Port Alsworth**	**1.55**	**234**		**Pn**	**19 30 22.8**	**-0.7**
O19K	**Port Alsworth**	**1.55**	**234**	IAML		19 30 45.9	
	comp=N,212nm,0.5s						
O19K				IAML		19 30 46.6	
	comp=E,167nm,0.5s						
SEW	**Seward**	**1.56**	**131**		**Pn**	**19 30 22.5**	**-1.1**
CNPM	**China Poot**	**1.64**	**170**		**Pn**	**19 30 24.2**	**-0.5**
CNPM	**China Poot**	**1.64**	**170**	IAML		19 30 45.7	
	comp=E,193nm,0.4s						
CNPM				IAML		19 30 47.6	
	comp=N,191nm,0.3s						
OPT	**Oil Point**	**1.65**	**206**		**Pn**	**19 30 24.7**	**-0.1**
P19K	**Oil Pt**	**1.65**	**206**		**Pn**	**19 30 24.7**	**-0.1**
P19K	**Oil Pt**	**1.65**	**206**	IAML		19 30 48.7	
	comp=E,254nm,0.5s						
P19K				IAML		19 30 49.7	
	comp=N,218nm,0.6s						
KNK	**Knik Glacier**	**1.65**	**79**		**Pn**	**19 30 23.9**	**-1.0**
KNK	**Knik Glacier**	**1.65**	**79**	IAML		19 30 46.1	
	comp=E,274nm,0.4s						
L20K	**Farewell, AK**	**1.66**	**325**		**Pn**	**19 30 24.1**	**-0.9**
PWL	**Port Wells**	**1.72**	**98**		**Pn**	**19 30 24.3**	**-1.4**
PPLA	**Purkeypile**	**1.77**	**355**		**Pn**	**19 30 25.9**	**-0.6**
L19K	**White Mountain**	**1.79**	**307**		**Pn**	**19 30 25.9**	**-0.6**
L19K	**White Mountain**	**1.79**	**307**	IAML		19 30 49.6	
	comp=E,95nm,1.0s						
SML	**Sawmill**	**1.81**	**67**		**Pn**	**19 30 25.6**	**-1.2**
SML	**Sawmill**	**1.81**	**67**	IAML		19 30 49.1	
	comp=N,200nm,0.8s						
SML				IAML		19 30 50.0	
	comp=E,193nm,0.8s						
SVW2	**Sparrevohn**	**1.82**	**270**		**Pn**	**19 30 26.0**	**-1.0**
AU22	**Augustine Moun**	**1.93**	**204**		**Pn**	**19 30 28.4**	**0.0**
AUL	**Augustine Lava**	**1.94**	**205**		**Pn**	**19 30 28.6**	**+0.2**
O18K	**Koktuh Hills**	**2.11**	**234**		**Pn**	**19 30 30.1**	**-0.6**
SCM	**Sheep Creek Mo**	**2.27**	**70**		**Pn**	**19 30 31.6**	**-1.2**
SCM	**Sheep Creek Mo**	**2.27**	**70**	IAML		19 31 02.9	
	comp=N,160nm,0.5s						
CAST	**Castle Rocks**	**2.29**	**357**		**Pn**	**19 30 32.2**	**-0.9**
GLI	**Glacier Island**	**2.32**	**94**		**Pn**	**19 30 31.1**	**-2.3**
WAT6	**Susitna Watana**	**2.42**	**51**		**Pn**	**19 30 34.0**	**-0.9**
TRF	**Thorofare Moun**	**2.43**	**16**		**Pn**	**19 30 34.3**	**-0.7**
TRF	**Thorofare Moun**	**2.43**	**16**	IAML		19 31 06.2	
	comp=N,65nm,0.7s						
P18K	**Big Mountain,**	**2.44**	**226**		**Pn**	**19 30 34.7**	**-0.3**
KTH	**Kantishna Hill**	**2.46**	**9**		**Pn**	**19 30 34.6**	**-0.8**
K20K	**Telida**	**2.46**	**336**		**Pn**	**19 30 34.6**	**-0.7**
JPK	**Jack Peak**	**2.54**	**90**		**Pn**	**19 30 34.6**	**-1.7**
FID	**Port Fidalgo**	**2.64**	**96**		**Pn**	**19 30 34.9**	**-2.8**
VMT	**TAPS Tl Valdez**	**2.65**	**89**		**Pn**	**19 30 36.3**	**-1.4**
TT01	**Tatalina**	**2.66**	**314**		**Pn**	**19 30 37.0**	**-0.8**
RND	**Reindeer**	**2.67**	**30**		**Pn**	**19 30 37.5**	**-0.6**
TTA	**Tatalina**	**2.67**	**314**		**Pn**	**19 30 37.0**	**-1.1**
CHUM	**Lake Minchumin**	**2.77**	**355**		**Pn**	**19 30 38.5**	**-0.7**
DHY	**Denali Highway**	**2.86**	**45**		**Pn**	**19 30 40.0**	**-0.6**
DHY	**Denali Highway**	**2.86**	**45**	IAML		19 31 13.9	
	comp=E,78nm,0.4s						
DHY				IAML		19 31 16.6	
	comp=N,73nm,0.4s						
KLU	**Klutina**	**2.87**	**80**		**Pn**	**19 30 39.2**	**-1.5**
KLU	**Klutina**	**2.87**	**80**	IAML		19 31 14.3	
	comp=E,108nm,0.4s						
M24K	**Tolsona, Glenn**	**2.87**	**68**		**Pn**	**19 30 40.5**	**-0.3**
MCK	**McKinley**	**2.93**	**26**		**Pn**	**19 30 41.2**	**-0.4**
DIV	**Divide**	**2.94**	**87**		**Pn**	**19 30 39.9**	**-1.7**
BPAW	**Bear Paw Mtn.**	**3.00**	**7**		**Pn**	**19 30 41.2**	**-1.3**
EYAK	**Cordova Ski Ar**	**3.03**	**99**		**Pn**	**19 30 40.7**	**-2.1**
PS11	**TAPS Pump St11**	**3.18**	**70**		**Pn**	**19 30 44.5**	**-0.3**
J20K	**Nowinta River**	**3.23**	**342**		**Pn**	**19 30 44.5**	**-1.0**
KDAK	**Kodiak Island**	**3.39**	**187**	P	**Pn**	**19 30 45.6**	**-2.0**
	comp=E,0.6nm,0.3s,baz=61,slow=9.8,SNR=20						
KDAK				S	**Sn**	**19 31 23.1**	**-3.7**
	comp=E,1.9nm,0.3s,baz=207,slow=19,SNR=10						
KDAK	**Kodiak Island**	**3.39**	**187**		**Pn**	**19 30 46.2**	**-1.4**
KDAK	**Kodiak Island**	**3.39**	**187**	IAML		19 31 29.2	
	comp=E,48nm,4.0s						
KDAK				IAML		19 32 21.8	
	comp=E,44nm,2.8s						
HARP	**HAARP**	**3.41**	**65**		**Pn**	**19 30 47.8**	**-0.2**
N25K	**Chitina, Valde**	**3.51**	**79**		**Pn**	**19 30 47.8**	**-1.5**
N25K	**Chitina, Valde**	**3.51**	**79**	IAML		19 31 29.8	
	comp=E,44nm,0.7s						
N25K				IAML		19 31 31.6	
	comp=N,36nm,0.4s						
PAX	**Paxson**	**3.51**	**56**		**Pn**	**19 30 49.0**	**-0.3**
BMRM	**Bremner River**	**3.51**	**90**		**Pn**	**19 30 47.5**	**-1.9**
BMRM	**Bremner River**	**3.51**	**90**	IAML		19 31 35.0	
	comp=N,58nm,0.5s						
GOAT	**Goat Mountain**	**3.52**	**96**		**Pn**	**19 30 47.3**	**-2.1**
RAGM	**Ragged Mountai**	**3.59**	**99**		**Pn**	**19 30 47.9**	**-2.4**
NEA2	**Nenana**	**3.69**	**19**		**Pn**	**19 30 49.7**	**-2.0**
WRH	**Wood River Hil**	**3.76**	**25**		**Pn**	**19 30 51.3**	**-1.3**
HMT	**Hamilton**	**3.80**	**99**		**Pn**	**19 30 50.8**	**-2.4**
GLB	**Gilahina Butte**	**3.88**	**82**		**Pn**	**19 30 52.8**	**-1.5**
GLB	**Gilahina Butte**	**3.88**	**82**	IAML		19 31 37.3	
	comp=E,35nm,0.5s						
GLB				IAML		19 31 40.1	
	comp=N,35nm,0.4s						
MLY	**Manley**	**3.94**	**7**		**Pn**	**19 30 54.3**	**-0.7**
MLY	**Manley**	**3.94**	**7**	IAML		19 32 00.8	
	comp=E,15nm,4.9s						
MLY				IAML		19 32 04.7	
	comp=N,14nm,4.6s						
CCB	**Clear Creek Bu**	**3.97**	**26**		**Pn**	**19 30 54.3**	**-1.2**
CCB	**Clear Creek Bu**	**3.97**	**26**	IAML		19 32 12.2	
	comp=E,14nm,4.6s						
HDA	**Harding Lake**	**3.98**	**32**		**Pn**	**19 30 54.1**	**-1.4**
HDA	**Harding Lake**	**3.98**	**32**	IAML		19 31 40.2	
	comp=N,21nm,0.4s						
HDA				IAML		19 31 41.4	
	comp=E,24nm,0.3s						
VRDI	**Verde Repeater**	**4.05**	**85**		**Pn**	**19 30 54.9**	**-1.9**
VRDI	**Verde Repeater**	**4.05**	**85**	IAML		19 31 43.5	
	comp=E,16nm,0.6s						
VRDI				IAML		19 31 44.7	
	comp=N,21nm,0.6s						
I21K	**Tanana**	**4.06**	**359**		**Pn**	**19 30 56.2**	**-0.4**
I21K				IAML		19 31 43.0	
	comp=E,18nm,4.8s						
I21K				IAML		19 32 43.1	
	comp=N,18nm,3.8s						
RIDG	**Independent Ri**	**4.16**	**48**		**Pn**	**19 30 58.5**	**+0.4**
RIDG	**Independent Ri**	**4.16**	**48**	IAML		19 31 57.6	
	comp=N,33nm,0.9s						
RIDG				IAML		19 31 58.4	
	comp=E,42nm,0.7s						
MDM	**Murphy Dome**	**4.17**	**22**		**Pn**	**19 30 56.9**	**-1.3**
MDM	**Murphy Dome**	**4.17**	**22**	IAML		19 32 35.9	
	comp=N,12nm,4.8s						
MDM				IAML		19 33 07.1	
	comp=E,16nm,4.5s						
I23K	**Minto, Yukon-K**	**4.18**	**14**		**Pn**	**19 30 58.0**	**-0.2**
I23K				IAML		19 32 58.9	
	comp=N,13nm,5.0s						
MENT	**Mentasta**	**4.22**	**61**		**Pn**	**19 30 58.2**	**-0.6**
MENT				IAML		19 32 01.8	
	comp=N,28nm,0.3s						
MENT				IAML		19 32 07.4	
	comp=E,39nm,0.6s						
MCARA	**McCarthy VSAT**	**4.26**	**83**		**Pn**	**19 30 59.5**	**+0.2**
KHIT	**Khitrov Hills**	**4.26**	**96**		**Pn**	**19 30 57.0**	**-2.4**
IL31		**4.29**	**30**		**Pn**	**19 30 58.8**	**-0.8**
ILAR	**Eielson Array**	**4.29**	**30**	P	**Pn**	**19 30 58.7**	**-1.0**
	comp=E,0.9nm,0.3s,baz=206,slow=14,SNR=31						
ILAR				S	**Sn**	**19 31 44.4**	**-4.2**
	comp=E,1.2nm,0.3s,baz=222,slow=21,SNR=4.3						
DOT	**Dot Lake**	**4.40**	**52**		**Pn**	**19 31 00.8**	**-0.5**
L26K	**Log Cabin Wild**	**4.41**	**61**		**Pn**	**19 31 01.2**	**-0.2**
L26K				IAML		19 32 07.7	
	comp=N,26nm,0.4s						
L26K				IAML		19 32 07.9	
	comp=E,30nm,0.4s						
WAX	**Waxell Ridge**	**4.45**	**95**	Pn	**Pn**	**19 30 59.8**	**-2.2**
POKR	**Poker Plat Res**	**4.46**	**25**	Pn	**Pn**	**19 31 01.5**	**-0.6**
POKR				IAML		19 31 59.5	
	comp=E,14nm,4.0s						
POKR				IAML		19 32 30.4	
	comp=N,14nm,4.6s						
SNH	**Sunshine Point**	**4.52**	**98**	Pn	**Pn**	**19 31 02.7**	**-0.3**
PTPK	**Patty Peak**	**4.53**	**85**		**Pn**	**19 31 02.5**	**-0.8**
H21K	**Melozitna Rive**	**4.56**	**355**		**Pn**	**19 31 02.4**	**-1.0**
H21K				IAML		19 33 09.5	
	comp=E,10nm,4.9s						
H21K				IAML		19 34 06.7	
	comp=N,14nm,4.8s						
J25K	**Salcha River,**	**4.57**	**37**		**Pn**	**19 31 03.0**	**-0.6**
J25K	**Salcha River,**	**4.57**	**37**	IAML		19 32 39.0	
	comp=E,16nm,4.8s						
J25K				IAML		19 32 56.5	
	comp=N,15nm,4.5s						
BALM	**Baldy**	**4.60**	**87**		**Pn**	**19 31 02.6**	**-1.5**
KIAG	**Kiagna River**	**4.61**	**89**		**Pn**	**19 31 02.6**	**-1.7**
SCRK	**Sand Creek**	**4.61**	**48**		**Pn**	**19 31 03.6**	**-0.6**
SCRK	**Sand Creek**	**4.61**	**48**	IAML		19 32 14.4	
	comp=N,15nm,3.5s						
SCRK				IAML		19 32 33.5	
	comp=E,14nm,4.7s						
ISLE	**Juniper Island**	**4.67**	**92**		**Pn**	**19 31 03.4**	**-1.6**
BAGL	**Bagley Icefiel**	**4.81**	**93**		**Pn**	**19 31 06.5**	**-0.3**
M27K	**Edge Creek, AK**	**4.88**	**71**	Pn	**Pn**	**19 31 07.8**	**-0.1**
M27K				IAML		19 31 46.7	
	comp=E,16nm,4.9s						
M27K				IAML		19 33 48.2	
	comp=N,17nm,5.0s						
BARN	**Barnard Glacie**	**4.93**	**86**		**Pn**	**19 31 07.3**	**-1.3**
BARN	**Barnard Glacie**	**4.93**	**86**	IAML		19 32 06.0	
	comp=N,18nm,0.5s						
IM03		**4.94**	**351**		**Pn**	**19 31 07.5**	**-1.1**
L27K	**Beaver Creek,**	**5.08**	**63**	Pn	**Pn**	**19 31 10.1**	**-0.4**
L27K				IAML		19 31 58.7	
	comp=E,8.5nm,4.2s						
L27K				IAML		19 33 11.6	
	comp=N,10nm,4.4s						
BC03		**5.10**	**63**		**Pn**	**19 31 09.8**	**-0.8**
BCAR	**Beaver Creek A**	**5.10**	**63**	Pn	**Pn**	**19 31 10.4**	**-0.3**
CTGM	**Chitina Glacie**	**5.10**	**87**		**Pn**	**19 31 09.6**	**-1.2**
CTGM	**Chitina Glacie**	**5.10**	**87**	IAML		19 32 01.2	
	comp=N,19nm,4.6s						
CTGM					**Sn**	**19 32 06.5**	**-2.0**
CTGM				IAML		19 32 09.3	
	comp=E,16nm,0.4s						
PRP	**Porcupine Dome**	**5.23**	**30**		**Pn**	**19 31 12.4**	**-0.2**
PRP	**Porcupine Dome**	**5.23**	**30**	IAML		19 32 13.7	
	comp=E,17nm,4.8s						
PRP				IAML		19 32 45.5	
	comp=N,11nm,3.8s						
LOGN	**Logan Glacier**	**5.28**	**89**	Pn	**Pn**	**19 31 12.2**	**-1.1**
TABL	**Table Mountain**	**5.28**	**93**		**Sn**	**19 32 11.7**	**-1.3**
YUK2	**White River**	**5.31**	**78**		**Pn**	**19 31 12.6**	**-1.0**
YUK3	**Moose Creek**	**5.49**	**78**		**Pn**	**19 31 15.2**	**-1.0**
YKA	**Yellowknife Ar**	**17.48**	**69**	P	**Pn**	**19 33 54.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=279,slow=10,SNR=8.3						
NVAR	**Mina Array Bea**	**30.80**	**122**	P	**P**	**19 36 05.5**	**+2.3**
	comp=N,0.7nm,0.8s,baz=303,slow=7.1,SNR=2.2						
PDAR	**Pinedale Array**	**31.13**	**107**	P	**P**	**19 36 07.5**	**+1.5**
	comp=N,0.2nm,0.3s,baz=341,slow=7.0,SNR=4.5						
TXAR	**Lajitas Array**	**44.86**	**113**	P	**P**	**19 38 02.3**	**+1.2**
	comp=N,0.3nm,0.7s,baz=359,slow=7.2,SNR=3.2						
SONM	**Songino Array**	**54.59**	**306**	P	**P**	**19 39 14.9**	**+0.3**
	comp=N,0.4nm,0.7s,baz=46,slow=8.3,SNR=3.9						

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*STR **02** 19:32:12.8±0.2, 43°N±2°×°±°, h11km±2km, MLv3.5/6, preliminary*
*LDG **02** 19:32:12.9±0.0, 42°.76N×1°.99E, h8km, Md3.7/2, Ml3.7/63, Error ellipse: s-maj=0.8km s-min=0.7km az=130.0*
*MRB **02** 19:32:13.1±0.4, 42°.76N×1°.98E, h9km±3km, ML3.3/18, Error ellipse: s-maj=1.6km s-min=1.4km az=254.0*
*INMG **02** 19:32:13.5±1.5, 42°.79N×1°.95E, h12km±5km, ML2.9, Error ellipse: s-maj=5.7km s-min=2.6km az=115.0*
*SFS **02** 19:32:14.0, 42°.75N×2°.03E, h14km, ML3.7, QUILLAN (FRANCIA)*
*MDD **02** 19:32:14.1±0.2, 42°.75N×2°.03E, h14km±3km, mb_Lg3.7/15, Error ellipse: s-maj=2.3km s-min=1.8km az=167.0*
ISC 02 19:32:11.6±0.9**, 42°.82N**±0°.01×**2°.00E**±0°.01**, h12**km±8km**, n153,** σ1s.**70**/276**, 9C-3D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNEB	**Nbias**	**0.12**	**41**	Pg	**Pb**	**19 32 16.5**	**+0.8**
FNEB				Sg	**Sb**	**19 32 19.2**	**+2.2**
FNEB	**Nbias**	**0.12**	**41**	⇓*i*P	**Pb**	**19 32 17.1**	**+1.3**
FNEB				S	**Sb**	**19 32 19.3**	**+2.2**
CLLI	**Llivia**	**0.34**	**184**	⇑*e*P	**Pg**	**19 32 18.7**	**+0.3**
CLLI				S	**Sg**	**19 32 23.0**	**-0.1**
PAND	**Andorre**	**0.45**	**229**	Pg	**Pg**	**19 32 20.7**	**+0.2**
PAND				Sg	**Sg**	**19 32 26.3**	**-0.2**
FILF	**Fillols**	**0.48**	**122**	*e*P	**Pg**	**19 32 20.1**	**-1.0**
FILF				S	**Sg**	**19 32 25.5**	**-2.0**
ARBS	**La Rabassa**	**0.50**	**222**	⇑*i*P	**Pg**	**19 32 22.1**	**+0.6**
ARBS				S	**Sg**	**19 32 28.4**	**+0.3**
	2µm,0.4s						
CBRU	**Bruguera**	**0.55**	**166**	⇑*i*P	**Pg**	**19 32 22.6**	**+0.3**
CBRU				S	**Sg**	**19 32 29.5**	**0.0**
	2µm,0.2s						
MTLF	**Montolieu**	**0.55**	**17**	*e*Pg	**Pb**	**19 32 23.8**	**+0.7**
MTLF	**Montolieu**	**0.55**	**17**	*e*Pn	**Pn**	**19 32 26.1**	**+0.9**
MTLF				*e*Sg	**Sb**	**19 32 31.7**	**+0.7**
	905nm,0.2s						
MTLF				*e*Sn	**Sn**	**19 32 35.3**	**+1.0**
	2µm,0.2s						
MTLF	**Montolieu**	**0.55**	**17**	Pg	**Pb**	**19 32 23.9**	**+0.7**
MTLF				Sg	**Sb**	**19 32 31.7**	**+0.7**
CEST	**Esterri de Car**	**0.59**	**249**	⇑*e*P	**Pg**	**19 32 23.5**	**+0.3**
MLS	**Moulis**	**0.68**	**282**	Pg	**Pb**	**19 32 25.6**	**+0.2**
MLS				Sg	**Sg**	**19 32 34.4**	**+0.5**
MLS	**Moulis**	**0.68**	**282**	⇑*e*P	**Pb**	**19 32 26.0**	**+0.5**
MLS				S	**Sb**	**19 32 35.3**	**+0.5**
	1µm,0.5s						
SJAF	**Saint Jean de**	**0.73**	**117**	P	**Pg**	**19 32 25.9**	**+0.2**
SJAF				Pg	**Pb**	**19 32 26.1**	**-0.1**
SJAF				Sg	**Sg**	**19 32 36.0**	**+0.8**
SJAF	**Saint Jean de**	**0.73**	**117**	*e*P	**Pg**	**19 32 25.8**	**+0.2**
SJAF				S	**Sg**	**19 32 36.0**	**+0.8**
	648nm,0.3s						
CBEU	**Beuda**	**0.75**	**138**	⇑*e*P	**Pg**	**19 32 26.5**	**+0.4**
CBEU				S	**Sg**	**19 32 36.5**	**+0.6**
	768nm,0.2s						
CORG	**Organya**	**0.78**	**221**	*e*P	**Pg**	**19 32 26.6**	**0.0**
CORG				S	**Sg**	**19 32 36.8**	**0.0**
CSOR	**Sort**	**0.78**	**236**	⇑*i*P	**Pg**	**19 32 26.7**	**0.0**
CSOR				S	**Sg**	**19 32 36.8**	**-0.1**
	648nm,0.4s						
CORI	**Orista**	**0.84**	**178**	*e*P	**Pg**	**19 32 28.0**	**+0.1**
CORI				S	**Sg**	**19 32 38.8**	**-0.1**
	733nm,0.2s						
CARA	**Val d'Aran**	**0.88**	**263**	⇓*e*P	**Pg**	**19 32 28.8**	**+0.2**
EMIR	**Miracle**	**0.97**	**202**	Pg	**Pb**	**19 32 30.0**	**-0.3**
EMIR				Sg	**Sg**	**19 32 42.5**	**-0.4**
EMIR	**Miracle**	**0.97**	**202**	Pg	**Pb**	**19 32 30.0**	**-0.3**
EMIR				Sg	**Sg**	**19 32 42.5**	**-0.4**
EMIR				*i* Vmb_Lg		19 32 47.6	
CPAL	**Palau Saverder**	**0.99**	**120**	P	**Pb**	**19 32 31.0**	**+0.3**
CPAL				S	**Sb**	**19 32 44.2**	**+0.5**
	388nm,0.2s						
CTRE	**Tremp**	**1.03**	**242**	⇑P	**Pb**	**19 32 31.6**	**+0.1**
CTRE				S	**Sb**	**19 32 45.4**	**+0.4**
	446nm,0.4s						
CFON	**Fontmartina**	**1.10**	**163**	⇓*e*P	**Pb**	**19 32 32.8**	**+0.2**
CFON				S	**Sb**	**19 32 46.9**	**0.0**
	2µm,0.3s						
CCAS	**Cassa de la Se**	**1.15**	**144**	*e*P	**Pb**	**19 32 33.4**	**+0.1**
CCAS				S	**Sb**	**19 32 48.4**	**+0.3**
	484nm,0.3s						
FMON	**Montouss**	**1.19**	**282**	*e*P	**Pb**	**19 32 34.5**	**+0.3**
FMON				S	**Sn**	**19 32 50.9**	**+0.7**
EPF	**Esparros**	**1.24**	**281**	*e*Pn	**Pn**	**19 32 34.7**	**-0.1**
EPF	**Esparros**	**1.24**	**281**	*e*Pg	**Pg**	**19 32 36.1**	**+0.6**
EPF	**Esparros**	**1.24**	**281**	*e*P	**Pg**	**19 32 37.3**	**+1.8**
EPF				*e*Sg	**Sg**	**19 32 52.4**	**+0.8**
	307nm,0.2s						
EPF	**Esparros**	**1.24**	**281**	Pg	**Pg**	**19 32 36.1**	**+0.6**
CAVN	**Les Avellanes**	**1.32**	**225**	*e*P	**Pn**	**19 32 35.8**	**+0.1**
CAVN				S	**Sb**	**19 32 53.4**	**+0.3**
	1µm,0.4s						
ECHI	**Chisagues Biel**	**1.34**	**264**	Pn	**Pb**	**19 32 37.0**	**+0.2**
ECHI				Sn	**Sn**	**19 32 54.4**	**+0.4**
ECHI	**Chisagues Biel**	**1.34**	**264**	P	**Pb**	**19 32 36.9**	**+0.2**
ECHI				S	**Sg**	**19 32 55.0**	**+0.1**
	224nm,0.3s						
ECHI	**Chisagues Biel**	**1.34**	**264**	Pg	**Pn**	**19 32 36.7**	**+0.4**
ECHI				Sg	**Sb**	**19 32 54.2**	**+0.3**
ECHI				*i* Vmb_Lg		19 32 56.2	
FBR	**Fabra**	**1.40**	**176**	P	**Pn**	**19 32 37.5**	**+0.5**
FBR				S	**Sn**	**19 32 55.7**	**+0.4**
VIEF	**Viey**	**1.46**	**273**	Pn	**Pn**	**19 32 38.5**	**+0.7**
VIEF				Sn	**Sb**	**19 32 58.0**	**+0.8**
PYLO	**Lourdes**	**1.53**	**281**	Pn	**Pb**	**19 32 40.0**	**+0.1**
PYLO				Sn	**Sb**	**19 33 00.2**	**+0.9**
EPOB	**Poblet**	**1.62**	**206**	*e*P	**Pn**	**19 32 40.9**	**+0.9**
EPOB				S	**Sn**	**19 33 01.3**	**+0.6**
	434nm,0.4s						
EPOB	**Poblet**	**1.62**	**206**	Pg	**Pb**	**19 32 41.8**	**+0.4**
EPOB				Sn	**Sn**	**19 33 00.4**	**-0.4**
EPOB				*i* Vmb_Lg		19 33 03.4	
CGAR	**Garraf**	**1.65**	**203**	⇑P	**Pn**	**19 32 39.4**	**-1.0**
CGAR				S	**Sn**	**19 32 58.7**	**-2.9**
	223nm,0.3s						
MONQ	**Montcuq**	**1.66**	**340**	Pn	**Pn**	**19 32 41.2**	**+0.7**
LASF	**Ste Croix**	**1.85**	**46**	*e*Pn	**Pn**	**19 32 43.2**	**+0.1**
LASF	**Ste Croix**	**1.85**	**46**	*e*P	**Pb**	**19 32 44.7**	**-0.6**
LASF	**Ste Croix**	**1.85**	**46**	*e*Pg	**Pg**	**19 32 48.2**	**+1.2**
LASF				*e*Sg	**Sg**	**19 33 13.0**	**+2.1**
	370nm,0.3s						
ETSF	**Etsaut**	**1.89**	**273**	*e*P	**Pb**	**19 32 46.4**	**+0.4**
ETSF	**Etsaut**	**1.89**	**273**	*e*Pg	**Pg**	**19 32 47.8**	**0.0**
ETSF				*e*Sg	**Sg**	**19 33 11.8**	**-0.5**
	243nm,0.4s						
CAF	**Calviac**	**2.11**	**1**	*e*Pn	**Pn**	**19 32 47.7**	**+1.0**
CAF	**Calviac**	**2.11**	**1**	*e*Pg	**Pg**	**19 32 52.7**	**+0.7**
CAF				*e*Sn	**Sn**	**19 33 12.1**	**-0.8**
	64nm,0.2s						
CAF				*e*Sg	**Sg**	**19 33 21.4**	**+2.0**
	266nm,0.2s						
LFF	**La Frestale**	**2.31**	**337**	*e*Pn	**Pn**	**19 32 50.3**	**+0.9**
LFF	**La Frestale**	**2.31**	**337**	*e*Pg	**Pg**	**19 32 56.8**	**+0.9**
LFF				*e*Sn	**Sn**	**19 33 18.2**	**+0.5**
	67nm,0.3s						
LFF				*e*Sg	**Sg**	**19 33 26.8**	**+1.0**
	410nm,0.3s						
SJPF	**Ste Jean**	**2.39**	**278**	*e*P	**Pb**	**19 32 53.6**	**-0.9**
SJPF	**Ste Jean**	**2.39**	**278**	*e*Pg	**Pg**	**19 32 57.2**	**-0.2**
SJPF				*e*Sn	**Sn**	**19 33 18.1**	**-1.6**
	19nm,0.2s						
SJPF				*e*Sg	**Sg**	**19 33 28.1**	**-0.2**
	80nm,0.3s						
EORO	**Oroz-Betelu**	**2.44**	**273**	Pn	**Pn**	**19 32 52.6**	**+1.4**
EORO				Pg	**Pb**	**19 32 56.5**	**+1.1**
EORO				Sn	**Sn**	**19 33 23.3**	**+2.3**
EORO				Sg	**Sg**	**19 33 29.5**	**-0.4**
EORO				*i* Vmb_Lg		19 33 32.3	
CMAS	**Mas de Barbera**	**2.44**	**212**	P	**Pn**	**19 32 52.3**	**+1.0**
CMAS				S	**Sn**	**19 33 21.6**	**+0.6**
	194nm,0.4s						
RJF	**Les Rejaudoux**	**2.51**	**352**	*e*Pn	**Pn**	**19 32 52.3**	**+0.1**
RJF	**Les Rejaudoux**	**2.51**	**352**	*e*Pg	**Pg**	**19 33 00.2**	**+0.5**
RJF				*e*Sn	**Sn**	**19 33 23.4**	**+0.7**
	29nm,0.2s						
RJF				*e*Sg	**Sg**	**19 33 33.6**	**+1.3**
	122nm,0.2s						
EALK	**Alkurruntz**	**2.61**	**280**	Pn	**Pn**	**19 32 55.7**	**+2.1**
EALK				Sn	**Sb**	**19 33 30.0**	**-0.3**
EALK				*i* Vmb_Lg		19 33 47.3	
EARA	**Aranguren**	**2.64**	**270**	Pg	**Pb**	**19 33 00.2**	**+1.5**
EARA				Sn	**Sb**	**19 33 30.2**	**-0.8**
EARA				*i* Vmb_Lg		19 33 41.8	
LRVF	**chteau la Riv**	**2.71**	**323**	Pn	**Pn**	**19 32 56.6**	**+1.8**
LRVF				Sn	**Sn**	**19 33 28.4**	**+0.9**
RUSF	**Rustrel**	**2.77**	**65**	Pn	**Pn**	**19 32 56.8**	**+1.0**
VIVF	**Saint-Julien-l**	**2.81**	**43**	*e*Pn	**Pn**	**19 32 56.6**	**+0.3**
VIVF	**Saint-Julien-l**	**2.81**	**43**	*e*Pg	**Pg**	**19 33 05.7**	**+0.3**
VIVF				*e*Sg	**Sg**	**19 33 42.4**	**+0.6**
	128nm,0.3s						
SMRF	**Simiane la Rot**	**2.85**	**65**	*e*Pn	**Pn**	**19 32 57.7**	**+0.8**
SMRF	**Simiane la Rot**	**2.85**	**65**	*e*Pg	**Pg**	**19 33 06.7**	**+0.5**
SMRF				*e*Sg	**Sg**	**19 33 43.9**	**+0.8**
	88nm,0.4s						
PYM	**Petit Puy Mans**	**3.02**	**13**	Pn	**Pn**	**19 32 59.9**	**+0.7**

ECOL	**Islas Columbre**	**3.08**	**199**	P	**Pn**	**19 33 01.0**	**+1.0**
ECOL	**Islas Columbre**	**3.08**	**199**	Pn	**Pn**	**19 33 00.6**	**+0.6**
ECOL				Sg	**Sb**	**19 33 46.1**	**+2.4**
LMR	**La Mourre**	**3.34**	**80**	*e*Pn	**Pn**	**19 33 03.5**	**-0.1**
LMR	**La Mourre**	**3.34**	**80**	*e*Pg	**Pg**	**19 33 15.0**	**-0.6**
LMR				*e*Sn	**Sn**	**19 33 42.0**	**-1.1**
	15nm,0.2s						
LMR				*e*Sg	**Sg**	**19 33 57.1**	**-1.7**
	52nm,0.2s						
OGDI	**Digne**	**3.38**	**66**	Pn	**Pn**	**19 33 04.7**	**+0.5**
OGDI				Sn	**Sn**	**19 33 44.2**	**-0.1**
TCF	**Toulx Ste Croi**	**3.47**	**2**	*e*Pn	**Pn**	**19 33 06.2**	**+0.7**
TCF	**Toulx Ste Croi**	**3.47**	**2**	*e*Pg	**Pg**	**19 33 18.0**	**-0.1**
TCF				*e*Sg	**Sg**	**19 34 03.6**	**+0.5**
	74nm,0.3s						
FRF	**La Foret Royal**	**3.48**	**76**	*e*Pn	**Pn**	**19 33 05.4**	**0.0**
FRF	**La Foret Royal**	**3.48**	**76**	*e*Pg	**Pg**	**19 33 16.6**	**-1.6**
FRF				*e*Sg	**Sg**	**19 34 01.6**	**-1.6**
	124nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.50**	**52**	*e*Pn	**Pn**	**19 33 07.0**	**+1.1**
ORIF	**Oris-en-Rattie**	**3.50**	**52**	*e*Pg	**Pg**	**19 33 19.5**	**+0.8**
ORIF				*e*Sn	**Sn**	**19 33 46.6**	**-0.7**
	5.6nm,0.2s						
ORIF				*e*Sg	**Sg**	**19 34 04.2**	**+0.1**
	44nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.50**	**52**	Pn	**Pn**	**19 33 07.3**	**+1.4**
GRN	**Grenoble**	**3.63**	**47**	Pn	**Pn**	**19 33 09.1**	**+1.5**
ETOR	**Torete**	**3.63**	**238**	Pn	**Pn**	**19 33 08.5**	**+0.9**
ETOR				Sn	**Sn**	**19 33 51.5**	**+1.0**
ETOR				Sg	**Sb**	**19 34 03.3**	**+3.5**
ETOR				*i* Vmb_Lg		19 34 15.4	
OGAG	**Argentiere**	**3.68**	**62**	Pn	**Pn**	**19 33 11.7**	**+3.4**
BGF	**Bois d'Agland**	**3.79**	**9**	*e*Pn	**Pn**	**19 33 10.5**	**+0.8**
BGF	**Bois d'Agland**	**3.79**	**9**	*e*Pg	**Pg**	**19 33 23.6**	**-0.5**
BGF				*e*Sn	**Sn**	**19 33 52.9**	**-1.3**
	25nm,0.3s						
BGF				*e*Sg	**Sg**	**19 34 13.2**	**0.0**
	194nm,0.3s						
OGSM	**Saint Maurice**	**3.85**	**42**	Pn	**Pn**	**19 33 12.4**	**+1.8**
SURF	**Saint Ours**	**3.87**	**63**	Pn	**Pn**	**19 33 12.4**	**+1.4**
ISO	**Isola**	**3.92**	**68**	Pn	**Pn**	**19 33 12.6**	**+1.0**
ECHE	**Chera**	**3.92**	**216**	Pn	**Pn**	**19 33 12.2**	**+0.6**
ECHE				Sn	**Sn**	**19 33 57.9**	**+0.2**
ECHE				Sg	**Sb**	**19 34 11.2**	**+3.0**
ECHE				*i* Vmb_Lg		19 34 23.2	
MBDF	**Montbardon**	**3.94**	**59**	*e*Pn	**Pn**	**19 33 13.0**	**+1.0**
MBDF				*e*Sg	**Sg**	**19 34 18.2**	**-0.1**
	21nm,0.5s						
ELAN	**Lanestosa**	**4.01**	**278**	Pn	**Pn**	**19 33 13.9**	**+1.1**
ELAN				Sn	**Sn**	**19 34 01.5**	**+1.8**
SMF	**Signal de Mont**	**4.05**	**18**	*e*Pn	**Pn**	**19 33 13.9**	**+0.6**
SMF	**Signal de Mont**	**4.05**	**18**	*e*Pg	**Pg**	**19 33 29.3**	**+0.2**
SMF				*e*Sn	**Sn**	**19 33 59.7**	**-0.9**
	7.0nm,0.2s						
SMF				*e*Sg	**Sg**	**19 34 20.2**	**-1.3**
	65nm,0.3s						
MFF	**Saint Martin d**	**4.08**	**339**	*e*Pn	**Pn**	**19 33 14.6**	**+0.8**
MFF	**Saint Martin d**	**4.08**	**339**	*e*Pg	**Pg**	**19 33 29.2**	**-0.6**
MFF				*e*Sn	**Sn**	**19 34 00.5**	**-1.0**
	20nm,0.3s						
MFF				*e*Sg	**Sg**	**19 34 21.8**	**-0.9**
	45nm,0.3s						
AVF	**Avril sur Loir**	**4.09**	**13**	*e*Pn	**Pn**	**19 33 14.5**	**+0.7**
AVF	**Avril sur Loir**	**4.09**	**13**	*e*Pg	**Pg**	**19 33 29.4**	**-0.5**
AVF				*e*Sn	**Sn**	**19 34 00.2**	**-1.4**
	3.6nm,0.2s						
AVF				*e*Sg	**Sg**	**19 34 22.1**	**-0.7**
	63nm,0.4s						
TURF	**col de Turini**	**4.09**	**72**	Pn	**Pn**	**19 33 14.7**	**+0.7**
SBF	**Sospel**	**4.10**	**73**	*e*Pn	**Pn**	**19 33 14.2**	**+0.2**
SBF	**Sospel**	**4.10**	**73**	*e*Pg	**Pg**	**19 33 28.7**	**-1.4**
SBF				*e*Sg	**Sg**	**19 34 21.2**	**-1.9**
	76nm,0.4s						
SAOF	**Saorge**	**4.21**	**72**	Pn	**Pn**	**19 33 16.2**	**+0.7**
LPG	**La Plagne**	**4.34**	**50**	*e*Pn	**Pn**	**19 33 19.3**	**+1.7**
LPG				*e*Sg	**Sg**	**19 34 30.9**	**-0.1**
	25nm,0.6s						
LPL	**La Plagne**	**4.34**	**50**	*e*Pn	**Pn**	**19 33 19.6**	**+2.0**
LPL				*e*Sn	**Sn**	**19 34 06.0**	**-2.2**
	3.7nm,0.3s						
LPL				*e*Sg	**Sg**	**19 34 30.6**	**-0.4**
	11nm,0.3s						
SSF	**Saint Saulge**	**4.38**	**14**	*e*Pn	**Pn**	**19 33 18.4**	**+0.6**
SSF	**Saint Saulge**	**4.38**	**14**	*e*Pg	**Pg**	**19 33 35.0**	**-0.4**
SSF				*e*Sg	**Sg**	**19 34 31.8**	**-0.3**
	35nm,0.3s						
RSL	**Roselend**	**4.39**	**48**	Pn	**Pn**	**19 33 20.0**	**+1.8**
HYF	**Humbligny**	**4.47**	**6**	*e*Pg	**Pg**	**19 33 36.5**	**-0.8**
HYF				*e*Sg	**Sg**	**19 34 34.6**	**-0.6**
LOR	**Lormes**	**4.64**	**16**	*e*Pn	**Pn**	**19 33 21.6**	**+0.1**
	baz=195						
LOR	**Lormes**	**4.64**	**16**	*e*Pg	**Pg**	**19 33 39.9**	**-0.6**
	baz=196						
LOR				*e*Sg	**Sg**	**19 34 39.8**	**-0.7**
	21nm,0.2s,baz=195						
UCM	**Universidad Co**	**4.67**	**239**	P	**Pn**	**19 33 22.7**	**+0.9**
UCM				S	**Sg**	**19 34 38.7**	**-2.7**
CABF	**La Chapelle**	**4.78**	**36**	*e*Pn	**Pn**	**19 33 23.8**	**+0.3**
CABF	**La Chapelle**	**4.78**	**36**	*e*Pg	**Pg**	**19 33 43.0**	**-0.1**
CABF				*e*Sg	**Sg**	**19 34 43.9**	**-1.1**
	116nm,0.6s						
ETOB	**Tobarra**	**4.96**	**214**	Pn	**Pn**	**19 33 26.0**	**+0.1**
ETOB				Sn	**Sn**	**19 34 24.8**	**+1.5**
PGF	**Pioggiola**	**5.16**	**91**	*e*Pn	**Pn**	**19 33 27.6**	**-1.1**
PGF				*e*Sn	**Sn**	**19 34 24.2**	**-4.1**
	12nm,0.4s						
SENIN	**Lac Senin/Sane**	**5.18**	**45**	Pn	**Pn**	**19 33 30.7**	**+1.6**
SENIN				Sg	**Sg**	**19 34 51.6**	**-6.3**
BRANT	**Les Verrieres**	**5.20**	**36**	Pg	**Pb**	**19 33 44.7**	**+2.3**
BRANT				Sg	**Sg**	**19 34 53.4**	**-5.1**
CLF	**Chambon-Foret**	**5.21**	**2**	Sn	**Sn**	**19 34 32.4**	**+3.2**
CLF				Sg	**Sg**	**19 34 54.4**	**-4.4**
EARI	**Arriondas**	**5.31**	**278**	Pn	**Pn**	**19 33 31.8**	**+1.2**
EARI				Sn	**Sn**	**19 34 34.0**	**+2.2**
ESDC	**Sonseca Array**	**5.48**	**237**	Pn	**Pn**	**19 33 33.9**	**+0.7**
ESDC				Sn	**Sn**	**19 34 35.5**	**-0.6**
ESDC				Sg	**Sb**	**19 34 59.8**	**+6.8**
ESDC				*i* Vmb_Lg		19 35 07.7	
EZAR	**Zarzadilla de**	**5.69**	**211**	Pn	**Pn**	**19 33 36.7**	**+0.8**
SFTF	**Sexfontaines**	**5.79**	**21**	*e*Pn	**Pn**	**19 33 37.7**	**+0.4**
SFTF				*e*Sn	**Sn**	**19 34 41.6**	**-2.0**
SFTF				*e*Sg	**Sg**	**19 35 16.0**	**-1.5**
	32nm,0.5s,baz=200						
PAB	**San Pablo**	**5.80**	**238**	Pn	**Pn**	**19 33 37.8**	**+0.4**
PAB				*i* Vmb_Lg		19 33 39.2	
GRR	**Gorron**	**5.92**	**341**	*e*Pn	**Pn**	**19 33 39.4**	**+0.4**
GRR				*e*Sn	**Sn**	**19 34 44.2**	**-2.6**
	9.2nm,0.2s						
GRR				*e*Sg	**Sg**	**19 35 19.7**	**-1.9**
	16nm,0.3s						
LDF	**La Druitiere**	**5.97**	**346**	*e*Pn	**Pn**	**19 33 39.9**	**+0.3**
LDF	**La Druitiere**	**5.97**	**346**	*e*Pg	**Pg**	**19 34 04.3**	**-1.5**
LDF				*e*Sn	**Sn**	**19 34 43.8**	**-4.0**
	5.4nm,0.3s						
LDF				*e*Sg	**Sg**	**19 35 21.3**	**-1.7**
	26nm,0.5s						
HAU	**Haudompre**	**6.02**	**29**	*e*Pg	**Pg**	**19 34 04.7**	**-2.1**
HAU				*e*Sg	**Sg**	**19 35 22.2**	**-2.6**
	27nm,0.3s						
HINF	**Hinteralfeld**	**6.06**	**33**	*e*Pn	**Pn**	**19 33 44.1**	**+3.2**
HINF	**Hinteralfeld**	**6.06**	**33**	*e*Pg	**Pg**	**19 34 06.3**	**-1.2**
HINF				*e*Sg	**Sg**	**19 35 23.7**	**-2.2**
	27nm,0.6s						
MEZF	**Maizieres J'vi**	**6.07**	**20**	*e*Pg	**Pg**	**19 34 05.8**	**-2.0**
	baz=199						
MEZF				*e*Sg	**Sg**	**19 35 25.1**	**-1.3**
	49nm,0.5s,baz=200						
FLN	**La Foliniere**	**6.20**	**345**	*e*Pn	**Pn**	**19 33 43.6**	**+0.8**
	baz=165						
FLN	**La Foliniere**	**6.20**	**345**	*e*Pg	**Pg**	**19 34 08.0**	**-2.1**
	baz=164						
FLN				*e*Sn	**Sn**	**19 34 50.3**	**-3.2**
	5.8nm,0.3s						
FLN				*e*Sg	**Sg**	**19 35 28.4**	**-1.9**
	38nm,0.6s,baz=157						
SAVF	**Savonnieres en**	**6.20**	**20**	*e*Sg	**Sg**	**19 35 30.9**	**+0.5**
	34nm,0.7s,baz=199						
QUIF	**Quistinic**	**6.27**	**326**	*e*Pn	**Pn**	**19 33 44.2**	**+0.5**
QUIF	**Quistinic**	**6.27**	**326**	*e*Pg	**Pg**	**19 34 09.0**	**-2.5**
QUIF				*e*Sn	**Sn**	**19 34 52.6**	**-2.6**
QUIF				*e*Sg	**Sg**	**19 35 30.5**	**-2.1**
	27nm,0.5s						
PAGF	**Fort de Pagny**	**6.30**	**23**	*e*Pg	**Pg**	**19 34 10.7**	**-1.5**
PAGF				*e*Sg	**Sg**	**19 35 31.4**	**-2.4**
	119nm,1.1s,baz=200						
SGMF	**Saint Gilles**	**6.31**	**331**	*e*Pn	**Pn**	**19 33 44.7**	**+0.3**
SGMF				*e*Sn	**Sn**	**19 34 53.6**	**-2.7**
SGMF				*e*Sg	**Sg**	**19 35 31.2**	**-2.8**
	40nm,0.7s						
ROSF	**Rostrenen**	**6.65**	**328**	*e*Pn	**Pn**	**19 33 49.2**	**+0.2**
ROSF				*e*Sn	**Sn**	**19 35 01.8**	**-2.8**
	5.3nm,0.3s						
ROSF				*e*Sg	**Sg**	**19 35 42.2**	**-2.6**
	10nm,0.4s						
EPLA	**Plasencia**	**6.67**	**248**	Pn	**Pn**	**19 33 50.1**	**+0.8**
EPLA				*i* Vmb_Lg		19 35 18.7	
CDF	**Champ du Feu**	**6.71**	**32**	*e*Pg	**Pg**	**19 34 17.7**	**-2.2**
CDF				*e*Sg	**Sg**	**19 35 43.7**	**-3.0**
	13nm,0.4s						
MVO	**Moncorvo**	**6.93**	**259**	*e*Pn	**Pn**	**19 33 54.4**	**+1.4**
MVO				*e*Sn	**Sn**	**19 35 09.6**	**-2.1**
ECAB	**El Cabril**	**7.38**	**233**	Pn	**Pn**	**19 33 59.7**	**+0.6**
ECAB				*i* Vmb_Lg		19 36 21.7	
BAIF	**Baives**	**7.40**	**11**	*e*Sg	**Sg**	**19 36 06.0**	**-3.0**
	5.3nm,0.5s						
POLO	**Lamas de Olo**	**7.43**	**262**	*e*Pn	**Pn**	**19 34 02.4**	**+2.6**
POLO				*e*Sg	**Sg**	**19 36 06.0**	**-3.9**
POLO				A	A	19 36 16.2	
	2.6nm,0.5s						
PCAB	**Cabril**	**7.52**	**265**	*e*Sg	**Sg**	**19 36 07.3**	**-5.6**
GIVF	**Givet**	**7.54**	**14**	*e*Sg	**Sg**	**19 36 10.4**	**-3.1**
	11nm,0.5s						
MTE	**Manteigas**	**7.55**	**255**	*e*Sg	**Sg**	**19 36 16.1**	**+2.2**
PGAV	**Gavieira, Arco**	**7.65**	**267**	*e*Pn	**Pn**	**19 34 05.8**	**+2.9**
PVIS	**Viseu**	**7.69**	**258**	*e*Pn	**Pn**	**19 34 04.6**	**+1.2**
PVIS				*e*Sg	**Sg**	**19 36 13.6**	**-4.7**
PCBR	**Castelo Branco**	**7.73**	**251**	*e*Pn	**Pn**	**19 34 04.6**	**+0.7**
PCBR				*e*Sn	**Sn**	**19 35 27.5**	**-3.8**
PCBR				*e*Sg	**Sg**	**19 36 16.5**	**-3.0**
PMRV	**Marv??o**	**7.86**	**248**	*e*Pn	**Pn**	**19 34 06.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**19 35 30.6**	**-3.9**
PMRV				*e*Sg	**Sg**	**19 36 19.1**	**-4.6**
PESTR	**Estremoz**	**8.27**	**245**	*e*Pn	**Pn**	**19 34 12.2**	**+0.9**
PESTR				*e*Sn	**Sn**	**19 35 40.6**	**-4.1**
PBAR	**Barrancos**	**8.30**	**239**	*e*Pn	**Pn**	**19 34 12.1**	**+0.4**
PBAR				*e*Sn	**Sn**	**19 35 40.5**	**-4.9**
PBAR				*e*Sg	**Sg**	**19 36 37.9**	**0.0**
PCAS	**Casmilo, Conde**	**8.36**	**254**	*e*Sn	**Sn**	**19 35 42.6**	**-4.2**
PMTG	**Montargil**	**8.60**	**248**	*e*Pn	Pn	19 34 22.8	+7.0
PNCL	**Nicolau / Gran**	**9.30**	**243**	*e*Pn	**Pn**	**19 34 27.7**	**+2.3**

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*NNC **02** 19:36:29.4±11.0, 37°.68N×72°.30E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=96.9km s-min=64.5km az=163.0*
*IDC **02** 19:36:29.5±1.3, 37°.89N×72°.59E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.5/52, mbtmp3.6/13, ML2.8/2, Error ellipse: s-maj=26.4km s-min=20.6km az=163.0*
ISC 02 19:36:39.6±0.8**, 38°.00N**±0°.08×**73°.0E**±0°.1**, h100**km**, n27, σ2s.65**/27**, mb3.7**/9**, 5C, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.76**	**13**	Pn	**Pn**	**19 37 46.2**	**-3.0**
	1.0nm,0.3s,baz=154,slow=6.9,SNR=23						
AAK				Sn	**Sn**	**19 38 41.8**	**-1.4**
	baz=300,slow=22,SNR=1.0						
TKM2	**Tokmak 2**	**5.28**	**21**	⇑Pn	**Pn**	**19 37 57.3**	**+0.9**
	6.9nm,0.7s						
TKM2				⇑Sn	Sn	19 39 07.9	+12
	4.7nm,0.6s						
KK08	**Karatay Array**	**5.45**	**340**	⇑Pn	Pn	19 37 53.1	-5.4
	4.5nm,0.4s,baz=156,slow=14						
KK08				⇑Sn	**Sn**	**19 38 59.0**	**-0.9**
	9.0nm,0.6s,baz=160,slow=23						
MKAR	**Makanchi Array**	**11.12**	**35**	Pn	**Pn**	**19 39 15.9**	**+0.5**
	0.1nm,0.3s,baz=213,slow=14,SNR=6.0						
PYUN	**Piuthan**	**12.92**	**137**	*e*P	**Pn**	**19 39 35.9**	**-3.8**
	9.2nm,0.5s						
DANN	**Dangsing**	**13.15**	**134**	*e*P	**Pn**	**19 39 38.8**	**-4.0**
KURBB	**Kurchatov Arra**	**13.21**	**15**	Pn	**Pn**	**19 39 39.0**	**-4.1**
	baz=205,slow=10,SNR=5.3						
GKN	**Gorkha**	**13.92**	**132**	*e*P	**Pn**	**19 39 49.3**	**-3.4**
	3.4nm,0.3s						
PKIN	**Phulchoki**	**14.68**	**131**	*e*P	**Pn**	**19 39 59.6**	**-3.0**
AB31	**Akbulak array**	**14.69**	**324**	P	Pn	19 39 53.5	-8.6
	1.0nm,0.6s,baz=131,slow=14,SNR=20						
PKI	**Pulchoki**	**14.70**	**131**	*e*P	**Pn**	**19 39 58.9**	**-3.9**
	3.6nm,0.4s						
JIRN	**Jiri**	**15.10**	**129**	*e*P	**Pn**	**19 40 04.8**	**-3.2**
	6.3nm,0.5s						
BVAR	**Borovoye Array**	**15.13**	**354**	Pn	**Pn**	**19 40 05.4**	**-2.4**
	0.1nm,0.3s,baz=100,slow=15,SNR=2.8						
AKTO	**Aktyubinsk**	**16.40**	**324**	Pn	**Pn**	**19 40 22.5**	**-1.2**
	0.5nm,0.3s,baz=131,slow=11,SNR=8.2						
AKTO	**Aktyubinsk**	**16.40**	**324**	⇑P	**Pn**	**19 40 22.3**	**-1.4**
	2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**17.88**	**23**	P	**Pn**	**19 40 41.1**	**-0.6**
	0.2nm,0.3s,baz=204,slow=11,SNR=6.4						
ARU	**Arti**	**20.81**	**337**	P	**P**	**19 41 13.0**	**+0.2**
	0.4nm,0.4s,baz=126,slow=15,SNR=3.2						
BELG	**Belogornoye**	**22.81**	**317**	P	**P**	**19 41 31.6**	**-2.2**
	5.0nm,0.6s,baz=126,slow=8.7,SNR=6.7						
SONM	**Songino Array**	**26.15**	**57**	P	**P**	**19 42 09.7**	**+5.2**
	0.8nm,1.0s,baz=258,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**37.18**	**324**	P	**P**	**19 43 40.9**	**+0.3**
	1.2nm,0.7s,baz=111,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**40.40**	**336**	P	**P**	**19 44 09.1**	**+1.6**
	0.9nm,0.7s,baz=114,slow=9.0,SNR=0.9						
HFS	**Hagfors**	**42.91**	**321**	P	**P**	**19 44 28.2**	**+0.3**
	1.3nm,0.6s,baz=137,slow=14,SNR=4.1						
NB2	**NORSAR Subarra**	**44.18**	**322**	P	**P**	**19 44 38.5**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**19 44 38.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=93,slow=7.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**67.38**	**269**	P	**P**	**19 47 25.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=53,slow=5.6,SNR=5.4						
YKA	**Yellowknife Ar**	**79.66**	**4**	P	**P**	**19 48 38.3**	**+2.6**
	comp=Z,0.1nm,0.5s,baz=352,slow=5.2,SNR=4.1						
WRA	**Warramunga Arr**	**81.43**	**123**	P	**P**	**19 48 49.2**	**+3.5**
	comp=Z,0.2nm,0.6s,baz=327,slow=5.0,SNR=2.1						

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*IDC **02** 19:47:11.8±2.0, 32°.94S×178°.22W, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.9/28, mbtmp4.2/3, ML3.6/1, Error ellipse: s-maj=65.3km s-min=37.5km az=142.0*
ISC 02 19:47:15.8±1.9**, 33°.1S**±0°.2×**178°.1W**±0°.4**, h34**km**, n6, σ0s.77**/8**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.44**	**216**	Pn	**Pn**	**19 48 48.7**	**+0.5**
	1.4nm,0.3s,baz=14,slow=8.3,SNR=2.5						
URZ				Sn	**Sn**	**19 49 59.8**	**-0.6**
	5.0nm,0.3s,baz=160,slow=19,SNR=14						
ASAR	**Alice Springs**	**42.95**	**270**	P	**P**	**19 55 11.8**	**+0.1**
	3.1nm,0.7s,baz=111,slow=8.1,SNR=36						
WRA	**Warramunga Arr**	**44.19**	**275**	P	**P**	**19 55 21.5**	**-0.2**
	3.4nm,0.5s,baz=115,slow=7.7,SNR=54						
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	**PKiKP**	**20 06 01.2**	**-0.3**
	0.4nm,0.8s,baz=94,slow=1.2,SNR=3.8						
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	**PKiKP**	**20 06 56.8**	**-1.2**
	4.2nm,0.7s,baz=55,slow=3.0,SNR=9.5						
AKASG	**Malin Array Be**	**153.37**	**319**	PKPbc	**PKiKP**	**20 07 10.8**	**+0.7**
	0.3nm,0.4s,baz=63,slow=2.0,SNR=4.4						
AKASG				PKPab	**PKPab**	**20 07 22.7**	**+0.6**
	0.3nm,0.4s,baz=59,slow=2.5,SNR=2.2						

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*SKHL **02** 20:08:42.5±0.5, 44°.80N×148°.10E, h133km±7km, mb4.6/4, msha4.9/4*
*JMA **02** 20:08:45.1±0.5, 44°.51N×147°.89E, h142km, M3.7*
ISC 02 20:08:39.7±3.4**, 44°.8N**±0°.1×**148°.1E**±0°.2**, h157**km±17km**, n16, σ1s.71**/26**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.42**	**341**	*e*P	**Pn**	**20 09 01.8**	**+0.3**
KUR				AMB	AMB	20 09 06.2	
	90nm,0.5s						
KUR				*i* S	**Sn**	**20 09 16.7**	**-1.5**
KUR				A	A	20 09 24.0	
	120nm,0.5s						
KUR				A	A	20 09 24.0	
	120nm,0.5s						
SHO	**Shikotan**	**1.31**	**223**	*i* P	**Pn**	**20 09 09.3**	**+1.4**
SHO				AMB	AMB	20 09 09.9	
	150nm,0.4s						
SHO				*e*S	**Sn**	**20 09 28.8**	**-0.7**
SHO				A	A	20 09 30.6	
	110nm,0.3s						
SHO				A	A	20 09 30.6	
	130nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.77**	**244**	*i* P	**Pn**	**20 09 14.1**	**+1.5**
YUK				AMB	AMB	20 09 14.6	
	230nm,0.4s						
YUK				*e*S	**Sn**	**20 09 37.8**	**-0.1**
YUK				A	A	20 09 39.9	
	240nm,0.6s						
YUK				A	A	20 09 39.9	
	230nm,0.6s						
GLVR	**Golovnino**	**2.13**	**240**	*e*P	**Pn**	**20 09 18.6**	**+1.9**
GLVR				AMB	AMB	20 09 19.8	
	210nm,0.4s						
GLVR				*e*S	**Sn**	**20 09 45.5**	**+0.3**
GLVR				A	A	20 09 47.1	
	190nm,0.4s						
GLVR				A	A	20 09 47.1	
	280nm,0.4s						
NEM2	**Nemuro 2**	**2.22**	**230**	P	**Pn**	**20 09 19.1**	**+1.3**
NEM2				*e*S	**Sn**	**20 09 45.5**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.23**	**230**	*i* P	**Pn**	**20 09 19.1**	**+1.2**
NMR				*e*S	**Sn**	**20 09 45.8**	**-1.5**
JNSB	**Nemuroshibetsu**	**2.44**	**245**	P	**Pn**	**20 09 22.4**	**+2.0**
JKHN	**Kushirohamanak**	**2.73**	**231**	P	**Pn**	**20 09 25.4**	**+1.5**
AKK	**Akkeshi**	**2.95**	**233**	*e*P	**Pn**	**20 09 28.0**	**+1.3**
AKK				*e*S	**Sn**	**20 10 02.5**	**-0.6**
JAK	**Akkeshi**	**3.05**	**234**	P	**Pn**	**20 09 29.3**	**+1.4**
JAK				*e*S	**Sn**	**20 10 03.7**	**-1.5**
JAR	**Ashorobuto**	**3.46**	**245**	P	**Pn**	**20 09 35.7**	**+2.6**
JKK2	**Kamakawa 2**	**3.93**	**258**	P	**Pn**	**20 09 40.6**	**+1.4**
JCH	**Churui**	**4.07**	**239**	P	**Pn**	**20 09 42.3**	**+1.4**
JCH				*e*S	**Sn**	**20 10 26.6**	**-2.0**
JNBK	**Urakawa-nobuka**	**4.63**	**238**	P	**Pn**	**20 09 48.9**	**+0.6**
JNBK				*e*S	**Sn**	**20 10 37.6**	**-4.2**
JKB	**Kayabe**	**5.91**	**243**	P	**Pn**	**20 10 05.6**	**+0.4**
JOT	**Ohata**	**6.18**	**239**	P	**Pn**	**20 10 09.6**	**+0.7**

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*IDC **02** 20:13:51.4±0.8, 6°.24S×150°.18E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.8/51, mbtmp4.0/13, ML2.0/1, Error ellipse: s-maj=28.9km s-min=17.9km az=121.0*
*NEIC **02** 20:13:57.5±2.4, 6°.0S±0°.2×149°.9E±0°.2, h35km±2km, mb4.2/9, Error ellipse: s-maj=42.3km s-min=6.5km az=133.0*
ISC 02 20:13:56.8±0.7**, 6°.2S**±0°.1×**150°.0E**±0°.1**, h35**km**, n28, σ1s.81**/33**, mb3.7**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.76**	**48**	Pn	**Pn**	**20 14 39.2**	**+0.6**
	baz=253,slow=19						
KRVT				Sn	**Sn**	**20 15 14.1**	**+3.4**
	baz=180,slow=20						
RABL	**Rabaul**	**2.94**	**48**	Pn	**Pn**	**20 14 40.5**	**-0.5**
PMG	**Port Moresby**	**4.25**	**221**	Pn	**Pn**	**20 15 00.5**	**+1.3**
	5.5nm,0.3s,baz=55,slow=7.8,SNR=22						
PMG				Sn	**Sn**	**20 15 49.8**	**+2.1**
	13nm,0.3s,baz=94,slow=20,SNR=8.3						
PMG	**Port Moresby**	**4.25**	**221**	Pn	**Pn**	**20 15 00.7**	**+1.5**
PMG				Sn	**Sn**	**20 15 49.3**	**+1.6**
COEN	**Coen**	**10.23**	**220**	Pn	**Pn**	**20 16 22.6**	**+1.4**
HNR	**Honiara**	**10.39**	**109**	Pn	Pn	20 16 20.0	-3.5
	9.5nm,0.3s,baz=187,slow=17,SNR=1.9						
WB0	**Warramunga Arr**	**20.30**	**227**	P	**P**	**20 18 31.1**	**+1.2**
WB0				IAmb	IAmb	20 18 43.0	
	comp=Z,37nm,1.5s						
WR0	**Warramunga Arr**	**20.32**	**226**	P	**P**	**20 18 31.0**	**+0.9**
WR0				IAmb	IAmb	20 18 43.9	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**20.43**	**227**	P	**P**	**20 18 32.7**	**+1.3**
WRAB				IAmb	IAmb	20 18 57.0	
	comp=Z,12nm,0.8s						
WRAB					**S**	**20 22 14.8**	**-3.7**
WB2	**Warramunga Arr**	**20.44**	**227**	P	**P**	**20 18 32.9**	**+1.4**
WB2				IAmb	IAmb	20 18 57.1	
	comp=Z,11nm,0.8s						
WB2				S	**S**	**20 22 14.5**	**-4.1**
WRA	**Warramunga Arr**	**20.45**	**227**	P	**P**	**20 18 32.9**	**+1.4**
	comp=Z,4.7nm,0.7s,baz=52,slow=11,SNR=53						
WRA	**Warramunga Arr**	**20.45**	**227**	P	**P**	**20 18 30.2**	**-1.3**
AS31	**Alice Springs**	**23.27**	**220**	P	**P**	**20 19 00.4**	**-1.1**
ASAR	**Alice Springs**	**23.27**	**220**	P	**P**	**20 19 00.6**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=54,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**23.27**	**220**	P	**P**	**20 18 59.2**	**-2.3**
STKA	**Stephens Creek**	**26.74**	**196**	P	**P**	**20 19 31.7**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=16,slow=16,SNR=1.0						
STKA	**Stephens Creek**	**26.74**	**196**	P	**P**	**20 19 33.5**	**+0.2**
STKA				IAmb	IAmb	20 19 56.1	
	comp=Z,3.1nm,1.4s						
MAJO	**Matsushiro**	**43.91**	**346**	P	**P**	**20 21 57.3**	**-2.9**
MJB9	**Matsu-Tunnel**	**43.91**	**346**	P	**P**	**20 21 58.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**55.96**	**297**	P	**P**	**20 23 32.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=120,slow=5.3,SNR=2.8						
SONM	**Songino Array**	**66.03**	**329**	P	**P**	**20 24 42.2**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=130,slow=2.8,SNR=4.1						
MKAR	**Makanchi Array**	**79.53**	**320**	P	**P**	**20 26 01.4**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=108,slow=7.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**80.75**	**327**	P	**P**	**20 26 06.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=114,slow=7.0,SNR=2.2						
KURBB	**Kurchatov Arra**	**83.16**	**323**	P	**P**	**20 26 19.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=102,slow=8.6,SNR=1.9						
ILAR	**Eielson Array**	**84.49**	**23**	P	**P**	**20 26 24.3**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=251,slow=4.5,SNR=6.6						
NVAR	**Mina Array Bea**	**95.14**	**52**	P	**P**	**20 27 17.4**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=252,slow=6.3,SNR=15						
YKA	**Yellowknife Ar**	**97.95**	**28**	P	**P**	**20 27 28.5**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=266,slow=4.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.00**	**285**	PKP	**PKPdf**	**20 33 36.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=155,slow=1.4,SNR=1.5						
TORD				PKPbc	**PKPbc**	**20 33 40.9**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=40,slow=3.1,SNR=21						

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*JMA **02** 20:15:26.6±0.1, 35°.37N×137°.21E, h292km±1km, M3.5*
*IDC **02** 20:15:26.4±0.7, 35°.37N×137°.27E, h295km±8km, mb2.9/5, mb1 3.1/11, mb1mx2.8/62, mbtmp3.7/11, Error ellipse: s-maj=21.2km s-min=10.5km az=70.0*
ISC 02 20:15:26.4±0.8**, 35°.41N**±0°.06×**137°.26E**±0°.07**, h293**km±6km**, n24, σ1s.52**/38**, mb3.4**/5**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAO	**Obara**	**0.14**	**180**	P	**Pn**	**20 16 04.0**	**+0.2**
JAO				*e*S	**S**	**20 16 33.2**	**-0.3**
JGF	**Kuroka**	**0.21**	**23**	P	**Pn**	**20 16 03.8**	**+0.1**
JGF				*e*S	**S**	**20 16 32.6**	**-0.8**
JYTA	**Yamagatataniai**	**0.47**	**294**	P	**Pn**	**20 16 04.5**	**+0.4**
JYTA				S	**S**	**20 16 33.7**	**-0.3**
JIE	**Ise**	**1.11**	**204**	P	**Pn**	**20 16 06.6**	**-0.1**
JIE				S	**S**	**20 16 37.4**	**-1.2**
JKG	**Kaga**	**1.15**	**319**	P	**Pn**	**20 16 07.2**	**+0.5**
MAT	**Matsushiro**	**1.37**	**34**	P	**Pn**	**20 16 08.7**	**+0.7**
MAT				S	**S**	**20 16 41.5**	**+0.4**
MAT	**Matsushiro**	**1.37**	**34**	P	**Pn**	**20 16 08.7**	**+0.7**
MAT				S	**S**	**20 16 42.1**	**+1.0**
MJAR	**Matsushiro Arr**	**1.37**	**34**	P	**Pn**	**20 16 07.8**	**-0.2**
	1.7nm,0.3s,baz=220,slow=7.7,SNR=67						
MJAR				S	**S**	**20 16 41.7**	**+0.6**
	0.1nm,0.3s,baz=179,slow=14,SNR=11						
JRY	**Ryogami san**	**1.47**	**65**	P	**Pn**	**20 16 09.4**	**+0.7**
JRY				*e*S	**S**	**20 16 43.1**	**+0.8**
JWT	**Wachi**	**1.52**	**266**	P	**Pn**	**20 16 09.3**	**+0.3**
JWT				S	**S**	**20 16 42.0**	**-0.9**
JWY	**Kouya**	**1.81**	**230**	P	**Pn**	**20 16 10.9**	**-0.3**
JWY				S	**S**	**20 16 45.1**	**-1.8**
JAG	**Ashikaga**	**2.05**	**60**	P	**Pn**	**20 16 12.7**	**-0.2**
JAG				S	**S**	**20 16 49.6**	**-0.4**
JTNC	**Tanabenakahech**	**2.09**	**221**	P	**Pn**	**20 16 12.8**	**-0.5**
JTNC				S	**S**	**20 16 49.2**	**-1.5**
JHJ	**Hachijo jima 2**	**3.10**	**137**	P	**Pn**	**20 16 22.9**	**+0.2**
	2.9nm,0.3s,baz=246,slow=18,SNR=1.6						
JHJ				S	**S**	**20 17 09.1**	**+1.5**
	15nm,0.3s,baz=337,slow=23,SNR=8.0						
JNU	**Nakatsue**	**5.75**	**248**	P	**Pn**	**20 16 52.2**	**-0.4**
	2.0nm,0.3s,baz=63,slow=2.7,SNR=14						
KSRS	**Korea Array**	**7.80**	**288**	P	**Pn**	**20 17 17.9**	**+0.6**
	0.2nm,0.3s,baz=104,slow=13,SNR=4.7						
ASAJ	**Asahikawa**	**9.62**	**24**	P	**Pn**	**20 17 38.4**	**-1.2**
	1.6nm,0.3s,baz=217,slow=11,SNR=19						
ASAJ				S	**S**	**20 19 21.3**	**-6.9**
	0.2nm,0.3s,baz=83,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.67**	**337**	P	**Pn**	**20 17 42.3**	**+2.0**
	baz=161,slow=15,SNR=3.9						

KLR	**Kul'dur**	**14.39**	**345**	P	**P**	**20 18 36.7**	**-0.2**
	0.4nm,0.3s,baz=159,slow=9.0,SNR=13						
SONM	**Songino Array**	**26.02**	**308**	P	**P**	**20 20 34.4**	**+1.3**
	0.2nm,0.3s,baz=109,slow=6.7,SNR=1.7						
TIXI	**Tiksi**	**36.58**	**356**	P	**P**	**20 22 05.5**	**+1.2**
	0.4nm,0.3s,baz=288,slow=13,SNR=1.4						
MKAR	**Makanchi Array**	**42.16**	**303**	P	**P**	**20 22 51.0**	**+0.5**
	0.1nm,0.6s,baz=92,slow=8.7,SNR=1.3						
WRA	**Warramunga Arr**	**55.12**	**183**	P	**P**	**20 24 26.9**	**-1.8**
	0.8nm,0.5s,baz=358,slow=7.7,SNR=1.9						
ASAR	**Alice Springs**	**58.84**	**184**	P	**P**	**20 24 53.6**	**-1.0**
	0.5nm,0.4s,baz=1.0,slow=6.4,SNR=1.7						

*IDC **02** 20:16:42.5±1.5, 7°.67S×127°.91E, h167km±21km, mb2.8/1, mb1 3.7/6, mb1mx3.1/54, mbtmp4.1/6, Error ellipse: s-maj=24.2km s-min=13.8km az=124.0*
*DJA **02** 20:16:43.1±0.4, 8°S±4°×12°8E±°, h168km±9km, M4.1/12, mb3.9/9, mB4.5/1, MLv4.1/12, Mw(mB)3.7/1*
*NEIC **02** 20:16:43.2±1.8, 7°.6S±0°.1×127°.86E±0°.04, h171km±15km, mb4.1/3, Error ellipse: s-maj=15.5km s-min=5.1km az=175.0*
ISC 02 20:16:41.6±0.7**, 7°.74S**±0°.05×**127°.88E**±0°.05**, h150km, n31, σ2s.83**/37**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.39**	**94**	Pn	**Pn**	**20 17 37.0**	**+3.0**
SAUI	**Saumlaki**	**3.39**	**94**	P	**Pn**	**20 17 37.0**	**+3.0**
SAUI				S	**Sn**	**20 18 18.9**	**+4.3**
AAI	**Ambon**	**4.04**	**4**	P	**Pn**	**20 17 42.4**	**0.0**
BATI	**Baumata**	**4.84**	**239**	P	**Pn**	**20 17 57.0**	**+4.0**
	16nm,0.3s,baz=82,slow=4.9,SNR=30						
BATI				S	**Sn**	**20 18 51.6**	**+3.1**
	36nm,0.3s,baz=60,slow=16,SNR=18						
BATI	**Baumata**	**4.84**	**239**	P	**Pn**	**20 17 56.9**	**+4.0**
MMRI	**Maumere**	**5.66**	**261**	Pn	**Pn**	**20 18 05.2**	**+1.4**
MMRI	**Maumere**	**5.66**	**261**	P	**Pn**	**20 18 06.0**	**+2.2**
	0.1nm15nm,0.6s						
BBSI	**Bau Bau**	**5.73**	**293**	P	**Pn**	**20 18 05.1**	**+0.3**
	0.1nm20nm,0.9s						
SANI	**Sanana**	**5.96**	**341**	P	**Pn**	**20 18 07.3**	**-0.5**
	0.1nm15nm,0.7s						
MTN	**Manton Dam**	**6.00**	**148**		**Pn**	**20 18 11.3**	**+3.0**
LBMI	**Labuha**	**7.06**	**357**	P	**Pn**	**20 18 23.1**	**+0.5**
	0.1nm12nm,1.3s						
SIJI	**Sorong**	**7.61**	**26**	P	**Pn**	**20 18 29.9**	**0.0**
	3.3nm,0.3s,baz=214,slow=11,SNR=27						
SIJI				S	**Sn**	**20 19 53.8**	**-1.2**
	0.5nm,0.3s,baz=200,slow=23,SNR=2.0						
SWI	**Sorong**	**7.61**	**26**	P	**Pn**	**20 18 27.7**	**-2.2**
	0.1nm19nm,0.5s						
BASI	**Baing, Sumba**	**7.63**	**251**	P	**Pn**	**20 18 31.6**	**+1.5**
	0.1nm29nm,0.8s						
KNRA	**Kununurra**	**7.94**	**174**		**Pn**	**20 18 36.4**	**+2.2**
WBSI	**Waikabubak, Su**	**8.61**	**257**	P	**Pn**	**20 18 44.4**	**+1.2**
	14nm,0.6s						
PLAI	**Plampang**	**10.06**	**263**	P	**Pn**	**20 19 02.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.53**	**192**	P	**Pn**	**20 19 08.6**	**0.0**
	1.6nm,0.3s,baz=24,slow=12,SNR=54						
FITZ				S	**Sn**	**20 21 01.8**	**-3.4**
	1.1nm,0.3s,baz=37,slow=11,SNR=4.7						
WB0	**Warramunga Arr**	**13.52**	**153**		**Pn**	**20 19 48.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**13.61**	**266**	P	**P**	**20 19 51.8**	**-0.7**
WRAB	**Tennant Creek**	**13.65**	**153**		**Pn**	**20 19 49.9**	**+0.7**
WRA	**Warramunga Arr**	**13.65**	**153**	P	**Pn**	**20 19 49.2**	**0.0**
	1.9nm,0.3s,baz=319,slow=13,SNR=25						
WRA				S	**Sn**	**20 22 13.2**	**-7.3**
	2.3nm,0.3s,baz=325,slow=24,SNR=11						
WRA	**Warramunga Arr**	**13.65**	**153**		**Pn**	**20 19 48.0**	**-1.2**
WB2	**Warramunga Arr**	**13.66**	**153**		**Pn**	**20 19 49.9**	**+0.6**
WR0	**Warramunga Arr**	**13.76**	**153**		**Pn**	**20 19 51.8**	**+1.3**
PSA00	**Pilbara Seismi**	**15.79**	**209**	P	**P**	**20 20 18.6**	**+2.0**
PSA00				IAmb	IAmb	20 20 21.5	
	comp=Z,13nm,1.1s						
COEN	**Coen**	**16.24**	**114**	P	**P**	**20 20 24.9**	**+3.3**
COEN				IAmb	IAmb	20 20 47.3	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**16.86**	**161**	P	**Pn**	**20 20 31.7**	**+2.8**
AS31				IAmb	IAmb	20 20 34.3	
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**16.86**	**161**	P	**Pn**	**20 20 30.5**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=337,slow=12,SNR=29						
ASAR				S	**S**	**20 23 28.5**	**-8.0**
	comp=Z,0.1nm,0.3s,baz=325,slow=19,SNR=1.9						
ASAR	**Alice Springs**	**16.86**	**161**	P	**Pn**	**20 20 30.3**	**+1.4**
MKAR	**Makanchi Array**	**67.71**	**328**	P	**P**	**20 27 21.5**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=124,slow=4.5,SNR=4.1						

*IDC **02** 20:27:02.7±1.6, 44°.33N×80°.85E, h7km±11km, mb1 3.3/6, mb1mx3.1/44, mbtmp3.3/6, ML3.1/6, Error ellipse: s-maj=17.7km s-min=9.0km az=134.0*
*NNC **02** 20:27:04.7±0.8, 44°.40N×80°.86E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=7.8km s-min=4.5km az=119.0*
*SOME **02** 20:27:06.3, 44°.32N×80°.87E, h20km*
ISC 02 20:27:03.1±1.2**, 44°.42N**±0°.03×**81°.00E**±0°.03**, h6**km±9km**, n56, σ1s.60**/90**, 12C-7D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.87**	**265**	eP	**Pb**	**20 27 20.7**	**0.0**
	145nm,0.1s						
DJR				eS	**Sg**	**20 27 31.7**	**+0.6**
	389nm,0.2s						
DJR	**Jarkent**	**0.87**	**265**	P	**Pb**	**20 27 20.7**	**0.0**
	145nm,0.1s						
DJR				S	**Sg**	**20 27 31.8**	**+0.7**
	389nm,0.2s						
KTMS	**Ketmen**	**1.08**	**206**	eP	**Pg**	**20 27 24.2**	**+0.5**
	52nm,0.2s						
KTMS				eS	**Sg**	**20 27 37.4**	**-0.4**
	149nm,0.1s						
KTMS	**Ketmen**	**1.08**	**206**	P	**Pg**	**20 27 24.2**	**+0.5**
	52nm,0.2s						
KTMS				S	**Sg**	**20 27 37.4**	**-0.4**
	149nm,0.1s						
KNOS	**Konyrlen**	**1.31**	**268**	eP	**Pg**	**20 27 28.3**	**+0.1**
	122nm,0.1s						
KNOS				eS	**Sg**	**20 27 44.1**	**-1.0**
	8.8nm,0.5s						
KAPS	**Kapalarasan**	**1.46**	**307**	eP	**Pb**	**20 27 31.7**	**+1.1**
	97nm,0.2s						
KAPS				eS	**Sn**	**20 27 50.3**	**+0.9**
	502nm,0.2s						
KAPS	**Kapalarasan**	**1.46**	**307**	P	**Pb**	**20 27 31.7**	**+1.1**
	97nm,0.2s						
KAPS				S	**Sn**	**20 27 50.3**	**+0.9**
	502nm,0.2s						
PDGK	**Podgornoye**	**1.54**	**226**	P	**Pn**	**20 27 31.4**	**+0.2**
	24nm,0.3s						
PDGK				S	**Sn**	**20 27 50.8**	**-0.8**
	142nm,0.2s						
SHLS	**Shalkode**	**1.68**	**222**	eP	**Pn**	**20 27 31.6**	**-1.6**
	119nm,0.3s						
SHLS				eS	**Sn**	**20 27 49.8**	**-5.3**
	1µm,0.6s						
UZB	**Uzynbulak**	**1.92**	**229**	eP	**Pb**	**20 27 38.5**	**0.0**
	66nm,0.3s						
UZB				eS	**Sn**	**20 28 01.7**	**+0.8**
	420nm,0.4s						
KPKS	**Kokpek**	**1.93**	**241**	eP	**Pn**	**20 27 38.3**	**+1.8**
	92nm,0.1s						
KPKS				eS	**Sn**	**20 28 01.9**	**+0.9**
	1µm,0.3s						
ZHN	**Zhinishke**	**2.24**	**237**	eP	**Pb**	**20 27 44.5**	**+0.5**
	38nm,0.2s						
ZHN				eS	**Sb**	**20 28 12.0**	**+0.1**
	1µm,0.2s						
KURS	**Kuram**	**2.25**	**247**	eP	**Pb**	**20 27 44.5**	**+0.4**
	8.2nm,0.3s						
KURS				eS	**Sb**	**20 28 12.2**	**+0.1**
	139nm,0.4s						
KURS	**Kuram**	**2.25**	**247**	Pg	**Pb**	**20 27 44.5**	**+0.4**
	8.2nm,0.3s						
KURS				Lg	Lg	20 28 12.2	
	139nm,0.4s						
ARXS	**Arharly**	**2.29**	**266**	eP	**Pb**	**20 27 45.0**	**+0.3**
	15nm,0.1s						
ARXS				eS	**Sb**	**20 28 13.1**	**-0.2**
	229nm,0.4s						
ARXS	**Arharly**	**2.29**	**266**	Pg	**Pb**	**20 27 45.0**	**+0.3**
	15nm,0.1s						
ARXS				Lg	Lg	20 28 13.1	
	229nm,0.4s						
SATY	**Saty**	**2.32**	**235**	eP	**Pb**	**20 27 45.5**	**+0.1**
	49nm,0.1s						
SATY				eS	**Sb**	**20 28 13.8**	**-0.5**
	537nm,0.1s						
SATY	**Saty**	**2.32**	**235**	Pg	**Pb**	**20 27 45.5**	**+0.1**
	49nm,0.1s						
SATY				Lg	Lg	20 28 13.8	
	537nm,0.1s						
MAKZ	**Makanchi**	**2.49**	**16**	⇑Pn	**Pb**	**20 27 47.2**	**-0.9**
	3.2nm,0.3s						
MAKZ				⇑Pg	**Pg**	**20 27 52.5**	**+1.9**
	9.4nm,0.5s						
MAKZ				⇓Lg	Lg	20 28 22.4	
	31nm,0.3s						
MK31	**Makanchi Array**	**2.54**	**20**	⇑Pn	**Pb**	**20 27 48.3**	**-0.8**
	0.6nm,0.2s,baz=206,slow=15,SNR=317						
MK31				Pg	**Pg**	**20 27 52.7**	**+0.9**
	10nm,0.3s,baz=199,slow=17,SNR=15						
MK31				⇓Lg	Lg	20 28 24.1	
	8.2nm,0.2s,baz=211,slow=20,SNR=6.0						
MKAR	**Makanchi Array**	**2.54**	**20**	Pn	**Pb**	**20 27 47.9**	**-1.2**
	3.9nm,0.3s,baz=201,slow=13,SNR=143						
MKAR				Pg	**Pg**	**20 27 53.0**	**+1.2**
	9.6nm,0.3s,baz=198,slow=21,SNR=38						
MKAR				Lg	Lg	20 28 24.5	
	17nm,0.3s,baz=203,slow=28,SNR=6.2						
CHKK	**Chushkaly**	**2.94**	**260**	eP	**Pb**	**20 27 56.3**	**+0.4**
	7.1nm,0.2s						
CHKK				eS	**Sb**	**20 28 32.4**	**+0.2**
	245nm,0.3s						
CHKK	**Chushkaly**	**2.94**	**260**	Pg	**Pb**	**20 27 56.3**	**+0.4**
	7.1nm,0.2s						
CHKK				Lg	Lg	20 28 32.4	
	245nm,0.3s						
KOTS	**Kotyrbulak**	**3.05**	**249**	eP	**Pb**	**20 27 59.0**	**+1.1**
	6.9nm,0.2s						
KOTS				eS	**Sb**	**20 28 36.9**	**+1.5**
	108nm,0.3s						
KOTS	**Kotyrbulak**	**3.05**	**249**	Pg	**Pb**	**20 27 59.0**	**+1.1**
	6.9nm,0.2s						
KOTS				Lg	Lg	20 28 36.9	
	108nm,0.3s						
MDOK	**Medeo**	**3.12**	**248**	eP	**Pb**	**20 27 59.2**	**+0.1**
	5.5nm,0.2s						
MDOK				eS	**Sb**	**20 28 37.5**	**0.0**
	28nm,0.4s						
MDOK	**Medeo**	**3.12**	**248**	⇓Pg	**Pg**	**20 28 02.1**	**-0.8**
	20nm,0.5s						
MDOK				⇑Lg	Lg	20 28 44.8	
	80nm,0.6s						
MDOK	**Medeo**	**3.12**	**248**	Pg	**Pb**	**20 27 59.3**	**+0.1**
	5.5nm,0.2s						
MDOK				Lg	Lg	20 28 37.5	
	28nm,0.4s						
KNDC	**Almaty**	**3.16**	**249**	⇑Pg	**Pg**	**20 28 07.3**	**+3.8**
	22nm,0.4s						
KNDC				⇑Lg	Lg	20 28 40.1	
	78nm,0.4s						
KTBS	**Karatobe**	**3.19**	**259**	eP	**Pb**	**20 28 00.6**	**+0.4**
	3.9nm,0.3s						
KTBS				eS	**Sb**	**20 28 39.9**	**+0.5**
	167nm,0.5s						
KTBS	**Karatobe**	**3.19**	**259**	Pg	**Pb**	**20 28 00.6**	**+0.4**
	3.9nm,0.3s						
KTBS				Lg	Lg	20 28 39.9	
	167nm,0.5s						
TNSS	**Tian-Shan**	**3.25**	**246**	eP	**Pb**	**20 28 02.2**	**+0.9**
	6.7nm,0.2s						
TNSS				eS	**Sb**	**20 28 42.3**	**+1.0**
	16nm,0.2s						
KUU	**Kurty**	**3.40**	**263**	eP	**Pb**	**20 28 04.2**	**+0.6**
	3.0nm,0.2s						
KUU				eS	**Sb**	**20 28 46.0**	**+0.9**
	64nm,0.4s						
KUU	**Kurty**	**3.40**	**263**	Pg	**Pb**	**20 28 04.2**	**+0.6**
	3.0nm,0.2s						
KUU				Lg	Lg	20 28 46.1	
	64nm,0.4s						
MTBS	**Maitube**	**3.55**	**250**	eP	**Pb**	**20 28 07.0**	**+0.6**
	5.2nm,0.2s						
MTBS				eS	**Sb**	**20 28 50.7**	**+0.9**
	69nm,0.3s						
MTBS	**Maitube**	**3.55**	**250**	Pg	**Pb**	**20 28 07.0**	**+0.6**
	5.2nm,0.2s						
MTBS				Lg	Lg	20 28 50.7	
	69nm,0.3s						
ZSN	**Zaisan**	**4.06**	**40**	eP	**Pg**	**20 28 19.9**	**-0.9**
	4.7nm,0.2s						
ZSN				eS	**Sg**	**20 29 12.6**	**-0.7**
	81nm,0.7s						
ULHL	**Ulahol**	**4.09**	**240**	P	**Pn**	**20 28 08.9**	**+2.6**
	SNR=7.5						
TKM2	**Tokmak 2**	**4.20**	**251**	P	**Pn**	**20 28 09.0**	**+1.3**
	SNR=11						
TKM2	**Tokmak 2**	**4.20**	**251**	⇑Pg	**Pb**	**20 28 19.4**	**+2.0**
	12nm,0.8s						
TKM2				⇑Lg	Lg	20 29 14.0	
	23nm,0.4s						
SGDS	**Sogindy**	**4.70**	**260**	eP	**Pb**	**20 28 29.0**	**+3.1**
	1.2nm,0.2s						
SGDS				eS	**Sb**	**20 29 28.3**	**+5.5**
	20nm,0.6s						
KBK	**Karagaybulak**	**4.74**	**250**	P	**Pn**	**20 28 17.0**	**+1.8**
	SNR=7.7						
CHMS	**Chumysh**	**4.75**	**255**	P	**Pn**	**20 28 16.3**	**+1.2**
	SNR=5.3						
USP	**Ospenovka**	**4.84**	**259**	P	**Pn**	**20 28 17.6**	**+1.2**
	SNR=6.0						
BTLS	**Baital**	**5.00**	**280**	eP	**Pg**	**20 28 35.8**	**-2.9**
	2.0nm,0.2s						
BTLS				eS	**Sg**	**20 29 39.9**	**-3.6**
	5.1nm,0.3s						
AAK	**Ala-Archa**	**5.05**	**252**	Pn	**Pn**	**20 28 20.1**	**+0.6**
	0.3nm,0.3s,baz=100,slow=6.1,SNR=5.5						
AAK				Pg	**Pb**	**20 28 31.0**	**-1.0**
	0.7nm,0.3s,baz=98,slow=9.4,SNR=4.1						
AAK				Lg	Lg	20 29 40.4	
	1.2nm,0.3s,baz=349,slow=20,SNR=11						
AAK	**Ala-Archa**	**5.05**	**252**	Pg	**Pg**	**20 28 37.9**	**-2.0**
	2.5nm,0.3s						
MRKS	**Merke**	**5.89**	**256**	eP	**Pg**	**20 28 53.4**	**-2.5**
	2.5nm,0.3s						
MRKS				eS	**Sg**	**20 30 09.8**	**-2.3**
	11nm,0.3s						
KURBB	**Kurchatov Arra**	**6.43**	**346**	Pn	**Pn**	**20 28 39.0**	**+0.8**
	0.3nm,0.3s,baz=170,slow=12,SNR=28						
KURBB				Sn	**Sn**	**20 29 50.6**	**-1.2**
	0.6nm,0.3s,baz=168,slow=21,SNR=4.6						
KURBB				Lg	Lg	20 30 29.4	
	0.7nm,0.3s,baz=161,slow=34,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.43**	**346**	⇓Pn	**Pn**	**20 28 40.0**	**+1.8**
	1.0nm,0.3s						
KURBB				⇓Sn	**Sn**	**20 29 51.7**	**-0.1**
	9.5nm,0.3s						
KURBB				⇑Lg	Lg	20 30 27.7	
	42nm,0.6s						
KURK	**Kurchatov**	**6.50**	**347**	⇑Pn	**Pn**	**20 28 40.1**	**+0.9**
	1.5nm,0.4s						
KURK				⇑Sn	**Sn**	**20 29 52.3**	**-1.3**
	13nm,0.6s						
KURK				⇓Lg	Lg	20 30 28.6	
	31nm,0.7s						
KK07	**Karatay Array**	**7.72**	**264**	⇑Lg	Lg	20 31 02.0	
	4.1nm,0.6s						
KK08	**Karatay Array**	**7.72**	**264**	⇓Pg	**Pg**	**20 29 28.4**	**-2.5**
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**9.86**	**13**	Pn	**Pn**	**20 29 26.2**	**+1.0**
	0.3nm,0.3s,baz=191,slow=12,SNR=5.3						
ZALV				Sn	**Sn**	**20 31 13.4**	**-2.7**
	0.4nm,0.3s,baz=189,slow=24,SNR=4.4						
ZALV				Lg	Lg	20 32 17.7	
	0.1nm,0.3s,baz=201,slow=25,SNR=2.2						
BVAR	**Borovoye Array**	**11.09**	**325**	Pn	**Pn**	**20 29 42.2**	**+0.1**
	0.3nm,0.3s,baz=141,slow=46,SNR=8.1						
BVAR				Sn	**Sn**	**20 31 41.8**	**-4.6**
	0.3nm,0.3s,baz=170,slow=34,SNR=4.7						
BVAR				Lg	Lg	20 32 53.6	
	0.5nm,0.3s,baz=130,slow=29,SNR=4.3						
SONM	**Songino Array**	**17.90**	**70**	Pn	**Pn**	**20 31 13.7**	**+1.0**
	0.3nm,0.3s,baz=268,slow=17,SNR=3.0						

*NEIC **02** 20:32:38.8±0.6, 23°.2S±0°.3×171°.9W±0°.2, h15km±9km, mb4.5/11, Error ellipse: s-maj=45.8km s-min=16.8km az=139.0*
*IDC **02** 20:32:40.7±26.0, 22°.76S×172°.73W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/24, mbtmp4.3/4, Error ellipse: s-maj=490.1km s-min=146.8km az=79.0*
ISC 02 20:32:38.2±4.4**, 23°.5S**±0°.6×**171°.5W**±0°.7**, h35km, n17, σ0s.75**/17**, mb4.5**/11**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.63**	**19**	Pn	**Pn**	**20 33 45.7**	**0.0**
CTA	**Charters Tower**	**39.28**	**267**	P	**P**	**20 40 02.9**	**-1.0**
	3.6nm,0.4s,baz=102,slow=9.9,SNR=6.1						
STKA	**Stephens Creek**	**42.10**	**248**	P	**P**	**20 40 27.1**	**+0.1**
	1.0nm,0.4s,baz=90,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**42.10**	**248**	P	**P**	**20 40 27.3**	**+0.2**
COEN	**Coen**	**43.81**	**274**	P	**P**	**20 40 42.0**	**+1.0**
COEN				IAmb	IAmb	20 41 09.9	
	comp=Z,10nm,1.2s						
BBOO	**Buckleboo**	**46.76**	**246**	P	**P**	**20 41 05.0**	**+0.7**
AS31	**Alice Springs**	**49.77**	**258**	P	**P**	**20 41 27.8**	**+0.1**
AS31				IAmb	IAmb	20 41 29.8	
	comp=Z,2.1nm,1.4s						
ASAR	**Alice Springs**	**49.77**	**258**	P	**P**	**20 41 27.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=98,slow=7.8,SNR=43						
ASAR	**Alice Springs**	**49.77**	**258**	P	**P**	**20 41 27.8**	**+0.1**
WR0	**Warramunga Arr**	**50.02**	**263**	P	**P**	**20 41 29.5**	**-0.1**
WR0				IAmb	IAmb	20 41 36.4	
	comp=Z,5.7nm,1.4s						
WB2	**Warramunga Arr**	**50.19**	**263**	P	**P**	**20 41 31.1**	**+0.2**
WB2				IAmb	IAmb	20 41 31.3	
	comp=Z,3.7nm,0.4s						
WRAB	**Tennant Creek**	**50.20**	**263**	P	**P**	**20 41 30.9**	**0.0**
WRAB				IAmb	IAmb	20 41 33.7	
	comp=Z,7.0nm,1.3s						
WB0	**Warramunga Arr**	**50.20**	**263**	P	**P**	**20 41 30.9**	**-0.1**
WB0				IAmb	IAmb	20 41 31.6	
	comp=Z,3.6nm,0.5s						
WRA	**Warramunga Arr**	**50.20**	**263**	P	**P**	**20 41 31.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=100,slow=8.0,SNR=92						
WRA	**Warramunga Arr**	**50.20**	**263**	P	**P**	**20 41 30.9**	**-0.1**
FORT	**Forrest**	**53.73**	**248**	P	**P**	**20 41 58.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**58.62**	**262**	P	**P**	**20 42 30.4**	**-1.7**
FITZ				IAmb	IAmb	20 42 36.8	
	comp=Z,4.2nm,1.0s						

*SOME **02** 21:04:45.6, 43°.15N×84°.92E, h0km*
*NNC **02** 21:04:51.6±2.5, 43°.13N×84°.66E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=18.6km s-min=10.9km az=135.0*
ISC 02 21:04:42.2±2.8**, 43°.0N**±0°.1×**85°.07E**±0°.10**, h10km, n32, σ2s.91**/42**, 8C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.48**	**280**	eP	**Pb**	**21 05 47.4**	**+3.3**
	15nm,0.2s						
KTMS				eS	**Sg**	**21 06 30.5**	**-3.6**
	31nm,0.4s						
KTMS	**Ketmen**	**3.48**	**280**	Pg	**Pb**	**21 05 47.4**	**+3.3**
	15nm,0.2s						
KTMS				Lg	Lg	21 06 30.9	
	31nm,0.4s						
DJR	**Jarkent**	**4.07**	**291**	eP	**Pb**	**21 05 56.4**	**+2.4**
	2.3nm,0.2s						
DJR				eS	**Sb**	**21 06 45.6**	**+2.3**
	5.4nm,0.4s						
DJR	**Jarkent**	**4.07**	**291**	Pg	**Pb**	**21 05 56.4**	**+2.4**
	2.3nm,0.2s						
DJR				Lg	Lg	21 06 45.6	
	5.4nm,0.4s						
PDGK	**Podgornoye**	**4.10**	**277**	Pg	**Pg**	**21 06 00.7**	**-0.1**
	2.2nm,0.3s						
PDGK				Lg	Lg	21 06 53.3	
	7.1nm,0.6s						
PDGK	**Podgornoye**	**4.10**	**277**	⇑Pg	**Pg**	**21 06 02.5**	**+1.7**
	9.5nm,0.5s						
PDGK				⇑Lg	Lg	21 06 53.8	
	22nm,0.6s						
SHLS	**Shalkode**	**4.12**	**275**	eP	**Pb**	**21 05 55.2**	**+0.4**
	6.8nm,0.2s						
SHLS				eS	**Sb**	**21 06 44.1**	**-0.5**
	36nm,0.3s						
SHLS	**Shalkode**	**4.12**	**275**	Pg	**Pb**	**21 05 55.2**	**+0.4**
	6.8nm,0.2s						
SHLS				Lg	Lg	21 06 44.6	
	36nm,0.3s						
MK31	**Makanchi Array**	**4.31**	**334**	Pg	**Pg**	**21 06 05.6**	**+0.9**
	0.9nm,0.3s,baz=149,slow=16,SNR=46						
MK31				⇑Lg	Lg	21 06 59.2	
	3.7nm,0.3s,baz=157,slow=30,SNR=11						
MAKZ	**Makanchi**	**4.43**	**331**	⇑Pg	**Pg**	**21 06 09.1**	**+2.1**
	1.9nm,0.4s						
MAKZ				⇑Lg	Lg	21 07 03.3	
	14nm,0.7s						
ZSN	**Zaisan**	**4.49**	**358**	eP	**Pg**	**21 06 07.0**	**-1.1**
	1.5nm,0.1s						
ZSN				eS	**Sg**	**21 07 04.7**	**-1.5**
	12nm,0.6s						
ZSN	**Zaisan**	**4.49**	**358**	Pg	**Pb**	**21 05 59.9**	**-1.2**
	1.2nm,0.3s						
ZSN				Lg	Lg	21 06 51.8	
	6.0nm,0.4s						
KPKS	**Kokpek**	**4.70**	**278**	eP	**Pg**	**21 06 11.4**	**-0.8**
	2.7nm,0.3s						
KPKS				eS	**Sg**	**21 07 11.6**	**-1.4**
	17nm,0.3s						
KAPS	**Kapalarasan**	**4.72**	**301**	eP	**Pb**	**21 06 08.5**	**+3.4**
	1.5nm,0.1s						
KAPS				eS	**Sg**	**21 07 06.0**	**-7.9**
	8.0nm,0.3s						
KURS	**Kuram**	**5.07**	**278**	eP	**Pg**	**21 06 18.1**	**-1.2**
	4.3nm,0.6s						
KURS				eS	**Sg**	**21 07 23.4**	**-1.6**
	8.8nm,0.9s						
KURS	**Kuram**	**5.07**	**278**	Pg	**Pg**	**21 06 18.1**	**-1.2**
	4.3nm,0.6s						
KURS				Lg	Lg	21 07 23.4	
	8.8nm,0.9s						
ARXS	**Arharly**	**5.41**	**286**	eP	**Pb**	**21 06 20.7**	**+3.8**
	1.4nm,0.2s						
ARXS				eS	**Sb**	**21 07 27.4**	**+5.6**
	5.9nm,0.5s						
ARXS	**Arharly**	**5.41**	**286**	Pg	**Pb**	**21 06 20.7**	**+3.8**
ARXS				Lg	Lg	21 07 27.4	
KOTS	**Kotyrbulak**	**5.83**	**275**	eP	**Pg**	**21 06 30.6**	**-3.3**
	1.1nm,0.2s						
KOTS				eS	**Sg**	**21 07 44.3**	**-5.2**
	8.6nm,0.5s						
KOTS	**Kotyrbulak**	**5.83**	**275**	Pg	**Pg**	**21 06 30.6**	**-3.3**
	1.1nm,0.2s						
KOTS				Lg	Lg	21 07 44.3	
	8.6nm,0.5s						
MDOK	**Medeo**	**5.88**	**275**	eP	**Pg**	**21 06 33.5**	**-1.4**
	0.7nm,0.2s						
MDOK				eS	**Sg**	**21 07 49.1**	**-1.9**
	5.1nm,0.5s						
MDOK	**Medeo**	**5.88**	**275**	⇓Lg	Lg	21 07 54.3	
	6.2nm,0.6s						
MDOK	**Medeo**	**5.88**	**275**	Pg	**Pg**	**21 06 33.5**	**-1.4**
MDOK				Lg	Lg	21 07 49.1	
CHKK	**Chushkaly**	**5.96**	**281**	eP	**Pg**	**21 06 35.2**	**-1.1**
	0.7nm,0.1s						
CHKK				eS	**Sg**	**21 07 52.2**	**-1.2**
	6.3nm,0.4s						
CHKK	**Chushkaly**	**5.96**	**281**	Pg	**Pg**	**21 06 35.2**	**-1.1**
	0.7nm,0.1s						
CHKK				Lg	Lg	21 07 52.2	
	6.3nm,0.4s						
KTBS	**Karatobe**	**6.17**	**280**	eP	Pb	21 06 35.5	+5.8
	0.6nm,0.2s						
KTBS				eS	**Sg**	**21 07 53.0**	**-7.0**
	4.6nm,0.6s						
MTBS	**Maitube**	**6.34**	**274**	eP	**Pg**	**21 06 43.2**	**-0.3**
MTBS				eS	**Sg**	**21 08 05.5**	**0.0**
KUU	**Kurty**	**6.43**	**281**	eP	**Pg**	**21 06 43.2**	**-2.1**
	0.5nm,0.2s						
KUU				eS	**Sg**	**21 08 05.6**	**-2.9**
	3.7nm,0.4s						
DGS	**Degeres**	**6.81**	**275**	Pg	**Pg**	**21 06 51.1**	**-1.5**
	1.3nm,0.4s						
DGS				Lg	Lg	21 08 20.3	
	6.0nm,0.6s						
TKM2	**Tokmak 2**	**6.96**	**273**	⇑Pg	**Pg**	**21 06 54.7**	**-0.6**
	1.7nm,0.6s						
TKM2				⇑Lg	Lg	21 08 23.6	
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**8.87**	**332**	⇑Lg	Lg	21 09 26.6	
	12nm,0.7s						
KURK	**Kurchatov**	**8.92**	**333**	⇓Lg	Lg	21 09 24.7	
	4.5nm,0.7s						

*UCR **02** 21:15:38.4±0.9, 13°.46N×90°.08W, h52km±10km, ML3.6*
*SNET **02** 21:15:38.4±1.0, 13°.46N×90°.07W, h52km±12km, ML3.6*
*GCG **02** 21:15:38.4±0.4, 13°.39N×90°.15W, h24km±4km, MD3.4*
ISC 02 21:15:37.0±2.3**, 13°.3N**±0°.1×**90°.12W**±0°.06**, h29**km±16km**,**
n37, σ0ˢ**64**/45**, 6C-13D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.67**	**29**	⇓*i*P	**Pb**	**21 15 50.3**	**+0.1**
NUBE	**Las Nubes**	**0.67**	**29**	⇓*i*P	**Pb**	**21 15 50.3**	**+0.1**
CEVE	**Cerro Verde**	**0.70**	**43**	⇓*i*P	**Pb**	**21 15 51.1**	**+0.3**
CEVE	**Cerro Verde**	**0.70**	**43**	⇓*i*P	**Pb**	**21 15 51.1**	**+0.3**
SBLS	**San Blas**	**0.71**	**43**	⇓*e*P	**Pb**	**21 15 51.2**	**+0.2**
SBLS	**San Blas**	**0.71**	**43**	⇓*e*P	**Pb**	**21 15 51.2**	**+0.2**
JAYA	**Jayaque - finc**	**0.73**	**63**	⇑*i*P	**Pb**	**21 15 51.5**	**+0.3**
JAYA				*e*S	**Sb**	**21 16 01.9**	**+0.9**
JAYA				IAML		21 16 03.1	
	comp=Z,4µm,0.2s						
JAYA	**Jayaque - finc**	**0.73**	**63**	⇑*i*P	**Pb**	**21 15 51.5**	**+0.3**
JAYA				*e*S	**Sb**	**21 16 01.9**	**+0.9**
JAYA				IAML		21 16 03.1	
	comp=Z,4µm,0.2s						
RTR	**El Retiro**	**0.73**	**38**	*e*P	**Pb**	**21 15 51.5**	**+0.1**
RTR	**El Retiro**	**0.73**	**38**	*e*P	**Pb**	**21 15 51.5**	**+0.1**
SNJE	**San Jose**	**0.74**	**42**	⇓*i*P	**Pb**	**21 15 51.6**	**+0.1**
SNJE	**San Jose**	**0.74**	**42**	⇓*i*P	**Pb**	**21 15 51.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.78**	**25**	⇓*e*P	**Pb**	**21 15 51.8**	**-0.1**
CEDA	**San Andres**	**0.85**	**55**	⇑*i*P	**Pb**	**21 15 53.2**	**-0.1**
CEDA	**San Andres**	**0.85**	**55**	⇑*i*P	**Pb**	**21 15 53.2**	**-0.1**
BOQS	**Boqueron**	**0.91**	**63**	*e*P	**Pb**	**21 15 53.6**	**-0.8**
BOQS	**Boqueron**	**0.91**	**63**	*e*P	**Pb**	**21 15 53.6**	**-0.8**
SNET	**Serv Nac Est T**	**0.94**	**67**	*e*P	**Pb**	**21 15 54.0**	**-0.7**
SNET				IAML		21 15 55.4	
	comp=Z,1µm,0.3s						
SNET				*e*S	**Sb**	**21 16 06.3**	**-0.5**
SNET	**Serv Nac Est T**	**0.94**	**67**	*e*P	**Pb**	**21 15 54.0**	**-0.7**
SNET				IAML		21 15 55.4	
	comp=Z,1µm,0.3s						
SNET				*e*S	**Sb**	**21 16 06.3**	**-0.5**
TACO	**Tacachico**	**0.98**	**49**	⇓*e*P	**Pb**	**21 15 54.6**	**-0.9**
TACO	**Tacachico**	**0.98**	**49**	⇓*e*P	**Pb**	**21 15 54.6**	**-0.9**
LFRS	**El Faro**	**1.07**	**73**	*e*P	**Pn**	**21 15 56.2**	**+0.1**
LFRS	**El Faro**	**1.07**	**73**	*e*P	**Pn**	**21 15 56.2**	**+0.1**
SJTE	**Alcalda de S**	**1.12**	**75**	⇑*i*P	**Pn**	**21 15 57.4**	**+0.6**
SJTE	**Alcalda de S**	**1.12**	**75**	⇑*i*P	**Pn**	**21 15 57.4**	**+0.6**
PCG	**Pacaya**	**1.17**	**336**	*e*P	**Pb**	**21 15 58.7**	**-0.1**
PCG				*e*S	**Sb**	**21 16 12.5**	**-1.1**
PAVA	**Las Pavas**	**1.21**	**71**	*e*P	**Pn**	**21 15 58.8**	**+0.6**
PAVA	**Las Pavas**	**1.21**	**71**	*e*P	**Pn**	**21 15 58.8**	**+0.6**
COEG	**Centro de Oper**	**1.24**	**76**	*e*P	**Pn**	**21 15 58.8**	**+0.3**
COEG				IAML		21 16 23.7	
	comp=Z,796nm,0.3s						
COEG	**Centro de Oper**	**1.24**	**76**	*e*P	**Pn**	**21 15 58.8**	**+0.3**
COEG				IAML		21 16 23.7	
	comp=Z,796nm,0.3s						
NBG	**Las Nubes**	**1.28**	**350**	*e*P	**Pb**	**21 16 00.7**	**0.0**
NBG				*e*S	**Sb**	**21 16 17.6**	**+0.8**
MTO3	**Montecristo**	**1.30**	**34**	⇓*i*P	**Pn**	**21 15 58.9**	**-0.5**
MTO3	**Montecristo**	**1.30**	**34**	⇓*i*P	**Pn**	**21 15 58.9**	**-0.5**
FUG	**Fuego 3**	**1.33**	**328**	*e*P	**Pn**	**21 16 00.7**	**+1.0**
FUG				*e*S	**Sn**	**21 16 16.7**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.40**	**74**	*e*P	**Pn**	**21 16 00.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.40**	**74**	*e*P	**Pn**	**21 16 00.8**	**+0.1**
STG3	**Santiaguito 3,**	**1.98**	**315**	*e*P	**Pn**	**21 16 09.8**	**+1.0**
STG3				*e*S	**Sb**	**21 16 34.7**	**-2.1**

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*STR **02** 21:27:54.8±0.5, 42°.7N±0°.7×°±°, h11km±4km, MLv2.2/7, preliminary*
*LDG **02** 21:27:55.9±0.0, 42°.77N×1°.99E, h11km, Md2.3/2, Ml2.5/16, Error ellipse: s-maj=0.9km s-min=0.7km az=120.0*
*MRB **02** 21:27:56.4±0.4, 42°.75N×1°.97E, h3km±6km, ML1.8/18, Error ellipse: s-maj=2.1km s-min=1.3km az=33.0*
*MDD **02** 21:27:56.3±0.3, 42°.77N×1°.98E, h0km, mb_Lg2.4/6, Error ellipse: s-maj=2.3km s-min=2.0km az=16.0*
ISC 02 21:27:54.5±1.0**, 42°.78N**±0°.01×**2°.02E**±0°.02**, h16**km±9km**,**
n61, σ0ˢ**95**/116**, 3C-2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNEB	**Nbias**	**0.14**	**28**	Pg	**Pb**	**21 27 59.6**	**+0.9**
FNEB	**Nbias**	**0.14**	**28**	⇓*i*P	**Pb**	**21 28 00.2**	**+1.4**
FNEB				S	**Sb**	**21 28 03.1**	**+1.5**
CLLI	**Llivia**	**0.30**	**186**	⇑P	**Pb**	**21 28 01.8**	**+0.2**
CLLI				S	**Sb**	**21 28 06.1**	**-0.4**
PAND	**Andorre**	**0.43**	**234**	Pg	**Pb**	**21 28 03.8**	**-0.1**
PAND				Sg	**Sb**	**21 28 09.5**	**-0.8**
ARBS	**La Rabassa**	**0.48**	**226**	⇑P	**Pb**	**21 28 05.2**	**+0.4**
ARBS				S	**Sb**	**21 28 11.4**	**-0.3**
	58nm,0.3s						
CBRU	**Bruguera**	**0.51**	**166**	P	**Pn**	**21 28 05.7**	**-1.6**
CBRU				S	**Sb**	**21 28 12.5**	**+0.2**
	41nm,0.3s						
MTLF	**Montolieu**	**0.58**	**15**	*e*Pg	**Pn**	**21 28 06.9**	**-1.2**
MTLF	**Montolieu**	**0.58**	**15**	*e*Pn	**Pn**	**21 28 09.2**	**+1.1**
MTLF				*e*Sg	**Sn**	**21 28 15.0**	**-2.2**
	26nm,0.3s						
MTLF				*e*Sn	**Sn**	**21 28 18.3**	**+1.1**
	131nm,0.2s						
MTLF	**Montolieu**	**0.58**	**15**	Pg	**Pn**	**21 28 07.1**	**-0.9**
MTLF				Pn	**Pn**	**21 28 09.2**	**+1.1**
MTLF				Sg	**Sb**	**21 28 14.8**	**+0.6**
MTLF				Sn	**Sn**	**21 28 18.4**	**+1.1**
CEST	**Esterri de Car**	**0.59**	**252**	⇑P	**Pb**	**21 28 06.6**	**0.0**
MLS	**Moulis**	**0.70**	**285**	Pg	**Pb**	**21 28 08.6**	**+0.2**
MLS	**Moulis**	**0.70**	**285**	P	**Pn**	**21 28 09.1**	**-0.7**
MLS				S	**Sb**	**21 28 18.9**	**+1.1**
	42nm,0.3s						
SJAF	**Saint Jean de**	**0.70**	**115**	Pg	**Pn**	**21 28 09.0**	**-0.8**
SJAF	**Saint Jean de**	**0.70**	**115**	P	**Pn**	**21 28 09.4**	**-0.4**
CBEU	**Beuda**	**0.72**	**137**	P	**Pn**	**21 28 09.6**	**-0.4**
CBEU				S	**Sn**	**21 28 19.4**	**-1.2**
	27nm,0.1s						
CORG	**Organya**	**0.76**	**223**	P	**Pn**	**21 28 10.2**	**-0.4**
CORG				S	**Sb**	**21 28 20.2**	**+0.8**
CSOR	**Sort**	**0.77**	**238**	⇓P	**Pn**	**21 28 09.9**	**-0.9**
CSOR				S	**Sb**	**21 28 20.1**	**+0.3**
	31nm,0.2s						
CORI	**Orista**	**0.81**	**178**	P	**Pn**	**21 28 11.1**	**-0.1**
CORI				S	**Sn**	**21 28 22.3**	**-0.6**
	21nm,0.2s						
CARA	**Val d'Aran**	**0.89**	**266**	P	**Pn**	**21 28 12.2**	**-0.3**
CARA				S	**Sb**	**21 28 23.9**	**+0.6**
	116nm,0.2s						
EMIR	**Miracle**	**0.94**	**203**	Pg	**Pn**	**21 28 14.0**	**+0.9**
EMIR				Sg	**Sn**	**21 28 26.0**	**-0.2**
EMIR				*i* Vmb_Lg		21 28 30.6	
CPAL	**Palau Saverder**	**0.97**	**119**	P	**Pn**	**21 28 14.1**	**+0.7**
CTRE	**Tremp**	**1.03**	**244**	P	**Pn**	**21 28 14.8**	**+0.4**
CTRE				S	**Sn**	**21 28 28.5**	**0.0**
	14nm,0.3s						
CFON	**Fontmartina**	**1.06**	**163**	P	**Pn**	**21 28 15.9**	**+1.1**
CFON				S	**Sn**	**21 28 30.0**	**+0.7**
	88nm,0.2s						
CCAS	**Cassa de la Se**	**1.11**	**143**	P	**Pg**	**21 28 16.8**	**+0.8**
CCAS				S	**Sn**	**21 28 32.0**	**+1.7**
	17nm,0.3s						
FMON	**Montouss**	**1.21**	**284**	P	**Pg**	**21 28 18.5**	**+0.7**
FMON				S	**Sg**	**21 28 34.5**	**+0.8**
	10nm,0.2s						
EPF	**Esparros**	**1.26**	**282**	*e*Pn	**Pg**	**21 28 17.8**	**-1.0**
EPF	**Esparros**	**1.26**	**282**	*e*Pg	**Pg**	**21 28 19.2**	**+0.4**
EPF				*e*Sg	**Sg**	**21 28 35.0**	**-0.2**
	18nm,0.2s						
CAVN	**Les Avellanes**	**1.30**	**227**	P	**Pg**	**21 28 19.3**	**-0.2**
CAVN				S	**Sg**	**21 28 36.4**	**-0.1**
	31nm,0.3s						
ECHI	**Chisagues Biel**	**1.35**	**266**	Pn	**Pg**	**21 28 20.6**	**+0.1**
ECHI				Sn	**Sg**	**21 28 37.5**	**-0.6**
ECHI	**Chisagues Biel**	**1.35**	**266**	P	**Pg**	**21 28 20.3**	**-0.2**
ECHI	**Chisagues Biel**	**1.35**	**266**	Pg	**Pg**	**21 28 20.2**	**-0.3**
ECHI				Sg	**Sg**	**21 28 37.5**	**-0.6**
ECHI				*i* Vmb_Lg		21 28 38.4	
FBR	**Fabra**	**1.37**	**177**	P	**Pg**	**21 28 21.1**	**+0.2**
FBR				S	**Sg**	**21 28 39.1**	**+0.5**
VIEF	**Viey**	**1.47**	**275**	Pn	**Pg**	**21 28 22.0**	**-0.8**
VIEF				Sn	**Sg**	**21 28 41.9**	**-0.1**
EPOB	**Poblet**	**1.59**	**206**	P	**Pg**	**21 28 24.8**	**-0.2**
EPOB				S	**Sg**	**21 28 45.3**	**-0.5**
	10nm,0.3s						
EPOB	**Poblet**	**1.59**	**206**	Pg	**Pg**	**21 28 24.7**	**-0.4**
EPOB				Sg	**Sg**	**21 28 46.2**	**+0.4**
EPOB				*i* Vmb_Lg		21 28 46.4	
CGAR	**Garraf**	**1.63**	**204**	P	**Pb**	**21 28 23.3**	**-0.8**
CGAR				S	**Sn**	**21 28 42.8**	**-0.3**
	9.4nm,0.5s						
MONQ	**Montcuq**	**1.69**	**340**	Pn	**Pb**	**21 28 24.1**	**-1.1**
MONQ				Pg	**Pg**	**21 28 27.4**	**+0.3**
MONQ				Sn	**Sg**	**21 28 49.2**	**+0.1**
LASF	**Ste Croix**	**1.86**	**45**	*e*Pn	**Pb**	**21 28 26.2**	**-1.9**
LASF	**Ste Croix**	**1.86**	**45**	*e*Pg	**Pg**	**21 28 31.2**	**+1.0**
LASF				*e*Sg	**Sg**	**21 28 55.8**	**+1.4**
	11nm,0.3s						
ETSF	**Etsaut**	**1.90**	**274**	*e*P	**Pg**	**21 28 29.5**	**-1.5**
ETSF	**Etsaut**	**1.90**	**274**	*e*Pg	**Pg**	**21 28 30.9**	**-0.1**
ETSF				*e*Sg	**Sg**	**21 28 54.6**	**-1.0**
	7.1nm,0.3s						
TRBF	**Trabuc cave**	**1.94**	**46**	Pn	**Pb**	**21 28 27.5**	**-1.9**
TRBF				Pg	**Pg**	**21 28 32.7**	**+1.0**
TRBF				Sg	**Sg**	**21 28 58.9**	**+2.1**
ATE	**Arette**	**2.02**	**280**	Pg	**Pg**	**21 28 32.9**	**-0.4**
ATE				Sg	**Sg**	**21 28 59.8**	**+0.3**
CAF	**Calviac**	**2.14**	**1**	*e*Pg	**Pg**	**21 28 35.8**	**+0.2**
CAF				*e*Sn	**Sn**	**21 28 55.2**	**-0.7**
CAF				*e*Sg	**Sg**	**21 29 04.2**	**+0.8**
	6.6nm,0.2s						
LFF	**La Frestale**	**2.35**	**337**	*e*Pn	**Pn**	**21 28 33.5**	**+1.1**
LFF	**La Frestale**	**2.35**	**337**	*e*Pg	**Pg**	**21 28 40.0**	**+0.5**
LFF				*e*Sg	**Sg**	**21 29 09.9**	**0.0**
	9.6nm,0.3s						
SJPF	**Ste Jean**	**2.41**	**279**	*e*Pg	**Pg**	**21 28 40.4**	**-0.2**
SJPF				*e*Sg	**Sg**	**21 29 11.3**	**-0.5**
	2.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.55**	**352**	*e*Pn	**Pn**	**21 28 35.6**	**+0.5**
RJF	**Les Rejaudoux**	**2.55**	**352**	*e*Pg	**Pg**	**21 28 43.2**	**-0.1**
RJF				*e*Sn	**Sn**	**21 29 06.6**	**+0.8**
RJF				*e*Sg	**Sg**	**21 29 16.7**	**+0.3**
	6.1nm,0.2s						
VIVF	**Saint-Julien-l**	**2.83**	**42**	*e*Pn	**Pn**	**21 28 39.8**	**+0.8**
VIVF	**Saint-Julien-l**	**2.83**	**42**	*e*Pg	**Pg**	**21 28 48.8**	**+0.2**
VIVF				*e*Sg	**Sg**	**21 29 25.3**	**0.0**
	4.0nm,0.2s						
LMR	**La Mourre**	**3.34**	**79**	*e*Pn	**Pn**	**21 28 46.6**	**+0.6**
LMR	**La Mourre**	**3.34**	**79**	*e*Pg	**Pg**	**21 28 58.2**	**-0.2**
LMR				*e*Sn	**Sn**	**21 29 24.9**	**-0.3**
LMR				*e*Sg	**Sg**	**21 29 40.9**	**-0.7**
	2.0nm,0.2s						
FRF	**La Foret Royal**	**3.47**	**75**	*e*Pg	**Pg**	**21 28 59.5**	**-1.5**
FRF				*e*Sg	**Sg**	**21 29 44.9**	**-1.1**
	2.7nm,0.3s						
TCF	**Toulx Ste Croi**	**3.51**	**2**	*e*Pg	**Pg**	**21 29 01.4**	**-0.3**
TCF				*e*Sg	**Sg**	**21 29 46.0**	**-1.1**
	1.1nm,0.2s						
ETOR	**Torete**	**3.62**	**239**	Pn	**Pn**	**21 28 52.9**	**+2.9**
ETOR				Sn	**Sn**	**21 29 35.0**	**+2.5**
ETOR				Sg	**Sg**	**21 29 50.3**	**-0.5**
BGF	**Bois d'Agland**	**3.82**	**9**	*e*Pg	**Pg**	**21 29 06.7**	**-1.0**
BGF				*e*Sg	**Sg**	**21 29 56.3**	**-0.8**
	4.2nm,0.3s						
SMF	**Signal de Mont**	**4.08**	**18**	*e*Pg	**Pg**	**21 29 12.3**	**-0.2**
SMF				*e*Sg	**Sg**	**21 30 03.5**	**-1.8**
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**4.12**	**13**	*e*Pg	**Pg**	**21 29 12.4**	**-0.9**
AVF				*e*Sg	**Sg**	**21 30 05.2**	**-1.5**
	0.9nm,0.3s						
MFF	**Saint Martin d**	**4.12**	**339**	*e*Pg	**Pg**	**21 29 12.3**	**-1.1**
MFF				*e*Sg	**Sg**	**21 30 04.8**	**-1.9**
	1.3nm,0.2s						
SSF	**Saint Saulge**	**4.41**	**13**	*e*Pg	**Pg**	**21 29 17.7**	**-1.2**
SSF				*e*Sg	**Sg**	**21 30 14.7**	**-1.2**
	0.8nm,0.3s						

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*IDC **02** 21:35:42.0±1.6, 23°.23S×66°.68W, h164km±16km, mb3.0/2, mb1 3.5/7, mb1mx3.3/26, mbtmp3.8/7, Error ellipse: s-maj=24.1km s-min=15.1km az=142.0*
*NEIC **02** 21:35:43.7±1.9, 23°.26S±0°.08×67°.1W±0°.2, h203km±13km, mb4.1/5, Md3.8(SJA), Error ellipse: s-maj=20.4km s-min=10.5km az=101.0*
*GUC **02** 21:35:44.7±0.7, 23°.10S×67°.39W, h216km±9km, ML4.5*
ISC 02 21:35:43.3±0.9**, 23°.25S**±0°.05×**67°.08W**±0°.10**,**
h203km±10km**, n76,** σ**1**ˢ**30**/105**, 4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.80**	**290**	P	**Pn**	**21 36 21.3**	**+0.9**
	19nm,0.3s,baz=140,slow=5.7,SNR=316						
LVC				S	**S**	**21 36 49.3**	**+0.6**
	50nm,0.3s,baz=198,slow=22,SNR=14						
LVC	**Limon Verde**	**1.80**	**290**	*e*P	**Pn**	**21 36 21.2**	**+0.7**
LVC				*e*S	**S**	**21 36 48.6**	**-0.2**
PB15	**IPOC Station P**	**2.20**	**270**		**Pn**	**21 36 25.3**	**+1.0**
PB15				Sn	**S**	**21 36 56.6**	**+1.0**
PB15	**IPOC Station P**	**2.20**	**270**	⇑*i*P	**Pn**	**21 36 25.1**	**+0.8**
PB15				*e*S	**S**	**21 36 56.1**	**+0.5**
PB15	**IPOC Station P**	**2.20**	**270**	*i* P	**Pn**	**21 36 25.2**	**+0.9**
PB15				*i* S	**S**	**21 36 56.5**	**+0.8**
PB15				IAML		21 37 01.7	
	comp=E,3µm,0.3s						
PB06	**IPOC Station P**	**2.36**	**283**		**Pn**	**21 36 26.9**	**+0.9**
PB06				Sn	**S**	**21 36 58.7**	**+0.1**
PB06	**IPOC Station P**	**2.36**	**283**	⇑*i*P	**Pn**	**21 36 26.8**	**+0.8**
PB06				*e*S	**S**	**21 36 58.6**	**+0.1**
PB06				IAML		21 37 01.0	
	comp=E,1µm,0.3s						
PB06	**IPOC Station P**	**2.36**	**283**	*i* P	**Pn**	**21 36 27.0**	**+0.9**
PB06				*i* S	**S**	**21 36 58.7**	**+0.1**
PB06				IAML		21 37 01.0	
	comp=E,1µm,0.3s						
PB09	**IPOC Station P**	**2.46**	**305**		**Pn**	**21 36 28.3**	**+1.1**
PB09				Sn	**S**	**21 37 00.8**	**0.0**
PB09	**IPOC Station P**	**2.46**	**305**	*e*P	**Pn**	**21 36 28.3**	**+1.1**
PB09				*e*S	**S**	**21 37 01.2**	**+0.5**
PB09				IAML		21 37 04.4	
	comp=N,511nm,0.2s						
PB04	**IPOC Station P**	**2.98**	**287**		**Pn**	**21 36 33.3**	**+0.4**
PB04	**IPOC Station P**	**2.98**	**287**	⇑*i*P	**Pn**	**21 36 33.5**	**+0.5**
PB04				*e*S	**S**	**21 37 10.3**	**-0.8**
PB04				IAML		21 37 14.9	
	comp=N,799nm,0.1s						
PB04	**IPOC Station P**	**2.98**	**287**	*i* P	**Pn**	**21 36 33.5**	**+0.5**
PB04				*i* S	**S**	**21 37 10.7**	**-0.4**
PB04				IAML		21 37 13.0	
	comp=N,752nm,0.1s						
PB07	**IPOC Station P**	**3.00**	**300**		**Pn**	**21 36 33.8**	**+0.5**
PB07	**IPOC Station P**	**3.00**	**300**	*e*P	**Pn**	**21 36 33.8**	**+0.5**
PB07				*e*S	**S**	**21 37 10.5**	**-1.3**
PB07				IAML		21 37 12.3	
	comp=N,2µm,0.2s						
PB07	**IPOC Station P**	**3.00**	**300**	*i* P	**Pn**	**21 36 34.0**	**+0.6**
PB07				*i* S	**S**	**21 37 10.7**	**-1.1**
PB07				IAML		21 37 12.3	
	comp=E,2µm,0.4s						
PB01	**IPOC Station P**	**3.13**	**314**		**Pn**	**21 36 35.2**	**+0.5**
PB01	**IPOC Station P**	**3.13**	**314**	*e*P	**Pn**	**21 36 34.8**	**+0.1**
PB01				*e*S	**S**	**21 37 13.4**	**-0.9**
PB01				IAML		21 37 15.4	
	comp=N,798nm,0.3s						
PB01	**IPOC Station P**	**3.13**	**314**	*i* P	**Pn**	**21 36 35.3**	**+0.6**
PB01				*i* S	**S**	**21 37 14.5**	**+0.1**
PB01				IAML		21 37 15.7	
	comp=E,716nm,0.3s						
PB10	**IPOC Station P**	**3.20**	**265**		**Pn**	**21 36 36.2**	**+0.7**
PB10	**IPOC Station P**	**3.20**	**265**	⇑*i*P	**Pn**	**21 36 36.2**	**+0.7**
PB10				*e*S	**S**	**21 37 14.1**	**-1.6**
PB10	**IPOC Station P**	**3.20**	**265**	*i* P	**Pn**	**21 36 36.2**	**+0.7**
PB10				*i* S	**S**	**21 37 14.6**	**-1.1**
PB10				IAML		21 37 19.8	
	comp=E,155nm,0.2s						
PB02	**IPOC Station P**	**3.24**	**306**		**Pn**	**21 36 36.1**	**+0.1**
PB02	**IPOC Station P**	**3.24**	**306**	*e*P	**Pn**	**21 36 36.1**	**+0.1**
PB02				*e*S	**S**	**21 37 14.8**	**-1.8**
PB02				IAML		21 37 18.6	
	comp=E,842nm,0.3s						
PB02	**IPOC Station P**	**3.24**	**306**	*i* P	**Pn**	**21 36 36.3**	**+0.3**
PB02				*i* S	**S**	**21 37 15.2**	**-1.4**
PB02				IAML		21 37 16.7	
	comp=E,694nm,0.1s						
PB14	**IPOC Station P**	**3.34**	**245**		**Pn**	**21 36 37.0**	**-0.4**
PB14	**IPOC Station P**	**3.34**	**245**	*i* P	**Pn**	**21 36 37.7**	**+0.3**
PB14				*e*S	**S**	**21 37 17.7**	**-1.4**
PB08	**IPOC Station P**	**3.64**	**328**		**Pn**	**21 36 42.3**	**+1.0**
PB08	**IPOC Station P**	**3.64**	**328**	*e*P	**Pn**	**21 36 42.2**	**+1.0**
PB08				*e*S	**S**	**21 37 26.4**	**+0.4**
PATCX	**Punta Patache**	**3.73**	**310**		**Pn**	**21 36 42.2**	**+0.2**
PATCX	**Punta Patache**	**3.73**	**310**	*e*P	**Pn**	**21 36 41.7**	**-0.3**
PATCX				*e*S	**S**	**21 37 25.3**	**-2.2**
PATCX	**Punta Patache**	**3.73**	**310**	*i* P	**Pn**	**21 36 42.6**	**+0.5**
PATCX				*i* S	**S**	**21 37 25.7**	**-1.8**
PATCX				IAML		21 37 32.0	
	comp=E,422nm,0.3s						
TA01	**Diego Aracena**	**3.92**	**312**		**Pn**	**21 36 44.5**	**+0.3**
TA01	**Diego Aracena**	**3.92**	**312**	⇓*e*P	**Pn**	**21 36 43.7**	**-0.6**
TA01				*e*S	**S**	**21 37 29.0**	**-2.6**
HMBC	**Humberstone**	**3.94**	**318**	*e*P	**Pn**	**21 36 43.7**	**-0.9**
HMBC	**Humberstone**	**3.94**	**318**	*i* P	**Pn**	**21 36 44.5**	**-0.1**
HMBC				*i* S	**S**	**21 37 29.9**	**-2.3**
HMBC				IAML		21 37 32.5	
	comp=E,552nm,0.3s						
AC02	**Maricunga**	**4.03**	**207**		**Pn**	**21 36 46.2**	**+0.2**
AC02	**Maricunga**	**4.03**	**207**	*e*P	**Pn**	**21 36 46.2**	**+0.2**
GO01	**Chusmiza**	**4.07**	**331**		**Pn**	**21 36 46.9**	**+0.3**
GO01	**Chusmiza**	**4.07**	**331**	*e*P	**Pn**	**21 36 46.9**	**+0.3**
GO01	**Chusmiza**	**4.07**	**331**	*i* P	**Pn**	**21 36 47.3**	**+0.7**
GO01				*i* S	**S**	**21 37 37.5**	**+1.8**
GO01				IAML		21 37 38.6	
	comp=N,618nm,0.1s						
TA02	**Huaiquique**	**4.10**	**316**		**Pn**	**21 36 46.9**	**+0.5**
TA02	**Huaiquique**	**4.10**	**316**	*e*S	**S**	**21 37 32.5**	**-3.0**
PB11	**IPOC Station P**	**4.22**	**325**		**Pn**	**21 36 47.3**	**-0.8**
PB11	**IPOC Station P**	**4.22**	**325**	*e*P	**Pn**	**21 36 47.4**	**-0.7**
PB11	**IPOC Station P**	**4.22**	**325**	*i* P	**Pn**	**21 36 47.5**	**-0.6**
PB11				*i* S	**S**	**21 37 36.8**	**-1.7**
PB11				IAML		21 37 38.8	
	comp=E,589nm,0.3s						
AC01	**Pan de Azucar**	**4.31**	**227**		**Pn**	**21 36 48.4**	**-0.7**
AC01	**Pan de Azucar**	**4.31**	**227**	*e*P	**Pn**	**21 36 48.2**	**-0.9**
AC06	**Mina Casimiro**	**5.05**	**215**	Pn	**Pn**	**21 36 57.0**	**-1.5**
AC06	**Mina Casimiro**	**5.05**	**215**	*e*P	**Pn**	**21 36 55.4**	**-3.0**
PB16	**IPOC Station P**	**5.39**	**335**		**Pn**	**21 37 03.6**	**+0.3**
PB16	**IPOC Station P**	**5.39**	**335**	*e*P	**Pn**	**21 37 03.3**	**-0.1**
PB12	**IPOC Station P**	**5.52**	**326**		**Pn**	**21 37 03.0**	**-1.5**
PB12	**IPOC Station P**	**5.52**	**326**	*e*P	**Pn**	**21 37 02.8**	**-1.7**
LPAZ	**La Paz**	**6.99**	**352**	P	**Pn**	**21 37 24.2**	**+0.1**
	comp=E,3.1nm,0.3s,baz=174,slow=9.2,SNR=47						
LPAZ				S	**S**	**21 38 43.6**	**-0.2**
	baz=104,slow=12,SNR=1.5						
LPAZ	**La Paz**	**6.99**	**352**		**Pn**	**21 37 24.4**	**+0.3**
GO04	**Tololo Observa**	**7.66**	**205**	Pn	**Pn**	**21 37 30.5**	**-1.8**
CO03	**El Pedregal**	**8.22**	**202**	Pn	**Pn**	**21 37 36.8**	**-2.7**
CO06	**Fray Jorge**	**8.44**	**208**	Pn	**Pn**	**21 37 39.9**	**-2.3**
CO02	**Combarbal**	**8.66**	**203**	Pn	**Pn**	**21 37 43.3**	**-1.9**
SIV	**San Ignacio**	**9.17**	**39**	P	**Pn**	**21 37 48.9**	**-3.0**
	comp=E,0.8nm,0.3s,baz=234,slow=13,SNR=4.9						
SIV				S	S	21 39 24.3	-11
	comp=E,0.5nm,0.3s,baz=213,slow=23,SNR=2.2						
ROC1	**El Roble**	**10.30**	**199**	Pn	**Pn**	**21 38 04.9**	**-1.6**
MT02	**Curacav**	**10.60**	**199**	Pn	**Pn**	**21 38 07.1**	**-3.0**
MT01	**Popeta**	**11.20**	**198**	Pn	**Pn**	**21 38 16.8**	**-1.0**
BO02	**Sierra Bellavi**	**11.95**	**195**	Pn	**Pn**	**21 38 26.8**	**-0.7**
PLCA	**Paso Flores**	**17.68**	**189**	P	**Pn**	**21 39 36.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=8.2,slow=10,SNR=8.0						
PLCA	**Paso Flores**	**17.68**	**189**	P	**Pn**	**21 39 36.0**	**-1.4**
PLCA				IAmb	IAmb	21 39 51.5	
	comp=Z,5.2nm,1.1s						
LL04	**Puerto Octay**	**18.18**	**193**	P	**Pn**	**21 39 41.2**	**-1.9**
LL04				IAmb	IAmb	21 39 42.7	
	comp=Z,14nm,1.2s						
BDFB	**Brasilia**	**19.49**	**71**	P	**P**	**21 39 53.6**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=240,slow=12,SNR=8.4						
BDFB	**Brasilia**	**19.49**	**71**	P	**P**	**21 39 54.0**	**-1.3**
BDFB				IAmb	IAmb	21 39 55.6	
	comp=Z,6.2nm,0.8s						
EFI	**East Falkland**	**29.22**	**168**	P	**P**	**21 41 26.3**	**+0.4**
TXAR	**Lajitas Array**	**63.02**	**324**	P	**P**	**21 45 53.0**	**+4.0**
	comp=Z,0.2nm,0.7s,baz=145,slow=3.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.37**	**69**	P	**P**	**21 47 10.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=259,slow=6.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.37**	**69**	P	**P**	**21 47 10.6**	**-0.1**
WRA	**Warramunga Arr**	**132.26**	**208**	PKP	**PKiKP**	**21 54 38.0**	**+3.0**
	comp=Z,0.5nm,1.1s,baz=168,slow=1.6,SNR=1.7						
MKAR	**Makanchi Array**	**145.99**	**39**	PKPbc	**PKiKP**	**21 55 00.8**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=2.9,slow=2.9,SNR=1.9						

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*NEIC **02** 22:42:57.0±1.0, 17°.8S±0°.2×178°.22W±0°.07, h597km±11km, mb4.2/16, Error ellipse: s-maj=27.2km s-min=8.9km az=174.0*
*IDC **02** 22:43:00.7±1.9, 17°.31S×178°.92W, h600km±12km, mb3.0/6, mb1 3.3/7, mb1mx3.1/29, mbtmp3.9/7, Error ellipse: s-maj=93.4km s-min=19.0km az=151.0*
ISC 02 22:42:57.0±0.7**, 18°.1S**±0°.2×**178°.27W**±0°.10**, h579**km**, n27,**
σ**1**ˢ**67**/29**, mb4.0**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.52**	**275**	P	**P**	**22 44 20.9**	**+3.2**
	2.4nm,0.3s,baz=90,slow=1.7,SNR=12						
MSVF				S	**S**	**22 45 23.2**	**-0.3**
	baz=18,slow=23,SNR=1.5						
MSVF	**Nonsavu**	**3.52**	**275**	P	**P**	**22 44 18.7**	**+1.0**
MSVF					**S**	**22 45 27.6**	**+4.2**
PINNC	**Pines Island,**	**14.13**	**249**	P	**P**	**22 45 58.3**	**+0.9**
RAR	**Rarotonga**	**17.70**	**103**	P	**P**	**22 46 30.0**	**-0.8**
URZ	**Urewera**	**20.52**	**190**	P	**P**	**22 46 56.2**	**0.0**
COEN	**Coen**	**37.23**	**271**	P	**P**	**22 49 20.3**	**-0.4**
COEN				IAmb	IAmb	22 49 21.4	
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**22 49 32.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=105,slow=7.6,SNR=4.0						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**22 49 32.1**	**0.0**
BBOO	**Buckleboo**	**43.44**	**241**	P	**P**	**22 50 09.5**	**-0.3**
BBOO				IAmb	IAmb	22 50 10.2	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**44.70**	**260**	P	**P**	**22 50 18.3**	**-1.4**
WB0				IAmb	IAmb	22 50 18.4	
	comp=Z,6.9nm,1.4s						
WB2	**Warramunga Arr**	**44.72**	**260**	P	**P**	**22 50 18.4**	**-1.5**
WRAB	**Tennant Creek**	**44.72**	**260**	P	**P**	**22 50 18.2**	**-1.7**
WRAB				IAmb	IAmb	22 50 43.8	
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**22 50 18.6**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.2,SNR=69						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**22 50 18.3**	**-1.7**
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**22 50 20.5**	**-0.6**
	comp=Z,11nm,0.6s,baz=87,slow=8.6,SNR=141						
ASAR	**Alice Springs**	**44.87**	**254**	P	**P**	**22 50 19.8**	**-1.2**
FORT	**Forrest**	**50.05**	**245**	P	**P**	**22 50 58.4**	**-1.3**
KNRA	**Kununurra**	**50.60**	**264**	P	**P**	**22 51 02.5**	**-1.3**
KNRA				IAmb	IAmb	22 51 04.5	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.13**	**261**	P	**P**	**22 51 21.1**	**-0.8**
PSA00	**Pilbara Seismi**	**57.99**	**255**	P	**P**	**22 51 54.2**	**-1.3**
PSA00	**Pilbara Seismi**	**57.99**	**255**	P	**P**	**22 51 54.3**	**-1.3**
PSA00				IAmb	IAmb	22 52 15.4	
	comp=Z,27nm,1.4s						
UGM	**Wanagama**	**69.77**	**268**	P	**P**	**22 53 09.0**	**-1.5**
QSPA	**South Pole Qui**	**71.98**	**180**	P	**P**	**22 53 23.4**	**+0.8**
QSPA				IAmb	IAmb	22 53 46.6	
	comp=Z,4.5nm,1.4s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**22 54 05.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=239,slow=4.7,SNR=2.6						
HDA	**Harding Lake**	**85.69**	**13**	P	**P**	**22 54 31.4**	**-3.4**
HDA				IAmb	IAmb	22 54 34.1	
	comp=Z,5.1nm,0.8s						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**22 54 39.4**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=230,slow=5.9,SNR=5.4						
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**22 54 35.6**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=229,slow=4.2,SNR=1.4						

BUC 02 22:54:22.5±0.1**, 45°.52N×27°.80E, h1**km**, ml0.4**/3**, 6C-4D,**
Error ellipse: s-maj=2.3km s-min=0.7km az=49.0,
Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHL	**Schela**	**0.03**	**120**	⇑P	Pg	22 54 23.3	+0.2
SCHL				⇓S	Sg	22 54 23.7	+0.3
IZVR	**Izvoarele**	**0.03**	**325**	⇑P	Pg	22 54 23.5	+0.2
IZVR				⇑S	Sg	22 54 24.0	+0.3
SLCR	**Slobozia Conac**	**0.08**	**347**	⇑P	Pg	22 54 24.1	+0.1
TUDR		**0.12**	**312**	⇑P	Pg	22 54 25.1	+0.2
TUDR				⇑S	Sg	22 54 26.3	-0.1
SCTR	**Scanteiesti**	**0.21**	**41**	⇓P	Pg	22 54 26.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFR	Carcaliu	0.41	144	⇓P	Pg	22 54 30.2	-0.2
CFR				⇓S	Sg	22 54 36.3	+0.5

BUC 02 22:54:24.4±0.5, 45°.55N×27°.76E, h1km, ml0.4/3, 3C-4D, Error ellipse: s-maj=6.4km s-min=1.0km az=76.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZVR	Izvoarele	0.01	145	⇑P	Pg	22 54 24.6	0.0
IZVR				⇓S	Sg	22 54 24.9	+0.2
SLCR	Slobozia Conac	0.04	7	⇑P	Pg	22 54 25.3	+0.1
SLCR				⇑S	Sg	22 54 25.9	+0.2
SLCR	Slobozia Conac	0.04	7	⇓S	Pg	22 54 24.9	-0.2
SCHL	Schela	0.07	135	⇓P	Pg	22 54 25.7	0.0
SCHL				⇓S	Sg	22 54 26.8	+0.3

RSNC 02 22:56:33.2±1.6, 7°.62N×73°.41W, h4km±6km, ML3.1, Mw3.5, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.62	8	eP	Pg	22 56 44.0	-1.2
OCAC				eS	Sg	22 56 52.7	-0.6
OCAC				i		22 56 56.2	
	comp=Z,1μm,0.3s						
PAMC	Pamplona, Colo	0.76	111	⇓iP	Pg	22 56 46.3	-1.5
PAMC				eS	Sg	22 56 56.4	-1.2
PAMC				i		22 56 56.8	
	comp=Z,764nm,0.2s						
BARC	Barichara	1.04	168	⇑iP	Pg	22 56 51.8	-1.5
BARC				eS	Sg	22 57 05.9	-0.9
BARC				i		22 57 08.5	
	comp=Z,367nm,0.2s						
ZARC	Zaragoza, Cauc	1.44	265	⇓iP	Pn	22 56 57.7	-2.4
ZARC				eS	Sb	22 57 17.4	-2.0
ZARC				i		22 57 20.5	
	comp=Z,265nm,0.3s						
PTBC	PUERTO BERRIO,	1.49	224	eP	Pn	22 56 57.8	-3.0
PTBC				eS	Sn	22 57 19.0	-1.9
PTBC				i		22 57 21.7	
	comp=Z,370nm,0.3s						
RUSC	La Rusia	1.75	169	⇑eP	Pn	22 57 03.4	-1.3
RUSC				eS	Sn	22 57 26.4	-1.3
RUSC				i		22 57 29.2	
	comp=Z,356nm,0.2s						
LL1C	La Loma 1 Cana	1.92	356	i P	Pn	22 57 06.9	+0.3
LL1C				eS	Sb	22 57 32.8	-0.2
TAMC	Tame, Arauca	1.99	126	eP	Pg	22 57 11.0	-0.4
TAMC				eS	Sn	22 57 32.5	-0.6
TAMC				i		22 57 41.5	
	comp=Z,119nm,0.5s						
SPBC	San Pablo de B	2.06	199	eP	Pn	22 57 08.1	-0.6
SPBC				eS	Sn	22 57 35.1	+0.2
SPBC				i		22 57 48.5	
	comp=Z,120nm,0.2s						
LL6C	La Loma 6 Bece	2.11	4	eP	Pn	22 57 06.2	-3.1
LL6C				eS	Sn	22 57 34.2	-1.7
LL6C				i		22 57 40.0	
	comp=Z,70nm,0.3s						
UREC	San Jos de Ur	2.11	274	eP	Pn	22 57 08.2	-1.1
UREC				eS	Sn	22 57 34.4	-1.6
UREC				i		22 57 40.1	
	comp=Z,98nm,0.3s						
NORC	Norcasia	2.50	215	eP	Pn	22 57 12.6	-2.2
NORC				eS	Sn	22 57 42.8	-3.0
NORC				i		22 57 48.7	
	comp=Z,57nm,0.2s						
MOTC	Monteria, Cord	2.51	297	⇓iP	Pn	22 57 14.0	-0.9
MOTC				eS	Sn	22 57 45.6	-0.4
MOTC				i		22 58 01.8	
	comp=Z,29nm,0.6s						
HELC	Santa Helena	2.54	236	⇑eP	Pn	22 57 14.6	-0.9
HELC				eS	Sn	22 57 48.1	+1.0
HELC				i		22 57 54.9	
	comp=Z,76nm,0.2s						
DBBC	Dabeiba	2.84	258	eP	Pn	22 57 20.1	+0.7
DBBC				eS	Sn	22 57 49.6	-4.6
DBBC				i		22 58 11.2	
	comp=Z,236nm,0.7s						
SJCC	San Jacinto, C	2.86	322	eP	Pn	22 57 18.7	-1.0
SJCC				eS	Sn	22 57 54.0	-0.6
SJCC				i		22 58 13.4	
	comp=Z,32nm,0.6s						
ROSC	El Rosal	2.91	198	eP	Pb	22 57 25.9	+0.1
ROSC				eS	Sg	22 58 09.1	+2.5
ROSC				i		22 58 20.2	
	comp=Z,47nm,0.6s						
CHIC	Chingaza	2.99	186	eP	Pn	22 57 21.1	-0.6
CHIC				eS	Sb	22 58 06.0	+1.7
CHIC				i		22 58 24.7	
	comp=Z,24nm,0.5s						
SDV	Santo Domingo	3.02	65	eP	Pb	22 57 25.3	-2.5
SDV				eS	Sb	22 58 04.7	-0.4
SDV				i		22 58 12.5	
	comp=Z,53nm,0.5s						
GUY2C	Guyana, Caldas	3.07	219	eP	Pn	22 57 21.9	-1.1
GUY2C				eS	Sn	22 58 00.1	-0.3
GUY2C				i		22 58 16.6	
	comp=Z,54nm,0.4s						
CRJC	Cerrejon, Guaj	3.42	9	eP	Pb	22 57 32.9	-1.5
VILC	Villavicencio,	3.50	185	eP	Pn	22 57 27.6	-0.9
VILC				i		22 58 35.9	
	comp=Z,1μm,0.4s						
ORTC	Ortega, Tolima	4.11	206	eP	Pn	22 57 39.0	+2.1
ORTC				eS	Sb	22 58 32.8	-3.6
ORTC				i		22 58 45.3	
	comp=Z,34nm,0.4s						

*DJA **02** 22:59:29.4±0.3, 6°S±3°×10°5E±°, h10km, M4.0/14, MLv4.0/14*
*IDC **02** 22:59:30.5±9.1, 6°.46S×104°.49E, h42km±68km, mb3.5/3, mb1 3.9/5, mb1mx3.3/55, mbtmp4.0/5, ML4.4/2, Error ellipse: s-maj=67.0km s-min=52.6km az=52.0*
ISC 02 22:59:28.1±2.1, 6°.23S±0°.06×104°.82E±0°.06, h13km±15km, n29, σ1s.02/29, mb3.8/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	0.77	335	P	Pb	22 59 42.3	-1.1
KASI				S	Sb	22 59 52.8	-0.9
CGJI	Cibinong	0.95	114	P	Pb	22 59 46.5	0.0
BLSI	Bandar Lampung	0.95	26	P	Pb	22 59 46.7	+0.2
BLSI				S	Sb	22 59 58.6	-0.5
KLI	Kotabumi	1.35	2	P	Pb	22 59 53.6	+0.2
KLI				S	Sb	23 00 12.1	+1.5
LWLI	Liwa	1.42	328	P	Pn	22 59 54.3	+0.5
LWLI				S	Sb	23 00 13.3	+0.7
KLSI		1.53	357	P	Pn	22 59 55.9	+0.7
TNG	Tangerang	1.82	88	P	Pb	23 00 00.5	-0.8
TNG				P	Pn	22 59 59.6	+0.4
SKJI	Sukabumi	1.89	114	P	Pb	23 00 02.0	-0.6
DBJI	Dramaga	1.95	100	P	Pb	23 00 04.0	+0.5
CBJI	Citeko	2.03	96	P	Pg	23 00 06.7	-0.3
CNJI	Cibinong	2.53	115	P	Pn	23 00 11.0	+2.0
MNAI	Manna	2.62	315	P	Pn	23 00 11.2	+0.9
LEM	Lembang	2.84	102	P	Pb	23 00 18.1	-0.8
	10nm,0.3s,baz=223,slow=17,SNR=5.0						
LEM				S	Sb	23 00 53.6	-0.1
	4.4nm,0.3s,baz=342,slow=23,SNR=1.6						
LEM	Lembang	2.84	102	P	Pn	23 00 14.8	+1.4
PMBI	Palembang	3.28	359	P	Pn	23 00 20.2	+0.9
KSI	Kapahiang	3.38	319	P	Pn	23 00 22.9	+2.1
CMJI	Cimerak	3.92	113	P	Pn	23 00 29.1	+1.0
MASI	Maura Aman, Be	4.00	320	P	Pn	23 00 30.2	+1.0
BATI	Baumata	19.06	103	P	Pn	23 03 51.5	+0.2
	6.0nm,0.3s,baz=97,slow=4.3,SNR=4.1						
H01W3	Cape Leeuwin H	29.79	164	T	T	23 36 46.2	
	baz=342,slow=76,SNR=12						
H01W1	Cape Leeuwin H	29.80	164	T	T	23 36 47.3	
	baz=342,slow=76,SNR=12						
H01W2	Cape Leeuwin H	29.80	164	T	T	23 36 47.0	
	baz=342,slow=76,SNR=14						
WRA	Warramunga Arr	31.75	118	P	P	23 05 51.9	-0.4
	0.3nm,0.5s,baz=288,slow=7.0,SNR=8.1						
H08S2	Diego Garcia H	32.12	266	T	T	23 39 25.6	
	baz=89,slow=76,SNR=59						
H08S3	Diego Garcia H	32.13	266	T	T	23 39 27.1	
	baz=89,slow=76,SNR=171						
H08S1	Diego Carcia H	32.13	266	T	T	23 39 27.8	
	baz=89,slow=76,SNR=38						
ASAR	Alice Springs	32.90	125	P	P	23 06 02.1	-0.3
	0.8nm,0.7s,baz=309,slow=8.1,SNR=7.9						
STKA	Stephens Creek	42.77	131	P	P	23 07 25.9	+0.2
	1.8nm,0.5s,baz=305,slow=9.7,SNR=7.1						
TXAR	Lajitas Array	144.64	46	PKPbc	PKPab	23 19 02.1	-1.9
	0.3nm,0.6s,baz=280,slow=0.8,SNR=5.0						

*SNET **02** 23:08:52.7±1.2, 13°.78N×90°.86W, h31km±9km, ML3.9*
*UCR **02** 23:08:52.8±1.3, 13°.78N×90°.86W, h32km±9km, ML3.8*
*IDC **02** 23:08:55.5±3.2, 14°.10N×90°.74W, h98km±12km, mb3.7/4, mb1 3.6/6, mb1mx3.2/57, mbtmp3.7/6, Error ellipse: s-maj=44.9km s-min=17.2km az=6.0*
*GCG **02** 23:08:55.7±0.5, 14°.03N×90°.87W, h61km±9km, MD4.0*
ISC 02 23:08:51.7±1.0, 13°.76N±0°.07×90°.87W±0°.05, h78km±8km, n60, σ0s.90/80, mb4.0/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.68	22	eP	Pn	23 09 07.8	+0.5
FUG	Fuego 3	0.69	2	eP	Pn	23 09 07.7	+0.4
NBG	Las Nubes	0.97	32	eP	Pn	23 09 12.0	+1.5
NUBE	Las Nubes	1.07	82	i P	Pn	23 09 11.5	-0.1
NUBE				eS	Sn	23 09 26.2	-0.4
NUBE	Las Nubes	1.07	82	i P	Pn	23 09 11.5	-0.1
NUBE				eS	Sn	23 09 26.2	-0.4
SLOZ	Alcaldia de Sa	1.09	76	eP	Pn	23 09 12.1	+0.3
SLOZ				eS	Sn	23 09 26.9	+0.1
RTAL	Retalhuleu	1.10	314	eP	Pn	23 09 12.0	+0.1
RTAL				eS	Sn	23 09 26.6	-0.4
STG3	Santiaguito 3,	1.16	324	eP	Pn	23 09 13.9	+1.0
RTR	El Retiro	1.20	83	eP	Pn	23 09 14.1	+0.9
RTR	El Retiro	1.20	83	eP	Pn	23 09 14.1	+0.9
CEVE	Cerro Verde	1.22	87	eP	Pn	23 09 13.9	+0.4
CEVE				eS	Sn	23 09 30.8	+0.9
CEVE				IAML		23 09 32.0	
	comp=Z,9μm,0.4s						
CEVE	Cerro Verde	1.22	87	eP	Pn	23 09 13.9	+0.4
CEVE				eS	Sn	23 09 30.8	+0.9
CEVE				IAML		23 09 32.0	
	comp=Z,9μm,0.4s						
SBLS	San Blas	1.22	86	eP	Pn	23 09 13.9	+0.3
SBLS	San Blas	1.22	86	eP	Pn	23 09 13.9	+0.3
SNJE	San Jose	1.23	85	eP	Pn	23 09 14.3	+0.6
SNJE	San Jose	1.23	85	eP	Pn	23 09 14.3	+0.6
APG	El Apazote	1.30	18	P	Pn	23 09 15.1	+0.5
	comp=Z,50nm,0.3s,baz=174,slow=9.1,SNR=180						
APG				S	Sn	23 09 31.1	-0.7
	comp=Z,32nm,0.3s,baz=222,slow=14,SNR=8.8						
JAYA	Jayaque - finc	1.39	94	eP	Pn	23 09 15.8	+0.2
JAYA				eS	Sn	23 09 33.0	-0.7
JAYA	Jayaque - finc	1.39	94	eP	Pn	23 09 15.8	+0.2
JAYA				eS	Sn	23 09 33.0	-0.7
CEDA	San Andres	1.44	88	eS	Sn	23 09 35.1	+0.5
CEDA				IAML		23 09 40.2	
	comp=Z,1μm,0.3s						
CEDA	San Andres	1.44	88	eS	Sn	23 09 35.1	+0.5
CEDA				IAML		23 09 40.2	
	comp=Z,1μm,0.3s						
TACO	Tacachico	1.49	82	eP	Pn	23 09 16.9	+0.1
TACO				eS	Sn	23 09 36.0	+0.2
TACO	Tacachico	1.49	82	eP	Pn	23 09 16.9	+0.1
TACO				eS	Sn	23 09 36.0	+0.2
LALI	Alcalda de L	1.53	100	eP	Pn	23 09 17.0	-0.3
LALI				eS	Sn	23 09 37.3	+0.6
LALI				IAML		23 09 42.6	
	comp=Z,604nm,0.4s						
LALI	Alcalda de L	1.53	100	eP	Pn	23 09 17.0	-0.3
LALI				eS	Sn	23 09 37.3	+0.6
LALI				IAML		23 09 42.6	
	comp=Z,604nm,0.4s						
BOQS	Boqueron	1.55	91	eP	Pn	23 09 18.5	+0.7
BOQS	Boqueron	1.55	91	eP	Pn	23 09 18.5	+0.7
UEES	Universidad Ev	1.59	91	IAML		23 09 43.7	
	comp=Z,2μm,0.4s						
UEES	Universidad Ev	1.59	91	IAML		23 09 43.7	
	comp=Z,2μm,0.4s						
MTO3	Montecristo	1.60	66	eP	Pn	23 09 18.4	0.0
MTO3				eS	Sn	23 09 39.1	+0.5
MTO3	Montecristo	1.60	66	eP	Pn	23 09 18.4	0.0
MTO3				eS	Sn	23 09 39.1	+0.5
ESQI	Esquipulas	1.69	62	eP	Pn	23 09 19.8	+0.3
ESQI				eS	Sn	23 09 41.9	+1.4
LFU	La Fuente	1.71	90	eP	Pn	23 09 20.9	+1.2
LFU	La Fuente	1.71	90	eP	Pn	23 09 20.9	+1.2
MRL	Marmol	1.75	41	eP	Pn	23 09 22.0	+1.6
MRL				eS	Sn	23 09 42.6	+0.4
LFRS	El Faro	1.77	94	eP	Pn	23 09 21.8	+1.3
LFRS	El Faro	1.77	94	eP	Pn	23 09 21.8	+1.3
SJTE	Alcalda de S	1.82	94	eP	Pn	23 09 22.2	+1.0
SJTE	Alcalda de S	1.82	94	eP	Pn	23 09 22.2	+1.0
PAVA	Las Pavas	1.88	91	eP	Pn	23 09 23.1	+1.0
PAVA	Las Pavas	1.88	91	eP	Pn	23 09 23.1	+1.0
COEG	Centro de Oper	1.94	94	eP	Pn	23 09 23.9	+1.1
COEG				eS	Sn	23 09 47.3	+0.8
COEG	Centro de Oper	1.94	94	eP	Pn	23 09 23.9	+1.1
COEG				eS	Sn	23 09 47.3	+0.8
SCLA	Alcaldia de Sa	2.08	91	eP	Pn	23 09 25.6	+0.9
SCLA	Alcaldia de Sa	2.08	91	eP	Pn	23 09 25.6	+0.9
PQSS	Presa 15 de Se	2.25	93	eP	Pn	23 09 27.6	+0.7
PQSS	Presa 15 de Se	2.25	93	eP	Pn	23 09 27.6	+0.7
ALJI	Alcalda de J	2.28	101	eS	Sn	23 09 56.4	+1.9
ALJI	Alcalda de J	2.28	101	eS	Sn	23 09 56.4	+1.9
COEB	Comit de Eme	2.29	96	eP	Pn	23 09 28.4	+0.8
COEB				eS	Sn	23 09 55.9	+0.9
COEB	Comit de Eme	2.29	96	eP	Pn	23 09 28.4	+0.8
COEB				eS	Sn	23 09 55.9	+0.9
PETF	Flores	3.29	17	eP	Pn	23 09 42.3	+1.4
PETF	Flores	3.29	17	eP	Pn	23 09 42.3	+1.4
CMIG	Matias Romero	5.09	311	P	Pn	23 10 07.1	+1.6
	comp=Z,1.4nm,0.3s,baz=137,slow=9.6,SNR=11						
CMIG				S	Sn	23 11 03.8	+0.8
	comp=Z,2.9nm,0.3s,baz=53,slow=18,SNR=6.1						
TXAR	Lajitas Array	19.51	325	P	P	23 13 13.0	+0.1
	comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=3.5						
SADO	Sadowa	32.48	16	P	P	23 15 13.1	-1.6
	comp=Z,2.3nm,0.4s,baz=259,slow=7.6,SNR=4.5						
NVAR	Mina Array Bea	34.55	320	P	P	23 15 35.0	+1.9
	comp=Z,0.9nm,0.7s,baz=138,slow=9.0,SNR=7.0						
SCHQ	Schefferville	45.08	19	P	P	23 16 58.0	-1.8
	comp=Z,1.4nm,0.4s,baz=216,slow=7.1,SNR=14						
RES	Resolute Bay	60.96	359	P	P	23 18 55.0	-1.1
	comp=Z,0.3nm,0.4s,baz=203,slow=4.2,SNR=1.6						
CMAR	Chiang Mai Arr	146.56	343	PKPbc	PKPbc	23 28 25.2	+0.1
	comp=Z,0.9nm,0.5s,baz=347,slow=3.4,SNR=5.9						

*IDC **02** 23:11:50.2±1.4, 34°.64N×32°.33E, h0km, mb3.9/2, mb1 3.6/8, mb1mx3.3/59, mbtmp3.5/8, ML3.1/6, Error ellipse: s-maj=31.4km s-min=16.3km az=54.0*
*NIC **02** 23:11:53.9±0.0, 34°.75N×32°.48E, h20km, Ml3.5/7*
*ISK **02** 23:11:53.4, 34°.65N×32°.56E, h14km, ML3.3/21*
*GII **02** 23:11:55.6±0.0, 34°.70N×32°.46E, h30km, MD3.1/2, Mm3.2/6*
ISC 02 23:11:53.7±0.9, 34°.69N±0°.03×32°.49E±0°.03, h17km±6km, n60, σ1s.32/88, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	Nata	0.11	36	⇓iP	Pg	23 11 57.6	+0.3
NATA				AML	AML	23 12 00.3	
	495nm,0.5s						
NATA				AML	AML	23 12 00.3	
	495nm,0.5s						
NATA				AML	AML	23 12 00.5	
	509nm,0.6s						
NATA				AML	AML	23 12 00.5	
	509nm,0.6s						
NATA				S	Sb	23 12 00.8	+0.9
SZAC	Souni	0.33	79	⇓eP	Pg	23 12 00.6	0.0
SZAC				S	Sb	23 12 06.6	+0.4
SZAC				AML	AML	23 12 07.6	
	26nm,0.4s						
SZAC				AML	AML	23 12 07.6	
	26nm,0.4s						
SZAC				AML	AML	23 12 11.2	
	21nm,0.5s						
SZAC				AML	AML	23 12 11.2	
	21nm,0.5s						
AKMS	Akamas	0.35	338	⇑eP	Pg	23 12 01.0	0.0
AKMS				S	Sg	23 12 06.1	0.0
AKMS				AML	AML	23 12 11.6	
	18nm,0.3s						
AKMS				AML	AML	23 12 11.6	
	18nm,0.3s						
AKMS				AML	AML	23 12 16.9	
	15nm,0.6s						
AKMS				AML	AML	23 12 16.9	
	15nm,0.6s						
ALFC	Alefka	0.47	11	P	Pg	23 12 02.2	-1.0
ALFC				S	Sg	23 12 08.8	-0.9
ALFC				AML	AML	23 12 08.9	
	37nm,0.4s						
ALFC				AML	AML	23 12 08.9	
	37nm,0.4s						
ALFC				AML	AML	23 12 13.5	
	22nm,0.4s						
ALFC				AML	AML	23 12 13.5	
	22nm,0.4s						
ASGA	Asgata	0.63	81	P	Pg	23 12 05.7	-0.4
ASGA				S	Sn	23 12 16.5	-1.1
ASGA				AML	AML	23 12 17.7	
	7.3nm,0.7s						
ASGA				AML	AML	23 12 17.7	
	7.3nm,0.7s						
ASGA				AML	AML	23 12 18.5	
	17nm,1.0s						
ASGA				AML	AML	23 12 18.5	
	17nm,1.0s						
AKDN	Akdeniz- Kıbrı	0.72	33	PG	Pg	23 12 08.2	+0.4
CSS	Mathiatis	0.74	68	PG	Pb	23 12 07.3	-0.9
CSS				SG	Sg	23 12 17.9	-0.2
CSS	Mathiatis	0.74	68	S	Sn	23 12 19.7	-0.7
AKIN	Akıncılar- Kıb	0.86	68	PG	Pb	23 12 09.9	-0.4
ATHAL	Athalassa	0.87	59	P	Pb	23 12 10.3	0.0
ATHAL				S	Sg	23 12 22.8	+0.8
ATHAL				AML	AML	23 12 25.7	
	7.3nm,1.0s						
ATHAL				AML	AML	23 12 25.7	
	7.3nm,1.0s						
ATHAL				AML	AML	23 12 27.7	
	10nm,0.6s						
ATHAL				AML	AML	23 12 27.7	
	10nm,0.6s						
MVOU	Mavrovouni	0.99	71	P	Pb	23 12 12.0	-0.5
MVOU				S	Sn	23 12 27.1	+0.5
MVOU				AML	AML	23 12 32.0	
	2.1nm,0.5s						
MVOU				AML	AML	23 12 32.0	
	2.1nm,0.5s						
MVOU				AML	AML	23 12 32.5	
	2.4nm,0.9s						
MVOU				AML	AML	23 12 32.5	
	2.4nm,0.9s						
LFK	Lefkose	1.04	55	PG	Pb	23 12 13.5	+0.2
TEKE	Tekeli-Mersin	1.54	19	PN	Pn	23 12 21.2	+0.8
OSC1	CSNet OBS 1	1.56	221	P	Pn	23 12 21.2	+0.5
OSC1				S	Sb	23 12 41.8	+0.3
EREN	Erenkoy	1.61	58	PN	Pn	23 12 22.1	+0.7
OSC2	CSNet OBS 4	1.62	187	P	Pb	23 12 23.0	-0.2
AKK2	Akkuyu-Mersin	1.68	31	PN	Pn	23 12 22.9	+0.5
AKKU	Akkuyu-Mersin	1.70	30	PN	Pn	23 12 22.6	-0.1
BERE	Bereket-Mersin	1.76	20	PN	Pn	23 12 24.6	+1.0
BERE				SN	Sn	23 12 46.9	+1.2
IKL	Isikli	1.83	32	PN	Pn	23 12 25.1	+0.7
IKL				SN	Sb	23 12 48.7	-0.6
KEBE	Keben-Mersin	2.02	29	PN	Pn	23 12 28.3	+1.2
SILI	Silifke-Mersin	2.04	35	PN	Pn	23 12 28.3	+1.0
KRMN	Karaman	2.56	14	PN	Pn	23 12 36.6	+2.1
MERS	Mersin	2.73	37	PN	Pn	23 12 38.1	+1.2
HNTI	Hanita	2.75	125	Pn	Pn	23 12 37.4	+0.3
HNTI				Sn	Sn	23 13 10.6	+0.7
OFRI	\`Ofer	2.93	134	Pn	Pn	23 12 40.3	+0.7
OFRI				Sn	Sn	23 13 15.4	+0.9
ELL	Elmali	2.94	315	PN	Pn	23 12 41.9	+2.1
MMA0B	Mount Meron ar	2.94	124	Pn	Pn	23 12 40.7	+0.9
MMA0B				Sn	Sn	23 13 15.4	+0.6
MMAI	Mount Meron Ar	2.94	124	Pn	Pn	23 12 40.1	+0.3
	7.5nm,0.3s,baz=284,slow=14,SNR=53						
MMAI				Sn	Sn	23 13 16.3	+1.5
	20nm,0.3s,baz=69,slow=21,SNR=15						
BLGI	Bet Lehem HaGe	2.98	130	Pn	Pn	23 12 41.7	+1.5
BLGI				Sn	Sn	23 13 16.6	+1.0
SUTC	Sutluce-Ispart	3.03	337	PN	Pn	23 12 43.7	+2.6
NATI	Neve Ativ	3.05	117	Pn	Pn	23 12 42.0	+0.8
NATI				Sn	Sn	23 13 18.6	+1.3
SLTI	Sal'it	3.24	138	Pn	Pn	23 12 44.8	+0.9
SLTI				Sn	Sn	23 13 22.4	+0.3
YAYL	Yayladag	3.24	65	PN	Pn	23 12 44.9	+0.9
KONT	Konya--Tatoy	3.25	358	PN	Pn	23 12 46.4	+2.4
KARA	Karaisali	3.30	38	PN	Pn	23 12 46.7	+2.0
MMLI	Mount Malkishu	3.32	132	PN	Pn	23 12 45.4	+0.4
CAME	Cameli-Denizli	3.43	312	PN	Pn	23 12 48.8	+2.2
TAHT	Tahtakopru-Hat	3.45	60	PN	Pn	23 12 47.8	+1.1
HMDT	Nahal Hemdat	3.51	133	Pn	Pn	23 12 48.9	+1.3
HMDT				Sn	Sn	23 13 30.1	+1.3
CEYT	Ceyhan	3.51	48	PN	Pn	23 12 49.1	+1.5
CMRD	Camardi-Nigde	3.59	34	PN	Pn	23 12 50.4	+1.6
UJAP	Al Uja	3.69	137	PN	Pn	23 12 51.4	+1.4
BASM	Basmaki-Afyon	3.78	329	PN	Pn	23 12 53.9	+2.6
KOZT	Kozan	3.88	43	PN	Pn	23 12 54.4	+1.8
DSI	Dead Sea	3.94	141	Pn	Pn	23 12 54.9	+1.4
DSI				Sn	Sn	23 13 40.4	+1.0
YTIR	Yattir	3.98	146	Pn	Pn	23 12 56.7	+2.5
YTIR				Sn	Sn	23 13 42.1	+1.6
GHAJ	Ghor Haditha	4.25	142	Pn	Pn	23 13 00.0	+2.3
ASF	Jabal al Asfar	4.46	123	Pn	Pn	23 13 02.3	+1.6
	1.3nm,0.3s,baz=64,slow=23,SNR=6.1						
ASF				Sn	Sn	23 13 56.0	+3.7
	0.8nm,0.3s,baz=349,slow=11,SNR=1.8						
PRNI	Paran	4.82	153	Pn	Pn	23 13 06.5	+0.9
PRNI				Sn	Sn	23 14 02.1	+1.1
KRMI	Paran Flat	4.94	157	Pn	Pn	23 13 08.5	+1.3
KRMI				Sn	Sn	23 14 04.4	+0.5
BRTR	Keskin Array B	5.11	10	Pn	Pn	23 13 11.3	+1.6
	0.2nm,0.3s,baz=324,slow=31,SNR=5.4						
HRFI	Mount Harif	5.12	154	Pn	Pn	23 13 10.7	+1.0
HRFI				Sn	Sn	23 14 08.6	+0.2
EIL	Elat	5.42	157	Pn	Pn	23 13 10.9	-2.9
	0.2nm,0.3s,baz=189,slow=16,SNR=1.8						
EIL				Sn	Sn	23 14 16.1	+0.2
	1.8nm,0.3s,baz=57,slow=22,SNR=6.1						
EIL	Elat	5.42	157	PN	Pn	23 13 14.3	+0.4
EIL	Elat	5.42	157	Pn	Pn	23 13 15.6	+1.7
EIL				Sn	Sn	23 14 16.6	+0.7
IDI	Anoyia	6.27	278	Pn	Pn	23 13 23.6	-1.9
	0.2nm,0.3s,baz=111,slow=18,SNR=1.7						
IDI				Sn	Sn	23 14 34.9	-1.9
	2.6nm,0.3s,baz=308,slow=19,SNR=9.9						
AKASG	Malin Array Be	16.18	353	Pn	Pn	23 15 38.9	-1.3
	0.5nm,0.3s,baz=178,slow=10,SNR=5.5						
FINES	FINESS Array B	27.09	353	P	P	23 17 33.7	-1.6
	0.9nm,0.5s,baz=156,slow=10.0,SNR=6.5						
ARCES	ARCESS Array B	35.11	356	P	P	23 18 44.5	-1.4
	1.5nm,0.7s,baz=168,slow=6.2,SNR=7.2						

IDC 02 23:28:14.5±3.3, 6°.09S×150°.40E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/44, mbtmp3.8/4, ML1.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/52, Error ellipse: s-maj=108.3km s-min=41.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.60	224	Pn	Pn	23 29 26.5	+1.2
	2.8nm,0.3s,baz=18,slow=8.1,SNR=5.6						
PMG				Sn	Sn	23 30 13.8	-5.7
	2.3nm,0.3s,baz=77,slow=24,SNR=7.3						
WRA	Warramunga Arr	20.81	227	P	P	23 32 56.4	-1.4
	2.8nm,0.9s,baz=52,slow=11,SNR=26						
ASAR	Alice Springs	23.60	221	P	P	23 33 26.9	-0.4
	1.4nm,0.9s,baz=57,slow=8.7,SNR=9.6						
FITZ	Fitzroy Crossi	26.94	242	P	P	23 33 58.3	+0.5
	1.6nm,0.8s,baz=58,slow=8.4,SNR=6.6						
MSVF	Nonsavu	29.38	116	LR	LR	23 45 16.3	
	comp=Z,74nm,19.9s,baz=149,slow=35						
TORD	Torodi Ar. Bea	148.38	285	PKPbc	PKPbc	23 48 03.7	-0.3
	0.6nm,0.6s,baz=78,slow=1.8,SNR=8.1						

*IDC **02** 23:31:47.3±0.7, 36°.53N×98°.75W, h0km, mb3.9/5, mb1 4.1/14, mb1mx3.8/44, mbtmp3.9/14, ML4.1/7, MS3.0/5, Ms1 3.0/5, ms1mx2.8/89, Error ellipse: s-maj=11.8km s-min=9.5km az=152.0*
*TUL **02** 23:31:48.1±1.1, 36°.48N±0°.03×98°.74W±0°.05, h7km±3km,*

ML4.2, mb4.3/12(NEIC), mb_Lg4.3/112(NEIC), Mwr3.9/37(NEIC), Error ellipse: s-maj=5.7km s-min=3.4km az=122.0

*ANF **02** 23:31:48.2±0.2, 36.°49N×98.°72W, h10km, ML5.2/16, Error ellipse: s-maj=2.2km s-min=2.0km az=65.0*

*NEIC **02** 23:31:48.6, 36.°46N×98.°69W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.73; $M_{\theta\theta}$8.42; $M_{\phi\phi}$-6.69; $M_{r\theta}$0.61; $M_{\theta\phi}$0.32; $M_{\phi r}$-2.07; Fault plane solution: $M_0$8.00000×10^{14} NP1:ϕ_s311.93000°, δ78.31000°, λ-16.80000°. NP2:ϕ_s45.43000°, δ73.56000°, λ-167.81000°. Principal axes: T 8.4541, Plg3.0000°, Azm359.0000°; N -0.9971, Plg70.0000°, Azm98.0000°; P -7.4570, Plg20.0000°, Azm268.0000°;*

*NEIC **02** 23:31:49.0±0.8, 36.°47N±0.°03×98.°72W±0.°04, h5km±5km Error ellipse: s-maj=5.3km s-min=3.0km az=120.0*

ISC 02 23:31:47.1±1.6, **36.°48N**±0.°03×**98.°65W**±0.°03, **h2**km±12km, **n208**, σ**1.s14**/200, **mb3.8**/4, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.30	251	Pg	Pg	23 31 53.0	+0.1
U32A				Sg	Sg	23 31 56.8	0.0
OK009	Oakdale Elemen	1.34	132		Pn	23 32 13.8	+0.9
OK001	Jones High Sch	1.43	129		Pn	23 32 15.3	+1.1
OK005	Luther M Schoo	1.44	125	Pg	Pn	23 32 15.4	+1.2
OKCFA	Oklahoma City	1.44	137	Pg	Pn	23 32 15.1	+0.8
OKCSW	OKLAHOMA CITY	1.46	137		Pn	23 32 15.3	+0.8
FNO	Franklin	1.59	140		Pn	23 32 17.6	+1.3
WMOK	Wichita Mounta	1.74	184		Pn	23 32 18.3	-0.1
WMOK	Wichita Mounta	1.74	184	P	Pn	23 32 18.3	-0.1
	baz=1.0,SNR=274						
WMOK				S	Sn	23 32 41.6	+0.3
	baz=1.0						
T35A	Sooner Cattle	1.77	75	Pn	Pn	23 32 20.5	+1.7
R32A	Long Quarter,	1.94	359	Pn	Pn	23 32 22.4	+1.3
W35A	Tecumseh	1.96	132		Pn	23 32 22.9	+1.5
X34A	Smith Ranch, M	1.99	160	Pn	Pb	23 32 23.9	-0.1
X34A				IAmb_Lg		23 32 54.4	
	comp=Z,1μm,0.8s						
TUL1	Leonard	2.38	103	Pn	Pn	23 32 28.7	+1.6
TUL1				IAmb_Lg		23 33 06.4	
	comp=Z,1μm,0.8s						
TUL1	Leonard	2.38	103	P	Pn	23 32 28.5	+1.4
	baz=284,SNR=166						
TUL1				Sb	Sb	23 33 02.7	+2.2
	baz=284						
CBKS	Cedar Bluff	2.48	340		Pn	23 32 29.6	+1.0
CBKS	Cedar Bluff	2.48	340	P	Pn	23 32 29.0	+0.4
	baz=161,SNR=180						
CBKS				Sb	Sb	23 33 03.9	+0.4
	baz=161						
AMTX	Amarillo	2.94	238	Pn	Pn	23 32 35.3	+0.4
AMTX	Amarillo	2.94	238	P	Pn	23 32 34.7	-0.2
	baz=56						
AMTX				Sb	Sb	23 33 17.0	+0.3
	baz=56						
KSU1	Kansas State U	3.07	31	Pn	Pn	23 32 38.4	+1.7
KSU1				IAmb_Lg		23 33 28.1	
	comp=Z,752nm,1.1s						
KSU1	Kansas State U	3.07	31	P	Pn	23 32 37.6	+0.9
	baz=213,SNR=46						
KSU1				Sb	Sb	23 33 23.4	+2.9
	baz=213						
X37A	Clayton	3.27	124	Pn	Pn	23 32 40.7	+1.3
X37A				IAmb_Lg		23 33 40.9	
	comp=Z,690nm,1.0s						
Z35A	Perchaven, San	3.34	160		Pn	23 32 41.7	+1.3
HHAR	Hobbs	3.80	92	Pn	Pn	23 32 47.9	+1.1
HHAR				IAmb_Lg		23 33 50.0	
	comp=Z,510nm,0.7s						
ABTX	Abilene, Hawle	3.94	192	Pn	Pn	23 32 48.7	+0.1
ABTX	Abilene, Hawle	3.94	192	P	Pn	23 32 48.7	+0.1
	baz=11,SNR=17						
ABTX				Sb	Sb	23 33 47.8	+2.5
	baz=11						
KSCO	Kaye Shedlock'	4.04	310		Pn	23 32 49.4	-0.7
KSCO				IAmb_Lg		23 34 03.2	
	comp=Z,873nm,0.8s						
KSCO	Kaye Shedlock'	4.04	310	Sb	Sb	23 33 50.3	+1.9
	baz=128						
W39A	Magazine	4.16	107	Pn	Pn	23 32 52.9	+1.4
W39A				IAmb_Lg		23 34 02.7	
	comp=Z,870nm,0.7s						
W39A	Magazine	4.16	107	P	Pn	23 32 52.9	+1.4
	baz=289,SNR=11						
MSTX	Muleshoe	4.20	235	Pn	Pn	23 32 52.8	+0.4
MSTX				IAmb_Lg		23 34 05.7	
	comp=Z,700nm,0.9s						
MSTX	Muleshoe	4.20	235	Pb	Pb	23 33 01.3	-0.6
	baz=52						
MSTX				Sb	Sb	23 33 54.9	+1.7
	baz=52						
N33A	J Bar K, Exete	4.35	12		Pn	23 32 54.3	0.0
N33A				IAmb_Lg		23 34 15.0	
	comp=Z,513nm,0.9s						
Z38A	Mt. Pleasant	4.40	136		Pn	23 32 55.7	+0.7
S39A	Bolivar	4.43	73	Pn	Pn	23 32 56.7	+1.4
S39A				IAmb_Lg		23 34 08.6	
	comp=Z,654nm,1.0s						
MIAR	Mount Ida	4.56	114		Pn	23 32 58.8	+1.6
MIAR				IAmb_Lg		23 34 27.2	
	comp=Z,544nm,0.8s						
MIAR	Mount Ida	4.56	114	P	Pn	23 32 58.4	+1.2
	baz=296,SNR=18						
MIAR				S	Sn	23 33 51.5	+0.6
	baz=296						
WHTX	Lake Whitney,	4.59	167	Pn	Pn	23 32 57.9	+0.4
WHTX	Lake Whitney,	4.59	167	P	Pn	23 32 57.9	+0.4
	baz=347,SNR=12						
T25A	Trinidad	4.67	280		Pn	23 32 58.7	-0.1
T25A				IAmb_Lg		23 34 15.1	
	comp=Z,706nm,0.9s						
T25A	Trinidad	4.67	280	P	Pn	23 32 58.7	-0.1
	baz=97,SNR=28						
U40A	Yellville	4.67	90		Pn	23 33 00.3	+1.6
U40A				IAmb_Lg		23 34 14.7	
	comp=Z,489nm,0.8s						
U40A	Yellville	4.67	90	P	Pn	23 33 00.3	+1.6
	baz=273,SNR=37						
BGNE	Belgrade	4.94	4	Pn	Pn	23 33 02.9	+0.6
BGNE				IAmb_Lg		23 34 35.1	
	comp=Z,599nm,0.8s						
BGNE	Belgrade	4.94	4	P	Pn	23 33 02.7	+0.4
	baz=186,SNR=15						
BGNE				S	Sn	23 34 00.8	+0.8
	baz=186						
N35A	Tabor	4.96	27	Pn	Pn	23 33 03.5	+0.8
237A	Washetta, Mont	5.05	151	Pn	Pn	23 33 03.8	-0.1
237A				IAmb_Lg		23 34 38.3	
	comp=Z,344nm,0.8s						
P38A	Dawn	5.11	51	Pn	Pn	23 33 05.4	+0.7
P38A				IAmb_Lg		23 34 38.9	
	comp=Z,377nm,0.9s						
X40A	Basin Creek Fa	5.14	111		Pn	23 33 06.4	+1.3
X40A				IAmb_Lg		23 34 42.5	
	comp=Z,567nm,1.0s						
X40A	Basin Creek Fa	5.14	111	P	Pn	23 33 06.6	+1.5
	baz=294,SNR=10						
X40A				S	Sn	23 34 06.5	+1.4
	baz=294						
MGMO	Mountain Grove	5.16	81		Pn	23 33 06.4	+1.0
OGNE	Ogallala	5.18	330	Pn	Pn	23 33 04.7	-1.0
OGNE	Ogallala	5.18	330	P	Pn	23 33 05.3	-0.5
	baz=149,SNR=9.0						
OGNE				S	Sn	23 34 05.1	-1.1
	baz=149						
WHAR	Wooly Hollow	5.30	101	Pn	Pn	23 33 07.4	+0.2
FCAR	Ozark Folk Cen	5.31	94		Pn	23 33 08.9	+1.4
FCAR				IAmb_Lg		23 34 48.2	
	comp=Z,378nm,0.7s						
WLAR	White Oak Lake	5.33	120		Pn	23 33 08.9	+1.3
W41B	Gary Mavity, V	5.36	102		Pn	23 33 09.9	+1.8
W41B				IAmb_Lg		23 34 42.0	
	comp=Z,437nm,0.9s						
W41B	Gary Mavity, V	5.36	102	P	Pn	23 33 09.6	+1.5
	baz=286,SNR=16						
W41B				S	Sn	23 34 09.3	-1.1
	baz=286						
R40A	Maddies Statio	5.39	69		Pn	23 33 09.1	+0.5
R40A				IAmb_Lg		23 34 46.5	
	comp=Z,289nm,1.0s						
SDCO	Great Sand Dun	5.62	285	Pn	Pn	23 33 12.5	+0.6
SDCO				IAmb_Lg		23 34 53.6	
	comp=Z,334nm,1.1s						
SDCO	Great Sand Dun	5.62	285	P	Pn	23 33 11.0	-1.0
	baz=101,SNR=17						
Q24A	Divide	5.72	298	Pn	Pn	23 33 12.9	-0.4
Q24A				IAmb_Lg		23 34 55.5	
	comp=Z,445nm,0.8s						
Q24A	Divide	5.72	298	P	Pn	23 33 12.4	-0.9
	baz=114						
435B	Jarrell	5.75	171	IAmb_Lg		23 35 03.9	
	comp=Z,342nm,0.9s						
435B	Jarrell	5.75	171	P	Pn	23 33 13.6	+0.1
	baz=351						
NATX	Nacogdoches	5.75	144	IAmb_Lg		23 35 06.9	
	comp=Z,397nm,0.9s						
L34A	Svendsen Farm,	5.75	17	Pn	Pn	23 33 13.4	-0.1
Z41A	Richland Creek	5.78	122	IAmb_Lg		23 35 04.3	
	comp=Z,387nm,0.8s						
P40A	Paris	6.04	58	Pn	Pn	23 33 18.7	+1.3
N38A	Joes South For	6.04	43		Pn	23 33 18.5	+1.0
JCT	Junction City	6.06	189		Pn	23 33 17.6	-0.2
JCT				IAmb_Lg		23 35 14.8	
	comp=Z,-499500.0nm,1.0s						
JCT	Junction City	6.06	189	P	Pn	23 33 17.5	-0.3
	baz=8.1,SNR=5.3						
CCM	Cathedral Cave	6.11	73		Pn	23 33 19.8	+1.4
CCM	Cathedral Cave	6.11	73	P	Pn	23 33 19.9	+1.5
	baz=258						
K31A	O'Neill	6.13	359	Pn	Pn	23 33 18.9	+0.1
K31A				IAmb_Lg		23 35 06.7	
	comp=Z,503nm,0.8s						
CCAR	Cane Creek	6.18	112	IAmb_Lg		23 35 10.9	
	comp=Z,307nm,0.8s						
ISCO	Idaho Springs	6.41	303	Pn	Pn	23 33 22.3	-0.5
ISCO				IAmb_Lg		23 35 20.1	
	comp=Z,252nm,0.7s						
ISCO	Idaho Springs	6.41	303	P	Pn	23 33 22.6	-0.3
	baz=119,SNR=12						
ANMO	Albuquerque	6.54	259	Pn	Pn	23 33 25.1	+0.6
	comp=Z,0.9nm,0.3s,baz=81,slow=14,SNR=18						
ANMO				Pg	Pb	23 33 43.7	+2.1
	comp=Z,2.7nm,0.3s,baz=82,slow=18,SNR=17						
ANMO				Lg	Lg	23 35 10.3	
	comp=Z,15nm,0.3s,baz=0.8,slow=23,SNR=4.4						
ANMO				LR	LR	23 35 60.0	
	comp=Z,156nm,18.6s,baz=60,slow=39						
ANMO	Albuquerque	6.54	259	Pn	Pn	23 33 24.8	+0.3
ANMO	Albuquerque	6.54	259	P	Pn	23 33 24.4	0.0
	baz=74						
PBMO	Poplar Bluff	6.62	85		Pn	23 33 27.4	+2.0
PBMO				IAmb_Lg		23 35 21.4	
	comp=Z,394nm,0.7s						
FVM	French Village	6.73	75		Pn	23 33 28.3	+1.3
FVM				IAmb_Lg		23 35 22.7	
	comp=Z,440nm,1.0s						
SCIA	State Center	6.87	36	IAmb_Lg		23 35 35.0	
	comp=Z,439nm,0.7s						
BNM	Barren Site	6.92	253	Pn	Pn	23 33 28.8	-1.0
SLM	Saint Louis	7.02	70	Pn	Pn	23 33 32.2	+1.4
SLM				IAmb_Lg		23 35 31.8	
	comp=Z,389nm,0.8s						
143A	Socs Landing,	7.06	120	IAmb_Lg		23 35 42.8	
	comp=Z,262nm,1.0s						
PHWY	Pilot Hill	7.17	314	IAmb_Lg		23 35 34.2	
	comp=Z,418nm,0.9s						
Y22D	IRIS PASSCAL I	7.18	253	IAmb_Lg		23 35 44.1	
	comp=Z,429nm,0.8s						
N23A	Red Feather La	7.21	310	Pn	Pn	23 33 32.9	-0.9
PVMO	Portageville	7.21	88	IAmb_Lg		23 35 56.2	
	comp=Z,395nm,0.8s						
MNTX	Cornudas Mount	7.34	231		Pn	23 33 35.4	0.0
MNTX				IAmb_Lg		23 35 48.2	
	comp=Z,247nm,0.9s						
MNTX	Cornudas Mount	7.34	231	P	Pn	23 33 35.0	-0.4
	baz=47,SNR=5.7						
ECSD	EROS Data Cent	7.41	12	Pn	Pn	23 33 35.6	-0.7
ECSD	EROS Data Cent	7.41	12	P	Pn	23 33 35.6	-0.7
	baz=193,SNR=19						
N41A	Harden Midland	7.42	53	Pn	Pn	23 33 37.3	+0.9
HALT	Halls	7.55	92	IAmb_Lg		23 35 50.6	
	comp=Z,381nm,0.8s						
S44A	Carbondale	7.61	78		Pn	23 33 39.8	+0.9
S44A				IAmb_Lg		23 35 53.9	
	comp=Z,343nm,0.7s						
735A	Kenedy	7.64	174	IAmb_Lg		23 36 03.8	
	comp=Z,254nm,1.0s						
SIUC	Southern Illin	7.64	78	IAmb_Lg		23 35 59.8	
	comp=Z,246nm,0.8s						
OXF	Oxford	7.79	102	Pn	Pn	23 33 42.1	+0.7
OXF				IAmb_Lg		23 36 05.6	
	comp=Z,365nm,1.1s						
OXF	Oxford	7.79	102	P	Pn	23 33 42.3	+0.9
	baz=287,SNR=17						
W45A	Hickory Valley	7.80	97		Pn	23 33 43.7	+2.1
P43A	Skaggs, Pawnee	7.86	64	Pn	Pn	23 33 44.1	+1.7
UTMT	University of	7.89	88	IAmb_Lg		23 36 23.1	
	comp=Z,332nm,0.9s						
Y45A	Yeager Farm, C	7.90	107	IAmb_Lg		23 36 22.9	
	comp=Z,220nm,0.9s						
VBMS	Vicksburg	7.95	120	IAmb_Lg		23 36 20.3	
	comp=Z,220nm,1.3s						
SUSD	Miller	7.96	358	Pn	Pn	23 33 42.7	-1.0
SUSD				IAmb_Lg		23 36 04.5	
	comp=Z,206nm,0.8s						
SUSD	Miller	7.96	358	P	Pn	23 33 43.7	-0.1
	baz=179						
833A	Chaparral WMA,	8.16	185	Pn	Pn	23 33 46.4	-0.2
833A	Chaparral WMA,	8.16	185	P	Pn	23 33 47.5	+0.9
	baz=3.7						
TX31	Lajitas Ar. Si	8.28	212		Pn	23 33 47.6	-0.7
TXAR	Lajitas Array	8.28	212	Pn	Pn	23 33 47.4	-1.0
	comp=Z,2.0nm,0.3s,baz=40,slow=11,SNR=118						
TXAR				Pg	Pb	23 34 18.0	+6.7
	comp=Z,5.9nm,0.3s,baz=20,slow=14,SNR=13						
TXAR				Lg	Lg	23 36 01.4	
	comp=Z,7.3nm,0.3s,baz=48,slow=54,SNR=2.4						
TXAR				LR	LR	23 37 14.7	
	comp=Z,169nm,21.0s,baz=248,slow=40						
O20A	White River Ci	8.38	299	Pn	Pn	23 33 49.6	-0.1
PV04	Paradox Valley	8.38	286	Pn	Pn	23 33 50.4	+0.6
HDIL	Hopedale	8.38	58	Pn	Pn	23 33 50.3	+0.8
HDIL	Hopedale	8.38	58	P	Pn	23 33 50.4	+0.8
	baz=244,SNR=21						
RWWY	Rawlins	8.45	311	IAmb_Lg		23 36 24.8	
	comp=Z,344nm,1.3s						
I37A	Lemond, Waseca	8.53	26	IAmb_Lg		23 36 36.3	
	comp=Z,192nm,0.7s						
K22A	Casper	8.65	318	Pn	Pn	23 33 54.3	+0.8
K22A				IAmb_Lg		23 36 27.5	
	comp=Z,288nm,0.8s						
RSSD	Black Hills	8.67	333	Pn	Pn	23 33 54.7	+1.0
RSSD				IAmb_Lg		23 36 31.5	
	comp=Z,177nm,0.8s						
RSSD	Black Hills	8.67	333	P	Pn	23 33 54.7	+1.0
	baz=150						
OLIL	Olney	8.67	72	Pn	Pn	23 33 54.5	+1.0
WVT	Waverly	8.74	89	Pn	Pn	23 33 54.7	+0.2
WVT	Waverly	8.74	89	P	Pn	23 33 55.4	+0.9
	baz=276						
O44A	Mansfield	8.80	62		Pn	23 33 56.5	+1.2
L42A	Oliver, Polo	8.88	49		Pn	23 33 56.9	+0.5
JFWS	Jewell Farm	9.12	43	Pn	Pn	23 34 00.1	+0.5
JFWS				IAmb_Lg		23 36 49.3	
	comp=Z,242nm,0.7s						
JFWS	Jewell Farm	9.12	43	P	Pn	23 34 00.4	+0.7
	baz=228,SNR=10						
T47A	Sharon Grove	9.28	83		Pn	23 34 03.3	+1.4
Z47A	Carrollton	9.29	108	Pn	Pn	23 34 03.2	+1.2
F33A	5 Mile Ranch,	9.52	10	IAmb_Lg		23 36 51.4	
	comp=Z,153nm,0.9s						
P46A	Rosedale	9.55	67	Pn	Pn	23 34 07.1	+1.5
M44A	Midewin, Midew	9.60	56		Pn	23 34 08.1	+1.7
I40A	Norwalk	9.62	37	Pn	Pn	23 34 07.7	+1.2
I40A				IAmb_Lg		23 37 02.9	
	comp=Z,190nm,1.1s						
P18A	Preston Nutter	9.67	292	Pn	Pn	23 34 08.1	+0.6
SPMN	Marine on St.	9.79	25	Pn	Pn	23 34 08.3	-0.5
SPMN	Marine on St.	9.79	25	P	Pn	23 34 08.6	-0.2
	baz=209						
SFIN	Lafayette	9.86	63	Pn	Pn	23 34 10.3	+0.5
SFIN	Lafayette	9.86	63	P	Pn	23 34 11.1	+1.2
	baz=250						
CLTN	Cedars of Leba	9.95	89		Pn	23 34 11.9	+0.8
BLO	Bloomington	9.96	71	Pn	Pn	23 34 12.0	+0.7
WCI	Wyandotte Cave	9.99	76		Pn	23 34 11.9	+0.3
WCI	Wyandotte Cave	9.99	76	P	Pn	23 34 11.7	+0.1
	baz=264						
L44A	Lake County Fo	10.07	52	P	Pn	23 34 13.1	+0.3
	baz=239						
LRAL	Lakeview Retre	10.18	106	Pn	Pn	23 34 14.5	+0.2
LRAL	Lakeview Retre	10.18	106	P	Pn	23 34 15.3	+1.0
	baz=293						
319A	Douglas	10.19	243	Pn	Pn	23 34 13.8	-0.8
WUAZ	Wupatki	10.36	268	Pn	Pn	23 34 15.8	-1.0
WUAZ	Wupatki	10.36	268	P	Pn	23 34 17.5	+0.6
	baz=81,SNR=5.2						
U49A	Red Boiling Sp	10.36	86		Pn	23 34 18.0	+1.3
I42A	Draeger Farm,	10.49	42		Pn	23 34 18.9	+0.4
PD31	Pinedale Array	10.49	310		Pn	23 34 18.6	-0.2
PDAR	Pinedale Array	10.49	310	Pn	Pn	23 34 18.0	-0.7
	comp=Z,0.5nm,0.3s,baz=119,slow=16,SNR=10						
PDAR				Pg		23 35 03.6	
	comp=Z,1.4nm,0.3s,baz=116,slow=14,SNR=5.1						
PDAR				Lg	Lg	23 37 12.2	
	comp=Z,2.1nm,0.3s,baz=110,slow=35,SNR=2.0						
PDAR	Pinedale Array	10.49	310		Pn	23 34 17.8	-0.9
G40A	Rib Lake	10.85	33	Pn	Pn	23 34 23.1	-0.4
U15A	North Rim	10.99	274		Pn	23 34 26.1	+0.5
O48B	Farmland	11.24	66	P	Pn	23 34 29.0	+0.2
	baz=255						
P49A	Miami Univ. Ec	11.41	70	P	Pn	23 34 31.7	+0.6
	baz=259						
CPCT	Cooper Cave	11.50	91	Pn	Pn	23 34 32.7	+0.4
LAO	LASA Array	11.66	333	P	Pn	23 34 35.1	+0.6
	baz=149						
LCMT	Little Creek M	11.72	277	Pn	Pn	23 34 31.7	-3.8
MOOW	Moose Ponds	11.76	312	Pn	Pn	23 34 34.3	-1.7
RLMT	Red Lodge	11.79	320	Pn	Pn	23 34 36.4	0.0
COWI	Conover	11.97	34	Pn	Pn	23 34 37.9	-0.9
AGMN	Agassiz Nation	11.99	9	Pn	Pn	23 34 35.9	-3.0
AGMN	Agassiz Nation	11.99	9	P	Pn	23 34 37.7	-1.2
	baz=191						
TKL	Tuckaleechee C	12.07	90	Pn	Pn	23 34 39.9	-0.2
	comp=Z,1.7nm,0.3s,baz=240,slow=7.8,SNR=14						
TKL				Lg	Lg	23 38 04.1	
	comp=Z,3.8nm,0.3s,baz=173,slow=19,SNR=7.1						
TKL				LR	LR	23 38 49.5	
	comp=Z,35nm,19.2s,baz=12,slow=35						
TKL	Tuckaleechee C	12.07	90	Pn	Pn	23 34 39.7	-0.4
TZTN	Tazewell	12.15	85	Pn	Pn	23 34 42.6	+1.4
TZTN	Tazewell	12.15	85	P	Pn	23 34 43.2	+1.9
	baz=274						
V52A	Sevierville	12.19	89	Pn	Pn	23 34 43.0	+1.3
EYMN	Ely	12.62	23	P	Pn	23 34 44.5	-3.1
	baz=208						
DGMT	Dagmar	12.66	343	Pn	Pn	23 34 46.9	-1.2
DGMT	Dagmar	12.66	343	P	Pn	23 34 46.4	-1.7
	baz=160						
ACSO	Alum Creek Sta	12.85	68	Pn	Pn	23 34 50.2	-0.6
E43A	Lone Tree Farm	13.18	38	Pn	Pn	23 34 53.2	-2.1
P52A	Corning	13.39	71	P	Pn	23 34 57.6	-0.5
	baz=262						
GLMI	Grayling	13.51	48	P	Pn	23 34 57.9	-1.9
	baz=237,SNR=5.9						
HODGE	Hodges	13.57	95	Pn	Pn	23 35 01.3	+0.7
PAULI	Pauline	13.79	92	Pn	Pn	23 35 04.4	+0.8
ULM	Lac du Bonnet	13.91	7	Pn	Pn	23 35 00.4	-4.7
	comp=Z,0.8nm,0.3s,baz=182,slow=11,SNR=5.6						
ULM				Sn	Sn	23 37 23.9	-16
	comp=Z,0.8nm,0.3s,baz=286,slow=22,SNR=2.0						
ULM				Lg	Lg	23 38 53.6	
	comp=Z,0.7nm,0.3s,baz=119,slow=18,SNR=2.2						
ULM	Lac du Bonnet	13.91	7		Pn	23 35 00.9	-4.2
V55A	Taylorsville	14.10	87	Pn	Pn	23 35 08.8	+0.9
W57A	Gilead	15.20	89	Pn	Pn	23 35 23.3	+0.6
T57A	Hurt	15.56	82	Pn	Pn	23 35 26.5	-1.0
M54A	Oil Creek Stat	15.58	65	Pn	Pn	23 35 26.3	-1.6
M54A				IAmb	IAmb	23 35 40.1	
	comp=Z,12nm,0.7s						
NVAR	Mina Array Bea	15.73	283	Pn	Pn	23 35 30.2	+0.3
	baz=94,slow=14,SNR=2.5						
S57A	Dark Hollow, R	15.77	79	Pn	Pn	23 35 30.8	+0.6
S57A				IAmb	IAmb	23 36 01.1	
	comp=Z,20nm,1.2s						
M55A	Ridgway	16.24	66	Pn	Pn	23 35 36.2	-0.1
R58B	Mineral	16.61	79		Pn	23 35 42.0	+0.9
JSRW	J. Sargeant Re	16.62	80		Pn	23 35 42.1	+0.9
SSPA	Standing Stone	16.75	69	Pn	Pn	23 35 43.1	+0.2
SSPA				IAmb	IAmb	23 36 09.9	
	comp=Z,39nm,1.5s						
U59A	Littleton	16.79	84	Pn	Pn	23 35 43.5	+0.2
U59A				IAmb	IAmb	23 35 43.7	
	comp=Z,43nm,1.5s						
MEDO	Medina	16.87	61	Pn	Pn	23 35 43.8	-0.5
T59A	Double "B" Far	16.92	82	Pn	Pn	23 35 44.8	-0.2
T59A				IAmb	IAmb	23 36 00.5	
	comp=Z,36nm,1.4s						
SADO	Sadowa	16.94	55	Pn	Pn	23 35 42.6	-2.5
	comp=Z,0.2nm,0.3s,baz=278,slow=18,SNR=1.6						
SADO				Sn	Sn	23 38 41.7	-12
	comp=Z,0.5nm,0.3s,baz=244,slow=1.7,SNR=2.2						
SADO				Lg	Lg	23 40 37.5	
	comp=Z,0.5nm,0.3s,baz=309,slow=11,SNR=5.9						
L56A	Greenwood	17.25	64		Pn	23 35 49.2	0.0
L56A				IAmb	IAmb	23 35 54.7	
	comp=Z,29nm,1.2s						
NEW	Newport	17.97	317	P	Pn	23 35 57.0	-1.0
	comp=Z,0.1nm,0.3s,baz=94,slow=16,SNR=1.8						
NEW				Lg	Lg	23 40 58.4	
	comp=Z,0.1nm,0.3s,baz=188,slow=5.4,SNR=3.2						
FFC	Flin Flon	18.39	354		P	23 36 03.5	+0.3
YBH	Yreka Blue Hor	19.37	293	P	Pn	23 36 15.5	+0.4
	comp=Z,0.2nm,0.3s,baz=72,slow=5.2,SNR=7.5						
CMIG	Matias Romero	19.60	169	LR	LR	23 46 23.4	
	comp=Z,27nm,20.6s,baz=19,slow=45						
YKA	Yellowknife Ar	27.86	344	P	P	23 37 37.4	-0.4
	comp=Z,0.5nm,0.7s,baz=145,slow=9.8,SNR=9.7						
DLBC	Dease Lake	30.07	327	LR	LR	23 52 23.1	
	comp=Z,70nm,19.8s,baz=312,slow=41						
ILAR	Eielson Array	40.10	330	P	P	23 39 24.6	+0.8
	comp=Z,0.8nm,0.8s,baz=104,slow=7.4,SNR=7.5						
ARCES	ARCESS Array B	66.73	18	P	P	23 42 39.8	+0.5
	comp=Z,5.2nm,1.0s,baz=309,slow=5.8,SNR=4.3						
FINES	FINESS Array B	72.63	24	P	P	23 43 16.3	+0.5
	comp=Z,1.7nm,0.9s,baz=327,slow=9.9,SNR=1.6						
MKAR	Makanchi Array	97.10	359	P	Pdif	23 45 22.6	+1.7
	comp=Z,0.1nm,0.7s,baz=355,slow=3.8,SNR=1.4						

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*ARE **02** 23:31:56±3.4, 11.°9S±0.°1×77.°78W±0.°08, h46km±9km, Error ellipse: s-maj=0.0km s-min=0.0km az=107.0*

NEIC 02 23:31:55.6±3.0, **11.°8S**±0.°1×**77.°70W**±0.°08, **h35**km±2km, **mb4.2**/2, **ML4.0**(ARE), **Error ellipse: s-maj=21.8km s-min=10.1km az=209.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	0.85	103	Pn	Pn	23 32 12.9	+1.7
NNA				Sn	Sn	23 32 23.8	+1.3
PB16	IPOC Station P	10.23	130	Pn	Pn	23 34 20.0	-0.5
PB09	IPOC Station P	12.81	142	Pn	Pn	23 34 54.7	-0.8
ESPN	Las Esperanzas	24.72	344	P	P	23 37 14.2	+0.4
ESPN				IAmb	IAmb	23 37 16.5	
	comp=Z,10nm,0.6s						

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*SOF **02** 23:44:49.8, 41.°28N×24.°47E, h13km, MD3.3*

*ATH **02** 23:44:50.9, 41.°31N×24.°46E, h10km±3km, ML3.1/5, Error ellipse: s-maj=3.2km s-min=1.2km az=207.0*

*ISK **02** 23:44:50.2, 41.°27N×24.°47E, h4km, ML3.3/23*

*THE **02** 23:44:50.8, 41.°31N×24.°46E, h3km±1km, ML3.1/15, Error ellipse: s-maj=1.5km s-min=0.4km az=210.0*

*DDA **02** 23:44:51.1±0.0, 41.°06N×24.°33E, h24km±2km, ML2.9*

*BEO **02** 23:44:51.8±0.8, 41.°34N×24.°47E, h10km±3km, ML3.3/6*

ISC 02 23:44:51.0±1.0, **41.°30N**±0.°02×**24.°45E**±0.°01, **h8**km±8km, **n110**, σ**0.s78**/144, **20C-8D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAVA	Kavala	0.30	171	P	Pg	23 44 57.1	+0.1
KAVA				S	Sg	23 45 01.8	+0.7
KAVA				AML	AML	23 45 02.3	
	comp=N,4129μm,0.2s						
KAVA				AML	AML	23 45 05.3	
	comp=E,6118μm,0.3s						
KAVA	Kavala	0.30	171	P	Pg	23 44 57.1	+0.1
KAVA				S	Sg	23 45 01.8	+0.7
	comp=E,2μm,0.3s						
KVLA	Kavala	0.36	188	P	Pg	23 44 58.2	+0.1
RZN	Rozhen	0.44	27	*i* P	Pg	23 44 59.4	-0.2
NVR	Nevrokopi	0.45	277	P	Pg	23 44 59.4	-0.3
NVR				S	Sg	23 45 05.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVR	**Nevrokopi**	**0.45**	**277**	P	**Pg**	**23 44 59.4**	**-0.3**
NVR				S	**Sg**	**23 45 05.7**	**+0.1**
	comp=E,2µm,0.1s						
KOKK	**Kokkinochori,**	**0.59**	**216**	P	**Pg**	**23 45 02.0**	**-0.4**
KOKK	**Kokkinochori,**	**0.59**	**216**	P	**Pg**	**23 45 02.0**	**-0.4**
KOKK				S	**Sg**	**23 45 10.6**	**+0.5**
	comp=E,2µm,0.2s						
MMB	**Musomiste**	**0.62**	**298**	*i* P	**Pg**	**23 45 02.1**	**-0.8**
SRS	**Serrai**	**0.67**	**255**	P	**Pg**	**23 45 03.4**	**-0.5**
SRS				AML	AML	23 45 14.0	
	comp=N,2845µm,0.3s						
SRS				AML	AML	23 45 14.0	
	comp=E,2279µm,0.3s						
SRS	**Serrai**	**0.67**	**255**	P	**Pg**	**23 45 03.4**	**-0.5**
SRS				S	**Sg**	**23 45 13.2**	**+0.5**
	comp=E,1µm,0.2s						
THAS	**Thassos island**	**0.72**	**164**	P	**Pg**	**23 45 04.7**	**-0.1**
THAS				AML	AML	23 45 18.0	
	comp=E,8089µm,0.3s						
THAS				AML	AML	23 45 18.4	
	comp=N,10838µm,0.4s						
THAS	**Thassos island**	**0.72**	**164**	P	**Pg**	**23 45 04.8**	**-0.1**
THAS				S	**Sg**	**23 45 14.6**	**+0.4**
	comp=N,5µm,0.4s						
KDZ	**Kurdzhali**	**0.81**	**64**	*i* P	**Pg**	**23 45 04.7**	**-1.8**
PLD	**Plovdiv**	**0.83**	**13**	PG	**Pb**	**23 45 07.2**	**-0.4**
PLD	**Plovdiv**	**0.83**	**13**	*i* P	**Pb**	**23 45 07.2**	**-0.4**
RDO	**Rodhopi**	**0.83**	**100**	P	**Pg**	**23 45 06.3**	**-0.7**
RDO				AML	AML	23 45 22.0	
	comp=E,2187µm,0.2s						
RDO				AML	AML	23 45 22.0	
	comp=N,2444µm,0.3s						
RDO	**Rodhopi**	**0.83**	**100**	P	**Pg**	**23 45 06.3**	**-0.7**
RDO				S	**Sg**	**23 45 17.7**	**-0.2**
	comp=N,1µm,0.2s						
RDO	**Rodhopi**	**0.83**	**100**	PG	**Pg**	**23 45 06.5**	**-0.5**
RDO				SG	**Sb**	**23 45 18.1**	**-0.9**
SOH	**Sokhos**	**0.96**	**240**	P	**Pg**	**23 45 09.0**	**-0.3**
SOH	**Sokhos**	**0.96**	**240**	P	**Pg**	**23 45 09.0**	**-0.3**
SOH				S	**Sb**	**23 45 23.3**	**+0.7**
	comp=N,2µm,0.3s						
OUR	**Ouranopolis**	**1.03**	**200**	P	**Pg**	**23 45 10.7**	**0.0**
OUR				AML	AML	23 45 27.2	
	comp=N,4227µm,0.3s						
OUR				AML	AML	23 45 27.5	
	comp=E,4603µm,0.3s						
OUR	**Ouranopolis**	**1.03**	**200**	P	**Pg**	**23 45 10.7**	**0.0**
OUR				S	**Sn**	**23 45 25.4**	**-0.7**
	comp=E,2µm,0.2s						
OUR	**Ouranopolis**	**1.03**	**200**	PG	**Pg**	**23 45 10.5**	**-0.2**
OUR				SG	**Sb**	**23 45 24.9**	**+0.4**
DIM	**Dimitrovgrad**	**1.10**	**47**	*i* P	**Pb**	**23 45 11.7**	**-0.6**
SMTH	**Samothraki Isl**	**1.16**	**135**	P	**Pb**	**23 45 12.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.16**	**135**	P	**Pb**	**23 45 12.8**	**-0.5**
SMTH				S	**Sn**	**23 45 29.8**	**+0.2**
	comp=E,370nm,0.6s						
KKB	**Krupnik**	**1.17**	**299**	*i* P	**Pb**	**23 45 12.0**	**-1.5**
KNT	**Kendrikon**	**1.18**	**264**	P	**Pb**	**23 45 13.4**	**-0.2**
KNT	**Kendrikon**	**1.18**	**264**	P	**Pb**	**23 45 13.4**	**-0.2**
KNT				S	**Sn**	**23 45 31.0**	**+1.0**
	comp=E,1µm,0.3s						
KNT	**Kendrikon**	**1.18**	**264**	PN	**Pb**	**23 45 13.2**	**-0.4**
PLG	**Polygyros**	**1.20**	**220**	P	**Pb**	**23 45 13.4**	**-0.5**
PLG	**Polygyros**	**1.20**	**220**	P	**Pb**	**23 45 13.4**	**-0.5**
PLG				S	**Sn**	**23 45 31.0**	**+0.5**
	comp=E,1µm,0.3s						
HORT	**Hortiatis**	**1.24**	**236**	PN	**Pn**	**23 45 14.4**	**-0.2**
PGB	**Panagyurishte**	**1.27**	**350**	*i* P	**Pn**	**23 45 13.6**	**-1.4**
ALN	**Alexandroupoli**	**1.27**	**108**	P	**Pn**	**23 45 14.5**	**-0.5**
ALN	**Alexandroupoli**	**1.27**	**108**	P	**Pn**	**23 45 14.5**	**-0.5**
ALN				S	**Sn**	**23 45 33.2**	**+1.0**
	comp=E,405nm,0.8s						
ALN	**Alexandroupoli**	**1.27**	**108**	PN	**Pn**	**23 45 14.6**	**-0.4**
THE	**Thessaloniki**	**1.31**	**240**	P	**Pn**	**23 45 15.3**	**-0.2**
THE	**Thessaloniki**	**1.31**	**240**	P	**Pn**	**23 45 15.3**	**-0.2**
THE				S	**Sg**	**23 45 33.6**	**+0.6**
	comp=E,792nm,0.5s						
ENEZ	**Enez**	**1.41**	**113**	PN	**Pb**	**23 45 17.1**	**-0.3**
VAY	**Valandovo**	**1.42**	**272**	*e*Pg	**Pb**	**23 45 17.8**	**+0.2**
VAY				*e*Sg	**Sg**	**23 45 37.6**	**+1.1**
VAY	**Valandovo**	**1.42**	**272**	*i* Pn	**Pb**	**23 45 17.6**	**0.0**
VAY				*i* Sn	**Sg**	**23 45 37.4**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**1.43**	**114**	P	**Pn**	**23 45 17.1**	**-0.1**
CAVK				S	**Sg**	**23 45 38.6**	**+1.5**
CAVK				*i* AML	AML	23 45 42.0	
	comp=E,367nm,0.6s						
CAVK				*i* AML	AML	23 45 46.0	
	comp=E,322nm,0.7s						
PAIG	**Paliouri**	**1.49**	**203**	P	**Pn**	**23 45 17.1**	**-0.9**
PAIG	**Paliouri**	**1.49**	**203**	P	**Pn**	**23 45 17.1**	**-0.9**
PAIG				S	**Sg**	**23 45 39.4**	**+0.5**
	comp=E,360nm,0.4s						
LIA	**Limnos Island**	**1.51**	**158**	P	**Pn**	**23 45 17.5**	**-0.7**
LIA	**Limnos Island**	**1.51**	**158**	P	**Pn**	**23 45 17.5**	**-0.7**
LIA				S	**Sb**	**23 45 38.1**	**-0.2**
	comp=E,768nm,0.5s						
GADA	**Gvkgeada**	**1.56**	**135**	PN	**Pn**	**23 45 18.6**	**-0.3**
GOKA	**anakkale-Gk**	**1.56**	**135**	P	**Pn**	**23 45 18.9**	**-0.1**
GOKA				S	**Sn**	**23 45 39.1**	**-0.4**
GRG	**Griva**	**1.58**	**258**	PN	**Pb**	**23 45 19.9**	**-0.6**
VTS	**Vitosha**	**1.60**	**326**	⇑P	**Pn**	**23 45 19.5**	**-0.2**
VTS				⇑S	**Sg**	**23 45 42.0**	**-0.5**
VTS	**Vitosha**	**1.60**	**326**	*e*Pg	**Pb**	**23 45 20.6**	**-0.3**
VTS				*e*Sg	**Sg**	**23 45 42.0**	**-0.5**
VTS	**Vitosha**	**1.60**	**326**	*i* P	**Pb**	**23 45 20.1**	**-0.8**
UKOP	**Uzunkopru-Edir**	**1.66**	**95**	PN	**Pb**	**23 45 20.6**	**-1.1**
ERIK	**Erikli-Kesan**	**1.68**	**111**	PN	**Pn**	**23 45 20.9**	**+0.3**
STIP	**Stip**	**1.75**	**284**	*i* Pn	**Pn**	**23 45 19.5**	**-2.0**
STIP				*i* Sn	**Sn**	**23 45 41.7**	**-2.2**
KESN	**Edirne-Kesan**	**1.75**	**105**	P	**Pn**	**23 45 21.7**	**-0.2**
KESN				S	**Sg**	**23 45 48.0**	**+0.7**
KESN				*i* AML	AML	23 45 55.0	
	comp=E,180nm,0.6s						
GELI	**Tayfur-Gelibol**	**1.78**	**120**	PN	**Pn**	**23 45 21.9**	**-0.1**
EDRB	**Edirne**	**1.81**	**72**	PN	**Pn**	**23 45 22.8**	**+0.5**
BOSS	**Bosilegrad**	**1.90**	**310**	*e*Pg	**Pb**	**23 45 25.4**	**-0.4**
BOSS				*e*Sg	**Sg**	**23 45 50.9**	**-1.0**
JMB	**Yambol**	**1.97**	**53**	*i* P	**Pb**	**23 45 26.4**	**-0.7**
PVL	**Pavlikeni**	**2.03**	**19**	*i* P	**Pn**	**23 45 26.2**	**+0.8**
EZN	**Ezine**	**2.05**	**135**	PN	**Pn**	**23 45 25.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**106**	PN	**Pn**	**23 45 27.5**	**+0.3**
KOCA	**Canakkale, Ayv**	**2.21**	**144**	P	**Pn**	**23 45 28.0**	**+0.1**
KOCA				S	**Sn**	**23 45 54.9**	**-0.4**
KOCA				*i* AML	AML	23 46 03.0	
	comp=E,94nm,0.6s						
KOCA				*i* AML	AML	23 46 07.0	
	comp=E,78nm,0.6s						
MAR6	**Marsite Statio**	**2.21**	**105**	PN	**Pn**	**23 45 28.4**	**+0.5**
MAR3	**Marsite Statio**	**2.22**	**104**	PN	**Pn**	**23 45 28.6**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**2.23**	**134**	P	**Pn**	**23 45 28.7**	**+0.5**
BAYC				S	**Sn**	**23 45 55.2**	**-0.7**
BAYC				*i* AML	AML	23 45 56.0	
	comp=E,61nm,0.3s						
BAYC				*i* AML	AML	23 45 57.0	
	comp=E,43nm,0.3s						
SZH	**Strazhica**	**2.25**	**29**	*i* P	**Pb**	**23 45 32.2**	**+0.3**
KRBG	**Karabiga-Canak**	**2.34**	**112**	PN	**Pn**	**23 45 30.3**	**+0.6**
SIGR	**SIGRI**	**2.34**	**152**	PN	**Pn**	**23 45 30.2**	**+0.5**
ZAPS	**Zavoj**	**2.39**	**326**	*e*Pn	**Pb**	**23 45 32.3**	**-2.0**
ZAPS				*e*Sn	**Sn**	**23 46 00.5**	**+0.6**
BARS	**Barje**	**2.48**	**309**	*e*Pn	**Pn**	**23 45 32.6**	**+1.0**
BARS	**Barje**	**2.48**	**309**	*e*Pn	**Pg**	**23 45 41.9**	**+3.4**
BARS				*e*Sn	**Sn**	**23 46 02.8**	**+0.7**
VLAD	**Vladila**	**2.70**	**359**	⇑P	**Pn**	**23 45 35.9**	**+1.3**
SLVT	**Silivri**	**2.83**	**90**	PN	**Pn**	**23 45 37.5**	**+1.0**
CTYL	**Yalikoy Yolu**	**2.89**	**85**	PN	**Pn**	**23 45 38.4**	**+1.1**
ZAGS	**Zajecar**	**3.00**	**328**	*e*Pn	**Pn**	**23 45 39.3**	**+0.5**
CTKS	**Kestanelik-??a**	**3.06**	**90**	PN	**Pn**	**23 45 40.6**	**+1.1**
BOVS	**Bovan**	**3.10**	**320**	⇓P	**Pn**	**23 45 40.2**	**+0.1**
BOVS				⇑S	**Sn**	**23 46 17.6**	**+0.4**
BOVS	**Bovan**	**3.10**	**320**	*e*Pn	**Pn**	**23 45 39.8**	**-0.3**
BOVS				*e*Sn	**Sn**	**23 46 16.4**	**-0.8**
SELS	**Selova**	**3.13**	**309**	*e*Pn	**Pn**	**23 45 40.6**	**0.0**
HUMR	**Humele**	**3.25**	**7**	⇓P	**Pn**	**23 45 42.4**	**+0.2**
BGKT	**Bogazkoy**	**3.26**	**91**	PN	**Pn**	**23 45 43.5**	**+1.2**
SRE	**Strehaia**	**3.48**	**345**	⇑P	**Pn**	**23 45 45.7**	**+0.3**
SULR		**3.63**	**21**	⇑P	**Pn**	**23 45 48.7**	**+1.3**
GRUS	**Gruza**	**3.78**	**314**	*e*Pn	**Pn**	**23 45 49.7**	**+0.2**
SJES	**Sjenica**	**3.86**	**302**	*e*Pn	**Pn**	**23 45 51.5**	**+0.8**
HERR	**Herculane**	**3.88**	**338**	⇑P	**Pn**	**23 45 50.4**	**-0.4**
IVAS	**Ivanjica**	**3.91**	**307**	*e*Pn	**Pn**	**23 45 51.6**	**+0.2**
MTUR	**Matau**	**3.95**	**6**	⇑P	**Pn**	**23 45 51.2**	**-0.7**
MDVR	**Moldovita**	**4.02**	**331**	⇑P	**Pn**	**23 45 52.5**	**-0.3**
ARR	**Arges**	**4.07**	**2**	⇑P	**Pn**	**23 45 54.1**	**+0.6**
ISR	**Istrita**	**4.11**	**21**	⇑P	**Pn**	**23 45 54.8**	**+0.7**
VOIR		**4.16**	**6**	⇓P	**Pn**	**23 45 55.2**	**+0.4**
HARR	**Harsova**	**4.24**	**36**	⇑P	**Pn**	**23 45 55.5**	**-0.3**
GZR	**Gura Zlata**	**4.27**	**344**	⇓P	**Pn**	**23 45 56.1**	**-0.2**
TIRR	**Tirgusor**	**4.29**	**41**	⇑P	**Pn**	**23 45 56.2**	**-0.4**
MLR	**Muntele Rosu**	**4.33**	**14**	⇑P	**Pn**	**23 45 58.9**	**+1.7**
NEHR	**Nehoiu**	**4.34**	**17**	⇑P	**Pn**	**23 45 58.4**	**+1.2**
TPGR	**Topolog**	**4.59**	**38**	⇓P	**Pn**	**23 46 01.5**	**+0.9**
DOPR	**Dopca**	**4.72**	**8**	⇓P	**Pn**	**23 46 03.3**	**+0.9**
CFR	**Carcaliu**	**4.72**	**34**	⇑P	**Pn**	**23 46 03.3**	**+0.9**
BZS	**Buzias**	**4.78**	**335**	⇑P	**Pn**	**23 46 03.5**	**+0.2**
PLOR	**Plostina**	**4.82**	**19**	⇓P	**Pn**	**23 46 04.9**	**+1.0**
VRI	**Vrincioaia**	**4.86**	**19**	⇓P	**Pn**	**23 46 05.7**	**+1.4**
TESR	**Tescani**	**5.45**	**16**	⇑P	**Pn**	**23 46 12.9**	**+0.5**
DRGR		**5.63**	**348**	⇑P	**Pn**	**23 46 15.1**	**+0.1**
BURAR	**Bucovina Array**	**6.34**	**5**	⇑P	**Pn**	**23 46 25.0**	**+0.3**

IDC ***02*** *23:54:24.5±1.0, 40°.11S×174°.79E, h0km, mb4.0/2, mb1 4.3/4, mb1mx4.0/24, mbtmp4.1/4, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/43, Error ellipse: s-maj=32.0km s-min=26.0km az=151.0*

NEIC ***02*** *23:54:27.9±1.6, 40°.14S±0°.03×174°.79E±0°.06, h14km±4km, mb4.3/6, Error ellipse: s-maj=6.6km s-min=4.3km az=108.0*

WEL ***02*** *23:54:28.8±0.3, 40°S±1°×17°5E±°, h18km±3km, M4.5/64, ML4.9/64, MLv4.5/64, Error ellipse: s-maj=0.0km s-min=0.0km az=89.2*

NOU ***02*** *23:54:29.7, 40°.16S×174°.87E, h75km, MLv4.7/10, Cook Strait, New Zealand*

ISC 02 23:54:28.4±0.9**, 40°.13S**±0°.02**×174°.87E**±0°.02**, h23**km±6km**, n216,** σ1s**.06**/235**, mb4.1**/6**, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.35**	**103**	P	**Pn**	**23 54 37.8**	**-0.2**
OHWZ				S	**Sn**	**23 54 44.4**	**+0.1**
WAZ	**Wanganui**	**0.38**	**14**	P	**Pn**	**23 54 38.2**	**-0.2**
WAZ				S	**Sn**	**23 54 44.6**	**-0.5**
OGWZ	**Otaki Gorge**	**0.73**	**161**	P	**Pn**	**23 54 43.2**	**0.0**
OGWZ				S	**Sn**	**23 54 53.2**	**-0.4**
KIW	**Kapiti Island**	**0.73**	**177**	P	**Pb**	**23 54 43.1**	**+0.6**
KIW				S	**Sb**	**23 54 52.5**	**+0.3**
POWZ	**Post Office Ro**	**0.74**	**111**	P	**Pn**	**23 54 44.0**	**+0.6**
POWZ				S	**Sn**	**23 54 54.4**	**+0.5**
LREZ	**Lake Rotokare**	**0.76**	**332**	P	**Pn**	**23 54 44.2**	**+0.7**
MRZ	**Mangatainoka R**	**0.76**	**135**	P	**Pn**	**23 54 44.2**	**+0.5**
MRZ				S	**Sn**	**23 54 54.9**	**+0.5**
TSZ	**Takapari Road**	**0.84**	**86**	P	**Pn**	**23 54 45.3**	**+0.4**
TSZ				S	**Sn**	**23 54 57.1**	**+0.6**
MTVZ	**Mangateitei**	**0.88**	**32**	P	**Pb**	**23 54 45.1**	**+0.2**
MTVZ				S	**Sn**	**23 54 58.6**	**+1.2**
HOWZ	**Holdsworth Sta**	**0.92**	**147**	P	**Pn**	**23 54 46.4**	**+0.6**
HOWZ				S	**Sn**	**23 54 59.2**	**+0.9**
PKVZ	**Pokaka**	**0.92**	**24**	P	**Pb**	**23 54 45.5**	**-0.1**
PRWZ	**Pori Road**	**0.95**	**117**	P	**Pn**	**23 54 47.6**	**+1.3**
PRWZ				S	**Sn**	**23 55 01.8**	**+2.7**
PREZ	**Palmer Road**	**0.95**	**325**	P	**Pn**	**23 54 47.4**	**+1.1**
PREZ				S	**Sn**	**23 55 02.1**	**+2.9**
WNVZ	**Wahianoa**	**0.98**	**35**	P	**Pb**	**23 54 46.7**	**0.0**
TRVZ	**Turoa**	**0.98**	**33**	P	**Pb**	**23 54 46.6**	**-0.2**
TRVZ				S	**Sb**	**23 54 60.0**	**+0.6**
DUWZ	**D'Urville Isla**	**0.99**	**227**	P	**Pb**	**23 54 46.2**	**-0.5**
CAW	**Cannon Point**	**0.99**	**171**	P	**Pb**	**23 54 47.0**	**+0.1**
MOVZ	**Moawhango**	**0.99**	**44**	P	**Pb**	**23 54 46.6**	**-0.3**
MOVZ				S	**Sb**	**23 54 59.6**	**0.0**
VRZ	**Vera Road**	**1.00**	**355**	P	**Pn**	**23 54 47.7**	**+0.7**
DRZ	**Dome Shelter**	**1.01**	**33**	P	**Pb**	**23 54 47.3**	**-0.1**
DVHZ	**Dannevirke**	**1.01**	**100**	P	**Pn**	**23 54 48.4**	**+1.3**
WHVZ	**Whangaehu Hut**	**1.01**	**34**	P	**Pb**	**23 54 47.1**	**-0.3**
TIWZ	**Tintock**	**1.01**	**130**	P	**Pn**	**23 54 48.4**	**+1.2**
FWVZ	**Far West T-bar**	**1.02**	**32**	P	**Pb**	**23 54 47.1**	**-0.4**
NEZ	**North Egmont**	**1.04**	**325**	P	**Pn**	**23 54 48.5**	**+0.9**
NMEZ	**Namu Road**	**1.04**	**313**	P	**Pb**	**23 54 48.8**	**+1.1**
PNHZ	**Pukenui**	**1.05**	**79**	P	**Pb**	**23 54 48.2**	**+0.4**
TUVZ	**Tukino**	**1.05**	**36**	P	**Pn**	**23 54 48.0**	**+0.2**
KHEZ	**Kahui Hut**	**1.06**	**321**	P	**Pb**	**23 54 49.0**	**+0.9**
DREZ	**Durham Road**	**1.07**	**331**	P	**Pb**	**23 54 49.1**	**+0.9**
NGZ	**Ngauruhoe**	**1.11**	**31**	P	**Pn**	**23 54 48.3**	**-0.3**
SNVZ	**South Ngauruho**	**1.11**	**33**	P	**Pn**	**23 54 48.8**	**+0.1**
BHHZ	**Black Hill Sta**	**1.12**	**56**	P	**Pn**	**23 54 48.4**	**-0.2**
MHEZ	**Mangahewa**	**1.13**	**338**	P	**Pb**	**23 54 51.2**	**+2.0**
MTW	**Mount Morrison**	**1.14**	**155**	P	**Pb**	**23 54 49.6**	**+0.3**
OTVZ	**Oturere**	**1.14**	**33**	P	**Pn**	**23 54 49.0**	**-0.1**
TWVZ	**Taurewa**	**1.14**	**23**	P	**Pn**	**23 54 48.5**	**-0.5**
NNVZ	**North Ngauruho**	**1.15**	**30**	P	**Pn**	**23 54 48.9**	**-0.3**
NBEZ	**Newall Road No**	**1.15**	**318**	P	**Pb**	**23 54 50.5**	**+0.9**
PKE	**Pukeiti**	**1.15**	**324**	P	**Pb**	**23 54 50.2**	**+0.6**
WTVZ	**West Tongariro**	**1.16**	**29**	P	**Pn**	**23 54 48.8**	**-0.4**
WEL	**Wellington**	**1.16**	**184**	P	**Pn**	**23 54 49.5**	**+0.4**
TCW	**Tory Channel**	**1.17**	**202**	P	**Pn**	**23 54 49.1**	**-0.2**
ETVZ	**East Tongariro**	**1.19**	**34**	P	**Pn**	**23 54 49.6**	**-0.1**
SNZO	**South Karori**	**1.19**	**186**		**Pn**	**23 54 49.6**	**+0.1**
SNZO				Sn	**Sn**	**23 55 05.7**	**+0.8**
SNZO	**South Karori**	**1.19**	**186**	P	**Pb**	**23 54 50.3**	**+0.1**
BFZ	**Birch Farm**	**1.19**	**118**		**Pb**	**23 54 50.3**	**+0.1**
BFZ	**Birch Farm**	**1.19**	**118**	P	**Pb**	**23 54 50.3**	**+0.1**
BFZ	**Birch Farm**	**1.19**	**118**	P	**Pb**	**23 54 50.8**	**+0.5**
KRVZ	**Karewarewa**	**1.19**	**30**	P	**Pn**	**23 54 49.4**	**-0.3**
TMVZ	**Te Maari**	**1.20**	**33**	P	**Pn**	**23 54 49.7**	**-0.1**
NTVZ	**North Tongarir**	**1.20**	**32**	P	**Pn**	**23 54 49.9**	**0.0**
WPHZ	**Waipukurau**	**1.21**	**88**	P	**Pb**	**23 54 51.7**	**+1.1**
TMWZ	**Te Maipa**	**1.25**	**142**	P	**Pb**	**23 54 51.2**	**-0.1**
KRHZ	**Kereru**	**1.25**	**68**	P	**Pb**	**23 54 51.3**	**0.0**
ANWZ	**Angora Road**	**1.27**	**106**	P	**Pb**	**23 54 52.1**	**+0.4**
BHW	**Baring Head**	**1.28**	**180**	Pn	**Pb**	**23 54 51.6**	**-0.1**
BHW				Sn	**Sb**	**23 55 08.6**	**+0.8**
BHW	**Baring Head**	**1.28**	**180**	P	**Pb**	**23 54 51.9**	**+0.1**
CPWZ	**Castlepoint**	**1.28**	**128**	P	**Pb**	**23 54 52.3**	**+0.5**
KATZ	**Kakaramea**	**1.32**	**29**	P	**Pn**	**23 54 51.7**	**+0.2**
MSWZ	**Moikau Station**	**1.32**	**167**		**Pb**	**23 54 52.5**	**+0.1**
MSWZ	**Moikau Station**	**1.32**	**167**	P	**Pb**	**23 54 52.8**	**+0.3**
PAWZ	**Paruwai Farm**	**1.32**	**161**	P	**Pb**	**23 54 52.9**	**+0.3**
PRHZ	**Porangahau**	**1.36**	**96**	P	**Pb**	**23 54 53.2**	**+0.1**
RITZ	**Rihia Road**	**1.38**	**34**	P	**Pn**	**23 54 53.0**	**+0.7**
KWHZ	**Kaweka Forest**	**1.39**	**60**	P	**Pn**	**23 54 53.3**	**+0.9**
TRWZ	**Traveller**	**1.42**	**154**	P	**Pb**	**23 54 54.5**	**+0.4**
RATZ	**Rangitukua**	**1.44**	**29**	P	**Pn**	**23 54 53.9**	**+0.8**
PLWZ	**Palliser**	**1.47**	**169**		**Pb**	**23 54 54.5**	**-0.5**
PLWZ	**Palliser**	**1.47**	**169**	P	**Pb**	**23 54 54.7**	**-0.4**
TUWZ	**Tuamarina**	**1.48**	**208**		**Pn**	**23 54 53.2**	**-0.2**
TUWZ	**Tuamarina**	**1.48**	**208**	P	**Pn**	**23 54 53.3**	**-0.2**
HATZ	**Hinemaiaia**	**1.56**	**38**	P	**Pn**	**23 54 55.6**	**+0.9**
MCHZ	**McNeill Hill**	**1.57**	**65**	P	**Pb**	**23 54 57.3**	**+0.7**
NNZ	**Nelson**	**1.57**	**226**		**Pn**	**23 54 55.1**	**+0.4**
NNZ	**Nelson**	**1.57**	**226**	P	**Pn**	**23 54 55.2**	**+0.4**
WATZ	**Wairara**	**1.57**	**26**	P	**Pn**	**23 54 55.5**	**+0.7**
KAHZ	**Kahuranaki**	**1.58**	**78**	P	**Pb**	**23 54 56.6**	**-0.3**
BKZ	**Black Stump Fm**	**1.58**	**53**		**Pn**	**23 54 55.9**	**+0.9**
BKZ				Sn	**Sb**	**23 55 17.9**	**+1.4**
BKZ	**Black Stump Fm**	**1.58**	**53**	P	**Pn**	**23 54 56.1**	**+1.1**
BKZ	**Black Stump Fm**	**1.58**	**53**	P	**Pb**	**23 54 56.4**	**-0.5**
HIZ	**Hauiti**	**1.61**	**360**		**Pn**	**23 54 56.0**	**+0.6**
HIZ	**Hauiti**	**1.61**	**360**	P	**Pn**	**23 54 56.0**	**+0.6**
HIZ	**Hauiti**	**1.61**	**360**	P	**Pn**	**23 54 56.3**	**+0.9**
WHTZ	**Whakaora**	**1.69**	**30**	P	**Pb**	**23 54 58.5**	**-0.3**
CMWZ	**Cape Campbell**	**1.69**	**197**		**Pb**	**23 54 57.9**	**-1.0**
CMWZ	**Cape Campbell**	**1.69**	**197**	P	**Pb**	**23 54 58.7**	**-0.1**
TKNZ	**Takaka Hill**	**1.71**	**237**	P	**Pn**	**23 54 57.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.75**	**205**		**Pn**	**23 54 57.9**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.75**	**205**	P	**Pn**	**23 54 58.2**	**+0.9**
MRHZ	**Matea Rd**	**1.76**	**43**	P	**Pn**	**23 54 58.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.77**	**75**	P	**Pb**	**23 55 01.3**	**+1.2**
KUTZ	**Kaahu Road**	**1.80**	**25**	P	**Pn**	**23 54 59.3**	**+1.4**
NMHZ	**Naumai**	**1.82**	**56**	P	**Pb**	**23 55 00.8**	**-0.2**
ARHZ	**Aropaoanui**	**1.86**	**63**	P	**Pb**	**23 55 00.8**	**-0.8**
TLZ	**Tolley Road**	**1.87**	**16**	P	**Pn**	**23 54 59.0**	**0.0**
WPRZ	**Whakapapatarin**	**1.90**	**32**	P	**Pn**	**23 55 00.3**	**+1.1**
QRZ	**Quartz Range**	**1.91**	**248**		**Pn**	**23 54 59.9**	**+0.4**
QRZ	**Quartz Range**	**1.91**	**248**	P	**Pn**	**23 54 59.9**	**+0.4**
QRZ	**Quartz Range**	**1.91**	**248**	P	**Pn**	**23 55 00.0**	**+0.5**
ALRZ	**Allen Road**	**1.94**	**37**	P	**Pn**	**23 55 00.8**	**+0.9**
MTHZ	**Maungataniwha**	**1.99**	**51**	P	**Pn**	**23 55 01.7**	**+1.1**
PRRZ	**Plateau Road**	**2.01**	**37**	P	**Pn**	**23 55 01.8**	**+1.0**
GRRZ	**Galatos Road**	**2.02**	**29**	P	**Pb**	**23 55 03.9**	**-0.5**
MRNZ	**Matariki Terra**	**2.04**	**231**	P	**Pn**	**23 55 02.5**	**+1.2**
HRRZ	**Handcock Road**	**2.06**	**33**	P	**Pn**	**23 55 03.2**	**+1.7**
RAHZ	**Arahi**	**2.10**	**56**	P	**Pn**	**23 55 03.7**	**+1.6**
HSRZ	**Hossack Road**	**2.11**	**31**	P	**Pn**	**23 55 04.2**	**+2.0**
WHHZ	**Waihua**	**2.11**	**61**	P	**Pb**	**23 55 05.7**	**-0.2**
RRRZ	**Republican Roa**	**2.20**	**36**	P	**Pn**	**23 55 04.6**	**+1.1**
HLRZ	**Highlands Stat**	**2.20**	**32**	P	**Pb**	**23 55 07.1**	**-0.4**
UTU	**Utuhina**	**2.21**	**28**	P	**Pb**	**23 55 06.7**	**-0.9**
THZ	**Tophouse**	**2.21**	**222**		**Pn**	**23 55 04.0**	**+0.4**
THZ	**Tophouse**	**2.21**	**222**	P	**Pn**	**23 55 04.2**	**+0.6**
MUGZ	**Murupara**	**2.21**	**42**	P	**Pn**	**23 55 04.2**	**+0.5**
RTZ	**Ruatahuna**	**2.23**	**48**	P	**Pn**	**23 55 04.4**	**+0.5**
NGRZ	**Ngongotaha**	**2.27**	**27**	P	**Pb**	**23 55 08.1**	**-0.6**
TARZ	**Mount Tarawera**	**2.28**	**35**	P	**Pn**	**23 55 06.2**	**+1.5**
OMRZ	**Omania**	**2.33**	**31**	P	**Pb**	**23 55 08.5**	**-1.3**
SNGZ	**Shannon Statio**	**2.34**	**56**	P	**Pn**	**23 55 07.3**	**+1.9**
MKRZ	**Makatiti**	**2.34**	**33**	P	**Pn**	**23 55 07.3**	**+1.8**
KARZ	**Kaharoa**	**2.36**	**27**	P	**Pb**	**23 55 09.4**	**-0.8**
KMRZ	**Kaimai**	**2.43**	**21**	P	**Pb**	**23 55 10.8**	**-0.5**
LIRZ	**Lichensteins R**	**2.43**	**30**	P	**Pb**	**23 55 10.8**	**-0.5**
KNZ	**Kokohu**	**2.44**	**64**	P	**Pn**	**23 55 07.5**	**+0.8**
TOZ	**Tahuroa Road**	**2.44**	**12**	P	**Pn**	**23 55 06.7**	**-0.1**
EDRZ	**Edgecumbe**	**2.49**	**36**	P	**Pn**	**23 55 09.6**	**+2.1**
KHZ	**Kahutara**	**2.50**	**203**		**Pn**	**23 55 08.1**	**+0.6**
KHZ	**Kahutara**	**2.50**	**203**	P	**Pn**	**23 55 08.1**	**+0.6**
KHZ	**Kahutara**	**2.50**	**203**	P	**Pn**	**23 55 08.2**	**+0.7**
URZ	**Urewera**	**2.56**	**44**	Pn	**Pn**	**23 55 08.3**	**0.0**
	103nm,0.3s,baz=234,slow=7.0,SNR=191						
URZ				Sn	**Sn**	**23 55 33.3**	**-5.3**
	48nm,0.3s,baz=182,slow=15,SNR=3.9						
URZ	**Urewera**	**2.56**	**44**		**Pn**	**23 55 08.7**	**+0.4**
URZ	**Urewera**	**2.56**	**44**	P	**Pn**	**23 55 08.7**	**+0.4**
URZ	**Urewera**	**2.56**	**44**	P	**Pn**	**23 55 08.7**	**+0.4**
MARZ	**Manawahe**	**2.56**	**34**	P	**Pn**	**23 55 10.8**	**+2.4**
RAGZ	**Rawiri**	**2.56**	**51**	P	**Pn**	**23 55 10.8**	**+2.3**
PRGZ	**Paritu Road**	**2.63**	**64**	P	**Pn**	**23 55 10.1**	**+0.7**
TGRZ	**Tauranga**	**2.63**	**25**	P	**Pb**	**23 55 13.1**	**-1.7**
OPRZ	**Ohinepanea**	**2.63**	**31**	P	**Pn**	**23 55 11.7**	**+2.3**
RIGZ	**Rimuhau**	**2.66**	**59**	P	**Pn**	**23 55 10.7**	**+1.0**
MWZ	**Matawai**	**2.74**	**50**	P	**Pn**	**23 55 11.4**	**+0.6**
WHRZ	**Whale Island**	**2.80**	**37**	P	**Pn**	**23 55 14.7**	**+3.0**
DSZ	**Denniston Nort**	**2.83**	**234**	P	**Pn**	**23 55 12.6**	**+0.5**
TKGZ	**Te Karaka**	**2.86**	**55**	P	**Pn**	**23 55 13.4**	**+0.9**
MYRZ	**Mayor Island**	**3.04**	**21**	P	**Pb**	**23 55 19.2**	**-2.6**
AWAZ	**Awhitu Peninsu**	**3.06**	**357**	P	**Pn**	**23 55 16.3**	**+1.0**
CNGZ	**Carnagh Statio**	**3.07**	**59**	P	**Pn**	**23 55 16.1**	**+0.7**
RUGZ	**Raukumara Rang**	**3.08**	**46**	P	**Pn**	**23 55 16.0**	**+0.4**
GVZ	**Greta Valley S**	**3.15**	**205**	P	**Pn**	**23 55 16.4**	**-0.2**
ETAZ	**East Tamaki Re**	**3.17**	**1**	P	**Pn**	**23 55 17.7**	**+1.0**
WTAZ	**Waiatarua**	**3.20**	**356**	P	**Pn**	**23 55 17.5**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.27**	**358**	P	**Pn**	**23 55 19.8**	**+1.6**
HAZ	**Te Kaha**	**3.28**	**45**	P	**Pn**	**23 55 18.2**	**-0.2**
LTZ	**Lake Taylor**	**3.29**	**215**	Pn	**Pn**	**23 55 18.4**	**-0.1**
LTZ	**Lake Taylor**	**3.29**	**215**	P	**Pn**	**23 55 18.7**	**+0.2**
WIAZ	**Waiheke Island**	**3.34**	**4**	P	**Pn**	**23 55 19.7**	**+0.6**
PUZ	**Puketiti**	**3.34**	**53**	P	**Pn**	**23 55 19.1**	**0.0**
MBAZ	**Motutapu North**	**3.35**	**0**	P	**Pn**	**23 55 20.1**	**+0.8**
PKGZ	**Pakihiroa**	**3.36**	**49**	P	**Pn**	**23 55 19.9**	**+0.5**
RVAZ	**Riverhead Bore**	**3.36**	**356**	P	**Pn**	**23 55 20.5**	**+1.2**
KUZ	**Kuaotunu**	**3.44**	**12**	P	**Pn**	**23 55 20.4**	**-0.2**
AMCZ	**Amberley**	**3.47**	**208**	P	**Pn**	**23 55 20.4**	**-0.4**
ABAZ	**Army Bay**	**3.52**	**360**	P	**Pn**	**23 55 22.7**	**+1.1**
INZ	**Inchbonnie**	**3.65**	**224**	P	**Pn**	**23 55 24.0**	**+0.6**
MXZ	**Matakaoa Point**	**3.71**	**47**	Pn	**Pn**	**23 55 24.7**	**+0.5**
MXZ	**Matakaoa Point**	**3.71**	**47**	P	**Pn**	**23 55 24.8**	**+0.5**
OXZ	**Oxford**	**3.83**	**213**		**Pn**	**23 55 24.7**	**-1.2**
OXZ	**Oxford**	**3.83**	**213**	P	**Pn**	**23 55 24.8**	**-1.0**
GRZ	**Great Barrier**	**3.90**	**7**	P	**Pn**	**23 55 26.9**	**+0.1**
MQZ	**McQueen's Vall**	**3.94**	**204**	Pn	**Pn**	**23 55 25.5**	**-1.8**
AKCZ	**Akaroa Harbour**	**4.01**	**201**	P	**Pn**	**23 55 27.7**	**-0.7**
MHCZ	**Mount Hutt**	**4.20**	**215**	P	**Pn**	**23 55 30.5**	**-0.5**
WCZ	**Waipu Caves**	**4.20**	**354**	P	**Pn**	**23 55 31.7**	**+0.7**
WVZ	**Waitaha Valley**	**4.27**	**225**	P	**Pn**	**23 55 32.2**	**+0.3**
WACZ	**Wakanui South**	**4.43**	**210**	P	**Pn**	**23 55 33.1**	**-0.9**
RPZ	**Rata Peaks**	**4.58**	**217**	Pn	**Pn**	**23 55 35.4**	**-0.7**
	5.5nm,0.3s,baz=34,slow=4.1,SNR=23						
RPZ				Sn	**Sn**	**23 56 24.7**	**-3.8**
	2.8nm,0.3s,baz=347,slow=8.8,SNR=1.4						
RPZ				LR	LR	23 57 43.7	
	comp=Z,381nm,21.0s,baz=356,slow=44						
RPZ	**Rata Peaks**	**4.58**	**217**	P	**Pn**	**23 55 36.4**	**+0.2**
RPZ	**Rata Peaks**	**4.58**	**217**	P	**Pn**	**23 55 36.3**	**+0.2**
GCSZ	**Gaunt Creek Bo**	**4.66**	**225**	P	**Pn**	**23 55 37.5**	**+0.3**
ARCZ	**Arundel**	**4.70**	**215**	P	**Pn**	**23 55 37.2**	**-0.6**
OUZ	**Omahuta**	**5.00**	**348**	Pn	**Pn**	**23 55 42.2**	**+0.3**
OUZ	**Omahuta**	**5.00**	**348**	P	**Pn**	**23 55 42.5**	**+0.6**
OUZ	**Omahuta**	**5.00**	**348**	P	**Pn**	**23 55 43.3**	**+1.3**
FOZ	**Fox Glacier**	**5.08**	**226**		**Pn**	**23 55 42.1**	**-0.8**
FOZ	**Fox Glacier**	**5.08**	**226**	P	**Pn**	**23 55 42.9**	**-0.1**
TMZ	**Timaru**	**5.13**	**213**	P	**Pn**	**23 55 42.8**	**-0.9**
LBZ	**Lake Benmore**	**5.49**	**218**	Pn	**Pn**	**23 55 47.5**	**-1.2**
LBZ	**Lake Benmore**	**5.49**	**218**	P	**Pn**	**23 55 48.3**	**-0.4**
ODZ	**Otahua Downs**	**5.82**	**211**	Pn	**Pn**	**23 55 51.1**	**-2.0**
ODZ	**Otahua Downs**	**5.82**	**211**	P	**Pn**	**23 55 51.7**	**-1.4**
ODZ	**Otahua Downs**	**5.82**	**211**	P	**Pn**	**23 55 52.2**	**-0.9**
JCZ	**Jackson Bay**	**6.00**	**227**	P	**Pn**	**23 55 54.8**	**-0.9**
WKZ	**Wanaka**	**6.38**	**221**		**Pn**	**23 56 00.8**	**-0.1**
WKZ	**Wanaka**	**6.38**	**221**	P	**Pn**	**23 56 04.7**	**+3.7**
EAZ	**Earnscleugh**	**6.54**	**217**	P	**Pn**	**23 56 01.9**	**-1.2**
TUZ	**Tuapeka**	**6.97**	**212**	P	**Pn**	**23 56 08.9**	**-0.1**
MLZ	**Mavora Lakes**	**7.21**	**221**	Pn	**Pn**	**23 56 13.0**	**+0.6**
MLZ	**Mavora Lakes**	**7.21**	**221**	P	**Pn**	**23 56 15.0**	**+2.6**
CTZ	**Chatham Island**	**7.30**	**122**	P	**Pn**	**23 56 13.0**	**-0.5**
SYZ	**Scrubby Hill**	**7.64**	**211**	P	**Pn**	**23 56 18.4**	**+0.2**
WHZ	**Wether Hill Ro**	**7.67**	**219**	P	**Pn**	**23 56 22.3**	**+3.7**
DCZ	**Deep Cove**	**7.78**	**224**	Pn	**Pn**	**23 56 21.1**	**+1.0**
COEN	**Coen**	**38.07**	**304**	P	**P**	**00 01 44.8**	**-0.4**
COEN				IAmb	IAmb	00 02 01.8	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**38.08**	**283**	P	**P**	**00 01 44.1**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=131,slow=8.0,SNR=19						
ASAR	**Alice Springs**	**38.08**	**283**	P	**P**	**00 01 45.2**	**-0.2**
WR0	**Warramunga Arr**	**39.85**	**288**	P	**P**	**00 01 59.8**	**-0.4**
WR0				IAmb	IAmb	00 02 03.3	
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**40.01**	**288**	P	**P**	**00 02 01.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=127,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**40.01**	**288**	P	**P**	**00 02 01.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**47.59**	**283**	P	**P**	**00 03 01.9**	**-0.4**
FITZ				IAmb	IAmb	00 03 03.3	
	comp=Z,3.8nm,1.2s						
QSPA	**South Pole Qui**	**50.00**	**180**	P	**P**	**00 03 21.6**	**+1.1**
BELA	**Belgrano 2**	**60.90**	**173**	P	**P**	**00 04 38.5**	**-0.1**
BELA				IAmb	IAmb	00 04 51.0	
	comp=Z,3.3nm,0.9s						
ARCES	**ARCESS Array B**	**146.40**	**341**	PKPbc	**PKPdf**	**00 14 05.3**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=66,slow=2.4,SNR=9.7						
DBIC	**Dimbokro**	**146.69**	**181**	PKPbc	**PKPdf**	**00 14 07.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=188,slow=4.3,SNR=5.5						
DBIC	**Dimbokro**	**146.69**	**181**		**PKPdf**	**00 14 07.5**	**+0.5**
FINES	**FINESS Array B**	**151.41**	**329**	PKPbc	**PKPbc**	**00 14 17.5**	**-1.6**
	comp=Z,2.1nm,1.0s,baz=67,slow=4.7,SNR=1.4						
TORD	**Torodi Ar. Bea**	**152.46**	**195**	PKPbc	**PKPbc**	**00 14 23.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=158,slow=3.5,SNR=13						
TORD				PKPab	**sPKPbc**	**00 14 32.5**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=156,slow=4.0,SNR=12						

NEIC ***03*** *00:03:48.9±1.8, 26°.7S±0°.1×178°.4E±0°.1, h603km±9km, mb4.4/25, Error ellipse: s-maj=18.9km s-min=15.2km az=216.0*

IDC ***03*** *00:03:48.4±1.4, 26°.59S×178°.35E, h603km±15km, mb3.6/4, mb1 3.8/9, mb1mx3.3/45, mbtmp4.8/9, Error ellipse: s-maj=20.1km s-min=17.0km az=86.0*

ISC 03 00:03:49.1±0.6**, 26°.64S**±0°.07**×178°.30E**±0°.09**, h612**km**, n56,** σ1s**.55**/64**, mb4.3**/19**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.87**	**358**	P	**P**	**00 05 55.5**	**-1.9**
	4.6nm,0.3s,baz=228,slow=5.2,SNR=16						
MSVF	**Nonsavu**	**8.87**	**358**	P	**P**	**00 05 55.8**	**-1.6**
OUZ	**Omahuta**	**9.45**	**204**	P	**P**	**00 06 04.2**	**+1.6**
PINNC	**Pines Island,**	**10.65**	**290**	P	**P**	**00 06 15.7**	**+1.0**
OUENC	**Ouen Island, N**	**11.24**	**290**	P	**P**	**00 06 21.7**	**+1.2**
URZ	**Urewera**	**11.62**	**185**	P	**P**	**00 06 23.5**	**-0.5**
	2.2nm,0.3s,baz=85,slow=4.5,SNR=3.5						
URZ				S	**S**	**00 08 26.2**	**-4.9**
	0.7nm,0.3s,baz=80,slow=22,SNR=8.4						
LIFNC	**LIFOU**	**11.69**	**298**	P	**P**	**00 06 25.3**	**+0.4**
DZM	**Mont Dzumac**	**11.72**	**290**	P	**P**	**00 06 26.4**	**+1.1**
	6.8nm,0.3s,baz=175,slow=23,SNR=68						

DZM	**Mont Dzumac**	**11.72**	**290**	P	**P**	**00 06 26.6**	**+1.3**
BKZ	**Black Stump Fm**	**12.58**	**186**	P	**P**	**00 06 31.9**	**-1.6**
SNZO	**South Karori**	**14.93**	**191**	P	**P**	**00 06 54.8**	**-1.1**
AFI	**Afiamalu**	**15.71**	**38**	P	**P**	**00 07 02.6**	**-0.9**
	3.4nm,0.3s,baz=288,slow=20,SNR=4.0						
AFI	**Afiamalu**	**15.71**	**38**	P	**P**	**00 07 02.1**	**-1.4**
RPZ	**Rata Peaks**	**18.02**	**197**	P	**P**	**00 07 22.8**	**-1.4**
	3.4nm,0.3s,baz=356,slow=1.4,SNR=17						
FOZ	**Fox Glacier**	**18.20**	**200**	P	**P**	**00 07 25.8**	**-0.1**
EIDS	**Eidsvold**	**24.48**	**267**	P	**P**	**00 08 23.4**	**+1.2**
EIDS				IAmb	IAmb	00 08 24.6	
	comp=Z,5.8nm,0.7s						
CAN	**Canberra**	**26.49**	**244**	P	**P**	**00 08 42.3**	**+2.5**
TOO	**Toolangi**	**29.71**	**240**	P	**P**	**00 09 09.0**	**+1.3**
TAU	**Tasmania Unive**	**29.96**	**229**	P	**P**	**00 09 11.6**	**+1.9**
TAU				IAmb	IAmb	00 09 34.9	
	comp=Z,25nm,1.2s						
STKA	**Stephens Creek**	**32.34**	**252**	P	**P**	**00 09 30.6**	**+0.4**
	comp=Z,4.6nm,0.3s,baz=96,slow=12,SNR=18						
STKA				PcP	**PcP**	**00 11 58.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=81,slow=21,SNR=3.7						
STKA	**Stephens Creek**	**32.34**	**252**	P	**P**	**00 09 31.3**	**+1.2**
COEN	**Coen**	**35.15**	**284**	P	**P**	**00 09 54.7**	**+0.9**
COEN				IAmb	IAmb	00 09 55.7	
	comp=Z,10.0nm,1.2s						
BBOO	**Buckleboo**	**37.01**	**250**	P	**P**	**00 10 09.0**	**+0.2**
BBOO				IAmb	IAmb	00 10 09.3	
	comp=Z,8.2nm,0.7s						
ASAR	**Alice Springs**	**40.15**	**264**	P	**P**	**00 10 34.8**	**+0.5**
	comp=Z,5.9nm,0.5s,baz=95,slow=6.6,SNR=75						
ASAR				PcP	**pwP**	**00 12 20.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=99,slow=5.7,SNR=2.4						
ASAR				ScP	**ScP**	**00 15 15.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=106,slow=2.4,SNR=3.3						
ASAR				S	**S**	**00 15 51.3**	**-7.1**
	comp=Z,0.3nm,0.8s,baz=100,slow=16,SNR=4.2						
ASAR	**Alice Springs**	**40.15**	**264**	P	**P**	**00 10 34.3**	**+0.1**
WB2	**Warramunga Arr**	**40.76**	**270**	P	**P**	**00 10 39.3**	**+0.2**
WB2				IAmb	IAmb	00 10 40.0	
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**40.76**	**270**	P	**P**	**00 10 39.2**	**+0.1**
WRAB				IAmb	IAmb	00 10 40.0	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**40.77**	**270**	P	**P**	**00 10 38.4**	**-0.7**
	comp=Z,4.3nm,0.4s,baz=103,slow=8.5,SNR=112						
WRA				PcP	**PcP**	**00 12 24.6**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=109,slow=3.2,SNR=5.9						
WRA				ScP	**ScP**	**00 15 18.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=101,slow=3.6,SNR=2.9						
WRA				S	**S**	**00 16 04.3**	**-3.1**
	comp=Z,1.9nm,0.9s,baz=105,slow=13,SNR=7.0						
WRA	**Warramunga Arr**	**40.77**	**270**	P	**P**	**00 10 39.3**	**+0.2**
FORT	**Forrest**	**43.96**	**252**	P	**P**	**00 11 03.7**	**-0.2**
KNRA	**Kununurra**	**47.21**	**273**	P	**P**	**00 11 29.2**	**+0.6**
KNRA				IAmb	IAmb	00 11 30.0	
	comp=Z,11nm,0.5s						
FITZ	**Fitzroy Crossi**	**49.15**	**269**	P	**P**	**00 11 43.3**	**+0.3**
FITZ				IAmb	IAmb	00 11 44.4	
	comp=Z,7.5nm,0.7s						
VNDA	**Vanda**	**51.53**	**185**	P	**P**	**00 12 00.7**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=20,slow=6.4,SNR=6.9						
VNDA	**Vanda**	**51.53**	**185**	P	**P**	**00 12 00.4**	**+1.1**
SBA	**Scott Base**	**51.56**	**183**	P	**P**	**00 12 01.7**	**+2.2**
SBA				IAmb	IAmb	00 12 14.0	
	comp=Z,25nm,1.2s						
PSA00	**Pilbara Seismi**	**53.21**	**262**	P	**P**	**00 12 11.3**	**-0.8**
MORW	**Morawa**	**54.53**	**252**	P	**P**	**00 12 21.3**	**0.0**
CASY	**Casey**	**56.98**	**207**	P	**P**	**00 12 37.7**	**+0.2**
CASY				IAmb	IAmb	00 12 38.6	
	comp=Z,15nm,0.9s						
GIRL	**Giralia**	**57.83**	**259**	P	**P**	**00 12 44.8**	**+0.8**
QSPA	**South Pole Qui**	**63.45**	**180**	P	**P**	**00 13 21.3**	**+1.0**
QSPA				IAmb	IAmb	00 13 21.9	
	comp=Z,14nm,0.6s						
BELA	**Belgrano 2**	**73.91**	**173**	P	**P**	**00 14 22.6**	**0.0**
BELA				IAmb	IAmb	00 14 23.7	
	comp=Z,7.4nm,0.7s						
SMAI	**San Martin Ant**	**74.10**	**159**	P	**P**	**00 14 25.1**	**+1.3**
NJ2	**Nanjing**	**81.33**	**312**	*e*P	**P**	**00 15 05.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SNAA	**Sanae**	**81.95**	**180**	P	**P**	**00 15 05.7**	**-0.2**
SNAA	**Sanae**	**81.95**	**180**	P	**P**	**00 15 05.8**	**0.0**
SNAA				IAmb	IAmb	00 15 06.3	
	comp=Z,6.3nm,0.6s						
VNA3	**Neumayer Olymp**	**82.22**	**177**	P	**P**	**00 15 06.9**	**-0.2**
VNA2	**Neumayer--Watz**	**82.62**	**178**	P	**P**	**00 15 09.1**	**0.0**
	baz=194,slow=5.2						
PZH	**PanZhiHua**	**90.66**	**299**	P	**P**	**00 15 47.9**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
ARCES	**ARCESS Array B**	**134.23**	**347**	PKP	**PKPdf**	**00 21 57.2**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=40,slow=3.5,SNR=3.8						
FINES	**FINESS Array B**	**140.50**	**339**	PKhKP	PKPpre	00 21 59.8	
	comp=Z,2.7nm,1.1s,baz=56,slow=4.8,SNR=6.7						
NB2	**NORSAR Subarra**	**144.51**	**349**	PKP	**PKPdf**	**00 22 16.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**144.51**	**349**	PKP	**PKPdf**	**00 22 15.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=53,slow=1.3,SNR=4.9						
AKASG	**Malin Array Be**	**146.35**	**324**	PKPbc	**PKPbc**	**00 22 21.8**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=44,slow=3.7,SNR=13						
MMAI	**Mount Meron Ar**	**147.31**	**290**	PKPbc	**PKPbc**	**00 22 25.6**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=90,slow=5.0,SNR=8.4						
CLL	**Collm**	**152.95**	**339**	*i* PKPbc	**PKPbc**	**00 22 38.0**	**0.0**
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**166.20**	**194**	PKP	**PKPdf**	**00 22 45.3**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=178,slow=0.6,SNR=4.1						
TORD				PKPab	**PKPab**	**00 23 51.2**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=162,slow=3.3,SNR=15						

IDC ***03*** *00:10:49.4±0.4, 4.°65S×94.°39E, h0km, mb5.0/38, mb1 5.1/41, mb1mx4.9/49, mbtmp5.0/41, ML4.9/3, MS5.2/76, Ms1 5.2/76, ms1mx5.1/84, Error ellipse: s-maj=13.6km s-min=10.3km az=22.0*

BJI ***03*** *00:10:50.0±0.0, 4.°70S×94.°50E, h10km, mb5.2/81, mB5.3/66, Ms5.6/89, Ms7 5.3/82*

MOS ***03*** *00:10:50.6±1.1, 4.°57S×94.°42E, h17km, mb5.5/95, MS5.3/32, Error ellipse: s-maj=5.8km s-min=3.7km az=117.0*

NEIC ***03*** *00:10:50.4±1.4, 4.°79S±0.°07×94.°41E±0.°07, h10km±1km, mb5.6/175, Ms_20 5.5/171, Mww5.6, Error ellipse: s-maj=12.4km s-min=11.1km az=272.0*

KLM ***03*** *00:10:51, 4.°73S×94.°38E, h13km, mb5.8*

NEIC ***03*** *00:10:51, 4.°73S×94.°41E, h12km, Moment Tensor Solution. Duration: 2.s0 Moment tensor: Scale 10^17 Nm; Mrr-0.31; Mθθ-0.01; Mφφ0.32; Mrθ0.01; Mθφ-2.66; Mφr-0.53; Fault plane solution: M0 2.73000×10^17 NP1:φs92.00000°, δ78.00000°, λ-178.00000°. NP2:φs1.00000°, δ88.00000°, λ-11.00000°. Principal axes: T 2.8637, Plg7.0000°, Azm47.0000°; N -0.3003, Plg78.0000°, Azm174.0000°; P -2.5633, Plg9.0000°, Azm316.0000°;*

DJA ***03*** *00:10:51.6±0.1, 5˚S±2˚×9˚4E±˚, h10km, M5.5/120, mB5.9/96, mb5.5/120, MLv6.2/9, Mw(mB)5.5/96, MwMwp5.6/2, Mwp5.7/2*

GCMT ***03*** *00:10:52.4±0.2, 4.°70S±0.°01×94.°48E±0.°01, h12km, MW5.7/146, Moment Tensor Solution. s68, c80; s146, c278; Duration: 1.s7 Moment tensor: Scale 10^17 Nm; Mrr0.53±.06; Mθθ-0.73±.06; Mφφ0.20±.06; Mrθ-0.40±.17; Mθφ-3.02±.04; Mφr-2.39±.17; Best double couple: M0 3.91000×10^17 NP1:φs94.00000°, δ51.00000°, λ175.00000°. NP2:φs187.00000°, δ86.00000°, λ39.00000°. Principal axes: T 3.6950, Plg30.0000°, Azm58.0000°; N 0.4300, Plg51.0000°, Azm192.0000°; P -4.1240, Plg23.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***03*** *00:10:57.2±0.0, 3.°80S×93.°96E, h10km, mb4.9*

ISC 03 00:10:51.7±0.4**, 4.°71S**±0.°03×**94.°41E**±0.°03**, h17**km±1km**, h18**km**:pP-P, n1092, σ1.s58**/1093**, mb5.4**/298**, MS5.4**/202**, 104C-100D, Fault plane solution: NP1:**φs212.99272°, δ80.57377°, λ57.43795°. **NP2:**φs108.60832°, δ33.75420°, λ162.85687°. **Principal axes:** T Plg44.7260°, Azm90.6042°; N Plg32.0693°, Azm218.9634°; P Plg28.1707°, Azm328.5690°; **Fault plane solution: NP1:**φs189.35222°, δ89.68580°, λ10.51460°. **NP2:** φs99.29391°, δ79.48557°, λ179.68044°. **Principal axes:** T Plg7.6379°, Azm54.8082°; N Plg79.4808°, Azm191.0446°; P Plg7.1899°, Azm323.8389°; **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.76**	**54**	P	**Pn**	**00 12 15.7**	**-0.7**
	6.1nm32µm20µm2µm,0.7s						
PPSI	**Pulau Pagai**	**5.92**	**71**	P	**Pn**	**00 12 17.7**	**-0.9**
	12nm35µm3µm,0.8s						
GSI	**Gunungsitoli**	**6.76**	**28**	Pn	**Pn**	**00 12 28.4**	**-1.8**
GSI	**Gunungsitoli**	**6.76**	**28**	P	**Pn**	**00 12 28.0**	**-2.2**
	3.9nm10µm802nm,1.0s						
GSI	**Gunungsitoli**	**6.76**	**28**	P	**Pn**	**00 12 29.0**	**-1.2**
PPI	**Padang Panjang**	**7.33**	**55**	P	**Pn**	**00 12 37.0**	**-1.0**
	4.8nm19µm1µm,0.9s						
SNSI	**Sinabang, Aceh**	**7.33**	**15**	P	**Pn**	**00 12 37.6**	**-0.4**
	5.5nm8µm710nm,1.2s						
KRJI	**Kerinci**	**7.51**	**70**	P	**Pn**	**00 12 39.4**	**-1.2**
	27nm34µm4µm,0.8s						
COCO	**West Island**	**7.81**	**162**	Pn	Pn	00 12 37.4	-7.2
MASI	**Maura Aman, Be**	**7.97**	**79**	P	**Pn**	**00 12 44.5**	**-2.3**
	9.9nm12µm1µm,0.8s						
KSI	**Kapahiang**	**8.23**	**83**	P	**Pn**	**00 12 49.0**	**-1.5**
BKNI	**Bangkinang**	**8.30**	**53**		**Pn**	**00 12 50.6**	**-0.7**
BKNI	**Bangkinang**	**8.30**	**53**	P	**Pn**	**00 12 50.7**	**-0.7**
	22µm2µm,0.9s						
BKNI	**Bangkinang**	**8.30**	**53**	P	**Pn**	**00 12 52.4**	**+1.0**
MNAI	**Manna**	**8.53**	**88**	Pn	**Pn**	**00 12 52.7**	**-1.8**
MNAI	**Manna**	**8.53**	**88**	P	**Pn**	**00 12 52.4**	**-2.1**
	8µm551nm,0.6s						
MNAI	**Manna**	**8.53**	**88**	P	**Pn**	**00 12 55.7**	**+1.2**
RPSI	**Rantau Prapat**	**8.63**	**32**	Pn	**Pn**	**00 12 54.4**	**-1.6**
PSI	**Prapat**	**8.72**	**31**	Pn	**Pn**	**00 12 54.6**	**-2.7**
	5.3nm,0.3s,baz=190,slow=9.6,SNR=49						
PSI				Sn	**Sn**	**00 14 28.8**	**-6.5**
	1.9nm,0.3s,baz=42,slow=19,SNR=1.1						
PSI	**Prapat**	**8.72**	**31**	P	**Pn**	**00 12 56.2**	**-1.1**
KCSI	**Kotacane, Aceh**	**8.84**	**22**	P	**Pn**	**00 12 57.4**	**-1.4**
	3µm271nm,0.9s						
RGRI	**Rengat**	**9.03**	**62**	P	**Pn**	**00 13 00.9**	**-0.4**
	776nm,0.8s						
LHSI	**Lahat**	**9.13**	**85**	P	**Pn**	**00 13 02.0**	**-0.8**
TSI	**Tuntungan**	**9.15**	**27**	P	**Pn**	**00 13 02.9**	**-0.2**
	9µm466nm,0.8s						
LWLI	**Liwa**	**9.62**	**92**	P	**Pn**	**00 13 08.3**	**-1.3**
	24µm819nm,0.7s						
JMBI	**JAMBI**	**9.71**	**72**	P	**Pn**	**00 13 09.2**	**-1.5**
	4µm388nm,0.8s						
KASI	**Kota Agung**	**10.08**	**95**	P	**Pn**	**00 13 14.9**	**-0.9**
	4µm338nm,0.7s						
LHMI	**Lhok Sumawe**	**10.20**	**14**	Pn	**Pn**	**00 13 16.6**	**-0.8**
LHMI	**Lhok Sumawe**	**10.20**	**14**	P	**Pn**	**00 13 18.5**	**+1.1**
	3µm198nm,1.3s						
LHMI	**Lhok Sumawe**	**10.20**	**14**	P	**Pn**	**00 13 17.9**	**+0.5**
KLSI		**10.29**	**90**	P	**Pn**	**00 13 18.6**	**0.0**
	2µm138nm,0.7s						
KLI	**Kotabumi**	**10.41**	**91**	P	**Pn**	**00 13 23.5**	**+3.1**
KLI				pmax	pmax		
	comp=Z,233nm,1.0s						
KLI	**Kotabumi**	**10.41**	**91**	P	**Pn**	**00 13 20.8**	**+0.4**
	comp=Z,6µmcomp=Z,234nm,0.9s						
PMBI	**Palembang**	**10.49**	**81**	Pn	**Pn**	**00 13 17.2**	**-4.2**
PMBI	**Palembang**	**10.49**	**81**	P	**Pn**	**00 13 19.8**	**-1.6**
	comp=Z,833nm,0.9s						
PMBI	**Palembang**	**10.49**	**81**	P	**Pn**	**00 13 20.3**	**-1.1**
BLSI	**Bandar Lampung**	**10.82**	**94**	P	**Pn**	**00 13 25.7**	**-0.2**
	comp=Z,161nm,0.4s						
DSRI	**Dabo**	**10.99**	**68**	P	**Pn**	**00 13 26.4**	**-1.9**
	comp=Z,10µmcomp=Z,298nm,0.8s						
IPM	**Ipoh**	**11.27**	**36**	Pn	**Pn**	**00 13 31.1**	**-1.0**
IPM	**Ipoh**	**11.27**	**36**	P	**Pn**	**00 13 33.0**	**+0.9**
IPM	**Ipoh**	**11.27**	**36**	P	**Pn**	**00 13 33.2**	**+1.1**
CGJI	**Cibinong**	**11.39**	**100**	P	**Pn**	**00 13 32.2**	**-1.5**
	comp=Z,3µmcomp=Z,361nm,0.7s						
MYKOM	**Kota Tinggi**	**11.43**	**56**		**Pn**	**00 13 33.2**	**-1.1**
MYKOM	**Kota Tinggi**	**11.43**	**56**	P	**Pn**	**00 13 35.0**	**+0.7**
TPRI	**Tanjung Pinang**	**11.55**	**61**	P	**Pn**	**00 13 35.0**	**-1.0**
	comp=Z,8µmcomp=Z,392nm,1.0s						
KULM	**Kulim**	**11.73**	**32**	Pn	**Pn**	**00 13 36.1**	**-2.3**
PPBI	**Pangkal Pinang**	**11.98**	**78**	P	**Pn**	**00 13 40.2**	**-1.6**
	comp=Z,103nm,0.9s						
TNG	**Tangerang**	**12.27**	**97**	P	**Pn**	**00 13 45.8**	**0.0**
	comp=Z,781nm,0.6s						
TNG				P	P	00 13 48.4	-10
	comp=Z,528nm,0.6s						
SKJI	**Sukabumi**	**12.30**	**101**	P	**Pn**	**00 13 49.5**	**+3.3**
	comp=Z,176nm,0.8s						
DBJI	**Dramaga**	**12.42**	**99**	P	**Pn**	**00 13 48.6**	**+0.8**
	comp=Z,205nm,0.8s						
CBJI	**Citeko**	**12.50**	**98**	P	**Pn**	**00 13 51.7**	**+2.8**
	comp=Z,231nm,0.5s						
XMIS	**Christmas Isla**	**12.53**	**118**	P	**Pn**	**00 13 52.7**	**+3.3**
	comp=Z,106nm,2.1s						
XMI	**Christmas Isla**	**12.55**	**118**	P	**Pn**	**00 13 50.0**	**+0.4**
CNJI	**Cibinong**	**12.91**	**102**	P	**Pn**	**00 13 54.8**	**+0.2**
	comp=Z,3µmcomp=Z,237nm,1.0s						
LEM	**Lembang**	**13.31**	**100**	Pn	**Pn**	**00 14 00.0**	**-0.1**
	comp=Z,7.4nm,0.3s,baz=215,slow=8.2,SNR=20						
LEM				Sn	**Sn**	**00 16 20.3**	**-7.6**
	comp=Z,4.5nm,0.3s,baz=182,slow=20,SNR=1.8						
LEM				LR	LR	00 18 55.3	
	comp=Z,12µm,18.8s,baz=258,slow=36						
LEM	**Lembang**	**13.31**	**100**	P	**Pn**	**00 14 00.9**	**+0.8**
	comp=Z,2µmcomp=Z,108nm,1.1s						
TPI	**Tanjungpandan**	**13.36**	**82**	P	**Pn**	**00 13 57.7**	**-3.0**
	comp=Z,1µmcomp=Z,63nm,1.6s						
SRIT	**Nakonsritamara**	**14.20**	**21**	Pn	**Pn**	**00 14 10.8**	**-1.4**
CMJI	**Cimerak**	**14.29**	**103**	P	**Pn**	**00 14 14.2**	**+0.8**
	comp=Z,2µmcomp=Z,106nm,1.1s						
KPJI	**Karang Pucung**	**14.68**	**101**	P	**Pn**	**00 14 19.4**	**+0.7**
	comp=Z,3µmcomp=Z,126nm,1.0s						
YOGI	**Yogyakarta**	**16.09**	**102**	P	**Pn**	**00 14 36.3**	**-1.0**
	comp=Z,3µmcomp=Z,137nm,1.0s						
SMRI	**Semarang**	**16.12**	**99**		**Pn**	**00 14 35.9**	**-1.8**
SMRI				IAmb	IAmb	00 15 12.7	
	comp=Z,460nm,1.2s						
SMRI	**Semarang**	**16.12**	**99**	P	**Pn**	**00 14 38.5**	**+0.9**
	comp=Z,10µmcomp=Z,223nm,1.0s						
SMRI	**Semarang**	**16.12**	**99**	P	**P**	**00 14 39.5**	**-1.4**
	comp=Z,283nm,0.8s						
UGM	**Wanagama**	**16.33**	**102**	Pn	**Pn**	**00 14 38.4**	**-2.0**
UGM				IAmb	IAmb	00 15 22.6	
	comp=Z,600nm,1.2s						
UGM	**Wanagama**	**16.33**	**102**	P	**Pn**	**00 14 39.5**	**-0.9**
	comp=Z,9µmcomp=Z,316nm,1.1s						
UGM	**Wanagama**	**16.33**	**102**	P	**Pn**	**00 14 40.6**	**+0.2**
UWJI	**Ujung Watu**	**16.55**	**97**	P	**Pn**	**00 14 44.2**	**+1.0**
	comp=Z,7µmcomp=Z,260nm,1.9s						
PCJI	**Pacitan**	**17.02**	**103**	P	**Pn**	**00 14 48.4**	**-0.7**
	comp=Z,3µmcomp=Z,203nm,1.1s						
KSM	**Kuching**	**17.03**	**69**		**Pn**	**00 14 47.6**	**-1.7**
KSM				IAmb	IAmb	00 14 55.1	
	comp=Z,283nm,0.8s						
KSM	**Kuching**	**17.03**	**69**	P	**P**	**00 14 54.0**	**+3.0**
KSM	**Kuching**	**17.03**	**69**	P	**Pn**	**00 14 49.7**	**+0.4**
PBKI	**Pangkalan Bun**	**17.34**	**84**	P	**Pn**	**00 14 53.3**	**+0.2**
	comp=Z,270nm,1.2s						
TBJI	**Tambak Boyo**	**17.48**	**98**	P	**P**	**00 14 56.4**	**+0.5**
	comp=Z,4µmcomp=Z,168nm,1.2s						
STKI	**Sintang**	**17.70**	**75**	P	**Pn**	**00 14 57.8**	**+0.2**
	comp=Z,8µmcomp=Z,146nm,2.1s						
DGPR	**DIGLIPUR**	**17.83**	**355**	⇓*i*P	**Pn**	**00 14 56.2**	**-3.0**
GRJI	**Gresik**	**18.11**	**98**	P	**P**	**00 15 04.6**	**+1.7**
	comp=Z,2µmcomp=Z,150nm,0.9s						
PALK	**Pallekele**	**18.13**	**311**	P	**Pn**	**00 15 02.7**	**-0.2**
	comp=Z,8.3nm,0.3s,baz=237,slow=11,SNR=38						
PALK				S	Sn	00 18 08.4	-17
	comp=Z,1.1nm,0.3s,baz=225,slow=11,SNR=1.9						
PALK				LR	LR	00 20 34.2	
	comp=Z,14µm,21.5s,baz=243,slow=32						
PALK	**Pallekele**	**18.13**	**311**	P	**Pn**	**00 15 01.9**	**-1.0**
PALK	**Pallekele**	**18.13**	**311**	P	**P**	**00 15 03.5**	**+0.3**
PALK				P	**P**	**00 15 03.5**	**+0.3**
BWJI	**Bawean**	**18.21**	**94**	P	**P**	**00 15 06.8**	**+2.8**
	comp=Z,8µmcomp=Z,394nm,1.0s						
SBUM	**Sibu**	**19.17**	**69**	P	**P**	**00 15 14.7**	**+0.2**
SBUM	**Sibu**	**19.17**	**69**	P	**Pn**	**00 15 16.0**	**+0.5**
GMJI	**Gumukmas**	**19.24**	**102**	P	**P**	**00 15 15.0**	**-0.4**
	comp=Z,3µmcomp=Z,120nm,1.0s						
BLJI	**Banyuglugur**	**19.31**	**100**	P	**Pn**	**00 15 17.0**	**-0.2**
	comp=Z,3µmcomp=Z,111nm,1.0s						
KMMI	**Kalianget**	**19.59**	**98**	P	**P**	**00 15 19.8**	**+0.6**
	comp=Z,6µmcomp=Z,224nm,0.9s						
ABJI	**Asem Bagus**	**19.94**	**100**	P	**Pn**	**00 15 24.9**	**+0.1**
	comp=Z,8µmcomp=Z,415nm,1.0s						
JAGI	**Jajag, Banyuwa**	**19.96**	**102**	P	**P**	**00 15 22.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**19.96**	**102**	P	**P**	**00 15 23.6**	**+0.3**
	comp=Z,3µmcomp=Z,120nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.96**	**102**	P	**Pn**	**00 15 25.1**	**+0.1**
	comp=Z,189nm,1.7s						
MTKI	**Muara Teweh, K**	**20.80**	**80**	P	Pn	00 15 33.9	-1.0
	comp=Z,5µmcomp=Z,400nm,0.9s						
SRBI	**Singaraja**	**20.94**	**100**	P	Pn	00 15 35.4	-1.1
	comp=Z,5µmcomp=Z,310nm,1.1s						
IGBI	**Denpasar**	**20.99**	**102**	P	**P**	**00 15 35.0**	**+0.6**
	comp=Z,4µmcomp=Z,264nm,1.3s						
DNP	**Denpasar**	**21.03**	**102**	P	**P**	**00 15 37.9**	**+3.1**
DNP				pmax	pmax		
	comp=Z,550nm,1.4s						
DNP	**Denpasar**	**21.03**	**102**	P	**P**	**00 15 37.7**	**+2.9**
	comp=Z,22µmcomp=Z,409nm,1.1s						
DLV	**T Lat**	**21.68**	**40**	P	**P**	**00 15 40.8**	**-1.2**
DLV				IAmb	IAmb	00 16 13.8	
	comp=Z,529nm,1.5s						
DLV	**T Lat**	**21.68**	**40**	P	**P**	**00 15 43.4**	**+1.4**
KBKI	**Kotabaru**	**21.75**	**87**	P	**P**	**00 15 44.8**	**+2.2**
	comp=Z,3µmcomp=Z,359nm,0.9s						
TRD	**Trivandrum**	**21.80**	**307**	⇓*i*P	**P**	**00 15 44.3**	**+1.2**
TRD				IAmb	IAmb	00 15 48.0	
	comp=Z,295nm,1.6s						
H08S2	**Diego Garcia H**	**21.98**	**261**	P	**P**	**00 15 45.3**	**+0.5**
	baz=62,slow=15,SNR=6.4						
H08S2				T	T	00 37 53.6	
	baz=83,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**21.99**	**261**	P	**P**	**00 15 46.5**	**+1.6**
	baz=62,slow=15,SNR=31						
H08S3				T	T	00 37 54.0	
	baz=83,slow=75,SNR=16						
DGAR	**Diego Garcia**	**22.00**	**262**	*c i*P	**P**	**00 15 46.3**	**+1.1**
DGAR				pmax	pmax		
	comp=Z,1µm,1.7s						
DGAR	**Diego Garcia**	**22.00**	**262**	P	**P**	**00 15 43.7**	**-1.5**
DGAR	**Diego Garcia**	**22.00**	**262**	P	**P**	**00 15 46.6**	**+1.3**
H08S1	**Diego Carcia H**	**22.00**	**261**	P	**P**	**00 15 45.0**	**0.0**
	baz=62,slow=15,SNR=4.3						
H08S1				T	T	00 37 55.0	
	baz=83,slow=75,SNR=9.7						
KAAM	**Kaadhehdhoo**	**22.01**	**283**	P	**P**	**00 15 43.8**	**-1.6**
KAAM				IAmb	IAmb	00 15 49.3	
	comp=Z,322nm,1.1s						
KOD	**Kodaikanal**	**22.48**	**311**	⇓*i*P	**P**	**00 15 51.4**	**+0.7**
MDRS	**Chennai**	**22.58**	**322**	⇓*i*P	**P**	**00 15 52.5**	**+1.0**
MDRS				IAmb	IAmb	00 16 03.8	
	comp=Z,147nm,1.2s						
MDRS				IAMs_20	IAMs_20	00 22 44.0	
	comp=Z,19µm,20.5s						
UBPT	**Khong Chiam**	**22.69**	**29**	P	**P**	**00 15 51.9**	**-0.7**
UBPT				IAmb	IAmb	00 16 21.9	
	comp=Z,366nm,1.4s						
SALM	**Salem**	**22.89**	**315**	⇓*i*P	**P**	**00 15 56.7**	**+1.9**
SMKI	**Samarinda**	**23.16**	**80**	P	**P**	**00 15 59.9**	**+2.3**
	comp=Z,9µmcomp=Z,215nm,0.7s						
CM31	**Chiang Mai Arr**	**23.45**	**11**	P	**P**	**00 16 00.4**	**0.0**
CM31				IAmb	IAmb	00 16 04.2	
	comp=Z,153nm,1.1s						
CM31	**Chiang Mai Arr**	**23.45**	**11**	P	**P**	**00 16 02.6**	**+2.2**
	SNR=53						
CMAR	**Chiang Mai Arr**	**23.45**	**11**	P	**P**	**00 16 00.8**	**+0.4**
	comp=Z,80nm,0.9s,baz=202,slow=8.8,SNR=161						
CMAR	**Chiang Mai Arr**	**23.45**	**11**	*ce*P	**P**	**00 16 01.2**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,83nm,0.9s						
CMAR	**Chiang Mai Arr**	**23.45**	**11**	P	**P**	**00 15 59.6**	**-0.8**
PLAI	**Plampang**	**23.56**	**101**	P	**P**	**00 16 01.8**	**+0.2**
	comp=Z,12µmcomp=Z,585nm,1.1s						
PLAI	**Plampang**	**23.56**	**101**	P	**P**	**00 16 02.0**	**+0.4**
CHTO	**Chiang Mai**	**23.80**	**11**	P	**P**	**00 16 02.5**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,164nm,1.4s						
CHTO				MLR	MLR		
	comp=Z,3µm,19.0s						
CHTO	**Chiang Mai**	**23.80**	**11**	P	**P**	**00 16 02.5**	**-1.3**
CHTO				IAmb	IAmb	00 16 42.1	
	comp=Z,164nm,1.4s						
CHTO	**Chiang Mai**	**23.80**	**11**	P	**P**	**00 16 05.1**	**+1.2**
CHTO	**Chiang Mai**	**23.80**	**11**	P	**P**	**00 16 05.0**	**+1.2**
	comp=Z,50nm,1.0s						
SPMM	**Sapulut**	**23.94**	**67**	P	**P**	**00 16 07.0**	**+1.8**
HMDM	**Hanimaadhoo**	**24.06**	**298**	P	**P**	**00 16 08.9**	**+2.5**
KKM	**Kota Kinabalu**	**24.25**	**64**	P	**P**	**00 16 07.3**	**-1.0**
KKM	**Kota Kinabalu**	**24.25**	**64**	P	**P**	**00 16 09.8**	**+1.5**
VJD	**Vijayawada**	**25.10**	**327**	⇓*i*P	**P**	**00 16 18.3**	**+2.6**
KAPI	**Kappang**	**25.25**	**92**	P	**P**	**00 16 18.0**	**+0.8**
	comp=Z,167nm,1.0s,baz=278,slow=11,SNR=33						
KAPI				LR	LR	00 26 59.0	
	comp=Z,3µm,18.8s,baz=294,slow=38						
KAPI	**Kappang**	**25.25**	**92**	P	**P**	**00 16 15.4**	**-1.8**
KAPI	**Kappang**	**25.25**	**92**	P	**P**	**00 16 18.0**	**+0.8**
KAPI				P	**P**	**00 16 18.0**	**+0.8**
KAPI	**Kappang**	**25.25**	**92**	P	**P**	**00 16 18.6**	**+1.4**
	comp=Z,273nm,1.3s						
WBSI	**Waikabubak, Su**	**25.26**	**103**	P	**P**	**00 16 16.8**	**-0.5**
	comp=Z,7µmcomp=Z,512nm,0.9s						
SPSI	**Sidrap Palu**	**25.30**	**89**	P	**P**	**00 16 17.9**	**+0.3**
	comp=Z,3µmcomp=Z,188nm,1.1s						
TTSI	**Tana Toraja**	**25.41**	**87**	P	**P**	**00 16 21.3**	**+2.7**
	comp=Z,3µmcomp=Z,180nm,1.0s						
BNSI	**Bone**	**25.62**	**90**	P	**P**	**00 16 21.9**	**+1.4**
	comp=Z,5µmcomp=Z,380nm,1.1s						
BKSI	**Bulukumba**	**25.62**	**92**	P	**P**	**00 16 21.2**	**+0.6**
	comp=Z,9µmcomp=Z,3µmcomp=Z,240nm,1.0s						
MPSI	**Mapaga**	**25.95**	**80**	P	**P**	**00 16 25.5**	**+1.9**
	comp=Z,2µmcomp=Z,100nm,0.9s						
MYLDM	**Lahad Datu**	**25.99**	**68**	P	**P**	**00 16 23.0**	**-0.9**
MYLDM				IAMs_20	IAMs_20	00 27 36.5	
	comp=Z,10µm,19.0s						
BSSI	**Bau Bau, Buton**	**26.00**	**94**	P	**P**	**00 16 24.4**	**+0.4**
	comp=Z,2µmcomp=Z,148nm,0.8s						
RAGD	**RAYAGADA**	**26.14**	**336**	⇓*i*P	**P**	**00 16 24.1**	**-1.0**
BWNR	**Bhubaneshwar**	**26.25**	**341**	⇓*i*P	**P**	**00 16 26.6**	**+0.5**
BASI	**Baing, Sumba**	**26.51**	**103**	P	**P**	**00 16 30.0**	**+1.4**
	comp=Z,11µmcomp=Z,622nm,1.7s						
TOLI2	**Tolitoli**	**26.98**	**78**	P	**P**	**00 16 30.9**	**-2.0**
TOLI2				IAmb	IAmb	00 16 37.2	
	comp=Z,232nm,1.3s						
TOLI2	**Tolitoli**	**26.98**	**78**	P	**P**	**00 16 35.1**	**+2.3**
HYB	**Hyderabad**	**26.99**	**325**	⇓*i*P	**P**	**00 16 33.6**	**+0.7**
HYBB	**Hyderabad (bro**	**27.00**	**325**	*e*P	**P**	**00 16 32.6**	**-0.3**
HYBB				IVmB_BB		00 16 39.8	
	comp=Z,514nm,4.3s						
HYBB				*e*S	**S**	**00 21 13.0**	**+3.1**
HYBB				IVMs_BB	IVMs_BB	00 24 40.1	
	comp=Z,2µm,22.4s						
APSI	**Ampana**	**27.46**	**83**	P	**P**	**00 16 38.3**	**+1.1**
	comp=Z,2µmcomp=Z,96nm,1.0s						
MMRI	**Maumere**	**27.91**	**100**	P	**P**	**00 16 38.6**	**-2.6**
MMRI	**Maumere**	**27.91**	**100**	P	**P**	**00 16 39.8**	**-1.4**
	comp=Z,5µmcomp=Z,347nm,1.7s						
MMRI	**Maumere**	**27.91**	**100**	P	**P**	**00 16 40.8**	**-0.4**
MRSI	**Marisa**	**27.98**	**80**	P	**P**	**00 16 42.6**	**+0.7**
	comp=Z,1µmcomp=Z,108nm,0.9s						
QIZ	**Qiongzhong**	**28.07**	**32**	P	**P**	**00 16 41.0**	**-1.4**
QIZ				IAmb	IAmb	00 17 16.3	
	comp=Z,195nm,1.6s						
QIZ	**Qiongzhong**	**28.07**	**32**	P	**P**	**00 16 43.7**	**+1.2**
QIZ				sP	**sP**	**00 16 48.1**	**+0.3**
QIZ				S	**S**	**00 21 30.4**	**+3.7**
QIZ				pmax	pmax		
	comp=Z,30nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,290nm,3.4s						
QIZ				LR	LR		
	comp=Z,5µm,15.5s						
QIZ				LR	LR		
	comp=Z,4µm,16.1s						
QIZ				LR	LR		
	comp=Z,4µm,15.3s						
QIZ	**Qiongzhong**	**28.07**	**32**	P	**P**	**00 16 43.7**	**+1.2**
JHSG	**JHARSUGUGA**	**28.30**	**339**	⇓*i*P	**P**	**00 16 45.7**	**+1.2**
LUWI	**Luwuk**	**28.56**	**84**	P	**P**	**00 16 44.4**	**-2.6**
LUWI				IAmb	IAmb	00 17 19.9	
	comp=Z,113nm,0.9s						
LUWI	**Luwuk**	**28.56**	**84**	P	**P**	**00 16 46.8**	**-0.2**
	comp=Z,3µmcomp=Z,99nm,0.9s						
LUWI	**Luwuk**	**28.56**	**84**	P	**P**	**00 16 49.7**	**+2.7**
	comp=Z,140nm,1.0s						
GOA	**Goa**	**28.61**	**315**	⇓*i*P	**P**	**00 16 48.3**	**+0.9**
GTOI	**Gorontalo**	**29.06**	**80**	P	**P**	**00 16 50.0**	**-1.5**
	comp=Z,426nmcomp=Z,25nm,0.9s						
BLSP	**Bilaspur**	**29.26**	**336**	⇓*i*P	**P**	**00 16 53.7**	**+0.6**
BATI	**Baumata**	**29.50**	**102**	P	**P**	**00 16 55.5**	**+0.1**

BATI **Baumata** 29.50 102 P P 00 16 57.0 +1.6
comp=Z,1µmcomp=Z,106nm,1.1s
KAD **Karad** 29.63 318 eP P 00 16 57.5 +1.0
PSA00 **Pilbara Seismi** 29.82 126 P P 00 16 56.4 -1.7
PSA00 **Pilbara Seismi** 29.82 126 P P 00 16 56.5 -1.7
PSA00 IAmb IAmb 00 17 35.0
comp=Z,48nm,1.2s
PSA00 **Pilbara Seismi** 29.82 126 P P 00 17 00.7 +2.6
comp=Z,38nm,1.9s
SHL **Shillong** 30.20 355⇓iP P 00 17 02.4 +0.8
AKL **Akola** 30.49 327⇓iP P 00 17 05.2 +1.3
POO **Poona** 30.72 319⇓iP P 00 17 07.2 +1.1
KMI **Kunming** 30.74 15⇑P P 00 17 09.1 +2.7
KMI sP pwP 00 17 14.1 -2.7
KMI S S 00 22 13.3 +4.2
KMI pmax pmax
comp=Z,62nm,1.1s
KMI LR LR
comp=Z,4µm,14.3s
KMI LR LR
comp=Z,3µm,13.2s
KMI LR LR
comp=Z,5µm,14.3s
JBP **Jabalpur** 31.08 334 eP P 00 17 10.7 +1.5
JBP eP P 00 17 10.7 +1.5
JBP IAmb IAmb 00 17 20.5
comp=Z,91nm,1.6s
JBP IAmb IAmb 00 17 20.5
comp=Z,91nm,1.6s
JBP eS S 00 22 17.3 +3.3
JBP eS S 00 22 17.3 +3.3
SANI **Sanana** 31.63 86 P P 00 17 15.8 +1.6
comp=Z,1µmcomp=Z,62nm,0.9s
SANI **Sanana** 31.63 86 P P 00 17 14.9 +0.7
MORW **Morawa** 31.73 142 P P 00 17 16.8 +1.9
baz=32,SNR=4.6
MORW **Morawa** 31.73 142 P P 00 17 12.6 -2.4
MORW IAmb IAmb 00 17 26.4
comp=Z,67nm,1.4s
MORW **Morawa** 31.73 142 P P 00 17 16.6 +1.7
MEEK **Meekatharra** 31.79 136 P P 00 17 16.9 +1.5
baz=32,SNR=6.5
MEEK **Meekatharra** 31.79 136 P P 00 17 17.0 +1.5
PZH **PanZhiHua** 31.83 13⇑P P 00 17 17.2 +1.3
PZH sP pwP 00 17 24.3 -2.0
PZH S S 00 22 28.4 +2.5
PZH PcS PcS 00 23 53.3 +1.6
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,360nm,4.4s
PZH LR LR
comp=Z,3µm,14.0s
PZH LR LR
comp=Z,4µm,14.7s
PZH LR LR
comp=Z,5µm,14.1s
ODAN **Odare** 32.11 348 eP P 00 17 19.4 +0.9
comp=Z,148nm,1.0s
SGSI **Sangihe** 32.19 76 P P 00 17 20.0 +0.9
ALBI **Allahabad** 32.26 338⇓iP P 00 17 20.1 +0.7
TGY **Tagaytay City** 32.28 54 LR LR 00 30 40.5
comp=Z,7µm,19.8s,baz=274,slow=37
BHPL **Bhopal** 32.35 330⇓iP P 00 17 21.9 +1.4
BHPL IAmb IAmb 00 17 26.8
comp=Z,34nm,1.3s
RAMN **Ramite** 32.37 347 eP P 00 17 21.8 +1.0
comp=Z,38nm,0.6s
TAPN **Taplejung** 32.52 349 eP P 00 17 23.1 +0.9
JIRN **Jiri** 33.15 347 eP P 00 17 28.4 +0.7
comp=Z,179nm,1.2s
GYA **Guiyang** 33.18 20⇑iP P 00 17 29.0 +1.2
GYA sP pwP 00 17 36.9 -1.2
GYA PP PP 00 18 43.6 +0.6
GYA S S 00 22 51.2 +4.3
GYA pmax pmax
comp=Z,22nm,0.9s
GYA LR LR
comp=Z,4µm,12.8s
GYA LR LR
comp=Z,4µm,12.7s
GYA LR LR
comp=Z,6µm,13.8s
DAV **Davao City (W)** 33.24 70 LR LR 00 31 36.6
comp=Z,4µm,21.3s,baz=264,slow=38
DAV **Davao City (W)** 33.24 70 P P 00 17 27.1 -1.2
DAV **Davao City (W)** 33.24 70 P P 00 17 29.5 +1.2
BLDU **Ballidu** 33.25 143 P P 00 17 29.7 +1.6
baz=33,SNR=7.8
BLDU **Ballidu** 33.25 143 P P 00 17 29.9 +1.7
PKI **Pulchoki** 33.25 345 eP P 00 17 28.6 0.0
comp=Z,108nm,1.4s
PKIN **Phulchoki** 33.26 345 eP P 00 17 28.6 0.0
comp=Z,162nm,1.5s
LBMI **Labuha** 33.30 84 P P 00 17 30.2 +1.4
comp=Z,µmcomp=Z,132nm,1.0s
FITZ **Fitzroy Crossi** 33.30 116 LR LR 00 29 58.3
comp=Z,3µm,18.6s,baz=300,slow=34
FITZ **Fitzroy Crossi** 33.30 116 P P 00 17 26.3 -2.5
DMN **Daman** 33.36 345 eP P 00 17 30.0 +0.5
comp=Z,89nm,1.1s
TNTI **Ternate** 33.37 81 P P 00 17 27.3 -2.2
TNTI **Ternate** 33.37 81 P P 00 17 29.6 +0.1
comp=Z,2µmcomp=Z,59nm,1.0s
TNTI **Ternate** 33.37 81 P P 00 17 30.1 +0.6
comp=Z,56nm,1.3s
VLK **Valmikinagar** 33.43 343 eP P 00 17 31.1 +1.4
GUN **Gumba** 33.46 346 eP P 00 17 30.9 +0.5
comp=Z,76nm,0.6s
KKN **Kakani** 33.49 345 eP P 00 17 30.7 +0.2
comp=Z,81nm,1.0s
AAI **Ambon** 33.71 90 P P 00 17 32.4 0.0
comp=Z,56nm,0.5s
JHNI **Jhansi** 33.72 334⇓iP P 00 17 30.4 -2.0
GKN **Gorkha** 33.86 344 eP P 00 17 33.9 +0.2
comp=Z,171nm,1.4s
KOLN **Koldanda** 33.94 343 eP P 00 17 34.6 +0.2
comp=Z,56nm,0.9s
MUN **Mundaring** 33.96 146 P P 00 17 35.9 +1.6
baz=34,SNR=4.0
MUN **Mundaring** 33.96 146 P P 00 17 36.1 +1.7
LSA **Lhasa** 34.36 355 P P 00 17 37.8 -0.5
LSA pmax pmax
comp=Z,102nm,1.2s
LSA MLR MLR
comp=Z,2µm,21.0s
LSA **Lhasa** 34.36 355 P P 00 17 37.8 -0.5
LSA IAmb IAmb 00 18 01.2
comp=Z,102nm,1.2s
LSA **Lhasa** 34.36 355 P P 00 17 39.9 +1.6
LSA S S 00 23 08.9 +3.2
LSA pmax pmax
comp=Z,40nm,0.6s
LSA LR LR
comp=Z,2µm,20.6s
LSA LR LR
comp=Z,1µm,12.8s
LSA LR LR
comp=Z,2µm,17.8s
LSA **Lhasa** 34.36 355 P P 00 17 40.2 +1.9
LSA P P 00 17 40.2 +1.9
LSA **Lhasa** 34.36 355 iP P 00 17 39.3 +1.0
SNR=22
PYUN **Piuthan** 34.43 342 eP P 00 17 38.5 -0.2
comp=Z,69nm,0.9s
DANN **Dangsing** 34.43 343 eP P 00 17 38.2 -0.6
comp=Z,93nm,1.3s
KLBR **Kellerberrin** 34.57 143 P P 00 17 41.1 +1.4
baz=35,SNR=5.7
KLBR **Kellerberrin** 34.57 143 P P 00 17 41.1 +1.4
H01W3 **Cape Leeuwin H** 35.14 151 T T 00 55 25.9
baz=327,slow=75,SNR=8.3
H01W2 **Cape Leeuwin H** 35.15 151 T T 00 55 14.0
baz=327,slow=75,SNR=5.2
H01W1 **Cape Leeuwin H** 35.16 151 T T 00 55 27.2
baz=327,slow=75,SNR=5.0
KNRA **Kununurra** 35.46 110 P P 00 17 48.3 +0.8
baz=36,SNR=6.7
KNRA **Kununurra** 35.46 110 P P 00 17 45.9 -1.6
KNRA IAmb IAmb 00 18 00.3
comp=Z,64nm,0.8s
KNRA **Kununurra** 35.46 110 P P 00 17 48.3 +0.8
AIS **Amsterdam Isla** 36.34 203 IAMs_20 IAMs_20 00 29 39.4
comp=Z,5µm,20.0s
RKGY **Rocky Gully** 36.37 148 P P 00 17 57.6 +1.6
baz=37,SNR=12
RKGY **Rocky Gully** 36.37 148 P P 00 17 56.8 +1.7
AJM **Ajmer** 36.44 329⇓iP P 00 17 56.8 +1.0
CD2 **Chengdu** 36.53 14 P P 00 17 57.1 +0.6
CD2 PP PP 00 19 23.7 +3.8
CD2 S S 00 23 39.1 +0.8
CD2 pmax pmax
comp=Z,160nm,0.9s
CD2 pmax pmax
comp=Z,340nm,4.5s
CD2 LR LR
comp=Z,8µm,17.9s
CD2 LR LR
comp=Z,6µm,12.6s
PTH **Pithoragarh** 36.69 339⇓iP P 00 17 57.5 -0.5
SAUI **Saumlaki** 36.80 97 P P 00 17 57.2 -1.8
SAUI **Saumlaki** 36.80 97 P P 00 18 00.2 +1.2
comp=Z,168nm,1.1s
SAUI **Saumlaki** 36.80 97 P P 00 18 01.9 +2.9
comp=Z,167nm,1.1s
DRS **Darwin Rock St** 36.85 104 P P 00 18 00.8 +1.3
SWI **Sorong** 37.00 85 P P 00 18 00.6 -0.2
SWI pmax pmax
comp=Z,57nm,1.3s
SWI **Sorong** 37.00 85 P P 00 18 00.5 -0.2
comp=Z,58nm,1.0s
SIJI **Sorong** 37.00 85 LR LR 00 34 56.3
comp=Z,890nm,20.3s,baz=262,slow=39
NDI **New Delhi** 37.10 334 eP P 00 18 01.3 -0.1
MTN **Manton Dam** 37.14 105 P P 00 18 03.0 +1.1
baz=37,SNR=5.7
MTN **Manton Dam** 37.14 105 P P 00 18 00.7 -1.2
MTN **Manton Dam** 37.14 105 P P 00 18 02.9 +1.0
KNMB **Chin-men Tao** 37.23 38 P P 00 18 01.5 -1.0
KNMB IAMs_20 IAMs_20 00 34 19.1
comp=Z,5µm,18.0s
ENH **Enshi** 37.66 22 P P 00 18 05.7 -0.5
ENH IAmb IAmb 00 18 22.3
comp=Z,71nm,0.9s
QZH **Quanzhou** 37.71 37⇑iP P 00 18 07.2 +0.7
QZH PP PnPn 00 19 35.8 +1.9
QZH S S 00 23 56.2 0.0
QZH pmax pmax
comp=Z,52nm,1.4s
QZH pmax pmax
comp=Z,470nm,4.8s
QZH LR LR
comp=Z,3µm,18.0s
QZH LR LR
comp=Z,5µm,17.5s
QZH LR LR
comp=Z,4µm,17.1s
TWG **Pinlang** 37.79 43 P P 00 18 06.1 -1.2
TWG IAmb IAmb 00 18 18.3
comp=Z,172nm,1.7s
FAKI **Fak Fak** 37.80 89 P P 00 18 06.1 -1.4
FAKI IAmb IAmb 00 18 09.0
comp=Z,77nm,1.0s
FAKI **Fak Fak** 37.80 89 P P 00 18 07.2 -0.3
TPUB **Ta-pu** 37.82 41 P P 00 18 07.4 -0.2
TPUB **Ta-pu** 37.82 41 P P 00 18 09.3 +1.7
WRKA **Warakurna** 38.29 125 P P 00 18 13.4 +1.8
baz=38,SNR=20
WRKA **Warakurna** 38.29 125 P P 00 18 13.4 +1.8
YULB **Yu-li** 38.33 42 P P 00 18 11.9 0.0
YULB IAmb IAmb 00 18 23.0
comp=Z,71nm,1.0s
SSLB **Suanglung** 38.37 41 P P 00 18 11.7 -0.6
SSLB **Suanglung** 38.37 41 P P 00 18 13.4 +1.2
KDU **Kakadu** 38.41 104 P P 00 18 12.8 +0.2
baz=38,SNR=4.9
KDU **Kakadu** 38.41 104 P P 00 18 13.6 +0.9
MSEY **Mahe Island** 38.80 268 P P 00 18 14.2 -1.8
MSEY pmax pmax
comp=Z,113nm,1.5s
MSEY **Mahe Island** 38.80 268 P P 00 18 14.2 -1.8
MSEY **Mahe Island** 38.80 268 P P 00 18 17.0 +1.0
MSEY P P 00 18 17.0 +1.0
MSEY P pP 00 18 17.2 -2.6
MSEY P pP 00 18 17.2 -2.6
NACB **Ninganchiao** 39.06 41 P P 00 18 17.2 -0.7
SMLA **Simla** 39.26 336⇓iP P 00 18 19.3 -0.2
SMLA IAmb IAmb 00 18 30.5
comp=Z,25nm,0.6s
YHNB **Yeheng** 39.26 41 P P 00 18 19.5 -0.2
YHNB **Yeheng** 39.26 41 P P 00 18 20.7 +1.0
WHN **Wuhan** 39.91 27⇓P P 00 18 26.7 +1.7
WHN sP pwP 00 18 34.7 -0.7
WHN PP PP 00 19 55.9 -1.0
WHN S S 00 24 34.1 +4.8
WHN pmax pmax
comp=Z,72nm,0.8s
WHN LR LR
comp=Z,4µm,13.8s
WHN LR LR
comp=Z,5µm,13.1s
WHN LR LR
comp=Z,7µm,11.7s
DHRM **DHARAMSHALA** 40.59 336⇓iP P 00 18 29.0 -1.9
DHRM IAmb IAmb 00 18 37.9
comp=Z,16nm,0.4s
GOMU **GeErMu** 40.70 1 P P 00 18 32.9 +1.1
GOMU sP sP 00 18 37.4 +0.2
GOMU PcP PcP 00 20 33.8 +0.4
GOMU S S 00 24 41.7 0.0
GOMU ScS ScS 00 28 38.2 +0.9
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,290nm,4.9s
GOMU LR LR
comp=Z,500nm,19.2s
GOMU LR LR
comp=Z,1µm,19.0s
XAN **Xi'an** 40.91 19 P P 00 18 33.7 +0.5
XAN pP pP 00 18 37.3 +0.2
XAN sP sP 00 18 40.3 +1.7
XAN PP PnPn 00 20 13.7 +1.6
XAN S S 00 24 44.3 0.0
XAN sS sS 00 24 52.9 +2.3
XAN SS SS 00 27 40.6 -5.7
XAN ScS ScS 00 28 36.4 -1.5
XAN pmax pmax
comp=Z,75nm,0.9s
XAN pmax pmax
comp=Z,520nm,4.5s
XAN LR LR
comp=Z,3µm,12.7s
XAN LR LR
comp=Z,4µm,13.2s
XAN LR LR
comp=Z,4µm,13.1s
FORT **Forrest** 40.92 133 P P 00 18 32.1 -1.3
FORT IAmb IAmb 00 18 49.2
comp=Z,231nm,1.9s
FORT **Forrest** 40.92 133 P P 00 18 35.7 +2.3
THN **Thein Dam** 40.99 336 eP P 00 18 33.5 -0.4
LZH **Lanzhou** 41.54 12⇓P P 00 18 39.5 +1.0
LZH pP sP 00 18 44.0 +0.1
LZH sP pwP 00 18 46.9 -2.1
LZH S S 00 24 53.5 -0.3
LZH sS sS 00 25 06.0 +5.9
LZH pmax pmax
comp=Z,59nm,1.6s
LZH pmax pmax
comp=Z,300nm,4.9s
LZH LR LR
comp=Z,3µm,15.2s
LZH LR LR
comp=Z,6µm,16.8s
LZH LR LR
comp=Z,3µm,15.2s
WRA **Warramunga Arr** 41.70 115 P P 00 18 40.8 +0.8
comp=Z,31nm,0.9s,baz=288,slow=8.6,SNR=84
WRA LR LR 00 34 08.1
comp=Z,3µm,21.5s,baz=285,slow=34
WB0 **Warramunga Arr** 41.70 115 P P 00 18 39.6 -0.3
WB0 IAmb IAmb 00 19 04.8
comp=Z,139nm,1.5s
WRAB **Tennant Creek** 41.71 115d iP P 00 18 41.0 +1.0
WRAB pmax pmax
comp=Z,106nm,1.7s
WRAB **Tennant Creek** 41.71 115 P P 00 18 41.6 +1.6
WB2 **Warramunga Arr** 41.71 115 P P 00 18 39.9 -0.2
WB2 IAmb IAmb 00 19 05.1
comp=Z,84nm,1.2s
ASAR **Alice Springs** 42.46 120 P P 00 18 47.3 +1.2
comp=Z,25nm,1.1s,baz=292,slow=7.6,SNR=86
ASAR **Alice Springs** 42.46 120 P P 00 18 44.4 -1.8
LYN **LuoYang** 42.60 22⇑P P 00 18 48.3 +1.2
LYN PP PP 00 20 27.7 +1.6
LYN S S 00 25 07.4 -1.9
LYN SS SS 00 28 13.3 -6.4
LYN pmax pmax
comp=Z,30nm,0.9s
LYN pmax pmax
comp=Z,220nm,6.3s
LYN LR LR
comp=Z,1µm,11.8s
LYN LR LR
comp=Z,4µm,13.9s
LYN LR LR
comp=Z,2µm,13.6s
NIL **Nilore** 43.09 334 P P 00 18 49.9 -1.1
NIL pmax pmax
comp=Z,33nm,1.0s
NIL MLR MLR
comp=Z,5µm,19.0s
NIL **Nilore** 43.09 334 P P 00 18 49.9 -1.1
NIL **Nilore** 43.09 334 IAMs_20 IAMs_20 00 36 32.7
comp=Z,5µm,19.0s
NIL **Nilore** 43.09 334 P P 00 18 52.9 +1.8
NIL P P 00 18 52.9 +1.8
NJ2 **Nanjing** 43.33 31⇑iP P 00 18 54.0 +1.0
NJ2 pP pP 00 18 55.4 -1.4
NJ2 sP sP 00 18 58.1 -0.3
NJ2 PP PP 00 20 37.4 +3.5
NJ2 S S 00 25 23.8 +3.8
NJ2 sS sS 00 25 29.8 +3.4
NJ2 pmax pmax
comp=Z,27nm,0.9s
NJ2 pmax pmax
comp=Z,400nm,3.7s
NJ2 LR LR
comp=Z,4µm,13.3s
NJ2 LR LR
comp=Z,3µm,11.9s
NJ2 LR LR
comp=Z,5µm,13.3s
SOCY **Socotra** 43.55 293 P P 00 18 54.6 -0.5
SOCY **Socotra** 43.55 293 P P 00 18 57.9 +2.8
SNR=5.9
DQM **DQM** 43.74 305 P P 00 18 58.1 +1.7
SSE **Sheshan** 43.83 34 P P 00 18 58.1 +1.8
SSE S S 00 25 31.1 +3.7
SSE pmax pmax
comp=Z,23nm,0.8s
SSE pmax pmax
comp=Z,190nm,9.3s
SSE LR LR
comp=Z,2µm,19.0s
SSE LR LR
comp=Z,2µm,17.6s
GTA **Gaotai** 44.19 6⇑P P 00 19 01.0 +1.1
GTA pP sP 00 19 05.5 +0.2
GTA sP pwP 00 19 09.0 -1.3
GTA S S 00 25 31.4 -1.2
GTA sS sS 00 25 48.0 +9.1
GTA pmax pmax
comp=Z,29nm,0.8s
GTA pmax pmax
comp=Z,250nm,7.2s
GTA LR LR
comp=Z,1µm,17.9s
GTA LR LR
comp=Z,2µm,15.5s
GTA LR LR
comp=Z,2µm,15.1s
JMDO **Jabal Madar** 44.55 309 P P 00 19 03.7 +0.7
WSAR **Wadi Sarin** 44.62 310 LR LR 00 34 47.8
comp=Z,5µm,21.1s,baz=151,slow=32
SBV **Sambava** 44.71 256 P P 00 19 07.3 +3.0
MULG **Mulgathing** 45.19 129 P P 00 19 09.7 +1.7
JOW **Kunigami** 45.34 44 LR LR 00 36 59.4
comp=Z,1µm,22.0s,baz=210,slow=35
JOW **Kunigami** 45.34 44 P P 00 19 08.7 -0.5
JOW IAmb IAmb 00 19 12.3
comp=Z,48nm,0.8s
JOW **Kunigami** 45.34 44 P P 00 19 10.7 +1.5
RBK **Rabkut** 45.41 300 P P 00 19 10.9 +1.0
RBK P P 00 19 11.9 +1.0
OOD **Oodnadatta** 45.46 125 P P 00 19 11.8 +1.6
GENI **Genyem** 45.71 89 P P 00 19 12.2 -0.1
comp=Z,2µmcomp=Z,92nm,1.0s
GENI **Genyem** 45.71 89 P P 00 19 13.3 +1.0
comp=Z,90nm,1.1s
KBL **Kabul** 45.78 330 P P 00 19 11.4 -1.4
KBL pmax pmax
comp=Z,19nm,0.9s
KBL **Kabul** 45.78 330 P P 00 19 11.4 -1.4
KBL **Kabul** 45.78 330 P P 00 19 13.2 +0.3
SNR=16
KBL P P 00 19 13.2 +0.3
SNR=16
TIA **Tai'an** 45.93 26⇑P P 00 19 14.2 +0.5
TIA S S 00 25 59.0 +1.3
TIA pmax pmax
comp=Z,34nm,0.9s
TIA pmax pmax
comp=Z,230nm,7.8s
TIA LR LR
comp=Z,3µm,13.5s
TIA LR LR
comp=Z,2µm,14.1s
DOK **Doka** 45.96 301 P P 00 19 15.2 +1.0
DOK P P 00 19 15.2 +1.0
HNS **HongShan** 45.97 23⇑P P 00 19 15.6 +1.7
HNS S S 00 26 02.1 +4.0
HNS pmax pmax
comp=Z,110nm,1.0s
HNS LR LR
comp=Z,2µm,14.7s
HNS LR LR
comp=Z,4µm,13.7s
HNS LR LR
comp=Z,2µm,13.2s
ABTO **Aybut** 46.13 299 P P 00 19 18.0 +2.3
SNR=5.6
ABTO P P 00 19 18.0 +2.3
SNR=5.6
JAY **Jayapura** 46.25 89 P P 00 19 16.7 0.0
JAY pmax pmax
comp=Z,35nm,1.0s
JAY **Jayapura** 46.25 89 P P 00 19 16.3 -0.4
comp=Z,22nm,1.0s
QIS **Mount Isa** 46.64 114 P P 00 19 21.2 +1.6
baz=47,SNR=17
QIS **Mount Isa** 46.64 114 P P 00 19 21.3 +1.7
KSH **Kashi** 47.18 341 P P 00 19 22.1 -1.5
KSH pP pP 00 19 27.6 +0.1
KSH sP pwP 00 19 32.6 -1.5
KSH S S 00 26 12.7 -3.1
KSH pmax pmax
comp=Z,13nm,1.0s
KSH LR LR
comp=Z,3µm,21.3s
KSH LR LR
comp=Z,3µm,18.6s
KSH LR LR
comp=Z,6µm,21.3s
BTO **Baotou** 47.32 16 eP P 00 19 26.5 +1.9
BTO S S 00 26 21.6 +4.0
MASF **Masafi** 47.68 311 P P 00 19 28.3 +0.6
FAQ **Al Faqa, Dubai** 47.77 310 P P 00 19 29.7 +1.4
BBOO **Buckleboo** 47.84 131 P P 00 19 29.9 +1.1
baz=48,SNR=6.5
BBOO **Buckleboo** 47.84 131 P P 00 19 27.4 -1.4
BBOO **Buckleboo** 47.84 131 P P 00 19 30.2 +1.4
NAZ **Nazwa, Dubai** 47.85 310 P P 00 19 30.2 +1.3
ASUD **Al Ashush, Dub** 47.91 309 P P 00 19 30.9 +1.5
ASUD **Al Ashush, Dub** 47.91 309 P P 00 19 30.6 +1.3
HHC **Hu-ho-hao-te** 47.99 18⇑P P 00 19 31.6 +1.8
HHC pP sP 00 19 35.9 +0.6
HHC sP pwP 00 19 38.7 -1.6
HHC S S 00 26 30.4 +3.2
HHC sS sS 00 26 38.2 +4.6
HHC SS SS 00 29 55.3 -1.1
HHC pmax pmax
comp=Z,30nm,1.5s
HHC pmax pmax

comp=Z,620nm,4.8s
HHC LR LR
comp=Z,3µm,21.4s
HHC LR LR
comp=Z,6µm,17.7s
HHC LR LR
comp=Z,4µm,15.0s
ABPO Ambohimpanom 48.14 249 P P 00 19 30.3 -1.2
ABPO pmax pmax
comp=Z,147nm,1.8s
ABPO Ambohimpanom 48.14 249 P P 00 19 30.3 -1.2
ABPO Ambohimpanom 48.14 249 IAMs_20 IAMs_20 00 35 10.4
comp=Z,5µm,20.0s
LCRK Leigh Creek 48.53 127 P P 00 19 36.1 +2.0
MZR Muzera 48.54 306 P P 00 19 36.7 +2.4
SNR=8.3
MZR P P **00 19 36.7 +2.4**
SNR=8.3
MZR Muzera 48.54 306 *i* P **P 00 19 35.5 +1.2**
SNR=6.8
TARG Taragay, Kyrgy 48.64 343 P P 00 19 35.1 -0.1
TARG IAmb IAmb 00 20 19.2
comp=Z,48nm,1.0s
WMQ Urumqi 48.69 354⇓ *i* P **P 00 19 36.4 +1.3**
WMQ sP pwP 00 19 48.6 +3.0
WMQ PcP **PcP 00 21 00.4 +0.1**
WMQ PP **PP 00 21 25.1 -3.3**
WMQ S **S 00 26 39.0 +2.1**
WMQ ScS **ScS 00 29 31.1 +4.0**
WMQ pmax pmax
comp=Z,200nm,1.1s
WMQ pmax pmax
comp=Z,560nm,3.7s
WMQ LR LR
comp=Z,2µm,22.7s
WMQ LR LR
comp=Z,1µm,21.5s
WMQ LR LR
comp=Z,1µm,18.9s
BJT Baijiatuau 48.81 22 P P 00 19 36.0 0.0
BJT pmax pmax
comp=Z,79nm,1.1s
BJT MLR MLR
comp=Z,2µm,18.0s
BJT Baijiatuau 48.81 22 P P 00 19 36.0 0.0
BJT IAmb IAmb 00 19 40.1
comp=Z,79nm,1.1s
BJI Beijing 48.83 22 P P 00 19 37.5 +1.3
BJI PP **PP 00 21 32.8 +3.2**
BJI S **S 00 26 42.8 +4.0**
BJI pmax pmax
comp=Z,69nm,1.1s
BJI pmax pmax
comp=Z,420nm,4.8s
BJI LR LR
comp=Z,2µm,15.6s
BJI LR LR
comp=Z,2µm,15.8s
BJI LR LR
comp=Z,2µm,16.3s
GAR Garm 48.87 335 P P 00 19 35.5 -1.2
GAR IAmb IAmb 00 20 07.3
comp=Z,86nm,1.1s
COEN Coen 48.90 104 P P 00 19 36.0 -1.2
COEN IAmb IAmb 00 19 57.4
comp=Z,50nm,1.4s
COEN Coen 48.90 104 P P 00 19 37.7 +0.5
CHGR Chuyangaron 49.08 334 P P 00 19 37.1 -1.2
CHGR IAmb IAmb 00 20 19.5
comp=Z,71nm,0.8s
WHYH Whyalla 49.09 130 P P 00 19 41.0 +2.7
VOI Vohitsoka 49.14 245 P P 00 19 38.5 -0.6
VOI IAmb IAmb 00 19 40.9
comp=Z,133nm,1.8s
VOI IAMs_20 IAMs_20 00 37 03.5
comp=Z,3µm,18.0s
VOI Vohitsoka 49.14 245 P P 00 19 40.7 +1.6
HRA Herat 49.32 325 P P 00 19 40.0 -0.3
HRA IAmb IAmb 00 20 00.7
comp=Z,57nm,1.4s
SHLS Shalkode 49.53 346 *e*P **P 00 19 40.3 -1.4**
SHLS *e*S **S 00 26 47.2 -1.6**
SHLS Shalkode 49.53 346 *e*P **P 00 19 40.4 -1.3**
baz=346
SHLS *e*S **S 00 26 47.3 -1.6**
baz=346
NAPP Napperby 49.59 130 P P 00 19 44.9 +2.7
UZB Uzynbulak 49.63 345 *e*P **P 00 19 41.9 -0.5**
UZB *e*S **S 00 26 49.4 -0.9**
UZB Uzynbulak 49.63 345 *e*P **P 00 19 42.0 -0.5**
baz=345
UZB *e*S **S 00 26 49.5 -0.9**
baz=345
INKA Innaminka 49.63 123 P P 00 19 45.2 +2.6
PDGK Podgornoye 49.69 346 P P 00 19 41.9 -1.0
SATY Saty 49.71 345 *d* *i*P **P 00 19 42.7 -0.3**
SATY *i* S **S 00 26 51.0 -0.3**
SATY pmax pmax
comp=Z,27nm,1.3s
SATY Saty 49.71 345⇓ *i*P **P 00 19 42.7 -0.3**
comp=Z,27nm,1.3s,baz=345
SATY *i* S **S 00 26 51.1 -0.3**
baz=345
JSU Suzuyama 49.77 41 P P 00 19 42.9 -0.6
KPKS Kokpek 50.02 345 *d* *i*P **P 00 19 44.6 -0.7**
KPKS *e*S **S 00 26 54.2 -1.4**
KPKS Kokpek 50.02 345⇓ *i*P **P 00 19 44.6 -0.7**
baz=345
KPKS *e*S **S 00 26 54.2 -1.4**
baz=345
TNSS Tian-Shan 50.09 343 *e*P **P 00 19 45.7 -0.5**
baz=343
UCH Uchtor 50.10 341 P P 00 19 46.7 +0.3
SNR=12
DL2 Dalian 50.17 28 P P 00 19 47.8 +1.4
DL2 S **S 00 26 59.9 +2.2**
DL2 pmax pmax
comp=Z,89nm,1.0s
DL2 pmax pmax
comp=Z,200nm,4.7s
DL2 LR LR
comp=Z,3µm,16.1s
DL2 LR LR
comp=Z,2µm,13.3s
DL2 LR LR
comp=Z,3µm,17.0s
MDOK Medeo 50.18 343 *e*P **P 00 19 46.4 -0.2**
MDOK *e*S **S 00 26 57.9 0.0**
MDOK MLR MLR
comp=Z,2µm,16.0s
MDOK Medeo 50.18 343 *e*P **P 00 19 46.4 -0.2**
baz=344
MDOK *e*S **S 00 26 58.0 0.0**
baz=344
MDOK LR LR 00 41 43.7
comp=Z,2µm,15.8s,baz=344
AAA Alma-Ata 50.26 343 *e*P **P 00 19 46.5 -0.6**
AAA *e*S **S 00 26 58.6 -0.3**
AAA Alma-Ata 50.26 343 *e*P **P 00 19 46.6 -0.6**
baz=343
AAA *e*S **S 00 26 58.6 -0.3**
baz=343
HTT Hallett 50.28 130 P P 00 19 49.4 +1.9
baz=50,SNR=7.5
HTT Hallett 50.28 130 P P 00 19 49.6 +2.1
AML Almayashu 50.29 340 P P 00 19 48.0 +0.2
SNR=22
AML Almayashu 50.29 340 *i* P **P 00 19 47.8 0.0**
SNR=22
KBK Karagaybulak 50.35 341 P P 00 19 48.5 +0.6
SNR=18
TKM2 Tokmak 2 50.38 342 P P 00 19 48.2 -0.1
SNR=24
TKM2 Tokmak 2 50.38 342 P P 00 19 46.9 -1.4
AAK Ala-Archa 50.48 341 LR LR 00 40 54.4
comp=Z,6µm,21.3s,baz=166,slow=36
AAK Ala-Archa 50.48 341 *d* *i*P **P 00 19 49.1 +0.2**
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 50.48 341 P **P 00 19 48.2 -0.7**
AAK Ala-Archa 50.48 341 IAMs_20 IAMs_20 00 40 40.8
comp=Z,5µm,21.0s
AAK Ala-Archa 50.48 341 *i* P **P 00 19 49.2 +0.3**
SNR=8.6
SLWR Sila 50.49 307 P P 00 19 50.3 +1.2
SLWR P **P 00 19 50.3 +1.2**

MTSU Mount Surprise 50.53 110 P P 00 19 51.3 +1.6
baz=51,SNR=32
MTSU Mount Surprise 50.53 110 P P 00 19 51.7 +2.1
TWOA Tennyson Woods 50.71 132 P P 00 19 53.6 +3.0
CHMS Chumysh 50.72 341 P P 00 19 50.4 -0.2
SNR=12
EKS2 Erkin-Say 50.73 340 P P 00 19 51.3 +0.5
SNR=17
CHKK Chushkaly 50.83 344 *e*P **P 00 19 49.2 -2.2**
baz=344
USP Ospenovka 51.04 341 P P 00 19 53.1 +0.1
SNR=38
KUU Kurty 51.05 343 *d* *i*P **P 00 19 51.7 -1.3**
KUU *e*S **S 00 27 08.3 -1.5**
KUU pmax pmax
comp=Z,104nm,1.9s
KUU Kurty 51.05 343⇓ *i*P **P 00 19 51.7 -1.3**
comp=Z,104nm,1.9s,baz=343
KUU *e*S **S 00 27 08.4 -1.4**
baz=343
JNU Nakatsue 51.08 40 LR LR 00 41 12.6
comp=Z,3µm,21.0s,baz=234,slow=36
JNU Nakatsue 51.08 40 P P 00 19 53.1 -0.4
JNU IAmb IAmb 00 19 55.8
comp=Z,67nm,0.9s
JNU Nakatsue 51.08 40 P P 00 19 54.4 +0.9
SGDS Sogindy 51.16 342 *e*P **P 00 19 53.1 -0.8**
comp=Z,30nm,1.5s,baz=342
SGDS *e*S **S 00 27 10.6 -0.9**
baz=342
TRNA Turayna 51.19 307 P P 00 19 55.0 +0.6
TJN Taejon 51.19 34 *ce*P **P 00 19 55.5 +1.3**
TJN Taejon 51.19 34 P P 00 19 53.8 -0.4
TJN Taejon 51.19 34 P P 00 19 55.0 +0.8
TAS Tashkent 51.24 336 P P 00 19 54.1 -0.4
TAS pmax pmax
comp=Z,71nm,1.2s
TAS Tashkent 51.24 336 P P 00 19 54.1 -0.4
TAS IAmb IAmb 00 20 17.9
comp=Z,71nm,1.2s
KHOR Al-Khor Airpor 51.39 308 P P 00 19 57.0 +1.2
INCN Inchon 51.59 33 IAMs_20 IAMs_20 00 42 28.4
comp=Z,5µm,19.0s
STKA Stephens Creek 51.75 127 P P 00 19 59.7 +1.2
comp=Z,11nm,0.9s,baz=300,slow=6.5,SNR=13
STKA LR LR 00 40 27.4
comp=Z,9µm,21.4s,baz=286,slow=34
STKA Stephens Creek 51.75 127 P P 00 20 00.3 +1.8
baz=52,SNR=9.3
STKA Stephens Creek 51.75 127 P P 00 19 57.8 -0.7
STKA Stephens Creek 51.75 127 P P 00 20 00.4 +1.9
DZA Taraz 51.79 338 *e*P **P 00 19 57.5 -1.1**
DZA Taraz 51.79 338 *e*P **P 00 19 57.5 -1.1**
baz=338
SHMA Al-Shehemyia 51.93 308 P P 00 20 00.9 +1.0
KSAR Wonju Array Be 52.24 34 P P 00 20 02.5 +0.4
KSAR Wonju Array Be 52.24 34 P P 00 20 02.5 +0.4
QLP Quilpie 52.26 120 P P 00 20 04.9 +2.5
baz=52,SNR=4.3
QLP Quilpie 52.26 120 P P 00 20 04.8 +2.4
KSRS Korea Array 52.27 34 P P 00 20 02.6 +0.3
comp=Z,36nm,0.9s,baz=224,slow=8.1,SNR=60
KSRS LR LR 00 41 41.7
comp=Z,2µm,21.6s,baz=220,slow=36
KKAR Karatay Array 52.28 338 P P 00 20 01.5 -0.8
KKAR Karatay Array 52.28 338 P P 00 20 01.5 -0.8
KS19 Wonju Array Si 52.28 34 P P 00 20 02.1 -0.2
KS19 IAmb IAmb 00 20 11.9
comp=Z,44nm,1.0s
SAKB Bahrain 52.33 308 P P 00 20 03.9 +1.1
MK31 Makanchi Array 52.39 350 *i* P **P 00 20 02.6 -0.4**
MK31 Makanchi Array 52.39 350 P P 00 20 02.2 -0.9
MKAR Makanchi Array 52.39 350 P P 00 20 02.8 -0.2
comp=Z,25nm,0.9s,baz=161,slow=7.7,SNR=103
MKAR LR LR 00 44 28.3
comp=Z,1µm,20.1s,baz=170,slow=39
MKAR Makanchi Array 52.39 350 *ce*P **P 00 20 02.7 -0.3**
MKAR pmax pmax
comp=Z,25nm,0.9s
MKAR Makanchi Array 52.39 350 P P 00 20 02.3 -0.8
MAKZ Makanchi 52.47 349 P P 00 20 02.6 -1.0
MAKZ pmax pmax
comp=Z,60nm,1.6s
MAKZ Makanchi 52.47 349 P P 00 20 02.6 -1.0
BRLS Borolday 52.47 337 *e*P **P 00 20 01.9 -1.8**
BRLS *e*S **S 00 27 26.6 -2.7**
BRLS Borolday 52.47 337 *e*P **P 00 20 02.0 -1.8**
baz=337
BRLS *e*S **S 00 27 26.7 -2.7**
baz=337
PMG Port Moresby 52.52 98 LR LR 00 44 29.9
comp=Z,1µm,19.5s,baz=268,slow=38
PMG Port Moresby 52.52 98⇑ *i*P **P 00 20 05.7 +1.2**
PMG pmax pmax
comp=Z,67nm,1.0s
PMG Port Moresby 52.52 98 P P 00 20 04.7 +0.1
PMG IAmb IAmb 00 20 07.8
comp=Z,70nm,1.1s
PMG Port Moresby 52.52 98 P P 00 20 06.1 +1.6
PMG Port Moresby 52.52 98 P P 00 20 06.3 +1.8
ZSN Zaisan 52.62 352 *d* *i*P **P 00 20 04.7 +0.1**
ZSN *e*S **S 00 27 31.4 +0.2**
ZSN pmax pmax
comp=Z,25nm,1.0s
ZSN Zaisan 52.62 352⇓ *i*P **P 00 20 04.8 +0.1**
comp=Z,24nm,1.0s,baz=352
ZSN *e*S **S 00 27 31.4 +0.2**
baz=352
CTA Charters Tower 52.66 112 LR LR 00 43 21.4
comp=Z,3µm,18.9s,baz=272,slow=37
CTA Charters Tower 52.66 112 P P 00 20 07.5 +2.0
CTA pmax pmax
comp=Z,67nm,1.6s
CTA Charters Tower 52.66 112 P P 00 20 07.5 +2.0
BTLS Baital 52.78 342 *d* *i*P **P 00 20 05.1 -0.8**
BTLS Baital 52.78 342⇓ *i*P **P 00 20 05.2 -0.8**
comp=Z,43nm,4.2s,baz=342
MANU Manus Island 52.92 89 P P 00 20 06.4 -1.1
GUMO Guam 53.28 69 LR LR 00 41 51.6
comp=Z,390nm,21.9s,baz=239,slow=35
SONM Songino Array 53.38 10 P P 00 20 11.1 +0.7
comp=Z,33nm,1.0s,baz=192,slow=8.0,SNR=73
SONM LR LR 00 43 55.7
comp=Z,777nm,18.4s,baz=186,slow=37
SONM Songino Array 53.38 10 P P 00 20 10.6 +0.2
SNY Shenyang 53.40 27⇓ P **P 00 20 11.0 +0.5**
SNY S **S 00 27 43.0 +1.0**
SNY pmax pmax
comp=Z,17nm,0.8s
SNY pmax pmax
comp=Z,290nm,3.5s
SNY LR LR
comp=Z,4µm,17.5s
SNY LR LR
comp=Z,2µm,14.5s
SNY LR LR
comp=Z,4µm,19.8s
JMN Monobe 53.41 41 P P 00 20 11.3 +0.5
ULN Ulaanbaatar 53.52 11⇑ *i*P **P 00 20 12.2 +0.7**
ULN pmax pmax
comp=Z,45nm,1.7s
ULN Ulaanbaatar 53.52 11 P P 00 20 11.7 +0.2
JHS Saijyo 53.71 40 P P 00 20 12.8 -0.1
JHS IAmb IAmb 00 20 17.2
comp=Z,55nm,0.9s
ATD Arta Tunnel 53.77 288 LR LR 00 40 01.1
comp=Z,841nm,18.3s,baz=89,slow=33
ATD Arta Tunnel 53.77 288 P P 00 20 12.4 -1.3
ATD Arta Tunnel 53.77 288 P P 00 20 15.2 +1.5
ARPS Mount Arapiles 53.84 133 P P 00 20 15.8 +1.9
baz=54,SNR=8.3
ARPS Mount Arapiles 53.84 133 P P 00 20 15.8 +1.9
GEYT Alibeck 54.18 325 P P 00 20 15.6 -0.7
comp=Z,7.0nm,0.7s,baz=153,slow=9.7,SNR=9.1
GEYT LR LR 00 43 28.0
comp=Z,6µm,21.7s,baz=147,slow=36
GYA0B ALIBECK ARRAY 54.18 325 P P 00 20 16.2 -0.1
GYA0B IAmb IAmb 00 20 46.5
comp=Z,37nm,0.9s
CMSA Cobar Meteorol 54.92 125 P P 00 20 23.9 +2.1
baz=55,SNR=21
CMSA Cobar Meteorol 54.92 125 P P 00 20 24.1 +2.2
KNGR Kungurtug, Tuv 55.16 2⇓ *e*P **P 00 20 25.0 +1.7**
RAYN Ar Rayn 55.32 303 P P 00 20 24.5 -0.5
RAYN pmax pmax
comp=Z,16nm,1.1s
RAYN Ar Rayn 55.32 303 P P 00 20 24.5 -0.5
RAYN Ar Rayn 55.32 303 IAMs_20 IAMs_20 00 40 53.8
comp=Z,3µm,19.0s
RAYN Ar Rayn 55.32 303 P P 00 20 25.6 +0.6
RAYN Ar Rayn 55.32 303 *i* P **P 00 20 24.8 -0.2**
SNR=20
ZAK Zakamensk 55.41 7 *e*P **P 00 20 25.2 +0.1**
ZAK pmax pmax
comp=Z,30nm,1.6s
CRZF Crozet Islands 55.47 215 IAMs_20 IAMs_20 00 37 51.6
comp=Z,3µm,18.0s
CN2 Changchun 55.80 27 *e*P **P 00 20 27.8 -0.1**
CN2 *e*S **S 00 28 14.5 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,3µm,19.2s
JCJ Chichijima 55.94 53 P P 00 20 30.0 +0.8
RMQ Roma 56.16 119 P P 00 20 33.4 +2.5
baz=56,SNR=9.5
RMQ Roma 56.16 119 P P 00 20 33.6 +2.7
SEM Semipalatinsk 56.24 349 *e*P **P 00 20 30.2 -1.0**
SEM pmax pmax
comp=Z,19nm,1.0s
SEM Semipalatinsk 56.24 349 *e*P **P 00 20 30.2 -1.0**
comp=Z,19nm,1.0s,baz=349
KIBK Kibwezi 56.29 270 P P 00 20 31.3 -0.9
KIBK IAmb IAmb 00 20 34.4
comp=Z,95nm,1.4s
KIBK Kibwezi 56.29 270 P P 00 20 33.3 +1.1
SNR=25
ANKE Ethiopia-Afar 56.30 285 *e*P **P 00 20 29.8 -2.7**
MOY Mondy 56.44 5 *e*P **P 00 20 33.3 +0.8**
MOY pmax pmax
comp=Z,56nm,2.6s
INU Inuyama 56.45 42 P P 00 20 32.5 -0.3
INU IAmb IAmb 00 20 35.4
comp=Z,76nm,1.1s
INU Inuyama 56.45 42 P P 00 20 34.4 +1.7
DESE Dese 56.73 286 *e*P **P 00 20 32.2 -3.3**
KURBB Kurchatov Arra 56.79 348 LR LR 00 47 05.3
comp=Z,2µm,18.4s,baz=153,slow=38
JGF Kuroka 56.82 42 P P 00 20 34.9 -0.5
JGF IAmb IAmb 00 20 45.1
comp=Z,64nm,1.2s
TOO Toolangi 56.84 132 P P 00 20 34.0 -1.6
TOO pmax pmax
comp=Z,29nm,1.1s
TOO Toolangi 56.84 132 P P 00 20 34.0 -1.6
TOO Toolangi 56.84 132 P P 00 20 38.0 +2.4
KURK Kurchatov 56.86 348 *d* *i*P **P 00 20 34.6 -0.7**
KURK pmax pmax
comp=Z,44nm,1.3s
KURK Kurchatov 56.86 348 P P 00 20 34.4 -0.9
KURK Kurchatov 56.86 348 IAMs_20 IAMs_20 00 46 55.0
comp=Z,2µm,18.0s
JHJ Hachijo jima 2 57.10 45 LR LR 00 42 52.3
comp=Z,799nm,21.7s,baz=90,slow=34
DILA Dilla 57.11 281 *e*P P 00 20 25.5 -13
AAE Adis Abeba 57.12 284 *e*P P 00 20 28.7 -10
KMBO Kilima Mbogo 57.18 272 P P 00 20 39.1 +0.5
comp=Z,11nm,1.0s,baz=67,slow=7.4,SNR=43
KMBO LR LR 00 39 33.4
comp=Z,922nm,21.8s,baz=93,slow=30
KMBO Kilima Mbogo 57.18 272 *i* P **P 00 20 39.7 +1.1**
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 57.18 272 P P 00 20 37.6 -1.0
KMBO IAmb IAmb 00 20 41.2
comp=Z,138nm,1.8s
KMBO Kilima Mbogo 57.18 272 *i* P **P 00 20 38.9 +0.2**
SNR=35
FURI Furi 57.18 284 P P 00 20 37.5 -1.2
FURI IAmb IAmb 00 20 43.7
comp=Z,134nm,1.6s
FURI Furi 57.18 284 IAMs_20 IAMs_20 00 42 04.8
comp=Z,3µm,19.0s
FURI Furi 57.18 284 *e*P P 00 20 28.9 -10
IRK Irkutsk 57.36 7 *e*P **P 00 20 39.5 +0.7**
IRK pmax pmax
comp=Z,99nm,1.9s
BRZS Berezniki 57.63 344 *d* *i*P **P 00 20 40.1 -0.7**
BRZS Berezniki 57.63 344⇓ *i*P **P 00 20 40.1 -0.7**
baz=344
MSHR Mys Shultsa 57.67 32⇑ *e*P **P 00 20 42.2 +1.0**
MSHR pmax pmax
comp=Z,38nm,1.0s
MAJO Matsushiro 57.93 41⇓ *i*P **P 00 20 43.3 +0.1**
MAJO pmax pmax
comp=Z,59nm,1.5s
MAJO Matsushiro 57.93 41 P P 00 20 43.8 +0.6
MAT Matsushiro 57.93 41 P P 00 20 42.3 -0.9
MAT S **S 00 28 42.6 -0.1**
MJB9 Matsu-Tunnel 57.93 41 P P 00 20 42.6 -0.6
MJB9 IAmb IAmb 00 20 52.9
comp=Z,85nm,1.5s
MJAR Matsushiro Arr 57.93 41 P P 00 20 43.3 +0.1
comp=Z,25nm,0.9s,baz=228,slow=7.0,SNR=22
MJAR LR LR 00 47 29.3
comp=Z,1µm,18.8s,baz=233,slow=38
MJAR Matsushiro Arr 57.93 41 P P 00 20 42.4 -0.8
EIDS Eidsvold 57.98 117 P P 00 20 41.8 -2.0
EIDS IAmb IAmb 00 21 05.4
comp=Z,63nm,1.5s
EIDS Eidsvold 57.98 117 P P 00 20 45.5 +1.7
HIA Hailar 58.10 19 P P 00 20 44.3 +0.1
HIA pmax pmax
comp=Z,25nm,0.8s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 58.10 19 P P 00 20 44.3 +0.1
HIA Hailar 58.10 19 IAMs_20 IAMs_20 00 46 46.6
comp=Z,2µm,20.0s
BNX BinXian 58.19 27⇑ P **P 00 20 45.3 +0.5**
BNX pP **sP 00 20 49.2 -1.0**
BNX sP **pwP 00 20 53.4 -2.0**
BNX S **S 00 28 49.6 +3.9**
BNX sS **sS 00 28 54.7 +2.5**
BNX pmax pmax
comp=Z,130nm,1.0s
BNX pmax pmax
comp=Z,380nm,4.5s
BNX LR LR
comp=Z,2µm,11.8s
BNX LR LR
comp=Z,3µm,14.7s
BNX LR LR
comp=Z,3µm,18.3s
MDJ Mudanjiang 58.36 29 P P 00 20 45.8 -0.2
MDJ IAmb IAmb 00 21 16.2
comp=Z,82nm,1.6s
MDJ Mudanjiang 58.36 29 P P 00 20 49.6 +3.6
MDJ sP pwP 00 20 54.6 -2.0
MDJ PcP **PcP 00 21 39.8 +3.0**
MDJ S **S 00 28 52.0 +4.0**
MDJ sS sS 00 28 58.4 +3.9
MDJ SS **SS 00 32 43.1 +2.7**
MDJ pmax pmax
comp=Z,31nm,1.0s
MDJ pmax pmax
comp=Z,280nm,5.4s
MDJ LR LR
comp=Z,5µm,16.5s
MDJ LR LR
comp=Z,4µm,17.1s
MDJ LR LR
comp=Z,8µm,16.8s
MDJ Mudanjiang 58.36 29 P P 00 20 47.0 +1.0
VLA Vladivostok 58.43 32⇓ *e*P **P 00 20 48.9 +2.4**
VLA pmax pmax
comp=Z,49nm,0.8s
CAN Canberra 58.72 129 P P 00 20 47.5 -1.4
CAN pmax pmax
comp=Z,88nm,1.2s
CAN Canberra 58.72 129 P P 00 20 47.5 -1.4
CAN IAmb IAmb 00 21 15.1
comp=Z,88nm,1.2s
CAN Canberra 58.72 129 P P 00 20 51.5 +2.6

CIT Chita 58.82 14 *e*P P 00 20 50.1 +0.9
CIT *e* 00 20 58.6
CIT *e* 00 21 39.7
CIT pmax pmax
comp=Z,78nm,1.7s
ZAA0 Zalesovo Array 59.00 353 P P 00 20 49.7 -0.5
ZAA0 IAmb IAmb 00 20 51.8
comp=Z,62nm,0.9s
ZALV Zalesovo Beam 59.00 353 P P 00 20 49.8 -0.5
comp=Z,48nm,0.7s,baz=178,slow=5.8,SNR=147
ZALV LR LR 00 47 12.4
comp=Z,1µm,20.5s,baz=182,slow=37
ZALV PKP2bc 00 50 31.5
comp=Z,0.6nm,0.7s,baz=328,slow=5.3,SNR=3.9
ZALV Zalesovo Beam 59.00 353 P P 00 20 49.4 -0.9
CNB Canberra Magne 59.00 129 P P 00 20 52.9 +2.0
USA0B Ussuriysk Arra 59.24 31 *c i*P P 00 20 52.9 +0.7
USA0B Ussuriysk Arra 59.24 31 P P 00 20 52.6 +0.5
USRK Ussuriysk Ar. 59.24 31 P P 00 20 52.5 +0.3
comp=Z,66nm,0.9s,baz=231,slow=5.8,SNR=42
USRK LR LR 00 45 55.3
comp=Z,2µm,21.7s,baz=215,slow=36
ARMA Armidale 59.52 123 P P 00 20 57.7 +3.1
baz=60,SNR=3.9
ARMA Armidale 59.52 123 P P 00 20 54.5 -0.1
ARMA IAmb IAmb 00 21 08.2
comp=Z,112nm,1.6s
ARMA Armidale 59.52 123 P P 00 20 57.3 +2.7
LODK Lodwar 59.54 277 P P 00 20 54.7 -0.3
LODK IAmb IAmb 00 20 58.1
comp=Z,68nm,1.5s
LODK Lodwar 59.54 277 P P 00 20 57.4 +2.5
SNR=13
TAU Tasmania Unive 60.20 138 P P 00 20 58.9 +0.1
TAU pmax pmax
comp=Z,108nm,1.5s
TAU Tasmania Unive 60.20 138 P P 00 20 58.9 +0.1
TAU Tasmania Unive 60.20 138 IAMs_20 IAMs_20 00 45 26.2
comp=Z,4µm,20.0s
LKRN Lenkeran, Azer 60.37 320 P P 00 21 01.9 +1.9
JMM Marumori 60.38 41 P P 00 21 00.5 +0.3
JMM IAmb IAmb 00 21 03.1
comp=Z,57nm,1.0s
BRVK Borovoye 61.05 344 P P 00 21 03.3 -1.1
BRVK Borovoye 61.05 344 P P 00 21 03.2 -1.2
BRVK Borovoye 61.05 344 IAMs_20 IAMs_20 00 47 24.0
comp=Z,4µm,21.0s
AB31 Akbulak array 61.53 335 *i* P P 00 21 07.9 +0.2
ABKAR Akbulak array 61.53 335 P P 00 21 07.7 0.0
ABKAR Akbulak array 61.53 335 P P 00 21 07.3 -0.4
CASY Casey 62.49 173 P P 00 21 13.2 -0.6
CASY Casey 62.49 173 IAMs_20 IAMs_20 00 41 58.3
comp=Z,2µm,20.0s
MNGR Mingechevir, A 62.61 321 P P 00 21 17.4 +2.3
KLR Kul'dur 62.75 27 LR LR 00 50 35.4
comp=Z,1µm,18.5s,baz=218,slow=38
KLR Kul'dur 62.75 27 *c i*P P 00 21 16.2 +0.3
KLR pmax pmax
comp=Z,38nm,0.9s
NAX Nakhchivan 62.75 319 P P 00 21 18.9 +2.6
SEKA Sheki 62.79 321 P P 00 21 18.9 +2.5
GANJ Ganja 63.02 321 P P 00 21 20.0 +2.0
CNG Changalane 63.06 243 *i* P P 00 21 19.6 +1.1
CNG Changalane 63.06 243 *i* P P 00 21 19.6 +1.1
AKTO Aktyubinsk 63.23 335 LR LR 00 50 34.7
comp=Z,2µm,19.2s,baz=149,slow=38
AKTO Aktyubinsk 63.23 335 P P 00 21 18.1 -1.0
ZKTA Zakatala 63.39 322 P P 00 21 22.0 +1.6
MAK Makhachkala 63.61 323 *e*P P 00 21 15.3 -6.4
MAK *e*PPP PPP 00 25 12.0
MAK *e*S S 00 29 45.0 -10
MAK *e*SS SS 00 33 58.7 -4.1
MAK pmax pmax
comp=Z,279nm,1.2s
MAK MLR MLR
comp=Z,2µm,14.0s
MBAR Mbarara 63.71 272 LR LR 00 47 01.3
comp=Z,528nm,18.0s,baz=76,slow=34
MBAR Mbarara 63.71 272 *c i*P P 00 21 24.8 +1.6
MBAR pmax pmax
comp=Z,98nm,2.5s
MBAR Mbarara 63.71 272 P P 00 21 22.9 -0.3
MBAR IAmb IAmb 00 21 25.4
comp=Z,81nm,1.4s
MBAR Mbarara 63.71 272 P P 00 21 23.9 +0.6
MBAR P P 00 21 23.9 +0.6
GNI Garni 63.77 319 P P 00 21 24.3 +1.3
comp=Z,6.3nm,0.9s,baz=222,slow=4.6,SNR=1.4
GNI LR LR 00 50 02.4
comp=Z,2µm,21.8s,baz=122,slow=37
GNI Garni 63.77 319 *d i*P P 00 21 24.6 +1.5
GNI pmax pmax
comp=Z,40nm,1.7s
GNI Garni 63.77 319 P P 00 21 24.0 +0.9
GNI IAmb IAmb 00 22 26.9
comp=Z,68nm,1.4s
GNI Garni 63.77 319 P P 00 21 24.0 +0.9
BOD Bodaibo 64.31 11 *e*P P 00 21 26.0 0.0
BOD pmax pmax
comp=Z,58nm,1.5s
ZEA Zeya 64.42 21 *e*P P 00 21 27.3 +0.5
ZEA *e* 00 21 35.9
ZEA *e*S S 00 30 08.7 +4.1
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA smax smax
comp=E,200nm,7.1s
ZEA pmax pmax
comp=E,400nm,15.0s
GURO Guroymak-BITLI 64.76 317 P P 00 21 30.3 +0.7
GURO IAmb IAmb 00 21 45.9
comp=Z,35nm,1.2s
ASAJ Asahikawa 65.04 36 LR LR 00 50 19.0
comp=Z,807nm,19.4s,baz=248,slow=36
ASAJ Asahikawa 65.04 36 P P 00 21 30.6 -0.5
ASAJ pmax pmax
comp=Z,39nm,1.0s
JKA Kamikawa-asahi 65.04 36 P P 00 21 30.6 -0.6
JKA IAmb IAmb 00 22 05.2
comp=Z,39nm,1.0s
KARS Kars 65.10 319 P P 00 21 31.5 -0.3
KARS pmax pmax
comp=Z,281nm,1.5s
KARS Kars 65.10 319 P P 00 21 31.4 -0.3
HNR Honiara 65.14 98 LR LR 00 54 57.2
comp=Z,871nm,18.0s,baz=260,slow=41
HNR Honiara 65.14 98 P P 00 21 30.4 -1.9
HNR pmax pmax
comp=Z,124nm,0.7s
HNR MLR MLR
comp=Z,1µm,19.0s
HNR Honiara 65.14 98 P P 00 21 30.4 -1.9
ZEI Tsey 65.71 321 *e*P P 00 21 36.7 +1.0
ZEI pmax pmax
comp=Z,22nm,1.1s
ASF Jabal al Asfar 65.75 308 P P 00 21 37.1 +1.1
comp=Z,4.6nm,0.6s,baz=243,slow=24,SNR=6.5
MATP Matopo 65.80 250 LR LR 00 45 47.5
comp=Z,1µm,20.4s,baz=70,slow=32
MATP Matopo 65.80 250 *i* P P 00 21 38.0 +1.3
MATP Matopo 65.80 250 *i* P P 00 21 38.0 +1.3
LSZ Lusaka 65.84 255 LR LR 00 46 12.7
comp=Z,2µm,19.6s,baz=94,slow=32
LSZ Lusaka 65.84 255 P P 00 21 36.2 -0.8
LSZ pmax pmax
comp=Z,147nm,1.8s
LSZ Lusaka 65.84 255 P P 00 21 36.2 -0.8
LSZ Lusaka 65.84 255 IAMs_20 IAMs_20 00 45 31.3
comp=Z,2µm,20.0s
LSZ Lusaka 65.84 255 *i* P P 00 21 37.2 +0.2
LSZ Lusaka 65.84 255 *i* P P 00 21 37.2 +0.2
ONI Oni 65.88 321 P P 00 21 37.4 +0.7
ONI pmax pmax
comp=Z,59nm,1.1s
ONI Oni 65.88 321 P P 00 21 37.4 +0.7
ONI IAmb IAmb 00 22 03.7
comp=Z,59nm,1.1s
GRNR Gornyy 65.97 28⇑*i*P P 00 21 37.6 +0.6
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=N,2µm,15.0s
GRNR MLR MLR
comp=Z,3µm,15.0s
NCK Nalchik 66.28 322⇓*e*P P 00 21 40.2 +1.1
NCK pmax pmax
comp=Z,129nm,3.2s
MAW Mawson 66.37 193 LR LR 00 46 46.9
comp=Z,1µm,18.0s,baz=35,slow=32
MAW Mawson 66.37 193 P P 00 21 38.3 -0.9
MAW pmax pmax
comp=Z,112nm,1.8s
MAW Mawson 66.37 193 P P 00 21 38.3 -0.9
MAW IAmb IAmb 00 23 21.1
comp=Z,112nm,1.8s
EIL Elat 66.38 305 P P 00 21 41.3 +1.2
comp=Z,9.9nm,1.0s,baz=146,slow=2.7,SNR=4.6
EIL LR LR 00 49 13.3
comp=Z,2µm,18.9s,baz=102,slow=35
GHAJ Ghor Haditha 66.47 307 P P 00 21 40.0 -0.6
GHAJ IAmb IAmb 00 22 14.5
comp=Z,58nm,1.1s
NEY Neytrino 66.69 321 *ce*P P 00 21 44.5 +2.5
NEY pmax pmax
comp=Z,7.0nm,1.2s
YSS Yuzh-Sakhalins 66.78 34⇑*e*P P 00 21 42.8 +0.6
YSS *e**SP sP 00 21 48.3 +0.6
YSS *e* 00 22 09.4
YSS *e* 00 24 06.0
YSS *e*S S 00 30 32.0 -1.7
YSS pmax pmax
comp=Z,200nm,4.1s
YSS pmax pmax
comp=N,100nm,3.8s
YSS pmax pmax
comp=Z,80nm,1.1s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS MLR MLR
comp=E,600nm,16.0s
YSS Yuzh-Sakhalins 66.78 34 P P 00 21 41.5 -0.8
YSS Yuzh-Sakhalins 66.78 34 P P 00 21 43.5 +1.3
KBZ Khabaz 66.83 322 P P 00 21 43.8 +1.2
comp=E,12nm,0.9s,baz=131,slow=5.2,SNR=20
KBZ LR LR 00 53 34.5
comp=E,643nm,19.5s,baz=125,slow=38
KBZ Khabaz 66.83 322 *ce*P P 00 21 43.6 +1.0
KBZ pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 67.08 322 ⇑P P 00 21 45.6 +1.2
KIV Kislovodsk 67.08 322 *e*P P 00 21 45.6 +1.2
KIV *e* 00 24 13.4
KIV *e*S S 00 30 39.2 +1.5
KIV *e*SS SS 00 34 59.1 +2.1
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,788nm,17.0s
KIV Kislovodsk 67.08 322 P P 00 21 43.9 -0.4
KIV IAmb IAmb 00 22 01.2
comp=Z,49nm,1.0s
KIV Kislovodsk 67.08 322 P P 00 21 45.9 +1.5
KIV P P 00 21 45.9 +1.5
KIV Kislovodsk 67.08 322 *i* P P 00 21 45.1 +0.8
SNR=6.9
SVE Sverdlovsk 67.21 341⇑*e*P P 00 21 44.9 +0.1
SVE *e*S S 00 30 34.6 -4.0
SVE pmax pmax
comp=Z,70nm,1.2s
SVE MLR MLR
comp=Z,2µm,16.0s
MMAI Mount Meron Ar 67.23 309 P P 00 21 44.8 -0.7
comp=Z,2.9nm,0.7s,baz=97,slow=14,SNR=4.2
MMAI LR LR 00 50 35.3
comp=Z,4µm,19.4s,baz=258,slow=36
GOF Gofitskoye 67.45 323⇑*e*P P 00 21 48.3 +1.7
GOF pmax pmax
comp=Z,33nm,1.4s
ARU Arti 67.61 339 LR LR 00 52 41.5
comp=Z,2µm,18.2s,baz=146,slow=37
ARU Arti 67.61 339 *c i*P P 00 21 46.7 -0.6
ARU 00 22 13.8
ARU S S 00 30 45.8 +2.4
ARU 00 31 35.3
ARU SS SS 00 34 56.8 -7.7
ARU pmax pmax
comp=Z,37nm,1.3s
ARU MLR MLR
comp=Z,2µm,15.0s
ARU Arti 67.61 339 P P 00 21 46.5 -0.8
ARU IAMs_20 IAMs_20 00 53 24.1
comp=Z,3µm,18.0s
UGL Uglegorsk 67.67 32 *e*P P 00 21 48.9 +1.1
UGL *e*S S 00 30 48.2 +3.8
UGL pmax pmax
comp=Z,80nm,1.0s
SOC Sochi 68.74 320 *e*P P 00 21 53.5 -1.2
SOC *e*PPP PPP 00 26 01.2
SOC *e*S S 00 30 57.2 -0.2
SOC *e*SS SS 00 35 19.8 -2.8
SOC pmax pmax
comp=Z,21nm,0.6s
SOC MLR MLR
comp=Z,1µm,21.0s
KUR Kuril'sk 68.80 38 P P 00 21 54.9 -0.1
KUR *e* 00 22 18.9
KUR MLR MLR
comp=Z,2µm,14.0s
LBTB Lobatse 68.83 245 LR LR 00 47 03.5
comp=Z,3µm,19.4s,baz=82,slow=32
LBTB Lobatse 68.83 245 P P 00 21 54.5 -1.3
LBTB pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 68.83 245 P P 00 21 54.5 -1.3
LBTB Lobatse 68.83 245 *i* P P 00 21 56.2 +0.4
LBTB Lobatse 68.83 245 *i* P P 00 21 56.2 +0.4
TYV Tymovskoe 69.06 30 *e*P P 00 21 59.9 +3.4
TYV pmax pmax
comp=Z,23nm,1.3s
TYV pmax pmax
comp=Z,600nm,4.9s
BNN Bunyan 69.21 315 P P 00 21 58.0 0.0
BELG Belogornoye 69.28 331 *d i*P P 00 21 58.2 +0.4
BELG pmax pmax
comp=Z,11nm,1.3s
BOSA Boshof 69.47 241 P P 00 21 59.5 -0.3
comp=Z,17nm,1.1s,baz=85,slow=5.8,SNR=12
BOSA LR LR 00 46 07.0
comp=Z,3µm,21.9s,baz=88,slow=30
BOSA Boshof 69.47 241 P P 00 21 58.4 -1.3
BOSA IAmb IAmb 00 22 01.2
comp=Z,94nm,1.6s
BOSA Boshof 69.47 241 *i* P P 00 22 00.1 +0.4
BOSA Boshof 69.47 241 *i* P P 00 22 00.1 +0.4
KOUNC Koumac, New Ca 69.53 110 P P 00 21 59.2 -0.9
KOUNC IAmb IAmb 00 22 33.2
comp=Z,38nm,1.0s
KOUNC Koumac, New Ca 69.53 110 P P 00 22 02.5 +2.5
CSS Mathiatis 69.55 310 P P 00 21 59.9 -0.1
CSS IAmb IAmb 00 22 14.8
comp=Z,78nm,1.2s
ANN Anapa 70.77 321 *e*P P 00 22 08.5 +1.4
ANN *e*S S 00 31 21.8 +0.6
ANN pmax pmax
comp=Z,85nm,1.4s
ANN MLR MLR
comp=Z,1µm,18.0s
BR131 Keskin Array S 71.13 315 *d i*P P 00 22 09.4 -0.3
BR131 Keskin Array S 71.13 315 P P 00 22 09.2 -0.5
BR131 Keskin Array S 71.13 315 P P 00 22 12.8 +3.2
SNR=6.6
BR131 P P 00 22 12.8 +3.2
SNR=6.6
BRTR Keskin Array B 71.13 315 P P 00 22 09.3 -0.3
comp=Z,6.0nm,0.5s,baz=132,slow=7.1,SNR=25
BRTR LR LR 00 55 33.2
comp=Z,3µm,19.2s,baz=114,slow=38
BRTR Keskin Array B 71.13 315 P P 00 22 09.1 -0.5
VRH Novokhopyorsk 71.54 328 *e*P P 00 22 11.2 -0.5
VRH pmax pmax
comp=Z,30nm,0.7s
DZM Mont Dzumac 71.60 112 LR LR 00 55 36.6
comp=Z,3µm,18.4s,baz=261,slow=38
DZM Mont Dzumac 71.60 112 *e*P P 00 22 12.6 -0.2
comp=Z,81nm,1.5s
DZM *e*S S 00 31 27.7 -4.3
comp=Z,295nm,28.9s
DZM Mont Dzumac 71.60 112 *e*LR LR 00 43 58.6
comp=Z,4µm,24.2s
DZM Mont Dzumac 71.60 112 P P 00 22 12.3 -0.5
BZK Bozkurt 71.77 317 P P 00 22 13.3 0.0
ANTO Ankara 71.79 315 P P 00 22 13.5 0.0
ANTO pmax pmax
comp=Z,44nm,1.3s
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara 71.79 315 P P 00 22 13.5 0.0
ANTO IAmb IAmb 00 22 48.8
comp=Z,44nm,1.2s
ANTO IAMs_20 IAMs_20 00 55 32.9
comp=Z,2µm,20.0s
BR231 Keskin MP Arra 71.79 315 P P 00 22 12.5 -1.1
BR231 IAmb IAmb 00 22 58.7
comp=Z,60nm,1.5s
YAK Yakutsk 71.84 17 LR LR 00 56 04.2
comp=Z,1µm,18.2s,baz=232,slow=38
YAK Yakutsk 71.84 17 *e*P P 00 22 12.2 -1.1
YAK *e**PP sP 00 22 20.5 +1.7
YAK *e* 00 22 27.5
YAK *e* 00 24 50.8
YAK *e*S S 00 31 30.3 -2.6
YAK *e* 00 32 13.4
YAK pmax pmax
comp=Z,120nm,0.9s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=E,21nm,1.0s
YAK pmax pmax
comp=Z,216nm,3.5s
YAK pmax pmax
comp=N,65nm,2.8s
YAK pmax pmax
comp=E,52nm,2.2s
YAK smax smax
comp=E,166nm,4.1s
YAK smax smax
comp=N,365nm,4.4s
YAK MLR MLR
comp=Z,1µm,19.0s
YAK MLR MLR
comp=N,559nm,17.0s
YAK MLR MLR
comp=E,1µm,18.0s
YAK Yakutsk 71.84 17 P P 00 22 13.0 -0.2
KIRV Kirov 72.56 337 LR LR 00 55 09.9
comp=E,2µm,20.1s,baz=139,slow=37
KIRV Kirov 72.56 337 *de*P P 00 22 17.9 +0.3
ISP Isparta 72.69 312 IAMs_20 IAMs_20 00 57 11.2
comp=Z,2µm,18.0s
VORD Divnogorie 72.71 327 *e*P P 00 22 18.0 -0.7
VORD pmax pmax
comp=Z,8.0nm,0.6s
ELL Elmali 72.78 311 P P 00 22 19.7 +0.1
ELL pmax pmax
comp=Z,599nm,1.8s
ELL Elmali 72.78 311 P P 00 22 19.7 +0.1
SIM Simferopol' 72.94 320 *c i*P P 00 22 20.0 -0.2
SIM *e* 00 22 36.0
SIM pmax pmax
comp=Z,23nm,0.8s
VORR Voronezh 73.12 328 *e*P P 00 22 19.5 -1.6
VORR pmax pmax
comp=Z,20nm,0.6s
MDUB Mudurnu 73.15 315 P P 00 22 21.1 -0.6
SYO Syowa Base 73.56 198⇑*e*P P 00 22 24.0 +0.6
SUR Sutherland 73.64 238 LR LR 00 48 12.1
comp=Z,4µm,21.6s,baz=96,slow=30
SUR Sutherland 73.64 238 P P 00 22 24.1 -0.8
LPSR Galich'ya Gora 73.75 328 *e*P P 00 22 24.3 -0.5
LPSR pmax pmax
comp=Z,20nm,0.8s
NRIK Noril'sk 74.04 357 P P 00 22 26.4 +0.2
comp=Z,32nm,1.1s,baz=165,slow=5.2,SNR=34
NRIK LR LR 00 59 43.3
comp=Z,1µm,18.3s,baz=176,slow=40
NRIK Noril'sk 74.04 357 *c i*P P 00 22 26.2 0.0
NRIK pmax pmax
comp=Z,56nm,1.2s
NRIK Noril'sk 74.04 357 P P 00 22 25.8 -0.4
NRIK IAmb IAmb 00 22 28.9
comp=Z,50nm,1.1s
KARP Karpathos 74.51 309 P P 00 22 29.7 0.0
KARP IAMs_20 IAMs_20 00 56 42.0
comp=Z,3µm,21.0s
PRGR Permogore 76.00 338⇓*i*P P 00 22 37.6 0.0
PRGR pmax pmax
comp=Z,63nm,0.8s
MOS Moscow 76.03 331 *e*P P 00 22 37.0 -0.9
MOS *e* 00 22 55.1
MOS *e* 00 25 24.7
MOS *e*S S 00 32 17.1 -3.2
MOS *e* 00 32 47.4
MOS pmax pmax
comp=Z,300nm,2.0s
MOS pmax pmax
comp=Z,91nm,1.4s
MOS MLR MLR
comp=N,2µm,20.0s
MOS MLR MLR
comp=E,2µm,20.0s
MOS MLR MLR
comp=Z,2µm,20.0s
TSUM Tsumeb 76.03 251 LR LR 00 51 57.0
comp=Z,3µm,20.4s,baz=84,slow=32
TSUM Tsumeb 76.03 251 P P 00 22 37.9 -1.0
TSUM IAmb IAmb 00 22 40.8
comp=Z,36nm,1.1s
TSUM Tsumeb 76.03 251 IAMs_20 IAMs_20 00 51 55.8
comp=Z,3µm,20.0s
MANR Mangalia 76.16 317 ⇓P P 00 22 39.0 +0.1
IDI Anoyia 76.21 308 P P 00 22 39.8 +0.2
comp=Z,8.4nm,0.6s,baz=95,slow=4.4,SNR=12
IDI LR LR 00 57 38.8
comp=Z,846nm,20.3s,baz=84,slow=37
IDI Anoyia 76.21 308 P P 00 22 39.1 -0.4
IDI IAmb IAmb 00 22 49.9
comp=Z,46nm,1.1s
OBN Obninsk 76.23 330 LR LR 00 59 41.3
comp=Z,470nm,18.5s,baz=126,slow=38
OBN Obninsk 76.23 330 *c i*P P 00 22 38.5 -0.5
OBN *i* 00 22 46.6
OBN *i* 00 25 31.5
OBN *i* S S 00 32 12.8 -10
OBN pmax pmax
comp=Z,77nm,2.0s
OBN MLR MLR
comp=Z,3µm,23.0s
OBN Obninsk 76.23 330 P P 00 22 39.1 +0.1
OBN IAmb IAmb 00 23 02.4
comp=Z,101nm,1.6s
OBN IAMs_20 IAMs_20 00 59 19.3
comp=Z,2µm,18.0s
SKR Severo-Kuril's 76.26 35⇑*e*P P 00 22 41.0 +1.7
JURR Jurilovca 76.30 318 ⇑P P 00 22 39.0 -0.7
TIRR Tirgusor 76.50 318 ⇑P P 00 22 41.0 +0.1
TIRR Tirgusor 76.50 318 P P 00 22 40.4 -0.5
TIRR pmax pmax
comp=Z,116nm,1.5s
TIRR MLR MLR
comp=Z,3µm,22.0s
TIRR Tirgusor 76.50 318 P P 00 22 40.4 -0.5
TIRR IAmb IAmb 00 22 59.3
comp=Z,116nm,1.5s
TIRR IAMs_20 IAMs_20 00 57 09.6
comp=Z,3µm,22.0s
TPGR Topolog 76.64 318 ⇑P P 00 22 40.5 -1.2
TLBR Topalu 76.78 318 ⇑P P 00 22 42.0 -0.4
ICOR Ion Corvin 76.80 317 ⇑P P 00 22 43.4 +0.8
HARR Harsova 76.91 318 ⇑P P 00 22 41.6 -1.5
HARR Harsova 76.91 318 P P 00 22 41.6 -1.5
CFR Carcaliu 76.94 318 ⇑P P 00 22 43.4 +0.1
CFR Carcaliu 76.94 318 P P 00 22 43.4 +0.1
ALN Alexandroupoli 76.97 314 P P 00 22 42.6 -1.0
ALN pmax pmax
comp=Z,34nm,1.2s
ALN Alexandroupoli 76.97 314 P P 00 22 42.6 -1.0
RPZ Rata Peaks 77.11 134 LR LR 00 56 18.9
comp=Z,4µm,18.9s,baz=274,slow=35
MILM Milestii Mici 77.12 320 ⇑P P 00 22 44.0 -0.3
MILM Milestii Mici 77.12 320 P P 00 22 44.0 -0.3

LEOM Leova 77.33 320 ⇑P P 00 22 45.9 +0.4
LEOM Leova 77.33 320 P P 00 22 45.8 +0.4
KDZ Kurdzhali 77.66 314 *i* P P 00 22 48.5 +1.0
DIM Dimitrovgrad 77.70 315 *i* P P 00 22 47.0 -0.6
PETR Petresti 77.73 319 ⇑P P 00 22 52.8 +5.1
MA2 Magadan 77.83 26 P P 00 22 47.3 -0.6
comp=Z,26nm,0.8s,baz=224,slow=5.8,SNR=24
MA2 LR LR 00 59 12.3
comp=Z,2μm,20.1s,baz=242,slow=37
MA2 Magadan 77.83 26*c* *i*P P 00 22 48.0 0.0
MA2 pmax pmax
comp=Z,38nm,1.0s
MA2 Magadan 77.83 26 P P 00 22 47.4 -0.6
MA2 IAmb IAmb 00 22 50.2
comp=Z,30nm,0.8s
MA2 IAMs_20 IAMs_20 00 59 00.7
comp=Z,2μm,20.0s
MA2 Magadan 77.83 26 P P 00 22 48.5 +0.5
SORM Soroca 77.86 321 ⇑P P 00 22 48.1 -0.3
SORM Soroca 77.86 321 P P 00 22 48.1 -0.3
KLMR Klimovskoe 77.91 336 *e*P P 00 22 47.1 -1.3
KLMR *e*S S 00 32 39.6 -1.1
KLMR *e*SS SS 00 37 37.3 -4.4
KLMR pmax pmax
comp=Z,16nm,0.9s
KLMR Klimovskoe 77.91 336 *e*P P 00 22 47.2 -1.2
KLMR AMP 00 22 51.9
comp=Z,16nm,0.9s
KLMR *e*S S 00 32 39.6 -1.1
KLMR *e*S S 00 32 39.6 -1.1
KLMR *e*SS SS 00 37 37.4 -4.3
KLMR *e*SS SS 00 37 37.4 -4.3
KLMR LQ LQ 00 52 28.2
KLMR LQ LQ 00 52 28.2
KLMR LR LR 00 55 49.6
BISRR Bisoca 78.01 318 ⇑P P 00 22 51.0 +1.6
IAS Iasi 78.02 320 P P 00 22 50.0 +0.7
IAS pmax pmax
comp=Z,74nm,0.9s
VRI Vrincioaia 78.11 319 ⇑P P 00 22 51.3 +1.4
VRI Vrincioaia 78.11 319 P P 00 22 50.7 +0.8
VRI pmax pmax
comp=Z,57nm,1.1s
PLOR Plostina 78.15 319 ⇑P P 00 22 51.4 +1.2
PLOR Plostina 78.15 319 P P 00 22 51.4 +1.2
PEA0B Petropavlovsk- 78.17 33*c* *e*P P 00 22 50.8 +0.7
PETK Petropavlovsk- 78.17 33 P P 00 22 49.2 -0.9
comp=Z,16nm,0.9s,baz=219,slow=9.0,SNR=12
PETK LR LR 00 58 47.1
comp=Z,935nm,19.5s,baz=236,slow=37
PETK Petropavlovsk- 78.17 33 P P 00 22 49.8 -0.3
PETK Petropavlovsk- 78.17 33 P P 00 22 49.8 -0.3
NEHR Nehoiu 78.25 318 ⇑P P 00 22 51.5 +0.8
SECR 78.27 318 ⇑P P 00 22 51.9 +1.1
AKASG Malin Array Be 78.29 324 P P 00 22 50.7 0.0
comp=Z,3.0nm,0.4s,baz=94,slow=4.1,SNR=45
AKASG LR LR 00 58 44.8
comp=Z,2μm,21.9s,baz=106,slow=37
AKASG Malin Array Be 78.29 324 P P 00 22 50.1 -0.6
AKBB Malin Array Si 78.29 324*d* *i*P P 00 22 50.5 -0.2
AKBB pmax pmax
comp=Z,20nm,1.1s
AKBB Malin Array Si 78.29 324 P P 00 22 50.3 -0.4
TESR Tescani 78.37 319 ⇑P P 00 22 51.7 +0.3
MLR Muntele Rosu 78.50 318 ⇑P P 00 22 53.5 +1.2
MLR Muntele Rosu 78.50 318 P P 00 22 53.4 +1.2
comp=Z,25nm,0.7s,baz=216,slow=1.1,SNR=68
MLR LR LR 01 01 26.8
comp=Z,2μm,18.9s,baz=88,slow=39
MLR Muntele Rosu 78.50 318 P P 00 22 52.6 +0.4
MLR IAmb IAmb 00 23 29.8
comp=Z,63nm,1.1s
MLR IAMs_20 IAMs_20 01 00 47.5
comp=Z,3μm,20.0s
PET Petropavlovsk 78.66 34 *e*P P 00 22 52.8 +0.1
PET *e* 00 23 01.3
PET *e* 00 25 50.5
PET *e*S S 00 32 47.1 -2.0
PET *e*PS PnS 00 33 26.0 -6.0
PET *e*PPS PPS 00 33 44.0
PET *e*SS SS 00 37 58.0 +4.6
PET pmax pmax
comp=Z,74nm,0.9s
PET Petropavlovsk 78.66 34 P P 00 22 51.9 -0.8
PET IAmb IAmb 00 22 55.2
comp=Z,64nm,1.1s
PET Petropavlovsk 78.66 34 P P 00 22 53.1 +0.4
HUMR Humele 78.84 317 ⇑P P 00 22 54.6 +0.7
PRAR RASCA 78.93 320 ⇑P P 00 22 55.2 +0.8
ITM Ithomi 79.02 309 P P 00 22 54.2 -0.9
ITM IAmb IAmb 00 23 21.4
comp=Z,64nm,1.3s
DOPR Dopca 79.02 318 ⇑P P 00 22 55.6 +0.7
VLAD Vladila 79.08 316 ⇑P P 00 22 55.6 +0.3
VOIR 79.08 318 ⇑P P 00 22 55.4 0.0
AGG Agios Georgios 79.18 311 P P 00 22 54.6 -1.4
AGG pmax pmax
comp=Z,141nm,2.0s
AGG Agios Georgios 79.18 311 P P 00 22 54.5 -1.4
AGG IAmb IAmb 00 23 14.1
comp=Z,141nm,2.0s
ARR Arges 79.34 318 ⇑P P 00 22 56.7 0.0
LIT Litokhoron 79.34 312 P P 00 22 55.3 -1.6
LIT pmax pmax
comp=Z,32nm,1.4s
LIT Litokhoron 79.34 312 P P 00 22 55.2 -1.6
TIXI Tiksi 79.46 11*c* *i*P P 00 22 56.3 -0.4
TIXI pmax pmax
comp=Z,47nm,0.8s
TIXI Tiksi 79.46 11 P P 00 22 56.1 -0.7
TIXI IAmb IAmb 00 22 58.9
comp=Z,44nm,0.8s
TIXI IAMs_20 IAMs_20 01 04 53.9
comp=Z,1μm,18.0s
VTS Vitosha 79.49 315 ⇑P P 00 22 57.8 0.0
VTS Vitosha 79.49 315 P P 00 22 56.7 -1.1
VTS pmax pmax
comp=Z,24nm,1.3s
VTS Vitosha 79.49 315 P P 00 22 56.7 -1.1
VTS Vitosha 79.49 315 *i* P P 00 22 58.1 +0.3
VAY Valandovo 79.61 313 *i* P P 00 22 58.9 +0.7
BURAR Bucovina Array 79.66 320 ⇑P P 00 22 59.3 +0.8
BURAR Bucovina Array 79.66 320 P P 00 22 59.8 +1.3
BURAR pmax pmax
comp=Z,14nm,0.7s
BURAR Bucovina Array 79.66 320 P P 00 22 59.0 +0.5
BUR08 Bucovina Ar. S 79.68 320 P P 00 22 59.4 +0.8
LOT Lotru 79.94 318 ⇑P P 00 22 59.8 -0.3
STIP Stip 79.99 314 *i* P P 00 22 59.3 -0.9
PUNG Punghina 80.17 316 ⇑P P 00 23 02.1 +0.9
SEY Seymchan 80.26 23 P P 00 23 01.5 +0.3
comp=Z,13nm,0.8s,baz=245,slow=6.2,SNR=27
SEY LR LR 01 01 01.5
comp=Z,2μm,19.8s,baz=237,slow=38
SEY Seymchan 80.26 23 ⇑*i*P P 00 23 01.2 0.0
FNA Florina 80.34 313 P P 00 23 00.7 -1.6
FNA pmax pmax
comp=Z,25nm,1.4s
FNA Florina 80.34 313 P P 00 23 00.7 -1.6
MNK Minsk 80.49 327 *i* P P 00 22 59.6 -3.0
MNK *i* 00 26 01.6
MNK *i*S S 00 33 06.0 -2.3
MNK *i*SS SS 00 38 16.5 -4.1
MNK *i*SSS SSS 00 41 42.7
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=E,237nm,23.0s
MNK MLR MLR
comp=Z,2μm,23.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK Minsk 80.49 327 *i* P P 00 22 59.7 -3.0
comp=E,2.0nm,1.1s
MNK *i* P P 00 22 59.7 -3.0
comp=N,8.0nm,0.8s
MNK *i* P P 00 22 59.7 -3.0
comp=Z,15nm,0.8s,baz=293
MNK *i* PP PP 00 26 01.6 -4.4
MNK *i* PPP PPP 00 27 50.8
MNK *i*S S 00 33 06.0 -2.3
MNK *i*SS SS 00 38 16.6 -4.1
MNK *i*SSS SSS 00 41 42.7
MNK *i*LQ LQ 00 52 45.2
MNK *i*LR LR 00 56 25.2
MNK *i*LRM MLR 01 00 24.1
comp=E,237nm,23.1s
MNK *i*LRM MLR 01 00 24.1
comp=Z,2μm,23.1s
MNK *i*LRM MLR 01 01 26.3
comp=N,1μm,20.2s
GZR Gura Zlata 80.59 317 ⇑P P 00 23 04.0 +0.5
SKO Skopje 80.60 314 *i* P P 00 23 03.3 -0.2
VNDA Vanda 80.63 168 P P 00 23 03.8 +0.7
comp=N,10nm,1.1s,baz=297,slow=6.1,SNR=6.7
VNDA LR LR 00 53 18.9
comp=N,2μm,20.7s,baz=299,slow=32
VNDA Vanda 80.63 168 P P 00 23 02.0 -1.0
DEV Deva 80.65 318 ⇑P P 00 23 04.7 +1.0
DEV Deva 80.65 318 P P 00 23 05.7 +2.0
DEV pmax pmax
comp=Z,41nm,1.7s
HERR Herculane 80.70 317 ⇑P P 00 23 04.2 +0.3
KBN Korca 80.73 312 P P 00 23 02.9 -1.5
KBN pmax pmax
comp=Z,28nm,1.0s
KBN Korca 80.73 312 P P 00 23 02.9 -1.5
BMR Baia Mare 80.79 320 ⇑P P 00 23 05.1 +0.7
OHR Ohrid 80.85 313 *i* P P 00 23 04.7 -0.3
BOVS Bovan 80.85 315 ⇑P P 00 23 04.1 -0.8
BKZ Black Stump Fm 80.91 129 P P 00 23 04.4 -1.0
BKZ Black Stump Fm 80.91 129 P P 00 23 05.4 0.0
DRGR 81.04 319 ⇑P P 00 23 06.3 +0.4
DRGR 81.04 319 P P 00 23 07.1 +1.2
DRGR pmax pmax
comp=Z,13nm,1.4s
LVV L'vov 81.10 322 *e*P P 00 23 05.6 -0.5
LVV *e* 00 23 15.0
LVV *e*S S 00 33 12.4 -2.6
LVV *e* 00 34 06.0
LVV MLR MLR
comp=N,500nm,20.0s
LVV MLR MLR
comp=E,800nm,20.0s
LVV MLR MLR
comp=Z,900nm,20.0s
MDVR Moldovita 81.15 317 ⇑P P 00 23 07.6 +1.1
NACGM Naroch 81.23 327 *i* P P 00 23 07.9 +1.3
URZ Urewera 81.38 128 LR LR 00 57 57.3
comp=Z,2μm,19.8s,baz=284,slow=35
IDID Didziasalis 81.40 328 *e*P P 00 23 08.7 +1.2
BZS Buzias 81.44 317 ⇑P P 00 23 08.5 +0.5
TRPA Tarpa 81.53 320 ⇑P P 00 23 09.2 +0.8
TRPA Tarpa 81.53 320 P P 00 23 09.2 +0.8
TIR Tirane 81.59 313 IAMs_20 IAMs_20 01 02 30.3
comp=Z,2μm,18.0s
IIGN Ignalina 81.69 328 *e*P P 00 23 10.3 +1.3
SBA Scott Base 81.73 168 P P 00 23 08.2 -0.7
SBA pmax pmax
comp=Z,112nm,1.4s
SBA Scott Base 81.73 168 P P 00 23 08.2 -0.7
SBA IAmb IAmb 00 23 22.7
comp=Z,112nm,1.4s
LTVH Ltavrtes, Hu 81.74 319 P P 00 23 09.6 +0.2
ISAL Salakas 81.82 328 *e*P P 00 23 11.7 +2.0
UZH Uzhgorod 81.84 320 *e*P P 00 23 08.4 -1.5
UZH *e* 00 23 11.1
UZH *i* 00 23 17.2
UZH *e*PPP PPP 00 28 07.5
UZH *e*S S 00 33 17.8 -4.8
UZH *e*PS PnS 00 34 06.5 -5.4
UZH *e*SSS SSS 00 42 09.8
KWP Kalwaria Pacla 81.87 321 *e*P P 00 23 11.7 +1.6
KWP Kalwaria Pacla 81.87 321 P P 00 23 10.0 -0.1
KWP MLR MLR
comp=Z,11μm,20.0s
KWP Kalwaria Pacla 81.87 321 P P 00 23 10.0 -0.1
DIVS Divibare 82.17 316 P P 00 23 11.7 -0.2
DIVS IAmb IAmb 00 23 56.6
comp=Z,45nm,1.2s
DIVS IAMs_20 IAMs_20 01 03 09.5
comp=Z,1μm,19.0s
PDG Podgorica 82.29 314 ⇑P P 00 23 12.9 +0.5
PDG Podgorica 82.29 314 P P 00 23 12.3 -0.2
PDG IAmb IAmb 00 23 40.8
comp=Z,29nm,1.0s
PDG IAMs_20 IAMs_20 01 05 46.6
comp=Z,1μm,18.0s
CRVS Cervenica-Dubn 82.44 320 *e*P P 00 23 14.7 +1.5
CRVS pmax pmax
comp=Z,24nm,1.3s
CRVS Cervenica-Dubn 82.44 320 *e*P P 00 23 14.7 +1.5
MSVF Nonsavu 82.54 107 LR LR 01 01 02.7
comp=Z,2μm,19.7s,baz=223,slow=36
FRGS Fruska Gora 82.55 317 ⇑P P 00 23 13.6 -0.3
VSU Vasula 82.55 331*c* *e*P P 00 23 13.9 +0.4
VSU Vasula 82.55 331 *e*P P 00 23 13.9 +0.4
BSZH Beseny szg 82.78 319 P P 00 23 15.5 +0.6
SUW Suwalki 82.91 326 *e*P P 00 23 16.2 +0.8
SUW Suwalki 82.91 326 P P 00 23 15.8 +0.4
SUW pmax pmax
comp=Z,76nm,1.2s
SUW MLR MLR
comp=Z,2μm,21.0s
SUW Suwalki 82.91 326 P P 00 23 15.8 +0.4
SUW IAMs_20 IAMs_20 01 02 06.0
comp=Z,2μm,21.0s
SUW Suwalki 82.91 326 *e*P P 00 23 15.2 -0.2
KECS Kecovo 82.95 320 *e*P P 00 23 16.0 +0.2
KECS *e* 00 23 19.1
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 82.95 320 *e*P P 00 23 16.0 +0.2
KECS Kecovo 82.95 320 *e*P P 00 23 19.1 +3.3
PABE Paberze 82.95 327 IAMs_20 IAMs_20 01 01 36.0
comp=Z,2μm,21.0s
PABE Paberze 82.95 327 *e*P P 00 23 15.9 +0.3
NVL N'lazarevskaya 83.13 199 ⇓*i*P P 00 23 21.4 +5.1
NVL pmax pmax
comp=Z,125nm,1.6s
PSZ Piszkesteto 83.19 319 P P 00 23 16.7 -0.4
PSZ pmax pmax
comp=Z,42nm,1.5s
PSZ MLR MLR
comp=Z,1μm,22.0s
PSZ Piszkesteto 83.19 319 P P 00 23 16.7 -0.4
PSZ IAmb IAmb 00 23 36.2
comp=Z,42nm,1.5s
PSZ IAMs_20 IAMs_20 01 01 20.5
comp=Z,1μm,22.0s
PSZ Piszkesteto 83.19 319 P P 00 23 17.4 +0.2
LVZ Lovozero 83.43 341 P P 00 23 18.4 +0.5
LVZ pmax pmax
comp=Z,56nm,1.3s
LVZ MLR MLR
comp=Z,3μm,18.0s
LVZ Lovozero 83.43 341 P P 00 23 18.4 +0.5
LVZ IAmb IAmb 00 24 04.3
comp=Z,56nm,1.3s
TIP Timpagrande 83.43 310 IAMs_20 IAMs_20 01 03 18.2
comp=Z,1μm,20.0s
IZAB Izabela 83.47 320 *e*P P 00 23 20.1 +1.6
IZAB pmax pmax
comp=Z,8.0nm,0.9s
MORH Mrgy, Hungar 83.60 317 P P 00 23 19.4 +0.2
BUD Budapest 83.65 319 P P 00 23 20.8 +1.4
APA Apatity 83.68 340 ⇓*i*P P 00 23 24.0 +4.9
APA pmax pmax
comp=Z,11nm,0.9s
OJC Ojcow 83.84 321 P P 00 23 20.7 +0.4
OJC pmax pmax
comp=Z,29nm,1.3s
OJC Ojcow 83.84 321 P P 00 23 20.7 +0.4
OJC IAmb IAmb 00 23 39.8
comp=Z,28nm,1.3s
KOVH Kovagotottos 83.94 317 P P 00 23 21.5 +0.6
FIA1 FINESS Array S 83.96 333 P P 00 23 20.7 0.0
FIA1 IAmb IAmb 00 23 31.0
comp=Z,67nm,1.6s
FINES FINESS Array B 83.96 333 P P 00 23 19.7 -1.0
comp=Z,6.3nm,0.8s,baz=108,slow=6.2,SNR=13
FINES LR LR 01 02 56.8
comp=Z,3μm,20.5s,baz=112,slow=37
VYHS Vyhne 84.02 320 *e*P P 00 23 23.1 +1.8
VYHS pmax pmax
comp=Z,51nm,1.8s
VYHS Vyhne 84.02 320 *e*P P 00 23 23.1 +1.8
CSKK Cskako 84.12 318 P P 00 23 22.6 +0.8
SRO2 Moca 84.13 319 *e*P P 00 23 22.7 +0.9
SRO2 Moca 84.13 319 *e*P P 00 23 22.6 +0.8
SRO Srobarova 84.19 319 *e*P P 00 23 23.7 +1.5
SRO Srobarova 84.19 319 *e*P P 00 23 23.6 +1.4
KOLL Kolacno 84.31 320 *e*P P 00 23 24.4 +1.6
MSF Maaselka 84.49 338 P P 00 23 25.0 +1.7
MSF pmax pmax
comp=Z,26nm,1.3s
MPLH Magyarpolny 84.56 318 P P 00 23 24.6 +0.6
SGRT San Giovanni R 84.70 313 P P 00 23 24.9 -0.1
SGRT IAmb IAmb 00 24 41.9
comp=Z,56nm,1.3s
EGYH Egyhazaskeszo 84.75 318 P P 00 23 26.8 +1.8
OKC Ostrava-Krasne 84.77 321 AMS AMS 01 00 50.0
comp=Z,1μm,23.5s
JAVC Velka Javorina 84.85 320 *e*P P 00 23 27.9 +2.3
SMOL Smolenice 84.93 319 *e*P P 00 23 27.9 +2.0
SMOL Smolenice 84.93 319 *e*P P 00 23 27.9 +2.0
ZST Bratislava 85.07 319 *e*P P 00 23 28.6 +2.0
ZST Bratislava 85.07 319 *e*P P 00 23 28.6 +2.0
MORC Moravsky Berou 85.14 321 ⇑P P 00 23 28.0 +1.0
MORC Moravsky Berou 85.14 321 P P 00 23 27.0 0.0
MORC pmax pmax
comp=Z,48nm,1.9s
MORC Moravsky Berou 85.14 321 P P 00 23 27.0 0.0
MORC IAmb IAmb 00 23 47.3
comp=Z,48nm,1.9s
MORC Moravsky Berou 85.14 321 *e*P P 00 23 28.4 +1.4
QSPA South Pole Qui 85.27 180 P P 00 23 27.4 -0.1
QSPA IAmb IAmb 00 23 49.8
comp=Z,42nm,1.3s
QSPA South Pole Qui 85.27 180 IAMs_20 IAMs_20 00 57 39.4
comp=Z,1μm,19.0s
SOP Sopron 85.32 318 P P 00 23 29.4 +1.5
SOP pmax pmax
comp=Z,12nm,1.2s
SOP Sopron 85.32 318 P P 00 23 28.2 +0.4
OUL Oulu 85.37 337 P P 00 23 29.1 +1.4
OUL pmax pmax
comp=Z,28nm,1.4s
VRAC Vranov 85.64 320 P P 00 23 28.5 -1.0
comp=Z,2.3nm,0.4s,baz=128,slow=10,SNR=4.7
VRAC LR LR 01 04 53.7
comp=Z,1μm,20.3s,baz=102,slow=38
VRAC Vranov 85.64 320 *e*P P 00 23 30.8 +1.3
RAO Raoul Island 85.70 119 LR LR 00 58 49.2
comp=Z,2μm,21.1s,baz=226,slow=34
KRUC Moravsky 85.72 320 P P 00 23 31.4 +1.6
KRUC pmax pmax
comp=Z,12nm,1.5s
KRUC Moravsky 85.72 320 *e*P P 00 23 31.1 +1.3
CONA Conrad Observa 85.83 319 *e*P P 00 23 31.4 +0.8
comp=Z,10nm,1.7s
ARSA Arzberg 85.92 318 *i* P P 00 23 32.5 +1.6
comp=Z,2.2nm,0.9s,SNR=6.7
DPC Dobruska-Polom 86.03 321 *e*P P 00 23 31.9 +0.5
DPC MLR MLR
comp=Z,1μm,16.5s
DPC Dobruska-Polom 86.03 321 *e*P P 00 23 31.9 +0.5
DPC *ex* x 00 23 49.7
DPC AMS AMS 01 06 10.0
comp=Z,1μm,16.5s
SOKA Soboth 86.14 317 *i* P P 00 23 33.5 +1.4
comp=Z,24nm,1.2s,SNR=12
OSTC Ostas 86.14 321 *e*P P 00 23 33.0 +1.0
OSTC *ex* x 00 23 37.6
OSTC AMS AMS 01 06 20.0
comp=Z,1μm,21.3s
KSP Ksiaz 86.16 322 *e*P P 00 23 34.0 +2.0
KSP Ksiaz 86.16 322 P P 00 23 33.9 +2.0
KSP pmax pmax
comp=Z,20nm,1.2s
CHVC Chvalec 86.25 321 *e*P P 00 23 33.4 +0.9
CHVC AMS AMS 01 05 50.0
comp=Z,900nm,16.3s
UPC Upice 86.26 321 AMS AMS 01 05 40.0
comp=Z,1μm,19.0s
TREC Trest 86.35 320 AMS AMS 00 58 50.0
comp=Z,3μm,35.5s
OBKA Obir 86.43 317 *e*P P 00 23 36.1 +2.5
comp=Z,8.4nm,1.0s
AQU L'Aquila 86.52 313 P P 00 23 33.8 -0.3
AQU pmax pmax
comp=Z,158nm,1.8s
AQU L'Aquila 86.52 313 P P 00 23 33.8 -0.3
NRCA Norcia 86.81 313 P P 00 23 34.3 -1.2
NRCA IAmb IAmb 00 24 14.0
comp=Z,31nm,1.2s
CKRC Cesky Krumlov 87.02 319 *e*P P 00 23 37.0 +0.7
CKRC *ex* x 00 23 45.7
CKRC *ex* x 00 23 53.0
MYKA Terra Mystica 87.07 317 *e*P P 00 23 38.3 +1.6
comp=Z,18nm,1.6s
PRU Pruhonice 87.08 320 AMS AMS 00 59 40.0
comp=Z,2μm,31.9s
ARCES ARCESS Array B 87.15 341 P P 00 23 36.2 -0.2
comp=Z,11nm,0.9s,baz=73,slow=4.1,SNR=8.7
ARCES LR LR 01 04 20.2
comp=Z,2μm,19.5s,baz=122,slow=37
ARCES ARCESS Array B 87.15 341 P P 00 23 36.9 +0.5
ARCES pmax pmax
comp=Z,147nm,1.8s
ARCES ARCESS Array B 87.15 341 P P 00 23 36.9 +0.5
PVCC Panska Ves 87.17 321 P P 00 23 38.9 +2.0
PVCC pmax pmax
comp=Z,16nm,2.3s
PVCC Panska Ves 87.17 321 AMS AMS 01 03 00.0
comp=Z,1μm,20.8s
KBA Koelnbreinsper 87.35 317 *e*P P 00 23 39.5 +1.3
comp=Z,13nm,1.6s
GERES GERESS Array B 87.42 319 P P 00 23 38.1 -0.2
comp=Z,3.8nm,0.8s,baz=230,slow=6.3,SNR=24
KHC Kasperske Hory 87.55 320 ⇓*e*P P 00 23 40.3 +1.4
KHC pmax pmax
comp=Z,73nm,2.2s
KHC Kasperske Hory 87.55 320 *e*P P 00 23 39.2 +0.3
KHC *ex* x 00 23 46.2
KHC AMS AMS 01 05 30.0
comp=Z,2μm,22.4s
KHC Kasperske Hory 87.55 320 P P 00 23 37.8 -1.1
KHC IAmb IAmb 00 23 42.5
comp=Z,32nm,1.5s
BRG Berggiesshubel 87.62 321 *e*P P 00 23 40.8 +1.6
BRG Amp 00 23 42.7
comp=Z,39nm,1.8s
BRG *ex* x 00 23 55.2
BRG Amp 00 23 59.6
comp=Z,52nm,1.9s
BRG Amp 01 03 35.0
comp=Z,1.1nm,19.1s
BRG Berggiesshubel 87.62 321 *e*P P 00 23 40.7 +1.6
BRG pmax pmax
comp=Z,39nm,1.8s
BRG MLR MLR
comp=Z,1μm,19.1s
BRG Berggiesshubel 87.62 321 *e*P P 00 23 40.9 +1.8
comp=Z,4.9nm,0.9s,baz=98,slow=4.7
BILL Bilibino 87.64 21 ⇓*i*P P 00 23 37.4 -1.4
BILL *i* 00 23 43.8
BILL *i* 00 27 05.6
BILL *i*S SKSac 00 34 01.2 -4.6
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,946nm,16.0s
BILL Bilibino 87.64 21 P P 00 23 38.6 -0.2
BILL IAMs_20 IAMs_20 01 08 59.5
comp=Z,946nm,18.0s
SNAA Sanae 87.84 198 P P 00 23 41.8 +1.9
SNAA Sanae 87.84 198 LR LR 00 57 16.7
comp=Z,316nm,19.4s,baz=88,slow=32
SNAA Sanae 87.84 198*c* *i*P P 00 23 41.3 +1.4
SNAA pmax pmax
comp=Z,158nm,1.7s
SNAA Sanae 87.84 198 P P 00 23 39.4 -0.5
ABTA Abfaltersbach 87.86 317 *e*P P 00 23 41.8 +1.3
comp=Z,7.4nm,1.0s
FBE Freiberg 88.00 321 *e*P P 00 23 42.8 +1.9
comp=Z,14nm,1.0s,baz=98,slow=4.7
WET Wettzell 88.00 319 P P 00 23 42.7 +1.7
WET pmax pmax

comp=Z,20nm,1.3s
WET Wettzell 88.00 319 *e*P **P 00 23 42.6 +1.7**
comp=Z,11nm,1.0s,baz=98,slow=4.7
RUE Ruedersdorf 88.01 323 *e*P **P 00 23 41.6 +0.8**
RUE Ruedersdorf 88.01 323 *e*P **P 00 23 43.0 +2.1**
comp=Z,36nm,1.1s,baz=98,slow=4.7
CLL Collm 88.28 322 *i* P **P 00 23 43.3 +1.1**
CLL *e*S **S 00 34 32.0 +5.6**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL MLR MLR
comp=Z,1µm,21.4s
CLL Collm 88.28 322 P **P 00 23 41.8 -0.4**
CLL Collm 88.28 322 *i* P **P 00 23 43.3 +1.1**
comp=Z,13nm,1.1s
CLL *i* x x 00 24 59.5
CLL *e*S **S 00 34 32.0 +5.6**
CLL *e*PS **PS 00 35 32.0 +0.4**
CLL *e*SS **SS 00 40 18.0 +2.1**
CLL *e*SSSS 00 47 00.0
CLL LmV 01 06 00.0
comp=Z,1µm,21.4s
CLL Collm 88.28 322 *e*P **P 00 23 43.6 +1.4**
comp=Z,8.3nm,1.0s,baz=98,slow=4.7
CTI Castel Tesino 88.34 316 P **P 00 23 42.2 -0.6**
CTI pmax pmax
comp=Z,28nm,1.2s
CTI Castel Tesino 88.34 316 P **P 00 23 42.2 -0.6**
CTI IAmb IAmb 00 24 07.1
comp=Z,28nm,1.2s
NKC Novy Kostel 88.45 320 AMS AMS 01 00 40.0
comp=Z,2µm,27.9s
TANN Tannenbergstha 88.47 321 *e*P **P 00 23 44.8 +1.5**
comp=Z,5.5nm,1.1s,baz=98,slow=4.7
WERN Wernitzgruen 88.51 321 *e*P **P 00 23 45.1 +1.7**
comp=Z,4.8nm,1.0s,baz=98,slow=4.7
WTTA Wattenberg 88.53 317 *i* P **P 00 23 44.4 +0.6**
comp=Z,21nm,1.1s,SNR=5.3
WTTA Wattenberg 88.53 317 P **P 00 23 44.8 +1.0**
WTTA pmax pmax
comp=Z,22nm,1.4s
ROTZ Rotzenmuhle 88.53 320 *e*P **P 00 23 45.1 +1.6**
comp=Z,1.3nm,0.9s,baz=98,slow=4.7
GUNZ Gunzen 88.55 321 *e*P **P 00 23 45.4 +1.8**
comp=Z,6.5nm,1.0s,baz=98,slow=4.7
WATA Walderalm 88.58 318 *e*P **P 00 23 44.5 +0.5**
comp=Z,11nm,1.0s
MANZ Manzenberg 88.63 320 *e*P **P 00 23 46.1 +2.2**
comp=Z,4.1nm,1.1s,baz=98,slow=4.7
RGN Rugen 88.64 325 IAms_20 IAms_20 01 04 12.7
comp=Z,2µm,21.0s
KEST Kesra 88.72 306 P **P 00 23 45.1 +0.3**
comp=Z,8.0nm,0.7s,baz=35,slow=2.4,SNR=7.8
KEST LR LR 01 01 15.6
comp=Z,540nm,21.7s,baz=12,slow=34
KEST Kesra 88.72 306 P **P 00 23 43.8 -0.9**
MOTA Moosalm 88.90 318 *i* P **P 00 23 46.2 +0.7**
comp=Z,14nm,1.0s,SNR=11
NEUB Neuenburg 89.03 321 *e*P **P 00 23 48.0 +2.2**
comp=Z,12nm,0.8s,baz=98,slow=4.7
MOX Moxa 89.04 321 P **P 00 23 47.7 +1.8**
MOX pmax pmax
comp=Z,14nm,1.3s
MOX Moxa 89.04 321 *e*P **P 00 23 47.6 +1.8**
comp=Z,14nm,1.1s,baz=98,slow=4.7
FETA Feichten 89.11 317 *i* P **P 00 23 47.7 +1.2**
comp=Z,23nm,1.4s,SNR=5.0
RETA Reutte 89.15 318 *i* P **P 00 23 47.5 +1.0**
comp=Z,28nm,1.9s,SNR=7.3
GRF Grafenberg Arr 89.16 320 *e*P **P 00 23 48.8 +2.3**
comp=Z,13nm,0.9s,baz=98,slow=4.7
VNA2 Neumayer--Watz 89.42 199 P **P 00 23 48.9 +1.6**
baz=98,slow=3.9
HFS Hagfors 89.44 330 LR LR 01 08 00.3
comp=Z,1µm,18.3s,baz=104,slow=38
FLTG Flechtingen 89.52 322 *e*P **P 00 23 49.1 +1.0**
comp=Z,5.8nm,0.8s,baz=98,slow=4.7
UBR Ueberruh 89.61 318 *e*P **P 00 23 50.3 +1.6**
comp=Z,6.4nm,0.8s,baz=98,slow=4.7
DAVOX Davos/Dischmat 89.65 317 P **P 00 23 50.0 +1.0**
comp=Z,8.2nm,0.8s,baz=136,slow=5.0,SNR=12
DAVOX LR LR 01 07 05.5
comp=Z,869nm,21.4s,baz=80,slow=38
DAVA Damuels 89.72 317 *i* P **P 00 23 50.9 +1.5**
comp=Z,35nm,1.1s,SNR=7.2
VNA1 Neumayer--Stat 89.77 199 P **P 00 23 51.0 +2.1**
TUE Stuetta 89.98 316 P **P 00 23 49.9 -0.7**
TUE IAmb IAmb 00 24 18.3
comp=Z,62nm,1.4s
CLZ Clausthal 89.98 322 *e*P **P 00 23 52.4 +2.1**
comp=Z,12nm,1.0s,baz=98,slow=4.7
VNA3 Neumayer Olymp 90.07 198 P **P 00 23 51.7 +1.3**
UBBA Unterbreizbach 90.08 321 *e*P **P 00 23 52.2 +1.7**
comp=Z,2.5nm,0.7s,baz=98,slow=4.7
NRDL Niedersach Rie 90.23 323 *e*P **P 00 23 53.2 +2.0**
comp=Z,15nm,1.0s,baz=98,slow=4.7
BSEG Bad Segeberg 90.29 324 P **P 00 23 53.1 +1.5**
BSEG pmax pmax
comp=Z,20nm,2.2s
BSEG Bad Segeberg 90.29 324 *e*P **P 00 23 53.7 +2.1**
comp=Z,11nm,1.0s,baz=98,slow=4.7
NOA NORSAR Array B 90.79 331 P **P 00 23 53.6 -0.2**
comp=Z,1.3nm,0.9s,baz=97,slow=4.7,SNR=4.1
NOA LR LR 01 06 32.2
comp=Z,1µm,20.3s,baz=110,slow=37
TNS Taunus Mts 91.00 320 P **P 00 23 57.0 +1.9**
TNS pmax pmax
comp=Z,15nm,1.0s
TNS Taunus Mts 91.00 320 *e*P **P 00 23 56.9 +1.8**
comp=Z,12nm,0.9s,baz=98,slow=4.7
KASTN Kahler Asten 91.12 321 *e*P **P 00 23 57.6 +2.0**
comp=Z,6.0nm,0.8s,baz=98,slow=4.7
SENIN Lac Senin/Sane 91.38 316 P **P 00 23 57.2 0.0**
KONO Kongsberg 91.40 330 IAMs_20 IAMs_20 01 05 35.5
comp=Z,2µm,21.0s
IBBN Ibbenburen 91.64 322 *e*P **P 00 24 00.2 +2.3**
comp=Z,18nm,1.0s,baz=98,slow=4.7
AHRW Bad Neuenahr-A 91.90 320 *e*P **P 00 24 01.1 +1.9**
comp=Z,6.2nm,0.8s,baz=98,slow=4.7
SPITS Spitsbergen Ar 92.14 348 LR LR 01 09 47.5
comp=Z,2µm,21.2s,baz=196,slow=38
AFI Afiamalu 92.57 104 LR LR 01 06 45.7
comp=Z,668nm,18.8s,baz=262,slow=36
TORD Torodi Ar. Bea 93.69 283 P **P 00 24 08.2 -0.1**
comp=Z,6.9nm,0.9s,baz=75,slow=3.2,SNR=30
TORD Torodi Ar. Bea 93.69 283 P **P 00 24 07.1 -1.1**
TORD IAmb IAmb 00 24 09.7
comp=Z,22nm,1.2s
GAMB Gambell 95.92 26 IAMs_20 IAMs_20 01 13 49.5
comp=Z,1µm,18.0s
TNA Tin City 97.44 25 P Pdif 00 24 24.2 0.0
baz=275
EKA Eskdalemuir Ar 98.16 325 LR LR 01 13 51.2
comp=Z,813nm,18.1s,baz=78,slow=38
ANM Nome 98.62 25 IAMs_20 IAMs_20 01 15 26.9
comp=Z,909nm,18.0s
ANM Nome 98.62 25 P Pdif 00 24 30.8 +1.3
baz=277
JMIC Jan Mayen 98.63 341 LR LR 01 09 37.7
comp=Z,564nm,20.9s,baz=72,slow=36
RDOG Red Dog Mine 99.08 22 IAMs_20 IAMs_20 01 12 59.9
comp=Z,2µm,19.0s
KOWA Kowa 99.31 284 P **Pdif 00 24 33.4 -0.3**
comp=Z,4.9nm,1.1s,baz=88,slow=7.7,SNR=2.7
KOWA LR LR 01 09 30.1
comp=Z,724nm,18.1s,baz=84,slow=36
KOWA Kowa 99.31 284 IAMs_20 IAMs_20 01 09 36.8
comp=Z,961nm,18.0s
ESDC Sonseca Array 99.43 309 LR LR 01 11 14.0
comp=Z,478nm,19.9s,baz=56,slow=36
DBIC Dimbokro 99.72 276 LR LR 01 08 28.9
comp=Z,690nm,19.6s,baz=101,slow=35
K20K Telida 103.75 26 P **Pdif 00 24 54.2 +1.8**
baz=287
I21K Tanana 104.03 23 P **Pdif 00 24 55.3 +1.7**
baz=290
CAST Castle Rocks 104.58 25 P **Pdif 00 24 57.6 +1.5**
baz=289
BPAW Bear Paw Mtn. 104.81 24 P **Pdif 00 24 58.5 +1.4**
baz=290
MCK McKinley 105.79 24 IAMs_20 IAMs_20 01 17 30.5
comp=Z,890nm,20.0s
ILAR Eielson Array 106.19 23 PP **PP 00 29 27.1 +0.1**
comp=Z,0.9nm,0.8s,baz=281,slow=4.1,SNR=5.0
J25K Salcha River, 106.85 23 IAMs_20 IAMs_20 01 14 40.3
comp=Z,831nm,21.0s
RIDG Independent Ri 107.44 24 IAMs_20 IAMs_20 01 20 45.9
comp=Z,812nm,19.0s
TULEG Thule 107.63 356 IAMs_20 IAMs_20 01 18 42.5
comp=Z,1µm,20.0s
GLI Glacier Island 107.68 27 IAMs_20 IAMs_20 01 21 13.5
comp=Z,931nm,20.0s
BARN Barnard Glacie 109.99 25 IAMs_20 IAMs_20 01 09 32.4
comp=Z,947nm,21.0s
PPT2 Papeete2 113.11 111 eLR LR 01 03 09.1
comp=Z,2µm,24.8s
YKA Yellowknife Ar 118.49 15 PKP **PKPdf 00 29 37.7 -0.5**
comp=Z,1.3nm,0.9s,baz=328,slow=2.1,SNR=10
YKA PP **PP 00 30 55.0 +0.5**
comp=Z,2.0nm,1.0s,baz=321,slow=6.1,SNR=3.7
YKA PKKPbc **PKKPbc 00 39 55.5 -2.2**
comp=Z,0.2nm,0.5s,baz=143,slow=4.0,SNR=7.0
YKA Yellowknife Ar 118.49 15 **PKPdf 00 29 37.1 -1.1**
TAOE Nuku Hiva Isla 123.97 104 eSS SS 00 48 22.2 -1.9
comp=Z,215nm,31.3s
TAOE Nuku Hiva Isla 123.97 104 eLR LR 01 08 15.6
comp=Z,1µm,22.6s
FCC Fort Churchill 125.69 5 PKIKP **PKPdf 00 29 51.3 -0.8**
FCC Fort Churchill 125.69 5 PKPdf **PKPdf 00 29 51.3 -0.8**
FFC Flin Flon 128.40 12 IAMs_20 IAMs_20 01 36 32.5
comp=Z,838nm,19.0s
RCBR Riachuelo 129.29 259 IAMs_20 IAMs_20 01 17 10.1
comp=Z,730nm,20.0s
EGMT Eagleton 132.14 22 IAMs_20 IAMs_20 01 35 15.9
comp=Z,1µm,18.0s
PLCA Paso Flores 132.72 196 PKP **PKiKP 00 30 07.2 -0.1**
comp=Z,1.9nm,0.8s,baz=180,slow=2.3,SNR=3.7
BOZ Bozeman (W) 133.38 25 IAMs_20 IAMs_20 01 37 47.9
comp=Z,738nm,21.0s
BOZ Bozeman (W) 133.38 25 P **PKiKP 00 30 08.7 0.0**
baz=323
ULM Lac du Bonnet 133.80 9 PKP **PKPdf 00 30 08.3 +0.5**
comp=Z,4.0nm,0.8s,baz=333,slow=4.0,SNR=7.0
LAO LASA Array 134.53 20 IAMs_20 IAMs_20 01 39 03.3
comp=Z,1µm,20.0s
LAO LASA Array 134.53 20 P **PKiKP 00 30 11.5 +0.7**
baz=330
NVAR Mina Array Bea 135.16 37 PKhKP PKPpre 00 30 01.8
comp=Z,0.5nm,0.7s,baz=328,slow=3.2,SNR=3.4
NVAR PKP **PKiKP 00 30 13.3 +0.7**
comp=Z,2.6nm,0.9s,baz=264,slow=1.8,SNR=10
MOOW Moose Ponds 135.24 26 IAMs_20 IAMs_20 01 42 21.1
comp=Z,858nm,22.0s
AGMN Agassiz Nation 135.69 10 IAMs_20 IAMs_20 01 38 04.3
comp=Z,1µm,20.0s
AHID Auburn Hatcher 135.86 27 IAMs_20 IAMs_20 01 37 15.6
comp=Z,939nm,21.0s
PDAR Pinedale Array 136.54 26 PKhKP PKPpre 00 30 10.6
comp=Z,2.0nm,0.9s,baz=342,slow=0.5,SNR=9.6
PDAR PP **PP 00 32 51.8 -2.4**
comp=Z,2.1nm,1.1s,baz=347,slow=3.7,SNR=2.8
PDAR Pinedale Array 136.54 26 **PKPdf 00 30 11.7 -1.8**
HWUT Hardware Ranch 136.54 29 IAMs_20 IAMs_20 01 36 45.3
comp=Z,986nm,21.0s
EYMN Ely 136.63 6 IAMs_20 IAMs_20 01 39 19.0
comp=Z,1µm,20.0s
EYMN Ely 136.63 6 P **PKPdf 00 30 14.0 +0.8**
baz=351
R11A Troy Canyon, C 136.81 35 **PKPdf 00 30 11.8 -2.3**
R11A Troy Canyon, C 136.81 35 P **PKiKP 00 30 15.8 0.0**
baz=313
MPMC Manual Prospec 137.18 39 P **PKiKP 00 30 16.2 -0.5**
baz=309
BDFB Brasilia 137.66 241 PKP **PKPdf 00 30 16.2 0.0**
comp=Z,2.2nm,0.7s,baz=47,slow=2.2,SNR=4.2
ECSD EROS Data Cent 139.94 12 IAMs_20 IAMs_20 01 39 04.7
comp=Z,1µm,22.0s
ECSD EROS Data Cent 139.94 12 P **PKPdf 00 30 20.0 +0.6**
baz=343
SMCO Snowmass 140.60 27 IAMs_20 IAMs_20 01 33 47.3
comp=Z,696nm,21.0s
ISCO Idaho Springs 140.66 25 IAMs_20 IAMs_20 01 41 04.7
comp=Z,584nm,20.0s
OGNE Ogallala 141.02 20 IAMs_20 IAMs_20 01 40 29.8
comp=Z,1µm,21.0s
WUAZ Wupatki 141.20 34 PKPdf **PKPdf 00 30 19.6 -2.6**
JFWS Jewell Farm 141.73 6 IAMs_20 IAMs_20 01 39 42.1
comp=Z,1µm,21.0s
214A Organ Pipe Nat 142.78 40 PKPdf **PKPdf 00 30 21.7 -3.3**
T25A Trinidad 143.41 26 PKPbc 00 30 23.6 +0.4
T25A Trinidad 143.41 26 P PKPbc 00 30 24.1 +0.9
baz=327
CBKS Cedar Bluff 143.70 19 IAMs_20 IAMs_20 01 41 37.7
comp=Z,994nm,20.0s
TUC Tucson 143.81 38 PKIKP PKPbc 00 30 24.6 +0.2
TUC Tucson 143.81 38 PKPdf PKPbc 00 30 24.6 +0.3
N41A Harden Midland 143.85 7 PKPdf PKPab 00 30 23.8 +0.3
N49A Columbus Grove 143.93 358 PKPab 00 30 24.0 +0.3
N47A Urbana 143.99 0 PKPdf PKPab 00 30 24.1 +0.1
HDIL Hopedale 144.16 5 **PKPab 00 30 24.1 -0.6**
ANMO Albuquerque 144.25 30 PKIKP PKPbc 00 30 25.7 -0.1
ANMO Albuquerque 144.25 30 PKPbc 00 30 25.7 -0.1
ANMO IAMs_20 IAMs_20 01 44 55.1
comp=Z,1µm,21.0s
ANMO Albuquerque 144.25 30 P **PKPdf 00 30 27.4 -0.2**
baz=323
KSU1 Kansas State U 144.34 15 PKPdf **PKPab 00 30 25.2 -0.2**
O53A New Philadelph 144.40 354 PKPbc 00 30 25.7 -0.1
O53A New Philadelph 144.40 354 P PKPbc 00 30 26.3 +0.5
baz=7.5
SFIN Lafayette 144.47 2 P PKPbc 00 30 26.8 +0.8
baz=357
ACSO Alum Creek Sta 144.56 357 **PKPab 00 30 25.6 -0.5**
ACSO Alum Creek Sta 144.56 357 P **PKPab 00 30 26.2 +0.1**
baz=4.5
O48B Farmland 144.61 359 P **PKPab 00 30 26.2 -0.1**
baz=0.8
MCWV Mont Chateau 144.82 352 P **PKPdf 00 30 28.0 -0.2**
baz=9.9
P52A Corning 145.09 355 IAMs_20 IAMs_20 01 38 32.1
comp=Z,1µm,22.0s
P52A Corning 145.09 355 P **PKPbc 00 30 27.7 -0.4**
baz=6.0
P49A Miami Univ. Ec 145.33 359 IAMs_20 IAMs_20 01 39 59.1
comp=Z,840nm,21.0s
P49A Miami Univ. Ec 145.33 359 P **PKPbc 00 30 28.7 -0.2**
baz=1.5
121A Cookes Peak, D 145.41 34 P **PKPab 00 30 30.7 +0.9**
baz=318
CBN Corbin Frederi 145.83 348 P **PKPab 00 30 31.6 +0.8**
baz=15
CCM Cathedral Cave 146.41 8 IAMs_20 IAMs_20 01 43 56.0
comp=Z,940nm,20.0s
CCM Cathedral Cave 146.41 8 P **PKPbc 00 30 31.8 -0.4**
baz=350
S39A Bolivar 146.42 11 **PKPdf 00 30 30.6 -0.4**
WCI Wyandotte Cave 146.63 1 IAMs_20 IAMs_20 01 39 15.7
comp=Z,748nm,22.0s
WCI Wyandotte Cave 146.63 1 P **PKPbc 00 30 32.8 0.0**
baz=359
MSTX Muleshoe 146.79 27 P **PKPbc 00 30 34.0 +0.4**
baz=328
MNTX Cornudas Mount 147.36 32 P **PKPbc 00 30 34.5 -0.7**
baz=321
TUL1 Leonard 147.56 16 **PKPdf 00 30 30.2 -2.8**
HHAR Hobbs 147.66 13 PKPdf **PKPdf 00 30 31.5 -1.7**
WMOK Wichita Mounta 147.72 21 P **PKPbc 00 30 36.2 +0.2**
baz=335
PBMO Poplar Bluff 147.78 7 **PKPdf 00 30 34.1 +0.8**
U40A Yellville 147.81 11 IAMs_20 IAMs_20 01 44 51.0
comp=Z,967nm,19.0s
U40A Yellville 147.81 11 P **PKPbc 00 30 36.6 +0.4**
baz=346
TZTN Tazewell 148.26 357 **PKPbc 00 30 36.7 -0.8**
TZTN Tazewell 148.26 357 P **PKPbc 00 30 37.6 +0.2**
baz=3.9
LVC Limon Verde 148.32 210 PKIKP **PKPdf 00 30 35.5 +0.4**
LVC Limon Verde 148.32 210 **PKPdf 00 30 35.5 +0.4**
LCAR Lake Charles 148.38 9 **PKPbc 00 30 36.3 -1.4**
WVT Waverly 148.67 3 PKP2 **PKPbc 00 30 37.5 -1.0**
WVT Waverly 148.67 3 **PKPbc 00 30 37.5 -1.0**
WVT Waverly 148.67 3 IAMs_20 IAMs_20 01 44 10.5
comp=Z,956nm,21.0s
WVT Waverly 148.67 3 P **PKPbc 00 30 38.6 +0.1**
baz=356
W39A Magazine 148.73 13 P **PKPbc 00 30 38.6 -0.1**
baz=344
V55A Taylorsville 148.75 353 **PKPbc 00 30 37.6 -1.1**
X37A Clayton 148.92 16 **PKPbc 00 30 38.5 -0.7**
W41B Gary Mavity, V 149.07 11 P **PKPbc 00 30 39.3 -0.2**
baz=347
TKL Tuckaleechee C 149.16 357 PKP2 **PKPbc 00 30 38.2 -1.6**
TKL Tuckaleechee C 149.16 357 **PKPbc 00 30 38.2 -1.6**
ABTX Abilene, Hawle 149.28 24 P **PKiKP 00 30 41.0 -0.4**
baz=332
MIAR Mount Ida 149.41 13 IAMs_20 IAMs_20 01 46 19.3
comp=Z,1µm,20.0s
MIAR Mount Ida 149.41 13 P **PKiKP 00 30 41.2 -0.4**
baz=344
KMSC Kings Mountain 149.46 353 P **PKiKP 00 30 41.1 -0.5**
baz=8.3
PB07 IPOC Station P 149.55 210 **PKPdf 00 30 33.6 -3.2**
PLAL Pickwick Lake 149.79 4 IAMs_20 IAMs_20 01 43 26.3
comp=Z,907nm,20.0s
PB01 IPOC Station P 149.92 211 **PKPdf 00 30 38.5 +1.1**
TX31 Lajitas Ar. Si 150.12 33 **PKPdf 00 30 37.1 -0.3**
TXAR Lajitas Array 150.12 33 PKP **PKPdf 00 30 38.3 +0.8**
comp=Z,2.9nm,0.9s,baz=253,slow=0.9,SNR=20
TXAR PKPbc **PKiKP 00 30 43.2 -0.1**
comp=Z,16nm,1.0s,baz=270,slow=1.8,SNR=45
OXF Oxford 150.14 6 IAMs_20 IAMs_20 01 46 21.5
comp=Z,794nm,20.0s
OXF Oxford 150.14 6 P **PKiKP 00 30 42.7 -0.4**
baz=352
JCT Junction City 151.08 26 PKIKP **PKPdf 00 30 37.7 -1.1**
JCT Junction City 151.08 26 **PKPdf 00 30 37.7 -1.1**
JCT Junction City 151.08 26 P **PKiKP 00 30 45.5 +0.3**
baz=330
GOGA Godfrey 151.38 356 P **PKiKP 00 30 45.9 +0.2**
baz=4.4
435B Jarrell 151.71 22 P **PKiKP 00 30 46.9 +0.4**
baz=334
NATX Nacogdoches 151.78 16 IAMs_20 IAMs_20 01 48 19.4
comp=Z,979nm,20.0s
LRAL Lakeview Retre 151.79 2 P **PKiKP 00 30 46.4 -0.2**
baz=357
PB16 IPOC Station P 152.14 214 **PKPdf 00 30 39.2 -2.2**
152A Waverly Hall 152.18 358 **PKPbc 00 30 46.6 -0.4**
LPAZ La Paz 152.91 219 PKP **PKPdf 00 30 43.1 +0.4**
comp=Z,3.0nm,1.0s,baz=316,slow=2.4,SNR=7.8
LPAZ PKPbc **PKiKP 00 30 50.3 +0.3**
comp=Z,7.9nm,1.1s,baz=75,slow=3.6,SNR=11
833A Chaparral WMA, 153.10 28 **PKPdf 00 30 41.2 -0.7**
ANWB Willy Bob 153.38 301 IAMs_20 IAMs_20 01 32 56.9
comp=Z,640nm,20.0s
FDF Fort de France 153.96 294 IAMs_20 IAMs_20 01 40 27.7
comp=Z,490nm,20.0s
SMRT St. Maarten 154.30 303 IAMs_20 IAMs_20 01 34 08.0
comp=Z,741nm,21.0s
SEUS St. Eustatius 154.48 302 IAMs_20 IAMs_20 01 33 35.9
comp=Z,736nm,21.0s
SJG San Juan 156.79 307 IAMs_20 IAMs_20 01 39 17.7
comp=Z,721nm,22.0s
ROSC El Rosal 168.77 271 PKP **PKPdf 00 30 59.1 -0.4**
comp=Z,3.7nm,0.3s,baz=323,slow=2.9,SNR=5.1

TUL ***03*** *00:14:46.3±0.9,36°.76N±0°.01×98°.07W±0°.02,h7km±5km, ML2.5,mb_Lg2.0/5(NEIC) Error ellipse: s-maj=2.8km s-min=0.4km az=132.0*

NEIC 03 00:14:46.5±0.7,36°.75N±0°.01×98°.06W±0°.02,h9km±2km, Error ellipse: s-maj=2.8km s-min=1.4km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.85**	**244**	Pg	Pg		00 15 02.4	-0.4
T35A	**Sooner Cattle**	**1.25**	**82**		Pn		00 15 09.8	-0.3
FNO	**Franklin**	**1.58**	**160**	Pn	Pn		00 15 15.0	+0.3
W35A	**Tecumseh**	**1.86**	**149**	Pn	Pn		00 15 19.3	+0.8
TUL1	**Leonard**	**2.01**	**114**	Pn	Pn		00 15 20.5	0.0
TUL1					IAmb_Lg		00 15 53.2	
comp=Z,8.4nm,0.9s								
WMOK	**Wichita Mounta**	**2.09**	**197**	Pn	Pn		00 15 22.4	+0.7
WMOK	**Wichita Mounta**	**2.09**	**197**	IAmb_Lg			00 15 54.0	
comp=Z,5.7nm,0.9s								
X34A	**Smith Ranch, M**	**2.15**	**175**	Pn	Pb		00 15 24.1	-1.5
X37A	**Clayton**	**3.07**	**134**	Pn	Pn		00 15 35.0	-0.1
HHAR	**Hobbs**	**3.35**	**97**	Pn	Pn		00 15 39.0	0.0
S39A	**Bolivar**	**3.89**	**75**		Pn		00 15 46.9	+0.4
U40A	**Yellville**	**4.21**	**94**		Pn		00 15 51.3	+0.6
R40A	**Maddies Statio**	**4.85**	**70**	Pn	Pn		00 16 00.5	+0.9

DJA ***03*** *00:23:23.3±3.1,5°.S±15°.×9°.4E±2°.4,h10km,M5.3/7, mb4.9/7,MLv5.5/5*
IDC ***03*** *00:23:24.2±1.4,4°.63S±94°.29E,h0km,mb3.6/6,mb1 3.9/8, mb1mx3.6/45,mbtmp3.8/8,ML4.1/2,Error ellipse: s-maj=41.0km s-min=22.5km az=50.0*
NEIC ***03*** *00:23:27.1±1.6,4°.5S±0°.1×94°.3E±0°.1,h10km±2km, mb4.3/6, Error ellipse: s-maj=22.6km s-min=16.6km az=231.0*

ISC 03 00:23:26.0±1.0,4°.6S±0°.1×94°.3E±0°.1,h10km,n33, σ0s76/30,mb3.8/9,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.81**	**56**	P	**Pn**		**00 24 53.2**	**+0.9**
1.9nm257nm,0.6s								
PPSI	**Pulau Pagai**	**6.02**	**73**	P	**Pn**		**00 24 56.0**	**+0.8**
1.4nm124nm,0.6s								
GSI	**Gunungsitoli**	**6.72**	**30**		**Pn**		**00 25 04.1**	**-0.7**
GSI	**Gunungsitoli**	**6.72**	**30**	P	**Pn**		**00 25 04.3**	**-0.5**
PPI	**Padang Panjang**	**7.38**	**56**	P	**Pn**		**00 25 14.6**	**+0.7**
KRJI	**Kerinci**	**7.61**	**71**	P	**Pn**		**00 25 17.6**	**+0.5**
3.8nm225nm,0.8s								
MASI	**Maura Aman, Be**	**8.10**	**80**	P	**Pn**		**00 25 23.8**	**0.0**
BKNI	**Bangkinang**	**8.35**	**54**	Pn	**Pn**		**00 25 27.8**	**+0.5**
RPSI	**Rantau Prapat**	**8.60**	**33**		**Pn**		**00 25 30.2**	**-0.5**
RPSI	**Rantau Prapat**	**8.60**	**33**	Pn	**Pn**		**00 25 31.2**	**+0.6**
MNAI	**Manna**	**8.68**	**89**	Pn	**Pn**		**00 25 33.2**	**+1.4**
PSI	**Prapat**	**8.69**	**33**	Pn	**Pn**		**00 25 30.2**	**-1.8**
1.2nm,0.3s,baz=147,slow=0.8,SNR=6.7								
IPM	**Ipoh**	**11.26**	**37**		**Pn**		**00 26 06.7**	**-0.4**
CGJI	**Cibinong**	**11.57**	**101**	P	**Pn**		**00 26 11.6**	**+0.3**
50nm,1.6s								
KULM	**Kulim**	**11.70**	**33**	Pn	**Pn**		**00 26 12.5**	**-0.6**
XMIS	**Christmas Isla**	**12.73**	**118**	Pn	**Pn**		**00 26 26.4**	**-0.9**
PALK	**Pallekele**	**17.93**	**311**	P	**P**		**00 27 37.5**	**+1.3**
1.3nm,0.3s,baz=240,slow=11,SNR=5.4								
PALK	**Pallekele**	**17.93**	**311**	P	**P**		**00 27 36.6**	**+0.3**
PALK				IAmb	IAmb		00 28 00.1	
comp=Z,24nm,1.2s								
H08S2	**Diego Garcia H**	**21.84**	**261**	T	T		00 51 08.4	
baz=74								
H08S3	**Diego Garcia H**	**21.85**	**261**	T	T		00 51 27.2	
baz=74								
H08S1	**Diego Carcia H**	**21.86**	**261**	T	T		00 51 30.4	
baz=74								
CMAR	**Chiang Mai Arr**	**23.35**	**11**	P	**P**		**00 28 34.9**	**+0.1**
comp=Z,1.0nm,0.4s,baz=204,slow=8.7,SNR=1.2								
KNRA	**Kununurra**	**35.66**	**111**	P	**P**		**00 30 24.0**	**-0.6**
KNRA				IAmb	IAmb		00 30 25.7	
comp=Z,11nm,1.1s								
WRA	**Warramunga Arr**	**41.90**	**115**	P	**P**		**00 31 16.8**	**-0.2**
comp=Z,0.9nm,0.6s,baz=288,slow=9.1,SNR=6.9								
WRA	**Warramunga Arr**	**41.90**	**115**	P	**P**		**00 31 17.2**	**+0.2**
WR0	**Warramunga Arr**	**42.08**	**115**	P	**P**		**00 31 19.1**	**+0.6**
WR0				IAmb	IAmb		00 31 36.3	
comp=Z,1.7nm,0.8s								
ASAR	**Alice Springs**	**42.66**	**120**	P	**P**		**00 31 21.9**	**-1.3**
comp=Z,0.5nm,0.8s,baz=296,slow=7.1,SNR=3.3								
MKAR	**Makanchi Array**	**52.23**	**350**	P	**P**		**00 32 37.3**	**0.0**
comp=Z,0.5nm,0.7s,baz=160,slow=7.4,SNR=4.8								
MKAR	**Makanchi Array**	**52.23**	**350**	P	**P**		**00 32 36.9**	**-0.3**
ZALV	**Zalesovo Beam**	**58.85**	**354**	P	**P**		**00 33 24.6**	**-0.1**
comp=Z,0.6nm,0.6s,baz=160,slow=4.6,SNR=3.8								
ABKAR	**Akbulak array**	**61.34**	**335**	P	**P**		**00 33 42.6**	**+0.7**
ABKAR	**Akbulak array**	**61.34**	**335**	P	**P**		**00 33 42.3**	**+0.4**
ABKAR				IAmb	IAmb		00 33 58.8	
comp=Z,4.4nm,1.4s								
TORD	**Torodi Ar. Bea**	**93.51**	**283**	P	**P**		**00 36 42.3**	**-0.6**
comp=Z,0.2nm,0.7s,baz=93,slow=3.8,SNR=1.6								

TUL ***03*** *00:29:17.1±0.4,36°.45N±0°.02×98°.78W±0°.02,h7km±2km, ML2.6,mb_Lg2.7/27(NEIC),Error ellipse: s-maj=2.5km s-min=1.5km az=151.0*

NEIC 03 00:29:17.6±0.4,36°.440N±0°.007×98°.78W±0°.02,h5km±2km, Error ellipse: s-maj=1.8km s-min=1.0km az=99.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.19**	**251**	Pg	Pg		00 29 21.3	-0.1
U32A				Sg	Sg		00 29 24.4	+0.5
OKCFA	**Oklahoma City**	**1.49**	**133**		Pn		00 29 44.3	-0.7
FNO	**Franklin**	**1.63**	**136**	Pn	Pn		00 29 46.4	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMOK	Wichita Mounta	1.70	180	Pn	Pn	00 29 47.4	-0.6
T35A	Sooner Cattle	1.89	75		Pn	00 29 50.6	+0.1
R32A	Long Quarter,	1.98	2		Pn	00 29 51.7	-0.1
X34A	Smith Ranch, M	1.99	157	Pn	Pn	00 29 50.9	-1.0
X34A				IAmb_Lg		00 30 23.7	
	comp=Z,25nm,0.8s						
W35A	Tecumseh	2.01	129	Pn	Pn	00 29 51.1	-1.2
TUL1	Leonard	2.48	101	IAmb_Lg		00 30 36.1	
	comp=Z,13nm,0.8s						
AMTX	Amarillo	2.83	238	IAmb_Lg		00 30 47.5	
	comp=Z,18nm,0.9s						
KSU1	Kansas State U	3.17	32	IAmb_Lg		00 30 58.3	
	comp=Z,21nm,1.1s						
X37A	Clayton	3.34	123	Pn	Pn	00 30 10.3	-0.2
Z35A	Perchaven, San	3.35	158	IAmb_Lg		00 31 09.6	
	comp=Z,23nm,0.8s						
ABTX	Abilene, Hawle	3.87	191	IAmb_Lg		00 31 18.9	
	comp=Z,13nm,1.0s						
HHAR	Hobbs	3.91	91	IAmb_Lg		00 31 28.7	
	comp=Z,23nm,1.0s						
W39A	Magazine	4.25	106	IAmb_Lg		00 31 38.5	
	comp=Z,13nm,1.0s						
S39A	Bolivar	4.54	72	IAmb_Lg		00 31 43.3	
	comp=Z,19nm,0.9s						
MIAR	Mount Ida	4.65	112	IAmb_Lg		00 31 51.4	
	comp=Z,18nm,1.2s						
U40A	Yellville	4.78	89	IAmb_Lg		00 32 01.5	
	comp=Z,19nm,1.2s						
X40A	Basin Creek Fa	5.23	110	IAmb_Lg		00 31 59.1	
	comp=Z,6.5nm,1.0s						
FCAR	Ozark Folk Cen	5.41	94	IAmb_Lg		00 32 15.8	
	comp=Z,14nm,1.1s						
435B	Jarrell	5.73	170	IAmb_Lg		00 32 24.9	
	comp=Z,11nm,1.0s						

*NEIC **03** 00:53:08.7±1.2, 18°.6S±0°.2×178°.0W±0°.1, h456km±10km, mb4.1/11, Error ellipse: s-maj=23.8km s-min=17.9km az=163.0*

*IDC **03** 00:53:12.1±3.3, 18°.18S×178°.38W, h487km±22km, mb3.1/5, mb1 3.4/6, mb1mx2.9/45, mbtmp3.9/6, Error ellipse: s-maj=107.8km s-min=22.5km az=153.0*

ISC 03 00:53:12.5±0.8, **18°.5S**±0°.1×**178°.4W**±0°.1, **h500**km, **n24**, σ**1s.26**/24, **mb4.0**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.43	282	P	P	00 54 23.9	-2.7
	4.1nm,0.3s,baz=136,slow=16,SNR=14						
MSVF				S	S	00 55 25.8	-1.1
	baz=286,slow=22,SNR=3.7						
NIUE	Niue	8.07	96		P	00 54 59.0	-11
ONTNC	Ouen Toro	14.68	252	P	P	00 56 18.2	-1.1
EIDS	Eidsvold	29.06	251	P	P	00 58 32.6	+0.8
EIDS				IAmb	IAmb	00 58 51.3	
	comp=Z,12nm,1.2s						
WHZ	Wether Hill Ro	29.58	199	P	P	00 58 34.5	-1.4
COEN	Coen	37.09	271	P	P	00 59 41.6	+1.6
COEN				IAmb	IAmb	01 00 08.0	
	comp=Z,12nm,1.4s						
BBOO	Buckleboo	43.12	242	P	P	01 00 29.2	+1.0
BBOO				IAmb	IAmb	01 00 30.7	
	comp=Z,9.9nm,1.3s						
WB0	Warramunga Arr	44.48	260	P	P	01 00 39.8	+0.8
WRA	Warramunga Arr	44.51	260	P	P	01 00 39.6	+0.4
	comp=Z,1.0nm,0.5s,baz=96,slow=6.2,SNR=26						
WRA	Warramunga Arr	44.51	260	P	P	01 00 39.3	+0.1
ASAR	Alice Springs	44.62	255	P	P	01 00 41.7	+1.7
	comp=Z,5.7nm,0.6s,baz=89,slow=8.4,SNR=100						
ASAR	Alice Springs	44.62	255	P	P	01 00 40.8	+0.8
KNRA	Kununurra	50.41	265	P	P	01 01 25.4	+1.8
KNRA				IAmb	IAmb	01 01 28.4	
	comp=Z,10.0nm,1.1s						
FITZ	Fitzroy Crossi	52.92	261	P	P	01 01 43.7	+1.9
	comp=Z,1.4nm,0.7s,baz=117,slow=2.3,SNR=6.3						
FITZ	Fitzroy Crossi	52.92	261	P	P	01 01 43.2	+1.5
QSPA	South Pole Qui	71.58	180	P	P	01 03 42.8	+0.4
QSPA				IAmb	IAmb	01 03 48.0	
	comp=Z,14nm,1.5s						
BELA	Belgrano 2	81.60	173	P	P	01 04 36.9	-0.2
K20K	Telida	83.77	11	P	P	01 04 48.0	-0.1
K20K				IAmb	IAmb	01 04 57.6	
	comp=Z,3.8nm,1.2s						
N25K	Chitina, Valde	84.26	16	P	P	01 04 51.4	+0.8
N25K				IAmb	IAmb	01 05 15.5	
	comp=Z,3.0nm,1.0s						
IMAR	Indian Mountai	86.25	10	P	P	01 05 01.0	+0.9
TXAR	Lajitas Array	86.32	58	P	P	01 05 01.9	+0.5
	comp=Z,0.5nm,0.7s,baz=219,slow=7.5,SNR=7.0						
TXAR	Lajitas Array	86.32	58	P	P	01 05 01.2	-0.3
ILAR	Eielson Array	86.45	13	P	P	01 04 59.8	-1.3
	comp=Z,0.4nm,0.8s,baz=225,slow=6.2,SNR=1.9						
CLL	Collm	146.02	347	ePKPbc	PKiKP	01 11 58.0	-0.4

*MOS **03** 02:00:02.9±1.4, 46°.28N×150°.80E, h120km, mb3.9/5, Error ellipse: s-maj=11.2km s-min=8.1km az=65.2*

*SKHL **03** 02:00:02.0±0.1, 46°.00N×151°.10E, h115km±5km, mb4.6/5, msha5.3/2*

*JMA **03** 02:00:05.1±0.5, 45°.14N×151°.26E, h143km, M3.5*

*IDC **03** 02:00:06.3±2.1, 46°.43N×150°.46E, h140km±19km, mb3.3/14, mb1 3.5/21, mb1mx3.4/45, mbtmp3.8/21, Error ellipse: s-maj=19.4km s-min=10.8km az=142.0*

ISC 03 02:00:01.6±0.6, **46°.09N**±0°.06×**150°.89E**±0°.06, **h100**km, **n74**, σ**2s.25**/77, **mb3.6**/14, **2C-5D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.29	249	ePN	Pn	02 00 41.7	+3.9
KUR				i S	Sn	02 01 11.6	+6.0
KUR				pmax	pmax		
	comp=E,46nm,0.5s						
KUR				pmax	pmax		
	comp=Z,108nm,0.5s						
KUR				pmax	pmax		
	comp=N,47nm,0.4s						
KUR				smax	smax		
	comp=N,313nm,0.8s						
KUR				smax	smax		
	comp=E,128nm,0.8s						
KUR	Kuril'sk	2.29	249	eP	Pn	02 00 40.9	+3.1
KUR				AMB	AMB	02 00 42.5	
	comp=E,110nm,0.6s						
KUR				i S	Sn	02 01 09.4	+3.8
KUR				A	A	02 01 16.1	
	comp=E,160nm,0.6s						
KUR				A	A	02 01 16.1	
	comp=E,220nm,0.6s						
SHO	Shikotan	3.63	234	PN	Pn	02 00 56.1	+0.3
SHO				eS	Sn	02 01 37.6	-0.2
SHO				smax	smax		
	comp=N,53nm,0.2s						
SHO				smax	smax		
	comp=E,110nm,0.3s						
SHO	Shikotan	3.63	234	eP	Pn	02 00 57.7	+1.9
SHO				AMB	AMB	02 01 01.5	
	comp=E,20nm,0.4s						
SHO				eS	Sn	02 01 39.4	+1.6
SHO				A	A	02 01 54.5	
	comp=E,110nm,0.3s						
SHO				A	A	02 01 54.5	
	comp=E,130nm,0.3s						
YUK	Yuzh-Kuril'sk	4.11	242	eP	Pn	02 01 03.4	+1.2
YUK				AMB	AMB	02 01 04.3	
	comp=E,20nm,0.2s						
NEM2	Nemuro 2	4.57	235	P	Pn	02 01 10.4	+2.0
NEM2				eS	Sn	02 02 00.9	+0.6
NMR	Nemuro--Hokkai	4.57	235	eP	Pn	02 01 10.5	+2.0
NMR				eS	Sn	02 02 01.1	+0.7
JNK	Nakash	5.05	243	P	Pn	02 01 18.3	+3.3
AKK	Akkeshi	5.30	237	eP	Pn	02 01 19.5	+1.2
AKK				eS	Sn	02 02 18.0	-0.1
JAK	Akkeshi	5.40	237	P	Pn	02 01 21.7	+2.0
YSS	Yuzh-Sakhalins	5.68	282	⇑ePN	Pn	02 01 26.5	+3.0
YSS	Yuzh-Sakhalins	5.68	282	eP	Pn	02 01 26.5	+3.0
YSS				AMB	AMB	02 01 33.0	
	comp=E,10.0nm,0.4s						
YSS				eS	Sn	02 02 29.3	+2.0
YSS				A	A	02 02 53.8	
	comp=E,10.0nm,0.4s						
YSS				A	A	02 02 53.8	
	comp=E,10.0nm,0.4s						
JMP	Maruseppu	5.73	251	P	Pn	02 01 30.0	+5.9
SKR	Severo-Kuril's	5.77	35	⇓ePN	Pn	02 01 26.0	+1.3
SKR	Severo-Kuril's	5.77	35	eP	Pn	02 01 25.9	+1.3
SKR				AMB	AMB	02 02 28.5	
	comp=E,40nm,0.5s						
JAR	Ashorobuto	5.79	244	P	Pn	02 01 28.6	+3.6
JOB	Onbets	5.96	240	P	Pn	02 01 29.8	+2.4
JOB				eS	Sn	02 02 34.8	+0.5
JKK2	Kamakawa 2	6.18	252	P	Pn	02 01 35.4	+5.0
JKA	Kamikawa-asahi	6.19	254	eP	Pn	02 01 33.6	+3.2
ASAJ	Asahikawa	6.19	254	P	Pn	02 01 33.5	+3.1
	comp=E,0.7nm,0.3s,baz=76,slow=17,SNR=8.7						
JCH	Churui	6.42	240	P	Pn	02 01 35.3	+1.8
JCH				eS	Sn	02 02 43.5	-1.7
PAU	Pauzhetka	6.65	34	eP	Pn	02 01 38.0	+1.4
PAU				AMB	AMB	02 01 39.1	
	comp=E,20nm,0.3s						
ERM	Erimo	6.90	237	⇓ePN	Pn	02 01 45.8	+5.8
JNBK	Urakawa-nobuka	6.98	240	P	Pn	02 01 41.9	+0.8
TYV	Tymovskoe	7.26	314	ePN	Pn	02 01 46.8	+1.9
TYV				eS	Sn	02 03 02.3	-3.4
TYV				pmax	pmax		
	comp=Z,13nm,1.1s						
TYV				pmax	pmax		
	comp=Z,100nm,4.4s						
TYV				smax	smax		
	comp=E,3.0nm,0.9s						
TYV				smax	smax		
	comp=N,400nm,5.8s						
TYV	Tymovskoe	7.26	314	eP	Pn	02 01 46.8	+1.9
TYV				AMB	AMB	02 01 50.8	
	comp=N,10.0nm,0.6s						
TYV				eS	Sn	02 03 05.9	+0.2
TYV				A	A	02 03 23.5	
	comp=N,30nm,0.5s						
JNB	Noboribetsu	7.94	246	P	Pn	02 01 56.8	+2.6
JKB	Kayabe	8.25	243	P	Pn	02 01 59.6	+1.2
JKB				eS	Sn	02 03 26.0	-3.9
PEA0B	Petropavlovsk-	8.30	30	⇓ePN	Pn	02 02 00.5	+1.5
PETK	Petropavlovsk-	8.30	30	P	Pn	02 01 60.0	+0.9
	comp=N,1.0nm,0.3s,baz=210,slow=19,SNR=17						
PETK				S	Sn	02 03 30.6	-0.4
	comp=N,0.2nm,0.3s,baz=247,slow=30,SNR=1.7						
JANG	Nango	8.91	233	P	Pn	02 02 06.8	-0.6
JANG				eS	Sn	02 03 39.1	-6.9
KLR	Kul'dur	13.28	291	P	Pn	02 03 06.0	+0.1
	comp=N,0.1nm,0.3s,baz=107,slow=12,SNR=6.0						
KLR	Kul'dur	13.28	291	⇓ePN	Pn	02 03 07.3	+1.4
KLR	Kul'dur	13.28	291	eP	Pn	02 03 07.3	+1.4
USRK	Ussuriysk Ar.	13.48	269	P	Pn	02 03 08.2	-0.4
	baz=70,slow=13,SNR=1.8						
MA2	Magadan	13.51	360	P	Pn	02 03 07.5	-1.4
	baz=163,slow=17,SNR=1.1						
MA2	Magadan	13.51	360	⇑ePN	Pn	02 03 07.0	-1.9
MA2				pmax	pmax		
	comp=Z,8.0nm,1.9s						
MA2	Magadan	13.51	360	eP	Pn	02 03 07.0	-1.9
SEY	Seymchan	16.90	2	P	Pn	02 03 50.8	-0.9
	comp=Z,0.3nm,0.3s,baz=163,slow=19,SNR=1.8						
ZEA	Zeya	16.98	305	eP	Pn	02 03 53.2	+0.5
ZEA	Zeya	16.98	305	eP	Pn	02 03 53.1	+0.4
KSRS	Korea Array	19.13	251	P	P	02 04 18.6	+1.9
	comp=Z,0.2nm,0.3s,baz=51,slow=10,SNR=4.2						
H11N2	WAKE ISLAND Hy	29.41	148	T	T	02 37 38.1	
	baz=338,slow=75,SNR=220						
H11N1	WAKE ISLAND Hy	29.42	148	T	T	02 37 35.7	
	baz=338,slow=75,SNR=191						
H11N3	WAKE ISLAND Hy	29.42	148	T	T	02 37 35.2	
	baz=338,slow=75,SNR=176						
SONM	Songino Array	30.11	290	P	P	02 05 59.4	-2.3
	comp=Z,0.1nm,0.4s,baz=47,slow=10,SNR=1.9						
H11S1	WAKE ISLAND Hy	30.46	149	T	T	02 38 53.5	
	baz=338,slow=76,SNR=201						
H11S3	WAKE ISLAND Hy	30.46	149	T	T	02 38 53.9	
	baz=338,slow=76,SNR=116						
H11S2	WAKE ISLAND Hy	30.48	149	T	T	02 38 57.0	
	baz=338,slow=76,SNR=117						
ILAR	Eielson Array	38.02	38	P	P	02 07 09.7	+0.1
	comp=Z,0.4nm,0.5s,baz=266,slow=6.9,SNR=13						
ILAR	Eielson Array	38.02	38	eP	P	02 07 10.1	+0.5
INK	Inuvik	43.03	32	P	P	02 07 50.8	+0.1
	comp=Z,0.8nm,0.4s,baz=309,slow=10,SNR=12						
MK31	Makanchi Array	45.88	297	⇓iP	P	02 08 12.1	-1.6
MKAR	Makanchi Array	45.88	297	P	P	02 08 11.3	-2.4
	comp=Z,0.6nm,0.5s,baz=69,slow=6.6,SNR=15						
MKAR				PcP	PcP	02 09 44.6	-4.6
	comp=Z,0.2nm,0.6s,baz=77,slow=5.6,SNR=1.2						
MKAR	Makanchi Array	45.88	297	eP	P	02 08 12.0	-1.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	45.88	297	eP	P	02 08 12.0	-1.7
YKA	Yellowknife Ar	52.37	36	P	P	02 09 03.4	+0.6
	comp=Z,0.8nm,0.5s,baz=299,slow=7.0,SNR=13						
FINES	FINESS Array B	63.97	334	P	P	02 10 20.9	-2.8
	comp=Z,0.5nm,0.5s,baz=30,slow=8.5,SNR=3.6						
FINES	FINESS Array B	63.97	334	eP	P	02 10 22.4	-1.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	Mina Array Bea	64.10	61	P	P	02 10 26.6	+1.3
	comp=Z,0.4nm,0.6s,baz=296,slow=6.7,SNR=4.6						
PDAR	Pinedale Array	66.38	52	P	P	02 10 40.5	+0.6
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=4.1						
WRA	Warramunga Arr	67.41	197	P	P	02 10 47.9	+1.6
	comp=Z,0.6nm,0.7s,baz=13,slow=6.2,SNR=5.8						
WRA	Warramunga Arr	67.41	197	eP	P	02 10 48.1	+1.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	68.34	340	P	P	02 10 48.7	-3.0
	comp=Z,0.7nm,1.0s,baz=29,slow=6.6,SNR=4.2						
ASAR	Alice Springs	71.11	196	P	P	02 11 10.1	+1.0
	comp=Z,0.8nm,0.7s,baz=9.5,slow=5.8,SNR=7.5						
ASAR	Alice Springs	71.11	196	eP	P	02 11 12.2	+3.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	71.23	325	P	P	02 11 06.1	-3.3
	comp=Z,0.4nm,0.3s,baz=35,slow=5.9,SNR=2.3						
SCHQ	Schefferville	74.50	22	P	P	02 11 28.4	-0.5
	comp=Z,4.4nm,1.0s,baz=319,slow=11,SNR=2.1						
TXAR	Lajitas Array	79.16	59	P	P	02 11 56.3	+0.8
	comp=Z,0.5nm,0.5s,baz=302,slow=4.8,SNR=9.5						
TXAR	Lajitas Array	79.16	59	eP	P	02 11 56.5	+1.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H03N2	Juan Fernandez	140.29	89	T	T	04 56 10.0	
	baz=307,slow=77,SNR=7.4						
H03N1	Juan Fernandez	140.31	89	T	T	04 56 13.4	
	baz=307,slow=77,SNR=8.8						
H03N3	Juan Fernandez	140.31	90	T	T	04 55 52.2	
	baz=307,slow=77,SNR=6.7						
PLCA	Paso Flores	149.68	95	PKPbc	PKPbc	02 19 39.8	+0.6
	comp=Z,0.9nm,0.6s,baz=292,slow=5.4,SNR=5.5						

IDC 03 02:23:34.5±51.0, **24°.62N**×**94°.32E**, **h0**km, **mb3.4**/3, **mb1 3.4**/3, **mb1mx3.2**/43, **mbtmp3.4**/3, **Error ellipse: s-maj=864.6km s-min=88.5km az=2.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	24.14	339	P	P	02 28 52.7	+0.5
	0.9nm,1.0s,baz=134,slow=8.7,SNR=4.8						
SONM	Songino Array	25.07	19	P	P	02 29 01.1	+0.3
	0.3nm,0.5s,baz=202,slow=7.4,SNR=3.4						
ZALV	Zalesovo Beam	30.15	349	P	P	02 29 45.2	-0.8
	0.4nm,0.4s,baz=148,slow=8.5,SNR=2.6						

*IDC **03** 02:28:16.6±1.7, 4°.66S×94°.32E, h0km, mb3.4/6, mb1 3.8/8, mb1mx3.6/37, mbtmp3.7/8, ML4.5/2, Error ellipse: s-maj=49.4km s-min=23.4km az=55.0*

*DJA **03** 02:28:19.5±2.9, 5°S±15°×9°4E±2°1, h10km, M5.3/13, mB5.6/5, mb5.2/13, MLv5.5/8, Mw(mB)5.1/5*

*NEIC **03** 02:28:19.6±0.9, 4°.65S±0°.08×94°.3E±0°.1, h18km±6km, mb4.5/8, Error ellipse: s-maj=19.0km s-min=8.5km az=116.0*

ISC 03 02:28:17.3±0.9, **4°.8S**±0°.1×**94°.3E**±0°.1, **h10**km, **n41**, σ**1s.34**/38, **mb3.9**/10, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	5.88	55	P	Pn	02 29 45.7	+1.1
	5.2nm21μm830nm,0.5s						
PPSI	Pulau Pagai	6.05	71	P	Pn	02 29 48.0	+1.1
	1.7nm6μm533nm,0.8s						
GSI	Gunungsitoli	6.86	29		Pn	02 29 57.9	-0.2
GSI	Gunungsitoli	6.86	29	P	Pn	02 29 57.7	-0.3
	0.3nm72nm,0.8s						
PPI	Padang Panjang	7.45	55	P	Pn	02 30 07.0	+0.9
KRJI	Kerinci	7.64	70	P	Pn	02 30 10.0	+1.2
	1.6nm306nm,0.4s						
MASI	Maura Aman, Be	8.10	79	P	Pn	02 30 13.9	-1.2
	0.5nm92nm,0.9s						
BKNI	Bangkinang	8.43	53	P	Pn	02 30 20.0	+0.4
	0.6nm101nm,0.6s						
RPSI	Rantau Prapat	8.73	32		Pn	02 30 24.2	+0.5
RPSI	Rantau Prapat	8.73	32	Pn	Pn	02 30 22.8	-0.9
PSI	Prapat	8.82	32	Pn	Pn	02 30 24.2	-0.8
	2.6nm,0.3s,baz=236,slow=11,SNR=8.7						
KCSI	Kotacane, Aceh	8.93	23	P	Pn	02 30 27.0	+0.5
	28nm,0.6s						
KASI	Kota Agung	10.20	95	P	Pn	02 30 46.2	+2.3
	23nm,0.4s						
IPM	Ipoh	11.38	36		Pn	02 30 59.1	-0.9
TNG	Tangerang	12.39	97	P	Pn	02 31 15.0	+1.1
CNJI	Cibinong	13.03	102	P	Pn	02 31 23.7	+1.1
SMRI	Semarang	16.23	99	P	Pn	02 32 04.0	-1.7
UWJI	Ujung Watu	16.67	96	P	Pn	02 32 08.7	-2.5
PALK	Pallekele	18.07	311	P	Pn	02 32 30.9	+2.2
	3.2nm,0.3s,baz=165,slow=18,SNR=11						
PALK	Pallekele	18.07	311		Pn	02 32 29.1	+0.4
PALK				IAmb	IAmb	02 32 31.6	
	comp=Z,14nm,0.8s						
H08S2	Diego Garcia H	21.85	261	T	T	02 54 58.2	
	baz=90						
H08S3	Diego Garcia H	21.86	261	T	T	02 55 00.6	
	baz=90						
H08S1	Diego Carcia H	21.87	261	T	T	02 55 02.5	
	baz=90						
CMAR	Chiang Mai Arr	23.52	11	P	P	02 33 27.6	-0.1
	comp=Z,1.5nm,0.4s,baz=193,slow=10,SNR=4.3						
CMAR	Chiang Mai Arr	23.52	11	P	P	02 33 27.5	-0.3
XAN	Xi'an	40.99	19	P	P	02 36 04.2	+3.6
XAN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,88nm,4.8s						
WRA	Warramunga Arr	41.80	115	P	P	02 36 08.4	+0.9
	comp=Z,0.2nm,0.6s,baz=284,slow=9.1,SNR=2.0						
WRA	Warramunga Arr	41.80	115	P	P	02 36 08.1	+0.6
WR0	Warramunga Arr	41.98	115	P	P	02 36 09.7	+0.7
ASAR	Alice Springs	42.55	120	P	P	02 36 14.8	+1.2
	comp=Z,0.1nm,0.5s,baz=286,slow=8.4,SNR=1.3						
KSAR	Wonju Array Be	52.35	34	P	P	02 37 29.4	-0.2
KS19	Wonju Array Si	52.38	34	P	P	02 37 28.0	-1.9
MKAR	Makanchi Array	52.41	350	P	P	02 37 29.7	-0.2
	comp=Z,0.2nm,0.8s,baz=151,slow=9.1,SNR=4.2						
MKAR	Makanchi Array	52.41	350	P	P	02 37 27.0	-2.9
SONM	Songino Array	53.44	10	P	P	02 37 37.7	+0.1
	comp=Z,0.5nm,0.6s,baz=189,slow=8.3,SNR=2.8						
TOO	Toolangi	56.90	132	P	P	02 38 01.4	-1.4
TOO				IAmb	IAmb	02 38 07.0	
	comp=Z,7.5nm,1.1s						
EIDS	Eidsvold	58.08	117	P	P	02 38 11.7	+0.4
EIDS				IAmb	IAmb	02 38 26.0	
	comp=Z,14nm,1.3s						
ZALV	Zalesovo Beam	59.02	353	P	P	02 38 16.7	-0.5
	comp=Z,0.3nm,0.3s,baz=169,slow=8.2,SNR=2.5						
ABKAR	Akbulak array	61.51	335	P	P	02 38 33.3	-1.0
ABKAR				IAmb	IAmb	02 38 51.0	
	comp=Z,2.5nm,0.9s						
NVAR	Mina Array Bea	135.27	37	PKP	PKPdf	02 47 38.8	+0.6
	comp=Z,0.3nm,0.7s,baz=292,slow=2.4,SNR=2.2						
TXAR	Lajitas Array	150.22	33	PKPbc	PKPbc	02 48 09.2	-0.4
	comp=Z,0.1nm,0.5s,baz=64,slow=2.1,SNR=1.8						

*SJA **03** 02:29:24.8±1.2, 29°.85S×72°.42W, h10km, ML4.2, MW4.1*

*IDC **03** 02:29:28.9±1.1, 29°.96S×71°.86W, h0km, mb3.9/8, mb1 4.1/13, mb1mx4.0/25, mbtmp3.9/13, ML4.0/5, Error ellipse: s-maj=28.9km s-min=25.6km az=22.0*

*NEIC **03** 02:29:30.4±1.6, 29°.96S±0°.03×72°.03W±0°.04, h15km±4km, mb4.3/7, ML4.3(GUC), Error ellipse: s-maj=5.4km s-min=4.9km az=65.0*

*GUC **03** 02:29:30.6±0.6, 29°.92S×72°.02W, h38km±3km, ML4.3*

ISC 03 02:29:28.7±0.5, **29°.92S**±0°.02×**72°.11W**±0°.04, **h10**km, **n118**, σ**2s.19**/161, **mb4.2**/9, **8C-5D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.76	90		Pb	02 29 43.5	-0.4
CO05					Sg	02 29 53.1	-0.2
CO05	La Serena	0.76	90	⇓iP	Pb	02 29 43.5	-0.4
CO05				IAML		02 29 54.8	
	comp=E,17μm,0.3s						
CO06	Fray Jorge	0.86	151		Pb	02 29 45.6	-0.1
CO06				Sn	Sb	02 29 57.1	-0.1
CO06	Fray Jorge	0.86	151	⇓iP	Pb	02 29 45.6	-0.1
CO06				i S	Sb	02 29 57.2	-0.1
CO06				IAML		02 29 58.9	
	comp=E,10μm,0.3s						
GO04	Tololo Observa	1.17	103		Pb	02 29 50.2	-0.8
GO04				Sn	Sg	02 30 04.8	-1.4
GO04	Tololo Observa	1.17	103	⇓iP	Pb	02 29 50.2	-0.8
GO04				i S	Sg	02 30 04.9	-1.4
GO04	Tololo Observa	1.17	103	eP	Pb	02 29 50.0	-1.1
LCO	Las Campanas	1.53	54	Pn	Pb	02 29 56.8	-0.5
LCO	Las Campanas	1.53	54	eP	Pn	02 29 56.5	+0.3
LCO				i S	Sn	02 30 15.7	-0.7
LCO	Las Campanas	1.53	54	eP	Pn	02 29 56.0	-0.3
CO03	El Pedregal	1.53	127		Pn	02 29 56.0	-0.2
CO03	El Pedregal	1.53	127	⇓iP	Pn	02 29 56.0	-0.2
CO03				i S	Sn	02 30 15.2	-1.1
CO03				IAML		02 30 19.5	
	comp=E,5μm,0.2s						
CO02	Combarbal	1.60	143		Pb	02 29 57.6	-0.7
CO02	Combarbal	1.60	143	⇓iP	Pb	02 29 57.7	-0.7
CO02				i S	Sn	02 30 17.8	-0.1
CO02				IAML		02 30 22.0	
	comp=N,11μm,0.5s						
CO02	Combarbal	1.60	143	eP	Pb	02 29 57.9	-0.5
CO02				eS	Sb	02 30 18.9	+0.2
CO02				IAML		02 30 21.4	
	comp=Z,4μm,0.5s						
AC04	Llanos de Chal	1.94	28		Pn	02 30 01.8	+0.1
AC04	Llanos de Chal	1.94	28	⇑iP	Pn	02 30 01.7	+0.1
AC04				IAML		02 30 38.0	
	comp=E,1μm,0.5s						
AC04	Llanos de Chal	1.94	28	eP	Pn	02 30 01.0	-0.6
AC04				eS	Sn	02 30 25.2	-0.9
AROD	Rodeo	2.30	97	eP	Pb	02 30 09.7	-0.8
AROD				eS	Sn	02 30 34.7	-0.8
ACDV	Cuesta del Vie	2.61	96	eP	Pb	02 30 15.0	-0.6
ACDV				eS	Sb	02 30 49.1	+1.3
ACCO	Cerro Coronel	2.72	105	eP	Pb	02 30 16.4	-1.2
ACCO				eS	Sg	02 30 53.8	-2.3
ACCO				IAML		02 30 56.5	
	comp=Z,1μm,1.0s						
VA06	Catapilco	2.72	165		Pn	02 30 13.2	+0.7
VA06	Catapilco	2.72	165	⇑iP	Pn	02 30 13.2	+0.7
VA06				i S	Sn	02 30 43.8	-1.7
VA06				IAML		02 31 10.6	
	comp=E,1μm,0.2s						
AC06	Mina Casimiro	2.98	32		Pn	02 30 16.9	+0.8
AC06	Mina Casimiro	2.98	32	⇑iP	Pn	02 30 16.9	+0.8
AC06				IAML		02 31 05.9	
	comp=E,488nm,0.5s						
VA01	Torpederas	3.12	173	Pn	Pn	02 30 18.5	+0.6
VA01	Torpederas	3.12	173	IAML		02 31 14.1	
	comp=E,416nm,0.8s						
VA03	San Esteban	3.13	155		Pn	02 30 19.9	+1.7
VA03	San Esteban	3.13	155	eP	Pn	02 30 20.3	+2.1
VA03				IAML		02 31 16.9	
	comp=E,938nm,0.2s						
VA03	San Esteban	3.13	155	eP	Pn	02 30 19.9	+1.7
VA03				eS	Sb	02 30 59.2	-3.7
VA03				IAML		02 31 15.5	
	comp=Z,620nm,0.5s						
ROCH	El Roble	3.18	163	⇑iP	Pb	02 30 20.0	-5.4
ROCH				⇑iP	Pn	02 30 18.4	-0.7
ROCH				i S	Sn	02 30 56.0	-1.1
ROCH				IAML		02 31 21.8	
	comp=N,820nm,0.5s						
ROCH				IAML		02 31 23.5	
	comp=N,1μm,0.7s						
ROC1	El Roble	3.19	163		Pn	02 30 18.3	-0.8
ROC1	El Roble	3.19	163	eP	Pn	02 30 13.2	-5.9
ROC1				eP	Pb	02 30 18.4	-7.1
ROC1				eS	Sn	02 30 50.2	-7.1
AUSP	Uspallata	3.28	135	eP	Pb	02 30 24.0	-3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AUSP				eP	Pn	02 30 24.2	+3.8
AUSP				eS	Sb	02 31 06.7	-0.5
ZON	Zonda	3.37	120	eP	Pb	02 30 25.4	-3.1
ZON				eS	Sb	02 31 08.7	-1.0
ZON				IAML		02 31 19.9	
	comp=Z,223nm,0.9s						
MT02	Curacav	3.43	166		Pn	02 30 22.6	+0.3
MT02	Curacav	3.43	166	eP	Pn	02 30 22.5	+0.3
MT02				IAML		02 31 27.1	
	comp=E,261nm,0.4s						
MT02	Curacav	3.43	166	eP	Pn	02 30 23.0	+0.8
MT02				eS	Sb	02 31 08.2	-3.1
MT02				IAML		02 31 19.6	
	comp=Z,297nm,0.4s						
RTLL	Cerro Villicun	3.44	115	eP	Pb	02 30 25.8	-3.8
RTLL				eS	Sb	02 31 08.7	-2.8
RTLL				eS	Sg	02 31 11.2	-7.8
PEL	Peldehue	3.44	160		Pn	02 30 22.4	+0.1
PEL	Peldehue	3.44	160	⇑iP	Pn	02 30 23.9	+1.5
PEL				i S	Sn	02 31 02.8	-0.3
PEL				IAML		02 31 25.4	
	comp=E,501nm,0.7s						
PEL	Peldehue	3.44	160	eP	Pn	02 30 23.8	+1.5
PEL				eP	Pb	02 30 24.0	-5.7
PEL				eS	Sn	02 31 04.7	+1.5
VCA	Vinchina	3.61	72	eP	Pn	02 30 24.2	-0.6
VCA				eP	Pb	02 30 29.0	-3.7
VCA				eP	Pg	02 30 29.7	-8.2
VCA				eS	Sn	02 31 08.2	+0.6
VCA				eS	Sb	02 31 13.2	-3.4
VCA				eS	Sg	02 31 26.7	+2.1
VCA				IAML		02 31 27.5	
	comp=Z,398nm,0.3s						
RTCV	Cerro Valdivia	3.63	123	eP	Pb	02 30 29.7	-3.3
RTCV				eS	Sb	02 31 19.2	+2.1
MT05	Renca	3.65	162	Pn	Pn	02 30 25.8	+0.4
MT05	Renca	3.65	162	IAML		02 31 25.9	
	comp=E,640nm,0.1s						
MT05	Renca	3.65	162	eP	Pn	02 30 26.7	+1.4
MT05				eP	Pb	02 30 29.0	-4.4
MT05				eS	Sn	02 31 11.2	+2.7
MT05				eS	Sb	02 31 11.6	-6.2
MT05				IAML		02 31 36.2	
	comp=Z,501nm,0.9s						
VA05	Santo Domingo	3.75	174		Pn	02 30 27.2	+0.7
VA05	Santo Domingo	3.75	174	eP	Pn	02 30 27.2	+0.7
VA05				IAML		02 31 39.3	
	comp=E,421nm,0.3s						
MT03	Universidad Ad	3.81	159		Pn	02 30 27.9	+0.4
MT03	Universidad Ad	3.81	159	eP	Pn	02 30 29.1	+1.5
MT03				IAML		02 31 33.7	
	comp=N,630nm,0.5s						
MT03	Universidad Ad	3.81	159	eP	Pn	02 30 29.7	+2.1
MT03				eS	Sn	02 31 14.7	+2.1
MT03				IAML		02 31 35.7	
	comp=Z,452nm,1.6s						
ASAL	Salagasta	3.87	134	eP	Pb	02 30 32.7	-4.3
ASAL				eS	Sb	02 31 24.2	+0.2
ARCO	CERRO ARCO	3.98	138	eP	Pb	02 30 34.9	-4.1
ARCO				eS	Sb	02 31 25.7	-1.7
ARCO				IAML		02 31 41.2	
	comp=Z,297nm,2.0s						
AC01	Pan de Azucar	3.99	20		Pn	02 30 29.1	-0.8
AC01	Pan de Azucar	3.99	20	eP	Pn	02 30 29.0	-0.9
AC01				eP	Pb	02 30 29.2	-10
AC01				eS	Sn	02 31 15.8	-0.9
AC01				IAML		02 31 42.1	
	comp=Z,294nm,1.2s						
MT01	Popeta	4.00	170	Pn	Pn	02 30 30.2	+0.2
MT01	Popeta	4.00	170	⇑iP	Pn	02 30 30.6	+0.6
MT01				IAML		02 31 40.0	
	comp=E,208nm,0.2s						
MT01	Popeta	4.00	170	eP	Pn	02 30 30.7	+0.7
MT01				eP	Pb	02 30 30.7	-8.5
MT01				eS	Sb	02 31 31.2	+3.5
MT01				IAML		02 31 47.9	
	comp=Z,178nm,0.7s						
AC02	Maricunga	4.04	41		Pn	02 30 31.9	+0.8
AC02	Maricunga	4.04	41	i P	Pn	02 30 32.6	+1.5
AC02				IAML		02 31 40.0	
	comp=E,349nm,0.1s						
AC02	Maricunga	4.04	41	eP	Pn	02 30 32.6	+1.5
AC02				eP	Pb	02 30 32.6	-7.7
AC02				eS	Sb	02 31 25.2	-4.3
AC02				eS	Sg	02 31 32.7	-5.9
AC02				IAML		02 31 41.9	
	comp=Z,302nm,0.9s						
AAGR	Agrelo	4.22	139	eP	Pn	02 30 32.7	-0.5
LMEL	Las Melosas	4.24	158		Pn	02 30 34.9	+1.4
LMEL	Las Melosas	4.24	158	eP	Pn	02 30 35.4	+1.9
LMEL				IAML		02 31 45.5	
	comp=N,214nm,0.4s						
BO04	La Punta	4.25	163		Pn	02 30 34.6	+1.1
ACLC	CERRO LA CRUZ	4.52	85	eS	Sb	02 31 38.7	-4.1
ACLC				IAML		02 31 50.7	
	comp=Z,259nm,0.7s						
BO01	Tunca	4.54	169		Pn	02 30 37.9	+0.4
BO01	Tunca	4.54	169	⇑eP	Pn	02 30 38.1	+0.6
BO01				IAML		02 31 57.0	
	comp=E,94nm,0.7s						
BO02	Sierra Bellavi	4.99	167		Pn	02 30 44.4	+0.7
BO02	Sierra Bellavi	4.99	167	eP	Pn	02 30 44.7	+1.0
GO05	Huala	5.08	178	Pn	Pn	02 30 44.0	-0.8
GO05	Huala	5.08	178	eS	Sn	02 31 40.6	-3.0
PB14	IPOC Station P	5.49	16	Pn	Pn	02 30 49.1	-1.7
RFA	San Rafael	5.74	148	eP	Pn	02 30 56.0	+2.0
RFA				eP	Pn	02 30 56.3	+2.3
ML02	Panimavida	5.86	174		Pn	02 30 56.8	+1.3
MRA	San Martin	6.02	116	eP	Pn	02 30 59.2	+1.3
MRA				eP	Pn	02 30 59.5	+1.6
MRA				eS	Sn	02 32 11.2	+4.3
MRA				eS	Sn	02 32 11.2	+4.3
MRA				eS	Sn	02 32 13.7	+6.8
H03N1	Juan Fernandez	6.78	237	T	T	02 38 21.6	
	baz=69,slow=72,SNR=1062						
H03N2	Juan Fernandez	6.79	237	T	T	02 38 25.3	
	baz=69,slow=72,SNR=1120						
H03N3	Juan Fernandez	6.79	237	T	T	02 38 23.1	
	baz=69,slow=72,SNR=919						
PB15	IPOC Station P	7.09	20		Pn	02 31 11.9	-0.8
PB15	IPOC Station P	7.09	20	eS	Sn	02 32 32.6	-0.8
PB15				eS	Sn	02 32 32.7	-0.8
PB15				eS	Sn	02 32 32.7	-0.8
PB06	IPOC Station P	7.54	18	eS	Sn	02 32 41.0	-3.4
PB06				eS	Sn	02 32 41.0	-3.4
PB04	IPOC Station P	7.76	14	eP	Pn	02 31 20.1	-1.7
PB04				eP	Pn	02 31 20.1	-1.7
PB04				eS	Sn	02 32 45.4	-4.5
LVC	Limon Verde	7.83	22	Pn	Pn	02 31 21.7	-1.2
	comp=E,1.7nm,0.3s,baz=172,slow=11,SNR=16						
LVC				Sn	Sn	02 32 49.5	-2.4
	comp=E,1.1nm,0.3s,baz=352,slow=20,SNR=1.2						
PB09	IPOC Station P	8.49	18	eP	Pn	02 31 30.7	-1.2
PB09				eP	Pn	02 31 30.7	-1.2
LC01	Cunco	8.96	179	Pn	Pn	02 31 37.8	-0.3
PB01	IPOC Station P	9.15	16	eP	Pn	02 31 38.6	-2.3
PLCA	Paso Flores	10.86	174	Pn	Pn	02 32 04.2	0.0
	comp=E,0.3nm,0.3s,baz=331,slow=13,SNR=12						
PLCA				Sn	Sn	02 34 03.7	-2.2
	comp=E,0.0nm,0.3s,baz=54,slow=14,SNR=2.1						
CPUP	Villa Florida	13.53	78	Pn	Pn	02 32 39.5	-1.1
	comp=E,0.1nm,0.3s,baz=191,slow=4.7,SNR=2.7						
CPUP				Sn	Sn	02 35 14.2	+3.1
	comp=E,0.1nm,0.3s,baz=212,slow=19,SNR=1.3						
CPUP	Villa Florida	13.53	78		Pn	02 32 38.6	-2.0
LPAZ	La Paz	14.05	16	Pn	Pn	02 32 50.3	+1.9
	comp=E,0.7nm,0.3s,baz=192,slow=7.6,SNR=16						
LPAZ	La Paz	14.05	16		Pn	02 32 52.0	+3.6
SIV	San Ignacio	17.17	39	P	P	02 33 30.7	+0.2
	comp=E,0.5nm,0.3s,baz=222,slow=9.7,SNR=22						
BDFB	Brasilia	26.30	63	P	P	02 35 04.2	-0.5
	comp=E,2.4nm,0.7s,baz=258,slow=6.9,SNR=4.5						
BDFB	Brasilia	26.30	63	P	P	02 35 04.6	-0.1
SNAA	Sanae	55.39	159	P	P	02 39 03.8	+1.1
SNAA				IAmb	IAmb	02 39 19.8	
	comp=Z,7.4nm,1.1s						
QSPA	South Pole Qui	60.30	180	P	P	02 39 39.3	+1.9
QSPA				IAmb	IAmb	02 39 52.5	
	comp=Z,6.3nm,1.4s						
TXAR	Lajitas Array	66.17	330	P	P	02 40 19.7	+3.1
	comp=Z,0.3nm,0.6s,baz=149,slow=9.0,SNR=5.2						
TXAR	Lajitas Array	66.17	330	P	P	02 40 18.0	+1.4
DBIC	Dimbokro	73.97	72	P	P	02 41 05.6	+0.9
	comp=Z,1.1nm,0.4s,baz=233,slow=6.0,SNR=3.7						
DBIC	Dimbokro	73.97	72	P	P	02 41 04.8	+0.1
PDAR	Pinedale Array	80.11	333	P	P	02 41 40.6	+1.7
	comp=Z,0.3nm,0.6s,baz=129,slow=5.9,SNR=3.8						
PDAR	Pinedale Array	80.11	333	P	P	02 41 38.7	-0.2
NVAR	Mina Array Bea	80.51	325	P	P	02 41 44.1	+3.0
	comp=Z,0.3nm,0.6s,baz=125,slow=7.8,SNR=2.2						
NVAR	Mina Array Bea	80.51	325	P	P	02 41 41.9	+0.7
ULM	Lac du Bonnet	82.55	345	P	P	02 41 53.9	+2.5
	comp=Z,2.2nm,0.7s,baz=192,slow=5.8,SNR=3.6						
TORD	Torodi Ar. Bea	82.90	71	P	P	02 41 55.1	+1.1
	comp=Z,1.7nm,0.8s,baz=264,slow=4.8,SNR=11						
TORD	Torodi Ar. Bea	82.90	71	P	P	02 41 53.7	-0.3
TORD				IAmb	IAmb	02 42 04.3	
	comp=Z,1.8nm,1.1s						
YKA	Yellowknife Ar	98.18	342	P	Pdif	02 43 07.2	+1.9
	comp=Z,0.1nm,0.6s,baz=140,slow=4.9,SNR=4.6						
YKA	Yellowknife Ar	98.18	342	P	Pdif	02 43 06.0	+0.7
H11S2	WAKE ISLAND Hy	125.66	272	T	T	05 07 26.2	
	baz=115,slow=74,SNR=33						
H11S1	WAKE ISLAND Hy	125.67	272	T	T	05 07 25.7	
	baz=115,slow=74,SNR=20						
H11S3	WAKE ISLAND Hy	125.68	272	T	T	05 07 38.0	
	baz=115,slow=74,SNR=32						
KURK	Kurchatov	149.83	38		PKPdf	02 49 13.4	-0.4
KURBB	Kurchatov Arra	149.83	38	PKPbc	PKiKP	02 49 19.1	-0.5
	comp=Z,0.5nm,0.2s,baz=322,slow=2.8,SNR=2.0						
ZALV	Zalesovo Beam	150.74	28	PKPbc	PKiKP	02 49 22.9	+1.5
	comp=Z,5.4nm,0.6s,baz=303,slow=3.3,SNR=25						
ZALV	Zalesovo Beam	150.74	28		PKiKP	02 49 22.2	+0.8

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*MEX **03** 02:50:52.9±0.6, 13°.90N×93°.21W, h10^{km}, MD3.3*
*IDC **03** 02:50:59.0±5.5, 15°.04N×92°.71W, h0^{km}, mb3.5/2, mb1 3.6/5, mb1mx3.4/50, mbtmp3.2/5, ML2.9/3, Error ellipse: s-maj=141.3km s-min=24.0km az=24.0*
ISC 03 02:50:55.6±1.5**, 14°.32N**±0°.09×**93°.06W**±0°.05**, h10^{km}, n15, σ1s.48**/23**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.96	53	e	Pn	02 51 14.6	-0.6
THIG				e		02 51 34.7	
PATR	El Naranjo	1.12	45	eP	Pn	02 51 16.9	-0.7
PATR				eS	Sn	02 51 35.4	+2.1
CHUJ	Union Juarez	1.20	50	eP	Pn	02 51 17.7	-0.9
CHUJ				i S	Sn	02 51 37.9	+2.7
PAVE	Pavencul	1.22	45	eP	Pg	02 51 18.3	-0.7
PAVE				i S	Sn	02 51 38.0	+2.4
PCIG		1.38	354	eP	Pg	02 51 20.6	-1.5
PCIG				eS	Sg	02 51 42.2	+2.2
CCIG	Comitan	2.14	25	eP	Pg	02 51 34.5	-2.2
CCIG				i S	Sg	02 52 02.9	-1.6
TGIG		2.44	359	eP	Pn	02 51 35.8	+0.2
TGIG				eS	Sb	02 52 09.5	-0.3
APG	El Apazote	2.60	75	Pn	Pn	02 51 37.3	-0.6
	4.3nm,0.3s,baz=291,slow=8.6,SNR=16						
UXUV	UXUV	3.15	341	eP	Pn	02 51 45.7	+0.4
UXUV				eS	Sb	02 52 29.9	-0.4
CMIG	Matias Romero	3.26	328	Pn	Pn	02 51 47.7	+0.8
	0.9nm,0.3s,baz=135,slow=11,SNR=12						
CMIG				Sn	Sn	02 52 24.4	-1.4
	3.5nm,0.3s,baz=134,slow=17,SNR=5.2						
CMIG	Matias Romero	3.26	328	eP	Pn	02 51 45.8	-1.1
CMIG				eS	Sn	02 52 27.3	+1.5
HUIG	Huatulco	3.27	296	e	Pg	02 52 18.9	+21
HUIG				e		02 53 08.0	
TXAR	Lajitas Array	17.87	328	P	P	02 55 04.8	-0.4
	0.0nm,0.3s,baz=152,slow=14,SNR=3.5						
NVAR	Mina Array Bea	32.78	322	P	P	02 57 30.8	+1.5
	0.3nm,0.6s,baz=131,slow=9.7,SNR=3.8						
YKA	Yellowknife Ar	50.48	347	P	P	02 59 53.0	-0.4
	0.6nm,0.6s,baz=152,slow=7.4,SNR=12						

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*MEX **03** 02:51:43.6±0.6, 13°.87N×93°.22W, h10^{km}, MD3.9*
*NEIC **03** 02:51:50.0±1.9, 14°.25N±0°.09×92°.98W±0°.09, h35^{km}±10^{km}, mb4.0/7, Md3.9/12(MEX), Error ellipse: s-maj=16.5km s-min=7.7km az=221.0*
*IDC **03** 02:51:51.7±4.5, 14°.27N×92°.95W, h53^{km}±28^{km}, mb3.6/6, mb1 3.9/9, mb1mx3.6/50, mbtmp3.8/9, ML3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/50, Error ellipse: s-maj=49.5km s-min=11.0km az=23.0*
*GCG **03** 02:52:06.0±0.3, 14°.52N×91°.63W, h31^{km}±3^{km}, MD4.3*
ISC 03 02:51:49.8±1.9**, 14°.22N**±0°.10×**93°.01W**±0°.08**, h40^{km}**±18^{km}**, n42, σ1s.52**/53**, mb4.0**/7**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.99	46		Pn	02 52 05.3	-2.0
THIG					Sn	02 52 22.2	+2.1
THIG		0.99	46	eP	Pn	02 52 05.3	-2.0
THIG				eS	Sn	02 52 22.2	+2.1
PATR	El Naranjo	1.16	40	eP	Pn	02 52 08.1	-1.8
PATR				eS	Sn	02 52 26.6	+2.0
CHUJ	Union Juarez	1.23	45	eP	Pn	02 52 08.8	-2.0
CHUJ				eS	Sn	02 52 28.8	+2.5
PAVE	Pavencul	1.26	39	eP	Pn	02 52 09.3	-1.8
PAVE				i S	Sn	02 52 29.5	+2.5
RTAL	Retalhuleu	1.31	76	Pn	Pn	02 52 09.9	-1.7
STG3	Santiaguito 3,	1.47	70	eP	Pn	02 52 13.0	-1.1
PCIG		1.49	352		Pn	02 52 11.7	-2.4
PCIG					Sn	02 52 32.4	-0.1
PCIG		1.49	352	i P	Pn	02 52 11.7	-2.4
PCIG				i S	Sn	02 52 32.4	-0.1
HUEH	Huehuetenango	1.82	53	Pn	Pn	02 52 18.8	-0.1
FUG	Fuego 3	2.11	84	eP	Pn	02 52 20.9	-1.9
CCIG	Comitan	2.22	22	Pn	Pn	02 52 25.9	+1.6
PCG	Pacaya	2.33	85	eP	Pn	02 52 24.5	-1.4
TGIG		2.55	357		Pn	02 52 27.2	-1.5
TGIG					Sn	02 53 00.3	+1.7
TGIG		2.55	357	eP	Pn	02 52 27.2	-1.5
TGIG				eS	Sn	02 53 00.3	+1.7
APG	El Apazote	2.58	72	P	Pn	02 52 28.9	-0.4
	15nm,0.3s,baz=270,slow=13,SNR=11						
APG				S	Sn	02 53 01.0	+1.4
	12nm,0.3s,baz=252,slow=20,SNR=4.6						
NBG	Las Nubes	2.60	82	eP	Pn	02 52 27.8	-1.8
MRL	Marmol	3.33	75	eP	Pn	02 52 37.6	-1.9
CMIG	Matias Romero	3.38	328	P	Pn	02 52 42.7	+2.5
	9.0nm,0.3s,baz=78,slow=15,SNR=5.0						
CMIG				S	Sn	02 53 20.6	+1.6
	7.9nm,0.3s,baz=95,slow=23,SNR=2.1						
CMIG				LR	LR	02 54 05.6	
	comp=Z,144nm,19.2s,baz=192,slow=40						
SNET	Serv Nac Est T	3.70	98	Pn	Pn	02 52 46.0	+1.4
PETF	Flores	4.04	48	Pn	Pn	02 52 48.5	-0.7
MATN	Matagalpa	7.00	100		Pn	02 53 30.3	+0.3
HZTE	Horizontes, Gu	8.03	115	Pn	Pn	02 53 43.5	-0.5
ORTG	Ortega, Santa	8.31	117	Pn	Pn	02 53 47.1	-0.9
SRBA	San Rafael, Bu	10.66	117	Pn	Pn	02 54 20.0	-0.2
TXAR	Lajitas Array	17.99	328	P	P	02 55 59.9	+2.7
	0.0nm,0.3s,baz=144,slow=11,SNR=10						
TXAR	Lajitas Array	17.99	328	P	Pn	02 55 57.0	0.0
TX31	Lajitas Ar. Si	17.99	328	P	Pn	02 55 56.4	-0.6
TX31				IAmb	IAmb	02 56 03.8	
	comp=Z,9.9nm,1.1s						
TX32	Lajitas Array	17.99	328	P	Pn	02 55 57.1	+0.1
MIAR	Mount Ida	20.25	359	P	P	02 56 21.9	+0.2
MIAR				IAmb	IAmb	02 56 30.2	
	comp=Z,11nm,1.1s						
MNTX	Cornudas Mount	20.77	329	P	P	02 56 27.5	+0.1
MNTX				IAmb	IAmb	02 56 32.5	
	comp=Z,1.5nm,0.8s						
AMTX	Amarillo	22.02	341	P	P	02 56 40.6	-0.2
SDV	Santo Domingo	22.54	101	P	P	02 56 47.3	+0.5
	comp=Z,2.6nm,0.7s,baz=300,slow=8.1,SNR=4.5						
121A	Cookes Peak, D	22.68	326	P	P	02 56 46.7	-1.4
121A				IAmb	IAmb	02 56 50.9	
	comp=Z,7.6nm,1.1s						
PDAR	Pinedale Array	31.83	337	P	P	02 58 12.6	+1.5
	comp=Z,0.4nm,0.6s,baz=142,slow=8.9,SNR=2.6						
MCMT	McKenzie Canyo	34.86	335	P	P	02 58 38.1	+0.6
YKA	Yellowknife Ar	50.59	347	P	P	03 00 44.6	+0.2
	comp=Z,2.2nm,0.6s,baz=152,slow=7.4,SNR=26						
YKA	Yellowknife Ar	50.59	347	P	P	03 00 44.3	-0.1
INK	Inuvik	59.96	344	P	P	03 01 52.2	+0.5
	comp=Z,1.1nm,0.6s,baz=128,slow=5.7,SNR=6.8						
INK	Inuvik	59.96	344	P	P	03 01 51.9	+0.2
INK				IAmb	IAmb	03 01 52.9	
	comp=Z,1.3nm,0.8s						
RES	Resolute Bay	60.47	359	P	P	03 01 54.5	-0.7
	comp=Z,1.1nm,0.8s,baz=182,slow=8.3,SNR=4.5						
ILAR	Eielson Array	62.26	337	P	P	03 02 07.0	-0.3
	comp=Z,0.4nm,0.7s,baz=98,slow=6.6,SNR=4.4						

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*ANF **03** 02:57:18.1±0.6, 41°.94N×119°.68W, h0^{km}, ML3.5/11, Error ellipse: s-maj=4.9km s-min=3.3km az=110.0*
*REN **03** 02:57:19.4±1.0, 41°.85N±0°.03×119°.63W±0°.06, h13^{km}±6^{km}, ML3.5/5, ML3.2/98(NEIC), Error ellipse: s-maj=6.9km s-min=3.8km az=68.0*
*NCEDC **03** 02:57:19.6, 41°.90N×119°.61W, h17^{km}*
*NEIC **03** 02:57:19.7±1.1, 41°.84N±0°.04×119°.64W±0°.04, h15^{km}±5^{km}, Error ellipse: s-maj=5.8km s-min=4.1km az=198.0*
ISC 03 02:57:19.4±1.3**, 41°.88N**±0°.03×**119°.63W**±0°.03**, h10^{km}**±12^{km}**, n66, σ1s.06**/73**, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.51	273		Pg	02 57 29.9	+0.6
MOD					Sb	02 57 37.1	-0.8
MOD	Modoc Plateau	0.51	273	IAML		02 57 37.4	
	comp=N,5μm,0.4s						
MOD				IAML		02 57 37.4	
	comp=E,6μm,0.3s						
WVOR	Wild Horse Val	0.92	53		Pg	02 57 37.4	+0.2
WVOR					Sn	02 57 50.3	-1.6
WVOR	Wild Horse Val	0.92	53	IAML		02 57 53.7	
	comp=E,1μm,0.7s						
WVOR				IAML		02 57 54.8	
	comp=E,724nm,0.6s						
K05A	Summer Lake	1.27	312	Pn	Pg	02 57 43.7	0.0
K05A				IAML		02 58 04.2	
	comp=E,691nm,0.8s						
M04C	Macdoel	1.66	267		Pn	02 57 48.3	-0.3
M04C	Macdoel	1.66	267	P	Pn	02 57 48.7	0.0
	baz=85,SNR=130						
M04C				Sg	Sb	02 58 11.7	+0.7
	baz=85						
J08A	Circle Bar Ran	1.71	30		Pn	02 57 49.3	+0.1
J08A				IAML		02 58 22.7	
	comp=E,262nm,0.7s						
K04D	Chiloquin, OR	1.75	296	Pg	Pb	02 57 51.2	-0.4
	baz=114						
J05D	Fort Rock, OR	1.84	320	P	Pn	02 57 50.4	-0.7
	baz=139						
L04D	Klamath Falls	2.02	281		Pn	02 57 53.2	-0.5
L04D				IAML		02 58 26.6	
	comp=E,313nm,0.5s						
L04D				IAML		02 58 36.8	
	comp=N,206nm,0.8s						
L04D	Klamath Falls	2.02	281	P	Pn	02 57 53.3	-0.4
	baz=98						
L04D				Sg	Sg	02 58 24.0	-0.5
	baz=98						
BEKR	Beckworth	2.08	196	Pn	Pn	02 57 54.5	0.0
BEKR				IAML		02 58 26.8	
	comp=N,250nm,0.3s						
BEKR				IAML		02 58 27.7	
	comp=E,296nm,0.6s						
PINE	Pine Mountain	2.14	334	Pn	Pn	02 57 55.3	-0.1
PINE				IAML		02 58 29.9	
	comp=E,175nm,0.6s						
PAHR	Pah Rah Range	2.18	175		Pn	02 57 55.4	-0.4
PAHR				IAML		02 58 30.0	
	comp=N,120nm,0.5s						
PAHR				IAML		02 58 32.2	
	comp=E,147nm,0.5s						
I07A	Izee	2.20	2		Pn	02 57 56.2	+0.1
LCMM	Colby Mountain	2.25	220		Pn	02 57 57.4	+0.6
O03E	Paynes Creek	2.28	227		Pn	02 57 55.8	-1.3
O03E				IAML		02 58 34.7	
	comp=N,130nm,0.7s						
O03E				IAML		02 58 36.4	
	comp=E,227nm,0.7s						
O03E	Paynes Creek	2.28	227	P	Pn	02 57 57.4	+0.2
	baz=45,SNR=32						
O03E				Sb	Sb	02 58 31.1	+2.2
	baz=45						
J04D	Umpqua Nationa	2.28	307	Pn	Pn	02 57 57.5	+0.2
J04D	Umpqua Nationa	2.28	307	Pg	Pb	02 58 00.8	0.0
	baz=125						
YBH	Yreka Blue Hor	2.31	267		Pn	02 57 57.1	-0.5
BMN	Battle Mountai	2.32	128		Pn	02 57 56.9	-0.9
BMN				IAML		02 58 38.0	
	comp=N,104nm,0.7s						
BMN				IAML		02 58 39.1	
	comp=E,102nm,0.6s						
M02C	Callahan	2.47	260	Pn	Pn	02 57 58.4	-1.3
M02C	Callahan	2.47	260	P	Pn	02 57 59.1	-0.7
	baz=77,SNR=10						
N02D	Trinity Center	2.48	250	Pn	Pn	02 57 59.1	-0.9
N02D	Trinity Center	2.48	250	P	Pn	02 57 59.3	-0.7
	baz=67,SNR=12						
N02D				Sb	Sb	02 58 36.9	+2.1
	baz=67						
WDC	Whiskeytown Da	2.55	240		Pn	02 58 00.1	-0.7
WDC				IAML		02 58 41.2	
	comp=N,94nm,1.0s						
HUMO	Hull Mountain	2.58	288		Pn	02 58 00.9	-0.3
HUMO				IAML		02 58 41.6	
	comp=E,91nm,0.6s						
HUMO				IAML		02 58 42.1	
	comp=N,111nm,0.8s						
VCNR	Virginia City	2.58	180	Pn	Pn	02 58 00.7	-0.7
MPK	Martis Peak	2.60	187	Pn	Pn	02 58 00.9	-0.8
MPK				IAML		02 58 45.0	
	comp=N,149nm,0.6s						
MPK				IAML		02 58 52.0	
	comp=E,145nm,1.1s						
ORV	Oroville	2.72	212		Pn	02 58 02.4	-0.8
I05D	Terrebonne, OR	2.76	334	Pg	Pb	02 58 09.2	+0.4
	baz=152,SNR=9.4						
I05D				Sg	Sg	02 58 47.1	-0.9
	baz=152						
PNTR	Pine Nut	2.79	180	Pn	Pn	02 58 02.7	-1.6
PNTR				IAML		02 58 50.0	
	comp=E,117nm,0.5s						
I04A	Tendick Farm,	2.80	314	Pg	Pb	02 58 10.2	+0.6
	baz=132,SNR=19						
I04A				Sg	Sg	02 58 48.1	-1.4
	baz=132						
RUBR	Rubicon Trail	2.85	188	Pn	Pn	02 58 03.7	-1.4
RUBR				IAML		02 58 52.7	
	comp=E,77nm,0.4s						
RUBR				IAML		02 59 01.9	
	comp=N,79nm,1.0s						
YERR	Yerington	2.91	174	Pn	Pn	02 58 04.7	-1.1
EMB	Emerald Bay	2.92	187	Pn	Pn	02 58 06.1	0.0
EMB				IAML		02 58 54.5	
	comp=E,74nm,0.8s						
EMB				IAML		02 58 56.7	
	comp=N,98nm,0.8s						
O02D	Mt. Diablo Mer	2.93	236	Pn	Pn	02 58 05.9	-0.3
O02D				IAML		02 58 51.9	
	comp=N,62nm,1.1s						
O02D				IAML		02 58 53.6	
	comp=E,66nm,0.9s						
O02D	Mt. Diablo Mer	2.93	236	P	Pn	02 58 05.9	-0.3
	baz=53,SNR=9.3						
O02D				Sb	Sb	02 58 50.2	+2.5
	baz=53						
DBO	Dodson Butte	2.95	296	Pn	Pn	02 58 06.1	-0.2
DBO				IAML		02 59 03.1	
	comp=N,50nm,0.9s						
L02E	Cave Junction	2.98	277	Pn	Pn	02 58 06.9	+0.3
L02E				IAML		02 59 10.8	
	comp=E,59nm,3.4s						
L02E				IAML		02 59 18.7	
	comp=N,50nm,4.3s						
KVN	Kaiserville	3.06	157	Pn	Pn	02 58 06.4	-1.5
KVN				IAML		02 58 59.6	
	comp=E,57nm,0.5s						
MFID	Camas Ranch	3.19	60	Pn	Pn	02 58 10.5	+0.7
RYN	Ryan	3.35	165		Pn	02 58 15.1	+3.1
RYN				IAML		02 59 11.5	
	comp=N,67nm,1.0s						
RYN				IAML		02 59 12.2	
	comp=E,67nm,0.8s						
H04A	Detroit Lake	3.37	327	Pn	Pn	02 58 12.9	+0.8
BUCK	Buck Mountain	3.38	314	Pn	Pn	02 58 13.0	+0.7
BUCK				IAML		02 58 41.2	
	comp=N,76nm,4.2s						
BUCK				IAML		02 58 54.0	
	comp=E,73nm,2.9s						
BMO	Blue Mountains	3.42	29	Pn	Pn	02 58 12.5	-0.4
J01E	Myrtle Point	3.43	293	Pn	Pn	02 58 12.6	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
J01E				IAML		02 59 37.7	
	comp=N,78nm,3.3s						
G08A	Pilot Rock	3.44	8	Pn	Pn	02 58 12.7	-0.5
ELK	Elko	3.49	107	Pn	Pn	02 58 13.2	-0.8
ELK				IAML		02 59 12.7	
	comp=N,33nm,0.2s						
ELK				IAML		02 59 12.9	
	comp=N,43nm,0.3s						
NVAR	Mina Array Bea	3.59	163		Pn	02 58 14.2	-1.1
NV11	Mina Array Sit	3.62	161	Pn	Pn	02 58 14.6	-1.1
LHV	Little Huntoon	3.72	166	Pn	Pn	02 58 15.5	-1.4
LHV				IAML		02 59 24.3	
	comp=N,63nm,0.9s						
PLID	Pearl Lake	4.15	38	Pn	Pn	02 58 22.8	-0.3
HLID	Hailey	4.19	65	Pn	Pn	02 58 23.3	-0.2
HLID				IAML		02 59 33.5	
	comp=N,33nm,0.7s						
HLID				IAML		02 59 40.1	
	comp=N,30nm,0.8s						
TPH	Tonopah	4.22	153	Pn	Pn	02 58 21.2	-2.8
F10A	Beach Ranch, E	4.45	22	Pn	Pn	02 58 27.0	+0.1
F10A				IAML		03 00 09.8	
	comp=N,19nm,4.9s						
R11A	Troy Canyon, C	4.69	137	Pn	Pn	02 58 29.8	-0.6
R11A				IAML		02 59 50.2	
	comp=E,14nm,0.9s						
R11A				IAML		02 59 50.3	
	comp=N,14nm,0.7s						
LCH	Last Change Ra	4.88	161	Pn	Pn	02 58 32.2	-0.8
LCH				IAML		03 00 13.7	
	comp=E,12nm,4.7s						
BGU	Big Grassy Mou	5.05	99	Pn	Pn	02 58 36.3	+0.9
BGU				IAML		03 00 05.1	
	comp=N,15nm,0.5s						
BGU				IAML		03 00 10.4	
	comp=E,18nm,0.9s						
BCYI	Bear Canyon	5.16	60	Pn	Pn	02 58 36.9	0.0
DUG	Dugway, Tooele	5.42	106	Pn	Pn	02 58 40.0	-0.3
PSUT	Pine Spring	5.54	125		Pn	02 58 45.0	+2.9
TPNV	Topopah Spring	5.57	151	Pn	Pn	02 58 41.2	-1.3
PRN	Pahroc Range	5.69	140	Pn	Pn	02 58 43.5	-0.6

*IDC **03** 03:03:40.5±2.8, 6°.13S×150°.24E, h0^{km}, mb3.6/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML1.8/1, Error ellipse: s-maj=70.9km s-min=42.6km az=112.0*

ISC 03 03:03:48.5±2.1**, 6°.3S**±0°.3×**150°.1E**±0°.4**, h50^{km}, n6,** σ**0^s.67**/7**, mb3.4**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.24	223	Pn	Pn	03 04 51.4	+0.9
	3.1nm,0.3s,baz=356,slow=15,SNR=3.9						
PMG				Sn	Sn	03 05 38.0	-0.8
	4.3nm,0.3s,baz=77,slow=22,SNR=6.9						
WRA	Warramunga Arr	20.44	227	P	P	03 08 21.7	-0.3
	1.6nm,0.6s,baz=52,slow=11,SNR=24						
ASAR	Alice Springs	23.25	220	P	P	03 08 52.0	+0.2
	0.1nm,0.4s,baz=58,slow=7.8,SNR=5.8						
FITZ	Fitzroy Crossi	26.57	242	P	P	03 09 22.2	+0.1
	0.6nm,0.5s,baz=42,slow=8.4,SNR=2.1						
STKA	Stephens Creek	26.67	196	P	P	03 09 22.6	-0.3
	0.5nm,0.4s,baz=353,slow=8.1,SNR=3.7						
TORD	Torodi Ar. Bea	148.12	285	PKPbc	PKPbc	03 23 29.4	-0.5
	0.3nm,0.5s,baz=86,slow=2.1,SNR=6.1						

*SKHL **03** 03:27:04.1±0.5, 43°.50N×150°.90E, h59^{km}±5^{km}, mb3.9/4*

JMA 03 03:27:05.5±0.5**, 45°.18N×149°.91E, h180^{km}, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	2.56	240	eP	Pn	03 27 49.6	+0.7
SHO				AMB	AMB	03 27 52.1	
	20nm,0.5s						
SHO				eS	Sn	03 28 23.3	+0.7
SHO				A	A	03 28 26.5	
	40nm,0.2s						
SHO				A	A	03 28 26.5	
	30nm,0.2s						
NEM2	Nemuro 2	3.50	240	P	Pn	03 28 00.6	+0.4
NEM2				eS	Sn	03 28 43.3	+0.3
NMR	Nemuro--Hokkai	3.51	240	eP	Pn	03 28 00.8	+0.5
NMR				AMB	AMB	03 28 01.1	
	20nm,0.4s						
NMR				eS	Sn	03 28 43.3	+0.2
NMR				A	A	03 28 48.4	
	30nm,0.2s						
NMR				A	A	03 28 48.4	
	30nm,0.2s						
JRA	Rausu	3.64	252	P	Pn	03 28 02.9	+0.9
JNK	Nakash	4.05	249	P	Pn	03 28 07.9	+0.7
AKK	Akkeshi	4.24	241	eP	Pn	03 28 10.0	+0.4
AKK				eS	Sn	03 28 59.8	-0.1
JAK	Akkeshi	4.34	242	P	Pn	03 28 11.5	+0.6
JAK				eS	Sn	03 29 02.6	+0.4
JTKR	Abashiri--Toko	4.46	256	P	Pn	03 28 12.5	+0.2
JAR	Ashorobuto	4.80	249	P	Pn	03 28 18.3	+1.5
JOB	Onbets	4.94	245	P	Pn	03 28 19.4	+0.8
JOB				eS	Sn	03 29 16.4	+0.5
JKK2	Kamakawa 2	5.29	258	P	Pn	03 28 23.8	+0.7
JCH	Churui	5.38	244	P	Pn	03 28 24.7	+0.3
JCH				eS	Sn	03 29 24.9	-1.4
JNBK	Urakawa-nobuka	5.94	243	P	Pn	03 28 31.2	-0.5
JNBK				eS	Sn	03 29 37.7	-1.8
JKB	Kayabe	7.24	246	P	Pn	03 28 47.8	-0.9
JKB				eS	Sn	03 30 06.2	-4.1

*IDC **03** 03:37:35.6±5.5, 13°.89N×92°.99W, h0^{km}, mb3.7/3, mb1 3.9/6, mb1mx3.5/43, mbtmp3.5/6, ML3.2/3, MS3.6/1, Ms1 3.7/1, ms1mx2.7/68, Error ellipse: s-maj=104.4km s-min=27.3km az=5.0*

*MEX **03** 03:37:38.0±0.3, 13°.89N×93°.14W, h10^{km}, MD4.0*

*GCG **03** 03:38:02.5±1.3, 14°.60N×91°.50W, h8^{km}±134^{km}, MD4.2*

ISC 03 03:37:37.5±2.1**, 14°.15N**±0°.08×**92°.99W**±0°.05**, h1^{km}**±12^{km}**, n19,** σ**1^s.25**/29**, mb3.8**/3**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		1.03	43	eP	Pn	03 37 58.6	-0.4
THIG				eS	Sn	03 38 14.3	+0.3
PATR	El Naranjo	1.20	37	eP	Pn	03 38 01.6	0.0
PATR				eS	Sn	03 38 19.9	+1.1
CHUJ	Union Juarez	1.27	42	eP	Pg	03 38 02.4	+0.6
CHUJ				eS	Sn	03 38 21.9	+1.6
PAVE	Pavencul	1.30	37	eP	Pg	03 38 03.0	+0.6
PAVE				eS	Sn	03 38 22.0	+0.9
STG3	Santiaguito 3,	1.48	68	eP	Pg	03 38 06.4	+0.5
PCIG		1.56	352	eP	Pn	03 38 05.5	-0.8
PCIG				eS	Sn	03 38 24.7	-2.5
FUG	Fuego 3	2.10	82	eP	Pb	03 38 14.9	-1.5
CCIG	Comitan	2.27	21	eP	Pb	03 38 19.0	-0.4
CCIG				eS	Sg	03 38 50.0	-0.5
APG	El Apazote	2.59	71	Pn	Pn	03 38 21.2	+0.5
	5.2nm,0.3s,baz=262,slow=12,SNR=25						
APG				Sn	Sb	03 38 55.0	-2.2
	7.0nm,0.3s,baz=269,slow=16,SNR=5.1						
NBG	Las Nubes	2.60	80	eP	Pb	03 38 24.4	-0.6
TGIG		2.61	357	eP	Pn	03 38 21.4	+0.4
TGIG				eS	Sn	03 38 54.0	+0.6
UXUV	UXUV	3.34	341	eP	Pn	03 38 30.8	0.0
UXUV				eS	Sn	03 39 12.6	+1.5
CMIG	Matias Romero	3.44	328	Pn	Pn	03 38 32.7	+0.4
	1.6nm,0.3s,baz=157,slow=16,SNR=28						
CMIG				Sn	Sn	03 39 13.3	-0.5
	4.1nm,0.3s,baz=128,slow=21,SNR=8.0						
CMIG	Matias Romero	3.44	328	eP	Pn	03 38 32.1	-0.2
CMIG				eS	Sn	03 39 11.7	-2.1
TXAR	Lajitas Array	18.05	329	P	P	03 41 52.7	+2.4
	0.0nm,0.3s,baz=148,slow=14,SNR=4.8						
NVAR	Mina Array Bea	32.95	322	P	P	03 44 15.6	+1.6
	0.4nm,0.7s,baz=132,slow=9.0,SNR=3.5						
LPAZ	La Paz	38.96	140	LR	LR	04 01 04.6	
	comp=Z,81nm,18.9s,baz=237,slow=36						
YKA	Yellowknife Ar	50.66	347	P	P	03 46 38.0	-0.1
	0.7nm,0.6s,baz=150,slow=7.5,SNR=12						
INK	Inuvik	60.02	344	P	P	03 47 44.0	-1.5
	1.1nm,0.9s,baz=143,slow=9.1,SNR=3.6						

*IDC **03** 03:49:57.6±12.0, 4°.68S×93°.93E, h0^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.5/48, mbtmp3.8/4, Error ellipse: s-maj=273.7km s-min=120.8km az=145.0*

*NEIC **03** 03:50:00.8±0.6, 4°.5S±0°.1×94°.2E±0°.2, h10^{km}±2^{km}, mb4.5/5, Error ellipse: s-maj=25.8km s-min=19.2km az=104.0*

ISC 03 03:50:03.2±1.7**, 4°.6S**±0°.2×**94°.3E**±0°.2**, h35^{km}, n12,** σ**0^s.48**/12**, mb4.2**/7**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	6.74	29	Pn	Pn	03 51 39.4	-0.3
GSI					Sn	03 52 55.4	+0.1
PMBI	Palembang	10.61	81	Pn	Pn	03 52 32.7	-0.1
CMAR	Chiang Mai Arr	23.38	11	P	P	03 55 09.4	+0.4
	1.0nm,0.3s,baz=201,slow=9.7,SNR=1.6						
CMAR	Chiang Mai Arr	23.38	11	P	P	03 55 09.3	+0.3
AAK	Ala-Archa	50.34	341	P	P	03 58 52.5	-4.3
AAK				IAmb	IAmb	03 58 55.7	
	comp=Z,9.3nm,1.8s						
MKAR	Makanchi Array	52.27	350	P	P	03 59 10.9	-0.2
	comp=Z,0.2nm,0.6s,baz=160,slow=8.8,SNR=2.6						
SONM	Songino Array	53.30	10	P	P	03 59 19.5	+0.7
	comp=Z,0.9nm,0.6s,baz=196,slow=9.1,SNR=4.4						
SONM	Songino Array	53.30	10	P	P	03 59 19.0	+0.1
ULN	Ulaanbaatar	53.45	11	P	P	03 59 19.9	0.0
ULN				IAmb	IAmb	03 59 32.7	
	comp=Z,13nm,2.0s						
ZALV	Zalesovo Beam	58.88	353	P	P	03 59 58.1	-0.3
	comp=Z,1.2nm,0.6s,baz=188,slow=7.3,SNR=6.1						
ZALV	Zalesovo Beam	58.88	353	P	P	03 59 57.4	-1.0
ABKAR	Akbulak array	61.38	335	P	P	04 00 15.8	+0.2
ABKAR				IAmb	IAmb	04 00 16.9	
	comp=Z,2.0nm,0.8s						

*NNC **03** 03:53:49.4±0.2, 43°.56N×76°.49E, h2^{km}±1^{km}, mb3.5, mpv3.4, Error ellipse: s-maj=1.4km s-min=1.1km az=166.0*

*SOME **03** 03:53:49.6, 43°.58N×76°.50E, h15^{km}*

*KRNET **03** 03:53:49.7±0.1, 43°.57N×76°.50E, h19^{km}, mb3.4*

*KNET **03** 03:53:50.8±0.7, 43°.52N×76°.41E, h12^{km}±3^{km}, ml2.4, Error ellipse: s-maj=5.1km s-min=4.0km az=176.0*

ISC 03 03:53:49.8±0.9**, 43°.57N**±0°.01×**76°.48E**±0°.01**, h10^{km}**±7^{km}**, n91,** σ**1^s.00**/169**, 37C-17D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTBS	Karatobe	0.20	45	eP	Pg	03 53 53.9	-0.2
	baz=43						
KTBS				eS	Sg	03 53 57.0	0.0
	baz=43						
KTBS	Karatobe	0.20	45	eP	Pg	03 53 53.9	-0.2
	116nm,0.2s						
KTBS				eS	Sg	03 53 57.0	0.0
	3µm,0.2s						
KTBS	Karatobe	0.20	45	P	Pg	03 53 53.9	-0.2
	116nm,0.2s						
KTBS				S	Sg	03 53 57.0	0.0
	3µm,0.2s						
KUU	Kurty	0.34	342	eP	Pg	03 53 56.6	0.0
	baz=41						
KUU				eS	Sg	03 54 01.5	+0.4
	baz=41						
KUU	Kurty	0.34	342	eP	Pg	03 53 56.6	0.0
	55nm,0.2s						
KUU				eS	Sg	03 54 01.6	+0.4
	356nm,0.3s						
KUU	Kurty	0.34	342	P	Pg	03 53 56.6	0.0
	55nm,0.2s						
KUU				S	Sg	03 54 01.6	+0.4
	356nm,0.3s						
MTBS	Maitube	0.44	185	eP	Pg	03 53 58.4	-0.1
	baz=86						
MTBS				eS	Sg	03 54 04.5	+0.2
	baz=86						
MTBS	Maitube	0.44	185	eP	Pg	03 53 58.4	-0.1
	54nm,0.1s						
MTBS				eS	Sg	03 54 04.5	+0.2
	143nm,0.1s						
MTBS	Maitube	0.44	185	P	Pg	03 53 58.4	-0.1
	54nm,0.1s						
MTBS				S	Sg	03 54 04.5	+0.2
	143nm,0.3s						
CHKK	Chushkaly	0.47	52	eP	Pg	03 53 58.7	-0.3
	baz=52						
CHKK				eS	Sg	03 54 05.2	+0.1
	baz=52						
CHKK	Chushkaly	0.47	52	eP	Pg	03 53 58.7	-0.3
	40nm,0.1s						
CHKK				eS	Sg	03 54 05.1	+0.1
	238nm,0.4s						
CHKK	Chushkaly	0.47	52	P	Pg	03 53 58.7	-0.3
	40nm,0.2s						
CHKK				S	Sg	03 54 05.1	+0.1
	238nm,0.4s						
AAA	Alma-Ata	0.48	138	eP	Pg	03 53 59.3	+0.1
	baz=40						
AAA				eS	Sg	03 54 06.0	+0.5
	baz=40						
AAA	Alma-Ata	0.48	138	eP	Pg	03 53 59.3	+0.1
	43nm,0.2s						
AAA				eS	Sg	03 54 06.0	+0.5
	288nm,0.2s						
AAA	Alma-Ata	0.48	138	P	Pg	03 53 59.3	+0.1
	43nm,0.2s						
AAA				S	Sg	03 54 06.0	+0.5
	288nm,0.2s						
KNDC	Almaty	0.50	135	⇓P	Pg	03 53 59.5	-0.1
	16nm,0.3s						
KNDC				⇑S	Sg	03 54 06.5	+0.4
	28nm,0.2s						
IZV	Izvestkoviy	0.54	170	eP	Pg	03 54 00.4	0.0
	baz=71						
IZV				eS	Sg	03 54 07.6	+0.1
	baz=71						
IZV	Izvestkoviy	0.54	170	eP	Pg	03 54 00.4	0.0
	40nm,0.1s						
IZV				eS	Sg	03 54 07.7	+0.1
	142nm,0.1s						
KOTS	Kotyrbulak	0.57	126	eP	Pg	03 54 00.8	-0.1
	baz=27						
KOTS				eS	Sg	03 54 08.5	+0.1
	baz=27						
KOTS	Kotyrbulak	0.57	126	eP	Pg	03 54 00.8	-0.1
	27nm,0.1s						
KOTS				eS	Sg	03 54 08.5	+0.1
	143nm,0.2s						
KOTS	Kotyrbulak	0.57	126	P	Pg	03 54 00.8	-0.1
	27nm,0.1s						
KOTS				S	Sg	03 54 08.5	+0.1
	143nm,0.5s						
MDOK	Medeo	0.58	134	eP	Pg	03 54 00.7	-0.4
	baz=35						
MDOK				eS	Sg	03 54 08.5	-0.2
	baz=35						
MDOK	Medeo	0.58	134	eP	Pg	03 54 00.7	-0.4
	23nm,0.3s						
MDOK				eS	Sg	03 54 08.5	-0.2
	106nm,0.4s						
MDOK	Medeo	0.58	134	⇑P	Pg	03 54 00.6	-0.4
	8.5nm,0.4s						
MDOK				⇑S	Sg	03 54 08.3	-0.4
	90nm,0.6s						
MDOK	Medeo	0.58	134	Pg	Pg	03 54 00.7	-0.4
	23nm,0.3s						
MDOK				Lg	Lg	03 54 08.5	
	106nm,0.4s						
KRBS	Karabastau	0.60	283	eP	Pg	03 54 01.6	+0.1
	baz=82						
KRBS				eS	Sg	03 54 10.1	+0.7
	baz=82						
KRBS	Karabastau	0.60	283	eP	Pg	03 54 01.6	+0.1
	45nm,0.1s						
KRBS				eS	Sg	03 54 10.0	+0.7
	104nm,0.2s						
KRBS	Karabastau	0.60	283	P	Pg	03 54 01.6	+0.1
	45nm,0.1s						
KRBS				S	Sg	03 54 10.0	+0.7
	104nm,0.2s						
DGS	Degeres	0.61	238	eP	Pg	03 54 01.8	+0.1
	baz=38						
DGS				eS	Sg	03 54 10.2	+0.5
	baz=38						
DGS	Degeres	0.61	238	eP	Pg	03 54 01.8	+0.1
	59nm,0.1s						
DGS				eS	Sg	03 54 10.2	+0.5
	82nm,0.2s						
DGS	Degeres	0.61	238	P	Pg	03 54 01.8	+0.1
	62nm,0.2s						
DGS				S	Sg	03 54 10.2	+0.5
	82nm,0.4s						
TNSS	Tian-Shan	0.63	147	eP	Pg	03 54 01.9	-0.2
	baz=48						
TNSS				eS	Sg	03 54 10.5	+0.1
	baz=48						
TNSS	Tian-Shan	0.63	147	eP	Pg	03 54 01.9	-0.2
	14nm,0.2s						
TNSS				eS	Sg	03 54 10.5	+0.1
	46nm,0.3s						
TNSS	Tian-Shan	0.63	147	P	Pg	03 54 01.9	-0.2
	14nm,0.2s						
TNSS				S	Sg	03 54 10.5	+0.1
	46nm,0.3s						
TKM2	Tokmak 2	0.92	225	⇓P	Pb	03 54 07.5	-0.5
	4.3nm,0.1s,SNR=34						
TKM2				⇓S	Sg	03 54 19.7	+0.4
	34nm,0.1s						
TKM2	Tokmak 2	0.92	225	⇑iP	Pb	03 54 07.2	-0.8
	baz=26						
TKM2				⇑iS	Sb	03 54 19.3	-1.0
	baz=26						
TKM2	Tokmak 2	0.92	225	⇑P	Pb	03 54 07.3	-0.7
	2.3nm,0.3s						
TKM2				⇓S	Sg	03 54 19.7	+0.4
	9.8nm,0.5s						
BOOM	Boomskoye usch	1.15	200	⇑iP	Pb	03 54 11.0	-0.9
	baz=1.0						
BOOM				⇑iS	Sb	03 54 26.1	-0.9
	baz=1.0						
ARXS	Arharly	1.17	56	eP	Pn	03 54 11.3	-1.1
	15nm,0.2s						
ARXS				eS	Sb	03 54 26.6	-0.8
	46nm,0.2s						
ARXS	Arharly	1.17	56	P	Pn	03 54 11.3	-1.1
	15nm,0.2s						
ARXS				S	Sb	03 54 26.6	-0.8
	46nm,0.2s						
ANVS	Anan'yevo	1.17	132	⇓iP	Pb	03 54 11.4	-0.9
	baz=32						
ANVS				⇓iS	Sn	03 54 27.2	-1.4
	baz=32						
KURS	Kuram	1.23	93	eP	Pb	03 54 12.5	-0.8
	baz=93						
KURS				eS	Sg	03 54 29.0	-0.5
	baz=93						
KURS	Kuram	1.23	93	eP	Pb	03 54 12.5	-0.8
	13nm,0.3s						
KURS				eS	Sg	03 54 28.9	-0.5
	24nm,0.1s						
KURS	Kuram	1.23	93	P	Pb	03 54 12.4	-0.8
	13nm,0.3s						
KURS				S	Sg	03 54 28.9	-0.5
	24nm,0.5s						
ULHL	Ulahol	1.33	188	⇓P	Pb	03 54 14.5	-0.5
	6.7nm,0.2s,SNR=20						
ULHL	Ulahol	1.33	188	⇑iP	Pb	03 54 14.6	-0.5
	baz=88						
ULHL				⇑iS	Sg	03 54 32.3	-0.5
	baz=88						
SGDS	Sogindy	1.35	266	eP	Pb	03 54 14.9	-0.5
	12nm,0.3s						
SGDS				eS	Sg	03 54 33.0	-0.4
	24nm,0.2s						
SGDS	Sogindy	1.35	266	P	Pb	03 54 14.9	-0.5
	12nm,0.3s						
SGDS				S	Sg	03 54 33.0	-0.4
	24nm,0.2s						
CHMS	Chumysh	1.39	246	⇓P	Pb	03 54 15.6	-0.2
	18nm,0.2s,SNR=17						
CHMS				⇑S	Sg	03 54 34.2	-0.2
	85nm,0.2s						
CHMS	Chumysh	1.39	246	⇓iP	Pb	03 54 15.3	-0.6
	baz=46						
CHMS				⇓iS	Sb	03 54 33.8	+0.1
	baz=46						
KBK	Karagaybulak	1.45	231	⇑P	Pg	03 54 17.2	-0.4
	9.4nm,0.2s,SNR=13						
KBK				⇓S	Sg	03 54 37.1	+0.7
	31nm,0.2s						
KBK	Karagaybulak	1.45	231	⇓iP	Pb	03 54 16.6	-0.4
	baz=32						
KBK				⇓iS	Sb	03 54 35.7	+0.2
	baz=32						
USP	Ospenovka	1.48	259	⇑P	Pb	03 54 17.1	-0.3
	35nm,0.3s,SNR=35						
USP				⇓S	Sb	03 54 36.4	+0.1
	64nm,0.3s						
USP	Ospenovka	1.48	259	⇑iP	Pb	03 54 17.0	-0.4
	baz=59						
USP				⇑iS	Sb	03 54 36.5	+0.2
	baz=59						
ZHN	Zhinishke	1.48	105	eP	Pb	03 54 16.7	-0.9
	baz=5.0						
ZHN				eS	Sb	03 54 35.8	-0.7
	baz=5.0						
ZHN	Zhinishke	1.48	105	eP	Pb	03 54 16.7	-0.9
	35nm,0.1s						
ZHN				eS	Sb	03 54 35.8	-0.7
	111nm,0.2s						
ZHN	Zhinishke	1.48	105	P	Pb	03 54 16.7	-0.9
	54nm,0.2s						
ZHN				S	Sb	03 54 35.8	-0.7
	111nm,0.2s						
SATY	Saty	1.49	109	eP	Pb	03 54 17.1	-0.7
	baz=9.0						
SATY				eS	Sb	03 54 36.4	-0.5
	baz=9.0						
SATY	Saty	1.49	109	eP	Pb	03 54 17.1	-0.7
	30nm,0.1s						
SATY				eS	Sb	03 54 36.4	-0.5
	55nm,0.1s						
SATY	Saty	1.49	109	P	Pb	03 54 17.1	-0.7
	30nm,0.1s						
SATY				S	Sb	03 54 36.4	-0.5
	55nm,0.1s						
KDJ	Kajisay	1.53	160	⇑eP	Pb	03 54 18.2	-0.2
	baz=60						
KDJ				⇑iS	Sg	03 54 38.5	-0.4
	baz=60						
BLB	Baldybastay	1.54	69	eP	Pb	03 54 17.4	-1.1
	86nm,0.2s						
BLB				eS	Sb	03 54 37.4	-0.8
	292nm,0.4s						
BLB	Baldybastay	1.54	69	P	Pb	03 54 17.4	-1.1
	86nm,0.2s						
BLB				S	Sb	03 54 37.4	-0.8
	292nm,0.4s						
KPKS	Kokpek	1.61	93	eP	Pb	03 54 18.9	-0.8
	baz=93						
KPKS				eS	Sb	03 54 39.8	-0.2
	baz=93						
KPKS	Kokpek	1.61	93	eP	Pb	03 54 18.9	-0.8
	44nm,0.2s						
KPKS				eS	Sb	03 54 39.9	-0.2
	68nm,0.2s						
UZB	Uzynbulak	1.90	102	eP	Pb	03 54 24.1	-0.6
	baz=2.0						
UZB				eS	Sb	03 54 48.8	+0.2
	baz=2.0						
UZB	Uzynbulak	1.90	102	eP	Pb	03 54 24.1	-0.6
	71nm,0.3s						
UZB				eS	Sb	03 54 48.8	+0.2
	48nm,0.4s						
UZB	Uzynbulak	1.90	102	P	Pb	03 54 24.1	-0.6
	71nm,0.3s						
UZB				S	Sb	03 54 48.8	+0.2
	48nm,0.4s						
UCH	Uchtor	1.97	228	⇑P	Pb	03 54 26.5	+0.4
	2.7nm,0.2s,SNR=12						
UCH				⇑S	Sg	03 54 53.4	+0.2
	15nm,0.2s						
UCH	Uchtor	1.97	228	⇑iP	Pb	03 54 25.6	-0.5
	baz=28						
UCH				⇑iS	Sb	03 54 51.6	+0.7
	baz=28						
TARG	Taragay, Kyrgy	2.08	152	⇑iP	Pb	03 54 26.6	-1.4
	baz=52						
TARG				⇑iS	Sb	03 54 53.4	-0.6
	baz=52						
EKS2	Erkin-Say	2.18	246	⇑P	Pb	03 54 29.5	+0.1
	2.5nm,0.1s,SNR=10						
EKS2				⇑S	Sg	03 54 58.6	-1.2
	25nm,0.5s						
EKS2	Erkin-Say	2.18	246	⇑iP	Pb	03 54 28.2	-1.2
	baz=46						
EKS2				⇑iS	Sb	03 54 56.1	-0.4
	baz=46						

PDGK	Podgornoye	2.20	95	Pg	Pb	03 54 28.5	-1.3
	3.9nm,0.4s						
PDGK				Lg	Lg	03 54 56.4	
	14nm,0.4s						
PDGK	Podgornoye	2.20	95	⇑Pg	Pb	03 54 28.7	-1.2
	2.1nm,0.2s						
PDGK				⇑Lg	Lg	03 54 57.7	
	14nm,0.5s						
SHLS	Shalkode	2.21	100	eP	Pg	03 54 35.4	+3.2
	3.2nm,0.2s						
SHLS				eS	Sg	03 55 07.9	+6.9
	17nm,0.4s						
SHLS	Shalkode	2.21	100	Pg	Pg	03 54 34.7	+2.5
	3.2nm,0.2s						
SHLS				Lg	Lg	03 55 07.1	
	17nm,0.4s						
BTLS	Baital	2.29	311	eP	Pb	03 54 31.7	+0.5
	4.7nm,0.1s						
BTLS				eS	Sg	03 55 01.6	-1.7
	11nm,0.3s						
BTLS	Baital	2.29	311	Pg	Pb	03 54 31.7	+0.5
	4.7nm,0.2s						
BTLS				Lg	Lg	03 55 01.6	
	11nm,0.3s						
ARLS	Aral	2.33	224	⇑iP	Pb	03 54 30.4	-1.7
	baz=24						
ARLS				⇑iS	Sb	03 54 59.5	-1.5
	baz=24						
DJR	Jarkent	2.51	71	eP	Pb	03 54 35.1	+0.1
	6.5nm,0.1s						
DJR				eS	Sg	03 55 07.4	-3.0
	24nm,0.5s						
DJR	Jarkent	2.51	71	Pg	Pb	03 54 33.8	-1.2
	4.7nm,0.4s						
DJR				Lg	Lg	03 55 05.8	
	24nm,0.5s						
MRKS	Merke	2.52	252	eP	Pb	03 54 36.3	+1.0
	3.5nm,0.1s						
MRKS				eS	Sg	03 55 09.4	-1.4
	28nm,0.5s						
MRKS	Merke	2.52	252	Pg	Pg	03 54 37.4	-0.8
	8.3nm,0.3s						
MRKS				Lg	Lg	03 55 11.3	
	28nm,0.5s						
KAPS	Kapalarasan	2.68	49	eP	Pb	03 54 38.4	+0.4
	2.6nm,0.1s						
KAPS				eS	Sg	03 55 13.0	-2.9
	42nm,0.4s						
KAPS	Kapalarasan	2.68	49	Pg	Pb	03 54 37.8	-0.2
	4.1nm,0.3s						
KAPS				Lg	Lg	03 55 12.1	
	42nm,0.4s						
MNAS	Manas	3.11	251	⇑iP	Pn	03 54 41.1	+2.0
	baz=51						
MNAS				⇑iS	Sn	03 55 18.4	+1.9
	baz=51						
KK05	Karatay Array	4.37	266	⇑Pg	Pg	03 55 10.4	-3.1
	1.0nm,0.5s,baz=82,slow=16						
KK05				⇓Lg	Lg	03 56 06.0	
	3.8nm,0.5s,baz=84,slow=28						
MAKZ	Makanchi	5.06	48	⇑Lg	Lg	03 56 26.7	
	1.4nm,0.6s						
MK31	Makanchi Array	5.22	50	Pn	Pn	03 55 10.3	+2.3
	0.1nm,0.2s,baz=226,slow=14,SNR=9.1						
MK31				⇓Pg	Pb	03 55 23.3	+2.1
	0.5nm,0.5s,baz=228,slow=15,SNR=2.5						
MK31				⇓Sn	Sn	03 56 08.4	+0.1
	0.3nm,0.5s,baz=222,slow=24,SNR=3.5						
MK31				⇑Lg	Lg	03 56 28.4	
	1.4nm,0.6s,baz=228,slow=27,SNR=4.5						
KURBB	Kurchatov Arra	7.20	10	⇑Lg	Lg	03 57 40.2	
	4.0nm,0.6s						

IDC 03 04:14:22.5±0.9, 6°.23S×150°.26E, h0km, mb4.4/8, mb1 4.6/10, mb1mx4.1/48, mbtmp4.4/10, ML3.0/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/60, Error ellipse: s-maj=42.7km s-min=15.9km az=131.0

NEIC 03 04:14:28.2±1.3, 6°.2S±0°.2×150°.3E±0°.2, h54km±11km, mb4.6/11, Error ellipse: s-maj=34.8km s-min=10.1km az=131.0

DJA 03 04:14:29.2±0.7, 7°S±6°×15°1E±°, h42km±11km, M4.6/6, mB4.3/1, mb4.4/6, MLv4.7/3, Mw(mB)3.4/1

ISC 03 04:14:28.4±0.7, 6°.2S±0°.1×150°.3E±0°.2, h50km, n43, σ1s.54/39, mb4.3/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.60	43	Pn	Pn	04 15 05.7	-2.3
	16nm,0.3s,baz=322,slow=2.0,SNR=10						
KRVT				Sn	Sn	04 15 45.8	+7.4
	18nm,0.3s,baz=234,slow=23,SNR=1.5						
RABL	Rabaul	2.78	43		Pn	04 15 10.9	+0.4
RABL	Rabaul	2.78	43	P	Pn	04 15 15.1	+4.6
PMG	Port Moresby	4.40	224	Pn	Pn	04 15 32.6	-0.1
	14nm,0.3s,baz=35,slow=11,SNR=19						
PMG				Sn	Sn	04 16 20.6	-2.0
	9.4nm,0.3s,baz=69,slow=16,SNR=3.0						
PMG				LR	LR	04 17 20.4	
	comp=Z,249nm,21.7s,baz=122,slow=40						
PMG	Port Moresby	4.40	224		Pn	04 15 33.1	+0.4
PMG	Port Moresby	4.40	224	P	Pn	04 15 32.8	+0.1
PMG	Port Moresby	4.40	224	P	Pn	04 15 33.0	+0.4
CTA	Charters Tower	14.31	195	LR	LR	04 22 28.4	
	comp=Z,91nm,21.4s,baz=350,slow=34						
QIS	Mount Isa	17.59	215	P	P	04 18 31.6	+1.0
EIDS	Eidsvold	19.04	178	P	P	04 18 46.5	0.0
EIDS				IAmb	IAmb	04 18 48.3	
	comp=Z,22nm,1.2s						
MTN	Manton Dam	19.96	249		P	04 18 56.0	-0.6
MTN				IAmb	IAmb	04 18 58.4	
	comp=Z,21nm,0.9s						
MTN	Manton Dam	19.96	249	P	Pn	04 18 59.8	+1.2
DRS	Darwin Rock St	20.06	251	P	Pn	04 18 59.6	-0.2
RMQ	Roma	20.19	184	P	P	04 19 00.5	+1.5
WB0	Warramunga Arr	20.46	227		P	04 19 00.6	-1.4
WB0				IAmb	IAmb	04 19 06.6	
	comp=Z,26nm,0.8s						
WR0	Warramunga Arr	20.48	227	P	P	04 19 01.8	-0.4
WR0				IAmb	IAmb	04 19 07.3	
	comp=Z,37nm,1.0s						
WRAB	Tennant Creek	20.60	227	P	P	04 19 03.3	-0.2
WB2	Warramunga Arr	20.60	227	P	P	04 19 02.6	-1.0
WB2				IAmb	IAmb	04 19 08.1	
	comp=Z,24nm,0.8s						
WRA	Warramunga Arr	20.61	227	P	P	04 19 03.2	-0.4
	comp=Z,21nm,0.8s,baz=52,slow=11,SNR=70						
WRA				S	S	04 22 46.3	-5.1
	comp=Z,0.8nm,0.8s,baz=35,slow=26,SNR=2.2						
WRA	Warramunga Arr	20.61	227		P	04 19 02.5	-1.2
QLP	Quilpie	21.03	195	P	P	04 19 08.6	+0.5
	comp=Z,22nm,0.7s						
KNRA	Kununurra	23.07	244	P	P	04 19 28.9	-1.0
KNRA				IAmb	IAmb	04 19 48.5	
	comp=Z,19nm,0.9s						
KNRA	Kununurra	23.07	244	P	P	04 19 32.1	+2.2
ASAR	Alice Springs	23.41	221	P	P	04 19 32.8	-0.3
	comp=Z,3.4nm,0.8s,baz=56,slow=8.9,SNR=21						
ASAR				S	S	04 23 43.0	+0.2
	comp=Z,0.5nm,0.8s,baz=38,slow=19,SNR=3.0						
ASAR	Alice Springs	23.41	221	P	P	04 19 33.2	+0.1
OOD	Oodnadatta	25.52	211	P	P	04 19 53.6	+1.3
BATI	Baumata	26.61	260	P	P	04 20 01.9	-0.5
	comp=Z,15nm,0.3s,baz=140,slow=7.6,SNR=1.2						
BATI	Baumata	26.61	260	P	P	04 20 22.3	+20
LCRK	Leigh Creek	26.61	204	P	P	04 20 04.6	+2.4
FITZ	Fitzroy Crossi	26.75	242	P	P	04 20 04.0	+0.3
	comp=Z,2.6nm,0.6s,baz=59,slow=7.6,SNR=16						
FITZ	Fitzroy Crossi	26.75	242	P	P	04 20 03.2	-0.4
FITZ				IAmb	IAmb	04 20 11.6	
	comp=Z,18nm,1.0s						
STKA	Stephens Creek	26.77	197	P	P	04 20 04.3	+0.7
	comp=Z,4.5nm,0.6s,baz=30,slow=11,SNR=10						
STKA				LR	LR	04 30 01.0	
	comp=Z,89nm,22.0s,baz=24,slow=35						
STKA	Stephens Creek	26.77	197	P	P	04 20 02.5	-1.1
STKA	Stephens Creek	26.77	197	P	P	04 20 04.5	+0.9
MKAR	Makanchi Array	79.75	320	P	P	04 26 34.4	+3.2
	comp=Z,0.5nm,1.0s,baz=87,slow=5.9,SNR=2.7						
ILAR	Eielson Array	84.44	23	P	P	04 26 55.1	-0.3
	comp=Z,0.9nm,0.8s,baz=247,slow=4.2,SNR=9.4						
ILAR	Eielson Array	84.44	23	P	P	04 26 54.3	-1.0
BCPM	Bancas Point	85.58	28	P	P	04 26 59.6	-1.5
NVAR	Mina Array Bea	94.96	52	P	P	04 27 48.6	+2.5
	comp=Z,1.8nm,0.7s,baz=254,slow=6.3,SNR=18						
PFO	Pinyon Flats O	96.14	57	LR	LR	05 05 40.9	
	comp=Z,50nm,18.7s,baz=320,slow=32						
YKA	Yellowknife Ar	97.87	28	P	Pdif	04 27 59.0	+0.6
	comp=Z,0.2nm,0.7s,baz=268,slow=4.6,SNR=4.5						
YKA	Yellowknife Ar	97.87	28	P	P	04 27 56.3	-2.0
TORD	Torodi Ar. Bea	148.28	285	PKPbc	PKiKP	04 34 11.5	-0.3
	comp=Z,2.2nm,0.6s,baz=48,slow=2.9,SNR=26						

IDC 03 04:22:35.9±1.2, 6°.27S×150°.49E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.8/38, mbtmp4.1/7, ML2.3/1, Error ellipse: s-maj=66.9km s-min=22.0km az=129.0

NEIC 03 04:22:41.1±1.5, 6°.5S±0°.2×150°.4E±0°.2, h17km±7km, mb4.1/7, Error ellipse: s-maj=33.7km s-min=6.6km az=129.0

ISC 03 04:22:41.8±0.8, 6°.5S±0°.1×150°.4E±0°.2, h33km, n19, σ1s.23/22, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.74	36	Pn	Pn	04 23 24.4	+0.8
	25nm,0.3s,baz=272,slow=23,SNR=2.1						
KRVT				Sn	Sn	04 23 57.5	+1.8
	18nm,0.3s,baz=344,slow=22,SNR=1.5						
PMG	Port Moresby	4.29	228	Pn	Pn	04 23 47.0	+2.2
	11nm,0.3s,baz=42,slow=8.8,SNR=7.9						
PMG				Sn	Sn	04 24 33.3	-0.5
	9.2nm,0.3s,baz=271,slow=22,SNR=12						
PMG	Port Moresby	4.29	228		Pn	04 23 45.6	+0.7
PMG					Sn	04 24 32.8	-1.1
FAKI	Fak Fak	18.44	280	P	P	04 26 54.8	+0.1
FAKI				IAmb	IAmb	04 27 30.3	
	comp=Z,12nm,0.9s						
WB0	Warramunga Arr	20.36	228	P	P	04 27 15.7	-0.2
WB0				IAmb	IAmb	04 27 20.5	
	comp=Z,7.6nm,0.8s						
WR0	Warramunga Arr	20.38	228	P	P	04 27 15.6	-0.3
WR0				IAmb	IAmb	04 27 21.2	
	comp=Z,8.6nm,0.9s						
WRAB	Tennant Creek	20.50	228	P	P	04 27 16.7	-0.5
WRAB				IAmb	IAmb	04 27 21.9	
	comp=Z,7.6nm,0.8s						
WB2	Warramunga Arr	20.50	228	P	P	04 27 16.8	-0.5
WB2				IAmb	IAmb	04 27 28.4	
	comp=Z,27nm,1.5s						
WRA	Warramunga Arr	20.51	228	P	P	04 27 17.7	+0.3
	comp=Z,4.6nm,0.6s,baz=52,slow=11,SNR=40						
GUMO	Guam	20.73	345	P	P	04 27 20.5	+0.8
ASAR	Alice Springs	23.27	221	P	P	04 27 47.6	+0.8
	comp=Z,3.3nm,1.0s,baz=58,slow=8.6,SNR=9.1						
ASAR	Alice Springs	23.27	221	P	P	04 27 47.5	+0.7
STKA	Stephens Creek	26.52	197	P	P	04 28 17.9	+1.4
	comp=Z,1.8nm,0.6s,baz=347,slow=12,SNR=4.5						
STKA	Stephens Creek	26.52	197	P	P	04 28 17.7	+1.2
FITZ	Fitzroy Crossi	26.73	242	P	P	04 28 19.8	+1.2
	comp=Z,2.1nm,0.6s,baz=65,slow=9.0,SNR=3.9						
ILAR	Eielson Array	84.66	22	P	P	04 35 09.1	-2.8
	comp=Z,0.2nm,0.6s,baz=216,slow=4.5,SNR=1.8						
NVAR	Mina Array Bea	95.03	52	P	P	04 36 00.6	-1.3
	comp=Z,0.8nm,0.8s,baz=250,slow=6.6,SNR=7.2						
TORD	Torodi Ar. Bea	148.49	284	PKPbc	PKPbc	04 42 25.4	-0.9
	comp=Z,1.0nm,0.5s,baz=52,slow=3.0,SNR=16						
TORD	Torodi Ar. Bea	148.49	284		PKPbc	04 42 25.5	-0.8

JMA 03 04:59:10.5±0.5, 45°.30N×151°.05E, h30km, M4.4

SKHL 03 04:59:11.2±0.4, 45°.00N×151°.10E, h50km±5km, mb4.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.30	277	eS	Sn	05 00 12.0	-1.7
KUR				eP	Pn	04 59 45.8	-0.8
KUR				AMB	AMB	04 59 47.3	
	50nm,0.3s						
KUR				A	A	05 00 16.6	
	310nm,0.3s						
KUR				A	A	05 00 16.6	
	220nm,0.3s						
SHO	Shikotan	3.26	251	AMB	AMB	05 00 02.0	
	40nm,0.3s						
SHO				eP	Pn	04 59 59.9	+0.1
SHO				eS	Sn	05 00 36.7	-0.6
SHO				A	A	05 00 52.5	
	40nm,0.2s						
SHO				A	A	05 00 52.5	
	80nm,0.2s						
YUK	Yuzh-Kuril'sk	3.87	257	eP	Pn	05 00 08.6	+0.5
YUK				AMB	AMB	05 00 10.7	
	70nm,0.4s						
YUK				eS	Sn	05 00 51.6	-0.7
YUK				A	A	05 00 58.7	
	100nm,0.4s						
YUK				A	A	05 00 58.7	
	140nm,0.4s						
NEM2	Nemuro 2	4.18	249	P	Pn	05 00 12.6	+0.2
NEM2				eS	Sn	05 00 58.4	-1.6
NMR	Nemuro--Hokkai	4.19	249	eP	Pn	05 00 12.6	0.0
NMR				eS	Sn	05 00 58.3	-1.9
GLVR	Golovnino	4.20	254	eP	Pn	05 00 13.4	+0.8
GLVR				AMB	AMB	05 00 15.0	
	60nm,0.4s						
GLVR				eS	Sn	05 00 59.8	-0.5
JRA	Rausu	4.41	258	P	Pn	05 00 17.9	+2.4
JNK	Nakash	4.79	255	P	Pn	05 00 22.1	+1.3
AKK	Akkeshi	4.93	248	eP	Pn	05 00 22.8	+0.1
AKK				eS	Sn	05 01 16.2	-2.2
JAR	Ashorobuto	5.54	255	P	Pn	05 00 32.9	+1.8
JAR				eS	Sn	05 01 34.1	+0.7
JMP	Maruseppu	5.62	263	P	Pn	05 00 34.5	+2.3
JOB	Onbets	5.65	251	P	Pn	05 00 33.5	+1.0
JOB				eS	Sn	05 01 35.1	-0.9
JCH	Churui	6.08	250	P	Pn	05 00 38.9	+0.4
JCH				eS	Sn	05 01 44.3	-2.5
JKK2	Kamakawa 2	6.08	262	P	Pn	05 00 40.9	+2.4
JNBK	Urakawa-nobuka	6.64	249	P	Pn	05 00 46.2	+0.1
JBT2	Biratori 2	6.69	254	P	Pn	05 00 47.3	+0.5
JNB	Noboribetsu	7.71	254	P	Pn	05 01 02.1	+1.3
JKB	Kayabe	7.96	251	P	Pn	05 01 04.3	+0.1
JKB				eS	Sn	05 02 28.0	-4.8
JANG	Nango	8.44	240	eS	Sn	05 02 38.9	-5.7

IASPEI 03 05:01:17.4±0.9, 41°.69N±0°.02×14°.84E±0°.02, h18km±4km, mb3.7/3, Error ellipse: s-maj=3.2km s-min=2.3km az=27.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009

IDC 03 05:01:17.3±0.9, 41°.83N×14°.92E, h0km, mb3.5/4, mb1 3.8/12, mb1mx3.6/47, mbtmp3.7/12, ML3.4/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/73, Error ellipse: s-maj=16.3km s-min=13.9km az=85.0

ROM 03 05:01:17.4±0.0, 41°.690N±0°.004×14°.846E±0°.004, h14km, ML3.7/47, Error ellipse: s-maj=0.4km s-min=0.1km az=29.0

LDG 03 05:01:18.0±0.2, 41°.64N×14°.87E, h10km, Ml3.4/16, Error ellipse: s-maj=5.9km s-min=3.5km az=40.0

PRU 03 05:01:19.5±0.0, 41°.87N×14°.90E, h0km

ISC 03 05:01:17.8±0.7, 41°.69N±0°.02×14°.84E±0°.02, h18km±2km, n239, σ2s.01/291, mb3.7/3, 20C-19D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CIGN	Sant'Elia a Pi	0.07	127	⇓P	Pg	05 01 20.2	-1.1
CIGN				S	Sg	05 01 22.1	-1.5
CIGN				AML	AML		
CIGN				AML	AML		
GATE	Gambatesa	0.19	163	P	Pg	05 01 22.7	+0.1
GATE				S	Sg	05 01 25.2	-0.7
GATE				AML	AML		
	comp=N,92500µm,1.6s						
GATE				AML	AML		
	comp=E,79550µm,0.7s						
GATE				AML	AML		
	comp=N,93900µm,1.6s						
GATE				AML	AML		
	comp=E,79500µm,0.7s						
GATE				AML	AML		
	comp=E,65450µm,0.9s						
GATE				AML	AML		
	comp=N,93900µm,1.6s						
MELA	Melanico ??? S	0.22	87	⇓P	Pg	05 01 22.6	-0.4
MELA				S	Sg	05 01 26.8	+0.2
MELA				AML	AML		
MELA				AML	AML		
MELA				AML	AML		
	comp=E,96350µm,0.6s						
MELA				AML	AML		
MELA				AML	AML		
TRIV	Trivento	0.23	289	P	Pg	05 01 23.2	0.0
TRIV				S	Sg	05 01 27.3	+0.4
TRIV				AML	AML		
	comp=E,36600µm,1.1s						
TRIV				AML	AML		
	comp=N,46600µm,0.4s						
TRIV				AML	AML		
	comp=E,33150µm,1.1s						
TRIV				AML	AML		
	comp=N,48550µm,0.4s						
TRIV				AML	AML		
	comp=N,46550µm,0.4s						
BSSO	Busso	0.23	231	⇑P	Pg	05 01 23.5	+0.1
BSSO				S	Sg	05 01 27.5	+0.4
BSSO				AML	AML		
	comp=E,22450µm,1.2s						
BSSO				AML	AML		
	comp=E,59100µm,1.2s						
BSSO				AML	AML		
	comp=N,19700µm,0.6s						
BSSO				AML	AML		
	comp=N,45700µm,0.6s						
FRES	Fresagrandinar	0.31	336	P	Pb	05 01 24.4	-0.3
T1101	Santa Maria De	0.31	226	P	Pg	05 01 24.2	-0.4
T1101				S	Sg	05 01 29.1	-0.1
T1101				AML	AML		
	comp=E,39900µm,1.2s						
T1101				AML	AML		
	comp=N,46500µm,0.8s						
T1101				AML	AML		
	comp=N,46450µm,0.8s						
PTRJ	Pietraroja	0.40	215	AML	AML		
	comp=E,21700µm,1.1s						
PTRJ				AML	AML		
	comp=E,19150µm,1.1s						
PTRJ				AML	AML		
	comp=N,13800µm,0.9s						
PTRJ				AML	AML		
	comp=E,19100µm,1.1s						
PTRJ				AML	AML		
	comp=N,15000µm,0.4s						
PTRJ				AML	AML		
	comp=N,13750µm,0.9s						
MOCO	Biccari - m.te	0.40	143	⇓P	Pb	05 01 26.0	-0.5
MOCO				S	Sb	05 01 31.8	-0.6
MOCO				AML	AML		
	comp=N,8645µm,1.0s						
MOCO				AML	AML		
	comp=E,21100µm,0.6s						
MOCO				AML	AML		
	comp=N,8650µm,1.0s						
MOCO				AML	AML		
	comp=N,8905µm,0.9s						
MOCO				AML	AML		
	comp=E,20500µm,0.5s						
MIDA	Miranda	0.44	263	⇓P	Pg	05 01 26.5	-0.3
MIDA				S	Sg	05 01 33.6	+0.7
MIDA				AML	AML		
	comp=E,17150µm,0.5s						
MIDA				AML	AML		
	comp=N,17300µm,0.4s						
MIDA				AML	AML		
	comp=E,16550µm,0.5s						
MIDA				AML	AML		
	comp=N,17200µm,0.4s						
PSB1	Pescosannita	0.47	182	⇑P	Pg	05 01 26.6	-0.7
PSB1				S	Sb	05 01 34.1	0.0
PSB1				AML	AML		
	comp=E,6690µm,1.2s						
PSB1				AML	AML		
	comp=E,7035µm,0.4s						
PSB1				AML	AML		
	comp=N,6890µm,0.6s						
PSB1				AML	AML		
	comp=N,6975µm,0.6s						
RNI2	Rionero Sannit	0.51	271	⇓P	Pg	05 01 27.9	-0.2
RNI2				S	Sg	05 01 35.5	+0.4
RNI2				AML	AML		
	comp=E,13300µm,1.6s						
RNI2				AML	AML		
	comp=E,13950µm,1.6s						
RNI2				AML	AML		
	comp=N,13600µm,0.4s						
RNI2				AML	AML		
	comp=N,13300µm,0.4s						
VAGA	Valle Agricola	0.53	239	⇑P	Pg	05 01 27.8	-0.7
VAGA				S	Sg	05 01 36.0	+0.4
VAGA				AML	AML		
	comp=E,9150µm,0.6s						
VAGA				AML	AML		
	comp=E,9115µm,0.6s						
VAGA				AML	AML		
	comp=N,20650µm,0.3s						
VAGA				AML	AML		
	comp=E,9495µm,0.6s						
VAGA				AML	AML		
	comp=N,21400µm,0.3s						
VITU	Vitulano (BN)	0.53	197	P	Pg	05 01 27.5	-1.0
VITU				S	Sg	05 01 35.6	-0.1
VITU				AML	AML		
	comp=E,4750µm,0.4s						
VITU				AML	AML		
	comp=E,11200µm,0.8s						
VITU				AML	AML		
	comp=N,14200µm,0.3s						
VITU				AML	AML		
	comp=N,13650µm,0.3s						
VITU				AML	AML		
	comp=E,4755µm,0.4s						
APRC	Apricena	0.53	83	P	Pb	05 01 27.5	-1.1
APRC				S	Sb	05 01 35.2	-0.7
APRC				AML	AML		
	comp=N,17100µm,0.9s						
APRC				AML	AML		
	comp=E,10600µm,1.1s						
BIOG	Biogem	0.54	155	P	Pb	05 01 28.4	-0.3
BIOG				S	Sb	05 01 35.9	-0.2
BIOG				AML	AML		
	comp=E,49050µm,0.5s						
BIOG				AML	AML		
	comp=N,55050µm,0.4s						
MRB1	Monte Rocchett	0.58	170	P	Pg	05 01 28.7	-0.6
MRB1				S	Sb	05 01 37.2	+0.2
MRB1				AML	AML		
	comp=E,15700µm,0.4s						
MRB1				AML	AML		
	comp=N,14900µm,0.4s						
MRB1				AML	AML		
	comp=E,15650µm,0.4s						
MRB1				AML	AML		
	comp=N,15650µm,0.4s						
MRB1				AML	AML		
	comp=E,16150µm,0.4s						
MRB1				AML	AML		
	comp=N,14950µm,0.4s						
LPEL	Lama dei Pelig	0.60	306	⇓P	Pg	05 01 29.3	-0.5
LPEL				S	Sg	05 01 38.0	+0.1
LPEL				AML	AML		
	comp=E,9760µm,0.7s						
LPEL				AML	AML		
	comp=N,8750µm,0.9s						
CERA	Filignano	0.62	261	P	Pg	05 01 29.2	-0.9
CERA				S	Sg	05 01 38.7	+0.3
CERA				AML	AML		
	comp=N,10800µm,0.5s						
CERA				AML	AML		
	comp=E,11600µm,1.1s						
CERA				AML	AML		
	comp=N,10750µm,0.5s						
CERA				AML	AML		
	comp=N,11050µm,0.5s						
CERA				AML	AML		
	comp=E,11900µm,0.5s						
CAFR	Castel Frentan	0.65	326	⇓P	Pg	05 01 30.3	-0.3
CAFR				S	Sg	05 01 39.6	+0.4
CAFR				AML	AML		
	comp=E,4630µm,0.9s						

CAFR AML AML
comp=N,4490µm,0.3s
TREM Isole Tremiti 0.66 49 P **Pb** 05 01 30.3 -0.4
SGRT San Giovanni R 0.68 85 P **Pb** 05 01 30.2 -1.0
SGRT S **Sb** 05 01 40.2 0.0
SGRT AML AML
comp=E,7010µm,1.2s
SGRT AML AML
comp=N,5900µm,0.4s
SGTA Sant Agata di 0.69 144 ⇓P **Pg** 05 01 30.2 -1.2
SGTA S **Sb** 05 01 40.1 -0.2
SGTA AML AML
comp=N,4995µm,0.4s
SGTA AML AML
comp=E,6640µm,0.6s
SGTA AML AML
comp=E,6840µm,0.6s
SGTA AML AML
comp=N,4950µm,0.4s
PAOL Paolisi 0.69 197 P **Pg** 05 01 29.9 -1.5
PAOL S **Sg** 05 01 40.6 0.0
PAOL AML AML
comp=E,5650µm,0.5s
PAOL AML AML
comp=N,4555µm,0.4s
PAOL AML AML
comp=N,4725µm,0.4s
PAOL AML AML
comp=E,5910µm,0.5s
CAFE Carife 0.73 155 ⇑P **Pg** 05 01 31.0 -1.1
CAFE S **Sb** 05 01 42.2 +0.5
CAFE AML AML
comp=E,11315µm,0.9s
CAFE AML AML
comp=E,11325µm,0.9s
CAFE AML AML
comp=N,16150µm,0.3s
CAFE AML AML
comp=N,16500µm,0.3s
CAFE AML AML
comp=E,11700µm,0.2s
INTR Introdacqua 0.76 295 P **Pg** 05 01 31.7 -1.1
INTR S **Sg** 05 01 42.8 -0.2
INTR AML AML
comp=N,6µm,0.6s
INTR AML AML
comp=E,5110µm,0.3s
INTR AML AML
comp=N,8455µm,0.6s
INTR AML AML
comp=E,5µm,0.3s
MSAG Monte S. Angel 0.81 88 AML AML
comp=E,12300µm,0.5s
MSAG AML AML
comp=E,11850µm,0.5s
MSAG AML AML
comp=N,15900µm,1.3s
MSAG AML AML
comp=E,11900µm,0.5s
MSAG AML AML
comp=N,15850µm,1.3s
SNAL S. Angelo Dei 0.82 160 P **Pg** 05 01 32.0 -1.8
SNAL AML AML
comp=E,6705µm,0.3s
SNAL AML AML
comp=E,6780µm,0.3s
SNAL AML AML
comp=N,6370µm,0.4s
SNAL AML AML
comp=N,6580µm,0.4s
POFI Posta Fibreno 0.84 272 P **Pg** 05 01 32.8 -1.4
POFI AML AML
comp=E,5355µm,1.0s
POFI AML AML
comp=N,4645µm,0.5s
POFI AML AML
comp=N,4795µm,0.5s
POFI AML AML
comp=E,5175µm,1.0s
MODR Mondragone 0.90 233 P **Pg** 05 01 34.7 -0.7
MODR AML AML
comp=E,5690µm,0.7s
MODR AML AML
comp=N,4560µm,0.4s
CAPA Cerignola FG 0.91 126 P **Pg** 05 01 33.3 -2.2
CAPA S **Sb** 05 01 46.6 -0.2
CAPA AML AML
comp=N,9345µm,0.9s
CAPA AML AML
comp=E,6925µm,0.9s
VVLD Villa Vallelon 0.92 281 P **Pg** 05 01 34.0 -1.8
VVLD S **Sg** 05 01 47.7 -0.3
VVLD AML AML
comp=N,5335µm,0.7s
VVLD AML AML
comp=E,5395µm,0.4s
OVO Vesuviano 0.93 201 P **Pb** 05 01 36.3 +1.0
OVO AML AML
comp=E,4695µm,0.7s
OVO AML AML
comp=N,6450µm,0.6s
MCRV Calabrutti - M 0.94 164 P **Pg** 05 01 34.1 -2.1
T0110 Collepietro 0.95 304 P **Pg** 05 01 34.7 -1.6
LIK San Giovanni I 0.98 259 P **Pg** 05 01 36.4 -0.4
LIK San Giovanni I 0.98 259 AML AML
comp=N,9465µm,1.1s
LIK AML AML
comp=E,12550µm,0.4s
CFMN Campi Flegrei 1.03 213 P **Pg** 05 01 36.9 -0.8
CFMN AML AML
comp=E,3370µm,1.6s
CFMN AML AML
comp=N,3390µm,1.6s
MRLC Muro Lucano 1.06 152 P **Pg** 05 01 36.3 -2.0
MRLC AML AML
comp=E,5115µm,0.5s
MRLC AML AML
comp=E,5450µm,0.5s
MRLC AML AML
comp=N,3555µm,1.5s
MRLC AML AML
comp=N,3480µm,1.5s
FAGN Fagnano 1.09 302 P **Pg** 05 01 37.2 -1.9
FAGN AML AML
comp=E,9100µm,0.5s
FAGN AML AML
comp=N,5250µm,0.4s
PTQR Pietraquaria 1.12 288 P **Pg** 05 01 37.4 -2.1
PTQR AML AML
comp=E,1385µm,0.4s
PTQR AML AML
comp=N,1365µm,1.5s
PALZ Palazzo San Ge 1.13 131 P **Pb** 05 01 38.1 -0.7
PALZ AML AML
comp=N,18900µm,0.6s
PALZ AML AML
comp=E,11340µm,0.6s
GUAR Guarcino 1.14 276 P **Pg** 05 01 37.7 -2.2
GUAR AML AML
comp=N,3045µm,0.4s
GUAR AML AML
comp=E,2400µm,0.5s
MRVN Minervino Murg 1.20 121 P **Pg** 05 01 39.1 -2.0
MRVN S **Sb** 05 01 55.2 0.0
MRVN AML AML
comp=N,2870µm,0.7s
MRVN AML AML
comp=E,4560µm,0.3s
ACER Acerenza 1.23 137 P **Pg** 05 01 39.8 -1.8
ACER AML AML
comp=N,4085µm,0.9s
ACER AML AML
comp=N,4350µm,0.9s
ACER AML AML
comp=E,6210µm,1.6s
ACER AML AML
comp=E,6405µm,1.6s
CDRU Civita di Ruta 1.25 163 P **Pg** 05 01 40.1 -1.9
CDRU AML AML
comp=N,1995µm,1.4s
CDRU AML AML
comp=E,2705µm,1.3s
AQU L'Aquila 1.25 302 *e*Pn **Pn** 05 01 39.4 -1.0
TRTR Tortoreto Alta 1.31 329 P **Pn** 05 01 41.2 +0.1
TRTR AML AML
comp=E,8775µm,0.4s
TRTR AML AML
comp=N,7495µm,0.5s
VENT Ventotene 1.39 230 P **Pn** 05 01 42.3 0.0
VENT AML AML
comp=N,2235µm,1.6s
VENT AML AML
comp=E,4490µm,0.5s
CERT Cerreto 1.41 281 P **Pn** 05 01 41.8 -0.8
CERT AML AML
comp=E,1795µm,1.4s
CERT AML AML
comp=N,1260µm,0.4s
CMPR Campora 1.42 165 P **Pn** 05 01 42.9 +0.2
CMPR AML AML
comp=N,1670µm,0.4s
CMPR AML AML
comp=E,2530µm,0.8s
LATB Latina 1.42 263 P **Pn** 05 01 42.6 0.0
LATB AML AML
comp=N,354µm,1.0s
LATB AML AML
comp=E,398µm,1.1s
SLCN Sala Consilina 1.44 155 P **Pn** 05 01 42.9 0.0
SLCN AML AML
comp=E,3900µm,0.4s
SLCN AML AML
comp=N,2665µm,0.5s
RM33 Pellescritta (1.46 305 P **Pn** 05 01 42.9 -0.3
RM33 AML AML
comp=N,994µm,1.1s
RM33 AML AML
comp=E,1630µm,1.2s
RM33 AML AML
comp=E,1530µm,1.2s
RM33 AML AML
comp=N,988µm,1.0s
SMA1 SAN MARTINO 1.46 311 P **Pn** 05 01 42.9 -0.3
SMA1 AML AML
comp=E,1555µm,1.0s
SMA1 AML AML
comp=N,1600µm,0.9s
OFFI Offida 1.50 326 P **Pn** 05 01 44.8 +0.9
OFFI AML AML
comp=E,3985µm,0.5s
OFFI AML AML
comp=N,4810µm,0.9s
AMUR Altamura 1.55 120 P **Pn** 05 01 44.6 +0.1
AMUR AML AML
comp=N,2985µm,0.3s
AMUR AML AML
comp=E,2910µm,0.3s
MCEL Monticello 1.55 152 P **Pn** 05 01 44.7 +0.2
MCEL AML AML
comp=E,1335µm,0.7s
MCEL AML AML
comp=N,1255µm,1.1s
MCEL AML AML
comp=E,1335µm,0.7s
MCEL AML AML
comp=N,1235µm,1.1s
MTCE Montecelio 1.60 283 P **Pn** 05 01 46.3 +1.2
MTCE AML AML
comp=E,968µm,1.3s
MTCE AML AML
comp=N,798µm,0.8s
AG11 Viggiano (PZ) 1.60 148 P **Pn** 05 01 45.4 +0.2
AG11 AML AML
comp=E,1945µm,0.4s
AG11 AML AML
comp=N,1340µm,0.7s
MIGL Miglionico 1.63 131 P **Pn** 05 01 45.9 +0.3
MIGL AML AML
comp=N,7490µm,0.5s
MIGL AML AML
comp=E,7405µm,0.5s
MGR Morigerati 1.65 160 P **Pn** 05 01 46.5 +0.8
MGR AML AML
comp=N,1175µm,0.4s
MGR AML AML
comp=N,1240µm,0.4s
MGR AML AML
comp=E,1266µm,0.5s
MGR AML AML
comp=E,1305µm,0.4s
SIRI Monte Sirino - 1.70 152 P **Pn** 05 01 47.0 +0.4
SIRI AML AML
comp=N,1040µm,1.3s
SIRI AML AML
comp=E,1185µm,1.0s
SIRI AML AML
comp=N,1036µm,1.3s
SIRI AML AML
comp=E,1160µm,0.4s
NRCA Norcia 1.71 312 P **Pn** 05 01 47.5 +0.8
NRCA AML AML
comp=N,1061µm,1.3s
NRCA AML AML
comp=E,744µm,0.6s
MATE Matera 1.75 126 ⇑P **Pn** 05 01 48.0 +0.8
MATE ⇑S **Sn** 05 02 09.6 +0.5
MATE Matera 1.75 126 P **Pn** 05 01 47.7 +0.5
MATE AML AML
comp=E,2395µm,0.3s
MATE AML AML
comp=N,3350µm,0.4s
CRAC Craco 1.80 137 P **Pn** 05 01 48.5 +0.7
CRAC AML AML
comp=N,2240µm,0.3s
CRAC AML AML
comp=E,3435µm,0.5s
CSP1 Cessapalombo 1.85 320 P **Pn** 05 01 49.6 +1.0
LTRZ Laterza 1.85 125 P **Pn** 05 01 48.8 +0.2
LTRZ AML AML
comp=N,2365µm,0.5s
LTRZ AML AML
comp=N,2465µm,0.6s
LTRZ AML AML
comp=E,1850µm,0.3s
LTRZ AML AML
comp=E,1925µm,0.3s
FDMO Fiordimonte 1.86 317 P **Pn** 05 01 49.9 +1.1
FDMO AML AML
comp=E,644µm,0.4s
FDMO AML AML
comp=N,1046µm,0.6s
LSTV Lastovo 1.87 54 *i* Pn **Pn** 05 01 49.4 +0.6
HVAR Hvar 1.91 38 *e*Pn **Pn** 05 01 50.0 +0.7
HVAR Hvar 1.91 38 P **Pb** 05 01 50.6 -1.4
NOCI Noci 1.91 118 P **Pn** 05 01 49.4 +0.1
NOCI AML AML
comp=E,2860µm,0.5s
NOCI AML AML
comp=N,2985µm,0.4s
CESI CESI - Serrava 1.94 313 P **Pn** 05 01 50.7 +0.8
CESI AML AML
comp=N,834µm,0.4s
CESI AML AML
comp=E,520µm,0.7s
ORI Oriolo Calabro 2.04 143 P **Pn** 05 01 52.4 +1.3
ORI AML AML
comp=E,2135µm,0.5s
ORI AML AML
comp=N,2570µm,0.4s
ZIRJ Zirje 2.05 17 *e*Pn **Pn** 05 01 51.8 +0.5
CING Cingoli 2.07 325 P **Pn** 05 01 52.7 +1.1
CING AML AML
comp=E,666µm,1.5s
CING AML AML
comp=N,574µm,0.9s
SNTG Esanatoglia 2.10 319 P **Pn** 05 01 53.4 +1.4
SNTG AML AML
comp=E,396µm,0.7s
SNTG AML AML
comp=N,518µm,1.4s
ASSB Assisi San Ben 2.10 311 P **Pn** 05 01 53.4 +1.3
ASSB AML AML
comp=N,703µm,1.3s
ASSB AML AML
comp=E,516µm,0.6s
SALB San Lorenzo Be 2.15 147 P **Pn** 05 01 53.7 +1.0
SALB AML AML
comp=E,757µm,0.3s
SALB AML AML
comp=N,498µm,1.5s
FOSV Fossato di Vic 2.22 317 P **Pn** 05 01 54.8 +1.1
FOSV AML AML
comp=N,642µm,1.3s
FOSV AML AML
comp=E,604µm,0.5s
MORI Morici 2.27 16 *e*Pn **Pn** 05 01 55.0 +0.8
MAKA Makarska 2.27 45 *e*Pn **Pn** 05 01 55.3 +1.0
ARVD Arcevia 2.28 323 P **Pn** 05 01 55.8 +1.2
ARVD AML AML
comp=E,408µm,1.1s
ARVD AML AML
comp=N,276µm,1.6s
DUGI Dugi Otok 2.30 4 *e*Pn **Pn** 05 01 55.0 +0.2
STON Ston 2.43 60 *e*Pn **Pn** 05 01 57.3 +0.8
STON Ston 2.43 60 *e*Pn **Pn** 05 01 56.7 +0.2
STON Ston 2.43 60 ⇓P **Pb** 05 01 59.7 -1.2
STON AML AML
comp=E,272µm,0.5s
STON AML AML
comp=N,372µm,0.8s
RICI Ricice 2.47 43 *e*Pn **Pn** 05 01 58.0 +0.9
PIEI Pieia 2.50 318 P **Pn** 05 01 58.7 +1.1
PIEI AML AML
comp=N,242µm,0.6s
PIEI AML AML
comp=E,246µm,0.3s
NARO Abbazia di Nar 2.54 320 P **Pn** 05 01 59.2 +1.2
NARO AML AML
comp=E,244µm,0.9s
NARO AML AML
comp=N,225µm,0.8s
KIJV Kijevo 2.58 26 *e*Pn **Pn** 05 02 00.2 +1.6
CELI Celico 2.62 150 P **Pn** 05 01 59.3 +0.1
CELI AML AML
comp=E,564µm,0.8s
CELI AML AML
comp=N,488µm,0.6s
DBRK Dubrovnik 2.65 67 *e*Pn **Pn** 05 02 00.2 +0.7
CAR1 CAROLEI 2.65 156 P **Pn** 05 02 00.4 +0.8
CAR1 AML AML
comp=E,482µm,0.5s
CAR1 AML AML
comp=N,484µm,0.7s
SPS2 Spezzano della 2.66 154 P **Pn** 05 02 00.8 +1.1
SPS2 AML AML
comp=N,123µm,0.7s
SPS2 AML AML
comp=E,94µm,0.4s
PIPA Pietrapaola 2.67 145 P **Pn** 05 02 00.7 +0.8
TREB Trebinje 2.81 67 *e*Pn **Pn** 05 02 02.4 +0.7
HCY Herceg Novi 2.83 73 *e*Pn **Pn** 05 02 02.3 +0.3
NVLJ Novalja 2.87 1 *e*Pn **Pn** 05 02 03.3 +0.7
TIP Timpagrande 2.91 149 ⇑P **Pn** 05 02 05.7 +2.5
TIP ⇑S **Sn** 05 02 40.6 +2.9
UDBI Udbina 2.91 13 *e*Pn **Pn** 05 02 05.3 +2.1
BRY Bratogost 3.00 65 *e*Pn **Pn** 05 02 06.4 +1.9
RABC Rab 3.06 359 *e*Pn **Pn** 05 02 06.1 +1.0
MGRS Mrkonjic Grad 3.18 30 *e*Pn **Pn** 05 02 09.9 +3.0
SCTE Santa Cesarea 3.19 119 P **Pn** 05 02 07.9 +0.8
SCTE AML AML
comp=E,1024µm,0.5s
SCTE AML AML
comp=N,779µm,0.6s
PLIT Plitvice 3.23 10 *e*Pn **Pn** 05 02 09.2 +1.6
BRJN Brijuni 3.31 347 *e*Pn **Pn** 05 02 08.1 -0.5
UPM Unac-Piva 3.37 62 *e*Pn **Pn** 05 02 11.5 +1.9
PDG Podgorica 3.37 76 ⇑P **Pn** 05 02 10.5 +1.0
PDG ⇑S **Sn** 05 02 49.8 +0.8
PDG Podgorica 3.37 76 *e*Pn **Pn** 05 02 10.5 +1.0
PDG Podgorica 3.37 76 P **Pn** 05 02 09.7 +0.2
SMRN Sveta Marina 3.38 352 *e*Pn **Pn** 05 02 09.9 +0.4
A250A Rusevo Krmpots 3.39 1 *e*Pn **Pn** 05 02 10.9 +1.2
MILZ Milazzo 3.43 175 S **Sb** 05 02 60.0 +0.7
BLY Banja Luka 3.50 29 *e*Pn **Pn** 05 02 13.7 +2.4
BLY Banja Luka 3.50 29 P **Pn** 05 02 12.3 +1.0
BLY AML AML
comp=N,242µm,0.9s
BLY AML AML
comp=N,249µm,1.0s
BLY AML AML
comp=E,358µm,1.4s
BLY AML AML
comp=E,331µm,1.4s
A251A Rujevac 3.59 16 *e*Pn **Pn** 05 02 15.2 +2.8
RIY Rijeka 3.64 356 *e*Pn Pn 05 02 08.4 -4.7
RIY Rijeka 3.64 356 *e*Pn **Pn** 05 02 14.6 +1.5
MRAK Mrakovica 3.64 24 *e*Pn **Pn** 05 02 14.7 +1.4
BOJS Bojanci 3.82 4 P **Pb** 05 02 20.8 -3.8
RUDO Rudo 3.86 59 *e*Pn **Pn** 05 02 17.9 +1.7
SKDS Skadanscina 3.90 351 *e*Pn **Pn** 05 02 16.9 +0.2
BBLS Lazi?i 4.00 56 *e*Pn **Pn** 05 02 20.4 +2.2
CEY Cerknica 4.05 356 *e*Pn **Pn** 05 02 19.5 +0.6
TRI Trieste 4.09 349 S **Sn** 05 03 08.0 +1.4
CRES Cresnjev 4.16 6 *e*Pn **Pn** 05 02 20.9 +0.6
MOSL Moslavina 4.16 19 *e*Pn **Pn** 05 02 21.3 +1.0
VAE Valguarnera 4.22 185 Pn **Pn** 05 02 25.4 +4.2
comp=E,2.7nm,0.3s,baz=30,slow=6.8,SNR=6.4
KEK Kerkira 4.26 116 P **Pn** 05 02 23.2 +1.5
KEK Kerkira 4.26 116 ⇑P **Pn** 05 02 23.7 +2.0
KEK AML AML
comp=E,58µm,1.3s
KEK AML AML
comp=N,56µm,0.5s
PTJ Puntijarka 4.29 11 *e*Pn **Pn** 05 02 23.9 +1.8
SRN Sarande 4.32 113 P **Pn** 05 02 24.2 +1.7
TEOL Teolo 4.33 329 P **Pb** 05 02 30.6 -2.6
A252A Venje 4.33 29 *e*Pn **Pn** 05 02 24.2 +1.5
LJU Ljubljana 4.36 357 *e*Pn **Pn** 05 02 26.3 +3.3
HAGA Augusta 4.41 177 S **Sn** 05 03 11.0 -3.6
PGF Pioggiola 4.42 283 *e*P **Pn** 05 02 26.1 +2.1
PGF *e*Sn **Sn** 05 03 13.6 -1.5
comp=N,19nm,0.6s
DIVS Divibare 4.49 56 *e*Pn **Pn** 05 02 27.2 +2.3
DIVS Divibare 4.49 56 ⇑P **Pn** 05 02 26.5 +1.7
DIVS AML AML
comp=E,49µm,1.2s
DIVS AML AML
comp=N,57µm,1.2s
OHR Ohrid 4.52 95 *i* Pn **Pn** 05 02 27.7 +2.3
OHR *i* Sn **Sn** 05 03 20.7 +3.3
KALN Kalnik 4.59 14 *e*Pn **Pn** 05 02 26.8 +0.6
KBN Korca 4.62 101 P **Pn** 05 02 29.6 +2.9
IGT Igoumenitsa 4.71 115 P **Pn** 05 02 29.5 +1.7
STAL STALIGIAL 4.82 342 P **Pn** 05 02 29.7 +0.3
OBKA Obir 4.82 358 *e*Pn **Pn** 05 02 30.8 +1.3
comp=N,2.2nm,0.2s
KOGS Kog 4.86 12 ⇑P **Pn** 05 02 31.1 +1.2
CTI Castel Tesino 4.92 333 P **Pn** 05 02 31.3 +0.4
CIMO Cimolais 4.93 340 P **Pn** 05 02 30.9 0.0
BEHE Becsehely 4.98 16 *e*Pn **Pn** 05 02 35.6 +4.1
BEHE Becsehely 4.98 16 PN **Pn** 05 02 32.5 +1.0
BEHE SN **Sn** 05 03 29.0 +0.5
SOKA Soboth 4.99 2 *e*Pn **Pn** 05 02 32.6 +0.9
comp=N,0.9nm,0.3s
KOVH Kovagotottos 4.99 27 PN **Pn** 05 02 32.5 +0.8
KOVH SN **Sn** 05 03 27.6 -1.2
JAN Janina 5.01 112 P **Pn** 05 02 33.5 +1.5
MYKA Terra Mystica 5.01 351 *i* Pn **Pn** 05 02 33.9 +1.8
comp=N,2.5nm,0.2s
FRGS Fruska Gora 5.01 45 ⇑P **Pn** 05 02 34.5 +2.4
FRGS Fruska Gora 5.01 45 *e*Pn **Pn** 05 02 30.8 -1.2
FNA Florina 5.01 98 P **Pn** 05 02 34.1 +2.0
SALO Salr 5.02 323 P **Pn** 05 02 33.4 +1.3
MAGA Magasa 5.09 325 P **Pn** 05 02 33.4 +0.2
KPRO Kipourio 5.25 107 P **Pn** 05 02 38.3 +3.0
MORH Mrgy, Hungar 5.29 30 *e*Pn **Pn** 05 02 36.3 +0.5
MORH Mrgy, Hungar 5.29 30 PN **Pn** 05 02 36.4 +0.5
MORH SN **Sn** 05 03 35.4 -0.8
ABTA Abfaltersbach 5.32 343 *e*Pn **Pn** 05 02 39.7 +3.4
comp=N,1.2nm,0.2s
ABTA *e*Sn **Sn** 05 03 38.5 +1.4
comp=N,26nm,0.6s
MABI Malga Bissina 5.36 326 P **Pn** 05 02 37.5 +0.5
KZN Kozani 5.43 102 P **Pn** 05 02 40.8 +3.0
KBA Koelnbreinsper 5.49 349 *e*Pn **Pn** 05 02 41.1 +2.4
comp=N,2.6nm,0.2s
KBA *e*Sn **Sn** 05 03 44.0 +2.5
comp=N,9.8nm,0.5s
STIP Stip 5.50 88 *i* Pn **Pn** 05 02 42.5 +3.7
STIP *i* Sn **Sn** 05 03 45.5 +3.9
ARSA Arzberg 5.58 5 *e*Pn **Pn** 05 02 40.8 +1.0
comp=N,3.3nm,0.5s
ARSA *e*Sn **Sn** 05 03 46.7 +3.3
comp=N,5.7nm,0.5s
RISI Rein 5.61 340 ⇓P **Pn** 05 02 43.6 +3.2

VLS	Valsamata	5.65	127	⇓P	Pn	05 02 42.6	+1.8
KTI	Kastanea	5.66	101	P	Pn	05 02 43.0	+2.0
MPLH	Magyarpolny	5.81	19	PN	Pn	05 02 43.9	+0.9
SBF	Sospel	5.86	294	ePn	Pn	05 02 44.9	+1.2
SBF				eSn	Sn	05 03 47.9	-2.6
	comp=N,42nm,0.9s						
THL	Klokotos Trika	5.86	109	P	Pn	05 02 46.0	+2.3
EVR	Evrytania	6.01	115	P	Pn	05 02 48.8	+3.0
WTTA	Wattenberg	6.02	339	ePn	Pn	05 02 50.3	+4.3
	comp=N,1.8nm,0.2s						
WTTA				eSn	Sn	05 03 57.7	+3.2
	comp=N,14nm,0.3s						
FETA	Feichten	6.08	332	i Pn	Pn	05 02 49.5	+2.6
	comp=N,1.9nm,0.3s,SNR=6.9						
FETA				eSn	Sn	05 03 59.6	+3.5
	comp=N,7.9nm,0.6s						
WATA	Walderalm	6.10	339	ePn	Pn	05 02 50.4	+3.2
	comp=N,2.7nm,0.2s						
WATA				eSn	Sn	05 04 01.3	+4.8
	comp=N,9.6nm,0.3s						
MOA	Molln	6.17	356	Pn	Pn	05 02 49.6	+1.7
	comp=N,2.6nm,0.2s,SNR=8.3						
MOA				eSn	Sn	05 03 59.0	+1.0
	comp=N,23nm,0.7s						
MAKR	Makrakomi, Fth	6.18	113	P	Pn	05 02 51.3	+3.2
DAVOX	Davos/Dischmat	6.21	327	Pn	Pn	05 02 51.2	+2.6
	comp=N,2.3nm,0.3s,baz=153,slow=18,SNR=12						
DAVOX				Sn	Sn	05 04 01.0	+1.9
	comp=N,1.6nm,0.3s,baz=327,slow=22,SNR=3.9						
MOTA	Moosalm	6.25	336	i Pn	Pn	05 02 52.4	+3.3
	comp=N,2.8nm,0.4s						
MOTA				eSn	Sn	05 04 04.7	+4.6
	comp=N,18nm,0.6s						
ANX	Ano Chora	6.25	117	P	Pn	05 02 52.0	+2.9
CONA	Conrad Observa	6.28	6	ePn	Pn	05 02 50.4	+0.9
	comp=N,2.2nm,0.4s						
CONA				eSn	Sn	05 04 04.0	+3.3
	comp=N,8.1nm,0.5s						
BZS	Buzias	6.29	49	⇓P	Pn	05 02 52.3	+2.7
VTS	Vitosha	6.31	79	⇓P	Pn	05 02 50.8	+0.8
VTS	Vitosha	6.31	79	⇓P	Pn	05 02 51.8	+1.8
AGG	Agios Georgios	6.32	113	P	Pn	05 02 52.5	+2.5
FRF	La Foret Royal	6.32	290	ePn	Pn	05 02 51.3	+1.3
FRF				eSn	Sn	05 03 59.5	-2.2
	comp=N,3.3nm,0.5s						
EFP	Efpalio	6.33	119	P	Pn	05 02 52.8	+2.7
LMR	La Mourre	6.37	288	ePn	Pn	05 02 51.2	+0.6
LMR				eSn	Sn	05 04 00.2	-2.6
	comp=N,11nm,0.8s						
HERR	Herculane	6.38	58	⇑P	Pn	05 02 53.7	+2.9
TRAV	Traversella	6.41	309	⇓P	Pn	05 02 55.3	+4.1
RETA	Reutte	6.48	335	eSn	Sn	05 04 08.4	+2.7
	comp=N,6.5nm,0.4s						
DAVA	Damuels	6.62	329	i Pn	Pn	05 02 57.7	+3.5
DAVA				eSn	Sn	05 04 11.2	+2.0
	comp=N,12nm,0.3s						
MBDF	Montbardon	6.62	300	ePn	Pn	05 02 55.6	+1.3
MBDF				eSn	Sn	05 04 06.8	-2.6
	comp=N,16nm,1.0s						
KLV	Kalavryta, Ach	6.70	121	P	Pn	05 02 58.0	+2.7
SIRR	Siria	6.72	45	⇑P	Pn	05 02 58.3	+2.9
GZR	Gura Zlata	6.85	55	⇓P	Pn	05 02 59.3	+1.9
LPG	La Plagne	6.99	306	ePn	Pn	05 02 59.8	+0.3
LPG				eSn	Sn	05 04 14.7	-3.9
	comp=N,2.1nm,0.5s						
LPL	La Plagne	7.01	306	ePn	Pn	05 03 00.0	+0.3
LPL				eSn	Sn	05 04 15.6	-3.4
	comp=N,4.1nm,0.4s						
CKRC	Cesky Krumlov	7.14	357	ePN	Pn	05 03 01.2	0.0
CKRC				eSN	Sn	05 04 18.7	-3.1
SMRF	Simiane la Rot	7.18	292	eP	Pn	05 03 06.3	+4.5
GERES	GERESS Array B	7.20	354	Pn	Pn	05 03 02.7	+0.6
	comp=N,1.2nm,0.3s,baz=12,slow=14,SNR=14						
GERES				Sn	Sn	05 04 20.4	-2.9
	comp=N,1.8nm,0.3s,baz=146,slow=20,SNR=12						
ORIF	Oris-en-Rattie	7.28	299	ePn	Pn	05 03 04.2	+0.9
ORIF	Oris-en-Rattie	7.28	299	eP	Pn	05 03 08.9	+5.6
KOLL	Kolacno	7.33	19	ePN	Pn	05 03 05.3	+1.5
KOLL				eSN	Sn	05 04 24.7	-1.8
KEST	Kesra	7.34	218	Pn	Pn	05 03 08.2	+4.2
	comp=N,2.6nm,0.3s,baz=307,slow=5.2,SNR=16						
VYHS	Vyhne	7.37	21	ePN	Pn	05 03 06.2	+1.9
VYHS				eSN	Sn	05 04 25.2	-2.2
KHC	Kasperske Hory	7.49	354	ePN	Pn	05 03 06.2	+0.1
KHC				eSN	Sn	05 04 28.1	-2.4
LOT	Lotru	7.49	57	⇑P	Pn	05 03 08.9	+2.7
DRGR		7.61	45	⇓P	Pn	05 03 10.7	+2.9
CABF	La Chapelle	7.98	311	ePn	Pn	05 03 13.5	+0.7
VIVF	Saint-Julien-l	8.06	296	eP	Pn	05 03 19.6	+5.7
VOIR		8.31	60	⇑P	Pn	05 03 19.4	+2.1
HINF	Hinteralfeld	8.35	320	ePn	Pn	05 03 18.0	+0.2
HINF				eSn	Sn	05 04 45.7	-5.9
	comp=N,8.4nm,0.4s						
CDF	Champ du Feu	8.59	324	ePn	Pn	05 03 21.3	+0.2
CDF				eSn	Sn	05 04 50.9	-6.6
	comp=N,5.6nm,0.3s						
HAU	Haudompre	8.72	319	ePn	Pn	05 03 23.2	+0.2
HAU				eSn	Sn	05 04 54.3	-6.5
	comp=N,12nm,0.3s						
MLR	Muntele Rosu	8.91	61	⇑P	Pn	05 03 26.7	+1.1
MLR	Muntele Rosu	8.91	61	Pn	Pn	05 03 26.3	+0.7
	comp=N,0.1nm,0.3s,baz=159,slow=6.2,SNR=8.1						
BURAR	Bucovina Array	9.47	48	⇓P	Pn	05 03 36.4	+3.1
PLOR	Plostina	9.50	60	⇓P	Pn	05 03 35.6	+2.0
VRI	Vrincioaia	9.56	60	⇑P	Pn	05 03 35.6	+1.2
LOR	Lormes	9.62	309	eP	Pn	05 03 40.5	+5.3
	baz=130						
LOR				eSn	Sn	05 05 16.8	-6.0
	comp=N,1.8nm,0.3s						
AVF	Avril sur Loir	9.69	306	eSg	Sn	05 06 19.7	+55
	comp=N,0.9nm,0.2s						
CLL	Collm	9.70	353	ePn	Pn	05 03 41.0	+4.7
CLL				ePg		05 04 19.0	
CLL				e(Sn)	Sn	05 05 17.0	-7.7
CLL				ex	x	05 05 41.0	
CLL				eSg		05 06 37.0	
	comp=N,100nm,17.3s						
CLL				eSg		05 06 37.0	
	comp=E,200nm,19.9s						
SSF	Saint Saulge	9.72	307	eSg	Sn	05 06 20.4	+55
	comp=E,1.6nm,0.2s						
CAF	Calviac	9.85	293	eSn	Sn	05 05 23.6	-5.0
	comp=E,0.9nm,0.3s						
IDI	Anoyia	10.14	126	Pn	Pn	05 03 44.3	+1.8
	comp=E,0.8nm,0.3s,baz=139,slow=6.1,SNR=1.6						
IDI				Sn	Sn	05 05 28.4	-7.4
	comp=E,0.9nm,0.3s,baz=160,slow=8.2,SNR=2.1						
BRTR	Keskin Array B	14.40	92	Pn	P	05 04 44.8	-2.8
	comp=E,0.1nm,0.3s,baz=270,slow=10,SNR=1.8						
BRTR				LR	LR	05 11 23.9	
	comp=E,68nm,19.4s,baz=287,slow=42						
NOA	NORSAR Array B	19.50	355	P	Pn	05 05 46.2	+1.3
	comp=E,0.0nm,0.3s,baz=171,slow=9.9,SNR=2.2						
FINES	FINESS Array B	20.92	15	P	P	05 06 00.5	+1.6
	comp=E,2.7nm,0.8s,baz=202,slow=14,SNR=3.4						
TORD	Torodi Ar. Bea	30.66	206	P	P	05 07 33.5	+2.4
	comp=E,0.9nm,0.8s,baz=13,slow=10,SNR=6.0						
MKAR	Makanchi Array	47.25	60	P	P	05 09 50.3	+0.7
	comp=E,0.6nm,0.8s,baz=298,slow=5.4,SNR=6.7						
YKA	Yellowknife Ar	68.53	337	P	P	05 12 20.3	+1.6
	comp=E,0.1nm,0.5s,baz=40,slow=5.8,SNR=4.9						
MAW	Mawson	114.84	162	PKP	PKiKP	05 20 00.1	+4.1
	comp=E,58nm,1.1s,baz=270,slow=2.0,SNR=2.2						

IDC 03 05:01:29.9±2.7, 22°.34S×148°.10E, h0^{km}, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=38.1km s-min=33.7km az=156.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	11.12	210	Pn	Pn	05 04 09.1	-1.1
	0.3nm,0.3s,baz=28,slow=14,SNR=3.5						
STKA				Sn	Sn	05 06 08.4	-6.9
	0.1nm,0.3s,baz=300,slow=23,SNR=1.6						
STKA				Lg	Lg	05 07 22.4	
	0.1nm,0.3s,baz=297,slow=23,SNR=1.9						
WRA	Warramunga Arr	13.06	278	Pn	Pn	05 04 35.5	-1.3
	0.2nm,0.3s,baz=98,slow=12,SNR=11						
WRA				Sn	Sn	05 06 56.4	-6.4
	0.1nm,0.3s,baz=110,slow=23,SNR=2.8						
WRA				Lg	Lg	05 08 26.5	
	0.2nm,0.3s,baz=110,slow=29,SNR=6.3						
ASAR	Alice Springs	13.14	262	Pn	Pn	05 04 38.5	+0.7
	0.2nm,0.3s,baz=90,slow=14,SNR=6.9						
ASAR				Sn	Sn	05 06 57.7	-7.1
	0.1nm,0.3s,baz=89,slow=16,SNR=2.2						
ASAR				Lg	Lg	05 08 27.3	
	0.1nm,0.3s,baz=82,slow=28,SNR=4.7						
TORD	Torodi Ar. Bea	146.79	260	PKPbc	PKPbc	05 21 14.3	-0.5
	1.2nm,0.9s,baz=99,slow=3.1,SNR=6.0						

IDC 03 05:05:07.4±2.0, 31°.49S×66°.04W, h0^{km}, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML3.6/3, Error ellipse: s-maj=58.1km s-min=23.3km az=124.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	Villa Florida	9.20	58	Pn	Pn	05 07 20.8	-0.6
	0.2nm,0.3s,baz=240,slow=12,SNR=5.3						
CPUP				Lg	Lg	05 10 00.8	
	0.4nm,0.3s,baz=167,slow=14,SNR=1.5						
PLCA	Paso Flores	9.92	200	Pn	Pn	05 07 31.4	0.0
	0.1nm,0.3s,baz=86,slow=14,SNR=1.9						
PLCA				Lg	Lg	05 10 23.5	
	0.1nm,0.3s,baz=145,slow=24,SNR=1.6						
LPAZ	La Paz	15.25	352	Pn	Pn	05 08 45.2	+0.6
	0.2nm,0.3s,baz=157,slow=7.7,SNR=6.9						
MKAR	Makanchi Array	151.31	49	PKPbc	PKPbc	05 25 02.4	-0.4
	0.3nm,0.7s,baz=265,slow=3.8,SNR=3.6						

IDC 03 05:07:18.4±1.6, 14°.96N×145°.77E, h146^{km}±13^{km}, mb3.4/7, mb1 3.6/7, mb1mx3.3/53, mbtmp3.8/7, Error ellipse: s-maj=36.0km s-min=17.9km az=106.0

NEIC 03 05:07:19.5±1.3, 15°.0N±0°.1×145°.8E±0°.2, h153^{km}±4^{km}, mb4.3/13, Error ellipse: s-maj=34.6km s-min=9.9km az=112.0

ISC 03 05:07:18.8±0.7, 15°.0N±0°.1×145°.7E±0°.2, h150^{km}, n25, σ0s.84/27, mb4.2/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.60	211	P	Pn	05 07 50.2	+0.7
	26nm,0.3s,baz=123,slow=3.0,SNR=14						
GUMO				S	Sn	05 08 12.0	-1.0
	27nm,0.3s,baz=172,slow=20,SNR=4.4						
GUMO	Guam	1.60	211		Pn	05 07 50.4	+0.9
GUMO				Sn	Sn	05 08 12.6	-0.4
SIJI	Sorong	21.27	224	P	P	05 11 54.5	+1.0
	12nm,0.5s,baz=16,slow=17,SNR=5.6						
JYT	Yasato	21.75	348	P	P	05 11 58.8	+0.4
FAKI	Fak Fak	22.23	218	P	P	05 12 03.4	0.0
FAKI				IAmb	IAmb	05 12 04.6	
	comp=Z,13nm,0.9s						
WB0	Warramunga Arr	36.27	198	P	P	05 14 07.9	0.0
WB0				IAmb	IAmb	05 14 08.0	
	comp=Z,4.2nm,0.6s						
WR0	Warramunga Arr	36.41	198	P	P	05 14 08.8	-0.2
WR0				IAmb	IAmb	05 14 09.5	
	comp=Z,5.0nm,0.9s						
WRAB	Tennant Creek	36.44	198	P	P	05 14 09.4	+0.1
WB2	Warramunga Arr	36.45	198	P	P	05 14 09.3	-0.1
WB2				IAmb	IAmb	05 14 10.4	
	comp=Z,8.2nm,0.7s						
WRA	Warramunga Arr	36.45	198	P	P	05 14 09.1	-0.3
	comp=Z,4.0nm,0.7s,baz=18,slow=9.4,SNR=43						
WRA	Warramunga Arr	36.45	198	P	P	05 14 08.1	-1.4
FITZ	Fitzroy Crossi	38.36	212	P	P	05 14 24.9	-0.5
FITZ				IAmb	IAmb	05 14 43.3	
	comp=Z,3.1nm,1.1s						
ASAR	Alice Springs	40.10	197	P	P	05 14 39.7	-0.2
	comp=Z,0.6nm,0.5s,baz=26,slow=7.7,SNR=8.4						
BBOO	Buckleboo	48.40	191	P	P	05 15 46.2	+0.5
MORW	Morawa	52.34	213	P	P	05 16 14.6	-0.8
MORW				IAmb	IAmb	05 16 15.1	
	comp=Z,10nm,1.2s						
MK31	Makanchi Array	61.09	315	P	P	05 17 17.2	+0.1
MKAR	Makanchi Array	61.09	315	P	P	05 17 17.2	+0.2
	comp=Z,0.3nm,0.4s,baz=90,slow=9.2,SNR=10						
MKAR	Makanchi Array	61.09	315	P	P	05 17 17.1	0.0
KURK	Kurchatov	64.08	319	P	P	05 17 36.2	-0.6
ILAR	Eielson Array	66.97	25	P	P	05 17 53.8	-1.2
	comp=Z,0.3nm,0.6s,baz=263,slow=5.6,SNR=3.1						
RIDG	Independent Ri	67.61	27	P	P	05 17 56.9	-2.3
RIDG				IAmb	IAmb	05 18 03.9	
	comp=Z,8.7nm,1.4s						
BMAR	Burnt Mountain	68.52	23	P	P	05 18 05.7	+1.0
YKA	Yellowknife Ar	81.26	28	P	P	05 19 17.9	0.0
	comp=Z,0.2nm,0.5s,baz=282,slow=5.1,SNR=3.9						
YKA	Yellowknife Ar	81.26	28	P	P	05 19 17.5	-0.4
NVAR	Mina Array Bea	85.42	52	P	P	05 19 41.3	+1.2
	comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=2.4						

TUL 03 05:10:30.6±1.1, 36°.668N±0°.009×97°.74W±0°.01, h5^{km}±6^{km}, ML2.6, mb_Lg2.2/17(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=220.0

NEIC 03 05:10:30.7±0.8, 36°.65N±0°.01×97°.73W±0°.01, h5^{km}±6^{km}, Error ellipse: s-maj=1.7km s-min=1.5km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	1.01	75	Pg	Pg	05 10 49.8	-0.3
U32A	Winter Ranch,	1.06	256	Pg	Pg	05 10 50.4	-0.6
U32A				IAmb_Lg		05 11 05.3	
	comp=Z,12nm,1.0s						
OKCFA	Oklahoma City	1.25	170	Pn	Pg	05 10 54.3	-0.4
OKCSW	OKLAHOMA CITY	1.27	169		Pg	05 10 54.5	-0.4
FNO	Franklin	1.42	169	Pn	Pn	05 10 57.0	-0.1
W35A	Tecumseh	1.65	155	Pn	Pn	05 11 00.6	+0.3
TUL1	Leonard	1.73	115	Pn	Pb	05 11 02.2	-0.8
TUL1				IAmb_Lg		05 11 29.9	
	comp=Z,16nm,0.7s						
R32A	Long Quarter,	1.93	336	IAmb_Lg		05 11 33.8	
	comp=Z,12nm,0.7s						
X34A	Smith Ranch, M	2.05	182	IAmb_Lg		05 11 41.6	
	comp=Z,9.3nm,0.7s						
WMOK	Wichita Mounta	2.09	204	Pn	Pn	05 11 07.5	+1.1
WMOK	Wichita Mounta	2.09	204	IAmb_Lg		05 11 39.1	
	comp=Z,14nm,1.1s						
X37A	Clayton	2.81	136	IAmb_Lg		05 12 03.8	
	comp=Z,11nm,0.8s						
HHAR	Hobbs	3.08	96	Pn	Pn	05 11 19.7	-0.2
S39A	Bolivar	3.67	72	Pn	Pn	05 11 28.8	+0.7
U40A	Yellville	3.94	93	Pn	Pn	05 11 32.3	+0.5
U40A				IAmb_Lg		05 12 36.3	
	comp=Z,8.6nm,0.7s						
MGMO	Mountain Grove	4.40	82	IAmb_Lg		05 12 51.5	
	comp=Z,4.0nm,0.7s						
X40A	Basin Creek Fa	4.54	117	IAmb_Lg		05 13 03.8	
	comp=Z,6.6nm,0.8s						
BGNE	Belgrade	4.76	356	Pn	Pn	05 11 43.1	0.0

MCSM 03 05:15:55.9±0.8, 51°N±4°×1°6E±°, h4^{km}±2^{km}, ML2.9, MLv3.1

IDC 03 05:15:55.4±0.8, 51°.47N×16°.03E, h0^{km}, mb3.3/1, mb1 3.5/8, mb1mx3.3/53, mbtmp3.3/8, ML3.0/7, Error ellipse: s-maj=15.6km s-min=8.1km az=105.0

PRU 03 05:15:56.2±0.0, 51°.44N×16°.09E, h0^{km}

VIE 03 05:15:58.3±1.4, 51°.27N×16°.04E, h0^{km}, mb2.7/3, ml2.8/4, Error ellipse: s-maj=8.5km s-min=6.7km az=6.0 70 km WNW of Wroclaw Suspected Mining induced.

ISC 03 05:15:53.9±0.6, 51°.55N±0°.03×16°.13E±0°.03, h0^{km}, n51, σ1s.19/94, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	172	ePg	Pg	05 16 07.9	+0.4
KSP				eSg	Sg	05 16 16.6	-0.1
KSP	Ksiaz	0.71	172	Pg	Pg	05 16 07.7	+0.1
CHVC	Chvalec	0.96	183	ePG	Pg	05 16 12.7	+0.4
CHVC				eSG	Sg	05 16 23.5	-1.3
	comp=Z,63nm,0.6s						
CHVC	Chvalec	0.96	183	Pg	Pg	05 16 12.6	+0.3
CHVC				Sg	Sg	05 16 24.9	+0.1
OSTC	Ostas	0.99	177	ePG	Pg	05 16 13.0	+0.1
OSTC				eSG	Sg	05 16 25.3	-0.5
	comp=Z,50nm,0.4s						
OSTC	Ostas	0.99	177	Pg	Pg	05 16 13.1	+0.1
OSTC				Sg	Sg	05 16 25.0	-0.8
UPC	Upice	1.04	184	ePG	Pg	05 16 14.1	+0.2
UPC				eSG	Sg	05 16 25.9	-1.5
	comp=Z,99nm,0.4s						
UPC	Upice	1.04	184	Pg	Pg	05 16 13.9	0.0
UPC				Sg	Sg	05 16 27.2	-0.2
DPC	Dobruska-Polom	1.20	174	ePG	Pg	05 16 16.6	-0.4
DPC				eSG	Sg	05 16 31.2	-1.4
	comp=Z,60nm,0.8s						
DPC	Dobruska-Polom	1.20	174	Pg	Pg	05 16 16.7	-0.3
DPC				Sg	Sg	05 16 32.1	-0.5
PVCC	Panska Ves	1.42	225	ePG	Pb	05 16 21.3	0.0
PVCC				eSG	Sg	05 16 39.5	0.0
	comp=Z,142nm,0.3s						
KRLC	Kraliky	1.53	164	ePG	Pn	05 16 22.4	-0.1
KRLC				eSG	Sg	05 16 41.1	-1.9
	comp=Z,120nm,1.0s						
BRG	Berggiesshubel	1.53	245	Pg	Pg	05 16 24.0	+0.7
BRG				Sg	Sg	05 16 43.8	+0.6
BRG				Amp		05 16 44.5	
	comp=Z,55nm,0.5s						
PRU	Pruhonice	1.86	214	ePG	Pn	05 16 27.1	+0.1
PRU				eSG	Sb	05 16 52.2	-0.3
	comp=Z,96nm,1.3s						
CLL	Collm	1.98	264	ePn	Pn	05 16 29.0	+0.4
CLL				ePg	Pb	05 16 31.0	+0.3
CLL				ex	x	05 16 36.0	
CLL				ex	x	05 16 46.0	
CLL				eSg	Sb	05 16 56.0	+0.1
	comp=Z,29nm,0.7s						
MORC	Moravsky Berou	1.99	153	ePN	Pn	05 16 28.6	-0.2
MORC				eSG	Sn	05 16 55.3	+0.9
OKC	Ostrava-Krasne	2.14	142	ePG	Pb	05 16 34.1	+0.6
OKC				eSG	Sb	05 17 01.1	+0.6
	comp=Z,68nm,0.8s						
VRAC	Vranov	2.26	172	Pn	Pn	05 16 33.2	+0.6
	comp=Z,2.8nm,0.3s,baz=344,slow=15,SNR=9.4						
VRAC				Lg	Lg	05 17 02.9	
	comp=Z,3.8nm,0.3s,baz=251,slow=22,SNR=8.3						
VRAC	Vranov	2.26	172	ePN	Pn	05 16 33.4	+0.8
VRAC				eSG	Sb	05 17 04.2	+0.1
TREC	Trest	2.29	191	ePN	Pn	05 16 33.7	+0.7
TREC				ePG	Pb	05 16 35.6	-0.6
TREC				eSG	Sb	05 17 04.9	-0.1
	comp=Z,26nm,0.5s						
PBCC	Pribram	2.31	217	ePG	Pb	05 16 36.6	+0.2
PBCC				eSG	Sb	05 17 06.3	+0.8
	comp=Z,23nm,1.0s						
KRUC	Moravsky	2.49	176	ePN	Pn	05 16 36.9	+1.2
KRUC				eSG	Sb	05 17 11.3	+0.5
OJC	Ojcow	2.67	118	ePn	Pn	05 16 38.7	+0.5
OJC				ePg	Pg	05 16 47.5	+2.4
OJC				eSg	Sg	05 17 21.8	+2.0
NKC	Novy Kostel	2.68	242	ePN	Pn	05 16 38.9	+0.6
NKC				eSG	Sg	05 17 19.4	-0.5
	comp=Z,36nm,0.4s						
JAVC	Velka Javorina	2.87	159	ePN	Pn	05 16 40.9	0.0
KHC	Kasperske Hory	2.92	215	ePN	Pn	05 16 42.0	+0.3
KHC				ePG	Pb	05 16 47.8	+0.9
KHC				eSN	Sn	05 17 16.7	-0.7
KHC				eSG	Sg	05 17 26.8	-0.9
	comp=Z,15nm,0.4s						
CKRC	Cesky Krumlov	2.97	204	ePG	Pb	05 16 48.2	+0.5
CKRC				eSG	Sg	05 17 27.5	-1.8
GERES	GERESS Array B	3.12	211	Pn	Pn	05 16 45.0	+0.6
	comp=Z,1.2nm,0.3s,baz=32,slow=21,SNR=5.9						
GERES				Pg	Pb	05 16 50.8	+0.4
	comp=Z,3.5nm,0.3s,baz=32,slow=22,SNR=14						
GERES				Lg	Lg	05 17 30.4	
	comp=Z,4.2nm,0.3s,baz=30,slow=29,SNR=3.6						
SMOL	Smolenice	3.15	164	ePG	Pg	05 16 54.2	0.0
SMOL				eSG	Sg	05 17 35.3	+0.3
LANS	Liptovska Anna	3.21	137	ePG	Pg	05 16 54.3	-1.1
LANS				eSG	Sg	05 17 35.6	-1.4
VYHS	Vyhne	3.52	149	ePN	Pn	05 16 49.9	+0.1
VYHS				ePG	Pg	05 17 01.2	-0.1
CONA	Conrad Observa	3.63	183	ePn	Pn	05 16 47.1	-4.3
	comp=Z,1.7nm,0.3s						
CONA				eSg	Sg	05 17 48.7	-1.7
	comp=Z,12nm,0.4s						
BSD	Bornholm Skovb	3.65	349	eS	Sn	05 17 32.8	-2.5
MOA	Molln	3.90	199	i Pn	Pn	05 16 55.9	+0.9
	comp=Z,2.0nm,0.3s						
MOA				i Sg	Sg	05 17 57.8	-1.2
	comp=Z,10.0nm,0.5s						
ARSA	Arzberg	4.32	186	eSg	Sg	05 18 08.9	-3.7
	comp=Z,14nm,0.8s						
LUNU	Lund	4.39	340	eP	Pn	05 17 00.8	-1.0
LUNU				eS	Sn	05 17 52.3	-1.4
BLEU	Blekinge	4.77	358	eP	Pn	05 17 07.4	+0.4
BLEU				eS	Sn	05 18 00.6	-2.3
DEL	Delary	5.11	346	i P	Pn	05 17 12.0	+0.3
DEL				eS	Sn	05 18 10.2	-1.1
WTTA	Wattenberg	5.20	216	i Pn	Pn	05 17 14.9	+1.9
	comp=Z,0.6nm,0.2s						
WTTA				eSg	Sg	05 18 41.0	+0.2
	comp=Z,9.3nm,0.6s						
KMPD	K-Podol'skiy	7.29	110	Sn	Sn	05 19 05.7	+0.8
AK14	Malin Array Si	8.22	91	Pn	Pn	05 17 55.3	+0.9
AK14				pP	Pn	05 17 55.8	+1.4
AK14				sP	Pn	05 17 56.4	+2.0
AK11	Malin Array Si	8.25	91	Pn	Pn	05 17 55.1	+0.3
AK11				pP	Pn	05 17 56.2	+1.4
AK11				sP	Pn	05 17 56.9	+2.1
AK02	Malin Array Si	8.28	91	Pn	Pn	05 17 55.8	+0.7
AKASG	Malin Array Be	8.28	91	Pn	Pn	05 17 53.7	-1.4
	comp=Z,0.3nm,0.3s,baz=276,slow=13,SNR=1.9						
AK05	Malin Array Si	8.29	91	Pn	Pn	05 17 55.8	+0.6
HFS	Hagfors	8.72	352	Pn	Pn	05 17 58.8	-2.3
	comp=Z,0.1nm,0.3s,baz=154,slow=18,SNR=1.7						
FINES	FINESS Array B	11.32	25	Pn	Pn	05 18 36.5	-0.2
	comp=Z,0.1nm,0.3s,baz=213,slow=18,SNR=4.2						
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	05 18 47.6	+0.1
	baz=106,slow=13,SNR=1.9						
VAE	Valguarnera	14.12	186	Pn	Pn	05 19 15.6	+0.4
	comp=Z,7.2nm,0.3s,baz=8.1,slow=14,SNR=5.1						
ARCES	ARCESS Array B	18.58	10	Pn	P	05 20 09.4	-2.8
	baz=198,slow=11,SNR=6.5						
YKA	Yellowknife Ar	59.83	336	P	P	05 26 02.4	+1.9
	comp=Z,0.2nm,0.5s,baz=28,slow=7.0,SNR=4.0						

TUL 03 05:16:14.7±1.4, 36°.67N±0°.01×97°.74W±0°.02, h6^{km}±7^{km}, ML3.0, mb_Lg2.5/29(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=113.0

NEIC 03 05:16:14.7±0.6, 36°.65N±0°.01×97°.73W±0°.02, h7^{km}±7^{km}, Error ellipse: s-maj=2.3km s-min=1.4km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	1.01	75	Pg	Pg	05 16 33.9	-0.2
U32A	Winter Ranch,	1.06	256	Pg	Pg	05 16 34.4	-0.7
OKCFA	Oklahoma City	1.25	170		Pn	05 16 38.4	-0.3
OKCSW	OKLAHOMA CITY	1.27	169		Pn	05 16 38.6	-0.2
FNO	Franklin	1.42	169	Pn	Pn	05 16 41.1	+0.3
W35A	Tecumseh	1.65	155		Pb	05 16 44.8	-0.6
TUL1	Leonard	1.73	115		Pb	05 16 46.1	-0.7
TUL1				IAmb_Lg		05 17 12.1	
	comp=Z,28nm,0.8s						
X34A	Smith Ranch, M	2.05	182		Pb	05 16 51.5	-0.7
X34A				IAmb_Lg		05 17 21.6	
	comp=Z,18nm,0.9s						
WMOK	Wichita Mounta	2.09	204	Pn	Pn	05 16 51.4	+1.1
WMOK				IAmb_Lg		05 17 22.9	
	comp=Z,20nm,1.1s						
X37A	Clayton	2.81	136	IAmb_Lg		05 17 48.2	
	comp=Z,20nm,0.8s						
HHAR	Hobbs	3.08	96	Pn	Pn	05 17 03.4	-0.3
AMTX	Amarillo	3.67	242	IAmb_Lg		05 18 14.4	
	comp=Z,11nm,0.7s						
U40A	Yellville	3.94	93	Pn	Pn	05 17 15.5	-0.1
U40A				IAmb_Lg		05 18 28.7	
	comp=Z,6.5nm,0.7s						
MIAR	Mount Ida	3.98	121	IAmb_Lg		05 18 23.9	
	comp=Z,14nm,0.8s						
Z38A	Mt. Pleasant	4.07	146	IAmb_Lg		05 18 32.0	
	comp=Z,17nm,0.7s						
MGMO	Mountain Grove	4.40	82	Pn	Pn	05 17 23.1	+1.2
MGMO				IAmb_Lg		05 18 45.9	
	comp=Z,5.8nm,0.7s						
P38A	Dawn	4.44	47	IAmb_Lg		05 18 33.8	
	comp=Z,7.0nm,0.7s						
X40A	Basin Creek Fa	4.54	117	IAmb_Lg		05 18 42.7	
	comp=Z,10nm,0.8s						
FCAR	Ozark Folk Cen	4.59	98	IAmb_Lg		05 18 48.9	
	comp=Z,6.1nm,0.7s						
BGNE	Belgrade	4.76	356	IAmb_Lg		05 18 58.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,14nm,0.9s						
T25A	**Trinidad**	**5.38**	**277**	Pn	Pn	05 17 34.6	-0.9
JCT	**Junction City**	**6.39**	**196**	IAmb_Lg		05 19 51.1	
	comp=Z,5.8nm,0.7s						
I42A	**Draeger Farm,**	**9.88**	**40**	IAmb_Lg		05 21 53.0	
	comp=Z,4.4nm,0.9s						

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*IDC **03** 05:27:53.8±4.4, 52°.38N×179°.39W, h150km±60km, mb2.8/4, mb1 3.3/7, mb1mx3.0/44, mbtmp3.5/7, Error ellipse: s-maj=64.1km s-min=38.2km az=155.0*
*NEIC **03** 05:27:55.7±0.8, 53°.15N±0°.08×179°.63W±0°.10, h14km±8km, Error ellipse: s-maj=11.0km s-min=8.3km az=175.0*
*AEIC **03** 05:27:56±0.7, 52°.3N±0°.3×179°.6W±0°.1, h182km±8km, ML3.1, Error ellipse: s-maj=37.8km s-min=8.9km az=183.0*
ISC 03 05:27:55.3±0.9**, 52°.8N**±0°.1×**179°.66W**±0°.07**, h150**km**, n25,** σ**1s22**/26**, mb3.2**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**1.12**	**152**		**Pn**	**05 28 21.1**	**0.0**
GASW	**Gareloi Southw**	**1.14**	**154**		**Pn**	**05 28 21.2**	**-0.1**
GALAA	**Gareloi Lava P**	**1.18**	**152**		**Pn**	**05 28 22.3**	**+0.6**
TAFP	**Tanaga Falls P**	**1.37**	**131**		**Pn**	**05 28 24.1**	**+0.5**
TASE	**Tanaga Southea**	**1.40**	**134**		**Pn**	**05 28 24.1**	**+0.3**
TAPA	**Tanaga Point A**	**1.51**	**130**		**Pn**	**05 28 25.2**	**+0.2**
KIWB	**Kanaga Island**	**1.81**	**121**		**Pn**	**05 28 28.4**	**+0.2**
KIWB				Sn	**Sn**	**05 28 54.4**	**+0.9**
KIMD	**Kanaga Island**	**1.82**	**124**		**Pn**	**05 28 28.1**	**-0.2**
ADK	**Adak**	**2.05**	**116**	Pn	**Pn**	**05 28 30.9**	**0.0**
GSTD	**Great Sitkin T**	**2.28**	**108**		**Pn**	**05 28 34.4**	**+0.6**
GSCK	**Great Sitkin C**	**2.29**	**109**		**Pn**	**05 28 34.6**	**+0.8**
GSMY	**Great Sitkin M**	**2.34**	**108**		**Pn**	**05 28 35.2**	**+0.8**
ATKA	**Atka Island**	**3.40**	**98**		**Pn**	**05 28 48.3**	**+0.7**
KOFP	**Korovin Flat P**	**3.44**	**97**		**Pn**	**05 28 49.4**	**+1.1**
SHEM	**Shemya Is, Ala**	**3.79**	**271**	P	**Pn**	**05 28 53.9**	**+1.2**
	6.8nm,0.3s,baz=308,slow=13,SNR=2.2						
SMY	**Shemya**	**3.79**	**271**		**Pn**	**05 28 54.1**	**+1.4**
NIKH	**Nikolski High**	**6.54**	**84**	Pn	**Pn**	**05 29 30.6**	**+1.5**
UNV	**Unalaska Valle**	**7.95**	**77**	Pn	**Pn**	**05 29 51.1**	**+3.2**
SDPT	**Sand Point**	**11.55**	**70**	Pn	**Pn**	**05 30 36.1**	**+0.6**
PETK	**Petropavlovsk-**	**13.64**	**280**	P	**Pn**	**05 31 03.9**	**+1.4**
	0.1nm,0.3s,baz=67,slow=13,SNR=1.1						
KDAK	**Kodiak Island**	**16.14**	**61**	P	**Pn**	**05 31 33.3**	**-0.2**
	0.6nm,0.3s,baz=279,slow=9.7,SNR=16						
ILAR	**Eielson Array**	**20.49**	**42**	P	**P**	**05 32 21.4**	**+0.3**
	0.3nm,0.8s,baz=237,slow=8.7,SNR=5.4						
YKA	**Yellowknife Ar**	**34.65**	**48**	P	**P**	**05 34 29.7**	**-0.1**
	0.3nm,0.6s,baz=281,slow=8.0,SNR=4.9						
NVAR	**Mina Array Bea**	**43.91**	**84**	P	**P**	**05 35 45.0**	**-2.1**
	0.4nm,0.6s,baz=299,slow=6.4,SNR=4.4						
PDAR	**Pinedale Array**	**46.39**	**73**	P	**P**	**05 36 04.1**	**-2.5**
	0.2nm,0.5s,baz=315,slow=3.8,SNR=5.1						

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*IDC **03** 05:42:34.5±1.0, 36°.59N×98°.74W, h0km, mb3.1/1, mb1 3.6/6, mb1mx3.4/41, mbtmp3.4/6, ML3.8/4, Error ellipse: s-maj=14.5km s-min=9.8km az=109.0*
*TUL **03** 05:42:35.2±0.4, 36°.46N±0°.03×98°.76W±0°.05, h8km±5km, ML3.9, mb_Lg3.6/98(NEIC), Error ellipse: s-maj=6.2km s-min=3.6km az=113.0*
*NEIC **03** 05:42:35.8±0.5, 36°.45N±0°.03×98°.76W±0°.02, h5km±6km, Error ellipse: s-maj=4.2km s-min=2.6km az=159.0*
*ANF **03** 05:42:37.1±1.6, 36°.42N×98°.73W, h18km±12km, ML4.5/12, Error ellipse: s-maj=4.0km s-min=3.8km az=29.0*
ISC 03 05:42:35.8±0.7**, 36°.47N**±0°.04×**98°.70W**±0°.04**, h10**km**, n91,** σ**1s13**/55**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.26**	**249**	Pg	**Pg**	**05 42 39.9**	**-1.2**
U32A				Sg	**Sg**	**05 42 43.4**	**-1.2**
OKCFA	**Oklahoma City**	**1.47**	**136**		**Pn**	**05 43 02.1**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.48**	**136**	Pg	**Pn**	**05 43 02.6**	**+0.1**
FNO	**Franklin**	**1.61**	**139**	Pn	**Pn**	**05 43 04.7**	**+0.4**
WMOK	**Wichita Mounta**	**1.73**	**182**		**Pn**	**05 43 05.2**	**-0.8**
WMOK	**Wichita Mounta**	**1.73**	**182**	P	**Pn**	**05 43 05.2**	**-0.8**
	baz=1.4						
T35A	**Sooner Cattle**	**1.81**	**75**	Pn	**Pn**	**05 43 07.7**	**+0.6**
T35A				IAmb_Lg		05 43 39.4	
	comp=Z,221nm,0.8s						
R32A	**Long Quarter,**	**1.94**	**360**		**Pn**	**05 43 09.5**	**+0.6**
W35A	**Tecumseh**	**1.99**	**131**	Pn	**Pn**	**05 43 10.0**	**+0.5**
X34A	**Smith Ranch, M**	**2.00**	**159**	Pn	**Pn**	**05 43 10.8**	**+1.1**
X34A				IAmb_Lg		05 43 40.7	
	comp=Z,371nm,0.8s						
TUL1	**Leonard**	**2.42**	**103**	Pn	**Pn**	**05 43 15.9**	**+0.4**
TUL1				IAmb_Lg		05 43 52.0	
	comp=Z,162nm,0.8s						
TUL1	**Leonard**	**2.42**	**103**	P	**Pn**	**05 43 16.0**	**+0.6**
	baz=284						
TUL1				S	**Sn**	**05 43 47.2**	**+2.1**
	baz=284						
CBKS	**Cedar Bluff**	**2.48**	**341**	S	**Sb**	**05 43 51.2**	**+0.2**
	baz=161						
AMTX	**Amarillo**	**2.90**	**238**	Pn	**Pn**	**05 43 22.1**	**+0.1**
AMTX	**Amarillo**	**2.90**	**238**	P	**Pn**	**05 43 22.5**	**+0.5**
	baz=56						
AMTX				Sb	**Sb**	**05 44 04.2**	**+1.0**
	baz=56						
KSU1	**Kansas State U**	**3.10**	**32**	Pn	**Pn**	**05 43 26.1**	**+1.3**
KSU1				IAmb_Lg		05 44 22.4	
	comp=Z,119nm,0.8s						
KSU1	**Kansas State U**	**3.10**	**32**	P	**Pn**	**05 43 26.2**	**+1.4**
	baz=213						
X37A	**Clayton**	**3.30**	**124**		**Pn**	**05 43 28.0**	**+0.4**
X37A				IAmb_Lg		05 44 26.7	
	comp=Z,208nm,0.7s						
Z35A	**Perchaven, San**	**3.35**	**159**		**Pn**	**05 43 28.6**	**+0.4**
HHAR	**Hobbs**	**3.85**	**91**	Pn	**Pn**	**05 43 35.2**	**+0.1**
ABTX	**Abilene, Hawle**	**3.92**	**192**		**Pn**	**05 43 34.9**	**-1.2**
ABTX	**Abilene, Hawle**	**3.92**	**192**	P	**Pn**	**05 43 35.8**	**-0.3**
	baz=11						
KSCO	**Kaye Shedlock'**	**4.01**	**310**	IAmb_Lg		05 44 49.0	
	comp=Z,177nm,0.7s						
MSTX	**Muleshoe**	**4.16**	**234**	IAmb_Lg		05 44 51.2	
	comp=Z,136nm,0.9s						
MSTX	**Muleshoe**	**4.16**	**234**	Pb	**Pb**	**05 43 48.1**	**-1.2**
	baz=52						
W39A	**Magazine**	**4.20**	**106**	IAmb_Lg		05 44 50.4	
	comp=Z,109nm,0.8s						
N33A	**J Bar K, Exete**	**4.37**	**13**	Pn	**Pn**	**05 43 41.6**	**-0.6**
N33A				IAmb_Lg		05 45 03.0	
	comp=Z,122nm,0.9s						
Z38A	**Mt. Pleasant**	**4.43**	**135**	Pn	**Pn**	**05 43 42.8**	**-0.2**
Z38A				IAmb_Lg		05 44 57.8	
	comp=Z,128nm,0.8s						
S39A	**Bolivar**	**4.47**	**73**	Pn	**Pn**	**05 43 43.7**	**+0.1**
WHTX	**Lake Whitney,**	**4.59**	**167**	Pn	**Pn**	**05 43 44.7**	**-0.6**
WHTX	**Lake Whitney,**	**4.59**	**167**	P	**Pn**	**05 43 45.3**	**0.0**
	baz=347						
MIAR	**Mount Ida**	**4.60**	**113**		**Pn**	**05 43 46.0**	**+0.6**
MIAR	**Mount Ida**	**4.60**	**113**	P	**Pn**	**05 43 46.2**	**+0.8**
	baz=296						
MIAR				S	**Sn**	**05 44 38.7**	**-0.2**
	baz=296						
T25A	**Trinidad**	**4.63**	**280**	Pn	**Pn**	**05 43 44.9**	**-1.0**
T25A	**Trinidad**	**4.63**	**280**	P	**Pn**	**05 43 45.7**	**-0.3**
	baz=97						
T25A				Sb	**Sb**	**05 44 57.6**	**+4.5**
	baz=97						
U40A	**Yellville**	**4.72**	**90**	IAmb_Lg		05 45 07.7	
	comp=Z,83nm,0.8s						
BGNE	**Belgrade**	**4.95**	**5**	IAmb_Lg		05 45 13.8	
	comp=Z,89nm,0.7s						
BGNE	**Belgrade**	**4.95**	**5**	P	**Pn**	**05 43 50.7**	**+0.5**
	baz=185						
237A	**Washetta, Mont**	**5.07**	**151**	IAmb_Lg		05 45 24.0	
	comp=Z,73nm,0.8s						
OGNE	**Ogallala**	**5.17**	**331**	IAmb_Lg		05 45 28.9	
	comp=Z,127nm,0.7s						
OGNE	**Ogallala**	**5.17**	**331**	P	**Pn**	**05 43 54.4**	**+1.1**
	baz=149						
X40A	**Basin Creek Fa**	**5.18**	**111**	IAmb_Lg		05 45 30.8	
	comp=Z,80nm,0.8s						
WHAR	**Wooly Hollow**	**5.34**	**101**	IAmb_Lg		05 45 30.6	
	comp=Z,79nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.35**	**94**	IAmb_Lg		05 45 30.5	
	comp=Z,68nm,0.7s						
WLAR	**White Oak Lake**	**5.36**	**120**	IAmb_Lg		05 45 31.5	
	comp=Z,95nm,0.7s						
W41B	**Gary Mavity, V**	**5.40**	**102**	IAmb_Lg		05 45 40.6	
	comp=Z,61nm,0.8s						
W41B	**Gary Mavity, V**	**5.40**	**102**	S	**Sn**	**05 44 57.7**	**-1.0**
	baz=286						
R40A	**Maddies Statio**	**5.43**	**69**		**Pn**	**05 43 56.6**	**-0.2**
SDCO	**Great Sand Dun**	**5.58**	**285**	IAmb_Lg		05 45 37.4	
	comp=Z,60nm,1.1s						
SDCO	**Great Sand Dun**	**5.58**	**285**	P	**Pn**	**05 43 60.0**	**+0.9**
	baz=101						
Q24A	**Divide**	**5.68**	**298**	IAmb_Lg		05 45 41.8	
	comp=Z,67nm,0.8s						
435B	**Jarrell**	**5.75**	**170**	IAmb_Lg		05 45 44.0	
	comp=Z,67nm,0.8s						
NATX	**Nacogdoches**	**5.77**	**143**	IAmb_Lg		05 45 52.2	
	comp=Z,91nm,0.9s						
Z41A	**Richland Creek**	**5.81**	**122**	IAmb_Lg		05 45 55.8	
	comp=Z,107nm,0.8s						
JCT	**Junction City**	**6.05**	**189**	IAmb_Lg		05 46 01.1	
	comp=Z,63nm,0.7s						
N38A	**Joes South For**	**6.08**	**43**		**Pn**	**05 44 05.4**	**-0.2**
P40A	**Paris**	**6.08**	**58**	IAmb_Lg		05 45 54.1	
	comp=Z,99nm,0.7s						
K31A	**O'Neill**	**6.14**	**360**	IAmb_Lg		05 45 54.5	
	comp=Z,72nm,0.8s						
CCM	**Cathedral Cave**	**6.15**	**73**	IAmb_Lg		05 45 56.1	
	comp=Z,83nm,0.9s						
CCAR	**Cane Creek**	**6.22**	**112**	IAmb_Lg		05 46 11.4	
	comp=Z,59nm,0.8s						
ANMO	**Albuquerque**	**6.49**	**259**	Pn	**Pn**	**05 44 11.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=75,slow=16,SNR=8.7						
ANMO				Pg	**Pb**	**05 44 30.1**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=86,slow=19,SNR=14						
ANMO				Lg	Lg	05 45 55.7	
	comp=Z,3.0nm,0.3s,baz=339,slow=20,SNR=5.9						
PBMO	**Poplar Bluff**	**6.66**	**85**	IAmb_Lg		05 46 17.1	
	comp=Z,66nm,0.7s						
FVM	**French Village**	**6.77**	**75**	IAmb_Lg		05 46 15.6	
	comp=Z,46nm,0.8s						
GNAR	**Gosnell**	**7.04**	**92**	IAmb_Lg		05 46 38.6	
	comp=Z,96nm,0.8s						
SLM	**Saint Louis**	**7.06**	**70**	IAmb_Lg		05 46 21.5	
	comp=Z,72nm,0.9s						
PHWY	**Pilot Hill**	**7.14**	**315**	IAmb_Lg		05 46 35.9	
	comp=Z,78nm,1.0s						
N23A	**Red Feather La**	**7.18**	**310**	IAmb_Lg		05 46 32.7	
	comp=Z,95nm,0.9s						
PARMO	**Parma**	**7.21**	**86**	IAmb_Lg		05 46 34.9	
	comp=Z,96nm,0.8s						
HALT	**Halls**	**7.59**	**91**	IAmb_Lg		05 46 45.5	
	comp=Z,74nm,0.9s						
735A	**Kenedy**	**7.63**	**174**	IAmb_Lg		05 46 50.0	
	comp=Z,51nm,0.8s						
S44A	**Carbondale**	**7.65**	**78**	IAmb_Lg		05 46 40.3	
	comp=Z,60nm,0.8s						
SIUC	**Southern Illin**	**7.68**	**78**	IAmb_Lg		05 46 41.1	
	comp=Z,51nm,0.7s						
OXF	**Oxford**	**7.83**	**102**	IAmb_Lg		05 46 48.3	
	comp=Z,53nm,0.9s						
W45A	**Hickory Valley**	**7.84**	**97**	IAmb_Lg		05 46 44.5	
	comp=Z,64nm,0.8s						
Y45A	**Yeager Farm, C**	**7.94**	**106**	IAmb_Lg		05 47 08.6	
	comp=Z,42nm,0.8s						
TXAR	**Lajitas Array**	**8.25**	**212**	Pn	**Pn**	**05 44 35.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=35						
TXAR				Pg	**Pb**	**05 45 02.1**	**+3.2**
	comp=Z,1.9nm,0.3s,baz=34,slow=15,SNR=8.4						
TXAR				Sn	**Sn**	**05 46 09.0**	**0.0**
	comp=Z,1.3nm,0.3s,baz=30,slow=20,SNR=2.0						
TXAR				Lg	Lg	05 46 50.9	
	comp=Z,3.2nm,0.3s,baz=28,slow=27,SNR=9.2						
TXAR	**Lajitas Array**	**8.25**	**212**		**Pn**	**05 44 34.8**	**-0.9**
RWWY	**Rawlins**	**8.42**	**311**	IAmb_Lg		05 47 02.1	
	comp=Z,63nm,1.2s						
I37A	**Lemond, Waseca**	**8.55**	**27**	IAmb_Lg		05 47 28.8	
	comp=Z,46nm,0.8s						
K22A	**Casper**	**8.63**	**318**	IAmb_Lg		05 47 17.7	
	comp=Z,54nm,0.9s						
RSSD	**Black Hills**	**8.65**	**334**	IAmb_Lg		05 47 15.3	
	comp=Z,41nm,0.8s						
JFWS	**Jewell Farm**	**9.15**	**43**	IAmb_Lg		05 47 51.4	
	comp=Z,54nm,0.8s						
F33A	**5 Mile Ranch,**	**9.53**	**10**	IAmb_Lg		05 47 42.7	
	comp=Z,35nm,1.2s						
I40A	**Norwalk**	**9.65**	**37**	IAmb_Lg		05 47 45.5	
	comp=Z,31nm,0.8s						
F36A	**Milaca**	**10.15**	**21**	Pn	**Pn**	**05 45 01.1**	**-0.5**
PDAR	**Pinedale Array**	**10.46**	**310**	Pn	**Pn**	**05 45 04.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=117,slow=12,SNR=6.5						
PDAR				Pg		05 45 43.5	
	comp=Z,0.2nm,0.3s,baz=115,slow=16,SNR=4.7						
PDAR				Lg	Lg	05 47 56.6	
	comp=Z,0.6nm,0.3s,baz=118,slow=27,SNR=2.8						
PDAR	**Pinedale Array**	**10.46**	**310**		**Pn**	**05 45 05.3**	**-0.7**
I42A	**Draeger Farm,**	**10.53**	**42**	Pn	**Pn**	**05 45 06.3**	**-0.3**
TKL	**Tuckaleechee C**	**12.11**	**89**	Pn	**Pn**	**05 45 26.1**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=292,slow=11,SNR=1.7						
TKL				Lg	Lg	05 48 49.1	
	comp=Z,0.8nm,0.3s,baz=353,slow=20,SNR=7.2						
ULM	**Lac du Bonnet**	**13.92**	**8**	Pn	Pn	05 45 47.7	-5.3
	comp=Z,0.3nm,0.3s,baz=192,slow=13,SNR=2.0						
ULM				Sn	Sn	05 48 15.8	-12
	comp=Z,0.5nm,0.3s,baz=94,slow=20,SNR=3.9						
ULM				Lg	Lg	05 49 39.6	
	comp=Z,0.2nm,0.3s,baz=261,slow=6.7,SNR=1.2						
YKA	**Yellowknife Ar**	**27.86**	**344**	P	**P**	**05 48 25.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=150,slow=8.7,SNR=2.7						

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*BJI **03** 06:03:04.6±0.0, 4°.90S×93°.85E, h18km, mb4.6/33, mB4.9/14*
*IDC **03** 06:03:05.3±0.6, 4°.60S×94°.27E, h0km, mb4.2/14, mb1 4.2/15, mb1mx3.9/48, mbtmp4.2/15, ML3.9/1, MS3.5/13, Ms1 3.5/13, ms1mx3.2/86, Error ellipse: s-maj=19.1km s-min=16.0km az=133.0*
*NEIC **03** 06:03:07.7±1.2, 4°.54S±0°.07×94°.36E±0°.09, h10km±1km, mb4.8/38, Error ellipse: s-maj=16.2km s-min=11.8km az=288.0*
*DJA **03** 06:03:08.5±0.8, 5°S±8°×9°4E±°, h10km, M5.2/12, mB5.6/8, mb5.0/12, MLv5.5/6, Mw(mB)5.1/8*
ISC 03 06:03:07.2±0.4**, 4°.60S**±0°.06×**94°.36E**±0°.07**, h10**km**, n92,** σ**1s11**/85**, mb4.7**/37**, MS3.6**/11**, 1C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.73**	**56**	P	**Pn**	**06 04 33.9**	**+1.5**
	1.8nm7μm429nm,0.6s						
PPSI	**Pulau Pagai**	**5.92**	**72**	P	**Pn**	**06 04 36.5**	**+1.5**
	2.1nm7μm563nm,1.0s						
GSI	**Gunungsitoli**	**6.68**	**29**	Pn	**Pn**	**06 04 45.4**	**-0.1**
GSI				Sn	**Sn**	**06 05 58.4**	**-3.5**
GSI	**Gunungsitoli**	**6.68**	**29**	P	**Pn**	**06 04 45.9**	**+0.4**
	0.7nm2μm72nm,0.7s						
KRJI	**Kerinci**	**7.51**	**71**	P	**Pn**	**06 04 58.7**	**+1.7**
COCO	**West Island**	**7.93**	**162**	Pn	**Pn**	**06 05 02.4**	**-0.2**
MASI	**Maura Aman, Be**	**7.99**	**80**	P	**Pn**	**06 05 04.2**	**+0.7**
	0.7nm2μm132nm,0.6s						
BKNI	**Bangkinang**	**8.27**	**54**	Pn	**Pn**	**06 05 08.9**	**+1.5**
PSI	**Prapat**	**8.65**	**32**	Pn	**Pn**	**06 05 12.9**	**+0.3**
	1.3nm,0.3s,baz=186,slow=19,SNR=2.1						
PSI				Sn	Sn	06 06 40.1	-10
	2.5nm,0.3s,baz=168,slow=11,SNR=2.1						
KCSI	**Kotacane, Aceh**	**8.76**	**23**	P	**Pn**	**06 05 13.8**	**-0.2**
	22nm,0.6s						
MDSI	**Maura Dua**	**9.78**	**90**	P	**Pn**	**06 05 28.7**	**+0.6**
	821nm12nm,0.8s						
KASI	**Kota Agung**	**10.13**	**96**	P	**Pn**	**06 05 31.5**	**-1.4**
	27nm,0.5s						
KLSI		**10.33**	**91**	P	**Pn**	**06 05 35.8**	**+0.2**
	5.0nm,0.6s						
CGJI	**Cibinong**	**11.45**	**101**	P	**Pn**	**06 05 51.3**	**+0.4**
	3μm28nm,1.1s						
KULM	**Kulim**	**11.66**	**33**	Pn	**Pn**	**06 05 52.9**	**-0.9**
LEM	**Lembang**	**13.37**	**100**	LR	LR	06 11 28.3	
	comp=Z,131nm,18.5s,baz=332,slow=37						
PALK	**Pallekele**	**18.03**	**311**	P	**Pn**	**06 07 19.7**	**+1.6**
	2.8nm,0.3s,baz=233,slow=13,SNR=9.7						
PALK				LR	LR	06 13 18.2	
	comp=Z,78nm,18.5s,baz=219,slow=34						
PALK	**Pallekele**	**18.03**	**311**		**Pn**	**06 07 18.3**	**+0.1**
H08S2	**Diego Garcia H**	**21.95**	**261**	T	T	06 29 58.9	
	baz=81						
H08S3	**Diego Garcia H**	**21.96**	**261**	T	T	06 30 09.1	
	baz=81						
H08S1	**Diego Carcia H**	**21.97**	**261**	T	T	06 29 58.0	
	baz=81						
CM31	**Chiang Mai Arr**	**23.35**	**11**	P	**P**	**06 08 16.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**23.35**	**11**	P	**P**	**06 08 17.1**	**+1.2**
	6.2nm,0.6s,baz=201,slow=9.0,SNR=24						
CMAR				LR	LR	06 18 00.2	
	comp=Z,91nm,18.1s,baz=200,slow=38						
CMAR	**Chiang Mai Arr**	**23.35**	**11**	P	**P**	**06 08 15.7**	**-0.3**
CHTO	**Chiang Mai**	**23.70**	**11**	P	**P**	**06 08 18.7**	**-0.7**
KAPI	**Kappang**	**25.30**	**92**	P	**P**	**06 08 33.8**	**-0.4**
KAPI				IAmb	IAmb	06 09 03.6	
	comp=Z,63nm,1.8s						
MMRI	**Maumere**	**27.97**	**100**	P	**P**	**06 08 58.5**	**+0.1**
MMRI				IAmb	IAmb	06 09 09.8	
	comp=Z,37nm,1.1s						
PSA00	**Pilbara Seismi**	**29.92**	**127**	P	**P**	**06 09 15.3**	**-0.3**
PSA00				IAmb	IAmb	06 10 08.2	
	comp=Z,25nm,1.5s						
SHL	**Shillong**	**30.08**	**356**	P	**P**	**06 09 17.5**	**+0.3**
PZH	**PanZhiHua**	**31.73**	**13**	P	**P**	**06 09 32.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
FITZ	**Fitzroy Crossi**	**33.39**	**116**	P	**P**	**06 09 47.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=306,slow=14,SNR=1.2						
FITZ	**Fitzroy Crossi**	**33.39**	**116**	P	**P**	**06 09 45.1**	**-1.1**
FITZ				IAmb	IAmb	06 10 53.9	
	comp=Z,21nm,2.0s						
LSA	**Lhasa**	**34.24**	**355**	P	**P**	**06 09 53.0**	**-1.0**
LSA				IAmb	IAmb	06 09 56.8	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**35.54**	**111**	P	**P**	**06 10 05.0**	**+0.1**
KNRA				IAmb	IAmb	06 11 15.7	
	comp=Z,28nm,1.8s						
CD2	**Chengdu**	**36.43**	**14**	P	**P**	**06 10 13.2**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**37.58**	**22**	P	**P**	**06 10 21.6**	**-0.5**
WHN	**Wuhan**	**39.83**	**27**	P	**P**	**06 10 45.7**	**+4.8**
GOMU	**GeErMu**	**40.59**	**1**	P	**P**	**06 10 48.9**	**+1.3**
GOMU				pP	sP	06 10 52.4	+2.6
GOMU				sP	pP	06 10 53.9	+4.8
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,88nm,6.0s						
XAN	**Xi'an**	**40.82**	**19**	P	**P**	**06 10 49.6**	**+0.5**
XAN				pP	sP	06 10 54.3	+3.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,87nm,4.1s						
WRA	**Warramunga Arr**	**41.78**	**115**	P	**P**	**06 10 57.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=290,slow=9.0,SNR=6.2						
WRA	**Warramunga Arr**	**41.78**	**115**	P	**P**	**06 10 57.2**	**-0.1**
WB0	**Warramunga Arr**	**41.79**	**115**	P	**P**	**06 10 56.5**	**-0.8**
WRAB	**Tennant Creek**	**41.79**	**115**	P	**P**	**06 10 56.7**	**-0.7**
WRAB				IAmb	IAmb	06 12 34.3	
	comp=Z,11nm,0.4s						
WB2	**Warramunga Arr**	**41.80**	**115**	P	**P**	**06 10 57.3**	**-0.1**
WB2				IAmb	IAmb	06 11 21.8	
	comp=Z,16nm,1.7s						
WR0	**Warramunga Arr**	**41.97**	**115**	P	**P**	**06 10 57.9**	**-0.9**
ASAR	**Alice Springs**	**42.55**	**120**	P	**P**	**06 11 03.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=309,slow=7.9,SNR=4.4						
ASAR				PcP	**PcP**	**06 12 55.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=297,slow=4.1,SNR=4.4						
ASAR	**Alice Springs**	**42.55**	**120**	P	**P**	**06 11 03.8**	**+0.2**
NIL	**Nilore**	**42.97**	**334**	P	**P**	**06 11 05.3**	**-1.4**
NIL				IAmb	IAmb	06 11 07.0	
	comp=Z,6.3nm,0.7s						
NJ2	**Nanjing**	**43.26**	**31**	*e*P	**P**	**06 11 10.5**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
GTA	**Gaotai**	**44.08**	**6**	⇓P	**P**	**06 11 16.4**	**+0.7**
GTA				pP	pwP	06 11 23.2	-0.6
GTA				sP	sP	06 11 26.7	+8.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JOW	**Kunigami**	**45.30**	**45**	P	**P**	**06 11 24.9**	**-0.6**
JOW				IAmb	IAmb	06 11 55.6	
	comp=Z,12nm,0.9s						
HNS	**HongShan**	**45.88**	**23**	⇑P	**P**	**06 11 31.2**	**+1.3**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**47.90**	**18**	*e*P	**P**	**06 11 47.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
OPO	**Ambohidratompo**	**48.09**	**249**	P	**P**	**06 11 47.8**	**0.0**
	comp=Z,5.5nm,0.7s,baz=67,slow=11,SNR=4.7						
TARG	**Taragay, Kyrgy**	**48.52**	**343**	P	**P**	**06 11 49.3**	**-1.6**
TARG				IAmb	IAmb	06 11 52.1	
	comp=Z,4.7nm,0.8s						
WMQ	**Urumqi**	**48.57**	**354**	*e*P	**P**	**06 11 52.0**	**+1.1**
WMQ				pP	sP	06 11 57.2	+4.1
WMQ				PP	**PP**	**06 13 46.2**	**+2.3**
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,90nm,5.1s						
GAR	**Garm**	**48.75**	**335**	P	**P**	**06 11 51.5**	**-0.9**
GAR				IAmb	IAmb	06 11 52.4	
	comp=Z,8.7nm,1.1s						
CHGR	**Chuyangaron**	**48.96**	**334**	P	**P**	**06 11 52.9**	**-1.1**
JSU	**Suzuyama**	**49.71**	**41**	P	**P**	**06 11 59.5**	**-0.3**
JSU				IAmb	IAmb	06 12 16.4	
	comp=Z,20nm,1.3s						
AAK	**Ala-Archa**	**50.35**	**341**	LR	LR	06 33 08.2	
	comp=Z,70nm,21.2s,baz=170,slow=36						
KKAR	**Karatay Array**	**52.16**	**338**	P	**P**	**06 12 17.0**	**-1.0**
KSRS	**Korea Array**	**52.21**	**34**	LR	LR	06 34 35.7	
	comp=Z,31nm,19.1s,baz=205,slow=36						
MKAR	**Makanchi Array**	**52.27**	**350**	P	**P**	**06 12 18.1**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=158,slow=8.8,SNR=28						
MKAR				LR	LR	06 39 06.1	
	comp=Z,30nm,18.1s,baz=179,slow=41						
MKAR	**Makanchi Array**	**52.27**	**350**	P	**P**	**06 12 17.7**	**-1.1**
MK31	**Makanchi Array**	**52.28**	**350**	P	**P**	**06 12 18.0**	**-0.9**
SONM	**Songino Array**	**53.27**	**10**	P	**P**	**06 12 26.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=188,slow=8.3,SNR=9.9						
SONM	**Songino Array**	**53.27**	**10**	P	**P**	**06 12 26.3**	**0.0**
KIBK	**Kibwezi**	**56.25**	**270**	P	**P**	**06 12 48.4**	**-0.1**
KIBK				IAmb	IAmb	06 12 49.6	
	comp=Z,5.6nm,1.0s						
KURK	**Kurchatov**	**56.74**	**348**	P	**P**	**06 12 50.1**	**-1.0**
ZAA0	**Zalesovo Array**	**58.88**	**353**	P	**P**	**06 13 05.4**	**-0.7**
ZAA0				IAmb	IAmb	06 13 20.1	
	comp=Z,4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**58.88**	**353**	P	**P**	**06 13 05.2**	**-0.9**
	comp=Z,3.6nm,0.6s,baz=177,slow=6.4,SNR=19						
ZALV				LR	LR	06 39 04.5	
	comp=Z,44nm,21.5s,baz=143,slow=37						
USRK	**Ussuriysk Ar.**	**59.17**	**31**	P	**P**	**06 13 07.3**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=238,slow=46,SNR=2.3						
USRK				LR	LR	06 39 02.7	
	comp=Z,64nm,20.8s,baz=133,slow=36						
ABKAR	**Akbulak array**	**61.41**	**335**	P	**P**	**06 13 23.6**	**+0.1**
ABKAR	**Akbulak array**	**61.41**	**335**	P	**P**	**06 13 23.5**	**-0.1**
KLR	**Kul'dur**	**62.67**	**27**	P	**P**	**06 13 31.8**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=232,slow=7.8,SNR=6.8						
MATP	**Matopo**	**65.80**	**250**	P	**P**	**06 13 52.6**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=81,slow=10,SNR=7.0						
LSZ	**Lusaka**	**65.83**	**255**	P	**P**	**06 13 53.0**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=94,slow=6.0,SNR=8.3						
LSZ	**Lusaka**	**65.83**	**255**	P	**P**	**06 13 52.9**	**-0.7**
LSZ				IAmb	IAmb	06 13 53.5	
	comp=Z,4.9nm,0.8s						
MMAI	**Mount Meron Ar**	**67.13**	**309**	LR	LR	06 43 51.7	
	comp=Z,36nm,18.2s,baz=318,slow=36						
ARU	**Arti**	**67.49**	**339**	LR	LR	06 46 00.5	
	comp=Z,26nm,18.9s,baz=273,slow=38						
LBTB	**Lobatse**	**68.84**	**245**	LR	LR	06 38 56.4	
	comp=Z,45nm,20.1s,baz=152,slow=31						
LBTB	**Lobatse**	**68.84**	**245**	P	**P**	**06 14 12.1**	**-0.5**
BOSA	**Boshof**	**69.48**	**241**	P	**P**	**06 14 15.6**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=76,slow=6.3,SNR=6.2						
BOSA				LR	LR	06 39 51.9	
	comp=Z,34nm,18.3s,baz=185,slow=32						
BOSA	**Boshof**	**69.48**	**241**	P	**P**	**06 14 15.8**	**-0.7**
SYO	**Syowa Base**	**73.65**	**198**	⇓*e*P	**P**	**06 14 41.4**	**+0.8**
SUR	**Sutherland**	**73.67**	**238**	LR	LR	06 39 39.0	
	comp=Z,68nm,19.7s,baz=160,slow=30						
SUR	**Sutherland**	**73.67**	**238**	P	**P**	**06 14 41.7**	**-0.1**
PETK	**Petropavlovsk-**	**78.10**	**33**	P	**P**	**06 15 06.2**	**-0.2**
SNAA	**Sanae**	**87.94**	**198**	P	**P**	**06 15 58.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**93.62**	**283**	P	**P**	**06 16 23.1**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.7nm,0.8s,baz=79,slow=4.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**93.62**	**283**	P	**P**	**06 16 23.6**	**-1.0**
TORD				IAmb	IAmb	06 18 11.8	
	comp=Z,6.5nm,1.9s						
TXAR	**Lajitas Array**	**150.05**	**33**	PKPbc	**PKPbc**	**06 22 58.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=8.0,slow=0.4,SNR=6.6						

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*NEIC **03** 06:21:19.9±1.9, 19.°00N±0.°09×145.°6E±0.°1, h186km±8km, mb4.3/38, Error ellipse: s-maj=19.3km s-min=12.6km az=92.0*

*IDC **03** 06:21:22.5±2.9, 19.°03N×145.°50E, h220km±29km, mb3.7/15, mb1 3.9/17, mb1mx3.7/45, mbtmp4.3/17, Error ellipse: s-maj=16.2km s-min=11.2km az=75.0*

ISC 03 06:21:21.8±0.5**, 18.°93N**±0.°06×**145.°5E**±0.°1**, h214**km**, n71,** σ**0.°92**/70**, mb4.2**/33**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.34**	**186**	P	**Pn**	**06 22 41.7**	**+0.8**
	7.8nm,0.3s,baz=30,slow=16,SNR=2.2						
GUMO				S	**S**	**06 23 40.6**	**-2.8**
	18nm,0.3s,baz=174,slow=22,SNR=2.3						
GUMO	**Guam**	**5.34**	**186**	Pn	**Pn**	**06 22 40.2**	**-0.7**
GUMO				Sn	**S**	**06 23 42.7**	**-0.7**
JOW	**Kunigami**	**17.66**	**300**	P	**Pn**	**06 25 15.3**	**+0.1**
	1.0nm,0.3s,baz=147,slow=12,SNR=7.1						
JOW	**Kunigami**	**17.66**	**300**	P	**P**	**06 25 14.7**	**+1.6**
MJAR	**Matsushiro Arr**	**18.67**	**342**	P	**Pn**	**06 25 26.5**	**-0.5**
	0.1nm,0.3s,baz=169,slow=9.3,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**20.25**	**84**	T	T	06 47 36.3	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**20.25**	**84**	T	T	06 47 51.4	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**20.26**	**84**	T	T	06 47 51.3	
	baz=264						
YHNB	**Yeheng**	**23.06**	**289**	P	**P**	**06 26 09.8**	**+1.1**
SSLB	**Suanglung**	**23.31**	**286**	P	**P**	**06 26 12.8**	**+1.9**
KSRS	**Korea Array**	**24.00**	**324**	P	**P**	**06 26 16.6**	**-0.3**
	4.4nm,0.8s,baz=144,slow=9.3,SNR=12						
KSAR	**Wonju Array Be**	**24.01**	**324**	P	**P**	**06 26 15.8**	**-1.3**
MTN	**Manton Dam**	**34.58**	**205**	P	**P**	**06 27 51.3**	**+0.7**
MTN				IAmb	IAmb	06 27 53.4	
	comp=Z,8.5nm,0.8s						
KNRA	**Kununurra**	**38.11**	**207**	P	**P**	**06 28 20.9**	**+0.5**
KNRA				IAmb	IAmb	06 28 23.8	
	comp=Z,9.0nm,0.8s						
WB0	**Warramunga Arr**	**39.96**	**196**	P	**P**	**06 28 35.8**	**+0.1**
WR0	**Warramunga Arr**	**40.10**	**196**	P	**P**	**06 28 37.7**	**+0.8**
WR0				IAmb	IAmb	06 28 38.7	
	comp=Z,13nm,1.0s						
WRAB	**Tennant Creek**	**40.13**	**196**	P	**P**	**06 28 37.9**	**+0.8**
WB2	**Warramunga Arr**	**40.13**	**196**	P	**P**	**06 28 37.8**	**+0.7**
WRA	**Warramunga Arr**	**40.14**	**196**	P	**P**	**06 28 38.0**	**+0.9**
	comp=Z,11nm,0.7s,baz=18,slow=9.1,SNR=44						
WRA	**Warramunga Arr**	**40.14**	**196**	P	**P**	**06 28 37.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.63**	**209**	P	**P**	**06 28 50.0**	**+0.7**
SONM	**Songino Array**	**42.82**	**321**	P	**P**	**06 28 58.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=142,slow=8.0,SNR=7.2						
SONM	**Songino Array**	**42.82**	**321**	P	**P**	**06 28 58.5**	**-0.4**
ASAR	**Alice Springs**	**43.81**	**195**	P	**P**	**06 29 07.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=16,slow=6.7,SNR=21						
ASAR	**Alice Springs**	**43.81**	**195**	P	**P**	**06 29 07.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**43.96**	**277**	P	**P**	**06 29 09.5**	**+1.3**
	comp=Z,2.3nm,0.4s,baz=67,slow=7.0,SNR=14						
CMAR	**Chiang Mai Arr**	**43.96**	**277**	P	**P**	**06 29 09.7**	**+1.5**
DZM	**Mont Dzumac**	**45.63**	**152**	P	**P**	**06 29 21.9**	**+0.6**
	comp=Z,9.8nm,0.8s,baz=350,slow=20,SNR=8.5						
DZM	**Mont Dzumac**	**45.63**	**152**	P	**P**	**06 29 22.1**	**+0.9**
DZM				IAmb	IAmb	06 29 27.5	
	comp=Z,15nm,1.1s						
OUENC	**Ouen Island, N**	**46.11**	**152**	P	**P**	**06 29 25.8**	**+1.0**
OUENC				IAmb	IAmb	06 29 26.4	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**52.18**	**199**	P	**P**	**06 30 10.5**	**-0.2**
MKAR	**Makanchi Array**	**58.14**	**314**	P	**P**	**06 30 52.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=98,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**58.14**	**314**	P	**P**	**06 30 53.1**	**-0.2**
MAKZ	**Makanchi**	**58.35**	**314**	P	**P**	**06 30 55.0**	**+0.3**
P18K	**Big Mountain,**	**58.39**	**31**	P	**P**	**06 30 54.5**	**-0.2**
P18K				IAmb	IAmb	06 30 56.3	
	comp=Z,3.3nm,0.9s						
SVW2	**Sparrevohn**	**58.74**	**29**	P	**P**	**06 30 57.8**	**+0.7**
SVW2				IAmb	IAmb	06 30 58.4	
	comp=Z,3.3nm,0.8s						
TTA	**Tatalina**	**59.15**	**27**	P	**P**	**06 31 00.2**	**+0.3**
TTA				IAmb	IAmb	06 31 09.1	
	comp=Z,8.2nm,1.4s						
K20K	**Telida**	**60.12**	**27**	P	**P**	**06 31 07.6**	**+1.0**
J20K	**Nowinta River**	**60.35**	**26**	P	**P**	**06 31 09.0**	**+1.0**
J20K				IAmb	IAmb	06 31 10.2	
	comp=Z,11nm,1.4s						
CAST	**Castle Rocks**	**61.00**	**27**	P	**P**	**06 31 13.2**	**+0.8**
CAST				IAmb	IAmb	06 31 13.8	
	comp=Z,5.9nm,0.8s						
IMAR	**Indian Mountai**	**61.10**	**24**	P	**P**	**06 31 13.8**	**+0.7**
NRIK	**Noril'sk**	**61.32**	**340**	P	**P**	**06 31 13.4**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=116,slow=6.0,SNR=5.0						
O22K	**Cooper Landing**	**61.34**	**31**	P	**P**	**06 31 15.1**	**+0.4**
GHO	**Glory Hole Cre**	**62.00**	**29**	P	**P**	**06 31 19.2**	**0.0**
GHO				IAmb	IAmb	06 31 20.1	
	comp=Z,5.0nm,0.9s						
SML	**Sawmill**	**62.28**	**29**	P	**P**	**06 31 21.4**	**+0.3**
MDM	**Murphy Dome**	**63.02**	**26**	P	**P**	**06 31 27.1**	**+1.2**
MDM				IAmb	IAmb	06 31 42.9	
	comp=Z,3.2nm,1.0s						
H24K	**Noodor Dome**	**63.37**	**25**	P	**P**	**06 31 28.6**	**+0.4**
H24K				IAmb	IAmb	06 31 35.3	
	comp=Z,5.8nm,1.3s						
IL31		**63.54**	**26**	P	**P**	**06 31 28.1**	**-1.1**
IL31				IAmb	IAmb	06 31 28.9	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**63.54**	**26**	P	**P**	**06 31 27.9**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=260,slow=4.9,SNR=21						
ILAR	**Eielson Array**	**63.54**	**26**	P	**P**	**06 31 28.2**	**-1.0**
PAX	**Paxson**	**63.81**	**28**	P	**P**	**06 31 31.5**	**+0.3**
PAX				IAmb	IAmb	06 31 31.7	
	comp=Z,2.4nm,0.6s						
DOT	**Dot Lake**	**64.55**	**28**	P	**P**	**06 31 36.0**	**+0.1**
DOT				IAmb	IAmb	06 31 36.1	
	comp=Z,4.2nm,0.9s						
BMAR	**Burnt Mountain**	**65.00**	**24**	P	**P**	**06 31 39.9**	**+1.2**
BCAR	**Beaver Creek A**	**65.49**	**29**	P	**P**	**06 31 42.6**	**+0.7**
KKAR	**Karatay Array**	**66.44**	**310**	P	**P**	**06 31 49.1**	**+0.8**
DAWY	**Dawson**	**66.66**	**28**	P	**P**	**06 31 49.9**	**+0.6**
DAWY				IAmb	IAmb	06 32 17.8	
	comp=Z,9.1nm,1.5s						
INK	**Inuvik**	**69.25**	**23**	P	**P**	**06 32 05.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=273,slow=7.0,SNR=9.4						
INK	**Inuvik**	**69.25**	**23**	P	**P**	**06 32 05.3**	**0.0**
DLBC	**Dease Lake**	**71.23**	**34**	P	**P**	**06 32 18.9**	**+1.3**
DLBC				IAmb	IAmb	06 32 25.4	
	comp=Z,14nm,1.5s						
A36M	**Sachs Harbour**	**71.94**	**19**	P	**P**	**06 32 21.6**	**+0.1**
C36M	**Paulatuk**	**72.62**	**22**	P	**P**	**06 32 25.3**	**-0.2**
ABKAR	**Akbulak array**	**73.01**	**317**	P	**P**	**06 32 28.1**	**-0.2**
EUNU	**Eureka**	**77.53**	**8**	P	**P**	**06 32 53.8**	**+0.3**
YKA	**Yellowknife Ar**	**77.89**	**28**	P	**P**	**06 32 55.5**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=290,slow=5.5,SNR=25						
YKA	**Yellowknife Ar**	**77.89**	**28**	P	**P**	**06 32 56.0**	**+0.3**
NVAR	**Mina Array Bea**	**83.18**	**52**	P	**P**	**06 33 25.2**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=271,slow=5.7,SNR=26						
NVAR	**Mina Array Bea**	**83.18**	**52**	P	**P**	**06 33 25.8**	**+1.3**
FINES	**FINESS Array B**	**86.58**	**335**	P	**P**	**06 33 38.4**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=59,slow=5.0,SNR=7.8						
PDAR	**Pinedale Array**	**87.83**	**45**	P	**P**	**06 33 48.3**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=268,slow=2.5,SNR=2.5						
FCC	**Fort Churchill**	**88.56**	**27**	P	**P**	**06 33 49.7**	**-0.4**
FCC				IAmb	IAmb	06 33 57.7	
	comp=Z,5.4nm,1.4s						
BRTR	**Keskin Array B**	**93.79**	**314**	P	**P**	**06 34 13.5**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=305,slow=37,SNR=2.1						

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*VAO **03** 06:31:50.9±0.5, 14.°66S×73.°74W, h65km, mb4.4*

*NEIC **03** 06:31:52±1.7, 14.°65S±0.°06×73.°69W±0.°08, h68km±6km, mb4.5/56, Error ellipse: s-maj=13.6km s-min=6.1km az=53.0*

*IDC **03** 06:31:55.6±0.9, 14.°54S×73.°54W, h105km±7km, mb3.9/11, mb1 4.1/14, mb1mx4.0/26, mbtmp4.3/14, MS3.2/1, Ms1 3.2/1, ms1mx2.7/59, Error ellipse: s-maj=21.7km s-min=13.8km az=46.0*

ISC 03 06:31:53.2±0.4**, 14.°69S**±0.°05×**73.°66W**±0.°06**, h87**km**, n150,** σ**1.°26**/157**, mb4.4**/34**, 4C, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.10**	**311**	P	**Pn**	**06 32 52.5**	**-1.1**
	64nm,0.3s,baz=142,slow=12,SNR=43						
NNA				S	**Sn**	**06 33 38.1**	**-2.4**
	77nm,0.3s,baz=2.2,slow=10,SNR=10						
NNA	**Nana**	**4.10**	**311**	Pn	**Pn**	**06 32 52.4**	**-1.3**
NNA				Sn	**Sn**	**06 33 38.7**	**-1.7**
PB12	**IPOC Station P**	**5.05**	**141**	Pn	**Pn**	**06 33 06.1**	**-0.5**
PB12				Sn	**Sn**	**06 34 01.6**	**-2.0**
PB12	**IPOC Station P**	**5.05**	**141**	⇑iP	**Pn**	**06 33 06.2**	**-0.4**
PB16	**IPOC Station P**	**5.39**	**133**	Pn	**Pn**	**06 33 13.4**	**+1.7**
PB16	**IPOC Station P**	**5.39**	**133**	⇑iP	**Pn**	**06 33 13.2**	**+1.6**
LPAZ	**La Paz**	**5.56**	**107**	P	**Pn**	**06 33 17.4**	**+3.3**
	18nm,0.3s,baz=280,slow=10,SNR=196						
LPAZ	**La Paz**	**5.56**	**107**	⇑iP	**Pn**	**06 33 17.4**	**+3.3**
PB11	**IPOC Station P**	**6.33**	**143**		**Pn**	**06 33 23.3**	**-0.8**
PB11	**IPOC Station P**	**6.33**	**143**	eP	**Pn**	**06 33 23.4**	**-0.8**
TA02	**Huaiquique**	**6.50**	**149**		**Pn**	**06 33 25.5**	**-0.7**
TA02	**Huaiquique**	**6.50**	**149**	eP	**Pn**	**06 33 25.5**	**-0.7**
GO01	**Chusmiza**	**6.54**	**140**		**Pn**	**06 33 27.3**	**0.0**
GO01	**Chusmiza**	**6.54**	**140**	eP	**Pn**	**06 33 27.2**	**0.0**
TA01	**Diego Aracena**	**6.72**	**151**		**Pn**	**06 33 27.8**	**-1.5**
TA01	**Diego Aracena**	**6.72**	**151**	eP	**Pn**	**06 33 28.0**	**-1.4**
PB08	**IPOC Station P**	**6.92**	**142**		**Pn**	**06 33 31.8**	**-0.6**
PB08	**IPOC Station P**	**6.92**	**142**	⇑iP	**Pn**	**06 33 31.8**	**-0.6**
PATCX	**Punta Patache**	**6.96**	**152**	Pn	**Pn**	**06 33 31.0**	**-1.6**
PATCX	**Punta Patache**	**6.96**	**152**	eP	**Pn**	**06 33 31.5**	**-1.1**
CZSB	**Cruzeiro do Su**	**6.97**	**8**	eP	**Pn**	**06 33 30.8**	**-2.0**
PB01	**IPOC Station P**	**7.47**	**148**		**Pn**	**06 33 38.0**	**-1.6**
PB02	**IPOC Station P**	**7.51**	**152**		**Pn**	**06 33 38.6**	**-1.5**
PB07	**IPOC Station P**	**7.87**	**153**		**Pn**	**06 33 43.2**	**-2.0**
PB09	**IPOC Station P**	**8.22**	**150**		**Pn**	**06 33 49.6**	**-0.4**
PB04	**IPOC Station P**	**8.30**	**157**		**Pn**	**06 33 49.1**	**-2.0**
ETMB	**Extrema**	**8.74**	**57**	eP	**Pn**	**06 33 56.0**	**-0.9**
ATAH	**Atahualpa**	**8.82**	**328**	P	**Pn**	**06 33 56.1**	**-2.3**
	1.8nm,0.3s,baz=161,slow=5.0,SNR=22						
ATAH				S	**Sn**	**06 35 35.1**	**-1.3**
	1.8nm,0.3s,baz=126,slow=17,SNR=1.7						
PB06	**IPOC Station P**	**8.87**	**155**		**Pn**	**06 33 56.8**	**-1.9**
LVC	**Limon Verde**	**9.08**	**151**	P	**Pn**	**06 34 01.5**	**-0.3**
	11nm,0.3s,baz=327,slow=10,SNR=312						
LVC				S	**Sn**	**06 35 38.6**	**-3.8**
	6.6nm,0.3s,baz=217,slow=15,SNR=6.7						
LVC	**Limon Verde**	**9.08**	**151**		**Pn**	**06 34 01.4**	**-0.4**
LVC	**Limon Verde**	**9.08**	**151**	eP	**Pn**	**06 34 01.3**	**-0.4**
PB10	**IPOC Station P**	**9.26**	**162**	Pn	**Pn**	**06 34 02.0**	**-2.0**
PB15	**IPOC Station P**	**9.36**	**156**		**Pn**	**06 34 04.0**	**-1.4**
PB14	**IPOC Station P**	**10.35**	**163**	Pn	**Pn**	**06 34 17.2**	**-2.0**
TBTG	**Tabatinga, AM**	**11.07**	**20**	eP	**Pn**	**06 34 26.6**	**-2.0**
AC01	**Pan de Azucar**	**11.76**	**166**	Pn	**Pn**	**06 34 36.2**	**-1.7**
SIV	**San Ignacio**	**12.21**	**98**	P	**Pn**	**06 34 41.8**	**-2.3**
	2.7nm,0.3s,baz=272,slow=14,SNR=113						
SIV				LR	LR	06 40 26.5	
	comp=Z,107nm,19.8s,baz=302,slow=42						
AC02	**Maricunga**	**12.81**	**161**	Pn	**Pn**	**06 34 52.6**	**+0.1**
AC06	**Mina Casimiro**	**12.98**	**167**	Pn	**Pn**	**06 34 53.7**	**-0.7**
VILB	**Vilhena**	**13.19**	**84**	eP	**Pn**	**06 34 55.9**	**-1.2**
LCO	**Las Campanas**	**14.52**	**170**		**P**	**06 35 21.8**	**+2.9**
CUSE	**Cuicocha Este**	**15.62**	**342**	eP	**P**	**06 35 35.7**	**+4.4**
CMBC	**Cumbal**	**16.06**	**345**	eP	**Pn**	**06 35 30.1**	**-4.3**
PDRB	**Porto dos Gac**	**16.77**	**82**	eP	**Pn**	**06 35 42.5**	**-0.3**
SALV	**Santo Antonio**	**17.38**	**96**	eP	**Pn**	**06 35 50.0**	**-0.3**
CLDB	**Colider**	**17.83**	**80**	eP	**P**	**06 35 55.3**	**0.0**
AQDB	**Aquidauana**	**18.06**	**111**	P	**P**	**06 35 58.4**	**+0.6**
AQDB	**Aquidauana**	**18.06**	**111**	eP	**P**	**06 35 57.5**	**-0.3**
PP1B	**Ponte de Pedra**	**18.27**	**102**	eP	**P**	**06 36 01.1**	**+0.9**
CPUP	**Villa Florida**	**19.16**	**130**	P	**P**	**06 36 10.3**	**+0.4**
	0.2nm,0.3s,baz=314,slow=11,SNR=9.4						
CPUP	**Villa Florida**	**19.16**	**130**	P	**P**	**06 36 10.8**	**+0.9**
CPUP	**Villa Florida**	**19.16**	**130**	eP	**P**	**06 36 10.4**	**+0.6**
MT01	**Popeta**	**19.22**	**174**	P	**P**	**06 36 11.8**	**+1.4**
LMEL	**Las Melosas**	**19.33**	**171**	P	**P**	**06 36 11.4**	**-0.4**
LMEL				IAmb	IAmb	06 36 16.8	
	comp=Z,14nm,0.7s						
PTGA	**Pitinga**	**19.38**	**46**	P	**P**	**06 36 11.7**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=207,slow=13,SNR=16						
PTGA				S	S	06 39 33.0	-14
	comp=Z,0.3nm,0.3s,baz=338,slow=22,SNR=1.8						
ROSC	**El Rosal**	**19.41**	**358**	P	**Pn**	**06 36 15.8**	**+0.9**
	comp=Z,4.8nm,0.3s,baz=176,slow=12,SNR=8.6						
NPGB	**Novo Progresso**	**19.50**	**69**	eP	**P**	**06 36 13.1**	**-0.5**
BO01	**Tunca**	**19.76**	**174**	P	**P**	**06 36 17.0**	**+0.7**
ITTB	**Itaituba**	**20.42**	**62**	eP	**P**	**06 36 23.3**	**-0.2**
BOAV	**Boa Vista**	**21.39**	**39**	eP	**P**	**06 36 33.0**	**-0.9**
ITQB	**Itaqui**	**21.67**	**136**	P	**P**	**06 36 35.9**	**-0.9**
ITQB				IAmb	IAmb	06 36 41.2	
	comp=Z,47nm,1.1s						
ITQB	**Itaqui**	**21.67**	**136**	eP	**P**	**06 36 37.0**	**+0.2**
SNDB	**Serra Nova Dou**	**21.93**	**86**	eP	**P**	**06 36 39.7**	**0.0**
ZARC	**Zaragoza, Cauc**	**22.07**	**357**	P	**P**	**06 36 40.4**	**-0.8**
ZARC				IAmb	IAmb	06 36 46.8	
	comp=Z,13nm,0.8s						
PCMB	**Pacaembu**	**22.36**	**111**	eP	**P**	**06 36 44.2**	**0.0**
PTGB	**Pitanga**	**22.62**	**119**	eP	**P**	**06 36 46.7**	**-0.4**
OCAC	**Ocana**	**22.78**	**1**	P	**P**	**06 36 47.8**	**-1.0**
ITRB	**Iturama**	**22.80**	**106**	eP	**P**	**06 36 48.9**	**-0.1**
MALB	**Monte Alegre**	**23.01**	**58**	eP	**P**	**06 36 50.0**	**-1.0**
SDV	**Santo Domingo**	**23.61**	**7**	P	**P**	**06 36 55.3**	**-1.4**
	comp=Z,12nm,0.7s,baz=288,slow=11,SNR=8.0						
SDV	**Santo Domingo**	**23.61**	**7**	P	**P**	**06 36 55.5**	**-1.2**
SDV				IAmb	IAmb	06 37 00.5	
	comp=Z,11nm,0.8s						
SDV	**Santo Domingo**	**23.61**	**7**	eP	**P**	**06 36 56.4**	**-0.3**
ITAB	**Concordia**	**23.62**	**125**	P	**P**	**06 36 57.4**	**+0.8**
ITAB	**Concordia**	**23.62**	**125**	eP	**P**	**06 36 57.6**	**+1.0**
LC01	**Cunco**	**24.17**	**177**	P	**P**	**06 37 01.4**	**0.0**
CPSB	**Cacapava Do Su**	**24.30**	**133**	eP	**P**	**06 37 02.2**	**-0.4**
FRTB	**Fartura**	**24.33**	**114**	eP	**P**	**06 37 03.9**	**+0.8**
SJCC	**San Jacinto, C**	**24.47**	**356**	P	**P**	**06 37 03.7**	**-0.6**
SJCC				IAmb	IAmb	06 37 07.3	
	comp=Z,34nm,1.1s						
IPMB	**Ipameri, GO**	**24.63**	**101**	eP	**P**	**06 37 05.4**	**-0.5**
BB19B	**Bebedouro**	**24.73**	**109**	eP	**P**	**06 37 08.0**	**+1.3**
BDFB	**Brasilia**	**24.77**	**96**	P	**P**	**06 37 06.5**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=292,slow=15,SNR=3.6						
BDFB	**Brasilia**	**24.77**	**96**	P	**P**	**06 37 06.6**	**-0.6**
PRPB	**Parauapebas**	**24.91**	**73**	eP	**P**	**06 37 09.7**	**+1.4**
PLTB	**Pedras Altas**	**25.00**	**136**	eP	**P**	**06 37 09.5**	**+0.5**
BIRV	**Birongo**	**26.05**	**17**	P	**P**	**06 37 18.2**	**-0.5**
BIRV				IAmb	IAmb	06 37 22.2	
	comp=Z,35nm,1.2s						
PLCA	**Paso Flores**	**26.09**	**175**	P	**P**	**06 37 20.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=340,slow=12,SNR=8.6						
PLCA	**Paso Flores**	**26.09**	**175**	P	**P**	**06 37 18.8**	**-0.1**
PLCA	**Paso Flores**	**26.09**	**175**	eP	**P**	**06 37 17.9**	**-1.0**
SMTB	**Santa Maria do**	**26.16**	**80**	eP	**P**	**06 37 21.4**	**+1.7**
ROSB	**Rosrio**	**31.40**	**71**	eP	**P**	**06 38 07.2**	**+1.0**
GUA01	**Guaratinga, BA**	**32.64**	**98**	eP	**P**	**06 38 17.4**	**+0.3**
NBPB	**Pedra_Branca-C**	**34.71**	**78**	eP	**P**	**06 38 35.5**	**+0.3**
BIRD	**Birdtown, Kers**	**49.48**	**353**	P	**P**	**06 40 35.1**	**+0.3**
Z47A	**Carrollton**	**49.56**	**344**	P	**P**	**06 40 34.9**	**-0.5**
Z47A				IAmb	IAmb	06 40 51.6	
	comp=Z,12nm,1.1s						
PMSA	**Palmer Station**	**50.47**	**175**	P	**P**	**06 40 42.6**	**+0.8**
SWET	**Sewanee**	**50.98**	**347**	P	**P**	**06 40 45.3**	**-0.8**
V52A	**Sevierville**	**51.12**	**350**	P	**P**	**06 40 46.7**	**-0.5**
V52A				IAmb	IAmb	06 40 46.9	
	comp=Z,6.4nm,0.9s						
TZTN	**Tazewell**	**51.80**	**350**	P	**P**	**06 40 52.0**	**-0.2**
WVT	**Waverly**	**52.28**	**345**	P	**P**	**06 40 54.6**	**-1.2**
WVT				IAmb	IAmb	06 41 09.7	
	comp=Z,8.7nm,1.4s						
TX31	**Lajitas Ar. Si**	**52.48**	**327**	P	**P**	**06 40 57.9**	**+0.3**
TX31				IAmb	IAmb	06 41 26.4	
	comp=Z,4.7nm,0.9s						
TX32	**Lajitas Array**	**52.48**	**327**	P	**P**	**06 40 57.9**	**+0.3**
TX32				IAmb	IAmb	06 40 57.9	
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**52.48**	**327**	P	**P**	**06 40 57.4**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=153,slow=8.9,SNR=34						
TXAR				pP	**pP**	**06 41 23.7**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=150,slow=9.3,SNR=3.4						
TXAR	**Lajitas Array**	**52.48**	**327**	P	**P**	**06 40 57.9**	**+0.3**
W41B	**Gary Mavity, V**	**52.63**	**341**	P	**P**	**06 40 58.1**	**-0.3**
W41B				IAmb	IAmb	06 41 02.7	
	comp=Z,5.3nm,1.4s						
S54A	**Dingess, Beckl**	**52.70**	**352**	P	**P**	**06 40 59.2**	**+0.3**
WHAR	**Wooly Hollow**	**52.75**	**341**	P	**P**	**06 40 59.1**	**-0.2**
WHAR				IAmb	IAmb	06 41 04.4	
	comp=Z,6.4nm,1.1s						
ABTX	**Abilene, Hawle**	**53.21**	**333**	P	**P**	**06 41 03.0**	**+0.2**
PBMO	**Poplar Bluff**	**53.58**	**343**	P	**P**	**06 41 04.4**	**-0.9**
PBMO				IAmb	IAmb	06 41 09.7	
	comp=Z,3.0nm,0.9s						
Q56A	**Snyder Ridge,**	**53.69**	**355**	P	**P**	**06 41 06.9**	**+0.8**
U40A	**Yellville**	**53.91**	**341**	P	**P**	**06 41 07.6**	**-0.2**
U40A				IAmb	IAmb	06 41 07.9	
	comp=Z,2.9nm,0.7s						
Q44A	**Meyer Farm, Va**	**55.21**	**345**	P	**P**	**06 41 16.3**	**-0.8**
S39A	**Bolivar**	**55.28**	**341**	P	**P**	**06 41 17.1**	**-0.6**
S39A				IAmb	IAmb	06 41 17.6	
	comp=Z,3.8nm,0.9s						
G65A	**Princeton**	**59.86**	**5**	P	**P**	**06 41 49.9**	**+0.3**
SDCO	**Great Sand Dun**	**60.12**	**331**	P	**P**	**06 41 52.2**	**+0.2**
SDCO				IAmb	IAmb	06 41 53.1	
	comp=Z,8.7nm,1.5s						
X16A	**Lo Mia Camp, P**	**60.62**	**324**	P	**P**	**06 41 56.6**	**+1.3**
X16A				IAmb	IAmb	06 41 57.0	
	comp=Z,1.8nm,0.7s						
D62A	**Allapoint, All**	**61.62**	**4**	P	**P**	**06 42 01.9**	**+0.4**
ECSD	**EROS Data Cent**	**61.81**	**341**	P	**P**	**06 42 02.6**	**-0.3**
ECSD				IAmb	IAmb	06 42 24.0	
	comp=Z,4.1nm,1.4s						
LMQ	**La Malbaie**	**62.02**	**3**	P	**P**	**06 42 04.3**	**+0.1**
BATG	**Bathurst New B**	**62.05**	**6**	P	**P**	**06 42 04.8**	**+0.4**
B35A	**Bob, Littlefor**	**65.26**	**345**	P	**P**	**06 42 25.0**	**-0.6**
B35A				IAmb	IAmb	06 42 25.1	
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**67.36**	**323**	P	**P**	**06 42 39.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=159,slow=7.7,SNR=4.3						
NVAR				pP	**PcP**	**06 43 06.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=136,slow=4.5,SNR=3.3						
ULM	**Lac du Bonnet**	**67.54**	**345**	P	**P**	**06 42 38.9**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=150,slow=6.0,SNR=5.6						
ULM	**Lac du Bonnet**	**67.54**	**345**	IAmb	IAmb	06 42 39.5	
	comp=Z,3.7nm,0.8s						
ULM				P	**P**	**06 42 39.5**	**-0.6**
SCHQ	**Schefferville**	**69.48**	**4**	P	**P**	**06 42 51.2**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=217,slow=10,SNR=2.7						
SCHQ	**Schefferville**	**69.48**	**4**	P	**P**	**06 42 51.7**	**-0.4**
SNAA	**Sanae**	**70.15**	**161**	P	**P**	**06 42 58.0**	**+1.9**
SNAA				IAmb	IAmb	06 43 00.7	
	comp=Z,7.5nm,1.1s						
DBIC	**Dimbokro**	**71.43**	**78**	P	**P**	**06 43 03.8**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=260,slow=5.8,SNR=5.5						
DBIC	**Dimbokro**	**71.43**	**78**	P	**P**	**06 43 04.0**	**-0.8**
DBIC				IAmb	IAmb	06 43 04.7	
	comp=Z,9.0nm,1.1s						
KOWA	**Kowa**	**74.73**	**70**	P	**P**	**06 43 24.3**	**0.0**
KOWA				IAmb	IAmb	06 43 24.6	
	comp=Z,8.4nm,0.6s						
FCC	**Fort Churchill**	**75.07**	**349**	P	**P**	**06 43 25.1**	**-0.2**
QSPA	**South Pole Qui**	**75.47**	**180**	P	**P**	**06 43 29.9**	**+2.1**
EDM	**Edmonton**	**75.73**	**337**	P	**P**	**06 43 29.1**	**-0.1**
EDM				IAmb	IAmb	06 43 29.1	
	comp=Z,4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.55**	**73**	P	**P**	**06 43 50.4**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=265,slow=5.7,SNR=22						
TORD	**Torodi Ar. Bea**	**79.55**	**73**	P	**P**	**06 43 51.0**	**-0.3**
YKA	**Yellowknife Ar**	**83.32**	**342**	P	**P**	**06 44 09.5**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=136,slow=5.3,SNR=31						
YKA				pP	**pP**	**06 44 36.3**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=140,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**83.32**	**342**	P	**P**	**06 44 10.2**	**+0.1**
ESDC	**Sonseca Array**	**84.32**	**47**	P	**P**	**06 44 16.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=250,slow=4.2,SNR=9.1						
ESDC	**Sonseca Array**	**84.32**	**47**	P	**P**	**06 44 16.8**	**+1.0**
ESDC				IAmb	IAmb	06 44 17.0	
	comp=Z,4.1nm,1.1s						
DLBC	**Dease Lake**	**86.12**	**334**	P	**P**	**06 44 25.9**	**+1.5**
DLBC				IAmb	IAmb	06 44 41.8	
	comp=Z,7.6nm,1.4s						
SUMG	**Summit**	**90.11**	**10**	iP	**P**	**06 44 43.2**	**-0.3**
SUMG				IAmb	IAmb	06 44 45.3	
	comp=Z,10nm,1.0s						
ASAR	**Alice Springs**	**133.32**	**216**	PKP	**PKPdf**	**06 51 00.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=131,slow=2.1,SNR=19						
ASAR	**Alice Springs**	**133.32**	**216**		**PKPdf**	**06 51 00.5**	**+0.5**
WRA	**Warramunga Arr**	**135.93**	**219**	PKP	**PKPdf**	**06 51 05.5**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=145,slow=1.5,SNR=15						
ZALV	**Zalesovo Beam**	**137.34**	**19**	PKP	**PKPdf**	**06 51 07.2**	**+0.8**
	comp=Z,7.3nm,0.8s,baz=321,slow=2.4,SNR=24						
MKAR	**Makanchi Array**	**142.21**	**27**	PKhKP	PKPpre	06 51 10.1	
	comp=Z,0.7nm,0.7s,baz=324,slow=3.9,SNR=7.1						
SONM	**Songino Array**	**146.95**	**360**	PKPbc	**PKPbc**	**06 51 26.1**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=334,slow=2.0,SNR=25						
SONM	**Songino Array**	**146.95**	**360**		**PKPbc**	**06 51 26.8**	**+0.8**
KSRS	**Korea Array**	**150.31**	**324**	PKPbc	**PKPbc**	**06 51 35.4**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=46,slow=1.2,SNR=11						
PZH	**PanZhiHua**	**167.48**	**19**	PKP	**PKPdf**	**06 51 48.3**	**-1.7**

WEL 03 06:34:30.6±0.3**, 44°S**±2°×**17°3E**±°**, h9**km±2km**, M3.4**/23**, ML3.5**/25**, MLv3.4**/23**, Error ellipse: s-maj=0.0km s-min=0.0km az=114.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.19**	**216**	P	Pg	06 34 35.0	+0.5
MQZ				S	Sg	06 34 38.0	+0.9
OKCZ	**Okains Bay**	**0.25**	**132**	P	Pg	06 34 36.8	+1.1
AKCZ	**Akaroa Harbour**	**0.33**	**167**	P	Pb	06 34 38.1	-0.5
AKCZ				S	Sb	06 34 43.2	-0.8
AMCZ	**Amberley**	**0.40**	**343**	P	Pg	06 34 39.0	+0.7
AMCZ				S	Sg	06 34 44.6	+1.1
RACZ	**Rakaia**	**0.51**	**250**	P	Pb	06 34 41.3	-0.4
RACZ				S	Sb	06 34 48.5	-0.8
OXZ	**Oxford**	**0.60**	**292**	P	Pg	06 34 42.4	+0.1
OXZ				S	Sb	06 34 51.6	-0.3
GVZ	**Greta Valley S**	**0.61**	**16**	P	Pb	06 34 43.3	-0.1
GVZ				S	Sb	06 34 53.7	+1.6
WACZ	**Wakanui South**	**0.80**	**241**	P	Pb	06 34 46.9	+0.3
WACZ				S	Sb	06 34 58.3	+0.7
LTZ	**Lake Taylor**	**0.87**	**333**	P	Pb	06 34 47.6	-0.2
LTZ				S	Sb	06 34 59.7	+0.2
MHCZ	**Mount Hutt**	**0.90**	**271**	P	Pb	06 34 48.3	-0.1
ARCZ	**Arundel**	**1.24**	**251**	P	Pn	06 34 53.2	-1.0
ARCZ				S	Sb	06 35 09.9	-0.5
KHZ	**Kahutara**	**1.26**	**26**	P	Pn	06 34 53.2	-1.2
RPZ	**Rata Peaks**	**1.28**	**262**	P	Pn	06 34 53.8	-0.9
INZ	**Inchbonnie**	**1.30**	**309**	P	Pn	06 34 54.2	-0.6
TMZ	**Timaru**	**1.54**	**237**	P	Pn	06 34 57.5	-0.8
TMZ				S	Sg	06 35 19.9	-0.2
WVZ	**Waitaha Valley**	**1.58**	**287**	P	Pn	06 34 58.4	-0.4
THZ	**Tophouse**	**1.79**	**2**	P	Pn	06 35 00.7	-1.1
GCSZ	**Gaunt Creek Bo**	**1.82**	**277**	P	Pn	06 35 02.5	+0.4
DSZ	**Denniston Nort**	**1.96**	**337**	P	Pn	06 35 03.4	-0.6
BSWZ	**Blackbirch Sta**	**2.00**	**24**	P	Pn	06 35 03.8	-0.8
LBZ	**Lake Benmore**	**2.07**	**245**	P	Pn	06 35 05.4	0.0
ODZ	**Otahua Downs**	**2.15**	**225**	P	Pn	06 35 06.1	-0.4
MRNZ	**Matariki Terra**	**2.16**	**359**	P	Pn	06 35 06.5	-0.1
FOZ	**Fox Glacier**	**2.17**	**270**	P	Pn	06 35 07.8	+0.9
NNZ	**Nelson**	**2.38**	**11**	P	Pn	06 35 09.3	-0.4
TKNZ	**Takaka Hill**	**2.52**	**3**	P	Pn	06 35 11.8	0.0
TCW	**Tory Channel**	**2.58**	**25**	P	Pn	06 35 11.1	-1.4
QRZ	**Quartz Range**	**2.74**	**356**	P	Pn	06 35 14.0	-0.6
DUWZ	**D'Urville Isla**	**2.88**	**17**	P	Pn	06 35 17.0	+0.4
JCZ	**Jackson Bay**	**2.96**	**259**	P	Pn	06 35 17.5	-0.2
CAW	**Cannon Point**	**2.97**	**35**	P	Pn	06 35 16.1	-1.8
WKZ	**Wanaka**	**3.01**	**244**	P	Pn	06 35 18.0	-0.4
EAZ	**Earnscleugh**	**3.01**	**235**	P	Pn	06 35 17.8	-0.6
MTW	**Mount Morrison**	**3.12**	**41**	P	Pn	06 35 17.7	-2.2
OGWZ	**Otaki Gorge**	**3.25**	**34**	P	Pn	06 35 20.3	-1.5
TUZ	**Tuapeka**	**3.29**	**222**	P	Pn	06 35 23.0	+0.6
MRZ	**Mangatainoka R**	**3.55**	**36**	P	Pn	06 35 24.1	-1.8
MLZ	**Mavora Lakes**	**3.81**	**240**	P	Pn	06 35 28.8	-0.7
BFZ	**Birch Farm**	**3.85**	**43**	P	Pn	06 35 27.4	-2.5
SYZ	**Scrubby Hill**	**3.95**	**220**	P	Pn	06 35 31.7	+0.3
PREZ	**Palmer Road**	**4.33**	**14**	P	Pn	06 35 37.7	+1.1
KHEZ	**Kahui Hut**	**4.35**	**12**	P	Pn	06 35 38.2	+1.2
NEZ	**North Egmont**	**4.39**	**13**	P	Pn	06 35 38.9	+1.4
PKE	**Pukeiti**	**4.45**	**12**	P	Pn	06 35 38.9	+0.7
WNVZ	**Wahianoa**	**4.72**	**27**	P	Pn	06 35 41.5	-0.6
TRVZ	**Turoa**	**4.73**	**27**	P	Pn	06 35 42.1	-0.1
TUVZ	**Tukino**	**4.79**	**28**	P	Pn	06 35 42.7	-0.3
SNVZ	**South Ngauruho**	**4.86**	**27**	P	Pn	06 35 44.0	0.0
OTVZ	**Oturere**	**4.89**	**27**	P	Pn	06 35 43.7	-0.7
NNVZ	**North Ngauruho**	**4.90**	**27**	P	Pn	06 35 44.3	-0.3
ETVZ	**East Tongariro**	**4.93**	**27**	P	Pn	06 35 44.5	-0.4
TMVZ	**Te Maari**	**4.94**	**27**	P	Pn	06 35 44.7	-0.4
NTVZ	**North Tongarir**	**4.95**	**27**	P	Pn	06 35 45.0	-0.2
HIZ	**Hauiti**	**5.27**	**18**	P	Pn	06 35 48.9	-0.6

IDC 03 06:39:23.5±9.5**, 4.°95S**×**145.°99E, h0**km**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.5**/25**, mbtmp3.4**/4**, ML3.3**/1**, Error ellipse: s-maj=145.6km s-min=74.0km az=19.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.73**	**216**	P	P	06 43 42.8	-1.3
	0.1nm,0.3s,baz=41,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**21.96**	**211**	P	P	06 44 20.2	+1.2
	0.3nm,0.5s,baz=30,slow=13,SNR=6.2						
FITZ	**Fitzroy Crossi**	**23.80**	**235**	P	P	06 44 38.2	0.0
	0.4nm,0.4s,baz=43,slow=9.4,SNR=1.5						
STKA	**Stephens Creek**	**27.10**	**188**	P	P	06 45 08.0	-0.3
	1.2nm,0.3s,baz=18,slow=6.4,SNR=7.2						

*IDC **03** 06:44:25.6±4.2, 4.°92S×93.°86E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/46, mbtmp3.6/4, MS4.6/1, Ms1 4.6/1, ms1mx2.8/67, Error ellipse: s-maj=133.4km s-min=34.2km az=56.0*

*DJA **03** 06:44:27.8±1.3, 5°S±8°×9°4E±°, h14km±10km, M5.1/8, mB5.6/6, mb4.9/8, MLv5.1/6, Mw(mB)5.1/6*

*NEIC **03** 06:44:30.5±1.4, 4.°52S±0.°07×94.°3E±0.°1, h10km±1km, mb4.5/7, Error ellipse: s-maj=22.2km s-min=8.7km az=245.0*

ISC 03 06:44:33.6±1.1**, 4.°50S**±0.°10×**94.°4E**±0.°1**, h35**km**, n24, σ0.§83**/24**, mb4.1**/8**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.65**	**56**	P	**Pn**	**06 45 56.3**	**+1.1**
	1.1nm5µm262nm,0.5s						
PPSI	**Pulau Pagai**	**5.87**	**73**	P	**Pn**	**06 45 58.7**	**+0.6**
	1.0nm5µm275nm,0.8s						
GSI	**Gunungsitoli**	**6.58**	**29**		**Pn**	**06 46 08.6**	**+0.6**
GSI				Sn	**Sn**	**06 47 20.1**	**-1.8**
GSI	**Gunungsitoli**	**6.58**	**29**	P	**Pn**	**06 46 08.3**	**+0.3**
	0.3nm22nm,0.6s						
PPI	**Padang Panjang**	**7.22**	**56**	P	**Pn**	**06 46 17.6**	**+0.9**
	0.4nm2µm72nm,0.6s						
KRJI	**Kerinci**	**7.46**	**72**	P	**Pn**	**06 46 21.0**	**+1.0**
	11nm184nm,0.4s						
MASI	**Maura Aman, Be**	**7.95**	**81**	P	**Pn**	**06 46 26.5**	**-0.3**
	61nm,0.7s						
RPSI	**Rantau Prapat**	**8.46**	**32**		**Pn**	**06 46 33.1**	**-0.6**
MDSI	**Maura Dua**	**9.76**	**90**	P	**Pn**	**06 46 51.3**	**-0.3**
IPM	**Ipoh**	**11.11**	**37**	Pn	**Pn**	**06 47 10.3**	**+0.2**
KULM	**Kulim**	**11.56**	**33**	Pn	**Pn**	**06 47 15.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**23.25**	**11**	P	**P**	**06 49 40.0**	**+2.1**
	1.0nm,0.3s,baz=198,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**41.81**	**115**	P	**P**	**06 52 19.8**	**-0.5**
	0.3nm,0.7s,baz=285,slow=8.9,SNR=2.1						
WB2	**Warramunga Arr**	**41.82**	**115**	P	**P**	**06 52 20.3**	**-0.1**
WB2				IAmb	IAmb	06 53 12.4	
	comp=Z,11nm,1.6s						
WR0	**Warramunga Arr**	**41.99**	**115**	P	**P**	**06 52 22.0**	**+0.2**
WR0				IAmb	IAmb	06 52 46.4	
	comp=Z,17nm,1.9s						
CHGR	**Chuyangaron**	**48.88**	**334**	P	**P**	**06 53 15.7**	**-0.4**
JNU	**Nakatsue**	**50.93**	**40**	LR	LR	07 13 26.9	
	comp=Z,555nm,20.8s,baz=177,slow=34						
STKA	**Stephens Creek**	**51.89**	**127**	P	**P**	**06 53 38.1**	**-0.9**
KSAR	**Wonju Array Be**	**52.08**	**34**	P	**P**	**06 53 40.9**	**+0.7**
MK31	**Makanchi Array**	**52.18**	**349**	P	**P**	**06 53 41.0**	**+0.2**
MK31				IAmb	IAmb	06 54 15.8	
	comp=Z,7.5nm,2.0s						
MKAR	**Makanchi Array**	**52.18**	**349**	P	**P**	**06 53 40.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=161,slow=9.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.78**	**353**	P	**P**	**06 54 27.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=164,slow=5.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**58.78**	**353**	P	**P**	**06 54 27.9**	**-0.2**
ABKAR	**Akbulak array**	**61.32**	**335**	P	**P**	**06 54 45.7**	**+0.1**
ABKAR				IAmb	IAmb	06 54 46.5	
	comp=Z,2.6nm,0.7s						

*RSPR **03** 07:06:12.7, 18.°20N×67.°89W, h124km±1km, MD3.7/21*

*NEIC **03** 07:06:12.8±1.0, 18.°1N±0.°2×67.°89W±0.°07, h121km±7km, Error ellipse: s-maj=23.0km s-min=9.4km az=186.0*

*TRN **03** 07:06:12.1, 18.°41N×67.°85W, h125km*

*OSPL **03** 07:06:15.0±2.3, 18.°03N×67.°94W, h109km±22km, ML3.2*

ISC 03 07:06:10.1±1.2**, 18.°1N**±0.°1×**68.°00W**±0.°05**, h134**km±11km**, n96, σ1.§55**/108**, 18C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.55**	**318**	⇑eP	**Pn**	**07 06 30.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.55**	**318**	eS	**Sn**	**07 06 45.2**	**+0.3**
PCDR	**Punta Cana, DR**	**0.55**	**318**		**Pn**	**07 06 30.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.55**	**318**	IAML		07 06 37.8	
	comp=E,117nm,1.6s						
PCDR				IAML		07 06 38.0	
	comp=N,202nm,1.5s						
PCDR	**Punta Cana, DR**	**0.55**	**318**	i P	**Pn**	**07 06 30.9**	**+1.0**
PCDR				eS	**Sn**	**07 06 44.5**	**-0.4**
PCDR				IAML		07 06 49.5	
	comp=Z,476nm,0.1s						
IDE	**Isla Desecheo**	**0.57**	**61**	⇑eP	**Pn**	**07 06 30.1**	**0.0**
IDE	**Isla Desecheo**	**0.57**	**61**	eS	**Sn**	**07 06 43.9**	**-1.3**
PRSN	**Puerto Rico Se**	**0.82**	**82**		**Pn**	**07 06 32.0**	**+0.2**
PRSN				IAML		07 06 50.0	
	comp=N,2µm,0.2s						
PRSN				IAML		07 06 51.8	
	comp=E,2µm,0.4s						
CRPR	**Cabo Rojo, PR**	**0.85**	**97**	⇑eP	**Pn**	**07 06 32.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.85**	**97**	eS	**Sn**	**07 06 48.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.85**	**97**		**Pn**	**07 06 32.4**	**+0.3**
CRPR					**Sn**	**07 06 48.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.85**	**97**	i P	**Pn**	**07 06 32.5**	**+0.4**
CRPR				eS	**Sn**	**07 06 47.6**	**-1.1**
CRPR				IAML		07 06 49.2	
	comp=Z,299nm,0.2s						
LSP	**Las Mesas**	**0.87**	**85**	⇑eP	**Pn**	**07 06 32.7**	**+0.4**
LSP	**Las Mesas**	**0.87**	**85**	eS	**Sn**	**07 06 48.7**	**-0.3**
AGPR	**Aguadilla, PR**	**0.91**	**67**	⇑eP	**Pn**	**07 06 33.5**	**+0.9**
AGPR	**Aguadilla, PR**	**0.91**	**67**	eS	**Sn**	**07 06 48.7**	**-1.0**
AGPR	**Aguadilla, PR**	**0.91**	**67**		**Pn**	**07 06 33.5**	**+0.9**
AGPR					**Sn**	**07 06 48.7**	**-1.0**
AGPR	**Aguadilla, PR**	**0.91**	**67**	IAML		07 06 51.3	
	comp=E,2µm,0.3s						
AGPR	**Aguadilla, PR**	**0.91**	**67**	i P	**Pn**	**07 06 33.3**	**+0.7**
AGPR				eS	**Sn**	**07 06 48.5**	**-1.2**
AGPR				IAML		07 06 49.4	
	comp=Z,1µm,0.2s						
MLPR	**Magueyes Islan**	**0.92**	**98**	⇓eP	**Pn**	**07 06 32.4**	**-0.3**
MLPR	**Magueyes Islan**	**0.92**	**98**	eS	**Sn**	**07 06 47.8**	**-1.9**
MLPR	**Magueyes Islan**	**0.92**	**98**		**Pn**	**07 06 32.4**	**-0.3**
MLPR					**Sn**	**07 06 47.8**	**-1.9**
MLPR	**Magueyes Islan**	**0.92**	**98**	IAML		07 06 48.7	
	comp=E,1µm,0.5s						
GBPR	**Guanica, Bosqu**	**1.07**	**97**	⇓eP	**Pn**	**07 06 35.0**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.07**	**97**	eS	**Sn**	**07 06 52.0**	**-0.2**
AOPR	**Arecibo Observ**	**1.20**	**78**	⇑eP	**Pn**	**07 06 35.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.20**	**78**		**Pn**	**07 06 35.9**	**+0.5**
AOPR					**Sn**	**07 06 53.6**	**-1.0**
AOPR	**Arecibo Observ**	**1.20**	**78**	eP	**Pn**	**07 06 36.1**	**+0.7**
AOPR				eS	**Sn**	**07 06 53.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.32**	**93**	⇑eP	**Pn**	**07 06 36.2**	**-0.4**
OBIP	**Obispado Ponce**	**1.32**	**93**	eS	**Sn**	**07 06 55.2**	**-1.6**
OBIP	**Obispado Ponce**	**1.32**	**93**		**Pn**	**07 06 36.2**	**-0.4**
OBIP					**Sn**	**07 06 55.2**	**-1.6**
OBIP	**Obispado Ponce**	**1.32**	**93**	IAML		07 06 55.9	
	comp=N,468nm,0.6s						
CELP	**Cerrillos**	**1.35**	**91**	⇑eP	**Pn**	**07 06 37.7**	**+0.9**
CELP	**Cerrillos**	**1.35**	**91**	eS	**Sn**	**07 06 57.1**	**-0.1**
CELP	**Cerrillos**	**1.35**	**91**		**Pn**	**07 06 37.7**	**+0.9**
CELP					**Sn**	**07 06 57.1**	**-0.1**
CELP	**Cerrillos**	**1.35**	**91**	IAML		07 06 57.4	
	comp=N,917nm,0.5s						
CELP				IAML		07 06 58.1	
	comp=E,602nm,0.3s						
ICMP	**Isla Caja de M**	**1.42**	**99**	⇑eP	**Pn**	**07 06 38.2**	**+0.7**
ICMP	**Isla Caja de M**	**1.42**	**99**	eS	**Sn**	**07 06 57.6**	**-0.8**
ICMP	**Isla Caja de M**	**1.42**	**99**		**Pn**	**07 06 38.2**	**+0.7**
ICMP					**Sn**	**07 06 57.6**	**-0.8**
ICMP	**Isla Caja de M**	**1.42**	**99**	IAML		07 06 58.9	
	comp=E,573nm,0.4s						
EMPR	**Esperanza - Ma**	**1.44**	**75**	⇑eP	**Pn**	**07 06 38.3**	**+0.5**
EMPR	**Esperanza - Ma**	**1.44**	**75**	eS	**Sn**	**07 06 57.7**	**-1.3**
EMPR	**Esperanza - Ma**	**1.44**	**75**		**Pn**	**07 06 38.3**	**+0.5**
EMPR					**Sn**	**07 06 57.7**	**-1.3**
EMPR	**Esperanza - Ma**	**1.44**	**75**	IAML		07 06 58.6	
	comp=N,860nm,0.2s						
DR12	**Loma Pena Alta**	**1.48**	**297**	⇑eP	**Pn**	**07 06 40.4**	**+2.0**
DR12	**Loma Pena Alta**	**1.48**	**297**		**Pn**	**07 06 40.3**	**+2.0**
IGPR	**InterUniversit**	**1.80**	**94**	⇑eP	**Pn**	**07 06 42.9**	**+0.9**
IGPR	**InterUniversit**	**1.80**	**94**	eS	**Sn**	**07 07 05.9**	**-0.4**
GCPR	**Guaynabo City**	**1.83**	**83**	⇑eP	**Pn**	**07 06 42.4**	**+0.1**
GCPR	**Guaynabo City**	**1.83**	**83**	eS	**Sn**	**07 07 05.1**	**-1.7**
GCPR	**Guaynabo City**	**1.83**	**83**		**Pn**	**07 06 42.4**	**+0.1**
GCPR					**Sn**	**07 07 05.1**	**-1.7**
PDPR	**Patillas Dam,**	**1.88**	**92**		**Pn**	**07 06 43.7**	**+0.8**
PDPR				IAML		07 07 10.2	
	comp=E,310nm,0.5s						
CBYP	**Canovanas**	**2.04**	**85**	⇑eP	**Pn**	**07 06 45.6**	**+0.8**
CBYP	**Canovanas**	**2.04**	**85**	eS	**Sn**	**07 07 10.2**	**-1.3**
CBYP	**Canovanas**	**2.04**	**85**		**Pn**	**07 06 45.6**	**+0.8**
CBYP					**Sn**	**07 07 10.2**	**-1.3**
HUMP	**Col San Antoni**	**2.04**	**89**	⇑eP	**Pn**	**07 06 45.9**	**+1.2**
HUMP	**Col San Antoni**	**2.04**	**89**	eS	**Sn**	**07 07 10.6**	**-0.7**
HUMP	**Col San Antoni**	**2.04**	**89**		**Pn**	**07 06 45.9**	**+1.2**
HUMP					**Sn**	**07 07 10.6**	**-0.7**
HUMP	**Col San Antoni**	**2.04**	**89**	IAML		07 07 13.1	
	comp=N,700nm,0.2s						
BANI	**BANI**	**2.26**	**278**		**Pn**	**07 06 52.0**	**+4.4**
MTP	**Monte Pirata**	**2.32**	**90**	⇑eP	**Pn**	**07 06 49.6**	**+1.3**
MTP	**Monte Pirata**	**2.32**	**90**	eS	**Sn**	**07 07 18.4**	**+0.8**
MTP	**Monte Pirata**	**2.32**	**90**		**Pn**	**07 06 49.6**	**+1.3**
MTP					**Sn**	**07 07 18.4**	**+0.8**
MTP	**Monte Pirata**	**2.32**	**90**	IAML		07 07 22.6	
	comp=E,235nm,0.2s						
CUPR	**Culebra, Puert**	**2.59**	**85**	⇓eP	**Pn**	**07 06 51.9**	**+0.3**
CUPR	**Culebra, Puert**	**2.59**	**85**	eS	**Sn**	**07 07 22.5**	**-1.0**
CUPR	**Culebra, Puert**	**2.59**	**85**		**Pn**	**07 06 51.9**	**+0.3**
CUPR					**Sn**	**07 07 22.5**	**-1.0**
STVI	**Saint Thomas**	**2.90**	**85**	⇑eP	**Pn**	**07 06 56.5**	**+0.9**
STVI	**Saint Thomas**	**2.90**	**85**	eS	**Sn**	**07 07 30.0**	**-0.6**
STVI	**Saint Thomas**	**2.90**	**85**		**Pn**	**07 06 56.5**	**+0.9**
STVI					**Sn**	**07 07 30.0**	**-0.6**
STVI	**Saint Thomas**	**2.90**	**85**	IAML		07 07 32.0	
	comp=N,263nm,0.3s						
SC01	**Santiago de lo**	**2.90**	**297**		**Pn**	**07 06 58.6**	**+3.0**
LOBA2	**Hotel Casa Bon**	**2.95**	**270**	i P	**Pn**	**07 06 58.6**	**+2.4**
LOBA2				eS	**Sn**	**07 07 31.8**	**+0.1**
LOBA2				IAML		07 07 33.2	
	comp=Z,78nm,3.8s						
TBVI	**Tortola**	**3.23**	**84**	⇑eP	**Pn**	**07 07 00.3**	**+0.5**
TBVI	**Tortola**	**3.23**	**84**	eS	**Sn**	**07 07 38.1**	**-0.1**
SDDR	**Presa de Saban**	**3.24**	**286**	i P	Pn	07 07 05.3	+5.3
SDDR				IAML		07 07 54.3	
	comp=Z,44nm,0.3s						
LONE2	**Loma La Sidra**	**3.33**	**278**	i P	**Pn**	**07 07 04.8**	**+3.5**
ANWB	**Willy Bob**	**5.93**	**93**	eP	**Pn**	**07 07 37.9**	**+2.2**
ANWB	**Willy Bob**	**5.93**	**93**	eS	**Sn**	**07 08 39.3**	**-3.3**
ANBD	**Bethesda, Anti**	**6.04**	**99**	eP	**Pn**	**07 07 38.9**	**+1.8**
ANBD	**Bethesda, Anti**	**6.04**	**99**	eS	**Sn**	**07 08 42.9**	**-2.2**
MASC	**Masc**	**6.24**	**290**	eP	**Pn**	**07 07 40.8**	**+0.9**
MASC				eS	**Sn**	**07 08 46.8**	**-3.3**
MASC				IAML		07 08 49.9	
	comp=E,10nm,0.5s						
MASC				IAML		07 08 52.1	
	comp=N,7.9nm,0.3s						
ABD	**La Joyeuse, An**	**6.42**	**104**	eS	**Sn**	**07 08 51.4**	**-3.1**
MAGL	**Barre de l'ile**	**6.77**	**107**	eP	**Pn**	**07 07 49.5**	**+2.5**
MAGL	**Barre de l'ile**	**6.77**	**107**	eS	**Sn**	**07 09 01.0**	**-1.9**
DSLB	**Salisbury**	**6.83**	**112**	eP	**Pn**	**07 07 50.6**	**+2.7**
DSLB	**Salisbury**	**6.83**	**112**	eS	**Sn**	**07 09 03.5**	**-1.0**
GTBY	**Guantanamo Bay**	**6.97**	**286**	eP	**Pn**	**07 07 49.0**	**-0.7**
GTBY				eS	**Sn**	**07 09 04.0**	**-3.6**
RCC	**Rio Carpintero**	**7.52**	**286**	eP	**Pn**	**07 07 57.8**	**+0.7**
RCC				eS	**Sn**	**07 09 19.3**	**-1.7**
BIM	**Bigot**	**7.54**	**117**	eP	**Pn**	**07 07 59.9**	**+2.4**
BIM	**Bigot**	**7.54**	**117**	eS	**Sn**	**07 09 20.2**	**-1.4**
MPOM	**Morne Pois Mar**	**7.76**	**117**	eP	**Pn**	**07 08 03.7**	**+3.3**
MPOM	**Morne Pois Mar**	**7.76**	**117**	eS	**Sn**	**07 09 24.9**	**-1.9**
SLBI	**Saint Lucia, B**	**7.88**	**120**	eP	**Pn**	**07 08 05.0**	**+3.1**
SLBI	**Saint Lucia, B**	**7.88**	**120**	eS	**Sn**	**07 09 27.4**	**-2.1**
LMGC	**Las Mercedes**	**8.74**	**284**	eP	**Pn**	**07 08 15.2**	**+1.7**
LMGC				eS	**Sn**	**07 09 46.8**	**-3.6**

*BJI **03** 07:11:10.6±0.0, 31.°54N×131.°76E, h51km, mb4.9/76, mB5.0/53, Ms4.4/78, Ms7 4.2/73*

*MOS **03** 07:11:13.9±0.9, 31.°76N×131.°33E, h55km, mb5.5/74, MS4.2/11, Error ellipse: s-maj=5.9km s-min=3.6km az=108.4*

*IDC **03** 07:11:15.8±0.3, 31.°75N×131.°24E, h55km±2km, mb4.6/36, mb1 4.7/40, mb1mx4.7/51, mbtmp4.9/40, MS4.1/81, Ms1 4.1/81, ms1mx4.0/95, Error ellipse: s-maj=9.4km s-min=5.8km az=83.0*

*NEIC **03** 07:11:16.1±1.9, 31.°75N±0.°04×131.°43E±0.°05, h55km±5km, mb5.3/113, Error ellipse: s-maj=8.8km s-min=0.9km az=137.0*

*NIED **03** 07:11:16.1, 31.°77N×131.°43E, h51km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.86; $M_{\theta\theta}$-3.68; $M_{\phi\phi}$0.82; $M_{r\theta}$-1.33; $M_{\theta\phi}$1.58; $M_{\phi r}$2.92; Fault plane solution: $M_0$4.90000×10^{16} NP1: ϕ_s317.00000°, δ68.00000°, λ122.00000°. NP2: ϕ_s78.00000°, δ38.00000°, λ37.00000°.*

*JMA **03** 07:11:16.0±0.1, 31.°77N×131.°43E, h51km±1km, M4.9 Broadband fault plane solution: P waves. NP1: ϕ_s327.00000°, δ75.00000°, λ139.00000°. NP2: ϕ_s69.00000°, δ51.00000°, λ20.00000°. Principal axes: T Plg39.0000°, Azm280.0000°; N Plg47.0000°, Azm130.0000°; P Plg15.0000°, Azm23.0000°;*

JMA Felt IV J1.

*BGR **03** 07:11:17.8±0.0, 32.°72N×132.°20E, h54km, mb5.4*

*GCMT **03** 07:11:17.1±0.2, 31.°85N±0.°02×131.°35E±0.°02, h44km±1km, MW5.1/95, Moment Tensor Solution. s51,c71; s95,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.27±.24; $M_{\theta\theta}$-4.64±.15; $M_{\phi\phi}$0.37±.16; $M_{r\theta}$-1.91±.14; $M_{\theta\phi}$2.52±.12; $M_{\phi r}$2.18±.14; Best double couple: $M_0$5.82200×10^{16} NP1:ϕ_s93.00000°, δ34.00000°, λ59.00000°. NP2: ϕ_s309.00000°, δ61.00000°, λ109.00000°. Principal axes: T 5.3070, Plg68.0000°, Azm257.0000°; N 1.0370, Plg17.0000°, Azm119.0000°; P -6.3380, Plg14.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 07:11:15.8±0.3**, 31.°76N**±0.°03×**131.°44E**±0.°03**, h55**km±2km**, h55**km**:pP-P, n890, σ1.§47**/954**, mb5.2**/222**, MS4.2**/98**, 140C-80D, Fault plane solution: NP1:**ϕ_s144.37483°**,** δ86.52074°**,** λ-104.67758°. **NP2:**ϕ_s41.32987°**,** δ15.07550°**,** λ-13.49320°. **Principal axes:** T Plg39.7813°**,** Azm247.8568°**;** N Plg14.6499°**,** Azm145.2855°**;** P Plg46.5257°**,** Azm39.2807°**; Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	**Nichinankitago**	**0.11**	**208**	⇑P	**Pn**	**07 11 23.8**	**-0.4**
JNKG				S	**Sn**	**07 11 29.7**	**-0.5**
JNAR	**Kushima--Naru**	**0.27**	**211**	⇓P	**Pn**	**07 11 25.0**	**-0.2**
JNAR				S	**Sn**	**07 11 31.7**	**-0.1**
JTZ	**Takazaki**	**0.33**	**296**	⇑P	**Pn**	**07 11 25.2**	**-0.5**
JTZ				S	**Sn**	**07 11 32.4**	**-0.3**
JTSN	**Tsuno**	**0.49**	**7**	⇓P	**Pn**	**07 11 26.8**	**-0.5**
JTSN				S	**Sn**	**07 11 35.1**	**-0.4**
JZO	**Okuchi**	**0.81**	**298**	⇑P	**Pn**	**07 11 31.2**	**0.0**
JZO				S	**Sn**	**07 11 42.5**	**+0.1**
JSU	**Suzuyama**	**0.87**	**253**	⇓P	**Pn**	**07 11 31.8**	**-0.3**
JSU				S	**Sn**	**07 11 44.0**	**0.0**
JSU	**Suzuyama**	**0.87**	**253**		**Pn**	**07 11 32.1**	**0.0**
JIU3	**Izumi3**	**0.95**	**326**	⇓P	**Pn**	**07 11 33.5**	**+0.5**
JIU3				S	**Sn**	**07 11 46.4**	**+0.7**
JTN	**Tanegashima 3**	**1.17**	**200**	⇓P	**Pn**	**07 11 36.4**	**+0.4**
JTN				S	**Sn**	**07 11 51.7**	**+0.8**
JNU	**Nakatsue**	**1.44**	**341**	P	**Pn**	**07 11 39.8**	**+0.2**
	243nm,0.3s,baz=156,slow=7.6,SNR=1296						
JNU				S	**Sn**	**07 11 58.5**	**+1.0**
	485nm,0.3s,baz=217,slow=18,SNR=7.4						
JNU	**Nakatsue**	**1.44**	**341**		**Pn**	**07 11 40.3**	**+0.7**
JNU	**Nakatsue**	**1.44**	**341**	P	**Pn**	**07 11 40.7**	**+1.1**
JMN	**Monobe**	**2.84**	**46**	Pn	**Pn**	**07 11 58.4**	**-0.5**
JTU	**Tsushima**	**3.24**	**329**	Pn	**Pn**	**07 12 04.7**	**+0.5**
JHS	**Saijyo**	**3.52**	**23**	Pn	**Pn**	**07 12 07.6**	**-0.5**
JOW	**Kunigami**	**5.63**	**210**	P	**Pn**	**07 12 36.4**	**-0.6**
	30nm,0.3s,baz=36,slow=8.4,SNR=110						
JOW				S	**Sn**	**07 13 37.4**	**-3.0**
	71nm,0.3s,baz=248,slow=28,SNR=11						
JOW	**Kunigami**	**5.63**	**210**	Pn	**Pn**	**07 12 35.7**	**-1.4**
JOW	**Kunigami**	**5.63**	**210**	P	**Pn**	**07 12 36.8**	**-0.2**
TJN	**Taejon**	**5.71**	**325**	d iP	**Pn**	**07 12 39.9**	**+1.8**
TJN	**Taejon**	**5.71**	**325**	Pn	**Pn**	**07 12 39.3**	**+1.2**
TJN	**Taejon**	**5.71**	**325**	P	**Pn**	**07 12 40.2**	**+2.1**
INU	**Inuyama**	**5.88**	**51**	Pn	**Pn**	**07 12 40.7**	**+0.4**
INU	**Inuyama**	**5.88**	**51**	P	**Pn**	**07 12 41.8**	**+1.5**
JGF	**Kuroka**	**6.25**	**51**	Pn	**Pn**	**07 12 45.2**	**-0.2**
KSRS	**Korea Array**	**6.38**	**334**	P	**Pn**	**07 12 48.9**	**+1.8**
	1.5nm,0.3s,baz=148,slow=14,SNR=30						
KSRS				LR	LR	07 14 39.7	
	comp=Z,305nm,19.7s,baz=155,slow=32						
KS19	**Wonju Array Si**	**6.44**	**334**		**Pn**	**07 12 48.4**	**+0.4**
INCN	**Inchon**	**6.95**	**327**	P	**Pn**	**07 12 57.2**	**+2.2**
JHJ	**Hachijo jima 2**	**7.19**	**77**	P	**Pn**	**07 12 58.6**	**+0.3**
	73nm,0.3s,baz=251,slow=18,SNR=19						
JHJ				S	**Sn**	**07 14 19.4**	**+0.9**
	80nm,0.3s,baz=259,slow=23,SNR=7.3						
JHJ2	**Mitsune**	**7.21**	**77**	Pn	**Pn**	**07 12 57.5**	**-1.1**
JHJ2	**Mitsune**	**7.21**	**77**	P	**Pn**	**07 12 59.0**	**+0.4**
MAJO	**Matsushiro**	**7.37**	**48**	d iP	**Pn**	**07 13 01.1**	**+0.4**
MAJO	**Matsushiro**	**7.37**	**48**	Pn	**Pn**	**07 13 01.2**	**+0.4**
MAJO	**Matsushiro**	**7.37**	**48**	P	**Pn**	**07 13 01.9**	**+1.1**
MAT	**Matsushiro**	**7.37**	**48**	P	**Pn**	**07 13 01.5**	**+0.7**
MAT				S	**Sn**	**07 14 23.5**	**+0.6**
MJAR	**Matsushiro Arr**	**7.37**	**48**	P	**Pn**	**07 13 02.0**	**+1.2**
	3.1nm,0.3s,baz=243,slow=13,SNR=226						
MJAR				LR	LR	07 16 16.5	
	comp=Z,3µm,21.6s,baz=222,slow=40						
MJAR	**Matsushiro Arr**	**7.37**	**48**		**Pn**	**07 13 00.9**	**+0.1**
MJB9	**Matsu-Tunnel**	**7.37**	**48**		**Pn**	**07 13 00.8**	**0.0**
JSD	**Sado**	**8.40**	**40**	Pn	**Pn**	**07 13 14.8**	**-0.1**
JMM	**Marumori**	**9.81**	**49**		**Pn**	**07 13 35.1**	**+0.9**
NJ2	**Nanjing**	**10.70**	**275**	⇑P	**Pn**	**07 13 49.4**	**+3.1**
NJ2				S	**Sn**	**07 15 53.1**	**+8.5**
NJ2				LR	LR		
	comp=N,1µm,10.4s						
NJ2				LR	LR		
	comp=E,960nm,11.4s						
NJ2				LR	LR		
	comp=Z,1µm,12.3s						
MSHR	**Mys Shultsa**	**10.80**	**359**	i P	**Pn**	**07 13 48.0**	**+0.3**
MSHR				pmax	pmax		
	comp=Z,22nm,0.9s						
YHNB	**Yeheng**	**11.33**	**234**	Pn	**Pn**	**07 13 55.8**	**+0.7**
VLA	**Vladivostok**	**11.35**	**2**	i P	**Pn**	**07 13 55.4**	**+0.3**
VLA				pmax	pmax		
	comp=Z,24nm,1.0s						
NACB	**Ninganchiao**	**11.52**	**231**	Pn	**Pn**	**07 13 56.1**	**-1.5**
JTM	**Tenmabayashi**	**11.89**	**38**	Pn	**Pn**	**07 14 02.0**	**-0.6**
SSLB	**Suanglung**	**12.21**	**232**		**Pn**	**07 14 07.8**	**+0.8**
SSLB	**Suanglung**	**12.21**	**232**	P	**Pn**	**07 14 08.2**	**+1.2**
USA0B	**Ussuriysk Arra**	**12.43**	**2**	P	**Pn**	**07 14 11.1**	**+1.2**
USA0B	**Ussuriysk Arra**	**12.43**	**2**		**Pn**	**07 14 11.1**	**+1.2**
USRK	**Ussuriysk Ar.**	**12.43**	**2**	P	**Pn**	**07 14 11.1**	**+1.2**
	baz=182,slow=14,SNR=7.2						
USRK				LR	LR	07 18 49.1	
	comp=Z,1µm,20.4s,baz=173,slow=36						
USRK	**Ussuriysk Ar.**	**12.43**	**2**	Pn	**Pn**	**07 14 10.4**	**+0.5**
TIA	**Tai'an**	**12.68**	**294**	⇑P	**Pn**	**07 14 16.0**	**+2.6**
TIA				pP	P	07 14 30.1	+7.1
TIA				S	Sn	07 16 44.4	+11
TIA				pmax	pmax		
	comp=Z,92nm,1.7s						
TIA				pmax	pmax		
	comp=Z,770nm,3.5s						
TIA				LR	LR		
	comp=Z,770nm,9.0s						
TIA				LR	LR		
	comp=Z,450nm,9.4s						
TPUB	**Ta-pu**	**12.76**	**231**	Pn	**Pn**	**07 14 13.2**	**-1.3**
TPUB	**Ta-pu**	**12.76**	**231**	P	**Pn**	**07 14 13.7**	**-0.8**
CN2	**Changchun**	**12.91**	**340**	eP	**Pn**	**07 14 20.1**	**+3.6**
CN2				S	**Sn**	**07 16 42.1**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,400nm,6.2s						
CN2				LR	LR		
	comp=Z,1µm,18.0s						
CN2				LR	LR		
	comp=Z,2µm,18.0s						
CN2				LR	LR		
	comp=Z,1µm,13.1s						
MDJ	**Mudanjiang**	**12.92**	**354**	P	**Pn**	**07 14 17.9**	**+1.3**
MDJ				pP	P	07 14 26.0	+0.4
MDJ				sP		07 14 34.4	
MDJ				S	**Sn**	**07 16 40.2**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,540nm,7.4s						
MDJ				LR	LR		
	comp=Z,740nm,13.2s						
MDJ				LR	LR		
	comp=Z,1µm,10.5s						
MDJ				LR	LR		
	comp=Z,2µm,23.3s						
MDJ	**Mudanjiang**	**12.92**	**354**	P	**Pn**	**07 14 17.9**	**+1.3**
QZH	**Quanzhou**	**13.19**	**242**	eP	**Pn**	**07 14 23.5**	**+3.2**
QZH				S	**Sn**	**07 16 51.4**	**+6.0**
QZH				pmax	pmax		
	comp=Z,44nm,1.0s						
QZH				pmax	pmax		
	comp=Z,630nm,7.0s						
QZH				LR	LR		
	comp=Z,620nm,15.2s						
QZH				LR	LR		
	comp=Z,860nm,19.9s						
QZH				LR	LR		
	comp=Z,1µm,17.4s						
JEW	**Eniwo**	**13.62**	**33**		**Pn**	**07 14 25.6**	**-0.6**
TEY	**Ternei**	**13.86**	**15**	⇑iP	**P**	**07 14 36.1**	**+0.1**
TEY				pmax	pmax		
	comp=N,300nm,0.9s						
TEY				pmax	pmax		
	comp=E,300nm,0.9s						
TEY				pmax	pmax		
	comp=Z,300nm,0.9s						
TEY				pmax	pmax		
	comp=N,260nm,0.8s						
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,290nm,0.8s						
ERM	**Erimo**	**13.87**	**39**	i P	**Pn**	**07 14 28.2**	**-1.3**
ERM	**Erimo**	**13.87**	**39**		**Pn**	**07 14 27.4**	**-2.2**
ERM	**Erimo**	**13.87**	**39**	P	**Pn**	**07 14 29.4**	**-0.1**
BNX	**BinXian**	**14.31**	**349**	⇓P	**Pn**	**07 14 37.8**	**+2.5**
BNX				S	**Sn**	**07 17 19.6**	**+7.1**
BNX				pmax	pmax		
	comp=Z,37nm,1.3s						
BNX				pmax	pmax		
	comp=Z,540nm,4.1s						
BNX				LR	LR		
	comp=Z,690nm,9.0s						
BNX				LR	LR		
	comp=Z,3µm,12.5s						
BNX				LR	LR		
	comp=Z,1µm,26.2s						
WHN	**Wuhan**	**14.68**	**270**	⇑P	**Pn**	**07 14 40.2**	**-0.2**
WHN				pP	P	07 14 51.7	+6.4
WHN				sP		07 14 59.6	
WHN				LR	LR		
	comp=Z,1µm,14.4s						
WHN				LR	LR		
	comp=Z,3µm,15.2s						
WHN				LR	LR		
	comp=Z,3µm,23.1s						
BJT	**Baijiatuau**	**14.85**	**308**	P	**Pn**	**07 14 41.7**	**-0.8**
BJT	**Baijiatuau**	**14.85**	**308**	Pn	**Pn**	**07 14 41.7**	**-0.8**
BJI	**Beijing**	**14.86**	**308**	P	**Pn**	**07 14 44.2**	**+1.6**
BJI				sP	P	07 14 59.2	+12
BJI				S	**Sn**	**07 17 30.4**	**+4.5**
BJI				sS	**S**	**07 17 44.2**	**+2.7**
BJI				pmax	pmax		
	comp=Z,93nm,1.1s						
BJI				LR	LR		
	comp=Z,1µm,24.1s						
BJI				LR	LR		
	comp=Z,570nm,26.3s						
BJI				LR	LR		
	comp=Z,750nm,26.0s						

HNS HongShan 14.88 297 ⇑P Pn 07 14 43.9 +1.0
HNS PP PnPn 07 14 58.4 +6.9
HNS S Sn 07 17 32.4 +6.0
HNS SS S 07 17 51.9 +10
HNS pmax pmax
comp=Z,97nm,1.5s
HNS LR LR
comp=Z,500nm,17.4s
HNS LR LR
comp=Z,970nm,15.2s
HNS LR LR
comp=Z,960nm,16.3s
ASAJ Asahikawa 15.14 32 P Pn 07 14 45.3 -0.9
comp=Z,4.3nm,0.3s,baz=234,slow=15,SNR=60
ASAJ LR LR 07 20 28.3
comp=Z,2µm,20.6s,baz=215,slow=36
ASAJ Asahikawa 15.14 32 P Pn 07 14 44.6 -1.6
ASAJ pmax pmax
comp=Z,224nm,1.1s
JKA Kamikawa-asahi 15.14 32 Pn Pn 07 14 44.6 -1.6
JKA IAmb IAmb 07 14 46.5
comp=Z,224nm,1.1s
LYN LuoYang 16.13 285 ⇑P Pn 07 14 59.5 +0.6
LYN pP pP 07 15 09.1 -4.4
LYN S S 07 18 04.4 -3.2
LYN pmax pmax
comp=Z,100nm,1.4s
LYN pmax pmax
comp=Z,400nm,12.6s
LYN LR LR
comp=Z,700nm,17.5s
LYN LR LR
comp=Z,810nm,17.5s
YUK Yuzh-Kuril'sk 16.70 39 *i* P Pn 07 15 06.6 +0.6
TIY Taiyuan 16.70 296 P P 07 15 07.8 0.0
TIY S Sn 07 18 14.1 +3.3
TIY pmax pmax
comp=Z,43nm,1.0s
TIY LR LR
comp=Z,280nm,6.9s
TIY LR LR
comp=Z,610nm,13.4s
TIY LR LR
comp=Z,840nm,18.2s
KLR Kul'dur 17.45 1 P P 07 15 16.6 +0.7
comp=Z,8.8nm,0.3s,baz=185,slow=9.2,SNR=210
KLR LR LR 07 21 47.6
comp=Z,700nm,21.5s,baz=182,slow=36
KLR ScP ScP 07 23 24.8 +0.8
comp=Z,0.1nm,0.3s,baz=175,slow=4.2,SNR=5.3
KLR Kul'dur 17.45 1 *d i*P P 07 15 17.2 +1.3
KLR pmax pmax
comp=Z,249nm,1.5s
YSS Yuzh-Sakhalins 17.49 27κ *i*P Pn 07 15 14.6 -1.1
YSS *e*S Sn 07 18 21.0 -8.5
YSS pmax pmax
comp=Z,700nm,3.8s
YSS pmax pmax
comp=N,500nm,3.5s
YSS pmax pmax
comp=E,300nm,2.7s
YSS pmax pmax
comp=Z,130nm,1.0s
YSS MLR MLR
comp=Z,500nm,9.0s
YSS MLR MLR
comp=E,400nm,14.0s
YSS Yuzh-Sakhalins 17.49 27 P Pn 07 15 14.7 -1.0
HHC Hu-ho-hao-te 18.38 305 *e*P Pn 07 15 27.8 +1.0
HHC sP sP 07 15 47.6 +2.2
HHC S S 07 18 55.7 +2.4
HHC pmax pmax
comp=E,56nm,1.2s
HHC pmax pmax
comp=E,380nm,5.2s
HHC LR LR
comp=E,550nm,16.1s
HHC LR LR
comp=E,630nm,16.9s
HHC LR LR
comp=E,980nm,18.8s
KUR Kuril'sk 18.56 39 P P 07 15 27.1 -1.0
KUR S Sn 07 18 54.7 -0.8
KUR pmax pmax
comp=Z,166nm,0.9s
KUR MLR MLR
comp=Z,1µm,21.0s
ENH Enshi 18.87 271 P 07 15 31.8 +0.1
ENH IAmb IAmb 07 15 34.7
comp=Z,161nm,0.7s
XAN Xi'an 19.04 283 P P 07 15 33.8 +0.3
XAN pP pP 07 15 44.4 -1.4
XAN sP sP 07 15 49.3 -3.5
XAN S Sn 07 19 08.2 +0.9
XAN sS sS 07 19 25.3 -1.0
XAN SS SnSn 07 19 36.0 +14
XAN pmax pmax
comp=Z,55nm,1.1s
XAN pmax pmax
comp=Z,620nm,5.0s
XAN LR LR
comp=Z,570nm,12.9s
XAN LR LR
comp=Z,1µm,12.7s
XAN LR LR
comp=Z,1µm,12.5s
UGL Uglegorsk 19.07 22 *e*P Pn 07 15 35.2 +0.4
UGL pmax pmax
comp=Z,100nm,0.9s
GRNR Gornyy 19.35 10⇓*i*P P 07 15 35.4 -1.3
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,360nm,14.0s
GRNR MLR MLR
comp=N,270nm,15.0s
BTO Baotou 19.37 303 *e*P Pn 07 15 40.4 +1.7
BTO S Sn 07 19 18.3 +3.0
BTO LR LR
comp=N,2µm,13.6s
BTO LR LR
comp=N,2µm,17.8s
HIA Hailar 19.58 337 *i* P P 07 15 39.7 +0.5
HIA pmax pmax
comp=Z,30nm,1.1s
HIA Hailar 19.58 337 P 07 15 38.9 -0.3
GULI GuiLin 19.59 256 ⇓P P 07 15 39.6 +0.1
GULI S Sn 07 19 23.1 +2.6
GULI LR LR
comp=Z,720nm,20.6s
GULI LR LR
comp=Z,760nm,18.1s
GULI LR LR
comp=Z,830nm,25.5s
TYV Tymovskoe 20.82 20 *e*P P 07 15 53.9 +1.3
TYV *e*S Sn 07 19 46.0 -3.7
TYV pmax pmax
comp=Z,34nm,1.0s
TYV pmax pmax
comp=Z,300nm,3.0s
TYV smax smax
comp=N,300nm,5.3s
TYV smax smax
comp=E,900nm,5.3s
GUMO Guam 21.89 143 LR LR 07 23 29.6
comp=E,138nm,19.8s,baz=30,slow=33
ZEA Zeya 22.17 353 *e*P P 07 16 06.5 -0.6
ZEA *e* 07 16 22.8
ZEA *e*S S 07 19 58.7 -9.2
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA pmax pmax
comp=N,70nm,0.8s
ZEA pmax pmax
comp=Z,90nm,1.2s
ZEA smax smax
comp=N,200nm,6.1s
ZEA MLR MLR
comp=N,300nm,16.0s
GYA Guiyang 22.26 263⇓*i*P P 07 16 07.9 -0.5
GYA sP sP 07 16 26.3 -1.4
GYA S S 07 20 05.1 -5.1
GYA sS Sn 07 20 26.1 +1.4
GYA pmax pmax
comp=N,44nm,0.8s
GYA pmax pmax
comp=N,640nm,4.6s
GYA LR LR
comp=N,600nm,23.9s
NKL Nikolayevsk 22.40 15 *e*P P 07 16 08.6 -0.9
NKL pmax pmax
comp=N,323nm,0.9s
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL pmax pmax
comp=Z,55nm,0.9s
NKL MLR MLR
comp=N,4µm,16.0s
NKL MLR MLR
comp=Z,526nm,19.0s
QIZ Qiongzhong 23.21 242 P P 07 16 17.0 -1.2
QIZ S S 07 20 26.5 +0.4
QIZ LR LR
comp=Z,770nm,24.5s
QIZ LR LR
comp=Z,560nm,20.1s
QIZ LR LR
comp=Z,720nm,25.0s
LZH Lanzhou 23.27 288 ⇑P P 07 16 18.1 -0.7
LZH pP pP 07 16 31.2 -0.5
LZH sP sP 07 16 38.5 0.0
LZH S S 07 20 28.9 +1.8
LZH sS sS 07 20 51.6 +1.8
LZH pmax pmax
comp=Z,94nm,1.6s
LZH pmax pmax
comp=Z,310nm,5.7s
LZH LR LR
comp=Z,500nm,17.9s
LZH LR LR
comp=Z,490nm,19.0s
LZH LR LR
comp=Z,840nm,19.0s
CD2 Chengdu 23.64 275 ⇑P P 07 16 21.1 -1.1
CD2 pP pP 07 16 36.3 +0.8
CD2 S S 07 20 36.0 +3.0
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 pmax pmax
comp=Z,420nm,4.2s
CD2 LR LR
comp=Z,740nm,15.5s
CD2 LR LR
comp=Z,850nm,8.9s
ULN Ulaanbaatar 24.54 318 P P 07 16 29.7 -0.7
ULN pmax pmax
comp=Z,73nm,0.9s
ULN Ulaanbaatar 24.54 318 P P 07 16 29.7 -0.7
ULN IAmb IAmb 07 16 32.3
comp=Z,73nm,0.9s
SONM Songino Array 24.90 317 P P 07 16 33.4 -0.3
comp=Z,61nm,1.0s,baz=134,slow=8.1,SNR=121
SONM pP pP 07 16 48.2 +0.8
comp=Z,12nm,0.7s,baz=135,slow=9.8,SNR=5.0
SONM PcP PcP 07 20 08.3 +0.1
comp=Z,1.6nm,0.7s,baz=126,slow=1.8,SNR=5.1
SONM ScP ScP 07 23 40.9 -1.6
comp=Z,1.3nm,0.9s,baz=138,slow=5.6,SNR=4.5
SONM LR LR 07 26 55.1
comp=Z,616nm,18.3s,baz=122,slow=38
SONM Songino Array 24.90 317 P P 07 16 33.0 -0.7
SONM IAmb IAmb 07 16 35.5
comp=Z,78nm,1.0s
DAV Davao City (W) 25.16 194 LR LR 07 28 33.1
comp=Z,271nm,18.4s,baz=354,slow=41
KMI Kunming 26.04 263 ⇑P P 07 16 44.8 +0.5
KMI pP pP 07 16 58.4 +0.4
KMI S S 07 21 05.2 -6.5
KMI SS SnSn 07 22 16.3 +2.8
KMI pmax pmax
comp=Z,38nm,0.9s
KMI LR LR
comp=Z,460nm,20.2s
KMI LR LR
comp=Z,570nm,22.6s
KMI LR LR
comp=Z,720nm,25.6s
SKR Severo-Kuril's 26.29 37 *e*P P 07 16 47.6 +1.5
SKR *e* 07 16 57.9
SKR pmax pmax
comp=Z,48nm,0.9s
PZH PanZhiHua 26.41 266 ⇓P P 07 16 47.1 -0.5
PZH pP pP 07 17 03.0 +1.7
PZH sP sP 07 17 09.6 +1.8
PZH S S 07 21 16.5 -1.0
PZH sS sS 07 21 36.5 -4.3
PZH pmax pmax
comp=Z,90nm,1.0s
PZH pmax pmax
comp=Z,190nm,3.5s
PZH LR LR
comp=Z,1µm,23.9s
PZH LR LR
comp=Z,1µm,23.5s
PZH LR LR
comp=Z,2µm,24.5s
GTA Gaotai 26.73 295 ⇑P P 07 16 49.4 -0.9
GTA pmax pmax
comp=Z,12nm,0.8s
GTA pmax pmax
comp=Z,180nm,7.2s
GTA LR LR
comp=Z,450nm,19.9s
GTA LR LR
comp=Z,420nm,18.7s
GTA LR LR
comp=Z,490nm,22.3s
ZAK Zakamensk 27.97 320 *e*P P 07 16 59.7 -1.6
ZAK *e* 07 17 24.5
ZAK pmax pmax
comp=Z,14nm,1.3s
ZAK pmax pmax
comp=Z,14nm,1.2s
PEA0B Petropavlovsk- 28.55 34 P P 07 17 07.2 +1.0
PEA0B pmax pmax
comp=Z,43nm,1.1s
PEA0B Petropavlovsk- 28.55 34 P P 07 17 07.2 +1.0
PETK Petropavlovsk- 28.55 34 P P 07 17 06.6 +0.4
comp=Z,17nm,0.8s,baz=219,slow=11,SNR=20
PETK LR LR 07 28 15.2
comp=Z,861nm,21.9s,baz=223,slow=36
BOD Bodaibo 28.67 340 *e*P P 07 17 06.6 -0.7
BOD pmax pmax
comp=Z,12nm,1.7s
UBPT Khong Chiam 28.80 241 P P 07 17 07.8 -1.0
PET Petropavlovsk 28.95 35 *e*P P 07 17 11.0 +1.2
PET *e*S S 07 21 58.8 +2.2
PET pmax pmax
comp=Z,98nm,1.6s
PET MLR MLR
comp=Z,1µm,20.0s
PET Petropavlovsk 28.95 35 P P 07 17 10.5 +0.7
PET IAmb IAmb 07 17 12.5
comp=Z,201nm,1.6s
YAK Yakutsk 30.31 358 LR LR 07 29 31.0
comp=Z,412nm,21.4s,baz=189,slow=36
YAK Yakutsk 30.31 358 *i* P P 07 17 22.5 +0.8
YAK pmax pmax
comp=Z,16nm,0.6s
YAK Yakutsk 30.31 358 P P 07 17 19.8 -1.9
YAK IAmb IAmb 07 17 43.5
comp=Z,40nm,0.4s
GOMU GeErMu 30.57 288 P P 07 17 24.6 -0.2
GOMU S S 07 22 21.2 -2.0
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,110nm,5.4s
GOMU LR LR
comp=Z,180nm,16.3s
GOMU LR LR
comp=Z,220nm,16.5s
GOMU LR LR
comp=Z,190nm,16.9s
MA2 Magadan 30.69 19 P P 07 17 24.2 -0.9
comp=Z,2.5nm,0.3s,baz=229,slow=7.1,SNR=9.6
MA2 PcP PcP 07 20 21.3 -0.5
comp=Z,2.9nm,0.4s,baz=79,slow=3.3,SNR=5.1
MA2 LR LR 07 30 01.8
comp=Z,288nm,19.3s,baz=232,slow=37
MA2 Magadan 30.69 19 *i* P P 07 17 24.1 -1.0
MA2 pmax pmax
comp=Z,25nm,1.8s
MA2 Magadan 30.69 19 P P 07 17 24.7 -0.4
CHTO Chiang Mai 31.95 254 P P 07 17 35.8 -0.9
CHTO pmax pmax
comp=Z,17nm,0.7s
CHTO Chiang Mai 31.95 254 P P 07 17 35.8 -0.9
CHTO Chiang Mai 31.95 254 P P 07 17 36.5 -0.2
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 32.13 253 P P 07 17 38.0 -0.2
comp=Z,8.5nm,0.6s,baz=50,slow=7.2,SNR=29
CMAR PcP PcP 07 20 27.0 +0.6
comp=Z,2.5nm,0.4s,baz=35,slow=1.6,SNR=9.2
CMAR LR LR 07 31 40.7
comp=Z,396nm,20.7s,baz=60,slow=38
CMAR Chiang Mai Arr 32.13 253 P P 07 17 37.6 -0.6
SIJI Sorong 32.45 180 LR LR 07 28 57.5
comp=Z,419nm,21.9s,baz=328,slow=33
SEY Seymchan 33.93 17 LR LR 07 31 31.3
comp=Z,538nm,21.9s,baz=206,slow=36
H11N2 WAKE ISLAND Hy 33.97 102 T T 07 53 52.3
baz=298,slow=75,SNR=110
H11N1 WAKE ISLAND Hy 33.97 102 T T 07 53 55.0
baz=298,slow=75,SNR=118
H11N3 WAKE ISLAND Hy 33.98 102 T T 07 53 53.6
baz=298,slow=75,SNR=52
SANI Sanana 34.02 190 P P 07 17 53.5 -1.2
comp=Z,83nm,0.8s
SANI Sanana 34.02 190 P P 07 17 53.8 -0.9
comp=Z,84nm,0.8s
H11S3 WAKE ISLAND Hy 34.38 104 T T 07 54 32.3
baz=304,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 34.38 104 T T 07 54 30.6
baz=304,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 34.40 104 T T 07 54 46.3
baz=304,slow=75,SNR=8.3
FAKI Fak Fak 34.49 179 P P 07 17 59.1 +0.3
FAKI Fak Fak 34.49 179 P P 07 17 59.8 +1.0
comp=Z,922nmcomp=Z,97nm,1.0s
FAKI Fak Fak 34.49 179 P P 07 17 59.6 +0.8
LSA Lhasa 34.55 277 P P 07 18 00.1 +0.3
LSA pmax pmax
comp=Z,7.0nm,0.4s
SHL Shillong 35.11 270 P P 07 18 03.2 -1.1
SHL pmax pmax
comp=Z,22nm,0.9s
SHL Shillong 35.11 270 P P 07 18 03.2 -1.1
SHL IAmb IAmb 07 18 04.6
comp=Z,22nm,0.9s
SHL Shillong 35.11 270 P P 07 18 04.2 -0.1
SNR=6.6
JAY Jayapura 35.20 164 LR LR 07 29 36.8
comp=Z,177nm,20.4s,baz=0.5,slow=31
WMQ Urumqi 36.21 302 *e*P P 07 18 13.3 -0.1
WMQ pP pP 07 18 26.3 -1.2
WMQ pmax pmax
comp=Z,36nm,1.9s
WMQ pmax pmax
comp=Z,240nm,4.5s
WMQ LR LR
comp=Z,460nm,13.5s
WMQ LR LR
comp=Z,650nm,16.3s
WMQ LR LR
comp=Z,620nm,19.1s
SHEM Shemya Is, Ala 37.18 43 LR LR 07 35 36.2
comp=Z,137nm,19.2s,baz=270,slow=39
SRIT Nakonsritamara 37.49 239 P P 07 18 24.2 -0.2
SRIT IAmb IAmb 07 18 26.4
comp=Z,39nm,0.8s
TAPN Taplejung 38.10 275 *e*P P 07 18 29.5 -0.4
KAPI Kappang 38.23 199 LR LR 07 34 34.2
comp=Z,173nm,22.0s,baz=26,slow=37
ODAN Odare 38.52 274 *e*P P 07 18 33.1 -0.3
comp=Z,42nm,0.6s
ZSN Zaisan 38.54 308*c i*P P 07 18 32.5 -0.6
ZSN Zaisan 38.54 308⇑*i*P P 07 18 32.5 -0.6
baz=308
KULM Kulim 39.04 234 P P 07 18 36.2 -1.3
KULM IAmb IAmb 07 18 39.6
comp=Z,66nm,1.5s
RAMN Ramite 39.16 275 *e*P P 07 18 38.9 +0.1
comp=Z,30nm,0.6s
JIRN Jiri 39.30 276 *e*P P 07 18 40.1 +0.1
comp=Z,70nm,0.7s
IPM Ipoh 39.37 233 P P 07 18 39.4 -0.9
IPM IAmb IAmb 07 18 40.8
comp=Z,36nm,0.7s
IPM pP 07 18 52.1 -2.3
IPM Ipoh 39.37 233 P P 07 18 40.7 +0.4
GUN Gumba 39.49 277 *e*P P 07 18 41.6 0.0
comp=Z,204nm,0.6s
ZAA0 Zalesovo Array 39.79 318 P P 07 18 42.1 -1.2
ZALV Zalesovo Beam 39.79 318 P P 07 18 42.0 -1.4
comp=Z,3.1nm,0.6s,baz=101,slow=7.7,SNR=16
ZALV PcP PcP 07 20 46.5 -2.0
comp=Z,6.0nm,0.7s,baz=115,slow=4.0,SNR=9.6
ZALV LR LR 07 36 59.5
comp=Z,169nm,20.9s,baz=119,slow=39
ZALV Zalesovo Beam 39.79 318 *i* P P 07 18 42.4 -1.0
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 39.79 318 P P 07 18 42.0 -1.4
TIXI Tiksi 39.97 359 P P 07 18 43.1 -1.5
comp=Z,5.2nm,0.8s,baz=272,slow=23,SNR=20
TIXI LR LR 07 35 47.4
comp=Z,606nm,21.5s,baz=180,slow=37
TIXI Tiksi 39.97 359 *i* P P 07 18 43.8 -0.8
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 39.97 359 P P 07 18 43.6 -1.0
PKI Pulchoki 39.99 276 *e*P P 07 18 45.3 -0.4
comp=Z,38nm,0.6s
KKN Kakani 40.03 277 *e*P P 07 18 45.5 -0.4
comp=Z,67nm,0.9s
DMN Daman 40.23 276 *e*P P 07 18 47.2 -0.5
comp=Z,39nm,0.7s
MK31 Makanchi Array 40.23 306 *i* P P 07 18 46.2 -1.0
MK31 Makanchi Array 40.23 306 P P 07 18 45.7 -1.4
MKAR Makanchi Array 40.23 306 P P 07 18 46.2 -1.0
comp=Z,23nm,0.8s,baz=94,slow=10,SNR=241
MKAR PcP PcP 07 20 48.9 -1.3
comp=Z,3.3nm,0.7s,baz=73,slow=3.8,SNR=4.5
MKAR ScP ScP 07 24 31.8 -3.0
comp=Z,0.8nm,0.5s,baz=73,slow=6.3,SNR=11
MKAR LR LR 07 36 50.5
comp=Z,305nm,19.6s,baz=94,slow=38
MKAR Makanchi Array 40.23 306 P P 07 18 45.9 -1.3
MAKZ Makanchi 40.45 306 P P 07 18 47.8 -1.1
MAKZ pmax pmax
comp=Z,24nm,0.8s
MAKZ Makanchi 40.45 306 P P 07 18 47.8 -1.1
MAKZ IAmb IAmb 07 18 49.2
comp=Z,24nm,0.8s
GKN Gorkha 40.51 277 *e*P P 07 18 49.4 -0.5
comp=Z,37nm,0.6s
MMRI Maumere 41.12 194 P P 07 18 53.1 -1.6
MMRI IAmb IAmb 07 19 12.0
comp=Z,50nm,0.6s
DANN Dangsing 41.15 278 *e*P P 07 18 54.7 -0.6
comp=Z,130nm,0.8s
KOLN Koldanda 41.46 277 *e*P P 07 18 57.2 -0.5
comp=Z,155nm,1.1s
BILL Bilibino 41.55 19*c i*P P 07 18 58.5 +0.8
BILL *i* 07 19 12.5
BILL *i* 07 19 20.1
BILL *i* 07 20 34.5
BILL *i* 07 20 54.0
BILL *i* S S 07 25 07.5 -1.9
BILL pmax pmax
comp=Z,14nm,0.8s
BILL MLR MLR
comp=Z,164nm,17.0s
BILL Bilibino 41.55 19 P P 07 18 58.3 +0.6
PYUN Piuthan 41.87 278 *e*P P 07 19 00.1 -1.0
comp=Z,157nm,0.8s
SEM Semipalatinsk 41.91 312 *e*P P 07 19 00.0 -1.1
SEM pmax pmax
comp=Z,13nm,0.5s
SEM Semipalatinsk 41.91 312 *e*P P 07 19 00.0 -1.1
comp=Z,13nm,0.5s,baz=312
PSI Prapat 42.02 233 P P 07 19 02.1 -0.1
comp=Z,16nm,0.6s,baz=24,slow=7.3,SNR=20
PSI pP pP 07 19 15.9 -0.7
comp=Z,8.3nm,0.6s,baz=37,slow=4.4,SNR=2.6
PSI LR LR 07 36 39.6
comp=Z,253nm,21.9s,baz=38,slow=36

PSI **Prapat** 42.02 233 P P 07 19 02.3 +0.1
comp=Z,25nm,0.8s
KMMI **Kalianget** 42.04 206 P P 07 19 02.3 +0.1
comp=Z,112nm,1.1s
RPSI **Rantau Prapat** 42.09 233 P P 07 19 01.3 -1.4
SHLS **Shalkode** 42.18 301 *c i*P P 07 18 59.4 -3.9
SHLS **Shalkode** 42.18 301⇑ *i*P P 07 18 59.5 -3.9
baz=301
BATI **Baumata** 42.38 191 P P 07 19 03.7 -1.3
comp=Z,64nm,0.9s
UZB **Uzynbulak** 42.51 301 *e*P P 07 19 04.7 -1.3
UZB **Uzynbulak** 42.51 301 *e*P P 07 19 04.7 -1.3
baz=301
SRBI **Singaraja** 42.55 204 P P 07 19 06.3 0.0
comp=Z,51nm,1.3s
KPKS **Kokpek** 42.74 301 *e*P P 07 19 06.7 -1.1
KPKS **Kokpek** 42.74 301 *e*P P 07 19 06.8 -1.1
baz=301
ZHN **Zhinishke** 42.93 301 *e*P P 07 19 07.7 -1.7
ZHN **Zhinishke** 42.93 301 *e*P P 07 19 07.8 -1.7
baz=301
SATY **Saty** 42.96 301 *e*P P 07 19 08.8 -0.9
SATY **Saty** 42.96 301 *e*P P 07 19 08.8 -0.9
baz=301
KURK **Kurchatov** 42.98 312 *ce*P P 07 19 08.5 -1.0
KURK pmax pmax
comp=Z,87nm,1.7s
KURK **Kurchatov** 42.98 312 P P 07 19 08.2 -1.3
KURK IAmb IAmb 07 19 09.6
comp=Z,38nm,0.8s
KURK **Kurchatov** 42.98 312 PcP 07 20 58.1 -0.9
KURBB **Kurchatov Arra** 43.03 312 P P 07 19 08.9 -1.0
comp=Z,24nm,0.7s,baz=98,slow=9.1,SNR=183
KURBB pP pP 07 19 23.8 -0.4
comp=Z,16nm,1.2s,baz=98,slow=8.8,SNR=4.0
KURBB PcP PcP 07 20 58.1 -1.1
comp=Z,3.5nm,0.7s,baz=99,slow=3.7,SNR=5.4
KURBB ScP ScP 07 24 42.3 -3.5
comp=Z,0.2nm,0.2s,baz=99,slow=4.4,SNR=4.1
KURBB **Kurchatov Arra** 43.03 312 P P 07 19 08.2 -1.7
ARXS **Arharly** 43.33 302 *e*P P 07 19 12.0 -0.6
PPI **Padang Panjang** 43.47 229 P P 07 19 14.3 +0.4
PMG **Port Moresby** 43.61 157 LR LR 07 35 19.3
comp=Z,294nm,20.9s,baz=322,slow=33
PWJI **Pagerwojo** 43.78 209 P P 07 19 15.8 -0.5
comp=Z,951nmcomp=Z,92nm,1.0s
DRS **Darwin Rock St** 43.94 181 P P 07 19 17.6 +0.1
comp=Z,18nm,0.8s
MDOK **Medeo** 43.95 301 *i*P P 07 19 17.0 -0.6
MDOK **Medeo** 43.95 301 *i*P P 07 19 17.1 -0.6
baz=301
CHKK **Chushkaly** 43.95 302 *e*P P 07 19 16.6 -0.8
baz=302
GSI **Gunungsitoli** 44.02 233 P P 07 19 17.0 -1.3
GSI **Gunungsitoli** 44.02 233 P P 07 19 17.0 -1.3
comp=Z,2µmcomp=Z,94nm,1.7s
GSI **Gunungsitoli** 44.02 233 P P 07 19 18.2 -0.1
TNSS **Tian-Shan** 44.03 301 *e*P P 07 19 18.3 -0.3
baz=301
AAA **Alma-Ata** 44.04 301 *e*P P 07 19 18.0 -0.3
AAA pmax pmax
comp=Z,18nm,0.6s
AAA **Alma-Ata** 44.04 301 *e*P P 07 19 18.0 -0.3
comp=Z,18nm,0.6s,baz=301
UGM **Wanagama** 44.22 210 P P 07 19 19.1 -0.7
UGM **Wanagama** 44.22 210 P P 07 19 20.4 +0.5
comp=Z,166nm,1.1s
UGM **Wanagama** 44.22 210 P P 07 19 20.3 +0.4
KLSI 44.28 220 P P 07 19 20.7 +0.4
comp=Z,7µmcomp=Z,11nm,1.0s
MTN **Manton Dam** 44.35 180 P P 07 19 19.9 -0.8
MTN IAmb IAmb 07 19 21.4
comp=Z,60nm,1.1s
MTN **Manton Dam** 44.35 180 P P 07 19 20.3 -0.5
comp=Z,54nm,1.1s
MDSI **Maura Dua** 44.42 221 P P 07 19 21.2 -0.2
comp=Z,368nmcomp=Z,24nm,1.6s
KUU **Kurty** 44.42 302 *e*P P 07 19 20.2 -1.0
KUU pmax pmax
comp=Z,23nm,0.7s
KUU **Kurty** 44.42 302 *e*P P 07 19 20.2 -1.0
comp=Z,23nm,0.7s,baz=302
KPJI **Karang Pucung** 44.42 213 P P 07 19 22.6 +1.2
comp=Z,1µmcomp=Z,142nm,0.9s
MASI **Maura Aman, Be** 44.44 224 P P 07 19 21.9 +0.3
comp=Z,1µmcomp=Z,88nm,0.7s
LEM **Lembang** 44.60 215 P P 07 19 24.4 +1.3
comp=Z,1µmcomp=Z,111nm,1.0s
DBJI **Dramaga** 44.80 216 P P 07 19 24.5 +0.1
comp=Z,72nm,1.0s
NRIK **Noril'sk** 44.96 340 P P 07 19 23.4 -1.7
comp=Z,9.1nm,0.7s,baz=123,slow=9.2,SNR=15
NRIK pP pP 07 19 38.8 -0.7
comp=Z,19nm,1.0s,baz=113,slow=12,SNR=8.0
NRIK ScP ScP 07 24 53.3 0.0
comp=Z,3.2nm,0.8s,baz=119,slow=3.3,SNR=5.8
NRIK LR LR 07 39 10.4
comp=Z,516nm,18.6s,baz=124,slow=37
NRIK **Noril'sk** 44.96 340 *i*P P 07 19 23.7 -1.4
NRIK pmax pmax
comp=Z,12nm,0.9s
TKM2 **Tokmak 2** 45.03 301 P P 07 19 25.1 -1.2
KSH **Kashi** 45.13 296 P P 07 19 30.5 +3.4
KSH pP sP 07 19 46.3 -1.5
KSH PcP PP 07 21 10.3 -2.9
KSH pmax pmax
comp=Z,21nm,1.2s
KSH LR LR
comp=Z,130nm,13.4s
KSH LR LR
comp=Z,390nm,15.5s
KSH LR LR
comp=Z,440nm,15.8s
SGDS **Sogindy** 45.69 302 *i*P P 07 19 30.6 -0.7
baz=302
AAK **Ala-Archa** 45.86 300 P P 07 19 32.0 -0.8
comp=Z,13nm,0.6s,baz=118,slow=6.3,SNR=44
AAK LR LR 07 41 28.1
comp=Z,240nm,18.2s,baz=106,slow=40
AAK **Ala-Archa** 45.86 300 *ce*P P 07 19 32.5 -0.4
AAK pmax pmax
comp=Z,34nm,0.7s
AAK **Ala-Archa** 45.86 300 P P 07 19 32.1 -0.8
AAK **Ala-Archa** 45.86 300 *i*P P 07 19 32.5 -0.4
SNR=23
BTLS **Baital** 45.98 304 *c i*P P 07 19 32.7 -0.8
BTLS **Baital** 45.98 304⇑ *i*P P 07 19 32.8 -0.8
baz=304
AML **Almayashu** 46.51 300 P P 07 19 38.6 +0.4
AML **Almayashu** 46.51 300 *i*P P 07 19 38.2 0.0
SNR=22
BRZS **Berezniki** 46.74 311 *c i*P P 07 19 38.5 -1.0
BRZS pmax pmax
comp=Z,14nm,0.7s
BRZS **Berezniki** 46.74 311⇑ *i*P P 07 19 38.5 -1.0
comp=Z,14nm,0.7s,baz=311
COEN **Coen** 46.83 164 P P 07 19 41.8 +1.4
OTUK **Ortayu** 47.00 308 P P 07 19 39.5 -2.0
KNRA **Kununurra** 47.23 184 P P 07 19 43.6 +0.1
KNRA **Kununurra** 47.23 184 P P 07 19 44.3 +0.8
GAMB **Gambell** 47.46 30 P P 07 19 46.7 +2.0
baz=256,SNR=8.2
DZA **Taraz** 48.15 301 *e*P P 07 19 49.4 -1.1
DZA **Taraz** 48.15 301 *e*P P 07 19 49.4 -1.1
baz=301
BVAR **Borovoye Array** 48.20 315 P P 07 19 50.0 -0.7
comp=Z,12nm,0.7s,baz=65,slow=21,SNR=95
BVAR **Borovoye Array** 48.20 315 P P 07 19 50.0 -0.7
BRVK **Borovoye** 48.27 315 *ce*P P 07 19 50.6 -0.6
BRVK pmax pmax
comp=Z,48nm,1.0s
BRVK **Borovoye** 48.27 315 P P 07 19 50.1 -1.1
BRVK IAmb IAmb 07 19 51.7
comp=Z,36nm,0.8s
NIL **Nilore** 48.43 289 P P 07 19 52.3 -0.6
NIL pmax pmax
comp=Z,32nm,0.8s
NIL **Nilore** 48.43 289 P P 07 19 52.3 -0.6
NIL IAmb IAmb 07 19 55.1
comp=Z,32nm,0.8s
KKAR **Karatay Array** 48.71 302 P P 07 19 53.4 -1.5
KKAR **Karatay Array** 48.71 302 P P 07 19 53.4 -1.5
HNR **Honiara** 49.21 142 LR LR 07 39 54.4
comp=Z,30nm,19.1s,baz=335,slow=35
BRLS **Borolday** 49.21 302 *e*P P 07 19 57.3 -1.4
BRLS **Borolday** 49.21 302 *e*P P 07 19 57.4 -1.4
baz=301
TNA **Tin City** 49.45 29 P P 07 20 02.3 +2.2
baz=258,SNR=24
GAR **Garm** 49.54 296 P P 07 20 00.4 -0.9
HYBB **Hyderabad (bro** 49.71 266 *e*P P 07 20 02.7 -0.2
FITZ **Fitzroy Crossi** 49.88 187 LR LR 07 42 29.8
comp=Z,68nm,19.8s,baz=26,slow=38
FITZ **Fitzroy Crossi** 49.88 187 P P 07 20 04.0 +0.1
FITZ **Fitzroy Crossi** 49.88 187 P P 07 20 04.7 +0.9
ANM **Nome** 50.33 30 P P 07 20 07.8 +1.0
ANM pmax pmax
comp=Z,19nm,0.8s
ANM **Nome** 50.33 30 P P 07 20 07.8 +1.0
ANM IAmb IAmb 07 20 10.2
comp=Z,19nm,0.8s
ANM **Nome** 50.33 30 P P 07 20 09.2 +2.4
baz=261,SNR=23
MTSU **Mount Surprise** 51.12 164 P P 07 20 14.4 +1.1
WB0 **Warramunga Arr** 51.31 176 P P 07 20 14.3 -0.3
WB0 IAmb IAmb 07 20 15.3
comp=Z,24nm,0.8s
WRAB **Tennant Creek** 51.47 176 *ce*P P 07 20 16.2 +0.4
WRAB pmax pmax
comp=Z,57nm,1.7s
WRAB **Tennant Creek** 51.47 176 P P 07 20 15.5 -0.3
WRAB IAmb IAmb 07 20 17.1
comp=Z,27nm,0.8s
WRAB **Tennant Creek** 51.47 176 P P 07 20 16.1 +0.3
WB2 **Warramunga Arr** 51.48 176 P P 07 20 15.5 -0.5
WB2 IAmb IAmb 07 20 17.1
comp=Z,35nm,0.8s
WRA **Warramunga Arr** 51.48 177 P P 07 20 15.9 0.0
comp=Z,18nm,0.7s,baz=354,slow=8.2,SNR=111
WRA PcP PcP 07 21 30.4 +0.8
comp=Z,4.4nm,0.9s,baz=0.9,slow=5.4,SNR=2.6
WRA LR LR 07 42 54.8
comp=Z,46nm,20.1s,baz=329,slow=37
WRA **Warramunga Arr** 51.48 177 *i*P P 07 20 14.3 -1.6
WRA pmax pmax
comp=Z,20nm,0.7s
WRA **Warramunga Arr** 51.48 177 P P 07 20 15.6 -0.3
WR0 **Warramunga Arr** 51.51 176 P P 07 20 16.1 0.0
WR0 IAmb IAmb 07 20 17.4
comp=Z,50nm,0.8s
KBL **Kabul** 51.57 291 P P 07 20 15.6 -1.3
KBL pmax pmax
comp=Z,31nm,0.8s
KBL **Kabul** 51.57 291 P P 07 20 15.6 -1.3
KBL IAmb IAmb 07 20 18.6
comp=Z,31nm,0.8s
QIS **Mount Isa** 52.60 170 P P 07 20 24.6 +0.3
CHNA **Chernabura Isl** 52.84 43 P P 07 20 25.8 +0.1
baz=274
PALK **Pallekele** 53.08 254 LR LR 07 44 17.3
comp=Z,215nm,21.6s,baz=161,slow=37
PALK **Pallekele** 53.08 254 P P 07 20 27.6 -0.4
PALK pmax pmax
comp=Z,34nm,0.8s
PALK **Pallekele** 53.08 254 P P 07 20 27.6 -0.4
PALK IAmb IAmb 07 20 29.6
comp=Z,34nm,0.8s
CTA **Charters Tower** 53.47 163 P P 07 20 31.1 +0.4
comp=Z,24nm,0.8s,baz=350,slow=8.0,SNR=17
CTA LR LR 07 41 09.8
comp=Z,101nm,21.0s,baz=344,slow=34
CTA **Charters Tower** 53.47 163 P P 07 20 31.6 +0.9
SVE **Sverdlovsk** 53.73 320⇑ *e*P P 07 20 31.9 -0.3
SVE pmax pmax
comp=Z,40nm,1.3s
PSA00 **Pilbara Seismi** 54.18 193 P P 07 20 35.4 -0.4
PSA00 IAmb IAmb 07 20 36.8
comp=Z,50nm,0.8s
PSA00 **Pilbara Seismi** 54.18 193 P P 07 20 35.9 +0.1
TTA **Tatalina** 54.37 32 P P 07 20 37.9 +1.1
baz=271
A21K **Barrow** 54.48 22 P P 07 20 38.7 +1.2
baz=264,SNR=5.1
P18K **Big Mountain,** 54.90 37 P P 07 20 42.5 +1.8
baz=274,SNR=6.2
ARU **Arti** 54.91 320 P P 07 20 39.4 -1.3
comp=Z,4.5nm,0.5s,baz=93,slow=5.1,SNR=30
ARU PcP PcP 07 21 40.9 -1.2
comp=Z,2.8nm,0.5s,baz=19,slow=0.1,SNR=4.6
ARU LR LR 07 46 19.7
comp=Z,216nm,20.4s,baz=80,slow=38
ARU **Arti** 54.91 320 *c i*P P 07 20 39.4 -1.3
ARU *PP pP 07 20 53.5 -2.0
ARU 07 21 40.5
ARU 07 22 38.2
ARU S S 07 28 19.5 +1.4
ARU SS SS 07 31 58.7 -3.0
ARU pmax pmax
comp=Z,46nm,1.1s
L19K **White Mountain** 54.92 33 P P 07 20 42.4 +1.6
baz=272
AB31 **Akbulak array** 55.05 311 *i*P P 07 20 40.4 -1.5
ABKAR **Akbulak array** 55.05 311 P P 07 20 40.9 -1.0
ABKAR IAmb IAmb 07 20 42.7
comp=Z,34nm,0.8s
ABKAR **Akbulak array** 55.05 311 P P 07 20 41.0 -0.8
M19K **Big River Lodg** 55.16 34 P P 07 20 44.5 +2.0
baz=273
ASAR **Alice Springs** 55.16 177 P P 07 20 43.4 +0.4
comp=Z,14nm,0.8s,baz=8.7,slow=9.5,SNR=136
ASAR pP pP 07 20 57.4 -0.2
comp=Z,1.1nm,0.5s,baz=11,slow=35,SNR=4.5
ASAR PcP PcP 07 21 44.4 +0.9
comp=Z,8.1nm,0.9s,baz=2.9,slow=4.0,SNR=5.4
ASAR PKP2bc 07 51 00.8
comp=Z,0.7nm,0.8s,baz=149,slow=1.7,SNR=7.1
ASAR **Alice Springs** 55.16 177 P P 07 20 42.6 -0.3
J20K **Nowinta River** 55.17 31 P P 07 20 44.9 +2.4
baz=272,SNR=24
N19K **Bonanza Creek** 55.17 35 P P 07 20 44.9 +2.2
baz=274
K20K **Telida** 55.23 32 P P 07 20 45.4 +2.4
baz=272
O19K **Port Alsworth** 55.30 36 P P 07 20 45.3 +1.9
baz=274,SNR=8.6
L20K **Farewell, AK** 55.36 33 P P 07 20 45.8 +1.8
baz=273
H21K **Melozitna Rive** 55.70 29 P P 07 20 48.2 +1.9
baz=272
CHUM **Lake Minchumin** 55.99 31 P P 07 20 50.7 +2.3
baz=274,SNR=18
I21K **Tanana** 56.06 30 P P 07 20 51.2 +2.3
baz=273
AKTO **Aktyubinsk** 56.07 312 P P 07 20 48.6 -0.6
comp=Z,20nm,0.7s,baz=78,slow=12,SNR=52
AKTO LR LR 07 47 15.3
comp=Z,172nm,19.9s,baz=81,slow=39
PPLA **Purkeypile** 56.12 32 P P 07 20 51.7 +2.2
baz=274,SNR=5.5
CAST **Castle Rocks** 56.12 32 P P 07 20 51.5 +2.1
baz=274,SNR=14
OHAK **Old Harbor** 56.13 39 P P 07 20 50.4 +0.9
baz=277
KDAK **Kodiak Island** 56.44 39 LR LR 07 45 24.7
comp=Z,140nm,21.6s,baz=259,slow=36
KDAK **Kodiak Island** 56.44 39 P P 07 20 52.6 +0.9
baz=277
WRKA **Warakurna** 56.56 183 P P 07 20 53.4 +0.5
BPAW **Bear Paw Mtn.** 56.56 31 P P 07 20 54.0 +1.5
baz=274,SNR=8.0
MLY **Manley** 56.60 30 P P 07 20 54.3 +1.5
baz=274,SNR=10
COLD **Coldfoot** 56.68 27 P P 07 20 55.2 +2.0
baz=273
TOLK **Toolik Lake Re** 56.84 25 P P 07 20 55.2 +0.8
baz=273
TRF **Thorofare Moun** 56.93 32 P P 07 20 56.1 +0.8
baz=276
HRA **Herat** 56.99 293 P P 07 20 56.6 +0.3
HRA IAmb IAmb 07 20 57.9
comp=Z,44nm,0.8s
CUT **Chulitna** 57.04 33 P P 07 20 56.8 +1.0
baz=276
BRSE **Bradley Lake S** 57.14 36 P P 07 20 58.8 +2.2
baz=278
I23K **Minto, Yukon-K** 57.17 30 P P 07 20 58.4 +1.7
baz=275
NEA2 **Nenana** 57.35 30 P P 07 20 59.8 +1.7
baz=276,SNR=9.5
RC01 **Rabbit Creek A** 57.45 34 P P 07 20 59.7 +0.9
baz=278
MCK **McKinley** 57.50 31 P P 07 21 00.3 +1.2
baz=276,SNR=5.4
RND **Reindeer** 57.57 32 P P 07 21 00.0 +0.3
RND pmax pmax
comp=Z,54nm,0.8s
RND **Reindeer** 57.57 32 P P 07 21 00.0 +0.3
PMR **Palmer** 57.67 34 P P 07 21 01.3 +0.9
baz=278
H24K **Noodor Dome** 57.72 29 P P 07 21 02.4 +1.8
baz=276
SEW **Seward** 57.73 36 P P 07 21 02.1 +1.4
baz=278
TCOL **CIGO, UAF Yank** 57.83 30 P P 07 21 03.5 +2.1
baz=277
COLA **College** 57.84 30 P P 07 21 03.1 +1.7
baz=277
POKR **Poker Flat Res** 57.98 30 P P 07 21 04.6 +2.1
baz=277
KNK **Knik Glacier** 58.02 34 P P 07 21 03.9 +1.1
baz=278
SML **Sawmill** 58.02 33 P P 07 21 04.1 +1.3
baz=278
PWL **Port Wells** 58.16 35 P P 07 21 05.2 +1.4
baz=279
WAT6 **Susitna Watana** 58.19 33 P P 07 21 05.3 +1.1
baz=278
ILAR **Eielson Array** 58.26 30 P P 07 21 05.1 +0.7
comp=Z,1.9nm,0.8s,baz=268,slow=5.6,SNR=29
ILAR pP pP 07 21 19.6 +0.4
comp=Z,5.8nm,0.8s,baz=269,slow=5.2,SNR=16
ILAR LR LR 07 45 57.9
comp=Z,121nm,21.9s,baz=297,slow=36
DHY **Denali Highway** 58.28 32 P P 07 21 05.9 +1.1
baz=278
HDA **Harding Lake** 58.28 30 P P 07 21 05.4 +0.8
baz=278,SNR=10.0
SCM **Sheep Creek Mo** 58.49 33 P P 07 21 07.4 +1.2
baz=279
PRP **Porcupine Dome** 58.72 29 P P 07 21 08.9 +1.1
baz=278
GEYT **Alibeck** 59.07 298 P P 07 21 10.6 0.0
comp=Z,11nm,0.8s,baz=83,slow=4.9,SNR=11
GEYT LR LR 07 49 04.6
comp=Z,182nm,21.3s,baz=106,slow=38
GEYT **Alibeck** 59.07 298 P P 07 21 10.5 0.0
GEYT IAmb IAmb 07 21 11.8
comp=Z,17nm,0.9s
GYA0B **ALIBECK ARRAY** 59.07 298 P P 07 21 10.9 +0.3
GYA0B IAmb IAmb 07 21 11.8
comp=Z,22nm,1.0s
PAX **Paxson** 59.16 32 P P 07 21 12.3 +1.5
baz=280
KLU **Klutina** 59.21 34 P P 07 21 12.4 +1.2
baz=280
QLP **Quilpie** 59.29 167 P P 07 21 13.1 +1.2
RIDG **Independent Ri** 59.30 31 P P 07 21 12.7 +1.0
baz=280
OOD **Oodnadatta** 59.36 176 P P 07 21 12.9 +0.5
HARP **HAARP** 59.40 33 P P 07 21 13.9 +1.5
baz=281
KIRV **Kirov** 59.46 323 P P 07 21 11.8 -1.0
comp=Z,24nm,0.7s,baz=83,slow=20,SNR=15
KIRV pP pP 07 21 27.3 -0.3
comp=Z,20nm,0.7s,baz=85,slow=23,SNR=2.5
KIRV LR LR 07 49 35.2
comp=Z,218nm,18.1s,baz=77,slow=39
SCRK **Sand Creek** 59.63 31 P P 07 21 14.6 +0.5
SCRK IAmb IAmb 07 21 30.6
comp=Z,26nm,0.9s
SCRK **Sand Creek** 59.63 31 P P 07 21 15.1 +1.0
baz=281,SNR=5.1
DOT **Dot Lake** 59.66 31 P P 07 21 14.8 +0.6
DOT IAmb IAmb 07 21 32.7
comp=Z,16nm,0.8s
J26L **Joseph Creek** 59.72 30 P P 07 21 15.5 +0.9
baz=281
N25K **Chitina, Valde** 59.81 33 P P 07 21 16.5 +1.2
baz=282
EIDS **Eidsvold** 59.83 159 P P 07 21 16.4 +0.7
BMRM **Bremner River** 59.94 34 P P 07 21 17.6 +1.5
baz=282
L26K **Log Cabin Wild** 60.10 32 P P 07 21 18.9 +1.7
baz=282
MCARA **McCarthy VSAT** 60.59 33 P P 07 21 21.5 +0.9
baz=283
PRGR **Permogore** 60.66 327 *e*P P 07 21 18.8 -2.2
PRGR *e*PP pP 07 21 33.4 -2.5
PRGR pmax pmax
comp=Z,55nm,0.9s
EGAK **Eagle** 60.67 29 P P 07 21 22.8 +1.8
baz=283
L27K **Beaver Creek,** 60.77 31 P P 07 21 24.0 +2.3
baz=283
M27K **Edge Creek, AK** 60.90 32 P P 07 21 24.8 +2.0
baz=283
BVCY **Beaver Creek** 61.35 32 P P 07 21 28.0 +2.3
baz=284
CTG **Chitna Glacier** 61.49 34 P P 07 21 28.5 +1.7
baz=284
DAWY **Dawson** 61.59 30 P P 07 21 29.1 +1.8
baz=284
MULG **Mulgathing** 61.75 177 P P 07 21 29.1 +0.5
BELG **Belogornoye** 61.95 316 P P 07 21 28.6 -1.3
comp=Z,49nm,1.0s,baz=235,slow=0.8,SNR=14
BELG LR LR 07 50 07.6
comp=Z,257nm,20.0s,baz=84,slow=38
BELG **Belogornoye** 61.95 316 *i*P P 07 21 27.9 -1.9
BELG pmax pmax
comp=Z,11nm,1.0s
EPYK **Eagle Plains** 62.08 27 P P 07 21 31.7 +1.1
baz=286
LCRK **Leigh Creek** 62.20 173 P P 07 21 32.9 +1.3
MORW **Morawa** 62.24 195 P P 07 21 31.2 -0.7
MORW **Morawa** 62.24 195 P P 07 21 32.4 +0.5
FORT **Forrest** 62.28 183 P P 07 21 31.9 -0.2
FORT **Forrest** 62.28 183 P P 07 21 32.7 +0.5
YUK4 **Talbot Arm** 62.65 33 P P 07 21 35.6 +1.0
baz=286
INK **Inuvik** 62.72 25 P P 07 21 34.9 +0.2
comp=Z,2.4nm,0.7s,baz=311,slow=4.2,SNR=9.9
INK pP pP 07 21 50.6 +1.0
comp=Z,8.5nm,1.0s,baz=287,slow=6.0,SNR=9.3
INK LR LR 07 50 19.4
comp=Z,168nm,20.8s,baz=274,slow=37
INK **Inuvik** 62.72 25 P P 07 21 35.5 +0.8
INK pmax pmax
comp=Z,8.0nm,1.0s
INK **Inuvik** 62.72 25 P P 07 21 35.5 +0.8
INK **Inuvik** 62.72 25 P P 07 21 36.3 +1.6
baz=287
PNL **Peninsula** 62.77 35 P P 07 21 36.9 +1.7
baz=287
YUK6 **Outpost Mounta** 62.89 33 P P 07 21 38.4 +2.1
baz=287
NOUC **Port Laguerre** 63.11 144 P P 07 21 40.4 +2.5
comp=Z,38nm,1.1s
M30M **Minto, Yukon** 63.12 31 P P 07 21 39.6 +2.0
baz=287
DZM **Mont Dzumac** 63.16 143 LR LR 07 45 32.5
comp=Z,72nm,20.9s,baz=36,slow=32
DZM **Mont Dzumac** 63.16 143 *e*P P 07 21 40.3 +2.0
comp=Z,119nm,0.9s
DZM *e*pP pP 07 21 55.3 +2.1
comp=Z,74nm,1.1s
DZM **Mont Dzumac** 63.16 143 *e*LR LR 07 40 45.9
comp=Z,323nm,28.6s
DZM **Mont Dzumac** 63.16 143 P P 07 21 39.4 +1.1
DZM **Mont Dzumac** 63.16 143 P P 07 21 40.4 +2.1
MAYO **Mayo, Yukon** 63.21 30 P P 07 21 40.2 +2.2
baz=288
YATNC **Mamie plateau,** 63.38 143 P P 07 21 41.8 +2.1
BLDU **Ballidu** 63.59 194 P P 07 21 40.7 -0.2
OUENC **Ouen Island, N** 63.65 143 P P 07 21 41.0 -0.4
OUENC IAmb IAmb 07 21 44.7
comp=Z,40nm,1.0s
OUENC **Ouen Island, N** 63.65 143 P P 07 21 43.0 +1.6
KLMR **Klimovskoe** 63.72 327 *e*P P 07 21 38.7 -2.7
KLMR pmax pmax
comp=Z,42nm,0.9s
KLMR **Klimovskoe** 63.72 327 *e*P P 07 21 38.8 -2.7
KLMR AMP 07 21 40.9
comp=Z,42nm,0.9s
KLMR LQ LQ 07 44 16.1
KLMR LQ LQ 07 44 16.1
KLMR LR LR 07 49 15.4
JLN **Jalan Bani Buh** 63.89 281 P P 07 21 42.9 -0.4
JLN P pP 07 21 43.1 -15
N31M **Braeburn, Yuko** 63.92 32 P P 07 21 44.3 +1.5

N31M IAmb IAmb 07 22 04.0
comp=Z,19nm,0.9s
N31M Braeburn, Yuko 63.92 32 P **P** **07 21 45.0 +2.2**
baz=289
SPITS Spitsbergen Ar 64.02 348 LR LR 07 51 26.6
comp=Z,301nm,18.4s,baz=259,slow=38
STKA Stephens Creek 64.02 170 P **P** **07 21 44.5 +0.9**
comp=Z,22nm,0.6s,baz=346,slow=6.9,SNR=70
STKA pP **pP** **07 21 58.8 +0.1**
comp=Z,9.0nm,0.6s,baz=280,slow=4.2,SNR=5.9
STKA LR LR 07 48 44.7
comp=Z,73nm,21.2s,baz=2.7,slow=35
STKA Stephens Creek 64.02 170 P **P** **07 21 43.8 +0.1**
STKA Stephens Creek 64.02 170 P **P** **07 21 44.6 +0.9**
APA Apatity 64.02 335 *i* P P 07 21 54.1 +11
APA pmax pmax
comp=Z,13nm,1.0s
WSAR Wadi Sarin 64.08 282 LR LR 07 53 16.0
comp=Z,73nm,21.1s,baz=83,slow=39
WSAR Wadi Sarin 64.08 282 P **P** **07 21 44.8 +0.3**
A36M Sachs Harbour 64.10 20 P **P** **07 21 44.7 +0.9**
A36M IAmb IAmb 07 22 06.0
comp=Z,26nm,0.8s
A36M Sachs Harbour 64.10 20 P **P** **07 21 45.1 +1.3**
baz=293,SNR=12
M31M Drury Creek, Y 64.30 31 P **P** **07 21 46.7 +1.3**
baz=290
KLBR Kellerberrin 64.33 193 P **P** **07 21 45.8 +0.1**
BBOO Buckleboo 64.37 176 P **P** **07 21 45.6 -0.3**
BBOO IAmb IAmb 07 21 47.8
comp=Z,14nm,0.8s
BBOO Buckleboo 64.37 176 P **P** **07 21 46.3 +0.3**
BIDO Bidbid 64.38 283 P **P** **07 21 47.2 +0.7**
CMSA Cobar Meteorol 64.39 167 P **P** **07 21 47.6 +1.5**
WHY Whitehorse 64.60 33 P **P** **07 21 49.2 +1.8**
baz=290
SMDO Samad 64.64 282 P **P** **07 21 48.2 -0.1**
ARMA Armidale 64.74 161 P **P** **07 21 49.0 +0.5**
ARMA Armidale 64.74 161 P **P** **07 21 50.2 +1.6**
FARO Faro, Yukon 64.75 31 P **P** **07 21 50.1 +1.9**
baz=290,SNR=8.3
BANOM Banah 64.88 286 P **P** **07 21 50.5 +0.8**
BANOM Banah 64.88 286 *i* P **P** **07 21 50.4 +0.6**
SNR=13
JMDO Jabal Madar 64.89 282 P **P** **07 21 50.1 +0.3**
NAPP Napperby 64.90 174 P **P** **07 21 50.6 +1.2**
SHME Shamm 64.96 286 P **P** **07 21 51.3 +1.2**
SNR=6.5
SHME Shamm 64.96 286 *i* P **P** **07 21 51.0 +0.9**
SNR=26
HOQ Hoqain 65.03 283 P **P** **07 21 51.2 +0.5**
HTT Hallett 65.22 173 P **P** **07 21 52.9 +1.3**
comp=Z,30nm,1.6s
MASF Masafi 65.22 285 P **P** **07 21 52.7 +0.8**
MSFE Esma-Masafi 65.23 285 *i* P **P** **07 21 52.5 +0.6**
SNR=7.9
UOSS Minazif 65.37 285 P **P** **07 21 52.8 0.0**
SOHO SOHO 65.44 284 P **P** **07 21 53.4 +0.1**
SOHO SOHO 65.44 284 *i* P **P** **07 21 53.4 +0.1**
SNR=20
HATD Hatta, Dubai 65.48 285 P **P** **07 21 54.2 +0.7**
HATD Hatta, Dubai 65.48 285 *i* P **P** **07 21 54.3 +0.7**
SNR=6.5
BSY Bisya 65.48 282 P **P** **07 21 53.8 +0.2**
MMPY Sheldon Lake, 65.52 30 P **P** **07 21 54.9 +1.6**
baz=292
C36M Paulatuk 65.54 22 P **P** **07 21 54.0 +0.9**
C36M IAmb IAmb 07 22 17.3
comp=Z,17nm,0.8s
C36M Paulatuk 65.54 22 P **P** **07 21 54.2 +1.0**
baz=295,SNR=14
UMQ Umm Al-Quwin 65.57 286 P **P** **07 21 55.5 +1.4**
ASHO Ashiyiah 65.60 285 P **P** **07 21 54.9 +0.6**
ASHO Ashiyiah 65.60 285 *i* P **P** **07 21 54.6 +0.2**
SNR=10.0
MHTO MHTO 65.61 280 P **P** **07 21 54.1 -0.3**
SNR=13
P33M Teslin, Yukon 65.72 33 P **P** **07 21 56.1 +1.4**
baz=292
ARQ Araqi 65.79 283 P **P** **07 21 56.2 +0.6**
SNR=6.4
NAZ Nazwa, Dubai 65.79 285 P **P** **07 21 55.9 +0.3**
NAZ Nazwa, Dubai 65.79 285 *i* P **P** **07 21 56.0 +0.3**
SNR=7.0
VRH Novokhopyorsk 65.81 316 *eP* **P** **07 21 53.4 -1.8**
VRH pmax pmax
comp=Z,40nm,0.6s
ARA0 ARCESS Array S 65.92 338 *eP* **P** **07 21 54.8 -0.8**
ARCES ARCESS Array B 65.92 338 P **P** **07 21 53.9 -1.7**
comp=Z,4.4nm,0.7s,baz=68,slow=7.9,SNR=18
ARCES LR LR 07 55 47.4
comp=Z,285nm,19.6s,baz=68,slow=41
ARCES ARCESS Array B 65.92 338 P **P** **07 21 53.9 -1.7**
ARCES pmax pmax
comp=Z,138nm,2.0s
ARCES ARCESS Array B 65.92 338 IAmb IAmb 07 21 56.0
comp=Z,138nm,2.0s
FAQ Al Faqa, Dubai 65.95 285 P **P** **07 21 57.1 +0.4**
SNR=6.5
FAQ Al Faqa, Dubai 65.95 285 *i* P **P** **07 21 56.6 0.0**
SNR=25
ALNE Al Ain 66.12 284 P **P** **07 21 58.2 +0.5**
SNR=13
ALNE Al Ain 66.12 284 *i* P **P** **07 21 57.8 +0.1**
SNR=13
ASUD Al Ashush, Dub 66.22 285 P **P** **07 21 58.6 +0.3**
ASUD Al Ashush, Dub 66.22 285 *i* P **P** **07 21 58.6 +0.3**
SNR=11
MOS Moscow 66.42 322 *eP* **P** **07 21 57.2 -1.9**
MOS *e* 07 22 12.5
MOS pmax pmax
comp=Z,78nm,1.0s
DQM DQM 66.44 280 P **P** **07 21 59.4 -0.4**
MSVF Nonsavu 66.48 131 LR LR 07 44 16.7
comp=Z,176nm,20.4s,baz=142,slow=30
MSVF Nonsavu 66.48 131 *i* P **P** **07 22 00.3 +0.3**
MSVF pmax pmax
comp=Z,35nm,1.0s
MSVF Nonsavu 66.48 131 P **P** **07 22 01.2 +1.2**
MSVF IAmb IAmb 07 22 03.8
comp=Z,55nm,1.1s
MSVF Nonsavu 66.48 131 P **P** **07 22 02.9 +2.9**
AJN Ajban 66.53 285 P **P** **07 22 00.6 +0.3**
SNR=8.8
AJN Ajban 66.53 285 *i* P **P** **07 22 00.1 -0.2**
SNR=6.5
TWOA Tennyson Woods 66.78 174 P **P** **07 22 02.7 +1.3**
KTK1 Kautokeino 66.87 338 *eP* **P** **07 22 00.8 -1.0**
LPSR Galich'ya Gora 66.90 319 *eP* **P** **07 22 00.5 -1.7**
LPSR pmax pmax
comp=Z,50nm,0.8s
VORR Voronezh 67.09 318 *eP* **P** **07 22 02.3 -1.1**
VORR pmax pmax
comp=Z,100nm,0.5s
UMZA Um Al Zommool 67.19 283 P **P** **07 22 04.3 -0.2**
OBN Obninsk 67.22 322 P **P** **07 22 02.9 -1.2**
comp=Z,6.8nm,0.4s,baz=55,slow=6.8,SNR=12
OBN pP **pP** **07 22 17.9 -1.4**
comp=Z,3.8nm,0.4s,baz=64,slow=20,SNR=1.2
OBN Obninsk 67.22 322 *c i* P **P** **07 22 02.6 -1.5**
OBN *i* 07 22 17.6
OBN *i* 07 22 33.0
OBN *i* 07 24 32.8
OBN pmax pmax
comp=Z,53nm,1.3s
OBN MLR MLR
comp=Z,163nm,16.0s
OBN Obninsk 67.22 322 P **P** **07 22 02.9 -1.2**
OBN IAmb IAmb 07 22 04.5
comp=Z,80nm,1.3s
TGTN Hyland Airport 67.25 31 P **P** **07 22 05.7 +1.4**
baz=295
GOF Gofitskoye 67.27 310 ⇑ *eP* P 07 22 19.0 +14
RKGY Rocky Gully 67.41 193 P **P** **07 22 06.3 +0.9**
NCK Nalchik 67.50 308 *ce* P **P** **07 22 05.9 -0.3**
ZEI Tsey 67.57 307 *eP* **P** **07 22 04.7 -2.2**
ZEI pmax pmax
comp=Z,44nm,0.9s
MZWR Madinat Zayed 67.79 285 P **P** **07 22 07.8 -0.5**
KBZ Khabaz 67.88 309 P **P** **07 22 08.1 -0.5**
comp=Z,65nm,0.8s,baz=52,slow=3.2,SNR=95
KBZ LR LR 07 53 22.3
comp=Z,186nm,20.1s,baz=66,slow=37
KBZ Khabaz 67.88 309 *i* P **P** **07 22 08.4 -0.1**
KBZ pmax pmax
comp=Z,80nm,0.9s
KIV Kislovodsk 67.93 309 ⇑ P **P** **07 22 08.3 -0.7**
KIV Kislovodsk 67.93 309 *eP* **P** **07 22 08.4 -0.7**
KIV pmax pmax
comp=Z,105nm,1.1s
KIV MLR MLR
comp=Z,85nm,17.0s
KIV Kislovodsk 67.93 309 P **P** **07 22 08.2 -0.7**
KIV Kislovodsk 67.93 309 *i* P **P** **07 22 08.3 -0.7**
SNR=15
ONI Oni 67.96 307 P **P** **07 22 09.0 -0.2**
ONI pmax pmax
comp=Z,34nm,0.9s
ONI Oni 67.96 307 P **P** **07 22 09.0 -0.2**
ONI IAmb IAmb 07 22 10.3
comp=Z,34nm,0.9s
GNI Garni 68.03 304 LR LR 07 57 21.2
comp=Z,102nm,18.5s,baz=80,slow=41
GNI Garni 68.03 304 *ce* P **P** **07 22 10.3 +0.5**
GNI pmax pmax
comp=Z,122nm,1.7s
GNI Garni 68.03 304 P **P** **07 22 09.6 -0.2**
GNI IAmb IAmb 07 22 11.2
comp=Z,55nm,0.8s
GNI Garni 68.03 304 P **P** **07 22 10.3 +0.5**
NEY Neytrino 68.19 308 *ce* P **P** **07 22 12.0 +1.3**
NEY pmax pmax
comp=Z,6.0nm,0.8s
AKH Akhalkalaki 68.40 306 ⇑ P **P** **07 22 12.2 +0.1**
AKH Akhalkalaki 68.40 306 P **P** **07 22 12.7 +0.6**
MZR Muzera 68.45 284 P **P** **07 22 12.3 -0.2**
SNR=19
MZR Muzera 68.45 284 *i* P **P** **07 22 12.2 -0.3**
SNR=50
WRGLY Wrigley 68.50 28 P **P** **07 22 13.8 +1.7**
baz=298
GHWR Ruwais 68.52 286 P **P** **07 22 12.6 -0.3**
CHVG Ch'k'valeri 68.83 308 ⇑ P **P** **07 22 14.9 +0.4**
ARPS Mount Arapiles 68.86 171 P **P** **07 22 15.6 +1.1**
SHAO Shalim 68.91 279 P **P** **07 22 14.8 -0.6**
SHAO Shalim 68.91 279 *i* P **P** **07 22 15.2 -0.2**
SNR=9.6
SHAO *i* P **P** **07 22 15.2 -0.2**
SNR=11
KARS Kars 69.00 305 P **P** **07 22 15.6 -0.2**
KARS pmax pmax
comp=Z,118nm,0.8s
KARS Kars 69.00 305 P **P** **07 22 15.6 -0.2**
SHMA Al-Shehemyia 69.25 288 P **P** **07 22 16.5 -0.9**
SLWR Sila 69.45 286 P **P** **07 22 18.4 -0.2**
FIA1 FINESS Array S 69.45 330 P **P** **07 22 16.4 -1.6**
FINES FINESS Array B 69.45 330 P **P** **07 22 16.8 -1.3**
comp=Z,49nm,0.6s,baz=67,slow=5.8,SNR=307
FINES pP **pP** **07 22 32.0 -1.1**
comp=Z,11nm,0.6s,baz=56,slow=7.6,SNR=4.9
FINES LR LR 07 55 02.7
comp=Z,282nm,18.3s,baz=64,slow=38
TRNA Turayna 69.54 287 P **P** **07 22 18.6 -0.6**
SAKB Bahrain 69.55 288 P **P** **07 22 18.4 -0.8**
RES Resolute Bay 69.59 12 LR LR 07 53 17.8
comp=Z,116nm,22.0s,baz=304,slow=36
RES Resolute Bay 69.59 12 P **P** **07 22 19.2 +0.5**
RES pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 69.59 12 P **P** **07 22 19.2 +0.5**
DMTO DMTO 69.63 279 P **P** **07 22 19.3 -0.5**
DOK Doka 69.90 280 P **P** **07 22 21.2 -0.3**
SNR=8.9
BRAT Ballarat 69.93 169 P **P** **07 22 23.1 +2.0**
GEVA Gevas 69.98 303 P **P** **07 22 21.7 -0.3**
SOC Sochi 70.05 309 *eP* **P** **07 22 20.2 -1.8**
SOC *e* 07 24 53.9
SOC *e* PPP PPP 07 26 36.1
SOC *eS* **S** **07 31 28.2 -0.4**
SOC pmax pmax
comp=Z,60nm,0.8s
SOC MLR MLR
comp=Z,503nm,22.0s
DAG Danmarks Havn 70.14 353 *i* P **P** **07 22 21.2 -0.8**
DAG IAmb IAmb 07 22 22.3
comp=Z,6.6nm,0.8s
RBK Rabkut 70.35 279 P **P** **07 22 24.1 -0.2**
SNR=9.3
WHFO Wadi Hawf 70.52 279 P **P** **07 22 25.0 -0.4**
SNR=19
GURO Guroymak-BITLI 70.61 304 P **P** **07 22 25.4 -0.4**
GURO IAmb IAmb 07 22 26.8
comp=Z,46nm,0.8s
VSU Vasula 70.61 327 *i* P **P** **07 22 24.6 -0.6**
VSU Vasula 70.61 327 *eP* **P** **07 22 24.5 -0.6**
AFI Afiamalu 70.85 121 LR LR 07 46 07.6
comp=Z,138nm,20.1s,baz=292,slow=30
ANN Anapa 71.00 311 *eP* **P** **07 22 26.0 -1.8**
ANN *e* *PP **pP** **07 22 39.8 -3.2**
ANN *eS* **S** **07 31 37.2 -2.4**
ANN pmax pmax
comp=Z,59nm,0.8s
ANN MLR MLR
comp=Z,496nm,22.0s
NEEM North Greenlan 71.04 1 *i* P P 07 22 36.4 +8.5
NEEM IAmb IAmb 07 22 37.8
comp=Z,8.8nm,1.0s
KTUT Trabzon 71.13 307 ⇑ P **P** **07 22 28.2 -0.4**
ABTO Aybut 71.19 279 P **P** **07 22 29.1 -0.3**
SNR=17
MOR8 Moi Rana 71.25 338 *eP* **P** **07 22 26.5 -2.4**
BBB Bella Bella 71.48 40 LR LR 07 52 58.1
comp=Z,56nm,21.6s,baz=280,slow=35
MTSE Matsula 71.81 328 *eP* **P** **07 22 31.6 -0.7**
MNK Minsk 72.00 323 *i* P **P** **07 22 33.3 -0.3**
MNK *i* *PP **pP** **07 22 47.5 -1.3**
MNK *i* 07 25 12.7
MNK *i* PPP PPP 07 26 56.4
MNK *i* S **S** **07 31 49.9 -0.9**
MNK *i* *SS **sS** **07 32 15.9 -0.8**
MNK *i* SS **SS** **07 36 29.8 +2.2**
MNK pmax pmax
comp=Z,62nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=N,25nm,0.9s
MNK MLR MLR
comp=N,137nm,17.0s
MNK MLR MLR
comp=E,31nm,21.0s
MNK MLR MLR
comp=Z,212nm,21.0s
MNK Minsk 72.00 323 *i* P **P** **07 22 33.3 -0.3**
comp=E,5.0nm,0.8s
MNK *i* P **P** **07 22 33.3 -0.3**
comp=N,25nm,0.9s
MNK *i* P **P** **07 22 33.3 -0.3**
comp=Z,62nm,0.9s,baz=241
MNK *i* pP **pP** **07 22 47.6 -1.3**
MNK *i* PP **PP** **07 25 12.7 -0.9**
MNK *i* PPP PPP 07 26 56.4
MNK *i* S **S** **07 31 49.9 -0.9**
MNK *i* sS **sS** **07 32 15.9 -0.8**
MNK *i* SS **SS** **07 36 29.8 +2.2**
MNK *i* SSS SSS 07 39 57.0
MNK *i* LQ LQ 07 48 47.1
MNK *i* LR LR 07 52 49.2
MNK *i* LRM MLR 07 56 21.9
comp=N,137nm,17.4s
MNK *i* LRM MLR 07 56 43.8
comp=E,31nm,20.6s
MNK *i* LRM MLR 07 56 54.1
comp=Z,212nm,21.3s
MARD Mardin 72.04 303 P **P** **07 22 33.9 -0.5**
IDID Didziasalis 72.17 324 *eP* **P** **07 22 34.2 -0.4**
ISAL Salakas 72.34 325 *eP* **P** **07 22 35.6 0.0**
YKA Yellowknife Ar 72.34 26 P **P** **07 22 36.8 +1.2**
comp=Z,3.3nm,0.9s,baz=302,slow=5.8,SNR=29
YKA pP **pP** **07 22 50.3 -0.5**
comp=Z,5.7nm,0.9s,baz=302,slow=5.5,SNR=13
YKA LR LR 07 56 43.2
comp=Z,75nm,18.7s,baz=264,slow=38
YKA Yellowknife Ar 72.34 26 *i* P **P** **07 22 39.0 +3.5**
YKA pmax pmax
comp=Z,3.0nm,0.9s
NACGM Naroch 72.35 324 *i* P **P** **07 22 35.3 -0.4**
IIGN Ignalina 72.41 325 *eP* **P** **07 22 35.9 -0.1**
DBG Daneborg 72.54 352 *i* P **P** **07 22 35.1 -1.4**
SIM Simferopol' 73.04 313 *d i* P **P** **07 22 38.2 -1.8**
SIM *e* 07 22 54.0
SIM pmax pmax
comp=Z,39nm,0.9s
SLIT Slitere, Latvi 73.07 328 *eP* **P** **07 22 38.7 -1.2**
NSS Namsos 73.08 337 *eP* **P** **07 22 38.7 -1.1**
SOCY Socotra 73.09 274 P **P** **07 22 38.5 -2.4**
SOCY Socotra 73.09 274 P **P** **07 22 39.0 -1.9**
SNR=27
AKASG Malin Array Be 73.16 320 P **P** **07 22 39.0 -1.6**
comp=Z,28nm,0.6s,baz=55,slow=6.4,SNR=160
AKASG pP **pP** **07 22 54.6 -1.3**
comp=Z,11nm,0.7s,baz=51,slow=6.1,SNR=6.1
AKASG LR LR 07 57 06.0
comp=Z,192nm,21.3s,baz=20,slow=38
AKASG Malin Array Be 73.16 320 P **P** **07 22 38.5 -2.1**
AKASG IAmb IAmb 07 22 39.9
comp=Z,36nm,0.8s
AKBB Malin Array Si 73.16 320 P **P** **07 22 38.7 -1.9**
AKBB pmax pmax
comp=Z,42nm,0.7s
AKBB Malin Array Si 73.16 320 P **P** **07 22 38.7 -1.9**
AKBB IAmb IAmb 07 22 40.0
comp=Z,42nm,0.7s
PABE Paberze 73.42 326 P **P** **07 22 40.9 -1.1**
PABE Paberze 73.42 326 *eP* **P** **07 22 41.2 -0.8**
PBUR Paburge 74.11 327 *eP* **P** **07 22 45.4 -0.7**
BZK Bozkurt 74.53 310 ⇑ P **P** **07 22 48.3 -0.4**
SUW Suwalki 74.61 324 P **P** **07 22 47.6 -1.4**
SUW pmax pmax
comp=Z,93nm,0.9s
SUW Suwalki 74.61 324 P **P** **07 22 47.6 -1.4**
SUW Suwalki 74.61 324 *eP* **P** **07 22 48.0 -1.0**
RAYN Ar Rayn 74.73 288 P **P** **07 22 49.0 -1.3**
RAYN pmax pmax
comp=Z,93nm,0.9s
RAYN Ar Rayn 74.73 288 P **P** **07 22 49.0 -1.3**
RAYN Ar Rayn 74.73 288 *i* P **P** **07 22 49.7 -0.6**
SNR=85
BNN Bunyan 74.78 306 P **P** **07 22 49.7 -0.8**
SORM Soroca 74.95 317 P **P** **07 22 49.9 -1.1**
VIKU Vikbolandet 75.01 330 *eP* **P** **07 22 50.1 -1.1**
HFS Hagfors 75.23 333 LR LR 07 58 08.5
comp=Z,301nm,18.7s,baz=42,slow=37
NB2 NORSAR Subarra 75.59 334 P **P** **07 22 53.0 -1.6**
comp=Z,26nm,0.8s,baz=50,slow=5.9
NB2 NORSAR Subarra 75.59 334 P **P** **07 22 53.0 -1.6**
baz=50,slow=5.9
NOA NORSAR Array B 75.59 334 P **P** **07 22 53.3 -1.2**
comp=Z,19nm,0.7s,baz=50,slow=5.7,SNR=96
NOA pP **PcP** **07 23 08.6 +1.3**
comp=Z,13nm,0.9s,baz=49,slow=5.7,SNR=8.1
NOA LR LR 07 59 07.6
comp=Z,197nm,19.0s,baz=335,slow=38
NORES NORESS Array B 75.67 334 P **P** **07 22 53.7 -1.2**
DOMB Dombas 75.70 336 *eP* **P** **07 22 54.3 -0.8**
SUMG Summit 75.71 357 *i* P **P** **07 22 55.9 +0.4**
SUMG IAmb IAmb 07 22 57.5
comp=Z,7.9nm,0.7s
NAO01 NORSAR Array S 75.84 334 P **P** **07 22 54.0 -1.9**
NAO01 IAmb IAmb 07 22 55.3
comp=Z,58nm,1.1s
BR131 Keskin Array S 75.86 308 P **P** **07 22 55.5 -1.2**
BR131 pmax pmax
comp=Z,77nm,0.9s
BR131 Keskin Array S 75.86 308 P **P** **07 22 55.5 -1.2**
BR131 Keskin Array S 75.86 308 P **P** **07 22 56.0 -0.7**
SNR=19
BRTR Keskin Array B 75.86 308 P **P** **07 22 56.0 -0.7**
comp=Z,37nm,0.9s,baz=101,slow=4.6,SNR=105
BRTR pP **pP** **07 23 11.3 -0.7**
comp=Z,18nm,1.0s,baz=111,slow=5.4,SNR=7.0
BRTR LR LR 08 00 55.0
comp=Z,92nm,20.3s,baz=53,slow=39
BRTR Keskin Array B 75.86 308 P **P** **07 22 55.6 -1.0**
MOL Molde 75.86 337 *eP* **P** **07 22 55.8 -0.2**
TLCR 76.19 315 ⇑ P **P** **07 22 57.5 -0.7**
AKN Aaknes 76.32 337 *eP* **P** **07 22 58.3 -0.4**
ANTO Ankara 76.35 308 P **P** **07 22 58.4 -1.0**
ANTO pmax pmax
comp=Z,41nm,1.0s
ANTO Ankara 76.35 308 P **P** **07 22 58.4 -1.0**
ANTO IAmb IAmb 07 22 59.6
comp=Z,41nm,0.9s
LVV L'vov 76.47 321 *eP* **P** **07 22 59.3 -0.4**
OSL Oslo 76.50 334 *eP* **P** **07 22 59.0 -0.7**
TPGR Topolog 76.60 315 ⇑ P **P** **07 22 59.4 -1.2**
CFR Carcaliu 76.60 315 ⇑ P **P** **07 22 59.3 -1.2**
TESR Tescani 76.78 317 ⇑ P **P** **07 23 00.6 -1.0**
TIRR Tirgusor 76.81 314 ⇑ P **P** **07 23 01.3 -0.5**
TIRR Tirgusor 76.81 314 P **P** **07 23 01.1 -0.3**
SKAR Skarsila 76.89 335 *eP* **P** **07 23 01.7 -0.3**
HARR Harsova 76.98 315 ⇑ P **P** **07 23 02.3 -0.4**
BURAR Bucovina Array 77.01 318 ⇑ P **P** **07 23 02.2 -0.8**
BURAR Bucovina Array 77.01 318 P **P** **07 23 02.3 -0.7**
BURAR Bucovina Array 77.01 318 P **P** **07 23 01.7 -1.3**
BURAR IAmb IAmb 07 23 03.5
comp=Z,27nm,0.8s
BEL Belsk 77.03 323 P **P** **07 23 03.2 +0.4**
VRI Vrincioaia 77.08 316 ⇑ P **P** **07 23 03.4 +0.1**
VRI Vrincioaia 77.08 316 P **P** **07 23 03.2 -0.1**
KONO Kongsberg 77.11 334 *eP* **P** **07 23 02.3 -0.8**
PLOR Plostina 77.14 316 ⇑ P **P** **07 23 03.0 -0.6**
BISRR Bisoca 77.26 316 ⇑ P **P** **07 23 04.1 -0.3**
KWP Kalwaria Pacla 77.28 321 *eP* **P** **07 23 03.9 -0.5**
KWP Kalwaria Pacla 77.28 321 P **P** **07 23 04.0 -0.3**
HYA Hoyanger 77.30 336 *eP* **P** **07 23 04.0 -0.1**
ICOR Ion Corvin 77.37 314 ⇑ P **P** **07 23 04.7 -0.2**
ISR Istrita 77.59 316 ⇑ P **P** **07 23 06.1 -0.1**
MLR Muntele Rosu 77.75 316 ⇑ P **P** **07 23 06.2 -1.0**
MLR Muntele Rosu 77.75 316 LR LR 08 00 27.2
comp=Z,355nm,19.2s,baz=54,slow=38
ARCR ARCALIA 77.79 318 ⇑ P **P** **07 23 06.6 -0.6**
BSD Bornholm Skovb 77.87 328 *i* P **P** **07 23 05.3 -2.1**
BSD IAmb IAmb 07 23 06.7
comp=Z,58nm,0.7s
BSD Bornholm Skovb 77.87 328 *eP* **P** **07 23 05.8 -1.6**
SUE Sulen 77.87 336 *eP* **P** **07 23 06.8 -0.5**
BORA Eskisehir 77.90 309 P **P** **07 23 06.9 -1.1**
BORA IAmb IAmb 07 23 07.8
comp=Z,41nm,0.9s
ODD1 Odda 78.03 335 *eP* **P** **07 23 07.5 -0.8**
UZH Uzhgorod 78.08 320 *eP* **P** **07 23 04.4 -4.3**
UZH *e* 07 23 14.0
PRD Provadia 78.10 314 *i* P **P** **07 23 07.8 -1.2**
ASK Askoy 78.13 336 *eP* **P** **07 23 07.4 -1.4**
BER Bergen 78.15 336 *eP* **P** **07 23 08.2 -0.7**
TRPA Tarpa 78.23 320 ⇑ P **P** **07 23 09.3 -0.3**
TRPA Tarpa 78.23 320 P **P** **07 23 09.2 -0.4**
VOIR 78.30 316 ⇑ P **P** **07 23 09.8 -0.4**
CRVS Cervenica-Dubn 78.37 321 *eP* **P** **07 23 09.9 -0.5**
CRVS pmax pmax
comp=Z,18nm,0.9s
CRVS Cervenica-Dubn 78.37 321 *eP* **P** **07 23 09.9 -0.5**
BLS5 Blasio 78.43 335 *eP* **P** **07 23 10.3 -0.3**
OJC Ojcow 78.48 322 *eP* **P** **07 23 10.6 -0.4**
OJC Ojcow 78.48 322 P **P** **07 23 09.7 -1.3**
OJC pmax pmax
comp=Z,56nm,1.0s
OJC Ojcow 78.48 322 P **P** **07 23 09.7 -1.3**
OJC IAmb IAmb 07 23 11.6
comp=Z,56nm,1.0s
ARR Arges 78.58 316 ⇑ P **P** **07 23 11.2 -0.5**
NIE Niedzica 78.69 322 *eP* **P** **07 23 12.8 +0.6**
DRGR 78.89 318 ⇑ P **P** **07 23 12.3 -1.1**
DRGR 78.89 318 P **P** **07 23 12.7 -0.7**
SNART Snartemo 78.91 334 *eP* **P** **07 23 12.3 -0.9**
LLD Lille Linde 78.92 329 *i* P **P** **07 23 11.6 -1.6**
RGN Rugen 78.94 328 *eP* **P** **07 23 12.7 -0.6**
comp=Z,61nm,0.8s,baz=47,slow=5.2
SZH Strazhica 78.97 314 *i* P **P** **07 23 12.5 -1.3**
KMY Karmoy 79.02 335 *eP* **P** **07 23 13.5 -0.2**
LOT Lotru 79.05 317 ⇑ P **P** **07 23 14.0 -0.3**
I04A Tendick Farm, 79.07 45 P **P** **07 23 15.9 +1.5**
baz=304
I05D Terrebonne, OR 79.41 44 P **P** **07 23 17.3 +1.0**
baz=304
MUD Monsted U'grnd 79.44 331 *i* P **P** **07 23 15.0 -1.0**
NEW Newport 79.53 39 LR LR 07 58 28.3
comp=Z,68nm,20.9s,baz=316,slow=36
NEW Newport 79.53 39 P **P** **07 23 18.2 +1.4**
baz=306
J04D Umpqua Nationa 79.56 45 P **P** **07 23 18.5 +1.2**
baz=304

GZR **Gura Zlata** 79.65 317 ⇑P P 07 23 17.5 -0.1
PSZ **Piszkesteto** 79.79 321 ⇑P P 07 23 17.3 -0.9
PSZ **Piszkesteto** 79.79 321 P P 07 23 16.9 -1.4
PSZ pmax pmax
comp=Z,14nm,0.9s
PSZ **Piszkesteto** 79.79 321 P P 07 23 16.9 -1.4
PSZ **Piszkesteto** 79.79 321 P P 07 23 17.9 -0.4
DIM **Dimitrovgrad** 79.88 313 *i* P P 07 23 18.2 -0.5
MANT **Manisa** 79.88 309 P P 07 23 17.9 -1.2
MANT IAmb IAmb 07 23 18.8
comp=Z,29nm,0.9s
KSP **Ksiaz** 79.89 324 P P 07 23 18.4 -0.2
MORC **Moravsky Berou** 79.91 323 ⇑P P 07 23 18.3 -0.6
MORC **Moravsky Berou** 79.91 323 *e*P P 07 23 18.0 -0.9
VYHS **Vyhne** 80.02 321 *e*P P 07 23 19.6 +0.2
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS **Vyhne** 80.02 321 *e*P P 07 23 19.6 +0.2
YBH **Yreka Blue Hor** 80.03 47 LR LR 07 51 23.6
comp=Z,85nm,21.5s,baz=288,slow=30
RUE **Ruedersdorf** 80.06 327 *e*P P 07 23 19.7 +0.2
comp=Z,63nm,1.1s,baz=47,slow=5.2
J05D **Fort Rock, OR** 80.06 45 P P 07 23 21.8 +1.8
baz=304
OSTC **Ostas** 80.10 324 *e*P P 07 23 20.1 +0.3
M02C **Callahan** 80.13 47 P P 07 23 22.0 +1.8
baz=304
HERR **Herculane** 80.16 317 ⇑P P 07 23 19.2 -0.9
CHVC **Chvalec** 80.16 324 *e*P P 07 23 19.8 -0.4
DPC **Dobruska-Polom** 80.18 324 *e*P P 07 23 19.9 -0.4
DPC **Dobruska-Polom** 80.18 324 *e*P P 07 23 19.9 -0.4
DPC *e*PCP PcP 07 23 29.3 +1.9
BZS **Buzias** 80.19 318 ⇑P P 07 23 19.4 -1.0
BZS **Buzias** 80.19 318 P P 07 23 19.4 -1.0
UPC **Upice** 80.23 324 *e*P P 07 23 20.5 0.0
UPC **Upice** 80.23 324 *e*P P 07 23 20.5 0.0
MPEP **Malo Reshtene** 80.24 315 *i* P P 07 23 20.3 -0.4
JAVC **Velka Javorina** 80.41 322 *e*P P 07 23 21.9 +0.3
N02D **Trinity Center** 80.45 48 P P 07 23 23.7 +1.7
baz=304
M04C **Macdoel** 80.54 47 P P 07 23 24.1 +1.6
baz=304
RZN **Rozhen** 80.59 313 *i* P P 07 23 21.8 -1.0
BSEG **Bad Segeberg** 80.67 329 *e*P P 07 23 22.5 -0.3
comp=Z,26nm,0.9s,baz=47,slow=5.2
VRAC **Vranov** 80.69 323 ⇑P P 07 23 22.0 -1.0
VRAC **Vranov** 80.69 323 LR LR 08 02 03.8
comp=Z,206nm,20.5s,baz=52,slow=38
VRAC **Vranov** 80.69 323 *e*P P 07 23 22.5 -0.5
SMOL **Smolenice** 80.75 322 *e*P P 07 23 23.1 -0.2
SMOL pmax pmax
comp=Z,16nm,1.2s
SMOL **Smolenice** 80.75 322 *e*P P 07 23 23.1 -0.2
O02D **Mt. Diablo Mer** 80.84 48 P P 07 23 25.8 +1.7
baz=304
KRUC **Moravsky** 80.94 323 *e*P P 07 23 23.8 -0.5
VTS **Vitosha** 80.97 315 ⇑P P 07 23 23.8 -1.0
VTS **Vitosha** 80.97 315 P P 07 23 24.6 -0.2
VTS **Vitosha** 80.97 315 *i* P P 07 23 23.6 -1.2
CSKK **Cskako** 81.01 321 P P 07 23 24.7 0.0
BRG **Berggiesshubel** 81.02 325 *e*P P 07 23 24.3 -0.5
BRG Amp 07 23 26.8
comp=Z,20nm,1.1s
BRG *ex* x 07 23 40.2
BRG Amp 07 23 41.8
comp=Z,15nm,1.3s
BRG **Berggiesshubel** 81.02 325 *e*P P 07 23 24.2 -0.5
BRG *e* 07 23 40.1
BRG pmax pmax
comp=Z,20nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG **Berggiesshubel** 81.02 325 *e*P P 07 23 24.2 -0.5
comp=Z,20nm,1.1s,baz=47,slow=5.2
CLL **Collm** 81.19 326 *i* P P 07 23 24.9 -0.7
CLL *i* *PP pP 07 23 40.5 -0.6
CLL pmax pmax
comp=Z,49nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.7s
CLL **Collm** 81.19 326 *i* P P 07 23 24.9 -0.7
comp=Z,49nm,0.9s
CLL *e*PcP PcP 07 23 31.0 -0.7
CLL *i* pP pP 07 23 40.5 -0.6
comp=Z,38nm,1.0s
CLL LmH 07 55 00.0
comp=N,400nm,21.8s
CLL LmH 07 55 00.0
comp=E,400nm,21.4s
CLL Lm MLR 08 02 00.0
comp=Z,300nm,18.7s
CLL **Collm** 81.19 326 *e*P P 07 23 25.1 -0.4
comp=Z,49nm,0.9s,baz=47,slow=5.2
CLL *e*pP pP 07 23 40.5 -0.6
FBE **Freiberg** 81.27 326 *e*P P 07 23 26.0 0.0
comp=Z,50nm,1.1s,baz=47,slow=5.2
FBE *e*pP pP 07 23 41.4 -0.2
PRU **Pruhonice** 81.30 324 *e*P P 07 23 25.6 -0.6
PRU *e* 07 23 41.4
PRU **Pruhonice** 81.30 324 *e*P P 07 23 25.6 -0.6
PRU *e*pP pP 07 23 41.4 -0.3
FLTG **Flechtingen** 81.34 328 *e*P P 07 23 25.7 -0.6
comp=Z,45nm,1.0s,baz=47,slow=5.2
FLTG *e*pP pP 07 23 41.0 -0.9
O03E **Paynes Creek** 81.40 48 P P 07 23 28.4 +1.3
baz=304
BORG **Borgarnes** 81.47 349 LR LR 08 00 10.4
comp=Z,78nm,18.3s,baz=34,slow=36
FRGS **Fruska Gora** 81.49 318 ⇑P P 07 23 26.3 -1.0
KKB **Krupnik** 81.49 314 *i* P P 07 23 26.7 -0.7
MORH **Mrgy, Hungar** 81.50 320 P P 07 23 26.1 -1.2
SFJD **Kangerlussuaq** 81.54 1 LR LR 08 01 38.8
comp=Z,145nm,19.5s,baz=344,slow=37
URZ **Urewera** 81.63 145 LR LR 07 58 43.8
comp=Z,66nm,18.7s,baz=307,slow=35
NEUB **Neuenburg** 81.84 326 *e*P P 07 23 28.8 -0.2
comp=Z,57nm,1.0s,baz=47,slow=5.2
NEUB *e*pP pP 07 23 44.1 -0.5
KOVH **Kovagotottos** 81.88 320 P P 07 23 28.9 -0.4
CONA **Conrad Observa** 81.93 322 *i* P P 07 23 29.9 +0.2
comp=Z,24nm,1.3s,SNR=5.8
TANN **Tannenbergstha** 82.03 326 *e*P P 07 23 29.8 -0.3
comp=Z,15nm,1.2s,baz=47,slow=5.2
BKZ **Black Stump Fm** 82.05 146 P P 07 23 30.5 +0.4
CLZ **Clausthal** 82.06 328 *e*P P 07 23 30.3 0.0
comp=Z,47nm,1.0s,baz=47,slow=5.2
MSO **Missoula** 82.12 39 P P 07 23 31.9 +1.2
baz=309
GUNZ **Gunzen** 82.13 326 *e*P P 07 23 30.3 -0.3
comp=Z,18nm,0.9s,baz=47,slow=5.2
GUNZ *e*pP pP 07 23 45.8 -0.4
WERN **Wernitzgruen** 82.16 326 *e*P P 07 23 30.6 -0.2
comp=Z,23nm,1.0s,baz=47,slow=5.2
WERN *e*pP pP 07 23 45.9 -0.4
NKC **Novy Kostel** 82.16 325 *e*P P 07 23 30.1 -0.7
NKC *e* 07 23 46.0
NKC **Novy Kostel** 82.16 325 *e*P P 07 23 30.1 -0.7
NKC *ex* x 07 23 46.0
CKRC **Cesky Krumlov** 82.16 324 *e*P P 07 23 28.8 -2.0
FCC **Fort Churchill** 82.18 22 P P 07 23 30.6 0.0
FCC pmax pmax
comp=Z,47nm,1.7s
FCC **Fort Churchill** 82.18 22 P P 07 23 30.6 0.0
FCC IAmb IAmb 07 23 54.1
comp=Z,47nm,1.7s
MOX **Moxa** 82.29 326 *e*P P 07 23 31.1 -0.3
comp=Z,19nm,1.1s,baz=47,slow=5.2
KHC **Kasperske Hory** 82.33 324 *e*P P 07 23 30.8 -0.9
KHC *e* 07 23 46.1
KHC **Kasperske Hory** 82.33 324 *e*P P 07 23 30.8 -0.9
KHC *e*pP pP 07 23 46.1 -1.2
GTTG **Gottingen** 82.45 328 *e*P P 07 23 32.0 -0.2
comp=Z,43nm,1.1s,baz=47,slow=5.2
GERES **GERESS Array B** 82.45 324 P P 07 23 31.4 -1.0
comp=Z,3.0nm,0.9s,baz=270,slow=6.7,SNR=10
MANZ **Manzenberg** 82.49 325 *e*P P 07 23 32.4 -0.1
comp=Z,3.4nm,1.0s,baz=47,slow=5.2
ARSA **Arzberg** 82.54 322 *e*P P 07 23 32.9 +0.1
comp=Z,7.6nm,0.9s
ROTZ **Rotzenmuhle** 82.59 325 *e*P P 07 23 33.1 +0.1
comp=Z,9.5nm,1.3s,baz=47,slow=5.2
MOA **Molln** 82.81 323 *i* P P 07 23 34.6 +0.3
comp=Z,17nm,1.4s,SNR=6.1
IBBN **Ibbenburen** 82.91 329 *e*P P 07 23 34.2 -0.4
comp=Z,36nm,1.0s,baz=47,slow=5.2

UBBA **Unterbreizbach** 82.93 327 *e*P P 07 23 34.5 -0.1
comp=Z,31nm,1.2s,baz=47,slow=5.2
GRF **Grafenberg Arr** 83.11 326 *e*P P 07 23 35.9 +0.2
comp=Z,105nm,1.2s,baz=47,slow=5.2
SOKA **Soboth** 83.16 322 *i* P P 07 23 35.7 -0.5
comp=Z,58nm,1.3s,SNR=5.7
MFID **Camas Ranch** 83.18 43 P P 07 23 36.7 +0.4
PAHR **Pah Rah Range** 83.26 47 P P 07 23 36.7 -0.2
HRY **Holter Researc** 83.32 38 P P 07 23 37.5 +0.6
KASTN **Kahler Asten** 83.39 328 *e*P P 07 23 36.7 -0.4
comp=Z,27nm,1.1s,baz=47,slow=5.2
FRB **Frobisher Bay** 83.51 9 LR LR 08 01 34.0
comp=Z,289nm,21.9s,baz=354,slow=36
EGMT **Eagleton** 83.53 36 P P 07 23 39.1 +1.1
baz=311,SNR=11
BUG **Bochum--Univer** 83.74 329 *e*P P 07 23 38.2 -0.6
comp=Z,65nm,1.5s,baz=47,slow=5.2
KBA **Koelnbreinsper** 83.79 323 P P 07 23 39.4 0.0
comp=Z,9.1nm,0.8s
HLID **Hailey** 83.90 42 P P 07 23 42.3 +2.2
baz=309,SNR=9.8
MYKA **Terra Mystica** 83.93 322 *e*P P 07 23 38.9 -1.2
comp=Z,13nm,0.8s
TNS **Taunus Mts** 84.06 327 *e*P P 07 23 40.2 -0.4
comp=Z,36nm,0.9s,baz=47,slow=5.2
TNS *e*pP pP 07 23 55.7 -0.6
IDI **Anoyia** 84.10 308 LR LR 08 05 26.8
comp=Z,80nm,20.4s,baz=72,slow=39
BOZ **Bozman (W)** 84.14 39 P P 07 23 42.4 +1.2
baz=310
BMN **Battle Mountai** 84.16 46 P P 07 23 41.6 +0.1
BMN pmax pmax
comp=Z,15nm,1.1s
BMN **Battle Mountai** 84.16 46 P P 07 23 41.6 +0.1
RAR **Rarotonga** 84.31 119 LR LR 07 52 09.1
comp=Z,119nm,21.7s,baz=254,slow=29
ABTA **Abfaltersbach** 84.43 323 *e*P P 07 23 41.8 -0.8
comp=Z,28nm,1.1s
RYN **Ryan** 84.43 48 P P 07 23 43.1 +0.2
WTTA **Wattenberg** 84.54 324 *e*P P 07 23 42.9 -0.4
comp=Z,26nm,1.2s
LHV **Little Huntoon** 84.67 48 P P 07 23 44.2 +0.4
LHV IAmb IAmb 07 24 02.0
comp=Z,18nm,1.0s
NVAR **Mina Array Bea** 84.69 48 P P 07 23 45.9 +1.6
comp=Z,3.2nm,0.6s,baz=305,slow=5.3,SNR=24
NVAR pP pP 07 24 00.5 +0.6
comp=Z,8.9nm,0.8s,baz=297,slow=5.1,SNR=19
NVAR LR LR 07 58 42.3
comp=Z,39nm,20.2s,baz=270,slow=34
STU **Stuttgart** 84.71 326 *e*P P 07 23 43.8 -0.1
comp=Z,98nm,1.1s,baz=47,slow=5.2
MOTA **Moosalm** 84.75 324 *e*P P 07 23 43.6 -0.7
comp=Z,19nm,1.2s
RETA **Reutte** 84.83 324 *e*P P 07 23 44.2 -0.3
comp=Z,32nm,1.6s
MLAC **Mammoth, Mammo** 84.83 49 P P 07 23 47.6 +2.6
baz=306
BTNL **Ternell** 84.85 329 *d*P P 07 23 43.8 -0.8
comp=Z,12nm,1.1s
BTNL *d*pP pP 07 23 58.2 -2.0
MEM **Membach** 84.89 329 *b*P P 07 23 44.3 -0.4
comp=Z,13nm,0.9s
EKA **Eskdalemuir Ar** 84.94 336 LR LR 08 04 49.5
comp=Z,306nm,18.8s,baz=33,slow=38
EKA **Eskdalemuir Ar** 84.94 336 P P 07 23 43.2 -1.7
BHOU **Houvegnez** 85.07 328 *d*P P 07 23 44.8 -0.9
comp=Z,8.8nm,1.1s
BHOU *d*pP pP 07 24 00.5 -0.8
YMR **Madison River** 85.10 39 P P 07 23 45.0 -1.2
FETA **Feichten** 85.16 324 *e*P P 07 23 45.9 -0.4
comp=Z,15nm,1.1s
ELK **Elko** 85.17 44 LR LR 08 05 26.6
comp=Z,28nm,18.4s,baz=332,slow=38
ELK **Elko** 85.17 44 P P 07 23 46.2 -0.4
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK **Elko** 85.17 44 P P 07 23 46.2 -0.4
BCLA **Clavier** 85.34 329 *d*P P 07 23 46.1 -0.9
BCLA *d*pP pP 07 24 01.7 -0.8
DAVA **Damuels** 85.40 324 *e*P P 07 23 47.5 0.0
comp=Z,33nm,1.3s
BFO **Black Forest** 85.43 326 P P 07 23 46.6 -0.9
BFO pmax pmax
comp=Z,36nm,1.1s
BFO **Black Forest** 85.43 326 P P 07 23 46.6 -0.9
BFO IAmb IAmb 07 23 48.3
comp=Z,36nm,1.1s
BFO **Black Forest** 85.43 326 *e*P P 07 23 46.8 -0.7
comp=Z,107nm,1.8s,baz=47,slow=5.2
BGES **Gesves** 85.46 329 *d*P P 07 23 46.4 -1.1
comp=Z,11nm,1.0s
BGES *d*pP pP 07 24 02.1 -1.0
H17A **Grant Village** 85.49 39 P P 07 23 50.1 +1.9
baz=311,SNR=11
WLF **Walferdange** 85.50 328 P P 07 23 47.0 -0.8
WLF pmax pmax
comp=Z,31nm,0.9s
WLF **Walferdange** 85.50 328 P P 07 23 47.0 -0.8
WLF IAmb IAmb 07 23 48.5
comp=Z,31nm,0.9s
WLF **Walferdange** 85.50 328 *e*P P 07 23 47.8 0.0
comp=Z,42nm,1.0s,baz=47,slow=5.2
WLF **Walferdange** 85.50 328 *d*P P 07 23 48.1 +0.3
comp=Z,23nm,1.0s
WLF *d*pP pP 07 24 03.2 -0.2
RCHB **Rochefort** 85.56 329 *d*P P 07 23 47.3 -0.7
comp=Z,14nm,0.9s
RCHB *d*pP pP 07 24 02.5 -1.2
TPH **Tonopah** 85.58 48 P P 07 23 49.5 +0.8
TPH pmax pmax
comp=Z,81nm,0.9s
TPH **Tonopah** 85.58 48 P P 07 23 49.5 +0.8
BMRD **Maredsous** 85.66 329 *b*P P 07 23 47.9 -0.7
comp=Z,14nm,1.3s
BMRD *d*pP pP 07 24 03.1 -1.0
RLMT **Red Lodge** 85.71 38 P P 07 23 50.7 +1.5
baz=312
SNF **Seneffe** 85.72 329 *d*P P 07 23 47.6 -1.3
comp=Z,12nm,0.7s
VES **Vestal, Richgr** 85.72 50 P P 07 23 50.0 +0.9
baz=306
DAVOX **Davos/Dischmat** 85.75 324 LR LR 08 06 09.2
comp=Z,311nm,18.0s,baz=43,slow=38
GIVF **Givet** 85.78 329 *e*P P 07 23 49.3 +0.1
GIVF pmax pmax
comp=Z,16nm,1.1s
CDF **Champ du Feu** 85.88 326 *e*P P 07 23 48.8 -1.0
CDF pmax pmax
comp=Z,31nm,1.1s
DOU **Dourbes** 85.89 329 *d*P P 07 23 47.6 -2.0
DGMT **Dagmar** 85.93 33 P P 07 23 51.3 +1.3
baz=315
CWC **Cottonwood Cre** 86.02 49 P P 07 23 51.8 +1.0
baz=307
BAIF **Baives** 86.08 329 *e*P P 07 23 51.2 +0.6
BAIF pmax pmax
comp=Z,3.0nm,0.2s
GRAC **Grapevine Rang** 86.14 48 P P 07 23 52.6 +1.3
baz=307
LAO **LASA Array** 86.20 36 P P 07 23 51.0 -0.4
LAO IAmb IAmb 07 24 08.7
comp=Z,18nm,1.1s
LAO **LASA Array** 86.20 36 P P 07 23 53.4 +2.0
baz=314,SNR=6.8
R11A **Troy Canyon, C** 86.44 46 P P 07 23 53.8 +0.9
R11A **Troy Canyon, C** 86.44 46 P P 07 23 54.7 +1.8
baz=308,SNR=6.5
HINF **Hinteralfeld** 86.50 326 *e*P P 07 23 51.3 -1.5
HINF pmax pmax
comp=Z,22nm,1.2s
MPMC **Manual Prospec** 86.63 49 P P 07 23 55.2 +1.2
baz=307
FURC **Furnace Creek,** 86.79 49 P P 07 23 56.4 +2.0
baz=308
TPNV **Topopah Spring** 86.88 48 P P 07 23 56.2 +1.2
baz=308
DUG **Dugway, Tooele** 86.95 44 P P 07 23 56.0 +0.7
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway, Tooele** 86.95 44 P P 07 23 56.0 +0.7
DUG **Dugway, Tooele** 86.95 44 P P 07 23 57.0 +1.7
baz=310,SNR=8.3
GWY **Greenwater Val** 87.08 49 P P 07 23 55.4 -0.7
QSM **Queen of Sheba** 87.09 49 P P 07 23 55.9 0.0
QSM IAmb IAmb 07 24 14.3

comp=Z,12nm,0.9s
BW06 **Boulder Array** 87.12 40 P P 07 23 57.0 +0.8
baz=312,SNR=8.5
PDAR **Pinedale Array** 87.12 40 P P 07 23 57.2 +1.0
comp=Z,4.9nm,0.9s,baz=305,slow=1.2,SNR=30
PDAR pP pP 07 24 11.3 -0.5
comp=Z,2.8nm,0.8s,baz=302,slow=2.8,SNR=9.5
PDAR LR LR 08 03 35.2
comp=Z,68nm,21.7s,baz=338,slow=36
PDAR **Pinedale Array** 87.12 40 P P 07 23 56.4 +0.2
GSC **Goldstone, Bar** 87.53 49 P P 07 23 59.3 +1.2
baz=308
LPL **La Plagne** 88.20 325 *e*P P 07 24 00.9 -0.4
LPL pmax pmax
comp=Z,16nm,1.1s
LPG **La Plagne** 88.20 325 *e*P P 07 23 59.8 -1.6
LPG pmax pmax
comp=Z,4.0nm,0.6s
ULM **Lac du Bonnet** 88.23 28 P P 07 24 01.4 +0.3
comp=Z,14nm,0.9s,baz=319,slow=4.8,SNR=20
ULM LR LR 08 06 24.5
comp=Z,111nm,19.2s,baz=335,slow=38
MDND **Maddock** 88.49 32 P P 07 24 03.5 +1.1
baz=319,SNR=7.2
GMRC **Granite Mounta** 88.59 49 P P 07 24 05.1 +1.9
baz=308
LCMT **Little Creek M** 88.72 46 P P 07 24 03.6 -0.2
SMF **Signal de Mont** 88.76 327 *e*P P 07 24 03.0 -0.6
SMF pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 88.79 51 LR LR 07 55 55.1
comp=Z,196nm,21.5s,baz=284,slow=30
PFO **Pinyon Flats O** 88.79 51 P P 07 24 06.3 +2.1
baz=308
TPFO **Pinon Flats** 88.80 51 P P 07 24 05.8 +1.5
baz=308
K22A **Casper** 88.84 39 P P 07 24 05.4 +1.1
baz=314
KNB **Kanab** 88.98 46 P P 07 24 04.7 -0.4
KNB pmax pmax
comp=Z,14nm,0.9s
KNB **Kanab** 88.98 46 P P 07 24 04.7 -0.4
KNB IAmb IAmb 07 24 24.1
comp=Z,14nm,0.9s
RSSD **Black Hills** 89.10 36 P P 07 24 06.9 +1.3
baz=316
RWWY **Rawlins** 89.14 40 P P 07 24 05.0 -0.9
RWWY IAmb IAmb 07 24 07.1
comp=Z,13nm,1.0s
IRM **Iron Mountain** 89.31 50 P P 07 24 08.1 +1.5
baz=309
BC3 **Big Chuckawall** 89.42 50 P P 07 24 08.5 +1.3
baz=308
GRR **Gorron** 89.52 330 *e*P P 07 24 06.3 -0.8
GRR pmax pmax
comp=Z,95nm,1.6s
IKP **In-Ko-Pah, Jac** 89.61 51 P P 07 24 09.3 +1.3
baz=308
O20A **White River Ci** 89.62 41 P P 07 24 09.3 +1.2
baz=313,SNR=5.3
TCF **Toulx Ste Croi** 89.78 328 *e*P P 07 24 07.2 -1.3
TCF pmax pmax
comp=Z,58nm,1.7s
SBV **Sambava** 89.93 254 P P 07 24 07.6 -2.0
PPT **Papeete** 90.11 111 LR LR 07 54 09.8
comp=Z,49nm,21.6s,baz=204,slow=28
PPT2 **Papeete2** 90.12 111 *e*LR LR 07 53 10.6
comp=Z,193nm,24.2s
GLA **Glamis** 90.21 50 P P 07 24 12.7 +2.0
baz=309
PV23 **Carpenter Ridg** 90.32 43 P P 07 24 11.9 +0.5
N23A **Red Feather La** 90.32 40 P P 07 24 13.3 +1.7
baz=314,SNR=6.9
WUAZ **Wupatki** 90.84 47 P P 07 24 15.5 +1.8
baz=311
RJF **Les Rejaudoux** 90.84 327 *e*P P 07 24 13.4 0.0
RJF pmax pmax
comp=Z,36nm,1.4s
CAF **Calviac** 90.87 327 *e*P P 07 24 13.8 +0.2
CAF pmax pmax
comp=Z,24nm,1.2s
ISCO **Idaho Springs** 91.32 40 P P 07 24 18.0 +1.9
baz=314
SUSD **Miller** 91.35 34 P P 07 24 17.4 +1.7
baz=319
MVCO **Mesa Verde** 91.45 44 P P 07 24 18.3 +1.6
baz=313,SNR=7.4
EYMN **Ely** 91.81 27 P P 07 24 18.9 +1.1
baz=325
S22A **4UR Ranch, Cre** 92.06 42 P P 07 24 21.7 +2.1
baz=314
Q24A **Divide** 92.16 41 P P 07 24 21.1 +1.1
baz=315
214A **Organ Pipe Nat** 92.22 50 P P 07 24 21.6 +1.5
baz=310
SCHQ **Schefferville** 92.34 10 LR LR 08 08 53.5
comp=Z,100nm,20.0s,baz=360,slow=37
OGNE **Ogallala** 92.42 38 P P 07 24 22.4 +1.6
baz=317
SDCO **Great Sand Dun** 92.81 42 P P 07 24 24.6 +1.5
baz=314
ECSD **EROS Data Cent** 92.98 33 P P 07 24 24.4 +1.1
baz=321
TAOE **Nuku Hiva Isla** 93.26 98 *e*LR LR 07 54 35.7
comp=Z,165nm,26.4s
TUC **Tucson** 93.30 49 P P 07 24 25.9 +0.8
baz=311
SPMN **Marine on St.** 93.48 30 P P 07 24 26.4 +0.8
baz=324
KEST **Kesra** 93.65 316 LR LR 08 09 13.1
comp=Z,101nm,21.3s,baz=335,slow=37
T25A **Trinidad** 93.86 42 P P 07 24 28.7 +0.9
baz=315
KMBO **Kilima Mbogo** 94.15 271 LR LR 08 07 26.6
comp=Z,70nm,21.7s,baz=92,slow=36
ANMO **Albuquerque** 94.20 44 LR LR 08 03 47.9
comp=Z,23nm,20.2s,baz=334,slow=33
ANMO **Albuquerque** 94.20 44 *i* P P 07 24 29.5 +0.1
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO **Albuquerque** 94.20 44 P P 07 24 31.1 +1.8
baz=314
121A **Cookes Peak, D** 95.04 47 P P 07 24 34.7 +1.4
baz=313
ESDC **Sonseca Array** 97.76 327 P P 07 24 43.3 -2.0
comp=Z,1.3nm,1.0s,baz=3.8,slow=3.9,SNR=3.3
ESDC LR LR 08 12 13.1
comp=Z,178nm,18.1s,baz=22,slow=37
ESDC **Sonseca Array** 97.76 327 IAmb IAmb 07 27 24.3
comp=Z,18nm,2.0s
SADO **Sadowa** 98.90 22 LR LR 08 11 31.8
comp=Z,95nm,21.6s,baz=358,slow=36
LPIG **La Paz** 98.97 55 LR LR 08 10 04.6
comp=Z,31nm,18.1s,baz=309,slow=36
MBAR **Mbarara** 99.42 275 LR LR 08 13 11.8
comp=Z,31nm,18.1s,baz=72,slow=37
TXAR **Lajitas Array** 99.80 47 P Pdif 07 24 55.9 +1.3
comp=Z,0.9nm,0.7s,baz=297,slow=2.4,SNR=12
TXAR pP pP 07 25 10.2 -0.2
comp=Z,1.0nm,0.8s,baz=287,slow=3.0,SNR=7.8
TXAR PP PP 07 29 04.6 +5.6
comp=Z,0.6nm,0.9s,baz=330,slow=3.1,SNR=5.1
TXAR PKKPbc PKKPbc 07 41 14.3 +0.2
comp=Z,0.5nm,0.9s,baz=120,slow=5.5,SNR=4.9
TXAR LR LR 08 04 09.0
comp=Z,75nm,21.4s,baz=324,slow=32
TORD **Torodi Ar. Bea** 114.34 305 PKP PKPdf 07 29 47.7 -2.4
comp=Z,0.4nm,0.6s,baz=11,slow=4.2,SNR=3.8
TORD PP PP 07 30 41.6 -4.2
comp=Z,2.8nm,1.0s,baz=38,slow=5.9,SNR=8.1
TORD PKKPbc PKKPbc 07 40 28.8 +0.1
comp=Z,1.4nm,0.8s,baz=224,slow=2.8,SNR=6.9
BOSA **Boshof** 117.27 252 PKP PKPdf 07 29 54.2 -1.3
comp=Z,1.9nm,0.7s,baz=48,slow=4.0,SNR=3.9
SYO **Syowa Base** 119.90 205⇑ *e*Pdiff Pdif 07 26 23.6 +0.9
DBIC **Dimbokro** 123.45 305 PKP PKPdf 07 30 06.4 -1.2
comp=Z,4.7nm,0.7s,baz=15,slow=2.7,SNR=5.8
VNA2 **Neumayer--Watz** 134.87 198 PKPdf PKPdf 07 30 28.0 +0.4
baz=74,slow=1.4
VNA3 **Neumayer Olymp** 135.24 197 PKPdf PKPdf 07 30 28.4 0.0
PTGA **Pitinga** 147.31 21 PKPbc PKPdf 07 30 52.4 +0.8
comp=Z,28nm,0.8s,baz=357,slow=3.2,SNR=48
NNA **Nana** 147.37 59 PKPbc PKPbc 07 30 54.0 -0.1
comp=Z,17nm,0.7s,baz=323,slow=3.8,SNR=6.4
NNA pPKP pPKPdf 07 31 08.8 +0.8
comp=Z,17nm,0.7s,baz=307,slow=3.6,SNR=4.5
USHA **Ushuaia** 152.97 154 PKPbc PKiKP 07 31 07.9 +1.3
comp=Z,36nm,0.8s,baz=211,slow=2.2,SNR=15

H03N2	Juan Fernandez	154.40	102	T	T	10 24 28.4	
	baz=280,slow=75,SNR=13						
H03N3	Juan Fernandez	154.41	102	T	T	10 24 27.5	
	baz=280,slow=75,SNR=12						
H03N1	Juan Fernandez	154.42	102	T	T	10 24 29.5	
	baz=280,slow=75,SNR=13						
LPAZ	La Paz	156.47	54	PKP	PKPdf	07 31 06.5	+0.6
	comp=Z,2.4nm,1.2s,baz=337,slow=5.1,SNR=4.6						
LPAZ				PKPab	PKPab	07 31 34.5	-0.2
	comp=Z,4.6nm,0.9s,baz=1.6,slow=4.1,SNR=11						
PLCA	Paso Flores	160.17	123	PKPab	PKPab	07 31 51.4	+1.8
	comp=Z,3.5nm,0.9s,baz=213,slow=3.4,SNR=5.7						
SIV	San Ignacio	160.61	39	PKP	PKPdf	07 31 11.3	+1.1
	comp=Z,9.8nm,0.9s,baz=357,slow=5.6,SNR=31						
SIV				pPKP	pPKPdf	07 31 26.9	+0.3
	comp=Z,6.7nm,0.9s,baz=251,slow=0.8,SNR=6.1						
SIV				PKPab	PKPab	07 31 52.0	+0.2
	comp=Z,4.2nm,0.8s,baz=320,slow=4.3,SNR=5.2						
BDFB	Brasilia	163.95	358	PKP	PKPdf	07 31 13.8	+0.1
	comp=Z,7.9nm,0.9s,baz=117,slow=2.3,SNR=4.1						

ATH 03 07:20:35.7, 38°.71N×20°.58E, h6km±3km, ML1.1/1 Error ellipse: s-maj=4.0km s-min=1.2km az=255.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRAG	Dragano-Lefkad	0.03	194	P	Pg	07 20 36.9	0.0
DRAG				S	Sg	07 20 37.8	0.0
NYDR	Nydri-Lefkada	0.09	89	P	Pg	07 20 37.5	-0.2
NYDR				S	Sg	07 20 39.2	+0.1
LKD2	Lefkada island	0.10	37	P	Pg	07 20 37.7	-0.1
LKD2				S	Sg	07 20 39.5	+0.2
LKD2				AML	AML	07 20 39.7	
	comp=N,328μm,0.1s						
LKD2				AML	AML	07 20 39.7	
	comp=E,425μm,0.1s						
EVGI	Lefkada island	0.11	148	P	Pg	07 20 38.1	+0.1
EVGI				S	Sg	07 20 40.5	+0.9
TSLK	Tsoukalades, L	0.13	27	P	Pg	07 20 38.4	+0.1
TSLK				S	Sg	07 20 41.0	+0.8

DDA 03 07:24:06.7±0.0, 37°.14N×36°.26E, h7km±5km, ML3.1
ISK 03 07:24:07.0, 37°.17N×36°.30E, h3km, ML2.9/10
ISC 03 07:24:06.7±1.2, 37°.15N±0°.03×36°.27E±0°.02, h3km±12km, n29, σ0s.79/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.43	8	P	Pg	07 24 15.4	+0.4
ANDN				S	Sg	07 24 21.5	+0.8
CEYT	Ceyhan	0.44	252	PG	Pb	07 24 17.2	+0.1
CEYT				SG	Sb	07 24 23.9	-0.3
KOZT	Kozan	0.48	313	PG	Pb	07 24 17.2	-0.7
KOZT				SG	Sb	07 24 24.8	-0.6
KAHM	Kahramanmaras,	0.68	57	P	Pg	07 24 19.9	+0.2
KAHM				S	Sg	07 24 28.1	-0.4
AKO	Adana	0.73	295	P	Pb	07 24 21.7	-0.4
AKO				S	Sg	07 24 30.6	+0.5
KHMN	Narli-Kahraman	0.75	71	PG	Pb	07 24 22.0	-0.4
KUZU	Kuzuini	0.75	120	P	Pb	07 24 21.9	-0.5
KUZU				S	Sg	07 24 31.1	+0.5
KUZU				i AML	AML	07 24 36.0	
	comp=N,1μm,0.2s						
KUZU				i AML	AML	07 24 39.0	
	comp=E,987nm,0.3s						
TAHT	Tahtakopru-Hat	0.78	185	PG	Pg	07 24 22.2	+0.6
SAIM	ADANA	0.84	350	P	Pn	07 24 24.8	-0.7
SAIM				S	Sb	07 24 34.8	-0.9
KRTD	Karatas-Adana	0.88	231	PG	Pn	07 24 25.6	-0.4
KARA	Karaisali	0.98	277	PG	Pn	07 24 26.9	-0.5
GZT	Gaziantep	1.05	78	P	Pb	07 24 27.4	-0.2
GZT				S	Sb	07 24 41.7	-0.2
GZT				i AML	AML	07 24 43.0	
	comp=N,624nm,0.4s						
GZT				i AML	AML	07 24 44.0	
	comp=E,684nm,0.4s						
CMRD	Camardi-Nigde	1.14	297	PN	Pn	07 24 29.5	-0.2
YAHY	KAYSERI_Yahyal	1.19	323	P	Pn	07 24 31.4	+1.1
YAHY				S	Sn	07 24 47.5	+0.4
SARI	SarD1z-Kayseri	1.26	5	PN	Pn	07 24 31.3	-0.1
MERS	Mersin	1.43	259	PN	Pg	07 24 34.5	+0.4
ATAB	Bozova	1.64	78	P	Pb	07 24 37.9	+0.2
ATAB				S	Sg	07 24 59.2	-0.3
ATAB				i AML	AML	07 25 01.0	
	comp=N,340nm,0.2s						
ATAB				i AML	AML	07 25 03.0	
	comp=E,420nm,0.4s						
BNN	Bunyan	1.73	349	PN	Pb	07 24 38.7	-0.5
AKCD	Akcadag	1.74	48	P	Pb	07 24 38.7	-0.6
AKCD				S	Sb	07 25 01.6	0.0
AKCD				i AML	AML	07 25 05.0	
	comp=N,438nm,0.5s						
AKCD				i AML	AML	07 25 07.0	
	comp=E,316nm,0.5s						
CUGUR	Gurin_SVAS	1.76	26	P	Pg	07 24 40.1	-0.3
CUGUR				S	Sg	07 25 04.3	+1.1
CUGUR				i AML	AML	07 25 08.0	
	comp=E,227nm,0.3s						
CUGUR				i AML	AML	07 25 10.0	
	comp=N,182nm,0.6s						
KEBE	Keben-Mersin	2.17	252	PN	Pb	07 24 46.1	-0.6
SANL	SANLIURFA_Merk	2.17	89	P	Pg	07 24 47.5	-0.9
SANL				S	Sg	07 25 15.1	-1.3
SANL				i AML	AML	07 25 23.0	
	comp=N,136nm,0.8s						
SANL				i AML	AML	07 25 26.0	
	comp=E,125nm,0.7s						
IKL	Isikli	2.27	247	PN	Pb	07 24 47.2	-1.1
CUKAN	kangal_SIVAS	2.36	23	P	Pn	07 24 47.8	+1.3
CUKAN				S	Sb	07 25 18.5	-1.0
TEVE	Tevekalti-Mers	2.38	253	PN	Pb	07 24 49.0	-1.2
AKKU	Akkuyu-Mersin	2.40	246	PN	Pb	07 24 49.5	-1.1
ARPR	Arapgir-MALATY	2.53	39	PN	Pn	07 24 49.7	+0.9
ELZG	Elazig	2.53	57	P	Pg	07 24 54.6	-0.6
ELZG				S	Sb	07 25 26.1	+1.5
ELZG				i AML	AML	07 25 34.0	
	comp=E,70nm,0.5s						
ELZG				i AML	AML	07 25 37.0	
	comp=N,57nm,0.6s						
TEKE	Tekeli-Mersin	2.73	249	PN	Pn	07 24 53.3	+1.9

NNC 03 07:35:48.2±3.2, 53°.33N×88°.25E, h0km, mb3.8, mpv3.4, 7C-4D, Error ellipse: s-maj=24.3km s-min=20.6km az=18.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	6.49	250	⇑Pn	Pn	07 37 24.3	-0.6
	3.4nm,1.0s						
KURK				⇓Sn	Sn	07 38 42.3	+2.7
	2.0nm,0.7s						
KURK				⇑Lg	Lg	07 39 12.3	
	5.5nm,1.1s						
KURBB	Kurchatov Arra	6.59	250	⇑Pn	Pn	07 37 25.7	-0.5
	3.2nm,0.3s						
KURBB				⇓Sn	Sn	07 38 42.3	+0.4
	4.7nm,0.8s						
KURBB				⇑Lg	Lg	07 39 18.9	
	6.8nm,0.7s						
MK31	Makanchi Array	7.58	213	Pn	Pn	07 37 42.2	+2.3
	0.6nm,0.3s,baz=30,slow=13,SNR=13						
MK31				⇓Sn	Sn	07 39 11.4	+4.8
	0.7nm,0.4s,baz=32,slow=25,SNR=2.7						
MK31				⇑Lg	Lg	07 39 51.2	
	2.5nm,0.9s,baz=23,slow=28,SNR=5.3						
MAKZ	Makanchi	7.67	214	⇑Pn	Pn	07 37 40.9	-0.3
	0.7nm,0.7s						
MAKZ				⇓Sn	Sn	07 39 07.9	-0.9
	0.8nm,0.5s						
MAKZ				⇑Lg	Lg	07 39 52.1	
	7.0nm,1.4s						

IDC 03 07:49:13.8±2.9, 53°.55N×87°.67E, h0km, mb1 2.7/2, mb1mx2.7/46, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=25.6km s-min=14.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.74	284	i		08 01 31.2	
	baz=98,slow=346,SNR=4.2						
ZALV	Zalesovo Beam	1.74	284	Pg	Pn	07 49 45.8	+0.6
	1.0nm,0.3s,baz=106,slow=13,SNR=9.8						
ZALV				Lg	Lg	07 50 08.2	
	1.0nm,0.3s,baz=102,slow=27,SNR=9.2						
KURBB	Kurchatov Arra	6.35	246	Pn	Pn	07 50 49.5	+0.9
	0.0nm,0.3s,baz=62,slow=14,SNR=6.6						
KURBB				Lg	Lg	07 52 33.2	
	0.0nm,0.3s,baz=62,slow=32,SNR=7.5						
MKAR	Makanchi Array	7.60	209	Pn	Pn	07 51 06.9	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=9.0						
MKAR				Sn	Sn	07 52 32.2	-0.3
	0.0nm,0.3s,baz=31,slow=26,SNR=4.4						
MKAR				Lg	Lg	07 53 13.3	
	0.0nm,0.3s,baz=32,slow=30,SNR=8.9						

BJI 03 08:34:51.2±0.0, 9°.86S×125°.51E, h34km, mb5.2/74, mB5.4/51, Ms4.9/75, Ms7 4.7/70
IDC 03 08:34:53.9±0.3, 9°.17S×125°.03E, h0km, mb5.1/47, mb1 5.1/51, mb1mx5.0/61, mbtmp5.2/51, ML4.7/3, MS4.8/16, Ms1 4.9/16, ms1mx4.5/45, Error ellipse: s-maj=10.9km s-min=9.6km az=78.0
NEIC 03 08:34:55.8±2.1, 9°.41S±0°.06×125°.19E±0°.05, h20km±1km, mb5.6/105, Ms_20 5.0/82, Mwb5.2/47, Mww5.4, Error ellipse: s-maj=10.3km s-min=8.0km az=192.0
NEIC 03 08:34:55.4, 9°.50S×125°.14E, h11km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr5.52; Mθθ-2.69; Mϕϕ-2.83; Mrθ5.54; Mθϕ-3.55; Mϕr2.66; Fault plane solution: M0 8.56000×10^16 NP1:ϕs208.17000°, δ24.55000°, λ61.42000°. NP2:ϕs59.09000°, δ68.60000°, λ102.33000°. Principal axes: T 8.3753, Plg64.0000°, Azm349.0000°; N 0.3565, Plg11.0000°, Azm235.0000°; P -8.7318, Plg23.0000°, Azm140.0000°;
DJA 03 08:34:56.6±0.4, 10°S±1°×12°5E±°, h18km±3km, M5.4/114, mB5.8/90, mb5.6/114, MLv5.7/18, Mw5.4/15, Mw(mB)5.4/90, MwMwp5.3/33, Mwp5.5/33
GCMT 03 08:34:57.8±0.1, 9°.59S±0°.01×125°.15E±0°.01, h24km, MW5.4/112, Moment Tensor Solution. s110,c190; s112,c199; Duration: 1s.2 Moment tensor: Scale 10^17 Nm; Mrr1.07±.03; Mθθ-0.82±.02; Mϕϕ-0.25±.03; Mrθ0.52±.03; Mθϕ-0.85±.02; Mϕr-0.20±.04; Best double couple: M0 1.39500×10^17 NP1:ϕs210.00000°, δ44.00000°, λ52.00000°. NP2:ϕs77.00000°, δ57.00000°, λ120.00000°. Principal axes: T 1.3240, Plg64.0000°, Azm41.0000°; N 0.1400, Plg25.0000°, Azm239.0000°; P -1.4660, Plg7.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MOS 03 08:34:57.2±0.9, 9°.22S×125°.07E, h38km, mb5.6/51, MS4.7/10 Error ellipse: s-maj=7.5km s-min=4.8km az=115.9
NEIC 03 08:35:00, 9°.70S×125°.08E, h14km, Moment Tensor Solution. Duration: 8s.0 Moment tensor: Scale 10^17 Nm; Mrr0.87; Mθθ-0.86; Mϕϕ-0.01; Mrθ1.18; Mθϕ-0.60; Mϕr-0.33; Fault plane solution: M0 1.61000×10^17 NP1: ϕs216.00000°, δ31.00000°, λ37.00000°. NP2:ϕs93.00000°, δ72.00000°, λ115.00000°. Principal axes: T 1.6597, Plg55.0000°, Azm35.0000°; N -0.1029, Plg24.0000°, Azm265.0000°; P -1.5568, Plg23.0000°, Azm164.0000°;
KLM 03 08:35:06, 9°.23S×124°.77E, h25km, mb5.6
ISC 03 08:34:57.7±0.4, 9°.35S±0°.03×125°.02E±0°.03, h29km±2km, h30km:pP-P, n873, σ1s.89/905, mb5.5/175, MS4.8/86, 51C-9D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	1.59	237	Pn	Pb	08 35 26.3	-0.1
	998nm,0.3s,baz=142,slow=2.0,SNR=230						
BATI				Sn	Sb	08 35 49.0	+2.9
	3μm,0.3s,baz=257,slow=18,SNR=10						
BATI	Baumata	1.59	237	P	Pb	08 35 26.5	+0.1
MMRI	Maumere	2.84	284		Pb	08 35 44.5	-3.2
MMRI	Maumere	2.84	284	P	Pb	08 35 44.9	-2.8
MMRI	Maumere	2.84	284	P	Pb	08 35 45.3	-2.4
BASI	Baing, Sumba	4.46	258	P	Pn	08 36 06.0	+2.6
BBSI	Bau Bau	4.54	327	P	Pn	08 36 10.3	+5.8
BSSI	Bau Bau, Buton	5.50	305	P	Pn	08 36 22.9	+5.1
	3.3nm13μm13μm736nm,0.7s						
WBSI	Waikabubak, Su	5.56	267	P	Pn	08 36 19.9	+1.3
	8.5nm14μm2μm,0.8s						
BKSI	Bulukumba	6.29	309	P	Pn	08 36 31.6	+3.0
	1.8nm18μm6μm475nm,0.8s						
SAUI	Saumlaki	6.36	78		Pn	08 36 25.1	-4.4
SAUI	Saumlaki	6.36	78	P	Pn	08 36 30.8	+1.3
	14nm17μm16μm1μm,0.8s						
SAUI	Saumlaki	6.36	78	P	Pn	08 36 30.6	+1.1
AAI	Ambon	6.45	29	P	Pn	08 36 34.7	+3.9
	2.2nm16μm7μm556nm,0.7s						
DRS	Darwin Rock St	6.54	118	P	Pn	08 36 30.7	-1.2
KAPI	Kappang	6.77	309	Pn	Pn	08 36 40.4	+5.2
	17nm,0.3s,baz=165,slow=7.1,SNR=72						
KAPI				LR	LR	08 39 30.6	
	comp=Z,15μm,19.1s,baz=158,slow=42						
KAPI	Kappang	6.77	309	P	Pn	08 36 37.4	+2.2
KAPI	Kappang	6.77	309		Pn	08 36 37.4	+2.2
KAPI	Kappang	6.77	309	P	Pn	08 36 41.2	+6.0
BNDI	Bandanaira	6.82	46	P	Pn	08 36 40.4	+4.6
BNSI	Bone	6.93	315	P	Pn	08 36 44.0	+6.7
	6.9nm15μm17μm2μm,1.2s						
MTN	Manton Dam	6.93	121	P	Pn	08 36 35.1	-2.3
	baz=6.8,SNR=1000						
MTN	Manton Dam	6.93	121	Pn	Pn	08 36 35.2	-2.2
MTN	Manton Dam	6.93	121	P	Pn	08 36 36.1	-1.3
MSAI	Masohi	7.12	33	P	Pn	08 36 44.1	+4.2
	0.3nm1μm87nm,0.6s						
PLAI	Plampang	7.17	274	P	Pn	08 36 43.8	+3.1
	5.0nm8μm13μm894nm,0.7s						
PLAI	Plampang	7.17	274	P	Pn	08 36 44.6	+3.9
KNRA	Kununurra	7.27	150	P	Pn	08 36 38.8	-3.2
	baz=7.1,SNR=742						
KNRA	Kununurra	7.27	150	Pn	Pn	08 36 39.2	-2.8
KNRA	Kununurra	7.27	150	P	Pn	08 36 39.7	-2.3
SANI	Sanana	7.32	8	P	Pn	08 36 46.3	+3.6
	3.2nm10μm11μm1μm,0.7s						
SANI	Sanana	7.32	8	P	Pn	08 36 49.4	+6.7
SPSI	Sidrap Palu	7.47	315	P	Pn	08 36 49.8	+5.0
	1.9nm17μm8μm477nm,1.1s						
KDU	Kakadu	8.03	115	P	Pn	08 36 49.6	-2.9
	baz=7.9,SNR=307						
KDU	Kakadu	8.03	115	P	Pn	08 36 52.1	-0.4
TTSI	Tana Toraja	8.12	320	P	Pn	08 36 58.8	+5.1
	12μm7μm453nm,0.9s						
LUWI	Luwuk	8.55	345	Pn	Pn	08 37 00.8	+1.2
LUWI	Luwuk	8.55	345	P	Pn	08 37 02.7	+3.1
	12μm31μm2μm,1.1s						
LUWI	Luwuk	8.55	345	P	Pn	08 37 06.2	+6.6
FITZ	Fitzroy Crossi	8.72	176	Pn	Pn	08 36 58.8	-3.1
	25nm,0.3s,baz=359,slow=10,SNR=174						
FITZ				LR	LR	08 41 03.2	
	comp=Z,12μm,18.3s,baz=4.0,slow=42						
FITZ	Fitzroy Crossi	8.72	176	P	Pn	08 36 58.2	-3.7
	baz=8.6,SNR=751						
FITZ	Fitzroy Crossi	8.72	176	Pn	Pn	08 36 58.9	-3.0
FITZ	Fitzroy Crossi	8.72	176	P	Pn	08 36 59.4	-2.5
LBMI	Labuha	9.00	16	P	Pn	08 37 11.3	+5.5
	4μm8μm449nm,1.6s						
APSI	Ampana	9.03	338	P	Pn	08 37 10.7	+4.5
	7μm7μm816nm,1.0s						
FAKI	Fak Fak	9.61	49	Pn	Pn	08 37 14.2	-0.1
FAKI	Fak Fak	9.61	49	P	Pn	08 37 15.3	+1.0
	5μm6μm416nm,1.2s						
FAKI	Fak Fak	9.61	49	P	Pn	08 37 15.2	+1.0
IGBI	Denpasar	9.77	272	P	Pn	08 37 17.4	+1.1
	3μm5μm235nm,0.8s						
SRBI	Singaraja	9.78	277	P	Pn	08 37 17.8	+1.4
	6μm2μm187nm,1.0s						
KMSI	Cibinong	9.91	354	P	Pn	08 37 21.9	+3.6
	7μm561nm,0.6s						
GTOI	Gorontalo	10.12	348	P	Pn	08 37 28.2	+7.1
	5μm1μm110nm,1.0s						
MRSI	Marisa	10.23	342	P	Pn	08 37 28.6	+5.9
	6μm4μm332nm,0.9s						
TNTI	Ternate	10.32	13	Pn	Pn	08 37 24.4	+0.4
TNTI	Ternate	10.32	13	P	Pn	08 37 29.4	+5.5
	3μm4μm221nm,1.3s						
TNTI	Ternate	10.32	13	P	Pn	08 37 28.6	+4.7
SIJI	Sorong	10.47	37	Pn	Pn	08 37 24.8	-1.1
	1.3nm,0.3s,baz=194,slow=7.5,SNR=18						
SWI	Sorong	10.47	37	P	Pn	08 37 27.7	+1.8
SWI	Sorong	10.47	37	P	Pn	08 37 27.5	+1.6
	4μm215nm,1.0s						
KBKI	Kotabaru	10.65	304	P	Pn	08 37 31.7	+3.2
	3μm66nm,1.1s						
JAGI	Jajag, Banyuwa	10.77	274	Pn	Pn	08 37 29.1	-1.1
JAGI	Jajag, Banyuwa	10.77	274	P	Pn	08 37 28.9	-1.2
	3μm158nm,1.0s						
JAGI	Jajag, Banyuwa	10.77	274	P	Pn	08 37 28.5	-1.6
ABJI	Asem Bagus	10.78	277	P	Pn	08 37 32.3	+2.1
	6μm3μm315nm,1.0s						
MPSI	Mapaga	10.89	332	P	Pn	08 37 37.8	+6.1
	11μm3μm330nm,0.9s						
KMMI	Kalianget	11.18	281	P	Pn	08 37 37.8	+2.2
	3μm192nm,0.8s						
TOLI2	Tolitoli	11.22	338	Pn	Pn	08 37 39.0	+2.8
TOLI2	Tolitoli	11.22	338	P	Pn	08 37 42.1	+5.9
BKB	Balikpapan	11.40	314		Pn	08 37 42.2	+3.6
BKB	Balikpapan	11.40	314	P	Pn	08 37 44.0	+5.3
	9μm8μm277nm,1.7s						
BKB	Balikpapan	11.40	314	P	Pn	08 37 43.8	+5.1
BLJI	Banyuglugur	11.41	277	P	Pn	08 37 40.4	+1.6
	2μm120nm,0.6s						
GMJI	Gumukmas	11.49	274	P	Pn	08 37 39.4	-0.5
	2μm150nm,1.0s						
SMKI	Samarinda	11.78	318	P	Pn	08 37 48.7	+4.8
	9μm266nm,0.7s						
GRJI	Gresik	12.65	280	P	Pn	08 37 58.5	+2.7
	2μm261nm,0.8s						
SGSI	Sangihe	12.96	2	P	P	08 38 05.4	-4.9
MTKI	Muara Teweh, K	13.09	309	P	Pn	08 38 04.8	+3.0
	4μm291nm,0.9s						
PSA00	Pilbara Seismi	13.13	202		Pn	08 37 59.0	-3.4
PSA00	Pilbara Seismi	13.13	202		Pn	08 37 58.8	-3.5
PSA00	Pilbara Seismi	13.13	202	P	Pn	08 38 00.5	-1.9
PWJI	Pagerwojo	13.13	275	P	Pn	08 38 01.9	-0.5
	2μm209nm,0.9s						
BAKI	Biak	13.69	54	P	Pn	08 38 09.7	-0.3
	382nm,1.0s						
PCJI	Pacitan	13.73	274	P	Pn	08 38 09.9	-0.7
	6μm586nm,0.8s						
WB0	Warramunga Arr	13.76	140		Pn	08 38 04.9	-6.0
WRA	Warramunga Arr	13.86	140	Pn	Pn	08 38 05.4	-6.8
	19nm,0.3s,baz=319,slow=13,SNR=182						
WRA				Sn	Sn	08 40 31.4	-14
	18nm,0.3s,baz=311,slow=24,SNR=11						
WRA				LR	LR	08 44 49.1	
	comp=Z,11μm,18.8s,baz=310,slow=42						
WRA	Warramunga Arr	13.86	140	Pn	Pn	08 38 05.6	-6.6
WRAB	Tennant Creek	13.86	140	Pn	Pn	08 38 05.4	-6.8
WRAB	Tennant Creek	13.86	140	P	Pn	08 38 07.4	-4.8
UGM	Wanagama	14.40	275	Pn	Pn	08 38 18.4	-1.5
UGM	Wanagama	14.40	275	P	Pn	08 38 18.8	-1.0
	7μm664nm,1.3s						
UGM	Wanagama	14.40	275	P	Pn	08 38 18.8	-1.0
SMRI	Semarang	14.61	278		Pn	08 38 22.7	+0.1
SMRI	Semarang	14.61	278	P	Pn	08 38 23.5	+0.9
	6μm490nm,0.9s						
SMRI	Semarang	14.61	278	P	Pn	08 38 23.8	+1.2
	490nm,0.9s						
YOGI	Yogyakarta	14.64	275	P	Pn	08 38 23.3	+0.3
	4μm413nm,1.1s						
PBKI	Pangkalan Bun	14.82	296	P	P	08 38 28.3	-2.7
	6μm187nm,1.0s						
MMPI	Merauke	15.20	88	P	Pn	08 38 28.2	-2.3
	470nm,0.8s						
MYLDM	Lahad Datu	15.83	336	P	P	08 38 40.6	-1.6
MYLDM				IAmb	IAmb	08 39 22.5	
	comp=Z,365nm,1.1s						
WRKA	Warakurna	15.91	169	P	Pn	08 38 34.6	-5.1
	baz=16,SNR=367						
WRKA	Warakurna	15.91	169	P	Pn	08 38 35.1	-4.6
KPJI	Karang Pucung	16.05	276	P	Pn	08 38 39.4	-2.0
	comp=Z,4μmcomp=Z,413nm,0.7s						
DAV	Davao City (W)	16.32	2	Pn	Pn	08 38 43.9	-1.0
	comp=Z,64nm,0.3s,baz=61,slow=4.6,SNR=1.4						
DAV				Sn	S	08 41 54.8	-2.4
	comp=Z,64nm,0.3s,baz=333,slow=4.2,SNR=1.5						
DAV				LR	LR	08 45 31.9	
	comp=Z,3μm,20.9s,baz=171,slow=40						
SPMM	Sapulut	16.36	328	P	P	08 38 52.0	+3.9
STKI	Sintang	16.41	304	P	P	08 38 51.3	+2.7
	comp=Z,156nm,1.0s						
CMJI	Cimerak	16.46	274	P	Pn	08 38 42.9	-3.8
	comp=Z,6μmcomp=Z,546nm,0.9s						
GENI	Genyem	16.48	67	P	Pn	08 38 46.8	-0.2
	comp=Z,6μmcomp=Z,364nm,1.3s						
GENI	Genyem	16.48	67	P	P	08 38 50.0	+0.5
	comp=Z,367nm,1.3s						
ASAR	Alice Springs	16.58	150	Pn	Pn	08 38 43.0	-5.2
	comp=Z,16nm,0.3s,baz=317,slow=11,SNR=654						
ASAR				Sn	Sn	08 41 40.2	-11
	comp=Z,3.8nm,0.3s,baz=318,slow=20,SNR=6.2						
GIRL	Giralia	16.79	217	P	Pn	08 38 50.0	-0.7
	baz=17,SNR=8.7						
GIRL	Giralia	16.79	217	P	Pn	08 38 49.5	-1.2
GIRL				IAmb	IAmb	08 39 18.7	
	comp=Z,644nm,1.4s						
GIRL	Giralia	16.79	217	P	P	08 38 52.7	0.0
JCJI	Jatiwangi	16.83	278	P	Pn	08 38 51.5	+0.1
	comp=Z,11μmcomp=Z,798nm,0.8s						
JAY	Jayapura	17.01	67	Pn	Pn	08 38 51.5	-2.2
	comp=Z,2.4nm,0.3s,baz=241,slow=10.0,SNR=14						
JAY				Sn	Sn	08 42 00.2	-1.8
	baz=64,slow=15,SNR=2.3						
JAY	Jayapura	17.01	67	P	Pn	08 38 53.3	-0.3
	comp=Z,2μmcomp=Z,107nm,1.3s						
SBUM	Sibu	17.32	312	P	P	08 39 01.1	+2.3
SBUM	Sibu	17.32	312	P	P	08 39 03.0	+4.3
LEM	Lembang	17.41	277	P	P	08 38 59.5	-0.4
	comp=Z,12nm,0.3s,baz=65,slow=8.0,SNR=17						
LEM				S	S	08 42 16.6	-3.2
	comp=Z,3.1nm,0.3s,baz=183,slow=18,SNR=1.4						
LEM				LR	LR	08 46 29.5	
	comp=Z,5μm,21.0s,baz=95,slow=40						
LEM	Lembang	17.41	277	P	Pn	08 38 57.7	-1.1
	comp=Z,3μmcomp=Z,425nm,0.8s						
KKM	Kota Kinabalu	17.63	330	P	P	08 39 02.4	+0.1
KKM				IAmb	IAmb	08 39 19.9	
	comp=Z,328nm,1.1s						
KKM	Kota Kinabalu	17.63	330	P	P	08 39 06.6	+4.3
CNJI	Cibinong	17.82	275	P	Pn	08 39 00.8	-2.9
	comp=Z,10μmcomp=Z,637nm,0.8s						
QIS	Mount Isa	17.95	130	P	Pn	08 39 00.5	-4.7
	baz=18,SNR=87						
QIS	Mount Isa	17.95	130	P	Pn	08 39 01.1	-4.2
KSM	Kuching	18.18	306	P	P	08 39 09.4	+1.2
KSM	Kuching	18.18	306	P	P	08 39 12.0	+3.8
KSM	Kuching	18.18	306	P	P	08 39 10.5	+2.3
CBJI	Citeko	18.23	278	P	Pn	08 39 07.0	-1.8
	comp=Z,12μmcomp=Z,1μm,0.7s						
DBJI	Dramaga	18.31	277	P	P	08 39 08.4	-1.2
	comp=Z,7μmcomp=Z,373nm,1.4s						
COEN	Coen	18.36	106	P	P	08 39 06.9	-3.3
COEN	Coen	18.36	106	P	P	08 39 07.6	-2.6
SKJI	Sukabumi	18.42	276	P	Pn	08 39 11.3	+0.2
	comp=Z,4μmcomp=Z,492nm,0.8s						
TPI	Tanjungpandan	18.46	290	P	Pn	08 39 12.7	+1.1
XMI	Christmas Isla	19.08	265	P	Pn	08 39 20.0	+1.0
XMIS	Christmas Isla	19.11	265	P	P	08 39 17.9	-0.6
XMIS				IAmb	IAmb	08 39 37.1	
	comp=Z,300nm,0.9s						
XMIS	Christmas Isla	19.11	265	P	Pn	08 39 20.1	+0.6
CGJI	Cibinong	19.33	277	P	P	08 39 20.1	-0.8
	comp=Z,6μmcomp=Z,485nm,0.9s						
BLSI	Bandar Lampung	20.00	280	P	P	08 39 27.2	-1.0
	comp=Z,224nm,0.4s						
PPBI	Pangkal Pinang	20.09	290	P	P	08 39 29.9	+0.7
	comp=Z,16μmcomp=Z,117nm,1.0s						
KLI	Kotabumi	20.50	281	P	Pn	08 39 36.9	+1.0
KLI				pmax	pmax		
	comp=Z,276nm,0.8s						
KLI	Kotabumi	20.50	281	P	P	08 39 34.6	+1.0
	comp=Z,277nm,0.8s						
KLSI		20.66	282	P	P	08 39 33.5	-1.8
	comp=Z,780nmcomp=Z,72nm,1.1s						
MTSU	Mount Surprise	20.66	117	P	P	08 39 35.6	+0.2
	baz=20,SNR=65						
MTSU	Mount Surprise	20.66	117	P	P	08 39 36.4	+1.0
KASI	Kota Agung	20.70	279	P	P	08 39 33.5	-2.3
	comp=Z,4μmcomp=Z,375nm,0.8s						
OOD	Oodnadatta	20.92	153	P	P	08 39 37.3	-0.8
PMBI	Palembang	21.11	286	P	P	08 39 40.0	-0.2
PMBI				IAMs_20	IAMs_20	08 49 00.9	
	comp=Z,5μm,20.0s						
LWLI	Liwa	21.23	280	P	P	08 39 44.1	+2.4

comp=Z,66µmcomp=Z,196nm,0.6s
MDSI Maura Dua 21.24 282 P **P** **08 39 39.6 -2.0**
comp=Z,563nmcomp=Z,35nm,1.1s
MORW Morawa 21.35 202 P **P** **08 39 43.0 +0.3**
baz=21,SNR=11
MORW Morawa 21.35 202 P **P** **08 39 40.8 -1.8**
MORW Morawa 21.35 202 P **P** **08 39 41.8 -0.9**
FORT Forrest 21.51 173 P **P** **08 39 43.3 -1.0**
baz=21,SNR=19
FORT Forrest 21.51 173 P **P** **08 39 42.2 -2.1**
FORT Forrest 21.51 173 P **P** **08 39 43.6 -0.7**
PMG Port Moresby 21.84 92 P **P** **08 39 49.0 +1.0**
comp=Z,64nm,0.7s,baz=249,slow=8.9,SNR=20
PMG S **S** **08 43 44.5 -3.7**
comp=Z,17nm,0.7s,baz=214,slow=18,SNR=1.2
PMG LR LR 08 51 14.9
comp=Z,5µm,19.8s,baz=258,slow=45
PMG Port Moresby 21.84 92*d* iP **P** **08 39 47.5 -0.6**
PMG pmax pmax
comp=Z,218nm,1.9s
PMG Port Moresby 21.84 92 P **P** **08 39 46.1 -2.0**
PMG IAmb IAmb 08 40 38.6
comp=Z,187nm,0.9s
PMG Port Moresby 21.84 92 IAMs_20 IAMs_20 08 49 37.0
comp=Z,5µm,21.0s
PMG Port Moresby 21.84 92 P **P** **08 39 52.5 +4.4**
PMG Port Moresby 21.84 92 P **P** **08 39 52.0 +3.9**
DSRI Dabo 22.17 292 P **P** **08 39 52.5 +0.8**
comp=Z,4µmcomp=Z,82nm,1.1s
MULG Mulgathing 22.47 159 P **P** **08 39 55.2 +0.5**
BLDU Ballidu 22.53 199 P **P** **08 39 54.4 -0.9**
baz=22,SNR=18
BLDU Ballidu 22.53 199 P **P** **08 39 54.5 -0.9**
JMBI JAMBI 22.60 289 P **P** **08 39 56.5 +0.2**
comp=Z,193nm,1.3s
KSI Kapahiang 22.98 283 P **P** **08 40 01.2 +0.9**
CTA Charters Tower 23.11 120 P **P** **08 40 01.6 0.0**
comp=Z,85nm,0.9s,baz=290,slow=10.0,SNR=49
CTA S **S** **08 44 09.1 -2.0**
comp=Z,13nm,0.7s,baz=316,slow=21,SNR=1.6
CTA LR LR 08 50 15.8
comp=Z,7µm,19.1s,baz=299,slow=40
CTA Charters Tower 23.11 120 P **P** **08 40 02.5 +1.0**
CTAO Charters Tower 23.11 120 IAMs_20 IAMs_20 08 50 03.7
comp=Z,7µm,19.0s
KLBR Kellerberrin 23.14 196 P **P** **08 40 00.7 -1.0**
baz=23,SNR=26
KLBR Kellerberrin 23.14 196 P **P** **08 40 01.4 -0.2**
MANU Manus Island 23.38 73 P **P** **08 40 02.3 -1.9**
MANU IAmb IAmb 08 40 28.8
comp=Z,203nm,1.6s
MASI Maura Aman, Be 23.46 284 P P 08 39 56.9 -8.2
INKA Innaminka 23.55 143 P **P** **08 40 06.9 +1.2**
TGY Tagaytay City 23.65 350 P **P** **08 40 07.2 +0.4**
comp=Z,109nm,0.3s,baz=145,slow=19,SNR=1.3
MYKOM **Kota Tinggi 23.82 297** P **P** **08 40 08.8 +0.3**
MUN Mundaring 23.95 199 P **P** **08 40 08.1 -1.4**
baz=24,SNR=8.6
MUN Mundaring 23.95 199 P **P** **08 40 09.2 -0.3**
RGRI Rengat 24.29 290 P **P** **08 40 13.2 +0.4**
comp=Z,324nm,0.4s
LCRK Leigh Creek 24.34 151 P **P** **08 40 13.6 +0.5**
KRJI Kerinci 24.51 286 P **P** **08 40 15.1 +0.1**
comp=Z,6µmcomp=Z,143nm,0.4s
NWAO Narrogin (SRO) 24.54 196 IAMs_20 IAMs_20 08 51 02.6
comp=Z,5µm,18.0s
QLP Quilpie 24.99 136 P **P** **08 40 19.0 -0.1**
baz=25,SNR=17
QLP Quilpie 24.99 136 P **P** **08 40 19.5 +0.4**
comp=Z,514nm,0.8s
BBOO Buckleboo 25.48 158 P **P** **08 40 23.1 -0.4**
baz=25,SNR=40
BBOO Buckleboo 25.48 158 P **P** **08 40 22.0 -1.4**
BBOO IAmb IAmb 08 40 38.8
comp=Z,186nm,0.9s
BBOO Buckleboo 25.48 158 P **P** **08 40 23.0 -0.4**
PPSI Pulau Pagai 25.70 283 P **P** **08 40 23.3 -2.4**
comp=Z,78nm,1.1s
BKNI Bangkinang 25.74 291 P **P** **08 40 25.9 -0.1**
BKNI IAMs_20 IAMs_20 08 51 52.7
comp=Z,4µm,20.0s
BKNI Bangkinang 25.74 291 P **P** **08 40 26.1 +0.1**
comp=Z,4µmcomp=Z,220nm,0.8s
JRMM Jerantut 26.03 299 P **P** **08 40 31.0 +2.4**
RKGY Rocky Gully 26.20 195 P **P** **08 40 29.8 -0.2**
baz=26,SNR=4.1
RKGY Rocky Gully 26.20 195 P **P** **08 40 31.9 +2.0**
WHYH Whyalla 26.26 156 P **P** **08 40 30.8 +0.3**
comp=Z,342nm,0.9s
PTPS Port Pirie 26.56 155 P **P** **08 40 35.5 +2.3**
comp=Z,374nm,0.9s
NAPP Napperby 26.63 155 P **P** **08 40 35.4 +1.6**
SISI Saibi 27.00 286 P **P** **08 40 35.3 -2.1**
comp=Z,22nm,0.9s
HTT Hallett 27.18 154 P **P** **08 40 39.3 +0.5**
baz=27,SNR=43
HTT Hallett 27.18 154 P **P** **08 40 39.7 +0.9**
STKA Stephens Creek 27.18 148 P **P** **08 40 38.8 0.0**
comp=Z,24nm,0.4s,baz=312,slow=9.4,SNR=56
STKA S S 08 45 27.6 +12
comp=Z,8.8nm,0.8s,baz=17,slow=19,SNR=0.8
STKA LR LR 08 52 47.3
comp=Z,6µm,18.5s,baz=315,slow=39
STKA Stephens Creek 27.18 148 P **P** **08 40 39.0 +0.2**
baz=27,SNR=94
STKA Stephens Creek 27.18 148 P **P** **08 40 37.4 -1.4**
STKA Stephens Creek 27.18 148 P **P** **08 40 39.3 +0.5**
IPM Ipoh 27.58 299 P **P** **08 40 41.6 -1.0**
IPM Ipoh 27.58 299 P **P** **08 40 43.1 +0.5**
comp=Z,29nm,0.9s
COCO West Island 27.83 262 P **P** **08 40 45.3 +0.5**
COCO pmax pmax
comp=Z,140nm,1.0s
COCO West Island 27.83 262 P **P** **08 40 45.3 +0.5**
COCO IAmb IAmb 08 41 01.7
comp=Z,140nm,0.9s
RMQ Roma 28.21 130 P **P** **08 40 48.7 +0.6**
baz=28,SNR=9.6
RMQ Roma 28.21 130 P **P** **08 40 49.0 +0.9**
KULM Kulim 28.31 300 P **P** **08 40 47.8 -1.3**
KULM IAMs_20 IAMs_20 08 53 32.1
comp=Z,3µm,20.0s
TWOA Tennyson Woods 28.41 156 P **P** **08 40 51.7 +1.9**
RPSI Rantau Prapat 28.62 293 P **P** **08 40 51.1 -0.9**
RPSI IAMs_20 IAMs_20 08 53 26.4
comp=Z,5µm,20.0s
RPSI Rantau Prapat 28.62 293 P **P** **08 40 51.6 -0.3**
PSI Prapat 28.67 294 P **P** **08 40 51.6 -0.8**
comp=Z,22nm,0.9s,baz=137,slow=4.1,SNR=16
PSI S **S** **08 45 34.7 -5.1**
comp=Z,2.1nm,0.5s,baz=281,slow=20,SNR=1.1
PSI Prapat 28.67 294 P **P** **08 40 52.7 +0.2**
comp=Z,34nm,0.8s
CMSA Cobar Meteorol 29.26 142 P **P** **08 40 57.8 +0.5**
baz=29,SNR=15
CMSA Cobar Meteorol 29.26 142 P **P** **08 40 58.3 +0.9**
TSI Tuntungan 29.29 295 P **P** **08 40 59.0 +1.1**
comp=Z,178nm,1.2s
GSI Gunungsitoli 29.32 290 P **P** **08 40 55.6 -2.4**
GSI Gunungsitoli 29.32 290 P **P** **08 40 56.0 -2.1**
comp=Z,32nm,0.7s
GSI Gunungsitoli 29.32 290 P **P** **08 40 57.3 -0.8**
comp=Z,32nm,0.7s
SRIT Nakonsritamara 30.96 304 P **P** **08 41 13.1 +0.5**
SRIT IAmb IAmb 08 41 15.5
comp=Z,95nm,1.0s
ARPS Mount Arapiles 31.27 153 P **P** **08 41 16.0 +0.9**
baz=31,SNR=18
ARPS Mount Arapiles 31.27 153 P **P** **08 41 15.9 +0.9**
LHMI Lhok Sumawe 31.51 296 IAMs_20 IAMs_20 08 55 31.4
comp=Z,4µm,18.0s
QIZ Qiongzhong 31.93 332 P **P** **08 41 20.6 -0.4**
QIZ Qiongzhong 31.93 332 P **P** **08 41 22.7 +1.7**
QIZ PP **PP** **08 42 36.4 +2.9**
QIZ S **S** **08 46 36.7 +6.2**
QIZ pmax pmax
comp=Z,30nm,1.2s
QIZ LR LR
comp=Z,1µm,16.2s
QIZ LR LR
comp=Z,870nm,21.1s
QIZ LR LR
comp=Z,1µm,15.7s
ARMA Armidale 32.49 134 P **P** **08 41 28.6 +2.6**
baz=32,SNR=6.0
ARMA Armidale 32.49 134 P **P** **08 41 28.1 +2.1**

TPUB Ta-pu 32.73 353 P **P** **08 41 26.7 -1.3**
TPUB Ta-pu 32.73 353 P **P** **08 41 27.7 -0.3**
BRAT Ballarat 32.86 152 P **P** **08 41 29.8 +0.8**
SSLB Suanglung 33.17 353 P **P** **08 41 33.1 +1.2**
TOO Toolangi 33.63 150 P **P** **08 41 37.9 +2.1**
baz=34,SNR=10
TOO Toolangi 33.63 150 P **P** **08 41 38.6 +2.8**
CAN Canberra 33.87 143 IAMs_20 IAMs_20 08 56 55.0
comp=Z,4µm,20.0s
YHNB Yeheng 34.00 354 P **P** **08 41 37.2 -2.0**
YHNB Yeheng 34.00 354 P **P** **08 41 38.2 -0.9**
CNB Canberra Magne 34.08 143 P **P** **08 41 40.9 +1.1**
baz=34,SNR=6.9
QZH Quanzhou 34.66 350 P **P** **08 41 44.9 +0.2**
QZH S **S** **08 47 13.6 +0.9**
QZH LR LR
comp=Z,730nm,18.5s
QZH LR LR
comp=Z,300nm,18.9s
QZH LR LR
comp=Z,1µm,20.7s
JOW Kunigami 36.10 5 P **P** **08 41 56.9 -0.3**
comp=Z,12nm,0.6s,baz=200,slow=9.9,SNR=4.9
GULI GuiLin 37.27 338 ⇓P **P** **08 42 08.3 +1.1**
GULI S **S** **08 47 55.6 +2.7**
GULI LR LR
comp=Z,630nm,16.9s
GULI LR LR
comp=Z,730nm,23.2s
GULI LR LR
comp=Z,970nm,17.1s
CM31 Chiang Mai Arr 37.76 317 P **P** **08 42 12.3 +0.9**
CM31 IAmb IAmb 08 42 14.3
comp=Z,92nm,1.4s
CM31 Chiang Mai Arr 37.76 317 P **P** **08 42 13.2 +1.8**
SNR=16
CMAR Chiang Mai Arr 37.76 317 P **P** **08 42 12.4 +1.0**
comp=Z,22nm,0.9s,baz=144,slow=6.4,SNR=28
CMAR S **S** **08 47 59.1 -1.3**
comp=Z,1.1nm,0.3s,baz=121,slow=14,SNR=1.1
CMAR ScP **ScP** **08 48 18.2 +4.5**
comp=Z,1.9nm,0.3s,baz=168,slow=3.0,SNR=5.1
CMAR LR LR 09 01 07.2
comp=Z,2µm,19.4s,baz=140,slow=42
CMAR Chiang Mai Arr 37.76 317 *i* P **P** **08 42 12.8 +1.4**
CMAR pmax pmax
comp=Z,15nm,0.4s
CMAR Chiang Mai Arr 37.76 317 P **P** **08 42 12.0 +0.6**
CHTO Chiang Mai 38.01 317 P **P** **08 42 13.8 +0.3**
CHTO pmax pmax
comp=Z,132nm,1.4s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 38.01 317 P **P** **08 42 13.8 +0.3**
CHTO IAmb IAmb 08 42 16.3
comp=Z,132nm,1.4s
CHTO Chiang Mai 38.01 317 IAMs_20 IAMs_20 08 58 20.3
comp=Z,2µm,21.0s
CHTO Chiang Mai 38.01 317 P **P** **08 42 14.5 +1.0**
CHTO Chiang Mai 38.01 317 P **P** **08 42 15.0 +1.5**
DGPR DIGLIPUR 38.94 305 *e*P **P** **08 42 20.2 -1.2**
DGPR IAmb IAmb 08 42 27.0
comp=Z,18nm,0.6s
KOUNC **Koumac, New Ca 39.43 111** IAMs_20 IAMs_20 09 00 54.0
comp=Z,3µm,18.0s
GYA Guiyang 39.81 334 ⇓*i*P **P** **08 42 29.3 +0.7**
GYA pP pP 08 42 39.1 +1.6
GYA S **S** **08 48 36.0 +4.6**
GYA pmax pmax
comp=Z,46nm,1.1s
GYA LR LR
comp=Z,550nm,13.8s
GYA LR LR
comp=Z,870nm,13.3s
GYA LR LR
comp=Z,960nm,15.2s
JCJ Chichijima 39.87 24 P **P** **08 42 28.9 -0.1**
JCJ IAmb IAmb 08 42 33.2
comp=Z,161nm,1.1s
SSE Sheshan 40.38 355 P **P** **08 42 35.4 +2.3**
SSE S **S** **08 48 46.1 +6.6**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,52nm,3.7s
SSE LR LR
comp=Z,140nm,21.8s
SSE LR LR
comp=Z,250nm,20.0s
KMI Kunming 40.57 328 ⇓P **P** **08 42 36.7 +1.7**
KMI pP pP 08 42 45.5 +1.6
KMI sP sP 08 42 51.1 +3.6
KMI PP **PnPn** **08 44 14.3 +1.4**
KMI S **S** **08 48 40.4 -2.5**
KMI pmax pmax
comp=Z,32nm,1.3s
KMI LR LR
comp=Z,900nm,19.0s
KMI LR LR
comp=Z,990nm,21.9s
KMI LR LR
comp=Z,1µm,23.3s
JSU Suzuyama 40.95 7 P **P** **08 42 37.0 -0.9**
WHN Wuhan 40.97 346 ⇑P **P** **08 42 38.6 +0.6**
WHN pP **pP** **08 42 46.1 -0.8**
WHN sP **sP** **08 42 50.5 +0.1**
WHN S **S** **08 48 48.5 +0.2**
WHN pmax pmax
comp=Z,170nm,1.2s
WHN LR LR
comp=Z,2µm,15.3s
WHN LR LR
comp=Z,890nm,14.8s
WHN LR LR
comp=Z,3µm,20.2s
NJ2 Nanjing 41.59 352 ⇓P **P** **08 42 43.7 +0.7**
NJ2 pP **pP** **08 42 51.1 -1.0**
NJ2 S **S** **08 48 52.1 -5.3**
NJ2 pmax pmax
comp=Z,50nm,1.0s
NJ2 pmax pmax
comp=Z,340nm,3.5s
NJ2 LR LR
comp=Z,580nm,16.6s
NJ2 LR LR
comp=Z,550nm,15.2s
NJ2 LR LR
comp=Z,820nm,16.1s
SANVU Saraoutou 41.59 103 IAMs_20 IAMs_20 09 01 39.2
comp=Z,3µm,19.0s
SANVU Saraoutou 41.59 103 P **P** **08 42 47.8 +4.4**
DZM Mont Dzumac 41.69 113 P **P** **08 42 45.3 +1.0**
comp=Z,11nm,0.8s,baz=252,slow=7.3,SNR=5.8
DZM Mont Dzumac 41.69 113 *e*P **P** **08 42 41.4 -2.9**
comp=Z,96nm,1.4s
DZM *e*S **S** **08 48 56.2 -3.4**
comp=Z,1µm,29.9s
DZM *e*LR LR 08 54 15.3
comp=Z,3µm,23.4s
DZM Mont Dzumac 41.69 113 P **P** **08 42 42.2 -2.0**
DZM Mont Dzumac 41.69 113 P **P** **08 42 45.7 +1.4**
YATNC **Mamie plateau, 42.10 113** P **P** **08 42 48.2 +0.7**
OUENC **Ouen Island, N 42.12 113** P **P** **08 42 44.5 -3.1**
OUENC **Ouen Island, N 42.12 113** P **P** **08 42 49.4 +1.7**
ENH Enshi 42.13 340 P **P** **08 42 46.6 -1.0**
PZH PanZhiHua 42.21 328 P **P** **08 42 48.1 -0.3**
PZH pP **sP** **08 42 59.9 -1.0**
PZH PP **PcP** **08 44 34.6 -7.7**
PZH S **S** **08 49 00.0 -7.1**
PZH sS **sS** **08 49 27.5 +5.9**
PZH ScS **ScS** **08 52 43.2 -5.8**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,270nm,5.8s
PZH LR LR
comp=Z,2µm,22.2s
PZH LR LR
comp=Z,3µm,21.8s
PZH LR LR
comp=Z,4µm,24.0s
JNU Nakatsue 42.60 7 P **P** **08 42 50.2 -1.1**
comp=Z,15nm,0.9s,baz=50,slow=2.4,SNR=7.4
JNU Nakatsue 42.60 7 P **P** **08 42 51.8 +0.4**
MARNC **Mare, Loyalty 43.04 111** P **P** **08 42 57.0 +1.9**

JMN Monobe 43.66 11 P **P** **08 42 58.3 -1.6**
JHS Saijyo 44.77 9 P **P** **08 43 09.0 +0.2**
JHS IAmb IAmb 08 44 50.7
comp=Z,56nm,0.7s
CD2 Chengdu 44.93 334 P **P** **08 43 10.2 0.0**
CD2 S **S** **08 49 49.6 +3.0**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,250nm,5.2s
CD2 LR LR
comp=Z,910nm,15.2s
CD2 LR LR
comp=Z,1µm,21.4s
LYN LuoYang 45.25 345 ⇑P **P** **08 43 11.7 -0.9**
LYN S **S** **08 49 51.3 +0.3**
LYN pmax pmax
comp=Z,20nm,1.5s
LYN pmax pmax
comp=Z,170nm,12.0s
LYN LR LR
comp=Z,400nm,15.5s
LYN LR LR
comp=Z,720nm,17.3s
TJN Taejon 45.54 3*c* iP **P** **08 43 14.2 -0.6**
TJN Taejon 45.54 3 P **P** **08 43 14.5 -0.3**
TJN Taejon 45.54 3 P **P** **08 43 15.4 +0.6**
XAN Xi'an 45.78 341 P **P** **08 43 15.7 -1.1**
XAN pP sP 08 43 31.3 +1.9
XAN PP **PP** **08 45 04.0 -0.5**
XAN S **S** **08 49 56.2 -2.6**
XAN sS sS 08 50 23.8 +10
XAN pmax pmax
comp=Z,44nm,0.6s
XAN pmax pmax
comp=Z,340nm,4.6s
XAN LR LR
comp=Z,540nm,14.1s
XAN LR LR
comp=Z,580nm,16.3s
XAN LR LR
comp=Z,980nm,17.5s
INU Inuyama 45.88 14 P **P** **08 43 17.7 +0.1**
INU IAmb IAmb 08 44 56.8
comp=Z,96nm,1.4s
INU IAMs_20 IAMs_20 09 02 08.1
comp=Z,1µm,20.0s
INU Inuyama 45.88 14 P **P** **08 43 18.5 +1.0**
TIA Tai'an 45.92 351 ⇑P **P** **08 43 16.5 -1.4**
TIA S **S** **08 50 01.2 +0.5**
TIA pmax pmax
comp=Z,14nm,1.2s
TIA pmax pmax
comp=Z,150nm,4.7s
TIA LR LR
comp=Z,560nm,19.6s
TIA LR LR
comp=Z,340nm,18.1s
TIA LR LR
comp=Z,890nm,19.5s
JGF Kuroka 46.20 14 P **P** **08 43 19.4 -0.8**
KSAR Wonju Array Be 46.62 3 P **P** **08 43 23.5 +0.1**
KSAR Wonju Array Be 46.62 3 P **P** **08 43 23.5 +0.1**
KSRS Korea Array 46.64 3 P **P** **08 43 23.4 0.0**
comp=Z,13nm,0.8s,baz=180,slow=9.6,SNR=43
KSRS S **S** **08 50 07.6 -3.3**
comp=Z,0.7nm,0.5s,baz=18,slow=36,SNR=1.6
KSRS LR LR 09 05 27.7
comp=Z,561nm,19.6s,baz=185,slow=40
KS19 Wonju Array Si 46.68 3 P **P** **08 43 23.4 -0.5**
KS19 IAmb IAmb 08 45 02.5
comp=Z,94nm,1.8s
PALK Pallekele 47.14 289 P **P** **08 43 26.6 -1.3**
comp=Z,22nm,1.1s,baz=233,slow=5.7,SNR=4.6
PALK Pallekele 47.14 289 IAMs_20 IAMs_20 09 05 46.9
comp=Z,2µm,19.0s
PALK Pallekele 47.14 289 P **P** **08 43 26.8 -1.1**
MAJO Matsushiro 47.30 14*ce*P **P** **08 43 28.1 -0.7**
MAJO pmax pmax
comp=Z,77nm,1.3s
MAJO Matsushiro 47.30 14 P **P** **08 43 27.3 -1.4**
MAJO Matsushiro 47.30 14 P **P** **08 43 28.0 -0.7**
MAT Matsushiro 47.30 14 P **P** **08 43 27.4 -1.3**
MAT S **S** **08 50 21.8 +1.3**
MJAR Matsushiro Arr 47.30 14 P **P** **08 43 27.9 -0.8**
comp=Z,41nm,0.8s,baz=195,slow=8.2,SNR=46
MJAR LR LR 09 01 29.5
comp=Z,744nm,21.9s,baz=192,slow=34
MJAR Matsushiro Arr 47.30 14 P **P** **08 43 27.5 -1.2**
MJB9 Matsu-Tunnel 47.30 14 P **P** **08 43 27.9 -0.8**
MJB9 IAmb IAmb 08 45 06.3
comp=Z,66nm,0.8s
SHL Shillong 47.38 318 P **P** **08 43 29.0 -0.7**
SHL pmax pmax
comp=Z,62nm,0.9s
SHL Shillong 47.38 318 P **P** **08 43 28.9 -0.7**
SHL Shillong 47.38 318 ⇑*i*P **P** **08 43 27.9 -1.8**
SHL Shillong 47.38 318 P **P** **08 43 29.1 -0.6**
SNR=23
HNS HongShan 47.50 349 ⇑P **P** **08 43 29.4 -0.7**
HNS S **S** **08 50 21.4 -1.7**
HNS pmax pmax
comp=Z,42nm,1.6s
HNS LR LR
comp=Z,460nm,21.7s
HNS LR LR
comp=Z,310nm,22.6s
HNS LR LR
comp=Z,680nm,19.1s
JYT Yasato 47.53 17 P **P** **08 43 28.7 -1.8**
TIY Taiyuan 48.28 347 P **P** **08 43 34.8 -1.5**
TIY S **S** **08 50 33.0 -1.4**
TIY LR LR
comp=Z,430nm,14.0s
TIY LR LR
comp=Z,230nm,9.2s
TIY LR LR
comp=Z,420nm,15.7s
BWNR Bhubaneshwar 48.54 308 *e*P **P** **08 43 37.8 -0.8**
JMM Marumori 49.23 17 P **P** **08 43 43.6 +0.1**
LZH Lanzhou 49.40 337 ⇑P **P** **08 43 45.6 +0.5**
LZH pP pP 08 43 54.5 +0.4
LZH sP sP 08 43 59.4 +1.7
LZH S **S** **08 50 52.4 +1.9**
LZH pmax pmax
comp=Z,130nm,1.6s
LZH pmax pmax
comp=Z,530nm,5.2s
LZH LR LR
comp=Z,650nm,19.5s
LZH LR LR
comp=Z,600nm,19.0s
LZH LR LR
comp=Z,970nm,19.0s
BJT Baijiatuan 49.80 351 P **P** **08 43 46.8 -1.0**
BJT pmax pmax
comp=Z,92nm,1.7s
BJT Baijiatuau 49.80 351 P **P** **08 43 46.8 -1.0**
BJI Beijing 49.82 351 P **P** **08 43 46.9 -1.1**
BJI pP **pP** **08 43 54.0 -3.1**
BJI sP **sP** **08 43 56.2 -4.5**
BJI S **S** **08 50 53.8 -1.9**
BJI pmax pmax
comp=Z,26nm,1.4s
BJI LR LR
comp=Z,410nm,23.7s
BJI LR LR
comp=Z,450nm,19.9s
BJI LR LR
comp=Z,680nm,18.3s
LSA Lhasa 50.70 321 P **P** **08 43 55.8 +0.3**
LSA pmax pmax
comp=Z,293nm,1.5s
LSA Lhasa 50.70 321 P **P** **08 43 55.8 +0.3**
LSA Lhasa 50.70 321 P **P** **08 43 55.6 +0.2**
LSA LR LR
comp=Z,170nm,16.0s
LSA LR LR
comp=Z,460nm,18.9s
LSA LR LR
comp=Z,350nm,22.4s
LSA Lhasa 50.70 321 P **P** **08 43 55.5 0.0**
VJD Vijayawada 50.87 300 ⇑*i*P **P** **08 43 55.6 -0.8**
ODAN Odare 51.27 316 *e*P **P** **08 43 59.3 -0.2**
comp=Z,102nm,0.7s

TAPN Taplejung 51.36 316 *e*P P 08 43 59.9 -0.4
comp=Z,298nm,1.1s
HHC Hu-ho-hao-te 51.47 347 ⇑P P 08 44 00.2 -0.4
HHC pP pP 08 44 08.3 -1.3
HHC PP **PP** 08 46 03.6 +5.4
HHC S **S** 08 51 19.4 +0.5
HHC SS **SS** 08 54 54.0 -1.4
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,250nm,5.6s
HHC LR LR
comp=Z,490nm,16.5s
HHC LR LR
comp=Z,410nm,16.2s
HHC LR LR
comp=Z,900nm,19.6s
BTO Baotou 51.60 345 *e*P P 08 44 01.4 -0.2
BTO S **S** 08 51 20.8 +0.1
BTO LR LR
comp=Z,3μm,17.6s
BTO LR LR
comp=Z,2μm,16.9s
RAMN Ramite 51.87 315 *e*P P 08 44 04.3 +0.3
comp=Z,192nm,0.5s
MSHR Mys Shultsa 51.98 6 *i*P P 08 44 03.2 -1.0
MSHR pmax pmax
comp=Z,16nm,0.9s
DGAR Diego Garcia 52.01 268 *i*P P 08 44 03.9 -1.1
DGAR pmax pmax
comp=Z,214nm,1.7s
DGAR Diego Garcia 52.01 268 IAMs_20 IAMs_20 09 02 12.2
comp=Z,1μm,22.0s
MSVF Nonsavu 52.08 105 P P 08 44 08.9 +3.4
comp=Z,8.9nm,1.0s,baz=91,slow=13,SNR=2.1
MSVF LR LR 09 07 13.8
comp=Z,1μm,18.6s,baz=294,slow=37
RPZ Rata Peaks 52.56 139 P P 08 44 09.3 +0.7
comp=Z,16nm,0.8s,baz=3.7,slow=3.7,SNR=6.5
VLA Vladivostok 52.59 6 *i*P P 08 44 07.8 -0.9
VLA pmax pmax
comp=Z,31nm,1.0s
JIRN Jiri 52.60 316 *e*P P 08 44 09.3 -0.3
comp=Z,142nm,0.8s
CN2 Changchun 52.90 0 *e*P P 08 44 09.0 -2.0
CN2 S **S** 08 51 40.3 +2.1
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,300nm,6.9s
CN2 LR LR
comp=Z,600nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,700nm,22.0s
GUN Gumba 52.97 316 *e*P P 08 44 11.8 -0.5
comp=Z,213nm,0.8s
HYB Hyderabad 53.06 300 ⇑*i*P P 08 44 10.9 -1.8
HYBB Hyderabad (bro 53.06 300 *e*P P 08 44 11.1 -1.6
HYBB *e*sP **pP** 08 44 21.5 -0.4
HYBB IVmBBB 08 44 23.0
comp=Z,240nm,1.8s
HYBB *e*PcS **PcS** 08 49 19.2 -0.9
HYBB *e*S **S** 08 51 42.4 +1.0
HYBB IVMs_BB IVMs_BB 09 09 18.7
comp=Z,166nm,17.8s
PKI Pulchoki 53.09 315 *e*P P 08 44 12.4 -0.7
comp=Z,62nm,0.5s
PKIN Phulchoki 53.10 315 *e*P P 08 44 12.5 -0.6
comp=Z,119nm,0.7s
KKN Kakani 53.31 315 *e*P P 08 44 14.2 -0.4
comp=Z,274nm,1.3s
DMN Daman 53.32 315 *e*P P 08 44 14.2 -0.6
comp=Z,323nm,1.4s
GOMU GeErMu 53.49 330 P P 08 44 16.2 +0.2
GOMU pP pP 08 44 23.3 -1.8
GOMU sP sP 08 44 26.8 -1.9
GOMU PcP **PcP** 08 45 25.0 +2.3
GOMU S **S** 08 51 44.9 -2.4
GOMU pmax pmax
comp=Z,13nm,0.9s
GOMU pmax pmax
comp=Z,89nm,5.3s
GOMU LR LR
comp=Z,260nm,17.1s
GOMU LR LR
comp=Z,490nm,17.5s
GOMU LR LR
comp=Z,250nm,17.5s
USA0B Ussuriysk Arra 53.67 6 P P 08 44 16.0 -0.7
USA0B pmax pmax
comp=Z,44nm,0.8s
USA0B Ussuriysk Arra 53.67 6 P P 08 44 16.0 -0.7
USRK Ussuriysk Ar. 53.67 6 P P 08 44 16.4 -0.3
comp=Z,17nm,0.5s,baz=184,slow=6.5,SNR=25
USRK S **S** 08 51 48.5 -0.2
comp=Z,2.4nm,0.6s,baz=132,slow=43,SNR=1.2
USRK LR LR 09 09 17.9
comp=Z,388nm,18.9s,baz=169,slow=39
USRK Ussuriysk Ar. 53.67 6 P P 08 44 16.1 -0.5
ERM Erimo 53.75 17 *i*P P 08 44 16.6 -0.7
ERM pmax pmax
comp=Z,86nm,1.8s
GTA Gaotai 53.87 336 ⇑P P 08 44 18.4 0.0
GTA pP pP 08 44 24.3 -3.2
GTA sP sP 08 44 28.5 -2.6
GTA pmax pmax
comp=Z,56nm,1.7s
GTA pmax pmax
comp=Z,320nm,7.6s
GTA LR LR
comp=Z,430nm,17.5s
GTA LR LR
comp=Z,600nm,21.1s
GTA LR LR
comp=Z,590nm,18.7s
MDJ Mudanjiang 53.87 4 P P 08 44 17.5 -0.7
MDJ Mudanjiang 53.87 4 P P 08 44 18.1 0.0
MDJ pP sP 08 44 31.5 +0.6
MDJ S **S** 08 51 58.2 +6.8
MDJ pmax pmax
comp=Z,58nm,1.0s
MDJ pmax pmax
comp=Z,400nm,5.3s
MDJ LR LR
comp=Z,580nm,18.2s
MDJ LR LR
comp=Z,480nm,23.3s
MDJ LR LR
comp=Z,640nm,18.5s
GKN Gorkha 53.89 315 *e*P P 08 44 18.3 -0.5
comp=Z,289nm,1.0s
VLK Valmikinagar 54.02 314 ⇑*i*P P 08 44 19.4 -0.2
HMDM Hanimaadhoo 54.08 285 IAMs_20 IAMs_20 09 11 37.7
comp=Z,817nm,19.0s
KOLN Koldanda 54.48 314 *e*P P 08 44 22.7 -0.5
comp=Z,700nm,1.4s
DANN Dangsing 54.72 315 *e*P P 08 44 24.3 -0.7
comp=Z,162nm,0.6s
BNX BinXian 54.88 2 ⇓P P 08 44 24.7 -0.7
BNX pP **sP** 08 44 39.9 +1.7
BNX PcP **PcP** 08 45 28.3 +1.0
BNX S **S** 08 52 06.5 +1.6
BNX pmax pmax
comp=Z,64nm,1.3s
BNX pmax pmax
comp=Z,490nm,4.7s
BNX LR LR
comp=Z,560nm,9.2s
BNX LR LR
comp=Z,330nm,4.1s
BNX LR LR
comp=Z,2μm,21.7s
PYUN Piuthan 55.11 314 *e*P P 08 44 27.5 -0.3
comp=Z,519nm,1.1s
TEY Ternei 55.13 10 ⇑*i*P P 08 44 27.2 -0.1
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=Z,50nm,0.7s
ASAJ Asahikawa 55.55 15 P P 08 44 29.9 -0.4
comp=Z,26nm,0.7s,baz=236,slow=10.0,SNR=30
ASAJ S **S** 08 52 17.6 +3.6
comp=Z,1.7nm,0.5s,baz=292,slow=24,SNR=1.3
ASAJ Asahikawa 55.55 15 P P 08 44 30.1 -0.2
ASAJ pmax pmax
comp=Z,204nm,1.6s
JKA Kamikawa-asahi 55.55 15 P P 08 44 30.1 -0.2
AKL Akola 55.84 303 *e*P P 08 44 31.7 -1.2
KAD Karad 56.79 298 *e*P P 08 44 37.9 -1.9
CASY Casey 57.71 187 P P 08 44 45.9 +0.5
CASY IAmb IAmb 08 46 25.1
comp=Z,65nm,1.4s
KUR Kuril'sk 58.10 19 *i*P P 08 44 47.7 -0.7
YSS Yuzh-Sakhalins 58.24 14⇓*e*P P 08 44 49.2 -0.1
YSS *e*sSP **sP** 08 45 01.5 -0.5
YSS *e*S **S** 08 52 48.5 -0.9
YSS *e*PS **PnS** 08 52 58.7 -4.8
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=N,300nm,13.0s
YSS Yuzh-Sakhalins 58.24 14 P P 08 44 48.4 -0.9
YSS IAmb IAmb 08 44 50.7
comp=Z,109nm,1.6s
YSS IAMs_20 IAMs_20 09 07 29.3
comp=Z,924nm,22.0s
HIA Hailar 58.55 356*c* *i*P P 08 44 50.3 -1.2
HIA pmax pmax
comp=Z,37nm,1.3s
HIA Hailar 58.55 356 P P 08 44 51.2 -0.3
HIA Hailar 58.55 356 IAMs_20 IAMs_20 09 13 04.7
comp=Z,826nm,21.0s
KLR Kul'dur 58.63 5 P P 08 44 51.0 -1.0
comp=Z,6.2nm,0.6s,baz=198,slow=6.1,SNR=27
KLR LR LR 09 12 33.2
comp=Z,274nm,18.6s,baz=166,slow=39
KLR Kul'dur 58.63 5*c* *i*P P 08 44 51.0 -1.0
KLR pmax pmax
comp=Z,42nm,2.5s
KLR MLR MLR
comp=Z,367nm,18.0s
ULN Ulaanbaatar 59.15 346*ce*P P 08 44 55.7 -0.2
ULN pmax pmax
comp=Z,81nm,1.7s
ULN Ulaanbaatar 59.15 346 P P 08 44 55.1 -0.7
ULN IAmb IAmb 08 45 18.4
comp=Z,50nm,1.0s
SONM Songino Array 59.28 346 P P 08 44 56.5 -0.3
comp=Z,7.1nm,0.4s,baz=168,slow=7.1,SNR=58
SONM S S 08 52 51.2 -12
comp=Z,0.4nm,0.4s,baz=131,slow=38,SNR=1.2
SONM PKPPKP **P'P'df** 09 14 30.9 +5.3
comp=Z,0.1nm,0.4s,baz=64,slow=3.4,SNR=1.9
SONM Songino Array 59.28 346 P P 08 44 55.9 -0.9
SONM IAmb IAmb 08 45 19.1
comp=Z,38nm,1.0s
KUDL Kundal 59.91 310 *e*P P 08 44 59.2 -2.1
UGL Uglegorsk 60.08 13 *e*P P 08 45 03.0 +1.0
UGL *e*S **S** 08 53 15.5 +2.4
UGL pmax pmax
comp=Z,100nm,1.6s
AJM Ajmer 60.49 308⇑*i*P P 08 45 04.2 -1.2
GRNR Gornyy 60.69 8⇑*i*P P 08 45 05.3 -0.9
GRNR pmax pmax
comp=Z,20nm,1.2s
SMLA Simla 61.00 313⇑*i*P P 08 45 08.3 -0.4
BHK Bhakra 61.69 313⇑*i*P P 08 45 12.6 -0.9
TYV Tymovskoe 61.89 13 *e*P P 08 45 14.9 +0.6
TYV pmax pmax
comp=Z,300nm,3.0s
TYV pmax pmax
comp=Z,20nm,1.2s
AFI Afiamalu 61.93 101 P P 08 45 17.8 +2.4
comp=Z,11nm,0.8s,baz=300,slow=21,SNR=1.4
DHRM DHARAMSHALA 62.23 314 *e*P P 08 45 16.6 -0.7
DHRM IAmb IAmb 08 45 19.3
comp=Z,99nm,0.4s
ZAK Zakamensk 62.43 344 *e*P P 08 45 16.9 -1.2
ZAK pmax pmax
comp=Z,44nm,1.6s
WMQ Urumqi 62.83 330 *e*P P 08 45 21.7 +0.9
WMQ pP pP 08 45 27.9 -2.2
WMQ sP sP 08 45 32.1 -1.5
WMQ S **S** 08 53 49.8 +1.4
WMQ pmax pmax
comp=Z,99nm,1.7s
WMQ pmax pmax
comp=Z,330nm,3.9s
WMQ LR LR
comp=Z,820nm,21.7s
WMQ LR LR
comp=Z,490nm,19.1s
WMQ LR LR
comp=Z,590nm,22.1s
ZEA Zeya 62.87 1 *e*P P 08 45 20.9 +0.1
ZEA *e* 08 45 31.9
ZEA *e*S **S** 08 53 50.2 +1.8
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA smax smax
comp=N,200nm,12.7s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,200nm,12.0s
IRK Irkutsk 63.88 346 *e*P P 08 45 27.1 -0.5
IRK pmax pmax
comp=Z,120μm,2.1s
MOY Mondy 64.21 344 *e*P P 08 45 30.0 +0.1
MOY pmax pmax
comp=Z,139nm,1.8s
NIL Nilore 65.14 314 P P 08 45 35.8 -0.4
NIL pmax pmax
comp=Z,72nm,0.8s
NIL MLR MLR
comp=Z,600nm,20.0s
NIL Nilore 65.14 314 P P 08 45 35.8 -0.4
NIL Nilore 65.14 314 P P 08 45 35.7 -0.5
KSH Kashi 66.54 320 P P 08 45 46.4 +1.1
KSH sP sP 08 45 57.1 -1.0
KSH S **S** 08 54 33.4 -1.1
KSH pmax pmax
comp=Z,54nm,1.3s
KSH LR LR
comp=Z,440nm,18.2s
KSH LR LR
comp=Z,510nm,19.2s
KSH LR LR
comp=Z,570nm,19.6s
SHLS Shalkode 66.69 325*c* *i*P P 08 45 44.8 -1.3
SHLS pmax pmax
comp=Z,69nm,1.5s
SHLS Shalkode 66.69 325⇑*i*P P 08 45 44.9 -1.3
comp=Z,69nm,1.5s,baz=326
TARG Taragay, Kyrgy 66.75 323 P P 08 45 45.6 -1.3
TARG IAmb IAmb 08 47 33.4
comp=Z,56nm,0.9s
PDGK Podgornoye 66.79 325 P P 08 45 46.4 -0.3
ZSN Zaisan 66.83 332*c* *i*P P 08 45 46.0 -0.8
ZSN pmax pmax
comp=Z,42nm,1.5s
ZSN Zaisan 66.83 332⇑*i*P P 08 45 46.0 -0.8
comp=Z,42nm,1.5s,baz=332
UZB Uzynbulak 66.94 325*c* *i*P P 08 45 47.3 -0.4
UZB pmax pmax
comp=Z,78nm,1.5s
UZB Uzynbulak 66.94 325⇑*i*P P 08 45 47.3 -0.4
comp=Z,78nm,1.5s,baz=325
SATY Saty 67.23 325*c* *i*P P 08 45 49.1 -0.5
SATY pmax pmax
comp=Z,114nm,1.8s
SATY Saty 67.23 325⇑*i*P P 08 45 49.2 -0.4
comp=Z,114nm,1.8s,baz=325
ZHN Zhinishke 67.28 325 *e*P P 08 45 49.0 -0.8
ZHN Zhinishke 67.28 325 *e*P P 08 45 49.1 -0.8
baz=325
KPKS Kokpek 67.33 325*c* *i*P P 08 45 50.0 -0.1
KPKS pmax pmax
comp=Z,106nm,1.7s
KPKS Kokpek 67.33 325⇑*i*P P 08 45 50.1 -0.1
comp=Z,106nm,1.7s,baz=325
BOD Bodaibo 67.54 354 *e*P P 08 45 51.0 0.0
BOD pmax pmax
comp=Z,65nm,2.2s
MK31 Makanchi Array 67.62 330 *i*P P 08 45 51.5 -0.3
MK31 Makanchi Array 67.62 330 P P 08 45 51.4 -0.3
MKAR Makanchi Array 67.62 330 P P 08 45 51.6 -0.1
comp=Z,21nm,0.4s,baz=131,slow=6.4,SNR=523
MKAR S **S** 08 54 42.3 -4.7
comp=Z,0.2nm,0.7s,baz=40,slow=21,SNR=1.9
MKAR P4KPbc 09 22 40.2
comp=Z,0.2nm,0.5s,baz=175,slow=4.7,SNR=3.7
MAKZ Makanchi 67.78 330 P P 08 45 52.2 -0.6
MAKZ pmax pmax
comp=Z,59nm,0.9s
MAKZ MLR MLR
comp=Z,800nm,21.0s
MAKZ Makanchi 67.78 330 P P 08 45 52.2 -0.6
MAKZ IAMs_20 IAMs_20 09 17 18.9
comp=Z,816nm,21.0s
TNSS Tian-Shan 68.06 324 *e*P P 08 45 55.0 -0.1
baz=324
MDOK Medeo 68.07 324 *i*P P 08 45 54.7 -0.2
MDOK Medeo 68.07 324 *i*P P 08 45 54.8 -0.2
baz=324
PEA0B Petropavlovsk- 68.16 21*c* *i*P P 08 45 54.4 -0.6
PETK Petropavlovsk- 68.16 21 P P 08 45 55.3 +0.3
comp=Z,8.7nm,0.6s,baz=163,slow=1.5,SNR=14
PETK Petropavlovsk- 68.16 21 P P 08 45 54.7 -0.3
PETK Petropavlovsk- 68.16 21 P P 08 45 54.7 -0.3
AAA Alma-Ata 68.18 324 *e*P P 08 45 55.6 +0.2
AAA Alma-Ata 68.18 324 *e*P P 08 45 55.6 +0.2
baz=324
ARXS Arharly 68.28 325 *e*P P 08 45 56.3 +0.2
PET Petropavlovsk 68.42 21 *e*P P 08 45 56.8 +0.2
PET *e*S S 08 54 58.8 +2.6
PET pmax pmax
comp=Z,78nm,1.5s
PET pmax pmax
comp=Z,200nm,18.8s
PET Petropavlovsk 68.42 21 P P 08 45 56.0 -0.6
CHKK Chushkaly 68.53 325 *e*P P 08 45 57.1 -0.5
baz=325
KBL Kabul 68.61 313 P P 08 45 56.9 -1.6
KBL pmax pmax
comp=Z,46nm,0.8s
KBL Kabul 68.61 313 P P 08 45 56.9 -1.6
TKM2 Tokmak 2 68.78 323 P P 08 45 59.6 +0.2
SNR=25
TKM2 Tokmak 2 68.78 323 P P 08 45 59.3 -0.1
KUU Kurty 68.93 324*c* *i*P P 08 45 59.6 -0.4
KUU pmax pmax
comp=Z,115nm,1.3s
KUU Kurty 68.93 324⇑*i*P P 08 45 59.7 -0.4
comp=Z,115nm,1.3s,baz=324
UCH Uchtor 69.02 322 P P 08 46 01.2 0.0
SNR=27
MSEY Mahe Island 69.09 269 P P 08 46 03.3 +1.6
AAK Ala-Archa 69.27 322 P P 08 46 02.9 +0.5
comp=Z,23nm,0.4s,baz=124,slow=5.2,SNR=72
AAK S **S** 08 55 03.3 -3.7
comp=Z,0.6nm,0.4s,baz=210,slow=22,SNR=1.5
AAK Ala-Archa 69.27 322 P P 08 46 02.2 -0.1
AAK IAMs_20 IAMs_20 09 22 00.4
comp=Z,680nm,22.0s
AAK Ala-Archa 69.27 322 *i*P P 08 46 02.4 0.0
SNR=53
CHMS Chumysh 69.32 323 P P 08 46 03.6 +1.1
SNR=5.7
AML Almayashu 69.46 322 P P 08 46 03.9 0.0
SNR=62
AML Almayashu 69.46 322 P P 08 46 05.7 +1.8
AML Almayashu 69.46 322 *i*P P 08 46 03.6 -0.3
SNR=62
USP Ospenovka 69.63 323 P P 08 46 04.9 +0.5
SNR=38
SGDS Segindy 69.66 323 *e*P P 08 46 04.3 -0.4
comp=Z,56nm,1.7s,baz=323
EKS2 Erkin-Say 69.71 322 P P 08 46 06.0 +0.9
SNR=34
GAR Garm 69.93 317 P P 08 46 05.3 -1.2
GAR IAmb IAmb 08 47 45.1
comp=Z,52nm,0.7s
CHGR Chuyangaron 70.54 317 P P 08 46 08.0 -2.2
CHGR pmax pmax
comp=Z,207nm,1.4s
CHGR Chuyangaron 70.54 317 P P 08 46 09.0 -1.2
VNDA Vanda 70.77 172 P P 08 46 11.9 +1.1
comp=Z,3.6nm,0.6s,baz=310,slow=10,SNR=9.3
VNDA Vanda 70.77 172 P P 08 46 12.0 +1.1
VNDA IAmb IAmb 08 47 51.4
comp=Z,61nm,1.6s
BTLS Baital 70.93 324*c* *i*P P 08 46 11.4 -0.9
BTLS pmax pmax
comp=Z,38nm,1.5s
BTLS Baital 70.93 324⇑*i*P P 08 46 11.4 -0.9
comp=Z,38nm,1.5s,baz=324
MAW Mawson 70.99 201 P P 08 46 14.0 +1.8
comp=Z,17nm,0.8s,baz=299,slow=14,SNR=1.4
SEM Semipalatinsk 71.08 332 *e*P P 08 46 12.6 -0.7
SEM pmax pmax
comp=Z,81nm,1.9s
SEM Semipalatinsk 71.08 332 *e*P P 08 46 12.7 -0.7
comp=Z,81nm,1.9s,baz=332
YAK Yakutsk 71.25 2 P P 08 46 13.4 -0.5
comp=Z,29nm,0.6s,baz=192,slow=1.2,SNR=16
YAK S **S** 08 55 23.4 -5.7
comp=Z,5.7nm,0.3s,baz=293,slow=2.1,SNR=1.4
YAK Yakutsk 71.25 2*c* *i*P P 08 46 13.3 -0.5
YAK *e*sPP **PcP** 08 46 30.6 -3.0
YAK *e*S **S** 08 55 27.9 -1.2
YAK *e*sSS **SKiKP** 08 55 54.4 +1.8
YAK *e* 08 56 08.8
YAK pmax pmax
comp=Z,106nm,1.0s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=E,147nm,3.5s
YAK smax smax
comp=N,97nm,3.2s
YAK Yakutsk 71.25 2 P P 08 46 13.1 -0.7
DZA Taraz 71.34 321 *e*P P 08 46 14.3 -0.6
DZA Taraz 71.34 321 *e*P P 08 46 14.3 -0.6
baz=321
JLN Jalan Bani Buh 71.50 297 P P 08 46 15.3 -0.9
ZALV Zalesovo Beam 71.62 336 P P 08 46 15.2 -1.0
comp=N,29nm,0.4s,baz=134,slow=5.0,SNR=26
ZALV S **S** 08 55 27.6 -6.0
comp=N,2.7nm,0.7s,baz=146,slow=11,SNR=7.2
ZALV Zalesovo Beam 71.62 336 *i*P P 08 46 15.1 -1.1
ZALV pmax pmax
comp=Z,29nm,0.4s
MA2 Magadan 71.73 13 P P 08 46 16.5 -0.3
comp=Z,34nm,1.0s,baz=201,slow=6.4,SNR=57
MA2 Magadan 71.73 13*c* *i*P P 08 46 16.9 +0.1
MA2 pmax pmax
comp=Z,122nm,1.5s
MA2 Magadan 71.73 13 P P 08 46 16.6 -0.2
TAS Tashkent 71.80 319 P P 08 46 18.6 +0.9
TAS pmax pmax
comp=Z,118nm,0.6s
TAS Tashkent 71.80 319 P P 08 46 18.6 +0.9
KURBB Kurchatov Arra 72.04 331 P P 08 46 18.2 -0.6
comp=Z,16nm,0.5s,baz=143,slow=5.2,SNR=62
KURBB S S 08 55 29.4 -9.2
comp=Z,0.2nm,0.5s,baz=199,slow=31,SNR=1.4
KURK Kurchatov 72.06 331 P P 08 46 18.2 -0.8
KURK pmax pmax
comp=Z,206nm,1.4s
KURK Kurchatov 72.06 331 P P 08 46 18.2 -0.8
MHTO MHTO 72.42 295 P P 08 46 21.6 -0.1
SNR=8.9
DQM DQM 72.49 294 P P 08 46 22.7 +0.5
SNR=5.7
WSAR Wadi Sarin 72.53 298 P P 08 46 22.3 -0.1
comp=Z,32nm,0.6s,baz=146,slow=5.8,SNR=24
JMDO Jabal Madar 72.72 297 P P 08 46 24.1 +0.5
SMDO Samad 72.98 298 P P 08 46 25.7 +0.5
BIDO Bidbid 73.06 298 P P 08 46 26.5 +1.0
SNR=9.3
HRA Herat 73.58 310 P P 08 46 27.1 -1.6
BSY Bisya 73.63 297 P P 08 46 29.6 +0.7
SNR=5.2
SHAO Shalim 73.69 292 P P 08 46 29.9 +0.5
SHAO Shalim 73.69 292 *i*P P 08 46 29.5 +0.1
SNR=11
SOCY Socotra 73.75 286 P P 08 46 29.4 -0.5
SOCY Socotra 73.75 286 P P 08 46 30.1 +0.2

SNR=24
HOQ Hoqain 73.79 298 P P 08 46 30.7 +0.9
SNR=6.6
DMTO DMTO 74.23 291 P P 08 46 33.2 +0.7
ARQ Araqi 74.40 297 P P 08 46 34.9 +1.5
SNR=6.0
BRZS Berezniki 74.58 328*c* *i*P P 08 46 33.5 -0.4**
BRZS pmax pmax
comp=Z,61nm,1.6s
BRZS Berezniki 74.58 328⇑ *i*P P 08 46 33.5 -0.4**
comp=Z,61nm,1.6s,baz=328
SOHO SOHO 74.63 298 P P 08 46 36.1 +1.4
SOHO SOHO 74.63 298 *i* P P 08 46 34.5 -0.3**
SNR=7.4
RBK Rabkut 74.86 291 P P 08 46 36.9 +0.7
SNR=10
SEY Seymchan 75.08 13 P P 08 46 36.0 -0.5
comp=Z,14nm,0.5s,baz=207,slow=5.2,SNR=52
SEY LR LR 09 17 57.3
comp=Z,157nm,21.8s,baz=218,slow=34
UOSS Minazif 75.17 299 P P 08 46 39.3 +1.5
UOSS Minazif 75.17 299 P P 08 46 37.4 -0.5
HATD Hatta, Dubai 75.19 299 P P 08 46 38.9 +0.9
SNR=5.4
HATD Hatta, Dubai 75.19 299 *i* P P 08 46 38.4 +0.4**
SNR=5.8
ASHO Ashiyiah 75.21 299 P P 08 46 39.6 +1.4
SNR=6.4
ASHO Ashiyiah 75.21 299 *i* P P 08 46 38.0 -0.1**
SNR=9.5
DOK Doka 75.22 292 P P 08 46 38.8 +0.5
SNR=11
ALNE Al Ain 75.29 298 P P 08 46 39.9 +1.3
SNR=8.7
MSFE Esma-Masafi 75.33 299 P P 08 46 38.9 0.0
WHFO Wadi Hawf 75.36 291 P P 08 46 39.0 -0.2
SNR=18
BANOM Banah 75.38 300 P P 08 46 40.4 +1.3
BANOM Banah 75.38 300 P P 08 46 39.7 +0.6
UMZA Um Al Zommool 75.42 296 P P 08 46 40.3 +1.0
SHME Shamm 75.56 300 *i* P P 08 46 40.5 +0.5**
SNR=5.8
OPO Ambohidratompo 75.62 253 P P 08 46 42.7 +2.0
comp=Z,7.9nm,0.8s,baz=58,slow=8.2,SNR=5.7
FAQ Al Faqa, Dubai 75.63 299 P P 08 46 40.8 +0.3
SNR=8.6
FAQ Al Faqa, Dubai 75.63 299 *i* P P 08 46 40.3 -0.3**
SNR=13
NAZ Nazwa, Dubai 75.65 299 P P 08 46 41.4 +0.8
SNR=7.6
NAZ Nazwa, Dubai 75.65 299 *i* P P 08 46 40.0 -0.6**
SNR=5.0
ABTO Aybut 75.66 291 P P 08 46 41.0 +0.2
SNR=27
VOI Vohitsoka 75.71 250 P P 08 46 39.0 -2.2
VOI IAMs_20 IAMs_20 09 18 57.1
comp=Z,778nm,18.0s
VOI Vohitsoka 75.71 250 P P 08 46 46.9 +5.7
UMQ Umm Al-Quwin 75.81 299 P P 08 46 42.2 +0.7
ASUD Al Ashush, Dub 75.83 298 P P 08 46 42.6 +1.0
SNR=5.6
ASUD Al Ashush, Dub 75.83 298 *i* P P 08 46 41.9 +0.3**
SNR=5.6
AJN Ajban 76.11 298 *i* P P 08 46 42.6 -0.6**
SNR=5.1
MZR Muzera 76.98 296 P P 08 46 49.4 +1.2
SNR=17
MZR Muzera 76.98 296 *i* P P 08 46 48.0 -0.2**
SNR=12
BVAR Borovoye Array 77.50 330 P P 08 46 50.2 -0.3
comp=Z,2.4nm,0.4s,baz=82,slow=12,SNR=45
BRVK Borovoye 77.57 330*ce*P P 08 46 50.5 -0.3**
BRVK pmax pmax
comp=Z,96nm,1.7s
BRVK Borovoye 77.57 330 P P 08 46 49.9 -0.9
BRVK IAmb IAmb 08 46 52.1
comp=Z,112nm,1.5s
BRVK IAMs_20 IAMs_20 09 23 39.0
comp=Z,472nm,20.0s
GEYT Alibeck 78.03 312 P P 08 46 54.2 +0.4
comp=Z,7.6nm,0.5s,baz=188,slow=6.0,SNR=15
GEYT S S 08 56 39.9 -6.2
comp=Z,1.5nm,0.4s,baz=136,slow=28,SNR=1.4
GEYT Alibeck 78.03 312 P P 08 46 53.7 -0.1
GEYT IAmb IAmb 08 46 55.8
comp=Z,80nm,1.4s
GYA0B ALIBECK ARRAY 78.03 312 P P 08 46 53.0 -0.9
GYA0B IAmb IAmb 08 46 55.6
comp=Z,82nm,1.4s
SLWR Sila 78.85 297 P P 08 46 59.3 +0.7
TRNA Turayna 79.45 297 P P 08 47 02.6 +0.8
SYO Syowa Base 79.69 201⇑ *eP* P 08 47 03.2 +0.9**
SYO Syowa Base 79.69 201⇑ *ep*P pP 08 47 08.6 -3.1
SYO Syowa Base 79.69 201⇑ *es*P sP 08 47 12.8 -2.3
SHMA Al-Shehemyia 79.97 298 P P 08 47 05.2 +0.7
SAKB Bahrain 80.37 298 P P 08 47 08.3 +1.6
QSPA South Pole Qui 80.64 180 P P 08 47 07.5 -0.2
QSPA IAmb IAmb 08 48 47.7
comp=Z,133nm,1.5s
TIXI Tiksi 80.86 1 P P 08 47 07.2 -1.1
comp=Z,22nm,0.6s,baz=272,slow=23,SNR=60
TIXI LR LR 09 27 44.7
comp=Z,284nm,18.0s,baz=182,slow=39
TIXI Tiksi 80.86 1 P P 08 47 07.3 -1.1
TIXI pmax pmax
comp=Z,58nm,0.7s
TIXI MLR MLR
comp=Z,500nm,20.0s
TIXI Tiksi 80.86 1 P P 08 47 07.3 -1.1
TIXI IAMs_20 IAMs_20 09 22 39.7
comp=Z,476nm,20.0s
AB31 Akbulak array 81.34 323 *i* P P 08 47 10.9 -0.6**
ABKAR Akbulak array 81.34 323 P P 08 47 10.5 -1.0
ABKAR Akbulak array 81.34 323 P P 08 47 10.3 -1.1
ABKAR IAmb IAmb 08 47 12.4
comp=Z,82nm,1.5s
BILL Bilibino 82.56 14*d* *i*P P 08 47 17.0 -0.5**
BILL *i* 08 50 29.4
BILL *i* S S 08 57 30.5 -1.7
BILL pmax pmax
comp=Z,23nm,1.7s
BILL MLR MLR
comp=Z,167nm,17.0s
BILL Bilibino 82.56 14 P P 08 47 16.7 -0.7
NRIK Noril'sk 82.70 347 P P 08 47 18.1 0.0
comp=Z,5.8nm,0.4s,baz=151,slow=5.3,SNR=26
NRIK Noril'sk 82.70 347*c* *i*P P 08 47 18.2 0.0**
NRIK pmax pmax
comp=Z,53nm,1.4s
NRIK MLR MLR
comp=Z,421nm,21.0s
NRIK Noril'sk 82.70 347 P P 08 47 17.8 -0.3
NRIK IAmb IAmb 08 47 19.9
comp=Z,55nm,1.3s
PPT2 Papeete2 82.88 107 *e*S S 08 57 33.6 -4.1**
comp=Z,862nm,27.5s
PPT2 Papeete2 82.88 107 *e*LQ LQ 09 09 46.9
comp=Z,2μm,35.2s
PPT2 *e*LR LR 09 13 17.2
comp=Z,1μm,28.0s
AKTO Aktyubinsk 82.97 324 P P 08 47 19.4 -0.6
comp=Z,15nm,0.5s,baz=112,slow=9.5,SNR=44
AKTO S S 08 57 35.5 -1.5
comp=Z,0.5nm,0.4s,baz=225,slow=23,SNR=1.2
RAYN Ar Rayn 84.22 295 P P 08 47 26.4 -0.7
RAYN pmax pmax
comp=Z,112nm,0.8s
RAYN MLR MLR
comp=Z,1μm,20.0s
RAYN Ar Rayn 84.22 295 P P 08 47 26.4 -0.7
RAYN Ar Rayn 84.22 295 *i* P P 08 47 27.4 +0.4**
SNR=54
SVE Sverdlovsk 84.28 330 *e*P P 08 47 26.8 +0.3**
SVE pmax pmax
comp=Z,68nm,1.3s
ATD Arta Tunnel 84.28 283 P P 08 47 29.6 +2.1
comp=Z,22nm,1.1s,baz=12,slow=11,SNR=4.4
ATD Arta Tunnel 84.28 283 P P 08 47 25.5 -2.0
ATD IAmb IAmb 08 49 08.8
comp=Z,52nm,1.1s
ATD Arta Tunnel 84.28 283 P P 08 47 29.2 +1.7
ATD Arta Tunnel 84.28 283 *eP* P 08 47 38.1 +11
ATD Arta Tunnel 84.28 283 *eP* P 08 47 30.3 +2.7**
ARU Arti 85.14 329 P P 08 47 30.0 -0.9
comp=Z,2.6nm,0.3s,baz=102,slow=2.5,SNR=24
ARU S S 08 57 44.3 -14
comp=Z,2.8nm,0.2s,baz=278,slow=9.1,SNR=1.5
ARU Arti 85.14 329*c* *i*P P 08 47 30.2 -0.7**
ARU S S 08 57 52.2 -6.4
ARU SS SS 09 03 29.6 -3.3
ARU pmax pmax
comp=Z,74nm,1.4s
LKRN Lenkeran, Azer 85.23 310 P P 08 47 32.0 +0.2
TEND Ethiopian Broa 86.10 283 *eP* P 08 47 34.3 -2.4**
KIBK Kibwezi 86.64 268 IAMs_20 IAMs_20 09 23 08.3
comp=Z,516nm,20.0s
KIBK Kibwezi 86.64 268 P P 08 47 41.9 +2.5
SNR=19
ANKE Ethiopia-Afar 86.95 280 *eP* P 08 47 44.2 +2.9
ANKE Ethiopia-Afar 86.95 280 *eP* P 08 47 36.4 -4.9
GAMB Gambell 86.99 23 P P 08 47 40.0 +0.2
baz=242
MNGR Mingechevir, A 87.04 312 P P 08 47 42.0 +1.4
SEKA Sheki 87.07 312 P P 08 47 41.2 +0.3
FALS False Pass 87.20 33 P P 08 47 41.0 0.0
baz=249
DESE Dese 87.31 282 *eP* P 08 47 38.5 -4.4
MAK Makhachkala 87.31 314 *eP* P 08 47 38.9 -3.0
MAK *e*PPP PPP 08 53 02.2
MAK *e* 08 58 02.5
MAK *e*SS SS 09 04 04.4 -0.9
MAK pmax pmax
comp=Z,225nm,1.1s
GANJ Ganja 87.57 312 P P 08 47 43.2 -0.1
KMBO Kilima Mbogo 87.62 269 P P 08 47 46.1 +1.7
comp=Z,14nm,0.9s,baz=72,slow=5.9,SNR=41
KMBO Kilima Mbogo 87.62 269 IAMs_20 IAMs_20 09 23 53.3
comp=Z,455nm,21.0s
KMBO Kilima Mbogo 87.62 269 *eP* P 08 47 46.6 +2.2
KMBO Kilima Mbogo 87.62 269 *eP* P 08 47 46.1 +1.7
KMBO Kilima Mbogo 87.62 269 *i* P P 08 47 46.0 +1.7
SNR=24
AAE Adis Abeba 87.79 279 *eP* P 08 47 46.3 +1.0
AAE Adis Abeba 87.79 279 *eP* P 08 47 38.3 -6.9
NAX Nakhchivan 87.83 310 P P 08 47 45.0 +0.4
DILA Dilla 87.83 277 *eP* P 08 47 45.7 +0.4
DILA Dilla 87.83 277 *eP* P 08 47 39.9 -5.4
FURI Furi 87.86 279 IAMs_20 IAMs_20 09 30 03.8
comp=Z,640nm,18.0s
FURI Furi 87.86 279 *eP* P 08 47 48.8 +3.2
FURI Furi 87.86 279 *eP* P 08 47 37.1 -8.4
GNI Garni 88.62 311 P P 08 47 48.6 +0.1
comp=Z,8.3nm,0.4s,baz=198,slow=2.9,SNR=4.9
GNI Garni 88.62 311*c* *i*P P 08 47 48.2 -0.3**
GNI pmax pmax
comp=Z,28nm,1.8s
NVL N'lazarevskaya 88.65 198⇓ *i*P P 08 47 45.1 -2.7
NVL *i* 08 47 57.9
NVL *i* S S 08 58 26.2 -6.0
NVL *i* PS PS 09 00 01.4 +22
NVL pmax pmax
comp=Z,47nm,1.5s
NVL MLR MLR
comp=N,1μm,17.0s
NVL MLR MLR
comp=E,1μm,17.0s
NVL MLR MLR
comp=Z,2μm,17.0s
SDPT Sand Point 88.96 33 P P 08 47 49.7 +0.3
baz=252
TNA Tin City 89.24 23 P P 08 47 49.9 -0.6
TNA Tin City 89.24 23 P P 08 47 50.1 -0.4
baz=245
GEVA Gevas 89.49 309 P P 08 47 52.6 0.0
GEVA IAmb IAmb 08 49 31.8
comp=Z,45nm,0.9s
BRNG Burnasheti 89.63 312 P P 08 47 54.3 +1.2
BELG Belogornoye 89.75 323 P P 08 47 52.1 -1.1
comp=Z,20nm,0.8s,baz=305,slow=3.5,SNR=11
BELG Belogornoye 89.75 323*c* *i*P P 08 47 52.2 -1.0**
BELG pmax pmax
comp=Z,7.0nm,1.0s
ANM Nome 89.83 24 P P 08 47 53.1 -0.2
baz=248
ZEI Tsey 89.83 313 *eP* P 08 47 50.5 -3.6
ZEI pmax pmax
comp=Z,20nm,1.5s
LODK Lodwar 90.21 273 P P 08 47 59.3 +2.9
SNR=13
LODK Lodwar 90.21 273 *eP* P 08 47 57.8 +1.5
LODK Lodwar 90.21 273 *eP* P 08 47 44.4 -12
GURO Guroymak-BITLI 90.33 309 P P 08 47 56.8 +0.4
GURO IAmb IAmb 08 49 35.8
comp=Z,32nm,1.0s
KIRV Kirov 90.52 330 P P 08 47 55.6 -0.9
comp=Z,7.1nm,0.4s,baz=112,slow=3.4,SNR=2.1
KBZ Khabaz 90.75 314 P P 08 47 58.5 +0.4
comp=Z,4.4nm,0.9s,baz=106,slow=1.4,SNR=6.8
KBZ Khabaz 90.75 314*c* *i*P P 08 47 57.5 -0.6**
KBZ pmax pmax
comp=Z,13nm,1.2s
NEY Neytrino 90.78 314 *i* P P 08 47 58.4 -0.1**
NEY pmax pmax
comp=Z,5.0nm,1.2s
GOF Gofitskoye 90.93 315⇑ *eP* P 08 47 59.1 +0.2**
GOF pmax pmax
comp=Z,55nm,1.1s
KIV Kislovodsk 90.95 314 *eP* P 08 47 58.9 -0.3**
KIV *e* 08 58 27.7
KIV pmax pmax
comp=Z,11nm,1.1s
RDOG Red Dog Mine 92.03 21 P P 08 48 03.5 0.0
baz=250
BELA Belgrano 2 92.17 184 P P 08 48 04.7 +0.6
SNAA Sanae 92.21 194 PcP **PcP 08 48 06.1 +0.9**
SNAA Sanae 92.21 194 P P 08 48 05.8 +1.3
SNAA pmax pmax
comp=Z,38nm,1.0s
SNAA Sanae 92.21 194 P P 08 48 05.8 +1.3
VRH Novokhopyorsk 93.04 321 *eP* P 08 48 06.3 -2.2**
VRH pmax pmax
comp=Z,40nm,1.5s
TTA Tatalina 93.28 27 P P 08 48 09.4 0.0
baz=256
TAOE Nuku Hiva Isla 93.29 99 *e*S S 08 59 06.9 -10
comp=Z,464nm,27.0s
TAOE Nuku Hiva Isla 93.29 99 *e*LR LR 09 18 06.8
comp=Z,369nm,24.0s
OHAK Old Harbor 93.32 33 P P 08 48 09.7 +0.1
baz=258
N19K Bonanza Creek 93.49 29 P P 08 48 10.8 +0.3
baz=257
Q19K Cape Douglas, 93.49 31 P P 08 48 11.5 +1.0
baz=258
L19K White Mountain 93.62 28 P P 08 48 10.8 -0.2
L19K IAmb IAmb 08 48 13.1
comp=Z,33nm,1.7s
L19K White Mountain 93.62 28 P P 08 48 10.9 -0.2
baz=257
M19K Big River Lodg 93.77 28 P P 08 48 11.6 -0.1
baz=257
VNA2 Neumayer--Watz 93.81 194 PcP **PcP 08 48 13.1 +0.8**
baz=138,slow=5.4
BOSA Boshof 94.03 240 P P 08 48 14.2 +0.3
comp=Z,3.3nm,1.0s,baz=259,slow=17,SNR=2.6
LSZ Lusaka 94.07 254 IAMs_20 IAMs_20 09 29 11.3
comp=Z,594nm,20.0s
VNA3 Neumayer Olymp 94.12 193 PcP **PcP 08 48 15.1 +1.4**
L20K Farewell, AK 94.13 27 P P 08 48 13.5 +0.2
baz=258
MBAR Mbarara 94.13 269 P P 08 48 14.4 -0.3
comp=Z,9.0nm,0.6s,baz=138,slow=1.7,SNR=6.2
MBAR Mbarara 94.13 269 IAMs_20 IAMs_20 09 24 17.8
comp=Z,382nm,22.0s
MBAR Mbarara 94.13 269 *eP* P 08 48 14.1 -0.6
VNA1 Neumayer--Stat 94.21 194 PcP **PcP 08 48 16.0 +2.0**
K20K Telida 94.23 27 P P 08 48 10.6 -3.2
K20K Telida 94.23 27 P P 08 48 14.0 +0.2
baz=258
GHAJ Ghor Haditha 94.33 301 IAMs_20 IAMs_20 09 35 49.6
comp=Z,837nm,20.0s
J20K Nowinta River 94.37 26 P P 08 48 14.6 +0.2
baz=258
VORR Voronezh 94.67 321 *eP* P 08 48 15.9 -0.1
VORR pmax pmax
comp=Z,60nm,0.4s
IMAR Indian Mountai 94.92 24 P P 08 48 15.4 -1.5
PPLA Purkeypile 94.98 27 P P 08 48 16.4 -1.0
baz=259
LPSR Galich'ya Gora 94.98 322 *eP* P 08 48 16.2 -1.2**
LPSR pmax pmax
comp=Z,30nm,1.5s
A21K Barrow 95.09 18 P P 08 48 16.4 -1.1
A21K IAmb IAmb 08 49 55.6
comp=Z,39nm,1.6s
A21K Barrow 95.09 18 P P 08 48 17.2 -0.2
baz=256
CHUM Lake Minchumin 95.10 26 P P 08 48 17.5 -0.2
baz=259
BRSE Bradley Lake S 95.11 30 P P 08 48 17.4 -0.4
baz=260
CAST Castle Rocks 95.12 27 P P 08 48 17.9 +0.1
baz=259
BNN Bunyan 95.15 308 P P 08 48 18.2 -0.5
H21K Melozitna Rive 95.23 24 P P 08 48 17.1 -1.3
H21K IAmb IAmb 08 51 59.9
comp=Z,28nm,1.9s
H21K Melozitna Rive 95.23 24 P P 08 48 17.8 -0.5
baz=259
I21K Tanana 95.48 25 P P 08 48 19.5 +0.1
baz=260
BPAW Bear Paw Mtn. 95.72 26 P P 08 48 20.3 -0.3
baz=260
CUT Chulitna 95.77 28 P P 08 48 20.1 -0.6
baz=261
SEW Seward 95.80 30 P P 08 48 20.1 -0.8
baz=261
RC01 Rabbit Creek A 95.81 29 P P 08 48 20.2 -0.8
baz=261
KLMR Klimovskoe 95.90 331 *eP* P 08 48 17.3 -4.1
KLMR *e* 08 52 09.2
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 95.90 331 *eP* P 08 48 17.3 -4.1
KLMR AMP 08 48 33.1
comp=Z,24nm,1.1s
KLMR *e*PP PP 08 52 09.3 -4.5
TRF Thorofare Moun 95.92 27 P P 08 48 20.7 -1.0
baz=261
MLY Manley 95.97 25 P P 08 48 21.1 -0.6
baz=261
PMR Palmer 96.18 29 P P 08 48 22.0 -0.7
baz=262
MOS Moscow 96.19 325 *eP* P 08 48 20.0 -2.8
GHO Glory Hole Cre 96.30 29 IAMs_20 IAMs_20 09 27 13.5
comp=Z,489nm,18.0s
KNK Knik Glacier 96.47 29 P P 08 48 23.2 -0.9
baz=262
COLD Coldfoot 96.53 23 P P 08 48 23.9 -0.3
baz=261
MCK McKinley 96.56 27 P P 08 48 23.4 -1.0
baz=262
I23K Minto, Yukon-K 96.57 25 P P 08 48 23.5 -0.9
I23K IAmb IAmb 08 50 02.2
comp=Z,14nm,1.0s
I23K Minto, Yukon-K 96.57 25 P P 08 48 23.9 -0.4
baz=262
SML Sawmill 96.58 29 P P 08 48 24.0 -0.6
baz=262
NEA2 Nenana 96.62 26 IAMs_20 IAMs_20 09 26 03.2
comp=Z,435nm,20.0s
OBN Obninsk 96.71 325 P P 08 48 24.2 -0.9
comp=Z,5.2nm,0.4s,baz=43,slow=5.8,SNR=5.6
OBN Obninsk 96.71 325 *i* P P 08 48 24.7 -0.5**
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,323nm,21.0s
WAT6 Susitna Watana 96.95 28 P P 08 48 25.1 -1.3
baz=263
BRTR Keskin Array B 96.96 309 P P 08 48 25.8 -1.2
comp=Z,2.1nm,0.8s,baz=126,slow=6.3,SNR=7.0
BRTR PP PP 08 52 22.9 +0.2
comp=Z,3.2nm,1.0s,baz=104,slow=5.2,SNR=4.7
BRTR Keskin Array B 96.96 309 *i* P P 08 48 26.2 -0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 96.96 309 P P 08 48 24.8 -2.1
TOLK Toolik Lake Re 96.96 22 P P 08 48 25.1 -1.0
TOLK Toolik Lake Re 96.96 22 P P 08 48 25.8 -0.3
baz=262
GLI Glacier Island 97.06 30 P Pdif 08 48 26.8 0.0
baz=263
CCB Clear Creek Bu 97.17 26 P P 08 48 25.0 -2.1
DHY Denali Highway 97.18 27 P P 08 48 26.9 -0.5
baz=263
H24K Noodor Dome 97.27 24 P P 08 48 26.4 -1.2
H24K IAmb IAmb 08 50 05.7
comp=Z,14nm,1.1s
H24K Noodor Dome 97.27 24 P P 08 48 27.1 -0.5
baz=263
POKR Poker Plat Res 97.38 25 IAMs_20 IAMs_20 09 25 18.2
comp=Z,409nm,20.0s
ILAR Eielson Array 97.57 26 P P 08 48 27.2 -1.7
comp=Z,0.7nm,0.8s,baz=244,slow=5.7,SNR=8.7
ILAR PP PP 08 52 23.3 -3.3
comp=Z,1.2nm,1.0s,baz=238,slow=6.4,SNR=5.3
DIV Divide 97.73 29 P P 08 48 28.5 -1.3
PAX Paxson 98.03 27 P P 08 48 30.7 -0.5
baz=265
J25K Salcha River, 98.21 26 IAMs_20 IAMs_20 09 27 17.1
comp=Z,497nm,21.0s
PRP Porcupine Dome 98.21 25 IAMs_20 IAMs_20 09 34 43.3
comp=Z,448nm,22.0s
RIDG Independent Ri 98.37 27 P P 08 48 32.1 -0.5
baz=266
BMAR Burnt Mountain 98.72 23 P P 08 48 32.6 -1.5
J26L Joseph Creek 98.98 26 P P 08 48 34.7 -0.7
baz=267
APA Apatity 99.19 337⇓ *i*P **Pdif 08 48 41.4 +5.3**
APA pmax pmax
comp=Z,5.0nm,1.1s
L27K Beaver Creek, 99.69 27 P Pdif 08 48 38.2 -0.4
baz=268
PUL Pulkovo 100.38 329 *eP* **Pdif 08 48 41.3 -0.2**
PUL pmax pmax
comp=Z,76nm,0.4s
PUL MLR MLR
comp=Z,228nm,17.0s
AKASG Malin Array Be 100.83 320 P Pdif 08 48 43.0 -0.8
comp=Z,1.1nm,0.4s,baz=79,slow=3.9,SNR=10
AKASG PP PP 08 52 52.4 +0.6
comp=Z,0.2nm,0.2s,baz=90,slow=6.5,SNR=11
MNK Minsk 101.69 324 *i* P **Pdif 08 48 51.0 +3.5**
MNK *i* 08 53 02.5
MNK *i* PPP PPP 08 55 11.5
MNK *i* S **SKSac 08 59 27.7 +2.9**
MNK *i* PS **PS 09 02 08.2 +5.4**
MNK *i* SS **SS 09 07 35.9 +6.4**
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=Z,138nm,17.0s
MNK MLR MLR
comp=N,264nm,20.0s
MNK Minsk 101.69 324 *i* P **Pdif 08 48 51.0 +3.5**
comp=E,3.0nm,0.7s
MNK *i* P **Pdif 08 48 51.0 +3.5**
comp=N,19nm,0.8s
MNK *i* P **Pdif 08 48 51.0 +3.5**
comp=Z,5.0nm,0.6s,baz=269
MNK *i* PP **PP 08 53 02.5 +4.4**
MNK *i* PPP PPP 08 55 11.6
MNK *i* S **SKSac 08 59 27.8 +2.9**
MNK *i* PS **PS 09 02 08.2 +5.4**
MNK *i* SS **SS 09 07 36.0 +6.4**
MNK *i* SSS SSS 09 11 28.9
MNK *i* LR LR 09 32 06.8
MNK *i* LRM MLR 09 34 43.9
comp=Z,138nm,17.4s
MNK *i* LRM MLR 09 34 54.7
comp=N,264nm,19.5s
MNK *i* LRM MLR 09 35 09.9
comp=E,15nm,18.8s
EPYK Eagle Plains 101.82 24 IAMs_20 IAMs_20 09 36 26.8
comp=Z,435nm,19.0s
EPYK Eagle Plains 101.82 24 P Pdif 08 48 47.9 0.0
baz=274
ARCES ARCESS Array B 102.03 339 P Pdif 08 48 46.8 -2.0
comp=Z,1.6nm,0.5s,baz=79,slow=7.5,SNR=11
ARCES PKiKP **PKiKP 08 53 12.4 +1.3**
comp=Z,2.9nm,0.9s,baz=27,slow=1.3,SNR=5.5
NACGM Naroch 102.32 324 *i* P **Pdif 08 48 41.5 -8.8**
FINES FINESS Array B 102.43 331 P Pdif 08 48 49.8 -0.8

comp=Z,1.2nm,0.6s,baz=104,slow=8.0,SNR=4.4
FINES PKiKP **PKiKP** 08 53 13.0 +1.0
comp=Z,3.1nm,0.9s,baz=116,slow=4.4,SNR=6.5
FINES FINESS Array B 102.43 331 *i* P **Pdif** **08 48 50.7 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 102.87 22 P **Pdif** **08 48 51.6 -0.8**
comp=Z,2.4nm,1.1s,baz=313,slow=2.8,SNR=4.7
INK PKiKP **PKiKP** 08 53 12.6 0.0
comp=Z,2.9nm,1.1s,baz=14,slow=5.5,SNR=4.1
INK Inuvik 102.87 22 P **Pdif** **08 48 52.4 -0.1**
baz=277
SKAG Skagway 102.90 31 P **Pdif** **08 48 52.5 -0.3**
baz=273
WHY Whitehorse 103.04 30 P **Pdif** **08 48 53.0 -0.5**
baz=274
TSUM Tsumeb 103.10 248 IAMs_20 IAMs_20 09 29 17.8
comp=Z,488nm,22.0s
CRVS Cervenica-Dubn 105.90 318 *i* P **Pdif** **08 49 07.5 +1.1**
CRVS Cervenica-Dubn 105.90 318 *e*PDIFF **Pdif** **08 49 07.5 +1.1**
KECS Kecovo 106.58 318 *i* P **Pdif** **08 49 10.3 +0.9**
KECS Kecovo 106.58 318 *e*PDIFF **Pdif** **08 49 10.3 +0.9**
NOA NORSAR Array B 109.56 332 PKiKP **PKiKP** **08 53 25.3 0.0**
comp=Z,0.2nm,0.6s,baz=348,slow=11,SNR=2.0
CLL Collm 110.97 321 *e*PP **PP** **08 54 06.0 -0.5**
CLL *e*SKSac **SKSac** **09 00 08.0 +1.9**
CLL *e*PS **PS** **09 03 38.0 0.0**
CLL *e*PPS PPS 09 04 47.0
CLL *e*SS SS 09 09 18.0 -18
CLL *ex* x 09 10 24.0
CLL *ex* x 09 12 48.0
CLL *e*SSS SSS 09 13 48.0
CLL *ex* x 09 15 24.0
CLL *e*SSSS 09 17 24.0
CLL *ex* x 09 20 42.0
CLL Lm MLR 09 46 00.0
comp=N,300nm,20.1s
CLL Lm MLR 09 46 00.0
comp=E,300nm,19.4s
CLL Lm MLR 09 46 00.0
comp=Z,300nm,21.6s
GERES GERESS Array B 110.99 319 PKiKP **PKiKP** **08 53 28.6 +0.2**
comp=Z,0.4nm,0.3s,baz=322,slow=8.5,SNR=4.0
A04D Lummi Island 111.63 41 P **PKiKP** **08 53 29.8 +0.3**
baz=281
YKA Yellowknife Ar 112.00 26 PKiKP **PKiKP** **08 53 30.8 +1.0**
comp=Z,1.4nm,0.5s,baz=292,slow=2.0,SNR=24
YKA PKKPbc **PKKPbc** **09 04 26.7 +2.5**
comp=Z,0.5nm,0.8s,baz=103,slow=3.5,SNR=5.3
B05A Bryant 112.12 42 P **PKiKP** **08 53 32.6 +2.1**
baz=281
H04D Lebanon 112.33 46 P **PKiKP** **08 53 33.4 +2.4**
baz=279
I04A Tendick Farm, 112.68 46 P **PKiKP** **08 53 34.3 +2.5**
baz=279
M02C Callahan 112.70 49 P **PKiKP** **08 53 34.5 +2.6**
baz=278
N02D Trinity Center 112.87 50 P **PKiKP** **08 53 34.6 +2.4**
baz=278
O02D Mt. Diablo Mer 112.91 50 P **PKiKP** **08 53 34.9 +2.6**
baz=277
J04D Umpqua Nationa 112.98 47 P **PKiKP** **08 53 35.2 +2.6**
baz=279
L04D Klamath Falls 113.00 48 P **PKiKP** **08 53 34.2 +1.7**
baz=278
I05D Terrebonne, OR 113.35 46 P **PKiKP** **08 53 35.2 +2.2**
baz=280
J05D Fort Rock, OR 113.61 47 P **PKiKP** **08 53 35.7 +2.0**
baz=280
O03E Paynes Creek 113.64 50 P **PKiKP** **08 53 35.6 +1.9**
baz=278
NEW Newport 115.35 41 P **PKPdf** **08 53 38.7 +2.0**
baz=285
VES Vestal, Richgr 116.38 55 P **PKiKP** **08 53 40.7 +1.7**
baz=278
NVAR Mina Array Bea 116.61 52 PKP **PKiKP** **08 53 42.2 +2.5**
comp=Z,1.8nm,0.6s,baz=254,slow=2.2,SNR=18
CWC Cottonwood Cre 117.10 54 P **PKiKP** **08 53 42.7 +2.0**
baz=278
CIS Catalina Islan 117.23 57 P **PKiKP** **08 53 42.6 +1.8**
baz=277
EDW2 Edwards Air Fo 117.39 56 P **PKiKP** **08 53 43.5 +2.3**
baz=278
LRMC Laurel Mtn Rad 117.56 55 P **PKiKP** **08 53 43.7 +2.2**
baz=278
GRAC Grapevine Rang 117.58 53 P **PKiKP** **08 53 43.3 +1.9**
baz=279
MPMC Manual Prospec 117.63 54 P **PKiKP** **08 53 43.5 +1.7**
baz=279,SNR=14
MSO Missoula 117.82 42 P **PKiKP** **08 53 43.0 +1.3**
baz=287
FURC Furnace Creek, 118.06 54 P **PKiKP** **08 53 44.4 +2.2**
baz=279,SNR=6.5
GSC Goldstone, Bar 118.29 55 P **PKiKP** **08 53 44.7 +1.8**
baz=279,SNR=7.6
BBRC Big Bear Solar 118.35 56 P **PKiKP** **08 53 45.3 +2.1**
baz=278
HLID Hailey 118.40 45 P **PKiKP** **08 53 44.6 +1.7**
baz=285,SNR=24
TPNV Topopah Spring 118.47 53 P **PKiKP** **08 53 45.3 +2.0**
baz=280
R11A Troy Canyon, C 118.72 51 P **PKiKP** **08 53 46.1 +2.4**
baz=281,SNR=13
HEC Hector,Ludlow 118.75 55 P **PKiKP** **08 53 45.6 +1.8**
baz=279
PFO Pinyon Flats O 118.83 57 P **PKiKP** **08 53 46.0 +1.9**
baz=278
TPFO Pinon Flats 118.83 57 P **PKiKP** **08 53 46.2 +2.2**
baz=278
MONP2 Monument Peak 118.96 58 P **PKiKP** **08 53 46.3 +1.9**
baz=278
TUQ Turquoise Moun 118.98 55 P **PKiKP** **08 53 46.2 +1.9**
baz=279
BELC Belle Mtn. Jos 119.15 56 P **PKiKP** **08 53 46.5 +1.8**
baz=279,SNR=11
IKP In-Ko-Pah, Jac 119.25 58 P **PKiKP** **08 53 46.5 +1.7**
baz=278
GMRC Granite Mounta 119.30 55 P **PKiKP** **08 53 47.2 +2.3**
baz=279,SNR=13
SWSC Sam W. Stewart 119.47 57 P **PKiKP** **08 53 46.7 +1.6**
baz=278
BC3 Big Chuckawall 119.65 57 P **PKiKP** **08 53 47.4 +1.8**
baz=279,SNR=10
BOZ Bozeman (W) 119.73 42 P **PKiKP** **08 53 46.4 +0.9**
baz=288,SNR=5.4
IRM Iron Mountain 119.82 56 P **PKiKP** **08 53 47.0 +1.1**
baz=279,SNR=7.4
EGMT Eagleton 120.12 39 P **PKiKP** **08 53 47.0 +1.0**
baz=291
DUG Dugway, Tooele 120.41 49 P **PKiKP** **08 53 48.7 +1.7**
baz=284,SNR=17
H17A Grant Village 120.81 44 P **PKiKP** **08 53 49.2 +1.5**
baz=288,SNR=5.9
RLMT Red Lodge 121.45 42 P **PKiKP** **08 53 50.2 +1.3**
baz=290
BW06 Boulder Array 122.03 45 P **PKiKP** **08 53 51.0 +0.8**
baz=288,SNR=14
PDAR Pinedale Array 122.03 45 PKP **PKiKP** **08 53 51.5 +1.4**
comp=Z,3.9nm,0.6s,baz=63,slow=1.5,SNR=33
214A Organ Pipe Nat 122.12 58 P **PKiKP** **08 53 51.8 +1.4**
baz=279
WUAZ Wupatki 122.61 54 P **PKiKP** **08 53 52.9 +1.4**
baz=282,SNR=10
LAO LASA Array 122.84 40 P **PKiKP** **08 53 52.9 +1.5**
baz=294,SNR=14
DGMT Dagmar 123.33 37 P **PKiKP** **08 53 53.5 +1.2**
baz=296,SNR=7.1
TUC Tucson 123.75 57 P **PKiKP** **08 53 55.2 +1.6**
baz=281
O20A White River Ci 123.79 48 P **PKiKP** **08 53 55.6 +1.9**
baz=288,SNR=24
W18A Petrified Fore 124.01 54 P **PKiKP** **08 53 55.6 +1.4**
baz=283,SNR=8.6
K22A Casper 124.18 44 P **PKiKP** **08 53 55.3 +1.0**
baz=291
TORD Torodi Ar. Bea 124.38 280 PKP **PKiKP** **08 53 56.5 +1.2**
comp=Z,4.8nm,0.5s,baz=64,slow=1.9,SNR=31
MVCO Mesa Verde 124.45 51 P **PKiKP** **08 53 57.0 +1.9**
baz=286,SNR=16
N23A Red Feather La 125.20 46 P **PKiKP** **08 53 58.0 +1.5**
baz=290,SNR=5.7
RSSD Black Hills 125.29 42 P **PKiKP** **08 53 57.4 +0.8**
baz=294
FIGM Figuig 125.52 303 P **PKiKP** **08 54 01.0 +3.8**
S22A 4UR Ranch, Cre 125.57 50 P **PKiKP** **08 53 58.9 +1.5**
baz=287,SNR=18
ESDC Sonseca Array 125.58 312 PKP **PKiKP** **08 53 58.1 +1.1**
comp=Z,8.4nm,1.2s,baz=41,slow=2.2,SNR=14

ISCO Idaho Springs 125.81 47 P **PKiKP** **08 53 59.2 +1.3**
baz=290,SNR=8.8
MDND Maddock 126.33 36 P **PKiKP** **08 53 59.1 +0.8**
baz=300
SDCO Great Sand Dun 126.57 50 P **PKiKP** **08 54 00.5 +1.1**
baz=288,SNR=23
ANMO Albuquerque 126.65 53 P **PKiKP** **08 54 00.4 +0.9**
baz=286
PBRG Braganca 126.77 316 *e*PKPdf **PKiKP** **08 54 05.3 +5.9**
ULM Lac du Bonnet 127.06 32 PKP **PKiKP** **08 53 59.5 0.0**
comp=Z,5.2nm,0.5s,baz=322,slow=1.7,SNR=12
T25A Trinidad 127.58 50 P **PKiKP** **08 54 02.4 +1.1**
baz=289,SNR=7.0
POLO Lamas de Olo 127.67 316 *e*PKPdf PKiKP 08 54 10.8 +10
PGAV Gavieira, Arco 127.75 317 *e*PKPdf **PKiKP** **08 54 03.1 +1.7**
MTE Manteigas 127.88 315 *e*PKPdf **PKiKP** **08 54 03.2 +1.6**
OGNE Ogallala 127.93 45 P **PKiKP** **08 54 02.2 +0.4**
baz=294,SNR=6.2
PCBR Castelo Branco 128.05 314 *e*PKPdf **PKiKP** **08 54 02.7 +0.8**
MDT Midel 128.10 304 P **PKiKP** **08 54 05.5 +3.2**
PLCA Paso Flores 128.13 165 PKP **PKiKP** **08 54 03.4 +1.1**
comp=Z,1.2nm,0.9s,baz=302,slow=10,SNR=3.4
AGMN Agassiz Nation 128.20 34 P **PKiKP** **08 54 02.3 +0.3**
baz=305,SNR=6.5
KSCO Kaye Shedlock' 128.25 47 P **PKiKP** **08 54 03.5 +0.9**
baz=292
SICH Sidi Chahed 128.33 306 P **PKiKP** **08 54 06.0 +3.3**
PBAR Barrancos 128.34 312 *e*PKPdf **PKiKP** **08 54 05.5 +3.0**
MNTX Cornudas Mount 128.36 57 P **PKiKP** **08 54 04.2 +1.4**
baz=284
SUSD Miller 128.41 39 P **PKiKP** **08 54 03.3 +0.8**
baz=299
PESTR Estremoz 128.50 313 *e*PKPdf **PKiKP** **08 54 04.3 +1.4**
TZRR Tazzarine 129.41 302 P **PKiKP** **08 54 08.0 +2.9**
PNCL Nicolau / Gran 129.46 312 *e*PKPdf **PKiKP** **08 54 05.2 +0.4**
ZHG ZHG 129.57 306 P **PKiKP** **08 54 09.0 +3.7**
ZGR Zagora 129.61 301 P **PKiKP** **08 54 08.0 +2.5**
PTEO Sao Teotonio 129.82 312 *e*PKPdf PKiKP 08 54 19.1 +14
MSTX Muleshoe 129.85 53 P **PKiKP** **08 54 06.2 +0.4**
baz=288,SNR=11
KOWA Kowa 129.96 281 P **PKiKP** **08 54 08.2 +1.8**
KIC Kosan Boka 130.18 270 *e*PKP1 **PKiKP** **08 54 08.9 +2.0**
comp=Z,7.3nm,0.7s
ECSD EROS Data Cent 130.23 39 P **PKiKP** **08 54 06.1 -0.1**
baz=301,SNR=19
DBIC Dimbokro 130.33 271 PKP **PKiKP** **08 54 08.6 +1.4**
comp=Z,4.6nm,0.7s,baz=80,slow=1.6,SNR=5.8
DBIC SKPbc **SKPbc** **08 57 32.0 +4.3**
comp=Z,15nm,1.2s,baz=154,slow=7.7,SNR=5.9
DBIC PKP2ab 09 09 47.1
comp=Z,5.7nm,1.1s,baz=183,slow=4.5,SNR=3.2
TXAR Lajitas Array 130.36 59 PKiKP PKPpre 08 53 50.1
comp=Z,0.3nm,0.7s,baz=248,slow=1.9,SNR=4.0
TXAR PKP **PKiKP** **08 54 08.6 +1.6**
comp=Z,1.7nm,0.5s,baz=184,slow=3.1,SNR=34
TXAR SKPbc **SKPbc** **08 57 31.5 +4.0**
comp=Z,7.5nm,0.9s,baz=255,slow=3.8,SNR=12
OUZM OUZ 130.37 303 P **PKiKP** **08 54 10.0 +3.0**
BGNE Belgrade 130.37 42 P **PKiKP** **08 54 07.4 +0.8**
baz=298
CBKS Cedar Bluff 130.41 46 P **PKiKP** **08 54 07.5 +0.8**
baz=294
AMTX Amarillo 130.41 52 P **PKiKP** **08 54 07.7 +0.8**
baz=289
LIC Lamto 130.44 270 *e*PKP1 **PKiKP** **08 54 09.3 +1.9**
comp=Z,25nm,1.0s
TIC Toumodi 130.49 271 *e*PKP1 **PKiKP** **08 54 10.1 +2.6**
EYMN Ely 130.75 32 P **PKiKP** **08 54 06.8 -0.3**
baz=309,SNR=5.7
SPMN Marine on St. 131.69 35 P **PKiKP** **08 54 08.6 -0.5**
baz=296,SNR=6.4
KSU1 Kansas State U 132.48 44 P **PKiKP** **08 54 10.4 -0.5**
baz=297,SNR=6.3
WMOK Wichita Mounta 132.70 51 P **PKiKP** **08 54 11.3 -0.1**
baz=292
ABTX Abilene, Hawle 132.76 54 P **PKiKP** **08 54 12.6 +0.9**
baz=289
JCT Junction City 133.29 57 P **PKiKP** **08 54 13.7 +0.9**
baz=287
SCHQ Schefferville 133.67 9 PKP **PKiKP** **08 54 12.6 -0.2**
comp=Z,2.4nm,0.4s,baz=300,slow=1.9,SNR=15
SCHQ SKPbc **SKPab** **08 57 41.0 +0.4**
comp=Z,5.3nm,1.0s,baz=337,slow=1.9,SNR=3.7
JFWS Jewell Farm 134.54 37 P **PKiKP** **08 54 14.8 -0.1**
baz=307
W39A Magazine 136.26 48 P **PKiKP** **08 54 18.1 -0.6**
baz=296,SNR=6.6
U40A Yellville 136.40 46 P **PKPdf** **08 54 17.8 +0.6**
baz=298,SNR=9.3
HDIL Hopedale 136.52 39 P **PKiKP** **08 54 18.7 -0.3**
baz=306
CCM Cathedral Cave 136.66 43 P **PKiKP** **08 54 18.8 -0.5**
baz=302
W41B Gary Mavity, V 137.39 47 P **PKiKP** **08 54 20.8 -0.1**
baz=298
Z41A Richland Creek 137.84 50 P **PKPdf** **08 54 20.7 +0.8**
baz=296
SFIN Lafayette 137.96 37 P **PKPdf** **08 54 20.6 +0.7**
baz=308
AAM Ann Arbor 138.64 33 P **PKPdf** **08 54 21.9 +0.8**
baz=314
O48B Farmland 139.18 36 P **PKPdf** **08 54 23.2 +1.0**
baz=310
OXF Oxford 139.75 46 P **PKPdf** **08 54 23.8 +0.5**
baz=300
WCI Wyandotte Cave 139.77 39 P **PKPdf** **08 54 24.2 +0.9**
baz=307
P49A Miami Univ. Ec 139.91 37 P **PKPdf** **08 54 24.6 +1.1**
baz=310
WVT Waverly 139.99 43 P **PKPdf** **08 54 24.6 +0.9**
baz=304
VBMS Vicksburg 140.03 50 P **PKPdf** **08 54 24.7 +0.8**
baz=297
ACSO Alum Creek Sta 140.44 34 P **PKPdf** **08 54 25.6 +1.1**
baz=313
ERPA Erie 140.65 30 P **PKPdf** **08 54 25.9 +1.2**
baz=319
M53A WI Miller and 140.81 31 P **PKPdf** **08 54 25.8 +0.7**
baz=317
LONY Lake Ozonia 140.98 22 P **PKPdf** **08 54 26.3 +1.0**
baz=328
M54A Oil Creek Stat 141.26 30 P **PKPdf** **08 54 26.9 +1.0**
baz=319
P52A Corning 141.32 34 P **PKPdf** **08 54 27.0 +0.9**
baz=314
O53A New Philadelph 141.39 33 P **PKPdf** **08 54 27.3 +1.1**
baz=316
N54A Moraine State 141.51 31 P **PKPdf** **08 54 27.5 +1.1**
baz=318
PKME Peaks-Kenny Pk 142.15 17 P **PKiKP** **08 54 28.9 -1.5**
baz=336
BINY Binghamton 142.43 26 P **PKPdf** **08 54 29.4 +1.4**
baz=324
TZTN Tazewell 142.53 39 P **PKPdf** **08 54 29.8 +1.5**
baz=309
MCWV Mont Chateau 142.54 32 P **PKiKP** **08 54 30.3 -1.0**
baz=317
O56A Blue Knob Stat 142.75 30 P **PKiKP** **08 54 30.3 -1.5**
baz=319
SSPA Standing Stone 142.80 29 P **PKiKP** **08 54 30.4 -1.4**
baz=320
BRAL Brewton 143.13 49 P **PKPdf** **08 54 30.6 +1.1**
baz=299
N59A State Game Lan 143.56 27 P **PKiKP** **08 54 31.8 -1.7**
baz=324
HRV Adam Dziewonsk 143.91 21 P **PKiKP** **08 54 32.5 -1.5**
baz=331
BLA Blacksburg 143.97 36 P **PKPdf** **08 54 32.4 +1.5**
baz=314
PAL Palisades 144.29 25 P **PKPdf** **08 54 32.8 +1.5**
baz=326
CPUP Villa Florida 144.46 176 PKP **PKPdf** **08 54 31.8 -0.3**
comp=Z,11nm,0.9s,baz=198,slow=2.1,SNR=11
GOGA Godfrey 144.49 43 P **PKPdf** **08 54 32.2 +0.3**
baz=306
KMSC Kings Mountain 144.81 39 P **PKPdf** **08 54 32.6 +0.2**
baz=310
TIGA Tifton 145.52 46 P **PKPab** **08 54 35.2 +1.2**
baz=303
NHSC New Hope 146.85 41 P **PKPab** **08 54 38.8 -0.2**
baz=310
MATN Matagalpa 149.44 80 **PKPdf** **08 54 41.6 +0.9**
SOR Soroa 150.01 60 PKP2 **PKiKP** **08 54 48.2 +1.0**
SOR Soroa 150.01 60 PKPab **PKiKP** **08 54 48.2 +1.0**
SOR Soroa 150.01 60 *e*P **PKiKP** **08 54 48.3 +1.1**
060A Indiantown 150.26 50 PKPab **PKiKP** **08 54 48.5 +0.9**
061Z Ochoppi 150.42 53 PKPab **PKiKP** **08 54 49.7 +1.8**

JTS Las Juntas de 150.46 86 PKIKP **PKiKP** **08 54 49.2 +0.8**
JTS Las Juntas de 150.46 86 PKPab **PKiKP** **08 54 49.2 +0.8**
JTS Las Juntas de 150.46 86 IAMs_20 IAMs_20 10 01 49.0
comp=Z,177nm,18.0s
LPAZ La Paz 151.39 153 PKPbc **PKiKP** **08 54 52.0 +1.0**
comp=Z,5.2nm,0.5s,baz=75,slow=10,SNR=17
MGV Manicaragua 152.85 59 *e*P **PKPbc** **08 54 50.8 -2.1**
BDFB Brasilia 154.23 196 PKPbc **PKiKP** **08 54 56.3 +0.1**
comp=Z,2.8nm,0.6s,baz=179,slow=4.1,SNR=3.2
BCIP Isla Barro Col 155.47 88 IAMs_20 IAMs_20 10 20 56.8
comp=Z,370nm,21.0s
TBTG Tabatinga, AM 159.94 131 *e*P **PKPdf** **08 54 55.2 +0.1**
ROSC El Rosal 160.30 102 PKP **PKPdf** **08 54 58.2 +2.1**
comp=Z,3.1nm,0.4s,baz=318,slow=19,SNR=1.2
SPBC San Pablo de B 160.72 100 *e*P **PKPdf** **08 54 59.6 +3.5**
PAMC Pamplona, Colo 162.35 95 *e*P PKPdf 08 55 07.7 +9.4

BJI ***03*** *08:36:28.4±0.0, 9.°82S×125.°65E, h32km, mb5.4/54, mB5.3/23, Ms5.0/27, Ms7 4.7/28*
IDC ***03*** *08:36:31.2±0.3, 9.°17S×125.°01E, h0km, mb5.3/45, mb1 5.3/46, mb1mx5.1/59, mbtmp5.3/46, ML4.9/1, MS4.7/13, Ms1 4.6/13, ms1mx4.3/45, Error ellipse: s-maj=12.4km s-min=10.4km az=64.0*
NEIC ***03*** *08:36:32.6±1.4, 9.°77S±0.°07×125.°32E±0.°07, h30km±5km, mb5.6/56, Error ellipse: s-maj=11.0km s-min=9.9km az=209.0*
DJA ***03*** *08:36:34.9±1.2, 9.°3S±7.°2×125.°5E±.°, h10km±6km, MS.4/9, mb5.5/5, mB5.8/5, MLv5.4/9, Mw(mB)5.3/5, MwMwp5.9/2, Mwp6.0/2*
MOS ***03*** *08:36:37.8±0.7, 9.°22S×125.°06E, h37km, mb5.7/52, Error ellipse: s-maj=8.8km s-min=5.9km az=113.7*
ISC 03 08:36:35.1±0.5, 9.°42S±0.°04×125.°11E±0.°04, h31km±2km, h31km:pP-P, n547, σ1§81/587, mb5.5/140, MS4.7/29, 22C-5D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.63**	**241**	Pn		**Pn**	**08 37 04.1**	**+2.4**
	baz=322,slow=21,SNR=0.7							
BATI				Sn		**Sb**	**08 37 26.1**	**+1.4**
	759nm,0.3s,baz=103,slow=19,SNR=1.8							
BATI	**Baumata**	**1.63**	**241**	P		**Pb**	**08 37 04.7**	**+0.2**
MMRI	**Maumere**	**2.94**	**285**	Pn		**Pn**	**08 37 21.4**	**+1.7**
MMRI	**Maumere**	**2.94**	**285**	P		**Pb**	**08 37 24.1**	**-2.7**
BASI	**Baing, Sumba**	**4.54**	**259**	P		**Pn**	**08 37 45.6**	**+3.9**
BBSI	**Bau Bau**	**4.64**	**327**	P		**Pn**	**08 37 45.1**	**+1.9**
AAI	**Ambon**	**6.46**	**29**	P		**Pn**	**08 38 09.1**	**+0.9**
	2.2nm77µm10µm689nm,1.0s							
KAPI	**Kappang**	**6.88**	**309**	Pn		**Pn**	**08 38 18.1**	**+4.2**
	9.3nm,0.3s,baz=151,slow=13,SNR=2.7							
KAPI	**Kappang**	**6.88**	**309**	P		**Pn**	**08 38 16.5**	**+2.5**
KAPI	**Kappang**	**6.88**	**309**	Pn		**Pn**	**08 38 16.5**	**+2.5**
MSAI	**Masohi**	**7.12**	**32**	P		**Pn**	**08 38 18.0**	**+0.7**
	0.3nm987nm83nm,0.6s							
SPSI	**Sidrap Palu**	**7.58**	**315**	P		**Pn**	**08 38 25.1**	**+1.6**
LUWI	**Luwuk**	**8.64**	**344**	Pn		**Pn**	**08 38 41.1**	**+3.1**
FITZ	**Fitzroy Crossi**	**8.65**	**177**	Pn		Pn	08 38 32.4	-5.9
	112nm,0.3s,baz=353,slow=7.6,SNR=8.9							
FITZ				Sn		**Sn**	**08 40 08.3**	**-6.4**
	baz=209,slow=16,SNR=1.7							
FITZ	**Fitzroy Crossi**	**8.65**	**177**	Pn		Pn	08 38 31.1	-7.1
FAKI	**Fak Fak**	**9.59**	**48**	Pn		**Pn**	**08 38 49.8**	**-1.4**
TNTI	**Ternate**	**10.37**	**13**	Pn		**Pn**	**08 39 04.1**	**+2.3**
SIJI	**Serong**	**10.47**	**36**	Pn		Pn	08 39 07.7	+4.5
	2.3nm,0.3s,baz=123,slow=23,SNR=1.3							
SIJI				Sn		**Sn**	**08 41 03.2**	**+3.6**
	baz=285,slow=22,SNR=1.5							
TOLI2	**Tolitoli**	**11.31**	**337**	Pn		**Pn**	**08 39 17.2**	**+2.5**
WB0	**Warramunga Arr**	**13.65**	**140**	Pn		Pn	08 39 41.6	-5.2
WRA	**Warramunga Arr**	**13.75**	**141**	Pn		**Pn**	**08 39 44.5**	**-3.6**
	26nm,0.3s,baz=319,slow=13,SNR=16							
WRA				Sn		Sn	08 42 09.5	-10
	15nm,0.3s,baz=317,slow=24,SNR=7.5							
WRA	**Warramunga Arr**	**13.75**	**141**	Pn		Pn	08 39 43.0	-5.1
WRAB	**Tennant Creek**	**13.75**	**141**	Pn		Pn	08 39 43.1	-5.0
UGM	**Wanagama**	**14.50**	**275**	Pn		**Pn**	**08 39 58.9**	**+0.6**
SMRI	**Semarang**	**14.71**	**278**	Pn		**Pn**	**08 40 00.4**	**-0.8**
ASAR	**Alice Springs**	**16.48**	**150**	Pn		**Pn**	**08 40 21.3**	**-2.9**
	18nm,0.3s,baz=322,slow=12,SNR=7.4							
ASAR				Sn		**Sn**	**08 43 20.3**	**-6.1**
	6.2nm,0.3s,baz=316,slow=22,SNR=2.3							
ASAR	**Alice Springs**	**16.48**	**150**	P		**Pn**	**08 40 17.7**	**-6.5**
JAY	**Jayapura**	**16.95**	**67**	Pn		**Pn**	**08 40 30.1**	**-0.1**
	4.7nm,0.3s,baz=240,slow=8.7,SNR=7.2							
JAY				Sn		**Sn**	**08 43 35.0**	**-2.9**
	0.6nm,0.3s,baz=299,slow=22,SNR=1.0							
SBUM	**Sibu**	**17.43**	**312**			**P**	**08 40 39.1**	**+2.0**
LEM	**Lembang**	**17.50**	**277**	P		**P**	**08 40 39.2**	**+1.0**
	9.0nm,0.3s,baz=56,slow=14,SNR=2.8							
LEM	**Lembang**	**17.50**	**277**	P		**P**	**08 40 39.2**	**+1.0**
LEM				pmax	pmax			
	comp=Z,479nm,0.9s							
KKM	**Kota Kinabalu**	**17.73**	**330**			**P**	**08 40 41.2**	**+0.7**
COEN	**Coen**	**18.26**	**106**			**P**	**08 40 39.6**	**-6.7**
KSM	**Kuching**	**18.28**	**306**	P		**Pn**	**08 40 47.6**	**+1.0**
XMIS	**Christmas Isla**	**19.19**	**265**	P		**P**	**08 40 54.8**	**-1.8**
XMIS				IAmb		IAmb	08 41 01.5	
	comp=Z,239nm,0.8s							
PMG	**Port Moresby**	**21.75**	**92**	P		**P**	**08 41 26.9**	**+2.5**
	comp=Z,80nm,0.7s,baz=273,slow=9.0,SNR=1.9							
PMG				S		**S**	**08 45 17.5**	**-6.2**
	comp=Z,6.6nm,0.4s,baz=3.8,slow=23,SNR=2.1							
CTA	**Charters Tower**	**23.01**	**120**	P		**P**	**08 41 39.5**	**+1.8**
	comp=Z,94nm,0.8s,baz=295,slow=11,SNR=5.7							
CTA				S		Sn	08 46 00.0	-3.7
	comp=Z,19nm,0.8s,baz=32,slow=22,SNR=1.7							
MYKOM	**Kota Tinggi**	**23.92**	**297**	P		**P**	**08 41 46.2**	**-0.4**
STKA	**Stephens Creek**	**27.08**	**148**	P		**P**	**08 42 16.9**	**+1.8**
	comp=Z,40nm,0.6s,baz=283,slow=22,SNR=1.7							
STKA	**Stephens Creek**	**27.08**	**148**	P		**P**	**08 42 17.0**	**+1.8**
COCO	**West Island**	**27.90**	**262**	P		**P**	**08 42 23.6**	**+0.9**
COCO				pmax	pmax			
	comp=Z,568nm,1.7s							
COCO	**West Island**	**27.90**	**262**	P		**P**	**08 42 23.6**	**+0.9**
RPSI	**Rantau Prapat**	**28.73**	**294**	P		**P**	**08 42 28.9**	**-1.2**
PSI	**Prapat**	**28.77**	**294**	P		**P**	**08 42 29.3**	**-1.3**
	comp=Z,32nm,0.9s,baz=100,slow=9.4,SNR=5.0							
PSI				S		**S**	**08 47 12.5**	**-6.1**
	comp=Z,1.6nm,0.4s,baz=309,slow=12,SNR=7.1							
GUMO	**Guam**	**30.12**	**41**	P		**P**	**08 42 41.7**	**-0.6**
	comp=Z,58nm,0.8s,baz=205,slow=23,SNR=1.8							
SRIT	**Nakonsritamara**	**31.07**	**304**	P		**P**	**08 42 50.6**	**-0.2**
SRIT				IAmb		IAmb	08 42 52.8	
	comp=Z,119nm,1.2s							
QZH	**Quanzhou**	**34.73**	**350**	P		P	08 43 14.5	-8.1
QZH				pmax	pmax			
	comp=Z,420nm,6.9s							
QZH				LR		LR		
	comp=N,390nm,19.3s							
QZH				LR		LR		
	comp=E,450nm,18.0s							
QZH				LR		LR		
	comp=Z,850nm,15.3s							
JOW	**Kunigami**	**36.16**	**5**	P		**P**	**08 43 33.7**	**-1.2**
	comp=Z,22nm,0.7s,baz=232,slow=7.5,SNR=4.4							
JOW				LR		LR	08 58 27.5	
	comp=Z,1µm,20.9s,baz=175,slow=37							
JOW	**Kunigami**	**36.16**	**5**	P		**P**	**08 43 34.1**	**-0.8**
CM31	**Chiang Mai Arr**	**37.87**	**317**	P		**P**	**08 43 50.5**	**+1.0**
CM31				IAmb		IAmb	08 43 51.5	
	comp=Z,67nm,1.0s							
CMAR	**Chiang Mai Arr**	**37.87**	**317**	P		**P**	**08 43 49.2**	**-0.3**
	comp=Z,36nm,0.9s,baz=141,slow=6.5,SNR=13							
CMAR				PcP		**PcP**	**08 46 05.3**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=186,slow=2.9,SNR=4.4							
CMAR	**Chiang Mai Arr**	**37.87**	**317**	*e*P		**P**	**08 43 50.4**	**+0.9**
CMAR				pmax	pmax			
	comp=Z,40nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.87**	**317**	P		**P**	**08 43 49.4**	**-0.1**
CHTO	**Chiang Mai**	**38.12**	**317**	P		**P**	**08 43 51.9**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,102nm,1.2s							
CHTO	**Chiang Mai**	**38.12**	**317**	P		**P**	**08 43 51.9**	**+0.3**
CHTO				IAmb		IAmb	08 43 53.5	
	comp=Z,102nm,1.2s							
GYA	**Guiyang**	**39.91**	**334**	⇓*i*P		**P**	**08 44 06.6**	**-0.1**
GYA				pmax	pmax			
	comp=Z,74nm,0.9s							
KMI	**Kunming**	**40.67**	**328**	⇓P		**P**	**08 44 15.1**	**+2.0**
KMI				pmax	pmax			
	comp=Z,29nm,0.6s							
KMI				LR		LR		

comp=Z,900nm,19.0s
KMI LR LR
comp=Z,990nm,21.9s
KMI LR LR
comp=Z,1μm,23.3s
JSU Suzuyama 41.01 7 P **P 08 44 15.0 -0.6**
JSU IAmb IAmb 08 44 18.6
comp=Z,140nm,1.7s
WHN Wuhan 41.05 346 ⇑P **P 08 44 16.1 +0.2**
WHN pP **pP 08 44 25.4 +0.2**
WHN sP **sP 08 44 28.7 -0.3**
WHN pmax pmax
comp=Z,110nm,0.7s
DZM Mont Dzumac 41.59 113 P **P 08 44 21.7 +1.0**
comp=Z,16nm,0.7s,baz=278,slow=9.8,SNR=5.6
NJ2 Nanjing 41.66 352 ⇑P **P 08 44 20.5 -0.4**
NJ2 pP **pP 08 44 30.9 +0.8**
NJ2 PP **PnPn 08 46 02.4 -0.2**
NJ2 pmax pmax
comp=Z,30nm,0.8s
NJ2 pmax pmax
comp=Z,340nm,3.5s
NJ2 LR LR
comp=Z,520nm,15.6s
NJ2 LR LR
comp=Z,440nm,14.2s
NJ2 LR LR
comp=Z,710nm,15.1s
PZH PanZhiHua 42.31 328 P **P 08 44 26.1 -0.3**
PZH pP **pP 08 44 35.9 +0.1**
PZH sP **sP 08 44 38.4 -1.1**
PZH PP **PcP 08 46 12.8 -7.0**
PZH S **S 08 50 52.3 +6.7**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH LR LR
comp=Z,2μm,20.6s
PZH LR LR
comp=Z,2μm,19.6s
PZH LR LR
comp=Z,3μm,19.5s
JNU Nakatsue 42.66 7 P **P 08 44 28.9 -0.1**
comp=Z,17nm,0.8s,baz=183,slow=7.3,SNR=4.8
JNU Nakatsue 42.66 7 P **P 08 44 27.4 -1.6**
JMN Monobe 43.71 11 P **P 08 44 37.1 -0.4**
JMN IAmb IAmb 08 44 38.8
comp=Z,65nm,0.8s
CD2 Chengdu 45.02 334 P **P 08 44 47.2 -0.9**
CD2 pmax pmax
comp=Z,80nm,0.7s
LYN LuoYang 45.34 345 ⇑P **P 08 44 49.5 -1.0**
LYN pP pP 08 44 58.3 -1.6
LYN S **S 08 51 31.6 +2.2**
LYN SS **ScS 08 54 46.7 +1.5**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,260nm,13.1s
LYN LR LR
comp=Z,970nm,18.6s
LYN LR LR
comp=Z,950nm,19.2s
TJN Taejon 45.60 3 *i* P **P 08 44 52.3 -0.2**
XAN Xi'an 45.87 341 P **P 08 44 53.2 -1.6**
XAN S **S 08 51 34.9 -2.3**
XAN pmax pmax
comp=Z,30nm,1.0s
XAN pmax pmax
comp=Z,130nm,3.6s
XAN LR LR
comp=Z,540nm,15.6s
XAN LR LR
comp=Z,580nm,16.0s
XAN LR LR
comp=Z,980nm,18.2s
KSAR Wonju Array Be 46.68 3 P **P 08 45 00.7 -0.3**
KSAR Wonju Array Be 46.68 3 P **P 08 45 00.7 -0.3**
KSRS Korea Array 46.70 3 P **P 08 45 00.9 -0.2**
comp=Z,24nm,0.8s,baz=182,slow=8.7,SNR=14
KSRS PcP **PcP 08 46 35.0 +0.5**
comp=Z,4.4nm,0.7s,baz=182,slow=3.1,SNR=4.5
KSRS Korea Array 46.70 3 *eP* **P 08 45 01.2 +0.1**
KSRS pmax pmax
comp=Z,24nm,0.8s
PALK Pallekele 47.24 289 P **P 08 45 03.9 -2.0**
comp=Z,22nm,0.9s,baz=199,slow=3.4,SNR=6.2
PALK PcP **PcP 08 46 37.8 +0.8**
comp=Z,5.2nm,0.5s,baz=170,slow=3.1,SNR=5.7
MAJO Matsushiro 47.34 14 *i* P **P 08 45 05.6 -0.7**
MAJO pmax pmax
comp=Z,75nm,1.0s
MAJO Matsushiro 47.34 14 P **P 08 45 05.0 -1.3**
MAJO IAmb IAmb 08 45 06.4
comp=Z,67nm,0.8s
MAT Matsushiro 47.34 14 P **P 08 45 04.7 -1.6**
MJAR Matsushiro Arr 47.34 14 P **P 08 45 05.4 -0.9**
comp=Z,106nm,1.0s,baz=195,slow=8.3,SNR=13
MJAR PcP **PcP 08 46 36.8 0.0**
comp=Z,6.0nm,0.8s,baz=173,slow=5.4,SNR=1.6
MJAR Matsushiro Arr 47.34 14 P **P 08 45 05.0 -1.3**
MJAR IAmb IAmb 08 45 06.8
comp=Z,78nm,1.0s
MJA0 Matsu Arr-Jizo 47.35 14 *eP* **P 08 45 05.4 -1.0**
MJA0 pmax pmax
comp=Z,106nm,1.0s
SHL Shillong 47.49 318 P **P 08 45 06.7 -1.1**
SHL pmax pmax
comp=Z,78nm,1.1s
SHL Shillong 47.49 318 *eP* **P 08 45 07.1 -0.7**
SHL IAmb IAmb 08 45 12.3
comp=Z,70nm,1.4s
HNS HongShan 47.58 349 ⇑P **P 08 45 06.7 -1.3**
HNS S **S 08 52 06.9 +5.6**
HNS pmax pmax
comp=Z,67nm,1.0s
HNS LR LR
comp=Z,750nm,17.8s
HNS LR LR
comp=Z,670nm,18.2s
HNS LR LR
comp=Z,1μm,19.1s
DL2 Dalian 48.18 356 P **P 08 45 11.7 -0.9**
DL2 pmax pmax
comp=Z,100nm,0.8s
BWNR Bhubaneshwar 48.65 308 *eP* **P 08 45 15.9 -0.6**
JMM Marumori 49.27 16 P **P 08 45 20.0 -1.0**
LZH Lanzhou 49.49 337 ⇑P **P 08 45 23.1 +0.1**
LZH pP pP 08 45 31.1 -1.4
LZH sP sP 08 45 36.2 -0.1
LZH pmax pmax
comp=Z,130nm,1.5s
MDRS Chennai 49.83 296 *eP* **P 08 45 24.5 -1.2**
MDRS IAmb IAmb 08 45 27.0
comp=Z,57nm,1.4s
BJT Baijiatuau 49.88 351 P **P 08 45 24.6 -1.0**
BJT pmax pmax
comp=Z,92nm,1.7s
BJT Baijiatuau 49.88 351 P **P 08 45 24.6 -1.0**
BJT IAmb IAmb 08 45 25.4
comp=Z,92nm,1.7s
BJI Beijing 49.90 351 P **P 08 45 24.7 -1.1**
BJI sP **pP 08 45 35.7 +0.5**
BJI PcP **PcP 08 46 46.8 +0.9**
BJI pmax pmax
comp=Z,28nm,1.2s
BJI LR LR
comp=Z,260nm,19.9s
BJI LR LR
comp=Z,460nm,19.2s
BJI LR LR
comp=Z,680nm,18.2s
RAGD RAYAGADA 49.96 305 *eP* **P 08 45 26.1 -0.6**
LSA Lhasa 50.80 321 P **P 08 45 33.4 -0.1**
LSA pmax pmax
comp=Z,124nm,1.1s
LSA Lhasa 50.80 321 P **P 08 45 33.4 -0.1**
LSA Lhasa 50.80 321 P **P 08 45 34.4 +1.0**
VJD Vijayawada 50.98 300 *eP* **P 08 45 33.7 -0.7**
ODAN Odare 51.38 316 *eP* **P 08 45 36.6 -0.9**
comp=Z,107nm,0.6s
TAPN Taplejung 51.47 316 *eP* **P 08 45 38.0 -0.3**
comp=Z,260nm,1.0s
HHC Hu-ho-hao-te 51.55 347 ⇑*i*P **P 08 45 37.4 -1.0**
HHC sP pP 08 45 47.9 0.0
HHC S **S 08 52 57.7 +0.5**
HHC sS sS 08 53 13.6 +0.8
HHC ScS **ScS 08 55 24.8 -1.9**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,160nm,5.1s
HHC LR LR
comp=Z,570nm,15.2s
HHC LR LR
comp=Z,270nm,16.1s
HHC LR LR
comp=Z,750nm,23.1s
BTO Baotou 51.69 345 *eP* P 08 45 46.2 +6.8
BTO S S 08 53 12.6 +14
BTO LR LR
comp=N,3μm,17.9s
BTO LR LR
comp=E,2μm,16.7s
RAMN Ramite 51.98 315 *eP* **P 08 45 42.0 0.0**
comp=E,164nm,0.6s
MSVF Nonsavu 51.98 105 P **P 08 45 45.5 +3.4**
comp=E,15nm,0.9s,baz=143,slow=10.0,SNR=2.6
MSHR Mys Shultsa 52.04 6*c i*P **P 08 45 41.5 -0.3**
MSHR pmax pmax
comp=Z,41nm,0.7s
JTM Tenmabayashi 52.08 15 P **P 08 45 42.1 -0.1**
DGAR Diego Garcia 52.09 268 *i* P **P 08 45 41.9 -0.9**
DGAR pmax pmax
comp=Z,275nm,1.7s
RPZ Rata Peaks 52.45 139 P **P 08 45 46.6 +1.5**
comp=Z,9.4nm,0.6s,baz=40,slow=9.7,SNR=1.3
VLA Vladivostok 52.65 6 *i* P **P 08 45 46.1 -0.2**
VLA pmax pmax
comp=Z,52nm,0.8s
JIRN Jiri 52.71 316 *eP* **P 08 45 46.8 -0.8**
comp=Z,108nm,0.7s
CN2 Changchun 52.96 0 *eP* **P 08 45 46.1 -2.6**
CN2 S **S 08 53 12.6 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,600nm,19.2s
GUN Gumba 53.08 316 *eP* **P 08 45 49.7 -0.6**
comp=Z,193nm,0.7s
HYB Hyderabad 53.17 300 *eP* **P 08 45 48.9 -1.9**
HYB IAmb IAmb 08 45 51.0
comp=Z,33nm,1.0s
HYBB Hyderabad (bro 53.17 300 IVmB_BB 08 45 49.0
comp=Z,221nm,1.0s
HYBB *eP* **P 08 45 49.0 -1.8**
PKI Pulchoki 53.19 315 *eP* **P 08 45 50.3 -0.8**
comp=Z,67nm,0.6s
PKIN Phulchoki 53.21 315 *eP* **P 08 45 50.2 -0.9**
comp=Z,75nm,0.6s
KKN Kakani 53.42 315 *eP* **P 08 45 51.5 -1.1**
comp=Z,174nm,1.1s
DMN Daman 53.43 315 *eP* **P 08 45 51.9 -0.9**
comp=Z,166nm,1.1s
USA0B Ussuriysk Arra 53.73 6 P **P 08 45 53.6 -0.7**
USA0B pmax pmax
comp=Z,44nm,0.8s
USA0B Ussuriysk Arra 53.73 6 P **P 08 45 53.6 -0.7**
USA0B IAmb IAmb 08 45 54.9
comp=Z,44nm,0.8s
USRK Ussuriysk Ar. 53.73 6 P **P 08 45 53.8 -0.5**
comp=Z,37nm,0.6s,baz=187,slow=6.1,SNR=15
USRK Ussuriysk Ar. 53.73 6 P **P 08 45 53.6 -0.7**
USRK Ussuriysk Ar. 53.73 6 P **P 08 45 53.6 -0.7**
ERM Erimo 53.79 17 *i* P **P 08 45 54.1 -0.7**
ERM pmax pmax
comp=Z,48nm,0.8s
MDJ Mudanjiang 53.93 4 P **P 08 45 54.9 -0.9**
MDJ Mudanjiang 53.93 4 P **P 08 45 55.7 -0.1**
MDJ pP pP 08 46 04.2 -1.1
MDJ sP sP 08 46 08.2 -0.8
MDJ pmax pmax
comp=Z,110nm,0.9s
MDJ pmax pmax
comp=Z,150nm,7.5s
GTA Gaotai 53.96 336 ⇑P **P 08 45 56.2 -0.1**
GTA pP pP 08 46 03.7 -2.2
GTA sP sP 08 46 08.7 -0.9
GTA pmax pmax
comp=Z,33nm,1.4s
GTA pmax pmax
comp=Z,280nm,6.8s
GTA LR LR
comp=Z,560nm,19.5s
GTA LR LR
comp=Z,720nm,21.9s
GTA LR LR
comp=Z,500nm,19.9s
GKN Gorkha 54.00 315 *eP* **P 08 45 55.7 -1.1**
comp=Z,162nm,0.9s
ALBI Allahabad 54.49 310 *eP* **P 08 45 59.0 -1.3**
KOLN Koldanda 54.59 314 *eP* **P 08 46 00.2 -1.0**
comp=Z,315nm,1.1s
DANN Dangsing 54.82 315 *eP* **P 08 46 01.6 -1.4**
comp=Z,182nm,0.8s
BNX BinXian 54.94 2 ⇓P **P 08 46 01.9 -1.2**
BNX pmax pmax
comp=Z,34nm,0.9s
BNX pmax pmax
comp=Z,280nm,4.3s
TEY Ternei 55.18 10 ⇑*i*P **P 08 46 04.8 0.0**
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=Z,70nm,0.7s
PYUN Piuthan 55.22 314 *eP* **P 08 46 04.1 -1.6**
comp=Z,278nm,0.8s
ASAJ Asahikawa 55.59 15 P **P 08 46 06.7 -1.1**
comp=Z,39nm,0.7s,baz=216,slow=12,SNR=11
JKA Kamikawa-asahi 55.59 15 P **P 08 46 07.8 -0.1**
RAO Raoul Island 56.70 119 LR LR 09 10 01.1
comp=Z,2μm,18.0s,baz=232,slow=35
LGTI Lohaghat 57.96 313 *eP* **P 08 46 24.5 -0.4**
YSS Yuzh-Sakhalins 58.28 14⇑*eP* **P 08 46 26.2 -0.6**
YSS *e* 08 46 41.0
YSS pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 58.62 356 *i* P **P 08 46 28.7 -0.5**
HIA pmax pmax
comp=Z,41nm,1.1s
HIA Hailar 58.62 356 P **P 08 46 29.0 -0.2**
KLR Kul'dur 58.68 5 P **P 08 46 28.3 -1.3**
comp=Z,11nm,0.6s,baz=201,slow=4.8,SNR=9.7
KLR Kul'dur 58.68 5*c i*P **P 08 46 28.9 -0.7**
KLR pmax pmax
comp=Z,13nm,0.8s
ULN Ulaanbaatar 59.23 346 P **P 08 46 33.1 -0.6**
ULN pmax pmax
comp=Z,36nm,1.0s
ULN Ulaanbaatar 59.23 346 P **P 08 46 33.1 -0.6**
ULN IAmb IAmb 08 46 35.8
comp=Z,36nm,1.0s
SONM Songino Array 59.37 345 P **P 08 46 33.6 -1.0**
comp=Z,15nm,0.8s,baz=163,slow=7.7,SNR=5.8
SONM PcP **PcP 08 47 22.8 +0.6**
comp=Z,4.0nm,0.6s,baz=158,slow=6.4,SNR=1.0
SONM Songino Array 59.37 345 P **P 08 46 34.3 -0.3**
SONM pmax pmax
comp=Z,43nm,1.3s
SONM Songino Array 59.37 345 P **P 08 46 34.3 -0.3**
SONM IAmb IAmb 08 46 36.5
comp=Z,43nm,1.3s
AYAN Aya Nagar 59.71 311 *eP* **P 08 46 35.4 -1.8**
NDI New Delhi 59.75 311 *eP* **P 08 46 35.5 -1.9**
AJM Ajmer 60.60 307⇑*i*P **P 08 46 41.6 -1.8**
SMLA Simla 61.10 313 *eP* **P 08 46 45.3 -1.3**
SMLA IAmb IAmb 08 46 48.7
comp=Z,163nm,0.7s
BHK Bhakra 61.80 313 *eP* **P 08 46 51.4 +0.1**
AFI Afiamalu 61.83 101 LR LR 09 13 39.7
comp=Z,644nm,19.3s,baz=270,slow=36
TYV Tymovskoe 61.93 13 *eP* **P 08 46 51.9 +0.1**
TYV *e*S **S 08 55 16.8 +3.0**
TYV pmax pmax
comp=Z,14nm,1.0s
TYV pmax pmax
comp=Z,400nm,6.1s
TYV smax smax
comp=N,300nm,6.1s
TYV smax smax
comp=E,400nm,6.1s
DHRM DHARAMSHALA 62.33 314 *eP* **P 08 46 54.7 -0.5**
DHRM IAmb IAmb 08 47 00.6
comp=Z,156nm,0.6s
THN Thein Dam 62.85 314 *eP* **P 08 46 57.8 -0.5**
WMQ Urumqi 62.93 330 *eP* **P 08 46 58.9 +0.2**
WMQ pP pP 08 47 07.0 -1.4
WMQ sP sP 08 47 14.2 +2.0
WMQ PcP **PcP 08 47 36.0 -0.6**
WMQ pmax pmax
comp=Z,98nm,1.1s
WMQ pmax pmax
comp=Z,420nm,6.1s
WMQ LR LR
comp=Z,460nm,19.3s
WMQ LR LR
comp=Z,560nm,20.1s
WMQ LR LR
comp=Z,590nm,20.5s
ZEA Zeya 62.93 1 *eP* **P 08 46 58.8 +0.4**
ZEA pmax pmax
comp=N,10.0nm,0.3s
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
NIL Nilore 65.25 314 P **P 08 47 13.3 -0.8**
NIL pmax pmax
comp=Z,72nm,0.8s
NIL Nilore 65.25 314 P **P 08 47 13.3 -0.8**
KSH Kashi 66.65 320 P **P 08 47 24.1 +1.0**
KSH pP pP 08 47 33.4 +0.6
KSH pmax pmax
comp=Z,62nm,0.9s
KSH LR LR
comp=Z,520nm,17.5s
KSH LR LR
comp=Z,440nm,15.8s
KSH LR LR
comp=Z,550nm,17.9s
SHLS Shalkode 66.80 325 *eP* **P 08 47 22.0 -2.0**
SHLS pmax pmax
comp=Z,24nm,0.7s
SHLS Shalkode 66.80 325 *eP* **P 08 47 22.0 -2.0**
comp=Z,24nm,0.7s,baz=326
ZSN Zaisan 66.93 332 *eP* **P 08 47 23.6 -1.0**
ZSN pmax pmax
comp=Z,21nm,0.8s
ZSN Zaisan 66.93 332 *eP* **P 08 47 23.7 -1.0**
comp=Z,21nm,0.8s,baz=332
UZB Uzynbulak 67.04 325 *eP* **P 08 47 25.0 -0.6**
UZB pmax pmax
comp=Z,49nm,1.3s
UZB Uzynbulak 67.04 325 *eP* **P 08 47 25.0 -0.6**
comp=Z,49nm,1.3s,baz=325
SATY Saty 67.33 325 *eP* **P 08 47 26.8 -0.6**
SATY pmax pmax
comp=Z,62nm,1.2s
SATY Saty 67.33 325 *eP* **P 08 47 26.9 -0.6**
comp=Z,62nm,1.2s,baz=325
ZHN Zhinishke 67.38 325 *eP* **P 08 47 26.9 -0.8**
ZHN Zhinishke 67.38 325 *eP* **P 08 47 26.9 -0.8**
baz=325
KPKS Kokpek 67.43 325 *eP* **P 08 47 27.2 -0.8**
KPKS pmax pmax
comp=Z,46nm,0.8s
KPKS Kokpek 67.43 325 *eP* **P 08 47 27.2 -0.8**
comp=Z,46nm,0.8s,baz=325
BOD Bodaibo 67.61 354 *eP* **P 08 47 28.4 -0.3**
BOD pmax pmax
comp=Z,52nm,1.4s
MK31 Makanchi Array 67.72 330 P **P 08 47 29.1 -0.5**
MK31 pmax pmax
comp=Z,82nm,0.9s
MK31 Makanchi Array 67.72 330 P **P 08 47 29.1 -0.5**
MKAR Makanchi Array 67.72 330 P **P 08 47 29.3 -0.3**
comp=Z,72nm,0.7s,baz=133,slow=8.1,SNR=15
MKAR S **S 08 56 22.5 -2.8**
comp=Z,0.4nm,0.8s,baz=174,slow=23,SNR=2.1
MKAR P4KPbc 09 24 16.2
comp=Z,0.5nm,0.6s,baz=141,slow=5.2,SNR=6.3
MKAR Makanchi Array 67.72 330 P **P 08 47 28.9 -0.7**
MAKZ Makanchi 67.88 330 P **P 08 47 30.0 -0.7**
MAKZ pmax pmax
comp=Z,59nm,0.9s
MAKZ Makanchi 67.88 330 P **P 08 47 30.0 -0.7**
MAKZ IAmb IAmb 08 47 31.3
comp=Z,59nm,0.9s
TNSS Tian-Shan 68.16 324 *eP* **P 08 47 32.6 -0.3**
baz=324
MDOK Medeo 68.18 324 *eP* **P 08 47 32.3 -0.5**
MDOK Medeo 68.18 324 *eP* **P 08 47 32.3 -0.5**
baz=324
PEA0B Petropavlovsk- 68.19 20 *i* P **P 08 47 31.5 -0.9**
PETK Petropavlovsk- 68.19 20 P **P 08 47 32.6 +0.2**
comp=Z,25nm,0.8s,baz=183,slow=3.0,SNR=9.0
PETK Petropavlovsk- 68.19 20 *eP* **P 08 47 32.6 +0.2**
PETK pmax pmax
comp=Z,27nm,0.8s
PETK Petropavlovsk- 68.19 20 P **P 08 47 32.0 -0.4**
AAA Alma-Ata 68.28 324 *eP* **P 08 47 33.1 -0.2**
AAA Alma-Ata 68.28 324 *eP* **P 08 47 33.2 -0.2**
baz=324
PET Petropavlovsk 68.45 21 *i* P **P 08 47 33.8 -0.2**
PET pmax pmax
comp=Z,39nm,1.1s
PET Petropavlovsk 68.45 21 P **P 08 47 33.9 -0.1**
PET IAmb IAmb 08 47 35.6
comp=Z,48nm,1.0s
CHKK Chushkaly 68.63 325 *eP* **P 08 47 34.7 -0.8**
baz=325
KBL Kabul 68.72 313 P **P 08 47 35.8 -0.6**
KBL pmax pmax
comp=Z,46nm,0.8s
KBL Kabul 68.72 313 P **P 08 47 35.8 -0.6**
KBL IAmb IAmb 08 47 37.8
comp=Z,46nm,0.8s
KUU Kurty 69.03 324 *eP* **P 08 47 36.7 -1.2**
KUU Kurty 69.03 324 *eP* **P 08 47 36.8 -1.2**
baz=324
MSEY Mahe Island 69.18 269 P **P 08 47 41.1 +1.6**
AAK Ala-Archa 69.37 322 P **P 08 47 40.2 -0.1**
comp=Z,39nm,0.6s,baz=134,slow=6.3,SNR=13
AAK LR LR 09 22 21.7
comp=Z,588nm,21.1s,baz=138,slow=40
AAK Ala-Archa 69.37 322*c i*P **P 08 47 40.1 -0.1**
AAK pmax pmax
comp=Z,56nm,0.8s
AAK Ala-Archa 69.37 322 P **P 08 47 40.4 +0.2**
AAK IAmb IAmb 08 47 42.1
comp=Z,47nm,0.8s
AAK Ala-Archa 69.37 322 *i* P **P 08 47 41.3 +1.1**
SNR=11
SGDS Sogindy 69.76 323 *eP* **P 08 47 41.1 -1.4**
comp=Z,38nm,1.5s,baz=323
KRAR Krasnoyarsk 70.47 341 *i* P **P 08 47 46.5 0.0**
VNDA Vanda 70.69 172 P **P 08 47 48.8 +1.2**
comp=Z,7.2nm,0.7s,baz=319,slow=9.1,SNR=4.8
MAW Mawson 70.96 201 P **P 08 47 50.8 +1.5**
comp=Z,30nm,1.1s,baz=242,slow=7.1,SNR=1.4
BTLS Baital 71.03 324 *eP* **P 08 47 48.7 -1.4**
BTLS Baital 71.03 324 *eP* **P 08 47 48.7 -1.4**
baz=324
SEM Semipalatinsk 71.18 332 *eP* **P 08 47 49.4 -1.8**
SEM pmax pmax
comp=Z,50nm,1.3s
SEM Semipalatinsk 71.18 332 *eP* **P 08 47 49.4 -1.8**
comp=Z,50nm,1.3s,baz=332
YAK Yakutsk 71.31 2 P **P 08 47 50.4 -1.1**
comp=Z,74nm,0.7s,baz=37,slow=0.6,SNR=12
YAK S **S 08 57 08.1 +1.2**
comp=Z,5.1nm,0.4s,baz=293,slow=2.4,SNR=1.0
YAK Yakutsk 71.31 2*c i*P **P 08 47 50.7 -0.7**
YAK *e**PP **sP 08 48 05.5 +0.6**
YAK *e* 08 48 10.7
YAK *e* 08 50 28.3
YAK *e*S **S 08 57 07.5 +0.6**
YAK *e**SS **SKiKP 08 57 37.2 +7.5**

YAK e 08 57 45.3
YAK pmax pmax
comp=Z,133nm,0.8s
YAK pmax pmax
comp=N,31nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,147nm,3.0s
YAK pmax pmax
comp=N,41nm,2.4s
YAK pmax pmax
comp=E,43nm,2.6s
YAK smax smax
YAK smax smax
comp=N,44nm,3.0s
YAK Yakutsk 71.31 2 P **P** **08 47 50.8 -0.6**
DZA Taraz 71.44 321 *e*P **P** **08 47 52.0 -0.7**
DZA Taraz 71.44 321 *e*P **P** **08 47 52.0 -0.7**
baz=321
ZAA0 Zalesovo Array 71.71 336 P **P** **08 47 52.6 -1.4**
ZALV Zalesovo Beam 71.71 336 P **P** **08 47 53.0 -1.0**
comp=N,73nm,0.7s,baz=138,slow=4.9,SNR=19
ZALV S **S** **08 57 04.4 -7.4**
comp=N,0.3nm,0.3s,baz=342,slow=42,SNR=1.9
ZALV Zalesovo Beam 71.71 336 *e*P **P** **08 47 53.0 -1.0**
ZALV pmax pmax
comp=Z,74nm,0.7s
MA2 Magadan 71.78 13 P **P** **08 47 53.8 -0.5**
comp=Z,71nm,1.1s,baz=195,slow=7.0,SNR=7.9
MA2 Magadan 71.78 13*c i*P **P** **08 47 54.5 +0.2**
MA2 pmax pmax
comp=Z,91nm,1.1s
MA2 Magadan 71.78 13 P **P** **08 47 54.2 -0.1**
MA2 IAmb IAmb 08 47 55.9
comp=Z,87nm,1.1s
TAS Tashkent 71.90 319 P **P** **08 47 55.8 +0.3**
TAS pmax pmax
comp=Z,118nm,0.6s
TAS Tashkent 71.90 319 P **P** **08 47 55.8 +0.3**
KKAR Karatay Array 72.06 321 P **P** **08 47 56.3 -0.1**
KKAR Karatay Array 72.06 321 P **P** **08 47 56.3 -0.1**
KURBB Kurchatov Arra 72.14 331 P **P** **08 47 55.7 -1.0**
comp=Z,27nm,0.6s,baz=142,slow=5.3,SNR=14
KURBB S **S** **08 57 12.0 -4.8**
comp=Z,0.4nm,0.8s,baz=142,slow=16,SNR=2.5
KURBB LR LR 09 22 58.1
comp=Z,480nm,18.6s,baz=118,slow=39
KURK Kurchatov 72.16 331*c i*P **P** **08 47 55.8 -1.0**
KURK pmax pmax
comp=Z,157nm,1.4s
KURK Kurchatov 72.16 331 P **P** **08 47 55.7 -1.0**
KURK Kurchatov 72.16 331 IAmb IAmb 08 47 57.5
comp=Z,207nm,1.4s
BRLS Borolday 72.44 321 *e*P **P** **08 47 58.6 -0.1**
BRLS Borolday 72.44 321 *e*P **P** **08 47 58.7 -0.1**
baz=320
WSAR Wadi Sarin 72.63 298 P **P** **08 47 59.5 -0.8**
comp=Z,48nm,0.6s,baz=144,slow=5.5,SNR=18
WSAR LR LR 09 23 37.9
comp=Z,560nm,18.1s,baz=130,slow=39
SHAO Shalim 73.79 292 *i*P **P** **08 48 07.0 -0.1**
SNR=12
SOCY Socotra 73.85 286 P **P** **08 48 07.2 -0.5**
SHEM Shemya Is, Ala 74.65 28 LR LR 09 17 56.8
comp=Z,207nm,19.1s,baz=258,slow=33
BRZS Berezniki 74.68 328 *e*P **P** **08 48 10.7 -0.9**
BRZS pmax pmax
comp=Z,44nm,1.7s
BRZS Berezniki 74.68 328 *e*P **P** **08 48 10.8 -0.9**
comp=Z,44nm,1.7s,baz=328
SOHO SOHO 74.74 298 *i*P **P** **08 48 12.2 -0.3**
SNR=7.6
SEY Seymchan 75.13 13 P **P** **08 48 13.3 -0.6**
comp=Z,29nm,0.6s,baz=210,slow=5.1,SNR=15
UOSS Minazif 75.27 299 P **P** **08 48 15.1 -0.6**
UOSS IAmb IAmb 08 48 16.2
comp=Z,64nm,1.1s
UOSS Minazif 75.27 299 P **P** **08 48 15.0 -0.6**
HATD Hatta, Dubai 75.30 299 *i*P **P** **08 48 15.9 +0.1**
SNR=9.7
ASHO Ashiyiah 75.32 299 *i*P **P** **08 48 16.0 0.0**
SNR=6.5
ALNE Al Ain 75.40 298 *i*P **P** **08 48 16.9 +0.6**
SNR=5.1
MSFE Esma-Masafi 75.44 299 P **P** **08 48 16.2 -0.5**
BANOM Banah 75.49 300 P **P** **08 48 17.0 +0.1**
SHME Shamm 75.67 300 *i*P **P** **08 48 17.9 0.0**
SNR=7.1
FAQ Al Faqa, Dubai 75.74 298 *i*P **P** **08 48 18.1 -0.2**
SNR=9.6
NAZ Nazwa, Dubai 75.75 299 *i*P **P** **08 48 17.9 -0.5**
SNR=7.1
ASUD Al Ashush, Dub 75.93 298 *i*P **P** **08 48 19.6 +0.2**
SNR=6.7
MZR Muzera 77.09 296 *i*P **P** **08 48 26.1 0.0**
SNR=8.6
BVAR Borovoye Array 77.60 330 P **P** **08 48 27.7 -0.5**
comp=Z,11nm,0.7s,baz=68,slow=16,SNR=7.1
BRVK Borovoye 77.67 330*c i*P **P** **08 48 26.9 -1.7**
BRVK pmax pmax
comp=Z,82nm,1.6s
GEYT Alibeck 78.14 312 P **P** **08 48 31.6 -0.1**
comp=Z,16nm,1.1s,baz=214,slow=7.9,SNR=5.3
GEYT Alibeck 78.14 312 P **P** **08 48 31.3 -0.3**
GEYT IAmb IAmb 08 48 32.9
comp=Z,84nm,1.6s
GYA0B ALIBECK ARRAY 78.14 312 P **P** **08 48 31.6 0.0**
GYA0B IAmb IAmb 08 48 32.9
comp=Z,92nm,1.6s
SYO Syowa Base 79.67 201‖ *e*P **P** **08 48 35.7 -3.6**
SYO Syowa Base 79.67 201‖ *e*PcP **P** **08 48 42.1 +2.8**
TIXI Tiksi 80.93 1 P **P** **08 48 44.9 -1.1**
comp=Z,47nm,0.6s,baz=201,slow=3.8,SNR=20
TIXI Tiksi 80.93 1*c i*P **P** **08 48 44.4 -1.6**
TIXI pmax pmax
comp=Z,66nm,0.8s
TIXI Tiksi 80.93 1 IAmb IAmb 08 48 46.6
comp=Z,58nm,0.7s
BILL Bilibino 82.60 14 *i*P **P** **08 48 54.2 -0.7**
BILL *i* 08 49 02.0
BILL *i* 08 52 01.8
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,167nm,17.0s
NRIK Noril'sk 82.78 347 P **P** **08 48 55.5 -0.3**
comp=Z,9.1nm,0.6s,baz=145,slow=4.8,SNR=5.4
NRIK LR LR 09 28 42.2
comp=Z,288nm,21.8s,baz=159,slow=38
NRIK Noril'sk 82.78 347 P **P** **08 48 55.5 -0.3**
NRIK pmax pmax
comp=Z,108nm,1.8s
NRIK Noril'sk 82.78 347 IAmb IAmb 08 48 57.2
comp=Z,108nm,1.8s
AKTO Aktyubinsk 83.07 324 P **P** **08 48 56.3 -1.4**
comp=Z,30nm,0.7s,baz=116,slow=9.9,SNR=11
NIKH Nikolski High 83.52 34 P **P** **08 48 59.4 -0.5**
baz=245
RAYN Ar Rayn 84.32 295 P **P** **08 49 04.9 +0.1**
RAYN pmax pmax
comp=Z,112nm,0.8s
RAYN Ar Rayn 84.32 295 P **P** **08 49 04.9 +0.1**
RAYN Ar Rayn 84.32 295 *i*P **P** **08 49 05.6 +0.7**
SNR=6.6
SVE Sverdlovsk 84.38 330 *e*P **P** **08 49 04.0 -0.2**
SVE pmax pmax
comp=Z,64nm,1.3s
ATD Arta Tunnel 84.38 283 P **P** **08 49 06.9 +1.6**
comp=Z,20nm,1.0s,baz=276,slow=20,SNR=1.9
ARU Arti 85.24 329 P **P** **08 49 08.0 -0.6**
comp=Z,6.8nm,0.8s,baz=347,slow=2.2,SNR=6.9
ARU S **S** **08 59 37.8 +1.2**
comp=Z,2.7nm,0.2s,baz=278,slow=11,SNR=1.3
ARU LR LR 09 28 29.9
comp=Z,371nm,21.9s,baz=124,slow=37
ARU Arti 85.24 329*c i*P **P** **08 49 07.7 -0.9**
ARU S **S** **08 59 29.8 -6.8**
ARU SS **SS** **09 05 10.5 -1.0**
ARU pmax pmax
comp=Z,26nm,1.0s
GAMB Gambell 87.01 23 P **P** **08 49 15.6 -1.5**
GAMB IAmb IAmb 08 49 18.8
comp=Z,53nm,1.7s
GAMB Gambell 87.01 23 P **P** **08 49 17.4 +0.3**
baz=242
MAK Makhachkala 87.41 314 *e*P **P** **08 49 16.4 -3.2**
MAK *e*PPP PPP 08 54 38.3
MAK *e* 08 59 40.6
MAK *e*SS SS 09 05 43.0 -1.0
MAK *e*SSS SSS 09 09 16.3
MAK pmax pmax
comp=Z,283nm,1.1s
KMBO Kilima Mbogo 87.70 269 P **P** **08 49 23.6 +1.6**
comp=Z,15nm,0.8s,baz=71,slow=7.1,SNR=9.1
KMBO Kilima Mbogo 87.70 269 *e*P **P** **08 49 23.7 +1.7**
KMBO pmax pmax
comp=Z,15nm,0.8s
KMBO Kilima Mbogo 87.70 269 *i*P **P** **08 49 24.1 +2.2**
SNR=5.6
GNI Garni 88.73 311 LR LR 09 33 53.3
comp=Z,178nm,21.9s,baz=102,slow=39
GNI Garni 88.73 311 *i*P **P** **08 49 25.2 -1.0**
GNI pmax pmax
comp=Z,13nm,1.3s
SDPT Sand Point 88.97 33 P **P** **08 49 27.1 +0.4**
baz=252
TNA Tin City 89.27 23 P **P** **08 49 26.5 -1.4**
TNA Tin City 89.27 23 P **P** **08 49 27.6 -0.3**
baz=245
BELG Belogornoye 89.85 323 P **P** **08 49 29.9 -0.9**
comp=Z,48nm,0.8s,baz=111,slow=1.5,SNR=8.7
BELG Belogornoye 89.85 323*c i*P **P** **08 49 29.6 -1.2**
BELG pmax pmax
comp=Z,12nm,0.9s
ANM Nome 89.86 24 P **P** **08 49 29.4 -1.3**
ANM pmax pmax
comp=Z,42nm,1.8s
ANM Nome 89.86 24 P **P** **08 49 29.4 -1.3**
ANM Nome 89.86 24 P **P** **08 49 30.4 -0.3**
baz=247
KIRV Kirov 90.61 329 P **P** **08 49 34.0 -0.2**
comp=Z,9.3nm,0.6s,baz=90,slow=4.5,SNR=1.3
KIRV LR LR 09 36 10.1
comp=Z,227nm,18.2s,baz=121,slow=40
KBZ Khabaz 90.86 314 P **P** **08 49 35.4 -0.3**
comp=Z,14nm,0.8s,baz=117,slow=5.4,SNR=10
KBZ Khabaz 90.86 314 *i*P **P** **08 49 35.2 -0.6**
KBZ pmax pmax
comp=Z,20nm,0.9s
NEY Neytrino 90.88 314 *i*P **P** **08 49 34.9 -1.3**
NEY pmax pmax
comp=Z,6.0nm,1.2s
GOF Gofitskoye 91.04 315‖ *e*P **P** **08 49 36.7 +0.1**
KIV Kislovodsk 91.06 314 *e*P **P** **08 49 37.7 +0.8**
KIV pmax pmax
comp=Z,13nm,1.0s
RDOG Red Dog Mine 92.06 21 P **P** **08 49 40.7 -0.1**
baz=250
SNAA Sanae 92.17 194 PcP **PcP** **08 49 43.9 +1.7**
P18K Big Mountain, 92.81 30 P **P** **08 49 43.7 -0.9**
baz=256
SOC Sochi 93.10 313 *e*P **P** **08 49 42.3 -3.9**
SOC *e* 08 53 27.0
SOC *e*S **SKSac** **09 00 13.3 -4.9**
SOC *e*SS **SS** **09 07 02.6 -3.6**
SOC *e*SSS SSS 09 10 43.2
SOC pmax pmax
comp=Z,11nm,0.8s
VRH Novokhopyorsk 93.14 321 *e*P **P** **08 49 43.6 -2.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
TTA Tatalina 93.29 27 P **P** **08 49 46.4 -0.3**
baz=256
OHAK Old Harbor 93.33 33 P **P** **08 49 46.1 -0.8**
baz=258
O19K Port Alsworth 93.44 30 P **P** **08 49 46.8 -0.5**
baz=257
N19K Bonanza Creek 93.50 29 P **P** **08 49 47.6 -0.1**
baz=257
L19K White Mountain 93.64 28 P **P** **08 49 47.9 -0.4**
baz=256
VNA2 Neumayer--Watz 93.77 194 PcP **PcP** **08 49 51.0 +1.8**
baz=132,slow=4.0
M19K Big River Lodg 93.79 28 P **P** **08 49 48.9 -0.1**
baz=257
KDAK Kodiak Island 93.81 32 P **P** **08 49 48.5 -0.6**
baz=258
BOSA Boshof 94.07 240 P **P** **08 49 53.2 +2.0**
comp=Z,1.9nm,0.7s,baz=161,slow=6.8,SNR=1.5
BOSA LR LR 09 24 23.4
comp=Z,509nm,21.7s,baz=111,slow=30
L20K Farewell, AK 94.15 27 P **P** **08 49 50.7 +0.1**
baz=257
VNA1 Neumayer--Stat 94.17 194 PcP **PcP** **08 49 52.8 +1.8**
MBAR Mbarara 94.21 269 P **P** **08 49 52.4 +0.2**
comp=Z,12nm,0.7s,baz=78,slow=8.3,SNR=9.3
K20K Telida 94.25 27 P **P** **08 49 50.9 -0.2**
baz=257
J20K Nowinta River 94.39 26 P **P** **08 49 51.5 -0.2**
baz=257
VORD Divnogorie 94.61 321 *e*P **P** **08 49 50.5 -2.4**
VORD pmax pmax
comp=Z,10.0nm,0.7s
EIL Elat 94.73 299 P **P** **08 49 53.9 -0.1**
comp=Z,5.1nm,0.6s,baz=88,slow=10,SNR=2.6
VORR Voronezh 94.77 321 *e*P **P** **08 49 52.0 -1.7**
VORR pmax pmax
comp=Z,50nm,0.4s
ANN Anapa 94.91 314 *e*P **P** **08 49 52.2 -2.3**
ANN *e*S S 09 00 24.5 -42
ANN pmax pmax
comp=Z,68nm,1.1s
LPSR Galich'ya Gora 95.09 322 *e*P **P** **08 49 52.9 -2.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
A21K Barrow 95.12 18 P **P** **08 49 54.9 +0.1**
baz=256
CHUM Lake Minchumin 95.12 26 P **P** **08 49 54.9 -0.1**
baz=259
CAST Castle Rocks 95.14 27 P **P** **08 49 54.3 -0.8**
baz=259
H21K Melozitna Rive 95.25 24 P **P** **08 49 55.4 -0.2**
baz=259
I21K Tanana 95.50 25 P **P** **08 49 56.8 +0.1**
baz=259
BPAW Bear Paw Mtn. 95.74 26 P **P** **08 49 57.6 -0.2**
baz=260
O22K Cooper Landing 95.74 30 P **P** **08 49 57.4 -0.5**
baz=261
M22K Willow 95.75 28 P **P** **08 49 56.9 -0.9**
baz=261
SEW Seward 95.82 30 P **P** **08 49 57.0 -1.3**
baz=261
RC01 Rabbit Creek A 95.83 29 P **P** **08 49 57.4 -0.9**
baz=261
TRF Thorofare Moun 95.94 27 P **P** **08 49 57.4 -1.6**
baz=261
MLY Manley 96.00 25 P **P** **08 49 58.1 -0.9**
baz=260
KLMR Klimovskoe 96.00 331 *e*P **P** **08 49 55.9 -3.2**
KLMR pmax pmax
comp=Z,17nm,0.7s
KLMR Klimovskoe 96.00 331 *e*P **P** **08 49 55.9 -3.2**
KLMR AMP 08 49 57.8
PMR Palmer 96.19 29 P **P** **08 49 59.1 -0.8**
baz=261
PWL Port Wells 96.47 29 P **P** **08 50 00.6 -0.7**
baz=262
KNK Knik Glacier 96.49 29 P **P** **08 50 00.9 -0.4**
baz=262
COLD Coldfoot 96.56 23 P **P** **08 50 01.6 +0.1**
baz=261
MCK McKinley 96.58 27 P **P** **08 50 00.7 -1.0**
baz=262
I23K Minto, Yukon-K 96.59 25 P **P** **08 50 00.7 -1.0**
baz=262,SNR=7.0
SML Sawmill 96.60 29 P **P** **08 50 01.3 -0.6**
baz=262
NEA2 Nenana 96.64 26 P **P** **08 50 01.9 0.0**
baz=262
OBN Obninsk 96.81 325 *i*P **P** **08 50 01.2 -1.6**
OBN pmax pmax
comp=Z,22nm,1.3s
WAT6 Susitna Watana 96.97 28 P **P** **08 50 02.6 -1.0**
baz=263
TOLK Toolik Lake Re 96.99 22 P **P** **08 50 02.9 -0.6**
baz=262,SNR=6.2
WRH Wood River Hil 97.04 26 P **P** **08 50 01.7 -2.0**
WRH IAmb IAmb 08 50 06.9
comp=Z,21nm,1.5s
BRTR Keskin Array B 97.06 309 P **P** **08 50 03.0 -1.6**
comp=Z,3.9nm,0.7s,baz=129,slow=5.4,SNR=9.2
BRTR PP **PP** **08 54 00.2 -0.6**
comp=Z,3.7nm,1.0s,baz=99,slow=7.6,SNR=4.9
BRTR Keskin Array B 97.06 309 *e*P **P** **08 50 03.5 -1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
SCM Sheep Creek Mo 97.08 29 P **P** **08 50 03.2 -0.9**
baz=263
CCB Clear Creek Bu 97.19 26 P **P** **08 50 02.6 -1.7**
DHY Denali Highway 97.19 27 P **P** **08 50 03.3 -1.4**
DHY Denali Highway 97.19 27 P **P** **08 50 04.1 -0.6**
baz=263
H24K Noodor Dome 97.29 24 P **P** **08 50 02.5 -2.4**
H24K Noodor Dome 97.29 24 P **P** **08 50 04.3 -0.6**
baz=263
HDA Harding Lake 97.53 26 P **P** **08 50 03.7 -2.3**
HDA IAmb IAmb 08 52 24.2
comp=Z,28nm,1.8s
HDA Harding Lake 97.53 26 P **P** **08 50 04.9 -1.0**
baz=264
ILAR Eielson Array 97.59 26 P **P** **08 50 04.3 -1.9**
comp=Z,1.4nm,0.7s,baz=239,slow=4.7,SNR=6.9
ILAR PP **PP** **08 54 00.5 -3.4**
comp=Z,0.1nm,0.5s,baz=239,slow=5.4,SNR=2.8
ILAR PKiKP **PKiKP** **08 54 40.6 +0.1**
comp=Z,0.3nm,0.7s,baz=254,slow=5.5,SNR=1.1
ILAR LR LR 09 33 46.2
comp=Z,148nm,19.0s,baz=282,slow=35
ILAR Eielson Array 97.59 26 *e*P **P** **08 50 04.5 -1.7**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
M24K Tolsona, Glenn 97.64 28 P **P** **08 50 06.3 -0.3**
baz=264
KLU Klutina 97.71 29 P **P** **08 50 06.3 -0.6**
baz=264
DIV Divide 97.74 29 P **P** **08 50 05.0 -2.1**
DIV IAmb IAmb 08 50 07.9
comp=Z,18nm,1.1s
PAX Paxson 98.05 27 P **P** **08 50 06.9 -1.6**
baz=265
J25K Salcha River, 98.23 26 P **P** **08 50 08.0 -1.1**
baz=265
BMRM Bremner River 98.30 30 P **P** **08 50 09.3 -0.3**
baz=265
N25K Chitina, Valde 98.35 29 P **P** **08 50 09.3 -0.5**
baz=265
RIDG Independent Ri 98.39 27 P **P** **08 50 09.2 -0.7**
baz=266
BMAR Burnt Mountain 98.74 23 P **P** **08 50 11.2 -0.1**
SCRK Sand Creek 98.79 27 P **P** **08 50 11.2 -0.6**
baz=266
J26L Joseph Creek 99.00 26 P **P** **08 50 12.0 -0.7**
baz=267
APA Apatity 99.28 337‖ *i*P **Pdif** **08 50 05.1 -8.6**
APA pmax pmax
comp=Z,6.0nm,1.0s
L27K Beaver Creek, 99.71 27 P **Pdif** **08 50 15.6 -0.2**
baz=268
EGAK Eagle 100.04 26 P **Pdif** **08 50 17.1 -0.1**
baz=269
DAWY Dawson 100.81 26 P **Pdif** **08 50 20.3 -0.4**
baz=270
AKASG Malin Array Be 100.94 320 P **Pdif** **08 50 19.4 -2.1**
comp=Z,3.9nm,0.6s,baz=73,slow=4.3,SNR=12
AKASG PP **PP** **08 54 30.0 +0.2**
comp=Z,0.9nm,0.6s,baz=89,slow=6.4,SNR=6.3
AKASG Malin Array Be 100.94 320 *i*P **Pdif** **08 50 20.2 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
I29M Ogilvie Camp, 101.24 25 P **Pdif** **08 50 22.6 +0.1**
baz=272
EPYK Eagle Plains 101.85 24 P **Pdif** **08 50 25.1 -0.2**
baz=273
ARCES ARCESS Array B 102.12 339 P **Pdif** **08 50 24.1 -2.2**
comp=Z,2.1nm,0.6s,baz=72,slow=4.0,SNR=4.5
FINES FINESS Array B 102.53 331 P **Pdif** **08 50 26.3 -2.0**
comp=Z,1.3nm,0.6s,baz=45,slow=2.8,SNR=2.5
FINES PKiKP **PKiKP** **08 54 50.0 +0.6**
comp=Z,1.1nm,0.7s,baz=109,slow=7.5,SNR=1.4
INK Inuvik 102.89 22 PKiKP **PKiKP** **08 54 49.0 -0.9**
comp=Z,3.6nm,1.0s,baz=266,slow=8.7,SNR=3.6
INK Inuvik 102.89 22 P **Pdif** **08 50 29.6 -0.1**
baz=277
CRVS Cervenica-Dubn 106.00 318 *e*PDIFF **Pdif** **08 50 43.9 -0.2**
TGTN Hyland Airport 106.13 29 P **PKiKP** **08 54 58.5 +2.4**
baz=280
NOA NORSAR Array B 109.66 332 Pdiff **Pdif** **08 50 57.6 -2.5**
comp=Z,0.4nm,0.6s,baz=74,slow=4.5,SNR=3.5
NOA PKiKP **PKiKP** **08 55 01.1 -1.6**
comp=Z,1.0nm,0.8s,baz=106,slow=3.2,SNR=3.3
GERES GERESS Array B 111.09 319 PKiKP **PKiKP** **08 55 05.5 -0.3**
comp=Z,0.4nm,0.3s,baz=24,slow=11,SNR=2.4
D03D Eldon 111.58 43 P **PKiKP** **08 55 09.1 +2.5**
baz=279
YKA Yellowknife Ar 112.02 26 Pdiff **Pdif** **08 51 12.4 +2.0**
comp=Z,0.3nm,0.7s,baz=286,slow=4.8,SNR=3.7
YKA PKiKP **PKiKP** **08 55 08.2 +1.1**
comp=Z,3.7nm,0.7s,baz=297,slow=1.6,SNR=14
YKA PP **PP** **08 55 51.6 +0.8**
comp=Z,0.6nm,0.9s,baz=75,slow=8.8,SNR=1.1
E04D Cinebar 112.10 44 P **PKiKP** **08 55 10.8 +3.1**
baz=280
B05A Bryant 112.11 42 P **PKiKP** **08 55 09.7 +2.1**
baz=280,SNR=5.6
H04D Lebanon 112.32 46 P **PKiKP** **08 55 10.7 +2.6**
baz=278
I04A Tendick Farm, 112.66 46 P **PKiKP** **08 55 11.0 +2.1**
baz=278
M02C Callahan 112.68 49 P **PKiKP** **08 55 11.8 +2.8**
baz=277
N02D Trinity Center 112.85 50 P **PKiKP** **08 55 12.1 +2.7**
baz=277
O02D Mt. Diablo Mer 112.89 50 P **PKiKP** **08 55 12.2 +2.7**
baz=277
J04D Umpqua Nationa 112.97 47 P **PKiKP** **08 55 12.3 +2.5**
baz=278
L04D Klamath Falls 112.97 48 P **PKiKP** **08 55 11.4 +1.7**
baz=278,SNR=6.4
K04D Chiloquin, OR 113.32 48 P **PKiKP** **08 55 12.5 +2.2**
baz=278
I05D Terrebonne, OR 113.34 46 P **PKiKP** **08 55 12.4 +2.2**
baz=280
M04C Macdoel 113.38 49 P **PKiKP** **08 55 12.7 +2.2**
baz=278
J05D Fort Rock, OR 113.59 47 P **PKiKP** **08 55 13.2 +2.4**
baz=279,SNR=6.5
O03E Paynes Creek 113.62 50 P **PKiKP** **08 55 12.7 +1.8**
baz=277
NEW Newport 115.35 41 P **PKPdf** **08 55 16.5 +2.6**
baz=285,SNR=6.1
SMMC Simmler 115.67 55 P **PKiKP** **08 55 18.3 +3.3**
baz=276
KEST Kesra 116.32 305 PKP **PKiKP** **08 55 18.3 +2.0**
comp=Z,12nm,1.0s,baz=338,slow=1.1,SNR=3.8
VES Vestal, Richgr 116.34 55 P **PKiKP** **08 55 18.0 +1.8**
baz=277,SNR=7.2
NVAR Mina Array Bea 116.58 52 Pdiff **Pdif** **08 51 37.7 +6.0**
comp=Z,1.4nm,0.9s,baz=262,slow=6.1,SNR=5.7
NVAR PKP **PKiKP** **08 55 19.3 +2.4**
comp=Z,6.3nm,0.6s,baz=252,slow=2.4,SNR=18
NVAR PP **PP** **08 56 22.4 -1.9**
comp=Z,0.4nm,0.6s,baz=289,slow=2.8,SNR=0.9
ARVC Arvin 116.64 55 P **PKiKP** **08 55 19.2 +2.4**
baz=277,SNR=5.2
TIN Tinemaha, Big 116.85 53 P **PKiKP** **08 55 20.0 +2.7**
baz=278
ISA Isabella, Lake 116.86 55 P **PKiKP** **08 55 19.6 +2.4**
baz=277
CWC Cottonwood Cre 117.07 54 P **PKiKP** **08 55 20.5 +2.7**
baz=278
CIS Catalina Islan 117.20 57 P **PKiKP** **08 55 20.1 +2.2**
baz=276
EDW2 Edwards Air Fo 117.36 56 P **PKiKP** **08 55 20.9 +2.7**
baz=277,SNR=11
LRMC Laurel Mtn Rad 117.53 55 P **PKiKP** **08 55 21.2 +2.6**
baz=278,SNR=5.4
GRAC Grapevine Rang 117.55 53 P **PKiKP** **08 55 21.0 +2.4**
baz=279,SNR=6.9
MPMC Manual Prospec 117.59 54 P **PKiKP** **08 55 21.6 +2.8**
baz=278,SNR=11
MSO Missoula 117.81 42 P **PKiKP** **08 55 19.9 +1.0**
baz=286,SNR=7.8
FURC Furnace Creek, 118.03 54 P **PKiKP** **08 55 22.0 +2.6**
baz=279,SNR=8.1
MURC Murrieta 118.18 57 P **PKiKP** **08 55 22.1 +2.3**
baz=277
GSC Goldstone, Bar 118.26 55 P **PKiKP** **08 55 22.8 +2.7**
baz=278,SNR=10

BBRC	Big Bear Solar	118.32	56	P	PKiKP	08 55 22.3	+1.9
	baz=278,SNR=6.6						
109C	Camp Elliot, M	118.35	58	P	PKiKP	08 55 22.4	+2.3
	baz=277						
HLID	Hailey	118.39	45	P	PKiKP	08 55 22.9	+2.7
	baz=284,SNR=27						
TPNV	Topopah Spring	118.44	53	P	PKiKP	08 55 22.8	+2.4
	baz=280						
R11A	Troy Canyon, C	118.70	51	P	PKiKP	08 55 23.4	+2.5
	baz=281						
HEC	Hector,Ludlow	118.71	55	P	PKiKP	08 55 23.4	+2.5
	baz=278,SNR=5.5						
PFO	Pinyon Flats O	118.79	57	P	PKiKP	08 55 23.6	+2.5
	baz=278,SNR=12						
TPFO	Pinon Flats	118.80	57	P	PKiKP	08 55 23.6	+2.5
	baz=278,SNR=13						
MONP2	Monument Peak	118.92	58	P	PKiKP	08 55 24.1	+2.6
	baz=277,SNR=8.2						
TUQ	Turquoise Moun	118.95	55	P	PKiKP	08 55 24.0	+2.5
	baz=279						
BELC	Belle Mtn. Jos	119.11	56	P	PKiKP	08 55 24.5	+2.7
	baz=278,SNR=20						
IKP	In-Ko-Pah, Jac	119.21	58	P	PKiKP	08 55 24.4	+2.5
	baz=277,SNR=5.0						
GMRC	Granite Mounta	119.27	55	P	PKiKP	08 55 25.0	+3.0
	baz=279,SNR=20						
SWSC	Sam W. Stewart	119.43	58	P	PKiKP	08 55 25.0	+2.7
	baz=278,SNR=5.4						
BC3	Big Chuckawall	119.61	57	P	PKiKP	08 55 25.4	+2.7
	baz=278,SNR=12						
BOZ	Bozeman (W)	119.72	43	P	PKiKP	08 55 24.5	+1.9
	baz=288,SNR=8.4						
IRM	Iron Mountain	119.79	56	P	PKiKP	08 55 25.7	+2.7
	baz=279,SNR=11						
EGMT	Eagleton	120.11	39	P	PKiKP	08 55 24.7	+1.5
	baz=291,SNR=14						
GLA	Glamis	120.22	57	P	PKiKP	08 55 26.1	+2.3
	baz=278						
DUG	Dugway, Tooele	120.39	49	P	PKiKP	08 55 26.3	+2.2
	baz=284						
PDMCI	Parker Dam,Lak	120.58	56	P	PKiKP	08 55 26.8	+2.4
	baz=280						
H17A	Grant Village	120.80	44	P	PKiKP	08 55 28.1	+3.1
	baz=288,SNR=5.7						
RLMT	Red Lodge	121.44	42	P	PKiKP	08 55 28.4	+2.3
	baz=290						
BW06	Boulder Array	122.02	45	P	PKiKP	08 55 28.8	+1.4
	baz=288,SNR=14						
PDAR	Pinedale Array	122.02	45	PKP	PKiKP	08 55 28.9	+1.6
	comp=Z,10nm,0.7s,baz=262,slow=1.4,SNR=25						
214A	Organ Pipe Nat	122.08	58	P	PKiKP	08 55 29.7	+2.1
	baz=279,SNR=5.6						
WUAZ	Wupatki	122.58	54	P	PKiKP	08 55 31.1	+2.5
	baz=282,SNR=12						
LAO	LASA Array	122.84	40	P	PKiKP	08 55 31.1	+2.4
	baz=293,SNR=20						
DGMT	Dagmar	123.33	37	P	PKiKP	08 55 31.2	+1.7
	baz=296,SNR=9.6						
TUC	Tucson	123.71	57	P	PKiKP	08 55 33.0	+2.2
	baz=280						
O20A	White River Ci	123.77	48	P	PKiKP	08 55 33.2	+2.4
	baz=287						
W18A	Petrified Fore	123.97	54	P	PKiKP	08 55 34.0	+2.6
	baz=283						
K22A	Casper	124.16	44	P	PKiKP	08 55 32.6	+1.1
	baz=290,SNR=13						
MVCO	Mesa Verde	124.42	51	P	PKiKP	08 55 34.4	+2.1
	baz=285,SNR=14						
TORD	Torodi Ar. Bea	124.47	279	PKP	PKiKP	08 55 34.0	+1.3
	comp=Z,12nm,0.7s,baz=69,slow=1.7,SNR=13						
N23A	Red Feather La	125.18	46	P	PKiKP	08 55 35.5	+1.7
	baz=290,SNR=8.9						
RSSD	Black Hills	125.28	42	P	PKiKP	08 55 35.2	+1.5
	baz=294						
S22A	4UR Ranch, Cre	125.54	50	P	PKiKP	08 55 37.1	+2.6
	baz=287,SNR=23						
ESDC	Sonseca Array	125.68	312	PKP	PKiKP	08 55 35.2	+0.8
	comp=Z,6.6nm,1.0s,baz=34,slow=3.1,SNR=9.2						
ISCO	Idaho Springs	125.79	47	P	PKiKP	08 55 36.6	+1.6
	baz=289,SNR=14						
121A	Cookes Peak, D	126.14	57	P	PKiKP	08 55 37.8	+2.0
	baz=282,SNR=11						
MDND	Maddock	126.33	36	P	PKiKP	08 55 36.2	+0.8
	baz=300,SNR=11						
Q24A	Divide	126.41	48	P	PKiKP	08 55 37.9	+1.6
	baz=289						
Y22D	IRIS PASSCAL I	126.48	54	P	PKiKP	08 55 39.0	+2.6
	baz=284						
SDCO	Great Sand Dun	126.55	50	P	PKiKP	08 55 38.9	+2.4
	baz=288						
ANMO	Albuquerque	126.62	53	P	PKiKP	08 55 39.1	+2.5
	baz=285						
ULM	Lac du Bonnet	127.07	32	PKP	PKPdf	08 55 36.6	+0.3
	comp=Z,16nm,0.8s,baz=314,slow=2.8,SNR=14						
ULM	Lac du Bonnet	127.07	32	*e*PKIKP	PKiKP	08 55 37.1	+0.3
ULM				pmax	pmax		
	comp=Z,16nm,0.8s						
T25A	Trinidad	127.56	50	P	PKiKP	08 55 40.3	+1.8
	baz=288,SNR=13						
POLO	Lamas de Olo	127.77	316	*e*PKPdf	PKiKP	08 55 39.1	+0.5
PGAV	Gavieira, Arco	127.86	317	*e*PKPdf	PKiKP	08 55 40.5	+1.7
OGNE	Ogallala	127.92	45	P	PKiKP	08 55 40.6	+1.7
	baz=293						
PLCA	Paso Flores	128.05	165	PKP	PKiKP	08 55 41.0	+1.7
	comp=Z,2.6nm,0.7s,baz=322,slow=2.1,SNR=4.9						
PLCA	Paso Flores	128.05	165	PKIKP	PKiKP	08 55 41.0	+1.7
PCBR	Castelo Branco	128.16	314	*e*PKPdf	PKiKP	08 55 41.3	+2.0
AGMN	Agassiz Nation	128.20	34	P	PKiKP	08 55 39.4	+0.3
	baz=304						
KSCO	Kaye Shedlock'	128.24	47	P	PKiKP	08 55 41.6	+1.9
	baz=291						
MNTX	Cornudas Mount	128.32	57	P	PKiKP	08 55 41.6	+1.7
	baz=284,SNR=22						
SUSD	Miller	128.41	39	P	PKiKP	08 55 40.5	+0.8
	baz=298,SNR=7.0						
PBAR	Barrancos	128.45	312	*e*PKPdf	PKiKP	08 55 42.7	+2.7
MSTX	Muleshoe	129.82	53	P	PKiKP	08 55 44.0	+1.0
	baz=287,SNR=16						
PTEO	Sao Teotonio	129.92	312	*e*PKPdf	PKiKP	08 55 54.5	+12
ECSD	EROS Data Cent	130.23	39	P	PKiKP	08 55 43.9	+0.5
	baz=300,SNR=17						
KIC	Kosan Boka	130.26	270	*e*PKP1	PKiKP	08 55 45.7	+1.4
	comp=Z,12nm,0.7s						
TXAR	Lajitas Array	130.32	59	PKP	PKiKP	08 55 45.5	+1.4
	comp=Z,2.2nm,0.5s,baz=184,slow=2.7,SNR=14						
TXAR				SKPbc	SKPbc	08 59 08.9	+4.5
	comp=Z,2.1nm,0.8s,baz=267,slow=4.5,SNR=5.1						
BGNE	Belgrade	130.36	43	P	PKiKP	08 55 45.3	+1.5
	baz=297						
AMTX	Amarillo	130.39	52	P	PKiKP	08 55 45.7	+1.6
	baz=289						
CBKS	Cedar Bluff	130.39	46	P	PKiKP	08 55 45.2	+1.3
	baz=294						
DBIC	Dimbokro	130.41	271	PKP	PKiKP	08 55 45.2	+0.7
	comp=Z,6.6nm,0.7s,baz=34,slow=2.0,SNR=4.8						
DBIC				SKPbc	SKPbc	08 59 07.5	+2.4
	comp=Z,2.6nm,0.6s,baz=345,slow=20,SNR=6.5						
LIC	Lamto	130.53	270	*e*PKP1	PKiKP	08 55 46.2	+1.4
	comp=Z,33nm,0.8s						
TIC	Toumodi	130.57	271	*e*PKP1	PKiKP	08 55 46.9	+2.0
EYMN	Ely	130.76	32	P	PKiKP	08 55 45.2	+0.9
	baz=309						
SPMN	Marine on St.	131.69	36	P	PKiKP	08 55 47.1	+0.9
	baz=305						
KSU1	Kansas State U	132.47	45	P	PKiKP	08 55 49.1	+1.0
	baz=297						
WMOK	Wichita Mounta	132.67	51	P	PKiKP	08 55 49.2	+0.6
	baz=291,SNR=9.6						
ABTX	Abilene, Hawle	132.73	54	P	PKiKP	08 55 49.9	+1.2
	baz=288						
JCT	Junction City	133.26	57	P	PKiKP	08 55 50.3	+0.4
	baz=286,SNR=14						
SCHQ	Schefferville	133.72	10	PKP	PKiKP	08 55 50.2	+0.1
	comp=Z,4.9nm,0.7s,baz=24,slow=4.8,SNR=4.0						
833A	Chaparral WMA,	134.20	60	P	PKiKP	08 55 53.3	+1.5
	baz=285						
TUL1	Leonard	134.46	48	P	PKiKP	08 55 52.4	+0.3
	baz=295,SNR=8.0						
JFWS	Jewell Farm	134.54	37	P	PKiKP	08 55 51.9	-0.3
	baz=306						
WHTX	Lake Whitney,	134.69	54	P	PKiKP	08 55 54.0	+1.3
	baz=290						
435B	Jarrell	134.98	56	P	PKiKP	08 55 54.6	+1.2
	baz=288						
W39A	Magazine	136.24	48	P	PKiKP	08 55 55.4	-0.4
	baz=296,SNR=9.6						
U40A	Yellville	136.38	46	P	PKPdf	08 55 55.3	+0.9
	baz=298,SNR=14						
HDIL	Hopedale	136.52	39	P	PKiKP	08 55 56.0	-0.1
	baz=305						
CCM	Cathedral Cave	136.64	43	P	PKiKP	08 55 57.5	+1.0
	baz=301						
NATX	Nacogdoches	136.99	53	P	PKiKP	08 55 58.7	+1.3
	baz=292						
X40A	Basin Creek Fa	137.25	48	P	PKiKP	08 55 58.7	+0.8
	baz=296						
W41B	Gary Mavity, V	137.37	47	P	PKiKP	08 55 58.8	+0.7
	baz=297						
Z41A	Richland Creek	137.82	50	P	PKiKP	08 55 59.2	+0.2
	baz=295						
SFIN	Lafayette	137.96	37	P	PKiKP	08 55 58.8	-0.3
	baz=308						
AAM	Ann Arbor	138.65	33	P	PKiKP	08 55 59.7	-0.7
	baz=314						
X43A	Marvell	138.67	47	P	PKiKP	08 56 00.4	-0.4
	baz=298						
O48B	Farmland	139.19	36	P	PKPdf	08 56 00.5	+1.1
	baz=310						
OXF	Oxford	139.73	46	P	PKPdf	08 56 01.8	+1.3
	baz=300						
WCI	Wyandotte Cave	139.77	39	P	PKiKP	08 56 01.9	-0.9
	baz=307						
P49A	Miami Univ. Ec	139.91	37	P	PKPdf	08 56 02.0	+1.3
	baz=310						
WVT	Waverly	139.98	43	P	PKiKP	08 56 02.4	-1.0
	baz=303						
VBMS	Vicksburg	140.00	50	P	PKiKP	08 56 02.6	-0.9
	baz=296						
ACSO	Alum Creek Sta	140.44	34	P	PKiKP	08 56 03.3	-0.9
	baz=313						
ERPA	Erie	140.66	30	P	PKPdf	08 56 03.4	+1.4
	baz=318						
M53A	WI Miller and	140.82	31	P	PKPdf	08 56 02.9	+0.5
	baz=317						
LONY	Lake Ozonia	141.00	22	P	PKPdf	08 56 03.1	+0.5
	baz=328						
M54A	Oil Creek Stat	141.28	30	P	PKiKP	08 56 04.7	-1.2
	baz=318						
P52A	Corning	141.33	34	P	PKPdf	08 56 04.2	+0.9
	baz=313,SNR=7.5						
O53A	New Philadelph	141.40	33	P	PKPdf	08 56 04.5	+1.1
	baz=315						
N54A	Moraine State	141.52	31	P	PKPdf	08 56 04.7	+1.0
	baz=317						
PKME	Peaks-Kenny Pk	142.19	17	P	PKPdf	08 56 05.8	+1.2
	baz=336						
LRAL	Lakeview Retre	142.21	47	P	PKPdf	08 56 06.3	+1.3
	baz=301,SNR=11						
LBNH	Lisbon	142.29	20	P	PKPdf	08 56 06.1	+1.2
	baz=331						
BINY	Binghamton	142.45	26	P	PKPdf	08 56 06.6	+1.3
	baz=324						
TZTN	Tazewell	142.53	39	P	PKPdf	08 56 06.6	+1.1
	baz=308						
MCWV	Mont Chateau	142.55	32	P	PKPdf	08 56 06.5	+1.0
	baz=316						
O56A	Blue Knob Stat	142.76	31	P	PKPdf	08 56 06.7	+0.8
	baz=319						
SSPA	Standing Stone	142.81	29	P	PKPdf	08 56 06.9	+1.0
	baz=320						
BRAL	Brewton	143.10	49	P	PKPdf	08 56 06.8	+0.1
	baz=298						
N59A	State Game Lan	143.58	27	P	PKPdf	08 56 08.0	+0.7
	baz=323						
BLA	Blacksburg	143.97	36	P	PKPdf	08 56 08.2	+0.1
	baz=313,SNR=5.8						
PAL	Palisades	144.31	25	P	PKPdf	08 56 09.6	+1.1
	baz=326						
CPUP	Villa Florida	144.39	176	PKP	PKPdf	08 56 09.3	+0.2
	comp=Z,14nm,0.7s,baz=140,slow=1.6,SNR=5.7						
GOGA	Godfrey	144.47	44	P	PKPdf	08 56 08.8	-0.2
	baz=305,SNR=11						
KMSC	Kings Mountain	144.80	39	P	PKPdf	08 56 09.9	+0.3
	baz=310,SNR=7.9						
CBN	Corbin Frederi	144.92	32	P	PKPdf	08 56 10.2	+0.5
	baz=318						
TIGA	Tifton	145.50	46	P	PKPab	08 56 12.4	+1.2
	baz=303,SNR=34						
CNNC	Cliffs of the	146.81	36	P	PKPbc	08 56 15.2	+0.5
	baz=315						
NHSC	New Hope	146.84	41	P	PKPbc	08 56 14.4	-0.5
	baz=309,SNR=5.1						
LPAZ	La Paz	151.30	153	PKPbc	PKiKP	08 56 28.2	+0.3
	comp=Z,8.5nm,0.8s,baz=256,slow=11,SNR=1.6						
LPAZ				PKPab	pPKPbc	08 56 37.1	-0.3
	comp=Z,20nm,0.7s,baz=86,slow=2.7,SNR=6.5						
BDFB	Brasilia	154.19	195	PKPbc	PKiKP	08 56 34.5	+1.1
	comp=Z,4.7nm,0.7s,baz=33,slow=2.7,SNR=3.6						
ROSC	El Rosal	160.20	102	PKPab	PKPab	08 57 16.9	+3.4
	comp=Z,8.3nm,0.6s,baz=242,slow=15,SNR=2.4						

IDC 03 08:37:18.8±3.1**, 53°.43N**×**87°.52E, h0**^{km}**, mb1 2.5**/2**, mb1mx2.5**/66**, mbtmp2.5**/2**, ML2.2**/2**, Error ellipse: s-maj=28.2km s-min=15.7km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.69	289	*i*		08 49 03.2	
	baz=104,slow=336,SNR=2.8						
ZALV	Zalesovo Beam	1.69	289	Pg	Pn	08 37 49.8	+0.3
	0.3nm,0.3s,baz=113,slow=11,SNR=8.2						
ZALV				Lg	Lg	08 38 11.9	
	0.6nm,0.3s,baz=108,slow=25,SNR=4.2						
KURBB	Kurchatov Arra	6.21	247	Pn	Pn	08 38 51.8	+0.1
	0.0nm,0.3s,baz=66,slow=14,SNR=2.5						
KURBB				Lg	Lg	08 40 35.8	
	0.0nm,0.3s,baz=64,slow=35,SNR=1.7						
MKAR	Makanchi Array	7.44	209	Pn	Pn	08 39 10.2	+1.7
	0.1nm,0.3s,baz=31,slow=14,SNR=6.5						
MKAR				Lg	Lg	08 41 12.1	
	0.1nm,0.3s,baz=32,slow=28,SNR=1.3						

*SOF **03** 08:48:49.4, 41°.29N×24°.47E, h9^{km}, MD2.8*
*ATH **03** 08:48:49.9, 41°.31N×24°.45E, h16^{km}±6^{km}, ML2.5/7, Error ellipse: s-maj=6.7km s-min=0.8km az=216.0*
*THE **03** 08:48:50.4, 41°.30N×24°.45E, h2^{km}±2^{km}, ML2.5/11, Error ellipse: s-maj=2.5km s-min=0.4km az=346.0*
*BEO **03** 08:48:52.3±0.9, 41°.34N×24°.42E, h11^{km}±5^{km}, ML2.5/4*
ISC 03 08:48:50.2±0.9**, 41°.31N**±0°.02×**24°.45E**±0°.02**, h13**^{km}±8^{km}**, n40,** σ**0**^{s}.**76**/63**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVLA	Kavala	0.37	187	P	Pg	08 48 57.6	-0.1
KVLA				S	Sg	08 49 03.2	+0.5
RZN	Rozhen	0.43	28	*i* P	Pg	08 48 58.9	0.0
NVR	Nevrokopi	0.44	276	P	Pg	08 48 58.8	-0.3
NVR				S	Sg	08 49 05.2	+0.2
NVR				AML	AML	08 49 05.3	
	comp=N,581µm,0.2s						
NVR				AML	AML	08 49 05.4	
	comp=E,742µm,0.3s						
NVR	Nevrokopi	0.44	276	P	Pg	08 48 58.7	-0.3
NVR				S	Sg	08 49 05.1	+0.1
	comp=E,340nm,0.3s						
KOKK	Kokkinochori,	0.59	215	P	Pg	08 49 01.5	-0.4
KOKK				S	Sg	08 49 09.9	+0.2
KOKK				AML	AML	08 49 14.7	
	comp=E,1459µm,0.2s						
KOKK				AML	AML	08 49 15.0	
	comp=N,1319µm,0.3s						
KOKK	Kokkinochori,	0.59	215	P	Pg	08 49 01.4	-0.4
MMB	Musomiste	0.61	298	*i* P	Pg	08 49 01.5	-0.7
SRS	Serrai	0.67	254	P	Pg	08 49 03.0	-0.4
SRS				S	Sg	08 49 12.8	+0.6
SRS				AML	AML	08 49 13.4	
	comp=E,651µm,0.3s						
SRS				AML	AML	08 49 13.7	
	comp=N,694µm,0.2s						
SRS	Serrai	0.67	254	P	Pg	08 49 02.8	-0.5
SRS				S	Sg	08 49 12.7	+0.6
	comp=N,335nm,0.2s						
THAS	Thassos island	0.73	163	P	Pg	08 49 04.1	-0.3
THAS				S	Sg	08 49 13.9	0.0
THAS				AML	AML	08 49 17.5	
	comp=E,1447µm,0.4s						
THAS				AML	AML	08 49 17.9	
	comp=N,2060µm,0.4s						
THAS	Thassos island	0.73	163	P	Pg	08 49 04.1	-0.3
THAS				S	Sg	08 49 14.0	+0.1
	comp=N,878nm,0.4s						
KDZ	Kurdzhali	0.81	64	*i* P	Pg	08 49 04.1	-1.8
PLD	Plovdiv	0.82	13	*e*Pg	Pb	08 49 06.5	+0.2
PLD				*e*Sg	Sb	08 49 18.3	+0.9
PLD	Plovdiv	0.82	13	*i* P	Pb	08 49 06.6	+0.2
RDO	Rodhopi	0.84	101	P	Pg	08 49 05.8	-0.7
RDO				S	Sg	08 49 17.2	-0.2
RDO				AML	AML	08 49 18.0	
	comp=N,439µm,0.2s						
RDO				AML	AML	08 49 21.2	
	comp=E,464µm,0.2s						
RDO	Rodhopi	0.84	101	P	Pg	08 49 05.9	-0.5
RDO				S	Sg	08 49 17.5	+0.1
	comp=E,228nm,0.2s						
SOH	Sokhos	0.96	240	P	Pb	08 49 08.4	-0.3
SOH				AML	AML	08 49 24.1	
	comp=N,1040µm,0.3s						
SOH				AML	AML	08 49 25.6	
	comp=E,1241µm,0.3s						
SOH	Sokhos	0.96	240	P	Pb	08 49 08.4	-0.3
SOH				S	Sn	08 49 22.4	-0.5
	comp=E,455nm,0.3s						
OUR	Ouranopolis	1.03	200	P	Pb	08 49 10.0	0.0
OUR	Ouranopolis	1.03	200	P	Pg	08 49 10.2	+0.1
OUR				S	Sn	08 49 24.5	-0.2
	comp=E,508nm,0.2s						
DIM	Dimitrovgrad	1.10	47	*i* P	Pg	08 49 11.8	+0.3
KKB	Krupnik	1.17	299	*i* P	Pn	08 49 11.6	-0.7
SMTH	Samothraki Isl	1.17	135	P	Pb	08 49 12.1	-0.3
SMTH	Samothraki Isl	1.17	135	P	Pb	08 49 12.0	-0.3
SMTH				S	Sn	08 49 28.7	+0.6
KNT	Kendrikon	1.18	264	P	Pn	08 49 12.5	+0.1
KNT				S	Sn	08 49 28.8	+0.5
	comp=E,208nm,0.3s						
PLG	Polygyros	1.20	220	P	Pn	08 49 12.6	-0.2
PLG	Polygyros	1.20	220	P	Pb	08 49 13.0	+0.1
PLG				S	Sg	08 49 29.8	+0.8
	comp=E,312nm,0.3s						
HORT	Hortiatis	1.24	236	P	Pb	08 49 13.9	+0.3
HORT				S	Sg	08 49 30.7	+0.4
	comp=E,192nm,0.3s						
ALN	Alexandroupoli	1.27	108	P	Pb	08 49 14.2	+0.1
ALN				AML	AML	08 49 36.1	
	comp=E,187µm,0.9s						
ALN				AML	AML	08 49 36.3	
	comp=N,145µm,0.9s						
ALN	Alexandroupoli	1.27	108	P	Pb	08 49 14.2	+0.1
ALN				S	Sg	08 49 33.2	+1.9
	comp=N,82nm,0.7s						
VAY	Valandovo	1.41	271	*e*Pg	Pb	08 49 17.0	+0.5
VAY				*e*Sg	Sg	08 49 37.2	+1.4
VAY	Valandovo	1.41	271	*i* Pn	Pg	08 49 17.2	-0.2
LIA	Limnos Island	1.51	158	P	Pb	08 49 18.1	0.0
LIA				S	Sg	08 49 38.4	-0.5
	comp=N,148nm,0.4s						
VTS	Vitosha	1.59	326	*e*Pg	Pb	08 49 19.6	0.0
VTS				*e*Sg	Sg	08 49 41.3	-0.3
VTS	Vitosha	1.59	326	*i* P	Pb	08 49 20.1	+0.5
STIP	Stip	1.74	284	*i* Pn	Pn	08 49 18.8	-1.4
STIP				*i* Sn	Sn	08 49 40.9	-1.4
BOSS	Bosilegrad	1.89	310	*e*Pg	Pb	08 49 25.7	+1.1
BOSS				*e*Sg	Sg	08 49 51.3	+0.3
ZAPS	Zavoj	2.38	326	*e*Pn	Pn	08 49 31.1	+2.1
BARS	Barje	2.47	308	*e*Pn	Pn	08 49 30.4	+0.2
BOVS	Bovan	3.09	320	*e*Pn	Pb	08 49 42.2	-2.8

*IDC **03** 08:52:44.5±2.2, 0°.95S×127°.73E, h0^{km}, mb3.5/2, mb1 3.6/3, mb1mx3.2/31, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=199.7km s-min=24.5km az=67.0*
*DJA **03** 08:52:46.4±0.5, 1°S±3°×12°7E±°, h10^{km}, M3.2/3, MLv3.2/3*
ISC 03 08:52:47.8±1.1**, 1°.00S**±0°.08×**127°.5E**±0°.2**, h31**^{km}**, n5,** σ**1**^{s}.**53**/6**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.36	6	P	Pb	08 52 55.9	-0.4
LBMI				S	Sb	08 53 00.9	-1.2
SANI	Sanana	1.81	235	P	Pn	08 53 15.9	-0.9
WRA	Warramunga Arr	19.99	161	P	Pn	08 57 19.4	-0.4
	0.2nm,0.3s,baz=344,slow=12,SNR=8.7						
ASAR	Alice Springs	23.38	165	P	P	08 57 54.2	+0.2
	0.7nm,0.8s,baz=344,slow=12,SNR=8.6						
MKAR	Makanchi Array	61.86	326	P	P	09 03 06.3	+2.1
	0.5nm,0.4s,baz=120,slow=8.0,SNR=14						

*IDC **03** 08:56:12.1±1.8, 9°.27S×125°.52E, h0^{km}, mb3.5/1, mb1 3.9/5, mb1mx3.5/30, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=41.1km s-min=27.7km az=67.0*
DJA 03 08:56:20.5±1.3**, 9°S**±4°×**12°5E**±°**, h10**^{km}**, M3.0**/3**, MLv3.0**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.62	237	Pn	Pn	08 56 47.8	-1.4
	19nm,0.3s,baz=105,slow=3.6,SNR=5.3						
BATI				Sn	Sn	08 57 09.2	-0.9
	26nm,0.3s,baz=20,slow=19,SNR=9.0						
BATI	Baumata	1.62	237	P	Pn	08 56 48.6	-0.6
BATI				S	Sb	08 57 10.8	-0.2
FITZ	Fitzroy Crossi	8.75	176	Pn	Pn	08 58 20.2	-6.9
	1.0nm,0.3s,baz=4.0,slow=11,SNR=33						
FITZ				Sn	Sn	08 59 51.7	-14
	0.6nm,0.3s,baz=134,slow=14,SNR=3.0						
WRA	Warramunga Arr	13.87	141	Pn	Pn	08 59 26.7	-11
	0.3nm,0.3s,baz=320,slow=13,SNR=17						
WRA				Sn	Sn	09 01 52.2	-19
	0.2nm,0.3s,baz=312,slow=24,SNR=3.6						
ASAR	Alice Springs	16.59	150	Pn	Pn	09 00 04.1	-9.4
	0.3nm,0.3s,baz=318,slow=11,SNR=17						
ASAR				Sn	Sn	09 02 58.0	-20
	0.1nm,0.3s,baz=315,slow=20,SNR=6.8						
MKAR	Makanchi Array	67.60	330	P	P	09 07 12.0	-5.5
	0.3nm,0.6s,baz=135,slow=7.8,SNR=5.0						

IDC 03 08:57:05.9±2.9**, 54°.21N**×**87°.32E, h0**^{km}**, mb1 2.6**/2**, mb1mx2.6**/49**, mbtmp2.6**/2**, ML2.4**/2**, Error ellipse: s-maj=24.3km s-min=16.4km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.50	261	*i*		09 07 36.3	
	baz=80,slow=345,SNR=1.3						
ZALV	Zalesovo Beam	1.50	261	Pg	Pn	08 57 33.2	-0.8
	4.3nm,0.3s,baz=76,slow=16,SNR=41						
ZALV				Lg	Lg	08 57 53.3	
	2.0nm,0.3s,baz=82,slow=24,SNR=9.2						
KURBB	Kurchatov Arra	6.46	240	Pn	Pn	08 58 43.0	+0.8
	0.1nm,0.3s,baz=57,slow=14,SNR=7.4						
KURBB				Sn	Sn	08 59 55.2	-1.4
	0.0nm,0.3s,baz=26,slow=21,SNR=1.0						
MKAR	Makanchi Array	8.09	205	Pn	Pn	08 59 05.2	+0.7
	0.0nm,0.3s,baz=23,slow=13,SNR=7.3						
MKAR				Sn	Sn	09 00 37.3	+0.7
	0.1nm,0.3s,baz=14,slow=30,SNR=1.9						
MKAR				Lg	Lg	09 01 23.8	
	0.0nm,0.3s,baz=19,slow=32,SNR=1.7						

IDC 03 09:10:53.5±2.0**, 9°.12S**×**125°.57E, h0**^{km}**, mb3.1**/1**, mb1 3.2**/4**, mb1mx2.9**/44**, mbtmp3.1**/4**, ML2.9**/3**, Error ellipse: s-maj=104.7km s-min=30.0km az=67.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.92	180	Pn	Pn	09 13 03.0	-0.7
	0.1nm,0.3s,baz=355,slow=12,SNR=1.9						
WRA	Warramunga Arr	13.70	143	Pn	Pn	09 14 10.7	+1.5
	0.1nm,0.3s,baz=320,slow=13,SNR=2.5						
WRA				Sn	Sn	09 16 35.1	-7.1
	0.1nm,0.3s,baz=317,slow=28,SNR=1.6						
ASAR	Alice Springs	16.52	152	Pn	Pn	09 14 46.1	-0.6
	0.0nm,0.3s,baz=327,slow=13,SNR=4.6						
MKAR	Makanchi Array	67.70	329	P	P	09 21 52.7	+0.1
	0.1nm,0.5s,baz=119,slow=5.7,SNR=2.0						

*SOME **03** 09:15:08.0, 42°.08N×82°.25E, h5^{km}*
*NNC **03** 09:15:11.4±1.6, 42°.20N×82°.07E, h0^{km}, mb2.8, mpv2.3, Error ellipse: s-maj=12.1km s-min=5.9km az=149.0*
ISC 03 09:15:10.3±3.4**, 42°.1N**±0°.1×**82°.00E**±0°.09**, h5**^{km}±14^{km}**, n11,**

σ1§36/22, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.84**	**319**	*e*P	**Pg**	**09 15 45.3**	**-0.3**
	7.2nm,0.2s						
KTMS				*e*S	**Sg**	**09 16 11.9**	**+2.5**
	37nm,0.3s						
SHLS	**Shalkode**	**2.17**	**301**	*e*P	**Pn**	**09 15 46.3**	**-1.0**
	4.9nm,0.1s						
SHLS				*e*S	**Sn**	**09 16 13.5**	**-1.1**
	32nm,0.6s						
PDGK	**Podgornoye**	**2.24**	**305**	⇑Pg	**Pb**	**09 15 51.5**	**+0.1**
	3.1nm,0.8s						
PDGK				⇓Lg	Lg	09 16 22.2	
	2.1nm,0.3s						
UZB	**Uzynbulak**	**2.45**	**297**	*e*P	**Pb**	**09 15 56.2**	**+1.3**
	3.9nm,0.3s						
UZB				*e*S	**Sg**	**09 16 30.3**	**+1.3**
	11nm,0.4s						
DJR	**Jarkent**	**2.79**	**325**	*e*P	**Pg**	**09 16 02.0**	**-1.6**
	2.0nm,0.2s						
DJR				*e*S	**Sg**	**09 16 40.8**	**+1.1**
	3.5nm,0.4s						
KPKS	**Kokpek**	**2.82**	**301**	*e*P	**Pb**	**09 16 01.8**	**+0.7**
	2.9nm,0.1s						
KPKS				*e*S	**Sg**	**09 16 40.0**	**-0.7**
	18nm,0.2s						
SATY	**Saty**	**2.84**	**292**	*e*P	**Pb**	**09 16 03.2**	**+1.7**
	1.3nm,0.3s						
SATY				*e*S	**Sg**	**09 16 42.7**	**+1.3**
	6.3nm,0.2s						
KNOS	**Konyrlen**	**3.08**	**319**	*e*P	**Pg**	**09 16 07.2**	**-2.2**
	8.8nm,0.3s						
KNOS				*e*S	**Sg**	**09 16 49.3**	**-0.1**
	32nm,0.5s						
KOTS	**Kotyrbulak**	**3.79**	**290**	*e*P	**Pb**	**09 16 20.3**	**+2.5**
	1.7nm,0.0s						
KOTS				*e*S	**Sg**	**09 17 11.5**	**-0.6**
	5.1nm,0.3s						
MK31	**Makanchi Array**	**4.73**	**2**	Pn	**Pn**	**09 16 22.1**	**-0.3**
	0.1nm,0.3s,baz=187,slow=13,SNR=18						
MK31				Pg	**Pb**	**09 16 34.6**	**+0.9**
	0.1nm,0.2s,baz=180,slow=15,SNR=4.2						
MK31				⇑Sn	**Sn**	**09 17 17.8**	**+0.2**
	0.2nm,0.3s,baz=104,slow=27,SNR=8.4						
MK31				⇑Lg	Lg	09 17 35.7	
	1.2nm,0.6s,baz=182,slow=28,SNR=4.9						
MAKZ	**Makanchi**	**4.74**	**360**	⇑Pn	**Pn**	**09 16 22.6**	**+0.1**
	0.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**09 17 17.8**	**-0.1**
	1.1nm,0.5s						
MAKZ				⇓Lg	Lg	09 17 35.0	
	1.8nm,1.0s						

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*SSNC **03** 09:21:44.1±1.4, 17.°80N×71.°24W, h10km, MD4.0, ML3.3, MW3.2*
*OSPL **03** 09:21:49.2±1.8, 18.°17N×71.°50W, h0km±6km, ML3.3*
ISC 03 09:21:47.2±1.2**, 18.°13N**±0.°05×**71.°46W**±0.°03**, h11**km±9km**,**
n18, σ1§12/28, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPE2	**Hotel El Peder**	**0.29**	**251**	*i* P	**Pg**	**09 21 53.1**	**0.0**
LOPE2				*e*S	**Sg**	**09 21 57.5**	**+0.4**
LOPE2				IAML		09 22 01.4	
	comp=Z,13µm,0.6s						
LOBA2	**Hotel Casa Bon**	**0.35**	**97**	*i* P	**Pn**	**09 21 56.2**	**-2.0**
LOBA2				*e*S	**Sb**	**09 22 01.6**	**+0.7**
LOBA2				IAML		09 22 05.6	
	comp=Z,5µm,0.7s						
LONE2	**Loma La Sidra**	**0.42**	**358**	*i* P	**Pg**	**09 21 55.2**	**-0.5**
LONE2				*e*S	**Sg**	**09 22 02.0**	**+0.6**
LONE2				IAML		09 22 05.1	
	comp=Z,3µm,1.4s						
SDDR	**Presa de Saban**	**0.86**	**11**	*i* P	**Pg**	**09 22 03.2**	**-0.8**
SDDR				*e*S	**Sg**	**09 22 15.8**	**+0.5**
SDDR				IAML		09 22 34.0	
	comp=Z,458nm,0.5s						
PAPH	**Port-au-Prince**	**0.89**	**296**	*i* P	**Pg**	**09 22 04.0**	**-0.5**
PAPH				*e*S	**Sg**	**09 22 15.7**	**-0.4**
PAPH				IAML		09 22 23.9	
	comp=Z,2µm,1.3s						
JAKH	**Jacmel**	**1.01**	**276**	*e*P	**Pg**	**09 22 06.0**	**-0.8**
JAKH				*e*S	**Sg**	**09 22 20.8**	**+0.8**
JAKH				IAML		09 22 33.8	
	comp=Z,413nm,1.1s						
LGNH	**Logne**	**1.16**	**289**	*i* P	**Pn**	**09 22 08.5**	**-0.8**
LGNH				*e*S	**Sg**	**09 22 24.0**	**-0.5**
LGNH				IAML		09 22 37.5	
	comp=Z,438nm,0.8s						
LODA1	**ITESIL, Dajabo**	**1.43**	**351**	*e*S	**Sn**	**09 22 31.0**	**-0.9**
MASC	**Masc**	**3.32**	**308**	*e*P	**Pn**	**09 22 39.4**	**+0.2**
MASC				*e*S	**Sn**	**09 23 18.9**	**+0.4**
MASC				IAML		09 23 27.2	
	comp=E,24nm,0.5s						
MASC				IAML		09 23 31.8	
	comp=N,21nm,0.5s						
GTBY	**Guantanamo Bay**	**3.89**	**298**	*e*P	**Pn**	**09 22 47.2**	**+0.2**
GTBY				*e*S	**Sn**	**09 23 34.2**	**+1.5**
GTBY	**Guantanamo Bay**	**3.89**	**298**	*i* P	**Pn**	**09 22 47.6**	**+0.6**
GTBY				*e*S	**Sn**	**09 23 31.7**	**-1.1**
GTBY				IAML		09 24 23.8	
	comp=Z,30nm,2.4s						
CRPR	**Cabo Rojo, PR**	**4.14**	**91**	*e*P	**Pn**	**09 22 52.7**	**+2.3**
AGPR	**Aguadilla, PR**	**4.14**	**85**	*i* P	**Pn**	**09 22 53.1**	**+2.7**
AGPR				IAML		09 24 09.3	
	comp=Z,63nm,2.6s						
MOAC	**Moa**	**4.16**	**308**	*e*P	**Pn**	**09 22 51.1**	**+0.5**
RCC	**Rio Carpintero**	**4.42**	**296**	*e*P	**Pn**	**09 22 53.5**	**-0.8**
RCC				*e*S	**Sn**	**09 23 45.0**	**-0.7**
RCC				IAML		09 23 50.9	
	comp=N,13nm,0.7s						
RCC				IAML		09 23 53.1	
	comp=E,14nm,0.5s						
HLGC	**Holguin**	**5.14**	**303**	*e*P	**Pn**	**09 23 05.5**	**+1.4**
LMGC	**Las Mercedes**	**5.59**	**291**	*e*P	**Pn**	**09 23 09.3**	**-1.1**
CCCC	**Cccc**	**6.69**	**298**	*e*P	Pn	09 23 21.8	-3.6

IDC 03 09:27:44.0±3.5**, 54.°21N×87.°51E, h0**km**, mb1 2.5**/2**,**
mb1mx2.5/69**, mbtmp2.5**/2**, ML2.2**/2**, Error ellipse:**
s-maj=29.8km s-min=20.1km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**262**	*i*		09 38 04.2	
	baz=81,slow=339,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.60**	**262**	Pg	Pn	09 28 11.2	-2.4
	1.0nm,0.3s,baz=81,slow=16,SNR=12						
ZALV				Lg	Lg	09 28 36.4	
	0.6nm,0.3s,baz=79,slow=23,SNR=5.4						
ZALV				*i*		09 38 09.5	
	1.0nm,0.3s,baz=83,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.56**	**240**	Pn	Pn	09 29 22.4	+0.7
	0.0nm,0.3s,baz=58,slow=14,SNR=2.0						
KURBB				Lg	Lg	09 31 10.4	
	baz=57,slow=31,SNR=1.7						
MKAR	**Makanchi Array**	**8.13**	**206**	Pn	Pn	09 29 44.9	+1.6
	0.0nm,0.3s,baz=23,slow=12,SNR=1.6						

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*NEIC **03** 09:28:56.0±0.6, 18.°6N±0.°2×145.°8E±0.°3, h79km±6km, mb4.5/10, Error ellipse: s-maj=50.3km s-min=11.1km az=112.0*
*IDC **03** 09:29:08.6±5.8, 18.°63N×145.°45E, h212km±42km, mb3.5/4, mb1 3.8/5, mb1mx3.0/71, mbtmp4.1/5, Error ellipse: s-maj=92.3km s-min=26.2km az=128.0*
ISC 03 09:29:07.4±1.2**, 18.°7N**±0.°2×**145.°3E**±0.°5**, h200**km**, n18,**
σ0§87/16, mb4.0/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.12**	**185**	P	**Pn**	**09 30 22.2**	**-1.2**
	3.1nm,0.3s,baz=2.0,slow=20,SNR=3.1						
GUMO				S	**Sn**	**09 31 25.4**	**+1.9**
	8.9nm,0.3s,baz=13,slow=22,SNR=1.4						
GUMO	**Guam**	**5.12**	**185**	Pn	Pn	09 30 08.5	-15
MTN	**Manton Dam**	**34.34**	**205**	P	**P**	**09 35 35.4**	**0.0**
KNRA	**Kununurra**	**37.87**	**207**	P	**P**	**09 36 05.5**	**+0.2**
KNRA				IAmb	IAmb	09 36 06.3	
	comp=Z,5.5nm,0.8s						
WB0	**Warramunga Arr**	**39.72**	**196**	P	**P**	**09 36 20.5**	**-0.1**
WR0	**Warramunga Arr**	**39.87**	**196**	P	**P**	**09 36 21.9**	**+0.1**
WR0				IAmb	IAmb	09 36 22.1	
	comp=Z,6.9nm,1.4s						
WRAB	**Tennant Creek**	**39.90**	**196**	P	**P**	**09 36 21.8**	**-0.2**
WRAB				IAmb	IAmb	09 36 22.2	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**39.90**	**196**	P	**P**	**09 36 21.6**	**-0.4**
WB2				IAmb	IAmb	09 36 22.4	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**39.91**	**196**	P	**P**	**09 36 20.7**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=19,slow=8.4,SNR=48						
WRA	**Warramunga Arr**	**39.91**	**196**	IAmb	IAmb	09 36 22.7	
	comp=Z,0.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.39**	**209**	P	**P**	**09 36 34.8**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=31,slow=7.1,SNR=28						
FITZ	**Fitzroy Crossi**	**41.39**	**209**	IAmb	IAmb	09 36 35.5	
	comp=Z,2.5nm,0.7s						
AS31	**Alice Springs**	**43.58**	**195**	P	**P**	**09 36 51.8**	**-0.1**
ASAR	**Alice Springs**	**43.58**	**195**	P	**P**	**09 36 51.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=12,slow=6.7,SNR=20						
FYU	**Fort Yukon**	**64.82**	**24**	P	**P**	**09 39 25.1**	**+0.6**
FYU				IAmb	IAmb	09 39 52.5	
	comp=Z,13nm,1.4s						
BMAR	**Burnt Mountain**	**65.24**	**24**	P	**P**	**09 39 28.1**	**+0.9**
NVAR	**Mina Array Bea**	**83.41**	**52**	P	**P**	**09 41 12.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=273,slow=5.8,SNR=4.0						
LPAZ	**La Paz**	**148.03**	**91**	PKPbc	**PKPbc**	**09 48 30.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=357,slow=6.0,SNR=3.7						

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*JMA **03** 09:30:42.1±0.1, 23.°66N×121.°27E, h0km, M3.6*
*TAP **03** 09:30:43.9, 23.°67N×121.°28E, h12km, ML3.4, C*
ISC 03 09:30:44.1±0.8**, 23.°68N**±0.°01×**121.°27E**±0.°01**, h13**km±5km**,**
n106, σ0§82/181, 19C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VWDT	**VWDT**	**0.14**	**304**	⇓*i*P	**Pg**	**09 30 47.7**	**+0.1**
	baz=303						
VWDT				S	**Sg**	**09 30 50.1**	**+0.1**
	baz=303						
EHY	**Hungye**	**0.18**	**163**	⇓*i*P	**Pg**	**09 30 48.0**	**-0.2**
	baz=165						
EHY				*i* S	**Sg**	**09 30 50.6**	**-0.4**
	baz=165						
ESL	**Shilin**	**0.20**	**48**	⇑*i*P	**Pg**	**09 30 48.7**	**0.0**
	baz=45						
ESL				*i* S	**Sg**	**09 30 51.4**	**-0.4**
	baz=45						
HGSD	**Ruisui**	**0.23**	**142**	⇓*i*P	**Pg**	**09 30 49.6**	**+0.5**
	baz=143						
HGSD				*i* S	**Sg**	**09 30 53.1**	**+0.5**
	baz=143						
TEGC	**Jichi Village**	**0.25**	**83**	P	**Pg**	**09 30 50.2**	**+0.7**
	baz=76						
TEGC				S	**Sg**	**09 30 54.7**	**+1.6**
	baz=76						
YULB	**Yu-li**	**0.28**	**174**	P	**Pb**	**09 30 49.9**	**-1.2**
	baz=177						
YULB				S	**Sg**	**09 30 53.4**	**-0.6**
	baz=177						
SSLB	**Suanglung**	**0.31**	**291**	P	**Pb**	**09 30 50.7**	**-0.8**
	baz=291						
SSLB				S	**Sg**	**09 30 54.6**	**-0.2**
	baz=291						
TWF1	**Yuli**	**0.32**	**175**	⇑*i*P	**Pb**	**09 30 50.7**	**-1.1**
	baz=176						
TWF1				*i* S	**Sg**	**09 30 54.8**	**-0.4**
	baz=176						
EYUL	**Yuli**	**0.33**	**172**	P	**Pb**	**09 30 51.0**	**-0.9**
	baz=179						
EYUL				S	**Sb**	**09 30 55.4**	**-1.7**
	baz=179						
WUSB	**Renai**	**0.34**	**337**	⇓*i*P	**Pb**	**09 30 51.5**	**-0.7**
	baz=327						
WUSB				*e*S	**Sb**	**09 30 56.8**	**-0.7**
	baz=327						
ETM	**Tongmen**	**0.35**	**36**	P	**Pb**	**09 30 51.1**	**-1.1**
	baz=33						
ETM				S	**Sg**	**09 30 55.7**	**-0.5**
	baz=33						
TEYL	**Yanliau Villag**	**0.36**	**58**	*i* P	**Pb**	**09 30 52.5**	**+0.2**
	baz=43						
TEYL				S	**Sb**	**09 30 57.5**	**-0.4**
	baz=43						
CHGB	**Renai**	**0.39**	**348**	⇓*i*P	**Pb**	**09 30 52.3**	**-0.7**
	baz=352						
CHGB				S	**Sb**	**09 30 58.0**	**-1.0**
	baz=352						
SMLT	**Sun Moon Lake**	**0.39**	**302**	⇑*i*P	**Pb**	**09 30 52.6**	**-0.4**
	baz=309						
SMLT				*i* S	**Sb**	**09 30 58.1**	**-0.9**
	baz=309						
ECBN	**Changbin**	**0.40**	**155**	*e*P	**Pb**	**09 30 53.2**	**+0.3**
	baz=163						
ECBN				*e*S	**Sb**	**09 30 59.8**	**+0.8**
	baz=163						
HWA	**Hwalien**	**0.43**	**46**	⇑*i*P	**Pb**	**09 30 53.2**	**-0.3**
	baz=37						
HWA				S	**Sb**	**09 30 59.5**	**-0.4**
	baz=37						
TYC	**Yuchr**	**0.44**	**301**	⇑*i*P	**Pb**	**09 30 53.3**	**-0.4**
	baz=308						
TYC				S	**Sb**	**09 30 59.4**	**-0.7**
	baz=308						
WPL	**Puli Township**	**0.44**	**320**	P	**Pb**	**09 30 53.5**	**-0.2**
	baz=329						
ALS	**Alishan**	**0.45**	**249**	⇑*i*P	**Pb**	**09 30 53.9**	**-0.3**
	baz=250						
ALS				*i* S	**Sb**	**09 30 59.9**	**-1.0**
	baz=250						
WHF	**Hehuan Shan**	**0.47**	**360**	⇑*i*P	**Pb**	**09 30 53.4**	**-1.0**
	baz=6.0						
WHF				S	**Sb**	**09 31 00.6**	**-0.9**
	baz=6.0						
DPDB	**Guoxing**	**0.47**	**319**	P	**Pb**	**09 30 54.3**	**0.0**
	baz=324						
DPDB				*e*S	**Sb**	**09 31 00.5**	**-0.7**
	baz=324						
FULB	**Fuli**	**0.48**	**177**	⇑*i*P	**Pb**	**09 30 54.3**	**-0.1**
	baz=188						
FULB				*i* S	**Sb**	**09 31 02.1**	**+0.8**
	baz=188						
WCS	**Beigang Elemen**	**0.50**	**319**	*e*P	**Pg**	**09 30 52.3**	**-1.6**
	baz=325						
WCS				*e*S	**Sg**	**09 30 58.9**	**-1.7**
	baz=325						
TWD	**Chiawan**	**0.50**	**37**	⇑*i*P	**Pb**	**09 30 54.0**	**-0.8**
	baz=35						
TWD				*i* S	**Sg**	**09 31 00.4**	**-0.4**
	baz=35						
WJS	**Zhushan**	**0.51**	**286**	*e*P	**Pb**	**09 30 55.8**	**+0.8**
	baz=284						
WJS				*e*S	**Sb**	**09 31 04.3**	**+1.9**
	baz=284						
ELDTW	**Lidau**	**0.54**	**205**	⇑*i*P	**Pb**	**09 30 54.0**	**-1.4**
	baz=200						
ELDTW				S	**Sg**	**09 31 00.8**	**-1.0**
	baz=200						
ETLH	**Xiulin Townshi**	**0.56**	**20**	P	**Pb**	**09 30 55.0**	**-0.9**
	baz=18						
ETLH				*e*S	**Sb**	**09 31 03.5**	**-0.4**
	baz=18						
FUSS	**Fushou**	**0.57**	**358**	P	**Pb**	**09 30 55.5**	**-0.6**
	baz=356						
FUSS				*e*S	**Sb**	**09 31 03.4**	**-0.8**
	baz=356						
WNT	**Mingjian**	**0.57**	**291**	*e*P	**Pn**	**09 30 57.3**	**-0.6**
	baz=294						
WNT				*e*S	**Sn**	**09 31 06.4**	**-0.8**
	baz=294						
NACB	**Ninganchiao**	**0.58**	**31**	⇑*i*P	**Pb**	**09 30 55.0**	**-1.1**
	baz=29						
NACB				S	**Sg**	**09 31 02.5**	**-0.6**
	baz=29						
TWT	**Tachien**	**0.58**	**352**	*e*P	**Pb**	**09 30 55.7**	**-0.5**
	baz=339						
TWT				S	**Sb**	**09 31 03.8**	**-0.7**
	baz=339						
ETL	**Fush Village**	**0.58**	**34**	*e*P	**Pg**	**09 30 54.9**	**-0.6**
	baz=32						
ETL				*e*S	**Sg**	**09 31 02.9**	**-0.3**
	baz=32						
CHKT	**Chengkung**	**0.58**	**171**	*e*P	**Pn**	**09 30 56.6**	**-1.4**
	baz=157						
CHKT				*e*S	**Sn**	**09 31 05.8**	**-1.6**
	baz=157						
TDCB	**Techi**	**0.58**	**350**	P	**Pb**	**09 30 55.9**	**-0.4**
	baz=339						
TDCB				S	**Sg**	**09 31 03.5**	**+0.1**
	baz=339						
WGK	**Gukeng**	**0.65**	**271**	*e*P	**Pn**	**09 30 58.6**	**-0.3**
	baz=271						
WHP	**Taichung City**	**0.67**	**334**	*e*P	**Pb**	**09 30 57.7**	**+0.1**
	baz=340						
WHP				*e*S	**Sb**	**09 31 08.0**	**+1.2**
	baz=340						
WDLH	**Douliu**	**0.67**	**271**	*e*P	**Pn**	**09 30 59.1**	**-0.1**
	baz=272						
WDLH				*e*S	**Sn**	**09 31 09.1**	**-0.4**
	baz=272						
STYH	**Taoyuan**	**0.68**	**222**	*e*P	**Pb**	**09 30 57.3**	**-0.4**
	baz=222						
STYH				*e*S	**Sg**	**09 31 05.4**	**-0.8**
	baz=222						
STYT	**Tauyuan**	**0.69**	**223**	⇑*i*P	**Pb**	**09 30 57.8**	**-0.3**
	baz=228						
TPUB	**Ta-pu**	**0.69**	**238**	⇑*i*P	**Pn**	**09 30 58.6**	**-1.0**
	baz=246						
TPUB				S	**Sb**	**09 31 08.2**	**+0.6**
	baz=246						
CHN4	**Tsaushan**	**0.70**	**242**	⇑*i*P	**Pn**	**09 30 59.0**	**-0.7**
	baz=244						
CHN4				*e*S	**Sn**	**09 31 10.5**	**+0.2**
	baz=244						
EDH	**Donghe**	**0.70**	**177**	*e*P	**Pn**	**09 30 58.7**	**-1.0**
	baz=179						
TCU	**Taichung**	**0.71**	**311**	*e*P	**Pn**	**09 31 00.5**	**+0.6**
	baz=313						
TCU				*e*S	**Sn**	**09 31 10.7**	**-0.1**
	baz=313						
WTP	**Ta-pu**	**0.74**	**235**	⇑*i*P	**Pn**	**09 30 59.4**	**-0.9**
	baz=242						
WTP				S	**Sb**	**09 31 08.7**	**-0.1**
	baz=242						
CHN2	**Minshiung**	**0.74**	**259**	*e*P	**Pn**	**09 31 00.6**	**+0.4**
	baz=259						
NNSB	**Datong**	**0.76**	**8**	*e*P	**Pb**	**09 30 58.7**	**-0.5**
	baz=6.0						
NNSB				*e*S	**Sb**	**09 31 08.8**	**-0.7**
	baz=6.0						
WCHH	**Zhanghua**	**0.76**	**302**	*e*P	**Pn**	**09 31 00.9**	**+0.3**
	baz=301						
NNS	**Nan Shan**	**0.77**	**7**	⇓P	**Pb**	**09 30 59.2**	**-0.2**
	baz=6.0						
NNS				S	**Sb**	**09 31 09.6**	**-0.1**
	baz=6.0						
LONT	**Longtian**	**0.78**	**189**	*e*P	**Pb**	**09 30 59.3**	**-0.2**
	baz=199						
LONT				*e*S	**Sb**	**09 31 09.3**	**-0.6**
	baz=199						
CHY	**Chiayi**	**0.79**	**257**	*e*P	**Pn**	**09 31 01.2**	**+0.3**
	baz=258						
CHY				*e*S	**Sn**	**09 31 12.9**	**+0.3**
	baz=258						
WTK	**Tuku**	**0.81**	**271**	*e*P	**Pn**	**09 31 00.9**	**-0.2**
	baz=271						
WTK				*e*S	**Sn**	**09 31 13.2**	**+0.3**
	baz=271						
TWQ1	**Liyutan**	**0.81**	**326**	*e*P	**Pn**	**09 31 01.9**	**+0.7**
	baz=336						
TWK	**Hsinying**	**0.82**	**240**	⇑*i*P	**Pn**	**09 31 01.1**	**-0.3**
	baz=241						
TWK				*e*S	**Sn**	**09 31 15.7**	**+2.2**
	baz=241						
CHN1	**Nanshi**	**0.84**	**234**	⇑*i*P	**Pn**	**09 31 01.4**	**-0.1**
	baz=236						
CHN1				S	**Sn**	**09 31 14.1**	**+0.3**
	baz=236						
SNST	**Tainan City**	**0.84**	**237**	*e*P	**Pn**	**09 31 01.6**	**0.0**
	baz=238						
WRL	**Guolierlin Hig**	**0.84**	**286**	*e*P	**Pn**	**09 31 02.0**	**+0.3**
	baz=286						
SGST	**Jiashian**	**0.86**	**227**	P	**Pn**	**09 31 01.1**	**-0.9**
	baz=228						
SGST				S	**Sn**	**09 31 13.9**	**-0.5**
	baz=228						
ENA	**Nanau**	**0.86**	**30**	P	**Pb**	**09 31 00.7**	**-0.3**
	baz=28						
ENA				S	**Sb**	**09 31 12.0**	**-0.4**
	baz=28						
NSY	**Sanyi**	**0.87**	**328**	*e*P	**Pn**	**09 31 03.1**	**+1.1**
	baz=336						
NSY				S	**Sn**	**09 31 16.3**	**+1.7**
	baz=336						
TWGBT	**Beinan**	**0.87**	**191**	*e*P	**Pb**	**09 31 00.8**	**-0.3**
	baz=199						
TWGBT				*e*S	**Sb**	**09 31 12.6**	**-0.1**
	baz=199						
WDJ	**Dajia District**	**0.88**	**320**	*e*P	**Pn**	**09 31 03.7**	**+1.6**
	baz=319						
LATG	**Datong**	**0.89**	**15**	⇑P	**Pb**	**09 31 01.0**	**-0.4**
	baz=13						
LATG				S	**Sb**	**09 31 13.1**	**-0.1**
	baz=13						
SLGT	**Liugui**	**0.89**	**220**	*e*P	**Pn**	**09 31 01.9**	**-0.3**
	baz=221						
EWUT	**Wuta**	**0.90**	**31**	*e*P	**Pb**	**09 31 00.9**	**-0.7**
	baz=29						
EWUT				*e*S	**Sb**	**09 31 13.0**	**-0.4**
	baz=29						
NDT	**Datong Townshi**	**0.95**	**14**	*e*P	**Pn**	**09 31 02.6**	**-0.5**
	baz=11						
NDT				*e*S	**Sb**	**09 31 15.3**	**+0.4**
	baz=11						
ICHU	**Yijhu**	**0.96**	**251**	*e*P	**Pn**	**09 31 04.1**	**+0.9**
	baz=252						
ICHU				*e*S	**Sn**	**09 31 17.2**	**+0.4**
	baz=252						
NFF	**Wufeng Townshi**	**0.96**	**352**	*e*P	**Pn**	**09 31 03.0**	**-0.3**
	baz=345						
NMLH	**Miaoli**	**0.96**	**333**	*e*P	**Pn**	**09 31 04.9**	**+1.6**
	baz=333						
NSTT	**Nanjuang**	**0.98**	**346**	*e*P	**Pn**	**09 31 03.7**	**+0.1**
	baz=345						
NSTT				*e*S	**Sb**	**09 31 16.8**	**+1.0**
	baz=345						
LIOB	**Emei**	**0.99**	**347**	*e*P	**Pn**	**09 31 04.2**	**+0.5**
	baz=347						
YHNB	**Yeheng**	**0.99**	**6**	P	**Pn**	**09 31 03.3**	**-0.5**
	baz=3.0						
YHNB				S	**Sg**	**09 31 15.2**	**-1.2**
	baz=3.0						
ENTT	**Nioudou**	**1.00**	**16**	P	**Pn**	**09 31 03.3**	**-0.5**
	baz=25						
ENTT				S	**Sb**	**09 31 16.9**	**+0.6**
	baz=25						
NSK	**Sanguang**	**1.00**	**5**	P	**Pn**	**09 31 03.5**	**-0.4**
	baz=3.0						
NSK				S	**Sg**	**09 31 15.6**	**-0.9**
	baz=3.0						
LDUT	**Ludao**	**1.02**	**169**	*e*P	**Pg**	**09 31 02.2**	**-1.6**
	baz=172						
LDUT				*e*S	**Sb**	**09 31 16.8**	**0.0**
	baz=172						
NDS	**Dongshan**	**1.04**	**23**	*e*P	**Pn**	**09 31 03.9**	**-0.5**
	baz=21						
NDS				*e*S	**Sb**	**09 31 17.6**	**+0.1**
	baz=21						
SCST	**Cishan**	**1.06**	**222**	*e*P	**Pn**	**09 31 06.4**	**+1.7**
	baz=223						
SHHT	**Tainan City**	**1.07**	**232**	*e*P	**Pn**	**09 31 06.7**	**+1.9**
	baz=246						
TWC	**Suao**	**1.07**	**30**	*e*P	**Pn**	**09 31 04.5**	**-0.3**
	baz=28						
TWC				*e*S	**Sb**	**09 31 19.0**	**+0.6**
	baz=28						
SSD	**Sandimen**	**1.09**	**212**	*e*P	**Pn**	**09 31 05.8**	**+0.7**
	baz=214						
TWE	**Neicheng**	**1.10**	**19**	*e*P	**Pn**	**09 31 05.5**	**+0.2**
	baz=18						
TWE				*e*S	**Sn**	**09 31 20.3**	**0.0**
	baz=18						
ECL	**Taimali**	**1.11**	**195**	*e*P	**Pn**	**09 31 05.4**	**0.0**
	baz=196						
NWLT	**Wulai**	**1.12**	**11**	*e*P	**Pn**	**09 31 05.8**	**+0.4**
	baz=359						
NWLT				*e*S	**Sb**	**09 31 19.9**	**+0.2**
	baz=359						
FUSB	**Fushanzhiwuyua**	**1.12**	**15**	P	**Pn**	**09 31 05.9**	**+0.4**
	baz=12						
FUSB				S	**Sb**	**09 31 19.9**	**+0.1**
	baz=12						
TSMG	**Majia**	**1.12**	**211**	*e*P	**Pn**	**09 31 06.0**	**+0.5**
	baz=217						
TSMG				*e*S	**Sn**	**09 31 21.6**	**+0.8**
	baz=217						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWM1	Shoushan	1.15	223	eP	Pn	09 31 08.3	+2.4
	baz=223						
MASBT	Mashibuluo	1.21	209	eP	Pn	09 31 06.7	0.0
	baz=204						
TWA	Mucha	1.33	13	eP	Pg	09 31 10.5	+0.8
	baz=11						
EAST	Anshuo	1.34	197	eP	Pg	09 31 10.2	+0.3
	baz=189						
TIPB	Shuangxi	1.39	21	eP	Pg	09 31 10.5	-0.3
	baz=34						
SCZT	Fangliau	1.43	205	eP	Pg	09 31 11.5	-0.1
	baz=199						
NWF	Wu-fen Shan	1.47	19	eP	Pg	09 31 12.4	+0.1
	baz=31						
NWF				eS	Sg	09 31 31.6	+0.3
	baz=31						
TWB1	Santiao Chiao	1.48	26	eP	Pg	09 31 12.6	0.0
	baz=24						
YM01	YM01	1.49	11	eP	Pg	09 31 13.2	+0.4
	baz=8.0						
YM01				eS	Sg	09 31 32.7	+0.5
	baz=8.0						
SLIU	Shizi	1.52	197	eP	Pg	09 31 14.1	+0.8
	baz=191						
SXI1	Grass Mountain	1.52	21	eP	Pg	09 31 13.4	+0.1
	baz=32						
WDGT	Dungji	1.53	255	⇑P	Pb	09 31 12.2	-0.2
	baz=254						
WLCH	Liuqiu	1.55	212	eP	Pg	09 31 16.9	+3.0
	baz=231						
PHUB	P'eng-hu	1.56	264	eP	Pb	09 31 12.5	-0.4
	baz=264						
PNG	Penghu	1.57	266	P	Pb	09 31 12.8	-0.3
	baz=266						
PNG				eS	Sg	09 31 33.9	-0.9
	baz=266						
JYNG	Yonagunijimaku	1.72	63	P	Pb	09 31 15.0	-0.5
JYNG				S	Sb	09 31 36.7	-0.3
YOJ	Yonaguni jima	1.78	64	P	Pb	09 31 15.2	-1.3
YOJ				eS	Sb	09 31 38.3	-0.4
IRIF	Iriomote-Funau	2.35	73	P	Pn	09 31 23.5	+1.2
IRIF				S	Sn	09 31 52.6	+1.6
HATJ	Hateruma jima	2.35	80	eS	Sn	09 31 51.4	+0.2
JKRS	Kuro-shima	2.57	77	P	Pn	09 31 26.4	+1.0
JKRS				S	Sn	09 31 58.6	+2.1
JIJ	Ishigaki jima	2.72	75	P	Pn	09 31 27.7	+0.3
JIJ				S	Sn	09 32 00.4	+0.2
JISG	Ishigakijimahi	2.92	71	P	Pn	09 31 30.6	+0.3
JISG				eS	Sn	09 32 06.0	+0.7

*IDC **03** 09:34:29.1±1.5, 44.°02N×128.°31W, h0km, mb3.4/6, mb1 3.6/12, mb1mx3.5/74, mbtmp3.4/12, ML3.3/5, MS3.6/1, Ms1 3.7/1, ms1mx2.9/41, Error ellipse: s-maj=32.8km s-min=15.1km az=41.0*

*ANF **03** 09:34:30.8±3.8, 43.°86N×128.°16W, h0km, ML3.5/5, Error ellipse: s-maj=41.8km s-min=17.3km az=70.0*

*NEIC **03** 09:34:32.0±1.6, 44.°02N±0.°09×128.°3W±0.°2, h10km±2km, mb3.8/4, ML3.5/44, Error ellipse: s-maj=20.3km s-min=14.0km az=255.0*

ISC 03 09:34:31.3±1.0**, 43.°98N**±0.°07×**128.°34W**±0.°10**, h13km, n64, σ1s11**/60**, mb3.6**/5**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I02E	Swisshome, OR	3.24	86	Pn	Pn	09 35 22.1	+0.3
I02E				IAML		09 36 04.7	
	comp=E,112nm,3.7s						
I02E				IAML		09 37 25.9	
	comp=N,92nm,3.1s						
J01E	Myrtle Point	3.30	103		Pn	09 35 20.9	-1.7
J01E				IAML		09 35 49.2	
	comp=E,84nm,4.6s						
J01E	Myrtle Point	3.30	103	P	Pn	09 35 20.8	-1.8
	baz=284,SNR=6.9						
J01E				S	Sn	09 36 00.6	-1.1
	baz=284						
HEBO	Mount Hebo	3.50	68	Pn	Pn	09 35 24.6	-0.8
I03D	Drain, OR	3.62	93	P	Pn	09 35 25.4	-1.6
	baz=274,SNR=76						
K02D	Willamette Mer	3.64	109	P	Pn	09 35 25.0	-2.3
	baz=291,SNR=38						
K02D				S	Sn	09 36 08.9	-1.4
	baz=291						
COR	Corvallis	3.67	79	Pn	Pn	09 35 27.1	-0.5
COR				IAML		09 36 07.1	
	comp=E,66nm,4.8s						
COR				IAML		09 37 50.1	
	comp=E,60nm,4.2s						
DBO	Dodson Butte	3.80	101	Pn	Pn	09 35 28.7	-0.9
G03D	McMinnville, O	3.83	69		Pn	09 35 29.7	-0.2
G03D				IAML		09 35 59.3	
	comp=E,68nm,3.4s						
G03D				IAML		09 36 06.6	
	comp=N,75nm,2.3s						
G03D	McMinnville, O	3.83	69	P	Pn	09 35 29.5	-0.3
	baz=250,SNR=29						
BUCK	Buck Mountain	3.86	85	Pn	Pn	09 35 31.0	+0.6
BUCK				IAML		09 36 58.3	
	comp=E,75nm,4.5s						
BUCK				IAML		09 37 46.0	
	comp=N,85nm,3.9s						
L02E	Cave Junction	3.91	116	Pn	Pn	09 35 29.8	-1.3
H04D	Lebanon	4.06	80	Pn	Pn	09 35 32.9	-0.2
H04D				IAML		09 36 30.1	
	comp=E,67nm,4.8s						
H04D				IAML		09 37 43.0	
	comp=N,57nm,4.8s						
H04D	Lebanon	4.06	80	P	Pn	09 35 32.7	-0.4
	baz=262,SNR=6.0						
HUMO	Hull Mountain	4.16	107		Pn	09 35 33.4	-1.1
I04A	Tendick Farm,	4.29	90	P	Pn	09 35 35.5	-0.8
	baz=273,SNR=29						
H04A	Detroit Lake	4.47	79		Pn	09 35 38.7	0.0
WISH	Wishkah	4.49	44	Pn	Pn	09 35 38.8	-0.1
J04D	Umpqua Nationa	4.58	97		Pn	09 35 41.5	+1.1
J04D	Umpqua Nationa	4.58	97	P	Pn	09 35 40.9	+0.4
	baz=280,SNR=15						
F04A	Amboy	4.63	63		Pn	09 35 41.6	+0.7
F04A				IAML		09 36 47.2	
	comp=E,31nm,4.5s						
F04A				IAML		09 37 51.5	
	comp=N,47nm,4.5s						
YBH	Yreka Blue Hor	4.70	117	Pn	Pn	09 35 41.4	-0.6
	comp=N,0.3nm,0.3s,baz=314,slow=12,SNR=7.4						
L04D	Klamath Falls	4.75	110		Pn	09 35 43.6	+0.9
L04D				IAML		09 37 24.4	
	comp=E,46nm,4.5s						
L04D	Klamath Falls	4.75	110	P	Pn	09 35 42.6	-0.2
	baz=293,SNR=8.7						
E04D	Cinebar	4.82	56	Pn	Pn	09 35 43.7	+0.2
E04D				IAML		09 36 23.2	
	comp=N,34nm,4.4s						
E04D				IAML		09 37 03.4	
	comp=E,38nm,3.5s						
HOOD	Mount Hood Mea	4.96	72		Pn	09 35 46.4	+0.9
HOOD				IAML		09 37 16.0	
	comp=N,34nm,3.1s						
HOOD				IAML		09 38 14.8	
	comp=E,38nm,2.6s						
G05D	Wamic, OR	5.17	73	P	Pn	09 35 48.9	+0.6
	baz=257,SNR=12						
F05D	White Salmon	5.24	66		Pn	09 35 50.1	+0.8
F05D				IAML		09 36 59.5	
	comp=N,35nm,0.4s						
PINE	Pine Mountain	5.35	89	Pn	Pn	09 35 51.4	+0.4
WDC	Whiskeytown Da	5.47	126	Pn	Pn	09 35 53.4	+0.8
D05A	Enumclaw	5.49	52		Pn	09 35 54.0	+1.3
K05A	Summer Lake	5.57	100	Pn	Pn	09 35 54.9	+0.9
LTY	Liberty	6.30	56	Pn	Pn	09 36 04.9	+1.0
I07A	Izee	6.37	86		Pn	09 36 06.2	+1.3
HAWA	Hanford	6.67	66		Pn	09 36 09.3	+0.4
ORV	Oroville	6.75	129		Pn	09 36 12.2	+2.1
G08A	Pilot Rock	6.82	76		Pn	09 36 11.4	+0.4
WVOR	Wild Horse Val	7.25	99		Pn	09 36 17.2	+0.2
C09A	Chrisman Ranch	7.99	58	Pn	Pn	09 36 27.6	+0.5
PNTR	Pine Nut	8.17	124		Pn	09 36 29.9	+0.2
CMB	Columbia Colle	8.44	132	Pn	Pn	09 36 34.7	+1.4
YERR	Yerington	8.45	123		Pn	09 36 36.0	+2.5
NEW	Newport	8.89	57	Pn	Pn	09 36 38.8	-0.6
	comp=N,0.2nm,0.3s,baz=243,slow=17,SNR=2.0						
NVAR	Mina Array Bea	9.37	123	Pn	Pn	09 36 47.5	+1.3
	baz=292,slow=14,SNR=6.5						
NVAR				LR	LR	09 40 37.5	
	comp=N,368nm,19.8s,baz=292,slow=39						
ELK	Elko	10.22	104	Pn	Pn	09 37 00.4	+2.6
	comp=N,0.1nm,0.3s,baz=297,slow=11,SNR=9.5						
PDAR	Pinedale Array	13.72	89	Pn	Pn	09 37 47.5	+1.9
	comp=N,0.1nm,0.3s,baz=290,slow=13,SNR=1.5						
ANMO	Albuquerque	19.10	111	P	Pn	09 38 55.2	+0.4
	comp=N,0.0nm,0.3s,baz=289,slow=8.5,SNR=7.1						
ANMO	Albuquerque	19.10	111		Pn	09 38 56.8	+2.0
ANMO				IAmb	IAmb	09 39 01.6	
	comp=Z,4.4nm,1.2s						
T25A	Trinidad	19.38	102	P	P	09 38 57.6	+0.6
T25A				IAmb	IAmb	09 39 02.1	
	comp=Z,7.9nm,0.9s						
BNM	Barren Site	19.45	113	P	Pn	09 38 59.8	+0.7
121A	Cookes Peak, D	19.72	118	P	P	09 39 01.5	+0.9
121A				IAmb	IAmb	09 39 05.8	
	comp=Z,7.1nm,1.1s						
YKA	Yellowknife Ar	20.21	19	P	P	09 39 06.2	+0.7
	comp=Z,1.9nm,0.9s,baz=207,slow=10,SNR=13						
ULM	Lac du Bonnet	22.84	63	P	P	09 39 33.2	-0.7
	comp=Z,1.8nm,0.7s,baz=284,slow=12,SNR=3.5						
ILAR	Eielson Array	23.29	340	P	P	09 39 39.1	+0.7
	comp=Z,0.2nm,0.6s,baz=147,slow=8.4,SNR=2.0						
TXAR	Lajitas Array	24.48	118	P	P	09 39 50.5	+0.4
	comp=Z,0.5nm,0.8s,baz=298,slow=8.1,SNR=5.4						
H11N3	WAKE ISLAND Hy	58.52	268	T	T	10 47 34.6	
	baz=49,slow=75,SNR=134						
H11N2	WAKE ISLAND Hy	58.52	268	T	T	10 47 34.2	
	baz=49,slow=75,SNR=74						
H11N1	WAKE ISLAND Hy	58.54	268	T	T	10 47 35.5	
	baz=49,slow=75,SNR=78						
H11S1	WAKE ISLAND Hy	59.45	267	T	T	10 48 44.1	
	baz=50,slow=75,SNR=23						
H11S2	WAKE ISLAND Hy	59.46	267	T	T	10 48 43.7	
	baz=50,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	59.47	267	T	T	10 48 44.1	
	baz=50,slow=75,SNR=11						
SONM	Songino Array	76.68	326	P	P	09 46 21.2	-0.7
	comp=Z,0.7nm,0.9s,baz=39,slow=5.5,SNR=2.8						
KURK	Kurchatov	82.82	343	P	P	09 46 54.0	-0.9
KURBB	Kurchatov Arra	82.92	343	P	P	09 46 54.0	-1.5
	comp=Z,0.2nm,0.4s,baz=17,slow=4.3,SNR=1.9						

*IDC **03** 09:43:03.0±5.2, 35.°92N×70.°75E, h177km±38km, mb3.3/9, mb1 3.3/14, mb1mx3.1/66, mbtmp3.8/14, Error ellipse: s-maj=48.5km s-min=26.9km az=162.0*

*NNC **03** 09:43:12.2±9.3, 36.°75N×70.°53E, h183km±114km, mb3.2, mpv4.3, Error ellipse: s-maj=85.2km s-min=41.2km az=8.0*

ISC 03 09:43:08.8±0.7**, 36.°44N**±0.°06×**70.°7E**±0.°1**, h204km, n28, σ1s35**/33**, mb3.5**/8**, 2C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.80	159	P	Pn	09 43 57.0	+0.4
CEP				S	S	09 44 33.0	-0.2
CHCP	Chirah Chowk	3.49	142	P	Pn	09 44 05.0	+0.4
THW	Thamme Wali	3.74	166	P	Pn	09 44 07.8	+0.1
EKS2	Erkin-Say	6.65	20	P	Pn	09 44 45.0	+0.4
	SNR=14						
KK01	Karatay Array	6.66	359	⇓P	Pn	09 44 44.4	-0.2
	5.3nm,0.3s,baz=175,slow=12						
KK01				⇓S	S	09 45 55.9	-4.5
	3.8nm,0.5s,baz=183,slow=21						
AAK	Ala-Archa	6.85	24	P	Pn	09 44 47.6	+0.5
	5.0nm,0.3s,baz=173,slow=5.1,SNR=40						
AAK				S	S	09 46 03.0	-2.2
	1.4nm,0.3s,baz=155,slow=23,SNR=6.6						
ULHL	Ulahol	7.22	35	P	Pn	09 44 52.2	+0.2
	SNR=6.0						
CHMS	Chumysh	7.26	24	P	Pn	09 44 52.8	+0.5
	SNR=5.2						
USP	Ospenovka	7.42	22	P	Pn	09 44 54.6	+0.2
	SNR=7.2						
TKM2	Tokmak 2	7.50	29	P	Pn	09 44 55.9	+0.3
	SNR=19						
TKM2	Tokmak 2	7.50	29	⇓P	Pn	09 44 55.8	+0.2
	15nm,0.6s						
TKM2				⇑S	S	09 46 20.0	-0.5
	3.7nm,0.8s						
MK31	Makanchi Array	13.49	36	P	Pn	09 46 12.1	0.0
	1.2nm,0.6s,baz=215,slow=11,SNR=12						
MKAR	Makanchi Array	13.49	36	P	Pn	09 46 12.3	+0.2
	0.2nm,0.3s,baz=219,slow=12,SNR=7.1						
AB31	Akbulak array	15.01	332	⇑P	P	09 46 32.3	+0.9
	3.0nm,0.9s,baz=139,slow=12,SNR=22						
KURBB	Kurchatov Arra	15.26	19	P	Pn	09 46 33.5	-0.3
	0.1nm,0.3s,baz=208,slow=10,SNR=6.7						
BVAR	Borovoye Array	16.58	359	P	Pn	09 46 50.4	+0.7
	0.3nm,0.3s,baz=179,slow=11,SNR=2.6						
AKTO	Aktyubinsk	16.70	331	P	Pn	09 46 51.5	+0.4
	0.8nm,0.3s,baz=138,slow=9.7,SNR=11						
AKTO				S	S	09 49 57.8	+3.8
	0.1nm,0.3s,baz=66,slow=18,SNR=1.0						
AKTO	Aktyubinsk	16.70	331	⇓P	Pn	09 46 51.7	+0.6
	3.7nm,0.7s						
ZALV	Zalesovo Beam	20.07	25	P	P	09 47 26.9	+0.5
	1.5nm,0.4s,baz=220,slow=12,SNR=7.8						
BELG	Belogornoye	22.77	322	P	P	09 47 54.2	+0.7
	2.3nm,0.4s,baz=59,slow=5.9,SNR=2.4						
FINES	FINESS Array B	37.39	326	P	P	09 50 02.1	+0.5
	0.5nm,0.3s,baz=118,slow=9.3,SNR=6.9						
ARCES	ARCESS Array B	41.10	338	P	P	09 50 32.8	+0.5
	2.2nm,0.8s,baz=117,slow=5.9,SNR=5.5						
HFS	Hagfors	42.95	322	P	P	09 50 48.1	+0.8
	1.2nm,0.6s,baz=96,slow=7.7,SNR=4.2						
NB2	NORSAR Subarra	44.27	323	P	P	09 50 57.8	-0.1
	comp=Z,0.6nm,0.6s,baz=100,slow=7.9						
NOA	NORSAR Array B	44.27	323	P	P	09 50 57.1	-0.8
	comp=Z,0.3nm,0.6s,baz=104,slow=7.3,SNR=1.7						
TORD	Torodi Ar. Bea	65.46	268	P	P	09 53 27.4	-2.8
	comp=Z,0.6nm,0.5s,baz=46,slow=5.2,SNR=4.9						
INK	Inuvik	74.00	9	P	P	09 54 22.4	+0.9
	comp=Z,0.4nm,0.5s,baz=313,slow=3.6,SNR=3.8						
YKA	Yellowknife Ar	81.31	2	P	P	09 55 01.5	-0.4
	comp=Z,0.3nm,0.5s,baz=348,slow=5.6,SNR=7.4						

*UCR **03** 09:47:26.4±2.8, 6.°69N×81.°28W, h36km±999km, mb4.3(NEIC)*

*IDC **03** 09:47:27.6±1.1, 7.°45N×81.°52W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.8/40, mbtmp3.7/10, ML2.9/2, Error ellipse: s-maj=38.2km s-min=18.7km az=41.0*

*UPA **03** 09:47:29.6±2.3, 7.°39N×81.°34W, h1km, MW4.8*

*NEIC **03** 09:47:34.9±2.2, 7.°39N±0.°06×81.°33W±0.°06, h37km±27km, mb4.3/4, Error ellipse: s-maj=10.1km s-min=7.4km az=141.0*

ISC 03 09:47:28.6±1.3**, 7.°31N**±0.°04×**81.°37W**±0.°02**, h6km**±8km**, n127, σ1s74**/160**, mb3.9**/7**, 8C-24D, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GMAL	Guarumal, Vera	0.47	16	⇓iP	Pg	09 47 38.2	+0.4
GMAL				eS	Sg	09 47 45.0	+1.0
CACAO	El Cacao, Vera	0.50	86	⇓iP	Pg	09 47 39.1	+0.7
CACAO				i S	Sb	09 47 47.9	+0.4
MARI3	Mariato, Verag	0.51	48	⇓iP	Pg	09 47 38.8	+0.4
MARI3				i S	Sb	09 47 47.3	-0.3
RSUS3	Rio de Jesus,	0.70	17	⇓iP	Pg	09 47 41.7	-0.5
RSUS3				i S	Sg	09 47 51.1	-0.2
TOSI3	Tonosi	0.93	84	⇑iP	Pg	09 47 45.9	-0.5
TOSI3				eS	Sn	09 48 00.8	-1.0
PESE3	Pese, Herrera	0.96	51	⇑iP	Pg	09 47 46.4	-0.6
PESE3				eS	Sn	09 48 03.1	+0.5
REME3	Remedios, Chir	1.02	333	⇑eP	Pg	09 47 47.5	-0.8
CHIT3	Chitre	1.14	55	⇓eP	Pg	09 47 49.1	-1.4
CHIT3				eS	Sn	09 48 07.1	-0.1
AZU	Azuero	1.19	66	i P	Pg	09 47 50.3	-1.2
AZU				eS	Sn	09 48 08.1	-0.2
AZU	Azuero	1.19	66	eP	Sn	09 48 07.5	-0.8
AZU	Azuero	1.19	66	⇓iP	Pg	09 47 50.2	-1.2
AZU				i S	Sb	09 48 07.3	+0.1
PEDA3	Pedasi	1.35	81	⇑eP	Pn	09 47 52.7	-1.4
PEDA3				eS	Sg	09 48 12.2	+0.1
CHIR3	Chiriqui UPA,	1.44	319	⇓eP	Pn	09 47 54.3	-1.0
LOMA3	Las Lomas, Chi	1.51	318	⇑eP	Pn	09 47 55.8	-0.5
LOMA3				eS	Sg	09 48 17.6	+0.4
DVD	David	1.55	316	eP	Pn	09 47 56.9	0.0
DVD				i S	Sb	09 48 18.4	+0.6
PNME	Penonome	1.56	41	⇓iP	Pn	09 47 55.9	-1.1
PNME				eS	Sn	09 48 16.6	-1.0
PTPM	Petroterminale	1.74	301	eP	Pn	09 47 59.8	+0.3
PTPM				eS	Sg	09 48 24.7	0.0
CHGR2	Aguacate	1.79	335	⇓eP	Pn	09 47 59.7	-0.5
CHGR2				eS	Sn	09 48 23.6	+0.3
BCO2	Palmira	1.81	321	⇓eP	Pn	09 48 00.5	-0.2
BCO2				i S	Sb	09 48 25.9	+0.4
CCOL	Caracol de Cor	1.93	305	eP	Pn	09 48 01.6	-0.4
CDITO	Canoas	1.95	310	Pn	Pn	09 48 02.8	+0.4
CDITO	Canoas	1.95	310	⇓eP	Pn	09 48 02.6	+0.3
CDITO				eS	Sb	09 48 29.9	+0.7
BRU2	Volcan	1.98	319	Pn	Pn	09 48 03.2	+0.4
BRU2	Volcan	1.98	319	eP	Pn	09 48 02.7	-0.1
BRU2	Volcan	1.98	319	eP	Pn	09 48 02.9	+0.1
BRU2	Volcan	1.98	319	⇓eP	Pn	09 48 03.2	+0.4
BRU2				i S	Sb	09 48 30.8	+0.7
MLIR3	Monte Lirio, C	2.06	316	⇓eP	Pn	09 48 04.9	+0.9
MLIR3				eS	Sg	09 48 34.4	-0.7
EDSV	San Vito	2.19	314	eP	Pn	09 48 06.8	+1.0
ZANG	Zanguenga, Cho	2.21	42	⇓eP	Pn	09 48 06.9	+0.9
ZANG				i S	Sb	09 48 37.2	+0.4
PIRO	Carate, Puerto	2.23	299	eP	Pn	09 48 05.3	-0.9
PIRO	Carate, Puerto	2.23	299	eP	Pn	09 48 05.9	-0.4
CHOR3	La Chorrera	2.24	45	⇓eP	Pb	09 48 08.0	-1.6
CHOR3				eS	Sb	09 48 37.6	0.0
PTJ1	Puerto Jimnez	2.27	303	eP	Pn	09 48 08.7	+1.9
TABO3	Taboga, Panama	2.33	50	⇓eP	Pn	09 48 08.4	+0.9
TABO3				eS	Sb	09 48 41.0	+0.9
ARRA3	Arraijan, Pana	2.36	46	⇑eP	Pn	09 48 09.0	+1.0
ARRA3				eS	Sb	09 48 40.6	-0.5
CNI2	El Empalme, Bo	2.37	333	⇑eP	Pb	09 48 10.3	-1.5
CNI2				eS	Sb	09 48 42.0	+0.7
BCIP	Isla Barro Col	2.39	39	Pn	Pn	09 48 09.9	+1.5
BCIP	Isla Barro Col	2.39	39	eP	Pn	09 48 09.2	+0.9
BCIP	Isla Barro Col	2.39	39	eP	Pn	09 48 09.5	+1.1
BCIP	Isla Barro Col	2.39	39	⇓eP	Pn	09 48 09.5	+1.1
BCIP				eS	Sb	09 48 41.5	-0.4
FLAM	Flamenco Islan	2.42	48	⇓eP	Pn	09 48 10.6	+1.9
FLAM				i S	Sb	09 48 41.4	-1.2
CORZ	Corozal	2.43	47	eP	Pn	09 48 10.2	+1.2
CORZ				eS	Sb	09 48 42.2	-0.9
MFS3	Miraflores	2.43	46	eP	Pn	09 48 10.2	+1.3
MFS3				eS	Sb	09 48 42.5	-0.6
GAMB1	Gamboa	2.44	42	⇓eP	Pb	09 48 11.2	-1.8
GAMB1				eS	Sb	09 48 43.5	+0.2
POTG	Potrero Grande	2.45	315	eP	Pn	09 48 10.3	+1.0
UPA	Univ. de Panam	2.46	47	eP	Pg	09 48 31.2	+15
UPA				eS	Sg	09 49 02.7	+15
FRIJ	El Hiral	2.50	40	⇓iP	Pn	09 48 10.8	+0.9
RIOS	Rincon, Osa	2.54	303	Pn	Pn	09 48 10.6	+0.2
RIOS	Rincon, Osa	2.54	303	eP	Pn	09 48 09.9	-0.5
SABA3	Sabanitas, Col	2.56	37	eP	Pb	09 48 14.0	-0.9
RGM0	Gandoca	2.58	332	Pn	Pb	09 48 13.7	-1.7
RGM0	Gandoca	2.58	332	eP	Pb	09 48 14.0	-1.4
RGM0	Gandoca	2.58	332	⇓eP	Pb	09 48 14.6	-0.7
RGM0				eS	Sg	09 48 50.0	-1.5
EDBA	Buenos Aires	2.64	314	eP	Pn	09 48 13.4	+1.6
EDPN	Palmar Norte	2.64	309	eP	Pn	09 48 12.6	+0.7
PLAN	Los Planes de	2.66	301	eP	Pn	09 48 11.2	-1.0
DRK0	Durika	2.69	316	Pn	Pn	09 48 14.2	+1.5
DRK0	Durika	2.69	316	⇓iP	Pn	09 48 13.9	+1.3
DRK0	Durika	2.69	316	eP	Pn	09 48 14.2	+1.5
DRK0				eS	Sn	09 48 48.1	+2.4
SRBA	San Rafael, Bu	2.75	314		Pn	09 48 14.8	+1.4
SRBA	San Rafael, Bu	2.75	314	eP	Pn	09 48 14.3	+0.9
CHPO	Chepo, Panama	2.90	50	⇓eP	Pn	09 48 16.0	+0.7
CHPO				eS	Sn	09 48 52.0	+1.4
MIRA3	Miramar, Colon	3.02	42	eP	Pn	09 48 17.8	+0.7
PEZE	Perez Zeledon,	3.08	312	Pn	Pn	09 48 19.1	+1.2
PEZE	Perez Zeledon,	3.08	312	eP	Pn	09 48 18.5	+0.6
CNTA3	Canitas, Panam	3.10	52	eP	Pn	09 48 18.9	+0.6
EDDO	Dominical	3.14	308	eP	Pb	09 48 22.2	-2.7
MRVA	Moravia de Chi	3.24	321	eP	Pn	09 48 22.6	+2.5
CDM	Cerro de Muert	3.26	313	eP	Pn	09 48 22.7	+1.9
BATAN	Batan	3.41	325	Pn	Pn	09 48 25.3	+2.9
BATAN	Batan	3.41	325	eP	Pb	09 48 26.5	-3.0
RIMA	Rio Macho	3.48	315	Pn	Pn	09 48 25.4	+1.9
RIMA	Rio Macho	3.48	315	eP	Pn	09 48 25.1	+1.6
UPD2	Meteti	3.54	69	⇓eP	Pn	09 48 25.9	+1.7
UPD2				eS	Sn	09 49 08.4	+1.9
LCR2	La Lucha 2	3.56	313	eP	Pn	09 48 25.7	+1.0
RAFA	San Farael, Vo	3.58	318	eP	Pb	09 48 30.2	-2.3
CVTR	Volcan Turrial	3.59	319	Pn	Pn	09 48 28.7	+3.4
CVTR	Volcan Turrial	3.59	319	eP	Pn	09 48 28.6	+3.4
OCM	Ochomogo	3.63	315	eP	Pn	09 48 28.6	+2.9
HDC3	Heredia 3	3.81	315	eP	Pn	09 48 30.4	+2.3
HDC	Heredia	3.81	315		Pn	09 48 30.4	+2.3
HDC	Heredia	3.81	315	eP	Pn	09 48 31.8	+3.7
HDC	Heredia	3.81	315	eP	Pn	09 48 31.9	+3.8
RIFO	Rio Frio, Sara	3.92	320	eP	Pn	09 48 31.4	+2.0
JACO	JACO, Garabito	4.01	306	Pn	Pn	09 48 33.6	+2.9
COVE	Coope Vega, Sa	4.53	319	Pn	Pn	09 48 41.6	+3.8
COVE	Coope Vega, Sa	4.53	319	eP	Pn	09 48 41.4	+3.6
JTS	Las Juntas de	4.62	310	Pn	Pn	09 48 42.4	+3.3
JTS	Las Juntas de	4.62	310	eP	Pn	09 48 42.9	+3.8
JTS	Las Juntas de	4.62	310	⇑eP	Pn	09 48 42.9	+3.8
COLC	Colonia	5.05	312	eP	Pn	09 48 48.0	+2.9
ORTG	Ortega, Santa	5.06	307		Pn	09 48 49.0	+3.8
HZTE	Horizontes, Gu	5.38	309	Pn	Pn	09 48 52.8	+3.3
CBOC	Ciudad Bolivar	5.51	105	eP	Pn	09 48 49.7	-1.7
ESPN	Las Esperanzas	5.65	329	Pn	Pn	09 48 55.8	+2.5
ESPN	Las Esperanzas	5.65	329	eP	Pn	09 48 55.4	+2.1
MOTC	Monteria, Cord	5.83	75		Pn	09 48 57.1	+1.3
HELC	Santa Helena	5.90	100	eP	Pn	09 48 57.6	+0.5
ACON	Acoyapa	5.96	321	Pn	Pn	09 49 00.1	+2.6
PRVC	Isla de Provid	6.03	0	Pn	Pn	09 48 59.2	+0.7
GUY2C	Guyana, Caldas	6.32	109	eP	Pn	09 49 03.3	+0.5
ZARC	Zaragoza, Cauc	6.46	88	Pn	Pn	09 49 04.8	+0.5
BOAB	BOACO BROADBAN	6.64	321	Pn	Pn	09 49 09.8	+3.0
SJCC	San Jacinto, C	6.64	67	Pn	Pn	09 49 07.8	+0.9
BBAC	Balboa, Cauca	6.66	142	eP	Pn	09 49 11.9	+4.5
MATN	Matagalpa	7.17	322		Pn	09 49 16.7	+2.6
GCUF	Volcan Galeras	7.25	146	eP	Pn	09 49 15.5	-0.2
ROSC	El Rosal	7.42	109	Pn	Pn	09 49 20.3	+2.3
	3.0nm,0.3s,baz=141,slow=20,SNR=4.8						
ROSC	El Rosal	7.42	109	Pn	Pn	09 49 21.9	+3.9
BETC	Betania	7.48	128	eP	Pn	09 49 21.1	+2.7
GARC	Garzon, Huila	7.75	131	eP	Pn	09 49 22.1	-0.3
CHIC	Chingaza	8.05	109	eP	Pn	09 49 28.2	+1.7
BARC	Barichara	8.16	94	eP	Pn	09 49 28.3	+0.4
URIC	Uribia, Colomb	10.22	64	Pn	Pn	09 49 59.0	+2.9
SDV	Santo Domingo	10.74	81	Pn	Pn	09 50 04.9	+1.6
	1.2nm,0.3s,baz=267,slow=9.4,SNR=10						
SDV				Sn	Sn	09 52 01.2	-2.9
	1.0nm,0.3s,baz=203,slow=19,SNR=1.6						
SDV	Santo Domingo	10.74	81	Pn	Pn	09 50 06.7	+3.3
MTDJ	Mount Denham	11.48	19	Pn	Pn	09 50 15.3	+2.0
SDDR	Presa de Saban	15.19	39	Pn	Pn	09 51 04.6	+0.7
BIRV	Birongo	15.24	77	Pn	Pn	09 51 06.9	+2.2
BIRV				IAmb	IAmb	09 51 30.2	
	comp=Z,22nm,1.1s						
PTGA	Pitinga	22.79	110	P	P	09 52 34.7	+2.4
	comp=Z,1.1nm,0.3s,baz=276,slow=24,SNR=4.6						
TXAR	Lajitas Array	30.35	319	P	P	09 53 40.2	-1.3
	comp=Z,0.0nm,0.3s,baz=104,slow=7.5,SNR=1.3						
NVAR	Mina Array Bea	45.50	319	P	P	09 55 48.7	-0.6
	comp=Z,0.2nm,0.5s,baz=134,slow=10,SNR=2.0						
PLCA	Paso Flores	48.83	169	P	P	09 56 15.8	+0.8
	comp=Z,0.7nm,0.6s,baz=341,slow=12,SNR=5.9						
YKA	Yellowknife Ar	60.19	343	P	P	09 57 36.2	-1.0
	comp=Z,0.6nm,0.9s,baz=134,slow=7.1,SNR=7.3						
INK	Inuvik	69.91	342	P	P	09 58 37.8	-2.5
	comp=Z,1.0nm,0.9s,baz=129,slow=3.6,SNR=2.7						
ILAR	Eielson Array	73.12	336	P	P	09 58 58.0	-1.8
	comp=Z,0.8nm,0.7s,baz=116,slow=4.4,SNR=6.1						
ESDC	Sonseca Array	75.68	51	P	P	09 59 15.2	-0.1
	comp=Z,1.0nm,0.9s,baz=279,slow=6.3,SNR=1.5						

IDC 03 09:48:11.2±974.0**, 52.°96N**×**3.°54E, h0km, Error ellipse: s-maj=442.4km s-min=166.2km az=105.0, North Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.63	119	i		10 35 10.0	
	baz=306,slow=324,SNR=2.1						
I43RU	DUBNA INFRASON	19.63	65	i		11 53 10.0	
	baz=276,slow=321,SNR=1.1						
I46RU	ZALESOVO INFRA	45.85	55	i		14 26 30.0	
	baz=298,slow=323,SNR=1.5						

*IDC **03** 09:59:24.7±1.2, 21.°05S×178.°52W, h582km±12km, mb3.6/15, mb1 3.8/18, mb1mx3.7/28, mbtmp4.5/18, Error ellipse: s-maj=17.7km s-min=11.9km az=126.0*

*NEIC **03** 09:59:25.2±1.9, 20.9S±0.1×178.44W±0.09, h586km±6km, mb4.5/54, Error ellipse: s-maj=18.1km s-min=11.0km az=156.0*

ISC 03 09:59:24.1±0.4**, 20.95S**±0.08×**178.44W**±0.07**, h579**km**, n177, σ1.56**/174**, mb4.4**/40**, 23C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.60**	**313**	P	**P**	**10 00 53.8**	**+1.1**
	2.6nm,0.3s,baz=358,slow=23,SNR=11						
MSVF				S	**S**	**10 02 06.4**	**+1.5**
	baz=324,slow=23,SNR=0.7						
MSVF	**Nonsavu**	**4.60**	**313**	P	**P**	**10 00 54.1**	**+1.3**
NIUE	**Niue**	**8.22**	**78**	P	**P**	**10 01 27.6**	**+2.7**
AFI	**Afiamalu**	**9.45**	**43**	P	**P**	**10 01 36.1**	**-1.1**
	5.2nm,0.3s,baz=208,slow=0.4,SNR=9.8						
AFI				S	**S**	**10 03 20.8**	**-5.6**
	7.3nm,0.3s,baz=53,slow=20,SNR=6.0						
AFI	**Afiamalu**	**9.45**	**43**	P	**P**	**10 01 35.9**	**-1.3**
DZM	**Mont Dzumac**	**14.12**	**263**	P	**P**	**10 02 26.2**	**+1.7**
	0.9nm,0.3s,baz=130,slow=22,SNR=10						
DZM	**Mont Dzumac**	**14.12**	**263**	P	**P**	**10 02 26.6**	**+2.1**
OUZ	**Omahuta**	**15.85**	**205**	P	**P**	**10 02 43.9**	**+3.0**
OUZ	**Omahuta**	**15.85**	**205**	P	**P**	**10 02 43.7**	**+2.9**
KOUNC	**Koumac, New Ca**	**16.16**	**268**	P	**P**	**10 02 46.3**	**+2.3**
KOUNC				IAmb	IAmb	10 02 47.1	
	comp=Z,24nm,0.8s						
WCZ	**Waipu Caves**	**16.22**	**201**	P	**P**	**10 02 47.3**	**+3.0**
KUZ	**Kuaotunu**	**16.55**	**197**	P	**P**	**10 02 48.4**	**+1.1**
MXZ	**Matakaoa Point**	**16.80**	**189**	P	**P**	**10 02 51.0**	**+1.5**
RUGZ	**Raukumara Rang**	**17.29**	**190**	P	**P**	**10 02 54.3**	**+0.2**
PUZ	**Puketiti**	**17.30**	**189**	P	**P**	**10 02 54.5**	**+0.4**
TGRZ	**Tauranga**	**17.34**	**194**	P	**P**	**10 02 57.0**	**+2.6**
OPRZ	**Ohinepanea**	**17.39**	**193**	P	**P**	**10 02 57.7**	**+2.9**
TWGZ	**Tauwhareparae**	**17.45**	**189**	P	**P**	**10 02 56.7**	**+1.3**
KMRZ	**Kaimai**	**17.53**	**195**	P	**P**	**10 02 59.1**	**+2.9**
TOZ	**Tahuroa Road**	**17.53**	**196**	P	**P**	**10 02 58.7**	**+2.6**
KARZ	**Kaharoa**	**17.63**	**194**	P	**P**	**10 03 01.1**	**+4.0**
MWZ	**Matawai**	**17.68**	**190**	P	**P**	**10 02 56.7**	**-0.8**
URZ	**Urewera**	**17.68**	**192**	P	**P**	**10 02 55.5**	**-2.0**
	comp=Z,4.9nm,0.3s,baz=252,slow=2.8,SNR=33						
URZ				S	**S**	**10 05 44.3**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=359,slow=14,SNR=1.9						
URZ	**Urewera**	**17.68**	**192**	P	**P**	**10 02 57.4**	**-0.1**
URZ	**Urewera**	**17.68**	**192**	P	**P**	**10 02 55.8**	**-1.6**
CNGZ	**Carnagh Statio**	**17.72**	**189**	P	**P**	**10 02 59.7**	**+1.9**
RRRZ	**Republican Roa**	**17.87**	**193**	P	**P**	**10 02 59.5**	**+0.2**
MUGZ	**Murupara**	**17.95**	**192**	P	**P**	**10 02 59.7**	**-0.4**
HRRZ	**Handcock Road**	**17.97**	**194**	P	**P**	**10 03 00.1**	**-0.1**
RIGZ	**Rimuhau**	**18.00**	**190**	P	**P**	**10 03 01.8**	**+1.3**
TLZ	**Tolley Road**	**18.09**	**195**	P	**P**	**10 03 04.5**	**+3.1**
ALRZ	**Allen Road**	**18.12**	**193**	P	**P**	**10 03 03.4**	**+1.8**
RAHZ	**Arahi**	**18.32**	**191**	P	**P**	**10 03 03.7**	**+0.3**
MRHZ	**Matea Rd**	**18.37**	**193**	P	**P**	**10 03 04.1**	**+0.3**
HIZ	**Hauiti**	**18.44**	**197**	P	**P**	**10 03 07.3**	**+2.9**
HATZ	**Hinemaiaia**	**18.50**	**194**	P	**P**	**10 03 05.2**	**+0.2**
BKZ	**Black Stump Fm**	**18.68**	**192**	P	**P**	**10 03 05.6**	**-1.1**
TMVZ	**Te Maari**	**18.80**	**194**	P	**P**	**10 03 08.1**	**+0.3**
WTVZ	**West Tongariro**	**18.82**	**195**	P	**P**	**10 03 09.0**	**+0.9**
NNVZ	**North Ngauruho**	**18.83**	**194**	P	**P**	**10 03 09.2**	**+1.0**
OTVZ	**Oturere**	**18.85**	**194**	P	**P**	**10 03 08.2**	**-0.2**
NGZ	**Ngauruhoe**	**18.88**	**194**	P	**P**	**10 03 10.1**	**+1.5**
SNVZ	**South Ngauruho**	**18.88**	**194**	P	**P**	**10 03 08.8**	**+0.1**
MCHZ	**McNeill Hill**	**18.91**	**192**	P	**P**	**10 03 09.7**	**+1.1**
KWHZ	**Kaweka Forest**	**18.94**	**192**	P	**P**	**10 03 09.4**	**+0.3**
FWVZ	**Far West T-bar**	**18.96**	**194**	P	**P**	**10 03 10.4**	**+0.9**
TRVZ	**Turoa**	**19.01**	**194**	P	**P**	**10 03 10.1**	**+0.2**
WNVZ	**Wahianoa**	**19.02**	**194**	P	**P**	**10 03 10.0**	**0.0**
VRZ	**Vera Road**	**19.04**	**196**	P	**P**	**10 03 12.7**	**+2.8**
MOVZ	**Moawhango**	**19.06**	**194**	P	**P**	**10 03 10.9**	**+0.7**
BHHZ	**Black Hill Sta**	**19.07**	**193**	P	**P**	**10 03 09.2**	**-1.1**
KRHZ	**Kereru**	**19.16**	**192**	P	**P**	**10 03 11.5**	**+0.5**
KAHZ	**Kahuranaki**	**19.21**	**191**	P	**P**	**10 03 12.3**	**+0.8**
PKE	**Pukeiti**	**19.32**	**198**	P	**P**	**10 03 16.6**	**+4.2**
NEZ	**North Egmont**	**19.36**	**198**	P	**P**	**10 03 16.8**	**+3.9**
PXZ	**Pawanui**	**19.44**	**191**	P	**P**	**10 03 13.9**	**+0.3**
TSZ	**Takapari Road**	**19.64**	**193**	P	**P**	**10 03 15.7**	**+0.2**
ANWZ	**Angora Road**	**19.93**	**191**	P	**P**	**10 03 19.0**	**+1.1**
BFZ	**Birch Farm**	**20.19**	**192**	P	**P**	**10 03 20.4**	**+0.1**
QRZ	**Quartz Range**	**21.25**	**199**	P	**P**	**10 03 30.7**	**+0.8**
THZ	**Tophouse**	**22.01**	**197**	P	**P**	**10 03 37.2**	**+0.5**
DSZ	**Denniston Nort**	**22.32**	**200**	P	**P**	**10 03 39.5**	**+0.1**
KHZ	**Kahutara**	**22.45**	**196**	P	**P**	**10 03 39.5**	**-1.0**
LTZ	**Lake Taylor**	**23.13**	**198**	P	**P**	**10 03 45.6**	**-1.0**
INZ	**Inchbonnie**	**23.32**	**199**	P	**P**	**10 03 47.9**	**-0.3**
OXZ	**Oxford**	**23.70**	**197**	P	**P**	**10 03 51.5**	**-0.1**
OXZ	**Oxford**	**23.70**	**197**	P	**P**	**10 03 51.1**	**-0.4**
RPZ	**Rata Peaks**	**24.34**	**199**	P	**P**	**10 03 56.2**	**-1.1**
	comp=Z,5.2nm,0.4s,baz=12,slow=3.0,SNR=8.6						
RPZ	**Rata Peaks**	**24.34**	**199**	IAmb	IAmb	10 04 10.0	
	comp=Z,24nm,1.3s						
ARMA	**Armidale**	**28.50**	**245**	P	**P**	**10 04 35.2**	**+1.0**
ARMA				IAmb	IAmb	10 04 44.0	
	comp=Z,13nm,1.4s						
CTA	**Charters Tower**	**33.04**	**265**	P	**P**	**10 05 12.8**	**-0.1**
	comp=Z,7.9nm,0.4s,baz=93,slow=9.3,SNR=8.3						
PMG	**Port Moresby**	**35.05**	**284**	P	**P**	**10 05 29.4**	**-0.4**
COEN	**Coen**	**37.20**	**274**	P	**P**	**10 05 47.5**	**0.0**
COEN				IAmb	IAmb	10 05 48.3	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**37.23**	**245**	P	**P**	**10 05 48.0**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=97,slow=12,SNR=7.1						
MANU	**Manus Island**	**38.26**	**295**	P	**P**	**10 05 56.5**	**+0.4**
MANU				IAmb	IAmb	10 05 57.4	
	comp=Z,29nm,1.3s						
BBOO	**Buckleboo**	**41.98**	**244**	P	**P**	**10 06 25.2**	**-0.4**
BBOO				IAmb	IAmb	10 06 27.5	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**43.94**	**263**	P	**P**	**10 06 40.1**	**-0.9**
WR0				IAmb	IAmb	10 06 41.3	
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**44.02**	**257**	P	**P**	**10 06 41.5**	**-0.1**
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**10 06 41.4**	**-0.2**
	comp=Z,9.6nm,0.5s,baz=96,slow=7.7,SNR=294						
ASAR				PcP	**PcP**	**10 08 14.5**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=106,slow=3.6,SNR=12						
ASAR				ScP	**ScP**	**10 11 12.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=108,slow=5.5,SNR=2.7						
ASAR				S	**S**	**10 12 28.5**	**-4.1**
	comp=Z,2.1nm,0.8s,baz=92,slow=16,SNR=18						
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**10 06 41.6**	**0.0**
WB0	**Warramunga Arr**	**44.11**	**263**	P	**P**	**10 06 41.8**	**-0.5**
WB2	**Warramunga Arr**	**44.12**	**263**	P	**P**	**10 06 41.7**	**-0.7**
WB2				IAmb	IAmb	10 06 42.5	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**44.13**	**263**	P	**P**	**10 06 41.6**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=97,slow=7.4,SNR=77						
WRA				PcP	**PcP**	**10 08 14.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=93,slow=2.7,SNR=3.3						
WRA				S	**S**	**10 12 29.8**	**-4.5**
	comp=Z,1.4nm,0.8s,baz=97,slow=13,SNR=6.4						
WRA	**Warramunga Arr**	**44.13**	**263**	P	**P**	**10 06 41.4**	**-1.1**
MTN	**Manton Dam**	**48.76**	**271**	P	**P**	**10 07 16.6**	**-0.8**
MTN				IAmb	IAmb	10 07 17.1	
	comp=Z,14nm,0.7s						
KNRA	**Kununurra**	**50.22**	**267**	P	**P**	**10 07 27.7**	**-0.4**
KNRA				IAmb	IAmb	10 07 29.0	
	comp=Z,12nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.56**	**263**	P	**P**	**10 07 44.9**	**0.0**
PSA00	**Pilbara Seismi**	**57.17**	**257**	P	**P**	**10 08 16.5**	**-0.5**
PSA00				IAmb	IAmb	10 08 17.3	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**57.17**	**257**	P	**P**	**10 08 16.1**	**-1.0**
PSA00				IAmb	IAmb	10 08 17.3	
	comp=Z,6.8nm,0.9s						
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**10 09 34.4**	**+1.6**
UGM	**Wanagama**	**69.55**	**269**	P	**P**	**10 09 35.3**	**-0.9**
MJAR	**Matsushiro Arr**	**70.33**	**324**	P	**P**	**10 09 39.7**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=154,slow=6.1,SNR=6.5						
JHS	**Saijyo**	**72.17**	**320**	P	**P**	**10 09 51.8**	**+0.7**
ADK	**Adak**	**72.53**	**1**	P	**P**	**10 09 52.7**	**0.0**
PETK	**Petropavlovsk-**	**76.60**	**345**	P	**P**	**10 10 15.6**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=120,slow=8.2,SNR=13						
KSRS	**Korea Array**	**76.95**	**319**	P	**P**	**10 10 18.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=129,slow=7.1,SNR=5.8						
USRK	**Ussuriysk Ar.**	**79.10**	**326**	P	**P**	**10 10 30.8**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=101,slow=6.0,SNR=3.5						
NVAR	**Mina Array Bea**	**81.63**	**44**	P	**P**	**10 10 44.8**	**+2.0**
	comp=Z,2.0nm,0.6s,baz=223,slow=7.9,SNR=18						
NV11	**Mina Array Sit**	**81.73**	**44**	P	**P**	**10 10 45.0**	**+1.8**
KVN	**Kaiserville**	**82.11**	**43**	P	**P**	**10 10 46.7**	**+1.5**
TPNV	**Topopah Spring**	**82.15**	**46**	P	**P**	**10 10 45.8**	**+0.4**
O19K	**Port Alsworth**	**83.20**	**12**	P	**P**	**10 10 49.8**	**0.0**
GSI	**Gunungsitoli**	**84.84**	**273**	P	**P**	**10 10 58.1**	**-0.9**
GHO	**Glory Hole Cre**	**85.75**	**14**	IAmb	IAmb	10 11 03.6	
	comp=Z,8.2nm,0.7s						
CAST	**Castle Rocks**	**86.59**	**12**	P	**P**	**10 11 05.5**	**-0.7**
CAST				IAmb	IAmb	10 11 06.5	
	comp=Z,3.9nm,0.7s						
F10A	**Beach Ranch, E**	**86.60**	**38**	IAmb	IAmb	10 11 09.0	
	comp=Z,9.4nm,0.8s						
TRF	**Thorofare Moun**	**86.97**	**12**	IAmb	IAmb	10 11 08.7	
	comp=Z,8.5nm,0.6s						
RND	**Reindeer**	**87.22**	**13**	IAmb	IAmb	10 11 10.3	
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**87.50**	**13**	P	**P**	**10 11 10.3**	**-0.1**
MCK				IAmb	IAmb	10 11 12.6	
	comp=Z,8.1nm,1.1s						
TXAR	**Lajitas Array**	**87.64**	**57**	P	**P**	**10 11 14.2**	**+2.2**
	comp=Z,1.6nm,0.8s,baz=208,slow=5.1,SNR=16						
TXAR	**Lajitas Array**	**87.64**	**57**	P	**P**	**10 11 12.1**	**+0.1**
M27K	**Edge Creek, AK**	**87.95**	**16**	P	**P**	**10 11 12.8**	**0.0**
M27K				IAmb	IAmb	10 11 15.4	
	comp=Z,8.4nm,1.2s						
MLY	**Manley**	**88.31**	**11**	IAmb	IAmb	10 11 14.5	
	comp=Z,9.2nm,1.3s						
WRH	**Wood River Hil**	**88.32**	**13**	IAmb	IAmb	10 11 15.0	
	comp=Z,6.7nm,0.8s						
HDA	**Harding Lake**	**88.51**	**13**	IAmb	IAmb	10 11 15.9	
	comp=Z,5.6nm,0.7s						
CCB	**Clear Creek Bu**	**88.54**	**13**	IAmb	IAmb	10 11 15.4	
	comp=Z,5.7nm,0.6s						
MDM	**Murphy Dome**	**88.73**	**12**	IAmb	IAmb	10 11 17.2	
	comp=Z,8.3nm,1.0s						
IL31		**88.84**	**13**	P	**P**	**10 11 16.6**	**+0.1**
ILAR	**Eielson Array**	**88.84**	**13**	P	**P**	**10 11 16.4**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=218,slow=5.1,SNR=25						
SNOW	**Snow King Moun**	**89.15**	**42**	IAmb	IAmb	10 11 21.9	
	comp=Z,4.4nm,0.8s						
BW06	**Boulder Array**	**89.57**	**43**	IAmb	IAmb	10 11 22.9	
	comp=Z,2.3nm,0.7s						
PD31	**Pinedale Array**	**89.57**	**43**	P	**P**	**10 11 21.6**	**+0.8**
PDAR	**Pinedale Array**	**89.57**	**43**	P	**P**	**10 11 22.2**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=216,slow=3.9,SNR=20						
CMAR	**Chiang Mai Arr**	**89.88**	**290**	P	**P**	**10 11 24.1**	**+1.6**
	comp=Z,3.1nm,0.7s,baz=127,slow=2.8,SNR=23						
CMAR	**Chiang Mai Arr**	**89.88**	**290**	P	**P**	**10 11 23.6**	**+1.1**
DAWY	**Dawson**	**90.00**	**16**	P	**P**	**10 11 22.7**	**+0.6**
DAWY				IAmb	IAmb	10 11 23.7	
	comp=Z,3.8nm,1.0s						
CHTO	**Chiang Mai**	**90.01**	**290**	P	**P**	**10 11 23.9**	**+0.8**
CHTO				IAmb	IAmb	10 11 24.8	
	comp=Z,5.3nm,0.7s						
YKA	**Yellowknife Ar**	**97.09**	**25**	P	**P**	**10 11 55.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=244,slow=4.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**110.58**	**321**	PKiKP	**PKiKP**	**10 16 49.7**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=48,slow=2.2,SNR=4.5						
MKAR	**Makanchi Array**	**111.20**	**313**	PKiKP	**PKiKP**	**10 16 51.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=180,slow=0.8,SNR=18						
SPITS	**Spitsbergen Ar**	**122.28**	**356**	PKP	**PKPdf**	**10 17 12.8**	**-0.3**
	comp=Z,12nm,1.1s,baz=72,slow=5.4,SNR=4.9						
ARU	**Arti**	**125.33**	**325**	PKP	**PKPdf**	**10 17 19.2**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=219,slow=6.6,SNR=1.7						
AKTO	**Aktyubinsk**	**127.12**	**318**	PKP	**PKPdf**	**10 17 22.5**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=111,slow=8.6,SNR=3.5						
ARCES	**ARCESS Array B**	**129.28**	**349**	PKP	**PKPdf**	**10 17 26.3**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=13,slow=0.6,SNR=14						
BELG	**Belogornoye**	**132.71**	**323**	PKP	**PKiKP**	**10 17 34.4**	**-0.3**
	comp=Z,7.6nm,0.5s,baz=107,slow=23,SNR=2.6						
FINES	**FINESS Array B**	**136.08**	**343**	PKhKP	PKPpre	10 17 33.4	
	comp=Z,2.1nm,0.9s,baz=46,slow=5.5,SNR=4.4						
FINES				PKP	**PKiKP**	**10 17 41.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=65,slow=4.1,SNR=9.1						
NB2	**NORSAR Subarra**	**139.37**	**353**	PKP	**PKPdf**	**10 17 39.4**	**-6.3**
	comp=Z,0.4nm,0.5s,baz=12,slow=3.1						
NOA	**NORSAR Array B**	**139.37**	**353**	PKhKP	PKPpre	10 17 39.3	
	comp=Z,0.8nm,0.6s,baz=14,slow=2.4,SNR=4.8						
NOA				PKP	**PKPdf**	**10 17 47.1**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=14,slow=3.6,SNR=3.4						
HFS	**Hagfors**	**139.91**	**351**	PKhKP	PKPpre	10 17 39.6	
	comp=Z,2.4nm,0.3s,baz=127,slow=3.9,SNR=22						
AKASG	**Malin Array Be**	**143.20**	**330**	PKP	PKPab	10 17 50.2	-0.6
	comp=Z,15nm,0.5s,baz=42,slow=4.2,SNR=76						
AKBB	**Malin Array Si**	**143.20**	**330**	PKPdf	PKPab	10 17 50.4	-0.5
SORM	**Soroca**	**145.37**	**328**	⇑P	**PKPdf**	**10 17 56.8**	**+0.3**
EKA	**Eskdalemuir Ar**	**145.48**	**5**	PKPbc	**PKPbc**	**10 17 57.9**	**0.0**
	comp=Z,5.5nm,0.9s,baz=12,slow=4.3,SNR=6.9						
BR131	**Keskin Array S**	**146.83**	**312**		**PKPbc**	**10 18 02.1**	**-0.3**
BRTR	**Keskin Array B**	**146.83**	**312**	PKPbc	**PKPbc**	**10 18 02.4**	**0.0**
	comp=Z,3.6nm,0.6s,baz=133,slow=3.7,SNR=11						
BRTR	**Keskin Array B**	**146.83**	**312**		**PKPbc**	**10 18 02.1**	**-0.3**
TLCR		**147.03**	**323**	⇑P	**PKPbc**	**10 18 02.0**	**-0.5**
BURAR	**Bucovina Array**	**147.24**	**330**	⇑P	**PKPbc**	**10 18 04.2**	**+1.1**
TESR	**Tescani**	**147.32**	**327**	⇑P	**PKPbc**	**10 18 02.9**	**-0.3**
CFR	**Carcaliu**	**147.41**	**324**	⇓P	**PKPbc**	**10 18 03.7**	**+0.2**
TPGR	**Topolog**	**147.45**	**323**	⇑P	**PKPbc**	**10 18 04.3**	**+0.7**
VRI	**Vrincioaia**	**147.71**	**326**	⇑P	**PKPbc**	**10 18 04.6**	**+0.3**
PLOR	**Plostina**	**147.76**	**326**	⇑P	**PKPbc**	**10 18 03.6**	**-0.9**
HARR	**Harsova**	**147.82**	**323**	⇑P	**PKPbc**	**10 18 05.4**	**+0.8**
TRPA	**Tarpa**	**148.05**	**333**	⇑P	**PKPbc**	**10 18 05.8**	**+0.7**
OSTC	**Ostas**	**148.27**	**342**	⇑*e*PKP	**PKPbc**	**10 18 05.9**	**+0.3**
MLR	**Muntele Rosu**	**148.37**	**326**	⇑P	**PKPbc**	**10 18 06.4**	**+0.2**
MLR	**Muntele Rosu**	**148.37**	**326**	PKPbc	**PKPbc**	**10 18 06.1**	**0.0**
	comp=Z,4.8nm,0.6s,baz=321,slow=2.4,SNR=10						
MLR	**Muntele Rosu**	**148.37**	**326**		**PKPbc**	**10 18 05.5**	**-0.6**
CLL	**Collm**	**148.40**	**346**	⇓*i*PKPbc	**PKPbc**	**10 18 06.1**	**+0.3**
	comp=Z,14nm,0.9s						
CLL				*i* PKPab	**PKPab**	**10 18 11.4**	**+0.1**
	comp=Z,7.0nm,0.6s						
DPC	**Dobruska-Polom**	**148.42**	**342**	⇑*e*PKP	**PKPbc**	**10 18 06.7**	**+0.7**
DPC				*e*PKPAB	**PKPab**	**10 18 11.8**	**+0.2**
VOIR		**148.87**	**327**	⇑P	**PKPbc**	**10 18 07.6**	**+0.3**
ARR	**Arges**	**149.12**	**327**	⇑P	**PKiKP**	**10 18 09.3**	**+0.6**
PRU	**Pruhonice**	**149.25**	**344**	⇑*e*PKP	**PKPbc**	**10 18 08.4**	**+0.5**
SIRR	**Siria**	**149.87**	**332**	⇑P	**PKPbc**	**10 18 10.0**	**+0.5**
GZR	**Gura Zlata**	**150.02**	**329**	⇑P	**PKPbc**	**10 18 08.4**	**-1.6**
KHC	**Kasperske Hory**	**150.28**	**344**	⇑*e*PKP	**PKPbc**	**10 18 10.9**	**+0.4**
KHC				*e*PKPAB	**PKPab**	**10 18 19.9**	**+0.6**
KHC	**Kasperske Hory**	**150.28**	**344**		**PKPbc**	**10 18 10.5**	**+0.1**
CKRC	**Cesky Krumlov**	**150.37**	**343**	⇑*e*PKP	**PKPbc**	**10 18 10.7**	**+0.1**
CKRC				*e*PKPAB	**PKPab**	**10 18 19.9**	**+0.2**
BZS	**Buzias**	**150.39**	**331**	⇓P	**PKPbc**	**10 18 11.1**	**+0.4**
GERES	**GERESS Array B**	**150.51**	**344**	PKPbc	**PKPbc**	**10 18 11.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=42,slow=19,SNR=6.3						
HERR	**Herculane**	**150.57**	**329**	⇑P	**PKPbc**	**10 18 10.7**	**-0.5**
MORH	**Mrgy, Hungar**	**151.18**	**335**	⇑P	**PKPbc**	**10 18 11.8**	**-0.7**
VTS	**Vitosha**	**151.76**	**325**	⇑P	**PKiKP**	**10 18 14.6**	**+0.2**
BOVS	**Bovan**	**151.83**	**328**	⇑P	**PKPbc**	**10 18 11.2**	**-2.9**
DAVOX	**Davos/Dischmat**	**153.35**	**347**	PKPbc	**PKiKP**	**10 18 18.0**	**+0.4**
	comp=Z,4.8nm,0.6s,baz=329,slow=22,SNR=7.3						
TORD	**Torodi Ar. Bea**	**172.24**	**181**	PKP	**PKPdf**	**10 18 27.0**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=310,slow=1.4,SNR=6.1						

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*GUC **03** 10:09:40.0±0.7, 16.23S×73.99W, h23km±4km, MW5.1*
*ARE **03** 10:09:40±2.1, 16.12S±0.06×73.98W±0.08, h47km±4km, Error ellipse: s-maj=11.3km s-min=8.2km az=59.0*
*IDC **03** 10:09:41.0±0.3, 15.98S×73.88W, h48km±2km, mb4.4/18, mb1 4.5/22, mb1mx4.4/45, mbtmp4.6/22, MS4.1/34, Ms1 4.1/34, ms1mx4.0/62, Error ellipse: s-maj=14.5km s-min=9.0km az=53.0*
*NEIC **03** 10:09:41.0±1.9, 16.10S±0.06×73.99W±0.08, h46km±5km, mb5.0/161, ML4.8(ARE), Error ellipse: s-maj=12.0km s-min=8.4km az=60.0*
*VAO **03** 10:09:41.9±0.4, 16.00S×73.81W, h47km, mb5.1*
*GCMT **03** 10:09:44.0±0.4, 16.29S±0.03×73.82W±0.04, h43km±1km, MW5.0/50, Moment Tensor Solution. s36,c49; s50,c66; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.39±.27; $M_{\theta\theta}$-3.17±.15; $M_{\phi\phi}$-1.22±.18; $M_{r\theta}$-1.00±.11; $M_{\theta\phi}$1.23±.10; $M_{\phi r}$0.03±.16; Best double couple: $M_0$4.19400×10^{16} NP1:ϕ_s120.00000°,δ39.00000°,λ97.00000°. NP2: ϕ_s291.00000°,δ51.00000°,λ84.00000°. Principal axes: T 4.5230, Plg82.0000°, Azm170.0000°; N -0.6570, Plg4.0000°, Azm295.0000°; P -3.8660, Plg6.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 10:09:40.5±0.3**, 16.05S**±0.04×**73.89W**±0.05**, h47**km±2km**, h48**km**:pP-P, n458, σ1.16**/403**, mb5.0**/72**, MS4.2**/35**, 4C-3D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.10**	**125**		**Pn**	**10 10 44.2**	**+3.6**
AP01	**Chacalluta**	**4.10**	**125**	*e*P	**Pn**	**10 10 41.0**	**+0.4**
AP01	**Chacalluta**	**4.10**	**125**	*e*P	**Pn**	**10 10 41.1**	**+0.4**
PB12	**IPOC Station P**	**4.25**	**127**	Pn	**Pn**	**10 10 43.3**	**+0.4**
PB12	**IPOC Station P**	**4.25**	**127**	*e*P	**Pn**	**10 10 43.0**	**+0.2**
PB12				*e*S	**Sn**	**10 11 36.5**	**+5.2**
PB16	**IPOC Station P**	**4.76**	**119**	Pn	**Pn**	**10 10 54.0**	**+3.6**
PB16	**IPOC Station P**	**4.76**	**119**	*e*P	**Pn**	**10 10 52.0**	**+1.6**
PB16				*e*S	**Sn**	**10 11 43.8**	**-0.7**
NNA	**Nana**	**4.95**	**324**	P	**Pn**	**10 10 51.8**	**-0.7**
	12nm,0.3s,baz=158,slow=13,SNR=19						
NNA				S	**Sn**	**10 11 48.2**	**-0.3**
	116nm,0.3s,baz=272,slow=9.7,SNR=5.3						
NNA	**Nana**	**4.95**	**324**	Pn	**Pn**	**10 10 52.7**	**+0.2**
PB11	**IPOC Station P**	**5.46**	**133**		**Pn**	**10 10 59.9**	**+0.3**
PB11	**IPOC Station P**	**5.46**	**133**	⇓*i*P	**Pn**	**10 10 59.8**	**+0.3**
TA02	**Huaiquique**	**5.51**	**140**		**Pn**	**10 11 00.6**	**+0.5**
TA02	**Huaiquique**	**5.51**	**140**	*e*P	**Pn**	**10 10 59.8**	**-0.3**
LPAZ	**La Paz**	**5.54**	**93**	P	Pn	10 11 06.7	+5.7
	16nm,0.3s,baz=297,slow=9.5,SNR=254						
LPAZ				S	**Sn**	**10 12 05.8**	**+2.2**
	baz=308,slow=4.1,SNR=1.3						
LPAZ				LR	LR	10 13 26.0	
	comp=Z,1μm,21.0s,baz=246,slow=41						
LPAZ	**La Paz**	**5.54**	**93**	Pn	Pn	10 11 07.2	+6.3
LPAZ	**La Paz**	**5.54**	**93**	*e*P	Pn	10 11 06.8	+5.8
LPAZ	**La Paz**	**5.54**	**93**	⇑*i*P	Pn	10 11 06.1	+5.1
HMBC	**Humberstone**	**5.67**	**139**	*e*P	**Pn**	**10 11 02.6**	**+0.2**
HMBC	**Humberstone**	**5.67**	**139**	*e*P	**Pn**	**10 11 02.5**	**+0.2**
HMBC				*e*S	**Sn**	**10 12 01.8**	**-4.5**
TA01	**Diego Aracena**	**5.71**	**142**		**Pn**	**10 11 02.5**	**-0.3**
TA01	**Diego Aracena**	**5.71**	**142**	⇓*i*P	**Pn**	**10 11 02.6**	**-0.2**
GO01	**Chusmiza**	**5.74**	**130**		**Pn**	**10 11 05.6**	**+1.9**
GO01	**Chusmiza**	**5.74**	**130**	*e*P	**Pn**	**10 11 04.9**	**+1.2**
PATCX	**Punta Patache**	**5.92**	**144**	Pn	**Pn**	**10 11 05.6**	**-0.2**
PATCX	**Punta Patache**	**5.92**	**144**	*e*P	**Pn**	**10 11 05.1**	**-0.7**
PB08	**IPOC Station P**	**6.07**	**133**		**Pn**	**10 11 09.3**	**+1.2**
PB08	**IPOC Station P**	**6.07**	**133**	*e*P	**Pn**	**10 11 08.8**	**+0.7**
PB02	**IPOC Station P**	**6.46**	**145**		**Pn**	**10 11 13.1**	**-0.2**
PB02	**IPOC Station P**	**6.46**	**145**	*e*P	**Pn**	**10 11 13.1**	**-0.2**
PB01	**IPOC Station P**	**6.49**	**141**		**Pn**	**10 11 13.8**	**+0.2**
PB01	**IPOC Station P**	**6.49**	**141**	*e*P	**Pn**	**10 11 13.5**	**-0.1**
PB07	**IPOC Station P**	**6.80**	**147**		**Pn**	**10 11 17.7**	**-0.2**
PB04	**IPOC Station P**	**7.18**	**151**		**Pn**	**10 11 22.2**	**-0.9**
PB09	**IPOC Station P**	**7.21**	**143**		**Pn**	**10 11 24.2**	**+0.6**
PB06	**IPOC Station P**	**7.77**	**149**		**Pn**	**10 11 30.6**	**-0.7**
LVC	**Limon Verde**	**8.04**	**145**	P	**Pn**	**10 11 35.8**	**+0.7**
	15nm,0.3s,baz=27,slow=8.8,SNR=198						
LVC				S	**Sn**	**10 13 00.5**	**-4.4**
	25nm,0.3s,baz=97,slow=13,SNR=7.1						
LVC	**Limon Verde**	**8.04**	**145**	*e*P	**Pn**	**10 11 36.0**	**+0.9**
PB10	**IPOC Station P**	**8.06**	**158**	Pn	**Pn**	**10 11 33.5**	**-1.6**
PB15	**IPOC Station P**	**8.25**	**150**		**Pn**	**10 11 37.5**	**-0.3**
CZSB	**Cruzeiro do Su**	**8.35**	**8**	*e*P	**Pn**	**10 11 39.6**	**+0.6**
PB14	**IPOC Station P**	**9.14**	**160**	Pn	**Pn**	**10 11 48.3**	**-1.8**
ETMB	**Extrema**	**9.71**	**51**	*e*P	**Pn**	**10 11 57.9**	**+0.3**
ATAH	**Atahualpa**	**9.90**	**333**	P	Pn	10 12 07.3	+6.7
	3.9nm,0.3s,baz=142,slow=3.1,SNR=17						
ATAH				S	**Sn**	**10 13 45.9**	**-4.7**
	1.4nm,0.3s,baz=11,slow=22,SNR=0.8						
AC02	**Maricunga**	**11.61**	**158**	Pn	**Pn**	**10 12 24.3**	**+0.2**
AC06	**Mina Casimiro**	**11.72**	**164**		**Pn**	**10 12 24.3**	**-0.9**
SIV	**San Ignacio**	**12.32**	**92**	P	**Pn**	**10 12 33.7**	**+0.3**
	2.7nm,0.3s,baz=269,slow=12,SNR=32						
SIV				S	**Sn**	**10 14 42.0**	**-7.5**
	baz=344,slow=17,SNR=1.5						
SIV				LR	LR	10 18 01.7	
	comp=Z,928nm,21.2s,baz=280,slow=41						
TBTG	**Tabatinga, AM**	**12.42**	**19**	*e*P	**Pn**	**10 12 32.9**	**-1.8**
TBTG	**Tabatinga, AM**	**12.42**	**19**	*e*P	**Pn**	**10 12 34.1**	**-0.6**
LCO	**Las Campanas**	**13.23**	**168**	Pn	**Pn**	**10 12 43.9**	**-2.2**
VILB	**Vilhena**	**13.60**	**79**	*e*P	**Pn**	**10 12 50.5**	**-0.5**
PTLB	**Pontes e Lacer**	**14.21**	**90**	*e*P	**Pn**	**10 12 58.8**	**-0.4**
CO02	**Combarbal**	**15.32**	**171**		**Pn**	**10 13 14.6**	**+0.9**
CO02					**pP**	**10 13 26.5**	**-1.7**
CO02				IAmb	IAmb	10 13 37.8	
	comp=Z,77nm,1.0s						
PTLC	**Puerto Leguiza**	**16.14**	**357**	*e*P	**Pn**	**10 13 18.4**	**-5.9**
ZON	**Zonda**	**16.14**	**164**	P	**P**	**10 13 26.5**	**-0.4**
TULM	**Tulcn-Chalpat**	**17.10**	**347**	*e*P	**P**	**10 13 37.7**	**-0.2**
PDRB	**Porto dos Gac**	**17.23**	**77**	*e*P	**P**	**10 13 39.1**	**+0.2**
GCUF	**Volcan Galeras**	**17.50**	**348**	*e*P	**P**	**10 13 43.5**	**+1.1**
FLOC	**Florencia**	**17.61**	**354**	*e*P	**Pn**	**10 13 41.7**	**-0.9**
AQDB	**Aquidauana**	**17.82**	**107**		**P**	**10 13 46.8**	**+1.4**
AQDB	**Aquidauana**	**17.82**	**107**	*e*P	**P**	**10 13 46.9**	**+1.4**
H03N1	**Juan Fernandez**	**17.90**	**194**	T	T	10 32 08.0	
	baz=16,slow=74,SNR=4203						
H03N2	**Juan Fernandez**	**17.91**	**194**	T	T	10 32 07.5	
	baz=16,slow=74,SNR=4676						
H03N3	**Juan Fernandez**	**17.92**	**194**	T	T	10 32 13.5	
	baz=16,slow=74,SNR=5696						
MACC	**Macarena, Meta**	**18.08**	**0**	*e*P	**P**	**10 13 47.0**	**-1.3**
GARC	**Garzon, Huila**	**18.19**	**355**	*e*P	**Pn**	**10 13 50.0**	**+0.1**
MACA	**Manacapuru-AM**	**18.24**	**47**	*e*P	**Pn**	**10 13 50.6**	**+0.3**
BBAC	**Balboa, Cauca**	**18.26**	**349**	*e*P	**Pn**	**10 13 52.8**	**+2.0**
PP1B	**Ponte de Pedra**	**18.26**	**98**	*e*P	**Pn**	**10 13 51.4**	**+0.8**
SOTA	**Rioblanco**	**18.27**	**351**	*e*P	**Pn**	**10 13 54.1**	**+3.0**
CLDB	**Colider**	**18.32**	**76**	*e*P	**Pn**	**10 13 52.0**	**+0.5**
PCON	**Cinco Dias**	**18.43**	**352**	*e*P	**Pn**	**10 13 56.5**	**+3.4**
CPUP	**Villa Florida**	**18.50**	**126**	P	**Pn**	**10 13 53.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=4.3						
CPUP				LR	LR	10 22 01.5	
	comp=Z,365nm,18.6s,baz=305,slow=40						
CPUP	**Villa Florida**	**18.50**	**126**	P	**Pn**	**10 13 54.8**	**+1.4**
CPUP	**Villa Florida**	**18.50**	**126**	*e*P	**Pn**	**10 13 54.2**	**+0.8**
BETC	**Betania**	**18.67**	**355**	*e*P	**Pn**	**10 13 56.2**	**+0.6**
POPC	**Popayan, Colom**	**18.67**	**351**	*e*P	**P**	**10 13 55.4**	**+0.3**
GR1C	**Gorgona, Isla**	**19.40**	**347**	*e*P	**P**	**10 13 58.6**	**-4.1**
ML02	**Panimavida**	**19.76**	**174**	IAmb	IAmb	10 14 33.6	
	comp=Z,82nm,1.1s						
ORTC	**Ortega, Tolima**	**19.87**	**356**	*e*P	**Pn**	**10 14 09.6**	**-0.3**
YOTC	**Yotoco, Valle**	**20.05**	**353**	*e*P	Pn	10 14 12.5	+0.4
PTGC	**Puerto Gaitan,**	**20.19**	**5**	*e*P	**P**	**10 14 11.1**	**-0.3**
NPGB	**Novo Progresso**	**20.22**	**66**	*e*P	**P**	**10 14 11.6**	**-0.2**
ANIL	**Santa Ana**	**20.46**	**356**	*e*P	Pn	10 14 21.3	+4.2
PTGA	**Pitinga**	**20.50**	**43**	P	Pn	10 14 16.1	-1.1
	comp=Z,43nm,0.7s,baz=219,slow=13,SNR=48						
PTGA				S	**S**	**10 17 57.1**	**-4.6**
	comp=Z,7.3nm,0.9s,baz=342,slow=17,SNR=1.9						
PTGA				LR	LR	10 22 48.6	
	comp=Z,1μm,19.8s,baz=212,slow=38						
CHIC	**Chingaza**	**20.55**	**0**	*e*P	Pn	10 14 21.6	+3.4
ROSC	**El Rosal**	**20.76**	**359**	P	Pn	10 14 20.9	+0.1
	comp=Z,8.5nm,0.4s,baz=189,slow=6.6,SNR=12						
ROSC	**El Rosal**	**20.76**	**359**	*e*P	Pn	10 14 24.3	+3.5
ITQB	**Itaqui**	**20.86**	**134**	P	Pn	10 14 20.7	-0.9
ITQB				IAmb	IAmb	10 14 43.1	
	comp=Z,73nm,0.9s						
ITQB	**Itaqui**	**20.86**	**134**	*e*P	Pn	10 14 20.2	-1.3
PLMC	**San Jos del P**	**20.95**	**353**	*e*P	**P**	**10 14 19.9**	**+0.1**
GUY2C	**Guyana, Caldas**	**21.19**	**356**	*e*P	**P**	**10 14 24.1**	**+1.4**
ARAG	**Araguaiana, MT**	**21.24**	**92**	*e*P	**P**	**10 14 23.1**	**+0.3**
ITTB	**Itaituba**	**21.28**	**59**	*e*P	**P**	**10 14 23.2**	**+0.1**
NORC	**Norcasia**	**21.49**	**357**	*e*P	**P**	**10 14 26.2**	**+0.7**
SPBC	**San Pablo de B**	**21.56**	**359**	*e*P	**P**	**10 14 24.2**	**-2.0**
RUSC	**La Rusia**	**21.81**	**2**	*e*P	**P**	**10 14 30.2**	**+0.8**
CBOC	**Ciudad Bolivar**	**21.87**	**354**	*e*P	**P**	**10 14 30.2**	**+0.5**
PCMB	**Pacaembu**	**22.11**	**108**	*e*P	**P**	**10 14 32.7**	**+0.6**
HELC	**Santa Helena**	**22.16**	**356**	*e*P	P	10 14 24.6	-8.3
PTGB	**Pitanga**	**22.18**	**116**	*e*P	**P**	**10 14 33.4**	**+0.6**
SNDB	**Serra Nova Dou**	**22.29**	**82**	*e*P	**P**	**10 14 33.6**	**-0.4**
PTBC	**PUERTO BERRIO,**	**22.45**	**359**	*e*P	**P**	**10 14 36.5**	**+0.8**
BARC	**Barichara**	**22.50**	**2**	*e*P	**P**	**10 14 35.8**	**-0.8**
BOAV	**Boa Vista**	**22.59**	**37**	*e*P	**P**	**10 14 38.1**	**+0.9**
ITRB	**Iturama**	**22.68**	**103**	*e*P	**P**	**10 14 38.3**	**+0.1**
LC01	**Cunco**	**22.83**	**176**	P	**P**	**10 14 39.5**	**-0.1**
LC01				IAmb	IAmb	10 14 55.4	
	comp=Z,56nm,1.0s						
ITAB	**Concordia**	**23.04**	**123**	*e*P	**P**	**10 14 43.2**	**+1.4**
PAMC	**Pamplona, Colo**	**23.27**	**3**	*e*P	**P**	**10 14 45.8**	**+1.1**
ZARC	**Zaragoza, Cauc**	**23.41**	**358**	*e*P	**P**	**10 14 44.9**	**-0.6**
UREC	**San Jos de Ur**	**23.70**	**356**	*e*P	P	10 14 55.6	+7.3
MALB	**Monte Alegre**	**23.93**	**56**	*e*P	**P**	**10 14 51.0**	**+0.6**
FRTB	**Fartura**	**24.00**	**111**	*e*P	**P**	**10 14 51.7**	**+0.7**
OCAC	**Ocana**	**24.14**	**1**	P	**P**	**10 14 51.9**	**-0.5**
PLTB	**Pedras Altas**	**24.19**	**134**	*e*P	**P**	**10 14 53.6**	**+0.9**
BB19B	**Bebedouro**	**24.54**	**106**	*e*P	**P**	**10 14 57.2**	**+1.2**
IPMB	**Ipameri, GO**	**24.62**	**98**	*e*P	**P**	**10 14 57.5**	**+0.8**
MOTC	**Monteria, Cord**	**24.73**	**356**	P	**P**	**10 14 58.6**	**+1.0**
MOTC				IAmb	IAmb	10 15 24.7	
	comp=Z,80nm,1.4s						
MOTC	**Monteria, Cord**	**24.73**	**356**	*e*P	P	10 15 05.6	+7.9
PLCA	**Paso Flores**	**24.77**	**174**	P	**P**	**10 14 58.3**	**+0.4**
	comp=Z,14nm,1.0s,baz=344,slow=9.3,SNR=23						

PLCA pP **pP** **10 15 11.6 +1.6**
comp=Z,17nm,0.9s,baz=356,slow=10,SNR=11
PLCA PcP **PcP** **10 18 33.8 +0.1**
comp=Z,5.9nm,1.1s,baz=327,slow=1.9,SNR=4.1
PLCA LR LR 10 23 05.0
comp=Z,224nm,20.9s,baz=326,slow=32
PLCA Paso Flores 24.77 174 P **P** **10 14 57.7 -0.1**
PLCA **PcP** **10 18 35.1 +1.5**
PLCA Paso Flores 24.77 174 *e*P **P** **10 14 58.7 +0.8**
BDFB Brasilia 24.89 93 P **P** **10 14 59.3 0.0**
comp=Z,12nm,0.9s,baz=268,slow=9.6,SNR=10
BDFB Brasilia 24.89 93 P **P** **10 14 58.9 -0.4**
SDV Santo Domingo 24.98 8 P **P** **10 15 00.1 -0.1**
comp=Z,10.0nm,0.7s,baz=189,slow=3.1,SNR=10.0
SDV LR LR 10 25 40.4
comp=Z,764nm,19.7s,baz=148,slow=38
SDV Santo Domingo 24.98 8 P **P** **10 15 00.1 -0.1**
SDV IAmb IAmb 10 15 24.5
comp=Z,27nm,0.8s
SDV Santo Domingo 24.98 8 *e*P **P** **10 15 00.3 +0.2**
SDV Santo Domingo 24.98 8 *e*P **P** **10 15 00.6 +0.4**
TIJ01 Guaruva-PR 25.00 116 *e*P **P** **10 15 00.6 +0.3**
PEXB Peixe 25.12 84 *e*P **P** **10 15 01.5 +0.3**
PNME Penonome 25.20 345 *e*P **P** **10 14 55.9 -6.0**
PRPB Parauapebas 25.55 70 *e*P **P** **10 15 05.5 +0.3**
RCLB Rio Claro- Sao 25.66 108 *e*P **P** **10 15 06.2 +0.1**
SJCC San Jacinto, C 25.81 357 P **P** **10 15 08.8 +1.3**
SJCC San Jacinto, C 25.81 357 *e*P P 10 15 16.6 +9.1
MCPB Macapa, AP 26.59 56 *e*P **P** **10 15 16.0 +1.5**
SMTB Santa Maria do 26.63 78 *e*P **P** **10 15 15.5 +0.5**
LL02 Futaleuf 27.11 177 P **P** **10 15 18.6 -0.4**
LL02 pP **pP** **10 15 31.4 +0.2**
BSCB Bom Sucesso 28.02 105 *e*P **P** **10 15 28.4 +0.9**
SDBA SAO DESIDERIO 28.31 86 *e*P **P** **10 15 30.9 +0.8**
JANB Januaria 28.50 92 *e*P **P** **10 15 32.3 +0.6**
DIAM Diamantina, MG 28.94 99 *e*P **P** **10 15 36.9 +1.1**
VAS01 Vassouras-RJ 29.38 107 *e*P **P** **10 15 41.2 +1.7**
MDP Montagnes des 29.73 47 LR LR 10 28 11.9
comp=Z,816nm,18.6s,baz=224,slow=37
SJMB Sao Joao De Ma 31.30 100 *e*P **P** **10 15 57.4 +1.0**
RIB01 Linhares ES 32.05 101 *e*P **P** **10 16 03.6 +0.6**
ROSB Rosrio 32.07 69 *e*P **P** **10 16 03.1 -0.1**
NAN01 Guarapari, ES 32.32 98 *e*P **P** **10 16 06.3 +0.9**
GUA01 Guaratinga, BA 32.69 96 *e*P **P** **10 16 09.7 +1.0**
CMC01 Camacan, BA 33.07 94 *e*P **P** **10 16 13.5 +1.5**
NBPN Ponto Novo - B 33.14 85 *e*P **P** **10 16 13.0 +0.4**
NBIT Itapeh - BA 33.20 93 *e*P **P** **10 16 14.4 +1.2**
GDU01 Guandu, BA 33.22 91 *e*P **P** **10 16 14.0 +0.7**
MTO3 Montecristo 33.90 332 IAmb IAmb 10 16 21.7
comp=Z,27nm,1.2s
RPN Rapa Nui 34.64 245 LR LR 10 26 35.9
comp=Z,591nm,18.8s,baz=64,slow=29
APG El Apazote 34.93 331 P **P** **10 16 28.7 +0.4**
comp=Z,8.6nm,0.9s,baz=170,slow=5.7,SNR=6.1
APG LR LR 10 29 44.0
comp=Z,284nm,21.8s,baz=102,slow=34
NBPB Pedra_Branca-C 35.22 77 *e*P **P** **10 16 30.9 +0.3**
NBMA Muriti-CE 35.41 80 *e*P **P** **10 16 32.5 +0.1**
NBLA Lagarto - SE 35.42 86 *e*P **P** **10 16 32.5 +0.1**
NBAN Anadia - AL 37.17 85 *e*P **P** **10 16 47.7 +0.4**
RCBR Riachuelo 38.58 79 LR LR 10 33 55.3
comp=Z,422nm,21.8s,baz=37,slow=38
USHA Ushuaia 38.94 175 P **P** **10 17 03.1 +1.5**
comp=Z,11nm,0.8s,baz=15,slow=6.6,SNR=2.9
USHA LR LR 10 30 38.9
comp=Z,267nm,21.5s,baz=14,slow=32
ZAIG Zacatecas 47.71 323 IAmb IAmb 10 18 15.9
comp=Z,20nm,1.5s
BRAL Brewton 48.62 345 P **P** **10 18 19.7 +0.1**
baz=163
PMSA Palmer Station 49.14 174 LR LR 10 37 18.6
comp=Z,169nm,18.5s,baz=158,slow=34
NHSC New Hope 49.24 353 P **P** **10 18 24.7 +0.3**
baz=172
GOGA Godfrey 50.02 350 P **P** **10 18 30.0 -0.3**
baz=168
LRAL Lakeview Retre 50.39 346 P **P** **10 18 32.6 -0.5**
baz=164
JSC Jenkinsville 50.54 352 IAmb IAmb 10 18 35.5
comp=Z,14nm,1.0s
833A Chaparral WMA, 50.55 331 IAmb IAmb 10 18 49.1
comp=Z,19nm,0.9s
833A Chaparral WMA, 50.55 331 P **P** **10 18 33.5 -0.9**
baz=148
HODGE Hodges 50.63 351 IAmb IAmb 10 18 49.0
comp=Z,14nm,1.2s
KMSC Kings Mountain 51.40 352 P **P** **10 18 40.9 +0.2**
baz=171
FPAL Fort Paine 51.53 348 IAmb IAmb 10 18 55.1
comp=Z,15nm,1.0s
435B Jarrell 51.84 334 P **P** **10 18 43.5 -0.5**
baz=151
Z41A Richland Creek 52.25 340 P **P** **10 18 46.8 -0.2**
baz=157
TKL Tuckaleechee C 52.27 350 LR LR 10 41 36.5
comp=Z,259nm,21.3s,baz=142,slow=37
TKL Tuckaleechee C 52.27 350 pP 10 19 00.6 0.0
JCT Junction City 52.56 332 P **P** **10 18 48.0 -1.5**
baz=148
WHTX Lake Whitney, 52.84 335 P **P** **10 18 50.1 -1.4**
baz=151
TZTN Tazewell 53.10 350 P **P** **10 18 51.7 -1.5**
baz=169
BLA Blacksburg 53.33 353 P **P** **10 18 54.8 -0.3**
baz=172
TX32 Lajitas Array 53.50 327 IAmb IAmb 10 19 11.0
comp=Z,11nm,0.9s
TXAR Lajitas Array 53.50 327 P **P** **10 18 56.4 -0.1**
comp=Z,2.8nm,0.6s,baz=154,slow=8.8,SNR=59
TXAR pP **pP** **10 19 10.3 +0.5**
comp=Z,6.0nm,0.8s,baz=148,slow=8.0,SNR=17
WVT Waverly 53.54 346 P **P** **10 18 55.7 -0.9**
baz=164
MIAR Mount Ida 53.69 340 P **P** **10 18 56.3 -1.3**
baz=157
W41B Gary Mavity, V 53.84 341 P **P** **10 18 57.8 -0.9**
baz=158
CBN Corbin Frederi 54.06 357 P **P** **10 18 59.7 -0.5**
baz=176
ABTX Abilene, Hawle 54.31 333 P **P** **10 19 00.9 -1.3**
baz=149,SNR=9.8
X37A Clayton 54.34 338 P **P** **10 19 02.4 0.0**
W39A Magazine 54.35 340 P **P** **10 19 02.9 +0.5**
W39A **pP** **10 19 16.2 +0.2**
W39A IAmb IAmb 10 19 17.2
comp=Z,18nm,1.2s
W39A Magazine 54.35 340 P **P** **10 19 01.2 -1.2**
baz=156
R50A Paris 54.92 350 IAmb IAmb 10 19 06.7
comp=Z,21nm,1.2s
U40A Yellville 55.12 341 IAmb IAmb 10 19 21.9
comp=Z,15nm,1.0s
U40A Yellville 55.12 341 P **P** **10 19 06.8 -1.2**
baz=158,SNR=6.0
WCI Wyandotte Cave 55.23 348 P **P** **10 19 07.4 -1.4**
WCI Wyandotte Cave 55.23 348 P **P** **10 19 08.0 -0.8**
baz=166
X34A Smith Ranch, M 55.28 336 P **P** **10 19 08.9 -0.3**
X34A pP **pP** **10 19 23.6 +0.7**
HHAR Hobbs 55.39 340 IAmb IAmb 10 19 30.1
comp=Z,23nm,1.4s
W35A Tecumseh 55.40 337 P **P** **10 19 10.5 +0.5**
W35A **pP** **10 19 22.9 -0.8**
MGMO Mountain Grove 55.68 342 IAmb IAmb 10 19 12.3
comp=Z,24nm,1.4s
TUL1 Leonard 55.68 338 P **P** **10 19 11.3 -0.8**
TUL1 pP **pP** **10 19 25.2 -0.5**
TUL1 Leonard 55.68 338 P **P** **10 19 11.1 -0.9**
baz=154
FNO Franklin 55.69 337 P **P** **10 19 11.7 -0.5**
FNO pP **pP** **10 19 25.4 -0.4**
MCWV Mont Chateau 55.69 354 P **P** **10 19 12.3 +0.2**
baz=173
WMOK Wichita Mounta 55.77 335 P **P** **10 19 11.9 -0.9**
baz=151
P51A Williamsport 55.90 351 IAmb IAmb 10 19 27.0
comp=Z,14nm,0.9s
P52A Corning 55.92 352 P **P** **10 19 13.2 -0.6**
baz=171
O56A Blue Knob Stat 56.19 356 P **P** **10 19 15.2 -0.5**
baz=175
P49A Miami Univ. Ec 56.21 350 P **P** **10 19 14.7 -1.1**
baz=168
CCM Cathedral Cave 56.23 344 P **P** **10 19 14.9 -1.0**
baz=160
MNTX Cornudas Mount 56.27 328 IAmb IAmb 10 19 30.8
comp=Z,10nm,1.1s
MNTX Cornudas Mount 56.27 328 P **P** **10 19 15.6 -0.8**
baz=143,SNR=9.0
O53A New Philadelph 56.42 353 P **P** **10 19 16.7 -0.5**
baz=172
Q44A Meyer Farm, Va 56.47 346 pP pP 10 19 31.1 -0.1
S39A Bolivar 56.49 342 **pP** **10 19 31.3 -0.2**
S39A IAmb IAmb 10 19 31.6
comp=Z,17nm,1.1s
SSPA Standing Stone 56.51 356 P **P** **10 19 17.3 -0.6**
baz=176
ACSO Alum Creek Sta 56.62 352 P **P** **10 19 17.2 -1.5**
baz=170,SNR=5.8
N59A State Game Lan 56.70 358 P **P** **10 19 19.7 +0.5**
baz=178
R40A Maddies Statio 56.74 343 pP 10 19 32.8 -0.4
O49A Covington 56.78 350 IAmb IAmb 10 19 19.4
comp=Z,24nm,1.2s
T35A Sooner Cattle 56.84 338 P **P** **10 19 20.2 -0.1**
T35A pP **pP** **10 19 34.1 +0.1**
MSTX Muleshoe 56.85 331 pP pP 10 19 34.0 -0.4
MSTX Muleshoe 56.85 331 P **P** **10 19 19.1 -1.5**
baz=147
O48B Farmland 56.99 350 P **P** **10 19 20.6 -0.7**
baz=167
N54A Moraine State 57.00 354 P **P** **10 19 19.6 -1.8**
baz=173
AMTX Amarillo 57.12 333 P **P** **10 19 20.8 -1.6**
baz=148
P43A Skaggs, Pawnee 57.29 346 IAmb IAmb 10 19 38.8
comp=Z,18nm,1.1s
SFIN Lafayette 57.47 348 P **P** **10 19 23.1 -1.6**
baz=165
N49A Columbus Grove 57.48 351 pP 10 19 38.0 -0.3
M54A Oil Creek Stat 57.51 355 P **P** **10 19 23.8 -1.2**
baz=174
M53A WI Miller and 57.54 354 P **P** **10 19 24.0 -1.2**
baz=172
BINY Binghamton 57.99 358 P **P** **10 19 28.4 +0.1**
baz=178
121A Cookes Peak, D 58.19 326 P **P** **10 19 29.6 -0.5**
baz=141,SNR=5.0
HRV Adam Dziewonsk 58.30 2 P **P** **10 19 31.1 +0.7**
baz=183
ANMO Albuquerque 59.40 329 P **P** **10 19 38.1 -0.4**
ANMO IAmb IAmb 10 19 53.3
comp=Z,9.0nm,0.9s
ANMO Albuquerque 59.40 329 P **P** **10 19 39.0 +0.4**
baz=143
TUC Tucson 59.67 324 P **P** **10 19 38.9 -1.4**
TUC Tucson 59.67 324 P **P** **10 19 39.6 -0.7**
baz=138
L40A Anamosa 59.99 345 IAmb IAmb 10 19 41.7
comp=Z,16nm,1.2s
T25A Trinidad 60.22 332 IAmb IAmb 10 19 59.0
comp=Z,14nm,0.9s
T25A Trinidad 60.22 332 P **P** **10 19 43.7 -0.4**
baz=146,SNR=5.9
JFWS Jewell Farm 60.57 346 P **P** **10 19 46.8 +0.7**
baz=162
214A Organ Pipe Nat 60.58 322 IAmb IAmb 10 20 02.0
comp=Z,12nm,1.0s
214A Organ Pipe Nat 60.58 322 P **P** **10 19 46.1 -0.4**
baz=136,SNR=5.6
SFX San Felipe 61.17 320 P **P** **10 19 51.3 +0.9**
SFX IAmb IAmb 10 20 07.5
comp=Z,15nm,1.1s
SDCO Great Sand Dun 61.21 332 P **P** **10 19 51.0 0.0**
baz=145,SNR=11
W18A Petrified Fore 61.21 327 P **P** **10 19 51.0 +0.1**
baz=140
BGNE Belgrade 61.42 339 P **P** **10 19 51.1 -0.9**
baz=154
X16A Lo Mia Camp, P 61.60 325 IAmb IAmb 10 20 09.1
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 61.82 331 P **P** **10 19 54.8 -0.3**
baz=144,SNR=7.3
Q24A Divide 62.05 333 P **P** **10 19 56.8 +0.2**
baz=146
Y14A Wickenburg 62.13 324 IAmb IAmb 10 20 12.3
comp=Z,9.4nm,0.9s
MVCO Mesa Verde 62.20 329 P **P** **10 19 57.7 +0.1**
baz=142
WUAZ Wupatki 62.39 326 IAmb IAmb 10 20 14.4
comp=Z,15nm,1.0s
WUAZ Wupatki 62.39 326 P **P** **10 19 59.3 +0.6**
baz=139,SNR=5.6
ISCO Idaho Springs 62.94 333 P **P** **10 20 02.1 -0.5**
baz=146
ECSD EROS Data Cent 63.02 342 P **P** **10 20 01.8 -0.9**
baz=156,SNR=8.5
IKP In-Ko-Pah, Jac 63.05 321 P **P** **10 20 02.6 -0.5**
baz=134
SWSC Sam W. Stewart 63.07 321 P **P** **10 20 02.2 -0.9**
baz=134
PV13 Radium Mtn., P 63.10 330 IAmb IAmb 10 20 18.6
comp=Z,9.9nm,1.0s
BC3 Big Chuckawall 63.35 322 P **P** **10 20 04.7 -0.5**
baz=135
SPMN Marine on St. 63.36 345 P **P** **10 20 04.1 -0.7**
baz=160
IRM Iron Mountain 63.52 322 P **P** **10 20 06.7 +0.6**
baz=135
BELC Belle Mtn. Jos 63.92 322 P **P** **10 20 09.1 +0.2**
baz=134
PFO Pinon Flats O 63.93 321 P **P** **10 20 09.5 +0.6**
PFO Pinyon Flats O 63.93 321 P **P** **10 20 09.5 +0.6**
comp=Z,4.8nm,0.9s,baz=90,slow=1.4,SNR=5.0
PFO pP **pP** **10 20 23.7 +1.1**
comp=Z,9.3nm,0.9s,baz=143,slow=5.1,SNR=7.6
PFO Pinyon Flats O 63.93 321 IAmb IAmb 10 20 24.9
comp=Z,13nm,1.0s
PFO Pinyon Flats O 63.93 321 P **P** **10 20 09.2 +0.3**
baz=134
GMRC Granite Mounta 64.27 323 P **P** **10 20 11.6 +0.4**
baz=135
KNB Kanab 64.28 326 IAmb IAmb 10 20 27.3
comp=Z,18nm,1.0s
E38A The Farm, Brul 64.36 347 IAmb IAmb 10 20 25.8
comp=Z,14nm,1.1s
O20A White River Ci 64.39 331 P **P** **10 20 12.2 +0.2**
baz=143
SRU San Rafael Swe 64.68 329 IAmb IAmb 10 20 28.9
comp=Z,14nm,1.1s
BELA Belgrano 2 64.79 171 IAmb IAmb 10 20 15.8
comp=Z,9.7nm,0.9s
Q16A Castle Valley 64.86 329 IAmb IAmb 10 20 31.3
comp=Z,11nm,1.0s
TAOE Nuku Hiva Isla 64.88 268 *e*LR LR 10 39 31.4
comp=Z,346nm,26.1s
CCUT Cedar City 64.97 326 IAmb IAmb 10 20 32.0
comp=Z,11nm,1.0s
P17A Butcher Ranch, 65.07 329 IAmb IAmb 10 20 31.5
comp=Z,13nm,0.9s
SHPR Sheep Range 65.20 324 P **P** **10 20 17.8 +0.5**
GSC Goldstone, Bar 65.30 322 P **P** **10 20 18.2 +0.4**
baz=134
EYMN Ely 65.62 347 **pP** **10 20 32.8 -0.6**
EYMN IAmb IAmb 10 20 33.5
comp=Z,20nm,1.1s
EYMN Ely 65.62 347 P **P** **10 20 19.0 -0.6**
baz=162,SNR=5.6
K22A Casper 65.67 334 P **P** **10 20 20.0 -0.3**
baz=146
EDW2 Edwards Air Fo 65.72 321 P **P** **10 20 21.0 +0.5**
baz=133
QSM Queen of Sheba 65.79 323 IAmb IAmb 10 20 37.6
comp=Z,14nm,1.2s
RSSD Black Hills 65.91 337 P **P** **10 20 21.4 -0.3**
baz=148
TPNV Topopah Spring 66.13 324 P **P** **10 20 23.7 +0.5**
baz=135,SNR=5.2
FURC Furnace Creek, 66.14 323 P **P** **10 20 23.8 +0.7**
baz=134,SNR=6.2
MPMC Manual Prospec 66.22 322 P **P** **10 20 24.4 +0.5**
baz=134
JLU Jordanelle 66.28 330 IAmb IAmb 10 20 39.8
comp=Z,14nm,1.1s
ARVC Arvin 66.39 321 P **P** **10 20 24.8 +0.1**
baz=132
ISA Isabella, Lake 66.54 321 IAmb IAmb 10 20 41.6
comp=Z,10nm,1.1s
ISA Isabella, Lake 66.54 321 P **P** **10 20 25.8 0.0**
baz=133
DUG Dugway, Tooele 66.65 328 IAmb IAmb 10 20 42.8
comp=Z,21nm,1.1s
DUG Dugway, Tooele 66.65 328 P **P** **10 20 26.7 +0.2**
baz=139,SNR=6.7
VNA3 Neumayer Olymp 66.72 162 P **P** **10 20 27.2 +0.8**
R11A Troy Canyon, C 66.75 325 P **P** **10 20 26.9 -0.4**
baz=136,SNR=5.3
GRAC Grapevine Rang 66.80 323 P **P** **10 20 28.2 +0.8**
baz=134
CWC Cottonwood Cre 66.83 322 P **P** **10 20 28.3 +0.5**
baz=133
VNA1 Neumayer--Stat 66.97 161 P **P** **10 20 29.2 +1.3**
AGMN Agassiz Nation 66.99 344 IAmb IAmb 10 20 42.6
comp=Z,14nm,0.9s
AGMN Agassiz Nation 66.99 344 P **P** **10 20 27.4 -0.9**
baz=157,SNR=5.1
VES Vestal, Richgr 67.02 321 P **P** **10 20 29.2 +0.5**
baz=132
PDAR Pinedale Array 67.09 332 P **P** **10 20 28.6 -0.7**
comp=Z,0.5nm,0.6s,baz=164,slow=6.9,SNR=5.9
PDAR pP **pP** **10 20 42.2 -1.1**
comp=Z,1.0nm,0.8s,baz=150,slow=6.8,SNR=4.9
BW06 Boulder Array 67.09 332 P **P** **10 20 29.5 +0.1**
baz=143
SMMC Simmler 67.23 320 P **P** **10 20 30.8 +0.7**
baz=132
VNA2 Neumayer--Watz 67.32 161 P **P** **10 20 30.7 +0.5**
baz=296,slow=8.2
MDND Maddock 67.64 342 P **P** **10 20 32.3 -0.1**
baz=153,SNR=8.7
HVU Hansel Valley 67.83 330 IAmb IAmb 10 20 48.8
comp=Z,11nm,1.0s
ELK Elko 68.30 327 LR LR 10 49 47.5
comp=Z,198nm,19.2s,baz=110,slow=35
NVAR Mina Array Bea 68.33 324 P **P** **10 20 38.1 +0.9**
comp=Z,1.2nm,0.8s,baz=133,slow=7.2,SNR=11
NVAR pP **pP** **10 20 51.7 +0.4**
comp=Z,2.3nm,0.8s,baz=155,slow=7.7,SNR=12
FLWY Flagg Ranch 68.64 332 IAmb IAmb 10 20 54.5
comp=Z,12nm,0.9s
ULM Lac du Bonnet 68.79 345 P **P** **10 20 38.5 -1.0**
comp=Z,5.1nm,0.7s,baz=148,slow=5.8,SNR=8.5
ULM pP **pP** **10 20 52.2 -1.3**
comp=Z,10nm,0.7s,baz=152,slow=5.2,SNR=10
ULM Lac du Bonnet 68.79 345 P **P** **10 20 38.5 -1.0**
ULM pP **pP** **10 20 52.6 -0.9**
ULM IAmb IAmb 10 20 53.5
comp=Z,17nm,0.9s
RLMT Red Lodge 68.84 334 P **P** **10 20 40.1 -0.1**
baz=144
LAO LASA Array 68.90 337 P **P** **10 20 40.4 0.0**
baz=147
SNAA Sanae 68.94 161 P **P** **10 20 41.0 +0.6**
SNAA Sanae 68.94 161 LR LR 10 48 03.4
comp=Z,123nm,21.4s,baz=353,slow=33
SNAA Sanae 68.94 161 P **P** **10 20 40.9 +0.5**
DGMT Dagmar 69.67 339 P **P** **10 20 45.5 +0.3**
baz=149
PAHR Pah Rah Range 69.81 324 IAmb IAmb 10 21 02.5
comp=Z,20nm,1.0s
HLID Hailey 69.96 330 P **P** **10 20 47.7 +0.5**
baz=139
BOZ Bozeman (W) 70.23 333 P **P** **10 20 48.7 -0.1**
baz=142
MFID Camas Ranch 70.55 329 IAmb IAmb 10 21 06.6
comp=Z,18nm,1.1s
SCHQ Schefferville 70.85 4 P **P** **10 20 51.6 -0.6**
comp=Z,5.2nm,0.8s,baz=206,slow=6.8,SNR=4.7
SCHQ pP **pP** **10 21 05.9 -0.5**
comp=Z,11nm,1.0s,baz=126,slow=3.9,SNR=5.3
EGMT Eagleton 71.37 335 P **P** **10 20 55.8 +0.2**
baz=144
LIC Lamto 71.63 78 *e*P **P** **10 20 57.0 -0.7**
comp=Z,94nm,1.0s
TIC Toumodi 71.77 77 *e*P **P** **10 20 57.8 -0.8**
DBIC Dimbokro 71.93 77 P **P** **10 20 59.1 -0.4**
comp=Z,18nm,0.9s,baz=263,slow=5.8,SNR=20
DBIC pP **pP** **10 21 13.3 -0.3**
comp=Z,31nm,0.9s,baz=258,slow=6.0,SNR=16
DBIC LR LR 10 51 13.2
comp=Z,192nm,20.0s,baz=262,slow=35
DBIC Dimbokro 71.93 77 P **P** **10 20 59.2 -0.4**
KIC Kosan Boka 71.94 78 *e*P **P** **10 20 58.9 -0.7**
comp=Z,67nm,0.8s
PPT2 Papeete2 71.99 256 *e*LR LR 10 42 46.4
comp=Z,169nm,23.8s
MSO Missoula 72.20 332 P **P** **10 21 01.0 +0.3**
baz=140
N02D Trinity Center 72.55 323 P **P** **10 21 02.2 -0.6**
baz=131
YBH Yreka Blue Hor 73.04 324 pP **pP** **10 21 19.3 -0.6**
comp=Z,4.3nm,1.0s,baz=41,slow=2.2,SNR=4.6
YBH LR LR 10 51 33.7
comp=Z,124nm,18.7s,baz=96,slow=34
I05D Terrebonne, OR 74.03 327 P **P** **10 21 11.7 +0.3**
baz=133
QSPA South Pole Qui 74.11 180 P **P** **10 21 12.6 +0.9**
G05D Wamic, OR 74.63 327 P **P** **10 21 15.7 +0.9**
baz=133
J01E Myrtle Point 74.66 324 P **P** **10 21 15.8 +0.8**
baz=130
NEW Newport 74.71 332 LR LR 10 56 40.9
comp=Z,137nm,19.6s,baz=96,slow=38
KOWA Kowa 75.39 70 LR LR 10 53 09.8
comp=Z,211nm,19.7s,baz=204,slow=35
FCC Fort Churchill 76.36 349 pP **pP** **10 21 38.0 -0.7**
FCC IAmb IAmb 10 21 39.8
comp=Z,18nm,1.4s
FRB Frobisher Bay 79.65 2 LR LR 10 57 18.5
comp=Z,70nm,20.2s,baz=199,slow=36
TORD Torodi Ar. Bea 80.15 73 P **P** **10 21 46.2 -0.1**
comp=Z,29nm,0.9s,baz=262,slow=5.0,SNR=116
TORD pP **pP** **10 22 00.4 -0.2**
comp=Z,56nm,0.8s,baz=259,slow=5.2,SNR=32
VNDA Vanda 81.35 190 P **P** **10 21 53.0 +1.3**
comp=Z,10nm,1.1s,baz=106,slow=3.8,SNR=6.2
VNDA LR LR 10 51 26.1
comp=Z,162nm,18.4s,baz=99,slow=31
VNDA Vanda 81.35 190 P **P** **10 21 51.6 0.0**
VNDA IAmb IAmb 10 21 54.7
comp=Z,34nm,1.4s
MDT Midelt 82.05 53 LR LR 10 55 26.7
comp=Z,118nm,22.0s,baz=300,slow=34
SYO Syowa Base 83.21 161 *e*P **P** **10 22 00.4 -1.0**
YKA Yellowknife Ar 84.55 342 P **P** **10 22 07.5 -0.6**
comp=Z,3.8nm,0.7s,baz=137,slow=5.1,SNR=53
YKA pP **pP** **10 22 22.1 -0.1**
comp=Z,4.5nm,0.8s,baz=137,slow=5.3,SNR=11
SFJD Kangerlussuaq 84.57 9 LR LR 11 01 10.0
comp=Z,47nm,18.9s,baz=180,slow=37
DY2G Dye2 84.81 11 *e*P **P** **10 22 09.4 -0.3**
DY2G IAmb IAmb 10 22 10.2
comp=Z,23nm,0.9s
PAB San Pablo 85.08 47 P **P** **10 22 12.6 +1.0**
ESDC Sonseca Array 85.41 47 P **P** **10 22 13.9 +0.7**
comp=Z,7.6nm,1.0s,baz=251,slow=6.0,SNR=17
ESDC pP **pP** **10 22 28.2 +0.5**
comp=Z,14nm,0.9s,baz=252,slow=5.6,SNR=20
ESDC sP **sP** **10 22 34.1 +1.0**
comp=Z,8.8nm,0.9s,baz=254,slow=5.3,SNR=7.2
ESDC Sonseca Array 85.41 47 P **P** **10 22 14.5 +1.3**
SUR Sutherland 85.42 122 LR LR 10 57 18.1
comp=Z,106nm,20.4s,baz=272,slow=33
TSUM Tsumeb 86.19 109 P **P** **10 22 17.4 -0.2**
TSUM IAmb IAmb 10 22 20.1
comp=Z,7.7nm,0.8s
WRAK Wrangell Islan 87.07 332 P **P** **10 22 21.4 +0.6**
baz=125
WRGLY Wrigley 87.86 340 P **P** **10 22 24.6 +0.1**
baz=133
ICESG Greenland Ices 88.34 12 *e*P **P** **10 22 27.5 +0.4**
ICESG IAmb IAmb 10 22 28.3
comp=Z,8.8nm,0.6s
TGTN Hyland Airport 88.44 337 P **P** **10 22 28.0 +0.6**
baz=129
P33M Teslin, Yukon 89.44 335 P **P** **10 22 32.6 +0.4**
baz=125
BORG Borgarnes 89.85 20 LR LR 10 59 20.3
comp=Z,64nm,21.4s,baz=225,slow=33
BOSA Boshof 90.20 120 LR LR 11 00 21.4
comp=Z,72nm,19.8s,baz=210,slow=34
MMPY Sheldon Lake, 90.22 337 P **P** **10 22 36.0 +0.3**
baz=126
WHY Whitehorse 90.54 334 P **P** **10 22 37.2 -0.1**
baz=123
FARO Faro, Yukon 90.80 336 P **P** **10 22 38.8 +0.4**
baz=124
MAW Mawson 90.84 165 LR LR 11 00 40.7
comp=Z,97nm,21.6s,baz=221,slow=34
M31M Drury Creek, Y 91.19 336 P **P** **10 22 40.1 -0.1**
baz=123

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SUMG	**Summit**	**91.49**	**10**	*i* P	**P**	**10 22 42.4**	**+0.6**
SUMG				IAmb	IAmb	10 22 43.3	
	comp=Z,37nm,1.1s						
SUMG	**Summit**	**91.49**	**10**	P	**P**	**10 22 42.0**	**+0.2**
LBTB	**Lobatse**	**91.62**	**116**	LR	LR	11 01 13.6	
	comp=Z,64nm,18.9s,baz=241,slow=34						
YUK6	**Outpost Mounta**	**92.15**	**334**	P	**P**	**10 22 44.7**	**-0.2**
	baz=120						
M30M	**Minto, Yukon**	**92.33**	**336**	P	**P**	**10 22 45.3**	**-0.2**
	baz=121						
YUK4	**Talbot Arm**	**92.47**	**334**	P	**P**	**10 22 45.8**	**-0.6**
	baz=120						
MAYO	**Mayo, Yukon**	**92.52**	**337**	P	**P**	**10 22 46.7**	**+0.4**
	baz=122						
EKA	**Eskdalemuir Ar**	**92.53**	**33**	LR	LR	10 59 37.6	
	comp=Z,128nm,20.8s,baz=212,slow=32						
CTG	**Chitna Glacier**	**93.44**	**333**	P	**P**	**10 22 50.8**	**+0.1**
	baz=117						
YUK3	**Moose Creek**	**93.44**	**334**	P	**P**	**10 22 50.8**	**0.0**
	baz=118						
AFI	**Afiamalu**	**93.59**	**255**	LR	LR	10 54 33.5	
	comp=Z,81nm,21.9s,baz=122,slow=29						
KEST	**Kesra**	**93.87**	**54**	LR	LR	11 07 02.4	
	comp=Z,42nm,18.1s,baz=272,slow=37						
DAWY	**Dawson**	**94.10**	**336**	P	**P**	**10 22 53.7**	**+0.1**
	baz=119						
A36M	**Sachs Harbour**	**94.26**	**346**	P	**P**	**10 22 53.5**	**-0.6**
	baz=131						
INK	**Inuvik**	**94.26**	**341**	P	**P**	**10 22 53.5**	**-0.6**
	comp=Z,5.2nm,1.1s,baz=114,slow=6.4,SNR=6.8						
INK				pP	**pP**	**10 23 08.4**	**+0.1**
	comp=Z,4.6nm,1.1s,baz=124,slow=5.6,SNR=5.3						
INK	**Inuvik**	**94.26**	**341**	IAmb	IAmb	10 23 10.2	
	comp=Z,9.1nm,1.3s						
INK	**Inuvik**	**94.26**	**341**	P	**P**	**10 22 53.6**	**-0.6**
	baz=124						
EPYK	**Eagle Plains**	**94.27**	**339**	P	**P**	**10 22 54.0**	**-0.3**
	baz=121						
M27K	**Edge Creek, AK**	**94.30**	**334**	P	**P**	**10 22 53.7**	**-0.9**
	baz=117						
I29M	**Ogilvie Camp,**	**94.32**	**338**	IAmb	IAmb	10 22 55.1	
	comp=Z,8.7nm,1.2s						
I29M	**Ogilvie Camp,**	**94.32**	**338**	P	**P**	**10 22 54.1**	**-0.4**
	baz=120						
MCARA	**McCarthy VSAT**	**94.36**	**333**	P	**P**	**10 22 54.6**	**-0.2**
	baz=116						
L27K	**Beaver Creek,**	**94.59**	**335**	P	**P**	**10 22 56.1**	**+0.2**
	baz=117						
EGAK	**Eagle**	**95.11**	**337**	P	**P**	**10 22 58.1**	**0.0**
	baz=117						
N25K	**Chitina, Valde**	**95.13**	**333**	P	**P**	**10 22 56.6**	**-1.8**
	baz=114						
KLU	**Klutina**	**95.67**	**333**	P	**P**	**10 23 00.5**	**-0.4**
	baz=113						
SCRK	**Sand Creek**	**95.86**	**335**	P	**P**	**10 23 01.5**	**-0.3**
	baz=115						
J26L	**Joseph Creek**	**95.92**	**336**	P	**P**	**10 23 01.8**	**-0.2**
	baz=115						
GLI	**Glacier Island**	**95.95**	**332**	P	**P**	**10 23 01.3**	**-0.8**
	baz=112						
PAX	**Paxson**	**96.06**	**334**	P	**P**	**10 23 02.2**	**-0.5**
	baz=114						
RPZ	**Rata Peaks**	**96.09**	**221**	LR	LR	10 57 42.3	
	comp=Z,83nm,20.2s,baz=90,slow=30						
RIDG	**Independent Ri**	**96.11**	**335**	P	**P**	**10 23 02.4**	**-0.4**
	baz=114						
LSZ	**Lusaka**	**97.02**	**108**	LR	LR	11 04 56.3	
	comp=Z,76nm,19.6s,baz=215,slow=34						
MDM	**Murphy Dome**	**97.94**	**336**	IAmb	IAmb	10 23 27.6	
	comp=Z,8.6nm,1.4s						
H24K	**Noodor Dome**	**98.12**	**336**	P	**P**	**10 23 11.3**	**-0.5**
	baz=111						
NEA2	**Nenana**	**98.15**	**335**	P	**P**	**10 23 11.6**	**-0.4**
	baz=110						
VAE	**Valguarnera**	**98.26**	**53**	LR	LR	11 06 34.2	
	comp=Z,93nm,20.7s,baz=321,slow=35						
Q19K	**Cape Douglas,**	**98.41**	**329**	P	**P**	**10 23 12.9**	**-0.4**
	baz=107						
BPAW	**Bear Paw Mtn.**	**98.77**	**334**	P	**P**	**10 23 13.6**	**-1.1**
	baz=109						
PPLA	**Purkeypile**	**98.91**	**333**	P	**P**	**10 23 14.8**	**-0.8**
	baz=108						
MLY	**Manley**	**98.97**	**335**	P	**P**	**10 23 15.3**	**-0.3**
	baz=109						
CAST	**Castle Rocks**	**99.03**	**334**	P	**Pdif**	**10 23 15.3**	**-0.6**
	baz=108						
K20K	**Telida**	**99.86**	**333**	P	**Pdif**	**10 23 18.9**	**-0.8**
	baz=106						
L19K	**White Mountain**	**99.89**	**332**	P	**Pdif**	**10 23 19.1**	**-0.7**
	baz=106						
DZM	**Mont Dzumac**	**109.81**	**239**	*e*LR	LR	11 00 19.7	
	comp=Z,148nm,27.4s						
KBZ	**Khabaz**	**120.22**	**48**	PKP	**PKiKP**	**10 28 26.8**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=333,slow=2.5,SNR=4.7						
STKA	**Stephens Creek**	**121.45**	**215**	PKP	**PKPdf**	**10 28 28.9**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=84,slow=2.0,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**122.28**	**283**	T	T	12 42 21.0	
	baz=98,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**122.30**	**283**	T	T	12 42 24.3	
	baz=98,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**122.30**	**283**	T	T	12 42 23.9	
	baz=98,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**122.32**	**282**	T	T	12 42 26.9	
	baz=99,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**122.33**	**282**	T	T	12 42 26.0	
	baz=99,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hy**	**122.34**	**282**	T	T	12 42 23.2	
	baz=99,slow=75,SNR=55						
SEY	**Seymchan**	**123.25**	**337**	PKP	**PKiKP**	**10 28 32.4**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=105,slow=2.1,SNR=14						
SEY				pPKP	**pPKPdf**	**10 28 47.0**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=84,slow=1.1,SNR=6.4						
AKTO	**Aktyubinsk**	**128.45**	**37**	PKP	**PKiKP**	**10 28 43.0**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=277,slow=4.1,SNR=7.6						
AKTO				pPKP	**pPKPdf**	**10 28 57.4**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=286,slow=1.1,SNR=7.3						
ABKAR	**Akbulak array**	**130.08**	**38**	PKPdf	**PKPdf**	**10 28 44.6**	**-0.6**
ASAR	**Alice Springs**	**132.09**	**215**	PKP	**PKPdf**	**10 28 49.9**	**0.0**
	comp=Z,2.4nm,0.5s,baz=126,slow=1.6,SNR=46						
ASAR				pPKP	**pPKPdf**	**10 29 05.4**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=117,slow=2.0,SNR=3.6						
ASAR	**Alice Springs**	**132.09**	**215**	PKPdf	**PKPdf**	**10 28 48.4**	**-1.5**
AS31	**Alice Springs**	**132.09**	**215**	PKPdf	**PKPdf**	**10 28 48.6**	**-1.3**
PMG	**Port Moresby**	**132.14**	**241**	PKP	**PKPdf**	**10 28 49.3**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=253,slow=1.4,SNR=4.3						
BVAR	**Borovoye Array**	**133.67**	**29**	PKP	**PKiKP**	**10 28 52.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=39,slow=9.7,SNR=5.9						
BVAR				pPKP	**pPKPdf**	**10 29 07.0**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=30,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**134.74**	**219**	PKP	**PKPdf**	**10 28 55.0**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=139,slow=1.9,SNR=34						
WRA				pPKP	**pPKPdf**	**10 29 10.1**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=142,slow=1.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**138.69**	**19**	PKP	**PKPdf**	**10 29 01.8**	**+0.7**
	comp=Z,17nm,1.1s,baz=304,slow=2.7,SNR=24						
ZALV				pPKP	**pPKPdf**	**10 29 16.5**	**+0.6**
	comp=Z,15nm,1.1s,baz=318,slow=2.0,SNR=7.1						
KURK	**Kurchatov**	**138.96**	**27**		**PKPdf**	**10 29 01.0**	**-0.7**
KURK	**Kurchatov**	**138.96**	**27**	⇑Pn	**PKPdf**	**10 29 01.5**	**-0.2**
	comp=Z,8.8nm,1.3s						
KURBB	**Kurchatov Arra**	**138.99**	**27**	PKP	**PKPdf**	**10 29 01.0**	**-0.8**
	comp=Z,5.2nm,1.1s,baz=324,slow=3.1,SNR=10.0						
KURBB	**Kurchatov Arra**	**138.99**	**27**	⇑Pn	**PKPdf**	**10 29 01.5**	**-0.3**
	comp=Z,10nm,1.4s,baz=300,slow=18						
KLR	**Kul'dur**	**140.87**	**333**	PKP	**PKPdf**	**10 29 04.9**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=12,slow=5.5,SNR=5.4						
KLR				pPKP	**pPKPdf**	**10 29 19.7**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=1.2,slow=4.4,SNR=4.0						
AAK	**Ala-Archa**	**142.15**	**39**	PKP	**PKPdf**	**10 29 08.3**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=173,slow=2.9,SNR=4.5						
AAK				pPKP	**pPKPdf**	**10 29 23.6**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=218,slow=2.7,SNR=4.3						
AAK	**Ala-Archa**	**142.15**	**39**	PKPdf	**PKPdf**	**10 29 05.6**	**-2.4**
MKAR	**Makanchi Array**	**143.51**	**28**	PKP	PKPbc	10 29 07.4	-0.1
	comp=Z,2.2nm,0.7s,baz=321,slow=2.6,SNR=11						
USRK	**Ussuriysk Ar.**	**144.40**	**327**	PKP	PKPbc	10 29 10.3	+0.1
	comp=Z,13nm,1.0s,baz=82,slow=1.3,SNR=19						
USRK				pPKP	pPKPdf	10 29 25.2	-1.4
	comp=Z,5.9nm,0.9s,baz=69,slow=2.3,SNR=5.6						
KSH	**Kashi**	**144.82**	**42**	PKP	**PKPdf**	**10 29 14.1**	**+1.4**
KSH				pPKP	pPKPdf	10 29 24.6	-2.9
MJAR	**Matsushiro Arr**	**144.97**	**312**	PKP	PKPbc	10 29 11.5	-0.8
	comp=Z,15nm,1.0s,baz=82,slow=1.0,SNR=16						
MJAR				pPKP	pPKPdf	10 29 26.1	-1.3
	comp=Z,6.8nm,0.9s,baz=103,slow=1.1,SNR=4.5						
BNX	**BinXian**	**145.44**	**333**	⇓PKPbc	**PKPdf**	**10 29 12.9**	**-0.5**
WMQ	**Urumqi**	**148.20**	**26**	*e*PKPbc	**PKPdf**	**10 29 18.5**	**+0.3**
WMQ				LR	LR		
	comp=Z,130nm,22.1s						
SONM	**Songino Array**	**148.30**	**360**	PKP	**PKPdf**	**10 29 18.8**	**+0.4**
	comp=Z,13nm,1.0s,baz=266,slow=1.4,SNR=50						
SONM				PKPbc	**PKPbc**	**10 29 22.2**	**+0.4**
	comp=Z,13nm,1.0s,baz=334,slow=1.8,SNR=49						
SONM				pPKPbc	**pPKPdf**	**10 29 34.6**	**+1.4**
	comp=Z,8.0nm,0.9s,baz=324,slow=1.1,SNR=9.5						
SIJI	**Sorong**	**150.01**	**238**	PKPbc	**PKPbc**	**10 29 26.9**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=88,slow=7.3,SNR=3.9						
KSRS	**Korea Array**	**151.26**	**322**	PKP	**PKPdf**	**10 29 23.4**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=17,slow=1.2,SNR=11						
KSRS				PKPbc	**PKiKP**	**10 29 29.9**	**+0.3**
	comp=Z,14nm,1.0s,baz=19,slow=1.2,SNR=33						
KSRS				pPKPbc	**pPKPbc**	**10 29 43.6**	**+0.1**
	comp=Z,9.0nm,0.9s,baz=349,slow=1.0,SNR=8.2						
JNU	**Nakatsue**	**151.90**	**312**	PKPbc	**PKPbc**	**10 29 30.1**	**-0.7**
	comp=Z,16nm,0.9s,baz=59,slow=7.5,SNR=7.6						
JNU				pPKPbc	**pPKPbc**	**10 29 44.9**	**-0.4**
	comp=Z,15nm,0.9s,baz=38,slow=6.3,SNR=5.6						
BJI	**Beijing**	**154.54**	**342**	PKPbc	**PKiKP**	**10 29 36.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**154.84**	**350**	*e*PKPbc	**PKPdf**	**10 29 29.8**	**+1.4**
GTA	**Gaotai**	**156.08**	**12**	PKP	**PKPdf**	**10 29 32.0**	**+1.8**
GOMU	**GeErMu**	**157.55**	**25**	PKP	**PKPdf**	**10 29 32.0**	**-0.5**
GOMU				AMB	AMB		
	comp=Z,70nm,5.2s						
LZH	**Lanzhou**	**159.94**	**5**	*e*PKP	**PKPdf**	**10 29 37.1**	**+2.0**
NJ2	**Nanjing**	**160.30**	**326**	*e*PKP	**PKPdf**	**10 29 35.6**	**+0.3**
XAN	**Xi'an**	**161.91**	**352**	PKP	**PKPdf**	**10 29 37.8**	**+0.7**
PZH	**PanZhiHua**	**168.83**	**21**	PKP	**PKPdf**	**10 29 43.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**172.74**	**70**	PKP	**PKPdf**	**10 29 45.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=288,slow=1.4,SNR=10						
CMAR				PKPab	**PKPab**	**10 31 11.4**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=281,slow=5.1,SNR=1.7						
CMAR				pPKPab	**pPKPab**	**10 31 24.9**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=278,slow=6.1,SNR=2.1						
CMAR	**Chiang Mai Arr**	**172.74**	**70**		**PKPdf**	**10 29 44.8**	**-0.5**

GUC 03 10:23:01.3±0.7**, 22°.89S**×**68°.17W, h136**km±4km**, ML3.7, 12C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.74**	**292**	⇑*i*P	Pn	10 23 22.8	-0.3
LVC				*i* S	Sn	10 23 39.2	-0.4
LVC	**Limon Verde**	**0.74**	**292**	*i* P	Pn	10 23 22.9	-0.2
LVC				*i* S	Sn	10 23 39.2	-0.4
PB15	**IPOC Station P**	**1.24**	**255**	⇑*i*P	Pn	10 23 27.3	0.0
PB15				*i* S	Sn	10 23 47.1	-0.1
PB15	**IPOC Station P**	**1.24**	**255**	*i* P	Pn	10 23 27.5	+0.1
PB15				*i* S	Sn	10 23 48.1	+0.9
PB15				IAML		10 23 50.5	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**1.31**	**278**	⇑*i*P	Pn	10 23 27.9	-0.1
PB06				*i* S	Sn	10 23 48.1	-0.2
PB06				IAML		10 23 48.9	
	comp=N,639nm,0.2s						
PB06	**IPOC Station P**	**1.31**	**278**	*i* P	Pn	10 23 27.9	-0.1
PB06				*i* S	Sn	10 23 48.7	+0.4
PB06				IAML		10 23 49.8	
	comp=N,599nm,0.2s						
PB09	**IPOC Station P**	**1.48**	**317**	⇑*i*P	Pn	10 23 29.9	+0.1
PB09				*i* S	Sn	10 23 51.5	0.0
PB09				IAML		10 23 53.8	
	comp=N,395nm,0.6s						
PB09	**IPOC Station P**	**1.48**	**317**	*i* P	Pn	10 23 30.2	+0.4
PB09				*i* S	Sn	10 23 51.9	+0.4
PB09				IAML		10 23 53.6	
	comp=E,420nm,0.7s						
PB04	**IPOC Station P**	**1.92**	**286**	⇑*i*P	Pn	10 23 34.3	-0.5
PB04				*i* S	Sn	10 23 59.6	-0.8
PB04				IAML		10 24 04.3	
	comp=N,596nm,0.3s						
PB04	**IPOC Station P**	**1.92**	**286**	*i* P	Pn	10 23 34.2	-0.5
PB04				*i* S	Sn	10 24 00.2	-0.2
PB04				IAML		10 24 02.6	
	comp=N,480nm,0.2s						
PB07	**IPOC Station P**	**1.97**	**306**	⇑*i*P	Pn	10 23 35.0	-0.5
PB07				*i* S	Sn	10 24 00.3	-1.3
PB07				IAML		10 24 02.7	
	comp=E,581nm,0.2s						
PB07	**IPOC Station P**	**1.97**	**306**	*i* P	Pn	10 23 35.0	-0.5
PB07				*i* S	Sn	10 24 00.6	-1.0
PB07				IAML		10 24 02.1	
	comp=N,552nm,0.2s						
PB01	**IPOC Station P**	**2.21**	**326**	⇑*i*P	Pn	10 23 37.4	-0.9
PB01				*i* S	Sn	10 24 05.4	-1.3
PB01				IAML		10 24 06.2	
	comp=E,315nm,0.3s						
PB02	**IPOC Station P**	**2.24**	**314**	⇑*i*P	Pn	10 23 37.7	-1.0
PB02				*i* S	Sn	10 24 05.7	-1.6
PB02				IAML		10 24 10.6	
	comp=E,539nm,0.1s						
PB10	**IPOC Station P**	**2.28**	**254**	⇑*i*P	Pn	10 23 38.3	-0.8
PB10				*i* S	Sn	10 24 07.0	-1.1
PB10				IAML		10 24 12.2	
	comp=E,150nm,0.3s						
PB10	**IPOC Station P**	**2.28**	**254**	*i* P	Pn	10 23 38.4	-0.7
PB10				*i* S	Sn	10 24 07.2	-0.9
PB10				IAML		10 24 10.5	
	comp=E,141nm,0.2s						
PB14	**IPOC Station P**	**2.68**	**229**	*e*P	Pn	10 23 43.6	-0.7
PB14				*i* S	Sn	10 24 15.6	-1.9
PB14				IAML		10 24 17.6	
	comp=E,173nm,0.1s						
PATCX	**Punta Patache**	**2.77**	**318**	*e*P	Pn	10 23 43.7	-1.5
PATCX				*i* S	Sn	10 24 17.4	-1.7
PATCX				IAML		10 24 23.3	
	comp=E,152nm,0.3s						
PB08	**IPOC Station P**	**2.89**	**341**	⇓*i*P	Pn	10 23 46.6	-0.5
PB08				*i* S	Sn	10 24 21.8	-0.5
PB08				IAML		10 24 24.4	
	comp=E,105nm,0.2s						
PB08	**IPOC Station P**	**2.89**	**341**	*i* P	Pn	10 23 46.9	-0.2
PB08				*i* S	Sn	10 24 23.9	+1.6
PB08				IAML		10 24 24.2	
	comp=E,85nm,0.1s						
HMBC	**Humberstone**	**3.05**	**328**	⇑*i*P	Pn	10 23 46.8	-2.2
HMBC				*i* S	Sn	10 24 23.6	-2.2
HMBC				IAML		10 24 28.5	
	comp=E,168nm,0.3s						
GO01	**Chusmiza**	**3.35**	**343**	⇑*i*P	Pn	10 23 52.5	-0.6
GO01				*i* S	Sn	10 24 32.2	-0.9
GO01				IAML		10 24 35.8	
	comp=N,161nm,0.1s						
PB11	**IPOC Station P**	**3.41**	**336**	*e*P	Pn	10 23 51.6	-2.0
PB11				*i* S	Sn	10 24 31.6	-2.5
PB11				IAML		10 24 34.9	
	comp=E,119nm,0.3s						
AC01	**Pan de Azucar**	**3.93**	**214**	⇓*i*P	Pn	10 23 58.1	-2.2
AC01				*e*S	Sn	10 24 41.4	-4.6
AC02	**Maricunga**	**4.03**	**192**	⇑*i*P	Pn	10 24 01.2	-0.7
AC02				*e*S	Sn	10 24 47.1	-2.0
AC02				IAML		10 24 55.4	
	comp=E,100nm,0.3s						
PB12	**IPOC Station P**	**4.71**	**334**	*e*P	Pn	10 24 09.6	-1.2
PB12				*e*S	Sn	10 24 58.3	-6.5

*NNC **03** 10:23:03.0±1.1, 50°.11N×79°.04E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=21.5km s-min=5.5km az=62.0, Suspected Mining explosion.*
*IDC **03** 10:23:03.3±1.1, 50°.04N×78°.77E, h0km, mb1 3.0/2, mb1mx2.9/65, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=19.2km s-min=6.2km az=66.0*
ISC 03 10:23:02.8±1.0**, 50°.06N**±0°.05×**78°.70E**±0°.10**, h0**km**, n9,** σ1§**00**/14**, 9C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.57**	**349**	Pg	**Pg**	**10 23 13.9**	**+0.1**
	2.6nm,0.3s,baz=167,slow=18,SNR=194						
KURBB				Lg	Lg	10 23 25.1	
	2.7nm,0.3s,baz=143,slow=45,SNR=8.2						
KURBB	**Kurchatov Arra**	**0.57**	**349**	⇑P	**Pb**	**10 23 14.8**	**-0.9**
	20nm,0.3s						
KURBB				⇑S	**Sb**	**10 23 24.0**	**-0.4**
	137nm,0.8s						
KURK	**Kurchatov**	**0.66**	**356**	⇑P	**Pb**	**10 23 16.0**	**-1.1**
	6.3nm,0.3s						
KURK				⇓S	**Sg**	**10 23 24.7**	**+0.8**
	10.0nm,0.4s						
MAKZ	**Makanchi**	**3.92**	**145**	⇑Pn	**Pn**	**10 24 05.4**	**+1.1**
	0.3nm,0.5s						
MAKZ				⇑Pg	**Pb**	**10 24 12.3**	**-0.5**
	4.5nm,1.1s						
MAKZ				⇓Lg	Lg	10 25 03.6	
	7.6nm,0.6s						
MK31	**Makanchi Array**	**4.05**	**142**	⇑Pn	**Pn**	**10 24 06.9**	**+0.8**
	0.1nm,0.2s,baz=323,slow=11,SNR=39						
MK31				⇑Pg	**Pb**	**10 24 14.4**	**-0.7**
	0.2nm,0.2s,baz=325,slow=13,SNR=27						
MK31				⇑Lg	Lg	10 25 08.2	
	14nm,0.7s,baz=329,slow=28,SNR=21						
MKAR	**Makanchi Array**	**4.05**	**142**	Pn	**Pn**	**10 24 07.0**	**+0.9**
	0.4nm,0.3s,baz=320,slow=10,SNR=59						
MKAR				Pg	**Pb**	**10 24 13.1**	**-2.0**
	0.5nm,0.3s,baz=323,slow=14,SNR=17						
MKAR				Sn	**Sn**	**10 24 54.2**	**0.0**
	0.3nm,0.3s,baz=322,slow=17,SNR=4.2						
MKAR				Lg	Lg	10 25 07.3	
	1.4nm,0.3s,baz=327,slow=30,SNR=19						
OTUK	**Ortayu**	**4.55**	**249**	⇓Pn	**Pn**	**10 24 13.6**	**+0.6**
	0.9nm,0.3s						
OTUK				⇑Lg	Lg	10 25 25.1	
	4.8nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.42**	**42**	*i*		10 57 53.2	
	baz=218,slow=329,SNR=3.2						
ZALV	**Zalesovo Beam**	**5.42**	**42**	Pn	**Pn**	**10 24 25.6**	**+0.7**
	0.6nm,0.3s,baz=232,slow=11,SNR=7.8						
ZALV				Lg	Lg	10 25 53.8	
	0.3nm,0.3s,baz=204,slow=24,SNR=1.9						

*TAP **03** 10:24:11.1, 23°.67N×121°.27E, h13km, ML4.0, C*
*NIED **03** 10:24:11.2, 23°.67N×121°.40E, h0km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.88; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$-0.09; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.31; $M_{\phi r}$0.42; Fault plane solution: $M_0$1.02000×10^{15} NP1:ϕ_s52.00000°, δ58.00000°, λ71.00000°. NP2:ϕ_s265.00000°, δ36.00000°, λ117.00000°.*
*JMA **03** 10:24:11.2±0.2, 23°.67N×121°.40E, h0km, M3.6*
ISC 03 10:24:11.8±0.8**, 23°.68N**±0°.01×**121°.31E**±0°.01**, h9**km±6km**, n157,** σ1§**03**/279**, 56C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.17**	**177**	⇓*i*P	**Pg**	**10 24 15.3**	**-0.1**
	baz=160						
EHY				*i* S	**Sg**	**10 24 18.0**	**+0.1**
	baz=160						
ESL	**Shilin**	**0.17**	**39**	⇑*i*P	**Pg**	**10 24 15.9**	**+0.4**
	baz=48						
ESL				*i* S	**Sg**	**10 24 18.7**	**+0.7**
	baz=48						
VWDT	**VWDT**	**0.18**	**296**	⇓*i*P	**Pg**	**10 24 14.9**	**-0.6**
	baz=308						
VWDT				*i* S	**Sg**	**10 24 17.6**	**-0.4**
	baz=308						
HGSD	**Ruisui**	**0.21**	**151**	⇑*i*P	**Pg**	**10 24 16.9**	**+0.7**
	baz=140						
HGSD				*i* S	**Sg**	**10 24 20.4**	**+1.4**
	baz=140						
TEGC	**Jichi Village**	**0.21**	**81**	⇑*i*P	**Pg**	**10 24 17.5**	**+1.4**
	baz=81						
TEGC				*e*S	**Sg**	**10 24 21.4**	**+2.4**
	baz=81						
YULB	**Yu-li**	**0.28**	**183**	⇑*i*P	**Pg**	**10 24 17.1**	**-0.4**
	baz=174						
YULB				*i* S	**Sg**	**10 24 20.7**	**-0.6**
	baz=174						
TEYL	**Yanliau Villag**	**0.32**	**54**	⇑*i*P	**Pb**	**10 24 19.5**	**-0.3**
	baz=52						
TEYL				*e*S	**Sb**	**10 24 24.9**	**-0.2**
	baz=52						
TWF1	**Yuli**	**0.32**	**183**	⇑*i*P	**Pg**	**10 24 17.9**	**-0.3**
	baz=173						
TWF1				*i* S	**Sg**	**10 24 22.0**	**-0.5**
	baz=173						
EYUL	**Yuli**	**0.33**	**179**	⇑*i*P	**Pg**	**10 24 18.1**	**-0.3**
	baz=171						
EYUL				*i* S	**Sg**	**10 24 22.4**	**-0.3**
	baz=171						
ETM	**Tongmen**	**0.33**	**30**	⇑*i*P	**Pg**	**10 24 18.4**	**0.0**
	baz=35						
ETM				S	**Sg**	**10 24 23.1**	**+0.3**
	baz=35						
SSLB	**Suanglung**	**0.35**	**289**	⇑*i*P	**Pg**	**10 24 17.9**	**-0.9**
	baz=293						
SSLB				*i* S	**Sg**	**10 24 21.9**	**-1.4**
	baz=293						
WUSB	**Renai**	**0.36**	**330**	⇓*i*P	**Pg**	**10 24 18.7**	**-0.4**
	baz=337						
WUSB				*e*S	**Sg**	**10 24 22.9**	**-0.9**
	baz=337						
ECBN	**Changbin**	**0.38**	**161**	*e*P	**Pb**	**10 24 20.7**	**-0.1**
	baz=154						
ECBN				*e*S	**Sb**	**10 24 27.4**	**+0.7**
	baz=154						
YUS	**Yu-Shan**	**0.38**	**241**	⇑*i*P	**Pg**	**10 24 18.8**	**-0.7**
	baz=238						
YUS				S	**Sg**	**10 24 23.3**	**-1.3**
	baz=238						
HWA	**Hwalien**	**0.40**	**42**	⇑P	**Pb**	**10 24 20.5**	**-0.7**
	baz=46						
HWA				*e*S	**Sb**	**10 24 26.6**	**-0.8**
	baz=46						
CHGB	**Renai**	**0.40**	**341**	⇓*i*P	**Pg**	**10 24 19.5**	**-0.3**
	baz=348						
CHGB				*e*S	**Sg**	**10 24 24.7**	**-0.4**
	baz=348						
SMLT	**Sun Moon Lake**	**0.43**	**299**	⇑*i*P	**Pg**	**10 24 19.8**	**-0.6**
	baz=303						
SMLT				S	**Sg**	**10 24 25.4**	**-0.6**
	baz=303						
WPL	**Puli Township**	**0.47**	**316**	⇑*i*P	**Pg**	**10 24 20.8**	**-0.2**
	baz=320						
WPL				*e*S	**Sg**	**10 24 26.1**	**-1.0**
	baz=320						
WHF	**Hehuan Shan**	**0.47**	**355**	⇑*i*P	**Pg**	**10 24 20.6**	**-0.5**
	baz=1.0						
WHF				*e*S	**Sg**	**10 24 27.2**	**-0.1**
	baz=1.0						
FULB	**Fuli**	**0.48**	**182**	⇑*i*P	**Pb**	**10 24 21.5**	**-0.9**
	baz=177						
FULB				*e*S	**Sb**	**10 24 28.6**	**-1.0**
	baz=177						
TYC	**Yuchr**	**0.48**	**299**	⇑*i*P	**Pg**	**10 24 20.5**	**-0.6**
	baz=303						
TYC				*e*S	**Sg**	**10 24 26.6**	**-0.8**
	baz=303						
TWD	**Chiawan**	**0.48**	**33**	⇑*i*P	**Pb**	**10 24 21.2**	**-1.3**
	baz=37						
TWD				S	**Sg**	**10 24 27.6**	**+0.2**
	baz=37						
ALS	**Alishan**	**0.49**	**251**	⇑*i*P	**Pg**	**10 24 21.0**	**-0.5**
	baz=249						
ALS				*e*S	**Sg**	**10 24 27.0**	**-1.1**
	baz=249						
DPDB	**Guoxing**	**0.50**	**315**	⇑*i*P	**Pg**	**10 24 21.5**	**-0.1**
	baz=320						
DPDB				*e*S	**Sg**	**10 24 27.4**	**-0.8**
	baz=320						
WCS	**Beigang Elemen**	**0.53**	**316**	⇑*i*P	**Pg**	**10 24 21.9**	**-0.2**
	baz=320						
WCS				*e*S	**Sg**	**10 24 27.8**	**-1.3**
	baz=320						
ETLH	**Xiulin Townshi**	**0.55**	**16**	⇑*i*P	**Pg**	**10 24 22.1**	**-0.5**
	baz=20						
ETLH				*e*S	**Sg**	**10 24 29.8**	**0.0**
	baz=20						
WJS	**Zhushan**	**0.56**	**285**	⇑*i*P	**Pg**	**10 24 22.6**	**0.0**
	baz=288						
WJS				*e*S	**Sb**	**10 24 31.6**	**-0.3**
	baz=288						
ELDTW	**Lidau**	**0.56**	**209**	⇑*i*P	**Pg**	**10 24 21.3**	**-1.4**
	baz=205						
ELDTW				*e*S	**Sg**	**10 24 28.3**	**-1.6**
	baz=205						
ETL	**Fush Village**	**0.56**	**30**	P	**Pg**	**10 24 22.5**	**-0.2**
	baz=34						
ETL				*e*S	**Sg**	**10 24 29.9**	**-0.1**
	baz=34						
NACB	**Ninganchiao**	**0.56**	**27**	⇑*i*P	**Pg**	**10 24 22.2**	**-0.5**
	baz=31						
NACB				S	**Sg**	**10 24 29.8**	**-0.2**
	baz=31						
FUSS	**Fushou**	**0.57**	**354**	⇑*i*P	**Pg**	**10 24 22.6**	**-0.4**
	baz=358						
FUSS				*e*S	**Sg**	**10 24 30.4**	**-0.2**
	baz=358						

CHKT	**Chengkung** baz=170	**0.58**	**175**	*e*P	**Pb**	**10 24 23.9**	**-0.2**
CHKT	baz=170			*e*S	**Sb**	**10 24 33.3**	**+0.9**
ECS	**Chishang** baz=184	**0.58**	**189**	*e*P	**Pg**	**10 24 22.9**	**-0.3**
ECS	baz=184			*e*S	**Sb**	**10 24 31.4**	**-1.4**
TWT	**Tachien** baz=351	**0.59**	**348**	⇑*i*P	**Pg**	**10 24 23.1**	**-0.2**
TWT	baz=351			*e*S	**Sg**	**10 24 30.9**	**-0.2**
CHN5	**Tsauling** baz=263	**0.59**	**262**	⇑P	**Pg**	**10 24 23.2**	**-0.1**
CHN5	baz=263			*e*S	**Sb**	**10 24 34.3**	**+1.4**
TDCB	**Techi** baz=350	**0.59**	**346**	⇑P	**Pg**	**10 24 23.1**	**-0.3**
TDCB	baz=350			*e*S	**Sg**	**10 24 31.1**	**0.0**
WNT	**Mingjian** baz=292	**0.61**	**289**	*e*P	**Pb**	**10 24 24.2**	**-0.5**
WNT	baz=292			*e*S	**Sb**	**10 24 33.7**	**+0.3**
WNT1	**Nantou City** baz=294	**0.62**	**292**	*e*P	**Pb**	**10 24 24.8**	**-0.2**
WNT1	baz=294			*e*S	**Sb**	**10 24 34.6**	**+0.8**
WWF	**Wufeng** baz=306	**0.67**	**303**	*e*P	**Pb**	**10 24 25.7**	**-0.1**
WHP	**Taichung City** baz=334	**0.69**	**331**	⇑P	**Pg**	**10 24 25.0**	**-0.1**
WHP	baz=334			*e*S	**Sg**	**10 24 33.8**	**-0.3**
WGK	**Gukeng** baz=272	**0.69**	**271**	⇑*e*P	**Pb**	**10 24 25.9**	**-0.1**
WGK	baz=272			*e*S	**Sb**	**10 24 36.6**	**+0.9**
EDH	**Donghe** baz=177	**0.70**	**181**	*e*P	**Pb**	**10 24 25.3**	**-0.9**
EDH	baz=177			*e*S	**Sn**	**10 24 38.1**	**-0.8**
STYH	**Taoyuan** baz=223	**0.71**	**225**	⇑*i*P	**Pg**	**10 24 24.5**	**-0.9**
STYH	baz=223			*e*S	**Sg**	**10 24 32.7**	**-1.9**
WDLH	**Douliu** baz=272	**0.71**	**271**	⇑*e*P	**Pb**	**10 24 26.2**	**-0.2**
WDLH	baz=272			*e*S	**Sb**	**10 24 37.0**	**+0.7**
STYT	**Tauyuan** baz=223	**0.72**	**225**	⇑P	**Pg**	**10 24 25.0**	**-0.8**
STYT	baz=223			*e*S	**Sg**	**10 24 35.4**	**+0.1**
WYL	**Yuanlin Townsh** baz=295	**0.73**	**293**	*e*P	**Pb**	**10 24 27.1**	**+0.4**
TPUB	**Ta-pu** baz=238	**0.73**	**239**	⇑P	**Pg**	**10 24 25.8**	**-0.1**
TPUB	baz=238			*e*S	**Sg**	**10 24 35.1**	**-0.4**
CHN4	**Tsaushan** baz=243	**0.74**	**244**	⇑P	**Pb**	**10 24 26.2**	**-0.7**
TCU	**Taichung** baz=312	**0.75**	**309**	*e*P	**Pb**	**10 24 27.4**	**+0.3**
TCU	baz=312			*e*S	**Sb**	**10 24 37.8**	**+0.4**
NNSB	**Datong** baz=8.0	**0.75**	**5**	⇑*e*P	**Pg**	**10 24 25.9**	**-0.4**
NNS	**Nan Shan** baz=8.0	**0.76**	**4**	⇑P	**Pg**	**10 24 26.2**	**-0.3**
NNS	baz=8.0			*e*S	**Sg**	**10 24 36.7**	**+0.2**
WTP	**Ta-pu** baz=235	**0.77**	**236**	⇑*e*P	**Pg**	**10 24 26.6**	**-0.2**
WTP	baz=235			*e*S	**Sg**	**10 24 36.4**	**-0.4**
CHN2	**Minshiung** baz=260	**0.78**	**260**	*e*P	**Pb**	**10 24 27.7**	**0.0**
LONT	**Longtian** baz=189	**0.79**	**192**	*e*P	**Pg**	**10 24 26.3**	**-0.6**
LONT	baz=189			*e*S	**Sb**	**10 24 37.2**	**-1.3**
WCHH	**Zhanghua** baz=303	**0.80**	**300**	⇑*e*P	**Pb**	**10 24 28.1**	**+0.1**
WCHH	baz=303			*e*S	**Sb**	**10 24 38.9**	**0.0**
TWQ1	**Liyutan** baz=326	**0.83**	**324**	*e*P	**Pb**	**10 24 28.4**	**-0.1**
TWQ1	baz=326			*e*S	**Sb**	**10 24 39.9**	**+0.1**
CHY	**Chiayi** baz=258	**0.84**	**258**	⇑*e*P	**Pb**	**10 24 28.5**	**-0.1**
CHY	baz=258			*e*S	**Sb**	**10 24 40.3**	**+0.4**
ENA	**Nanau** baz=30	**0.84**	**27**	*e*P	**Pg**	**10 24 27.7**	**-0.4**
ENA	baz=30			*e*S	**Sb**	**10 24 39.8**	**-0.4**
WTK	**Tuku** baz=272	**0.85**	**271**	⇑*e*P	**Pb**	**10 24 28.5**	**-0.2**
WTK	baz=272			*e*S	**Sb**	**10 24 40.8**	**+0.5**
TWK	**Hsinying** baz=241	**0.86**	**242**	⇑*e*P	**Pb**	**10 24 28.4**	**-0.6**
TWK	baz=241			*e*S	**Sb**	**10 24 40.6**	**-0.1**
CHN1	**Nanshi** baz=235	**0.87**	**236**	⇑*e*P	**Pb**	**10 24 28.7**	**-0.5**
CHN1	baz=235			*e*S	**Sb**	**10 24 41.6**	**+0.6**
EWUT	**Wuta** baz=31	**0.88**	**29**	⇑*e*P	**Pg**	**10 24 28.1**	**-0.6**
EWUT	baz=31			*e*S	**Sb**	**10 24 40.2**	**-0.8**
LATG	**Datong** baz=15	**0.88**	**13**	⇑*e*P	**Pg**	**10 24 28.2**	**-0.5**
LATG	baz=15			*e*S	**Sb**	**10 24 40.7**	**-0.6**
SNST	**Tainan City** baz=238	**0.88**	**239**	*e*P	**Pb**	**10 24 28.7**	**-0.5**
SNST	baz=238			*e*S	**Sb**	**10 24 41.1**	**0.0**
TWGBT	**Beinan** baz=191	**0.88**	**194**	*e*P	**Pg**	**10 24 27.7**	**-1.1**
WRL	**Guolierlin Hig** baz=286	**0.89**	**285**	⇑*e*P	**Pb**	**10 24 29.1**	**-0.3**
WRL	baz=286			*e*S	**Sb**	**10 24 41.5**	**+0.2**
NSY	**Sanyi** baz=329	**0.89**	**326**	*e*P	**Pb**	**10 24 29.9**	**+0.3**
NSY	baz=329			*e*S	**Sn**	**10 24 43.3**	**-0.4**
SGST	**Jiashian** baz=227	**0.90**	**229**	⇑*e*P	**Pg**	**10 24 28.0**	**-1.1**
SGST	baz=227			*e*S	**Sb**	**10 24 41.7**	**0.0**
WDJ	**Dajia District** baz=320	**0.91**	**317**	*e*P	**Pn**	**10 24 30.6**	**-0.2**
WDJ	baz=320			*e*S	**Sb**	**10 24 43.2**	**+1.1**
SLGT	**Liugui** baz=220	**0.92**	**222**	*e*P	**Pg**	**10 24 28.8**	**-0.6**
SLGT	baz=220			*e*S	**Sn**	**10 24 44.7**	**+0.4**
TTN	**Taitung** baz=186	**0.93**	**190**	*e*P	**Pb**	**10 24 29.6**	**-0.6**
NDT	**Datong Townshi** baz=14	**0.94**	**11**	*e*P	**Pg**	**10 24 29.6**	**-0.3**
NDT	baz=14			*e*S	**Sb**	**10 24 42.3**	**-0.7**
WTCT	**Ta-ch'eng** baz=282	**0.96**	**281**	*e*P	**Pn**	**10 24 31.4**	**-0.2**
NFF	**Wufeng Townshi** baz=352	**0.97**	**349**	⇑*e*P	**Pg**	**10 24 30.1**	**-0.3**
NFF	baz=352			*e*S	**Sb**	**10 24 43.7**	**-0.1**
NMLH	**Miaoli** baz=333	**0.98**	**331**	*e*P	**Pn**	**10 24 32.0**	**+0.1**
NMLH	baz=333			*e*S	**Sn**	**10 24 45.5**	**-0.4**
ENTT	**Nioudou** baz=16	**0.99**	**13**	⇑*e*P	**Pb**	**10 24 30.6**	**-0.6**
ENTT	baz=16			*e*S	**Sb**	**10 24 44.1**	**-0.2**
YHNB	**Yeheng** baz=6.0	**0.99**	**3**	⇑*e*P	**Pg**	**10 24 30.5**	**-0.4**
YHNB	baz=6.0			*e*S	**Sg**	**10 24 43.0**	**-0.8**
NSTT	**Nanjuang** baz=346	**0.99**	**343**	⇑*e*P	**Pb**	**10 24 31.0**	**-0.3**
NSTT	baz=346			*e*S	**Sb**	**10 24 44.0**	**-0.4**
NSK	**Sanguang** baz=5.0	**1.00**	**2**	*e*P	**Pg**	**10 24 30.6**	**-0.4**
NSK	baz=5.0			*e*S	**Sg**	**10 24 43.2**	**-0.8**
ICHU	**Yijhu** baz=252	**1.00**	**252**	⇑*e*P	**Pb**	**10 24 31.2**	**-0.2**
ICHU	baz=252			*e*S	**Sb**	**10 24 45.4**	**+0.7**
LIOB	**Emei** baz=347	**1.00**	**344**	*e*P	**Pb**	**10 24 31.3**	**-0.1**
LIOB	baz=347			*e*S	**Sb**	**10 24 45.0**	**+0.3**
WSF	**Szhu** baz=268	**1.00**	**268**	*e*P	**Pg**	**10 24 29.4**	**-1.7**
WSL	**Shuilin Townsh** baz=262	**1.01**	**261**	*e*P	**Pb**	**10 24 31.5**	**0.0**
LDUT	**Ludao** baz=169	**1.01**	**172**	*e*P	**Pg**	**10 24 30.3**	**-1.0**
LDUT	baz=169			*e*S	**Sg**	**10 24 42.0**	**-2.4**
NDS	**Dongshan** baz=23	**1.02**	**21**	*e*P	**Pg**	**10 24 31.0**	**-0.5**
NDS	baz=23			*e*S	**Sb**	**10 24 44.9**	**-0.3**
TWC	**Suao** baz=30	**1.05**	**28**	*e*P	**Pg**	**10 24 31.4**	**-0.6**
TWC	baz=30			*e*S	**Sb**	**10 24 46.0**	**0.0**
CHN3	**Shinhua** baz=235	**1.06**	**236**	*e*P	**Pn**	**10 24 32.6**	**-0.2**
CHN8	**Yiju** baz=252	**1.06**	**252**	*e*P	**Pb**	**10 24 32.2**	**-0.3**
CHN8	baz=252			*e*S	**Sn**	**10 24 47.7**	**-0.2**
NJD	**Zhudong** baz=351	**1.07**	**349**	*e*P	**Pn**	**10 24 33.4**	**+0.2**
SSHA	**Shanhua** baz=240	**1.08**	**240**	*e*P	**Pn**	**10 24 33.6**	**+0.3**
SSHA	baz=240			*e*S	**Sn**	**10 24 49.7**	**+1.3**
TWE	**Neicheng** baz=20	**1.09**	**17**	*e*P	**Pb**	**10 24 32.5**	**-0.3**
TWE	baz=20			*e*S	**Sn**	**10 24 47.7**	**-0.9**
SCST	**Cishan** baz=222	**1.09**	**224**	*e*P	**Pb**	**10 24 32.5**	**-0.4**
SCST	baz=222			*e*S	**Sn**	**10 24 50.4**	**+1.9**
SHHT	**Tainan City** baz=233	**1.10**	**234**	⇑*e*P	**Pn**	**10 24 34.0**	**+0.5**
SHHT	baz=233			*e*S	**Sn**	**10 24 51.3**	**+2.4**
FUSB	**Fushanzhiwuyua** baz=15	**1.11**	**13**	*e*P	**Pb**	**10 24 32.9**	**-0.4**
FUSB	baz=15			*e*S	**Sg**	**10 24 47.0**	**-0.5**
NWLT	**Wulai** baz=11	**1.11**	**9**	*e*P	**Pb**	**10 24 32.8**	**-0.5**
NWLT	baz=11			*e*S	**Sg**	**10 24 46.6**	**-1.0**
SSD	**Sandimen** baz=212	**1.12**	**214**	*e*P	**Pg**	**10 24 31.8**	**-1.5**
SSD	baz=212			*e*S	**Sn**	**10 24 48.9**	**-0.4**
ECL	**Taimali** baz=195	**1.12**	**197**	*e*P	**Pg**	**10 24 32.0**	**-1.4**
SCLT	**Jiali** baz=243	**1.14**	**244**	*e*P	**Pn**	**10 24 34.1**	**+0.1**
SCLT	baz=243			*e*S	**Sn**	**10 24 50.7**	**+0.8**
TSMG	**Majia** baz=211	**1.15**	**213**	*e*P	**Pg**	**10 24 32.1**	**-1.7**
TSMG	baz=211			*e*S	**Sn**	**10 24 49.8**	**-0.2**
SBCB	**Hsinchu** baz=347	**1.15**	**345**	*e*P	**Pn**	**10 24 34.7**	**+0.5**
ILA	**Ilan** baz=22	**1.15**	**20**	*e*P	**Pg**	**10 24 33.4**	**-0.6**
ILA	baz=22			*e*S	**Sn**	**10 24 50.5**	**+0.4**
HSN	**Hsinchu** baz=349	**1.16**	**344**	*e*P	**Pn**	**10 24 35.8**	**+1.5**
HSN	baz=349			*e*S	**Sn**	**10 24 53.2**	**+2.8**
TWM1	**Shoushan** baz=222	**1.18**	**224**	⇑*e*P	**Pn**	**10 24 35.6**	**+1.1**
TWM1	baz=222			*e*S	**Sn**	**10 24 57.4**	**+6.6**
SGLT	**Jiouru** baz=217	**1.21**	**219**	*e*P	**Pn**	**10 24 36.1**	**+1.1**
SGLT	baz=217			*e*S	**Sn**	**10 24 57.0**	**+5.5**
MASBT	**Mashibuluo** baz=209	**1.23**	**211**	⇑*e*P	**Pg**	**10 24 33.7**	**-1.8**
MASBT	baz=209			*e*S	**Sn**	**10 24 52.3**	**+0.3**
NTC	**Toucheng** baz=23	**1.26**	**22**	*e*P	**Pg**	**10 24 35.8**	**-0.3**
NTC	baz=23			*e*S	**Sg**	**10 24 51.5**	**-1.0**
SNJT	**Kaohsiung City** baz=223	**1.29**	**225**	*e*P	**Pg**	**10 24 37.8**	**+1.2**
NCUH	**Zhongli** baz=357	**1.29**	**355**	*e*P	**Pg**	**10 24 38.7**	**+2.1**
NCUH	baz=357			*e*S	**Sn**	**10 24 56.0**	**+2.4**
EGS	baz=28	**1.29**	**26**	*e*P	**Pn**	**10 24 35.8**	**-0.3**
NCU	**National Centr** baz=357	**1.29**	**355**	*e*P	**Pg**	**10 24 38.3**	**+1.6**
NCU	baz=357			*e*S	**Sn**	**10 24 56.2**	**+2.6**
NHDH	**Xindian Distri** baz=10.0	**1.29**	**9**	*e*P	**Pg**	**10 24 37.0**	**+0.2**
NHDH	baz=10.0			*e*S	**Sn**	**10 24 53.6**	**0.0**
TATO	**Taipei** baz=9.0	**1.30**	**7**	*e*P	**Pg**	**10 24 37.2**	**+0.3**
TATO	baz=9.0			*e*S	**Sn**	**10 24 53.8**	**-0.1**
TWA	**Mucha** baz=13	**1.32**	**11**	*e*P	**Pg**	**10 24 37.5**	**+0.3**
TWA	baz=13			*e*S	**Sn**	**10 24 54.5**	**+0.1**
NHW	**Xinwu Township** baz=352	**1.35**	**350**	*e*P	**Pg**	**10 24 38.5**	**+0.8**
TAW	**Tawu** baz=194	**1.37**	**196**	*e*P	**Pb**	**10 24 37.0**	**-0.6**
TAP1	**Taipei** baz=9.0	**1.37**	**8**	*e*P	**Pg**	**10 24 39.2**	**+1.1**
TIPB	**Shuangxi** baz=21	**1.37**	**20**	⇑*e*P	**Pg**	**10 24 37.5**	**-0.7**
TIPB	baz=21			*e*S	**Sg**	**10 24 55.4**	**-0.6**
SSPT	**Xinbi** baz=209	**1.37**	**210**	*e*P	**Pg**	**10 24 38.1**	**-0.1**
TAWH	**Dawu Township** baz=195	**1.39**	**197**	*e*P	**Pb**	**10 24 37.5**	**-0.5**
TAWH	baz=195			*e*S	**Sg**	**10 25 00.7**	**+4.2**
WSSB	**Gushan** baz=222	**1.41**	**223**	*e*P	**Pg**	**10 24 39.8**	**+0.9**
TWS1	**Kuangyinshan** baz=6.0	**1.42**	**4**	*e*P	**Pg**	**10 24 40.2**	**+1.1**
TWS1	baz=6.0			*e*S	**Sg**	**10 24 59.1**	**+1.5**
SCZT	**Fangliau** baz=205	**1.45**	**206**	*e*P	**Pg**	**10 24 39.0**	**-0.7**
SCZT	baz=205			*e*S	**Sg**	**10 25 00.2**	**+1.8**
NWF	**Wu-fen Shan** baz=19	**1.45**	**17**	*e*P	**Pg**	**10 24 39.7**	**-0.1**
NWF	baz=19			*e*S	**Sg**	**10 24 59.4**	**+0.8**
WFSB	**Wu-fen Shan** baz=19	**1.45**	**17**	*e*P	**Pg**	**10 24 39.7**	**0.0**
WFSB	baz=19			*e*S	**Sg**	**10 24 59.4**	**+0.8**
TWB1	**Santiao Chiao** baz=27	**1.46**	**25**	*e*P	**Pg**	**10 24 39.6**	**-0.3**
TWB1	baz=27			*e*S	**Sg**	**10 24 58.2**	**-0.7**
YM01	**YM01** baz=11	**1.48**	**9**	*e*P	**Pg**	**10 24 40.5**	**+0.2**
YM01	baz=11			*e*S	**Sg**	**10 24 59.9**	**+0.3**
NTST	**Danshui** baz=6.0	**1.49**	**5**	*e*P	**Pg**	**10 24 41.5**	**+1.1**
NTST	baz=6.0			*e*S	**Sg**	**10 25 01.2**	**+1.5**
SXI1	**Grass Mountain** baz=21	**1.50**	**20**	*e*P	**Pg**	**10 24 40.1**	**-0.6**
SXI1	baz=21			*e*S	**Sb**	**10 24 59.1**	**-0.1**
ANP	**Anpu** baz=9.0	**1.52**	**7**	*e*P	**Pg**	**10 24 41.3**	**+0.3**
ANP	baz=9.0			*e*S	**Sg**	**10 25 01.3**	**+0.7**
TNOU	**National Taiwa** baz=17	**1.52**	**16**	*e*P	**Pg**	**10 24 41.8**	**+0.6**
TNOU	baz=17			*e*S	**Sg**	**10 25 01.2**	**+0.3**
YM08	**YM08** baz=11	**1.53**	**9**	*e*P	**Pg**	**10 24 41.2**	**+0.1**
YM08	baz=11			*e*S	**Sg**	**10 25 01.4**	**+0.4**
SLIU	**Shizi** baz=197	**1.53**	**198**	*e*P	**Pb**	**10 24 39.7**	**-0.7**
SLIU	baz=197			*e*S	**Sg**	**10 25 05.0**	**+3.9**
WDGT	**Dungji** baz=255	**1.57**	**255**	*e*P	**Pn**	**10 24 39.5**	**-0.5**
WDGT	baz=255			*e*S	**Sn**	**10 25 00.6**	**+0.1**
WLCH	**Liuqiu** baz=212	**1.58**	**213**	*e*P	**Pg**	**10 24 42.9**	**+0.8**
TWP	**Hsiaoliuchiu** baz=212	**1.59**	**214**	*e*P	**Pg**	**10 24 42.9**	**+0.6**
TWY	**Chenhua** baz=11	**1.61**	**9**	*e*P	**Pg**	**10 24 44.1**	**+1.3**
PNG	**Penghu** baz=266	**1.62**	**266**	*e*P	**Pn**	**10 24 40.3**	**-0.3**
PNG	baz=266			*e*S	**Sn**	**10 25 01.4**	**-0.1**
LAY	**Lan-yu** baz=171	**1.65**	**172**	*e*P	**Pn**	**10 24 39.2**	**-1.8**
LYUB	**Lan-yu** baz=170	**1.69**	**171**	*e*P	**Pg**	**10 24 43.6**	**-0.6**
YOJ	**Yonaguni jima**	**1.74**	**63**	P	**Pb**	**10 24 42.7**	**-1.2**
YOJ				*e*S	**Sb**	**10 25 04.7**	**-1.1**
YOJ	**Yonaguni jima** baz=63	**1.74**	**63**	*e*P	**Pb**	**10 24 42.8**	**-1.2**
YOJ	baz=63			*e*S	**Sb**	**10 25 04.8**	**-1.1**
HEN	**Hengchun** baz=196	**1.75**	**198**	*e*P	**Pg**	**10 24 46.2**	**+0.8**
TWK1	**Hengchun** baz=194	**1.79**	**195**	*e*P	**Pg**	**10 24 45.4**	**-0.7**
TWKBT	**Hengchun** baz=194	**1.79**	**195**	*e*P	**Pg**	**10 24 45.3**	**-0.8**
VCHM	**Qimei** baz=255	**1.79**	**255**	*e*P	**Pn**	**10 24 42.5**	**-0.5**
VCHM	baz=255			*e*S	**Sn**	**10 25 04.5**	**-1.4**
IRIF	**Iriomote-Funau**	**2.31**	**73**	P	**Pn**	**10 24 49.8**	**-0.2**
IRIF				*e*S	**Sn**	**10 25 18.6**	**+0.1**
HATJ	**Hateruma jima**	**2.31**	**80**	P	**Pn**	**10 24 50.4**	**+0.3**
HATJ				*e*S	**Sn**	**10 25 18.5**	**-0.2**
PTMZ	**Houxiangcun** baz=305	**2.42**	**305**	*e*P	**Pn**	**10 24 49.3**	**-2.3**
JKRS	**Kuro-shima**	**2.53**	**77**	P	**Pn**	**10 24 53.9**	**+0.8**
JKRS				*e*S	**Sn**	**10 25 24.7**	**+0.6**
JIJ	**Ishigaki jima**	**2.68**	**75**	P	**Pn**	**10 24 55.0**	**-0.1**
JIJ				S	**Sn**	**10 25 27.6**	**-0.1**
KNM	**Kinmen** baz=285	**2.73**	**286**	*e*P	**Pn**	**10 24 57.2**	**+1.3**
MATB	**Ma-tsu** baz=334	**2.76**	**334**	*e*P	**Pn**	**10 24 55.7**	**-0.6**
KNMB	**Chin-men Tao** baz=287	**2.79**	**287**	*e*P	**Pn**	**10 24 56.1**	**-0.5**
JISG	**Ishigakijimahi**	**2.88**	**71**	P	**Pn**	**10 24 58.0**	**0.0**
JISG				S	**Sn**	**10 25 32.8**	**0.0**
JTJ	**Tarama**	**3.24**	**72**	P	**Pn**	**10 25 03.6**	**+0.7**
JTJ				*e*S	**Sn**	**10 25 42.9**	**+1.3**
ZPLA	**Ao Xicun** baz=275	**3.27**	**275**	*e*P	**Pn**	**10 25 03.1**	**-0.3**
AXDP	**Jialang** baz=292	**3.29**	**292**	*e*P	**Pn**	**10 25 03.5**	**0.0**

TAP ***03*** *10:28:39.5, 22°.32N×121°.00E, h12km, ML3.8, B*
JMA ***03*** *10:28:40.0±0.4, 22°.47N×121°.28E, h0km, M3.3*
ISC 03 10:28:39.0±1.1**, 22°.36N**±0°.02×**121°.11E**±0°.02**, h3**km±9km**,**
n89, σ**0s.91**/142**, 9C-16D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAW	**Tawu** baz=293	**0.20**	**269**	⇓*i*P	**Pg**	**10 28 43.0**	**+0.1**
TAW	baz=293			*i*S	**Sg**	**10 28 45.3**	**-0.2**
TAWH	**Dawu Township** baz=282	**0.21**	**264**	⇓*i*P	**Pg**	**10 28 43.1**	**+0.1**
TAWH	baz=282			*i*S	**Sg**	**10 28 45.5**	**-0.3**
EAST	**Anshuo** baz=296	**0.24**	**275**	⇓*i*P	**Pg**	**10 28 43.8**	**+0.1**
EAST	baz=296			*i*S	**Sg**	**10 28 46.7**	**-0.2**
ECL	**Taimali** baz=352	**0.28**	**328**	⇓*i*P	**Pg**	**10 28 45.3**	**+1.0**
ECL	baz=352			*i*S	**Sb**	**10 28 50.3**	**-1.3**
SLIU	**Shizi** baz=242	**0.32**	**243**	⇓*i*P	**Pg**	**10 28 45.0**	**-0.2**
SLIU	baz=242			*i*S	**Sg**	**10 28 48.5**	**-1.0**
TTN	**Taitung** baz=18	**0.39**	**5**	⇑*e*P	**Pb**	**10 28 49.4**	**+0.8**
TTN	baz=18			*e*S	**Sb**	**10 28 58.1**	**+3.2**
SMST	**Manzhou Townsh** baz=208	**0.42**	**217**	P	**Pg**	**10 28 47.5**	**+0.3**
SMST	baz=208			*e*S	**Sg**	**10 28 53.0**	**+0.3**
LDUT	**Ludao** baz=50	**0.45**	**47**	⇑*i*P	**Pb**	**10 28 50.5**	**+0.9**
LDUT	baz=50			*i*S	**Sb**	**10 28 58.7**	**+2.0**
SCZT	**Fangliau** baz=279	**0.46**	**271**	⇓*i*P	**Pg**	**10 28 47.5**	**-0.3**
SCZT	baz=279			*i*S	**Sg**	**10 28 52.9**	**-0.8**
TWGBT	**Beinan** baz=8.0	**0.46**	**356**	⇑*i*P	**Pb**	**10 28 49.0**	**-0.7**
TWGBT	baz=8.0			*e*S	**Sb**	**10 28 57.4**	**+0.6**
HEN	**Hengchun** baz=218	**0.49**	**224**	*e*P	**Pg**	**10 28 49.0**	**+0.4**
HEN	baz=218			*e*S	**Sg**	**10 28 55.6**	**+0.6**
TSEB	**Hengchuen, Pin** baz=198	**0.50**	**203**	⇓P	**Pb**	**10 28 49.9**	**-0.5**
TSEB	baz=198			*e*S	**Sb**	**10 28 57.6**	**-0.4**
TWKBT	**Hengchun** baz=205	**0.50**	**214**	⇑*i*P	**Pg**	**10 28 49.1**	**+0.4**
TWKBT	baz=205			*e*S	**Sg**	**10 28 55.7**	**+0.5**
TWK1	**Hengchun** baz=205	**0.50**	**214**	P	**Pg**	**10 28 49.2**	**+0.5**
TWK1	baz=205			*e*S	**Sg**	**10 28 56.4**	**+1.1**
MASBT	**Mashibuluo** baz=311	**0.51**	**299**	⇓*i*P	**Pg**	**10 28 48.8**	**0.0**
MASBT	baz=311			*e*S	**Sg**	**10 28 55.2**	**-0.2**
SSPT	**Xinbi** baz=292	**0.52**	**284**	⇓*i*P	**Pg**	**10 28 49.4**	**+0.5**
SSPT	baz=292			*e*S	**Sg**	**10 28 56.8**	**+1.1**
LAY	**Lan-yu** baz=118	**0.52**	**128**	*e*P	**Pb**	**10 28 50.3**	**-0.4**
LAY	baz=118			*e*S	**Sb**	**10 28 58.8**	**+0.1**
SNW	**Nanwan** baz=214	**0.52**	**220**	*e*P	**Pb**	**10 28 50.3**	**-0.4**
SNW	baz=214			*e*S	**Sg**	**10 28 57.1**	**+1.3**
LONT	**Longtian** baz=11	**0.54**	**2**	⇑P	**Pb**	**10 28 50.4**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LONT	baz=11			eS	Sb	10 28 58.4	-1.0
TSMG	Majia baz=319	0.55	309	⇓iP	Pg	10 28 49.6	0.0
TSMG	baz=319			eS	Sg	10 28 56.5	-0.2
LYUB	Lan-yu baz=120	0.57	129	⇓eP	Pg	10 28 49.9	+0.1
LYUB	baz=120			eS	Sg	10 28 57.7	+0.5
SSD	Sandimen baz=322	0.58	311	⇓iP	Pg	10 28 50.2	0.0
SSD	baz=322			eS	Sg	10 28 57.6	-0.2
EDH	Donghe baz=23	0.63	16	eP	Pb	10 28 52.2	-0.4
EDH	baz=23			eS	Sb	10 29 03.0	+1.1
TSPT	Pingtung City baz=307	0.65	299	eP	Pb	10 28 52.4	-0.6
TSPT	baz=307			eS	Sb	10 29 02.0	-0.4
SGLT	Jiouru baz=311	0.68	302	eP	Pb	10 28 52.8	-0.6
SGLT	baz=311			eS	Sb	10 29 02.7	-0.5
WLCH	Liuqiu baz=273	0.68	269	eP	Pn	10 28 54.5	-0.9
WLCH	baz=273			eS	Sn	10 29 08.6	+2.1
TWP	Hsiaoliuchiu baz=273	0.69	269	eP	Pn	10 28 54.7	-0.9
TWP	baz=273			eS	Sn	10 29 07.8	+1.0
ECS	Chishang baz=14	0.74	8	eP	Pg	10 28 53.7	+0.5
ECS	baz=14			eS	Sb	10 29 04.7	-0.2
SLGT	Liugui baz=334	0.76	326	iP	Pg	10 28 53.9	+0.3
SLGT	baz=334			eS	Sg	10 29 03.0	-0.5
CHKT	Chengkung baz=24	0.77	18	eP	Pg	10 28 53.8	-0.1
KAU	Kaohsiung baz=291	0.77	286	eP	Pn	10 28 56.5	-0.2
KAU	baz=291			eS	Sn	10 29 10.7	+1.9
SCST	Cishan baz=320	0.77	313	⇓P	Pb	10 28 54.9	-0.2
SCST	baz=320			eS	Sb	10 29 05.2	-0.8
TWM1	Shoushan baz=313	0.79	306	⇓eP	Pb	10 28 55.4	+0.2
TWM1	baz=313			eS	Sn	10 29 09.2	0.0
SNJT	Kaohsiung City baz=305	0.82	299	eP	Pn	10 28 56.9	-0.4
ELDTW	Lidau baz=1.0	0.83	354	eP	Pg	10 28 54.7	-0.2
ELDTW	baz=1.0			eS	Sb	10 29 07.3	-0.4
WSSB	Gushan baz=295	0.83	290	eP	Pn	10 28 57.1	-0.5
FULB	Fuli baz=17	0.85	11	eP	Pg	10 28 55.3	0.0
FULB	baz=17			eS	Sb	10 29 08.4	+0.2
STYT	Tauyuan baz=345	0.86	338	⇑P	Pb	10 28 56.3	-0.4
STYT	baz=345			eS	Sb	10 29 09.5	+0.9
STYH	Taoyuan baz=347	0.86	339	⇑P	Pb	10 28 56.3	-0.3
STYH	baz=347			eS	Sb	10 29 08.6	+0.1
SGST	Jiashian baz=333	0.87	326	⇓eP	Pg	10 28 55.6	0.0
SGST	baz=333			eS	Sg	10 29 07.7	+0.8
SHHT	Tainan City baz=319	0.96	313	eP	Pn	10 29 00.0	+0.7
SHHT	baz=319			eS	Sn	10 29 15.3	+1.7
CHN1	Nanshi baz=333	0.98	327	⇓eP	Pn	10 28 59.2	-0.4
CHN1	baz=333			eS	Sn	10 29 14.0	0.0
CHN3	Shinhua baz=322	0.99	316	eP	Pn	10 29 00.6	+0.8
CHN3	baz=322			eS	Sn	10 29 17.2	+3.0
WTP	Ta-pu baz=339	0.99	333	eP	Pb	10 28 59.2	+0.4
WTP	baz=339			eS	Sn	10 29 13.7	-0.7
EYUL	Yuli baz=16	1.00	11	eP	Pg	10 28 57.6	-0.6
TWF1	Yuli baz=15	1.00	10	eP	Pg	10 28 58.1	-0.1
SNST	Tainan City baz=333	1.02	327	eP	Pn	10 29 00.4	+0.2
SNST	baz=333			eS	Sn	10 29 15.6	+0.5
TPUB	Ta-pu baz=341	1.03	335	⇑eP	Pn	10 28 60.0	-0.4
TPUB	baz=341			eS	Sn	10 29 15.6	+0.2
TWK	Hsinying baz=334	1.07	328	eP	Pn	10 29 00.9	0.0
TWK	baz=334			eS	Sn	10 29 17.3	+1.0
CHN4	Tsaushan baz=340	1.09	334	⇑eP	Pn	10 29 01.2	0.0
CHN4	baz=340			eS	Sn	10 29 18.0	+1.2
YUS	Yu-Shan baz=358	1.13	353	eP	Pb	10 29 01.2	-0.3
EHY	Hungye baz=14	1.16	10	eP	Pb	10 29 01.6	0.0
HGSD	Ruisui baz=18	1.16	14	eP	Pn	10 29 02.6	+0.5
ALS	Alishan baz=352	1.18	346	eP	Pg	10 29 01.6	0.0
ICHU	Yijhu baz=327	1.26	322	eP	Pg	10 29 03.0	-0.1
CHN8	Yiju baz=325	1.28	320	eP	Pn	10 29 03.8	0.0
CHN5	Tsauling baz=347	1.29	342	eP	Pn	10 29 04.5	+0.4
CHN5	baz=347			eS	Sn	10 29 24.7	+2.9
CHY	Chiayi baz=336	1.30	331	eP	Pb	10 29 04.2	+0.3
CHN2	Minshiung baz=338	1.30	333	eP	Pg	10 29 03.0	-1.0
VWDT	VWDT baz=5.0	1.39	1	eP	Pn	10 29 04.5	-0.7
WDLH	Douliu baz=343	1.42	338	eP	Pb	10 29 06.1	-0.1
SSLB	Suanglung baz=358	1.43	354	eP	Pn	10 29 05.8	+0.1
ESL	Shilin baz=15	1.48	12	eP	Pn	10 29 04.7	-1.7
WTK	Tuku baz=337	1.48	333	eP	Pn	10 29 06.4	-0.1
WJS	Zhushan baz=350	1.50	346	eP	Pg	10 29 07.9	+0.2
SMLT	Sun Moon Lake baz=357	1.53	353	eP	Pg	10 29 08.2	-0.1
TYC	Yuchr baz=356	1.55	351	eP	Pg	10 29 08.8	0.0
WDGT	Dungji baz=307	1.61	304	eP	Pn	10 29 06.4	-1.9
WUSB	Renai baz=4.0	1.62	0	eP	Pb	10 29 09.2	-0.5
WRL	Guolierlin Hig baz=340	1.68	336	eP	Pn	10 29 08.8	-0.4
CHGB	Renai baz=5.0	1.69	2	eP	Pg	10 29 11.6	+0.1
WCS	Beigang Elemen baz=357	1.70	354	eP	Pb	10 29 10.7	-0.1
NACB	Ninganchiao baz=16	1.86	14	eP	Pn	10 29 11.6	-0.1
ETLH	Xiulin Townshi baz=13	1.87	10	eP	Pb	10 29 13.0	-0.8
PNG	Penghu baz=313	1.87	310	eP	Pn	10 29 09.8	-2.0
FUSS	Fushou baz=7.0	1.88	4	eP	Pg	10 29 14.7	-0.4
WHP	Taichung City baz=358	1.91	355	eP	Pb	10 29 13.9	-0.7
TWQ1	Liyutan baz=354	2.00	351	eP	Pb	10 29 15.2	-0.8
NNSB	Datong baz=9.0	2.07	7	eP	Pb	10 29 16.1	-1.2
LATG	Datong baz=12	2.20	10	eP	Pn	10 29 17.7	+1.2
NFF	Wufeng Townshi baz=3.0	2.26	0	eP	Pb	10 29 20.0	-0.5
YHNB	Yeheng baz=8.0	2.31	6	eP	Pn	10 29 19.0	+1.0
YOJ	Yonaguni jima	2.72	39	P	Pn	10 29 23.5	-0.1
YOJ				S	Sn	10 29 56.0	-1.0
HATJ	Hateruma jima	3.00	55	P	Pn	10 29 27.4	0.0
HATJ				eS	Sn	10 30 02.6	-1.2
IRIF	Iriomote-Funau	3.11	50	P	Pn	10 29 29.1	+0.3
IRIF				eS	Sn	10 30 05.0	-1.5
JKRS	Kuro-shima	3.25	54	P	Pn	10 29 31.1	+0.2
JKRS				eS	Sn	10 30 08.4	-1.7
JIJ	Ishigaki jima	3.42	54	P	Pn	10 29 33.2	0.0
JIJ				S	Sn	10 30 11.2	-3.1
JISG	Ishigakijimahi	3.68	52	P	Pn	10 29 36.8	+0.1
JISG				eS	Sn	10 30 19.4	-1.2
JTJ	Tarama	4.00	55	P	Pn	10 29 42.8	+1.6
JTJ				eS	Sn	10 30 27.8	-0.8

IDC 03 10:29:11.5±1.9, 19°.51N×145°.48E, h0km, mb3.4/6, mb1 3.8/6, mb1mx3.4/51, mbtmp3.4/6, Error ellipse: s-maj=201.4km s-min=23.0km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.7s,baz=4.2,slow=9.3,SNR=5.1	40.70	196	P	P	10 36 53.9	-0.1
ASAR	Alice Springs 0.1nm,0.4s,baz=12,slow=6.7,SNR=5.6	44.37	195	P	P	10 37 23.7	-0.2
ILAR	Eielson Array 0.2nm,0.4s,baz=268,slow=5.7,SNR=4.1	63.02	26	P	P	10 39 40.2	+0.2
YKA	Yellowknife Ar 0.2nm,0.5s,baz=289,slow=5.8,SNR=3.9	77.37	28	P	P	10 41 07.8	-0.2
NVAR	Mina Array Bea 0.3nm,0.7s,baz=250,slow=6.6,SNR=2.5	82.80	52	P	P	10 41 38.3	+0.1
PDAR	Pinedale Array 0.1nm,0.4s,baz=306,slow=3.0,SNR=3.6	87.41	45	P	P	10 42 01.1	-0.1

NAO 03 10:30:12.2±1.0, 76°.88N×18°.41E, h10km±9km, ML3.5
BER 03 10:30:14.7±2.6, 76°.91N×18°.35E, h15km±12km, ML2.9, MW3.3, ML3.5(NAO), Confirmed Earthquake
IEPN 03 10:30:15.0, 76°.88N×18°.34E, h10km
KOLA 03 10:30:15.0, 76°.78N×19°.23E, h0km, ML2.8
ISC 03 10:30:12.5±1.2, 76°.91N±0°.03×18°.58E±0°.04, h17km±10km, n37, σ1.95/63, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.70	279	Pg	Pg	10 30 25.3	-0.8
HSPB				Lg	Lg	10 30 34.3	
HSPB	Hornsund (broa	0.70	279	eP	Pg	10 30 25.7	-0.5
HSPB				eS	Sg	10 30 34.2	-1.2
HSPB				e		10 30 38.1	
HSPB	comp=Z,286nm,0.2s			IAML		10 30 39.0	
HSPB	Hornsund (broa	0.70	279	⇓iP	Pg	10 30 25.7	-0.5
HSPB				iS	Sg	10 30 34.0	-1.3
SPA0	Spitsbergen Ar baz=150,slow=18	1.36	340	Pn	Pn	10 30 36.9	+0.2
SPA0	baz=150,slow=22			Pg	Pb	10 30 37.7	+0.2
SPA0	baz=159,slow=37			Lg	Lg	10 30 55.8	
SPA0	Spitsbergen Ar baz=150,slow=18	1.36	340	Pn	Pn	10 30 36.9	+0.2
SPA0	baz=150,slow=22			Pg	Pb	10 30 37.7	+0.2
SPA0	baz=159,slow=37			Sg	Sn	10 30 55.8	+1.5
BRBA	Barentsburg A	1.50	323	Pn	Pn	10 30 40.2	+1.7
BRBA				Lg	Lg	10 30 59.2	
BRBA	Barentsburg A	1.50	323	ePg	Pn	10 30 40.2	+1.7
BRBA				e		10 30 40.4	
BRBA				eSg	Sn	10 30 58.7	+1.1
BRBB	Barentsburg B	1.52	323	Pn	Pn	10 30 40.6	+1.8
BRBB				Lg	Lg	10 30 59.8	
BRBB	Barentsburg B	1.52	323	ePg	Pn	10 30 39.3	+0.5
BRBB				eSg	Sn	10 30 59.7	+1.4
HOPEN	Hopen	1.54	102	Pn	Pn	10 30 40.2	+1.1
HOPEN				Sn	Sn	10 30 59.8	+1.1
HOPEN				Lg	Lg	10 31 02.9	
HOPEN	Hopen	1.54	102	eP	Pn	10 30 40.3	+1.1
HOPEN				ePg	Pb	10 30 44.2	+3.7
HOPEN				eS	Sn	10 30 59.6	+1.0
HOPEN				eSg	Sb	10 31 02.6	+3.0
HOPEN	comp=Z,295nm,0.5s			IAML		10 31 07.7	
HOPEN	Hopen	1.54	102	eP	Pn	10 30 40.1	+1.1
HOPEN				eS	Sn	10 30 59.7	+1.1
BJO1	Bjornoya	2.42	177	Pn	Pn	10 30 51.7	+0.5
BJO1				Pg	Pb	10 30 57.5	+2.0
BJO1				Lg	Lg	10 31 26.9	
BJO1	Bjornoya	2.42	177	eP	Pn	10 30 52.3	+1.0
BJO1				ePg	Pb	10 30 58.1	+2.5
BJO1				eSg	Sb	10 31 27.3	+2.3
BJO1	comp=Z,113nm,0.5s			IAML		10 31 33.5	
BJO1	Bjornoya	2.42	177	P	Pn	10 30 51.9	+0.7
BJO1				S	Sn	10 31 20.8	+0.4
KBS	Kingsbay	2.46	329	Pn	Pn	10 30 51.5	-0.3
KBS				Pg	Pb	10 30 57.8	+1.6
KBS				Lg	Lg	10 31 27.7	
KBS	Kingsbay	2.46	329	iP	Pn	10 30 51.2	-0.5
KBS				eS	Sb	10 31 27.6	+1.5
KBS	Kingsbay	2.46	329	⇑iP	Pn	10 30 51.5	-0.3
KBS				ePg	Pb	10 30 57.8	+1.6
KBS				eSg	Sb	10 31 27.7	+1.5
KBS	comp=Z,260nm,0.5s			IAML		10 31 38.5	
KBS	Kingsbay	2.46	329	⇑iP	Pn	10 30 51.5	-0.3
KBS				eS	Sn	10 31 20.5	-0.8
HAMF	Hammerfest	6.46	165	eP	Pn	10 31 45.6	-1.0
HAMF				eS	Sn	10 32 53.1	-6.6
ZFI	Zemlya Franca-	6.76	42	eP	Pn	10 31 50.9	+0.1
ZFI	comp=Z,23nm,2.8s			eS	Sn	10 33 02.9	-4.3
ZFI2	Zemlya Franca-	6.76	42	eP	Pn	10 31 50.8	0.0
ZFI2	comp=Z,26nm,2.4s			eS	Sn	10 33 02.8	-4.5
JETT	Jettan, Norway	7.41	175	eP	Pn	10 31 59.9	+0.1
KEV	Kevo	7.58	157	eP	Pn	10 32 04.5	+2.6
KEV				eS	Sn	10 33 21.2	-6.0
ARA0	ARCESS Array S baz=348,slow=12	7.67	161	Pn	Pn	10 32 02.1	-1.2
ARA0	baz=2.5,slow=22			Sn	Sn	10 33 22.9	-6.7
ARA0	ARCESS Array S baz=348,slow=12	7.67	161	Pn	Pn	10 32 02.1	-1.2
ARA0	baz=2.5,slow=22			Sn	Sn	10 33 22.9	-6.7
ARCES	ARCESS Array B	7.67	161	P	Pn	10 32 03.4	+0.2
ARCES				S	Sn	10 33 25.1	-4.5
KIF	Kilpisjarvi	7.97	174	Pn	Pn	10 32 07.5	+0.1
KIF				Sn	Sn	10 33 32.1	-4.9
KIF	Kilpisjarvi	7.97	174	eP	Pn	10 32 08.0	+0.7
KIF				eS	Sn	10 33 30.2	-6.8
KTK1	Kautokeino	8.05	168	eP	Pn	10 32 11.0	+2.5
PRVG	Vayda Guba	8.16	145	P	Pn	10 32 09.6	-0.3
PRVG				S	Sn	10 33 35.6	-5.9
HEF	Hetta	8.68	167	eP	Pn	10 32 17.4	+0.4
TERR	Teriberka	9.07	140	P	Pn	10 32 21.6	-0.7
TERR				S	Sn	10 33 57.1	-6.7
APA0	Apatity Array baz=348,slow=22	10.28	148	Pn	Pn	10 32 36.9	-2.0
APA0	baz=343,slow=37			Sn	Sn	10 34 26.2	-7.3
APA0	Apatity Array baz=348,slow=22	10.28	148	Pn	Pn	10 32 36.9	-2.0
APA0	baz=343,slow=37			Sn	Sn	10 34 26.2	-7.3
APA0	Apatity Array	10.28	148	P	Pn	10 32 37.9	-1.0
APA0				S	Sn	10 34 25.7	-7.8
AMDE	Amderma	13.89	98	eP	Pn	10 33 26.9	-1.3
AMDE				eS	Sn	10 35 48.7	-13

TAP 03 10:42:44.1, 23°.67N×121°.30E, h13km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EHY	Hungye baz=171	0.16	172	P	Pg	10 42 48.4	+0.4
EHY	baz=171			S	Sg	10 42 50.6	-0.1
VWDT	VWDT baz=300	0.17	301	P	Pg	10 42 48.0	0.0
VWDT	baz=300			iS	Sg	10 42 50.9	+0.1
ESL	Shilin baz=42	0.19	41	eP	Pg	10 42 48.9	+0.5
ESL	baz=42			iS	Sg	10 42 51.8	+0.4
HGSD	Ruisui baz=147	0.21	147	eP	Pb	10 42 49.9	0.0
HGSD	baz=147			eS	Sb	10 42 53.7	+0.1
YULB	Yu-li baz=186	0.28	180	P	Pg	10 42 50.0	+0.1
YULB	baz=186			S	Sg	10 42 53.7	-0.1
TWF1	Yuli baz=184	0.32	180	eP	Pg	10 42 51.0	+0.4
TWF1	baz=184			S	Sb	10 42 55.8	-0.8
EYUL	Yuli baz=182	0.32	176	P	Pg	10 42 51.2	+0.5
EYUL	baz=182			S	Sg	10 42 55.1	0.0
SSLB	Suanglung baz=298	0.34	291	P	Pg	10 42 51.0	0.0
SSLB	baz=298			eS	Sg	10 42 54.9	-0.7
ETM	Tongmen baz=30	0.34	31	iP	Pg	10 42 51.3	+0.2
ETM	baz=30			iS	Sg	10 42 56.0	+0.1
WUSB	Renai baz=332	0.36	333	P	Pg	10 42 51.7	+0.2
WUSB	baz=332			S	Sb	10 42 57.7	-0.4
YUS	Yu-Shan baz=241	0.36	241	iP	Pg	10 42 52.0	+0.3
YUS	baz=241			iS	Sb	10 42 57.9	-0.6
CHGB	Renai baz=349	0.41	344	P	Pg	10 42 52.6	+0.3
CHGB	baz=349			S	Sb	10 42 59.2	-0.3
SMLT	Sun Moon Lake baz=300	0.42	300	P	Pg	10 42 53.0	+0.4
SMLT	baz=300			eS	Sg	10 42 58.1	-0.1
TYC	Yuchr baz=307	0.47	300	P	Pg	10 42 53.6	+0.3
TYC	baz=307			S	Sg	10 42 59.4	-0.1
FULB	Fuli baz=191	0.47	180	P	Pb	10 42 54.6	+0.3
FULB	baz=191			S	Sb	10 43 01.7	+0.6
WHF	Hehuan Shan baz=356	0.47	356	P	Pg	10 42 53.9	+0.3
WHF	baz=356			S	Sg	10 43 00.6	+0.5
ALS	Alishan baz=259	0.48	251	eP	Pb	10 42 54.1	-0.4
TWD	Chiawan baz=33	0.49	34	iP	Pg	10 42 54.0	+0.2
TWD	baz=33			eS	Sg	10 43 00.9	+0.5
WCS	Beigang Elemen baz=323	0.52	318	P	Pb	10 42 54.8	-0.4
WCS	baz=323			eS	Sg	10 43 01.4	0.0
ETLH	Xiulin Townshi baz=16	0.56	17	eP	Pg	10 42 55.0	-0.2
ETLH	baz=16			S	Sg	10 43 02.9	+0.2
FUSS	Fushou baz=354	0.58	355	iP	Pg	10 42 55.7	+0.2
FUSS	baz=354			eS	Sb	10 43 04.4	0.0
STYH	Taoyuan baz=225	0.69	224	P	Pg	10 42 57.2	-0.3
TPUB	Ta-pu baz=241	0.71	239	P	Pb	10 42 58.9	+0.5
TPUB	baz=241			S	Sb	10 43 09.4	+1.2
CHN4	Tsaushan baz=245	0.72	244	iP	Pb	10 42 59.2	+0.7
WTP	Ta-pu baz=237	0.76	236	P	Pb	10 42 59.7	+0.6
NNSB	Datong baz=5.0	0.76	6	P	Pb	10 42 59.3	0.0
NNSB	baz=5.0			S	Sb	10 43 09.8	+0.2
CHN1	Nanshi baz=238	0.85	236	eS	Sn	10 43 15.0	+0.8
LATG	Datong baz=3.0	0.89	14	P	Pg	10 43 01.4	0.0
LATG	baz=3.0			eS	Sn	10 43 14.6	-0.6

TAP 03 10:42:57.7, 23°.20N×120°.52E, h11km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHN1	Nanshi baz=139	0.02	140	iP	Pg	10 43 00.2	+0.4
CHN1	baz=139			S	Sg	10 43 01.7	+0.5
CHN1	Nanshi baz=238	0.02	140	eP	Pg	10 43 00.2	+0.4
SNST	Tainan City baz=320	0.03	321	iP	Pg	10 43 00.3	+0.5
SNST	baz=320			iS	Sg	10 43 02.0	+0.7
WTP	Ta-pu baz=64	0.10	61	eP	Pb	10 43 01.3	-0.5
SGST	Jiashian baz=149	0.13	152	iP	Pb	10 43 01.7	-0.6
SGST	baz=149			S	Sg	10 43 04.7	+1.5
CHN3	Shinhua baz=229	0.18	229	eP	Pg	10 43 02.4	+0.6
STYT	Tauyuan baz=99	0.22	99	eP	Pb	10 43 03.4	-0.5
STYT	baz=99			iS	Sg	10 43 07.6	+1.9
SLGT	Liugui baz=149	0.23	150	eP	Pg	10 43 03.0	+0.4
SLGT	baz=149			eS	Sg	10 43 07.7	+1.7
STYH	Taoyuan baz=94	0.24	96	eP	Pb	10 43 03.6	-0.4
STYH	baz=94			S	Sg	10 43 08.0	+1.9
YUS	Yu-Shan baz=54	0.49	54	P	Pb	10 43 08.3	-0.4
YUS	baz=54			S	Sb	10 43 16.0	-0.1

NNC 03 10:49:12.6±0.3, 44°.09N×77°.33E, h7km±2km, mb3.8, mpv3.8, Error ellipse: s-maj=2.8km s-min=1.7km az=156.0
SOME 03 10:49:13.6, 44°.08N×77°.35E, h15km
ISC 03 10:49:13.4±0.9, 44°.09N±0°.02×77°.33E±0°.01, h16km±7km, n76, σ1.26/135, 22C-18D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKK	Chushkaly 134nm,0.1s	0.35	226	⇑eP	Pg	10 49 20.6	0.0
CHKK	3μm,0.2s			eS	Sg	10 49 25.5	+0.1
CHKK	Chushkaly baz=229	0.35	226	iP	Pg	10 49 20.6	0.0
CHKK				iS	Sg	10 49 25.7	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=229						
CHKK	Chushkaly	0.35	226	P	Pg	10 49 20.6	0.0
	134nm,0.1s						
CHKK				S	Sg	10 49 25.5	+0.1
	3µm,0.3s						
ARXS	Arharly	0.38	71	⇓eP	Pg	10 49 20.9	-0.2
	765nm,0.1s						
ARXS				eS	Sg	10 49 26.2	-0.2
	4µm,0.2s						
ARXS	Arharly	0.38	71	P	Pg	10 49 20.9	-0.2
	765nm,0.1s						
ARXS				S	Sg	10 49 26.2	-0.2
	2µm,0.1s						
KTBS	Karatobe	0.61	231	⇑eP	Pg	10 49 25.1	-0.2
	260nm,0.2s						
KTBS				eS	Sb	10 49 33.8	-0.2
	2µm,0.2s						
KTBS	Karatobe	0.61	231	P	Pg	10 49 25.1	-0.2
	260nm,0.2s						
KTBS				S	Sb	10 49 33.8	-0.2
	2µm,0.2s						
KUU	Kurty	0.74	255	⇑eP	Pg	10 49 27.2	-0.7
	38nm,0.1s						
KUU				eS	Sg	10 49 37.4	-0.4
	477nm,0.3s						
KUU	Kurty	0.74	255	⇑iP	Pg	10 49 27.2	-0.7
	baz=256						
KUU	Kurty	0.74	255	P	Pg	10 49 27.2	-0.7
	55nm,0.2s						
KUU				S	Sg	10 49 37.4	-0.4
	477nm,0.3s						
BLB	Baldybastay	0.82	89	⇓eP	Pg	10 49 28.3	-1.2
	493nm,0.1s						
BLB				eS	Sg	10 49 39.0	-1.4
	711nm,0.2s						
BLB	Baldybastay	0.82	89	P	Pg	10 49 28.3	-1.2
	499nm,0.1s						
BLB				S	Sg	10 49 39.0	-1.4
	711nm,0.2s						
KURS	Kuram	0.86	135	⇓eP	Pg	10 49 29.3	-0.7
KURS				eS	Sb	10 49 41.1	-0.2
KURS	Kuram	0.86	135	P	Pg	10 49 29.3	-0.7
	39nm,0.2s						
KURS				S	Sb	10 49 41.1	-0.2
KOTS	Kotyrbulak	0.88	191	⇓eP	Pg	10 49 29.8	-0.6
	89nm,0.1s						
KOTS				eS	Sb	10 49 41.8	-0.1
	862nm,0.1s						
KOTS	Kotyrbulak	0.88	191	P	Pg	10 49 29.8	-0.6
	89nm,0.1s						
KOTS				S	Sb	10 49 41.8	-0.1
	862nm,0.1s						
KNDC	Almaty	0.92	197	⇓P	Pg	10 49 30.5	-0.7
	173nm,0.3s						
KNDC				⇓S	Sb	10 49 43.0	0.0
	535nm,0.5s						
AAA	Alma-Ata	0.94	199	eP	Pg	10 49 31.2	-0.4
	269nm,0.3s						
AAA				eS	Sb	10 49 44.2	+0.7
	913nm,0.2s						
AAA	Alma-Ata	0.94	199	iP	Pg	10 49 31.1	-0.4
	baz=200						
AAA				iS	Sb	10 49 44.3	+0.7
	baz=200						
AAA	Alma-Ata	0.94	199	P	Pg	10 49 31.2	-0.4
	269nm,0.3s						
AAA				S	Sb	10 49 44.2	+0.7
	913nm,0.2s						
MDOK	Medeo	0.95	193	⇑eP	Pg	10 49 31.0	-0.9
	68nm,0.2s						
MDOK				eS	Sg	10 49 44.0	-0.4
	381nm,0.5s						
MDOK	Medeo	0.95	193	iP	Pg	10 49 31.0	-0.9
	baz=194						
MDOK				iS	Sb	10 49 44.2	0.0
	baz=194						
MDOK	Medeo	0.95	193	⇓P	Pg	10 49 30.7	-1.2
	34nm,0.4s						
MDOK				⇓S	Sg	10 49 44.0	-0.4
	221nm,0.4s						
MDOK	Medeo	0.95	193	Pg	Pg	10 49 31.0	-0.9
	68nm,0.2s						
MDOK				Lg	Lg	10 49 44.1	
	381nm,0.5s						
TNSS	Tian-Shan	1.09	195	⇑eP	Pg	10 49 33.7	-1.0
	64nm,0.2s						
TNSS				eS	Sb	10 49 48.6	+0.2
	114nm,0.2s						
TNSS	Tian-Shan	1.09	195	P	Pg	10 49 33.7	-1.0
	64nm,0.2s						
TNSS				S	Sb	10 49 48.6	+0.2
	114nm,0.2s						
KPKS	Kokpek	1.16	122	⇑eP	Pb	10 49 34.2	-1.0
	56nm,0.1s						
KPKS				eS	Sb	10 49 49.4	-0.8
	816nm,0.3s						
KPKS	Kokpek	1.16	122	⇑iP	Pb	10 49 34.2	-1.0
	baz=122						
KPKS				eS	Sb	10 49 49.5	-0.6
	baz=122						
MTBS	Maitube	1.17	215	eP	Pb	10 49 34.7	-0.6
	36nm,0.2s						
MTBS				eS	Sb	10 49 50.3	+0.1
	524nm,0.4s						
MTBS	Maitube	1.17	215	P	Pb	10 49 34.7	-0.6
	36nm,0.2s						
MTBS				S	Sb	10 49 50.3	+0.1
	524nm,0.4s						
IZV	Izvestkoviy	1.18	207	eP	Pb	10 49 35.2	-0.4
	22nm,0.1s						
IZV				eS	Sg	10 49 51.2	-0.5
	150nm,0.2s						
IZV	Izvestkoviy	1.18	207	P	Pb	10 49 35.2	-0.4
	22nm,0.1s						
IZV				S	Sg	10 49 51.2	-0.5
	150nm,0.2s						
ZHN	Zhinishke	1.22	139	eP	Pn	10 49 35.3	-0.7
	93nm,0.4s						
ZHN				eS	Sb	10 49 51.3	-0.6
	492nm,0.2s						
ZHN	Zhinishke	1.22	139	P	Pn	10 49 35.3	-0.7
	93nm,0.4s						
ZHN				S	Sb	10 49 51.3	-0.6
	492nm,0.2s						
KRBS	Karabastau	1.26	252	⇑eP	Pn	10 49 36.0	-0.5
	37nm,0.2s						
KRBS				eS	Sb	10 49 52.4	-0.5
	122nm,0.2s						
KRBS	Karabastau	1.26	252	P	Pn	10 49 36.0	-0.5
	37nm,0.2s						
KRBS				S	Sb	10 49 52.4	-0.5
	122nm,0.2s						
SATY	Saty	1.30	143	eP	Pn	10 49 36.8	-0.2
	52nm,0.1s						
SATY				eS	Sb	10 49 53.8	-0.2
	288nm,0.1s						
SATY	Saty	1.30	143	iP	Pn	10 49 36.8	-0.2
	baz=143						
SATY				eS	Sb	10 49 54.1	+0.2
	baz=143						
SATY	Saty	1.30	143	P	Pn	10 49 36.8	-0.2
	52nm,0.1s						
SATY				S	Sb	10 49 53.8	-0.2
	288nm,0.1s						
UZB	Uzynbulak	1.55	127	eP	Pn	10 49 40.9	+0.4
	14nm,0.1s						
UZB				eS	Sn	10 50 00.9	+0.5
	581nm,0.2s						
UZB	Uzynbulak	1.55	127	⇑iP	Pn	10 49 40.9	+0.4
	baz=127						
UZB				eS	Sb	10 50 01.1	-0.1
	baz=127						
UZB	Uzynbulak	1.55	127	P	Pn	10 49 40.9	+0.4
	14nm,0.1s						
UZB				S	Sn	10 50 00.9	+0.5
	581nm,0.2s						
TKM2	Tokmak 2	1.72	228	P	Pb	10 49 44.3	-0.6
	SNR=36						
TKM2	Tokmak 2	1.72	228	⇑P	Pn	10 49 43.7	+0.7
	25nm,0.5s						
TKM2				⇑S	Sb	10 50 07.3	+0.9
	75nm,0.5s						
PDGK	Podgornoye	1.74	115	P	Pn	10 49 44.1	+1.0
	7.9nm,0.2s						
PDGK				S	Sb	10 50 06.6	-0.2
	111nm,0.4s						
PDGK	Podgornoye	1.74	115	⇑P	Pn	10 49 43.8	+0.7
	2.9nm,0.2s						
PDGK				S	Sb	10 50 06.4	-0.4
	72nm,0.4s						
DJR	Jarkent	1.78	81	eP	Pn	10 49 44.6	+0.9
	60nm,0.1s						
DJR				eS	Sb	10 50 07.5	-0.5
	183nm,0.3s						
DJR	Jarkent	1.78	81	P	Pn	10 49 44.6	+0.9
	60nm,0.5s						
DJR				S	Sb	10 50 07.5	-0.5
	183nm,0.3s						
SHLS	Shalkode	1.81	120	eP	Pg	10 49 50.4	+2.3
	4.6nm,0.1s						
SHLS				eS	Sg	10 50 17.0	+5.4
	292nm,0.1s						
SHLS	Shalkode	1.81	120	ePg	Pg	10 49 49.5	+1.4
	baz=116						
KAPS	Kapalarasan	1.87	50	eP	Pb	10 49 46.3	-1.0
	6.1nm,0.2s						
KAPS				eS	Sb	10 50 10.3	-0.2
	128nm,0.2s						
KAPS	Kapalarasan	1.87	50	P	Pb	10 49 46.3	-1.0
	6.1nm,0.2s						
KAPS				S	Sb	10 50 10.3	-0.2
	128nm,0.2s						
ULHL	Ulahol	2.01	204	P	Pg	10 49 55.6	+3.5
	SNR=5.6						
SGDS	Sogindy	2.06	253	eP	Pb	10 49 49.7	-0.8
	9.3nm,0.5s						
SGDS				eS	Sb	10 50 16.1	+0.1
	94nm,0.3s						
SGDS	Sogindy	2.06	253	ePn	Pn	10 49 49.0	+1.5
	baz=253						
SGDS				eSn	Sb	10 50 15.7	-0.2
	baz=253						
SGDS	Sogindy	2.06	253	Pg	Pb	10 49 49.7	-0.8
	9.3nm,0.5s						
SGDS				Lg	Lg	10 50 16.0	
	94nm,0.3s						
CHMS	Chumysh	2.17	241	P	Pb	10 49 51.3	-1.1
	SNR=15						
USP	Ospenovka	2.21	249	P	Pb	10 49 52.2	-0.9
	SNR=8.6						
KTMS	Ketmen	2.28	105	eP	Pb	10 49 53.2	-1.1
	15nm,0.3s						
KTMS				eS	Sb	10 50 22.2	-0.1
	82nm,0.3s						
KTMS	Ketmen	2.28	105	Pg	Pb	10 49 53.2	-1.1
	15nm,0.3s						
KTMS				Lg	Lg	10 50 22.2	
	82nm,0.3s						
BTLS	Baital	2.53	293	eP	Pb	10 49 58.1	-0.4
	7.8nm,0.2s						
BTLS				eS	Sb	10 50 30.5	+1.1
	5.7nm,0.3s						
BTLS	Baital	2.53	293	Pg	Pb	10 49 58.1	-0.4
	7.8nm,0.2s						
BTLS				Lg	Lg	10 50 30.5	
	5.7nm,0.3s						
UCH	Uchtor	2.78	229	P	Pb	10 50 02.3	-0.7
	SNR=12						
EKS2	Erkin-Say	2.96	242	P	Pb	10 50 07.6	+1.7
	SNR=6.6						
MRKS	Merke	3.28	247	eP	Pb	10 50 12.6	+1.3
	6.3nm,0.4s						
MRKS				eS	Sg	10 50 55.3	-3.5
MRKS	Merke	3.28	247	Pg	Pb	10 50 12.6	+1.3
	6.3nm,0.4s						
MRKS				Lg	Lg	10 50 55.3	
MAKZ	Makanchi	4.25	49	⇑Pn	Pn	10 50 18.5	+1.0
	0.5nm,0.3s						
MAKZ				⇓Pg	Pb	10 50 29.7	+2.0
	0.7nm,0.3s						
MAKZ				⇑Sn	Sn	10 51 08.2	+1.4
	0.8nm,0.2s						
MAKZ				⇑Lg	Lg	10 51 25.1	
	3.0nm,0.4s						
MK31	Makanchi Array	4.41	51	⇓Pn	Pn	10 50 20.6	+0.9
	0.1nm,0.1s,baz=33,slow=11,SNR=39						
MK31				Sn	Sn	10 51 11.1	+0.3
	2.9nm,0.4s,baz=225,slow=24,SNR=7.7						
MK31				⇓Lg	Lg	10 51 28.4	
	4.8nm,0.5s,baz=218,slow=31,SNR=3.8						
KK07	Karatay Array	5.06	261	⇓Pg	Pb	10 50 45.7	+4.1
	2.9nm,0.4s,baz=74,slow=16						
KK07				⇑Lg	Lg	10 51 51.5	
	5.1nm,0.7s,baz=71,slow=31						
OTUK	Ortayu	5.41	322	⇓Pn	Pn	10 50 33.6	+0.2
	1.1nm,0.7s						
OTUK				⇓Sn	Sn	10 51 34.0	-1.4
	2.1nm,0.3s						
OTUK				⇑Lg	Lg	10 52 00.8	
	13nm,0.5s						
ZSN	Zaisan	6.25	55	ePg	Pg	10 51 07.4	-5.5
	baz=55						
ZSN				eSn	Sn	10 51 59.4	+3.4
	baz=55						
KURBB	Kurchatov Arra	6.58	7	⇓Pn	Pn	10 50 50.2	+0.7
	1.0nm,0.5s						
KURBB				⇑Sn	Sn	10 52 06.8	+2.7
	1.4nm,0.4s						
KURBB				⇓Lg	Lg	10 52 42.6	
	12nm,0.6s						
KURK	Kurchatov	6.68	7	⇑Pn	Pn	10 50 50.9	0.0
	2.3nm,1.2s						
KURK				⇑Lg	Lg	10 52 43.4	
	18nm,0.9s						
BRZS	Berezniki	6.69	333	ePn	Pn	10 50 51.9	+0.8
	baz=333						
BRVK	Borovoye	10.11	335	⇑Pn	Pn	10 51 37.0	-0.8
	0.7nm,0.6s						
BRVK				⇓Sn	Sn	10 53 24.2	-6.6
	1.4nm,0.5s						
AB31	Akbulak array	13.00	299	⇓Pn	Pn	10 52 19.9	+2.6
	1.5nm,1.1s,baz=100,slow=9.6,SNR=4.9						

*NEIC **03** 10:50:24.8±1.7, 18.°8S±0.°1×177.°78W±0.°09, h602km±8km, mb4.6/35, Error ellipse: s-maj=18.5km s-min=12.0km az=164.0*

*IDC **03** 10:50:24.0±1.0, 19.°00S×177.°69W, h600km±10km, mb3.4/12, mb1 3.7/16, mb1mx3.5/31, mbtmp4.4/16, Error ellipse: s-maj=17.7km s-min=12.0km az=136.0*

ISC 03 10:50:24.1±0.5**, 18.°89S**±0.°08×**177.°76W**±0.°07**, h600**km**, n79,** σ**1.49**/82**, mb4.6**/27**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.14	285	P	P	10 51 52.4	+1.8
	41nm,0.3s,baz=178,slow=5.0,SNR=125						
MSVF				S	S	10 53 04.1	+2.9
	baz=154,slow=21,SNR=0.7						
MSVF	Nonsavu	4.14	285	P	P	10 51 52.2	+1.6
NIUE	Niue	7.42	93	P	P	10 52 18.6	+0.6
AFI	Afiamalu	7.58	50	P	P	10 52 18.6	-1.1
	16nm,0.3s,baz=174,slow=1.1,SNR=30						
AFI				S	S	10 53 49.6	-4.5
	0.4nm,0.3s,baz=294,slow=23,SNR=1.0						
AFI	Afiamalu	7.58	50	P	P	10 52 18.8	-0.9
MARNC	Mare, Loyalty	13.59	257	P	P	10 53 17.9	-1.0
LIFNC	LIFOU	14.24	260	P	P	10 53 24.0	-1.3
PINNC	Pines Island,	14.32	252	P	P	10 53 25.1	-1.0
SANVU	Saraoutou	14.77	281	P	P	10 53 29.9	-0.3
OUENC	Ouen Island, N	14.83	254	P	P	10 53 31.1	+0.4
DZM	Mont Dzumac	15.13	255	P	P	10 53 34.4	+0.8
	0.6nm,0.3s,baz=70,slow=20,SNR=7.2						
DZM	Mont Dzumac	15.13	255	IAmb	IAmb	10 53 36.5	
	comp=Z,9.7nm,0.8s						
KOUNC	Koumac, New Ca	16.98	261	P	P	10 53 51.2	+0.7
KOUNC				IAmb	IAmb	10 53 54.8	
	comp=Z,22nm,1.1s						
OUZ	Omahuta	17.98	203	P	P	10 54 02.0	+2.7
URZ	Urewera	19.81	192	P	P	10 54 13.8	-2.1
	comp=Z,2.1nm,0.3s,baz=51,slow=1.4,SNR=14						
URZ				S	S	10 57 16.1	-7.3
	comp=Z,0.2nm,0.3s,baz=157,slow=18,SNR=1.6						
URZ	Urewera	19.81	192	P	P	10 54 14.3	-1.7
URZ				IAmb	IAmb	10 54 15.4	
	comp=Z,12nm,0.5s						
QRZ	Quartz Range	23.40	199	P	P	10 54 48.0	+0.1
THZ	Tophouse	24.15	197	P	P	10 54 54.8	+0.2
THZ				IAmb	IAmb	10 55 04.0	
	comp=Z,13nm,1.0s						
RPZ	Rata Peaks	26.48	198	P	P	10 55 14.9	-0.2
	comp=Z,4.5nm,0.5s,baz=23,slow=1.7,SNR=8.1						
RPZ	Rata Peaks	26.48	198	IAmb	IAmb	10 55 37.7	
	comp=Z,10nm,1.1s						
FOZ	Fox Glacier	26.70	200	P	P	10 55 17.2	+0.1
DCZ	Deep Cove	29.31	202	P	P	10 55 40.9	+1.3
ARMA	Armidale	30.00	242	P	P	10 55 46.5	+0.6
ARMA				IAmb	IAmb	10 55 50.3	
	comp=Z,20nm,1.4s						
CAN	Canberra	33.61	234	P	P	10 56 16.9	+0.5
CAN				IAmb	IAmb	10 56 18.1	
	comp=Z,26nm,1.1s						
CTA	Charters Tower	33.91	262	P	P	10 56 19.1	0.0
	comp=Z,10nm,0.7s,baz=90,slow=8.9,SNR=11						
PMG	Port Moresby	35.23	281	P	P	10 56 28.6	-1.6
PMG				IAmb	IAmb	10 56 31.8	
	comp=Z,20nm,0.8s						
TOO	Toolangi	37.04	232	P	P	10 56 45.1	+0.4
COEN	Coen	37.73	271	P	P	10 56 50.9	+0.3
COEN				IAmb	IAmb	10 56 52.0	
	comp=Z,23nm,0.9s						
TAU	Tasmania Unive	37.94	223	P	P	10 56 51.8	0.0
TAU				IAmb	IAmb	10 57 15.2	
	comp=Z,31nm,1.3s						
STKA	Stephens Creek	38.71	242	P	P	10 56 59.0	+0.7
	comp=Z,6.6nm,0.4s,baz=88,slow=10,SNR=32						
STKA	Stephens Creek	38.71	242	P	P	10 56 59.0	+0.7
BBOO	Buckleboo	43.48	242	P	P	10 57 35.2	-0.7
BBOO				IAmb	IAmb	10 57 36.8	
	comp=Z,24nm,0.7s						
WR0	Warramunga Arr	44.88	260	P	P	10 57 46.0	-0.8
WR0				IAmb	IAmb	10 57 47.8	
	comp=Z,13nm,1.2s						
WB0	Warramunga Arr	45.04	261	P	P	10 57 47.6	-0.5
WB2	Warramunga Arr	45.06	260	P	P	10 57 47.9	-0.2
WB2				IAmb	IAmb	10 57 48.4	
	comp=Z,33nm,1.2s						
WRAB	Tennant Creek	45.06	260	P	P	10 57 48.0	-0.1
WRAB				IAmb	IAmb	10 57 48.3	
	comp=Z,11nm,0.5s						
WRA	Warramunga Arr	45.07	260	P	P	10 57 47.6	-0.6
	comp=Z,8.6nm,0.4s,baz=97,slow=7.6,SNR=179						
WRA				PcP	PcP	10 59 15.6	-0.4
	comp=Z,1.1nm,0.4s,baz=89,slow=3.6,SNR=5.7						
WRA				ScP	ScP	11 02 13.3	+1.3
	comp=Z,0.4nm,0.8s,baz=87,slow=6.0,SNR=3.1						
WRA				S	S	11 03 40.4	-4.5
	comp=Z,2.4nm,1.0s,baz=95,slow=13,SNR=9.1						
WRA	Warramunga Arr	45.07	260	P	P	10 57 47.5	-0.8
AS31	Alice Springs	45.12	255	P	P	10 57 48.7	0.0
ASAR	Alice Springs	45.13	255	P	P	10 57 48.6	-0.1
	comp=Z,25nm,0.7s,baz=89,slow=7.8,SNR=364						
ASAR				PcP	PcP	10 59 16.0	-0.1
	comp=Z,3.2nm,0.7s,baz=102,slow=3.9,SNR=8.6						
ASAR				ScP	ScP	11 02 13.7	+1.4
	comp=Z,0.5nm,0.5s,baz=104,slow=4.6,SNR=5.0						
ASAR				S	S	11 03 43.3	-2.4
	comp=Z,4.4nm,0.7s,baz=91,slow=16,SNR=35						
ASAR	Alice Springs	45.13	255	P	P	10 57 48.9	+0.2
FORT	Forrest	50.15	245	P	P	10 58 25.2	-0.7
KNRA	Kununurra	51.01	265	P	P	10 58 31.7	-0.6
KNRA				IAmb	IAmb	10 58 32.8	
	comp=Z,24nm,0.7s						
FITZ	Fitzroy Crossi	53.48	261	P	P	10 58 50.4	+0.4
PSA00	Pilbara Seismi	58.26	256	P	P	10 59 22.4	-0.5
PSA00	Pilbara Seismi	58.26	256	IAmb	IAmb	10 59 23.2	
	comp=Z,14nm,1.0s						
SBA	Scott Base	59.49	184	P	P	10 59 33.1	+3.1
SBA				IAmb	IAmb	11 00 01.7	
	comp=Z,32nm,1.5s						
JAGI	Jajag, Banyuwa	66.63	269	P	P	11 00 15.8	-1.1
JAGI				IAmb	IAmb	11 00 16.3	
	comp=Z,24nm,0.8s						
MJAR	Matsushiro Arr	69.06	323	P	P	11 00 30.5	-0.5
	comp=Z,2.3nm,0.5s,baz=165,slow=5.6,SNR=6.2						
UGM	Wanagama	70.23	268	P	P	11 00 38.5	0.0
JHS	Saijyo	71.03	319	P	P	11 00 43.3	+0.5
JHS				IAmb	IAmb	11 00 55.2	
	comp=Z,39nm,1.5s						
QSPA	South Pole Qui	71.17	180	P	P	11 00 44.4	+1.1
NVAR	Mina Array Bea	79.70	43	P	P	11 01 32.4	+1.4
	comp=Z,0.2nm,0.6s,baz=224,slow=7.5,SNR=2.2						
TXAR	Lajitas Array	86.00	57	P	P	11 02 04.4	+1.9
	comp=Z,0.7nm,0.7s,baz=218,slow=6.4,SNR=12						
ILAR	Eielson Array	86.70	13	P	P	11 02 04.1	-0.7
	comp=Z,0.5nm,0.5s,baz=238,slow=5.5,SNR=4.3						
XAN	Xi'an	87.34	307	P	P	11 01 59.7	-8.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PDAR	Pinedale Array	87.64	43	P	P	11 02 10.1	0.0
	comp=Z,0.2nm,0.7s,baz=246,slow=3.1,SNR=2.0						
VNA3	Neumayer Olymp	89.73	176	P	P	11 02 19.0	-0.1
CMAR	Chiang Mai Arr	89.79	289	P	P	11 02 21.9	+1.6
	comp=Z,2.0nm,0.7s,baz=112,slow=2.9,SNR=14						
CMAR	Chiang Mai Arr	89.79	289	P	P	11 02 21.3	+1.0
VNA2	Neumayer--Watz	90.17	177	P	P	11 02 21.3	+0.2
	baz=198,slow=4.7						
INK	Inuvik	92.67	15	P	P	11 02 31.5	-0.8
	comp=Z,0.7nm,0.8s,baz=241,slow=2.6,SNR=3.6						
INK	Inuvik	92.67	15	IAmb	IAmb	11 02 32.2	
	comp=Z,5.1nm,1.5s						
MKAR	Makanchi Array	110.25	314	PKiKP	PKiKP	11 07 47.5	-1.3
	comp=Z,0.5nm,0.5s,baz=175,slow=1.0,SNR=14						
ARCES	ARCESS Array B	127.38	350	PKP	PKPdf	11 08 20.7	-0.2
	comp=Z,5.4nm,1.0s,baz=316,slow=1.4,SNR=12						
FINES	FINESS Array B	134.29	344	PKP	PKPdf	11 08 33.8	-0.3
	comp=Z,1.4nm,0.8s,baz=336,slow=2.3,SNR=4.5						
AKASG	Malin Array Be	141.71	332	PKhKP	PKPpre	11 08 43.0	
	comp=Z,0.9nm,0.4s,baz=37,slow=4.3,SNR=6.4						
BRTR	Keskin Array B	145.90	314	PKPbc	PKPbc	11 08 57.6	-0.3
	comp=Z,1.9nm,0.5s,baz=98,slow=5.2,SNR=4.9						
CLL	Collm	146.55	348	i PKPbc	PKPbc	11 08 59.1	+0.1
	comp=Z,8.0nm,0.5s						
VYHS	Vyhne	147.55	339	ePKP	PKPbc	11 09 02.3	+0.5
GERES	GERESS Array B	148.71	345	PKPbc	PKPbc	11 09 04.5	-0.3
	comp=Z,0.6nm,0.5s,baz=277,slow=4.1,SNR=5.8						
CONA	Conrad Observa	148.98	342	eP	PKPbc	11 09 06.0	+0.5
	comp=Z,2.3nm,0.5s						
SOKA	Soboth	150.35	342	eP	PKPbc	11 09 08.2	-0.5
	comp=Z,0.8nm,0.2s						
KBA	Koelnbreinsper	150.44	345	eP	PKPbc	11 09 08.8	-0.2
	comp=Z,3.5nm,0.6s						
OBKA	Obir	150.64	343	eP	PKiKP	11 09 10.5	+0.7
	comp=Z,2.7nm,0.6s						
WTTA	Wattenberg	150.67	347	eP	PKPbc	11 09 09.6	0.0
	comp=Z,7.4nm,0.4s						
MYKA	Terra Mystica	150.78	344	eP	PKPbc	11 09 09.0	-0.7
	comp=Z,3.4nm,0.4s						
ABTA	Abfaltersbach	150.96	345	eP	PKPbc	11 09 09.5	-0.6
	comp=Z,7.8nm,0.5s						
FETA	Feichten	151.09	348	eP	PKPbc	11 09 10.6	+0.1
	comp=Z,1.7nm,0.5s						

*IDC **03** 11:01:20.6±2.4, 38.°26N×142.°43E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.1/53, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=47.5km s-min=35.7km az=45.0*

*JMA **03** 11:01:29.1±0.1, 37.°97N×141.°87E, h44km±1km, M3.6*

ISC 03 11:01:27.9±2.1**, 37.°97N**±0.°04×**141.°99E**±0.°09**, h32**km±7km**, n26,** σ**1.15**/33**, mb3.4**/3**, 4C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.53	310	P	Pn	11 01 39.7	+0.4
JIKH				S	Sb	11 01 46.8	+0.2
JIO	Ouri	0.70	314	⇑P	Pn	11 01 41.8	+0.3
JIO				S	Sb	11 01 50.5	-0.6
JMST	Minamisoumatoc	0.90	255	⇓P	Pn	11 01 44.2	-0.1
JMST				S	Sn	11 01 54.5	-1.7
JKMT	Kesennumamotoy	0.93	335	⇑P	Pn	11 01 45.1	+0.3
JKMT				S	Sn	11 01 56.6	-0.4
JMM	Marumori	0.95	264	⇓P	Pn	11 01 44.9	-0.1
JMM				S	Sn	11 01 55.6	-1.8
JFK	Kawauchi	1.07	236	⇓P	Pn	11 01 46.5	-0.1
JFK				eS	Sn	11 01 59.0	-1.4
JOU	Okura	1.11	291	⇓P	Pn	11 01 47.7	+0.4
JOU				eS	Sn	11 02 01.3	-0.2
JMK	Ichinoseki	1.15	329	⇑P	Pn	11 01 48.3	+0.5
JMK				eS	Sn	11 02 02.3	-0.1
JFT	Otama	1.38	252	⇓P	Pn	11 01 51.7	+0.7
JFT				S	Sn	11 02 09.0	+0.9
JYS	Shirataka	1.54	280	eS	Sn	11 02 13.0	+1.1
JYK	Kaneyama	1.59	307	P	Pn	11 01 54.7	+0.9
JYK				eS	Sn	11 02 13.6	+0.3
JOM	Ohasama	1.60	340	⇑P	Pn	11 01 55.0	+1.1
JOM				S	Sn	11 02 14.3	+0.9
JRG	Rokugo	1.77	324	P	Pn	11 01 57.9	+1.5
JYA	Atsumi	1.89	290	P	Pn	11 01 58.7	+0.7
JFY	Yanaizu	1.89	253	P	Pn	11 01 58.9	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MJAR	Matsushiro Arr	3.33	246	Pn	Pn	11 02 19.3	+1.6
	0.5nm,0.3s,baz=58,slow=12,SNR=17						
MJAR				Sn	Sb	11 03 07.0	+0.6
	0.5nm,0.3s,baz=129,slow=28,SNR=4.6						
MAT	Matsushiro	3.33	246	P	Pn	11 02 20.1	+2.3
MAT				*e*S	Sn	11 02 59.4	+3.1
H11N2	WAKE ISLAND Hy	28.25	123	T	T	11 37 36.6	
	baz=316,slow=75,SNR=46						
H11N1	WAKE ISLAND Hy	28.26	123	T	T	11 37 38.7	
	baz=316,slow=75,SNR=46						
H11N3	WAKE ISLAND Hy	28.27	123	T	T	11 37 39.3	
	baz=316,slow=75,SNR=37						
H11S1	WAKE ISLAND Hy	29.00	125	T	T	11 38 29.7	
	baz=318,slow=76,SNR=29						
H11S3	WAKE ISLAND Hy	29.00	125	T	T	11 38 30.1	
	baz=318,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	29.02	125	T	T	11 38 35.2	
	baz=318,slow=76,SNR=21						
MKAR	Makanchi Array	44.01	301	P	P	11 09 31.0	-1.3
	0.2nm,0.7s,baz=87,slow=8.0,SNR=1.8						
WRA	Warramunga Arr	58.05	188	P	P	11 11 17.4	-0.5
	0.5nm,0.7s,baz=6.3,slow=7.4,SNR=7.5						
ASAR	Alice Springs	61.78	188	P	P	11 11 43.8	+0.3
	0.1nm,0.3s,baz=357,slow=4.6,SNR=1.8						

NOU ***03*** *11:07:50.0, 26.°29S×176.°65W, h196km, mb4.7/45, South of Fiji Islands*

NEIC ***03*** *11:07:52.2±2.9, 26.°12S±0.°05×177.°5W±0.°1, h160km±5km, mb4.5/35, Error ellipse: s-maj=16.8km s-min=7.1km az=89.0*

IDC ***03*** *11:07:53.3±1.8, 26.°08S×177.°59W, h168km±15km, mb4.1/15, mb1 4.3/18, mb1mx4.0/44, mbtmp4.6/18, Error ellipse: s-maj=15.4km s-min=13.5km az=93.0*

ISC 03 11:07:51.8±0.4**, 26.°12S**±0.°05×**177.°38W**±0.°08**, h161**km**, n172,** σ**1.s74**/151**, mb4.4**/26**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.15	189	P	Pn	11 08 43.0	+1.5
	809nm,0.3s,baz=33,slow=1.5,SNR=27						
RAO				S	Sn	11 09 20.7	+0.4
	767nm,0.3s,baz=270,slow=22,SNR=12						
RAO	Raoul Island	3.15	189		Pn	11 08 42.8	+1.3
RAO	Raoul Island	3.15	189	P	Pn	11 08 42.7	+1.2
GLKZ	Green Lake	3.17	189	P	Pn	11 08 42.7	+1.0
GLKZ				S	Sn	11 09 22.5	+2.1
MSVF	Nonsavu	9.36	332	P	Pn	11 10 04.6	+1.2
	2.4nm,0.3s,baz=146,slow=10,SNR=15						
MSVF	Nonsavu	9.36	332	Pn	Pn	11 10 04.9	+1.5
MSVF	Nonsavu	9.36	332	P	Pn	11 10 06.0	+2.6
NIUE	Niue	9.82	46	Pn	Pn	11 10 08.6	-0.8
OUZ	Omahuta	11.94	218	P	Pn	11 10 37.5	+0.6
MXZ	Matakaoa Point	11.98	197	P	Pn	11 10 30.2	-7.2
MXZ				S	Sn	11 12 36.6	-13
HAZ	Te Kaha	12.30	198	P	Pn	11 10 33.6	-8.0
HAZ				S	Sn	11 12 45.1	-13
RUGZ	Raukumara Rang	12.53	198	P	Pn	11 10 37.1	-7.6
RUGZ				S	Sn	11 12 49.5	-14
TWGZ	Tauwhareparae	12.64	197	P	Pn	11 10 40.0	-6.1
TWGZ				S	Sn	11 12 51.5	-15
OPRZ	Ohinepanea	12.77	202	P	P	11 10 52.6	+0.3
CNGZ	Carnagh Statio	12.88	196	P	Pn	11 10 41.1	-7.9
CNGZ				S	Sn	11 12 59.1	-12
URZ	Urewera	12.97	200	P	Pn	11 10 51.2	+1.1
	16nm,0.3s,baz=273,slow=3.5,SNR=31						
URZ				S	Sn	11 13 01.2	-13
	6.8nm,0.3s,baz=153,slow=23,SNR=18						
URZ	Urewera	12.97	200	P	Pn	11 10 43.5	-6.6
URZ	Urewera	12.97	200	P	Pn	11 10 47.8	-2.3
TARZ	Mount Tarawera	13.14	202	P	P	11 10 56.8	+0.1
AFI	Afiamalu	13.24	24	P	Pn	11 10 47.2	-6.6
	14nm,0.3s,baz=194,slow=3.7,SNR=48						
AFI				S	Sn	11 13 01.8	-19
	15nm,0.3s,baz=214,slow=23,SNR=11						
AFI	Afiamalu	13.24	24	P	Pn	11 10 49.5	-4.3
MUGZ	Murupara	13.27	200	P	Pn	11 10 46.9	-7.1
MUGZ				S	Sn	11 13 07.9	-13
RTZ	Ruatahuna	13.33	200	P	Pn	11 10 47.7	-7.2
PRRZ	Plateau Road	13.41	202	P	P	11 10 58.2	-1.4
TLZ	Tolley Road	13.56	204	P	P	11 10 59.9	-1.4
RAHZ	Arahi	13.58	199	P	P	11 11 01.1	-0.3
MTHZ	Maungataniwha	13.60	200	P	Pn	11 10 51.4	-6.8
MTHZ				S	Sn	11 13 11.9	-17
MRHZ	Matea Rd	13.71	201	P	Pn	11 10 56.0	-3.6
WATZ	Wairara	13.83	203	P	P	11 11 03.1	-1.1
NMHZ	Naumai	13.83	199	P	P	11 11 02.7	-1.6
HATZ	Hinemaiaia	13.87	202	P	P	11 11 03.1	-1.6
RATZ	Rangitukua	13.95	203	P	P	11 11 04.5	-1.1
HIZ	Hauiti	13.98	206	P	Pn	11 11 03.0	0.0
HIZ	Hauiti	13.98	206	P	Pn	11 11 02.4	-0.6
BKZ	Black Stump Fm	13.99	200		Pn	11 11 02.4	-0.7
BKZ	Black Stump Fm	13.99	200	P	Pn	11 11 02.9	-0.2
BKZ	Black Stump Fm	13.99	200	P	Pn	11 11 02.5	-0.7
KATZ	Kakaramea	14.08	203	P	P	11 11 06.7	-0.4
MARNC	Mare, Loyalty	14.13	286	P	P	11 11 10.4	+2.7
MCHZ	McNeill Hill	14.18	199	P	Pn	11 11 04.3	-1.2
NTVZ	North Tongarir	14.20	203	P	Pn	11 11 02.2	-3.5
TMVZ	Te Maari	14.20	202	P	Pn	11 11 06.1	+0.2
ETVZ	East Tongariro	14.22	202	P	Pn	11 11 06.1	0.0
WTVZ	West Tongariro	14.24	203	P	Pn	11 11 06.4	+0.1
NNVZ	North Ngauruho	14.25	203	P	Pn	11 11 06.2	-0.2
KWHZ	Kaweka Forest	14.25	200	P	Pn	11 11 06.0	-0.3
OTVZ	Oturere	14.26	202	P	Pn	11 11 04.7	-1.9
PINNC	Pines Island,	14.26	281	P	P	11 11 10.8	+1.7
SNVZ	South Ngauruho	14.29	203	P	Pn	11 11 06.7	-0.2
NGZ	Ngauruhoe	14.29	203	P	P	11 11 07.7	-1.8
FWVZ	Far West T-bar	14.38	203	P	Pn	11 11 07.6	-0.5
WHVZ	Whangaehu Hut	14.39	202	P	Pn	11 11 08.5	+0.2
TRVZ	Turoa	14.42	203	P	Pn	11 11 08.7	+0.1
BHHZ	Black Hill Sta	14.42	201	P	Pn	11 11 06.4	-2.1
MOVZ	Moawhango	14.45	202	P	Pn	11 11 09.0	+0.1
KAHZ	Kahuranaki	14.46	198	P	Pn	11 11 07.3	-1.6
KAHZ				S	Sn	11 13 31.7	-18
KRHZ	Kereru	14.46	200	P	Pn	11 11 07.3	-1.8
PKVZ	Pokaka	14.48	203	P	P	11 11 10.0	-1.5
MTVZ	Mangateitei	14.52	203	P	P	11 11 10.4	-1.6
PXZ	Pawanui	14.68	198	P	Pn	11 11 11.4	-0.2
PXZ				S	Sn	11 13 35.8	-19
PNHZ	Pukenui	14.76	200	P	Pn	11 11 08.6	-4.1
PNHZ				S	Sn	11 13 39.0	-18
PRHZ	Porangahau	14.96	198	P	Pn	11 11 12.9	-2.3
PRHZ				S	Sn	11 13 43.7	-18
DVHZ	Dannevirke	15.13	199	P	Pn	11 11 16.4	-0.8
DVHZ				S	Sn	11 13 46.4	-19
ANWZ	Angora Road	15.19	198	P	P	11 11 18.0	-1.3
ANWZ				S	Sn	11 13 46.7	-20
DZM	Mont Dzumac	15.31	282	P	Pn	11 11 18.0	-1.8
	0.1nm,0.3s,baz=135,slow=8.6,SNR=2.3						
DZM	Mont Dzumac	15.31	282	IAmb	IAmb	11 11 30.0	
	comp=Z,27nm,1.2s						
DZM	Mont Dzumac	15.31	282	P	P	11 11 24.7	+3.8
PRWZ	Pori Road	15.42	199	P	Pn	11 11 19.4	-1.5
PRWZ				S	Sn	11 13 52.3	-20
BFZ	Birch Farm	15.46	198	P	Pn	11 11 17.0	-4.3
BFZ				S	Sn	11 13 53.4	-20
BFZ	Birch Farm	15.46	198	P	Pn	11 11 16.7	-4.6
RTV	Rentapao	15.55	299	P	P	11 11 25.2	+1.8
MRZ	Mangatainoka R	15.64	200	P	Pn	11 11 14.2	-9.3
MRZ				S	Sn	11 13 56.2	-22
HOWZ	Holdsworth Sta	15.87	200	P	Pn	11 11 23.2	-3.2
HOWZ				S	S	11 14 00.5	-23
MTW	Mount Morrison	16.12	200	P	Pn	11 11 26.5	-2.8
MTW				S	S	11 14 08.5	-20
MSWZ	Moikau Station	16.43	200	P	P	11 11 30.4	-2.6
PLWZ	Palliser	16.57	200	P	P	11 11 31.8	-2.8
QRZ	Quartz Range	16.89	207	P	P	11 11 35.1	-2.9
QRZ				IAmb	IAmb	11 11 56.7	
	comp=Z,60nm,1.4s						
QRZ	Quartz Range	16.89	207	P	P	11 11 34.5	-3.5
BSWZ	Blackbirch Sta	17.15	203	P	P	11 11 38.3	-2.5
THZ	Tophouse	17.54	205	P	P	11 11 42.7	-2.5
THZ				IAmb	IAmb	11 11 52.9	
	comp=Z,25nm,1.2s						
KHZ	Kahutara	17.89	202	P	P	11 11 46.4	-2.5
KHZ	Kahutara	17.89	202	P	P	11 11 44.2	-4.7
OXZ	Oxford	19.21	204	P	P	11 11 59.2	-4.2
OXZ				IAmb	IAmb	11 12 07.4	
	comp=Z,22nm,0.9s						
RPZ	Rata Peaks	19.92	205	P	P	11 12 06.5	-4.4
	comp=Z,0.8nm,0.3s,baz=302,slow=1.4,SNR=8.3						
RPZ				S	S	11 15 30.8	-15
	comp=Z,2.0nm,0.3s,baz=358,slow=22,SNR=9.5						
RPZ	Rata Peaks	19.92	205	P	P	11 12 06.8	-4.2
ODZ	Otahua Downs	21.20	204	P	P	11 12 21.8	-2.9
ODZ				IAmb	IAmb	11 12 22.0	
	comp=Z,14nm,1.1s						
ODZ	Otahua Downs	21.20	204	P	P	11 12 22.1	-2.6
MLZ	Mavora Lakes	22.46	208	P	P	11 12 37.3	-0.2
MLZ				IAmb	IAmb	11 12 40.9	
	comp=Z,37nm,1.4s						
KNTN	Kanton	23.84	14	P	P	11 12 50.3	-0.1
ARMA	Armidale	27.58	254	P	P	11 13 23.7	-0.4
MGCD	Mangrove Creek	28.21	248	P	P	11 13 30.0	+0.5
EIDS	Eidsvold	28.39	265	P	P	11 13 31.2	+0.1
EIDS				IAmb	IAmb	11 13 55.3	
	comp=Z,12nm,1.1s						
RMQ	Roma	30.31	262	P	P	11 13 50.2	+2.0
TOO	Toolangi	33.34	241	P	P	11 14 15.4	+0.8
TOO				IAmb	IAmb	11 14 22.7	
	comp=Z,11nm,1.2s						
TOO	Toolangi	33.34	241	P	P	11 14 13.7	-0.9
CTA	Charters Tower	33.91	273	P	P	11 14 19.6	-0.1
	comp=Z,7.0nm,0.5s,baz=104,slow=9.5,SNR=13						
CTA	Charters Tower	33.91	273	P	P	11 14 20.7	+1.0
BRAT	Ballarat	34.57	241	P	P	11 14 23.6	-1.5
STKA	Stephens Creek	36.18	251	P	P	11 14 38.4	-0.6
	comp=Z,1.9nm,0.3s,baz=82,slow=14,SNR=3.5						
STKA	Stephens Creek	36.18	251	IAmb	IAmb	11 14 40.2	
	comp=Z,1.6nm,1.2s						
MTSU	Mount Surprise	36.26	275	P	P	11 14 40.9	+1.1
INKA	Innaminka	37.24	258	P	P	11 14 48.9	+0.9
HTT	Hallett	38.40	248	P	P	11 14 57.2	-0.6
COEN	Coen	38.84	280	P	P	11 15 02.2	+0.8
COEN				IAmb	IAmb	11 15 27.1	
	comp=Z,13nm,1.2s						
COEN	Coen	38.84	280	P	P	11 15 02.4	+0.9
LCRK	Leigh Creek	39.16	253	P	P	11 15 03.5	-0.5
QIS	Mount Isa	39.75	269	P	P	11 15 08.7	-0.3
BBOO	Buckleboo	40.83	249	P	P	11 15 16.3	-1.5
BBOO				IAmb	IAmb	11 15 17.1	
	comp=Z,11nm,0.8s						
BBOO	Buckleboo	40.83	249	P	P	11 15 16.6	-1.1
OOD	Oodnadatta	41.67	257	P	P	11 15 24.7	0.0
MULG	Mulgathing	42.75	253	P	P	11 15 32.2	-1.1
AS31	Alice Springs	44.06	262	P	P	11 15 43.2	-0.8
ASAR	Alice Springs	44.06	262	P	P	11 15 43.0	-0.9
	comp=Z,7.2nm,0.8s,baz=94,slow=7.3,SNR=83						
ASAR				PcP	PcP	11 17 25.7	-0.9
	comp=Z,0.7nm,0.7s,baz=111,slow=4.9,SNR=2.4						
ASAR				S	S	11 21 53.7	-11
	comp=Z,0.7nm,1.1s,baz=102,slow=16,SNR=3.0						
WR0	Warramunga Arr	44.47	268	P	P	11 15 46.0	-1.2
WB2	Warramunga Arr	44.65	268	IAmb	IAmb	11 15 49.8	
	comp=Z,9.6nm,0.8s						
WRAB	Tennant Creek	44.65	268	P	P	11 15 47.8	-0.9
WRA	Warramunga Arr	44.66	267	P	P	11 15 47.4	-1.4
	comp=Z,7.6nm,0.4s,baz=102,slow=7.6,SNR=80						
WRA				ScP	ScP	11 21 06.0	+0.2
	comp=Z,0.3nm,0.7s,baz=101,slow=4.1,SNR=2.6						
WRA				S	S	11 22 02.9	-10
	comp=Z,0.4nm,1.0s,baz=100,slow=15,SNR=2.0						
WRA	Warramunga Arr	44.66	267	P	P	11 15 47.5	-1.3
WB0	Warramunga Arr	44.66	268	P	P	11 15 47.4	-1.4
WB0				IAmb	IAmb	11 15 49.9	
	comp=Z,11nm,0.4s						
FORT	Forrest	47.81	251	P	P	11 16 11.6	-1.6
WRKA	Warakurna	48.71	259	P	P	11 16 18.9	-1.3
KDU	Kakadu	48.87	276	P	P	11 16 20.4	-1.1
MTN	Manton Dam	50.01	275	P	P	11 16 30.1	-0.1
KNRA	Kununurra	51.07	271	P	P	11 16 37.6	-0.5
KNRA	Kununurra	51.07	271	P	P	11 16 37.8	-0.3
VNDA	Vanda	52.39	186	P	P	11 16 48.5	+1.5
	comp=Z,4.3nm,0.6s,baz=15,slow=7.1,SNR=15						
VNDA	Vanda	52.39	186	P	P	11 16 49.0	+2.0
VNDA				IAmb	IAmb	11 16 50.7	
	comp=Z,5.3nm,0.7s						
FITZ	Fitzroy Crossi	53.05	266	P	P	11 16 51.6	-1.1
	comp=Z,7.4nm,0.8s,baz=87,slow=5.8,SNR=22						
FITZ	Fitzroy Crossi	53.05	266	P	P	11 16 51.8	-0.8
FITZ				IAmb	IAmb	11 16 52.8	
	comp=Z,8.6nm,1.0s						
PSA00	Pilbara Seismi	57.12	260	P	P	11 17 19.8	-2.1
PSA00				IAmb	IAmb	11 17 20.7	
	comp=Z,6.5nm,0.8s						
BLDU	Ballidu	57.44	249	P	P	11 17 22.4	-1.6
MORW	Morawa	58.37	251	P	P	11 17 29.1	-1.4
MORW	Morawa	58.37	251	P	P	11 17 29.1	-1.4
CASY	Casey	59.18	207	P	P	11 17 34.4	-1.0
GIRL	Giralia	61.74	257	P	P	11 17 53.6	+0.1
GIRL	Giralia	61.74	257	P	P	11 17 53.6	+0.1
PLAI	Plampang	63.61	273	P	P	11 18 05.4	-0.6
QSPA	South Pole Qui	63.97	180	P	P	11 18 09.3	+1.5
QSPA				IAmb	IAmb	11 18 10.2	
	comp=Z,9.9nm,0.8s						
BELA	Belgrano 2	73.94	172	P	P	11 19 09.2	+0.3
BELA				IAmb	IAmb	11 19 09.9	
	comp=Z,5.9nm,0.8s						
MAW	Mawson	76.50	200	P	P	11 19 24.5	+0.9
	comp=Z,15nm,0.5s,baz=144,slow=3.9,SNR=12						
MAW	Mawson	76.50	200	IAmb	IAmb	11 19 40.7	
	comp=Z,26nm,1.4s						
PETK	Petropavlovsk-	81.83	345	P	P	11 19 52.3	-0.2
	comp=Z,2.9nm,0.8s,baz=126,slow=6.6,SNR=10.0						
H03S2	Juan Fernandez	82.37	124	T	T	12 51 12.2	
	baz=244						
H03S1	Juan Fernandez	82.39	124	T	T	12 51 22.7	
	baz=244						
H03S3	Juan Fernandez	82.39	124	T	T	12 51 12.5	
	baz=244						
SNAA	Sanae	82.40	178	P	P	11 19 55.8	+0.2
VNA3	Neumayer Olymp	82.52	176	P	P	11 19 56.2	+0.1
H03N3	Juan Fernandez	82.54	123	T	T	12 51 27.9	
	baz=238,slow=74						
H03N2	Juan Fernandez	82.54	123	T	T	12 51 04.7	
	baz=238,slow=74						
H03N1	Juan Fernandez	82.56	123	T	T	12 51 13.7	
	baz=238						
VNA2	Neumayer--Watz	82.97	177	P	P	11 19 58.9	+0.6
	baz=180,slow=4.1						
VNA1	Neumayer--Stat	83.19	176	P	P	11 20 00.1	+0.6
NVAR	Mina Array Bea	84.73	43	P	P	11 20 09.8	+1.8
	comp=Z,1.8nm,0.8s,baz=222,slow=8.7,SNR=15						
PLCA	Paso Flores	85.02	133	P	P	11 20 11.0	+1.6
	comp=Z,2.7nm,1.0s,baz=281,slow=6.2,SNR=3.5						
PLCA	Paso Flores	85.02	133	IAmb	IAmb	11 20 12.7	
	comp=Z,8.8nm,1.3s						
TPH	Tonopah	85.17	43	P	P	11 20 12.6	+2.4
KLR	Kul'dur	87.64	329	P	P	11 20 22.7	+1.0
	comp=Z,1.8nm,0.6s,baz=139,slow=2.7,SNR=9.5						
MA2	Magadan	89.33	344	P	P	11 20 29.5	+0.1
	comp=Z,1.3nm,0.3s,baz=168,slow=5.7,SNR=5.4						
MA2	Magadan	89.33	344	IAmb	IAmb	11 20 30.4	
	comp=Z,1.9nm,0.7s						
SEY	Seymchan	91.95	347	P	P	11 20 42.0	+0.5
	comp=Z,1.8nm,0.7s,baz=167,slow=4.6,SNR=13						
PDAR	Pinedale Array	92.66	43	P	P	11 20 45.6	+0.1
	comp=Z,0.5nm,0.6s,baz=198,slow=1.4,SNR=4.8						
ILAR	Eielson Array	93.65	13	P	P	11 20 49.1	-0.1
	comp=Z,0.8nm,0.8s,baz=230,slow=5.5,SNR=3.8						
MKAR	Makanchi Array	115.40	312	PKP	PKPdf	11 26 13.3	-0.9
	comp=Z,0.3nm,0.5s,baz=235,slow=0.1,SNR=5.5						
BOSA	Boshof	121.39	203	PKP	PKiKP	11 26 27.0	+0.3
	comp=Z,1.2nm,0.5s,baz=186,slow=1.8,SNR=4.2						
ARCES	ARCESS Array B	134.53	349	PKP	PKiKP	11 26 50.9	-0.6
	comp=Z,4.2nm,1.0s,baz=29,slow=4.1,SNR=1.7						
FINES	FINESS Array B	141.29	342	PKhKP	PKPpre	11 26 56.8	
	comp=Z,3.8nm,1.1s,baz=40,slow=2.4,SNR=2.0						
NB2	NORSAR Subarra	144.60	353	PKP	PKPbc	11 27 07.7	-0.1
	comp=Z,2.7nm,0.8s,baz=9.6,slow=3.5						
NOA	NORSAR Array B	144.60	353	PKP	PKPab	11 27 07.0	-0.7
	comp=Z,3.4nm,0.8s,baz=16,slow=2.4,SNR=15						
NOA	NORSAR Array B	144.60	353		PKPab	11 27 07.0	-0.7
AKASG	Malin Array Be	148.12	327	PKPbc	PKPbc	11 27 17.7	-0.5
	comp=Z,0.5nm,0.4s,baz=42,slow=4.3,SNR=5.9						
EKA	Eskdalemuir Ar	150.51	7	PKPab	PKPab	11 27 31.3	+0.2
	comp=Z,1.8nm,0.6s,baz=319,slow=2.4,SNR=3.9						
TORD	Torodi Ar. Bea	167.06	176	PKPab	PKPab	11 28 43.0	-0.7
	comp=Z,1.0nm,0.7s,baz=170,slow=1.6,SNR=5.8						

JMA ***03*** *11:09:17.9±0.1, 35.°74N×141.°07E, h37km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs150.00000°, δ85.00000°, λ-66.00000°. NP2: φs252.00000°, δ25.00000°, λ-167.00000°. Principal axes: T Plg35.0000°, Azm219.0000°; N Plg24.0000°, Azm327.0000°; P Plg45.0000°, Azm84.0000°;*

JMA Felt I J1.

NIED ***03*** *11:09:17.9, 35.°74N×141.°07E, h37km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.17; Mθθ0.35; Mφφ-0.52; Mrθ-0.12; Mθφ-0.11; Mφr1.59; Fault plane solution: M0 1.64000×10^15 NP1: φs354.00000°, δ84.00000°, λ83.00000°. NP2: φs224.00000°, δ9.00000°, λ139.00000°.*

NEIC ***03*** *11:09:18.7±1.7, 35.°76N±0.°05×141.°14E±0.°09, h40km±8km, mb4.3/7 Error ellipse: s-maj=11.1km s-min=7.8km az=82.0*

IDC ***03*** *11:09:18.9±2.2, 35.°65N×140.°99E, h50km±21km, mb3.5/18, mb1 3.7/21, mb1mx3.5/74, mbtmp3.8/21, ML3.2/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/74, Error ellipse: s-maj=21.1km s-min=11.8km az=85.0*

ISC 03 11:09:17.3±0.6**, 35.°73N**±0.°05×**141.°15E**±0.°06**, h33**km**, n67,** σ**1.s16**/60**, mb3.9**/21**, 5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.24	263	⇓P	Pb	11 09 24.6	+0.4
CHOJ				*e*S	Sb	11 09 29.5	+0.6
JIHU	Itakohorinouch	0.56	295	⇓P	Pn	11 09 29.0	+0.2
JSMT	Sammumatsuo	0.57	261	⇓P	Pn	11 09 29.2	+0.1
JHYU	Hitachinakayam	0.76	323	⇓P	Pn	11 09 31.9	+0.2
JYT	Yasato	0.92	303	⇓P	Pn	11 09 33.3	-0.5
JYT				*e*S	Sn	11 09 44.9	-1.0
JYT	Yasato	0.92	303		Pn	11 09 33.4	-0.5
BSO4	Boso 4	0.99	222	P	Pn	11 09 35.3	+0.6
JHO	Hitachi	1.00	332	P	Pn	11 09 35.1	+0.2
BSO3	Boso 3	1.06	210	P	Pn	11 09 36.0	+0.4
BSO1	Boso 1	1.08	187	P	Pn	11 09 36.1	+0.5
JMM	Marumori	2.15	353		Pn	11 09 51.7	+0.9
MJAR	Matsushiro Arr	2.51	290	P	Pn	11 09 56.1	+0.3
	3.1nm,0.3s,baz=115,slow=18,SNR=76						
MJAR				LR	LR	11 11 04.4	
	comp=Z,370nm,19.6s,baz=144,slow=44						
MJAR	Matsushiro Arr	2.51	290		Pn	11 09 57.0	+1.2
MAJO	Matsushiro	2.51	290		Pn	11 09 57.2	+1.4
MAT	Matsushiro	2.51	290	P	Pn	11 09 57.0	+1.2
MAT				*e*S	Sn	11 10 25.8	+0.5
MJB9	Matsu-Tunnel	2.52	290		Pn	11 09 57.2	+1.3
JHJ2	Mitsune	2.83	203	Pn	Pn	11 10 02.5	+2.3
JHJ	Hachijo jima 2	2.84	204	P	Pn	11 10 01.1	+0.8
	18nm,0.3s,baz=351,slow=23,SNR=13						
JHJ				S	Sn	11 10 31.6	-1.7
	49nm,0.3s,baz=56,slow=20,SNR=7.1						
JGF	Kuroka	3.09	269		Pn	11 10 05.7	+2.0
JSD	Sado	3.26	316		Pn	11 10 07.6	+1.5
INU	Inuyama	3.39	265		Pn	11 10 08.7	+0.9
JTM	Tenmabayashi	5.05	359	Pn	Pn	11 10 32.3	+1.7
JMN	Monobe	6.31	254	Pn	Pn	11 10 49.4	+1.4
ERM	Erimo	6.47	13	Pn	Pn	11 10 50.9	+0.8
JHS	Saijyo	6.60	266	Pn	Pn	11 10 54.4	+2.4
JEW	Eniwo	7.11	2	Pn	Pn	11 10 59.4	+0.6
ASAJ	Asahikawa	8.45	7	P	Pn	11 11 16.3	-1.0
	1.4nm,0.3s,baz=200,slow=13,SNR=9.2						
ASAJ				S	Sn	11 12 47.6	-3.8
	0.5nm,0.3s,baz=81,slow=28,SNR=1.9						
JKA	Kamikawa-asahi	8.45	7	Pn	Pn	11 11 16.7	-0.6
JCJ	Chichijima	8.65	174	Pn	Pn	11 11 20.2	+0.1
KSRS	Korea Array	10.77	283	P	Pn	11 11 49.5	+0.4
	0.1nm,0.3s,baz=93,slow=14,SNR=3.3						
KSRS				LR	LR	11 16 01.2	
	comp=Z,96nm,20.9s,baz=80,slow=38						
USRK	Ussuriysk Ar.	10.99	323	LR	LR	11 15 51.1	
	comp=Z,86nm,21.9s,baz=156,slow=36						
MA2	Magadan	24.67	12	P	P	11 14 34.9	+0.1
	0.9nm,0.3s,baz=179,slow=5.7,SNR=6.9						
H11N2	WAKE ISLAND Hy	27.69	118	T	T	11 44 01.4	
	baz=311,slow=75,SNR=151						
H11N1	WAKE ISLAND Hy	27.70	118	T	T	11 44 01.3	
	baz=311,slow=75,SNR=122						
H11N3	WAKE ISLAND Hy	27.71	118	T	T	11 44 02.7	
	baz=311,slow=75,SNR=186						
SEY	Seymchan	28.11	11	P	P	11 15 07.2	+1.5
	0.2nm,0.3s,baz=163,slow=19,SNR=1.8						
SONM	Songino Array	28.36	306	P	P	11 15 07.4	-0.9
	0.9nm,0.6s,baz=111,slow=10,SNR=5.6						
H11S1	WAKE ISLAND Hy	28.36	120	T	T	11 44 57.5	
	baz=312,slow=75,SNR=166						
H11S3	WAKE ISLAND Hy	28.36	121	T	T	11 44 57.4	
	baz=312,slow=75,SNR=110						
H11S2	WAKE ISLAND Hy	28.38	121	T	T	11 44 59.8	
	baz=312,slow=75,SNR=88						
ZALV	Zalesovo Beam	42.64	313	P	P	11 17 10.3	-0.1
	2.1nm,0.7s,baz=76,slow=6.3,SNR=8.3						
MKAR	Makanchi Array	44.64	303	P	P	11 17 26.4	-0.1
	3.9nm,0.7s,baz=89,slow=10.0,SNR=42						
MKAR	Makanchi Array	44.64	303	P	P	11 17 26.2	-0.4
MAKZ	Makanchi	44.85	303	P	P	11 17 28.4	+0.1
MAKZ				IAmb	IAmb	11 17 29.1	
	comp=Z,5.1nm,1.0s						
KURK	Kurchatov	46.58	309	P	P	11 17 41.5	-0.2
KDAK	Kodiak Island	48.22	41	LR	LR	11 40 11.8	
	comp=Z,40nm,18.9s,baz=249,slow=38						
ILAR	Eielson Array	50.71	32	P	P	11 18 14.2	+0.9
	comp=Z,0.2nm,0.6s,baz=271,slow=6.3,SNR=2.2						
BVAR	Borovoye Array	51.30	313	P	P	11 18 16.7	-1.2
	comp=Z,1.1nm,0.7s,baz=59,slow=21,SNR=5.6						
BMAR	Burnt Mountain	51.58	28	P	P	11 18 23.1	+3.2
FITZ	Fitzroy Crossi	55.52	198	P	P	11 18 48.9	-0.3
	comp=Z,1.1nm,0.5s,baz=45,slow=7.1,SNR=1.6						
INK	Inuvik	55.64	27	P	P	11 18 49.9	+0.3
	comp=Z,0.7nm,0.7s,baz=283,slow=4.4,SNR=2.5						
INK	Inuvik	55.64	27	P	P	11 18 50.3	+0.7
INK				IAmb	IAmb	11 19 00.7	
	comp=Z,4.3nm,1.4s						
WR0	Warramunga Arr	55.74	188	P	P	11 18 50.8	0.0
WR0				IAmb	IAmb	11 19 05.7	
	comp=Z,2.5nm,0.7s						
WRA	Warramunga Arr	55.74	188	P	P	11 18 50.0	-0.8
	comp=Z,1.3nm,0.8s,baz=2.8,slow=7.6,SNR=7.1						
ARU	Arti	57.20	319	P	P	11 18 59.7	-1.1
	comp=Z,2.0nm,0.2s,baz=129,slow=0.8,SNR=3.8						
ARU	Arti	57.20	319	IAmb	IAmb	11 19 01.4	
	comp=Z,4.5nm,0.9s						
ABKAR	Akbulak array	58.62	311	P	P	11 19 11.1	+0.2
ABKAR				IAmb	IAmb	11 19 22.3	
	comp=Z,2.0nm,0.9s						
ASAR	Alice Springs	59.47	188	P	P	11 19 15.8	-1.2
	comp=Z,0.4nm,0.6s,baz=16,slow=11,SNR=2.9						
YKA	Yellowknife Ar	65.04	30	P	P	11 19 54.3	+0.4
	comp=Z,0.1nm,0.6s,baz=304,slow=6.6,SNR=1.9						
FINES	FINESS Array B	69.87	332	P	P	11 20 23.9	-0.4
	comp=Z,1.0nm,0.6s,baz=48,slow=6.0,SNR=5.2						
AKASG	Malin Array Be	75.20	322	P	P	11 20 55.1	-1.1
	comp=Z,0.2nm,0.3s,baz=44,slow=6.7,SNR=2.1						
NOA	NORSAR Array B	75.30	337	P	P	11 20 56.5	-0.3
	comp=Z,0.3nm,0.5s,baz=40,slow=5.8,SNR=2.3						
PDAR	Pinedale Array	78.73	45	P	P	11 21 17.2	+0.5
	comp=Z,0.4nm,0.7s,baz=264,slow=1.5,SNR=3.6						
TXAR	Lajitas Array	91.09	52	P	P	11 22 19.3	+0.4
	comp=Z,0.2nm,0.7s,baz=327,slow=1.5,SNR=1.5						
H03N2	Juan Fernandez	147.08	98	T	T	14 13 17.6	
	baz=290,slow=76,SNR=23						
H03N3	Juan Fernandez	147.09	98	T	T	14 13 18.3	
	baz=290,slow=76,SNR=20						
H03N1	Juan Fernandez	147.10	98	T	T	14 13 19.2	
	baz=290,slow=76,SNR=18						

IDC ***03*** *11:10:23.7±5.2, 4.°16N×32.°58W, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.8/59, mbtmp4.1/8, MS3.4/5, Ms1 3.4/5, ms1mx2.9/82, Error ellipse: s-maj=141.3km s-min=35.4km az=17.0*

ISC 03 11:10:27.2±4.8**, 4.°3N**±0.°9×**32.°5W**±0.°3**, h19**km**, n20,** σ**0.s84**/8**, mb4.1**/8**, MS3.3**/5**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDP	Montagnes des	20.07	273	LR	LR	11 21 23.1	
	comp=Z,48nm,20.7s,baz=138,slow=33						
H10N3	ASCENSION HYDR	21.62	124	T	T	11 37 45.4	
	baz=304,slow=75,SNR=301						
H10N2	ASCENSION HYDR	21.63	124	T	T	11 37 45.6	
	baz=304,slow=75,SNR=249						
H10N1	ASCENSION HYDR	21.64	124	T	T	11 37 46.8	
	baz=304,slow=75,SNR=294						
H10S3	ASCENSION HYDR	22.11	126	T	T	11 38 28.7	
	baz=304,slow=74,SNR=183						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10S2	ASCENSION HYDR	22.13	126	T	T	11 38 30.5	
	baz=276,slow=74,SNR=95						
DBIC	Dimbokro	27.65	84	P	P	11 16 13.5	-0.6
	2.9nm,0.8s,baz=273,slow=13,SNR=4.2						
DBIC				LR	LR	11 24 44.4	
	comp=Z,82nm,18.9s,baz=264,slow=31						
PTGA	Pitinga	27.86	260	LR	LR	11 26 19.3	
	comp=Z,44nm,19.5s,baz=104,slow=34						
H05S1	Guadeloupe/Mar	29.67	292	T	T	11 47 19.8	
	SNR=19						
KOWA	Kowa	29.88	68	P	P	11 16 34.0	+0.1
	0.7nm,0.3s,baz=278,slow=4.8,SNR=3.8						
KOWA				LR	LR	11 27 11.7	
	comp=Z,102nm,19.1s,baz=203,slow=34						
H05N1	Guadeloupe/Mar	30.47	295	T	T	11 48 14.2	
	SNR=6.7						
TORD	Torodi Ar. Bea	34.92	73	P	P	11 17 18.2	0.0
	3.8nm,0.9s,baz=265,slow=9.1,SNR=19						
H07N1	FLORES T-PHASE	35.31	2	T	T	11 54 30.9	
H09W1	TRISTAN DA CUN	45.23	157	T	T	12 07 17.6	
MLR	Muntele Rosu	65.22	41	P	P	11 21 08.5	+0.9
	6.2nm,0.8s,baz=174,slow=3.9,SNR=7.5						
BRTR	Keskin Array B	69.05	49	P	P	11 21 33.3	+1.2
	1.7nm,0.9s,baz=251,slow=3.8,SNR=6.0						
AKASG	Malin Array Be	69.09	37	P	P	11 21 31.7	-0.2
	0.3nm,0.4s,baz=252,slow=7.0,SNR=4.8						
FINES	FINESS Array B	71.69	26	P	P	11 21 46.6	-1.0
	1.4nm,0.7s,baz=256,slow=8.5,SNR=2.0						
ANMO	Albuquerque	74.41	305	LR	LR	11 51 09.1	
	comp=Z,40nm,20.6s,baz=58,slow=33						
YKA	Yellowknife Ar	82.59	332	P	P	11 22 49.0	+0.1
	0.2nm,0.7s,baz=102,slow=5.3,SNR=3.6						

*SOME **03** 11:30:14.1, 42.90°N×82.97E, h10km*
*NNC **03** 11:30:17.1±2.6, 42.91°N×82.69°E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=22.7km s-min=9.2km az=137.0*
ISC 03 11:30:15.3±1.9**, 42.89°N**±0.08×**82.90°E**±0.07**, h10km, n24, σ2.57**/48**, 6C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.94	287	eP	Pb	11 30 51.2	+0.3
	7.3nm,1.0s						
KTMS				eS	Sg	11 31 18.4	+0.6
	40nm,0.1s						
SHLS	Shalkode	2.53	277	eP	Pn	11 30 56.1	-0.5
	7.5nm,0.3s						
SHLS				eS	Sn	11 31 26.6	-1.1
	53nm,0.1s						
PDGK	Podgornoye	2.53	281	⇑Pg	Pb	11 30 59.9	-1.1
	2.3nm,0.3s						
PDGK				⇑Lg	Lg	11 31 34.4	
	46nm,0.8s						
DJR	Jarkent	2.68	304	eP	Pb	11 31 04.2	+0.8
	3.9nm,0.2s						
DJR				eS	Sg	11 31 40.5	-0.8
	13nm,0.2s						
UZB	Uzynbulak	2.85	276	eP	Pb	11 31 06.7	+0.2
	3.6nm,0.0s						
UZB				eS	Sb	11 31 44.4	+2.9
	23nm,0.1s						
KNOS	Konyrlen	3.07	300	eP	Pb	11 31 10.3	+0.1
	2.5nm,0.2s						
KNOS				eS	Sb	11 31 50.5	+2.7
	1.5nm,0.1s						
KPKS	Kokpek	3.13	282	eP	Pb	11 31 11.7	+0.5
	3.4nm,0.2s						
KPKS				eS	Sg	11 31 53.5	-2.5
	43nm,0.4s						
ZHN	Zhinishke	3.28	276	eP	Pb	11 31 14.1	+0.4
	5.5nm,0.1s						
ZHN				eS	Sg	11 31 57.7	-3.1
	21nm,0.3s						
SATY	Saty	3.30	274	eP	Pb	11 31 14.2	+0.1
	2.7nm,0.4s						
SATY				eS	Sb	11 31 57.9	+3.6
	10nm,0.1s						
BLB	Baldybastay	3.43	292	eP	Pb	11 31 17.4	+1.1
	3.1nm,0.0s						
BLB				eS	Sg	11 32 03.0	-2.6
	12nm,0.2s						
KAPS	Kapalarasan	3.50	314	eP	Pb	11 31 18.3	+0.9
	1.4nm,0.1s						
KAPS				eS	Sg	11 32 04.6	-3.1
	9.5nm,0.1s						
KURS	Kuram	3.51	281	eP	Pb	11 31 19.6	+2.0
	1.4nm,0.1s						
KURS				eS	Sg	11 32 06.7	-1.3
	6.1nm,0.2s						
MK31	Makanchi Array	3.93	354	Pn	Pn	11 31 18.9	+3.2
	0.1nm,0.3s,baz=177,slow=15,SNR=20						
MK31				⇑Pg	Pg	11 31 27.5	-3.0
	1.2nm,0.4s,baz=169,slow=17,SNR=17						
MK31				Lg	Lg	11 32 18.4	
	0.8nm,0.2s,baz=168,slow=30,SNR=5.4						
MAKZ	Makanchi	3.97	351	⇑Pn	Pn	11 31 19.2	+2.9
	0.2nm,0.3s						
MAKZ				⇑Pg	Pg	11 31 28.9	-2.5
	0.8nm,0.5s						
MAKZ				⇑Sn	Sn	11 32 06.8	+3.9
	0.7nm,0.5s						
MAKZ				⇓Lg	Lg	11 32 20.6	
	1.2nm,0.5s						
KOTS	Kotyrbulak	4.25	277	eP	Pg	11 31 33.8	-3.0
	2.3nm,0.3s						
KOTS				eS	Sg	11 32 31.4	-0.5
	16nm,0.1s						
MDOK	Medeo	4.30	276	eP	Pb	11 31 33.5	+2.4
	2.4nm,0.1s						
MDOK				eS	Sg	11 32 30.2	-3.1
	5.3nm,0.1s						
TNSS	Tian-Shan	4.37	274	eP	Pg	11 31 36.2	-2.8
	2.5nm,0.4s						
TNSS				eS	Sg	11 32 35.4	-0.3
	2.9nm,0.3s						
CHKK	Chushkaly	4.42	285	eP	Pb	11 31 34.6	+1.6
	3.1nm,0.2s						
CHKK				eS	Sg	11 32 32.8	-4.2
	6.0nm,0.5s						
KTBS	Karatobe	4.61	282	eP	Pb	11 31 38.7	+2.4
	0.8nm,0.1s						
KTBS				eS	Sg	11 32 39.3	-4.0
	4.3nm,0.3s						
IZV	Izvestkoviy	4.62	274	eP	Pb	11 31 39.7	+3.2
	1.2nm,0.1s						
IZV				eS	Sg	11 32 40.8	-2.7
	6.8nm,0.1s						
MTBS	Maitube	4.75	275	eP	Pg	11 31 43.2	-3.1
	1.4nm,0.2s						
MTBS				eS	Sg	11 32 47.2	-0.6
	3.3nm,0.0s						
ZSN	Zaisan	4.77	16	eP	Pb	11 31 39.9	+0.9
	1.4nm,0.1s						
ZSN				eS	Sg	11 32 42.1	-6.2
	2.3nm,0.1s						
KUU	Kurty	4.88	284	eP	Pb	11 31 44.1	+3.2
	1.2nm,0.1s						
KUU				eS	Sg	11 32 48.9	-3.2
	8.2nm,0.1s						
KRBS	Karabastau	5.33	281	eP	Pg	11 31 53.9	-3.5
	0.3nm,0.1s						
KRBS				eS	Sg	11 33 06.3	-0.2
	3.3nm,0.3s						

*KRNET **03** 11:32:53.6±0.1, 39.39°N×73.20°E, h21km, mb4.0*
*MOS **03** 11:32:54.3±1.7, 39.27°N×73.16°E, h8km, mb4.4/5, Error ellipse: s-maj=10.9km s-min=7.1km az=83.3*
*IDC **03** 11:32:54.1±1.0, 39.37°N×73.10°E, h0km, mb3.8/10, mb1 3.8/15, mb1mx3.7/58, mbtmp3.7/15, ML3.1/4, MS3.9/1, Ms1 3.9/1, ms1mx2.6/88, Error ellipse: s-maj=17.6km s-min=16.0km az=123.0*
*SOME **03** 11:32:57.9, 39.62°N×73.30°E, h0km*
*NNC **03** 11:32:59.0±3.1, 39.61°N×73.18°E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=27.7km s-min=12.7km az=11.0*
ISC 03 11:32:56.3±1.4**, 39.42°N**±0.04×**73.08°E**±0.03**, h5km**±9km**, n88, σ2.70**/141**, mb3.9**/13**, 26C-20D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.99	274	⇓eP	Pg	11 33 14.3	-1.1
	baz=75						
DRK				⇓iS	Sg	11 33 29.2	+1.0
	baz=75						
OHH	Osh	1.13	349	⇑iP	Pg	11 33 15.6	-2.4
	baz=44						
OHH				⇑iS	Sg	11 33 32.0	-0.6
	baz=44						
BTK	Batken	1.85	291	iPN	Pn	11 33 30.1	+1.2
BTK				iS	Sb	11 33 56.6	+2.2
BTK	Batken	1.85	291	⇑iP	Pn	11 33 29.3	+0.4
	baz=91						
BTK				⇑iS	Sn	11 33 55.4	+2.6
	baz=91						
GAR	Garm	2.19	260	⇓iPN	Pn	11 33 34.0	+0.5
GAR				iS	Sn	11 34 03.4	+2.4
GAR	Garm	2.19	260	⇓iP	Pn	11 33 34.0	+0.5
	baz=61						
GAR				⇓iS	Sn	11 34 03.4	+2.4
	baz=61						
ARK	Arkit	2.52	341	⇑iP	Pn	11 33 38.2	+0.1
	baz=39						
ARK				⇑iS	Sn	11 34 10.7	+1.3
	baz=39						
TRKS	Terek-Say	2.58	326	⇓iPN	Pn	11 33 39.3	+0.4
TRKS				iS	Sn	11 34 13.2	+2.5
TRKS	Terek-Say	2.58	326	⇑iP	Pn	11 33 38.2	-0.7
	baz=24						
TRKS				⇑iS	Sn	11 34 10.8	+0.1
	baz=24						
ARLS	Aral	2.62	21	iPN	Pn	11 33 40.0	+0.5
ARLS				iS	Sn	11 34 14.4	+2.7
ARLS	Aral	2.62	21	⇑iP	Pn	11 33 38.5	-1.0
	baz=19						
ARLS				⇑iS	Sn	11 34 11.2	-0.5
	baz=19						
AML	Almayashu	2.75	10	P	Pn	11 33 42.4	+0.8
	SNR=57						
AML	Almayashu	2.75	10	iPN	Pn	11 33 42.8	+1.3
AML				iS	Sn	11 34 18.5	+3.2
CHGR	Chuyangaron	3.15	257	ePN	Pn	11 33 47.3	+0.6
CHGR				iS	Sn	11 34 26.3	+1.6
CHGR	Chuyangaron	3.15	257	⇑eP	Pn	11 33 47.1	+0.4
	baz=58						
CHGR				⇑iS	Sn	11 34 26.2	+1.6
	baz=58						
EKS2	Erkin-Say	3.28	9	P	Pn	11 33 50.5	+1.9
	SNR=14						
EKS2	Erkin-Say	3.28	9	ePN	Pn	11 33 50.0	+1.4
EKS2	Erkin-Say	3.28	9	⇓iP	Pn	11 33 48.1	-0.5
	baz=7.0						
EKS2				⇓iS	Sn	11 34 27.8	-0.3
	baz=7.0						
MRKS	Merke	3.32	2	eP	Pb	11 33 56.5	+0.6
	18nm,0.2s						
MRKS				eS	Sb	11 34 39.0	+2.3
	198nm,0.1s						
AAK	Ala-Archa	3.39	18	Pn	Pn	11 33 51.9	+1.8
	15nm,0.3s,baz=182,slow=6.6,SNR=108						
AAK				Sn	Sn	11 34 34.1	+3.3
	12nm,0.3s,baz=136,slow=23,SNR=9.0						
AAK	Ala-Archa	3.39	18c	iPN	Pn	11 33 51.6	+1.5
FRU1	Bishkek	3.58	19	iPN	Pn	11 33 54.2	+1.5
FRU1				iS	Sn	11 34 38.2	+2.7
FRU1	Bishkek	3.58	19	⇑iP	Pn	11 33 52.2	-0.5
	baz=17						
FRU1				⇑iS	Sn	11 34 35.0	-0.5
	baz=17						
ULHL	Ulahol	3.71	39	P	Pn	11 33 56.3	+1.8
	SNR=16						
ULHL	Ulahol	3.71	39	⇓ePN	Pn	11 33 55.1	+0.6
ULHL				iS	Sn	11 34 39.9	+1.2
ULHL	Ulahol	3.71	39	⇓eP	Pn	11 33 53.2	-1.3
	baz=38						
ULHL				⇓iS	Sn	11 34 36.8	-1.9
	baz=38						
CHMS	Chumysh	3.79	19	P	Pn	11 33 57.1	+1.6
	SNR=23						
CHMS	Chumysh	3.79	19	iPN	Pn	11 33 54.8	-0.7
CHMS				iS	Sn	11 34 42.7	+2.2
CHMS	Chumysh	3.79	19	⇑iP	Pn	11 33 54.8	-0.7
	baz=17						
CHMS				⇑iS	Sn	11 34 39.4	-1.1
	baz=17						
TKM2	Tokmak 2	3.98	28	P	Pn	11 33 59.8	+1.5
	SNR=7.8						
TKM2	Tokmak 2	3.98	28	ePN	Pn	11 33 59.2	+0.9
TKM2	Tokmak 2	3.98	28	⇑eP	Pn	11 33 57.4	-0.9
	baz=26						
TKM2				⇑iS	Sn	11 34 43.9	-1.6
	baz=26						
TKM2	Tokmak 2	3.98	28	⇑Pn	Pn	11 33 59.5	+1.3
	3.8nm,0.5s						
TKM2				⇑Pg	Pb	11 34 07.3	+0.2
	11nm,0.5s						
TKM2				⇑Lg	Lg	11 34 58.4	
	82nm,0.8s						
USP	Ospenovka	3.99	15	P	Pn	11 33 59.6	+1.4
	SNR=7.6						
USP	Ospenovka	3.99	15	⇓PN	Pn	11 33 59.4	+1.2
USP				iS	Sn	11 34 47.9	+2.5
USP	Ospenovka	3.99	15	⇓iP	Pn	11 33 57.6	-0.6
	baz=14						
USP				⇓iS	Sn	11 34 44.4	-1.0
	baz=14						
KDJ	Kajisay	4.13	48	⇓iPN	Pn	11 34 00.6	+0.3
KDJ				iS	Sn	11 34 49.7	+0.7
KDJ	Kajisay	4.13	48	⇑iP	Pn	11 33 59.0	-1.3
	baz=47						
KDJ				⇑iS	Sn	11 34 46.7	-2.3
	baz=47						
KK04	Karatay Array	4.17	333	⇑Pn	Pn	11 34 02.4	+1.8
	4.5nm,0.4s						
KK04				⇓Pg	Pb	11 34 11.8	+1.6
	9.9nm,0.3s						
KK04				⇓Sn	Sn	11 34 53.2	+3.5
	44nm,0.6s						
KK04				⇓Lg	Lg	11 35 07.7	
	51nm,0.6s						
SGDS	Sogindy	4.20	16	eP	Pb	11 34 11.3	+0.7
	9.5nm,1.2s						
SGDS				eS	Sb	11 35 04.0	+2.3
	58nm,0.3s						
DGS	Degeres	4.32	27	eP	Pb	11 34 14.3	+1.4
	14nm,0.2s						
DGS				eS	Sb	11 35 09.3	+3.9
	87nm,1.0s						
BRLS	Borolday	4.36	327	eP	Pb	11 34 15.9	+2.4
	21nm,0.0s						
BRLS				eS	Sb	11 35 11.5	+5.2
	46nm,0.0s						
MTBS	Maitube	4.49	33	eP	Pb	11 34 17.3	+1.6
	20nm,0.1s						
MTBS				eS	Sb	11 35 14.4	+4.4
	47nm,0.1s						
IZV	Izvestkoviy	4.49	35	eP	Pb	11 34 18.0	+2.2
	14nm,0.2s						
IZV				eS	Sb	11 35 15.5	+5.2
	96nm,0.3s						
TNSS	Tian-Shan	4.64	38	eP	Pb	11 34 20.3	+1.7
	13nm,0.2s						
TNSS				eS	Sb	11 35 19.8	+4.8
	23nm,0.2s						
KRBS	Karabastau	4.70	24	eP	Pb	11 34 20.5	+1.3
	17nm,0.1s						
KRBS				eS	Sb	11 35 20.0	+3.9
	27nm,0.3s						
AAA	Alma-Ata	4.76	36	eP	Pb	11 34 23.6	+3.3
	25nm,0.0s						
AAA				eS	Sg	11 35 25.6	-3.7
	96nm,0.3s						
MDOK	Medeo	4.79	37	PN	Pn	11 34 10.4	+1.1
MDOK	Medeo	4.79	37	eP	Pb	11 34 22.5	+1.7
	17nm,0.1s						
MDOK				eS	Sb	11 35 23.4	+4.6
	33nm,0.3s						
MDOK	Medeo	4.79	37	Pn	Pn	11 34 10.4	+1.1
	3.5nm,0.5s						
MDOK				Pg	Pb	11 34 21.4	+0.6
	17nm,0.6s						
MDOK				Lg	Lg	11 35 23.6	
	32nm,0.6s						
KOTS	Kotyrbulak	4.87	37	eP	Pb	11 34 23.8	+1.5
	13nm,0.1s						
KOTS				eS	Sb	11 35 25.0	+3.7
	167nm,0.1s						
KTBS	Karatobe	5.07	31	eP	Pb	11 34 27.5	+1.9
	7.5nm,0.1s						
KTBS				eS	Sb	11 35 31.9	+5.1
	51nm,0.1s						
KUU	Kurty	5.09	28	eP	Pb	11 34 27.7	+1.8
	9.2nm,0.1s						
KUU				eS	Sb	11 35 32.3	+4.8
	49nm,0.2s						
CHKK	Chushkaly	5.31	32	eP	Pb	11 34 32.4	+2.7
	4.0nm,0.0s						
CHKK				eS	Sb	11 35 40.1	+6.4
	30nm,0.6s						
SATY	Saty	5.42	46	eP	Pb	11 34 33.4	+1.8
	4.4nm,0.1s						
SATY				eS	Sb	11 35 42.2	+5.3
	15nm,0.2s						
ZHN	Zhinishke	5.50	45	eP	Pb	11 34 35.1	+2.1
	8.1nm,0.0s						
ZHN				eS	Sb	11 35 45.1	+5.7
	12nm,0.2s						
BTLS	Baital	5.66	7	eP	Pb	11 34 39.8	+4.2
	4.2nm,0.1s						
BTLS				eS	Sg	11 35 52.9	-5.2
	17nm,0.2s						
UZB	Uzynbulak	5.82	48	eP	Pb	11 34 42.0	+3.5
	7.6nm,0.1s						
UZB				eS	Sb	11 35 56.4	+7.8
	14nm,0.3s						
KPKS	Kokpek	5.84	44	eP	Pb	11 34 41.6	+2.9
	8.0nm,0.2s						
KPKS				eS	Sb	11 35 56.7	+7.7
	29nm,0.1s						
BLB	Baldybastay	6.17	39	eP	Pb	11 34 47.5	+3.0
	20nm,0.2s						
BLB				eS	Sb	11 36 06.2	+7.5
	27nm,0.3s						
PDGK	Podgornoye	6.21	49	PN	Pn	11 34 29.9	+1.1
PDGK	Podgornoye	6.21	49	Pn	Pn	11 34 29.1	+0.3
	4.2nm,0.6s						
PDGK				Lg	Lg	11 36 08.9	
	31nm,0.8s						
OTUK	Ortayu	8.84	357	P	Pn	11 35 04.9	+0.2
OTUK	Ortayu	8.84	357	Pn	Pn	11 35 04.9	+0.2
	2.2nm,0.8s						
OTUK				Lg	Lg	11 37 30.9	
	17nm,0.6s						
MK31	Makanchi Array	9.98	39	Pn	Pn	11 35 23.1	+2.7
	1.3nm,0.9s,baz=217,slow=14,SNR=5.6						
MK31				Lg	Lg	11 38 10.0	
	1.0nm,0.7s,baz=219,slow=26,SNR=4.0						
MKAR	Makanchi Array	9.98	39	Pn	Pn	11 35 21.8	+1.4
	baz=221,slow=14,SNR=4.3						
MKAR				Lg	Lg	11 38 07.7	
	0.1nm,0.3s,baz=208,slow=29,SNR=2.0						
KURBB	Kurchatov Arra	11.84	17	Pn	Pn	11 35 43.7	-2.2
	0.0nm,0.3s,baz=207,slow=13,SNR=1.9						
KURBB				Lg	Lg	11 39 03.9	
	0.1nm,0.3s,baz=198,slow=29,SNR=4.4						
KURK	Kurchatov	11.95	17	iP	Pn	11 35 50.2	+2.9
AB31	Akbulak array	13.58	321	P	Pn	11 36 08.7	-0.9
AB31	Akbulak array	13.58	321	Pn	Pn	11 36 08.8	-0.9
	1.6nm,0.8s,baz=129,slow=14,SNR=21						
AB31				⇓Sn	Sn	11 38 32.7	-8.2
	2.2nm,0.7s,baz=133,slow=23,SNR=4.5						
AKTO	Aktyubinsk	15.30	321	Pn	Pn	11 36 29.6	-3.3
	0.1nm,0.3s,baz=123,slow=15,SNR=1.4						
AKTO				Sn	Sn	11 39 14.8	-7.8
	0.1nm,0.3s,baz=252,slow=18,SNR=1.9						
AKTO	Aktyubinsk	15.30	321	⇓Pn	Pn	11 36 36.0	+3.1
	1.8nm,0.7s						
AKTO				⇑Sn	Sn	11 39 18.9	-3.7
	2.7nm,1.2s						
ZALV	Zalesovo Beam	16.58	25	Pn	Pn	11 36 49.5	+0.1
	0.2nm,0.3s,baz=220,slow=11,SNR=2.8						
BELG	Belogornoye	21.82	315	iP	P	11 37 53.2	+4.0
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	25.38	60	P	P	11 38 23.1	-1.5
	comp=Z,0.4nm,0.6s,baz=251,slow=8.8,SNR=3.2						
OBN	Obninsk	28.91	315	iP	P	11 38 59.7	+3.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	FINESS Array B	36.05	323	P	P	11 39 57.3	-1.1
	comp=Z,0.9nm,0.6s,baz=99,slow=12,SNR=5.3						
FINES				LR	LR	11 57 13.0	
	comp=Z,180nm,18.2s,baz=219,slow=40						
FINES	FINESS Array B	36.05	323	eP	P	11 40 00.8	+2.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZEA	Zeya	38.91	50	eP	P	11 40 21.1	-1.7
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARCES	ARCESS Array B	39.12	336	P	P	11 40 24.8	+0.5
	comp=Z,2.5nm,0.8s,baz=103,slow=5.4,SNR=5.7						
ARCES	ARCESS Array B	39.12	336	eP	P	11 40 27.0	+2.7
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	41.84	320	P	P	11 40 45.1	-1.8
	comp=Z,2.1nm,0.8s,baz=109,slow=13,SNR=2.4						
NOA	NORSAR Array B	43.09	321	P	P	11 40 56.1	-1.0
	comp=Z,0.5nm,0.6s,baz=118,slow=5.3,SNR=1.5						
TORD	Torodi Ar. Bea	67.43	269	P	P	11 43 51.8	-1.5
	comp=Z,1.5nm,1.0s,baz=40,slow=5.4,SNR=1.2						
INK	Inuvik	70.75	10	P	P	11 44 11.4	-1.6
	comp=Z,1.0nm,0.6s,baz=3.2,slow=7.0,SNR=6.4						
YKA	Yellowknife Ar	78.25	4	P	P	11 44 55.4	-1.4
	comp=Z,0.5nm,0.7s,baz=352,slow=5.5,SNR=10						
WRA	Warramunga Arr	82.19	124	P	P	11 45 16.6	-1.9
	comp=Z,2.2nm,1.4s,baz=326,slow=5.1,SNR=2.2						
ASAR	Alice Springs	84.62	126	P	P	11 45 29.2	-1.8
	comp=Z,0.2nm,0.9s,baz=313,slow=5.4,SNR=2.0						

*IDC **03** 11:36:23.6±0.4, 35.48°N×3.90°W, h0km, mb4.4/36, mb1 4.4/43, mb1mx4.3/68, mbtmp4.3/43, ML4.0/7, MS3.9/66, Ms1 3.9/66, ms1mx3.9/90, Error ellipse: s-maj=12.8km s-min=9.0km az=96.0*
*BJI **03** 11:36:24.0±0.0, 35.50°N×3.80°W, h10km, mb4.7/36, mB5.0/16, Ms4.8/4, Ms7 4.5/3*
*MOS **03** 11:36:24.2±1.0, 35.44°N×3.85°W, h12km, mb4.9/58, Error ellipse: s-maj=7.0km s-min=3.5km az=63.4*
*SFS **03** 11:36:25.0, 35.40°N×3.80°W, h4km, ML4.5, ALBORAN SUR*
*LDG **03** 11:36:25.3±0.2, 35.31°N×3.72°W, h10km, Ml4.2/20, Error ellipse: s-maj=6.9km s-min=5.4km az=177.0*
*MDD **03** 11:36:26.1±0.5, 35.46°N×3.81°W, h2km±3km, mb_Lg4.4/30, Error ellipse: s-maj=4.4km s-min=2.1km az=176.0*
*CNRM **03** 11:36:26.1, 35.49°N×3.73°W, h26km, ml5.1*
*MED_RC **03** 11:36:26.0±0.6, 35.30°N×3.61°W, h14km±1km, MW4.8/26, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s26,c37; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.05±.14; $M_{\theta\theta}$0.43±.08; $M_{\phi\phi}$0.62±.09; $M_{r\theta}$0.81±.15; $M_{\theta\phi}$-1.59±.06; $M_{\phi r}$0.28±.13; Best double couple: $M_0$2.01000×10^{16} NP1:ϕ_s282.00000°, δ65.00000°, λ-140.00000°. NP2:ϕ_s173.00000°, δ54.00000°, λ-31.00000°. Principal axes: T 2.1600, Plg7.0000°, Azm45.0000°; N -0.3000, Plg44.0000°, Azm309.0000°; P -1.8600, Plg45.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **03** 11:36:26.2±2.1, 35.49°N±0.05×3.79°W±0.07, h10km±1km, mb5.0/169 Error ellipse: s-maj=9.2km s-min=7.7km az=286.0*
*INMG **03** 11:36:26.5±2.4, 35.43°N×3.78°W, h10km±10km, ML4.1, Error ellipse: s-maj=6.8km s-min=4.5km az=138.0*
*CRAAG **03** 11:36:27.3, 35.49°N×3.87°W, Mb4.9*
*IGIL **03** 11:36:27.0, 35.48°N×3.85°W, h4km, ML4.3*
*GCMT **03** 11:36:28.2±0.3, 35.44°N±0.03×3.68°W±0.03, h13km±1km, MW4.9/95, Moment Tensor Solution. s28,c30; s95,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.77±.18; $M_{\theta\theta}$0.78±.13; $M_{\phi\phi}$0.98±.11; $M_{r\theta}$2.29±.45; $M_{\theta\phi}$-1.54±.08; $M_{\phi r}$-0.11±.25; Best double couple: $M_0$3.15700×10^{16} NP1:ϕ_s165.00000°, δ33.00000°, λ-37.00000°. NP2: ϕ_s287.00000°, δ71.00000°, λ-117.00000°. Principal axes: T 3.0780, Plg21.0000°, Azm37.0000°; N 0.1580, Plg26.0000°, Azm297.0000°; P -3.2370, Plg56.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 11:36:26.5±0.5**, 35.46°N**±0.02×**3.75°W**±0.02**, h15km**±2km**, h15km:pP-P, n738, σ1.79**/712**, mb4.9**/160**, MS4.0**/69**, 32C-18D, Strait of Gibraltar**

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

PALE Palemas 0.29 212 S Sb 11 36 37.5 -0.6
GOG Mont Gurugu 0.67 111 P Pg 11 36 39.4 -0.2
GOG S Sg 11 36 48.6 +0.2
EMEL Melilla 0.67 104 Pg Pg 11 36 39.7 0.0
EMEL Sg Sg 11 36 48.9 +0.4
EALB Alboran 0.76 51 Pg Pg 11 36 40.8 -0.4
EALB Sg Sg 11 36 51.4 +0.3
EALB *i* Vmb_Lg 11 36 54.6
TAF Taforalt 1.27 120 P Pn 11 36 48.7 -1.2
TAF S Sb 11 37 04.7 -1.8
CHEFC Chefchaouen 1.34 255 P Pn 11 36 50.1 -0.8
CHEFC S Sg 11 37 10.2 +0.3
EMIJ Mijas 1.37 323 Pg Pn 11 36 49.8 -1.4
EMIJ Sg Sb 11 37 06.7 -2.7
EMIJ *i* Vmb_Lg 11 37 13.6
CEU Ceuta 1.39 289 P Pn 11 36 47.4 -3.9
CEU Ceuta 1.39 289 S Sb 11 37 03.9 -5.8
ELGU Los Guajares, 1.41 4 Pn Pn 11 36 49.8 -1.9
ELGU Sn Sn 11 37 06.1 -3.9
ELGU *i* Vmb_Lg 11 37 19.7
EMAL Malaga-Limoner 1.41 337 P Pn 11 36 49.8 -1.8
EMAL Malaga-Limoner 1.41 337 S Sb 11 37 08.8 -1.5
JBK JBK 1.49 139 P Pn 11 36 51.7 -1.3
JBK S Sn 11 37 10.8 -1.5
EGOR Sierra Gorda, 1.67 350 Pn Pn 11 36 55.3 -0.1
EGOR Sn Sb 11 37 18.8 +0.8
EGOR *i* Vmb_Lg 11 37 30.5
EJIF Jimena Fronter 1.71 306 Pn Pn 11 36 55.7 0.0
EQUE Quentar 1.76 8 Pn Pn 11 36 55.7 -0.9
EQUE Sn Sn 11 37 16.5 -2.3
EQUE *i* Vmb_Lg 11 37 29.1
CPS Cap Spartel 1.78 281 P Pb 11 36 58.0 -1.0
ALJ Aljibe 1.87 305 P Pg 11 37 00.8 -1.6
ALJ Aljibe 1.87 305 S Sg 11 37 30.0 +3.3
SICH Sidi Chahed 1.87 224 P Pn 11 36 58.7 +0.7
ENIJ Nijar 1.96 39 Pn Pn 11 36 57.0 -2.2
ENIJ Sn Sn 11 37 21.4 -2.2
LIJA Lijar 1.96 318 P Pb 11 37 01.7 -0.3
LIJA Lijar 1.96 318 S Sg 11 37 33.7 +4.0
LCRM LCR 1.99 207 P Pn 11 36 59.8 -0.1
LCRM S Sb 11 37 26.0 -1.3
CNIL Conil 2.08 297 P Pb 11 37 03.2 -0.7
CNIL Conil 2.08 297 S Sg 11 37 36.1 +2.9
SFS San Fernando 2.23 297 P Pb 11 37 06.4 0.0
SFS San Fernando 2.23 297 S Sn 11 37 19.2 -11
SFS San Fernando 2.23 297 P Pn 11 37 03.3 +0.4
SFS San Fernando 2.23 297 Pn Pn 11 37 03.3 +0.4
OTSS Djebel Tessala 2.43 93 P Pn 11 37 07.0 +1.2
UISO Oran 2.62 83 P Pn 11 37 08.0 -0.4
CZD Col de Zad 2.65 204 P Pn 11 37 09.5 +0.5
CZD S Sn 11 37 39.1 -1.9
MD31 MD31 2.72 198 P Pn 11 37 10.4 +0.6
MD31 S Sn 11 37 41.2 -1.3
MDT Midelt 2.74 195 Pn Pn 11 37 10.2 +0.2
25nm,0.3s,baz=160,slow=2.3,SNR=122
MDT Sn Sn 11 37 42.5 -0.5
170nm,0.3s,baz=18,slow=22,SNR=8.4
MDT Lg Lg 11 37 51.6
194nm,0.3s,baz=53,slow=23,SNR=3.9
MDT Midelt 2.74 195 P Pn 11 37 10.3 +0.2
MDT S Sn 11 37 43.1 +0.1
TLOR Lorca, Murcia 2.75 37 Pn Pn 11 37 09.6 -0.5
TLOR Sn Sn 11 37 41.9 -1.2
TDRA Tendrara 2.81 149 P Pn 11 37 10.6 -0.5
TDRA S Sn 11 37 43.5 -1.3
EZAR Zarzadilla de 2.92 34 Pn Pn 11 37 11.3 -1.3
EZAR Sn Sn 11 37 45.3 -2.2
ECAB El Cabril 2.93 333 Pn Pn 11 37 13.1 +0.4
ECAB Sn Sn 11 37 46.6 -1.0
ECAB *i* Vmb_Lg 11 38 04.9
ODJA Bouhanifia 2.95 92 P Pn 11 37 12.0 -0.9
CART Cartagena 3.07 45 P Pn 11 37 12.2 -2.3
CART Cartagena 3.07 45 S Sn 11 37 44.7 -6.2
CART Cartagena 3.07 45 Pn Pn 11 37 12.2 -2.3
CART Cartagena 3.07 45 P Pn 11 37 12.2 -2.3
CART S Sn 11 37 46.7 -4.2
ZHG ZHG 3.12 231 P Pn 11 37 14.7 -0.6
OJBR Djebel Berber 3.35 87 P Pn 11 37 18.0 -0.4
OKGL Djebel Kef Gue 3.62 80 P Pn 11 37 20.0 -2.2
ETOB Tobarra 3.63 28 Pn Pn 11 37 22.2 -0.1
ETOB Sn Sn 11 38 06.3 +1.3
ETOB *i* Vmb_Lg 11 38 57.9
EGRO El Granado 3.65 306 Pn Pn 11 37 20.9 -1.5
EGRO Sn Sn 11 38 01.4 -3.8
EGRO *i* Vmb_Lg 11 38 08.2
OJGS Djebel Guires 3.68 88 P Pb 11 37 31.0 -0.2
AVE Averroes 3.72 236 P Pn 11 37 22.6 -0.8
AVE Averroes 3.72 236 S Sn 11 38 08.3 +1.3
AVE Averroes 3.72 236 P Pn 11 37 23.5 +0.1
PVAQ Vaqueiros 3.74 302 *e*Pn Pn 11 37 22.8 -0.9
PVAQ *e*Sn Sn 11 38 04.7 -2.7
PVAQ A A 11 38 11.4
376nm,0.4s
PVAQ Vaqueiros 3.74 302 Pn 11 37 23.1 -0.5
PVAQ Vaqueiros 3.74 302 P Pn 11 37 22.5 -1.1
PVAQ S Sn 11 38 04.1 -3.5
PBAR Barrancos 3.78 317 *e*Pn Pn 11 37 23.5 -0.7
PBAR *e*Sn Sn 11 38 06.9 -1.5
PBAR A A 11 38 31.6
177nm,0.4s
PBDV Barranco-do-Ve 3.81 299 *e*Pn Pn 11 37 24.0 -0.7
PBDV *e*Sn Sn 11 38 06.3 -3.0
PBDV A A 11 38 10.1
275nm,0.4s
GOLM Goulmima 3.88 195 P Pn 11 37 28.2 +2.4
FIGM Figuig 3.92 147 P Pn 11 37 26.2 -0.1
EANR 'Ain N'Sour 3.98 82 P Pn 11 37 25.0 -2.1
ARF Arif 4.04 186 P Pn 11 37 29.0 +1.0
PCVE Castro Verde 4.07 303 *e*Pn Pn 11 37 28.0 +0.3
PCVE *e*Sn Sn 11 38 12.7 -3.0
PCVE A A 11 38 16.4
156nm,0.5s
AFON Font Roja 4.10 38 Pn Pn 11 37 28.7 -0.1
AFON *i* Vmb_Lg 11 39 31.8
PAB San Pablo 4.10 354 P Pn 11 37 29.5 +0.7
PAB San Pablo 4.10 354 Pn Pn 11 37 29.5 +0.7
PAB San Pablo 4.10 354 Pn Pn 11 37 29.2 +0.4
PAB *i* Vmb_Lg 11 39 18.9
PBEJ Beja 4.18 309 *e*Pn Pn 11 37 30.2 +0.5
PBEJ *e*Sn Sn 11 38 15.3 -3.0
PBEJ A A 11 38 57.0
96nm,0.5s
ESDC Sonseca Array 4.21 358 Pn Pn 11 37 30.5 +0.3
6.8nm,0.3s,baz=176,slow=13,SNR=94
ESDC Sn Sn 11 38 15.7 -3.4
8.7nm,0.3s,baz=171,slow=27,SNR=2.9
ESDC Lg Lg 11 38 36.2
13nm,0.3s,baz=178,slow=17,SNR=4.5
ESDC Sonseca Array 4.21 358 Pn Pn 11 37 30.7 +0.5
ESDC Sonseca Array 4.21 358 Pn Pn 11 37 30.5 +0.3
ESDC *i* Vmb_Lg 11 38 43.2
ESBB Sonseca Array 4.21 358 Pn 11 37 30.9 +0.7
ECHA Ech Chlef 4.22 79 P Pn 11 37 17.5 -13
EBEN2 Beniarda presa 4.29 41 Pn Pn 11 37 31.4 +0.1
EBEN2 Sn Sn 11 38 20.4 -0.7
EBEN2 *i* Vmb_Lg 11 38 26.2
MORF Marmelete 4.36 296 *e*P Pn 11 37 31.0 -1.3
MORF *e*S Sn 11 38 17.8 -5.1
MORF IAML 11 38 28.5
comp=N,535nm,0.4s
MORF Marmelete 4.36 296 *e*Pn Pn 11 37 31.9 -0.4
MORF *e*Sn Sn 11 38 19.3 -3.5
MORF A A 11 38 23.7
comp=N,217nm,0.2s
MORF Marmelete 4.36 296 *e*P Pn 11 37 31.0 -1.3
MORF *e*S Sn 11 38 17.7 -5.1
PFVI Vila Bisbo 4.42 294 *e*Pn Pn 11 37 33.2 +0.1
PFVI *e*Sn Sn 11 38 20.9 -3.5
PFVI A A 11 38 41.4
comp=N,260nm,0.6s
PFVI Vila Bisbo 4.42 294 Pn Pn 11 37 32.5 -0.6
PFVI Vila Bisbo 4.42 294 P Pn 11 37 33.0 -0.1
PTEO Sao Teotonio 4.51 299 *e*Pn Pn 11 37 33.9 -0.4
PTEO *e*Sn Sn 11 38 24.4 -2.1
PTEO A A 11 38 39.1
comp=N,246nm,0.4s
SRHM Skhour des Reh 4.56 230 P Pn 11 37 34.2 -0.8
PESTR Estremoz 4.57 319 *e*Pn Pn 11 37 35.9 +0.7
PESTR *e*Sn Sn 11 38 28.2 +0.1
PESTR A A 11 39 01.0
comp=N,197nm,0.6s
PESTR Estremoz 4.57 319 *e*Pn Pn 11 37 35.2 0.0
PESTR Estremoz 4.57 319 P Pn 11 37 36.3 +1.1
EVO Evora 4.58 313 P Pn 11 37 39.8 +4.5
EVO Evora 4.58 313 S Sn 11 38 30.5 +2.2
EVO Evora 4.58 313 *e*Pn Pn 11 37 35.0 -0.3
EVO *e*Sn Sn 11 38 25.5 -2.8
EVO A A 11 38 34.4
comp=N,196nm,0.6s
PNCL Nicolau / Gran 4.66 306 *e*Pn Pn 11 37 35.5 -0.8
PNCL *e*Sn Sn 11 38 28.0 -2.1
PNCL A A 11 38 37.5
comp=N,128nm,0.5s
ECHE Chera 4.68 27 Pn Pn 11 37 37.0 +0.3
PMRV Marv??o 4.90 325 *e*Pn Pn 11 37 39.6 -0.1
PMRV *e*Sn Sn 11 38 36.2 0.0
PMRV A A 11 38 56.3
comp=N,186nm,0.6s
TZRR Tazzarine 4.91 199 P Pn 11 37 40.2 +0.3
EPLA Plasencia 4.95 339 Pn Pn 11 37 40.3 -0.1
EPLA Sn Sn 11 38 35.4 -2.0
EPLA *i* Vmb_Lg 11 39 38.1
PMTG Montargil 5.07 317 *e*Pn Pn 11 37 41.4 -0.5
PMTG *e*Sn Sn 11 38 38.2 -2.0
PMTG A A 11 39 19.8
comp=N,150nm,0.7s
GUD Guadarrama 5.18 357 Pn Pn 11 37 44.2 +0.5
GUD *i* Vmb_Lg 11 39 35.4
OUZM OUZ 5.19 210 P Pn 11 37 44.2 +0.3
PACT Alcochete 5.23 311 *e*Pn Pn 11 37 44.4 +0.2
PACT *e*Sn Sn 11 38 43.0 -1.2
PCBR Castelo Branco 5.27 327 *e*Pn Pn 11 37 44.8 0.0
PCBR *e*Sn Sn 11 38 41.6 -3.7
PCBR A A 11 38 51.4
comp=N,118nm,0.5s
LIS Lisbon 5.40 309 *e*P Pn 11 37 45.2 -1.4
LIS Lisbon 5.40 309 *e*P Pn 11 37 45.1 -1.4
PMST Lisbon--Monsan 5.43 309 *e*Pn Pn 11 37 47.2 +0.2
PMST *e*Sn Sn 11 38 47.5 -1.7
OUK Oukaimeden 5.46 220 P Pn 11 37 47.0 -0.8
ETOR Torete 5.51 14 Pn Pn 11 37 48.5 +0.3
ETOR *i* Vmb_Lg 11 40 26.2
ZGR Zagora 5.56 197 P Pn 11 37 49.1 +0.3
PMAFR Mafra 5.62 310 *e*Pn Pn 11 37 49.3 -0.3
PMAFR *e*Sn Sn 11 38 51.0 -2.9
PMAFR A A 11 39 24.7
comp=N,184nm,0.8s
PSBE So Bento 5.69 317 *e*Pn Pn 11 37 50.7 +0.1
PSBE *e*Sn Sn 11 38 53.9 -1.8
PSBE A A 11 39 38.9
comp=N,164nm,0.6s
MTE Manteigas 5.77 330 *e*Pn Pn 11 37 52.2 +0.6
MTE *e*Sn Sn 11 38 56.0 -1.6
MTE A A 11 39 36.2
comp=N,238nm,0.6s
MTE Manteigas 5.77 330 Pn Pn 11 37 51.8 +0.1
ADJB Djebel Djouab 5.89 81 P Pn 11 37 53.1 -0.2
PCAS Casmilo, Conde 5.92 322 *e*Pn Pn 11 37 53.9 +0.1
PCAS *e*Sn Sn 11 38 59.7 -1.7
PCAS A A 11 39 45.1
comp=N,171nm,0.7s
COI Coimbra 6.00 323 *e*Pn Pn 11 37 56.3 +1.5
COI *e*Sn Sn 11 39 01.7 -1.5
COI Coimbra 6.00 323 P Pn 11 37 54.8 0.0
COI Coimbra 6.00 323 Pn Pn 11 37 54.8 0.0
PVIS Viseu 6.18 329 *e*Pn Pn 11 37 57.9 +0.6
PVIS *e*Sn Sn 11 39 06.4 -1.3
PVIS A A 11 39 26.1
comp=N,88nm,0.6s
EAH EAH 6.18 234 P Pn 11 37 56.0 -1.3
AKET Djebel Ketaf 6.24 82 P Pn 11 37 57.2 -1.0
MVO Moncorvo 6.25 337 *e*Pn Pn 11 37 59.0 +0.8
MVO *e*Sn Sn 11 39 05.6 -3.8
MVO A A 11 39 31.1
comp=N,182nm,0.6s
TTIG Tnine Tigouga, 6.29 220 P Pn 11 37 56.0 -2.9
ATAF Djebel Tarf 6.55 84 P Pn 11 38 03.0 +0.5
PVRL Vila Real 6.58 333 *e*Pn Pn 11 38 02.9 +0.1
PVRL *e*Sn Sn 11 39 16.1 -1.6
PVRL A A 11 39 33.6
comp=N,128nm,0.7s
POLO Lamas de Olo 6.70 333 *e*Pn Pn 11 38 04.6 +0.1
POLO *e*Sn Sn 11 39 18.8 -1.8
POLO A A 11 39 30.2
comp=N,64nm,0.6s
PBRG Braganca 6.75 341 *e*Pn Pn 11 38 05.4 +0.3
PBRG *e*Sn Sn 11 39 19.8 -1.9
PBRG A A 11 40 12.2
comp=N,102nm,0.7s
PTO Porto 6.83 328 *e*Pn Pn 11 38 07.3 +1.2
EPOB Poblet 7.00 31 Pn Pn 11 38 08.8 +0.2
CGR Cap Guir 7.05 229 P Pn 11 38 07.8 -1.4
PCAB Cabril 7.08 333 *e*Pn Pn 11 38 09.7 +0.1
PCAB *e*Sn Sn 11 39 25.2 -4.6
PCAB A A 11 40 23.3
comp=N,150nm,0.8s
ELOB Lobios 7.23 334 Pn Pn 11 38 11.5 -0.2
ELOB Sn Sn 11 39 30.1 -3.5
ELOB *i* Vmb_Lg 11 41 02.3
PGAV Gavieira, Arco 7.39 333 *e*Pn Pn 11 38 14.3 +0.4
PGAV *e*Sn Sn 11 39 31.2 -6.4
EMIR Miracle 7.65 31 Pn Pn 11 38 18.5 +1.0
EMIR *i* Vmb_Lg 11 41 40.8
EORO Oroz-Betelu 7.66 14 Pn Pn 11 38 18.0 +0.4
EORO *i* Vmb_Lg 11 42 03.4
EZAM Zamans 7.71 331 Pn Pn 11 38 20.6 +2.4
EZAM Sn Sn 11 39 44.8 -0.5
EZAM *i* Vmb_Lg 11 40 50.4
ELAN Lanestosa 7.76 2 Pn Pn 11 38 18.9 -0.1
ELAN *i* Vmb_Lg 11 40 50.6
ECHI Chisagues Biel 7.82 22 Pn Pn 11 38 20.6 +0.8
ECHI *i* Vmb_Lg 11 41 30.6
ETSF Etsaut 7.83 18 *e*Pn Pn 11 38 19.8 -0.1
ETSF *e*Sn Sn 11 39 43.2 -5.1
comp=N,20nm,0.5s
SJPF Ste Jean 7.89 14 *e*Pn Pn 11 38 20.6 -0.1
SJPF *e*Sn Sn 11 39 45.3 -4.4
comp=N,109nm,0.9s
EARI Arriondas 7.91 352 Pn Pn 11 38 22.7 +1.6
EARI *i* Vmb_Lg 11 40 48.5
EALK Alkurruntz 7.94 12 Pn Pn 11 38 23.7 +2.2
EAGO Agolada(Pontev 8.06 337 Pn Pn 11 38 25.0 +1.9
EAGO *i* Vmb_Lg 11 41 06.1
EPF Esparros 8.20 22 *e*Pn Pn 11 38 24.8 -0.2
EPF *e*Sn Sn 11 39 52.5 -4.8
comp=N,32nm,0.6s
EPF Esparros 8.20 22 P Pn 11 38 25.1 +0.1
EMAZ Mazaricos 8.50 333 Pn Pn 11 38 31.0 +1.9
EMAZ *i* Vmb_Lg 11 41 25.8
MTLF Montolieu 9.12 29 *e*Pn Pn 11 38 37.1 -0.5
MTLF Montolieu 9.12 29 *e*P Pn 11 38 41.9 +4.3
MTLF *e*Sn Sn 11 40 16.6 -3.4
comp=N,56nm,1.0s
MTLF Montolieu 9.12 29 P Pn 11 38 40.1 +2.5
TANT Tantan 9.48 224 P Pn 11 38 41.6 -0.9
LFF La Frestale 10.07 19 *e*Pn Pn 11 38 50.3 -0.2
LFF *e*Sn Sn 11 40 37.0 -6.2
comp=N,20nm,0.6s
LFF La Frestale 10.07 19 P Pn 11 38 51.2 +0.7
LASF Ste Croix 10.40 32 *e*Pn Pn 11 38 52.1 -3.1
CAF Calviac 10.44 23 *e*Pn Pn 11 38 55.6 -0.1
CAF *e*Sn Sn 11 40 45.5 -7.0
comp=N,18nm,0.8s
CAF Calviac 10.44 23 P Pn 11 38 56.7 +1.0
RJF Les Rejaudoux 10.62 21 *e*Pn Pn 11 38 57.7 -0.4
RJF *e*Sn Sn 11 40 49.6 -7.1
comp=N,3.8nm,0.4s
KEST Kesra 10.67 85 Pn Pn 11 38 60.0 +1.0
comp=N,0.7nm,0.3s,baz=194,slow=4.5,SNR=7.7
KEST Sn Sn 11 40 57.0 -1.2
comp=N,0.5nm,0.3s,baz=53,slow=14,SNR=1.5
KEST Kesra 10.67 85 Pn Pn 11 39 00.4 +1.4
PMPST Porto Santo, M 10.68 261 *e*P Pn 11 38 57.1 -1.9
PMPST *e*S Sn 11 40 43.0 -15
PMPS Porto Santo 10.68 261 *e*P Pn 11 38 57.4 -1.6
PMPS *e*S Sn 11 40 49.0 -9.4
SMRF Simiane la Rot 11.12 37 *e*P Pn 11 39 08.7 +3.6
LMR La Mourre 11.16 42 *e*Pn Pn 11 39 04.7 -0.9
LMR *e*Sn Sn 11 41 02.7 -7.4
comp=N,15nm,0.7s
VSL Villasalto 11.18 65 Pn Pn 11 39 06.6 +0.8
VIVF Saint-Julien-l 11.38 32 *e*Pn Pn 11 39 07.9 -0.6
FRF La Foret Royal 11.39 42 *e*Pn Pn 11 39 07.9 -0.8
FRF *e*Sn Sn 11 41 08.1 -7.6
comp=N,4.6nm,0.4s
PMOZ Porto Moniz, M 11.45 261 *e*P Pn 11 39 09.6 0.0
PMOZ *e*S Sn 11 41 10.1 -7.2
MFF Saint Martin d 11.46 13 *e*Pn Pn 11 39 09.1 -0.4
MFF Saint Martin d 11.46 13 P Pn 11 39 07.6 -1.9
TCF Toulx Ste Croi 11.71 21 *e*Pn Pn 11 39 13.5 +0.4
ORIF Oris-en-Rattie 11.97 35 *e*P Pn 11 39 20.1 +3.5
SBF Sospel 12.02 42 *e*P Pn 11 39 19.9 +2.6
BGF Bois d'Agland 12.15 22 *e*Pn Pn 11 39 17.9 -1.1
PGF Pioggiola 12.18 51 *e*P Pn 11 39 20.9 +1.4
PGF *e*Sn Sn 11 41 26.2 -8.9
comp=N,80nm,0.9s
PGF Pioggiola 12.18 51 P Pn 11 39 21.3 +1.8
MBDF Montbardon 12.26 38 *e*P Pn 11 39 23.9 +3.2
QUIF Quistinic 12.45 2 *e*Pn Pn 11 39 21.5 -1.6
QUIF Quistinic 12.45 2 P Pn 11 39 24.6 +1.5
QUIF S Sn 11 41 43.8 +2.3
AVF Avril sur Loir 12.51 23 *e*Pn Pn 11 39 23.8 -0.2
SMF Signal de Mont 12.55 25 *e*Pn Pn 11 39 25.1 +0.6
SSF Saint Saulge 12.80 23 *e*Pn Pn 11 39 27.2 -0.7
LPG La Plagne 12.81 35 *e*P Pn 11 39 32.1 +3.8
SGMF Saint Gilles 12.81 4 *e*Pn Pn 11 39 26.8 -1.3
LPL La Plagne 12.81 35 *e*P Pn 11 39 32.8 +4.5
ROSF Rostrenen 12.87 1 *e*Pn Pn 11 39 27.2 -1.6
GRR Gorron 13.09 9 *e*Pn Pn 11 39 31.1 -0.8
LOR Lormes 13.10 23 *e*P Pn 11 39 36.4 +4.4
baz=203
CABF La Chapelle 13.37 31 *e*P Pn 11 39 38.2 +2.4
LDF La Druitiere 13.39 10 *e*Pn Pn 11 39 35.7 -0.3
SFTF Sexfontaines 14.30 24 *e*P Pn 11 39 50.4 +1.9
SFTF *e*Sn Sn 11 42 16.1 -11
comp=N,2.7nm,0.3s
MEZF Maizieres J'vi 14.57 24 *e*P Pn 11 39 55.4 +3.4
MEZF *e*Sn Sn 11 42 21.9 -11
comp=N,3.2nm,0.3s
HAU Haudompre 14.61 28 *e*P Pn 11 39 55.4 +2.7
HAU *e*Sn Sn 11 42 24.4 -10
comp=N,3.0nm,0.3s
HINF Hinteralfeld 14.65 29 *e*P Pn 11 39 56.0 +2.7
HINF *e*Sn Sn 11 42 25.0 -10
comp=N,1.3nm,0.3s
SAVF Savonnieres en 14.69 24 *e*P Pn 11 39 56.4 +2.7
VAE Valguarnera 14.76 77 Pn Pn 11 39 55.0 +0.3
comp=N,1.0nm,0.3s,baz=306,slow=8.7,SNR=1.5
VAE LR LR 11 45 16.3
comp=N,561nm,19.9s,baz=318,slow=36
PAGF Fort de Pagny 14.84 25 *e*Pn Pn 11 39 48.4 -7.4
PAGF *e*Sn Sn 11 42 33.0 -6.9
comp=N,6.5nm,0.4s
ECH Echery 15.10 29 P P 11 40 06.5 +2.1
DAVOX Davos/Dischmat 15.25 38 Pn Pn 11 40 02.8 +1.4
comp=N,0.1nm,0.3s,baz=176,slow=17,SNR=1.7
DAVOX LR LR 11 46 18.2
comp=N,113nm,20.0s,baz=255,slow=39
CDF Champ du Feu 15.30 29 *e*P P 11 40 04.9 -1.9
CDF *e*Sn Sn 11 42 41.4 -10
comp=N,1.2nm,0.3s
SLE Schleitheim 15.30 33 P Pn 11 40 03.6 +1.6
SLE pmax pmax
comp=Z,32nm,1.5s
DAVA Damuels 15.60 37 *e*Pn P 11 40 12.0 +1.8
comp=Z,7.4nm,0.5s
BAIF Baives 15.70 19 *e*P Pn 11 40 09.3 +2.2
BAIF *e*Sn Sn 11 42 48.4 -12
comp=Z,9.9nm,0.5s
DOU Dourbes 15.84 20 *d*PnPn P 11 40 14.8 +2.1
FETA Feichten 15.84 39 *e*Pn P 11 40 12.5 -0.4
comp=Z,10nm,0.8s
GIVF Givet 15.91 21 *e*P Pn 11 40 11.5 +1.7
GIVF *e*Sn Sn 11 42 58.6 -7.2
comp=Z,110nm,0.6s
BMRD Maredsous 16.07 20 *d*P P 11 40 14.3 -0.9
BMRD *d*PnPn sP 11 40 20.3 -0.8
RCHB Rochefort 16.08 21 *d*PnPn P 11 40 20.1 +4.8
SNF Seneffe 16.13 19 *d*P P 11 40 16.1 +0.3
SNF *d*PnPn PnPn 11 40 22.1 +0.7
BGES Gesves 16.24 21 *d*P P 11 40 17.8 +0.7
MOTA Moosalm 16.25 39 *e*Pn P 11 40 18.8 +1.4
comp=Z,9.3nm,0.7s
BCLA Clavier 16.33 21 *d*P Pn 11 40 16.7 +1.5
comp=Z,17nm,1.2s
BCLA *d*PnPn pP 11 40 20.7 -1.3
WTTA Wattenberg 16.47 40 *e*Pn Pn 11 40 17.9 +0.7
comp=Z,9.1nm,0.6s
WTTA Wattenberg 16.47 40 P P 11 40 20.5 +0.6
WTTA pmax pmax
comp=Z,31nm,0.9s
WATA Walderalm 16.49 39 *e*Pn P 11 40 22.8 +2.8
comp=Z,4.6nm,0.5s
BHOU Houvegnez 16.49 22 *d*P P 11 40 19.1 -0.8
ABTA Abfaltersbach 16.62 42 *e*Pn P 11 40 24.2 +2.8
comp=Z,6.3nm,0.7s
MEM Membach 16.71 22 *d*P Pn 11 40 21.3 +1.3
KBA Koelnbreinsper 17.27 43 *e*Pn P 11 40 36.1 +7.4
comp=Z,4.4nm,0.8s
OBKA Obir 17.64 46 *e*Pn P 11 40 35.0 +2.3
comp=Z,4.3nm,0.8s
LBWR Ladybower, Pea 17.99 4 *e*P P 11 40 43.2 +6.8
LBWR IAmb IAmb 11 40 45.0
comp=Z,40nm,1.0s
SOKA Soboth 18.01 46 *e*Pn P 11 40 39.7 +2.9
comp=Z,5.0nm,0.8s
MOA Molln 18.23 42 *e*Pn P 11 40 47.7 +8.5
comp=Z,4.0nm,0.6s
WET Wettzell 18.33 37 P P 11 40 43.2 +2.9
WET pmax pmax
comp=Z,11nm,1.1s
GERES GERESS Array B 18.55 39 P P 11 40 42.5 -0.2
comp=Z,0.2nm,0.3s,baz=242,slow=16,SNR=9.9
HPK Haverah Park 18.55 4 *e*P Pn 11 40 48.6 +5.8
HPK IAmb IAmb 11 40 50.4
comp=Z,83nm,1.2s
ARSA Arzberg 18.60 45 *e*Pn Pn 11 40 51.3 +7.8
comp=Z,3.9nm,0.7s
KHC Kasperske Hory 18.67 38 *i* P P 11 40 43.6 -0.4
KHC pmax pmax
comp=Z,18nm,1.0s
KHC Kasperske Hory 18.67 38 *e*P P 11 40 43.9 -0.1
KHC *e*pP sP 11 40 49.6 -0.2
KHC Kasperske Hory 18.67 38 P P 11 40 42.9 -1.1
MOX Moxa 18.82 32 P Pn 11 40 47.5 +1.4
MOX pmax pmax
comp=Z,15nm,1.4s
CKRC Cesky Krumlov 18.84 39 *e*P Pn 11 40 47.0 +0.6
NKC Novy Kostel 18.89 34 *e*P Pn 11 40 50.2 +3.3
NKC Novy Kostel 18.89 34 *e*P Pn 11 40 50.2 +3.3
CONA Conrad Observa 19.16 43 *e*Pn Pn 11 40 52.5 +2.2
comp=Z,7.3nm,0.6s
EDMD Edmundbyers 19.41 3 *e*P Pn 11 40 55.4 +2.3
EDMD IAmb IAmb 11 40 56.5
comp=Z,35nm,1.1s
PRU Pruhonice 19.71 37 *e*P Pn 11 40 56.7 0.0
PRU Pruhonice 19.71 37 *e*P Pn 11 40 56.7 0.0
PRU *e*pP sP 11 41 01.3 +0.2
ESK Eskdalemuir 19.86 1 *e*P Pn 11 41 00.8 +2.3
EKA Eskdalemuir Ar 19.88 1 P P 11 40 56.2 -0.8
baz=176,slow=10.0,SNR=5.1
CLL Collm 19.90 32⇓ *i*P Pn 11 40 59.2 +0.2
CLL *e*S Sn 11 44 44.0 +1.6
CLL pmax pmax
comp=Z,30nm,1.0s
CLL Collm 19.90 32 P Pn 11 40 58.9 -0.2
CLL Collm 19.90 32⇓ *i*P Pn 11 40 59.2 +0.2
comp=Z,30nm,1.0s
CLL *i* sP sP 11 41 03.4 +0.2
comp=Z,35nm,1.0s
CLL *e*x x 11 41 08.0
CLL *e*x x 11 42 17.0
CLL *e*S Sn 11 44 44.0 +1.6
comp=N,300nm,18.9s
CLL *e*S Sn 11 44 44.0 +1.6
comp=E,300nm,28.9s
CLL Lmax 11 49 00.0
MORH Mrgy, Hungar 20.00 51 ⇑P P 11 40 59.6 +1.1
BRG Berggiesshubel 20.02 34 *e*P Pn 11 41 00.5 +0.2
BRG Amp 11 41 02.1
comp=Z,41nm,1.5s
BRG Berggiesshubel 20.02 34 *e*P Pn 11 41 00.5 +0.1
BRG pmax pmax
comp=Z,41nm,1.5s
OHR Ohrid 20.05 66 *i* P P 11 40 54.1 -5.1
PVCC Panska Ves 20.07 36 P Pn 11 41 01.2 +0.1
PVCC pmax pmax

comp=Z,19nm,1.3s
KRUC Moravsky 20.09 41 P **P 11 41 00.1 +0.6**
KRUC pmax pmax
comp=Z,15nm,0.9s
KRUC Moravsky 20.09 41 *e*PN **P 11 40 59.8 +0.3**
VRAC Vranov 20.34 41 ⇑P **P 11 41 02.5 +0.3**
VRAC Vranov 20.34 41 P **P 11 41 01.9 -0.3**
comp=Z,3.1nm,0.4s,baz=236,slow=12,SNR=5.9
VRAC LR LR 11 49 30.2
comp=Z,124nm,18.1s,baz=254,slow=38
VRAC Vranov 20.34 41 *e*PN **P 11 41 02.3 +0.1**
SMOL Smolenice 20.36 44 *e*P Pn 11 41 04.4 -0.1
SMOL pmax pmax
comp=Z,13nm,1.1s
SMOL Smolenice 20.36 44 *e*P Pn 11 41 04.4 -0.1
ESY Stoneypath 20.47 2 *e*P Pn 11 41 05.5 -0.2
SRO Srobarova 20.51 46 *e*P Pn 11 41 05.9 -0.3
SRO Srobarova 20.51 46 *e*P Pn 11 41 05.9 -0.3
SRO2 Moca 20.54 46 *e*P **P 11 41 05.1 +0.8**
SRO2 Moca 20.54 46 *e*P **P 11 41 05.1 +0.8**
SKO Skopje 20.66 64 *i* P Pn 11 41 08.5 +0.4
JAVC Velka Javorina 20.68 43 *e*PN **P 11 41 05.6 -0.3**
EAB Aberfoyle 20.73 359 *e*P Pn 11 41 12.0 +3.2
UPC Upice 20.76 38 *e*P **P 11 41 08.0 +1.2**
UPC Upice 20.76 38 *e*P **P 11 41 08.0 +1.2**
BUD Budapest 20.78 48 P Pn 11 41 09.9 +0.5
BUD pmax pmax
comp=Z,32nm,1.5s
DPC Dobruska-Polom 20.82 38 *e*P **P 11 41 08.3 +0.9**
DPC *e* 11 41 15.2
DPC Dobruska-Polom 20.82 38 *e*P **P 11 41 08.3 +0.9**
DPC *e*pP **sP 11 41 15.2 +1.9**
CHVC Chvalec 20.84 37 *e*P **P 11 41 08.3 +0.7**
CHVC *ex* x 11 41 12.8
KOWA Kowa 20.88 181 P **P 11 41 06.9 -1.3**
comp=Z,8.9nm,0.8s,baz=7.3,slow=9.8,SNR=22
KOWA LR LR 11 48 43.0
comp=Z,270nm,21.8s,baz=16,slow=35
OSTC Ostas 20.90 38 *e*P **P 11 41 09.6 +1.4**
OSTC *e*pP **sP 11 41 13.5 -0.6**
BSEG Bad Segeberg 20.93 24 P Pn 11 41 11.6 +0.5
BSEG pmax pmax
comp=Z,68nm,1.0s
AGG Agios Georgios 21.04 73 P **P 11 41 11.3 +1.4**
AGG pmax pmax
comp=Z,38nm,1.1s
AGG Agios Georgios 21.04 73 P **P 11 41 11.3 +1.4**
KSP Ksiaz 21.11 37 P **P 11 41 12.0 +1.5**
KSP pmax pmax
comp=Z,25nm,1.6s
MORC Moravsky Berou 21.12 41 ⇑P **P 11 41 11.3 +0.7**
MORC Moravsky Berou 21.12 41 P **P 11 41 10.8 +0.2**
MORC pmax pmax
comp=Z,38nm,1.4s
MORC Moravsky Berou 21.12 41 P **P 11 41 10.8 +0.2**
MORC Moravsky Berou 21.12 41 *e*PN **P 11 41 11.2 +0.6**
VYHS Vyhne 21.15 45 *e*P **P 11 41 11.9 +0.9**
VYHS pmax pmax
comp=Z,16nm,1.1s
VYHS Vyhne 21.15 45 *e*P **P 11 41 11.9 +0.9**
STIP Stip 21.17 65 *i* P **P 11 41 12.1 +0.9**
BOVS Bovan 21.20 60 ⇑P **P 11 41 14.2 +2.6**
VAY Valandovo 21.40 66 *i* P **P 11 41 14.0 +0.3**
DRUM Mains of Drumt 21.47 2 *e*P **P 11 41 16.9 +2.6**
PSZ Piszkesteto 21.50 47 ⇑P **P 11 41 15.3 +0.4**
PSZ Piszkesteto 21.50 47 P **P 11 41 15.0 +0.2**
PSZ pmax pmax
comp=Z,19nm,1.1s
PSZ Piszkesteto 21.50 47 P **P 11 41 15.0 +0.2**
IZAB Izabela 21.70 46 *e*P **P 11 41 18.5 +1.7**
BZS Buzias 21.70 54 ⇑P **P 11 41 18.7 +1.8**
BZS Buzias 21.70 54 P **P 11 41 18.6 +1.7**
BZS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 21.84 44 *e*P **P 11 41 20.1 +1.7**
LANS pmax pmax
comp=Z,16nm,1.5s
LANS Liptovska Anna 21.84 44 *e*P **P 11 41 20.1 +1.7**
SIRR Siria 21.95 53 ⇑P **P 11 41 20.9 +1.4**
HERR Herculane 22.02 57 ⇑P **P 11 41 23.0 +2.7**
VTS Vitosha 22.09 63 ⇑P **P 11 41 23.7 +2.4**
VTS Vitosha 22.09 63 P **P 11 41 22.6 +1.4**
VTS pmax pmax
comp=Z,16nm,1.1s
VTS Vitosha 22.09 63 P **P 11 41 22.6 +1.4**
KECS Kecovo 22.11 47 *e*P **P 11 41 23.5 +2.2**
KECS Kecovo 22.11 47 *e*P **P 11 41 23.5 +2.2**
GZR Gura Zlata 22.41 56 ⇑P **P 11 41 25.8 +1.2**
NIE Niedzica 22.45 44 P **P 11 41 28.5 +3.6**
TORD Torodi Ar. Bea 22.76 166 P **P 11 41 27.8 -0.5**
comp=Z,26nm,0.8s,baz=348,slow=7.8,SNR=123
TORD Torodi Ar. Bea 22.76 166 P **P 11 41 28.0 -0.3**
TORD IAmb IAmb 11 41 34.1
comp=Z,42nm,0.9s
DRGR 22.81 52 ⇑P **P 11 41 30.2 +1.4**
DRGR 22.81 52 P **P 11 41 30.6 +1.8**
DRGR pmax pmax
comp=Z,18nm,1.5s
CRVS Cervenica-Dubn 22.88 46 *e*P **P 11 41 32.3 +2.9**
CRVS Cervenica-Dubn 22.88 46 *e*P **P 11 41 32.3 +2.9**
TRPA Tarpa 23.20 49 ⇑P **P 11 41 32.9 +0.2**
UZH Uzhgorod 23.26 48 *e*P **P 11 41 37.3 +4.0**
UZH *i* 11 41 42.4
UZH *e* 11 42 01.6
UZH *e*S **S 11 45 46.5 +1.6**
UZH MLR MLR
comp=N,80nm,15.0s
UZH MLR MLR
comp=E,80nm,15.0s
UZH MLR MLR
comp=Z,120nm,15.0s
IDI Anoyia 23.33 82 ⇑P **P 11 41 36.5 +2.3**
IDI Anoyia 23.33 82 P **P 11 41 34.3 +0.1**
comp=Z,8.4nm,0.8s,baz=281,slow=15,SNR=2.2
APE Apeiranthos 23.63 77 *i* P **P 11 41 36.7 -0.5**
APE pmax pmax
comp=Z,12nm,0.9s
ARR Arges 23.66 57 ⇓P **P 11 41 39.4 +2.0**
KWP Kalwaria Pacla 23.93 46 P **P 11 41 40.1 +0.2**
KWP pmax pmax
comp=Z,415nm,1.5s
KWP Kalwaria Pacla 23.93 46 P **P 11 41 40.1 +0.2**
VOIR 23.96 57 ⇑P **P 11 41 41.7 +1.4**
VOIR 23.96 57 P **P 11 41 42.4 +2.1**
VOIR pmax pmax
comp=Z,14nm,1.6s
ARCR ARCALIA 23.97 52 ⇑P **P 11 41 40.9 +0.6**
ALN Alexandroupoli 23.98 68 P **P 11 41 43.7 +3.3**
ALN pmax pmax
comp=Z,14nm,1.2s
DOPR Dopca 24.33 56 ⇑P **P 11 41 44.1 +0.5**
MLR Muntele Rosu 24.59 57 ⇓P **P 11 41 47.0 +0.8**
MLR Muntele Rosu 24.59 57 P **P 11 41 46.9 +0.8**
comp=Z,13nm,1.1s,baz=281,slow=19,SNR=5.3
MLR LR LR 11 51 57.3
comp=Z,294nm,18.0s,baz=249,slow=38
MLR Muntele Rosu 24.59 57 P **P 11 41 44.9 -1.3**
MLR IAmb IAmb 11 42 07.0
comp=Z,27nm,1.0s
BURAR Bucovina Array 24.70 52 ⇑P **P 11 41 47.5 +0.4**
BURAR Bucovina Array 24.70 52 P **P 11 41 47.2 +0.1**
BURAR pmax pmax
comp=Z,20nm,1.4s
BURAR Bucovina Array 24.70 52 P **P 11 41 47.2 +0.1**
LVV L'vov 24.79 46 *e*P **P 11 41 50.7 +2.9**
LVV *e*S **S 11 46 10.6 +1.0**
LVV MLR MLR
comp=N,200nm,12.0s
LVV MLR MLR
comp=E,200nm,12.0s
LVV MLR MLR
comp=Z,200nm,12.0s
PLOR Plostina 25.15 56 ⇓P **P 11 41 51.3 +0.2**
PLOR Plostina 25.15 56 P **P 11 41 51.3 +0.2**
VRI Vrincioaia 25.21 56 ⇑P **P 11 41 52.7 +1.1**
VRI Vrincioaia 25.21 56 P **P 11 41 52.7 +1.1**
TESR Tescani 25.32 55 ⇑P **P 11 41 52.0 -0.5**
TPGR Topolog 26.17 59 ⇑P **P 11 42 00.8 +0.4**
SUW Suwalki 26.39 37 P **P 11 42 03.1 +0.9**
SUW pmax pmax
comp=Z,75nm,1.1s
SUW Suwalki 26.39 37 P **P 11 42 03.1 +0.9**
SORM Soroca 26.87 52 ⇑P **P 11 42 05.4 -1.1**
SORM Soroca 26.87 52 P **P 11 42 05.4 -1.1**
HFS Hagfors 27.15 19 P **P 11 42 09.1 +0.1**
comp=Z,9.7nm,0.9s,baz=202,slow=11,SNR=5.5
HFS PcP **PcP 11 45 28.6 -0.5**
comp=Z,1.0nm,0.5s,baz=212,slow=5.1,SNR=2.4
HFS LR LR 11 53 42.3
comp=Z,524nm,18.3s,baz=208,slow=38
NB2 NORSAR Subarra 27.33 16 P **P 11 42 10.5 -0.1**
comp=Z,15nm,1.2s,baz=210,slow=8.6
NOA NORSAR Array B 27.33 16 P **P 11 42 10.0 -0.6**
comp=Z,1.7nm,0.9s,baz=207,slow=8.9,SNR=5.8
NOA LR LR 11 53 22.4
comp=Z,395nm,19.5s,baz=210,slow=37
NOA NORSAR Array B 27.33 16 P **P 11 42 10.0 -0.6**
AKASG Malin Array Be 28.21 47 P **P 11 42 15.9 -2.6**
comp=Z,1.3nm,0.5s,baz=244,slow=10,SNR=4.4
AKBB Malin Array Si 28.21 47 *ce*P **P 11 42 18.4 -0.1**
DBIC Dimbokro 28.67 182 P **P 11 42 20.7 -2.2**
comp=Z,4.4nm,0.7s,baz=353,slow=6.4,SNR=5.8
DBIC LR LR 11 53 16.1
comp=Z,198nm,19.9s,baz=14,slow=35
DBIC Dimbokro 28.67 182 P **P 11 42 20.7 -2.2**
DBIC pmax pmax
comp=Z,12nm,1.2s
MNK Minsk 29.01 39 *i* P **P 11 42 22.5 -3.1**
MNK *i* PPP PPP 11 43 24.9
MNK *i* 11 45 31.8
MNK *i* S **S 11 47 12.4 -3.7**
MNK *i* SSS SSS 11 48 50.3
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=Z,289nm,19.0s
MNK MLR MLR
comp=E,13nm,13.0s
MNK MLR MLR
comp=N,180nm,15.0s
MNK Minsk 29.01 39 *i* P **P 11 42 22.5 -3.1**
comp=E,3.0nm,0.8s
MNK *i* P **P 11 42 22.5 -3.1**
comp=N,14nm,0.8s
MNK *i* P **P 11 42 22.5 -3.1**
comp=Z,13nm,0.8s,baz=244
MNK *i* PP **PnPn 11 43 13.3 -4.1**
MNK *i* PPP PPP 11 43 24.9
MNK *i* S **S 11 47 12.4 -3.7**
MNK *i* SS **SnSn 11 48 35.9 -3.4**
MNK *i* SSS SSS 11 48 50.4
MNK *i* LR LR 11 51 38.9
MNK *i* LRM MLR 11 54 17.5
comp=Z,289nm,19.3s
MNK *i* LRM MLR 11 54 56.1
comp=E,13nm,12.9s
MNK *i* LRM MLR 11 54 56.8
comp=N,180nm,14.8s
BRTR Keskin Array B 29.79 71 LR LR 11 54 03.8
comp=N,115nm,21.6s,baz=268,slow=36
VSU Vasula 30.56 32 *i* P **P 11 42 38.6 -0.6**
VSU pmax pmax
comp=Z,23nm,1.1s
FINES FINESS Array B 32.13 27 P **P 11 42 52.7 -0.4**
comp=Z,1.5nm,0.5s,baz=216,slow=6.9,SNR=2.4
FINES PcP **PcP 11 45 40.8 -1.0**
comp=Z,2.6nm,0.8s,baz=225,slow=3.3,SNR=3.0
MMAI Mount Meron Ar 32.32 83 P **P 11 42 56.9 +1.7**
comp=Z,4.2nm,0.7s,baz=300,slow=9.8,SNR=2.9
EIL Eilat 32.98 89 P **P 11 43 01.8 +0.9**
comp=Z,6.8nm,0.8s,baz=171,slow=13,SNR=2.8
EIL LR LR 11 57 56.5
comp=Z,166nm,19.4s,baz=273,slow=39
OBN Obninsk 33.87 42 LR LR 11 57 09.7
comp=Z,76nm,20.9s,baz=188,slow=37
OBN Obninsk 33.87 42 *i* P **P 11 43 08.7 +0.4**
OBN *i* 11 43 14.3
OBN *i* 11 45 46.4
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,203nm,14.0s
VORR Voronezh 34.52 48 *e*P P 11 43 04.2 -10
JMIC Jan Mayen 35.68 357 P **P 11 43 22.6 -1.1**
comp=Z,104nm,0.4s,baz=159,slow=12,SNR=2.3
KIV Kislovodsk 36.31 62 *e*P **P 11 43 30.3 +0.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,34nm,16.0s
KBZ Khabaz 36.48 62 LR LR 12 02 09.3
comp=Z,35nm,18.0s,baz=293,slow=42
KBZ Khabaz 36.48 62 *i* P **P 11 43 31.2 +0.3**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KLMR Klimovskoe 37.38 34 *e*P **P 11 43 37.7 -0.7**
KLMR *e* 11 45 03.3
KLMR *e* 11 45 55.0
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 37.38 34 *e*P **P 11 43 37.7 -0.7**
KLMR AMP 11 43 54.1
comp=Z,16nm,1.2s
KLMR *e*PP **PP 11 45 03.4 -0.2**
KLMR *e*PcP **PcP 11 45 55.0 -2.0**
ARCES ARCESS Array B 37.70 16 LR LR 11 58 39.1
comp=Z,326nm,19.3s,baz=234,slow=35
BELG Belogornoye 39.77 48 LR LR 12 01 27.2
comp=Z,124nm,18.9s,baz=334,slow=38
BELG Belogornoye 39.77 48 *i* P **P 11 43 58.2 -0.3**
BELG pmax pmax
comp=Z,3.0nm,0.8s
SFJD Kangerlussuaq 41.37 334 LR LR 11 59 03.2
comp=Z,167nm,19.6s,baz=121,slow=33
KIRV Kirov 41.55 39 LR LR 12 02 49.9
comp=Z,137nm,18.4s,baz=265,slow=38
DAG Danmarks Havn 41.95 355 P **P 11 44 16.7 +0.5**
DAG pmax pmax
comp=Z,14nm,1.7s
DAG Danmarks Havn 41.95 355 *i* P **P 11 44 21.0 +4.8**
SPITS Spitsbergen Ar 43.68 6 P **P 11 44 29.1 -1.2**
comp=Z,16nm,1.0s,baz=229,slow=15,SNR=2.5
AKTO Aktyubinsk 46.29 51 P **P 11 44 51.7 +0.3**
comp=Z,14nm,0.9s,baz=278,slow=12,SNR=8.3
AKTO LR LR 12 06 16.5
comp=Z,140nm,18.0s,baz=273,slow=39
ARU Arti 46.29 43 P **P 11 44 51.5 +0.2**
comp=Z,3.1nm,0.4s,baz=257,slow=4.4,SNR=12
ARU LR LR 12 03 37.9
comp=Z,214nm,20.7s,baz=268,slow=35
ARU Arti 46.29 43 *di* P **P 11 44 51.6 +0.2**
ARU 11 46 23.6
ARU 11 46 41.5
ARU S **S 11 51 39.2 +1.6**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 46.29 43 P **P 11 44 50.2 -1.1**
ARU IAmb IAmb 11 44 57.4
comp=Z,25nm,1.0s
NOR Nord 46.50 357 P **P 11 44 54.5 +1.8**
NOR Nord 46.50 357 *e*P **P 11 44 53.3 +0.6**
SCHQ Schefferville 46.77 315 P **P 11 44 54.0 -1.2**
comp=Z,5.8nm,0.8s,baz=175,slow=11,SNR=4.1
SCHQ Schefferville 46.77 315 IAmb IAmb 11 45 19.3
comp=Z,25nm,1.4s
NEEM North Greenlan 46.79 347 *e*P **P 11 44 53.3 -2.0**
SVE Sverdlovsk 47.43 42 *e*P **P 11 45 01.6 +1.4**
ABKAR Akbulak array 47.67 53 P **P 11 45 02.3 +0.1**
ABKAR Akbulak array 47.67 53 IAmb IAmb 11 45 08.6
comp=Z,14nm,0.8s
FRB Frobisher Bay 47.78 327 LR LR 12 01 49.8
comp=Z,185nm,20.7s,baz=66,slow=32
FRB Frobisher Bay 47.78 327 P **P 11 45 03.1 +0.3**
FRB pmax pmax
comp=Z,10.0nm,0.7s
MBAR Mbarara 48.18 131 LR LR 12 06 10.0
comp=Z,170nm,18.9s,baz=342,slow=37
MBAR Mbarara 48.18 131 *i* P **P 11 45 08.0 +1.3**
MBAR pmax pmax
comp=Z,18nm,1.0s
MBAR Mbarara 48.18 131 P **P 11 45 07.8 +1.0**
MBAR IAmb IAmb 11 45 10.4
comp=Z,18nm,0.9s
LODK Lodwar 48.20 122 P **P 11 45 07.8 +1.0**
LODK IAmb IAmb 11 45 09.9
comp=Z,15nm,1.1s
ATD Arta Tunnel 48.36 108 LR LR 12 06 15.7
comp=Z,264nm,20.9s,baz=360,slow=37
PKME Peaks-Kenny Pk 49.63 302 P **P 11 45 18.8 +1.4**
baz=77
RCBR Riachuelo 50.99 223 LR LR 12 05 08.4
comp=Z,357nm,19.5s,baz=170,slow=34
L61B Northampton 52.72 300 P **P 11 45 41.9 +1.3**
baz=73
KMBO Kilima Mbogo 52.80 125 P **P 11 45 41.6 -0.1**
comp=Z,4.5nm,0.8s,baz=326,slow=6.6,SNR=9.7
KMBO Kilima Mbogo 52.80 125 *ce*P **P 11 45 42.2 +0.5**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 52.80 125 P **P 11 45 43.9 +2.1**
BRVK Borovoye 53.41 46 *ce*P **P 11 45 46.5 +1.0**
BRVK pmax pmax
comp=Z,26nm,1.7s
BRVK Borovoye 53.41 46 P **P 11 45 45.9 +0.3**
BRVK IAmb IAmb 11 45 51.5
comp=Z,17nm,1.1s
LONY Lake Ozonia 53.43 303 P **P 11 45 47.3 +1.4**
baz=73
BVAR Borovoye Array 53.48 46 P **P 11 45 44.9 -1.2**
comp=Z,0.4nm,0.5s,baz=329,slow=5.0,SNR=3.0
EUNU Eureka 54.06 348 P **P 11 45 50.3 +0.3**
EUNU IAmb IAmb 11 45 58.2
comp=Z,27nm,1.1s
MDP Montagnes des 54.15 248 LR LR 12 04 24.1
comp=Z,155nm,21.3s,baz=59,slow=31
KIBK Kibwezi 54.22 125 P **P 11 45 54.2 +2.2**
WSAR Wadi Sarin 54.92 85 LR LR 12 14 54.7
comp=Z,87nm,18.2s,baz=322,slow=42
BINY Binghamton 55.13 300 P **P 11 45 59.0 +0.8**
baz=71
RES Resolute Bay 56.46 341 LR LR 12 09 27.8
comp=Z,48nm,18.8s,baz=120,slow=35
RES Resolute Bay 56.46 341 P **P 11 46 07.2 -0.1**
RES pmax pmax
comp=Z,10.0nm,1.2s
RES Resolute Bay 56.46 341 P **P 11 46 07.2 -0.1**
SADO Sadowa 56.49 304 LR LR 12 09 11.3
comp=Z,107nm,18.8s,baz=24,slow=35
CHGR Chuyangaron 56.83 63 IAmb IAmb 11 46 16.7
comp=Z,17nm,0.8s
SSPA Standing Stone 57.01 299 P **P 11 46 12.7 +1.0**
baz=69
SJG San Juan 57.44 270 LR LR 12 05 55.7
comp=Z,54nm,22.0s,baz=60,slow=31
O56A Blue Knob Stat 57.62 299 P **P 11 46 17.7 +1.7**
baz=69
NRIK Noril'sk 57.77 25 P **P 11 46 14.8 -1.8**
comp=Z,1.0nm,0.5s,baz=270,slow=6.4,SNR=1.9
NRIK LR LR 12 12 41.0
comp=Z,182nm,18.8s,baz=307,slow=38
NRIK Noril'sk 57.77 25 *ce*P **P 11 46 17.6 +1.1**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
TSUM Tsumeb 58.01 156 LR LR 12 11 05.4
comp=Z,109nm,18.2s,baz=321,slow=36
TSUM Tsumeb 58.01 156 P **P 11 46 19.3 +0.4**
TSUM IAmb IAmb 11 46 21.2
comp=Z,12nm,0.8s
LSZ Lusaka 58.85 143 LR LR 12 10 12.7
comp=Z,36nm,21.1s,baz=330,slow=34
LSZ Lusaka 58.85 143 P **P 11 46 26.2 +1.3**
LSZ pmax pmax
comp=Z,17nm,1.0s
LSZ Lusaka 58.85 143 P **P 11 46 26.2 +1.3**
LSZ IAmb IAmb 11 46 27.5
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 59.00 47 P **P 11 46 25.4 0.0**
comp=Z,11nm,0.6s,baz=293,slow=7.8,SNR=44
KURBB LR LR 12 12 03.3
comp=Z,91nm,18.8s,baz=282,slow=36
KURK Kurchatov 59.02 47 *ce*P **P 11 46 25.7 +0.1**
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 59.02 47 P **P 11 46 25.4 -0.2**
AAK Ala-Archa 59.17 57 P **P 11 46 27.4 +0.4**
comp=Z,7.0nm,1.2s,baz=175,slow=11,SNR=4.5
AAK LR LR 12 15 32.7
comp=Z,134nm,18.0s,baz=312,slow=40
AAK Ala-Archa 59.17 57 P **P 11 46 26.5 -0.5**
P52A Corning 60.40 300 P **P 11 46 36.2 +0.9**
baz=67
FCC Fort Churchill 60.63 323 P **P 11 46 36.5 0.0**
FCC pmax pmax
comp=Z,10.0nm,0.8s
FCC Fort Churchill 60.63 323 P **P 11 46 36.5 0.0**
FCC IAmb IAmb 11 46 41.6
comp=Z,9.6nm,0.8s
ACSO Alum Creek Sta 60.76 300 P **P 11 46 39.0 +1.2**
baz=66
KSH Kashi 61.40 60 P **P 11 46 42.9 +0.6**
KSH pP sP 11 46 47.9 -0.8
KSH pmax pmax
comp=Z,13nm,1.2s
ZALV Zalesovo Beam 61.45 42 P **P 11 46 42.1 -0.1**
comp=Z,3.3nm,0.6s,baz=292,slow=7.1,SNR=14
ZALV LR LR 12 14 32.3
comp=Z,161nm,20.2s,baz=296,slow=37
TARG Taragay, Kyrgy 61.79 57 IAmb IAmb 11 46 53.5
comp=Z,7.8nm,0.7s
NIL Nilore 61.86 67 P **P 11 46 44.9 -0.4**
NIL pmax pmax
comp=Z,24nm,1.2s
NIL Nilore 61.86 67 P **P 11 46 44.9 -0.4**
O48B Farmland 62.28 301 P **P 11 46 48.4 +0.4**
baz=66
MAKZ Makanchi 62.52 51 P **P 11 46 49.3 -0.2**
MAKZ pmax pmax
comp=Z,16nm,0.8s
MAKZ Makanchi 62.52 51 P **P 11 46 49.3 -0.2**
TZTN Tazewell 62.68 297 P **P 11 46 51.8 +1.1**
baz=64
MK31 Makanchi Array 62.72 50 IAmb IAmb 11 46 56.8
comp=Z,13nm,0.8s
MKAR Makanchi Array 62.72 50 P **P 11 46 50.7 -0.2**
comp=Z,2.8nm,0.7s,baz=292,slow=5.8,SNR=29
MKAR LR LR 12 14 58.5
comp=Z,135nm,19.9s,baz=322,slow=37
MKAR Makanchi Array 62.72 50 P **P 11 46 50.2 -0.7**
EYMN Ely 63.31 311 IAmb IAmb 11 47 00.2
comp=Z,15nm,0.9s
EYMN Ely 63.31 311 P **P 11 46 55.1 +0.3**
baz=66
MATP Matopo 63.44 146 LR LR 12 13 25.0
comp=Z,51nm,20.6s,baz=352,slow=35
PTGA Pitinga 63.47 248 LR LR 12 10 11.2
comp=Z,76nm,20.2s,baz=59,slow=32
G40A Rib Lake 63.60 308 IAmb IAmb 11 47 02.0
comp=Z,11nm,0.9s
GOGA Godfrey 63.99 294 P **P 11 47 00.7 +1.2**
baz=63
JFWS Jewell Farm 64.62 306 P **P 11 47 04.4 +0.9**
baz=64
ULM Lac du Bonnet 64.95 315 P **P 11 47 03.7 -1.7**
comp=Z,1.7nm,0.4s,baz=43,slow=9.3,SNR=10
ULM LR LR 12 11 55.1
comp=Z,84nm,20.8s,baz=32,slow=33
ULM Lac du Bonnet 64.95 315 IAmb IAmb 11 47 09.9
comp=Z,10nm,0.8s
HDIL Hopedale 65.01 303 P **P 11 47 06.5 +0.4**
baz=64
T47A Sharon Grove 65.06 299 IAmb IAmb 11 47 11.9
comp=Z,10nm,0.8s
SPMN Marine on St. 65.28 309 P **P 11 47 07.4 -0.3**
baz=64
A36M Sachs Harbour 65.40 343 P **P 11 47 08.1 +0.1**
baz=50,SNR=20
AGMN Agassiz Nation 65.80 313 IAmb IAmb 11 47 15.9
comp=Z,7.4nm,0.7s
AGMN Agassiz Nation 65.80 313 P **P 11 47 10.7 -0.3**
baz=63
FFC Flin Flon 66.25 321 P **P 11 47 13.5 -0.3**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 66.25 321 P **P 11 47 13.5 -0.3**
FFC IAmb IAmb 11 47 20.9
comp=Z,12nm,1.0s
LBTB Lobatse 66.25 151 LR LR 12 16 40.3
comp=Z,113nm,19.1s,baz=327,slow=36
LBTB Lobatse 66.25 151 P **P 11 47 14.3 +0.1**
LBTB pmax pmax
comp=Z,17nm,0.8s
LBTB Lobatse 66.25 151 P **P 11 47 14.3 +0.1**

LRAL **Lakeview Retre** 66.79 295 P P 11 47 19.0 +1.4
baz=62
C36M **Paulatuk** 66.81 341 P P 11 47 17.5 +0.5
baz=50
F33A **5 Mile Ranch,** 67.19 311 IAmb IAmb 11 47 24.3
comp=Z,8.4nm,0.9s
WMQ **Urumqi** 67.44 52 *e*P P 11 47 22.9 +1.2
WMQ pP sP 11 47 27.5 -0.6
WMQ PcP PcP 11 47 51.9 +2.8
WMQ pmax pmax
comp=Z,31nm,1.5s
WMQ LR LR
comp=Z,380nm,18.5s
CCM **Cathedral Cave** 67.49 301 P P 11 47 21.0 -1.0
CCM pmax pmax
comp=Z,9.0nm,0.6s
CCM **Cathedral Cave** 67.49 301 P P 11 47 21.0 -1.0
CCM IAmb IAmb 11 47 26.8
comp=Z,9.5nm,0.6s
CCM **Cathedral Cave** 67.49 301 P P 11 47 22.5 +0.5
baz=62
YKA **Yellowknife Ar** 67.87 332 P P 11 47 23.4 -0.5
comp=Z,6.4nm,0.9s,baz=59,slow=6.5,SNR=64
R40A **Maddies Statio** 68.09 302 IAmb IAmb 11 47 30.3
comp=Z,12nm,1.1s
TIXI **Tiksi** 68.11 15 LR LR 12 21 06.1
comp=Z,140nm,20.3s,baz=354,slow=39
TIXI **Tiksi** 68.11 15 *ce*P P 11 47 25.8 +0.5
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI **Tiksi** 68.11 15 P P 11 47 24.6 -0.7
ECSD **EROS Data Cent** 68.39 309 IAmb IAmb 11 47 31.7
comp=Z,12nm,1.4s
BOSA **Boshof** 69.36 153 P P 11 47 33.8 +0.1
comp=Z,19nm,0.8s,baz=347,slow=6.6,SNR=36
BOSA LR LR 12 19 24.7
comp=Z,123nm,18.1s,baz=354,slow=37
BOSA **Boshof** 69.36 153 P P 11 47 33.4 -0.3
U40A **Yellville** 69.44 300 IAmb IAmb 11 47 39.4
comp=Z,10.0nm,0.7s
U40A **Yellville** 69.44 300 P P 11 47 34.1 -0.1
baz=60,SNR=5.4
SUSD **Miller** 69.51 310 P P 11 47 34.1 -0.4
W41B **Gary Mavity, V** 69.58 299 P P 11 47 35.0 -0.1
baz=60
INK **Inuvik** 70.00 342 P P 11 47 36.5 -0.6
comp=Z,4.7nm,1.1s,baz=40,slow=8.2,SNR=4.0
INK **Inuvik** 70.00 342 P P 11 47 36.1 -1.0
INK **Inuvik** 70.00 342 P P 11 47 36.1 -1.0
baz=42
HHAR **Hobbs** 70.23 301 IAmb IAmb 11 47 43.7
comp=Z,10nm,0.7s
X40A **Basin Creek Fa** 70.34 299 IAmb IAmb 11 47 44.1
comp=Z,7.0nm,0.8s
X40A **Basin Creek Fa** 70.34 299 P P 11 47 39.0 -0.8
baz=60,SNR=5.2
BGNE **Belgrade** 70.52 307 P P 11 47 41.3 +0.5
baz=59
DGMT **Dagmar** 70.57 316 P P 11 47 41.3 +0.4
baz=58
WRGLY **Wrigley** 70.62 335 P P 11 47 41.1 +0.2
baz=48,SNR=7.4
KSU1 **Kansas State U** 70.66 305 P P 11 47 42.0 +0.4
baz=60
W39A **Magazine** 70.67 300 P P 11 47 42.5 +0.7
baz=60
MIAR **Mount Ida** 70.84 299 P P 11 47 41.6 -1.2
MIAR **Mount Ida** 70.84 299 IAmb IAmb 11 47 48.3
comp=Z,5.1nm,0.8s
MIAR **Mount Ida** 70.84 299 P P 11 47 43.1 +0.3
baz=60
MOY **Mondy** 71.19 40 *e*P P 11 47 44.7 -0.1
MOY pmax pmax
comp=Z,18nm,1.3s
A21K **Barrow** 71.78 351 P P 11 47 47.8 0.0
baz=23
EPYK **Eagle Plains** 72.28 342 IAmb IAmb 11 47 57.3
comp=Z,15nm,1.1s
EPYK **Eagle Plains** 72.28 342 P P 11 47 50.9 -0.1
baz=39,SNR=5.1
LAO **LASA Array** 72.69 315 P P 11 47 54.1 +0.3
baz=56
EDM **Edmonton** 72.73 324 P P 11 47 53.4 -0.5
EDM pmax pmax
comp=Z,21nm,0.7s
EDM **Edmonton** 72.73 324 P P 11 47 53.4 -0.5
RSSD **Black Hills** 72.80 312 P P 11 47 54.8 +0.1
RSSD pmax pmax
comp=Z,18nm,1.1s
RSSD **Black Hills** 72.80 312 P P 11 47 54.8 +0.1
RSSD IAmb IAmb 11 48 00.7
comp=Z,18nm,1.1s
RSSD **Black Hills** 72.80 312 P P 11 47 54.8 +0.1
baz=57
CBKS **Cedar Bluff** 72.90 306 P P 11 47 55.5 +0.4
baz=58
ZAK **Zakamensk** 73.11 40 *e*P P 11 47 56.2 -0.1
ZAK pmax pmax
comp=Z,9.0nm,1.2s
TOLK **Toolik Lake Re** 73.14 348 P P 11 47 56.0 -0.1
baz=28
OGNE **Ogallala** 73.26 308 P P 11 47 58.1 +0.8
baz=57
TGTN **Hyland Airport** 73.42 336 P P 11 47 58.4 +0.5
baz=44
BOD **Bodaibo** 73.47 30 *e*P P 11 47 56.9 -1.2
BOD pmax pmax
comp=Z,6.0nm,1.0s
I29M **Ogilvie Camp,** 73.48 342 IAmb IAmb 11 48 04.5
comp=Z,16nm,1.2s
I29M **Ogilvie Camp,** 73.48 342 P P 11 47 58.3 +0.2
baz=37,SNR=5.4
MMPY **Sheldon Lake,** 73.60 338 P P 11 47 59.3 +0.4
baz=42,SNR=5.4
EGMT **Eagleton** 73.92 318 P P 11 48 01.6 +0.6
baz=54
MAYO **Mayo, Yukon** 74.23 340 P P 11 48 03.0 +0.4
baz=39
WMOK **Wichita Mounta** 74.41 302 P P 11 48 04.0 -0.1
WMOK pmax pmax
comp=Z,18nm,1.3s
WMOK **Wichita Mounta** 74.41 302 P P 11 48 05.2 +1.1
baz=57
COLD **Coldfoot** 74.50 347 P P 11 48 04.5 +0.4
baz=28
FARO **Faro, Yukon** 74.54 338 P P 11 48 04.9 +0.6
baz=40,SNR=6.4
SIV **San Ignacio** 74.58 237 LR LR 12 18 13.4
comp=Z,65nm,21.6s,baz=36,slow=34
WTLY **Watson Lake, Y** 74.62 335 P P 11 48 05.2 +0.3
baz=44
EGAK **Eagle** 74.67 342 P P 11 48 05.0 0.0
baz=35
KSCO **Kaye Shedlock'** 74.69 307 P P 11 48 07.0 +1.2
baz=56
DAWY **Dawson** 74.80 341 P P 11 48 06.0 +0.1
baz=36
M31M **Drury Creek, Y** 74.87 338 P P 11 48 07.1 +0.8
baz=40
WHTX **Lake Whitney,** 74.94 299 IAmb IAmb 11 48 12.4
comp=Z,17nm,0.7s
WHTX **Lake Whitney,** 74.94 299 P P 11 48 07.9 +0.6
baz=57
PRP **Porcupine Dome** 75.06 345 P P 11 48 07.9 +0.4
baz=31
K22A **Casper** 75.12 312 P P 11 48 08.0 -0.3
baz=55,SNR=14
H24K **Noodor Dome** 75.28 346 P P 11 48 08.9 +0.3
baz=29
M30M **Minto, Yukon** 75.29 340 P P 11 48 09.2 +0.5
baz=38
RLMT **Red Lodge** 75.32 315 P P 11 48 10.1 +0.7
baz=54
J26L **Joseph Creek** 75.48 343 P P 11 48 09.9 0.0
baz=33
N23A **Red Feather La** 75.76 310 P P 11 48 12.4 +0.3
baz=55,SNR=6.8
J25K **Salcha River,** 75.80 344 P P 11 48 11.7 +0.1
baz=31
YAK **Yakutsk** 75.83 21 LR LR 12 26 54.9
comp=Z,132nm,19.3s,baz=288,slow=40
YAK **Yakutsk** 75.83 21 *e*P P 11 48 15.2 +3.5
YAK pmax pmax
comp=Z,11nm,0.9s
N31M **Braeburn, Yuko** 75.85 338 P P 11 48 11.5 -0.4
baz=38
P33M **Teslin, Yukon** 75.90 336 P P 11 48 12.0 -0.3
baz=40
ILAR **Eielson Array** 76.00 345 P P 11 48 11.4 -1.3
comp=Z,0.3nm,0.7s,baz=13,slow=5.3,SNR=1.2
ILAR LR LR 12 24 34.2
comp=Z,34nm,20.2s,baz=11,slow=38
SCRK **Sand Creek** 76.02 343 P P 11 48 13.0 0.0
baz=32
GOMU **GeErMu** 76.04 56 P P 11 48 14.5 +0.6
GOMU pP pP 11 48 16.7 -1.9
GOMU PcP PcP 11 48 25.4 -0.8
GOMU pmax pmax
comp=Z,79nm,5.8s
YMP **Mirror Lake Pl** 76.06 315 IAmb IAmb 11 48 20.0
comp=Z,16nm,0.9s
ABTX **Abilene, Hawle** 76.16 300 IAmb IAmb 11 48 19.9
comp=Z,14nm,0.8s
ABTX **Abilene, Hawle** 76.16 300 P P 11 48 14.3 +0.1
baz=56
ISCO **Idaho Springs** 76.17 309 P P 11 48 15.3 +0.8
ISCO pmax pmax
comp=Z,17nm,1.2s
ISCO **Idaho Springs** 76.17 309 IAmb IAmb 11 48 20.9
comp=Z,11nm,0.9s
ISCO **Idaho Springs** 76.17 309 P P 11 48 14.4 -0.1
baz=55,SNR=5.6
I23K **Minto, Yukon-K** 76.18 346 P P 11 48 14.3 +0.6
baz=28
WHY **Whitehorse** 76.22 338 P P 11 48 14.2 +0.1
baz=39
L27K **Beaver Creek,** 76.25 342 P P 11 48 14.2 0.0
baz=34
SONM **Songino Array** 76.27 41 P P 11 48 15.0 +0.3
comp=Z,4.5nm,1.1s,baz=302,slow=5.7,SNR=10
SONM LR LR 12 25 42.6
comp=Z,93nm,20.0s,baz=326,slow=39
HDA **Harding Lake** 76.33 344 P P 11 48 14.6 0.0
baz=30
AMTX **Amarillo** 76.33 303 IAmb IAmb 11 48 22.2
comp=Z,17nm,1.2s
AMTX **Amarillo** 76.33 303 P P 11 48 16.1 +0.8
baz=56
Q24A **Divide** 76.35 308 IAmb IAmb 11 48 21.4
comp=Z,16nm,0.9s
Q24A **Divide** 76.35 308 P P 11 48 15.7 +0.2
baz=55,SNR=5.7
H21K **Melozitna Rive** 76.38 347 P P 11 48 14.7 -0.2
baz=25
BOZ **Bozeman (W)** 76.39 317 IAmb IAmb 11 48 21.4
comp=Z,14nm,0.8s
BOZ **Bozeman (W)** 76.39 317 P P 11 48 15.7 +0.3
baz=53,SNR=7.5
RIDG **Independent Ri** 76.42 343 P P 11 48 14.9 -0.3
baz=32
H17A **Grant Village** 76.51 315 P P 11 48 17.0 +0.7
baz=53
JTMT **Jette** 76.52 319 IAmb IAmb 11 48 21.7
comp=Z,12nm,1.0s
BVCY **Beaver Creek** 76.54 341 P P 11 48 16.5 +0.7
baz=35
BILL **Bilibino** 76.54 4 *i* P P 11 48 13.9 -1.8
BILL *i* 11 48 19.6
BILL *i* 11 48 27.6
BILL *i* 11 51 06.6
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL **Bilibino** 76.54 4 P P 11 48 14.8 -0.9
YMR **Madison River** 76.57 316 IAmb IAmb 11 48 23.3
comp=Z,9.7nm,0.8s
ULN **Ulaanbaatar** 76.60 40 *ce*P P 11 48 17.0 +0.4
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN **Ulaanbaatar** 76.60 40 P P 11 48 16.1 -0.5
NEA2 **Nenana** 76.61 345 P P 11 48 16.4 +0.2
baz=28
I21K **Tanana** 76.66 347 P P 11 48 16.8 +0.3
baz=26
L26K **Log Cabin Wild** 76.67 342 P P 11 48 17.1 +0.6
baz=33
YUK4 **Talbot Arm** 76.80 339 P P 11 48 17.0 -0.5
baz=36
M27K **Edge Creek, AK** 76.85 341 P P 11 48 18.1 +0.3
baz=34
BW06 **Boulder Array** 76.88 313 IAmb IAmb 11 48 23.1
comp=Z,14nm,0.9s
BW06 **Boulder Array** 76.88 313 P P 11 48 17.8 -0.6
baz=53,SNR=22
PD31 **Pinedale Array** 76.88 313 IAmb IAmb 11 48 23.1
comp=Z,13nm,0.9s
PDAR **Pinedale Array** 76.88 313 P P 11 48 17.4 -1.0
comp=Z,3.3nm,0.8s,baz=65,slow=7.1,SNR=28
HYT **Haines Junctio** 76.88 339 P P 11 48 18.2 +0.3
baz=37
T25A **Trinidad** 76.90 306 P P 11 48 18.7 +0.1
baz=55
MSO **Missoula** 76.91 319 IAmb IAmb 11 48 23.9
comp=Z,9.5nm,0.8s
MSO **Missoula** 76.91 319 P P 11 48 17.9 -0.4
baz=52,SNR=6.6
YUK3 **Moose Creek** 76.96 340 P P 11 48 18.4 -0.1
baz=35
JTS **Las Juntas de** 76.97 273 LR LR 12 19 34.4
comp=Z,39nm,19.0s,baz=129,slow=34
LSA **Lhasa** 77.06 63 P P 11 48 20.5 +0.6
LSA pmax pmax
comp=Z,14nm,0.8s
PAX **Paxson** 77.23 343 P P 11 48 20.0 +0.3
baz=31
SDCO **Great Sand Dun** 77.27 307 IAmb IAmb 11 48 26.6
comp=Z,10.0nm,1.0s
SDCO **Great Sand Dun** 77.27 307 P P 11 48 20.3 -0.5
baz=55,SNR=14
REDW **Red Top Meadow** 77.28 314 IAmb IAmb 11 48 27.6
comp=Z,26nm,1.5s
SMCO **Snowmass** 77.39 309 IAmb IAmb 11 48 27.5
comp=Z,26nm,1.4s
JCT **Junction City** 77.45 298 P P 11 48 22.5 +0.9
baz=56
GTA **Gaotai** 77.47 50 ⇓P P 11 48 21.8 +0.1
GTA pP pP 11 48 25.9 -0.5
GTA sP sP 11 48 28.9 +0.8
GTA pmax pmax
comp=Z,4.0nm,1.2s
MSTX **Muleshoe** 77.59 303 P P 11 48 23.4 +1.0
baz=55
O20A **White River Ci** 77.63 311 P P 11 48 22.7 +0.1
baz=54
HARP **HAARP** 77.64 343 P P 11 48 22.0 0.0
baz=31
NEW **Newport** 77.68 321 LR LR 12 19 30.8
comp=Z,130nm,21.0s,baz=344,slow=33
NEW **Newport** 77.68 321 P P 11 48 21.8 -0.7
NEW pmax pmax
comp=Z,15nm,1.5s
NEW **Newport** 77.68 321 IAmb IAmb 11 48 27.9
comp=Z,12nm,0.9s
NEW **Newport** 77.68 321 P P 11 48 22.0 -0.5
baz=50,SNR=6.7
AHID **Auburn Hatcher** 77.79 314 IAmb IAmb 11 48 28.7
comp=Z,8.2nm,0.8s
CTG **Chitna Glacier** 77.87 340 P P 11 48 23.9 +0.5
baz=34
TRF **Thorofare Moun** 77.88 345 P P 11 48 23.7 +0.2
baz=27
CHUM **Lake Minchumin** 77.90 346 P P 11 48 23.9 +0.6
baz=26
MCARA **McCarthy VSAT** 77.97 341 P P 11 48 24.1 +0.3
baz=33
J20K **Nowinta River** 77.97 347 P P 11 48 24.2 +0.4
baz=24
WAT6 **Susitna Watana** 78.09 344 P P 11 48 24.9 +0.1
baz=29
S22A **4UR Ranch, Cre** 78.13 308 IAmb IAmb 11 48 31.9
comp=Z,21nm,1.3s
S22A **4UR Ranch, Cre** 78.13 308 P P 11 48 25.3 -0.3
baz=54,SNR=7.0
M24K **Tolsona, Glenn** 78.14 343 P P 11 48 25.1 +0.3
baz=30
N25K **Chitina, Valde** 78.18 342 P P 11 48 25.3 +0.2
baz=32
833A **Chaparral WMA,** 78.35 296 P P 11 48 28.9 +2.4
baz=56
PNL **Peninsula** 78.38 339 P P 11 48 26.7 +0.5
baz=35
TNA **Tin City** 78.55 353 P P 11 48 27.0 +0.1
baz=13
KLU **Klutina** 78.61 343 P P 11 48 28.0 +0.5
baz=30
WRAK **Wrangell Islan** 78.62 334 P P 11 48 28.0 +0.5
baz=40
SCM **Sheep Creek Mo** 78.65 343 P P 11 48 28.6 +0.9
baz=29
K20K **Telida** 78.71 347 P P 11 48 28.0 +0.2
baz=24
BMRM **Bremner River** 78.73 342 P P 11 48 28.8 +0.7
baz=31
B08A **Colville Reser** 78.74 322 IAmb IAmb 11 48 34.3
comp=Z,20nm,1.0s
HWUT **Hardware Ranch** 78.77 313 IAmb IAmb 11 48 34.1
comp=Z,16nm,0.8s
APG **El Apazote** 78.82 280 LR LR 12 18 28.4
comp=Z,44nm,19.1s,baz=51,slow=32
SML **Sawmill** 78.91 344 P P 11 48 29.5 +0.4
baz=29
PV13 **Radium Mtn., P** 79.16 309 IAmb IAmb 11 48 37.1
comp=Z,17nm,1.1s
P18A **Preston Nutter** 79.17 311 IAmb IAmb 11 48 37.3
comp=Z,20nm,1.1s
HLID **Hailey** 79.21 316 IAmb IAmb 11 48 38.0
comp=Z,13nm,0.9s
HLID **Hailey** 79.21 316 P P 11 48 31.8 +0.6
baz=51,SNR=19
ANM **Nome** 79.26 352 P P 11 48 30.7 -0.1
baz=15
M22K **Willow** 79.36 344 P P 11 48 32.1 +0.7
baz=27
MVCO **Mesa Verde** 79.52 308 P P 11 48 33.6 +0.5
baz=53,SNR=5.9
ANMO **Albuquerque** 79.52 305 LR LR 12 23 50.5
comp=Z,102nm,18.4s,baz=46,slow=36
ANMO **Albuquerque** 79.52 305 *i* P P 11 48 35.3 +2.2
ANMO pmax pmax
comp=Z,18nm,3.8s
ANMO **Albuquerque** 79.52 305 P P 11 48 33.8 +0.7
baz=54
CPUP **Villa Florida** 79.62 227 LR LR 12 23 37.2
comp=Z,120nm,18.1s,baz=57,slow=36
SRU **San Rafael Swe** 79.65 311 IAmb IAmb 11 48 49.5
comp=Z,12nm,0.8s
LPAZ **La Paz** 79.75 242 LR LR 12 24 18.6
comp=Z,23nm,18.1s,baz=61,slow=36
SHL **Shillong** 79.89 66 P P 11 48 34.7 -0.6
SHL pmax pmax
comp=Z,24nm,0.9s
SHL **Shillong** 79.89 66 IAmb IAmb 11 48 40.4
comp=Z,23nm,1.0s
TMUT **Trail Mountain** 79.96 311 IAmb IAmb 11 48 41.3
comp=Z,12nm,0.8s
BMO **Blue Mountains** 79.98 319 IAmb IAmb 11 48 41.4
comp=Z,14nm,0.8s
BGU **Big Grassy Mou** 80.05 313 IAmb IAmb 11 48 41.1
comp=Z,13nm,0.8s
SEY **Seymchan** 80.09 11 P P 11 48 35.0 -0.4
comp=Z,2.8nm,1.2s,baz=100,slow=6.1,SNR=1.6
SEY LR LR 12 25 01.0
comp=Z,72nm,21.8s,baz=196,slow=36
SEY **Seymchan** 80.09 11 P P 11 48 35.0 -0.4
M19K **Big River Lodg** 80.10 346 P P 11 48 35.6 +0.1
baz=24
BBB **Bella Bella** 80.13 329 LR LR 12 21 17.6
comp=Z,87nm,19.2s,baz=278,slow=34
DUG **Dugway, Tooele** 80.38 313 P P 11 48 38.3 +0.7
DUG pmax pmax
comp=Z,12nm,1.2s
DUG **Dugway, Tooele** 80.38 313 P P 11 48 37.6 0.0
baz=51,SNR=7.7
GAMB **Gambell** 80.63 355 P P 11 48 37.8 -0.5
baz=9.8
MNTX **Cornudas Mount** 80.69 302 P P 11 48 39.4 +0.1
baz=54
TX31 **Lajitas Ar. Si** 80.86 299 IAmb IAmb 11 48 46.7
comp=Z,16nm,1.1s
TXAR **Lajitas Array** 80.86 299 P P 11 48 40.3 0.0
comp=Z,0.7nm,0.8s,baz=66,slow=3.1,SNR=10
TXAR LR LR 12 24 30.6
comp=Z,106nm,19.2s,baz=47,slow=36
TCRU **Three Creeks R** 81.14 311 IAmb IAmb 11 48 48.1
comp=Z,15nm,0.8s
D03D **Eldon** 81.15 323 P P 11 48 41.6 +0.2
baz=46
PALK **Pallekele** 81.32 87 LR LR 12 27 39.4
comp=Z,47nm,19.4s,baz=37,slow=38
MTPU **Mount Pierson** 81.33 311 IAmb IAmb 11 48 49.4
comp=Z,16nm,0.9s
ELK **Elko** 81.47 314 IAmb IAmb 11 48 50.1
comp=Z,13nm,0.9s
F05D **White Salmon** 81.48 321 P P 11 48 43.8 +0.6
baz=47
E04D **Cinebar** 81.57 322 P P 11 48 44.4 +0.8
baz=46
J08A **Circle Bar Ran** 81.60 318 IAmb IAmb 11 48 50.2
comp=Z,10nm,0.8s
O19K **Port Alsworth** 81.65 346 P P 11 48 43.9 +0.2
baz=24
121A **Cookes Peak, D** 81.84 304 IAmb IAmb 11 48 52.7
comp=Z,15nm,1.1s
121A **Cookes Peak, D** 81.84 304 P P 11 48 46.4 +0.9
baz=53
HIA **Hailar** 81.88 33 *i* P P 11 48 47.4 +2.2
HIA pmax pmax
comp=Z,7.0nm,1.0s
LZH **Lanzhou** 82.02 51 *e*P P 11 48 46.5 +0.1
LZH pP sP 11 48 51.9 -1.0
LZH sP PcP 11 48 56.5 +4.6
LZH pmax pmax
comp=Z,16nm,1.4s
PSUT **Pine Spring** 82.05 312 IAmb IAmb 11 48 52.9
comp=Z,14nm,1.0s
SZCU **Shurtz Canyon** 82.17 311 IAmb IAmb 11 48 53.3
comp=Z,11nm,0.9s
WUAZ **Wupatki** 82.39 308 P P 11 48 48.8 +0.4
baz=51
U15A **North Rim** 82.40 310 IAmb IAmb 11 48 54.4
comp=Z,14nm,0.8s
I05D **Terrebonne, OR** 82.47 320 P P 11 48 48.3 -0.2
baz=46
BMN **Battle Mountai** 82.82 315 IAmb IAmb 11 48 57.0
comp=Z,8.9nm,0.9s
G03D **McMinnville, O** 82.86 322 P P 11 48 51.3 +0.9
baz=45
BTO **Baotou** 82.88 45 *e*P P 11 48 50.0 -0.8
MA2 **Magadan** 82.98 13 P P 11 48 50.0 -0.7
comp=Z,0.9nm,0.3s,baz=0.6,slow=8.0,SNR=6.4
MA2 LR LR 12 30 56.5
comp=Z,57nm,18.6s,baz=328,slow=39
MA2 **Magadan** 82.98 13 *ce*P P 11 48 51.1 +0.3
MA2 pmax pmax
comp=Z,7.0nm,1.3s
MA2 **Magadan** 82.98 13 P P 11 48 49.6 -1.1
MA2 IAmb IAmb 11 48 57.2
comp=Z,20nm,1.5s
X16A **Lo Mia Camp, P** 83.11 308 IAmb IAmb 11 48 59.5
comp=Z,10nm,1.0s
J05D **Fort Rock, OR** 83.14 319 P P 11 48 53.3 +1.2
baz=46
R11A **Troy Canyon, C** 83.21 313 IAmb IAmb 11 48 58.9
comp=Z,12nm,0.9s
R11A **Troy Canyon, C** 83.21 313 P P 11 48 52.5 -0.1
baz=49,SNR=9.3
KDAK **Kodiak Island** 83.48 344 LR LR 12 26 31.3
comp=Z,95nm,19.8s,baz=62,slow=36
NNA **Nana** 83.50 250 LR LR 12 21 33.6
comp=Z,54nm,18.8s,baz=101,slow=32
NNA **Nana** 83.50 250 *ce*P P 11 48 57.7 +3.5
NNA pmax pmax
comp=Z,58nm,1.9s
319A **Douglas** 83.55 304 P P 11 48 55.8 +1.4
HHC **Hu-ho-hao-te** 83.60 44 *e*P P 11 48 54.1 -0.4
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,86nm,5.9s
TUC **Tucson** 83.98 305 P P 11 48 57.6 +1.0
TUC pmax pmax
comp=Z,36nm,1.3s
TUC **Tucson** 83.98 305 P P 11 48 57.6 +1.0
TUC **Tucson** 83.98 305 P P 11 48 57.7 +1.1
baz=51
W13A **Hualapai Mount** 84.25 309 IAmb IAmb 11 49 04.9
comp=Z,9.7nm,1.3s
Y14A **Wickenburg** 84.42 308 IAmb IAmb 11 49 05.6
comp=Z,15nm,1.1s
LVC **Limon Verde** 84.48 237 LR LR 12 22 46.1
comp=Z,57nm,21.7s,baz=258,slow=33
M04C **Macdoel** 84.49 318 P P 11 48 59.5 +0.5
baz=46
TPNV **Topopah Spring** 84.52 312 P P 11 48 59.4 +0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=49						
NVAR	Mina Array Bea	84.77	314	P	P	11 49 00.1	-0.5
	comp=Z,0.3nm,0.7s,baz=71,slow=4.2,SNR=2.5						
PDMCI	Parker Dam,Lak	84.92	309	P	P	11 49 02.3	+1.2
	baz=50						
GRAC	Grapevine Rang	85.16	313	P	P	11 49 04.2	+1.8
	baz=48						
L02E	Cave Junction	85.17	320	P	P	11 49 03.4	+1.1
	baz=45						
LCH	Last Change Ra	85.17	313	IAmb	IAmb	11 49 08.6	
	comp=Z,8.1nm,0.9s						
CD2	Chengdu	85.17	55	P	P	11 49 03.3	+0.7
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
FURC	Furnace Creek,	85.21	312	P	P	11 49 03.9	+1.4
	baz=48						
TUQ	Turquoise Moun	85.31	311	P	P	11 49 04.2	+0.9
	baz=49						
O03E	Paynes Creek	85.50	317	P	P	11 49 04.9	+0.8
	baz=46						
214A	Organ Pipe Nat	85.55	306	IAmb	IAmb	11 49 11.3	
	comp=Z,7.9nm,0.9s						
214A	Organ Pipe Nat	85.55	306	P	P	11 49 04.8	+0.4
	baz=50						
GMRC	Granite Mounta	85.56	310	P	P	11 49 05.2	+0.7
	baz=49						
MLAC	Mammoth, Mammo	85.62	314	P	P	11 49 05.3	+0.4
	baz=48						
IRM	Iron Mountain	85.65	309	P	P	11 49 05.7	+0.8
	baz=49						
ORV	Oroville	85.84	317	IAmb	IAmb	11 49 11.5	
	comp=Z,9.8nm,1.2s						
MPMC	Manual Prospec	85.86	312	P	P	11 49 06.9	+0.8
	baz=48						
GSC	Goldstone, Bar	85.94	311	P	P	11 49 07.6	+1.2
	baz=48						
HEC	Hector,Ludlow	85.95	310	P	P	11 49 07.4	+1.0
	baz=49						
CWC	Cottonwood Cre	85.96	313	P	P	11 49 07.4	+0.8
	baz=48						
O02D	Mt. Diablo Mer	86.12	318	P	P	11 49 07.6	+0.5
	baz=45						
BC3	Big Chuckawall	86.17	309	P	P	11 49 08.5	+1.0
	baz=49						
BELC	Belle Mtn. Jos	86.29	310	P	P	11 49 09.1	+0.9
	baz=49						
PZH	PanZhiHua	86.51	60	P	P	11 49 09.3	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,3.6s						
XAN	Xi'an	86.53	50	P	P	11 49 09.8	+0.6
XAN				pP	pP	11 49 13.3	-0.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,130nm,4.3s						
BJI	Beijing	86.71	42	P	P	11 49 10.2	+0.3
BJI				sP	sP	11 49 15.0	-1.4
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ISA	Isabella, Lake	86.72	312	IAmb	IAmb	11 49 17.8	
	comp=Z,8.2nm,0.8s						
ISA	Isabella, Lake	86.72	312	P	P	11 49 12.2	+2.0
	baz=48						
BJT	Baijiatuau	86.72	42	P	P	11 49 11.1	+1.1
BJT				pmax	pmax		
	comp=Z,18nm,1.1s						
PFO	Pinyon Flats O	86.83	310	P	P	11 49 11.6	+0.8
	baz=49						
TPFO	Pinon Flats	86.83	310	P	P	11 49 11.8	+1.0
	baz=49						
SWSC	Sam W. Stewart	86.85	309	P	P	11 49 11.9	+1.2
	baz=49						
KLR	Kul'dur	86.88	27	LR	LR	12 33 04.0	
	comp=Z,140nm,18.2s,baz=344,slow=39						
KLR	Kul'dur	86.88	27	*i* P	P	11 49 11.1	+0.5
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
IKP	In-Ko-Pah, Jac	87.24	309	P	P	11 49 13.8	+1.0
	baz=49						
MONP2	Monument Peak	87.28	309	P	P	11 49 14.2	+1.1
	baz=49						
MURC	Murrieta	87.30	310	P	P	11 49 14.0	+1.1
	baz=48						
SDPT	Sand Point	87.37	347	P	P	11 49 13.9	+1.1
	baz=19						
LPIG	La Paz	88.74	299	LR	LR	12 29 28.8	
	comp=Z,93nm,18.4s,baz=38,slow=36						
CHTO	Chiang Mai	89.13	68	P	P	11 49 21.2	-0.6
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	Chiang Mai	89.13	68	P	P	11 49 21.2	-0.6
CMAR	Chiang Mai Arr	89.34	68	P	P	11 49 23.1	+0.2
	comp=Z,3.7nm,1.0s,baz=304,slow=6.4,SNR=23						
PETK	Petropavlovsk-	90.33	11	LR	LR	12 36 29.4	
	comp=Z,52nm,18.0s,baz=333,slow=40						
USRK	Ussuriysk Ar.	91.10	30	LR	LR	12 33 28.8	
	comp=Z,66nm,19.9s,baz=357,slow=38						
NJ2	Nanjing	93.93	46	*e*P	P	11 49 44.9	+1.0
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	Korea Array	94.72	37	P	P	11 49 46.4	-1.0
	comp=Z,1.0nm,0.6s,baz=148,slow=17,SNR=5.1						
KSRS				LR	LR	12 38 13.7	
	comp=Z,114nm,18.9s,baz=335,slow=39						
ASAJ	Asahikawa	95.09	24	LR	LR	12 37 23.1	
	comp=Z,128nm,19.1s,baz=282,slow=38						
PLCA	Paso Flores	97.53	225	P	P	11 49 59.1	-0.8
	comp=Z,1.2nm,0.9s,baz=36,slow=17,SNR=1.7						
PLCA				LR	LR	12 33 15.1	
	comp=Z,146nm,19.2s,baz=62,slow=35						
JNU	Nakatsue	99.62	37	LR	LR	12 38 31.3	
	comp=Z,137nm,19.8s,baz=328,slow=37						
SYO	Syowa Base	108.96	165⇑	*e*pPdiff	pPdif	11 50 55.8	+1.0
WRA	Warramunga Arr	140.12	79	PKP	PKPdf	11 55 53.4	-1.6
	comp=Z,0.4nm,1.0s,baz=298,slow=2.9,SNR=1.6						
ASAR	Alice Springs	141.61	84	PKhKP	PKPpre	11 55 50.4	
	comp=Z,0.6nm,0.9s,baz=296,slow=4.4,SNR=4.6						
STKA	Stephens Creek	151.03	93	PKPbc	PKPbc	11 56 18.2	-0.8
	comp=Z,11nm,1.0s,baz=317,slow=1.5,SNR=11						
STKA	Stephens Creek	151.03	93	PKIKP	PKPbc	11 56 17.3	-1.7
STKA	Stephens Creek	151.03	93		PKPbc	11 56 17.3	-1.7

*HEL **03** 11:41:19.6±0.2, 63.°13N×27.°87E, h0^{km}, ML2.1, Explosion*
*IDC **03** 11:41:20.2±1.6, 63.°03N×28.°13E, h0^{km}, mb1 3.1/3, mb1mx3.0/56, mbtmp3.1/3, ML1.8/3, Error ellipse: s-maj=22.0km s-min=6.6km az=106.0*
ISC 03 11:41:19.0±1.0**, 63.°06N**±0.°03×**27.°96E**±0.°06**, h0^{km}, n23, σ1s72**/38**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUF	Sumiainen	0.90	248	PG	Pg	11 41 35.3	-0.8
SUF				SG	Sg	11 41 46.8	-0.9
KAF	Kangasniemi	1.22	220	PG	Pg	11 41 42.1	-0.2
KAF				SN	Sn	11 42 00.6	+0.2
KEF	Keuruu	1.69	239	PG	Pn	11 41 49.9	+0.2
KEF				MSG		11 42 10.1	
	comp=Z,10nm,0.2s						
KEF				SN	Sb	11 42 12.2	-0.4
FIA0	FINESS Array S	1.85	209	PG	Pb	11 41 53.8	+0.3
FIA0				SG	Sg	11 42 18.8	+0.6
FINES	FINESS Array B	1.85	209	Pg	Pb	11 41 53.4	-0.1
	comp=Z,0.3nm,0.3s,baz=26,slow=17,SNR=16						
FINES				Lg	Lg	11 42 18.4	
	comp=Z,1.5nm,0.3s,baz=29,slow=28,SNR=21						
OUF	Merijarvi	1.95	314	PG	Pn	11 41 52.9	-0.3
	baz=126						
OUF				MSG		11 42 15.1	
	comp=Z,14nm,0.2s						
OUF				SG	Sb	11 42 19.8	-0.2
OBF0	Syolatti, Pyha	2.19	313	PG	Pn	11 41 58.2	+1.6
OBF0				SG	Sb	11 42 28.0	+0.8
OUL	Oulu	2.23	337	PG	Pn	11 41 58.0	+0.9
	baz=151						
OUL				SG	Sb	11 42 27.6	-0.5
VAF	Ylistaro	2.41	272	PG	Pn	11 42 00.9	+1.3
VAF				MSG		11 42 29.6	
	comp=Z,21nm,0.2s						
VAF				SG	Sn	11 42 31.0	+1.3
VJF	Virojoki	2.54	185	PG	Pb	11 42 05.4	+0.1
VJF				MSG		11 42 36.6	
	comp=Z,7.2nm,0.2s						
VJF				SG	Sg	11 42 39.6	-0.7
MSF	Maaselka	2.90	9	PN	Pn	11 42 05.0	-1.4
MSF				SB	Sn	11 42 44.8	+2.8
NUR	Nurmijrvi	3.00	213	SG	Sg	11 42 54.0	-1.3
KU6	Riekki	3.09	15	PB	Pn	11 42 11.6	+2.7
KU6				MSG		11 42 48.7	
	comp=Z,3.9nm,0.2s						
KU6				SG	Sb	11 42 51.3	-1.7
MEF	Metsahovi	3.32	212	*e*P	Pn	11 42 11.4	-0.6
MEF				*e*S	Sn	11 42 49.9	-2.3
MEF				AML	AML	11 43 23.8	
	comp=Z,4.8nm,1.0s						
MEF				AML	AML	11 44 03.5	
	comp=N,6.8nm,0.5s						
MEF				AML	AML	11 44 05.2	
	comp=E,3.8nm,0.3s						
TOF	Tornio	3.41	334	PB	Pn	11 42 15.9	+2.5
	baz=154						
KALU	Kalix	3.45	327	PB	Pn	11 42 16.6	+2.8
RAF	Rauma	3.56	238	*e*P	Pn	11 42 18.6	+3.2
RAF				AML	AML	11 42 51.7	
	comp=Z,5.4nm,0.7s						
RAF				*e*S	Sn	11 43 00.6	+2.5
RAF				AML	AML	11 43 12.9	
	comp=E,6.1nm,0.8s						
RAF				AML	AML	11 43 21.0	
	comp=N,4.2nm,0.3s						
RAF	Rauma	3.56	238	PB	Pn	11 42 19.0	+3.6
RNF	Rovaniemi	3.66	348	PB	Pn	11 42 18.8	+2.1
	baz=166						
ERTU	Ertsjaerv	4.29	327	PN	Pn	11 42 27.3	+1.9
	baz=143						
ARCES	ARCESS Array B	6.58	352	Pn	Pn	11 42 57.0	+0.2
	baz=165,slow=15,SNR=11						
ARCES				Sn	Sn	11 44 09.8	-2.6
	baz=173,slow=23,SNR=6.2						
HFS	Hagfors	7.41	253	Pn	Pn	11 43 09.2	+1.0
	comp=N,0.0nm,0.3s,baz=64,slow=9.9,SNR=1.0						
HFS				Sn	Sn	11 44 30.4	-2.4
	comp=N,0.1nm,0.3s,baz=178,slow=40,SNR=1.2						
NOA	NORSAR Array B	8.12	263	Pn	Pn	11 43 18.4	+0.4
	comp=N,0.0nm,0.3s,baz=52,slow=11,SNR=0.9						

*SFS **03** 11:43:57.0, 35.°50N×3.°70W, ML2.2, ALBORAN SUR*
*MDD **03** 11:43:57.6±0.9, 35.°59N×3.°74W, h0^{km}, mb_Lg2.2/4, Error ellipse: s-maj=8.4km s-min=3.6km az=38.0*
*CNRM **03** 11:43:58.2, 35.°44N×3.°71W, h0^{km}, ml2.6*
ISC 03 11:43:56.1±1.2**, 35.°53N**±0.°03×**3.°74W**±0.°03**, h6^{km}**±12^{km}**, n13, σ1s19**/21**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.35	208	P	Pg	11 44 02.7	-0.3
PALE				S	Sg	11 44 08.1	+0.3
EMEL	Melilla	0.68	110	Pg	Pb	11 44 10.7	+0.4
EMEL				Sg	Sb	11 44 20.0	+0.1
GOG	Mont Gurugu	0.68	117	P	Pb	11 44 10.7	+0.2
GOG				S	Sb	11 44 19.8	-0.3
EALB	Alboran	0.70	54	Pg	Pg	11 44 11.0	+1.4
EALB				Sg	Sg	11 44 17.2	-1.6
EALB				*i* Vmb_Lg		11 44 27.7	
TAF	Taforalt	1.30	123	P	Pb	11 44 20.6	-0.4
EMIJ	Mijas	1.33	321	Pg	Pn	11 44 20.3	-0.9
EMIJ				Sg	Sb	11 44 37.7	-1.1
EMIJ				*i* Vmb_Lg		11 44 47.9	
ELGU	Los Guajares,	1.34	4	Pg	Pn	11 44 21.7	+0.3
ELGU				Sg	Sb	11 44 39.4	+0.4
ELGU				*i* Vmb_Lg		11 44 46.4	
EMAL	Malaga-Limoner	1.35	336	P	Pn	11 44 22.4	+1.0
EMAL				S	Sb	11 44 38.2	-1.1
CHEFC	Chefchaouen	1.38	253	P	Pg	11 44 24.9	+2.4
JBK	JBK	1.53	141	P	Pg	11 44 24.8	-0.8
EGOR	Sierra Gorda,	1.60	349	Pg	Pn	11 44 25.5	+0.4
EGOR				Sg	Sn	11 44 46.1	-0.1
EGOR				*i* Vmb_Lg		11 44 55.5	
CZD	Col de Zad	2.72	204	P	Pb	11 44 43.2	-2.0
MD31	MD31	2.79	198	P	Pn	11 44 43.3	+1.9

*SFS **03** 11:46:13.0, 35.°56N×3.°80W, ML2.6, ALBORAN SUR*
*MDD **03** 11:46:13.9±0.7, 35.°58N×3.°77W, h2^{km}±4^{km}, mb_Lg2.7/4, Error ellipse: s-maj=5.7km s-min=3.3km az=21.0*
*CNRM **03** 11:46:15.3, 35.°32N×3.°71W, h22^{km}, ml2.5*
ISC 03 11:46:12.5±0.8**, 35.°50N**±0.°02×**3.°73W**±0.°02**, h11^{km}, n22, σ1s74**/41**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.33	212	P	Pg	11 46 19.7	+0.6
PALE				S	Sg	11 46 24.3	+0.8
GOG	Mont Gurugu	0.66	114	P	Pg	11 46 26.9	+1.6
GOG				S	Sg	11 46 36.1	+2.2
EMEL	Melilla	0.66	107	Pg	Pg	11 46 26.3	+1.1
EMEL				Sg	Sg	11 46 35.2	+1.3
EALB	Alboran	0.72	52	Pg	Pg	11 46 27.4	+1.1
EALB				Sg	Sb	11 46 37.8	+0.9
EALB				*i* Vmb_Lg		11 46 39.1	
TAF	Taforalt	1.27	122	P	Pn	11 46 36.2	-0.1
TAF				S	Sb	11 46 50.6	-2.3
SMIR	Smir Dam	1.36	278	P	Pg	11 46 40.8	+2.2
SMIR				S	Sg	11 46 58.1	+1.8
EMIJ	Mijas	1.36	322	Pg	Pb	11 46 38.0	0.0
EMIJ				Sg	Sb	11 46 52.9	-2.6
EMIJ				*i* Vmb_Lg		11 46 58.9	
ELGU	Los Guajares,	1.37	3	Pg	Pn	11 46 37.0	-0.6
ELGU				Sg	Sb	11 46 53.1	-2.7
ELGU				*i* Vmb_Lg		11 46 57.4	
CHEFC	Chefchaouen	1.38	254	P	Pn	11 46 38.5	+0.8
CHEFC				S	Sb	11 46 55.9	0.0
EMAL	Malaga-Limoner	1.39	336	P	Pg	11 46 39.0	-0.1
EMAL				S	Sb	11 46 54.4	-1.7
JBK	JBK	1.50	140	P	Pn	11 46 38.7	-0.8
JBK				S	Sn	11 46 55.4	-3.8
EGOR	Sierra Gorda,	1.64	349	Pn	Pn	11 46 41.7	+0.2
EGOR				Sn	Sb	11 47 02.7	-0.9
EGOR				*i* Vmb_Lg		11 47 15.3	
EJIF	Jimena Fronter	1.71	305	Pn	Pn	11 46 42.0	-0.2
SICH	Sidi Chahed	1.91	224	P	Pn	11 46 46.1	+1.1
SICH				S	Sn	11 47 07.9	-1.1
CZD	Col de Zad	2.69	204	P	Pn	11 46 55.8	-0.1
CZD				S	Sn	11 47 25.7	-3.0
MD31	MD31	2.76	198	P	Pn	11 46 57.5	+0.8
MD31				S	Sn	11 47 27.4	-2.7
MDT	Midelt	2.77	196	P	Pn	11 46 58.8	+1.8
MDT				S	Sn	11 47 28.0	-2.5
TDRA	Tendrara	2.82	150	P	Pn	11 46 58.7	+1.0
ECAB	El Cabril	2.91	333	Pn	Pn	11 47 01.0	+2.2
ECAB				Sn	Sn	11 47 33.2	-0.6
ZHG	ZHG	3.16	231	P	Pn	11 47 04.6	+2.4
ETOB	Tobarra	3.59	28	Pn	Pn	11 47 10.5	+2.3
ETOB				Sn	Sn	11 47 50.0	-0.7
EGRO	El Granado	3.65	305	Pn	Pn	11 47 08.3	-0.5
EGRO				Sn	Sn	11 47 49.2	-2.6

IDC 03 11:48:57.7±441.0**, 53.°65N**×**34.°56E, h0^{km}, Error ellipse: s-maj=178.8km s-min=76.7km az=26.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.44	25	*i*		12 12 40.0	
	baz=209,slow=303,SNR=0.8						
I26DE	FREYUNG INFRAS	13.89	258	*i*		13 18 20.0	
	baz=66,slow=330,SNR=0.6						
I31KZ	AKTYUBINSK INF	14.79	93	*i*		13 20 20.0	
	baz=296,slow=315,SNR=1.0						
I46RU	ZALESOVO INFRA	29.19	69	*i*		14 44 20.0	
	baz=288,slow=324,SNR=2.9						

*KRSC **03** 11:51:14.4±0.6, 55.°01N×160.°92E, h107^{km}±12^{km}, ML3.8*
*IDC **03** 11:51:16.4±2.4, 54.°85N×160.°79E, h123^{km}±31^{km}, mb3.0/4, mb1 3.2/6, mb1mx2.9/63, mbtmp3.4/6, Error ellipse: s-maj=35.6km s-min=30.6km az=4.0*
ISC 03 11:51:15.5±0.8**, 55.°01N**±0.°04×**160.°95E**±0.°05**, h102^{km}**±7^{km}**, n48, σ0s90**/60**, mb3.3**/4**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.37	302	*e*P	Pn	11 51 30.1	-0.6
TUMD				*e*S	Sn	11 51 41.9	-0.1
TUMR	Tumrok	0.54	301	*e*P	Pn	11 51 31.9	+0.1
TUMR				*e*S	Sn	11 51 44.4	+0.3
KMNR	Kamenistaya	0.85	332	*e*P	Pn	11 51 34.5	-0.1
BZGR	Bezymyannyi-Gr	0.94	351	*e*P	Pn	11 51 35.4	-0.1
BZWR	Bezymyannyi-We	0.99	345	*e*P	Pn	11 51 36.0	-0.1
KIRR	Kirishev	1.01	340	*e*P	Pn	11 51 35.9	-0.4
ZLN	Zelenaya	1.01	355	*e*P	Pn	11 51 36.5	+0.2
KPT	Kopyto	1.04	337	*e*P	Pn	11 51 36.1	-0.5
LGNR	Loginova	1.09	352	*e*P	Pn	11 51 37.6	+0.3
CIRR	Tsirk	1.11	354	*e*P	Pn	11 51 37.6	+0.2
KOZ	Kozyrevsk	1.22	330	*e*P	Pn	11 51 38.1	-0.3
KOZ				*e*S	Sn	11 51 56.4	+0.6
KRSR	Krestovskiy	1.23	350	*e*P	Pn	11 51 38.2	-0.5
KII	Karymskiy	1.31	223	*e*P	Pn	11 51 39.8	+0.2
KII				*e*S	Sn	11 51 59.1	+1.3
KLY	Klyuchi	1.32	353	*e*P	Pn	11 51 39.6	0.0
KLY				*e*S	Sn	11 52 00.1	+2.3
BDR	Baidarnaya	1.57	5	*e*P	Pn	11 51 43.2	+0.5
ESO	Esso	1.58	307	*e*P	Pn	11 51 42.8	+0.1
ESO				*e*S	Sn	11 52 03.1	-0.4
KBG	Krutoberegovo	1.60	38	*e*P	Pn	11 51 44.0	+1.0
KBG				*e*S	Sn	11 52 04.7	+0.9
KBTR	Krutoberegovo	1.60	41	*e*P	Pn	11 51 43.9	+0.9
KBTR				*e*S	Sn	11 52 05.7	+1.7
SMKR	Semkarok	1.60	10	*e*P	Pn	11 51 43.4	+0.2
SRKR	Sorokina	1.65	4	*e*P	Pn	11 51 44.2	+0.4
SPN	Mys Shipunski	1.99	196	*e*P	Pn	11 51 47.4	-0.6
SPN				*e*S	Sn	11 52 11.8	-0.9
NLC	Nalytchevo	2.07	208	*e*P	Pn	11 51 49.2	+0.2
NLC				*e*S	Sn	11 52 15.2	+0.7
SDLR	Sedlovina	2.12	216	*e*P	Pn	11 51 50.3	+0.6
SDLR				*e*S	Sn	11 52 16.6	+0.7
KRER	Koryakskii	2.14	218	*e*P	Pn	11 51 51.5	+1.4
KRER				*e*S	Sn	11 52 17.4	+0.8
SMAR	Somma	2.16	217	*e*P	Pn	11 51 50.9	+0.6
AVH	Avacha	2.18	218	*e*P	Pn	11 51 51.5	+1.0
KOK	Koryaka	2.19	219	*e*P	Pn	11 51 51.9	+1.2
UGLR	Uglovaya	2.19	216	*e*P	Pn	11 51 51.6	+0.9
GNL	Ganaly	2.20	234	*e*P	Pn	11 51 51.0	+0.2
DALK	Dalny	2.37	214	*e*P	Pn	11 51 53.5	+0.7
DALK				*e*S	Sn	11 52 23.3	+1.8
PET	Petropavlovsk	2.41	215	*e*P	Pn	11 51 54.2	+0.9
PET				*e*S	Sn	11 52 24.6	+2.2
PETK	Petropavlovsk-	2.70	226	P	Pn	11 51 56.9	-0.3
	2.5nm,0.3s,baz=65,slow=15,SNR=38						
PETK				S	Sn	11 52 39.3	+10
	1.8nm,0.3s,baz=78,slow=21,SNR=4.1						
KRMR	Karymshinskiy	2.75	219	*e*P	Pn	11 51 58.4	+0.6
BKI	Bering	2.89	84	*e*P	Pn	11 51 59.8	+0.1
BKI				*e*S	Sn	11 52 32.6	-1.2
RUS	Russkaya	2.96	210	*e*P	Pn	11 52 00.4	-0.3
GRL	Gorelyy	3.00	216	*e*P	Pn	11 52 02.4	+1.1
MTVR	Mutnovka	3.02	214	*e*P	Pn	11 52 02.7	+1.1
APC	Apacha	3.06	229	*e*P	Pn	11 52 03.2	+1.2
KDTR	Khodutka, Kamc	3.64	209	*e*P	Pn	11 52 09.3	-0.4
OSSR	Ossora	4.41	14	*e*P	Pn	11 52 21.3	+1.3
MA2	Magadan	7.17	314	P	Pn	11 52 58.5	+1.1
	0.2nm,0.3s,baz=114,slow=10,SNR=14						
INK	Inuvik	32.05	40	P	P	11 57 32.1	+0.2
	0.3nm,0.5s,baz=288,slow=6.4,SNR=1.7						
H11N2	WAKE ISLAND Hy	35.51	170	T	T	12 35 32.1	
	baz=355,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	35.52	170	T	T	12 35 35.7	
	baz=355,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	35.52	170	T	T	12 35 33.3	
	baz=355,slow=76,SNR=24						
YKA	Yellowknife Ar	41.42	44	P	P	11 58 51.4	+0.1
	0.3nm,0.6s,baz=299,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	47.80	295	P	P	11 59 40.4	-1.9
	0.3nm,0.8s,baz=56,slow=8.5,SNR=2.3						
TXAR	Lajitas Array	69.44	68	P	P	12 02 12.3	-0.3
	0.3nm,0.6s,baz=310,slow=4.8,SNR=5.1						

*MDD **03** 11:51:21.4±0.8, 35.°42N×3.°74W, h10^{km}±8^{km}, mb_Lg3.1/8, Error ellipse: s-maj=7.6km s-min=2.5km az=174.0*
*IGIL **03** 11:51:21.9, 35.°31N×3.°71W, h23^{km}*
*SFS **03** 11:51:21.0, 35.°31N×3.°71W, h23^{km}, ML3.0, ALHUCEMAS (MARRUECOS)*
*CNRM **03** 11:51:23.0, 35.°30N×3.°69W, h19^{km}, ml3.3*
ISC 03 11:51:21.3±1.0**, 35.°41N**±0.°02×**3.°70W**±0.°03**, h24^{km}**±10^{km}**, n31, σ1s36**/52**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.27	226	P	Pb	11 51 27.8	0.0
PALE				S	Sb	11 51 32.0	-0.3
GOG	Mont Gurugu	0.60	108	P	Pn	11 51 35.1	+0.6
GOG				S	Sn	11 51 44.0	+0.4
EMEL	Melilla	0.62	100	Pg	Pb	11 51 34.5	+1.1
EMEL				Sg	Sn	11 51 43.6	-0.1
EALB	Alboran	0.76	45	Pg	Pb	11 51 35.7	0.0
EALB				Sg	Sb	11 51 45.9	+0.2
TAF	Taforalt	1.21	119	P	Pn	11 51 43.1	+0.3
TAF				S	Sn	11 51 58.3	-0.2
CHEFC	Chefchaouen	1.38	258	P	Pn	11 51 45.0	-0.1
SMIR	Smir Dam	1.40	282	P	Pb	11 51 49.2	+2.5
JBK	JBK	1.42	139	P	Pb	11 51 46.7	-0.5
JBK				S	Sb	11 52 04.3	-0.6
EMIJ	Mijas	1.45	323	Pn	Pn	11 51 46.2	+0.2
EMIJ				Sn	Sn	11 52 04.0	-0.2
EMIJ				*i* Vmb_Lg		11 52 13.5	
CEU	Ceuta	1.45	290	P	Pn	11 51 43.6	-2.4
CEU				S	Sn	11 51 55.8	-8.4
ELGU	Los Guajares,	1.46	2	Pn	Pn	11 51 44.7	-1.5
ELGU				Sn	Sn	11 52 02.1	-2.5
EMAL	Malaga-Limoner	1.47	337	P	Pn	11 51 47.3	+1.0
EMAL				S	Sn	11 52 02.2	-2.6
EGOR	Sierra Gorda,	1.73	349	Pn	Pn	11 51 49.9	-0.1
EGOR				Sn	Sn	11 52 11.9	+0.4
EJIF	Jimena Fronter	1.77	306	Pn	Pn	11 51 52.6	+2.1
EQUE	Quentar	1.81	7	Pn	Pn	11 51 51.7	+0.7
EQUE				Sn	Sn	11 52 12.5	-0.7
EQUE				*i* Vmb_Lg		11 52 37.0	
SICH	Sidi Chahed	1.86	226	P	Pb	11 51 54.9	+0.3
LCRM	LCR	1.97	209	P	Pb	11 51 58.0	+1.5
ENIJ	Nijar	1.97	37	Pn	Pn	11 51 52.8	-0.5
ENIJ				Sn	Sn	11 52 15.0	-2.2
ENIJ				*i* Vmb_Lg		11 52 17.1	
CZD	Col de Zad	2.62	206	P	Pn	11 52 04.1	+1.8
CZD				S	Sn	11 52 33.6	+0.1
MD31	MD31	2.68	199	P	Pb	11 52 05.2	-3.5
MD31				S	Sn	11 52 35.2	+0.4
MDT	Midelt	2.70	196	P	Pn	11 52 05.0	+1.7
MDT				S	Sn	11 52 36.3	+1.1
TDRA	Tendrara	2.74	149	P	Pb	11 52 07.1	-2.6
TLOR	Lorca, Murcia	2.77	35	Sn	Sn	11 52 38.4	+1.6
EZAR	Zarzadilla de	2.94	33	Pn	Pn	11 52 07.2	+0.5
EZAR				Sn	Sn	11 52 41.3	+0.1
ECAB	El Cabril	3.00	333	Pn	Pn	11 52 07.6	+0.2
ECAB				Sn	Sn	11 52 43.2	+0.7
ZHG	ZHG	3.12	232	P	Pn	11 52 09.8	+0.7
ETOB	Tobarra	3.66	27	Pn	Pn	11 52 18.4	+2.0
ETOB				*i* Vmb_Lg		11 52 42.6	
ETOB				Sn	Sn	11 53 00.4	+1.4
EGRO	El Granado	3.71	306	Pn	Pn	11 52 16.5	-0.7
EGRO				Sn	Sn	11 52 57.9	-2.3
EGRO				*i* Vmb_Lg		11 53 44.6	
PAB	San Pablo	4.16	353	Pn	Pn	11 52 24.3	+0.9
PAB				*i* Vmb_Lg		11 52 37.4	
PAB				Sn	Sn	11 53 11.9	+0.6
ESDC	Sonseca Array	4.26	357	Pn	Pn	11 52 25.8	+1.0
ESDC				*i* Vmb_Lg		11 53 04.0	
ESDC				Sn	Sn	11 53 12.7	-1.1
MORF	Marmelete	4.42	297	*e*P	Pn	11 52 26.8	-0.1

IDC 03 11:51:46.9±1.4**, 54.°70S**×**126.°00W, h0^{km}, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.7**/23**, mbtmp3.6**/4**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx3.0**/38**, Error ellipse: s-maj=112.1km s-min=32.6km az=156.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	38.70	77	T	T	12 40 15.9	
	baz=220						
H03S1	Juan Fernandez	38.71	77	T	T	12 40 17.2	
	baz=220						
H03S3	Juan Fernandez	38.72	77	T	T	12 40 16.4	
	baz=220						
H03N3	Juan Fernandez	38.98	77	T	T	12 40 41.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=222,slow=72,SNR=406						
H03N2	**Juan Fernandez**	**38.99**	**77**	T	T	12 40 33.8	
	baz=222,slow=72,SNR=623						
H03N1	**Juan Fernandez**	**39.00**	**77**	T	T	12 40 32.4	
	baz=222,slow=72,SNR=440						
PPT	**Papeete**	**41.26**	**325**	LR	LR	12 11 11.0	
	comp=Z,83nm,21.7s,baz=176,slow=28						
URZ	**Urewera**	**41.26**	**269**	LR	LR	12 12 51.2	
	comp=Z,75nm,21.8s,baz=200,slow=31						
LPAZ	**La Paz**	**58.44**	**73**	P	P	12 01 45.0	-0.1
	0.9nm,0.6s,baz=191,slow=5.2,SNR=4.1						
ASAR	**Alice Springs**	**76.60**	**248**	P	P	12 03 39.2	-0.1
	0.1nm,0.3s,baz=140,slow=5.9,SNR=2.3						
H01W1	**Cape Leeuwin H**	**76.92**	**227**	T	T	13 28 49.7	
	baz=149,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**76.93**	**227**	T	T	13 28 49.9	
	baz=149,slow=76,SNR=24						
H01W3	**Cape Leeuwin H**	**76.94**	**227**	T	T	13 28 50.9	
	baz=149,slow=76,SNR=24						
WRA	**Warramunga Arr**	**79.37**	**251**	P	P	12 03 55.0	+0.3
	0.5nm,0.9s,baz=144,slow=5.0,SNR=2.7						
TXAR	**Lajitas Array**	**85.88**	**19**	P	P	12 04 28.3	+0.1
	0.2nm,0.8s,baz=171,slow=6.3,SNR=1.2						
SONM	**Songino Array**	**147.18**	**280**	PKPbc	PKPbc	12 11 30.1	-1.1
	0.2nm,0.4s,baz=108,slow=4.7,SNR=1.9						

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*MDD **03** 11:55:48.0±0.8, 35.°57N×3.°81W, h0km±5km, mb_Lg2.8/5, Error ellipse: s-maj=6.3km s-min=3.7km az=28.0*
*SFS **03** 11:55:48.0, 35.°58N×3.°78W, ML2.6, ALBORAN SUR*
*CNRM **03** 11:55:49.3, 35.°34N×3.°69W, h26km, ml2.4*
ISC 03 11:55:48.0±1.0**, 35.°48N**±0.°03×**3.°72W**±0.°03**, h26**km±10km**, n19, σ1.°07**/32**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**215**	P	**Pb**	**11 55 54.7**	**-0.7**
PALE				S	**Sb**	**11 56 00.2**	**-0.1**
GOG	**Mont Gurugu**	**0.65**	**113**	P	**Pn**	**11 56 01.2**	**-0.3**
GOG				S	**Sb**	**11 56 09.6**	**+0.2**
EMEL	**Melilla**	**0.65**	**105**	Pg	**Pn**	**11 56 01.4**	**0.0**
EMEL				Sg	**Sb**	**11 56 10.2**	**+0.8**
EALB	**Alboran**	**0.73**	**50**	Pg	**Pb**	**11 56 02.2**	**+0.2**
EALB				Sg	**Sb**	**11 56 11.8**	**+0.1**
EALB				*i* Vmb_Lg		11 56 13.8	
TAF	**Taforalt**	**1.26**	**121**	P	**Pn**	**11 56 10.2**	**+0.3**
TAF				S	**Sn**	**11 56 24.9**	**-1.2**
SMIR	**Smir Dam**	**1.37**	**279**	S	**Sb**	**11 56 32.4**	**+2.4**
CHEFC	**Chefchaouen**	**1.37**	**255**	P	**Pb**	**11 56 14.0**	**+0.9**
EMIJ	**Mijas**	**1.38**	**322**	Pg	**Pb**	**11 56 12.3**	**-0.8**
EMIJ				Sg	**Sn**	**11 56 27.7**	**-1.3**
EMIJ				*i* Vmb_Lg		11 56 33.4	
ELGU	**Los Guajares,**	**1.39**	**3**	Pg	**Pn**	**11 56 11.3**	**-0.5**
ELGU				Sg	**Sn**	**11 56 28.1**	**-1.3**
ELGU				*i* Vmb_Lg		11 56 32.6	
EMAL	**Malaga-Limoner**	**1.41**	**336**	P	**Pb**	**11 56 14.4**	**+0.9**
EMAL				S	**Sn**	**11 56 28.9**	**-0.7**
JBK	**JBK**	**1.48**	**140**	P	**Pn**	**11 56 13.2**	**+0.1**
EGOR	**Sierra Gorda,**	**1.66**	**349**	Pn	**Pn**	**11 56 15.3**	**-0.3**
EGOR				Sn	**Sn**	**11 56 36.0**	**-0.1**
EGOR				*i* Vmb_Lg		11 56 55.4	
CZD	**Col de Zad**	**2.67**	**205**	P	**Pn**	**11 56 29.8**	**+0.2**
MD31	**MD31**	**2.74**	**199**	P	**Pn**	**11 56 30.5**	**+0.2**
MD31				S	**Sn**	**11 57 02.4**	**-0.3**
MDT	**Midelt**	**2.75**	**196**	P	**Pn**	**11 56 30.3**	**-0.2**
MDT				S	**Sn**	**11 57 02.1**	**-0.9**
ECAB	**El Cabril**	**2.93**	**333**	Pn	**Pn**	**11 56 32.2**	**-0.7**
ECAB				Sn	**Sn**	**11 57 06.3**	**-1.0**
ZHG	**ZHG**	**3.15**	**231**	P	**Pn**	**11 56 37.4**	**+1.4**
ETOB	**Tobarra**	**3.61**	**28**	Pn	**Pn**	**11 56 45.0**	**+2.7**
EGRO	**El Granado**	**3.66**	**305**	Pn	**Pn**	**11 56 42.1**	**-0.7**
EGRO				Sn	**Sn**	**11 57 23.1**	**-2.1**

IDC 03 12:01:11.8±448.0**, 53.°61N×34.°45E, h0**km**, Error ellipse: s-maj=183.5km s-min=77.8km az=26.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.50**	**26**	*i*		12 25 30.0	
	baz=209,slow=305,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**13.82**	**258**	*i*		13 28 40.0	
	baz=67,slow=335,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**14.85**	**93**	*i*		13 33 20.0	
	baz=297,slow=321,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**29.26**	**69**	*i*		14 57 30.0	
	baz=288,slow=322,SNR=1.8						

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*IDC **03** 12:13:38.8±1.9, 56.°61S×27.°13W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.2/25, mbtmp4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/43, Error ellipse: s-maj=112.3km s-min=69.9km az=143.0*
*NEIC **03** 12:13:45.8±1.3, 56.°3S±0.°2×27.°8W±0.°3, h40km±8km, mb4.3/5, Error ellipse: s-maj=25.5km s-min=21.3km az=53.0*
ISC 03 12:13:45.0±0.7**, 56.°3S**±0.°1×**27.°7W**±0.°2**, h35**km**, n25, σ0.°84**/18**, mb4.2**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43**	**288**	Pn	**Pn**	**12 15 03.3**	**0.0**
SNAA	**Sanae**	**18.62**	**155**	P	**P**	**12 17 58.7**	**-0.4**
SNAA				IAmb	IAmb	12 18 06.8	
	comp=Z,25nm,1.5s						
BELA	**Belgrano 2**	**21.80**	**184**	P	**P**	**12 18 33.7**	**+0.3**
BELA				IAmb	IAmb	12 18 42.0	
	comp=Z,16nm,1.5s						
QSPA	**South Pole Qui**	**33.94**	**180**	P	**P**	**12 20 25.1**	**+0.5**
QSPA				IAmb	IAmb	12 20 34.8	
	comp=Z,9.2nm,1.5s						
H10S2	**ASCENSION HYDR**	**48.33**	**17**	T	T	13 14 22.9	
	baz=190,slow=74,SNR=204						
H10S3	**ASCENSION HYDR**	**48.33**	**17**	T	T	13 14 23.2	
	baz=30,slow=74,SNR=420						
H10N1	**ASCENSION HYDR**	**49.44**	**17**	T	T	13 15 47.1	
	baz=189,slow=75,SNR=327						
H10N3	**ASCENSION HYDR**	**49.45**	**17**	T	T	13 15 47.0	
	baz=189,slow=75,SNR=284						
H10N2	**ASCENSION HYDR**	**49.46**	**17**	T	T	13 15 46.3	
	baz=189,slow=75,SNR=401						
MATP	**Matopo**	**54.62**	**73**	LR	LR	12 42 43.2	
	comp=Z,44nm,20.9s,baz=238,slow=32						
DBIC	**Dimbokro**	**65.51**	**25**	P	**P**	**12 24 25.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.41**	**30**	P	**P**	**12 25 13.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=202,slow=6.9,SNR=5.8						
YERR	**Yerington**	**122.15**	**293**		**PKPdf**	**12 32 33.8**	**-1.6**
YKA	**Yellowknife Ar**	**136.18**	**318**	PKP	**PKPdf**	**12 33 01.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.0,SNR=5.6						
A36M	**Sachs Harbour**	**144.29**	**328**		PKPbc	12 33 14.4	+0.7
M30M	**Minto, Yukon**	**145.13**	**310**		**PKPbc**	**12 33 16.6**	**-0.2**
EPYK	**Eagle Plains**	**146.43**	**316**		**PKPdf**	**12 33 20.5**	**+1.2**
DAWY	**Dawson**	**146.76**	**312**		**PKPdf**	**12 33 18.7**	**-1.2**
RIDG	**Independent Ri**	**148.97**	**310**		**PKPbc**	**12 33 27.8**	**+0.2**
IL31		**150.09**	**311**		**PKPbc**	**12 33 31.0**	**+0.8**
ILAR	**Eielson Array**	**150.09**	**311**	PKPbc	**PKPbc**	**12 33 30.2**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=90,slow=0.6,SNR=48						
ILAR	**Eielson Array**	**150.09**	**311**		**PKPbc**	**12 33 29.7**	**-0.5**
SONM	**Songino Array**	**151.01**	**87**	PKPbc	**PKPbc**	**12 33 31.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=205,slow=3.0,SNR=3.7						
BPAW	**Bear Paw Mtn.**	**151.69**	**309**		**PKPbc**	**12 33 34.1**	**0.0**
TOLK	**Toolik Lake Re**	**151.70**	**319**		**PKPbc**	**12 33 34.4**	**+0.4**

JMA 03 12:20:22.2±0.3**, 37.°03N×144.°25E, h57**km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.55**	**301**	P	Pn	12 21 02.2	+1.1
JIO	**Ouri**	**2.70**	**303**	P	Pn	12 21 04.5	+1.3
JIO				*e*S	Sn	12 21 35.8	+1.1
JFK	**Kawauchi**	**2.72**	**278**	P	Pn	12 21 04.5	+1.1
JFK				S	Sn	12 21 36.0	+0.9
ONAJ	**Iwakimizuishiy**	**2.76**	**273**	P	Pn	12 21 05.3	+1.2
ONAJ				S	Sn	12 21 37.3	+1.1
JMST	**Minamisoumatoc**	**2.77**	**286**	P	Pn	12 21 05.1	+1.0
JMST				S	Sn	12 21 37.4	+1.1
JKMT	**Kesennumamotoy**	**2.83**	**310**	P	Pn	12 21 05.8	+1.0
JMK	**Ichinoseki**	**3.07**	**310**	P	Pn	12 21 09.4	+1.2
JMK				S	Sn	12 21 45.4	+1.8
JFT	**Otama**	**3.16**	**280**	P	Pn	12 21 11.7	+2.2
JFT				*e*S	Sn	12 21 48.1	+2.2
BSO1	**Boso 1**	**3.56**	**229**	P	Pn	12 21 15.3	+0.8
BSO1				*e*S	Sn	12 21 55.7	+0.7
JRY	**Ryogami san**	**4.42**	**258**	P	Pn	12 21 27.9	+1.1
JOD2	**Odawara 2**	**4.53**	**249**	P	Pn	12 21 30.0	+1.7
JOD2				*e*S	Sn	12 22 18.4	-1.3
JOT	**Ohata**	**5.01**	**331**	P	Pn	12 21 36.5	+1.8
JHJ2	**Mitsune**	**5.34**	**224**	P	Pn	12 21 39.1	-0.2
JKB	**Kayabe**	**5.45**	**334**	P	Pn	12 21 41.6	+0.8
JKB				*e*S	Sn	12 22 40.6	-1.6
JCH	**Churui**	**5.62**	**353**	P	Pn	12 21 42.1	-1.0
JCH				*e*S	Sn	12 22 41.8	-4.5
NEM2	**Nemuro 2**	**6.43**	**10**	P	Pn	12 21 50.7	-3.5
NEM2				*e*S	Sn	12 22 58.6	-7.5
JTKR	**Abashiri--Toko**	**6.94**	**358**	P	Pn	12 21 59.9	-1.3
JTKR				S	Sn	12 23 12.9	-5.7

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*IDC **03** 12:21:50.0±0.6, 16.°54N×122.°38E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.0/45, mbtmp4.0/18, ML4.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/88, Error ellipse: s-maj=25.3km s-min=11.8km az=79.0*
*MAN **03** 12:21:54.5, 16.°51N×122.°06E, h15km, mb5.3, ML4.2, MS4.4*
MAN INTENSITY III - MADDELA AND AGLIPAY, QUIRINO; INTENSITY II - CASIGURAN, AURORA.
*NEIC **03** 12:21:57.7±1.6, 16.°50N±0.°07×122.°3E±0.°1, h56km±8km, mb4.6/21, Error ellipse: s-maj=20.0km s-min=10.0km az=93.0*
ISC 03 12:21:52.5±2.3**, 16.°51N**±0.°04×**122.°37E**±0.°08**, h17**km±14km**, n63, σ1.°53**/62**, mb4.2**/27**, 3C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.30**	**336**⇓	*e*P	**Pb**	**12 22 15.2**	**-1.2**
CVP				*i* S	**Sg**	**12 22 31.8**	**-2.7**
PCPH	**Palayan**	**1.55**	**233**⇑	*e*P	**Pn**	**12 22 17.9**	**-1.3**
PCPH				*e*S	**Sb**	**12 22 40.2**	**+0.2**
SIPP	**Brgy, Tapao**	**2.31**	**308**⇑	*i*P	**Pn**	**12 22 30.1**	**+0.4**
SIPP				*i* S	**Sg**	**12 23 10.3**	**+3.7**
LQP	**Lukban**	**2.52**	**199**⇓	*e*P	**Pn**	**12 22 33.9**	**+1.0**
LQP				*i* S	**Sb**	**12 23 08.1**	**-0.1**
GQP	**Guinayangan**	**2.59**	**178**⇓	*e*P	**Pn**	**12 22 36.4**	**+2.7**
GQP				*e*S	**Sn**	**12 23 07.8**	**+2.9**
TGY	**Tagaytay City**	**2.77**	**210**	Pn	**Pn**	**12 22 37.3**	**+1.2**
	122nm,0.3s,baz=91,slow=4.4,SNR=5.9						
TGY				Sn	**Sn**	**12 23 08.7**	**-0.6**
	382nm,0.3s,baz=8.9,slow=2.5,SNR=8.7						
TGY	**Tagaytay City**	**2.77**	**210**⇓	*e*P	**Pb**	**12 22 39.3**	**-2.2**
TGY				*e*S	**Sn**	**12 23 11.8**	**+2.5**
PGP	**Puerto Galera**	**3.29**	**205**⇑	*e*P	**Pn**	**12 22 46.4**	**+3.1**
TWG	**Pinlang**	**6.39**	**349**	Pn	**Pn**	**12 23 28.9**	**+2.9**
YULB	**Yu-li**	**6.92**	**352**	Pn	**Pn**	**12 23 37.0**	**+3.8**
TPUB	**Ta-pu**	**6.95**	**347**	Pn	**Pn**	**12 23 34.8**	**+1.2**
SSLB	**Suanglung**	**7.36**	**350**	Pn	**Pn**	**12 23 42.9**	**+3.6**
YHNB	**Yeheng**	**8.17**	**354**	Pn	**Pn**	**12 23 53.2**	**+2.7**
DAV	**Davao City (W)**	**9.89**	**161**	LR	LR	12 27 25.6	
	comp=Z,46nm,20.4s,baz=5.0,slow=34						
KSRS	**Korea Array**	**21.43**	**12**	P	**P**	**12 26 41.1**	**+1.4**
	1.9nm,0.7s,baz=205,slow=12,SNR=10.0						
GUMO	**Guam**	**21.92**	**95**	LR	LR	12 34 33.4	
	comp=Z,67nm,18.5s,baz=256,slow=35						
CMAR	**Chiang Mai Arr**	**22.43**	**278**	P	**P**	**12 26 51.4**	**+0.7**
	1.3nm,0.3s,baz=83,slow=7.8,SNR=14						
IPM	**Ipoh**	**24.12**	**243**	P	**P**	**12 27 05.8**	**-2.0**
IPM				IAmb	IAmb	12 27 07.9	
	comp=Z,22nm,1.1s						
BATI	**Baumata**	**26.58**	**177**	P	**P**	**12 27 30.4**	**+0.4**
	comp=Z,36nm,0.8s,baz=183,slow=1.4,SNR=6.7						
KLR	**Kul'dur**	**33.52**	**11**	P	**P**	**12 28 30.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=231,slow=8.3,SNR=7.3						
SONM	**Songino Array**	**33.90**	**341**	P	**P**	**12 28 34.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=162,slow=10.0,SNR=5.3						
SONM	**Songino Array**	**33.90**	**341**	IAmb	IAmb	12 28 43.7	
	comp=Z,8.0nm,1.8s						
FITZ	**Fitzroy Crossi**	**34.54**	**175**	P	**P**	**12 28 40.2**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=350,slow=10.0,SNR=7.5						
WB0	**Warramunga Arr**	**37.94**	**161**	P	**P**	**12 29 07.3**	**-2.1**
WB0				IAmb	IAmb	12 29 10.5	
	comp=Z,6.1nm,0.7s						
WRAB	**Tennant Creek**	**38.08**	**162**	P	**P**	**12 29 09.9**	**-0.6**
WRAB				IAmb	IAmb	12 29 11.9	
	comp=Z,8.2nm,0.9s						
WRA	**Warramunga Arr**	**38.09**	**162**	P	**P**	**12 29 10.5**	**-0.1**
	comp=Z,9.3nm,0.9s,baz=342,slow=9.3,SNR=54						
WRA	**Warramunga Arr**	**38.09**	**162**	P	**P**	**12 29 10.2**	**-0.3**
WB2	**Warramunga Arr**	**38.09**	**162**	P	**P**	**12 29 11.1**	**+0.4**
WR0	**Warramunga Arr**	**38.16**	**161**	P	**P**	**12 29 11.7**	**+0.4**
WR0				IAmb	IAmb	12 29 12.5	
	comp=Z,8.3nm,0.8s						
ASAR	**Alice Springs**	**41.49**	**164**	P	**P**	**12 29 39.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=348,slow=7.4,SNR=16						
H11S3	**WAKE ISLAND Hy**	**42.23**	**81**	T	T	13 15 03.0	
	baz=275,slow=74,SNR=185						
H11S1	**WAKE ISLAND Hy**	**42.24**	**80**	T	T	13 14 59.6	
	baz=275,slow=74,SNR=93						
H11S2	**WAKE ISLAND Hy**	**42.25**	**81**	T	T	13 15 05.4	
	baz=275,slow=74,SNR=110						
H11N1	**WAKE ISLAND Hy**	**42.35**	**79**	T	T	13 15 08.5	
	baz=273,slow=75,SNR=394						
H11N2	**WAKE ISLAND Hy**	**42.35**	**79**	T	T	13 15 08.8	
	baz=273,slow=75,SNR=365						
H11N3	**WAKE ISLAND Hy**	**42.36**	**79**	T	T	13 15 09.8	
	baz=273,slow=75,SNR=267						
MK31	**Makanchi Array**	**44.80**	**321**	P	**P**	**12 30 05.7**	**+0.2**
MKAR	**Makanchi Array**	**44.80**	**321**	P	**P**	**12 30 05.0**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=115,slow=9.1,SNR=31						
MKAR				PcP	**PP**	**12 31 48.2**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=104,slow=6.1,SNR=2.0						
MKAR	**Makanchi Array**	**44.80**	**321**	P	**P**	**12 30 05.5**	**-0.1**
MAKZ	**Makanchi**	**45.00**	**321**	P	**P**	**12 30 07.2**	**+0.1**
PETK	**Petropavlovsk-**	**45.80**	**29**	P	**P**	**12 30 13.3**	**0.0**
	comp=Z,1.8nm,0.7s,baz=208,slow=7.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**47.36**	**331**	P	**P**	**12 30 25.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=125,slow=7.1,SNR=7.9						
ZALV				LR	LR	12 51 09.2	
	comp=Z,42nm,18.2s,baz=318,slow=37						
ZALV	**Zalesovo Beam**	**47.36**	**331**	P	**P**	**12 30 24.7**	**-0.8**
KURK	**Kurchatov**	**48.81**	**324**	P	**P**	**12 30 36.5**	**-0.2**
GAR	**Garm**	**50.46**	**307**	P	**P**	**12 30 49.8**	**+0.1**
BBOO	**Buckleboo**	**50.76**	**165**	P	**P**	**12 30 52.4**	**+0.7**
KKAR	**Karatay Array**	**51.23**	**312**	P	**P**	**12 30 54.5**	**-0.8**
STKA	**Stephens Creek**	**51.52**	**159**	P	**P**	**12 30 57.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=338,slow=7.8,SNR=3.9						
BRVK	**Borovoye**	**54.48**	**324**		**P**	**12 31 18.5**	**-0.6**
BRVK				IAmb	IAmb	12 31 21.0	
	comp=Z,6.0nm,0.8s						
NRIK	**Noril'sk**	**57.07**	**346**	P	**P**	**12 31 37.6**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=124,slow=3.6,SNR=6.6						
NRIK	**Noril'sk**	**57.07**	**346**	P	**P**	**12 31 37.9**	**+0.5**
NRIK				IAmb	IAmb	12 31 44.0	
	comp=Z,6.9nm,0.9s						
ABKAR	**Akbulak array**	**59.72**	**318**	P	**P**	**12 31 56.7**	**+0.4**
ABKAR	**Akbulak array**	**59.72**	**318**	P	**P**	**12 31 55.2**	**-1.1**
ABKAR				IAmb	IAmb	12 31 57.2	
	comp=Z,2.4nm,0.8s						
KLMR	**Klimovskoe**	**72.26**	**329**	*e*P	**P**	**12 33 16.8**	**+0.1**
KLMR				AMP		12 33 18.1	
	comp=Z,19nm,1.4s						
RND	**Reindeer**	**74.84**	**28**	P	**P**	**12 33 31.5**	**-0.5**
RND				IAmb	IAmb	12 33 34.8	
	comp=Z,4.4nm,0.7s						
WRH	**Wood River Hil**	**75.05**	**27**	P	**P**	**12 33 31.8**	**-1.3**
WRH				IAmb	IAmb	12 35 49.8	
	comp=Z,20nm,1.9s						
CCB	**Clear Creek Bu**	**75.16**	**26**	P	**P**	**12 33 31.5**	**-2.2**
CCB				IAmb	IAmb	12 33 35.5	
	comp=Z,13nm,1.7s						
ARCES	**ARCESS Array B**	**77.05**	**339**	P	**P**	**12 33 44.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=76,slow=7.5,SNR=1.4						
FINES	**FINESS Array B**	**78.63**	**331**	P	**P**	**12 33 53.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=64,slow=4.4,SNR=10						
AKASG	**Malin Array Be**	**79.37**	**320**	P	**P**	**12 33 56.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=57,slow=3.3,SNR=1.3						
NB2	**NORSAR Subarra**	**85.51**	**333**	P	**P**	**12 34 29.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**85.51**	**333**	P	**P**	**12 34 29.0**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=64,slow=5.0,SNR=4.8						
YKA	**Yellowknife Ar**	**89.57**	**23**	P	**P**	**12 34 49.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=305,slow=4.4,SNR=16						

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*JMA **03** 12:27:07.1±0.1, 23.°75N×121.°72E, h24km±1km, M2.5*
*TAP **03** 12:27:07.4, 23.°77N×121.°62E, h31km, ML2.9, B*
ISC 03 12:27:06.1±1.0**, 23.°73N**±0.°02×**121.°69E**±0.°02**, h16**km±8km**, n77, σ0.°77**/133**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.14**	**261**	P	**Pb**	**12 27 13.1**	**+2.7**
	baz=227						
TEGC				*e*S	**Sb**	**12 27 17.6**	**+4.3**
	baz=227						
ESL	**Shilin**	**0.25**	**289**	P	**Pb**	**12 27 13.4**	**+1.1**
	baz=283						
ESL				S	**Sb**	**12 27 18.1**	**+1.7**
	baz=283						
HWA	**Hwalien**	**0.26**	**342**	P	**Pn**	**12 27 14.2**	**-1.0**
	baz=3.0						
HWA				*e*S	**Sn**	**12 27 20.2**	**-0.7**
	baz=3.0						
HGSD	**Ruisui**	**0.34**	**226**	P	**Pn**	**12 27 15.8**	**-0.7**
	baz=226						
HGSD				*e*S	**Sn**	**12 27 22.9**	**-0.1**
	baz=226						
TWD	**Chiawan**	**0.36**	**346**	P	**Pb**	**12 27 15.2**	**+1.1**
	baz=2.0						
TWD				S	**Sb**	**12 27 20.9**	**+1.4**
	baz=2.0						
EHY	**Hungye**	**0.41**	**237**	*e*P	**Pb**	**12 27 15.6**	**+0.6**
	baz=226						
EHY				*e*S	**Sb**	**12 27 21.7**	**+0.7**
	baz=226						
ETL	**Fush Village**	**0.43**	**351**	P	**Pb**	**12 27 16.0**	**+0.7**
	baz=3.0						
NACB	**Ninganchiao**	**0.45**	**348**	*e*P	**Pb**	**12 27 16.1**	**+0.4**
	baz=354						
NACB				S	**Sb**	**12 27 22.3**	**+0.2**
	baz=354						
YULB	**Yu-li**	**0.50**	**227**	P	**Pb**	**12 27 16.9**	**+0.4**
	baz=229						
VWDT	**VWDT**	**0.51**	**273**	P	**Pb**	**12 27 17.2**	**+0.6**
	baz=267						
VWDT				*e*S	**Sb**	**12 27 23.8**	**+0.1**
	baz=267						
ETLH	**Xiulin Townshi**	**0.51**	**338**	*e*P	**Pg**	**12 27 16.8**	**+0.5**
	baz=333						
ETLH				*e*S	**Sg**	**12 27 23.3**	**0.0**
	baz=333						
EYUL	**Yuli**	**0.52**	**222**	*e*P	**Pb**	**12 27 17.4**	**+0.7**
	baz=226						
WHF	**Hehuan Shan**	**0.57**	**316**	*e*P	**Pg**	**12 27 17.6**	**0.0**
	baz=312						
WHF				*e*S	**Sg**	**12 27 25.0**	**-0.2**
	baz=312						
CHGB	**Renai**	**0.58**	**305**	P	**Pg**	**12 27 18.0**	**+0.4**
	baz=310						
CHGB				S	**Sg**	**12 27 25.2**	**-0.2**
	baz=310						
WUSB	**Renai**	**0.59**	**296**	P	**Pb**	**12 27 18.2**	**+0.1**
	baz=295						
WUSB				S	**Sg**	**12 27 25.4**	**-0.2**
	baz=295						
FULB	**Fuli**	**0.65**	**215**	P	**Pn**	**12 27 20.2**	**-0.4**
	baz=220						
FULB				*e*S	**Sn**	**12 27 30.7**	**+0.2**
	baz=220						
FUSS	**Fushou**	**0.66**	**321**	P	**Pg**	**12 27 19.2**	**0.0**
	baz=322						
FUSS				*e*S	**Sg**	**12 27 27.4**	**-0.5**
	baz=322						
SSLB	**Suanglung**	**0.68**	**275**	P	**Pg**	**12 27 19.4**	**0.0**
	baz=271						
SSLB				*e*S	**Sg**	**12 27 28.5**	**0.0**
	baz=271						
ENA	**Nanau**	**0.69**	**4**	P	**Pb**	**12 27 20.2**	**+0.3**
	baz=16						
CHKT	**Chengkung**	**0.70**	**206**	*e*P	**Pn**	**12 27 21.1**	**-0.2**
	baz=187						
CHKT				*e*S	**Sn**	**12 27 31.6**	**-0.2**
	baz=187						
TWT	**Tachien**	**0.70**	**318**	P	**Pg**	**12 27 20.2**	**+0.3**
	baz=312						
TWT				*e*S	**Sg**	**12 27 28.5**	**-0.8**
	baz=312						
TDCB	**Techi**	**0.71**	**317**	P	**Pb**	**12 27 20.3**	**+0.1**
	baz=312						
TDCB				S	**Sg**	**12 27 28.6**	**-1.0**
	baz=312						
EWUT	**Wuta**	**0.71**	**6**	*e*P	**Pb**	**12 27 20.6**	**+0.4**
	baz=20						
EWUT				*e*S	**Sb**	**12 27 29.6**	**-0.1**
	baz=20						
YUS	**Yu-Shan**	**0.72**	**251**	P	**Pb**	**12 27 21.0**	**+0.4**
	baz=245						
YUS				*e*S	**Sg**	**12 27 30.0**	**0.0**
	baz=245						
SMLT	**Sun Moon Lake**	**0.74**	**282**	P	**Pb**	**12 27 20.6**	**-0.1**
	baz=283						
SMLT				*e*S	**Sb**	**12 27 29.7**	**-0.9**
	baz=283						
NNSB	**Datong**	**0.75**	**338**	P	**Pb**	**12 27 20.6**	**-0.3**
	baz=340						
NNSB				*e*S	**Sb**	**12 27 29.6**	**-1.3**
	baz=340						
NNS	**Nan Shan**	**0.76**	**338**	*e*P	**Pb**	**12 27 20.9**	**-0.2**
	baz=340						
NNS				*e*S	**Sb**	**12 27 30.2**	**-1.1**
	baz=340						
TYC	**Yuchr**	**0.79**	**283**	P	**Pb**	**12 27 21.1**	**-0.3**
	baz=284						
TYC				*e*S	**Sb**	**12 27 30.8**	**-1.0**
	baz=284						
WCS	**Beigang Elemen**	**0.79**	**294**	*e*P	**Pb**	**12 27 21.1**	**-0.3**
	baz=293						
WCS				*e*S	**Sb**	**12 27 30.5**	**-1.3**
	baz=293						
LATG	**Datong**	**0.81**	**349**	*e*P	**Pb**	**12 27 21.6**	**-0.3**
	baz=342						
LATG				*e*S	**Sb**	**12 27 31.0**	**-1.8**
	baz=342						
ELDTW	**Lidau**	**0.82**	**229**	*e*P	**Pb**	**12 27 21.6**	**-0.5**
	baz=220						
ELDTW				*e*S	**Sb**	**12 27 32.6**	**-0.4**
	baz=220						
EDH	**Donghe**	**0.84**	**205**	*e*P	**Pg**	**12 27 22.7**	**+0.3**
	baz=215						
EDH				*e*S	**Sn**	**12 27 35.4**	**+0.2**
	baz=215						
ALS	**Alishan**	**0.84**	**255**	*e*P	**Pg**	**12 27 23.0**	**+0.4**
	baz=251						
ALS				*e*S	**Sb**	**12 27 33.6**	**-0.2**
	baz=251						
WHP	**Taichung City**	**0.87**	**309**	*e*P	**Pb**	**12 27 22.9**	**0.0**
	baz=306						
WHP				*e*S	**Sb**	**12 27 33.9**	**-0.5**
	baz=306						
NDT	**Datong Townshi**	**0.88**	**349**	*e*P	**Pb**	**12 27 22.8**	**-0.3**
	baz=353						
TWC	**Suao**	**0.89**	**9**	*e*P	**Pb**	**12 27 23.5**	**+0.4**
	baz=18						
WJS	**Zhushan**	**0.89**	**276**	*e*P	**Pn**	**12 27 24.8**	**+0.8**
	baz=273						
WJS				*e*S	**Sg**	**12 27 35.4**	**+0.3**
	baz=273						
NDS	**Dongshan**	**0.90**	**1**	*e*P	**Pb**	**12 27 23.5**	**+0.2**
	baz=353						
ENTT	**Nioudou**	**0.91**	**353**	*e*P	**Pb**	**12 27 23.1**	**-0.5**
	baz=356						
WNT	**Mingjian**	**0.94**	**279**	*e*P	**Pg**	**12 27 24.5**	**+0.2**
	baz=276						
WNT				*e*S	**Sg**	**12 27 36.7**	**+0.1**
	baz=276						
CHN5	**Tsauling**	**0.94**	**262**	P	**Pn**	**12 27 24.8**	**0.0**
	baz=259						
CHN5				*e*S	**Sg**	**12 27 37.0**	**+0.3**
	baz=259						
YHNB	**Yeheng**	**0.98**	**343**	*e*P	**Pb**	**12 27 24.3**	**-0.4**
	baz=343						
YHNB				*e*S	**Sb**	**12 27 36.1**	**-1.3**
	baz=343						
TWE	**Neicheng**	**0.98**	**359**	*e*P	**Pb**	**12 27 24.9**	**+0.1**
	baz=354						
NSK	**Sanguang**	**0.99**	**342**	*e*P	**Pb**	**12 27 24.7**	**-0.2**
	baz=343						
NSK				*e*S	**Sb**	**12 27 36.3**	**-1.5**
	baz=343						
STYH	**Taoyuan**	**1.01**	**237**	*e*P	**Pb**	**12 27 25.3**	**+0.1**
	baz=227						
STYH				*e*S	**Sn**	**12 27 39.1**	**-0.4**
	baz=227						
TCU	**Taichung**	**1.02**	**294**	*e*P	**Pg**	**12 27 26.4**	**+0.5**

	baz=292						
TCU				eS	Sn	12 27 40.8	+1.1
	baz=292						
FUSB	Fushanzhiwuyua	1.03	355	eP	Pb	12 27 25.4	-0.2
	baz=357						
NFF	Wufeng Townshi	1.04	330	eP	Pb	12 27 25.6	-0.1
	baz=331						
TWQ1	Liyutan	1.04	306	eP	Pn	12 27 26.3	+0.2
	baz=304						
TWQ1				eS	Sb	12 27 39.2	0.0
	baz=304						
NWLT	Wulai	1.05	351	eP	Pb	12 27 25.6	-0.4
	baz=353						
TPUB	Ta-pu	1.07	246	eP	Pn	12 27 26.5	+0.1
	baz=243						
TPUB				eS	Sg	12 27 40.9	+0.2
	baz=243						
TWGBT	Beinan	1.07	212	eP	Pb	12 27 24.1	-2.1
	baz=198						
NSY	Sanyi	1.09	309	eP	Pn	12 27 27.0	+0.3
	baz=309						
NSTT	Nanjuang	1.10	325	P	Pb	12 27 26.9	+0.2
	baz=324						
NSTT				eS	Sb	12 27 40.3	-0.5
	baz=324						
LIOB	Emei	1.10	326	eP	Pb	12 27 26.9	+0.1
	baz=327						
WTP	Ta-pu	1.10	244	eP	Pg	12 27 27.2	-0.2
	baz=241						
WTP				eS	Sg	12 27 42.0	+0.2
	baz=241						
WDJ	Dajia District	1.14	303	eP	Pn	12 27 27.4	0.0
	baz=300						
WDJ				eS	Sb	12 27 42.4	+0.3
	baz=300						
NMLH	Miaoli	1.15	314	eP	Pn	12 27 27.6	0.0
	baz=314						
TWK	Hsinying	1.20	248	eP	Pb	12 27 28.8	+0.3
	baz=245						
TWK				eS	Sg	12 27 44.6	-0.3
	baz=245						
CHN1	Nanshi	1.20	243	eP	Pg	12 27 29.2	-0.1
	baz=241						
CHN1				eS	Sg	12 27 44.9	-0.1
	baz=241						
SGST	Jiashian	1.21	238	eP	Pn	12 27 27.8	-0.6
	baz=228						
SGST				eS	Sg	12 27 45.0	-0.2
	baz=228						
SLGT	Liugui	1.21	233	eP	Pb	12 27 28.8	+0.1
	baz=230						
SLGT				eS	Sg	12 27 45.5	+0.2
	baz=230						
WRL	Guolierlin Hig	1.22	278	eP	Pb	12 27 28.9	+0.2
	baz=276						
WRL				eS	Sb	12 27 43.6	-0.6
	baz=276						
TIPB	Shuangxi	1.24	6	eP	Pb	12 27 29.4	+0.2
	baz=354						
TWB1	Santiao Chiao	1.30	12	eP	Pb	12 27 30.6	+0.5
	baz=13						
JYNG	Yonagunijimaku	1.35	58	P	Pn	12 27 30.2	-0.1
JYNG				eS	Sn	12 27 48.1	+0.2
SXI1	Grass Mountain	1.37	7	eP	Pb	12 27 31.8	+0.5
	baz=352						
SXI1				eS	Sg	12 27 50.5	+0.2
	baz=352						
TSMG	Majia	1.41	224	eP	Pg	12 27 32.6	-0.6
	baz=218						
TSMG				eS	Sg	12 27 50.4	-1.1
	baz=218						
YOJ	Yonaguni jima	1.41	59	eP	Pn	12 27 31.0	-0.1
	baz=64						
YOJ				eS	Sn	12 27 49.4	+0.1
	baz=64						
MASBT	Mashibuluo	1.48	221	eP	Pn	12 27 31.7	-0.4
	baz=218						
MASBT				eS	Sg	12 27 52.8	-1.1
	baz=218						
EAST	Anshuo	1.55	210	eP	Pb	12 27 34.5	0.0
	baz=200						
IRIF	Iriomote-Funau	1.96	72	P	Pn	12 27 39.4	+0.8
IRIF				eS	Sn	12 28 03.8	+1.0
PHUB	P'eng-hu	1.96	264	eP	Pb	12 27 40.1	-1.3
	baz=250						
HATJ	Hateruma jima	1.96	80	eS	Sn	12 28 03.3	+0.4
JKRS	Kuro-shima	2.18	76	P	Pn	12 27 43.0	+1.3
JKRS				eS	Sn	12 28 09.2	+0.9
JIJ	Ishigaki jima	2.33	74	P	Pn	12 27 44.1	+0.4
JIJ				eS	Sn	12 28 10.9	-1.1
JISG	Ishigakijimahi	2.54	70	P	Pn	12 27 47.2	+0.6
JISG				eS	Sn	12 28 17.2	0.0

*IDC **03** 12:52:58.8±1.0, 4.°74S×94.°17E, h0km, mb4.0/12, mb1 4.2/14, mb1mx3.9/41, mbtmp4.1/14, ML4.1/2, MS4.0/63, Ms1 4.0/63, ms1mx3.9/85, Error ellipse: s-maj=29.7km s-min=18.8km az=41.0*

*NEIC **03** 12:52:59.4±1.2, 4.°86S±0.°08×94.°57E±0.°10, h10km±1km, mb4.7/24, Error ellipse: s-maj=16.5km s-min=13.5km az=271.0*

*GCMT **03** 12:53:01.4±0.4, 4.°76S±0.°02×94.°47E±0.°02, h12km, MW4.8/82, Moment Tensor Solution. s14,c16; s82,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.08±.07; $M_{\theta\theta}$-0.16±.07; $M_{\phi\phi}$0.08±.07; $M_{r\theta}$0.17±.23; $M_{\theta\phi}$-1.71±.05; $M_{\phi r}$-1.45±.22; Best double couple: $M_0$2.24700×10^{16} NP1:ϕ_s90.00000°, δ50.00000°, λ176.00000°. NP2: ϕ_s182.00000°, δ87.00000°, λ40.00000°. Principal axes: T 2.3410, Plg29.0000°, Azm54.0000°; N -0.1900, Plg50.0000°, Azm186.0000°; P -2.1520, Plg25.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **03** 12:53:03.7±0.7, 5°S±6°×9°5E±°, h10km, M4.9/21, mB5.4/10, mb4.8/21, MLv5.1/9, Mw(mB)4.8/10*

ISC 03 12:53:00.0±0.7, **4.°83S**±0.°09×**94.°33E**±0.°08, **h10**km, **n134, σ1.s85**/73, **mb4.5**/30, **MS4.1**/65, **1D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISI	Saibi	5.89	54	P	Pn	12 54 26.3	-1.1
	0.7nm3µm177nm,0.6s						
PPSI	Pulau Pagai	6.03	70	P	Pn	12 54 28.7	-0.6
	0.9nm3µm266nm,0.6s						
GSI	Gunungsitoli	6.90	28		Pn	12 54 38.8	-2.6
GSI	Gunungsitoli	6.90	28	P	Pn	12 54 38.9	-2.5
	0.3nm1µm72nm,0.6s						
PPI	Padang Panjang	7.46	55	P	Pn	12 54 46.6	-2.3
KRJI	Kerinci	7.62	69	P	Pn	12 54 49.9	-1.4
	2.8nm7µm291nm,0.4s						
COCO	West Island	7.72	161	Pn	Pn	12 54 49.9	-2.7
SBSI	Sibolga	7.81	36	P	Pn	12 54 55.0	+1.2
	0.3nm88nm,0.6s						
MASI	Maura Aman, Be	8.06	78	P	Pn	12 54 55.3	-2.1
	0.7nm2µm101nm,0.6s						
BKNI	Bangkinang	8.44	53	Pn	Pn	12 54 57.9	-4.5
BKNI	Bangkinang	8.44	53	P	Pn	12 54 59.4	-3.0
	0.5nm101nm,0.6s						
MNAI	Manna	8.61	87	Pn	Pn	12 55 01.0	-3.8
RPSI	Rantau Prapat	8.77	32	Pn	Pn	12 55 04.3	-2.7
PSI	Prapat	8.86	31	Pn	Pn	12 55 07.6	-0.8
	0.8nm,0.3s,baz=159,slow=11,SNR=2.3						
KCSI	Kotacane, Aceh	8.98	23	P	Pn	12 55 08.7	-1.2
	730nm17nm,0.6s						
RGRI	Rengat	9.15	61	P	Pn	12 55 11.2	-1.0
	22µm139nm,0.5s						
LWLI	Liwa	9.69	91	P	Pn	12 55 18.0	-1.8
	34µm52nm,0.8s						
MDSI	Maura Dua	9.82	88	P	Pn	12 55 20.9	-0.5
	581nm10nm,0.7s						
KLSI		10.36	90	P	Pn	12 55 28.1	-0.8
	7.6nm,1.0s						
PMBI	Palembang	10.59	80	P	Pn	12 55 30.8	-1.1
DSRI	Dabo	11.11	67	P	Pn	12 55 37.5	-1.6
	17nm,0.6s						
CGJI	Cibinong	11.44	99	P	Pn	12 55 44.5	+0.9
	18nm,0.8s						
MYKOM	Kota Tinggi	11.56	56		Pn	12 55 45.7	+0.4
KULM	Kulim	11.87	32	Pn	Pn	12 55 45.8	-3.7
LEM	Lembang	13.36	99	LR	LR	13 01 05.1	
	comp=Z,550nm,18.1s,baz=255,slow=36						
PALK	Pallekele	18.16	311	P	Pn	12 57 10.8	-1.7
	1.4nm,0.3s,baz=231,slow=12,SNR=9.7						
PALK				LR	LR	13 02 42.7	
	comp=Z,647nm,21.7s,baz=245,slow=32						
PALK	Pallekele	18.16	311	IAmb	IAmb	12 57 25.4	
	comp=Z,80nm,1.8s						
H08S2	Diego Garcia H	21.89	262	T	T	13 19 60.0	
	baz=82,slow=75,SNR=3.6						
H08S3	Diego Garcia H	21.89	262	T	T	13 20 03.9	
	baz=82,slow=75,SNR=9.8						
DGAR	Diego Garcia	21.90	262	P	P	12 57 54.8	+1.2
H08S1	Diego Carcia H	21.91	262	T	T	13 20 08.2	
	baz=82,slow=75,SNR=4.5						
CM31	Chiang Mai Arr	23.59	11	P	P	12 58 09.2	-2.0
CM31				IAmb	IAmb	12 58 14.6	
	comp=Z,18nm,1.1s						
CMAR	Chiang Mai Arr	23.59	11	P	P	12 58 11.3	+0.1
	comp=Z,5.1nm,0.9s,baz=203,slow=8.8,SNR=27						
CMAR	Chiang Mai Arr	23.59	11	P	P	12 58 10.5	-0.6
PLAI	Plampang	23.61	101	P	P	12 58 12.8	+1.4
	comp=Z,647nmcomp=Z,35nm,1.4s						
KKM	Kota Kinabalu	24.37	64	P	P	12 58 13.5	-5.3
WBSI	Waikabubak, Su	25.30	102	P	P	12 58 28.9	+1.7
	comp=Z,41nm,1.4s						
KAPI	Kappang	25.32	92	LR	LR	13 09 09.3	
	comp=Z,173nm,18.7s,baz=297,slow=38						
SHL	Shillong	30.31	356	P	P	12 59 12.4	+0.4
SHL				IAmb	IAmb	12 59 14.1	
	comp=Z,28nm,1.6s						
PZH	PanZhiHua	31.97	13	P	P	12 59 28.7	+2.2
PZH				S	S	13 04 45.8	+7.7
PZH				SS	SnSn	13 06 26.3	-0.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
PZH				LR	LR		
	comp=N,370nm,14.7s						
PZH				LR	LR		
	comp=E,590nm,14.7s						
PZH				LR	LR		
	comp=Z,600nm,15.2s						
FITZ	Fitzroy Crossi	33.32	116	LR	LR	13 11 10.6	
	comp=Z,142nm,20.9s,baz=302,slow=33						
DAV	Davao City (W)	33.35	69	LR	LR	13 13 57.4	
	comp=Z,258nm,20.3s,baz=280,slow=38						
CD2	Chengdu	36.67	14	P	P	13 00 06.9	-0.2
GOMU	GeErMu	40.82	1	P	P	13 00 44.4	+2.1
GOMU				pP	sP	13 00 47.3	+2.8
GOMU				sP	pwP	13 00 50.5	0.0
GOMU				PcP	pP	13 01 14.2	+30
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,130nm,4.1s						
XAN	Xi'an	41.05	19	P	P	13 00 44.0	+0.2
XAN				S	S	13 06 58.4	+1.9
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,64nm,6.7s						
XAN				LR	LR		
	comp=N,180nm,14.4s						
XAN				LR	LR		
	comp=E,300nm,15.3s						
XAN				LR	LR		
	comp=Z,190nm,14.1s						
LZH	Lanzhou	41.67	12	eP	P	13 00 42.4	-6.7
LZH				sP	pP	13 00 51.6	+1.0
LZH				SS	SS	13 10 11.5	0.0
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				LR	LR		
	comp=N,170nm,14.6s						
LZH				LR	LR		
	comp=E,320nm,14.6s						
LZH				LR	LR		
	comp=Z,140nm,13.6s						
WRA	Warramunga Arr	41.72	115	P	P	13 00 51.0	+1.4
	comp=Z,0.9nm,0.6s,baz=286,slow=9.1,SNR=10						
WRA				LR	LR	13 15 55.9	
	comp=Z,146nm,20.4s,baz=282,slow=33						
WRA	Warramunga Arr	41.72	115	P	P	13 00 46.1	-3.5
WB0	Warramunga Arr	41.72	114	P	P	13 00 45.8	-3.8
ASAR	Alice Springs	42.47	120	P	P	13 00 57.6	+1.9
	comp=Z,0.4nm,0.9s,baz=301,slow=7.1,SNR=5.3						
ASAR	Alice Springs	42.47	120	P	P	13 00 52.1	-3.5
NJ2	Nanjing	43.48	31	eP	P	13 01 03.3	-0.3
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA	Gaotai	44.31	6	⇓P	P	13 01 11.4	+1.0
GTA				pP	pwP	13 01 18.5	-0.1
GTA				sP	sP	13 01 23.2	+11
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WSAR	Wadi Sarin	44.64	310	LR	LR	13 17 15.9	
	comp=Z,226nm,19.2s,baz=159,slow=33						
JOW	Kunigami	45.48	44	LR	LR	13 21 16.2	
	comp=Z,60nm,18.0s,baz=358,slow=37						
KBL	Kabul	45.85	331	P	P	13 01 22.8	0.0
KBL				IAmb	IAmb	13 02 16.6	
	comp=Z,12nm,1.6s						
HHC	Hu-ho-hao-te	48.13	18	eP	P	13 01 40.9	+0.5
HHC				pmax	pmax		
	comp=Z,11nm,1.3s						
HHC				pmax	pmax		
	comp=Z,97nm,5.7s						
HHC				LR	LR		
	comp=N,190nm,15.9s						
HHC				LR	LR		
	comp=E,380nm,15.9s						
HHC				LR	LR		
	comp=Z,310nm,14.8s						
WMQ	Urumqi	48.80	354	eP	P	13 01 46.3	+0.8
WMQ				sP	pwP	13 01 54.3	+0.7
WMQ				pmax	pmax		
	comp=Z,19nm,1.9s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.5s						
GAR	Garm	48.94	335	P	P	13 01 46.2	-0.5
CHGR	Chuyangaron	49.15	334	P	P	13 01 47.2	-1.1
AAK	Ala-Archa	50.56	341	LR	LR	13 23 14.1	
	comp=Z,284nm,20.5s,baz=162,slow=36						
JNU	Nakatsue	51.22	40	LR	LR	13 23 23.3	
	comp=Z,154nm,21.3s,baz=136,slow=36						
STKA	Stephens Creek	51.73	127	LR	LR	13 22 37.0	
	comp=Z,425nm,21.4s,baz=277,slow=34						
KKAR	Karatay Array	52.36	338	P	P	13 02 11.5	-0.9
KSRS	Korea Array	52.42	34	P	P	13 02 13.7	+0.9
	comp=Z,1.4nm,0.9s,baz=229,slow=7.4,SNR=5.9						
KSRS				LR	LR	13 25 25.0	
	comp=Z,106nm,19.3s,baz=215,slow=37						
MK31	Makanchi Array	52.50	350	P	P	13 02 12.6	-0.7
MKAR	Makanchi Array	52.50	350	P	P	13 02 12.3	-1.0
	comp=Z,1.7nm,0.7s,baz=155,slow=7.8,SNR=20						
MKAR				LR	LR	13 26 47.0	
	comp=Z,65nm,20.1s,baz=175,slow=39						
MKAR	Makanchi Array	52.50	350	P	P	13 02 11.7	-1.6
PMG	Port Moresby	52.58	98	LR	LR	13 26 30.5	
	comp=Z,86nm,19.6s,baz=253,slow=38						
CTA	Charters Tower	52.68	112	LR	LR	13 25 40.9	
	comp=Z,140nm,18.9s,baz=268,slow=37						
GUMO	Guam	53.39	69	LR	LR	13 26 14.8	
	comp=Z,36nm,19.5s,baz=105,slow=37						
SONM	Songino Array	53.51	10	P	P	13 02 20.3	-0.6
	comp=Z,1.4nm,0.9s,baz=189,slow=8.9,SNR=6.7						
SONM	Songino Array	53.51	10	P	P	13 02 20.0	-0.8
ULN	Ulaanbaatar	53.66	11	P	P	13 02 21.4	-0.6
ULN				IAmb	IAmb	13 02 23.9	
	comp=Z,14nm,1.9s						
GEYT	Alibeck	54.23	325	LR	LR	13 25 58.9	
	comp=Z,349nm,20.7s,baz=158,slow=37						
GEYT	Alibeck	54.23	325	P	P	13 02 26.2	0.0
GEYT				IAmb	IAmb	13 02 43.3	
	comp=Z,16nm,1.6s						
GYA0B	ALIBECK ARRAY	54.23	325	P	P	13 02 26.1	-0.1
GYA0B				IAmb	IAmb	13 03 16.5	
	comp=Z,10nm,1.1s						
KURBB	Kurchatov Arra	56.89	348	LR	LR	13 27 28.0	
	comp=Z,133nm,21.3s,baz=149,slow=36						
MJAR	Matsushiro Arr	58.07	41	LR	LR	13 27 47.1	
	comp=Z,50nm,21.8s,baz=222,slow=36						
ZAA0	Zalesovo Array	59.11	353	P	P	13 02 59.9	-0.6
ZAA0				IAmb	IAmb	13 03 00.8	
	comp=Z,5.5nm,0.8s						
ZALV	Zalesovo Beam	59.11	353	P	P	13 02 59.8	-0.7
	comp=Z,5.7nm,0.6s,baz=183,slow=5.9,SNR=33						
ZALV				LR	LR	13 30 27.3	
	comp=Z,74nm,18.6s,baz=176,slow=38						
ZALV	Zalesovo Beam	59.11	353	P	P	13 02 59.5	-1.0
USRK	Ussuriysk Ar.	59.38	31	LR	LR	13 31 04.5	
	comp=Z,101nm,18.1s,baz=212,slow=38						
ABKAR	Akbulak array	61.60	335	P	P	13 03 17.5	-0.3
KLR	Kul'dur	62.90	27	LR	LR	13 32 46.1	
	comp=Z,92nm,18.6s,baz=218,slow=38						
AKTO	Aktyubinsk	63.31	335	LR	LR	13 32 44.7	
	comp=Z,117nm,18.5s,baz=145,slow=38						
MBAR	Mbarara	63.64	272	LR	LR	13 29 08.5	
	comp=Z,69nm,18.0s,baz=92,slow=34						
GNI	Garni	63.81	319	LR	LR	13 32 11.4	
	comp=Z,80nm,21.9s,baz=120,slow=37						
ASAJ	Asahikawa	65.18	36	LR	LR	13 32 48.2	
	comp=Z,59nm,18.0s,baz=352,slow=37						
MATP	Matopo	65.69	250	LR	LR	13 27 34.4	
	comp=Z,100nm,20.4s,baz=64,slow=32						
LSZ	Lusaka	65.74	256	LR	LR	13 26 47.4	
	comp=Z,153nm,21.8s,baz=143,slow=31						
EIL	Elat	66.39	305	LR	LR	13 31 21.4	
	comp=Z,102nm,18.9s,baz=87,slow=35						
KBZ	Khabaz	66.88	322	P	P	13 03 52.4	0.0
	comp=Z,1.6nm,0.6s,baz=60,slow=3.6,SNR=4.2						
KBZ				LR	LR	13 34 47.2	
	comp=Z,50nm,20.3s,baz=86,slow=38						
MMAI	Mount Meron Ar	67.25	309	LR	LR	13 32 33.5	
	comp=Z,210nm,19.6s,baz=246,slow=35						
ARU	Arti	67.69	339	LR	LR	13 33 25.1	
	comp=Z,139nm,19.2s,baz=145,slow=36						
LBTB	Lobatse	68.71	245	LR	LR	13 29 10.2	
	comp=Z,205nm,19.4s,baz=102,slow=32						
BOSA	Boshof	69.34	241	LR	LR	13 28 13.5	
	comp=Z,155nm,21.2s,baz=127,slow=30						
BELG	Belogornoye	69.35	332	LR	LR	13 37 39.7	
	comp=Z,175nm,19.0s,baz=138,slow=39						
BRTR	Keskin Array B	71.16	315	P	P	13 04 18.9	-0.4
	comp=Z,2.1nm,0.7s,baz=137,slow=6.9,SNR=7.0						
BRTR				LR	LR	13 37 31.8	
	comp=Z,188nm,18.4s,baz=114,slow=38						
BRTR	Keskin Array B	71.16	315	P	P	13 04 18.9	-0.5
DZM	Mont Dzumac	71.63	112	LR	LR	13 38 13.6	
	comp=Z,146nm,18.3s,baz=213,slow=38						
YAK	Yakutsk	71.98	17	LR	LR	13 38 14.1	
	comp=Z,63nm,18.5s,baz=270,slow=38						
KIRV	Kirov	72.64	337	LR	LR	13 38 34.1	
	comp=Z,94nm,18.4s,baz=134,slow=38						
SUR	Sutherland	73.51	238	LR	LR	13 30 08.3	
	comp=Z,244nm,21.5s,baz=111,slow=30						
NRIK	Noril'sk	74.16	358	LR	LR	13 41 44.1	
	comp=Z,90nm,18.7s,baz=206,slow=40						
TSUM	Tsumeb	75.92	252	LR	LR	13 35 38.1	
	comp=Z,184nm,18.4s,baz=153,slow=34						
IDI	Anoyia	76.22	308	LR	LR	13 39 36.8	
	comp=Z,47nm,20.5s,baz=92,slow=37						
OBN	Obninsk	76.30	330	LR	LR	13 41 31.1	
	comp=Z,36nm,18.1s,baz=203,slow=38						
RPZ	Rata Peaks	77.08	134	LR	LR	13 38 18.9	
	comp=Z,224nm,19.0s,baz=256,slow=35						
PETK	Petropavlovsk-	78.31	33	LR	LR	13 43 48.8	
	comp=Z,51nm,18.4s,baz=208,slow=39						
AKASG	Malin Array Be	78.34	324	P	P	13 04 59.8	-0.7
	comp=Z,2.3nm,0.6s,baz=94,slow=4.3,SNR=9.6						
AKASG				LR	LR	13 40 54.6	
	comp=Z,105nm,21.9s,baz=160,slow=37						
AKASG	Malin Array Be	78.34	324	P	P	13 05 00.2	-0.3
AKASG				IAmb	IAmb	13 05 02.1	
	comp=Z,8.6nm,1.8s						
MLR	Muntele Rosu	78.54	318	LR	LR	13 43 27.0	
	comp=Z,148nm,18.8s,baz=76,slow=39						
MLR	Muntele Rosu	78.54	318	P	P	13 05 02.2	+0.2
MLR				IAmb	IAmb	13 05 03.8	
	comp=Z,6.1nm,0.7s						
TIXI	Tiksi	79.59	11	P	P	13 05 06.4	-0.6
BURAR	Bucovina Array	79.70	320	P	P	13 05 08.7	+0.4
VNDA	Vanda	80.53	168	LR	LR	13 35 48.0	
	comp=Z,132nm,20.1s,baz=194,slow=32						
URZ	Urewera	81.36	128	LR	LR	13 39 16.5	
	comp=Z,129nm,20.8s,baz=258,slow=34						
FINES	FINESS Array B	84.03	333	P	P	13 05 29.2	-1.4
	comp=Z,1.5nm,0.7s,baz=74,slow=6.8,SNR=3.6						
FINES				LR	LR	13 45 26.9	
	comp=Z,209nm,18.5s,baz=126,slow=38						
VRAC	Vranov	85.69	320	LR	LR	13 50 06.9	
	comp=Z,63nm,18.3s,baz=98,slow=40						
ARCES	ARCESS Array B	87.23	341	LR	LR	13 45 44.3	
	comp=Z,133nm,19.8s,baz=156,slow=36						
SHEM	Shemya Is, Ala	87.64	37	LR	LR	13 48 42.9	
	comp=Z,55nm,18.1s,baz=172,slow=38						
HFS	Hagfors	89.50	330	LR	LR	13 46 57.5	
	comp=Z,98nm,21.2s,baz=93,slow=36						
DAVOX	Davos/Dischmat	89.69	317	LR	LR	13 49 25.0	
	comp=Z,44nm,19.6s,baz=82,slow=38						
NOA	NORSAR Array B	90.86	331	LR	LR	13 49 02.0	
	comp=Z,93nm,19.4s,baz=105,slow=37						
SPITS	Spitsbergen Ar	92.24	348	LR	LR	13 51 46.0	
	comp=Z,93nm,21.3s,baz=186,slow=38						
AFI	Afiamalu	92.62	104	LR	LR	13 51 26.4	
	comp=Z,29nm,19.2s,baz=259,slow=38						
TORD	Torodi Ar. Bea	93.65	283	P	P	13 06 17.8	+0.2
	comp=Z,0.7nm,0.8s,baz=96,slow=0.8,SNR=3.8						
TORD	Torodi Ar. Bea	93.65	283	IAmb	IAmb	13 06 27.0	
	comp=Z,5.1nm,1.7s						
EKA	Eskdalemuir Ar	98.22	325	LR	LR	13 55 29.8	
	comp=Z,68nm,18.2s,baz=40,slow=38						
KOWA	Kowa	99.26	284	LR	LR	13 50 35.8	
	comp=Z,48nm,19.0s,baz=201,slow=35						
ESDC	Sonseca Array	99.45	309	LR	LR	13 56 15.8	
	comp=Z,59nm,18.1s,baz=12,slow=38						
MDT	Midelt	100.11	302	LR	LR	13 52 15.6	
	comp=Z,70nm,19.7s,baz=152,slow=36						
TXAR	Lajitas Array	150.26	33	PKPbc	PKPbc	13 12 52.7	+0.4
	comp=Z,0.5nm,0.6s,baz=347,slow=0.6,SNR=6.0						

*GUC **03** 13:47:15.2±0.7, 30.°16S×71.°44W, h32km±4km, ML4.3*

*NEIC **03** 13:47:16.4±2.9, 30.°08S±0.°02×71.°5W±0.°1, h35km±2km, mb4.2/5, ML4.3(GUC), Error ellipse: s-maj=15.5km s-min=3.2km az=261.0*

ISC 03 13:47:14.5±1.3, **30.°06S**±0.°03×**71.°56W**±0.°06, **h28**km±10km, **n55, σ1.s45**/64, **3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO05	La Serena	0.31	63		Pn	13 47 23.3	+0.1
CO05	La Serena	0.31	63	⇓iP	Pn	13 47 23.3	+0.1
CO05				eS	Sn	13 47 28.9	+0.1
CO05				IAML		13 47 29.7	
	comp=E,25µm,0.5s						
CO06	Fray Jorge	0.61	186		Pb	13 47 26.7	-0.1
CO06	Fray Jorge	0.61	186	eP	Pb	13 47 26.6	-0.1
GO04	Tololo Observa	0.67	100		Pb	13 47 28.0	+0.2
GO04	Tololo Observa	0.67	100	⇓iP	Pb	13 47 28.0	+0.2
GO04				eS	Sb	13 47 37.1	+0.3
CO03	El Pedregal	1.08	136		Pn	13 47 33.6	-0.3
CO03	El Pedregal	1.08	136	⇓iP	Pn	13 47 33.5	-0.3
CO03				eS	Sb	13 47 47.1	-1.3
CO02	Combarbal	1.24	157	Pn	Pn	13 47 36.2	+0.1
CO02	Combarbal	1.24	157	eP	Pn	13 47 36.1	+0.1
CO02				eS	Sb	13 47 52.3	-0.7
CO02				IAML		13 47 55.0	
	comp=N,12µm,0.2s						
LCO	Las Campanas	1.28	36	Pn	Pn	13 47 37.5	+0.6
LCO	Las Campanas	1.28	36	eP	Pn	13 47 37.1	+0.2
LCO				eS	Sn	13 47 53.2	-0.1
AC04	Llanos de Chal	1.90	13	Pn	Pn	13 47 46.3	+1.2
AC04	Llanos de Chal	1.90	13	eP	Pn	13 47 46.1	+1.0
AC04				eS	Sb	13 48 12.0	+0.2
VA06	Catapilco	2.50	175		Pn	13 47 54.1	+0.7
VA06	Catapilco	2.50	175	eP	Pn	13 47 54.0	+0.6
VA06				eS	Sn	13 48 22.4	-0.6
VA06				IAML		13 48 38.9	
	comp=E,2µm,0.4s						
VA03	San Esteban	2.83	163		Pn	13 47 59.6	+1.7
VA03	San Esteban	2.83	163	eP	Pn	13 47 59.7	+1.7
VA03				eS	Sn	13 48 34.3	+3.1
VA03				IAML		13 48 46.6	
	comp=E,1µm,0.6s						
ZON	Zonda	2.88	122	Pn	Pn	13 47 59.1	+0.3
AC06	Mina Casimiro	2.89	22	Pn	Pn	13 48 00.1	+1.3
AC06	Mina Casimiro	2.89	22	eP	Pn	13 48 00.2	+1.4
ROCH	El Roble	2.94	171	eP	Pb	13 48 00.6	-5.8
ROCH				eP	Pn	13 47 58.9	-0.7
ROCH				eS	Sn	13 48 35.0	+0.9
ROCH				IAML		13 48 54.0	
	comp=N,1µm,0.3s						
ROC1	El Roble	2.94	171		Pn	13 47 59.2	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VA01	**Torpederas**	**2.95**	**181**	Pn	**Pn**	**13 48 00.6**	**+1.0**
VA01	**Torpederas**	**2.95**	**181**	*e*P	**Pn**	**13 47 59.2**	**-0.4**
PEL	**Peldehue**	**3.16**	**167**		**Pn**	**13 48 04.3**	**+1.7**
PEL	**Peldehue**	**3.16**	**167**	*e*P	**Pn**	**13 48 04.1**	**+1.6**
PEL				IAML		13 49 01.0	
	comp=E,597nm,0.7s						
MT02	**Curacav**	**3.21**	**174**		**Pn**	**13 48 03.8**	**+0.6**
MT02	**Curacav**	**3.21**	**174**	*e*P	**Pn**	**13 48 03.8**	**+0.6**
MT05	**Renca**	**3.39**	**168**		**Pn**	**13 48 09.6**	**+3.8**
MT05	**Renca**	**3.39**	**168**	*e*P	**Pn**	**13 48 09.2**	**+3.5**
MT03	**Universidad Ad**	**3.54**	**166**		**Pn**	**13 48 10.1**	**+2.3**
MT03	**Universidad Ad**	**3.54**	**166**	*e*P	**Pn**	**13 48 10.0**	**+2.3**
MT03				IAML		13 49 04.8	
	comp=E,759nm,0.2s						
VA05	**Santo Domingo**	**3.59**	**181**	Pn	**Pn**	**13 48 11.7**	**+3.4**
VA05	**Santo Domingo**	**3.59**	**181**	*e*P	**Pn**	**13 48 07.3**	**-1.0**
VA05				IAML		13 49 12.3	
	comp=E,716nm,0.4s						
MT09	**Talagante**	**3.74**	**173**		**Pn**	**13 48 11.7**	**+1.2**
MT01	**Popeta**	**3.80**	**176**		**Pn**	**13 48 11.6**	**+0.3**
MT01	**Popeta**	**3.80**	**176**	*e*P	**Pn**	**13 48 11.5**	**+0.3**
AC02	**Maricunga**	**3.86**	**34**	Pn	**Pn**	**13 48 14.8**	**+2.3**
AC02	**Maricunga**	**3.86**	**34**	*e*P	**Pn**	**13 48 14.9**	**+2.3**
LMEL	**Las Melosas**	**3.95**	**163**		**Pn**	**13 48 16.0**	**+2.6**
AC01	**Pan de Azucar**	**3.99**	**12**	Pn	**Pn**	**13 48 13.3**	**-0.6**
AC01	**Pan de Azucar**	**3.99**	**12**	*e*P	**Pn**	**13 48 13.4**	**-0.5**
BO04	**La Punta**	**4.00**	**169**		**Pn**	**13 48 15.4**	**+1.4**
BO04	**La Punta**	**4.00**	**169**	*e*P	**Pn**	**13 48 15.3**	**+1.2**
BO01	**Tunca**	**4.34**	**175**		**Pn**	**13 48 20.4**	**+1.8**
BO01	**Tunca**	**4.34**	**175**	*e*P	**Pn**	**13 48 18.9**	**+0.2**
BO02	**Sierra Bellavi**	**4.76**	**172**		**Pn**	**13 48 26.6**	**+2.0**
BO02	**Sierra Bellavi**	**4.76**	**172**	*e*P	**Pn**	**13 48 25.5**	**+0.9**
GO05	**Huala**	**4.95**	**184**	Pn	**Pn**	**13 48 26.4**	**-0.6**
PB14	**IPOC Station P**	**5.51**	**11**	Pn	**Pn**	**13 48 35.1**	**0.0**
PLTB	**Pedras Altas**	**15.51**	**101**	Pn	**Pn**	**13 50 50.0**	**-1.4**
PLTB				IAmb	IAmb	13 51 09.3	
	comp=Z,31nm,1.4s						
SNAA	**Sanae**	**55.09**	**159**	P	**P**	**13 56 41.8**	**-1.9**
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**13 57 21.2**	**+1.6**
QSPA				IAmb	IAmb	13 57 22.6	
	comp=Z,1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.49**	**70**	P	**P**	**13 59 34.1**	**-0.9**

*MDD **03** 13:47:42.0±0.9,35°.56N×3°.79W,h0km,mb_Lg2.5/3,Error ellipse: s-maj=7.4km s-min=3.7km az=30.0*
*SFS **03** 13:47:41.0,35°.49N×3°.78W,h23km,ML2.7,ALBORAN SUR*
*CNRM **03** 13:47:43.3,35°.43N×3°.73W,h16km,ml2.2*
ISC 03 13:47:41.9±1.1**,35°.49N**±0°.03×**3°.74W**±0°.03**,h18**km±6km**,n13,**σ**0s.98**/21**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**210**	P	**Pg**	**13 47 48.6**	**-0.3**
PALE				S	**Sg**	**13 47 52.6**	**-0.9**
GOG	**Mont Gurugu**	**0.67**	**114**	P	**Pb**	**13 47 56.3**	**+1.3**
EMEL	**Melilla**	**0.67**	**107**	Pg	**Pg**	**13 47 55.3**	**+0.2**
EMEL				Sg	**Sg**	**13 48 04.2**	**+0.1**
EALB	**Alboran**	**0.73**	**52**	Pg	**Pg**	**13 47 56.5**	**+0.3**
EALB				Sg	**Sg**	**13 48 06.3**	**+0.4**
EALB				*i* Vmb_Lg		13 48 07.2	
TAF	**Taforalt**	**1.28**	**122**	P	**Pb**	**13 48 06.0**	**+0.4**
SMIR	**Smir Dam**	**1.35**	**278**	P	**Pg**	**13 48 08.5**	**+0.5**
SMIR				S	**Sg**	**13 48 25.7**	**+0.1**
EMIJ	**Mijas**	**1.36**	**322**	Pg	**Pn**	**13 48 05.6**	**-0.4**
EMIJ				Sg	**Sn**	**13 48 21.8**	**-1.8**
EMIJ				*i* Vmb_Lg		13 48 28.4	
ELGU	**Los Guajares,**	**1.37**	**4**	Pg	**Pn**	**13 48 05.4**	**-0.9**
ELGU				Sg	**Sn**	**13 48 22.1**	**-2.0**
ELGU				*i* Vmb_Lg		13 48 27.3	
EMAL	**Malaga-Limoner**	**1.38**	**336**	P	**Pn**	**13 48 06.8**	**+0.4**
EMAL				S	**Sn**	**13 48 23.8**	**-0.3**
JBK	**JBK**	**1.51**	**140**	P	**Pn**	**13 48 07.9**	**-0.4**
JBK				S	**Sn**	**13 48 26.0**	**-1.6**
EGOR	**Sierra Gorda,**	**1.64**	**350**	Sg	**Sb**	**13 48 32.9**	**+0.7**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**13 48 25.7**	**+0.4**
MDT	**Midelt**	**2.77**	**195**	P	**Pb**	**13 48 32.2**	**+1.3**

*DDA **03** 13:54:06.8±0.0,36°.96N×36°.06E,h20km±2km,MW3.5*
*ISK **03** 13:54:06.4,36°.98N×36°.00E,h21km,ML3.2/6*
ISC 03 13:54:07.7±1.1**,37°.00N**±0°.04×**36°.00E**±0°.03**,h20**km±3km**,n16,**σ**1s.15**/28**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.20**	**273**	PG	**Pb**	**13 54 12.9**	**-0.4**
CEYT				SG	**Sb**	**13 54 16.3**	**-0.9**
YURE	**YUREGIR**	**0.34**	**240**	P	**Pb**	**13 54 15.2**	**+0.1**
YURE				S	**Sb**	**13 54 20.9**	**+0.7**
KOZT	**Kozan**	**0.50**	**344**	PG	**Pb**	**13 54 17.2**	**-0.6**
KOZT				SG	**Sb**	**13 54 25.3**	**+0.6**
TAHT	**Tahtakopru-Hat**	**0.64**	**167**	PG	**Pb**	**13 54 19.2**	**-1.1**
KARA	**Karaisali**	**0.80**	**289**	PG	**Pb**	**13 54 21.9**	**-1.1**
KARA				SG	**Sb**	**13 54 34.1**	**+0.7**
KAHM	**Kahramanmaras,**	**0.94**	**56**	P	**Pn**	**13 54 25.0**	**-0.9**
KAHM				S	**Sn**	**13 54 37.6**	**-1.1**
DED	**Mersin**	**0.96**	**268**	P	**Pn**	**13 54 26.9**	**+0.8**
DED				S	**Sn**	**13 54 40.6**	**+1.3**
SAIM	**ADANA**	**0.98**	**4**	P	**Pn**	**13 54 25.7**	**-0.7**
SAIM				S	**Sn**	**13 54 40.5**	**+0.8**
CMRD	**Camardi-Nigde**	**1.04**	**310**	PG	**Pn**	**13 54 26.6**	**-0.7**
MERS	**Mersin**	**1.19**	**264**	PN	**Pn**	**13 54 28.4**	**-0.9**
GZT	**Gaziantep**	**1.30**	**74**	P	**Pb**	**13 54 30.2**	**-1.3**
GZT				S	**Sn**	**13 54 47.9**	**+0.3**
NIDE	**Nigde/Merkez-G**	**1.39**	**316**	P	**Pb**	**13 54 33.0**	**-0.1**
NIDE				S	**Sb**	**13 54 53.0**	**+2.5**
SARI	**SarD1z-Kayseri**	**1.44**	**13**	PN	**Pn**	**13 54 32.2**	**-0.7**
GULN	**MERSIN_Gulnar**	**2.14**	**248**	P	**Pn**	**13 54 43.1**	**+0.9**
GULN				S	**Sb**	**13 55 11.1**	**-0.7**
SANL	**SANLIURFA_Merk**	**2.40**	**85**	P	**Pb**	**13 54 50.8**	**+0.6**
SANL				S	**Sb**	**13 55 21.9**	**+2.7**
KKBE	**Karaman, Kazim**	**2.46**	**276**	P	**Pb**	**13 54 50.0**	**-1.3**
KKBE				S	**Sb**	**13 55 20.1**	**-1.0**

*SFS **03** 14:06:04.0,35°.48N×3°.87W,ML2.5,ALBORAN SUR*
*MDD **03** 14:06:07.2±0.8,35°.61N×3°.76W,h4km±5km,mb_Lg2.6/3, Error ellipse: s-maj=6.8km s-min=4.2km az=34.0*
*CNRM **03** 14:06:08.2,35°.18N×3°.68W,h11km,ml1.9*
ISC 03 14:06:05.0±0.8**,35°.47N**±0°.03×**3°.71W**±0°.03**,h10**km**,n17,** σ**2s.35**/30**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**217**	P	**Pb**	**14 06 12.3**	**-0.4**
PALE				S	**Sg**	**14 06 16.3**	**+0.9**
GOG	**Mont Gurugu**	**0.63**	**112**	P	**Pb**	**14 06 19.4**	**+1.2**
GOG				S	**Sb**	**14 06 27.3**	**+0.1**
EMEL	**Melilla**	**0.64**	**105**	Pg	**Pn**	**14 06 19.6**	**-0.5**
EMEL				Sg	**Sb**	**14 06 28.6**	**+1.4**
EALB	**Alboran**	**0.73**	**49**	Pg	**Pb**	**14 06 20.4**	**+0.7**
EALB				Sg	**Sb**	**14 06 30.7**	**+0.9**
EALB				*i* Vmb_Lg		14 06 31.6	
TAF	**Taforalt**	**1.25**	**121**	P	**Pg**	**14 06 29.4**	**+0.5**
SMIR	**Smir Dam**	**1.38**	**279**	P	**Pg**	**14 06 35.2**	**+3.7**
EMIJ	**Mijas**	**1.39**	**322**	Pg	**Pn**	**14 06 30.9**	**+0.4**
EMIJ				Sg	**Sb**	**14 06 46.6**	**-2.4**
EMIJ				*i* Vmb_Lg		14 06 53.8	
ELGU	**Los Guajares,**	**1.40**	**3**	Pg	**Pn**	**14 06 29.8**	**-0.9**
ELGU				Sg	**Sn**	**14 06 46.1**	**-3.2**
ELGU				*i* Vmb_Lg		14 06 52.3	
EMAL	**Malaga-Limoner**	**1.42**	**336**	P	**Pb**	**14 06 32.1**	**+0.5**
EMAL				S	**Sn**	**14 06 48.2**	**-1.4**
JBK	**JBK**	**1.47**	**140**	P	**Pn**	**14 06 31.0**	**-0.7**
JBK				S	**Sn**	**14 06 47.9**	**-3.2**
EGOR	**Sierra Gorda,**	**1.67**	**349**	Pn	**Pn**	**14 06 31.3**	**-3.2**
EGOR				Sn	**Sn**	**14 06 52.5**	**-3.6**
MD31	**MD31**	**2.73**	**199**	P	**Pn**	**14 06 47.9**	**-1.1**
MD31				S	**Sn**	**14 07 18.1**	**-4.1**
MDT	**Midelt**	**2.75**	**196**	P	**Pn**	**14 06 49.1**	**-0.1**
MDT				S	**Sn**	**14 07 22.7**	**+0.2**
ECAB	**El Cabril**	**2.94**	**333**	Sn	**Sn**	**14 07 21.7**	**-5.6**
ETOB	**Tobarra**	**3.61**	**28**	Pn	**Pn**	**14 07 03.7**	**+2.5**
EGRO	**El Granado**	**3.67**	**305**	Pn	**Pn**	**14 07 01.9**	**0.0**
EGRO				Sn	**Sn**	**14 07 42.2**	**-3.1**
EBAD	**Badajoz**	**4.21**	**322**	Pn	**Pn**	**14 07 12.3**	**+3.0**
EBAD				Sn	**Sn**	**14 07 57.1**	**-1.4**

*TUL **03** 14:30:03.6±1.4,36°.70N±0°.02×98°.059W±0°.008,h7km±6km, ML2.5,mb_Lg2.1/8(NEIC),Error ellipse: s-maj=2.2km s-min=0.8km az=187.0*
NEIC 03 14:30:03.6±0.6**,36°.68N**±0°.02×**98°.04W**±0°.02**,h8**km±6km**, Error ellipse: s-maj=2.9km s-min=1.0km az=145.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.25**	**78**		Pn	14 30 27.2	-0.2
W35A	**Tecumseh**	**1.79**	**148**		Pb	14 30 35.8	-0.9
R32A	**Long Quarter,**	**1.82**	**343**	Pn	Pn	14 30 35.3	0.0
R32A				IAmb_Lg		14 31 01.0	
	comp=Z,8.4nm,0.8s						
TUL1	**Leonard**	**1.97**	**112**	Pn	Pn	14 30 38.0	+0.7
TUL1				IAmb_Lg		14 31 05.5	
	comp=Z,11nm,1.2s						
CBKS	**Cedar Bluff**	**2.52**	**328**	Pn	Pn	14 30 43.6	-1.3
KSU1	**Kansas State U**	**2.67**	**25**	IAmb_Lg		14 31 29.8	
	comp=Z,5.9nm,0.9s						
AMTX	**Amarillo**	**3.46**	**240**	IAmb_Lg		14 32 02.7	
	comp=Z,4.4nm,0.8s						

IDC 03 14:37:40.3±21.0**,23°.18S**×**179°.09E,h678**km±214km**, mb3.1**/5**,mb1 3.2**/5**,mb1mx2.7**/34**,mbtmp4.3**/5**,Error ellipse: s-maj=188.1km s-min=60.2km az=94.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.65**	**269**	P	P	14 43 04.8	+0.8
	4.3nm,0.3s,baz=95,slow=8.6,SNR=3.8						
PMG	**Port Moresby**	**33.47**	**289**	P	P	14 43 28.4	+0.7
	3.8nm,0.7s,baz=144,slow=1.3,SNR=3.7						
STKA	**Stephens Creek**	**34.23**	**247**	P	P	14 43 32.6	-1.1
	1.1nm,0.5s,baz=83,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**41.34**	**260**	P	P	14 44 30.9	0.0
	1.3nm,0.4s,baz=95,slow=7.5,SNR=55						
WRA	**Warramunga Arr**	**41.63**	**266**	P	P	14 44 33.2	0.0
	1.1nm,0.3s,baz=91,slow=8.3,SNR=106						
AKASG	**Malin Array Be**	**143.92**	**327**	PKP	PKPbc	14 55 59.9	-0.3
	0.2nm,0.3s,baz=44,slow=3.6,SNR=4.1						

*MDD **03** 14:37:49.5±0.5,35°.51N×3°.85W,h0km,mb_Lg3.0/12, Error ellipse: s-maj=4.6km s-min=2.4km az=1.0*
*CNRM **03** 14:37:49.0,35°.63N×3°.81W,h0km,ml3.2*
*SFS **03** 14:37:49.0,35°.52N×3°.84W,ML3.0,ALBORAN SUR*
ISC 03 14:37:49.1±1.1**,35°.54N**±0°.03×**3°.85W**±0°.03**,h8**km±10km**, n21,**σ**1s.08**/36**,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**193**	P	**Pb**	**14 37 57.0**	**-0.3**
PALE				S	**Sb**	**14 38 02.0**	**-0.8**
GOG	**Mont Gurugu**	**0.77**	**114**	P	**Pg**	**14 38 04.0**	**+0.1**
EMEL	**Melilla**	**0.77**	**108**	Pg	**Pg**	**14 38 03.2**	**-0.6**
EMEL				Sg	**Sg**	**14 38 13.3**	**-0.6**
EALB	**Alboran**	**0.77**	**59**	Pg	**Pg**	**14 38 04.1**	**+0.1**
EALB				Sg	**Sg**	**14 38 14.3**	**+0.3**
EALB				*i* Vmb_Lg		14 38 17.1	
EMIJ	**Mijas**	**1.27**	**324**	Pg	**Pg**	**14 38 13.7**	**+0.4**
EMIJ				Sg	**Sg**	**14 38 29.4**	**-0.4**
EMIJ				*i* Vmb_Lg		14 38 32.6	
CHEFC	**Chefchaouen**	**1.29**	**251**	P	**Pn**	**14 38 15.0**	**+1.4**
EMAL	**Malaga-Limoner**	**1.30**	**339**	P	**Pg**	**14 38 13.9**	**-0.2**
EMAL				S	**Sg**	**14 38 29.3**	**-1.8**
ELGU	**Los Guajares,**	**1.34**	**8**	Pn	**Pg**	**14 38 14.2**	**-0.5**
ELGU				Sn	**Sg**	**14 38 31.4**	**-0.7**
ELGU				*i* Vmb_Lg		14 38 34.7	
TAF	**Taforalt**	**1.38**	**121**	P	**Pb**	**14 38 16.0**	**+0.8**
EGOR	**Sierra Gorda,**	**1.58**	**352**	Pn	**Pn**	**14 38 18.4**	**+0.9**
EGOR				Sn	**Sg**	**14 38 40.8**	**+0.9**
EJIF	**Jimena Fronter**	**1.60**	**305**	Pn	**Pn**	**14 38 18.1**	**+0.4**
EQUE	**Quentar**	**1.69**	**11**	Pn	**Pn**	**14 38 19.6**	**+0.5**
EQUE				Sn	**Sn**	**14 38 41.0**	**0.0**
EQUE				*i* Vmb_Lg		14 38 45.6	
ENIJ	**Nijar**	**1.95**	**42**	Pn	**Pn**	**14 38 23.0**	**+0.5**
ENIJ				Sn	**Sn**	**14 38 43.9**	**-3.3**
ENIJ				*i* Vmb_Lg		14 38 45.2	
LCRM	**LCR**	**2.03**	**204**	P	**Pg**	**14 38 28.0**	**0.0**
ECAB	**El Cabril**	**2.83**	**334**	Pn	**Pn**	**14 38 35.2**	**+0.6**
ECAB				Sn	**Sn**	**14 39 09.3**	**+0.5**
ECAB				*i* Vmb_Lg		14 39 23.1	
EZAR	**Zarzadilla de**	**2.90**	**36**	Sn	**Sn**	**14 39 10.9**	**0.0**
EGRO	**El Granado**	**3.54**	**305**	Pn	**Pn**	**14 38 45.2**	**+0.9**
EGRO				Sn	**Sn**	**14 39 25.1**	**-1.2**
EGRO				*i* Vmb_Lg		14 40 04.4	
ETOB	**Tobarra**	**3.60**	**30**	Pn	**Pn**	**14 38 47.3**	**+2.0**
ETOB				*i* Vmb_Lg		14 39 19.9	
ETOB				Sn	**Sn**	**14 39 28.1**	**0.0**
PAB	**San Pablo**	**4.02**	**354**	Pn	**Pn**	**14 38 52.4**	**+1.4**
PAB				Sn	**Sn**	**14 39 38.2**	**-0.1**
PAB				*i* Vmb_Lg		14 40 04.6	
EBAD	**Badajoz**	**4.08**	**323**	Pn	**Pn**	**14 38 53.7**	**+1.9**
EBAD				Sn	**Sn**	**14 39 38.3**	**-1.5**
EBAD				*i* Vmb_Lg		14 39 39.8	
ESDC	**Sonseca Array**	**4.13**	**359**	Pn	**Pn**	**14 38 52.9**	**+0.4**
ESDC				*i* Vmb_Lg		14 39 12.6	
ESDC				Sn	**Sn**	**14 39 40.2**	**-0.8**

*IDC **03** 14:52:44.9±0.6,33°.38N×81°.36E,h0km,mb4.1/21, mb1 4.2/25,mb1mx4.1/53,mbtmp4.1/25,ML3.7/4,MS3.6/42, Ms1 3.6/42,ms1mx3.5/91,Error ellipse: s-maj=19.2km s-min=12.4km az=49.0*
*BJI **03** 14:52:46.8±0.0,33°.48N×81°.41E,h6km,mb4.4/26, mB4.5/12,ML4.0/4,Ms4.0/21,Ms7 3.7/20*
*NDI **03** 14:52:47.5±3.0,33°.62N×81°.71E,h10km,ML3.9, mb4.4(NEIC)*
*NEIC **03** 14:52:47.6±1.7,33°.45N±0°.05×81°.41E±0°.09,h14km±4km, mb4.4/20,ML4.4(BJI),Error ellipse: s-maj=12.6km s-min=5.4km az=59.0*
*MOS **03** 14:52:49.9±1.6,33°.47N×81°.37E,h43km,mb4.6/21,Error ellipse: s-maj=9.9km s-min=5.4km az=107.2*
ISC 03 14:52:47.1±0.3**,33°.42N**±0°.03×**81°.36E**±0°.04**,h10**km**,n174, σ2s.28**/165**,mb4.4**/41**,MS3.6**/40**,9C-3D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**4.17**	**223**	*e*P	**Pb**	**14 53 58.0**	**-2.6**
DDI				*e*S	**Sb**	**14 54 48.1**	**-3.0**
DDI				IAML		14 55 09.9	
	comp=E,454nm,0.5s						
SMLA	**Simla**	**4.22**	**238**	*e*P	Pn	14 53 56.6	+5.2
SMLA				*e*S	**Sn**	**14 54 47.9**	**+7.1**
SMLA				IAML		14 54 49.3	
	comp=E,320nm,1.2s						
SMLA				IAML		14 54 50.5	
	comp=N,175nm,0.9s						
DHRM	**DHARAMSHALA**	**4.42**	**256**	*e*P	**Pn**	**14 53 57.9**	**+3.6**
THN	**Thein Dam**	**4.85**	**260**	*e*P	**Pn**	**14 54 04.5**	**+4.4**
DANN	**Dangsing**	**5.45**	**157**	*e*Pn	**Pn**	**14 54 11.1**	**+2.4**
PYUN	**Piuthan**	**5.48**	**165**	*e*Pn	**Pn**	**14 54 11.4**	**+2.4**
PYUN				*e*Sn	**Sn**	**14 55 14.9**	**+2.7**
	comp=N,255nm,0.5s						
NDI	**New Delhi**	**5.91**	**218**	*e*P	Pn	14 54 22.0	+7.3
NDI				*e*S	**Sn**	**14 55 29.0**	**+6.6**
KOLN	**Koldanda**	**5.95**	**161**	*e*Pn	**Pn**	**14 54 17.7**	**+2.3**
KOLN				*e*Sn	**Sn**	**14 55 26.0**	**+2.3**
	comp=N,258nm,0.8s						
GKN	**Gorkha**	**6.09**	**152**	*e*Pn	**Pn**	**14 54 19.9**	**+2.6**
GKN				*e*Sn	**Sn**	**14 55 29.7**	**+2.6**
	comp=N,157nm,0.4s						
KKN	**Kakani**	**6.54**	**148**	*e*Pn	**Pn**	**14 54 25.5**	**+1.9**
KKN				*e*Sn	**Sn**	**14 55 40.6**	**+2.2**
	comp=N,244nm,0.9s						
DMN	**Daman**	**6.63**	**150**	*e*Pn	**Pn**	**14 54 27.2**	**+2.4**
DMN				*e*Sn	**Sn**	**14 55 42.9**	**+2.4**
	comp=N,599nm,1.1s						
GUN	**Gumba**	**6.72**	**143**	*e*Pn	**Pn**	**14 54 28.7**	**+2.5**
GUN				*e*Sn	**Sn**	**14 55 45.3**	**+2.2**
	comp=N,274nm,0.8s						
CHCP	**Chirah Chowk**	**6.77**	**274**	P	**Pn**	**14 54 28.4**	**+1.9**
NIL	**Nilore**	**6.78**	**274**	P	**Pn**	**14 54 28.5**	**+1.9**
NIL	**Nilore**	**6.78**	**274**	Pn	**Pn**	**14 54 28.5**	**+1.9**
PKIN	**Phulchoki**	**6.78**	**148**	*e*Pn	**Pn**	**14 54 28.9**	**+2.0**
PKIN				*e*Sn	**Sn**	**14 55 46.1**	**+1.8**
	comp=N,189nm,0.6s						
PKI	**Pulchoki**	**6.79**	**148**	*e*Pn	**Pn**	**14 54 29.1**	**+2.0**
PKI				*e*Sn	**Sn**	**14 55 47.3**	**+2.7**
	comp=N,168nm,0.8s						
JIRN	**Jiri**	**7.09**	**143**	*e*Pn	**Pn**	**14 54 34.0**	**+2.8**
JIRN				*e*Sn	**Sn**	**14 55 54.5**	**+2.5**
	comp=N,247nm,0.8s						
KSH	**Kashi**	**7.48**	**326**	Pn	**Pn**	**14 54 37.9**	**+1.6**
KSH				Sn	**Sn**	**14 56 03.4**	**+2.2**
KSH				smax	smax		
	comp=N,59nm,1.3s						
KSH				smax	smax		
	comp=N,78nm,1.0s						
RAMN	**Ramite**	**7.88**	**144**	*e*Pn	**Pn**	**14 54 43.2**	**+1.3**
CEP	**Cherat**	**7.90**	**276**	P	**Pn**	**14 54 43.1**	**+1.0**
THW	**Thamme Wali**	**8.10**	**268**	P	**Pn**	**14 54 47.6**	**+2.9**
TAPN	**Taplejung**	**8.16**	**136**	*e*Pn	**Pn**	**14 54 47.3**	**+1.5**
ODAN	**Odare**	**8.36**	**140**	*e*Pn	**Pn**	**14 54 50.0**	**+1.5**
TARG	**Taragay, Kyrgy**	**8.77**	**342**		**Pn**	**14 54 56.5**	**+2.3**
LSA	**Lhasa**	**9.13**	**111**	P	**Pn**	**14 55 00.4**	**+1.0**
LSA	**Lhasa**	**9.13**	**111**	Pn	**Pn**	**14 55 00.4**	**+1.0**
LSA	**Lhasa**	**9.13**	**111**	P	**Pn**	**14 55 01.9**	**+2.5**
LSA				pmax	pmax		
	comp=N,18nm,0.7s						
LSA				LR	LR		
	comp=N,140nm,8.9s						
LSA				LR	LR		
	comp=N,110nm,5.3s						
LSA				LR	LR		
	comp=N,160nm,4.3s						
SHLS	**Shalkode**	**9.84**	**352**	*i* P	**Pn**	**14 55 09.5**	**+0.8**
UZB	**Uzynbulak**	**9.89**	**350**	*i* P	**Pn**	**14 55 10.7**	**+1.3**
KPKS	**Kokpek**	**10.25**	**349**	*e*P	**Pn**	**14 55 15.3**	**+1.0**
JBP	**Jabalpur**	**10.28**	**187**	*e*P	**Pn**	**14 55 15.7**	**+1.0**
JBP				*e*S	**Sn**	**14 57 12.2**	**+2.2**
KBL	**Kabul**	**10.29**	**280**	P	**Pn**	**14 55 15.8**	**+0.8**
KBL	**Kabul**	**10.29**	**280**	Pn	**Pn**	**14 55 15.8**	**+0.8**
AAK	**Ala-Archa**	**10.68**	**332**	Pn	**Pn**	**14 55 23.8**	**+3.5**
	comp=N,0.2nm,0.3s,baz=193,slow=11,SNR=5.3						
AAK				Sn	**Sn**	**14 57 13.7**	**-6.2**
	comp=N,0.1nm,0.3s,baz=184,slow=18,SNR=0.9						
AAK				Lg	Lg	14 58 18.4	
	baz=252,slow=11,SNR=2.1						
AAK				LR	LR	14 59 41.3	
	comp=N,371nm,19.0s,baz=144,slow=39						
AAK	**Ala-Archa**	**10.68**	**332**	*ce*P	**Pn**	**14 55 23.7**	**+3.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
AAK	**Ala-Archa**	**10.68**	**332**	Pn	**Pn**	**14 55 24.0**	**+3.8**
BHPL	**Bhopal**	**10.71**	**200**	*e*P	**Pn**	**14 55 21.9**	**+1.3**
BHPL				*e*S	**Sn**	**14 57 16.9**	**-3.7**
ARXS	**Arharly**	**11.13**	**347**	*i* P	**Pn**	**14 55 26.8**	**+0.5**
CHGR	**Chuyangaron**	**11.18**	**301**		**Pn**	**14 55 25.5**	**-1.5**
GOMU	**GeErMu**	**11.40**	**72**	P	**Pn**	**14 55 32.7**	**+2.4**
GOMU				pP		14 55 36.1	
GOMU				sP		14 55 39.4	
GOMU				S	Sn	14 57 47.1	+9.1
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,72nm,5.4s						
GOMU				LR	LR		
	comp=Z,760nm,9.8s						
GOMU				LR	LR		
	comp=Z,160nm,9.8s						
GOMU				LR	LR		
	comp=Z,150nm,9.4s						
WMQ	**Urumqi**	**11.51**	**24**	*e*P	Pn	14 55 36.4	+5.0
SHL	**Shillong**	**12.04**	**128**	P	**Pn**	**14 55 36.6**	**-2.4**
SHL	**Shillong**	**12.04**	**128**		**Pn**	**14 55 36.5**	**-2.4**
KKAR	**Karatay Array**	**12.88**	**322**	P	**Pn**	**14 55 50.2**	**0.0**
KKAR	**Karatay Array**	**12.88**	**322**	Pn	**Pn**	**14 55 50.1**	**0.0**
MK31	**Makanchi Array**	**13.38**	**3**	P	**Pn**	**14 55 54.6**	**-2.4**
MK31	**Makanchi Array**	**13.38**	**3**		**Pn**	**14 55 54.6**	**-2.4**
MKAR	**Makanchi Array**	**13.38**	**3**	Pn	**Pn**	**14 55 55.3**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=182,slow=13,SNR=49						
MKAR				Sn	**Sn**	**14 58 27.3**	**+1.4**
	baz=194,slow=23,SNR=1.6						
MKAR				LR	LR	15 01 52.2	
	comp=Z,55nm,20.2s,baz=130,slow=41						
MKAR	**Makanchi Array**	**13.38**	**3**	*i* P	**Pn**	**14 55 57.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**13.38**	**3**	Pn	**Pn**	**14 55 54.7**	**-2.3**
MAKZ	**Makanchi**	**13.39**	**2**	P	**Pn**	**14 55 55.9**	**-1.2**
MAKZ	**Makanchi**	**13.39**	**2**		**Pn**	**14 55 55.9**	**-1.2**
MOKO	**MOKOCHONG**	**13.42**	**118**	*e*P	**Pn**	**14 55 55.6**	**-2.1**
KOHI	**KOHIMA**	**13.48**	**121**	*e*P	**Pn**	**14 55 56.2**	**-2.3**
GTA	**Gaotai**	**16.00**	**63**	⇓P	**Pn**	**14 56 30.2**	**-2.2**
GTA				pP	P	14 56 35.6	-0.3
GTA				sP	pP	14 56 39.6	-0.5
HYBB	**Hyderabad (bro**	**16.13**	**190**	*e*P	**Pn**	**14 56 31.1**	**-2.9**
HYBB				*e*S	**Sn**	**14 59 25.8**	**-7.2**
HYB	**Hyderabad**	**16.13**	**190**	*e*P	**Pn**	**14 56 31.0**	**-3.0**
HYB				*e*S	**Sn**	**14 59 26.0**	**-7.0**
KURBB	**Kurchatov Arra**	**17.32**	**354**	P	**Pn**	**14 56 47.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=24						
KURBB				LR	LR	15 04 04.2	
	comp=Z,158nm,19.3s,baz=148,slow=39						
KURK	**Kurchatov**	**17.41**	**354**	*i* P	**Pn**	**14 56 48.5**	**-1.4**
KURK	**Kurchatov**	**17.41**	**354**		**Pn**	**14 56 49.0**	**-0.8**
LZH	**Lanzhou**	**18.66**	**75**	*e*P	**P**	**14 57 04.5**	**-0.8**
LZH				pP	pP	14 57 10.4	+0.8
LZH				sP	sP	14 57 12.6	+1.1
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				LR	LR		
	comp=Z,320nm,11.4s						
LZH				LR	LR		
	comp=Z,260nm,12.5s						
LZH				LR	LR		
	comp=Z,260nm,13.6s						
PZH	**PanZhiHua**	**18.94**	**106**	P	**Pn**	**14 57 10.3**	**+1.3**
PZH				S	**Sn**	**15 00 37.6**	**-3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,3.8s						
PZH				LR	LR		
	comp=Z,210nm,9.0s						
PZH				LR	LR		
	comp=Z,180nm,9.5s						
PZH				LR	LR		
	comp=Z,170nm,10.0s						
CD2	**Chengdu**	**19.12**	**91**	P	**P**	**14 57 10.1**	**-0.2**
CD2				S	**S**	**15 00 47.0**	**-0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
GEYT	**Alibeck**	**19.40**	**290**	P	**P**	**14 57 12.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.4,SNR=5.8						
GEYT				LR	LR	15 05 18.2	
	comp=Z,125nm,21.5s,baz=101,slow=39						
KMI	**Kunming**	**20.37**	**108**	⇓P	**P**	**14 57 24.3**	**+0.1**
KMI				pmax	pmax		
	comp=Z,46nm,0.8s						
ZAA0	**Zalesovo Array**	**20.67**	**6**	P	**P**	**14 57 25.6**	**-1.4**
ZAA0				IAmb	IAmb	14 57 33.7	
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**20.67**	**6**	P	**P**	**14 57 27.0**	**+0.1**
	comp=Z,14nm,0.8s,baz=184,slow=11,SNR=37						
ZALV				LR	LR	15 06 03.6	
	comp=Z,57nm,20.5s,baz=184,slow=39						
ZALV	**Zalesovo Beam**	**20.67**	**6**	*i* P	**P**	**14 57 27.7**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,14nm,0.8s						
ZALV	**Zalesovo Beam**	**20.67**	**6**	P	**P**	**14 57 27.0**	**+0.1**
BVAR	**Borovoye Array**	**21.12**	**341**	P	**P**	**14 57 31.1**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=90,slow=16,SNR=23						
BRVK	**Borovoye**	**21.18**	**341**	*i* P	**P**	**14 57 32.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,31nm,1.1s						
BRVK	**Borovoye**	**21.18**	**341**	P	**P**	**14 57 31.5**	**-1.0**
BRVK				IAmb	IAmb	14 57 39.7	
	comp=Z,25nm,1.1s						
CHTO	**Chiang Mai**	**21.41**	**128**	P	**P**	**14 57 34.8**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHTO	**Chiang Mai**	**21.41**	**128**	P	**P**	**14 57 34.8**	**-0.4**
CM31	**Chiang Mai Arr**	**21.67**	**129**	P	**P**	**14 57 36.7**	**-1.3**
CM31				IAmb	IAmb	14 57 55.9	
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.67**	**129**	P	**P**	**14 57 38.0**	**0.0**
	comp=Z,11nm,0.7s,baz=310,slow=11,SNR=115						
CMAR				LR	LR	15 07 16.5	
	comp=Z,125nm,18.4s,baz=290,slow=40						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR	**Chiang Mai Arr**	**21.67**	**129**	P	**P**	**14 57 37.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.67**	**129**	P	**P**	**14 57 37.7**	**-0.3**
ABKAR	**Akbulak array**	**22.45**	**321**	P	**P**	**14 57 45.7**	**-0.4**
ABKAR	**Akbulak array**	**22.45**	**321**	P	**P**	**14 57 45.6**	**-0.4**
ABKAR				IAmb	IAmb	14 57 50.2	
	comp=Z,7.5nm,0.8s						
XAN	**Xi'an**	**22.91**	**81**	P	**P**	**14 57 49.5**	**-1.6**
XAN				S	**S**	**15 01 59.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				LR	LR		
	comp=Z,390nm,15.3s						
XAN				LR	LR		
	comp=Z,230nm,14.6s						
XAN				LR	LR		
	comp=Z,220nm,14.9s						
GYA	**Guiyang**	**22.96**	**101**	⇑P	**P**	**14 57 53.6**	**+1.8**
GYA				S	**S**	**15 02 06.4**	**+4.1**
GYA				pmax	pmax		
	comp=Z,27nm,1.1s						
GYA				LR	LR		
	comp=Z,190nm,9.2s						
ZAK	**Zakamensk**	**23.39**	**37**	*e*P	**P**	**14 57 57.0**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
UOSS	**Minazif**	**23.49**	**256**	P	**P**	**14 57 55.6**	**-1.5**
UOSS				IAmb	IAmb	14 58 16.6	
	comp=Z,26nm,1.3s						
SONM	**Songino Array**	**23.70**	**45**	P	**P**	**14 57 59.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=241,slow=10,SNR=10						
SONM				ScP	**ScP**	**15 05 23.8**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=248,slow=1.6,SNR=2.6						
SONM				LR	LR	15 07 22.3	
	comp=Z,212nm,20.5s,baz=223,slow=37						
SONM	**Songino Array**	**23.70**	**45**	P	**P**	**14 57 59.9**	**+0.8**
ULN	**Ulaanbaatar**	**24.11**	**46**	*ce*P	**P**	**14 58 03.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,16nm,2.5s						
AKTO	**Aktyubinsk**	**24.15**	**322**	P	**P**	**14 58 02.5**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=107,slow=10,SNR=11						
AKTO				LR	LR	15 08 49.1	
	comp=Z,102nm,18.8s,baz=134,slow=40						
PALK	**Pallekele**	**26.02**	**181**	LR	LR	15 09 36.5	
	comp=Z,62nm,18.3s,baz=101,slow=39						
SVE	**Sverdlovsk**	**27.39**	**335**	*e*P	**P**	**14 58 37.7**	**+5.3**
SVE				pmax	pmax		
	comp=Z,11nm,1.1s						
ARU	**Arti**	**27.86**	**333**	P	**P**	**14 58 37.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=114,slow=12,SNR=1.8						
ARU				LR	LR	15 09 56.9	
	comp=Z,143nm,20.0s,baz=126,slow=37						
ARU	**Arti**	**27.86**	**333**	*d i*P	P	14 58 43.9	+7.3
ARU						14 59 27.7	
ARU				SS	SS	15 04 51.8	-25
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAK	**Makhachkala**	**28.11**	**300**	*e*P	**P**	**14 58 35.0**	**-4.0**
MAK				*e*S	**S**	**15 03 17.5**	**-6.4**
MAK				pmax	pmax		
	comp=Z,363nm,1.2s						
MAK				MLR	MLR		
	comp=Z,188nm,15.0s						
UBPT	**Khong Chiam**	**28.32**	**124**	P	**P**	**14 58 39.6**	**-1.4**
UBPT				IAmb	IAmb	14 58 41.7	
	comp=Z,7.5nm,1.1s						
GNI	**Garni**	**29.94**	**294**	LR	LR	15 12 13.6	
	comp=Z,91nm,18.0s,baz=70,slow=39						
GNI	**Garni**	**29.94**	**294**	*i* P	**P**	**14 58 56.4**	**+0.9**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BELG	**Belogornoye**	**30.75**	**318**	LR	LR	15 11 14.0	
	comp=Z,146nm,20.1s,baz=138,slow=36						
KBZ	**Khabaz**	**31.54**	**300**	LR	LR	15 13 14.6	
	comp=Z,91nm,19.4s,baz=88,slow=39						
KIRV	**Kirov**	**33.00**	**329**	LR	LR	15 13 11.5	
	comp=Z,186nm,19.0s,baz=129,slow=37						
KIRV	**Kirov**	**33.00**	**329**	*ce*P	**P**	**14 59 24.6**	**+2.6**
KULM	**Kulim**	**33.24**	**143**	P	**P**	**14 59 24.0**	**-0.6**
PSI	**Prapat**	**34.60**	**148**	LR	LR	15 15 53.6	
	comp=Z,85nm,20.1s,baz=10,slow=40						
GSI	**Gunungsitoli**	**35.38**	**151**	P	**P**	**14 59 42.9**	**-0.2**
NRIK	**Noril'sk**	**36.14**	**4**	P	**P**	**14 59 48.5**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=174,slow=4.0,SNR=7.2						
NRIK	**Noril'sk**	**36.14**	**4**	*ce*P	**P**	**14 59 48.3**	**-0.8**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**37.85**	**319**	LR	LR	15 18 01.0	
	comp=Z,25nm,21.3s,baz=182,slow=40						
KSRS	**Korea Array**	**37.85**	**70**	P	**P**	**15 00 03.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=284,slow=9.6,SNR=6.2						
KSRS				LR	LR	15 16 52.8	
	comp=Z,83nm,20.1s,baz=295,slow=38						
MMAI	**Mount Meron Ar**	**38.21**	**282**	LR	LR	15 17 41.5	
	comp=Z,74nm,21.0s,baz=238,slow=39						
KLMR	**Klimovskoe**	**38.47**	**328**	*e*P	**P**	**15 00 09.8**	**+0.9**
KLMR				pmax	pmax		
	comp=Z,17nm,1.4s						
KLMR	**Klimovskoe**	**38.47**	**328**	*e*P	**P**	**15 00 09.8**	**+0.9**
KLMR				AMP		15 00 15.1	
BRTR	**Keskin Array B**	**38.48**	**293**	LR	LR	15 18 16.1	
	comp=Z,54nm,20.3s,baz=56,slow=40						
KLR	**Kul'dur**	**40.23**	**51**	LR	LR	15 17 26.0	
	comp=Z,118nm,19.3s,baz=266,slow=37						
USRK	**Ussuriysk Ar.**	**40.32**	**59**	LR	LR	15 17 54.3	
	comp=Z,120nm,18.3s,baz=256,slow=37						
JOW	**Kunigami**	**40.83**	**86**	LR	LR	15 19 36.8	
	comp=Z,78nm,18.5s,baz=113,slow=40						
AKASG	**Malin Array Be**	**41.46**	**311**	P	**P**	**15 00 33.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=77,slow=7.9,SNR=11						
AKASG	**Malin Array Be**	**41.46**	**311**	*ce*P	**P**	**15 00 37.0**	**+3.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YAK	**Yakutsk**	**41.79**	**32**	LR	LR	15 18 34.3	
	comp=Z,65nm,20.8s,baz=276,slow=37						
YAK	**Yakutsk**	**41.79**	**32**	*i* P	**P**	**15 00 37.4**	**+1.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MLR	**Muntele Rosu**	**43.65**	**303**	LR	LR	15 23 02.3	
	comp=Z,124nm,18.2s,baz=60,slow=42						
FIA1	**FINESS Array S**	**44.80**	**326**	P	**P**	**15 01 01.4**	**+0.7**
FINES	**FINESS Array B**	**44.80**	**326**	P	**P**	**15 01 00.9**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=90,slow=7.3,SNR=13						
FINES				LR	LR	15 20 29.1	
	comp=Z,115nm,21.9s,baz=105,slow=37						
FINES	**FINESS Array B**	**44.80**	**326**	*i* P	**P**	**15 01 01.6**	**+0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**44.80**	**326**	P	**P**	**15 01 00.5**	**-0.2**
TIXI	**Tiksi**	**45.66**	**19**	LR	LR	15 21 48.1	
	comp=Z,66nm,21.0s,baz=188,slow=38						
TIXI	**Tiksi**	**45.66**	**19**	*ce*P	**P**	**15 01 10.5**	**+3.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
TIXI	**Tiksi**	**45.66**	**19**	P	**P**	**15 01 08.8**	**+1.3**
TIXI				IAmb	IAmb	15 01 11.8	
	comp=Z,2.2nm,0.8s						
MJAR	**Matsushiro Arr**	**46.11**	**69**	LR	LR	15 21 21.0	
	comp=Z,44nm,18.3s,baz=288,slow=37						
ARCES	**ARCESS Array B**	**47.30**	**337**	P	**P**	**15 01 20.6**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=76,slow=5.1,SNR=4.7						
ARCES				LR	LR	15 22 10.7	
	comp=Z,96nm,18.9s,baz=228,slow=37						
ASAJ	**Asahikawa**	**47.92**	**58**	LR	LR	15 22 18.1	
	comp=Z,66nm,21.4s,baz=264,slow=37						
DPC	**Dobruska-Polom**	**49.69**	**310**	P	**P**	**15 01 40.0**	**+0.9**
DPC				pmax	pmax		
	comp=Z,5.0nm,2.9s						
DPC	**Dobruska-Polom**	**49.69**	**310**	*e*P	**P**	**15 01 40.6**	**+1.5**
OSTC	**Ostas**	**49.73**	**311**	*e*P	P	15 01 44.2	+4.8
HFS	**Hagfors**	**50.69**	**323**	LR	LR	15 24 41.0	
	comp=Z,201nm,18.4s,baz=76,slow=38						
BRG	**Berggiesshubel**	**51.13**	**311**	*e*P	P	15 01 54.8	+4.9
BRG				Amp		15 01 56.5	
	comp=Z,7.2nm,1.0s						
BRG	**Berggiesshubel**	**51.13**	**311**	P	**P**	**15 01 51.8**	**+1.9**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	**Magadan**	**51.57**	**37**	LR	LR	15 24 35.0	
	comp=Z,113nm,19.0s,baz=267,slow=37						
MA2	**Magadan**	**51.57**	**37**	*ce*P	**P**	**15 01 55.7**	**+2.6**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**51.58**	**309**	P	**P**	**15 01 52.5**	**-0.9**
	comp=Z,0.3nm,0.2s,baz=75,slow=9.2,SNR=1.4						
KHC	**Kasperske Hory**	**51.61**	**309**	*e*P	**P**	**15 01 55.7**	**+2.1**
KHC	**Kasperske Hory**	**51.61**	**309**	*e*P	**P**	**15 01 55.7**	**+2.1**
CLL	**Collm**	**51.66**	**312**	*e*P	**P**	**15 01 58.0**	**+4.1**
CLL	**Collm**	**51.66**	**312**	*e*pP	**P**	**15 01 58.0**	**+4.1**
CLL				LmH		15 22 00.0	
	comp=N,300nm,20.1s						
CLL				LmH		15 22 00.0	
	comp=E,100nm,21.7s						
NB2	**NORSAR Subarra**	**51.90**	**324**	P	**P**	**15 01 54.4**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=88,slow=7.4						
NOA	**NORSAR Array B**	**51.90**	**324**	P	**P**	**15 01 54.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=87,slow=7.4,SNR=6.2						
NOA				LR	LR	15 24 10.2	
	comp=Z,59nm,19.9s,baz=15,slow=36						
KMBO	**Kilima Mbogo**	**53.86**	**240**	LR	LR	15 24 25.4	
	comp=Z,47nm,20.9s,baz=85,slow=35						
DAVOX	**Davos/Dischmat**	**54.50**	**307**	LR	LR	15 29 42.6	
	comp=Z,90nm,19.5s,baz=83,slow=41						
PETK	**Petropavlovsk-**	**56.19**	**45**	LR	LR	15 27 47.7	
	comp=Z,83nm,19.3s,baz=264,slow=37						
ESDC	**Sonseca Array**	**66.35**	**303**	LR	LR	15 36 31.0	
	comp=Z,63nm,18.1s,baz=1.0,slow=40						
RES	**Resolute Bay**	**72.14**	**359**	LR	LR	15 39 21.5	
	comp=Z,31nm,18.0s,baz=84,slow=39						
WRA	**Warramunga Arr**	**73.26**	**128**	P	**P**	**15 04 18.2**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=324,slow=6.1,SNR=28						
WRA	**Warramunga Arr**	**73.26**	**128**	P	**P**	**15 04 17.7**	**-1.1**
WRAB	**Tennant Creek**	**73.27**	**128**	*ce*P	**P**	**15 04 19.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,11nm,2.5s						
WRAB	**Tennant Creek**	**73.27**	**128**	P	**P**	**15 04 17.4**	**-1.4**
WB2	**Warramunga Arr**	**73.27**	**128**	P	**P**	**15 04 17.8**	**-1.0**
WR0	**Warramunga Arr**	**73.41**	**128**	P	**P**	**15 04 18.6**	**-1.0**
WR0				IAmb	IAmb	15 04 44.6	
	comp=Z,7.3nm,1.3s						
SFJD	**Kangerlussuaq**	**73.49**	**342**	LR	LR	15 42 05.3	
	comp=Z,47nm,18.6s,baz=355,slow=40						
BMAR	**Burnt Mountain**	**73.67**	**17**	P	**P**	**15 04 20.4**	**-0.2**
TTA	**Tatalina**	**73.67**	**24**	P	**P**	**15 04 19.0**	**-1.7**
TTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TTA	**Tatalina**	**73.67**	**24**	P	**P**	**15 04 19.0**	**-1.7**
TTA				IAmb	IAmb	15 04 21.1	
	comp=Z,4.8nm,1.3s						
TORD	**Torodi Ar. Bea**	**74.33**	**276**	P	**P**	**15 04 24.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=38,slow=4.9,SNR=8.7						
TORD	**Torodi Ar. Bea**	**74.33**	**276**	P	**P**	**15 04 25.1**	**-0.1**
TORD				IAmb	IAmb	15 04 30.7	
	comp=Z,7.4nm,1.5s						
ILAR	**Eielson Array**	**75.14**	**19**	P	**P**	**15 04 27.9**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=307,slow=5.2,SNR=4.5						
INK	**Inuvik**	**75.30**	**13**	P	**P**	**15 04 29.5**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=347,slow=7.5,SNR=3.1						
INK				LR	LR	15 40 54.4	
	comp=Z,43nm,18.9s,baz=172,slow=38						
AS31	**Alice Springs**	**75.66**	**131**	P	**P**	**15 04 32.1**	**-0.6**
ASAR	**Alice Springs**	**75.66**	**131**	P	**P**	**15 04 32.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=318,slow=6.0,SNR=80						
FRB	**Frobisher Bay**	**80.27**	**347**	LR	LR	15 45 25.7	
	comp=Z,62nm,18.5s,baz=260,slow=39						
BOSA	**Boshof**	**81.44**	**228**	P	**P**	**15 05 03.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=33,slow=1.6,SNR=4.5						
CTA	**Charters Tower**	**81.58**	**121**	P	**P**	**15 05 05.6**	**+0.3**
CTA				pmax	pmax		
	comp=Z,19nm,2.1s						
DBIC	**Dimbokro**	**83.22**	**273**	LR	LR	15 44 50.7	
	comp=Z,47nm,18.9s,baz=169,slow=38						
YKA	**Yellowknife Ar**	**83.56**	**7**	P	**P**	**15 05 13.6**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=340,slow=5.1,SNR=23						
YKA	**Yellowknife Ar**	**83.56**	**7**	*i* P	**P**	**15 05 17.2**	**+2.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**86.26**	**132**	P	**P**	**15 05 27.3**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.1,SNR=1.4						
NEW	**Newport**	**97.02**	**12**	LR	LR	15 55 26.1	
	comp=Z,38nm,18.2s,baz=269,slow=39						

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*ISK **03** 14:58:12.7, 35°.82N×31°.51E, h32km, ML3.1/22*
*DDA **03** 14:58:13.7±0.0, 35°.98N×31°.66E, h42km±1km, MW3.3*
*NIC **03** 14:58:14.9±0.0, 35°.89N×31°.80E, h46km±20km, Ml3.1/2*
ISC 03 14:58:13.0±1.2**, 35°.85N**±0°.04×**31°.63E**±0°.03**, h12**km±10km**,**
n42, σ1s42/48**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.68**	**55**	P	**Pg**	**14 58 26.5**	**+0.4**
GAZI				S	**Sg**	**14 58 35.6**	**+0.6**
GAZI				*i* AML	AML	14 58 36.0	
	comp=N,348nm,0.5s						
AKMS	**Akamas**	**1.01**	**145**	P	**Pg**	**14 58 32.8**	**+0.5**
AKMS				AML	AML	14 58 54.7	
	1.5nm,0.3s						
AKMS				AML	AML	14 58 54.9	
	2.2nm,0.3s						
ALFC	**Alefka**	**1.05**	**131**	P	**Pg**	**14 58 32.4**	**-0.7**
ALFC				S	**Sg**	**14 58 45.9**	**-0.9**
ALFC				AML	AML	14 58 46.3	
	1.4nm,0.2s						
ALFC				AML	AML	14 58 46.3	
	1.4nm,0.2s						
ALFC				AML	AML	14 58 46.7	
	2.5nm,0.2s						
ALFC				AML	AML	14 58 46.7	
	2.5nm,0.2s						
AKUM	**Antalya-Kumluc**	**1.15**	**295**	P	**Pg**	**14 58 34.2**	**-0.9**
AKUM				S	**Sg**	**14 58 52.1**	**+2.1**
AKUM				*i* AML	AML	14 58 59.0	
	comp=N,230nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.24**	**76**	PN	**Pg**	**14 58 35.4**	**-1.4**
ERMK	**Ermenek**	**1.30**	**52**	P	**Pg**	**14 58 36.4**	**-1.7**
ERMK				S	**Sb**	**14 58 59.3**	**+4.9**
ERMK				*i* AML	AML	14 59 02.0	
	comp=N,104nm,0.3s						
HDMB	**Hadim**	**1.31**	**31**	PN	Pg	14 58 35.9	-2.3
BERE	**Bereket-Mersin**	**1.38**	**68**	PN	**Pg**	**14 58 37.6**	**-1.9**
BERE				SN	**Sg**	**14 58 56.0**	**-1.5**
SZAC	**Souni**	**1.49**	**136**	P	Pn	14 58 38.3	-1.4
OREN	**Orenkoy-Mersin**	**1.52**	**76**	PN	**Pn**	**14 58 39.4**	**-0.7**
KORT	**Korkueli**	**1.55**	**318**	P	Pn	14 58 39.0	-1.6
KORT				S	**Sg**	**14 59 03.3**	**+0.5**
KORT				*i* AML	AML	14 59 10.0	
	comp=E,117nm,0.5s						
SEYD	**Seydisehir-KON**	**1.56**	**6**	PN	Pn	14 58 39.6	-1.2
SEYD				SN	**Sn**	**14 58 58.9**	**-2.2**
AKK1	**Akkuyu-Mersin**	**1.57**	**79**	PN	**Pn**	**14 58 40.5**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.58**	**68**	PN	**Pn**	**14 58 40.8**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.58**	**79**	PN	**Pn**	**14 58 40.5**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.59**	**78**	PN	**Pn**	**14 58 40.9**	**0.0**
AKKU				SN	**Sn**	**14 59 01.1**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.59**	**77**	P	**Pn**	**14 58 40.8**	**-0.1**
GULN				S	**Sn**	**14 59 01.1**	**-0.3**
GULN				*i* AML	AML	14 59 03.0	
	comp=E,50nm,0.8s						
SEDI	**Konya, Seydise**	**1.60**	**3**	P	Pn	14 58 39.9	-1.4
SEDI				S	**Sn**	**14 58 58.8**	**-3.3**
SEDI				*i* AML	AML	14 59 08.0	
	comp=E,94nm,0.5s						
CSS	**Mathiatis**	**1.64**	**122**	PN	Pn	14 58 40.9	-0.9
LFK	**Lefkose**	**1.65**	**110**	PN	**Pn**	**14 58 41.3**	**-0.6**
ELL	**Elmali**	**1.66**	**303**	PN	Pn	14 58 39.5	-2.6
TISA	**Tisan-Mersin**	**1.69**	**79**	PN	**Pn**	**14 58 42.2**	**-0.1**
ASGA	**Asgata**	**1.69**	**128**	P	**Pn**	**14 58 42.3**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.71**	**343**	PN	Pn	14 58 40.6	-2.1
IKL	**Isikli**	**1.71**	**76**	PN	**Pn**	**14 58 42.5**	**-0.1**
KARG	**Kargicak-Mersi**	**1.72**	**77**	PN	**Pn**	**14 58 42.8**	**0.0**
KKBE	**Karaman, Kazim**	**1.73**	**37**	P	**Pn**	**14 58 42.9**	**-0.1**
KKBE				S	**Sn**	**14 59 04.2**	**-0.9**
KKBE				*i* AML	AML	14 59 10.0	
	comp=E,81nm,0.5s						
KEBE	**Keben-Mersin**	**1.79**	**70**	PN	**Pn**	**14 58 43.8**	**0.0**
MVOU	**Mavrovouni**	**1.83**	**116**	P	Pn	14 58 42.8	-1.5
MVOU				S	**Sn**	**14 59 04.9**	**-2.6**
KRMN	**Karaman**	**1.87**	**44**	PN	**Pn**	**14 58 44.9**	**0.0**
SILI	**Silifke-Mersin**	**1.93**	**74**	PN	**Pn**	**14 58 45.4**	**-0.2**
KMER	**Konya-Meram**	**2.01**	**17**	P	**Pn**	**14 58 47.5**	**+0.6**
KMER				S	**Sn**	**14 59 12.9**	**+0.9**
KMER				*i* AML	AML	14 59 17.0	
	comp=N,66nm,0.7s						
EREN	**Erenkoy**	**2.09**	**98**	PN	**Pn**	**14 58 47.6**	**-0.3**
KIZK	**Mersin**	**2.13**	**72**	P	**Pn**	**14 58 49.6**	**+1.3**
KIZK				S	**Sn**	**14 59 16.0**	**+1.2**
KIZK				*i* AML	AML	14 59 27.0	
	comp=E,79nm,1.8s						
KONT	**Konya--Tatoy**	**2.17**	**15**	PN	**Pn**	**14 58 48.9**	**-0.2**
DOGA	**KONYA_Doganhis**	**2.25**	**1**	P	**Pn**	**14 58 49.6**	**-0.7**
DOGA				S	**Sn**	**14 59 17.7**	**-0.4**
DOGA				*i* AML	AML	14 59 20.0	
	comp=N,48nm,0.9s						
YVAC	**Isparta, Yalva**	**2.44**	**353**	P	Pn	14 58 50.7	-2.1
YVAC				S	**Sn**	**14 59 18.9**	**-3.8**
MERS	**Mersin**	**2.55**	**66**	PN	**Pn**	**14 58 54.5**	**+0.3**
KARA	**Karaisali**	**3.10**	**62**	PN	**Pn**	**14 59 02.4**	**+0.7**
CMRD	**Camardi-Nigde**	**3.25**	**55**	PN	**Pn**	**14 59 04.6**	**+0.7**
TAHT	**Tahtakopru-Hat**	**3.72**	**81**	PN	**Pn**	**14 59 11.2**	**+0.9**
KOZT	**Kozan**	**3.75**	**63**	PN	**Pn**	**14 59 11.6**	**+0.9**

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*LDG **03** 15:20:41.4±0.5, 35°.20N×3°.53W, h10km, Ml2.9/3, Error ellipse: s-maj=11.8km s-min=4.5km az=167.0*
*IDC **03** 15:20:42.9±2.1, 35°.62N×3°.79W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/39, mbtmp3.5/3, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/84, Error ellipse: s-maj=37.7km s-min=28.9km az=76.0*
*CNRM **03** 15:20:43.7, 35°.51N×3°.73W, h21km, ml3.4*
*MDD **03** 15:20:44.4±0.5, 35°.54N×3°.80W, h0km, mb_Lg3.3/9, Error ellipse: s-maj=4.4km s-min=2.3km az=0.0*
*IGIL **03** 15:20:44.3, 35°.41N×3°.74W, h14km, ML3.0*
*SFS **03** 15:20:45.0, 35°.40N×3°.70W, h23km, ML3.2, ALBORAN SUR*
ISC 03 15:20:43.1±1.4**, 35°.50N**±0°.03×**3°.79W**±0°.02**, h13**km±10km**,**
n47, σ1s59/74**, 2C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**204**	P	**Pb**	**15 20 50.6**	**+0.1**
PALE				S	**Sb**	**15 20 55.2**	**-0.2**
GOG	**Mont Gurugu**	**0.70**	**113**	P	**Pb**	**15 20 57.2**	**-0.1**
GOG				S	**Sg**	**15 21 06.0**	**-0.1**
EMEL	**Melilla**	**0.71**	**106**	⇑Pg	**Pb**	**15 20 57.6**	**+0.3**
EMEL				Sg	**Sb**	**15 21 07.0**	**+0.1**
EALB	**Alboran**	**0.76**	**54**	⇑Pg	**Pb**	**15 20 58.9**	**+0.8**
EALB				Sg	**Sb**	**15 21 08.9**	**+0.6**
EALB				*i* Vmb_Lg		15 21 10.1	
TAF	**Taforalt**	**1.32**	**121**	P	**Pn**	**15 21 06.5**	**-0.8**
TAF				S	**Sb**	**15 21 22.7**	**-1.9**
CHEFC	**Chefchaouen**	**1.33**	**253**	P	**Pg**	**15 21 08.3**	**-0.4**
CHEFC				S	**Sb**	**15 21 25.0**	**+0.1**
EMIJ	**Mijas**	**1.33**	**323**	Pg	**Pn**	**15 21 07.3**	**-0.1**
EMIJ				Sg	**Sb**	**15 21 25.2**	**+0.2**
EMIJ				*i* Vmb_Lg		15 21 31.1	
CEU	**Ceuta**	**1.35**	**288**	P	**Pn**	**15 21 06.3**	**-1.4**
CEU				S	**Sb**	**15 21 20.8**	**-4.7**
EMAL	**Malaga-Limoner**	**1.36**	**338**	P	**Pn**	**15 21 08.3**	**+0.4**
EMAL				S	**Sb**	**15 21 25.0**	**-0.8**
ELGU	**Los Guajares,**	**1.37**	**5**	Pg	**Pn**	**15 21 07.9**	**-0.2**
ELGU				Sg	**Sb**	**15 21 25.3**	**-1.0**
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**15 21 09.4**	**-1.0**
JBK				S	**Sn**	**15 21 29.6**	**-0.6**
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**15 21 12.3**	**+0.6**
EGOR				Sn	**Sn**	**15 21 32.8**	**+0.1**
EGOR				*i* Vmb_Lg		15 21 48.1	
EJIF	**Jimena Fronter**	**1.66**	**305**	Pn	**Pb**	**15 21 13.2**	**-0.4**
EQUE	**Quentar**	**1.73**	**9**	Pn	**Pn**	**15 21 14.1**	**+1.2**
EQUE				Sn	**Sn**	**15 21 34.7**	**-0.3**
LIJA	**Lijar**	**1.92**	**318**	P	**Pb**	**15 21 18.2**	**+0.2**
ENIJ	**Nijar**	**1.95**	**41**	Pn	**Pn**	**15 21 16.1**	**+0.2**
ENIJ				Sn	**Sn**	**15 21 38.8**	**-1.5**
LCRM	**LCR**	**2.01**	**206**	P	**Pn**	**15 21 17.9**	**+0.9**
LCRM				S	**Sb**	**15 21 45.1**	**+0.4**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pn**	**15 21 27.3**	**+1.2**
MD31	**MD31**	**2.74**	**197**	P	**Pn**	**15 21 28.3**	**+1.4**
MDT	**Midelt**	**2.76**	**194**	P	**Pn**	**15 21 29.4**	**+2.2**
TDRA	**Tendrara**	**2.85**	**149**	P	**Pn**	**15 21 29.8**	**+1.2**
ECAB	**El Cabril**	**2.89**	**334**	Pn	**Pn**	**15 21 30.9**	**+2.1**
ECAB				Sn	**Sn**	**15 22 05.0**	**+1.5**
ECAB				*i* Vmb_Lg		15 22 20.2	
EZAR	**Zarzadilla de**	**2.91**	**35**	Pn	**Pn**	**15 21 29.8**	**+0.6**
EZAR				Sn	**Sn**	**15 22 04.4**	**+0.3**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**15 21 29.2**	**-2.0**
CART				S	**Sn**	**15 22 04.6**	**-3.1**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**15 21 32.2**	**+0.1**
EGRO	**El Granado**	**3.60**	**305**	Pn	**Pn**	**15 21 39.6**	**+1.0**
EGRO				Sn	**Sn**	**15 22 19.7**	**-1.4**
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**15 21 41.9**	**+3.0**
ETOB				Sn	**Sn**	**15 22 23.7**	**+2.2**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**15 21 41.1**	**+1.2**
FIGM	**Figuig**	**3.96**	**147**	P	**Pn**	**15 21 45.6**	**+1.9**
PAB	**San Pablo**	**4.07**	**354**	Pn	**Pn**	**15 21 47.2**	**+2.1**
PAB				Sn	**Sn**	**15 22 31.5**	**-1.1**
PAB				*i* Vmb_Lg		15 23 05.9	
EBAD	**Badajoz**	**4.15**	**323**	Pn	**Pn**	**15 21 47.2**	**+1.0**
EBAD				Sn	**Sn**	**15 22 33.7**	**-0.9**
EBAD				*i* Vmb_Lg		15 22 41.6	
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**15 21 48.4**	**+1.9**
	0.7nm,0.3s,baz=179,slow=12,SNR=14						
ESDC				Sn	**Sn**	**15 22 35.1**	**-0.1**
	0.5nm,0.3s,baz=177,slow=23,SNR=4.4						
ESDC				Lg	Lg	15 22 50.4	
	0.9nm,0.3s,baz=180,slow=28,SNR=4.6						
EBEN2	**Beniarda presa**	**4.28**	**41**	Sn	**Sn**	**15 22 34.7**	**-3.2**
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**15 21 48.8**	**+0.3**
MORF				*e*S	**Sn**	**15 22 35.9**	**-2.8**
MORF				IAML		15 22 42.1	
	comp=N,26nm,0.4s						
PFVI	**Vila Bisbo**	**4.38**	**293**	P	**Pn**	**15 21 50.7**	**+1.3**
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**15 21 53.0**	**+1.6**
GUD	**Guadarrama**	**5.14**	**357**	Pn	**Pn**	**15 22 02.2**	**+2.2**
GUD				*i* Vmb_Lg		15 23 19.9	
OUZM	**OUZ**	**5.21**	**209**	P	**Pn**	**15 22 02.3**	**+1.4**
OUK	**Oukaimeden**	**5.47**	**220**	P	**Pn**	**15 22 05.2**	**+0.6**
ETOR	**Torete**	**5.49**	**14**	Pn	**Pn**	**15 22 06.5**	**+1.9**
ETOR				Sn	**Sn**	**15 23 09.7**	**+2.1**
ETOR				*i* Vmb_Lg		15 24 38.8	
ETSF	**Etsaut**	**7.80**	**18**	*e*Pn	**Pn**	**15 22 35.5**	**-0.9**
ETSF				*e*Sn	**Sn**	**15 24 01.8**	**-2.8**
	comp=N,0.8nm,0.2s						
SJPF	**Ste Jean**	**7.86**	**14**	*e*Pn	**Pn**	**15 22 36.4**	**-0.7**
SJPF				*e*Sn	**Sn**	**15 24 03.2**	**-2.8**
	comp=N,0.7nm,0.2s						
EPF	**Esparros**	**8.18**	**22**	*e*Pn	**Pn**	**15 22 40.4**	**-1.1**
EPF				*e*Sn	**Sn**	**15 24 10.0**	**-3.7**
	comp=N,0.7nm,0.2s						
MTLF	**Montolieu**	**9.11**	**29**	*e*Pn	**Pn**	**15 22 52.4**	**-1.8**
VRAC	**Vranov**	**20.33**	**41**	LR	LR	15 32 14.9	
	comp=N,31nm,18.8s,baz=331,slow=34						
MKAR	**Makanchi Array**	**62.72**	**50**	P	**P**	**15 31 08.7**	**+0.9**
	comp=N,0.3nm,0.7s,baz=303,slow=6.1,SNR=4.1						
YKA	**Yellowknife Ar**	**67.83**	**332**	P	**P**	**15 31 41.8**	**+1.2**
	comp=N,0.6nm,0.8s,baz=59,slow=6.3,SNR=8.0						

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*JMA **03** 15:24:17.2±0.3, 43°.84N×147°.70E, h0km, M3.7*
*SKHL **03** 15:24:18.9±0.4, 44°.10N×147°.90E, h40km±3km, mb4.3/3*
ISC 03 15:24:14.2±3.5**, 44°.01N**±0°.10×**148°.1E**±0°.1**, h13**km±22km**,**
n19, σ1s73/33**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.90**	**261**	*i* P	**Pn**	**15 24 32.7**	**+0.2**
SHO				AMB	AMB	15 24 32.9	
	80nm,0.2s						
SHO				*i* S	**Sb**	**15 24 43.1**	**-0.3**
SHO				A	A	15 24 44.9	
	880nm,0.3s						
SHO				A	A	15 24 44.9	
	940nm,0.3s						
KUR	**Kuril'sk**	**1.23**	**354**	*e*P	**Pn**	**15 24 37.9**	**+0.8**
KUR				AMB	AMB	15 24 39.1	
	90nm,0.3s						
KUR				*e*S	**Sg**	**15 24 52.4**	**-1.5**
KUR				A	A	15 24 54.1	
	690nm,0.4s						
KUR				A	A	15 24 54.1	
	1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.58**	**272**	*i* P	**Pn**	**15 24 42.4**	**+0.5**
YUK				AMB	AMB	15 24 43.0	
	90nm,0.2s						
YUK				*i* S	**Sn**	**15 24 59.7**	**-2.5**
YUK				A	A	15 25 04.5	
	100nm,0.3s						
YUK				A	A	15 25 04.5	
	640nm,0.3s						
NEM2	**Nemuro 2**	**1.80**	**250**	P	**Pn**	**15 24 45.2**	**+0.3**
NEM2				*e*S	**Sn**	**15 25 05.3**	**-2.2**
NMR	**Nemuro--Hokkai**	**1.81**	**250**	*e*P	**Pn**	**15 24 45.1**	**+0.1**
NMR				*i* S	**Sn**	**15 25 05.2**	**-2.5**

JRA	Rausu	2.12	269	P	Pn	15 24 50.9	+1.6
JRA				eS	Sn	15 25 15.7	+0.2
JNSB	Nemuroshibetsu	2.22	265	P	Pn	15 24 52.2	+1.5
JNSB				eS	Sn	15 25 17.8	-0.1
JKHN	Kushirohamanak	2.30	247	P	Pn	15 24 52.9	+1.1
JKHN				eS	Sn	15 25 19.0	-0.9
JNK	Nakash	2.45	261	P	Pn	15 24 55.2	+1.3
JNK				eS	Sn	15 25 23.4	-0.3
AKK	Akkeshi	2.54	248	eP	Pn	15 24 56.4	+1.3
AKK				eS	Sn	15 25 24.2	-1.6
JAK	Akkeshi	2.65	249	P	Pn	15 24 57.4	+0.9
JAK				eS	Sn	15 25 26.5	-2.0
JTKR	Abashiri--Toko	2.99	271	P	Pn	15 25 03.3	+2.0
JAR	Ashorobuto	3.19	259	P	Pn	15 25 06.1	+2.0
JAR				eS	Sn	15 25 41.7	-0.2
JOB	Onbets	3.27	252	P	Pn	15 25 06.7	+1.6
JOB				eS	Sn	15 25 43.0	-0.8
JMP	Maruseppu	3.39	272	P	Pn	15 25 09.0	+2.2
JCH	Churui	3.70	249	P	Pn	15 25 12.9	+1.9
JCH				eS	Sn	15 25 53.4	-1.0
JKK2	Kamakawa 2	3.84	270	P	Pn	15 25 16.4	+3.5
JFR	Furan	4.06	260	P	Pn	15 25 19.3	+3.3
JNBK	Urakawa-nobuka	4.25	248	P	Pn	15 25 20.5	+1.9

*IDC **03** 15:25:30.6±2.2, 7°.01S×129°.34E, h125km±25km, mb3.0/2, mb1 3.2/7, mb1mx2.9/33, mbtmp3.5/7, Error ellipse: s-maj=37.9km s-min=20.3km az=95.0*

ISC 03 15:25:29.6±0.8**, 7°.12S**±0°.06×**129°.50E**±0°.10**, h139**km**, n7, σ3s.43**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.45	16	P	Pn	15 27 02.5	+0.1
	1.6nm,0.3s,baz=142,slow=22,SNR=12						
SIJI				S	Sn	15 28 09.8	-5.1
	1.0nm,0.3s,baz=212,slow=22,SNR=6.2						
BATI	Baumata	6.54	242	P	Pn	15 27 03.8	+0.3
	3.6nm,0.3s,baz=69,slow=0.8,SNR=8.0						
BATI				S	Sn	15 28 14.4	-2.5
	3.9nm,0.3s,baz=115,slow=4.0,SNR=3.4						
FITZ	Fitzroy Crossi	11.54	199	P	Pn	15 28 11.4	+1.2
	0.2nm,0.3s,baz=20,slow=9.1,SNR=19						
FITZ				S	Sn	15 30 13.3	-4.4
	0.5nm,0.3s,baz=100,slow=21,SNR=4.3						
WRA	Warramunga Arr	13.58	160	P	Pn	15 28 39.4	+2.7
	0.3nm,0.3s,baz=330,slow=9.9,SNR=28						
WRA				S	Sn	15 31 02.9	-4.0
	0.6nm,0.3s,baz=331,slow=22,SNR=12						
ASAR	Alice Springs	16.99	166	P	Pn	15 29 23.9	+4.9
	0.1nm,0.3s,baz=336,slow=9.1,SNR=14						
ASAR				S	S	15 32 27.4	-1.3
	0.1nm,0.3s,baz=319,slow=16,SNR=5.5						
SONM	Songino Array	58.40	342	P	P	15 35 11.9	+1.3
	0.3nm,0.9s,baz=146,slow=2.8,SNR=1.8						
MKAR	Makanchi Array	68.06	327	P	P	15 36 15.6	+1.4
	0.3nm,0.5s,baz=116,slow=7.9,SNR=8.0						

*SFS **03** 15:29:27.0, 35°.47N×3°.78W, ML2.5, ALBORAN SUR*
*MDD **03** 15:29:30.4±0.6, 35°.58N×3°.69W, h0km, mb_Lg2.6/5, Error ellipse: s-maj=5.7km s-min=3.3km az=24.0*
*CNRM **03** 15:29:32.0, 35°.42N×3°.57W, h20km, ml2.3*

ISC 03 15:29:30.5±1.1**, 35°.52N**±0°.03×**3°.57W**±0°.03**, h23**km±12km**, n16, σ1s.45**/31**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.42	225	P	Pb	15 29 38.5	-0.9
PALE				S	Sb	15 29 45.3	-0.2
EMEL	Melilla	0.55	113	Pg	Pb	15 29 41.7	+0.2
EMEL				Sg	Sb	15 29 48.8	-0.2
GOG	Mont Gurugu	0.56	122	P	Pb	15 29 41.7	0.0
GOG				S	Sb	15 29 49.9	+0.5
EALB	Alboran	0.61	46	Pg	Pn	15 29 43.4	-0.3
EALB				Sg	Sn	15 29 52.5	-0.3
EALB				i Vmb_Lg		15 29 54.5	
ELGU	Los Guajares,	1.35	358	Pg	Pn	15 29 53.6	-0.4
ELGU				Sg	Sn	15 30 08.9	-2.3
ELGU				i Vmb_Lg		15 30 17.1	
EMAL	Malaga-Limoner	1.42	331	P	Pb	15 29 56.1	-0.2
EMAL				S	Sn	15 30 10.9	-2.0
EMIJ	Mijas	1.43	317	Pg	Pn	15 29 53.8	-1.2
EMIJ				Sg	Sn	15 30 11.5	-1.5
EMIJ				i Vmb_Lg		15 30 16.8	
JBK	JBK	1.44	145	P	Pn	15 29 55.0	-0.3
JBK				S	Sn	15 30 12.5	-1.1
SMIR	Smir Dam	1.48	277	P	Pb	15 29 59.9	+2.5
SMIR				S	Sb	15 30 16.4	+0.7
EGOR	Sierra Gorda,	1.65	345	Pn	Pn	15 29 57.6	-0.6
EGOR				Sn	Sn	15 30 18.7	0.0
EGOR				i Vmb_Lg		15 30 35.3	
MD31	MD31	2.82	201	P	Pb	15 30 18.1	-2.2
MD31				S	Sn	15 30 48.5	+1.0
MDT	Midelt	2.83	198	P	Pn	15 30 16.4	+2.0
MDT				S	Sn	15 30 47.9	+0.1
ECAB	El Cabril	2.95	330	Pn	Pn	15 30 17.8	+1.8
ECAB				Sn	Sn	15 30 48.2	-2.4
ETOB	Tobarra	3.52	27	Pn	Pn	15 30 26.5	+2.7
EGRO	El Granado	3.74	304	Pn	Pn	15 30 26.9	+0.2
EGRO				Sn	Sn	15 31 08.5	-1.4
PAB	San Pablo	4.07	352	Pn	Pn	15 30 33.5	+2.2
PAB				Sn	Sn	15 31 18.3	0.0

*IDC **03** 15:30:52.7±2.2, 7°.10S×129°.46E, h88km±22km, mb3.7/5, mb1 4.1/9, mb1mx3.7/28, mbtmp4.3/9, Error ellipse: s-maj=32.7km s-min=13.5km az=82.0*
*DJA **03** 15:30:55.7±0.2, 7°S±3°×13°0E±°, h159km±6km, M4.4/13, mB4.9/7, mb4.3/13, MLv4.5/10, Mw(mB)4.2/7*
*NEIC **03** 15:30:57.1±2.1, 7°.26S±0°.08×129°.55E±0°.07, h138km±7km, mb4.3/29, Error ellipse: s-maj=11.7km s-min=9.4km az=200.0*

ISC 03 15:30:57.4±0.4**, 7°.41S**±0°.04×**129°.55E**±0°.04**, h150**km**, n92, σ1s.81**/100**, mb4.5**/24**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.83	108	Pn	Pn	15 31 30.2	-0.3
SAUI				Sn	Sn	15 31 56.1	+0.1
SAUI	Saumlaki	1.83	108	P	Pn	15 31 30.3	-0.3
SAUI				S	Sn	15 31 56.3	+0.3
SAUI	Saumlaki	1.83	108	P	Pn	15 31 30.5	-0.1
AAI	Ambon	3.94	340	P	Pn	15 31 52.6	-4.4
MSAI	Masohi	4.09	351	P	Pn	15 31 55.1	-3.8
DRS	Darwin Rock St	5.16	165	P	Pn	15 32 15.4	+2.4
MTN	Manton Dam	5.62	164	Pn	Pn	15 32 20.7	+1.6
MTN				Sn	Sn	15 33 22.4	-0.5
MTN	Manton Dam	5.62	164	P	Pn	15 32 21.3	+2.2
KDU	Kakadu	5.98	151	P	Pn	15 32 25.4	+1.5
BATI	Baumata	6.44	244	P	Pn	15 32 30.3	+0.2
	22nm,0.3s,baz=85,slow=3.4,SNR=52						
BATI				S	Sn	15 33 41.6	-1.1
	26nm,0.3s,baz=83,slow=23,SNR=15						
BATI	Baumata	6.44	244	P	Pn	15 32 30.7	+0.6
	0.4nm1μm34nm,0.4s						
SIJI	Sorong	6.72	15	P	Pn	15 32 27.1	-6.8
	5.2nm,0.3s,baz=36,slow=9.9,SNR=39						
SIJI				S	Sn	15 33 37.0	-12
	9.3nm,0.3s,baz=215,slow=23,SNR=10						
SWI	Sorong	6.73	15	P	Pn	15 32 27.9	-6.0
	0.3nm1μm28nm,0.7s						
LBMI	Labuha	7.03	343	P	Pn	15 32 35.3	-2.7
	0.1nm446nm21nm,1.0s						
MMRI	Maumere	7.34	260	Pn	Pn	15 32 41.6	-0.4
MMRI	Maumere	7.34	260	P	Pn	15 32 42.0	-0.1
	0.2nm26nm,1.0s						
KNRA	Kununurra	8.25	185	Pn	Pn	15 32 54.6	+0.4
KNRA				Sn	Sn	15 34 23.2	-2.9
KNRA	Kununurra	8.25	185	P	Pn	15 32 55.4	+1.2
BAKI	Biak	9.00	47	P	Pn	15 33 00.3	-3.9
BASI	Baing, Sumba	9.29	252	P	Pn	15 33 08.0	-0.1
	54nm,1.0s						
WBSI	Waikabubak, Su	10.29	257	P	Pn	15 33 20.0	-1.4
	31nm,0.6s						
FITZ	Fitzroy Crossi	11.28	199	P	Pn	15 33 33.8	-0.6
	11nm,0.3s,baz=18,slow=10,SNR=88						
FITZ				S	Sn	15 35 35.6	-3.5
	4.7nm,0.3s,baz=128,slow=18,SNR=3.3						
PLAI	Plampang	11.74	262	P	Pn	15 33 38.1	-2.3
	14nm,0.6s						
JAY	Jayapura	12.13	67	P	Pn	15 33 42.9	-2.7
	7.3nm,1.1s						
TOLI2	Tolitoli	12.17	314	Pn	Pn	15 33 45.9	-0.2
WB0	Warramunga Arr	13.15	160	Pn	Pn	15 33 57.8	-0.8
WRAB	Tennant Creek	13.29	160	P	Pn	15 34 00.2	-0.2
WRAB	Tennant Creek	13.29	160	P	Pn	15 33 59.9	-0.5
WRA	Warramunga Arr	13.29	160	P	Pn	15 34 00.1	-0.3
	6.1nm,0.3s,baz=343,slow=13,SNR=50						
WRA				S	Sn	15 36 22.0	-5.7
	7.5nm,0.3s,baz=338,slow=21,SNR=15						
WRA	Warramunga Arr	13.29	160	Pn	Pn	15 33 58.6	-1.9
WB2	Warramunga Arr	13.30	160	Pn	Pn	15 33 59.9	-0.6
WR0	Warramunga Arr	13.38	159	P	Pn	15 34 01.5	0.0
COEN	Coen	14.88	117	Pn	Pn	15 34 19.4	-1.1
JAGI	Jajag, Banyuwa	15.29	265		Pn	15 34 24.6	-0.9
JAGI				IAmb	IAmb	15 35 08.4	
	comp=Z,48nm,1.5s						
MYLDM	Lahad Datu	16.68	318	P	Pn	15 34 44.9	+2.4
MYLDM				IAmb	IAmb	15 34 58.4	
	comp=Z,23nm,1.1s						
AS31	Alice Springs	16.69	166		P	15 34 43.9	+1.4
AS31				IAmb	IAmb	15 34 51.0	
	comp=Z,5.2nm,0.5s						
ASAR	Alice Springs	16.69	166	P	Pn	15 34 44.8	+2.1
	comp=Z,2.3nm,0.3s,baz=341,slow=9.3,SNR=52						
ASAR				S	S	15 37 44.0	-4.4
	comp=Z,1.4nm,0.3s,baz=352,slow=24,SNR=7.6						
ASAR	Alice Springs	16.69	166		Pn	15 34 44.1	+1.4
ASAR					S	15 37 43.1	-5.3
PSA00	Pilbara Seismi	16.91	213		Pn	15 34 47.0	+1.7
PSA00				IAmb	IAmb	15 34 49.8	
	comp=Z,12nm,0.7s						
PSA00	Pilbara Seismi	16.91	213	P	P	15 34 46.0	+1.2
PSA00				IAmb	IAmb	15 34 52.4	
	comp=Z,15nm,1.6s						
PMG	Port Moresby	17.53	98	P	Pn	15 34 52.6	-0.2
PMG				IAmb	IAmb	15 35 00.9	
	comp=Z,5.3nm,0.8s						
KKM	Kota Kinabalu	18.86	315	P	Pn	15 35 06.5	-2.1
KKM				IAmb	IAmb	15 35 14.9	
	comp=Z,21nm,0.9s						
UGM	Wanagama	18.86	267	P	P	15 35 06.1	-0.2
UGM				IAmb	IAmb	15 35 19.9	
	comp=Z,34nm,1.2s						
SBUM	Sibu	19.87	299	P	P	15 35 17.5	+0.3
KSM	Kuching	21.13	294	P	P	15 35 30.7	+0.1
GIRL	Giralia	21.13	223	P	P	15 35 33.1	+2.5
FORT	Forrest	23.29	183	P	P	15 35 54.8	+3.0
MORW	Morawa	25.02	209	P	P	15 36 09.8	+2.1
BBOO	Buckleboo	25.98	167	P	P	15 36 18.5	+2.2
STKA	Stephens Creek	26.81	157	P	P	15 36 28.4	+4.8
	comp=Z,0.8nm,0.4s,baz=331,slow=13,SNR=5.3						
STKA	Stephens Creek	26.81	157	P	P	15 36 25.1	+1.4
HNR	Honiara	30.13	96	P	P	15 36 53.2	-0.3
KULM	Kulim	31.48	293	P	P	15 37 04.5	-0.7
RPSI	Rantau Prapat	32.17	287	P	P	15 37 10.1	-1.2
RPSI				IAmb	IAmb	15 37 13.3	
	comp=Z,6.5nm,0.7s						
CMAR	Chiang Mai Arr	39.66	311	P	P	15 38 15.0	0.0
	comp=Z,1.4nm,0.6s,baz=139,slow=7.4,SNR=11						
CMAR				PcP	PcP	15 40 21.1	+2.1
	comp=Z,0.3nm,0.5s,baz=168,slow=3.1,SNR=4.1						
CMAR	Chiang Mai Arr	39.66	311	P	P	15 38 13.3	-1.7
CHTO	Chiang Mai	39.87	311	P	P	15 38 16.0	-0.8
CHTO				IAmb	IAmb	15 38 17.2	
	comp=Z,2.9nm,0.8s						
HHC	Hu-ho-hao-te	50.80	342	eP	P	15 39 45.4	+2.8
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,69nm,5.6s						
ODAN	Odare	53.19	312	eP	P	15 40 00.3	-0.4
	comp=Z,13nm,0.5s						
TAPN	Taplejung	53.23	312	eP	P	15 40 00.2	-0.8
	comp=Z,13nm,0.4s						
RAMN	Ramite	53.83	311	eP	P	15 40 05.1	-0.3
	comp=Z,38nm,0.5s						
JIRN	Jiri	54.52	312	eP	P	15 40 10.0	-0.5
	comp=Z,12nm,0.3s						
GUN	Gumba	54.89	312	eP	P	15 40 12.7	-0.4
	comp=Z,27nm,0.5s						
PKI	Pulchoki	55.05	311	eP	P	15 40 13.9	-0.4
	comp=Z,9.5nm,0.5s						
PKIN	Phulchoki	55.07	311	eP	P	15 40 14.2	-0.1
	comp=Z,8.6nm,0.5s						
KKN	Kakani	55.27	311	eP	P	15 40 15.5	-0.2
	comp=Z,11nm,0.5s						
GKN	Gorkha	55.86	311	eP	P	15 40 19.3	-0.6
	comp=Z,16nm,0.3s						
KOLN	Koldanda	56.52	310	eP	P	15 40 24.8	+0.2
	comp=Z,6.3nm,0.3s						
DANN	Dangsing	56.70	311	eP	P	15 40 25.2	-0.8
	comp=Z,9.1nm,0.6s						
PYUN	Piuthan	57.15	310	eP	P	15 40 28.7	-0.4
	comp=Z,16nm,0.7s						
SONM	Songino Array	58.69	342	P	P	15 40 38.7	-0.6
	comp=Z,0.4nm,0.4s,baz=166,slow=7.2,SNR=7.2						
SONM	Songino Array	58.69	342	P	P	15 40 39.4	+0.1
WMQ	Urumqi	63.50	327	eP	P	15 41 13.6	+1.9
MK31	Makanchi Array	68.33	327	P	P	15 41 41.8	-0.7
MK31				IAmb	IAmb	15 41 43.8	
	comp=Z,2.1nm,0.6s						
MKAR	Makanchi Array	68.33	327	P	P	15 41 42.5	0.0
	comp=Z,2.8nm,0.5s,baz=116,slow=8.3,SNR=49						
MKAR	Makanchi Array	68.33	327	P	P	15 41 42.3	-0.1
MAKZ	Makanchi	68.50	327	P	P	15 41 43.1	-0.5
MAKZ				IAmb	IAmb	15 41 44.8	
	comp=Z,1.9nm,0.6s						
AAK	Ala-Archa	70.57	320	P	P	15 41 57.3	+0.7
GAR	Garm	71.64	315	P	P	15 42 02.5	-0.5
GAR				IAmb	IAmb	15 42 15.7	
	comp=Z,8.6nm,1.3s						
ZAA0	Zalesovo Array	71.75	334	P	P	15 42 01.6	-1.5
ZALV	Zalesovo Beam	71.75	334	P	P	15 42 02.2	-0.9
	comp=Z,0.9nm,0.6s,baz=130,slow=4.6,SNR=4.1						
ZALV	Zalesovo Beam	71.75	334	P	P	15 42 01.2	-2.0
KURK	Kurchatov	72.64	329	P	P	15 42 08.4	-0.1
SBA	Scott Base	72.99	172	P	P	15 42 13.3	+3.1
SOCY	Socotra	77.59	284	P	P	15 42 37.3	-0.4
SOCY				IAmb	IAmb	15 42 50.3	
	comp=Z,4.8nm,0.9s						
ABKAR	Akbulak array	82.55	322	P	P	15 43 03.0	-0.5
ABKAR	Akbulak array	82.55	322	P	P	15 43 03.4	-0.2
TORD	Torodi Ar. Bea	128.45	281	PKP	PKiKP	15 49 49.0	+0.8
	comp=Z,0.2nm,0.4s,baz=44,slow=1.3,SNR=3.6						
TORD	Torodi Ar. Bea	128.45	281		PKPdf	15 49 47.1	-0.4
LVC	Limon Verde	145.11	149	PKPbc	PKiKP	15 50 23.2	+0.8
	comp=Z,1.8nm,0.3s,baz=300,slow=17,SNR=2.2						
LPAZ	La Paz	150.66	143	PKPbc	PKiKP	15 50 35.9	+1.6
	comp=Z,0.7nm,0.3s,baz=66,slow=1.6,SNR=4.3						
LPAZ	La Paz	150.66	143		PKPbc	15 50 32.2	-1.3

*JMA **03** 15:32:33.3±0.1, 24°.67N×122°.07E, h66km±1km, M2.4*
*TAP **03** 15:32:33.9, 24°.71N×122°.08E, h57km, ML3.1, B*

ISC 03 15:32:34.3±1.2**, 24°.72N**±0°.03×**122°.10E**±0°.02**, h56**km±6km**, n119, σ0s.48**/183**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.25	244	P	Pn	15 32 43.3	-0.4
	baz=242						
TWC				eS	Sn	15 32 50.2	-0.2
	baz=242						
NTC	Toucheng	0.28	299	P	Pn	15 32 43.8	-0.1
	baz=301						
NTC				eS	Sn	15 32 50.8	0.0
	baz=301						
TWB1	Santiao Chiao	0.30	341	eP	Pn	15 32 44.2	+0.1
	baz=345						
TWB1				S	Sn	15 32 51.6	+0.4
	baz=345						
ILA	Ilan	0.32	278	eP	Pn	15 32 44.3	+0.1
	baz=279						
ILA				eS	Sn	15 32 52.0	+0.6
	baz=279						
TIPB	Shuangxi	0.35	316	P	Pn	15 32 44.6	0.0
	baz=318						
TIPB				S	Sn	15 32 52.1	+0.2
	baz=318						
NDS	Dongshan	0.36	256	P	Pn	15 32 44.5	-0.1
	baz=256						
NDS				eS	Sn	15 32 51.8	-0.1
	baz=256						
TWE	Neicheng	0.39	270	eP	Pn	15 32 44.9	0.0
	baz=270						
TWE				S	Sn	15 32 52.4	-0.1
	baz=270						
EWUT	Wuta	0.40	227	P	Pn	15 32 44.6	-0.3
	baz=226						
EWUT				S	Sn	15 32 52.7	+0.2
	baz=226						
SXI1	Grass Mountain	0.42	332	P	Pn	15 32 45.4	+0.1
	baz=333						
SXI1				S	Sn	15 32 53.6	+0.4
	baz=333						
ENA	Nanau	0.44	228	P	Pn	15 32 45.2	-0.1
	baz=226						
ENA				eS	Sn	15 32 53.5	+0.3
	baz=226						
NWF	Wu-fen Shan	0.45	321	eP	Pn	15 32 45.8	+0.2
	baz=322						
NWF				S	Sn	15 32 54.1	+0.3
	baz=322						
WFSB	Wu-fen Shan	0.45	321	eP	Pn	15 32 45.7	+0.2
	baz=322						
WFSB				S	Sn	15 32 54.1	+0.5
	baz=322						
FUSB	Fushanzhiwuyua	0.47	275	eP	Pn	15 32 45.8	+0.1
	baz=276						
FUSB				eS	Sn	15 32 53.9	0.0
	baz=276						
ENTT	Nioudou	0.49	261	eP	Pn	15 32 46.1	+0.2
	baz=260						
ENTT				S	Sn	15 32 54.5	+0.2
	baz=260						
TNOU	National Taiwa	0.52	326	P	Pn	15 32 46.2	0.0
	baz=327						
TNOU				eS	Sn	15 32 55.1	+0.2
	baz=327						
TWA	Mucha	0.53	299	P	Pn	15 32 46.2	-0.2
	baz=300						
TWA				eS	Sn	15 32 55.1	0.0
	baz=300						
NWLT	Wulai	0.54	276	P	Pn	15 32 46.4	-0.1
	baz=277						
NWLT				S	Sn	15 32 55.5	+0.1
	baz=277						
NDT	Datong Townshi	0.55	258	eP	Pn	15 32 46.8	+0.3
	baz=258						
NDT				eS	Sn	15 32 55.8	+0.4
	baz=258						
LATG	Datong	0.55	251	eP	Pn	15 32 46.7	0.0
	baz=250						
LATG				eS	Sn	15 32 56.0	+0.3
	baz=250						
NHDH	Xindian Distri	0.57	295	P	Pn	15 32 46.7	-0.1
	baz=296						
NHDH				eS	Sn	15 32 55.5	-0.4
	baz=296						
NHY	Taipei	0.58	304	eP	Pn	15 32 46.9	+0.1
	baz=305						
NHY				S	Sn	15 32 56.4	+0.5
	baz=305						
TATO	Taipei	0.61	295	eP	Pn	15 32 46.9	-0.3
	baz=296						
TATO				eS	Sn	15 32 55.9	-0.7
	baz=296						
TAP	Taipei	0.62	301	P	Pn	15 32 47.2	-0.2
	baz=302						
TAP				eS	Sn	15 32 56.8	-0.1
	baz=302						
YM01	YM01	0.64	312	eP	Pn	15 32 47.5	-0.2
	baz=313						
YM01				eS	Sn	15 32 57.4	0.0
	baz=313						
YM08	YM08	0.66	315	eP	Pn	15 32 48.1	+0.2
	baz=316						
YHNB	Yeheng	0.66	266	P	Pn	15 32 47.9	0.0
	baz=266						
YHNB				S	Sn	15 32 58.1	+0.3
	baz=266						
NSK	Sanguang	0.67	266	P	Pn	15 32 48.0	0.0
	baz=266						
NSK				eS	Sn	15 32 58.5	+0.3
	baz=266						
ETL	Fush Village	0.71	218	eP	Pn	15 32 47.9	-0.5
	baz=217						
NACB	Ninganchiao	0.71	220	eP	Pn	15 32 47.6	-0.9
	baz=219						
NNSB	Datong	0.71	246	eP	Pn	15 32 48.2	-0.4
	baz=246						
NNSB				S	Sn	15 32 59.2	+0.1
	baz=246						
TWY	Chenhua	0.71	321	eP	Pn	15 32 48.7	+0.2
	baz=322						
TWY				eS	Sn	15 32 59.6	+0.7
	baz=322						
NNS	Nan Shan	0.72	247	P	Pn	15 32 48.4	-0.3
	baz=246						
NNS				S	Sn	15 32 59.1	0.0
	baz=246						
TWS1	Kuangyinshan	0.72	302	eP	Pn	15 32 48.6	0.0
	baz=303						
TWS1				eS	Sn	15 32 59.5	+0.3
	baz=303						
NTST	Danshui	0.74	307	eP	Pn	15 32 48.9	+0.1
	baz=308						
NTST				eS	Sn	15 32 59.7	+0.4
	baz=308						
ETLH	Xiulin Townshi	0.76	228	eP	Pn	15 32 48.2	-1.0
	baz=227						
ETLH				eS	Sn	15 32 59.0	-1.0
	baz=227						
TWD	Chiawan	0.78	216	eP	Pn	15 32 48.5	-0.9
	baz=214						
JYNG	Yonagunijimaku	0.82	109	P	Pn	15 32 49.6	-0.2
JYNG				S	Sn	15 33 01.3	+0.1
NCU	National Centr	0.86	287	eP	Pn	15 32 50.6	+0.2
	baz=287						
HWA	Hwalien	0.86	211	eP	Pn	15 32 50.5	0.0
	baz=210						
YOJ	Yonaguni jima	0.87	107	P	Pn	15 32 50.2	-0.3
YOJ				S	Sn	15 33 02.5	+0.1
YOJ	Yonaguni jima	0.87	107	eP	Pn	15 32 50.2	-0.3
	baz=106						
YOJ				eS	Sn	15 33 02.9	+0.5
	baz=106						
NFF	Wufeng Townshi	0.90	265	eP	Pn	15 32 50.6	-0.3
	baz=264						
NFF				eS	Sn	15 33 03.4	+0.3
	baz=264						
PCYT	Pengchaiyu	0.91	358	eP	Pn	15 32 51.4	+0.4
	baz=359						
FUSS	Fushou	0.91	239	eP	Pn	15 32 50.8	-0.5
	baz=238						
ETM	Tongmen	0.93	216	eP	Pn	15 32 49.8	-1.5
	baz=215						
WHF	Hehuan Shan	0.95	233	eP	Pn	15 32 51.1	-0.9
	baz=232						
TWT	Tachien	0.96	241	eP	Pn	15 32 51.8	0.0
	baz=241						
TWT				eS	Sn	15 33 04.7	-0.1
	baz=241						
TEYL	Yanliau Villag	0.96	208	eP	Pn	15 32 51.5	-0.2
	baz=208						
TDCB	Techi	0.97	242	eP	Pn	15 32 51.7	-0.3
	baz=241						
HSN1	Hsinchu	0.98	274	eP	Pn	15 32 52.2	+0.2
	baz=273						
LIOB	Emei	0.99	266	eP	Pn	15 32 52.0	-0.1
	baz=266						
LIOB				eS	Sn	15 33 05.5	+0.3
	baz=266						
NHW	Xinwu Township	1.00	287	eP	Pn	15 32 52.3	+0.2
	baz=287						
NSTT	Nanjuang	1.00	265	eP	Pn	15 32 51.9	-0.3
	baz=265						
NSTT				eS	Sn	15 33 05.6	+0.1
	baz=265						
SBCB	Hsinchu	1.01	274	eP	Pn	15 32 52.6	+0.2
	baz=274						
CHGB	Renai	1.07	232	eP	Pn	15 32 52.8	-0.6
	baz=231						
ESL	Shilin	1.09	214	eP	Pn	15 32 51.7	-1.7
	baz=213						
WHP	Taichung City	1.14	247	eP	Pn	15 32 54.5	+0.4
	baz=247						
WHP				eS	Sn	15 33 09.3	+0.4
	baz=247						
WUSB	Renai	1.15	231	eP	Pn	15 32 53.8	-0.6
	baz=230						
NMLH	Miaoli	1.20	262	eP	Pn	15 32 55.0	0.0
	baz=261						
NSY	Sanyi	1.25	256	eP	Pn	15 32 55.5	-0.1

	baz=256						
NSY				eS	Sn	15 33 11.8	+0.3
	baz=256						
WPL	Puli Township	1.26	236	eP	Pn	15 32 55.7	+0.1
	baz=236						
TWQ1	Liyutan	1.26	253	eP	Pn	15 32 55.6	-0.1
	baz=253						
TWQ1				eS	Sn	15 33 11.6	-0.1
	baz=253						
WCS	Beigang Elemen	1.27	239	eP	Pn	15 32 55.9	+0.1
	baz=238						
WCS				eS	Sn	15 33 12.2	+0.4
	baz=238						
DPDB	Guoxing	1.27	238	eP	Pn	15 32 56.0	+0.1
	baz=237						
DPDB				eS	Sn	15 33 12.4	+0.4
	baz=237						
VWDT	VWDT	1.30	222	eP	Pn	15 32 55.6	-0.5
	baz=221						
HGSD	Ruisui	1.37	207	eP	Pn	15 32 58.0	+0.8
	baz=206						
SMLT	Sun Moon Lake	1.37	233	eP	Pn	15 32 57.7	+0.4
	baz=232						
SMLT				eS	Sn	15 33 15.6	+1.0
	baz=232						
TYC	Yuchr	1.39	235	eP	Pn	15 32 57.9	+0.4
	baz=233						
TYC				eS	Sn	15 33 15.1	+0.3
	baz=233						
SSLB	Suanglung	1.40	229	eP	Pn	15 32 57.7	+0.1
	baz=228						
SSLB				eS	Sn	15 33 15.3	+0.3
	baz=228						
EHY	Hungye	1.40	211	eP	Pn	15 32 57.2	-0.4
	baz=209						
WWF	Wufeng	1.44	242	eP	Pn	15 32 58.5	+0.4
	baz=242						
WWF				eS	Sn	15 33 16.4	+0.3
	baz=242						
YULB	Yu-li	1.51	209	eP	Pn	15 32 58.9	-0.2
	baz=208						
IRIF	Iriomote-Funau	1.54	104	P	Pn	15 32 59.0	-0.4
IRIF				S	Sn	15 33 17.9	-0.4
WJS	Zhushan	1.54	235	eP	Pn	15 33 00.1	+0.7
	baz=234						
WJS				eS	Sn	15 33 18.6	+0.3
	baz=234						
WNT	Mingjian	1.54	237	eP	Pn	15 32 59.6	+0.1
	baz=236						
WNT				eS	Sn	15 33 18.7	+0.3
	baz=236						
EYUL	Yuli	1.54	208	eP	Pn	15 33 00.1	+0.6
	baz=207						
TWF1	Yuli	1.55	208	eP	Pn	15 32 59.8	+0.2
	baz=207						
YUS	Yu-Shan	1.61	221	eP	Pn	15 33 01.0	+0.1
	baz=220						
FULB	Fuli	1.68	206	eP	Pn	15 33 02.2	+0.7
	baz=205						
ALS	Alishan	1.69	225	eP	Pn	15 33 02.0	+0.3
	baz=224						
ALS				eS	Sn	15 33 22.9	+0.5
	baz=224						
HATJ	Hateruma jima	1.69	113	P	Pn	15 33 01.6	+0.1
CHN5	Tsauling	1.71	230	eP	Pn	15 33 02.1	+0.2
	baz=229						
CHN5				eS	Sn	15 33 23.2	+0.5
	baz=229						
WGK	Gukeng	1.74	234	eP	Pn	15 33 02.3	+0.2
	baz=233						
WDLH	Douliu	1.75	235	eP	Pn	15 33 02.5	+0.2
	baz=234						
WDLH				eS	Sn	15 33 24.0	+0.3
	baz=234						
WRL	Guolierlin Hig	1.77	243	eP	Pn	15 33 01.8	-0.8
	baz=242						
JKRS	Kuro-shima	1.81	105	P	Pn	15 33 03.1	0.0
JKRS				S	Sn	15 33 25.2	+0.3
ELDTW	Lidau	1.82	213	eP	Pn	15 33 02.8	-0.6
	baz=212						
WTK	Tuku	1.87	237	eP	Pn	15 33 03.4	-0.5
	baz=236						
EDH	Donghe	1.89	203	eP	Pn	15 33 04.0	-0.1
	baz=202						
JIJ	Ishigaki jima	1.90	100	P	Pn	15 33 04.1	-0.2
JIJ				S	Sn	15 33 26.5	-0.6
TPUB	Ta-pu	1.95	224	eP	Pn	15 33 05.5	+0.5
	baz=223						
TPUB				eS	Sn	15 33 28.8	+0.3
	baz=223						
STYH	Taoyuan	1.96	218	eP	Pn	15 33 05.9	+0.8
	baz=217						
STYT	Tauyuan	1.98	219	eP	Pn	15 33 05.7	+0.2
	baz=217						
STYT				eS	Sn	15 33 29.1	0.0
	baz=217						
WTP	Ta-pu	2.00	223	eP	Pn	15 33 06.3	+0.6
	baz=222						
WTP				eS	Sn	15 33 29.9	+0.2
	baz=222						
LONT	Longtian	2.01	206	eP	Pn	15 33 06.9	+1.0
	baz=205						
JISG	Ishigakijimahi	2.02	93	P	Pn	15 33 05.9	0.0
JISG				eS	Sn	15 33 30.3	+0.3
TWK	Hsinying	2.06	226	eP	Pn	15 33 07.2	+0.5
	baz=225						
CHN1	Nanshi	2.10	224	eP	Pn	15 33 06.0	-1.0
	baz=223						
CHN1				eS	Sn	15 33 32.4	+0.4
	baz=223						
TWGBT	Beinan	2.11	206	eP	Pn	15 33 06.4	-0.8
	baz=205						
LDUT	Ludao	2.12	196	eP	Pn	15 33 07.8	+0.4
	baz=195						
SGST	Jiashian	2.14	221	eP	Pn	15 33 08.1	+0.4
	baz=220						
SGST				eS	Sn	15 33 33.0	-0.1
	baz=220						
ICHU	Yijhu	2.14	231	eP	Pn	15 33 08.3	+0.6
	baz=230						
SLGT	Liugui	2.17	218	eP	Pn	15 33 08.9	+0.8
	baz=217						
SLGT				eS	Sn	15 33 34.2	+0.4
	baz=217						
SCST	Cishan	2.34	219	eP	Pn	15 33 10.5	+0.1
	baz=218						
SSD	Sandimen	2.38	215	eP	Pn	15 33 12.0	+1.1
	baz=213						
TSMG	Majia	2.41	214	eP	Pn	15 33 12.0	+0.7
	baz=213						
MATB	Ma-tsu	2.41	307	eP	Pn	15 33 10.8	-0.6
	baz=306						
MASBT	Mashibuluo	2.49	213	eP	Pn	15 33 12.7	+0.3
	baz=212						
MASBT				eS	Sn	15 33 41.6	0.0
	baz=212						
EAST	Anshuo	2.59	206	eP	Pn	15 33 14.7	+0.8
	baz=205						
PHUB	P'eng-hu	2.60	243	eP	Pn	15 33 14.2	+0.3
	baz=242						
SCZT	Fangliau	2.70	210	eP	Pn	15 33 15.8	+0.5
	baz=209						
SLIU	Shizi	2.76	206	eP	Pn	15 33 17.1	+1.0
	baz=205						
LYJJ	Jianjiangzhen	2.79	311	eP	Pn	15 33 16.1	-0.3
	baz=311						
XPSS	Dashiqiu	2.79	322	eP	Pn	15 33 15.6	-0.9
	baz=322						
MHZQ	Yeshan	3.10	297	eP	Pn	15 33 20.2	-0.5
	baz=296						
KNM	Kinmen	3.35	266	eP	Pn	15 33 24.4	+0.3
	baz=264						
KNMB	Chin-men Tao	3.39	266	eP	Pn	15 33 23.3	-1.4
	baz=265						
AXDP	Jialang	3.75	274	eP	Pn	15 33 28.8	-1.0
	baz=272						
ZPLA	Ao Xicun	4.04	260	eP	Pn	15 33 32.3	-1.4
	baz=258						

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*IDC **03** 15:42:49.1±2.1, 30.°49N×114.°11W, h0km, mb3.7/4, mb1 3.6/9, mb1mx3.5/47, mbtmp3.3/9, ML3.2/5, MS3.1/6, Ms1 3.1/6, ms1mx2.8/81, Error ellipse: s-maj=36.1km s-min=14.1km az=25.0*

*ECX **03** 15:42:51.1±0.3, 30.°62N×114.°23W, h7km±9km, MD3.8, ML4.0*

ISC 03 15:42:50.2±0.8**, 30.°55N**±0.°06×**114.°22W**±0.°05**, h10**km**, n20, σ1.s80**/22**, mb3.9**/4**, 2C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.73	312	⇓eP	Pg	15 43 02.8	-1.6
SFX				eS	Sg	15 43 12.3	-1.7
SFX				IAML		15 43 14.7	
	comp=E,8μm,0.7s						
SFX				⇑e		15 43 14.7	
LAPR	La Primavera	1.64	91	eP	Pb	15 43 19.4	-1.1
LAPR				eS	Sb	15 43 41.4	+0.2
LAPR				IAML		15 43 53.7	
	comp=N,4μm,1.0s						
LAPR				⇑e		15 43 53.7	
BAHB	Baha de los	1.69	160	eP	Pg	15 43 21.4	-1.3
SVX	San Vicente	1.91	295	eP	Pn	15 43 22.3	-0.6
SVX				eS	Sb	15 43 47.7	-1.5
YMD	Yuma Desert	2.02	352	eP	Pn	15 43 22.1	-2.3
CPBX	Cerro Prieto	2.09	334	eP	Pn	15 43 25.4	+0.2
CPBX				IAML		15 44 17.2	
	comp=E,2μm,0.5s						
CPBX				⇓e		15 44 17.2	
CPBX				IAML		15 44 34.1	
	comp=N,3μm,0.8s						
YUH2	Yuha Desert	2.55	326	eP	Pn	15 43 30.8	-0.9
GLA	Glamis	2.55	348	eP	Pn	15 43 29.8	-1.9
PFO	Pinyon Flats O	3.60	329	Pn	Pn	15 43 45.9	-0.3
	comp=N,0.4nm,0.3s,baz=128,slow=14,SNR=4.7						
PFO				Pg	Pg	15 43 58.4	-0.9
	comp=N,1.5nm,0.3s,baz=140,slow=14,SNR=6.5						
PFO				LR	LR	15 44 28.2	
	comp=N,73nm,21.4s,baz=156,slow=27						
PFO				Lg	Lg	15 44 42.3	
	comp=N,7.0nm,0.3s,baz=33,slow=7.6,SNR=6.3						
LPIG	La Paz	7.30	151	LR	LR	15 47 20.5	
	comp=N,156nm,21.3s,baz=337,slow=38						
ANMO	Albuquerque	7.87	54	Pn	Pn	15 44 45.9	+1.0
	comp=N,0.2nm,0.3s,baz=218,slow=0.5,SNR=2.4						
ANMO				Sn	Sn	15 46 10.9	-3.2
	comp=N,0.2nm,0.3s,baz=254,slow=10,SNR=2.2						
ANMO				Lg	Lg	15 46 58.0	
	comp=N,0.2nm,0.3s,baz=343,slow=19,SNR=1.5						
ANMO				LR	LR	15 47 47.4	
	comp=N,60nm,19.9s,baz=262,slow=38						
NVAR	Mina Array Bea	8.56	338	Pn	Pn	15 44 57.3	+3.0
	comp=N,0.1nm,0.3s,baz=194,slow=11,SNR=2.5						
TXAR	Lajitas Array	9.23	95	Pn	Pn	15 45 02.8	-0.8
	comp=N,0.1nm,0.3s,baz=266,slow=14,SNR=3.5						
TXAR				Lg	Lg	15 47 37.4	
	comp=N,0.2nm,0.3s,baz=254,slow=30,SNR=3.4						
TXAR				LR	LR	15 48 57.1	
	comp=N,175nm,18.7s,baz=287,slow=40						
PDAR	Pinedale Array	12.76	16	Pn	Pn	15 45 55.5	+3.7
	comp=N,0.0nm,0.3s,baz=208,slow=13,SNR=1.6						
TKL	Tuckaleechee C	25.95	71	LR	LR	15 59 03.4	
	comp=N,69nm,20.3s,baz=350,slow=38						
YKA	Yellowknife Ar	31.96	360	P	P	15 49 16.9	+0.9
	comp=N,0.1nm,0.4s,baz=120,slow=38,SNR=1.6						
ILAR	Eielson Array	39.81	339	P	P	15 50 25.1	+1.8
	comp=N,0.8nm,0.7s,baz=154,slow=7.7,SNR=13						
SDV	Santo Domingo	45.96	109	LR	LR	16 13 08.4	
	comp=N,51nm,20.1s,baz=84,slow=40						
ARCES	ARCESS Array B	76.00	14	P	P	15 54 38.0	+0.9
	comp=N,5.3nm,1.1s,baz=14,slow=20,SNR=1.6						
FINES	FINESS Array B	82.84	18	P	P	15 55 15.5	+0.9
	comp=N,1.5nm,0.8s,baz=0.0,slow=2.1,SNR=2.6						

IDC 03 15:43:41.4±4.5**, 2.°46N**×**128.°02E, h163**km±47km**, mb3.0**/4**, mb1 3.2**/5**, mb1mx3.0**/35**, mbtmp3.5**/5**, Error ellipse: s-maj=102.7km s-min=24.8km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.64	136	P	Pn	15 44 49.5	-0.8
	1.6nm,0.3s,baz=48,slow=16,SNR=2.8						
SIJI				S	Sn	15 45 34.1	-10
	baz=186,slow=22,SNR=1.4						
WRA	Warramunga Arr	23.12	165	P	P	15 48 33.5	+0.3
	0.2nm,0.3s,baz=342,slow=10,SNR=25						
ASAR	Alice Springs	26.60	168	P	P	15 49 05.4	+0.7
	0.3nm,0.3s,baz=349,slow=7.6,SNR=24						
ASAR				PcP	PcP	15 52 23.1	-1.8
	0.1nm,0.5s,baz=358,slow=2.2,SNR=4.1						
STKA	Stephens Creek	36.51	160	P	P	15 50 30.6	-0.6
	0.5nm,0.3s,baz=346,slow=10,SNR=3.0						
MKAR	Makanchi Array	59.32	325	P	P	15 53 26.7	+0.5
	0.2nm,0.5s,baz=118,slow=7.5,SNR=2.3						

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*NEIC **03** 15:56:27.2±1.9, 22.°22S±0.°05×179.°39W±0.°10, h572km±5km, mb4.8/123, Error ellipse: s-maj=13.1km s-min=6.9km az=97.0*

*BJI **03** 15:56:27.0±0.0, 21.°92S×179.°06W, h585km, mb4.8/37, mB4.9/19*

*NOU **03** 15:56:28.6, 22.°16S×179.°32W, h591km, mb4.9/80, South of Fiji Islands*

*IDC **03** 15:56:29.2±0.6, 22.°19S×179.°60W, h586km±5km, mb4.1/27, mb1 4.2/30, mb1mx4.0/51, mbtmp5.0/30, Error ellipse: s-maj=9.9km s-min=8.6km az=147.0*

*BGR **03** 15:56:29.8±0.0, 22.°08S×179.°07W, h590km*

ISC 03 15:56:28.6±0.3**, 22.°23S**±0.°04×**179.°41W**±0.°05**, h592**km**, n494, σ1.s28**/531**, mb4.9**/129**, 38C-80D, Fault plane solution: NP1:**φs342.82483°**,** δ85.86624°**,** λ-72.86457°. **NP2:**φs85.98431°**,** δ17.61245°**,** λ-166.21747°. **Principal axes:** T Plg38.5348°**,** Azm57.3785°**;** N Plg17.0895°**,** Azm161.5516°**;** P Plg46.4633°**,** Azm270.4298°**; South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.07	331	P	P	15 58 01.3	-0.4
	220nm,0.3s,baz=184,slow=5.0,SNR=742						
MSVF				S	S	15 59 16.1	-1.5
	baz=289,slow=21,SNR=1.1						
MSVF	Nonsavu	5.07	331	P	P	15 58 01.3	-0.4
MSVF				S	S	15 59 15.1	-2.5
MSVF	Nonsavu	5.07	331	P	P	15 58 01.7	0.0
RIZ	Raoul Island	7.11	169	P	P	15 58 18.2	-0.9
RAO	Raoul Island	7.12	169	P	P	15 58 18.7	-0.5
	361nm,0.3s,baz=49,slow=10,SNR=13						
RAO	Raoul Island	7.12	169	P	P	15 58 18.1	-1.1
RAO	Raoul Island	7.12	169	P	P	15 58 19.0	-0.2
GLKZ	Green Lake	7.13	169	P	P	15 58 19.1	-0.2
GLKZ				S	S	15 59 47.7	-2.4
NIUE	Niue	9.42	72	P	P	15 58 42.0	+0.6
	baz=9.5,SNR=7.7						
NIUE	Niue	9.42	72	P	P	15 58 39.0	-2.5
NIUE				S	S	16 00 34.2	+3.7
AFI	Afiamalu	11.00	43	S	S	16 00 51.6	-8.0
	1.4nm,0.3s,baz=349,slow=23,SNR=1.7						
AFI	Afiamalu	11.00	43	P	P	15 58 56.0	-1.4
MARNC	Mare, Loyalty	11.69	271	P	P	15 59 03.3	-0.8
MARNC	Mare, Loyalty	11.69	271	P	P	15 59 03.9	-0.2
PINNC	Pines Island,	12.16	266	P	P	15 59 08.0	-0.9
PINNC	Pines Island,	12.16	266	P	P	15 59 08.9	0.0
DVP	Devils Point	12.49	289	P	P	15 59 14.5	+2.2
LIFNC	LIFOU	12.51	274	P	P	15 59 10.8	-1.6
YATNC	Mamie plateau,	12.70	268	P	P	15 59 15.8	+1.4
OUENC	Ouen Island, N	12.73	267	P	P	15 59 15.4	+0.8
OUENC	Ouen Island, N	12.73	267	P	P	15 59 14.4	-0.3
ONTNC	Ouen Toro	13.09	267	P	P	15 59 19.1	+0.8
DZM	Mont Dzumac	13.11	268	P	P	15 59 17.5	-1.2
	4.1nm,0.3s,baz=80,slow=21,SNR=40						
DZM	Mont Dzumac	13.11	268	eP	P	15 59 20.7	+2.0
	38nm,0.8s						
DZM	Mont Dzumac	13.11	268	P	P	15 59 17.7	-1.0
DZM	Mont Dzumac	13.11	268	P	P	15 59 18.3	-0.4
NOUC	Port Laguerre	13.24	268	P	P	15 59 22.4	+2.5
OUZ	Omahuta	14.32	204	P	P	15 59 32.8	+2.3
OUZ	Omahuta	14.32	204	P	P	15 59 32.8	+2.3
SANVU	Saraoutou	14.35	296	P	P	15 59 29.7	-1.4
SANVU	Saraoutou	14.35	296	P	P	15 59 32.1	+1.1
WCZ	Waipu Caves	14.71	200	P	P	15 59 26.1	-7.9
KUZ	Kuaotunu	15.07	195	P	P	15 59 38.1	+0.7
WIAZ	Waiheke Island	15.27	197	P	P	15 59 41.0	+1.8
MXZ	Matakaoa Point	15.41	187	P	P	15 59 40.5	-0.1
MXZ				IAmb	IAmb	16 00 10.6	
	comp=Z,58nm,1.1s						
HAZ	Te Kaha	15.66	188	P	P	15 59 42.2	-0.8
HAZ				S	S	16 02 15.6	-5.9
RUGZ	Raukumara Rang	15.88	188	P	P	15 59 45.0	-0.2
RUGZ				S	S	16 02 23.3	-2.1
PUZ	Puketiti	15.92	187	P	P	15 59 45.5	+0.2
PUZ				S	S	16 02 23.0	-2.7
TWGZ	Tauwhareparae	16.05	187	P	P	15 59 46.5	-0.1
TWGZ				S	S	16 02 27.3	-0.8
TOZ	Tahuroa Road	16.06	195	P	P	15 59 48.6	+2.0
KARZ	Kaharoa	16.18	192	P	P	15 59 48.9	+1.2
URZ	Urewera	16.26	190	P	P	15 59 46.4	-2.0
	comp=Z,4.9nm,0.3s,baz=280,slow=2.3,SNR=32						
URZ				S	S	16 02 26.1	-5.1
	comp=Z,1.0nm,0.3s,baz=356,slow=22,SNR=3.1						
URZ	Urewera	16.26	190	P	P	15 59 45.3	-3.1
URZ				IAmb	IAmb	15 59 53.0	
	comp=Z,18nm,0.6s						
URZ	Urewera	16.26	190	P	P	15 59 46.3	-2.1
URZ				S	S	16 02 25.1	-6.1
URZ	Urewera	16.26	190	P	P	15 59 47.6	-0.8
MWZ	Matawai	16.27	189	P	P	15 59 47.6	-0.9
MWZ				S	S	16 02 27.2	-4.3
CNGZ	Carnagh Statio	16.33	187	P	P	15 59 49.4	+0.3
MUGZ	Murupara	16.52	191	P	P	15 59 50.1	-0.7
MUGZ				S	S	16 02 36.2	+0.6
HIZ	Hauiti	16.96	196	P	P	15 59 52.7	-2.1
HIZ				IAmb	IAmb	16 00 04.8	
	comp=Z,68nm,1.4s						
BKZ	Black Stump Fm	17.24	191	P	P	15 59 55.2	-2.3
BKZ				IAmb	IAmb	16 00 16.1	
	comp=Z,46nm,1.7s						
BKZ	Black Stump Fm	17.24	191	P	P	15 59 56.7	-0.8
BFZ	Birch Farm	18.76	190	P	P	16 00 12.1	+0.9
QRZ	Quartz Range	19.75	198	P	P	16 00 22.3	+2.1
THZ	Tophouse	20.52	197	P	P	16 00 26.5	-0.7
THZ				IAmb	IAmb	16 01 00.8	
	comp=Z,35nm,1.3s						
KHZ	Kahutara	20.98	195	P	P	16 00 31.2	0.0
LTZ	Lake Taylor	21.64	197	P	P	16 00 35.7	-1.5
LTZ				IAmb	IAmb	16 01 13.1	
	comp=Z,68nm,1.7s						
RPZ	Rata Peaks	22.84	198	P	P	16 00 48.5	+0.7
	comp=Z,3.8nm,0.5s,baz=303,slow=2.5,SNR=5.7						
HNR	Honiara	23.54	299	P	P	16 00 54.5	+0.1
	comp=Z,36nm,0.4s,baz=165,slow=7.1,SNR=3.9						
HNR	Honiara	23.54	299	P	P	16 00 52.9	-1.6
MLZ	Mavora Lakes	25.24	201	P	P	16 01 10.2	+1.1
MLZ				IAmb	IAmb	16 01 45.3	
	comp=Z,47nm,1.4s						
ARMA	Armidale	27.15	246	P	P	16 01 27.7	+1.5
	baz=27,SNR=30						
ARMA	Armidale	27.15	246	P	P	16 01 26.6	+0.4
ARMA				IAmb	IAmb	16 01 28.4	
	comp=Z,24nm,0.9s						
ARMA	Armidale	27.15	246	P	P	16 01 27.9	+1.7
EIDS	Eidsvold	27.15	258	P	P	16 01 26.3	+0.2
	baz=27,SNR=8.5						
EIDS	Eidsvold	27.15	258	P	P	16 01 25.7	-0.5
EIDS				IAmb	IAmb	16 01 27.2	
	comp=Z,19nm,0.5s						
EIDS	Eidsvold	27.15	258	P	P	16 01 27.1	+0.9
MGCD	Mangrove Creek	28.21	241	P	P	16 01 36.9	+1.7
	baz=28,SNR=19						
MGCD	Mangrove Creek	28.21	241	P	P	16 01 37.3	+2.1
PPT2	Papeete2	28.40	86	eP	P	16 01 37.0	-0.2
	comp=Z,28nm,0.6s						
PPTF	Pamatai, Papee	28.41	86	P	P	16 01 38.1	+0.8
RMQ	Roma	29.26	255	P	P	16 01 45.7	+1.2
	baz=29,SNR=29						
RMQ	Roma	29.26	255	P	P	16 01 46.7	+2.2
CNB	Canberra Magne	30.18	237	P	P	16 01 53.7	+1.4
	baz=30,SNR=30						
CNB	Canberra Magne	30.18	237	P	P	16 01 54.0	+1.7
CAN	Canberra	30.47	238	P	P	16 01 55.1	+0.4
CAN				IAmb	IAmb	16 01 56.4	
	comp=Z,19nm,0.7s						
CAN	Canberra	30.47	238	P	P	16 01 55.8	+1.1
PMOR	Pomariorio Ree	30.68	82	eP	P	16 01 56.6	-0.1
	comp=Z,126nm,1.2s						
CTA	Charters Tower	32.05	267	P	P	16 02 08.6	+0.1
	comp=Z,49nm,0.5s,baz=93,slow=10,SNR=102						
CTA				PcP	PcP	16 04 40.6	+1.0
	comp=Z,4.0nm,0.5s,baz=100,slow=12,SNR=2.4						
CTA	Charters Tower	32.05	267	P	P	16 02 08.5	+0.1
CMSA	Cobar Meteorol	32.36	246	P	P	16 02 11.5	+0.7
	baz=32,SNR=100						
CMSA	Cobar Meteorol	32.36	246	P	P	16 02 11.8	+0.9
QLP	Quilpie	33.32	255	P	P	16 02 19.2	+0.2
	baz=33,SNR=40						
QLP	Quilpie	33.32	255	P	P	16 02 20.0	+1.1
KWAJ	Kwajalein Atol	33.36	336	P	P	16 02 19.2	-0.1
TOO	Toolangi	33.83	235	P	P	16 02 23.8	+0.7
	baz=34,SNR=14						
TOO	Toolangi	33.83	235	P	P	16 02 23.4	+0.3
TOO				IAmb	IAmb	16 02 24.8	
	comp=Z,25nm,0.7s						
TOO	Toolangi	33.83	235	P	P	16 02 24.5	+1.4
MTSU	Mount Surprise	34.24	270	P	P	16 02 26.7	0.0
	baz=34,SNR=37						
MTSU	Mount Surprise	34.24	270	P	P	16 02 27.4	+0.6
TAU	Tasmania Unive	34.48	225	P	P	16 02 28.9	+0.5
TAU				IAmb	IAmb	16 02 36.0	
	comp=Z,57nm,1.4s						
TAU	Tasmania Unive	34.48	225	P	P	16 02 30.5	+2.1
	comp=Z,40nm,3.0s						
PMG	Port Moresby	34.50	286	P	P	16 02 28.7	-0.3
	comp=Z,83nm,0.8s,baz=85,slow=5.6,SNR=67						
PMG				ScP	ScP	16 07 39.6	+3.2
	comp=Z,5.3nm,0.8s,baz=92,slow=11,SNR=3.2						
PMG	Port Moresby	34.50	286	P	P	16 02 28.6	-0.3
PMG	Port Moresby	34.50	286	P	P	16 02 29.1	+0.1
PMG	Port Moresby	34.50	286	P	P	16 02 29.0	+0.1
STKA	Stephens Creek	35.87	246	P	P	16 02 40.5	+0.4
	comp=Z,23nm,0.5s,baz=94,slow=11,SNR=76						
STKA				ScP	ScP	16 07 43.9	+2.7
	comp=Z,3.3nm,0.7s,baz=75,slow=7.8,SNR=4.0						
STKA	Stephens Creek	35.87	246	P	P	16 02 40.9	+0.9
	baz=36,SNR=40						
STKA	Stephens Creek	35.87	246	P	P	16 02 40.7	+0.6
STKA	Stephens Creek	35.87	246	P	P	16 02 41.0	+0.9
PATS	Pohnpei	36.20	320	P	P	16 02 43.0	0.0
	baz=36,SNR=3.7						
PATS	Pohnpei	36.20	320	P	P	16 02 43.1	+0.1
INKA	Innaminka	36.42	253	P	P	16 02 46.3	+1.7
COEN	Coen	36.42	277	P	P	16 02 45.0	+0.1
COEN				IAmb	IAmb	16 02 46.1	
	comp=Z,21nm,0.7s						
COEN	Coen	36.42	277	P	P	16 02 45.7	+0.8
ARPS	Mount Arapiles	36.45	238	P	P	16 02 45.3	+0.6
	baz=36,SNR=6.6						
ARPS	Mount Arapiles	36.45	238	P	P	16 02 44.9	+0.2
	comp=Z,27nm,0.8s						
QIS	Mount Isa	38.12	265	P	P	16 02 57.9	-0.7
	baz=38,SNR=16						
QIS	Mount Isa	38.12	265	P	P	16 02 58.3	-0.3
HTT	Hallett	38.27	244	P	P	16 03 00.1	+0.4
	baz=38,SNR=17						
HTT	Hallett	38.27	244	P	P	16 03 00.8	+1.1
LCRK	Leigh Creek	38.67	249	P	P	16 03 03.8	+0.9
BBOO	Buckleboo	40.62	245	P	P	16 03 18.4	-0.1
	baz=41,SNR=42						
BBOO	Buckleboo	40.62	245	P	P	16 03 18.4	-0.1
BBOO				IAmb	IAmb	16 03 18.8	
	comp=Z,25nm,0.6s						
BBOO	Buckleboo	40.62	245	P	P	16 03 18.7	+0.3
OOD	Oodnadatta	40.90	253	P	P	16 03 21.9	+1.2
MULG	Mulgathing	42.26	249	P	P	16 03 31.7	+0.3
AS31	Alice Springs	42.87	259	P	P	16 03 36.1	-0.2
AS31				IAmb	IAmb	16 03 36.9	
	comp=Z,14nm,0.7s						
AS31					S	16 09 18.4	-0.8
ASAR	Alice Springs	42.87	259	P	P	16 03 35.7	-0.6
	comp=Z,63nm,0.8s,baz=99,slow=7.9,SNR=810						
ASAR				PcP	PcP	16 05 14.2	+0.7
	comp=Z,4.6nm,0.6s,baz=99,slow=4.0,SNR=7.1						
ASAR				ScP	ScP	16 08 12.3	+3.6
	comp=Z,2.1nm,0.8s,baz=105,slow=4.7,SNR=6.4						
ASAR				S	S	16 09 17.1	-2.2
	comp=Z,4.2nm,0.9s,baz=95,slow=16,SNR=17						
ASAR	Alice Springs	42.87	259	P	P	16 03 36.1	-0.2
WR0	Warramunga Arr	42.90	264	P	P	16 03 35.6	-0.9
WR0				IAmb	IAmb	16 03 36.6	
	comp=Z,17nm,0.5s						
WB0	Warramunga Arr	43.07	264	P	P	16 03 37.1	-0.8
WB2	Warramunga Arr	43.08	264	P	P	16 03 37.2	-0.8
WRAB	Tennant Creek	43.08	264	P	P	16 03 37.2	-0.7
WRAB				IAmb	IAmb	16 03 38.0	
	comp=Z,50nm,0.9s						

WRAB Tennant Creek 43.08 264 P **P** **16 03 37.4 -0.5**
WRA Warramunga Arr 43.09 264 P **P** **16 03 37.2 -0.8**
comp=Z,23nm,0.3s,baz=94,slow=8.1,SNR=990
WRA ScP **ScP** **16 08 13.2 +3.5**
comp=Z,6.8nm,1.0s,baz=95,slow=4.3,SNR=12
WRA S **S** **16 09 18.8 -3.6**
comp=Z,1.3nm,0.7s,baz=100,slow=14,SNR=4.4
WRA Warramunga Arr 43.09 264 P **P** **16 03 35.9 -2.2**
WRA **ScP** **16 08 13.8 +4.1**
WRA S **16 09 14.5 -7.9**
JAY Jayapura 43.39 291 P **P** **16 03 40.0 -0.4**
comp=Z,60nm,0.6s,baz=172,slow=4.3,SNR=27
WAKE Wake Island 43.45 341 P **P** **16 03 41.0 +0.3**
KDU Kakadu 46.70 273 P **P** **16 04 04.9 -0.7**
baz=47,SNR=31
KDU Kakadu 46.70 273 P **P** **16 04 05.4 -0.2**
FORT Forrest 47.42 248 P **P** **16 04 10.5 -0.3**
baz=47,SNR=38
FORT Forrest 47.42 248 P **P** **16 04 10.2 -0.6**
FORT Forrest 47.42 248 P **P** **16 04 11.9 +1.1**
WRKA Warakurna 47.75 256 P **P** **16 04 13.3 -0.1**
baz=48,SNR=336
WRKA Warakurna 47.75 256 P **P** **16 04 13.4 -0.1**
MTN Manton Dam 47.89 273 P **P** **16 04 13.8 -0.7**
baz=48,SNR=17
MTN Manton Dam 47.89 273 P **P** **16 04 13.6 -1.0**
MTN IAmb IAmb 16 04 14.3
comp=Z,32nm,0.6s
MTN Manton Dam 47.89 273 P **P** **16 04 14.5 -0.1**
KNRA Kununurra 49.26 268 P **P** **16 04 24.4 -0.2**
baz=49,SNR=86
KNRA Kununurra 49.26 268 P **P** **16 04 24.4 -0.2**
KNRA Kununurra 49.26 268 P **P** **16 04 24.7 +0.1**
SAUI Saumlaki 49.42 279 P **P** **16 04 25.9 +0.1**
FITZ Fitzroy Crossi 51.52 264 P **P** **16 04 41.1 +0.1**
comp=Z,14nm,0.3s,baz=79,slow=5.5,SNR=272
FITZ Fitzroy Crossi 51.52 264 P **P** **16 04 41.2 +0.1**
baz=51,SNR=48
FITZ Fitzroy Crossi 51.52 264 P **P** **16 04 41.1 +0.1**
FITZ IAmb IAmb 16 04 42.1
comp=Z,62nm,1.4s
FITZ Fitzroy Crossi 51.52 264 P **P** **16 04 42.1 +1.1**
BNDI Bandanaira 52.07 282 P **P** **16 04 46.2 +1.2**
SIJI Sorong 52.44 287 P **P** **16 04 47.5 -0.2**
comp=Z,196nm,0.7s,baz=93,slow=5.2,SNR=95
SWI Sorong 52.45 287 P **P** **16 04 47.5 -0.3**
comp=Z,2µmcomp=Z,353nm,0.8s
MSAI Masohi 53.44 283 P **P** **16 04 53.6 -1.2**
comp=Z,184nmcomp=Z,15nm,0.5s
AAI Ambon 53.96 282 P **P** **16 04 57.5 -1.0**
comp=Z,1µmcomp=Z,114nm,0.5s
BATI Baumata 55.67 273 P **P** **16 05 11.7 +1.3**
comp=Z,64nm,0.8s
LBMI Labuha 55.90 285 P **P** **16 05 11.6 -0.3**
comp=Z,904nmcomp=Z,81nm,0.7s
PSA00 Pilbara Seismi 56.01 258 P **P** **16 05 12.2 -0.4**
PSA00 IAmb IAmb 16 05 13.0
comp=Z,55nm,1.0s
PSA00 Pilbara Seismi 56.01 258 P **P** **16 05 12.5 -0.1**
VNDA Vanda 56.08 185 P **P** **16 05 14.7 +2.6**
comp=Z,2.0nm,0.5s,baz=351,slow=7.2,SNR=11
KLBR Kellerberrin 56.15 246 P **P** **16 05 13.6 +0.2**
baz=56,SNR=9.1
KLBR Kellerberrin 56.15 246 P **P** **16 05 13.7 +0.3**
SANI Sanana 56.65 283 P **P** **16 05 16.0 -1.1**
comp=Z,66nm,1.0s
SANI Sanana 56.65 283 P **P** **16 05 16.5 -0.6**
TNTI Ternate 56.66 287 P **P** **16 05 16.7 -0.4**
TNTI IAmb IAmb 16 05 17.8
comp=Z,64nm,1.0s
TNTI Ternate 56.66 287 P **P** **16 05 16.2 -0.9**
comp=Z,744nmcomp=Z,70nm,1.0s
BLDU Ballidu 57.16 247 P **P** **16 05 20.2 -0.2**
baz=57,SNR=29
BLDU Ballidu 57.16 247 P **P** **16 05 20.4 0.0**
MUN Mundaring 57.40 245 P **P** **16 05 22.4 +0.4**
baz=57,SNR=5.3
MUN Mundaring 57.40 245 P **P** **16 05 21.8 -0.2**
comp=Z,28nm,1.0s
MMRI Maumere 57.53 274 P **P** **16 05 22.6 -0.5**
MMRI Maumere 57.53 274 P **P** **16 05 22.6 -0.5**
comp=Z,1µmcomp=Z,119nm,0.7s
MMRI Maumere 57.53 274 P **P** **16 05 23.4 +0.3**
MORW Morawa 57.97 249 P **P** **16 05 25.8 -0.1**
baz=58,SNR=5.6
MORW Morawa 57.97 249 P **P** **16 05 25.8 -0.1**
MORW Morawa 57.97 249 P **P** **16 05 26.2 +0.4**
WBSI Waikabubak, Su 59.82 272 P **P** **16 05 37.8 -0.6**
comp=Z,668nmcomp=Z,50nm,0.8s
LUWI Luwuk 59.98 282 P **P** **16 05 39.2 -0.3**
LUWI IAmb IAmb 16 05 40.5
comp=Z,66nm,1.0s
LUWI Luwuk 59.98 282 P **P** **16 05 38.5 -1.0**
comp=Z,69nm,1.1s
LUWI Luwuk 59.98 282 P **P** **16 05 40.2 +0.7**
GTOI Gorontalo 60.49 284 P **P** **16 05 43.3 +0.5**
comp=Z,322nmcomp=Z,26nm,0.8s
BKSI Bulukumba 60.70 277 P **P** **16 05 43.1 -1.1**
comp=Z,42nm,0.7s
GIRL Giralia 60.84 256 P **P** **16 05 46.1 +1.1**
baz=61,SNR=5.8
GIRL Giralia 60.84 256 P **P** **16 05 45.6 +0.6**
comp=Z,161nm,1.4s
BNSI Bone 61.06 277 P **P** **16 05 45.8 -0.8**
comp=Z,48nm,0.7s
KAPI Kappang 61.15 277 P **P** **16 05 46.7 -0.4**
comp=Z,8.1nm,0.5s,baz=208,slow=3.5,SNR=7.2
KAPI Kappang 61.15 277 P **P** **16 05 46.5 -0.7**
MRSI Marisa 61.38 283 P **P** **16 05 47.7 -1.0**
comp=Z,20nm,1.3s
JCJ Chichijima 61.52 321 P **P** **16 05 48.9 -0.3**
comp=Z,113nm,1.2s
SPSI Sidrap Palu 61.54 278 P **P** **16 05 47.2 -2.5**
comp=Z,32nm,0.9s
PLAI Plampang 61.59 272 P **P** **16 05 49.4 -0.6**
comp=Z,1µmcomp=Z,133nm,0.9s
PLAI Plampang 61.59 272 P **P** **16 05 50.0 0.0**
TOLI2 Tolitoli 62.70 283 P **P** **16 05 56.1 -1.0**
TOLI2 IAmb IAmb 16 05 59.0
comp=Z,34nm,0.6s
TOLI2 Tolitoli 62.70 283 P **P** **16 05 57.3 +0.1**
MPSI Mapaga 63.17 282 P **P** **16 05 59.2 -1.0**
comp=Z,606nmcomp=Z,64nm,0.7s
SRBI Singaraja 64.23 272 P **P** **16 06 06.4 -0.5**
comp=Z,1µmcomp=Z,68nm,0.7s
JAGI Jajag, Banyuwa 65.07 271 P **P** **16 06 11.0 -1.3**
JAGI Jajag, Banyuwa 65.07 271 P **P** **16 06 10.9 -1.3**
comp=Z,1µmcomp=Z,82nm,0.9s
JAGI Jajag, Banyuwa 65.07 271 P **P** **16 06 11.8 -0.5**
KBKI Kotabaru 65.11 277 P **P** **16 06 12.3 -0.2**
comp=Z,676nmcomp=Z,27nm,0.9s
ABJI Asem Bagus 65.23 272 P **P** **16 06 12.5 -0.7**
comp=Z,62nm,1.0s
KMMI Kalianget 65.75 272 P **P** **16 06 15.5 -0.9**
comp=Z,45nm,0.8s
BLJI Banyuglugur 65.84 271 P **P** **16 06 15.2 -1.8**
comp=Z,61nm,0.7s
MYLDM Lahad Datu 66.53 286 P **P** **16 06 22.4 +1.2**
GRJI Gresik 67.17 272 P **P** **16 06 25.5 +0.3**
comp=Z,1µmcomp=Z,116nm,0.8s
MTKI Muara Teweh, K 67.20 279 P **P** **16 06 26.0 +0.6**
PWJI Pagerwojo 67.41 270 P **P** **16 06 25.9 -0.8**
comp=Z,1µmcomp=Z,72nm,0.7s
PCJI Pacitan 67.93 270 P **P** **16 06 29.9 +0.1**
comp=Z,3µmcomp=Z,300nm,0.6s
UGM Wanagama 68.63 270 P **P** **16 06 33.9 -0.3**
UGM Wanagama 68.63 270 P **P** **16 06 33.8 -0.3**
comp=Z,108nm,0.6s
UGM Wanagama 68.63 270 P **P** **16 06 34.4 +0.3**
KKM Kota Kinabalu 68.95 286 P **P** **16 06 36.4 +0.3**
KKM Kota Kinabalu 68.95 286 P **P** **16 06 37.0 +0.9**
PBKI Pangkalan Bun 69.48 276 P **P** **16 06 41.8 +2.6**
JOW Kunigami 70.29 311 P **P** **16 06 44.2 +0.5**
comp=Z,23nm,0.5s,baz=127,slow=15,SNR=16
JOW Kunigami 70.29 311 P **P** **16 06 44.1 +0.5**
JOW IAmb IAmb 16 06 45.5
comp=Z,36nm,0.8s
JOW Kunigami 70.29 311 P **P** **16 06 44.8 +1.1**
KPJI Karang Pucung 70.31 270 P **P** **16 06 43.6 -0.5**
comp=Z,69nm,0.7s
STKI Sintang 70.73 278 P **P** **16 06 47.4 +0.8**
MJAR Matsushiro Arr 70.84 325 P **P** **16 06 46.6 -0.1**
comp=Z,14nm,0.6s,baz=159,slow=5.7,SNR=26
MJAR Matsushiro Arr 70.84 325 P **P** **16 06 46.7 -0.1**
MAJO Matsushiro 70.84 325 P **P** **16 06 46.9 +0.2**
MAJO IAmb IAmb 16 06 47.6
comp=Z,15nm,0.8s
MAJO Matsushiro 70.84 325 P **P** **16 06 46.9 +0.2**
comp=Z,22nm,0.8s
MAT Matsushiro 70.84 325 P **P** **16 06 46.5 -0.2**
MJB9 Matsu-Tunnel 70.84 325 P **P** **16 06 46.6 -0.2**
MJB9 IAmb IAmb 16 06 47.6
comp=Z,14nm,0.8s
LEM Lembang 71.71 270 P **P** **16 06 52.9 +0.5**
comp=Z,84nm,0.7s,baz=70,slow=5.4,SNR=26
JSU Suzuyama 71.84 316 P **P** **16 06 52.9 +0.3**
KSM Kuching 72.37 279 P **P** **16 06 56.1 0.0**
KSM Kuching 72.37 279 P **P** **16 06 56.0 0.0**
comp=Z,64nm,0.9s
JHS Saijyo 72.58 321 P **P** **16 06 57.3 +0.5**
DBJI Dramaga 72.61 270 P P 16 07 09.5 +12
YOJ Yonaguni jima 72.67 306 P **P** **16 06 57.4 -0.1**
comp=Z,86nm,1.6s
TWG Pinlang 73.22 304 P **P** **16 06 59.1 -1.6**
YULB Yu-li 73.37 304 P **P** **16 07 00.5 -1.0**
YULB IAmb IAmb 16 07 04.0
comp=Z,18nm,0.9s
CGJI Cibinong 73.57 269 P **P** **16 07 01.7 -1.2**
comp=Z,69nm,0.8s
NACB Ninganchiao 73.57 305 P **P** **16 07 01.5 -1.2**
TPUB Ta-pu 73.83 304 P **P** **16 07 02.9 -1.3**
TPUB Ta-pu 73.83 304 P **P** **16 07 02.7 -1.5**
comp=Z,89nm,0.9s
ADK Adak 73.83 2 P **P** **16 07 04.2 +0.7**
SSLB Suanglung 73.85 305 P **P** **16 07 03.5 -0.8**
SSLB Suanglung 73.85 305 P **P** **16 07 04.4 +0.1**
YHNB Yeheng 74.02 306 P **P** **16 07 05.2 -0.1**
YHNB IAmb IAmb 16 07 06.6
comp=Z,39nm,1.0s
YHNB Yeheng 74.02 306 P **P** **16 07 06.0 +0.7**
TATO Taipei 74.10 306 P **P** **16 07 05.3 -0.4**
JKA Kamikawa-asahi 74.63 333 P **P** **16 07 09.2 +1.0**
ASAJ Asahikawa 74.63 333 P **P** **16 07 10.2 +2.0**
comp=Z,14nm,0.6s,baz=220,slow=5.2,SNR=26
KASI Kota Agung 75.07 270 P **P** **16 07 09.6 -1.8**
comp=Z,42nm,1.0s
MDSI Maura Dua 75.74 271 P **P** **16 07 13.5 -1.6**
comp=Z,15nm,0.8s
QZH Quanzhou 76.28 304 ⇑*i*P **P** **16 07 18.8 +1.1**
QZH pmax pmax
comp=Z,30nm,0.7s
YSS Yuzh-Sakhalins 76.86 334 P **P** **16 07 21.3 +0.9**
YSS IAmb IAmb 16 07 23.1
comp=Z,17nm,0.7s
KSRS Korea Array 77.32 320 P **P** **16 07 24.2 +1.1**
comp=Z,4.7nm,0.8s,baz=131,slow=5.7,SNR=17
KSAR Wonju Array Be 77.34 320 P **P** **16 07 22.2 -1.0**
PEA0B Petropavlovsk- 77.61 346 P **P** **16 07 23.7 -0.6**
PEA0B IAmb IAmb 16 07 25.8
comp=Z,28nm,0.7s
PETK Petropavlovsk- 77.61 346 P **P** **16 07 24.1 -0.2**
comp=Z,20nm,0.7s,baz=130,slow=6.5,SNR=60
PETK Petropavlovsk- 77.61 346 P **P** **16 07 23.9 -0.5**
BELA Belgrano 2 78.02 173 P **P** **16 07 27.2 +0.9**
USRK Ussuriysk Ar. 79.66 327 P **P** **16 07 36.9 +1.4**
comp=Z,13nm,0.9s,baz=114,slow=4.0,SNR=11
USRK Ussuriysk Ar. 79.66 327 P **P** **16 07 35.8 +0.4**
NJ2 Nanjing 79.98 311 ⇑P **P** **16 07 38.8 +1.4**
NJ2 pmax pmax
comp=Z,18nm,0.8s
MDJ Mudanjiang 81.19 326 P **P** **16 07 44.1 +0.8**
MDJ IAmb IAmb 16 07 45.6
comp=Z,17nm,0.9s
MDJ Mudanjiang 81.19 326 P **P** **16 07 44.6 +1.3**
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,130nm,6.1s
IPM Ipoh 82.06 278 P **P** **16 07 48.5 0.0**
IPM IAmb IAmb 16 07 49.9
comp=Z,27nm,0.8s
IPM Ipoh 82.06 278 P **P** **16 07 50.0 +1.5**
GULI GuiLin 82.88 301 ⇑P **P** **16 07 53.3 +1.0**
BNX BinXian 83.09 326 ⇑P **P** **16 07 53.5 +0.6**
BNX pmax pmax
comp=Z,27nm,0.9s
BNX pmax pmax
comp=Z,270nm,4.1s
NVAR Mina Array Bea 83.18 44 P **P** **16 07 55.8 +1.9**
comp=Z,0.9nm,1.0s,baz=215,slow=6.5,SNR=3.9
NVAR pP **pwP** **16 10 01.2 -0.9**
comp=Z,0.6nm,0.7s,baz=226,slow=7.8,SNR=4.7
RPSI Rantau Prapat 83.30 276 P **P** **16 07 54.8 0.0**
TIA Tai'an 83.48 313 ⇓P **P** **16 07 56.2 +1.1**
TIA pmax pmax
comp=Z,28nm,0.9s
GSI Gunungsitoli 84.02 274 P **P** **16 07 58.4 +0.1**
GSI IAmb IAmb 16 08 00.8
comp=Z,24nm,0.7s
GSI Gunungsitoli 84.02 274 P **P** **16 07 58.9 +0.6**
comp=Z,1µmcomp=Z,38nm,0.9s
GSI Gunungsitoli 84.02 274 P **P** **16 07 59.4 +1.1**
comp=Z,37nm,0.9s
O18K Koktuh Hills 84.15 12 P **P** **16 07 57.6 -0.2**
O18K IAmb IAmb 16 07 59.2
comp=Z,20nm,0.8s
O19K Port Alsworth 84.64 12 P **P** **16 08 00.4 +0.2**
O19K IAmb IAmb 16 08 01.3
comp=Z,31nm,0.8s
TUC Tucson 85.07 52 P **P** **16 08 04.2 +1.1**
MA2 Magadan 85.10 345 P **P** **16 08 02.4 -0.1**
comp=Z,13nm,0.8s,baz=143,slow=4.9,SNR=55
MA2 Magadan 85.10 345 P **P** **16 08 02.3 -0.2**
MA2 IAmb IAmb 16 08 03.6
comp=Z,16nm,0.8s
HNS HongShan 85.75 313 ⇓P **P** **16 08 07.5 +1.4**
HNS pmax pmax
comp=Z,15nm,1.0s
COYC Coyhaique 85.77 138 P **P** **16 08 05.9 -0.3**
COYC IAmb IAmb 16 08 09.9
comp=Z,21nm,0.7s
ENH Enshi 85.93 305 P **P** **16 08 06.6 -0.6**
GAMB Gambell 85.93 3 P **P** **16 08 05.9 -0.3**
U15A North Rim 86.09 48 P **P** **16 08 08.2 0.0**
BJT Baijiatuan 86.20 316 P **P** **16 08 08.5 +0.3**
BJI Beijing 86.20 316 P **P** **16 08 09.2 +1.0**
BJI pmax pmax
comp=Z,10.0nm,0.7s
M19K Big River Lodg 86.20 12 P **P** **16 08 08.0 +0.3**
SNAA Sanae 86.32 179 P **P** **16 08 07.1 -1.2**
L19K White Mountain 86.38 11 P **P** **16 08 09.5 +1.0**
L19K IAmb IAmb 16 08 10.4
comp=Z,13nm,0.8s
RC01 Rabbit Creek A 86.42 14 P **P** **16 08 08.2 -0.5**
RC01 IAmb IAmb 16 08 10.2
comp=Z,16nm,1.0s
VNA3 Neumayer Olymp 86.51 177 P **P** **16 08 08.3 -0.8**
PWL Port Wells 86.53 15 P **P** **16 08 09.4 +0.1**
PWL IAmb IAmb 16 08 10.5
comp=Z,11nm,0.8s
TTA Tatalina 86.87 10 P **P** **16 08 11.5 +0.6**
M22K Willow 86.93 13 P **P** **16 08 11.2 +0.2**
VNA2 Neumayer--Watz 86.93 177 P **P** **16 08 11.1 -0.1**
baz=191,slow=3.2
KNK Knik Glacier 86.99 14 P **P** **16 08 11.7 +0.3**
KNK IAmb IAmb 16 08 12.9
comp=Z,14nm,0.7s
PMR Palmer 87.00 14 P **P** **16 08 11.4 +0.1**
PMR IAmb IAmb 16 08 12.2
comp=Z,9.0nm,0.6s
LL02 Futaleuf 87.02 136 P **P** **16 08 13.7 +1.6**
GHO Glory Hole Cre 87.21 14 P **P** **16 08 12.9 +0.4**
WAX Waxell Ridge 87.58 17 P **P** **16 08 15.0 +0.8**
WAX IAmb IAmb 16 08 16.4
comp=Z,18nm,0.6s
K20K Telida 87.60 11 P **P** **16 08 14.3 +0.1**
K20K IAmb IAmb 16 08 15.7
comp=Z,9.4nm,0.9s
SCM Sheep Creek Mo 87.62 15 P **P** **16 08 15.2 +0.8**
SEY Seymchan 87.76 348 P **P** **16 08 15.5 +0.6**
comp=Z,7.1nm,0.7s,baz=148,slow=5.1,SNR=42
TNA Tin City 87.95 5 P **P** **16 08 16.4 +0.7**
CAST Castle Rocks 88.03 12 P **P** **16 08 15.4 -0.8**
CAST IAmb IAmb 16 08 16.8
comp=Z,16nm,0.7s
N25K Chitina, Valde 88.09 16 P **P** **16 08 16.7 0.0**
N25K IAmb IAmb 16 08 18.5
comp=Z,12nm,0.8s
XAN Xi'an 88.14 308 P **P** **16 08 18.7 +1.2**
XAN pmax pmax
comp=Z,23nm,0.8s
XAN pmax pmax
comp=Z,110nm,4.8s
J20K Nowinta River 88.35 11 P **P** **16 08 18.0 +0.4**
KTH Kantishna Hill 88.38 12 P **P** **16 08 17.3 -0.6**
KTH IAmb IAmb 16 08 18.2
comp=Z,12nm,0.9s
LOGN Logan Glacier 88.40 18 P **P** **16 08 18.7 +0.5**
LOGN IAmb IAmb 16 08 20.5
comp=Z,12nm,1.1s
TRF Thorofare Moun 88.41 13 P **P** **16 08 18.1 -0.1**
BARN Barnard Glacie 88.41 17 P **P** **16 08 18.5 +0.2**
BARN IAmb IAmb 16 08 20.4
comp=Z,11nm,0.8s
RND Reindeer 88.67 13 P **P** **16 08 19.2 -0.1**
RND IAmb IAmb 16 08 20.5
comp=Z,18nm,0.8s
MNTX Cornudas Mount 88.82 55 P **P** **16 08 20.3 -0.4**
MCK McKinley 88.94 13 P **P** **16 08 20.4 0.0**
MCK IAmb IAmb 16 08 23.0
comp=Z,9.3nm,1.0s
LC01 Cunco 89.00 132 P **P** **16 08 21.6 +0.1**
LC01 IAmb IAmb 16 08 24.8
comp=Z,11nm,1.1s
PLCA Paso Flores 89.03 134 P **P** **16 08 23.8 +2.1**
comp=Z,3.4nm,0.8s,baz=238,slow=5.6,SNR=12
TX31 Lajitas Ar. Si 89.09 58 P **P** **16 08 21.5 -0.6**
TX31 IAmb IAmb 16 08 25.7
comp=Z,18nm,1.2s
TX32 Lajitas Array 89.09 58 P **P** **16 08 22.0 -0.1**
TXAR Lajitas Array 89.09 58 P **P** **16 08 24.1 +2.1**
comp=Z,2.0nm,0.9s,baz=214,slow=6.4,SNR=13
TXAR pP **pwP** **16 10 31.8 -0.6**
comp=Z,0.1nm,0.4s,baz=260,slow=5.1,SNR=2.7
M27K Edge Creek, AK 89.43 17 P **P** **16 08 22.0 -0.9**
M27K IAmb IAmb 16 08 26.1
comp=Z,7.8nm,1.1s
CM31 Chiang Mai Arr 89.46 290 P **P** **16 08 22.8 -1.1**
CMAR Chiang Mai Arr 89.46 290 P **P** **16 08 25.5 +1.6**
comp=Z,14nm,0.8s,baz=135,slow=3.2,SNR=113
CMAR pP **pP** **16 10 32.4 +1.7**
comp=Z,1.1nm,1.1s,baz=131,slow=4.1,SNR=2.6
CMAR Chiang Mai Arr 89.46 290 P **P** **16 08 24.0 +0.1**
CHTO Chiang Mai 89.60 290 P **P** **16 08 23.9 -0.6**
CHTO Chiang Mai 89.60 290 P **P** **16 08 26.1 +1.6**
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 89.62 315 *e*P **P** **16 08 24.5 +0.2**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,92nm,5.5s
I21K Tanana 89.65 11 P **P** **16 08 23.5 -0.1**
I21K IAmb IAmb 16 08 25.0
comp=Z,7.6nm,0.8s
NEA2 Nenana 89.68 13 P **P** **16 08 22.8 -1.0**
WRH Wood River Hil 89.77 13 P **P** **16 08 23.8 -0.5**
WRH IAmb IAmb 16 08 25.2
comp=Z,9.4nm,0.9s
H21K Melozitna Rive 89.94 11 P **P** **16 08 24.8 -0.3**
HDA Harding Lake 89.96 13 P **P** **16 08 25.2 +0.1**
HDA IAmb IAmb 16 08 27.1
comp=Z,10nm,1.2s
DOT Dot Lake 89.96 15 P **P** **16 08 25.4 +0.2**
CCB Clear Creek Bu 89.98 13 P **P** **16 08 24.8 -0.4**
CCB IAmb IAmb 16 08 25.9
comp=Z,6.1nm,0.6s
MDM Murphy Dome 90.17 13 P **P** **16 08 25.8 -0.3**
SCRK Sand Creek 90.26 15 P **P** **16 08 26.6 0.0**
IL31 90.29 13 P **P** **16 08 25.4 -1.2**
ILAR Eielson Array 90.29 13 P **P** **16 08 26.4 -0.2**
comp=Z,1.4nm,0.6s,baz=218,slow=4.4,SNR=31
PZH PanZhiHua 90.36 298 P **P** **16 08 29.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,6.7s
POKR Poker Flat Res 90.47 13 P **P** **16 08 26.4 -1.1**
J25K Salcha River, 90.48 14 P **P** **16 08 27.4 -0.2**
BILL Bilibino 90.62 355 P **P** **16 08 28.5 +0.4**
BILL IAmb IAmb 16 08 29.7
comp=Z,8.6nm,0.8s
RDOG Red Dog Mine 90.84 6 P **P** **16 08 29.1 -0.1**
DAWY Dawson 91.48 16 P **P** **16 08 32.0 -0.2**
MT01 Popeta 91.82 128 P **P** **16 08 34.7 +0.1**
MT01 IAmb IAmb 16 08 37.3
comp=Z,16nm,0.9s
YAK Yakutsk 93.22 339 P **P** **16 08 38.9 -1.2**
SONM Songino Array 96.19 319 P **P** **16 08 54.5 +0.3**
comp=Z,0.5nm,0.5s,baz=129,slow=3.8,SNR=5.8
INK Inuvik 96.28 16 P **P** **16 08 53.9 0.0**
comp=Z,0.6nm,0.6s,baz=211,slow=3.0,SNR=3.3
INK Inuvik 96.28 16 IAmb IAmb 16 09 17.1
comp=Z,9.8nm,1.8s
YKA Yellowknife Ar 98.63 25 P **P** **16 09 05.1 +0.6**
comp=Z,0.1nm,0.4s,baz=238,slow=4.3,SNR=6.1
ZALV Zalesovo Beam 111.00 321 PKiKP **PKiKP** **16 13 54.4 -0.7**
comp=Z,1.5nm,0.6s,baz=92,slow=0.4,SNR=7.1
MKAR Makanchi Array 111.42 313 PKiKP **PKiKP** **16 13 55.6 -0.6**
comp=Z,1.0nm,0.5s,baz=188,slow=1.1,SNR=17
KURK Kurchatov 114.36 317 PKPdf 16 14 01.2 -0.4
KURBB **Kurchatov Arra 114.41 317** PKP PKPdf 16 14 01.2 -0.5
comp=Z,1.9nm,0.6s,baz=105,slow=1.8
KURBB SKP 16 42.6
comp=Z,0.8nm,0.8s,baz=99,slow=2.0,SNR=5.1
KKAR Karatay Array 119.28 308 PKPdf **PKPdf** **16 14 10.8 -0.6**
KBL Kabul 119.55 298 PKPdf **PKPdf** **16 14 12.1 -0.4**
BRVK Borovoye 119.60 319 PKPdf **PKPdf** **16 14 11.4 -0.2**
ARU Arti 125.85 324 PKPdf **PKPdf** **16 14 23.1 -0.4**
KIRV Kirov 129.78 329 SKPbc SKPab 16 16 59.9 +1.0
comp=Z,24nm,0.7s,baz=84,slow=1.2,SNR=10
ARCES ARCESS Array B 130.36 349 PKiKP PKPpre 16 14 22.4
comp=Z,2.0nm,0.8s,baz=356,slow=1.6,SNR=3.9
ARCES PKP **PKPdf** **16 14 31.6 -0.1**
comp=Z,2.0nm,0.4s,baz=49,slow=1.4,SNR=19
ARCES SKPbc **SKPab** **16 17 02.5 +1.3**
comp=Z,5.9nm,0.9s,baz=15,slow=5.3,SNR=4.3
KLMR Klimovskoe 132.91 335 *e*PKPdf **PKPdf** **16 14 36.9 +0.1**
KLMR AMP 16 14 38.7
comp=Z,8.0nm,1.3s
KLMR *e*PP **PP** **16 17 10.3 -1.0**
BELG Belogornoye 133.17 322 SKPbc **SKPbc** **16 17 12.0 +1.1**
comp=Z,32nm,0.8s,baz=108,slow=1.3,SNR=14
FINES FINESS Array B 137.03 342 PKhKP PKPpre 16 14 32.4
comp=Z,0.9nm,0.5s,baz=39,slow=3.0,SNR=9.5
FINES PKP **PKPdf** **16 14 43.7 -0.7**
comp=Z,1.7nm,0.4s,baz=78,slow=3.0,SNR=6.5
FINES SKPbc **SKPbc** **16 17 24.3 +1.8**
comp=Z,0.9nm,0.5s,baz=33,slow=4.5,SNR=7.2
KMBO Kilima Mbogo 137.37 242 SKPbc **SKiKP** **16 17 28.4 -1.1**
comp=Z,1.4nm,0.6s,baz=50,slow=7.4,SNR=5.8
NC303 NORSAR Array S 140.32 352 PKPpre 16 14 44.0
NC303 PKPdf **PKiKP** **16 14 52.7 -0.5**
NB2 NORSAR Subarra 140.51 352 PKP **PKPdf** **16 14 44.6 -6.3**
comp=Z,0.5nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 140.51 352 PKP **PKiKP** **16 14 53.3 -0.3**
comp=Z,0.8nm,0.4s,baz=14,slow=3.9,SNR=5.1
NOA SKPbc **SKPbc** **16 17 32.6 +0.5**
comp=Z,2.4nm,0.8s,baz=15,slow=4.3,SNR=8.2
HFS Hagfors 141.01 350 SKPbc **SKiKP** **16 17 34.5 -0.7**
comp=Z,4.7nm,0.7s,baz=159,slow=4.5,SNR=7.1
IDID Didziasalis 141.63 336 *e*P **PKPdf** **16 14 49.6 -3.3**
ISAL Salakas 141.67 337 *e*P **PKPdf** **16 14 50.0 -3.0**
IIGN Ignalina 141.80 336 *e*P **PKPdf** **16 14 50.0 -3.3**
VIKU Vikbolandet 141.95 346 *e*P **PKPdf** **16 14 49.5 -3.9**
STRU Stroemstad 142.45 351 *i* P **PKPdf** **16 14 49.8 -4.5**
PABE Paberze 142.48 338 PKPpre 16 14 50.4
PABE Paberze 142.48 338 *e*P **PKPdf** **16 14 52.2 -2.3**
MBAR Mbarara 142.87 236 **PKPdf** **16 14 54.6 -2.1**
TJOU Tjoern 143.35 350 *i* P PKPbc 16 14 54.6 +0.1
BORU Boraas 143.54 349 *i* P PKPab 16 14 54.0 -1.1
HOMB Homborsund 143.54 353 *i* P **PKPdf** **16 14 55.8 -0.4**
SNART Snartemo 143.61 354 *i* P PKPab 16 14 54.6 -0.7
AKASG Malin Array Be 143.84 329 PKP PKPbc 16 14 56.0 -0.4
comp=Z,7.8nm,0.3s,baz=43,slow=4.1,SNR=16
AKASG SKPbc **SKiKP** **16 17 41.8 +0.4**
comp=Z,4.6nm,0.9s,baz=40,slow=2.6,SNR=13
AKASG Malin Array Be 143.84 329 PKPbc 16 14 55.2 -1.2
AKBB Malin Array Si 143.84 329 PKPbc 16 14 55.3 -1.0
ONAU Onsala 143.91 350 *i* P PKPbc 16 14 55.2 -1.1
SUW Suwalki 143.95 337 *e*PKP PKPab 16 14 56.7 -0.1
SUW Suwalki 143.95 337 PKPbc 16 14 56.2 -0.3
SUW Suwalki 143.95 337 *e*P PKPab 16 14 56.8 0.0
FABU Falkenberg 144.15 349 *i* P PKPbc 16 14 55.8 -1.2
BLEU Blekinge 144.15 346 *i* P PKPbc 16 14 55.8 -1.3
DEL Delary 144.42 347 *i* P PKPbc 16 14 58.0 +0.1
DEL Delary 144.42 347 *e*P PKPbc 16 14 57.9 0.0

BSD	Bornholm Skovb	145.45	345	*i* P	PKPab	16 15 02.4	-0.1
BSD	Bornholm Skovb	145.45	345	*e*P	PKPbc	16 15 00.7	-0.4
BNN	Bunyan	145.66	307		PKPdf	16 14 59.8	-0.9
SORM	Soroca	145.94	326	⇓P	PKPbc	16 15 02.9	+0.3
BR131	Keskin Array S	146.97	309		PKPdf	16 15 04.0	+1.1
BRTR	Keskin Array B	146.97	309	PKPbc	PKPbc	16 15 06.0	+0.1
	comp=Z,7.7nm,0.7s,baz=132,slow=4.5,SNR=23						
BRTR	Keskin Array B	146.97	309		PKPbc	16 15 05.1	-0.8
TLCR		147.49	322	⇓P	PKPbc	16 15 07.6	+0.7
BSEG	Bad Segeberg	147.49	349	*e*PKPbc	PKiKP	16 15 07.8	-0.3
	baz=19,slow=4.2						
BSEG				*e*PKPab	PKPab	16 15 11.6	+0.9
	baz=19,slow=4.2						
VLDR	Vladesti	147.51	323	⇓P	PKiKP	16 15 08.0	-0.5
BUR08	Bucovina Ar. S	147.86	328		PKPbc	16 15 08.4	+0.5
BURAR	Bucovina Array	147.87	328	⇑P	PKiKP	16 15 09.2	-0.1
TESR	Tescani	147.87	325	⇓P	PKPbc	16 15 08.4	+0.6
CFR	Carcaliu	147.88	322	⇓P	PKPbc	16 15 08.3	+0.5
TPGR	Topolog	147.91	321	⇓P	PKPbc	16 15 08.6	+0.6
VRI	Vrincioaia	148.24	324	⇓P	PKiKP	16 15 09.4	-0.6
OJC	Ojcow	148.25	336		PKPbc	16 15 08.2	-0.5
HARR	Harsova	148.29	321	⇓P	PKiKP	16 15 09.8	-0.3
PLOR	Plostina	148.29	324	⇑P	PKPbc	16 15 09.4	+0.4
CRVS	Cervenica-Dubn	148.64	333	*e*PKP	PKiKP	16 15 10.9	+0.2
CSS	Mathiatis	148.72	301		PKPbc	16 15 10.2	-0.1
TRPA	Tarpa	148.76	331	⇓P	PKiKP	16 15 11.6	+0.6
TRPA	Tarpa	148.76	331	⇑PKP	PKiKP	16 15 10.7	-0.2
TRPA				PKPDF	PKPbc	16 15 10.4	+0.4
FLTG	Flechtingen	148.85	347	*e*PKPbc	PKiKP	16 15 10.9	0.0
	baz=19,slow=4.2						
FLTG				*e*PKPab	PKPab	16 15 17.0	+0.6
	baz=19,slow=4.2						
DOPR	Dopca	148.89	326	⇑P	PKiKP	16 15 11.4	+0.1
MLR	Muntele Rosu	148.91	324	⇑P	PKPbc	16 15 11.0	+0.4
MLR	Muntele Rosu	148.91	324		PKPbc	16 15 10.1	-0.5
NRDL	Niedersach Rie	148.91	349	*e*PKPbc	PKiKP	16 15 11.2	+0.2
	baz=19,slow=4.2						
ASSE	Asse, Remlinge	149.15	348	*e*PKPbc	PKPbc	16 15 10.9	+0.2
	baz=19,slow=4.2						
OSTC	Ostas	149.19	340	⇑*e*PKP	PKiKP	16 15 12.1	+0.3
OSTC				*e*PKPAB	PKPab	16 15 19.9	+2.0
CHVC	Chvalec	149.21	341	⇑*e*PKP	PKPbc	16 15 11.3	+0.3
CHVC				*e*PKPAB	PKPab	16 15 17.7	-0.3
LANS	Liptovska Anna	149.24	335	*e*PKP	PKiKP	16 15 13.2	+1.2
UPC	Upice	149.29	341	⇑*e*PKP	PKiKP	16 15 12.1	+0.1
DPC	Dobruska-Polom	149.33	340	⇑*e*PKP	PKiKP	16 15 12.0	-0.1
CLL	Collm	149.41	345	⇑*i*PKPab	PKPab	16 15 19.2	+0.4
	comp=Z,22nm,0.8s						
CLL	Collm	149.41	345	*e*PKPbc	PKiKP	16 15 12.2	0.0
	baz=19,slow=4.2						
CLL				*e*PKPab	PKPab	16 15 19.5	+0.7
	baz=19,slow=4.2						
CLL	Collm	149.41	345	⇓*i*PKPbc	PKiKP	16 15 12.2	0.0
	comp=Z,31nm,0.8s						
VOIR		149.42	325	⇓P	PKiKP	16 15 12.2	-0.3
MORC	Moravsky Berou	149.42	338	*e*PKP	PKiKP	16 15 12.3	-0.1
MORC				*e*		16 15 19.9	
IBBN	Ibbenburen	149.47	351	*e*PKPbc	PKiKP	16 15 12.6	+0.3
	baz=19,slow=4.2						
CLZ	Clausthal	149.48	348	*e*PKPbc	PKiKP	16 15 13.0	+0.6
	baz=19,slow=4.2						
BRG	Berggiesshubel	149.56	343	Amp		16 15 21.2	
	comp=Z,9.1nm,0.7s						
BRG	Berggiesshubel	149.56	343	*e*PKPbc	PKiKP	16 15 13.1	+0.6
	baz=19,slow=4.2						
BRG	Berggiesshubel	149.56	343	⇑*i*PKP	PKiKP	16 15 12.8	+0.3
BRG	Berggiesshubel	149.56	343	Amp		16 15 13.6	
	comp=Z,24nm,0.6s						
BRG	Berggiesshubel	149.56	343	*e*PKPab	PKPab	16 15 20.3	+0.8
FBE	Freiberg	149.67	344	*e*PKPbc	PKiKP	16 15 13.6	+0.9
	baz=19,slow=4.2						
FBE				*e*PKPab	PKPab	16 15 21.1	+1.2
	baz=19,slow=4.2						
ARR	Arges	149.69	325	⇑P	PKiKP	16 15 13.8	+0.8
PVCC	Panska Ves	149.70	342	⇑*e*PKP	PKiKP	16 15 13.0	+0.2
PVCC				*e*PKPAB	PKPab	16 15 20.5	+0.5
NEUB	Neuenburg	149.79	346	*e*PKPbc	PKiKP	16 15 13.6	+0.7
	baz=19,slow=4.2						
NEUB				*e*PKPab	PKPab	16 15 21.2	+0.8
	baz=19,slow=4.2						
GTTG	Gottingen	149.84	348	*e*PKPbc	PKiKP	16 15 13.7	+0.6
	baz=19,slow=4.2						
GTTG				*e*PKPab	PKPab	16 15 21.6	+1.0
	baz=19,slow=4.2						
VYHS	Vyhne	150.02	335	*e*PKP	PKiKP	16 15 14.0	+0.4
VYHS				*e*		16 15 22.6	
LOT	Lotru	150.08	326	⇑P	PKPbc	16 15 13.5	+0.1
VRAC	Vranov	150.15	339	*e*	PKPab	16 15 23.1	+1.1
VRAC	Vranov	150.15	339	*e*PKP	PKiKP	16 15 13.8	0.0
JAVC	Velka Javorina	150.15	337	*e*PKP	PKiKP	16 15 15.1	+1.2
PRU	Pruhonice	150.19	342	⇑*e*PKP	PKiKP	16 15 13.8	-0.1
PRU				*e*PKPAB	PKPab	16 15 22.8	+0.7
MOX	Moxa	150.35	346	*e*PKPbc	PKiKP	16 15 14.7	+0.5
	baz=19,slow=4.2						
MOX				*e*PKPab	PKPab	16 15 23.5	+0.8
	baz=19,slow=4.2						
TANN	Tannenbergstha	150.36	345	*e*PKPbc	PKiKP	16 15 14.9	+0.6
	baz=19,slow=4.2						
WERD	Werda	150.37	345	*e*PKPbc	PKiKP	16 15 14.9	+0.6
	baz=19,slow=4.2						
BUG	Bochum--Univer	150.38	352	*e*PKPbc	PKiKP	16 15 14.6	+0.4
	baz=19,slow=4.2						
KRUC	Moravsky	150.43	339	*e*	PKPab	16 15 24.1	+1.0
KRUC	Moravsky	150.43	339	*e*PKP	PKiKP	16 15 14.4	0.0
KASTN	Kahler Asten	150.44	350	*e*PKPbc	PKiKP	16 15 15.0	+0.7
	baz=19,slow=4.2						
GUNZ	Gunzen	150.44	345	*e*PKPbc	PKiKP	16 15 15.2	+0.8
	baz=19,slow=4.2						
GUNZ				*e*PKPab	PKPab	16 15 24.3	+1.1
	baz=19,slow=4.2						
WERN	Wernitzgruen	150.50	345	*e*PKPbc	PKiKP	16 15 15.3	+0.8
	baz=19,slow=4.2						
WERN				*e*PKPab	PKPab	16 15 24.6	+1.2
	baz=19,slow=4.2						
TREC	Trest	150.52	340	⇑*e*PKP	PKiKP	16 15 14.6	0.0
UBBA	Unterbreizbach	150.53	348	*e*PKPbc	PKiKP	16 15 14.9	+0.5
	baz=19,slow=4.2						
NKC	Novy Kostel	150.53	344	⇑*e*PKP	PKiKP	16 15 14.6	0.0
NKC				*e*PKPAB	PKPab	16 15 24.1	+0.5
SIRR	Siria	150.54	330	⇑P	PKiKP	16 15 15.3	+0.6
GZR	Gura Zlata	150.62	327	⇓P	PKiKP	16 15 14.8	-0.2
MANZ	Manzenberg	150.85	345	*e*PKPbc	PKiKP	16 15 16.1	+0.8
	baz=19,slow=4.2						
ROTZ	Rotzenmuhle	151.03	344	*e*PKPbc	PKiKP	16 15 16.2	+0.6
	baz=19,slow=4.2						
ROTZ				*e*PKPab	PKPab	16 15 26.5	+0.9
	baz=19,slow=4.2						
BZS	Buzias	151.04	329	⇓P	PKiKP	16 15 15.8	+0.1
HERR	Herculane	151.17	327	⇓P	PKiKP	16 15 16.0	-0.1
KHC	Kasperske Hory	151.24	342	⇑*e*PKP	PKiKP	16 15 16.0	-0.1
KHC				*e*PKPAB	PKPab	16 15 27.7	+1.1
KHC	Kasperske Hory	151.24	342		PKPbc	16 15 15.8	0.0
KHC				PKPab	PKPab	16 15 27.8	+1.1
CKRC	Cesky Krumlov	151.30	341	⇑*e*PKP	PKPbc	16 15 15.9	0.0
CKRC				*e*PKPAB	PKPab	16 15 27.6	+0.7
GRA1	Grafenberg Arr	151.33	346	PKPdf	PKPdf	16 15 11.4	+2.1
GRA1					PKPab	16 15 27.0	+0.1
GRF	Grafenberg Arr	151.33	346	*e*PKPab	PKPab	16 15 27.8	+0.8
	baz=19,slow=4.2						
MEM	Membach	151.36	353	*d*PKiKP	PKiKP	16 15 17.2	+1.0
MEM				*d*PKPab	PKPab	16 15 25.8	-1.1
BTNL	Ternell	151.36	353	*d*PKiKP	PKiKP	16 15 16.3	0.0
TNS	Taunus Mts	151.38	349	*e*PKPbc	PKiKP	16 15 17.0	+0.6
	baz=19,slow=4.2						
TNS				*e*PKPab	PKPab	16 15 27.9	+0.7
	baz=19,slow=4.2						
WET	Wettzell	151.42	343	*e*PKPab	PKPab	16 15 28.4	+1.1
	baz=19,slow=4.2						
GERES	GERESS Array B	151.46	342	PKPbc	PKiKP	16 15 16.7	0.0
	comp=Z,2.5nm,0.5s,baz=8.8,slow=27,SNR=9.5						
CONA	Conrad Observa	151.58	338	*e*P	PKiKP	16 15 17.4	+0.5
	comp=Z,3.7nm,0.5s,SNR=7.1						
BGES	Gesves	151.68	354	*d*PKPab	PKPab	16 15 27.1	-1.2
BMRD	Maredsous	151.79	354	*d*PKiKP	PKiKP	16 15 17.7	+0.5
BMRD				*d*PKPab	PKPab	16 15 28.4	-0.4
RCHB	Rochefort	151.89	354	*d*PKPab	PKPab	16 15 28.3	-0.9
MORH	Mrgy, Hungar	151.93	333	⇓P	PKiKP	16 15 17.8	+0.2
MORH	Mrgy, Hungar	151.93	333	PKPDF	PKiKP	16 15 17.9	+0.4
DOU	Dourbes	152.01	354	*d*PKiKP	PKiKP	16 15 18.2	+0.7
VTS	Vitosha	152.25	322	⇓P	PKiKP	16 15 18.9	+0.3
VTS	Vitosha	152.25	322	PKPab	PKPab	16 15 32.2	+1.0
KOVH	Kovagotottos	152.26	333	PKPDF	PKPbc	16 15 17.0	-1.1
KOVH	Kovagotottos	152.26	333	⇑PKP	PKiKP	16 15 18.7	+0.5
WLF	Walferdange	152.27	352	*e*PKPbc	PKiKP	16 15 19.9	+1.7
	baz=19,slow=4.2						
FUR	Furstenfeldbru	152.74	344	*e*PKPab	PKPab	16 15 34.2	+1.2
	baz=19,slow=4.2						
KBA	Koelnbreinsper	153.15	340	*e*P	PKPab	16 15 36.2	+1.2
	comp=Z,6.2nm,0.6s						
BFO	Black Forest	153.23	348	*e*PKPab	PKPab	16 15 35.6	+0.6
	baz=19,slow=4.2						
WATA	Walderalm	153.43	343	*e*P	PKiKP	16 15 21.6	+0.7
	comp=Z,4.0nm,0.4s						
WATA				*e*P	PKPab	16 15 37.0	+0.9
	comp=Z,5.5nm,0.5s						
MYKA	Terra Mystica	153.46	340	*e*P	PKPbc	16 15 20.2	-0.6
	comp=Z,2.0nm,0.5s						
MYKA				*e*P	PKPab	16 15 36.2	0.0
	comp=Z,8.4nm,0.7s						
WTTA	Wattenberg	153.48	343	*e*P	PKiKP	16 15 21.4	+0.4
	comp=Z,4.6nm,0.4s						
WTTA				*e*P	PKPab	16 15 37.3	+1.0
	comp=Z,14nm,0.5s,SNR=7.2						
MOTA	Moosalm	153.54	344	*e*P	PKiKP	16 15 21.2	+0.1
	comp=Z,1.6nm,0.3s						
MOTA				*e*P	PKPab	16 15 37.4	+0.8
	comp=Z,6.8nm,0.6s						
ABTA	Abfaltersbach	153.70	341	*e*P	PKPbc	16 15 21.1	-0.2
	comp=Z,4.4nm,0.6s						
ABTA				*e*P	PKPab	16 15 37.6	+0.4
	comp=Z,6.1nm,0.5s,SNR=5.6						
DAVA	Damuels	153.90	346	*e*P	PKPab	16 15 38.8	+0.7
	comp=Z,7.7nm,0.6s						
FETA	Feichten	153.94	344	*e*P	PKiKP	16 15 22.4	+0.5
	comp=Z,1.2nm,0.5s						
FETA				*e*P	PKPab	16 15 39.0	+0.7
	comp=Z,3.8nm,0.7s						
ESDC	Sonseca Array	162.18	12	PKPab	PKPab	16 16 14.8	+0.6
	comp=Z,0.4nm,0.6s,baz=351,slow=5.0,SNR=4.4						
DBIC	Dimbokro	163.66	160	PKPab	PKPab	16 16 22.4	+1.2
	comp=Z,2.4nm,0.6s,baz=237,slow=8.2,SNR=4.6						
TORD	Torodi Ar. Bea	170.91	187	PKPab	PKPab	16 16 52.3	-0.8
	comp=Z,0.9nm,0.7s,baz=182,slow=2.7,SNR=4.7						

IDC 03 15:56:30.0±2.5**, 1°.03N×126°.59E, h0km, mb3.1**/2, **mb1 3.5**/3**, mb1mx3.0**/51**, mbtmp3.2**/3**, ML3.1**/1 **Error ellipse: s-maj=57.7km s-min=36.3km az=33.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.04	112	Pn	Pn	15 57 46.5	-0.5
	0.7nm,0.3s,baz=200,slow=21,SNR=2.1						
SIJI				Sn	Sn	15 58 48.8	+2.8
	0.3nm,0.3s,baz=225,slow=23,SNR=1.5						
WRA	Warramunga Arr	22.18	160	P	P	16 01 28.7	+0.7
	0.5nm,0.4s,baz=340,slow=11,SNR=14						
ASAR	Alice Springs	25.56	164	P	P	16 02 00.1	-0.7
	0.1nm,0.3s,baz=340,slow=11,SNR=8.5						
TORD	Torodi Ar. Bea	123.58	286	PKP	PKPdf	16 15 30.7	0.0
	0.4nm,0.8s,baz=48,slow=2.1,SNR=1.9						

*SVSA **03** 16:08:51.1±1.1, 40°.59N×29°.24W, h10km, ML3.7(INMG), Error ellipse: s-maj=8.2km s-min=4.0km az=89.0*
*IDC **03** 16:08:52.9±2.7, 41°.92N×29°.91W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/57, mbtmp3.6/5, ML3.7/1, MS3.5/26, Ms1 3.5/26, ms1mx3.2/90, Error ellipse: s-maj=103.1km s-min=30.9km az=173.0*
ISC 03 16:08:49.0±1.2**, 40°.38N**±0°.08×**29°.13W**±0°.10**, h10km, n46,** σ**0s.61**/33**, mb3.8**/4**, MS3.4**/25**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	Serra Branca	1.59	148	*e*P	Pn	16 09 17.1	-0.1
SRBC				*e*S	Sn	16 09 37.5	-0.2
SRBC				A	A	16 09 40.6	
	458nm,0.3s						
PGRA	Graciosa	1.62	146	*e*P	Pn	16 09 17.9	+0.3
PGRA				*e*S	Sn	16 09 38.5	0.0
PGRA				A	A	16 09 42.7	
	172nm,0.4s						
PCED	Cedros	1.78	169	*e*P	Pn	16 09 20.9	+1.0
PCED				*e*S	Sn	16 09 42.1	-0.5
PCED				A	A	16 09 44.5	
	212nm,0.2s						
ROSA	Rosais	1.80	157	*e*P	Pn	16 09 20.2	+0.1
ROSA				*e*S	Sn	16 09 42.7	-0.3
ROSA				A	A	16 09 48.2	
	138nm,0.2s						
PCAPE	Capelo, Faial	1.80	172	*e*S	Sn	16 09 42.6	-0.4
PCAPE				A	A	16 09 46.8	
	659nm,0.3s						
CALA	Caldeira	1.83	170	*e*P	Pn	16 09 21.6	+1.0
CALA				*e*S	Sn	16 09 43.3	-0.6
CALA				A	A	16 09 46.1	
	890nm,0.2s						
PFCBR	Castelo Branco	1.89	170	*e*P	Pn	16 09 22.1	+0.8
PFCBR				*e*S	Sn	16 09 44.7	-0.4
PFCBR				A	A	16 09 46.7	
	160nm,0.2s						
HOR	Horta	1.90	168	*e*P	Pn	16 09 22.2	+0.8
HOR				*e*S	Sn	16 09 44.9	-0.4
HOR				A	A	16 09 46.6	
	607nm,0.3s						
PMAN	Manadas	1.93	155	*e*P	Pn	16 09 21.8	0.0
PMAN				*e*S	Sn	16 09 45.8	-0.3
PMAN				A	A	16 09 48.8	
	115nm,0.3s						
PICO	Pico	1.96	164	*e*P	Pn	16 09 22.8	+0.4
PICO				*e*S	Sn	16 09 46.9	-0.1
PICO				A	A	16 09 55.0	
	247nm,0.3s						
PCAN	Candelaria	1.98	165	*e*P	Pn	16 09 23.2	+0.6
PCAN				*e*S	Sn	16 09 47.4	-0.1
PCAN				A	A	16 09 49.3	
	247nm,0.2s						
PPNO	Prainha do Nor	2.02	160	*e*P	Pn	16 09 23.7	+0.4
PPNO				*e*S	Sn	16 09 48.3	-0.3
PPNO				A	A	16 09 55.5	
	109nm,0.3s						
PAGU	Agualva, Azore	2.21	136	*e*P	Pn	16 09 25.6	-0.1
ADH	Angra Heroismo	2.26	139	*e*P	Pn	16 09 27.3	+0.8
CMLA	Cha da Macela	3.83	132	*e*P	Pn	16 09 48.9	+0.8
CMLA				*e*S	Sn	16 10 32.1	-1.2
CMLA				A	A	16 10 40.7	
	76nm,0.2s						
PSMA	Santa Maria	4.61	136	*e*P	Pn	16 09 59.5	+0.8
PSMN	Pico do Norte,	4.64	135	*e*P	Pn	16 09 59.9	+0.8
ESDC	Sonseca Array	19.27	84	P	Pn	16 13 24.8	+10
	0.1nm,0.3s,baz=273,slow=11,SNR=2.4						
ESDC				LR	LR	16 19 29.9	
	comp=Z,146nm,18.9s,baz=294,slow=32						
MDT	Midelt	21.04	103	LR	LR	16 20 04.0	
	comp=Z,90nm,21.7s,baz=344,slow=30						
BORG	Borgarnes	24.82	8	LR	LR	16 20 54.8	
	comp=Z,54nm,19.3s,baz=195,slow=31						
DAVOX	Davos/Dischmat	28.75	64	LR	LR	16 24 40.4	
	comp=Z,56nm,18.9s,baz=77,slow=33						
SCHQ	Schefferville	28.83	313	LR	LR	16 24 42.8	
	comp=Z,65nm,19.1s,baz=85,slow=35						
SFJD	Kangerlussuaq	29.22	343	LR	LR	16 23 32.2	
	comp=Z,63nm,18.1s,baz=155,slow=32						
NOA	NORSAR Array B	32.10	36	LR	LR	16 26 57.9	
	comp=Z,26nm,18.2s,baz=320,slow=35						
HFS	Hagfors	32.95	39	LR	LR	16 28 26.2	
	comp=Z,53nm,18.1s,baz=298,slow=36						
VRAC	Vranov	33.18	59	LR	LR	16 26 28.4	
	comp=Z,48nm,20.7s,baz=252,slow=32						
KOWA	Kowa	33.85	132	LR	LR	16 27 21.0	
	comp=Z,72nm,21.4s,baz=20,slow=31						
SADO	Sadowa	36.62	294	LR	LR	16 29 23.7	
	comp=Z,124nm,20.4s,baz=39,slow=35						
SJG	San Juan	38.79	246	LR	LR	16 31 36.8	
	comp=Z,27nm,18.4s,baz=123,slow=35						
FINES	FINESS Array B	39.15	39	LR	LR	16 29 22.9	
	comp=Z,64nm,18.3s,baz=289,slow=32						
MLR	Muntele Rosu	39.97	64	LR	LR	16 34 11.6	
	comp=Z,49nm,18.1s,baz=267,slow=38						
DBIC	Dimbokro	39.99	141	LR	LR	16 32 52.2	
	comp=Z,40nm,18.3s,baz=288,slow=35						
AKASG	Malin Array Be	41.15	55	LR	LR	16 32 16.4	
	comp=Z,78nm,18.0s,baz=350,slow=34						
TKL	Tuckaleechee C	42.74	282	LR	LR	16 33 14.7	
	comp=Z,52nm,18.6s,baz=57,slow=35						
ULM	Lac du Bonnet	46.49	306	LR	LR	16 35 05.3	
	comp=Z,108nm,18.8s,baz=84,slow=35						
PDAR	Pinedale Array	57.98	301	LR	LR	16 42 25.0	
	comp=Z,54nm,19.2s,baz=348,slow=36						
ANMO	Albuquerque	59.63	292	LR	LR	16 43 02.9	
	comp=Z,36nm,18.6s,baz=62,slow=35						
NEW	Newport	60.13	310	LR	LR	16 42 08.6	
	comp=Z,103nm,19.7s,baz=273,slow=34						
TXAR	Lajitas Array	60.50	285	P	P	16 18 58.5	-1.0
	0.5nm,0.7s,baz=68,slow=8.2,SNR=5.1						
TXAR				LR	LR	16 46 08.6	
	comp=Z,26nm,18.2s,baz=352,slow=38						
ELK	Elko	62.68	301	LR	LR	16 44 03.5	
	comp=Z,49nm,19.9s,baz=330,slow=34						
PFO	Pinyon Flats O	67.34	295	LR	LR	16 47 16.7	
	comp=Z,68nm,20.1s,baz=353,slow=35						
LPIG	La Paz	68.34	284	LR	LR	16 49 47.9	
	comp=Z,44nm,18.2s,baz=216,slow=36						
KURBB	Kurchatov Arra	69.52	40	P	P	16 19 58.2	+0.6
	0.7nm,0.8s,baz=311,slow=6.8,SNR=5.3						
ZALV	Zalesovo Beam	70.29	35	P	P	16 20 02.9	+0.6
	0.9nm,0.7s,baz=297,slow=9.5,SNR=3.9						
TSUM	Tsumeb	73.50	134	LR	LR	16 51 57.0	
	comp=Z,45nm,18.8s,baz=143,slow=34						
MKAR	Makanchi Array	73.90	42	P	P	16 20 24.2	+0.1
	0.5nm,0.8s,baz=297,slow=5.3,SNR=4.2						

IDC 03 16:11:10.0±1.7**, 4°.13S×143°.95E, h0km, mb3.4**/3**, mb1 3.6**/5**, mb1mx3.2**/54**, mbtmp3.4**/5**, ML3.4**/1**, Error ellipse: s-maj=49.0km s-min=28.3km az=120.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.13	149	Pn	Pn	16 12 42.4	+0.4
	0.2nm,0.3s,baz=110,slow=17,SNR=1.5						
PMG				Sn	Sn	16 13 44.8	-8.2
	1.6nm,0.3s,baz=242,slow=15,SNR=2.7						
WRA	Warramunga Arr	18.30	210	P	Pn	16 15 24.8	-0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=11						
ASAR	Alice Springs	21.71	206	P	P	16 16 01.7	-1.2
	0.6nm,0.6s,baz=30,slow=8.1,SNR=16						
FITZ	Fitzroy Crossi	22.66	231	P	P	16 16 14.4	+1.3
	1.7nm,0.4s,baz=44,slow=9.4,SNR=20						
ILAR	Eielson Array	84.99	24	P	P	16 23 46.9	-0.1
	0.3nm,0.7s,baz=245,slow=5.8,SNR=4.4						

*IDC **03** 16:13:41.3±0.9, 11°.54N×141°.67E, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.6/71, mbtmp3.6/14, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/65, Error ellipse: s-maj=25.8km s-min=17.9km az=107.0*
*NEIC **03** 16:13:48.7±2.4, 11°.6N±0°.1×141°.9E±0°.1, h61km±9km, mb4.3/15, Error ellipse: s-maj=15.9km s-min=14.6km az=45.0*
ISC 03 16:13:47.1±0.6**, 11°.46N**±0°.08×**141°.75E**±0°.10**, h50km, n34,** σ**1s.15**/33**, mb3.9**/19**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.71	55	Pn	**Pn**	**16 14 42.3**	**+0.3**
	12nm,0.3s,baz=331,slow=9.6,SNR=2.5						
GUMO				Sn	**Sn**	**16 15 25.9**	**+1.5**
	4.0nm,0.3s,baz=180,slow=20,SNR=1.1						
GUMO	Guam	3.71	55	Pn	**Pn**	**16 14 40.1**	**-1.9**
COEN	Coen	25.29	177	P	**P**	**16 19 09.1**	**0.0**
WB0	Warramunga Arr	31.86	193	P	**P**	**16 20 05.2**	**-2.4**
WB0				IAmb	IAmb	16 20 36.4	
	comp=Z,5.4nm,1.4s						
WR0	Warramunga Arr	32.02	193	P	**P**	**16 20 09.9**	**+0.9**
WR0				IAmb	IAmb	16 20 11.4	
	comp=Z,7.4nm,1.4s						
WRAB	Tennant Creek	32.03	193	P	**P**	**16 20 10.0**	**+0.9**
WRAB				IAmb	IAmb	16 20 26.3	
	comp=Z,7.0nm,1.3s						
WB2	Warramunga Arr	32.04	193	P	**P**	**16 20 10.9**	**+1.7**
WB2				IAmb	IAmb	16 20 43.1	
	comp=Z,7.7nm,1.4s						
WRA	Warramunga Arr	32.04	193	P	**P**	**16 20 09.8**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=13,slow=9.8,SNR=3.5						
WRA	Warramunga Arr	32.04	193	P	**P**	**16 20 09.3**	**+0.1**
USRK	Ussuriysk Ar.	33.69	347	P	**P**	**16 20 24.4**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=172,slow=9.1,SNR=6.8						
AS31	Alice Springs	35.74	192	P	**P**	**16 20 43.1**	**+1.8**
ASAR	Alice Springs	35.74	192	P	**P**	**16 20 43.1**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=23,slow=12,SNR=12						
ASAR	Alice Springs	35.74	192	P	**P**	**16 20 42.2**	**+0.8**
LEM	Lembang	38.51	243	LR	LR	16 36 18.7	
	comp=Z,147nm,20.1s,baz=51,slow=35						
LIFNC	LIFOU	40.67	142	P	**P**	**16 21 23.5**	**+0.7**
CMAR	Chiang Mai Arr	41.86	285	P	**P**	**16 21 33.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=81,slow=6.5,SNR=1.9						
BBOO	Buckleboo	44.35	187	P	**P**	**16 21 52.1**	**-0.4**
SONM	Songino Array	46.80	328	P	**P**	**16 22 12.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.5,SNR=4.0						
SONM	Songino Array	46.80	328	P	**P**	**16 22 10.2**	**-1.7**
MA2	Magadan	48.50	6	P	**P**	**16 22 24.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=238,slow=5.5,SNR=4.9						
MA2	Magadan	48.50	6	IAmb	IAmb	16 22 41.5	
	comp=Z,4.9nm,1.5s						
SEY	Seymchan	51.96	6	P	**P**	**16 22 51.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=180,slow=23,SNR=16						
MK31	Makanchi Array	60.94	317	P	**P**	**16 23 54.4**	**-0.8**
MK31				IAmb	IAmb	16 24 07.5	
	comp=Z,2.9nm,1.6s						
MKAR	Makanchi Array	60.94	317	P	**P**	**16 23 55.3**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=98,slow=8.7,SNR=4.9						
MSWZ	Moikau Station	61.00	152	P	**P**	**16 23 54.4**	**-1.1**
ZALV	Zalesovo Beam	61.61	326	P	**P**	**16 23 59.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=4.5,SNR=2.1						
KURK	Kurchatov	64.28	321	P	**P**	**16 24 15.8**	**-1.4**
KURK				IAmb	IAmb	16 24 18.6	
	comp=Z,1.9nm,0.7s						
KURBB	Kurchatov Arra	64.31	321	P	**P**	**16 24 17.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=108,slow=6.8,SNR=8.5						
CHIR	Chirikof Islan	65.34	33	P	**P**	**16 24 21.9**	**-2.1**
BVAR	Borovoye Array	69.72	322	P	**P**	**16 24 52.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=49,slow=12,SNR=4.1						
TRF	Thorofare Moun	70.03	26	P	**P**	**16 24 52.8**	**-0.9**
ILAR	Eielson Array	71.79	25	P	**P**	**16 25 03.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=243,slow=6.2,SNR=6.8						
ILAR	Eielson Array	71.79	25	P	**P**	**16 25 03.4**	**-0.7**
YKA	Yellowknife Ar	86.14	27	P	**P**	**16 26 23.9**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=289,slow=5.0,SNR=3.0						

*IDC **03** 16:13:41.1±1.4, 23°.36N×94°.18E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.2/80, mbtmp3.4/6, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/67, Error ellipse: s-maj=52.2km s-min=17.1km az=60.0*
ISC 03 16:13:52.4±1.9**, 23°.4N**±0°.3×**94°.6E**±0°.5**, h99km, n7,** σ**2s.42**/6**, mb3.3**/5**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.37	140	Pn	**Pn**	**16 15 21.5**	**-2.2**
	0.2nm,0.3s,baz=312,slow=13,SNR=16						
CMAR				Lg	Lg	16 17 10.9	
	baz=314,slow=31,SNR=2.7						
MKAR	Makanchi Array	25.36	340	P	**P**	**16 19 09.8**	**-0.3**
	1.5nm,0.6s,baz=143,slow=9.7,SNR=24						
SONM	Songino Array	26.11	18	P	**P**	**16 19 17.5**	**+0.4**
	0.2nm,0.7s,baz=188,slow=6.8,SNR=1.4						
KURBB	Kurchatov Arra	29.91	339	P	**P**	**16 19 49.3**	**-1.4**
	0.2nm,0.5s,baz=149,slow=8.6,SNR=5.3						
ARU	Arti	42.18	331	LR	LR	16 41 07.6	
	comp=Z,57nm,18.7s,baz=306,slow=39						
WRA	Warramunga Arr	57.93	135	P	**P**	**16 23 36.6**	**+2.1**
	0.2nm,0.6s,baz=321,slow=7.5,SNR=1.4						
ASAR	Alice Springs	60.37	138	P	**P**	**16 23 53.9**	**+2.5**
	0.3nm,0.6s,baz=318,slow=6.5,SNR=5.5						

IDC 03 16:17:53.2±443.0**, 53°.57N×34°.34E, h0km, Error ellipse: s-maj=177.2km s-min=77.4km az=27.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.56	26	*i*		16 42 50.0	
	baz=211,slow=306,SNR=1.3						
I26DE	FREYUNG INFRAS	13.75	258	*i*		17 48 00.0	
	baz=68,slow=330,SNR=1.0						
I31KZ	AKTYUBINSK INF	14.91	93	*i*		17 49 10.0	
	baz=297,slow=328,SNR=2.0						
I46RU	ZALESOVO INFRA	29.33	69	*i*		19 13 40.0	
	baz=286,slow=319,SNR=2.2						

JMA ***03*** *16:20:44.3±0.1, 24°.86N×122°.49E, h38km±3km, M3.1*
IDC ***03*** *16:20:44.5±31.0, 24°.50N×121°.28E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/66, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=534.9km s-min=68.8km az=148.0*
TAP ***03*** *16:20:45.1, 24°.87N×122°.38E, h16km, ML3.6, C*
ISC 03 16:20:43.3±1.1**, 24°.86N**±0°.02×**122°.49E**±0°.02**, h12**km±8km**, n94, σ0.89**/171**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**288**	*i* P	**Pb**	**16 20 53.4**	**-0.3**
	baz=291						
TWB1				*i* S	**Sg**	**16 20 59.2**	**+0.1**
	baz=291						
JYNG	**Yonagunijimaku**	**0.58**	**135**	P	**Pb**	**16 20 56.0**	**+0.5**
JYNG				S	**Sb**	**16 21 04.1**	**+0.4**
NTC	**Toucheng**	**0.60**	**269**	*e*P	**Pb**	**16 20 56.4**	**+0.6**
	baz=278						
NTC				S	**Sg**	**16 21 03.0**	**0.0**
	baz=278						
SXI1	**Grass Mountain**	**0.60**	**293**	*i* P	**Pb**	**16 20 56.3**	**+0.3**
	baz=296						
SXI1				S	**Sb**	**16 21 03.7**	**-0.8**
	baz=296						
TIPB	**Shuangxi**	**0.61**	**280**	*i* P	**Pb**	**16 20 56.0**	**0.0**
	baz=281						
TIPB				S	**Sb**	**16 21 03.9**	**-0.8**
	baz=281						
YOJ	**Yonaguni jima**	**0.62**	**130**	P	**Pb**	**16 20 56.6**	**+0.5**
YOJ				S	**Sb**	**16 21 05.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.62**	**130**	*e*P	**Pb**	**16 20 56.8**	**+0.7**
	baz=116						
TWC	**Suao**	**0.64**	**247**	*i* P	**Pg**	**16 20 55.7**	**0.0**
	baz=241						
TWC				S	**Sg**	**16 21 03.7**	**-0.3**
	baz=241						
NWF	**Wu-fen Shan**	**0.68**	**288**	*i* P	**Pb**	**16 20 57.4**	**+0.3**
	baz=290						
NWF				*i* S	**Sg**	**16 21 05.7**	**+0.3**
	baz=290						
WFSB	**Wu-fen Shan**	**0.68**	**288**	*i* P	**Pb**	**16 20 57.5**	**+0.4**
	baz=290						
WFSB				S	**Sb**	**16 21 05.7**	**-0.8**
	baz=290						
ILA	**Ilan**	**0.68**	**262**	P	**Pb**	**16 20 57.1**	**-0.1**
	baz=250						
ILA				*e*S	**Sb**	**16 21 07.2**	**+0.6**
	baz=250						
TNOU	**National Taiwa**	**0.71**	**294**	*i* P	**Pb**	**16 20 57.7**	**0.0**
	baz=296						
TNOU				S	**Sb**	**16 21 07.2**	**-0.3**
	baz=296						
NDS	**Dongshan**	**0.74**	**252**	*i* P	**Pb**	**16 20 58.2**	**+0.1**
	baz=249						
NDS				*e*S	**Sg**	**16 21 06.7**	**-0.7**
	baz=249						
TWE	**Neicheng**	**0.76**	**260**	*i* P	**Pg**	**16 20 58.2**	**+0.1**
	baz=248						
TWE				*i* S	**Sg**	**16 21 07.9**	**-0.2**
	baz=248						
EWUT	**Wuta**	**0.77**	**238**	*i* P	**Pb**	**16 20 58.7**	**0.0**
	baz=233						
EWUT				S	**Sg**	**16 21 08.1**	**-0.2**
	baz=233						
ENA	**Nanau**	**0.81**	**238**	*i* P	**Pb**	**16 20 59.3**	**-0.1**
	baz=233						
ENA				*e*S	**Sg**	**16 21 08.9**	**-0.6**
	baz=233						
NWRT	**Kuosheng**	**0.83**	**294**	P	**Pn**	**16 21 00.4**	**-0.4**
	baz=296						
NWRT				S	**Sb**	**16 21 10.6**	**-0.1**
	baz=296						
FUSB	**Fushanzhiwuyua**	**0.83**	**263**	P	**Pb**	**16 20 59.5**	**-0.2**
	baz=261						
FUSB				S	**Sb**	**16 21 10.4**	**-0.4**
	baz=261						
TWA	**Mucha**	**0.83**	**278**	P	**Pb**	**16 21 00.1**	**+0.4**
	baz=278						
TWA				*i* S	**Sb**	**16 21 10.5**	**-0.5**
	baz=278						
PCYT	**Pengchaiyu**	**0.85**	**334**	*i* P	**Pn**	**16 21 01.7**	**+0.4**
	baz=340						
NHY	**Taipei**	**0.85**	**282**	P	**Pn**	**16 21 01.1**	**-0.1**
	baz=283						
NHY				S	**Sb**	**16 21 11.7**	**+0.1**
	baz=283						
ENTT	**Nioudou**	**0.87**	**255**	*i* P	**Pb**	**16 21 00.5**	**+0.1**
	baz=240						
ENTT				*e*S	**Sg**	**16 21 11.3**	**-0.2**
	baz=240						
YM08	**YM08**	**0.88**	**292**	*i* P	**Pn**	**16 21 01.1**	**-0.5**
	baz=293						
YM08				S	**Sb**	**16 21 12.1**	**-0.3**
	baz=293						
YM01	**YM01**	**0.88**	**289**	*i* P	**Pb**	**16 21 00.9**	**+0.2**
	baz=290						
YM01				*e*S	**Sb**	**16 21 12.3**	**-0.1**
	baz=290						
NHDH	**Xindian Distri**	**0.88**	**277**	*i* P	**Pn**	**16 21 01.1**	**-0.5**
	baz=276						
NHDH				S	**Sb**	**16 21 12.1**	**-0.3**
	baz=276						
NWLT	**Wulai**	**0.90**	**265**	*i* P	**Pb**	**16 21 01.2**	**+0.3**
	baz=280						
NWLT				*e*S	**Sg**	**16 21 12.2**	**-0.4**
	baz=280						
TWY	**Chenhua**	**0.91**	**297**	*i* P	**Pn**	**16 21 02.3**	**+0.4**
	baz=285						
TWY				*e*S	**Sg**	**16 21 12.5**	**-0.2**
	baz=285						
TAP	**Taipei**	**0.91**	**281**	*i* P	**Pn**	**16 21 02.3**	**+0.3**
	baz=282						
TAP				S	**Sb**	**16 21 13.5**	**+0.3**
	baz=282						
TATO	**Taipei**	**0.92**	**277**	P	**Pb**	**16 21 01.4**	**+0.2**
	baz=277						
TATO				S	**Sg**	**16 21 12.8**	**-0.3**
	baz=277						
NDT	**Datong Townshi**	**0.93**	**254**	*i* P	**Pn**	**16 21 01.7**	**-0.6**
	baz=238						
NDT				S	**Sb**	**16 21 14.0**	**+0.4**
	baz=238						
LATG	**Datong**	**0.94**	**250**	*i* P	**Pb**	**16 21 01.6**	**0.0**
	baz=247						
LATG				S	**Sb**	**16 21 13.7**	**-0.3**
	baz=247						
ANP	**Anpu**	**0.94**	**290**	*i* P	**Pn**	**16 21 02.5**	**0.0**
	baz=291						
ANP				*e*S	**Sg**	**16 21 13.3**	**-0.4**
	baz=291						
BACT	**New Taipei Cit**	**0.96**	**278**	*e*P	**Pn**	**16 21 03.7**	**+1.0**
	baz=278						
BACT				*e*S	**Sn**	**16 21 15.3**	**-1.0**
	baz=278						
NTST	**Danshui**	**0.99**	**288**	P	**Pg**	**16 21 02.5**	**+0.1**
	baz=289						
NTST				S	**Sn**	**16 21 16.1**	**-1.0**
	baz=289						
TWS1	**Kuangyinshan**	**1.00**	**284**	*e*P	**Pn**	**16 21 04.4**	**+1.2**
	baz=284						
TWS1				S	**Sn**	**16 21 16.3**	**-1.1**
	baz=284						
YHNB	**Yeheng**	**1.03**	**260**	*i* P	**Pn**	**16 21 03.5**	**-0.2**
	baz=241						
YHNB				S	**Sb**	**16 21 16.3**	**-0.5**
	baz=241						
NSK	**Sanguang**	**1.05**	**260**	*i* P	**Pg**	**16 21 03.6**	**+0.1**
	baz=242						
NSK				*e*S	**Sg**	**16 21 17.4**	**+0.2**
	baz=242						
ETL	**Fush Village**	**1.06**	**229**	P	**Pn**	**16 21 04.2**	**+0.1**
	baz=235						
ETL				*e*S	**Sg**	**16 21 17.3**	**-0.1**
	baz=235						
NACB	**Ninganchiao**	**1.06**	**230**	P	**Pb**	**16 21 03.1**	**-0.6**
	baz=236						
NACB				S	**Sb**	**16 21 17.1**	**-0.6**
	baz=236						
NTY	**Taoyuan**	**1.09**	**277**	*e*P	**Pg**	**16 21 04.9**	**+0.5**
	baz=277						
NTY				*e*S	**Sg**	**16 21 18.4**	**-0.2**
	baz=277						
NNSB	**Datong**	**1.10**	**247**	*i* P	**Pn**	**16 21 04.5**	**-0.2**
	baz=232						
NNSB				S	**Sb**	**16 21 18.1**	**-0.5**
	baz=232						
NNS	**Nan Shan**	**1.10**	**248**	*i* P	**Pg**	**16 21 04.4**	**-0.1**
	baz=233						
NNS				*e*S	**Sg**	**16 21 18.9**	**0.0**
	baz=233						
ETLH	**Xiulin Townshi**	**1.13**	**235**	*i* P	**Pn**	**16 21 05.0**	**-0.1**
	baz=231						
ETLH				S	**Sg**	**16 21 19.4**	**-0.3**
	baz=231						
TWD	**Chiawan**	**1.13**	**227**	P	**Pg**	**16 21 05.1**	**0.0**
	baz=230						
TWD				S	**Sg**	**16 21 19.4**	**-0.3**
	baz=230						
IRIF	**Iriomote-Funau**	**1.24**	**115**	P	**Pn**	**16 21 05.3**	**-1.3**
IRIF				*e*S	**Sb**	**16 21 20.9**	**-1.9**
NFF	**Wufeng Townshi**	**1.27**	**260**	P	**Pb**	**16 21 07.1**	**-0.2**
	baz=258						
NFF				S	**Sb**	**16 21 23.3**	**-0.3**
	baz=258						
ETM	**Tongmen**	**1.27**	**226**	P	**Pb**	**16 21 07.1**	**-0.2**
	baz=204						
ETM				S	**Sg**	**16 21 24.1**	**-0.3**
	baz=204						
ETM	**Tongmen**	**1.27**	**226**	S	**Pb**	**16 21 07.5**	**+0.2**
	baz=31						
FUSS	**Fushou**	**1.29**	**242**	P	**Pn**	**16 21 07.2**	**-0.2**
	baz=229						
FUSS				S	**Sb**	**16 21 23.5**	**-0.8**
	baz=229						
NHW	**Xinwu Township**	**1.32**	**277**	P	**Pn**	**16 21 07.2**	**-0.4**
	baz=276						
NHW				S	**Sb**	**16 21 24.2**	**-0.7**
	baz=276						
WHF	**Hehuan Shan**	**1.32**	**238**	*i* P	**Pg**	**16 21 08.9**	**0.0**
	baz=234						
WHF				S	**Sn**	**16 21 25.5**	**-0.4**
	baz=234						
TDCB	**Techi**	**1.36**	**244**	P	**Pb**	**16 21 08.7**	**-0.1**
	baz=241						
TDCB				*e*S	**Sg**	**16 21 27.1**	**0.0**
	baz=241						
LIOB	**Emei**	**1.36**	**261**	P	**Pn**	**16 21 08.2**	**0.0**
	baz=260						
SBCB	**Hsinchu**	**1.37**	**267**	P	**Pn**	**16 21 08.4**	**+0.1**
	baz=283						
SBCB				S	**Sn**	**16 21 25.4**	**-1.0**
	baz=283						
NSTT	**Nanjuang**	**1.37**	**261**	*i* P	**Pb**	**16 21 08.8**	**-0.2**
	baz=259						
NSTT				S	**Sn**	**16 21 25.8**	**-0.7**
	baz=259						
HATJ	**Hateruma jima**	**1.44**	**124**	P	**Pn**	**16 21 09.7**	**+0.4**
JKRS	**Kuro-shima**	**1.52**	**114**	P	**Pn**	**16 21 09.8**	**-0.5**
JKRS				*e*S	**Sn**	**16 21 28.7**	**-1.3**
WHP	**Taichung City**	**1.52**	**248**	P	**Pg**	**16 21 12.8**	**+0.2**
	baz=245						
WHP				S	**Sb**	**16 21 31.1**	**+0.2**
	baz=245						
WUSB	**Renai**	**1.52**	**236**	P	**Pg**	**16 21 12.5**	**-0.1**
	baz=246						
WUSB				*e*S	**Sn**	**16 21 29.6**	**-0.7**
	baz=246						
JIJ	**Ishigaki jima**	**1.58**	**108**	P	**Pn**	**16 21 10.3**	**-0.9**
JIJ				*e*S	**Sn**	**16 21 29.5**	**-2.2**
WPL	**Puli Township**	**1.63**	**239**	P	**Pg**	**16 21 14.2**	**-0.5**
	baz=236						
WPL				*e*S	**Sg**	**16 21 35.7**	**-0.2**
	baz=236						
JISG	**Ishigakijimahi**	**1.68**	**99**	P	**Pn**	**16 21 12.2**	**-0.3**
SMLT	**Sun Moon Lake**	**1.75**	**236**	*i* P	**Pb**	**16 21 16.0**	**+0.6**
	baz=245						
SMLT				S	**Sb**	**16 21 36.6**	**-0.8**
	baz=245						
SSLB	**Suanglung**	**1.76**	**233**	*e*P	**Pb**	**16 21 16.3**	**+0.7**
	baz=241						
SSLB				*e*S	**Sb**	**16 21 38.4**	**+0.7**
	baz=241						
TYC	**Yuchr**	**1.77**	**238**	P	**Pb**	**16 21 16.0**	**+0.3**
	baz=218						
WJS	**Zhushan**	**1.91**	**238**	P	**Pb**	**16 21 18.7**	**+0.5**
	baz=255						
WJS				S	**Sg**	**16 21 44.1**	**-0.7**
	baz=255						
ALS	**Alishan**	**2.04**	**229**	P	**Pb**	**16 21 20.6**	**-0.1**
	baz=210						
CHN5	**Tsauling**	**2.08**	**233**	P	**Pb**	**16 21 20.7**	**-0.4**
	baz=214						
CHN5				*e*S	**Sg**	**16 21 49.5**	**-0.7**
	baz=214						
WDLH	**Douliu**	**2.13**	**237**	*e*P	**Pb**	**16 21 22.1**	**+0.2**
	baz=254						
WDLH				*e*S	**Sg**	**16 21 50.1**	**-1.8**
	baz=254						
WRL	**Guolierlin Hig**	**2.15**	**244**	P	**Pn**	**16 21 20.4**	**+1.4**
	baz=242						
EDH	**Donghe**	**2.17**	**210**	P	**Pn**	**16 21 19.1**	**-0.2**
	baz=195						
EDH				S	**Sn**	**16 21 44.7**	**-1.5**
	baz=195						
TPUB	**Ta-pu**	**2.30**	**228**	P	**Pb**	**16 21 24.0**	**-0.9**
	baz=210						
TPUB				*e*S	**Sb**	**16 21 54.0**	**+0.7**
	baz=210						
STYT	**Tauyuan**	**2.32**	**224**	P	**Pb**	**16 21 23.7**	**-1.5**
	baz=207						
STYT				*e*S	**Sb**	**16 21 53.8**	**0.0**
	baz=207						
LDUT	**Ludao**	**2.37**	**203**	S	**Sn**	**16 21 48.9**	**-2.2**
	baz=201						
TWK	**Hsinying**	**2.42**	**229**	*i* P	**Pb**	**16 21 25.7**	**-1.3**
	baz=212						
TWK				*i* S	**Sb**	**16 21 56.3**	**-0.5**
	baz=212						
CHN1	**Nanshi**	**2.45**	**227**	P	**Pb**	**16 21 25.7**	**-1.7**
	baz=225						
SLGT	**Liugui**	**2.51**	**223**	P	**Pb**	**16 21 26.4**	**-2.0**
	baz=206						
SLGT				S	**Sb**	**16 21 58.1**	**-1.2**
	baz=206						
JMJ	**Miyako jima 2**	**2.55**	**90**	P	**Pb**	**16 21 28.5**	**-0.5**
	baz=91						
MATB	**Ma-tsu**	**2.63**	**300**	*e*P	**Pn**	**16 21 25.1**	**-0.6**
	baz=297						
MATB				*e*S	**Sn**	**16 21 55.7**	**-1.9**
	baz=297						
SCST	**Cishan**	**2.69**	**223**	P	**Pb**	**16 21 29.9**	**-1.4**
	baz=222						
SCST				S	**Sb**	**16 22 03.1**	**-1.2**
	baz=222						
SSD	**Sandimen**	**2.71**	**219**	*e*P	**Pb**	**16 21 29.8**	**-2.0**
	baz=203						
SSD				*e*S	**Sb**	**16 22 03.7**	**-1.3**
	baz=203						
TSMG	**Majia**	**2.73**	**219**	P	**Pb**	**16 21 30.1**	**-2.1**
	baz=203						
TSMG				S	**Sn**	**16 22 01.8**	**+1.8**
	baz=203						
MASBT	**Mashibuluo**	**2.81**	**218**	*e*P	**Pn**	**16 21 29.9**	**+1.7**
	baz=203						
MASBT				*e*S	**Sn**	**16 22 03.1**	**+1.1**
	baz=203						
LYUB	**Lan-yu**	**2.97**	**196**	*e*P	**Pn**	**16 21 32.9**	**+2.6**
	baz=194						
LYUB				*e*S	**Sn**	**16 22 06.5**	**+0.7**
	baz=194						
PNG	**Penghu**	**2.97**	**245**	P	**Pn**	**16 21 31.1**	**+0.7**
	baz=244						
PNG				*e*S	**Sn**	**16 22 04.0**	**-2.0**
	baz=244						
LYJJ	**Jianjiangzhen**	**2.98**	**305**	*e*P	**Pn**	**16 21 30.4**	**-0.1**
	baz=302						
LYJJ				*e*S	**Sn**	**16 22 04.1**	**-2.1**
	baz=302						
PHUB	**P'eng-hu**	**2.98**	**244**	*e*P	**Pn**	**16 21 30.8**	**+0.3**
	baz=243						
PHUB				*e*S	**Sn**	**16 22 04.5**	**-1.7**
	baz=243						
SLIU	**Shizi**	**3.06**	**211**	*e*P	**Pn**	**16 21 34.5**	**+2.9**
	baz=198						
SLIU				S	**Sn**	**16 22 08.4**	**+0.3**
	baz=198						
VCHM	**Qimei**	**3.25**	**240**	P	**Pn**	**16 21 35.0**	**+0.9**
	baz=240						
VCHM				*e*S	**Sn**	**16 22 12.2**	**-0.6**
	baz=240						
KNMB	**Chin-men Tao**	**3.75**	**265**	*e*P	**Pn**	**16 21 40.4**	**-0.7**
	baz=265						
AXDP	**Jialang**	**4.11**	**271**	*e*P	**Pn**	**16 21 45.4**	**-0.6**
	baz=272						
KSRS	**Korea Array**	**13.38**	**19**	Pn	**P**	**16 24 05.8**	**+3.2**
	0.2nm,0.3s,baz=198,slow=11,SNR=8.8						
SONM	**Songino Array**	**26.23**	**335**	P	**P**	**16 26 19.8**	**+1.5**
	0.9nm,1.0s,baz=144,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**38.69**	**315**	P	**P**	**16 28 05.8**	**-1.3**
	0.5nm,0.8s,baz=100,slow=9.4,SNR=4.8						

TAP 03 16:20:55.0, 23°.66N×121°.28E, h11km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.15**	**166**	*i* P	Pg	16 20 59.0	+0.5
	baz=164						
EHY				*i* S	Sg	16 21 01.4	+0.3
	baz=164						
VWDT	**VWDT**	**0.16**	**307**	*i* P	Pg	16 20 58.9	+0.3
	baz=308						
VWDT				*i* S	Sg	16 21 01.3	+0.2
	baz=308						
ESL	**Shilin**	**0.21**	**42**	P	Pg	16 20 59.8	+0.4
	baz=42						
ESL				S	Sg	16 21 02.6	+0.1
	baz=42						
HGSD	**Ruisui**	**0.21**	**141**	*e*P	Pb	16 21 00.6	-0.2
	baz=141						
HGSD				*e*S	Sg	16 21 04.4	+2.0
	baz=141						
YULB	**Yu-li**	**0.26**	**177**	P	Pg	16 21 00.8	+0.4
	baz=177						
YULB				*i* S	Sg	16 21 04.2	+0.2
	baz=177						
TWF1	**Yuli**	**0.30**	**177**	*i* P	Pg	16 21 01.6	+0.5
	baz=176						
TWF1				S	Sg	16 21 05.7	+0.4
	baz=176						
EYUL	**Yuli**	**0.31**	**174**	P	Pg	16 21 01.8	+0.6
	baz=178						
EYUL				S	Sg	16 21 06.0	+0.5
	baz=178						
SSLB	**Suanglung**	**0.33**	**294**	P	Pg	16 21 01.8	+0.2
	baz=294						
SSLB				*e*S	Sg	16 21 05.7	-0.3
	baz=294						
YUS	**Yu-Shan**	**0.34**	**241**	P	Pg	16 21 02.4	+0.3
	baz=241						
YUS				S	Sg	16 21 07.5	+0.7
	baz=241						
ETM	**Tongmen**	**0.36**	**32**	P	Pg	16 21 02.3	0.0
	baz=31						
WUSB	**Renai**	**0.36**	**336**	P	Pg	16 21 02.6	+0.2
	baz=328						
WUSB				*e*S	Sg	16 21 07.1	-0.2
	baz=328						
SMLT	**Sun Moon Lake**	**0.41**	**303**	*e*P	Pb	16 21 04.1	-0.3
	baz=311						
SMLT				*e*S	Sg	16 21 09.4	+0.6
	baz=311						
ALS	**Alishan**	**0.46**	**252**	*e*P	Pb	16 21 05.0	-0.2
	baz=252						
ALS				S	Sg	16 21 11.0	+0.7
	baz=252						
WCS	**Beigang Elemen**	**0.52**	**320**	P	Pb	16 21 06.0	-0.1
	baz=325						
WCS				S	Sg	16 21 12.4	+0.2
	baz=325						
CHN5	**Tsauling**	**0.56**	**264**	P	Pb	16 21 06.5	-0.3
	baz=257						
CHN5				S	Sb	16 21 14.8	+0.1
	baz=257						
TPUB	**Ta-pu**	**0.69**	**239**	P	Pb	16 21 09.7	+0.6
	baz=247						
TPUB				S	Sb	16 21 19.1	+0.4
	baz=247						
WTP	**Ta-pu**	**0.74**	**236**	*i* P	Pn	16 21 10.6	-0.7
	baz=243						
WTP				S	Sb	16 21 20.9	+1.0
	baz=243						

MOS ***03*** *16:23:04.4±1.0, 4°.01N×125°.86E, h94km, mb4.9/22, Error ellipse: s-maj=9.8km s-min=5.1km az=105.6*
BJI ***03*** *16:23:06.5±0.0, 4°.00N×126°.20E, h112km, mb4.6/50, mB4.9/23*
NEIC ***03*** *16:23:07.5±2.4, 4°.00N±0°.05×126°.01E±0°.06, h102km±4km, mb5.1/192, Error ellipse: s-maj=8.9km s-min=6.9km az=69.0*
IDC ***03*** *16:23:07.5±0.6, 4°.00N×125°.99E, h107km±4km, mb4.5/33, mb1 4.6/38, mb1mx4.5/51, mbtmp4.9/38, MS3.6/29, Ms1 3.6/29, ms1mx3.4/77, Error ellipse: s-maj=12.3km s-min=6.7km az=76.0*
GCMT ***03*** *16:23:08.5±0.2, 3°.96N±0°.01×126°.19E±0°.02, h113km±2km, MW5.0/114, Moment Tensor Solution. s52,c66; s114,c171; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.05±.10; $M_{\theta\theta}$3.51±.10; $M_{\phi\phi}$-1.46±.12; $M_{r\theta}$-0.66±.08; $M_{\theta\phi}$-2.00±.11; $M_{\phi r}$2.36±.08; Best double couple: $M_0$4.38800×10^{16} NP1:ϕ_s253.00000°, δ48.00000°, λ-153.00000°. NP2:ϕ_s144.00000°, δ70.00000°, λ-45.00000°. Principal axes: T 4.5440, Plg13.0000°, Azm203.0000°; N -0.3110, Plg42.0000°, Azm305.0000°; P -4.2320, Plg45.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MAN ***03*** *16:23:08.1, 3°.96N×125°.89E, h115km, mb5.7, ML4.7, MS5.1*
DJA ***03*** *16:23:08.1±0.2, 4°N±2°×12°6E±°, h112km±2km, M4.9/97, mB5.4/64, mb5.2/97, MLv5.6/19, Mw(mB)4.8/64, MwMwp4.7/4, Mwp5.0/4*
ISC 03 16:23:07.3±0.3**, 3°.98N**±0°.03×**126°.04E**±0°.04**, h107**km±2km**, h107km:pP-P, n649, σ1.49**/677**, mb5.0**/177**, 18C-10D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.59**	**240**	P	**Pn**	**16 23 26.4**	**+1.9**
SGSI				S	**Sn**	**16 23 40.7**	**+3.4**
GSPH	**General Santos**	**2.36**	**333⇑**	*e*P	**Pn**	**16 23 45.9**	**+0.9**
GSPH				*i* S	**Sn**	**16 24 13.7**	**-0.1**
DAV	**Davao City (W)**	**3.11**	**352**	P	**Pn**	**16 23 56.4**	**+1.7**
	166nm,0.3s,baz=126,slow=2.1,SNR=26						
DAV				S	**Sn**	**16 24 31.5**	**+0.3**
	276nm,0.3s,baz=189,slow=22,SNR=6.4						
DAV	**Davao City (W)**	**3.11**	**352**	Pn	**Pn**	**16 23 56.7**	**+1.9**
DAV				Sn	**Sn**	**16 24 31.2**	**-0.1**
DAV	**Davao City (W)**	**3.11**	**352**	P	**Pn**	**16 23 57.6**	**+2.9**
KCP	**Kidapawan**	**3.16**	**343⇓**	*i*P	**Pn**	**16 23 57.0**	**+1.5**
KCP				*i* S	**Sn**	**16 24 35.9**	**+3.4**
TNTI	**Ternate**	**3.45**	**157**	Pn	**Pn**	**16 23 59.9**	**+0.6**
TNTI				Sn	**Sn**	**16 24 39.0**	**-0.4**
TNTI	**Ternate**	**3.45**	**157**	P	**Pn**	**16 24 00.4**	**+1.1**
TNTI				S	**Sn**	**16 24 38.4**	**-1.0**
TNTI	**Ternate**	**3.45**	**157**	P	**Pn**	**16 24 00.7**	**+1.4**
CTBH	**Cotabato--PC H**	**3.68**	**331⇓**	*e*P	**Pn**	**16 24 03.9**	**+1.5**
CTBH				*i* S	**Sn**	**16 24 45.7**	**+0.6**
KMSI	**Cibinong**	**3.96**	**211**	P	**Pn**	**16 24 09.4**	**+3.3**
BIPH	**Bislig**	**4.19**	**4⇓**	*i*P	Pn	16 24 14.6	+5.4
BIPH				*i* S	**Sn**	**16 25 02.3**	**+5.0**
GTOI	**Gorontalo**	**4.49**	**222**	P	**Pn**	**16 24 16.1**	**+2.8**
GTOI				S	**Sn**	**16 25 04.9**	**+0.4**
LBMI	**Labuha**	**4.81**	**162**	P	**Pn**	**16 24 18.4**	**+0.8**
LBMI				S	**Sn**	**16 25 10.1**	**-2.2**
ZCP	**Zamboanga City**	**4.92**	**307⇓**	*i*P	**Pn**	**16 24 20.6**	**+1.5**
ZCP				*i* S	**Sn**	**16 25 14.0**	**-0.8**
DCPH	**Dipolog City**	**5.30**	**330⇑**	*e*P	Pn	16 24 29.3	+5.1
MRSI	**Marisa**	**5.37**	**230**	P	**Pn**	**16 24 28.7**	**+3.5**
	6.9nm19μm2μm,1.2s						
MRSI				S	**Sn**	**16 25 26.8**	**+0.9**
	6.9nm19μm2μm,1.2s						
SCPH	**Surigao**	**5.79**	**355⇑**	*e*P	**Pn**	**16 24 33.0**	**+2.1**
LUWI	**Luwuk**	**5.96**	**213**	Pn	**Pn**	**16 24 35.6**	**+2.5**
LUWI				Sn	**Sn**	**16 25 45.7**	**+5.6**
LUWI	**Luwuk**	**5.96**	**213**	P	**Pn**	**16 24 36.9**	**+3.7**
	6.5nm5μm16μm1μm,0.7s						
LUWI	**Luwuk**	**5.96**	**213**	P	Pn	16 24 38.3	+5.1
TOLI2	**Tolitoli**	**5.97**	**242**	Pn	**Pn**	**16 24 35.0**	**+1.6**
TOLI2				Sn	**Sn**	**16 25 38.7**	**-1.8**
TOLI2	**Tolitoli**	**5.97**	**242**	P	**Pn**	**16 24 36.5**	**+3.1**
SANI	**Sanana**	**5.99**	**180**	P	**Pn**	**16 24 32.2**	**-1.3**
	12nm4μm41μm3μm,0.6s						
TBP	**Tagbilaran**	**6.08**	**339⇑**	*e*P	**Pn**	**16 24 35.9**	**+1.2**
TBP				*e*S	Sn	16 25 59.0	+16
APSI	**Ampana**	**6.54**	**222**	P	**Pn**	**16 24 45.3**	**+4.2**
	4.7nm8μm882nm,1.1s						

LLP Lapu-Lapu 6.63 342 *e*P **Pn 16 24 43.2 +1.0**
LLP *e*S **Sn 16 25 58.4 +2.1**
SWI Sorong 7.09 133 P **Pn 16 24 49.5 +0.9**
SWI pmax pmax
comp=Z,71nm,0.5s
SWI Sorong 7.09 133 P **Pn 16 24 49.4 +0.9**
comp=Z,0.8nmcomp=Z,2µmcomp=Z,91nm,0.6s
SIJI Sorong 7.10 133 P **Pn 16 24 49.5 +0.8**
comp=Z,11nm,0.3s,baz=280,slow=23,SNR=53
SIJI S **Sn 16 26 05.2 -2.7**
comp=Z,25nm,0.3s,baz=353,slow=23,SNR=16
MPSI Mapaga 7.12 240 P **Pn 16 24 52.0 +3.0**
comp=Z,0.8nmcomp=Z,2µmcomp=Z,172nm,1.1s
MYLDM Lahad Datu 7.61 279 Pn **Pn 16 24 58.1 +2.6**
MSAI Masohi 7.83 158 P **Pn 16 25 00.2 +1.7**
comp=Z,0.3nmcomp=Z,988nmcomp=Z,68nm,0.5s
AAI Ambon 7.91 164 P **Pn 16 25 00.2 +0.5**
AAI pmax pmax
comp=Z,764nm,0.6s
AAI Ambon 7.91 164 P **Pn 16 25 00.0 +0.3**
comp=Z,3.5nmcomp=Z,9µmcomp=Z,790nm,0.6s
RCP Roxas 8.21 337⇓ *e*P **Pn 16 25 05.9 +2.2**
TTSI Tana Toraja 9.34 222 P **Pn 16 25 22.1 +3.0**
comp=Z,3µmcomp=Z,329nm,0.9s
SMKI Samarinda 9.86 244 P **Pn 16 25 26.7 +0.6**
comp=Z,20µmcomp=Z,572nm,1.0s
KKM Kota Kinabalu 10.00 282 Pn **Pn 16 25 32.3 +4.2**
KKM Kota Kinabalu 10.00 282 P Pn 16 25 33.7 +5.5
BBSI Bau Bau 10.02 200 P **Pn 16 25 28.7 +0.4**
comp=Z,184nmcomp=Z,22nm,0.7s
SPSI Sidrap Palu 10.07 219 P **Pn 16 25 31.8 +2.7**
comp=Z,2µmcomp=Z,144nm,0.9s
BNSI Bone 10.22 216 P **Pn 16 25 32.6 +1.6**
comp=Z,2µmcomp=Z,138nm,0.8s
KAPI Kappang 10.92 215 P **Pn 16 25 41.2 +0.7**
comp=Z,2.5nm,0.3s,baz=49,slow=9.8,SNR=24
KAPI LR LR 16 30 13.2
comp=Z,318nm,21.6s,baz=64,slow=39
KAPI Kappang 10.92 215 P **Pn 16 25 40.8 +0.2**
KAPI Kappang 10.92 215 Pn **Pn 16 25 40.8 +0.2**
KAPI Kappang 10.92 215 P **Pn 16 25 42.9 +2.4**
BKSI Bulukumba 10.97 213 P **Pn 16 25 42.3 +1.1**
comp=Z,842nmcomp=Z,85nm,1.3s
BAKI Biak 11.29 117 P **Pn 16 25 42.2 -3.4**
comp=Z,143nm,0.9s
BSSI Bau Bau, Buton 11.48 209 P **Pn 16 25 49.5 +1.5**
comp=Z,721nmcomp=Z,86nm,0.9s
SRPI Serui, Papua 11.73 119 P **Pn 16 25 51.0 -0.4**
comp=Z,98nm,0.8s
MTKI Muara Teweh, K 12.16 247 P **P 16 26 01.4 -3.8**
comp=Z,2µmcomp=Z,133nm,0.7s
KBKI Kotabaru 12.23 234 P **Pn 16 26 00.8 +2.8**
comp=Z,2µmcomp=Z,154nm,1.0s
PCPH Palayan 12.50 337⇑ *e*P **P 16 26 06.9 -1.9**
SAUI Saumlaki 12.99 156 Pn **Pn 16 26 06.6 -1.4**
SAUI Saumlaki 12.99 156 P **Pn 16 26 06.6 -1.4**
comp=Z,2µmcomp=Z,168nm,1.1s
SAUI Saumlaki 12.99 156 P **Pn 16 26 07.8 -0.2**
MMRI Maumere 13.09 197 Pn **Pn 16 26 09.5 +0.2**
MMRI Maumere 13.09 197 P **Pn 16 26 11.0 +1.7**
comp=Z,4µmcomp=Z,434nm,1.0s
MMRI Maumere 13.09 197 P **Pn 16 26 11.5 +2.2**
SBUM Sibu 13.88 264 P **P 16 26 22.4 -1.9**
BATI Baumata 14.29 190 P **Pn 16 26 26.6 +1.8**
comp=Z,15nm,0.3s,baz=84,slow=1.7,SNR=97
BATI Baumata 14.29 190 P **Pn 16 26 26.8 +2.0**
comp=Z,2µmcomp=Z,276nm,1.0s
STKI Sintang 15.06 255 P **P 16 26 38.1 +0.7**
comp=Z,74nm,1.5s
WBSI Waikabubak, Su 15.06 206 P **Pn 16 26 35.7 +1.0**
comp=Z,4µmcomp=Z,466nm,0.8s
BASI Baing, Sumba 15.12 201 P **Pn 16 26 34.8 -0.5**
comp=Z,3µmcomp=Z,228nm,0.7s
PLAI Plampang 15.15 213 P **P 16 26 37.5 -0.9**
comp=Z,2µmcomp=Z,198nm,0.6s
PLAI Plampang 15.15 213 P **P 16 26 37.8 -0.6**
GENI Genyem 15.55 115 P **P 16 26 41.9 -1.0**
comp=Z,7µmcomp=Z,618nm,1.5s
PBKI Pangkalan Bun 15.82 245 P **P 16 26 46.6 +0.8**
comp=Z,2µmcomp=Z,230nm,0.9s
KSM Kuching 15.91 261 **Pn 16 26 44.7 -0.6**
KSM IAmb IAmb 16 26 51.3
comp=Z,78nm,0.8s
KSM Kuching 15.91 261 P **P 16 26 49.1 +2.3**
JAY Jayapura 16.01 114 P **P 16 26 47.8 -0.2**
comp=Z,6.5nm,0.3s,baz=265,slow=5.1,SNR=22
JAY Jayapura 16.01 114 P **P 16 26 47.6 -0.4**
comp=Z,610nmcomp=Z,48nm,1.2s
SRBI Singaraja 16.13 222 P **P 16 26 48.8 -0.4**
comp=Z,3µmcomp=Z,263nm,1.0s
KMMI Kalianget 16.29 228 P **P 16 26 50.9 -0.1**
comp=Z,76nm,0.6s
DNP Denpasar 16.57 221 P **P 16 26 56.5 +2.4**
DNP pmax pmax
comp=Z,314nm,1.0s
DNP Denpasar 16.57 221 P **P 16 26 55.8 +1.7**
comp=Z,23µmcomp=Z,314nm,0.9s
ABJI Asem Bagus 16.60 225 P **P 16 26 54.5 +0.1**
comp=Z,114nm,1.0s
IGBI Denpasar 16.72 220 P **P 16 26 56.5 +0.7**
comp=Z,3µmcomp=Z,274nm,0.9s
DRS Darwin Rock St 17.00 164 P **Pn 16 26 58.2 -0.5**
BLJI Banyuglugur 17.02 227 P **Pn 16 26 57.5 -1.5**
comp=Z,2µmcomp=Z,140nm,0.5s
JAGI Jajag, Banyuwa 17.13 224 **Pn 16 26 58.7 -1.6**
JAGI IAmb IAmb 16 27 08.1
comp=Z,114nm,1.0s
JAGI Jajag, Banyuwa 17.13 224 P **Pn 16 27 00.2 -0.1**
comp=Z,2µmcomp=Z,112nm,0.5s
JAGI Jajag, Banyuwa 17.13 224 P **P 16 27 02.6 +2.3**
GRJI Gresik 17.33 231 P **Pn 16 27 03.8 +1.1**
comp=Z,628nmcomp=Z,75nm,0.9s
MTN Manton Dam 17.46 163 P **P 16 27 02.7 -1.2**
baz=18,SNR=33
MTN Manton Dam 17.46 163 P **P 16 27 02.2 -1.7**
MTN IAmb IAmb 16 27 04.5
comp=Z,45nm,0.6s
MTN Manton Dam 17.46 163 P **P 16 27 03.7 -0.2**
GMJI Gumukmas 17.49 226 P **Pn 16 27 05.9 +1.2**
comp=Z,2µmcomp=Z,212nm,1.1s
KDU Kakadu 17.75 159 P **P 16 27 05.8 -1.2**
baz=18,SNR=41
KDU Kakadu 17.75 159 P **Pn 16 27 08.5 +0.8**
TBJI Tambak Boyo 17.77 233 P **Pn 16 27 08.2 +0.2**
comp=Z,158nm,0.9s
UWJI Ujung Watu 18.27 236 P **Pn 16 27 16.0 +2.0**
comp=Z,159nm,1.0s
PWJI Pagerwojo 18.54 230 P **P 16 27 15.4 -0.4**
comp=Z,118nm,0.9s
MMPI Merauke 18.91 131 P **P 16 27 19.6 -0.2**
comp=Z,5µmcomp=Z,504nm,0.6s
SMRI Semarang 19.04 235 P **P 16 27 20.9 -0.3**
SMRI IAmb IAmb 16 27 24.5
comp=Z,142nm,0.9s
SMRI Semarang 19.04 235 P **P 16 27 21.0 -0.3**
comp=Z,133nm,0.8s
SMRI Semarang 19.04 235 P **Pn 16 27 23.7 +0.6**
DLV T Lat 19.09 296 P **P 16 27 21.4 -0.6**
PCJI Pacitan 19.13 231 P **P 16 27 21.6 -0.6**
comp=Z,1µmcomp=Z,93nm,0.8s
TWG Pinlang 19.34 346 P **P 16 27 21.4 -3.1**
UGM Wanagama 19.47 233 P **P 16 27 25.3 -0.7**
UGM IAmb IAmb 16 27 46.4
comp=Z,82nm,1.0s
UGM Wanagama 19.47 233 P **Pn 16 27 27.9 -0.4**
comp=Z,90nm,1.2s
UGM Wanagama 19.47 233 P **Pn 16 27 28.1 -0.2**
TPI Tanjungpandan 19.55 250 P **Pn 16 27 30.2 +1.0**
YOGI Yogyakarta 19.60 233 P **P 16 27 28.0 +0.7**
comp=Z,131nm,0.8s
KNRA Kununurra 19.71 172 P **P 16 27 29.2 +0.7**
baz=20,SNR=124
KNRA Kununurra 19.71 172 P **P 16 27 29.0 +0.4**
KNRA IAmb IAmb 16 27 33.1
comp=Z,128nm,0.8s
KNRA Kununurra 19.71 172 P **Pn 16 27 30.5 -0.5**
YULB Yu-li 19.84 347 P **P 16 27 27.0 -2.8**
TPUB Ta-pu 19.91 345 P **P 16 27 28.9 -1.7**
TPUB IAmb IAmb 16 28 14.1
comp=Z,49nm,0.9s
SSLB Suanglung 20.30 346 P **P 16 27 33.1 -1.8**
KPJI Karang Pucung 20.44 237 P **P 16 27 37.9 +1.5**
comp=Z,2µmcomp=Z,161nm,0.7s
NACB Ninganchiao 20.53 348 P **P 16 27 35.4 -1.9**
JCJI Jatiwangi 20.56 240 P Pn 16 27 40.0 -1.0
comp=Z,269nm,0.4s

GUMO Guam 20.90 62 LR LR 16 35 49.5
comp=Z,131nm,18.7s,baz=207,slow=36
GUMO Guam 20.90 62 P Pn 16 27 43.6 -1.2
GUMO pmax pmax
comp=Z,357nm,1.4s
GUMO Guam 20.90 62 P Pn 16 27 43.6 -1.3
YHNB Yeheng 21.06 348 P **P 16 27 41.4 -1.6**
CMJI Cimerak 21.08 236 P **P 16 27 40.8 -2.5**
comp=Z,726nmcomp=Z,82nm,0.7s
LEM Lembang 21.29 240 P **P 16 27 46.5 +0.8**
comp=Z,49nm,0.7s,baz=39,slow=6.1,SNR=13
LEM Lembang 21.29 240 P **P 16 27 46.7 +0.9**
comp=Z,634nmcomp=Z,57nm,0.9s
CBJI Citeko 21.77 242 P **P 16 27 52.9 +2.3**
comp=Z,3µmcomp=Z,284nm,0.8s
QIZ Qiongzhong 21.78 315 P **P 16 27 50.6 -0.1**
QIZ Qiongzhong 21.78 315 P **P 16 27 51.4 +0.7**
QIZ S **S 16 31 48.8 +3.5**
QIZ sS **sS 16 32 22.1 +3.3**
QIZ pmax pmax
comp=Z,15nm,1.0s
QIZ pmax pmax
comp=Z,150nm,2.8s
DSRI Dabo 21.90 259 P **P 16 27 52.1 0.0**
comp=Z,592nmcomp=Z,21nm,1.2s
DBJI Dramaga 21.92 242 P **P 16 27 54.0 +1.8**
comp=Z,17µmcomp=Z,45nm,1.4s
FITZ Fitzroy Crossi 21.94 181 P **P 16 27 52.6 +0.2**
comp=Z,32nm,0.6s,baz=16,slow=8.6,SNR=98
FITZ S **S 16 31 44.8 -3.4**
comp=Z,9.6nm,1.1s,baz=163,slow=21,SNR=6.3
FITZ Fitzroy Crossi 21.94 181 P **P 16 27 51.9 -0.4**
baz=22,SNR=89
FITZ Fitzroy Crossi 21.94 181 P **P 16 27 52.0 -0.4**
FITZ IAmb IAmb 16 27 55.4
comp=Z,38nm,0.7s
FITZ Fitzroy Crossi 21.94 181 P **P 16 27 53.8 +1.4**
CNJI Cibinong 21.95 239 P **P 16 27 51.6 -1.0**
comp=Z,1µmcomp=Z,102nm,1.3s
MANU Manus Island 22.14 105 P **P 16 27 54.5 0.0**
MYKOM Kota Tinggi 22.27 265 P **P 16 27 57.2 +1.3**
SKJI Sukabumi 22.30 241 P **P 16 27 56.0 -0.2**
comp=Z,2µmcomp=Z,85nm,0.8s
BLSI Bandar Lampung 22.75 246 P **P 16 28 01.2 +0.4**
comp=Z,1µmcomp=Z,78nm,0.7s
JOW Kunigami 22.83 5 P **P 16 28 01.9 +0.5**
comp=Z,44nm,0.9s,baz=182,slow=7.4,SNR=12
JOW Kunigami 22.83 5 P **P 16 28 02.5 +1.1**
JOW IAmb IAmb 16 28 04.7
comp=Z,73nm,1.0s
CGJI Cibinong 22.88 243 P **P 16 27 59.5 -2.5**
comp=Z,833nmcomp=Z,56nm,0.5s
KLI Kotabumi 22.91 248 P **P 16 28 06.0 +3.6**
KLI pmax pmax
comp=Z,123nm,1.1s
KLI Kotabumi 22.91 248 P **P 16 28 04.0 +1.6**
comp=Z,2µmcomp=Z,126nm,0.9s
KLSI 22.96 248 P **P 16 28 03.0 +0.1**
comp=Z,628nmcomp=Z,33nm,1.0s
UBPT Khong Chiam 23.15 300 P **P 16 28 05.2 +0.6**
MDSI Maura Dua 23.40 249 P **P 16 28 07.3 +0.3**
comp=Z,540nmcomp=Z,21nm,2.1s
KASI Kota Agung 23.50 246 P **P 16 28 09.3 +1.5**
comp=Z,837nmcomp=Z,73nm,0.9s
LWLI Liwa 23.71 248 P **P 16 28 10.9 +1.0**
comp=Z,66nm,0.9s
MNAI Manna 24.51 250 P **P 16 28 21.0 +4.0**
comp=Z,164nm,1.1s
COEN Coen 24.63 137 P **P 16 28 17.9 -0.2**
COEN IAmb IAmb 16 28 19.5
comp=Z,77nm,1.0s
COEN Coen 24.63 137 P **P 16 28 18.6 +0.6**
MASI Maura Aman, Be 24.81 254 P **P 16 28 23.1 +3.3**
comp=Z,2µmcomp=Z,147nm,0.9s
XMI Christmas Isla 24.82 235 P **P 16 28 21.5 +1.7**
XMIS Christmas Isla 24.87 235 P **P 16 28 18.4 -1.9**
XMIS IAmb IAmb 16 28 21.8
comp=Z,79nm,0.8s
XMIS Christmas Isla 24.87 235 P **P 16 28 21.2 +0.9**
PMG Port Moresby 24.89 122 P **P 16 28 21.2 +0.8**
comp=Z,79nm,0.8s,baz=20,slow=3.3,SNR=56
PMG Port Moresby 24.89 122 *de*P **P 16 28 21.3 +0.8**
PMG pmax pmax
comp=Z,158nm,1.3s
PMG Port Moresby 24.89 122 P **P 16 28 20.8 +0.3**
PMG Port Moresby 24.89 122 P **P 16 28 21.3 +0.8**
PMG Port Moresby 24.89 122 P **P 16 28 21.6 +1.1**
IPM Ipoh 24.95 272 P **P 16 28 22.2 +1.1**
IPM Ipoh 24.95 272 P **P 16 28 24.9 +3.8**
WB0 Warramunga Arr 24.98 161 P **P 16 28 20.8 -0.4**
WB0 IAmb IAmb 16 28 31.5
comp=Z,58nm,0.8s
WRAB Tennant Creek 25.12 161 *de*P **P 16 28 22.6 +0.1**
WRAB pmax pmax
comp=Z,71nm,1.7s
WRAB Tennant Creek 25.12 161 P **P 16 28 22.3 -0.3**
WRAB IAmb IAmb 16 28 33.5
comp=Z,89nm,1.1s
WRAB Tennant Creek 25.12 161 P **P 16 28 23.3 +0.8**
WRA Warramunga Arr 25.13 161 P **P 16 28 22.6 0.0**
comp=Z,26nm,1.0s,baz=341,slow=10,SNR=187
WRA S **S 16 32 38.0 -1.8**
comp=Z,3.5nm,1.0s,baz=354,slow=16,SNR=5.0
WRA ScP **ScP 16 35 23.3 -0.5**
comp=Z,6.9nm,0.8s,baz=342,slow=3.2,SNR=12
WRA Warramunga Arr 25.13 161 P **P 16 28 21.2 -1.4**
WB2 Warramunga Arr 25.13 161 P **P 16 28 22.4 -0.3**
WB2 IAmb IAmb 16 28 33.0
comp=Z,112nm,1.2s
WR0 Warramunga Arr 25.21 161 P **P 16 28 22.5 -0.8**
BKNI Bangkinang 25.24 262 P **P 16 28 24.5 +0.9**
BKNI Bangkinang 25.24 262 P **P 16 28 26.6 +2.9**
comp=Z,1µmcomp=Z,81nm,1.0s
KULM Kulim 25.34 274 P **P 16 28 25.6 +1.0**
KULM IAmb IAmb 16 28 55.6
comp=Z,86nm,1.4s
PSA00 Pilbara Seismi 26.11 193 P **P 16 28 31.4 +0.1**
PSA00 IAmb IAmb 16 28 32.8
comp=Z,52nm,0.6s
PSA00 Pilbara Seismi 26.11 193 P **P 16 28 30.9 -0.5**
PSA00 IAmb IAmb 16 28 59.8
comp=Z,37nm,1.2s
PSA00 Pilbara Seismi 26.11 193 P **P 16 28 32.4 +1.0**
SRIT Nakonsritamara 26.67 281 P **P 16 28 38.3 +1.7**
PPSI Pulau Pagai 26.86 256 P **P 16 28 40.8 +2.5**
comp=Z,50nm,1.7s
PSI Prapat 27.09 268 P **P 16 28 41.8 +1.3**
comp=Z,6.7nm,0.4s,baz=108,slow=4.5,SNR=4.3
PSI LR LR 16 42 53.6
comp=Z,84nm,18.2s,baz=92,slow=44
RABL Rabaul 27.33 107 P **P 16 28 43.0 +0.5**
RABL Rabaul 27.33 107 P **P 16 28 45.0 +2.4**
SISI Saibi 27.44 259 P **P 16 28 43.4 -0.1**
comp=Z,44nm,1.0s
JCJ Chichijima 27.69 32 P **P 16 28 43.9 -1.6**
JSU Suzuyama 27.70 8 P **P 16 28 44.9 -0.6**
QIS Mount Isa 27.78 152 P **P 16 28 47.1 +0.6**
baz=28,SNR=27
QIS Mount Isa 27.78 152 P **P 16 28 47.4 +1.0**
MTSU Mount Surprise 28.42 141 P **P 16 28 52.6 +0.5**
baz=28,SNR=29
MTSU Mount Surprise 28.42 141 P **P 16 28 54.2 +2.1**
AS31 Alice Springs 28.52 165 P **P 16 28 53.1 0.0**
ASAR Alice Springs 28.53 165 P **P 16 28 53.5 +0.5**
comp=Z,5.0nm,0.5s,baz=341,slow=7.4,SNR=181
ASAR PcP **PcP 16 32 02.2 0.0**
comp=Z,6.0nm,0.7s,baz=353,slow=2.2,SNR=7.3
ASAR S **S 16 33 30.7 -2.6**
comp=Z,4.6nm,0.9s,baz=348,slow=23,SNR=6.9
ASAR ScP **ScP 16 35 33.7 -0.2**
comp=Z,9.7nm,1.1s,baz=356,slow=2.8,SNR=12
ASAR LR LR 16 41 23.6
comp=Z,87nm,18.7s,baz=64,slow=38
ASAR Alice Springs 28.53 165 P **P 16 28 52.9 -0.1**
GSI Gunungsitoli 28.55 265 P **P 16 28 52.7 -0.7**
GSI IAmb IAmb 16 29 19.9
comp=Z,66nm,1.4s
GSI Gunungsitoli 28.55 265 P **P 16 28 50.1 -3.3**
comp=Z,24nm,1.5s
WHN Wuhan 28.64 339⇓ P P 16 28 59.1 +5.2
NJ2 Nanjing 28.73 347 *e*P **P 16 28 58.8 +4.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
WRKA Warakurna 28.92 176 P **P 16 28 57.2 +0.7**
baz=29,SNR=41
WRKA Warakurna 28.92 176 P **P 16 28 57.7 +1.1**

JNU Nakatsue 29.35 8 P **P 16 29 00.2 0.0**
comp=Z,24nm,0.8s,baz=187,slow=4.1,SNR=12
JNU Nakatsue 29.35 8 P **P 16 28 59.8 -0.4**
JNU IAmb IAmb 16 29 01.4
comp=Z,32nm,0.9s
CM31 Chiang Mai Arr 30.15 301 P **P 16 29 06.5 -1.0**
CMAR Chiang Mai Arr 30.15 301 P **P 16 29 08.5 +1.0**
comp=Z,1.9nm,0.8s,baz=108,slow=6.9,SNR=26
CMAR pP **pwP 16 29 32.7 -0.8**
comp=Z,8.1nm,0.8s,baz=116,slow=7.2,SNR=16
CMAR PcP **PcP 16 32 07.5 +1.0**
comp=Z,1.8nm,0.9s,baz=214,slow=1.5,SNR=4.0
CMAR ScP **ScP 16 35 39.5 +0.2**
comp=Z,5.6nm,1.1s,baz=136,slow=2.0,SNR=17
CMAR PKiKP **PKiKP 16 39 37.5 -1.1**
comp=Z,0.4nm,0.7s,baz=283,slow=1.8,SNR=4.2
CMAR Chiang Mai Arr 30.15 301 *de*P **P 16 29 09.5 +2.0**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 30.15 301 P **P 16 29 07.6 0.0**
CMAR **PcP 16 32 07.0 +0.5**
CMAR **ScP 16 35 38.9 -0.3**
CHTO Chiang Mai 30.31 301 P **P 16 29 09.7 +0.8**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 30.31 301 P **P 16 29 09.7 +0.8**
CHTO PcP **PcP 16 32 07.6 +0.7**
CHTO Chiang Mai 30.31 301 P **P 16 29 10.7 +1.8**
ENH Enshi 30.48 331 P **P 16 29 09.6 -0.6**
ENH IAmb IAmb 16 29 45.3
comp=Z,17nm,0.7s
ENH PcP **PcP 16 32 06.2 -1.0**
JMN Monobe 30.49 13 P **P 16 29 11.2 +0.9**
JMN IAmb IAmb 16 29 12.5
comp=Z,29nm,0.9s
KMI Kunming 30.72 315⇓ P **P 16 29 15.6 +2.9**
KMI pmax pmax
comp=Z,160nm,4.3s
KMI LR LR
comp=Z,170nm,18.6s
CTA Charters Tower 31.09 141 P **P 16 29 18.0 +2.3**
JHJ Hachijo jima 2 31.71 22 LR LR 16 40 41.3
comp=Z,102nm,20.7s,baz=104,slow=33
PATS Pohnpei 32.25 84 P **P 16 29 27.2 +1.2**
PZH PanZhiHua 32.29 316 P **P 16 29 28.7 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.9s
INU Inuyama 32.83 17 P **P 16 29 30.5 -0.2**
INU IAmb IAmb 16 29 32.2
comp=Z,44nm,0.9s
INU Inuyama 32.83 17 P **P 16 29 31.7 +0.9**
OOD Oodnadatta 32.93 164 P **P 16 29 32.7 +1.0**
LYN LuoYang 32.93 339 *e*P **P 16 29 33.3 +1.6**
LYN pP pP 16 30 00.6 +5.2
LYN S **S 16 34 46.6 +4.7**
LYN pmax pmax
comp=Z,130nm,6.5s
TIA Tai'an 33.12 347⇑ P **P 16 29 35.5 +2.2**
TIA pmax pmax
comp=Z,19nm,0.9s
JGF Kuroka 33.16 17 P **P 16 29 32.8 -0.9**
KSAR Wonju Array Be 33.35 3 P **P 16 29 34.5 -0.7**
KSAR 16 32 15.3
KSAR Wonju Array Be 33.35 3 P **P 16 29 34.5 -0.7**
KSAR PcP **PcP 16 32 15.3 +0.5**
KSRS Korea Array 33.36 3 P **P 16 29 36.3 +0.9**
comp=Z,7.1nm,0.6s,baz=183,slow=9.9,SNR=60
KSRS PcP **PcP 16 32 15.2 +0.4**
comp=Z,2.3nm,0.7s,baz=200,slow=2.9,SNR=6.6
KSRS LR LR 16 43 03.6
comp=Z,72nm,21.4s,baz=185,slow=36
KS19 Wonju Array Si 33.41 3 P **P 16 29 36.3 +0.5**
KS19 IAmb IAmb 16 30 17.8
comp=Z,41nm,1.4s
XAN Xi'an 33.89 334 P **P 16 29 39.4 -0.7**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,82nm,3.8s
XAN LR LR
comp=Z,330nm,12.0s
XAN LR LR
comp=Z,310nm,12.2s
MORW Morawa 34.23 196 P **P 16 29 43.4 +0.4**
baz=34,SNR=7.9
MORW Morawa 34.23 196 P **P 16 29 43.3 +0.2**
MORW IAmb IAmb 16 29 46.3
comp=Z,51nm,1.4s
MORW Morawa 34.23 196 P **P 16 29 44.8 +1.8**
MAJO Matsushiro 34.29 18 *i* P **P 16 29 43.5 0.0**
MAJO pmax pmax
comp=Z,19nm,1.0s
MAJO Matsushiro 34.29 18 P **P 16 29 42.9 -0.5**
MAJO IAmb IAmb 16 29 43.9
comp=Z,21nm,0.9s
MAJO Matsushiro 34.29 18 P **P 16 29 43.3 -0.2**
MAT Matsushiro 34.29 18 P **P 16 29 42.3 -1.2**
MAT *e*S **S 16 35 02.4 -0.5**
MJAR Matsushiro Arr 34.29 18 P **P 16 29 42.8 -0.7**
comp=Z,19nm,1.0s,baz=196,slow=8.7,SNR=23
MJAR PcP **PcP 16 32 17.6 +0.1**
comp=Z,3.6nm,0.8s,baz=168,slow=1.6,SNR=5.9
MJAR LR LR 16 42 23.6
comp=Z,81nm,21.2s,baz=202,slow=34
MJAR Matsushiro Arr 34.29 18 P **P 16 29 42.8 -0.7**
MJAR 16 32 17.8
MJAR pmax pmax
comp=Z,16nm,1.3s
MJAR Matsushiro Arr 34.29 18 P **P 16 29 42.8 -0.7**
MJAR **PcP 16 32 17.8 +0.3**
MJB9 Matsu-Tunnel 34.29 18 P **P 16 29 42.9 -0.5**
MJB9 IAmb IAmb 16 29 43.8
comp=Z,20nm,0.9s
INKA Innaminka 34.58 157 P **P 16 29 47.8 +1.8**
FORT Forrest 34.61 177 P **P 16 29 46.8 +0.5**
baz=35,SNR=15
FORT Forrest 34.61 177 P **P 16 29 46.5 +0.2**
MULG Mulgathing 34.92 168 P **P 16 29 50.9 +2.0**
QLP Quilpie 35.11 151 P **P 16 29 51.0 +0.4**
baz=35,SNR=8.1
QLP Quilpie 35.11 151 P **P 16 29 51.6 +1.0**
BLDU Ballidu 35.53 194 P **P 16 29 54.4 +0.2**
baz=36,SNR=22
BLDU Ballidu 35.53 194 P **P 16 29 54.1 -0.1**
JSD Sado 35.69 17 P **P 16 29 55.2 -0.3**
LCRK Leigh Creek 36.16 162 P **P 16 30 01.2 +1.7**
RK1H Rockhampton Ha 36.18 140 P **P 16 30 01.1 +1.3**
KLBR Kellerberrin 36.24 192 P **P 16 30 00.6 +0.3**
baz=36,SNR=35
KLBR Kellerberrin 36.24 192 P **P 16 30 00.9 +0.7**
HNR Honiara 36.32 112 P **P 16 30 01.2 0.0**
comp=Z,37nm,0.4s,baz=168,slow=6.9,SNR=8.9
HNR LR LR 16 44 46.5
comp=Z,58nm,21.1s,baz=218,slow=36
HNR Honiara 36.32 112 P **P 16 30 01.0 -0.1**
JMM Marumori 36.33 20 P **P 16 30 00.7 -0.2**
MUN Mundaring 36.96 194 P **P 16 30 06.7 +0.4**
baz=37,SNR=14
BJT Baijiatuao 36.97 347 P **P 16 30 06.8 +0.5**
BJT pmax pmax
comp=Z,34nm,0.9s
BJT Baijiatuao 36.97 347 P **P 16 30 06.8 +0.5**
BJT IAmb IAmb 16 30 09.5
comp=Z,34nm,0.9s
BJI Beijing 36.99 347 P **P 16 30 07.5 +1.0**
BJI pP **pP 16 30 30.8 +0.4**
BJI sP **sP 16 30 44.1 +1.5**
BJI pmax pmax
comp=Z,41nm,0.9s
RMQ Roma 37.42 145 P **P 16 30 10.9 +0.5**
baz=38,SNR=19
RMQ Roma 37.42 145 P **P 16 30 11.3 +1.0**
BBOO Buckleboo 37.80 166 P **P 16 30 14.3 +0.9**
baz=38,SNR=23
BBOO Buckleboo 37.80 166 P **P 16 30 13.8 +0.4**
BBOO IAmb IAmb 16 30 21.7
comp=Z,24nm,0.7s
BBOO **S 16 35 59.9 +3.4**
BBOO Buckleboo 37.80 166 P **P 16 30 14.6 +1.2**
LZH Lanzhou 37.95 330 *e*P P 16 30 20.5 +5.7
LZH pP pP 16 30 43.6 +4.6
LZH sP sP 16 30 50.6 -0.6
LZH pmax pmax

comp=Z,12nm,1.5s
LZH LR LR
comp=Z,410nm,13.0s
LZH LR LR
comp=Z,350nm,12.5s
LZH LR LR
comp=Z,230nm,13.0s
EIDS Eidsvold 37.97 142 P P 16 30 15.3 +0.3
baz=38,SNR=25
EIDS Eidsvold 37.97 142 P P 16 30 14.5 -0.5
EIDS Eidsvold 37.97 142 P P 16 30 15.6 +0.7
WHYH Whyalla 38.40 164 P P 16 30 19.4 +1.0
STKA Stephens Creek 38.61 159 P P 16 30 21.1 +0.9
comp=Z,27nm,0.8s,baz=332,slow=8.3,SNR=49
STKA PcP **PcP 16 32 31.0 +0.4**
comp=Z,8.6nm,0.6s,baz=316,slow=6.1,SNR=3.5
STKA ScP **ScP 16 36 09.0 0.0**
comp=Z,5.0nm,0.7s,baz=289,slow=1.9,SNR=6.3
STKA LR LR 16 46 47.2
comp=Z,67nm,19.8s,baz=6.2,slow=37
STKA Stephens Creek 38.61 159 P P 16 30 21.2 +1.1
baz=39,SNR=16
STKA Stephens Creek 38.61 159 P P 16 30 20.4 +0.2
STKA **S 16 36 08.4 -0.3**
STKA Stephens Creek 38.61 159 P P 16 30 21.9 +1.7
NAPP Napperby 38.70 164 P P 16 30 22.4 +1.5
MSHR Mys Shultsa 38.71 6 *ce* P **P 16 30 21.3 +0.4**
MSHR pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 38.95 342 *e* P **P 16 30 25.1 +2.0**
HHC pmax pmax
comp=Z,19nm,1.3s
HHC pmax pmax
comp=Z,90nm,5.5s
HTT Hallett 39.15 163 P P 16 30 25.9 +1.2
baz=39,SNR=8.6
HTT Hallett 39.15 163 P P 16 30 26.7 +1.9
SHL Shillong 39.18 307 P P 16 30 25.0 -0.3
SHL pmax pmax
comp=Z,23nm,0.7s
SHL Shillong 39.18 307 P P 16 30 25.0 -0.3
SHL IAmb IAmb 16 31 14.4
comp=Z,23nm,0.7s
RKGY Rocky Gully 39.32 192 P P 16 30 28.0 +1.9
baz=40,SNR=4.7
VLA Vladivostok 39.32 7 *d i* P **P 16 30 27.1 +1.1**
VLA pmax pmax
comp=Z,58nm,1.0s
CN2 Changchun 39.66 359 *e* P **P 16 30 28.6 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CMSA Cobar Meteorol 39.97 153 P P 16 30 32.8 +1.2
baz=40,SNR=14
CMSA Cobar Meteorol 39.97 153 P P 16 30 32.7 +1.2
USA0B Ussuriysk Arra 40.40 7 P P 16 30 35.0 +0.1
USA0B pmax pmax
comp=Z,35nm,0.9s
USA0B Ussuriysk Arra 40.40 7 P P 16 30 35.0 +0.1
USA0B IAmb IAmb 16 30 37.0
comp=Z,35nm,0.9s
USRK Ussuriysk Ar. 40.40 7 P P 16 30 35.8 +0.9
comp=Z,25nm,0.8s,baz=193,slow=7.3,SNR=81
USRK LR LR 16 47 32.0
comp=Z,50nm,21.3s,baz=149,slow=36
USRK Ussuriysk Ar. 40.40 7 P P 16 30 35.1 +0.3
TWOA Tennyson Woods 40.55 164 P P 16 30 38.2 +1.9
comp=Z,40nm,0.6s
MDJ Mudanjiang 40.59 4 P P 16 30 37.0 +0.5
MDJ IAmb IAmb 16 30 38.8
comp=Z,43nm,0.8s
MDJ Mudanjiang 40.59 4 P P 16 30 38.1 +1.6
MDJ pP pwP 16 31 03.9 -0.2
MDJ pmax pmax
comp=Z,67nm,0.9s
MDJ pmax pmax
comp=Z,180nm,4.7s
MDJ Mudanjiang 40.59 4 P P 16 30 38.3 +1.8
ERM Erimo 40.85 20 P P 16 30 40.2 +1.6
ERM pmax pmax
comp=Z,64nm,1.3s
ERM Erimo 40.85 20 P P 16 30 40.2 +1.6
ERM IAmb IAmb 16 30 41.2
comp=Z,64nm,1.2s
BNX BinXian 41.61 1 ⇑ P **P 16 30 45.1 +0.3**
BNX pmax pmax
comp=Z,45nm,0.9s
BNX pmax pmax
comp=Z,240nm,6.0s
LSA Lhasa 41.76 312 P P 16 30 46.8 -0.1
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 41.76 312 P P 16 30 46.8 -0.1
LSA Lhasa 41.76 312 P P 16 30 48.0 +1.1
LSA pmax pmax
comp=Z,7.0nm,0.9s
ARMA Armidale 42.05 146 P P 16 30 50.3 +1.5
baz=42,SNR=30
ARMA Armidale 42.05 146 P P 16 30 49.5 +0.7
ARMA Armidale 42.05 146 P P 16 30 50.8 +2.0
GTA Gaotai 42.53 330 *e* P **P 16 30 55.7 +3.1**
GTA pmax pmax
comp=Z,2.0nm,1.1s
ASAJ Asahikawa 42.56 18 P P 16 30 53.6 +1.1
comp=Z,22nm,0.9s,baz=233,slow=11,SNR=23
ASAJ LR LR 16 46 30.7
comp=Z,56nm,21.5s,baz=167,slow=33
JKA Kamikawa-asahi 42.56 18 P P 16 30 53.1 +0.5
JKA IAmb IAmb 16 30 54.5
comp=Z,25nm,0.9s
GOMU GeErMu 43.07 322 P P 16 30 58.0 +0.8
GOMU pmax pmax
comp=Z,2.0nm,0.8s
ARPS Mount Arapiles 43.14 161 P P 16 30 58.9 +1.6
baz=43,SNR=13
ARPS Mount Arapiles 43.14 161 P P 16 30 59.4 +2.1
TAPN Taplejung 43.32 306 *e* P **P 16 31 00.0 +0.7**
comp=Z,12nm,0.7s
ODAN Odare 43.37 306 *e* P **P 16 31 00.0 +0.4**
comp=Z,13nm,0.7s
RAMN Ramite 44.05 305 *e* P **P 16 31 05.9 +0.8**
comp=Z,6.0nm,0.5s
BRAT Ballarat 44.54 160 P P 16 31 11.0 +2.5
CAN Canberra 44.64 153 P P 16 31 11.0 +1.6
CAN pmax pmax
comp=Z,24nm,0.7s
CAN Canberra 44.64 153 P P 16 31 11.0 +1.6
CAN IAmb IAmb 16 31 12.0
comp=Z,24nm,0.7s
CAN Canberra 44.64 153 P P 16 31 10.8 +1.4
JIRN Jiri 44.67 306 *e* P **P 16 31 10.4 +0.2**
comp=Z,21nm,0.8s
CNB Canberra Magne 44.80 153 P P 16 31 12.7 +2.0
baz=45,SNR=14
GUN Gumba 45.02 306 *e* P **P 16 31 13.2 +0.2**
comp=Z,12nm,0.6s
TOO Toolangi 45.12 158 P P 16 31 15.4 +2.2
baz=45,SNR=9.4
TOO Toolangi 45.12 158 P P 16 31 14.7 +1.5
TOO pmax pmax
comp=Z,46nm,1.4s
TOO Toolangi 45.12 158 P P 16 31 14.7 +1.5
TOO IAmb IAmb 16 31 16.6
comp=Z,46nm,1.4s
TOO Toolangi 45.12 158 P P 16 31 16.0 +2.8
YSS Yuzh-Sakhalins 45.19 16 *e* P **P 16 31 14.3 +0.8**
YSS *e* 16 31 43.5
YSS pmax pmax
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 45.19 16 P P 16 31 14.0 +0.5
YSS IAmb IAmb 16 31 16.4
comp=Z,26nm,1.0s
YSS Yuzh-Sakhalins 45.19 16 P P 16 31 14.4 +0.9
PALK Pallekele 45.22 276 LR LR 16 51 42.9
comp=Z,38nm,18.7s,baz=206,slow=38
PKIN Phulchoki 45.28 306 *e* P **P 16 31 15.5 +0.6**
KLR Kul'dur 45.35 5 LR LR 16 49 39.7
comp=Z,34nm,21.8s,baz=196,slow=35
KLR Kul'dur 45.35 5 *ce* P **P 16 31 15.0 +0.2**
KLR pmax pmax
comp=Z,29nm,1.3s
HIA Hailar 45.44 354 P P 16 31 16.2 +0.6
HIA pmax pmax
comp=Z,16nm,0.9s
HIA Hailar 45.44 354 P P 16 31 16.2 +0.6
HIA IAmb IAmb 16 31 17.4
comp=Z,16nm,0.9s

DMN Daman 45.53 305 *e* P **P 16 31 16.7 -0.2**
MILA Mila 46.16 154 P P 16 31 21.7 +0.4
baz=46,SNR=3.3
ULN Ulaanbaatar 46.67 342 *ce* P **P 16 31 25.5 +0.1**
ULN pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 46.67 342 P P 16 31 24.9 -0.5
KOLN Koldanda 46.82 305 *e* P **P 16 31 27.0 +0.1**
SONM Songino Array 46.85 342 P P 16 31 26.9 +0.2
comp=Z,4.0nm,0.6s,baz=155,slow=8.6,SNR=18
SONM PcP **PcP 16 32 58.0 -0.1**
comp=Z,4.4nm,0.9s,baz=153,slow=5.0,SNR=4.8
SONM LR LR 16 53 15.0
comp=Z,97nm,18.2s,baz=168,slow=39
SONM Songino Array 46.85 342 P P 16 31 25.7 -1.0
SONM PcP **PcP 16 32 58.8 +0.7**
DANN Dangsing 46.91 306 *e* P **P 16 31 27.6 -0.2**
comp=Z,16nm,0.5s
UGL Uglegorsk 46.97 14 *e* P **P 16 31 29.0 +1.6**
UGL pmax pmax
comp=Z,60nm,0.8s
DZM Mont Dzumac 47.24 125 P P 16 31 31.0 +0.9
DZM IAmb IAmb 16 31 36.9
comp=Z,24nm,1.0s
DZM Mont Dzumac 47.24 125 P P 16 31 31.9 +1.8
GRNR Gornyy 47.44 9 ⇑ *i* P **P 16 31 31.9 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=N,30nm,12.0s
GRNR MLR MLR
comp=Z,60nm,11.0s
PYUN Piuthan 47.44 305 *e* P **P 16 31 31.6 -0.2**
YATNC Mamie plateau, 47.60 125 P P 16 31 35.1 +2.3
HYBB Hyderabad (bro 48.39 290 *e* P **P 16 31 38.8 -0.2**
TYV Tymovskoe 48.77 14 *e* P **P 16 31 42.5 +1.2**
TYV *e* S **S 16 38 37.2 +1.2**
TYV pmax pmax
comp=Z,9.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,5.1s
TYV smax smax
comp=N,200nm,7.5s
TYV smax smax
comp=E,400nm,7.5s
ZEA Zeya 49.61 1 *e* P **P 16 31 47.7 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 50.07 341 *e* P **P 16 31 50.7 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 51.92 340 *e* P **P 16 32 07.6 +2.4**
WMQ Urumqi 52.13 325 *e* P **P 16 32 07.1 +0.3**
WMQ sP sP 16 32 42.9 -1.3
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ LR LR
comp=Z,390nm,15.5s
WMQ LR LR
comp=Z,120nm,19.7s
FUNA Funafuti 54.44 103 P P 16 32 25.1 +0.9
BOD Bodaibo 54.52 352 *e* P **P 16 32 24.6 +0.6**
BOD pmax pmax
comp=Z,23nm,1.4s
PEA0B Petropavlovsk- 55.47 23 *i* P **P 16 32 31.4 +0.5**
PETK Petropavlovsk- 55.47 23 P P 16 32 31.5 +0.6
comp=Z,12nm,0.8s,baz=210,slow=10.0,SNR=1.6
PETK LR LR 16 53 20.7
comp=Z,28nm,21.4s,baz=213,slow=33
MSVF Nonsavu 55.64 115 P P 16 32 34.1 +1.3
MSVF pmax pmax
comp=Z,23nm,0.9s
MSVF Nonsavu 55.64 115 P P 16 32 34.1 +1.3
MSVF IAmb IAmb 16 32 48.8
comp=Z,23nm,0.9s
PET Petropavlovsk 55.77 23 *i* P **P 16 32 33.3 +0.3**
PET pmax pmax
comp=Z,26nm,1.0s
MK31 Makanchi Array 56.96 325 P P 16 32 40.7 -1.0
MK31 sP **sP 16 33 16.4 -2.9**
MK31 IAmb IAmb 16 33 20.4
comp=Z,13nm,0.8s
MK31 PcP **PcP 16 33 34.9 -0.9**
MKAR Makanchi Array 56.96 325 P P 16 32 41.0 -0.7
comp=Z,2.4nm,0.5s,baz=118,slow=7.0,SNR=41
MKAR ScP **ScP 16 37 23.9 -1.9**
comp=Z,2.0nm,0.9s,baz=125,slow=6.1,SNR=4.8
MKAR Makanchi Array 56.96 325 P P 16 32 40.7 -1.0
MKAR *SP **sP 16 33 16.2 -3.2**
MKAR 16 33 34.6
MKAR Makanchi Array 56.96 325 P P 16 32 40.7 -1.0
MKAR sP **sP 16 33 16.1 -3.2**
MKAR PcP **PcP 16 33 34.6 -1.2**
MKAR ScP **ScP 16 37 23.9 -1.9**
TARG Taragay, Kyrgy 57.11 318 P P 16 32 43.4 +0.1
MAKZ Makanchi 57.15 325 P P 16 32 42.0 -1.0
MAKZ sP **sP 16 33 17.2 -3.4**
MAKZ IAmb IAmb 16 33 21.7
comp=Z,18nm,0.8s
MAKZ PcP **PcP 16 33 32.9 -3.6**
NIL Nilore 57.23 308 P P 16 32 43.7 -0.2
NIL pmax pmax
comp=Z,17nm,1.0s
NIL Nilore 57.23 308 P P 16 32 43.7 -0.2
NIL IAmb IAmb 16 33 41.9
comp=Z,16nm,1.0s
KSH Kashi 57.38 315 P P 16 32 46.6 +1.7
KSH pP pP 16 33 13.7 +3.1
KSH PcP **PcP 16 33 39.4 +1.7**
KSH pmax pmax
comp=Z,6.0nm,1.0s
YAK Yakutsk 57.98 2 LR LR 16 58 04.0
comp=Z,40nm,21.9s,baz=80,slow=36
YAK Yakutsk 57.98 2 *e* P **P 16 32 47.2 -1.3**
YAK *e* *PP **pwP 16 33 16.9 +0.3**
YAK *e* 16 33 33.1
YAK *e* 16 34 56.5
YAK *e* S **S 16 40 37.6 -2.8**
YAK *e* 16 42 18.8
YAK *e* SS **SS 16 44 29.7 -3.5**
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,69nm,3.4s
YAK smax smax
comp=E,133nm,3.0s
YAK smax smax
comp=N,62nm,3.3s
YAK Yakutsk 57.98 2 P **P 16 32 48.4 -0.1**
YAK pP **pP 16 33 13.7 -0.1**
MA2 Magadan 58.64 14 LR LR 16 59 59.4
comp=N,31nm,18.8s,baz=194,slow=38
MA2 Magadan 58.64 14 *ce* P **P 16 32 54.2 +1.1**
MA2 pmax pmax
comp=Z,44nm,1.7s
MA2 Magadan 58.64 14 P **P 16 32 53.6 +0.5**
MA2 pP **pP 16 33 18.1 0.0**
OUZ Omahuta 59.22 135 P **P 16 32 59.5 +2.0**
AAK Ala-Archa 59.72 318 P **P 16 33 00.7 -0.4**
comp=Z,0.6nm,0.5s,baz=127,slow=7.2,SNR=3.9
AAK LR LR 17 01 06.9
comp=Z,76nm,18.8s,baz=108,slow=38
AAK Ala-Archa 59.72 318 *ce* P **P 16 32 57.9 -3.2**
AAK pmax pmax
comp=Z,3.0nm,1.7s
AAK Ala-Archa 59.72 318 IAmb IAmb 16 33 48.2
comp=Z,7.7nm,0.8s
ZAA0 Zalesovo Array 60.06 333 P **P 16 33 01.5 -1.5**
ZAA0 **pP 16 33 28.1 -1.0**
ZALV Zalesovo Beam 60.06 333 P **P 16 33 01.6 -1.4**
comp=Z,0.6nm,0.5s,baz=95,slow=5.1,SNR=7.1
ZALV Zalesovo Beam 60.06 333 *i* P **P 16 33 05.1 +2.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 60.06 333 P **P 16 33 00.5 -2.5**
ZALV pP **pP 16 33 26.9 -2.1**
WTAZ Waiatarua 60.78 137 P P 16 33 22.7 +14
KURBB Kurchatov Arra 61.16 328 P **P 16 33 09.9 -0.6**
comp=Z,7.5nm,0.8s,baz=124,slow=6.0,SNR=29
KURK Kurchatov 61.16 328 P **P 16 33 09.9 -0.7**
KURK Kurchatov 61.16 328 P **P 16 33 09.5 -1.0**

KURK IAmb IAmb 16 33 45.6
comp=Z,16nm,0.8s
GAR Garm 61.25 313 P **P 16 33 10.9 -0.7**
GAR pP **pP 16 33 36.5 -1.2**
GAR IAmb IAmb 16 33 53.9
comp=Z,21nm,0.9s
CHGR Chuyangaron 61.99 312 P **P 16 33 16.0 -0.5**
CHGR pP **pP 16 33 41.0 -1.6**
CHGR **sP 16 33 53.1 -1.2**
CHGR IAmb IAmb 16 33 56.3
comp=Z,17nm,0.9s
LBZ Lake Benmore 62.27 146 P **P 16 33 18.6 +0.4**
THZ Tophouse 62.32 142 P **P 16 33 18.7 +0.2**
THZ IAmb IAmb 16 33 19.5
comp=Z,20nm,0.7s
RPZ Rata Peaks 62.36 145 LR LR 16 59 31.3
comp=Z,68nm,21.6s,baz=316,slow=35
RPZ Rata Peaks 62.36 145 P **P 16 33 19.1 +0.4**
RPZ IAmb IAmb 16 33 20.3
comp=Z,22nm,0.8s
KKAR Karatay Array 62.58 317 P **P 16 33 18.7 -1.6**
KKAR *PP **pP 16 33 45.7 -0.8**
KKAR Karatay Array 62.58 317 P **P 16 33 18.6 -1.6**
KKAR pP **pP 16 33 45.7 -0.8**
NNVZ North Ngauruho 62.62 138 P **P 16 33 22.8 +2.1**
BHHZ Black Hill Sta 63.10 138 P **P 16 33 24.1 +0.3**
BKZ Black Stump Fm 63.23 138 P **P 16 33 24.9 +0.2**
BKZ IAmb IAmb 16 33 25.8
comp=Z,28nm,0.7s
BKZ Black Stump Fm 63.23 138 P **P 16 33 25.1 +0.5**
RTZ Ruatahuna 63.28 137 P **P 16 33 25.6 +0.6**
MTHZ Maungataniwha 63.30 137 P **P 16 33 25.6 +0.5**
KWHZ Kaweka Forest 63.31 138 P **P 16 33 21.7 -3.4**
RAHZ Arahi 63.50 137 P **P 16 33 27.4 +1.1**
MCHZ McNeill Hill 63.50 138 P **P 16 33 27.5 +1.1**
MWZ Matawai 63.51 137 P **P 16 33 27.0 +0.5**
SNGZ Shannon Statio 63.61 137 P **P 16 33 27.5 +0.4**
KAHZ Kahuranaki 63.80 138 P **P 16 33 29.4 +1.0**
BVAR Borovoye Array 66.74 327 P **P 16 33 46.3 -0.8**
comp=Z,6.6nm,0.9s,baz=79,slow=16,SNR=25
BVAR pP **pP 16 34 13.0 -0.5**
comp=Z,5.5nm,0.8s,baz=79,slow=15,SNR=6.0
BRVK Borovoye 66.81 327 *ce* P **P 16 33 46.9 -0.6**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 66.81 327 P **P 16 33 46.2 -1.3**
BRVK IAmb IAmb 16 34 26.5
comp=Z,13nm,0.9s
TIXI Tiksi 67.61 1 LR LR 17 05 12.4
comp=Z,42nm,21.7s,baz=185,slow=37
TIXI Tiksi 67.61 1 *ce* P **P 16 33 51.7 -0.5**
TIXI pmax pmax
comp=Z,24nm,1.3s
TIXI Tiksi 67.61 1 P **P 16 33 51.1 -1.0**
TIXI IAmb IAmb 16 33 52.9
comp=Z,14nm,0.9s
BILL Bilibino 69.49 15 *i* P **P 16 34 04.0 0.0**
BILL *i* *PP **pwP 16 34 32.9 -0.3**
BILL *i* 16 36 39.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 69.49 15 P **P 16 34 03.8 -0.2**
NRIK Noril'sk 70.03 346 P **P 16 34 07.2 0.0**
comp=Z,21nm,0.7s,baz=127,slow=6.5,SNR=48
NRIK Noril'sk 70.03 346 P **P 16 34 07.4 +0.2**
NRIK pmax pmax
comp=Z,28nm,0.8s
NRIK Noril'sk 70.03 346 P **P 16 34 07.3 +0.2**
NRIK IAmb IAmb 16 34 08.5
comp=Z,28nm,0.8s
ABKAR Akbulak array 71.53 321 P **P 16 34 15.4 -1.3**
ABKAR PcP **PcP 16 34 33.9 -1.6**
UNV Unalaska Valle 73.61 35 P **P 16 34 29.9 +1.0**
baz=254
ARU Arti 74.36 328 P **P 16 34 31.8 -1.4**
comp=Z,0.8nm,0.3s,baz=109,slow=4.9,SNR=7.2
ARU Arti 74.36 328 *c i* P **P 16 34 31.9 -1.4**
ARU *PP **pP 16 35 02.1 +1.9**
ARU PPP PPP 16 39 08.9
ARU S **S 16 43 57.4 -1.6**
ARU SS **SS 16 48 43.3 -3.8**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 74.36 328 P **P 16 34 31.8 -1.4**
GAMB Gambell 74.45 24 P **P 16 34 34.3 +0.6**
GAMB Gambell 74.45 24 P **P 16 34 34.5 +0.8**
baz=246
FALS False Pass 75.62 34 P **P 16 34 40.6 +0.1**
baz=256
TNA Tin City 76.63 23 P **P 16 34 46.5 +0.4**
baz=250
ANM Nome 77.32 24 P **P 16 34 49.9 -0.1**
ANM pmax pmax
comp=Z,11nm,1.1s
ANM Nome 77.32 24 P **P 16 34 49.9 -0.1**
ANM Nome 77.32 24 P **P 16 34 51.0 +1.0**
baz=252
SDPT Sand Point 77.38 34 P **P 16 34 51.2 +0.8**
baz=259
CHNA Chernabura Isl 77.78 35 P **P 16 34 53.4 +0.7**
baz=259
CHGN Chignik 78.70 33 P **P 16 34 58.4 +0.8**
baz=260
RDOG Red Dog Mine 79.30 21 IAmb IAmb 16 35 03.3
comp=Z,29nm,1.3s
RDOG Red Dog Mine 79.30 21 P **P 16 35 02.0 +1.1**
baz=254,SNR=8.2
KIRV Kirov 79.66 329 *ce* P **P 16 35 02.2 -0.7**
RAYN Ar Rayn 79.75 293 P **P 16 35 02.9 -1.3**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 79.75 293 P **P 16 35 02.9 -1.3**
BELG Belogornoye 79.79 322 *i* P **P 16 35 01.2 -2.5**
BELG pmax pmax
comp=Z,3.0nm,1.1s
CHIR Chirikof Islan 80.17 34 P **P 16 35 07.5 +1.8**
baz=263
P18K Big Mountain, 80.85 31 P **P 16 35 09.9 +0.5**
baz=262
GCSA Galena City Sc 80.91 25 P **P 16 35 11.0 +1.5**
baz=260
SVW2 Sparrevohn 80.92 29 IAmb IAmb 16 35 13.1
comp=Z,21nm,0.9s
O18K Koktuh Hills 80.93 30 IAmb IAmb 16 35 12.3
comp=Z,23nm,0.9s
O18K Koktuh Hills 80.93 30 P **P 16 35 11.0 +1.2**
baz=262
TTA Tatalina 80.99 27 IAmb IAmb 16 35 12.7
comp=Z,27nm,1.2s
TTA Tatalina 80.99 27 P **P 16 35 11.0 +0.9**
baz=261
SII Sitkinak Islan 81.06 33 P **P 16 35 11.4 +0.9**
baz=264
N19K Bonanza Creek 81.41 29 IAmb IAmb 16 35 16.4
comp=Z,20nm,0.8s
N19K Bonanza Creek 81.41 29 P **P 16 35 14.0 +1.6**
baz=263
O19K Port Alsworth 81.41 30 IAmb IAmb 16 35 14.8
comp=Z,78nm,1.9s
O19K Port Alsworth 81.41 30 P **P 16 35 13.0 +0.7**
baz=263
L19K White Mountain 81.41 28 IAmb IAmb 16 35 15.1
comp=Z,28nm,0.9s
L19K White Mountain 81.41 28 P **P 16 35 12.8 +0.6**
baz=262
M19K Big River Lodg 81.59 28 IAmb IAmb 16 35 16.2
comp=Z,18nm,0.8s
M19K Big River Lodg 81.59 28 P **P 16 35 14.0 +0.8**
baz=263
Q19K Cape Douglas, 81.61 31 P **P 16 35 14.7 +1.3**
baz=264
OHAK Old Harbor 81.62 33 P **P 16 35 14.5 +1.1**
baz=264
L20K Farewell, AK 81.90 28 P **P 16 35 15.6 +0.8**
baz=263
K20K Telida 81.93 27 IAmb IAmb 16 35 18.1
comp=Z,55nm,1.4s
K20K Telida 81.93 27 P **P 16 35 16.3 +1.4**
baz=263
PRGR Permogore 81.96 332 *e* P **P 16 35 13.7 -1.4**
PRGR pmax pmax
comp=Z,26nm,0.4s
J20K Nowinta River 82.00 26 P **P 16 35 16.6 +1.3**
baz=263
KDAK Kodiak Island 82.05 32 LR LR 17 05 41.4
comp=Z,171nm,21.4s,baz=260,slow=31

KDAK	Kodiak Island baz=265	82.05	32	P	P	16 35 16.1	+0.4	
A21K	Barrow comp=Z,28nm,0.9s	82.20	18	IAmb	IAmb	16 35 19.4		
A21K	Barrow baz=259,SNR=6.6	82.20	18	P	P	16 35 17.5	+1.4	
KBZ	Khabaz	82.31	313	*i* P	P	16 35 17.1	-0.2	
KBZ	comp=Z,11nm,2.2s			pmax	pmax			
KIV	Kislovodsk	82.47	314	*e*P	P	16 35 17.9	-0.4	
KIV	comp=Z,4.0nm,1.1s			pmax	pmax			
SPU	Mount Spurr	82.63	29	P	P	16 35 18.7	0.0	
PPLA	Purkeypile baz=264,SNR=9.5	82.72	27	P	P	16 35 20.5	+1.2	
H21K	Melozitna Rive comp=Z,40nm,1.1s	82.75	24	IAmb	IAmb	16 35 22.1		
H21K	Melozitna Rive baz=264	82.75	24	P	P	16 35 20.9	+1.7	
CHUM	Lake Minchumin baz=264	82.77	26	P	P	16 35 20.9	+1.6	
CAST	Castle Rocks comp=Z,27nm,0.8s	82.82	27	IAmb	IAmb	16 35 21.9		
CAST	Castle Rocks baz=264,SNR=27	82.82	27	P	P	16 35 20.6	+1.0	
CAPN	Captain Cook N baz=266	83.03	29	P	P	16 35 21.9	+1.3	
BRSE	Bradley Lake S baz=266,SNR=6.2	83.16	30	P	P	16 35 22.0	+0.6	
KTH	Kantishna Hill comp=Z,32nm,1.2s	83.35	27	IAmb	IAmb	16 35 24.4		
BPAW	Bear Paw Mtn. comp=Z,22nm,0.8s	83.37	26	IAmb	IAmb	16 35 24.6		
BPAW	Bear Paw Mtn. baz=265,SNR=15	83.37	26	P	P	16 35 23.6	+1.2	
MLY	Manley baz=266,SNR=47	83.55	25	P	P	16 35 24.6	+1.3	
CUT	Chulitna baz=266	83.57	28	P	P	16 35 22.9	-0.4	
M22K	Willow	83.60	28	P	P	16 35 23.7	+0.1	
M22K	Willow baz=266,SNR=14	83.60	28	P	P	16 35 23.6	+0.1	
TRF	Thorofare Moun comp=Z,34nm,1.1s	83.63	27	IAmb	IAmb	16 35 25.5		
TRF	Thorofare Moun baz=266,SNR=11	83.63	27	P	P	16 35 23.8	-0.2	
O22K	Cooper Landing baz=267,SNR=9.9	83.72	30	P	P	16 35 24.8	+0.6	
RC01	Rabbit Creek A baz=267,SNR=22	83.74	29	P	P	16 35 24.7	+0.4	
MAW	Mawson comp=Z,128nm,18.9s,baz=58,slow=34	83.75	200	LR	LR	17 09 54.3		
VNDA	Vanda comp=Z,7.3nm,0.6s,baz=318,slow=6.6,SNR=23	83.76	173	P	P	16 35 23.4	-0.6	
VNDA	Vanda	83.76	173	P	P	16 35 23.4	-0.6	
VNDA				pP	pP	16 35 48.1	-2.6	
SEW	Seward baz=267,SNR=7.5	83.83	30	P	P	16 35 25.5	+0.7	
COLD	Coldfoot baz=266,SNR=55	83.93	23	P	P	16 35 27.1	+1.9	
PMR	Palmer baz=267,SNR=16	84.06	29	P	P	16 35 26.3	+0.4	
I23K	Minto, Yukon-K baz=267,SNR=32	84.14	25	P	P	16 35 27.6	+1.3	
NEA2	Nenana comp=Z,29nm,0.9s	84.23	26	IAmb	IAmb	16 35 29.6		
NEA2					pP	16 35 53.3	-0.1	
NEA2	Nenana baz=267,SNR=23	84.23	26	P	P	16 35 28.1	+1.3	
MCK	McKinley baz=267,SNR=23	84.25	26	P	P	16 35 27.1	+0.2	
TOLK	Toolik Lake Re baz=266,SNR=41	84.27	21	P	P	16 35 28.7	+1.8	
RND	Reindeer comp=Z,25nm,0.8s	84.27	27	IAmb	IAmb	16 35 28.2		
KNK	Knik Glacier baz=268,SNR=24	84.37	29	P	P	16 35 28.5	+0.9	
PWL	Port Wells baz=268,SNR=20	84.42	29	P	P	16 35 28.3	+0.5	
SML	Sawmill baz=268,SNR=21	84.45	28	P	P	16 35 28.7	+0.8	
WRH	Wood River Hil comp=Z,36nm,1.4s	84.65	26	IAmb	IAmb	16 35 30.2		
WAT6	Susitna Watana baz=268,SNR=16	84.75	28	P	P	16 35 29.8	+0.2	
TCOL	CIGO, UAF Yank baz=268	84.76	25	P	P	16 35 30.6	+1.2	
COLA	College	84.77	25	*i* P	P	16 35 28.6	-0.8	
COLA	comp=Z,4.0nm,0.8s			pmax	pmax			
COLA	College baz=268	84.77	25	P	P	16 35 30.2	+0.8	
CCB	Clear Creek Bu comp=Z,16nm,1.1s	84.78	26	IAmb	IAmb	16 35 30.6		
KLMR	Klimovskoe	84.85	331	*e*P	P	16 35 28.1	-1.8	
KLMR				*e**SP	sP	16 36 07.8	-0.9	
KLMR	comp=Z,29nm,1.0s			pmax	pmax			
KLMR	Klimovskoe	84.85	331	*e*P	P	16 35 28.2	-1.7	
KLMR	comp=Z,29nm,1.0s			AMP		16 35 30.4		
KLMR				*es*P	sP	16 36 07.9	-0.8	
SCM	Sheep Creek Mo baz=269,SNR=13	84.92	28	P	P	16 35 31.1	+0.7	
DHY	Denali Highway baz=269	84.93	27	P	P	16 35 30.8	+0.3	
POKR	Poker Plat Res baz=269	84.95	25	P	P	16 35 31.8	+1.4	
GLI	Glacier Island baz=269,SNR=6.0	85.02	29	P	P	16 35 31.7	+0.9	
HDA	Harding Lake baz=269,SNR=9.3	85.14	26	P	P	16 35 30.8	-0.5	
ILAR	Eielson Array comp=Z,2.8nm,0.7s,baz=239,slow=5.1,SNR=37	85.18	25	P	P	16 35 30.9	-0.6	
FID	Port Fidalgo comp=Z,30nm,0.8s	85.32	29	IAmb	IAmb	16 35 34.3		
M24K	Tolsona, Glenn baz=270,SNR=7.0	85.47	28	P	P	16 35 34.5	+1.4	
KLU	Klutina comp=Z,9.4nm,0.7s	85.59	29	IAmb	IAmb	16 35 35.9		
KLU	Klutina baz=270	85.59	29	P	P	16 35 34.8	+1.0	
DIV	Divide comp=Z,25nm,0.9s	85.67	29	IAmb	IAmb	16 35 36.5		
EYAK	Cordova Ski Ar baz=270	85.68	30	P	P	16 35 35.0	+0.9	
PRP	Porcupine Dome baz=270	85.76	25	P	P	16 35 34.9	+0.3	
PAX	Paxson baz=270,SNR=5.5	85.80	27	P	P	16 35 35.2	+0.5	
J25K	Salcha River, baz=270,SNR=7.8	85.83	26	P	P	16 35 34.2	-0.7	
FYU	Fort Yukon comp=Z,25nm,1.2s	85.87	24	IAmb	IAmb	16 35 38.7		
HARP	HAARP baz=271	85.95	28	P	P	16 35 37.6	+2.2	
RIDG	Independent Ri baz=271,SNR=8.1	86.07	26	P	P	16 35 36.2	+0.1	
N25K	Chitina, Valde baz=271	86.23	29	P	P	16 35 36.6	-0.3	
BMRM	Bremner River baz=271	86.24	29	P	P	16 35 37.7	+0.8	
KAIM	Kayak Island baz=272	86.36	30	P	P	16 35 38.9	+1.5	
SCRK	Sand Creek baz=272	86.44	26	P	P	16 35 38.9	+1.0	
OBN	Obninsk comp=Z,1.8nm,0.3s,baz=236,slow=18,SNR=4.0	86.46	325	P	P	16 35 37.3	-0.7	
OBN	Obninsk	86.46	325	*i* P	P	16 35 37.0	-1.0	
OBN				*i* *PP	sP	16 36 14.9	-2.0	
OBN	comp=Z,44nm,2.5s			pmax	pmax			
MENT	Mentasta	86.60	27	IAmb	IAmb	16 35 40.2		
GLB	Gilahina Butte comp=Z,11nm,1.0s	86.61	29	IAmb	IAmb	16 35 42.5		
J26L	Joseph Creek baz=272	86.61	26	P	P	16 35 38.9	+0.2	
L26K	Log Cabin Wild baz=272	86.76	27	P	P	16 35 40.6	+1.2	
MCARA	McCarthy VSAT baz=273	86.99	29	P	P	16 35 42.7	+2.2	
WAX	Waxell Ridge comp=Z,14nm,0.8s	87.12	30	IAmb	IAmb	16 35 43.6		
ISLE	Juniper Island comp=Z,20nm,1.1s	87.36	30	IAmb	IAmb	16 35 46.1		
L27K	Beaver Creek, comp=Z,9.2nm,0.8s	87.45	27	IAmb	IAmb	16 35 44.8		
L27K	Beaver Creek, baz=274	87.45	27	P	P	16 35 43.5	+0.8	
BCAR	Beaver Creek A	87.47	27	P	P	16 35 43.1	+0.2	
M27K	Edge Creek, AK baz=274	87.48	28	P	P	16 35 43.6	+0.6	
EGAK	Eagle baz=274	87.63	25	P	P	16 35 43.8	+0.3	
BARN	Barnard Glacie comp=Z,16nm,0.8s	87.67	29	IAmb	IAmb	16 35 46.1		
CTG	Chitna Glacier baz=274	87.83	29	P	P	16 35 46.1	+1.4	
CTGM	Chitina Glacie comp=Z,33nm,1.1s	87.83	29	IAmb	IAmb	16 35 47.4		
BVCY	Beaver Creek baz=275	87.94	28	P	P	16 35 45.6	+0.5	
LOGN	Logan Glacier comp=Z,15nm,1.3s	88.00	29	IAmb	IAmb	16 35 50.3		
YUK3	Moose Creek baz=275	88.19	28	P	P	16 35 47.9	+1.4	
DAWY	Dawson baz=276	88.46	26	P	P	16 35 48.0	+0.5	
I29M	Ogilvie Camp, comp=Z,16nm,1.2s	88.78	25	IAmb	IAmb	16 35 51.1		
I29M	Ogilvie Camp, baz=277	88.78	25	P	P	16 35 49.5	+0.6	
J29M	Klondike Camp baz=277	88.92	26	P	P	16 35 50.9	+1.2	
YUK4	Talbot Arm baz=277	89.09	29	P	P	16 35 51.5	+0.8	
YUK6	Outpost Mounta baz=277	89.28	29	P	P	16 35 52.2	+0.5	
EPYK	Eagle Plains comp=Z,22nm,1.1s	89.29	24	IAmb	IAmb	16 35 52.7		
EPYK	Eagle Plains baz=278	89.29	24	P	P	16 35 51.9	+0.5	
BR131	Keskin Array S	89.33	310	P	P	16 35 51.2	-1.1	
BR131	comp=Z,9.0nm,1.1s			pmax	pmax			
BR131	Keskin Array S	89.33	310	P	P	16 35 51.2	-1.1	
BRTR	Keskin Array B comp=Z,2.6nm,0.9s,baz=67,slow=6.9,SNR=7.4	89.33	310	P	P	16 35 51.5	-0.8	
HYT	Haines Junctio comp=Z,12nm,0.9s	89.71	29	IAmb	IAmb	16 35 55.6		
HYT	Haines Junctio baz=278	89.71	29	P	P	16 35 54.3	+0.8	
M30M	Minto, Yukon comp=Z,11nm,0.9s	89.80	27	IAmb	IAmb	16 35 56.0		
M30M	Minto, Yukon baz=278	89.80	27	P	P	16 35 55.0	+1.1	
ARCES	ARCESS Array B comp=Z,8.5nm,0.7s,baz=79,slow=6.2,SNR=18	89.98	340	P	P	16 35 53.7	-0.7	
ARCES				pP	pP	16 36 21.6	-0.3	
ARCES	comp=Z,2.5nm,0.6s,baz=79,slow=6.3,SNR=1.9			LR	LR	17 19 48.3		
SPITS	Spitsbergen Ar comp=Z,58nm,18.6s,baz=134,slow=38	90.11	349	P	P	16 35 54.7	-0.2	
SPITS	comp=Z,13nm,1.0s,baz=101,slow=8.6,SNR=7.0			LR	LR	17 21 25.2		
INK	Inuvik	90.18	21	P	P	16 35 55.1	-0.3	
INK	comp=Z,21nm,1.2s			pmax	pmax			
INK	Inuvik	90.18	21	P	P	16 35 55.1	-0.3	
INK	comp=Z,21nm,1.2s			IAmb	IAmb	16 35 56.5		
INK	Inuvik baz=281	90.18	21	P	P	16 35 55.5	+0.1	
N31M	Braeburn, Yuko comp=Z,14nm,0.8s	90.44	28	IAmb	IAmb	16 35 59.0		
N31M	Braeburn, Yuko baz=279	90.44	28	P	P	16 35 58.0	+1.2	
M31M	Drury Creek, Y comp=Z,5.8nm,0.8s	90.97	28	IAmb	IAmb	16 36 00.4		
M31M	Drury Creek, Y baz=280	90.97	28	P	P	16 35 59.6	+0.3	
SKAG	Skagway baz=280	90.99	30	P	P	16 36 00.2	+0.9	
WHY	Whitehorse comp=Z,15nm,0.8s	91.01	29	IAmb	IAmb	16 36 01.7		
WHY	Whitehorse baz=280	91.01	29	P	P	16 36 00.8	+1.2	
AKASG	Malin Array Be comp=Z,1.0nm,0.5s,baz=66,slow=4.7,SNR=7.0	91.27	321	P	P	16 35 59.8	-1.0	
AKASG				LR	LR	17 19 39.0		
FINES	comp=Z,54nm,20.3s,baz=356,slow=37 FINESS Array B	91.29	332	P	P	16 35 59.5	-1.2	
FARO	comp=Z,6.9nm,0.9s,baz=101,slow=9.9,SNR=12 Faro, Yukon	91.44	27	P	P	16 36 02.5	+1.1	
MNK	baz=281 Minsk	91.52	325	*i* P	P	16 36 01.7	-0.2	
MNK				*i* *PP	pP	16 36 30.4	+0.8	
MNK				*i*		16 39 40.2		
MNK				*i* PPP	PPP	16 41 39.1		
MNK				*i*		16 46 19.2		
MNK				*i* S	S	16 46 47.5	-5.2	
MNK				*i* SS	SS	16 53 00.4	-0.5	
MNK	comp=Z,19nm,0.9s			pmax	pmax			
MNK	comp=E,2.0nm,0.9s			pmax	pmax			
MNK	comp=N,25nm,0.8s			pmax	pmax			
MNK				MLR	MLR			
MNK	comp=E,17nm,18.0s			MLR	MLR			
MNK	comp=N,107nm,18.0s			MLR	MLR			
MNK	comp=Z,80nm,18.0s			MLR	MLR			
MNK	Minsk comp=E,2.0nm,0.9s	91.52	325	*i* P	P	16 36 01.7	-0.2	
MNK	comp=N,25nm,0.8s			*i* P	P	16 36 01.7	-0.2	
MNK				*i* P	P	16 36 01.7	-0.2	
MNK	comp=Z,19nm,0.9s,baz=260			*i* pP	pP	16 36 30.4	+0.8	
MNK				*i* PP	PP	16 39 40.2	-0.8	
MNK				*i* PPP	PPP	16 41 39.2		
MNK				*i* SKS	SKSac	16 46 19.3	-5.3	
MNK				*i* S	S	16 46 47.5	-5.2	
MNK				*i* sS	pS	16 47 12.8	-16	
MNK				*i* SS	SS	16 53 00.4	-0.5	
MNK				*i* SSS	SSS	16 56 48.5		
MNK				*i* LRM	MLR	17 18 10.5		
MNK	comp=E,17nm,18.1s			*i* LRM	MLR	17 18 48.9		
MNK	comp=N,107nm,18.1s			*i* LRM	MLR	17 19 10.6		
MNK	comp=Z,80nm,18.1s							
NACGM	Naroch	92.09	325	*i* P	P	16 36 03.0	-1.5	
P33M	Teslin, Yukon comp=Z,11nm,1.1s	92.10	29	IAmb	IAmb	16 36 06.5		
P33M	Teslin, Yukon baz=282	92.10	29	P	P	16 36 05.3	+0.7	
MMPY	Sheldon Lake, baz=283	92.31	27	P	P	16 36 06.7	+1.3	
CRAG	Craig baz=281	92.88	34	P	P	16 36 08.8	+0.7	
WRAK	Wrangell Islan baz=282	93.11	33	P	P	16 36 09.9	+0.7	
C36M	Paulatuk comp=Z,22nm,1.6s	93.21	20	IAmb	IAmb	16 37 04.3		
C36M	Paulatuk baz=290	93.21	20	P	P	16 36 09.4	+0.1	
QSPA	South Pole Qui	93.88	180	P	P	16 36 12.9	+0.3	
DLBC	Dease Lake comp=Z,67nm,21.8s,baz=284,slow=31	93.89	31	LR	LR	17 11 37.4		
TGTN	Hyland Airport baz=286	93.94	28	P	P	16 36 14.0	+1.0	
BUR08	Bucovina Ar. S	94.36	318	P	P	16 36 14.2	-1.1	
HFS	Hagfors comp=Z,50nm,18.1s,baz=58,slow=37	97.48	332	LR	LR	17 23 43.3		
RES	Resolute Bay comp=Z,29nm,18.6s,baz=278,slow=39	97.69	10	LR	LR	17 25 53.8		
NB2	NORSAR Subarra comp=Z,9.1nm,1.0s,baz=66,slow=4.6	98.26	333	P	P	16 36 30.9	-1.7	
NB2	NORSAR Subarra	98.26	333	P	P	16 36 31.6	-1.0	
NB2	NORSAR Subarra baz=66,slow=4.6	98.26	333	P	P	16 36 30.9	-1.7	
NOA	NORSAR Array B comp=Z,5.1nm,0.8s,baz=66,slow=4.5,SNR=18	98.26	333	P	P	16 36 30.8	-1.7	
NOA				pP	pP	16 36 59.3	-1.1	
NOA	comp=Z,0.8nm,0.7s,baz=66,slow=4.5,SNR=2.1			LR	LR	17 27 09.1		
YKA	comp=Z,40nm,18.3s,baz=5.0,slow=39 Yellowknife Ar comp=Z,4.0nm,0.9s,baz=300,slow=4.7,SNR=37	99.56	24	P	Pdif	16 36 38.4	+0.2	
CLL	Collm	101.04	324	*e*P	Pdif	16 36 45.0	-0.1	
CLL	Collm	101.04	324	*e*Pdif	Pdif	16 36 45.0	-0.1	
M02C	Callahan baz=287	103.00	46	P	Pdif	16 36 55.1	+0.9	
NVAR	Mina Array Bea comp=Z,0.1nm,0.3s,baz=248,slow=4.5,SNR=1.7	107.25	48	PP	PP	16 41 39.7	-1.7	
K22A	Casper baz=300	113.63	40	P	PKiKP	16 41 33.9	+0.1	
O20A	White River Ci baz=298	113.72	43	P	PKiKP	16 41 35.5	+1.4	
RSSD	Black Hills baz=303	114.41	37	P	PKPdf	16 41 35.4	+0.1	
S22A	4UR Ranch, Cre baz=298	115.81	45	P	PKPdf	16 41 39.2	+1.0	
ANMO	Albuquerque baz=297	117.36	47	P	PKiKP	16 41 41.9	+0.6	
T25A	Trinidad baz=300	117.79	44	P	PKiKP	16 41 42.7	+0.6	
EYMN	Ely baz=316	118.74	28	P	PKPdf	16 41 43.2	0.0	
ECSD	EROS Data Cent baz=310	118.97	34	P	PKPdf	16 41 43.8	0.0	
BGNE	Belgrade baz=307	119.52	37	P	PKiKP	16 41 45.4	+0.3	
MNTX	Cornudas Mount baz=296	119.62	50	P	PKiKP	16 41 46.4	+1.0	
SCHQ	Schefferville comp=Z,3.4nm,0.9s,baz=45,slow=1.4,SNR=2.2	120.43	9	PKP	PKiKP	16 41 46.5	+0.2	
KSU1	Kansas State U baz=307	121.85	38	P	PKiKP	16 41 49.9	+0.3	
TXAR	Lajitas Array comp=Z,1.3nm,0.7s,baz=267,slow=1.2,SNR=11	121.99	52	PKP	PKiKP	16 41 50.9	+0.6	
TORD	Torodi Ar. Bea comp=Z,3.3nm,0.8s,baz=49,slow=2.4,SNR=20	122.19	288	PKP	PKPdf	16 41 50.2	-0.5	
TORD				pPKP	pPKPdf	16 42 17.8	-1.6	
TORD	comp=Z,1.5nm,0.6s,baz=36,slow=2.1,SNR=5.3			PKKPbc	PKKPbc	16 51 46.9	-0.2	
TORD	comp=Z,0.6nm,0.6s,baz=282,slow=3.6,SNR=4.6 Torodi Ar. Bea	122.19	288		PKPdf	16 41 49.6	-1.1	
JCT	Junction City baz=300	124.42	49	P	PKiKP	16 41 55.2	+0.2	
S39A	Bolivar	124.75	38		PKPdf	16 41 54.7	-0.4	
CCM	Cathedral Cave baz=312	125.75	36	P	PKPdf	16 41 56.8	-0.2	
833A	Chaparral WMA, baz=299	125.78	51	P	PKiKP	16 41 58.3	+0.6	
U40A	Yellville baz=310	125.88	39	P	PKPdf	16 41 57.3	0.0	
W39A	Magazine baz=308	126.01	40	P	PKiKP	16 41 58.0	0.0	
MIAR	Mount Ida baz=308	126.55	41	P	PKiKP	16 41 59.7	+0.6	
M54A	Oil Creek Stat baz=326	129.02	25	P	PKPdf	16 42 03.5	+0.3	
WVT	Waverly baz=314	129.06	36	P	PKiKP	16 42 03.8	-0.2	
OXF	Oxford baz=312	129.22	38	P	PKiKP	16 42 04.3	-0.1	
P52A	Corning baz=323	129.45	28	P	PKPdf	16 42 03.9	0.0	
DBIC	Dimbokro comp=Z,2.8nm,0.7s,baz=108,slow=7.1,SNR=3.6	129.85	282	PKP	PKPdf	16 42 05.7	+0.2	
DBIC	comp=Z,10nm,0.9s,baz=99,slow=3.8,SNR=9.5			SKPbc	SKPab	16 45 16.6	-1.4	
O56A	Blue Knob Stat baz=327	130.52	25	P	PKiKP	16 42 07.5	+0.6	
HRV	Adam Dziewonsk baz=336	131.06	17	P	PKiKP	16 42 08.0	+0.2	
N59A	State Game Lan baz=331	131.07	22	P	PKiKP	16 42 07.9	-0.1	
TZTN	Tazewell baz=319	131.13	32	P	PKiKP	16 42 07.9	-0.3	
V51A	Loudon	131.25	33		PKPdf	16 42 06.4	-1.1	
TKL	Tuckaleechee C comp=Z,1.7nm,0.3s,baz=256,slow=0.4,SNR=4.0	131.68	33	SKPbc	SKPbc	16 45 23.5	-0.9	
PLCA	Paso Flores comp=Z,1.8nm,0.7s,baz=19,slow=1.3,SNR=8.2	140.47	160	PKhKP	PKPpre	16 42 15.6		
PLCA				PKP	PKPdf	16 42 25.3	+0.7	
PLCA	comp=Z,3.5nm,0.8s,baz=111,slow=1.4,SNR=8.7			SKPbc	SKPbc	16 45 51.0	-0.4	
GTBY	comp=Z,3.8nm,0.9s,baz=205,slow=3.1,SNR=8.3 Guantanamo Bay	148.44	40		PKPdf	16 42 36.6	-2.2	
PTAC	Punta Ardita,	153.76	65	*e*P	PKPab	16 43 16.5	+8.2	
GR1C	Gorgona, Isla	154.84	74	*e*P	PKPab	16 43 23.4	+11	
MOTC	Monteria, Cord	154.92	60	*e*P	PKPab	16 43 25.3	+12	
CMBC	Cumbal	155.66	79	*e*P	PKPdf	16 42 54.7	+4.4	
BBAC	Balboa, Cauca	155.98	76	*e*P	PKPab	16 43 11.0	-7.1	
SOTA	Rioblanco	156.56	75	*e*P	PKPab	16 43 15.4	-5.6	
PCON	Cinco Dias	156.72	75	*e*P	PKPab	16 43 24.9	+3.1	
GUY2C	Guyana, Caldas	156.75	67	*e*P	PKPab	16 43 23.6	+1.9	
NORC	Norcasia	157.07	66	*e*P	PKPab	16 43 24.3	+1.8	
CPUP	Villa Florida comp=Z,9.7nm,0.8s,baz=169,slow=4.7,SNR=7.7	157.54	172	PKPab	PKPab	16 43 22.9	-1.0	
PAMC	Pamplona, Colo	158.18	59	*e*P	PKPab	16 43 29.2	+1.3	
LPAZ	La Paz comp=Z,4.4nm,1.1s,baz=25,slow=1.9,SNR=9.2	161.47	132	PKP	PKPdf	16 42 58.5	+1.1	
LPAZ				PKPab	PKPab	16 43 44.3	+2.1	
PVAQ	Vaqueiros	3.70	302	P	Pn	16 35 12.6	-0.1	
PVAQ				S	Sn	16 35 55.6	-0.3	

*MDD **03** 16:34:16.5±0.6, 35°.56N×3°.81W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=6.1km s-min=3.5km az=17.0*
*CNRM **03** 16:34:16.5, 35°.47N×3°.76W, h15km, ml2.6*
ISC 03 16:34:16.1±1.1, 35°.51N±0°.03×3°.77W±0°.03, h16km±8km, n17, σ1s77/32, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.33	205	P	Pg	Pg	16 34 22.8	-0.1
PALE				S	Sg	Sg	16 34 27.5	-0.1
GOG	Mont Gurugu	0.69	115	P	Pg	Pg	16 34 30.1	+0.4
GOG				S	Sg	Sg	16 34 39.4	+0.5
EMEL	Melilla	0.70	108	Pg	Pg	Pg	16 34 29.6	-0.1
EMEL				Sg	Sg	Sg	16 34 38.7	-0.3
EALB	Alboran	0.73	54	Pg	Pg	Pg	16 34 30.6	+0.2
EALB				Sg	Sg	Sg	16 34 41.0	+0.9
EALB				*i* Vmb_Lg			16 34 42.0	
TAF	Taforalt	1.31	122	P	Pn	Pn	16 34 39.4	-0.4
TAF				S	Sn	Sn	16 35 00.1	+3.1
SMIR	Smir Dam	1.32	278	S	Sn	Sn	16 35 04.3	+7.0
EMIJ	Mijas	1.33	322	Pg	Pn	Pn	16 34 40.1	+0.1
EMIJ				Sg	Sb	Sb	16 34 55.8	-1.7
EMIJ				*i* Vmb_Lg			16 35 00.8	
ELGU	Los Guajares,	1.36	5	Pg	Pn	Pn	16 34 39.6	-0.9
ELGU				Sg	Sb	Sb	16 34 55.9	-2.5
ELGU				*i* Vmb_Lg			16 35 01.7	
JBK	JBK	1.54	140	P	Pn	Pn	16 34 42.5	-0.5
JBK				S	Sn	Sn	16 35 01.7	-1.1
EGOR	Sierra Gorda,	1.62	350	Pn	Pn	Pn	16 34 45.5	+1.3
EGOR				Sn	Sn	Sn	16 35 02.4	-2.3
EGOR				*i* Vmb_Lg			16 35 24.0	
CZD	Col de Zad	2.69	203	P	Pn	Pn	16 34 59.1	+0.1
CZD				S	Sn	Sn	16 35 31.2	-0.2
MD31	MD31	2.77	198	P	Pn	Pn	16 34 59.6	-0.3
MD31				S	Sn	Sn	16 35 32.3	-0.7
MDT	Midelt	2.78	195	P	Pn	Pn	16 35 01.2	+1.1
MDT				S	Sn	Sn	16 35 34.3	+0.9
ZHG	ZHG	3.15	230	P	Pn	Pn	16 35 04.8	-0.3
ZHG				S	Sb	Sb	16 35 48.8	-1.0
ETOB	Tobarra	3.59	29	Pn	Pn	Pn	16 35 13.6	+2.4
EGRO	El Granado	3.61	305	Pn	Pn	Pn	16 35 11.2	-0.1
EGRO				Sn	Sn	Sn	16 35 52.7	-0.9
PVAQ	Vaqueiros	3.70	302	P	Pn	Pn	16 35 12.6	-0.1
PVAQ				S	Sn	Sn	16 35 55.6	-0.3

*TUL **03** 16:35:32.5±2.0, 36°.44N±0°.02×98°.79W±0°.03, h7km±3km, ML2.8, mb_Lg2.6/14(NEIC), Error ellipse: s-maj=3.7km s-min=3.1km az=97.0*
NEIC 03 16:35:32.0±0.9, 36°.45N±0°.02×98°.80W±0°.03, h13km±2km, Error ellipse: s-maj=3.9km s-min=3.4km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.17	247	Pg	Pg	Pg	16 35 36.5	+0.5
U32A				Sg	Sg	Sb	16 35 39.7	-0.9
FNO	Franklin	1.65	136	Pn	Pn	Pn	16 36 00.1	-0.6
WMOK	Wichita Mounta	1.71	179	Pn	Pb	Pb	16 36 02.4	-0.9
T35A	Sooner Cattle	1.90	75	Pn	Pb	Pb	16 36 05.8	-0.7
R32A	Long Quarter,	1.97	2	Pn	Pn	Pn	16 36 06.3	+1.2
X34A	Smith Ranch, M	2.00	157		Pn	Pn	16 36 05.6	0.0
X34A	comp=Z,38nm,0.8s			IAmb_Lg			16 36 37.5	
W35A	Tecumseh	2.03	129	Pn	Pn	Pn	16 36 06.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBKS	Cedar Bluff	2.48	343	Pn	Pn	16 36 13.4	+1.3
TUL1	Leonard	2.49	102	Pn	Pn	16 36 12.5	+0.2
AMTX	Amarillo	2.82	237	Pn	Pn	16 36 18.3	+1.5
AMTX				IAmb_Lg		16 37 03.1	
	comp=Z,17nm,0.9s						
KSU1	Kansas State U	3.17	33	Pn	Pn	16 36 22.3	+0.8
X37A	Clayton	3.36	123	Pn	Pn	16 36 24.6	+0.4
KSCO	Kaye Shedlock'	3.97	311	IAmb_Lg		16 37 47.5	
	comp=Z,8.5nm,0.7s						
MSTX	Muleshoe	4.08	234	IAmb_Lg		16 37 50.5	
	comp=Z,16nm,1.2s						
W39A	Magazine	4.26	106	IAmb_Lg		16 37 50.2	
	comp=Z,8.3nm,0.8s						
S39A	Bolivar	4.55	73	Pn	Pn	16 36 38.0	-2.6
T25A	Trinidad	4.55	280		Pn	16 36 38.7	-2.1
MIAR	Mount Ida	4.67	112	Pn	Pn	16 36 41.7	-0.5
U40A	Yellville	4.80	89	Pn	Pn	16 36 42.5	-1.5
U40A				IAmb_Lg		16 38 10.8	
	comp=Z,9.9nm,0.9s						
X40A	Basin Creek Fa	5.25	110	Pn	Pn	16 36 47.6	-2.5
MGMO	Mountain Grove	5.29	80	Pn	Pn	16 36 49.0	-1.8
FCAR	Ozark Folk Cen	5.43	94	Pn	Pn	16 36 50.9	-1.8
W41B	Gary Mavity, V	5.48	102	Pn	Pn	16 36 52.9	-0.3
SDCO	Great Sand Dun	5.51	286	Pn	Pn	16 36 53.7	-0.3
R40A	Maddies Statio	5.52	69	Pn	Pn	16 36 53.7	-0.2
Q24A	Divide	5.62	298	Pn	Pn	16 36 53.8	-1.8
CCM	Cathedral Cave	6.24	73	Pn	Pn	16 37 04.2	+0.5
RWWY	Rawlins	8.37	311	IAmb_Lg		16 39 54.3	
	comp=Z,8.4nm,1.0s						

*CNRM **03** 16:42:21.6, 35.°55N×3.°58W, h23km, ml2.9*
*MDD **03** 16:42:25.2±0.7, 35.°53N×3.°82W, h2km±4km, mb_Lg2.8/7, Error ellipse: s-maj=5.4km s-min=2.8km az=0.0*
*SFS **03** 16:42:25.0, 35.°53N×3.°81W, ML2.7, ALBORAN SUR*
ISC 03 16:42:23.2±1.0**, 35.°33N**±0.°03×**3.°73W**±0.°03**, h32**km±9km**, n24,** σ**1.°98**/43**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.21	237	S	Sb	16 42 37.1	+2.8
GOG	Mont Gurugu	0.61	100	P	Pb	16 42 32.4	-3.1
GOG				S	Sb	16 42 42.2	-1.7
EMEL	Melilla	0.63	93	Pg	Pn	16 42 38.2	+2.3
EMEL				Sg	Sn	16 42 47.9	+3.0
EALB	Alboran	0.83	43	Pg	Pn	16 42 39.8	+1.1
EALB				Sg	Sn	16 42 49.8	0.0
EALB				*i* Vmb_Lg		16 42 50.7	
TAF	Taforalt	1.19	115	P	Pn	16 42 41.7	-2.0
TAF				S	Sb	16 43 00.9	+0.5
CHEFC	Chefchaouen	1.34	261	P	Pn	16 42 47.4	+1.6
CHEFC				S	Sb	16 43 06.6	+1.9
JBK	JBK	1.38	136	P	Pn	16 42 44.8	-1.6
JBK				S	Sn	16 43 04.0	+0.4
CEU	Ceuta	1.46	293	P	Pn	16 42 46.3	-1.0
CEU				S	Sn	16 43 01.6	-3.7
EMIJ	Mijas	1.50	326	Pg	Pn	16 42 48.2	+0.2
EMIJ				Sg	Sn	16 43 06.2	-0.2
EMIJ				*i* Vmb_Lg		16 43 11.4	
ELGU	Los Guajares,	1.54	3	Pg	Pn	16 42 48.6	0.0
ELGU				Sg	Sn	16 43 06.0	-1.4
ELGU				*i* Vmb_Lg		16 43 12.7	
EMAL	Malaga-Limoner	1.54	338	P	Pn	16 42 45.0	-3.5
EMAL				S	Sn	16 43 06.3	-1.1
EGOR	Sierra Gorda,	1.80	350	Pn	Pn	16 42 52.7	+0.4
EGOR				*i* Vmb_Lg		16 43 39.3	
CZD	Col de Zad	2.54	206	P	Pb	16 43 07.1	-1.2
CZD				S	Sb	16 43 38.2	-1.0
MD31	MD31	2.60	200	P	Pb	16 43 08.7	-0.6
MD31				S	Sb	16 43 42.9	+2.0
MDT	Midelt	2.61	197	P	Pn	16 43 04.0	+0.6
MDT				S	Sb	16 43 42.3	+1.2
EZAR	Zarzadilla de	3.02	32	Sn	Sn	16 43 44.6	+0.5
ZHG	ZHG	3.06	233	P	Pn	16 43 12.8	+3.4
ZHG				S	Sb	16 43 52.2	-1.7
ECAB	El Cabril	3.06	334	Pn	Pn	16 43 11.7	+2.3
ECAB				Sn	Sn	16 43 45.9	+1.0
ECAB				*i* Vmb_Lg		16 44 11.5	
ETOB	Tobarra	3.74	27	Pn	Pn	16 43 22.5	+3.7
ETOB				Sn	Sn	16 44 03.1	+1.3
EGRO	El Granado	3.75	307	Pn	Pn	16 43 20.6	+1.8
EGRO				Sn	Sn	16 44 00.6	-1.2
PVAQ	Vaqueiros	3.83	304	P	Pn	16 43 21.6	+1.7
PVAQ				S	Sn	16 44 02.6	-1.3
PAB	San Pablo	4.24	353	Pn	Pn	16 43 28.4	+2.8
EBAD	Badajoz	4.31	323	Pn	Pn	16 43 27.8	+1.2
EBAD				Sn	Sn	16 44 14.1	-1.7
EBAD				*i* Vmb_Lg		16 44 21.8	
ESDC	Sonseca Array	4.34	358	Pn	Pn	16 43 29.7	+2.7

VAO 03 16:51:20.9±0.4**, 1.°54S×59.°00W, h0**km**, mbR3.9, Brazil**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MACA	Manacapuru-AM	2.33	226	*e*P	Pn	16 52 01.2	+0.7
MACA				*e*S	Sn	16 52 29.8	-0.1
BOAV	Boa Vista	4.20	339	*e*P	Pn	16 52 25.8	-0.5
ITTB	Itaituba	4.30	131	*e*P	Pn	16 52 28.6	+0.9
ITTB				*e*S	Sn	16 53 18.2	-0.4
MALB	Monte Alegre	4.74	94	*e*P	Pn	16 52 34.0	+0.3
NPGB	Novo Progresso	6.56	147	*e*P	Pn	16 52 59.2	+0.4
MCPB	Macapa, AP	7.04	80	*e*P	Pn	16 53 04.5	-0.8
CLDB	Colider	9.80	161	*e*P	Pn	16 53 43.1	-0.1
PRPB	Parauapebas	10.25	117	*e*P	Pn	16 53 49.7	+0.3
SNDB	Serra Nova Dou	12.88	144	*e*P	Pn	16 54 24.7	-0.6
SMTB	Santa Maria do	13.48	123	*e*P	Pn	16 54 33.7	+0.1
SALV	Santo Antonio	14.64	167	*e*P	Pn	16 54 49.1	-0.3

*SFS **03** 16:57:07.0, 35.°47N×3.°83W, ML2.8, ALBORAN SUR*
*CNRM **03** 16:57:08.6, 35.°55N×3.°82W, h16km, ml2.5*
*MDD **03** 16:57:08.8±0.5, 35.°55N×3.°81W, h0km, mb_Lg2.8/6, Error ellipse: s-maj=5.3km s-min=3.0km az=13.0*
ISC 03 16:57:08.4±1.2**, 35.°56N**±0.°03×**3.°82W**±0.°03**, h9**km±10km**, n22,** σ**1.°35**/42**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	196	P	Pg	16 57 15.5	+0.1
PALE				S	Sg	16 57 21.2	+1.0
EALB	Alboran	0.74	59	Pg	Pb	16 57 23.7	+0.3
EALB				Sg	Sb	16 57 33.9	+0.3
EALB				*i* Vmb_Lg		16 57 36.6	
EMEL	Melilla	0.75	110	Pg	Pg	16 57 22.1	-0.7
EMEL				Sg	Sg	16 57 31.2	-1.4
GOG	Mont Gurugu	0.75	117	P	Pg	16 57 22.6	-0.3
GOG				S	Sg	16 57 32.7	0.0
EMIJ	Mijas	1.27	323	Pg	Pn	16 57 32.3	+0.1
EMIJ				Sg	Sb	16 57 49.0	+0.2
EMIJ				*i* Vmb_Lg		16 57 50.7	
EMAL	Malaga-Limoner	1.30	338	P	Pn	16 57 32.8	+0.2
EMAL				S	Sb	16 57 49.8	+0.2
CEU	Ceuta	1.31	285	P	Pn	16 57 31.4	-1.3
CEU				S	Sb	16 57 45.2	-4.8
ELGU	Los Guajares,	1.31	7	Pg	Pn	16 57 32.5	-0.4
ELGU				Sg	Sb	16 57 49.2	-1.0
ELGU				*i* Vmb_Lg		16 57 54.8	
CHEFC	Chefchaouen	1.33	250	P	Pn	16 57 33.4	+0.3
CHEFC				S	Sn	16 57 53.2	+2.3
TAF	Taforalt	1.37	123	P	Pn	16 57 32.7	-1.0
TAF				S	Sg	16 57 53.2	+0.8
EGOR	Sierra Gorda,	1.56	351	Pn	Pn	16 57 36.9	+0.5
EGOR				Sn	Sb	16 57 58.0	+0.5
EGOR				*i* Vmb_Lg		16 58 01.5	
JBK	JBK	1.60	140	P	Pn	16 57 36.1	-0.9
JBK				S	Sn	16 57 56.3	-1.5
EJIF	Jimena Fronter	1.61	304	Pn	Pn	16 57 36.1	-0.8
MD31	MD31	2.80	196	P	Pn	16 57 54.2	+0.9
MD31				S	Sn	16 58 27.2	-0.1
ECAB	El Cabril	2.82	333	Pn	Pn	16 57 56.0	+2.4
ECAB				Sn	Sn	16 58 26.9	-0.8
ECAB				*i* Vmb_Lg		16 58 43.0	
MDT	Midelt	2.82	194	P	Pn	16 57 53.9	+0.3
MDT				S	Sn	16 58 28.6	+0.8
ZHG	ZHG	3.15	229	P	Pn	16 57 58.3	+0.2
ZHG				S	Sn	16 58 35.3	-0.5
EGRO	El Granado	3.55	305	Pn	Pn	16 58 04.4	+0.8
EGRO				Sn	Sn	16 58 44.5	-1.1
ETOB	Tobarra	3.57	30	Pn	Pn	16 58 06.1	+2.1
PVAQ	Vaqueiros	3.64	301	P	Pn	16 58 05.4	+0.5
PVAQ				S	Sn	16 58 46.1	-1.8
EBAD	Badajoz	4.08	322	Pn	Pn	16 58 11.8	+0.8
EBAD				Sn	Sn	16 58 58.9	+0.1
EBAD				*i* Vmb_Lg		16 59 05.7	
OUZM	OUZ	5.25	209	P	Pn	16 58 27.9	+0.7
OUZM				S	Sn	16 59 30.9	+2.9

*SOME **03** 17:03:34.4, 43.°35N×83.°88E, h10km*
*NNC **03** 17:03:39.0±2.1, 43.°42N×83.°50E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=20.0km s-min=8.4km az=132.0*
ISC 03 17:03:34.3±2.1**, 43.°38N**±0.°09×**83.°86E**±0.°08**, h10**km**, n23,** σ**2.°16**/45**, 4C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.55	273	*e*P	Pg	17 04 22.5	-0.8
	9.3nm,0.1s						
KTMS				*e*S	Sg	17 04 57.4	+1.1
	72nm,0.1s						
DJR	Jarkent	3.09	289	*e*P	Pb	17 04 31.4	+2.0
	1.8nm,0.1s						
DJR				*e*S	Sg	17 05 13.2	-0.3
	16nm,0.2s						
PDGK	Podgornoye	3.18	271	⇑Pg	Pb	17 04 31.8	+0.7
	2.2nm,0.3s						
PDGK				⇓Lg	Lg	17 05 13.7	
	19nm,0.6s						
SHLS	Shalkode	3.22	268	*e*P	Pb	17 04 28.9	-2.7
	2.4nm,0.1s						
SHLS				*e*S	Sb	17 05 08.8	-2.0
	85nm,0.3s						
UZB	Uzynbulak	3.54	268	*e*P	Pb	17 04 39.0	+1.9
	4.3nm,0.3s						
UZB				*e*S	Sg	17 05 25.9	-2.1
	16nm,0.3s						
MK31	Makanchi Array	3.59	343	⇑Pn	Pb	17 04 35.0	-2.9
	0.1nm,0.3s,baz=157,slow=14,SNR=103						
MK31				⇑Pg	Pg	17 04 42.7	-0.4
	1.4nm,0.3s,baz=160,slow=15,SNR=52						
MK31				Lg	Lg	17 05 28.7	
	1.8nm,0.2s,baz=167,slow=27,SNR=5.6						
MAKZ	Makanchi	3.68	339	⇑Pn	Pn	17 04 35.1	+3.9
	0.5nm,0.5s						
MAKZ				⇓Pg	Pg	17 04 44.2	-0.6
	2.1nm,0.6s						
MAKZ				⇓Lg	Lg	17 05 31.0	
	3.8nm,0.5s						
KAPS	Kapalarasan	3.75	302	*e*P	Pb	17 04 42.6	+2.1
	1.7nm,0.3s						
KAPS				*e*S	Sg	17 05 32.4	-2.2
	4.3nm,0.2s						
KPKS	Kokpek	3.77	273	*e*P	Pg	17 04 44.6	-1.9
	1.8nm,0.3s						
KPKS				*e*S	Sg	17 05 35.4	+0.1
	33nm,0.4s						
BLB	Baldybastay	3.96	282	*e*P	Pb	17 04 47.0	+2.7
	2.7nm,0.1s						
BLB				*e*S	Sg	17 05 39.8	-1.7
	12nm,0.5s						
ZHN	Zhinishke	3.96	269	*e*P	Pg	17 04 48.1	-2.1
	2.2nm,0.1s						
ZHN				*e*S	Sg	17 05 41.7	+0.2
	29nm,0.2s						
SATY	Saty	4.00	267	*e*P	Pg	17 04 48.7	-2.2
	0.7nm,0.1s						
SATY				*e*S	Sg	17 05 41.9	-0.7
	8.9nm,0.1s						
ZSN	Zaisan	4.13	10	*e*P	Pg	17 04 51.1	-2.3
	0.5nm,0.1s						
ZSN				*e*S	Sg	17 05 46.0	-0.9
	24nm,0.5s						
ARXS	Arharly	4.44	283	*e*P	Pb	17 04 56.1	+3.7
	1.5nm,0.1s						
ARXS				*e*S	Sg	17 05 55.6	-1.3
	7.6nm,0.5s						
KOTS	Kotyrbulak	4.92	271	*e*P	Pg	17 05 06.0	-2.5
	2.3nm,0.3s						
KOTS				*e*S	Sg	17 06 12.4	0.0
	11nm,0.3s						
MDOK	Medeo	4.97	270	*e*P	Pb	17 05 05.9	+4.3
	0.7nm,0.1s						
MDOK				*e*S	Sg	17 06 12.7	-1.3
	4.2nm,0.2s						
CHKK	Chushkaly	5.01	278	*e*P	Pg	17 05 07.5	-2.7
	0.6nm,0.1s						
CHKK				*e*S	Sg	17 06 14.6	-0.4
	6.8nm,0.3s						
TNSS	Tian-Shan	5.06	268	*e*P	Pg	17 05 07.8	-3.4
	0.5nm,0.2s						
TNSS				*e*S	Sg	17 06 15.1	-1.7
	0.7nm,0.0s						
KTBS	Karatobe	5.22	276	*e*P	Pg	17 05 12.7	-1.6
	0.7nm,0.1s						
KTBS				*e*S	Sg	17 06 23.6	+1.6
	8.9nm,0.2s						
MTBS	Maitube	5.43	270	*e*P	Pg	17 05 15.4	-2.8
	0.7nm,0.1s						
MTBS				*e*S	Sg	17 06 27.8	-0.7
	2.9nm,0.1s						
KUU	Kurty	5.48	278	*e*P	Pg	17 05 16.9	-2.3
	0.3nm,0.0s						
KUU				*e*S	Sg	17 06 30.3	+0.2
	6.2nm,0.1s						
DGS	Degeres	5.90	271	*e*P	Pg	17 05 23.6	-3.6
	0.7nm,0.1s						
DGS				*e*S	Sg	17 06 41.5	-2.2
	4.4nm,0.9s						
KRBS	Karabastau	5.96	276	*e*P	Pg	17 05 25.6	-2.7
	0.5nm,0.1s						
KRBS				*e*S	Sg	17 06 45.5	+0.1
	3.1nm,0.1s						

*IDC **03** 17:08:36.8±1.7, 46.°78N×152.°93E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/38, mbtmp3.5/8, ML2.5/2, MS2.9/1, Ms1 3.1/1, ms1mx2.3/72, Error ellipse: s-maj=44.3km s-min=25.7km az=114.0*
*JMA **03** 17:08:41.4±0.7, 46.°91N×152.°82E, h30km, M4.0*
ISC 03 17:08:41.1±1.4**, 46.°6N**±0.°2×**153.°0E**±0.°2**, h35**km**, n28,** σ**2.°37**/22**, mb3.6**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	6.06	241	P	Pn	17 10 09.0	+0.8
NEM2				*e*S	Sn	17 11 13.7	-2.5
JRA	Rausu	6.15	247	P	Pn	17 10 13.2	+3.8
JNK	Nakash	6.57	246	P	Pn	17 10 17.8	+2.5
JAK	Akkeshi	6.90	242	P	Pn	17 10 20.5	+0.8
JAK				*e*S	Sn	17 11 33.2	-3.7
JTKR	Abashiri--Toko	6.92	251	P	Pn	17 10 23.3	+3.4
PETK	Petropavlovsk-	7.21	23	Pn	Pn	17 10 22.7	-1.4
	0.1nm,0.3s,baz=194,slow=11,SNR=2.3						
JAR	Ashorobuto	7.32	247	P	Pn	17 10 28.1	+2.6
JAR				*e*S	Sn	17 11 48.1	+0.9
JOB	Onbets	7.48	244	*e*S	Sn	17 11 48.9	-2.3
JKK2	Kamakawa 2	7.72	253	P	Pn	17 10 34.7	+3.7
ASAJ	Asahikawa	7.72	255	Pn	Pn	17 10 32.8	+1.8
	0.2nm,0.3s,baz=121,slow=25,SNR=2.2						
JCH	Churui	7.93	244	P	Pn	17 10 35.1	+1.3
JCH				*e*S	Sn	17 11 58.7	-3.5
JANG	Nango	10.38	237	P	Pn	17 11 07.2	-0.3
JANG				*e*S	Sn	17 12 53.3	-9.3
KSRS	Korea Array	20.66	253	P	P	17 13 18.7	+0.9
	0.6nm,0.7s,baz=48,slow=11,SNR=1.7						
H11N2	WAKE ISLAND Hy	29.10	152	T	T	17 46 04.2	
	baz=340,slow=76,SNR=115						
H11N1	WAKE ISLAND Hy	29.11	152	T	T	17 46 01.0	
	baz=340,slow=76,SNR=92						
H11N3	WAKE ISLAND Hy	29.12	152	T	T	17 46 05.5	
	baz=340,slow=76,SNR=86						
H11S1	WAKE ISLAND Hy	30.18	153	T	T	17 47 23.6	
	baz=341,slow=76,SNR=103						
H11S3	WAKE ISLAND Hy	30.19	153	T	T	17 47 25.8	
	baz=341,slow=76,SNR=119						
H11S2	WAKE ISLAND Hy	30.20	153	T	T	17 47 21.2	
	baz=341,slow=76,SNR=110						
MKAR	Makanchi Array	46.95	297	P	P	17 17 07.3	-1.0
	0.1nm,0.5s,baz=75,slow=5.8,SNR=5.2						
CMAR	Chiang Mai Arr	52.25	256	LR	LR	17 40 52.4	
	comp=Z,11nm,18.9s,baz=185,slow=37						
FINES	FINESS Array B	64.17	335	P	P	17 19 11.1	-0.5
	0.8nm,0.4s,baz=55,slow=7.2,SNR=6.9						
NOA	NORSAR Array B	68.37	341	P	P	17 19 38.4	-0.2
	0.3nm,0.5s,baz=25,slow=6.7,SNR=1.9						
AKASG	Malin Array Be	71.65	326	P	P	17 19 58.5	-0.3
	0.3nm,0.3s,baz=34,slow=6.4,SNR=3.4						
ASAR	Alice Springs	72.01	198	P	P	17 20 03.3	+2.0
	0.2nm,0.6s,baz=7.6,slow=4.5,SNR=5.2						
H03N2	Juan Fernandez	138.83	90	T	T	20 03 13.6	
	baz=308,slow=77,SNR=16						
H03N1	Juan Fernandez	138.85	90	T	T	20 03 14.2	
	baz=308,slow=77,SNR=19						
H03N3	Juan Fernandez	138.85	90	T	T	20 03 15.3	
	baz=308,slow=77,SNR=18						

NEIC 03 17:09:17.1±0.4**, 36.°44N**±0.°02×**98.°78W**±0.°01**, h6**km±2km**, mb_Lg2.6**/7**, Error ellipse: s-maj=2.2km s-min=1.2km az=177.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.19	251	Pg	Pg	17 09 20.9	0.0
U32A				Sg	Sg	17 09 23.9	+0.5
WMOK	Wichita Mounta	1.70	180	Pn	Pn	17 09 46.8	-0.6
WMOK				IAmb_Lg		17 10 12.9	
	comp=Z,24nm,1.1s						
T35A	Sooner Cattle	1.89	75	Pn	Pn	17 09 49.8	-0.2
AMTX	Amarillo	2.82	238	IAmb_Lg		17 10 47.7	
	comp=Z,8.1nm,0.7s						
FCAR	Ozark Folk Cen	5.42	94	IAmb_Lg		17 12 17.5	
	comp=Z,22nm,0.9s						
HICK	Hickman	7.70	86	IAmb_Lg		17 13 17.0	
	comp=Z,56nm,0.7s						

*IDC **03** 17:12:32.6±2.7, 8.°50N×74.°14W, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/27, mbtmp3.2/2, Error ellipse: s-maj=129.4km s-min=47.7km az=74.0*
*UPA **03** 17:12:50.3±1.1, 9.°36N×78.°24W, h32km±8km, MW4.1*
ISC 03 17:12:48.0±1.3**, 9.°46N**±0.°05×**78.°13W**±0.°02**, h27**km±11km**, n55,** σ**1.°69**/72**, 4C-12D, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNTA3	Canitas, Panam	0.78	252	⇑*i*P	Pb	17 13 02.6	-0.5
CNTA3				*i* S	Sb	17 13 12.5	-0.8
UPD2	Meteti	0.92	173	⇓*i*P	Pb	17 13 05.3	0.0
UPD2				*i* S	Sb	17 13 16.4	-0.7
CHPO	Chepo, Panama	1.01	253	⇓*i*P	Pn	17 13 05.5	-0.9
CHPO				*i* S	Sn	17 13 17.2	-2.6
MIRA3	Miramar, Colon	1.19	276	*e*P	Pn	17 13 08.4	-0.4
MIRA3				*e*S	Sn	17 13 22.7	-1.3
FLAM	Flamenco Islan	1.49	249	*e*P	Pn	17 13 12.5	-0.5
FLAM				*e*S	Sn	17 13 30.1	-1.5
TABO3	Taboga, Panama	1.55	245	⇓*e*P	Pn	17 13 14.0	+0.1
TABO3				*i* S	Sn	17 13 31.4	-1.7
ARRA3	Arraijan, Pana	1.58	252	⇓*i*P	Pn	17 13 14.1	-0.2
ARRA3				*i* S	Sn	17 13 32.4	-1.5
FRIJ	El Hiral	1.59	261	⇓*i*P	Pn	17 13 14.2	-0.1
GAMB1	Gamboa	1.59	258	*e*P	Pn	17 13 14.9	+0.5
SABA3	Sabanitas, Col	1.65	266	⇓*e*P	Pn	17 13 15.6	+0.4
SABA3				*e*S	Sn	17 13 34.8	-0.7
CHOR3	La Chorrera	1.71	251	⇓*e*P	Pn	17 13 16.4	+0.4
CHOR3				*i* S	Sn	17 13 35.4	-1.6
BCIP	Isla Barro Col	1.71	260	*e*P	Pn	17 13 16.1	+0.1
BCIP				*e*S	Sn	17 13 36.0	-1.0
BCIP				*i*		17 13 38.4	
	comp=Z,354nm,0.3s						
BCIP	Isla Barro Col	1.71	260	⇑*i*P	Pn	17 13 16.1	+0.1
BCIP				*i* S	Sn	17 13 32.9	-4.1
ZANG	Zanguenga, Cho	1.78	254	*e*P	Pn	17 13 17.5	+0.4
ZANG				*e*S	Sn	17 13 35.8	-3.1
LCBC	Los crdobas,	1.84	109	*e*P	Pb	17 13 19.8	-1.3
LCBC				*e*S	Sb	17 13 43.8	+0.1
LCBC				*i*		17 13 47.4	
	comp=Z,364nm,0.4s						
PTAC	Punta Ardita,	2.32	172	*e*P	Pn	17 13 24.8	+0.3
PTAC				*e*S	Sn	17 13 52.4	+0.2
PTAC				*i*		17 13 57.1	
	comp=Z,185nm,0.4s						
PNME	Penonome	2.38	246	⇓*e*P	Pn	17 13 25.1	-0.1
PNME				*e*S	Sn	17 13 48.7	-4.7
MOTC	Monteria, Cord	2.53	105	*e*P	Pn	17 13 28.1	+0.8
MOTC				*e*S	Sn	17 13 57.0	-0.3
MOTC				*i*		17 13 58.8	
	comp=Z,39nm,0.4s						
PCRI3	Pocri, Los San	2.66	228	*e*P	Pb	17 13 41.0	+6.0
PEDA3	Pedasi	2.68	224	*e*P	Pb	17 13 44.2	+8.8
AZU	Azuero	2.69	232	*e*P	Pn	17 13 29.0	-0.5
AZU				*e*S	Sn	17 13 58.8	-2.5
AZU				*i*		17 14 00.1	
	comp=Z,279nm,0.5s						
AZU	Azuero	2.69	232	⇓*i*P	Pn	17 13 29.1	-0.5
AZU				*i* S	Sn	17 13 58.4	-2.8
CHIT3	Chitre	2.71	237	*e*P	Pn	17 13 29.7	-0.1
PESE3	Pese, Herrera	2.90	238	*e*P	Pb	17 13 38.8	-0.3
CALO3	Calobre, Verag	2.91	247	*e*P	Pn	17 13 33.0	+0.5
SJCC	San Jacinto, C	2.94	81	*i* P	Pn	17 13 34.7	+1.6
SJCC				*e*S	Sn	17 14 05.3	-2.3
SAFE3	Santa Fe, Vera	3.06	252	⇓*e*P	Pb	17 13 45.3	+3.6
UREC	San Jos de Ur	3.08	123	⇑*e*P	Pn	17 13 35.0	0.0
UREC				*e*S	Sn	17 14 10.7	-0.3
DBBC	Dabeiba	3.09	142	*e*P	Pn	17 13 35.5	+0.5
MARI3	Mariato, Verag	3.35	238	*e*P	Pb	17 14 02.9	+16
CACAO	El Cacao, Vera	3.42	232	⇓*e*P	Pn	17 13 40.0	+0.3
GMAL	Guarumal, Vera	3.50	241	*e*P	Pn	17 13 41.1	+0.5
ZARC	Zaragoza, Cauc	3.79	121	⇑*i*P	Pn	17 13 44.8	+0.2
ZARC				*e*S	Sn	17 14 26.5	-1.8
ZARC				*i*		17 14 28.9	
	comp=Z,200nm,0.5s						
REME3	Remedios, Chir	3.86	252	*e*P	Pb	17 13 57.1	+1.7
CBOC	Ciudad Bolivar	4.15	149	*e*P	Pn	17 13 52.1	+2.4
CBOC				*e*S	Sn	17 14 37.8	+0.4
CBOC				*i*		17 14 42.1	
	comp=Z,26nm,0.4s						
SMRC	Santa Marta, M	4.20	66	*e*P	Pn	17 13 51.4	+1.1
SMRC				*e*S	Sn	17 14 34.7	-3.9
CNI2	El Empalme, Bo	4.28	270	*e*P	Pb	17 14 07.8	+5.2
BCO2	Palmira	4.40	261	*e*P	Pn	17 13 55.1	+1.8
BRU2	Volcan	4.55	262	*e*P	Pn	17 13 55.8	+0.6
PTBC	PUERTO BERRIO,	4.66	128	*e*P	Pn	17 13 55.9	-0.7
OCAC	Ocana	4.91	104	*e*P	Pn	17 13 50.0	-10
OCAC				*e*S	Sn	17 14 53.6	-2.7
OCAC				*i*		17 14 59.8	
	comp=Z,248nm,0.4s						
PRVC	Isla de Provid	5.01	321	*e*P	Pb	17 14 45.7	+31
NORC	Norcasia	5.05	140	*e*P	Pn	17 14 04.3	+2.3
BATAN	Batan	5.21	277	⇓*e*P	Pn	17 14 04.3	+0.1
SPBC	San Pablo de B	5.53	133	*e*P	Pn	17 14 07.8	-0.8
BARC	Barichara	5.67	120	*e*P	Pn	17 14 11.2	+0.5
BARC				*e*S	Sn	17 15 13.2	-2.0
PAMC	Pamplona, Colo	5.78	111	*e*P	Pn	17 14 07.3	-5.1
RUSC	La Rusia	6.13	125	*e*P	Pn	17 14 17.3	0.0
SDV	Santo Domingo	7.43	94	*e*P	Pn	17 14 35.5	+0.6
SDV				*e*S	Sn	17 15 55.2	-3.2
SOTA	Rioblanco	7.44	168	*e*P	Pn	17 14 37.2	+1.9
BBAC	Balboa, Cauca	7.45	173	*e*P	Pn	17 14 43.9	+8.8
TXAR	Lajitas Array	31.03	313	P	P	17 19 23.8	+20
	comp=Z,0.2nm,0.6s,baz=128,slow=6.9,SNR=2.1						
YKA	Yellowknife Ar	59.14	341	P	P	17 22 49.7	+3.8
	comp=Z,0.1nm,0.5s,baz=128,slow=8.3,SNR=2.6						
ASAR	Alice Springs	146.31	241	PKPbc	PKPdf	17 32 23.8	-2.2
	comp=Z,0.7nm,0.7s,baz=116,slow=3.4,SNR=12						
WRA	Warramunga Arr	146.97	248	PKPbc	PKPdf	17 32 25.9	-1.2
	comp=Z,0.4nm,0.5s,baz=104,slow=3.3,SNR=5.6						

*CNRM **03** 17:17:25.2, 36.°22N×9.°33W, h0km, ml1.6*
*MDD **03** 17:17:26.2±1.6, 36.°66N×9.°72W, h9km±10km, mb_Lg2.5/3, Error ellipse: s-maj=13.7km s-min=10.2km az=26.0*
*INMG **03** 17:17:29.0±1.3, 36.°57N×9.°77W, h31km, ML1.7, Error ellipse: s-maj=8.2km s-min=5.1km az=87.0*
ISC 03 17:17:22.8±3.0**, 36.°53N**±0.°07×**9.°8W**±0.°1**, h14**km±15km**, n22,** σ**1.°83**/34**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.00	52	*e*P	Pn	17 17 44.5	+2.0
PFVI				*e*S	Sn	17 17 56.5	+0.1
PFVI				A	A	17 18 00.8	
	9.8nm,0.6s						
MORF	Marmelete	1.22	50	*e*P	Pn	17 17 47.5	+2.0
MORF				*e*S	Sb	17 18 01.5	+0.2
MORF				A	A	17 18 02.5	
	9.3nm,0.1s						
PTEO	Sao Teotonio	1.34	40	*e*S	Sg	17 18 04.6	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	1.67	64	eP	Pn	17 17 54.0	+2.2
PBDV				eS	Sn	17 18 12.9	-0.2
PBDV				A	A	17 18 29.7	
	3.6nm,0.8s						
PCVE	Castro Verde	1.80	52	ePn	Pn	17 17 56.1	+2.6
PCVE				eSn	Sn	17 18 16.4	+0.2
PCVE				A	A	17 18 18.6	
	3.0nm,0.7s						
PNCL	Nicolau / Gran	1.89	33	ePn	Pn	17 17 56.4	+1.7
PNCL				eSn	Sn	17 18 17.6	-0.7
PNCL				A	A	17 18 20.2	
	4.3nm,0.4s						
PVAQ	Vaqueiros	1.90	62	ePn	Pn	17 17 57.0	+2.2
PVAQ				eSn	Sn	17 18 18.1	-0.4
PVAQ				A	A	17 18 21.4	
	3.1nm,0.5s						
PVAQ	Vaqueiros	1.90	62	P	Pb	17 17 58.9	+1.6
PVAQ				S	Sn	17 18 18.1	-0.4
EGRO	El Granado	2.12	61	P	Pn	17 17 58.5	+0.6
EGRO				S	Sn	17 18 22.2	-1.8
EGRO				i Vmb_Lg		17 18 29.3	
PACT	Alcochete	2.37	19	eSn	Sn	17 18 31.3	+1.1
PMAFR	Mafra	2.46	10	eSn	Sn	17 18 32.0	-0.5
PMAFR				A	A	17 18 34.5	
	14nm,0.6s						
EVO	Evora	2.46	35	ePn	Pn	17 18 00.0	-2.6
EVO				eSn	Sn	17 18 31.1	-1.4
PBAR	Barrancos	2.76	53	ePn	Pn	17 18 08.7	+2.0
PBAR				eSn	Sn	17 18 39.0	-0.8
PBAR				A	A	17 18 48.0	
	1.8nm,0.8s						
PMTG	Montargil	2.84	26	ePn	Pn	17 18 09.9	+2.2
PMTG				eSn	Sn	17 18 40.7	-1.0
PMTG				A	A	17 18 42.4	
	3.8nm,0.6s						
PESTR	Estremoz	2.93	36	ePn	Pb	17 18 13.5	-1.4
PESTR				eSn	Sn	17 18 42.2	-1.9
PESTR				A	A	17 18 43.9	
	3.2nm,0.9s						
PSBE	So Bento	3.09	15	eSn	Sn	17 18 46.1	-1.9
EBAD	Badajoz	3.15	44	P	Pn	17 18 14.7	+2.7
EBAD				S	Sn	17 18 47.6	-1.8
EBAD				i Vmb_Lg		17 18 51.1	
PMRV	Marv??o	3.48	33	ePn	Pn	17 18 18.3	+1.8
PMRV				eSn	Sn	17 18 55.1	-2.4
PMRV				A	A	17 18 56.9	
	2.0nm,0.7s						
ECAB	El Cabril	3.83	65	S	Sn	17 19 02.7	-3.7
ECAB				i Vmb_Lg		17 19 10.8	
MD31	MD31	5.54	130	P	Pn	17 18 44.6	-0.4
MD31				S	Sn	17 19 42.6	-5.9
MDT	Midelt	5.67	129	P	Pn	17 18 45.8	-1.0
MDT				S	Sn	17 19 46.4	-5.3
OUZM	OUZ	6.15	155	P	Pn	17 18 50.3	-3.1
OUZM				S	Sn	17 19 58.4	-5.3

IDC 03 17:18:06.2±1.6**, 28°.46N×103°.73E, h0km, mb3.1**/3, **mb1 3.2**/4, **mb1mx3.0**/44, **mbtmp3.0**/4, **ML3.3**/1, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.5**/26, **Error ellipse: s-maj=64.4km s-min=30.0km az=59.0, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.88	205	Pn	Pn	17 20 44.5	+1.3
	0.1nm,0.3s,baz=10,slow=16,SNR=1.5						
MKAR	Makanchi Array	24.83	323	P	P	17 23 30.3	+0.1
	0.2nm,0.6s,baz=137,slow=9.5,SNR=2.1						
AKTO	Aktyubinsk	40.75	315	LR	LR	17 42 09.3	
	comp=Z,58nm,19.8s,baz=114,slow=35						
WRA	Warramunga Arr	56.48	145	P	P	17 27 49.6	-0.6
	0.2nm,0.6s,baz=330,slow=7.8,SNR=5.0						
ASAR	Alice Springs	59.42	148	P	P	17 28 10.8	+0.1
	0.1nm,0.7s,baz=323,slow=6.9,SNR=4.1						

*IDC **03** 17:26:53.0±0.8, 4°.80S×94°.52E, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.8/50, mbtmp4.0/17, ML4.0/2, MS3.6/20, Ms1 3.6/20, ms1mx3.3/81, Error ellipse: s-maj=22.8km s-min=16.7km az=38.0*

*NEIC **03** 17:26:56.5±1.6, 4°.7S±0°.1×94°.5E±0°.1, h15km±4km, mb4.4/27, Error ellipse: s-maj=17.7km s-min=16.6km az=114.0*

*DJA **03** 17:26:57.9±1.3, 5°S±7°×9°5E±1°0, h10km, M4.9/23, mb4.7/23, mB5.4/11, MLv5.1/9, Mw(mB)4.8/11, MwMwp6.3/1, Mwp6.3/1*

ISC 03 17:26:55.7±0.7**, 4°.58S**±0°.09×**94°.67E**±0°.07**, h10km, n90,** σ**1s.38**/70**, mb4.2**/25**, MS3.7**/19**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	Saibi	5.47	54	P	Pn	17 28 19.3	+1.9
	0.5nm2μm121nm,0.8s						
PPSI	Pulau Pagai	5.63	71	P	Pn	17 28 20.8	+1.3
	0.9nm2μm108nm,1.0s						
PPSI				S	Sn	17 29 21.2	-3.1
	0.9nm2μm108nm,1.0s						
GSI	Gunungsitoli	6.53	26	Pn	Pn	17 28 32.4	+0.5
GSI	Gunungsitoli	6.53	26	P	Pn	17 28 32.4	+0.5
	0.2nm52nm,0.6s						
GSI				S	Sn	17 29 45.0	-1.5
	0.2nm52nm,0.6s						
KRJI	Kerinci	7.22	70	P	Pn	17 28 43.0	+1.5
	1.2nm3μm165nm,0.6s						
MASI	Maura Aman, Be	7.69	80	P	Pn	17 28 48.8	+0.9
	0.3nm80nm,1.3s						
COCO	West Island	7.86	164	Pn	Pn	17 28 46.0	-4.1
COCO				Sn	Sn	17 30 04.9	-14
BKNI	Bangkinang	8.02	53	Pn	Pn	17 28 52.2	-0.1
BKNI	Bangkinang	8.02	53	P	Pn	17 28 53.4	+1.0
	0.4nm1μm87nm,0.9s						
MNAI	Manna	8.27	89	P	Pn	17 28 57.6	+1.8
	0.7nm107nm,1.1s						
RPSI	Rantau Prapat	8.39	31	Pn	Pn	17 28 59.7	+2.3
RPSI	Rantau Prapat	8.39	31		Pn	17 29 00.1	+2.6
PSI	Prapat	8.48	30	Pn	Pn	17 29 00.1	+1.3
	1.3nm,0.3s,baz=223,slow=5.5,SNR=6.1						
KCSI	Kotacane, Aceh	8.63	21	P	Pn	17 29 02.5	+1.8
	152μm6μm26nm,0.8s						
TSI	Tuntungan	8.92	26	P	Pn	17 29 17.1	+12
LWLI	Liwa	9.37	93	P	Pn	17 29 13.0	+2.0
	21μm46nm,0.6s						
MDSI	Maura Dua	9.48	90	P	Pn	17 29 14.1	+1.6
	554nm8.3nm,0.9s						
KASI	Kota Agung	9.84	96	P	Pn	17 29 16.2	-1.1
	26nm,0.6s						
KLSI		10.03	91	P	Pn	17 29 20.0	0.0
	5.8nm,1.0s						
DSRI	Dabo	10.71	68	P	Pn	17 29 31.1	+1.9
	15nm,1.8s						
IPM	Ipoh	11.02	35	Pn	Pn	17 29 35.5	+2.0
CGJI	Cibinong	11.16	101	P	Pn	17 29 37.4	+2.0
	492nm15nm,1.0s						
TPRI	Tanjung Pinang	11.26	61	P	Pn	17 29 37.1	+0.2
	7μm22nm,1.0s						
KULM	Kulim	11.48	31	Pn	Pn	17 29 39.1	-0.8
PPBI	Pangkal Pinang	11.70	79	P	Pn	17 29 44.3	+1.4
	12μm35nm,0.8s						
TNG	Tangerang	12.03	98	P		17 29 48.2	
	295nm,0.4s						
TNG				P	Pn	17 29 47.7	+0.3
	200nm,0.4s						
PALK	Pallekele	18.25	310	Pn	Pn	17 31 08.9	-0.4
	0.6nm,0.3s,baz=204,slow=20,SNR=4.6						
PALK				Sn	Sn	17 34 13.7	-20
	0.2nm,0.3s,baz=210,slow=8.1,SNR=1.6						
PALK				LR	LR	17 36 40.8	
	comp=Z,154nm,20.8s,baz=210,slow=32						
PALK	Pallekele	18.25	310	IAmb	IAmb	17 31 13.8	
	comp=Z,18nm,1.1s						
MTKI	Muara Teweh, K	20.52	80	P	Pn	17 31 38.3	+1.7
CM31	Chiang Mai Arr	23.28	10	P	P	17 32 05.0	+1.3
CM31				IAmb	IAmb	17 32 29.7	
	comp=Z,6.1nm,0.8s						
CMAR	Chiang Mai Arr	23.28	10	P	P	17 32 05.8	+2.0
	comp=Z,2.6nm,0.9s,baz=202,slow=8.9,SNR=23						
CMAR	Chiang Mai Arr	23.28	10	P	P	17 32 04.3	+0.6
PLAI	Plampang	23.33	102	P	P	17 32 04.8	+0.4
	comp=Z,37nm,1.1s						
CHTO	Chiang Mai	23.63	10	P	P	17 32 06.7	-0.5
BNSI	Bone	25.36	91	P	P	17 32 31.1	+7.8
BATI	Baumata	29.28	103	P	P	17 32 58.3	-0.3
	comp=Z,3.4nm,0.4s,baz=225,slow=1.4,SNR=3.9						
FITZ	Fitzroy Crossi	33.13	116	LR	LR	17 44 48.9	
	comp=Z,61nm,18.9s,baz=332,slow=32						
LSA	Lhasa	34.25	355	P	P	17 33 43.9	+1.3
LSA				IAmb	IAmb	17 33 54.0	
	comp=Z,3.3nm,0.6s						
KNRA	Kununurra	35.27	111	P	P	17 33 51.2	+0.2
WRA	Warramunga Arr	41.52	115	P	P	17 34 43.3	-0.4
	comp=Z,1.6nm,0.8s,baz=283,slow=8.6,SNR=10.0						
WRA				LR	LR	17 49 54.9	
	comp=Z,60nm,20.4s,baz=258,slow=33						
WRA	Warramunga Arr	41.52	115	P	P	17 34 43.8	+0.1
WRAB	Tennant Creek	41.53	115	P	P	17 34 43.9	+0.2
WRAB				IAmb	IAmb	17 35 03.5	
	comp=Z,6.4nm,1.2s						
WB2	Warramunga Arr	41.53	115	P	P	17 34 42.3	-1.4
WB2				IAmb	IAmb	17 35 07.9	
	comp=Z,4.8nm,1.1s						
WR0	Warramunga Arr	41.71	115	P	P	17 34 45.0	-0.1
ASAR	Alice Springs	42.30	120	P	P	17 34 48.5	-1.5
	comp=Z,0.7nm,1.0s,baz=325,slow=6.4,SNR=5.1						
ASAR				LR	LR	17 50 51.6	
	comp=Z,52nm,19.0s,baz=54,slow=34						
WSAR	Wadi Sarin	44.74	310	LR	LR	17 51 05.7	
	comp=Z,85nm,20.1s,baz=148,slow=32						
GAR	Garm	48.86	335	P	P	17 35 41.3	-0.5
GAR				IAmb	IAmb	17 35 50.8	
	comp=Z,8.6nm,1.2s						
CHGR	Chuyangaron	49.08	333	P	P	17 35 42.5	-0.9
AAK	Ala-Archa	50.44	341	LR	LR	17 56 39.1	
	comp=Z,73nm,20.6s,baz=158,slow=35						
STKA	Stephens Creek	51.62	128	LR	LR	17 56 28.5	
	comp=Z,105nm,21.0s,baz=221,slow=34						
KSRS	Korea Array	52.02	34	P	P	17 36 04.4	-1.2
	comp=Z,0.9nm,0.9s,baz=222,slow=8.7,SNR=3.3						
KSRS				LR	LR	17 58 44.5	
	comp=Z,17nm,18.3s,baz=275,slow=37						
KKAR	Karatay Array	52.26	338	P	P	17 36 07.4	+0.2
MK31	Makanchi Array	52.31	349	P	P	17 36 07.4	-0.2
MKAR	Makanchi Array	52.31	349	P	P	17 36 07.5	-0.1
	comp=Z,1.1nm,0.8s,baz=161,slow=8.5,SNR=10.0						
MKAR	Makanchi Array	52.31	349	P	P	17 36 07.1	-0.5
CTA	Charters Tower	52.47	112	LR	LR	17 58 26.2	
	comp=Z,57nm,19.6s,baz=262,slow=36						
SONM	Songino Array	53.20	10	P	P	17 36 15.5	+1.2
	comp=Z,1.3nm,0.8s,baz=190,slow=10,SNR=5.1						
SONM	Songino Array	53.20	10	P	P	17 36 15.0	+0.7
GEYT	Alibeck	54.22	325	P	P	17 36 21.6	-0.3
	comp=Z,2.0nm,0.4s,baz=98,slow=8.9,SNR=4.4						
GEYT	Alibeck	54.22	325	IAmb	IAmb	17 36 40.5	
	comp=Z,3.1nm,0.6s						
KURBB	Kurchatov Arra	56.72	348	P	P	17 36 39.0	-0.5
	comp=Z,0.2nm,0.2s,baz=170,slow=6.4,SNR=4.8						
KURBB				PcP	PcP	17 37 35.8	+0.3
	comp=Z,0.2nm,0.2s,baz=156,slow=2.6,SNR=4.5						
KURK	Kurchatov	56.78	348	P	P	17 36 39.0	-1.0
KURK	Kurchatov	56.78	348	IAmb	IAmb	17 36 58.5	
	comp=Z,3.3nm,1.1s						
KMBO	Kilima Mbogo	57.43	272	P	P	17 36 44.3	-1.3
	comp=Z,0.9nm,0.5s,baz=61,slow=12,SNR=4.0						
ZAA0	Zalesovo Array	58.90	353	P	P	17 36 53.5	-1.2
ZAA0				IAmb	IAmb	17 37 03.6	
	comp=Z,2.8nm,0.7s						
ZALV	Zalesovo Beam	58.90	353	P	P	17 36 54.6	-0.2
	comp=Z,1.3nm,0.6s,baz=183,slow=5.9,SNR=6.6						
ZALV	Zalesovo Beam	58.90	353	P	P	17 36 54.2	-0.6
USRK	Ussuriysk Ar.	59.00	31	LR	LR	18 05 15.6	
	comp=Z,47nm,18.1s,baz=217,slow=39						
ABKAR	Akbulak array	61.52	335	P	P	17 37 12.6	-0.2
ABKAR	Akbulak array	61.52	335	P	P	17 37 12.2	-0.6
GNI	Garni	63.84	319	LR	LR	18 06 08.5	
	comp=Z,28nm,20.1s,baz=134,slow=37						
KBZ	Khabaz	66.89	322	P	P	17 37 48.4	+0.2
	comp=Z,2.0nm,0.9s,baz=137,slow=11,SNR=2.6						
MMAI	Mount Meron Ar	67.36	309	LR	LR	18 08 12.6	
	comp=Z,46nm,18.1s,baz=253,slow=37						
BELG	Belogornoye	69.29	331	LR	LR	18 11 27.7	
	comp=Z,68nm,18.2s,baz=124,slow=38						
BOSA	Boshof	69.76	241	P	P	17 38 03.6	-3.1
	comp=Z,1.0nm,0.7s,baz=127,slow=5.1,SNR=1.7						
BOSA				LR	LR	18 03 53.1	
	comp=Z,41nm,18.7s,baz=184,slow=32						
BOSA	Boshof	69.76	241	IAmb	IAmb	17 38 24.6	
	comp=Z,9.9nm,1.4s						
BRTR	Keskin Array B	71.22	315	P	P	17 38 14.2	-1.3
	comp=Z,1.4nm,0.7s,baz=124,slow=7.5,SNR=5.1						
YAK	Yakutsk	71.64	17	P	P	17 38 16.6	-0.6
SUR	Sutherland	73.93	238	LR	LR	18 04 07.1	
	comp=Z,70nm,19.5s,baz=173,slow=30						
RPZ	Rata Peaks	77.01	134	LR	LR	18 11 39.3	
	comp=Z,64nm,19.2s,baz=228,slow=35						
MA2	Magadan	77.60	26	LR	LR	18 15 15.4	
	comp=Z,42nm,19.2s,baz=166,slow=37						
AKASG	Malin Array Be	78.33	324	P	P	17 38 55.3	-0.9
	comp=Z,0.5nm,0.5s,baz=96,slow=4.1,SNR=4.1						
AKASG				LR	LR	18 14 29.3	
	comp=Z,36nm,21.5s,baz=165,slow=36						
AKASG	Malin Array Be	78.33	324	P	P	17 38 54.8	-1.4
AKASG				IAmb	IAmb	17 38 56.5	
	comp=Z,2.5nm,1.4s						
TIXI	Tiksi	79.29	10	P	P	17 39 01.6	+0.6
TIXI				IAmb	IAmb	17 39 10.3	
	comp=Z,4.2nm,0.8s						
BURAR	Bucovina Array	79.73	320	P	P	17 39 03.8	-0.3
BUR08	Bucovina Ar. S	79.75	320	P	P	17 39 04.2	0.0
BUR08				IAmb	IAmb	17 39 15.2	
	comp=Z,2.0nm,0.8s						
DAVOX	Davos/Dischmat	89.74	317	LR	LR	18 24 09.7	
	comp=Z,27nm,18.1s,baz=261,slow=38						
NOA	NORSAR Array B	90.80	331	LR	LR	18 23 22.1	
	comp=Z,13nm,18.4s,baz=350,slow=37						
TXAR	Lajitas Array	149.87	33	PKPbc	PKPdf	17 46 46.7	+4.4
	comp=Z,0.5nm,0.6s,baz=75,slow=1.0,SNR=5.4						
TXAR	Lajitas Array	149.87	33		PKPdf	17 46 46.4	+4.1

*INET **03** 17:48:51.0±0.7, 12°.18N×87°.28W, h49km±7km, MW4.3*

*SNET **03** 17:48:51.6±1.2, 12°.28N×87°.44W, h17km±17km, ML3.3*

ISC 03 17:48:50.2±2.2**, 12°.1N**±0°.1×**87°.30W**±0°.07**, h48km, n16,** σ**0s.56**/16**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.61	23	eP	Pn	17 49 03.2	+0.4
CRIN				eS	Sn	17 49 12.6	+0.8
TEL3	Telica 3	0.62	46	eP	Pn	17 49 03.0	+0.1
TELN	Telica	0.65	44	eP	Pn	17 49 03.1	-0.2
COPN	Copaltepe	0.69	86	eP	Pn	17 49 04.3	+0.5
MOMN	Momotombo	0.79	70	eP	Pn	17 49 05.5	+0.4
APYN	Apoyeque	0.93	84	eP	Pn	17 49 06.9	-0.1
LCND	La Caada	1.30	334	eP	Pn	17 49 11.8	-0.3
LCND				eS	Sn	17 49 27.1	-1.2
MATN	Matagalpa	1.55	59	eP	Pn	17 49 15.6	0.0
VSM	San Miguel	1.60	323	IAML		17 49 44.1	
	comp=Z,435nm,0.2s						
RANC	El Ranchito	1.61	323	eP	Pn	17 49 16.3	-0.1
RANC				eS	Sn	17 49 35.8	-0.3
RANC				IAML		17 49 42.0	
	comp=Z,273nm,0.2s						
BOAB	BOACO BROADBAN	1.62	79	eP	Pn	17 49 15.9	-0.5
TGUH	Tegucigalpa,Un	1.91	1	eP	Pn	17 49 20.7	+0.2
TGUH	Tegucigalpa,Un	1.91	1	eP	Pn	17 49 20.7	+0.2
SCLA	Alcaldia de Sa	2.09	318	eP	Pn	17 49 23.9	+1.0
LFRS	El Faro	2.27	311	IAML		17 49 58.2	
	comp=Z,396nm,0.3s						
JAYA	Jayaque - finc	2.58	306	IAML		17 50 05.3	
	comp=Z,134nm,0.2s						

*IDC **03** 17:58:44.7±1.4, 6°.00S×146°.59E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/31, mbtmp3.6/7, ML2.6/2, Error ellipse: s-maj=34.8km s-min=17.6km az=85.0*

ISC 03 17:58:51.2±1.2**, 6°.1S**±0°.1×**146°.6E**±0°.2**, h52km, n8,** σ**1s.05**/9**, mb3.6**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.31	171	Pn	Pn	17 59 40.2	-0.3
	5.0nm,0.3s,baz=335,slow=7.2,SNR=30						
PMG				Pg		17 59 47.8	
	9.1nm,0.3s,baz=360,slow=8.2,SNR=56						
PMG				Sn	Sn	18 00 18.9	+0.3
	4.9nm,0.3s,baz=87,slow=21,SNR=15						
PMG				Lg	Lg	18 00 32.7	
	1.8nm,0.3s,baz=342,slow=22,SNR=1.4						
WRA	Warramunga Arr	18.19	220	P	P	18 02 58.1	-1.8
	0.1nm,0.3s,baz=44,slow=12,SNR=10						
ASAR	Alice Springs	21.30	214	P	P	18 03 35.0	+1.3
	1.3nm,0.9s,baz=34,slow=10,SNR=12						
FITZ	Fitzroy Crossi	23.67	238	P	P	18 03 58.7	+0.4
	2.1nm,1.0s,baz=59,slow=5.9,SNR=3.0						
CMAR	Chiang Mai Arr	52.97	298	P	P	18 08 02.8	-0.2
	0.3nm,0.4s,baz=113,slow=7.0,SNR=2.6						
ILAR	Eielson Array	85.75	23	P	P	18 11 24.3	-0.2
	0.2nm,0.5s,baz=260,slow=5.4,SNR=2.0						
YKA	Yellowknife Ar	99.46	28	P	Pdif	18 12 29.2	+1.1
	0.1nm,0.6s,baz=283,slow=5.6,SNR=1.8						
TORD	Torodi Ar. Bea	144.75	284	PKP	PKPdf	18 18 23.7	+0.3
	0.3nm,0.6s,baz=77,slow=2.5,SNR=2.5						

*HEL **03** 18:00:15.7±0.0, 67°.06N×20°.95E, h0km, ML1.8(UPP), Explosion*

UPP 03 18:00:14.9±0.1**, 67°.06N×20°.94E, h0km, ML1.8, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.58	45	P	Pg	18 00 26.0	0.0
MASU	Masugnsbyn	0.58	45	i P	Pg	18 00 26.0	0.0
ERTU	Ertsjaerv	0.71	135	P	Pg	18 00 28.3	-0.1
ERTU				S	Sg	18 00 37.9	+0.3
ERTU	Ertsjaerv	0.71	135	eP	Pg	18 00 28.4	0.0
PAJU	Pajala	0.85	91	P	Pg	18 00 30.9	-0.4
PAJU	Pajala	0.85	91	eP	Pg	18 00 30.9	-0.3
HARU	Harads	0.90	179	P	Pg	18 00 31.8	-0.2
HARU	Harads	0.90	179	eP	Pg	18 00 31.8	-0.2
SALU	Saltoluokta	1.00	290	P	Pg	18 00 33.7	-0.4
SALU	Saltoluokta	1.00	290	eP	Pg	18 00 33.7	-0.4
LANU	Lannavaara	1.08	22	P	Pg	18 00 34.6	-0.9
LANU	Lannavaara	1.08	22	eP	Pg	18 00 34.7	-0.8
NIKU	Nikkaluokta	1.10	319	P	Pg	18 00 35.2	-0.7
NIKU	Nikkaluokta	1.10	319	eP	Pg	18 00 35.2	-0.7
KOVU	Salmi	1.21	346	P	Pg	18 00 37.3	-0.7
KOVU	Salmi	1.21	346	eP	Pg	18 00 37.3	-0.7
KALU	Kalix	1.54	140	P	Pn	18 00 43.1	-0.5
KALU	Kalix	1.54	140	eP	Pn	18 00 43.1	-0.5
SJUU	Sjulsmark	1.58	170	P	Pn	18 00 43.9	-0.1
SJUU	Sjulsmark	1.58	170	eP	Pn	18 00 43.9	-0.1
HEF	Hetta	1.71	36	eP	Pn	18 00 45.9	-0.1
KIF	Kilpisjarvi	1.96	359	eP	Pb	18 00 51.3	-0.1

*TUL **03** 18:09:18.2±1.0, 36°.22N±0°.02×97°.29W±0°.01, h8km±1km, ML3.0, mb_Lg2.7/48(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=189.0*

NEIC 03 18:09:17.3±1.2**, 36°.22N**±0°.01×**97°.30W**±0°.01**, h5km**±2km**, Error ellipse: s-maj=3.0km s-min=2.3km az=22.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.81	189		Pg	18 09 32.9	0.0
OKCSW	OKLAHOMA CITY	0.82	188	Pg	Pg	18 09 33.0	-0.1
T35A	Sooner Cattle	0.94	42		Pg	18 09 35.4	+0.1
FNO	Franklin	0.97	185	Pg	Pg	18 09 35.3	-0.5
W35A	Tecumseh	1.12	162	Pg	Pg	18 09 37.9	-0.9
TUL1	Leonard	1.26	104		Pg	18 09 40.3	-1.2
U32A	Winter Ranch,	1.38	277		Pn	18 09 43.3	+0.1
X34A	Smith Ranch, M	1.67	195		Pn	18 09 47.7	+0.5
WMOK	Wichita Mounta	1.91	220	Pn	Pn	18 09 49.9	-0.6
WMOK				IAmb_Lg		18 10 21.6	
	comp=Z,48nm,0.8s						
X37A	Clayton	2.27	135		Pb	18 09 57.2	-1.4
X37A				IAmb_Lg		18 10 33.6	
	comp=Z,29nm,0.8s						
R32A	Long Quarter,	2.47	333		Pn	18 09 57.6	-0.6
R32A				IAmb_Lg		18 10 43.5	
	comp=Z,34nm,0.7s						
HHAR	Hobbs	2.72	88	Pn	Pn	18 10 00.9	-0.7
KSU1	Kansas State U	2.93	11	Pn	Pn	18 10 03.5	-1.0
KSU1				IAmb_Lg		18 10 58.7	
	comp=Z,19nm,0.7s						
MIAR	Mount Ida	3.47	118	IAmb_Lg		18 11 13.4	
	comp=Z,16nm,0.7s						
X40A	Basin Creek Fa	4.04	114	IAmb_Lg		18 11 26.9	
	comp=Z,15nm,0.7s						
ABTX	Abilene, Hawle	4.08	209	IAmb_Lg		18 11 27.0	
	comp=Z,15nm,0.8s						
MGMO	Mountain Grove	4.15	76	IAmb_Lg		18 11 28.2	
	comp=Z,22nm,0.7s						
R40A	Maddies Statio	4.52	61	Pn	Pn	18 10 26.7	+0.4
R40A				IAmb_Lg		18 11 47.7	
	comp=Z,12nm,1.0s						
P38A	Dawn	4.52	40	IAmb_Lg		18 11 39.8	
	comp=Z,18nm,0.9s						
KSCO	Kaye Shedlock'	5.06	305	IAmb_Lg		18 12 09.2	
	comp=Z,13nm,0.7s						
CCM	Cathedral Cave	5.17	67	IAmb_Lg		18 12 08.1	
	comp=Z,16nm,0.9s						
P40A	Paris	5.31	50	IAmb_Lg		18 12 10.2	
	comp=Z,13nm,0.8s						
435B	Jarrell	5.43	183	IAmb_Lg		18 12 12.9	
	comp=Z,14nm,0.7s						
PBMO	Poplar Bluff	5.56	82	IAmb_Lg		18 12 19.4	
	comp=Z,13nm,0.7s						
N38A	Joes South For	5.57	34	IAmb_Lg		18 12 15.3	
	comp=Z,16nm,0.8s						
T25A	Trinidad	5.79	281	IAmb_Lg		18 12 38.2	
	comp=Z,10nm,0.8s						
JCT	Junction City	6.10	201	IAmb_Lg		18 12 33.4	
	comp=Z,13nm,0.8s						
Q24A	Divide	6.80	296	IAmb_Lg		18 13 03.1	
	comp=Z,11nm,1.0s						
Q44A	Meyer Farm, Va	7.11	65	IAmb_Lg		18 13 23.5	
	comp=Z,11nm,0.8s						
N23A	Red Feather La	8.22	307	IAmb_Lg		18 13 56.6	
	comp=Z,10nm,0.9s						
JFWS	Jewell Farm	8.62	37	IAmb_Lg		18 13 59.9	
	comp=Z,9.6nm,0.8s						

*JMA **03** 18:12:14.7, 24°.95N×122°.39E, h47km±2km, M3.0*

*TAP **03** 18:12:15.5, 24°.93N×122°.26E, h11km±1km, ML3.7, D*

ISC 03 18:12:14.0±1.1**, 24°.94N**±0°.04×**122°.38E**±0°.02**, h19km**±3km**, n44,** σ**0s.53**/60**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.36	282	i P	Pg	18 12 21.3	-0.3
	baz=287						
TWB1				S	Sg	18 12 26.1	-0.6
	baz=287						
SXI1	Grass Mountain	0.48	289	i P	Pb	18 12 24.0	+0.1
	baz=295						
SXI1				i S	Sg	18 12 30.1	-0.3
	baz=295						
TIPB	Shuangxi	0.50	274	i P	Pg	18 12 24.1	-0.1
	baz=276						
TIPB				i S	Sg	18 12 30.6	-0.4
	baz=276						
NTC	Toucheng	0.50	261	i P	Pg	18 12 24.2	+0.1
	baz=259						
NWF	Wu-fen Shan	0.56	284	⇓iP	Pb	18 12 25.4	+0.3
	baz=288						
NWF				i S	Sg	18 12 32.0	-0.6
	baz=288						
WFSB	Wu-fen Shan	0.56	284	i P	Pb	18 12 25.4	+0.4
	baz=287						
TWC	Suao	0.58	236	i P	Pb	18 12 25.3	-0.1
	baz=228						
TWC				eS	Sg	18 12 31.7	-1.7
	baz=228						
TNOU	National Taiwa	0.59	291	i P	Pg	18 12 25.9	+0.2
	baz=296						
ILA	Ilan	0.59	254	eP	Pn	18 12 27.6	+0.2
	baz=250						
NDS	Dongshan	0.67	243	P	Pg	18 12 27.6	+0.3
	baz=239						
TWE	Neicheng	0.68	252	i P	Pb	18 12 27.2	+0.1
	baz=248						
TWE				S	Sb	18 12 36.3	+0.1
	baz=248						
JYNG	Yonagunijimaku	0.71	133	P	Pg	18 12 28.3	+0.4
JYNG				S	Sg	18 12 38.7	+1.3
TWA	Mucha	0.72	274	P	Pn	18 12 28.8	-0.4
	baz=274						
EWUT	Wuta	0.73	228	i P	Pg	18 12 28.9	+0.5
	baz=222						
EWUT				eS	Sb	18 12 37.6	-0.1
	baz=222						
PCYT	Pengchaiyu	0.74	338	i P	Pn	18 12 29.2	-0.3
	baz=346						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.75	129	P	Pg	18 12 29.0	+0.3
YOJ				S	Sg	18 12 39.4	+0.8
YM08	YM08	0.76	290	*i* P	Pg	18 12 29.1	+0.3
	baz=292						
YM01	YM01	0.76	286	*i* P	Pn	18 12 29.5	-0.3
	baz=289						
ENA	Nanau	0.77	229	*i* P	Pg	18 12 29.3	+0.3
	baz=222						
ENA				*e*S	Sb	18 12 38.5	-0.3
	baz=222						
NHDH	Xindian Distri	0.77	272	*i* P	Pn	18 12 30.0	+0.1
	baz=272						
TWY	Chenhua	0.78	296	*i* P	Pg	18 12 29.6	+0.3
	baz=299						
TWY				S	Sg	18 12 40.3	+0.6
	baz=299						
ENTT	Nioudou	0.79	248	*i* P	Pg	18 12 29.6	+0.1
	baz=245						
TAP	Taipei	0.80	278	*e*P	Pn	18 12 30.7	+0.5
	baz=279						
TATO	Taipei	0.81	273	P	Pn	18 12 30.2	-0.2
	baz=273						
NWLT	Wulai	0.81	259	*i* P	Pb	18 12 29.8	+0.3
	baz=257						
ANP	Anpu	0.81	288	*i* P	Pg	18 12 30.3	+0.3
	baz=290						
NDT	Datong Townshi	0.85	247	*i* P	Pg	18 12 30.9	+0.3
	baz=244						
LATG	Datong	0.87	243	*i* P	Pg	18 12 31.3	+0.3
	baz=239						
LATG				S	Sg	18 12 42.6	+0.1
	baz=239						
NTST	Danshui	0.87	285	*e*P	Pn	18 12 32.2	+1.0
	baz=287						
TWS1	Kuangyinshan	0.88	281	*e*P	Pn	18 12 32.2	+0.8
	baz=282						
TWS1				*e*S	Sn	18 12 44.5	+0.7
	baz=282						
YHNB	Yeheng	0.95	254	*i* P	Pb	18 12 32.2	+0.3
	baz=252						
NSK	Sanguang	0.96	255	*i* P	Pb	18 12 32.2	+0.1
	baz=252						
ETL	Fush Village	1.03	222	*i* P	Pg	18 12 34.2	+0.2
	baz=217						
ETL				*e*S	Sn	18 12 47.4	-0.1
	baz=217						
NACB	Ninganchiao	1.04	223	*i* P	Pg	18 12 34.3	+0.1
	baz=218						
ETLH	Xiulin Townshi	1.09	228	*i* P	Pg	18 12 35.2	0.0
	baz=224						
TWD	Chiawan	1.11	220	*i* P	Pg	18 12 35.6	+0.1
	baz=215						
ETM	Tongmen	1.26	220	*i* P	Pg	18 12 38.2	-0.1
	baz=216						
LIOB	Emei	1.27	257	*i* P	Pb	18 12 37.7	+0.4
	baz=256						
NSTT	Nanjuang	1.28	257	*e*P	Pg	18 12 39.3	+0.4
	baz=255						
IRIF	Iriomote-Funau	1.37	116	P	Pn	18 12 37.6	-0.5
HATJ	Hateruma jima	1.57	124	P	Pn	18 12 41.2	+0.3
JKRS	Kuro-shima	1.64	115	P	Pn	18 12 42.0	+0.1
JKRS				*e*S	Sn	18 13 00.9	-1.6
JIJ	Ishigaki jima	1.71	109	P	Pn	18 12 42.4	-0.4
JIJ				S	Sn	18 13 02.9	-1.2
JISG	Ishigakijimahi	1.79	101	P	Pn	18 12 43.8	-0.2

IDC 03 18:15:56.1±669.0, 53°.29N×1°.16E, h0km, Error ellipse: s-maj=359.7km s-min=176.5km az=104.0, North Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	9.06	114	*i*		19 08 21.4	
	baz=304,slow=330,SNR=7.4						
I43RU	DUBNA INFRASON	20.81	66	*i*		20 24 50.0	
	baz=276,slow=327,SNR=0.8						
I31KZ	AKTYUBINSK INF	34.46	71	*i*		21 47 30.0	
	baz=304,slow=330,SNR=0.6						

DJA 03 18:29:13.5±0.5, 10°S±3°×12°5E±°, h11km±4km, M4.0/12, mb4.1/10, mB5.0/3, MLv4.0/12, Mw(mB)4.3/3
IDC 03 18:29:18.2±1.8, 9°.79S×125°.32E, h89km±20km, mb3.3/3, mb1 3.6/7, mb1mx3.2/29, mbtmp3.8/7, Error ellipse: s-maj=23.2km s-min=13.1km az=37.0
ISC 03 18:29:13.7±0.8, 9°.59S±0°.07×125°.42E±0°.07, h35km, n19, σ1s.74/23, mb3.8/3, Timor region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.83	250	P	Pn	18 29 44.7	+1.9
	10nm,0.3s,baz=66,slow=0.6,SNR=28						
BATI				S	Sn	18 30 07.8	+3.0
	25nm,0.3s,baz=161,slow=23,SNR=11						
BATI	Baumata	1.83	250	P	Pn	18 29 43.3	+0.5
MMRI	Maumere	3.28	286	P	Pn	18 30 02.9	+0.3
MMRI				S	Sn	18 30 40.2	-0.2
BASI	Baing, Sumba	4.81	262	P	Pn	18 30 23.0	-0.7
BBSI	Bau Bau	4.95	325	P	Pn	18 30 24.6	-1.1
WBSI	Waikabubak, Su	5.94	269	P	Pn	18 30 38.4	-0.9
	0.1nm18nm,0.9s						
SAUI	Saumlaki	6.03	75	P	Pn	18 30 43.3	+2.8
	0.2nm2μm17nm,0.5s						
BKSI	Bulukumba	6.74	309	P	Pn	18 30 49.8	-0.5
	0.1nm12nm,1.0s						
MSAI	Masohi	7.11	30	P	Pn	18 30 58.4	+3.0
	0.0nm628nm3.7nm,0.4s						
BNSI	Bone	7.37	314	P	Pn	18 30 58.5	-0.4
	0.1nm12nm,1.4s						
SANI	Sanana	7.51	4	P	Pn	18 31 02.6	+1.8
	0.2nm7.5nm,0.8s						
PLAI	Plampang	7.58	275	P	Pn	18 31 01.2	-0.6
	0.1nm20nm,0.6s						
FITZ	Fitzroy Crossi	8.46	179	P	Pn	18 31 16.6	+2.6
	0.8nm,0.3s,baz=351,slow=9.2,SNR=49						
FITZ				S	Sn	18 32 48.0	-0.3
	1.5nm,0.3s,baz=125,slow=17,SNR=10.0						
SIJI	Sorong	10.43	34	P	Pn	18 31 48.9	+7.9
	0.6nm,0.3s,baz=152,slow=20,SNR=4.6						
WRA	Warramunga Arr	13.43	141	P	Pn	18 32 23.1	+1.1
	0.5nm,0.3s,baz=317,slow=13,SNR=35						
WRA				S	Sn	18 34 48.5	-1.5
	0.7nm,0.3s,baz=318,slow=25,SNR=8.4						
ASAR	Alice Springs	16.18	151	P	P	18 33 00.7	-0.8
	0.4nm,0.3s,baz=318,slow=11,SNR=43						
ASAR				S	Sn	18 35 53.8	-3.3
	0.3nm,0.3s,baz=316,slow=20,SNR=13						
CMAR	Chiang Mai Arr	38.20	317	P	P	18 36 29.6	-0.8
	0.4nm,0.7s,baz=142,slow=6.8,SNR=5.8						
MKAR	Makanchi Array	68.02	330	P	P	18 40 09.2	-0.3
	0.6nm,0.5s,baz=137,slow=6.7,SNR=13						
ZALV	Zalesovo Beam	71.99	336	P	P	18 40 32.7	-1.0
	0.8nm,0.7s,baz=123,slow=5.3,SNR=2.7						

IDC 03 18:38:58.7±1.7, 8°.76S×129°.84E, h0km, mb3.4/1, mb1 3.6/7, mb1mx3.4/30, mbtmp3.5/7, ML3.3/6, Error ellipse: s-maj=36.1km s-min=24.4km az=85.0
ISC 03 18:38:58.6±0.8, 8°.82S±0°.06×129°.89E±0°.09, h10km, n12, σ3s.27/15, Timor Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.63	59	P	Pg	18 39 39.7	+10
DRS	Darwin Rock St	3.73	165	P	Pb	18 40 03.2	-1.3
KDU	Kakadu	4.61	147	P	Pn	18 40 14.9	+6.6
BATI	Baumata	6.29	257	Pn	Pn	18 40 32.5	+1.0
	0.5nm,0.3s,baz=11,slow=5.2,SNR=1.5						
BATI				Sn	Sn	18 41 41.8	-1.7
	1.1nm,0.3s,baz=165,slow=20,SNR=1.8						
KNRA	Kununurra	6.90	189	P	Pn	18 40 44.5	+4.6
SIJI	Sorong	8.02	10	Pn	Pn	18 40 56.6	+1.4
	0.5nm,0.3s,baz=150,slow=20,SNR=9.0						
SIJI				Sn	Sn	18 42 20.7	-5.3
	0.8nm,0.3s,baz=233,slow=20,SNR=2.0						
FITZ	Fitzroy Crossi	10.11	204	Pn	Pn	18 41 26.2	+2.3
	0.2nm,0.3s,baz=26,slow=8.2,SNR=22						
FITZ				Sn	Sn	18 43 11.7	-5.7
	1.1nm,0.3s,baz=281,slow=23,SNR=6.5						
FITZ	Fitzroy Crossi	10.11	204	P	Pn	18 41 27.2	+3.3
KAPI	Kappang	10.75	290	Pn	Pn	18 41 34.0	+1.3
	0.2nm,0.3s,baz=117,slow=18,SNR=1.6						
WRA	Warramunga Arr	11.87	159	Pn	Pn	18 41 50.2	+2.2
	0.3nm,0.3s,baz=337,slow=13,SNR=17						
WRA				Sn	Sn	18 43 58.5	-2.1
	0.5nm,0.3s,baz=328,slow=22,SNR=6.1						
ASAR	Alice Springs	15.26	166	Pn	Pn	18 42 36.5	+2.2
	0.1nm,0.3s,baz=342,slow=9.3,SNR=10						
ASAR				Sn	Sn	18 45 21.2	-2.2
	0.1nm,0.3s,baz=136,slow=28,SNR=4.2						
MKAR	Makanchi Array	69.68	327	P	P	18 50 09.3	+0.8
	0.2nm,0.4s,baz=122,slow=8.1,SNR=4.7						

NEIC 03 18:51:00.5±2.4, 19°.18S±0°.04×69°.07W±0°.06, h105km±3km, Error ellipse: s-maj=8.2km s-min=5.6km az=85.0
SJA 03 18:51:00.5±0.6, 19°.16S×69°.36W, h121km±2km, ML4.6, MW4.4
IDC 03 18:51:01.7±0.6, 19°.13S×68°.93W, h115km±4km, mb4.2/11, mb1 4.3/16, mb1mx4.1/37, mbtmp4.6/16, MS3.4/4, Ms1 3.4/4, ms1mx3.0/60, Error ellipse: s-maj=13.8km s-min=10.6km az=110.0
VAO 03 18:51:01.0±0.4, 18°.99S×69°.17W, h111km, mb4.7
GUC 03 18:51:01.9±0.7, 19°.14S×69°.27W, h112km±2km, ML4.7
ISC 03 18:51:00.6±0.4, 19°.14S±0°.03×69°.19W±0°.04, h113km±3km, h113km:pP-P, n187, σ1s.37/229, mb4.6/17, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.52	181		Pn	18 51 19.4	+0.9
GO01				Sn	Sn	18 51 32.8	+0.8
GO01	Chusmiza	0.52	181	*e*P	Pn	18 51 19.7	+1.1
GO01				*i* S	Sn	18 51 33.6	+1.6
GO01				IAML		18 51 34.2	
	comp=N,33μm,0.3s						
GO01	Chusmiza	0.52	181	*e*P	Pn	18 51 19.0	+0.4
GO01				*e*S	Sn	18 51 34.2	+2.2
PB11	IPOC Station P	0.76	216		Pn	18 51 19.5	-0.5
PB11				Sn	Sn	18 51 33.7	-0.9
PB11	IPOC Station P	0.76	216⇑	*e*P	Pn	18 51 20.5	+0.5
PB11				*e*S	Sn	18 51 34.7	+0.2
PB11				IAML		18 51 36.0	
	comp=E,29μm,0.2s						
PB11	IPOC Station P	0.76	216	*e*P	Pn	18 51 20.4	+0.5
PB11				*e*S	Sn	18 51 35.3	+0.8
PB11				IAML		18 51 36.8	
	comp=Z,10μm,0.2s						
PB16	IPOC Station P	0.86	339	Pn	Pn	18 51 21.4	0.0
PB16				Sn	Sn	18 51 36.6	-0.3
PB16	IPOC Station P	0.86	339	*e*P	Pn	18 51 22.4	+1.0
PB16				*e*S	Sn	18 51 38.1	+1.2
PB16				IAML		18 51 39.3	
	comp=N,31μm,0.4s						
PB16	IPOC Station P	0.86	339	*e*P	Pn	18 51 22.4	+1.0
PB16				*e*S	Sn	18 51 38.7	+1.8
PB16				IAML		18 51 39.7	
	comp=Z,26μm,0.4s						
PB08	IPOC Station P	0.99	178		Pn	18 51 23.7	+1.3
PB08				Sn	Sn	18 51 37.3	-1.5
PB08	IPOC Station P	0.99	178	*e*P	Pn	18 51 24.0	+1.5
PB08				*e*S	Sn	18 51 40.6	+1.8
PB08				IAML		18 51 42.3	
	comp=E,15μm,0.3s						
PB08	IPOC Station P	0.99	178	*e*P	Pn	18 51 23.7	+1.3
PB08				*e*S	Sn	18 51 41.2	+2.3
PB08				IAML		18 51 42.7	
	comp=Z,7μm,0.4s						
PB12	IPOC Station P	1.20	296	Pn	Pn	18 51 23.9	-0.4
PB12	IPOC Station P	1.20	296	*e*P	Pn	18 51 23.9	-0.4
PB12				*e*S	Sn	18 51 41.2	-1.1
PB12				IAML		18 51 43.0	
	comp=N,15μm,0.2s						
PB12	IPOC Station P	1.20	296	*e*P	Pn	18 51 24.0	-0.3
PB12				*e*S	Sn	18 51 41.5	-0.8
PB12				IAML		18 51 45.8	
	comp=Z,7μm,0.2s						
HMBC	Humberstone	1.31	210	*e*P	Pn	18 51 25.6	+0.1
HMBC				*e*S	Sn	18 51 44.3	-0.1
AP01	Chacalluta	1.34	305		Pn	18 51 25.8	0.0
AP01	Chacalluta	1.34	305	*e*P	Pn	18 51 25.6	-0.1
AP01				*e*S	Sn	18 51 44.0	-0.8
AP01				IAML		18 51 45.9	
	comp=N,38μm,0.3s						
AP01	Chacalluta	1.34	305	*e*P	Pn	18 51 25.6	-0.1
AP01				IAML		18 51 49.4	
	comp=Z,10μm,0.7s						
TA02	Huaiquique	1.43	218		Pn	18 51 26.7	-0.1
TA02	Huaiquique	1.43	218	*e*P	Pn	18 51 27.0	+0.2
TA02				*e*S	Sn	18 51 46.0	-0.7
TA02				IAML		18 51 49.0	
	comp=E,13μm,0.2s						
TA02	Huaiquique	1.43	218	*e*P	Pn	18 51 26.4	-0.4
TA02				*e*S	Sn	18 51 48.1	+1.4
TA02				IAML		18 51 50.8	
	comp=Z,4μm,0.1s						
TA01	Diego Aracena	1.70	213	Pn	Pn	18 51 29.6	-0.4
TA01	Diego Aracena	1.70	213	*e*P	Pn	18 51 29.6	-0.4
TA01				*e*S	Sn	18 51 51.4	-1.0
TA01	Diego Aracena	1.70	213	*e*P	Pn	18 51 30.0	0.0
TA01				*e*S	Sn	18 51 54.7	+2.4
TA01				IAML		18 51 57.4	
	comp=Z,2μm,0.2s						
PATCX	Punta Patache	1.90	208		Pn	18 51 32.5	-0.1
PATCX	Punta Patache	1.90	208	*e*P	Pn	18 51 32.5	-0.1
PATCX				*e*S	Sn	18 51 56.1	-0.9
PATCX				IAML		18 52 02.9	
	comp=E,5μm,0.5s						
PATCX	Punta Patache	1.90	208	*e*P	Pn	18 51 28.7	-3.9
PATCX				*e*P	Pn	18 51 28.7	-3.9
PATCX				*e*P		18 51 32.7	
PATCX				*e*P		18 51 32.7	
PATCX				*e*P		18 51 32.9	
PATCX				IAML		18 51 56.2	
	comp=Z,3μm,0.7s						
PB01	IPOC Station P	1.91	188		Pn	18 51 33.5	+0.8
PB01	IPOC Station P	1.91	188	*e*P	Pn	18 51 33.5	+0.8
PB01				*e*S	Sn	18 51 57.6	+0.4
PB01				IAML		18 51 59.7	
	comp=N,7μm,0.3s						
PB01	IPOC Station P	1.91	188	*e*P	Pn	18 51 28.7	-4.0
PB01				*e*P		18 51 33.6	
PB01				*e*S	Sn	18 51 58.0	+0.7
PB01				IAML		18 52 03.3	
	comp=Z,3μm,0.3s						
PB02	IPOC Station P	2.27	197		Pn	18 51 37.3	+0.1
PB02	IPOC Station P	2.27	197	*e*P	Pn	18 51 37.6	+0.4
PB02				*i* S	Sn	18 52 05.1	-0.2
PB02				IAML		18 52 13.4	
	comp=N,6μm,0.2s						
PB02	IPOC Station P	2.27	197	*e*P	Pn	18 51 32.7	-4.5
PB02				*e*P		18 51 38.0	
PB02				*e*S	Sn	18 52 05.5	+0.2
PB02				IAML		18 52 16.0	
	comp=Z,5μm,0.4s						
PB09	IPOC Station P	2.64	181		Pn	18 51 42.4	+0.3
PB09	IPOC Station P	2.64	181	*e*P	Pn	18 51 43.4	+1.2
PB09				*i* S	Sn	18 52 15.4	+1.3
PB09				IAML		18 52 19.1	
	comp=N,2μm,0.3s						
PB09	IPOC Station P	2.64	181	*e*P	Pn	18 51 43.1	+0.9
PB09				*e*S	Sn	18 52 14.7	+0.7
PB09				IAML		18 52 20.2	
	comp=Z,3μm,0.8s						
PB07	IPOC Station P	2.65	194		Pn	18 51 42.5	+0.2
PB07	IPOC Station P	2.65	194	*e*P	Pn	18 51 42.9	+0.6
PB07				*i* S	Sn	18 52 14.0	-0.4
PB07				IAML		18 52 24.3	
	comp=E,5μm,0.3s						
PB07	IPOC Station P	2.65	194	*e*P	Pn	18 51 43.0	+0.6
PB07				*e*S	Sn	18 52 14.2	-0.1
PB07				IAML		18 52 23.8	
	comp=Z,2μm,0.2s						
LPAZ	La Paz	3.01	20	P	Pn	18 51 49.1	+1.6
	comp=Z,19nm,0.3s,baz=198,slow=3.5,SNR=381						
LPAZ				S	Sn	18 52 23.8	+0.3
	comp=Z,7.6nm,0.3s,baz=10,slow=19,SNR=5.0						
LPAZ	La Paz	3.01	20	Pn	Pn	18 51 49.6	+2.1
LPAZ	La Paz	3.01	20	*e*P	Pn	18 51 50.0	+2.5
PB04	IPOC Station P	3.30	196		Pn	18 51 51.0	+0.2
PB04	IPOC Station P	3.30	196	*e*P	Pn	18 51 51.2	+0.4
PB04				*e*S	Sn	18 52 29.5	-0.1
PB04				IAML		18 52 51.3	
	comp=N,2μm,0.5s						
PB04	IPOC Station P	3.30	196	*e*P	Pn	18 51 51.5	+0.6
PB04				*e*S	Sn	18 52 28.7	-0.9
PB04				IAML		18 52 56.0	
	comp=Z,1μm,0.9s						
LVC	Limon Verde	3.46	176	P	Pn	18 51 54.7	+1.5
	comp=Z,32nm,0.3s,baz=350,slow=8.4,SNR=226						
LVC				S	Sn	18 52 39.1	+5.4
	comp=Z,125nm,0.3s,baz=206,slow=21,SNR=5.7						
LVC	Limon Verde	3.46	176		Pn	18 51 54.2	+1.1
LVC	Limon Verde	3.46	176	*e*P	Pn	18 51 54.2	+1.1
LVC				*i* S	Sn	18 52 34.5	+0.8
LVC	Limon Verde	3.46	176	*e*P	Pn	18 51 55.3	+2.1
LVC	Limon Verde	3.46	176	*e*P	Pn	18 51 54.6	+1.4
LVC				*e*P		18 51 54.7	
LVC				*e*S	Sn	18 52 21.2	-12
LVC				IAML		18 52 40.4	
	comp=Z,422nm,1.6s						
PB06	IPOC Station P	3.56	186		Pn	18 51 54.4	0.0
PB06	IPOC Station P	3.56	186	*e*P	Pn	18 51 54.4	0.0
PB06				*i* S	Sn	18 52 33.5	-2.4
PB15	IPOC Station P	4.05	184		Pn	18 52 01.0	+0.1
PB10	IPOC Station P	4.53	196	Pn	Pn	18 52 06.1	-1.1
PB14	IPOC Station P	5.57	191	Pn	Pn	18 52 19.6	-1.9
AC01	Pan de Azucar	7.09	190	Pn	Pn	18 52 39.1	-2.7
AC02	Maricunga	7.66	180	Pn	Pn	18 52 49.2	-0.7
AC06	Mina Casimiro	8.25	187	Pn	Pn	18 52 54.1	-3.4
SIV	San Ignacio	8.35	69	P	Pn	18 52 57.2	-1.7
	comp=Z,11nm,0.3s,baz=256,slow=11,SNR=88						
SIV				S	Sn	18 54 26.9	-4.7
	comp=Z,1.0nm,0.3s,baz=342,slow=22,SNR=3.0						
GO03	Copiap	8.47	186	Pn	Pn	18 52 56.9	-3.6
AC04	Llanos de Chal	9.18	190	Pn	Pn	18 53 05.1	-5.0
ETMB	Extrema	9.71	18	*e*P	Pn	18 53 15.8	-1.5
NNA	Nana	10.25	313	P	Pn	18 53 25.2	+0.6
	comp=Z,2.4nm,0.3s,baz=157,slow=15,SNR=2.3						
NNA				S	Sn	18 55 23.7	+6.0
	comp=Z,4.9nm,0.3s,baz=222,slow=15,SNR=2.5						
PTLB	Pontes e Lacer	10.28	71	*e*P	Pn	18 53 22.8	-2.1
GO04	Tololo Observa	11.08	187		Pn	18 53 32.1	-3.8
CO06	Fray Jorge	11.69	190	Pn	Pn	18 53 37.5	-6.4
CO03	El Pedregal	11.72	186		Pn	18 53 39.3	-5.1
CZSB	Cruzeiro do Su	11.85	343	*e*P	Pn	18 53 44.3	-1.8
CO02	Combarbal	12.12	187	Pn	Pn	18 53 49.6	-0.1
AQDB	Aquidauana	12.76	98		Pn	18 53 57.0	-1.0
AQDB	Aquidauana	12.76	98	*e*P	Pn	18 53 57.6	-0.5
CPUP	Villa Florida	13.06	125	P	Pn	18 54 00.3	-1.6
	comp=Z,0.5nm,0.3s,baz=305,slow=12,SNR=5.8						
CPUP				LR	LR	19 00 23.6	
	comp=Z,101nm,21.1s,baz=218,slow=44						
VA06	Catapilco	13.50	188		Pn	18 54 06.5	-1.0
VA03	San Esteban	13.62	185		Pn	18 54 08.8	-0.4
ROC1	El Roble	13.87	186		Pn	18 54 11.2	-1.4
VA01	Torpederas	14.00	189	Pn	Pn	18 54 13.1	-0.9
PEL	Peldehue	14.01	185	Pn	Pn	18 54 13.1	-1.1
MT02	Curacav	14.17	187		Pn	18 54 15.7	-0.4
MT05	Renca	14.26	185	Pn	Pn	18 54 16.2	-1.2
MT03	Universidad Ad	14.34	184		Pn	18 54 16.0	-2.5
VA05	Santo Domingo	14.62	188		Pn	18 54 19.5	-2.4
MT09	Talagante	14.66	186		Pn	18 54 21.9	-0.7
LMEL	Las Melosas	14.67	183		Pn	18 54 22.3	-0.4
MT01	Popeta	14.78	187		Pn	18 54 23.5	-0.5
BO04	La Punta	14.84	185	Pn	Pn	18 54 23.8	-1.0
ATAH	Atahualpa	14.92	322	P	P	18 54 28.7	-0.4
	comp=Z,0.2nm,0.3s,baz=215,slow=18,SNR=4.5						
BO01	Tunca	15.28	186		Pn	18 54 30.1	-0.2
BO01				IAmb	IAmb	18 54 35.6	
	comp=Z,60nm,0.8s						
CLDB	Colider	15.32	59	*e*P	Pn	18 54 30.2	-0.7
BO02	Sierra Bellavi	15.65	185		Pn	18 54 33.0	-2.0
GO05	Huala	15.99	188	P	Pn	18 54 38.4	-0.7
GO05				IAmb	IAmb	18 54 44.6	
	comp=Z,45nm,1.2s						
ML02	Panimavida	16.67	186		Pn	18 54 46.5	-1.0
ML02				IAmb	IAmb	18 54 51.6	
	comp=Z,42nm,0.7s						
PTGB	Pitanga	16.82	112	*e*P	P	18 54 51.1	+1.4
PCMB	Pacaembu	16.98	101	*e*P	P	18 54 53.6	+2.1
ITAB	Concordia	17.61	120	P	Pn	18 54 59.7	+0.7
ITAB				IAmb	IAmb	18 55 01.8	
	comp=Z,60nm,0.8s						
ITAB	Concordia	17.61	120	*e*P	Pn	18 55 00.8	+1.9
ITRB	Iturama	17.77	95	*e*P	Pn	18 55 01.0	+0.1
MACA	Manacapuru-AM	17.93	29	*e*P	P	18 55 01.5	-0.4
NPGB	Novo Progresso	18.04	50	*e*P	P	18 55 02.7	-0.4
CPSB	Cacapava Do Su	18.15	131	*e*P	Pn	18 55 05.7	+0.3
SNDB	Serra Nova Dou	18.64	70	*e*P	P	18 55 10.2	+0.5
FRTB	Fartura	18.76	106	*e*P	P	18 55 12.0	+1.0
PLTB	Pedras Altas	18.84	135	*e*P	Pn	18 55 13.4	-0.1
BB19B	Bebedouro	19.50	99	*e*P	P	18 55 19.5	+0.5
ITTB	Itaituba	19.70	43	*e*P	P	18 55 20.8	-0.4
LC01	Cunco	19.82	186	P	P	18 55 23.1	+0.7
LC01				IAmb	IAmb	18 55 28.8	
	comp=Z,46nm,1.1s						
IPMB	Ipameri, GO	19.92	90	*e*P	P	18 55 23.8	+0.2
PTGA	Pitinga	20.41	27	P	P	18 55 27.1	-1.7
	comp=Z,12nm,0.3s,baz=206,slow=12,SNR=26						
BDFB	Brasilia	20.50	84	P	P	18 55 29.3	-0.7
	comp=Z,22nm,0.6s,baz=264,slow=11,SNR=23						
BDFB	Brasilia	20.50	84	P	P	18 55 29.6	-0.4
BDFB				IAmb	IAmb	18 55 33.2	
	comp=Z,20nm,0.5s						
RCLB	Rio Claro- Sao	20.50	103	*e*P	P	18 55 29.8	-0.1
LR03	Panguipulli	20.60	187	P	P	18 55 28.6	-2.2
PET01	Itanhaem-SP	20.98	108	*e*P	P	18 55 34.8	-0.2
VAO	Valinhos	21.08	104	*e*P	P	18 55 35.6	-0.5
PEXB	Peixe	21.28	74	*e*P	P	18 55 37.8	-0.5
PLCA	Paso Flores	21.55	183	P	P	18 55 42.0	+1.0
	comp=Z,43nm,0.9s,baz=7.1,slow=11,SNR=47						
PLCA	Paso Flores	21.55	183	P	P	18 55 41.9	+1.0
PLCA	Paso Flores	21.55	183	*e*P	P	18 55 42.5	+1.6
LL04	Puerto Octay	21.87	187	P	P	18 55 43.9	-0.4
LL04				IAmb	IAmb	18 55 52.4	
	comp=Z,23nm,0.8s						
PARB	Paraibuna	22.35	105	*e*P	P	18 55 48.6	-0.9
MALB	Monte Alegre	22.56	42	*e*P	P	18 55 50.0	-1.6
PRPB	Parauapebas	22.84	58	*e*P	P	18 55 53.2	-1.2
BSCB	Bom Sucesso	23.00	99	*e*P	P	18 55 55.3	-0.7
BOAV	Boa Vista	23.04	23	*e*P	P	18 55 55.7	-0.5
SMTB	Santa Maria do	23.29	67	*e*P	P	18 55 59.4	+0.8
MAN01	Angra dos Reis	23.82	103	*e*P	P	18 56 04.2	+0.7
LL02	Futaleuf	24.08	185	P	P	18 56 06.1	+0.6
JANB	Januaria	24.11	84	*e*P	P	18 56 05.8	-0.4
DIAM	Diamantina, MG	24.17	92	*e*P	P	18 56 07.1	+0.4
VAS01	Vassouras-RJ	24.27	102	*e*P	P	18 56 08.1	+0.6
SDBA	SAO DESIDERIO	24.29	78	*e*P	P	18 56 07.5	-0.2
DUB01	Friburgo-RJ	25.25	101	*e*P	P	18 56 17.3	+0.9
AY01	Puyuhuapi	25.37	186	P	P	18 56 17.7	+0.5
AY01				IAmb	IAmb	18 56 18.7	
	comp=Z,20nm,0.9s						
CAM01	Campos-RJ	25.91	101	*e*P	P	18 56 23.3	+1.0
SJMB	Sao Joao De Ma	26.48	94	*e*P	P	18 56 28.0	+0.5
ALF01	Guarapari-ES	26.79	98	*e*P	P	18 56 31.4	+1.1
RIB01	Linhares ES	27.17	95	*e*P	P	18 56 34.0	+0.3
GUA01	Guaratinga, BA	28.07	89	*e*P	P	18 56 42.3	+0.6
CMC01	Camacan, BA	28.56	87	*e*P	P	18 56 46.6	+0.5
NBIT	Itapeh - BA	28.73	86	*e*P	P	18 56 48.1	+0.5
GDU01	Guandu, BA	28.89	84	*e*P	P	18 56 48.5	-0.4
MDP	Montagnes des	29.08	36	P	P	18 56 49.9	-0.8
	comp=Z,5.8nm,0.5s,baz=208,slow=8.0,SNR=5.8						
MDP				LR	LR	19 08 24.3	
	comp=Z,31nm,18.4s,baz=114,slow=36						
NBPS	Pedro II - PI	30.78	65	*e*P	P	18 57 05.8	0.0
NBLA	Lagarto - SE	31.34	80	*e*P	P	18 57 10.0	-0.7
NBAN	Anadia - AL	33.18	78	*e*P	P	18 57 26.5	-0.3
RCBR	Riachuelo	35.00	72	P	P	18 57 42.0	-0.5
	comp=Z,13nm,0.7s,baz=27,slow=9.3,SNR=6.8						
NBPV	Pedro Velho	35.31	74	*e*P	P	18 57 46.0	+0.9
RPN	Rapa Nui	37.64	250	LR	LR	19 09 34.9	
	comp=Z,64nm,18.5s,baz=140,slow=29						
Z51A	Franklin	54.35	344	P	P	19 00 16.7	+1.1
KMSC	Kings Mountain	55.20	348	P	P	19 00 21.1	-0.6
KMSC				IAmb	IAmb	19 00 22.9	
	comp=Z,7.0nm,0.6s						
V55A	Taylorsville	55.87	348	P	P	19 00 26.8	+0.3
V55A				IAmb	IAmb	19 00 28.0	
	comp=Z,7.4nm,0.7s						
TXAR	Lajitas Array	58.56	325	P	P	19 00 46.6	+0.9
	comp=Z,0.2nm,0.7s,baz=133,slow=7.5,SNR=2.9						
TXAR				pP	pP	19 01 14.4	+0.2
	comp=Z,0.6nm,0.8s,baz=133,slow=7.5,SNR=4.1						
TXAR	Lajitas Array	58.56	325	P	P	19 00 45.8	+0.1
TXAR					pP	19 01 12.4	-1.7
P53A	Whipple	59.43	349	P	P	19 00 52.3	+1.0
BELA	Belgrano 2	61.11	172	P	P	19 01 04.2	+1.9
BELA				IAmb	IAmb	19 01 05.8	
	comp=Z,12nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
M53A	**WI Miller and**	**61.21**	**350**	P	**P**	**19 01 04.1**	**+0.7**
N49A	**Columbus Grove**	**61.36**	**347**	P	**P**	**19 01 03.6**	**-0.8**
VNA3	**Neumayer Olymp**	**62.38**	**162**	P	**P**	**19 01 12.4**	**+1.4**
VNA2	**Neumayer--Watz**	**62.95**	**161**	P	**P**	**19 01 16.1**	**+1.4**
	baz=287,slow=7.6						
SNAA	**Sanae**	**64.58**	**161**	P	**P**	**19 01 26.9**	**+1.4**
SNAA	**Sanae**	**64.58**	**161**	P	**P**	**19 01 26.9**	**+1.4**
SNAA				IAmb	IAmb	19 01 30.7	
	comp=Z,11nm,1.1s						
TRQ	**Mont Tremblant**	**65.24**	**356**	P	**P**	**19 01 30.7**	**+0.7**
TRQ				IAmb	IAmb	19 01 31.1	
	comp=Z,6.9nm,0.7s						
SDCO	**Great Sand Dun**	**66.10**	**329**	P	**P**	**19 01 37.6**	**+1.6**
DBIC	**Dimbokro**	**68.33**	**74**	P	**P**	**19 01 49.8**	**-0.5**
	comp=Z,8.8nm,0.9s,baz=248,slow=5.3,SNR=8.6						
DBIC	**Dimbokro**	**68.33**	**74**	P	**P**	**19 01 50.3**	**0.0**
DBIC				IAmb	IAmb	19 01 51.0	
	comp=Z,9.2nm,0.9s						
NVAR	**Mina Array Bea**	**73.49**	**322**	P	**P**	**19 02 23.1**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=129,slow=7.1,SNR=4.4						
NVAR				pP	**pP**	**19 02 52.6**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=137,slow=5.8,SNR=5.3						
NVAR				sP	**sP**	**19 03 04.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=122,slow=5.4,SNR=3.3						
SCHQ	**Schefferville**	**73.70**	**1**	P	**P**	**19 02 21.8**	**0.0**
	comp=Z,3.9nm,0.9s,baz=220,slow=8.9,SNR=4.5						
SCHQ	**Schefferville**	**73.70**	**1**	P	**P**	**19 02 22.0**	**+0.1**
HLID	**Hailey**	**74.92**	**328**	P	**P**	**19 02 29.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.82**	**71**	P	**P**	**19 02 38.4**	**-2.1**
	comp=Z,4.5nm,0.4s,baz=251,slow=5.5,SNR=43						
TORD	**Torodi Ar. Bea**	**76.82**	**71**	P	**P**	**19 02 39.6**	**-1.0**
TORD				IAmb	IAmb	19 02 45.8	
	comp=Z,6.4nm,0.7s						
SYO	**Syowa Base**	**78.79**	**160**⇑	*e*P	**P**	**19 02 46.8**	**-3.7**
EDM	**Edmonton**	**81.53**	**335**	P	**P**	**19 03 04.8**	**-0.6**
ESDC	**Sonseca Array**	**84.35**	**45**	P	**P**	**19 03 20.2**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=257,slow=4.7,SNR=6.0						
ESDC				pP	**pP**	**19 03 50.6**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=235,slow=6.1,SNR=3.9						
YKA	**Yellowknife Ar**	**88.89**	**341**	P	**P**	**19 03 42.6**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=134,slow=4.8,SNR=50						
YKA				pP	**pP**	**19 04 12.4**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=135,slow=4.7,SNR=11						
YKA				sP	**sP**	**19 04 24.5**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=135,slow=4.8,SNR=3.4						
INK	**Inuvik**	**98.65**	**340**	LR	LR	19 56 33.0	
	comp=Z,64nm,18.4s,baz=231,slow=40						
ASAR	**Alice Springs**	**131.85**	**209**	PKP	**PKPdf**	**19 10 02.0**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=114,slow=1.4,SNR=5.4						
ASAR				pPKP	**pPKPdf**	**19 10 33.4**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=112,slow=1.6,SNR=3.4						
WRA	**Warramunga Arr**	**134.82**	**212**	PKP	**PKPdf**	**19 10 07.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=139,slow=1.3,SNR=7.3						
WRA				pPKP	**pPKPdf**	**19 10 38.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=151,slow=1.9,SNR=4.0						
WRA	**Warramunga Arr**	**134.82**	**212**		**PKPdf**	**19 10 04.3**	**-2.7**
ZALV	**Zalesovo Beam**	**139.93**	**24**	PKhKP	PKPpre	19 10 10.7	
	comp=Z,0.3nm,0.4s,baz=344,slow=42,SNR=2.3						
ZALV				PKP	**PKPdf**	**19 10 16.6**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=316,slow=4.1,SNR=10						
ZALV	**Zalesovo Beam**	**139.93**	**24**	PKPdf	**PKPdf**	**19 10 16.3**	**+1.0**
MKAR	**Makanchi Array**	**143.86**	**34**	PKhKP	PKPpre	19 10 17.5	
	comp=Z,0.7nm,0.7s,baz=321,slow=4.6,SNR=8.7						
MKAR				PKP	**PKPdf**	**19 10 23.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=309,slow=2.4,SNR=5.4						
KLR	**Kul'dur**	**145.59**	**336**	PKPbc	**PKPab**	**19 10 27.2**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=52,slow=5.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**150.37**	**311**	PKPbc	**PKiKP**	**19 10 40.4**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=8.9,slow=0.5,SNR=7.9						
MJAR				pPKPbc	**pPKPbc**	**19 11 10.8**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=66,slow=1.1,SNR=3.3						
MAT	**Matsushiro**	**150.37**	**311**	PKP	**PKPbc**	**19 10 39.4**	**+0.3**
SONM	**Songino Array**	**151.16**	**6**	PKPbc	**PKiKP**	**19 10 42.2**	**+1.0**
	comp=Z,3.8nm,0.7s,baz=302,slow=1.9,SNR=11						
PZH	**PanZhiHua**	**168.88**	**47**	PKP	**PKPdf**	**19 10 53.1**	**-2.0**

*PRE **03** 18:57:00.8±1.1, 26°.81S×26°.96E, h2km, ML2.5*

ISC 03 18:57:02.8±1.9**, 26°.69S**±0°.09×**27°.02E**±0°.07**, h6km, n6, σ1s.94**/10**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLR	**Silverton**	**1.48**	**51**	*e*P	**Pb**	**18 57 31.0**	**+0.2**
SLR				*e*S	**Sg**	**18 57 53.1**	**+2.7**
SLR				IAML		18 57 58.6	
	comp=Z,71nm,0.3s						
LBTB	**Lobatse**	**2.10**	**322**	*e*P	**Pn**	**18 57 39.2**	**+0.7**
LBTB				*e*S	**Sn**	**18 58 05.5**	**+0.4**
LBTB				IAML		18 58 06.5	
	comp=Z,71nm,0.5s						
POGA	**Pongola**	**4.24**	**100**	*e*P	**Pn**	**18 58 07.6**	**-0.3**
POGA				*e*S	**Sn**	**18 58 55.9**	**-1.8**
POGA				IAML		18 59 29.9	
	comp=Z,8.5nm,3.9s						
MOPA	**Mopani**	**5.07**	**52**	*e*P	**Pn**	**18 58 21.1**	**+1.7**
MOPA				*e*S	**Sn**	**18 59 17.8**	**-0.6**
MOPA				IAML		18 59 48.3	
	comp=Z,8.5nm,3.1s						
MATP	**Matopo**	**6.38**	**13**	*i* Sg	**Sg**	**19 00 25.2**	**-2.4**
MATP	**Matopo**	**6.38**	**13**	*i* Sg	**Sg**	**19 00 25.2**	**-2.4**

TAP 03 19:00:03.7, 24°.98N×122°.29E, h21km, ML2.4, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.28**	**277**	P	Pb	19 00 10.1	-0.1
	baz=277						
EGS		**0.35**	**249**	P	Pb	19 00 11.8	+0.5
	baz=244						
SXI1	**Grass Mountain**	**0.40**	**287**	P	Pb	19 00 12.7	+0.7
	baz=287						
SXI1				*e*S	Sb	19 00 18.9	+1.2
	baz=287						
TIPB	**Shuangxi**	**0.42**	**270**	P	Pb	19 00 13.0	+0.5
	baz=269						
TIPB				*e*S	Sb	19 00 19.4	+1.0
	baz=269						
NTC	**Toucheng**	**0.44**	**254**	*e*P	Pb	19 00 13.0	+0.3
	baz=263						
NTC				*e*S	Sb	19 00 19.8	+1.0
	baz=263						
NWF	**Wu-fen Shan**	**0.47**	**282**	P	Pb	19 00 14.3	+0.9
	baz=281						
NWF				*e*S	Sb	19 00 21.2	+1.2
	baz=281						
TNOU	**National Taiwa**	**0.50**	**290**	*e*P	Pb	19 00 14.6	+0.7
	baz=289						
TNOU				*e*S	Sb	19 00 21.5	+0.7
	baz=289						
TWC	**Suao**	**0.54**	**228**	*e*P	Pb	19 00 14.9	+0.2
	baz=223						
TWC				*e*S	Sb	19 00 22.1	0.0
	baz=223						
TWE	**Neicheng**	**0.62**	**246**	*e*P	Pb	19 00 16.3	+0.3
	baz=245						
TWE				*e*S	Sb	19 00 23.4	-0.9
	baz=245						
NDS	**Dongshan**	**0.63**	**237**	*e*P	Pb	19 00 16.1	+0.1
	baz=237						
TWA	**Mucha**	**0.65**	**271**	*e*S	Sb	19 00 25.9	+0.9
	baz=270						
FUSB	**Fushanzhiwuyua**	**0.68**	**252**	*e*P	Pb	19 00 16.9	0.0
	baz=252						
FUSB				*e*S	Sn	19 00 27.5	-0.6
	baz=252						
YM01	**YM01**	**0.68**	**285**	*e*P	Pn	19 00 18.2	+0.1
	baz=272						
YM01				*e*S	Sb	19 00 25.3	-0.7
	baz=272						
PCYT	**Pengchaiyu**	**0.68**	**343**	*e*P	Pn	19 00 18.0	-0.1
	baz=343						
EWUT	**Wuta**	**0.71**	**222**	*e*P	Pb	19 00 17.6	+0.3
	baz=222						
ENA	**Nanau**	**0.74**	**223**	*e*P	Pb	19 00 18.1	+0.2
	baz=219						
ENTT	**Nioudou**	**0.74**	**243**	*e*P	Pn	19 00 18.7	-0.3
	baz=243						
NWLT	**Wulai**	**0.74**	**255**	*e*P	Pb	19 00 18.5	+0.5
	baz=255						
LATG	**Datong**	**0.82**	**238**	*e*P	Pb	19 00 19.8	+0.4
	baz=238						
YOJ	**Yonaguni jima**	**0.83**	**128**	P	Pb	19 00 19.1	-0.4
	baz=121						
YHNB	**Yeheng**	**0.89**	**250**	*e*P	Pn	19 00 20.9	-0.2
	baz=258						
NSK	**Sanguang**	**0.90**	**251**	*e*P	Pb	19 00 20.5	-0.2
	baz=251						
NNSB	**Datong**	**0.99**	**237**	*e*P	Pn	19 00 23.2	+0.7
	baz=223						
NACB	**Ninganchiao**	**1.02**	**219**	*e*P	Pb	19 00 22.6	-0.1
	baz=219						
ETLH	**Xiulin Townshi**	**1.06**	**224**	P	Pb	19 00 23.8	+0.3
	baz=215						
ETLH				*e*S	Sb	19 00 36.4	-0.6
	baz=215						
CHGB	**Renai**	**1.37**	**228**	*e*P	Pb	19 00 29.2	+0.5
	baz=229						
WUSB	**Renai**	**1.45**	**228**	*e*P	Pb	19 00 31.3	+1.1
	baz=216						

JMA 03 19:00:06.3±0.1**, 24°.62N×123°.49E, h59km**±3km**, M1.3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**250**	P	Pn	19 00 17.8	0.0
YOJ				*e*S	Sn	19 00 26.2	+0.1
JKRS	**Kuro-shima**	**0.61**	**129**	P	Pn	19 00 19.4	0.0
JIJ	**Ishigaki jima**	**0.65**	**113**	P	Pn	19 00 19.9	+0.1
JISG	**Ishigakijimahi**	**0.75**	**92**	P	Pn	19 00 21.2	+0.1

*IDC **03** 19:06:38.0±1.8, 4°.82S×94°.34E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/50, mbtmp3.7/7, ML3.7/1, MS3.4/11, Ms1 3.4/11, ms1mx3.0/75, Error ellipse: s-maj=46.5km s-min=28.4km az=46.0*

ISC 03 19:06:43.8±1.5**, 4°.7S**±0°.2×**94°.5E**±0°.2**, h35km, n15, σ0s.93**/7**, mb3.6**/5**, MS3.4**/10**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.65**	**31**	Pn	**Pn**	**19 08 46.0**	**-0.6**
	baz=161,slow=18,SNR=3.8						
PALK	**Pallekele**	**18.14**	**311**	P	**Pn**	**19 10 52.3**	**-0.8**
	0.3nm,0.3s,baz=229,slow=11,SNR=1.9						
PALK				LR	LR	19 16 12.5	
	comp=Z,119nm,20.6s,baz=256,slow=32						
CMAR	**Chiang Mai Arr**	**23.39**	**11**	P	**P**	**19 11 50.9**	**+1.3**
	0.7nm,0.7s,baz=200,slow=9.2,SNR=12						
DAV	**Davao City (W)**	**33.17**	**70**	LR	LR	19 27 14.5	
	comp=Z,60nm,20.6s,baz=162,slow=37						
FITZ	**Fitzroy Crossi**	**33.28**	**116**	LR	LR	19 24 14.0	
	comp=Z,47nm,20.8s,baz=278,slow=32						
WRA	**Warramunga Arr**	**41.67**	**115**	P	**P**	**19 14 29.2**	**-0.1**
	0.7nm,1.0s,baz=286,slow=9.5,SNR=4.5						
WRA				LR	LR	19 29 31.6	
	comp=Z,40nm,19.5s,baz=16,slow=33						
WSAR	**Wadi Sarin**	**44.63**	**310**	LR	LR	19 30 26.6	
	comp=Z,49nm,20.1s,baz=174,slow=32						
AAK	**Ala-Archa**	**50.44**	**341**	LR	LR	19 36 23.9	
	comp=Z,59nm,21.3s,baz=188,slow=35						
STKA	**Stephens Creek**	**51.74**	**127**	LR	LR	19 36 05.1	
	comp=Z,72nm,21.9s,baz=210,slow=34						
MKAR	**Makanchi Array**	**52.35**	**349**	P	**P**	**19 15 52.8**	**+0.5**
	0.7nm,0.9s,baz=164,slow=7.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**58.95**	**353**	P	**P**	**19 16 38.9**	**-0.5**
	1.1nm,0.6s,baz=164,slow=5.7,SNR=4.9						
ZALV				LR	LR	19 44 35.7	
	comp=Z,20nm,18.7s,baz=48,slow=38						
AKTO	**Aktyubinsk**	**63.21**	**335**	LR	LR	19 44 42.8	
	comp=Z,36nm,18.8s,baz=203,slow=36						
GNI	**Garni**	**63.76**	**319**	LR	LR	19 47 26.4	
	comp=Z,21nm,18.0s,baz=164,slow=38						
AKASG	**Malin Array Be**	**78.27**	**324**	P	**P**	**19 18 40.5**	**+0.4**
	0.4nm,0.6s,baz=94,slow=4.2,SNR=4.1						
NOA	**NORSAR Array B**	**90.77**	**331**	LR	LR	20 02 52.4	
	comp=Z,15nm,18.4s,baz=350,slow=37						

IDC 03 19:19:39.5±3.6**, 9°.76S×124°.95E, h111km**±40km**, mb2.8**/1**, mb1 2.8**/4**, mb1mx2.5**/42**, mbtmp3.0**/4**, Error ellipse: s-maj=61.3km s-min=17.7km az=52.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.34**	**251**	P	Pn	19 20 04.9	+0.4
	1.2nm,0.3s,baz=266,slow=18,SNR=2.0						
BATI				S	Sn	19 20 23.4	-0.1
	5.8nm,0.3s,baz=69,slow=20,SNR=14						
FITZ	**Fitzroy Crossi**	**8.31**	**175**	P	Pn	19 21 37.5	+0.2
	0.1nm,0.3s,baz=349,slow=9.8,SNR=15						
FITZ				S	Sn	19 23 09.9	+0.4
	0.1nm,0.3s,baz=204,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**13.59**	**139**	P	Pn	19 22 46.1	-1.6
	0.1nm,0.3s,baz=316,slow=15,SNR=11						
WRA				S	Sn	19 25 13.1	-4.5
	0.1nm,0.3s,baz=94,slow=7.8,SNR=9.2						
ASAR	**Alice Springs**	**16.26**	**149**	P	P	19 23 22.9	+0.4
	0.0nm,0.3s,baz=320,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**67.94**	**330**	P	P	19 30 26.4	-0.1
	0.2nm,0.7s,baz=139,slow=9.0,SNR=1.7						

*NEIC **03** 19:28:31.9±1.7, 56°.47S±0°.09×26°.9W±0°.2, h95km±4km, mb5.2/131, Error ellipse: s-maj=13.7km s-min=12.3km az=193.0*

*IDC **03** 19:28:33.8±1.9, 56°.36S×26°.88W, h110km±15km, mb4.5/12, mb1 4.6/14, mb1mx4.4/19, mbtmp4.8/14, MS3.7/9, Ms1 3.7/9, ms1mx3.3/43, Error ellipse: s-maj=15.2km s-min=13.5km az=44.0*

*GCMT **03** 19:28:36.9±0.4, 56°.43S±0°.03×26°.65W±0°.05, h149km±5km, MW4.9/87, Moment Tensor Solution. s12,c12; s87,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.84±.15; $M_{\theta\theta}$-2.14±.24; $M_{\phi\phi}$1.30±.24; $M_{r\theta}$-1.35±.12; $M_{\theta\phi}$-0.36±.23; $M_{\phi r}$2.07±.11; Best double couple: $M_0$3.06100×10^{16} NP1:ϕ_s50.00000°,δ39.00000°,λ17.00000°. NP2: ϕ_s307.00000°,δ79.00000°,λ128.00000°. Principal axes: T 3.4060, Plg43.0000°, Azm253.0000°; N -0.6850, Plg37.0000°, Azm119.0000°; P -2.7170, Plg25.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 19:28:32.3±0.3**, 56°.55S**±0°.06×**26°.89W**±0°.06**, h101km, n441, σ1s.08**/436**, mb5.2**/67**, 1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.92**	**289**		**Pn**	**19 29 57.8**	**+0.5**
ORCD	**Orcadas**	**10.19**	**238**	Pn	**Pn**	**19 30 53.6**	**-1.8**
VNA1	**Neumayer--Stat**	**16.27**	**158**	P	**P**	**19 32 17.6**	**+2.0**
ESPZ	**Base Esperanza**	**16.43**	**233**	Pn	**Pn**	**19 32 15.5**	**-0.9**
ESPZ				IAmb	IAmb	19 32 17.3	
	comp=Z,114nm,1.1s						
VNA3	**Neumayer Olymp**	**16.47**	**160**	P	**P**	**19 32 19.8**	**+2.1**
VNA3				S	Sn	19 35 09.3	-10
VNA3	**Neumayer Olymp**	**16.47**	**160**	ScP	**ScP**	**19 40 26.3**	**-0.7**
VNA2	**Neumayer--Watz**	**16.67**	**158**	P	**P**	**19 32 21.8**	**+1.8**
	baz=315,slow=14						
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**19 32 38.4**	**+1.3**
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**19 32 38.6**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=306,slow=10,SNR=37						
SNAA				S	**S**	**19 35 53.5**	**-6.6**
	comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=1.8						
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**19 32 38.2**	**+1.1**
EFI	**East Falkland**	**18.81**	**272**	P	**P**	**19 32 42.8**	**-0.8**
PMSA	**Palmer Station**	**19.70**	**230**	P	**Pn**	**19 32 56.2**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=83,slow=6.2,SNR=12						
PMSA				LR	LR	19 39 40.9	
	comp=Z,181nm,21.3s,baz=44,slow=34						
PMSA	**Palmer Station**	**19.70**	**230**	P	**P**	**19 32 54.2**	**+1.0**
PMSA				IAmb	IAmb	19 33 00.5	
	comp=Z,121nm,0.7s						
SMAI	**San Martin Ant**	**21.50**	**221**	P	**P**	**19 33 12.2**	**-0.2**
SMAI				IAmb	IAmb	19 33 18.2	
	comp=Z,192nm,1.3s						
BELA	**Belgrano 2**	**21.59**	**184**	P	**P**	**19 33 13.9**	**+0.5**
BELA				IAmb	IAmb	19 33 16.8	
	comp=Z,43nm,0.6s						
MG01	**Puerto William**	**22.76**	**257**	P	**P**	**19 33 27.0**	**+1.3**
DSPA	**Despedida**	**23.47**	**259**	P	**P**	**19 33 32.5**	**+0.1**
MG02	**Cerro Sombrero**	**24.48**	**261**	P	**P**	**19 33 39.9**	**-1.6**
MG03	**Isla Dawson**	**24.70**	**258**	P	**P**	**19 33 43.5**	**0.0**
MG05	**Puerto Natales**	**26.78**	**261**	P	**P**	**19 34 00.4**	**-1.9**
GO08	**Villa O'Higgin**	**28.48**	**267**	P	**P**	**19 34 17.7**	**+0.2**
COYC	**Coyhaique**	**29.91**	**272**	P	**P**	**19 34 30.1**	**-0.2**
AY01	**Puyuhuapi**	**30.95**	**273**	P	**P**	**19 34 38.3**	**-1.0**
PLTB	**Pedras Altas**	**30.95**	**312**	P	**P**	**19 34 39.5**	**-0.1**
PLTB				IAmb	IAmb	19 34 40.5	
	comp=Z,34nm,0.7s						
PLTB	**Pedras Altas**	**30.95**	**312**	*e*P	**P**	**19 34 39.8**	**+0.2**
LL02	**Futaleuf**	**31.30**	**276**	P	**P**	**19 34 41.7**	**-0.8**
CPSB	**Cacapava Do Su**	**32.08**	**313**	*e*P	**P**	**19 34 49.6**	**+0.2**
TER01	**Tubaro-SC**	**32.14**	**321**	*e*P	**P**	**19 34 51.2**	**+1.2**
PLCA	**Paso Flores**	**32.25**	**281**	P	**P**	**19 34 49.5**	**-1.4**
	comp=Z,4.9nm,0.7s,baz=180,slow=20,SNR=11						
PLCA	**Paso Flores**	**32.25**	**281**	P	**P**	**19 34 49.9**	**-1.1**
PLCA	**Paso Flores**	**32.25**	**281**	*e*P	**P**	**19 34 49.6**	**-1.3**
LL04	**Puerto Octay**	**33.15**	**279**	P	**P**	**19 34 56.0**	**-2.6**
ITQB	**Itaqui**	**34.04**	**310**	P	**P**	**19 35 04.6**	**-1.9**
ITQB				IAmb	IAmb	19 35 07.1	
	comp=Z,40nm,1.0s						
ITQB	**Itaqui**	**34.04**	**310**	*e*P	**P**	**19 35 06.0**	**-0.4**
LC01	**Cunco**	**34.27**	**282**	P	**P**	**19 35 06.7**	**-1.7**
ITAB	**Concordia**	**34.40**	**318**	P	**P**	**19 35 08.2**	**-1.5**
ITAB				IAmb	IAmb	19 35 14.1	
	comp=Z,65nm,1.2s						
ITAB	**Concordia**	**34.40**	**318**	*e*P	**P**	**19 35 09.8**	**+0.1**
PARB	**Paraibuna**	**35.90**	**330**	*e*P	**P**	**19 35 23.7**	**+1.2**
MAN01	**Angra dos Reis**	**35.90**	**332**	*e*P	**P**	**19 35 23.8**	**+1.2**
DUB01	**Friburgo-RJ**	**36.27**	**335**	*e*P	**P**	**19 35 26.5**	**+0.8**
VAO	**Valinhos**	**36.60**	**328**	*e*P	**P**	**19 35 29.5**	**+0.9**
PTGB	**Pitanga**	**36.67**	**320**	*e*P	**P**	**19 35 28.8**	**-0.4**
BO02	**Sierra Bellavi**	**36.73**	**287**	P	**P**	**19 35 28.7**	**-0.9**
BO02					**PcP**	**19 37 49.8**	**-0.1**
GO05	**Huala**	**37.17**	**286**	P	**P**	**19 35 31.2**	**-2.1**
GO05				IAmb	IAmb	19 35 33.5	
	comp=Z,16nm,0.9s						
BO01	**Tunca**	**37.20**	**288**	P	**P**	**19 35 31.0**	**-2.5**
BO04	**La Punta**	**37.26**	**288**	P	**P**	**19 35 32.3**	**-1.8**
BO04				IAmb	IAmb	19 35 34.3	
	comp=Z,11nm,0.4s						
CPUP	**Villa Florida**	**37.26**	**311**	P	**P**	**19 35 33.5**	**-0.6**
	comp=Z,27nm,0.8s,baz=154,slow=7.8,SNR=21						
CPUP				LR	LR	19 50 25.4	
	comp=Z,76nm,20.1s,baz=210,slow=35						
CPUP	**Villa Florida**	**37.26**	**311**	P	**P**	**19 35 33.3**	**-0.7**
CPUP				IAmb	IAmb	19 35 34.4	
	comp=Z,32nm,1.1s						
CPUP	**Villa Florida**	**37.26**	**311**	*e*P	**P**	**19 35 33.7**	**-0.4**
MT09	**Talagante**	**37.62**	**288**	P	**P**	**19 35 35.4**	**-1.8**
MT09				IAmb	IAmb	19 35 37.0	
	comp=Z,29nm,0.6s						
MT01	**Popeta**	**37.69**	**288**	P	**P**	**19 35 35.8**	**-1.9**
MT01				IAmb	IAmb	19 35 37.6	
	comp=Z,12nm,0.7s						
BSCB	**Bom Sucesso**	**37.90**	**332**	*e*P	**P**	**19 35 40.5**	**+1.0**
PEL	**Peldehue**	**37.95**	**289**	P	**P**	**19 35 38.2**	**-1.7**
VA05	**Santo Domingo**	**38.04**	**288**	P	**P**	**19 35 39.0**	**-1.5**
MT02	**Curacav**	**38.10**	**289**	P	**P**	**19 35 39.8**	**-1.3**
MT02				IAmb	IAmb	19 35 41.0	
	comp=Z,29nm,0.5s						
ZON	**Zonda**	**38.18**	**293**	P	**P**	**19 35 40.0**	**-1.8**
ZON				IAmb	IAmb	19 35 41.2	
	comp=Z,19nm,0.5s						
VA03	**San Esteban**	**38.18**	**290**	P	**P**	**19 35 40.6**	**-1.3**
VA03				IAmb	IAmb	19 35 42.9	
	comp=Z,23nm,0.5s						
ROC1	**El Roble**	**38.26**	**289**	P	**P**	**19 35 39.9**	**-2.8**
VA06	**Catapilco**	**38.73**	**289**	P	**P**	**19 35 45.1**	**-1.2**
VA06				IAmb	IAmb	19 35 46.5	
	comp=Z,26nm,0.5s						
BB19B	**Bebedouro**	**38.89**	**327**	*e*P	**P**	**19 35 48.9**	**+1.1**
PCMB	**Pacaembu**	**39.26**	**323**	*e*P	**P**	**19 35 51.7**	**+0.9**
SJMB	**Sao Joao De Ma**	**39.28**	**338**	*e*P	**P**	**19 35 52.1**	**+1.1**
CO02	**Combarbal**	**39.65**	**291**	P	**P**	**19 35 53.0**	**-1.1**
CO02				IAmb	IAmb	19 35 54.4	
	comp=Z,21nm,0.5s						
CO03	**El Pedregal**	**39.78**	**291**	P	**P**	**19 35 54.4**	**-0.8**
DIAM	**Diamantina, MG**	**40.22**	**335**	*e*P	**P**	**19 35 59.8**	**+0.9**
GO04	**Tololo Observa**	**40.37**	**292**	P	**P**	**19 35 59.1**	**-1.1**
GO04				IAmb	IAmb	19 36 03.9	
	comp=Z,29nm,0.5s						
CO06	**Fray Jorge**	**40.40**	**291**	P	**P**	**19 35 58.9**	**-1.3**
SUR	**Sutherland**	**40.61**	**74**	LR	LR	19 49 25.3	
	comp=Z,81nm,18.8s,baz=180,slow=31						
SUR	**Sutherland**	**40.61**	**74**	P	**P**	**19 36 01.9**	**-0.3**
CO05	**La Serena**	**40.80**	**292**	P	**P**	**19 36 01.7**	**-1.8**
GUA01	**Guaratinga, BA**	**41.08**	**341**	*e*P	**P**	**19 36 06.6**	**+0.8**
IPMB	**Ipameri, GO**	**41.71**	**329**	*e*P	**P**	**19 36 11.8**	**+0.8**
AQDB	**Aquidauana**	**41.88**	**317**	P	**P**	**19 36 11.7**	**-0.7**
AQDB				IAmb	IAmb	19 36 12.0	
	comp=Z,28nm,0.6s						
AQDB	**Aquidauana**	**41.88**	**317**	*e*P	**P**	**19 36 11.6**	**-0.7**
AC04	**Llanos de Chal**	**42.10**	**293**	P	**P**	**19 36 13.4**	**-0.7**
AC04				IAmb	IAmb	19 36 14.3	
	comp=Z,46nm,0.8s						
GO03	**Copiap**	**42.17**	**295**	P	**P**	**19 36 13.5**	**-1.3**
GO03				IAmb	IAmb	19 36 14.5	
	comp=Z,20nm,0.8s						
CMC01	**Camacan, BA**	**42.22**	**342**	*e*P	**P**	**19 36 15.6**	**+0.4**
AC02	**Maricunga**	**42.25**	**297**	P	**P**	**19 36 15.2**	**-0.7**
AC02				IAmb	IAmb	19 36 17.1	
	comp=Z,47nm,0.9s						
AC06	**Mina Casimiro**	**42.43**	**295**	P	**P**	**19 36 15.5**	**-1.4**
AC06				IAmb	IAmb	19 36 17.2	
	comp=Z,18nm,0.7s						
JANB	**Januaria**	**43.49**	**335**	*e*P	**P**	**19 36 25.9**	**+0.4**
AC01	**Pan de Azucar**	**43.55**	**296**	P	**P**	**19 36 25.0**	**-0.9**
AC01				IAmb	IAmb	19 36 25.9	
	comp=Z,27nm,1.1s						
SHEL	**Horse Pasture**	**43.58**	**30**	P	**P**	**19 36 25.6**	**-0.6**
GDU01	**Guandu, BA**	**43.83**	**342**	*e*P	**P**	**19 36 30.1**	**+1.9**
BDFB	**Brasilia**	**43.88**	**330**	P	**P**	**19 36 28.7**	**0.0**
	comp=Z,5.4nm,0.6s,baz=167,slow=4.1,SNR=6.6						
BDFB	**Brasilia**	**43.88**	**330**	P	**P**	**19 36 27.6**	**-1.0**
PP1B	**Ponte de Pedra**	**44.22**	**320**	*e*P	**P**	**19 36 31.2**	**0.0**
PB14	**IPOC Station P**	**44.72**	**297**	P	**P**	**19 36 33.8**	**-1.8**
PB14				IAmb	IAmb	19 36 35.1	
	comp=Z,19nm,0.9s						
ARAG	**Araguaiana, MT**	**44.95**	**325**	*e*P	**P**	**19 36 37.8**	**+0.7**
PB15	**IPOC Station P**	**45.45**	**299**	P	**P**	**19 36 40.6**	**-0.6**
PB15				IAmb	IAmb	19 36 45.8	
	comp=Z,38nm,0.6s						
SBA	**Scott Base**	**45.60**	**184**	P	**P**	**19 36 41.5**	**0.0**
SBA				IAmb	IAmb	19 36 46.8	
	comp=Z,20nm,0.8s						
LVC	**Limon Verde**	**45.69**	**300**	P	**P**	**19 36 43.5**	**+0.1**
LVC	**Limon Verde**	**45.69**	**300**	*e*P	**P**	**19 36 43.8**	**+0.4**
PB10	**IPOC Station P**	**45.73**	**298**	P	**P**	**19 36 42.0**	**-1.2**
PB10				IAmb	IAmb	19 36 43.4	
	comp=Z,53nm,1.2s						
PB06	**IPOC Station P**	**45.93**	**299**	P	**P**	**19 36 43.5**	**-1.4**
PB06				IAmb	IAmb	19 36 45.5	
	comp=Z,30nm,1.0s						
BOSA	**Boshof**	**45.93**	**75**	P	**P**	**19 36 44.0**	**-0.9**
	comp=Z,11nm,0.8s,baz=210,slow=7.8,SNR=23						
BOSA				LR	LR	19 53 10.5	
	comp=Z,102nm,18.1s,baz=192,slow=32						
BOSA	**Boshof**	**45.93**	**75**	P	**P**	**19 36 44.2**	**-0.7**
BOSA	**Boshof**	**45.93**	**75**	*i* P	**P**	**19 36 43.8**	**-1.1**
BOSA	**Boshof**	**45.93**	**75**	*i* P	**P**	**19 36 43.8**	**-1.1**
SALV	**Santo Antonio**	**46.08**	**320**	*e*P	**P**	**19 36 46.2**	**+0.2**
VNDA	**Vanda**	**46.09**	**183**	P	**P**	**19 36 47.6**	**+2.3**
	comp=Z,25nm,0.7s,baz=187,slow=7.3,SNR=55						
VNDA	**Vanda**	**46.09**	**183**	P	**P**	**19 36 47.0**	**+1.7**
VNDA				IAmb	IAmb	19 36 50.3	
	comp=Z,27nm,0.8s						
SDBA	**SAO DESIDERIO**	**46.18**	**335**	*e*P	**P**	**19 36 47.3**	**+0.4**
NBLA	**Lagarto - SE**	**46.23**	**345**	*e*P	**P**	**19 36 46.5**	**-0.7**
PB04	**IPOC Station P**	**46.52**	**299**	P	**P**	**19 36 49.3**	**-0.4**
PB09	**IPOC Station P**	**46.55**	**300**	P	**P**	**19 36 49.7**	**-0.1**
PB07	**IPOC Station P**	**46.91**	**300**	P	**P**	**19 36 52.5**	**-0.2**
PB02	**IPOC Station P**	**47.27**	**300**	P	**P**	**19 36 55.2**	**-0.1**
PB01	**IPOC Station P**	**47.31**	**301**	P	**P**	**19 36 55.5**	**-0.2**
PEXB	**Peixe**	**47.33**	**331**	*e*P	**P**	**19 36 56.6**	**+0.9**
NBAN	**Anadia - AL**	**47.34**	**347**	*e*P	**P**	**19 36 55.6**	**-0.1**
CRZF	**Crozet Islands**	**47.47**	**113**	P	**P**	**19 36 56.9**	**+0.5**
PTLB	**Pontes e Lacer**	**47.77**	**316**	*e*P	**P**	**19 36 59.0**	**-0.1**
PATCX	**Punta Patache**	**47.81**	**300**	P	**P**	**19 36 59.5**	**0.0**
PB08	**IPOC Station P**	**47.92**	**302**	P	**P**	**19 37 01.4**	**+0.7**
TA01	**Diego Aracena**	**48.05**	**300**	P	**P**	**19 37 01.2**	**0.0**
TA01				IAmb	IAmb	19 37 02.0	
	comp=Z,74nm,1.4s						
NBRF	**Rio Formoso -**	**48.18**	**349**	*e*P	**P**	**19 37 02.1**	**-0.1**
TA02	**Huaiquique**	**48.27**	**300**	P	**P**	**19 37 00.9**	**-2.1**
TA02				IAmb	IAmb	19 37 03.7	
	comp=Z,60nm,0.9s						
SNDB	**Serra Nova Dou**	**48.30**	**327**	*e*P	**P**	**19 37 04.1**	**+0.9**

GO01	Chusmiza	48.35	302	P	P	19 37 03.7	-0.5
PB11	IPOC Station P	48.49	301	P	P	19 37 03.5	-1.4
LBTB	Lobatse	48.99	72	LR	LR	19 54 41.8	
	comp=Z,49nm,18.2s,baz=196,slow=32						
LBTB	Lobatse	48.99	72	P	P	19 37 08.2	-0.4
LBTB				IAmb	IAmb	19 37 09.2	
	comp=Z,26nm,0.8s						
LBTB	Lobatse	48.99	72	*i* P	P	19 37 07.1	-1.5
LBTB	Lobatse	48.99	72	*i* P	P	19 37 07.1	-1.5
H10N1	ASCENSION HYDR	49.55	16	T	T	20 31 17.4	
	baz=196,slow=75						
H10N3	ASCENSION HYDR	49.55	16	T	T	20 31 15.6	
	baz=196,slow=75						
H10N2	ASCENSION HYDR	49.56	16	T	T	20 31 17.5	
	baz=196,slow=75						
PB16	IPOC Station P	49.65	302	P	P	19 37 13.9	-0.3
NBLV	Livramento - P	49.69	347	*e*P	P	19 37 13.9	0.0
TSUM	Tsumeb	49.78	60	P	P	19 37 14.3	-0.3
TSUM				IAmb	IAmb	19 37 15.6	
	comp=Z,18nm,0.8s						
PB12	IPOC Station P	49.79	301	P	P	19 37 14.4	-0.3
PB12				IAmb	IAmb	19 37 43.9	
	comp=Z,21nm,0.9s						
NBMA	Muriti-CE	49.94	345	*e*P	P	19 37 17.0	+1.3
SMTB	Santa Maria do	50.25	333	*e*P	P	19 37 18.9	+0.8
NBPV	Pedro Velho	50.43	349	*e*P	P	19 37 19.9	+0.5
VILB	Vilhena	50.45	316	*e*P	P	19 37 19.3	-0.4
CLDB	Colider	50.78	322	*e*P	P	19 37 21.6	-0.5
LPAZ	La Paz	50.80	305	P	P	19 37 23.6	+0.6
	comp=Z,90nm,0.6s,baz=136,slow=4.9,SNR=324						
LPAZ	La Paz	50.80	305	P	P	19 37 22.6	-0.3
LPAZ	La Paz	50.80	305	*e*P	P	19 37 23.7	+0.8
NBCL	Cascavel-CE	52.96	346	*e*P	P	19 37 38.4	+0.2
NBPS	Pedro II - PI	53.28	342	*e*P	P	19 37 41.3	+0.6
MOPA	Mopani	53.30	77	*i* P	P	19 37 40.0	-0.7
MOPA	Mopani	53.30	77	*i* P	P	19 37 40.0	-0.7
PRPB	Parauapebas	53.41	331	*e*P	P	19 37 42.2	+0.7
MSNA	Messina	53.51	75	*i* P	P	19 37 40.0	-2.3
MSNA	Messina	53.51	75	*i* P	P	19 37 40.0	-2.3
NPGB	Novo Progresso	54.22	324	*e*P	P	19 37 47.4	0.0
MATP	Matopo	54.27	72	*i* P	P	19 37 45.7	-2.3
MATP	Matopo	54.27	72	*i* P	P	19 37 45.7	-2.3
BLWY	Bulawayo	54.57	72	*i* P	P	19 37 48.2	-1.9
BLWY	Bulawayo	54.57	72	*i* P	P	19 37 48.2	-1.9
ETMB	Extrema	55.72	311	*e*P	P	19 37 58.1	-0.1
ITTB	Itaituba	56.86	325	*e*P	P	19 38 06.3	0.0
MALB	Monte Alegre	58.78	327	*e*P	P	19 38 20.3	+0.6
MCPB	Macapa, AP	59.57	330	*e*P	P	19 38 26.2	+1.0
MACA	Manacapuru-AM	59.66	320	*e*P	P	19 38 24.9	-0.8
CZSB	Cruzeiro do Su	60.41	305	*e*P	P	19 38 30.1	-0.9
VOI	Vohitsoka	63.04	89	P	P	19 38 47.3	-1.4
BOAV	Boa Vista	64.77	322	*e*P	P	19 38 59.3	-0.6
LIC	Lamto	65.08	24	*e*P	P	19 39 01.4	-0.5
	comp=Z,29nm,0.6s						
KIC	Kosan Boka	65.28	24	*e*P	P	19 39 02.6	-0.5
	comp=Z,14nm,0.7s						
TIC	Toumodi	65.49	24	*e*P	P	19 39 04.0	-0.5
DBIC	Dimbokro	65.55	24	P	P	19 39 04.3	-0.6
	comp=Z,6.7nm,0.5s,baz=200,slow=6.8,SNR=20						
DBIC	Dimbokro	65.55	24	P	P	19 39 04.2	-0.7
ABPO	Ambohimpanom	65.60	88	P	P	19 39 04.6	-0.9
PTLC	Puerto Leguiza	68.36	307	*e*P	P	19 39 20.5	-2.3
FLOC	Florencia	69.99	307	*e*P	P	19 39 32.4	-0.4
TULM	Tulcn-Chalpat	70.19	304	*e*P	P	19 39 35.8	+1.2
GARC	Garzon, Huila	70.46	307	*e*P	P	19 39 35.7	-0.3
BETC	Betania	70.88	308	*e*P	P	19 39 38.6	+0.3
SOTA	Rioblanco	70.91	306	*e*P	P	19 39 39.8	+0.8
PCON	Cinco Dias	70.99	307	*e*P	P	19 39 41.0	+1.5
BBAC	Balboa, Cauca	71.10	306	*e*P	P	19 39 39.8	0.0
POPC	Popayan, Colom	71.30	306	*e*P	P	19 39 41.4	+0.3
CHIC	Chingaza	71.89	310	*e*P	P	19 39 44.9	+0.1
ORTC	Ortega, Tolima	71.89	308	*e*P	P	19 39 44.1	-0.2
MBAR	Mbarara	72.23	62	LR	LR	20 08 53.7	
	comp=Z,33nm,18.6s,baz=183,slow=34						
MBAR	Mbarara	72.23	62	P	P	19 39 46.0	-0.5
ROSC	El Rosal	72.33	310	P	P	19 39 48.1	+0.7
	comp=Z,10.0nm,0.4s,baz=256,slow=23,SNR=5.0						
ROSC	El Rosal	72.33	310	P	P	19 39 47.6	+0.2
ROSC				IAmb	IAmb	19 39 49.7	
	comp=Z,15nm,0.7s						
YOTC	Yotoco, Valle	72.44	307	*e*P	P	19 39 46.7	-1.0
RUSC	La Rusia	72.75	311	*e*P	P	19 39 48.8	-1.2
GUY2C	Guyana, Caldas	73.12	309	*e*P	P	19 39 50.9	-1.2
NORC	Norcasia	73.21	309	*e*P	P	19 39 50.1	-2.1
KOWA	Kowa	73.31	23	LR	LR	20 04 56.1	
	comp=Z,66nm,20.4s,baz=202,slow=30						
TORD	Torodi Ar. Bea	73.41	29	P	P	19 39 53.1	-0.1
	comp=Z,22nm,0.6s,baz=200,slow=6.4,SNR=148						
TORD	Torodi Ar. Bea	73.41	29	P	P	19 39 52.7	-0.4
TORD				IAmb	IAmb	19 39 53.9	
	comp=Z,20nm,0.7s						
PAMC	Pamplona, Colo	73.90	312	*e*P	P	19 39 55.8	-0.9
PTBC	PUERTO BERRIO,	73.91	310	*e*P	P	19 39 53.7	-2.5
SOCV	Socops	74.02	314	*e*P	P	19 39 56.0	-0.9
GRGR	Grenville	74.27	325	P	P	19 39 57.7	-0.5
GRGR				IAmb	IAmb	19 40 23.2	
	comp=Z,70nm,0.9s						
BIRV	Birongo	74.30	320	P	P	19 39 57.4	-1.0
BIRV				IAmb	IAmb	19 40 00.6	
	comp=Z,66nm,1.1s						
KIBK	Kibwezi	74.44	70	P	P	19 40 01.1	+1.7
SDV	Santo Domingo	74.48	315	P	P	19 39 58.9	-0.8
SDV				IAmb	IAmb	19 40 01.5	
	comp=Z,42nm,0.7s						
SDV	Santo Domingo	74.48	315	*e*P	P	19 39 59.8	+0.1
SDV	Santo Domingo	74.48	315	*e*P	P	19 39 59.8	+0.1
ZARC	Zaragoza, Cauc	74.94	310	*e*P	P	19 40 00.4	-1.7
KMBO	Kilima Mbogo	75.06	69	P	P	19 40 04.2	+1.0
	comp=Z,0.9nm,0.5s,baz=195,slow=12,SNR=4.1						
KMBO	Kilima Mbogo	75.06	69	IAmb	IAmb	19 40 07.3	
	comp=Z,5.1nm,1.4s						
DBBC	Dabeiba	75.09	309	*e*P	P	19 40 02.4	-0.7
UREC	San Jos de Ur	75.46	310	*e*P	P	19 40 03.8	-1.3
HATO	Hato, Curacao	76.85	318	P	P	19 40 12.3	-0.6
PYZ	Puysegur Point	77.03	190	P	P	19 40 13.6	-0.1
WHZ	Wether Hill Ro	77.17	191	P	P	19 40 16.1	+1.6
WHZ				IAmb	IAmb	19 40 17.6	
	comp=Z,32nm,1.1s						
CRJC	Cerrejon, Guaj	77.31	314	*e*P	P	19 40 11.8	-3.9
DCZ	Deep Cove	77.68	190	P	P	19 40 19.1	+1.8
DCZ				IAmb	IAmb	19 40 46.6	
	comp=Z,28nm,1.2s						
MLZ	Mavora Lakes	77.68	191	P	P	19 40 17.6	+0.2
MLZ				IAmb	IAmb	19 40 23.2	
	comp=Z,64nm,1.5s						
CBE	Ff, Capester	77.96	326	P	P	19 40 20.3	+1.2
WKZ	Wanaka	78.11	191	P	P	19 40 21.7	+1.9
WKZ				IAmb	IAmb	19 40 22.8	
	comp=Z,79nm,1.3s						
GDHS	Morne Mazeau,	78.20	326	P	P	19 40 21.3	+0.8
LBZ	Lake Benmore	78.42	192	P	P	19 40 22.7	+1.3
BCIP	Isla Barro Col	78.59	306	P	P	19 40 23.4	+0.7
BCIP				IAmb	IAmb	19 40 23.9	
	comp=Z,25nm,0.9s						
MQZ	McQueen’s Vall	78.77	194	P	P	19 40 24.6	+1.3
MQZ				IAmb	IAmb	19 40 24.7	
	comp=Z,26nm,1.1s						
RPZ	Rata Peaks	78.97	193	P	P	19 40 25.4	+0.9
FOZ	Fox Glacier	79.30	192	P	P	19 40 27.5	+1.3
LTZ	Lake Taylor	79.73	194	P	P	19 40 29.3	+0.6
LTZ				IAmb	IAmb	19 40 31.2	
	comp=Z,21nm,0.8s						
RIOS	Rincon, Osa	79.86	303	P	P	19 40 29.8	+0.2
RIOS				IAmb	IAmb	19 40 31.1	
	comp=Z,61nm,0.8s						
KHZ	Kahutara	79.91	195	P	P	19 40 30.7	+1.1
KHZ				IAmb	IAmb	19 40 34.9	
	comp=Z,42nm,1.2s						
DRK0	Durika	80.22	304	P	P	19 40 32.1	+0.3
SRBA	San Rafael, Bu	80.25	303	P	P	19 40 31.5	-0.3
SRBA				IAmb	IAmb	19 40 33.4	
	comp=Z,21nm,0.9s						
PEZE	Perez Zeledon,	80.53	303	P	P	19 40 33.4	+0.1
PEZE				IAmb	IAmb	19 40 35.1	
	comp=Z,33nm,0.9s						
BSWZ	Blackbirch Sta	80.55	196	P	P	19 40 34.1	+1.1
MSWZ	Moikau Station	80.63	197	P	P	19 40 34.0	+0.5
THZ	Tophouse	80.64	195	P	P	19 40 34.6	+1.0
THZ				IAmb	IAmb	19 40 49.4	
	comp=Z,29nm,1.1s						
BHW	Baring Head	80.69	196	P	P	19 40 33.9	+0.1
TAU	Tasmania Unive	80.79	176	P	P	19 40 34.4	+0.1
TAU				IAmb	IAmb	19 40 38.0	

	comp=Z,38nm,0.9s						
TUWZ	Tuamarina	80.82	196	P	P	19 40 34.5	+0.1
RIMA	Rio Macho	80.95	303	P	P	19 40 35.4	-0.3
JTS	Las Juntas de	81.92	302	P	P	19 40 39.6	-0.9
JTS				IAmb	IAmb	19 40 42.3	
	comp=Z,53nm,1.4s						
ORTG	Ortega, Santa	82.22	302	P	P	19 40 42.2	0.0
ORTG				IAmb	IAmb	19 40 43.6	
	comp=Z,24nm,0.8s						
HZTE	Horizontes, Gu	82.59	302	P	P	19 40 44.6	+0.6
BKZ	Black Stump Fm	82.62	198	P	P	19 40 44.8	+0.8
BKZ				IAmb	IAmb	19 40 47.0	
	comp=Z,12nm,0.6s						
ESPN	Las Esperanzas	83.28	304	P	P	19 40 46.7	-0.8
ESPN				IAmb	IAmb	19 40 48.1	
	comp=Z,37nm,0.8s						
ACON	Acoyapa	83.49	303	P	P	19 40 47.5	-1.1
SDDR	Presa de Saban	83.96	318	P	P	19 40 50.5	-0.4
BOAB	BOACO BROADBAN	84.14	303	P	P	19 40 51.5	-0.4
MATN	Matagalpa	84.68	303	P	P	19 40 53.8	-0.9
MATN				IAmb	IAmb	19 40 55.6	
	comp=Z,19nm,1.0s						
TOO	Toolangi	86.02	174	P	P	19 41 01.4	+0.2
TOO				IAmb	IAmb	19 41 04.5	
	comp=Z,13nm,0.8s						
MTO3	Montecristo	87.58	301	P	P	19 41 08.4	-0.7
MTO3				IAmb	IAmb	19 41 09.7	
	comp=Z,35nm,0.7s						
ESQI	Esquipulas	87.70	301	P	P	19 41 09.4	-0.2
MDT	Midelt	91.00	19	LR	LR	20 18 55.9	
	comp=Z,52nm,18.2s,baz=198,slow=33						
STKA	Stephens Creek	91.38	170	P	P	19 41 27.8	+1.1
	comp=Z,1.4nm,0.4s,baz=163,slow=6.1,SNR=14						
ESDC	Sonseca Array	97.80	18	P	Pdif	19 41 56.7	+1.2
	comp=Z,0.8nm,0.9s,baz=176,slow=3.9,SNR=3.2						
ESDC				LR	LR	20 26 08.8	
	comp=Z,40nm,18.4s,baz=176,slow=35						
ESDC	Sonseca Array	97.80	18	IAmb	IAmb	19 41 59.6	
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	98.47	162	P	Pdif	19 42 01.9	+2.7
	comp=Z,2.5nm,0.5s,baz=183,slow=4.1,SNR=53						
ASAR				PP	PP	19 45 57.0	-2.6
	comp=Z,1.3nm,0.9s,baz=187,slow=6.3,SNR=4.7						
ASAR	Alice Springs	98.47	162	P	P	19 41 59.2	+0.1
AS31	Alice Springs	98.47	162	P	Pdif	19 42 00.5	+1.3
WRA	Warramunga Arr	102.18	162	P	Pdif	19 42 18.0	+2.3
	comp=Z,0.6nm,0.5s,baz=195,slow=5.0,SNR=8.3						
WRA				PKKPbc	PKKPbc	19 58 16.8	+1.5
	comp=Z,0.2nm,0.4s,baz=348,slow=2.8,SNR=6.2						
EDW2	Edwards Air Fo	118.87	290	P	PKiKP	19 47 09.8	+1.5
	baz=141						
K22A	Casper	119.24	304	P	PKiKP	19 47 10.6	+1.7
	baz=141						
RSSD	Black Hills	119.27	306	P	PKiKP	19 47 09.9	+1.0
	baz=142						
ISA	Isabella, Lake	119.72	290	P	PKiKP	19 47 11.0	+1.1
	baz=140						
CWC	Cottonwood Cre	120.11	291	P	PKiKP	19 47 11.8	+1.1
	baz=140						
DUG	Dugway, Tooele	120.34	298		PKPdf	19 47 11.0	0.0
DUG	Dugway, Tooele	120.34	298	P	PKiKP	19 47 12.6	+1.6
	baz=140						
ULM	Lac du Bonnet	120.72	316	PKP	PKPdf	19 47 10.2	-0.9
	comp=Z,2.8nm,0.7s,baz=155,slow=2.1,SNR=4.5						
BW06	Boulder Array	120.75	302	P	PKiKP	19 47 12.8	+0.9
	baz=140						
PDAR	Pinedale Array	120.75	302	PKP	PKPdf	19 47 10.8	-1.0
	comp=Z,0.7nm,0.6s,baz=125,slow=5.4,SNR=8.0						
NOA	NORSAR Array B	121.01	21	PKP	PKPdf	19 47 10.1	-1.3
	comp=Z,0.4nm,0.6s,baz=292,slow=2.7,SNR=1.9						
NVAR	Mina Array Bea	121.74	293	PKP	PKPdf	19 47 13.9	+0.1
	comp=Z,1.1nm,0.6s,baz=114,slow=3.3,SNR=12						
LOHW	Long Hollow	121.89	302		PKPdf	19 47 12.7	-1.2
MOOW	Moose Ponds	122.06	302	PKPdf	PKPdf	19 47 14.0	-0.2
LAO	LASA Array	122.23	307	P	PKiKP	19 47 16.4	+2.0
	baz=140						
CMAR	Chiang Mai Arr	124.74	111	PKP	PKPdf	19 47 19.4	-0.5
	comp=Z,1.0nm,0.8s,baz=230,slow=4.1,SNR=7.7						
FINES	FINESS Array B	124.74	28	PKP	PKPdf	19 47 17.6	-0.9
	comp=Z,2.6nm,0.6s,baz=237,slow=1.0,SNR=15						
WVOR	Wild Horse Val	124.91	296		PKPdf	19 47 19.9	+0.3
O03E	Paynes Creek	124.93	292	PKPdf	PKPdf	19 47 20.1	+0.4
O03E	Paynes Creek	124.93	292	P	PKiKP	19 47 20.5	+0.4
	baz=138						
PLID	Pearl Lake	125.56	299	PKPdf	PKPdf	19 47 21.7	+0.8
MSO	Missoula	125.86	302	P	PKiKP	19 47 23.1	+1.4
	baz=137						
N02D	Trinity Center	125.90	292	P	PKiKP	19 47 22.7	+0.7
	baz=137						
BMO	Blue Mountains	126.02	298		PKPdf	19 47 22.2	+0.5
M04C	Macdoel	126.05	293	P	PKiKP	19 47 23.3	+1.0
	baz=137						
M02C	Callahan	126.28	292	P	PKiKP	19 47 23.8	+1.1
	baz=137						
L04D	Klamath Falls	126.60	293	P	PKiKP	19 47 24.3	+1.0
	baz=137						
JTMT	Jette	126.68	303	PKPdf	PKiKP	19 47 24.5	+1.2
FCC	Fort Churchill	126.78	323		PKPdf	19 47 21.4	-1.0
J05D	Fort Rock, OR	126.83	295	P	PKiKP	19 47 24.5	+0.7
	baz=136						
G08A	Pilot Rock	127.15	298		PKPdf	19 47 24.1	+0.2
ABKAR	Akbulak array	127.51	56		PKPdf	19 47 22.9	-1.3
AAK	Ala-Archa	129.99	71	PKPdf	PKPdf	19 47 29.9	+0.5
ARCES	ARCESS Array B	131.34	22	PKP	PKPdf	19 47 30.3	-0.6
	comp=Z,2.3nm,0.6s,baz=218,slow=2.6,SNR=11						
PZH	PanZhiHua	132.80	107	PKP	PKPdf	19 47 34.8	-0.3
YKA	Yellowknife Ar	136.65	317	PKP	PKPdf	19 47 40.8	-0.2
	comp=Z,3.2nm,0.5s,baz=126,slow=2.3,SNR=34						
YKA				PP	PP	19 50 21.8	-3.5
	comp=Z,1.2nm,0.8s,baz=123,slow=6.5,SNR=8.4						
YKA				SKPbc	SKPbc	19 51 01.9	-2.2
	comp=Z,1.8nm,0.7s,baz=126,slow=2.6,SNR=16						
YKA	Yellowknife Ar	136.65	317	PKPdf	PKPdf	19 47 39.8	-1.2
MKAR	Makanchi Array	136.89	72	PKP	PKPdf	19 47 42.2	+0.2
	comp=Z,0.5nm,0.7s,baz=237,slow=5.0,SNR=2.0						
MKAR				SKPbc	SKPbc	19 51 03.4	-1.9
	comp=Z,0.6nm,0.6s,baz=238,slow=4.1,SNR=4.7						
WMQ	Urumqi	137.84	79	*e*PKP	PKPdf	19 47 45.4	+1.5
RES	Resolute Bay	138.38	338	PKPdf	PKPdf	19 47 43.6	-0.2
GTA	Gaotai	141.53	93	*e*PKP	PKPdf	19 47 52.3	+1.4
ZALV	Zalesovo Beam	142.44	64	PKhKP	PKPpre	19 47 45.5	
	comp=Z,0.4nm,0.4s,baz=163,slow=5.7,SNR=2.8						
ZALV				PKP	PKPdf	19 47 53.5	+1.7
	comp=Z,2.8nm,0.5s,baz=240,slow=3.5,SNR=13						
ZALV	Zalesovo Beam	142.44	64	PKPdf	PKPdf	19 47 52.9	+1.1
XAN	Xi'an	142.53	108	PKP	PKiKP	19 47 56.8	+1.0
JIS	Juneau Island	142.64	304		PKPdf	19 47 51.1	-0.9
WHY	Whitehorse	143.99	307		PKPab	19 47 52.5	+0.3
M31M	Drury Creek, Y	144.44	310	PKPdf	PKPab	19 47 54.0	+0.2
A36M	Sachs Harbour	144.72	328	PKPdf	PKPab	19 47 54.5	+0.1
N31M	Braeburn, Yuko	144.74	308	PKPdf	PKPab	19 47 54.6	-0.3
N31M	Braeburn, Yuko	144.74	308	P	PKPbc	19 47 55.8	+0.8
	baz=115,SNR=5.4						
HYT	Haines Junctio	145.22	306	P	PKPab	19 47 57.3	+0.5
	baz=115,SNR=7.5						
M30M	Minto, Yukon	145.62	310		PKPdf	19 47 57.1	-0.1
M30M	Minto, Yukon	145.62	310	P	PKPbc	19 47 58.0	+0.3
	baz=113						
MAYO	Mayo, Yukon	145.63	312	P	PKPbc	19 47 58.1	+0.5
	baz=112						
YUK4	Talbot Arm	145.94	307	P	PKPdf	19 47 58.9	+0.9
	baz=113,SNR=6.4						
INK	Inuvik	146.29	320	PKPdf	PKPdf	19 47 58.9	+0.9
INK	Inuvik	146.29	320	P	PKPbc	19 47 59.4	0.0
	baz=107,SNR=26						
LOGN	Logan Glacier	146.79	305		PKPbc	19 48 01.3	-0.1
EPYK	Eagle Plains	146.90	316		PKPdf	19 48 00.5	+1.3
EPYK	Eagle Plains	146.90	316	P	PKPbc	19 48 00.9	-0.4
	baz=107						
YUK3	Moose Creek	146.91	307	P	PKPbc	19 48 01.4	-0.4
	baz=112						
CTGM	Chitina Glacie	146.99	305		PKPdf	19 48 01.2	+1.5
CTG	Chitna Glacier	147.00	305	P	PKPdf	19 48 01.1	+1.5
	baz=112						
BARN	Barnard Glacie	147.18	305		PKPdf	19 47 59.0	-1.0
I29M	Ogilvie Camp,	147.21	314		PKPdf	19 48 01.0	+1.2
I29M	Ogilvie Camp,	147.21	314	P	PKPbc	19 48 02.1	-0.1
	baz=108						
DAWY	Dawson	147.25	311	PKPdf	PKPdf	19 48 01.2	+1.3
DAWY	Dawson	147.25	311	P	PKPbc	19 48 01.9	-0.5
	baz=109						
BVCY	Beaver Creek	147.31	308	P	PKPbc	19 48 02.5	-0.1
	baz=110						
M27K	Edge Creek, AK	147.74	308		PKPdf	19 48 02.2	+1.3
M27K	Edge Creek, AK	147.74	308	P	PKPbc	19 48 03.6	-0.2
	baz=110						

MCARA	McCarthy VSAT	147.91	306		PKPbc	19 48 03.7	-0.5
MCARA	McCarthy VSAT	147.91	306	P	PKPbc	19 48 04.3	+0.1
	baz=111						
BCAR	Beaver Creek A	147.93	309		PKPbc	19 48 03.6	-0.7
L27K	Beaver Creek,	147.95	309		PKPbc	19 48 03.3	-1.0
L27K	Beaver Creek,	147.95	309	P	PKPbc	19 48 04.3	0.0
	baz=109						
BTO	Baotou	147.97	101	*e*PKPbc	PKPbc	19 48 05.5	+0.4
VRDI	Verde Repeater	148.05	305		PKPbc	19 48 05.0	+0.2
HMT	Hamilton	148.10	303		PKPbc	19 48 05.1	+0.4
EGAK	Eagle	148.19	312		PKPbc	19 48 04.7	-0.1
EGAK	Eagle	148.19	312	P	PKPbc	19 48 05.2	+0.4
	baz=107						
GLB	Gilahina Butte	148.28	305	PKPdf	PKPdf	19 48 02.6	+0.9
TIA	Tai'an	148.45	115	⇓PKPbc	PKPbc	19 48 06.2	-0.2
BMRM	Bremner River	148.48	304	P	PKPbc	19 48 06.2	+0.4
	baz=110						
L26K	Log Cabin Wild	148.60	308		PKPbc	19 48 05.2	-0.7
L26K	Log Cabin Wild	148.60	308	P	PKPbc	19 48 06.1	+0.2
	baz=108						
N25K	Chitina, Valde	148.70	305		PKPbc	19 48 06.3	0.0
N25K	Chitina, Valde	148.70	305	P	PKPbc	19 48 06.6	+0.2
	baz=109						
EYAK	Cordova Ski Ar	148.86	303	P	PKPbc	19 48 06.9	+0.3
	baz=110						
DIV	Divide	149.07	304		PKPbc	19 48 07.9	+0.6
DOT	Dot Lake	149.09	309		PKPbc	19 48 07.2	+0.1
J26L	Joseph Creek	149.11	311	P	PKPbc	19 48 07.4	+0.1
	baz=105						
SCRK	Sand Creek	149.15	310		PKPbc	19 48 07.0	-0.4
SCRK	Sand Creek	149.15	310	P	PKPbc	19 48 07.5	+0.1
	baz=106						
KLU	Klutina	149.26	305		PKPbc	19 48 08.2	+0.5
KLU	Klutina	149.26	305	P	PKPbc	19 48 08.2	+0.5
	baz=109,SNR=12						
NRIK	Noril'sk	149.29	39	PKPbc	PKPbc	19 48 07.3	-0.1
	comp=Z,1.5nm,0.4s,baz=281,slow=1.6,SNR=4.1						
NRIK	Noril'sk	149.29	39		PKPdf	19 48 04.9	+1.9
RIDG	Independent Ri	149.45	309	P	PKPbc	19 48 08.6	+0.5
	baz=106						
PAX	Paxson	149.51	308		PKPbc	19 48 07.9	-0.4
PAX	Paxson	149.51	308	P	PKPbc	19 48 08.8	+0.5
	baz=106						
M24K	Tolsona, Glenn	149.56	306	P	PKPbc	19 48 09.3	+0.9
	baz=108						
J25K	Salcha River,	149.90	311		PKPbc	19 48 09.1	-0.1
J25K	Salcha River,	149.90	311	P	PKPbc	19 48 09.1	-0.1
	baz=104						
SCM	Sheep Creek Mo	150.00	305		PKPbc	19 48 10.2	+0.7
SCM	Sheep Creek Mo	150.00	305	P	PKPbc	19 48 09.7	+0.2
	baz=107,SNR=6.7						
BMAR	Burnt Mountain	150.16	317		PKPbc	19 48 09.9	+0.2
PWL	Port Wells	150.17	303		PKPbc	19 48 10.0	+0.2
PWL	Port Wells	150.17	303	P	PKPbc	19 48 10.0	+0.2
	baz=108						
FYU	Fort Yukon	150.26	315		PKPbc	19 48 09.9	+0.1
DHY	Denali Highway	150.37	307		PKPbc	19 48 08.7	-1.7
DHY	Denali Highway	150.37	307	P	PKPbc	19 48 10.6	+0.2
	baz=105						
KNK	Knik Glacier	150.39	304	P	PKPbc	19 48 10.5	+0.1
	baz=107,SNR=5.0						
WAT6	Susitna Watana	150.40	306	P	PKPbc	19 48 10.6	0.0
	baz=106,SNR=12						
SML	Sawmill	150.45	305		PKPbc	19 48 09.4	-1.1
SML	Sawmill	150.45	305	P	PKPbc	19 48 10.5	-0.1
	baz=107,SNR=10						
SEW	Seward	150.45	301		PKPbc	19 48 11.1	+0.6
SEW	Seward	150.45	301	P	PKPbc	19 48 10.4	-0.1
	baz=109						
HDA	Harding Lake	150.51	310		PKPdf	19 48 05.6	+0.6
HDA	Harding Lake	150.51	310	P	PKPbc	19 48 10.6	0.0
	baz=103						
IL31		150.57	311		PKPdf	19 48 05.7	+0.7
ILAR	Eielson Array	150.57	311	PKPbc	PKPbc	19 48 10.3	-0.3
	comp=Z,13nm,0.7s,baz=133,slow=5.3,SNR=56						
ILAR	Eielson Array	150.57	311		PKPdf	19 48 04.9	-0.2
SONM	Songino Array	150.59	87	PKPbc	PKPbc	19 48 11.3	-0.1
	comp=Z,4.2nm,0.5s,baz=218,slow=3.8,SNR=13						
SONM	Songino Array	150.59	87		PKPbc	19 48 10.5	-0.9
PMR	Palmer	150.75	304	P	PKPbc	19 48 11.0	-0.1
	baz=106						
BJI	Beijing	150.86	109	PKPbc	PKPbc	19 48 12.6	+0.5
BJI				pPKP	pPKPbc	19 48 38.0	-0.8
BJI				sPKP		19 48 50.6	
CCB	Clear Creek Bu	150.93	311		PKPbc	19 48 10.7	-0.7
BRSE	Bradley Lake S	150.95	300	P	PKPbc	19 48 11.6	-0.1
	baz=109						
COLA	College	150.99	311	P	PKPbc	19 48 11.8	+0.2
	baz=102						
TCOL	CIGO, UAF Yank	151.00	311	P	PKiKP	19 48 12.6	+0.4
	baz=102						
WRH	Wood River Hil	151.01	310		PKPbc	19 48 11.5	-0.2
BRLK	Bradley Lake	151.03	300		PKPbc	19 48 10.3	-1.6
RND	Reindeer	151.10	308		PKPbc	19 48 12.4	+0.3
MDM	Murphy Dome	151.17	311		PKPdf	19 48 06.3	+0.2
KDAK	Kodiak Island	151.18	295	P	PKPbc	19 48 12.3	0.0
	baz=111						
H24K	Noodor Dome	151.19	313		PKPbc	19 48 11.9	-0.2
H24K	Noodor Dome	151.19	313	P	PKPbc	19 48 12.1	-0.1
	baz=100						
MCK	McKinley	151.21	308		PKPbc	19 48 11.3	-0.9
MCK	McKinley	151.21	308	P	PKPbc	19 48 12.5	+0.3
	baz=103,SNR=24						
M22K	Willow	151.25	304		PKPdf	19 48 06.5	+0.3
M22K	Willow	151.25	304	P	PKPbc	19 48 12.7	+0.4
	baz=106						
OHAK	Old Harbor	151.33	294	P	PKPbc	19 48 12.8	+0.2
	baz=112						
NEA2	Nenana	151.45	310		PKPbc	19 48 11.9	-0.8
NEA2	Nenana	151.45	310	P	PKPbc	19 48 12.8	+0.1
	baz=101						
CAPN	Captain Cook N	151.46	302	P	PKPbc	19 48 12.9	+0.1
	baz=107						
CUT	Chulitna	151.49	305	P	PKPbc	19 48 13.0	+0.2
	baz=104,SNR=5.2						
SII	Sitkinak Islan	151.54	292	P	PKPbc	19 48 13.3	+0.2
	baz=112						
I23K	Minto, Yukon-K	151.67	311		PKPbc	19 48 12.5	-0.7
I23K	Minto, Yukon-K	151.67	311	P	PKPbc	19 48 13.0	-0.2
	baz=100						
TRF	Thorofare Moun	151.74	308		PKPbc	19 48 13.3	-0.3
TRF	Thorofare Moun	151.74	308	P	PKPbc	19 48 13.8	+0.2
	baz=102,SNR=6.3						
O20K	Slope Mountain	151.96	300	P	PKPbc	19 48 14.8	+0.7
	baz=107						
KTH	Kantishna Hill	152.04	308		PKPbc	19 48 13.8	-0.4
Q19K	Cape Douglas,	152.10	297	P	PKPbc	19 48 15.0	+0.6
	baz=108						
RSO	Redoubt South	152.13	301		PKPbc	19 48 14.0	-0.6
TOLK	Toolik Lake Re	152.16	319		PKPbc	19 48 14.3	0.0
TOLK	Toolik Lake Re	152.16	319	P	PKPbc	19 48 14.5	+0.2
	baz=93,SNR=45						
BPAW	Bear Paw Mtn.	152.18	309		PKPbc	19 48 13.7	-0.7
BPAW	Bear Paw Mtn.	152.18	309	P	PKPbc	19 48 14.0	-0.4
	baz=101,SNR=34						
MLY	Manley	152.23	311		PKPbc	19 48 13.3	-1.2
MLY	Manley	152.23	311	P	PKPbc	19 48 14.7	+0.1
	baz=99,SNR=5.4						
COLD	Coldfoot	152.29	316		PKPbc	19 48 14.3	-0.3
COLD	Coldfoot	152.29	316	P	PKiKP	19 48 15.4	+0.6
	baz=95,SNR=12						
PPLA	Purkeypile	152.47	306		PKPbc	19 48 15.2	0.0
PPLA	Purkeypile	152.47	306	P	PKPbc	19 48 15.4	+0.1
	baz=102						
CAST	Castle Rocks	152.52	307		PKPbc	19 48 14.4	-0.8
CAST	Castle Rocks	152.52	307	P	PKPbc	19 48 15.0	-0.2
	baz=101,SNR=15						
CHUM	Lake Minchumin	152.71	308	P	PKPbc	19 48 15.4	-0.1
	baz=100,SNR=5.4						
O19K	Port Alsworth	152.80	300	PKPbc	PKPbc	19 48 14.5	-1.4
O19K	Port Alsworth	152.80	300	P	PKiKP	19 48 17.1	+1.0
	baz=106						
P18K	Big Mountain,	153.02	298		PKPbc	19 48 14.0	-2.4
P18K	Big Mountain,	153.02	298	P	PKiKP	19 48 17.8	+1.2
	baz=107						
N19K	Bonanza Creek	153.04	301	P	PKiKP	19 48 18.4	+1.7
	baz=104						
H21K	Melozitna Rive	153.17	312		PKPbc	19 48 16.0	-0.6
M19K	Big River Lodg	153.25	303	PKPbc	PKiKP	19 48 18.3	+1.3
M19K					PKPab	19 48 28.9	-0.4
K20K	Telida	153.39	307		PKPbc	19 48 17.3	+0.2
K20K	Telida	153.39	307	P	PKiKP	19 48 19.2	+2.0
	baz=100						
L19K	White Mountain	153.53	304	PKPbc	PKPbc	19 48 18.0	+0.6
L19K				PKPab	PKPab	19 48 29.2	-1.2

L19K White Mountain 153.53 304 P PKiKP 19 48 19.4 +1.9
baz=102
J20K Nowinta River 153.55 308 P PKiKP 19 48 19.6 +2.1
baz=98
IMAR Indian Mountai 153.59 313 PKPbc 19 48 17.6 +0.1
CHGN Chignik 153.63 290 P PKiKP 19 48 18.4 +0.6
baz=111
CHNA Chernabura Isl 153.69 286 P PKiKP 19 48 19.0 +1.0
baz=113
TTA Tatalina 154.19 305 P PKiKP 19 48 20.8 +1.8
baz=99
SDPT Sand Point 154.36 287 P PKiKP 19 48 21.1 +1.7
baz=112
KSRS Korea Array 154.56 128 PKPbc PKiKP 19 48 23.5 +3.1
comp=Z,0.8nm,0.6s,baz=211,slow=2.0,SNR=4.9
UNV Unalaska Valle 157.03 280 P PKPab 19 48 45.4 -0.2
baz=113
NIKH Nikolski High 157.96 277 P PKPab 19 48 49.8 +0.1
baz=114
ANM Nome 158.44 309 P PKPab 19 48 52.3 +0.8
baz=88
TNA Tin City 159.44 312 P PKPab 19 48 56.6 +0.9
baz=82
SPIA Saint Paul Isl 160.11 287 P PKPab 19 49 00.6 +1.7
baz=104
GAMB Gambell 161.27 307 P PKPab 19 49 04.6 +0.8
baz=84

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*IDC **03** 19:54:43.8±1.0, 31.°29S×178.°08W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/24, mbtmp3.8/4, Error ellipse: s-maj=42.6km s-min=33.6km az=121.0*

ISC 03 19:54:49.1±1.0**, 31.°3S**±0.°2×**178.°1W**±0.°3**, h35**km**, n13,** σ**0.s60**/14**, mb3.8**/4**, Kermadec Islands region**

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

ASAR Alice Springs 42.98 268 P **P 20 02 44.4 -0.7**
0.4nm,0.7s,baz=104,slow=7.0,SNR=5.2
ASAR PcP **PcP 20 04 36.6 +1.3**
0.4nm,0.9s,baz=108,slow=4.6,SNR=2.0
WRA Warramunga Arr 44.05 273 P **P 20 02 54.0 +0.2**
0.3nm,0.4s,baz=110,slow=8.0,SNR=5.1
VNDA Vanda 47.15 186 P **P 20 03 17.1 -0.4**
2.6nm,0.9s,baz=42,slow=11,SNR=3.5
PETK Petropavlovsk- 86.70 346 P **P 20 07 27.9 -0.9**
2.0nm,0.6s,baz=127,slow=8.5,SNR=7.3
MKAR Makanchi Array 118.30 310 PKP **PKiKP 20 13 33.0 +0.6**
0.1nm,0.6s,baz=64,slow=3.4,SNR=1.9
KURBB Kurchatov Arra 121.66 313 PKP **PKiKP 20 13 39.2 +0.3**
0.5nm,0.7s,baz=111,slow=1.9,SNR=6.4
ARCES ARCESS Array B 139.48 347 PKhKP PKPpre 20 14 05.6
2.9nm,0.9s,baz=74,slow=3.3,SNR=1.8
FINES FINESS Array B 145.99 339 PKPbc **PKPbc 20 14 24.1 -0.2**
6.9nm,0.3s,baz=48,slow=4.4,SNR=108
NB2 NORSAR Subarra 149.66 351 PKP **PKiKP 20 14 35.3 -0.1**
comp=Z,1.2nm,0.9s,baz=17,slow=2.7
NOA NORSAR Array B 149.66 351 PKPbc **PKPbc 20 14 34.1 -0.3**
comp=Z,0.9nm,0.7s,baz=17,slow=4.2,SNR=4.8
HFS Hagfors 150.14 348 PKPbc **PKPbc 20 14 35.6 +0.1**
comp=Z,3.0nm,0.8s,baz=90,slow=2.9,SNR=5.2
HFS PKPab **pPKPdf 20 14 40.8 +0.2**
comp=Z,1.4nm,0.5s,baz=116,slow=6.8,SNR=6.9
AKASG Malin Array Be 151.98 322 PKPbc **PKiKP 20 14 40.7 +0.3**
comp=Z,2.1nm,0.6s,baz=47,slow=2.6,SNR=12
BRTR Keskin Array B 152.95 297 PKPbc **PKiKP 20 14 43.2 +0.2**
comp=Z,0.6nm,0.4s,baz=143,slow=3.6,SNR=2.7

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*SSNC **03** 19:57:03.0±2.4, 17.°27N×70.°83W, h50km±999km, MD4.2, ML3.9*
*OSPL **03** 19:57:12.1±2.8, 17.°87N×71.°34W, h7km±13km, ML3.5*
*IDC **03** 19:57:14.6±1.3, 18.°25N×71.°45W, h0km, mb3.6/5, mb1 4.0/8, mb1mx3.7/57, mbtmp3.8/8, ML3.6/3, Error ellipse: s-maj=37.4km s-min=21.8km az=39.0*

ISC 03 19:57:13.3±0.8**, 17.°97N**±0.°06×**71.°37W**±0.°03**, h10**km**, n21,** σ**2.s43**/28**, mb3.6**/5**, Dominican Republic region**

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

LOBA2 Hotel Casa Bon 0.29 68 *i*P **Pn 19 57 23.4 -0.2**
LOBA2 *e*S **Sb 19 57 30.6 +5.1**
LOBA2 IAML 19 57 37.6
comp=Z,2μm,2.0s
LOPE2 Hotel El Peder 0.36 280 *i*P **Pg 19 57 20.5 0.0**
LOPE2 *e*S **Sg 19 57 26.0 +0.8**
LOPE2 IAML 19 57 29.5
comp=Z,12μm,0.8s
LONE2 Loma La Sidra 0.59 351 *i*P **Pg 19 57 23.6 -1.2**
LONE2 IAML 19 57 32.7
comp=Z,8μm,0.5s
SDDR Presa de Saban 1.01 5 *i*P **Pb 19 57 31.3 -1.7**
SDDR *e*S **Sg 19 57 45.8 -0.1**
SDDR IAML 19 57 56.0
comp=Z,887nm,0.5s
PAPH Port-au-Prince 1.04 302 *i*P **Pb 19 57 31.6 -1.8**
PAPH *e*S **Sb 19 57 45.9 -1.1**
PAPH IAML 19 57 53.5
comp=Z,1μm,0.9s
JAKH Jacmel 1.12 284 *i*P **Pb 19 57 32.5 -2.3**
LGNH Logne 1.29 295 *i*P **Pn 19 57 36.1 -1.3**
LGNH *e*S **Sb 19 57 53.8 -0.5**
LGNH IAML 19 58 07.6
comp=Z,476nm,0.6s
MASC Masc 3.48 310 *e*P **Pn 19 58 05.9 -1.6**
MASC *e*S **Sn 19 58 52.2 +3.3**
MASC IAML 19 59 02.9
comp=E,40nm,0.6s
MASC IAML 19 59 03.0
comp=N,29nm,0.6s
GTBY Guantanamo Bay 4.04 299 *e*P **Pn 19 58 13.3 -1.9**
GTBY *e*S **Sn 19 59 05.0 +2.4**
GTBY Guantanamo Bay 4.04 299 *i*P **Pn 19 58 14.5 -0.7**
MOAC Moa 4.32 309 *e*P **Pn 19 58 16.4 -2.6**
MOAC *e*S **Sn 19 59 10.7 +1.2**
MOAC IAML 19 59 18.0
comp=E,17nm,0.6s
MOAC IAML 19 59 18.1
comp=N,49nm,0.6s
RCC Rio Carpintero 4.56 297 *e*P **Pn 19 58 20.5 -1.9**
RCC *e*S **Sn 19 59 16.7 +1.2**
RCC IAML 19 59 18.2
comp=E,21nm,0.3s
RCC IAML 19 59 20.4
comp=N,21nm,0.7s
SJG San Juan 4.97 88 Pn Pn 19 58 31.8 +3.7
comp=N,4.1nm,0.3s,baz=294,slow=18,SNR=1.9
SJG Sn **Sb 19 59 32.8 -7.6**
baz=24,slow=20,SNR=0.9
CCCC Cccc 6.83 299 *e*P Pn 19 58 46.1 -7.5
CCCC IAML 20 00 07.9
comp=E,3.5nm,0.7s
CCCC IAML 20 00 11.5
comp=N,3.3nm,0.6s
SDV Santo Domingo 9.06 175 Pn Pn 19 59 30.2 +5.7
comp=N,1.6nm,0.3s,baz=358,slow=9.6,SNR=6.0
SDV Sn **Sn 20 01 07.3 +0.6**
comp=N,0.6nm,0.3s,baz=216,slow=19,SNR=1.9
PCRV Puerto La Cruz 10.13 139 Pn Pn 19 59 46.0 +6.9
comp=N,1.0nm,0.3s,baz=354,slow=10,SNR=1.7
PDAR Pinedale Array 40.67 316 P **P 20 04 54.6 +0.4**
comp=N,0.3nm,0.6s,baz=111,slow=9.7,SNR=3.6
NVAR Mina Array Bea 45.55 307 P **P 20 05 36.2 +2.4**
comp=N,0.4nm,0.7s,baz=110,slow=8.0,SNR=2.9
YKA Yellowknife Ar 53.59 337 P **P 20 06 35.0 +0.6**
comp=N,0.9nm,0.9s,baz=121,slow=7.2,SNR=6.7
ILAR Eielson Array 67.72 333 P **P 20 08 11.0 +0.2**
comp=N,0.4nm,0.9s,baz=111,slow=4.9,SNR=3.6
ARCES ARCESS Array B 75.70 21 P **P 20 09 00.3 +1.6**
comp=N,1.4nm,0.6s,baz=289,slow=5.6,SNR=4.7

IDC 03 20:02:29.3±3.0**, 31.°32N**×**40.°94W, h0**km**, mb3.6**/7**, mb1 3.7**/7**, mb1mx3.5**/66**, mbtmp3.6**/7**, MS3.4**/10**, Ms1 3.4**/10**, ms1mx3.0**/88**, Error ellipse: s-maj=93.6km s-min=30.2km az=30.0, Northern Mid-Atlantic Ridge**

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

SCHQ Schefferville 29.85 329 LR LR 20 20 03.3
comp=Z,58nm,18.1s,baz=100,slow=35
SADO Sadowa 32.63 305 LR LR 20 19 31.1
comp=Z,51nm,21.5s,baz=150,slow=31
TKL Tuckaleechee C 35.78 289 LR LR 20 21 33.9
comp=Z,50nm,21.9s,baz=114,slow=32
KOWA Kowa 37.69 108 LR LR 20 24 17.9
comp=Z,48nm,19.3s,baz=286,slow=35
DBIC Dimbokro 41.70 118 LR LR 20 25 05.0
comp=Z,48nm,21.5s,baz=254,slow=32
TORD Torodi Ar. Bea 43.09 105 P P 20 10 31.4 -0.1
1.2nm,1.0s,baz=299,slow=5.7,SNR=5.3
H10N2 ASCENSION HYDR 46.44 142 T T 21 00 25.9
baz=328,slow=75,SNR=68
H10N3 ASCENSION HYDR 46.44 143 T T 21 00 25.8
baz=328,slow=75,SNR=57
H10N1 ASCENSION HYDR 46.46 142 T T 21 00 27.2
baz=328,slow=75,SNR=79
H10S3 ASCENSION HYDR 47.30 143 T T 21 01 31.6
baz=252,slow=74,SNR=17
H10S2 ASCENSION HYDR 47.31 143 T T 21 01 29.1
baz=328,slow=74,SNR=8.2
ANMO Albuquerque 54.10 293 LR LR 20 32 45.5
comp=Z,42nm,19.8s,baz=17,slow=34
AKASG Malin Array Be 54.27 47 P P 20 11 57.0 -0.1
0.2nm,0.3s,baz=276,slow=6.7,SNR=1.7
PDAR Pinedale Array 54.57 303 LR LR 20 35 03.0
comp=Z,59nm,19.2s,baz=340,slow=36
YKA Yellowknife Ar 55.25 327 P P 20 12 03.1 -0.9
0.2nm,0.5s,baz=89,slow=7.3,SNR=3.3
ELK Elko 59.18 302 LR LR 20 37 54.4
comp=Z,69nm,18.4s,baz=271,slow=36
INK Inuvik 62.23 335 LR LR 20 36 35.1
comp=Z,33nm,18.6s,baz=90,slow=33
PFO Pinyon Flats O 62.38 294 LR LR 20 38 42.2
comp=Z,32nm,19.4s,baz=338,slow=35
ILAR Eielson Array 68.49 334 P P 20 13 33.7 +0.6
0.7nm,0.9s,baz=47,slow=4.6,SNR=7.6
KURBB Kurchatov Arra 82.50 34 P P 20 14 53.7 0.0
1.2nm,0.9s,baz=315,slow=5.5,SNR=7.8
ZALV Zalesovo Beam 83.01 29 P P 20 14 57.1 +0.8
0.6nm,0.6s,baz=317,slow=5.9,SNR=2.2
MKAR Makanchi Array 86.92 35 P P 20 15 15.1 -1.1
0.2nm,0.6s,baz=316,slow=4.0,SNR=2.7

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*NEIC **03** 20:21:06.7±2.2, 20.°29S±0.°05×68.°94W±0.°07, h106km±7km, Error ellipse: s-maj=10.1km s-min=7.1km az=89.0*
*IDC **03** 20:21:07.4±0.8, 20.°28S×68.°70W, h111km±7km, mb3.7/6, mb1 3.9/9, mb1mx3.6/40, mbtmp4.1/9, MS3.4/2, Ms1 3.4/2, ms1mx2.8/56, Error ellipse: s-maj=21.0km s-min=8.8km az=104.0*
*SJA **03** 20:21:07.1±0.6, 20.°32S×69.°02W, h103km±3km, ML4.3, MW4.1*
*VAO **03** 20:21:07.4±0.4, 20.°24S×68.°88W, h101km, mb4.1*
*GUC **03** 20:21:08.2±0.7, 20.°30S×68.°95W, h101km±3km, ML4.5*

ISC 03 20:21:06.5±0.5**, 20.°28S**±0.°03×**68.°94W**±0.°05**, h104**km±5km**, n110,** σ**1.s22**/128**, mb4.1**/5**, 7C-4D, Chile-Bolivia border region**

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

PB08 IPOC Station P 0.24 303 **Pn 20 21 22.1 +0.1**
PB08 IPOC Station P 0.24 303 ⇓*i*P **Pn 20 21 22.6 +0.7**
PB08 *e*S **Sn 20 21 34.2 +0.9**
PB08 IAML 20 21 36.3
comp=E,18μm,0.2s
PB08 IPOC Station P 0.24 303 *i*P **Pn 20 21 22.6 +0.7**
PB08 *i*Sg **Sn 20 21 34.4 +1.1**
PB08 IAML 20 21 36.3
comp=Z,8μm,0.2s
GO01 Chusmiza 0.65 338 **Pn 20 21 25.5 +1.0**
GO01 Chusmiza 0.65 338 ⇓*i*P **Pn 20 21 25.7 +1.2**
GO01 *e*S **Sn 20 21 39.4 +1.4**
GO01 IAML 20 21 44.4
comp=E,34μm,0.2s
PB11 IPOC Station P 0.85 307 **Pn 20 21 26.6 +0.7**
PB11 IPOC Station P 0.85 307 ⇓*i*P **Pn 20 21 26.8 +0.9**
PB11 *e*S **Sn 20 21 41.4 +0.9**
PB11 IAML 20 21 42.7
comp=E,27μm,0.4s
PB11 IPOC Station P 0.85 307 *i*P **Pn 20 21 26.7 +0.7**
PB11 *i*Sg **Sn 20 21 42.1 +1.6**
PB11 IAML 20 21 44.7
comp=Z,12μm,0.2s
HMBC Humberstone 0.89 270 ⇑*i*P **Pn 20 21 26.6 +0.2**
HMBC *e*S **Sn 20 21 41.1 -0.1**
HMBC IAML 20 21 42.9
comp=E,20μm,0.3s
PB01 IPOC Station P 0.92 214 **Pn 20 21 27.0 +0.4**
PB01 IPOC Station P 0.92 214 ⇑*i*P **Pn 20 21 27.1 +0.4**
PB01 *e*S **Sn 20 21 41.9 +0.2**
PB01 IAML 20 21 43.3
comp=E,16μm,0.1s
PB01 IPOC Station P 0.92 214 *i*P **Pn 20 21 27.0 +0.4**
PB01 IAML 20 21 43.8
comp=Z,10μm,0.4s
TA02 Huaiquique 1.12 270 **Pn 20 21 29.1 +0.5**
TA02 Huaiquique 1.12 270 *e*P **Pn 20 21 29.1 +0.5**
TA02 *e*S **Sn 20 21 45.4 +0.1**
TA02 Huaiquique 1.12 270 *i*P **Pn 20 21 28.8 +0.2**
TA01 Diego Aracena 1.20 256 **Pn 20 21 29.6 +0.1**
TA01 Diego Aracena 1.20 256 ⇑*i*P **Pn 20 21 29.6 +0.1**
TA01 *e*S **Sn 20 21 46.3 -0.6**
TA01 Diego Aracena 1.20 256 *i*P **Pn 20 21 29.8 +0.3**
PATCX Punta Patache 1.26 244 **Pn 20 21 30.8 +0.4**
PATCX Punta Patache 1.26 244 ⇑*i*P **Pn 20 21 30.7 +0.4**
PATCX *e*S **Sn 20 21 48.2 -0.1**
PATCX IAML 20 21 52.5
comp=N,12μm,0.2s
PATCX Punta Patache 1.26 244 *i*P **Pn 20 21 30.4 +0.1**
PATCX IAML 20 21 50.0
comp=Z,5μm,0.5s
PB02 IPOC Station P 1.37 221 **Pn 20 21 32.1 +0.4**
PB02 IPOC Station P 1.37 221 ⇑*i*P **Pn 20 21 32.1 +0.4**
PB02 *e*S **Sn 20 21 50.9 +0.2**
PB02 IAML 20 21 54.6
comp=E,9μm,0.3s
PB02 IPOC Station P 1.37 221 *i*P **Pn 20 21 32.0 +0.4**
PB02 IAML 20 21 59.5
comp=Z,4μm,0.4s
PB09 IPOC Station P 1.54 191 **Pn 20 21 34.4 +0.7**
PB09 IPOC Station P 1.54 191 ⇑*i*P **Pn 20 21 34.6 +0.9**
PB09 *e*S **Sn 20 21 55.4 +1.1**
PB09 IPOC Station P 1.54 191 *i*P **Pn 20 21 34.5 +0.8**
PB09 IAML 20 21 59.6
comp=Z,3μm,0.7s
PB07 IPOC Station P 1.69 211 **Pn 20 21 35.6 0.0**
PB07 IPOC Station P 1.69 211 ⇑*i*P **Pn 20 21 35.7 0.0**
PB07 *e*S **Sn 20 21 56.8 -0.9**
PB07 IAML 20 22 05.2
comp=E,3μm,0.6s
PB07 IPOC Station P 1.69 211 *i*P **Pn 20 21 36.0 +0.4**
PB07 IAML 20 22 04.6
comp=Z,3μm,0.7s
PB16 IPOC Station P 2.00 344 Pn **Pn 20 21 40.2 +0.2**
PB16 IPOC Station P 2.00 344 ⇓*i*P **Pn 20 21 42.2 +2.3**
PB16 *e*S **Sn 20 22 08.3 +3.0**
PB16 IPOC Station P 2.00 344 *i*P **Pn 20 21 42.0 +2.1**
PB16 IAML 20 22 11.7
comp=Z,860nm,0.4s
PB12 IPOC Station P 2.11 321 Pn **Pn 20 21 41.5 +0.6**
PB12 IPOC Station P 2.11 321 *e*P **Pn 20 21 41.3 +0.5**
PB12 IAML 20 22 16.1
comp=E,5μm,0.5s
PB12 IPOC Station P 2.11 321 *i*P **Pn 20 21 42.1 +1.3**
PB12 IAML 20 22 17.4
comp=Z,2μm,0.2s
AP01 Chacalluta 2.31 325 **Pn 20 21 42.3 -1.1**
AP01 Chacalluta 2.31 325 *e*P **Pn 20 21 44.5 +1.1**
AP01 Chacalluta 2.31 325 *i*P **Pn 20 21 45.0 +1.6**
LVC Limon Verde 2.32 179 P **Pn 20 21 45.2 +1.3**
comp=Z,43nm,0.3s,baz=25,slow=7.5,SNR=43
LVC S **Sn 20 22 13.8 +1.5**
comp=Z,113nm,0.3s,baz=280,slow=22,SNR=20
LVC Limon Verde 2.32 179 Pn **Pn 20 21 44.4 +0.6**
LVC Limon Verde 2.32 179 *e*P **Pn 20 21 45.2 +1.3**
LVC Limon Verde 2.32 179 *e*P **Pn 20 21 45.1 +1.3**
LVC Limon Verde 2.32 179 *i*P **Pn 20 21 45.0 +1.2**
LVC IAML 20 22 19.5
comp=Z,371nm,0.7s
PB04 IPOC Station P 2.34 209 **Pn 20 21 43.8 -0.1**
PB04 IPOC Station P 2.34 209 *e*P **Pn 20 21 44.6 +0.8**
PB04 IAML 20 22 20.0
comp=N,2μm,0.5s
PB04 IPOC Station P 2.34 209 *i*P **Pn 20 21 45.0 +1.1**
PB06 IPOC Station P 2.49 194 **Pn 20 21 45.6 -0.2**
PB06 IPOC Station P 2.49 194 *e*P **Pn 20 21 46.4 +0.6**
PB06 IAML 20 22 22.7
comp=E,2μm,0.6s
PB06 IPOC Station P 2.49 194 *i*P **Pn 20 21 47.0 +1.2**
PB06 IAML 20 22 29.7
comp=Z,966nm,0.5s
PB15 IPOC Station P 2.96 190 **Pn 20 21 52.7 +0.7**
PB15 IPOC Station P 2.96 190 *e*P **Pn 20 21 52.8 +0.7**
PB15 IPOC Station P 2.96 190 *i*P **Pn 20 21 53.3 +1.2**
PB10 IPOC Station P 3.56 205 Pn **Pn 20 21 58.5 -1.4**
PB10 IPOC Station P 3.56 205 *e*P **Pn 20 21 58.8 -1.0**
PB10 IAML 20 22 56.0
comp=N,467nm,0.5s
PB10 IPOC Station P 3.56 205 *i*P **Pn 20 22 00.8 +1.0**
PB10 IAML 20 22 53.8
comp=Z,451nm,0.7s
LPAZ La Paz 4.04 11 P **Pn 20 22 10.6 +3.7**
comp=Z,11nm,0.3s,baz=192,slow=5.1,SNR=120
LPAZ S **Sn 20 22 53.1 -0.6**
comp=Z,2.3nm,0.3s,baz=211,slow=19,SNR=1.4
LPAZ LR LR 20 24 16.7
comp=Z,112nm,21.8s,baz=130,slow=47
LPAZ La Paz 4.04 11 Pn **Pn 20 22 09.9 +3.0**
LPAZ La Paz 4.04 11 *i*P **Pn 20 22 10.0 +3.0**
PB14 IPOC Station P 4.54 197 Pn **Pn 20 22 13.0 -0.4**
AC01 Pan de Azucar 6.04 194 Pn **Pn 20 22 34.3 +0.9**
AC02 Maricunga 6.53 182 Pn **Pn 20 22 37.9 -2.6**
AC06 Mina Casimiro 7.17 190 Pn **Pn 20 22 46.9 -1.9**
GO03 Copiap 7.38 189 Pn **Pn 20 22 48.2 -3.5**
AC04 Llanos de Chal 8.13 193 Pn **Pn 20 22 58.8 -3.1**
SIV San Ignacio 8.60 62 P **Pn 20 23 06.7 -1.6**
comp=Z,3.2nm,0.3s,baz=248,slow=11,SNR=78
SIV S **Sn 20 24 39.8 -4.0**
baz=334,slow=21,SNR=0.7
PTLB Pontes e Lacer 10.49 64 *e*P **Pn 20 23 33.1 -0.8**
ETMB Extrema 10.72 15 *e*P **Pn 20 23 36.2 -1.0**
VILB Vilhena 11.09 50 *e*P **Pn 20 23 42.0 -0.1**
CPUP Villa Florida 12.25 122 P **Pn 20 23 56.4 -1.0**
comp=Z,0.2nm,0.3s,baz=326,slow=14,SNR=3.5
CPUP Villa Florida 12.25 122 *e*P **Pn 20 23 57.1 -0.3**
AQDB Aquidauana 12.42 93 *e*P **Pn 20 23 59.9 +0.2**
SALV Santo Antonio 13.32 73 *e*P **Pn 20 24 11.9 +0.3**
BO01 Tunca 14.19 187 P **P 20 24 28.0 +1.1**
BO02 Sierra Bellavi 14.55 186 Pn **Pn 20 24 25.8 -1.6**
ML02 Panimavida 15.58 188 Pn **Pn 20 24 38.1 -2.3**
ML02 IAmb IAmb 20 24 44.5
comp=Z,30nm,0.9s
CLDB Colider 15.72 55 *e*P **Pn 20 24 43.6 +1.3**
TBTG Tabatinga, AM 16.02 356 *e*P **P 20 24 47.3 -0.1**
PTGB Pitanga 16.20 109 *e*P **Pn 20 24 49.3 +1.0**
ARAG Araguaiana, MT 16.91 77 *e*P **P 20 24 57.8 +0.6**
CPSB Cacapava Do Su 17.24 129 *e*P **P 20 25 01.2 +0.4**
PLTB Pedras Altas 17.89 133 *e*P **P 20 25 08.6 +0.8**
NPGB Novo Progresso 18.61 47 *e*P **P 20 25 15.2 -0.7**
MACA Manacapuru-AM 18.82 26 *e*P **P 20 25 19.0 +0.8**
SNDB Serra Nova Dou 18.84 67 *e*P **P 20 25 18.8 +0.4**
IPMB Ipameri, GO 19.71 87 *e*P **P 20 25 28.4 +0.4**
PLCA Paso Flores 20.44 184 P **P 20 25 36.1 +0.5**
comp=Z,8.4nm,0.9s,baz=270,slow=24,SNR=12
PLCA Paso Flores 20.44 184 **P 20 25 35.2 -0.4**
PLCA IAmb IAmb 20 25 40.2
comp=Z,15nm,1.1s
PLCA Paso Flores 20.44 184 *e*P **P 20 25 36.8 +1.2**
LL04 Puerto Octay 20.78 187 P **P 20 25 39.8 +0.6**
LL04 IAmb IAmb 20 25 44.0
comp=Z,7.5nm,0.7s
PTGA Pitinga 21.32 25 P **P 20 25 43.1 -2.1**
comp=Z,3.5nm,0.4s,baz=160,slow=23,SNR=6.7
PEXB Peixe 21.40 71 *e*P **P 20 25 47.0 +0.9**
PRPB Parauapebas 23.26 56 *e*P **P 20 26 05.4 +0.3**
SMTB Santa Maria do 23.54 64 *e*P **P 20 26 08.3 +0.7**
BOAV Boa Vista 24.00 21 *e*P **P 20 26 11.4 -0.3**
JANB Januaria 24.02 81 *e*P **P 20 26 12.2 +0.3**
SDBA SAO DESIDERIO 24.33 75 *e*P **P 20 26 15.5 +0.6**
MCPB Macapa, AP 25.78 42 *e*P **P 20 26 29.3 +1.4**
R58B Mineral 58.54 352 P **P 20 30 50.5 -1.5**
TXAR Lajitas Array 59.62 325 P **P 20 31 00.6 +0.8**
comp=Z,0.2nm,0.6s,baz=164,slow=8.0,SNR=2.2
DBIC Dimbokro 68.42 74 P **P 20 31 56.4 -1.3**
comp=Z,2.9nm,0.8s,baz=229,slow=6.7,SNR=3.3
DBIC Dimbokro 68.42 74 IAmb IAmb 20 32 25.6
comp=Z,15nm,1.4s
TORD Torodi Ar. Bea 76.97 71 P **P 20 32 47.4 -0.9**
comp=Z,1.2nm,0.5s,baz=257,slow=5.4,SNR=16
TORD pP **pP 20 33 16.1 -0.3**
comp=Z,2.7nm,0.8s,baz=254,slow=5.4,SNR=6.6
TORD Torodi Ar. Bea 76.97 71 P **P 20 32 47.6 -0.7**
YKA Yellowknife Ar 90.03 341 P **P 20 33 54.6 +0.7**
comp=Z,1.3nm,0.7s,baz=132,slow=4.7,SNR=30
YKA pP **pP 20 34 23.1 +0.4**
comp=Z,1.4nm,0.7s,baz=134,slow=4.6,SNR=7.7
RPZ Rata Peaks 95.93 219 LR LR 21 09 15.4
comp=Z,70nm,18.4s,baz=208,slow=30
ASAR Alice Springs 130.98 208 PKP **PKPdf 20 40 07.0 +0.3**
comp=Z,0.2nm,0.5s,baz=115,slow=1.9,SNR=4.1
WRA Warramunga Arr 133.99 211 PKP **PKPdf 20 40 13.1 +0.6**
comp=Z,0.2nm,0.6s,baz=162,slow=1.6,SNR=5.3
KSH Kashi 144.34 50 PKP **PKPdf 20 40 32.2 +1.4**
MKAR Makanchi Array 144.65 35 PKP **PKPab 20 40 30.1 +0.2**
comp=Z,0.4nm,0.7s,baz=298,slow=2.6,SNR=4.0
MKAR pPKP **pPKPdf 20 41 00.4 -0.6**
comp=Z,0.4nm,0.6s,baz=294,slow=2.1,SNR=3.4

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*BJI **03** 20:26:47.9±0.0, 25.°21N×125.°07E, h97km, mb4.4/58, mB4.5/28*
*JMA **03** 20:26:52.7±0.2, 25.°48N×124.°77E, h99km±5km, M4.2*
JMA Felt I J1.
*NEIC **03** 20:26:52.5±1.5, 25.°49N±0.°08×124.°82E±0.°07, h99km±3km, mb4.8/162, Error ellipse: s-maj=12.3km s-min=8.0km az=145.0*
*NIED **03** 20:26:52.8, 25.°48N×124.°77E, h99km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}4.81; $M_{\theta\theta}$-3.85; $M_{\phi\phi}$-0.97; $M_{r\theta}$-4.31; $M_{\theta\phi}$0.68; $M_{\phi r}$-1.84; Fault plane solution: $M_0$6.35000×10^{15} NP1: ϕ_s259.00000°, δ69.00000°, λ77.00000°. NP2: ϕ_s112.00000°, δ25.00000°, λ120.00000°.*
*MOS **03** 20:26:52.4±0.9, 25.°55N×124.°78E, h116km, mb4.7/28 Error ellipse: s-maj=8.3km s-min=5.2km az=94.4*
*IDC **03** 20:26:53.7±0.5, 25.°55N×124.°86E, h114km±3km, mb4.2/38, mb1 4.3/42, mb1mx4.1/65, mbtmp4.5/42, MS3.2/19, Ms1 3.2/19, ms1mx3.0/90, Error ellipse: s-maj=10.1km s-min=8.1km az=92.0*

ISC 03 20:26:53.0±0.3**, 25.°46N**±0.°03×**124.°86E**±0.°03**, h111**km±2km**, h111**km**:pP-P, n488,** σ**1.s28**/534**, mb4.8**/167**, 18C-8D, Northeast of Taiwan**

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

JIKM Ikemajima 0.64 147 P **Pn 20 27 10.3 -0.6**
JIKM S **Sn 20 27 23.5 -0.8**
JIRB Irabujima 0.69 156 P **Pn 20 27 10.4 -0.9**
JIRB S **Sn 20 27 23.3 -1.7**
JMJ Miyako jima 2 0.75 149 P **Pn 20 27 12.3 +0.5**
JTJ Tarama 0.83 190 P **Pn 20 27 11.5 -1.0**
JTJ S **Sn 20 27 25.4 -1.8**
JMJ2 Miyako jima3 0.83 149 P **Pn 20 27 12.2 -0.3**
JMJ2 S **Sn 20 27 26.4 -0.9**
JOGS Gusukube 0.85 145 P **Pn 20 27 12.5 -0.3**
JOGS S **Sn 20 27 27.2 -0.5**
JISG Ishigakijimahi 1.00 210 P **Pn 20 27 13.2 -1.0**
JISG S **Sn 20 27 28.2 -2.1**
JIJ Ishigaki jima 1.27 211 P **Pn 20 27 15.8 -1.4**
JIJ S **Sn 20 27 32.4 -3.1**
JKRS Kuro-shima 1.44 213 P **Pn 20 27 17.9 -1.2**
JKRS S **Sn 20 27 37.6 -1.4**
IRIF Iriomote-Funau 1.52 223 P **Pn 20 27 18.8 -1.2**
IRIF *e*S **Sn 20 27 38.3 -2.3**
HATJ Hateruma jima 1.69 215 P **Pn 20 27 21.1 -1.1**
HATJ *e*S **Sn 20 27 43.0 -1.4**
JKE Kume jima 2 1.94 63 P **Pn 20 27 25.2 +0.1**
JKE *e*S **Sn 20 27 50.1 +0.4**
YOJ Yonaguni jima 1.95 240 P **Pn 20 27 24.7 -0.6**
YOJ Yonaguni jima 1.95 240 P **Pn 20 27 24.8 -0.6**
YOJ *e*S **Sn 20 27 49.8 -0.3**
YOJ Yonaguni jima 1.95 240 Pn **Pn 20 27 24.7 -0.6**
YOJ Yonaguni jima 1.95 240 P **Pn 20 27 24.9 -0.5**
JYNG Yonagunijimaku 2.01 240 P **Pn 20 27 25.5 -0.6**
JYNG *e*S **Sn 20 27 51.3 -0.1**
JAGN Aguni-jima 2.42 62 P **Pn 20 27 31.5 +0.2**
JAGN S **Sn 20 28 00.6 -0.2**
TATO Taipei 3.09 262 **Pn 20 27 40.1 -0.1**
NACB Ninganchiao 3.23 247 **Pn 20 27 40.9 -1.2**

YHNB Yeheng 3.26 257 Pn **Pn** **20 27 42.0 -0.5**
YHNB Yeheng 3.26 257 P **Pn** **20 27 43.6 +1.1**
JOW Kunigami 3.36 65 P **Pn** **20 27 43.2 -0.5**
72nm,0.3s,baz=120,slow=16,SNR=380
JOW S **Sn** **20 28 20.0 -3.0**
112nm,0.3s,baz=109,slow=24,SNR=7.4
JOW LR LR 20 28 23.8
comp=Z,84nm,20.9s,baz=144,slow=27
JOW Kunigami 3.36 65 Pn **Pn** **20 27 43.1 -0.6**
JOW Kunigami 3.36 65 P **Pn** **20 27 43.4 -0.3**
YULB Yu-li 3.85 238 **Pn** **20 27 47.6 -2.7**
SSLB Suanglung 3.93 246 Pn **Pn** **20 27 50.2 -1.1**
SSLB Suanglung 3.93 246 P **Pn** **20 27 50.4 -1.0**
TWG Pinlang 4.35 234 **Pn** **20 27 53.7 -3.3**
TPUB Ta-pu 4.42 242 **Pn** **20 27 57.3 -0.6**
TPUB Ta-pu 4.42 242 P **Pn** **20 27 57.7 -0.3**
QZH Quanzhou 5.70 266 ⇓ *i*P **Pn** **20 28 15.6 +0.3**
QZH S **Sn** **20 29 19.3 -0.2**
QZH smax smax
comp=N,48nm,0.6s
QZH smax smax
comp=E,36nm,0.7s
KNMB Chin-men Tao 5.96 262 Pn **Pn** **20 28 18.3 -0.4**
JSU Suzuyama 7.78 38 Pn **Pn** **20 28 41.9 -1.5**
NJ2 Nanjing 8.42 323 *e*P **Pn** **20 28 53.4 +1.3**
NJ2 S **Sn** **20 30 26.1 +0.7**
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 pmax pmax
comp=Z,170nm,6.6s
NJ2 LR LR
comp=N,320nm,5.7s
NJ2 LR LR
comp=E,330nm,5.2s
NJ2 LR LR
comp=Z,230nm,12.8s
JNU Nakatsue 9.27 33 P **Pn** **20 29 03.8 +0.2**
2.4nm,0.3s,baz=292,slow=2.5,SNR=8.2
JNU Nakatsue 9.27 33 P **Pn** **20 29 04.3 +0.7**
WHN Wuhan 10.58 301 ⇓ *i*P **Pn** **20 29 22.9 +1.5**
WHN S **Sn** **20 31 16.7 -1.2**
WHN pmax pmax
comp=Z,34nm,0.7s
WHN LR LR
comp=N,990nm,6.0s
WHN LR LR
comp=E,420nm,4.0s
TJN Taejon 11.09 11 *ce*P **Pn** **20 29 28.9 +0.6**
TJN Taejon 11.09 11 Pn **Pn** **20 29 31.4 +3.1**
INCN Inchon 12.08 7 P **Pn** **20 29 43.5 +2.1**
INCN Inchon 12.08 7 Pn **Pn** **20 29 43.5 +2.1**
KSAR Wonju Array Be 12.22 11 P **Pn** **20 29 45.6 +2.4**
KSAR Wonju Array Be 12.22 11 Pn **Pn** **20 29 45.6 +2.4**
KSRS Korea Array 12.24 12 P **Pn** **20 29 46.0 +2.5**
1.4nm,0.3s,baz=190,slow=13,SNR=98
KSRS LR LR 20 34 38.9
comp=Z,34nm,19.8s,baz=205,slow=38
KSRS Korea Array 12.24 12 P **Pn** **20 29 46.0 +2.5**
KS19 Wonju Array Si 12.28 11 Pn **Pn** **20 29 46.2 +2.2**
TIA Tai'an 12.61 330 ⇓ P **P** **20 29 52.0 -3.3**
TIA pmax pmax
comp=Z,13nm,0.9s
GULI GuiLin 13.11 272 ⇓ P **P** **20 30 02.1 +1.1**
DL2 Dalian 13.68 349 P **P** **20 30 09.2 +2.0**
DL2 pmax pmax
comp=Z,72nm,0.8s
LYN LuoYang 14.04 313 *e*P **Pn** **20 30 05.7 -1.2**
LYN sP P 20 30 35.3 +24
LYN S **Sn** **20 32 39.2 -2.5**
LYN pmax pmax
comp=Z,90nm,5.7s
INU Inuyama 14.38 44 Pn **Pn** **20 30 12.5 +1.2**
INU Inuyama 14.38 44 P **Pn** **20 30 12.7 +1.4**
ENH Enshi 14.42 293 **P** **20 30 16.2 +0.7**
HNS HongShan 14.71 326 ⇑ P **P** **20 30 18.7 +0.1**
HNS pmax pmax
comp=Z,25nm,0.9s
JGF Kuroka 14.75 44 P **P** **20 30 19.8 +0.5**
MAJO Matsushiro 15.89 43 *i* P **Pn** **20 30 30.4 +0.1**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 15.89 43 Pn **Pn** **20 30 29.4 -0.8**
MAJO Matsushiro 15.89 43 P **P** **20 30 32.2 +0.5**
MAT Matsushiro 15.89 43 P **P** **20 30 31.5 -0.2**
MJB9 Matsu-Tunnel 15.89 43 **Pn** **20 30 30.4 +0.1**
MJAR Matsushiro Arr 15.89 43 P **P** **20 30 31.7 0.0**
comp=Z,0.5nm,0.3s,baz=237,slow=10,SNR=28
MJAR LR LR 20 36 54.3
comp=Z,30nm,18.2s,baz=219,slow=38
MJAR Matsushiro Arr 15.89 43 P **P** **20 30 31.9 +0.2**
BJT Baijiatuan 16.24 335 P **P** **20 30 36.8 +1.2**
BJT pmax pmax
comp=Z,16nm,1.0s
BJT Baijiatuan 16.24 335 P **P** **20 30 36.8 +1.2**
XAN Xi'an 16.26 305 P **P** **20 30 38.4 +2.5**
XAN pP pP 20 30 54.9 -1.1
XAN S **S** **20 33 42.5 +2.4**
XAN pmax pmax
comp=Z,13nm,0.6s
XAN pmax pmax
comp=Z,80nm,4.1s
XAN LR LR
comp=Z,430nm,7.2s
XAN LR LR
comp=Z,150nm,6.7s
XAN LR LR
comp=Z,160nm,8.2s
BJI Beijing 16.26 336 P **P** **20 30 36.8 +1.0**
BJI pmax pmax
comp=Z,14nm,0.8s
GYA Guiyang 16.40 277 ⇓ P **P** **20 30 40.5 +2.9**
GYA pP pP 20 30 52.2 -5.3
GYA pmax pmax
comp=Z,17nm,0.8s
MSHR Mys Shultsa 17.85 15 *i* P **Pn** **20 30 53.8 -0.3**
MSHR pmax pmax
comp=Z,15nm,0.9s
CN2 Changchun 18.31 1 *e*P **Pn** **20 31 00.2 +0.6**
CN2 pmax pmax
comp=Z,90nm,1.0s
JMM Marumori 18.32 44 P **P** **20 30 56.8 -1.7**
HHC Hu-ho-hao-te 18.93 327 ⇑ P **Pn** **20 31 07.6 +0.5**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,160nm,4.9s
CD2 Chengdu 19.37 291 P **P** **20 31 10.8 +0.7**
CD2 pmax pmax
comp=Z,40nm,0.7s
MDJ Mudanjiang 19.50 10 P **P** **20 31 12.0 +0.8**
MDJ pP pP 20 31 32.2 +0.5
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,200nm,4.5s
BTO Baotou 19.53 324 *e*P **Pn** **20 31 18.6 +4.5**
USA0B Ussuriysk Arra 19.58 15 P **P** **20 31 12.6 +0.5**
USA0B pmax pmax
comp=Z,20nm,1.0s
USA0B Ussuriysk Arra 19.58 15 P **P** **20 31 12.6 +0.5**
USRK Ussuriysk Ar. 19.58 15 P **P** **20 31 12.4 +0.3**
baz=190,slow=8.0,SNR=21
USRK Ussuriysk Ar. 19.58 15 P **P** **20 31 12.7 +0.6**
USRK Ussuriysk Ar. 19.58 15 P **P** **20 31 12.7 +0.6**
KMI Kunming 20.01 274 ⇓ P **Pn** **20 31 18.6 -1.4**
KMI pmax pmax
comp=Z,23nm,0.8s
BNX BinXian 20.34 5 ⇑ P **P** **20 31 21.5 +1.2**
BNX pmax pmax
comp=Z,28nm,0.7s
BNX pmax pmax
comp=Z,170nm,4.6s
PZH PanZhiHua 20.81 278 ⇑ P **P** **20 31 26.7 +1.0**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,100nm,6.1s
LZH Lanzhou 20.90 305 *e*P Pn 20 31 28.4 -1.8
LZH pP pP 20 31 51.2 +3.8
LZH sP sP 20 32 01.7 +0.5
LZH pmax pmax
comp=Z,13nm,1.5s
KKM Kota Kinabalu 21.00 205 P **P** **20 31 28.1 +0.2**
KKM lAmb lAmb 20 31 30.2
comp=Z,44nm,1.0s
KKM Kota Kinabalu 21.00 205 P **P** **20 31 28.8 +1.0**
MYLDM Lahad Datu 21.07 198 P **P** **20 31 28.9 +0.6**
JEW Eniwo 22.05 34 P **P** **20 31 38.8 +0.3**
ERM Erimo 22.38 38 P **P** **20 31 42.8 +0.8**
ASAJ Asahikawa 23.55 33 P **P** **20 31 50.6 -2.6**
comp=Z,7.7nm,0.3s,baz=246,slow=10,SNR=32
ASAJ LR LR 20 42 27.7
comp=Z,31nm,19.6s,baz=326,slow=40
KLR Kul'dur 24.33 11 P **P** **20 31 58.9 -1.4**
comp=Z,4.1nm,0.7s,baz=197,slow=8.5,SNR=16
KLR pP **pP** **20 32 25.1 +1.4**
comp=Z,14nm,1.1s,baz=199,slow=8.7,SNR=8.6
KLR LR LR 20 41 21.2
comp=Z,40nm,21.0s,baz=168,slow=36
KLR Kul'dur 24.33 11 *ce*P **P** **20 32 00.3 +0.1**
TOLI2 Tolitoli 24.52 190 P **P** **20 32 02.0 -0.2**
TOLI2 Tolitoli 24.52 190 P **P** **20 32 02.9 +0.6**
TNTI Ternate 24.66 174 P **P** **20 32 03.7 +0.2**
TNTI lAmb lAmb 20 32 07.6
comp=Z,57nm,1.0s
TNTI Ternate 24.66 174 P **P** **20 32 03.6 +0.1**
comp=Z,60nm,1.0s
GTOI Gorontalo 24.74 184 P **P** **20 32 03.2 -1.1**
comp=Z,134nmcomp=Z,12nm,1.2s
CHTO Chiang Mai 24.88 260 P **P** **20 32 06.0 +0.4**
CHTO pmax pmax
comp=Z,8.0nm,1.3s
CHTO Chiang Mai 24.88 260 P **P** **20 32 06.0 +0.4**
MRSI Marisa 25.00 187 P **P** **20 32 05.7 -0.9**
comp=Z,439nmcomp=Z,43nm,1.1s
CMAR Chiang Mai Arr 25.00 259 P **P** **20 32 07.0 +0.4**
comp=Z,2.0nm,0.9s,baz=59,slow=8.1,SNR=13
CMAR pP **pwP** **20 32 33.6 +0.7**
comp=Z,2.3nm,0.9s,baz=60,slow=8.2,SNR=6.9
CMAR sP **sP** **20 32 45.6 +2.9**
comp=Z,1.2nm,0.9s,baz=70,slow=9.6,SNR=3.0
CMAR PcP **PcP** **20 35 40.3 +1.3**
comp=Z,0.5nm,0.4s,baz=359,slow=1.5,SNR=2.4
CMAR LR LR 20 42 02.2
comp=Z,24nm,20.8s,baz=185,slow=36
CMAR Chiang Mai Arr 25.00 259 *ce*P **P** **20 32 07.9 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
GTA Gaotai 25.20 310 ⇓ P **P** **20 32 08.9 +0.4**
GTA pP pP 20 32 34.0 +1.5
GTA sP sP 20 32 46.1 +0.8
GTA pmax pmax
comp=Z,6.0nm,1.1s
MPSI Mapaga 25.43 192 P **P** **20 32 11.1 +0.6**
comp=Z,18nm,0.9s
YSS Yuzh-Sakhalins 25.74 29 *e*P **P** **20 32 15.1 +2.1**
YSS pmax pmax
comp=Z,10.0nm,0.6s
SBUM Sibu 25.91 210 P **P** **20 32 15.1 +0.2**
LBMI Labuha 26.07 174 P **P** **20 32 15.5 -0.8**
comp=Z,50nm,1.0s
APSI Ampana 26.40 187 P **P** **20 32 18.5 -0.7**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 26.41 332 P **P** **20 32 18.8 -0.5**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 26.41 332 P **P** **20 32 18.8 -0.5**
LUWI Luwuk 26.42 185 P **P** **20 32 19.8 +0.4**
comp=Z,28nm,0.8s
SONM Songino Array 26.67 332 P **P** **20 32 21.0 -0.6**
comp=Z,2.8nm,0.5s,baz=146,slow=9.4,SNR=6.3
SONM pP **pP** **20 32 46.8 +1.1**
comp=Z,7.7nm,1.0s,baz=144,slow=11,SNR=5.6
SONM Songino Array 26.67 332 P **P** **20 32 20.5 -1.1**
SIJI Sorong 26.90 166 P **P** **20 32 23.9 +0.2**
comp=Z,9.9nm,0.8s,baz=12,slow=12,SNR=5.7
SIJI LR LR 20 44 15.7
comp=Z,11nm,18.1s,baz=102,slow=39
SANI Sanana 27.37 178 P **P** **20 32 26.7 -1.2**
comp=Z,38nm,1.0s
SANI Sanana 27.37 178 P **P** **20 32 27.4 -0.5**
GOMU GeErMu 27.83 300 P **P** **20 32 34.1 +1.7**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
MTKI Muara Teweh, K 27.96 202 P **P** **20 32 30.3 -2.9**
comp=Z,873nmcomp=Z,7.6nm,0.4s
ZEA Zeya 28.30 3 *e*P **P** **20 32 36.1 +0.2**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
MSAI Masohi 28.90 172 P **P** **20 32 40.9 -0.7**
comp=Z,613nmcomp=Z,3.3nm,0.7s
AAI Ambon 29.15 173 P **P** **20 32 43.7 -0.1**
comp=Z,41nm,0.8s
KAPI Kappang 30.69 190 LR LR 20 46 34.7
comp=Z,23nm,19.1s,baz=93,slow=38
IPM Ipoh 30.95 232 P **P** **20 32 59.2 -0.6**
IPM lAmb lAmb 20 33 00.8
comp=Z,12nm,0.8s
MOY Mondy 31.86 331 *e*P **P** **20 33 07.0 -0.5**
MOY pmax pmax
comp=Z,23nm,1.8s
TAPN Taplejung 33.25 282 *e*P **P** **20 33 20.9 +0.7**
comp=Z,9.6nm,0.7s
ODAN Odare 33.59 281 *e*P **P** **20 33 23.7 +0.7**
comp=Z,9.8nm,0.5s
MMRI Maumere 33.98 185 P **P** **20 33 25.2 -0.9**
MMRI Maumere 33.98 185 P **P** **20 33 24.4 -1.7**
comp=Z,38nm,0.8s
RAMN Ramite 34.28 281 *e*P **P** **20 33 29.8 +0.8**
comp=Z,5.3nm,0.4s
JIRN Jiri 34.57 282 *e*P **P** **20 33 32.2 +0.6**
comp=Z,6.1nm,0.4s
PLAI Plampang 34.77 192 P **P** **20 33 33.7 +0.8**
GUN Gumba 34.82 283 *e*P **P** **20 33 33.9 +0.1**
comp=Z,11nm,0.6s
PKI Pulchoki 35.27 282 *e*P **P** **20 33 37.3 -0.3**
WMQ Urumqi 35.27 311 *e*P **P** **20 33 38.1 +1.0**
WMQ pmax pmax
comp=Z,11nm,0.9s
PKIN Phulchoki 35.28 282 *e*P **P** **20 33 37.1 -0.5**
comp=Z,10nm,0.6s
JAGI Jajag, Banyuwa 35.30 199 P **P** **20 33 34.0 -3.5**
comp=Z,18nm,1.5s
KKN Kaani 35.36 283 *e*P **P** **20 33 38.0 -0.2**
comp=Z,14nm,0.6s
BATI Baumata 35.47 182 P **P** **20 33 36.5 -2.4**
comp=Z,29nm,0.8s
DMN Daman 35.53 282 *e*P **P** **20 33 39.7 -0.1**
PWJI Pagerwojo 35.62 203 P **P** **20 33 39.5 -0.7**
comp=Z,22nm,0.7s
GKN Gorkha 35.91 283 *e*P **P** **20 33 42.6 -0.2**
comp=Z,14nm,0.7s
KPJI Karang Pucung 36.09 208 P **P** **20 33 44.1 -0.2**
comp=Z,39nm,1.2s
LEM Lembang 36.21 210 P **P** **20 33 47.4 +1.9**
comp=Z,25nm,0.7s,baz=46,slow=7.0,SNR=4.4
LEM Lembang 36.21 210 P **P** **20 33 46.4 +0.9**
comp=Z,18nm,0.8s
DANN Dangsing 36.65 284 *e*P **P** **20 33 50.1 +0.8**
comp=Z,26nm,0.4s
YAK Yakutsk 36.71 4 P **P** **20 33 47.0 -1.9**
comp=Z,4.3nm,0.5s,baz=272,slow=0.4,SNR=1.7
YAK LR LR 20 49 13.8
comp=Z,28nm,20.0s,baz=103,slow=37
YAK Yakutsk 36.71 4 *e*P **P** **20 33 46.7 -2.2**
YAK *e**PP **pP** **20 34 15.1 +1.6**
YAK *e*S **S** **20 39 22.5 -1.5**
YAK *e*SS **SnSn** **20 41 57.9 -8.7**
YAK *e* 20 43 54.7
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=N,69nm,4.0s
YAK Yakutsk 36.71 4 P **P** **20 33 47.0 -1.9**
YAK lAmb lAmb 20 33 48.7
comp=Z,17nm,0.9s
KOLN Koldanda 36.84 283 *e*P **P** **20 33 51.4 +0.5**
PETK Petropavlovsk- 36.96 33 P **P** **20 33 51.3 0.0**
comp=Z,3.8nm,0.5s,baz=198,slow=4.1,SNR=21
PETK LR LR 20 51 23.9
comp=Z,42nm,18.2s,baz=221,slow=40
PYUN Piuthan 37.34 284 *e*P **P** **20 33 55.6 +0.5**
PET Petropavlovsk 37.39 34 P **P** **20 33 54.3 -0.6**
PET lAmb lAmb 20 34 04.9
comp=Z,20nm,1.1s
MA2 Magadan 38.57 21 P **P** **20 34 04.1 -0.6**
comp=Z,2.6nm,0.6s,baz=165,slow=9.8,SNR=5.7
MA2 ScP **S** **20 39 54.1 +1.7**
comp=Z,0.8nm,0.2s,baz=151,slow=2.1,SNR=5.3
MA2 Magadan 38.57 21 *ce*P **P** **20 34 05.0 +0.3**
MA2 pmax pmax
comp=Z,12nm,2.5s
MA2 Magadan 38.57 21 P **P** **20 34 04.5 -0.3**
MK31 Makanchi Array 39.82 313 *i* P **P** **20 34 14.7 -0.7**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 39.82 313 P **P** **20 34 14.5 -0.8**
MK31 lAmb lAmb 20 34 16.5
comp=Z,6.9nm,0.6s
MKAR Makanchi Array 39.82 313 P **P** **20 34 14.9 -0.5**
comp=Z,8.9nm,0.5s,baz=100,slow=9.6,SNR=113
MKAR PcP **PcP** **20 36 20.5 +1.2**
comp=Z,1.7nm,0.7s,baz=76,slow=5.1,SNR=6.4
MKAR ScP **ScP** **20 39 57.9 -0.2**
comp=Z,0.7nm,0.7s,baz=111,slow=5.3,SNR=6.8
MKAR Makanchi Array 39.82 313 P **P** **20 34 14.5 -0.8**
MAKZ Makanchi 40.03 313 P **P** **20 34 16.1 -1.0**
MAKZ pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 40.03 313 P **P** **20 34 16.1 -1.0**
MAKZ lAmb lAmb 20 34 18.4
comp=Z,11nm,0.7s
PMG Port Moresby 40.90 145 P **P** **20 34 24.0 -0.4**
comp=Z,4.2nm,0.3s,baz=94,slow=17,SNR=5.1
PMG Port Moresby 40.90 145 *ce*P **P** **20 34 26.3 +1.9**
PMG pmax pmax
comp=Z,20nm,1.7s
PMG Port Moresby 40.90 145 P **P** **20 34 24.3 -0.1**
PMG lAmb lAmb 20 34 26.1
comp=Z,19nm,1.1s
KNRA Kununurra 41.06 174 P **P** **20 34 25.9 +0.1**
KNRA Kununurra 41.06 174 P **P** **20 34 26.2 +0.5**
ZAA0 Zalesovo Array 41.07 325 P **P** **20 34 23.9 -1.6**
ZAA0 lAmb lAmb 20 34 26.5
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 41.07 325 P **P** **20 34 24.2 -1.3**
comp=Z,6.5nm,0.4s,baz=110,slow=7.6,SNR=31
ZALV pP **pP** **20 34 51.3 +0.6**
comp=Z,2.7nm,0.6s,baz=113,slow=7.8,SNR=3.1
ZALV ScP **ScP** **20 40 01.5 -1.3**
comp=Z,2.3nm,0.7s,baz=120,slow=5.3,SNR=9.1
ZALV Zalesovo Beam 41.07 325 P **P** **20 34 23.9 -1.6**
SEY Seymchan 41.68 19 P **P** **20 34 29.3 -1.0**
comp=Z,1.1nm,0.4s,baz=231,slow=8.8,SNR=25
SEY ScP **ScP** **20 40 03.0 -1.9**
comp=Z,2.3nm,0.9s,baz=121,slow=5.9,SNR=4.9
COEN Coen 43.05 153 P **P** **20 34 42.1 +0.1**
KSH Kashi 43.05 301 P **P** **20 34 46.2 +4.2**
KSH pmax pmax
comp=Z,5.0nm,0.7s
FITZ Fitzroy Crossi 43.30 179 P **P** **20 34 43.5 -0.4**
KURK Kurchatov 43.33 318 *ce*P **P** **20 34 43.6 -0.2**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 43.33 318 P **P** **20 34 42.9 -1.0**
KURK lAmb lAmb 20 35 12.2
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 43.35 318 P **P** **20 34 42.9 -1.2**
comp=Z,2.4nm,0.5s,baz=109,slow=9.0,SNR=42
KURBB pP **pP** **20 35 09.2 -0.3**
comp=Z,3.4nm,0.8s,baz=109,slow=7.5,SNR=7.4
KURBB PcP **PcP** **20 36 30.5 -0.2**
comp=Z,0.9nm,0.8s,baz=113,slow=3.9,SNR=3.8
KURBB ScP **ScP** **20 40 11.7 -0.3**
comp=Z,0.4nm,0.8s,baz=99,slow=3.2,SNR=4.0
HYBB Hyderabad (bro 43.67 269 *e*P **P** **20 34 48.6 +1.5**
AAK Ala-Archa 44.44 306 P **P** **20 34 52.3 -0.7**
comp=Z,2.2nm,0.7s,baz=105,slow=3.5,SNR=9.0
AAK sP **sP** **20 35 32.4 +1.3**
comp=Z,1.2nm,0.6s,baz=359,slow=8.1,SNR=2.5
AAK Ala-Archa 44.44 306 *ce*P **P** **20 34 53.4 +0.3**
AAK pmax pmax
comp=Z,4.0nm,1.7s
AAK Ala-Archa 44.44 306 P **P** **20 34 53.4 +0.3**
NIL Nilore 45.25 293 P **P** **20 34 59.5 +0.1**
NIL pmax pmax
comp=Z,14nm,0.8s
NIL Nilore 45.25 293 P **P** **20 34 59.5 +0.1**
NIL lAmb lAmb 20 35 00.5
comp=Z,14nm,0.8s
WB0 Warramunga Arr 45.90 167 P **P** **20 35 04.3 -0.3**
WB0 lAmb lAmb 20 35 05.7
comp=Z,18nm,0.8s
WRAB Tennant Creek 46.05 168 *ce*P **P** **20 35 06.3 +0.5**
WRAB pmax pmax
comp=Z,20nm,0.7s
WRAB Tennant Creek 46.05 168 P **P** **20 35 05.9 +0.2**
WRAB Tennant Creek 46.05 168 P **P** **20 35 06.4 +0.6**
WRA Warramunga Arr 46.06 168 P **P** **20 35 06.1 +0.3**
comp=Z,18nm,0.7s,baz=349,slow=8.4,SNR=127
WRA PcP **PcP** **20 36 40.7 +0.2**
comp=Z,1.1nm,0.7s,baz=0.3,slow=3.8,SNR=2.8
WRA Warramunga Arr 46.06 168 P **P** **20 35 05.8 0.0**
WB2 Warramunga Arr 46.06 168 P **P** **20 35 06.0 +0.2**
WR0 Warramunga Arr 46.12 167 P **P** **20 35 06.4 +0.2**
TIXI Tiksi 46.28 2 P **P** **20 35 05.4 -1.5**
comp=Z,3.7nm,0.5s,baz=117,slow=9.9,SNR=20
TIXI PcP **PcP** **20 36 40.4 -0.1**
comp=Z,1.5nm,0.5s,baz=53,slow=3.4,SNR=2.8
TIXI ScP **ScP** **20 40 22.5 -1.1**
comp=Z,1.7nm,0.8s,baz=37,slow=2.7,SNR=5.9
TIXI LR LR 20 54 44.5
comp=Z,50nm,22.0s,baz=204,slow=36
TIXI Tiksi 46.28 2 *ce*P **P** **20 35 05.9 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 46.28 2 P **P** **20 35 05.6 -1.3**
PSA00 Pilbara Seismi 47.00 186 P **P** **20 35 12.2 -1.0**
PSA00 lAmb lAmb 20 35 13.6
comp=Z,13nm,1.0s
PSA00 Pilbara Seismi 47.00 186 P **P** **20 35 12.3 -0.8**
PSA00 lAmb lAmb 20 35 13.7
comp=Z,23nm,0.9s
PSA00 Pilbara Seismi 47.00 186 P **P** **20 35 12.7 -0.4**
MTSU Mount Surprise 47.29 154 P **P** **20 35 17.0 +1.6**
KKAR Karatay Array 47.39 306 P **P** **20 35 16.0 -0.1**
KKAR Karatay Array 47.39 306 P **P** **20 35 16.0 -0.1**
CHGR Chuyangaron 48.34 300 P **P** **20 35 22.0 -1.5**
CHGR pmax pmax
comp=Z,17nm,0.8s
CHGR Chuyangaron 48.34 300 P **P** **20 35 22.0 -1.5**
CHGR lAmb lAmb 20 35 25.1
comp=Z,17nm,0.8s
KBL Kabul 48.66 295 P **P** **20 35 26.4 +0.2**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 48.66 295 P **P** **20 35 26.4 +0.2**
KBL lAmb lAmb 20 35 28.2
comp=Z,13nm,0.8s
BRVK Borovoye 48.92 319 *ce*P **P** **20 35 28.5 +0.9**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BRVK Borovoye 48.92 319 P **P** **20 35 26.7 -0.9**
NRIK Noril'sk 49.09 343 P **P** **20 35 28.2 -0.4**
comp=Z,13nm,0.9s,baz=126,slow=9.2,SNR=12
NRIK pP **pP** **20 35 54.5 +0.1**
comp=Z,4.8nm,0.9s,baz=131,slow=11,SNR=2.4
NRIK PcP **PcP** **20 36 50.9 +0.3**
comp=Z,5.2nm,0.6s,baz=103,slow=4.4,SNR=5.9
NRIK Noril'sk 49.09 343 *ce*P **P** **20 35 28.1 -0.6**
NRIK pmax pmax
comp=Z,13nm,0.9s
NRIK Noril'sk 49.09 343 P **P** **20 35 27.8 -0.9**
NRIK lAmb lAmb 20 35 29.3
comp=Z,12nm,0.8s
BILL Bilibino 49.37 19 *i* P **P** **20 35 29.4 -1.4**
BILL *i* *PP **pwP** **20 35 59.0 +0.4**
BILL *i* 20 36 52.3
BILL *i* 20 37 27.1
BILL pmax pmax
comp=Z,4.0nm,1.4s
BILL Bilibino 49.37 19 P **P** **20 35 31.5 +0.7**
AS31 Alice Springs 49.61 169 P **P** **20 35 33.5 +0.3**
ASAR Alice Springs 49.61 169 P **P** **20 35 33.8 +0.5**
comp=Z,9.9nm,0.5s,baz=355,slow=14,SNR=151
ASAR PcP **PcP** **20 36 53.8 +0.6**
comp=Z,4.7nm,0.8s,baz=354,slow=3.8,SNR=11
ASAR Alice Springs 49.61 169 P **P** **20 35 33.4 +0.2**
WRKA Warakurna 50.31 176 P **P** **20 35 39.4 +0.9**

OOD Oodnadatta 53.96 168 P P 20 36 06.1 +0.7
HRA Herat 54.26 295 P P 20 36 07.5 -0.4
HRA IAmb IAmb 20 36 34.8
comp=Z,3.9nm,0.4s
AB31 Akbulak array 54.97 314 *i* P P 20 36 11.6 -0.9
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 54.97 314 P P 20 36 12.1 -0.4
SVE Sverdlovsk 55.03 323 *e*P P 20 36 12.3 -0.5
SVE pmax pmax
comp=Z,14nm,1.2s
GAMB Gambell 55.76 29 P P 20 36 18.2 +0.3
baz=258
ARU Arti 56.13 322 LR LR 21 01 32.0
comp=Z,62nm,20.7s,baz=114,slow=37
ARU Arti 56.13 322 *d i* P P 20 36 19.9 -0.8
ARU *PP pP 20 36 46.2 -1.0
ARU 20 37 16.4
ARU S S 20 44 01.7 +0.6
ARU SS SS 20 47 41.7 -6.9
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 56.13 322 P P 20 36 20.0 -0.8
ARU IAmb IAmb 20 36 22.1
comp=Z,8.6nm,0.7s
AKTO Aktyubinsk 56.22 315 LR LR 21 03 03.5
comp=Z,48nm,19.7s,baz=344,slow=39
GEYT Alibeck 57.05 300 P P 20 36 29.1 +1.5
comp=Z,6.8nm,0.6s,baz=67,slow=5.0,SNR=11
GEYT Alibeck 57.05 300 P P 20 36 26.9 -0.7
GEYT IAmb IAmb 20 36 29.8
comp=Z,10nm,0.8s
GYAOB ALIBECK ARRAY 57.05 300 P P 20 36 26.3 -1.3
TNA Tin City 57.70 27 P P 20 36 32.0 +0.4
TNA Tin City 57.70 27 P P 20 36 32.3 +0.7
baz=260
ANM Nome 58.63 28 P P 20 36 39.0 +0.9
ANM pmax pmax
comp=Z,14nm,1.0s
ANM Nome 58.63 28 P P 20 36 39.0 +0.9
ANM Nome 58.63 28 P P 20 36 39.1 +0.9
baz=264
BBOO Buckleboo 58.92 169 P P 20 36 40.5 0.0
STKA Stephens Creek 59.21 163 P P 20 36 42.9 +0.4
comp=Z,7.7nm,0.7s,baz=350,slow=6.1,SNR=23
STKA LR LR 21 05 29.0
comp=Z,31nm,18.1s,baz=209,slow=39
STKA Stephens Creek 59.21 163 P P 20 36 42.5 0.0
SDPT Sand Point 60.82 39 P P 20 36 53.2 0.0
SDPT Sand Point 60.82 39 P P 20 36 55.0 +1.7
baz=273
KIRV Kirov 61.11 325 LR LR 21 05 19.0
comp=Z,81nm,21.7s,baz=87,slow=38
KIRV Kirov 61.11 325 *ce*P P 20 36 54.4 -0.7
TTA Tatalina 62.73 30 P P 20 37 06.9 +0.8
TTA pmax pmax
comp=Z,8.0nm,0.6s
TTA Tatalina 62.73 30 P P 20 37 06.8 +0.8
TTA IAmb IAmb 20 37 07.7
comp=Z,7.8nm,0.6s
TTA Tatalina 62.73 30 P P 20 37 06.9 +0.8
baz=273,SNR=8.8
PRGR Permogore 62.85 328 *e*P P 20 37 05.3 -1.5
PRGR pmax pmax
comp=Z,8.0nm,0.6s
L19K White Mountain 63.31 31 P P 20 37 11.2 +1.4
L19K IAmb IAmb 20 37 12.0
comp=Z,9.4nm,0.7s
L19K White Mountain 63.31 31 P P 20 37 11.5 +1.6
baz=274,SNR=7.6
P18K Big Mountain, 63.36 34 P P 20 37 10.6 +0.3
P18K IAmb IAmb 20 37 12.1
comp=Z,8.0nm,0.8s
P18K Big Mountain, 63.36 34 P P 20 37 12.4 +2.1
baz=275
J20K Nowinta River 63.49 29 P P 20 37 12.3 +1.3
J20K IAmb IAmb 20 37 14.4
comp=Z,13nm,0.8s
IMAR Indian Mountai 63.55 27 P P 20 37 11.1 -0.2
M19K Big River Lodg 63.55 31 P P 20 37 13.1 +1.7
M19K IAmb IAmb 20 37 14.3
comp=Z,6.3nm,0.7s
K20K Telida 63.58 30 P P 20 37 12.9 +1.3
K20K IAmb IAmb 20 37 14.3
comp=Z,11nm,0.8s
N19K Bonanza Creek 63.60 33 P P 20 37 12.3 +0.4
N19K IAmb IAmb 20 37 14.5
comp=Z,16nm,1.4s
L20K Farewell, AK 63.74 31 P P 20 37 14.0 +1.3
baz=275,SNR=6.5
O19K Port Alsworth 63.74 33 P P 20 37 13.8 +1.1
O19K IAmb IAmb 20 37 14.8
comp=Z,12nm,0.6s
O19K Port Alsworth 63.74 33 P P 20 37 13.6 +0.9
baz=276
H21K Melozitna Rive 63.96 27 P P 20 37 15.5 +1.4
H21K IAmb IAmb 20 37 16.7
comp=Z,11nm,0.8s
CHUM Lake Minchumin 64.32 29 P P 20 37 17.8 +1.4
baz=276,SNR=13
I21K Tanana 64.34 28 P P 20 37 18.1 +1.6
I21K IAmb IAmb 20 37 19.3
comp=Z,7.5nm,0.8s
CAST Castle Rocks 64.47 30 P P 20 37 18.7 +1.3
CAST IAmb IAmb 20 37 19.8
comp=Z,17nm,1.0s
CAST Castle Rocks 64.47 30 P P 20 37 18.8 +1.4
baz=276,SNR=19
PPLA Purkeypile 64.48 30 P P 20 37 18.9 +1.2
PPLA Purkeypile 64.48 30 P P 20 37 18.9 +1.2
baz=276,SNR=11
COLD Coldfoot 64.86 25 P P 20 37 20.8 +0.9
COLD Coldfoot 64.86 25 P P 20 37 20.6 +0.7
baz=276
MLY Manley 64.88 28 P P 20 37 21.5 +1.4
MLY IAmb IAmb 20 37 22.5
comp=Z,9.7nm,0.8s
MLY Manley 64.88 28 P P 20 37 21.2 +1.1
baz=276,SNR=12
BPAW Bear Paw Mtn. 64.88 29 P P 20 37 21.4 +1.3
BPAW Bear Paw Mtn. 64.88 29 P P 20 37 21.2 +1.1
baz=277,SNR=14
KDAK Kodiak Island 64.93 36 P P 20 37 20.6 +0.1
comp=Z,4.7nm,0.3s,baz=338,slow=4.1,SNR=22
KDAK Kodiak Island 64.93 36 P P 20 37 21.0 +0.6
KDAK pmax pmax
comp=Z,68nm,1.5s
KDAK Kodiak Island 64.93 36 P P 20 37 21.0 +0.6
KDAK Kodiak Island 64.93 36 P P 20 37 21.9 +1.4
baz=278
TOLK Toolik Lake Re 64.95 24 P P 20 37 21.3 +0.8
TOLK Toolik Lake Re 64.95 24 P P 20 37 21.3 +0.8
baz=276
KTH Kantishna Hill 64.97 29 P P 20 37 21.7 +0.9
KTH IAmb IAmb 20 37 22.3
comp=Z,8.2nm,0.5s
HOM Homer 65.14 34 P P 20 37 23.3 +1.5
baz=278
TRF Thorofare Moun 65.27 30 P P 20 37 23.3 +0.5
TRF IAmb IAmb 20 37 29.3
comp=Z,8.1nm,0.7s
TRF Thorofare Moun 65.27 30 P P 20 37 23.7 +0.9
baz=278,SNR=6.1
CUT Chulitna 65.42 31 P P 20 37 23.9 +0.4
CUT Chulitna 65.42 31 P P 20 37 24.0 +0.5
baz=278,SNR=8.5
I23K Minto, Yukon-K 65.44 28 P P 20 37 25.0 +1.4
I23K Minto, Yukon-K 65.44 28 P P 20 37 25.3 +1.6
baz=278,SNR=11
BRLK Bradley Lake 65.51 34 P P 20 37 24.6 +0.3
BRLK IAmb IAmb 20 37 26.6
comp=Z,15nm,0.9s
M22K Willow 65.58 31 P P 20 37 24.9 +0.3
baz=279
BRSE Bradley Lake S 65.58 34 P P 20 37 25.1 +0.4
baz=279
NEA2 Nenana 65.64 28 P P 20 37 25.6 +0.6
NEA2 Nenana 65.64 28 P P 20 37 25.7 +0.7
baz=278,SNR=19
MCK McKinley 65.83 29 P P 20 37 26.5 +0.3
MCK pmax pmax
comp=Z,19nm,0.7s
MCK McKinley 65.83 29 P P 20 37 26.5 +0.3
MCK McKinley 65.83 29 P P 20 37 26.5 +0.3
baz=279,SNR=16
RC01 Rabbit Creek A 65.87 32 P P 20 37 27.0 +0.5
RC01 Rabbit Creek A 65.87 32 P P 20 37 26.9 +0.5
baz=279
KLMR Klimovskoe 65.88 328 *e*P P 20 37 22.5 -4.0
KLMR *e**PP pP 20 37 51.5 -2.2
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 65.88 328 *e*P P 20 37 22.5 -4.0
KLMR AMP 20 37 26.1
comp=Z,16nm,1.5s
KLMR epP pP 20 37 51.6 -2.2
RND Reindeer 65.91 29 P P 20 37 27.0 +0.2
RND pmax pmax
comp=Z,50nm,0.6s
RND Reindeer 65.91 29 P P 20 37 27.0 +0.2
MDM Murphy Dome 65.94 28 P P 20 37 28.2 +1.3
H24K Noodor Dome 65.96 27 P P 20 37 29.0 +1.9
H24K IAmb IAmb 20 37 29.8
comp=Z,10nm,1.0s
PMR Palmer 66.07 31 P P 20 37 28.1 +0.4
PMR pmax pmax
comp=Z,12nm,0.6s
PMR Palmer 66.07 31 P P 20 37 28.1 +0.4
PMR Palmer 66.07 31 P P 20 37 27.9 +0.2
baz=280,SNR=6.4
WRH Wood River Hil 66.08 28 P P 20 37 28.7 +0.9
WRH IAmb IAmb 20 37 32.7
comp=Z,7.1nm,0.7s
TCOL CIGO, UAF Yank 66.11 28 P P 20 37 28.1 +0.1
TCOL IAmb IAmb 20 37 30.9
comp=Z,11nm,0.9s
TCOL CIGO, UAF Yank 66.11 28 P P 20 37 28.9 +1.0
baz=279
COLA College 66.12 28 *i* P P 20 37 29.3 +1.3
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 66.12 28 P P 20 37 28.9 +1.0
COLA IAmb IAmb 20 37 30.9
comp=Z,13nm,0.9s
COLA College 66.12 28 P P 20 37 28.9 +1.0
baz=279
SEW Seward 66.17 33 P P 20 37 28.5 +0.2
baz=280
CCB Clear Creek Bu 66.17 28 P P 20 37 29.0 +0.6
CCB IAmb IAmb 20 37 29.8
comp=Z,5.3nm,0.5s
POKR Poker Plat Res 66.25 28 P P 20 37 29.8 +0.9
POKR Poker Plat Res 66.25 28 P P 20 37 29.7 +0.9
baz=279,SNR=10
SML Sawmill 66.41 31 P P 20 37 30.8 +0.8
SML pmax pmax
comp=Z,17nm,1.0s
SML Sawmill 66.41 31 P P 20 37 30.8 +0.8
SML IAmb IAmb 20 37 34.0
comp=Z,17nm,1.0s
SML Sawmill 66.41 31 P P 20 37 30.6 +0.6
baz=280,SNR=7.5
KNK Knik Glacier 66.42 32 P P 20 37 30.9 +0.8
KNK Knik Glacier 66.42 32 P P 20 37 30.4 +0.4
baz=280,SNR=9.8
IL31 66.54 28 P P 20 37 30.6 0.0
ILAR Eielson Array 66.54 28 P P 20 37 30.6 -0.1
comp=Z,3.8nm,0.5s,baz=253,slow=4.8,SNR=82
ILAR Eielson Array 66.54 28 P P 20 37 30.2 -0.5
WAT6 Susitna Watana 66.55 30 P P 20 37 31.3 +0.3
baz=280,SNR=10.0
HDA Harding Lake 66.58 28 P P 20 37 31.2 +0.2
HDA IAmb IAmb 20 37 31.9
comp=Z,13nm,0.9s
HDA Harding Lake 66.58 28 P P 20 37 30.8 -0.2
baz=280,SNR=11
PWL Port Wells 66.58 32 P P 20 37 31.2 +0.2
PWL Port Wells 66.58 32 P P 20 37 31.2 +0.2
baz=280,SNR=9.6
DHY Denali Highway 66.63 30 P P 20 37 31.3 -0.1
DHY IAmb IAmb 20 37 36.0
comp=Z,9.0nm,0.6s
DHY Denali Highway 66.63 30 P P 20 37 31.8 +0.3
baz=280,SNR=9.9
GNI Garni 66.83 305 LR LR 21 12 13.4
comp=Z,32nm,19.3s,baz=172,slow=41
SCM Sheep Creek Mo 66.88 31 P P 20 37 33.7 +0.7
SCM pmax pmax
comp=Z,32nm,0.6s
SCM Sheep Creek Mo 66.88 31 P P 20 37 33.7 +0.7
SCM Sheep Creek Mo 66.88 31 P P 20 37 33.6 +0.7
baz=281,SNR=12
FYU Fort Yukon 66.89 26 P P 20 37 34.8 +1.9
FYU IAmb IAmb 20 37 35.7
comp=Z,22nm,1.5s
PRP Porcupine Dome 66.97 27 P P 20 37 34.2 +0.6
baz=281
BMAR Burnt Mountain 66.98 25 P P 20 37 35.4 +1.8
GLI Glacier Island 67.17 32 P P 20 37 35.2 +0.4
baz=282
J25K Salcha River, 67.21 28 P P 20 37 34.5 -0.6
J25K Salcha River, 67.21 28 P P 20 37 34.7 -0.4
baz=281
KBZ Khabaz 67.29 309 P P 20 37 36.1 +0.3
comp=Z,4.8nm,0.7s,baz=146,slow=3.5,SNR=12
KBZ Khabaz 67.29 309 *ce*P P 20 37 36.9 +1.1
KBZ pmax pmax
comp=Z,5.0nm,0.8s
M24K Tolsona, Glenn 67.36 31 P P 20 37 37.2 +1.2
M24K Tolsona, Glenn 67.36 31 P P 20 37 37.0 +1.0
baz=282,SNR=16
KIV Kislovodsk 67.38 309 *e*P P 20 37 37.7 +1.2
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 67.38 309 P P 20 37 37.1 +0.6
KIV IAmb IAmb 20 37 38.1
comp=Z,11nm,0.8s
FID Port Fidalgo 67.49 32 P P 20 37 37.9 +1.0
PAX Paxson 67.50 30 P P 20 37 37.5 +0.6
PAX pmax pmax
comp=Z,10.0nm,0.6s
PAX Paxson 67.50 30 P P 20 37 37.5 +0.6
PAX IAmb IAmb 20 37 39.6
comp=Z,9.9nm,0.6s
PAX Paxson 67.50 30 P P 20 37 37.7 +0.8
baz=282,SNR=15
KLU Klutina 67.60 31 P P 20 37 38.2 +0.6
KLU Klutina 67.60 31 P P 20 37 38.6 +1.0
baz=282,SNR=12
RIDG Independent Ri 67.61 29 P P 20 37 37.2 -0.4
RIDG IAmb IAmb 20 37 39.1
comp=Z,12nm,0.8s
RIDG Independent Ri 67.61 29 P P 20 37 37.8 +0.2
baz=282,SNR=13
SOCY Socotra 67.71 273 P P 20 37 38.0 -1.1
SOCY IAmb IAmb 20 37 39.3
comp=Z,16nm,1.2s
DIV Divide 67.75 32 P P 20 37 39.2 +0.7
HARP HAARP 67.76 30 P P 20 37 39.9 +1.4
baz=282,SNR=5.4
EYAK Cordova Ski Ar 67.89 32 P P 20 37 40.4 +1.2
baz=283
SCRK Sand Creek 67.94 28 P P 20 37 40.4 +0.7
SCRK IAmb IAmb 20 37 40.6
comp=Z,6.9nm,0.6s
SCRK Sand Creek 67.94 28 P P 20 37 40.0 +0.3
baz=283,SNR=10
DOT Dot Lake 67.97 29 P P 20 37 40.2 +0.4
DOT IAmb IAmb 20 37 41.1
comp=Z,11nm,0.6s
J26L Joseph Creek 68.00 28 P P 20 37 40.2 +0.2
baz=283,SNR=16
N25K Chitina, Valde 68.20 31 P P 20 37 42.6 +1.3
N25K IAmb IAmb 20 37 43.8
comp=Z,6.4nm,0.6s
N25K Chitina, Valde 68.20 31 P P 20 37 42.4 +1.1
baz=283,SNR=6.1
MENT Mentasta 68.29 29 P P 20 37 43.2 +1.4
MENT IAmb IAmb 20 37 44.0
comp=Z,12nm,0.7s
BMRM Bremner River 68.34 32 P P 20 37 43.1 +0.9
BMRM IAmb IAmb 20 37 45.8
comp=Z,11nm,1.0s
BMRM Bremner River 68.34 32 P P 20 37 42.9 +0.7
baz=284
L26K Log Cabin Wild 68.43 29 P P 20 37 43.9 +1.2
L26K Log Cabin Wild 68.43 29 P P 20 37 43.8 +1.1
baz=284,SNR=8.4
OBN Obninsk 68.57 322 *i* P P 20 37 45.5 +1.9
OBN *i* *PP pwP 20 38 11.8 -1.3
OBN pmax pmax
comp=Z,7.0nm,1.6s
GLB Gilahina Butte 68.60 31 P P 20 37 44.6 +0.8
VRDI Verde Repeater 68.82 31 P P 20 37 46.6 +1.3
VRDI IAmb IAmb 20 37 47.1
comp=Z,12nm,0.6s
EGAK Eagle 68.94 27 P P 20 37 46.5 +0.8
EGAK IAmb IAmb 20 37 47.4
comp=Z,8.9nm,0.7s
EGAK Eagle 68.94 27 P P 20 37 46.6 +0.8
baz=285,SNR=7.3
SPITS Spitsbergen Ar 68.95 348 P P 20 37 44.3 -1.3
comp=Z,22nm,1.1s,baz=84,slow=7.7,SNR=14
MCARA McCarthy VSAT 68.98 31 P P 20 37 47.2 +1.1
MCARA IAmb IAmb 20 37 49.1
comp=Z,10nm,0.7s
MCARA McCarthy VSAT 68.98 31 P P 20 37 47.1 +1.1
baz=285,SNR=7.7
L27K Beaver Creek, 69.09 29 P P 20 37 47.6 +0.8
BCAR Beaver Creek A 69.11 29 P P 20 37 48.0 +1.1
M27K Edge Creek, AK 69.26 30 P P 20 37 49.2 +1.2
M27K IAmb IAmb 20 37 49.7
comp=Z,10nm,0.5s
WAX Waxell Ridge 69.30 32 P P 20 37 49.3 +1.1
WAX IAmb IAmb 20 37 50.1
comp=Z,12nm,0.6s
ISLE Juniper Island 69.51 32 P P 20 37 50.2 +0.6
ISLE IAmb IAmb 20 37 51.0
comp=Z,8.9nm,0.6s
ARCES ARCESS Array B 69.60 338 P P 20 37 49.4 -0.4
comp=Z,2.2nm,0.8s,baz=73,slow=7.3,SNR=16
BVCY Beaver Creek 69.70 30 P P 20 37 51.8 +1.2
baz=286
BARN Barnard Glacie 69.70 31 P P 20 37 51.5 +0.7
BARN IAmb IAmb 20 37 52.8
comp=Z,10nm,0.6s
DAWY Dawson 69.87 28 P P 20 37 52.9 +1.4
DAWY IAmb IAmb 20 37 53.6
comp=Z,8.8nm,0.6s
DAWY Dawson 69.87 28 P P 20 37 52.6 +1.0
baz=287,SNR=9.6
CTG Chitna Glacier 69.88 31 P P 20 37 52.9 +1.1
baz=286,SNR=6.8
I29M Ogilvie Camp, 69.94 26 P P 20 37 53.1 +1.2
I29M IAmb IAmb 20 37 54.3
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 69.94 26 P P 20 37 53.1 +1.2
baz=287
YUK3 Moose Creek 70.06 30 P P 20 37 54.4 +1.4
baz=287
EPYK Eagle Plains 70.25 25 P P 20 37 54.3 +0.5
EPYK IAmb IAmb 20 37 56.1
comp=Z,12nm,0.7s
EPYK Eagle Plains 70.25 25 P P 20 37 54.4 +0.5
baz=288,SNR=8.3
MARD Mardin 70.59 303 P P 20 37 55.6 -0.9
MARD IAmb IAmb 20 37 58.8
comp=Z,12nm,0.6s
INK Inuvik 70.78 23 P P 20 37 57.4 +0.5
comp=Z,3.6nm,0.5s,baz=197,slow=18,SNR=4.2
INK Inuvik 70.78 23 P P 20 37 57.4 +0.5
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 70.78 23 P P 20 37 57.4 +0.5
INK Inuvik 70.78 23 P P 20 37 58.0 +1.1
baz=290
YUK4 Talbot Arm 71.02 30 P P 20 38 00.0 +1.3
baz=288
PNL Peninsula 71.19 32 P P 20 38 01.1 +1.5
baz=288
YUK6 Outpost Mounta 71.27 31 P P 20 38 02.1 +1.7
baz=289
M30M Minto, Yukon 71.45 29 P P 20 38 03.2 +2.0
M30M IAmb IAmb 20 38 04.4
comp=Z,13nm,0.6s
M30M Minto, Yukon 71.45 29 P P 20 38 03.0 +1.8
baz=289,SNR=17
MAYO Mayo, Yukon 71.49 28 P P 20 38 03.1 +1.7
baz=290
HYT Haines Junctio 71.71 31 P P 20 38 04.6 +1.8
HYT IAmb IAmb 20 38 05.6
comp=Z,8.5nm,0.6s
HYT Haines Junctio 71.71 31 P P 20 38 03.9 +1.1
baz=289,SNR=5.9
A36M Sachs Harbour 71.90 18 P P 20 38 04.5 +0.9
baz=297
FIA1 FINESS Array S 72.03 330 P P 20 38 04.2 -0.4
FIA1 IAmb IAmb 20 38 05.1
comp=Z,8.6nm,0.8s
FINES FINESS Array B 72.03 330 P P 20 38 04.4 -0.1
comp=Z,7.6nm,0.7s,baz=62,slow=5.8,SNR=29
FINES pP pwP 20 38 32.2 +0.2
comp=Z,3.2nm,0.7s,baz=42,slow=6.4,SNR=3.6
FINES LR LR 21 14 07.3
comp=Z,82nm,18.2s,baz=166,slow=39
FINES FINESS Array B 72.03 330 P P 20 38 04.2 -0.4
N31M Braeburn, Yuko 72.27 30 P P 20 38 08.2 +2.2
N31M IAmb IAmb 20 38 08.9
comp=Z,15nm,0.7s
N31M Braeburn, Yuko 72.27 30 P P 20 38 08.0 +1.9
baz=291,SNR=6.0
M31M Drury Creek, Y 72.63 29 P P 20 38 09.7 +1.5
M31M IAmb IAmb 20 38 10.5
comp=Z,10nm,0.6s
M31M Drury Creek, Y 72.63 29 P P 20 38 09.5 +1.4
baz=292,SNR=6.0
WHY Whitehorse 72.97 30 P P 20 38 10.8 +0.4
WHY IAmb IAmb 20 38 13.1
comp=Z,11nm,0.6s
WHY Whitehorse 72.97 30 P P 20 38 11.7 +1.4
baz=292,SNR=8.2
FARO Faro, Yukon 73.07 29 P P 20 38 12.3 +1.5
baz=292,SNR=9.5
C36M Paulatuk 73.48 20 P P 20 38 12.6 -0.3
C36M IAmb IAmb 20 38 16.4
comp=Z,6.3nm,0.5s
C36M Paulatuk 73.48 20 P P 20 38 13.0 +0.1
baz=298,SNR=9.1
MMPY Sheldon Lake, 73.81 28 P P 20 38 16.4 +1.3
baz=294
IDID Didziasalis 73.88 324 *e*P P 20 38 16.1 +0.6
NACGM Naroch 74.00 323 *i* P P 20 38 11.4 -4.9
P33M Teslin, Yukon 74.09 30 P P 20 38 18.1 +1.3
P33M Teslin, Yukon 74.09 30 P P 20 38 18.2 +1.3
baz=293,SNR=5.7
AKASG Malin Array Be 74.13 319 P P 20 38 16.1 -1.0
comp=Z,0.9nm,0.5s,baz=56,slow=6.1,SNR=5.7
AKASG Malin Array Be 74.13 319 P P 20 38 16.1 -1.0
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 74.13 319 IAmb IAmb 20 38 19.0
comp=Z,1.6nm,1.0s
IIGN Ignalina 74.14 324 *e*P P 20 38 15.5 -1.6
BRTR Keskin Array B 75.09 307 P P 20 38 23.6 +0.4
comp=Z,3.9nm,0.8s,baz=80,slow=7.7,SNR=12
BRTR Keskin Array B 75.09 307 *ce*P P 20 38 23.8 +0.7
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 75.09 307 P P 20 38 22.9 -0.2
PABE Paberze 75.26 325 P P 20 38 23.8 +0.2
PABE IAmb IAmb 20 38 29.3
comp=Z,29nm,1.4s
ASF Jabal al Asfar 75.30 299 P P 20 38 25.1 +0.7
comp=Z,1.5nm,0.5s,baz=324,slow=6.2,SNR=4.1
TGTN Hyland Airport 75.55 28 P P 20 38 26.5 +1.3
baz=297
DLBC Dease Lake 76.14 32 P P 20 38 30.0 +1.4
comp=Z,4.9nm,0.9s,baz=321,slow=5.1,SNR=8.3
SUW Suwalki 76.29 323 P P 20 38 29.3 -0.1
SUW pmax pmax
comp=Z,30nm,0.9s
SUW Suwalki 76.29 323 P P 20 38 29.3 -0.1
WRGLY Wrigley 76.71 26 P P 20 38 33.0 +1.4
baz=300
RES Resolute Bay 76.85 10 P P 20 38 31.8 -0.5
comp=Z,1.6nm,0.6s,baz=304,slow=5.9,SNR=7.9
RES Resolute Bay 76.85 10 P P 20 38 31.6 -0.7
CSS Mathiatis 77.06 303 P P 20 38 34.5 +0.3
CSS IAmb IAmb 20 38 35.9
comp=Z,9.9nm,0.7s
VIKU Vikbolandet 77.53 329 *e*P P 20 38 36.5 +0.2
BUR08 Bucovina Ar. S 77.74 317 P P 20 38 37.7 -0.2
BURAR Bucovina Array 77.74 317 P P 20 38 37.5 -0.4
BURAR pmax pmax
comp=Z,1.0nm,0.7s
BURAR Bucovina Array 77.74 317 P P 20 38 37.5 -0.4
MLR Muntele Rosu 78.15 315 P P 20 38 39.7 -0.5
MLR pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,12nm,1.5s						
MLR	Muntele Rosu	78.15	315	P	P	20 38 39.7	-0.5
NC405	NORSAR Array S	78.39	333	P	P	20 38 41.3	+0.2
NC405				IAmb	IAmb	20 38 43.4	
	comp=Z,19nm,0.9s						
KWP	Kalwaria Pacla	78.40	320	P	P	20 38 41.6	+0.2
KWP				pmax	pmax		
	comp=Z,189nm,1.4s						
KWP	Kalwaria Pacla	78.40	320	P	P	20 38 41.6	+0.2
NB201	NORSAR Array S	78.60	333	P	P	20 38 42.7	+0.5
NB2	NORSAR Subarra	78.64	333	P	P	20 38 42.5	0.0
	comp=Z,1.9nm,0.7s,baz=55,slow=5.6						
NOA	NORSAR Array B	78.64	333	P	P	20 38 42.1	-0.3
	comp=Z,2.8nm,0.7s,baz=55,slow=5.4,SNR=14						
NOA				LR	LR	21 15 20.5	
	comp=Z,30nm,18.6s,baz=15,slow=37						
NORES	NORESS Array B	78.67	333	P	P	20 38 43.0	+0.4
NC204	NORSAR Array S	78.70	333	P	P	20 38 43.0	+0.2
NC204				IAmb	IAmb	20 39 07.0	
	comp=Z,17nm,1.3s						
ELL	Elmali	78.93	305	P	P	20 38 44.4	-0.3
ELL				pmax	pmax		
	comp=Z,24nm,0.6s						
ELL	Elmali	78.93	305	P	P	20 38 44.4	-0.3
QRZ	Quartz Range	79.42	145	P	P	20 38 47.5	+0.6
OJC	Ojcow	79.82	321	P	P	20 38 49.4	+0.3
OJC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OJC	Ojcow	79.82	321	P	P	20 38 49.4	+0.3
YKA	Yellowknife Ar	80.48	24	P	P	20 38 53.0	+0.7
	comp=Z,9.0nm,0.5s,baz=302,slow=5.2,SNR=182						
YKA				pP	pwP	20 39 21.7	-1.1
	comp=Z,1.1nm,0.6s,baz=307,slow=5.2,SNR=1.8						
RPZ	Rata Peaks	80.83	148	P	P	20 38 55.0	+0.7
RPZ				IAmb	IAmb	20 38 55.9	
	comp=Z,20nm,0.8s						
VTS	Vitosha	81.15	313	P	P	20 38 56.9	+0.4
VTS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VTS	Vitosha	81.15	313	P	P	20 38 56.9	+0.4
SUMG	Summit	81.56	355	P	P	20 38 59.0	+0.6
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SUMG	Summit	81.56	355	P	P	20 38 59.0	+0.6
VRAC	Vranov	82.08	321	LR	LR	21 18 59.5	
	comp=Z,58nm,20.7s,baz=33,slow=38						
DIVS	Divibare	82.57	315	P	P	20 39 05.6	+1.7
CLL	Collm	83.02	324	*e*P	P	20 39 06.0	+0.1
CLL				*e**PP	pwP	20 39 35.0	-1.1
CLL	Collm	83.02	324	*e*P	P	20 39 06.0	+0.1
CLL				*e*pP	pwP	20 39 35.0	-1.1
GERES	GERESS Array B	83.95	322	P	P	20 39 11.7	+0.8
	comp=Z,0.9nm,0.8s,baz=210,slow=4.3,SNR=3.8						
A04D	Lummi Island	84.73	38	P	P	20 39 16.8	+2.2
	baz=303						
D03D	Eldon	85.16	39	P	P	20 39 19.0	+2.2
	baz=303						
KMBO	Kilima Mbogo	88.32	268	P	P	20 39 33.4	+0.3
	comp=Z,0.5nm,0.3s,baz=81,slow=3.7,SNR=3.6						
KMBO	Kilima Mbogo	88.32	268	*i* P	P	20 39 35.5	+2.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
L04D	Klamath Falls	88.53	43	P	P	20 39 36.0	+2.5
	baz=304						
M02C	Callahan	88.64	44	P	P	20 39 38.2	+4.3
	baz=303						
FCC	Fort Churchill	90.09	19	P	P	20 39 39.7	-0.5
FCC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FCC	Fort Churchill	90.09	19	P	P	20 39 39.7	-0.5
FCC				IAmb	IAmb	20 39 42.3	
	comp=Z,4.6nm,0.7s						
PLID	Pearl Lake	90.58	38	P	P	20 39 46.0	+3.0
PLID				IAmb	IAmb	20 39 47.8	
	comp=Z,2.9nm,0.6s						
FFC	Flin Flon	90.60	25	P	P	20 39 43.0	+0.3
FFC				pmax	pmax		
	comp=Z,14nm,1.4s						
FFC	Flin Flon	90.60	25	P	P	20 39 43.0	+0.3
FFC				IAmb	IAmb	20 39 44.4	
	comp=Z,14nm,1.4s						
MFID	Camas Ranch	91.70	39	P	P	20 39 49.1	+0.9
MFID				IAmb	IAmb	20 39 51.6	
	comp=Z,4.9nm,0.9s						
EGMT	Eagleton	91.98	33	P	P	20 39 51.1	+1.7
	baz=313						
HLID	Hailey	92.42	39	P	P	20 39 54.0	+2.4
HLID				IAmb	IAmb	20 39 55.3	
	comp=Z,6.0nm,0.8s						
HLID	Hailey	92.42	39	P	P	20 39 54.3	+2.7
	baz=309						
BOZ	Bozeman (W)	92.64	36	P	P	20 39 55.0	+2.5
	baz=311						
NVAR	Mina Array Bea	93.20	45	P	P	20 39 57.0	+1.6
	comp=Z,1.0nm,0.7s,baz=297,slow=4.1,SNR=7.1						
R11A	Troy Canyon, C	94.96	43	P	P	20 40 05.6	+2.2
	baz=308						
MPMC	Manual Prospec	95.13	46	P	P	20 40 06.6	+2.4
	baz=307						
PDAR	Pinedale Array	95.63	37	P	P	20 40 07.5	+1.1
	comp=Z,0.3nm,0.6s,baz=293,slow=2.5,SNR=2.5						
TORD	Torodi Ar. Bea	112.65	298	PKiKP	PKiKP	20 45 16.9	-0.4
	comp=Z,0.5nm,0.8s,baz=105,slow=2.1,SNR=4.2						

TRN 03 20:35:42.8, 16°.77N×61°.14W, h26km, MD3.9, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	0.44	228	⇓*i*P	Pn	20 35 54.4	+0.9
ABD				*e*S	Sn	20 36 01.9	+1.3
ANBD	Bethesda, Anti	0.66	295	*e*P	Pn	20 35 57.4	+0.9
ANBD				*e*S	Sn	20 36 07.6	+1.6
CBE	Ff, Capester	0.82	213	*e*P	Pn	20 36 00.2	+1.4
CBE				*e*S	Sn	20 36 12.7	+2.5
MAGL	Barre de l'ile	0.83	189	*e*P	Pn	20 36 00.1	+1.2
MAGL				*e*S	Sn	20 36 13.2	+3.0
TDBA	Terre de Bas,	1.03	207	*e*P	Pb	20 36 03.0	+1.0
TDBA				*e*S	Sn	20 36 18.4	+3.2
TBG	Guadaloupe-3	1.03	208	*e*P	Pb	20 36 03.2	+1.2
ANWB	Willy Bob	1.08	326	*e*P	Pb	20 36 03.2	+0.3
ANWB				*e*S	Sb	20 36 18.2	+1.5
MDVC	Dominica, Viel	1.18	192	*e*P	Pb	20 36 05.4	+0.9
MDVC				*e*S	Sb	20 36 22.3	+3.0
MDCT	Cottage Hill,	1.19	195	*e*P	Pb	20 36 06.3	+1.6
MDCT				*e*S	Sb	20 36 22.4	+2.8
DSLB	Salisbury	1.35	191	*e*P	Pb	20 36 08.0	+0.5
DSLB				*e*S	Sb	20 36 26.4	+2.1
DLPL	La Plaine	1.43	184	*e*P	Pb	20 36 09.3	+0.5
DLPL				*e*S	Sb	20 36 27.0	+0.2
MDN	Morne-Daniel	1.46	189	*e*P	Pb	20 36 09.4	0.0
MDN				*e*S	Sb	20 36 28.8	+1.3
SKOC	St. Kitts, UWI	1.61	289	*e*P	Pb	20 36 11.8	-0.1
SKOC				*e*S	Sb	20 36 32.4	+0.7
SKI	Saint Kitts	1.63	290	*e*P	Pb	20 36 11.9	-0.2
SKI				*e*S	Sb	20 36 32.2	-0.1
SEUS	St. Eustatius	1.90	293	*e*P	Pb	20 36 16.2	-0.6
SEUS				*e*S	Sb	20 36 39.8	-0.4
SVN	Savane Anatole	1.92	181	*e*P	Pb	20 36 15.7	-1.5
BAMF	Morne Balai	1.94	180	*e*P	Pb	20 36 16.4	-1.2
PCM	Pelee Case Pet	1.94	182	*e*P	Pn	20 36 15.9	+1.7
GBMF	Grand Be	1.96	181	*e*P	Pn	20 36 16.2	+1.7
PML	Morne Lenard	1.98	181	*e*P	Pn	20 36 16.2	+1.5
ILAM	Ilet Lapin Mar	2.00	172	*e*P	Pn	20 36 15.9	+0.9
ILAM				*e*S	Sn	20 36 40.4	+1.3
FDF	Fort de France	2.02	180	*e*P	Pn	20 36 16.6	+1.2
FDF				*e*S	Sn	20 36 41.7	+1.9
ZAM	Aeronautique	2.19	177	*e*P	Pb	20 36 19.9	-1.9
MVM	Montagne Vaucl	2.21	174	*e*P	Pn	20 36 19.9	+1.9
TRMF	Trois Ilets	2.22	178	*e*P	Pn	20 36 19.8	+1.8
BIM	Bigot	2.24	178	*e*P	Pn	20 36 19.7	+1.4
BIM				*e*S	Sb	20 36 47.7	-2.3
SMRT	St. Maarten	2.24	305	*e*P	Pn	20 36 20.2	+1.9
SMRT				*e*S	Sb	20 36 48.5	-1.5
MPOM	Morne Pois Mar	2.33	173	*e*P	Pn	20 36 20.6	+1.2
MPOM				*e*S	Sn	20 36 48.9	+1.7
SLBI	Saint Lucia, B	2.73	177	*e*P	Pn	20 36 26.9	+1.9
SLBI				*e*S	Sn	20 36 59.1	+1.8
MCLT	Moule a Chique	3.05	176	*e*P	Pn	20 36 32.1	+2.7
MCLT				*e*S	Sn	20 37 06.5	+1.4
GCMP	Grenada, Carri	4.27	184	*e*P	Pn	20 36 48.4	+2.2

*ATH **03** 20:52:17.6, 38°.38N×20°.49E, h20km±2km, ML2.7/5, Error ellipse: s-maj=2.7km s-min=0.7km az=268.0*
*THE **03** 20:52:18.1, 38°.39N×20°.44E, h12km, ML3.0/5, Error ellipse: s-maj=1.1km s-min=0.3km az=282.0*
ISC 03 20:52:17.7±0.8**, 38°.38N**±0°.02×**20°.45E**±0°.03**, h17**km±5km**, n43, σ0s.52**/66**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FSK	Fiskardo	0.11	49	P	Pg	20 52 21.2	-0.2
FSK				AML	AML	20 52 23.2	
	comp=N,16520µm,0.2s						
FSK				AML	AML	20 52 26.5	
	comp=E,18321µm,0.4s						
FSK	Fiskardo	0.11	49	P	Pg	20 52 21.2	-0.2
FSK				S	Sg	20 52 23.1	-0.7
	comp=E,9µm,0.3s						
KEF4	Livadi, Kephal	0.13	190	P	Pb	20 52 22.0	+0.3
KEF4	Livadi, Kephal	0.13	190	P	Pg	20 52 21.4	-0.1
KEF4				S	Sg	20 52 24.0	0.0
DMLN	Damoulianata-K	0.16	203	P	Pg	20 52 22.0	0.0
DMLN				S	Sg	20 52 25.1	+0.4
DMLN	Damoulianata-K	0.16	203	P	Pg	20 52 21.9	0.0
DMLN				S	Sg	20 52 25.0	+0.2
	comp=E,13µm,0.3s						
LXRA	Lixouri, Kepha	0.18	184	P	Pg	20 52 22.4	+0.1
LXRA				S	Sb	20 52 26.3	+0.3
KEF3	Kipouria, Keph	0.20	205	P	Pg	20 52 22.3	-0.2
KEF3	Kipouria, Keph	0.20	205	P	Pg	20 52 22.1	-0.4
KEF3				S	Sg	20 52 25.5	-0.2
ARGA	Argostoli. Kep	0.21	174	P	Pg	20 52 22.9	+0.3
ARGA				S	Sb	20 52 26.4	-0.2
VLS	Valsamata	0.23	153	P	Pg	20 52 22.8	-0.2
VLS				S	Sg	20 52 26.8	+0.2
VLS				AML	AML	20 52 28.0	
	comp=N,5674µm,0.1s						
VLS				AML	AML	20 52 28.2	
	comp=E,6265µm,0.1s						
VLS	Valsamata	0.23	153	P	Pg	20 52 22.9	-0.2
EVGI	Lefkada island	0.28	34	P	Pg	20 52 23.9	-0.1
EVGI				S	Sg	20 52 28.5	+0.3
EVGI	Lefkada island	0.28	34	P	Pg	20 52 23.8	-0.1
EVGI				S	Sb	20 52 28.6	-0.3
PSDA	Pessada-Kefalo	0.29	159	P	Pg	20 52 23.9	0.0
PSDA				S	Sg	20 52 27.9	-0.3
PSDA	Pessada-Kefalo	0.29	159	P	Pg	20 52 24.0	+0.1
PSDA				S	Sb	20 52 29.1	+0.2
DRAG	Dragano-Lefkad	0.31	18	P	Pg	20 52 24.4	0.0
DRAG				S	Sg	20 52 29.1	+0.2
DRAG	Dragano-Lefkad	0.31	18	P	Pg	20 52 24.4	0.0
DRAG				S	Sb	20 52 29.6	-0.1
	comp=E,5µm,0.3s						
NYDR	Nydri-Lefkada	0.38	30	P	Pg	20 52 25.4	-0.1
NYDR				S	Sg	20 52 31.4	+0.5
NYDR	Nydri-Lefkada	0.38	30	P	Pg	20 52 25.4	-0.1
NYDR				S	Sg	20 52 31.3	+0.5
LKD2	Lefkada island	0.43	22	P	Pg	20 52 26.4	-0.1
LKD2				S	Sb	20 52 33.2	-0.1
LKD2				AML	AML	20 52 34.7	
	comp=E,2225µm,0.3s						
LKD2				AML	AML	20 52 37.0	
	comp=N,2248µm,0.6s						
LKD2	Lefkada island	0.43	22	P	Pg	20 52 26.4	-0.1
TSLK	Tsoukalades, L	0.47	20	P	Pg	20 52 27.1	0.0
TSLK	Tsoukalades, L	0.47	20	P	Pg	20 52 27.1	0.0
TSLK				S	Sb	20 52 34.4	+0.3
	comp=N,1µm,0.5s						
LTHK	Lithakia	0.74	156	P	Pg	20 52 31.6	-0.5
LTHK	Lithakia	0.74	156	P	Pg	20 52 31.7	-0.5
LTHK				S	Sn	20 52 43.8	-0.4
RLS	Riolos of Patr	0.86	112	P	Pb	20 52 33.4	-0.8
RLS				AML	AML	20 52 57.4	
	comp=N,567µm,0.5s						
RLS				AML	AML	20 52 57.5	
	comp=E,744µm,0.8s						
RLS	Riolos of Patr	0.86	112	P	Pg	20 52 34.6	+0.1
DRO	Drossia	1.08	113	P	Pb	20 52 38.1	+0.2
DRO				S	Sn	20 52 54.0	+1.3
	comp=E,522nm,0.6s						
IGT	Igoumenitsa	1.15	355	P	Pb	20 52 39.7	+0.6
IGT				AML	AML	20 52 58.9	
	comp=N,447µm,0.4s						
IGT				AML	AML	20 52 59.7	
	comp=E,643µm,0.7s						
EVR	Evrytania	1.19	63	P	Pn	20 52 39.8	+0.2
LAKA	Lakka	1.21	96	P	Pn	20 52 39.8	0.0
LAKA	Lakka	1.21	96	P	Pn	20 52 39.8	0.0
LAKA				S	Sg	20 52 57.2	+0.4
TRIZ	Trizonia	1.27	90	P	Pb	20 52 41.1	-0.1
ALIK	Aliki, Aigiali	1.31	95	P	Pb	20 52 41.9	+0.1
ALIK				S	Sg	20 53 00.1	+0.1
KLV	Kalavryta, Ach	1.38	104	P	Pb	20 52 43.1	0.0
STON	Ston	4.95	336	*e*Pn	Pn	20 53 31.2	0.0
STON				Sn	Sn	20 54 25.1	-2.9
LSTV	Lastovo	5.15	329	*e*Pn	Pn	20 53 34.0	0.0
HVAR	Hvar	5.67	329	*e*Pn	Pn	20 53 41.8	+0.7
RICI	Ricice	5.69	335	*e*Pn	Pn	20 53 42.1	+0.6
KIJV	Kijevo	6.39	333	*e*Pn	Pn	20 53 52.1	+1.0
ZIRJ	Zirje	6.40	327	*e*Pn	Pn	20 53 51.3	+0.2
MORI	Morici	6.54	328	*e*Pn	Pn	20 53 54.0	+0.9

*IDC **03** 21:06:47.3±1.4, 44°.03N×105°.49W, h0km, mb3.9/1, mb1 3.6/6, mb1mx3.4/51, mbtmp3.4/6, ML2.7/4, Error ellipse: s-maj=34.9km s-min=9.6km az=145.0*
*NEIC **03** 21:06:49.6±1.8, 43°.78N±0°.05×105°.19W±0°.02, h0km±2km, ML3.5/64, Error ellipse: s-maj=8.8km s-min=3.1km az=357.0*
ISC 03 21:06:49.0±0.7**, 43°.86N**±0°.04×**105°.27W**±0°.03**, h0km, n98, σ1s.54**/105**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	73	Pg	Pg	21 07 07.2	+0.4
K22A	Casper	1.52	218		Pn	21 07 15.3	-2.3
K22A				IAML		21 07 38.5	
	comp=N,438nm,0.3s						
K22A				IAML		21 07 40.3	
	comp=E,689nm,0.7s						
PHWY	Pilot Hill	2.56	183		Pn	21 07 31.5	-0.5
PHWY				IAML		21 08 12.9	
	comp=E,113nm,0.7s						
LAO	LASA Array	2.91	347		Pn	21 07 37.4	+0.8
RLMT	Red Lodge	3.13	295		Pn	21 07 40.1	+0.4
RLMT				IAML		21 08 36.4	
	comp=E,76nm,0.6s						
RLMT				IAML		21 08 45.3	
	comp=E,81nm,1.1s						
BW06	Boulder Array	3.32	252		Pn	21 07 43.1	+0.7
BW06				IAML		21 08 43.7	
	comp=E,59nm,0.7s						
PD31	Pinedale Array	3.32	252		Pn	21 07 42.8	+0.5
PDAR	Pinedale Array	3.32	252	Pn	Pn	21 07 42.9	+0.5
	comp=E,16nm,0.3s,baz=67,slow=16,SNR=37						
PDAR				Lg	Lg	21 08 27.4	
	comp=E,10nm,0.3s,baz=73,slow=36,SNR=2.1						
PDAR	Pinedale Array	3.32	252		Pn	21 07 42.4	+0.1
PDAR				Sn	Sn	21 08 25.1	+2.6
YMP	Mirror Lake Pl	3.62	286		Pn	21 07 47.9	+1.4
YMP				IAML		21 08 48.6	
	comp=N,109nm,0.9s						
YMP				IAML		21 08 49.2	
	comp=E,133nm,0.8s						
GCMT	Greycliff	3.68	303		Pn	21 07 48.4	+1.2
LKWY	Lake	3.76	283		Pn	21 07 50.6	+2.1
LKWY				IAML		21 08 21.3	
	comp=E,58nm,0.7s						
LKWY				IAML		21 08 59.7	
	comp=E,40nm,1.7s						
OGNE	Ogallala	3.77	139	Pn	Pn	21 07 49.1	+0.7
OGNE				Pg	Pb	21 07 57.9	+1.4
H17A	Grant Village	3.86	280		Pn	21 07 51.7	+1.9
LOHW	Long Hollow	3.88	268		Pn	21 07 52.2	+2.2
FLWY	Flagg Ranch	3.93	275	Pn	Pn	21 07 51.1	+0.4
FLWY					Pb	21 07 60.0	+0.8
FLWY				Pg	Pg	21 08 05.9	+1.7
FLWY				IAML		21 09 02.8	
	comp=E,53nm,2.2s						
MOOW	Moose Ponds	3.97	270	Pb	Pb	21 08 01.9	+2.0
YNR	Norris Junctio	3.98	284		Pb	21 08 02.5	+2.4
YNR				Pg	Pg	21 08 06.0	+0.7
SNOW	Snow King Moun	4.00	266		Pn	21 07 53.7	+2.0
SNOW				IAML		21 09 07.2	
	comp=E,76nm,1.6s						
SNOW				IAML		21 09 25.0	
	comp=E,52nm,0.8s						
ISCO	Idaho Springs	4.06	184	Pn	Pn	21 07 52.4	-0.3
ISCO				IAML		21 08 58.4	
	comp=E,39nm,1.2s						
REDW	Red Top Meadow	4.09	265	Pb	Pb	21 08 01.1	-0.9
REDW				Pg	Pg	21 08 05.2	-2.0
REDW				IAML		21 09 11.4	
	comp=E,55nm,1.6s						
REDW				IAML		21 09 16.1	
	comp=E,89nm,1.6s						
YHH	Holmes Hill	4.11	285		Pn	21 07 55.8	+2.5
TPAW	Teton Pass	4.14	267	IAML		21 09 14.9	
	comp=E,68nm,0.8s						
TPAW				IAML		21 09 18.8	
	comp=E,32nm,1.4s						
YMR	Madison River	4.17	283		Pb	21 08 05.0	+1.6
YMR				IAML		21 09 32.3	
	comp=E,52nm,0.9s						
YMR				IAML		21 09 38.7	
	comp=N,48nm,1.0s						
E28A	Huff	4.22	48		Pn	21 07 55.5	+0.9
O20A	White River Ci	4.33	212	Pn	Pn	21 07 56.2	-0.1
O20A				IAML		21 09 19.3	
	comp=N,87nm,2.2s						
O20A				IAML		21 09 59.6	
	comp=E,62nm,2.1s						
AHID	Auburn Hatcher	4.39	258	Pn	Pn	21 07 58.5	+1.4
AHID					Pb	21 08 09.2	+2.0
AHID				IAML		21 09 13.5	
	comp=E,66nm,0.8s						
AHID				IAML		21 09 28.0	
	comp=E,31nm,1.3s						
ECR	Eagle Creek	4.52	262	Pn	Pn	21 07 59.8	+1.0
ECR				Pg	Pb	21 08 12.9	+3.7
SUSD	Miller	4.58	80		Pb	21 08 12.2	+2.0
DGMT	Dagmar	4.67	9		Pn	21 08 03.3	+2.6
DGMT				Pb	Pb	21 08 14.3	+2.5
DGMT				Pg	Pg	21 08 18.4	-0.1
SMCO	Snowmass	4.85	196		Pb	21 08 17.5	+2.5
SMCO				IAML		21 09 22.6	
	comp=E,24nm,1.0s						
SMCO				IAML		21 09 26.8	
	comp=E,34nm,0.8s						
BOZ	Bozeman (W)	4.86	293		Pn	21 08 04.9	+1.5
BOZ				IAML		21 09 32.6	
	comp=E,24nm,0.8s						
Q24A	Divide	4.89	179		Pn	21 08 03.5	-0.5
Q24A				IAML		21 09 28.9	
	comp=E,32nm,0.6s						
Q24A				IAML		21 09 37.6	
	comp=N,19nm,0.7s						
K31A	O'Neill	4.92	102	Pg	Pg	21 08 21.1	-2.0
HWUT	Hardware Ranch	5.16	246	IAML		21 09 35.7	
	comp=N,39nm,1.0s						
HWUT				IAML		21 09 43.5	
	comp=N,41nm,0.9s						
EGMT	Eagleton	5.21	325	Pn	Pn	21 08 09.5	+1.3
KSCO	Kaye Shedlock'	5.23	157	Pn	Pn	21 08 07.6	-1.0
KSCO					Pg	21 08 27.1	-2.2
HRY	Holter Researc	5.44	304	Pn	Pn	21 08 12.7	+1.3
HRY				Pb	Pb	21 08 22.3	-2.6
HRY				Pg	Pg	21 08 30.6	-2.5
DLMT	Dillon	5.44	289		Pb	21 08 29.8	+4.8
LRM	Limekiln Ridge	5.47	294	Pn	Pn	21 08 13.4	+1.4
MCMT	McKenzie Canyo	5.52	283	Pn	Pn	21 08 14.3	+1.6
MCMT				Pg	Pg	21 08 33.2	-1.5
MDND	Maddock	5.62	43	Pg	Pb	21 08 33.0	+5.1
P18A	Preston Nutter	5.63	223		Pn	21 08 14.0	-0.2
BGNE	Belgrade	5.79	113		Pb	21 08 35.2	+4.4
BCYI	Bear Canyon	5.88	277		Pn	21 08 18.8	+1.2
HVU	Hansel Valley	5.90	252	Pn	Pn	21 08 18.5	+0.7
PV21	Cone Mtn., Par	5.98	209	Pn	Pn	21 08 19.5	+0.5
P17A	Butcher Ranch,	6.00	225		Pn	21 08 19.8	+0.7
PV15	Paradox Valley	6.02	205		Pn	21 08 19.4	-0.2
PV23	Carpenter Ridg	6.09	209		Pn	21 08 20.6	0.0
SDCO	Great Sand Dun	6.11	182		Pn	21 08 20.6	-0.1
PV04	Paradox Valley	6.11	208	Pn	Pn	21 08 21.5	+0.8
PV12	Saucer Basin,	6.14	207	Pn	Pn	21 08 21.1	-0.1
PV14	Lion Creek, Pa	6.17	209	Pn	Pn	21 08 21.9	+0.3
PV10	Paradox Valley	6.17	209		Pn	21 08 22.7	+1.1
PV20	West Nyswonger	6.18	208	Pn	Pn	21 08 22.7	+1.1
PV11	David Mesa, Pa	6.18	207		Pn	21 08 21.5	-0.2
PV16	Nyswonger Mesa	6.19	208	Pn	Pn	21 08 21.9	+0.1
PV19	Morning Glory	6.21	208	Pn	Pn	21 08 22.9	+0.8
PV03	Paradox Valley	6.22	207	Pn	Pn	21 08 22.4	+0.2
S22A	4UR Ranch, Cre	6.22	192	Pn	Pn	21 08 22.2	-0.1
PV02	Paradox Valley	6.22	206	Pn	Pn	21 08 22.5	+0.2
PV17	East Wray Mesa	6.23	208		Pn	21 08 22.1	-0.3
PV18	Skein Mesa, Pa	6.25	207	Pn	Pn	21 08 22.5	0.0
ECSD	EROS Data Cent	6.26	88	Pn	Pn	21 08 22.9	+0.3
TMUT	Trail Mountain	6.37	226		Pn	21 08 24.9	+0.5
NLU	North Lily Min	6.40	235	Pn	Pn	21 08 25.1	+0.3
BGU	Big Grassy Mou	6.45	246	Pn	Pn	21 08 26.3	+1.0
PV05	Paradox Valley	6.46	208	Pn	Pn	21 08 24.4	-1.1
CBKS	Cedar Bluff	6.53	139	Pn	Pn	21 08 24.4	-1.9
N33A	J Bar K, Exete	6.58	116	Pn	Pn	21 08 25.5	-1.5
HLID	Hailey	6.64	271	Pn	Pn	21 08 29.7	+1.8
F33A	5 Mile Ranch,	6.68	70		Pn	21 08 27.6	-0.7
DUG	Dugway, Tooele	6.71	239	Pn	Pn	21 08 27.3	-1.5
T25A	Trinidad	6.74	174	Pn	Pn	21 08 29.1	-0.3
MSO	Missoula	6.79	299	Pn	Pn	21 08 28.9	-1.0
MVCO	Mesa Verde	7.08	201	Pn	Pn	21 08 34.6	+0.6
R32A	Long Quarter,	7.34	135	Pn	Pn	21 08 36.9	-0.5
JTMT	Jette	7.40	305	Pn	Pn	21 08 39.8	+1.5
MSU	Marysvale	7.46	227	Pn	Pn	21 08 39.3	0.0
MFID	Camas Ranch	7.67	270	Pn	Pn	21 08 43.4	+1.3
PLID	Pearl Lake	7.78	283	Pn	Pn	21 08 45.9	+2.3
MTPU	Mount Pierson	7.82	224	Pn	Pn	21 08 44.1	-0.1
AGMN	Agassiz Nation	7.90	53	Pn	Pn	21 08 45.3	+0.2
WALA	Waterton Lakes	7.91	314	Pn	Pn	21 08 45.9	+0.6
ELK	Elko	8.02	251	Pn	Pn	21 08 46.8	-0.1
	comp=N,0.3nm,0.3s,baz=56,slow=9.0,SNR=3.4						
ELK	Elko	8.02	251	Pn	Pn	21 08 47.9	+1.0
PKCU	Pink Cliffs	8.35	222	Pn	Pn	21 08 50.7	-0.8
PSUT	Pine Spring	8.38	234	Pn	Pn	21 08 52.0	+0.2
F36A	Milaca	8.58	72	Pn	Pn	21 08 52.2	-2.1
SZCU	Shurtz Canyon	8.62	226	Pn	Pn	21 08 54.5	-0.7
I10CA	LAC DU BONNET	8.94	42	*i*		22 02 10.0	
	baz=223,slow=320,SNR=4.7						
ULM	Lac du Bonnet	9.05	42	Pn	Pn	21 08 55.9	-4.9
	comp=N,0.2nm,0.3s,baz=236,slow=13,SNR=1.7						
ULM				Pg		21 09 27.4	
	comp=N,0.3nm,0.3s,baz=233,slow=18,SNR=1.6						
ULM				Lg	Lg	21 11 24.2	
	comp=N,0.9nm,0.3s,baz=125,slow=20,SNR=2.3						
NEW	Newport	9.34	302	Lg	Lg	21 11 21.6	
	comp=N,0.1nm,0.3s,baz=351,slow=9.6,SNR=1.4						
NVAR	Mina Array Bea	11.22	246	Pn	Pn	21 09 28.7	-2.1
	comp=N,0.2nm,0.3s,baz=44,slow=12,SNR=2.6						
TXAR	Lajitas Array	14.55	174	Pg	P	21 11 17.8	+55
	baz=6.3,slow=17,SNR=4.0						
TXAR				Lg	Lg	21 14 26.1	
	comp=N,0.0nm,0.3s,baz=231,slow=43,SNR=1.7						
YKA	Yellowknife Ar	19.45	347	P	P	21 11 13.5	-3.3
	comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=7.8						
MKAR	Makanchi Array	89.48	355	P	P	21 19 46.6	-1.2
	comp=N,0.6nm,0.7s,baz=5.2,slow=3.8,SNR=6.4						

*IDC **03** 21:07:54.6±0.6, 16°.88N×146°.07E, h0km, mb3.9/15, mb1 4.2/17, mb1mx4.0/57, mbtmp4.0/17, ML4.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/82, Error ellipse: s-maj=22.7km s-min=15.1km az=112.0*
*NEIC **03** 21:07:56.7±1.6, 16°.79N±0°.06×145°.9E±0°.1, h10km±1km, mb4.6/83, Error ellipse: s-maj=18.1km s-min=10.9km az=275.0*
ISC 03 21:07:56.3±0.4**, 16°.81N**±0°.07×**146°.00E**±0°.08**, h10km, n124, σ0s.88**/116**, mb4.5**/54**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.38	199	Pn	Pn	21 08 49.9	+0.8
	16nm,0.3s,baz=97,slow=3.7,SNR=6.9						
GUMO				LR	LR	21 09 55.2	
	comp=Z,132nm,19.6s,baz=298,slow=35						
GUMO	Guam	3.38	199		Pn	21 08 48.1	-1.1
JHJ	Hachijo jima 2	17.18	342	Pn	Pn	21 11 54.5	-1.9
	12nm,0.3s,baz=216,slow=18,SNR=1.4						
JOW	Kunigami	19.22	304	P	Pn	21 12 24.0	+2.4
	0.8nm,0.3s,baz=161,slow=8.6,SNR=5.4						

JOW	Kunigami	19.22	304	P	P	21 12 20.8	+0.1
JOW				IAmb	IAmb	21 12 26.5	
	comp=Z,21nm,0.8s						
H11S3	WAKE ISLAND Hy	19.79	82	T	T	21 32 54.5	
	baz=268,slow=75,SNR=95						
H11S1	WAKE ISLAND Hy	19.80	82	T	T	21 32 56.7	
	baz=268,slow=75,SNR=134						
H11S2	WAKE ISLAND Hy	19.80	82	T	T	21 32 57.7	
	baz=268,slow=75,SNR=214						
H11N1	WAKE ISLAND Hy	20.05	79	T	T	21 33 14.8	
	baz=265,slow=75,SNR=315						
H11N2	WAKE ISLAND Hy	20.05	78	T	T	21 33 15.3	
	baz=265,slow=75,SNR=394						
H11N3	WAKE ISLAND Hy	20.07	79	T	T	21 33 15.6	
	baz=265,slow=75,SNR=341						
MJAR	Matsushiro Arr	20.83	342	P	P	21 12 36.7	-1.4
	comp=Z,1.8nm,0.8s,baz=178,slow=12,SNR=2.8						
SIJI	Sorong	22.80	221	P	P	21 13 01.8	+2.4
	comp=Z,5.5nm,0.6s,baz=20,slow=16,SNR=4.3						
YHNB	Yeheng	24.29	293	P	P	21 13 14.2	0.0
YHNB				IAmb	IAmb	21 13 17.9	
	comp=Z,11nm,0.8s						
KSRS	Korea Array	26.02	326	P	P	21 13 31.1	+1.6
	comp=Z,1.1nm,0.7s,baz=137,slow=10.0,SNR=2.9						
KLR	Kul'dur	34.35	343	P	P	21 14 42.2	-1.0
	comp=Z,0.5nm,0.6s,baz=150,slow=11,SNR=2.2						
ENH	Enshi	35.89	299	P	P	21 14 57.0	+0.3
PEA0B	Petropavlovsk-	37.37	12	P	P	21 15 08.8	-0.3
PEA0B				IAmb	IAmb	21 15 18.6	
	comp=Z,16nm,1.1s						
PETK	Petropavlovsk-	37.37	12	LR	LR	21 29 48.3	
	comp=Z,20nm,20.3s,baz=132,slow=35						
PETK	Petropavlovsk-	37.37	12	P	P	21 15 08.5	-0.5
PET	Petropavlovsk	37.48	13	P	P	21 15 11.0	+1.1
WB0	Warramunga Arr	38.09	198	P	P	21 15 16.0	+0.5
WR0	Warramunga Arr	38.23	198	P	P	21 15 16.8	+0.1
WRAB	Tennant Creek	38.27	198	P	P	21 15 16.7	-0.3
WB2	Warramunga Arr	38.27	198	P	P	21 15 16.8	-0.3
SANVU	Saraoutou	38.28	146	P	P	21 15 16.7	-0.4
WRA	Warramunga Arr	38.28	198	P	P	21 15 16.5	-0.5
	comp=Z,1.0nm,0.9s,baz=30,slow=9.2,SNR=5.5						
FITZ	Fitzroy Crossi	40.06	211	P	P	21 15 31.4	-0.6
ASAR	Alice Springs	41.93	197	P	P	21 15 46.1	-1.2
	comp=Z,0.4nm,0.8s,baz=18,slow=9.1,SNR=3.5						
SMY	Shemya	42.10	25	P	P	21 15 48.9	+0.5
CMAR	Chiang Mai Arr	44.78	279	P	P	21 16 11.6	+1.1
	comp=Z,1.4nm,0.3s,baz=71,slow=6.5,SNR=15						
PSI	Prapat	48.28	258	LR	LR	21 35 32.6	
	comp=Z,47nm,21.8s,baz=129,slow=34						
GSI	Gunungsitoli	50.06	257	P	P	21 16 51.5	-0.3
FORT	Forrest	50.36	200	P	P	21 16 53.3	-0.4
SHL	Shillong	50.92	289	P	P	21 16 57.9	-0.4
SHL				IAmb	IAmb	21 16 59.8	
	comp=Z,4.9nm,0.8s						
LSA	Lhasa	51.58	295	P	P	21 17 03.8	+0.3
LSA				IAmb	IAmb	21 17 06.8	
	comp=Z,4.4nm,0.7s						
PBA	Port Blair	51.76	272	P	P	21 17 01.1	-3.3
KHU	Kahuku	55.35	78	P	P	21 17 31.0	-0.2
HMH	Humu‘ula Sheep	55.43	78	P	P	21 17 32.3	+0.5
MKAR	Makanchi Array	59.98	315	P	P	21 18 02.0	-1.1
	comp=Z,0.5nm,0.7s,baz=96,slow=8.2,SNR=6.8						
MKAR	Makanchi Array	59.98	315	P	P	21 18 03.0	0.0
MAKZ	Makanchi	60.19	315	P	P	21 18 04.8	+0.3
P19K	Oil Pt	60.98	30	P	P	21 18 09.8	+0.2
K20K	Telida	61.78	26	P	P	21 18 15.9	+0.9
K20K				IAmb	IAmb	21 18 16.1	
	comp=Z,5.1nm,1.1s						
CNPM	China Poot	61.92	31	P	P	21 18 16.1	+0.1
J20K	Nowinta River	62.03	25	P	P	21 18 17.6	+1.0
J20K				IAmb	IAmb	21 18 19.0	
	comp=Z,3.5nm,1.1s						
BRLK	Bradley Lake	62.15	31	P	P	21 18 17.4	-0.2
BRLK				IAmb	IAmb	21 18 22.4	
	comp=Z,8.5nm,1.1s						
PPLA	Purkeypile	62.44	27	P	P	21 18 20.0	+0.5
CAST	Castle Rocks	62.64	27	P	P	21 18 21.2	+0.4
CAST				IAmb	IAmb	21 18 21.6	
	comp=Z,4.8nm,0.7s						
IMAR	Indian Mountai	62.82	24	P	P	21 18 22.7	+0.8
RC01	Rabbit Creek A	63.04	29	P	P	21 18 23.8	+0.4
RC01				IAmb	IAmb	21 18 35.9	
	comp=Z,6.6nm,1.2s						
H21K	Melozitna Rive	63.07	24	P	P	21 18 24.0	+0.4
H21K				IAmb	IAmb	21 18 25.4	
	comp=Z,2.5nm,1.0s						
I21K	Tanana	63.24	25	P	P	21 18 25.2	+0.6
BPAW	Bear Paw Mtn.	63.31	26	P	P	21 18 25.0	-0.2
BPAW				IAmb	IAmb	21 18 25.9	
	comp=Z,2.3nm,0.6s						
THZ	Tophouse	63.37	158	P	P	21 18 25.5	-0.3
TRF	Thorofare Moun	63.42	27	P	P	21 18 25.2	-0.9
TRF				IAmb	IAmb	21 18 43.8	
	comp=Z,4.0nm,1.2s						
GHO	Glory Hole Cre	63.59	29	P	P	21 18 27.0	-0.1
GHO				IAmb	IAmb	21 18 27.2	
	comp=Z,3.5nm,0.7s						
PWL	Port Wells	63.65	30	P	P	21 18 27.7	+0.2
MLY	Manley	63.70	25	P	P	21 18 27.9	+0.1
MLY				IAmb	IAmb	21 18 28.1	
	comp=Z,2.6nm,0.7s						
KNK	Knik Glacier	63.72	29	P	P	21 18 28.1	+0.1
KNK				IAmb	IAmb	21 18 28.7	
	comp=Z,5.6nm,0.8s						
SML	Sawmill	63.87	29	P	P	21 18 28.8	-0.2
RND	Reindeer	64.03	27	P	P	21 18 29.3	-0.8
RND				IAmb	IAmb	21 18 30.1	
	comp=Z,1.8nm,0.7s						
LTZ	Lake Taylor	64.04	159	P	P	21 18 30.5	+0.3
LTZ				IAmb	IAmb	21 18 39.9	
	comp=Z,2.3nm,0.9s						
GLI	Glacier Island	64.25	30	P	P	21 18 31.1	-0.3
I23K	Minto, Yukon-K	64.29	25	P	P	21 18 32.1	+0.5
I23K				IAmb	IAmb	21 18 34.1	
	comp=Z,3.9nm,1.1s						
SCM	Sheep Creek Mo	64.34	29	P	P	21 18 32.2	+0.1
SCM				IAmb	IAmb	21 18 34.7	
	comp=Z,4.5nm,0.9s						
H23K	Yukon River	64.41	24	P	P	21 18 32.8	+0.4
FID	Port Fidalgo	64.52	30	P	P	21 18 33.4	+0.2
COLD	Coldfoot	64.57	23	P	P	21 18 33.9	+0.5
DHY	Denali Highway	64.60	28	P	P	21 18 34.3	+0.5
DHY				IAmb	IAmb	21 18 44.3	
	comp=Z,2.5nm,1.1s						
WRH	Wood River Hil	64.63	26	P	P	21 18 33.2	-0.7
MDM	Murphy Dome	64.70	25	P	P	21 18 35.1	+0.8
MDM				IAmb	IAmb	21 18 39.4	
	comp=Z,3.0nm,1.0s						
EYAK	Cordova Ski Ar	64.83	30	P	P	21 18 36.0	+0.8
KLU	Klutina	64.93	29	P	P	21 18 36.5	+0.5
KLU				IAmb	IAmb	21 18 39.6	
	comp=Z,2.6nm,0.9s						
H24K	Noodor Dome	65.07	25	P	P	21 18 37.0	+0.3
ILAR	Eielson Array	65.21	26	P	P	21 18 36.0	-1.6
	comp=Z,1.2nm,0.7s,baz=250,slow=5.4,SNR=12						
ILAR	Eielson Array	65.21	26	P	P	21 18 36.4	-1.2
PAX	Paxson	65.43	28	P	P	21 18 39.2	0.0
PAX				IAmb	IAmb	21 18 39.7	
	comp=Z,1.9nm,0.6s						
BMRM	Bremner River	65.46	30	P	P	21 18 40.2	+0.8
N25K	Chitina, Valde	65.57	29	P	P	21 18 40.4	+0.3
N25K				IAmb	IAmb	21 18 41.1	
	comp=Z,3.7nm,0.9s						
J25K	Salcha River,	65.81	26	P	P	21 18 40.6	-1.0
VRDI	Verde Repeater	66.06	30	P	P	21 18 43.6	+0.3
VRDI				IAmb	IAmb	21 18 44.0	
	comp=Z,2.9nm,0.8s						
DOT	Dot Lake	66.18	27	P	P	21 18 43.3	-0.7
DOT				IAmb	IAmb	21 18 49.7	
	comp=Z,3.3nm,1.0s						
SCRK	Sand Creek	66.28	27	P	P	21 18 44.5	-0.2
SCRK				IAmb	IAmb	21 18 44.7	
	comp=Z,4.0nm,1.2s						
MCARA	McCarthy VSAT	66.28	30	P	P	21 18 45.0	+0.4
FYU	Fort Yukon	66.29	24	P	P	21 18 44.9	+0.4
FYU				IAmb	IAmb	21 18 50.4	
	comp=Z,5.0nm,1.1s						
ISLE	Juniper Island	66.50	31	P	P	21 18 46.3	+0.1
BMAR	Burnt Mountain	66.73	23	P	P	21 18 48.0	+0.6
M27K	Edge Creek, AK	66.96	29	P	P	21 18 49.6	+0.5
CTGM	Chitina Glacie	67.04	30	P	P	21 18 50.6	+1.0
CTGM				IAmb	IAmb	21 19 02.7	
	comp=Z,7.0nm,1.2s						
L27K	Beaver Creek,	67.08	28	P	P	21 18 49.6	-0.1
BCAR	Beaver Creek A	67.10	28	P	P	21 18 49.9	0.0
LOGN	Logan Glacier	67.18	31	P	P	21 18 51.0	+0.4
LOGN				IAmb	IAmb	21 18 55.6	
	comp=Z,7.8nm,1.0s						
EGAK	Eagle	67.62	26	P	P	21 18 52.0	-1.0
EGAK				IAmb	IAmb	21 19 04.3	
	comp=Z,2.9nm,1.1s						
KKAR	Karatay Array	68.19	310	P	P	21 18 57.9	+0.8
DAWY	Dawson	68.29	27	P	P	21 18 57.9	+0.6
DAWY				IAmb	IAmb	21 18 59.5	
	comp=Z,2.6nm,1.0s						
GAR	Garm	68.61	306	P	P	21 19 00.6	+0.7
GAR				IAmb	IAmb	21 19 00.7	
	comp=Z,3.8nm,0.7s						
HYT	Haines Junctio	68.89	31	P	P	21 19 02.3	+1.1
HYT				IAmb	IAmb	21 19 03.5	
	comp=Z,6.5nm,0.9s						
M30M	Minto, Yukon	69.33	29	P	P	21 19 04.3	+0.5
CHGR	Chuyangaron	69.54	306	P	P	21 19 06.1	+0.4
INK	Inuvik	70.99	23	P	P	21 19 12.7	-1.1
	comp=Z,2.5nm,0.7s,baz=264,slow=6.7,SNR=12						
INK	Inuvik	70.99	23	P	P	21 19 13.3	-0.5
INK				IAmb	IAmb	21 19 13.5	
	comp=Z,2.3nm,0.7s						
YKA	Yellowknife Ar	79.52	28	P	P	21 20 02.2	-0.8
	comp=Z,2.4nm,0.8s,baz=287,slow=5.7,SNR=27						
M02C	Callahan	79.93	50	P	P	21 20 07.6	+1.8
L04D	Klamath Falls	80.13	49	P	P	21 20 08.3	+1.3
L04D				IAmb	IAmb	21 20 09.4	
	comp=Z,13nm,1.1s						
O02D	Mt. Diablo Mer	80.26	51	P	P	21 20 09.7	+2.0
B08A	Colville Reser	80.67	42	P	P	21 20 10.4	+0.8
B08A				IAmb	IAmb	21 20 11.5	
	comp=Z,2.9nm,0.8s						
PINE	Pine Mountain	80.72	47		P	21 20 12.1	+1.9
PINE				IAmb	IAmb	21 20 12.6	
	comp=Z,7.7nm,0.7s						
K05A	Summer Lake	81.02	48	P	P	21 20 12.7	+0.8
K05A				IAmb	IAmb	21 20 14.0	
	comp=Z,5.3nm,0.8s						
RES	Resolute Bay	81.18	14	P	P	21 20 11.3	-0.5
	comp=Z,0.3nm,0.5s,baz=329,slow=1.1,SNR=3.5						
RES	Resolute Bay	81.18	14	P	P	21 20 11.7	-0.1
BEKR	Beckworth	82.14	51	P	P	21 20 18.6	+0.8
BEKR				IAmb	IAmb	21 20 19.4	
	comp=Z,3.4nm,0.8s						
PNTR	Pine Nut	82.92	51	P	P	21 20 23.0	+1.1
PLID	Pearl Lake	83.78	45	P	P	21 20 26.6	+0.4
LHV	Little Huntoon	83.97	52	P	P	21 20 25.7	-1.4
NVAR	Mina Array Bea	84.08	52	P	P	21 20 29.3	+1.4
	comp=Z,1.4nm,0.6s,baz=269,slow=5.5,SNR=11						
NVAR	Mina Array Bea	84.08	52	P	P	21 20 29.1	+1.3
ARCES	ARCESS Array B	84.37	342	P	P	21 20 29.5	+1.0
ELK	Elko	85.64	49	P	P	21 20 36.0	+0.3
	comp=Z,1.2nm,0.6s,baz=290,slow=6.5,SNR=7.1						
ELK	Elko	85.64	49	P	P	21 20 36.0	+0.3
HWUT	Hardware Ranch	87.97	47	P	P	21 20 47.1	0.0
HWUT				IAmb	IAmb	21 20 47.9	
	comp=Z,2.5nm,0.7s						
PDAR	Pinedale Array	88.94	45	P	P	21 20 51.3	-0.4
	comp=Z,0.3nm,0.7s,baz=235,slow=3.2,SNR=3.1						
LPAZ	La Paz	147.30	94	PKPbc	PKPbc	21 27 42.2	+0.4
	comp=Z,3.7nm,0.9s,baz=346,slow=3.3,SNR=7.9						
PTGA	Pitinga	149.85	61	PKPbc	PKPbc	21 27 46.6	-1.2
	comp=Z,1.2nm,0.4s,baz=293,slow=3.2,SNR=6.6						

*IDC **03** 21:18:44.9±2.8, 33.°05S×178.°46W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/32, mbtmp3.9/3, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/57, Error ellipse: s-maj=67.6km s-min=35.4km az=119.0*

*NEIC **03** 21:18:47.8±0.4, 33.°01S±0.°07×178.°5W±0.°1, h12km±6km, mb4.2/9, Error ellipse: s-maj=17.6km s-min=9.8km az=93.0*

*WEL **03** 21:18:49.5±1.0, 33°S±12°×17°9W±3°1, h33km, M4.2/8, mB4.7/6, ML4.5/10, MLv4.3/8, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*

ISC 03 21:18:49.3±1.2**, 32.°95S**±0.°08×**178.°5W**±0.°2**, h32**km**, n34, σ1.°50**/45**, mb4.1**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.71	7	P	Pn	21 19 42.9	-1.5
GLKZ				S	Sn	21 20 25.0	-1.9
RAO	Raoul Island	3.71	7	Pn	Pn	21 19 45.7	+1.2
RIZ	Raoul Island	3.72	7	S	Sn	21 20 28.7	+1.4
MXZ	Matakaoa Point	5.31	209	Pn	Pn	21 20 05.5	-0.9
PKGZ	Pakihiroa	5.68	209	P	Pn	21 20 11.3	-0.3
PKGZ				S	Sn	21 21 08.4	-7.3
HAZ	Te Kaha	5.70	212	P	Pn	21 20 12.3	+0.6
HAZ				S	Sn	21 21 18.4	+2.4
RUGZ	Raukumara Rang	5.92	211	P	Pn	21 20 14.3	-0.6
RUGZ				S	Sn	21 21 24.4	+2.8
CNGZ	Carnagh Statio	6.15	205	P	Pn	21 20 17.3	-0.7
MWZ	Matawai	6.29	210	P	Pn	21 20 20.7	+0.8
MWZ				S	Sn	21 21 31.5	+0.8
URZ	Urewera	6.41	213	Pn	Pn	21 20 18.8	-2.7
	1.7nm,0.3s,baz=265,slow=4.0,SNR=11						
URZ				Sn	Sn	21 21 33.4	-0.2
	1.4nm,0.3s,baz=146,slow=19,SNR=2.0						
URZ	Urewera	6.41	213	Pn	Pn	21 20 21.1	-0.4
URZ					Sn	21 21 33.6	0.0
URZ	Urewera	6.41	213	P	Pn	21 20 21.4	-0.1
URZ				S	Sn	21 21 33.2	-0.3
MUGZ	Murupara	6.75	214	P	Pn	21 20 26.6	+0.4
MUGZ				S	Sn	21 21 41.1	-0.8
SNGZ	Shannon Statio	6.75	209	P	Pn	21 20 27.4	+1.3
SNGZ				S	Sn	21 21 42.4	+0.4
RTZ	Ruatahuna	6.76	212	P	Pn	21 20 26.1	-0.3
RTZ				S	Sn	21 21 41.6	-0.7
OUZ	Omahuta	6.97	249	Pn	Pn	21 20 29.0	-0.3
MTHZ	Maungataniwha	7.02	212	P	Pn	21 20 29.2	-0.7
MTHZ				S	Sn	21 21 48.6	0.0
BKZ	Black Stump Fm	7.43	212	Pn	Pn	21 20 34.6	-0.9
BKZ	Black Stump Fm	7.43	212	P	Pn	21 20 35.8	+0.2
HIZ	Hauiti	7.77	223	Pn	Pn	21 20 39.7	-0.5
DZM	Mont Dzumac	17.21	305	LR	LR	21 28 23.5	
	comp=Z,96nm,19.5s,baz=280,slow=34						
ASAR	Alice Springs	42.65	270	P	P	21 26 43.5	+0.3
	1.0nm,0.8s,baz=112,slow=7.5,SNR=11						
ASAR	Alice Springs	42.65	270	P	P	21 26 43.1	-0.1
WR0	Warramunga Arr	43.70	275	P	P	21 26 51.8	+0.3
WR0				IAmb	IAmb	21 26 57.1	
	comp=Z,3.8nm,1.1s						
WB2	Warramunga Arr	43.86	275	P	P	21 26 53.3	+0.4
WB2				IAmb	IAmb	21 27 07.4	
	comp=Z,4.3nm,1.1s						
WRAB	Tennant Creek	43.87	275	P	P	21 26 52.6	-0.4
WRAB				IAmb	IAmb	21 26 53.1	
	comp=Z,4.3nm,0.9s						
WRA	Warramunga Arr	43.87	275	P	P	21 26 53.0	0.0
	comp=Z,1.3nm,0.4s,baz=115,slow=7.6,SNR=30						
WRA	Warramunga Arr	43.87	275	P	P	21 26 53.2	+0.2
WB0	Warramunga Arr	43.91	275	P	P	21 26 53.6	+0.4
WB0				IAmb	IAmb	21 26 59.3	
	comp=Z,3.1nm,1.1s						
KNRA	Kununurra	50.56	277	P	P	21 27 45.0	-0.2
FITZ	Fitzroy Crossi	52.02	272	P	P	21 27 56.2	+0.2
CASY	Casey	52.72	209	P	P	21 28 01.3	+0.8
PSA00	Pilbara Seismi	55.33	265	P	P	21 28 20.7	+0.5
PSA00				IAmb	IAmb	21 28 32.7	
	comp=Z,4.3nm,0.9s						
FINES	FINESS Array B	147.38	338	PKPbc	PKPbc	21 38 29.3	+0.3
	comp=Z,1.2nm,0.4s,baz=48,slow=4.1,SNR=12						

*IDC **03** 21:31:10.2±1.1, 13.°93N×92.°76W, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/47, mbtmp4.0/13, ML3.9/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/72, Error ellipse: s-maj=32.4km s-min=15.7km az=37.0*

*MEX **03** 21:31:11.8±0.8, 13.°76N×92.°94W, h16km±242km, MD4.3*

*GCG **03** 21:31:17.6±1.9, 14.°37N×92.°62W, h69km±74km, MD4.4*

*NEIC **03** 21:31:19.2±1.8, 14.°19N±0.°07×92.°51W±0.°07, h52km±10km, mb4.4/31, Md4.3/13(MEX), Error ellipse: s-maj=12.9km s-min=7.5km az=221.0*

ISC 03 21:31:17.2±1.5**, 14.°06N**±0.°09×**92.°69W**±0.°07**, h48**km±13km**, n87, σ1.°39**/89**, mb4.4**/26**, MS3.5**/6**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.94	26		Pn	21 31 31.6	-2.4
THIG		0.94	26	eP	Pn	21 31 31.6	-2.4
RTAL	Retalhuleu	1.07	64		Pn	21 31 34.4	-1.4
PATR	El Naranjo	1.14	23	eP	Pn	21 31 34.6	-2.4
PATR				iS	Sn	21 31 53.3	+1.7
CHUJ	Union Juarez	1.17	29	eP	Pn	21 31 35.3	-2.2
CHUJ				eS	Sn	21 31 53.5	+1.0
PAVE	Pavencul	1.23	24	eP	Pn	21 31 36.0	-2.2
PAVE				iS	Sn	21 31 55.5	+1.6
STG3	Santiaguito 3,	1.27	59	eP	Pn	21 31 37.6	-1.1
STG3				eS	Sn	21 32 01.6	+6.9
HUEH	Huehuetenango	1.70	42	Pn	Pn	21 31 44.4	-0.2
PCIG		1.71	343		Pn	21 31 41.1	-3.5
PCIG					Sn	21 32 03.5	-1.8
PCIG		1.71	343	eP	Pn	21 31 41.1	-3.5
PCIG				iS	Sn	21 32 03.5	-1.8
FUG	Fuego 3	1.84	78	eP	Pn	21 31 45.3	-1.2
PCG	Pacaya	2.05	80	eP	Pn	21 31 49.0	-0.5
PCG				eS	Sn	21 32 15.2	+1.3
CCIG	Comitan	2.27	14		Pn	21 31 53.1	+0.6
CCIG	Comitan	2.27	14	eP	Pn	21 31 53.4	+0.9
NBG	Las Nubes	2.33	77	eP	Pn	21 31 54.6	+1.3
NBG				eS	Sn	21 32 20.3	-0.6
APG	El Apazote	2.35	66	Pn	Pn	21 31 53.1	-0.4
	20nm,0.3s,baz=235,slow=7.9,SNR=149						
APG				Sn	Sn	21 32 25.1	+3.7
	40nm,0.3s,baz=239,slow=23,SNR=4.8						
CARR	Arriaga	2.47	332	eP	Pn	21 31 55.4	+0.4
CARR				iS	Sn	21 32 23.6	-0.4
TGIG		2.73	351		Pn	21 31 57.7	-1.0
TGIG		2.73	351	eP	Pn	21 31 57.7	-1.0
MRL	Marmol	3.08	70	eP	Pn	21 32 07.8	+4.2
MTO3	Montecristo	3.25	84	Pn	Pn	21 32 04.3	-1.5
ESQI	Esquipulas	3.29	81	Pn	Pn	21 32 06.2	0.0
SNET	Serv Nac Est T	3.38	96	Pn	Pn	21 32 07.7	+0.1
PETF	Flores	3.94	43	Pn	Pn	21 32 14.8	-0.3
TGUH	Tegucigalpa,Un	5.26	89	Pn	Pn	21 32 33.2	-0.2
CRIN	San Cristobal	5.66	103	Pn	Pn	21 32 39.1	+0.4
CNGN	Cerro Negro	6.04	104	Pn	Pn	21 32 43.9	-0.1
TLIG	Tlapa	6.64	302		Pn	21 32 55.7	+3.4
MATN	Matagalpa	6.68	99		Pn	21 32 50.4	-2.5
BOAB	BOACO BROADBAN	7.03	102	Pn	Pn	21 32 57.1	-0.4
HZTE	Horizontes, Gu	7.69	115	Pn	Pn	21 33 06.5	-0.1
ORTG	Ortega, Santa	7.97	117	Pn	Pn	21 33 10.9	+0.3
CVTR	Volcan Turrial	9.62	114	Pn	Pn	21 33 32.5	-0.9
RIMA	Rio Macho	9.63	115		Pn	21 33 33.5	+0.1
SRBA	San Rafael, Bu	10.32	117	Pn	Pn	21 33 39.9	-2.9
RIOS	Rincon, Osa	10.45	120	Pn	Pn	21 33 46.0	+1.5
TX31	Lajitas Ar. Si	18.28	328	P	Pn	21 35 29.1	+1.6
TX31				IAmb	IAmb	21 35 39.2	
	comp=Z,18nm,1.1s						
TX32	Lajitas Array	18.28	328	P	Pn	21 35 29.1	+1.5
TXAR	Lajitas Array	18.28	328	P	Pn	21 35 27.8	+0.3
	comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=6.0						
TXAR				LR	LR	21 43 27.1	
	comp=Z,72nm,19.9s,baz=136,slow=40						
TXAR	Lajitas Array	18.28	328	P	Pn	21 35 28.1	+0.6
LPIG	La Paz	19.39	304	LR	LR	21 43 22.7	
	comp=Z,72nm,20.4s,baz=239,slow=38						
MIAR	Mount Ida	20.41	358	P	P	21 35 49.7	-0.6
MNTX	Cornudas Mount	21.06	329	P	P	21 35 58.4	+1.0
MNTX				IAmb	IAmb	21 36 07.6	
	comp=Z,20nm,1.8s						
SDV	Santo Domingo	22.21	101	P	P	21 36 08.2	-1.9
	comp=Z,1.9nm,0.4s,baz=315,slow=8.5,SNR=1.7						
AMTX	Amarillo	22.27	340	P	P	21 36 10.1	-0.2
AMTX				IAmb	IAmb	21 36 12.1	
	comp=Z,12nm,0.8s						
TKL	Tuckaleechee C	22.95	19	P	P	21 36 17.6	+0.1
	comp=Z,1.9nm,0.6s,baz=35,slow=2.3,SNR=1.8						
TKL				LR	LR	21 46 28.3	
	comp=Z,181nm,19.4s,baz=198,slow=40						
TKL	Tuckaleechee C	22.95	19	P	P	21 36 16.9	-0.6
TKL				IAmb	IAmb	21 36 35.4	
	comp=Z,48nm,1.8s						
121A	Cookes Peak, D	22.98	326	P	P	21 36 20.1	+2.1
121A				IAmb	IAmb	21 36 28.0	
	comp=Z,12nm,0.8s						
S39A	Bolivar	23.54	359	P	P	21 36 21.9	-1.3
ANMO	Albuquerque	24.22	332	P	P	21 36 28.8	-0.9
	comp=Z,0.9nm,0.6s,baz=333,slow=6.2,SNR=2.0						
WCI	Wyandotte Cave	24.73	12	P	P	21 36 34.0	-0.1
WCI				IAmb	IAmb	21 36 49.8	
	comp=Z,8.8nm,0.8s						
R49A	Shelbyville	25.04	14	P	P	21 36 37.0	0.0
R49A				IAmb	IAmb	21 36 42.7	
	comp=Z,22nm,1.4s						
T25A	Trinidad	25.25	338	P	P	21 36 40.5	+1.4
T25A				IAmb	IAmb	21 36 50.8	
	comp=Z,6.1nm,0.8s						
CBKS	Cedar Bluff	25.43	347	P	P	21 36 41.4	+0.9
CBKS				IAmb	IAmb	21 36 42.4	
	comp=Z,11nm,0.6s						
SJG	San Juan	25.81	77	P	P	21 36 41.8	-2.3
SDCO	Great Sand Dun	26.20	337	P	P	21 36 48.5	+0.8
S22A	4UR Ranch, Cre	26.73	335	P	P	21 36 53.5	+1.0
PV12	Saucer Basin,	28.07	332	P	P	21 37 05.5	+1.1
PV12				IAmb	IAmb	21 37 12.1	
	comp=Z,10nm,1.0s						
PV04	Paradox Valley	28.17	332	P	P	21 37 07.5	+2.1
PV04				IAmb	IAmb	21 37 11.2	
	comp=Z,17nm,1.2s						
PFO	Pinyon Flats O	29.05	316	LR	LR	21 48 11.0	
	comp=Z,83nm,20.6s,baz=139,slow=35						
NNA	Nana	30.27	148	LR	LR	21 46 58.7	
	comp=Z,58nm,20.5s,baz=226,slow=31						
PDAR	Pinedale Array	32.09	336	P	P	21 37 40.1	+0.1
	comp=Z,0.6nm,0.9s,baz=134,slow=13,SNR=4.0						
SADO	Sadowa	32.71	18	LR	LR	21 52 48.8	
	comp=Z,208nm,18.1s,baz=196,slow=40						
REDW	Red Top Meadow	33.11	335	P	P	21 37 49.7	+0.8
REDW				IAmb	IAmb	21 37 55.7	
	comp=Z,8.4nm,0.9s						
NV11	Mina Array Sit	33.12	322	P	P	21 37 49.8	+0.9
NV11				IAmb	IAmb	21 38 02.8	
	comp=Z,12nm,1.9s						
SNOW	Snow King Moun	33.15	336	P	P	21 37 50.4	+1.1
NVAR	Mina Array Bea	33.21	322	P	P	21 37 50.9	+1.1
	comp=Z,0.9nm,0.6s,baz=131,slow=8.2,SNR=7.3						
LOHW	Long Hollow	33.22	336	P	P	21 37 50.4	+0.6
LOHW				IAmb	IAmb	21 37 56.4	
	comp=Z,4.5nm,0.9s						
TPAW	Teton Pass	33.25	335	P	P	21 37 50.7	+0.5
TPAW				IAmb	IAmb	21 38 05.0	
	comp=Z,11nm,1.3s						
MOOW	Moose Ponds	33.39	336	P	P	21 37 50.9	-0.4
MCMT	McKenzie Canyo	35.13	335	P	P	21 38 08.1	+1.6
PTGA	Pitinga	35.58	112	P	P	21 38 09.8	-0.6
	comp=Z,3.9nm,0.6s,baz=312,slow=8.2,SNR=10						
F10A	Beach Ranch, E	37.94	332	P	P	21 38 30.5	+0.4
F10A				IAmb	IAmb	21 38 36.2	
	comp=Z,4.9nm,0.8s						
MDP	Montagnes des	40.42	99	LR	LR	21 57 10.2	
	comp=Z,62nm,19.8s,baz=18,slow=38						
SIV	San Ignacio	43.22	133	P	P	21 39 13.4	-0.6
	comp=Z,0.8nm,0.6s,baz=286,slow=8.0,SNR=4.3						
SCHQ	Schefferville	45.40	21	LR	LR	21 59 33.6	
	comp=Z,134nm,18.3s,baz=208,slow=37						
YKA	Yellowknife Ar	50.82	347	P	P	21 40 12.8	+0.2
	comp=Z,4.8nm,0.7s,baz=151,slow=7.5,SNR=80						
YKA	Yellowknife Ar	50.82	347	P	P	21 40 12.3	-0.3
INK	Inuvik	60.19	344	P	P	21 41 19.7	-0.1
	comp=Z,1.9nm,0.6s,baz=106,slow=8.2,SNR=9.6						
INK	Inuvik	60.19	344	P	P	21 41 20.4	+0.6
OHAK	Old Harbor	62.50	328	P	P	21 41 36.2	+0.6
ILAR	Eielson Array	62.52	337	P	P	21 41 35.6	0.0
	comp=Z,1.3nm,0.9s,baz=133,slow=3.3,SNR=9.6						
ILAR	Eielson Array	62.52	337	P	P	21 41 36.0	+0.3
RND	Reindeer	62.69	335	P	P	21 41 37.4	+0.5
MLY	Manley	64.11	336	P	P	21 41 46.7	+0.4
MLY				IAmb	IAmb	21 41 58.9	
	comp=Z,9.1nm,1.4s						
ARCES	ARCESS Array B	86.29	18	P	P	21 43 52.9	-0.7
	comp=Z,4.9nm,1.2s,baz=294,slow=4.4,SNR=1.2						
CMAR	Chiang Mai Arr	145.71	340	PKPbc	PKPbc	21 50 52.0	+0.2
	comp=Z,1.9nm,0.8s,baz=338,slow=3.4,SNR=18						

IDC 03 21:32:26.3±2.6**, 2.°37S**×**134.°18E, h0**km**, mb3.4**/2**, mb1 3.7**/4**, mb1mx3.3**/30**, mbtmp3.5**/4**, ML3.3**/2**, Error ellipse: s-maj=98.2km s-min=27.4km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.47	180	P	Pn	21 36 31.9	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res ISC
	0.1nm,0.3s,baz=359,slow=12,SNR=8.7						
FITZ	Fitzroy Crossi	17.73	208	P	Pn	21 36 34.3	-0.5
	0.1nm,0.3s,baz=38,slow=14,SNR=1.9						
ASAR	Alice Springs	21.17	181	P	P	21 37 13.6	+0.1
	1.7nm,0.9s,baz=6.6,slow=13,SNR=14						
MKAR	Makanchi Array	66.81	324	P	P	21 43 19.9	0.0
	0.2nm,0.4s,baz=107,slow=8.4,SNR=5.3						

BJI ***03*** *21:47:46.7±0.0, 3°.12S×149°.24E, h7km, mb4.9/74, mB5.4/65, Ms5.5/87, Ms7 5.5/80*

IDC ***03*** *21:47:47.6±0.4, 3°.41S×148°.81E, h0km, mb4.8/31, mb1 5.0/36, mb1mx4.8/43, mbtmp4.9/36, ML3.7/2, MS5.3/59, Ms1 5.3/59, ms1mx5.3/66, Error ellipse: s-maj=10.4km s-min=9.5km az=82.0*

MOS ***03*** *21:47:48.5±0.9, 3°.38S×148°.84E, h14km, mb5.3/42, MS5.5/19, Error ellipse: s-maj=7.5km s-min=5.2km az=111.1*

NEIC ***03*** *21:47:50.5±1.9, 3°.33S±0°.06×148°.82E±0°.06, h10km±1km, mb5.3/229, Ms_20 5.6/373, Mwc5.9(GCMT), Error ellipse: s-maj=11.1km s-min=8.4km az=212.0*

DJA ***03*** *21:47:51.9±0.4, 3°S±3°×14°9E±°, h50km±4km, M5.3/69, mB5.7/48, mb5.1/69, MLv5.8/2, Mw(mB)5.3/48, MwMwp5.3/30, Mwp5.5/30*

GCMT ***03*** *21:47:54.5±0.1, 3°.29S×148°.87E, h12km, MW5.8/162, Moment Tensor Solution. s156,c324; s162,c509; Duration: 2s.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.88±.05; $M_{\theta\theta}$5.62±.06; $M_{\phi\phi}$-4.74±.06; $M_{r\theta}$0.61±.14; $M_{\theta\phi}$5.50±.05; $M_{\phi r}$0.29±.14; Best double couple: $M_0$7.58100×10^{17} NP1:ϕ_s112.00000°, δ87.00000°, λ3.00000°. NP2:ϕ_s22.00000°, δ87.00000°, λ177.00000°. Principal axes: T 8.0470, Plg4.0000°, Azm337.0000°; N -0.9330, Plg86.0000°, Azm160.0000°; P -7.1150, Plg0.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 03 21:47:50.8±0.5**, 3°.44S**±0°.03**×148°.85E**±0°.03**, h19**km±1km**, h19**km**:pP-P, n815, σ1s.91**/729**, mb5.2**/239**, MS5.6**/279**, 41C-33D, Fault plane solution: NP1:**ϕ_s120.49154°, δ76.51653°, λ-22.47282°. **NP2:**ϕ_s216.00070°, δ68.17893°, λ-165.45380°. **Principal axes:** T Plg5.6220°, Azm169.4529°; N Plg63.9735°, Azm271.0831°; P Plg25.3224°, Azm76.7831°; **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	2.03	313	Pn	Pn	21 48 20.7	-3.3
RABL	Rabaul	3.39	103	Pn	Pn	21 48 41.3	-1.5
RABL	Rabaul	3.39	103	P	Pn	21 48 43.6	+0.8
PMG	Port Moresby	6.16	196	Pn	Pn	21 49 20.9	+0.1
	0.9nm,0.3s,baz=324,slow=9.5,SNR=2.7						
PMG				Sn	Sn	21 50 33.0	+2.2
	3.8nm,0.3s,baz=51,slow=12,SNR=1.5						
PMG				LR	LR	21 51 57.4	
	comp=Z,35μm,18.1s,baz=342,slow=40						
PMG	Port Moresby	6.16	196	*i* P	Pn	21 49 21.7	+0.8
PMG	Port Moresby	6.16	196	Pn	Pn	21 49 21.6	+0.7
PMG	Port Moresby	6.16	196	P	Pn	21 49 26.4	+5.5
JAY	Jayapura	8.18	276	Pn	Pn	21 49 48.1	-0.6
	0.5nm,0.3s,baz=102,slow=9.4,SNR=15						
JAY				Sn	Sn	21 51 18.9	-1.9
	baz=214,slow=7.7,SNR=1.3						
JAY				LR	LR	21 52 43.6	
	comp=Z,24μm,21.1s,baz=82,slow=36						
JAY	Jayapura	8.18	276	P	Pn	21 49 50.7	+2.0
	2μm71nm,1.3s						
GENI	Genyem	8.71	275	P	Pn	21 49 56.7	+0.8
	20μm8μm230nm,1.1s						
GENI	Genyem	8.71	275	P	Pn	21 49 59.6	+3.7
WAMI	Wamena	10.12	267	P	Pn	21 50 14.5	-0.8
COEN	Coen	11.86	208	Pn	Pn	21 50 40.3	+1.3
COEN	Coen	11.86	208	P	Pn	21 50 42.0	+3.0
HNR	Honiara	12.53	119	Pn	Pn	21 50 49.0	+0.8
	31nm,0.3s,baz=152,slow=11,SNR=4.6						
HNR				Sn	Sn	21 53 05.9	-1.6
	20nm,0.3s,baz=214,slow=7.2,SNR=1.8						
HNR				LR	LR	21 55 42.6	
	comp=Z,16μm,18.6s,baz=291,slow=38						
HNR	Honiara	12.53	119	P	Pn	21 50 49.6	+1.4
HNR	Honiara	12.53	119	Pn	Pn	21 50 49.6	+1.4
HNR	Honiara	12.53	119	P	Pn	21 50 50.8	+2.5
SRPI	Serui, Papua	12.69	277	P	Pn	21 50 51.8	+1.4
	5μm84nm,1.0s						
PATS	Pohnpei	13.91	43	Pn	Pn	21 51 05.6	-1.5
MTSU	Mount Surprise	15.26	197	P	Pn	21 51 27.3	+1.9
	baz=15,SNR=12						
MTSU	Mount Surprise	15.26	197	P	P	21 51 28.0	-2.3
CTA	Charters Tower	16.74	188	Pn	Pn	21 51 45.3	+0.8
	0.3nm,0.3s,baz=4.0,slow=13,SNR=9.3						
CTA				Sn	Sn	21 54 52.2	+2.1
	0.1nm,0.3s,baz=27,slow=17,SNR=1.4						
CTA				LR	LR	21 58 48.2	
	comp=Z,15μm,19.0s,baz=2.5,slow=39						
CTA	Charters Tower	16.74	188	P	P	21 51 47.0	+0.4
CTA				pmax	pmax		
	comp=Z,173nm,2.1s						
CTA	Charters Tower	16.74	188	P	P	21 51 47.5	+0.9
GUMO	Guam	17.37	347	P	Pn	21 51 52.0	-0.3
	comp=Z,4.9nm,0.3s,baz=135,slow=0.9,SNR=4.1						
GUMO				LR	LR	21 57 40.6	
	comp=Z,9μm,19.9s,baz=160,slow=34						
GUMO	Guam	17.37	347	P	Pn	21 51 49.9	-2.5
GUMO				pmax	pmax		
	comp=Z,895nm,1.6s						
GUMO	Guam	17.37	347		Pn	21 51 49.9	-2.5
SIJI	Sorong	17.75	278	P	Pn	21 51 56.5	-0.7
	baz=92,slow=10,SNR=7.9						
SIJI				S	Sn	21 55 15.5	+0.8
	comp=Z,0.3nm,0.3s,baz=322,slow=23,SNR=1.7						
SWI	Sorong	17.76	278	P	P	21 51 58.0	+0.1
SWI				pmax	pmax		
	comp=Z,77nm,1.7s						
SWI	Sorong	17.76	278	P	Pn	21 51 56.5	-0.7
	comp=Z,8μmcomp=Z,3μmcomp=Z,77nm,1.7s						
SAUI	Saumlaki	18.03	255	Pn	Pn	21 51 59.2	-1.3
SAUI	Saumlaki	18.03	255	P	P	21 52 00.7	-0.2
	comp=Z,24μmcomp=Z,11μmcomp=Z,241nm,1.7s						
SAUI	Saumlaki	18.03	255	P	P	21 52 03.2	+2.3
KDU	Kakadu	18.62	240	P	P	21 52 06.9	-0.5
	baz=19,SNR=8.9						
KDU	Kakadu	18.62	240	P	P	21 52 06.6	-0.8
QIS	Mount Isa	19.25	207	P	Pn	21 52 15.2	-0.1
	baz=19,SNR=30						
QIS	Mount Isa	19.25	207	P	Pn	21 52 16.6	+1.2
DRS	Darwin Rock St	19.88	242	P	P	21 52 21.7	+0.5
MSAI	Masohi	19.88	270	P	P	21 52 20.8	-0.5
	comp=Z,9.3nm,1.0s						
RK1H	Rockhampton Ha	19.90	176	P	Pn	21 52 24.4	+1.4
AAI	Ambon	20.61	269	P	Pn	21 52 31.0	-0.6
AAI				pmax	pmax		
	comp=Z,128nm,1.2s						
AAI	Ambon	20.61	269	P	Pn	21 52 30.6	-1.0
	comp=Z,11μmcomp=Z,3μmcomp=Z,129nm,1.2s						
WB0	Warramunga Arr	21.50	220	P	P	21 52 38.7	-0.1
LBMI	Labuha	21.51	277	P	P	21 52 39.8	+0.9
	comp=Z,4μmcomp=Z,3μmcomp=Z,162nm,2.1s						
WR0	Warramunga Arr	21.55	219	P	P	21 52 38.3	-1.0
WR0				IAmb	IAmb	21 53 00.8	
	comp=Z,179nm,0.9s						
WRAB	Tennant Creek	21.65	220	*i* P	P	21 52 42.3	+1.9
WRAB				pmax	pmax		
	comp=Z,237nm,1.0s						
WRAB	Tennant Creek	21.65	220	P	P	21 52 39.7	-0.7
WRAB				IAmb	IAmb	21 52 59.8	
	comp=Z,172nm,0.9s						
WRAB	Tennant Creek	21.65	220	P	P	21 52 43.6	+3.2
SANVU	Saraoutou	21.66	125	P	P	21 52 40.3	-0.1
SANVU	Saraoutou	21.66	125	P	P	21 52 42.1	+1.7
WB2	Warramunga Arr	21.66	220	P	P	21 52 39.6	-0.9
WRA	Warramunga Arr	21.66	220	P	P	21 52 40.1	-0.4
	comp=Z,51nm,1.1s,baz=44,slow=11,SNR=40						
WRA				S	S	21 56 35.4	-4.5
	comp=Z,1.0nm,0.7s,baz=175,slow=35,SNR=1.4						
WRA				LR	LR	22 01 43.3	
	comp=Z,9μm,18.3s,baz=38,slow=39						
WRA	Warramunga Arr	21.66	220	P	P	21 52 41.3	+0.8
TNTI	Ternate	21.87	281	P	P	21 52 41.2	-1.6
TNTI				IAmb	IAmb	21 53 11.0	
	comp=Z,115nm,1.1s						
TNTI	Ternate	21.87	281	P	P	21 52 43.5	+0.7
	comp=Z,3μmcomp=Z,4μmcomp=Z,104nm,1.3s						
TNTI	Ternate	21.87	281	P	P	21 52 46.3	+3.5
EIDS	Eidsvold	21.91	175	P	P	21 52 44.7	+1.6
	baz=22,SNR=17						
EIDS	Eidsvold	21.91	175	P	P	21 52 43.4	+0.3
EIDS	Eidsvold	21.91	175	P	P	21 52 45.3	+2.2
KWAJ	Kwajalein Atol	22.32	57	P	P	21 52 46.3	-1.2
KWAJ				pmax	pmax		
	comp=Z,884nm,1.4s						
KWAJ				MLR	MLR		
	comp=Z,14μm,20.0s						
KWAJ	Kwajalein Atol	22.32	57	P	P	21 52 46.3	-1.2
KOUNC	Koumac, New Ca	22.71	140	IAMs_20	IAMs_20	22 00 07.7	
	comp=Z,17μm,20.0s						
KOUNC	Koumac, New Ca	22.71	140	P	P	21 52 52.1	+0.5
SANI	Sanana	22.87	273	P	P	21 52 53.2	-0.3
	comp=Z,6μmcomp=Z,3μmcomp=Z,58nm,1.3s						
SANI	Sanana	22.87	273	P	P	21 52 55.3	+1.8
RMQ	Roma	22.92	180	P	P	21 52 55.2	+1.4
	baz=23,SNR=50						
RMQ	Roma	22.92	180	P	P	21 52 55.7	+1.9
KNRA	Kununurra	23.21	237	P	P	21 52 58.2	+1.3
	baz=23,SNR=11						
KNRA	Kununurra	23.21	237	P	P	21 52 56.3	-0.6
KNRA	Kununurra	23.21	237	P	P	21 52 58.1	+1.2
QLP	Quilpie	23.43	190	P	P	21 53 00.5	+1.5
	baz=24,SNR=13						
QLP	Quilpie	23.43	190	P	P	21 53 00.6	+1.5
TARA	Tarawa	24.53	79	P	P	21 53 08.3	-1.3
TARA	Tarawa	24.53	79	IAMs_20	IAMs_20	22 01 43.7	
	comp=Z,15μm,19.0s						
AS31	Alice Springs	24.75	214	P	P	21 53 11.7	+0.2
ASAR	Alice Springs	24.76	214	P	P	21 53 11.7	+0.2
	comp=Z,30nm,0.8s,baz=47,slow=7.9,SNR=94						
ASAR				S	S	21 57 30.1	-2.9
	comp=Z,0.6nm,0.7s,baz=344,slow=42,SNR=1.2						
ASAR				LR	LR	22 03 19.2	
	comp=Z,12μm,21.4s,baz=107,slow=38						
ASAR	Alice Springs	24.76	214	P	P	21 53 11.0	-0.5
LIFNC	LIFOU	24.85	135	P	P	21 53 12.6	+0.2
LIFNC	LIFOU	24.85	135	P	P	21 53 14.1	+1.7
NOUC	Port Laguerre	25.12	139	P	P	21 53 15.7	+0.9
KMSI	Cibinong	25.17	279	P	P	21 53 16.0	+0.7
	comp=Z,126nm,1.0s						
DZM	Mont Dzumac	25.19	139	P	P	21 53 15.8	+0.2
	comp=Z,62nm,0.9s,baz=330,slow=10,SNR=31						
DZM				S	S	21 57 37.5	-2.7
	comp=Z,4.9nm,1.0s,baz=95,slow=21,SNR=1.4						
DZM				LR	LR	22 01 55.4	
	comp=Z,28μm,19.7s,baz=304,slow=34						
DZM	Mont Dzumac	25.19	139	*e*P	P	21 53 15.4	-0.2
	comp=Z,253nm,1.1s						
DZM				*e*LR	LR	21 59 35.0	
	comp=Z,41μm,25.6s						
DZM	Mont Dzumac	25.19	139	P	P	21 53 15.3	-0.2
DZM				IAmb	IAmb	21 53 30.9	
	comp=Z,105nm,1.0s						
DZM	Mont Dzumac	25.19	139	P	P	21 53 16.7	+1.2
ONTNC	Ouen Toro	25.37	139	P	P	21 53 16.4	-0.6
ONTNC				IAmb	IAmb	21 53 50.9	
	comp=Z,94nm,1.1s						
ONTNC	Ouen Toro	25.37	139	P	P	21 53 18.0	+1.0
INKA	Innaminka	25.37	197	P	P	21 53 18.8	+1.8
DAV	Davao City (W)	25.46	294	P	P	21 53 19.1	+1.1
	comp=Z,164nm,0.3s,baz=71,slow=12,SNR=1.5						
DAV				LR	LR	22 00 50.8	
	comp=Z,3μm,21.4s,baz=354,slow=31						
YATNC	Mamie plateau,	25.48	138	P	P	21 53 19.0	+0.9
OUENC	Ouen Island, N	25.70	139	P	P	21 53 20.2	+0.1
OUENC	Ouen Island, N	25.70	139	P	P	21 53 20.8	+0.8
MARNC	Mare, Loyalty	25.87	135	P	P	21 53 22.6	+1.0
MARNC	Mare, Loyalty	25.87	135	P	P	21 53 24.1	+2.5
BATI	Baumata	25.88	254	P	P	21 53 22.3	+0.5
	comp=Z,93nm,1.0s,baz=95,slow=1.3,SNR=25						
BATI				S	S	21 57 51.9	+0.8
	comp=Z,9.3nm,0.5s,baz=113,slow=16,SNR=1.6						
BATI				LR	LR	22 06 04.5	
	comp=Z,13μm,19.0s,baz=102,slow=42						
BATI	Baumata	25.88	254	P	P	21 53 22.4	+0.6
	comp=Z,9μmcomp=Z,2μmcomp=Z,76nm,1.0s						
GTOI	Gorontalo	26.14	278	P	P	21 53 24.1	0.0
	comp=Z,1μmcomp=Z,41nm,0.8s						
LUWI	Luwuk	26.16	275	P	P	21 53 24.7	+0.4
LUWI	Luwuk	26.16	275	P	P	21 53 23.1	-1.2
	comp=Z,5μmcomp=Z,3μmcomp=Z,156nm,0.9s						
LUWI	Luwuk	26.16	275	P	P	21 53 28.0	+3.7
	comp=Z,245nm,1.2s						
BBSI	Bau Bau	26.27	265	P	P	21 53 25.8	+0.4
	comp=Z,20nm,1.0s						
MMRI	Maumere	26.95	258	P	P	21 53 30.5	-1.0
MMRI	Maumere	26.95	258	P	P	21 53 28.2	-3.3
	comp=Z,6μmcomp=Z,50nm,1.1s						
MMRI	Maumere	26.95	258	P	P	21 53 33.2	+1.7
ARMA	Armidale	26.96	175	P	P	21 53 33.1	+1.6
	baz=27,SNR=5.9						
ARMA	Armidale	26.96	175	P	P	21 53 32.4	+0.9
ARMA				IAmb	IAmb	21 53 38.5	
	comp=Z,67nm,1.1s						
ARMA	Armidale	26.96	175	P	P	21 53 33.0	+1.5
FITZ	Fitzroy Crossi	27.00	236	P	P	21 53 31.9	+0.1
	comp=Z,72nm,0.8s,baz=70,slow=8.0,SNR=38						
FITZ				S	S	21 58 06.6	-2.0
	comp=Z,7.2nm,1.1s,baz=190,slow=11,SNR=1.5						
FITZ				LR	LR	22 04 43.7	
	comp=Z,14μm,19.3s,baz=60,slow=38						
FITZ	Fitzroy Crossi	27.00	236	P	P	21 53 30.7	-1.1
	baz=27,SNR=89						
FITZ	Fitzroy Crossi	27.00	236	P	P	21 53 32.2	+0.4
FITZ	Fitzroy Crossi	27.00	236	P	P	21 53 33.1	+1.3
MRSI	Marisa	27.17	278	P	P	21 53 29.3	-4.1
	comp=Z,3μmcomp=Z,767nmcomp=Z,20nm,0.9s						
OOD	Oodnadatta	27.28	206	P	P	21 53 35.8	+1.5
APSI	Ampana	27.29	275	P	P	21 53 34.6	+0.1
	comp=Z,2μmcomp=Z,948nmcomp=Z,62nm,1.4s						
H11S3	WAKE ISLAND Hy	28.00	38	T	T	22 22 49.5	
	baz=220,slow=76						
H11S2	WAKE ISLAND Hy	28.01	38	T	T	22 22 50.0	
	baz=220,slow=76						
H11S1	WAKE ISLAND Hy	28.02	38	T	T	22 22 49.8	
	baz=220,slow=76						
CMSA	Cobar Meteorol	28.11	186	P	P	21 53 42.3	+0.6
	baz=28,SNR=8.4						
CMSA	Cobar Meteorol	28.11	186	P	P	21 53 42.2	+0.6
BSSI	Bau Bau, Buton	28.38	263	P	P	21 53 45.3	+1.0
	comp=Z,1μmcomp=Z,38nm,1.4s						
TOLI2	Tolitoli	28.41	279	P	P	21 53 42.4	-2.2
TOLI2				IAmb	IAmb	21 54 30.9	
	comp=Z,79nm,1.6s						
TOLI2	Tolitoli	28.41	279	P	P	21 53 43.2	-1.4
LCRK	Leigh Creek	28.68	199	P	P	21 53 47.3	+0.6
BNSI	Bone	28.69	267	P	P	21 53 46.6	-0.4
	comp=Z,2μmcomp=Z,72nm,1.4s						
BKSI	Bulukumba	28.70	265	P	P	21 53 48.2	+1.1
	comp=Z,1μmcomp=Z,25nm,0.8s						
BASI	Baing, Sumba	28.85	255	P	P	21 53 45.8	-2.6
	comp=Z,2μmcomp=Z,2μmcomp=Z,138nm,1.3s						
TTSI	Tana Toraja	28.98	270	P	P	21 53 48.7	-0.9
	comp=Z,3μmcomp=Z,1μmcomp=Z,56nm,1.1s						
SPSI	Sidrap Palu	29.02	268	P	P	21 53 50.1	+0.1
	comp=Z,3μmcomp=Z,988nmcomp=Z,42nm,1.2s						
H11N1	WAKE ISLAND Hy	29.05	37	T	T	22 24 08.7	
	baz=219,slow=76,SNR=6020						
KAPI	Kappang	29.06	266	P	P	21 53 50.5	+0.2
	comp=Z,2.3nm,0.2s,baz=114,slow=6.4,SNR=4.9						
KAPI				S	S	21 58 39.6	-1.6
	comp=Z,1.6nm,0.4s,baz=108,slow=17,SNR=1.3						
KAPI				LR	LR	22 06 06.1	
	comp=Z,2μm,21.8s,baz=96,slow=38						
KAPI	Kappang	29.06	266	P	P	21 53 49.3	-1.0
KAPI				pmax	pmax		
	comp=Z,72nm,1.7s						
KAPI				MLR	MLR		
	comp=Z,4μm,21.0s						
KAPI	Kappang	29.06	266	P	P	21 53 49.3	-1.0
KAPI				IAmb	IAmb	21 54 12.9	
	comp=Z,72nm,1.6s						
KAPI	Kappang	29.06	266	P	P	21 53 53.0	+2.7
H11N3	WAKE ISLAND Hy	29.07	37	T	T	22 24 09.8	
	baz=219,slow=76,SNR=6633						
H11N2	WAKE ISLAND Hy	29.07	37	T	T	22 24 10.0	
	baz=219,slow=76						
STKA	Stephens Creek	29.10	193	P	P	21 53 50.0	-0.4
	comp=Z,5.7nm,0.8s,baz=1.9,slow=9.6,SNR=9.2						
STKA				S	S	21 58 39.0	-2.4
	comp=Z,1.8nm,0.8s,baz=253,slow=18,SNR=1.9						
STKA				LR	LR	22 06 05.5	
	comp=Z,12μm,21.5s,baz=11,slow=38						
STKA	Stephens Creek	29.10	193	P	P	21 53 50.2	-0.2
	baz=29,SNR=4.9						
STKA	Stephens Creek	29.10	193	P	P	21 53 50.0	-0.4
STKA	Stephens Creek	29.10	193	P	P	21 53 50.2	-0.2
MPSI	Mapaga	29.17	277	P	P	21 53 48.8	-2.5
	comp=Z,2μmcomp=Z,50nm,1.0s						
WRKA	Warakurna	29.20	221	P	P	21 53 50.7	-0.7
	baz=29,SNR=22						
WRKA	Warakurna	29.20	221	P	P	21 53 51.4	0.0
LHI	Lord Howe Isla	29.54	162	P	P	21 53 54.3	-0.1
MGCD	Mangrove Creek	29.69	176	P	P	21 53 57.2	+1.5
	baz=30,SNR=4.8						
WBSI	Waikabubak, Su	29.89	257	P	P	21 53 59.6	+1.9
	comp=Z,1μmcomp=Z,48nm,1.6s						
MULG	Mulgathing	30.14	206	P	P	21 54 00.0	+0.3
FUNA	Funafuti	30.59	101	P	P	21 54 04.5	+0.6
NAPP	Napperby	31.24	197	P	P	21 54 10.0	+0.7
HTT	Hallett	31.25	196	P	P	21 54 09.9	+0.4
	baz=31,SNR=4.0						
HTT	Hallett	31.25	196	P	P	21 54 10.2	+0.7
WHYH	Whyalla	31.27	198	P	P	21 54 10.3	+0.7
PLAI	Plampang	31.34	259	P	P	21 54 06.1	-4.4
	comp=Z,2μmcomp=Z,32nm,0.9s						
PLAI	Plampang	31.34	259	P	P	21 54 10.3	-0.2
MYLDM	Lahad Datu	31.50	286	P	P	21 54 10.2	-1.7
MYLDM				IAmb	IAmb	21 55 10.9	
	comp=Z,69nm,1.4s						
MYLDM				IAMs_20	IAMs_20	22 02 56.1	
	comp=Z,9μm,19.0s						
BBOO	Buckleboo	31.58	201	P	P	21 54 12.6	+0.2
	baz=32,SNR=5.5						
BBOO	Buckleboo	31.58	201	P	P	21 54 10.6	-1.8
BBOO				IAmb	IAmb	21 54 17.9	
	comp=Z,69nm,1.4s						
BBOO	Buckleboo	31.58	201	P	P	21 54 12.1	-0.3
CNB	Canberra Magne	31.72	179	P	P	21 54 15.6	+1.9
	baz=32,SNR=7.8						
CNB	Canberra Magne	31.72	179	P	P	21 54 15.2	+1.5
CAN	Canberra	31.72	180	P	P	21 54 14.1	+0.4
CAN				pmax	pmax		
	comp=Z,80nm,1.5s						
CAN	Canberra	31.72	180	IAmb	IAmb	21 54 24.8	
	comp=Z,45nm,1.0s						
CAN				IAMs_20	IAMs_20	22 06 53.8	
	comp=Z,15μm,20.0s						
CAN	Canberra	31.72	180	P	P	21 54 14.7	+1.0
MSVF	Nonsavu	31.95	119	P	P	21 54 15.9	0.0
	comp=Z,4.8nm,0.6s,baz=28,slow=16,SNR=2.1						
MSVF				LR	LR	22 05 59.5	
	comp=Z,8μm,20.6s,baz=300,slow=34						
MSVF	Nonsavu	31.95	119	P	P	21 54 16.3	+0.4
MSVF				pmax	pmax		
	comp=Z,24nm,1.0s						
MSVF				MLR	MLR		
	comp=Z,7μm,20.0s						
MSVF	Nonsavu	31.95	119	P	P	21 54 16.3	+0.4
TGY	Tagaytay City	32.71	303	LR	LR	22 05 07.4	
	comp=Z,4μm,21.9s,baz=132,slow=32						
TWOA	Tennyson Woods	32.85	196	P	P	21 54 24.8	+1.3
PSA00	Pilbara Seismi	33.44	235	P	P	21 54 28.8	-0.1
PSA00	Pilbara Seismi	33.44	235	P	P	21 54 29.6	+0.7
PSA00				IAmb	IAmb	21 55 05.4	
	comp=Z,28nm,1.1s						
FORT	Forrest	33.54	214	IAmb	IAmb	21 54 40.1	
	comp=Z,51nm,0.8s						
FORT	Forrest	33.54	214	P	P	21 54 29.7	+0.2
ARPS	Mount Arapiles	33.79	190	P	P	21 54 32.8	+1.1
	baz=34,SNR=7.2						
ARPS	Mount Arapiles	33.79	190	P	P	21 54 33.3	+1.6
KKM	Kota Kinabalu	33.92	286	P	P	21 54 32.0	-1.2
KKM				IAmb	IAmb	21 54 38.8	
	comp=Z,106nm,1.7s						
MTKI	Muara Teweh, K	34.01	273	P	P	21 54 33.8	-0.1
TOO	Toolangi	34.11	185	P	P	21 54 35.4	+0.9
	baz=34,SNR=6.2						
TOO	Toolangi	34.11	185	P	P	21 54 35.3	+0.9
TOO				pmax	pmax		
	comp=Z,123nm,1.8s						
TOO	Toolangi	34.11	185	P	P	21 54 35.3	+0.8
TOO				IAmb	IAmb	21 54 40.3	
	comp=Z,123nm,1.8s						
TOO	Toolangi	34.11	185	P	P	21 54 36.1	+1.6
BRAT	Ballarat	34.25	187	P	P	21 54 37.6	+2.0
ABJI	Asem Bagus	34.70	261	P	P	21 54 40.7	+0.8
	comp=Z,31nm,1.2s						
JAGI	Jajag, Banyuwa	34.85	260	P	P	21 54 40.8	-0.4
JAGI	Jajag, Banyuwa	34.85	260	P	P	21 54 38.4	-2.8
	comp=Z,35nm,1.4s						
JOW	Kunigami	36.07	328	LR	LR	22 06 21.2	
	comp=Z,8μm,21.5s,baz=158,slow=31						
JOW	Kunigami	36.07	328	P	P	21 54 49.2	-2.3
JOW				IAmb	IAmb	21 54 53.0	
	comp=Z,57nm,1.2s						
SBUM	Sibu	37.07	279	P	P	21 54 59.9	-0.4
SBUM	Sibu	37.07	279	P	P	21 55 02.0	+1.8
PWJI	Pagerwojo	37.12	261	P	P	21 54 58.5	-2.1
	comp=Z,36nm,1.2s						
PBKI	Pangkalan Bun	37.13	270	P	P	21 55 00.1	-0.6
	comp=Z,1μmcomp=Z,50nm,0.5s						
JHJ	Hachijo jima 2	37.36	347	LR	LR	22 08 24.4	
	comp=Z,5μm,21.4s,baz=173,slow=33						
YOJ	Yonaguni jima	37.42	319	P	P	21 55 01.8	-1.2
YOJ				pmax	pmax		
	comp=Z,111nm,1.1s						
YOJ	Yonaguni jima	37.42	319	P	P	21 55 01.8	-1.2
STKI	Sintang	37.51	275	P	P	21 55 01.6	-2.3
	comp=Z,5.7nm,0.6s						
PCJI	Pacitan	37.76	261	P	P	21 55 03.4	-2.6
	comp=Z,1μmcomp=Z,106nm,1.0s						
YULB	Yu-li	37.85	316	P	P	21 55 07.0	+0.3
YULB				IAmb	IAmb	21 55 09.8	
	comp=Z,83nm,1.3s						
YULB				IAMs_20	IAMs_20	22 07 19.0	
	comp=Z,10μm,20.0s						
NACB	Ninganchiao	38.16	317	P	P	21 55 08.3	-1.0
NACB				IAmb	IAmb	21 55 12.0	
	comp=Z,68nm,1.2s						
NACB				IAMs_20	IAMs_20	22 06 59.3	
	comp=Z,9μm,22.0s						
TPUB	Ta-pu	38.25	315	P	P	21 55 09.4	-0.7
TPUB				IAMs_20	IAMs_20	22 07 12.8	
	comp=Z,9μm,22.0s						
SSLB	Suanglung	38.34	316	P	P	21 55 09.3	-1.5
SSLB				IAmb	IAmb	21 55 15.1	
	comp=Z,65nm,1.5s						
SSLB				IAMs_20	IAMs_20	22 07 15.1	
	comp=Z,11μm,21.0s						
SSLB	Suanglung	38.34	316	P	P	21 55 11.6	+0.7
UGM	Wanagama	38.38	262	P	P	21 55 10.1	-1.2
	comp=Z,76nm,1.6s						
YOGI	Yogyakarta	38.60	262	P	P	21 55 11.1	-2.0
	comp=Z,2μmcomp=Z,97nm,1.4s						
YHNB	Yeheng	38.64	318	P	P	21 55 12.6	-0.8
YHNB				IAMs_20	IAMs_20	22 07 49.0	
	comp=Z,9μm,21.0s						
YHNB	Yeheng	38.64	318	P	P	21 55 14.8	+1.4
TATO	Taipei	38.77	318	P	P	21 55 14.2	-0.2
TATO				IAmb	IAmb	21 55 17.2	
	comp=Z,126nm,1.2s						
TATO	Taipei	38.77	318	IAMs_20	IAMs_20	22 08 03.3	
	comp=Z,10μm,20.0s						
KSM	Kuching	38.83	277	P	P	21 55 14.4	-0.7
KSM	Kuching	38.83	277	P	P	21 55 16.0	+0.9
KSM	Kuching	38.83	277	P	P	21 55 16.7	+1.6
MOO	Moorlands	38.86	182	P	P	21 55 16.5	+1.5
	baz=39,SNR=5.1						
MOO	Moorlands	38.86	182	P	P	21 55 16.8	+1.9
JSU	Suzuyama	38.91	335	P	P	21 55 13.3	-2.2
OUZ	Omahuta	39.06	147	IAMs_20	IAMs_20	22 07 49.1	
	comp=Z,11μm,22.0s						
TAU	Tasmania Unive	39.33	182	P	P	21 55 18.9	+0.1
TAU				pmax	pmax		
	comp=Z,123nm,1.7s						
TAU				MLR	MLR		
	comp=Z,17μm,20.0s						
TAU	Tasmania Unive	39.33	182	P	P	21 55 18.9	+0.1
TAU				IAmb	IAmb	21 55 21.1	
	comp=Z,123nm,1.7s						
JMN	Monobe	39.58	340	P	P	21 55 21.1	0.0
JMN				IAmb	IAmb	21 55 25.6	
	comp=Z,63nm,1.1s						
KPJI	Karang Pucung	39.91	263	P	P	21 55 23.2	-0.9
	comp=Z,44nm,0.9s						
JNU	Nakatsue	40.14	336	P	P	21 55 24.4	-1.4
	comp=Z,50nm,0.9s,baz=112,slow=2.0,SNR=13						

JNU LR LR 22 09 23.0
comp=Z,3µm,21.8s,baz=150,slow=32
JNU Nakatsue 40.14 336 P **P** **21 55 24.5 -1.3**
JNU IAmb IAmb 21 55 28.1
comp=Z,80nm,1.0s
JNU Nakatsue 40.14 336 P **P** **21 55 25.2 -0.6**
INU Inuyama 40.15 345 P **P** **21 55 25.3 -0.4**
AFI Afiamalu 40.23 107 LR LR 22 10 31.8
comp=Z,3µm,18.0s,baz=282,slow=34
MORW Morawa 40.24 227 P **P** **21 55 27.3 +0.6**
baz=40,SNR=8.5
MORW Morawa 40.24 227 P **P** **21 55 27.5 +0.8**
MORW IAmb IAmb 21 55 39.4
comp=Z,147nm,1.8s
MORW Morawa 40.24 227 P **P** **21 55 28.8 +2.1**
CMJI Cimerak 40.42 262 P P 21 55 23.1 -5.2
comp=Z,756nmcomp=Z,52nm,1.1s
KLBR Kellerberrin 40.49 223 P **P** **21 55 27.5 -1.2**
baz=41,SNR=8.0
KLBR Kellerberrin 40.49 223 P **P** **21 55 27.6 -1.1**
KNMB Chin-men Tao 40.57 315 P **P** **21 55 29.2 -0.2**
BLDU Ballidu 40.63 225 P **P** **21 55 28.6 -1.2**
baz=41,SNR=11
BLDU Ballidu 40.63 225 P **P** **21 55 31.5 +1.6**
RAO Raoul Island 40.66 133 LR LR 22 10 09.6
comp=Z,5µm,18.0s,baz=268,slow=33
QZH Quanzhou 40.73 315 ⇑*i*P **P** **21 55 32.5 +1.8**
QZH S **S** **22 01 42.0 +1.5**
QZH pmax pmax
comp=Z,29nm,1.2s
QZH pmax pmax
comp=Z,410nm,5.5s
QZH LR LR
comp=Z,3µm,17.7s
QZH LR LR
comp=Z,2µm,18.5s
QZH LR LR
comp=Z,3µm,19.0s
JHS Saijyo 40.99 340 P **P** **21 55 31.9 -0.8**
JHS IAmb IAmb 21 55 35.3
comp=Z,84nm,1.5s
MJAR Matsushiro Arr 40.99 347 P **P** **21 55 30.0 -2.7**
comp=Z,2.8nm,0.8s,baz=172,slow=8.1,SNR=5.5
MJAR PcP **PcP** **21 57 33.7 +0.9**
comp=Z,5.7nm,0.8s,baz=176,slow=3.7,SNR=6.8
MJAR LR LR 22 10 38.7
comp=Z,4µm,19.2s,baz=164,slow=34
MJAR Matsushiro Arr 40.99 347 P **P** **21 55 31.6 -1.1**
MJAR pmax pmax
comp=Z,17nm,1.6s
MJAR Matsushiro Arr 40.99 347 P **P** **21 55 31.6 -1.1**
MAJO Matsushiro 41.00 347 P **P** **21 55 31.8 -0.9**
MAJO pmax pmax
comp=Z,35nm,1.5s
MAJO MLR MLR
comp=Z,7µm,18.0s
MAJO Matsushiro 41.00 347 P **P** **21 55 31.8 -0.9**
MAJO Matsushiro 41.00 347 IAms_20 IAms_20 22 11 50.8
comp=Z,7µm,18.0s
MAJO Matsushiro 41.00 347 P **P** **21 55 34.3 +1.5**
MAT Matsushiro 41.00 347 P **P** **21 55 31.0 -1.8**
MAT S **S** **22 01 40.6 -3.6**
MJB9 Matsu-Tunnel 41.00 347 P **P** **21 55 31.8 -1.0**
TPI Tanjungpandan 41.14 270 P **P** **21 55 31.5 -2.8**
LEM Lembang 41.19 264 P **P** **21 55 32.8 -2.1**
comp=Z,13nm,0.4s,baz=102,slow=9.2,SNR=5.6
LEM Lembang 41.19 264 P **P** **21 55 36.3 +1.4**
LEM pmax pmax
comp=Z,72nm,1.0s
LEM Lembang 41.19 264 P **P** **21 55 32.8 -2.1**
comp=Z,819nmcomp=Z,46nm,1.0s
CNJI Cibinong 41.70 263 P **P** **21 55 35.9 -2.9**
comp=Z,2µmcomp=Z,185nm,1.0s
JMM Marumori 41.77 350 P **P** **21 55 37.9 -1.1**
JMM IAmb IAmb 21 55 59.2
comp=Z,155nm,1.9s
HIZ Hauiti 42.20 149 IAms_20 IAms_20 22 11 02.3
comp=Z,7µm,19.0s
HKPS Hong Kong Po S 42.47 309 P **P** **21 55 43.8 -1.2**
HKPS IAmb IAmb 21 55 51.0
comp=Z,189nm,1.8s
QRZ Quartz Range 42.90 153 IAms_20 IAms_20 22 13 07.7
comp=Z,7µm,18.0s
DLV T Lat 42.93 292 P **P** **21 55 49.2 0.0**
DLV IAmb IAmb 21 55 56.8
comp=Z,70nm,1.4s
NIUE Niue 43.16 114 P **P** **21 55 51.2 +0.5**
URZ Urewera 43.21 147 P **P** **21 55 50.0 -0.8**
comp=Z,8.1nm,0.7s,baz=311,slow=6.6,SNR=4.7
URZ LR LR 22 11 03.0
comp=Z,14µm,21.5s,baz=321,slow=32
URZ Urewera 43.21 147 P **P** **21 55 51.0 +0.2**
SSE Sheshan 43.30 324 P **P** **21 55 50.9 -0.7**
SSE S **S** **22 02 18.8 +0.6**
SSE pmax pmax
comp=Z,8.0nm,0.6s
SSE pmax pmax
comp=Z,220nm,7.9s
SSE LR LR
comp=Z,1µm,20.5s
SSE LR LR
comp=Z,2µm,23.7s
MXZ Matakaoa Point 43.38 145 IAms_20 IAms_20 22 09 58.3
comp=Z,9µm,22.0s
XMIS Christmas Isla 43.40 258 P **P** **21 55 52.4 -0.4**
XMIS IAmb IAmb 21 56 01.4
comp=Z,48nm,1.0s
BKZ Black Stump Fm 43.54 148 P **P** **21 55 54.0 +0.4**
BKZ IAms_20 IAms_20 22 11 29.6
comp=Z,9µm,22.0s
NNZ Nelson 43.60 153 IAms_20 IAms_20 22 11 58.2
comp=Z,8µm,20.0s
THZ Tophouse 43.83 154 P **P** **21 55 57.0 +1.2**
THZ IAmb IAmb 21 56 18.9
comp=Z,97nm,1.8s
THZ IAms_20 IAms_20 22 12 54.2
comp=Z,7µm,20.0s
FOZ Fox Glacier 44.04 158 IAms_20 IAms_20 22 12 39.0
comp=Z,5µm,19.0s
BSWZ Blackbirch Sta 44.22 153 P **P** **21 55 58.6 -0.3**
KASI Kota Agung 44.26 266 P **P** **21 55 55.9 -3.7**
comp=Z,32nm,1.2s
SNZO South Karori 44.28 152 P **P** **21 56 00.2 +0.8**
QIZ Qiongzhong 44.39 302 P **P** **21 56 00.2 -0.5**
QIZ Qiongzhong 44.39 302 P **P** **21 56 01.5 +0.9**
QIZ S **S** **22 02 34.5 -0.2**
QIZ LR LR
comp=Z,2µm,13.5s
QIZ LR LR
comp=Z,3µm,21.4s
QIZ LR LR
comp=Z,4µm,24.5s
QIZ Qiongzhong 44.39 302 P **P** **21 56 03.0 +2.4**
BHW Baring Head 44.44 152 P **P** **21 55 59.9 -0.7**
BFZ Birch Farm 44.55 150 P **P** **21 56 00.3 -1.2**
RPZ Rata Peaks 44.67 157 P **P** **21 56 01.7 -0.8**
comp=Z,14nm,0.9s,baz=34,slow=8.9,SNR=7.7
RPZ LR LR 22 13 25.1
comp=Z,10µm,19.5s,baz=322,slow=34
RPZ Rata Peaks 44.67 157 P **P** **21 56 03.4 +0.9**
RPZ IAmb IAmb 21 56 28.0
comp=Z,66nm,1.4s
OXZ Oxford 44.74 156 P **P** **21 56 03.0 0.0**
PLWZ Palliser 44.74 152 P **P** **21 56 03.7 +0.6**
DCZ Deep Cove 44.83 162 P **P** **21 56 04.4 +0.8**
DCZ IAmb IAmb 21 56 18.1
comp=Z,83nm,1.3s
LBZ Lake Benmore 44.91 158 P **P** **21 56 04.0 -0.4**
LBZ IAmb IAmb 21 56 08.4
comp=Z,98nm,1.8s
LBZ IAms_20 IAms_20 22 13 06.0
comp=Z,7µm,21.0s
MLZ Mavora Lakes 45.05 161 P **P** **21 56 06.2 +0.7**
MLZ IAmb IAmb 21 56 15.0
comp=Z,38nm,1.0s
KSRS Korea Array 45.09 336 P **P** **21 56 04.5 -1.4**
comp=Z,6.0nm,1.1s,baz=152,slow=9.9,SNR=12
KSRS PP **PP** **21 57 52.0 +0.5**
comp=Z,2.2nm,1.0s,baz=151,slow=2.9,SNR=4.4
MQZ McQueen's Vall 45.30 156 IAms_20 IAms_20 22 12 10.3
comp=Z,9µm,22.0s
NJ2 Nanjing 45.36 323 *e*P **P** **21 56 06.8 -1.3**
NJ2 pP **pP** **21 56 11.9 -1.4**
NJ2 sP **sP** **21 56 13.5 -1.8**
NJ2 PP **PP** **21 57 53.1 -1.3**
NJ2 S **S** **22 02 49.0 +0.8**
NJ2 sS **pS** **22 02 55.4 +0.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,470nm,5.3s
NJ2 LR LR
comp=Z,5µm,20.4s
NJ2 LR LR
comp=Z,4µm,19.0s
NJ2 LR LR
comp=Z,7µm,20.9s
ERM Erimo 45.53 354 IAms_20 IAms_20 22 13 12.8
comp=Z,7µm,19.0s
INCN Inchon 45.65 335 P **P** **21 56 10.0 -0.3**
INCN pmax pmax
comp=Z,85nm,1.6s
INCN MLR MLR
comp=Z,3µm,19.0s
INCN Inchon 45.65 335 P **P** **21 56 10.0 -0.3**
INCN IAmb IAmb 21 56 56.0
comp=Z,85nm,1.6s
HJU Haeju 46.51 335 P **P** **21 56 18.2 +1.2**
HJU pP **sP** **21 56 23.3 -1.0**
HJU S **S** **22 03 05.5 +0.9**
HJU AmB
comp=Z,752nm,3.7s
HJU AMS AMS
comp=N,3µm,12.2s
HJU AMS AMS
comp=E,611nm,2.3s
HJU AMS AMS
comp=Z,1µm,4.1s
JEW Eniwo 46.55 353 P **P** **21 56 16.8 -0.5**
GULI GuiLin 46.99 310 P **P** **21 56 23.4 +2.3**
GULI S **S** **22 03 17.9 +5.9**
GULI pmax pmax
comp=Z,20nm,1.4s
GULI LR LR
comp=Z,3µm,18.4s
GULI LR LR
comp=Z,3µm,18.4s
GULI LR LR
comp=Z,6µm,19.5s
WHN Wuhan 47.19 318 P **P** **21 56 24.8 +2.3**
WHN S **S** **22 03 18.7 +4.2**
WHN pmax pmax
comp=Z,50nm,1.2s
WHN LR LR
comp=Z,3µm,16.1s
WHN LR LR
comp=Z,10µm,18.1s
WHN LR LR
comp=Z,15µm,20.7s
PYAG Pyongyang 47.34 335 P **P** **21 56 24.7 +1.1**
PYAG sP **pwP** **21 56 34.2 +2.9**
PYAG S **S** **22 03 17.6 +1.1**
PYAG AmB
comp=Z,104nm,1.3s
PYAG AMS AMS
comp=N,221nm,2.4s
PYAG AMS AMS
comp=E,796nm,8.6s
PYAG AMS AMS
comp=Z,232nm,2.5s
HHU Hamhung 47.39 338 P **P** **21 56 24.8 +0.9**
HHU pP **pwP** **21 56 32.6 +0.9**
HHU S **S** **22 03 19.0 +1.9**
HHU AmB
comp=Z,824nm,4.6s
HHU AMS AMS
comp=N,927nm,20.2s
HHU AMS AMS
comp=E,386nm,8.4s
HHU AMS AMS
comp=Z,123nm,2.7s
JKA Kamikawa-asahi 47.67 354 P **P** **21 56 25.7 -0.3**
ASAJ Asahikawa 47.67 354 LR LR 22 17 29.2
comp=Z,2µm,18.6s,baz=181,slow=37
ASAJ Asahikawa 47.67 354 P **P** **21 56 25.7 -0.3**
ASAJ pmax pmax
comp=Z,68nm,1.3s
BKNI Bangkinang 47.93 274 P **P** **21 56 28.6 0.0**
IPM Ipoh 48.42 279 P **P** **21 56 32.9 +0.5**
KUR Kuril'sk 48.47 359 P **P** **21 56 31.2 -0.9**
KUR 21 58 05.7
KUR PPP PPP 21 59 09.8
KUR *e*S **S** **22 03 38.2 +6.0**
KUR pmax pmax
comp=Z,361nm,1.5s
MSHR Mys Shultsa 48.53 343 *i*P **P** **21 56 34.7 +2.0**
MSHR pmax pmax
comp=Z,22nm,1.5s
SUJ Sinuiju 48.75 335 P **P** **21 56 35.6 +1.2**
SUJ pP **sP** **21 56 41.6 -0.2**
SUJ S **S** **22 03 38.9 +2.4**
SUJ AmB
comp=Z,1µm,5.5s
SUJ AMS AMS
comp=N,812nm,14.5s
SUJ AMS AMS
comp=E,451nm,8.1s
SUJ AMS AMS
comp=Z,246nm,4.4s
KULM Kulim 48.92 280 P **P** **21 56 34.0 -2.2**
DL2 Dalian 49.05 332 P **P** **21 56 38.0 +1.2**
DL2 S **S** **22 03 42.0 +1.3**
DL2 pmax pmax
comp=Z,280nm,6.6s
DL2 LR LR
comp=Z,2µm,21.2s
DL2 LR LR
comp=Z,3µm,20.8s
DL2 LR LR
comp=Z,5µm,21.4s
TIA Tai'an 49.33 326 ⇑P **P** **21 56 39.9 +0.9**
TIA S **S** **22 03 44.9 +0.1**
TIA pmax pmax
comp=Z,14nm,1.1s
TIA pmax pmax
comp=Z,380nm,8.7s
TIA LR LR
comp=Z,3µm,19.0s
TIA LR LR
comp=Z,3µm,19.8s
TIA LR LR
comp=Z,4µm,19.2s
USA0B Ussuriysk Arra 49.78 344 P **P** **21 56 42.0 -0.3**
USA0B pmax pmax
comp=Z,26nm,1.2s
USA0B Ussuriysk Arra 49.78 344 P **P** **21 56 42.0 -0.3**
USRK Ussuriysk Ar. 49.78 344 P **P** **21 56 41.4 -0.9**
comp=Z,11nm,0.9s,baz=162,slow=7.8,SNR=10.0
USRK S **S** **22 03 51.5 +0.7**
comp=Z,2.0nm,0.6s,baz=132,slow=39,SNR=2.0
USRK LR LR 22 15 29.6
comp=Z,5µm,21.0s,baz=142,slow=33
USRK Ussuriysk Ar. 49.78 344 P **P** **21 56 42.2 -0.1**
USRK Ussuriysk Ar. 49.78 344 P **P** **21 56 42.1 -0.1**
RPSI Rantau Prapat 50.27 276 P **P** **21 56 46.6 +0.1**
RPSI IAmb IAmb 21 57 04.9
comp=Z,40nm,1.5s
PSI Prapat 50.28 276 P **P** **21 56 46.6 -0.2**
PSI pmax pmax
comp=Z,40nm,1.5s
PSI MLR MLR
comp=Z,2µm,22.0s
PSI Prapat 50.28 276 P **P** **21 56 47.7 +0.9**
ENH Enshi 50.37 315 P **P** **21 56 46.9 -0.1**
ENH IAmb IAmb 21 56 55.2
comp=Z,80nm,1.8s
GYA Guiyang 50.45 309 ⇑P **P** **21 56 49.3 +1.4**
GYA S **S** **22 04 01.2 +0.2**
GYA SS **SS** **22 07 35.9 +0.6**
GYA pmax pmax
comp=Z,16nm,1.4s
GYA pmax pmax
comp=Z,290nm,5.3s
GYA LR LR
comp=Z,1µm,17.2s
GYA LR LR
comp=Z,3µm,19.5s
GYA LR LR
comp=Z,3µm,19.9s
YSS Yuzh-Sakhalins 50.47 355 *ce*P **P** **21 56 46.9 -0.5**
YSS *e* 21 58 37.3
YSS *e*S **S** **22 03 58.0 -2.2**
YSS *e*PS **S** **22 04 09.0 +8.8**
YSS *e*SS **SS** **22 07 33.0 -1.5**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 50.47 355 P **P** **21 56 46.4 -1.0**
YSS IAmb IAmb 21 57 04.8
comp=Z,31nm,1.1s
YSS IAMs_20 IAMs_20 22 15 34.4
comp=Z,6µm,21.0s
YSS Yuzh-Sakhalins 50.47 355 P **P** **21 56 48.0 +0.6**
SRIT Nakonsritamara 50.53 284 P **P** **21 56 46.4 -2.1**
SRIT IAmb IAmb 21 56 50.5
comp=Z,103nm,2.0s
SNY Shenyang 50.57 336 ⇑P **P** **21 56 47.4 -0.9**
SNY S **S** **22 04 03.2 +1.3**
SNY pmax pmax
comp=Z,360nm,4.9s
SNY pmax pmax
comp=Z,550nm,10.0s
SNY LR LR
comp=Z,3µm,22.2s
SNY LR LR
comp=Z,2µm,23.5s
SNY LR LR
comp=Z,6µm,32.2s
MDJ Mudanjiang 50.85 342 P **P** **21 56 49.7 -0.7**
MDJ Mudanjiang 50.85 342 P **P** **21 56 49.7 -0.7**
MDJ sP pP 21 56 54.1 -1.5
MDJ S **S** **22 04 06.7 +1.0**
MDJ sS sS 22 04 13.0 -1.4
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,430nm,9.0s
MDJ LR LR
comp=Z,3µm,21.6s
MDJ LR LR
comp=Z,3µm,22.5s
MDJ LR LR
comp=Z,9µm,24.1s
MDJ Mudanjiang 50.85 342 P **P** **21 56 51.1 +0.7**
LYN LuoYang 50.97 321 *e*P **P** **21 56 53.0 +1.6**
LYN pP pwP 21 57 02.7 +3.5
LYN S **S** **22 04 07.7 0.0**
LYN SS **SS** **22 07 35.1 -7.9**
LYN pmax pmax
comp=Z,290nm,9.0s
LYN LR LR
comp=Z,4µm,22.8s
LYN LR LR
comp=Z,2µm,24.7s
LYN LR LR
comp=Z,6µm,23.5s
GSI Gunungsitoli 51.46 274 P **P** **21 56 54.9 -0.7**
GSI IAmb IAmb 21 57 02.8
comp=Z,88nm,1.5s
CN2 Changchun 51.52 338 *e*P **P** **21 56 54.6 -0.8**
CN2 PP **PP** **21 58 47.9 -5.0**
CN2 SS **SS** **22 07 49.4 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,2µm,20.6s
CN2 LR LR
comp=Z,2µm,20.6s
CN2 LR LR
comp=Z,3µm,21.3s
HNS HongShan 51.54 325 ⇓P **P** **21 56 55.6 -0.1**
HNS PP **PP** **21 58 55.5 +2.3**
HNS S **S** **22 04 15.6 +0.2**
HNS SS **SS** **22 07 53.2 +1.3**
HNS pmax pmax
comp=Z,24nm,1.3s
HNS LR LR
comp=Z,2µm,18.6s
HNS LR LR
comp=Z,5µm,19.6s
HNS LR LR
comp=Z,5µm,19.6s
BNX BinXian 52.54 341 ⇑P **P** **21 57 02.1 -0.9**
BNX pP **pwP** **21 57 10.7 -0.1**
BNX sP **sP** **21 57 12.4 +2.1**
BNX S **S** **22 04 29.4 +0.5**
BNX pmax pmax
comp=Z,68nm,1.0s
BNX pmax pmax
comp=Z,760nm,3.8s
BNX LR LR
comp=Z,4µm,19.4s
BNX LR LR
comp=Z,7µm,21.0s
BNX LR LR
comp=Z,15µm,30.6s
LHMI Lhok Sumawe 52.55 279 P **P** **21 57 03.9 +0.3**
BJT Baijiatuau 52.62 329 P **P** **21 57 04.0 +0.3**
BJT pmax pmax
comp=Z,10.0nm,1.0s
BJT MLR MLR
comp=Z,3µm,20.0s
BJT Baijiatuau 52.62 329 P **P** **21 57 04.0 +0.3**
BJI Beijing 52.63 329 P **P** **21 57 04.8 +1.1**
BJI S **S** **22 04 34.7 +4.4**
BJI SS **SS** **22 08 10.4 +1.4**
BJI pmax pmax
comp=Z,8.0nm,1.1s
BJI LR LR
comp=Z,3µm,19.8s
BJI LR LR
comp=Z,2µm,21.1s
BJI LR LR
comp=Z,5µm,26.6s
RAR Rarotonga 52.93 114 LR LR 22 17 37.0
comp=Z,824nm,20.1s,baz=281,slow=34
XAN Xi'an 52.95 318 P **P** **21 57 07.0 +0.7**
XAN pP pwP 21 57 17.8 +3.7
XAN PP **PP** **21 59 08.4 +2.3**
XAN S **S** **22 04 35.2 +0.1**
XAN sS sS 22 04 50.2 +6.5
XAN ScS **ScS** **22 06 58.0 +2.5**
XAN SS **SS** **22 08 12.2 -2.3**
XAN pmax pmax
comp=Z,21nm,1.2s
XAN pmax pmax
comp=Z,440nm,9.8s
XAN LR LR
comp=Z,2µm,18.7s
XAN LR LR
comp=Z,2µm,19.4s
XAN LR LR
comp=Z,6µm,19.4s
KMI Kunming 52.97 305 ⇑P **P** **21 57 08.8 +2.0**
KMI pP pP 21 57 10.1 -2.0
KMI sP sP 21 57 13.6 -0.5
KMI PP **PP** **21 59 05.1 -1.6**
KMI S **S** **22 04 34.7 -1.3**
KMI SS **SS** **22 08 15.8 +0.4**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI LR LR
comp=Z,2µm,19.6s
KMI LR LR
comp=Z,2µm,19.6s
KMI LR LR
comp=Z,3µm,22.5s
TIY Taiyuan 53.07 324 ⇑P **P** **21 57 08.7 +1.5**
TIY S **S** **22 04 41.5 +4.9**
TIY pmax pmax
comp=Z,230nm,8.9s
TIY LR LR
comp=Z,3µm,22.7s
TIY LR LR
comp=Z,2µm,20.3s
TIY LR LR
comp=Z,5µm,21.3s
CM31 Chiang Mai Arr 53.73 296 P **P** **21 57 13.2 +1.0**
CMAR Chiang Mai Arr 53.73 296 P **P** **21 57 12.9 +0.6**
comp=Z,2.4nm,0.4s,baz=124,slow=6.0,SNR=18
CMAR LR LR 22 20 20.9
comp=Z,1µm,19.6s,baz=100,slow=36
CMAR Chiang Mai Arr 53.73 296 *i*P **P** **21 57 12.8 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 53.85 296 P **P** **21 57 13.5 +0.4**

CHTO pmax pmax
comp=Z,20nm,1.2s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 53.85 296 P **P** **21 57 13.5 +0.4**
PZH PanZhiHua 54.38 306 P **P** **21 57 18.8 +1.8**
PZH sP **pwP** **21 57 25.2 +0.4**
PZH PcP **PcP** **21 58 17.3 -3.5**
PZH S **S** **22 04 52.1 -2.7**
PZH ScS **ScS** **22 07 05.8 -0.3**
PZH SS **SS** **22 08 37.0 -0.4**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,260nm,6.5s
PZH LR LR
comp=Z,2µm,20.0s
PZH LR LR
comp=Z,2µm,18.8s
PZH LR LR
comp=Z,3µm,22.0s
KLR Kul'dur 54.52 346 LR LR 22 18 44.7
comp=Z,3µm,20.4s,baz=154,slow=34
KLR Kul'dur 54.52 346 *ce*P **P** **21 57 16.3 -1.1**
KLR pmax pmax
comp=Z,19nm,1.0s
CD2 Chengdu 54.88 312 P **P** **21 57 22.2 +1.7**
CD2 S **S** **22 05 02.1 +0.8**
CD2 pmax pmax
comp=Z,30nm,1.4s
CD2 pmax pmax
comp=Z,460nm,7.8s
CD2 LR LR
comp=Z,390nm,19.2s
CD2 LR LR
comp=Z,4µm,21.0s
CD2 LR LR
comp=Z,5µm,20.2s
GRNR Gornyy 55.04 350 ⇓ *i*P **P** **21 57 21.6 +0.4**
GRNR *e* 22 04 57.8
GRNR pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 55.69 326 *e*P **P** **21 57 27.8 +1.6**
HHC S **S** **22 05 10.8 -1.1**
HHC sS pS 22 05 19.1 +0.8
HHC SS **SS** **22 08 56.2 -1.3**
HHC pmax pmax
comp=Z,15nm,1.4s
HHC pmax pmax
comp=Z,360nm,6.7s
HHC LR LR
comp=Z,3µm,17.5s
HHC LR LR
comp=Z,2µm,18.6s
HHC LR LR
comp=Z,6µm,19.8s
BTO Baotou 56.40 325 *e*P **P** **21 57 33.3 +2.1**
BTO S **S** **22 05 24.8 +3.5**
BTO LR LR
comp=Z,9µm,21.2s
BTO LR LR
comp=Z,13µm,22.4s
PEA0B Petropavlovsk- 56.83 6 *ce*P **P** **21 57 33.8 -0.2**
PEA0B Petropavlovsk- 56.83 6 P **P** **21 57 34.9 +0.9**
PEA0B IAmb IAmb 21 57 42.0
comp=Z,63nm,1.2s
PETK Petropavlovsk- 56.83 6 P **P** **21 57 33.6 -0.4**
comp=Z,11nm,1.0s,baz=159,slow=4.6,SNR=6.2
PETK LR LR 22 18 25.1
comp=Z,3µm,21.4s,baz=187,slow=32
PET Petropavlovsk 56.86 7 *e*P **P** **21 57 37.4 +3.3**
PET *e*S **S** **22 05 28.0 +1.3**
PET *e*SS **SS** **22 09 14.9 -0.3**
PET pmax pmax
comp=Z,39nm,1.4s
PET pmax pmax
comp=Z,100nm,13.3s
PET MLR MLR
comp=Z,3µm,16.0s
PET MLR MLR
comp=Z,3µm,16.0s
PET Petropavlovsk 56.86 7 P **P** **21 57 34.5 +0.4**
PET IAmb IAmb 21 57 41.2
comp=Z,50nm,1.3s
PET Petropavlovsk 56.86 7 P **P** **21 57 37.4 +3.3**
LZH Lanzhou 57.53 317 ⇓ P **P** **21 57 39.6 +0.1**
LZH sP pwP 21 57 47.7 +0.4
LZH S **S** **22 05 37.6 +1.0**
LZH SS **SS** **22 09 28.1 +1.2**
LZH pmax pmax
comp=Z,35nm,1.6s
LZH pmax pmax
comp=Z,270nm,5.4s
LZH LR LR
comp=Z,2µm,20.1s
LZH LR LR
comp=Z,2µm,20.1s
LZH LR LR
comp=Z,4µm,20.1s
HON Honolulu 57.55 62 P **P** **21 57 39.7 +0.1**
HON pmax pmax
comp=Z,325nm,1.5s
HON Honolulu 57.55 62 P **P** **21 57 39.7 +0.1**
KIP Kipapa 57.57 62 P **P** **21 57 40.4 +0.6**
KIP pmax pmax
comp=Z,428nm,2.0s
KIP Kipapa 57.57 62 P **P** **21 57 40.4 +0.6**
HIA Hailar 58.24 338 *e*P **P** **21 57 43.5 -0.5**
HIA pmax pmax
comp=Z,53nm,1.0s
HIA Hailar 58.24 338 IAmb IAmb 21 57 47.0
comp=Z,48nm,1.0s
KHLH Kahului Airpor 58.81 63 P **P** **21 57 48.5 +0.1**
HUH Hualalai 58.98 65 P **P** **21 57 50.6 +0.6**
ZEA Zeya 59.77 345 *e*P **P** **21 57 54.5 0.0**
ZEA *e*S **S** **22 06 08.7 +4.0**
ZEA *e*SS **SS** **22 10 02.9 +1.9**
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=N,10.0nm,1.8s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA smax smax
comp=E,300nm,14.8s
MOKO MOKOCHONG 60.26 303 *e*P **P** **21 57 58.5 -0.1**
MOKO IAmb IAmb 21 58 11.9
comp=Z,9.6nm,0.6s
KOHI KOHIMA 60.39 302 *e*P **P** **21 58 00.0 +0.5**
KOHI IAmb IAmb 21 58 12.2
comp=Z,18nm,0.0s
SILR SILCHAR 61.19 301 *ex* **P** **21 58 08.9 +4.2**
ITAN ITANAGAR 61.21 303 *e*P **P** **21 58 05.5 +0.6**
PPT Papeete 61.89 108 LR LR 22 20 57.2
comp=Z,1µm,20.4s,baz=274,slow=32
PPT2 Papeete2 61.90 108 *e*S **S** **22 06 31.1 -2.2**
comp=Z,4µm,26.0s
PPT2 *e*LQ LQ 22 13 49.3
comp=Z,13µm,31.5s
PPT2 *e*LR LR 22 16 33.9
comp=Z,4µm,27.2s
GTA Gaotai 62.01 319 ⇑ P **P** **21 58 10.1 -0.1**
GTA pP pP 21 58 14.5 -1.1
GTA sP pwP 21 58 17.7 -0.4
GTA S **S** **22 06 34.9 +0.8**
GTA sS sS 22 06 48.0 +4.9
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,260nm,7.2s
GTA LR LR
comp=Z,1µm,21.9s
GTA LR LR
comp=Z,2µm,19.9s
GTA LR LR
comp=Z,3µm,21.1s
KIWB Kanaga Island 62.19 23 P **P** **21 58 10.9 -0.1**
SHL Shillong 62.23 301 P **P** **21 58 12.2 +0.2**
SHL pmax pmax
comp=Z,41nm,1.2s
SHL Shillong 62.23 301 P **P** **21 58 12.2 +0.2**
SHL IAmb IAmb 21 58 25.1
comp=Z,41nm,1.2s
SHL Shillong 62.23 301 *e*P **P** **21 58 11.2 -0.8**
SHL IAmb IAmb 21 58 25.9
comp=Z,15nm,1.2s
AGT Agartala 62.25 299 *ex* P 21 58 02.1 -10
ADK Adak 62.40 23 P **P** **21 58 12.7 +0.4**
ADK pmax pmax
comp=Z,53nm,1.0s
ADK Adak 62.40 23 P **P** **21 58 12.7 +0.4**
GUWA GUWAHATI 62.59 302 *e*P **P** **21 58 13.4 -0.8**
ULN Ulaanbaatar 62.80 330 *ce*P **P** **21 58 15.6 +0.2**
ULN pmax pmax
comp=Z,36nm,1.7s
ULN Ulaanbaatar 62.80 330 P **P** **21 58 15.2 -0.1**
ULN IAmb IAmb 21 58 18.6
comp=Z,30nm,1.3s
ULN Ulaanbaatar 62.80 330 IAMs_20 IAMs_20 22 23 27.1
comp=Z,4µm,22.0s
CIT Chita 62.83 336 *e*P **P** **21 58 16.4 +1.1**
CIT *e* 21 58 23.8
CIT *e* 21 58 55.5
CIT pmax pmax
comp=Z,94nm,2.8s
MA2 Magadan 62.84 1 LR LR 22 27 15.0
comp=Z,2µm,18.3s,baz=186,slow=38
MA2 Magadan 62.84 1 *ce*P **P** **21 58 15.3 +0.1**
MA2 pmax pmax
comp=Z,27nm,1.3s
MA2 Magadan 62.84 1 P **P** **21 58 14.1 -1.1**
MA2 IAMs_20 IAMs_20 22 30 45.7
comp=Z,3µm,19.0s
MA2 Magadan 62.84 1 P **P** **21 58 15.2 +0.1**
SONM Songino Array 63.11 329 P **P** **21 58 17.1 -0.4**
comp=Z,15nm,1.2s,baz=134,slow=4.2,SNR=8.5
SONM LR LR 22 24 55.6
comp=Z,3µm,22.0s,baz=120,slow=35
SONM Songino Array 63.11 329 P **P** **21 58 18.3 +0.9**
SONM pmax pmax
comp=Z,39nm,1.5s
SONM Songino Array 63.11 329 P **P** **21 58 18.3 +0.9**
SONM IAmb IAmb 21 58 21.3
comp=Z,39nm,1.5s
GOMU GeErMu 63.95 313 P **P** **21 58 24.3 +0.8**
GOMU pP pP 21 58 26.1 -2.8
GOMU sP sP 21 58 28.3 -2.6
GOMU PcP **PcP** **21 58 53.5 -5.5**
GOMU S **S** **22 07 00.8 +1.8**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,290nm,5.2s
GOMU LR LR
comp=Z,2µm,17.1s
GOMU LR LR
comp=Z,1µm,17.7s
GOMU LR LR
comp=Z,1µm,17.3s
LSA Lhasa 64.23 305 P **P** **21 58 26.5 +0.9**
LSA pmax pmax
comp=Z,4.0nm,0.6s
GTK Tadong 65.57 302 *e*P **P** **21 58 34.4 +0.5**
GTK IAmb IAmb 21 58 48.1
comp=Z,15nm,0.0s
SEY Seymchan 66.25 2 LR LR 22 28 37.9
comp=Z,2µm,18.8s,baz=180,slow=37
ZAK Zakamensk 66.32 330 *e*P **P** **21 58 38.1 -0.1**
ZAK pmax pmax
comp=Z,35nm,1.4s
ZAK pmax pmax
comp=Z,7.0nm,1.6s
TAPN Taplejung 66.33 302 *e*P **P** **21 58 40.0 +0.9**
comp=Z,74nm,1.2s
ODAN Odare 66.46 301 *e*P **P** **21 58 40.7 +0.9**
comp=Z,66nm,1.0s
YAK Yakutsk 66.92 350 LR LR 22 26 36.5
comp=Z,2µm,21.5s,baz=144,slow=35
YAK Yakutsk 66.92 350 *e*P **P** **21 58 41.2 -0.5**
YAK *e* 21 59 06.3
YAK *e* 22 01 11.7
YAK *e*S **S** **22 07 33.1 -0.5**
YAK *e**SS sS 22 07 52.0 +9.3
YAK *e* 22 08 36.5
YAK *e*SSS SSS 22 14 44.3
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,184nm,3.5s
YAK pmax pmax
comp=N,85nm,3.7s
YAK pmax pmax
comp=E,42nm,3.4s
YAK smax smax
comp=N,287nm,5.9s
YAK smax smax
comp=E,137nm,5.1s
YAK Yakutsk 66.92 350 P **P** **21 58 42.2 +0.5**
YAK IAmb IAmb 21 58 49.9
comp=Z,45nm,1.3s
IRK Irkutsk 67.03 332 *e*P **P** **21 58 44.1 +1.5**
IRK pmax pmax
comp=Z,78nm,3.2s
BOD Bodaibo 67.16 341 *e*P **P** **21 58 42.9 -0.4**
BOD pmax pmax
comp=Z,35nm,1.7s
RAMN Ramite 67.17 301 *e*P **P** **21 58 45.1 +0.8**
JIRN Jiri 67.72 302 *e*P **P** **21 58 48.1 +0.2**
comp=Z,31nm,0.9s
GUN Gumba 68.05 302 *e*P **P** **21 58 50.6 +0.6**
comp=Z,75nm,1.0s
MOY Mondy 68.25 330 *e*P **P** **21 58 50.7 +0.2**
MOY pmax pmax
comp=Z,81nm,2.2s
PKI Pulchoki 68.36 301 *e*P **P** **21 58 52.3 +0.4**
PKIN Phulchoki 68.37 301 *e*P **P** **21 58 52.3 +0.4**
KKN Kakani 68.53 302 *e*P **P** **21 58 52.7 -0.1**
DMN Daman 68.63 301 *e*P **P** **21 58 54.4 +0.9**
comp=Z,89nm,1.0s
GKN Gorkha 69.13 302 *e*P **P** **21 58 57.2 +0.7**
KOLN Koldanda 69.95 301 *e*P **P** **21 59 01.7 0.0**
comp=Z,97nm,1.4s
DANN Dangsing 69.97 302 *e*P **P** **21 59 02.2 +0.3**
MDRS Chennai 70.03 285 *e*P **P** **21 59 01.6 -0.4**
PYUN Piuthan 70.56 301 *e*P **P** **21 59 05.0 -0.4**
comp=Z,62nm,1.2s
TAOE Nuku Hiva Isla 70.72 98 *e*S **S** **22 08 15.9 -4.8**
comp=Z,2µm,27.2s
TAOE *e*LQ LQ 22 17 00.3
comp=Z,3µm,29.3s
TAOE *e*LR LR 22 20 39.4
comp=Z,4µm,31.4s
CNBA Chernabura Isl 71.91 28 P **P** **21 59 13.2 +0.6**
WMQ Urumqi 72.09 318 *e*P **P** **21 59 14.1 0.0**
WMQ pP pP 21 59 17.2 -2.4
WMQ sP pwP 21 59 23.3 +1.2
WMQ PcP **PcP** **21 59 31.0 -1.5**
WMQ S **S** **22 08 37.0 +1.5**
WMQ SS **SS** **22 13 17.1 +4.1**
WMQ pmax pmax
comp=Z,40nm,1.5s
WMQ pmax pmax
comp=Z,340nm,3.9s
WMQ LR LR
comp=Z,2µm,21.7s
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,2µm,15.7s
HYBB Hyderabad (bro 72.33 289 *e*P **P** **21 59 16.4 +0.4**
BILL Bilibino 72.36 7 *c* *i*P **P** **21 59 15.3 +0.2**
BILL *i* 21 59 36.6
BILL *i* 22 01 54.6
BILL *i* S **S** **22 08 36.6 -0.9**
BILL pmax pmax
comp=Z,25nm,1.3s
BILL MLR MLR
comp=Z,984nm,18.0s
BILL Bilibino 72.36 7 P **P** **21 59 15.7 +0.5**
BILL IAmb IAmb 21 59 23.4
comp=Z,38nm,1.0s
AIS Amsterdam Isla 73.13 232 IAMs_20 IAMs_20 22 27 44.9
comp=Z,3µm,21.0s
GAMB Gambell 73.20 17 P **P** **21 59 21.2 +1.1**
GAMB IAmb IAmb 21 59 28.6
comp=Z,24nm,1.2s
CHGN Chignik 73.30 28 P **P** **21 59 21.6 +0.7**
VNDA Vanda 74.35 177 P **P** **21 59 25.7 -1.0**
comp=Z,3.9nm,0.8s,baz=316,slow=6.5,SNR=8.2
VNDA LR LR 22 30 34.2
comp=Z,2µm,18.9s,baz=351,slow=34
VNDA Vanda 74.35 177 P **P** **21 59 25.8 -1.0**
VNDA pmax pmax
comp=Z,13nm,1.0s
VNDA Vanda 74.35 177 P **P** **21 59 25.8 -1.0**
DDI Dehra Dun 75.28 302 *e*P **P** **21 59 33.0 -0.2**
ZSN Zaisan 75.32 321 *i* P **P** **21 59 33.4 +0.5**
ZSN *e*S **S** **22 09 13.7 +2.0**
ZSN pmax pmax
comp=Z,17nm,1.4s
ZSN Zaisan 75.32 321 *i* P **P** **21 59 33.5 +0.5**
comp=Z,17nm,1.4s,baz=321
ZSN *e*S **S** **22 09 13.8 +2.0**
baz=321
TNA Tin City 75.62 17 P **P** **21 59 35.2 +1.0**
TNA Tin City 75.62 17 P **P** **21 59 35.5 +1.3**
baz=225
ANM Nome 75.71 19 P **P** **21 59 35.2 +0.4**
ANM pmax pmax
comp=Z,63nm,1.8s
ANM MLR MLR
comp=Z,2µm,21.0s
ANM Nome 75.71 19 P **P** **21 59 35.1 +0.4**
ANM IAmb IAmb 21 59 52.0
comp=Z,63nm,1.8s
ANM Nome 75.71 19 P **P** **21 59 36.9 +2.1**
baz=228
KAAM Kaadhehdhoo 75.91 271 P **P** **21 59 37.3 +0.3**
TIXI Tiksi 76.08 354 LR LR 22 34 47.4
comp=Z,960nm,19.2s,baz=180,slow=37
TIXI Tiksi 76.08 354 *ce*P **P** **21 59 35.8 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 76.08 354 P **P** **21 59 36.0 -0.7**
SMLA Simla 76.21 303 *e*P **P** **21 59 37.7 -0.6**
P18K Big Mountain, 76.41 26 IAMs_20 IAMs_20 22 27 34.3
comp=Z,3µm,22.0s
O18K Koktuh Hills 76.66 25 P **P** **21 59 42.1 +1.7**
O18K IAmb IAmb 21 59 45.1
comp=Z,40nm,1.6s
O18K IAMs_20 IAMs_20 22 28 37.0
comp=Z,4µm,22.0s
O18K Koktuh Hills 76.66 25 P **P** **21 59 44.8 +4.4**
baz=238
MK31 Makanchi Array 76.73 320 *i* P **P** **21 59 40.4 -0.6**
MK31 pmax pmax
comp=Z,30nm,1.1s
MK31 Makanchi Array 76.73 320 P **P** **21 59 41.0 -0.1**
MK31 IAmb IAmb 21 59 44.6
comp=Z,23nm,1.1s
MKAR Makanchi Array 76.73 320 P **P** **21 59 40.9 -0.1**
comp=Z,16nm,1.1s,baz=101,slow=5.7,SNR=39
MKAR LR LR 22 34 22.8
comp=Z,2µm,18.2s,baz=101,slow=36
Q19K Cape Douglas, 76.87 27 P **P** **21 59 42.3 +0.7**
MAKZ Makanchi 76.94 320 P **P** **21 59 42.1 -0.1**
MAKZ pmax pmax
comp=Z,34nm,1.1s
MAKZ MLR MLR
comp=Z,3µm,19.0s
MAKZ Makanchi 76.94 320 P **P** **21 59 42.1 -0.1**
MAKZ IAmb IAmb 21 59 45.7
comp=Z,34nm,1.1s
MAKZ IAMs_20 IAMs_20 22 33 59.6
comp=Z,3µm,19.0s
DHRM DHARAMSHALA 77.17 304 *e*P **P** **21 59 44.8 +0.7**
O19K Port Alsworth 77.22 25 P **P** **21 59 44.2 +0.8**
O19K IAMs_20 IAMs_20 22 28 53.7
comp=Z,4µm,22.0s
P19K Oil Pt 77.42 26 P **P** **21 59 44.9 +0.3**
P19K IAmb IAmb 21 59 57.1
comp=Z,51nm,1.1s
P19K Oil Pt 77.42 26 P **P** **21 59 46.0 +1.4**
baz=240
N19K Bonanza Creek 77.47 25 P **P** **21 59 45.9 +0.9**
N19K IAmb IAmb 21 59 53.1
comp=Z,26nm,1.3s
N19K IAMs_20 IAMs_20 22 29 24.3
comp=Z,3µm,20.0s
SHLS Shalkode 77.49 315 *i* P **P** **21 59 44.6 -0.9**
SHLS pmax pmax
comp=Z,14nm,1.1s
SHLS Shalkode 77.49 315 *i* P **P** **21 59 44.6 -0.9**
comp=Z,14nm,1.1s,baz=316
PDGK Podgornoye 77.52 316 *i* P **P** **21 59 42.8 -2.9**
PDGK pmax pmax
comp=Z,33nm,1.2s
UZB Uzynbulak 77.80 315 *e*P **P** **21 59 47.9 +0.6**
UZB pmax pmax
comp=Z,36nm,1.5s
UZB Uzynbulak 77.80 315 *e*P **P** **21 59 47.9 +0.6**
comp=Z,36nm,1.5s,baz=315
ZALV Zalesovo Beam 77.86 327 P **P** **21 59 46.1 -1.1**
comp=Z,10nm,0.9s,baz=106,slow=5.4,SNR=27
ZALV LR LR 22 34 25.9
comp=Z,2µm,19.9s,baz=110,slow=36
TTA Tatalina 77.99 23 P **P** **21 59 48.0 +0.2**
TTA pmax pmax
comp=Z,18nm,1.1s
TTA Tatalina 77.99 23 P **P** **21 59 48.0 +0.2**
TTA Tatalina 77.99 23 P **P** **21 59 49.8 +2.0**
baz=237
RSO Redoubt South 78.03 26 P **P** **21 59 49.3 +1.1**
L19K White Mountain 78.04 24 P **P** **21 59 48.4 +0.4**
L19K IAmb IAmb 21 59 56.0
comp=Z,34nm,1.1s
L19K IAMs_20 IAMs_20 22 32 04.3
comp=Z,3µm,20.0s
L19K White Mountain 78.04 24 P **P** **21 59 50.2 +2.1**
baz=238
M19K Big River Lodg 78.08 24 P **P** **21 59 49.5 +1.2**
M19K IAmb IAmb 22 00 14.2
comp=Z,23nm,1.1s
M19K IAMs_20 IAMs_20 22 30 25.3
comp=Z,3µm,22.0s
M19K Big River Lodg 78.08 24 P **P** **21 59 50.9 +2.7**
baz=239
KPKS Kokpek 78.12 316 *i* P **P** **21 59 49.5 +0.5**
KPKS pmax pmax
comp=Z,34nm,1.8s
KPKS Kokpek 78.12 316 *i* P **P** **21 59 49.5 +0.5**
comp=Z,34nm,1.8s,baz=316
SATY Saty 78.20 315 *i* P **P** **21 59 50.0 +0.5**
SATY *e*S **S** **22 09 45.5 +1.8**
SATY pmax pmax
comp=Z,45nm,2.5s
SATY Saty 78.20 315 *i* P **P** **21 59 50.1 +0.5**
comp=Z,45nm,2.5s,baz=315
SATY *e*S **S** **22 09 45.5 +1.8**
baz=315
ZHN Zhinishke 78.22 315 *e*P **P** **21 59 50.9 +1.4**
ZHN Zhinishke 78.22 315 *e*P **P** **21 59 51.0 +1.4**
baz=315
CNPM China Poot 78.24 27 P **P** **21 59 50.2 +1.0**
CNPM IAMs_20 IAMs_20 22 32 49.8
comp=Z,3µm,21.0s
TARG Taragay, Kyrgy 78.27 314 IAmb IAmb 22 00 03.7
comp=Z,24nm,1.2s
BRLK Bradley Lake 78.51 27 P **P** **21 59 51.6 +1.0**
BRLK IAmb IAmb 21 59 56.9
comp=Z,20nm,1.0s
L20K Farewell, AK 78.58 23 P **P** **21 59 53.4 +2.3**
baz=239
RDOG Red Dog Mine 78.78 17 P **P** **21 59 52.4 +0.5**
RDOG IAmb IAmb 22 00 00.5
comp=Z,25nm,1.1s
RDOG Red Dog Mine 78.78 17 P **P** **21 59 53.4 +1.4**
baz=229
CAPN Captain Cook N 78.87 26 P **P** **21 59 52.0 -0.5**
K20K Telida 78.97 23 IAmb IAmb 22 00 11.4
comp=Z,33nm,1.2s
K20K Telida 78.97 23 P **P** **21 59 54.6 +1.5**
baz=239
KSH Kashi 79.07 311 P **P** **21 59 57.6 +3.3**
KSH pP pwP 22 00 01.9 -0.4
KSH S **S** **22 10 00.0 +7.0**
KSH pmax pmax
comp=Z,13nm,1.2s
KSH LR LR
comp=Z,1µm,19.2s
KSH LR LR
comp=Z,1µm,18.6s

KSH LR LR
comp=Z,2µm,20.3s
MDOK Medeo 79.19 315 *e*P **P 21 59 55.2 +0.3**
MDOK *e*S **S 22 09 55.5 +1.3**
MDOK Medeo 79.19 315 *e*P **P 21 59 55.3 +0.3**
baz=315
MDOK *e*S **S 22 09 55.5 +1.3**
baz=315
SEM Semipalatinsk 79.20 323 *e*P **P 21 59 54.0 -0.9**
SEM Semipalatinsk 79.20 323 *e*P **P 21 59 54.1 -0.9**
baz=323
TNSS Tian-Shan 79.23 315 *e*P **P 21 59 56.3 +0.8**
baz=315
AAA Alma-Ata 79.30 315 *e*P **P 21 59 56.3 +0.9**
AAA pmax pmax
comp=Z,16nm,0.8s
AAA Alma-Ata 79.30 315 *e*P **P 21 59 56.4 +0.9**
comp=Z,16nm,0.8s,baz=315
SEW Seward 79.31 27 P **P 21 59 55.7 +0.7**
SEW IAmb IAmb 22 00 10.8
comp=Z,35nm,1.0s
O22K Cooper Landing 79.36 26 P **P 21 59 55.7 +0.4**
J20K Nowinta River 79.37 22 P **P 21 59 56.5 +1.3**
J20K IAmb IAmb 22 00 14.4
comp=Z,29nm,1.1s
J20K Nowinta River 79.37 22 P **P 21 59 57.4 +2.2**
baz=238
CHKK Chushkaly 79.41 316 *e*P **P 21 59 56.4 +0.4**
baz=316
FIS Fire Island 79.45 26 P **P 21 59 57.4 +1.7**
FIS IAmb IAmb 22 00 11.8
comp=Z,51nm,1.0s
PPLA Purkeypile 79.47 24 P **P 21 59 57.1 +1.1**
PPLA IAmb IAmb 22 00 49.6
comp=Z,74nm,1.6s
ULHL Ulahol 79.53 314 P **P 22 00 00.2 +3.2**
SNR=6.2
RC01 Rabbit Creek A 79.63 26 IAMs_20 IAMs_20 22 29 59.4
comp=Z,3µm,21.0s
RC01 Rabbit Creek A 79.63 26 P **P 21 59 57.9 +1.1**
baz=243
CAST Castle Rocks 79.77 23 P **P 21 59 58.5 +1.0**
baz=240
M22K Willow 79.77 25 P **P 21 59 58.1 +0.6**
M22K IAMs_20 IAMs_20 22 30 46.1
comp=Z,3µm,22.0s
KUU Kurty 79.88 316 *e*P **P 21 59 58.0 -0.5**
KUU *e*S **S 22 10 01.7 +0.5**
KUU pmax pmax
comp=Z,66nm,1.4s
KUU Kurty 79.88 316 *e*P **P 21 59 58.1 -0.5**
comp=Z,66nm,1.4s,baz=316
KUU *e*S **S 22 10 01.8 +0.5**
baz=316
CHUM Lake Minchumin 79.91 23 P **P 21 59 59.1 +1.0**
baz=240
NIL Nilore 79.96 305 P **P 21 59 59.5 +0.3**
NIL pmax pmax
comp=Z,88nm,1.7s
NIL MLR MLR
comp=Z,2µm,20.0s
NIL Nilore 79.96 305 P **P 21 59 59.5 +0.3**
NIL IAmb IAmb 22 00 05.5
comp=Z,88nm,1.7s
CUT Chulitna 80.01 24 P **P 21 59 59.2 +0.5**
PMR Palmer 80.12 25 P **P 21 59 59.3 -0.1**
PMR Palmer 80.12 25 P **P 21 59 59.2 -0.1**
PWL Port Wells 80.14 26 P **P 22 00 00.3 +0.8**
PWL IAmb IAmb 22 00 12.7
comp=Z,36nm,1.0s
PWL IAMs_20 IAMs_20 22 38 44.0
comp=Z,2µm,20.0s
PWL Port Wells 80.14 26 P **P 22 00 01.1 +1.5**
baz=244
TKM2 Tokmak 2 80.16 314 P P 21 59 54.0 -6.3
SNR=16
GHO Glory Hole Cre 80.29 25 IAMs_20 IAMs_20 22 31 03.7
comp=Z,3µm,21.0s
KURK Kurchatov 80.29 323 P **P 22 00 00.2 -0.3**
KURK pmax pmax
comp=Z,33nm,1.0s
KURK MLR MLR
comp=Z,3µm,20.0s
KURK Kurchatov 80.29 323 P **P 22 00 00.2 -0.3**
KURK IAmb IAmb 22 00 05.7
comp=Z,33nm,1.0s
KURK Kurchatov 80.29 323 IAMs_20 IAMs_20 22 35 59.1
comp=Z,3µm,20.0s
KTH Kantishna Hill 80.29 23 IAmb IAmb 22 00 07.4
comp=Z,33nm,1.2s
KURBB Kurchatov Arra 80.31 323 LR LR 22 36 31.3
comp=Z,2µm,19.3s,baz=81,slow=36
KNK Knik Glacier 80.33 26 P **P 22 00 01.8 +1.2**
KNK IAMs_20 IAMs_20 22 30 21.9
comp=Z,3µm,20.0s
TRF Thorofare Moun 80.49 23 P **P 22 00 02.1 +0.5**
baz=242
BPAW Bear Paw Mtn. 80.53 23 P **P 22 00 02.8 +1.2**
SML Sawmill 80.56 25 IAmb IAmb 22 00 16.9
comp=Z,34nm,1.0s
SML IAMs_20 IAMs_20 22 31 11.9
comp=Z,3µm,22.0s
SML Sawmill 80.56 25 P **P 22 00 03.3 +1.5**
baz=244
H21K Melozitna Rive 80.62 21 P **P 22 00 03.6 +1.6**
H21K IAMs_20 IAMs_20 22 32 07.4
comp=Z,3µm,21.0s
H21K Melozitna Rive 80.62 21 P **P 22 00 04.1 +2.1**
baz=240
I21K Tanana 80.68 22 P **P 22 00 03.1 +0.8**
I21K IAmb IAmb 22 00 10.8
comp=Z,33nm,1.2s
I21K IAMs_20 IAMs_20 22 31 49.0
comp=Z,3µm,21.0s
I21K Tanana 80.68 22 P **P 22 00 04.3 +2.0**
baz=240
GLI Glacier Island 80.70 26 P **P 22 00 03.8 +1.2**
GLI IAmb IAmb 22 00 43.3
comp=Z,26nm,1.0s
UCH Uchtor 80.78 314 P **P 22 00 05.3 +1.4**
SNR=20
CHMS Chumysh 80.78 314 P **P 22 00 01.4 -2.0**
SNR=9.7
AAK Ala-Archa 80.88 314 LR LR 22 36 13.5
comp=Z,2µm,20.4s,baz=108,slow=36
AAK Ala-Archa 80.88 314*ce*P **P 22 00 04.0 -0.1**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 80.88 314 P **P 22 00 04.8 +0.7**
AAK Ala-Archa 80.88 314 IAMs_20 IAMs_20 22 35 40.4
comp=Z,2µm,21.0s
FID Port Fidalgo 80.92 27 P **P 22 00 04.8 +1.0**
FID IAmb IAmb 22 00 21.1
comp=Z,28nm,1.2s
FID IAMs_20 IAMs_20 22 31 60.0
comp=Z,2µm,22.0s
SGDS Sogindy 80.97 315 *e*P **P 22 00 04.8 +0.3**
comp=Z,20nm,2.2s,baz=315
SCM Sheep Creek Mo 81.00 26 P **P 22 00 05.6 +1.4**
SCM pmax pmax
comp=Z,30nm,1.1s
SCM MLR MLR
comp=Z,4µm,22.0s
SCM Sheep Creek Mo 81.00 26 P **P 22 00 05.6 +1.4**
SCM IAmb IAmb 22 00 27.4
comp=Z,30nm,1.1s
SCM IAMs_20 IAMs_20 22 31 15.5
comp=Z,4µm,22.0s
USP Ospenovka 81.02 315 P **P 22 00 05.8 +1.1**
SNR=17
RND Reindeer 81.05 24 IAmb IAmb 22 00 10.7
comp=Z,33nm,1.1s
RND IAMs_20 IAMs_20 22 33 47.7
comp=Z,3µm,19.0s
MLY Manley 81.07 22 IAmb IAmb 22 00 22.0
comp=Z,33nm,1.3s
MLY IAMs_20 IAMs_20 22 31 19.2
comp=Z,2µm,21.0s
MLY Manley 81.07 22 P **P 22 00 05.9 +1.4**
baz=242
WAT6 Susitna Watana 81.14 25 P **P 22 00 06.2 +1.1**
baz=245
BWN Browne 81.15 23 P **P 22 00 06.8 +1.9**
MCK McKinley 81.16 23 IAmb IAmb 22 00 11.9
comp=Z,51nm,1.2s
MCK McKinley 81.16 23 P **P 22 00 05.6 +0.6**
baz=243

AML Almayashu 81.35 313 P **P 22 00 07.8 +0.9**
SNR=30
DIV Divide 81.39 27 P **P 22 00 07.9 +1.6**
EKS2 Erkin-Say 81.40 314 P **P 22 00 08.3 +1.5**
SNR=12
KLU Klutina 81.47 26 P **P 22 00 06.8 0.0**
KLU IAmb IAmb 22 00 14.9
comp=Z,31nm,1.2s
KLU IAMs_20 IAMs_20 22 30 34.1
comp=Z,2µm,22.0s
KLU Klutina 81.47 26 P **P 22 00 08.6 +1.9**
baz=246
NEA2 Nenana 81.50 23 P **P 22 00 06.9 +0.2**
NEA2 Nenana 81.50 23 P **P 22 00 06.9 +0.2**
baz=243
DHY Denali Highway 81.50 24 P **P 22 00 07.2 +0.2**
DHY IAmb IAmb 22 00 14.6
comp=Z,53nm,1.6s
DHY Denali Highway 81.50 24 P **P 22 00 08.2 +1.2**
baz=245
RAGM Ragged Mountai 81.60 27 P **P 22 00 08.3 +0.9**
RAGM IAmb IAmb 22 00 19.3
comp=Z,44nm,1.2s
RAGM IAMs_20 IAMs_20 22 31 22.5
comp=Z,2µm,20.0s
M24K Tolsona, Glenn 81.61 26 P **P 22 00 07.8 +0.4**
M24K IAmb IAmb 22 00 52.3
comp=Z,64nm,1.4s
M24K IAMs_20 IAMs_20 22 31 23.7
comp=Z,3µm,21.0s
M24K Tolsona, Glenn 81.61 26 P **P 22 00 09.2 +1.8**
baz=246
I23K Minto, Yukon-K 81.64 22 P **P 22 00 08.6 +1.2**
I23K IAmb IAmb 22 00 36.5
comp=Z,57nm,1.9s
BTLS Baital 81.75 316 *e*P **P 22 00 08.0 -0.4**
BTLS pmax pmax
comp=Z,20nm,1.5s
BTLS Baital 81.75 316 *e*P **P 22 00 08.1 -0.4**
comp=Z,20nm,1.5s,baz=316
BMRM Bremner River 81.85 27 P **P 22 00 10.0 +1.3**
BMRM IAmb IAmb 22 00 24.6
comp=Z,38nm,1.3s
BMRM IAMs_20 IAMs_20 22 35 15.2
comp=Z,2µm,21.0s
H23K Yukon River 81.89 21 P **P 22 00 09.9 +1.1**
H23K IAmb IAmb 22 00 34.1
comp=Z,44nm,1.7s
H23K IAMs_20 IAMs_20 22 32 56.8
comp=Z,2µm,21.0s
H23K Yukon River 81.89 21 P **P 22 00 11.1 +2.3**
baz=242
MDM Murphy Dome 81.98 23 P **P 22 00 08.5 -0.8**
MDM IAmb IAmb 22 00 25.8
comp=Z,59nm,2.0s
TCOL CIGO, UAF Yank 82.09 23 P **P 22 00 10.6 +0.8**
TCOL IAmb IAmb 22 00 16.4
comp=Z,34nm,1.3s
COLA College 82.09 23 P **P 22 00 10.8 +1.0**
COLA pmax pmax
comp=Z,31nm,1.3s
COLA College 82.09 23 P **P 22 00 10.8 +1.0**
COLA IAmb IAmb 22 00 16.4
comp=Z,31nm,1.2s
N25K Chitina, Valde 82.10 26 P **P 22 00 11.8 +1.7**
N25K IAmb IAmb 22 00 35.7
comp=Z,65nm,2.0s
HDA Harding Lake 82.24 23 P **P 22 00 12.4 +1.7**
PAX Paxson 82.25 25 P **P 22 00 11.9 +1.0**
PAX pmax pmax
comp=Z,14nm,1.2s
PAX Paxson 82.25 25 P **P 22 00 11.9 +1.0**
PAX Paxson 82.25 25 P **P 22 00 12.4 +1.5**
baz=247
COLD Coldfoot 82.31 20 IAmb IAmb 22 00 19.5
comp=Z,27nm,1.2s
COLD Coldfoot 82.31 20 P **P 22 00 13.3 +2.3**
baz=242
SNH Sunshine Point 82.37 28 P **P 22 00 12.2 +0.8**
SNH IAmb IAmb 22 02 48.7
comp=Z,40nm,1.0s
GLB Gilahina Butte 82.39 27 P **P 22 00 13.5 +2.0**
GLB IAmb IAmb 22 00 28.2
comp=Z,48nm,1.5s
ILAR Eielson Array 82.42 23 P **P 22 00 11.2 -0.3**
comp=Z,8.0nm,1.0s,baz=252,slow=5.4,SNR=22
ILAR LR LR 22 33 23.0
comp=Z,784nm,21.2s,baz=254,slow=33
WAX Waxell Ridge 82.46 28 P **P 22 00 11.7 -0.2**
WAX IAmb IAmb 22 01 06.5
comp=Z,35nm,1.4s
WAX IAMs_20 IAMs_20 22 39 50.4
comp=Z,2µm,20.0s
VRDI Verde Repeater 82.47 27 P **P 22 00 13.4 +1.3**
VRDI IAmb IAmb 22 00 41.0
comp=Z,42nm,1.4s
H24K Noodor Dome 82.50 22 P **P 22 00 11.8 -0.3**
A21K Barrow 82.52 15 P **P 22 00 12.4 +0.5**
A21K IAmb IAmb 22 00 20.0
comp=Z,41nm,1.2s
A21K IAMs_20 IAMs_20 22 34 54.2
comp=Z,2µm,20.0s
A21K Barrow 82.52 15 P **P 22 00 13.8 +1.9**
baz=235
TGL Tana Glacier 82.58 27 P **P 22 00 13.2 +0.6**
MCARA McCarthy VSAT 82.72 27 P **P 22 00 14.2 +1.0**
MCARA IAmb IAmb 22 00 21.2
comp=Z,38nm,1.4s
ISLE Juniper Island 82.75 28 P **P 22 00 14.6 +1.1**
ISLE IAmb IAmb 22 00 22.4
comp=Z,67nm,1.8s
RIDG Independent Ri 82.81 24 P **P 22 00 14.7 +0.9**
RIDG IAmb IAmb 22 00 30.9
comp=Z,28nm,1.1s
RIDG IAMs_20 IAMs_20 22 33 44.5
comp=Z,3µm,20.0s
J25K Salcha River, 82.95 23 IAmb IAmb 22 00 31.3
comp=Z,42nm,1.1s
J25K Salcha River, 82.95 23 P **P 22 00 15.2 +0.7**
baz=247
MENT Mentasta 82.98 25 P **P 22 00 15.0 +0.4**
MENT IAmb IAmb 22 00 23.2
comp=Z,12nm,0.6s
DOT Dot Lake 83.10 24 IAmb IAmb 22 00 22.8
comp=Z,36nm,1.2s
L26K Log Cabin Wild 83.17 25 P **P 22 00 15.9 +0.4**
TOLK Toolik Lake Re 83.19 19 P **P 22 00 15.9 +0.3**
TOLK IAmb IAmb 22 00 33.7
comp=Z,26nm,1.4s
TOLK IAMs_20 IAMs_20 22 33 38.1
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 83.19 19 P **P 22 00 17.5 +2.0**
baz=242
DZA Taraz 83.21 314 *e*P **P 22 00 16.6 +0.4**
DZA pmax pmax
comp=Z,11nm,1.6s
DZA Taraz 83.21 314 *e*P **P 22 00 16.7 +0.4**
comp=Z,11nm,1.6s,baz=314
BARN Barnard Glacie 83.22 27 P **P 22 00 16.2 +0.2**
SCRK Sand Creek 83.26 24 P **P 22 00 17.2 +1.1**
SCRK IAMs_20 IAMs_20 22 34 08.2
comp=Z,3µm,20.0s
GAR Garm 83.26 310 P **P 22 00 17.2 +0.6**
GAR IAmb IAmb 22 00 29.4
comp=Z,42nm,1.2s
CTG Chitna Glacier 83.34 27 P **P 22 00 18.6 +2.0**
baz=251
CTGM Chitina Glacie 83.34 27 P **P 22 00 17.1 +0.5**
CTGM IAmb IAmb 22 00 24.2
comp=Z,20nm,1.2s
NRIK Noril'sk 83.43 342 P **P 22 00 16.6 -0.1**
comp=Z,11nm,1.0s,baz=124,slow=5.4,SNR=16
NRIK LR LR 22 37 44.8
comp=Z,1µm,19.2s,baz=120,slow=36
NRIK Noril'sk 83.43 342*ce*P **P 22 00 16.9 +0.2**
NRIK pmax pmax
comp=Z,27nm,1.2s
KBL Kabul 83.56 305 P **P 22 00 18.2 -0.2**
KBL pmax pmax
comp=Z,11nm,1.3s
KBL Kabul 83.56 305 P **P 22 00 18.2 -0.2**
M27K Edge Creek, AK 83.57 26 P **P 22 00 18.6 +0.8**
M27K IAmb IAmb 22 00 35.9
comp=Z,24nm,1.1s
M27K IAMs_20 IAMs_20 22 32 48.5
comp=Z,3µm,21.0s

M27K Edge Creek, AK 83.57 26 P **P 22 00 19.8 +2.1**
baz=250
OTUK Ortayu 83.61 319 *i* P **P 22 00 19.2 +1.1**
OTUK pmax pmax
comp=Z,54nm,1.3s
YKU2 Yakutat 83.66 29 P **P 22 00 17.5 -0.5**
BRZS Berezniki 83.77 321 *e*P **P 22 00 19.2 +0.3**
BRZS pmax pmax
comp=Z,32nm,1.7s
BRZS Berezniki 83.77 321 *e*P **P 22 00 19.2 +0.3**
comp=Z,32nm,1.7s,baz=321
FYU Fort Yukon 83.78 22 P **P 22 00 20.1 +1.5**
L27K Beaver Creek, 83.83 25 P **P 22 00 19.6 +0.7**
L27K IAMs_20 IAMs_20 22 31 29.5
comp=Z,3µm,21.0s
BCAR Beaver Creek A 83.85 25 P **P 22 00 20.0 +0.9**
YUK3 Moose Creek 84.00 27 P **P 22 00 21.8 +1.8**
baz=251
BRLS Borolday 84.32 314 *e*P **P 22 00 22.5 +0.7**
BRLS pmax pmax
comp=Z,14nm,2.0s
BRLS Borolday 84.32 314 *e*P **P 22 00 22.6 +0.7**
comp=Z,14nm,2.0s,baz=313
BMAR Burnt Mountain 84.36 21 **P 22 00 22.7 +1.2**
TAS Tashkent 84.42 312 P **P 22 00 23.7 +1.3**
TAS Tashkent 84.42 312 P **P 22 00 23.7 +1.3**
EGAK Eagle 84.69 24 P **P 22 00 25.0 +1.8**
EGAK IAmb IAmb 22 00 31.3
comp=Z,33nm,1.4s
EGAK IAMs_20 IAMs_20 22 34 51.2
comp=Z,3µm,21.0s
EGAK Eagle 84.69 24 P **P 22 00 26.5 +3.3**
baz=250
HYT Haines Junctio 85.08 28 IAmb IAmb 22 00 33.3
comp=Z,19nm,1.1s
HYT Haines Junctio 85.08 28 P **P 22 00 27.1 +1.7**
baz=254
MAW Mawson 85.30 203 LR LR 22 36 30.1
comp=Z,4µm,21.1s,baz=84,slow=34
BRVK Borovoye 85.87 324*ce*P **P 22 00 30.6 +1.2**
BRVK pmax pmax
comp=Z,32nm,2.5s
BRVK Borovoye 85.87 324 P **P 22 00 29.4 +0.1**
BRVK Borovoye 85.87 324 IAMs_20 IAMs_20 22 40 14.7
comp=Z,2µm,20.0s
M30M Minto, Yukon 85.88 27 P **P 22 00 30.4 +1.1**
M30M IAMs_20 IAMs_20 22 40 54.8
comp=Z,2µm,19.0s
JIS Juneau Island 85.98 31 IAMs_20 IAMs_20 22 31 45.7
comp=Z,2µm,21.0s
I29M Ogilvie Camp, 86.03 24 P **P 22 00 30.4 +0.5**
I29M IAMs_20 IAMs_20 22 37 03.3
comp=Z,3µm,20.0s
I29M Ogilvie Camp, 86.03 24 P **P 22 00 30.6 +0.7**
baz=253
QSPA South Pole Qui 86.51 180 P **P 22 00 32.1 -0.4**
QSPA IAmb IAmb 22 00 49.5
comp=Z,18nm,1.1s
QSPA South Pole Qui 86.51 180 IAMs_20 IAMs_20 22 39 47.3
comp=Z,3µm,19.0s
WRAK Wrangell Islan 86.67 33 IAMs_20 IAMs_20 22 36 20.1
comp=Z,3µm,20.0s
EPYK Eagle Plains 86.94 23 IAMs_20 IAMs_20 22 33 08.4
comp=Z,2µm,22.0s
EPYK Eagle Plains 86.94 23 P **P 22 00 36.2 +1.8**
baz=254
FARO Faro, Yukon 87.36 27 P **P 22 00 38.5 +2.0**
baz=258
DLBC Dease Lake 88.26 31 P **P 22 00 42.2 +1.2**
comp=Z,5.6nm,0.9s,baz=162,slow=27,SNR=2.6
DLBC LR LR 22 33 08.5
comp=Z,1µm,20.7s,baz=274,slow=31
BBB Bella Bella 88.42 38 LR LR 22 32 08.9
comp=Z,2µm,21.8s,baz=269,slow=30
INK Inuvik 88.61 21 P **P 22 00 42.2 -0.1**
comp=Z,12nm,1.3s,baz=232,slow=6.3,SNR=8.1
INK LR LR 22 35 34.3
comp=Z,1µm,21.5s,baz=244,slow=32
INK Inuvik 88.61 21 P **P 22 00 42.5 +0.2**
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 88.61 21 IAmb IAmb 22 00 49.6
comp=Z,17nm,1.2s
INK Inuvik 88.61 21 P **P 22 00 43.2 +0.9**
baz=257
L02E Cave Junction 90.47 48 IAMs_20 IAMs_20 22 41 02.1
comp=Z,3µm,20.0s
O02D Mt. Diablo Mer 90.94 50 P **P 22 00 56.2 +2.2**
baz=266
M02C Callahan 90.97 49 IAMs_20 IAMs_20 22 34 58.6
comp=Z,3µm,20.0s
M02C Callahan 90.97 49 P **P 22 00 56.6 +2.5**
baz=266
HUMO Hull Mountain 90.97 48 IAMs_20 IAMs_20 22 36 20.5
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 91.10 48 P **P 22 00 55.0 +0.3**
comp=Z,3.1nm,0.9s,baz=258,slow=13,SNR=4.7
YBH LR LR 22 33 44.0
comp=Z,2µm,21.4s,baz=268,slow=30
YBH Yreka Blue Hor 91.10 48 IAmb IAmb 22 01 03.8
comp=Z,20nm,1.2s
YBH IAMs_20 IAMs_20 22 35 26.0
comp=Z,3µm,20.0s
H04D Lebanon 91.25 46 IAMs_20 IAMs_20 22 33 22.7
comp=Z,3µm,20.0s
L04D Klamath Falls 91.43 48 IAMs_20 IAMs_20 22 33 11.7
comp=Z,2µm,22.0s
E04D Cinebar 91.50 44 IAMs_20 IAMs_20 22 32 27.9
comp=Z,2µm,21.0s
J04D Umpqua Nationa 91.63 47 IAMs_20 IAMs_20 22 40 38.9
comp=Z,3µm,20.0s
O03E Paynes Creek 91.70 50 P **P 22 00 57.7 +0.2**
O03E IAmb IAmb 22 01 05.9
comp=Z,34nm,1.4s
O03E Paynes Creek 91.70 50 P **P 22 00 59.6 +2.1**
baz=267
M04C Macdoel 91.75 48 IAMs_20 IAMs_20 22 35 48.3
comp=Z,3µm,21.0s
ABKAR Akbulak array 91.86 319 P **P 22 00 56.8 -1.1**
ABKAR Akbulak array 91.86 319 IAmb IAmb 22 01 24.0
comp=Z,25nm,1.9s
SVE Sverdlovsk 91.87 327 *e*P **P 22 00 58.9 +1.2**
SVE *e*S **SKSac 22 11 32.3 +2.6**
SVE pmax pmax
comp=Z,20nm,1.8s
SVE MLR MLR
comp=E,4µm,22.0s
SVE MLR MLR
comp=Z,5µm,20.0s
ORV Oroville 91.90 51 IAMs_20 IAMs_20 22 33 23.3
comp=Z,2µm,22.0s
A36M Sachs Harbour 91.97 18 P **P 22 01 00.7 +2.8**
baz=265
C36M Paulatuk 92.16 21 IAmb IAmb 22 01 14.3
comp=Z,34nm,1.9s
F05D White Salmon 92.23 44 IAMs_20 IAMs_20 22 32 38.4
comp=Z,2µm,21.0s
J05D Fort Rock, OR 92.27 47 P **P 22 01 03.3 +3.1**
baz=268
GEYT Alibeck 92.67 308 P **P 22 01 01.3 -0.6**
comp=Z,1.0nm,0.5s,baz=20,slow=38,SNR=2.1
GEYT LR LR 22 45 18.8
comp=Z,1µm,19.8s,baz=98,slow=37
CMB Columbia Colle 92.70 52 IAMs_20 IAMs_20 22 34 23.7
comp=Z,3µm,21.0s
BEKR Beckworth 92.79 50 P **P 22 01 00.9 -1.8**
BEKR IAmb IAmb 22 01 10.4
comp=Z,15nm,1.4s
MOD Modoc Plateau 92.91 48 IAMs_20 IAMs_20 22 36 14.7
comp=Z,3µm,20.0s
ARU Arti 93.00 326 LR LR 22 42 16.4
comp=Z,5µm,21.9s,baz=92,slow=35
ARU Arti 93.00 326*c i*P **P 22 01 03.4 +0.5**
ARU 22 04 45.6
ARU S **SKSac 22 11 36.9 +0.9**
ARU SP SPn 22 13 23.1 +1.9
ARU PS PnS 22 13 52.6 +29
ARU pmax pmax
comp=Z,4.0nm,1.1s
ARU MLR MLR
comp=Z,5µm,20.0s
AKTO Aktyubinsk 93.16 320 LR LR 22 42 15.1
comp=Z,3µm,21.7s,baz=82,slow=35
SYO Syowa Base 93.61 200*ie*PcP **PcP 22 01 08.2 +2.2**
WVOR Wild Horse Val 94.16 48 IAMs_20 IAMs_20 22 34 39.8
comp=Z,2µm,20.0s
NVAR Mina Array Bea 94.35 52 P **P 22 01 11.5 +1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.2nm,0.8s,baz=265,slow=5.5,SNR=5.1						
NVAR				PP	PP	22 05 00.9	+3.7
	comp=Z,0.1nm,0.3s,baz=260,slow=8.2,SNR=1.9						
NVAR				LR	LR	22 35 33.2	
	comp=Z,3µm,21.6s,baz=266,slow=30						
NVAR	Mina Array Bea	94.35	52	P	P	22 01 10.0	+0.1
PASC	Pasadena Art C	94.37	56	IAMs_20	IAMs_20	22 35 17.3	
	comp=Z,2µm,20.0s						
MPMC	Manual Prospec	94.97	54	P	P	22 01 15.2	+2.4
	baz=270						
BMO	Blue Mountains	95.14	45	IAMs_20	IAMs_20	22 35 49.4	
	comp=Z,2µm,22.0s						
NEW	Newport	95.23	42	P	P	22 01 14.8	+1.3
	comp=Z,1.7nm,0.6s,baz=256,slow=8.5,SNR=2.8						
NEW				LR	LR	22 37 35.9	
	comp=Z,2µm,20.3s,baz=268,slow=31						
NEW	Newport	95.23	42	P	P	22 01 14.8	+1.3
NEW				pmax	pmax		
	comp=Z,16nm,1.3s						
NEW				MLR	MLR		
	comp=Z,2µm,19.0s						
NEW	Newport	95.23	42	IAmb	IAmb	22 01 21.5	
	comp=Z,16nm,1.3s						
NEW				IAMs_20	IAMs_20	22 37 12.6	
	comp=Z,2µm,19.0s						
109C	Camp Elliot, M	95.25	57	IAMs_20	IAMs_20	22 37 35.8	
	comp=Z,3µm,20.0s						
PFO	Pinyon Flats O	95.80	57	P	P	22 01 16.3	-0.2
	comp=Z,2.9nm,0.7s,baz=254,slow=15,SNR=2.2						
PFO				LR	LR	22 35 58.5	
	comp=Z,2µm,21.1s,baz=275,slow=30						
PFO	Pinyon Flats O	95.80	57	IAMs_20	IAMs_20	22 38 45.3	
	comp=Z,3µm,21.0s						
MONP2	Monument Peak	95.83	57	P	P	22 01 19.8	+3.0
	baz=270						
PLID	Pearl Lake	96.06	45	IAMs_20	IAMs_20	22 36 16.8	
	comp=Z,2µm,22.0s						
YKA	Yellowknife Ar	96.06	28	P	P	22 01 16.4	-0.4
	comp=Z,3.2nm,0.7s,baz=274,slow=4.8,SNR=51						
YKA				LR	LR	22 42 44.2	
	comp=Z,1µm,19.3s,baz=284,slow=34						
MFID	Camas Ranch	96.22	47	IAMs_20	IAMs_20	22 38 52.2	
	comp=Z,2µm,20.0s						
ELK	Elko	96.71	50	LR	LR	22 36 52.9	
	comp=Z,2µm,21.6s,baz=267,slow=30						
ELK	Elko	96.71	50	IAMs_20	IAMs_20	22 43 28.6	
	comp=Z,2µm,18.0s						
KIRV	Kirov	97.84	329	LR	LR	22 47 02.9	
	comp=Z,2µm,21.2s,baz=84,slow=36						
DUG	Dugway, Tooele	98.58	50	IAMs_20	IAMs_20	22 37 27.1	
	comp=Z,2µm,20.0s						
RPN	Rapa Nui	98.93	118	LR	LR	22 37 25.3	
	comp=Z,561nm,21.4s,baz=270,slow=30						
BOZ	Bozeman (W)	99.11	45	IAMs_20	IAMs_20	22 38 05.5	
	comp=Z,2µm,21.0s						
HWUT	Hardware Ranch	99.45	49	IAMs_20	IAMs_20	22 40 09.8	
	comp=Z,2µm,21.0s						
BELG	Belogornoye	99.56	322	LR	LR	22 46 43.8	
	comp=Z,1µm,21.8s,baz=78,slow=36						
AHID	Auburn Hatcher	99.71	47	IAMs_20	IAMs_20	22 38 40.6	
	comp=Z,2µm,20.0s						
TPAW	Teton Pass	99.76	47	IAMs_20	IAMs_20	22 41 15.0	
	comp=Z,2µm,20.0s						
ABPO	Ambohimpanom	99.84	250	IAMs_20	IAMs_20	22 44 18.4	
	comp=Z,1µm,20.0s						
REDW	Red Top Meadow	99.84	47	IAMs_20	IAMs_20	22 42 16.1	
	comp=Z,2µm,20.0s						
ALE	Alert	99.86	4	IAMs_20	IAMs_20	22 46 06.8	
	comp=Z,2µm,21.0s						
VOI	Vohitsoka	99.87	247	IAMs_20	IAMs_20	22 44 03.0	
	comp=Z,2µm,21.0s						
MOOW	Moose Ponds	99.89	46	IAMs_20	IAMs_20	22 41 10.3	
	comp=Z,2µm,21.0s						
FLWY	Flagg Ranch	99.89	46	IAMs_20	IAMs_20	22 39 36.4	
	comp=Z,3µm,20.0s						
SNOW	Snow King Moun	99.91	47	IAMs_20	IAMs_20	22 43 52.8	
	comp=Z,2µm,19.0s						
OPO	Ambohidratompo	99.93	251	LR	LR	22 42 01.9	
	comp=Z,368nm,21.7s,baz=244,slow=33						
LOHW	Long Hollow	100.00	46	IAMs_20	IAMs_20	22 41 35.3	
	comp=Z,2µm,20.0s						
RES	Resolute Bay	100.07	14	P	Pdif	22 01 35.8	+1.1
	comp=Z,1.1nm,0.8s,baz=296,slow=6.0,SNR=6.3						
MAK	Makhachkala	100.64	313	eP	Pdif	22 01 31.2	-6.6
MAK				e		22 12 07.1	
MAK				eSSS	SSS	22 23 56.6	
MAK				pmax	pmax		
	comp=Z,326nm,1.5s						
RLMT	Red Lodge	100.82	45	IAMs_20	IAMs_20	22 38 47.6	
	comp=Z,2µm,22.0s						
BW06	Boulder Array	100.84	47	IAMs_20	IAMs_20	22 39 06.6	
	comp=Z,3µm,22.0s						
PDAR	Pinedale Array	100.84	47	P	Pdif	22 01 39.5	+0.4
	comp=Z,0.4nm,0.6s,baz=23,slow=1.9,SNR=3.2						
KBS	Kingsbay	101.50	352	IAMs_20	IAMs_20	22 47 13.4	
	comp=Z,2µm,21.0s						
LVZ	Lovozero	102.12	339	IAMs_20	IAMs_20	22 49 35.1	
	comp=Z,2µm,22.0s						
KLMR	Klimovskoe	102.34	332	eP	Pdif	22 01 38.5	-6.5
KLMR				eS	SKSac	22 12 17.8	-5.8
KLMR				pmax	pmax		
	comp=Z,15nm,1.3s						
KLMR	Klimovskoe	102.34	332	eP	Pdif	22 01 38.5	-6.5
KLMR				AMP		22 01 52.9	
	comp=Z,15nm,1.3s						
KLMR				eS	SKSac	22 12 17.9	-5.7
KLMR				eS	SKSac	22 12 17.9	-5.7
KLMR				ePS	PS	22 14 51.7	-12
KLMR				ePS	PS	22 14 51.7	-12
KLMR				eSS	SS	22 20 21.9	-12
KLMR				eSS	SS	22 20 21.9	-12
KLMR				eSSS	SSS	22 24 11.9	
KLMR				eSSS	SSS	22 24 11.9	
KLMR				LQ	LQ	22 37 50.5	
KLMR				LQ	LQ	22 37 50.5	
KLMR				LR	LR	22 42 55.5	
RWWY	Rawlins	102.69	48	IAMs_20	IAMs_20	22 42 46.6	
	comp=Z,2µm,19.0s						
LAO	LASA Array	102.72	43	IAMs_20	IAMs_20	22 48 31.9	
	comp=Z,2µm,20.0s						
SMCO	Snowmass	103.15	51	IAMs_20	IAMs_20	22 40 48.2	
	comp=Z,2µm,21.0s						
Y22D	IRIS PASSCAL I	103.71	56	IAMs_20	IAMs_20	22 43 24.5	
	comp=Z,2µm,21.0s						
FFC	Flin Flon	103.81	34	IAMs_20	IAMs_20	22 44 35.6	
	comp=Z,2µm,20.0s						
ANMO	Albuquerque	104.01	55	IAMs_20	IAMs_20	22 43 46.3	
	comp=Z,2µm,20.0s						
PHWY	Pilot Hill	104.04	48	IAMs_20	IAMs_20	22 45 17.5	
	comp=Z,1µm,20.0s						
TULEG	Thule	104.07	8	IAMs_20	IAMs_20	22 51 49.1	
	comp=Z,2µm,21.0s						
ISCO	Idaho Springs	104.12	50	IAMs_20	IAMs_20	22 43 24.8	
	comp=Z,2µm,21.0s						
EPT	El Paso	104.25	58	IAMs_20	IAMs_20	22 41 48.3	
	comp=Z,2µm,21.0s						
SDCO	Great Sand Dun	104.47	52	IAMs_20	IAMs_20	22 42 11.2	
	comp=Z,2µm,22.0s						
RSSD	Black Hills	104.65	45	IAMs_20	IAMs_20	22 41 32.2	
	comp=Z,2µm,21.0s						
MNTX	Cornudas Mount	105.21	58	IAMs_20	IAMs_20	22 45 00.8	
	comp=Z,2µm,20.0s						
OGNE	Ogallala	106.65	48	IAMs_20	IAMs_20	22 45 04.6	
	comp=Z,2µm,20.0s						
TXAR	Lajitas Array	106.92	61	PP	PP	22 06 32.8	+0.3
	comp=Z,0.9nm,1.1s,baz=303,slow=5.0,SNR=2.6						
AMTX	Amarillo	107.91	55	IAMs_20	IAMs_20	22 48 32.6	
	comp=Z,1µm,19.0s						
AGMN	Agassiz Nation	109.22	40	IAMs_20	IAMs_20	22 48 10.2	
	comp=Z,2µm,20.0s						
ECSD	EROS Data Cent	109.97	45	IAMs_20	IAMs_20	22 53 09.9	
	comp=Z,2µm,20.0s						
MNK	Minsk	110.36	328	i P	Pdif	22 02 19.6	-1.2
MNK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,3.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,324nm,22.0s						
MNK				MLR	MLR		
	comp=Z,3µm,22.0s						
MNK				MLR	MLR		
	comp=N,1µm,22.0s						
MNK	Minsk	110.36	328	i P	Pdif	22 02 19.6	-1.2
	comp=E,2.0nm,0.9s						
MNK				i P	Pdif	22 02 19.6	-1.2
	comp=N,3.0nm,0.8s						
MNK				i P	Pdif	22 02 19.6	-1.2
	comp=Z,3.0nm,0.7s,baz=67						
MNK				i PKP	PKiKP	22 06 07.7	-14
MNK				i PP	PP	22 06 45.2	-11
MNK				i PPP	PPP	22 09 04.5	
MNK				i SKS	SKSdf	22 13 15.9	-17
MNK				i PS	PS	22 16 12.9	-14
MNK				i SS	SS	22 22 13.9	-8.9
MNK				i SSS	SSS	22 26 21.1	
MNK				i LQ	LQ	22 42 19.1	
MNK				i LR	LR	22 47 48.3	
MNK				i LRM	MLR	22 52 49.0	
	comp=E,324nm,22.3s						
MNK				i LRM	MLR	22 52 49.0	
	comp=Z,3µm,22.3s						
MNK				i LRM	MLR	22 52 59.2	
	comp=N,1µm,22.3s						
AKASG	Malin Array Be	111.08	324	PP	PP	22 07 07.3	+5.5
	comp=N,0.1nm,0.3s,baz=53,slow=6.5,SNR=4.4						
EYMN	Ely	112.10	39	IAMs_20	IAMs_20	22 50 14.4	
	comp=Z,2µm,21.0s						
TUL1	Leonard	112.45	53	IAMs_20	IAMs_20	22 47 04.6	
	comp=Z,2µm,20.0s						
SCIA	State Center	112.88	46	IAMs_20	IAMs_20	22 48 41.9	
	comp=Z,2µm,21.0s						
W39A	Magazine	114.21	53	IAMs_20	IAMs_20	22 47 48.1	
	comp=Z,1µm,20.0s						
NATX	Nacogdoches	114.24	57	IAMs_20	IAMs_20	22 51 06.5	
	comp=Z,2µm,20.0s						
COWI	Conover	114.27	40	IAMs_20	IAMs_20	22 56 12.0	
	comp=Z,2µm,20.0s						
JFWS	Jewell Farm	114.65	44	IAMs_20	IAMs_20	22 50 10.6	
	comp=Z,2µm,21.0s						
U40A	Yellville	114.66	51	IAMs_20	IAMs_20	22 50 54.9	
	comp=Z,2µm,20.0s						
CCM	Cathedral Cave	115.44	49	IAMs_20	IAMs_20	22 48 06.1	
	comp=Z,2µm,22.0s						
KONO	Kongsberg	115.81	338	IAMs_20	IAMs_20	22 58 53.9	
	comp=Z,2µm,20.0s						
HDIL	Hopedale	116.11	46	IAMs_20	IAMs_20	22 55 35.4	
	comp=Z,1µm,21.0s						
L44A	Lake County Fo	116.53	44	IAMs_20	IAMs_20	22 52 06.2	
	comp=Z,2µm,21.0s						
VBMS	Vicksburg	117.57	55	IAMs_20	IAMs_20	22 52 48.5	
	comp=Z,2µm,21.0s						
GLMI	Grayling	117.69	40	IAMs_20	IAMs_20	22 51 23.6	
	comp=Z,2µm,20.0s						
PSZ	Piszkesteto	117.79	324	IAMs_20	IAMs_20	23 05 17.8	
	comp=Z,1µm,21.0s						
OKC	Ostrava-Krasne	117.83	326	AMS	AMS	22 56 50.0	
	comp=Z,3µm,24.6s						
OXF	Oxford	117.86	53	IAMs_20	IAMs_20	22 54 34.8	
	comp=Z,2µm,21.0s						
VYHS	Vyhne	118.12	325	ePKIKP	PKiKP	22 06 39.8	+2.9
VYHS	Vyhne	118.12	325	ePKP	PKiKP	22 06 39.8	+2.9
LSZ	Lusaka	118.40	251	IAMs_20	IAMs_20	23 02 22.3	
	comp=Z,2µm,20.0s						
OSTC	Ostas	118.50	328	AMS	AMS	22 58 30.0	
	comp=Z,3µm,21.4s						
DPC	Dobruska-Polom	118.55	327	AMS	AMS	22 58 30.0	
	comp=Z,3µm,20.5s						
CHVC	Chvalec	118.57	328	AMS	AMS	22 58 20.0	
	comp=Z,3µm,21.0s						
WVT	Waverly	118.62	50	IAMs_20	IAMs_20	22 51 17.5	
	comp=Z,2µm,20.0s						
UPC	Upice	118.63	328	AMS	AMS	22 58 30.0	
	comp=Z,3µm,22.0s						
PLAL	Pickwick Lake	118.78	52	IAMs_20	IAMs_20	22 57 55.9	
	comp=Z,2µm,20.0s						
PVCC	Panska Ves	119.38	328	AMS	AMS	22 56 40.0	
	comp=Z,2µm,19.3s						
AAM	Ann Arbor	119.39	42	IAMs_20	IAMs_20	22 51 15.8	
	comp=Z,2µm,22.0s						
TREC	Trest	119.59	327	AMS	AMS	22 58 00.0	
	comp=Z,4µm,21.5s						
PRU	Pruhonice	119.71	328	AMS	AMS	22 59 10.0	
	comp=Z,2µm,22.0s						
CLL	Collm	119.73	330	ePP	PP	22 08 04.0	+1.6
CLL				e(SKPdf)		22 10 06.0	
CLL				ePPP	PPP	22 10 36.0	
CLL				eSKKSac	SKKSac	22 15 06.0	+3.9
CLL				e(PS)		22 17 37.0	
CLL				ex	x	22 19 44.0	
CLL				eSS	SS	22 24 30.0	+4.3
CLL				eSSS	SSS	22 28 42.0	
CLL				ex	x	22 29 48.0	
CLL				eSSSS		22 32 24.0	
CLL				ex	x	22 34 42.0	
CLL				LmV		22 59 00.0	
	comp=Z,2µm,21.0s						
P49A	Miami Univ. Ec	119.75	46	IAMs_20	IAMs_20	23 08 52.9	
	comp=Z,1µm,20.0s						
LRAL	Lakeview Retre	120.21	54	IAMs_20	IAMs_20	22 57 13.0	
	comp=Z,2µm,20.0s						
CKRC	Cesky Krumlov	120.49	327	ePKP	PKiKP	22 06 42.2	+0.7
NKC	Novy Kostel	120.66	329	AMS	AMS	22 58 10.0	
	comp=Z,3µm,22.2s						
BRAL	Brewton	120.69	56	IAMs_20	IAMs_20	23 01 49.3	
	comp=Z,2µm,20.0s						
ACSO	Alum Creek Sta	120.71	44	IAMs_20	IAMs_20	22 54 42.9	
	comp=Z,1µm,20.0s						
KHC	Kasperske Hory	120.71	327	ePKIKP	PKiKP	22 06 44.4	+2.5
KHC				MLR	MLR		
	comp=Z,3µm,19.3s						
KHC	Kasperske Hory	120.71	327	ePKP	PKiKP	22 06 44.4	+2.5
KHC				AMS	AMS	22 59 40.0	
	comp=Z,3µm,19.3s						
PDG	Podgorica	120.73	318	IAMs_20	IAMs_20	23 00 28.3	
	comp=Z,2µm,22.0s						
P52A	Corning	121.55	45	IAMs_20	IAMs_20	22 55 30.2	
	comp=Z,1µm,22.0s						
TZTN	Tazewell	121.73	49	IAMs_20	IAMs_20	22 58 34.6	
	comp=Z,2µm,20.0s						
O53A	New Philadelph	121.93	44	IAMs_20	IAMs_20	22 56 18.1	
	comp=Z,1µm,20.0s						
M54A	Oil Creek Stat	122.41	42	IAMs_20	IAMs_20	22 54 24.7	
	comp=Z,2µm,21.0s						
N54A	Moraine State	122.45	42	IAMs_20	IAMs_20	22 59 13.7	
	comp=Z,2µm,21.0s						
GOGA	Godfrey	122.89	52	IAMs_20	IAMs_20	22 55 57.0	
	comp=Z,2µm,22.0s						
PLCA	Paso Flores	123.19	145	PKP	PKPdf	22 06 45.7	-1.2
	comp=Z,1.5nm,0.9s,baz=188,slow=19,SNR=2.6						
O56A	Blue Knob Stat	123.73	43	IAMs_20	IAMs_20	23 00 50.6	
	comp=Z,2µm,21.0s						
SSPA	Standing Stone	124.01	42	IAMs_20	IAMs_20	23 01 51.9	
	comp=Z,2µm,21.0s						
VT1	Waterbury	125.25	36	IAMs_20	IAMs_20	22 59 19.2	
	comp=Z,1µm,20.0s						
CBN	Corbin Frederi	125.51	44	IAMs_20	IAMs_20	23 01 38.0	
	comp=Z,1µm,20.0s						
DWPF	Disney Wildern	126.26	57	IAMs_20	IAMs_20	22 58 35.9	
	comp=Z,1µm,20.0s						
CNNC	Cliffs of the	126.46	48	IAMs_20	IAMs_20	23 05 05.7	
	comp=Z,2µm,21.0s						
WVL	Waterville	126.87	34	IAMs_20	IAMs_20	22 53 48.5	
	comp=Z,2µm,20.0s						
TSUM	Tsumeb	127.06	243	IAMs_20	IAMs_20	22 59 36.5	
	comp=Z,2µm,21.0s						
WES	Weston	127.24	37	IAMs_20	IAMs_20	22 55 56.7	
	comp=Z,2µm,20.0s						
NNA	Nana	132.07	109	IAMs_20	IAMs_20	23 00 18.5	
	comp=Z,939nm,20.0s						
MTDJ	Mount Denham	132.30	68	IAMs_20	IAMs_20	22 55 15.6	
	comp=Z,1µm,22.0s						
GTBY	Guantanamo Bay	134.13	65	IAMs_20	IAMs_20	22 57 20.6	
	comp=Z,1µm,22.0s						
LPA	La Plata	134.31	149	PKIKP	PKPdf	22 07 03.4	-4.7
LPA				PP	PP	22 09 33.3	-5.4
LPA				pPP		22 09 44.0	
LPA				SKP		22 10 35.8	
LPA				SKIKP		22 10 46.1	
LPA				PPP	PPP	22 12 33.7	
LPA				SKIKS		22 14 11.4	
LPA				SDIFF		22 17 56.5	
LPA				PS	PS	22 19 57.2	-2.5
LPA				PSP	PSP	22 21 43.9	
LPA				SS	SS	22 27 30.1	+2.8
LPA				SSS	SSS	22 32 17.1	
CART	Cartagena	136.21	325	IAMs_20	IAMs_20	23 08 28.2	
	comp=Z,1µm,21.0s						
ESDC	Sonseca Array	136.32	329	PP	PP	22 09 55.3	+3.8
	comp=Z,0.7nm,0.8s,baz=33,slow=11,SNR=4.2						
LPAZ	La Paz	138.53	119	PKhKP	PKPpre	22 07 13.0	
	comp=Z,2.1nm,0.8s,baz=297,slow=6.0,SNR=3.7						
SDV	Santo Domingo	140.40	80	IAMs_20	IAMs_20	22 58 59.5	
	comp=Z,1µm,21.0s						
SJG	San Juan	142.76	64	IAMs_20	IAMs_20	23 01 14.2	
	comp=Z,1µm,22.0s						
BIRV	Birongo	144.48	77	PKPdf	PKPbc	22 07 25.9	+0.3
SIV	San Ignacio	144.67	124	PKP	PKPab	22 07 25.8	-0.3
	baz=239,slow=4.3						
SMRT	St. Maarten	145.53	63	IAMs_20	IAMs_20	23 10 40.3	
	comp=Z,1µm,20.0s						
TORD	Torodi Ar. Bea	146.14	289	PKPbc	PKPbc	22 07 30.8	-0.1
	comp=Z,9.9nm,0.7s,baz=48,slow=3.1,SNR=40						
TORD				PP	PP	22 10 59.5	+6.5
	comp=Z,1.8nm,0.9s,baz=60,slow=4.5,SNR=3.0						
ANWB	Willy Bob	146.81	63	IAMs_20	IAMs_20	23 13 16.2	
	comp=Z,1µm,20.0s						
SVN	Savane Anatole	148.33	67	IAMs_20	IAMs_20	23 13 21.0	
	comp=Z,1µm,21.0s						
FDF	Fort de France	148.38	67	IAMs_20	IAMs_20	23 06 55.5	
	comp=Z,837nm,21.0s						
BIM	Bigot	148.51	68	IAMs_20	IAMs_20	23 18 38.2	
	comp=Z,879nm,20.0s						
ILAM	Ilet Lapin Mar	148.62	67	IAMs_20	IAMs_20	23 13 51.7	
	comp=Z,1µm,22.0s						
MPOM	Morne Pois Mar	148.73	68	IAMs_20	IAMs_20	23 20 00.9	
	comp=Z,890nm,20.0s						
TOSP	Speyside	149.86	73		PKiKP	22 07 43.8	+2.0
DBIC	Dimbokro	153.61	278	PKP	PKPdf	22 07 41.4	-0.4
	comp=Z,2.7nm,0.8s,baz=244,slow=2.9,SNR=1.9						
BDFB	Brasilia	154.75	139	PKP	PKPdf	22 07 42.4	-1.1
	comp=Z,2.8nm,0.9s,baz=113,slow=20,SNR=2.4						

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*TUL **03** 21:49:35.4±1.3, 36.°64N±0.°01×98.°14W±0.°01, h6km±5km, ML3.1, mb_Lg2.8/41(NEIC) Error ellipse: s-maj=1.8km s-min=1.2km az=138.0*

NEIC 03 21:49:35.8±1.1**, 36.°63N**±0.°01×**98.°12W**±0.°01**, h5**km±1km**, Error ellipse: s-maj=2.9km s-min=1.9km az=300.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.75	251	Pg	Pg	21 49 49.6	-0.6
T35A	Sooner Cattle	1.32	77		Pn	21 50 00.5	-0.4
OKCSW	OKLAHOMA CITY	1.34	155	Pn	Pn	21 50 00.4	-0.7
FNO	Franklin	1.48	157	Pn	Pn	21 50 02.8	-0.3
W35A	Tecumseh	1.78	145	Pn	Pn	21 50 07.8	+0.6
R32A	Long Quarter,	1.85	345		Pn	21 50 08.6	+0.3
WMOK	Wichita Mounta	1.96	196	Pn	Pn	21 50 10.3	+0.6
TUL1	Leonard	2.01	110	Pn	Pn	21 50 11.5	+1.2
X34A	Smith Ranch, M	2.03	173		Pn	21 50 10.8	+0.2
CBKS	Cedar Bluff	2.54	330		Pn	21 50 19.3	+1.7
KSU1	Kansas State U	2.74	25	Pn	Pn	21 50 22.0	+1.5
KSU1				IAmb_Lg		21 51 06.9	
	comp=Z,32nm,0.8s						
X37A	Clayton	3.02	131	Pn	Pn	21 50 24.4	+0.2
X37A				Pg	Pb	21 50 31.1	+1.1
X37A				IAmb_Lg		21 51 13.8	
	comp=Z,22nm,0.7s						
AMTX	Amarillo	3.38	240	Pg	Pb	21 50 36.9	+0.7
AMTX				IAmb_Lg		21 51 23.8	
	comp=Z,28nm,0.9s						
HHAR	Hobbs	3.38	95		Pn	21 50 29.2	0.0
S39A	Bolivar	3.98	73		Pn	21 50 37.3	-0.1
S39A				IAmb_Lg		21 51 41.2	
	comp=Z,21nm,0.8s						
MIAR	Mount Ida	4.24	118	IAmb_Lg		21 51 55.3	
	comp=Z,17nm,1.0s						
U40A	Yellville	4.25	92	IAmb_Lg		21 51 50.9	
	comp=Z,24nm,0.8s						
WHTX	Lake Whitney,	4.66	173	Pn	Pn	21 50 45.8	-0.9
P38A	Dawn	4.69	49	Pn	Pn	21 50 47.1	-0.1
MGMO	Mountain Grove	4.72	82	Pn	Pn	21 50 47.9	+0.3
MGMO				IAmb_Lg		21 52 12.0	
	comp=Z,13nm,0.7s						
BGNE	Belgrade	4.78	360	Pn	Pn	21 50 46.8	-1.6
X40A	Basin Creek Fa	4.81	115	IAmb_Lg		21 52 08.9	
	comp=Z,17nm,0.7s						
WHAR	Wooly Hollow	4.91	104	IAmb_Lg		21 52 16.1	
	comp=Z,24nm,1.0s						
R40A	Maddies Statio	4.94	69	Pn	Pn	21 50 50.3	-0.4
W41B	Gary Mavity, V	4.98	105	IAmb_Lg		21 52 23.9	
	comp=Z,20nm,0.8s						
T25A	Trinidad	5.07	278	IAmb_Lg		21 52 18.6	
	comp=Z,19nm,0.8s						
OGNE	Ogallala	5.29	326	Pn	Pn	21 50 55.5	0.0
N38A	Joes South For	5.65	41	IAmb_Lg		21 52 47.9	
	comp=Z,18nm,0.8s						
LCAR	Lake Charles	5.65	94	IAmb_Lg		21 52 40.4	
	comp=Z,15nm,1.1s						
CCM	Cathedral Cave	5.66	73	IAmb_Lg		21 52 38.7	
	comp=Z,20nm,0.8s						
435B	Jarrell	5.84	175	IAmb_Lg		21 52 48.7	
	comp=Z,20nm,0.8s						
Q24A	Divide	6.04	295	IAmb_Lg		21 52 51.2	
	comp=Z,14nm,0.8s						
PBMO	Poplar Bluff	6.18	86	IAmb_Lg		21 53 05.1	
	comp=Z,15nm,0.7s						
FVM	French Village	6.28	75	IAmb_Lg		21 52 54.2	
	comp=Z,13nm,1.1s						
SCIA	State Center	6.50	34	IAmb_Lg		21 53 05.1	
	comp=Z,16nm,0.9s						
SIUC	Southern Illin	7.19	79	IAmb_Lg		21 53 32.1	
	comp=Z,12nm,0.9s						
F33A	5 Mile Ranch,	9.31	8	IAmb_Lg		21 54 50.9	
	comp=Z,10nm,1.3s						

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*IDC **03** 21:53:47.8±0.9, 43.°80N×105.°59W, h0km, mb4.1/2, mb1 3.8/7, mb1mx3.5/49, mbtmp3.6/7, ML3.4/5, Error ellipse: s-maj=21.9km s-min=8.2km az=145.0*

*ANF **03** 21:53:47.9±0.2, 43.°59N×105.°40W, h0km, ML4.0/14, Error ellipse: s-maj=3.1km s-min=2.2km az=113.0*

*NEIC **03** 21:53:48.7±1.4, 43.°62N±0.°05×105.°28W±0.°02, h0km±2km, ML3.7/68, Error ellipse: s-maj=8.5km s-min=3.1km az=346.0*

ISC 03 21:53:48.0±0.6**, 43.°60N**±0.°03×**105.°30W**±0.°03**, h0**km**, n114,** σ**1s71**/134**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.05	60	Pg	Pg	21 54 08.0	-0.2
RSSD	Black Hills	1.05	60	P	Pg	21 54 08.0	-0.2
	baz=242						
RSSD				S	Sn	21 54 26.1	+0.4
	baz=242						
K22A	Casper	1.30	224		Pg	21 54 11.2	-1.8
K22A				IAML		21 54 32.9	
	comp=E,845nm,0.9s						
K22A				IAML		21 54 33.1	
	comp=N,1µm,0.3s						
K22A	Casper	1.30	224	P	Pg	21 54 11.2	-1.8
	baz=41,SNR=117						
K22A				S	Sg	21 54 28.2	-1.7
	baz=41						
PHWY	Pilot Hill	2.30	183		Pn	21 54 27.4	0.0
RWWY	Rawlins	2.37	217		Pn	21 54 28.3	-0.1
RWWY				IAML		21 55 01.8	
	comp=N,480nm,1.2s						
RWWY				IAML		21 55 03.2	
	comp=N,499nm,1.6s						
N23A	Red Feather La	2.74	190	Pn	Pn	21 54 34.1	+0.6
N23A				IAML		21 55 15.7	
	comp=N,264nm,0.8s						
N23A				IAML		21 55 23.0	
	comp=E,231nm,1.0s						
N23A	Red Feather La	2.74	190	P	Pn	21 54 34.1	+0.6
	baz=8.3,SNR=37						
N23A				Sb	Sb	21 55 13.0	+0.7
	baz=8.3						
LAO	LASA Array	3.16	348	Pn	Pn	21 54 39.4	+0.4
LAO				IAML		21 55 37.8	
	comp=E,196nm,1.6s						
LAO				IAML		21 55 40.1	
	comp=E,224nm,1.5s						
LAO	LASA Array	3.16	348	P	Pn	21 54 39.1	+0.1
	baz=169,SNR=18						
LAO				Sb	Sb	21 55 26.0	+1.8
	baz=169						
BW06	Boulder Array	3.22	257	Pn	Pn	21 54 40.0	-0.1
BW06				IAML		21 55 27.9	
	comp=E,118nm,0.4s						
BW06				IAML		21 55 31.0	
	comp=E,110nm,1.1s						
BW06	Boulder Array	3.22	257	Sb	Sb	21 55 24.4	-1.7

	baz=73						
PD31	Pinedale Array	3.22	257		Pn	21 54 39.8	-0.3
PDAR	Pinedale Array	3.22	257	Pn	Pn	21 54 41.2	+1.1
	comp=E,5.5nm,0.3s,baz=68,slow=18,SNR=62						
PDAR				Lg	Lg	21 55 23.8	
	comp=E,21nm,0.3s,baz=68,slow=28,SNR=3.8						
PDAR	Pinedale Array	3.22	257		Pn	21 54 39.8	-0.3
RLMT	Red Lodge	3.23	300		Pn	21 54 40.2	0.0
RLMT				IAML		21 55 58.5	
	comp=E,100nm,1.1s						
OGNE	Ogallala	3.59	136	Pn	Pn	21 54 45.5	+0.5
OGNE	Ogallala	3.59	136	P	Pn	21 54 45.6	+0.6
	baz=318						
OGNE				Sb	Sg	21 55 40.7	-2.7
	baz=318						
YMP	Mirror Lake Pl	3.68	290		Pn	21 54 47.1	+0.7
YMP				IAML		21 55 52.6	
	comp=N,138nm,0.8s						
LKWY	Lake	3.80	287		Pn	21 54 49.2	+1.2
LKWY				IAML		21 55 54.9	
	comp=N,118nm,1.1s						
LKWY				IAML		21 56 18.2	
	comp=N,84nm,1.3s						
ISCO	Idaho Springs	3.80	184	Pn	Pn	21 54 49.3	+1.2
ISCO				IAML		21 55 52.2	
	comp=N,78nm,1.1s						
ISCO	Idaho Springs	3.80	184	P	Pn	21 54 48.2	+0.1
	baz=2.3,SNR=14						
ISCO				Sb	Sb	21 55 45.1	+2.2
	baz=2.3						
GCMT	Greycliff	3.81	307		Pn	21 54 48.5	+0.5
GCMT				Pg	Pb	21 54 58.7	+2.5
LOHW	Long Hollow	3.85	272		Pn	21 54 49.3	+0.6
LOHW				IAML		21 55 52.2	
	comp=N,71nm,1.1s						
H17A	Grant Village	3.89	284		Pn	21 54 50.4	+1.1
H17A				IAML		21 55 55.4	
	comp=N,73nm,1.5s						
FLWY	Flagg Ranch	3.94	279		Pn	21 54 53.0	+3.1
FLWY				Pg	Pb	21 55 01.0	+2.6
FLWY				IAML		21 55 55.6	
	comp=N,79nm,1.7s						
FLWY				IAML		21 56 02.2	
	comp=N,84nm,1.2s						
MOOW	Moose Ponds	3.96	274	Pn	Pn	21 54 51.3	+1.2
SNOW	Snow King Moun	3.97	270	Pn	Pn	21 54 51.9	+1.5
SNOW				IAML		21 56 13.2	
	comp=N,137nm,1.4s						
SNOW				IAML		21 56 30.7	
	comp=N,141nm,1.4s						
YNR	Norris Junctio	4.03	288		Pn	21 54 51.9	+0.7
REDW	Red Top Meadow	4.05	269	Pn	Pn	21 54 52.1	+0.7
REDW				IAML		21 56 11.8	
	comp=N,134nm,1.2s						
O20A	White River Ci	4.10	213	P	Pn	21 54 51.7	-0.4
	baz=31,SNR=7.0						
O20A				Sb	Sb	21 55 53.0	+1.7
	baz=31						
TPAW	Teton Pass	4.11	270	IAML		21 56 11.8	
	comp=N,96nm,1.4s						
TPAW				IAML		21 56 17.8	
	comp=N,54nm,1.5s						
FXWY	Fox Creek	4.16	273	Pn	Pn	21 54 54.0	+1.0
YHH	Holmes Hill	4.17	289	Pn	Pn	21 54 54.7	+1.6
YHH				IAML		21 56 03.0	
	comp=N,52nm,1.4s						
YMR	Madison River	4.22	287		Pn	21 54 54.1	+0.4
YMR				IAML		21 56 04.3	
	comp=N,109nm,1.1s						
YMR				IAML		21 56 30.2	
	comp=E,100nm,1.1s						
AHID	Auburn Hatcher	4.32	261		Pn	21 54 56.3	+1.1
AHID				IAML		21 56 11.0	
	comp=E,91nm,1.1s						
AHID				IAML		21 56 22.4	
	comp=E,78nm,1.4s						
E28A	Huff	4.42	46	Pn	Pn	21 54 56.9	+0.6
ECR	Eagle Creek	4.46	265	Pn	Pn	21 54 58.1	+1.0
ECR				Pg	Pg	21 55 12.6	-1.0
QLMT	Earthquake Lak	4.58	288	Pn	Pn	21 54 58.8	+0.1
QLMT					Pb	21 55 10.9	+1.6
SMCO	Snowmass	4.59	196	Pn	Pn	21 55 01.2	+2.1
SMCO				Pb	Pb	21 55 12.2	+2.5
SMCO				IAML		21 56 20.4	
	comp=E,71nm,1.3s						
SMCO				IAML		21 56 21.2	
	comp=E,71nm,1.2s						
Q24A	Divide	4.63	179	Pn	Pn	21 55 00.2	+0.7
Q24A				IAML		21 56 15.6	
	comp=E,64nm,1.4s						
Q24A	Divide	4.63	179	Sb	Sb	21 56 10.6	+3.9
	baz=358						
SUSD	Miller	4.65	77	Pn	Pn	21 55 00.4	+0.9
SUSD	Miller	4.65	77	Sb	Sg	21 56 14.1	-3.3
	baz=262						
K31A	O'Neill	4.89	99	Pn	Pn	21 55 03.8	+1.0
K31A					Pg	21 55 20.8	-0.8
DGMT	Dagmar	4.93	9	Pn	Pn	21 55 04.2	+0.8
DGMT	Dagmar	4.93	9	P	Pn	21 55 04.7	+1.3
	baz=190						
DGMT				Sb	Sb	21 56 20.3	+5.2
	baz=190						
BOZ	Bozeman (W)	4.94	296		Pn	21 55 04.0	+0.3
BOZ				IAML		21 57 13.8	
	comp=E,29nm,1.4s						
BOZ	Bozeman (W)	4.94	296	P	Pn	21 55 02.8	-0.9
	baz=112,SNR=11						
BOZ				Sb	Sb	21 56 15.3	-0.2
	baz=112						
KSCO	Kaye Shedlock'	5.00	155	Pn	Pn	21 55 03.9	-0.5
KSCO	Kaye Shedlock'	5.00	155	P	Pn	21 55 04.7	+0.3
	baz=336						
KSCO				Sb	Sg	21 56 23.9	-4.8
	baz=336						
HWUT	Hardware Ranch	5.04	249	IAML		21 56 36.2	
	comp=E,69nm,2.1s						
EGMT	Eagleton	5.41	326	Pn	Pn	21 55 10.5	+0.5
EGMT	Eagleton	5.41	326	P	Pn	21 55 09.8	-0.2
	baz=144						
EGMT				Sb	Sb	21 56 32.3	+3.3
	baz=144						
P18A	Preston Nutter	5.43	225		Pn	21 55 11.2	+0.8
JLU	Jordanelle	5.47	239		Pn	21 55 11.2	+0.3
DLMT	Dillon	5.51	291		Pn	21 55 12.6	+1.1
LRM	Limekiln Ridge	5.56	296		Pn	21 55 12.7	+0.5
MCMT	McKenzie Canyo	5.56	285		Pn	21 55 13.3	+1.0
BGNE	Belgrade	5.72	110	Pn	Pn	21 55 14.5	+0.3
BGNE	Belgrade	5.72	110	P	Pn	21 55 15.2	+1.1
	baz=295						
PV07	Paradox Valley	5.74	207	Pn	Pn	21 55 15.6	+1.0
PV15	Paradox Valley	5.78	206		Pn	21 55 15.9	+0.8
P17A	Butcher Ranch,	5.80	227		Pn	21 55 16.2	+0.8
MDND	Maddock	5.83	41	Pn	Pn	21 55 15.7	+0.1
MDND					Pg	21 55 35.3	-4.3
MDND	Maddock	5.83	41	P	Pn	21 55 15.8	+0.1
	baz=226						
MDND				S	Sn	21 56 23.6	+0.4
	baz=226						
SDCO	Great Sand Dun	5.85	182	Pn	Pn	21 55 17.2	+1.0
SDCO	Great Sand Dun	5.85	182	Sb	Sb	21 56 46.5	+4.8
	baz=0.7						
PV23	Carpenter Ridg	5.86	210	Pn	Pn	21 55 16.8	+0.5
PV23					Pg	21 55 36.9	-3.4
BCYI	Bear Canyon	5.90	280		Pn	21 55 18.0	+1.2
MPU	Maple Canyon	5.93	235	Pn	Pn	21 55 18.1	+0.8
MPU					Pg	21 55 38.8	-2.9
PV10	Paradox Valley	5.93	210	Pn	Pn	21 55 18.8	+1.4
PV11	David Mesa, Pa	5.94	208		Pn	21 55 18.3	+0.8
S22A	4UR Ranch, Cre	5.96	192		Pn	21 55 17.7	0.0
SRU	San Rafael Swe	5.96	223		Pn	21 55 17.3	-0.3
PV13	Radium Mtn., P	6.05	207		Pn	21 55 19.2	+0.2
TMUT	Trail Mountain	6.18	228		Pn	21 55 21.4	+0.7
NLU	North Lily Min	6.24	237	Pn	Pn	21 55 21.6	+0.1
ECSD	EROS Data Cent	6.30	86	Pn	Pn	21 55 22.7	+0.6
ECSD	EROS Data Cent	6.30	86	P	Pn	21 55 22.9	+0.7
	baz=272						
BGU	Big Grassy Mou	6.33	248	Pn	Pn	21 55 22.9	+0.3
CBKS	Cedar Bluff	6.36	137	Pn	Pn	21 55 23.1	+0.1
CBKS				Pg	Pg	21 55 46.3	-3.5
CBKS	Cedar Bluff	6.36	137	Sb	Sb	21 57 03.2	+7.1
	baz=320						
Q16A	Castle Valley	6.44	225		Pn	21 55 25.0	+0.8
T25A	Trinidad	6.49	174	Pn	Pn	21 55 25.6	+0.7
T25A				Pg	Pg	21 55 49.0	-3.3
N33A	J Bar K, Exete	6.49	113	Pn	Pn	21 55 24.5	-0.3
DUG	Dugway, Tooele	6.56	241	Pn	Pn	21 55 25.6	-0.2
DUG	Dugway, Tooele	6.56	241	P	Pn	21 55 24.8	-1.0
	baz=56						
DUG				Sb	Sb	21 57 05.6	+3.6
	baz=56						
HLID	Hailey	6.62	273	Pn	Pn	21 55 26.9	+0.2
R32A	Long Quarter,	7.18	134	Pn	Pn	21 55 35.7	+1.5
MSU	Marysvale	7.27	228	Pn	Pn	21 55 36.0	+0.4
TCRU	Three Creeks R	7.34	230	Pn	Pn	21 55 38.0	+1.3
JTMT	Jette	7.54	307	Pn	Pn	21 55 39.6	+0.4
MTPU	Mount Pierson	7.62	226	Pn	Pn	21 55 41.2	+0.6
ELK	Elko	7.91	252	Pn	Pn	21 55 45.0	+0.5
	comp=E,0.3nm,0.3s,baz=83,slow=8.0,SNR=3.0						
AGMN	Agassiz Nation	8.08	51		Pn	21 55 46.3	-0.3
AGMN	Agassiz Nation	8.08	51	P	Pn	21 55 46.1	-0.4
	baz=238						
PKCU	Pink Cliffs	8.14	223	Pn	Pn	21 55 48.9	+1.2
PSUT	Pine Spring	8.21	235	Pn	Pn	21 55 49.2	+0.7
U15A	North Rim	8.94	219	Pn	Pn	21 55 59.6	+0.9
LCMT	Little Creek M	8.95	225	Pn	Pn	21 56 00.1	+1.5
AMTX	Amarillo	9.14	161	Pn	Pn	21 56 01.1	-0.1
AMTX	Amarillo	9.14	161	P	Pn	21 56 01.2	0.0
	baz=343						
I10CA	LAC DU BONNET	9.16	41	*i*		22 50 35.0	
	baz=223,slow=324,SNR=5.8						
ULM	Lac du Bonnet	9.26	41	Pn	Pn	21 56 00.3	-2.3
	comp=E,1.6nm,0.3s,baz=242,slow=11,SNR=9.3						
ULM				Pg		21 56 30.4	
	comp=E,0.7nm,0.3s,baz=248,slow=13,SNR=1.8						
ULM				Lg	Lg	21 58 31.1	
	comp=E,0.4nm,0.3s,baz=317,slow=19,SNR=1.7						
WUAZ	Wupatki	9.33	212	Pn	Pn	21 56 04.2	+0.3
WUAZ	Wupatki	9.33	212	P	Pn	21 56 04.5	+0.6
	baz=28						
B35A	Bob, Littlefor	9.36	55	Pn	Pn	21 56 02.2	-1.8
NEW	Newport	9.47	304	Lg	Lg	21 58 30.1	
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=1.8						
NVAR	Mina Array Bea	11.10	247	Pn	Pn	21 56 28.5	+0.4
	comp=E,0.1nm,0.3s,baz=56,slow=14,SNR=2.4						
TXAR	Lajitas Array	14.29	174	Pg	P	21 58 12.5	+53
	comp=E,0.4nm,0.3s,baz=359,slow=20,SNR=3.9						
TXAR				Sn	Sn	21 59 54.4	+3.4
	comp=E,0.2nm,0.3s,baz=39,slow=10,SNR=5.1						
TXAR				Lg	Lg	22 01 21.6	
	baz=358,slow=28,SNR=6.7						
YKA	Yellowknife Ar	19.70	347	P	P	21 58 16.9	-1.7
	comp=E,0.1nm,0.3s,baz=157,slow=12,SNR=7.9						
ARCES	ARCESS Array B	61.56	18	P	P	22 04 04.7	-1.7
	comp=E,1.0nm,0.5s,baz=333,slow=7.1,SNR=8.4						
FINES	FINESS Array B	68.17	23	P	P	22 04 49.0	-0.6
	comp=E,0.7nm,0.4s,baz=300,slow=4.2,SNR=5.8						

*IDC **03** 21:56:26.0±1.5, 3°.27S×148°.71E, h0^{km}, mb4.0/6, mb1 4.2/7, mb1mx3.7/36, mbtmp4.0/7, Error ellipse: s-maj=46.1km s-min=23.1km az=101.0*

ISC 03 21:56:27.3±1.7**, 3°.2S**±0°.1×**148°.7E**±0°.3**, h10^{km}, n15,** σ**0^s.91**/9**, mb4.0**/6**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.37	194	Pn	Pn	21 58 02.2	+1.0
	baz=86,slow=19,SNR=1.1						
WRA	Warramunga Arr	21.79	219	P	P	22 01 18.6	-1.0
	4.1nm,1.0s,baz=42,slow=11,SNR=7.8						
ASAR	Alice Springs	24.90	214	P	P	22 01 49.6	-1.0
	5.3nm,1.0s,baz=48,slow=8.2,SNR=16						
FITZ	Fitzroy Crossi	27.05	235	P	P	22 02 09.6	-0.5
	6.5nm,1.0s,baz=68,slow=8.3,SNR=5.0						
H11S3	WAKE ISLAND Hy	27.88	39	T	T	22 31 25.6	
	baz=219,slow=74,SNR=142						
H11S2	WAKE ISLAND Hy	27.88	39	T	T	22 31 23.0	
	baz=219,slow=74						
H11S1	WAKE ISLAND Hy	27.89	39	T	T	22 31 23.8	
	baz=219						
H11N1	WAKE ISLAND Hy	28.92	37	T	T	22 32 44.2	
	baz=218						
H11N3	WAKE ISLAND Hy	28.94	37	T	T	22 32 45.1	
	baz=218						
H11N2	WAKE ISLAND Hy	28.94	37	T	T	22 32 46.4	
	baz=218						
CMAR	Chiang Mai Arr	53.54	296	P	P	22 05 48.9	+0.2
	0.6nm,0.3s,baz=118,slow=5.0,SNR=6.4						
MKAR	Makanchi Array	76.48	320	P	P	22 08 18.5	+1.0
	1.0nm,1.0s,baz=93,slow=6.1,SNR=5.7						
ZALV	Zalesovo Beam	77.60	327	P	P	22 08 23.9	+0.3
	0.7nm,0.6s,baz=108,slow=3.3,SNR=4.1						
TORD	Torodi Ar. Bea	145.96	289	PKPbc	PKPab	22 16 08.2	-0.6
	0.9nm,0.8s,baz=81,slow=3.3,SNR=4.7						
PTGA	Pitinga	151.04	97	PKPbc	PKiKP	22 16 21.7	-0.7
	1.7nm,0.8s,baz=193,slow=19,SNR=4.1						

*BJI **03** 21:57:57.7±0.0, 3°.00S×149°.07E, h5^{km}, mb4.7/58, mB5.3/24, Ms5.4/24, Ms7 5.2/23*

*IDC **03** 21:57:58.0±0.5, 3°.27S×148°.81E, h0^{km}, mb4.6/24, mb1 4.7/29, mb1mx4.6/38, mbtmp4.6/29, ML3.8/3, MS5.1/17, Ms1 5.1/17, ms1mx4.7/68, Error ellipse: s-maj=16.5km s-min=12.0km az=96.0*

*MOS **03** 21:58:00.3±2.7, 3°.30S×148°.80E, h10^{km}, mb5.1/27, Error ellipse: s-maj=8.0km s-min=5.8km az=106.2*

*NEIC **03** 21:58:00.3±1.9, 3°.10S±0°.05×148°.84E±0°.03, h10^{km}±1^{km}, mb5.1/124, Mwc5.6(GCMT), Error ellipse: s-maj=9.0km s-min=3.7km az=149.0*

*DJA **03** 21:58:03.2±0.5, 3°S±3°×14°9E±°, h43^{km}±4^{km}, M5.2/63, mb5.0/63, mB5.5/8, MLv5.2/3, Mw(mB)5.0/8, MwMwp6.3/4, Mwp6.2/4*

*GCMT **03** 21:58:04.3±0.1, 3°.25S±0°.01×148°.79E±0°.01, h16^{km}, MW5.5/152, Moment Tensor Solution. s60,c76; s152,c304; Duration: 1^{s}4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.47±.05; $M_{\theta\theta}$1.91±.04; $M_{\phi\phi}$-1.44±.04; $M_{r\theta}$0.04±.12; $M_{\theta\phi}$2.01±.03; $M_{\phi r}$0.24±.12; Best double couple: $M_0$2.62900×10^{17} NP1:ϕ_s110.00000°, δ84.00000°, λ-2.00000°. NP2:ϕ_s200.00000°, δ88.00000°, λ-174.00000°. Principal axes: T 2.8570, Plg2.0000°, Azm335.0000°; N -0.4600, Plg84.0000°, Azm223.0000°; P -2.4020, Plg6.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 21:57:59.8±0.3**, 3°.24S**±0°.04×**148°.79E**±0°.04**, h10^{km}, n365,** σ**1^s.45**/347**, mb5.0**/151**, MS5.1**/19**, 13C-2D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.85	310	Pn	Pn	21 58 30.3	-1.2
RABL	Rabaul	3.50	106		Pn	21 58 53.0	-1.3
RABL	Rabaul	3.50	106	P	Pn	21 58 55.0	+0.6
PMG	Port Moresby	6.34	195	Pn	Pn	21 59 34.1	+0.7
	4.0nm,0.3s,baz=15,slow=10,SNR=7.4						
PMG				Sn	Sn	22 00 36.7	-9.2
	4.1nm,0.3s,baz=352,slow=6.6,SNR=4.4						
PMG				LR	LR	22 01 58.6	
	comp=Z,8µm,19.9s,baz=349,slow=38						
PMG	Port Moresby	6.34	195	*ce*P	Pn	21 59 39.5	+6.1
PMG				pmax	pmax		
	comp=Z,126nm,1.7s						
PMG	Port Moresby	6.34	195	Pn	Pn	21 59 35.5	+2.2
PMG	Port Moresby	6.34	195	P	Pn	21 59 39.7	+6.3
JAY	Jayapura	8.10	275	Pn	Pn	21 59 58.6	+1.0
	comp=Z,0.6nm,0.3s,baz=106,slow=13,SNR=4.9						
JAY				LR	LR	22 02 50.5	
	comp=Z,11µm,19.7s,baz=82,slow=36						
JAY	Jayapura	8.10	275	P	Pn	21 59 56.6	-1.0
	comp=Z,72nm,1.2s						
GENI	Genyem	8.63	274	P	Pn	22 00 06.3	+1.5
	comp=Z,382nm,1.3s						
GENI	Genyem	8.63	274	P	Pn	22 00 10.9	+6.1
COEN	Coen	12.01	207	Pn	Pn	22 00 52.8	+1.7
HNR	Honiara	12.68	120	Pn	Pn	22 01 00.5	+0.1
	comp=Z,20nm,0.3s,baz=195,slow=14,SNR=1.4						
HNR				LR	LR	22 04 51.1	
	comp=Z,4µm,19.9s,baz=292,slow=33						
HNR	Honiara	12.68	120	P	Pn	22 01 00.7	+0.3
HNR	Honiara	12.68	120	Pn	Pn	22 01 00.7	+0.3
MTSU	Mount Surprise	15.44	196	P	Pn	22 01 39.8	+2.0
	baz=16,SNR=7.5						
MTSU	Mount Surprise	15.44	196	P	P	22 01 42.3	-0.1
CTA	Charters Tower	16.93	188	Pn	Pn	22 01 57.3	+0.3
	comp=Z,0.3nm,0.3s,baz=0.3,slow=11,SNR=6.8						
CTA				LR	LR	22 08 02.3	
	comp=Z,5µm,21.1s,baz=356,slow=36						
CTA	Charters Tower	16.93	188	P	P	22 01 59.8	+0.8
GUMO	Guam	17.16	347	LR	LR	22 08 29.8	
	comp=Z,4µm,18.9s,baz=162,slow=37						
GUMO	Guam	17.16	347	P	Pn	22 01 57.8	-2.1
GUMO				pmax	pmax		
	comp=Z,1µm,2.0s						
GUMO	Guam	17.16	347	Pn	Pn	22 01 57.8	-2.1
SIJI	Sorong	17.66	277	P	Pn	22 02 06.3	+0.1
	comp=Z,0.4nm,0.3s,baz=96,slow=11,SNR=11						
SWI	Sorong	17.67	277	P	Pn	22 02 07.7	+1.4
SWI				pmax	pmax		
	comp=Z,67nm,1.0s						
SWI	Sorong	17.67	277	P	Pn	22 02 05.5	-0.8
	comp=Z,68nm,0.9s						
SAUI	Saumlaki	18.02	254		Pn	22 02 10.5	-0.1
SAUI				IAmb	IAmb	22 02 14.3	
	comp=Z,247nm,1.2s						
SAUI	Saumlaki	18.02	254	P	Pn	22 02 10.8	+0.2
	comp=Z,186nm,1.2s						
SAUI	Saumlaki	18.02	254	P	P	22 02 12.3	+1.2
KDU	Kakadu	18.67	239	P	P	22 02 17.1	-1.1
	baz=19,SNR=19						
QIS	Mount Isa	19.40	207	P	P	22 02 26.8	+0.6
	baz=20,SNR=12						
QIS	Mount Isa	19.40	207	P	Pn	22 02 28.8	+1.4
MSAI	Masohi	19.82	269	P	P	22 02 32.4	+1.5
	comp=Z,1µmcomp=Z,5.5nm,1.2s						
DRS	Darwin Rock St	19.92	242	P	P	22 02 32.9	+1.0
	comp=Z,62nm,1.0s						
AAI	Ambon	20.56	268	P	Pn	22 02 42.6	+1.5
AAI				pmax	pmax		
	comp=Z,88nm,1.5s						
AAI	Ambon	20.56	268	P	P	22 02 39.2	+0.3
	comp=Z,89nm,1.5s						
LBMI	Labuha	21.43	276	P	P	22 02 47.6	-0.7
	comp=Z,62nm,1.3s						
WB0	Warramunga Arr	21.62	219	P	P	22 02 49.7	-0.5
WR0	Warramunga Arr	21.67	219	P	P	22 02 50.4	-0.4
WR0				IAmb	IAmb	22 02 55.9	
	comp=Z,141nm,1.3s						
WRAB	Tennant Creek	21.77	219	*ce*P	P	22 02 51.8	-0.1
WRAB				pmax	pmax		
	comp=Z,114nm,1.7s						
WRAB	Tennant Creek	21.77	219	P	P	22 02 51.1	-0.7
WB2	Warramunga Arr	21.77	219	P	P	22 02 52.4	+0.4
TNTI	Ternate	21.78	280	P	P	22 02 53.0	+1.0
TNTI	Ternate	21.78	280	P	P	22 02 52.3	+0.3
	comp=Z,46nm,1.7s						
WRA	Warramunga Arr	21.78	219	P	P	22 02 51.2	-0.8
	comp=Z,16nm,0.5s,baz=39,slow=11,SNR=57						
WRA				S	S	22 06 49.3	-3.8
	comp=Z,8.9nm,1.2s,baz=41,slow=18,SNR=6.3						
WRA				LR	LR	22 12 33.0	
	comp=Z,5µm,18.8s,baz=30,slow=40						
WRA	Warramunga Arr	21.78	219	P	P	22 02 53.3	+1.3
WRA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WRA	Warramunga Arr	21.78	219	P	P	22 02 53.3	+1.3
SANVU	Saraoutou	21.82	125	P	P	22 02 52.3	-0.2
EIDS	Eidsvold	22.12	174	P	P	22 02 55.8	+0.2
	baz=22,SNR=6.6						
EIDS	Eidsvold	22.12	174	P	P	22 02 56.1	+0.6
EIDS				IAmb	IAmb	22 03 04.5	
	comp=Z,96nm,1.1s						
EIDS	Eidsvold	22.12	174	P	P	22 02 56.8	+1.3
KWAJ	Kwajalein Atol	22.26	57	P	P	22 02 53.2	-3.9
KWAJ				pmax	pmax		
	comp=Z,351nm,1.2s						
KWAJ	Kwajalein Atol	22.26	57	P	P	22 02 53.2	-3.9
SANI	Sanana	22.80	272	P	P	22 03 00.5	-2.5
	comp=Z,55nm,1.1s						
SANI	Sanana	22.80	272	P	P	22 03 03.3	+0.3
RMQ	Roma	23.12	180	P	P	22 03 06.1	0.0
	baz=23,SNR=20						
RMQ	Roma	23.12	180	P	P	22 03 05.9	-0.2
KNRA	Kununurra	23.27	237	P	P	22 03 07.5	-0.2
	baz=23,SNR=5.8						
KNRA	Kununurra	23.27	237	P	P	22 03 07.1	-0.6
KNRA				IAmb	IAmb	22 03 35.4	
	comp=Z,52nm,0.9s						
QLP	Quilpie	23.62	190	P	P	22 03 10.7	-0.5
	baz=24,SNR=6.8						
AS31	Alice Springs	24.89	214	P	P	22 03 23.0	0.0
ASAR	Alice Springs	24.89	214	P	P	22 03 23.0	0.0
	comp=Z,25nm,0.8s,baz=43,slow=7.4,SNR=46						
ASAR				S	S	22 07 44.6	-1.7
	comp=Z,0.7nm,1.0s,baz=139,slow=18,SNR=0.8						
ASAR				LR	LR	22 13 03.3	
	comp=Z,5µm,20.6s,baz=104,slow=36						
LIFNC	LIFOU	25.04	136	P	P	22 03 23.4	-1.0
KMSI	Cibinong	25.08	278	P	P	22 03 25.3	+0.5
	comp=Z,75nm,0.6s						
DZM	Mont Dzumac	25.39	139	P	P	22 03 26.3	-1.3
	comp=Z,13nm,0.8s,baz=321,slow=18,SNR=8.5						
DZM				LR	LR	22 12 16.9	
	comp=Z,9µm,18.9s,baz=276,slow=34						
DZM	Mont Dzumac	25.39	139	*e*P	P	22 03 27.9	+0.3
	comp=Z,125nm,1.6s						
DZM	Mont Dzumac	25.39	139	P	P	22 03 26.7	-0.9
ONTNC	Ouen Toro	25.56	139	P	P	22 03 27.7	-1.3
ONTNC				IAmb	IAmb	22 04 06.7	
	comp=Z,59nm,1.2s						
BATI	Baumata	25.88	253	P	P	22 03 32.1	0.0
	comp=Z,31nm,0.6s,baz=125,slow=1.7,SNR=9.5						
BATI				LR	LR	22 16 03.3	
	comp=Z,7µm,18.1s,baz=116,slow=42						
BATI	Baumata	25.88	253	P	P	22 03 30.7	-1.4
	comp=Z,74nm,1.1s						
OUENC	Ouen Island, N	25.89	139	P	P	22 03 32.0	0.0
OUENC				IAmb	IAmb	22 03 39.9	
	comp=Z,60nm,1.4s						
GTOI	Gorontalo	26.05	278	P	P	22 03 34.8	+1.2
	comp=Z,48nm,0.8s						
MARNC	Mare, Loyalty	26.06	136	P	P	22 03 33.1	-0.5
LUWI	Luwuk	26.08	274	P	P	22 03 32.3	-1.6
LUWI	Luwuk	26.08	274	P	P	22 03 30.8	-3.1
	comp=Z,113nm,0.8s						
BBSI	Bau Bau	26.23	264	P	P	22 03 33.4	-1.9
	comp=Z,181nmcomp=Z,16nm,1.1s						
PINNC	Pines Island,	26.43	138	P	P	22 03 34.7	-2.2
PINNC				IAmb	IAmb	22 03 50.9	
	comp=Z,52nm,1.1s						
MMRI	Maumere	26.93	257	P	P	22 03 39.7	-1.9
MMRI				IAmb	IAmb	22 03 56.6	
	comp=Z,35nm,0.9s						
MMRI	Maumere	26.93	257	P	P	22 03 38.2	-3.4
	comp=Z,51nm,1.6s						
FITZ	Fitzroy Crossi	27.06	235	P	P	22 03 41.8	-0.9
	comp=Z,28nm,0.7s,baz=62,slow=9.4,SNR=44						
FITZ				LR	LR	22 14 52.9	
	comp=Z,5µm,18.6s,baz=56,slow=38						
FITZ	Fitzroy Crossi	27.06	235	P	P	22 03 41.8	-0.9
	baz=27,SNR=32						
FITZ	Fitzroy Crossi	27.06	235	P	P	22 03 42.9	+0.2
MRSI	Marisa	27.08	277	P	P	22 03 42.3	-0.7
ARMA	Armidale	27.17	175	P	P	22 03 43.1	-0.5
	baz=27,SNR=5.4						
ARMA	Armidale	27.17	175	P	P	22 03 44.3	+0.7
ARMA				IAmb	IAmb	22 03 56.0	
	comp=Z,105nm,1.7s						
APSI	Ampana	27.21	274	P	P	22 03 43.5	-0.6
	comp=Z,37nm,1.1s						
H11S3	WAKE ISLAND Hy	27.88	39	T	T	22 33 04.4	
	baz=220,slow=76,SNR=320						
H11S2	WAKE ISLAND Hy	27.89	39	T	T	22 33 05.2	
	baz=220,slow=76,SNR=341						
H11S1	WAKE ISLAND Hy	27.90	39	T	T	22 33 05.7	
	baz=220,slow=76,SNR=350						
TOLI2	Tolitoli	28.32	278	P	P	22 03 53.0	-1.1
TOLI2				IAmb	IAmb	22 04 37.6	
	comp=Z,29nm,1.2s						
BNSI	Bone	28.64	267	P	P	22 03 56.2	-0.7
	comp=Z,59nm,1.1s						
BKSI	Bulukumba	28.66	265	P	P	22 04 08.6	+12
TTSI	Tana Toraja	28.92	270	P	P	22 04 04.4	+5.0
H11N1	WAKE ISLAND Hy	28.93	37	T	T	22 34 21.0	
	baz=219,slow=76,SNR=212						
H11N3	WAKE ISLAND Hy	28.94	37	T	T	22 34 21.0	
	baz=219,slow=76,SNR=212						
H11N2	WAKE ISLAND Hy	28.94	37	T	T	22 34 22.1	
	baz=219,slow=76,SNR=229						
SPSI	Sidrap Palu	28.97	268	P	P	22 03 59.9	+0.1
	comp=Z,29nm,1.6s						
KAPI	Kappang	29.01	266	P	P	22 03 59.1	-1.1
	comp=Z,4.1nm,0.4s,baz=248,slow=13,SNR=1.0						
KAPI	Kappang	29.01	266	P	P	22 03 58.9	-1.3
KAPI				pmax	pmax		

comp=Z,32nm,1.3s
KAPI Kappang 29.01 266 P **P** **22 03 58.9 -1.3**
KAPI IAmb IAmb 22 04 25.8
comp=Z,32nm,1.2s
MPSI Mapaga 29.09 276 P **P** **22 03 59.2 -1.7**
comp=Z,32nm,0.8s
STKA Stephens Creek 29.28 193 P **P** **22 04 01.1 -1.3**
comp=Z,2.5nm,0.6s,baz=354,slow=8.7,SNR=5.7
STKA LR LR 22 16 16.0
comp=Z,4μm,19.4s,baz=2.7,slow=38
STKA Stephens Creek 29.28 193 P **P** **22 04 00.9 -1.5**
baz=29,SNR=4.6
STKA Stephens Creek 29.28 193 P **P** **22 04 01.1 -1.3**
STKA pmax pmax
comp=Z,5.0nm,1.3s
STKA Stephens Creek 29.28 193 P **P** **22 04 01.1 -1.3**
WRKA Warakurna 29.31 220 P **P** **22 04 01.6 -1.1**
baz=29,SNR=18
WBSI Waikabubak, Su 29.88 256 P **P** **22 04 08.3 +0.4**
comp=Z,49nm,0.9s
JCJ Chichijima 30.82 348 P **P** **22 04 13.9 -2.1**
PLAI Plampang 31.32 258 P **P** **22 04 18.5 -2.1**
comp=Z,33nm,1.1s
MYLDM Lahad Datu 31.39 285 P **P** **22 04 22.0 +0.8**
MYLDM IAmb IAmb 22 05 08.9
comp=Z,44nm,1.4s
BBOO Buckleboo 31.75 201 P **P** **22 04 23.3 -0.8**
baz=32,SNR=4.8
BBOO Buckleboo 31.75 201 P **P** **22 04 24.2 0.0**
BBOO IAmb IAmb 22 04 32.0
comp=Z,42nm,1.3s
CAN Canberra 31.93 180 P **P** **22 04 27.0 +1.2**
CAN pmax pmax
comp=Z,38nm,1.3s
CAN Canberra 31.93 180 P **P** **22 04 27.0 +1.2**
CAN IAmb IAmb 22 04 43.2
comp=Z,38nm,1.3s
MSVF Nonsavu 32.10 119 P **P** **22 04 27.8 +0.2**
MSVF pmax pmax
comp=Z,17nm,1.1s
MSVF Nonsavu 32.10 119 P **P** **22 04 27.8 +0.2**
PSA00 Pilbara Seismi 33.51 235 P **P** **22 04 40.3 +0.5**
PSA00 Pilbara Seismi 33.51 235 P **P** **22 04 39.8 0.0**
PSA00 IAmb IAmb 22 04 45.3
comp=Z,70nm,2.0s
FORT Forrest 33.67 213 P **P** **22 04 41.5 +0.5**
KKM Kota Kinabalu 33.81 286 P **P** **22 04 41.1 -1.5**
KKM IAmb IAmb 22 04 45.4
comp=Z,24nm,1.0s
TOO Toolangi 34.30 185 P **P** **22 04 45.5 -1.0**
baz=34,SNR=4.0
TOO Toolangi 34.30 185 P **P** **22 04 47.3 +0.8**
TOO pmax pmax
comp=Z,50nm,1.5s
TOO Toolangi 34.30 185 P **P** **22 04 47.3 +0.8**
TOO IAmb IAmb 22 04 50.0
comp=Z,50nm,1.4s
JOW Kunigami 35.86 328 LR LR 22 16 38.9
comp=Z,3μm,20.3s,baz=166,slow=31
JOW Kunigami 35.86 328 P **P** **22 04 59.5 -0.5**
JOW IAmb IAmb 22 05 19.5
comp=Z,46nm,1.2s
SBUM Sibu 36.98 278 P **P** **22 05 09.6 -0.2**
PWJI Pagerwojo 37.09 261 P **P** **22 05 07.9 -2.8**
comp=Z,36nm,1.4s
JHJ Hachijo jima 2 37.15 347 LR LR 22 18 33.0
comp=Z,2μm,21.4s,baz=172,slow=33
STKI Sintang 37.43 274 P **P** **22 05 12.3 -1.3**
comp=Z,2μmcomp=Z,21nm,1.0s
YULB Yu-li 37.66 316 P **P** **22 05 14.3 -1.1**
YULB IAmb IAmb 22 05 26.6
comp=Z,33nm,0.9s
PCJI Pacitan 37.73 261 P P 22 05 11.4 -4.7
comp=Z,67nm,0.9s
NACB Ninganchiao 37.97 317 P **P** **22 05 17.4 -0.6**
NACB IAmb IAmb 22 05 27.7
comp=Z,41nm,1.0s
TPUB Ta-pu 38.07 315 P **P** **22 05 16.1 -2.8**
TPUB IAmb IAmb 22 05 44.7
comp=Z,30nm,1.0s
SSLB Suanglung 38.16 316 P **P** **22 05 17.5 -2.2**
YHNB Yeheng 38.45 318 P **P** **22 05 20.6 -1.6**
YOGI Yogyakarta 38.56 262 P **P** **22 05 21.6 -1.6**
comp=Z,67nm,1.1s
TATO Taipei 38.58 318 P **P** **22 05 21.8 -1.4**
JSU Suzuyama 38.71 335 P **P** **22 05 22.9 -1.2**
JSU IAmb IAmb 22 05 25.2
comp=Z,95nm,1.5s
KSM Kuching 38.74 276 P **P** **22 05 23.6 -1.1**
KSM IAmb IAmb 22 05 28.2
comp=Z,116nm,1.9s
OUZ Omahuta 39.27 147 P **P** **22 05 26.7 -2.1**
JMN Monobe 39.37 340 P **P** **22 05 27.4 -2.3**
JMN IAmb IAmb 22 05 34.2
comp=Z,40nm,1.1s
TAU Tasmania Unive 39.52 182 P **P** **22 05 32.3 +1.5**
TAU pmax pmax
comp=Z,154nm,2.0s
TAU Tasmania Unive 39.52 182 P **P** **22 05 32.3 +1.5**
KPJI Karang Pucung 39.88 262 P **P** **22 05 31.1 -3.1**
comp=Z,23nm,0.9s
JNU Nakatsue 39.93 336 P **P** **22 05 32.5 -1.9**
comp=Z,32nm,0.9s,baz=127,slow=5.4,SNR=14
JNU Nakatsue 39.93 336 P **P** **22 05 33.3 -1.1**
JNU IAmb IAmb 22 05 44.6
comp=Z,48nm,1.0s
INU Inuyama 39.94 345 P **P** **22 05 33.1 -1.2**
MORW Morawa 40.34 227 P **P** **22 05 38.7 +0.9**
MORW IAmb IAmb 22 05 39.2
comp=Z,83nm,1.8s
KLBR Kellerberrin 40.59 223 P **P** **22 05 38.2 -1.7**
baz=41,SNR=9.5
BLDU Ballidu 40.73 225 P **P** **22 05 39.7 -1.3**
baz=41,SNR=7.1
JHS Saijyo 40.78 340 P **P** **22 05 40.7 -0.7**
JHS IAmb IAmb 22 05 49.1
comp=Z,32nm,1.1s
MJAR Matsushiro Arr 40.78 347 P **P** **22 05 40.0 -1.4**
comp=Z,0.8nm,0.3s,baz=225,slow=55,SNR=1.7
MJAR LR LR 22 20 37.4
comp=Z,2μm,20.4s,baz=174,slow=33
MJAR Matsushiro Arr 40.78 347 P **P** **22 05 40.0 -1.4**
MJAR pmax pmax
comp=Z,19nm,1.9s
MJAR Matsushiro Arr 40.78 347 P **P** **22 05 40.0 -1.4**
MJAR Matsushiro Arr 40.78 347 IAmb IAmb 22 05 43.8
comp=Z,19nm,1.9s
MAJO Matsushiro 40.79 347 P **P** **22 05 40.2 -1.2**
MAJO pmax pmax
comp=Z,49nm,1.9s
MAJO Matsushiro 40.79 347 P **P** **22 05 40.1 -1.2**
MJB9 Matsu-Tunnel 40.79 347 P **P** **22 05 40.1 -1.3**
RAO Raoul Island 40.84 133 LR LR 22 19 53.3
comp=Z,2μm,18.6s,baz=250,slow=32
LEM Lembang 41.15 263 P **P** **22 05 43.6 -1.3**
comp=Z,15nm,0.9s
CNJI Cibinong 41.66 263 P **P** **22 05 46.7 -2.2**
comp=Z,2μmcomp=Z,105nm,1.1s
URZ Urewera 43.41 147 LR LR 22 21 14.8
comp=Z,3μm,21.9s,baz=322,slow=32
URZ Urewera 43.41 147 P **P** **22 06 03.6 +0.8**
URZ IAmb IAmb 22 06 37.1
comp=Z,65nm,1.9s
TUWZ Tuamarina 44.23 153 P **P** **22 06 09.1 -0.2**
QIZ Qiongzhong 44.24 302 P **P** **22 06 10.1 +0.4**
QIZ Qiongzhong 44.24 302 P **P** **22 06 12.2 +2.5**
QIZ S **S** **22 12 44.8 +1.2**
QIZ pmax pmax
comp=Z,40nm,0.9s
FOZ Fox Glacier 44.25 158 P **P** **22 06 10.2 +0.8**
FOZ IAmb IAmb 22 06 18.0
comp=Z,32nm,1.3s
BSWZ Blackbirch Sta 44.43 153 P **P** **22 06 10.7 -0.3**
SNZO South Karori 44.49 152 P **P** **22 06 11.2 -0.1**
MDSI Maura Dua 44.52 267 P **P** **22 06 09.3 -2.8**
comp=Z,13nm,1.7s
LTZ Lake Taylor 44.59 155 P **P** **22 06 12.0 -0.3**
RPZ Rata Peaks 44.88 157 LR LR 22 23 16.9
comp=Z,3μm,18.8s,baz=316,slow=34
RPZ Rata Peaks 44.88 157 P **P** **22 06 15.1 +0.5**
KSRS Korea Array 44.89 336 P **P** **22 06 14.8 +0.2**
comp=Z,1.3nm,0.8s,baz=159,slow=11,SNR=5.6
KSRS PP **PP** **22 08 05.5 +5.9**
comp=Z,0.4nm,0.3s,baz=142,slow=4.4,SNR=4.2
KSAR Wonju Array Be 44.89 336 P **P** **22 06 13.0 -1.6**
KSAR Wonju Array Be 44.89 336 **P** **22 06 13.0 -1.6**

NJ2 Nanjing 45.16 323 *e*P **P** **22 06 17.3 +0.5**
NJ2 PcP **PcP** **22 07 54.8 -2.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,11.9s
NJ2 LR LR
comp=Z,3μm,18.5s
NJ2 LR LR
comp=Z,3μm,19.4s
NJ2 LR LR
comp=Z,4μm,19.9s
ASAJ Asahikawa 47.47 354 P **P** **22 06 35.4 +0.6**
comp=Z,8.5nm,1.1s,baz=227,slow=13,SNR=2.6
ASAJ Asahikawa 47.47 354 P **P** **22 06 33.4 -1.4**
ASAJ pmax pmax
comp=Z,17nm,1.0s
JKA Kamikawa-asahi 47.47 354 P **P** **22 06 33.4 -1.4**
JKA IAmb IAmb 22 06 45.2
comp=Z,17nm,1.0s
BKNI Bangkinang 47.85 273 P **P** **22 06 37.3 -1.1**
BKNI IAmb IAmb 22 07 33.7
comp=Z,28nm,1.0s
BKNI Bangkinang 47.85 273 P **P** **22 06 36.0 -2.3**
comp=Z,30nm,1.2s
USA0B Ussuriysk Arra 49.57 344 P **P** **22 06 49.1 -1.9**
USA0B pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 49.57 344 P **P** **22 06 49.1 -1.9**
USA0B IAmb IAmb 22 07 13.5
comp=Z,16nm,1.1s
USRK Ussuriysk Ar. 49.57 344 P **P** **22 06 50.4 -0.6**
comp=Z,1.5nm,0.6s,baz=314,slow=23,SNR=4.3
USRK Ussuriysk Ar. 49.57 344 P **P** **22 06 50.5 -0.5**
USRK Ussuriysk Ar. 49.57 344 P **P** **22 06 50.5 -0.5**
RPSI Rantau Prapat 50.19 276 P **P** **22 06 56.2 0.0**
RPSI IAmb IAmb 22 07 36.4
comp=Z,20nm,1.3s
ENH Enshi 50.19 314 P **P** **22 06 55.8 -0.3**
ENH IAmb IAmb 22 07 10.1
comp=Z,57nm,1.8s
PSI Prapat 50.20 276 P **P** **22 06 56.2 -0.3**
PSI pmax pmax
comp=Z,20nm,1.3s
YSS Yuzh-Sakhalins 50.26 355 *e*P **P** **22 06 56.5 +0.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 50.26 355 P **P** **22 06 55.7 -0.5**
YSS IAmb IAmb 22 07 08.4
comp=Z,34nm,1.5s
SRIT Nakonsritamara 50.43 284 P **P** **22 06 57.5 -0.5**
SRIT IAmb IAmb 22 07 05.5
comp=Z,29nm,1.2s
MDJ Mudanjiang 50.64 342 P **P** **22 06 59.6 +0.5**
MDJ sP sP 22 07 04.8 +2.1
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,430nm,5.8s
CN2 Changchun 51.31 338 *e*P **P** **22 07 07.5 +3.3**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
HNS HongShan 51.34 325 ⇓P P 22 07 09.8 +5.3
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,700nm,19.6s
HNS LR LR
comp=Z,2μm,17.7s
HNS LR LR
comp=Z,3μm,17.7s
GSI Gunungsitoli 51.39 274 P **P** **22 07 04.6 -0.7**
GSI IAmb IAmb 22 07 21.5
comp=Z,31nm,1.1s
GSI Gunungsitoli 51.39 274 P **P** **22 07 05.6 +0.3**
comp=Z,26nm,1.6s
BNX BinXian 52.33 341 ⇓P **P** **22 07 12.4 +0.6**
BNX pmax pmax
comp=Z,24nm,0.8s
BNX pmax pmax
comp=Z,380nm,6.8s
LHMI Lhok Sumawe 52.46 279 P P 22 07 09.7 -3.6
XAN Xi'an 52.76 318 P **P** **22 07 15.3 0.0**
XAN sP sP 22 07 20.4 +1.6
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,180nm,5.2s
XAN LR LR
comp=Z,990nm,18.4s
XAN LR LR
comp=Z,790nm,18.0s
XAN LR LR
comp=Z,2μm,18.7s
KMI Kunming 52.80 305 ⇑P **P** **22 07 17.8 +1.8**
KMI pP pP 22 07 20.2 +1.7
KMI pmax pmax
comp=Z,8.0nm,0.9s
CM31 Chiang Mai Arr 53.59 296 P **P** **22 07 23.9 +2.3**
CM31 IAmb IAmb 22 07 29.8
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 53.59 296 P **P** **22 07 22.9 +1.3**
comp=Z,11nm,0.9s,baz=117,slow=5.5,SNR=35
CMAR Chiang Mai Arr 53.59 296 *i* P **P** **22 07 23.3 +1.6**
CMAR pmax pmax
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 53.59 296 P **P** **22 07 23.2 +1.6**
CHTO Chiang Mai 53.70 296 P **P** **22 07 24.0 +1.6**
CHTO pmax pmax
comp=Z,30nm,1.3s
CHTO Chiang Mai 53.70 296 P **P** **22 07 24.0 +1.6**
CHTO IAmb IAmb 22 07 30.2
comp=Z,30nm,1.3s
BSI Banda Aceh 54.12 279 P **P** **22 07 27.2 +1.6**
comp=Z,35μmcomp=Z,4μm,1.0s
PZH PanZhiHua 54.21 306 P P 22 07 31.6 +5.4
PZH pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 54.31 346 *ce*P **P** **22 07 26.8 +0.5**
KLR pmax pmax
comp=Z,9.0nm,0.9s
CD2 Chengdu 54.70 312 P **P** **22 07 30.2 +0.6**
CD2 pmax pmax
comp=Z,20nm,1.2s
HHC Hu-ho-hao-te 55.49 326 *e*P **P** **22 07 37.4 +2.3**
HHC pmax pmax
comp=Z,13nm,1.2s
HHC pmax pmax
comp=Z,200nm,5.9s
BTO Baotou 56.20 325 *e*P **P** **22 07 43.2 +3.0**
PEA0B Petropavlovsk- 56.64 6 P **P** **22 07 41.6 -1.4**
PEA0B pmax pmax
comp=Z,68nm,1.6s
PEA0B Petropavlovsk- 56.64 6 P **P** **22 07 41.6 -1.4**
PETK Petropavlovsk- 56.64 6 P **P** **22 07 43.2 +0.2**
comp=Z,5.5nm,0.9s,baz=223,slow=6.1,SNR=4.7
PETK Petropavlovsk- 56.64 6 P **P** **22 07 42.0 -1.0**
PETK Petropavlovsk- 56.64 6 P **P** **22 07 42.0 -1.0**
LZH Lanzhou 57.35 317 ⇑P **P** **22 07 49.9 +1.4**
LZH pP pwP 22 07 55.6 +1.8
LZH sP sP 22 07 58.9 +6.8
LZH pmax pmax
comp=Z,15nm,1.6s
HIA Hailar 58.03 338 *i* P **P** **22 07 53.5 +0.6**
HIA pmax pmax
comp=Z,31nm,1.1s
HIA Hailar 58.03 338 P **P** **22 07 53.6 +0.6**
HIA IAmb IAmb 22 08 00.3
comp=Z,30nm,1.1s
ZEA Zeya 59.56 345 *e*P **P** **22 08 04.9 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
GTA Gaotai 61.82 318 ⇑P **P** **22 08 20.5 +1.2**
GTA pP sP 22 08 24.0 +1.2
GTA sP pwP 22 08 27.7 +3.1
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,260nm,7.6s
GTA LR LR
comp=Z,440nm,20.3s
GTA LR LR
comp=Z,660nm,17.5s
GTA LR LR
comp=Z,1μm,15.1s
SHL Shillong 62.07 301 P **P** **22 08 21.4 +0.1**

SHL pmax pmax
comp=Z,43nm,1.4s
SHL Shillong 62.07 301 P **P** **22 08 21.4 +0.1**
ULN Ulaanbaatar 62.60 330 *ce*P **P** **22 08 25.4 +1.0**
ULN pmax pmax
comp=Z,13nm,1.3s
ULN Ulaanbaatar 62.60 330 P **P** **22 08 24.6 +0.2**
ULN IAmb IAmb 22 08 31.9
comp=Z,12nm,1.1s
MA2 Magadan 62.64 1 *ce*P **P** **22 08 25.1 +0.9**
MA2 pmax pmax
comp=Z,21nm,1.7s
MA2 Magadan 62.64 1 P **P** **22 08 24.0 -0.3**
MA2 IAmb IAmb 22 08 47.9
comp=Z,19nm,1.3s
SONM Songino Array 62.91 329 P **P** **22 08 25.8 -0.7**
comp=Z,2.7nm,0.6s,baz=170,slow=9.0,SNR=4.7
SONM Songino Array 62.91 329 P **P** **22 08 26.2 -0.2**
SONM pmax pmax
comp=Z,22nm,1.5s
SONM Songino Array 62.91 329 P **P** **22 08 26.2 -0.2**
SONM IAmb IAmb 22 08 34.5
comp=Z,22nm,1.5s
GOMU GeErMu 63.77 313 P **P** **22 08 34.4 +1.7**
GOMU pP pP 22 08 36.1 +0.9
GOMU pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 64.06 305 P **P** **22 08 35.3 +0.5**
LSA pmax pmax
comp=Z,18nm,1.4s
LSA Lhasa 64.06 305 P **P** **22 08 35.3 +0.5**
LSA IAmb IAmb 22 08 42.1
comp=Z,18nm,1.4s
ZAK Zakamensk 66.11 330 *e*P **P** **22 08 48.1 +0.8**
ZAK pmax pmax
comp=Z,22nm,1.4s
TAPN Taplejung 66.18 302 *e*P **P** **22 08 49.6 +1.2**
ODAN Odare 66.31 301 *e*P **P** **22 08 50.4 +1.2**
comp=Z,91nm,1.2s
NIKH Nikolski High 66.33 26 P **P** **22 08 46.7 -1.7**
YAK Yakutsk 66.71 350 *i* P **P** **22 08 52.4 +1.7**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 66.71 350 P **P** **22 08 51.7 +0.9**
BOD Bodaibo 66.95 341 *e*P **P** **22 08 53.2 +0.8**
BOD pmax pmax
comp=Z,14nm,1.7s
GUN Gumba 67.89 302 *e*P **P** **22 09 00.3 +0.9**
comp=Z,55nm,0.9s
MOY Mondy 68.05 330 *e*P **P** **22 09 01.0 +1.4**
MOY pmax pmax
comp=Z,49nm,1.8s
PKI Pulchoki 68.20 301 *e*P **P** **22 09 02.2 +0.9**
comp=Z,84nm,1.3s
PKIN Phulchoki 68.21 301 *e*P **P** **22 09 02.2 +0.9**
KKN Kakani 68.37 301 *e*P **P** **22 09 03.0 +0.7**
DMN Daman 68.47 301 *e*P **P** **22 09 04.2 +1.3**
comp=Z,81nm,1.0s
GKN Gorkha 68.97 302 *e*P **P** **22 09 06.5 +0.5**
comp=Z,61nm,1.1s
KOLN Koldanda 69.80 301 *e*P **P** **22 09 11.7 +0.6**
comp=Z,105nm,1.4s
DANN Dangsing 69.81 302 *e*P **P** **22 09 12.0 +0.7**
PYUN Piuthan 70.41 301 *e*P **P** **22 09 15.6 +0.8**
comp=Z,54nm,1.0s
WMQ Urumqi 71.90 318 *e*P **P** **22 09 23.4 0.0**
WMQ pP pwP 22 09 30.2 +1.4
WMQ sP PcP 22 09 38.3 -3.9
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,2μm,16.3s
WMQ LR LR
comp=Z,1μm,17.9s
WMQ LR LR
comp=Z,2μm,20.7s
BILL Bilibino 72.17 7 *i* P **P** **22 09 23.4 -1.0**
BILL *i* 22 09 30.9
BILL *i* 22 09 42.8
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL MLR MLR
comp=Z,633nm,17.0s
BILL Bilibino 72.17 7 P **P** **22 09 23.9 -0.5**
HYBB Hyderabad (bro 72.20 289 *e*P **P** **22 09 25.0 -0.7**
VNDA Vanda 74.56 177 P **P** **22 09 37.9 -0.5**
comp=Z,4.3nm,0.9s,baz=273,slow=3.9,SNR=3.2
VNDA Vanda 74.56 177 P **P** **22 09 39.6 +1.2**
VNDA pmax pmax
comp=Z,13nm,1.3s
VNDA Vanda 74.56 177 P **P** **22 09 39.5 +1.2**
TIXI Tiksi 75.87 354 *ce*P **P** **22 09 45.9 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 75.87 354 P **P** **22 09 45.7 -0.2**
P18K Big Mountain, 76.25 26 P **P** **22 09 47.5 -1.0**
P18K IAmb IAmb 22 10 15.1
comp=Z,29nm,1.6s
MK31 Makanchi Array 76.53 320 *i* P **P** **22 09 51.2 +0.8**
MK31 pmax pmax
comp=Z,18nm,1.2s
MK31 Makanchi Array 76.53 320 P **P** **22 09 50.9 +0.5**
MK31 IAmb IAmb 22 09 58.0
comp=Z,26nm,1.5s
MKAR Makanchi Array 76.53 320 P **P** **22 09 50.9 +0.5**
comp=Z,9.4nm,1.0s,baz=102,slow=7.5,SNR=24
MKAR PP **PP** **22 12 40.3 -2.2**
comp=Z,0.8nm,1.0s,baz=103,slow=6.5,SNR=2.1
MKAR Makanchi Array 76.53 320 *i* P **P** **22 09 51.2 +0.8**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 76.53 320 P **P** **22 09 51.0 +0.6**
MAKZ Makanchi 76.74 320 P **P** **22 09 51.8 +0.3**
MAKZ pmax pmax
comp=Z,31nm,1.4s
MAKZ Makanchi 76.74 320 P **P** **22 09 51.8 +0.3**
MAKZ IAmb IAmb 22 09 58.4
comp=Z,31nm,1.4s
SHLS Shalkode 77.31 315 *e*P **P** **22 09 54.6 -0.3**
SHLS pmax pmax
comp=Z,10.0nm,1.2s
ZAA0 Zalesovo Array 77.66 327 P **P** **22 09 56.2 -0.2**
ZALV Zalesovo Beam 77.66 327 P **P** **22 09 56.4 -0.1**
comp=Z,8.1nm,0.9s,baz=106,slow=5.3,SNR=18
ZALV Zalesovo Beam 77.66 327 *i* P **P** **22 09 56.7 +0.3**
ZALV pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 77.66 327 P **P** **22 09 55.8 -0.6**
TTA Tatalina 77.83 23 P **P** **22 09 56.6 -0.7**
TTA pmax pmax
comp=Z,15nm,1.3s
TTA Tatalina 77.83 23 P **P** **22 09 56.6 -0.7**
L19K White Mountain 77.88 24 P **P** **22 09 56.6 -0.9**
L19K IAmb IAmb 22 10 08.4
comp=Z,15nm,1.1s
L19K White Mountain 77.88 24 P **P** **22 10 00.8 +3.2**
baz=238
TARG Taragay, Kyrgy 78.09 314 P **P** **22 09 59.4 -0.3**
CNPM China Poot 78.09 27 P **P** **22 09 58.6 -0.1**
RDOG Red Dog Mine 78.60 17 P **P** **22 10 00.8 -0.6**
RDOG Red Dog Mine 78.60 17 P **P** **22 10 04.5 +3.1**
baz=230
KSH Kashi 78.89 311 P **P** **22 10 07.4 +3.6**
KSH S **S** **22 20 11.3 +8.8**
KSH pmax pmax
comp=Z,14nm,1.6s
KSH LR LR
comp=Z,450nm,18.6s
KSH LR LR
comp=Z,660nm,18.5s
KSH LR LR
comp=Z,560nm,17.9s
J20K Nowinta River 79.20 22 P **P** **22 10 08.2 +3.4**
baz=238
CAST Castle Rocks 79.61 23 P **P** **22 10 06.6 -0.5**
CAST Castle Rocks 79.61 23 P **P** **22 10 09.4 +2.4**
baz=241
CHUM Lake Minchumin 79.75 23 P **P** **22 10 10.8 +3.0**
baz=240
NIL Nilore 79.80 305 P **P** **22 10 08.6 -0.2**
NIL pmax pmax
comp=Z,65nm,1.6s
NIL Nilore 79.80 305 P **P** **22 10 08.6 -0.2**
TKM2 Tokmak 2 79.97 314 *i* P **P** **22 10 10.5 +0.8**
TKM2 pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**80.09**	**323**	*ce*P	**P**	**22 10 10.7**	**+0.8**
KURK				pmax	pmax		
	comp=Z,33nm,1.3s						
KURK	**Kurchatov**	**80.09**	**323**	P	**P**	**22 10 10.4**	**+0.5**
KURK				IAmb	IAmb	22 10 14.2	
	comp=Z,21nm,0.9s						
KTH	**Kantishna Hill**	**80.13**	**23**	P	**P**	**22 10 07.5**	**-2.5**
IMAR	**Indian Mountai**	**80.29**	**20**	P	**P**	**22 10 10.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**80.37**	**23**	P	**P**	**22 10 11.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**80.37**	**23**	P	**P**	**22 10 14.6**	**+3.4**
	baz=242						
SML	**Sawmill**	**80.40**	**25**	P	**P**	**22 10 13.6**	**+2.2**
	baz=244						
UCH	**Uchtor**	**80.59**	**314**	P	**P**	**22 10 15.6**	**+2.2**
	SNR=14						
CHMS	**Chumysh**	**80.60**	**314**	P	**P**	**22 10 14.2**	**+1.4**
	SNR=6.2						
AAK	**Ala-Archa**	**80.70**	**314**	*ce*P	**P**	**22 10 14.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s						
AAK	**Ala-Archa**	**80.70**	**314**	P	**P**	**22 10 13.5**	**-0.1**
USP	**Ospenovka**	**80.84**	**315**	P	**P**	**22 10 15.5**	**+1.4**
	SNR=9.1						
RND	**Reindeer**	**80.89**	**24**	P	**P**	**22 10 15.0**	**+1.0**
RND				pmax	pmax		
	comp=Z,17nm,1.1s						
RND	**Reindeer**	**80.89**	**24**	P	**P**	**22 10 15.0**	**+1.0**
RND				IAmb	IAmb	22 10 28.1	
	comp=Z,17nm,1.1s						
MLY	**Manley**	**80.91**	**22**	P	**P**	**22 10 15.2**	**+1.2**
MLY				IAmb	IAmb	22 10 54.8	
	comp=Z,28nm,1.8s						
MLY	**Manley**	**80.91**	**22**	P	**P**	**22 10 16.5**	**+2.5**
	baz=242						
MCK	**McKinley**	**81.00**	**24**	P	**P**	**22 10 15.1**	**+0.5**
MCK				pmax	pmax		
	comp=Z,22nm,1.2s						
MCK	**McKinley**	**81.00**	**24**	P	**P**	**22 10 15.1**	**+0.5**
MCK				IAmb	IAmb	22 10 24.4	
	comp=Z,22nm,1.2s						
AML	**Almayashu**	**81.16**	**313**	P	**P**	**22 10 18.4**	**+2.1**
	SNR=21						
EKS2	**Erkin-Say**	**81.22**	**314**	P	**P**	**22 10 18.3**	**+2.0**
	SNR=7.0						
KLU	**Klutina**	**81.31**	**26**	P	**P**	**22 10 15.3**	**-1.0**
KLU				IAmb	IAmb	22 10 48.0	
	comp=Z,20nm,1.2s						
NEA2	**Nenana**	**81.33**	**23**	P	**P**	**22 10 16.0**	**-0.3**
DHY	**Denali Highway**	**81.35**	**24**	P	**P**	**22 10 16.3**	**-0.3**
DHY				IAmb	IAmb	22 10 50.0	
	comp=Z,23nm,1.4s						
DHY	**Denali Highway**	**81.35**	**24**	P	**P**	**22 10 18.9**	**+2.3**
	baz=245						
BTLS	**Baital**	**81.56**	**316**	*e*P	**P**	**22 10 18.6**	**+0.7**
BTLS				pmax	pmax		
	comp=Z,19nm,1.9s						
WRH	**Wood River Hil**	**81.66**	**23**	P	**P**	**22 10 18.9**	**+1.0**
WRH				IAmb	IAmb	22 11 01.3	
	comp=Z,19nm,1.3s						
CCB	**Clear Creek Bu**	**81.85**	**23**	P	**P**	**22 10 19.5**	**+0.6**
COLA	**College**	**81.93**	**23**	*i* P	**P**	**22 10 22.6**	**+3.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HDA	**Harding Lake**	**82.08**	**23**	P	P	22 10 25.3	+5.0
	baz=245						
PAX	**Paxson**	**82.10**	**25**	P	**P**	**22 10 19.2**	**-1.3**
PAX				pmax	pmax		
	comp=Z,24nm,1.9s						
PAX	**Paxson**	**82.10**	**25**	P	**P**	**22 10 19.2**	**-1.3**
PAX				IAmb	IAmb	22 11 06.7	
	comp=Z,24nm,1.9s						
COLD	**Coldfoot**	**82.14**	**20**	P	**P**	**22 10 18.0**	**-2.5**
POKR	**Poker Plat Res**	**82.19**	**23**	P	**P**	**22 10 20.2**	**-0.6**
IL31		**82.26**	**23**	P	**P**	**22 10 20.9**	**-0.2**
ILAR	**Eielson Array**	**82.26**	**23**	P	**P**	**22 10 21.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=248,slow=7.3,SNR=6.0						
ILAR	**Eielson Array**	**82.26**	**23**	P	**P**	**22 10 22.2**	**+1.0**
ILAR	**Eielson Array**	**82.26**	**23**	P	**P**	**22 10 22.1**	**+1.0**
TOLK	**Toolik Lake Re**	**83.02**	**19**	P	P	22 10 32.3	+7.2
	baz=242						
GAR	**Garm**	**83.09**	**310**	P	**P**	**22 10 26.1**	**-0.1**
SCRK	**Sand Creek**	**83.10**	**24**	P	P	22 10 31.2	+5.5
	baz=248						
NRIK	**Noril'sk**	**83.22**	**342**	P	**P**	**22 10 26.2**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=150,slow=3.4,SNR=6.0						
NRIK	**Noril'sk**	**83.22**	**342**	*ce*P	**P**	**22 10 27.6**	**+1.6**
NRIK				pmax	pmax		
	comp=Z,13nm,1.4s						
NRIK	**Noril'sk**	**83.22**	**342**	P	**P**	**22 10 26.3**	**+0.3**
KBL	**Kabul**	**83.39**	**305**	P	**P**	**22 10 26.9**	**-1.1**
KBL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KBL	**Kabul**	**83.39**	**305**	P	**P**	**22 10 26.9**	**-1.1**
M27K	**Edge Creek, AK**	**83.41**	**26**	P	**P**	**22 10 28.6**	**+1.2**
M27K				IAmb	IAmb	22 10 56.2	
	comp=Z,21nm,1.4s						
BRZS	**Berezniki**	**83.57**	**321**	*e*P	**P**	**22 10 28.8**	**+0.5**
BRZS				pmax	pmax		
	comp=Z,22nm,1.7s						
KKAR	**Karatay Array**	**83.66**	**314**	P	**P**	**22 10 29.6**	**+0.7**
KKAR	**Karatay Array**	**83.66**	**314**	P	**P**	**22 10 29.6**	**+0.7**
L27K	**Beaver Creek,**	**83.67**	**25**	P	**P**	**22 10 28.7**	**+0.1**
L27K				IAmb	IAmb	22 10 39.0	
	comp=Z,12nm,1.4s						
BCAR	**Beaver Creek A**	**83.69**	**25**	P	**P**	**22 10 30.0**	**+1.3**
CHGR	**Chuyangaron**	**83.92**	**309**	P	**P**	**22 10 30.0**	**-0.5**
CHGR				pmax	pmax		
	comp=Z,37nm,1.3s						
CHGR	**Chuyangaron**	**83.92**	**309**	P	**P**	**22 10 31.0**	**+0.5**
BMAR	**Burnt Mountain**	**84.20**	**21**	P	**P**	**22 10 32.0**	**+0.9**
EGAK	**Eagle**	**84.53**	**24**	P	**P**	**22 10 32.9**	**+0.1**
EGAK				IAmb	IAmb	22 11 02.1	
	comp=Z,21nm,1.6s						
INK	**Inuvik**	**88.45**	**21**	P	**P**	**22 10 53.3**	**+1.4**
	comp=Z,2.8nm,1.1s,baz=250,slow=7.2,SNR=3.2						
HRA	**Herat**	**88.95**	**304**	P	**P**	**22 10 55.2**	**-0.2**
HRA				IAmb	IAmb	22 11 02.0	
	comp=Z,20nm,1.3s						
ABKAR	**Akbulak array**	**91.67**	**319**	P	**P**	**22 11 07.0**	**-0.4**
ABKAR	**Akbulak array**	**91.67**	**319**	P	**P**	**22 11 07.3**	**-0.1**
ABKAR				IAmb	IAmb	22 11 27.2	
	comp=Z,5.3nm,1.2s						
GEYT	**Alibeck**	**92.50**	**308**	P	**P**	**22 11 13.4**	**+1.8**
	comp=Z,1.7nm,0.6s,baz=204,slow=16,SNR=2.1						
ARU	**Arti**	**92.80**	**326**	P	**P**	**22 11 13.1**	**+0.6**
ARU						22 14 55.8	
ARU				S	**SKSac**	**22 21 46.8**	**+0.5**
ARU				SS	**SS**	**22 28 30.8**	**0.0**
SYO	**Syowa Base**	**93.78**	**200⇑**	*e*P	**P**	**22 11 17.1**	**+0.3**
NVAR	**Mina Array Bea**	**94.28**	**52**	P	**P**	**22 11 21.6**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=235,slow=39,SNR=2.5						
NVAR	**Mina Array Bea**	**94.28**	**52**	P	**P**	**22 11 19.5**	**-0.5**
YKA	**Yellowknife Ar**	**95.91**	**28**	P	**P**	**22 11 26.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=276,slow=4.8,SNR=9.1						
YKA	**Yellowknife Ar**	**95.91**	**28**	*i* P	**P**	**22 11 28.7**	**+2.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
U54A	**Nelsons Funny**	**122.93**	**48**		**PKPdf**	**22 16 56.0**	**-1.0**
JSC	**Jenkinsville**	**124.22**	**50**	PKIKP	**PKPdf**	**22 16 57.1**	**-2.3**
JSC	**Jenkinsville**	**124.22**	**50**		**PKPdf**	**22 16 57.1**	**-2.3**
LMN	**Caledonia Moun**	**128.42**	**30**		**PKPdf**	**22 17 07.0**	**-0.1**
LPAZ	**La Paz**	**138.68**	**119**	PKhKP	PKPpre	22 17 23.0	
	comp=Z,0.4nm,0.4s,baz=307,slow=5.1,SNR=1.8						
SIV	**San Ignacio**	**144.83**	**124**	PKP	**PKPab**	**22 17 36.6**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=223,slow=1.7,SNR=7.1						
TORD	**Torodi Ar. Bea**	**146.01**	**289**	PKPbc	**PKPdf**	**22 17 41.0**	**+0.7**
	comp=Z,9.6nm,1.0s,baz=58,slow=2.9,SNR=24						
PTGA	**Pitinga**	**150.99**	**97**	PKPbc	**PKPbc**	**22 17 52.8**	**-1.4**
	comp=Z,7.9nm,0.5s,baz=340,slow=20,SNR=4.7						
DBIC	**Dimbokro**	**153.52**	**278**	PKPbc	**PKPbc**	**22 17 58.8**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=168,slow=3.4,SNR=3.4						

IDC 03 22:04:47.3±5.5**,3°.83S**×**149°.42E,h0**km**,mb3.4**/2**, mb1 3.8**/2**,mb1mx3.5**/33**,mbtmp3.5**/2**,Error ellipse: s-maj=232.7km s-min=55.3km az=111.0,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**221**	P	P	22 09 40.8	+0.2
	1.4nm,0.8s,baz=46,slow=10.0,SNR=4.3						
ASAR	**Alice Springs**	**24.77**	**216**	P	P	22 10 10.8	-0.2
	1.1nm,0.9s,baz=52,slow=7.2,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**27.96**	**37**	T	T	22 39 50.7	
	baz=220,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**27.97**	**37**	T	T	22 39 51.6	
	baz=220,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**27.98**	**37**	T	T	22 39 50.5	
	baz=220,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**29.03**	**36**	T	T	22 41 08.7	
	baz=216						
H11N3	**WAKE ISLAND Hy**	**29.04**	**36**	T	T	22 41 13.5	
	baz=216						
H11N2	**WAKE ISLAND Hy**	**29.04**	**36**	T	T	22 41 13.4	
	baz=216						
MKAR	**Makanchi Array**	**77.40**	**320**	P	P	22 16 50.0	+5.6
	0.1nm,0.4s,baz=188,slow=24,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.81**	**288**	PKPbc	PKPbc	22 24 31.8	-0.8
	0.9nm,1.1s,baz=66,slow=2.4,SNR=2.5						

IDC 03 22:09:27.0±4.2**,3°.64S**×**148°.37E,h0**km**,mb3.5**/3**, mb1 3.7**/3**,mb1mx3.4**/34**,mbtmp3.5**/3**,Error ellipse: s-maj=129.6km s-min=53.5km az=109.0,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.21**	**219**	P	P	22 14 15.0	+0.4
	0.6nm,0.8s,baz=42,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**24.33**	**214**	P	P	22 14 45.9	-0.8
	1.0nm,0.8s,baz=47,slow=8.4,SNR=7.4						
FITZ	**Fitzroy Crossi**	**26.49**	**235**	P	P	22 15 07.0	+0.6
	2.2nm,0.9s,baz=68,slow=11,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**28.45**	**39**	T	T	22 44 21.0	
	baz=220,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**28.46**	**39**	T	T	22 44 20.9	
	baz=220,slow=76,SNR=87						
H11S1	**WAKE ISLAND Hy**	**28.47**	**39**	T	T	22 44 21.9	
	baz=220,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**29.50**	**37**	T	T	22 45 40.0	
	baz=219,slow=76,SNR=57						
H11N3	**WAKE ISLAND Hy**	**29.51**	**37**	T	T	22 45 41.4	
	baz=219,slow=76,SNR=38						
H11N2	**WAKE ISLAND Hy**	**29.51**	**37**	T	T	22 45 41.3	
	baz=219,slow=76,SNR=76						
TORD	**Torodi Ar. Bea**	**145.75**	**288**	PKPbc	PKPdf	22 29 08.3	-0.5
	0.1nm,0.5s,baz=82,slow=3.1,SNR=1.2						

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*NEIC **03** 22:14:57.4±2.4, 10°.89N±0°.02×62°.30W±0°.06, h98km±9km, mb4.1/2, Error ellipse: s-maj=8.0km s-min=3.4km az=88.0*
*TRN **03** 22:14:57.6, 10°.91N×62°.39W, h93km, MD3.9*
*IDC **03** 22:14:57.2±3.2, 11°.24N×62°.43W, h93km±34km, mb3.5/10, mb1 3.7/12, mb1mx3.5/40, mbtmp3.9/12, Error ellipse: s-maj=34.7km s-min=25.1km az=15.0*
*FUNV **03** 22:14:59.2, 10°.86N×62°.29W, h26km, MW4.0*
ISC 03 22:14:56.7±0.7**,10°.89N**±0°.04×**62°.36W**±0°.04**,h102**km±7km**, n71,**σ**1s.46**/95**,mb3.9**/11**,1C-1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.89**	**256**	*e*P	**Pn**	**22 15 17.4**	**+1.4**
CRUV				*e*S	**Sn**	**22 15 29.1**	**-1.5**
TRN	**Trinidad (W)**	**0.97**	**104⇑**	*i*P	**Pn**	**22 15 18.1**	**+1.2**
TRN				*e*S	**Sn**	**22 15 31.9**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.06**	**123**	*e*P	**Pn**	**22 15 19.4**	**+1.4**
TPP				*e*S	**Sn**	**22 15 34.4**	**+0.5**
GRFF	**Grenada Fort F**	**1.30**	**28**	*e*P	**Pn**	**22 15 21.1**	**+0.4**
GRFF				*e*S	**Sn**	**22 15 38.0**	**-0.8**
GRGR	**Grenville**	**1.41**	**29**	Pn	**Pn**	**22 15 22.5**	**+0.4**
GRGR				Sn	**Sn**	**22 15 42.1**	**+0.9**
GRGR	**Grenville**	**1.41**	**29**	*e*P	**Pn**	**22 15 22.4**	**+0.4**
GRGR				*e*S	**Sn**	**22 15 40.3**	**-0.9**
GRHS	**Sauteurs**	**1.50**	**28**	*e*P	**Pn**	**22 15 24.5**	**+1.5**
GRHS				*e*S	**Sn**	**22 15 43.2**	**+0.2**
GRSS	**Sisters**	**1.58**	**28**	*e*P	**Pn**	**22 15 25.4**	**+1.5**
COAV	**Cumanacoa**	**1.62**	**243**	*e*P	**Pn**	**22 15 26.2**	**+1.6**
COAV				*e*S	**Sn**	**22 15 47.1**	**+1.3**
GCMP	**Grenada, Carri**	**1.83**	**30**	*e*P	**Pn**	**22 15 27.6**	**+0.4**
GCMP				*e*S	**Sn**	**22 15 49.8**	**-0.6**
TOSP	**Speyside**	**1.84**	**77**	Pn	**Pn**	**22 15 27.3**	**+0.1**
TOSP				Sn	**Sn**	**22 15 48.2**	**-2.3**
TOSP	**Speyside**	**1.84**	**77**	*e*P	**Pn**	**22 15 27.6**	**+0.4**
TOSP				*e*S	**Sn**	**22 15 50.0**	**-0.5**
CUMV	**Cumana_UDO**	**1.86**	**256**	*e*P	**Pn**	**22 15 30.0**	**+2.5**
CUMV				*e*S	**Sn**	**22 15 52.1**	**+1.1**
PLCV	**Puerto La Cruz**	**2.31**	**252**		**Pn**	**22 15 36.2**	**+2.9**
PCRV	**Puerto La Cruz**	**2.35**	**253**	P	**Pn**	**22 15 36.2**	**+2.3**
	39nm,0.3s,baz=59,slow=3.5,SNR=467						
PCRV				S	**Sn**	**22 16 03.5**	**+1.1**
	25nm,0.3s,baz=276,slow=15,SNR=7.7						
PCRV	**Puerto La Cruz**	**2.35**	**253**	*e*P	**Pn**	**22 15 36.1**	**+2.3**
PCRV				*e*S	**Sn**	**22 16 03.0**	**+0.6**
SVOC	**Richmond Hill,**	**2.51**	**26**	*e*	Pn	22 15 40.0	+4.1
SVOC				*e*S	**Sn**	**22 16 06.2**	**+0.1**
SVB	**Belmont**	**2.60**	**25**	*e*P	**Pn**	**22 15 38.9**	**+1.7**
SVB				*e*S	**Sn**	**22 16 08.2**	**-0.1**
SVV	**Soufriere Volc**	**2.66**	**25**	*e*P	**Pn**	**22 15 39.4**	**+1.5**
SVV				*e*S	**Sn**	**22 16 09.2**	**-0.4**
PRGV	**PARIAGUAN**	**3.09**	**227⇓**	*e*P	**Pn**	**22 15 45.1**	**+1.4**
PRGV				*e*S	**Sn**	**22 16 20.5**	**+0.5**
MCLT	**Moule a Chique**	**3.12**	**26**	Pn	**Pn**	**22 15 43.4**	**-0.7**
MCLT	**Moule a Chique**	**3.12**	**26**	*e*P	**Pn**	**22 15 44.4**	**+0.3**
MCLT				*e*S	**Sn**	**22 16 20.2**	**-0.5**
SLBI	**Saint Lucia, B**	**3.39**	**23**	*e*P	**Pn**	**22 15 47.9**	**+0.2**
SLBI				*e*S	**Sn**	**22 16 26.2**	**-1.0**
BBGH	**Gun Hill**	**3.54**	**51**	Pn	**Pn**	**22 15 51.9**	**+2.2**
BBGH	**Gun Hill**	**3.54**	**51**	*e*P	**Pn**	**22 15 51.3**	**+1.6**
BBGH				*e*S	**Sn**	**22 16 30.3**	**-0.4**
BBSP	**Saint Philip**	**3.59**	**52**	*e*P	**Pn**	**22 15 52.3**	**+1.9**
BIM	**Bigot**	**3.81**	**19**	Pn	**Pn**	**22 15 53.8**	**+0.3**
BIM	**Bigot**	**3.81**	**19**	*e*P	**Pn**	**22 15 53.9**	**+0.4**
BIM				*e*S	**Sn**	**22 16 35.8**	**-1.6**
MPOM	**Morne Pois Mar**	**3.82**	**22**	Pn	**Pn**	**22 15 53.8**	**+0.3**
MPOM	**Morne Pois Mar**	**3.82**	**22**	*e*P	**Pn**	**22 15 54.0**	**+0.5**
MPOM				*e*S	**Sn**	**22 16 36.9**	**-0.7**
BIRV	**Birongo**	**3.86**	**264**		**Pn**	**22 15 57.0**	**+2.9**
BIRV	**Birongo**	**3.86**	**264**	*e*P	**Pn**	**22 15 57.0**	**+2.9**
BIRV				*e*S	**Sn**	**22 16 39.3**	**+0.7**
FDF	**Fort de France**	**4.00**	**17**	Pn	**Pn**	**22 15 56.3**	**+0.4**
FDF	**Fort de France**	**4.00**	**17**	*e*P	**Pn**	**22 15 56.2**	**+0.3**
SVN	**Savane Anatole**	**4.09**	**16**	Pn	**Pn**	**22 15 57.8**	**+0.6**
ILAM	**Ilet Lapin Mar**	**4.12**	**20**	Pn	**Pn**	**22 15 58.0**	**+0.4**
ILAM	**Ilet Lapin Mar**	**4.12**	**20**	*e*P	**Pn**	**22 15 58.2**	**+0.7**
MERV	**Las Mercedes**	**4.21**	**248**	*e*S	**Sn**	**22 16 47.0**	**+0.1**
DSLB	**Salisbury**	**4.61**	**11**	*e*P	**Pn**	**22 16 05.0**	**+0.8**
LUEV	**Luepa**	**5.10**	**170**	*e*P	**Pn**	**22 16 11.0**	**+0.1**
BENV	**Beln**	**5.23**	**260**	*e*S	**Sn**	**22 17 11.1**	**-0.7**
CACV	**CAICARA DEL OR**	**5.29**	**232**	*e*S	Sn	22 17 03.6	-9.5
TURV	**Turiamo**	**5.40**	**266**	*e*P	**Pn**	**22 16 16.4**	**+1.5**
TURV				*e*S	**Sn**	**22 17 15.2**	**-0.6**
MAPV	**Macapo**	**6.09**	**261**	*e*S	**Sn**	**22 17 31.3**	**-1.3**
ANBD	**Bethesda, Anti**	**6.15**	**5**	*e*P	**Pn**	**22 16 26.6**	**+1.7**
PAYV	**Puerto Ayacuch**	**7.55**	**224**	*e*S	**Sn**	**22 18 04.2**	**-4.0**
STVI	**Saint Thomas**	**7.83**	**342**	Pn	**Pn**	**22 16 47.9**	**+0.1**
CUPR	**Culebra, Puert**	**7.89**	**339**	Pn	**Pn**	**22 16 49.0**	**+0.3**
PDPR	**Patillas Dam,**	**7.92**	**334**	Pn	**Pn**	**22 16 48.1**	**-1.0**
CBYP	**Canovanas**	**8.08**	**336**	Pn	**Pn**	**22 16 51.3**	**0.0**
CELP	**Cerrillos**	**8.22**	**331**	Pn	**Pn**	**22 16 52.9**	**-0.3**
SDV	**Santo Domingo**	**8.39**	**257**	P	**Pn**	**22 16 54.9**	**-0.8**
	0.9nm,0.3s,baz=100,slow=10,SNR=5.3						
SDV				S	**Sn**	**22 18 25.8**	**-3.1**
	2.6nm,0.3s,baz=51,slow=23,SNR=5.7						
SDV	**Santo Domingo**	**8.39**	**257**	Pn	**Pn**	**22 16 55.4**	**-0.3**
SDV				Sn	**Sn**	**22 18 26.1**	**-2.8**
AOPR	**Arecibo Observ**	**8.54**	**331**	Pn	**Pn**	**22 16 59.2**	**+1.6**
DR12	**Loma Pena Alta**	**10.37**	**320**	Pn	**Pn**	**22 17 24.8**	**+2.2**
MDP	**Montagnes des**	**11.21**	**120**	P	Pn	22 17 29.5	-4.4
	1.9nm,0.3s,baz=310,slow=16,SNR=22						
MDP				S	Sn	22 19 27.9	-9.4
	5.5nm,0.3s,baz=38,slow=13,SNR=18						
SDDR	**Presa de Saban**	**11.79**	**314**	Pn	**Pn**	**22 17 43.8**	**+2.2**
PTGA	**Pitinga**	**11.79**	**168**	P	**Pn**	**22 17 41.0**	**-0.6**
	2.0nm,0.3s,baz=28,slow=21,SNR=23						
PTGA				S	**Sn**	**22 19 47.3**	**-4.1**
	3.0nm,0.3s,baz=286,slow=21,SNR=7.8						
SJCC	**San Jacinto, C**	**12.65**	**267**	Pn	**Pn**	**22 17 53.9**	**+0.9**
ORTG	**Ortega, Santa**	**22.71**	**271**	P	**P**	**22 19 51.0**	**+0.8**
ORTG				IAmb	IAmb	22 20 04.8	
	comp=Z,11nm,1.0s						
ATAH	**Atahualpa**	**23.99**	**222**	P	**P**	**22 20 06.2**	**+3.7**
	comp=Z,2.7nm,0.6s,baz=59,slow=7.8,SNR=2.8						
TXAR	**Lajitas Array**	**42.63**	**302**	P	**P**	**22 22 43.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=97,slow=11,SNR=4.9						
ULM	**Lac du Bonnet**	**47.96**	**331**	P	**P**	**22 23 23.6**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=281,slow=1.1,SNR=2.6						
ULM	**Lac du Bonnet**	**47.96**	**331**	IAmb	IAmb	22 23 30.1	
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**51.79**	**317**	P	**P**	**22 23 53.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=116,slow=9.6,SNR=11						
TORD	**Torodi Ar. Bea**	**62.55**	**81**	P	**P**	**22 25 10.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=285,slow=6.6,SNR=1.7						
YKA	**Yellowknife Ar**	**63.54**	**336**	P	**P**	**22 25 14.3**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=109,slow=7.4,SNR=4.2						
ILAR	**Eielson Array**	**77.89**	**334**	P	**P**	**22 26 41.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=91,slow=4.8,SNR=1.7						
ARCES	**ARCESS Array B**	**79.13**	**21**	P	**P**	**22 26 50.5**	**+0.8**
	comp=Z,6.7nm,1.0s,baz=270,slow=5.1,SNR=3.6						
FINES	**FINESS Array B**	**79.77**	**29**	P	**P**	**22 26 54.0**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=249,slow=2.7,SNR=13						
BRTR	**Keskin Array B**	**87.69**	**50**	P	**P**	**22 27 35.8**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=275,slow=5.7,SNR=2.2						

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*BJI **03** 22:18:00.9±0.0, 3°.22S×149°.07E, h5km, mb4.6/41, mB5.4/11, Ms5.1/4, Ms7 5.0/4*
*IDC **03** 22:18:02.9±0.6, 3°.29S×148°.83E, h0km, mb4.4/20, mb1 4.6/23, mb1mx4.4/47, mbtmp4.4/23, ML3.7/3, MS4.5/22, Ms1 4.5/22, ms1mx4.2/66, Error ellipse: s-maj=17.2km s-min=13.2km az=98.0*
*DJA **03** 22:18:04.9±1.7, 3°S±4°×14°9E±°, h20km±11km, M4.9/40, mB5.6/4, mb4.8/40, MLv4.9/2, Mw(mB)5.1/4*
*NEIC **03** 22:18:05.2±1.8, 3°.15S±0°.07×148°.85E±0°.05, h10km±1km, mb4.8/74, Error ellipse: s-maj=13.8km s-min=3.3km az=217.0*
*GCMT **03** 22:18:08.2±0.2, 3°.24S±0°.01×148°.74E±0°.01, h15km±1km, MW5.2/134, Moment Tensor Solution. s28,c30; s134,c217; Duration: 1s.0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.74±.21; $M_{\theta\theta}$5.63±.19; $M_{\phi\phi}$-4.90±.17; $M_{r\theta}$0.99±.55; $M_{\theta\phi}$5.18±.15; $M_{\phi r}$-0.06±.54; Best double couple: $M_0$7.44700×10^{16} NP1:ϕ_s23.00000°,δ83.00000°, λ179.00000°. NP2:ϕ_s113.00000°,δ89.00000°,λ7.00000°. Principal axes: T 7.8440, Plg6.0000°, Azm338.0000°; N -0.8000, Plg83.0000°, Azm124.0000°; P -7.0500, Plg4.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 22:18:08.2±0.3**,3°.25S**±0°.05×**148°.78E**±0°.06**,h35**km**,n217, **σ**1s.45**/195**,mb4.8**/81**,MS4.5**/18**,1C-2D,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.85**	**310**		**Pn**	**22 18 34.2**	**-3.2**
KRVT	**Keravat (AS076**	**3.41**	**108**	Pn	**Pn**	**22 18 57.2**	**-1.7**
	baz=180,slow=20						
RABL	**Rabaul**	**3.51**	**106**		**Pn**	**22 18 57.6**	**-2.7**
RABL	**Rabaul**	**3.51**	**106**	P	**Pn**	**22 18 58.3**	**-2.0**
PMG	**Port Moresby**	**6.33**	**195**	Pn	**Pn**	**22 19 41.2**	**+2.2**
	2.7nm,0.3s,baz=27,slow=9.3,SNR=9.2						
PMG				Sn	**Sn**	**22 20 53.3**	**+3.2**
	3.3nm,0.3s,baz=18,slow=20,SNR=2.2						
PMG				LR	LR	22 22 11.6	
	comp=Z,3μm,21.0s,baz=32,slow=40						
PMG	**Port Moresby**	**6.33**	**195**	Pn	**Pn**	**22 19 40.5**	**+1.5**
PMG	**Port Moresby**	**6.33**	**195**	P	**Pn**	**22 19 41.5**	**+2.5**
JAY	**Jayapura**	**8.09**	**275**	Pn	**Pn**	**22 20 03.3**	**-0.1**
	0.7nm,0.3s,baz=42,slow=4.3,SNR=7.3						
JAY	**Jayapura**	**8.09**	**275**	P	**Pn**	**22 20 01.9**	**-1.5**
	57nm,1.3s						
GENI	**Genyem**	**8.62**	**274**	P	**Pn**	**22 20 10.1**	**-0.5**
	152nm,1.4s						
GENI	**Genyem**	**8.62**	**274**	P	**Pn**	**22 20 12.1**	**+1.5**
COEN	**Coen**	**11.99**	**207**	P	**Pn**	**22 20 54.5**	**-2.3**
	baz=12						
COEN	**Coen**	**11.99**	**207**		**Pn**	**22 20 56.3**	**-0.5**
MTSU	**Mount Surprise**	**15.43**	**196**	P	**Pn**	**22 21 43.3**	**-0.1**
	baz=16,SNR=13						
MTSU	**Mount Surprise**	**15.43**	**196**	P	**P**	**22 21 47.9**	**+0.3**
CTA	**Charters Tower**	**16.92**	**188**	Pn	**Pn**	**22 22 01.2**	**-1.2**
	0.2nm,0.3s,baz=0.0,slow=10,SNR=3.2						
CTA				LR	LR	22 29 12.2	
	comp=Z,2μm,18.1s,baz=7.0,slow=40						
GUMO	**Guam**	**17.17**	**347**	LR	LR	22 27 04.3	
	comp=Z,2μm,20.4s,baz=146,slow=31						
SIJI	**Sorong**	**17.66**	**277**	P	**P**	**22 22 12.3**	**0.0**
	0.5nm,0.3s,baz=62,slow=12,SNR=5.1						
SIJI				LR	LR	22 28 48.1	
	comp=Z,960nm,18.8s,baz=91,slow=36						
SWI	**Sorong**	**17.66**	**277**	P	**Pn**	**22 22 09.6**	**-2.1**
	20nm,0.8s						
SAUI	**Saumlaki**	**18.01**	**254**	P	**Pn**	**22 22 14.7**	**-1.3**
SAUI				IAmb	IAmb	22 22 21.3	
	comp=Z,65nm,0.9s						
SAUI	**Saumlaki**	**18.01**	**254**	P	**Pn**	**22 22 10.9**	**-5.1**
	comp=Z,138nm,1.3s						
KDU	**Kakadu**	**18.66**	**239**	P	**P**	**22 22 20.7**	**-2.5**
	baz=19,SNR=19						
KDU	**Kakadu**	**18.66**	**239**	P	**P**	**22 22 21.0**	**-2.3**
QIS	**Mount Isa**	**19.39**	**207**	P	**P**	**22 22 31.5**	**+0.3**
	baz=20,SNR=11						
QIS	**Mount Isa**	**19.39**	**207**	P	**P**	**22 22 31.6**	**+0.3**
DRS	**Darwin Rock St**	**19.90**	**242**	P	**Pn**	**22 22 37.5**	**-1.3**
RK1H	**Rockhampton Ha**	**20.09**	**175**	P	Pn	22 22 44.1	+3.2
AAI	**Ambon**	**20.55**	**268**	P	Pn	22 22 45.2	-1.2
	comp=Z,63nm,0.5s						
LBMI	**Labuha**	**21.42**	**277**	P	**P**	**22 22 55.0**	**+1.6**
	comp=Z,38nm,1.2s						
WB0	**Warramunga Arr**	**21.60**	**219**	P	**P**	**22 22 54.2**	**-1.1**
WB0				IAmb	IAmb	22 23 07.2	
	comp=Z,68nm,1.1s						
WR0	**Warramunga Arr**	**21.65**	**219**	P	**P**	**22 22 55.2**	**-0.6**
WRAB	**Tennant Creek**	**21.75**	**219**	P	**P**	**22 22 56.9**	**0.0**
WRAB				IAmb	IAmb	22 23 05.7	
	comp=Z,49nm,0.8s						
WRAB	**Tennant Creek**	**21.75**	**219**	P	**P**	**22 22 58.6**	**+1.7**
WB2	**Warramunga Arr**	**21.76**	**219**	P	**P**	**22 22 56.6**	**-0.3**
WB2				IAmb	IAmb	22 23 05.8	
	comp=Z,39nm,0.8s						
WRA	**Warramunga Arr**	**21.77**	**219**	P	**P**	**22 22 56.3**	**-0.8**
	comp=Z,12nm,0.5s,baz=41,slow=11,SNR=44						
WRA				LR	LR	22 32 45.0	
	comp=Z,2μm,18.5s,baz=28,slow=40						
WRA	**Warramunga Arr**	**21.77**	**219**	P	**P**	**22 22 57.2**	**+0.2**
TNTI	**Ternate**	**21.77**	**280**	P	**P**	**22 22 58.1**	**+0.9**
SANVU	**Saraoutou**	**21.82**	**125**	P	**P**	**22 22 57.8**	**+0.1**
SANVU				IAmb	IAmb	22 23 11.9	
	comp=Z,39nm,0.9s						
EIDS	**Eidsvold**	**22.11**	**174**	P	**P**	**22 23 01.4**	**+0.8**
	baz=22,SNR=7.4						
EIDS	**Eidsvold**	**22.11**	**174**	P	**P**	**22 23 01.3**	**+0.7**
EIDS				IAmb	IAmb	22 23 09.3	
	comp=Z,42nm,0.9s						
EIDS	**Eidsvold**	**22.11**	**174**	P	**P**	**22 23 05.0**	**+4.4**
SANI	**Sanana**	**22.79**	**272**	P	**P**	**22 23 03.4**	**-4.7**
	comp=Z,23nm,1.2s						
SANI	**Sanana**	**22.79**	**272**	P	**P**	**22 23 06.3**	**-1.8**
RMQ	**Roma**	**23.11**	**180**	P	**P**	**22 23 10.5**	**-0.8**
	baz=23,SNR=10						
RMQ	**Roma**	**23.11**	**180**	P	**P**	**22 23 10.4**	**-0.8**
KNRA	**Kununurra**	**23.25**	**237**	P	**P**	**22 23 12.0**	**-0.8**
	baz=23,SNR=5.4						
KNRA	**Kununurra**	**23.25**	**237**	P	**P**	**22 23 11.9**	**-0.8**
KNRA	**Kununurra**	**23.25**	**237**	P	**P**	**22 23 14.8**	**+2.1**
QLP	**Quilpie**	**23.61**	**190**	P	**P**	**22 23 18.6**	**+2.5**
	baz=24,SNR=3.5						
QLP	**Quilpie**	**23.61**	**190**	P	**P**	**22 23 15.3**	**-0.8**
ASAR	**Alice Springs**	**24.87**	**214**	P	**P**	**22 23 27.4**	**-0.5**
	comp=Z,41nm,1.0s,baz=46,slow=7.7,SNR=85						
ASAR	**Alice Springs**	**24.87**	**214**	P	**P**	**22 23 26.3**	**-1.5**
LIFNC	**LIFOU**	**25.04**	**136**	P	**P**	**22 23 26.5**	**-2.8**
DZM	**Mont Dzumac**	**25.38**	**139**	P	**P**	**22 23 31.7**	**-0.8**
	comp=Z,9.3nm,0.9s,baz=53,slow=9.5,SNR=5.3						
DZM				LR	LR	22 32 12.2	
	comp=Z,3μm,19.6s,baz=272,slow=34						
DZM	**Mont Dzumac**	**25.38**	**139**	*e*P	**P**	**22 23 33.5**	**+1.0**
	comp=Z,53nm,1.1s						
DZM	**Mont Dzumac**	**25.38**	**139**	P	**P**	**22 23 31.4**	**-1.1**
DZM				IAmb	IAmb	22 23 42.8	
	comp=Z,24nm,1.0s						
INKA	**Innaminka**	**25.53**	**197**	P	**P**	**22 23 32.5**	**-1.2**
ONTNC	**Ouen Toro**	**25.56**	**139**	P	**P**	**22 23 33.7**	**-0.3**
ONTNC				IAmb	IAmb	22 23 49.9	
	comp=Z,23nm,0.9s						
YATNC	**Mamie plateau,**	**25.67**	**138**	P	**P**	**22 23 37.9**	**+2.9**
BATI	**Baumata**	**25.86**	**253**	P	**P**	**22 23 36.5**	**-0.5**
	comp=Z,11nm,0.4s,baz=133,slow=0.3,SNR=7.1						
BATI				LR	LR	22 36 23.6	
	comp=Z,2μm,18.1s,baz=104,slow=42						
BATI	**Baumata**	**25.86**	**253**	P	**P**	**22 23 36.5**	**-0.5**
	comp=Z,43nm,1.0s						

OUENC	**Ouen Island, N**	**25.89**	**139**	P	**P**	**22 23 36.8**	**-0.2**
OUENC				IAmb	IAmb	22 23 55.8	
	comp=Z,24nm,1.1s						
GTOI	**Gorontalo**	**26.04**	**278**	P	**P**	**22 23 38.6**	**+0.1**
	comp=Z,18nm,1.6s						
MARNC	**Mare, Loyalty**	**26.05**	**136**	P	**P**	**22 23 38.1**	**-0.4**
BBSI	**Bau Bau**	**26.22**	**264**	P	**P**	**22 23 41.4**	**+1.2**
	comp=Z,7.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.05**	**235**	P	**P**	**22 23 47.5**	**0.0**
	comp=Z,29nm,0.9s,baz=66,slow=8.0,SNR=22						
FITZ				LR	LR	22 34 47.8	
	comp=Z,1µm,19.3s,baz=66,slow=37						
FITZ	**Fitzroy Crossi**	**27.05**	**235**	P	**P**	**22 23 46.1**	**-1.4**
	baz=27,SNR=28						
FITZ	**Fitzroy Crossi**	**27.05**	**235**	P	**P**	**22 23 47.6**	**0.0**
FITZ	**Fitzroy Crossi**	**27.05**	**235**	P	**P**	**22 23 48.7**	**+1.2**
ARMA	**Armidale**	**27.16**	**175**	P	**P**	**22 23 48.6**	**0.0**
APSI	**Ampana**	**27.21**	**274**	P	**P**	**22 23 47.3**	**-1.7**
	comp=Z,23nm,0.9s						
OOD	**Oodnadatta**	**27.42**	**206**	P	**P**	**22 23 51.2**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**27.89**	**39**	T	T	22 53 06.1	
	baz=220,slow=76,SNR=846						
H11S2	**WAKE ISLAND Hy**	**27.90**	**39**	T	T	22 53 05.9	
	baz=220,slow=76,SNR=136						
H11S1	**WAKE ISLAND Hy**	**27.91**	**39**	T	T	22 53 07.1	
	baz=220,slow=76,SNR=134						
CMSA	**Cobar Meteorol**	**28.29**	**186**	P	**P**	**22 23 59.1**	**+0.6**
TOLI2	**Tolitoli**	**28.32**	**278**	P	**P**	**22 23 57.4**	**-1.5**
BNSI	**Bone**	**28.63**	**267**	P	**P**	**22 24 03.1**	**+1.4**
LCRK	**Leigh Creek**	**28.84**	**199**	P	**P**	**22 24 03.3**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**28.94**	**37**	T	T	22 54 24.9	
	baz=219,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy**	**28.96**	**37**	T	T	22 54 35.0	
	baz=219,slow=76,SNR=67						
H11N2	**WAKE ISLAND Hy**	**28.96**	**37**	T	T	22 54 26.3	
	baz=219,slow=76,SNR=263						
KAPI	**Kappang**	**29.00**	**266**	LR	LR	22 37 01.2	
	comp=Z,222nm,19.6s,baz=94,slow=39						
KAPI	**Kappang**	**29.00**	**266**	P	**P**	**22 24 05.5**	**+0.5**
KAPI				IAmb	IAmb	22 24 18.4	
	comp=Z,24nm,1.3s						
MPSI	**Mapaga**	**29.08**	**277**	P	P	22 24 00.1	-5.7
STKA	**Stephens Creek**	**29.27**	**193**	P	**P**	**22 24 06.2**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=15,slow=14,SNR=3.9						
STKA				LR	LR	22 36 41.1	
	comp=Z,1µm,19.7s,baz=13,slow=38						
WRKA	**Warakurna**	**29.29**	**220**	P	**P**	**22 24 06.6**	**-1.0**
	baz=29,SNR=5.8						
WRKA	**Warakurna**	**29.29**	**220**	P	**P**	**22 24 10.3**	**+2.7**
LHI	**Lord Howe Isla**	**29.75**	**162**	P	**P**	**22 24 11.7**	**+0.2**
MULG	**Mulgathing**	**30.28**	**206**	P	**P**	**22 24 16.1**	**-0.1**
JCJ	**Chichijima**	**30.83**	**348**	P	**P**	**22 24 18.8**	**-2.2**
NAPP	**Napperby**	**31.40**	**197**	P	**P**	**22 24 28.4**	**+2.4**
HTT	**Hallett**	**31.41**	**196**	P	**P**	**22 24 24.8**	**-1.4**
	baz=32,SNR=3.1						
HTT	**Hallett**	**31.41**	**196**	P	**P**	**22 24 28.1**	**+1.9**
WHYH	**Whyalla**	**31.43**	**198**	P	**P**	**22 24 26.6**	**+0.3**
BBOO	**Buckleboo**	**31.73**	**201**	P	**P**	**22 24 30.0**	**+1.0**
BBOO				IAmb	IAmb	22 24 34.7	
	comp=Z,14nm,1.0s						
PSA00	**Pilbara Seismi**	**33.50**	**235**	P	**P**	**22 24 43.5**	**-1.1**
PSA00	**Pilbara Seismi**	**33.50**	**235**	P	**P**	**22 24 44.4**	**-0.2**
PSA00				IAmb	IAmb	22 24 59.3	
	comp=Z,9.9nm,1.1s						
FORT	**Forrest**	**33.66**	**213**	P	**P**	**22 24 45.0**	**-0.9**
FORT	**Forrest**	**33.66**	**213**	P	**P**	**22 24 45.9**	**+0.1**
ARPS	**Mount Arapiles**	**33.97**	**190**	P	**P**	**22 24 51.2**	**+2.8**
TOO	**Toolangi**	**34.29**	**185**	P	**P**	**22 24 51.1**	**-0.2**
	baz=34,SNR=4.3						
TOO	**Toolangi**	**34.29**	**185**	P	**P**	**22 24 51.3**	**0.0**
TOO				IAmb	IAmb	22 24 56.8	
	comp=Z,13nm,1.1s						
TOO	**Toolangi**	**34.29**	**185**	P	**P**	**22 24 53.9**	**+2.6**
JOW	**Kunigami**	**35.87**	**328**	LR	LR	22 38 17.0	
	comp=Z,911nm,19.9s,baz=146,slow=34						
JHJ	**Hachijo jima 2**	**37.16**	**347**	LR	LR	22 40 07.2	
	comp=Z,492nm,18.0s,baz=190,slow=36						
YULB	**Yu-li**	**37.66**	**316**	P	**P**	**22 25 17.2**	**-3.1**
YULB				IAmb	IAmb	22 25 32.7	
	comp=Z,22nm,1.0s						
PCJI	**Pacitan**	**37.72**	**261**	P	P	22 25 14.8	-6.1
YHNB	**Yeheng**	**38.46**	**318**	P	**P**	**22 25 26.7**	**-0.4**
KPJI	**Karang Pucung**	**39.87**	**262**	P	**P**	**22 25 37.6**	**-1.4**
	comp=Z,17nm,0.9s						
JNU	**Nakatsue**	**39.94**	**336**	P	**P**	**22 25 38.7**	**-0.6**
	comp=Z,24nm,0.9s,baz=164,slow=6.4,SNR=7.7						
JNU	**Nakatsue**	**39.94**	**336**	P	**P**	**22 25 38.0**	**-1.4**
JNU				IAmb	IAmb	22 25 45.3	
	comp=Z,36nm,1.0s						
CMJI	**Cimerak**	**40.38**	**262**	P	**P**	**22 25 43.3**	**+0.1**
	comp=Z,27nm,1.2s						
KLBR	**Kellerberrin**	**40.58**	**223**	P	**P**	**22 25 42.7**	**-1.9**
	baz=41,SNR=3.8						
MJAR	**Matsushiro Arr**	**40.80**	**347**	PcP	**PcP**	**22 27 47.7**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=179,slow=3.6,SNR=1.9						
MJAR				LR	LR	22 39 59.0	
	comp=Z,586nm,20.8s,baz=178,slow=32						
MJAR	**Matsushiro Arr**	**40.80**	**347**	P	**P**	**22 25 45.5**	**-0.8**
LEM	**Lembang**	**41.14**	**263**	LR	LR	22 44 55.4	
	comp=Z,192nm,19.7s,baz=88,slow=39						
LEM	**Lembang**	**41.14**	**263**	P	**P**	**22 25 45.8**	**-3.9**
	comp=Z,12nm,1.1s						
CNJI	**Cibinong**	**41.65**	**263**	P	**P**	**22 25 53.5**	**-0.2**
	comp=Z,63nm,1.2s						
URZ	**Urewera**	**43.40**	**147**	LR	LR	22 41 19.4	
	comp=Z,1µm,20.4s,baz=331,slow=32						
TUWZ	**Tuamarina**	**44.22**	**153**	P	**P**	**22 26 12.9**	**-1.2**
QIZ	**Qiongzhong**	**44.23**	**302**	P	**P**	**22 26 14.7**	**+0.1**
QIZ	**Qiongzhong**	**44.23**	**302**	P	**P**	**22 26 14.3**	**-0.2**
QIZ				S	**S**	**22 32 49.4**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDSI	**Maura Dua**	**44.51**	**267**	P	P	22 26 28.4	+12
RPZ	**Rata Peaks**	**44.87**	**157**	LR	LR	22 44 01.1	
	comp=Z,858nm,19.5s,baz=325,slow=35						
KSRS	**Korea Array**	**44.89**	**336**	P	**P**	**22 26 21.3**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=160,slow=8.7,SNR=2.5						
NJ2	**Nanjing**	**45.16**	**323**	*e*P	**P**	**22 26 22.1**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ASAJ	**Asahikawa**	**47.48**	**354**	LR	LR	22 45 03.4	
	comp=Z,674nm,21.9s,baz=182,slow=34						
USA0B	**Ussuriysk Arra**	**49.58**	**344**	P	**P**	**22 26 55.0**	**-0.8**
USA0B				IAmb	IAmb	22 27 01.5	
	comp=Z,12nm,1.2s						
USRK	**Ussuriysk Ar.**	**49.58**	**344**	P	**P**	**22 26 56.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=171,slow=7.9,SNR=6.0						
USRK	**Ussuriysk Ar.**	**49.58**	**344**	P	**P**	**22 26 54.9**	**-1.0**
BNX	**BinXian**	**52.34**	**341**	⇓P	**P**	**22 27 17.3**	**+0.7**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,500nm,10.2s						
XAN	**Xi'an**	**52.76**	**318**	P	P	22 27 24.9	+4.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**52.80**	**305**	⇓P	**P**	**22 27 22.6**	**+1.9**
KMI				pP	pP	22 27 25.8	-4.8
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CM31	**Chiang Mai Arr**	**53.59**	**296**	P	**P**	**22 27 26.7**	**+0.4**
CM31				IAmb	IAmb	22 27 33.0	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**53.59**	**296**	P	**P**	**22 27 27.1**	**+0.8**
	comp=Z,7.0nm,0.9s,baz=113,slow=5.7,SNR=16						
CMAR	**Chiang Mai Arr**	**53.59**	**296**	P	**P**	**22 27 26.5**	**+0.1**
CHTO	**Chiang Mai**	**53.70**	**296**	P	**P**	**22 27 26.6**	**-0.5**
CHTO				IAmb	IAmb	22 27 34.2	
	comp=Z,16nm,1.5s						
PZH	**PanZhiHua**	**54.21**	**306**	P	P	22 27 35.7	+4.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**54.32**	**346**	P	**P**	**22 27 31.4**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=147,slow=2.5,SNR=14						
CD2	**Chengdu**	**54.70**	**312**	P	**P**	**22 27 38.1**	**+3.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**55.49**	**326**	*e*P	**P**	**22 27 42.4**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,690nm,6.5s						
BTO	**Baotou**	**56.20**	**325**	*e*P	**P**	**22 27 48.1**	**+3.1**
PETK	**Petropavlovsk-**	**56.65**	**6**	P	**P**	**22 27 48.5**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=183,slow=7.4,SNR=3.7						
PETK				LR	LR	22 48 37.0	
	comp=Z,344nm,21.6s,baz=194,slow=32						
PETK	**Petropavlovsk-**	**56.65**	**6**	P	**P**	**22 27 47.4**	**-0.4**
LZH	**Lanzhou**	**57.35**	**317**	⇑P	**P**	**22 27 56.3**	**+3.0**
LZH				pP	pP	22 28 02.1	-1.2
LZH				sP	pwP	22 28 05.6	-0.5
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
HIA	**Hailar**	**58.04**	**338**	P	**P**	**22 27 58.1**	**+0.3**
SHL	**Shillong**	**62.07**	**301**		**P**	**22 28 25.9**	**-0.1**
ADK	**Adak**	**62.25**	**23**	P	**P**	**22 28 25.3**	**-1.2**
ULN	**Ulaanbaatar**	**62.60**	**330**	P	**P**	**22 28 29.8**	**+0.7**
ULN				IAmb	IAmb	22 28 35.4	
	comp=Z,5.4nm,0.8s						
MA2	**Magadan**	**62.65**	**1**	LR	LR	22 57 54.0	
	comp=Z,283nm,18.1s,baz=197,slow=38						
MA2	**Magadan**	**62.65**	**1**	P	**P**	**22 28 31.0**	**+2.0**
MA2				IAmb	IAmb	22 28 37.2	
	comp=Z,7.5nm,1.1s						
SONM	**Songino Array**	**62.92**	**329**	LR	LR	22 56 17.4	
	comp=Z,439nm,20.4s,baz=129,slow=36						
SONM	**Songino Array**	**62.92**	**329**	P	**P**	**22 28 31.9**	**+0.8**
GOMU	**GeErMu**	**63.77**	**313**	P	**P**	**22 28 41.8**	**+4.4**
GOMU				pP	pP	22 28 43.0	-4.4
GOMU				sP	pwP	22 28 47.9	-2.3
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSA	**Lhasa**	**64.06**	**305**	P	**P**	**22 28 39.0**	**-0.5**
LSA				IAmb	IAmb	22 28 52.4	
	comp=Z,9.8nm,1.5s						
SEY	**Seymchan**	**66.06**	**2**	LR	LR	22 52 58.6	
	comp=Z,268nm,21.5s,baz=178,slow=32						
TAPN	**Taplejung**	**66.18**	**302**	*e*P	**P**	**22 28 52.5**	**-0.6**
	comp=Z,28nm,1.0s						
ODAN	**Odare**	**66.31**	**301**	*e*P	**P**	**22 28 53.6**	**-0.3**
	comp=Z,46nm,0.9s						
GUN	**Gumba**	**67.89**	**302**	*e*P	**P**	**22 29 04.0**	**-0.1**
	comp=Z,40nm,0.9s						
PKI	**Pulchoki**	**68.20**	**301**	*e*P	**P**	**22 29 05.4**	**-0.6**
KKN	**Kakani**	**68.37**	**301**	*e*P	**P**	**22 29 07.5**	**+0.6**
DMN	**Daman**	**68.47**	**301**	*e*P	**P**	**22 29 07.6**	**0.0**
	comp=Z,55nm,1.0s						
GKN	**Gorkha**	**68.97**	**302**	*e*P	**P**	**22 29 10.2**	**-0.4**
	comp=Z,39nm,1.0s						
KOLN	**Koldanda**	**69.80**	**301**	*e*P	**P**	**22 29 15.6**	**-0.2**
	comp=Z,40nm,0.9s						
PYUN	**Piuthan**	**70.40**	**301**	*e*P	**P**	**22 29 18.8**	**-0.7**
	comp=Z,43nm,0.9s						
CNBA	**Chernabura Isl**	**71.78**	**29**	P	**P**	**22 29 25.9**	**-1.1**
WMQ	**Urumqi**	**71.90**	**318**	*e*P	**P**	**22 29 27.8**	**-0.3**
WMQ				pP	pP	22 29 32.7	-5.6
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
BILL	**Bilibino**	**72.18**	**7**	P	**P**	**22 29 29.5**	**+0.3**
BILL				IAmb	IAmb	22 29 45.3	
	comp=Z,8.1nm,1.1s						
HYBB	**Hyderabad (bro**	**72.20**	**289**	*e*P	**P**	**22 29 30.8**	**+0.5**
GAMB	**Gambell**	**73.04**	**17**	P	**P**	**22 29 33.3**	**-0.9**
GAMB				IAmb	IAmb	22 29 47.4	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**74.54**	**177**	P	**P**	**22 29 42.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=354,slow=6.2,SNR=2.2						
ANM	**Nome**	**75.55**	**19**	P	**P**	**22 29 49.9**	**+0.9**
TIXI	**Tiksi**	**75.88**	**354**	P	**P**	**22 29 51.3**	**+0.6**
DGAR	**Diego Garcia**	**76.03**	**263**	P	**P**	**22 29 52.4**	**-0.4**
MKAR	**Makanchi Array**	**76.54**	**320**	P	**P**	**22 29 55.3**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=97,slow=7.1,SNR=16						
MKAR	**Makanchi Array**	**76.54**	**320**	P	**P**	**22 29 55.5**	**+0.5**
MAKZ	**Makanchi**	**76.75**	**320**	P	**P**	**22 29 56.9**	**+0.7**
MAKZ				IAmb	IAmb	22 30 02.4	
	comp=Z,10nm,1.1s						
ZAA0	**Zalesovo Array**	**77.66**	**327**	P	**P**	**22 30 00.5**	**-0.5**
ZAA0				IAmb	IAmb	22 30 06.3	
	comp=Z,8.3nm,0.8s						
ZALV	**Zalesovo Beam**	**77.66**	**327**	P	**P**	**22 30 01.0**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=110,slow=5.2,SNR=21						
ZALV				LR	LR	23 02 57.5	
	comp=Z,327nm,21.2s,baz=115,slow=35						
ZALV	**Zalesovo Beam**	**77.66**	**327**	P	**P**	**22 30 00.5**	**-0.6**
L19K	**White Mountain**	**77.90**	**24**	P	**P**	**22 30 03.0**	**+0.7**
L19K				IAmb	IAmb	22 30 18.8	
	comp=Z,9.3nm,1.1s						
TARG	**Taragay, Kyrgy**	**78.09**	**314**	P	**P**	**22 30 04.7**	**+0.4**
KSH	**Kashi**	**78.89**	**311**	P	**P**	**22 30 09.3**	**+0.9**
CAST	**Castle Rocks**	**79.62**	**23**	P	**P**	**22 30 12.1**	**+0.3**
CAST				IAmb	IAmb	22 30 16.2	
	comp=Z,12nm,1.4s						
NIL	**Nilore**	**79.80**	**305**	P	**P**	**22 30 13.8**	**+0.5**
KURK	**Kurchatov**	**80.09**	**323**	P	**P**	**22 30 14.8**	**+0.3**
KTH	**Kantishna Hill**	**80.14**	**23**	P	**P**	**22 30 15.2**	**+0.6**
KTH				IAmb	IAmb	22 30 27.2	
	comp=Z,14nm,1.3s						
IMAR	**Indian Mountai**	**80.31**	**20**	P	**P**	**22 30 15.8**	**+0.4**
MCK	**McKinley**	**81.02**	**24**	P	**P**	**22 30 20.0**	**+0.8**
MCK				IAmb	IAmb	22 30 25.3	
	comp=Z,11nm,1.1s						
NEA2	**Nenana**	**81.35**	**23**	P	**P**	**22 30 21.5**	**+0.5**
CCB	**Clear Creek Bu**	**81.86**	**23**	P	**P**	**22 30 24.5**	**+0.9**
CCB				IAmb	IAmb	22 30 34.5	
	comp=Z,12nm,1.4s						
GLB	**Gilahina Butte**	**82.25**	**27**	P	**P**	**22 30 26.4**	**+0.5**
GLB				IAmb	IAmb	22 30 33.4	
	comp=Z,17nm,1.3s						
ILAR	**Eielson Array**	**82.27**	**23**	P	**P**	**22 30 24.5**	**-1.3**
	comp=Z,1.6nm,1.1s,baz=236,slow=4.8,SNR=5.9						
ILAR	**Eielson Array**	**82.27**	**23**	P	**P**	**22 30 26.5**	**+0.7**
J25K	**Salcha River,**	**82.80**	**23**	P	**P**	**22 30 30.1**	**+1.4**
J25K				IAmb	IAmb	22 30 40.7	
	comp=Z,15nm,1.3s						
DOT	**Dot Lake**	**82.96**	**24**	P	**P**	**22 30 29.6**	**+0.2**
DOT				IAmb	IAmb	22 30 41.9	
	comp=Z,6.9nm,1.0s						
GAR	**Garm**	**83.09**	**310**	P	**P**	**22 30 30.8**	**0.0**
GAR				IAmb	IAmb	22 30 36.8	
	comp=Z,9.8nm,0.9s						
SCRK	**Sand Creek**	**83.11**	**24**	P	**P**	**22 30 30.3**	**0.0**
NRIK	**Noril'sk**	**83.22**	**342**	P	**P**	**22 30 32.6**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=120,slow=4.6,SNR=2.7						
KBL	**Kabul**	**83.39**	**305**	P	**P**	**22 30 32.4**	**-0.1**
M27K	**Edge Creek, AK**	**83.43**	**26**	P	**P**	**22 30 32.2**	**+0.2**
M27K				IAmb	IAmb	22 30 39.7	
	comp=Z,5.9nm,1.1s						
PCA	**Pinnacle**	**83.43**	**28**	P	**P**	**22 30 32.4**	**+0.4**
KKAR	**Karatay Array**	**83.66**	**314**	P	**P**	**22 30 34.1**	**+0.6**
BCAR	**Beaver Creek A**	**83.71**	**25**	P	**P**	**22 30 34.1**	**+0.7**
BMAR	**Burnt Mountain**	**84.21**	**21**	P	**P**	**22 30 36.5**	**+0.7**
EGAK	**Eagle**	**84.55**	**24**	P	**P**	**22 30 39.4**	**+1.9**
DAWY	**Dawson**	**85.05**	**25**	P	**P**	**22 30 41.2**	**+1.1**
DAWY				IAmb	IAmb	22 30 58.4	
	comp=Z,9.9nm,1.4s						
INK	**Inuvik**	**88.46**	**21**	P	**P**	**22 30 57.0**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=282,slow=5.5,SNR=3.3						
HRA	**Herat**	**88.95**	**304**	P	**P**	**22 30 58.9**	**-1.1**
HRA				IAmb	IAmb	22 31 05.3	
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	**91.67**	**319**	P	**P**	**22 31 11.9**	**-0.1**
ABKAR				IAmb	IAmb	22 31 16.3	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**91.67**	**319**	P	**P**	**22 31 12.1**	**+0.1**
NVAR	**Mina Array Bea**	**94.29**	**52**	P	**P**	**22 31 25.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=282,slow=6.3,SNR=2.0						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**22 31 31.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=275,slow=4.6,SNR=9.7						
LPAZ	**La Paz**	**138.68**	**119**	PKP	**PKPdf**	**22 37 31.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=315,slow=5.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**146.01**	**289**	PKPbc	**PKPbc**	**22 37 45.2**	**-0.3**
	comp=Z,7.1nm,0.9s,baz=61,slow=3.2,SNR=19						
DBIC	**Dimbokro**	**153.52**	**278**	PKPbc	**PKiKP**	**22 38 05.4**	**+1.0**
	comp=Z,7.9nm,1.1s,baz=270,slow=2.0,SNR=4.5						

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*IDC **03** 22:23:10.9±0.7, 3°.21S×148°.64E, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.2/47, mbtmp4.2/19, ML3.9/2, MS4.4/1, Ms1 4.4/1, ms1mx3.5/66, Error ellipse: s-maj=20.0km s-min=13.5km az=94.0*

*DJA **03** 22:23:11.6±1.0, 3°S±4°×14°9E±°, h33km±9km, M4.7/24, mB5.4/5, mb4.6/24, MLv4.7/3, Mw(mB)4.8/5*

*NEIC **03** 22:23:13.5±2.2, 3°.12S±0°.07×148°.67E±0°.06, h10km±1km, mb4.8/55, Error ellipse: s-maj=12.9km s-min=8.8km az=42.0*

*GCMT **03** 22:23:21.5±0.3, 3°.28S±0°.02×148°.76E±0°.02, h25km±1km, MW5.0/82, Moment Tensor Solution. s8,c8; s82,c117; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.97±.39; $M_{\theta\theta}$3.78±.25; $M_{\phi\phi}$-1.80±.22; $M_{r\theta}$0.67±.38; $M_{\theta\phi}$2.31±.16; $M_{\phi r}$-0.42±.43; Best double couple: $M_0$3.83100×10^16^ NP1:ϕ_s29.00000°, δ65.00000°, λ-160.00000°. NP2: ϕ_s290.00000°, δ71.00000°, λ-26.00000°. Principal axes: T 4.6480, Plg4.0000°, Azm341.0000°; N -1.6240, Plg58.0000°, Azm77.0000°; P -3.0140, Plg32.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 22:23:13.9±0.4, **3°.19S**±0°.05×**148°.67E**±0°.06, **h18km, n114, σ1s.31**/106, **mb4.7**/57, **2D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.73**	**311**	Pn	**Pn**	**22 23 41.7**	**-1.5**
KRVT	**Keravat (AS076**	**3.53**	**108**	Pn	**Pn**	**22 24 08.2**	**+0.3**
	baz=143,slow=20						
RABL	**Rabaul**	**3.62**	**106**	Pn	**Pn**	**22 24 08.6**	**-0.7**
PMG	**Port Moresby**	**6.36**	**194**	Pn	**Pn**	**22 24 46.9**	**+0.1**
	1.1nm,0.3s,baz=26,slow=18,SNR=2.5						
PMG				Sn	**Sn**	**22 26 00.4**	**+1.4**
	2.1nm,0.3s,baz=38,slow=17,SNR=8.5						
PMG	**Port Moresby**	**6.36**	**194**	Pn	**Pn**	**22 24 48.6**	**+1.8**
PMG				Sn	**Sn**	**22 26 01.4**	**+2.4**
JAY	**Jayapura**	**7.99**	**275**	LR	LR	22 27 59.7	
	comp=Z,3µm,20.0s,baz=24,slow=36						
GENI	**Genyem**	**8.52**	**274**	P	**Pn**	**22 25 17.7**	**+1.3**
	93nm,1.5s						
COEN	**Coen**	**12.00**	**207**	Pn	**Pn**	**22 26 04.0**	**-0.2**
CTA	**Charters Tower**	**16.96**	**188**	Pn	**Pn**	**22 27 08.9**	**-1.6**
	0.3nm,0.3s,baz=356,slow=15,SNR=2.2						
SIJI	**Sorong**	**17.55**	**277**	P	**Pn**	**22 27 17.4**	**-0.5**
	0.4nm,0.3s,baz=75,slow=20,SNR=2.7						
SWI	**Sorong**	**17.55**	**277**	P	**P**	**22 27 19.7**	**+0.8**
	26nm,1.0s						
SAUI	**Saumlaki**	**17.93**	**254**		**Pn**	**22 27 22.0**	**-0.5**
LBMI	**Labuha**	**21.31**	**276**	P	**P**	**22 28 02.6**	**+2.6**
	1µm35nm,1.4s						
WB0	**Warramunga Arr**	**21.58**	**219**	P	**P**	**22 28 02.8**	**-0.1**
WB0				IAmb	IAmb	22 28 12.8	
	comp=Z,44nm,1.1s						
WR0	**Warramunga Arr**	**21.64**	**219**	P	**P**	**22 28 02.7**	**-0.7**
WR0				IAmb	IAmb	22 28 13.3	
	comp=Z,31nm,1.0s						
TNTI	**Ternate**	**21.66**	**280**	P	**P**	**22 28 03.5**	**-0.2**
TNTI				IAmb	IAmb	22 28 21.0	
	comp=Z,46nm,1.2s						
TNTI	**Ternate**	**21.66**	**280**	P	**P**	**22 28 03.4**	**-0.3**
	comp=Z,24nm,1.3s						
WRAB	**Tennant Creek**	**21.73**	**219**	P	**P**	**22 28 03.9**	**-0.6**
WRAB				IAmb	IAmb	22 28 14.5	
	comp=Z,51nm,1.2s						
WB2	**Warramunga Arr**	**21.74**	**219**	P	**P**	**22 28 03.6**	**-0.9**
WB2				IAmb	IAmb	22 28 14.6	
	comp=Z,41nm,1.2s						
WRA	**Warramunga Arr**	**21.75**	**219**	P	**P**	**22 28 02.6**	**-2.0**
	comp=Z,18nm,1.1s,baz=44,slow=11,SNR=23						
WRA	**Warramunga Arr**	**21.75**	**219**	P	**P**	**22 28 03.6**	**-1.1**
SANVU	**Saraoutou**	**21.94**	**125**	P	**P**	**22 28 09.2**	**+2.5**
EIDS	**Eidsvold**	**22.18**	**174**	P	**P**	**22 28 08.9**	**-0.3**
EIDS				IAmb	IAmb	22 28 16.1	
	comp=Z,41nm,1.1s						
KWAJ	**Kwajalein Atol**	**22.33**	**58**	P	**P**	**22 28 09.5**	**-1.4**
SANI	**Sanana**	**22.69**	**272**	P	**P**	**22 28 14.0**	**-0.8**
	comp=Z,17nm,1.2s						
KNRA	**Kununurra**	**23.20**	**236**	P	**P**	**22 28 19.3**	**-0.7**
KNRA				IAmb	IAmb	22 28 27.0	
	comp=Z,35nm,1.2s						
ASAR	**Alice Springs**	**24.87**	**214**	P	**P**	**22 28 34.2**	**-1.5**
	comp=Z,6.7nm,0.9s,baz=43,slow=7.4,SNR=26						
ASAR	**Alice Springs**	**24.87**	**214**	P	**P**	**22 28 34.0**	**-1.7**
LIFNC	**LIFOU**	**25.15**	**135**	P	**P**	**22 28 39.3**	**+1.0**
DZM	**Mont Dzumac**	**25.50**	**139**	P	**P**	**22 28 41.8**	**+0.3**
	comp=Z,11nm,1.0s,baz=34,slow=9.8,SNR=3.6						
DZM	**Mont Dzumac**	**25.50**	**139**	*e*P	**P**	**22 28 43.3**	**+1.8**
	comp=Z,50nm,1.1s						
DZM	**Mont Dzumac**	**25.50**	**139**	IAmb	IAmb	22 28 50.7	
	comp=Z,52nm,1.5s						
BATI	**Baumata**	**25.78**	**253**	P	**P**	**22 28 44.0**	**-0.2**
	comp=Z,12nm,0.5s,baz=86,slow=6.7,SNR=4.0						
BATI	**Baumata**	**25.78**	**253**	P	**P**	**22 28 41.8**	**-2.4**
	comp=Z,17nm,1.0s						
GTOI	**Gorontalo**	**25.93**	**278**	P	**P**	**22 28 45.6**	**+0.1**
	comp=Z,19nm,1.3s						
MMRI	**Maumere**	**26.84**	**257**	P	**P**	**22 28 50.9**	**-2.8**
FITZ	**Fitzroy Crossi**	**27.00**	**235**	P	**P**	**22 28 54.6**	**-0.4**
	comp=Z,23nm,1.0s,baz=68,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**27.00**	**235**	P	**P**	**22 28 53.0**	**-2.0**
FITZ				IAmb	IAmb	22 28 58.9	
	comp=Z,30nm,1.1s						
APSI	**Ampana**	**27.10**	**274**	P	**P**	**22 28 52.3**	**-3.7**
	comp=Z,26nm,1.3s						
ARMA	**Armidale**	**27.23**	**174**	P	**P**	**22 28 57.3**	**+0.2**
ARMA				IAmb	IAmb	22 29 05.4	
	comp=Z,23nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**27.91**	**39**	T	T	22 58 12.7	
	baz=220,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**27.92**	**39**	T	T	22 58 13.3	
	baz=220,slow=76,SNR=177						
H11S1	**WAKE ISLAND Hy**	**27.93**	**39**	T	T	22 58 18.2	
	baz=220,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**28.96**	**37**	T	T	22 59 34.1	
	baz=219,slow=76,SNR=138						
H11N3	**WAKE ISLAND Hy**	**28.97**	**37**	T	T	22 59 36.6	
	baz=219,slow=76,SNR=113						
H11N2	**WAKE ISLAND Hy**	**28.97**	**37**	T	T	22 59 36.2	
	baz=219,slow=76,SNR=169						
MPSI	**Mapaga**	**28.97**	**276**	P	**P**	**22 29 08.9**	**-3.9**
	comp=Z,17nm,1.0s						
STKA	**Stephens Creek**	**29.30**	**192**	P	**P**	**22 29 15.6**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=19,slow=17,SNR=1.8						
TOO	**Toolangi**	**34.34**	**184**	P	**P**	**22 29 59.1**	**-0.6**
TOO				IAmb	IAmb	22 30 00.5	
	comp=Z,16nm,1.2s						
JHJ2	**Mitsune**	**37.06**	**348**	P	**P**	**22 30 22.4**	**-0.7**
YOJ	**Yonaguni jima**	**37.12**	**319**	P	**P**	**22 30 23.5**	**-0.2**
YULB	**Yu-li**	**37.55**	**316**	P	**P**	**22 30 26.0**	**-1.4**
YULB				IAmb	IAmb	22 30 29.7	
	comp=Z,22nm,1.2s						
TPUB	**Ta-pu**	**37.95**	**315**	P	**P**	**22 30 31.4**	**+0.5**
TPUB				IAmb	IAmb	22 30 37.1	
	comp=Z,30nm,1.2s						
YHNB	**Yeheng**	**38.34**	**318**	P	**P**	**22 30 34.1**	**-0.1**
YHNB				IAmb	IAmb	22 30 43.2	
	comp=Z,26nm,1.0s						
TATO	**Taipei**	**38.47**	**318**	P	**P**	**22 30 33.7**	**-1.4**
JNU	**Nakatsue**	**39.85**	**336**	P	**P**	**22 30 46.3**	**-0.3**
JNU				IAmb	IAmb	22 30 48.8	
	comp=Z,24nm,1.0s						
INU	**Inuyama**	**39.86**	**345**	P	**P**	**22 30 46.0**	**-0.6**
JGF	**Kuroka**	**40.02**	**346**	P	**P**	**22 30 48.4**	**+0.5**
URZ	**Urewera**	**43.51**	**147**	P	**P**	**22 31 17.1**	**+0.7**
URZ				IAmb	IAmb	22 31 19.7	
	comp=Z,25nm,1.4s						
BSWZ	**Blackbirch Sta**	**44.52**	**153**	P	**P**	**22 31 24.7**	**+0.2**
SNZO	**South Karori**	**44.59**	**152**	P	**P**	**22 31 23.5**	**-1.5**
KSRS	**Korea Array**	**44.80**	**336**	P	**P**	**22 31 27.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=140,slow=9.9,SNR=4.6						
KSAR	**Wonju Array Be**	**44.80**	**336**	P	**P**	**22 31 25.7**	**-1.1**
RPZ	**Rata Peaks**	**44.97**	**157**	P	**P**	**22 31 27.6**	**-0.5**
NJ2	**Nanjing**	**45.05**	**323**	*e*P	**P**	**22 31 30.4**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**49.49**	**344**	P	**P**	**22 32 03.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=189,slow=7.6,SNR=6.6						
USA0B	**Ussuriysk Arra**	**49.49**	**344**	P	**P**	**22 32 04.4**	**+1.1**
HNS	**HongShan**	**51.24**	**325**	⇓P	**P**	**22 32 18.6**	**+2.0**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BNX	**BinXian**	**52.25**	**341**	⇓P	**P**	**22 32 24.0**	**-0.1**
BNX				pmax	pmax		
	comp=Z,12nm,1.0s						
BNX				pmax	pmax		
	comp=Z,360nm,5.6s						
XAN	**Xi'an**	**52.65**	**318**	P	**P**	**22 32 26.7**	**-0.6**
XAN				sP	pwP	22 32 39.4	+4.3
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**53.47**	**296**	P	**P**	**22 32 34.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=113,slow=5.6,SNR=18						
CMAR	**Chiang Mai Arr**	**53.47**	**296**	P	**P**	**22 32 34.4**	**+0.8**
CHTO	**Chiang Mai**	**53.58**	**296**	P	**P**	**22 32 34.4**	**-0.1**
PZH	**PanZhiHua**	**54.09**	**306**	P	**P**	**22 32 39.2**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						

HHC	Hu-ho-hao-te	55.38	326	*e*P	P	22 32 50.0	+2.7
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
BTO	Baotou	56.09	325	*e*P	P	22 32 57.0	+4.7
PETK	Petropavlovsk-	56.60	7	P	P	22 32 54.6	-1.0
HIA	Hailar	57.95	338	P	P	22 33 05.4	+0.2
HIA				IAmb	IAmb	22 33 07.2	
	comp=Z,7.4nm,0.9s						
GTA	Gaotai	61.71	319	*e*P	P	22 33 32.2	+0.8
GTA				pP	pP	22 33 37.7	+1.1
GTA				sP	pwP	22 33 41.2	+2.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SHL	Shillong	61.95	301	P	P	22 33 34.1	+0.7
SHL				IAmb	IAmb	22 33 36.5	
	comp=Z,9.4nm,1.4s						
MA2	Magadan	62.60	1		P	22 33 36.6	-0.2
MA2				IAmb	IAmb	22 33 39.5	
	comp=Z,14nm,1.5s						
GOMU	GeErMu	63.65	313	P	P	22 33 44.2	-0.5
GOMU				pP	pP	22 33 46.4	-3.5
GOMU				sP	sP	22 33 48.9	-3.0
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SEY	Seymchan	66.00	2	P	P	22 33 58.9	-0.2
	comp=Z,1.4nm,0.9s,baz=167,slow=6.8,SNR=5.3						
WMQ	Urumqi	71.79	318	*e*P	P	22 34 41.3	+5.7
WMQ				sP	pwP	22 34 48.3	+4.8
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
BILL	Bilibino	72.13	7	P	P	22 34 39.0	+2.0
BILL				IAmb	IAmb	22 34 45.8	
	comp=Z,10nm,1.4s						
VNDA	Vanda	74.61	177	P	P	22 34 51.5	0.0
	comp=Z,2.1nm,0.9s,baz=11,slow=4.4,SNR=2.3						
ANM	Nome	75.53	19	P	P	22 34 56.1	-0.9
ANM				IAmb	IAmb	22 35 00.1	
	comp=Z,12nm,1.4s						
MK31	Makanchi Array	76.43	320	P	P	22 35 03.3	+0.8
MKAR	Makanchi Array	76.43	320	P	P	22 35 01.9	-0.6
	comp=Z,2.2nm,1.0s,baz=115,slow=5.8,SNR=10						
MKAR	Makanchi Array	76.43	320	P	P	22 35 02.7	+0.2
MAKZ	Makanchi	76.63	320	P	P	22 35 04.2	+0.5
MAKZ				IAmb	IAmb	22 35 10.2	
	comp=Z,9.2nm,1.3s						
ZAA0	Zalesovo Array	77.55	327	P	P	22 35 08.3	-0.4
ZALV	Zalesovo Beam	77.55	327	P	P	22 35 08.4	-0.3
	comp=Z,1.8nm,0.7s,baz=126,slow=2.6,SNR=7.4						
ZALV	Zalesovo Beam	77.55	327	P	P	22 35 07.9	-0.7
CNPM	China Poot	78.10	27	P	P	22 35 11.7	+0.1
KSH	Kashi	78.78	311	P	P	22 35 18.3	+2.3
K20K	Telida	78.81	23	P	P	22 35 16.2	+0.7
K20K				IAmb	IAmb	22 35 29.0	
	comp=Z,13nm,1.4s						
J20K	Nowinta River	79.20	22	P	P	22 35 18.2	+0.6
J20K				IAmb	IAmb	22 35 36.5	
	comp=Z,11nm,1.5s						
NIL	Nilore	79.68	305	P	P	22 35 21.3	+0.4
NIL				IAmb	IAmb	22 35 23.8	
	comp=Z,5.5nm,0.9s						
KURK	Kurchatov	79.98	323	P	P	22 35 22.6	+0.4
KURK				IAmb	IAmb	22 35 26.9	
	comp=Z,10nm,1.1s						
AAK	Ala-Archa	80.58	314	P	P	22 35 25.6	-0.2
MCK	McKinley	81.00	24	P	P	22 35 28.9	+1.6
MCK				IAmb	IAmb	22 35 31.5	
	comp=Z,12nm,1.3s						
BMRM	Bremner River	81.71	27	P	P	22 35 32.0	+0.8
BMRM				IAmb	IAmb	22 35 35.6	
	comp=Z,15nm,1.3s						
H23K	Yukon River	81.72	22	P	P	22 35 31.9	+0.8
CCB	Clear Creek Bu	81.85	23	P	P	22 35 32.9	+1.1
GLB	Gilahina Butte	82.24	27	P	P	22 35 34.9	+0.9
GLB				IAmb	IAmb	22 35 39.0	
	comp=Z,9.9nm,1.3s						
ILAR	Eielson Array	82.26	23	P	P	22 35 33.6	-0.4
	comp=Z,0.8nm,0.9s,baz=256,slow=4.7,SNR=3.8						
J25K	Salcha River,	82.79	23	P	P	22 35 38.5	+1.7
J25K				IAmb	IAmb	22 35 47.2	
	comp=Z,7.2nm,1.2s						
NRIK	Noril'sk	83.14	342	P	P	22 35 39.0	+0.6
	comp=Z,0.7nm,0.3s,baz=117,slow=8.4,SNR=2.0						
NRIK	Noril'sk	83.14	342	P	P	22 35 39.8	+1.4
NRIK				IAmb	IAmb	22 35 46.2	
	comp=Z,8.4nm,1.2s						
CHGR	Chuyangaron	83.81	309	P	P	22 35 43.1	+0.4
YKA	Yellowknife Ar	95.92	28	P	P	22 36 38.4	-1.1
	comp=Z,0.2nm,0.5s,baz=269,slow=4.9,SNR=2.8						
214A	Organ Pipe Nat	98.90	58	P	P	22 36 50.2	-3.5
TORD	Torodi Ar. Bea	145.89	289	PKPbc	PKPdf	22 42 53.0	+0.2
	comp=Z,5.9nm,1.2s,baz=63,slow=3.0,SNR=10						

IDC 03 22:29:13.2±1.8**, 0°.20N×96°.77E, h0**km**, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.5**/44**, mbtmp3.5**/5**, ML3.2**/1**, Error ellipse: s-maj=43.9km s-min=25.4km az=65.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.37	40	Pn	Pn	22 30 06.5	-0.7
	2.7nm,0.3s,baz=304,slow=9.4,SNR=8.1						
PSI				Sn	Sn	22 30 46.9	-1.0
	3.5nm,0.3s,baz=130,slow=6.1,SNR=4.1						
H08S2	Diego Garcia H	25.43	252	T	T	23 02 09.5	
	baz=72,slow=75,SNR=5.3						
H08S3	Diego Garcia H	25.44	252	T	T	23 01 54.0	
	baz=72,slow=75,SNR=8.5						
H08S1	Diego Carcia H	25.45	252	T	T	23 02 12.2	
	baz=72,slow=75,SNR=3.8						
WRA	Warramunga Arr	41.88	121	P	P	22 37 05.3	-0.2
	0.7nm,0.7s,baz=301,slow=9.1,SNR=5.2						
ASAR	Alice Springs	43.14	126	P	P	22 37 15.7	-0.1
	0.4nm,0.6s,baz=302,slow=8.2,SNR=2.6						
MKAR	Makanchi Array	48.11	347	P	P	22 37 54.3	-0.5
	0.3nm,0.6s,baz=166,slow=9.2,SNR=5.0						
ZALV	Zalesovo Beam	54.48	351	P	P	22 38 42.7	+0.3
	0.5nm,0.5s,baz=165,slow=6.0,SNR=3.0						

IDC 03 22:38:30.0±4.8**, 3°.44S×148°.31E, h0**km**, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.3**/37**, mbtmp3.3**/2**, Error ellipse: s-maj=173.1km s-min=54.0km az=106.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.33	219	P	P	22 43 18.9	0.0
	0.9nm,0.9s,baz=43,slow=11,SNR=5.7						
ASAR	Alice Springs	24.46	213	P	P	22 43 51.0	0.0
	0.8nm,0.8s,baz=50,slow=7.4,SNR=7.3						
TORD	Torodi Ar. Bea	145.63	288	PKPbc	PKPdf	22 58 10.9	-0.7
	0.2nm,0.7s,baz=64,slow=3.4,SNR=1.4						

*ROM **03** 22:39:47.8±0.3, 43°.543N±0°.010×13°.88E±0°.01, h8km, ML2.3/12, Error ellipse: s-maj=1.3km s-min=0.9km az=227.0*

*VIE **03** 22:39:52.5±0.5, 43°.55N×13°.70E, h16km, mb2.8/8, ml2.3/10, Error ellipse: s-maj=5.9km s-min=3.3km az=19.0 107 km ESE of San Marino*

ISC 03 22:39:50.2±1.0**, 43°.50N**±0°.03×**13°.81E**±0°.04**, h9**km±8km**, n45, σ0s.93**/54**, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOI	Ancona	0.16	290	P	Pg	22 39 52.8	-0.8
AOI				S	Sg	22 39 55.9	-0.2
AOI				AML	AML		
	comp=E,1525µm,0.8s						
AOI				AML	AML		
	comp=N,2580µm,1.0s						
AOI				AML	AML		
	comp=N,2585µm,1.0s						
AOI				AML	AML		
	comp=E,1530µm,0.8s						
PP3	Marolino	0.19	231	P	Pg	22 39 53.3	-0.7
PP3				S	Sg	22 39 57.2	+0.5
CIMA	Civitanova Mar	0.21	208	P	Pg	22 39 54.4	-0.1
CIMA				S	Sg	22 39 59.5	+1.9
CIMA				AML	AML		
	comp=E,2595µm,0.9s						
CIMA				AML	AML		
	comp=N,7000µm,0.3s						
PCRO	Pietralacroce	0.23	299	P	Pg	22 39 54.3	-0.6
PCRO				S	Sg	22 39 58.5	+0.5
TRE1	Treia	0.41	243	P	Pg	22 39 57.6	-0.5
CING	Cingoli	0.46	255	P	Pg	22 39 58.2	-1.0
CING				S	Sg	22 40 05.9	+0.6
CING				AML	AML		
	comp=E,211µm,0.6s						
CING				AML	AML		
	comp=N,280µm,0.4s						
CING				AML	AML		
	comp=E,210µm,0.6s						
EL6	Elcito	0.54	252	P	Pg	22 39 59.8	-0.9
EL6				S	Sb	22 40 08.7	-1.2
EL6				AML	AML		
	comp=N,450µm,1.1s						
EL6				AML	AML		
	comp=E,288µm,1.1s						
CSP1	Cessapalombo	0.60	228	P	Pg	22 40 01.0	-0.8
ARVD	Arcevia	0.63	270	P	Pg	22 40 01.1	-1.3
SNTG	Esanatoglia	0.68	249	P	Pg	22 40 02.0	-1.2
SNTG				S	Sb	22 40 13.3	-0.4
FDMO	Fiordimonte	0.70	229	P	Pg	22 40 02.2	-1.4
FDMO				S	Sg	22 40 13.4	+0.6
FDMO				AML	AML		
	comp=N,138µm,0.8s						
FDMO				AML	AML		
	comp=E,192µm,1.0s						
AQT1	Arquata del Tr	0.81	208	P	Pg	22 40 04.8	-1.0
CESI	CESI - Serrava	0.82	234	P	Pg	22 40 04.9	-1.2
CESI				S	Sb	22 40 18.1	+0.2
CESI				AML	AML		
	comp=E,109µm,1.6s						
CESI				AML	AML		
	comp=E,109µm,1.6s						
CESI				AML	AML		
	comp=N,124µm,0.2s						
PESA	Pesaro	0.83	303	P	Pn	22 40 13.0	+5.0
NRCA	Norcia	0.83	218	P	Pg	22 40 04.6	-1.7
NRCA				S	Sg	22 40 17.9	+0.8
NRCA				AML	AML		
	comp=E,217µm,1.1s						
NRCA				AML	AML		
	comp=N,294µm,0.7s						
TERO	Teramo	0.89	190	P	Pg	22 40 06.2	-1.0
TERO				AML	AML		
	comp=E,82µm,1.3s						
TERO				AML	AML		
	comp=N,85µm,1.3s						
SMA1	SAN MARTINO	0.93	202	P	Pg	22 40 06.6	-1.5
SMA1				AML	AML		
	comp=E,200µm,1.6s						
SMA1				AML	AML		
	comp=N,244µm,0.5s						
ASSB	Assisi San Ben	0.95	242	P	Pg	22 40 07.7	-0.9
ASSB				S	Sb	22 40 21.9	+0.3
ASSB				AML	AML		
	comp=E,150µm,1.2s						
ASSB				AML	AML		
	comp=N,175µm,0.4s						
LNSS	Leonessa	1.06	213	P	Pg	22 40 08.8	-1.7
LNSS				AML	AML		
	comp=E,218µm,0.4s						
LNSS				AML	AML		
	comp=N,207µm,1.6s						
RM33	Pellescritta (	1.08	204	P	Pg	22 40 09.1	-1.8
RM33				AML	AML		
	comp=N,213µm,0.4s						
RM33				AML	AML		
	comp=E,216µm,0.7s						
FAGN	Fagnano	1.24	188	AML	AML		
	comp=E,326µm,0.5s						
FAGN				AML	AML		
	comp=N,197µm,0.4s						
NVLJ	Novalja	1.31	35	*e*Pn	Pn	22 40 14.1	-0.6
ZIRJ	Zirje	1.34	83	*e*Pn	Pn	22 40 14.4	-0.7
ZIRJ				Sn	Sn	22 40 34.5	+1.5
BRJN	Brijuni	1.41	358	*e*Pn	Pn	22 40 15.7	-0.3
MORI	Morici	1.43	74	*e*Pn	Pn	22 40 16.1	-0.1
MORI				Sn	Sn	22 40 35.5	+0.5
RABC	Rab	1.44	29	*e*Pn	Pn	22 40 16.1	-0.3
SMRN	Sveta Marina	1.56	9	*e*Pn	Pn	22 40 17.6	-0.5
FRES	Fresagrandinar	1.65	157	P	Pn	22 40 12.4	-6.9
A250A	Rusevo Krmpots	1.77	26	*e*Pn	Pn	22 40 21.3	+0.2
A250A				Sn	Sg	22 40 46.7	-0.5
TREM	Isole Tremiti	1.86	137	P	Pn	22 40 10.6	-12
KIJV	Kijevo	1.95	74	*e*Pn	Pn	22 40 24.5	+1.0
HVAR	Hvar	1.95	98	*e*Pn	Pn	22 40 22.9	-0.5
HVAR				Sn	Sn	22 40 48.9	+0.9
VENL	Venezia Lido	2.18	332	P	Pg	22 40 38.2	+6.3
LSTV	Lastovo	2.37	107	*e*Pn	Pn	22 40 28.6	-0.6
RICI	Ricice	2.42	89	*e*Pn	Pn	22 40 30.7	+0.8
STON	Ston	2.91	101	*e*Pn	Pn	22 40 37.0	+0.4
OBKA	Obir	3.06	10	*e*Pn	Pn	22 40 39.7	+1.0
	comp=N,0.7nm,0.3s						
MAGA	Magasa	3.22	316	AML	AML		
	comp=N,46µm,1.4s						
MAGA				AML	AML		
	comp=E,57µm,0.6s						
ABTA	Abfaltersbach	3.38	345	*e*Pn	Pn	22 40 43.7	+0.5
	comp=E,0.2nm,0.1s						
KBA	Koelnbreinsper	3.60	355	*e*Pn	Pn	22 40 47.0	+0.8
	comp=E,0.5nm,0.4s						
WTTA	Wattenberg	4.07	339	*e*Pn	Pn	22 40 53.8	+1.1
	comp=E,0.7nm,0.2s						
FETA	Feichten	4.14	329	*e*Pn	Pn	22 40 53.7	0.0
	comp=E,0.5nm,0.3s						
WATA	Walderalm	4.15	339	*i* Pn	Pn	22 40 54.8	+1.1
	comp=E,1.1nm,0.2s						
MOTA	Moosalm	4.29	335	*e*Pn	Pn	22 40 56.4	+0.6
	comp=E,0.5nm,0.3s						
RETA	Reutte	4.53	333	*e*Pn	Pn	22 40 59.3	+0.4
	comp=E,0.4nm,0.1s						

*NEIC **03** 22:54:47.2±0.9, 2°.3S±0°.1×151°.2E±0°.1, h35km±2km, mb4.3/17, Error ellipse: s-maj=25.3km s-min=17.9km az=190.0*

*IDC **03** 22:55:06.3±3.9, 3°.42S×148°.54E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/33, mbtmp4.1/4, Error ellipse: s-maj=95.4km s-min=36.0km az=94.0*

ISC 03 22:54:46.4±0.8**, 2°.3S**±0°.1×**151°.2E**±0°.1**, h35**km**, n34, σ1s.05**/25**, mb4.2**/11**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	3.83	274	Pn	Pn	22 55 43.1	+0.2
PMG	Port Moresby	8.09	210	Pn	Pn	22 56 41.6	+0.1
	0.7nm,0.3s,baz=216,slow=19,SNR=1.1						
PMG				Sn	Sn	22 57 50.8	-21
	2.4nm,0.3s,baz=332,slow=9.3,SNR=3.4						
SANVU	Saraoutou	20.47	130	P	P	22 59 21.3	0.0
SANVU				IAmb	IAmb	22 59 35.3	
	comp=Z,26nm,0.9s						
WB0	Warramunga Arr	23.87	222	P	P	22 59 57.2	+0.3
WB0				IAmb	IAmb	23 00 10.6	
	comp=Z,6.6nm,1.1s						
WR0	Warramunga Arr	23.90	222	P	P	22 59 56.6	-0.6
WR0				IAmb	IAmb	23 00 12.5	
	comp=Z,11nm,1.1s						
WB2	Warramunga Arr	24.02	222	P	P	22 59 57.9	-0.4
WB2				IAmb	IAmb	23 00 03.1	
	comp=Z,7.3nm,1.1s						
WRA	Warramunga Arr	24.03	222	P	P	22 59 56.8	-1.6
	comp=Z,4.0nm,1.1s,baz=44,slow=10,SNR=13						
WRA	Warramunga Arr	24.03	222	P	P	22 59 59.0	+0.7
H11S3	WAKE ISLAND Hy	25.71	36	T	T	23 30 12.0	
	baz=218						
H11S2	WAKE ISLAND Hy	25.72	36	T	T	23 30 12.0	
	baz=218						
H11S1	WAKE ISLAND Hy	25.73	36	T	T	23 30 11.4	
	baz=218						
H11N1	WAKE ISLAND Hy	26.79	34	T	T	23 31 32.1	
	baz=219,slow=76,SNR=64						
H11N3	WAKE ISLAND Hy	26.81	34	T	T	23 31 33.1	
	baz=219,slow=76,SNR=61						
H11N2	WAKE ISLAND Hy	26.81	34	T	T	23 31 29.2	
	baz=219,slow=76,SNR=103						
ASAR	Alice Springs	27.01	217	P	P	23 00 28.3	+2.9
	comp=Z,2.2nm,0.8s,baz=45,slow=7.6,SNR=14						
FITZ	Fitzroy Crossi	29.55	236	P	P	23 00 48.4	+0.4
	comp=Z,3.0nm,0.9s,baz=77,slow=11,SNR=6.2						
FITZ	Fitzroy Crossi	29.55	236	P	P	23 00 48.4	+0.4
FITZ	Fitzroy Crossi	29.55	236	IAmb	IAmb	23 00 57.9	
	comp=Z,6.0nm,1.0s						
MSVF	Nonsavu	30.48	122	P	P	23 00 56.7	+0.3
MSVF				IAmb	IAmb	23 01 12.0	
	comp=Z,17nm,1.1s						
STKA	Stephens Creek	30.75	196	P	P	23 00 58.4	-0.1
FORT	Forrest	35.76	215	P	P	23 01 42.1	-0.1
BSWZ	Blackbirch Sta	44.19	156	P	P	23 02 52.4	+0.3
LTZ	Lake Taylor	44.46	158	P	P	23 02 54.3	0.0
LTZ				IAmb	IAmb	23 03 12.2	
	comp=Z,9.9nm,1.1s						
MSWZ	Moikau Station	44.53	154	P	P	23 02 52.5	-2.3
CMAR	Chiang Mai Arr	55.39	294	P	P	23 04 28.6	+11
	comp=Z,2.3nm,0.3s,baz=107,slow=6.8,SNR=4.4						
PBA	Port Blair	59.73	285	P	P	23 04 47.7	-0.5
SCM	Sheep Creek Mo	79.00	25	P	P	23 06 47.5	+0.8
RAGM	Ragged Mountai	79.55	27	P	P	23 06 50.4	+0.8
DOT	Dot Lake	81.14	24	P	P	23 06 59.5	+1.4
L26K	Log Cabin Wild	81.19	25	P	P	23 06 59.0	+0.6
TABL	Table Mountain	81.19	28	P	P	23 06 58.1	-0.6
GAR	Garm	84.36	309	P	P	23 07 15.8	+0.3
GAR				IAmb	IAmb	23 07 34.5	
	comp=Z,2.5nm,1.2s						
KBL	Kabul	84.84	305	P	P	23 07 16.6	-1.5
KBL				IAmb	IAmb	23 07 36.4	
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	147.96	291	PKPbc	PKPbc	23 14 47.7	+19
	comp=Z,0.7nm,0.9s,baz=90,slow=1.4,SNR=5.0						

*DJA **03** 22:57:55.9±0.3, 3°S±3°×14°9E±°, h10km, M4.8/37, mb4.7/37, mB5.4/14, MLv4.9/3, Mw(mB)4.8/14, MwMwp6.3/1, Mwp6.2/1*

*IDC **03** 22:57:56.5±0.5, 3°.32S×148°.67E, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/34, mbtmp4.5/21, ML3.7/2, MS4.6/33, Ms1 4.6/33, ms1mx4.4/55, Error ellipse: s-maj=17.3km s-min=13.3km az=93.0*

*NEIC **03** 22:57:58.4±1.6, 3°.17S±0°.06×148°.81E±0°.06, h10km±1km, mb4.9/124, Error ellipse: s-maj=11.5km s-min=8.3km az=218.0*

*GCMT **03** 22:58:01.4±0.1, 3°.19S±0°.01×148°.73E±0°.01, h14km, MW5.3/148, Moment Tensor Solution. s72,c93; s148,c258; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01±.02; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$-0.70±.02; $M_{r\theta}$0.15±.04; $M_{\theta\phi}$0.73±.02; $M_{\phi r}$0.03±.03; Best double couple: $M_0$1.01800×10^{17} NP1:ϕ_s22.00000°, δ83.00000°, λ175.00000°. NP2:ϕ_s112.00000°, δ85.00000°, λ7.00000°. Principal axes: T 1.0240, Plg8.0000°, Azm337.0000°; N -0.0120, Plg81.0000°, Azm145.0000°; P -1.0120, Plg2.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 22:57:59.1±0.3**, 3°.27S**±0°.04×**148°.77E**±0°.05**, h19**km**, n235, σ1s.48**/217**, mb4.8**/102**, MS4.6**/44**, 2C-2D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	1.86	311		Pn	22 58 26.5	-3.5
KRVT	Keravat (AS076	3.41	108	Pn	Pn	22 58 52.0	+0.8
	baz=128,slow=19						
RABL	Rabaul	3.51	105		Pn	22 58 51.2	-1.4
PMG	Port Moresby	6.30	195	Pn	Pn	22 59 33.1	+2.1
	1.1nm,0.3s,baz=44,slow=9.2,SNR=8.7						
PMG				Sn	Sn	23 00 44.1	+1.6
	2.4nm,0.3s,baz=27,slow=16,SNR=1.7						
PMG				LR	LR	23 01 55.7	
	comp=Z,4µm,20.6s,baz=11,slow=38						
PMG	Port Moresby	6.30	195	Pn	Pn	22 59 32.6	+1.5
JAY	Jayapura	8.09	275	Pn	Pn	22 59 57.7	+2.0
	0.4nm,0.3s,baz=72,slow=5.2,SNR=5.1						
JAY				LR	LR	23 02 43.7	
	comp=Z,6µm,19.3s,baz=86,slow=36						
JAY	Jayapura	8.09	275	P	Pn	22 59 52.6	-3.1
	781nm44nm,1.3s						
GENI	Genyem	8.62	274	P	Pn	23 00 01.9	-1.0
	7µm216nm,2.1s						
COEN	Coen	11.97	207	Pn	Pn	23 00 49.9	+1.0
HNR	Honiara	12.68	119	LR	LR	23 05 54.6	
	comp=Z,2µm,18.8s,baz=290,slow=38						
HNR	Honiara	12.68	119	Pn	Pn	23 00 58.4	-0.1
CTA	Charters Tower	16.89	188	Pn	Pn	23 01 55.0	+0.3
	0.1nm,0.3s,baz=0.0,slow=14,SNR=4.3						
CTA				LR	LR	23 08 55.4	
	comp=Z,2µm,19.2s,baz=5.0,slow=39						
GUMO	Guam	17.19	347	LR	LR	23 07 34.6	
	comp=Z,1µm,21.1s,baz=140,slow=34						
SIJI	Sorong	17.66	277	P	Pn	23 02 04.0	-0.2
	1.5nm,0.3s,baz=246,slow=22,SNR=3.4						
SIJI				LR	LR	23 08 56.8	
	comp=Z,2µm,20.5s,baz=91,slow=38						
SWI	Sorong	17.66	277	P	Pn	23 02 02.7	-1.6
	40nm,1.4s						
SAUI	Saumlaki	18.00	254		Pn	23 02 08.0	-0.5
LBMI	Labuha	21.42	277	P	P	23 02 49.6	+3.4
WB0	Warramunga Arr	21.58	219	P	P	23 02 47.4	-0.5
WB0				IAmb	IAmb	23 02 59.5	
	comp=Z,56nm,1.1s						
WR0	Warramunga Arr	21.63	219	P	P	23 02 47.2	-1.2
WR0				IAmb	IAmb	23 02 51.6	
	comp=Z,46nm,0.8s						
WRAB	Tennant Creek	21.73	219	P	P	23 02 50.1	+0.6
WRAB				IAmb	IAmb	23 02 52.7	
	comp=Z,46nm,0.8s						
WB2	Warramunga Arr	21.74	219	P	P	23 02 49.0	-0.6
WB2				IAmb	IAmb	23 03 06.6	
	comp=Z,42nm,0.9s						
WRA	Warramunga Arr	21.75	219	P	P	23 02 48.3	-1.4
	comp=Z,34nm,0.9s,baz=44,slow=11,SNR=46						
WRA				LR	LR	23 12 20.5	
	comp=Z,2µm,18.3s,baz=36,slow=40						
WRA	Warramunga Arr	21.75	219	P	P	23 02 48.5	-1.2
TNTI	Ternate	21.77	280	P	P	23 02 50.1	+0.1
TNTI				IAmb	IAmb	23 03 07.5	
	comp=Z,36nm,0.9s						
EIDS	Eidsvold	22.08	174	P	P	23 02 54.0	+0.8
EIDS				IAmb	IAmb	23 03 06.2	
	comp=Z,30nm,0.9s						
SANI	Sanana	22.79	272	P	P	23 02 57.0	-3.9
	comp=Z,1µmcomp=Z,22nm,1.3s						
KNRA	Kununurra	23.23	237	P	P	23 03 05.8	+0.4
KNRA				IAmb	IAmb	23 03 15.0	
	comp=Z,51nm,1.2s						
ASAR	Alice Springs	24.85	214	P	P	23 03 19.6	-1.0
	comp=Z,21nm,0.8s,baz=46,slow=7.6,SNR=46						
LIFNC	LIFOU	25.02	136	P	P	23 03 21.1	-1.0
DAV	Davao City (W)	25.33	294	LR	LR	23 13 24.7	
	comp=Z,706nm,18.3s,baz=90,slow=37						
DZM	Mont Dzumac	25.37	139	P	P	23 03 25.9	+0.5
	comp=Z,10.0nm,0.9s,baz=215,slow=4.3,SNR=6.1						
DZM				LR	LR	23 12 06.3	
	comp=Z,3µm,19.7s,baz=279,slow=34						
DZM	Mont Dzumac	25.37	139	*e*P	P	23 03 25.3	-0.1
	comp=Z,47nm,1.2s						
DZM				*e*LR	LR	23 09 48.8	
	comp=Z,4µm,25.5s						
DZM	Mont Dzumac	25.37	139	P	P	23 03 25.0	-0.3
DZM				IAmb	IAmb	23 03 43.9	
	comp=Z,29nm,1.2s						
ONTNC	Ouen Toro	25.54	139	P	P	23 03 27.1	+0.3
ONTNC				IAmb	IAmb	23 03 36.9	
	comp=Z,44nm,1.2s						
BATI	Baumata	25.85	253	P	P	23 03 29.2	-0.6
	comp=Z,58nm,1.0s,baz=90,slow=9.1,SNR=6.9						
BATI				LR	LR	23 16 07.1	
	comp=Z,4µm,19.1s,baz=102,slow=42						
BATI	Baumata	25.85	253	P	P	23 03 28.9	-0.9
	comp=Z,1µmcomp=Z,30nm,1.1s						
OUENC	Ouen Island, N	25.87	139	P	P	23 03 29.4	-0.4
OUENC				IAmb	IAmb	23 03 38.7	
	comp=Z,35nm,1.3s						
GTOI	Gorontalo	26.04	278	P	P	23 03 30.4	-1.1
	comp=Z,524nmcomp=Z,15nm,0.7s						
LUWI	Luwuk	26.07	274	P	P	23 03 31.4	-0.3
MMRI	Maumere	26.91	257	P	P	23 03 40.0	+0.6
MMRI				IAmb	IAmb	23 03 48.5	
	comp=Z,41nm,1.2s						
MMRI	Maumere	26.91	257	P	P	23 03 38.5	-0.9
	comp=Z,29nm,1.8s						
FITZ	Fitzroy Crossi	27.03	235	P	P	23 03 39.3	-1.0
	comp=Z,38nm,1.0s,baz=60,slow=8.5,SNR=13						
FITZ				LR	LR	23 14 47.5	
	comp=Z,2µm,18.3s,baz=61,slow=38						
FITZ	Fitzroy Crossi	27.03	235	P	P	23 03 40.1	-0.2
FITZ				IAmb	IAmb	23 03 45.0	
	comp=Z,31nm,0.9s						
MRSI	Marisa	27.08	277	P	P	23 03 39.1	-1.7
	comp=Z,22nm,1.0s						
ARMA	Armidale	27.14	175	P	P	23 03 42.1	+0.9

ARMA IAmb IAmb 23 03 43.2
comp=Z,21nm,1.2s
APSI Ampana 27.20 274 P **P** **23 03 39.5 -2.5**
comp=Z,22nm,1.2s
H11S3 WAKE ISLAND Hy 27.91 39 T T 23 33 03.8
baz=220,slow=76,SNR=203
H11S2 WAKE ISLAND Hy 27.92 39 T T 23 33 08.1
baz=220,slow=76,SNR=756
H11S1 WAKE ISLAND Hy 27.93 39 T T 23 33 02.9
baz=220,slow=76,SNR=165
TOLI2 Tolitoli 28.32 278 P **P** **23 03 52.1 +0.2**
WAKE Wake Island 28.49 37 P **P** **23 03 51.2 -2.2**
BNSI Bone 28.62 267 P P 23 04 13.9 +19
BASI Baing, Sumba 28.82 255 P **P** **23 03 53.3 -3.1**
comp=Z,987nmcomp=Z,64nm,1.1s
H11N1 WAKE ISLAND Hy 28.96 37 T T 23 34 20.4
baz=219,slow=76,SNR=127
H11N3 WAKE ISLAND Hy 28.98 37 T T 23 34 19.5
baz=219,slow=76,SNR=109
H11N2 WAKE ISLAND Hy 28.98 37 T T 23 34 24.2
baz=219,slow=76,SNR=151
KAPI Kappang 28.99 266 LR LR 23 17 34.5
KAPI Kappang 28.99 266 P **P** **23 03 58.6 +0.6**
KAPI IAmb IAmb 23 04 07.9
comp=Z,11nm,0.5s
MPSI Mapaga 29.08 277 P **P** **23 03 54.4 -4.4**
comp=Z,17nm,0.8s
STKA Stephens Creek 29.24 193 P **P** **23 04 00.1 +0.1**
comp=Z,3.9nm,0.9s,baz=4.0,slow=11,SNR=6.6
STKA LR LR 23 16 23.1
comp=Z,2µm,20.6s,baz=10,slow=38
STKA Stephens Creek 29.24 193 P **P** **23 04 00.7 +0.7**
PLAI Plampang 31.30 258 P P 23 04 13.1 -5.3
comp=Z,14nm,1.1s
BBOO Buckleboo 31.71 201 P **P** **23 04 19.9 -1.9**
BBOO IAmb IAmb 23 04 23.7
comp=Z,13nm,0.9s
MSVF Nonsavu 32.10 119 LR LR 23 16 19.5
comp=Z,1µm,20.1s,baz=293,slow=34
MSVF Nonsavu 32.10 119 P **P** **23 04 23.6 -1.9**
MSVF IAmb IAmb 23 04 30.8
comp=Z,22nm,1.2s
PSA00 Pilbara Seismi 33.48 235 P **P** **23 04 37.0 -0.4**
PSA00 IAmb IAmb 23 04 46.4
comp=Z,15nm,1.1s
PSA00 Pilbara Seismi 33.48 235 P **P** **23 04 35.5 -2.0**
PSA00 IAmb IAmb 23 04 37.0
comp=Z,4.0nm,1.1s
FORT Forrest 33.63 213 P **P** **23 04 38.7 +0.1**
TOO Toolangi 34.27 185 P **P** **23 04 44.1 0.0**
JOW Kunigami 35.89 328 LR LR 23 16 33.7
comp=Z,1µm,20.2s,baz=152,slow=31
SBUM Sibu 36.98 278 P **P** **23 05 07.2 -0.5**
JHJ Hachijo jima 2 37.18 347 LR LR 23 20 01.6
comp=Z,957nm,18.4s,baz=162,slow=36
YULB Yu-li 37.68 316 P **P** **23 05 12.1 -1.4**
YULB IAmb IAmb 23 05 19.6
comp=Z,23nm,0.9s
NACB Ninganchiao 37.99 317 P **P** **23 05 15.2 -0.9**
TPUB Ta-pu 38.08 315 P **P** **23 05 16.7 -0.3**
TPUB IAmb IAmb 23 05 19.6
comp=Z,16nm,0.9s
SSLB Suanglung 38.17 316 **P** **23 05 16.4 -1.2**
YHNB Yeheng 38.47 318 P **P** **23 05 18.9 -1.3**
TATO Taipei 38.60 318 P **P** **23 05 19.3 -1.9**
JMN Monobe 39.40 340 P **P** **23 05 26.3 -1.5**
JMN IAmb IAmb 23 05 31.6
comp=Z,26nm,1.1s
JNU Nakatsue 39.96 336 P **P** **23 05 33.9 +1.4**
comp=Z,22nm,0.8s,baz=160,slow=12,SNR=11
JNU Nakatsue 39.96 336 P **P** **23 05 31.2 -1.3**
JNU IAmb IAmb 23 05 36.2
comp=Z,37nm,1.0s
AFI Afiamalu 40.35 108 LR LR 23 20 44.7
comp=Z,736nm,19.4s,baz=277,slow=34
MJAR Matsushiro Arr 40.82 347 P **P** **23 05 40.8 +1.3**
comp=Z,1.2nm,0.6s,baz=177,slow=6.9,SNR=1.9
MJAR PcP **PcP** **23 07 41.2 +0.8**
comp=Z,0.7nm,0.4s,baz=197,slow=3.9,SNR=4.2
MJAR LR LR 23 20 33.0
comp=Z,705nm,20.2s,baz=169,slow=33
MJAR Matsushiro Arr 40.82 347 **P** **23 05 38.8 -0.7**
MAJO Matsushiro 40.82 347 P **P** **23 05 39.8 +0.2**
MJB9 Matsu-Tunnel 40.82 347 P **P** **23 05 38.8 -0.8**
LEM Lembang 41.13 263 LR LR 23 27 13.0
comp=Z,343nm,18.5s,baz=92,slow=43
JMM Marumori 41.59 350 P **P** **23 05 45.1 -0.8**
JSD Sado 42.24 348 P **P** **23 05 48.9 -2.3**
JSD IAmb IAmb 23 06 01.9
comp=Z,49nm,1.5s
SSE Sheshan 43.12 324 P **P** **23 05 58.1 -0.3**
SSE S **S** **23 12 25.2 +1.4**
SSE pmax pmax
comp=Z,13nm,0.7s
SSE pmax pmax
comp=Z,94nm,4.7s
SSE LR LR
comp=N,270nm,20.1s
SSE LR LR
comp=E,340nm,21.5s
XMIS Christmas Isla 43.37 258 **P** **23 06 00.7 0.0**
XMIS IAmb IAmb 23 06 13.9
comp=Z,27nm,1.0s
URZ Urewera 43.39 147 LR LR 23 21 13.7
comp=Z,1µm,21.1s,baz=322,slow=32
URZ Urewera 43.39 147 P **P** **23 06 02.9 +2.4**
URZ IAmb IAmb 23 06 12.6
comp=Z,22nm,1.5s
THZ Tophouse 44.01 154 P **P** **23 06 07.4 +1.9**
THZ IAmb IAmb 23 06 19.9
comp=Z,34nm,1.4s
QIZ Qiongzhong 44.24 302 P **P** **23 06 07.9 +0.2**
QIZ Qiongzhong 44.24 302 P **P** **23 06 07.5 -0.2**
QIZ S **S** **23 12 41.9 +1.2**
QIZ SS **SS** **23 16 00.8 +1.5**
QIZ pmax pmax
comp=Z,15nm,0.8s
QIZ LR LR
comp=N,460nm,22.9s
QIZ LR LR
comp=E,490nm,22.5s
QIZ LR LR
comp=Z,650nm,22.0s
MDSI Maura Dua 44.50 267 P **P** **23 06 08.1 -1.7**
MSWZ Moikau Station 44.80 152 P **P** **23 06 12.3 +0.4**
RPZ Rata Peaks 44.85 157 LR LR 23 23 45.2
comp=Z,1µm,19.4s,baz=320,slow=34
KSRS Korea Array 44.91 336 P **P** **23 06 13.1 +0.4**
comp=Z,1.8nm,0.9s,baz=153,slow=8.2,SNR=2.0
KSRS LR LR 23 24 51.0
comp=Z,399nm,19.1s,baz=145,slow=36
KSAR Wonju Array Be 44.92 336 P **P** **23 06 12.5 -0.3**
MIDW Midway 45.17 44 P **P** **23 06 14.6 -0.2**
NJ2 Nanjing 45.18 323 *e*P **P** **23 06 15.8 +0.9**
NJ2 pP **pP** **23 06 18.7 -1.6**
NJ2 sP **sP** **23 06 21.1 -1.3**
NJ2 S **S** **23 13 01.3 +7.4**
NJ2 sS **sS** **23 13 06.1 +3.3**
NJ2 Nanjing 45.18 323 SS SS 23 16 18.5 +1.7
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,420nm,10.9s
NJ2 LR LR
comp=N,880nm,21.3s
NJ2 LR LR
comp=E,980nm,18.5s
NJ2 LR LR
comp=Z,1µm,20.9s
MQZ McQueen's Vall 45.48 156 P **P** **23 06 18.8 +1.6**
JKA Kamikawa-asahi 47.50 354 P **P** **23 06 32.0 -1.0**
JKA IAmb IAmb 23 06 42.2
comp=Z,14nm,1.1s
ASAJ Asahikawa 47.50 354 LR LR 23 25 05.8
comp=Z,680nm,22.0s,baz=186,slow=34
USRK Ussuriysk Ar. 49.60 344 LR LR 23 25 33.0
comp=Z,741nm,20.6s,baz=147,slow=33
USRK Ussuriysk Ar. 49.60 344 P **P** **23 06 48.6 -0.5**
RPSI Rantau Prapat 50.18 276 P **P** **23 06 53.5 -0.5**
ENH Enshi 50.20 315 P **P** **23 06 54.3 +0.2**
ENH IAmb IAmb 23 07 06.9
comp=Z,16nm,1.5s
YSS Yuzh-Sakhalins 50.29 355 P **P** **23 06 54.0 -0.3**
MDJ Mudanjiang 50.67 342 P **P** **23 06 56.3 -1.0**

HNS HongShan 51.36 325 ⇓P P 23 07 13.2 +11
HNS S S 23 14 51.0 +30
HNS pmax pmax
comp=Z,10.0nm,1.3s
HNS LR LR
comp=N,690nm,17.7s
HNS LR LR
comp=E,570nm,17.7s
HNS LR LR
comp=Z,1µm,18.1s
GSI Gunungsitoli 51.38 274 P **P** **23 07 01.9 -1.3**
GSI IAmb IAmb 23 07 11.4
comp=Z,13nm,1.0s
GSI Gunungsitoli 51.38 274 P **P** **23 07 00.0 -3.1**
comp=Z,15nm,1.1s
BNX BinXian 52.36 341 ⇓P **P** **23 07 09.4 -0.5**
BNX pmax pmax
comp=Z,24nm,0.8s
BNX pmax pmax
comp=Z,270nm,3.6s
BJI Beijing 52.45 329 P **P** **23 07 13.1 +2.5**
BJI S **S** **23 14 38.9 +2.8**
BJI pmax pmax
comp=Z,10.0nm,2.2s
BJI LR LR
comp=N,580nm,18.3s
BJI LR LR
comp=E,330nm,20.2s
BJI LR LR
comp=Z,750nm,26.2s
XAN Xi'an 52.78 318 P **P** **23 07 12.5 -0.8**
XAN pP pP 23 07 15.8 -2.9
XAN sP sP 23 07 19.4 -1.4
XAN S **S** **23 14 41.5 +0.6**
XAN sS sS 23 14 59.3 +9.5
XAN Xi'an 52.78 318 SS SKiKP 23 18 16.8 -16
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN pmax pmax
comp=Z,180nm,4.5s
XAN LR LR
comp=N,500nm,14.3s
XAN LR LR
comp=E,460nm,16.3s
XAN LR LR
comp=Z,1µm,19.7s
KMI Kunming 52.82 305 ⇑P **P** **23 07 15.7 +1.8**
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMI LR LR
comp=N,320nm,17.0s
KMI LR LR
comp=E,430nm,16.5s
KMI LR LR
comp=Z,480nm,18.6s
RAR Rarotonga 53.07 114 LR LR 23 26 42.6
comp=Z,236nm,21.7s,baz=278,slow=32
RAR Rarotonga 53.07 114 P **P** **23 07 16.1 +0.6**
CM31 Chiang Mai Arr 53.60 296 P **P** **23 07 20.0 +0.5**
CM31 IAmb IAmb 23 07 26.7
comp=Z,14nm,1.0s
CMAR Chiang Mai Arr 53.60 296 P **P** **23 07 19.6 +0.1**
comp=Z,5.0nm,1.0s,baz=111,slow=5.8,SNR=18
CMAR LR LR 23 30 33.1
comp=Z,179nm,18.8s,baz=100,slow=37
CHTO Chiang Mai 53.71 296 P **P** **23 07 20.1 -0.2**
CHTO IAmb IAmb 23 07 33.8
comp=Z,14nm,1.4s
PZH PanZhiHua 54.22 306 P **P** **23 07 23.9 -0.2**
PZH S **S** **23 15 01.8 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,7.5s
PZH LR LR
comp=N,310nm,17.6s
PZH LR LR
comp=E,360nm,18.1s
PZH LR LR
comp=Z,380nm,17.7s
KLR Kul'dur 54.34 346 LR LR 23 28 47.8
comp=Z,490nm,19.5s,baz=150,slow=34
CD2 Chengdu 54.72 312 P **P** **23 07 27.1 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 55.51 326 *e*P **P** **23 07 35.4 +2.2**
HHC S **S** **23 15 19.0 +1.3**
HHC sS sS 23 15 31.7 +5.1
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,96nm,6.8s
HHC LR LR
comp=N,620nm,18.6s
HHC LR LR
comp=E,330nm,14.8s
HHC LR LR
comp=Z,910nm,18.8s
BTO Baotou 56.22 325 *e*P **P** **23 07 41.4 +3.2**
BTO S **S** **23 15 34.4 +7.3**
BTO LR LR
comp=N,2µm,16.7s
BTO LR LR
comp=E,3µm,18.2s
PETK Petropavlovsk- 56.67 6 P **P** **23 07 42.7 +1.6**
comp=E,4.8nm,0.8s,baz=184,slow=13,SNR=6.1
PETK LR LR 23 28 29.9
comp=E,383nm,21.6s,baz=189,slow=32
PETK Petropavlovsk- 56.67 6 **P** **23 07 40.7 -0.4**
LZH Lanzhou 57.36 317 *e*P **P** **23 07 47.2 +0.7**
LZH pP pP 23 07 52.0 0.0
LZH sP sP 23 07 53.8 -0.3
LZH pmax pmax
comp=Z,11nm,1.4s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=N,440nm,19.0s
LZH LR LR
comp=E,510nm,19.0s
LZH LR LR
comp=Z,540nm,17.9s
HIA Hailar 58.06 338 P **P** **23 07 51.1 +0.1**
HUH Hualalai 58.98 65 P **P** **23 07 57.4 -0.9**
POHA Pohakuloa 59.28 65 P **P** **23 07 58.7 -1.5**
GTA Gaotai 61.84 318 *e*P **P** **23 08 17.2 -0.1**
GTA pP pP 23 08 21.0 -1.8
GTA sP pwP 23 08 25.4 0.0
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,89nm,4.8s
GTA LR LR
comp=N,260nm,20.3s
GTA LR LR
comp=E,420nm,19.5s
GTA LR LR
comp=Z,550nm,21.1s
PPT Papeete 62.02 108 LR LR 23 32 44.2
comp=Z,147nm,18.2s,baz=316,slow=34
PPT2 Papeete2 62.02 108 *e*LQ LQ 23 23 59.7
PPT2 comp=Z,1µm,30.0s *e*LR LR 23 26 47.0
comp=Z,849nm,28.2s
SHL Shillong 62.08 301 P **P** **23 08 17.9 -1.3**
SHL IAmb IAmb 23 08 31.0
comp=Z,13nm,1.2s
ULN Ulaanbaatar 62.62 330 P **P** **23 08 22.4 0.0**
ULN IAmb IAmb 23 08 27.3
comp=Z,9.8nm,1.1s
MA2 Magadan 62.68 1 LR LR 23 37 28.4
comp=Z,267nm,18.3s,baz=186,slow=38
MA2 Magadan 62.68 1 P **P** **23 08 22.8 +0.5**
SONM Songino Array 62.93 329 P **P** **23 08 25.3 +0.8**
comp=Z,3.1nm,0.6s,baz=141,slow=7.4,SNR=2.6
SONM Songino Array 62.93 329 P **P** **23 08 24.0 -0.5**
SONM IAmb IAmb 23 08 29.9
comp=Z,7.2nm,1.0s
GOMU GeErMu 63.78 313 P **P** **23 08 30.0 -0.6**
GOMU pP pP 23 08 33.1 -3.0
GOMU sP sP 23 08 34.6 -3.6
GOMU PcP **PcP** **23 08 59.2 -7.3**
GOMU S **S** **23 17 05.8 +0.7**
GOMU pmax pmax
comp=Z,1.0nm,1.0s
GOMU pmax pmax
comp=Z,66nm,6.7s
GOMU LR LR
comp=N,160nm,15.7s
GOMU LR LR
comp=E,260nm,15.5s
GOMU LR LR
comp=Z,310nm,15.5s
LSA Lhasa 64.07 305 P **P** **23 08 32.3 -0.4**
LSA IAmb IAmb 23 08 42.1
comp=Z,6.9nm,1.1s
SEY Seymchan 66.08 2 LR LR 23 39 19.3
comp=Z,285nm,18.5s,baz=171,slow=38
TAPN Taplejung 66.19 302 *e*P **P** **23 08 47.2 +0.9**
ODAN Odare 66.31 301 *e*P **P** **23 08 46.8 -0.3**
YAK Yakutsk 66.75 350 P **P** **23 08 49.5 +0.7**
JIRN Jiri 67.57 302 *e*P **P** **23 08 54.9 -0.3**
GUN Gumba 67.90 302 *e*P **P** **23 08 57.0 -0.3**
comp=Z,71nm,1.2s
PKI Pulchoki 68.21 301 *e*P **P** **23 08 58.5 -0.7**
KKN Kakani 68.38 301 *e*P **P** **23 09 00.0 -0.1**
GKN Gorkha 68.98 302 *e*P **P** **23 09 03.3 -0.5**
KOLN Koldanda 69.81 301 *e*P **P** **23 09 08.0 -1.0**
DANN Dangsing 69.82 302 *e*P **P** **23 09 07.9 -1.3**
comp=Z,37nm,1.1s
PYUN Piuthan 70.41 301 *e*P **P** **23 09 11.3 -1.4**
comp=Z,23nm,1.0s
TAOE Nuku Hiva Isla 70.82 98 *e*LR LR 23 30 52.1
comp=Z,743nm,31.1s
WMQ Urumqi 71.92 318 *e*P **P** **23 09 21.6 +0.2**
WMQ LR LR
comp=N,580nm,15.7s
WMQ LR LR
comp=Z,270nm,21.7s
BILL Bilibino 72.20 7 P **P** **23 09 23.0 +0.5**
BILL IAmb IAmb 23 09 32.0
comp=Z,11nm,1.2s
GAMB Gambell 73.06 17 **P** **23 09 28.3 +0.7**
GAMB IAmb IAmb 23 09 33.7
comp=Z,11nm,1.4s
VNDA Vanda 74.52 177 P **P** **23 09 37.9 +1.9**
comp=Z,1.8nm,0.9s,baz=355,slow=5.4,SNR=2.5
TNA Tin City 75.48 17 P **P** **23 09 42.7 +1.1**
ANM Nome 75.57 19 P **P** **23 09 42.8 +0.5**
ANM IAmb IAmb 23 09 46.7
comp=Z,15nm,1.4s
TIXI Tiksi 75.90 354 P **P** **23 09 43.9 -0.1**
MK31 Makanchi Array 76.55 320 P **P** **23 09 47.9 -0.4**
MKAR Makanchi Array 76.55 320 P **P** **23 09 48.3 0.0**
comp=Z,6.0nm,1.1s,baz=101,slow=6.3,SNR=18
KDAK Kodiak Island 76.68 28 P **P** **23 09 49.4 +0.7**
MAKZ Makanchi 76.76 320 P **P** **23 09 48.2 -1.2**
MAKZ IAmb IAmb 23 09 56.1
comp=Z,15nm,1.4s
ZAA0 Zalesovo Array 77.68 327 IAmb IAmb 23 09 57.7
comp=Z,7.2nm,0.9s
ZALV Zalesovo Beam 77.68 327 P **P** **23 09 53.5 -0.9**
comp=Z,5.0nm,0.8s,baz=111,slow=4.8,SNR=12
ZALV Zalesovo Beam 77.68 327 P **P** **23 09 52.9 -1.5**
TTA Tatalina 77.87 23 P **P** **23 09 55.0 -0.3**
TTA IAmb IAmb 23 10 08.6
comp=Z,13nm,1.4s
L19K White Mountain 77.92 24 P **P** **23 09 56.0 +0.4**
L19K IAmb IAmb 23 10 01.7
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 78.11 314 P **P** **23 09 57.8 +0.2**
RDOG Red Dog Mine 78.64 17 P **P** **23 10 01.0 +1.5**
K20K Telida 78.84 23 P **P** **23 10 00.7 +0.1**
K20K IAmb IAmb 23 10 06.9
comp=Z,13nm,1.2s
KSH Kashi 78.90 311 P **P** **23 10 03.4 +1.7**
KSH S **S** **23 20 00.4 +0.9**
KSH pmax pmax
comp=Z,3.0nm,1.3s
KSH LR LR
comp=N,290nm,20.9s
KSH LR LR
comp=E,310nm,20.3s
KSH LR LR
comp=Z,430nm,28.2s
J20K Nowinta River 79.24 22 P **P** **23 10 03.6 +0.8**
J20K IAmb IAmb 23 10 09.7
comp=Z,19nm,1.4s
PPLA Purkeypile 79.35 24 P **P** **23 10 03.9 +0.3**
PPLA IAmb IAmb 23 10 21.8
comp=Z,14nm,1.4s
RC01 Rabbit Creek A 79.51 26 P **P** **23 10 04.8 +0.4**
CAST Castle Rocks 79.65 23 P **P** **23 10 05.8 +0.8**
CAST IAmb IAmb 23 10 12.5
comp=Z,14nm,1.5s
M22K Willow 79.65 25 P **P** **23 10 05.0 0.0**
NIL Nilore 79.81 305 P **P** **23 10 06.0 -0.6**
NIL IAmb IAmb 23 10 18.4
comp=Z,14nm,1.0s
KURK Kurchatov 80.11 323 P **P** **23 10 07.4 -0.4**
KTH Kantishna Hill 80.17 23 P **P** **23 10 08.1 +0.1**
KTH IAmb IAmb 23 10 12.9
comp=Z,15nm,1.3s
IMAR Indian Mountai 80.33 20 P **P** **23 10 09.7 +1.0**
BPAW Bear Paw Mtn. 80.40 23 P **P** **23 10 09.9 +0.8**
H21K Melozitna Rive 80.50 21 P **P** **23 10 09.3 -0.3**
I21K Tanana 80.56 22 P **P** **23 10 10.6 +0.7**
AAK Ala-Archa 80.71 314 P **P** **23 10 11.0 -0.5**
FID Port Fidalgo 80.81 27 P **P** **23 10 10.5 -0.8**
FID IAmb IAmb 23 10 14.8
comp=Z,19nm,1.2s
RND Reindeer 80.93 24 P **P** **23 10 11.9 -0.1**
MLY Manley 80.94 22 P **P** **23 10 12.5 +0.5**
MLY IAmb IAmb 23 10 18.1
comp=Z,15nm,1.4s
MCK McKinley 81.04 24 P **P** **23 10 12.3 -0.3**
MCK IAmb IAmb 23 10 24.3
comp=Z,14nm,1.2s
DIV Divide 81.28 27 P **P** **23 10 14.0 0.0**
DIV IAmb IAmb 23 10 21.2
comp=Z,8.3nm,1.0s
NEA2 Nenana 81.37 23 P **P** **23 10 15.7 +1.4**
DHY Denali Highway 81.38 24 P **P** **23 10 15.5 +0.9**
DHY IAmb IAmb 23 10 19.8
comp=Z,13nm,1.4s
WRH Wood River Hil 81.70 23 P **P** **23 10 16.2 +0.2**
WRH IAmb IAmb 23 10 19.6
comp=Z,16nm,1.4s
H23K Yukon River 81.76 21 P **P** **23 10 17.0 +0.7**
CCB Clear Creek Bu 81.89 23 P **P** **23 10 17.3 +0.3**
COLD Coldfoot 82.18 20 P **P** **23 10 19.4 +0.9**
COLD IAmb IAmb 23 10 24.8
comp=Z,11nm,1.4s
GLB Gilahina Butte 82.27 27 P **P** **23 10 19.1 -0.1**
GLB IAmb IAmb 23 10 26.6
comp=Z,16nm,1.4s
IL31 82.30 23 P **P** **23 10 19.2 +0.1**
ILAR Eielson Array 82.30 23 P **P** **23 10 19.4 +0.2**
comp=Z,1.8nm,0.8s,baz=248,slow=5.6,SNR=8.2
ILAR Eielson Array 82.30 23 P **P** **23 10 19.6 +0.5**
RIDG Independent Ri 82.69 24 P **P** **23 10 22.2 +0.9**
RIDG IAmb IAmb 23 10 31.6
comp=Z,10nm,1.2s
J25K Salcha River, 82.83 23 P **P** **23 10 22.5 +0.5**
J25K IAmb IAmb 23 10 27.4
comp=Z,9.7nm,1.0s
DOT Dot Lake 82.98 24 P **P** **23 10 23.3 +0.5**
DOT IAmb IAmb 23 10 28.6
comp=Z,7.6nm,1.2s
GAR Garm 83.10 310 P **P** **23 10 23.7 -0.3**
GAR IAmb IAmb 23 10 39.2
comp=Z,11nm,1.1s
TABL Table Mountain 83.14 28 P **P** **23 10 23.2 -0.8**
NRIK Noril'sk 83.25 342 P **P** **23 10 24.3 +0.3**
comp=Z,7.9nm,1.1s,baz=92,slow=5.3,SNR=5.8
KBL Kabul 83.40 305 P **P** **23 10 25.1 -0.8**
M27K Edge Creek, AK 83.45 26 P **P** **23 10 25.2 -0.2**
FYU Fort Yukon 83.66 22 P **P** **23 10 26.5 +0.4**
BCPM Bancas Point 83.70 29 P **P** **23 10 26.2 -0.3**
BCAR Beaver Creek A 83.73 25 P **P** **23 10 28.1 +1.4**
CHGR Chuyangaron 83.94 309 P **P** **23 10 27.5 -0.9**
BMAR Burnt Mountain 84.23 21 P **P** **23 10 29.8 +0.6**
EGAK Eagle 84.57 24 P **P** **23 10 30.9 +0.1**
EGAK IAmb IAmb 23 10 43.7
comp=Z,12nm,1.4s
DAWY Dawson 85.07 25 P **P** **23 10 34.4 +0.9**
DAWY IAmb IAmb 23 10 46.8
comp=Z,7.7nm,1.2s
BRVK Borovoye 85.70 324 P **P** **23 10 36.2 -0.5**
HRA Herat 88.96 304 P **P** **23 10 52.4 -0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HRA				IAmb	IAmb	23 10 56.0	
	comp=Z,5.5nm,0.9s						
YBH	Yreka Blue Hor	91.05	48	LR	LR	23 45 14.9	
	comp=Z,407nm,20.3s,baz=352,slow=31						
ABKAR	Akbulak array	91.69	319	P	P	23 11 04.5	-0.8
AKTO	Aktyubinsk	92.98	320	LR	LR	23 53 16.7	
	comp=Z,424nm,19.9s,baz=26,slow=36						
SYO	Syowa Base	93.74	200	⇑ePcP	PcP	23 11 16.6	+1.7
NVAR	Mina Array Bea	94.31	52	P	P	23 11 19.0	+1.0
	comp=Z,0.4nm,0.6s,baz=240,slow=7.8,SNR=4.0						
YKA	Yellowknife Ar	95.95	28	P	P	23 11 25.1	+0.5
	comp=Z,1.1nm,0.7s,baz=273,slow=4.7,SNR=15						
SIV	San Ignacio	144.82	124	PKP	PKPbc	23 17 35.3	+0.4
	comp=Z,2.4nm,0.9s,baz=307,slow=3.0,SNR=5.8						
TORD	Torodi Ar. Bea	146.01	289	PKPbc	PKPbc	23 17 38.6	-0.1
	comp=Z,5.8nm,0.8s,baz=64,slow=3.5,SNR=18						
PTGA	Pitinga	151.00	97	PKPbc	PKiKP	23 17 52.7	+0.1
	comp=Z,8.7nm,0.7s,baz=241,slow=2.0,SNR=19						

*NEIC **03** 23:06:16.5±2.8, 31°.7S±0°.1×179°.8E±0°.1, h417km±12km, mb4.1/9, Error ellipse: s-maj=24.0km s-min=8.3km az=136.0*

*IDC **03** 23:06:21.3±7.3, 32°.08S×179°.43E, h482km±95km, mb2.9/2, mb1 3.3/3, mb1mx3.0/34, mbtmp4.0/3, Error ellipse: s-maj=112.7km s-min=36.2km az=8.0*

*WEL **03** 23:06:25.3±1.2, 32°S±6°×18°0E±1°6, h364km±17km, M4.4/8, mB4.6/6, ML4.6/6, MLv4.9/8, Mw(mB)3.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=106.0*

ISC 03 23:06:17.3±0.7**, 31°.76S**±0°.07×**179°.8E**±0°.1**, h450km, n53, σ2s.16**/66**, mb3.7**/5**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.20	39	S	S	23 08 22.0	+0.5
RAO	Raoul Island	3.21	39	P	P	23 07 22.8	-3.2
MXZ	Matakaoa Point	5.91	191	P	P	23 07 50.2	-0.3
MXZ				S	S	23 09 05.8	-1.0
MXZ	Matakaoa Point	5.91	191	P	P	23 07 53.0	+2.5
MXZ				S	S	23 09 04.5	-2.3
KUZ	Kuaotunu	5.99	213	P	P	23 07 55.8	+4.5
WCZ	Waipu Caves	6.13	226	P	P	23 07 56.4	+3.6
OUZ	Omahuta	6.19	234	P	P	23 07 56.5	+3.1
OUZ	Omahuta	6.19	234	P	P	23 07 56.7	+3.3
OUZ	Omahuta	6.19	234	P	P	23 07 56.4	+2.9
	32nm,1.6s						
HAZ	Te Kaha	6.20	195	P	P	23 07 55.4	+1.9
HAZ				S	S	23 09 08.1	-4.1
PKGZ	Pakihiroa	6.27	192	P	P	23 07 56.2	+1.9
WIAZ	Waiheke Island	6.31	216	P	P	23 07 58.6	+3.9
RUGZ	Raukumara Rang	6.42	195	P	P	23 07 57.7	+1.8
RUGZ				S	S	23 09 14.3	-2.3
TWGZ	Tauwhareparae	6.56	192	P	P	23 08 01.3	+4.0
TWGZ				S	S	23 09 17.5	-1.7
MWZ	Matawai	6.81	195	P	P	23 08 02.7	+2.8
MWZ				S	S	23 09 23.0	-1.0
CNGZ	Carnagh Statio	6.83	190	P	P	23 08 03.2	+3.2
CNGZ				S	S	23 09 25.3	+1.2
URZ	Urewera	6.84	198	P	P	23 08 01.7	+1.6
	10.0nm,0.3s,baz=27,slow=2.3,SNR=46						
URZ				S	S	23 09 23.0	-1.4
	7.1nm,0.3s,baz=223,slow=23,SNR=16						
URZ	Urewera	6.84	198		P	23 08 01.6	+1.6
URZ				S	S	23 09 22.6	-1.7
URZ	Urewera	6.84	198	P	P	23 08 00.8	+0.7
URZ				S	S	23 09 22.8	-1.6
URZ	Urewera	6.84	198	P	P	23 08 01.2	+1.1
TKGZ	Te Karaka	6.84	193	S	S	23 09 21.4	-3.1
RAGZ	Rawiri	6.99	195	P	P	23 08 05.5	+3.7
RAGZ				S	S	23 09 29.8	+2.4
RIGZ	Rimuhau	7.12	193	P	P	23 08 05.9	+2.8
RIGZ				S	S	23 09 28.5	-1.5
PRGZ	Paritu Road	7.31	192	P	P	23 08 08.8	+3.7
PRGZ				S	S	23 09 34.0	+0.4
BKZ	Black Stump Fm	7.85	199	P	P	23 08 10.8	-0.2
BKZ	Black Stump Fm	7.85	199	P	P	23 08 12.3	+1.3
	34nm,1.2s						
BFZ	Birch Farm	9.34	197	P	P	23 08 28.2	+1.2
MSWZ	Moikau Station	10.29	199	P	P	23 08 37.2	-0.2
PLWZ	Palliser	10.43	199	P	P	23 08 39.9	+1.0
TUWZ	Tuamarina	10.72	204	P	P	23 08 41.5	-0.5
NNZ	Nelson	10.74	207	P	P	23 08 41.5	-0.7
QRZ	Quartz Range	10.76	211	P	P	23 08 42.4	-0.1
QRZ	Quartz Range	10.76	211	P	P	23 08 46.4	+3.9
	34nm,1.6s						
THZ	Tophouse	11.39	207	P	P	23 08 49.1	-0.2
KHZ	Kahutara	11.73	203	P	P	23 08 53.8	+0.8
KHZ	Kahutara	11.73	203	P	P	23 08 54.1	+1.1
	38nm,2.0s						
LTZ	Lake Taylor	12.50	206	P	P	23 09 03.0	+1.5
MSVF	Nonsavu	14.05	353	P	P	23 09 17.6	-0.9
FOZ	Fox Glacier	14.13	211	P	P	23 09 19.4	+0.5
OUENC	Ouen Island, N	14.78	306	P	P	23 09 25.6	-0.6
DZM	Mont Dzumac	15.28	306	P	P	23 09 29.5	-2.1
DZM				IAmb	IAmb	23 09 37.7	
	comp=Z,4.4nm,1.0s						
LIFNC	LIFOU	15.66	311	P	P	23 09 34.1	-1.3
ASAR	Alice Springs	41.14	270	P	P	23 13 20.8	-0.2
	comp=Z,0.5nm,0.5s,baz=107,slow=7.2,SNR=7.8						
WR0	Warramunga Arr	42.08	275	P	P	23 13 28.2	-0.2
WB2	Warramunga Arr	42.24	275	P	P	23 13 29.3	-0.4
WB2				IAmb	IAmb	23 13 31.4	
	comp=Z,3.6nm,1.1s						
WRA	Warramunga Arr	42.26	275	P	P	23 13 29.4	-0.5
	comp=Z,0.8nm,0.4s,baz=115,slow=7.6,SNR=22						
WRA	Warramunga Arr	42.26	275	P	P	23 13 29.2	-0.6
WB0	Warramunga Arr	42.28	275	P	P	23 13 29.6	-0.4
KNRA	Kununurra	48.92	277	P	P	23 14 22.1	+1.1
KNRA				IAmb	IAmb	23 14 38.2	
	comp=Z,7.8nm,1.1s						
CMB	Columbia Colle	89.06	43	P	P	23 18 22.6	-0.7
CMB				IAmb	IAmb	23 18 25.1	
	comp=Z,1.9nm,0.6s						
X18A	Snowflake	93.35	51	P	P	23 18 47.8	+4.4
FINES	FINESS Array B	145.71	338	PKPbc	PKPab	23 25 04.7	-0.8
	comp=Z,3.2nm,0.4s,baz=44,slow=4.4,SNR=44						
FINES	FINESS Array B	145.71	338		PKPab	23 25 04.8	-0.7

*IDC **03** 23:15:27.2±1.0, 29°.23N×130°.40E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.5/41, mbtmp3.6/10, ML3.3/3, Error ellipse: s-maj=36.5km s-min=15.7km az=91.0*

*JMA **03** 23:15:31.7±0.1, 29°.25N×130°.47E, h56km±5km, M3.7*

ISC 03 23:15:32.2±0.7**, 29°.19N**±0°.04×**130°.56E**±0°.06**, h40km, n25, σ0s.98**/33**, mb3.7**/7**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.88	318	P	Pn	23 15 46.6	-1.6
JNN				eS	Sn	23 15 58.5	-1.3
JZK	Kikaishima	1.01	211	P	Pn	23 15 50.4	+0.5
JYAK	Yakushimahirau	1.05	358	P	Pn	23 15 49.5	-0.9
JAM	Amami Oshima	1.14	227	P	Pn	23 15 51.5	-0.1
JTAJ	Takarajima	1.18	269	P	Pn	23 15 51.6	-0.7
JMTN	Minamitane	1.24	14	P	Pn	23 15 52.4	-0.7
JMTN				eS	Sn	23 16 08.4	-0.3
JKC	Kuchinoerabu	1.31	346	P	Pn	23 15 53.3	-0.7
JKC				eS	Sn	23 16 09.9	-0.4
JTN	Tanegashima 3	1.51	14	P	Pn	23 15 56.1	-0.6
JTN				eS	Sn	23 16 15.1	-0.1
JAMN	Amaminishikomi	1.54	233	P	Pn	23 15 56.9	-0.2
JTK	Tokunoshima	1.99	226	P	Pn	23 16 03.7	+0.4
JTSR	Tashiro 2	2.00	9	P	Pn	23 16 03.4	-0.1
JOKE	Okinoerabujima	2.52	224	P	Pn	23 16 10.9	+0.2
JYRO	Yoronjima	2.85	221	P	Pn	23 16 14.8	-0.3
JOW	Kunigami	3.09	221	Pn	Pn	23 16 17.8	-0.8
	8.2nm,0.3s,baz=98,slow=18,SNR=14						
JOW				Sn	Sn	23 16 54.8	+0.5
	16nm,0.3s,baz=29,slow=17,SNR=5.8						
JKDJ	Kitadaitoujima	3.29	168	P	Pn	23 16 20.8	-0.4
JKDJ				eS	Sn	23 16 57.3	-1.8
JMZ	Minamidaito 2	3.41	170	P	Pn	23 16 21.9	-0.9
JMZ				eS	Sn	23 16 59.3	-2.6
JNU	Nakatsue	3.93	4	Pn	Pn	23 16 30.0	-0.1
	2.9nm,0.3s,baz=68,slow=0.9,SNR=30						
JNU				Sn	Sn	23 17 14.2	-0.8
	1.9nm,0.3s,baz=221,slow=20,SNR=6.5						
KSRS	Korea Array	8.54	346	Pn	Pn	23 17 31.5	-1.7
	0.3nm,0.3s,baz=157,slow=13,SNR=2.1						
MKAR	Makanchi Array	41.20	309	P	P	23 23 12.0	-0.9
	0.2nm,0.4s,baz=100,slow=9.6,SNR=3.9						
FITZ	Fitzroy Crossi	47.25	186	P	P	23 24 02.5	+1.0
	1.3nm,0.6s,baz=8.2,slow=9.4,SNR=5.1						
WRA	Warramunga Arr	48.98	175	P	P	23 24 15.5	+0.6
	0.8nm,0.7s,baz=352,slow=8.5,SNR=6.0						
ASAR	Alice Springs	52.65	176	P	P	23 24 43.5	+1.0
	0.6nm,0.6s,baz=350,slow=6.4,SNR=7.5						
FINES	FINESS Array B	71.31	331	P	P	23 26 47.6	+0.3
	0.4nm,0.5s,baz=85,slow=6.3,SNR=3.4						
AKASG	Malin Array Be	74.62	320	P	P	23 27 06.8	-0.3
	0.2nm,0.2s,baz=59,slow=5.8,SNR=2.5						
YKA	Yellowknife Ar	74.98	26	P	P	23 27 10.4	+1.4
	0.1nm,0.4s,baz=300,slow=5.4,SNR=1.5						

*IDC **03** 23:24:22.3±2.3, 6°.46S×130°.26E, h121km±26km, mb3.4/1, mb1 3.9/6, mb1mx3.4/36, mbtmp4.2/6, Error ellipse: s-maj=40.5km s-min=20.4km az=94.0*

ISC 03 23:24:21.4±0.8**, 6°.42S**±0°.06×**130°.25E**±0°.09**, h100km, n11, σ2s.86**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.61	10	P	Pn	23 25 43.8	+1.3
	6.2nm,0.3s,baz=204,slow=20,SNR=12						
SIJI				S	Sn	23 26 42.2	-3.4
	9.4nm,0.3s,baz=289,slow=23,SNR=10.0						
DRS	Darwin Rock St	6.00	174	P	Pn	23 25 51.7	+3.9
KDU	Kakadu	6.60	161	P	Pn	23 25 58.2	+2.3
BATI	Baumata	7.53	240	P	Pn	23 26 10.6	+2.0
	9.4nm,0.3s,baz=27,slow=9.0,SNR=5.2						
BATI				S	Sn	23 27 31.5	-0.8
	5.7nm,0.3s,baz=187,slow=16,SNR=2.8						
FITZ	Fitzroy Crossi	12.45	201	P	Pn	23 27 13.2	-1.9
	1.4nm,0.3s,baz=40,slow=12,SNR=38						
FITZ				S	Sn	23 29 21.2	-11
	1.1nm,0.3s,baz=58,slow=13,SNR=7.3						
WRAB	Tennant Creek	14.01	164	P	Pn	23 27 34.0	-1.6
WRA	Warramunga Arr	14.01	164	P	Pn	23 27 34.1	-1.5
	1.3nm,0.3s,baz=344,slow=13,SNR=37						
WRA				S	Sn	23 30 00.1	-10
	0.9nm,0.3s,baz=336,slow=22,SNR=6.3						
COEN	Coen	14.75	121	P	P	23 27 49.7	+1.2
ASAR	Alice Springs	17.50	169	P	P	23 28 19.4	+0.4
	0.7nm,0.3s,baz=346,slow=11,SNR=28						
ASAR				S	Sn	23 31 27.9	-6.3
	0.4nm,0.3s,baz=354,slow=27,SNR=7.7						
WRKA	Warakurna	18.60	186	P	Pn	23 28 32.4	-0.1
MKAR	Makanchi Array	67.88	327	P	P	23 35 08.0	-1.3
	0.4nm,0.5s,baz=123,slow=7.9,SNR=9.6						

*NEIC **03** 23:34:36.1±2.3, 31°.9S±0°.1×179°.6E±0°.2, h441km±12km, mb4.3/11, Error ellipse: s-maj=21.9km s-min=16.5km az=131.0*

*IDC **03** 23:34:38.0±3.2, 32°.05S×179°.52E, h475km±33km, mb3.2/5, mb1 3.4/8, mb1mx3.1/44, mbtmp4.2/8, Error ellipse: s-maj=40.5km s-min=28.0km az=31.0*

*WEL **03** 23:34:37.8±0.6, 32°S±7°×18°0W±1°9, h416km±10km, M4.1/33, mB4.7/24, ML5.0/15, MLv4.9/33, Mw(mB)3.9/24, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*

*NOU **03** 23:34:43.4, 32°.46S×179°.45E, h470km, mb4.3/7, South of Kermadec Islands*

ISC 03 23:34:36.2±0.7**, 31°.80S**±0°.05×**179°.54E**±0°.10**, h439km, n117, σ1s.56**/138**, mb4.0**/10**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.35	41	P	P	23 35 44.0	-1.2
GLKZ				S	S	23 36 35.1	-6.0
RIZ	Raoul Island	3.35	41	P	P	23 35 42.4	-2.8
RAO	Raoul Island	3.36	41	P	P	23 35 43.4	-1.9
MXZ	Matakaoa Point	5.83	190	P	P	23 36 07.3	-0.8
MXZ				S	S	23 37 23.6	0.0
MXZ	Matakaoa Point	5.83	190	P	P	23 36 09.0	+0.8
MXZ				S	S	23 37 22.5	-1.0
KUZ	Kuaotunu	5.86	212	P	P	23 36 12.4	+4.0
OUZ	Omahuta	6.02	234	P	P	23 36 11.5	+1.3
OUZ	Omahuta	6.02	234	P	P	23 36 14.5	+4.3
HAZ	Te Kaha	6.11	193	P	P	23 36 11.5	+0.4
HAZ				S	S	23 37 27.8	-0.9
WIAZ	Waiheke Island	6.17	215	P	P	23 36 16.1	+4.4
PKGZ	Pakihiroa	6.19	191	P	P	23 36 12.6	+0.7
RUGZ	Raukumara Rang	6.34	193	P	P	23 36 15.0	+1.5
RUGZ				S	S	23 37 33.3	+0.1
PUZ	Puketiti	6.34	189	P	P	23 36 15.9	+2.4
PUZ				S	S	23 37 31.2	-2.1
TWGZ	Tauwhareparae	6.49	191	P	P	23 36 16.2	+1.1
TWGZ				S	S	23 37 37.1	+1.0
OPRZ	Ohinepanea	6.51	201	P	P	23 36 18.9	+3.6
MARZ	Manawahe	6.60	200	P	P	23 36 20.0	+3.6
KMRZ	Kaimai	6.72	205	P	P	23 36 22.5	+4.9
MWZ	Matawai	6.72	194	P	P	23 36 18.4	+0.8
MWZ				S	S	23 37 40.2	-0.4
URZ	Urewera	6.74	197	P	P	23 36 19.1	+1.3
	12nm,0.3s,baz=20,slow=7.6,SNR=199						
URZ				S	S	23 37 39.0	-1.9
	9.5nm,0.3s,baz=118,slow=20,SNR=10						
URZ	Urewera	6.74	197	P	P	23 36 18.2	+0.4
URZ					S	23 37 38.8	-2.1
URZ	Urewera	6.74	197	P	P	23 36 18.0	+0.1
URZ				S	S	23 37 38.2	-2.7
URZ	Urewera	6.74	197	P	P	23 36 19.3	+1.5
CNGZ	Carnagh Statio	6.75	189	P	P	23 36 19.8	+1.8
CNGZ				S	S	23 37 43.5	+2.4
TKGZ	Te Karaka	6.76	191	P	P	23 36 18.9	+0.9
TKGZ				S	S	23 37 41.3	0.0
TARZ	Mount Tarawera	6.88	200	P	P	23 36 23.0	+3.6
RAGZ	Rawiri	6.90	194	P	P	23 36 21.4	+1.8
RAGZ				S	S	23 37 45.8	+1.6
MUGZ	Murupara	7.04	198	P	P	23 36 21.0	+0.1
MUGZ				S	S	23 37 45.0	-1.7
RIGZ	Rimuhau	7.04	191	P	P	23 36 22.0	+0.9
RIGZ				S	S	23 37 45.0	-1.8
RTZ	Ruatahuna	7.11	196	P	P	23 36 21.8	-0.1
RTZ				S	S	23 37 44.4	-3.9
SNGZ	Shannon Statio	7.19	194	P	P	23 36 23.9	+1.2
SNGZ				S	S	23 37 48.9	-0.9
PRGZ	Paritu Road	7.23	190	P	P	23 36 25.7	+2.7
PRGZ				S	S	23 37 50.1	-0.5
KNZ	Kokohu	7.36	191	P	P	23 36 26.2	+1.8
KNZ				S	S	23 37 51.1	-2.0
MTHZ	Maungataniwha	7.37	197	P	P	23 36 25.0	+0.4
MTHZ				S	S	23 37 50.9	-2.5
RAHZ	Arahi	7.38	195	P	P	23 36 26.5	+1.8
RAHZ				S	S	23 37 54.5	+1.1
MRHZ	Matea Rd	7.46	199	P	P	23 36 25.4	-0.3
WHHZ	Waihua	7.50	194	P	P	23 36 30.5	+4.6
WHHZ				S	S	23 37 57.0	+1.2
NMHZ	Naumai	7.61	196	P	P	23 36 27.8	+0.6
HIZ	Hauiti	7.71	209	P	P	23 36 27.6	-0.7
HIZ	Hauiti	7.71	209	P	P	23 36 33.3	+5.0
HIZ	Hauiti	7.71	209	P	P	23 36 30.3	+2.0
ARHZ	Aropaoanui	7.73	195	P	P	23 36 30.2	+1.8
ARHZ				S	S	23 37 59.8	-0.6
BKZ	Black Stump Fm	7.76	198	P	P	23 36 28.1	-0.7
BKZ	Black Stump Fm	7.76	198	P	P	23 36 28.1	-0.7
BKZ				S	S	23 37 57.1	-4.0
BKZ	Black Stump Fm	7.76	198	P	P	23 36 29.3	+0.5
NTVZ	North Tongarir	7.93	202	P	P	23 36 32.6	+1.9
TMVZ	Te Maari	7.94	202	P	P	23 36 32.2	+1.4
ETVZ	East Tongariro	7.96	202	P	P	23 36 32.7	+1.7
MCHZ	McNeill Hill	7.97	196	P	P	23 36 32.6	+1.6
WTVZ	West Tongariro	7.98	203	P	P	23 36 33.1	+1.8
NNVZ	North Ngauruho	7.98	203	P	P	23 36 33.2	+1.9
TWVZ	Taurewa	7.99	204	P	P	23 36 33.0	+1.6
OTVZ	Oturere	8.00	202	P	P	23 36 31.8	+0.3
KWHZ	Kaweka Forest	8.02	198	P	P	23 36 32.0	+0.5
KWHZ				S	S	23 38 03.3	-2.9
SNVZ	South Ngauruho	8.02	202	P	P	23 36 32.4	+0.6
NGZ	Ngauruhoe	8.03	202	P	P	23 36 33.4	+1.6
CKHZ	Cape Kidnapper	8.09	194	P	P	23 36 34.2	+1.9
CKHZ				S	S	23 38 06.6	-1.0
TUVZ	Tukino	8.09	202	P	P	23 36 33.8	+1.3
FWVZ	Far West T-bar	8.12	203	P	P	23 36 34.1	+1.4
WHVZ	Whangaehu Hut	8.13	202	P	P	23 36 33.9	+1.0
TRVZ	Turoa	8.16	202	P	P	23 36 34.0	+0.7
WNVZ	Wahianoa	8.16	202	P	P	23 36 33.6	+0.3
BHHZ	Black Hill Sta	8.18	199	P	P	23 36 32.6	-0.7
MOVZ	Moawhango	8.19	201	P	P	23 36 34.4	+1.0
PKVZ	Pokaka	8.21	203	P	P	23 36 34.5	+0.8
KRHZ	Kereru	8.24	197	P	P	23 36 32.6	-1.3
KAHZ	Kahuranaki	8.26	194	P	P	23 36 34.2	0.0
PXZ	Pawanui	8.49	194	P	P	23 36 37.8	+1.2
PNHZ	Pukenui	8.54	198	P	P	23 36 36.4	-0.7
WPHZ	Waipukurau	8.62	196	P	P	23 36 39.2	+1.1
TSZ	Takapari Road	8.73	198	P	P	23 36 38.4	-0.9
PRHZ	Porangahau	8.77	195	P	P	23 36 40.0	+0.4
BFZ	Birch Farm	9.25	196	P	P	23 36 45.7	+0.8
BFZ	Birch Farm	9.25	196	P	P	23 36 45.7	+0.8
MRZ	Mangatainoka R	9.40	199	P	P	23 36 46.0	-0.6
MSWZ	Moikau Station	10.19	199	P	P	23 36 53.9	-1.3
SNZO	South Karori	10.25	201	P	P	23 36 55.5	-0.4
PLWZ	Palliser	10.34	198	P	P	23 36 56.6	-0.2
TUWZ	Tuamarina	10.61	203	P	P	23 36 58.9	-0.8
NNZ	Nelson	10.62	206	P	P	23 36 59.0	-0.9
QRZ	Quartz Range	10.63	210	P	P	23 37 00.1	+0.1
QRZ	Quartz Range	10.63	210	P	P	23 37 00.1	+0.1
BSWZ	Blackbirch Sta	10.88	203	P	P	23 37 02.3	-0.5
THZ	Tophouse	11.27	206	P	P	23 37 07.0	-0.1
THZ					S	23 39 08.6	-3.0
KHZ	Kahutara	11.62	203	P	P	23 37 11.1	+0.2
KHZ	Kahutara	11.62	203	P	P	23 37 11.7	+0.9
LTZ	Lake Taylor	12.39	206	P	P	23 37 18.3	-0.9
MQZ	McQueen's Vall	13.07	203	P	P	23 37 25.9	-0.6
RPZ	Rata Peaks	13.64	207	P	P	23 37 32.1	-0.7
	0.4nm,0.3s,baz=49,slow=4.2,SNR=2.1						
RPZ	Rata Peaks	13.64	207	P	P	23 37 31.7	-1.1
FOZ	Fox Glacier	14.00	211	P	P	23 37 37.2	+0.5
MSVF	Nonsavu	14.07	354	P	P	23 37 36.6	-1.3
PINNC	Pines Island,	14.12	307	P	P	23 37 39.5	+1.3
LBZ	Lake Benmore	14.55	208	P	P	23 37 43.1	+0.5
OUENC	Ouen Island, N	14.66	307	P	P	23 37 45.1	+1.1
ODZ	Otahua Downs	14.93	205	P	P	23 37 46.1	-0.5
DZM	Mont Dzumac	15.17	307	P	P	23 37 51.5	+2.0
	0.4nm,0.3s,baz=167,slow=16,SNR=5.6						
DZM	Mont Dzumac	15.17	307	P	P	23 37 51.0	+1.4
DZM				IAmb	IAmb	23 37 52.1	
	comp=Z,8.6nm,0.9s						
LIFNC	LIFOU	15.55	312	P	P	23 37 57.2	+3.7
RAR	Rarotonga	21.27	65	P	P	23 38 50.5	+0.7
CTA	Charters Tower	32.00	283	P	P	23 40 25.0	+0.3
	comp=Z,4.4nm,0.8s,baz=82,slow=7.1,SNR=1.9						
STKA	Stephens Creek	32.13	260	P	P	23 40 25.2	-0.4
	comp=Z,0.8nm,0.4s,baz=95,slow=11,SNR=2.9						
STKA	Stephens Creek	32.13	260	P	P	23 40 25.4	-0.4
BBOO	Buckleboo	36.58	257	P	P	23 41 02.8	-0.5
BBOO				IAmb	IAmb	23 42 37.5	
	comp=Z,37nm,1.8s						
COEN	Coen	37.69	290	P	P	23 41 12.1	-0.6
COEN				IAmb	IAmb	23 41 24.1	
	comp=Z,16nm,1.5s						
ASAR	Alice Springs	40.96	270	P	P	23 41 38.2	-1.0
	comp=Z,1.2nm,0.6s,baz=106,slow=7.3,SNR=15						
WR0	Warramunga Arr	41.90	275	P	P	23 41 45.5	-1.2
WR0				IAmb	IAmb	23 42 20.6	
	comp=Z,24nm,1.9s						
WB2	Warramunga Arr	42.07	275	P	P	23 41 47.0	-1.1
WB2				IAmb	IAmb	23 43 26.7	
	comp=Z,36nm,1.9s						
WRA	Warramunga Arr	42.08	275	P	P	23 41 46.6	-1.5
	comp=Z,1.9nm,0.5s,baz=115,slow=7.5,SNR=34						
WRA	Warramunga Arr	42.08	275	P	P	23 41 46.7	-1.5
WB0	Warramunga Arr	42.11	275	P	P	23 41 47.2	-1.2
WB0				IAmb	IAmb	23 42 44.1	
	comp=Z,16nm,1.6s						
FITZ	Fitzroy Crossi	50.28	272	P	P	23 42 49.8	-1.1
	comp=Z,2.3nm,0.7s,baz=139,slow=8.4,SNR=6.2						
FITZ	Fitzroy Crossi	50.28	272	IAmb	IAmb	23 44 46.7	
	comp=Z,7.1nm,1.4s						
RSO	Redoubt South	94.70	13	P	P	23 47 10.5	+1.6
MKAR	Makanchi Array	117.06	310	PKP	PKPdf	23 52 27.3	-2.6
	comp=Z,0.2nm,0.7s,baz=79,slow=1.0,SNR=1.8						
FINES	FINESS Array B	145.69	338	PKPbc	PKPdf	23 53 22.2	-0.6
	comp=Z,4.8nm,0.7s,baz=49,slow=4.7,SNR=29						
FINES	FINESS Array B	145.69	338	PKPdf	PKPdf	23 53 22.5	-0.3
CLL	Collm	158.13	337	ePKPab	PKPab	23 54 16.0	-1.9

IDC 03 23:39:55.9±9.4**, 5°.38S**×**94°.55E, h0km, mb3.6**/3**, mb1 3.9**/5**, mb1mx3.5**/49**, mbtmp3.8**/5**, ML3.9**/2**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.9**/78**, Error ellipse: s-maj=171.7km s-min=53.4km az=162.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	9.22	28	Pn	Pn	23 42 08.7	-1.7
	0.6nm,0.3s,baz=145,slow=9.6,SNR=4.2						
PSI				LR	LR	23 45 35.5	
	comp=Z,341nm,18.4s,baz=254,slow=37						
PALK	Pallekele	18.68	312	P	P	23 44 15.6	-0.3
	0.7nm,0.3s,baz=169,slow=11,SNR=1.6						
CMAR	Chiang Mai Arr	24.08	10	P	P	23 45 13.4	+0.1
	0.9nm,0.3s,baz=209,slow=9.2,SNR=4.9						
MKAR	Makanchi Array	53.07	349	P	P	23 49 15.2	+0.2
	0.4nm,0.8s,baz=151,slow=6.6,SNR=5.1						
ZALV	Zalesovo Beam	59.67	353	P	P	23 50 01.6	-0.3
	1.0nm,0.8s,baz=164,slow=7.2,SNR=3.6						

IDC 03 23:43:07.0±2.0**, 4°.18N**×**127°.11E, h0km, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.5**/39**, mbtmp3.6**/5**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.6**/54**, Error ellipse: s-maj=107.1km s-min=27.4km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.18	184	P	P	23 48 05.4	+0.4
	0.8nm,0.4s,baz=359,slow=9.3,SNR=1.6						
WRA	Warramunga Arr	25.00	164	P	P	23 48 32.2	-0.6
	2.0nm,0.7s,baz=343,slow=11,SNR=7.1						
ASAR	Alice Springs	28.46	167	P	P	23 49 04.2	+0.2
	0.2nm,0.7s,baz=354,slow=8.6,SNR=2.1						
STKA	Stephens Creek	38.42	160	P	P	23 50 30.5	0.0
	1.3nm,0.8s,baz=327,slow=8.2,SNR=3.4						
MKAR	Makanchi Array	57.41	325	P	P	23 52 57.5	0.0
	0.1nm,0.4s,baz=126,slow=7.7,SNR=2.0						
YAK	Yakutsk	57.75	1	LR	LR	00 17 35.9	
	comp=Z,61nm,21.9s,baz=270,slow=36						

*BGR **03** 23:50:46.1±0.3, 51°.59N×6°.80E, h1km, ML2.2/10, Error ellipse: s-maj=4.4km s-min=2.2km az=106.0*

*LDG **03** 23:50:47.3±0.1, 51°.58N×6°.79E, h1km, Md2.6/2, Ml2.5/19, Error ellipse: s-maj=2.1km s-min=1.6km az=28.0, Suspected Mining induced.*

*BNS **03** 23:50:47.6±0.6, 51°.56N×6°.83E, h1km, ML1.9*

ISC 03 23:50:44.8±0.8**, 51°.57N**±0°.02×**6°.74E**±0°.02**, h0km, n54, σ1s.18**/98**, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BZER	Hlnxe	0.10	59	ePg	Pg	23 50 46.3	-0.4
BZER				eSg	Sg	23 50 47.4	-0.5
LAUG	Laupendahl	0.26	149	ePg	Pb	23 50 51.7	-0.7
LAUG				eSg	Sb	23 50 55.7	-1.6
	104nm,0.4s						
BAVN	Auguste-Victor	0.29	55	ePg	Pg	23 50 51.0	+0.5
BAVN				eSg	Sg	23 50 55.3	+1.0
BUG	Bochum--Univer	0.36	111	ePg	Pg	23 50 52.7	+1.0
BUG				eSg	Sg	23 50 57.3	+1.0
BKLB	Ruhr-Universit	0.36	111	ePg	Pg	23 50 52.6	+0.9
BTEZ	Ruhr-Universit	0.36	110	ePg	Pg	23 50 52.7	+1.0
WTSB	Winterswijk	0.40	6	ePg	Pg	23 50 53.2	+0.8
WTSB				eSg	Sg	23 50 57.8	+0.2
ENTS	Ennepetalsperr	0.54	128	ePg	Pg	23 50 56.1	+1.0
ENTS				eSg	Sg	23 51 02.8	+0.7
PLH	Pulheim	0.57	175	ePg	Pb	23 50 57.5	-0.1
PLH				eSg	Sb	23 51 05.2	-1.2
HMES	Hamm, Michael-	0.62	82	eSg	Sg	23 51 05.4	+0.5
BNS	Bensberg	0.67	155	ePg	Pb	23 51 00.1	+0.7
BNS				eSg	Sb	23 51 09.0	-0.2
HOBG	Hohbusch	0.70	147	ePg	Pb	23 51 00.3	+0.5
HOBG				eSg	Sb	23 51 09.9	-0.2
SORT	Sorpetalsperre	0.80	106	ePg	Pg	23 51 00.6	+0.3
SORT				eSg	Sg	23 51 10.6	-0.1
	34nm,0.2s						
GSH	Grosshau	0.87	195	ePg	Pb	23 51 03.3	+0.5
GSH				eSg	Sb	23 51 15.5	+0.6
	27nm,0.2s						
DREG	Dreilaegerbach	0.96	199	ePg	Pn	23 51 05.7	0.0
DREG				eSg	Sn	23 51 20.0	0.0
	46nm,0.3s						
KLL	Kalltalsperre	0.96	196	ePg	Pn	23 51 05.8	+0.1
KLL				eSg	Sn	23 51 19.4	-0.6
	31nm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBBN	Ibbenburen	0.97	40	ePg	Pg	23 51 04.0	+0.6
IBBN				eSg	Sg	23 51 17.4	+1.4
IBBE	Ibbenbueren Ea	0.98	42	eSg	Sg	23 51 15.5	-0.8
STB	Steinbach	0.98	176	ePg	Pn	23 51 06.4	+0.5
STB				eSg	Sb	23 51 19.2	+1.0
TDN	Todenfeld	1.01	172	ePg	Pb	23 51 05.3	+0.2
TDN				eSg	Sb	23 51 18.8	-0.1
	58nm,0.3s						
AHRW	Bad Neuenahr-A	1.05	168	ePg	Pn	23 51 07.0	+0.1
AHRW				eSg	Sb	23 51 21.2	+0.9
MEM	Membach	1.07	206	ePg	Pn	23 51 07.0	0.0
MEM				eSg	Sb	23 51 21.9	+1.2
OLFT	Oleftalsperre	1.10	191	eSg	Sb	23 51 22.4	+0.8
KASTN	Kahler Asten	1.12	109	ePg	Pg	23 51 06.5	+0.3
KASTN				eSg	Sg	23 51 21.6	+0.9
HILG	Hillesheim	1.28	182	ePg	Pn	23 51 11.5	+1.5
HILG				eSg	Sn	23 51 28.6	+0.7
LOH	Wallersheim-Lo	1.40	185	ePg	Pb	23 51 12.4	+0.6
LOH				eSg	Sb	23 51 30.6	+0.4
	29nm,0.3s						
TNS	Taunus Mts	1.73	141	eSg	Sn	23 51 39.2	+0.1
GIVF	Givet	1.91	220	ePn	Pn	23 51 19.5	+0.9
GIVF	Givet	1.91	220	ePg	Pg	23 51 23.3	+1.9
GIVF				eSn	Sn	23 51 43.2	-0.1
	8.9nm,0.5s						
GIVF				eSg	Sg	23 51 48.6	+2.6
	14nm,0.3s						
WLF	Walferdange	1.94	191	eSg	Sb	23 51 46.5	+0.6
BAIF	Baives	2.21	228	ePn	Pn	23 51 23.9	+1.2
BAIF	Baives	2.21	228	ePg	Pg	23 51 29.1	+2.0
BAIF				eSg	Sg	23 51 57.7	+2.1
	4.9nm,0.3s						
CLZ	Clausthal	2.28	82	eSg	Sb	23 51 56.5	+1.0
MILB	Miltenberg	2.38	136	eSg	Sg	23 52 01.8	+0.4
CHRS	Christianenhau	2.55	88	eSn	Sn	23 51 56.7	-2.4
POSS	Possen	2.60	94	eSg	Sb	23 52 06.1	+1.4
PAGF	Fort de Pagny	3.09	193	ePn	Pn	23 51 35.3	+0.5
PAGF	Fort de Pagny	3.09	193	ePg	Pg	23 51 45.5	+1.5
PAGF				eSg	Sg	23 52 24.5	+0.5
	4.1nm,0.4s						
SAVF	Savonnieres en	3.14	200	ePg	Pg	23 51 46.0	+1.1
SAVF				eSg	Sg	23 52 25.5	0.0
	3.9nm,0.4s,baz=24						
MEZF	Maizieres J'vi	3.26	200	ePn	Pn	23 51 38.1	+0.9
MEZF	Maizieres J'vi	3.26	200	ePg	Pg	23 51 48.2	+0.9
MEZF				eSn	Sn	23 52 15.0	-1.6
	baz=19						
MEZF				eSg	Sg	23 52 30.1	+0.6
	5.9nm,0.4s						
HAU	Haudompre	3.58	184	ePg	Pg	23 51 53.6	+0.2
HAU				eSg	Sg	23 52 39.7	0.0
	3.2nm,0.4s						
HINF	Hinteralfeld	3.76	179	ePg	Pg	23 51 57.0	+0.1
HINF				eSg	Sg	23 52 45.0	-0.6
	0.5nm,0.2s						
LOR	Lormes	4.70	205	ePn	Pn	23 51 57.6	+0.6
	baz=28						
LOR				eSn	Sn	23 52 50.0	-2.2
LOR				eSg	Sg	23 53 15.2	-0.5
	2.8nm,0.4s,baz=23						
SSF	Saint Saulge	4.98	206	ePn	Pn	23 52 00.9	0.0
SSF	Saint Saulge	4.98	206	ePg	Pg	23 52 19.9	-0.4
SSF				eSn	Sn	23 52 56.0	-3.2
SSF				eSg	Sg	23 53 23.4	-1.4
	1.7nm,0.3s						
AVF	Avril sur Loir	5.27	206	ePn	Pn	23 52 05.3	+0.5
AVF	Avril sur Loir	5.27	206	ePg	Pg	23 52 25.1	-0.8
AVF				eSn	Sn	23 53 03.6	-2.7
AVF				eSg	Sg	23 53 33.0	-1.2
	0.1nm,0.2s						
SMF	Signal de Mont	5.28	202	ePn	Pn	23 52 05.4	+0.4
SMF	Signal de Mont	5.28	202	ePg	Pg	23 52 25.4	-0.6
SMF				eSg	Sg	23 53 33.0	-1.5
	1.6nm,0.4s						
LDF	La Druitiere	5.33	239	ePn	Pn	23 52 05.8	+0.2
LDF				eSn	Sn	23 53 05.3	-2.3
LDF				eSg	Sg	23 53 35.5	-0.3
	0.6nm,0.3s						
FLN	La Foliniere	5.42	242	ePn	Pn	23 52 07.4	+0.5
	baz=57						
FLN				eSn	Sn	23 53 07.4	-2.6
	0.9nm,0.3s						
FLN				eSg	Sg	23 53 38.6	-0.4
	0.8nm,0.3s						
BGF	Bois d'Agland	5.63	208	ePn	Pn	23 52 09.7	-0.1
BGF				eSn	Sn	23 53 11.5	-3.6
BGF				eSg	Sg	23 53 44.0	-1.6
	9.1nm,0.6s						
GRR	Gorron	5.84	240	ePn	Pn	23 52 13.2	+0.5
GRR				eSn	Sn	23 53 17.4	-2.9
	4.0nm,0.4s						

*NNC **04** 00:03:02.0±0.3, 42°.63N×75°.10E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=4.8km s-min=0.9km az=163.0*
*KNET **04** 00:03:01.8±0.6, 42°.60N×75°.13E, h0km, ml1.2, Error ellipse: s-maj=4.0km s-min=2.8km az=112.0*
*SOME **04** 00:03:02.3, 42°.58N×75°.13E, h10km*
ISC 04 00:03:02.1±1.2, **42°.60N**±0°.03×**75°.13E**±0°.02, **h0**km±11km, **n31**, σ**0s55**/58, **10C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.47	46	⇓P	Pg	00 03 11.3	+0.1
	7.7nm,0.1s,SNR=6.4						
TKM2				⇑S	Sg	00 03 17.7	+0.4
	24nm,0.1s						
TKM2	Tokmak 2	0.47	46	⇓P	Pg	00 03 11.0	-0.2
	1.2nm,0.2s						
TKM2				⇓S	Sg	00 03 17.6	+0.4
	6.5nm,0.2s						
AAK	Ala-Archa	0.47	275	⇑P	Pg	00 03 11.7	+0.5
	1.3nm,0.1s,SNR=8.3						
AAK				⇑S	Sg	00 03 18.1	+0.7
	18nm,0.3s						
AAK	Ala-Archa	0.47	275	⇑P	Pg	00 03 10.7	-0.6
	0.6nm,0.3s						
AAK				⇓S	Sg	00 03 17.0	-0.4
	5.7nm,0.7s						
CHMS	Chumysh	0.49	325	⇓P	Pg	00 03 11.9	+0.3
	9.8nm,0.2s,SNR=18						
CHMS				⇑S	Sg	00 03 18.8	+1.0
	20nm,0.1s						
UCH	Uchtor	0.59	231	⇓P	Pg	00 03 13.5	+0.1
	0.8nm,0.1s,SNR=5.7						
UCH				⇑S	Sg	00 03 20.6	-0.5
	7.4nm,0.1s						
DGS	Degeres	0.80	36	eP	Pg	00 03 17.4	0.0
	0.9nm,0.1s						
DGS				eS	Sg	00 03 28.3	+0.6
	4.5nm,0.2s						
DGS	Degeres	0.80	36	P	Pg	00 03 17.4	0.0
	0.9nm,0.1s						
DGS				S	Sg	00 03 28.1	+0.3
	4.5nm,0.2s						
USP	Ospenovka	0.81	325	⇑P	Pg	00 03 17.6	-0.1
	3.0nm,0.1s,SNR=14						
USP				⇑S	Sg	00 03 28.8	+0.4
	4.3nm,0.1s						
SGDS	Sogindy	0.93	337	eP	Pg	00 03 20.4	+0.5
	1.4nm,0.1s						
SGDS				eS	Sb	00 03 33.3	-0.8
	4.2nm,0.1s						
SGDS	Sogindy	0.93	337	P	Pg	00 03 20.4	+0.5
	1.4nm,0.1s						
SGDS				S	Sb	00 03 33.3	-0.8
	4.2nm,0.1s						
MTBS	Maitube	1.09	60	eP	Pg	00 03 22.8	-0.3
	1.1nm,0.2s						
MTBS				eS	Sg	00 03 37.5	+0.3
	7.1nm,0.2s						
MTBS	Maitube	1.09	60	P	Pg	00 03 22.8	-0.3
	1.1nm,0.2s						
MTBS				S	Sg	00 03 37.5	+0.3
	7.1nm,0.2s						
KRBS	Karabastau	1.17	20	eP	Pg	00 03 24.2	-0.3
	1.6nm,0.1s						
KRBS				eS	Sg	00 03 40.0	+0.3
	1.4nm,0.1s						
KRBS	Karabastau	1.17	20	P	Pg	00 03 24.2	-0.3
	1.6nm,0.1s						
KRBS				S	Sg	00 03 39.5	-0.1
	1.4nm,0.1s						
TNSS	Tian-Shan	1.40	71	eP	Pn	00 03 29.2	-0.2
	0.6nm,0.1s						
TNSS				eS	Sb	00 03 48.4	+0.3
	1.2nm,0.1s						
TNSS	Tian-Shan	1.40	71	P	Pn	00 03 29.2	-0.2
	0.6nm,0.1s						
TNSS				S	Sb	00 03 48.0	-0.1
	1.2nm,0.1s						
KNDC	Almaty	1.48	65	⇓P	Pn	00 03 29.8	-0.3
	6.6nm,0.5s						
KNDC				⇑S	Sn	00 03 50.7	+0.5
	7.3nm,0.3s						
MDOK	Medeo	1.52	67	eP	Pg	00 03 31.1	-0.1
	0.8nm,0.1s						
MDOK				eS	Sn	00 03 51.5	+0.3
	2.4nm,0.2s						
MDOK	Medeo	1.52	67	⇑P	Pn	00 03 30.3	-0.3
	1.3nm,0.6s						
MDOK				S	Sn	00 03 51.7	+0.5
	1.1nm,0.3s						
MDOK	Medeo	1.52	67	Pg	Pg	00 03 31.1	-0.1
	0.8nm,0.1s						
MDOK				Lg	Lg	00 03 51.5	
	2.4nm,0.2s						
KTBS	Karatobe	1.59	45	eP	Pn	00 03 31.6	0.0
	1.7nm,0.2s						
KTBS				eS	Sn	00 03 52.5	-0.3
	7.5nm,0.2s						
KTBS	Karatobe	1.59	45	P	Pn	00 03 31.6	0.0
	1.7nm,0.2s						
KTBS				S	Sn	00 03 52.5	-0.3
	7.5nm,0.2s						
CHKK	Chushkaly	1.85	47	eP	Pb	00 03 36.4	-0.4
	1.2nm,0.2s						
CHKK				eS	Sb	00 04 00.7	+0.3
	8.6nm,0.2s						
CHKK	Chushkaly	1.85	47	P	Pb	00 03 36.4	-0.4
	1.2nm,0.2s						
CHKK				S	Sb	00 04 00.7	+0.3
	8.6nm,0.2s						
SATY	Saty	2.45	78	eP	Pg	00 03 48.2	-0.9
	1.5nm,0.2s						
SATY				eS	Sg	00 04 20.9	+0.1
	3.2nm,0.4s						
SATY	Saty	2.45	78	Pg	Pg	00 03 48.2	-0.9
	1.5nm,0.2s						
SATY				Lg	Lg	00 04 20.9	
	3.2nm,0.4s						
BTLS	Baital	2.57	342	eP	Pb	00 03 49.7	+0.6
	0.9nm,0.4s						
BTLS				eS	Sg	00 04 23.1	-1.4
	2.0nm,0.2s						
BTLS	Baital	2.57	342	Pg	Pb	00 03 48.4	-0.6
	1.6nm,0.5s						
BTLS				Lg	Lg	00 04 22.5	
	2.0nm,0.2s						
UZB	Uzynbulak	2.91	78	eP	Pb	00 03 56.2	+1.3
	3.3nm,0.1s						
UZB				eS	Sg	00 04 34.5	-1.1
	2.9nm,0.4s						
UZB	Uzynbulak	2.91	78	Pg	Pb	00 03 56.2	+1.3
	3.3nm,0.1s						
UZB				Lg	Lg	00 04 34.5	
	2.9nm,0.4s						

*SOF **04** 00:12:45.9, 43°.71N×28°.43E, h9km, MD3.0*
*BUC **04** 00:12:47.8±0.3, 43°.74N×28°.44E, h5km, ml3.0/39, Error ellipse: s-maj=2.2km s-min=1.7km az=142.0*
*ISK **04** 00:12:48.4, 43°.65N×28°.52E, h19km, ML2.9/17*
ISC 04 00:12:47.1±0.9, **43°.70N**±0°.02×**28°.45E**±0°.03, **h9**km±7km, **n74**, σ**1s05**/108, **47C-31D, Black Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSMN	Mangalia Port-	0.14	46	⇑P	Pg	00 12 50.4	+0.1
TSMN				⇑S	Sg	00 12 52.6	+0.2
MANR	Mangalia	0.15	40	⇓P	Pg	00 12 50.5	+0.1
MANR				⇓S	Sg	00 12 53.1	+0.4
PSN	Preselentsi	0.20	265	i Pg	Pg	00 12 51.3	+0.2
KALB	Balgarevo	0.30	185	⇑P	Pg	00 12 53.2	+0.3
KALB				⇑S	Sg	00 12 58.5	+1.6
EFOR	EFORIE	0.40	19	⇓P	Pg	00 12 55.0	+0.1
EFOR				⇑S	Sg	00 13 00.5	+0.2
MFTR	Murfatlar	0.48	357	⇑P	Pg	00 12 56.3	-0.1
MFTR				⇓S	Sg	00 13 02.4	-0.2
TSCT	Constanta Port	0.48	18	⇓P	Pg	00 12 56.4	-0.1
TSCT				⇑S	Sg	00 13 02.8	-0.1
ICOR	Ion Corvin	0.63	312	⇑P	Pg	00 12 58.8	-0.4
ICOR				⇓S	Sg	00 13 07.1	-0.3
TIRR	Tirgusor	0.76	358	⇑P	Pg	00 13 01.1	-0.6
TIRR				⇑S	Sg	00 13 10.8	-0.8
TLBR	Topalu	0.89	341	⇑P	Pg	00 13 03.6	-0.7
TLBR				⇑S	Sg	00 13 14.8	-1.1
PRD	Provadia	0.92	237	i Pg	Pg	00 13 04.3	-0.4
ROIA	ROIAK	0.99	233	Pg	Pg	00 13 05.6	-0.5
HARR	Harsova	1.06	339	⇑P	Pg	00 13 06.4	-1.0
RASA	Rasa	1.07	299	⇑P	Pg	00 13 06.4	-1.2
RASA				⇑S	Sg	00 13 20.8	-0.8
JURR	Jurilovca	1.11	16	⇑P	Pg	00 13 07.9	-0.5
TPGR	Topolog	1.16	359	⇓P	Pg	00 13 08.5	-0.8
TPGR				⇓S	Sg	00 13 23.8	-0.5
AMRR	Amara	1.21	319	⇓P	Pn	00 13 10.2	0.0
AMRR				⇓S	Sg	00 13 25.5	-0.7
LEHL	Lehliu	1.41	304	⇓P	Pn	00 13 12.8	-0.1
LEHL				⇓S	Sg	00 13 32.4	0.0
TLCR		1.51	10	⇑P	Pn	00 13 14.4	+0.1
INCR	INCERC-Sediu C	1.81	295	⇑S	Sb	00 13 43.7	+0.6
JMB	Yambol	1.84	229	i P	Pn	00 13 19.8	+0.9
SULR		1.86	302	⇑P	Pb	00 13 20.5	-0.7
SULR				⇑S	Sb	00 13 45.1	+0.6
SGRR	Singureni	1.86	287	⇓P	Pn	00 13 19.5	+0.3
SGRR				⇓S	Sb	00 13 44.9	+0.2
BUC1	Bucharest	1.86	291	⇑P	Pb	00 13 20.6	-0.7
BUC1				⇑S	Sb	00 13 44.8	0.0
SZH	Strazhica	1.88	258	i P	Pn	00 13 19.4	-0.1
IZVR	Izvoarele	1.91	345	⇑P	Pb	00 13 20.8	-1.2
IZVR				⇑S	Sb	00 13 46.3	+0.4
TATR	Tatarca	1.92	352	⇑P	Pn	00 13 20.1	+0.2
TATR				⇑S	Sb	00 13 46.1	-0.2
SLCR	Slobozia Conac	1.95	346	⇑P	Pb	00 13 21.5	-1.3
SLCR				⇓S	Sb	00 13 47.3	+0.1
ISR	Istrita	1.97	317	⇓P	Pn	00 13 21.0	+0.3
ISR				⇑S	Sb	00 13 48.1	+0.3
GRER		1.98	328	⇑P	Pn	00 13 21.9	+1.0
GRER				⇑S	Sb	00 13 49.1	+0.9
SCTR	Scanteiesti	2.00	351	⇓P	Pn	00 13 21.7	+0.6
SCTR				⇑S	Sb	00 13 47.8	-0.8
VLDR	Vladesti	2.16	353	⇓P	Pn	00 13 24.4	+1.2
VLDR				⇓S	Sb	00 13 52.0	-1.3
BISRR	Bisoca	2.23	327	⇑P	Pn	00 13 25.4	+1.1
CTYL	Yalikoy Yolu	2.23	183	PN	Pn	00 13 24.5	+0.3
CTYL				SN	Sn	00 13 50.7	-1.1
EDRB	Edirne	2.24	215	PN	Pn	00 13 24.3	-0.1
EDRB				SN	Sn	00 13 51.8	-0.3
VARL	Varlezi	2.24	349	⇓P	Pn	00 13 24.5	+0.1
VARL				⇑S	Sb	00 13 53.9	-1.6
ZIMR		2.24	270	⇑S	Sb	00 13 55.0	-0.6
ODBI	Odobesti	2.29	335	⇓P	Pn	00 13 26.5	+1.4
NEHR	Nehoiu	2.31	319	⇓P	Pn	00 13 26.8	+1.3
NEHR				⇓S	Sb	00 13 56.6	-1.2
PVL	Pavlikeni	2.32	259	P	Pg	00 13 31.0	-0.6
CTKS	Kestanelik-??a	2.46	179	PN	Pn	00 13 27.7	+0.3
CTKS				SN	Sn	00 13 56.4	-1.2
SLVT	Silivri	2.48	184	PN	Pn	00 13 28.0	+0.4
KLYT	Kilyos	2.48	170	PN	Pn	00 13 27.9	+0.2
VRI	Vrincioaia	2.49	331	⇓P	Pn	00 13 28.9	+1.1
PLOR	Plostina	2.50	330	⇑P	Pn	00 13 29.5	+1.4
PLOR				⇑S	Sb	00 14 01.4	-1.8
MLR	Muntele Rosu	2.53	316	⇓P	Pn	00 13 29.9	+1.4
BIR	Birlad	2.63	347	⇑P	Pn	00 13 29.3	-0.4
BIR				⇑S	Sn	00 14 03.5	+1.7
HUMR	Humele	2.63	289	⇓P	Pn	00 13 31.3	+1.5
ISK	Istanbul-Kandi	2.67	170	PN	Pn	00 13 30.7	+0.4
KAVV	Kandilli-Istan	2.67	170	PN	Pn	00 13 30.7	+0.4
SILT	Sile	2.69	161	PN	Pn	00 13 30.9	+0.3
DIM	Dimitrovgrad	2.71	233	P	Pn	00 13 30.8	0.0
LEOM	Leova	2.78	357	⇓P	Pn	00 13 33.2	+1.5
LEOM				⇑S	Sn	00 14 07.0	+1.7
UKOP	Uzunkopru-Edir	2.90	208	PN	Pn	00 13 34.4	+0.9
VLAD	Vladila	2.94	277	⇑S	Sn	00 14 12.5	+3.0
VASR	Vaslui	2.98	351	⇓P	Pn	00 13 34.8	+0.2
VASR				⇑S	Sn	00 14 13.2	+2.9
VOIR		2.99	307	⇓P	Pn	00 13 36.0	+1.3
VOIR				⇑S	Sn	00 14 13.0	+2.3
HRT	Hereke	3.02	162	PN	Pn	00 13 35.8	+0.7
MAR3	Marsite Statio	3.08	197	PN	Pn	00 13 36.8	+0.9
TRML	Termal-Yalova	3.13	170	PN	Pn	00 13 37.2	+0.5
PLD	Plovdiv	3.18	241	PN	Pn	00 13 39.1	+1.8
PLD	Plovdiv	3.18	241	P	Pb	00 13 42.6	-1.2
ARR	Arges	3.20	303	⇑P	Pn	00 13 39.1	+1.5
ARR				⇑S	Sn	00 14 18.5	+2.6
YLV	Yalova	3.21	167	PN	Pn	00 13 38.2	+0.5
MILM	Milestii Mici	3.23	4	⇑P	Pn	00 13 38.2	+0.3
SAUV	Serdivan-Sakar	3.27	154	PN	Pn	00 13 39.0	+0.5
ALN	Alexandroupoli	3.32	213	PN	Pn	00 13 40.5	+1.3
RDO	Rodhopi	3.34	221	PN	Pn	00 13 40.9	+1.4
KRBG	Karabiga-Canak	3.42	195	PN	Pn	00 13 41.5	+1.0
VTS	Vitosha	3.97	256	⇓S	Sn	00 14 37.7	+2.7
GZR	Gura Zlata	4.40	295	⇑P	Pn	00 13 54.0	-0.1
HERR	Herculane	4.49	287	⇓P	Pn	00 13 55.1	-0.2
STIP	Stip	5.03	249	i Pn	Pn	00 14 00.5	-2.3
BZS	Buzias	5.24	294	⇑P	Pn	00 14 06.7	+1.1

*IDC **04** 00:43:31.0±1.6, 5°.85N×120°.48E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/45, mbtmp3.5/4, MS3.8/2, Ms1 3.7/2, ms1mx2.8/49, Error ellipse: s-maj=427.0km s-min=24.5km az=61.0*
*DJA **04** 00:43:32.8±0.6, 5°N±6°×11°9E±°, h18km±6km, M4.2/6, mb4.4/3, mB4.8/3, MLv4.1/6, Mw(mB)4.0/3*
*NEIC **04** 00:43:35.7±1.9, 4°.9N±0°.1×118°.4E±0°.1, h35km±6km, mb4.1/4, Error ellipse: s-maj=22.7km s-min=10.0km az=50.0*
ISC 04 00:43:35.4±0.9, **4°.93N**±0°.10×**118°.5E**±0°.2, **h40**km, **n20**, σ**2s06**/21, **mb3.5**/5, **Borneo**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MYLDM	Lahad Datu	0.25	350		Pn	00 43 39.5	-3.6
KKM	Kota Kinabalu	2.57	296	Pn	Pn	00 44 14.2	-0.4
TOLI2	Tolitoli	4.41	149	Pn	Pn	00 44 38.8	-1.0
TOLI2				Sn	Sn	00 45 28.4	-1.5
MPSI	Mapaga	4.76	163	P	Pn	00 44 43.7	-1.0
MPSI				S	Sn	00 45 35.7	-3.0
MRSI	Marisa	5.58	142	P	Pn	00 44 54.9	-1.0
	0.2nm1µm49nm,0.8s						
MRSI				S	Sn	00 45 56.5	-2.3
	0.2nm1µm49nm,0.8s						
GTOI	Gorontalo	6.18	134	P	Pn	00 45 00.5	-3.6
	0.1nm316nm18nm,0.5s						
LUWI	Luwuk	7.29	144	Pn	Pn	00 45 22.0	+2.6
LUWI	Luwuk	7.29	144	P	Pn	00 45 20.4	+1.0
WB0	Warramunga Arr	29.08	148	P	P	00 49 32.1	-0.3
WB0				IAmb	IAmb	00 50 05.0	
	comp=Z,19nm,1.6s						
WRA	Warramunga Arr	29.20	148	P	P	00 49 32.6	-0.8
	comp=Z,0.4nm,0.5s,baz=332,slow=9.6,SNR=6.1						
WRA	Warramunga Arr	29.20	148	P	P	00 49 33.6	+0.2
WB2	Warramunga Arr	29.20	148	P	P	00 49 34.0	+0.6
USRK	Ussuriysk Ar.	40.86	15	P	P	00 51 13.8	+0.4
STKA	Stephens Creek	42.69	151	P	P	00 51 29.2	+0.7
	comp=Z,1.0nm,0.5s,baz=328,slow=12,SNR=3.0						
STKA				LR	LR	01 09 09.9	
	comp=Z,118nm,19.7s,baz=24,slow=36						
STKA	Stephens Creek	42.69	151	P	P	00 51 29.2	+0.7
STKA	Stephens Creek	42.69	151	IAmb	IAmb	00 51 57.6	
	comp=Z,2.4nm,1.6s						
MKAR	Makanchi Array	52.11	329	P	P	00 52 43.3	+1.7
	comp=Z,0.2nm,0.7s,baz=115,slow=6.8,SNR=2.1						
MKAR	Makanchi Array	52.11	329	P	P	00 52 42.7	+1.0
KURBB	Kurchatov Arra	56.50	331	P	P	00 53 17.5	+4.0
	comp=Z,0.4nm,0.9s,baz=122,slow=8.9,SNR=3.0						
OPO	Ambohidratompo	74.03	249	LR	LR	01 23 11.6	
	comp=Z,49nm,19.5s,baz=318,slow=31						

*IDC **04** 00:51:47.0±0.9, 85°.13N×9°.82E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.6/39, mbtmp3.8/10, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx2.7/87, Error ellipse: s-maj=32.9km s-min=15.5km az=65.0*
*NEIC **04** 00:51:47.6±1.8, 85°.09N±0°.10×1°1E±°, h10km±2km, mb4.1/12, Error ellipse: s-maj=23.9km s-min=14.0km az=63.0*
ISC 04 00:51:47.7±0.7, **84°.97N**±0°.06×**10°.30E**±0°.09, **h10**km, **n37**, σ**1s60**/40, **mb3.9**/11, **MS3.2**/4, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	6.08	177		Pn	00 53 18.9	+1.4
KBS	Kingsbay	6.08	177	eP	Pn	00 53 17.5	0.0
KBS				eS	Sn	00 54 24.2	-2.9
KBS				IAML		00 54 29.1	
	comp=Z,11nm,0.6s						
SPA0	Spitsbergen Ar	6.88	170	eP	Pn	00 53 28.4	0.0
SPA0				eS	Sn	00 54 44.4	-2.3
SPA0				IAML		00 54 52.0	
	comp=Z,20nm,0.4s						
SPITS	Spitsbergen Ar	6.88	170	Pn	Pn	00 53 28.6	+0.1
	baz=24,slow=10,SNR=114						
SPITS				Sn	Sn	00 54 46.0	-0.7
	baz=7.3,slow=16,SNR=0.8						
SPB2	Spitsbergen Ar	6.89	169		Pn	00 53 29.7	+1.2
SPB2					Sn	00 54 49.8	+3.1
BRBB	Barentsburg B	6.94	173	eP	Pn	00 53 29.3	+0.1
BRBB				eS	Sn	00 54 44.9	-3.1
BRBA	Barentsburg A	6.97	173	eP	Pn	00 53 30.9	+1.2
BRBA				IAML		00 54 44.4	
	comp=Z,6.6nm,0.6s						
BRBA				eS	Sn	00 54 45.6	-3.3
EUNU	Eureka	11.73	302	Pn	Pn	00 54 34.0	-0.8
TULEG	Thule	13.52	280	Pn	Pn	00 54 59.9	+0.7
SUMG	Summit	14.68	243	i P	Pn	00 55 15.0	-0.4
SUMG	Summit	14.68	243		Pn	00 55 16.4	+1.0
ARCES	ARCESS Array B	15.76	160	Pn	Pn	00 55 28.4	-0.9
	baz=352,slow=10,SNR=11						
ARCES	ARCESS Array B	15.76	160		Pn	00 55 30.3	+1.0
AMDE	Amderma	17.63	116	eP	Pn	00 55 50.7	-2.2
ILULI	Ilulissat	19.00	254	P	Pn	00 56 11.5	+1.9
ILULI				IAmb	IAmb	00 56 35.6	
	comp=Z,16nm,1.3s						
NRIK	Noril'sk	20.25	89	P	P	00 56 23.1	+0.5
	comp=Z,0.8nm,0.4s,baz=349,slow=12,SNR=4.0						
NRIK	Noril'sk	20.25	89	P	P	00 56 21.9	-0.8
LSH	Leshukonskoye	21.33	137	eP	P	00 56 34.7	+0.4
A36M	Sachs Harbour	22.02	324	P	P	00 56 42.8	+1.2
A36M				IAmb	IAmb	00 56 54.1	
	comp=Z,4.2nm,0.8s						
FINES	FINESS Array B	23.88	161	P	P	00 57 02.4	+1.5
	comp=Z,3.7nm,0.8s,baz=16,slow=14,SNR=7.3						
FINES	FINESS Array B	23.88	161	P	P	00 57 01.8	+1.0
NC405	NORSAR Array S	23.99	178	P	P	00 57 02.2	+0.3
NB201	NORSAR Array S	24.05	179	P	P	00 57 01.8	-0.7
NB201				IAmb	IAmb	00 57 12.5	
	comp=Z,7.2nm,1.1s						
NOA	NORSAR Array B	24.06	179	P	P	00 57 04.7	+2.1
	comp=Z,2.3nm,1.0s,baz=1.6,slow=9.1,SNR=5.3						
NOA				LR	LR	01 05 18.9	
	comp=Z,30nm,19.1s,baz=235,slow=34						
NAO01	NORSAR Array S	24.25	179	P	P	00 57 06.1	+1.7
C36M	Paulatuk	24.58	322	P	P	00 57 07.7	+0.5
HFS	Hagfors	24.98	176	P	P	00 57 13.5	+2.6
	comp=Z,2.5nm,0.8s,baz=354,slow=6.4,SNR=3.2						
INK	Inuvik	26.08	330	P	P	00 57 21.8	+1.0
	comp=Z,1.0nm,0.8s,baz=26,slow=11,SNR=4.2						
KIRV	Kirov	27.82	135	LR	LR	01 10 47.6	
	comp=Z,61nm,18.7s,baz=310,slow=41						
MDM	Murphy Dome	29.96	342	P	P	00 57 54.0	-1.6
ILAR	Eielson Array	30.11	341	P	P	00 57 55.1	-1.7
	comp=Z,0.6nm,1.0s,baz=11,slow=4.8,SNR=5.9						
CCB	Clear Creek Bu	30.26	341	P	P	00 57 57.4	-0.8
CCB				IAmb	IAmb	00 58 07.8	
	comp=Z,3.2nm,1.4s						
ARU	Arti	30.58	125	LR	LR	01 11 23.5	
	comp=Z,60nm,20.6s,baz=306,slow=38						
SCRK	Sand Creek	30.81	338	P	P	00 58 02.1	-1.1
SCRK				IAmb	IAmb	00 58 11.0	
	comp=Z,4.8nm,1.4s						
YKA	Yellowknife Ar	30.82	312	P	P	00 58 02.2	-0.9
	comp=Z,0.2nm,0.6s,baz=1.1,slow=9.1,SNR=7.5						
MKAR	Makanchi Array	42.05	103	P	P	00 59 40.9	+1.9
	comp=Z,0.2nm,0.6s,baz=328,slow=5.1,SNR=2.6						
AAK	Ala-Archa	45.52	111	LR	LR	01 20 37.5	
	comp=Z,47nm,18.0s,baz=360,slow=38						

*IDC **04** 01:08:09.9±5.7, 85°.04N×21°.06E, h0km, mb3.5/2,*

mb1 4.0/4, mb1mx3.3/49, mbtmp4.0/4, ML4.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/75, Error ellipse: s-maj=141.1km s-min=66.9km az=100.0

*IEPN **04** 01:08:11.0, 84°.94N×14°.06E, h10km*

ISC 04 01:08:09.2±1.4**, 84°.96N**±0°.10×**14°.06E**±0°.06**, h10**km**, n38, σ1.70**/50**, mb4.2**/4**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**4.84**	**243**	Pn	**Pn**	**01 09 23.6**	**+1.6**
NOR	**Nord**	**4.84**	**243**	*i* P	**Pn**	**01 09 21.7**	**-0.3**
NOR				*i* S	**Sn**	**01 10 18.6**	**+0.7**
NOR	**Nord**	**4.84**	**243**	*e*P	**Pn**	**01 09 24.9**	**+3.0**
ZFI2	**Zemlya Franca-**	**5.75**	**117**	*e*P	**Pn**	**01 09 35.3**	**+0.9**
ZFI2				*e*S	**Sn**	**01 10 38.8**	**-1.5**
ZFI	**Zemlya Franca-**	**5.75**	**117**	*e*P	**Pn**	**01 09 35.2**	**+0.8**
ZFI				*e*S	**Sn**	**01 10 38.6**	**-1.7**
	25nm,1.8s						
KBS	**Kingsbay**	**6.08**	**184**	Pn	**Pn**	**01 09 38.9**	**0.0**
KBS				Sn	**Sn**	**01 10 47.5**	**-0.8**
KBS	**Kingsbay**	**6.08**	**184**	*i* P	**Pn**	**01 09 39.7**	**+0.8**
KBS				*i* S	**Sn**	**01 10 47.9**	**-0.4**
KBS	**Kingsbay**	**6.08**	**184**	*e*P	**Pn**	**01 09 40.0**	**+1.1**
KBS				*e*S	**Sn**	**01 10 45.6**	**-2.7**
KBS				IAML		01 10 49.0	
	comp=Z,15nm,0.5s						
KBS	**Kingsbay**	**6.08**	**184**	*e*P	**Pn**	**01 09 38.7**	**-0.2**
KBS				*e*S	**Sn**	**01 10 45.0**	**-3.2**
SPA0	**Spitsbergen Ar**	**6.83**	**176**	Pn	**Pn**	**01 09 49.7**	**+0.4**
	baz=10,slow=14						
SPA0	**Spitsbergen Ar**	**6.83**	**176**	Pn	**Pn**	**01 09 49.7**	**+0.4**
	baz=10,slow=14						
SPA0				*e*S	**Sn**	**01 11 07.1**	**+0.3**
SPA0				IAML		01 11 08.2	
	comp=Z,4.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**6.83**	**176**	Pn	**Pn**	**01 09 50.0**	**+0.8**
	baz=17,slow=12,SNR=302						
SPITS				Sn	**Sn**	**01 11 06.0**	**-0.8**
	baz=31,slow=18,SNR=0.9						
BRBB	**Barentsburg B**	**6.91**	**180**	Pn	**Pn**	**01 09 50.9**	**+0.6**
BRBB				Sn	**Sn**	**01 11 08.0**	**-0.7**
BRBB	**Barentsburg B**	**6.91**	**180**	*e*P	**Pn**	**01 09 50.8**	**+0.6**
BRBB				*e*S	**Sn**	**01 11 07.4**	**-1.3**
BRBA	**Barentsburg A**	**6.94**	**180**	Pn	**Pn**	**01 09 51.5**	**+0.7**
BRBA				Sn	**Sn**	**01 11 10.3**	**+0.7**
BRBA	**Barentsburg A**	**6.94**	**180**	*e*P	**Pn**	**01 09 51.5**	**+0.7**
HSPB	**Hornsund (broa**	**8.01**	**178**	Pn	**Pn**	**01 10 06.7**	**+1.3**
HSPB	**Hornsund (broa**	**8.01**	**178**	*e*P	**Pn**	**01 10 05.7**	**+0.3**
HSPB	**Hornsund (broa**	**8.01**	**178**	*e*P	**Pn**	**01 10 06.3**	**+1.0**
HSPB				S	**Sn**	**01 11 33.5**	**-2.2**
HOPEN	**Hopen**	**8.64**	**163**	Pn	**Pn**	**01 10 15.3**	**+1.3**
HOPEN	**Hopen**	**8.64**	**163**	*e*P	**Pn**	**01 10 14.1**	**+0.1**
HOPEN	**Hopen**	**8.64**	**163**	*e*P	**Pn**	**01 10 15.0**	**+0.9**
HOPEN				S	**Sn**	**01 11 47.9**	**-3.5**
DAG	**Danmarks Havn**	**9.44**	**229**	*e*P	Pn	01 10 30.3	+5.3
DAG	**Danmarks Havn**	**9.44**	**229**	*e*P	**Pn**	**01 10 28.9**	**+3.9**
BJO1	**Bjornoya**	**10.55**	**173**	Pn	**Pn**	**01 10 41.8**	**+1.7**
SUMG	**Summit**	**14.98**	**248**	*i* P	**Pn**	**01 11 38.0**	**-2.9**
ARA0	**ARCESS Array S**	**15.64**	**165**	P	**Pn**	**01 11 48.7**	**-0.6**
	baz=356,slow=12						
ARA0	**ARCESS Array S**	**15.64**	**165**	P	**Pn**	**01 11 48.7**	**-0.6**
	baz=356,slow=12						
ARCES	**ARCESS Array B**	**15.64**	**165**	Pn	**Pn**	**01 11 48.7**	**-0.6**
	baz=357,slow=12,SNR=30						
APA0	**Apatity Array**	**17.80**	**156**	P	**Pn**	**01 12 15.5**	**-1.0**
APA0	**Apatity Array**	**17.80**	**156**	P	**Pn**	**01 12 15.5**	**-1.0**
LSH	**Leshukonskoye**	**21.11**	**141**	*e*P	**P**	**01 12 55.7**	**+2.3**
	comp=Z,50nm,2.1s						
FIA0	**FINESS Array S**	**23.77**	**166**	P	**P**	**01 13 23.5**	**+2.2**
	baz=1.9,slow=10						
FIA0	**FINESS Array S**	**23.77**	**166**	P	**P**	**01 13 23.5**	**+2.2**
	baz=1.9,slow=10						
FINES	**FINESS Array B**	**23.77**	**166**	P	**P**	**01 13 22.6**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=359,slow=7.8,SNR=7.3						
NOA	**NORSAR Array B**	**24.05**	**183**	P	**P**	**01 13 28.6**	**+4.5**
	comp=Z,0.5nm,0.8s,baz=358,slow=8.4,SNR=3.4						
KLMR	**Klimovskoe**	**24.81**	**150**	P	**P**	**01 13 32.0**	**+1.1**
	comp=Z,45nm,2.9s						
GEYT	**Alibeck**	**48.70**	**133**	LR	LR	01 41 36.3	
	comp=Z,61nm,18.1s,baz=130,slow=42						

IDC 04 01:14:06.2±3.5**, 54°.24N**×**87°.76E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/52**, mbtmp2.6**/2**, ML2.1**/2**, Error ellipse: s-maj=32.4km s-min=21.6km az=43.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**262**	*i*		01 24 00.0	
	baz=77,slow=334,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.76**	**262**	Pn	Pn	01 14 38.3	+0.5
	0.3nm,0.3s,baz=76,slow=16,SNR=8.0						
ZALV				Lg	Lg	01 15 01.0	
	0.4nm,0.3s,baz=77,slow=27,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.71**	**241**	Pn	Pn	01 15 47.2	+1.4
	0.0nm,0.3s,baz=56,slow=14,SNR=8.5						
MKAR	**Makanchi Array**	**8.23**	**207**	Pn	Pn	01 16 06.2	-0.5
	0.0nm,0.3s,baz=23,slow=11,SNR=1.4						

*NEIC **04** 01:14:17.6±1.2, 20°.4S±0°.2×177°.31W±0°.07, h524km±10km, mb4.0/10, Error ellipse: s-maj=29.6km s-min=5.5km az=164.0*

*IDC **04** 01:14:24.3±2.0, 20°.74S×177°.46W, h601km±22km, mb3.2/8, mb1 3.5/11, mb1mx3.3/27, mbtmp4.2/11, Error ellipse: s-maj=32.0km s-min=17.0km az=145.0*

ISC 04 01:14:20.2±0.7**, 20°.4S**±0°.2×**177°.6W**±0°.1**, h550**km**, n30, σ1.16**/30**, mb3.9**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.92**	**301**	P	P	01 16 00.0	+10
	1.7nm,0.3s,baz=103,slow=19,SNR=4.6						
MSVF	**Nonsavu**	**4.92**	**301**	P	**P**	**01 15 47.0**	**-2.5**
AFI	**Afiamalu**	**8.47**	**42**	S	S	01 17 54.3	-8.9
	6.8nm,0.3s,baz=170,slow=22,SNR=7.1						
AFI	**Afiamalu**	**8.47**	**42**	P	P	01 16 17.6	-5.2
DZM	**Mont Dzumac**	**15.02**	**261**	P	**P**	**01 17 33.0**	**+2.9**
	0.5nm,0.3s,baz=109,slow=23,SNR=5.3						
URZ	**Urewera**	**18.42**	**193**	P	**P**	**01 18 00.4**	**-1.2**
	1.6nm,0.3s,baz=80,slow=2.1,SNR=8.4						
COEN	**Coen**	**38.00**	**273**	P	**P**	**01 20 51.6**	**-0.3**
COEN				IAmb	IAmb	01 20 53.1	
	comp=Z,5.1nm,0.9s						
STKA	**Stephens Creek**	**38.23**	**244**	P	**P**	**01 20 53.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=90,slow=10.0,SNR=4.2						
STKA	**Stephens Creek**	**38.23**	**244**	IAmb	IAmb	01 20 59.0	
	comp=Z,0.6nm,1.1s						
BBOO	**Buckleboo**	**42.98**	**243**	P	**P**	**01 21 31.6**	**+0.2**
WR0	**Warramunga Arr**	**44.85**	**262**	P	**P**	**01 21 45.8**	**-0.2**
WR0				IAmb	IAmb	01 21 54.0	
	comp=Z,5.0nm,1.2s						
ASAR	**Alice Springs**	**44.96**	**257**	P	**P**	**01 21 47.5**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=98,slow=7.4,SNR=78						
ASAR				PcP	**PcP**	**01 23 17.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=96,slow=5.7,SNR=3.5						
ASAR				S	**S**	**01 27 45.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=94,slow=16,SNR=13						
WB2	**Warramunga Arr**	**45.03**	**262**	P	**P**	**01 21 47.2**	**-0.2**
WB2				IAmb	IAmb	01 21 48.0	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**01 21 47.5**	**0.0**
	comp=Z,2.3nm,0.3s,baz=96,slow=7.6,SNR=89						
WRA				PcP	**PcP**	**01 23 17.1**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=98,slow=4.1,SNR=2.9						
WRA	**Warramunga Arr**	**45.04**	**262**	P	**P**	**01 21 47.5**	**0.0**
KNRA	**Kununurra**	**51.09**	**266**	P	**P**	**01 22 33.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.46**	**262**	P	**P**	**01 22 49.8**	**+0.2**
FITZ				IAmb	IAmb	01 22 51.0	
	comp=Z,8.0nm,1.4s						
MJAR	**Matsushiro Arr**	**70.36**	**323**	P	**P**	**01 24 37.9**	**-1.1**
MJAR				IAmb	IAmb	01 24 40.5	
	comp=Z,4.7nm,1.4s						
NVAR	**Mina Array Bea**	**80.64**	**43**	P	**P**	**01 25 38.0**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=222,slow=9.8,SNR=5.2						
MAW	**Mawson**	**81.83**	**200**	P	**P**	**01 25 40.4**	**-1.3**
TXAR	**Lajitas Array**	**86.63**	**57**	P	**P**	**01 26 06.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=224,slow=7.0,SNR=4.5						
IL31		**88.10**	**13**	P	**P**	**01 26 09.9**	**-2.0**
IL31				IAmb	IAmb	01 26 18.1	
	comp=Z,6.7nm,1.4s						
ILAR	**Eielson Array**	**88.10**	**13**	P	**P**	**01 26 11.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=221,slow=5.8,SNR=9.7						
PDAR	**Pinedale Array**	**88.58**	**43**	P	**P**	**01 26 15.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=242,slow=3.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**90.47**	**289**	P	**P**	**01 26 25.9**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=104,slow=3.1,SNR=4.8						
ARCES	**ARCESS Array B**	**128.87**	**350**	PKP	**PKPdf**	**01 32 25.3**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=44,slow=7.1,SNR=4.0						
AKASG	**Malin Array Be**	**143.10**	**332**	PKP	PKPab	01 32 49.1	-0.2
	comp=Z,1.7nm,0.5s,baz=44,slow=4.4,SNR=13						
EKA	**Eskdalemuir Ar**	**144.84**	**6**	PKPbc	**PKPdf**	**01 32 53.3**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=330,slow=3.2,SNR=4.0						
BRTR	**Keskin Array B**	**147.06**	**313**	PKPbc	**PKPbc**	**01 33 02.5**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=122,slow=5.3,SNR=3.7						
CLL	**Collm**	**148.03**	**347**	*e*PKPdf	**PKPdf**	**01 33 01.0**	**+1.1**
CLL				*i* PKPbc	**PKPbc**	**01 33 04.7**	**+0.9**
	comp=Z,7.0nm,1.0s						
CLL				*e*PKPab	**PKPab**	**01 33 09.0**	**+0.4**

*MDD **04** 01:30:31.5±0.5, 35°.47N×3°.82W, h0km, mb_Lg2.3/4, Error ellipse: s-maj=4.0km s-min=3.4km az=31.0*

*SFS **04** 01:30:32.0, 35°.50N×3°.70W, ML2.7, ALBORAN SUR*

*CNRM **04** 01:30:34.0, 35°.33N×3°.75W, h20km, ml2.2*

ISC 04 01:30:32.3±1.0**, 35°.49N**±0°.02×**3°.73W**±0°.03**, h20**km±5km**, n22, σ1.66**/43**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**212**	P	**Pb**	**01 30 38.7**	**-0.7**
PALE				S	**Sb**	**01 30 43.5**	**-0.6**
EMEL	**Melilla**	**0.66**	**107**	Pg	**Pb**	**01 30 45.2**	**0.0**
EMEL				Sg	**Sb**	**01 30 54.3**	**+0.3**
EALB	**Alboran**	**0.72**	**51**	Pg	**Pb**	**01 30 45.6**	**-0.6**
EALB				Sg	**Sb**	**01 30 56.5**	**+0.8**
EALB				*i* Vmb_Lg		01 31 00.3	
TAF	**Taforalt**	**1.27**	**122**	P	**Pn**	**01 30 54.3**	**-0.7**
TAF				S	**Sb**	**01 31 14.8**	**+3.2**
SMIR	**Smir Dam**	**1.36**	**279**	P	**Pb**	**01 31 00.3**	**+3.3**
SMIR				S	**Sb**	**01 31 18.1**	**+4.1**
EMIJ	**Mijas**	**1.36**	**322**	Pg	**Pb**	**01 30 57.3**	**+0.2**
EMIJ				Sg	**Sn**	**01 31 12.7**	**-1.0**
EMIJ				*i* Vmb_Lg		01 31 18.8	
CHEFC	**Chefchaouen**	**1.37**	**254**	P	**Pb**	**01 30 57.0**	**-0.3**
CHEFC				S	**Sn**	**01 31 13.2**	**-0.7**
ELGU	**Los Guajares,**	**1.38**	**4**	Pg	**Pn**	**01 30 55.8**	**-0.7**
ELGU				Sg	**Sn**	**01 31 13.1**	**-1.0**
ELGU				*i* Vmb_Lg		01 31 20.2	
EMAL	**Malaga-Limoner**	**1.39**	**336**	P	**Pb**	**01 30 58.8**	**+1.3**
EMAL				S	**Sb**	**01 31 15.1**	**+0.3**
CEU	**Ceuta**	**1.40**	**287**	P	**Pn**	**01 30 55.0**	**-1.6**
CEU				S	**Sn**	**01 31 09.7**	**-4.8**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**01 30 57.6**	**-0.6**
JBK				S	**Sn**	**01 31 15.4**	**-1.9**
EGOR	**Sierra Gorda,**	**1.65**	**349**	Pn	**Pn**	**01 31 00.9**	**+0.7**
EGOR				*i* Vmb_Lg		01 31 18.0	
EGOR				Sn	**Sb**	**01 31 22.0**	**-0.4**
SICH	**Sidi Chahed**	**1.90**	**224**	P	**Pn**	**01 31 03.9**	**+0.3**
SICH				S	**Sb**	**01 31 28.9**	**-0.7**
LCRM	**LCR**	**2.03**	**208**	P	**Pn**	**01 31 06.0**	**+0.6**
LCRM				S	**Sb**	**01 31 32.8**	**-0.6**
IFR	**Ifrane**	**2.28**	**211**	P	**Pn**	**01 31 09.6**	**+0.6**
IFR				S	**Sn**	**01 31 35.7**	**-0.8**
CZD	**Col de Zad**	**2.68**	**204**	P	**Pn**	**01 31 15.1**	**+0.5**
CZD				S	**Sn**	**01 31 45.7**	**-0.9**
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**01 31 15.4**	**0.0**
MD31				S	**Sn**	**01 31 48.1**	**+0.1**
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**01 31 16.0**	**+0.4**
MDT				S	**Sn**	**01 31 46.3**	**-2.1**
ECAB	**El Cabril**	**2.91**	**333**	Pn	**Pb**	**01 31 20.6**	**-3.0**
ECAB				Sn	**Sn**	**01 31 52.2**	**+0.3**
ZHG	**ZHG**	**3.15**	**231**	P	**Pn**	**01 31 20.2**	**-0.7**
ZHG				S	**Sn**	**01 32 00.5**	**+2.5**
ETOB	**Tobarra**	**3.60**	**28**	Pn	**Pn**	**01 31 28.2**	**+1.2**
ETOB				Sn	**Sn**	**01 32 10.6**	**+1.7**
EBAD	**Badajoz**	**4.18**	**322**	Sn	**Sn**	**01 32 21.2**	**-2.0**

*IDC **04** 01:56:15.0±1.7, 2°.91S×128°.71E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/42, mbtmp3.6/4, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/39, Error ellipse: s-maj=37.4km s-min=25.3km az=97.0*

*DJA **04** 01:56:16.2±0.8, 3°S±7°×12°9E±°, h12km±12km, M3.2/7, MLv3.2/7*

ISC 04 01:56:19.6±1.0**, 2°.89S**±0°.05×**128°.68E**±0°.06**, h51**km**, n9, σ2.39**/12**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.51**	**151**	P	**Pn**	**01 56 27.6**	**-3.5**
MSAI				S	**Sn**	**01 56 37.8**	**-1.5**
AAI	**Ambon**	**0.93**	**212**	P	**Pn**	**01 56 36.6**	**+0.3**
LBMI	**Labuha**	**2.53**	**332**	P	**Pn**	**01 56 56.9**	**-1.3**
LBMI				S	**Sn**	**01 57 26.2**	**-1.7**
SANI	**Sanana**	**2.82**	**287**	P	**Pn**	**01 56 58.7**	**-3.4**
SWI	**Sorong**	**3.27**	**52**	P	**Pn**	**01 57 06.2**	**-2.2**
SIJI	**Sorong**	**3.27**	**52**	Pn	**Pn**	**01 57 06.7**	**-1.7**
	5.1nm,0.3s,baz=152,slow=22,SNR=16						
SIJI				Sn	**Sn**	**01 57 47.8**	**+1.6**
	2.5nm,0.3s,baz=60,slow=19,SNR=8.5						
SIJI				LR	LR	01 58 31.6	
	comp=Z,118nm,18.3s,baz=238,slow=42						
WRA	**Warramunga Arr**	**17.82**	**162**	P	**P**	**02 00 25.3**	**+1.0**
	0.2nm,0.3s,baz=338,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**21.26**	**167**	P	**P**	**02 01 02.6**	**+0.9**
	4.9nm,0.7s,baz=344,slow=11,SNR=26						
MKAR	**Makanchi Array**	**64.09**	**326**	P	**P**	**02 06 51.4**	**+2.9**
	0.1nm,0.4s,baz=125,slow=7.6,SNR=1.4						

*SFS **04** 02:31:06.0, 35°.40N×3°.80W, ML3.4, ALBORAN SUR*

*CNRM **04** 02:31:07.9, 35°.50N×3°.75W, h24km, ml3.7*

*MDD **04** 02:31:07.3±0.3, 35°.41N×3°.83W, h0km, mb_Lg3.3/3, Error ellipse: s-maj=3.3km s-min=2.2km az=168.0*

*IGIL **04** 02:31:08.1, 35°.40N×3°.86W, h0km*

ISC 04 02:31:07.3±1.2**, 35°.48N**±0°.02×**3°.80W**±0°.02**, h15**km±10km**, n43, σ1.64**/75**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**203**	P	**Pb**	**02 31 14.9**	**+0.8**
PALE				S	**Sb**	**02 31 19.4**	**+0.7**
GOG	**Mont Gurugu**	**0.71**	**111**	P	**Pb**	**02 31 21.7**	**+0.3**
GOG				S	**Sg**	**02 31 30.2**	**-0.2**
EMEL	**Melilla**	**0.71**	**104**	Pg	**Pb**	**02 31 21.7**	**+0.3**
EMEL				Sg	**Sb**	**02 31 30.9**	**-0.1**
EALB	**Alboran**	**0.78**	**53**	Pg	**Pb**	**02 31 22.9**	**+0.4**
EALB				Sg	**Sg**	**02 31 33.1**	**+0.5**
CHEFC	**Chefchaouen**	**1.31**	**254**	P	**Pg**	**02 31 32.4**	**-0.1**
CHEFC				S	**Sg**	**02 31 49.8**	**+0.1**
TAF	**Taforalt**	**1.32**	**120**	P	**Pn**	**02 31 30.6**	**-0.6**
TAF				S	**Sg**	**02 31 49.4**	**-0.3**
EMIJ	**Mijas**	**1.34**	**324**	Pn	**Pn**	**02 31 31.0**	**-0.5**
EMIJ				Sn	**Sb**	**02 31 48.2**	**-0.9**
CEU	**Ceuta**	**1.35**	**289**	P	**Pn**	**02 31 30.1**	**-1.5**
CEU				S	**Sb**	**02 31 44.9**	**-4.4**
EMAL	**Malaga-Limoner**	**1.38**	**339**	P	**Pn**	**02 31 31.9**	**0.0**
EMAL				S	**Sn**	**02 31 48.7**	**-1.3**
ELGU	**Los Guajares,**	**1.39**	**6**	Pn	**Pn**	**02 31 31.8**	**-0.5**
ELGU				Sn	**Sn**	**02 31 48.6**	**-2.0**
ELGU				*i* Vmb_Lg		02 31 53.2	
JBK	**JBK**	**1.53**	**138**	P	**Pn**	**02 31 33.6**	**-0.6**
JBK				S	**Sn**	**02 31 51.6**	**-2.4**
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pn	**Pn**	**02 31 37.0**	**+1.2**
EGOR				Sn	**Sn**	**02 31 58.0**	**+1.2**
EQUE	**Quentar**	**1.75**	**10**	Pn	**Pn**	**02 31 37.5**	**+0.3**
EQUE				Sn	**Sn**	**02 32 00.9**	**+1.6**
EQUE				*i* Vmb_Lg		02 32 02.1	
SICH	**Sidi Chahed**	**1.85**	**223**	P	**Pb**	**02 31 40.5**	**-0.4**
ENIJ	**Nijar**	**1.97**	**40**	Pn	**Pn**	**02 31 39.7**	**-0.5**
ENIJ				Sn	**Sn**	**02 32 01.8**	**-2.9**
LCRM	**LCR**	**1.99**	**206**	P	**Pb**	**02 31 42.0**	**-1.3**
LCRM				S	**Sb**	**02 32 08.5**	**+0.5**
IFR	**Ifrane**	**2.24**	**210**	P	**Pn**	**02 31 45.0**	**+0.9**
IFR				S	**Sn**	**02 32 11.8**	**+0.2**
CZD	**Col de Zad**	**2.65**	**203**	P	**Pn**	**02 31 51.1**	**+1.3**
CZD				S	**Sn**	**02 32 22.3**	**+0.6**
MD31	**MD31**	**2.72**	**197**	P	**Pn**	**02 31 52.0**	**+1.4**
MDT	**Midelt**	**2.74**	**194**	P	**Pn**	**02 31 53.3**	**+2.5**
TLOR	**Lorca, Murcia**	**2.76**	**37**	Pn	**Pn**	**02 31 51.8**	**+0.7**
TLOR				Sn	**Sn**	**02 32 26.6**	**+2.5**
TDRA	**Tendrara**	**2.84**	**148**	P	**Pn**	**02 31 52.5**	**+0.1**
ECAB	**El Cabril**	**2.90**	**334**	Pn	**Pn**	**02 31 54.4**	**+1.4**
ECAB				Sn	**Sn**	**02 32 28.7**	**+1.2**
EZAR	**Zarzadilla de**	**2.93**	**35**	Pn	**Pn**	**02 31 53.9**	**+0.4**
EZAR				Sn	**Sn**	**02 32 30.6**	**+2.1**
CART	**Cartagena**	**3.08**	**46**	P	**Pn**	**02 31 54.3**	**-1.2**
CART				S	**Sn**	**02 32 30.1**	**-1.9**
CART	**Cartagena**	**3.08**	**46**	P	**Pn**	**02 31 54.2**	**-1.2**
CART				S	**Sn**	**02 32 29.0**	**-3.1**
ZHG	**ZHG**	**3.10**	**230**	P	**Pn**	**02 31 56.4**	**+0.6**
EGRO	**El Granado**	**3.60**	**306**	Pn	**Pn**	**02 32 03.6**	**+1.0**
EGRO				Sn	**Sn**	**02 32 44.9**	**0.0**
ETOB	**Tobarra**	**3.64**	**29**	Pn	**Pn**	**02 32 05.8**	**+2.6**
ETOB				Sn	**Sn**	**02 32 49.0**	**+3.1**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**02 32 04.7**	**+0.8**
PVAQ				S	**Sn**	**02 32 47.5**	**+0.3**
GOLM	**Goulmima**	**3.89**	**195**	P	**Pn**	**02 32 07.8**	**+1.1**
PAB	**San Pablo**	**4.08**	**354**	Pn	**Pn**	**02 32 11.3**	**+2.0**
PAB				Sn	**Sn**	**02 32 55.9**	**-0.9**
AFON	**Font Roja**	**4.11**	**38**	Pn	**Pn**	**02 32 12.2**	**+2.5**
AFON				Sn	**Sn**	**02 33 00.7**	**+3.1**
EBAD	**Badajoz**	**4.16**	**323**	Pn	**Pn**	**02 32 11.2**	**+1.0**
EBAD				Sn	**Sn**	**02 32 59.8**	**+1.2**
ESDC	**Sonseca Array**	**4.19**	**358**	Pn	**Pn**	**02 32 13.0**	**+2.2**
ESDC				Sn	**Sn**	**02 33 01.7**	**+2.2**
MORF	**Marmelete**	**4.32**	**296**	*e*P	**Pn**	**02 32 13.0**	**+0.5**
PESTR	**Estremoz**	**4.54**	**319**	P	**Pn**	**02 32 16.8**	**+1.3**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**02 32 16.8**	**+1.3**
EVO				S	**Sn**	**02 33 06.0**	**-2.1**
UCM	**Universidad Co**	**4.84**	**5**	P	**Pn**	**02 32 22.0**	**+2.3**
UCM				S	**Sn**	**02 33 10.6**	**-4.9**
EPLA	**Plasencia**	**4.92**	**339**	Pn	**Pn**	**02 32 21.9**	**+1.2**
EPLA				Sn	**Sn**	**02 33 19.2**	**+1.8**
EPLA				*i* Vmb_Lg		02 34 36.0	
OUK	**Oukaimeden**	**5.45**	**220**	P	**Pn**	**02 32 28.5**	**+0.1**
EAH	**EAH**	**6.16**	**233**	P	**Pn**	**02 32 38.3**	**+0.6**
TTIG	**Tnine Tigouga,**	**6.27**	**220**	P	**Pn**	**02 32 38.3**	**-1.2**

*AEIC **04** 03:03:56±1.8, 52°.9N±0°.1×162°.3W±0°.1, h11km±8km, Error ellipse: s-maj=19.2km s-min=8.6km az=153.0*

NEIC 04 03:03:53.3±1.1**, 52°.8N**±0°.1×**162°.2W**±0°.1**, h36**km±18km**, mb3.3**/2**, ML3.3**/8**, ML3.1**(AEIC)**, Error ellipse: s-maj=18.6km s-min=8.4km az=150.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**2.12**	**336**		Pn	03 04 25.2	-1.0
FALS	**False Pass**	**2.18**	**341**		Pn	03 04 26.9	0.0
SSLS	**Shishaldin Sou**	**2.19**	**332**		Pn	03 04 26.3	-0.8
WESE	**West Dahl East**	**2.19**	**321**		Pn	03 04 27.1	-0.1
SSLN	**Shishaldin Nor**	**2.27**	**333**		Pn	03 04 28.6	+0.4
DT1	**Dutton Round H**	**2.31**	**359**		Pn	03 04 28.9	+0.3
AKSA	**Akutan Strait**	**2.47**	**304**		Pn	03 04 30.6	-0.4
AKUT	**Akutan**	**2.51**	**303**	Pn	Pn	03 04 29.5	-2.0
AKUT				IAML		03 04 59.5	
	comp=E,121nm,0.6s						
CNBA	**Chernabura Isl**	**2.55**	**37**		Pn	03 04 32.1	+0.1
CNBA	**Chernabura Isl**	**2.55**	**37**	IAML		03 05 43.3	
	comp=E,119nm,4.8s						
HSB	**Akutan Spr's B**	**2.61**	**304**		Pn	03 04 32.6	-0.2
AKMO	**Akutan Morgan**	**2.61**	**301**		Pn	03 04 32.9	0.0
SDPT	**Sand Point**	**2.75**	**21**		Pn	03 04 35.3	+0.7
SDPT	**Sand Point**	**2.75**	**21**	IAML		03 05 46.4	
	comp=N,105nm,2.5s						
UNV	**Unalaska Valle**	**2.78**	**294**		Pn	03 04 35.0	-0.2
MSW	**Makushin Switc**	**2.96**	**294**		Pn	03 04 37.8	+0.2
OKER	**Okmok East Rim**	**3.58**	**283**		Pn	03 04 46.9	+0.6
VNHG	**Veniaminof 1**	**3.86**	**26**		Pn	03 04 51.4	+1.4
CHGN	**Chignik**	**4.14**	**31**	Pn	Pn	03 04 53.6	-0.2
CHGN				IAML		03 05 49.0	
	comp=N,34nm,1.3s						
OHAK	**Old Harbor**	**6.78**	**46**	Pn	Pn	03 05 29.8	-0.2
KDAK	**Kodiak Island**	**7.42**	**44**	Pn	Pn	03 05 38.0	-0.8
P18K	**Big Mountain,**	**7.67**	**28**	Pn	Pn	03 05 41.7	-0.5
Q19K	**Cape Douglas,**	**7.80**	**35**	Pn	Pn	03 05 44.0	-0.1
ADK	**Adak**	**8.91**	**270**	Pn	Pn	03 06 01.3	+2.0
CNPM	**China Poot**	**9.09**	**38**	Pn	Pn	03 06 03.2	+1.4
BRLK	**Bradley Lake**	**9.39**	**38**	Pn	Pn	03 06 04.6	-1.2
PWL	**Port Wells**	**11.06**	**38**	Pn	Pn	03 06 28.4	-0.3
EYAK	**Cordova Ski Ar**	**11.89**	**43**	Pn	Pn	03 06 39.3	-0.7
SCM	**Sheep Creek Mo**	**12.07**	**36**	Pn	Pn	03 06 42.3	-0.3
J20K	**Nowinta River**	**12.14**	**17**	Pn	Pn	03 06 43.2	-0.2
KLU	**Klutina**	**12.37**	**39**	Pn	Pn	03 06 46.7	0.0
DHY	**Denali Highway**	**12.92**	**31**	Pn	Pn	03 06 54.6	+0.3
H21K	**Melozitna Rive**	**13.73**	**17**	Pn	Pn	03 07 06.2	+1.0
IMAR	**Indian Mountai**	**13.88**	**15**	Pn	Pn	03 07 08.0	+0.9
L27K	**Beaver Creek,**	**14.85**	**38**	Pn	Pn	03 07 20.9	+0.6
BCAR	**Beaver Creek A**	**14.87**	**38**	Pn	Pn	03 07 20.8	+0.2
COLD	**Coldfoot**	**15.61**	**18**	Pn	Pn	03 07 29.8	-0.5
COLD				IAmb	IAmb	03 07 37.2	
	comp=Z,1.9nm,0.9s						
INK	**Inuvik**	**20.66**	**30**	Pn	Pn	03 08 31.8	-0.1
INK				IAmb	IAmb	03 08 32.3	
	comp=Z,1.7nm,1.1s						

IDC 04 03:25:40.5±2.8**, 6°.06S**×**130°.55E, h105**km±37km**, mb3.4**/1**, mb1 3.2**/5**, mb1mx2.9**/31**, mbtmp3.5**/5**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.5**/38**, Error ellipse: s-maj=75.6km s-min=21.9km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.21**	**8**	P	Pn	03 26 55.9	-0.2
	1.8nm,0.3s,baz=131,slow=23,SNR=9.3						
SIJI				S	Sn	03 27 49.8	-5.2
	5.2nm,0.3s,baz=94,slow=23,SNR=9.8						
FITZ	**Fitzroy Crossi**	**12.89**	**201**	P	Pn	03 28 40.5	+0.7
	0.3nm,0.3s,baz=28,slow=9.9,SNR=15						
FITZ				S	Sn	03 30 55.3	-6.4
	0.5nm,0.3s,baz=117,slow=21,SNR=11						
WRA	**Warramunga Arr**	**14.28**	**165**	P	Pn	03 28 58.4	+0.4
	0.2nm,0.3s,baz=347,slow=13,SNR=11						
WRA				S	Sn	03 31 26.9	-8.6
	0.3nm,0.3s,baz=198,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**17.80**	**170**	P	P	03 29 40.0	-1.0
	0.0nm,0.3s,baz=349,slow=9.8,SNR=1.7						
AFI	**Afiamalu**	**57.22**	**103**	LR	LR	03 58 32.8	
	comp=Z,32nm,20.8s,baz=236,slow=34						
MKAR	**Makanchi Array**	**67.75**	**326**	P	P	03 36 27.0	+0.1
	0.4nm,0.4s,baz=117,slow=7.5,SNR=10						

*IDC **04** 03:31:48.0±1.0, 52°.90S×9°.77E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.9/29, mbtmp4.3/8, ML4.2/1, MS3.8/22, Ms1 3.8/22, ms1mx3.6/57, Error ellipse: s-maj=34.1km s-min=21.2km az=103.0*

*NEIC **04** 03:31:49.2±1.5, 52°.8S±0°.1×10°.2E±0°.2, h10km±1km, mb4.7/15, Error ellipse: s-maj=23.5km s-min=19.3km az=115.0*

*GCMT **04** 03:31:53.2±0.4, 53°.12S±0°.03×10°.80E±0°.07, h22km±1km, MW4.9/69, Moment Tensor Solution. s17,c21; s69,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.19; $M_{\theta\theta}$1.98±.13; $M_{\phi\phi}$0.53±.11; $M_{r\theta}$-0.27±.21; $M_{\theta\phi}$-0.53±.07; $M_{\phi r}$-0.97±.22; Best double couple: $M_0$2.49500×10^{16} NP1:ϕ_s92.00000°, δ47.00000°, λ-114.00000°. NP2: ϕ_s305.00000°, δ48.00000°, λ-66.00000°. Principal axes: T 2.1560, Plg1.0000°, Azm19.0000°; N 0.6710, Plg17.0000°, Azm109.0000°; P -2.8350, Plg73.0000°, Azm286.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 03:31:49.3±0.5**, 52°.81S**±0°.08×**10°.2E**±0°.1**, h12**km**, n52, σ1.46**/31**, mb4.6**/12**, MS3.9**/21**, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**19.76**	**198**	P	**Pn**	**03 36 23.5**	**+3.3**
SNAA	**Sanae**	**19.79**	**192**	P	**Pn**	**03 36 19.4**	**-1.2**
SNAA	**Sanae**	**19.79**	**192**	P	**P**	**03 36 17.9**	**-1.2**
	0.7nm,0.3s,baz=17,slow=17,SNR=16						
SNAA				LR	LR	03 42 30.7	
	comp=Z,243nm,19.4s,baz=122,slow=33						
SNAA	**Sanae**	**19.79**	**192**	P	**P**	**03 36 18.1**	**-1.0**
SNAA				IAmb	IAmb	03 36 22.4	
	comp=Z,61nm,1.4s						
VNA2	**Neumayer--Watz**	**19.83**	**197**	P	**Pn**	**03 36 24.5**	**+3.4**
	baz=17,slow=12						
VNA3	**Neumayer Olymp**	**20.51**	**198**	P	**P**	**03 36 27.0**	**+0.1**
SUR	**Sutherland**	**21.81**	**25**	P	**P**	**03 36 45.7**	**+4.4**
	comp=Z,12nm,1.0s,baz=173,slow=8.1,SNR=3.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUR				LR	LR	03 43 05.7	
	comp=Z,210nm,21.4s,baz=190,slow=31						
SUR	Sutherland	21.81	25	P	P	03 36 40.1	-1.3
SUR				IAmb	IAmb	03 36 44.9	
	comp=Z,31nm,1.3s						
BOSA	Boshof	26.62	31	LR	LR	03 46 18.2	
	comp=Z,246nm,19.2s,baz=184,slow=32						
BOSA	Boshof	26.62	31	P	P	03 37 24.9	-2.7
MAW	Mawson	28.95	141	P	P	03 37 47.2	-0.7
MAW				IAmb	IAmb	03 37 58.7	
	comp=Z,13nm,1.0s						
LBTB	Lobatse	30.10	29	LR	LR	03 48 24.8	
	comp=Z,191nm,19.1s,baz=180,slow=33						
TSUM	Tsumeb	34.03	13	LR	LR	03 50 10.0	
	comp=Z,237nm,21.0s,baz=153,slow=32						
TSUM	Tsumeb	34.03	13	P	P	03 38 33.4	+0.2
MATP	Matopo	35.29	31	LR	LR	03 51 01.0	
	comp=Z,87nm,21.7s,baz=190,slow=32						
QSPA	South Pole Qui	37.43	180	P	P	03 39 02.2	+0.2
PMSA	Palmer Station	37.94	222	LR	LR	03 51 17.3	
	comp=Z,326nm,18.7s,baz=154,slow=31						
SHEL	Horse Pasture	38.86	335	P	P	03 39 14.2	-0.1
LSZ	Lusaka	40.06	28	LR	LR	03 54 39.8	
	comp=Z,197nm,19.0s,baz=186,slow=34						
VOI	Vohitsoka	41.64	56	P	P	03 39 37.5	+0.1
VOI				IAmb	IAmb	03 39 54.5	
	comp=Z,18nm,1.2s						
VNDA	Vanda	48.75	172	P	P	03 40 33.4	+0.2
	comp=Z,2.9nm,0.8s,baz=226,slow=5.0,SNR=6.3						
VNDA				LR	LR	04 00 35.5	
	comp=Z,201nm,19.1s,baz=251,slow=36						
VNDA	Vanda	48.75	172	IAmb	IAmb	03 40 35.5	
	comp=Z,8.3nm,1.1s						
PLCA	Paso Flores	53.79	248	P	P	03 41 10.7	-0.9
	comp=Z,2.0nm,0.8s,baz=169,slow=5.2,SNR=4.7						
PLCA	Paso Flores	53.79	248	IAmb	IAmb	03 41 11.6	
	comp=Z,7.5nm,1.2s						
MBAR	Mbarara	54.78	25	LR	LR	04 02 48.1	
	comp=Z,206nm,21.2s,baz=169,slow=34						
LC01	Cunco	55.79	249	P	P	03 41 25.6	-0.3
LC01				IAmb	IAmb	03 41 36.2	
	comp=Z,20nm,1.5s						
KMBO	Kilima Mbogo	56.22	33	LR	LR	04 04 14.6	
	comp=Z,127nm,19.9s,baz=98,slow=34						
BO04	La Punta	58.48	254	P	P	03 41 44.4	-0.7
BO04				IAmb	IAmb	03 41 46.4	
	comp=Z,12nm,0.9s						
BDFB	Brasilia	58.60	286	P	P	03 41 45.8	-0.3
	comp=Z,1.7nm,0.8s,baz=150,slow=8.1,SNR=2.2						
MT09	Talagante	58.85	254	P	P	03 41 46.8	-1.1
MT09				IAmb	IAmb	03 41 47.8	
	comp=Z,17nm,1.2s						
RCBR	Riachuelo	60.07	304	LR	LR	04 01 17.9	
	comp=Z,57nm,20.4s,baz=336,slow=30						
DBIC	Dimbokro	60.62	343	P	P	03 42 00.3	+0.6
	comp=Z,2.7nm,0.7s,baz=201,slow=11,SNR=3.2						
DBIC				LR	LR	04 02 47.0	
	comp=Z,56nm,20.0s,baz=184,slow=31						
AC06	Mina Casimiro	63.13	260	P	P	03 42 16.9	+0.1
TORD	Torodi Ar. Bea	66.09	351	P	P	03 42 36.4	+0.4
	comp=Z,0.9nm,0.9s,baz=182,slow=9.4,SNR=4.8						
KOWA	Kowa	68.14	345	LR	LR	04 08 49.6	
	comp=Z,61nm,18.1s,baz=187,slow=33						
ATD	Arta Tunnel	69.93	34	LR	LR	04 13 16.2	
	comp=Z,19nm,18.2s,baz=80,slow=36						
LPAZ	La Paz	70.16	269	P	P	03 43 01.4	-1.0
	comp=Z,9.4nm,0.8s,baz=129,slow=4.8,SNR=38						
LPAZ	La Paz	70.16	269	P	P	03 43 02.3	-0.2
EIL	Elat	84.92	21	LR	LR	04 21 52.0	
	comp=Z,33nm,18.1s,baz=274,slow=35						
MDT	Midelt	86.23	348	LR	LR	04 19 37.8	
	comp=Z,46nm,18.8s,baz=188,slow=33						
WSAR	Wadi Sarin	86.63	44	LR	LR	04 16 15.1	
	comp=Z,38nm,21.1s,baz=190,slow=31						
MMAI	Mount Meron Ar	88.25	21	LR	LR	04 24 25.9	
	comp=Z,63nm,18.6s,baz=32,slow=36						
IDI	Anoyia	88.66	12	LR	LR	04 26 03.9	
	comp=Z,54nm,19.1s,baz=92,slow=37						
GNI	Garni	97.30	26	LR	LR	04 31 01.2	
	comp=Z,47nm,18.1s,baz=192,slow=36						
DAVOX	Davos/Dischmat	99.21	360	LR	LR	04 29 03.1	
	comp=Z,29nm,18.1s,baz=179,slow=35						
PLID	Pearl Lake	144.57	280		PKPbc	03 51 24.1	+0.2
JTMT	Jette	144.92	285		PKPab	03 51 24.6	-0.1
J08A	Circle Bar Ran	145.11	275	PKPbc	PKPbc	03 51 25.6	+0.1
MOD	Modoc Plateau	145.39	272	PKPbc	PKPab	03 51 26.8	+0.1
EDM	Edmonton	146.79	294		PKPbc	03 51 30.6	+0.5
TIXI	Tiksi	147.78	31	PKPbc	PKPbc	03 51 32.2	-0.1
	comp=Z,1.4nm,0.6s,baz=318,slow=2.9,SNR=4.7						
YKA	Yellowknife Ar	149.84	311	PKPbc	PKPbc	03 51 37.4	-0.4
	comp=Z,3.1nm,0.9s,baz=96,slow=1.9,SNR=23						

*DJA **04** 03:33:50.7±0.5, 6°S±4°×14°7E±°, h10km, M4.8/7, mB5.3/2, mb4.5/7, MLv5.0/2, Mw(mB)4.8/2*
*IDC **04** 03:33:53.2±2.9, 6°.07S×146°.79E, h53km±25km, mb4.0/12, mb1 4.1/16, mb1mx3.9/37, mbtmp4.2/16, ML4.0/2, MS3.4/12, Ms1 3.4/12, ms1mx3.1/63, Error ellipse: s-maj=23.9km s-min=14.2km az=71.0*
*NEIC **04** 03:33:54.7±1.5, 6°.06S±0°.06×146°.72E±0°.09, h66km±6km, mb4.3/23, Error ellipse: s-maj=12.8km s-min=9.1km az=82.0*
ISC 04 03:33:53.3±0.5, **6°.02S**±0°.06×**146°.74E**±0°.08, **h52**km, **n79**, σ**1§26**/72, **mb4.3**/21, **MS3.1**/6, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.40	173	P	Pn	03 34 44.1	+0.3
	9.0nm,0.3s,baz=156,slow=13,SNR=16						
PMG				S	Sn	03 35 24.7	+1.9
	14nm,0.3s,baz=357,slow=19,SNR=2.2						
PMG				LR	LR	03 36 27.9	
	comp=Z,1µm,18.4s,baz=348,slow=46						
PMG	Port Moresby	3.40	173		Pn	03 34 44.5	+0.7
PMG	Port Moresby	3.40	173	P	Pn	03 34 43.8	0.0
PMG	Port Moresby	3.40	173	P	Pn	03 34 43.9	+0.1
MANU	Manus Island	4.00	9		Pn	03 34 53.4	+1.3
RABL	Rabaul	5.70	72	Pn	Pn	03 35 17.0	+1.5
JAY	Jayapura	6.95	300	P	Pn	03 35 34.5	+1.9
	1.5nm,0.3s,baz=182,slow=6.3,SNR=4.8						
JAY				LR	LR	03 38 41.8	
	comp=Z,475nm,21.8s,baz=352,slow=41						
COEN	Coen	8.64	204		Pn	03 35 55.0	-0.7
COEN	Coen	8.64	204	P	Pn	03 35 56.4	+0.7
CTA	Charters Tower	14.00	182	LR	LR	03 42 17.4	
	comp=Z,264nm,19.5s,baz=58,slow=36						
KDU	Kakadu	15.55	244	P	Pn	03 37 30.2	+0.9
QIS	Mount Isa	16.03	205	P	Pn	03 37 35.9	+0.5
SIJI	Sorong	16.26	288	P	Pn	03 37 39.4	+1.0
	3.9nm,0.3s,baz=198,slow=17,SNR=6.3						
SIJI				LR	LR	03 44 25.9	
	comp=Z,165nm,21.8s,baz=14,slow=39						
SWI	Sorong	16.27	288	P	P	03 37 42.3	+1.6
	36nm,0.5s						
WB0	Warramunga Arr	18.19	220	P	P	03 38 01.2	-0.8
WR0	Warramunga Arr	18.24	219	P	P	03 38 02.3	-0.2
WR0				IAmb	IAmb	03 38 17.7	
	comp=Z,22nm,1.4s						
WRAB	Tennant Creek	18.34	220	P	Pn	03 38 04.4	+0.3
WB2	Warramunga Arr	18.34	220	P	P	03 38 03.2	-0.5
WRA	Warramunga Arr	18.35	220	P	P	03 38 03.0	-0.7
	comp=Z,0.6nm,0.3s,baz=41,slow=11,SNR=34						
WRA				PcP	PcP	03 42 34.0	+0.3
	comp=Z,0.2nm,0.3s,baz=21,slow=1.7,SNR=8.1						
WRA				LR	LR	03 46 53.3	
	comp=Z,144nm,18.5s,baz=7.5,slow=42						
GUMO	Guam	19.56	355	LR	LR	03 45 17.3	
	comp=Z,49nm,20.6s,baz=118,slow=35						
EIDS	Eidsvold	19.69	168	P	P	03 38 17.0	-1.4
EIDS				IAmb	IAmb	03 38 26.2	
	comp=Z,31nm,1.5s						
KNRA	Kununurra	20.07	240	P	P	03 38 20.6	-2.0
KNRA				IAmb	IAmb	03 38 26.5	
	comp=Z,19nm,1.1s						
KNRA	Kununurra	20.07	240	P	Pn	03 38 24.1	-0.7
ASAR	Alice Springs	21.46	214	P	P	03 38 36.9	-0.6
	comp=Z,1.3nm,0.4s,baz=59,slow=9.6,SNR=32						
ASAR				S	Sn	03 42 37.2	-6.1
	comp=Z,2.1nm,1.0s,baz=36,slow=19,SNR=6.2						
FITZ	Fitzroy Crossi	23.83	238	P	P	03 39 00.3	-1.5
	comp=Z,17nm,0.8s,baz=62,slow=9.4,SNR=33						
FITZ				LR	LR	03 49 07.8	
	comp=Z,53nm,18.7s,baz=61,slow=38						
FITZ	Fitzroy Crossi	23.83	238	IAmb	IAmb	03 39 03.2	
	comp=Z,15nm,0.8s						
OOD	Oodnadatta	24.07	205	P	P	03 39 05.0	+1.1
DAV	Davao City (W)	24.79	301	LR	LR	03 47 28.8	
	comp=Z,38nm,21.5s,baz=163,slow=33						
DZM	Mont Dzumac	24.85	132	P	P	03 39 09.9	-1.4
	comp=Z,8.4nm,0.8s,baz=238,slow=23,SNR=4.3						
DZM	Mont Dzumac	24.85	132	IAmb	IAmb	03 39 14.4	
	comp=Z,21nm,1.1s						
CMSA	Cobar Meteorol	25.41	182	P	P	03 39 18.0	+1.9
LCRK	Leigh Creek	25.59	197	P	P	03 39 18.4	+0.7
WRKA	Warakurna	25.88	221	P	P	03 39 22.4	+1.9
STKA	Stephens Creek	26.18	190	P	P	03 39 21.5	-1.5
	comp=Z,2.3nm,0.8s,baz=352,slow=8.9,SNR=6.1						
STKA				LR	LR	03 50 26.7	
	comp=Z,139nm,19.2s,baz=19,slow=38						
TOLI2	Tolitoli	26.86	284	P	P	03 39 30.0	+0.6
	comp=Z,7.0nm,0.8s						
KAPI	Kappang	26.88	271	LR	LR	03 50 49.1	
	comp=Z,38nm,21.9s,baz=112,slow=38						
MULG	Mulgathing	26.93	205	P	P	03 39 30.4	+0.6
	comp=Z,12nm,1.9s						
HTT	Hallett	28.23	194	P	P	03 39 42.6	+1.1
MJAR	Matsushiro Arr	43.08	350	LR	LR	03 57 28.4	
	comp=Z,26nm,20.2s,baz=12,slow=33						
KSRS	Korea Array	46.67	339	P	P	03 42 16.9	+0.1
	comp=Z,3.6nm,0.8s,baz=158,slow=9.3,SNR=12						
RPSI	Rantau Prapat	48.52	279	P	P	03 42 30.2	-1.4
USRK	Ussuriysk Ar.	51.72	347	P	P	03 42 55.8	+0.5
	comp=Z,1.1nm,0.5s,baz=156,slow=10.0,SNR=2.5						
CMAR	Chiang Mai Arr	53.02	298	P	P	03 43 06.8	+1.4
	comp=Z,2.8nm,0.7s,baz=125,slow=6.0,SNR=15						
CMAR	Chiang Mai Arr	53.02	298	P	P	03 43 05.3	-0.2
CHTO	Chiang Mai	53.16	299	P	P	03 43 06.0	-0.5
CHTO				IAmb	IAmb	03 43 11.1	
	comp=Z,2.8nm,0.8s						
XAN	Xi'an	53.53	321	P	P	03 43 08.7	-0.2
XAN				pP	pP	03 43 13.0	-10
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,85nm,5.0s						
PETK	Petropavlovsk-	59.63	8	LR	LR	04 06 27.6	
	comp=Z,39nm,20.5s,baz=198,slow=33						
HIA	Hailar	59.88	340	P	P	03 43 53.6	0.0
ULN	Ulaanbaatar	64.00	331	P	P	03 44 21.5	-0.1
ULN				IAmb	IAmb	03 44 22.9	
	comp=Z,2.4nm,0.9s						
LSA	Lhasa	64.04	307	P	P	03 44 21.3	-1.3
VNDA	Vanda	71.91	177	P	P	03 45 10.4	-0.2
	comp=Z,2.6nm,0.8s,baz=8.8,slow=6.1,SNR=7.1						
VNDA	Vanda	71.91	177	IAmb	IAmb	03 45 22.5	
	comp=Z,8.9nm,1.3s						
MK31	Makanchi Array	77.34	321	P	P	03 45 42.0	-0.6
MKAR	Makanchi Array	77.34	321	P	P	03 45 42.3	-0.3
	comp=Z,1.0nm,0.8s,baz=104,slow=7.6,SNR=12						
MAKZ	Makanchi	77.55	320	P	P	03 45 42.9	-0.9
MAKZ				IAmb	IAmb	03 45 43.7	
	comp=Z,1.9nm,0.8s						
ZAA0	Zalesovo Array	78.88	328	P	P	03 45 50.8	-0.1
ZAA0				IAmb	IAmb	03 46 08.7	
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	78.88	328	P	P	03 45 49.5	-1.4
	comp=Z,1.1nm,0.5s,baz=120,slow=6.1,SNR=4.1						
NIL	Nilore	79.72	306	P	P	03 45 54.4	-1.6
NIL				IAmb	IAmb	03 45 57.1	
	comp=Z,4.9nm,0.7s						
AAK	Ala-Archa	81.16	315	P	P	03 46 02.3	-1.5
KKAR	Karatay Array	84.11	314	P	P	03 46 17.8	-1.1
MLY	Manley	84.23	22	P	P	03 46 19.3	+0.3
MLY				IAmb	IAmb	03 46 20.4	
	comp=Z,2.2nm,0.8s						
IL31		85.60	23	P	P	03 46 24.6	-1.2
IL31				IAmb	IAmb	03 46 28.6	
	comp=Z,4.0nm,1.1s						
ILAR	Eielson Array	85.60	23	P	P	03 46 24.8	-1.0
	comp=Z,2.0nm,0.7s,baz=249,slow=4.9,SNR=24						
J25K	Salcha River,	86.14	24	P	P	03 46 27.5	-1.1
M31M	Drury Creek, Y	90.11	27	P	P	03 46 47.5	0.0
YKA	Yellowknife Ar	99.31	28	P	Pdif	03 47 29.3	-0.2
	comp=Z,0.3nm,0.8s,baz=89,slow=35,SNR=3.0						
PLCA	Paso Flores	122.25	147	PKP	PKPdf	03 52 43.5	+0.4
	comp=Z,1.2nm,0.7s,baz=263,slow=5.6,SNR=5.4						
PLCA	Paso Flores	122.25	147		PKPdf	03 52 40.4	-2.7
LPAZ	La Paz	139.00	123	PKP	PKPdf	03 53 15.1	-0.9
	comp=Z,1.0nm,0.8s,baz=206,slow=3.2,SNR=4.1						
LPAZ	La Paz	139.00	123		PKPdf	03 53 12.8	-3.1
TORD	Torodi Ar. Bea	144.84	284	PKP	PKPab	03 53 24.0	-0.7
	comp=Z,4.1nm,0.7s,baz=81,slow=4.0,SNR=32						
TORD	Torodi Ar. Bea	144.84	284		PKPab	03 53 22.9	-1.8
KIC	Kosan Boka	151.64	272	*e*PKP1	PKPbc	03 53 43.9	+0.8
	comp=Z,11nm,0.7s						
DBIC	Dimbokro	151.76	273	PKPbc	PKiKP	03 53 44.5	+0.9
	comp=Z,5.0nm,0.6s,baz=82,slow=2.3,SNR=8.2						
DBIC	Dimbokro	151.76	273		PKPdf	03 53 40.0	+3.0
TIC	Toumodi	151.92	273	*e*PKP1	PKPbc	03 53 44.6	+0.9
LIC	Lamto	151.92	272	*e*PKP1	PKPbc	03 53 44.5	+0.8
	comp=Z,41nm,0.9s						
BDFB	Brasilia	153.99	146	PKPbc	PKPbc	03 53 48.6	+0.3
	comp=Z,3.1nm,0.6s,baz=49,slow=2.7,SNR=5.6						
BDFB	Brasilia	153.99	146		PKPdf	03 53 44.0	+3.7

IDC 04 03:35:56.3±999.0, **32°.31N**×**116°.95W**, **h0**km, **Error ellipse: s-maj=726.8km s-min=33.2km az=18.0, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	1.35	18	*i*		03 43 40.0	
	baz=198,slow=314,SNR=5.6						
I56US	NEWPORT INFRAS	15.94	360	*i*		05 15 50.0	
	baz=178,slow=325,SNR=1.6						
I10CA	LAC DU BONNET	23.67	35	*i*		06 01 30.0	
	baz=225,slow=335,SNR=1.5						

IDC 04 03:57:01.6±2.2, **11°.17S**×**118°.56E**, **h0**km, **mb3.3**/1, **mb1 3.5**/5, **mb1mx3.1**/46, **mbtmp3.4**/5, **ML3.1**/4, **Error ellipse: s-maj=69.2km s-min=27.7km az=45.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.10	80	Pn	Pn	03 58 20.9	+1.5
	3.7nm,0.3s,baz=69,slow=4.2,SNR=1.6						
FITZ	Fitzroy Crossi	9.71	136	Pn	Pn	03 59 21.6	-1.0
	0.1nm,0.3s,baz=319,slow=8.2,SNR=2.0						
FITZ				Sn	Sn	04 01 02.8	-10
	0.3nm,0.3s,baz=178,slow=20,SNR=8.3						
WRA	Warramunga Arr	17.51	122	P	Pn	04 01 05.7	-1.7
	0.0nm,0.3s,baz=302,slow=14,SNR=1.9						
ASAR	Alice Springs	19.18	132	P	Pn	04 01 28.1	+0.3
	0.1nm,0.3s,baz=318,slow=11,SNR=7.0						
MKAR	Makanchi Array	66.19	334	P	P	04 07 50.9	-0.3
	0.1nm,0.4s,baz=156,slow=5.8,SNR=2.8						

*MAN **04** 03:59:36.9, 4°.03N×126°.77E, h5km, mb5.6, ML4.6, MS4.9*
*IDC **04** 03:59:37.6±3.9, 3°.98N×126°.48E, h22km±25km, mb4.4/26, mb1 4.4/31, mb1mx4.3/57, mbtmp4.5/31, ML4.2/4, MS3.7/22, Ms1 3.7/22, ms1mx3.4/79, Error ellipse: s-maj=21.2km s-min=11.1km az=75.0*
*BJI **04** 03:59:37.0±0.0, 3°.72N×126°.75E, h42km, mb4.6/36, mB4.8/22, Ms4.1/12, Ms7 3.9/11*
*NEIC **04** 03:59:41.0±1.7, 3°.98N±0°.06×126°.65E±0°.07, h38km±6km, mb4.8/57, Error ellipse: s-maj=11.3km s-min=7.0km az=54.0*
*DJA **04** 03:59:41.2±0.4, 4°N±6°×12°7E±°, h20km±6km, M4.7/19, mB5.2/11, mb4.9/19, MLv4.9/15, Mw(mB)4.6/11*
ISC 04 03:59:40.2±0.3, **4°.03N**±0°.03×**126°.66E**±0°.05, **h35**km, **n194**, σ**1§54**/186, **mb4.8**/65, **MS3.6**/24, **7C-2D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.17	253	P	Pn	03 59 59.9	-0.3
SGSI				S	Sn	04 00 14.5	-0.5
DDMP	Don Marcelino,	2.27	336	⇑*e*P	Pn	04 00 14.6	-0.6
GSPH	General Santos	2.66	320	⇑*e*P	Pn	04 00 21.0	+0.3
GSPH				*i* S	Sn	04 00 52.7	+0.8
DAV	Davao City (W)	3.21	341	Pn	Pn	04 00 26.6	-1.6
	50nm,0.3s,baz=59,slow=10,SNR=1.5						
DAV				Sn	Sn	04 01 08.2	+2.9
	76nm,0.3s,baz=274,slow=21,SNR=4.1						
DAV	Davao City (W)	3.21	341	Pn	Pn	04 00 30.4	+2.2
TNTI	Ternate	3.31	168	Pn	Pn	04 00 30.2	+0.6
TNTI	Ternate	3.31	168	P	Pn	04 00 30.4	+0.8
TNTI				S	Sn	04 01 11.1	+3.4
TNTI	Ternate	3.31	168	P	Pn	04 00 30.4	+0.8
KCP	Kidapawan	3.35	332	⇓*i*P	Pn	04 00 31.6	+1.4
KCP				*i* S	Sn	04 01 22.1	+13
CTBH	Cotabato--PC H	3.98	323	⇑*e*P	Pn	04 00 40.4	+1.6
CTBH				*i* S	Sn	04 01 25.0	+0.8
KMSI	Cibinong	4.35	218	P	Pn	04 00 45.3	+1.4
LBMI	Labuha	4.71	170	P	Pn	04 00 50.3	+1.4
GTOI	Gorontalo	4.96	227	P	Pn	04 00 52.7	+0.4
GTOI				S	Sn	04 01 49.0	+0.5
PAGZ	Pagadian	5.00	320	⇓*i*P	Pn	04 00 55.1	+2.2
BUTP	Butuan	5.02	348	⇑*e*P	Pn	04 01 05.5	+12
MRSI	Marisa	5.88	233	P	Pn	04 01 06.5	+1.5
	1.3nm3µm257nm,0.6s						
MRSI				S	Sn	04 02 10.5	-0.7
	1.3nm3µm257nm,0.6s						
SANI	Sanana	6.07	186	P	Pn	04 01 06.3	-1.3
	0.4nm1µm41nm,0.7s						
SANI	Sanana	6.07	186	P	Pn	04 01 06.4	-1.2
TBP	Tagbilaran	6.27	334	⇑*e*P	Pn	04 01 13.1	+2.8
LUWI	Luwuk	6.36	218	Pn	Pn	04 01 15.9	+4.4
LUWI	Luwuk	6.36	218	P	Pn	04 01 16.0	+4.5
	2.4nm6µm856nm,0.9s						
LUWI	Luwuk	6.36	218	P	Pn	04 01 17.2	+5.7
TOLI2	Tolitoli	6.54	244	Pn	Pn	04 01 13.8	-0.2
SWI	Sorong	6.69	136	P	Pn	04 01 17.7	+1.6
	0.3nm105nm,1.0s						
SIJI	Sorong	6.70	136	Pn	Pn	04 01 16.2	0.0
	10nm,0.3s,baz=319,slow=22,SNR=18						
SIJI				Sn	Sn	04 02 31.8	+0.4
	6.5nm,0.3s,baz=109,slow=21,SNR=8.9						
SIJI				LR	LR	04 04 19.2	
	comp=Z,763nm,18.2s,baz=343,slow=42						
LLP	Lapu-Lapu	6.80	337	*e*P	Pn	04 01 24.1	+6.6
LLP				*e*S	Sn	04 02 56.2	+22
APSI	Ampana	7.00	226	P	Pn	04 01 25.0	+4.6
	0.7nm2µm218nm,0.8s						
MPSI	Mapaga	7.68	242	P	Pn	04 01 33.3	+3.6
	0.4nm705nm51nm,0.7s						
RCP	Roxas	8.43	333	⇑*e*P	Pn	04 01 49.8	+10
FAKI	Fak Fak	8.88	141	Pn	Pn	04 01 46.3	+0.1
FAKI	Fak Fak	8.88	141	P	Pn	04 01 47.5	+1.3
	40nm,0.8s						
FAKI	Fak Fak	8.88	141	P	Pn	04 01 48.5	+2.3
TTSI	Tana Toraja	9.80	224	P	Pn	04 02 01.2	+2.5
	78nm,1.0s						
SPSI	Sidrap Palu	10.50	221	P	Pn	04 02 11.1	+2.7
	32nm,0.7s						
KKM	Kota Kinabalu	10.59	281	Pn	Pn	04 02 10.8	+1.1
BNSI	Bone	10.62	218	P	Pn	04 02 13.0	+2.9
	911nm27nm,1.4s						
BAKI	Biak	10.77	119	P	Pn	04 02 15.0	+2.9
KAPI	Kappang	11.32	218	Pn	Pn	04 02 16.9	-2.7
	0.8nm,0.3s,baz=61,slow=13,SNR=2.0						
KAPI				LR	LR	04 07 12.4	
	comp=Z,356nm,19.2s,baz=66,slow=41						
KAPI	Kappang	11.32	218		Pn	04 02 19.0	-0.6
BSSI	Bau Bau, Buton	11.83	211	P	Pn	04 02 28.9	+2.3
	26nm,0.6s						
MTKI	Muara Teweh, K	12.74	247	P	Pn	04 02 40.8	+1.7
MMRI	Maumere	13.33	199	P	P	04 03 02.9	+6.7
BATI	Baumata	14.45	192	Pn	Pn	04 03 00.4	-2.0
	baz=11,slow=5.2,SNR=1.0						
BATI	Baumata	14.45	192	P	P	04 03 18.0	+9.3
SBUM	Sibu	14.50	264	Pn	Pn	04 03 02.0	-1.0
GENI	Genyem	15.02	116	P	P	04 03 15.0	0.0
	3µm250nm,0.8s						
WBSI	Waikabubak, Su	15.38	208	P	Pn	04 03 17.0	+2.1
	1µm114nm,0.7s						
JAY	Jayapura	15.47	115	Pn	Pn	04 03 16.6	+0.6
	0.4nm,0.3s,baz=115,slow=17,SNR=1.6						
JAY				LR	LR	04 08 15.5	
	comp=Z,379nm,21.5s,baz=326,slow=33						
PLAI	Plampang	15.54	215	P	Pn	04 03 18.5	+1.7
	52nm,0.7s						
PLAI	Plampang	15.54	215	P	Pn	04 03 18.5	+1.7
DRS	Darwin Rock St	16.89	166	P	Pn	04 03 31.9	-2.1
KDU	Kakadu	17.58	161	P	Pn	04 03 41.7	-1.0
	baz=17,SNR=6.1						
JAGI	Jajag, Banyuwa	17.59	225		P	04 03 43.9	+0.3
JAGI	Jajag, Banyuwa	17.59	225	P	P	04 03 45.9	+2.3
DLV	T Lat	19.62	295	P	Pn	04 04 08.0	+0.3
DLV				IAmb	IAmb	04 04 22.4	
	comp=Z,51nm,1.2s						
KNRA	Kununurra	19.69	174	P	P	04 04 06.5	-0.1
	baz=19,SNR=14						
KNRA	Kununurra	19.69	174	P	P	04 04 05.9	-0.7
KNRA				IAmb	IAmb	04 04 23.4	
	comp=Z,35nm,0.7s						
KNRA	Kununurra	19.69	174	P	P	04 04 05.5	-1.1
YULB	Yu-li	19.94	345	P	P	04 04 08.5	-0.8
TPUB	Ta-pu	20.03	344	P	P	04 04 09.8	-0.5
TPUB				IAmb	IAmb	04 04 12.2	
	comp=Z,27nm,0.7s						
GUMO	Guam	20.34	61	LR	LR	04 10 54.2	
	comp=Z,138nm,21.2s,baz=248,slow=33						
LEM	Lembang	21.85	241	LR	LR	04 14 27.5	
	comp=Z,199nm,18.5s,baz=43,slow=41						
FITZ	Fitzroy Crossi	22.01	183	P	P	04 04 29.2	-2.4
	comp=Z,9.0nm,0.7s,baz=11,slow=7.5,SNR=17						
QIZ	Qiongzhong	22.18	314	P	P	04 04 37.2	+3.6
QIZ				S	S	04 08 38.5	+2.5
QIZ				LR	LR		
	comp=Z,190nm,18.6s						
QIZ				LR	LR		
	comp=Z,220nm,22.7s						
QIZ				LR	LR		
	comp=Z,250nm,25.5s						
JOW	Kunigami	22.73	4	P	P	04 04 37.5	-1.9
	comp=Z,35nm,1.0s,baz=204,slow=9.1,SNR=2.2						
UBPT	Khong Chiam	23.66	300	P	P	04 04 48.6	-0.1
UBPT				IAmb	IAmb	04 04 53.0	
	comp=Z,32nm,1.0s						
COEN	Coen	24.25	138	P	P	04 04 53.3	-0.9
PMG	Port Moresby	24.41	123	LR	LR	04 15 38.1	
	comp=Z,126nm,19.1s,baz=298,slow=39						
PMG	Port Moresby	24.41	123	P	P	04 04 54.3	-1.3
WRAB	Tennant Creek	24.98	163	P	P	04 04 59.9	-1.0
WRAB				IAmb	IAmb	04 05 12.4	
	comp=Z,29nm,0.8s						
WRAB	Tennant Creek	24.98	163	P	P	04 05 00.5	-0.3
WRA	Warramunga Arr	24.99	163	P	P	04 04 59.1	-1.7
	comp=Z,8.1nm,0.6s,baz=342,slow=10,SNR=47						
WC3	Warramunga Arr	25.01	163	P	P	04 04 59.7	-1.4
	baz=25						
WR0	Warramunga Arr	25.06	162	P	P	04 05 00.5	-1.0
WR0				IAmb	IAmb	04 05 14.0	
	comp=Z,27nm,0.8s						
IPM	Ipoh	25.56	272	P	P	04 05 06.7	+0.5
IPM				IAmb	IAmb	04 05 12.9	
	comp=Z,16nm,0.7s						
KULM	Kulim	25.95	274	P	P	04 05 11.8	+2.1
KULM				IAmb	IAmb	04 05 21.4	
	comp=Z,35nm,1.4s						
PSA00	Pilbara Seismi	26.30	194	P	P	04 05 12.4	-0.3
PSA00	Pilbara Seismi	26.30	194	P	P	04 05 12.7	0.0
QIS	Mount Isa	27.54	153	P	P	04 05 23.9	-0.1
	baz=27,SNR=12						
QIS	Mount Isa	27.54	153	P	P	04 05 25.4	+1.4
PSI	Prapat	27.71	268	P	P	04 05 23.0	-2.7
	comp=Z,3.5nm,0.4s,baz=230,slow=5.0,SNR=3.9						
ASAR	Alice Springs	28.42	166	P	P	04 05 30.6	-1.2
	comp=Z,2.0nm,0.6s,baz=342,slow=6.5,SNR=21						
ASAR	Alice Springs	28.42	166	P	P	04 05 31.7	0.0
WHN	Wuhan	28.82	338	⇑P	P	04 05 37.4	+2.2
NJ2	Nanjing	28.83	346	*e*P	P	04 05 38.2	+2.9
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
WRKA	Warakurna	28.93	177	P	P	04 05 35.8	-0.6
	baz=29,SNR=9.3						
WRKA	Warakurna	28.93	177	P	P	04 05 36.0	-0.3
GSI	Gunungsitoli	29.17	265	P	P	04 05 40.3	+1.7
GSI				IAmb	IAmb	04 05 43.0	
	comp=Z,23nm,1.0s						
CMAR	Chiang Mai Arr	30.66	300	P	P	04 05 50.2	-1.5
	comp=Z,1.2nm,0.4s,baz=116,slow=6.1,SNR=1.6						
CMAR				LR	LR	04 17 57.5	
	comp=Z,97nm,21.6s,baz=110,slow=36						
CMAR	Chiang Mai Arr	30.66	300	P	P	04 05 51.8	0.0
CTA	Charters Tower	30.74	142	LR	LR	04 20 30.5	
	comp=Z,91nm,18.5s,baz=264,slow=41						
CHTO	Chiang Mai	30.81	301	P	P	04 05 52.8	-0.2
CHTO				IAmb	IAmb	04 05 58.9	
	comp=Z,13nm,0.8s						

JHJ	**Hachijo jima 2**	**31.44**	**21**	LR	LR	04 16 33.8	
	comp=Z,102nm,21.6s,baz=262,slow=32						
PZH	**PanZhiHua**	**32.68**	**316**	P	**P**	**04 06 12.7**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,5.6s						
OOD	**Oodnadatta**	**32.81**	**165**	P	**P**	**04 06 09.8**	**-0.7**
KSRS	**Korea Array**	**33.29**	**2**	P	**P**	**04 06 14.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=177,slow=9.7,SNR=9.3						
KSRS				LR	LR	04 20 59.4	
	comp=Z,64nm,19.7s,baz=190,slow=38						
MJAR	**Matsushiro Arr**	**34.06**	**17**	LR	LR	04 20 09.6	
	comp=Z,51nm,20.5s,baz=224,slow=36						
XAN	**Xi'an**	**34.12**	**333**	P	**P**	**04 06 20.2**	**-1.7**
XAN				pP	pP	04 06 32.3	+0.9
XAN				sP	sP	04 06 37.6	+2.2
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				pmax	pmax		
	comp=Z,82nm,5.2s						
FORT	**Forrest**	**34.63**	**178**	P	**P**	**04 06 26.0**	**-0.3**
FORT	**Forrest**	**34.63**	**178**	P	**P**	**04 06 26.2**	**-0.1**
	comp=Z,34nm,0.8s						
MULG	**Mulgathing**	**34.84**	**169**	P	**P**	**04 06 27.1**	**-1.0**
	comp=Z,12nm,0.9s						
LCRK	**Leigh Creek**	**36.02**	**163**	P	**P**	**04 06 38.8**	**+0.6**
KLBR	**Kellerberrin**	**36.42**	**193**	P	**P**	**04 06 41.0**	**-0.6**
	baz=36,SNR=5.2						
KLBR	**Kellerberrin**	**36.42**	**193**	P	**P**	**04 06 41.8**	**+0.2**
	comp=Z,17nm,0.6s						
BJT	**Baijiatuau**	**37.06**	**347**	P	**P**	**04 06 48.1**	**+1.1**
BJI	**Beijing**	**37.08**	**347**	P	**P**	**04 06 46.6**	**-0.6**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
EIDS	**Eidsvold**	**37.63**	**142**	P	**P**	**04 06 52.0**	**0.0**
	baz=37,SNR=5.8						
EIDS	**Eidsvold**	**37.63**	**142**	P	**P**	**04 06 50.8**	**-1.2**
BBOO	**Buckleboo**	**37.70**	**167**	P	**P**	**04 06 52.2**	**-0.4**
	baz=37,SNR=19						
BBOO	**Buckleboo**	**37.70**	**167**	P	**P**	**04 06 51.2**	**-1.3**
LZH	**Lanzhou**	**38.21**	**329**	*e*P	**P**	**04 06 56.9**	**-0.1**
LZH				pP	pwP	04 07 09.1	-0.1
LZH				sP	sP	04 07 19.0	+8.4
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				pmax	pmax		
	comp=Z,79nm,4.3s						
LZH				LR	LR		
	comp=Z,190nm,12.5s						
LZH				LR	LR		
	comp=Z,190nm,11.9s						
LZH				LR	LR		
	comp=Z,120nm,11.9s						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**04 06 58.8**	**+0.1**
	comp=Z,29nm,0.7s,baz=329,slow=8.2,SNR=38						
STKA				LR	LR	04 23 28.3	
	comp=Z,69nm,22.0s,baz=1.7,slow=37						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**04 06 58.7**	**+0.1**
	baz=38,SNR=46						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**04 06 58.0**	**-0.7**
HTT	**Hallett**	**39.02**	**164**	P	**P**	**04 07 03.8**	**+0.1**
	baz=39,SNR=5.9						
HHC	**Hu-ho-hao-te**	**39.10**	**342**	*e*P	**P**	**04 07 07.6**	**+3.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,98nm,6.0s						
HHC				LR	LR		
	comp=Z,150nm,15.9s						
HHC				LR	LR		
	comp=Z,170nm,16.5s						
HHC				LR	LR		
	comp=Z,190nm,15.9s						
CN2	**Changchun**	**39.62**	**359**	*e*P	**P**	**04 07 08.7**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHL	**Shillong**	**39.64**	**306**	P	**P**	**04 07 08.6**	**-0.5**
CMSA	**Cobar Meteorol**	**39.74**	**154**	P	**P**	**04 07 10.0**	**+0.3**
	baz=40,SNR=12						
ARMA	**Armidale**	**41.75**	**147**	P	**P**	**04 07 27.1**	**+0.7**
	baz=42,SNR=13						
ARMA	**Armidale**	**41.75**	**147**	P	**P**	**04 07 26.2**	**-0.2**
ARMA				IAmb	IAmb	04 07 28.0	
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**42.19**	**311**	P	**P**	**04 07 30.8**	**+0.3**
LSA				IAmb	IAmb	04 07 34.0	
	comp=Z,8.9nm,0.5s						
ASAJ	**Asahikawa**	**42.33**	**17**	P	**P**	**04 07 31.4**	**+0.6**
	comp=Z,4.7nm,0.6s,baz=283,slow=14,SNR=4.0						
ASAJ				LR	LR	04 26 07.6	
	comp=Z,57nm,20.0s,baz=154,slow=38						
JKA	**Kamikawa-asahi**	**42.33**	**17**	P	**P**	**04 07 31.4**	**+0.6**
JKA	**Kamikawa-asahi**	**42.33**	**17**	IAmb	IAmb	04 07 33.5	
	comp=Z,8.8nm,0.8s						
GTA	**Gaotai**	**42.81**	**329**	*e*P	**P**	**04 07 33.9**	**-1.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARPS	**Mount Arapiles**	**42.99**	**162**	P	**P**	**04 07 36.6**	**+0.4**
	baz=43,SNR=16						
CAN	**Canberra**	**44.41**	**154**	P	**P**	**04 07 47.7**	**0.0**
RAMN	**Ramite**	**44.52**	**305**	*e*P	**P**	**04 07 48.6**	**-0.5**
	comp=Z,5.4nm,0.4s						
JIRN	**Jiri**	**45.14**	**306**	*e*P	**P**	**04 07 52.7**	**-1.4**
HIA	**Hailar**	**45.46**	**354**	IAmb	IAmb	04 07 59.9	
	comp=Z,8.0nm,0.7s						
GUN	**Gumba**	**45.49**	**306**	*e*P	**P**	**04 07 55.6**	**-1.3**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**45.74**	**305**	*e*P	**P**	**04 07 57.5**	**-1.3**
PKIN	**Phulchoki**	**45.75**	**305**	*e*P	**P**	**04 07 58.3**	**-0.6**
	comp=Z,4.3nm,0.4s						
PALK	**Pallekele**	**45.83**	**276**	LR	LR	04 29 35.9	
	comp=Z,61nm,18.4s,baz=219,slow=39						
DZM	**Mont Dzumac**	**46.77**	**125**	P	**P**	**04 08 06.2**	**-0.5**
ULN	**Ulaanbaatar**	**46.82**	**342**	P	**P**	**04 08 07.2**	**+0.4**
KOLN	**Koldanda**	**47.30**	**305**	*e*P	**P**	**04 08 09.8**	**-1.1**
	comp=Z,28nm,0.7s						
DANN	**Dangsing**	**47.38**	**305**	*e*P	**P**	**04 08 10.2**	**-1.5**
	comp=Z,32nm,0.6s						
PYUN	**Piuthan**	**47.92**	**305**	*e*P	**P**	**04 08 14.4**	**-1.3**
	comp=Z,21nm,0.7s						
WMQ	**Urumqi**	**52.44**	**325**	*e*P	**P**	**04 08 52.9**	**+3.3**
WMQ				LR	LR		
	comp=Z,200nm,20.5s						
PETK	**Petropavlovsk-**	**55.19**	**22**	P	**P**	**04 09 09.2**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=96,slow=3.1,SNR=5.1						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**04 09 23.3**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=121,slow=8.0,SNR=26						
MKAR				ScP	**ScP**	**04 14 15.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=120,slow=5.2,SNR=5.2						
MKAR				LR	LR	04 35 35.0	
	comp=Z,144nm,19.2s,baz=102,slow=38						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**04 09 23.0**	**-1.4**
MAKZ	**Makanchi**	**57.46**	**325**	P	**P**	**04 09 24.7**	**-1.1**
MAKZ				IAmb	IAmb	04 09 40.1	
	comp=Z,4.1nm,0.7s						
NIL	**Nilore**	**57.69**	**308**	P	**P**	**04 09 26.7**	**-0.9**
NIL				IAmb	IAmb	04 09 42.1	
	comp=Z,11nm,0.9s						
KSH	**Kashi**	**57.78**	**315**	P	**P**	**04 09 29.8**	**+1.5**
KSH				pP	sP	04 09 42.9	+0.6
MA2	**Magadan**	**58.44**	**14**	LR	LR	04 32 43.0	
	comp=Z,28nm,22.0s,baz=202,slow=34						
MA2	**Magadan**	**58.44**	**14**	P	**P**	**04 09 32.9**	**+0.5**
MA2				IAmb	IAmb	04 09 46.8	
	comp=Z,4.3nm,0.8s						
AAK	**Ala-Archa**	**60.09**	**318**	LR	LR	04 37 38.1	
	comp=Z,170nm,21.8s,baz=98,slow=38						
AAK	**Ala-Archa**	**60.09**	**318**	P	**P**	**04 09 44.5**	**+0.2**
ZAA0	**Zalesovo Array**	**60.29**	**333**	P	**P**	**04 09 43.9**	**-1.3**
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**04 09 43.5**	**-1.8**
	comp=Z,2.7nm,0.5s,baz=120,slow=6.8,SNR=8.4						
ZALV				LR	LR	04 38 09.9	
	comp=Z,76nm,18.6s,baz=108,slow=38						
KBL	**Kabul**	**61.28**	**307**	P	**P**	**04 09 51.6**	**-1.1**
KBL				IAmb	IAmb	04 10 06.6	
	comp=Z,5.0nm,0.9s						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	**P**	**04 09 51.6**	**-1.5**
	comp=Z,5.9nm,0.7s,baz=123,slow=6.3,SNR=45						
KURK	**Kurchatov**	**61.45**	**327**	P	**P**	**04 09 51.7**	**-1.4**
GAR	**Garm**	**61.67**	**313**	P	**P**	**04 09 54.7**	**-0.4**
LBZ	**Lake Benmore**	**61.97**	**146**	P	**P**	**04 09 56.9**	**+0.1**
KKAR	**Karatay Array**	**62.97**	**317**	P	**P**	**04 10 03.0**	**-0.5**
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**04 10 29.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=67,slow=15,SNR=6.2						
BRVK	**Borovoye**	**67.11**	**327**	P	**P**	**04 10 30.1**	**-0.1**
BRVK				IAmb	IAmb	04 10 41.6	
	comp=Z,8.6nm,0.8s						
TIXI	**Tiksi**	**67.55**	**1**	P	**P**	**04 10 32.6**	**-0.1**
TIXI				IAmb	IAmb	04 10 45.5	
	comp=Z,12nm,1.4s						
NRIK	**Noril'sk**	**70.13**	**346**	P	**P**	**04 10 48.5**	**-0.3**
	comp=Z,12nm,0.6s,baz=124,slow=6.1,SNR=18						
ABKAR	**Akbulak array**	**71.88**	**321**	P	**P**	**04 10 59.3**	**-0.4**
AKTO	**Aktyubinsk**	**73.38**	**322**	P	**P**	**04 11 06.8**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=100,slow=11,SNR=4.7						
ARU	**Arti**	**74.65**	**328**	P	**P**	**04 11 14.4**	**-1.5**
	comp=Z,1.9nm,0.2s,baz=197,slow=2.4,SNR=6.2						
ARU	**Arti**	**74.65**	**328**	P	**P**	**04 11 16.4**	**+0.5**
ARU				IAmb	IAmb	04 11 42.2	
	comp=Z,18nm,1.4s						
BELG	**Belogornoye**	**80.13**	**322**	P	**P**	**04 11 46.3**	**-0.4**
	comp=Z,11nm,0.9s,baz=104,slow=5.0,SNR=4.2						
RAYN	**Ar Rayn**	**80.30**	**293**	P	**P**	**04 11 47.3**	**-1.0**
TTA	**Tatalina**	**80.67**	**27**	P	**P**	**04 11 50.3**	**+0.8**
L19K	**White Mountain**	**81.08**	**28**	P	**P**	**04 11 52.5**	**+0.8**
L19K				IAmb	IAmb	04 12 15.9	
	comp=Z,17nm,1.4s						
A21K	**Barrow**	**81.96**	**18**	IAmb	IAmb	04 11 59.6	
	comp=Z,11nm,1.2s						
IMAR	**Indian Mountai**	**82.11**	**24**	P	**P**	**04 11 57.6**	**+0.7**
H23K	**Yukon River**	**83.81**	**24**	IAmb	IAmb	04 12 25.5	
	comp=Z,7.7nm,1.0s						
H24K	**Noodor Dome**	**84.49**	**24**	IAmb	IAmb	04 12 29.1	
	comp=Z,10nm,1.4s						
KLMR	**Klimovskoe**	**85.11**	**331**	*e*P	**P**	**04 12 10.5**	**-1.9**
KLMR				AMP		04 12 16.2	
	comp=Z,19nm,1.0s						
KMBO	**Kilima Mbogo**	**89.48**	**269**	P	**P**	**04 12 34.5**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=72,slow=5.7,SNR=4.5						
KMBO	**Kilima Mbogo**	**89.48**	**269**	P	**P**	**04 12 38.8**	**+3.9**
KMBO				IAmb	IAmb	04 12 39.0	
	comp=Z,3.6nm,1.1s						
BRTR	**Keskin Array B**	**89.78**	**310**	P	**P**	**04 12 34.6**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=96,slow=7.6,SNR=6.3						
ARCES	**ARCESS Array B**	**90.15**	**340**	LR	LR	04 56 09.1	
	comp=Z,86nm,19.7s,baz=144,slow=38						
SPITS	**Spitsbergen Ar**	**90.18**	**349**	P	**P**	**04 12 37.4**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=88,slow=7.8,SNR=5.4						
SPITS				LR	LR	04 57 10.9	
	comp=Z,79nm,21.3s,baz=224,slow=38						
FINES	**FINESS Array B**	**91.54**	**332**	P	**P**	**04 12 41.8**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=95,slow=4.0,SNR=6.2						
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**04 12 41.3**	**-2.5**
	comp=Z,1.6nm,0.6s,baz=66,slow=4.7,SNR=7.0						
MNK	**Minsk**	**91.84**	**325**	*i* P	**P**	**04 12 43.3**	**-1.3**
	comp=E,2.0nm,0.9s						
MNK				*i* P	**P**	**04 12 43.3**	**-1.3**
	comp=N,7.0nm,0.9s						
MNK				*i* P	**P**	**04 12 43.3**	**-1.3**
	comp=Z,11nm,0.9s,baz=80						
MNK				*i* PP	**PP**	**04 16 22.9**	**-0.9**
MNK				*i* PPP	PPP	04 18 21.9	
MNK				*i* S	**SKSac**	**04 23 12.5**	**-2.4**
MNK				*i* PS	**PnS**	**04 24 57.8**	**-0.4**
MNK				*i* SSS	SSS	04 33 31.4	
MNK				*i* LQ	LQ	04 44 40.1	
MNK				*i* LR	LR	04 50 49.0	
MNK				*i* LRM	MLR	04 55 55.7	
	comp=E,21nm,19.9s						
MNK				*i* LRM	MLR	04 56 56.1	
	comp=Z,101nm,19.8s						
MNK				*i* LRM	MLR	04 56 56.2	
	comp=N,111nm,19.8s						
DLBC	**Dease Lake**	**93.53**	**31**	LR	LR	04 49 15.4	
	comp=N,84nm,21.4s,baz=270,slow=32						
MLR	**Muntele Rosu**	**94.64**	**316**	P	**P**	**04 12 56.3**	**-1.7**
	comp=N,2.6nm,0.9s,baz=248,slow=7.4,SNR=3.8						
MLR	**Muntele Rosu**	**94.64**	**316**	P	**P**	**04 12 56.5**	**-1.4**
MLR				IAmb	IAmb	04 13 21.6	
	comp=Z,3.4nm,1.0s						
BURAR	**Bucovina Array**	**94.73**	**318**	P	**P**	**04 12 58.3**	**0.0**
BURAR				IAmb	IAmb	04 13 00.5	
	comp=Z,2.6nm,0.8s						
BUR08	**Bucovina Ar. S**	**94.74**	**318**	IAmb	IAmb	04 13 01.9	
	comp=Z,4.9nm,1.1s						
NOA	**NORSAR Array B**	**98.49**	**334**	P	**P**	**04 13 12.7**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=68,slow=4.5,SNR=3.8						
NOA				LR	LR	05 02 22.2	
	comp=Z,57nm,19.1s,baz=60,slow=38						
YKA	**Yellowknife Ar**	**99.26**	**24**	P	**Pdif**	**04 13 17.6**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=291,slow=4.0,SNR=6.4						
TXAR	**Lajitas Array**	**121.48**	**52**	PKP	**PKPdf**	**04 18 30.2**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=306,slow=3.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**	**04 18 32.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=106,slow=2.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**122.76**	**288**		**PKPdf**	**04 18 31.3**	**-2.2**

NOU ***04*** *04:19:52.4, 38°.16S×175°.98E, h212km, MLv3.7/7, North Island, New Zealand*

WEL ***04*** *04:20:00.6±0.6, 38°S±3°×17°6E±°, h137km±6km, M2.9/65, ML2.4/7, MLv2.9/65, Error ellipse: s-maj=0.0km s-min=0.0km az=137.2*

ISC 04 04:19:55.2±1.7**, 38°.37S**±0°.05×**175°.94E**±0°.05**, h180**km±9km**, n133,** σ1s66/143**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.14**	**83**	P	**Pn**	**04 20 20.2**	**+1.1**
KUTZ	**Kaahu Road**	**0.15**	**216**	P	**Pn**	**04 20 20.3**	**+1.2**
HSRZ	**Hossack Road**	**0.25**	**77**	P	**Pn**	**04 20 20.3**	**+1.0**
HRRZ	**Handcock Road**	**0.27**	**95**	P	**Pn**	**04 20 20.4**	**+1.0**
UTU	**Utuhina**	**0.28**	**47**	P	**Pn**	**04 20 20.5**	**+1.1**
TLZ	**Tolley Road**	**0.32**	**276**	P	**Pn**	**04 20 20.7**	**+1.2**
HLRZ	**Highlands Stat**	**0.35**	**71**	P	**Pn**	**04 20 21.1**	**+1.5**
WATZ	**Wairara**	**0.38**	**205**	P	**Pn**	**04 20 21.0**	**+1.3**
KARZ	**Kaharoa**	**0.42**	**35**	P	**Pn**	**04 20 20.8**	**+0.9**
OMRZ	**Omania**	**0.43**	**53**	P	**Pn**	**04 20 20.8**	**+0.9**
RRRZ	**Republican Roa**	**0.46**	**87**	P	**Pn**	**04 20 20.5**	**+0.6**
TARZ	**Mount Tarawera**	**0.47**	**74**	P	**Pn**	**04 20 21.0**	**+1.0**
MKRZ	**Makatiti**	**0.48**	**62**	P	**Pn**	**04 20 21.5**	**+1.4**
RATZ	**Rangitukua**	**0.52**	**194**	P	**Pn**	**04 20 21.4**	**+1.2**
KMRZ	**Kaimai**	**0.52**	**0**	P	**Pn**	**04 20 21.2**	**+1.0**
HATZ	**Hinemaiaia**	**0.54**	**167**	P	**Pn**	**04 20 21.4**	**+1.1**
MRHZ	**Matea Rd**	**0.60**	**141**	P	**Pn**	**04 20 21.6**	**+1.0**
MRHZ				S	**S**	**04 20 37.4**	**-2.8**
RITZ	**Rihia Road**	**0.61**	**186**	P	**Pn**	**04 20 22.4**	**+1.8**
KATZ	**Kakaramea**	**0.64**	**197**	P	**Pn**	**04 20 22.3**	**+1.5**
MUGZ	**Murupara**	**0.67**	**100**	P	**Pn**	**04 20 21.7**	**+0.9**
MUGZ				S	**S**	**04 20 37.2**	**-3.3**
EDRZ	**Edgecumbe**	**0.68**	**68**	P	**Pn**	**04 20 21.9**	**+0.8**
TGRZ	**Tauranga**	**0.69**	**22**	P	**Pn**	**04 20 21.9**	**+0.9**
OPRZ	**Ohinepanea**	**0.71**	**43**	P	**Pn**	**04 20 22.0**	**+0.8**
TOZ	**Tahuroa Road**	**0.72**	**331**	P	**Pn**	**04 20 22.5**	**+1.3**
NTVZ	**North Tongarir**	**0.76**	**195**	P	**Pn**	**04 20 23.1**	**+1.6**
KRVZ	**Karewarewa**	**0.76**	**198**	P	**Pn**	**04 20 23.0**	**+1.5**
TMVZ	**Te Maari**	**0.77**	**194**	P	**Pn**	**04 20 23.1**	**+1.5**
ETVZ	**East Tongariro**	**0.79**	**193**	P	**Pn**	**04 20 23.4**	**+1.8**
WTVZ	**West Tongariro**	**0.80**	**200**	P	**Pn**	**04 20 23.2**	**+1.5**
NNVZ	**North Ngauruho**	**0.81**	**198**	P	**Pn**	**04 20 23.6**	**+1.8**
TWVZ	**Taurewa**	**0.81**	**209**	P	**Pn**	**04 20 23.3**	**+1.6**
OTVZ	**Oturere**	**0.82**	**195**	P	**Pn**	**04 20 23.6**	**+1.7**
NGZ	**Ngauruhoe**	**0.85**	**198**	P	**Pn**	**04 20 23.7**	**+1.6**
SNVZ	**South Ngauruho**	**0.85**	**196**	P	**Pn**	**04 20 23.7**	**+1.6**
RTZ	**Ruatahuna**	**0.86**	**107**	P	**Pn**	**04 20 23.2**	**+1.1**
MTHZ	**Maungataniwha**	**0.86**	**125**	P	**Pn**	**04 20 23.4**	**+1.4**
HIZ	**Hauiti**	**0.86**	**260**	P	**Pn**	**04 20 23.7**	**+1.7**
HIZ	**Hauiti**	**0.86**	**260**	P	**Pn**	**04 20 23.6**	**+1.7**
BKZ	**Black Stump Fm**	**0.91**	**152**	P	**Pn**	**04 20 23.8**	**+1.4**
BKZ	**Black Stump Fm**	**0.91**	**152**	P	**Pn**	**04 20 23.8**	**+1.4**
TUVZ	**Tukino**	**0.93**	**194**	P	**Pn**	**04 20 24.4**	**+1.8**
URZ	**Urewera**	**0.93**	**84**	P	**Pn**	**04 20 23.0**	**+0.6**
URZ	**Urewera**	**0.93**	**84**	P	**Pn**	**04 20 22.9**	**+0.5**
FWVZ	**Far West T-bar**	**0.94**	**199**	P	**Pn**	**04 20 24.4**	**+1.7**
DRZ	**Dome Shelter**	**0.95**	**198**	P	**Pn**	**04 20 25.3**	**+2.3**
WHVZ	**Whangaehu Hut**	**0.95**	**196**	P	**Pn**	**04 20 24.6**	**+1.7**
TRVZ	**Turoa**	**0.98**	**198**	P	**Pn**	**04 20 24.9**	**+1.8**
WNVZ	**Wahianoa**	**1.00**	**195**	P	**Pn**	**04 20 24.8**	**+1.7**
NMHZ	**Naumai**	**1.00**	**137**	P	**Pn**	**04 20 25.6**	**+2.6**
PKVZ	**Pokaka**	**1.03**	**206**	P	**Pn**	**04 20 25.1**	**+1.8**
MOVZ	**Moawhango**	**1.05**	**188**	P	**Pn**	**04 20 24.9**	**+1.5**
RAHZ	**Arahi**	**1.05**	**122**	P	**Pn**	**04 20 25.4**	**+2.0**
MTVZ	**Mangateitei**	**1.08**	**200**	P	**Pn**	**04 20 25.5**	**+1.9**
KWHZ	**Kaweka Forest**	**1.12**	**160**	P	**Pn**	**04 20 25.8**	**+1.8**
KWHZ				S	**S**	**04 20 45.4**	**-0.9**
BHHZ	**Black Hill Sta**	**1.13**	**175**	P	**Pn**	**04 20 25.5**	**+1.5**
BHHZ				S	**S**	**04 20 44.3**	**-2.1**
RAGZ	**Rawiri**	**1.17**	**97**	P	**Pn**	**04 20 25.8**	**+1.5**
RAGZ				S	**S**	**04 20 45.7**	**-1.1**
SNGZ	**Shannon Statio**	**1.18**	**111**	P	**Pn**	**04 20 26.3**	**+1.9**
SNGZ				S	**S**	**04 20 45.7**	**-1.1**
VRZ	**Vera Road**	**1.19**	**230**	P	**Pn**	**04 20 26.8**	**+2.4**
ARHZ	**Aropaoanui**	**1.22**	**138**	P	**Pn**	**04 20 27.1**	**+2.4**
ARHZ				S	**S**	**04 20 46.6**	**-0.9**
MCHZ	**McNeill Hill**	**1.23**	**151**	P	**Pn**	**04 20 27.3**	**+2.6**
MCHZ				S	**S**	**04 20 47.7**	**+0.1**
WHHZ	**Waihua**	**1.24**	**125**	P	**Pn**	**04 20 28.5**	**+3.7**
MWZ	**Matawai**	**1.25**	**89**	P	**Pn**	**04 20 26.2**	**+1.2**
MWZ				S	**S**	**04 20 46.9**	**-1.1**
KRHZ	**Kereru**	**1.32**	**165**	P	**Pn**	**04 20 27.6**	**+2.0**
RUGZ	**Raukumara Rang**	**1.43**	**74**	P	**Pn**	**04 20 27.2**	**+0.5**
RIGZ	**Rimuhau**	**1.47**	**104**	P	**Pn**	**04 20 28.9**	**+1.9**
TKGZ	**Te Karaka**	**1.50**	**93**	P	**Pn**	**04 20 29.2**	**+2.0**
PNHZ	**Pukenui**	**1.56**	**173**	P	**Pn**	**04 20 29.6**	**+1.8**
PNHZ				S	**S**	**04 20 51.3**	**-1.8**
CKHZ	**Cape Kidnapper**	**1.57**	**146**	P	**Pn**	**04 20 30.3**	**+2.5**
WAZ	**Wanganui**	**1.57**	**208**	P	**Pn**	**04 20 30.2**	**+2.3**
HAZ	**Te Kaha**	**1.58**	**68**	P	**Pn**	**04 20 28.6**	**+0.7**
DREZ	**Durham Road**	**1.59**	**238**	P	**Pn**	**04 20 31.0**	**+3.0**
KAHZ	**Kahuranaki**	**1.60**	**153**	P	**Pn**	**04 20 30.6**	**+2.4**
LREZ	**Lake Rotokare**	**1.62**	**227**	P	**Pn**	**04 20 31.4**	**+3.1**
TWGZ	**Tauwhareparae**	**1.62**	**84**	P	**Pn**	**04 20 30.5**	**+2.1**
PRGZ	**Paritu Road**	**1.62**	**111**	P	**Pn**	**04 20 30.4**	**+2.0**
KUZ	**Kuaotunu**	**1.63**	**354**	P	**Pn**	**04 20 30.2**	**+1.7**
TSZ	**Takapari Road**	**1.69**	**179**	P	**Pn**	**04 20 31.0**	**+1.9**
WIAZ	**Waiheke Island**	**1.69**	**338**	P	**Pn**	**04 20 31.2**	**+2.1**
NEZ	**North Egmont**	**1.70**	**237**	P	**Pn**	**04 20 32.4**	**+3.2**
PKE	**Pukeiti**	**1.73**	**241**	P	**Pn**	**04 20 32.6**	**+3.0**
WPHZ	**Waipukurau**	**1.74**	**167**	P	**Pn**	**04 20 31.6**	**+2.0**
PKGZ	**Pakihiroa**	**1.75**	**75**	P	**Pn**	**04 20 31.6**	**+1.8**
KHEZ	**Kahui Hut**	**1.76**	**238**	P	**Pn**	**04 20 32.9**	**+3.0**
CNGZ	**Carnagh Statio**	**1.79**	**94**	P	**Pn**	**04 20 32.5**	**+2.4**
PXZ	**Pawanui**	**1.81**	**157**	P	**Pn**	**04 20 32.5**	**+2.3**
NBEZ	**Newall Road No**	**1.85**	**240**	P	**Pn**	**04 20 33.7**	**+3.1**
PUZ	**Puketiti**	**1.85**	**82**	P	**Pn**	**04 20 31.6**	**+0.8**
DVHZ	**Dannevirke**	**1.94**	**175**	P	**Pn**	**04 20 33.3**	**+1.7**
PRHZ	**Porangahau**	**1.97**	**164**	P	**Pn**	**04 20 34.0**	**+2.1**
POWZ	**Post Office Ro**	**2.03**	**184**	P	**Pn**	**04 20 34.3**	**+1.8**
MXZ	**Matakaoa Point**	**2.04**	**68**	P	**Pn**	**04 20 34.7**	**+2.0**
ANWZ	**Angora Road**	**2.13**	**169**	P	**Pn**	**04 20 35.8**	**+2.1**
PRWZ	**Pori Road**	**2.19**	**179**	P	**Pn**	**04 20 36.2**	**+1.9**
MRZ	**Mangatainoka R**	**2.31**	**187**	P	**Pn**	**04 20 37.2**	**+1.5**
BFZ	**Birch Farm**	**2.33**	**174**	P	**Pn**	**04 20 37.5**	**+1.6**
BFZ	**Birch Farm**	**2.33**	**174**	P	**Pn**	**04 20 37.7**	**+1.8**
TIWZ	**Tintock**	**2.41**	**181**	P	**Pn**	**04 20 38.4**	**+1.6**
OGWZ	**Otaki Gorge**	**2.52**	**193**	P	**Pn**	**04 20 39.7**	**+1.6**
CPWZ	**Castlepoint**	**2.55**	**175**	P	**Pn**	**04 20 40.6**	**+2.2**
HOWZ	**Holdsworth Sta**	**2.55**	**187**	P	**Pn**	**04 20 39.7**	**+1.2**
KIW	**Kapiti Island**	**2.62**	**197**	P	**Pn**	**04 20 40.5**	**+1.3**
TMWZ	**Te Maipa**	**2.74**	**181**	P	**Pn**	**04 20 41.9**	**+1.2**
MTW	**Mount Morrison**	**2.81**	**187**	P	**Pn**	**04 20 42.5**	**+1.0**
CAW	**Cannon Point**	**2.82**	**193**	P	**Pn**	**04 20 43.0**	**+1.3**
DUWZ	**D'Urville Isla**	**2.89**	**212**	P	**Pn**	**04 20 43.8**	**+1.3**
TRWZ	**Traveller**	**3.04**	**184**	P	**Pn**	**04 20 45.4**	**+1.1**
PAWZ	**Paruwai Farm**	**3.04**	**187**	P	**Pn**	**04 20 45.2**	**+0.9**
WEL	**Wellington**	**3.05**	**197**	P	**Pn**	**04 20 45.5**	**+1.1**
SNZO	**South Karori**	**3.09**	**197**	P	**Pn**	**04 20 45.7**	**+0.8**
MSWZ	**Moikau Station**	**3.09**	**190**	P	**Pn**	**04 20 45.8**	**+0.8**
TCW	**Tory Channel**	**3.12**	**204**	P	**Pn**	**04 20 46.3**	**+1.0**
BHW	**Baring Head**	**3.15**	**195**	P	**Pn**	**04 20 46.6**	**+1.0**
PLWZ	**Palliser**	**3.24**	**189**	P	**Pn**	**04 20 47.5**	**+0.7**
TUWZ	**Tuamarina**	**3.42**	**206**	P	**Pn**	**04 20 49.8**	**+0.8**
NNZ	**Nelson**	**3.46**	**214**	P	**Pn**	**04 20 50.5**	**+1.0**
TKNZ	**Takaka Hill**	**3.52**	**220**	P	**Pn**	**04 20 50.9**	**+0.6**
QRZ	**Quartz Range**	**3.60**	**226**	P	**Pn**	**04 20 52.1**	**+0.8**
QRZ	**Quartz Range**	**3.60**	**226**	P	**Pn**	**04 20 51.6**	**+0.4**
CMWZ	**Cape Campbell**	**3.63**	**201**	P	**Pn**	**04 20 53.4**	**+1.8**
BSWZ	**Blackbirch Sta**	**3.70**	**205**	P	**Pn**	**04 20 53.3**	**+0.9**
MRNZ	**Matariki Terra**	**3.89**	**218**	P	**Pn**	**04 20 55.8**	**+0.8**
THZ	**Tophouse**	**4.11**	**213**	P	**Pn**	**04 20 58.9**	**+1.1**
KHZ	**Kahutara**	**4.44**	**204**	P	**Pn**	**04 21 02.6**	**+0.8**
KHZ	**Kahutara**	**4.44**	**204**	P	**Pn**	**04 21 02.7**	**+0.8**
DSZ	**Denniston Nort**	**4.63**	**222**	P	**Pn**	**04 21 04.5**	**+0.1**
GVZ	**Greta Valley S**	**5.10**	**205**	P	**Pn**	**04 21 10.6**	**+0.2**
LTZ	**Lake Taylor**	**5.22**	**211**	P	**Pn**	**04 21 12.0**	**0.0**
OKCZ	**Okains Bay**	**5.78**	**201**	P	**Pn**	**04 21 19.2**	**0.0**
AKCZ	**Akaroa Harbour**	**5.96**	**202**	P	**Pn**	**04 21 21.0**	**-0.6**
RPZ	**Rata Peaks**	**6.49**	**213**	P	**Pn**	**04 21 29.0**	**+0.3**
ARCZ	**Arundel**	**6.63**	**211**	P	**Pn**	**04 21 30.5**	**+0.1**
TMZ	**Timaru**	**7.06**	**210**	P	**Pn**	**04 21 36.2**	**+0.1**
ODZ	**Otahua Downs**	**7.76**	**209**	P	**Pn**	**04 21 45.6**	**+0.4**

BJI ***04*** *04:25:12.9±0.0, 20°.75S×178°.63W, h610km, mb5.5/66, mB5.2/42*

MOS ***04*** *04:25:13.4±0.9, 20°.91S×179°.02W, h606km, mb5.4/31, Error ellipse: s-maj=9.0km s-min=7.7km az=120.6*

BGR ***04*** *04:25:13.1±0.0, 21°.23S×178°.00W, h600km*

IDC ***04*** *04:25:14.4±0.7, 20°.95S×178°.94W, h608km±7km, mb4.8/31, mb1 4.8/35, mb1mx4.7/41, mbtmp5.7/35, Error ellipse: s-maj=8.8km s-min=7.8km az=164.0*

NEIC ***04*** *04:25:15.0±1.7, 20°.99S±0°.08×178°.95W±0°.09, h608km±5km, mb5.3/436, Error ellipse: s-maj=13.0km s-min=10.8km az=124.0*

NOU ***04*** *04:25:15.5, 21°.00S×178°.92W, h620km, ML5.2/122, Fiji Islands Region*

GCMT ***04*** *04:25:17.0±0.2, 20°.88S±0°.02×179°.03W±0°.02, h629km±1km, MW5.5/128, Moment Tensor Solution. s128,c200; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; Mrr-1.17±.03; Mθθ0.53±.04; Mφφ0.63±.04; Mrθ-1.20±.04; Mθφ0.48±.04; Mφr-0.99±.04; Best double couple: M0 1.91700×10^{17} NP1:φs217.00000°,δ18.00000°, λ-101.00000°. NP2:φs49.00000°,δ72.00000°, λ-86.00000°. Principal axes: T 1.8580, Plg27.0000°, Azm136.0000°; N 0.1150, Plg4.0000°, Azm227.0000°; P -1.9760, Plg63.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 04 04:25:14.7±0.3**, 21°.05S**±0°.04×**178°.91W**±0°.04**, h617**km±3km**, h618**km**:pP-P, n1578,** σ1s38/1592**, mb5.3**/302**, 115C-254D, Fault plane solution: NP1:**φs57.96714°**,** δ61.84222°**,** λ-101.94657°. **NP2:**φs262.11676°**,** δ30.39523°**,** λ-68.85669°. **Principal axes:** T Plg16.0356°**,** Azm156.7272°**;** N Plg10.5155°**,** Azm63.6690°**;** P Plg70.6658°**,** Azm301.7289°**; Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**318**	P	**P**	**04 26 45.8**	**+1.7**
	123nm,0.3s,baz=151,slow=6.4,SNR=486						
MSVF	**Nonsavu**	**4.37**	**318**	P	**P**	**04 26 46.0**	**+1.8**
RIZ	**Raoul Island**	**8.21**	**174**	S	**S**	**04 28 56.7**	**+0.3**
RAO	**Raoul Island**	**8.22**	**174**	P	**P**	**04 27 16.2**	**-0.4**
	116nm,0.3s,baz=102,slow=14,SNR=4.1						
RAO				S	**S**	**04 28 53.7**	**-2.8**
	153nm,0.3s,baz=280,slow=23,SNR=6.5						
RAO	**Raoul Island**	**8.22**	**174**	P	**P**	**04 27 15.1**	**-1.5**
GLKZ	**Green Lake**	**8.23**	**174**	P	**P**	**04 27 12.9**	**-3.8**
GLKZ				S	**S**	**04 28 52.7**	**-4.0**
NIUE	**Niue**	**8.67**	**79**	P	**P**	**04 27 21.0**	**0.0**
	baz=8.6,SNR=7.0						
NIUE	**Niue**	**8.67**	**79**	P	**P**	**04 27 20.7**	**-0.3**
NIUE	**Niue**	**8.67**	**79**	P	**P**	**04 27 21.8**	**+0.8**
AFI	**Afiamalu**	**9.83**	**45**	P	**P**	**04 27 30.5**	**-1.9**
	9.4nm,0.3s,baz=170,slow=3.1,SNR=11						
AFI				S	**S**	**04 29 20.0**	**-5.3**
	3.2nm,0.3s,baz=31,slow=22,SNR=8.1						
AFI	**Afiamalu**	**9.83**	**45**	P	**P**	**04 27 31.2**	**-1.2**
AFI	**Afiamalu**	**9.83**	**45**	P	**P**	**04 27 31.2**	**-1.2**
AFI	**Afiamalu**	**9.83**	**45**	P	**P**	**04 27 31.6**	**-0.8**
MARNC	**Mare, Loyalty**	**12.18**	**266**	P	**P**	**04 27 54.8**	**-0.4**
MARNC	**Mare, Loyalty**	**12.18**	**266**	P	**P**	**04 27 55.2**	**-0.1**
FUNA	**Funafuti**	**12.58**	**351**	P	**P**	**04 27 57.5**	**-1.8**
DVP	**Devils Point**	**12.61**	**283**	P	**P**	**04 28 00.4**	**+0.9**
PINNC	**Pines Island,**	**12.77**	**260**	P	**P**	**04 28 01.1**	**+0.2**
PINNC	**Pines Island,**	**12.77**	**260**	P	**P**	**04 28 01.7**	**+0.8**
LIFNC	**LIFOU**	**12.95**	**269**	P	**P**	**04 28 01.4**	**-1.3**
LIFNC	**LIFOU**	**12.95**	**269**	P	**P**	**04 28 02.1**	**-0.6**
YATNC	**Mamie plateau,**	**13.25**	**263**	P	**P**	**04 28 05.8**	**+0.1**
OUENC	**Ouen Island, N**	**13.31**	**262**	P	**P**	**04 28 06.6**	**+0.3**
DZM	**Mont Dzumac**	**13.66**	**263**	P	**P**	**04 28 09.9**	**0.0**
	6.8nm,0.3s,baz=91,slow=12,SNR=48						
DZM	**Mont Dzumac**	**13.66**	**263**	*e*P	**P**	**04 28 09.4**	**-0.5**
	218nm,0.9s						
DZM	**Mont Dzumac**	**13.66**	**263**	P	**P**	**04 28 09.2**	**-0.7**
ONTNC	**Ouen Toro**	**13.66**	**262**	P	**P**	**04 28 10.0**	**+0.2**

SANVU **Saraoutou** 14.31 291 P **P** 04 28 15.7 -0.3
OUZ **Omahuta** 15.58 203 P **P** 04 28 29.6 +2.3
OUZ IAmb IAmb 04 28 31.9
comp=Z,191nm,0.8s
OUZ **Omahuta** 15.58 203 P **P** 04 28 30.4 +3.1
GRZ **Great Barrier** 15.93 197 P **P** 04 28 32.2 +1.7
WCZ **Waipu Caves** 15.97 200 P **P** 04 28 34.0 +3.1
KUZ **Kuaotunu** 16.33 195 P **P** 04 28 35.8 +1.7
WIAZ **Waiheke Island** 16.53 197 P **P** 04 28 37.5 +1.6
RUGZ **Raukumara Rang** 17.12 189 P **P** 04 28 39.7 -1.8
RUGZ S **S** 04 31 23.0 -6.5
WHRZ **Whale Island** 17.13 191 P **P** 04 28 43.9 +2.4
TGRZ **Tauranga** 17.14 193 P **P** 04 28 44.1 +2.6
OPRZ **Ohinepanea** 17.20 192 P **P** 04 28 43.8 +1.8
TWGZ **Tauwhareparae** 17.28 188 P **P** 04 28 42.9 0.0
TWGZ S **S** 04 31 30.0 -2.0
KMRZ **Kaimai** 17.33 194 P **P** 04 28 45.9 +2.6
EDRZ **Edgecumbe** 17.41 192 P **P** 04 28 44.2 +0.1
OMRZ **Omania** 17.48 192 P **P** 04 28 46.5 +1.8
URZ **Urewera** 17.50 190 P **P** 04 28 42.7 -2.0
comp=Z,22nm,0.3s,baz=283,slow=2.3,SNR=76
URZ S **S** 04 31 31.9 -3.4
comp=Z,11nm,0.3s,baz=164,slow=20,SNR=9.5
URZ ScP **ScP** 04 35 27.0 -0.5
comp=Z,6.2nm,0.3s,baz=296,slow=3.2,SNR=11
URZ **Urewera** 17.50 190 P **P** 04 28 43.4 -1.3
URZ IAmb IAmb 04 28 45.6
comp=Z,209nm,1.2s
URZ **Urewera** 17.50 190 P **P** 04 28 42.8 -2.0
URZ S **S** 04 31 25.9 -9.4
URZ **Urewera** 17.50 190 P **P** 04 28 44.4 -0.3
MWZ **Matawai** 17.50 189 P **P** 04 28 43.9 -0.9
MWZ S **S** 04 31 31.5 -4.1
NGRZ **Ngongotaha** 17.52 193 P **P** 04 28 49.0 +4.0
CNGZ **Carnagh Statio** 17.56 188 P **P** 04 28 45.8 +0.5
CNGZ S **S** 04 31 37.8 +1.5
TKGZ **Te Karaka** 17.56 188 P **P** 04 28 45.9 +0.6
TKGZ S **S** 04 31 33.0 -3.4
TARZ **Mount Tarawera** 17.58 192 P **P** 04 28 46.3 +0.6
RAGZ **Rawiri** 17.68 190 P **P** 04 28 46.7 +0.1
RAGZ S **S** 04 31 34.7 -3.8
RRRZ **Republican Roa** 17.68 192 P **P** 04 28 48.5 +2.0
MUGZ **Murupara** 17.77 191 P **P** 04 28 47.2 -0.1
GRRZ **Galatos Road** 17.77 193 P **P** 04 28 49.2 +1.9
HRRZ **Handcock Road** 17.78 192 P **P** 04 28 48.3 +0.9
RIGZ **Rimuhau** 17.83 189 P **P** 04 28 47.1 -0.8
RIGZ S **S** 04 31 37.8 -3.1
RAR **Rarotonga** 17.86 94 P **P** 04 28 48.0 -0.3
comp=Z,3.2nm,0.3s,baz=241,slow=6.3,SNR=7.9
RAR **Rarotonga** 17.86 94 P **P** 04 28 49.5 +1.2
RAR pmax pmax
comp=Z,340nm,1.3s
RAR **Rarotonga** 17.86 94 P **P** 04 28 49.5 +1.2
RAR **Rarotonga** 17.86 94 P **P** 04 28 50.2 +1.9
PRRZ **Plateau Road** 17.86 192 P **P** 04 28 48.5 +0.4
RTZ **Ruatahuna** 17.87 191 P **P** 04 28 47.7 -0.5
ALRZ **Allen Road** 17.93 192 P **P** 04 28 49.1 +0.4
SNGZ **Shannon Statio** 17.97 190 P **P** 04 28 47.7 -1.4
SNGZ S **S** 04 31 38.8 -4.2
PRGZ **Paritu Road** 18.03 188 P **P** 04 28 50.8 +1.1
PRGZ S **S** 04 31 44.5 +0.5
MTHZ **Maungataniwha** 18.12 191 P **P** 04 28 50.0 -0.5
MTHZ S **S** 04 31 42.0 -3.5
RAHZ **Arahi** 18.14 190 P **P** 04 28 50.4 -0.3
RAHZ S **S** 04 31 43.3 -2.6
KNZ **Kokohu** 18.16 189 P **P** 04 28 51.9 +1.2
MRHZ **Matea Rd** 18.18 192 P **P** 04 28 50.5 -0.5
HIZ **Hauiti** 18.22 196 P **P** 04 28 54.3 +3.0
HIZ **Hauiti** 18.22 196 P **P** 04 28 53.9 +2.5
WHHZ **Waihua** 18.27 190 P **P** 04 28 53.7 +1.9
RATZ **Rangitukua** 18.34 193 P **P** 04 28 53.4 +0.9
NMHZ **Naumai** 18.36 191 P **P** 04 28 51.5 -1.3
RITZ **Rihia Road** 18.43 193 P **P** 04 28 54.1 +0.8
BKZ **Black Stump Fm** 18.49 191 P **P** 04 28 53.2 -0.6
BKZ IAmb IAmb 04 28 56.9
comp=Z,51nm,0.5s
BKZ **Black Stump Fm** 18.49 191 P **P** 04 28 53.0 -0.8
BKZ **Black Stump Fm** 18.49 191 P **P** 04 28 53.8 0.0
NTVZ **North Tongarir** 18.59 193 P **P** 04 28 56.1 +1.3
TMVZ **Te Maari** 18.60 193 P **P** 04 28 55.7 +0.8
TWVZ **Taurewa** 18.61 194 P **P** 04 28 55.3 +0.3
ETVZ **East Tongariro** 18.61 193 P **P** 04 28 56.1 +1.1
WTVZ **West Tongariro** 18.62 193 P **P** 04 28 54.8 -0.3
NNVZ **North Ngauruho** 18.63 193 P **P** 04 28 56.0 +0.8
OTVZ **Oturere** 18.65 193 P **P** 04 28 54.3 -1.1
NGZ **Ngauruhoe** 18.68 193 P **P** 04 28 56.9 +1.3
SNVZ **South Ngauruho** 18.68 193 P **P** 04 28 55.0 -0.7
MCHZ **McNeill Hill** 18.72 191 P **P** 04 28 55.2 -0.5
KWHZ **Kaweka Forest** 18.75 191 P **P** 04 28 55.3 -0.9
TUVZ **Tukino** 18.75 193 P **P** 04 28 56.4 +0.1
FWVZ **Far West T-bar** 18.76 193 P **P** 04 28 57.2 +0.7
WHVZ **Whangaehu Hut** 18.78 193 P **P** 04 28 57.1 +0.4
TRVZ **Turoa** 18.80 193 P **P** 04 28 56.7 -0.2
WNVZ **Wahianoa** 18.82 193 P **P** 04 28 56.1 -0.9
PKVZ **Pokaka** 18.84 194 P **P** 04 28 57.3 +0.3
MOVZ **Moawhango** 18.86 193 P **P** 04 28 57.1 -0.1
BHHZ **Black Hill Sta** 18.88 192 P **P** 04 28 55.4 -2.0
MHEZ **Mangahewa** 18.89 196 P P 04 29 05.7 +8.3
MTVZ **Mangateitei** 18.90 194 P **P** 04 28 56.6 -1.0
KRHZ **Kereru** 18.97 191 P **P** 04 28 57.3 -0.9
KAHZ **Kahuranaki** 19.03 190 P **P** 04 28 58.4 -0.4
NEZ **North Egmont** 19.13 197 P **P** 04 29 03.3 +3.6
KHEZ **Kahui Hut** 19.18 197 P **P** 04 29 04.2 +4.1
PXZ **Pawanui** 19.27 190 P **P** 04 29 00.7 -0.1
PNHZ **Pukenui** 19.27 191 P **P** 04 28 59.9 -0.9
WPHZ **Waipukurau** 19.37 191 P **P** 04 29 02.8 +1.0
TSZ **Takapari Road** 19.45 192 P **P** 04 29 02.3 -0.3
PRHZ **Porangahau** 19.53 190 P **P** 04 29 03.1 -0.1
DVHZ **Dannevirke** 19.65 191 P **P** 04 29 04.4 +0.1
ANWZ **Angora Road** 19.75 190 P **P** 04 29 05.7 +0.6
POWZ **Post Office Ro** 19.81 192 P **P** 04 29 06.2 +0.4
PRWZ **Pori Road** 19.93 191 P **P** 04 29 06.9 +0.1
BFZ **Birch Farm** 20.00 191 P **P** 04 29 06.5 -1.0
BFZ **Birch Farm** 20.00 191 P **P** 04 29 07.9 +0.4
MRZ **Mangatainoka R** 20.11 192 P **P** 04 29 07.2 -1.2
TIWZ **Tintock** 20.16 192 P **P** 04 29 09.2 +0.3
OGWZ **Otaki Gorge** 20.34 193 P **P** 04 29 09.5 -1.0
HOWZ **Holdsworth Sta** 20.35 192 P **P** 04 29 09.7 -0.9
KIW **Kapiti Island** 20.44 194 P **P** 04 29 10.8 -0.6
TMWZ **Te Maipa** 20.48 191 P **P** 04 29 11.6 -0.2
MTW **Mount Morrison** 20.60 192 P **P** 04 29 11.9 -1.0
CAW **Cannon Point** 20.64 193 P **P** 04 29 12.5 -0.7
TRWZ **Traveller** 20.80 192 P **P** 04 29 14.4 -0.2
SNZO **South Karori** 20.91 194 P **P** 04 29 15.8 +0.2
BHW **Baring Head** 20.97 193 P **P** 04 29 16.0 -0.1
QRZ **Quartz Range** 21.02 198 P **P** 04 29 17.4 +0.8
KHZ **Kahutara** 22.23 195 P **P** 04 29 27.0 -0.3
KHZ IAmb IAmb 04 29 27.4
comp=Z,121nm,1.2s
KHZ **Kahutara** 22.23 195 P **P** 04 29 27.5 +0.2
LHI **Lord Howe Isla** 22.29 238 P **P** 04 29 28.4 +0.3
LHI IAmb IAmb 04 29 31.1
comp=Z,93nm,0.8s
TARA **Tarawa** 23.65 339 P **P** 04 29 39.8 -0.6
RPZ **Rata Peaks** 24.10 198 P **P** 04 29 43.8 -0.1
comp=Z,28nm,0.5s,baz=38,slow=5.1,SNR=27
RPZ ScP **ScP** 04 35 43.7 -0.1
comp=Z,14nm,0.6s,baz=26,slow=9.3,SNR=3.3
WHZ **Wether Hill Ro** 27.02 200 P **P** 04 30 10.4 +0.9
PAE **Paea** 27.86 88 *e*P **P** 04 30 18.7 +1.5
comp=Z,29nm,1.1s
PAE *e*ScP **ScP** 04 35 55.3 -0.1
comp=Z,10nm,0.9s
PPT2 **Papeete2** 27.88 88 *e*P **P** 04 30 19.2 +1.7
comp=Z,153nm,1.0s
PPT2 *e*ScP **ScP** 04 35 55.5 -0.1
comp=Z,128nm,1.2s
EIDS **Eidsvold** 27.88 255 P **P** 04 30 17.9 +0.6
baz=28,SNR=34
EIDS **Eidsvold** 27.88 255 P **P** 04 30 17.3 -0.1
EIDS IAmb IAmb 04 30 18.8
comp=Z,53nm,0.6s
EIDS **Eidsvold** 27.88 255 P **P** 04 30 18.0 +0.6
PPT **Papeete** 27.88 88 P **P** 04 30 18.4 +0.9
comp=Z,143nm,0.7s,baz=123,slow=4.2,SNR=11
PPT ScP **ScP** 04 35 57.8 +2.2
comp=Z,65nm,0.7s,baz=294,slow=2.2,SNR=5.6
PPTF **Pamatai, Papee** 27.89 88 P **P** 04 30 18.0 +0.4
PPTF **Pamatai, Papee** 27.89 88 P **P** 04 30 20.2 +2.6
ARMA **Armidale** 28.06 245 P **P** 04 30 20.4 +1.5
baz=28,SNR=61
ARMA **Armidale** 28.06 245 P **P** 04 30 19.9 +0.9
ARMA IAmb IAmb 04 30 21.5
comp=Z,69nm,0.8s
ARMA **Armidale** 28.06 245 P **P** 04 30 20.9 +1.9
TVO **Taravao** 28.14 89 *e*P **P** 04 30 21.3 +1.6
comp=Z,0.2nm,0.7s
RK1H **Rockhampton Ha** 28.39 260 P **P** 04 30 22.7 +0.9
MGCD **Mangrove Creek** 29.20 239 P **P** 04 30 30.0 +1.4
baz=29,SNR=12
MGCD **Mangrove Creek** 29.20 239 P **P** 04 30 30.6 +2.0
SYDH **Sydney Hard Ro** 29.65 238 P **P** 04 30 33.9 +1.4
RMQ **Roma** 30.03 253 P **P** 04 30 37.5 +1.7
baz=30,SNR=49
RMQ **Roma** 30.03 253 P **P** 04 30 37.9 +2.0
PMOR **Pomariorio Ree** 30.07 84 *e*P **P** 04 30 37.8 +1.5
comp=Z,307nm,1.2s
CNB **Canberra Magne** 31.21 236 P **P** 04 30 47.4 +1.5
baz=31,SNR=39
CNB **Canberra Magne** 31.21 236 P **P** 04 30 47.3 +1.4
CAN **Canberra** 31.50 236 P **P** 04 30 49.1 +0.8
CAN pmax pmax
comp=Z,70nm,1.0s
CAN **Canberra** 31.50 236 P **P** 04 30 49.1 +0.8
CAN IAmb IAmb 04 30 50.6
comp=Z,70nm,1.0s
CAN **Canberra** 31.50 236 P **P** 04 30 50.1 +1.8
CTA **Charters Tower** 32.59 265 P **P** 04 30 58.1 +0.5
comp=Z,169nm,0.5s,baz=91,slow=9.9,SNR=304
CTA PcP **PcP** 04 33 25.7 +0.9
comp=Z,30nm,0.6s,baz=93,slow=2.7,SNR=5.1
CTA S **S** 04 35 28.9 -2.7
comp=Z,3.5nm,0.3s,baz=297,slow=15,SNR=5.6
CTA **Charters Tower** 32.59 265 P **P** 04 30 58.6 +0.9
CMSA **Cobar Meteorol** 33.28 244 P **P** 04 31 04.0 +0.7
baz=33,SNR=143
CMSA **Cobar Meteorol** 33.28 244 P **P** 04 31 04.5 +1.2
QLP **Quilpie** 34.08 253 P **P** 04 31 10.5 +0.5
baz=34,SNR=33
QLP **Quilpie** 34.08 253 P **P** 04 31 11.0 +0.9
GLAD **Gladstone** 34.33 227 P **P** 04 31 13.6 +1.7
PMG **Port Moresby** 34.64 284 P **P** 04 31 14.5 -0.3
comp=Z,186nm,0.8s,baz=84,slow=5.2,SNR=63
PMG PcP **PcP** 04 33 31.3 +0.5
comp=Z,14nm,0.5s,baz=100,slow=8.7,SNR=4.1
PMG **Port Moresby** 34.64 284 *de*P **P** 04 31 15.2 +0.4
PMG pmax pmax
comp=Z,298nm,1.3s
PMG **Port Moresby** 34.64 284 P **P** 04 31 14.7 -0.1
PMG **Port Moresby** 34.64 284 P **P** 04 31 15.4 +0.6
MTSU **Mount Surprise** 34.72 268 P **P** 04 31 15.7 +0.2
baz=35,SNR=92
MTSU **Mount Surprise** 34.72 268 P **P** 04 31 16.5 +1.1
TOO **Toolangi** 34.89 234 P **P** 04 31 17.6 +1.0
baz=35,SNR=9.3
TOO **Toolangi** 34.89 234 P **P** 04 31 17.9 +1.3
TOO pmax pmax
comp=Z,76nm,0.8s
TOO **Toolangi** 34.89 234 P **P** 04 31 17.9 +1.3
TOO IAmb IAmb 04 31 18.6
comp=Z,76nm,0.8s
TOO **Toolangi** 34.89 234 P **P** 04 31 18.3 +1.7
CORO **Coronation Par** 35.12 227 P **P** 04 31 20.5 +2.1
MOO **Moorlands** 35.52 225 P **P** 04 31 22.9 +1.3
baz=36,SNR=5.8
GEXS **Deakin Univers** 35.98 233 P **P** 04 31 27.6 +2.0
comp=Z,95nm,0.8s
BRAT **Ballarat** 36.06 235 P **P** 04 31 28.6 +2.4
COEN **Coen** 36.77 275 P **P** 04 31 32.3 -0.1
COEN **Coen** 36.77 275 P **P** 04 31 33.5 +1.2
STKA **Stephens Creek** 36.78 245 P **P** 04 31 33.1 +0.9
comp=Z,69nm,0.5s,baz=92,slow=9.8,SNR=237
STKA PcP **PcP** 04 33 38.1 +1.0
comp=Z,18nm,0.6s,baz=44,slow=11,SNR=3.5
STKA ScP **ScP** 04 36 27.7 +1.4
comp=Z,14nm,0.9s,baz=29,slow=2.9,SNR=4.3
STKA **Stephens Creek** 36.78 245 P **P** 04 31 33.1 +0.9
baz=37,SNR=169
STKA **Stephens Creek** 36.78 245 P **P** 04 31 32.4 +0.1
STKA pmax pmax
comp=Z,36nm,1.1s
STKA **Stephens Creek** 36.78 245 P **P** 04 31 32.4 +0.1
STKA **Stephens Creek** 36.78 245 P **P** 04 31 33.6 +1.4
INKA **Innaminka** 37.22 252 P **P** 04 31 37.5 +1.7
ARPS **Mount Arapiles** 37.47 237 P **P** 04 31 38.4 +0.6
baz=38,SNR=16
ARPS **Mount Arapiles** 37.47 237 P **P** 04 31 39.1 +1.3
MANU **Manus Island** 37.90 295 P **P** 04 31 41.8 +0.3
MANU IAmb IAmb 04 31 43.3
comp=Z,149nm,1.4s
QIS **Mount Isa** 38.70 263 P **P** 04 31 47.5 -0.4
baz=39,SNR=48
QIS **Mount Isa** 38.70 263 P **P** 04 31 47.8 -0.2
HTT **Hallett** 39.22 243 P **P** 04 31 52.5 +0.5
baz=39,SNR=93
HTT **Hallett** 39.22 243 P **P** 04 31 53.4 +1.5
TAOE **Nuku Hiva Isla** 39.25 78 *e*P **P** 04 31 54.0 +1.5
comp=Z,173nm,1.0s
TAOE **Nuku Hiva Isla** 39.25 78 P **P** 04 31 53.5 +1.1
TAOE IAmb IAmb 04 31 54.9
comp=Z,120nm,0.9s
TAOE **Nuku Hiva Isla** 39.25 78 P **P** 04 31 53.6 +1.1
LCRK **Leigh Creek** 39.54 247 P **P** 04 31 55.6 +1.1
TWOA **Tennyson Woods** 39.73 240 P **P** 04 31 56.4 +0.5
NAPP **Napperby** 39.83 243 P **P** 04 31 58.2 +1.4
PTPS **Port Pirie** 39.96 243 P **P** 04 31 59.4 +1.7
WHYH **Whyalla** 40.29 243 P **P** 04 32 01.6 +1.2
BBOO **Buckleboo** 41.54 244 P **P** 04 32 10.5 +0.3
baz=42,SNR=341
BBOO **Buckleboo** 41.54 244 P **P** 04 32 10.6 +0.3
BBOO **Buckleboo** 41.54 244 P **P** 04 32 11.0 +0.7
OOD **Oodnadatta** 41.70 251 P **P** 04 32 13.1 +1.5
WAKE **Wake Island** 42.50 340 P **P** 04 32 17.4 -0.4
WAKE **Wake Island** 42.50 340 P **P** 04 32 18.3 +0.5
H11N3 **WAKE ISLAND Hy** 42.82 340 P **P** 04 32 19.7 -0.4
baz=174,slow=9.7,SNR=12
H11N1 **WAKE ISLAND Hy** 42.82 340 P **P** 04 32 20.1 0.0
baz=174,slow=9.7,SNR=8.5
H11N2 **WAKE ISLAND Hy** 42.84 340 P **P** 04 32 20.3 +0.1
baz=174,slow=9.7,SNR=7.5
MULG **Mulgathing** 43.12 248 P **P** 04 32 23.3 +0.7
JAY **Jayapura** 43.41 290 P **P** 04 32 25.6 +0.5
comp=Z,365nm,0.7s,baz=144,slow=4.6,SNR=120
WR0 **Warramunga Arr** 43.49 263 IAmb IAmb 04 32 27.0
comp=Z,125nm,0.7s
ASAR **Alice Springs** 43.56 257 P **P** 04 32 26.3 +0.1
comp=Z,352nm,0.8s,baz=98,slow=7.5,SNR=2279
ASAR PcP **PcP** 04 33 60.0 +0.3
comp=Z,57nm,0.6s,baz=105,slow=4.0,SNR=13
ASAR ScP **ScP** 04 36 55.3 +2.0
comp=Z,16nm,0.6s,baz=105,slow=3.9,SNR=9.8
ASAR S **S** 04 38 09.6 -2.7
comp=Z,54nm,0.9s,baz=94,slow=15,SNR=40
ASAR P4KPbc 05 10 13.4
comp=Z,0.4nm,0.5s,baz=102,slow=4.6,SNR=6.2
WRAB **Tennant Creek** 43.67 263 *de*P **P** 04 32 26.7 -0.4
WRAB pmax pmax
comp=Z,422nm,1.3s
WRAB **Tennant Creek** 43.67 263 P **P** 04 32 26.5 -0.5
WRAB **Tennant Creek** 43.67 263 P **P** 04 32 27.2 +0.1
WRA **Warramunga Arr** 43.68 263 P **P** 04 32 26.5 -0.7
comp=Z,195nm,0.6s,baz=98,slow=8.1,SNR=2229
WRA PcP **PcP** 04 34 00.4 +0.3
comp=Z,34nm,0.9s,baz=100,slow=4.0,SNR=9.1
WRA ScP **ScP** 04 36 55.8 +2.0
comp=Z,5.9nm,0.8s,baz=93,slow=3.7,SNR=5.4
WRA S **S** 04 38 09.4 -4.6
comp=Z,36nm,1.0s,baz=96,slow=12,SNR=24
GENI **Genyem** 43.85 289 P **P** 04 32 27.5 -0.9
comp=Z,4μmcomp=Z,454nm,0.8s
GENI **Genyem** 43.85 289 P **P** 04 32 29.5 +1.1
KHLU **Kahalu`u** 46.25 31 P **P** 04 32 47.0 +0.4
KHLU IAmb IAmb 04 32 48.3
comp=Z,106nm,0.8s
HMH **Humu'ula Sheep** 46.45 31 P **P** 04 32 49.1 +0.7
KEKH **Kekaha** 46.69 25 IAmb IAmb 04 32 51.4
comp=Z,121nm,0.7s
KIP **Kipapa** 46.89 27 *i* P **P** 04 32 51.7 +0.4
KIP pmax pmax
comp=Z,54nm,0.9s
KIP **Kipapa** 46.89 27 P **P** 04 32 51.6 +0.3
KIP IAmb IAmb 04 32 53.7
comp=Z,87nm,0.9s
KIP **Kipapa** 46.89 27 P **P** 04 32 52.3 +1.0
KIP **Kipapa** 46.89 27 P **P** 04 32 52.4 +1.1
KDU **Kakadu** 47.11 272 P **P** 04 32 52.7 -0.4
baz=47,SNR=80
KDU **Kakadu** 47.11 272 P **P** 04 32 53.1 0.0
SRPI **Serui, Papua** 47.66 288 P **P** 04 33 00.9 +3.6
FORT **Forrest** 48.30 247 P **P** 04 33 01.6 -0.2
baz=48,SNR=112
FORT **Forrest** 48.30 247 P **P** 04 33 01.7 0.0
FORT **Forrest** 48.30 247 P **P** 04 33 02.1 +0.4
WRKA **Warakurna** 48.50 255 P **P** 04 33 03.3 -0.1
baz=48,SNR=1000
WRKA **Warakurna** 48.50 255 P **P** 04 33 04.3 +0.9
DRS **Darwin Rock St** 48.66 272 P **P** 04 33 04.7 +0.1
GUMO **Guam** 49.50 311 P **P** 04 33 10.0 -0.7
comp=Z,284nm,0.8s,baz=167,slow=7.7,SNR=10.0
GUMO **Guam** 49.50 311 P **P** 04 33 10.8 0.0
GUMO pmax pmax
comp=Z,373nm,0.9s
GUMO **Guam** 49.50 311 P **P** 04 33 10.8 0.0
KNRA **Kununurra** 49.77 267 P **P** 04 33 12.5 -0.2
baz=50,SNR=64
KNRA **Kununurra** 49.77 267 P **P** 04 33 12.4 -0.3
KNRA **Kununurra** 49.77 267 P **P** 04 33 13.5 +0.7
FAKI **Fak Fak** 50.80 284 P **P** 04 33 19.6 -0.6
FAKI IAmb IAmb 04 33 21.0
comp=Z,200nm,1.2s
FAKI **Fak Fak** 50.80 284 P **P** 04 33 20.3 0.0
FITZ **Fitzroy Crossi** 52.11 263 P **P** 04 33 29.6 0.0
baz=52,SNR=128
BNDI **Bandanaira** 52.29 281 P **P** 04 33 31.1 +0.2
SWI **Sorong** 52.57 286 P **P** 04 33 33.4 +0.5
comp=Z,10μmcomp=Z,1μm,0.8s
AAI **Ambon** 54.18 281 P **P** 04 33 43.5 -0.8
comp=Z,4μmcomp=Z,358nm,1.0s
LBMI **Labuha** 56.05 284 P **P** 04 33 58.4 +1.1
comp=Z,2μmcomp=Z,244nm,0.9s
BATI **Baumata** 56.09 272 P **P** 04 33 57.5 0.0
comp=Z,2μmcomp=Z,228nm,0.8s
PSA00 **Pilbara Seismi** 56.71 257 P **P** 04 34 01.1 -0.6
PSA00 PcP **PcP** 04 34 48.8 +0.1
PSA00 **Pilbara Seismi** 56.71 257 P **P** 04 34 02.0 +0.3
TNTI **Ternate** 56.78 286 P **P** 04 34 02.2 0.0
TNTI **Ternate** 56.78 286 P **P** 04 34 01.8 -0.4
comp=Z,3μmcomp=Z,409nm,0.9s
TNTI **Ternate** 56.78 286 P **P** 04 34 02.5 +0.3
SANI **Sanana** 56.85 282 P **P** 04 34 02.5 -0.2
comp=Z,2μmcomp=Z,264nm,0.8s
SANI **Sanana** 56.85 282 P **P** 04 34 02.6 -0.2
KLBR **Kellerberrin** 57.05 245 P **P** 04 34 03.7 -0.2
baz=57,SNR=164
KLBR **Kellerberrin** 57.05 245 P **P** 04 34 04.2 +0.3
VNDA **Vanda** 57.30 185 P **P** 04 34 07.2 +2.6
comp=Z,8.1nm,0.5s,baz=1.0,slow=8.3,SNR=54
VNDA ScP **ScP** 04 37 52.5 +1.2
comp=Z,8.4nm,0.7s,baz=340,slow=5.3,SNR=7.8
VNDA **Vanda** 57.30 185 P **P** 04 34 06.7 +2.0
VNDA **Vanda** 57.30 185 P **P** 04 34 06.7 +2.0
RKGY **Rocky Gully** 57.43 242 P **P** 04 34 07.1 +0.7
baz=58,SNR=50
RKGY **Rocky Gully** 57.43 242 P **P** 04 34 07.5 +1.1
MMRI **Maumere** 57.92 273 P **P** 04 34 09.9 -0.1
BLDU **Ballidu** 58.05 246 P **P** 04 34 10.3 -0.3
baz=58,SNR=151
BLDU **Ballidu** 58.05 246 P **P** 04 34 10.8 +0.2
MUN **Mundaring** 58.32 245 P **P** 04 34 13.1 +0.7
baz=58,SNR=58
MUN **Mundaring** 58.32 245 P **P** 04 34 13.1 +0.7
MTKN **Mount Kenneth** 58.69 245 P **P** 04 34 17.4 +2.5
MORW **Morawa** 58.83 248 P **P** 04 34 15.7 -0.2
baz=59,SNR=57
MORW **Morawa** 58.83 248 P **P** 04 34 15.7 -0.2
MORW IAmb IAmb 04 34 16.8
comp=Z,308nm,1.3s
MORW **Morawa** 58.83 248 P **P** 04 34 16.3 +0.4
BASI **Baing, Sumba** 58.97 271 P **P** 04 34 18.0 +1.0
comp=Z,3μmcomp=Z,335nm,1.1s
H01W1 **Cape Leeuwin H** 59.73 241 P **P** 04 34 23.4 +2.0
baz=115,slow=7.2,SNR=18
H01W3 **Cape Leeuwin H** 59.74 241 P **P** 04 34 23.6 +2.0
baz=115,slow=7.2,SNR=13
H01W2 **Cape Leeuwin H** 59.74 241 P **P** 04 34 23.6 +2.1
baz=115,slow=7.2,SNR=12
KMSI **Cibinong** 59.75 284 P **P** 04 34 22.6 +0.4
comp=Z,200nm,0.6s
LUWI **Luwuk** 60.20 281 P **P** 04 34 24.7 -0.4
LUWI **Luwuk** 60.20 281 P **P** 04 34 26.0 +0.9
WBSI **Waikabubak, Su** 60.26 271 P **P** 04 34 25.8 +0.2
comp=Z,2μmcomp=Z,164nm,0.8s
BSSI **Bau Bau, Buton** 60.40 275 P **P** 04 34 25.7 -0.8
comp=Z,857nmcomp=Z,55nm,1.1s
JCJ **Chichijima** 60.90 320 P **P** 04 34 29.1 -0.3
BKSI **Bulukumba** 61.03 276 P **P** 04 34 30.4 -0.2
comp=Z,1μmcomp=Z,91nm,0.9s
DAV **Davao City (W)** 61.23 291 P **P** 04 34 31.4 -0.4
APSI **Ampana** 61.28 281 P **P** 04 34 33.2 +1.0
comp=Z,2μmcomp=Z,241nm,1.0s
BNSI **Bone** 61.38 277 P **P** 04 34 33.6 +0.8
comp=Z,2μmcomp=Z,214nm,0.9s
KAPI **Kappang** 61.49 276 P **P** 04 34 33.6 0.0
KAPI pmax pmax
comp=Z,37nm,0.7s
KAPI **Kappang** 61.49 276 P **P** 04 34 33.6 0.0
KAPI **Kappang** 61.49 276 P **P** 04 34 33.9 +0.3
MRSI **Marisa** 61.57 283 P **P** 04 34 33.0 -1.1
comp=Z,2μmcomp=Z,143nm,0.6s
GIRL **Giralia** 61.58 255 P **P** 04 34 35.2 +1.1
baz=62,SNR=45
GIRL **Giralia** 61.58 255 P **P** 04 34 34.4 +0.3
GIRL **Giralia** 61.58 255 P **P** 04 34 35.6 +1.5
PLAI **Plampang** 62.03 271 P **P** 04 34 36.4 -0.7
comp=Z,4μmcomp=Z,491nm,1.0s
PLAI **Plampang** 62.03 271 P **P** 04 34 37.0 -0.1
TOLI2 **Tolitoli** 62.89 283 P **P** 04 34 41.9 -0.7
TOLI2 IAmb IAmb 04 34 44.9
comp=Z,115nm,0.6s
TOLI2 **Tolitoli** 62.89 283 P **P** 04 34 42.7 +0.1
SRBI **Singaraja** 64.66 271 P **P** 04 34 55.2 +1.4
comp=Z,3μmcomp=Z,237nm,0.9s
JAGI **Jajag, Banyuwa** 65.53 270 P **P** 04 34 58.1 -1.1
JAGI **Jajag, Banyuwa** 65.53 270 P **P** 04 34 58.3 -1.0
MYLDM **Lahad Datu** 66.65 286 IAmb IAmb 04 35 26.4
comp=Z,92nm,0.9s
GRJI **Gresik** 67.61 271 P **P** 04 35 11.5 -0.5
comp=Z,2μmcomp=Z,228nm,0.6s
PWJI **Pagerwojo** 67.87 270 P **P** 04 35 14.2 +0.6
comp=Z,187nm,0.9s
PCJI **Pacitan** 68.40 269 P **P** 04 35 17.0 +0.2
comp=Z,9μmcomp=Z,901nm,0.7s
QSPA **South Pole Qui** 69.03 180 P **P** 04 35 20.5 +0.7
QSPA IAmb IAmb 04 35 22.5
comp=Z,59nm,0.9s
KKM **Kota Kinabalu** 69.08 285 P **P** 04 35 20.7 -0.2
KKM IAmb IAmb 04 35 22.3
comp=Z,126nm,0.7s
KKM **Kota Kinabalu** 69.08 285 P **P** 04 35 21.7 +0.7
UGM **Wanagama** 69.10 269 P **P** 04 35 21.3 +0.2
comp=Z,3μmcomp=Z,400nm,0.7s
UGM **Wanagama** 69.10 269 P **P** 04 35 21.3 +0.2
SMRI **Semarang** 69.47 270 P **P** 04 35 22.5 -0.7
SMRI **Semarang** 69.47 270 P **P** 04 35 23.9 +0.7
JMM **Marumori** 69.78 327 IAmb IAmb 04 35 25.7
comp=Z,146nm,1.1s
JOW **Kunigami** 69.87 311 P **P** 04 35 26.5 +1.2
JGF **Furoka** 69.93 323 IAmb IAmb 04 35 26.3
comp=Z,48nm,0.7s
INU **Inuyama** 69.94 323 IAmb IAmb 04 35 26.7
comp=Z,69nm,0.9s
INU **Inuyama** 69.94 323 P **P** 04 35 26.1 +0.6
MJAR **Matsushiro Arr** 70.15 324 P **P** 04 35 26.0 -0.7
comp=Z,83nm,0.7s,baz=160,slow=5.5,SNR=114
MJAR **Matsushiro Arr** 70.15 324 P **P** 04 35 26.0 -0.7
MJAR **Matsushiro Arr** 70.15 324 IAmb IAmb 04 35 27.6
comp=Z,85nm,0.8s
MAJO **Matsushiro** 70.15 324 *d* iP **P** 04 35 26.6 -0.1
MAJO pmax pmax
comp=Z,85nm,0.9s
MAJO **Matsushiro** 70.15 324 P **P** 04 35 26.6 -0.1
MAJO IAmb IAmb 04 35 27.6
comp=Z,100nm,0.8s
MAJO **Matsushiro** 70.15 324 P **P** 04 35 27.0 +0.3
MAT **Matsushiro** 70.15 324 P **P** 04 35 26.1 -0.6
MJB9 **Matsu-Tunnel** 70.15 324 IAmb IAmb 04 35 27.6
comp=Z,98nm,0.8s
JMN **Monobe** 70.64 320 IAmb IAmb 04 35 31.6
comp=Z,123nm,0.9s
KPJI **Karang Pucung** 70.78 269 P **P** 04 35 32.4 +1.5
comp=Z,2μmcomp=Z,227nm,0.8s

SBUM Sibu 71.26 280 P P 04 35 33.5 -0.2
JTM Tenmabayashi 71.89 329 IAmb IAmb 04 35 38.3
comp=Z,111nm,0.8s
JNU Nakatsue 72.09 317 P P 04 35 38.0 -0.2
comp=Z,90nm,0.9s,baz=87,slow=1.9,SNR=26
JNU Nakatsue 72.09 317 P P 04 35 38.8 +0.6
ADK Adak 72.64 1 P P 04 35 40.2 -0.6
ADK pmax pmax
comp=Z,267nm,0.7s
ADK Adak 72.64 1 P P 04 35 40.2 -0.6
ADK Adak 72.64 1 P P 04 35 40.8 0.0
KSM Kuching 72.64 279 P P 04 35 42.7 +1.0
XMI Christmas Isla 72.78 265 P P 04 35 43.3 +0.7
XMIS Christmas Isla 72.81 265 P P 04 35 42.3 -0.4
XMIS IAmb IAmb 04 35 43.7
comp=Z,126nm,1.1s
XMIS Christmas Isla 72.81 265 P P 04 35 43.1 +0.4
ATKA Atka Island 73.05 3 P P 04 35 43.1 0.0
YULB Yu-li 73.09 304 IAmb IAmb 04 35 43.9
comp=Z,99nm,0.6s
NACB Ninganchiao 73.28 305 P P 04 35 43.5 -1.6
TPUB Ta-pu 73.56 303 P P 04 35 46.2 -0.5
SSLB Suanglung 73.56 304 P P 04 35 46.3 -0.5
YHNB Yeheng 73.71 305 P P 04 35 47.8 +0.2
TATO Taipei 73.79 305 P P 04 35 48.0 0.0
JKA Kamikawa-asahi 73.80 332 IAmb IAmb 04 35 50.4
comp=Z,156nm,1.0s
ASAJ Asahikawa 73.80 332 P P 04 35 48.8 +1.2
comp=Z,99nm,0.8s,baz=210,slow=7.6,SNR=55
NIKH Nikolski High 74.22 6 P P 04 35 49.3 -0.4
NIKH Nikolski High 74.22 6 P P 04 35 49.1 -0.7
baz=190,SNR=14
SKR Severo-Kuril's 74.74 344 *ce* P P 04 35 53.8 +1.2
UNV Unalaska Valle 75.34 8 P P 04 35 55.2 -0.7
baz=192,SNR=9.5
UNV Unalaska Valle 75.34 8 P P 04 35 55.5 -0.4
KNMB Chin-men Tao 75.91 303 IAmb IAmb 04 36 01.2
comp=Z,105nm,0.9s
QZH Quanzhou 76.00 304 ⇓ *i* P P 04 36 00.9 +0.6
QZH S S 04 44 55.1 +0.3
QZH SS SS 04 50 05.7 -0.7
QZH pmax pmax
comp=Z,110nm,0.7s
QZH pmax pmax
comp=Z,190nm,4.4s
YSS Yuzh-Sakhalins 76.00 334 *e* P P 04 36 00.8 +1.1
YSS pmax pmax
comp=Z,80nm,1.2s
YSS pmax pmax
comp=Z,400nm,2.9s
YSS Yuzh-Sakhalins 76.00 334 P P 04 36 00.5 +0.8
YSS IAmb IAmb 04 36 01.4
comp=Z,64nm,0.7s
YSS Yuzh-Sakhalins 76.00 334 P P 04 36 01.0 +1.3
PMBI Palembang 76.18 272 P P 04 36 02.1 +0.6
PET Petropavlovsk 76.29 346 *e* P P 04 36 00.4 -0.7
PET *e* S S 04 44 58.5 +1.8
PET pmax pmax
comp=Z,105nm,0.6s
PET pmax pmax
comp=Z,100nm,8.9s
PET Petropavlovsk 76.29 346 P P 04 36 01.0 -0.2
PET IAmb IAmb 04 36 01.4
comp=Z,52nm,0.7s
PET Petropavlovsk 76.29 346 P P 04 36 01.1 0.0
TJN Taejon 76.39 318 *de* P P 04 36 02.5 +0.3
TJN Taejon 76.39 318 IAmb IAmb 04 36 05.4
comp=Z,107nm,0.7s
TJN Taejon 76.39 318 P P 04 36 02.5 +0.3
PEA0B Petropavlovsk- 76.58 346 *ce* P P 04 36 03.0 +0.2
PEA0B Petropavlovsk- 76.58 346 P P 04 36 03.0 +0.2
PEA0B IAmb IAmb 04 36 04.0
comp=Z,133nm,0.8s
PETK Petropavlovsk- 76.58 346 P P 04 36 02.1 -0.7
comp=Z,81nm,0.7s,baz=144,slow=5.9,SNR=117
KSRS Korea Array 76.73 319 P P 04 36 05.0 +1.0
comp=Z,18nm,0.7s,baz=135,slow=6.3,SNR=64
FALS False Pass 76.75 9 IAmb IAmb 04 36 06.0
comp=Z,113nm,0.7s
FALS False Pass 76.75 9 P P 04 36 03.2 -0.4
baz=195
FALS False Pass 76.75 9 P P 04 36 03.8 +0.2
KS19 Wonju Array Si 76.80 319 P P 04 36 04.6 +0.2
TEY Ternei 77.25 329 ⇓ *e* P P 04 36 07.5 +1.0
TEY *e* 04 36 22.0
TEY pmax pmax
comp=Z,10.0nm,1.7s
CNBA Chernabura Isl 77.35 11 IAmb IAmb 04 36 07.7
comp=Z,180nm,1.2s
CHNA Chernabura Isl 77.36 11 P P 04 36 06.7 -0.3
baz=198
MNAI Manna 77.38 270 P P 04 36 08.2 +0.1
SSE Sheshan 77.39 310 P P 04 36 08.2 +0.6
SSE pmax pmax
comp=Z,39nm,0.7s
INCN Inchon 77.55 318 P P 04 36 08.8 +0.4
INCN pmax pmax
comp=Z,143nm,1.4s
INCN Inchon 77.55 318 P P 04 36 08.8 +0.4
INCN IAmb IAmb 04 36 10.3
comp=Z,143nm,1.4s
INCN Inchon 77.55 318 P P 04 36 09.8 +1.4
SDPT Sand Point 77.70 11 P P 04 36 08.5 -0.2
baz=198,SNR=6.5
UGL Uglegorsk 77.98 335 *e* P P 04 36 10.6 +0.2
UGL *e* 04 36 19.6
UGL pmax pmax
comp=Z,180nm,1.0s
HKPS Hong Kong Po S 78.21 299 IAmb IAmb 04 36 14.7
comp=Z,171nm,0.9s
SPIA Saint Paul Isl 78.26 5 P P 04 36 12.0 +0.3
baz=188
MSHR Mys Shultsa 78.26 325 *de* P P 04 36 12.7 +0.6
MSHR pmax pmax
comp=Z,107nm,0.9s
SMAI San Martin Ant 78.41 159 P P 04 36 14.1 +1.6
SMAI IAmb IAmb 04 36 15.6
comp=Z,125nm,0.7s
DLV T Lat 78.47 288 IAmb IAmb 04 36 16.2
comp=Z,106nm,0.8s
DLV T Lat 78.47 288 P P 04 36 15.5 +1.5
MASI Maura Aman, Be 78.47 271 P P 04 36 13.1 -0.9
comp=Z,5µmcomp=Z,492nm,1.2s
MYKOM Kota Tinggi 78.75 276 P P 04 36 16.1 +0.7
MYKOM IAmb IAmb 04 36 17.0
comp=Z,150nm,0.8s
SCI2 San Clemente I 78.77 48 P P 04 36 16.6 +1.6
baz=236
USA0B Ussuriysk Arra 78.94 326 IAmb IAmb 04 36 17.9
comp=Z,142nm,0.9s
USRK Ussuriysk Ar. 78.94 326 P P 04 36 16.8 +1.2
comp=Z,121nm,0.8s,baz=127,slow=3.2,SNR=86
CHGN Chignik 78.97 11 IAmb IAmb 04 36 16.4
comp=Z,133nm,0.8s
CHGN Chignik 78.97 11 P P 04 36 15.4 0.0
baz=199,SNR=7.5
CHIR Chirikof Islan 79.08 13 P P 04 36 17.2 +1.1
baz=202
CIS Catalina Islan 79.09 48 P P 04 36 17.9 +1.1
baz=236
PMPB Monarch Peak 79.10 44 IAmb IAmb 04 36 19.9
comp=Z,96nm,1.5s
SMMC Simmler 79.11 46 P P 04 36 18.6 +1.7
baz=234
BELA Belgrano 2 79.13 173 P P 04 36 16.5 +0.3
TYV Tymovskoe 79.19 336 *e* P P 04 36 17.9 +1.1
TYV *e* S S 04 45 20.1 -7.0
TYV pmax pmax
comp=Z,500nm,1.8s
TYV pmax pmax
comp=Z,155nm,1.0s
TYV smax smax
comp=N,1µm,12.0s
TYV smax smax
comp=E,700nm,12.0s
HOPS Hopland Field 79.34 41 IAmb IAmb 04 36 20.8
comp=Z,93nm,0.9s
NJ2 Nanjing 79.57 310 ⇓ P P 04 36 20.3 +1.1
NJ2 PcP PcP 04 36 26.3 +1.6
NJ2 pmax pmax
comp=Z,99nm,0.9s
NJ2 pmax pmax
comp=Z,510nm,4.9s
KMPM Mount Pierce 79.59 39 IAmb IAmb 04 36 22.6
comp=Z,131nm,1.0s

DECC Green Verdugo 79.63 47 P P 04 36 20.8 +1.3
baz=236
109C Camp Elliot, M 79.72 49 P P 04 36 21.6 +1.5
baz=237
ARVC Arvin 79.78 46 P P 04 36 21.5 +1.2
baz=235,SNR=6.9
VES Vestal, Richgr 80.02 45 P P 04 36 22.4 +0.9
baz=235,SNR=14
MURC Murrieta 80.05 48 P P 04 36 23.1 +1.3
baz=236,SNR=10
SII Sitkinak Islan 80.07 14 P P 04 36 21.3 0.0
SII IAmb IAmb 04 36 22.9
comp=Z,160nm,0.9s
SII Sitkinak Islan 80.07 14 P P 04 36 22.0 +0.8
baz=203
SII Sitkinak Islan 80.07 14 P P 04 36 22.4 +1.1
KHMM Horse Mountain 80.11 39 IAmb IAmb 04 36 25.3
comp=Z,73nm,0.9s
KRPM Rodgers 80.12 39 IAmb IAmb 04 36 25.5
comp=Z,132nm,1.2s
MONP2 Monument Peak 80.21 49 P P 04 36 24.4 +1.6
baz=237,SNR=14
EDW2 Edwards Air Fo 80.21 47 P P 04 36 23.6 +1.0
baz=236,SNR=24
O02D Mt. Diablo Mer 80.24 40 IAmb IAmb 04 36 26.2
comp=Z,105nm,1.0s
O02D Mt. Diablo Mer 80.24 40 P P 04 36 24.8 +2.1
baz=232
IKP In-Ko-Pah, Jac 80.30 50 P P 04 36 24.7 +1.6
baz=237,SNR=6.2
QIZ Qiongzhong 80.30 295 P P 04 36 24.0 +0.7
ISA Isabella, Lake 80.33 46 P P 04 36 24.4 +1.2
baz=235,SNR=34
MDJ Mudanjiang 80.48 325 P P 04 36 23.9 +0.2
MDJ IAmb IAmb 04 36 25.9
comp=Z,114nm,0.9s
MDJ Mudanjiang 80.48 325 P P 04 36 25.1 +1.4
MDJ pmax pmax
comp=Z,150nm,0.8s
MDJ pmax pmax
comp=Z,440nm,3.7s
MDJ Mudanjiang 80.48 325 P P 04 36 24.7 +1.0
PFO Pinyon Flats O 80.57 49 P P 04 36 25.6 +1.1
comp=Z,7.3nm,0.9s,baz=196,slow=2.0,SNR=5.4
PFO Pinyon Flats O 80.57 49 P P 04 36 25.7 +1.1
PFO Pinyon Flats O 80.57 49 P P 04 36 26.0 +1.4
baz=237,SNR=8.3
TPFO Pinon Flats 80.57 49 P P 04 36 25.9 +1.3
baz=237,SNR=7.3
BBRC Big Bear Solar 80.61 48 P P 04 36 26.1 +1.2
baz=237
WDC Whiskeytown Da 80.64 40 P P 04 36 25.4 +0.8
WDC pmax pmax
comp=Z,78nm,1.1s
WDC Whiskeytown Da 80.64 40 P P 04 36 25.4 +0.8
WDC IAmb IAmb 04 36 27.6
comp=Z,78nm,1.1s
SWSC Sam W. Stewart 80.68 49 P P 04 36 26.5 +1.5
baz=238,SNR=5.7
LRMC Laurel Mtn Rad 80.76 46 P P 04 36 26.9 +1.4
baz=236
N02D Trinity Center 80.78 40 IAmb IAmb 04 36 28.8
comp=Z,89nm,1.0s
N02D Trinity Center 80.78 40 P P 04 36 27.5 +2.1
baz=232,SNR=30
BKNI Bangkinang 80.83 274 P P 04 36 25.9 -0.3
BKNI Bangkinang 80.83 274 P P 04 36 26.5 +0.3
OHAK Old Harbor 80.88 14 IAmb IAmb 04 36 26.8
comp=Z,93nm,0.9s
OHAK Old Harbor 80.88 14 P P 04 36 25.5 +0.1
baz=204
RRX Edison Barstow 80.89 47 P P 04 36 27.5 +1.4
baz=236
O03E Paynes Creek 80.91 41 IAmb IAmb 04 36 29.4
comp=Z,166nm,1.2s
O03E Paynes Creek 80.91 41 P P 04 36 27.2 +1.0
baz=232,SNR=49
M02C Callahan 80.95 39 IAmb IAmb 04 36 29.7
comp=Z,96nm,0.8s
M02C Callahan 80.95 39 P P 04 36 28.3 +2.0
baz=232,SNR=42
L02E Cave Junction 80.99 38 P P 04 36 28.4 +2.0
baz=231,SNR=7.2
CWC Cottonwood Cre 81.03 45 P P 04 36 28.1 +1.2
baz=236
OMMB Old Mammoth Mi 81.09 44 P P 04 36 28.4 +1.0
BELC Belle Mtn. Jos 81.11 48 P P 04 36 28.7 +1.3
baz=233
MLAC Mammoth, Mammo 81.20 44 P P 04 36 29.2 +1.3
baz=235
MPMC Manual Prospec 81.21 46 P P 04 36 29.0 +1.1
baz=236,SNR=38
YBH Yreka Blue Hor 81.25 39 P P 04 36 29.5 +1.7
comp=Z,56nm,0.7s,baz=216,slow=1.3,SNR=137
YBH Yreka Blue Hor 81.25 39 IAmb IAmb 04 36 30.9
comp=Z,73nm,0.8s
GSC Goldstone, Bar 81.25 47 P P 04 36 29.3 +1.3
baz=237,SNR=22
TIN Tinemaha, Big 81.27 45 P P 04 36 29.3 +1.2
baz=235
K02D Willamette Mer 81.30 38 P P 04 36 30.0 +2.0
baz=231,SNR=10
BC3 Big Chuckawall 81.30 49 P P 04 36 29.7 +1.3
baz=238,SNR=10
HEC Hector Ludlow 81.32 48 P P 04 36 29.3 +1.0
baz=237,SNR=37
MPK Martis Peak 81.41 42 IAmb IAmb 04 36 31.6
comp=Z,213nm,1.4s
GLA Glamis 81.43 50 IAmb IAmb 04 36 32.1
comp=Z,54nm,0.8s
GLA Glamis 81.43 50 P P 04 36 30.8 +1.9
baz=238,SNR=12
J01E Myrtle Point 81.44 37 IAmb IAmb 04 36 31.6
comp=Z,100nm,0.9s
J01E Myrtle Point 81.44 37 P P 04 36 30.2 +1.6
baz=231,SNR=7.7
BEKR Beckworth 81.54 42 IAmb IAmb 04 36 32.0
comp=Z,105nm,1.5s
KDAK Kodiak Island 81.55 14 P P 04 36 28.7 -0.1
comp=Z,35nm,0.9s,baz=264,slow=3.0,SNR=20
KDAK Kodiak Island 81.55 14 P P 04 36 29.6 +0.8
KDAK IAmb IAmb 04 36 30.4
comp=Z,142nm,1.4s
KDAK Kodiak Island 81.55 14 P P 04 36 29.4 +0.6
baz=205
PNTR Pine Nut 81.56 43 IAmb IAmb 04 36 32.4
comp=Z,111nm,0.8s
GRNR Gornyy 81.60 333 ⇑ *i* P P 04 36 30.8 +1.5
GRNR *e* S S 04 45 49.0 -2.6
GRNR pmax pmax
comp=E,6.0nm,0.9s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.6s
VCNR Virginia City 81.65 42 P P 04 36 31.2 +1.2
HUMO Hull Mountain 81.65 38 IAmb IAmb 04 36 33.0
comp=Z,95nm,1.1s
YERR Yerington 81.72 43 IAmb IAmb 04 36 32.9
comp=Z,54nm,0.8s
GMRC Granite Mounta 81.76 48 P P 04 36 31.9 +1.2
baz=237,SNR=17
L04D Klamath Falls 81.78 39 IAmb IAmb 04 36 33.3
comp=Z,111nm,0.8s
L04D Klamath Falls 81.78 39 P P 04 36 31.7 +1.1
baz=232,SNR=35
IRM Iron Mountain 81.79 49 P P 04 36 32.2 +1.5
baz=238,SNR=29
M04C Macdoel 81.79 39 IAmb IAmb 04 36 33.5
comp=Z,70nm,0.9s
M04C Macdoel 81.79 39 P P 04 36 32.0 +1.4
baz=232,SNR=23
DBO Dodson Butte 81.80 38 P P 04 36 31.9 +1.3
DBO IAmb IAmb 04 36 33.6
comp=Z,62nm,1.1s
GRAC Grapevine Rang 81.81 45 IAmb IAmb 04 36 33.5
comp=Z,54nm,0.8s
GRAC Grapevine Rang 81.81 45 P P 04 36 31.9 +1.1
baz=236,SNR=37
FURC Furnace Creek, 81.86 46 P P 04 36 31.7 +0.8
baz=236,SNR=17
TUQ Turquoise Moun 81.93 47 P P 04 36 32.5 +1.0
baz=237,SNR=8.6
NVAR Mina Array Bea 82.01 44 P P 04 36 33.0 +1.0
comp=Z,21nm,0.6s,baz=224,slow=8.4,SNR=181

NVAR pP pwP 04 38 44.7 +0.7
comp=Z,0.1nm,0.3s,baz=28,slow=31,SNR=1.7
NVAR PKKPbc PKKPbc 04 54 58.1 +0.6
comp=Z,2.4nm,0.7s,baz=80,slow=3.4,SNR=19
NVAR PKPPKP P'P'df 05 03 05.7 +5.5
comp=Z,2.9nm,0.9s,baz=92,slow=2.5,SNR=9.0
PAHR Pah Rah Range 82.05 42 IAmb IAmb 04 36 34.6
comp=Z,51nm,0.9s
SISI Saibi 82.06 272 P P 04 36 33.3 +0.8
comp=Z,958nmcomp=Z,86nm,1.0s
WHN Wuhan 82.08 307 ⇓ P P 04 36 32.8 +0.6
WHN pmax pmax
comp=Z,310nm,1.4s
I02E Swisshome, OR 82.08 37 P P 04 36 32.5 +0.7
baz=231
NV11 Mina Array Sit 82.10 44 IAmb IAmb 04 36 34.8
comp=Z,61nm,1.1s
I03D Drain, OR 82.11 37 P P 04 36 33.7 +1.7
baz=231,SNR=8.9
CN2 Changchun 82.21 323 ⇓ *i* P P 04 36 33.1 +0.6
CN2 sP sP 04 39 40.9 -2.4
CN2 S S 04 46 00.7 +2.8
CN2 pmax pmax
comp=Z,120nm,1.3s
CN2 pmax pmax
comp=Z,400nm,3.0s
214A Organ Pipe Nat 82.32 52 P P 04 36 34.9 +1.5
baz=239,SNR=19
IPM Ipoh 82.36 278 P P 04 36 34.5 +0.5
IPM Ipoh 82.36 278 P P 04 36 34.9 +0.9
K04D Chiloquin, OR 82.36 39 P P 04 36 34.5 +1.0
baz=232
Q19K Cape Douglas, 82.36 13 P P 04 36 32.4 -0.6
baz=204,SNR=6.1
BNX BinXian 82.38 325 ⇑ P P 04 36 33.7 +0.4
BNX pP pwP 04 38 46.8 +1.4
BNX PP PP 04 39 52.5 -2.0
BNX SKS S 04 45 55.9 -3.6
BNX S SKSSac 04 46 00.3 -1.1
BNX pmax pmax
comp=Z,250nm,0.7s
BNX pmax pmax
comp=Z,800nm,4.0s
P18K Big Mountain, 82.47 12 IAmb IAmb 04 36 34.3
comp=Z,81nm,0.8s
P18K Big Mountain, 82.47 12 P P 04 36 33.0 -0.5
baz=202,SNR=16
NEE2 Needles Airpor 82.48 48 P P 04 36 35.6 +1.5
baz=238
UBPT Khong Chiam 82.50 289 P P 04 36 35.0 +0.4
UBPT IAmb IAmb 04 36 36.6
comp=Z,61nm,1.0s
J04D Umpqua Nationa 82.53 38 P P 04 36 35.9 +1.5
baz=232,SNR=35
TPNV Topopah Spring 82.53 46 P P 04 36 35.6 +1.1
baz=237,SNR=47
KLR Kul'dur 82.56 330 *de* P P 04 36 34.8 +0.6
KLR pmax pmax
comp=Z,77nm,1.0s
PDMCI Parker Dam,Lak 82.57 49 P P 04 36 36.0 +1.4
baz=238,SNR=19
BUCK Buck Mountain 82.62 37 IAmb IAmb 04 36 37.7
comp=Z,136nm,1.1s
GULI GuiLin 82.67 301 P P 04 36 35.9 +0.6
I04A Tendick Farm, 82.70 38 P P 04 36 35.8 +0.7
baz=232,SNR=15
MOD Modoc Plateau 82.78 40 IAmb IAmb 04 36 38.2
comp=Z,51nm,0.8s
K05A Summer Lake 82.92 39 IAmb IAmb 04 36 39.4
comp=Z,114nm,0.8s
Q09A Carvers 82.96 44 IAmb IAmb 04 36 39.0
comp=Z,52nm,0.9s
H04D Lebanon 82.97 37 IAmb IAmb 04 36 39.2
comp=Z,95nm,0.9s
H04D Lebanon 82.97 37 P P 04 36 37.6 +1.4
baz=231,SNR=11
KULM Kulim 83.00 278 P P 04 36 37.8 +0.6
KULM IAmb IAmb 04 36 39.1
comp=Z,133nm,1.0s
TIA Tai'an 83.02 313 ⇓ P P 04 36 37.4 +0.7
TIA pmax pmax
comp=Z,86nm,1.0s
J05D Fort Rock, OR 83.06 38 P P 04 36 38.5 +1.5
baz=233,SNR=111
G03D McMinnville, O 83.10 36 IAmb IAmb 04 36 39.8
comp=Z,68nm,0.8s
G03D McMinnville, O 83.10 36 P P 04 36 38.2 +1.3
baz=231,SNR=7.7
W13A Hualapai Mount 83.16 48 P P 04 36 39.2 +1.4
H04A Detroit Lake 83.37 37 IAmb IAmb 04 36 40.5
comp=Z,73nm,1.0s
O19K Port Alsworth 83.39 12 P P 04 36 37.5 -0.5
baz=203,SNR=61
CNPM China Poot 83.43 14 IAmb IAmb 04 36 39.6
comp=Z,118nm,0.8s
HOM Homer 83.46 14 P P 04 36 38.7 +0.4
baz=206
PINE Pine Mountain 83.54 38 P P 04 36 40.9 +1.5
PINE IAmb IAmb 04 36 42.4
comp=Z,112nm,0.8s
O20K Slope Mountain 83.63 13 P P 04 36 38.7 -0.6
baz=205,SNR=14
I05D Terrebonne, OR 83.64 38 P P 04 36 41.1 +1.3
baz=232,SNR=22
RPSI Rantau Prapat 83.65 275 P P 04 36 40.0 -0.5
RPSI IAmb IAmb 04 36 41.2
comp=Z,112nm,0.8s
PSI Prapat 83.69 275 P P 04 36 40.0 -0.8
PSI pmax pmax
comp=Z,112nm,0.8s
PSI Prapat 83.69 275 P P 04 36 40.3 -0.5
BRLK Bradley Lake 83.72 14 IAmb IAmb 04 36 40.9
comp=Z,121nm,0.8s
BRSE Bradley Lake S 83.73 14 P P 04 36 39.7 0.0
baz=206,SNR=28
R11A Troy Canyon, C 83.74 45 P P 04 36 41.3 +0.8
baz=237,SNR=8.7
F04D Rainier, OR 83.79 35 P P 04 36 42.1 +1.8
baz=231
N19K Bonanza Creek 83.93 12 IAmb IAmb 04 36 41.3
comp=Z,68nm,0.9s
N19K Bonanza Creek 83.93 12 P P 04 36 40.1 -0.7
baz=203
TUC Tucson 83.99 52 P P 04 36 43.0 +1.2
TUC pmax pmax
comp=Z,31nm,1.0s
TUC Tucson 83.99 52 P P 04 36 43.0 +1.2
TUC Tucson 83.99 52 P P 04 36 43.7 +2.0
baz=241
F04A Amboy 84.02 36 IAmb IAmb 04 36 43.3
comp=Z,40nm,0.7s
WISH Wishkah 84.04 34 IAmb IAmb 04 36 57.1
comp=Z,107nm,1.2s
HOOD Mount Hood Mea 84.06 37 IAmb IAmb 04 36 44.3
comp=Z,70nm,1.2s
MA2 Magadan 84.08 345 P P 04 36 40.8 -0.7
comp=Z,46nm,0.7s,baz=146,slow=5.0,SNR=8.1
MA2 Magadan 84.08 345 *de* P P 04 36 40.7 -0.7
MA2 pmax pmax
comp=Z,160nm,1.7s
MA2 Magadan 84.08 345 IAmb IAmb 04 36 42.2
comp=Z,78nm,0.9s
MA2 Magadan 84.08 345 P P 04 36 41.4 0.0
NLWA Neilton Lookou 84.16 34 IAmb IAmb 04 36 45.0
comp=Z,61nm,0.9s
G05D Wamic, OR 84.20 37 P P 04 36 43.4 +0.9
baz=232
E04D Cinebar 84.33 35 IAmb IAmb 04 36 45.9
comp=Z,114nm,1.3s
E04D Cinebar 84.33 35 P P 04 36 44.3 +1.3
baz=231,SNR=8.3
SEW Seward 84.35 14 IAmb IAmb 04 36 43.7
comp=Z,71nm,0.9s
SEW Seward 84.35 14 P P 04 36 42.0 -0.7
baz=208,SNR=21
GSI Gunungsitoli 84.41 274 P P 04 36 44.4 +0.3
GSI Gunungsitoli 84.41 274 P P 04 36 45.6 +1.5
F05D White Salmon 84.52 36 P P 04 36 45.6 +1.7
baz=232
I07A Izee 84.54 39 IAmb IAmb 04 36 47.0
comp=Z,61nm,1.1s
CAPN Captain Cook N 84.57 13 P P 04 36 44.9 +1.2
baz=206,SNR=8.9
D04E Lakebay 84.61 35 P P 04 36 46.0 +1.8
baz=231
319A Douglas 84.66 54 IAmb IAmb 04 36 48.4
comp=Z,56nm,0.9s

D03D **Eldon** 84.66 34 P P 04 36 45.9 +1.3
baz=231,SNR=8.6
J08A **Circle Bar Ran** 84.73 40 IAmb IAmb 04 36 47.8
comp=Z,117nm,1.4s
GAMB **Gambell** 84.73 3 IAmb IAmb 04 36 46.3
comp=Z,86nm,1.2s
GAMB **Gambell** 84.73 3 P P 04 36 44.8 +0.4
baz=187,SNR=30
GO08 **Villa O'Higgin** 84.76 140 P P 04 36 46.7 +1.5
B04A **Port Angeles** 84.78 34 IAmb IAmb 04 36 47.9
comp=Z,108nm,1.4s
CLRS **Cowichan Lake** 84.94 33 IAmb IAmb 04 36 48.3
comp=Z,43nm,0.9s
M19K **Big River Lodg** 84.96 11 IAmb IAmb 04 36 46.6
comp=Z,45nm,0.7s
M19K **Big River Lodg** 84.96 11 P P 04 36 45.5 -0.2
baz=203
U15A **North Rim** 84.96 48 P P 04 36 47.6 +1.0
U15A IAmb IAmb 04 36 49.5
comp=Z,52nm,0.7s
D05A **Enumclaw** 85.03 35 IAmb IAmb 04 36 49.4
comp=Z,170nm,1.3s
CBB **Campbell River** 85.12 31 IAmb IAmb 04 36 49.3
comp=Z,72nm,1.1s
L19K **White Mountain** 85.13 11 IAmb IAmb 04 36 48.1
comp=Z,134nm,1.1s
L19K **White Mountain** 85.13 11 P P 04 36 46.8 +0.2
baz=202,SNR=55
WUAZ **Wupatki** 85.14 49 P P 04 36 48.9 +1.5
baz=240,SNR=13
RC01 **Rabbit Creek A** 85.16 14 IAmb IAmb 04 36 47.8
comp=Z,101nm,1.0s
RC01 **Rabbit Creek A** 85.16 14 P P 04 36 46.0 -0.6
baz=207,SNR=28
PGC **Sidney** 85.18 33 IAmb IAmb 04 36 49.4
comp=Z,60nm,0.9s
SRIT **Nakonsritamara** 85.19 281 P P 04 36 48.9 +1.0
PWL **Port Wells** 85.28 14 P P 04 36 46.7 -0.5
baz=208,SNR=28
BBB **Bella Bella** 85.29 29 P P 04 36 48.9 +1.5
comp=Z,48nm,0.9s,baz=298,slow=5.2,SNR=9.3
HNS **HongShan** 85.29 313 ⇓P P 04 36 48.9 +1.1
HNS pmax pmax
comp=Z,100nm,1.1s
F07A **Phinny Hill Vi** 85.38 37 IAmb IAmb 04 36 50.6
comp=Z,35nm,0.9s
LYN **LuoYang** 85.44 310 ⇓P P 04 36 49.4 +0.8
LYN SKS SKSac 04 46 18.7 +2.9
LYN S S 04 46 32.1 +2.5
LYN pmax pmax
comp=Z,80nm,0.9s
LYN pmax pmax
comp=Z,180nm,6.1s
HPIG 85.44 59 P P 04 36 49.3 +0.2
KAIM **Kayak Island** 85.45 17 P P 04 36 47.7 -0.3
baz=212
PKCU **Pink Cliffs** 85.46 47 IAmb IAmb 04 36 52.5
comp=Z,47nm,0.9s
CRAG **Craig** 85.56 24 P P 04 36 50.1 +1.5
baz=222
G08A **Pilot Rock** 85.57 38 IAmb IAmb 04 36 51.6
comp=Z,55nm,0.9s
L20K **Farewell, AK** 85.58 11 P P 04 36 48.1 -0.6
baz=203
GLI **Glacier Island** 85.59 15 P P 04 36 48.4 -0.3
baz=210,SNR=20
A04D **Lummi Island** 85.61 34 P P 04 36 50.5 +1.5
baz=231,SNR=7.1
TTA **Tatalina** 85.63 10 P P 04 36 49.5 +0.6
TTA pmax pmax
comp=Z,68nm,1.2s
TTA **Tatalina** 85.63 10 P P 04 36 49.5 +0.6
TTA IAmb IAmb 04 36 50.5
comp=Z,68nm,1.2s
TTA **Tatalina** 85.63 10 P P 04 36 48.6 -0.4
baz=201,SNR=46
FID **Port Fidalgo** 85.63 15 IAmb IAmb 04 36 49.9
comp=Z,97nm,1.0s
EYAK **Cordova Ski Ar** 85.64 16 IAmb IAmb 04 36 50.2
comp=Z,110nm,1.2s
EYAK **Cordova Ski Ar** 85.64 16 P P 04 36 48.7 -0.2
baz=211,SNR=14
B05A **Bryant** 85.64 34 P P 04 36 50.2 +1.0
baz=232,SNR=17
ENH **Enshi** 85.64 305 P P 04 36 50.0 +0.2
GRNB **Grenville Isla** 85.65 27 IAmb IAmb 04 36 51.7
comp=Z,69nm,1.0s
M22K **Willow** 85.67 13 P P 04 36 48.5 -0.5
baz=207,SNR=32
BJT **Baijiatuan** 85.67 316 IAmb IAmb 04 36 50.8
comp=Z,41nm,0.7s
X18A **Snowflake** 85.67 51 P P 04 36 51.6 +1.6
BJI **Beijing** 85.68 316 P P 04 36 49.6 0.0
BJI pmax pmax
comp=Z,60nm,0.8s
KNK **Knik Glacier** 85.74 14 P P 04 36 49.1 -0.3
baz=208,SNR=29
PMR **Palmer** 85.75 14 IAmb IAmb 04 36 50.4
comp=Z,124nm,1.2s
PMR **Palmer** 85.75 14 P P 04 36 48.8 -0.5
baz=208,SNR=36
RAGM **Ragged Mountai** 85.78 16 IAmb IAmb 04 36 51.2
comp=Z,112nm,1.1s
LTY **Liberty** 85.78 36 IAmb IAmb 04 36 52.1
comp=Z,51nm,1.1s
E07A **Sunnyside** 85.81 36 IAmb IAmb 04 36 52.8
comp=Z,76nm,0.9s
HMT **Hamilton** 85.84 16 IAmb IAmb 04 36 51.4
comp=Z,92nm,1.0s
HAWA **Hanford** 85.89 37 P P 04 36 51.7 +1.2
HAWA IAmb IAmb 04 36 53.1
comp=Z,74nm,0.9s
BGLC **Bering Glacier** 85.92 17 P P 04 36 50.6 +0.4
baz=213
SIT **Sitka** 85.95 22 P P 04 36 51.0 +0.6
baz=220
ANM **Nome** 85.97 6 P P 04 36 49.7 -0.7
baz=193
SYO **Syowa Base** 86.01 193⇑ *e*P P 04 36 50.6 -0.1
SYO **Syowa Base** 86.01 193⇓ *e*PcP PcP 04 36 52.3 -0.1
C06D **Leavenworth** 86.07 35 P P 04 36 52.0 +0.7
baz=232
W18A **Petrified Fore** 86.11 50 P P 04 36 53.0 +1.0
baz=241,SNR=10
SML **Sawmill** 86.12 14 P P 04 36 50.3 -0.9
SML IAmb IAmb 04 37 05.2
comp=Z,38nm,0.9s
SML **Sawmill** 86.12 14 P P 04 36 50.3 -0.9
baz=208,SNR=11
B06A **Marblemount** 86.12 34 IAmb IAmb 04 36 53.4
comp=Z,42nm,1.0s
DIV **Divide** 86.13 15 IAmb IAmb 04 36 52.5
comp=Z,96nm,0.9s
GYA **Guiyang** 86.18 300⇑ *i*P P 04 36 53.6 +1.1
GYA pmax pmax
comp=Z,64nm,1.0s
ZAIG **Zacatecas** 86.21 64 P P 04 36 53.9 +1.0
E08A **Dider Farm, El** 86.22 37 IAmb IAmb 04 36 54.5
comp=Z,58nm,0.9s
CUT **Chulitna** 86.23 13 P P 04 36 51.2 -0.4
baz=207
BMO **Blue Mountains** 86.27 39 IAmb IAmb 04 36 54.6
comp=Z,30nm,0.8s
PPLA **Purkeypile** 86.28 12 P P 04 36 50.3 -1.8
baz=205,SNR=9.0
BMRM **Bremner River** 86.29 16 P P 04 36 51.7 -0.3
baz=212,SNR=24
121A **Cookes Peak, D** 86.32 53 P P 04 36 54.2 +1.2
baz=242,SNR=13
COYC **Coyhaique** 86.32 138 P P 04 36 54.9 +2.2
COYC IAmb IAmb 04 36 56.2
comp=Z,65nm,0.9s
MFID **Camas Ranch** 86.35 41 IAmb IAmb 04 36 55.4
comp=Z,48nm,1.1s
K20K **Telida** 86.36 11 IAmb IAmb 04 36 53.5
comp=Z,86nm,1.1s
K20K **Telida** 86.36 11 P P 04 36 51.6 -0.7
baz=203
SCM **Sheep Creek Mo** 86.37 14 P P 04 36 52.2 -0.3
baz=209,SNR=52
KLU **Klutina** 86.41 15 IAmb IAmb 04 36 53.9
comp=Z,51nm,0.8s
KLU **Klutina** 86.41 15 P P 04 36 52.5 -0.2
baz=211,SNR=25
LHMI **Lhok Sumawe** 86.41 277 P P 04 36 54.3 +0.6
LHMI **Lhok Sumawe** 86.41 277 P P 04 36 55.0 +1.3
AY01 **Puyuhuapi** 86.47 136 P P 04 36 54.5 +1.2

DUG **Dugway, Tooele** 86.54 45 P P 04 36 54.7 +0.8
baz=239,SNR=5.6
WRAK **Wrangell Islan** 86.56 24 IAmb IAmb 04 36 55.7
comp=Z,48nm,0.8s
WRAK **Wrangell Islan** 86.56 24 P P 04 36 54.9 +1.6
baz=223
D08A **Wollman Farm,** 86.62 36 IAmb IAmb 04 36 56.5
comp=Z,98nm,1.0s
PNL **Peninsula** 86.67 19 P P 04 36 54.1 +0.3
baz=216,SNR=13
SEY **Seymchan** 86.71 347 P P 04 36 54.1 +0.2
comp=Z,79nm,0.8s,baz=149,slow=5.2,SNR=16
TNA **Tin City** 86.74 5 IAmb IAmb 04 36 55.3
comp=Z,30nm,0.8s
TNA **Tin City** 86.74 5 P P 04 36 54.0 0.0
baz=190
E09A **Wood Farm, Sta** 86.74 37 IAmb IAmb 04 36 56.7
comp=Z,80nm,1.1s
BGU **Big Grassy Mou** 86.78 44 P P 04 36 55.6 +0.6
CAST **Castle Rocks** 86.78 12 P P 04 36 52.7 -1.6
baz=205,SNR=116
VRDI **Verde Repeater** 86.81 16 IAmb IAmb 04 36 56.1
comp=Z,120nm,1.3s
N25K **Chitina, Valde** 86.83 16 P P 04 36 54.8 +0.1
baz=212,SNR=50
GRNC **Granite Creek** 86.85 17 IAmb IAmb 04 36 56.5
comp=Z,108nm,1.0s
M24K **Tolsona, Glenn** 86.88 15 P P 04 36 55.1 +0.3
baz=210,SNR=20
GLB **Gilahina Butte** 86.90 16 IAmb IAmb 04 36 56.2
comp=Z,74nm,0.7s
WAT6 **Susitna Watana** 86.93 14 P P 04 36 54.9 -0.3
baz=209,SNR=78
TIY **Taiyuan** 87.01 312 ⇓P P 04 36 57.1 +1.1
TIY pmax pmax
comp=Z,69nm,0.6s
MCARA **McCarthy VSAT** 87.05 16 IAmb IAmb 04 36 57.9
comp=Z,110nm,1.1s
MCARA **McCarthy VSAT** 87.05 16 P P 04 36 55.6 0.0
baz=213,SNR=20
J20K **Nowinta River** 87.10 11 IAmb IAmb 04 36 56.9
comp=Z,53nm,0.8s
J20K **Nowinta River** 87.10 11 P P 04 36 55.9 +0.1
baz=203
KTH **Kantishna Hill** 87.13 12 IAmb IAmb 04 36 56.5
comp=Z,95nm,0.9s
LOGN **Logan Glacier** 87.14 18 P P 04 36 56.4 +0.2
TMUT **Trail Mountain** 87.15 46 IAmb IAmb 04 36 59.9
comp=Z,41nm,1.0s
CHUM **Lake Minchumin** 87.16 11 P P 04 36 54.7 -1.2
baz=205,SNR=41
TRF **Thorofare Moun** 87.16 12 P P 04 36 55.3 -1.0
baz=207,SNR=126
CTG **Chitna Glacier** 87.16 17 P P 04 36 56.6 +0.3
baz=215,SNR=27
B08A **Colville Reser** 87.17 35 IAmb IAmb 04 36 58.2
comp=Z,68nm,0.8s
PLID **Pearl Lake** 87.17 39 IAmb IAmb 04 36 59.0
comp=Z,99nm,1.4s
GCSA **Galena City Sc** 87.19 9 P P 04 36 56.0 -0.1
baz=200,SNR=11
JIS **Juneau Island** 87.20 22 IAmb IAmb 04 36 58.5
comp=Z,76nm,1.3s
LLLB **Lillooet** 87.21 32 IAmb IAmb 04 36 58.8
comp=Z,64nm,1.1s
BESE **Bessie Mountai** 87.27 21 P P 04 36 57.3 +0.6
BESE IAmb IAmb 04 36 59.1
comp=Z,57nm,1.0s
HLID **Hailey** 87.30 41 IAmb IAmb 04 37 00.1
comp=Z,38nm,0.9s
HLID **Hailey** 87.30 41 P P 04 36 58.6 +1.2
baz=236,SNR=69
HARP **HAARP** 87.37 15 P P 04 36 57.1 0.0
baz=211,SNR=19
HVU **Hansel Valley** 87.38 43 IAmb IAmb 04 37 01.0
comp=Z,33nm,1.0s
C09A **Chrisman Ranch** 87.41 36 IAmb IAmb 04 36 59.7
comp=Z,60nm,0.8s
DHY **Denali Highway** 87.44 14 IAmb IAmb 04 36 58.6
comp=Z,48nm,1.0s
DHY **Denali Highway** 87.44 14 P P 04 36 57.1 -0.5
baz=209,SNR=21
SNAA **Sanae** 87.49 179 P P 04 36 58.2 +0.5
SNAA S S 04 46 47.2 -0.7
SRU **San Rafael Swe** 87.51 46 IAmb IAmb 04 37 00.8
comp=Z,36nm,0.8s
P17A **Butcher Ranch,** 87.55 46 IAmb IAmb 04 37 01.4
comp=Z,47nm,1.3s
TLIG **Tlapa** 87.57 70 P P 04 37 01.3 +2.2
BPAW **Bear Paw Mtn.** 87.61 12 P P 04 36 56.4 -1.7
baz=206,SNR=17
VNA3 **Neumayer Olymp** 87.65 177 P P 04 36 58.2 -0.3
VNA3 S S 04 46 46.2 -3.1
MCK **McKinley** 87.69 13 P P 04 36 57.8 -0.7
baz=208,SNR=68
ZEA **Zeya** 87.69 331 *e*P P 04 36 59.4 +0.7
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,0.7s
MNTX **Cornudas Mount** 87.76 55 P P 04 37 01.0 +1.3
baz=244,SNR=32
XAN **Xi'an** 87.78 308 P P 04 37 00.3 +0.6
XAN S S 04 46 54.0 +2.2
XAN pmax pmax
comp=Z,170nm,1.0s
XAN pmax pmax
comp=Z,410nm,3.7s
SKAG **Skagway** 87.79 21 IAmb IAmb 04 37 01.8
comp=Z,102nm,1.4s
SKAG **Skagway** 87.79 21 P P 04 37 00.5 +1.5
baz=220,SNR=12
PAX **Paxson** 87.79 15 IAmb IAmb 04 36 59.9
comp=Z,39nm,1.0s
PAX **Paxson** 87.79 15 P P 04 36 58.6 -0.5
baz=211,SNR=19
BNM **Barren Site** 87.92 52 P P 04 37 01.3 +0.7
P18A **Preston Nutter** 87.96 46 IAmb IAmb 04 37 03.1
comp=Z,30nm,1.1s
MVCO **Mesa Verde** 87.99 49 P P 04 37 01.6 +0.7
baz=242
YUK6 **Outpost Mounta** 88.00 19 P P 04 37 01.1 +0.8
baz=217,SNR=11
TX31 **Lajitas Ar. Si** 88.07 58 IAmb IAmb 04 37 04.3
comp=Z,78nm,0.9s
TX32 **Lajitas Array** 88.07 58 IAmb IAmb 04 37 04.3
comp=Z,26nm,0.9s
TXAR **Lajitas Array** 88.07 58 P P 04 37 02.5 +1.2
comp=Z,18nm,0.8s,baz=219,slow=5.9,SNR=165
TXAR pP **pwP** 04 39 15.4 -0.1
comp=Z,2.5nm,1.1s,baz=234,slow=4.2,SNR=6.6
TXAR PKKPbc **PKKPbc** 04 54 43.5 +0.9
comp=Z,2.5nm,0.6s,baz=155,slow=3.1,SNR=31
TXAR PKPPKP **P'P'df** 05 02 51.6 +1.8
comp=Z,0.4nm,0.8s,baz=147,slow=3.0,SNR=3.8
TXAR **Lajitas Array** 88.07 58 P P 04 37 02.6 +1.4
YUK3 **Moose Creek** 88.07 17 P P 04 37 01.0 +0.4
baz=216,SNR=116
LL03 **Petrohue** 88.08 134 IAmb IAmb 04 37 03.6
comp=Z,31nm,0.8s
VNA2 **Neumayer--Watz** 88.08 177 P P 04 37 00.1 -0.3
baz=206,slow=3.7
VNA2 **Neumayer--Watz** 88.08 177 PKiKP **PKiKP** 04 41 58.2 +0.7
VNA2 S S 04 46 51.1 -2.1
HYT **Haines Junctio** 88.16 19 IAmb IAmb 04 37 02.9
comp=Z,51nm,0.9s
HYT **Haines Junctio** 88.16 19 P P 04 37 01.5 +0.6
baz=218,SNR=26
M27K **Edge Creek, AK** 88.17 16 P P 04 37 01.5 +0.6
baz=214
LL04 **Puerto Octay** 88.18 133 P P 04 37 02.7 +1.2
MENT **Mentasta** 88.19 15 IAmb IAmb 04 37 02.4
comp=Z,59nm,0.9s
PV23 **Carpenter Ridg** 88.23 48 P P 04 37 02.5 +0.5
YUK4 **Talbot Arm** 88.24 18 P P 04 37 02.0 +0.6
baz=217,SNR=27
NEW **Newport** 88.31 36 P P 04 37 02.1 +0.3
baz=235,SNR=14
VNA1 **Neumayer--Stat** 88.32 177 P P 04 37 02.5 +1.0
L26K **Log Cabin Wild** 88.35 15 P P 04 37 01.6 0.0
baz=213,SNR=31
I21K **Tanana** 88.40 11 P P 04 37 01.5 -0.2
baz=205
ANMO **Albuquerque** 88.41 52 P P 04 37 03.4 +0.6
comp=Z,14nm,0.9s,baz=214,slow=5.8,SNR=9.1
ANMO **Albuquerque** 88.41 52 *d* *i*P P 04 37 03.6 +0.8
ANMO pmax pmax
comp=Z,25nm,1.1s
ANMO **Albuquerque** 88.41 52 P P 04 37 03.6 +0.8
ANMO **Albuquerque** 88.41 52 P P 04 37 03.5 +0.6
baz=243
NEA2 **Nenana** 88.43 12 IAmb IAmb 04 37 02.0
comp=Z,34nm,0.8s
NEA2 **Nenana** 88.43 12 P P 04 37 00.7 -1.3
baz=208,SNR=46
BVCY **Beaver Creek** 88.48 17 P P 04 37 02.6 +0.3
baz=215,SNR=46
MLY **Manley** 88.49 12 IAmb IAmb 04 37 02.4
comp=Z,43nm,0.6s
MLY **Manley** 88.49 12 P P 04 37 01.1 -1.2
baz=206,SNR=66
RIDG **Independent Ri** 88.60 14 IAmb IAmb 04 37 04.0
comp=Z,71nm,0.9s
RIDG **Independent Ri** 88.60 14 P P 04 37 02.6 -0.2
baz=212,SNR=29
HIA **Hailar** 88.64 325 *i* P P 04 37 03.4 +0.1
HIA pmax pmax
comp=Z,43nm,1.0s
HIA **Hailar** 88.64 325 P P 04 37 03.4 +0.1
HIA IAmb IAmb 04 37 04.4
comp=Z,36nm,0.9s
H21K **Melozitna Rive** 88.69 11 IAmb IAmb 04 37 04.4
comp=Z,54nm,0.9s
H21K **Melozitna Rive** 88.69 11 P P 04 37 03.0 -0.2
baz=204,SNR=62
HDA **Harding Lake** 88.70 13 P P 04 37 02.6 -0.6
baz=210,SNR=67
L27K **Beaver Creek,** 88.76 16 IAmb IAmb 04 37 05.1
comp=Z,35nm,0.8s
L27K **Beaver Creek,** 88.76 16 P P 04 37 03.3 -0.3
baz=214
LR03 **Panguipulli** 88.79 132 P P 04 37 05.4 +1.1
LR03 IAmb IAmb 04 37 07.4
comp=Z,40nm,1.0s
KMI **Kunming** 88.84 297 ⇓P P 04 37 06.8 +1.7
KMI pP pP 04 39 13.8 -2.5
KMI pmax pmax
comp=Z,93nm,1.0s
WHY **Whitehorse** 88.85 20 P P 04 37 04.6 +0.5
baz=220,SNR=18
I23K **Minto, Yukon-K** 88.86 12 P P 04 37 02.6 -1.3
baz=207,SNR=36
DLBC **Dease Lake** 88.89 23 IAmb IAmb 04 37 06.6
comp=Z,29nm,0.9s
TCOL **CIGO, UAF Yank** 88.92 13 P P 04 37 03.1 -1.0
baz=209,SNR=34
COLA **College** 88.92 13 *d* *i*P P 04 37 03.5 -0.7
COLA pmax pmax
comp=Z,110nm,0.8s
COLA **College** 88.92 13 P P 04 37 03.2 -0.9
COLA **College** 88.92 13 P P 04 37 03.4 -0.8
baz=209
AHID **Auburn Hatcher** 88.95 43 IAmb IAmb 04 37 08.2
comp=Z,32nm,0.8s
SCRK **Sand Creek** 89.00 15 IAmb IAmb 04 37 06.1
comp=Z,43nm,0.9s
SCRK **Sand Creek** 89.00 15 P P 04 37 04.8 0.0
baz=212,SNR=19
IL31 89.03 13 P P 04 37 04.0 -0.7
IL31 IAmb IAmb 04 37 05.2
comp=Z,55nm,0.9s
ILAR **Eielson Array** 89.03 13 P P 04 37 03.8 -1.0
comp=Z,31nm,0.8s,baz=218,slow=5.8,SNR=156
ILAR PP **PP** 04 40 42.8 -4.1
comp=Z,2.0nm,0.9s,baz=215,slow=7.4,SNR=4.3
ILAR PKiKP **PKiKP** 04 41 57.8 -1.2
comp=Z,0.8nm,0.5s,baz=257,slow=3.4,SNR=11
ILAR PKKPbc **PKKPdf** 04 54 38.7 +2.0
comp=Z,0.5nm,0.5s,baz=5.5,slow=2.2,SNR=6.4
HHC **Hu-ho-hao-te** 89.12 315 *e*P P 04 37 06.8 +0.9
HHC pmax pmax
comp=Z,65nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.8s
P33M **Teslin, Yukon** 89.19 21 P P 04 37 06.3 +0.6
baz=222,SNR=8.5
N31M **Braeburn, Yuko** 89.20 19 IAmb IAmb 04 37 07.5
comp=Z,55nm,0.9s
N31M **Braeburn, Yuko** 89.20 19 P P 04 37 06.4 +0.8
baz=220,SNR=16
POKR **Poker Plat Res** 89.22 13 IAmb IAmb 04 37 05.9
comp=Z,41nm,0.7s
POKR **Poket Plat Res** 89.22 13 P P 04 37 04.8 -0.9
baz=209,SNR=12
J25K **Salcha River,** 89.23 14 IAmb IAmb 04 37 06.7
comp=Z,43nm,0.7s
J25K **Salcha River,** 89.23 14 P P 04 37 05.3 -0.5
baz=211,SNR=22
MSO **Missoula** 89.32 38 P P 04 37 06.4 -0.3
baz=238,SNR=7.3
DLMT **Dillon** 89.35 40 IAmb IAmb 04 37 09.3
comp=Z,20nm,0.9s
REDW **Red Top Meadow** 89.41 43 IAmb IAmb 04 37 09.7
comp=Z,49nm,1.0s
TPAW **Teton Pass** 89.41 42 IAmb IAmb 04 37 08.9
comp=Z,28nm,0.9s
S22A **4UR Ranch, Cre** 89.42 49 IAmb IAmb 04 37 10.1
comp=Z,39nm,1.4s
S22A **4UR Ranch, Cre** 89.42 49 P P 04 37 08.2 +0.7
baz=243,SNR=28
H23K **Yukon River** 89.43 12 P P 04 37 05.7 -0.9
baz=207
LC01 **Cunco** 89.44 132 IAmb IAmb 04 37 10.3
comp=Z,26nm,0.9s
BILL **Bilibino** 89.49 354 *ce*P P 04 37 06.9 +0.1
BILL *i* 04 40 48.8
BILL *e*S **SKSac** 04 46 37.1 -1.2
BILL pmax pmax
comp=Z,77nm,1.3s
BILL **Bilibino** 89.49 354 P P 04 37 06.9 +0.1
BILL IAmb IAmb 04 37 08.1
comp=Z,54nm,1.0s
CM31 **Chiang Mai Arr** 89.49 290 P P 04 37 09.2 +1.2
CM31 **Chiang Mai Arr** 89.49 290 P P 04 37 10.0 +2.0
SNR=32
CMAR **Chiang Mai Arr** 89.49 290 P P 04 37 09.7 +1.7
comp=Z,73nm,0.9s,baz=126,slow=3.0,SNR=270
CMAR PP **PP** 04 40 58.2 +6.9
comp=Z,2.3nm,0.3s,baz=126,slow=5.2,SNR=4.0
CMAR **Chiang Mai Arr** 89.49 290 *ce*P P 04 37 09.6 +1.6
CMAR pmax pmax
comp=Z,73nm,0.9s
CMAR **Chiang Mai Arr** 89.49 290 P P 04 37 08.3 +0.4
PLCA **Paso Flores** 89.52 134 P P 04 37 09.8 +2.0
comp=Z,13nm,0.7s,baz=239,slow=4.3,SNR=50
PLCA PP **PP** 04 40 52.1 +1.6
comp=Z,3.0nm,1.0s,baz=200,slow=9.6,SNR=2.9
PLCA PKKPbc **PKKPbc** 04 54 38.2 -1.2
comp=Z,2.7nm,0.8s,baz=2.4,slow=6.0,SNR=8.0
PLCA **Paso Flores** 89.52 134 *eP* P 04 37 10.2 +2.4
SNOW **Snow King Moun** 89.52 43 IAmb IAmb 04 37 10.4
comp=Z,46nm,0.9s
J26L **Joseph Creek** 89.54 15 P P 04 37 07.4 +0.2
baz=213
O20A **White River Ci** 89.55 46 IAmb IAmb 04 37 10.2
comp=Z,32nm,0.8s
O20A **White River Ci** 89.55 46 P P 04 37 08.6 +0.6
baz=242,SNR=22
RDOG **Red Dog Mine** 89.62 6 IAmb IAmb 04 37 08.7
comp=Z,42nm,0.9s
RDOG **Red Dog Mine** 89.62 6 P P 04 37 07.4 0.0
baz=195,SNR=17
CHTO **Chiang Mai** 89.63 290 P P 04 37 08.9 +0.3
CHTO pmax pmax
comp=Z,85nm,0.8s
CHTO **Chiang Mai** 89.63 290 P P 04 37 08.9 +0.3
CHTO **Chiang Mai** 89.63 290 P P 04 37 10.2 +1.6
LRM **Limekiln Ridge** 89.67 40 P P 04 37 09.0 +0.5
LOHW **Long Hollow** 89.69 42 IAmb IAmb 04 37 10.8
comp=Z,16nm,0.8s
M30M **Minto, Yukon** 89.75 18 P P 04 37 08.2 0.0
baz=219,SNR=53
H24K **Noodor Dome** 89.77 12 P P 04 37 06.7 -1.5
baz=209,SNR=8.8
FLWY **Flagg Ranch** 89.86 42 IAmb IAmb 04 37 12.1
comp=Z,36nm,1.1s
BW06 **Boulder Array** 89.94 44 P P 04 37 10.5 +0.7
BW06 IAmb IAmb 04 37 11.5
comp=Z,23nm,0.8s
BW06 **Boulder Array** 89.94 44 P P 04 37 10.3 +0.5
baz=241,SNR=35
PD31 **Pinedale Array** 89.94 44 IAmb IAmb 04 37 11.5
comp=Z,21nm,0.8s
PDAR **Pinedale Array** 89.94 44 P P 04 37 10.3 +0.5

PDAR PKKPbc **PKKPbc** **04 54 37.9 -0.9**
comp=Z,16nm,0.7s,baz=208,slow=3.1,SNR=137

PDAR PKPPKP **P'P'df** **05 02 44.6 -0.9**
comp=Z,1.4nm,0.7s,baz=93,slow=4.2,SNR=11

PRP **Porcupine Dome** **89.97 13** IAmb IAmb 04 37 11.3
comp=Z,0.4nm,0.7s,baz=98,slow=4.5,SNR=4.5

PRP **Porcupine Dome** **89.97 13** P **P** **04 37 08.5 -0.7**
comp=Z,22nm,0.8s

BTO **Baotou** **90.04 314** *e*P **P** **04 37 10.9 +0.8**
BTO S **S** **04 47 03.7 -8.3**

BOZ **Bozeman (W)** **90.05 40** IAmb IAmb 04 37 12.5
baz=211,SNR=6.4

BOZ **Bozeman (W)** **90.05 40** P **P** **04 37 11.0 +0.8**
comp=Z,24nm,1.1s

H17A **Grant Village** **90.10 42** P **P** **04 37 13.0 +2.5**
baz=239,SNR=21

M31M **Drury Creek, Y** **90.18 19** P **P** **04 37 10.1 0.0**
baz=240,SNR=13

PZH **PanZhiHua** **90.21 298** P **P** **04 37 12.2 +0.9**
baz=221,SNR=12

PZH pmax pmax
comp=Z,80nm,0.8s

PZH pmax pmax
comp=Z,290nm,5.3s

DAWY **Dawson** **90.22 16** P **P** **04 37 10.3 0.0**
DAWY IAmb IAmb 04 37 11.8

DAWY **Dawson** **90.22 16** P **P** **04 37 10.3 0.0**
comp=Z,56nm,1.0s
baz=216,SNR=58

EGAK **Eagle** **90.35 15** P **P** **04 37 10.7 -0.1**
baz=215,SNR=55

SDCO **Great Sand Dun** **90.36 49** P **P** **04 37 12.5 +0.6**
baz=244,SNR=17

WTLY **Watson Lake, Y** **90.52 23** P **P** **04 37 12.4 +0.7**
baz=226

FARO **Faro, Yukon** **90.52 20** P **P** **04 37 11.8 +0.1**
baz=222

WALA **Waterton Lakes** **90.53 37** IAmb IAmb 04 37 14.0
comp=Z,17nm,0.8s

COLD **Coldfoot** **90.57 11** IAmb IAmb 04 37 13.5
comp=Z,43nm,1.0s

COLD **Coldfoot** **90.57 11** P **P** **04 37 12.1 +0.3**
baz=207,SNR=46

MSTX **Muleshoe** **90.72 54** P **P** **04 37 14.0 +0.6**
MSTX IAmb IAmb 04 37 15.2
comp=Z,18nm,0.8s

MSTX **Muleshoe** **90.72 54** P **P** **04 37 14.2 +0.7**
baz=245

MAYO **Mayo, Yukon** **90.80 18** P **P** **04 37 13.5 +0.5**
baz=220,SNR=18

J29M **Klondike Camp** **90.84 16** P **P** **04 37 14.0 +0.8**
baz=218,SNR=21

T25A **Trinidad** **90.87 50** P **P** **04 37 14.6 +0.5**
baz=244,SNR=7.4

RWWY **Rawlins** **90.97 45** IAmb IAmb 04 37 15.3
comp=Z,44nm,1.1s

833A **Chaparral WMA,** **91.07 60** IAmb IAmb 04 37 17.2
comp=Z,18nm,0.9s

833A **Chaparral WMA,** **91.07 60** P **P** **04 37 15.6 +0.6**
baz=247

Q24A **Divide** **91.14 48** P **P** **04 37 16.0 +0.5**
baz=244,SNR=8.5

ISCO **Idaho Springs** **91.19 48** P **P** **04 37 15.7 0.0**
ISCO pmax pmax
comp=Z,6.0nm,0.9s

ISCO **Idaho Springs** **91.19 48** P **P** **04 37 15.7 0.0**
ISCO **Idaho Springs** **91.19 48** P **P** **04 37 16.4 +0.7**
baz=243,SNR=11

RLMT **Red Lodge** **91.27 42** P **P** **04 37 16.9 +1.1**
baz=241,SNR=9.1

N23A **Red Feather La** **91.46 46** IAmb IAmb 04 37 19.7
comp=Z,21nm,1.0s

N23A **Red Feather La** **91.46 46** P **P** **04 37 17.7 +0.9**
baz=243,SNR=17

MMPY **Sheldon Lake,** **91.47 20** P **P** **04 37 16.6 +0.5**
baz=224,SNR=12

I29M **Ogilvie Camp,** **91.54 16** IAmb IAmb 04 37 17.2
comp=Z,28nm,0.9s

I29M **Ogilvie Camp,** **91.54 16** P **P** **04 37 15.9 -0.4**
baz=217,SNR=11

JCT **Junction City** **91.59 58** P **P** **04 37 18.0 +0.5**
baz=246

TGTN **Hyland Airport** **91.69 22** P **P** **04 37 18.0 +0.9**
baz=226,SNR=15

BMAR **Burnt Mountain** **91.81 13** P **P** **04 37 18.4 +0.8**
K22A **Casper** **91.86 45** IAmb IAmb 04 37 20.4
comp=Z,33nm,1.4s

K22A **Casper** **91.86 45** P **P** **04 37 19.1 +0.6**
baz=243,SNR=8.2

AMTX **Amarillo** **91.92 53** P **P** **04 37 19.2 +0.3**
baz=246

TOLK **Toolik Lake Re** **91.94 10** P **P** **04 37 17.8 -0.4**
baz=207,SNR=16

BO02 **Sierra Bellavi** **92.09 128** IAmb IAmb 04 37 21.8
comp=Z,14nm,0.7s

MT01 **Popeta** **92.17 127** IAmb IAmb 04 37 22.1
comp=Z,28nm,0.8s

YAK **Yakutsk** **92.30 338** *e*P **P** **04 37 18.8 -1.0**
YAK *e**PP **pP** **04 39 30.9 -1.3**
YAK *e* 04 41 11.8
YAK *e*S **SKSac** **04 46 53.8 -0.3**
YAK *e* 04 47 35.9
YAK *e*SS **SS** **04 54 11.4 +10**
YAK pmax pmax
comp=Z,96nm,0.9s

YAK pmax pmax
comp=E,14nm,1.2s

YAK pmax pmax
comp=N,13nm,1.0s

YAK pmax pmax
comp=Z,226nm,5.1s

YAK smax smax
comp=N,95nm,4.6s

YAK smax smax
comp=E,31nm,4.1s

YAK **Yakutsk** **92.30 338** P **P** **04 37 19.6 -0.2**
EGMT **Eagleton** **92.38 39** P **P** **04 37 21.2 +0.5**
baz=241

LZH **Lanzhou** **92.42 308** ⇓P **P** **04 37 22.6 +1.3**
LZH pP pwP 04 39 38.0 +0.6
LZH pmax pmax
comp=E,100nm,1.5s

LZH pmax pmax
comp=E,95nm,5.4s

ABTX **Abilene, Hawle** **92.57 56** P **P** **04 37 22.2 +0.4**
baz=247

EPYK **Eagle Plains** **92.74 16** IAmb IAmb 04 37 22.9
comp=Z,33nm,0.8s

EPYK **Eagle Plains** **92.74 16** P **P** **04 37 21.6 -0.2**
baz=219

KSCO **Kaye Shedlock'** **92.94 49** IAmb IAmb 04 37 25.6
comp=Z,33nm,0.9s

KSCO **Kaye Shedlock'** **92.94 49** P **P** **04 37 24.5 +1.0**
baz=245

EDM **Edmonton** **93.03 33** IAmb IAmb 04 37 24.6
comp=Z,27nm,1.1s

A21K **Barrow** **93.41 7** P **P** **04 37 25.2 +0.5**
A21K **Barrow** **93.41 7** P **P** **04 37 24.8 +0.1**
baz=201

LAO **LASA Array** **93.88 41** IAmb IAmb 04 37 30.0
comp=Z,13nm,0.8s

LAO **LASA Array** **93.88 41** P **P** **04 37 29.0 +1.5**
baz=243

WHTX **Lake Whitney,** **94.03 57** P **P** **04 37 29.3 +0.8**
baz=248

RSSD **Black Hills** **94.14 44** P **P** **04 37 29.2 +0.2**
baz=245

WRGLY **Wrigley** **94.50 22** P **P** **04 37 30.3 +0.4**
baz=230

CBKS **Cedar Bluff** **94.92 50** IAmb IAmb 04 37 35.0
comp=Z,23nm,1.2s

CBKS **Cedar Bluff** **94.92 50** P **P** **04 37 32.5 +0.1**
baz=247

INK **Inuvik** **95.02 15** P **P** **04 37 31.1 -1.0**
comp=Z,9.8nm,0.7s,baz=227,slow=3.2,SNR=52

INK PP **PP** **04 41 38.0 +5.2**
comp=Z,1.5nm,0.9s,baz=191,slow=8.7,SNR=3.8

INK PKKPbc **PKKPdf** **04 54 22.9 -3.1**
comp=Z,1.1nm,0.6s,baz=350,slow=9.3,SNR=5.1

INK **Inuvik** **95.02 15** IAmb IAmb 04 37 32.7
comp=Z,27nm,1.2s

INK **Inuvik** **95.02 15** P **P** **04 37 31.5 -0.5**
baz=222,SNR=18

ULN **Ulaanbaatar** **95.22 319** *c*eP **P** **04 37 33.5 -0.1**
ULN pmax pmax
comp=Z,11nm,0.9s

ULN **Ulaanbaatar** **95.22 319** P **P** **04 37 33.6 -0.1**

ULN IAmb IAmb 04 37 34.4
comp=Z,12nm,0.9s

R32A **Long Quarter,** **95.51 51** IAmb IAmb 04 37 37.8
comp=Z,21nm,1.1s

DGMT **Dagmar** **95.89 40** IAmb IAmb 04 37 38.6
comp=Z,18nm,0.8s

DGMT **Dagmar** **95.89 40** P **P** **04 37 37.3 +0.8**
baz=245,SNR=5.1

BOD **Bodaibo** **96.14 330** *e*P **P** **04 37 34.4 -2.9**
BOD pmax pmax
comp=Z,11nm,1.7s

GTA **Gaotai** **96.66 310** ⇑P **P** **04 37 41.0 +0.7**
GTA pP pP 04 39 54.2 +1.5
GTA pmax pmax
comp=Z,11nm,0.9s

BGNE **Belgrade** **97.03 48** P **P** **04 37 42.9 +1.1**
BGNE **Belgrade** **97.03 48** P **P** **04 37 43.1 +1.3**
baz=248

KSU1 **Kansas State U** **97.29 51** P **P** **04 37 44.5 +1.5**
baz=249

YKA **Yellowknife Ar** **97.36 25** P **P** **04 37 42.8 +0.1**
comp=Z,5.1nm,0.7s,baz=244,slow=4.5,SNR=79

YKA PP **PP** **04 41 47.9 -2.8**
comp=Z,1.7nm,0.9s,baz=239,slow=7.6,SNR=9.5

YKA PKiKP **PKiKP** **04 42 12.9 -0.5**
comp=Z,0.7nm,0.6s,baz=244,slow=1.4,SNR=11

YKA PKKPbc **PKKPbc** **04 54 16.6 -3.2**
comp=Z,0.6nm,0.4s,baz=40,slow=2.4,SNR=15

YKA PKPPKP **P'P'df** **05 02 32.6 +2.7**
comp=Z,0.3nm,0.9s,baz=41,slow=2.9,SNR=4.9

YKA **Yellowknife Ar** **97.36 25** P **P** **04 37 43.0 +0.3**
YKA **Yellowknife Ar** **97.36 25** P **P** **04 37 43.0 +0.3**
W39A **Magazine** **98.04 56** P **P** **04 37 48.4 +2.0**
baz=250

SHL **Shillong** **98.14 294** P Pdif 04 37 46.0 -1.3
SHL pmax pmax
comp=Z,13nm,0.7s

SHL **Shillong** **98.14 294** Pdif Pdif 04 37 46.0 -1.3
SHL IAmb IAmb 04 37 48.6
comp=Z,12nm,0.7s

C36M **Paulatuk** **98.22 17** P **P** **04 37 46.5 +0.1**
baz=230

ZAK **Zakamensk** **98.51 321** *e*P Pdif 04 37 46.7 -1.6
ZAK pmax pmax
comp=Z,7.0nm,1.7s

ECSD **EROS Data Cent** **98.93 47** P **P** **04 37 51.1 +0.8**
baz=250

TIXI **Tiksi** **99.05 345** *i* P **Pdif** **04 37 49.2 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.3s

TIXI **Tiksi** **99.05 345** Pdif **Pdif** **04 37 48.9 -1.1**
TIXI IAmb IAmb 04 37 50.1
comp=Z,8.2nm,1.2s

W41B **Gary Mavity, V** **99.22 56** P **Pdif** **04 37 52.3 +0.7**
baz=251

GOMU **GeErMu** **99.25 305** P **Pdif** **04 37 53.2 +0.9**
GOMU pmax pmax
comp=Z,4.0nm,0.8s

GOMU pmax pmax
comp=Z,68nm,5.4s

A36M **Sachs Harbour** **99.62 15** Pdif **Pdif** **04 37 52.9 +0.3**
A36M IAmb IAmb 04 37 54.8
comp=Z,15nm,0.8s

A36M **Sachs Harbour** **99.62 15** P **Pdif** **04 37 52.7 +0.2**
baz=230

ULM **Lac du Bonnet** **101.60 41** PP **PKiKP** **04 42 23.7 +2.3**
comp=Z,2.2nm,0.6s,baz=80,slow=0.9,SNR=3.0

TAPN **Taplejung** **102.25 295** *e*P **PKiKP** **04 42 22.9 -0.8**
comp=Z,11nm,0.5s

ODAN **Odzre** **102.37 294** *e*P **PKiKP** **04 42 23.8 -0.1**
LPAZ **La Paz** **102.64 113** P **Pdif** **04 38 10.1 +2.0**
comp=Z,1.6nm,0.8s,baz=237,slow=4.9,SNR=6.8

LPAZ PP **PP** **04 42 32.2 +1.1**
comp=Z,3.5nm,1.0s,baz=218,slow=5.3,SNR=7.4

LPAZ PKKPbc **PKKPbc** **04 54 04.4 -0.2**
comp=Z,2.4nm,0.6s,baz=33,slow=3.6,SNR=15

RAMN **Ramite** **103.07 294** *e*P **PKiKP** **04 42 24.5 -0.7**
comp=Z,24nm,0.6s

JIRN **Jiri** **103.63 295** *e*P **PKiKP** **04 42 25.4 -0.9**
comp=Z,32nm,0.6s

GUN **Gumba** **103.96 295** *e*P **PKiKP** **04 42 25.8 -1.1**
comp=Z,18nm,0.6s

PKI **Pulchoki** **104.27 294** *e*P **PKiKP** **04 42 26.2 -1.2**
comp=Z,28nm,0.6s

PKIN **Phulchoki** **104.28 294** *e*P **PKiKP** **04 42 25.9 -1.5**
comp=Z,24nm,0.6s

DMN **Daman** **104.53 294** *e*P **PKiKP** **04 42 26.9 -0.9**
DANN **Dangsing** **105.88 295** *e*P **PKiKP** **04 42 29.2 -1.2**
comp=Z,43nm,0.6s

PYUN **Piuthan** **106.47 294** *e*P **PKiKP** **04 42 30.1 -1.3**
KMSC **Kings Mountain** **107.79 59** P **PKiKP** **04 42 32.6 -0.7**
baz=256

SIV **San Ignacio** **108.77 116** PKiKP **PKiKP** **04 42 34.8 -1.0**
comp=Z,0.7nm,0.8s,baz=215,slow=2.5,SNR=5.2

SIV PKKPbc **PKKPbc** **04 53 45.4 -0.1**
comp=Z,4.3nm,0.6s,baz=69,slow=3.6,SNR=20

ZSN **Zaisan** **109.32 314** *e*PKiKP **PKiKP** **04 42 34.9 -1.0**
baz=314

ZALV **Zalesovo Beam** **110.38 321** Pdiff **Pdif** **04 38 44.7 +3.9**
comp=Z,0.9nm,0.6s,baz=107,slow=5.1,SNR=3.7

ZALV PKiKP **PKiKP** **04 42 36.1 -1.5**
comp=Z,14nm,0.6s,baz=150,slow=0.9,SNR=60

ZALV **Zalesovo Beam** **110.38 321** PKiKP **PKiKP** **04 42 35.8 -1.8**
M54A **Oil Creek Stat** **110.39 52** P **PKiKP** **04 42 38.8 +0.7**
baz=260

NRIK **Noril'sk** **110.74 338** PKiKP **PKiKP** **04 42 37.1 -0.7**
comp=Z,9.4nm,0.6s,baz=95,slow=3.2,SNR=14

MK31 **Makanchi Array** **110.95 313** *i* PKiKP **PKiKP** **04 42 37.6 -1.4**
MKAR **Makanchi Array** **110.95 313** Pdiff **Pdif** **04 38 43.9 +0.3**
comp=Z,1.7nm,0.6s,baz=87,slow=5.3,SNR=22

MKAR PKiKP **PKiKP** **04 42 37.9 -1.1**
comp=Z,6.3nm,0.6s,baz=171,slow=0.5,SNR=59

MKAR PKKPbc **PKKPab** **04 53 51.3 +1.6**
comp=Z,0.8nm,0.7s,baz=275,slow=3.5,SNR=6.5

MKAR SKKPbc SKKPbc 04 56 21.0 -5.2
comp=Z,0.9nm,0.7s,baz=287,slow=2.3,SNR=4.8

O56A **Blue Knob Stat** **110.99 54** P **PKiKP** **04 42 38.9 -0.4**
baz=260

SSPA **Standing Stone** **111.56 53** P **PKiKP** **04 42 39.8 -0.4**
baz=260

SHLS **Shalkode** **112.40 309** *i* PKiKP **PKiKP** **04 42 40.1 -1.9**
SHLS **Shalkode** **112.40 309** *e*PKiKP **PKiKP** **04 42 40.1 -1.9**
baz=309

PDGK **Podgornoye** **112.40 309** PKiKP **PKiKP** **04 42 40.4 -1.6**
UZB **Uzynbulak** **112.72 309** *i* PKiKP **PKiKP** **04 42 41.6 -1.0**
UZB **Uzynbulak** **112.72 309** *e*PKiKP **PKiKP** **04 42 41.7 -1.0**
baz=309

SEM **Semipalatinsk** **112.75 317** *i* PKiKP **PKiKP** **04 42 40.4 -2.1**
SEM **Semipalatinsk** **112.75 317** *e*PKiKP **PKiKP** **04 42 40.4 -2.1**
baz=317

KPKS **Kokpek** **113.00 309** *d* *i*PKiKP **PKiKP** **04 42 42.2 -0.9**
KPKS **Kokpek** **113.00 309** ⇓ *i*PKiKP **PKiKP** **04 42 42.3 -0.9**
baz=309

SATY **Saty** **113.15 309** *i* PKiKP **PKiKP** **04 42 42.5 -0.9**
SATY *e* 04 43 44.2
SATY **Saty** **113.15 309** *e*PKiKP **PKiKP** **04 42 42.6 -0.9**
baz=309

SATY *e*PP **PP** **04 43 44.3 -1.5**
baz=309

N59A **State Game Lan** **113.20 53** P **PKiKP** **04 42 42.8 -0.6**
baz=262

KURK **Kurchatov** **113.81 317** *c* *i*PKiKP **PKiKP** **04 42 43.3 -0.9**
KURK pmax pmax
comp=Z,22nm,1.0s

KURBB **Kurchatov Arra** **113.86 317** PKiKP **PKiKP** **04 42 42.8 -1.5**
MDOK **Medeo** **114.15 309** *e*PKiKP PKPdf 04 42 44.2 -1.2
MDOK **Medeo** **114.15 309** *e*PKP PKPdf 04 42 44.3 -1.1
baz=309

TNSS **Tian-Shan** **114.21 309** *e*PKP PKPdf 04 42 45.0 -0.8
baz=309

AAA **Alma-Ata** **114.25 309** *e*PKiKP PKPdf 04 42 44.7 -0.8
AAA **Alma-Ata** **114.25 309** *e*PKP PKPdf 04 42 44.8 -0.7
baz=309

CHKK **Chushkaly** **114.27 310** *e*PKP PKPdf 04 42 43.9 -1.5
baz=310

KSH **Kashi** **114.50 305** PKP **PKiKP** **04 42 46.7 +0.6**
KSH PP **PP** **04 43 56.3 +1.1**
KSH AMB AMB
comp=Z,190nm,6.5s

PAL **Palisades** **114.61 54** P PKPdf 04 42 45.7 -0.4
baz=263

ULHL **Ulahol** **114.64 308** P PKPdf 04 42 46.0 -0.4
SNR=13

KUU **Kurty** **114.74 310** *e*PKiKP PKPdf 04 42 45.0 -1.3
KUU **Kurty** **114.74 310** *e*PKP PKPdf 04 42 45.0 -1.3
baz=310

TULEG **Thule** **114.98 14** PKPdf 04 42 45.2 -0.5

TKM2 **Tokmak 2** **115.18 309** P **PKPdf** **04 42 46.4 -1.0**
SNR=13

TKM2 **Tokmak 2** **115.18 309** PKIKP **PKPdf** **04 42 45.4 -2.0**
CHMS **Chumysh** **115.81 309** P **PKPdf** **04 42 47.6 -0.8**
SNR=9.0

NIL **Nilore** **115.82 298** PKIKP **PKPdf** **04 42 47.5 -1.2**
NIL **Nilore** **115.82 298** **PKPdf** **04 42 47.5 -1.2**
UCH **Uchtor** **115.91 308** P **PKPdf** **04 42 48.8 -0.4**
SNR=24

SGDS **Sogindy** **115.94 309** *e*PKP **PKPdf** **04 42 47.5 -1.2**
baz=309

AAK **Ala-Archa** **115.96 308** *c* *i*PKIKP **PKPdf** **04 42 48.3 -0.6**
AAK pmax pmax
comp=Z,12nm,1.3s

AAK **Ala-Archa** **115.96 308** **PKPdf** **04 42 47.8 -1.2**
AAK **Ala-Archa** **115.96 308** P **PKPdf** **04 42 47.7 -1.2**
USP **Ospenovka** **116.02 309** P **PKPdf** **04 42 48.0 -0.8**
SNR=15

LBNH **Lisbon** **116.38 50** P **PKiKP** **04 42 49.6 +0.2**
baz=266

BTLS **Baital** **116.48 311** *e*PKIKP **PKPdf** **04 42 48.5 -1.0**
BTLS **Baital** **116.48 311** *e*PKP **PKPdf** **04 42 48.6 -1.0**
baz=311

EKS2 **Erkin-Say** **116.49 308** P **PKPdf** **04 42 49.8 -0.1**
SNR=8.6

AML **Almayashu** **116.51 308** P **PKPdf** **04 42 49.6 -0.7**
SNR=32

AML **Almayashu** **116.51 308** P **PKPdf** **04 42 49.7 -0.5**
PTGA **Pitinga** **116.58 102** PKP **PKPdf** **04 42 49.8 -1.0**
comp=Z,0.7nm,0.3s,baz=90,slow=22,SNR=5.7

PTGA PKKPbc **PKKPbc** **04 53 19.2 -0.5**
comp=Z,4.8nm,0.8s,baz=60,slow=6.3,SNR=8.3

HUMP **Col San Antoni** **117.29 80** **PKPdf** **04 42 50.7 -1.2**
BRZS **Berezniki** **117.59 316** *e*PKIKP **PKPdf** **04 42 49.7 -1.8**
BRZS **Berezniki** **117.59 316** *e*PKP **PKPdf** **04 42 49.8 -1.8**
baz=316

LMQ **La Malbaie** **117.66 46** **PKPdf** **04 42 51.1 -0.7**
FRB **Frobisher Bay** **117.67 28** PKKPbc PKKPbc 04 53 13.8 -3.0
comp=Z,2.1nm,0.9s,baz=69,slow=6.8,SNR=4.9

OTUK **Ortayu** **117.79 314** PKIKP **PKPdf** **04 42 50.6 -1.4**
VOI **Vohitsoka** **118.25 229** PKP **PKiKP** **04 42 55.5 +1.5**
NEEM **North Greenlan** **118.28 11** *i* P **PKPdf** **04 42 51.5 -1.0**
DZA **Taraz** **118.30 308** *e*PKIKP **PKPdf** **04 42 51.5 -1.7**
DZA **Taraz** **118.30 308** *e*PKP **PKPdf** **04 42 51.6 -1.7**
baz=308

PKME **Peaks-Kenny Pk** **118.31 49** P **PKPdf** **04 42 52.8 -0.2**
baz=268

NOR **Nord** **118.94 3** *i* P **PKPdf** **04 42 52.0 -1.4**
BRVK **Borovoye** **119.00 320** *c* *i*PKIKP **PKPdf** **04 42 53.5 -0.7**
BRVK pmax pmax
comp=Z,46nm,1.0s

BRVK **Borovoye** **119.00 320** PKPdf **PKPdf** **04 42 53.4 -0.9**
BRVK **Borovoye** **119.00 320** P **PKPdf** **04 42 53.3 -0.9**
KBL **Kabul** **119.40 299** PKIKP **PKPdf** **04 42 55.7 -0.1**
KBL **Kabul** **119.40 299** PKPdf **PKPdf** **04 42 55.7 -0.1**
KBL **Kabul** **119.40 299** P **PKPdf** **04 42 55.7 -0.1**
SNR=19

UPNV **Upernavik** **119.43 17** *i* P **PKPdf** **04 42 53.2 -1.3**
BDFB **Brasilia** **119.58 123** PKP **PKPdf** **04 42 56.0 -0.6**
comp=Z,2.2nm,0.5s,baz=14,slow=5.6,SNR=4.6

BDFB PKKPbc **PKKPbc** **04 53 09.0 -0.7**
comp=Z,7.2nm,0.7s,baz=100,slow=4.0,SNR=11

BDFB **Brasilia** **119.58 123** PKIKP **PKPdf** **04 42 56.0 -0.6**
SCHQ **Schefferville** **119.62 38** PKP **PKPdf** **04 42 53.8 -1.5**
comp=Z,6.3nm,0.6s,baz=237,slow=4.3,SNR=6.4

NUUG **Nuugaatsiaq** **120.80 18** *i* P **PKPdf** **04 42 55.9 -1.2**
MSEY **Mahe Island** **120.88 251** PKIKP **PKPdf** **04 42 59.1 +0.1**
MSEY **Mahe Island** **120.88 251** **PKPdf** **04 42 59.1 +0.1**
MSEY **Mahe Island** **120.88 251** PKPdf **PKPdf** **04 42 57.6 -1.4**
MALB **Monte Alegre** **121.29 106** *e*P **PKiKP** **04 43 02.4 +2.4**
PEXB **Peixe** **121.35 120** *e*P **PKiKP** **04 43 00.1 +0.1**
KBS **Kingsbay** **121.84 358** *c* *i*PKIKP **PKiKP** **04 42 59.6 +0.4**
KBS pmax pmax
comp=Z,25nm,1.0s

KBS **Kingsbay** **121.84 358** **PKiKP** **04 42 59.3 0.0**
KBS **Kingsbay** **121.84 358** *e*PKPdf **PKiKP** **04 42 59.2 0.0**
SPA0 **Spitsbergen Ar** **122.35 356** *e*PKPdf **PKPdf** **04 42 59.4 -0.6**
ILULI **Ilulissat** **122.54 20** *i* P **PKPdf** **04 42 59.1 -1.3**
PRPB **Parauapebas** **123.20 113** *e*P **PKiKP** **04 43 03.9 +0.1**
DAG **Danmarks Havn** **123.36 5** *i* P **PKPdf** **04 42 60.0 -1.9**
HSPB **Hornsund (broa** **123.54 356** *e*PKPdf **PKPdf** **04 43 01.4 -0.8**
SUR **Sutherland** **123.62 200** PKKPbc PKKPbc 04 52 55.4 -0.3
comp=Z,6.1nm,0.9s,baz=159,slow=2.1,SNR=3.5

SUR **Sutherland** **123.62 200** PKPdf **PKiKP** **04 43 04.6 +0.2**
SMTB **Santa Maria do** **123.70 117** *e*P **PKiKP** **04 43 05.0 +0.3**
SFJD **Kangerlussuaq** **123.76 22** PKIKP **PKPdf** **04 43 02.3 -0.6**
SFJD **Kangerlussuaq** **123.76 22** *i* P **PKPdf** **04 43 01.1 -1.8**
SFJD **Kangerlussuaq** **123.76 22** **PKPdf** **04 43 02.3 -0.6**
SUMG **Summit** **123.88 13** *i* P **PKPdf** **04 43 03.0 -0.6**
SDBA **SAO DESIDERIO** **123.90 122** *e*P **PKPdf** **04 43 04.9 0.0**
MCPB **Macapa, AP** **123.92 105** *e*P **PKiKP** **04 43 05.3 +0.1**
SVE **Sverdlovsk** **123.95 325** *e*PKIKP **PKPdf** **04 43 03.3 -0.3**
SVE pmax pmax
comp=Z,72nm,0.7s

NAN01 **Guarapari, ES** **124.10 131** *e*P **PKPdf** **04 43 05.0 -0.1**
NUUK **Nuuk** **124.62 25** *i* P **PKPdf** **04 43 04.3 -0.3**
HRA **Herat** **124.99 298** PKPdf **PKPdf** **04 43 06.4 -0.1**
ARU **Arti** **125.16 325** *i* PKIKP **PKPdf** **04 43 05.7 -0.2**
ARU 04 45 04.7
ARU 04 49 19.5

ARU **Arti** **125.16 325** PKPdf **PKPdf** **04 43 05.6 -0.3**
BOSA **Boshof** **125.39 206** PKP **PKiKP** **04 43 08.2 +0.2**
comp=Z,10.0nm,0.8s,baz=154,slow=1.5,SNR=16

BOSA PKKPbc **PKKPbc** **04 52 47.6 -1.0**
comp=Z,3.1nm,0.6s,baz=322,slow=4.6,SNR=10

BOSA **Boshof** **125.39 206** PKIKP **PKiKP** **04 43 07.9 0.0**
BOSA **Boshof** **125.39 206** PKPdf **PKiKP** **04 43 07.9 0.0**
DBG **Daneborg** **125.48 7** *i* P **PKPdf** **04 43 04.8 -1.2**
DY2G **Dye2** **125.52 21** *i* P **PKPdf** **04 43 05.1 -1.5**
AB31 **Akbulak array** **125.89 316** *i* PKIKP **PKPdf** **04 43 07.0 -0.5**
ABKAR **Akbulak array** **125.89 316** PKPdf **PKPdf** **04 43 07.1 -0.4**
ICESG **Greenland Ices** **125.97 17** *i* P **PKPdf** **04 43 05.8 -1.7**
JLN **Jalan Bani Buh** **126.06 283** P **PKPdf** **04 43 08.4 -0.2**
CMC01 **Camacan, BA** **126.17 129** *e*P **PKPdf** **04 43 09.2 +0.1**
NBIT **Itapeh - BA** **126.51 129** *e*P **PKiKP** **04 43 10.1 -0.1**
TMAB **Tom-Au,PA,Br** **126.54 110** *e*P **PKiKP** **04 43 10.4 0.0**
AKTO **Aktyubinsk** **126.90 318** PKP **PKPdf** **04 43 09.2 -0.2**
comp=Z,27nm,0.7s,baz=84,slow=3.3,SNR=60

WSAR **Wadi Sarin** **126.95 284** PKP **PKPdf** **04 43 09.5 -0.8**
comp=Z,12nm,0.9s,baz=61,slow=6.0,SNR=6.2

WSAR **Wadi Sarin** **126.95 284** P **PKPdf** **04 43 10.5 +0.2**
MHTO **MHTO** **127.16 281** P **PKPdf** **04 43 10.3 -0.5**
SNR=5.4

GDU01 **Guandu, BA** **127.19 127** *e*P **PKPdf** **04 43 11.1 +0.1**
DQM **DQM** **127.35 279** P **PKPdf** **04 43 11.3 +0.1**
SMDO **Samad** **127.45 283** P **PKPdf** **04 43 11.7 +0.3**
SNR=5.9

GEYT **Alibeck** **128.35 302** PKP **PKPdf** **04 43 12.0 -0.7**
comp=Z,24nm,0.7s,baz=163,slow=1.5,SNR=22

GEYT SKPbc SKPbc 04 45 36.5
comp=Z,7.6nm,0.8s,baz=219,slow=6.9,SNR=6.0

GEYT **Alibeck** **128.35 302** PKPdf **PKPdf** **04 43 12.4 -0.2**
GYA0 **ALIBECK ARRAY** **128.35 302** PKIKP **PKPdf** **04 43 11.5 -1.1**
ISOG **Isortoq, Green** **128.47 20** *i* P **PKPdf** **04 43 11.1 -0.8**
NBPN **Ponto Novo - B** **128.52 124** *e*P **PKPdf** **04 43 13.6 0.0**
HAMF **Hammerfest** **128.62 351** *e*PKPdf **PKPdf** **04 43 11.7 -0.4**
LVZ **Lovozero** **128.68 344** *c* *i*PKIKP **PKiKP** **04 43 13.3 +0.2**
LVZ pmax pmax
comp=Z,73nm,2.5s

LVZ **Lovozero** **128.68 344** PKPdf **PKPdf** **04 43 11.9 -0.5**
SCO **Scoresbysund** **128.69 10** *i* P **PKPdf** **04 43 12.2 0.0**
SHAO **Shalim** **128.72 277** PKPdf **PKPdf** **04 43 12.7 -1.1**
SOEG **Soedalen** **128.72 15** *i* P **PKPdf** **04 43 11.1 -1.2**
SOCY **Socotra** **128.74 269** P **PKPdf** **04 43 13.5 -0.5**
KEV **Kevo** **128.84 349** PKIKP **PKPdf** **04 43 11.6 -0.9**
KEV **Kevo** **128.84 349** **PKPdf** **04 43 11.6 -0.9**
ANGG **Ammassalik, Gr** **128.85 19** *i* P **PKPdf** **04 43 10.8 -1.8**
SOHO **SOHO** **128.99 285** P **PKPdf** **04 43 13.5 -0.7**
SOHO **SOHO** **128.99 285** *i* PKPdf **PKPdf** **04 43 13.2 -0.9**
SNR=27

KIRV **Kirov** **129.01 330** *c* *i*PKIKP **PKPdf** **04 43 13.0 -0.1**
PRGR **Permogore** **129.17 334** *e*PKIKP **PKPdf** **04 43 13.0 -0.3**
PRGR *e* 04 45 36.3
PRGR pmax pmax
comp=Z,63nm,0.8s

APA **Apatity** **129.24 345** ⇓ *i*PKIKP **PKPdf** **04 43 12.3 -1.0**
APA *i* 04 45 38.2
APA *i* 04 46 25.2
APA pmax pmax
comp=Z,32nm,0.6s

ARA0 **ARCESS Array S** **129.30 349** *e*PKPdf **PKPdf** **04 43 12.7 -0.7**
ARCES **ARCESS Array B** **129.30 349** PKhKP PKPpre 04 43 00.8
comp=Z,1.6nm,0.5s,baz=113,slow=0.5,SNR=10

ARCES				PKP	PKPdf	04 43 12.9	-0.5
	comp=Z,55nm,0.7s,baz=16,slow=1.2,SNR=99						
ARCES				SKPbc	SKPbc	04 45 39.5	+1.1
	comp=Z,22nm,0.8s,baz=26,slow=3.4,SNR=13						
UOSS	Minazif	129.40	285	PKPdf	PKPdf	04 43 13.9	-1.1
UOSS	Minazif	129.40	285	i PKPdf	PKPdf	04 43 13.5	-1.5
	SNR=7.2						
BANOM	Banah	129.43	287	PKPdf	PKPdf	04 43 13.4	-1.6
HATD	Hatta, Dubai	129.45	285	i PKPdf	PKPdf	04 43 14.3	-0.7
	SNR=15						
MSFE	Esma-Masafi	129.49	286	i PKPdf	PKPdf	04 43 14.5	-0.7
	SNR=11						
ASHO	Ashiyiah	129.50	285	i PKPdf	PKPdf	04 43 14.5	-0.7
	SNR=16						
SHME	Shamm	129.59	287	PKPdf	PKPdf	04 43 15.0	-0.2
ALNE	Al Ain	129.69	284	P	PKPdf	04 43 15.2	-0.3
	SNR=8.0						
ALNE	Al Ain	129.69	284	i PKPdf	PKPdf	04 43 15.1	-0.4
	SNR=12						
ROSB	Rosrio	129.74	113	eP	PKiKP	04 43 16.5	-0.3
NAZ	Nazwa, Dubai	129.89	285	P	PKPdf	04 43 16.0	+0.1
	SNR=6.2						
NAZ	Nazwa, Dubai	129.89	285	i PKPdf	PKPdf	04 43 14.9	-1.0
	SNR=7.4						
FAQ	Al Faqa, Dubai	129.92	285	i PKPdf	PKPdf	04 43 15.0	-0.9
	SNR=7.1						
JETT	Jettan, Norway	130.09	351	ePKPdf	PKiKP	04 43 15.8	-0.1
ASUD	Al Ashush, Dub	130.15	285	PKPdf	PKPdf	04 43 15.9	-0.4
KTK1	Kautokeino	130.15	350	ePKPdf	PKPdf	04 43 14.0	-1.1
TRO	Tromso	130.22	352	ePKPdf	PKPdf	04 43 14.2	-1.0
NBLA	Lagarto - SE	130.27	126	eP	PKPdf	04 43 16.4	-0.5
WHFO	Wadi Hawf	130.41	276	P	PKPdf	04 43 16.7	-0.4
	SNR=6.1						
ABTO	Aybut	130.73	275	P	PKPdf	04 43 17.6	-0.1
	SNR=6.4						
MZR	Muzera	131.60	283	P	PKPdf	04 43 19.0	-0.2
	SNR=6.8						
MZR	Muzera	131.60	283	i PKPdf	PKPdf	04 43 19.2	0.0
	SNR=14						
NBMA	Muriti-CE	131.75	122	eP	PKPdf	04 43 19.9	+0.1
KLMR	Klimovskoe	132.03	336	ePKIKP	PKPdf	04 43 18.1	-0.7
KLMR				e		04 45 45.9	
KLMR				pmax	pmax		
	comp=Z,56nm,0.8s						
KLMR	Klimovskoe	132.03	336	ePKPdf	PKPdf	04 43 18.2	-0.6
KLMR				AMP		04 43 20.1	
	comp=Z,56nm,0.8s						
KLMR				ePP	PP	04 45 46.0	-3.9
STEI	Steigen	132.28	353	ePKPdf	PKPdf	04 43 18.5	-0.6
BELG	Belogornoye	132.52	323	PKhKP	PKPpre	04 43 07.9	
	comp=Z,9.5nm,0.8s,baz=131,slow=2.0,SNR=5.5						
BELG				PKP	PKPdf	04 43 19.8	-0.2
	comp=Z,160nm,0.7s,baz=78,slow=0.5,SNR=56						
BELG				SKPbc	SKPbc	04 45 50.3	0.0
	comp=Z,100nm,1.0s,baz=68,slow=1.8,SNR=14						
FAUS	Fauske	132.80	353	ePKPdf	PKPdf	04 43 20.5	+0.4
KONS	Konsvik	133.90	353	ePKPdf	PKPdf	04 43 21.4	-0.7
NBCL	Cascavel-CE	133.95	119	eP	PKPdf	04 43 24.4	+0.6
MOR8	Moi Rana	134.06	352	ePKPdf	PKPdf	04 43 20.6	-2.0
SHMA	Al-Shehemyia	134.21	286	P	PKPdf	04 43 23.8	-0.1
RCBR	Riachuelo	134.94	122	SKPbc	SKPbc	04 45 58.7	-0.8
	comp=Z,22nm,0.9s,baz=341,slow=2.9,SNR=7.7						
LSZ	Lusaka	135.16	219	PKIKP	PKPdf	04 43 25.3	-1.0
LSZ	Lusaka	135.16	219	PKPdf	PKPdf	04 43 25.2	-1.0
NSS	Namsos	135.94	353	ePKPdf	PKiKP	04 43 27.3	-0.4
MOS	Moscow	135.96	331	i PKIKP	PKPdf	04 43 24.7	-1.6
MOS				e		04 46 10.0	
MOS				pmax	pmax		
	comp=Z,73nm,0.8s						
FINES	FINESS Array B	136.05	343	PKhKP	PKPpre	04 43 13.5	
	comp=Z,4.1nm,0.6s,baz=55,slow=3.7,SNR=17						
FINES				PKP	PKPdf	04 43 24.9	-1.4
	comp=Z,31nm,0.6s,baz=55,slow=2.5,SNR=25						
FINES				SKPbc	SKPbc	04 46 01.6	+0.4
	comp=Z,18nm,0.6s,baz=54,slow=3.3,SNR=15						
FINES	FINESS Array B	136.05	343		PKPpre	04 43 13.6	
FINES				PKPdf	PKPdf	04 43 25.8	-0.4
PUL	Pulkovo	136.08	339c	i PKIKP	PKiKP	04 43 28.3	+0.1
PUL				pmax	pmax		
	comp=Z,65nm,0.4s						
VRH	Novokhopyorsk	136.34	324	ePKIKP	PKPdf	04 43 27.3	+0.2
VRH				pmax	pmax		
	comp=Z,80nm,0.6s						
OBN	Obninsk	136.82	331	PKP	PKPdf	04 43 28.6	+0.8
	comp=Z,14nm,0.6s,baz=23,slow=5.3,SNR=12						
OBN				SKPbc	SKPbc	04 46 04.4	+0.8
	comp=Z,6.0nm,0.7s,baz=86,slow=6.2,SNR=9.4						
OBN	Obninsk	136.82	331c	i PKIKP	PKPdf	04 43 27.2	-0.7
OBN				e		04 46 21.8	
OBN				pmax	pmax		
	comp=Z,48nm,0.8s						
OBN	Obninsk	136.82	331		PKPdf	04 43 27.4	-0.5
TSUM	Tsumeb	136.86	203		PKPdf	04 43 28.9	-0.4
LPSR	Galich'ya Gora	137.12	327	ePKIKP	PKPdf	04 43 28.3	-0.2
LPSR				pmax	pmax		
	comp=Z,60nm,1.5s						
VORR	Voronezh	137.47	325	ePKIKP	PKPdf	04 43 28.3	-0.9
VORR				pmax	pmax		
	comp=Z,120nm,0.5s						
GOF	Gofitskoye	138.09	315	⇑ePKIKP	PKPdf	04 43 26.4	-4.2
ZEI	Tsey	138.25	311	i PKHKP	PKPpre	04 43 23.7	
ZEI				pmax	pmax		
	comp=Z,13nm,1.0s						
MOL	Molde	138.27	356	e	PKPdf	04 43 23.9	-6.4
VSU	Vasula	138.27	340	i PKIKP	PKPdf	04 43 31.4	+0.9
VSU	Vasula	138.27	340	eP	PKPpre	04 43 20.5	
KMBO	Kilima Mbogo	138.33	243	PKhKP	PKPpre	04 43 23.1	
	comp=Z,4.8nm,0.6s,baz=67,slow=4.8,SNR=14						
KMBO				PKP	PKiKP	04 43 34.3	-0.3
	comp=Z,31nm,1.3s,baz=102,slow=3.0,SNR=3.6						
KMBO				SKPbc	SKPbc	04 46 10.8	+1.0
	comp=Z,7.4nm,0.7s,baz=99,slow=1.6,SNR=10						
KMBO	Kilima Mbogo	138.33	243	PKPpre	PKPpre	04 43 22.0	
KMBO				PKPdf	PKPdf	04 43 31.8	-0.5
KMBO				SKPbc	SKPbc	04 46 10.3	+0.6
GNI	Garni	138.36	307	PKP	PKPdf	04 43 32.1	+0.6
	comp=Z,14nm,0.6s,baz=201,slow=2.5,SNR=7.9						
GNI	Garni	138.36	307	i PKIKP	PKPdf	04 43 31.6	+0.1
GNI	Garni	138.36	307		PKPdf	04 43 30.5	-1.0
KBZ	Khabaz	138.65	313	PKhKP	PKPpre	04 43 22.9	
	comp=Z,4.9nm,0.8s,baz=143,slow=5.5,SNR=7.8						
KBZ				PKP	PKiKP	04 43 34.2	+0.2
	comp=Z,7.2nm,0.7s,baz=206,slow=7.0,SNR=11						
KBZ	Khabaz	138.65	313	i PKIKP	PKPdf	04 43 30.1	-1.5
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DOMB	Dombas	138.66	354	ePKPdf	PKPdf	04 43 22.6	-8.6
AAL	Aland	138.67	346	eP	PKPpre	04 43 19.7	
AKN	Aaknes	138.69	356	ePKPdf	PKPdf	04 43 22.7	-8.5
KIV	Kislovodsk	138.71	313	⇓P	PKPdf	04 43 32.2	+0.3
KIV	Kislovodsk	138.71	313	ePKIKP	PKPdf	04 43 32.3	+0.4
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV	Kislovodsk	138.71	313	PKPdf	PKPdf	04 43 31.4	-0.5
NEY	Neytrino	138.93	312	i PKIKP	PKPdf	04 43 32.5	+0.1
AKH	Akhalkalaki	138.94	309	⇑P	PKPdf	04 43 25.7	-6.8
RAYN	Ar Rayn	138.95	282		PKPpre	04 43 23.4	
RAYN				PKPdf	PKPdf	04 43 33.2	+0.3
RAYN				SKPbc	SKPbc	04 46 10.9	0.0
FOO	Floro	139.39	357	ePKPdf	PKPdf	04 43 29.1	-3.2
NB2	NORSAR Subarra	139.41	352	PKP	PKPpre	04 43 24.6	
	comp=Z,5.5nm,0.6s,baz=16,slow=3.2						
NB2	NORSAR Subarra	139.41	352	PKP	PKPdf	04 43 24.6	-8.0
	baz=16,slow=3.2						
NOA	NORSAR Array B	139.41	352	PKhKP	PKPpre	04 43 24.4	
	comp=Z,4.4nm,0.5s,baz=19,slow=1.4,SNR=85						
NOA				SKPbc	SKPbc	04 46 11.1	+0.2
	comp=Z,14nm,0.9s,baz=14,slow=4.4,SNR=11						
UPP	Uppsala	139.47	347	eP	PKPpre	04 43 24.5	
NAO01	NORSAR Array S	139.64	353	ePKPdf	PKPdf	04 43 25.8	-7.1
SKAR	Skarslia	140.07	354	ePKPdf	PKPdf	04 43 28.0	-5.8
BATM	Batumi	140.18	310	⇑P	PKPdf	04 43 28.4	-6.1
BATM	Batumi	140.18	310	⇑PKHKP	PKPpre	04 43 28.4	
ASK	Askoy	140.49	357	ePKPdf	PKPdf	04 43 27.6	-6.8
OSL	Oslo	140.54	352	ePKPdf	PKPdf	04 43 28.3	-6.2
BER	Bergen	140.58	357	ePKPdf	PKPdf	04 43 28.9	-5.7
IDID	Didziasalis	140.74	337	eP	PKPdf	04 43 29.1	-5.9
GURO	Guroymak-BITLI	140.79	306	PKPdf	PKPdf	04 43 33.0	-2.9
GURO				SKPbc	SKiKP	04 46 16.8	-0.4
IIGN	Ignalina	140.90	337	eP	PKPdf	04 43 30.1	-5.3
VIKU	Vikbolandet	140.91	347	eP	PKPdf	04 43 29.6	-5.6
MNK	Minsk	140.92	335	i PKHKP	PKPpre	04 43 30.7	
MNK				i		04 46 49.9	
MNK				i SSS	SSS	05 09 48.3	
MNK				pmax	pmax		
	comp=Z,69nm,1.0s						
MNK				pmax	pmax		
	comp=N,30nm,1.0s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK	Minsk	140.92	335	i PKP	PKPdf	04 43 30.7	-4.7
	comp=E,2.0nm,1.0s						
MNK				i PKP	PKPdf	04 43 30.7	-4.7
	comp=N,30nm,1.0s						
MNK				i PKP	PKPdf	04 43 30.7	-4.7
	comp=Z,69nm,1.0s,baz=42						
MNK				i pPKP	pPKPdf	04 45 51.4	-5.6
MNK				i SKP		04 46 08.0	
MNK				i PP	PP	04 46 40.1	-4.4
MNK				i sPKP		04 46 50.0	
MNK				i PKS	PKSdf	04 47 06.6	-4.4
MNK				i PPP	PPP	04 50 11.2	
MNK				i SKS	SKSac	04 50 12.5	+19
MNK				i SKKS	SKKPdf	04 55 28.2	-8.0
MNK				i SS	SS	05 03 52.5	-31
MNK				i SSS	SSS	05 09 48.4	
KONO	Kongsberg	140.96	353	⇓PKHKP	PKPpre	04 43 30.1	
KONO	Kongsberg	140.96	353	ePKPdf	PKPdf	04 43 30.1	-5.2
ODD1	Odda	140.97	356	ePKPdf	PKPdf	04 43 29.9	-5.5
NACGM	Naroch	141.04	337	i PKP	PKPdf	04 43 31.1	-4.5
BLS5	Blasjo	141.47	356	ePKPdf	PKPdf	04 43 31.5	-4.7
PABE	Paberze	141.56	339	eP	PKPdf	04 43 32.1	-4.4
KMY	Karmoy	141.76	357	ePKPdf	PKPdf	04 43 32.4	-4.3
PBUR	Paburge	141.77	341	eP	PKPdf	04 43 33.4	-3.5
FURI	Furi	141.84	257	PKPdf	PKPdf	04 43 38.4	-0.3
ANN	Anapa	141.85	317	i PKHKP	PKPpre	04 43 31.7	
ANN				pmax	pmax		
	comp=Z,245nm,1.5s						
MARD	Mardin	142.05	304	PKPdf	PKPdf	04 43 35.2	-2.9
LODK	Lodwar	142.34	247	PKPdf	PKPdf	04 43 36.7	-2.6
LODK	Lodwar	142.34	247	P	PKPdf	04 43 37.1	-2.2
	SNR=26						
BIGH	Upper Bighouse	142.42	4	eP	PKPdf	04 43 34.3	-3.6
HOMB	Homborsund	142.43	354	i P	PKPdf	04 43 34.0	-3.9
HOMB	Homborsund	142.43	354	ePKPdf	PKPdf	04 43 35.5	-2.4
SNART	Snartemo	142.48	355	i P	PKPdf	04 43 34.0	-4.0
SNART	Snartemo	142.48	355	ePKPdf	PKPdf	04 43 35.0	-3.1
SHEL	Horse Pasture	142.62	169	PKIKP	PKPdf	04 43 38.9	-0.8
SHEL	Horse Pasture	142.62	169		PKPdf	04 43 38.9	-0.8
MLA1	Latheron	142.64	4	eP	PKPdf	04 43 33.7	-4.6
LINV	Loch Inver, As	142.66	5	eP	PKPdf	04 43 35.0	-3.3
SUW	Suwalki	143.04	338	ePKP	PKPab	04 43 37.1	0.0
SUW	Suwalki	143.04	338	eP	PKPab	04 43 37.1	0.0
AKASG	Malin Array Be	143.07	330	PKP	PKPab	04 43 36.8	-0.5
	comp=Z,207nm,0.5s,baz=42,slow=4.3,SNR=1180						
AKASG				SKPbc	SKPbc	04 46 20.5	+0.2
	comp=Z,9.7nm,0.8s,baz=46,slow=2.8,SNR=11						
AKASG				SKKPbc	SKKPab	04 54 32.6	-2.3
	comp=Z,1.3nm,0.5s,baz=241,slow=3.3,SNR=6.8						
KAC	Achnashellach	143.29	6	eP	PKPab	04 43 37.5	-0.5
MCD	Coleburn Disti	143.37	4	eP	PKPab	04 43 37.3	-1.0
DEL	Delary	143.37	348	i P	PKPab	04 43 37.0	-1.3
DEL	Delary	143.37	348	eP	PKPab	04 43 37.8	-0.5
KPL	Plockton	143.41	6	eP	PKPab	04 43 37.9	-0.5
MDO	Dochfour	143.43	5	eP	PKPab	04 43 37.9	-0.6
KLNR	Kaliningrad	143.50	341	i PKIKP	PKPab	04 43 38.7	-0.1
KLNR				pmax	pmax		
	comp=Z,1µm,1.1s						
GOET	G??ttrup	143.56	353	i P	PKPab	04 43 38.5	-0.5
SIM	Simferopol'	143.85	319	ePKIKP	PKPbc	04 43 39.8	-0.5
SIM				pmax	pmax		
	comp=Z,937nm,0.8s						
MBAR	Mbarara	143.90	237	PKP	PKPdf	04 43 42.4	+0.3
	comp=Z,68nm,0.6s,baz=108,slow=4.3,SNR=119						
MBAR	Mbarara	143.90	237c	i PKIKP	PKPbc	04 43 41.3	-0.3
MBAR				pmax	pmax		
	comp=Z,235nm,1.3s						
MBAR	Mbarara	143.90	237	PKPdf	PKPdf	04 43 42.1	-0.1
MBAR	Mbarara	143.90	237	P	PKPdf	04 43 42.9	+0.8
MUD	Monsted U'grnd	144.13	352	i P	PKPbc	04 43 39.3	-1.4
COP	Copenhagen	144.38	349	i P	PKPdf	04 43 40.7	-0.7
EDU	Dundee	144.41	4	eP	PKPdf	04 43 41.4	0.0
BSD	Bornholm Skovb	144.42	346	i P	PKPdf	04 43 40.0	-1.5
BSD				i P	PKPbc	04 43 40.3	-1.4
BSD	Bornholm Skovb	144.42	346	eP	PKPdf	04 43 41.1	-0.4
LAWE	Loch Awe, Argy	144.50	6	eP	PKPdf	04 43 41.5	-0.1
EDI	Edinburgh	145.03	4	eP	PKPdf	04 43 42.8	+0.3
PGBU	Glenifferbraes	145.03	5	eP	PKPdf	04 43 42.7	+0.1
ESY	Stoneypath	145.07	4	eP	PKPdf	04 43 42.2	-0.4
EBL	Broad Law	145.18	4	eP	PKPdf	04 43 42.9	+0.1
SORM	Soroca	145.21	327	⇑P	PKPbc	04 43 44.6	+0.3
SORM	Soroca	145.21	327	⇑PKP2	PKPbc	04 43 44.6	+0.3
BZK	Bozkurt	145.35	315	⇓P	PKPbc	04 43 45.0	+0.1
GKP	Gorka Klasztor	145.52	343	ePKP	PKPbc	04 43 45.1	+0.1
GKP	Gorka Klasztor	145.52	343	eP	PKPbc	04 43 45.0	0.0
CLGH	Cloghs, Cushen	145.58	7	eP	PKPbc	04 43 44.5	-0.7
ESK	Eskdalemuir	145.63	4	eP	PKPdf	04 43 43.9	+0.4
ESK	Eskdalemuir	145.63	4	PKIKP	PKPbc	04 43 44.5	-0.8
ESK	Eskdalemuir	145.63	4		PKPbc	04 43 44.5	-0.8
BEL	Belsk	145.65	338	ePKP	PKPbc	04 43 46.0	+0.6
KIS	Kishinev	145.71	326	⇓P	PKPbc	04 43 45.6	-0.2
KIS	Kishinev	145.71	326	⇓PKIKP	PKPbc	04 43 45.6	-0.2
NEWG	New Galloway	145.74	5	eP	PKPdf	04 43 44.2	+0.5
MILM	Milestii Mici	145.76	325	⇓P	PKPbc	04 43 45.9	0.0
MILM	Milestii Mici	145.76	325	⇓PKP2	PKPbc	04 43 45.9	0.0
GAL1	Galloway	145.95	6	eP	PKPdf	04 43 44.5	+0.4
ILGA	Ilgaz	145.95	313	PKPbc	PKPbc	04 43 47.3	+0.4
LVV	L'vov	146.01	333	ePKIKP	PKPbc	04 43 46.2	-0.3
DRBR	Darabani	146.02	329	⇑P	PKPbc	04 43 46.4	-0.3
EDMD	Edmundbyers	146.19	3	eP	PKPbc	04 43 46.0	-0.8
IAS	Iasi	146.24	327	⇓P	PKPbc	04 43 47.1	-0.1
IAS	Iasi	146.24	327	⇓PKP2	PKPbc	04 43 47.1	-0.1
ASF	Jabal al Asfar	146.26	297	PKPbc	PKPbc	04 43 47.9	-0.1
	comp=Z,89nm,0.8s,baz=101,slow=1.7,SNR=91						
LEOM	Leova	146.35	325	⇑P	PKPbc	04 43 47.6	+0.1
LEOM	Leova	146.35	325	⇑PKP2	PKPbc	04 43 47.6	+0.1
KESW	Keswick, Cumbr	146.36	4	eP	PKPdf	04 43 45.3	+0.5
BSEG	Bad Segeberg	146.42	350	ePKPbc	PKPbc	04 43 48.2	+0.7
	baz=17,slow=2.4						
VASR	Vaslui	146.48	326	⇑P	PKPbc	04 43 48.1	+0.2
HLG	Helgoland	146.51	353	ePKPbc	PKPbc	04 43 48.7	+1.0
	baz=17,slow=2.4						
BR131	Keskin Array S	146.56	311	P	PKPbc	04 43 48.1	-0.5
	SNR=28						
BRTR	Keskin Array B	146.56	311	PKPbc	PKPbc	04 43 47.5	-1.1
	comp=Z,60nm,0.6s,baz=142,slow=4.0,SNR=151						
BRTR				SKKPbc	SKKPbc	04 54 19.4	-1.5
	comp=Z,1.9nm,0.8s,baz=217,slow=3.9,SNR=6.6						
ILTH	Belurgan, Co L	146.59	8	eP	PKPbc	04 43 47.4	-0.5
GDLE	Glaisdale, N Y	146.65	2	eP	PKPbc	04 43 47.7	-0.4
WIM	Isle of Man	146.66	6	eP	PKPbc	04 43 47.0	-1.1
IGLA	Glengowla, Co	146.70	11	eP	PKPdf	04 43 44.9	-0.5
KWP	Kalwaria Pacla	146.71	334	ePKP	PKPbc	04 43 48.7	+0.2
PRAR	RASCA	146.79	328	⇓P	PKPbc	04 43 49.3	+0.6
BIR	Birlad	146.81	326	⇓P	PKPbc	04 43 49.6	+0.8
BIR	Birlad	146.81	326	⇓PKP2	PKPbc	04 43 49.6	+0.8
H07N1	FLORES T-PHASE	146.82	49	ePKP	PKPdf	04 43 47.4	+1.3
VLDR	Vladesti	146.84	325	⇑P	PKPbc	04 43 49.4	+0.5
TLCR		146.84	323	⇑P	PKPbc	04 43 49.0	+0.1
TLCR		146.84	323	⇑PKP2	PKPbc	04 43 49.0	+0.1
RCY	Rachaya	146.87	299	eP	PKPbc	04 43 49.7	+0.1
H07S1	FLORES T-PHASE	146.89	49	ePKP	PKPdf	04 43 46.6	+0.3
BHL	Bhannes	146.93	300	eP	PKPbc	04 43 49.1	-0.5
VARL	Varlezi	146.93	325	⇓P	PKPbc	04 43 49.8	+0.6
SHBL	Chebaa	146.98	299	eP	PKPbc	04 43 49.8	-0.1
QRWL	Qaraoun	146.99	300	eP	PKPbc	04 43 49.9	0.0
SCTR	Scanteiesti	146.99	324	⇓P	PKPbc	04 43 50.0	+0.7
TATR	Tatarca	147.01	324	⇓P	PKPbc	04 43 49.9	+0.5
DQRL	Deir Qamar	147.04	300	eP	PKPbc	04 43 50.0	0.0
JURR	Jurilovca	147.06	322	⇓P	PKPbc	04 43 49.7	+0.2
GHRR		147.06	325	⇑P	PKiKP	04 43 50.4	-0.8
ANTO	Ankara	147.09	312	PKHKP	PKPpre	04 43 45.5	
ANTO	Ankara	147.09	312		PKPdf	04 43 45.5	-1.1
ANTO				PKPbc	PKPbc	04 43 50.0	+0.1
BURAR	Bucovina Array	147.10	329	⇓P	PKPbc	04 43 50.3	+0.6
BURAR	Bucovina Array	147.10	329	⇓PKP2	PKPbc	04 43 50.3	+0.6
RUE	Ruedersdorf	147.12	346	eP	PKPbc	04 43 49.8	+0.4
RUE	Ruedersdorf	147.12	346	ePKPdf	PKPdf	04 43 46.7	+0.6
	baz=19,slow=1.5						
RUE				ePKPbc	PKPbc	04 43 50.0	+0.6
	baz=17,slow=2.4						
TESR	Tescani	147.16	327	⇑P	PKPbc	04 43 49.7	0.0
SLCR	Slobozia Conac	147.17	324	⇑P	PKiKP	04 43 50.7	-0.7
IZVR	Izvoarele	147.20	324	⇓P	PKPbc	04 43 50.4	+0.6
TUDR		147.22	325	⇓P	PKPbc	04 43 50.1	+0.2
CFR	Carcaliu	147.22	324	⇓P	PKPdf	04 43 46.6	+0.1
CFR	Carcaliu	147.22	324	⇓PKIKP	PKPdf	04 43 46.6	+0.1
TPGR	Topolog	147.26	323	⇓P	PKPbc	04 43 50.7	+0.6
PANC	Panciu	147.32	325	⇓P	PKiKP	04 43 51.1	-0.7
MMAI	Mount Meron Ar	147.33	299	PKPbc	PKPbc	04 43 51.3	+0.6
	comp=Z,85nm,0.6s,baz=72,slow=8.0,SNR=104						
OJC	Ojcow	147.35	338	ePKP	PKPbc	04 43 50.4	+0.3
KDZE	Karadeniz Ereo	147.35	315	⇑P	PKPbc	04 43 49.5	-1.0
WPS	Cemaes, Angles	147.42	6	eP	PKPdf	04 43 46.1	-0.5
ODBI	Odobesti	147.44	325	⇓P	PKiKP	04 43 51.6	-0.3
WME	Myndd Eilian	147.44	6	eP	PKPdf	04 43 46.2	-0.4
STHS	Stebnicka Huta	147.46	335	ePKP2	PKPbc	04 43 50.3	-0.1
STHS	Stebnicka Huta	147.46	335	ePKP	PKPbc	04 43 50.3	-0.1
TIRR	Tirgusor	147.51	322	⇓P	PKPbc	04 43 51.1	+0.4
TIRR	Tirgusor	147.51	322	⇓PKP2	PKPbc	04 43 51.1	+0.4
GHAJ	Ghor Haditha	147.53	295		PKPbc	04 43 50.1	-1.1
WLF1	Llynfaes	147.54	6	eP	PKPdf	04 43 46.1	-0.7
TSCT	Constanta Port	147.54	322	⇓P	PKiKP	04 43 51.6	-0.6
VRI	Vrincioaia	147.54	326	⇓P	PKPbc	04 43 51.0	+0.2
VRI	Vrincioaia	147.54	326	⇓PKP2	PKPbc	04 43 51.0	+0.2
YRC	Rhoscolyn	147.56	6	eP	PKPbc	04 43 49.4	-1.0
PLOR	Plostina	147.60	326	⇑P	PKPbc	04 43 51.1	+0.1
PLOR	Plostina	147.60	326	⇑PKP2	PKPbc	04 43 51.1	+0.1
EFOR	EFORIE	147.61	322	⇑P	PKPbc	04 43 51.4	+0.5
LMK	Market Rasen	147.62	2	eP	PKPbc	04 43 50.4	-0.3
LBWR	Ladybower, Pea	147.63	3	eP	PKPdf	04 43 45.3	-1.7
HARR	Harsova	147.64	323	⇓P	PKiKP	04 43 51.9	-0.5
HARR	Harsova	147.64	323	⇓PKP2	PKiKP	04 43 51.9	-0.5
UZH	Uzhgorod	147.66	333	ePKHKP	PKPpre	04 43 44.4	
TLBR	Topalu	147.66	323	⇑P	PKiKP	04 43 51.8	-0.7
MFTR	Murfatlar	147.67	322	⇓P	PKiKP	04 43 51.8	-0.7
RETH	Rethem/Aller,	147.72	351	ePKPdf	PKPdf	04 43 47.5	+0.4
	baz=19,slow=1.5						
RETH				ePKPbc	PKPbc	04 43 51.6	+0.7
	baz=17,slow=2.4						
RETH				ePKPab	PKPab	04 43 55.5	0.0
	baz=15,slow=4.3						
BISRR	Bisoca	147.76	325	⇓P	PKiKP	04 43 52.5	-0.3
CRVS	Cervenica-Dubn	147.79	334	ePKP2	PKPbc	04 43 51.6	+0.3
CRVS	Cervenica-Dubn	147.79	334	ePKP	PKPbc	04 43 51.6	+0.3
MANR	Mangalia	147.79	321	⇓P	PKiKP	04 43 52.2	-0.6
TSMN	Mangalia Port-	147.79	321	⇓P	PKiKP	04 43 52.3	-0.4
FLTG	Flechtingen	147.79	348	ePKPdf	PKPdf	04 43 47.4	+0.2
	baz=19,slow=1.5						
FLTG				ePKPbc	PKPbc	04 43 51.5	+0.4
	baz=17,slow=2.4						
FLTG				ePKPab	PKPab	04 43 55.7	-0.2
	baz=15,slow=4.3						
NIE	Niedzica	147.82	336	ePKP	PKiKP	04 43 53.0	+0.3
COVR	Voineasa-Covas	147.83	326	⇓P	PKPbc	04 43 51.4	-0.1
NRDL	Niedersach Rie	147.84	350	ePKPdf	PKPdf	04 43 47.6	+0.3
	baz=19,slow=1.5						
NRDL				ePKPbc	PKiKP	04 43 51.9	-0.6
	baz=17,slow=2.4						
BMR	Baia Mare	147.86	331	⇓P	PKPbc	04 43 51.8	+0.3
BMR	Baia Mare	147.86	331	⇓PKP2	PKPbc	04 43 51.8	+0.3
OZUR		147.88	327	⇑P	PKiKP	04 43 52.5	-0.5
ARCR	ARCALIA	147.89	329	⇓P	PKPbc	04 43 51.9	+0.3
STNC	Stoke	147.91	4	eP	PKPbc	04 43 51.5	0.0
TRPA	Tarpa	147.94	333	⇓P	PKPbc	04 43 52.0	+0.4
KSP	Ksiaz	147.95	342	ePKP	PKPbc	04 43 52.1	+0.5
PGOR	Pogoanele	148.03	324	⇑P	PKiKP	04 43 52.7	-0.5
FOEL	Foel Wylfa	148.04	5	eP	PKPdf	04 43 47.6	-0.1
NEHR	Nehoiu	148.06	325	⇑P	PKPbc	04 43 52.5	+0.4
ICOR	Ion Corvin	148.06	322	⇑P	PKPbc	04 43 52.4	+0.4
ASSE	Asse, Remlinge	148.09	349	ePKPdf	PKPdf	04 43 47.9	+0.3
	baz=19,slow=1.5						
ASSE				ePKPbc	PKiKP	04 43 52.5	-0.6
	baz=17,slow=2.4						
KALB	Balgarevo	148.13	321	⇑P	PKPbc	04 43 52.9	+0.6
ISR	Istrita	148.13	325	⇓P	PKPbc	04 43 52.8	+0.5
ISR	Istrita	148.13	325	⇓PKP2	PKPbc	04 43 52.8	+0.5
DOPR	Dopca	148.17	327	⇑P	PKiKP	04 43 53.0	-0.5
MLR	Muntele Rosu	148.21	326	⇑P	PKPbc	04 43 52.7	+0.2
MLR				⇑P	PKPbc	04 43 52.8	+0.2
MLR	Muntele Rosu	148.21	326	PKPbc	PKPbc	04 43 52.1	-0.5
	comp=Z,100nm,0.6s,baz=228,slow=2.7,SNR=20						
OSTC	Ostas	148.22	342	ePKPDF	PKPdf	04 43 48.4	+0.3
OSTC				⇑ePKP	PKiKP	04 43 53.7	+0.2
OKC	Ostrava-Krasne	148.24	339	ePKHKP	PKPpre	04 43 48.2	
OKC				e		04 43 58.9	
OKC	Ostrava-Krasne	148.24	339	ePKPDF	PKPdf	04 43 48.2	+0.1
OKC				⇑ePKP	PKiKP	04 43 53.0	-0.5
OKC				ePKPAB	PKPab	04 43 58.9	+1.1
CHVC	Chvalec	148.24	342	ePKPDF	PKPdf	04 43 48.7	+0.6
CHVC				⇑ePKP	PKiKP	04 43 53.2	-0.3
CHVC				ePKPAB	PKPab	04 43 58.8	+0.9
EIL	Elat	148.31	293	PKPbc	PKPbc	04 43 52.7	-0.5
	comp=Z,82nm,0.7s,baz=115,slow=1.4,SNR=66						
CWF	Charnwood Fore	148.31	3	eP	PKPdf	04 43 47.8	-0.3
UPC	Upice	148.33	342	ePKP2	PKiKP	04 43 53.2	-0.5
UPC	Upice	148.33	342	⇑ePKP	PKiKP	04 43 53.2	-0.5
LANS	Liptovska Anna	148.35	337	ePKP2	PKiKP	04 43 53.6	-0.2
LANS	Liptovska Anna	148.35	337	ePKP	PKiKP	04 43 53.6	-0.2
IBBN	Ibbenburen	148.37	352	ePKPdf	PKPdf	04 43 48.7	+0.5
	baz=19,slow=1.5						
IBBN				ePKPbc	PKiKP	04 43 53.1	-0.5
	baz=17,slow=2.4						
WACR	West Acre	148.38	1	eP	PKPbc	04 43 50.8	-1.8
CLL	Collm	148.39	346	ePKIKP	PKPdf	04 43 48.0	-0.3
CLL				i		04 43 58.1	
CLL				pmax	pmax		
	comp=Z,223nm,0.9s						
CLL				pmax	pmax		
	comp=Z,79nm,0.7s						
CLL	Collm	148.39	346	ePKPdf	PKPdf	04 43 48.0	-0.3
CLL				i PKPbc	PKPbc	04 43 52.5	-0.2
	comp=Z,223nm,0.9s						
CLL				i PKPab	PKPab	04 43 58.1	-0.3
	comp=Z,79nm,0.7s						
CLL				epPKPab	pPKPab	04 46 14.0	+0.6
CLL				eSKPdf	SKPdf	04 46 26.0	+1.5
CLL				ex	x	04 47 24.0	
CLL	Collm	148.39	346	ePKPdf	PKPdf	04 43 48.5	+0.2
	baz=19,slow=1.5						
CLL				ePKPbc	PKiKP	04 43 53.3	-0.5
	baz=17,slow=2.4						
CLL				ePKPab	PKPab	04 43 58.6	+0.3
	baz=15,slow=4.3						
LEHL	Lehliu	148.40	324	⇓P	PKPbc	04 43 53.4	+0.5
CLZ	Clausthal	148.42	349	ePKPdf	PKPdf	04 43 49.0	+0.6
	baz=19,slow=1.5						
CLZ				ePKPbc	PKiKP	04 43 53.6	-0.3
	baz=17,slow=2.4						
CLZ				ePKPab	PKPab	04 43 59.0	+0.4
	baz=15,slow=4.3						
SECR		148.44	325	⇑P	PKiKP	04 43 53.6	-0.5
MORC	Moravsky Berou	148.49	339	⇓P	PKiKP	04 43 53.8	-0.3
MORC	Moravsky Berou	148.49	339	⇓PKP2	PKiKP	04 43 53.8	-0.3
MORC	Moravsky Berou	148.49	339	ePKP	PKPdf	04 43 48.5	-0.1
MORC				e		04 43 53.5	
MESR	Meseseni	148.50	331	⇓P	PKPbc	04 43 53.5	+0.4
CBBR	Cluj-Babes-Bol	148.50	330	⇓P	PKPbc	04 43 53.4	+0.3
KECS	Kecovo	148.51	335	ePKP2	PKiKP	04 43 53.9	-0.2
KECS	Kecovo	148.51	335	ePKP	PKiKP	04 43 53.9	-0.2
CJR	Cluj-Napoca	148.52	330	⇓P	PKPbc	04 43 53.4	+0.2
CJR	Cluj-Napoca	148.52	330	⇓PKP2	PKPbc	04 43 53.4	+0.2
PLAR	PLOIESTI	148.54	325	⇑P	PKiKP	04 43 54.2	-0.1
MDB	Medias	148.55	328	⇑P	PKiKP	04 43 54.0	-0.3
MDB	Medias	148.55	328	⇑PKP2	PKiKP	04 43 54.0	-0.3
BRG	Berggiesshubel	148.56	344	⇓ePKPf		04 43 48.8	
BRG				Amp		04 43 49.8	
	comp=Z,34nm,1.5s						
BRG				⇑i PKP	PKPbc	04 43 53.6	+0.5
BRG				Amp		04 43 54.6	
	comp=Z,110nm,0.8s						
BRG				i PKPab	PKPab	04 43 59.5	+0.3
BRG				Amp		04 44 00.9	
	comp=Z,91nm,1.0s						
BRG				pPKP	pPKPab	04 46 15.4	+1.3
BRG				Amp		04 46 21.3	
	comp=Z,24nm,1.5s						
BRG	Berggiesshubel	148.56	344	ePKHKP	PKPpre	04 43 48.8	
BRG				pmax	pmax		
	comp=Z,34nm,1.5s						
BRG	Berggiesshubel	148.56	344	ePKPdf	PKPdf	04 43 48.8	+0.2
	baz=19,slow=1.5						
BRG				ePKPbc	PKiKP	04 43 53.8	-0.3
	baz=17,slow=2.4						
BRG				ePKPab	PKPab	04 43 59.4	+0.3
	baz=15,slow=4.3						
SULR		148.57	324	⇓P	PKiKP	04 43 54.8	+0.5
FBE	Freiberg	148.66	345	ePKPdf	PKPdf	04 43 49.2	+0.5
	baz=19,slow=1.5						

FBE ePKPbc **PKiKP 04 43 54.4 0.0**
baz=17,slow=2.4
FBE ePKPab **PKPab 04 44 00.1 +0.6**
baz=15,slow=4.3
BORA Eskisehir 148.70 313 PKPbc **PKPbc 04 43 53.7 -0.2**
VOIR 148.71 327 ⇑P **PKPbc 04 43 54.0 +0.3**
VOIR 148.71 327 ⇑PKHKP PKPpre 04 43 54.0
PVCC Panska Ves 148.71 343 ePKHKP PKPpre 04 43 49.5
PVCC Panska Ves 148.71 343 ePKPDF **PKPdf 04 43 49.5 +0.7**
PVCC ⇑ePKP **PKPbc 04 43 54.9 +0.5**
IZAB Izabela 148.74 336 ePKP2 **PKiKP 04 43 54.2 -0.4**
NEUB Neuenburg 148.75 347 ePKPdf **PKPdf 04 43 49.2 +0.4**
baz=19,slow=1.5
NEUB ePKPbc **PKiKP 04 43 54.3 -0.2**
baz=17,slow=2.4
NEUB ePKPab **PKPab 04 44 00.1 +0.2**
baz=15,slow=4.3
GTTG Gottingen 148.78 349 ePKPdf **PKPdf 04 43 49.2 +0.3**
baz=19,slow=1.5
GTTG ePKPbc **PKiKP 04 43 54.3 -0.2**
baz=17,slow=2.4
LTVH Ltavrtes, Hu 148.79 332 ⇑P **PKiKP 04 43 54.8 +0.1**
RSBS Rosebush, Pemb 148.82 7 eP **PKPbc 04 43 52.9 -0.8**
DRGR 148.87 331 ⇑P **PKPbc 04 43 54.5 +0.4**
DRGR 148.87 331 ⇑PKHKP PKPpre 04 43 54.5
MCH1 Michaelchurch 148.94 5 eP **PKPdf 04 43 47.5 -1.6**
ARR Arges 148.97 327 ⇓P **PKiKP 04 43 56.2 +0.9**
CALA Caldeira 148.99 49 ePKP **PKPbc 04 43 53.3 -1.4**
ELMS Elmsett, Ipswi 149.01 0 eP **PKPbc 04 43 54.0 -0.1**
BORR Bors 149.06 332 ⇑P **PKPbc 04 43 52.2 -2.2**
HOR Horta 149.07 49 ePKP **PKPbc 04 43 54.7 0.0**
MONM Monmouth 149.11 5 eP **PKPdf 04 43 50.7 +1.3**
VYHS Vyhne 149.13 337 ePKHKP PKPpre 04 43 54.9
VYHS e 04 44 02.2
VYHS Vyhne 149.13 337 ePKP **PKPbc 04 43 54.9 +0.3**
VYHS e 04 44 02.2
PCAN Candelaria 149.20 49 ePKP **PKPbc 04 43 53.9 -1.2**
PSZ Piszkesteto 149.20 335 ⇓P **PKPbc 04 43 55.3 +0.4**
PSZ Piszkesteto 149.20 335 ⇓PKHKP PKPpre 04 43 55.3
VRAC Vranov 149.21 340 ⇑P **PKiKP 04 43 55.6 0.0**
VRAC Vranov 149.21 340 PKPbc **PKPbc 04 43 54.5 -0.3**
comp=Z,61nm,0.9s,baz=24,slow=1.2,SNR=50
VRAC PKPab **PKPab 04 44 02.8 +0.9**
comp=Z,73nm,0.8s,baz=35,slow=1.3,SNR=26
VRAC Vranov 149.21 340 ePKP **PKPdf 04 43 49.8 +0.1**
VRAC e 04 43 55.1
PRU Pruhonice 149.21 343 ePKHKP PKPpre 04 43 50.0
PRU Pruhonice 149.21 343 ePKPDF **PKPdf 04 43 50.0 +0.4**
PRU ⇑ePKP **PKPbc 04 43 54.7 0.0**
PICO Pico 149.22 49 ePKP **PKPbc 04 43 55.5 +0.3**
STRD Stroud 149.22 4 eP **PKPbc 04 43 54.9 -0.8**
JAVC Velka Javorina 149.24 338 ePKP **PKPdf 04 43 50.9 +1.1**
JAVC e 04 43 56.4
SRBC Serra Branca 149.25 48 ePKP **PKPbc 04 43 53.9 -1.3**
ROSA Rosais 149.25 49 ePKP **PKPbc 04 43 53.3 -1.9**
ROSA Rosais 149.25 49 PKPbc **PKiKP 04 43 56.0 0.0**
BUG Bochum--Univer 149.28 352 ePKPbc **PKiKP 04 43 55.2 -0.4**
baz=17,slow=2.4
BUG ePKPab **PKPab 04 44 01.7 -0.3**
baz=15,slow=4.3
PGRA Graciosa 149.30 48 ePKP **PKPbc 04 43 54.4 -0.9**
MOX Moxa 149.32 347 ePKPdf **PKPdf 04 43 49.9 +0.1**
baz=19,slow=1.5
MOX ePKPbc **PKiKP 04 43 55.6 -0.2**
baz=17,slow=2.4
MOX ePKPab **PKPab 04 44 02.5 +0.2**
baz=15,slow=4.3
TANN Tannenbergstha 149.34 346 ePKPdf **PKPdf 04 43 50.0 +0.1**
baz=19,slow=1.5
TANN ePKPbc **PKiKP 04 43 55.8 -0.1**
baz=17,slow=2.4
LOT Lotru 149.35 328 ⇓P **PKPbc 04 43 54.9 -0.4**
PLN Plauen 149.35 346 ePKPdf **PKPdf 04 43 50.0 +0.1**
baz=19,slow=1.5
PLN ePKPbc **PKiKP 04 43 55.7 -0.1**
baz=17,slow=2.4
PLN ePKPab **PKPab 04 44 02.8 +0.3**
baz=15,slow=4.3
PPNO Prainha do Nor 149.35 49 ePKP **PKiKP 04 43 56.7 +0.4**
WERD Werda 149.35 346 ePKPdf **PKPdf 04 43 50.0 +0.1**
baz=19,slow=1.5
WERD ePKPbc **PKiKP 04 43 55.8 0.0**
baz=17,slow=2.4
WERD ePKPab **PKPab 04 44 02.9 +0.4**
baz=15,slow=4.3
HUMR Humele 149.36 325 ⇑P **PKPbc 04 43 55.1 -0.1**
KASTN Kahler Asten 149.36 351 ePKPdf **PKPdf 04 43 50.3 +0.4**
baz=19,slow=1.5
KASTN ePKPbc **PKiKP 04 43 55.7 -0.1**
baz=17,slow=2.4
PMAN Manadas 149.40 49 ePKP **PKiKP 04 43 56.4 +0.1**
GUNZ Gunzen 149.42 346 ePKPdf **PKPdf 04 43 50.3 +0.3**
baz=19,slow=1.5
GUNZ ePKPbc **PKiKP 04 43 56.1 +0.1**
baz=17,slow=2.4
GUNZ ePKPab **PKPab 04 44 03.4 +0.6**
baz=15,slow=4.3
DEV Deva 149.46 329 ⇓P **PKiKP 04 43 55.8 -0.3**
DEV Deva 149.46 329 ⇓PKHKP PKPpre 04 43 55.8
UBBA Unterbreizbach 149.47 349 ePKPdf **PKPdf 04 43 50.1 +0.2**
baz=19,slow=1.5
UBBA ePKPbc **PKiKP 04 43 55.7 -0.2**
baz=17,slow=2.4
WERN Wernitzgruen 149.48 346 ePKPdf **PKPdf 04 43 50.4 +0.3**
baz=19,slow=1.5
WERN ePKPbc **PKiKP 04 43 56.3 +0.2**
baz=17,slow=2.4
WERN ePKPab **PKPab 04 44 03.6 +0.6**
baz=15,slow=4.3
KRUC Moravsky 149.49 340 ePKP **PKPdf 04 43 49.9 -0.2**
KRUC e 04 43 55.7
COPA Copaceanca 149.49 325 ⇓P **PKPbc 04 43 55.3 -0.2**
SWN1 Swindon 149.51 4 eP **PKPdf 04 43 52.6 +2.5**
NKC Novy Kostel 149.52 346 ePKIKP **PKPdf 04 43 50.1 -0.1**
NKC e 04 44 03.8
NKC Novy Kostel 149.52 346 ePKPDF **PKPdf 04 43 50.1 -0.1**
NKC ⇑ePKP **PKPbc 04 43 55.7 +0.2**
NKC ePKPAB **PKPab 04 44 03.8 +0.6**
BSZH Besenyszg 149.55 334 ⇑P **PKiKP 04 43 56.6 +0.3**
TREC Trest 149.56 341 ePKHKP PKPpre 04 43 55.9
TREC Trest 149.56 341 ⇑ePKP **PKPbc 04 43 55.9 +0.3**
SMOL Smolenice 149.62 338 ePKHKP PKPpre 04 43 56.9
SMOL Smolenice 149.62 338 ePKP **PKiKP 04 43 56.9 +0.5**
SMOL e 04 44 04.9
SZH Strazhica 149.65 323 *i* P **PKPbc 04 43 55.8 -0.2**
SIRR Siria 149.75 331 ⇓P **PKiKP 04 43 56.8 +0.1**
JMB Yambol 149.77 321 *i* P **PKiKP 04 43 56.7 -0.2**
MANZ Manzenberg 149.83 346 ePKPdf **PKPdf 04 43 50.8 +0.1**
baz=19,slow=1.5
MANZ ePKPbc **PKiKP 04 43 57.0 +0.1**
baz=17,slow=2.4
GZR Gura Zlata 149.87 329 ⇑P **PKPbc 04 43 56.2 -0.3**
GZR Gura Zlata 149.87 329 ⇑PKIKP **PKPbc 04 43 56.2 -0.3**
SRO Srobarova 149.89 337 ePKHKP PKPpre 04 43 56.9
SRO Srobarova 149.89 337 ePKP **PKiKP 04 43 56.9 -0.1**
SRO e 04 44 06.0
SRO2 Moca 149.91 336 ePKHKP PKPpre 04 43 55.5
SRO2 e 04 44 05.0
SRO2 Moca 149.91 336 ePKP **PKPbc 04 43 55.5 -0.9**
SRO2 e 04 44 05.0
PAGU Agualva, Azore 149.97 48 ePKP **PKiKP 04 43 57.5 +0.1**
ADH Angra Heroismo 149.99 48 ePKP **PKPbc 04 43 57.2 +0.3**
ZST Bratislava 150.00 338 ePKHKP PKPpre 04 43 57.1
ZST e 04 44 05.9
ZST Bratislava 150.00 338 ePKP **PKiKP 04 43 57.1 -0.1**
ZST e 04 44 05.9
ROTZ Rotzenmuhle 150.01 346 ePKPdf **PKPdf 04 43 50.9 -0.1**
baz=19,slow=1.5
ROTZ ePKPbc **PKiKP 04 43 57.3 +0.1**
baz=17,slow=2.4
VLAD Vladila 150.02 325 ⇓P **PKiKP 04 43 57.3 0.0**
BEBN Eben Emael 150.09 354 *d*PKPdf **PKPdf 04 43 51.2 +0.2**
BEBN *d*PKP **PKPbc 04 43 56.9 +0.1**
BEBN *d*PKPab **PKPab 04 44 05.4 0.0**
AMBH Ambrzfalva 150.10 332 ⇑P **PKiKP 04 43 57.7 +0.3**
SRE Strehaia 150.19 327 ⇑P **PKiKP 04 43 58.2 +0.5**
SRE Strehaia 150.19 327 ⇑PKIKP **PKiKP 04 43 58.2 +0.5**
AHRW Bad Neuenahr-A 150.19 352 ePKPbc **PKiKP 04 43 57.5 0.0**
baz=17,slow=2.4
AHRW ePKPab **PKPab 04 44 05.9 0.0**
baz=15,slow=4.3
UCC Uccle 150.19 356 *d*PKP **PKPbc 04 43 56.8 -0.2**
UCC *d*PKPab **PKPab 04 44 05.5 -0.3**

MEM Membach 150.24 354 *d*PKPdf **PKPdf 04 43 51.4 +0.2**
MEM *d*PKP **PKPbc 04 43 56.9 -0.2**
MEM *d*PKPab **PKPab 04 44 05.9 -0.2**
BTNL Ternell 150.25 354 *d*PKPdf **PKPdf 04 43 51.5 +0.2**
BTNL *d*PKP **PKPbc 04 43 56.7 -0.4**
KHC Kasperske Hory 150.25 343 ePKIKP **PKPdf 04 43 51.8 +0.4**
KHC *e* 04 44 07.4
KHC Kasperske Hory 150.25 343 ePKPDF **PKPdf 04 43 51.8 +0.4**
KHC ⇑ePKP **PKPbc 04 43 57.3 0.0**
KHC ePKPAB **PKPab 04 44 07.4 +1.1**
BZS Buzias 150.26 330 ⇑P **PKPbc 04 43 57.3 0.0**
BZS Buzias 150.26 330 ⇑PKIKP **PKPbc 04 43 57.3 0.0**
GRF Grafenberg Arr 150.30 347 ePKPbc **PKiKP 04 43 58.1 +0.3**
baz=17,slow=2.4
GRF ePKPab **PKPab 04 44 07.1 +0.6**
baz=15,slow=4.3
GRFO Grafenberg 150.30 347 PKPbc 04 43 57.0 -0.3
GRFO PKPab **PKPab 04 44 06.8 +0.4**
TNS Taunus Mts 150.31 350 ePKPdf **PKPdf 04 43 51.7 +0.3**
baz=19,slow=1.5
TNS ePKPbc **PKiKP 04 43 58.0 +0.2**
baz=17,slow=2.4
BSTI Sart Tilman 150.31 354 *d*PKP **PKPbc 04 43 57.2 -0.1**
BSTI *d*PKPab **PKPab 04 44 04.9 -1.5**
CKRC Cesky Krumlov 150.33 342 ePKPDF **PKPdf 04 43 51.8 +0.3**
CKRC ⇑ePKP **PKPbc 04 43 57.4 0.0**
TIM Timisoara 150.35 331 ⇓P **PKiKP 04 43 58.4 +0.4**
TIM Timisoara 150.35 331 ⇓PKIKP **PKiKP 04 43 58.4 +0.4**
HERR Herculane 150.42 328 ⇓P **PKPbc 04 43 57.3 -0.4**
WET Wettzell 150.42 344 ePKPdf **PKPdf 04 43 51.6 0.0**
baz=19,slow=1.5
WET ePKPbc **PKiKP 04 43 58.2 +0.1**
baz=17,slow=2.4
WET ePKPab **PKPab 04 44 07.8 +0.8**
baz=15,slow=4.3
RMGR Halanga-Turnu 150.44 328 ⇑P **PKiKP 04 43 58.0 -0.2**
GERES GERESS Array B 150.48 343 PKP **PKPdf 04 43 51.7 -0.1**
comp=Z,3.1nm,0.7s,baz=222,slow=1.3,SNR=14
GERES PKPbc **PKPbc 04 43 57.2 -0.7**
comp=Z,38nm,0.6s,baz=38,slow=8.9,SNR=105
SNF Seneffe 150.49 356 *d*PKPdf **PKPdf 04 43 52.1 +0.6**
SNF *d*PKP **PKPbc 04 43 57.2 -0.4**
SNF *d*PKPab **PKPab 04 44 06.5 -0.6**
BHOU Houvegnez 150.49 354 *d*PKPdf **PKPdf 04 43 52.2 +0.6**
BHOU *d*PKP **PKPbc 04 43 57.8 0.0**
BHOU *d*PKPab **PKPab 04 44 07.4 +0.1**
BCLA Clavier 150.50 355 *d*PKP **PKPbc 04 43 56.6 -1.1**
BCLA *d*PKPab **PKPab 04 44 07.0 -0.2**
BGES Gesves 150.55 355 *d*PKPdf **PKPdf 04 43 52.2 +0.5**
BGES *d*PKP **PKPbc 04 43 57.0 -0.8**
BGES *d*PKPab **PKPab 04 44 07.1 -0.3**
BAIL Bailesti 150.56 326 ⇑P **PKiKP 04 43 59.0 +0.5**
PUNG Punghina 150.59 327 ⇓P **PKPbc 04 43 58.1 0.0**
CONA Conrad Observa 150.65 340 eP **PKPdf 04 43 52.0 -0.1**
comp=Z,10nm,1.1s
CONA *i* P **PKPbc 04 43 58.4 +0.1**
comp=Z,131nm,0.6s,SNR=38
BANR Banloc 150.66 330 ⇑P **PKiKP 04 43 58.9 +0.3**
BMRD Maredsous 150.66 355 *d*PKPdf **PKPdf 04 43 52.0 +0.1**
BMRD *d*PKP **PKPbc 04 43 57.4 -0.6**
BMRD *d*PKPab **PKPab 04 44 07.5 -0.4**
RCHB Rochefort 150.76 355 *d*PKPdf **PKPdf 04 43 52.2 +0.2**
RCHB *d*PKP **PKPbc 04 43 57.8 -0.5**
RCHB *d*PKPab **PKPab 04 44 08.9 +0.6**
MPEP Malo Peshtene 150.81 325 ⇑P **PKPbc 04 43 58.4 -0.3**
MDVR Moldovita 150.83 329 ⇑P **PKPbc 04 43 58.8 0.0**
DOU Dourbes 150.88 355 *d*PKPdf **PKPdf 04 43 52.1 -0.1**
DOU *d*PKP **PKiKP 04 43 58.8 -0.1**
DOU *d*PKPab **PKPab 04 44 08.3 -0.5**
KDZ Kurdzhali 150.96 321 *i* P **PKPbc 04 43 58.8 -0.3**
WLF Walferdange 151.16 353 ePKPbc **PKiKP 04 44 00.4 +0.9**
baz=17,slow=2.4
WLF ePKPab **PKPab 04 44 10.4 +0.4**
baz=15,slow=4.3
WLF Walferdange 151.16 353 *d*PKPdf **PKPdf 04 43 53.0 +0.4**
WLF *d*PKP **PKiKP 04 43 60.0 +0.4**
WLF *d*PKPab **PKPab 04 44 10.4 +0.4**
MOA Molln 151.22 341 eP **PKPdf 04 43 52.3 -0.5**
comp=Z,12nm,1.3s
MOA *i* P **PKPbc 04 43 59.0 -0.5**
comp=Z,45nm,0.6s,SNR=13
RZN Rozhen 151.34 321 *i* P **PKPbc 04 43 59.7 -0.5**
ARSA Arzberg 151.35 339 *i* P **PKPbc 04 43 59.5 -0.3**
comp=Z,21nm,0.6s,SNR=9.0
FRGS Fruska Gora 151.43 332 ⇓P **PKPbc 04 43 58.9 -1.2**
PDA Ponta Delgada 151.50 48 ePKP **PKPbc 04 43 58.9 -1.5**
VTS Vitosha 151.58 324 ⇓P **PKPbc 04 44 00.7 +0.1**
VTS Vitosha 151.58 324 ⇓PKIKP **PKPbc 04 44 00.7 +0.1**
VTS Vitosha 151.58 324 *i* P **PKiKP 04 44 01.0 +0.1**
STU Stuttgart 151.58 349 PKIKP **PKPdf 04 43 53.4 +0.1**
STU Stuttgart 151.58 349 PKPdf 04 43 53.4 +0.1
STU PKPbc **PKiKP 04 44 00.8 +0.4**
STU PKPab **PKPab 04 44 12.5 +0.7**
STU Stuttgart 151.58 349 ePKPbc **PKiKP 04 44 00.9 +0.4**
baz=17,slow=2.4
STU ePKPab **PKPab 04 44 11.9 +0.1**
baz=15,slow=4.3
GRON Grota Negra 151.59 48 ePKP **PKiKP 04 44 01.3 +0.4**
CMLA Cha da Macela 151.59 48 ePKP **PKPbc 04 43 59.5 -1.1**
BOVS Bovan 151.67 327 ⇑P **PKPbc 04 43 59.7 -0.9**
FUR Furstenfeldbru 151.72 346 ePKPdf **PKPdf 04 43 53.6 0.0**
baz=19,slow=1.5
FUR ePKPbc **PKiKP 04 44 01.0 +0.2**
baz=17,slow=2.4
FUR ePKPab **PKPab 04 44 13.2 +0.7**
baz=15,slow=4.3
JSA Saint Aubin 151.80 5 eP **PKPbc 04 43 59.2 -1.5**
MMB Musomiste 151.98 322 *i* P **PKPbc 04 44 01.4 0.0**
KALN Kalnik 152.00 337 *i* P **PKPbc 04 44 00.4 -0.9**
SOKA Soboth 152.02 339 eP **PKPdf 04 43 53.7 -0.5**
comp=Z,12nm,1.2s
SOKA *i* P **PKPbc 04 44 00.5 -0.8**
comp=Z,93nm,1.2s,SNR=12
SOKA eP **PKPab 04 44 14.6 +0.7**
comp=Z,63nm,1.1s
PERS Pernice 152.03 339 *i* PKPbc **PKPbc 04 44 00.5 -0.8**
PERS ePKPab **PKPab 04 44 14.0 +0.1**
LOBO Lobor 152.12 337 *i* P **PKPbc 04 44 00.9 -0.6**
BFO Black Forest 152.16 350 PKIKP **PKiKP 04 44 01.9 +0.2**
BFO 04 44 14.7
BFO Black Forest 152.16 350 PKPdf **PKPdf 04 43 53.3 -0.9**
BFO PKPbc **PKiKP 04 44 01.9 +0.2**
BFO PKPab **PKPab 04 44 14.7 +0.3**
BFO Black Forest 152.16 350 ePKPdf **PKPdf 04 43 54.0 -0.2**
baz=19,slow=1.5
BFO ePKPbc **PKiKP 04 44 01.9 +0.2**
baz=17,slow=2.4
BFO ePKPab **PKPab 04 44 14.3 -0.1**
baz=15,slow=4.3
KKB Krupnik 152.16 323 *i* P **PKPbc 04 44 01.7 -0.1**
KBA Koelnbreinsper 152.19 342 eP **PKPdf 04 43 53.8 -0.7**
comp=Z,11nm,1.1s
KBA *i* P **PKPbc 04 44 01.2 -0.7**
comp=Z,51nm,0.7s,SNR=14
OBKA Obir 152.33 340 *i* P **PKPbc 04 44 01.4 -0.7**
comp=Z,28nm,0.6s,SNR=6.1
OBKA eP **PKPab 04 44 15.5 +0.3**
comp=Z,40nm,0.8s
WATA Walderalm 152.43 344 eP **PKPdf 04 43 54.4 -0.4**
comp=Z,14nm,1.1s
WATA *i* P **PKPbc 04 44 01.8 -0.5**
comp=Z,45nm,0.5s,SNR=12
WATA eP **PKPab 04 44 16.5 +0.9**
comp=Z,112nm,1.3s
UBR Ueberruh 152.44 347 ePKPdf **PKPdf 04 43 54.5 -0.2**
baz=19,slow=1.5
UBR ePKPbc **PKiKP 04 44 02.5 +0.1**
baz=17,slow=2.4
WTTA Wattenberg 152.48 344 *i* P **PKPdf 04 43 54.8 -0.2**
comp=Z,17nm,0.8s,SNR=6.3
WTTA eP **PKPbc 04 44 02.2 -0.3**
comp=Z,76nm,0.5s
WTTA eP **PKPab 04 44 16.6 +0.7**
comp=Z,71nm,0.8s
RETA Reutte 152.48 346 eP **PKPdf 04 43 54.6 -0.2**
comp=Z,9.6nm,1.1s
RETA *i* P **PKiKP 04 44 02.5 0.0**
comp=Z,35nm,0.7s,SNR=6.4
RETA eP **PKPab 04 44 16.3 +0.5**
comp=Z,75nm,1.1s
MYKA Terra Mystica 152.50 341 eP **PKPdf 04 43 54.0 -0.8**
comp=Z,14nm,1.9s
MYKA *i* P **PKPbc 04 44 01.4 -1.0**
comp=Z,53nm,0.6s,SNR=13
MYKA eP **PKPab 04 44 16.1 +0.2**
comp=Z,40nm,0.8s
MOTA Moosalm 152.53 345 eP **PKPdf 04 43 54.5 -0.5**
comp=Z,25nm,1.1s
MOTA *i* P **PKPbc 04 44 02.6 0.0**
comp=Z,97nm,1.1s,SNR=8.8
MOTA eP **PKPab 04 44 16.5 +0.4**
comp=Z,71nm,1.0s
ABTA Abfaltersbach 152.72 343 *i* P **PKPdf 04 43 54.3 -0.9**
comp=Z,39nm,1.1s,SNR=11
ABTA eP **PKPbc 04 44 02.1 -0.8**
comp=Z,93nm,0.6s
ABTA eP **PKPab 04 44 17.1 +0.3**
comp=Z,55nm,0.7s
LJU Ljubljana 152.74 339 ePKPdf **PKPdf 04 43 54.8 -0.4**
LJU ePKPbc **PKPbc 04 44 02.3 -0.6**
LJU ePKPab **PKPab 04 44 16.5 -0.4**
STIP Stip 152.78 324 *i* P **PKPbc 04 44 01.2 -1.9**
VAV Valandovo 152.81 323 *i* P **PKPbc 04 44 02.2 -0.9**
DAVA Damuels 152.87 347 *i* P **PKPdf 04 43 55.5 0.0**
comp=Z,13nm,1.4s,SNR=8.3
DAVA eP **PKiKP 04 44 03.5 +0.1**
comp=Z,66nm,1.0s
DAVA eP **PKPab 04 44 17.9 +0.4**
comp=Z,68nm,0.8s
FETA Feichten 152.93 345 *i* P **PKPdf 04 43 55.5 -0.1**
comp=Z,23nm,0.8s,SNR=8.4
FETA eP **PKiKP 04 44 03.8 +0.2**
comp=Z,61nm,1.0s
FETA eP **PKPab 04 44 18.3 +0.5**
comp=Z,61nm,1.2s
BOJS Bojanci 152.97 338 ePKPbc **PKPbc 04 44 03.2 -0.2**
SKO Skopje 152.99 325 *i* P **PKPbc 04 44 03.3 -0.2**
DAVOX Davos/Dischmat 153.35 346 PKP **PKPdf 04 43 56.2 0.0**
comp=Z,11nm,0.6s,baz=29,slow=2.4,SNR=14
DAVOX PKPbc **PKPbc 04 44 04.0 -0.4**
comp=Z,73nm,0.6s,baz=216,slow=1.3,SNR=50
DAVOX PKPab **PKPab 04 44 20.1 +0.4**
comp=Z,55nm,0.7s,baz=354,slow=7.2,SNR=12
DAVOX Davos/Dischmat 153.35 346 S **PKPab 04 44 20.3 +0.7**
DAVOX Davos/Dischmat 153.35 346 P **PKPbc 04 44 04.3 -0.1**
RIY Rijeka 153.39 339 P **PKPbc 04 44 03.5 -0.8**
UDBI Udbina 153.61 336 *i* P **PKPdf 04 43 59.1 +2.7**
VDL Val di Lei 153.72 347 P **PKPbc 04 44 05.2 0.0**
SMRN Sveta Marina 153.75 339 *i* P **PKPbc 04 44 02.6 -2.3**
PDG Podgorica 153.78 329 ⇓P **PKPbc 04 44 04.9 -0.2**
RABC Rab 153.79 338 *i* P **PKPdf 04 43 59.5 +2.9**
RICI Ricice 153.92 333 P **PKPdf 04 43 55.9 -1.0**
OHR Ohrid 153.94 325 *i* P **PKPbc 04 44 05.4 -0.2**
BRJN Brijuni 154.00 339 *i* P **PKPbc 04 44 04.5 -1.1**
MORI Morici 154.19 335 *i* P **PKiKP 04 44 05.1 -0.8**
TEOL Teolo 154.23 343 PKPdf **PKPdf 04 43 56.7 -0.5**
TEOL **PKiKP 04 44 05.5 -0.5**
TEOL PKPab **PKPab 04 44 23.0 -0.2**
TIR Tirane 154.26 326 ⇓P **PKPbc 04 44 06.7 +0.5**
TIR Tirane 154.26 326 ⇓PKIKP **PKPbc 04 44 06.7 +0.5**
SALO Salr 154.29 345 S **PKPab 04 44 23.2 -0.3**
SALO Salr 154.29 345 P **PKiKP 04 44 06.2 0.0**
MDI Monti di Nese 154.34 346 S **PKPab 04 44 19.4 -4.3**
MDI Monti di Nese 154.34 346 P **PKiKP 04 44 04.8 -1.5**
DUGI Dugi Otok 154.34 336 *i* P **PKPdf 04 43 58.3 +0.9**
ZIRJ Zirje 154.40 335 *i* P **PKiKP 04 44 04.8 -1.6**
IDI Anoyia 154.75 309 PKP **PKPdf 04 43 58.2 -0.1**
comp=Z,20nm,0.9s,baz=279,slow=7.5,SNR=3.2
SSB Saint Sauveur 155.66 354 PKIKP **PKPdf 04 43 58.9 -0.3**
SSB 04 44 29.2
SSB Saint Sauveur 155.66 354 PKPdf **PKPdf 04 43 58.9 -0.3**
SSB **PKPab 04 44 29.2 -0.2**
MATE Matera 156.37 329 ⇑P **PKPab 04 44 32.2 -0.4**
TIP Timpagrande 157.47 327 ⇑P **PKPdf 04 44 02.4 +0.7**
TIP Timpagrande 157.47 327 PKPdf **PKPdf 04 44 01.3 -0.4**
TIP PKPab **PKPab 04 44 37.7 +0.1**
PBRG Braganca 158.27 16 ePKPab **PKPab 04 44 41.6 +0.7**
POLO Lamas de Olo 158.38 18 ePKPab **PKPab 04 44 42.4 +0.9**
PVRL Vila Real 158.50 18 ePKPab **PKPab 04 44 43.0 +1.1**
MVO Moncorvo 158.79 17 ePKPdf **PKPdf 04 44 03.6 +0.4**
MVO Moncorvo 158.79 17 ePKPab **PKPab 04 44 44.0 +0.8**
PVIS Viseu 158.96 19 ePKPdf **PKPdf 04 44 04.1 +0.7**
PVIS Viseu 158.96 19 ePKPab **PKPab 04 44 44.6 +0.7**
MTE Manteigas 159.35 19 ePKPdf **PKPdf 04 44 04.3 +0.4**
MTE Manteigas 159.35 19 ePKPab **PKPab 04 44 46.1 +0.4**
PCAS Casmilo, Conde 159.36 21 ePKPab **PKPab 04 44 46.1 +0.5**
PSBE So Bento 159.74 23 ePKPab **PKPab 04 44 47.8 +0.5**
PCBR Castelo Branco 159.88 19 ePKPdf **PKPdf 04 44 05.4 +1.0**
PCBR Castelo Branco 159.88 19 ePKPab **PKPab 04 44 48.3 +0.4**
PMAFR Mafra 160.04 24 ePKPdf **PKPdf 04 44 04.0 -0.6**
PMAFR Mafra 160.04 24 ePKPab **PKPab 04 44 49.1 +0.4**
PMRV Marv??o 160.29 20 ePKPdf **PKPdf 04 44 05.3 +0.4**
PMRV Marv??o 160.29 20 ePKPab **PKPab 04 44 50.1 +0.4**
PMTG Montargil 160.33 22 ePKPab **PKPab 04 44 49.8 -0.1**
PACT Alcochete 160.38 24 ePKPdf **PKPdf 04 44 06.1 +1.1**
PACT Alcochete 160.38 24 ePKPab **PKPab 04 44 50.6 +0.5**
PESTR Estremoz 160.73 21 ePKPdf **PKPdf 04 44 06.2 +0.8**
PESTR Estremoz 160.73 21 ePKPab **PKPab 04 44 52.0 +0.3**
EVO Evora 160.89 22 ePKPab **PKPab 04 44 52.7 +0.3**
ESDC Sonseca Array 160.93 12 PKP **PKPdf 04 44 05.4 -0.2**
comp=Z,3.3nm,1.0s,baz=9.5,slow=2.8,SNR=13
ESDC PKPab **PKPab 04 44 52.0 -0.6**
comp=Z,19nm,1.0s,baz=343,slow=4.3,SNR=30
ESDC PP **PP 04 48 37.3 +0.4**
comp=Z,2.1nm,1.0s,baz=351,slow=4.2,SNR=5.1
PAB San Pablo 160.98 13 PKIKP **PKPdf 04 44 05.7 0.0**
PAB 04 44 52.7
PAB San Pablo 160.98 13 PKPdf 04 44 05.7 0.0
PAB **PKPab 04 44 52.7 -0.2**
PNCL Nicolau / Gran 161.07 24 ePKPdf **PKPdf 04 44 06.6 +0.9**
PNCL Nicolau / Gran 161.07 24 ePKPab **PKPab 04 44 53.4 +0.2**
PBEJ Beja 161.39 23 ePKPdf **PKPdf 04 44 06.9 +0.8**
PBEJ Beja 161.39 23 ePKPab **PKPab 04 44 55.0 +0.4**
PBAR Barrancos 161.54 21 ePKPdf **PKPdf 04 44 07.1 +0.9**
PBAR Barrancos 161.54 21 ePKPab **PKPab 04 44 55.8 +0.6**
PCVE Castro Verde 161.67 24 ePKPdf **PKPdf 04 44 07.3 +0.9**
PCVE Castro Verde 161.67 24 ePKPab **PKPab 04 44 56.5 +0.6**
MORF Marmelete 161.72 25 ePKPdf **PKPdf 04 44 07.8 +1.3**
PVAQ Vaqueiros 162.00 23 ePKPab **PKPab 04 44 57.9 +0.6**
PBDV Barranco-do-Ve 162.06 24 ePKPdf **PKPdf 04 44 08.4 +1.6**
KEST Kesra 163.68 335 PKPab **PKPab 04 45 05.3 +0.5**
comp=Z,45nm,0.8s,baz=313,slow=1.6,SNR=20
LIC Lamto 164.12 157 ePKIKP **PKPdf 04 44 08.7 -0.7**
comp=Z,124nm,1.1s
LIC Lamto 164.12 157 ePKP2 **PKPab 04 45 08.6 +1.5**
comp=Z,54nm,1.2s
KIC Kosan Boka 164.35 158 ePKIKP **PKPdf 04 44 09.1 -0.5**
comp=Z,47nm,0.7s
KIC Kosan Boka 164.35 158 ePKP2 **PKPab 04 45 09.5 +1.4**
comp=Z,17nm,0.6s
TIC Toumodi 164.51 157 ePKIKP **PKPdf 04 44 09.2 -0.6**
TIC Toumodi 164.51 157 ePKP2 **PKPab 04 45 10.2 +1.3**
DBIC Dimbokro 164.59 157 PKP **PKPdf 04 44 09.3 -0.5**
comp=Z,18nm,0.7s,baz=166,slow=1.6,SNR=22
DBIC PKPab **PKPab 04 45 10.0 +0.8**
comp=Z,6.1nm,0.7s,baz=184,slow=4.7,SNR=6.5
DBIC Dimbokro 164.59 157 ⇓PKIKP **PKPdf 04 44 09.5 -0.3**
DBIC Dimbokro 164.59 157 PKPdf 04 44 08.7 -1.1
LCRM LCR 166.35 21 P **PKPdf 04 44 13.0 +2.1**
JBK JBK 166.37 13 P **PKPdf 04 44 12.3 +1.4**
CZD Col de Zad 166.88 23 P **PKPdf 04 44 13.1 +1.7**
OUK Oukaimeden 167.08 37 P **PKPdf 04 44 13.2 +1.5**
MDT Midelt 167.23 22 P **PKPdf 04 44 13.1 +1.6**
TDRA Tendrara 167.74 12 P **PKPdf 04 44 13.3 +1.3**
GOLM Goulmima 168.09 26 P **PKPdf 04 44 14.0 +1.8**
TZRR Tazzarine 168.60 30 P **PKPdf 04 44 14.0 +1.5**
FIGM Figuig 168.76 10 P **PKPdf 04 44 14.0 +1.4**
ZGR Zagora 169.13 32 P **PKPdf 04 44 14.0 +1.2**
KOWA Kowa 171.87 142 PKPab **PKPab 04 45 42.0 +0.5**
KOWA Kowa 171.87 142 P **PKPdf 04 44 14.0 -0.5**
TORD Torodi Ar. Bea 172.12 184 PKP **PKPdf 04 44 13.8 -0.9**
comp=Z,15nm,0.8s,baz=326,slow=1.0,SNR=89
TORD PKPab **PKPab 04 45 42.5 0.0**
comp=Z,1.2nm,0.5s,baz=133,slow=2.2,SNR=5.5
TORD PP **PP 04 49 39.6 +6.5**
comp=Z,1.3nm,0.8s,baz=135,slow=4.8,SNR=4.1

IDC 04 04:58:06.4±2.2, 17°93S×178°04W, h432km±23km, mb3.2/7, mb1 3.5/8, mb1mx3.2/25, mbtmp3.9/8 Error ellipse: s-maj=31.3km s-min=18.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.73**	**272**	P	P	04 59 18.3	+0.2
	1.6nm,0.3s,baz=279,slow=23,SNR=7.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.93	241	P	P	05 04 52.2	-1.3
	1.2nm,0.4s,baz=64,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	44.98	259	P	P	05 05 41.9	+0.1
	0.6nm,0.5s,baz=97,slow=6.6,SNR=12						
ASAR	**Alice Springs**	45.13	254	P	P	05 05 42.9	-0.1
	4.5nm,0.7s,baz=86,slow=8.3,SNR=48						
VNDA	**Vanda**	60.46	185	P	P	05 07 32.7	+0.4
	2.9nm,1.1s,baz=7.7,slow=4.3,SNR=8.4						
NVAR	**Mina Array Bea**	79.19	44	P	P	05 09 25.4	-0.3
	0.5nm,0.6s,baz=226,slow=8.3,SNR=5.7						
TXAR	**Lajitas Array**	85.71	57	P	P	05 09 58.3	-0.6
	0.8nm,0.8s,baz=218,slow=5.9,SNR=7.8						
ILAR	**Eielson Array**	85.82	13	P	P	05 09 59.4	+0.9
	0.2nm,0.4s,baz=216,slow=5.2,SNR=5.5						

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*IDC **04** 05:15:42.2±1.7, 23°39S×66°53W, h200km±29km, mb3.2/1, mb1 3.3/6, mb1mx3.1/22, mbtmp3.8/6, Error ellipse: s-maj=37.2km s-min=18.8km az=118.0*

ISC 04 05:15:41.9±1.1**, 23°46S**±0°10×**66°5W**±0°1**, h201**km**, n6,** σ**0ˢ64**/8**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	2.40	290	P	**Pn**	**05 16 25.4**	**+0.3**
	14nm,0.3s,baz=94,slow=7.8,SNR=182						
LVC				S	**S**	**05 16 57.3**	**-0.7**
	13nm,0.3s,baz=235,slow=22,SNR=18						
LPAZ	**La Paz**	7.31	347	P	**Pn**	**05 17 27.4**	**+0.7**
	1.0nm,0.3s,baz=154,slow=6.0,SNR=28						
LPAZ				S	**S**	**05 18 49.7**	**-0.1**
	0.1nm,0.3s,baz=2.9,slow=25,SNR=2.3						
SIV	**San Ignacio**	9.01	35	P	**Pn**	**05 17 47.6**	**-0.8**
	0.3nm,0.3s,baz=206,slow=9.3,SNR=11						
PLCA	**Paso Flores**	17.56	190	P	**Pn**	**05 19 34.9**	**+0.3**
	0.2nm,0.3s,baz=6.0,slow=12,SNR=8.8						
BDFB	**Brasilia**	19.05	69	P	**P**	**05 19 49.8**	**+0.6**
	0.2nm,0.3s,baz=247,slow=13,SNR=6.4						
TORD	**Torodi Ar. Bea**	75.93	69	P	**P**	**05 27 07.0**	**0.0**
	0.5nm,0.6s,baz=259,slow=5.2,SNR=6.8						

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*IDC **04** 05:26:16.3±10.0, 0°31N×16°73W, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/41, mbtmp4.1/4, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/83, Error ellipse: s-maj=245.0km s-min=63.4km az=173.0*

ISC 04 05:26:24.0±3.8**, 1°1N**±0°6×**16°6W**±0°2**, h10**km**, n12,** σ**1ˢ67**/8**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	9.16	167	T	T	05 37 15.7	
	baz=342,slow=74,SNR=88						
H10N3	**ASCENSION HYDR**	9.17	167	T	T	05 37 18.8	
	baz=342,slow=74,SNR=73						
H10N1	**ASCENSION HYDR**	9.18	167	T	T	05 37 17.1	
	baz=342,slow=74,SNR=110						
H10S3	**ASCENSION HYDR**	10.21	169	T	T	05 38 24.3	
	baz=345,slow=74,SNR=29						
H10S2	**ASCENSION HYDR**	10.22	169	T	T	05 38 33.7	
	baz=235,slow=74,SNR=12						
LIC	**Lamto**	12.61	66	*e*P	**Pn**	**05 29 25.4**	**+1.8**
	25nm,0.9s						
TIC	**Toumodi**	12.79	64	*e*P	**Pn**	**05 29 28.3**	**+2.2**
KIC	**Kosan Boka**	12.93	66	*e*P	**Pn**	**05 29 28.1**	**+0.2**
	4.8nm,0.4s						
DBIC	**Dimbokro**	12.95	65	Pn	**Pn**	**05 29 27.5**	**-0.7**
	1.2nm,0.3s,baz=243,slow=14,SNR=17						
DBIC				Sn	**Sn**	**05 31 51.3**	**-1.2**
	0.6nm,0.3s,baz=272,slow=14,SNR=3.7						
KOWA	**Kowa**	18.20	43	P	**Pn**	**05 30 38.6**	**+1.7**
	0.7nm,0.3s,baz=228,slow=11,SNR=15						
KOWA				LR	LR	05 37 40.9	
	comp=Z,92nm,18.9s,baz=191,slow=36						
TORD	**Torodi Ar. Bea**	21.71	56	P	**P**	**05 31 15.5**	**+0.1**
	3.6nm,0.9s,baz=241,slow=11,SNR=18						
FINES	**FINESS Array B**	68.26	21	P	**P**	**05 37 23.7**	**-1.0**
	1.3nm,0.7s,baz=225,slow=5.7,SNR=4.4						

IDC 04 05:40:41.7±3.0**, 1°52S**×**134°42E, h0**km**, mb3.3**/3**, mb1 3.4**/4**, mb1mx3.1**/40**, mbtmp3.3**/4**, ML3.2**/1**, Error ellipse: s-maj=150.8km s-min=26.7km az=78.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	18.31	180	P	Pn	05 44 56.9	-0.4
	0.1nm,0.3s,baz=359,slow=12,SNR=5.8						
ASAR	**Alice Springs**	22.02	181	P	P	05 45 38.2	+0.3
	0.2nm,0.4s,baz=9.3,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	66.27	324	P	P	05 51 32.5	+0.7
	0.3nm,0.4s,baz=130,slow=7.7,SNR=5.6						
KURBB	**Kurchatov Arra**	70.32	326	P	P	05 51 56.2	-0.9
	0.2nm,0.7s,baz=115,slow=5.8,SNR=1.6						

IDC 04 05:52:15.0±3.3**, 54°58N**×**87°24E, h0**km**, mb1 2.9**/2**, mb1mx2.9**/57**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=26.5km s-min=18.8km az=48.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.56	247	*i*		06 01 30.0	
	baz=69,slow=330,SNR=5.9						
ZALV	**Zalesovo Beam**	1.56	247	Pg	Pn	05 52 41.6	-2.3
	1.9nm,0.3s,baz=66,slow=16,SNR=20						
ZALV				Lg	Lg	05 53 05.1	
	2.5nm,0.3s,baz=68,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	6.62	237	Pn	Pn	05 53 53.4	0.0
	0.2nm,0.3s,baz=53,slow=13,SNR=4.6						
KURBB				Lg	Lg	05 55 42.2	
	baz=61,slow=33,SNR=2.1						
MKAR	**Makanchi Array**	8.40	204	Pn	Pn	05 54 19.2	+1.3
	0.1nm,0.3s,baz=22,slow=12,SNR=5.1						
MKAR				Sn	Sn	05 55 55.1	+1.6
	0.1nm,0.3s,baz=31,slow=25,SNR=3.2						

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*ISK **04** 06:13:18.1, 34°03N×32°39E, h9km, ML3.4/20*
*HLW **04** 06:13:20.9, 34°00N×32°52E, h10km±14km, Md3.6, Ml3.6*
*NIC **04** 06:13:22.1±0.0, 34°15N×32°33E, h30km±1km, Ml3.4/5*
*GII **04** 06:13:23.7±0.3, 33°98N×32°52E, h60km, MD3.3/4, Mm3.1/4*
*DDA **04** 06:13:24.2±0.0, 34°47N×32°34E, h4km±4km, MW3.8*

ISC 04 06:13:21.8±5.5**, 34°08N**±0°02×**32°42E**±0°03**, h35**km±17km**, n80,** σ**1ˢ85**/122**, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	0.78	29	P	**Pn**	**06 13 36.8**	**+0.6**
SZAC				S	**Sn**	**06 13 47.7**	**+1.0**
SZAC				AML	AML	06 13 49.0	
	6.2nm,0.3s						
SZAC				AML	AML	06 13 49.0	
	6.2nm,0.3s						
SZAC				AML	AML	06 13 50.1	
	5.5nm,0.2s						
SZAC				AML	AML	06 13 50.1	
	5.5nm,0.2s						
AKMS	**Akamas**	0.94	356	P	**Pn**	**06 13 38.8**	**+0.3**
AKMS				S	**Sn**	**06 13 51.9**	**+1.2**
AKMS				AML	AML	06 13 52.7	
	3.6nm,0.2s						
AKMS				AML	AML	06 13 52.7	
	3.6nm,0.2s						
AKMS				AML	AML	06 13 53.3	
	4.3nm,0.2s						
AKMS				AML	AML	06 13 53.3	
	4.3nm,0.2s						
ASGA	**Asgata**	0.98	44	P	**Pn**	**06 13 39.5**	**+0.5**
ASGA				S	**Sn**	**06 13 53.0**	**+1.2**
ASGA				AML	AML	06 13 53.7	
	15nm,0.7s						
ASGA				AML	AML	06 13 53.7	
	15nm,0.7s						
ASGA				AML	AML	06 13 54.0	
	13nm,0.4s						
ASGA				AML	AML	06 13 54.0	
	13nm,0.4s						
OSC2	**CSNet OBS 4**	1.01	187	P	**Pn**	**06 13 40.6**	**+1.2**
OSC2				S	**Sn**	**06 13 55.7**	**+3.3**
ALFC	**Alefka**	1.08	8	P	**Pn**	**06 13 40.5**	**0.0**
ALFC				S	**Sn**	**06 13 54.3**	**0.0**
ALFC				AML	AML	06 13 56.9	
	3.9nm,0.3s						
ALFC				AML	AML	06 13 56.9	
	3.9nm,0.3s						
ALFC				AML	AML	06 14 00.4	
	3.7nm,0.3s						
ALFC				AML	AML	06 14 00.4	
	3.7nm,0.3s						
OSC1	**CSNet OBS 1**	1.11	239	P	**Pn**	**06 13 40.6**	**-0.2**
OSC1				S	**Sn**	**06 13 55.9**	**+1.0**
CSS	**Mathiatis**	1.16	40	PN	**Pn**	**06 13 41.5**	**0.0**
CSS	**Mathiatis**	1.16	40	P	**Pn**	**06 13 41.8**	**+0.3**
CSS				S	**Sn**	**06 13 57.4**	**+1.3**
AKIN	**Akıncılar- Kıb**	1.27	42	PN	**Pn**	**06 13 43.1**	**+0.1**
AKDN	**Akdeniz- Kıbrı**	1.30	20	PN	**Pn**	**06 13 43.9**	**+0.5**
MVOU	**Mavrovouni**	1.37	47	P	**Pn**	**06 13 45.2**	**+0.8**
MVOU				S	**Sn**	**06 14 03.0**	**+1.8**
MVOU				AML	AML	06 14 05.6	
	1.7nm,0.4s						
MVOU				AML	AML	06 14 05.6	
	1.7nm,0.4s						
MVOU				AML	AML	06 14 07.3	
	1.1nm,0.6s						
MVOU				AML	AML	06 14 07.3	
	1.1nm,0.6s						
LFK	**Lefkose**	1.51	37	PN	**Pn**	**06 13 46.9**	**+0.6**
LFK				SN	**Sn**	**06 14 07.6**	**+2.8**
EREN	**Erenkoy**	2.04	44	PN	**Pn**	**06 13 54.5**	**+0.9**
EREN	**Erenkoy**	2.04	44	P	**Pn**	**06 13 55.8**	**+2.2**
EREN				S	**Sn**	**06 14 20.8**	**+3.0**
EREN				*i* AML	AML	06 14 23.0	
	comp=E,58nm,0.5s						
EREN				*i* AML	AML	06 14 24.0	
	comp=N,57nm,1.1s						
EREN				*i* AML	AML	06 14 31.0	
	comp=Z,61nm,0.5s						
TEKE	**Tekeli-Mersin**	2.14	15	PN	**Pn**	**06 13 55.7**	**+0.8**
GAZI	**Gazipasa**	2.15	358	P	**Pn**	**06 13 55.2**	**+0.1**
GAZI				S	**Sn**	**06 14 17.8**	**-2.8**
GAZI				*i* AML	AML	06 14 21.0	
	comp=Z,43nm,0.6s						
GAZI				*i* AML	AML	06 14 26.0	
	comp=N,63nm,0.7s						
GAZI				*i* AML	AML	06 14 31.0	
	comp=E,44nm,0.5s						
AKK2	**Akkuyu-Mersin**	2.25	24	PN	**Pn**	**06 13 57.3**	**+0.8**
AKK1	**Akkuyu-Mersin**	2.25	24	PN	**Pn**	**06 13 57.3**	**+0.8**
AKKU	**Akkuyu-Mersin**	2.27	24	PN	**Pn**	**06 13 57.7**	**+0.9**
GULN	**MERSIN_Gulnar**	2.29	23	P	**Pn**	**06 13 57.9**	**+0.8**
GULN				S	**Sn**	**06 14 24.3**	**+0.2**
GULN				*i* AML	AML	06 14 28.0	
	comp=Z,17nm,0.3s						
GULN				*i* AML	AML	06 14 28.0	
	comp=E,34nm,0.5s						
GULN				*i* AML	AML	06 14 30.0	
	comp=N,30nm,0.3s						
TISA	**Tisan-Mersin**	2.32	26	PN	**Pn**	**06 13 58.5**	**+1.1**
BERE	**Bereket-Mersin**	2.36	16	PN	**Pn**	**06 13 58.8**	**+0.7**
IKL	**Isikli**	2.39	25	PN	**Pn**	**06 13 59.3**	**+0.9**
TEVE	**Tevekalti-Mers**	2.50	19	PN	**Pn**	**06 14 00.9**	**+1.0**
TEVE				SN	**Sn**	**06 14 31.6**	**+2.4**
HNTI	**Hanita**	2.50	113	Pn	**Pn**	**06 13 59.9**	**-0.1**
HNTI				Sn	**Sn**	**06 14 29.4**	**+0.1**
ERMK	**Ermenek**	2.59	9	P	**Pn**	**06 14 04.3**	**+3.0**
ERMK				S	**Sn**	**06 14 32.2**	**+0.5**
ERMK				*i* AML	AML	06 14 40.0	
	comp=E,53nm,0.5s						
ERMK				*i* AML	AML	06 14 42.0	
	comp=N,55nm,0.3s						
ERMK				*i* AML	AML	06 14 45.0	
	comp=Z,40nm,0.7s						
KEBE	**Keben-Mersin**	2.59	24	PN	**Pn**	**06 14 02.0**	**+0.8**
KEBE				SN	**Sn**	**06 14 34.1**	**+2.6**
OFRI	**\`Ofer**	2.59	123	Pn	**Pn**	**06 14 01.9**	**+0.7**
OFRI				Sn	**Sn**	**06 14 30.7**	**-0.8**
SILI	**Silifke-Mersin**	2.59	28	PN	**Pn**	**06 14 02.2**	**+1.0**
DQRL	**Deir Qamar**	2.65	97	*e*P	**Pn**	**06 14 01.4**	**-0.6**
BLGI	**Bet Lehem HaGe**	2.68	119	Pn	**Pn**	**06 14 01.9**	**-0.4**
BLGI				Sn	**Sn**	**06 14 32.9**	**-0.6**
MMA0B	**Mount Meron ar**	2.71	112	Pn	**Pn**	**06 14 03.1**	**+0.3**
MMA0B				Sn	**Sn**	**06 14 34.7**	**+0.3**
QRWL	**Qaraoun**	2.77	100	*e*P	**Pn**	**06 14 03.5**	**-0.1**
KIZK	**Mersin**	2.78	30	P	**Pn**	**06 14 05.2**	**+1.5**
KIZK				S	**Sn**	**06 14 35.6**	**-0.5**
KIZK				*i* AML	AML	06 14 40.0	
	comp=N,16nm,0.3s						
KIZK				*i* AML	AML	06 14 41.0	
	comp=Z,18nm,0.3s						
KIZK				*i* AML	AML	06 14 41.0	
	comp=E,22nm,0.4s						
SLTI	**Sal'it**	2.86	129	Pn	**Pn**	**06 14 05.5**	**+0.6**
SLTI				Sn	**Sn**	**06 14 36.7**	**-1.4**
SHBL	**Chebaa**	2.86	104	*e*P	**Pn**	**06 14 05.0**	**-0.1**
HDMB	**Hadim**	2.88	1	PN	**Pn**	**06 14 06.1**	**+0.8**
NATI	**Neve Ativ**	2.88	105	Pn	**Pn**	**06 14 05.3**	**+0.2**
NATI				Sn	**Sn**	**06 14 38.9**	**+0.4**
RCY	**Rachaya**	2.90	101	*e*P	**Pn**	**06 14 05.7**	**+0.1**
HWQ	**Hawqa**	2.93	85	*e*P	**Pn**	**06 14 06.1**	**+0.2**
MMLI	**Mount Malkishu**	3.00	122	PN	**Pn**	**06 14 06.9**	**+0.1**
KKBE	**Karaman, Kazim**	3.16	8	P	**Pn**	**06 14 11.8**	**+2.7**
KKBE				S	**Sn**	**06 14 44.8**	**-0.9**
KKBE				*i* AML	AML	06 14 52.0	
	comp=E,20nm,1.1s						
KKBE				*i* AML	AML	06 14 53.0	
	comp=N,17nm,0.6s						
KKBE				*i* AML	AML	06 14 54.0	
	comp=Z,16nm,0.6s						
HMDT	**Nahal Hemdat**	3.18	124	Pn	**Pn**	**06 14 09.7**	**+0.5**
HMDT				Sn	**Sn**	**06 14 45.8**	**-0.1**
MERS	**Mersin**	3.27	31	PN	**Pn**	**06 14 12.0**	**+1.5**
UJAP	**Al Uja**	3.32	129	PN	**Pn**	**06 14 11.6**	**+0.4**
ELL	**Elmali**	3.36	323	PN	**Pn**	**06 14 12.6**	**+0.7**
DSI	**Dead Sea**	3.53	134	Pn	**Pn**	**06 14 14.6**	**+0.5**
DSI				Sn	**Sn**	**06 14 54.7**	**+0.1**
YTIR	**Yattir**	3.53	139	Pn	**Pn**	**06 14 14.8**	**+0.6**
YTIR				Sn	**Sn**	**06 14 54.9**	**+0.1**
SUTC	**Sutluce-Ispart**	3.58	342	PN	**Pn**	**06 14 15.9**	**+1.0**
KERG	**Konya-Eregli**	3.61	22	P	**Pn**	**06 14 17.8**	**+2.6**
KERG				S	**Sn**	**06 14 58.1**	**+1.5**
KERG				*i* AML	AML	06 15 03.0	
	comp=N,29nm,0.3s						
KERG				*i* AML	AML	06 15 03.0	
	comp=E,24nm,0.6s						
KERG				*i* AML	AML	06 15 05.0	
	comp=Z,15nm,0.4s						
FETY	**Fethiye**	3.73	314	PN	**Pn**	**06 14 16.8**	**-0.1**
FETY	**Fethiye**	3.73	314	P	**Pn**	**06 14 17.8**	**+0.8**
FETY				S	**Sn**	**06 14 55.3**	**-4.4**
FETY				*i* AML	AML	06 15 00.0	
	comp=Z,31nm,0.4s						
FETY				*i* AML	AML	06 15 01.0	
	comp=N,69nm,0.8s						
FETY				*i* AML	AML	06 15 01.0	
	comp=E,68nm,0.4s						
YURE	**YUREGIR**	3.79	43	P	**Pn**	**06 14 18.2**	**+0.5**
YURE				S	**Sn**	**06 14 53.2**	**-7.9**
YURE				*i* AML	AML	06 15 27.0	
	comp=Z,54nm,2.6s						
YURE				*i* AML	AML	06 15 41.0	
	comp=E,39nm,2.2s						
YURE				*i* AML	AML	06 16 06.0	
	comp=N,54nm,2.0s						
CAME	**Cameli-Denizli**	3.83	319	PN	**Pn**	**06 14 18.9**	**+0.6**
KARA	**Karaisali**	3.83	33	PN	**Pn**	**06 14 19.9**	**+1.7**
TAHT	**Tahtakopru-Hat**	3.84	52	PN	**Pn**	**06 14 19.2**	**+0.9**
GOLH	**Golhisar**	3.92	324	P	**Pn**	**06 14 21.9**	**+2.4**
GOLH				S	**Sn**	**06 15 04.1**	**-0.3**
GOLH				*i* AML	AML	06 15 09.0	
	comp=Z,20nm,0.4s						
GOLH				*i* AML	AML	06 16 11.0	
	comp=E,47nm,3.4s						
GOLH				*i* AML	AML	06 16 16.0	
	comp=N,47nm,3.3s						
DALY	**Dalyan (Mula)**	4.11	313	PN	**Pn**	**06 14 22.9**	**+0.8**
HHAG	**Hagoal**	4.12	184	P	**Pn**	**06 14 23.3**	**+1.0**
	baz=186						
CMRD	**Camardi-Nigde**	4.14	30	PN	**Pn**	**06 14 23.5**	**+0.9**
ZFRI	**Zfri**	4.22	146	Pn	**Pn**	**06 14 24.0**	**+0.5**
SUZ	**Suez**	4.24	175	P	**Pn**	**06 14 24.8**	**+1.0**
	baz=176						
YVAC	**Isparta, Yalva**	4.29	347	P	Pn	06 14 18.1	-6.5
YVAC				S	**Sn**	**06 15 07.5**	**-6.0**
PRNI	**Paran**	4.31	149	Pn	**Pn**	**06 14 25.4**	**+0.5**
PRNI				Sn	**Sn**	**06 15 13.4**	**-0.5**
TURN	**Turunc**	4.34	309	P	**Pn**	**06 14 25.3**	**+0.1**
TURN				S	**Sn**	**06 15 10.4**	**-4.2**
TURN				*i* AML	AML	06 15 12.0	
	comp=E,32nm,1.2s						
TURN				*i* AML	AML	06 15 21.0	
	comp=Z,47nm,1.6s						
TURN				*i* AML	AML	06 15 47.0	
	comp=N,24nm,1.2s						
KRMI	**Paran Flat**	4.41	153	Pn	**Pn**	**06 14 26.7**	**+0.5**
KRMI				Sn	**Sn**	**06 15 15.1**	**-1.2**
TAVA	**DENIZLI_Tavas**	4.42	321	P	**Pn**	**06 14 28.0**	**+1.5**
TAVA				S	**Sn**	**06 15 12.6**	**-4.2**
TAVA				*i* AML	AML	06 15 22.0	
	comp=N,18nm,0.7s						
TAVA				*i* AML	AML	06 15 36.0	
	comp=E,25nm,2.5s						
TAVA				*i* AML	AML	06 15 42.0	
	comp=Z,11nm,1.1s						
HSAF	**As Saff**	4.51	190	P	**Pn**	**06 14 27.2**	**-0.3**
	baz=191						
GLL	**Jalalah**	4.53	188	P	**Pn**	**06 14 28.0**	**+0.2**
	baz=190						
HRFI	**Mount Harif**	4.60	150	Pn	**Pn**	**06 14 29.8**	**+1.0**
HRFI				Sn	**Sn**	**06 15 20.0**	**-1.1**
MULA	**Mugla, Merkez-**	4.60	315	P	**Pn**	**06 14 30.7**	**+1.8**
MULA				S	**Sn**	**06 15 15.6**	**-5.6**
MULA				*i* AML	AML	06 15 23.0	
	comp=E,28nm,0.4s						
MULA				*i* AML	AML	06 15 26.0	
	comp=Z,24nm,0.6s						
MULA				*i* AML	AML	06 15 30.0	
	comp=N,23nm,1.1s						
YAHY	**KAYSERI_Yahyal**	4.66	30	P	**Pn**	**06 14 31.4**	**+1.7**
YAHY				S	**Sn**	**06 15 16.8**	**-5.8**
YAHY				*i* AML	AML	06 15 27.0	
	comp=N,5.0nm,0.8s						
YAHY				*i* AML	AML	06 16 02.0	
	comp=Z,2.3nm,0.6s						
YAHY				*i* AML	AML	06 16 16.0	
	comp=E,4.2nm,1.0s						
MBRI	**Mt Berech**	4.77	153	Pn	**Pn**	**06 14 32.4**	**+1.2**
MBRI				Sn	**Sn**	**06 15 24.2**	**-1.0**
ZAF	**Zafarana**	4.78	179	P	**Pn**	**06 14 32.0**	**+0.6**
	baz=179						
PASA	**Karahalli, USA**	4.88	332	P	**Pn**	**06 14 33.9**	**+1.2**
PASA				S	**Sn**	**06 15 24.3**	**-3.6**
PASA				*i* AML	AML	06 15 29.0	
	comp=N,11nm,0.5s						
PASA				*i* AML	AML	06 15 30.0	
	comp=E,14nm,0.3s						
PASA				*i* AML	AML	06 15 59.0	
	comp=Z,12nm,2.5s						
EIL	**Elat**	4.89	153	Pn	**Pn**	**06 14 33.9**	**+1.1**
EIL				Sn	**Sn**	**06 15 27.5**	**-0.7**
AYDN	**Tasoluk**	5.14	315	P	**Pn**	**06 14 37.5**	**+1.3**
AYDN				*i* AML	AML	06 16 09.0	
	comp=E,23nm,2.1s						
AYDN				*i* AML	AML	06 16 23.0	
	comp=Z,26nm,2.6s						
AYDN				*i* AML	AML	06 16 58.0	
	comp=N,30nm,3.1s						
SARI	**SarD1z-Kayseri**	5.39	36	PN	**Pn**	**06 14 42.8**	**+3.0**
NBNS	**Bani Suef**	5.52	190	P	**Pn**	**06 14 42.6**	**+1.0**
	baz=192						
NBNS				S	**Sn**	**06 15 41.6**	**-2.2**
	baz=192						
HKAT	**Jabal Katrina**	5.70	166	P	**Pn**	**06 14 44.2**	**+0.1**
	baz=166						
HKAT				S	**Sn**	**06 15 45.0**	**-3.3**
	baz=166						

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*IDC **04** 06:27:47.8±2.3, 1°22N×127°14E, h42km±22km, mb3.9/7, mb1 4.0/10, mb1mx3.6/54, mbtmp4.1/10, ML3.8/3, MS3.1/7, Ms1 3.1/7, ms1mx2.7/76, Error ellipse: s-maj=32.8km s-min=15.2km az=73.0*
*DJA **04** 06:27:48.7±0.4, 1°N±2°×12°7E±°, h29km±5km, M4.4/16, mb4.6/9, mB5.2/3, MLv4.3/16, Mw(mB)4.6/3*
*NEIC **04** 06:27:49.5±1.4, 1°20N±0°09×127°14E±0°07, h51km±6km, mb4.6/18, Error ellipse: s-maj=14.2km s-min=9.0km az=206.0*

ISC 04 06:27:51.0±0.5**, 1°17N**±0°06×**127°11E**±0°06**, h72**km**, n62,** σ**1ˢ72**/63**, mb4.5**/16**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.47	147		**Pn**	**06 28 00.6**	**-3.1**
TNTI	**Ternate**	0.47	147	P	**Pn**	**06 28 00.7**	**-3.1**
TNTI				S	**Sn**	**06 28 09.8**	**-3.3**
LBMI	**Labuha**	1.84	168	P	**Pn**	**06 28 21.1**	**+0.5**
LBMI				S	**Sn**	**06 28 44.8**	**+1.8**
KMSI	**Cibinong**	3.18	259	P	**Pn**	**06 28 38.4**	**-0.3**
KMSI				S	**Sn**	**06 29 15.7**	**+0.1**
SANI	**Sanana**	3.39	199	P	**Pn**	**06 28 40.8**	**-0.7**
SANI				S	**Sn**	**06 29 18.9**	**-1.7**
GTOI	**Gorontalo**	4.13	263	P	**Pn**	**06 28 52.4**	**+0.8**
SWI	**Sorong**	4.62	116	P	**Pn**	**06 28 59.3**	**+1.0**
SIJI	**Sorong**	4.62	116	P	**Pn**	**06 28 55.7**	**-2.8**
	1.5nm,0.3s,baz=213,slow=22,SNR=3.0						
SIJI				LR	LR	06 31 08.5	
	comp=Z,389nm,18.5s,baz=182,slow=43						
MSAI	**Masohi**	4.84	158	P	**Pn**	**06 29 01.5**	**+0.1**
LUWI	**Luwuk**	4.86	243	Pn	**Pn**	**06 29 00.3**	**-1.3**
LUWI	**Luwuk**	4.86	243	P	**Pn**	**06 29 01.6**	**0.0**
AAI	**Ambon**	4.95	167	P	**Pn**	**06 29 03.8**	**+1.0**
	0.3nm2μm62nm,0.5s						
MRSI	**Marisa**	5.21	262	P	Pn	06 29 27.2	+21
APSI	**Ampana**	5.84	249	P	**Pn**	**06 29 15.3**	**+0.3**
	0.3nm949nm65nm,0.8s						
TOLI2	**Tolitoli**	6.33	270	Pn	**Pn**	**06 29 20.5**	**-1.2**
FAKI	**Fak Fak**	6.55	128	Pn	**Pn**	**06 29 21.1**	**-3.6**
FAKI	**Fak Fak**	6.55	128	P	**Pn**	**06 29 24.5**	**-0.3**
	0.1nm18nm,1.0s						
MPSI	**Mapaga**	7.26	264	P	**Pn**	**06 29 34.6**	**+0.2**
	0.1nm3μm9.3nm,0.8s						
TTSI	**Tana Toraja**	8.40	240	P	**Pn**	**06 29 48.9**	**-1.2**
	20nm,0.5s						
BNSI	**Bone**	8.92	232	P	**Pn**	**06 29 56.9**	**-0.2**
	15nm,0.9s						
SPSI	**Sidrap Palu**	8.93	235	P	**Pn**	**06 29 57.2**	**-0.1**
MYLDM	**Lahad Datu**	9.47	295	Pn	**Pn**	**06 30 05.0**	**+0.3**
BKSI	**Bulukumba**	9.50	227	P	**Pn**	**06 30 04.6**	**-0.5**
	24nm,0.6s						
KAPI	**Kappang**	9.58	230	P	**Pn**	**06 30 04.0**	**-2.2**
	1.7nm,0.3s,baz=294,slow=2.7,SNR=6.5						
KAPI				S	**Sn**	**06 31 49.6**	**-2.7**
	3.2nm,0.3s,baz=139,slow=21,SNR=7.2						
KAPI				LR	LR	06 34 22.9	
	comp=Z,48nm,20.5s,baz=72,slow=41						
KAPI	**Kappang**	9.58	230	Pn	**Pn**	**06 30 07.2**	**+1.1**
SRPI	**Serui, Papua**	9.62	108	P	**Pn**	**06 30 05.6**	**-1.1**
SGKI	**Sangatta, Kali**	9.65	260	P	**Pn**	**06 30 03.7**	**-3.5**
	250nm,0.8s						
JAY	**Jayapura**	14.08	105	LR	LR	06 37 04.7	
	comp=Z,105nm,21.6s,baz=321,slow=40						
JAGI	**Jajag, Banyuwa**	16.08	233		**P**	**06 31 34.5**	**-0.4**
FITZ	**Fitzroy Crossi**	19.20	184	P	**P**	**06 32 08.6**	**-0.7**
	0.4nm,0.3s,baz=26,slow=10,SNR=8.8						
FITZ				LR	LR	06 41 36.7	
	comp=Z,56nm,18.3s,baz=208,slow=43						
KPJI	**Karang Pucung**	20.00	245	P	**Pn**	**06 32 21.2**	**+0.9**
GUMO	**Guam**	21.48	54	LR	LR	06 39 41.5	
	comp=Z,68nm,21.8s,baz=330,slow=33						
WB0	**Warramunga Arr**	22.00	161	P	**P**	**06 32 37.9**	**-1.5**
WB0				IAmb	IAmb	06 32 54.3	
	comp=Z,56nm,2.0s						
WRAB	**Tennant Creek**	22.14	162	P	**P**	**06 32 40.2**	**-0.8**
WRAB				IAmb	IAmb	06 33 16.7	
	comp=Z,38nm,1.8s						
WRA	**Warramunga Arr**	22.15	162	P	**P**	**06 32 40.0**	**-1.0**
	comp=Z,3.1nm,0.4s,baz=339,slow=10,SNR=49						
WRA	**Warramunga Arr**	22.15	162	P	**P**	**06 32 39.6**	**-1.4**
WB2	**Warramunga Arr**	22.15	162	P	**P**	**06 32 40.1**	**-0.9**
WB2				IAmb	IAmb	06 32 44.1	
	comp=Z,48nm,1.9s						
PSA00	**Pilbara Seismi**	23.69	197	P	**P**	**06 32 55.8**	**-0.6**
AS31	**Alice Springs**	25.56	165	P	**P**	**06 33 13.0**	**-0.3**
ASAR	**Alice Springs**	25.56	165	P	**P**	**06 33 13.2**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=349,slow=13,SNR=29						
ASAR				S	**S**	**06 37 43.6**	**+7.6**
	comp=Z,0.7nm,0.8s,baz=350,slow=21,SNR=4.7						
ASAR				ScP	**ScP**	**06 40 19.6**	**+3.3**
	comp=Z,0.4nm,0.7s,baz=351,slow=1.2,SNR=5.3						
FORT	**Forrest**	31.79	178	P	**P**	**06 34 09.1**	**+0.4**
FORT				IAmb	IAmb	06 34 40.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,19nm,0.9s						
JHS	Saijyo	34.12	9	P	P	06 34 29.8	+0.9
BBOO	Buckleboo	34.84	167	P	P	06 34 35.2	0.0
STKA	Stephens Creek	35.62	159	P	P	06 34 42.2	+0.3
	comp=Z,2.9nm,0.8s,baz=344,slow=8.3,SNR=6.6						
STKA	Stephens Creek	35.62	159	IAmb	IAmb	06 34 52.1	
	comp=Z,9.0nm,2.0s						
KSRS	Korea Array	36.11	1	P	P	06 34 45.4	-0.7
	comp=Z,0.7nm,0.4s,baz=177,slow=7.8,SNR=2.0						
MJAR	Matsushiro Arr	36.67	15	LR	LR	06 47 22.9	
	comp=Z,26nm,21.9s,baz=196,slow=32						
ARMA	Armidale	39.15	145	P	P	06 35 13.2	+1.3
ARMA				IAmb	IAmb	06 36 40.8	
	comp=Z,18nm,1.5s						
KLR	Kul'dur	48.04	4	P	P	06 36 21.7	-1.2
	comp=Z,0.9nm,0.6s,baz=198,slow=6.2,SNR=4.5						
MK31	Makanchi Array	59.87	326	P	P	06 37 49.9	+0.7
MK31				IAmb	IAmb	06 37 50.8	
	comp=Z,2.8nm,0.9s						
MKAR	Makanchi Array	59.87	326	P	P	06 37 49.3	+0.1
	comp=Z,1.2nm,0.4s,baz=116,slow=7.7,SNR=28						
MA2	Magadan	61.08	13	LR	LR	07 05 53.3	
	comp=Z,15nm,18.8s,baz=108,slow=37						
GAR	Garm	63.93	313	P	P	06 38 17.7	+0.9
KURK	Kurchatov	64.09	328	P	P	06 38 17.9	+0.5
KURK				IAmb	IAmb	06 38 19.1	
	comp=Z,5.9nm,0.8s						
KKAR	Karatay Array	65.36	318	P	P	06 38 26.5	+0.6
SOCY	Socotra	73.26	282	P	P	06 39 14.6	-0.7
SOCY				IAmb	IAmb	06 39 29.9	
	comp=Z,8.9nm,1.0s						
ABKAR	Akbulak array	74.36	321	P	P	06 39 21.1	+0.1
AKTO	Aktyubinsk	75.89	322	P	P	06 39 30.0	+0.2
	comp=Z,2.1nm,0.6s,baz=64,slow=4.9,SNR=6.0						
TTA	Tatalina	83.00	27	P	P	06 40 09.5	+1.3
TTA				IAmb	IAmb	06 40 31.1	
	comp=Z,27nm,1.9s						
IMAR	Indian Mountai	84.51	24	P	P	06 40 16.9	+1.1
BRLK	Bradley Lake	84.96	30	P	P	06 40 18.4	+0.2
TORD	Torodi Ar. Bea	124.04	287	PKP	PKPdf	06 46 42.1	-0.1
	comp=Z,1.0nm,0.8s,baz=64,slow=3.2,SNR=5.6						

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*IDC **04** 06:43:18.6±1.8, 28.14°N×115.27°W, h0km, mb3.7/6, mb1 3.9/13, mb1mx3.8/37, mbtmp3.7/13, ML3.6/7, MS3.4/14, Ms1 3.4/14, ms1mx3.2/80, Error ellipse: s-maj=31.7km s-min=13.3km az=43.0*

*MEX **04** 06:43:25.1±0.3, 28.54°N×114.99°W, h10km, MD4.1*

ISC 04 06:43:22.2±1.2**, 28.43°N**±0.09°×**114.97°W**±0.08°**, h10**km**, n27,** σ2.69/25**, mb3.7**/5**, MS3.5**/7**, Baja California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAHB	Baha de los	1.34	67	eP	Pn	06 43 45.7	-1.3
BAHB				i S	Sn	06 44 02.1	-2.8
SPIG	San Pedro Mart	2.64	351	eP	Pn	06 44 03.7	-1.5
SPIG				i S	Sn	06 44 33.3	-4.1
LAPR	La Primavera	3.10	48	eP	Pn	06 44 10.8	-0.4
LAPR				eS	Sn	06 44 45.9	-2.4
GUYB	Guaymas	3.66	97	eP	Pn	06 44 17.2	-1.7
MBIG	Mexicali	3.97	357	i P	Pn	06 44 15.7	-7.4
MBIG				i S	Sn	06 45 02.6	-7.1
CBX	Cerro Bola	4.13	340	i P	Pn	06 44 19.3	-6.2
CBX				eS	Sn	06 45 13.4	-0.6
TJIG	Tijuana	4.25	340	eP	Pn	06 44 24.7	-2.3
TJIG				eS	Sn	06 45 17.6	+0.8
PFO	Pinyon Flats O	5.32	346	Pn	Pn	06 44 42.2	+0.4
	0.5nm,0.3s,baz=190,slow=13,SNR=5.3						
PFO				LR	LR	06 47 06.4	
	comp=Z,210nm,18.0s,baz=174,slow=41						
LPIG	La Paz	6.01	135	Pn	Pn	06 44 50.3	-0.9
	2.2nm,0.3s,baz=338,slow=1.1,SNR=4.7						
LPIG				LR	LR	06 47 00.5	
	comp=Z,107nm,19.6s,baz=321,slow=37						
ANMO	Albuquerque	9.73	46	Pn	Pn	06 45 45.9	+3.5
	0.3nm,0.3s,baz=219,slow=13,SNR=12						
ANMO				LR	LR	06 49 30.5	
	comp=Z,89nm,21.7s,baz=226,slow=37						
TXAR	Lajitas Array	9.95	82	Pn	Pn	06 45 48.4	+3.0
	0.2nm,0.3s,baz=263,slow=12,SNR=16						
NVAR	Mina Array Bea	10.35	345	Pn	Pn	06 45 54.9	+3.9
	0.1nm,0.3s,baz=168,slow=14,SNR=34						
NVAR				LR	LR	06 50 09.4	
	comp=Z,234nm,19.6s,baz=162,slow=39						
ELK	Elko	12.29	359	Pn	Pn	06 46 21.8	+4.4
	0.1nm,0.3s,baz=244,slow=7.7,SNR=4.0						
ELK				LR	LR	06 51 24.1	
	comp=Z,136nm,18.6s,baz=174,slow=39						
PDAR	Pinedale Array	14.96	16	Pn	P	06 47 00.1	+0.6
	0.1nm,0.3s,baz=187,slow=10,SNR=9.1						
PDAR				LR	LR	06 53 45.9	
	comp=Z,98nm,18.2s,baz=217,slow=41						
NEW	Newport	19.87	356	P	Pn	06 47 56.3	+1.1
	3.7nm,0.9s,baz=159,slow=9.4,SNR=5.4						
NEW				LR	LR	06 54 46.9	
	comp=Z,82nm,21.8s,baz=177,slow=34						
CMIG	Matias Romero	21.66	117	P	P	06 48 12.9	-0.1
	3.1nm,0.8s,baz=282,slow=6.3,SNR=4.7						
CMIG				LR	LR	06 56 31.8	
	comp=Z,131nm,18.3s,baz=284,slow=36						
ULM	Lac du Bonnet	26.18	28	P	P	06 48 57.4	+0.7
	2.8nm,0.8s,baz=215,slow=10,SNR=3.5						
ULM				LR	LR	06 59 25.9	
	comp=Z,96nm,19.8s,baz=239,slow=36						
DLBC	Dease Lake	31.77	345	LR	LR	07 03 33.8	
	comp=Z,122nm,19.9s,baz=76,slow=38						
YKA	Yellowknife Ar	34.06	0	P	P	06 50 05.8	-0.6
	0.1nm,0.5s,baz=178,slow=8.6,SNR=2.6						
YKA				PcP	PcP	06 52 42.5	-1.3
	0.1nm,0.6s,baz=177,slow=3.4,SNR=3.8						
YKA				LR	LR	07 04 01.3	
	comp=Z,103nm,21.2s,baz=297,slow=36						
INK	Inuvik	41.40	350	P	P	06 51 07.4	-0.9
	1.3nm,1.0s,baz=146,slow=13,SNR=3.6						
ILAR	Eielson Array	41.55	340	P	P	06 51 07.7	-2.0
	1.2nm,0.8s,baz=153,slow=8.1,SNR=12						
FRB	Frobisher Bay	46.04	27	LR	LR	07 11 11.2	
	comp=Z,84nm,19.1s,baz=202,slow=36						
SFJD	Kangerlussuaq	54.17	26	LR	LR	07 16 18.0	
	comp=Z,128nm,19.5s,baz=237,slow=36						
MDP	Montagnes des	63.31	99	LR	LR	07 22 18.3	
	comp=Z,37nm,20.6s,baz=217,slow=37						
H11N3	WAKE ISLAND Hy	70.75	282	T	T	08 11 41.7	
	baz=65,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy	70.75	282	T	T	08 11 36.8	
	baz=65,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy	70.77	282	T	T	08 11 42.7	
	baz=65,slow=75,SNR=20						

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*IDC **04** 07:00:30.7±2.1, 32.72°S×178.49°W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/33, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=51.0km s-min=32.0km az=127.0*

ISC 04 07:00:36.0±2.1**, 32.8°S**±0.1°×**178.5°W**±0.3°**, h35**km**, n7,** σ1.70/8**, mb4.2**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.58	212	Pn	Pn	07 02 08.2	-2.0
	2.3nm,0.3s,baz=282,slow=1.6,SNR=16						
URZ				Sn	Sn	07 03 26.4	+2.5
	5.3nm,0.3s,baz=228,slow=21,SNR=9.5						
CTA	Charters Tower	33.87	283	P	P	07 07 16.2	+0.7
	3.1nm,0.6s,baz=109,slow=12,SNR=6.2						
RABL	Rabaul	39.52	310	P	P	07 08 03.8	+0.2
ASAR	Alice Springs	42.66	270	P	P	07 08 28.4	-1.0
	1.6nm,0.6s,baz=112,slow=7.4,SNR=19						
WRA	Warramunga Arr	43.86	275	P	P	07 08 38.3	-0.8
	1.9nm,0.4s,baz=114,slow=7.7,SNR=40						
FINES	FINESS Array B	147.20	338	PKPbc	PKPdf	07 20 12.7	+0.2
	4.3nm,0.8s,baz=60,slow=5.0,SNR=11						
NOA	NORSAR Array B	151.00	350	PKPbc	PKiKP	07 20 26.4	+1.4
	0.6nm,0.7s,baz=17,slow=4.1,SNR=3.4						

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*IDC **04** 07:07:02.8±0.8, 3.11°S×148.57°E, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.2/32, mbtmp4.3/13, ML2.7/2, MS3.9/43, Ms1 3.9/43, ms1mx3.8/64, Error ellipse: s-maj=24.1km s-min=15.8km az=96.0*

*NEIC **04** 07:07:04.1±1.6, 3.04°S±0.07°×148.62°E±0.07°, h7km±5km, mb4.7/23, Error ellipse: s-maj=12.3km s-min=7.9km az=224.0*

*DJA **04** 07:07:05.7±0.4, 3°S±5°×14°9E±°, h10km, M4.4/9, mb4.5/9, mB5.5/1, MLv4.4/3, Mw(mB)5.0/1, MwMwp5.2/1, Mwp5.4/1*

*GCMT **04** 07:07:09.1±0.2, 3.13°S±0.01°×148.59°E±0.01°, h18km±1km, MW4.9/116, Moment Tensor Solution. s32,c36; s116,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.10; $M_{\theta\theta}$1.88±.09; $M_{\phi\phi}$-1.43±.08; $M_{r\theta}$0.59±.20; $M_{\theta\phi}$2.43±.08; $M_{\phi r}$0.33±.19; Best double couple: $M_0$3.00100×10^{16} NP1:ϕ_s108.00000°, δ83.00000°, λ7.00000°. NP2:ϕ_s17.00000°, δ83.00000°, λ173.00000°. Principal axes: T 3.2880, Plg10.0000°, Azm332.0000°; N -0.5800, Plg80.0000°, Azm154.0000°; P -2.7150, Plg0.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 07:07:05.4±0.5**, 3.01°S**±0.05°×**148.58°E**±0.07°**, h18**km**, n98,** σ1.32/54**, mb4.6**/21**, MS4.0**/41**, 1D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.55	308	Pn	Pn	07 07 31.4	-0.6
KRVT	Keravat (AS076	3.67	111	Pn	Pn	07 08 00.0	-1.3
	17nm,0.3s,baz=332,slow=21,SNR=1.8						
RABL	Rabaul	3.77	108		Pn	07 08 01.9	-0.7
PMG	Port Moresby	6.51	192	Pn	Pn	07 08 40.4	+0.1
	1.4nm,0.3s,baz=23,slow=13,SNR=6.7						
PMG				Sn	Sn	07 09 55.0	+0.8
	2.4nm,0.3s,baz=38,slow=16,SNR=3.1						
PMG				LR	LR	07 11 02.8	
	comp=Z,950nm,18.6s,baz=326,slow=37						
PMG	Port Moresby	6.51	192		Pn	07 08 39.7	-0.6
PMG	Port Moresby	6.51	192	P	Pn	07 08 42.8	+2.5
JAY	Jayapura	7.88	273	LR	LR	07 11 50.2	
	comp=Z,642nm,19.8s,baz=78,slow=36						
MTSU	Mount Surprise	15.60	195	P	Pn	07 10 46.3	+1.8
FAKI	Fak Fak	16.31	270	Pn	Pn	07 10 53.3	-0.3
FAKI	Fak Fak	16.31	270	P	Pn	07 10 52.0	-1.7
	4µm2µm14nm,1.3s						
GUMO	Guam	16.90	347	LR	LR	07 16 12.7	
	comp=Z,471nm,20.8s,baz=150,slow=32						
CTA	Charters Tower	17.12	187	P	Pn	07 11 03.1	-0.8
	0.1nm,0.3s,baz=33,slow=16,SNR=3.5						
CTA				LR	LR	07 17 18.8	
	comp=Z,509nm,21.0s,baz=2.5,slow=36						
CTA	Charters Tower	17.12	187	P	Pn	07 11 04.6	+0.6
KDU	Kakadu	18.61	238	P	P	07 11 21.1	-0.9
QIS	Mount Isa	19.51	206	P	P	07 11 32.0	+0.1
WB0	Warramunga Arr	21.66	219	P	P	07 11 55.0	-0.2
WB0				IAmb	IAmb	07 12 00.7	
	comp=Z,17nm,0.9s						
WRAB	Tennant Creek	21.81	218	P	P	07 11 57.6	+0.8
WB2	Warramunga Arr	21.82	218	P	P	07 11 56.3	-0.6
WB2				IAmb	IAmb	07 12 14.8	
	comp=Z,28nm,0.8s						
WRA	Warramunga Arr	21.83	218	P	P	07 11 55.3	-1.7
	comp=Z,11nm,1.0s,baz=43,slow=11,SNR=31						
WRA				PcP	PcP	07 15 57.4	+0.5
	comp=Z,1.0nm,0.7s,baz=28,slow=2.1,SNR=5.8						
WRA				LR	LR	07 21 35.7	
	comp=Z,412nm,19.9s,baz=40,slow=40						
WRA	Warramunga Arr	21.83	218	P	P	07 11 55.5	-1.4
EIDS	Eidsvold	22.36	174	P	P	07 12 00.4	-2.2
EIDS				IAmb	IAmb	07 12 09.0	
	comp=Z,20nm,1.1s						
EIDS	Eidsvold	22.36	174	P	P	07 12 01.3	-1.3
KNRA	Kununurra	23.22	236	P	P	07 12 10.2	-1.5
RMQ	Roma	23.34	180	P	P	07 12 10.9	-1.9
QLP	Quilpie	23.80	190	P	P	07 12 16.1	-1.2
AS31	Alice Springs	24.96	213	P	P	07 12 28.4	+0.3
ASAR	Alice Springs	24.96	213	P	P	07 12 26.9	-1.1
	comp=Z,6.3nm,0.7s,baz=44,slow=8.0,SNR=58						
ASAR	Alice Springs	24.96	213	P	P	07 12 27.5	-0.5
DAV	Davao City (W)	25.05	294	LR	LR	07 21 16.4	
	comp=Z,142nm,21.4s,baz=138,slow=34						
DZM	Mont Dzumac	25.69	139	P	P	07 12 35.8	+1.1
	comp=Z,15nm,1.0s,baz=340,slow=13,SNR=4.8						
DZM				LR	LR	07 21 06.2	
	comp=Z,747nm,20.4s,baz=248,slow=33						
DZM	Mont Dzumac	25.69	139	eP	P	07 12 38.8	+4.1
	comp=Z,52nm,1.5s						
DZM				eLR	LR	07 18 54.6	
	comp=Z,1µm,28.1s						
INKA	Innaminka	25.71	196	P	P	07 12 33.7	-1.0
BATI	Baumata	25.75	253	LR	LR	07 25 12.1	
	comp=Z,642nm,19.8s,baz=86,slow=42						
FITZ	Fitzroy Crossi	27.02	235	P	P	07 12 46.5	-0.2
	comp=Z,18nm,0.9s,baz=76,slow=8.5,SNR=20						
FITZ				LR	LR	07 23 44.0	
	comp=Z,437nm,18.9s,baz=56,slow=37						
FITZ	Fitzroy Crossi	27.02	235	P	P	07 12 46.1	-0.6
FITZ				IAmb	IAmb	07 12 49.4	
	comp=Z,20nm,0.9s						
H11S3	WAKE ISLAND Hy	27.83	39	T	T	07 42 19.9	
	baz=220,slow=75,SNR=197						
H11S2	WAKE ISLAND Hy	27.84	39	T	T	07 42 16.6	
	baz=220,slow=75,SNR=208						
H11S1	WAKE ISLAND Hy	27.85	39	T	T	07 42 12.2	
	baz=220,slow=75,SNR=241						
KAPI	Kappang	28.82	265	LR	LR	07 25 04.2	
	comp=Z,82nm,20.4s,baz=90,slow=38						
H11N1	WAKE ISLAND Hy	28.87	38	T	T	07 43 31.8	
	baz=219,slow=76,SNR=83						
H11N3	WAKE ISLAND Hy	28.89	38	T	T	07 43 33.0	
	baz=219,slow=76,SNR=93						
H11N2	WAKE ISLAND Hy	28.89	38	T	T	07 43 33.2	
	baz=219,slow=76,SNR=176						
STKA	Stephens Creek	29.46	192	P	P	07 13 05.8	-2.5
	comp=Z,0.7nm,0.6s,baz=349,slow=9.3,SNR=3.1						
STKA				LR	LR	07 25 30.6	
	comp=Z,476nm,19.6s,baz=14,slow=38						
MSVF	Nonsavu	32.39	119	LR	LR	07 25 21.9	
	comp=Z,222nm,19.7s,baz=176,slow=34						
FORT	Forrest	33.75	213	P	P	07 13 45.3	-0.7
JOW	Kunigami	35.56	328	LR	LR	07 25 16.2	
	comp=Z,256nm,21.9s,baz=125,slow=31						
YULB	Yu-li	37.36	316	P	P	07 14 18.8	+1.6
YULB				IAmb	IAmb	07 14 23.3	
	comp=Z,15nm,0.9s						
TPUB	Ta-pu	37.76	315	P	P	07 14 20.1	-0.6
TPUB				IAmb	IAmb	07 14 26.8	
	comp=Z,23nm,1.1s						
YHNB	Yeheng	38.15	318	P	P	07 14 22.6	-1.3
JSU	Suzuyama	38.41	335	P	P	07 14 24.8	-1.2
JNU	Nakatsue	39.65	336	P	P	07 14 38.0	+1.6
	comp=Z,16nm,0.9s,baz=111,slow=2.8,SNR=7.2						
JNU	Nakatsue	39.65	336	IAmb	IAmb	07 14 39.5	
	comp=Z,19nm,0.9s						
MJAR	Matsushiro Arr	40.52	347	LR	LR	07 31 01.9	
	comp=Z,219nm,18.1s,baz=188,slow=35						
AFI	Afiamalu	40.61	108	LR	LR	07 28 07.5	
	comp=Z,146nm,19.5s,baz=270,slow=31						
LEM	Lembang	40.97	263	LR	LR	07 32 54.8	
	comp=Z,146nm,21.6s,baz=72,slow=38						
KSRS	Korea Array	44.60	336	P	P	07 15 18.2	+1.6
	comp=Z,1.8nm,0.9s,baz=152,slow=9.2,SNR=5.6						
MLZ	Mavora Lakes	45.54	161	P	P	07 15 23.8	-0.3
ASAJ	Asahikawa	47.22	354	LR	LR	07 34 10.9	
	comp=Z,162nm,21.8s,baz=284,slow=34						
USA0B	Ussuriysk Arra	49.30	344	P	P	07 15 53.6	+0.3
USA0B				IAmb	IAmb	07 16 05.9	
	comp=Z,8.3nm,0.8s						
USRK	Ussuriysk Ar.	49.30	344	LR	LR	07 34 37.4	
	comp=Z,145nm,20.1s,baz=147,slow=34						
CMAR	Chiang Mai Arr	53.31	296	LR	LR	07 38 47.4	
	comp=Z,37nm,20.4s,baz=130,slow=36						
CMAR	Chiang Mai Arr	53.31	296	P	P	07 16 23.1	-0.7
KLR	Kul'dur	54.04	346	LR	LR	07 37 53.0	
	comp=Z,115nm,19.8s,baz=166,slow=34						
PETK	Petropavlovsk-	56.44	7	LR	LR	07 37 35.9	
	comp=Z,98nm,21.5s,baz=190,slow=32						
HIA	Hailar	57.75	338	P	P	07 16 56.1	+0.8
HIA				IAmb	IAmb	07 16 58.9	
	comp=Z,7.6nm,1.1s						
PPT	Papeete	62.28	108	LR	LR	07 40 15.9	
	comp=Z,61nm,19.1s,baz=214,slow=32						
PPT2	Papeete2	62.28	108	eLR	LR	07 36 02.5	
	comp=Z,136nm,23.8s						
MA2	Magadan	62.42	1	LR	LR	07 47 10.1	
	comp=Z,55nm,18.1s,baz=164,slow=38						
SONM	Songino Array	62.61	329	LR	LR	07 43 40.4	
	comp=Z,109nm,21.9s,baz=54,slow=35						
SEY	Seymchan	65.83	2	LR	LR	07 41 20.0	
	comp=Z,80nm,22.0s,baz=176,slow=31						
YAK	Yakutsk	66.46	350	LR	LR	07 45 45.9	
	comp=Z,38nm,21.6s,baz=106,slow=35						
TAOE	Nuku Hiva Isla	71.05	98	eLR	LR	07 39 58.8	
	comp=Z,86nm,26.3s						
VNDA	Vanda	74.79	177	LR	LR	07 50 37.7	
	comp=Z,83nm,18.4s,baz=194,slow=35						
VNDA	Vanda	74.79	177	P	P	07 18 42.7	-1.3
VNDA				IAmb	IAmb	07 18 50.6	
	comp=Z,15nm,1.5s						
MKAR	Makanchi Array	76.23	320	P	P	07 18 52.5	-0.4
	comp=Z,0.7nm,0.8s,baz=92,slow=8.5,SNR=4.9						
MKAR				LR	LR	07 53 37.6	
	comp=Z,107nm,18.4s,baz=97,slow=37						
ZALV	Zalesovo Beam	77.36	327	LR	LR	07 53 22.5	
	comp=Z,82nm,19.7s,baz=98,slow=36						
KURK	Kurchatov	79.79	323	P	P	07 19 12.9	+0.4
KURK				IAmb	IAmb	07 19 15.6	
	comp=Z,4.8nm,1.0s						
KURBB	Kurchatov Arra	79.81	323	LR	LR	07 56 13.7	
	comp=Z,60nm,18.1s,baz=78,slow=37						
AAK	Ala-Archa	80.39	314	LR	LR	07 51 26.1	
	comp=Z,142nm,21.2s,baz=120,slow=33						
RND	Reindeer	80.77	24	P	P	07 19 18.2	+0.5
RND				IAmb	IAmb	07 19 18.9	
	comp=Z,13nm,1.4s						
ILAR	Eielson Array	82.13	23	P	P	07 19 23.6	-1.1
	comp=Z,1.0nm,1.0s,baz=282,slow=4.5,SNR=4.2						
J25K	Salcha River,	82.67	23	P	P	07 19 28.4	+0.7
NRIK	Noril'sk	82.94	342	LR	LR	07 56 12.5	
	comp=Z,45nm,19.2s,baz=148,slow=36						
M27K	Edge Creek, AK	83.30	26	P	P	07 19 33.2	+2.1
M27K				IAmb	IAmb	07 19 40.4	
	comp=Z,5.2nm,1.1s						
YBH	Yreka Blue Hor	91.02	48	LR	LR	07 52 38.9	
	comp=Z,110nm,21.5s,baz=254,slow=30						
GEYT	Alibeck	92.19	308	LR	LR	08 02 16.8	
	comp=Z,76nm,21.7s,baz=120,slow=36						
ARU	Arti	92.50	326	LR	LR	08 01 22.4	
	comp=Z,193nm,21.8s,baz=94,slow=35						
AKTO	Aktyubinsk	92.66	320	LR	LR	08 01 21.0	
	comp=Z,86nm,21.4s,baz=77,slow=35						
SYO	Syowa Base	93.92	200⇓	epP	pP	07 20 25.4	-1.5
NVAR	Mina Array Bea	94.30	52	LR	LR	07 54 06.1	
	comp=Z,66nm,21.8s,baz=291,slow=30						
NEW	Newport	95.10	42	LR	LR	07 59 13.5	
	comp=Z,48nm,18.2s,baz=267,slow=33						
PFO	Pinyon Flats O	95.79	57	LR	LR	07 55 35.4	
	comp=Z,88nm,19.1s,baz=233,slow=30						
YKA	Yellowknife Ar	95.81	28	P	P	07 20 30.8	+0.4
	comp=Z,0.7nm,0.7s,baz=274,slow=4.7,SNR=11						
ELK	Elko	96.64	50	LR	LR	07 55 48.5	
	comp=Z,69nm,20.9s,baz=277,slow=30						
KIRV	Kirov	97.34	329	LR	LR	08 06 09.2	
	comp=Z,77nm,20.4s,baz=84,slow=36						
BELG	Belogornoye	99.06	322	LR	LR	08 06 32.9	
	comp=Z,53nm,20.2s,baz=154,slow=36						
RES	Resolute Bay	99.72	14	LR	LR	08 07 06.2	
	comp=Z,58nm,18.3s,baz=50,slow=36						
TORD	Torodi Ar. Bea	145.75	289	PKPbc	PKPab	07 26 46.1	+1.4
	comp=Z,4.3nm,1.1s,baz=47,slow=2.8,SNR=9.7						

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*TUL **04** 07:10:28.8±0.7, 35.93°N±0.01°×96.74°W±0.02°, h5km±2km, ML2.8, mb_Lg2.4/27(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=114.0*

NEIC 04 07:10:29.2±0.7**, 35.94°N**±0.01°×**96.75°W**±0.02°**, h4**km±1km**, Error ellipse: s-maj=2.8km s-min=1.7km az=109.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCSW	OKLAHOMA CITY	0.77	227		Pg	07 10 44.0	0.0
OKCFA	Oklahoma City	0.77	228	Pg	Pg	07 10 43.6	-0.5
TUL1	Leonard	0.78	92	Pg	Pg	07 10 43.6	-0.5
W35A	Tecumseh	0.79	187	Pg	Pg	07 10 43.7	-0.7
FNO	Franklin	0.86	218	Pg	Pg	07 10 44.9	-0.8
T35A	Sooner Cattle	0.99	11	Pg	Pg	07 10 47.7	-0.6
X34A	Smith Ranch, M	1.60	214		Pn	07 10 58.4	+0.2
U32A	Winter Ranch,	1.87	284	IAmb_Lg		07 11 28.5	
	comp=Z,12nm,1.0s						
Z38A	Mt. Pleasant	3.04	151	IAmb_Lg		07 12 09.2	
	comp=Z,13nm,0.8s						
S39A	Bolivar	3.26	57	IAmb_Lg		07 12 11.2	
	comp=Z,8.0nm,1.0s						
CBKS	Cedar Bluff	3.73	321	IAmb_Lg		07 12 33.2	
	comp=Z,7.3nm,0.7s						
AMTX	Amarillo	4.16	257	IAmb_Lg		07 12 49.9	
	comp=Z,12nm,0.8s						
R40A	Maddies Statio	4.28	55	IAmb_Lg		07 12 49.0	
	comp=Z,10nm,0.9s						
P38A	Dawn	4.48	34	IAmb_Lg		07 12 56.6	
	comp=Z,7.6nm,0.7s						
LCAR	Lake Charles	4.54	87	IAmb_Lg		07 12 54.8	
	comp=Z,9.3nm,0.8s						
L34A	Svendsen Farm,	6.03	3	IAmb_Lg		07 13 46.4	
	comp=Z,9.5nm,0.7s						
L40A	Anamosa	7.48	33	IAmb_Lg		07 14 43.5	
	comp=Z,5.1nm,0.9s						
ECSD	EROS Data Cent	7.79	1	IAmb_Lg		07 14 34.2	
	comp=Z,2.6nm,1.2s						
T47A	Sharon Grove	7.84	79	IAmb_Lg		07 14 49.2	
	comp=Z,5.2nm,0.8s						

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*NOU **04** 07:11:21.0, 40.92°S×175.52E, h51km, MLv3.5/7, North Island, New Zealand*

*WEL **04** 07:11:22.1±0.2, 41°S±2°×17°5E±°, h22km±2km, M3.4/36, ML3.7/36, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=134.7*

ISC 04 07:11:22.4±0.9**, 40.80S**±0.02°×**175.38E**±0.03°**, h32**km±6km**, n114,** σ1.24/124**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOWZ	Holdsworth Sta	0.14	135	P	Pn	07 11 28.8	+0.3
HOWZ				S	Sb	07 11 33.6	+1.2
OGWZ	Otaki Gorge	0.16	262	P	Pb	07 11 28.2	-0.2
OGWZ				S	Sb	07 11 32.5	-0.2
MRZ	Mangatainoka R	0.20	48	P	Pb	07 11 28.8	-0.1
MRZ				S	Sb	07 11 33.4	+0.1
KIW	Kapiti Island	0.36	259	P	Pb	07 11 30.6	-0.3
KIW				S	Sb	07 11 36.3	-0.5
MTW	Mount Morrison	0.37	166	P	Pb	07 11 31.8	+0.7
MTW				S	Sn	07 11 39.5	+1.6
TIWZ	Tintock	0.38	87	P	Pn	07 11 31.8	0.0
CAW	Cannon Point	0.39	217	P	Pb	07 11 31.4	+0.1
CAW				S	Sb	07 11 38.1	+0.7
TMWZ	Te Maipa	0.49	129	P	Pn	07 11 33.9	+0.5
TMWZ				S	Sn	07 11 43.0	+2.1
POWZ	Post Office Ro	0.50	36	P	Pb	07 11 32.6	-0.4
PRWZ	Pori Road	0.51	62	P	Pn	07 11 33.6	+0.1
PRWZ				S	Sn	07 11 42.2	+1.1
PAWZ	Paruwai Farm	0.59	177	P	Pb	07 11 34.7	+0.3
PAWZ				S	Sn	07 11 44.7	+1.5
OHWZ	Ohakea	0.59	355	P	Pb	07 11 34.2	-0.2
MSWZ	Moikau Station	0.63	189	P	Pb	07 11 35.2	+0.2
MSWZ				S	Sb	07 11 45.2	+1.5
CPWZ	Castlepoint	0.63	101	P	Pn	07 11 36.0	+0.8
TRWZ	Traveller	0.65	159	P	Pb	07 11 35.9	+0.6
TRWZ				S	Sn	07 11 47.1	+2.5
BFZ	Birch Farm	0.67	80	P	Pb	07 11 35.7	0.0
BFZ	Birch Farm	0.67	80	P	Pb	07 11 35.1	-0.6
WEL	Wellington	0.67	223	P	Pb	07 11 35.6	-0.2
BHW	Baring Head	0.72	212	P	Pb	07 11 36.4	-0.2
SNZO	South Karori	0.73	225	P	Pb	07 11 35.6	-1.0
DVHZ	Dannevirke	0.78	51	P	Pb	07 11 37.1	-0.4
PLWZ	Palliser	0.78	187	P	Pb	07 11 37.0	-0.6
TSZ	Takapari Road	0.86	31	P	Pb	07 11 38.2	-0.7
ANWZ	Angora Road	0.90	68	P	Pb	07 11 38.7	-0.8
TCW	Tory Channel	0.93	243	P	Pb	07 11 39.4	-0.7
PNHZ	Pukenui	1.08	36	P	Pn	07 11 41.4	0.0
WAZ	Wanganui	1.08	344	P	Pn	07 11 42.2	+0.8
WPHZ	Waipukurau	1.09	48	P	Pn	07 11 41.6	+0.1
PRHZ	Porangahau	1.09	61	P	Pn	07 11 41.1	-0.4
DUWZ	D'Urville Isla	1.11	269	P	Pn	07 11 41.7	0.0
TUWZ	Tuamarina	1.26	239	P	Pn	07 11 43.4	-0.4
CMWZ	Cape Campbell	1.30	222	P	Pn	07 11 44.9	+0.5
PXZ	Pawanui	1.36	56	P	Pn	07 11 44.8	-0.4
KRHZ	Kereru	1.38	34	P	Pn	07 11 45.3	-0.2
BHHZ	Black Hill Sta	1.41	22	P	Pn	07 11 46.1	+0.2
MTVZ	Mangateitei	1.41	3	P	Pn	07 11 47.0	+1.0
MOVZ	Moawhango	1.42	12	P	Pn	07 11 46.4	+0.3
BSWZ	Blackbirch Sta	1.46	231	P	Pn	07 11 46.3	-0.3
WNVZ	Wahianoa	1.48	7	P	Pn	07 11 47.8	+0.8
TRVZ	Turoa	1.50	5	P	Pn	07 11 48.3	+0.9
PKVZ	Pokaka	1.50	359	P	Pn	07 11 48.2	+0.9
KAHZ	Kahuranaki	1.52	49	P	Pn	07 11 46.9	-0.5
WHVZ	Whangaehu Hut	1.52	6	P	Pn	07 11 48.5	+0.9

DRZ	Dome Shelter	1.52	5	P	Pn	07 11 49.1	+1.3
LREZ	Lake Rotokare	1.53	330	P	Pn	07 11 48.8	+1.3
TUVZ	Tukino	1.54	8	P	Pn	07 11 48.8	+0.9
FWVZ	Far West T-bar	1.54	5	P	Pn	07 11 48.8	+0.9
NNZ	Nelson	1.57	254	P	Pn	07 11 48.1	0.0
KWHZ	Kaweka Forest	1.58	31	P	Pn	07 11 48.0	-0.4
SNVZ	South Ngauruho	1.62	7	P	Pn	07 11 49.8	+0.8
NGZ	Ngauruhoe	1.63	6	P	Pn	07 11 50.0	+1.0
OTVZ	Oturere	1.65	8	P	Pn	07 11 50.0	+0.8
NNVZ	North Ngauruho	1.67	6	P	Pn	07 11 50.6	+0.9
ETVZ	East Tongariro	1.68	9	P	Pn	07 11 50.6	+0.9
MCHZ	McNeill Hill	1.69	37	P	Pn	07 11 49.3	-0.3
WTVZ	West Tongariro	1.69	6	P	Pn	07 11 50.7	+0.9
TMVZ	Te Maari	1.70	9	P	Pn	07 11 50.6	+0.6
KRVZ	Karewarewa	1.71	7	P	Pn	07 11 51.1	+0.9
NTVZ	North Tongarir	1.71	8	P	Pn	07 11 50.8	+0.7
TWVZ	Taurewa	1.72	1	P	Pn	07 11 51.3	+1.0
PREZ	Palmer Road	1.73	327	P	Pn	07 11 51.9	+1.6
VRZ	Vera Road	1.74	344	P	Pn	07 11 51.8	+1.5
NMEZ	Namu Road	1.80	320	P	Pn	07 11 53.1	+1.9
NEZ	North Egmont	1.81	327	P	Pn	07 11 53.1	+1.5
KHEZ	Kahui Hut	1.83	325	P	Pn	07 11 53.4	+1.7
KATZ	Kakaramea	1.83	8	P	Pb	07 11 54.1	-1.3
BKZ	Black Stump Fm	1.84	28	P	Pn	07 11 51.2	-0.6
BKZ	Black Stump Fm	1.84	28	P	Pn	07 11 50.5	-1.3
DREZ	Durham Road	1.84	330	P	Pn	07 11 53.5	+1.7
TKNZ	Takaka Hill	1.85	262	P	Pn	07 11 52.8	+0.8
RITZ	Rihia Road	1.85	12	P	Pb	07 11 54.2	-1.5
NBEZ	Newall Road No	1.92	322	P	Pn	07 11 54.9	+2.0
PKE	Pukeiti	1.93	326	P	Pn	07 11 55.3	+2.2
RATZ	Rangitukua	1.95	9	P	Pb	07 11 56.2	-1.1
ARHZ	Aropaoanui	1.97	40	P	Pn	07 11 53.9	+0.3
HATZ	Hinemaiaia	1.98	16	P	Pb	07 11 56.8	-1.0
NMHZ	Naumai	2.02	33	P	Pn	07 11 54.3	-0.1
MRNZ	Matariki Terra	2.07	252	P	Pn	07 11 55.3	+0.3
THZ	Tophouse	2.10	242	P	Pn	07 11 54.8	-0.7
WATZ	Wairara	2.10	8	P	Pb	07 11 58.3	-1.6
MRHZ	Matea Rd	2.12	22	P	Pn	07 11 56.8	+1.1
KHZ	Kahutara	2.13	220	P	Pn	07 11 54.6	-1.1
KHZ	Kahutara	2.13	220	P	Pn	07 11 54.0	-1.8
QRZ	Quartz Range	2.17	268	P	Pn	07 11 56.0	-0.3
QRZ	Quartz Range	2.17	268	P	Pn	07 11 56.2	-0.1
MTHZ	Maungataniwha	2.24	31	P	Pn	07 11 56.6	-0.8
HIZ	Hauiti	2.31	350	P	Pn	07 11 59.3	+0.9
HIZ	Hauiti	2.31	350	P	Pn	07 11 58.9	+0.5
KUTZ	Kaahu Road	2.33	9	P	Pb	07 12 01.9	-1.8
ALRZ	Allen Road	2.35	19	P	Pn	07 12 00.7	+1.9
PRRZ	Plateau Road	2.42	19	P	Pn	07 12 02.6	+2.7
TLZ	Tolley Road	2.47	3	P	Pb	07 12 03.6	-2.5
RTZ	Ruatahuna	2.50	30	P	Pb	07 12 06.6	-0.1
SNGZ	Shannon Statio	2.51	38	P	Pn	07 11 59.9	-1.2
MUGZ	Murupara	2.55	25	P	Pn	07 12 02.0	+0.3
DSZ	Denniston Nort	2.86	249	P	Pn	07 12 05.4	-0.4
URZ	Urewera	2.86	28	P	Pn	07 12 03.9	-1.9
URZ	Urewera	2.86	28	P	Pn	07 12 04.8	-1.1
LTZ	Lake Taylor	3.06	229	P	Pn	07 12 06.7	-1.9
TOZ	Tahuroa Road	3.06	2	P	Pn	07 12 10.2	+1.6
RUGZ	Raukumara Rang	3.34	33	P	Pn	07 12 10.7	-1.8
OKCZ	Okains Bay	3.40	210	P	Pn	07 12 11.5	-1.7
INZ	Inchbonnie	3.52	236	P	Pn	07 12 13.4	-1.5
MQZ	McQueen's Vall	3.54	214	P	Pn	07 12 12.9	-2.3
HAZ	Te Kaha	3.56	32	P	Pn	07 12 13.6	-1.8
AKCZ	Akaroa Harbour	3.58	210	P	Pn	07 12 14.0	-1.7
AWAZ	Awhitu Peninsu	3.77	351	P	Pn	07 12 20.3	+2.0
RACZ	Rakaia	3.79	218	P	Pn	07 12 15.8	-2.8
WACZ	Wakanui South	4.10	219	P	Pn	07 12 20.5	-2.3
WVZ	Waitaha Valley	4.15	235	P	Pn	07 12 26.8	+3.3
GCSZ	Gaunt Creek Bo	4.53	235	P	Pn	07 12 35.2	+6.4
TMZ	Timaru	4.83	221	P	Pn	07 12 30.9	-1.9
ODZ	Otahua Downs	5.49	218	P	Pn	07 12 39.4	-2.6
JCZ	Jackson Bay	5.88	234	P	Pn	07 12 47.8	+0.4

*THE **04** 07:19:56.8, 35°.16N×23°.64E, h19km, ML2.4/4, Error ellipse: s-maj=1.1km s-min=0.4km az=271.0*
*ATH **04** 07:19:57.8, 35°.15N×23°.69E, h17km±2km, ML2.7/3, Error ellipse: s-maj=3.0km s-min=1.4km az=73.0*
ISC 04 07:19:57.2±1.2**, 35°.16N**±0°.04×**23°.68E**±0°.06**, h17**km±7km**, n15,** σ**0s.56**/26**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.08	5	P	Pg	07 20 00.6	-0.1
KNDR				S	Sg	07 20 03.2	+0.3
	1µm,0.3s						
IMMV	Iera Moni Meta	0.39	39	P	Pg	07 20 05.6	+0.3
IMMV				S	Sb	07 20 11.6	+0.1
IMMV				AML	AML	07 20 12.2	
	comp=E,2211µm,0.3s						
IMMV				AML	AML	07 20 15.2	
	comp=N,1953µm,0.2s						
IMMV	Iera Moni Meta	0.39	39	P	Pg	07 20 05.4	0.0
IMMV				S	Sb	07 20 11.6	+0.1
	comp=N,1µm,0.2s						
GVDS	Gavdos	0.46	132	P	Pg	07 20 06.1	-0.5
GVDS				S	Sb	07 20 13.5	+0.1
GVD	Gavdhos	0.46	133	P	Pg	07 20 06.3	-0.2
GVD				S	Sb	07 20 13.8	+0.4
GVD				AML	AML	07 20 14.7	
	comp=N,4620µm,0.3s						
GVD				AML	AML	07 20 15.5	
	comp=E,6998µm,0.2s						
GVD	Gavdhos	0.46	133	P	Pg	07 20 06.4	-0.2
GVD				S	Sb	07 20 13.9	+0.5
VAM	Vamos	0.50	59	P	Pg	07 20 07.2	0.0
VAM				S	Sb	07 20 15.0	+0.6
VAM				AML	AML	07 20 16.9	
	comp=N,1714µm,0.5s						
VAM				AML	AML	07 20 17.4	
	comp=E,1825µm,0.4s						
VAM	Vamos	0.50	59	P	Pg	07 20 07.1	-0.1
VAM				S	Sb	07 20 15.1	+0.6
	comp=E,872nm,0.4s						
PRNS	Prines Rethymn	0.71	73	P	Pb	07 20 09.6	-1.5
PRNS				S	Sb	07 20 19.6	-0.9
ANKY	Antikythira Is	0.77	337	P	Pg	07 20 12.3	-0.1
SIVA	Sivas	0.94	98	P	Pb	07 20 15.4	+0.3
SIVA				S	Sb	07 20 27.6	+0.5
IDI	Anoyia	1.00	82	P	Pb	07 20 15.8	-0.4
IDI	Anoyia	1.00	82	P	Pb	07 20 15.1	-1.1
IDI				S	Sb	07 20 29.6	+0.5
	comp=E,115nm,0.4s						
KTHA	Kythira Island	1.21	336	P	Pg	07 20 20.4	-0.2
NPS	Neapolis	1.59	86	P	Pn	07 20 25.2	+0.6

TRN 04 07:24:51.1, 18°.07N×61°.42W, h26km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.53	221	eP	Pn	07 25 03.7	+0.7
ANWB				eS	Sn	07 25 12.4	+1.2
ANBD	Bethesda, Anti	1.07	198	eP	Pb	07 25 11.2	+0.2
ANBD				eS	Sb	07 25 26.9	+2.4
SKOC	St. Kitts, UWI	1.47	238	eP	Pb	07 25 17.8	0.0
SKOC				eS	Sb	07 25 37.1	+1.0
SMRT	St. Maarten	1.57	270	eP	Pb	07 25 18.9	-0.7
SMRT				eS	Sb	07 25 39.2	+0.1
ABD	La Joyeuse, An	1.59	182	eP	Pb	07 25 19.9	+0.1
ABD				eS	Sb	07 25 41.0	+1.5
SEUS	St. Eustatius	1.60	249	eP	Pb	07 25 20.0	0.0
CBE	Ff, Capester	2.00	185	eP	Pb	07 25 25.3	-1.5
CBE				eS	Sb	07 25 50.1	-1.2
MAGL	Barre de l'ile	2.11	176	eP	Pn	07 25 26.7	+1.9
MAGL				eS	Sn	07 25 52.4	+2.1
TBG	Guadaloupe-3	2.22	186	eP	Pb	07 25 28.6	-1.9
TBG				eS	Sb	07 25 55.3	-2.3
TDBA	Terre de Bas,	2.22	185	eP	Pb	07 25 28.7	-1.9
TDBA				eS	Sb	07 25 55.8	-1.9
MDCT	Cottage Hill,	2.44	181	eP	Pn	07 25 31.1	+1.7
MDCT				eS	Sn	07 25 60.0	+1.6
DSLB	Salisbury	2.62	180	eP	Pb	07 25 35.0	-2.4
DSLB				eS	Sn	07 26 04.4	+1.6
MDN	Morne-Daniel	2.74	179	eP	Pn	07 25 36.0	+2.6
PCM	Pelee Case Pet	3.24	176	eP	Pn	07 25 42.1	+1.7
GBMF	Grand Be	3.26	176	eP	Pn	07 25 42.9	+2.1
PML	Morne Lenard	3.28	176	eP	Pn	07 25 43.2	+2.3
FDF	Fort de France	3.33	176	eP	Pn	07 25 43.8	+2.1
FDF				eS	Sn	07 26 21.0	+0.6
ZAM	Aeronautique	3.50	174	eP	Pn	07 25 45.1	+1.2
LPMF	Morne Lapointe	3.50	173	eP	Pn	07 25 44.9	+0.9
TRMF	Trois Ilets	3.53	174	eP	Pn	07 25 45.7	+1.4
MVM	Montagne Vaucl	3.53	172	eP	Pn	07 25 45.6	+1.2
BIM	Bigot	3.55	175	eP	Pn	07 25 46.7	+2.0
BIM				eS	Sn	07 26 27.2	+1.3
MPOM	Morne Pois Mar	3.65	171	eP	Pn	07 25 47.2	+1.3
MPOM				eS	Sn	07 26 29.8	+1.7
SLBI	Saint Lucia, B	4.05	174	eP	Pn	07 25 53.6	+2.1
SLBI	Saint Lucia, B	4.05	174	eS	Sn	07 26 38.6	+0.6
AOPR	Arecibo Observ	5.08	274	eP	Pn	07 26 07.0	+1.4
AOPR	Arecibo Observ	5.08	274	eS	Sn	07 27 04.3	+0.7
TOSP	Speyside	6.79	173	eP	Pn	07 26 32.7	+3.6

*IDC **04** 07:27:11.6±2.8, 21°.15S×174°.10W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/23, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx2.9/62, Error ellipse: s-maj=149.3km s-min=25.5km az=148.0*
ISC 04 07:27:15.4±2.4**, 21°.2S**±0°.8×**174°.0W**±0°.5**, h26**km**, n10,** σ**0s.87**/8**, mb3.8**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.82	245	P	P	07 34 55.5	+0.5
	0.7nm,0.5s,baz=118,slow=15,SNR=2.9						
ASAR	Alice Springs	47.95	257	P	P	07 35 51.8	-0.4
	1.0nm,0.7s,baz=98,slow=7.8,SNR=19						
WRA	Warramunga Arr	48.16	262	P	P	07 35 53.3	-0.5
	0.3nm,0.4s,baz=96,slow=7.6,SNR=11						
RPN	Rapa Nui	58.77	110	LR	LR	07 57 20.1	
	comp=Z,56nm,20.4s,baz=166,slow=31						
NVAR	Mina Array Bea	79.08	41	P	P	07 39 18.4	+0.6
	0.3nm,0.6s,baz=227,slow=7.8,SNR=4.6						
ILAR	Eielson Array	88.27	11	P	P	07 40 03.7	-0.3
	1.6nm,1.1s,baz=208,slow=5.7,SNR=5.0						
CMAR	Chiang Mai Arr	93.85	288	P	P	07 40 32.0	+0.9
	1.2nm,0.3s,baz=134,slow=2.6,SNR=5.2						
LVC	Limon Verde	95.01	116	LR	LR	08 16 11.4	
	comp=Z,74nm,18.8s,baz=204,slow=31						
MKAR	Makanchi Array	114.40	313	PKP	PKPdf	07 45 51.9	-1.1
	0.3nm,0.7s,baz=90,slow=1.2,SNR=4.6						
AKASG	Malin Array Be	145.38	334	PKPbc	PKPdf	07 46 50.0	-0.8
	0.5nm,0.3s,baz=45,slow=4.6,SNR=7.1						

*NNC **04** 07:27:47.2±0.4, 50°.02N×78°.77E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.7km s-min=2.1km az=78.0, Suspected Mining explosion.*
*IDC **04** 07:27:48.9±1.0, 50°.09N×78°.73E, h0km, mb1 3.1/2, mb1mx3.0/34, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=14.1km s-min=6.4km az=65.0*
ISC 04 07:27:48.5±0.9**, 50°.03N**±0°.05×**78°.72E**±0°.06**, h0**km**, n19,** σ**0s.80**/30**, 18C-12D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.57	347	⇑P	Pg	07 27 58.7	-0.6
KUR07				⇓S	Sg	07 28 07.7	+1.0
KUR06	Kurchatov Arra	0.58	348	⇑P	Pg	07 27 59.1	-0.7
KUR06				⇓S	Sg	07 28 08.0	+0.7
KUR14	Kurchatov Arra	0.59	352	⇑P	Pg	07 27 59.2	-0.6
KUR14				⇓S	Sg	07 28 08.1	+0.7
KUR15	Kurchatov Arra	0.59	350	⇑P	Pg	07 27 59.3	-0.6
KUR15				⇑S	Sg	07 28 08.5	+0.9
KURBB	Kurchatov Arra	0.60	348	Pg	Pg	07 27 59.3	-0.8
	3.1nm,0.3s,baz=166,slow=19,SNR=161						
KURBB				Lg	Lg	07 28 08.1	
	3.4nm,0.3s,baz=168,slow=31,SNR=31						
KURBB	Kurchatov Arra	0.60	348	⇑P	Pg	07 27 59.3	-0.8
	10nm,0.2s						
KURBB				⇓S	Sg	07 28 08.3	+0.4
	177nm,0.7s						
KUR16	Kurchatov Arra	0.61	347	⇑P	Pg	07 27 59.5	-0.8
KUR16				⇓S	Sg	07 28 08.7	+0.5
KUR17	Kurchatov Arra	0.62	345	⇓P	Pg	07 27 60.0	-0.4
KUR17				⇓S	Sg	07 28 09.3	+0.9
KUR05	Kurchatov Arra	0.62	349	⇓P	Pg	07 27 59.8	-0.6
KUR05				⇑S	Sg	07 28 08.9	+0.4
KUR04	Kurchatov Arra	0.64	350	⇑P	Pg	07 28 00.1	-0.7
KUR04				⇑S	Sg	07 28 09.3	+0.2
KURK	Kurchatov	0.69	355	⇑P	Pg	07 28 00.8	-0.9
	5.6nm,0.3s						
KURK				⇑S	Sg	07 28 10.7	+0.1
	108nm,1.2s						
MAKZ	Makanchi	3.89	145	⇓Pg	Pb	07 28 57.1	-0.8
	1.7nm,0.5s						
MAKZ				⇑Lg	Lg	07 29 47.6	
	8.4nm,0.7s						
MK31	Makanchi Array	4.02	142	⇓Pn	Pn	07 28 51.9	+0.5
	0.1nm,0.2s,baz=323,slow=10,SNR=26						
MK31				⇑Pg	Pb	07 28 59.9	-0.3
	0.4nm,0.2s,baz=328,slow=15,SNR=10						
MK31				⇑Lg	Lg	07 29 53.6	
	16nm,0.7s,baz=331,slow=26,SNR=19						
MKAR	Makanchi Array	4.02	142	Pn	Pn	07 28 51.9	+0.5
	0.5nm,0.3s,baz=326,slow=11,SNR=26						
MKAR				Pg	Pb	07 29 01.3	+1.1
	0.6nm,0.3s,baz=332,slow=15,SNR=15						
MKAR				Lg	Lg	07 29 53.4	
	1.1nm,0.3s,baz=332,slow=29,SNR=7.6						
OTUK	Ortayu	4.56	249	⇓Pn	Pn	07 28 58.6	-0.1
	1.0nm,0.3s						
OTUK				⇑Pg	Pb	07 29 10.3	+0.9
	3.2nm,0.9s						
OTUK				⇑Lg	Lg	07 30 12.3	
	8.1nm,0.8s						
I46RU	ZALESOVO INFRA	5.44	42	i		08 00 30.0	
	baz=221,slow=320,SNR=3.0						
ZALV	Zalesovo Beam	5.44	42	Pn	Pn	07 29 11.7	+0.9
	0.8nm,0.3s,baz=231,slow=14,SNR=11						
BRVK	Borovoye	6.07	303	⇓Sn	Sn	07 30 27.8	-1.9
	3.1nm,0.7s						
BRVK				⇑Lg	Lg	07 31 02.3	
	1.8nm,0.5s						
AAK	Ala-Archa	7.95	203	Lg	Lg	07 31 59.4	
	0.1nm,0.3s,baz=68,slow=5.4,SNR=1.7						

IDC 04 07:30:13.7±3.0**, 54°.19N**×**86°.42E, h0**km**, mb1 3.1**/2**, mb1mx3.0**/38**, mbtmp3.1**/2**, ML2.8**/2**, Error ellipse: s-maj=23.7km s-min=13.1km az=64.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	256	i		07 37 32.9	
	baz=76,slow=332,SNR=2.0						
ZALV	Zalesovo Beam	0.97	256	Pg	Pg	07 30 31.4	-1.0
	2.1nm,0.3s,baz=74,slow=17,SNR=18						
ZALV				Lg	Lg	07 30 46.3	
	6.3nm,0.3s,baz=77,slow=28,SNR=3.7						
KURBB	Kurchatov Arra	6.00	237	Pn	Pn	07 31 44.2	+0.5
	0.1nm,0.3s,baz=52,slow=13,SNR=6.1						
MKAR	Makanchi Array	7.85	201	Pn	Pn	07 32 10.7	+1.5
	0.3nm,0.3s,baz=19,slow=23,SNR=2.9						
MKAR				Lg	Lg	07 34 24.5	
	baz=28,slow=29,SNR=5.3						

*SOME **04** 07:42:19.9, 39°.62N×74°.13E, h5km*
*NNC **04** 07:42:21.8±1.8, 39°.66N×74°.13E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=15.4km s-min=9.4km az=152.0*
*KRNET **04** 07:42:23.9±0.1, 39°.77N×73°.93E, mb2.9*
ISC 04 07:42:23.4±1.3**, 39°.77N**±0°.07×**73°.99E**±0°.03**, h10**km**, n34,** σ**2s.27**/54**, 13C-5D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	1.20	310	⇑iP	Pn	07 42 45.6	-0.6
	baz=11						
OHH				⇑iS	Sb	07 43 02.0	+0.2
	baz=11						
DRK	Karamyk	1.72	261	⇑iP	Pb	07 42 54.7	-0.5
	baz=61						
DRK				⇑iS	Sb	07 43 17.6	+0.7
	baz=61						
ARLS	Aral	2.11	7	⇑iP	Pb	07 43 01.9	+0.1
	baz=8.0						
ARLS				⇑iS	Sb	07 43 29.1	+1.0
	baz=8.0						
BTK	Batken	2.46	278	⇓iP	Pn	07 43 05.5	+1.9
	baz=78						
BTK				⇓iS	Sb	07 43 37.0	-1.1
	baz=78						
ARK	Arkit	2.55	323	⇑iP	Pb	07 43 07.3	-2.0
	baz=24						
ARK				⇑iS	Sb	07 43 39.3	-1.4
	baz=24						
TRKS	Terek-Say	2.80	310	⇓iP	Pn	07 43 10.1	+1.8
	baz=10.0						
TRKS				⇓iS	Sn	07 43 44.1	+1.9
	baz=10.0						
TKM2	Tokmak 2	3.38	20	⇑Pg	Pb	07 43 24.4	+1.0
	2.0nm,0.5s						
TKM2				⇓Lg	Lg	07 44 12.2	
	3.8nm,0.4s						
KDJ	Kajisay	3.38	45	⇑iP	Pb	07 43 20.4	-3.0
	baz=45						
KDJ				⇑iS	Sb	07 44 00.7	-3.9
	baz=45						
DGS	Degeres	3.72	20	eP	Pb	07 43 31.2	+2.0
	4.0nm,0.4s						
DGS				eS	Sg	07 44 22.4	-0.5
	9.3nm,0.8s						
DGS	Degeres	3.72	20	Pg	Pb	07 43 31.2	+2.0
	4.0nm,0.4s						
DGS				Lg	Lg	07 44 22.4	
	9.3nm,0.8s						
IZV	Izvestkoviy	3.82	30	eP	Pg	07 43 33.3	-3.2
	3.3nm,0.6s						
IZV				eS	Sg	07 44 25.8	-0.1
	14nm,1.0s						
IZV	Izvestkoviy	3.82	30	Pg	Pg	07 43 33.3	-3.2
	3.3nm,0.6s						
IZV				Lg	Lg	07 44 25.8	
	14nm,1.0s						
MTBS	Maitube	3.83	28	eP	Pb	07 43 33.1	+2.1
	3.1nm,0.6s						
MTBS				eS	Sg	07 44 25.8	-0.5
	7.7nm,0.4s						
MTBS	Maitube	3.83	28	Pg	Pb	07 43 33.1	+2.1
	3.1nm,0.6s						
MTBS				Lg	Lg	07 44 25.7	
	7.7nm,0.4s						
TNSS	Tian-Shan	3.95	33	eP	Pb	07 43 35.0	+1.6
	4.4nm,0.3s						
TNSS				eS	Sg	07 44 29.4	-1.0
	4.6nm,0.7s						
TNSS	Tian-Shan	3.95	33	Pg	Pb	07 43 35.0	+1.6
	4.4nm,0.3s						
TNSS				Lg	Lg	07 44 29.4	
	4.6nm,0.7s						
ANVS	Anan'yevo	4.09	41	⇑iP	Pn	07 43 29.9	+3.7
	baz=42						
ANVS				⇑iS	Sn	07 44 18.5	+4.3
	baz=42						
MDOK	Medeo	4.10	33	eP	Pb	07 43 37.8	+2.1
	3.8nm,0.5s						
MDOK				eS	Sg	07 44 33.4	-1.5
	7.6nm,0.9s						
MDOK	Medeo	4.10	33	Pg	Pb	07 43 34.0	-1.7
	2.5nm,0.4s						
MDOK				Lg	Lg	07 44 30.4	
	5.9nm,0.6s						
MDOK	Medeo	4.10	33	Pg	Pb	07 43 37.8	+2.1
	3.8nm,0.5s						
MDOK				Lg	Lg	07 44 33.4	
	7.6nm,0.9s						
KRBS	Karabastau	4.12	17	eP	Pb	07 43 38.3	+2.2
	4.0nm,0.3s						
KRBS				eS	Sg	07 44 34.4	-1.4
	4.1nm,0.7s						
KRBS	Karabastau	4.12	17	Pg	Pb	07 43 38.3	+2.2
	4.0nm,0.3s						
KRBS				Lg	Lg	07 44 34.4	
	4.1nm,0.7s						
KOTS	Kotyrbulak	4.18	33	eP	Pg	07 43 39.9	-3.6
	3.6nm,0.7s						
KOTS				eS	Sg	07 44 37.6	-0.1
	18nm,0.8s						
KOTS	Kotyrbulak	4.18	33	Pg	Pg	07 43 39.9	-3.6
	3.6nm,0.7s						
KOTS				Lg	Lg	07 44 37.6	
	18nm,0.8s						
KTBS	Karatobe	4.43	26	eP	Pb	07 43 43.6	+2.3
	2.4nm,0.3s						
KTBS				eS	Sg	07 44 43.8	-1.7
	13nm,0.6s						
KTBS	Karatobe	4.43	26	Pg	Pb	07 43 43.6	+2.3
	2.4nm,0.3s						
KTBS				Lg	Lg	07 44 43.8	
	13nm,0.6s						
KUU	Kurty	4.48	22	eP	Pb	07 43 44.3	+2.2
	0.7nm,0.1s						
KUU				eS	Sg	07 44 44.5	-2.7
	7.4nm,0.9s						
KUU	Kurty	4.48	22	Pg	Pb	07 43 44.3	+2.2
	0.7nm,0.1s						
KUU				Lg	Lg	07 44 44.5	
	7.4nm,0.9s						
BRLS	Borolday	4.52	318	eP	Pb	07 43 45.6	+2.8
	0.9nm,0.2s						
BRLS				eS	Sg	07 44 47.4	-1.0
	12nm,0.6s						
BRLS	Borolday	4.52	318	Pg	Pb	07 43 45.6	+2.8
	0.9nm,0.2s						
BRLS				Lg	Lg	07 44 47.4	
	12nm,0.6s						
SATY	Saty	4.67	44	eP	Pb	07 43 47.9	+2.4
	2.0nm,0.6s						
SATY				eS	Sg	07 44 51.2	-2.2
	5.3nm,0.4s						
SATY	Saty	4.67	44	Pg	Pb	07 43 47.8	+2.4
	2.0nm,0.6s						
SATY				Lg	Lg	07 44 51.2	
	5.3nm,0.4s						
ARXS	Arharly	5.28	31	eP	Pb	07 43 59.1	+3.2
	1.6nm,0.3s						
ARXS				eS	Sg	07 45 10.3	-2.6
	7.1nm,1.1s						
ARXS	Arharly	5.28	31	Pg	Pb	07 43 59.1	+3.2
	1.6nm,0.3s						
ARXS				Lg	Lg	07 45 10.3	
	7.1nm,1.1s						

ISC 04 07:47:29.2±1.0**, 49°.13N**±0°.05×**18°.88E**±0°.04**, h10**km**, n5,** σ**0s.64**/9**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANS	Liptovska Anna	0.38	87	ePG	Pg	07 47 36.3	-0.5
LANS				eSG	Sg	07 47 42.3	+0.4
KOLL	Kolacno	0.64	210	ePG	Pg	07 47 40.8	-0.8
VYHS	Vyhne	0.64	183	ePG	Pb	07 47 42.4	-0.1
VYHS				eSG	Sg	07 47 50.9	+0.9
JAVC	Velka Javorina	0.84	251	ePG	Pn	07 47 47.7	+0.4
JAVC				eSG	Sn	07 47 59.6	-0.1
MORC	Moravsky Berou	1.09	307	ePG	Pg	07 47 49.6	-0.5
MORC				eSG	Sb	07 48 04.7	+0.3

*VAO **04** 07:58:08.1±1.1, 21°.00S×71°.07W, h10km, mb4.4*
*NEIC **04** 07:58:18.6±1.7, 20°.90S±0°.04×70°.52W±0°.08, h51km±6km, mb4.1/8, ML4.2(GUC), Error ellipse: s-maj=10.1km s-min=6.5km az=89.0*
*IDC **04** 07:58:19.3±1.9, 20°.84S×70°.43W, h61km±18km, mb3.7/6, mb1 3.9/10, mb1mx3.7/37, mbtmp3.9/10, MS3.1/4, Ms1 3.1/4, ms1mx2.8/58, Error ellipse: s-maj=23.9km s-min=12.4km az=72.0*
*GUC **04** 07:58:19.8±0.7, 20°.90S×70°.44W, h61km±3km, ML4.2*
ISC 04 07:58:18.2±0.7**, 20°.92S**±0°.03×**70°.56W**±0°.06**, h59**km±6km**, n92,** σ**0s.92**/97**, mb4.0**/6**, 6C-6D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATCX	Punta Patache	0.39	76	Pn	Pn	07 58 29.2	+0.2
PATCX	Punta Patache	0.39	76	⇓iP	Pn	07 58 29.2	+0.2
PATCX				i S	Sn	07 58 36.5	-0.3
PATCX				IAML		07 58 37.9	
	comp=N,16µm,0.4s						
PB02	IPOC Station P	0.73	123		Pn	07 58 32.2	-0.7
PB02	IPOC Station P	0.73	123	⇑iP	Pn	07 58 33.2	+0.3
PB02				i S	Sn	07 58 43.3	-0.4
PB02				IAML		07 58 44.0	
	comp=N,36µm,0.3s						
TA02	Huaiquique	0.75	32		Pn	07 58 33.1	0.0
TA02	Huaiquique	0.75	32	⇓iP	Pn	07 58 33.4	+0.3
TA02				i S	Sn	07 58 43.6	-0.3
TA02				IAML		07 58 45.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,29μm,0.2s						
HMBC	**Humberstone**	**0.89**	**45**	⇓*i*P	**Pn**	**07 58 35.0**	**+0.1**
HMBC				*i* S	**Sn**	**07 58 46.5**	**-0.7**
HMBC				IAML		07 58 47.8	
	comp=E,10μm,0.3s						
PB01	**IPOC Station P**	**1.01**	**97**		**Pn**	**07 58 36.6**	**+0.2**
PB01	**IPOC Station P**	**1.01**	**97**	⇓*i*P	**Pn**	**07 58 36.5**	**+0.2**
PB01				*i* S	**Sn**	**07 58 49.0**	**-0.9**
PB07	**IPOC Station P**	**1.02**	**142**		**Pn**	**07 58 36.8**	**+0.2**
PB07	**IPOC Station P**	**1.02**	**142**	⇑*i*P	**Pn**	**07 58 36.9**	**+0.2**
PB07				*i* S	**Sn**	**07 58 49.9**	**-0.4**
PB07				IAML		07 58 50.9	
	comp=E,11μm,0.4s						
PB11	**IPOC Station P**	**1.43**	**36**		**Pn**	**07 58 41.8**	**-0.2**
PB11	**IPOC Station P**	**1.43**	**36**	⇓*i*P	**Pn**	**07 58 41.9**	**-0.2**
PB11				*i* S	**Sn**	**07 58 58.9**	**-1.0**
PB11				IAML		07 59 01.0	
	comp=E,8μm,0.4s						
PB04	**IPOC Station P**	**1.46**	**165**		**Pn**	**07 58 42.5**	**0.0**
PB04	**IPOC Station P**	**1.46**	**165**	⇑*i*P	**Pn**	**07 58 42.7**	**+0.1**
PB04				IAML		07 59 03.3	
	comp=E,4μm,0.2s						
PB09	**IPOC Station P**	**1.51**	**126**		**Pn**	**07 58 43.5**	**+0.4**
PB09	**IPOC Station P**	**1.51**	**126**	⇑*i*P	**Pn**	**07 58 44.0**	**+0.9**
PB09				*i* S	**Sn**	**07 59 02.3**	**+0.5**
PB09				IAML		07 59 04.1	
	comp=N,5μm,0.5s						
PB08	**IPOC Station P**	**1.52**	**60**		**Pn**	**07 58 43.6**	**+0.1**
PB08	**IPOC Station P**	**1.52**	**60**	⇓*i*P	**Pn**	**07 58 43.8**	**+0.2**
PB08				*i* S	**Sn**	**07 59 01.9**	**-0.6**
PB08				IAML		07 59 05.1	
	comp=N,6μm,0.2s						
GO01	**Chusmiza**	**1.78**	**46**		**Pn**	**07 58 47.1**	**0.0**
GO01	**Chusmiza**	**1.78**	**46**	*e*P	**Pn**	**07 58 47.3**	**+0.2**
GO01				*i* S	**Sn**	**07 59 08.7**	**-0.2**
GO01				IAML		07 59 11.7	
	comp=E,8μm,0.1s						
PB06	**IPOC Station P**	**2.00**	**153**		**Pn**	**07 58 49.5**	**-0.4**
PB06	**IPOC Station P**	**2.00**	**153**	⇑*i*P	**Pn**	**07 58 49.7**	**-0.2**
PB06				*i* S	**Sn**	**07 59 13.1**	**-0.8**
PB06				IAML		07 59 13.7	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**2.28**	**138**	P	**Pn**	**07 58 55.0**	**+1.3**
	comp=E,411nm,0.3s,baz=320,slow=9.7,SNR=2834						
LVC				S	**Sn**	**07 59 22.2**	**+1.3**
	comp=E,422nm,0.3s,baz=82,slow=18,SNR=63						
LVC	**Limon Verde**	**2.28**	**138**		**Pn**	**07 58 54.9**	**+1.1**
LVC	**Limon Verde**	**2.28**	**138**	*e*P	**Pn**	**07 58 54.2**	**+0.5**
LVC				*i* S	**Sn**	**07 59 22.1**	**+1.2**
PB15	**IPOC Station P**	**2.49**	**156**		**Pn**	**07 58 56.0**	**-0.6**
PB15	**IPOC Station P**	**2.49**	**156**	⇑*i*P	**Pn**	**07 58 56.4**	**-0.2**
PB14	**IPOC Station P**	**3.70**	**178**		**Pn**	**07 59 11.7**	**-1.5**
PB14	**IPOC Station P**	**3.70**	**178**	*e*P	**Pn**	**07 59 12.2**	**-1.0**
LPAZ	**La Paz**	**5.14**	**27**	P	**Pn**	**07 59 34.1**	**+0.9**
	comp=E,1.5nm,0.3s,baz=209,slow=6.6,SNR=42						
LPAZ				LR	LR	08 01 29.0	
	comp=E,37nm,18.3s,baz=210,slow=38						
AC01	**Pan de Azucar**	**5.21**	**180**		**Pn**	**07 59 31.6**	**-2.0**
AC02	**Maricunga**	**6.04**	**168**		**Pn**	**07 59 45.2**	**-0.2**
AC06	**Mina Casimiro**	**6.42**	**178**		**Pn**	**07 59 47.5**	**-2.7**
SIV	**San Ignacio**	**10.24**	**63**	P	**Pn**	**08 00 40.5**	**-2.1**
	comp=E,1.1nm,0.3s,baz=260,slow=8.4,SNR=26						
SIV				LR	LR	08 04 34.6	
	comp=E,39nm,20.6s,baz=245,slow=37						
NNA	**Nana**	**10.73**	**325**	P	**Pn**	**08 00 49.9**	**+0.6**
	comp=E,0.9nm,0.3s,baz=218,slow=14,SNR=1.7						
ETMB	**Extrema**	**11.80**	**21**	*e*P	**Pn**	**08 01 01.1**	**-2.8**
PTLB	**Pontes e Lacer**	**12.13**	**65**	*e*P	**Pn**	**08 01 06.4**	**-2.0**
VILB	**Vilhena**	**12.68**	**53**	*e*P	**Pn**	**08 01 15.0**	**-0.8**
AQDB	**Aquidauana**	**13.91**	**91**	Pn	**Pn**	**08 01 32.0**	**-0.6**
AQDB	**Aquidauana**	**13.91**	**91**	*e*P	**Pn**	**08 01 33.0**	**+0.4**
SALV	**Santo Antonio**	**14.96**	**73**	*e*P	**Pn**	**08 01 45.7**	**-0.6**
PP1B	**Ponte de Pedra**	**15.16**	**80**	*e*P	**Pn**	**08 01 47.4**	**-1.6**
CLDB	**Colider**	**17.34**	**57**	*e*P	**P**	**08 02 16.8**	**-0.3**
PTGB	**Pitanga**	**17.46**	**106**	*e*P	**P**	**08 02 19.1**	**+0.7**
ITAB	**Concordia**	**17.95**	**114**	P	**P**	**08 02 22.8**	**-0.9**
PCMB	**Pacaembu**	**18.00**	**96**	*e*P	**Pn**	**08 02 24.7**	**+0.3**
ARAG	**Araguaiana, MT**	**18.53**	**77**	*e*P	**Pn**	**08 02 30.9**	**0.0**
ITRB	**Iturama**	**18.98**	**90**	*e*P	**P**	**08 02 35.2**	**+0.1**
FRTB	**Fartura**	**19.59**	**101**	*e*P	**P**	**08 02 41.3**	**-0.4**
PLCA	**Paso Flores**	**19.76**	**180**	P	**P**	**08 02 44.5**	**+1.1**
	comp=E,0.2nm,0.3s,baz=18,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**19.76**	**180**	IAmb	IAmb	08 02 49.4	
	comp=Z,6.2nm,1.3s						
MACA	**Manacapuru-AM**	**20.09**	**30**	*e*P	**P**	**08 02 46.1**	**-1.1**
NPGB	**Novo Progresso**	**20.16**	**49**	*e*P	**P**	**08 02 47.2**	**-0.8**
BB19B	**Bebedouro**	**20.57**	**94**	*e*P	**P**	**08 02 53.0**	**+0.7**
IPMB	**Ipameri, GO**	**21.27**	**86**	*e*P	**P**	**08 02 59.5**	**-0.4**
RCLB	**Rio Claro- Sao**	**21.45**	**98**	*e*P	**P**	**08 03 01.2**	**-0.7**
ITTB	**Itaituba**	**21.87**	**43**	*e*P	**P**	**08 03 04.3**	**-1.9**
VAO	**Valinhos**	**21.97**	**100**	*e*P	**P**	**08 03 07.7**	**+0.2**
BDFB	**Brasilia**	**22.03**	**80**	P	**P**	**08 03 08.8**	**+0.6**
	comp=Z,3.6nm,0.4s,baz=259,slow=12,SNR=8.0						
BDFB	**Brasilia**	**22.03**	**80**	IAmb	IAmb	08 03 11.5	
	comp=Z,4.6nm,0.5s						
PTGA	**Pitinga**	**22.57**	**29**	P	**P**	**08 03 12.1**	**-1.7**
	comp=Z,3.0nm,0.4s,baz=210,slow=19,SNR=10						
PEXB	**Peixe**	**23.04**	**71**	*e*P	**P**	**08 03 18.1**	**-0.6**
BSCB	**Bom Sucesso**	**24.07**	**95**	*e*P	**P**	**08 03 27.5**	**-0.9**
MALB	**Monte Alegre**	**24.73**	**42**	*e*P	**P**	**08 03 33.9**	**-0.4**
SMTB	**Santa Maria do**	**25.18**	**65**	*e*P	**P**	**08 03 38.7**	**+0.2**
DIAM	**Diamantina, MG**	**25.45**	**89**	*e*P	**P**	**08 03 39.9**	**-1.1**
JANB	**Januaria**	**25.61**	**81**	*e*P	**P**	**08 03 41.9**	**-0.5**
SDBA	**SAO DESIDERIO**	**25.96**	**75**	*e*P	**P**	**08 03 44.8**	**-0.7**
SDV	**Santo Domingo**	**29.61**	**360**	LR	LR	08 16 39.3	
	comp=Z,86nm,19.0s,baz=266,slow=37						
GDU01	**Guandu, BA**	**30.39**	**81**	*e*P	**P**	**08 04 25.2**	**+0.2**
NBPN	**Ponto Novo - B**	**30.81**	**76**	*e*P	**P**	**08 04 27.7**	**-1.1**
NBPS	**Pedro II - PI**	**32.70**	**64**	*e*P	**P**	**08 04 45.1**	**-0.4**
NBLA	**Lagarto - SE**	**32.95**	**78**	*e*P	**P**	**08 04 46.1**	**-1.4**
NBPB	**Pedra_Branca-C**	**33.70**	**67**	*e*P	**P**	**08 04 54.0**	**-0.1**
NBAN	**Anadia - AL**	**34.83**	**77**	*e*P	**P**	**08 05 03.5**	**-0.3**
TXAR	**Lajitas Array**	**59.28**	**326**	P	**P**	**08 08 14.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=134,slow=7.2,SNR=4.6						
MIAR	**Mount Ida**	**59.34**	**338**	P	**P**	**08 08 14.8**	**+0.5**
NVAR	**Mina Array Bea**	**74.09**	**323**	P	**P**	**08 09 49.8**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=155,slow=7.0,SNR=6.5						
KOWA	**Kowa**	**74.20**	**67**	LR	LR	08 42 39.3	
	comp=Z,83nm,18.1s,baz=184,slow=36						
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P	**P**	**08 10 14.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=250,slow=5.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**78.61**	**71**	P	**P**	**08 10 14.2**	**-0.1**
TORD				IAmb	IAmb	08 10 26.1	
	comp=Z,1.5nm,0.7s						
YKA	**Yellowknife Ar**	**90.13**	**341**	P	**P**	**08 11 12.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=140,slow=5.0,SNR=10						
YKA				pP	**pP**	**08 11 29.9**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=138,slow=4.8,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**126.28**	**278**	T	T	10 36 32.4	
	baz=103,slow=75,SNR=145						
H11S1	**WAKE ISLAND Hy**	**126.29**	**278**	T	T	10 36 32.0	
	baz=103,slow=75,SNR=90						
H11S3	**WAKE ISLAND Hy**	**126.30**	**278**	T	T	10 36 32.5	
	baz=103,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**126.35**	**280**	T	T	10 36 31.3	
	baz=102,slow=74,SNR=69						
H11N2	**WAKE ISLAND Hy**	**126.36**	**280**	T	T	10 36 37.7	
	baz=102,slow=74,SNR=54						
H11N1	**WAKE ISLAND Hy**	**126.37**	**280**	T	T	10 36 36.7	
	baz=102,slow=74,SNR=60						
ASAR	**Alice Springs**	**129.69**	**210**	PKP	**PKPdf**	**08 17 22.0**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=100,slow=1.0,SNR=4.4						
WRA	**Warramunga Arr**	**132.65**	**213**	PKP	**PKPdf**	**08 17 27.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=161,slow=1.8,SNR=7.7						
MKAR	**Makanchi Array**	**146.04**	**34**	PKPbc	**PKPdf**	**08 17 51.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=327,slow=3.7,SNR=10						
MKAR				pPKPbc	**pPKPdf**	**08 18 08.3**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=315,slow=4.3,SNR=11						

IDC 04 07:58:55.1±1.3**, 48°.75N**×**27°.91W, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/52**, mbtmp3.6**/4**, Error ellipse: s-maj=45.4km s-min=30.0km az=34.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.12**	**135**	P	P	08 06 57.0	-0.2
	0.8nm,1.0s,baz=334,slow=9.4,SNR=4.2						
ILAR	**Eielson Array**	**57.32**	**334**	P	P	08 08 44.2	-0.1
	0.8nm,0.9s,baz=35,slow=6.1,SNR=6.9						
TXAR	**Lajitas Array**	**59.50**	**281**	P	P	08 09 00.1	-0.1
	0.4nm,0.8s,baz=64,slow=5.8,SNR=4.5						
MKAR	**Makanchi Array**	**67.19**	**44**	P	P	08 09 50.8	0.0
	0.6nm,0.8s,baz=335,slow=5.4,SNR=6.0						

*TIF **04** 08:04:53.8, 42°.10N×45°.97E, h36km±2km*
*MOS **04** 08:04:54.5±0.0, 42°.17N×46°.00E, h18km, MPVA3.3*
*DRS **04** 08:04:55.6±0.0, 42°.12N×45°.81E, h18km*
ISC 04 08:04:54.6±1.1**, 42°.14N**±0°.03×**45°.87E**±0°.03**, h12**km±9km**, n19, σ1s.18**/38**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.41**	**137**	P	**Pg**	**08 05 02.7**	**0.0**
LGD				S	**Sg**	**08 05 08.6**	**+0.4**
BTLR	**Botlikh**	**0.59**	**26**	*e*Pg	**Pg**	**08 05 06.3**	**+0.2**
BTLR				*i* Sg	**Sb**	**08 05 14.9**	**-0.5**
DDFL	**Dedoflistskaro**	**0.71**	**165**	P	**Pn**	**08 05 10.5**	**-0.1**
DDFL				S	**Sn**	**08 05 25.3**	**+3.7**
XNZR	**Khunzakh**	**0.74**	**56**	*e*Pg	**Pb**	**08 05 09.3**	**-0.3**
XNZR				*e*Sg	**Sg**	**08 05 19.4**	**+0.6**
DGRG	**David-gareji**	**0.78**	**209**	P	**Pb**	**08 05 10.5**	**+0.4**
DGRG				S	**Sn**	**08 05 23.3**	**+0.2**
DVE	**Vedeno**	**0.84**	**13**	*e*Pg	**Pb**	**08 05 10.8**	**-0.5**
DVE				*i* Sg	**Sg**	**08 05 23.1**	**+1.0**
GNBR	**Gunib**	**0.85**	**72**	*e*Pg	**Pb**	**08 05 10.8**	**-0.6**
GNBR				*e*Sg	**Sg**	**08 05 22.5**	**+0.3**
UNCR	**Uncukul**	**0.90**	**50**	*e*Pg	**Pb**	**08 05 11.6**	**-0.6**
UNCR				*e*Sg	**Sb**	**08 05 23.6**	**-0.6**
KMKR	**Kumukh**	**0.92**	**90**	*e*Pg	**Pb**	**08 05 11.7**	**-0.9**
KMKR				*e*Sg	**Sb**	**08 05 23.9**	**-0.9**
BTNK	**Botanikuri**	**0.92**	**241**	P	**Pb**	**08 05 09.1**	**-3.5**
BTNK				S	**Sb**	**08 05 22.2**	**-2.5**
ARKR	**Arakani**	**0.96**	**60**	*e*Pg	**Pb**	**08 05 12.7**	**-0.5**
ARKR				*e*Sg	**Sg**	**08 05 25.6**	**0.0**
KRNR	**Karanay**	**1.03**	**48**	*e*Pg	**Pb**	**08 05 13.9**	**-0.6**
KRNR				*e*Sg	**Sg**	**08 05 28.0**	**0.0**
GROC	**Groznyy**	**1.07**	**357**	*e*Pg	**Pn**	**08 05 15.3**	**-0.1**
GROC				*e*Sg	**Sg**	**08 05 30.5**	**+1.4**
DBC	**Dubki**	**1.13**	**38**	*e*Pg	**Pb**	**08 05 15.9**	**-0.3**
DBC				*e*Sg	**Sg**	**08 05 31.4**	**+0.1**
BUJR	**Buynaksk**	**1.15**	**53**	*e*Pg	**Pn**	**08 05 15.9**	**-0.6**
BUJR				*e*Sg	**Sn**	**08 05 31.5**	**-0.8**
TRLG	**Trialeti**	**1.45**	**246**	P	**Pn**	**08 05 20.9**	**0.0**
TRLG				S	**Sn**	**08 05 40.5**	**+0.7**
DMNI	**Dmanisi**	**1.49**	**238**	P	**Pn**	**08 05 20.9**	**-0.5**
DMNI				S	**Sn**	**08 05 41.1**	**+0.3**
BRNG	**Burnasheti**	**1.61**	**252**	P	**Pn**	**08 05 23.1**	**+0.1**
BRNG				S	**Sb**	**08 05 45.7**	**+1.0**
ABS	**Abastumani**	**2.31**	**262**	P	**Pn**	**08 05 34.6**	**+1.9**
ABS				S	**Sb**	**08 06 05.9**	**+1.0**

*IDC **04** 08:09:53.9±1.0, 4°.74S×94°.42E, h0km, mb4.1/12, mb1 4.2/14, mb1mx3.9/44, mbtmp4.1/14, ML4.2/2, MS3.7/33, Ms1 3.7/33, ms1mx3.5/81, Error ellipse: s-maj=31.2km s-min=17.0km az=46.0*
*NEIC **04** 08:09:53.2±2.1, 4°.98S±0°.03×94°.5E±0°.1, h10km±1km, mb4.7/26, Error ellipse: s-maj=17.2km s-min=5.0km az=273.0*
*DJA **04** 08:09:56.5±0.5, 5°S±4°×9°4E±°, h10km, M4.8/20, mB5.3/6, mb4.7/20, MLv5.0/6, Mw(mB)4.7/6*
ISC 04 08:09:54.6±0.6**, 4°.78S**±0°.08×**94°.35E**±0°.08**, h10**km**, n95, σ1s.04**/57**, mb4.6**/31**, MS3.8**/32**, 2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.84**	**54**	P	**Pn**	**08 11 21.0**	**-0.3**
	1.0nm4μm198nm,0.7s						
PPSI	**Pulau Pagai**	**5.99**	**71**	P	**Pn**	**08 11 23.0**	**-0.4**
	0.8nm4μm147nm,0.6s						
GSI	**Gunungsitoli**	**6.85**	**28**	Pn	Pn	08 11 33.5	-1.6
GSI	**Gunungsitoli**	**6.85**	**28**	P	**Pn**	**08 11 33.8**	**-1.3**
	0.2nm70nm,0.7s						
COCO	**West Island**	**7.77**	**162**	Pn	Pn	08 11 42.2	-5.6
MASI	**Maura Aman, Be**	**8.04**	**79**	P	**Pn**	**08 11 51.4**	**-0.1**
	0.4nm47nm,0.7s						
BKNI	**Bangkinang**	**8.39**	**53**	Pn	**Pn**	**08 11 55.9**	**-0.4**
BKNI	**Bangkinang**	**8.39**	**53**	P	**Pn**	**08 11 57.7**	**+1.4**
	122nm,0.8s						
RPSI	**Rantau Prapat**	**8.72**	**32**	Pn	Pn	08 11 58.4	-2.4
RPSI	**Rantau Prapat**	**8.72**	**32**		**Pn**	**08 11 59.7**	**-1.1**
PSI	**Prapat**	**8.81**	**31**	Pn	Pn	08 11 59.7	-2.5
	1.7nm,0.3s,baz=170,slow=8.3,SNR=8.9						
KCSI	**Kotacane, Aceh**	**8.92**	**23**	P	**Pn**	**08 12 02.6**	**-1.1**
	892nm25nm,0.9s						
MDSI	**Maura Dua**	**9.80**	**89**	P	**Pn**	**08 12 15.6**	**-0.1**
	370nm7.4nm,0.7s						
IPM	**Ipoh**	**11.36**	**36**	Pn	Pn	08 12 34.6	-2.5
MYKOM	**Kota Tinggi**	**11.52**	**56**	Pn	Pn	08 12 36.5	-2.8
KULM	**Kulim**	**11.81**	**32**	Pn	Pn	08 12 40.5	-2.8
LEM	**Lembang**	**13.36**	**99**	LR	LR	08 17 58.8	
	comp=Z,332nm,18.9s,baz=244,slow=36						
SRIT	**Nakonsritamara**	**14.28**	**22**	Pn	Pn	08 13 14.7	-2.3
KSM	**Kuching**	**17.11**	**69**	Pn	**Pn**	**08 13 51.0**	**-3.1**
PALK	**Pallekele**	**18.13**	**311**	P	**Pn**	**08 14 08.5**	**+1.7**
	1.2nm,0.3s,baz=234,slow=13,SNR=5.5						
PALK				LR	LR	08 19 39.5	
	comp=Z,226nm,20.9s,baz=240,slow=32						
PALK	**Pallekele**	**18.13**	**311**	P	**Pn**	**08 14 05.2**	**-1.6**
PALK				IAmb	IAmb	08 14 10.6	
	comp=Z,83nm,1.8s						
CM31	**Chiang Mai Arr**	**23.53**	**11**	P	**P**	**08 15 05.5**	**+0.4**
CM31				IAmb	IAmb	08 15 31.1	
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.53**	**11**	P	**P**	**08 15 06.3**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=202,slow=8.9,SNR=24						
CMAR	**Chiang Mai Arr**	**23.53**	**11**	P	**P**	**08 15 05.0**	**-0.1**
PLAI	**Plampang**	**23.60**	**101**	P	**P**	**08 15 06.6**	**+0.7**
	comp=Z,31nm,1.1s						
CHTO	**Chiang Mai**	**23.87**	**11**	P	**P**	**08 15 07.8**	**-0.7**
HMDM	**Hanimaadhoo**	**24.04**	**298**	P	**P**	**08 15 10.1**	**-0.1**
HYBB	**Hyderabad (bro**	**27.01**	**325**	*e*P	**P**	**08 15 37.9**	**+0.8**
QIZ	**Qiongzhong**	**28.15**	**32**	P	**P**	**08 15 47.2**	**0.0**
QIZ				S	**S**	**08 20 35.7**	**+3.0**
QIZ				LR	LR		
	comp=N,220nm,17.8s						
QIZ				LR	LR		
	comp=E,160nm,11.2s						
QIZ				LR	LR		
	comp=Z,160nm,16.7s						
SHL	**Shillong**	**30.26**	**356**	P	**P**	**08 16 06.7**	**+0.6**
SHL				IAmb	IAmb	08 16 08.6	
	comp=Z,13nm,0.8s						
PZH	**PanZhiHua**	**31.91**	**13**	P	**P**	**08 16 21.3**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
DAV	**Davao City (W)**	**33.32**	**70**	LR	LR	08 28 59.4	
	comp=Z,70nm,20.6s,baz=254,slow=34						
FITZ	**Fitzroy Crossi**	**33.33**	**116**	LR	LR	08 29 21.3	
	comp=Z,69nm,18.5s,baz=286,slow=35						
CD2	**Chengdu**	**36.61**	**14**	P	**P**	**08 17 02.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN	**Xi'an**	**40.99**	**19**	P	**P**	**08 17 38.5**	**+0.6**
XAN				pP	sP	08 17 43.2	+3.1
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,5.0s						
WRA	**Warramunga Arr**	**41.73**	**115**	P	**P**	**08 17 44.2**	**+0.1**
	comp=Z,2.2nm,1.1s,baz=284,slow=9.1,SNR=8.0						
WRA				LR	LR	08 31 25.3	
	comp=Z,71nm,21.2s,baz=263,slow=31						
WRA	**Warramunga Arr**	**41.73**	**115**	P	P	08 17 40.7	-3.5
ASAR	**Alice Springs**	**42.48**	**120**	P	**P**	**08 17 51.5**	**+1.2**
	comp=Z,1.5nm,1.1s,baz=283,slow=9.3,SNR=7.5						
ASAR				LR	LR	08 34 24.6	
	comp=Z,136nm,21.3s,baz=185,slow=35						
ASAR	**Alice Springs**	**42.48**	**120**	P	P	08 17 45.9	-4.5
NIL	**Nilore**	**43.12**	**334**	P	P	08 17 53.9	-1.4
NIL				IAmb	IAmb	08 18 19.8	
	comp=Z,4.0nm,0.7s						
NJ2	**Nanjing**	**43.42**	**31**	*e*P	**P**	**08 17 58.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
WSAR	**Wadi Sarin**	**44.62**	**310**	P	**P**	**08 18 09.2**	**+1.7**
	comp=Z,6.4nm,1.0s,baz=240,slow=5.2,SNR=3.6						
WSAR				LR	LR	08 34 04.2	
	comp=Z,66nm,21.2s,baz=158,slow=32						
TARG	**Taragay, Kyrgy**	**48.68**	**344**	P	**P**	**08 18 40.0**	**+0.5**
TARG				IAmb	IAmb	08 18 51.1	
	comp=Z,6.9nm,1.1s						
GAR	**Garm**	**48.90**	**335**	P	**P**	**08 18 40.8**	**-0.2**
GAR				IAmb	IAmb	08 18 47.7	
	comp=Z,18nm,1.5s						
CHGR	**Chuyangaron**	**49.11**	**334**	P	**P**	**08 18 42.2**	**-0.3**
CHGR				IAmb	IAmb	08 18 43.9	
	comp=Z,9.3nm,0.8s						
AAK	**Ala-Archa**	**50.52**	**341**	LR	LR	08 40 00.6	
	comp=Z,94nm,21.7s,baz=177,slow=36						
STKA	**Stephens Creek**	**51.76**	**127**	P	**P**	**08 19 02.4**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=304,slow=9.5,SNR=3.0						
STKA				LR	LR	08 39 31.2	
	comp=Z,144nm,21.7s,baz=234,slow=34						
STKA	**Stephens Creek**	**51.76**	**127**	P	P	08 18 58.7	-3.9
KKAR	**Karatay Array**	**52.31**	**338**	P	**P**	**08 19 06.2**	**-0.3**
KSAR	**Wonju Array Be**	**52.33**	**34**	P	**P**	**08 19 05.0**	**-1.7**
KSRS	**Korea Array**	**52.36**	**34**	P	**P**	**08 19 07.7**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=228,slow=7.4,SNR=8.9						
MK31	**Makanchi Array**	**52.45**	**350**	P	**P**	**08 19 07.1**	**-0.3**
MKAR	**Makanchi Array**	**52.45**	**350**	P	**P**	**08 19 07.8**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=160,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**52.45**	**350**	P	**P**	**08 19 06.9**	**-0.6**
CTA	**Charters Tower**	**52.69**	**112**	LR	LR	08 40 33.3	
	comp=Z,89nm,20.5s,baz=260,slow=35						
SONM	**Songino Array**	**53.45**	**10**	P	**P**	**08 19 13.6**	**-1.4**
SONM				IAmb	IAmb	08 19 26.6	
	comp=Z,3.6nm,0.8s						
JHS	**Saijyo**	**53.79**	**40**	P	**P**	**08 19 16.1**	**-1.5**
GEYT	**Alibeck**	**54.19**	**325**	LR	LR	08 43 17.0	
	comp=Z,109nm,20.8s,baz=152,slow=37						
CN2	**Changchun**	**55.89**	**27**	*e*P	**P**	**08 19 31.4**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KURK	**Kurchatov**	**56.91**	**348**	P	**P**	**08 19 39.0**	**-0.7**
KURK				IAmb	IAmb	08 19 50.2	
	comp=Z,7.9nm,1.4s						
JHJ	**Hachijo jima 2**	**57.19**	**45**	LR	LR	08 41 49.4	
	comp=Z,26nm,20.8s,baz=36,slow=34						
MJAR	**Matsushiro Arr**	**58.02**	**41**	LR	LR	08 47 14.2	
	comp=Z,24nm,18.3s,baz=187,slow=39						
BNX	**BinXian**	**58.27**	**27**	⇓P	**P**	**08 19 50.0**	**+0.6**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.4s						
BNX				pmax	pmax		
	comp=Z,140nm,4.0s						
ZAA0	**Zalesovo Array**	**59.05**	**353**	P	**P**	**08 19 54.1**	**-0.6**
ZAA0				IAmb	IAmb	08 20 05.8	
	comp=Z,9.4nm,1.2s						
ZALV	**Zalesovo Beam**	**59.05**	**353**	P	**P**	**08 19 54.8**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=174,slow=5.1,SNR=14						
ZALV				LR	LR	08 48 06.1	
	comp=Z,31nm,18.7s,baz=222,slow=39						
ZALV	**Zalesovo Beam**	**59.05**	**353**	P	**P**	**08 19 53.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**59.33**	**31**	P	**P**	**08 19 56.7**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=230,slow=8.8,SNR=4.6						
ABKAR	**Akbulak array**	**61.56**	**335**	P	**P**	**08 20 12.4**	**+0.5**
ABKAR				IAmb	IAmb	08 20 22.6	
	comp=Z,8.7nm,0.7s						
AKTO	**Aktyubinsk**	**63.27**	**335**	LR	LR	08 48 08.5	
	comp=Z,42nm,20.6s,baz=155,slow=36						
GNI	**Garni**	**63.78**	**319**	LR	LR	08 48 55.4	
	comp=Z,51nm,21.2s,baz=144,slow=37						
MAW	**Mawson**	**66.29**	**193**	P	P	08 20 40.3	-2.5
MAW				IAmb	IAmb	08 21 21.0	
	comp=Z,23nm,1.4s						
MMAI	**Mount Meron Ar**	**67.23**	**309**	LR	LR	08 49 30.5	
	comp=Z,67nm,19.4s,baz=254,slow=35						
ARU	**Arti**	**67.64**	**339**	LR	LR	08 50 01.4	
	comp=Z,30nm,21.2s,baz=124,slow=36						
BELG	**Belogornoye**	**69.31**	**332**	LR	LR	08 54 16.0	
	comp=Z,42nm,18.7s,baz=101,slow=38						
BOSA	**Boshof**	**69.39**	**241**	P	**P**	**08 21 02.6**	**-0.7**
BRTR	**Keskin Array B**	**71.13**	**315**	P	**P**	**08 21 14.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=136,slow=13,SNR=3.7						
BRTR				LR	LR	08 54 39.8	
	comp=Z,74nm,19.3s,baz=122,slow=38						
BRTR	**Keskin Array B**	**71.13**	**315**	P	**P**	**08 21 13.3**	**-0.5**
DZM	**Mont Dzumac**	**71.63**	**112**	LR	LR	08 54 31.6	
	comp=Z,73nm,18.5s,baz=217,slow=37						
ONTNC	**Ouen Toro**	**71.65**	**112**	P	P	08 21 13.5	-3.6
KIRV	**Kirov**	**72.60**	**337**	LR	LR	08 54 26.2	
	comp=Z,55nm,19.4s,baz=176,slow=37						
SYO	**Syowa Base**	**73.48**	**198**	⇓*e*P	**P**	**08 21 26.0**	**-1.0**
SUR	**Sutherland**	**73.56**	**238**	LR	LR	08 47 26.6	
	comp=Z,99nm,20.2s,baz=160,slow=31						
IDI	**Anoyia**	**76.20**	**308**	LR	LR	08 55 39.7	
	comp=Z,30nm,20.7s,baz=290,slow=36						
RPZ	**Rata Peaks**	**77.11**	**134**	LR	LR	08 55 50.3	
	comp=Z,99nm,18.2s,baz=228,slow=36						
MA2	**Magadan**	**77.92**	**26**	LR	LR	08 59 48.0	
	comp=Z,39nm,18.1s,baz=186,slow=38						
PETK	**Petropavlovsk-**	**78.26**	**33**	LR	LR	08 58 46.1	
	comp=Z,26nm,18.8s,baz=145,slow=38						
AKASG	**Malin Array Be**	**78.30**	**324**	P	**P**	**08 21 56.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=97,slow=3.9,SNR=2.0						
AKASG				LR	LR	08 57 40.1	
	comp=Z,49nm,21.4s,baz=113,slow=37						
MLR	**Muntele Rosu**	**78.51**	**318**	P	**P**	**08 21 55.2**	**-1.1**
MLR				IAmb	IAmb	08 22 08.0	
	comp=Z,24nm,1.5s						
URZ	**Urewera**	**81.38**	**128**	LR	LR	08 56 20.2	
	comp=Z,81nm,20.5s,baz=211,slow=34						
ARCES	**ARCESS Array B**	**87.19**	**341**	P	**P**	**08 22 40.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=108,slow=5.1,SNR=1.4						
HFS	**Hagfors**	**89.46**	**330**	LR	LR	09 05 43.5	
	comp=Z,74nm,18.0s,baz=114,slow=37						
DAVOX	**Davos/Dischmat**	**89.66**	**317**	LR	LR	09 06 58.9	
	comp=Z,42nm,18.6s,baz=260,slow=38						
NOA	**NORSAR Array B**	**90.82**	**331**	LR	LR	09 06 43.7	
	comp=Z,32nm,18.6s,baz=255,slow=38						
SPITS	**Spitsbergen Ar**	**92.19**	**348**	LR	LR	09 09 03.0	
	comp=Z,39nm,21.1s,baz=188,slow=38						
TXAR	**Lajitas Array**	**150.21**	**33**	PKPbc	**PKPbc**	**08 29 47.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=0.9,slow=0.1,SNR=4.9						

NEIC 04 08:11:37.0±0.2**, 36°.44N**±0°.04×**98°.78W**±0°.01**, h4**km±4km**, ML2.1**/22**, Error ellipse: s-maj=6.1km s-min=0.8km az=192.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.18**	**252**	Pg	Pg	08 11 40.5	-0.1
U32A				Sg	Sg	08 11 43.6	+0.6
U32A				IAML		08 11 43.8	
	comp=N,644nm,0.2s						
U32A				IAML		08 11 43.8	
	comp=E,327nm,0.3s						

IDC 04 08:15:37.3±3.1**, 4°.97S**×**133°.81E, h0**km**, mb3.5**/1**, mb1 3.8**/4**, mb1mx3.6**/24**, mbtmp3.6**/4**, ML3.5**/3**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/44**, Error ellipse: s-maj=129.9km s-min=29.8km az=82.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.89**	**178**	Pn	Pn	08 19 08.5	-0.8
	0.1nm,0.3s,baz=355,slow=13,SNR=4.8						
FITZ	**Fitzroy Crossi**	**15.30**	**211**	Pn	Pn	08 19 15.2	+0.5
	0.2nm,0.3s,baz=23,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**18.59**	**180**	P	P	08 19 56.2	0.0
	0.2nm,0.3s,baz=3.0,slow=12,SNR=22						
PSI	**Prapat**	**35.70**	**282**	LR	LR	08 39 04.3	
	comp=Z,35nm,18.0s,baz=36,slow=39						
MKAR	**Makanchi Array**	**68.69**	**325**	P	P	08 26 42.7	0.0
	0.3nm,0.6s,baz=127,slow=7.7,SNR=5.6						

*NEIC **04** 08:23:38.6, 36°.43N×98°.78W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^12Nm; Mrr-1.31; Mθθ4.90; Mφφ-3.60; Mrθ-1.77; Mθφ-0.65; Mφr-2.44; Fault plane solution: Mo5.37000×10^12 NP1:φs54.00000°, δ78.00000°, λ-144.00000°. NP2:φs315.00000°, δ55.00000°, λ-15.00000°. Principal axes: T 5.3724, Plg15.0000°, Azm180.0000°; N -0.0013, Plg52.0000°, Azm70.0000°; P -5.3711, Plg34.0000°, Azm280.0000°;*
NEIC 04 08:23:38.6±0.3**, 36°.43N**±0°.01×**98°.78W**±0°.01**, h5**km±2km**, mb_Lg2.2**/4**, Mwr2.4**/11(SLM) **Error ellipse: s-maj=2.1km s-min=1.2km az=170.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.19**	**253**	Pg	Pg	08 23 42.1	-0.1
U32A				Sg	Sg	08 23 45.3	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMOK	**Wichita Mounta**	**1.69**	**180**	Pn	Pn	08 24 07.8	-1.0
T35A	**Sooner Cattle**	**1.89**	**75**	Pn	Pn	08 24 10.9	-0.6
R32A	**Long Quarter,**	**1.99**	**2**		Pn	08 24 12.7	-0.3
TUL1	**Leonard**	**2.47**	**101**	Pn	Pn	08 24 19.0	-0.5
CBKS	**Cedar Bluff**	**2.49**	**343**	IAmb_Lg		08 25 00.5	
	comp=Z,7.0nm,0.7s						
AMTX	**Amarillo**	**2.82**	**238**	IAmb_Lg		08 25 08.6	
	comp=Z,11nm,0.9s						

IDC 04 08:25:16.7±8.8**, 6°.23S**×**149°.91E, h65**km±67km**, mb2.8**/2**, mb1 3.2**/3**, mb1mx3.0**/26**, mbtmp3.2**/3**, ML1.2**/1**, Error ellipse: s-maj=126.0km s-min=57.2km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.17**	**221**	P	Pn	08 26 17.9	0.0
	1.0nm,0.3s,baz=53,slow=18,SNR=1.7						
PMG				S	Sn	08 27 06.1	+0.7
	2.9nm,0.3s,baz=84,slow=17,SNR=7.0						
WRA	**Warramunga Arr**	**20.36**	**227**	P	P	08 29 48.2	+0.1
	0.6nm,0.6s,baz=52,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**23.19**	**220**	P	P	08 30 18.3	+0.2
	0.5nm,0.8s,baz=56,slow=9.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**147.95**	**285**	PKPbc	PKPbc	08 44 54.9	-0.9
	0.4nm,0.6s,baz=71,slow=3.9,SNR=3.1						

*SNET **04** 08:38:19.1±0.9, 12°.84N×88°.62W, h54km±13km, ML3.1*
*INET **04** 08:38:26.2±2.3, 13°.76N×88°.37W, h20km, MW2.6*
ISC 04 08:38:18.9±3.1**, 12°.9N**±0°.2×**88°.55W**±0°.07**, h70**km±18km**, n17, σ1s11**/23**, 1C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.42**	**358**	*e*P	**Pn**	**08 38 30.6**	**-0.5**
ALJI				*e*S	**Sn**	**08 38 39.7**	**-0.4**
COEB	**Comit de Eme**	**0.59**	**2**	⇓*i*P	**Pn**	**08 38 32.7**	**-0.2**
COEB				*e*S	**Sn**	**08 38 43.1**	**0.0**
COEB				IAML		08 38 45.7	
	comp=Z,770nm,0.2s						
COEB	**Comit de Eme**	**0.59**	**2**	*e*P	**Pn**	**08 38 32.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.67**	**341**	*e*P	**Pn**	**08 38 33.2**	**-0.4**
CNRM	**Centro Naciona**	**0.68**	**33**	*e*P	**Pn**	**08 38 34.0**	**+0.3**
CNRM				*e*S	**Sn**	**08 38 46.3**	**+1.7**
PQSS	**Presa 15 de Se**	**0.72**	**359**	⇑*e*P	**Pn**	**08 38 34.3**	**+0.2**
PQSS				*e*S	**Sn**	**08 38 46.1**	**+0.9**
LCND	**La Caada**	**0.76**	**58**	*e*P	**Pn**	**08 38 34.9**	**+0.3**
LCND				*e*S	**Sn**	**08 38 46.7**	**+0.6**
COEG	**Centro de Oper**	**0.78**	**336**	*e*P	**Pn**	**08 38 34.8**	**-0.2**
COEG				*e*S	**Sn**	**08 38 46.7**	**0.0**
COEG				IAML		08 38 52.1	
	comp=Z,396nm,0.2s						
SCLA	**Alcaldia de Sa**	**0.81**	**348**	⇓*e*P	**Pn**	**08 38 35.7**	**+0.4**
SCLA				*e*S	**Sn**	**08 38 48.7**	**+1.4**
SJTE	**Alcalda de S**	**0.83**	**328**	⇓*e*P	**Pn**	**08 38 35.2**	**-0.4**
PAVA	**Las Pavas**	**0.89**	**335**	*e*P	**Pn**	**08 38 36.6**	**+0.3**
PAVA	**Las Pavas**	**0.89**	**335**	*e*P	**Pn**	**08 38 36.7**	**+0.4**
FAGO	**Alcalda de S**	**0.90**	**29**	⇓*i*P	Pn	08 38 31.6	-4.7
FAGO				*e*S	**Sn**	**08 38 45.1**	**-4.0**
FAGO	**Alcalda de S**	**0.90**	**29**	*e*P	Pn	08 38 31.5	-4.7
JAYA	**Jayaque - finc**	**1.15**	**311**	*e*P	**Pn**	**08 38 39.1**	**-0.4**
TACO	**Tacachico**	**1.32**	**324**	*e*P	**Pn**	**08 38 41.8**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.69**	**47**	*e*P	**Pn**	**08 38 46.6**	**0.0**

IDC 04 08:58:16.9±4.1**, 53°.51N**×**87°.72E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/43**, mbtmp2.7**/2**, ML2.5**/2**, Error ellipse: s-maj=50.8km s-min=23.0km az=86.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**286**	*i*		09 09 26.3	
	baz=104,slow=334,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.78**	**286**	Pn	Pn	08 58 49.4	+0.5
	1.2nm,0.3s,baz=107,slow=14,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.36**	**247**	Pn	Pn	08 59 51.7	-0.1
	0.1nm,0.3s,baz=62,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**7.57**	**210**	Pn	Pn	09 00 09.7	+1.2
	0.1nm,0.3s,baz=30,slow=13,SNR=6.0						
MKAR				Lg	Lg	09 02 20.9	
	0.1nm,0.3s,baz=24,slow=26,SNR=3.3						

IDC 04 08:58:45.3±3.3**, 54°.45N**×**87°.40E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/45**, mbtmp2.9**/2**, ML2.5**/2**, Error ellipse: s-maj=27.4km s-min=19.7km az=39.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**253**	*i*		09 07 52.5	
	baz=72,slow=337,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.59**	**253**	Pg	Pn	08 59 13.2	-1.5
	1.9nm,0.3s,baz=75,slow=17,SNR=10						
ZALV				Lg	Lg	08 59 36.3	
	1.8nm,0.3s,baz=74,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**6.63**	**238**	Pn	Pn	09 00 24.0	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=3.7						
KURBB				Lg	Lg	09 02 14.0	
	0.0nm,0.3s,baz=64,slow=33,SNR=4.6						
MKAR	**Makanchi Array**	**8.32**	**205**	Pn	Pn	09 00 48.5	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=4.8						
MKAR				Lg	Lg	09 03 14.0	
	baz=27,slow=29,SNR=3.1						

IDC 04 09:05:57.0±3.6**, 55°.58N**×**86°.41E, h0**km**, mb1 3.1**/2**, mb1mx2.9**/47**, mbtmp3.1**/2**, ML2.3**/2**, Error ellipse: s-maj=31.0km s-min=28.9km az=46.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**210**	*i*		09 18 17.1	
	baz=28,slow=338,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.88**	**210**	Pn	Pn	09 06 29.9	-0.4
	2.4nm,0.3s,baz=33,slow=17,SNR=29						
ZALV				Lg	Lg	09 06 56.5	
	1.7nm,0.3s,baz=31,slow=23,SNR=7.7						
KURBB	**Kurchatov Arra**	**6.86**	**227**	Pn	Pn	09 07 38.6	-0.3
	0.0nm,0.3s,baz=43,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**9.17**	**198**	Pn	Pn	09 08 11.1	+0.6
	0.1nm,0.3s,baz=16,slow=12,SNR=2.4						

*IDC **04** 09:07:58.6±2.6, 53°.62N×87°.90E, h0km, mb1 3.4/2, mb1mx3.1/54, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=22.6km s-min=15.7km az=61.0*
*NNC **04** 09:08:00.9±3.5, 53°.53N×87°.63E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=27.0km s-min=14.5km az=62.0, Suspected Mining explosion.*
ISC 04 09:08:01.3±3.7**, 53°.6N**±0°.1×**87°.6E**±0°.2**, h0**km**, n8, σ0s42**/12**, 4C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.65**	**283**	⇑Pg	**Pn**	**09 08 31.5**	**-0.1**
	1.9nm,0.6s						
ZAA0				⇓Lg	Lg	09 08 58.0	
	21nm,0.9s						
ZALV	**Zalesovo Beam**	**1.65**	**283**	Pn	**Pn**	**09 08 31.6**	**0.0**
	4.7nm,0.3s,baz=102,slow=11,SNR=19						
ZALV				Lg	Lg	09 08 57.5	
	4.2nm,0.3s,baz=99,slow=28,SNR=3.6						
I46RU	**ZALESOVO INFRA**	**1.66**	**283**	*i*		09 20 16.4	
	baz=96,slow=335,SNR=3.0						
KURK	**Kurchatov**	**6.22**	**246**	⇑Pn	**Pn**	**09 09 34.1**	**-0.2**
	3.9nm,1.1s						
KURK				⇓Sn	**Sn**	**09 10 45.7**	**-0.3**
	3.9nm,0.9s						
KURK				⇓Lg	Lg	09 11 20.5	
	28nm,1.2s						
KURBB	**Kurchatov Arra**	**6.32**	**245**	Pn	**Pn**	**09 09 36.1**	**+0.5**
	0.2nm,0.3s,baz=61,slow=14,SNR=15						
KURBB				Sn	**Sn**	**09 10 49.0**	**+0.6**
	0.1nm,0.3s,baz=59,slow=22,SNR=5.1						
KURBB				Lg	Lg	09 11 24.5	
	0.1nm,0.3s,baz=62,slow=32,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.32**	**245**	⇑Pn	**Pn**	**09 09 36.1**	**+0.5**
	3.6nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 10 47.9**	**-0.4**
	10nm,0.7s						
KURBB				⇓Lg	Lg	09 11 23.7	
	18nm,0.7s						
MK31	**Makanchi Array**	**7.62**	**208**	⇑Pn	**Pn**	**09 09 53.9**	**+0.4**
	0.5nm,0.5s,baz=29,slow=13,SNR=15						
MK31				⇓Sn	**Sn**	**09 11 20.4**	**-0.1**
	1.0nm,0.5s						
MK31				⇓Lg	Lg	09 12 01.8	
	4.5nm,0.8s,baz=22,slow=29,SNR=5.0						
MKAR	**Makanchi Array**	**7.62**	**208**	Pn	**Pn**	**09 09 53.5**	**0.0**
	0.4nm,0.3s,baz=30,slow=13,SNR=17						
MKAR				Sn	**Sn**	**09 11 20.0**	**-0.6**
	0.2nm,0.3s,baz=32,slow=20,SNR=3.6						
MKAR				Lg	Lg	09 12 03.9	
	0.2nm,0.3s,baz=31,slow=32,SNR=5.7						

IDC 04 09:17:32.5±2.9**, 53°.69N**×**87°.06E, h0**km**, mb1 2.5**/2**, mb1mx2.5**/49**, mbtmp2.5**/2**, ML2.2**/2**, Error ellipse: s-maj=27.4km s-min=16.6km az=71.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**282**	*i*		09 26 30.7	
	baz=99,slow=327,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.35**	**282**	Pg	Pg	09 17 57.0	-1.4
	0.6nm,0.3s,baz=100,slow=16,SNR=5.8						
ZALV				Lg	Lg	09 18 16.3	
	1.2nm,0.3s,baz=105,slow=32,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.08**	**243**	Pn	Pn	09 19 03.8	+0.2
	0.0nm,0.3s,baz=57,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**7.54**	**206**	Pn	Pn	09 19 25.6	+1.8
	0.1nm,0.3s,baz=22,slow=14,SNR=2.1						

IDC 04 09:23:00.1±3.0**, 54°.30N**×**87°.39E, h0**km**, mb1 2.8**/2**, mb1mx2.7**/49**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse: s-maj=26.8km s-min=19.5km az=47.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**258**	*i*		09 32 40.0	
	baz=78,slow=334,SNR=7.6						
ZALV	**Zalesovo Beam**	**1.55**	**258**	Pn	Pn	09 23 27.0	-1.9
	1.1nm,0.3s,baz=71,slow=16,SNR=14						
ZALV				Lg	Lg	09 23 50.6	
	0.9nm,0.3s,baz=78,slow=28,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	09 24 37.9	+0.3
	0.1nm,0.3s,baz=55,slow=13,SNR=7.2						
KURBB				Lg	Lg	09 26 26.4	
	0.0nm,0.3s,baz=53,slow=29,SNR=2.9						
MKAR	**Makanchi Array**	**8.18**	**205**	Pn	Pn	09 25 02.0	+2.0
	0.1nm,0.3s,baz=26,slow=13,SNR=5.6						
MKAR				Lg	Lg	09 27 17.7	
	0.0nm,0.3s,baz=23,slow=30,SNR=3.8						

*IDC **04** 09:24:49.5±1.4, 15°.69S×72°.44W, h116km±15km, mb3.4/4, mb1 3.6/8, mb1mx3.4/34, mbtmp3.9/8, Error ellipse: s-maj=19.0km s-min=11.0km az=40.0*
ISC 04 09:24:49.1±0.8**, 15°.72S**±0°.09×**72°.43W**±0°.09**, h108**km**, n9, σ2s00**/12**, mb3.5**/4**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.17**	**98**	P	**Pn**	**09 25 53.4**	**+2.1**
	3.2nm,0.3s,baz=277,slow=11,SNR=80						
LPAZ				S	**Sn**	**09 26 42.0**	**+2.6**
	1.0nm,0.3s,baz=188,slow=20,SNR=3.8						
NNA	**Nana**	**5.67**	**310**	P	**Pn**	**09 26 12.6**	**+1.5**
	10nm,0.3s,baz=141,slow=12,SNR=24						
NNA				S	**Sn**	**09 27 14.3**	**-0.7**
	9.4nm,0.3s,baz=215,slow=19,SNR=9.7						
LVC	**Limon Verde**	**7.62**	**155**	P	**Pn**	**09 26 38.7**	**+1.0**
	0.9nm,0.3s,baz=359,slow=7.6,SNR=12						
LVC				S	**Sn**	**09 28 00.1**	**-2.5**
	4.9nm,0.3s,baz=94,slow=16,SNR=16						
SIV	**San Ignacio**	**10.93**	**93**	P	**Pn**	**09 27 19.6**	**-2.8**
	0.4nm,0.3s,baz=287,slow=9.5,SNR=12						
PTGA	**Pitinga**	**19.31**	**41**	P	**P**	**09 29 03.9**	**-2.0**
	1.0nm,0.3s,baz=207,slow=14,SNR=20						
SDV	**Santo Domingo**	**24.51**	**4**	P	**P**	**09 29 58.1**	**-0.7**
	5.2nm,0.9s,baz=260,slow=3.0,SNR=5.8						
PLCA	**Paso Flores**	**24.98**	**177**	P	**P**	**09 30 03.9**	**+1.2**
	1.5nm,0.9s,baz=335,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**78.71**	**73**	P	**P**	**09 36 39.3**	**-0.8**
	0.9nm,0.8s,baz=250,slow=3.8,SNR=5.2						
YKA	**Yellowknife Ar**	**84.67**	**342**	P	**P**	**09 37 10.5**	**+0.1**
	0.1nm,0.6s,baz=128,slow=4.3,SNR=2.4						

*IDC **04** 09:30:05.2±0.8, 51°.60N×175°.50E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/50, mbtmp3.8/15, ML2.2/1, Error ellipse: s-maj=27.7km s-min=14.5km az=173.0*
*NEIC **04** 09:30:11.9±1.8, 51°.69N±0°.10×175°.4E±0°.1, h40km±7km, mb4.2/114, Error ellipse: s-maj=14.7km s-min=9.0km az=197.0*
ISC 04 09:30:08.9±0.6**, 51°.58N**±0°.10×**175°.45E**±0°.06**, h21**km**, n148, σ1s00**/137**, mb4.2**/60**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.42**	**325**		**Pn**	**09 30 32.9**	**-0.5**
KIWB	**Kanaga Island**	**4.61**	**84**	Pn	**Pn**	**09 31 18.3**	**+0.9**
ADK	**Adak**	**4.90**	**83**	Pn	**Pn**	**09 31 20.6**	**-0.7**
NIKH	**Nikolski High**	**9.73**	**76**	Pn	**Pn**	**09 32 28.9**	**+1.4**
PETK	**Petropavlovsk-**	**10.96**	**285**	Pn	**Pn**	**09 32 45.6**	**+1.2**
	0.1nm,0.3s,baz=104,slow=18,SNR=1.6						
UNV	**Unalaska Valle**	**11.18**	**71**	Pn	**Pn**	**09 32 48.7**	**+1.4**
GAMB	**Gambell**	**13.98**	**24**		**Pn**	**09 33 27.8**	**+2.3**
SDPT	**Sand Point**	**14.80**	**66**	Pn	**Pn**	**09 33 36.5**	**-0.2**
MA2	**Magadan**	**16.00**	**310**	Pn	**P**	**09 33 55.8**	**0.0**
	0.5nm,0.3s,baz=96,slow=11,SNR=7.2						
MA2	**Magadan**	**16.00**	**310**	Pn	**Pn**	**09 33 53.2**	**+0.8**
TNA	**Tin City**	**16.39**	**25**	Pn	**Pn**	**09 33 56.5**	**-0.9**
ANM	**Nome**	**16.40**	**30**		**P**	**09 33 59.2**	**-1.0**
O19K	**Port Alsworth**	**18.87**	**51**	P	**Pn**	**09 34 30.2**	**+2.1**
O19K				IAmb	IAmb	09 34 36.3	
	comp=Z,8.9nm,0.7s						
OHAK	**Old Harbor**	**18.94**	**60**	P	**P**	**09 34 26.2**	**-2.1**
OHAK				IAmb	IAmb	09 34 50.6	
	comp=Z,45nm,1.4s						
N19K	**Bonanza Creek**	**18.95**	**49**	P	**Pn**	**09 34 29.8**	**+0.6**
Q19K	**Cape Douglas,**	**18.95**	**55**	P	**P**	**09 34 27.4**	**-1.0**
TTA	**Tatalina**	**18.98**	**42**	P	**P**	**09 34 28.5**	**-0.2**
M19K	**Big River Lodg**	**19.31**	**46**	P	**Pn**	**09 34 33.6**	**+0.2**
KDAK	**Kodiak Island**	**19.37**	**59**	P	**P**	**09 34 30.5**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=323,slow=3.0,SNR=30						
KDAK	**Kodiak Island**	**19.37**	**59**	P	**P**	**09 34 32.0**	**-0.9**
RDOG	**Red Dog Mine**	**19.59**	**24**	P	**P**	**09 34 35.2**	**0.0**
RDOG				IAmb	IAmb	09 34 37.1	
	comp=Z,9.0nm,1.1s						
RSO	**Redoubt South**	**19.69**	**51**	P	**P**	**09 34 35.5**	**-1.1**
K20K	**Telida**	**19.96**	**42**	P	**P**	**09 34 39.2**	**-0.2**
K20K				IAmb	IAmb	09 34 46.3	
	comp=Z,10nm,1.2s						
J20K	**Nowinta River**	**20.25**	**40**	P	**P**	**09 34 42.5**	**+0.1**
J20K				IAmb	IAmb	09 34 47.9	
	comp=Z,6.4nm,0.6s						
CNPM	**China Poot**	**20.27**	**54**	P	**P**	**09 34 42.2**	**-0.5**
CNPM				IAmb	IAmb	09 34 48.2	
	comp=Z,16nm,0.8s						
BRLK	**Bradley Lake**	**20.48**	**53**	P	**P**	**09 34 44.7**	**-0.3**
CAST	**Castle Rocks**	**20.82**	**43**	P	**P**	**09 34 49.6**	**+1.0**
O22K	**Cooper Landing**	**21.17**	**52**	P	**P**	**09 34 52.7**	**+0.3**
IMAR	**Indian Mountai**	**21.20**	**35**	P	**P**	**09 34 53.3**	**+0.6**
SEW	**Seward**	**21.24**	**53**	P	**P**	**09 34 51.3**	**-1.9**
SEW				IAmb	IAmb	09 35 01.2	
	comp=Z,13nm,1.0s						
RC01	**Rabbit Creek A**	**21.27**	**50**	P	**P**	**09 34 53.7**	**+0.2**
RC01				IAmb	IAmb	09 35 00.3	
	comp=Z,7.6nm,0.8s						
KTH	**Kantishna Hill**	**21.35**	**43**	P	**P**	**09 34 53.9**	**-0.6**
H21K	**Melozitna Rive**	**21.39**	**37**	P	**P**	**09 34 55.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**21.50**	**41**	P	**P**	**09 34 56.7**	**+0.7**
I21K	**Tanana**	**21.51**	**38**	P	**P**	**09 34 56.6**	**+0.6**
I21K				IAmb	IAmb	09 35 02.9	
	comp=Z,7.6nm,1.2s						
TRF	**Thorofare Moun**	**21.59**	**43**	P	**P**	**09 34 57.9**	**+0.7**
TRF				IAmb	IAmb	09 35 18.9	
	comp=Z,14nm,1.5s						
GHO	**Glory Hole Cre**	**21.78**	**48**	P	**P**	**09 34 57.4**	**-1.7**
GHO				IAmb	IAmb	09 35 10.1	
	comp=Z,24nm,1.4s						
PWL	**Port Wells**	**21.90**	**51**	P	**P**	**09 34 59.0**	**-1.3**
KNK	**Knik Glacier**	**21.93**	**49**	P	**P**	**09 35 00.3**	**-0.4**
KNK				IAmb	IAmb	09 35 01.9	
	comp=Z,9.0nm,1.2s						
SML	**Sawmill**	**22.07**	**48**	P	**P**	**09 35 01.7**	**-0.4**
SML				IAmb	IAmb	09 35 09.1	
	comp=Z,9.0nm,1.0s						
BWN	**Browne**	**22.16**	**42**	P	**P**	**09 35 04.2**	**+1.2**
BWN				IAmb	IAmb	09 35 13.4	
	comp=Z,19nm,1.2s						
RND	**Reindeer**	**22.20**	**44**	P	**P**	**09 35 04.3**	**+0.8**
RND				IAmb	IAmb	09 35 20.1	
	comp=Z,8.0nm,1.4s						
I23K	**Minto, Yukon-K**	**22.52**	**39**	P	**P**	**09 35 07.0**	**+0.1**
I23K				IAmb	IAmb	09 35 29.3	
	comp=Z,7.4nm,1.4s						
SCM	**Sheep Creek Mo**	**22.54**	**48**	P	**P**	**09 35 07.0**	**-0.2**
SCM				IAmb	IAmb	09 35 15.1	
	comp=Z,15nm,1.1s						
DHY	**Denali Highway**	**22.77**	**45**	P	**P**	**09 35 08.9**	**-0.8**
DHY				IAmb	IAmb	09 35 25.0	
	comp=Z,5.3nm,1.1s						
FID	**Port Fidalgo**	**22.79**	**51**	P	**P**	**09 35 09.4**	**-0.4**
WRH	**Wood River Hil**	**22.82**	**42**	P	**P**	**09 35 09.1**	**-1.0**
MDM	**Murphy Dome**	**22.91**	**40**	P	**P**	**09 35 12.3**	**+1.3**
MDM				IAmb	IAmb	09 35 14.8	
	comp=Z,7.3nm,1.4s						
CCB	**Clear Creek Bu**	**22.99**	**41**	P	**P**	**09 35 11.7**	**-0.1**
COLD	**Coldfoot**	**23.02**	**34**	P	**P**	**09 35 13.9**	**+1.7**
M24K	**Tolsona, Glenn**	**23.12**	**48**	P	**P**	**09 35 14.5**	**+1.3**
M24K				IAmb	IAmb	09 35 20.5	
	comp=Z,20nm,1.2s						
KLU	**Klutina**	**23.15**	**50**	P	**P**	**09 35 12.4**	**-1.2**
KLU				IAmb	IAmb	09 35 18.9	
	comp=Z,15nm,1.4s						
HDA	**Harding Lake**	**23.28**	**42**	P	**P**	**09 35 14.9**	**+0.2**
H24K	**Noodor Dome**	**23.34**	**38**	P	**P**	**09 35 15.3**	**-0.1**
IL31		**23.40**	**41**	P	**P**	**09 35 15.2**	**-0.8**
ILAR	**Eielson Array**	**23.40**	**41**	P	**P**	**09 35 14.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=247,slow=7.1,SNR=9.7						
A21K	**Barrow**	**23.45**	**22**	P	**P**	**09 35 15.6**	**-0.8**
PAX	**Paxson**	**23.59**	**46**	P	**P**	**09 35 17.9**	**-0.1**
BMRM	**Bremner River**	**23.72**	**51**	P	**P**	**09 35 16.1**	**-3.1**
BMRM				IAmb	IAmb	09 35 45.4	
	comp=Z,14nm,1.1s						
N25K	**Chitina, Valde**	**23.79**	**50**	P	**P**	**09 35 20.3**	**+0.4**
N25K				IAmb	IAmb	09 35 46.0	
	comp=Z,19nm,1.4s						
HMT	**Hamilton**	**23.84**	**53**	P	**P**	**09 35 20.1**	**-0.2**
TOLK	**Toolik Lake Re**	**23.88**	**31**	P	**P**	**09 35 20.9**	**+0.3**
TOLK				IAmb	IAmb	09 35 21.4	
	comp=Z,3.4nm,0.6s						
RIDG	**Independent Ri**	**24.02**	**44**	P	**P**	**09 35 21.9**	**-0.1**
RIDG				IAmb	IAmb	09 35 22.5	
	comp=Z,6.1nm,1.3s						
BERG	**Berg Lake**	**24.12**	**53**	P	**P**	**09 35 24.0**	**+1.1**
GLB	**Gilahina Butte**	**24.15**	**50**	P	**P**	**09 35 23.0**	**-0.3**
GLB				IAmb	IAmb	09 35 37.8	
	comp=Z,8.6nm,1.2s						
VRDI	**Verde Repeater**	**24.30**	**51**	P	**P**	**09 35 24.4**	**-0.4**
VRDI				IAmb	IAmb	09 35 44.4	
	comp=Z,17nm,1.3s						
DOT	**Dot Lake**	**24.34**	**45**	P	**P**	**09 35 25.3**	**+0.3**
DOT				IAmb	IAmb	09 35 36.9	
	comp=Z,6.0nm,1.4s						
MENT	**Mentasta**	**24.38**	**46**	P	**P**	**09 35 24.6**	**-0.6**
MENT				IAmb	IAmb	09 35 45.4	
	comp=Z,8.9nm,1.4s						
SCRK	**Sand Creek**	**24.44**	**44**	P	**P**	**09 35 24.1**	**-1.9**
MCARA	**McCarthy VSAT**	**24.52**	**50**	P	**P**	**09 35 24.6**	**-2.0**
MCARA				IAmb	IAmb	09 35 39.7	
	comp=Z,8.7nm,0.8s						
WAX	**Waxell Ridge**	**24.55**	**53**	P	**P**	**09 35 27.0**	**+0.1**
L26K	**Log Cabin Wild**	**24.56**	**46**	P	**P**	**09 35 26.7**	**-0.2**
YAH	**Yahtse**	**25.09**	**53**	P	**P**	**09 35 32.8**	**+0.8**
BMAR	**Burnt Mountain**	**25.11**	**36**	P	**P**	**09 35 32.0**	**+0.2**
M27K	**Edge Creek, AK**	**25.15**	**48**	P	**P**	**09 35 34.0**	**+1.6**
M27K				IAmb	IAmb	09 35 49.7	
	comp=Z,5.2nm,1.1s						
L27K	**Beaver Creek,**	**25.25**	**46**	P	**P**	**09 35 33.0**	**-0.2**
L27K				IAmb	IAmb	09 35 40.1	
	comp=Z,11nm,1.5s						
BCAR	**Beaver Creek A**	**25.27**	**46**	P	**P**	**09 35 33.9**	**+0.5**
CTGM	**Chitina Glacie**	**25.32**	**51**	P	**P**	**09 35 35.7**	**+1.8**
CTGM				IAmb	IAmb	09 36 03.0	
	comp=Z,21nm,1.4s						
TABL	**Table Mountain**	**25.39**	**53**	P	**P**	**09 35 36.5**	**+1.8**
LOGN	**Logan Glacier**	**25.47**	**52**	P	**P**	**09 35 36.7**	**+1.3**
EGAK	**Eagle**	**25.80**	**43**	P	**P**	**09 35 36.4**	**-1.7**
EGAK				IAmb	IAmb	09 35 39.1	
	comp=Z,6.7nm,1.1s						
PCA	**Pinnacle**	**25.84**	**53**	P	**P**	**09 35 39.2**	**+0.7**
DAWY	**Dawson**	**26.45**	**44**	P	**P**	**09 35 43.8**	**-0.3**
KLR	**Kul'dur**	**27.64**	**283**	P	**P**	**09 35 54.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=278,slow=20,SNR=4.1						
INK	**Inuvik**	**29.39**	**36**	P	**P**	**09 36 08.1**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=239,slow=5.9,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**32.49**	**195**	T	T	10 11 12.3	
	baz=10,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**32.50**	**195**	T	T	10 11 10.2	
	baz=10,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**32.51**	**195**	T	T	10 11 12.9	
	baz=10,slow=76,SNR=50						
A36M	**Sachs Harbour**	**32.67**	**30**	P	**P**	**09 36 39.1**	**0.0**
A36M				IAmb	IAmb	09 36 40.9	
	comp=Z,4.4nm,1.2s						
C36M	**Paulatuk**	**32.89**	**35**	P	**P**	**09 36 41.7**	**+0.7**
C36M				IAmb	IAmb	09 36 54.9	
	comp=Z,5.3nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**33.72**	**195**	T	T	10 12 46.1	
	baz=9.5,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**33.73**	**195**	T	T	10 12 50.8	
	baz=9.5,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**33.73**	**195**	T	T	10 12 39.7	
	baz=9.5,slow=76,SNR=9.9						
JNU	**Nakatsue**	**37.06**	**258**	P	**P**	**09 37 18.0**	**+0.7**
YKA	**Yellowknife Ar**	**37.68**	**46**	P	**P**	**09 37 21.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=287,slow=8.0,SNR=12						
EDM	**Edmonton**	**41.82**	**59**	P	**P**	**09 37 55.0**	**-1.8**
EDM				IAmb	IAmb	09 37 57.4	
	comp=Z,7.0nm,1.3s						
K05A	**Summer Lake**	**42.92**	**76**	P	**P**	**09 38 07.8**	**+1.7**
K05A				IAmb	IAmb	09 38 20.9	
	comp=Z,13nm,1.4s						
MOD	**Modoc Plateau**	**43.76**	**76**	P	**P**	**09 38 14.4**	**+1.6**
MOD				IAmb	IAmb	09 38 43.0	
	comp=Z,8.3nm,1.5s						
PAHR	**Pah Rah Range**	**45.62**	**78**	P	**P**	**09 38 28.5**	**+0.8**
PAHR				IAmb	IAmb	09 38 49.0	
	comp=Z,3.0nm,1.2s						
PNTR	**Pine Nut**	**45.87**	**79**	P	**P**	**09 38 30.3**	**+0.5**
PNTR				IAmb	IAmb	09 38 31.0	
	comp=Z,4.9nm,0.8s						
BCYI	**Bear Canyon**	**46.47**	**70**	P	**P**	**09 38 32.8**	**-1.6**
RYN	**Ryan**	**46.81**	**79**	P	**P**	**09 38 37.0**	**-0.1**
RYN				IAmb	IAmb	09 38 38.4	
	comp=Z,6.4nm,1.5s						
NVAR	**Mina Array Bea**	**47.07**	**79**	P	**P**	**09 38 39.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=295,slow=7.2,SNR=17						
OMMB	**Old Mammoth Mi**	**47.16**	**80**	P	**P**	**09 38 41.2**	**+1.2**
OMMB				IAmb	IAmb	09 38 42.4	
	comp=Z,1.9nm,1.0s						
NV11	**Mina Array Sit**	**47.16**	**79**	P	**P**	**09 38 40.0**	**+0.2**
ELK	**Elko**	**47.51**	**75**	P	**P**	**09 38 43.9**	**+1.3**
ELK				IAmb	IAmb	09 38 55.1	
	comp=Z,4.1nm,1.4s						
LCH	**Last Change Ra**	**48.23**	**80**	P	**P**	**09 38 48.9**	**+0.8**
FCC	**Fort Churchill**	**48.37**	**44**	P	**P**	**09 38 48.6**	**0.0**
R11A	**Troy Canyon, C**	**48.78**	**77**	P	**P**	**09 38 52.5**	**+0.1**
R11A				IAmb	IAmb	09 38 53.3	
	comp=Z,2.8nm,1.4s						
TPNV	**Topopah Spring**	**49.27**	**79**	P	**P**	**09 38 56.4**	**+0.3**
TPNV				IAmb	IAmb	09 38 57.3	
	comp=Z,1.6nm,0.8s						
DUG	**Dugway, Tooele**	**49.30**	**74**	P	**P**	**09 38 56.8**	**+0.5**
DUG				IAmb	IAmb	09 39 09.7	
	comp=Z,2.8nm,1.3s						
QSM	**Queen of Sheba**	**49.53**	**81**	P	**P**	**09 38 58.1**	**+0.2**
QSM				IAmb	IAmb	09 39 10.5	
	comp=Z,3.2nm,1.2s						
PD31	**Pinedale Array**	**49.64**	**69**	P	**P**	**09 38 57.1**	**-1.8**
PD31				IAmb	IAmb	09 39 03.6	
	comp=Z,2.2nm,1.4s						
PDAR	**Pinedale Array**	**49.64**	**69**	P	**P**	**09 38 57.5**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=277,slow=2.1,SNR=5.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	Pinedale Array	49.64	69	P	P	09 38 57.7	-1.2
PRN	Pahroc Range	49.71	78	P	P	09 38 59.6	+0.2
PRN				IAmb	IAmb	09 39 11.8	
	comp=Z,1.5nm,0.9s						
GSC	Goldstone, Bar	50.00	81	P	P	09 39 01.4	-0.2
PV13	Radium Mtn., P	52.99	73	P	P	09 39 23.2	-0.9
PV13				IAmb	IAmb	09 39 25.2	
	comp=Z,2.4nm,0.6s						
XMAS	Kiritimati	54.35	146	P	P	09 39 34.6	+0.6
EYMN	Ely	56.21	54	P	P	09 39 46.0	-1.1
KURK	Kurchatov	56.22	311	P	P	09 39 46.9	-0.1
KURK	Kurchatov	56.22	311	IAmb	IAmb	09 39 55.3	
	comp=Z,8.5nm,1.4s						
KURBB	Kurchatov Arra	56.32	311	P	P	09 39 46.9	-0.9
	comp=Z,1.1nm,0.4s,baz=45,slow=6.5,SNR=12						
MK31	Makanchi Array	57.03	305	P	P	09 39 52.2	-0.7
MK31				IAmb	IAmb	09 39 53.1	
	comp=Z,0.9nm,0.5s						
MKAR	Makanchi Array	57.03	305	P	P	09 39 52.5	-0.4
	comp=Z,0.9nm,0.5s,baz=53,slow=6.6,SNR=19						
BVAR	Borovoye Array	58.34	317	P	P	09 40 01.8	-0.2
	comp=Z,1.0nm,0.4s,baz=56,slow=3.0,SNR=5.5						
BRVK	Borovoye	58.36	317	P	P	09 40 02.9	+0.7
BRVK				IAmb	IAmb	09 40 03.6	
	comp=Z,1.6nm,0.5s						
COWI	Conover	58.65	54	P	P	09 40 03.7	-0.6
G40A	Rib Lake	58.68	56	P	P	09 40 04.6	+0.1
MNTX	Cornudas Mount	59.43	76	P	P	09 40 10.0	0.0
E43A	Lone Tree Farm	59.53	53	P	P	09 40 09.8	-0.6
I42A	Draeger Farm,	60.30	56	P	P	09 40 15.7	+0.1
E46A	Sault Ste Mari	60.86	51	P	P	09 40 19.4	-0.1
TX31	Lajitas Ar. Si	62.15	77	P	P	09 40 28.7	+0.1
TX32	Lajitas Array	62.15	77	P	P	09 40 28.9	+0.3
TX32				IAmb	IAmb	09 40 29.4	
	comp=Z,3.9nm,1.1s						
TXAR	Lajitas Array	62.15	77	P	P	09 40 28.6	+0.1
	comp=Z,0.7nm,0.4s,baz=306,slow=5.6,SNR=29						
HDIL	Hopedale	62.45	59	P	P	09 40 29.4	-0.9
FCAR	Ozark Folk Cen	64.24	64	P	P	09 40 40.8	-1.4
SSPA	Standing Stone	68.24	52	P	P	09 41 06.6	-1.2
Z47A	Carrollton	68.48	64	P	P	09 41 08.1	-1.3
N59A	State Game Lan	69.05	50	P	P	09 41 12.4	-0.4
AKASG	Malin Array Be	74.14	338	P	P	09 41 43.5	+0.2
	comp=Z,0.9nm,0.5s,baz=22,slow=6.3,SNR=5.9						
AKASG	Malin Array Be	74.14	338	IAmb	IAmb	09 41 44.8	
	comp=Z,1.6nm,1.4s						
WRA	Warramunga Arr	79.78	219	P	P	09 42 14.4	-0.9
	comp=Z,0.3nm,0.5s,baz=28,slow=5.6,SNR=2.1						
ASAR	Alice Springs	83.32	218	P	P	09 42 33.7	-0.3
	comp=Z,0.3nm,0.6s,baz=19,slow=7.6,SNR=4.9						
H03N2	Juan Fernandez	124.69	102	T	T	12 06 09.7	
	baz=314,slow=77,SNR=16						
H03N1	Juan Fernandez	124.70	102	T	T	12 06 11.0	
	baz=314,slow=77,SNR=21						
H03N3	Juan Fernandez	124.70	102	T	T	12 06 14.1	
	baz=314,slow=77,SNR=13						

*CNRM **04** 09:34:33.5, 35°.48N×3°.75W, h22km, ml2.6*
*SFS **04** 09:34:33.0, 35°.29N×3°.80W, ML2.4, ALBORAN SUR*
*MDD **04** 09:34:33.3±0.9, 35°.30N×3°.80W, h35km±1km, mb_Lg2.4/4, Error ellipse: s-maj=10.4km s-min=5.5km az=6.0*
ISC 04 09:34:33.3±1.1**, 35°.50N**±0°.02×**3°.73W**±0°.03**, h19**km±3km**, n23,** σ1s.06/45**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.34	211	P	Pg	09 34 39.7	-0.8
PALE				S	Sg	09 34 46.0	+0.6
GOG	Mont Gurugu	0.66	115	P	Pg	09 34 46.4	0.0
GOG				S	Sg	09 34 55.4	+0.3
EMEL	Melilla	0.66	108	Pg	Pg	09 34 46.7	+0.4
EMEL				Sg	Sn	09 34 56.3	-1.1
EALB	Alboran	0.71	52	Pg	Pn	09 34 47.8	-0.5
EALB				Sg	Sn	09 34 58.1	-0.6
EALB				*i* Vmb_Lg		09 34 59.1	
TAF	Taforalt	1.28	122	P	Pn	09 34 55.8	-0.3
TAF				S	Sg	09 35 14.8	+0.1
EMIJ	Mijas	1.36	322	Pg	Pb	09 34 58.1	0.0
EMIJ				Sg	Sb	09 35 15.9	+0.8
EMIJ				*i* Vmb_Lg		09 35 18.1	
SMIR	Smir Dam	1.36	278	P	Pn	09 34 56.2	-1.0
SMIR				S	Sn	09 35 14.8	0.0
ELGU	Los Guajares,	1.36	3	Pg	Pb	09 34 58.0	-0.2
ELGU				Sg	Sb	09 35 15.6	+0.3
ELGU				*i* Vmb_Lg		09 35 17.9	
CHEFC	Chefchaouen	1.38	254	P	Pn	09 34 57.0	-0.6
CHEFC				S	Sb	09 35 17.1	+1.4
EMAL	Malaga-Limoner	1.38	336	P	Pg	09 35 00.8	+1.0
EMAL				S	Sb	09 35 16.1	+0.5
CEU	Ceuta	1.40	287	P	Pn	09 34 55.1	-2.6
CEU				S	Sn	09 35 12.2	-3.5
JBK	JBK	1.50	140	P	Pn	09 34 58.6	-0.8
JBK				S	Sb	09 35 19.1	-0.4
EGOR	Sierra Gorda,	1.63	349	Pg	Pb	09 35 03.8	+0.9
EGOR				Sg	Sb	09 35 24.0	+0.9
EGOR				*i* Vmb_Lg		09 35 34.9	
SICH	Sidi Chahed	1.92	224	P	Pb	09 35 06.9	-0.7
SICH				S	Sb	09 35 30.9	-0.2
LCRM	LCR	2.04	208	P	Pn	09 35 07.7	+0.9
LCRM				S	Sb	09 35 35.2	+0.4
IFR	Ifrane	2.30	211	P	Pn	09 35 05.9	-4.4
IFR				S	Sn	09 35 36.0	-2.0
CZD	Col de Zad	2.70	204	P	Pn	09 35 16.3	+0.5
CZD				S	Sn	09 35 47.1	-1.1
MD31	MD31	2.77	198	P	Pn	09 35 17.5	+0.9
MD31				S	Sn	09 35 50.2	+0.6
MDT	Midelt	2.78	195	P	Pn	09 35 18.7	+1.8
MDT				S	Sn	09 35 50.6	+0.7
TDRA	Tendrara	2.83	150	P	Pn	09 35 17.1	-0.5
TDRA				S	Sn	09 35 50.2	-1.1
ECAB	El Cabril	2.90	333	Pn	Pn	09 35 17.9	-0.6
ECAB				Sn	Sn	09 35 53.5	+0.6
ZHG	ZHG	3.17	230	P	Pn	09 35 22.6	+0.5
ZHG				S	Sn	09 36 00.1	+0.7
OUZM	OUZ	5.24	210	P	Pn	09 35 52.2	+1.5
OUZM				S	Sn	09 36 50.9	+0.2

IDC 04 09:36:15.9±3.3**, 54°.11N**×**86°.69E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/50**, mbtmp2.6**/2**, ML2.4**/2**, Error ellipse: s-maj=27.5km s-min=16.2km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.11	262	*i*		09 44 05.4	
	baz=82,slow=324,SNR=1.6						
ZALV	Zalesovo Beam	1.11	262	Pg	Pg	09 36 35.6	-1.7
	0.4nm,0.3s,baz=83,slow=17,SNR=6.7						
ZALV				Lg	Lg	09 36 53.4	
	0.8nm,0.3s,baz=78,slow=28,SNR=5.9						
KURBB	Kurchatov Arra	6.10	238	Pn	Pn	09 37 47.9	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=2.4						
MKAR	Makanchi Array	7.84	203	Pn	Pn	09 38 12.7	+1.5
	0.1nm,0.3s,baz=25,slow=15,SNR=4.5						

IDC 04 09:37:48.1±3.6**, 53°.82N**×**88°.13E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/56**, mbtmp2.9**/2**, ML2.6**/2**, Error ellipse: s-maj=35.4km s-min=19.6km az=46.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	275	*i*		09 51 01.4	
	baz=92,slow=324,SNR=2.3						
ZALV	Zalesovo Beam	1.97	275	Pn	Pn	09 38 22.9	+0.3
	1.4nm,0.3s,baz=92,slow=18,SNR=14						
ZALV				Lg	Lg	09 38 50.6	
	2.7nm,0.3s,baz=95,slow=24,SNR=16						
KURBB	Kurchatov Arra	6.71	245	Pn	Pn	09 39 27.7	-0.1
	0.1nm,0.3s,baz=61,slow=14,SNR=4.4						
MKAR	Makanchi Array	7.96	210	Pn	Pn	09 39 46.4	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=6.2						

IDC 04 09:51:36.2±2.4**, 53°.67N**×**86°.91E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/49**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=22.5km s-min=13.8km az=72.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.27	283	*i*		09 58 09.2	
	baz=100,slow=331,SNR=1.5						
ZALV	Zalesovo Beam	1.27	283	Pg	Pg	09 51 59.1	-1.4
	2.0nm,0.3s,baz=100,slow=17,SNR=20						
ZALV				Lg	Lg	09 52 17.8	
	1.8nm,0.3s,baz=105,slow=27,SNR=18						
KURBB	Kurchatov Arra	6.00	243	Pn	Pn	09 53 06.8	+0.8
	0.1nm,0.3s,baz=58,slow=13,SNR=6.0						
KURBB				Lg	Lg	09 54 46.3	
	0.0nm,0.3s,baz=52,slow=3.6,SNR=3.4						
MKAR	Makanchi Array	7.50	205	Pn	Pn	09 53 28.2	+1.5
	0.2nm,0.3s,baz=28,slow=14,SNR=10						
MKAR				Lg	Lg	09 55 32.1	
	baz=24,slow=34,SNR=4.0						

*ISK **04** 09:54:19.5, 39°.15N×37°.13E, h9km, ML2.5/7*
*DDA **04** 09:54:24.2±0.0, 39°.06N×37°.33E, h7km±8km, ML1.9*
ISC 04 09:54:22.0±1.4**, 39°.06N**±0°.04×**37°.30E**±0°.03**, h5**km±12km**, n12,** σ2s.14/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUKAN	kangal_SIVAS	0.29	26	P	Pg	09 54 28.8	+1.1
CUKAN				S	Sb	09 54 35.1	+0.1
CUGUR	Gurin_SVAS	0.33	184	P	Pg	09 54 30.4	+2.0
CUGUR				S	Sb	09 54 38.0	+1.9
CUGUR				*i* AML	AML	09 54 40.0	
	comp=E,456nm,0.5s						
CUAYA	Sivas-Altinyay	0.48	296	P	Pg	09 54 33.2	+2.0
CUAYA				S	Sb	09 54 42.3	+1.9
CUAYA				*i* AML	AML	09 54 58.0	
	comp=N,98nm,0.7s						
ARPR	Arapgir-MALATY	0.81	87	PG	Pg	09 54 38.0	+0.6
ARPR				SG	Sb	09 54 51.4	+1.6
CUSAR	Sarkisla-SIVAS	0.90	294	P	Pg	09 54 40.9	+1.7
CUSAR				S	Sn	09 54 56.1	+1.2
SARI	SarD1z-Kayseri	0.95	227	PG	Pg	09 54 37.3	-2.8
KEMA	Kemaliye	0.95	77	P	Pg	09 54 41.2	+1.0
KEMA				S	Sb	09 54 55.6	+1.7
KEMA				*i* AML	AML	09 55 11.0	
	comp=E,35nm,0.8s						
BNN	Bunyan	1.15	260	PG	Pg	09 54 40.1	-4.0
BNN				SG	Sg	09 54 55.2	-3.9
TOKT	Tokat	1.39	335	PN	Pn	09 54 43.5	-4.6
KOZT	Kozan	1.96	217	PN	Pn	09 54 54.0	-1.8
CMRD	Camardi-Nigde	2.29	233	PN	Pn	09 54 58.3	-2.2
CORM	Corum	2.35	299	PN	Pn	09 54 56.8	-4.6

IDC 04 09:57:52.6±2.6**, 53°.66N**×**86°.98E, h0**km**, mb1 2.7**/2**, mb1mx2.6**/39**, mbtmp2.7**/2**, ML2.8**/1**, Error ellipse: s-maj=23.7km s-min=14.8km az=70.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.31	284	*i*		10 07 05.0	
	baz=103,slow=330,SNR=2.3						
ZALV	Zalesovo Beam	1.31	284	Pg	Pg	09 58 16.6	-1.2
	2.0nm,0.3s,baz=102,slow=17,SNR=11						
ZALV				Lg	Lg	09 58 34.9	
	2.1nm,0.3s,baz=99,slow=32,SNR=9.7						
KURBB	Kurchatov Arra	6.03	243	Pn	Pn	09 59 24.1	+1.2
	baz=58,slow=13,SNR=0.8						
KURBB				Lg	Lg	10 01 01.8	
	0.1nm,0.3s,baz=58,slow=30,SNR=2.5						
MKAR	Makanchi Array	7.50	205	Pn	Pn	09 59 44.6	+1.4
	0.2nm,0.3s,baz=27,slow=15,SNR=7.8						
MKAR				Lg	Lg	10 01 49.2	
	0.1nm,0.3s,baz=28,slow=31,SNR=5.0						

IDC 04 09:59:08.8±3.9**, 54°.18N**×**87°.71E, h0**km**, mb1 2.7**/2**, mb1mx2.7**/40**, mbtmp2.7**/2**, ML2.2**/2**, Error ellipse: s-maj=34.2km s-min=20.8km az=43.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.72	264	*i*		10 09 10.0	
	baz=80,slow=341,SNR=5.9						
ZALV	Zalesovo Beam	1.72	264	Pg	Pg	09 59 41.5	-0.1
	0.7nm,0.3s,baz=80,slow=16,SNR=5.4						
ZALV				Lg	Lg	10 00 02.0	
	0.6nm,0.3s,baz=81,slow=31,SNR=2.6						
KURBB	Kurchatov Arra	6.65	241	Pn	Pn	10 00 48.4	+0.8
	0.1nm,0.3s,baz=48,slow=12,SNR=2.3						
MKAR	Makanchi Array	8.15	207	Pn	Pn	10 01 08.8	+0.5
	0.0nm,0.3s,baz=28,slow=22,SNR=1.7						

*NOU **04** 10:34:14.9, 14°.10S×172°.85W, h6km, MLv3.0/5, Samoa Islands*
IDC 04 10:33:38.8±1.9**, 15°.79S**×**175°.04W, h0**km**, mb3.6**/7**, mb1 4.0**/8**, mb1mx3.8**/42**, mbtmp3.6**/8**, ML4.1**/1**, MS3.6**/20**, Ms1 3.6**/20**, ms1mx3.4**/46**, Error ellipse: s-maj=125.0km s-min=21.8km az=152.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.67	60	Pn	Pn	10 34 34.9	-2.0
	15nm,0.3s,baz=33,slow=2.7,SNR=29						
AFI				Sn	Sn	10 35 14.3	-6.6
	12nm,0.3s,baz=50,slow=23,SNR=7.6						
AFI				LR	LR	10 35 41.5	
	comp=Z,395nm,20.9s,baz=234,slow=34						
AFI	Afiamalu	3.67	60	P	Pn	10 34 34.8	-2.1
MSVF	Nonsavu	6.90	253	LR	LR	10 37 41.6	
	comp=Z,780nm,20.8s,baz=66,slow=35						
DZM	Mont Dzumac	18.59	248	LR	LR	10 43 46.0	
	comp=Z,332nm,20.0s,baz=31,slow=33						
DZM	Mont Dzumac	18.59	248	*e*P	Pn	10 38 05.9	+7.9
	48nm,1.2s						
DZM				*e*LR	LR	10 42 14.2	
	comp=Z,502nm,26.8s						
PPT	Papeete	24.45	98	LR	LR	10 45 59.9	
	comp=Z,74nm,21.5s,baz=320,slow=30						
PPT2	Papeete2	24.45	98	*e*LR	LR	10 45 19.2	
	comp=Z,124nm,24.0s						
TAOE	Nuku Hiva Isla	34.74	83	*e*LR	LR	10 49 43.1	
	comp=Z,231nm,26.2s						
CTA	Charters Tower	37.02	257	LR	LR	10 54 18.2	
	comp=Z,29nm,18.1s,baz=80,slow=34						
PMG	Port Moresby	37.39	275	LR	LR	10 52 40.8	
	comp=Z,102nm,21.1s,baz=76,slow=30						
H11N3	WAKE ISLAND Hy	39.50	333	T	T	11 22 32.0	
	baz=152,slow=76,SNR=7.7						
H11N1	WAKE ISLAND Hy	39.50	333	T	T	11 22 24.3	
	baz=152,slow=76,SNR=11						
H11N2	WAKE ISLAND Hy	39.52	333	T	T	11 22 41.1	
	baz=152,slow=76,SNR=8.5						
STKA	Stephens Creek	42.48	240	LR	LR	10 57 19.7	
	comp=Z,71nm,18.7s,baz=100,slow=34						
WRA	Warramunga Arr	48.22	257	P	P	10 42 21.1	-0.6
	0.5nm,0.8s,baz=90,slow=7.6,SNR=2.9						
WRA				LR	LR	10 59 51.7	
	comp=Z,64nm,21.3s,baz=138,slow=33						
ASAR	Alice Springs	48.49	252	P	P	10 42 23.6	-0.2
	2.6nm,0.8s,baz=86,slow=8.3,SNR=28						
GUMO	Guam	49.23	304	LR	LR	10 59 56.0	
	comp=Z,32nm,19.5s,baz=92,slow=32						
FITZ	Fitzroy Crossi	56.58	259	LR	LR	11 05 59.3	
	comp=Z,33nm,19.1s,baz=126,slow=34						
JHJ	Hachijo jima 2	65.01	319	LR	LR	11 05 44.5	
	comp=Z,17nm,21.7s,baz=103,slow=30						
MJAR	Matsushiro Arr	68.23	321	LR	LR	11 16 11.8	
	comp=Z,21nm,18.2s,baz=127,slow=37						
PETK	Petropavlovsk-	72.53	343	LR	LR	11 10 37.9	
	comp=Z,40nm,21.8s,baz=130,slow=31						
PFO	Pinyon Flats O	74.34	48	LR	LR	11 10 06.9	
	comp=Z,61nm,18.5s,baz=180,slow=29						
KSRS	Korea Array	75.34	316	LR	LR	11 15 00.6	
	comp=Z,25nm,19.3s,baz=135,slow=33						
KDAK	Kodiak Island	75.62	12	LR	LR	11 11 54.8	
	comp=Z,92nm,19.1s,baz=224,slow=30						
NVAR	Mina Array Bea	75.68	43	P	P	10 45 27.5	+1.0
	0.3nm,0.6s,baz=243,slow=5.9,SNR=3.8						
USRK	Ussuriysk Ar.	76.75	324	LR	LR	11 13 08.0	
	comp=Z,102nm,21.7s,baz=141,slow=31						
KLR	Kul'dur	79.99	328	LR	LR	11 14 27.8	
	comp=Z,31nm,21.7s,baz=137,slow=31						
MA2	Magadan	80.07	343	LR	LR	11 14 47.9	
	comp=Z,44nm,21.4s,baz=120,slow=31						
TXAR	Lajitas Array	82.14	57	P	P	10 46 03.0	+1.0
	0.4nm,1.0s,baz=201,slow=4.8,SNR=2.0						
TXAR				LR	LR	11 16 10.9	
	comp=Z,50nm,18.8s,baz=228,slow=31						
ILAR	Eielson Array	83.14	12	P	P	10 46 06.3	0.0
	0.4nm,0.8s,baz=226,slow=5.0,SNR=5.1						
PDAR	Pinedale Array	83.61	42	P	P	10 46 08.6	-0.9
	0.4nm,0.8s,baz=266,slow=5.9,SNR=2.2						
YKA	Yellowknife Ar	91.08	24	P	P	10 46 44.9	0.0
	0.1nm,0.5s,baz=239,slow=4.8,SNR=2.7						

*WEL **04** 10:43:15.5±0.4, 42°S±3°×17°4E±°, h11km±3km, M2.9/25, ML3.1/29, MLv2.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=143.4*
*NOU **04** 10:43:16.5, 42°.16S×174°.06E, h28km, MLv3.6/8, Off E. Coast of S. Island, N.Z.*
ISC 04 10:43:14.4±1.5**, 42°.05S**±0°.03×**173°.98E**±0°.03**, h5**km±12km**, n89,** σ1s.36/97**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.34	346	P	Pg	10 43 21.2	+0.2
CMWZ	Cape Campbell	0.35	30	P	Pb	10 43 23.3	+0.3
KHZ	Kahutara	0.49	222	P	Pb	10 43 27.0	+1.4
KHZ	Kahutara	0.49	222	P	Pn	10 43 27.5	-0.6
TUWZ	Tuamarina	0.62	357	P	Pg	10 43 26.4	+0.2
THZ	Tophouse	0.85	289	P	Pg	10 43 30.9	+0.1
TCW	Tory Channel	0.87	15	P	Pg	10 43 30.9	-0.1
SNZO	South Karori	0.92	36	P	Pb	10 43 33.6	+0.9
BHW	Baring Head	0.92	46	P	Pn	10 43 33.9	-0.1
BHW				S	Sn	10 43 47.3	-0.3
NNZ	Nelson	0.95	331	P	Pg	10 43 31.7	-0.8
WEL	Wellington	0.96	38	P	Pb	10 43 34.4	+0.8
WEL				S	Sn	10 43 48.7	0.0
PLWZ	Palliser	1.06	64	P	Pn	10 43 35.7	-0.3
MRNZ	Matariki Terra	1.12	305	P	Pb	10 43 35.5	-0.8
MSWZ	Moikau Station	1.14	57	P	Pb	10 43 36.7	+0.2
GVZ	Greta Valley S	1.16	217	P	Pn	10 43 37.7	+0.4
CAW	Cannon Point	1.24	41	P	Pn	10 43 38.2	-0.2
DUWZ	D'Urville Isla	1.25	358	P	Pn	10 43 37.1	-1.4
DUWZ				S	Sb	10 43 53.7	-1.1
PAWZ	Paruwai Farm	1.27	59	P	Pn	10 43 38.4	-0.5
TKNZ	Takaka Hill	1.27	323	P	Pn	10 43 37.6	-1.3
TKNZ				S	Sb	10 43 53.4	-2.1
KIW	Kapiti Island	1.38	31	P	Pn	10 43 40.2	-0.1
KIW				S	Sb	10 43 58.0	-0.6
TRWZ	Traveller	1.43	64	P	Pn	10 43 40.4	-0.6
MTW	Mount Morrison	1.45	52	P	Pn	10 43 40.5	-0.7
LTZ	Lake Taylor	1.46	239	P	Pb	10 43 42.3	+0.1
LTZ				S	Sb	10 44 02.1	+1.0
AMCZ	Amberley	1.50	221	P	Pb	10 43 42.5	-0.1
OGWZ	Otaki Gorge	1.52	36	P	Pn	10 43 41.9	-0.3
HOWZ	Holdsworth Sta	1.63	46	P	Pn	10 43 43.3	-0.5
QRZ	Quartz Range	1.64	318	P	Pn	10 43 43.9	0.0
QRZ				S	Sn	10 44 04.3	-1.1
QRZ	Quartz Range	1.64	318	P	Pn	10 43 44.3	+0.4
DSZ	Denniston Nort	1.66	280	P	Pn	10 43 45.1	+1.0
DSZ				S	Sn	10 44 07.5	+1.6
TMWZ	Te Maipa	1.71	57	P	Pn	10 43 43.9	-1.0
OKCZ	Okains Bay	1.81	202	P	Pn	10 43 46.7	+0.5
MRZ	Mangatainoka R	1.83	41	P	Pn	10 43 45.8	-0.8
OXZ	Oxford	1.92	228	P	Pn	10 43 47.6	-0.2
MQZ	McQueen's Vall	1.92	210	P	Pn	10 43 47.3	-0.4
INZ	Inchbonnie	2.00	249	P	Pn	10 43 49.9	+1.1
OHWZ	Ohakea	2.10	29	P	Pn	10 43 51.3	+1.1
PRWZ	Pori Road	2.12	46	P	Pn	10 43 49.6	-0.8
POWZ	Post Office Ro	2.13	40	P	Pn	10 43 51.4	+0.7
RACZ	Rakaia	2.16	218	P	Pn	10 43 51.1	+0.1
BFZ	Birch Farm	2.18	52	P	Pn	10 43 50.2	-1.1
BFZ	Birch Farm	2.18	52	P	Pn	10 43 50.9	-0.5
DVHZ	Dannevirke	2.40	44	P	Pg	10 44 00.8	+0.4
WAZ	Wanganui	2.42	19	P	Pn	10 43 56.4	+1.8
WACZ	Wakanui South	2.46	219	P	Pn	10 43 55.3	+0.2
TSZ	Takapari Road	2.49	38	P	Pn	10 43 54.6	-1.0
LREZ	Lake Rotokare	2.61	7	P	Pb	10 44 00.5	-1.1
WVZ	Waitaha Valley	2.61	246	P	Pb	10 44 00.4	-1.2
PREZ	Palmer Road	2.71	3	P	Pb	10 44 02.3	-1.0
PNHZ	Pukenui	2.71	39	P	Pb	10 44 04.9	+1.5
RPZ	Rata Peaks	2.72	231	P	Pn	10 43 58.5	-0.3
RPZ	Rata Peaks	2.72	231	P	Pn	10 43 58.9	+0.1
KHEZ	Kahui Hut	2.75	1	P	Pn	10 44 02.2	+2.9
NEZ	North Egmont	2.78	2	P	Pn	10 44 02.0	+2.4
NBEZ	Newall Road No	2.78	358	P	Pn	10 44 02.0	+2.5
ARCZ	Arundel	2.80	226	P	Pn	10 43 59.9	+0.1
PKE	Pukeiti	2.85	0	P	Pn	10 44 03.1	+2.5
DREZ	Durham Road	2.86	3	P	Pn	10 44 02.8	+2.1
MTVZ	Mangateitei	2.89	23	P	Pb	10 44 07.1	+0.6
PKVZ	Pokaka	2.94	21	P	Pn	10 44 05.2	+3.3
MOVZ	Moawhango	2.96	28	P	Pb	10 44 05.9	-1.7
PXZ	Pawanui	2.97	48	P	Pb	10 44 08.3	+0.5
GCSZ	Gaunt Creek Bo	2.98	244	P	Pb	10 44 08.1	+0.2
VRZ	Vera Road	2.98	12	P	Pn	10 44 05.0	+2.6
WNVZ	Wahianoa	2.98	25	P	Pn	10 44 03.7	+1.1
TRVZ	Turoa	2.99	24	P	Pb	10 44 06.3	-2.0
BHHZ	Black Hill Sta	3.00	32	P	Pb	10 44 08.0	-0.4
KRHZ	Kereru	3.01	38	P	Pb	10 44 10.2	+1.7
WHVZ	Whangaehu Hut	3.02	24	P	Pb	10 44 07.5	-1.3
FWVZ	Far West T-bar	3.04	24	P	Pn	10 44 06.4	+3.1
TUVZ	Tukino	3.06	25	P	Pn	10 44 05.3	+1.8
NGZ	Ngauruhoe	3.12	24	P	Pn	10 44 07.1	+2.7
SNVZ	South Ngauruho	3.12	24	P	Pn	10 44 07.9	+3.4
OTVZ	Oturere	3.15	24	P	Pn	10 44 05.3	+0.4
NNVZ	North Ngauruho	3.17	24	P	Pb	10 44 08.8	-2.4
WTVZ	West Tongariro	3.18	23	P	Pb	10 44 10.1	-1.3
TMZ	Timaru	3.19	222	P	Pn	10 44 05.2	-0.1
ETVZ	East Tongariro	3.19	25	P	Pn	10 44 07.3	+1.9
KRVZ	Karewarewa	3.21	24	P	Pb	10 44 12.3	+0.4
TMVZ	Te Maari	3.21	25	P	Pn	10 44 07.6	+2.0
KWHZ	Kaweka Forest	3.21	36	P	Pb	10 44 11.9	0.0
NTVZ	North Tongarir	3.22	24	P	Pb	10 44 10.9	-1.2
KATZ	Kakaramea	3.34	24	P	Pb	10 44 14.6	+0.5
BKZ	Black Stump Fm	3.46	34	P	Pb	10 44 14.4	-1.7
BKZ	Black Stump Fm	3.46	34	P	Pn	10 44 10.0	+1.1
HIZ	Hauiti	3.59	11	P	Pn	10 44 13.2	+2.4
HIZ	Hauiti	3.59	11	P	Pn	10 44 12.7	+1.9
ODZ	Otahua Downs	3.85	218	P	Pn	10 44 13.9	-0.4
ODZ	Otahua Downs	3.85	218	P	Pn	10 44 12.4	-1.9
AWAZ	Awhitu Peninsu	5.00	6	P	Pn	10 44 31.9	+1.8

*IDC **04** 10:45:53.2±5.5, 39°.05N×70°.23E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/36, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=199.5km s-min=26.5km az=147.0*
*KRNET **04** 10:45:54.8±0.1, 39°.18N×70°.32E, h12km, mb3.6*
ISC 04 10:45:54.7±1.2**, 39°.21N**±0°.05×**70°.32E**±0°.05**, h6**km±10km**, n17,** σ2s.18/29**, 17C-10D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAR	Garm	0.21	182	⇑*i*P	Pg	10 45 59.2	+0.4
	baz=80						
GAR				⇑*i*S	Sg	10 46 01.8	+0.2
	baz=80						
BTK	Batken	0.93	24	⇑*e*P	Pg	10 46 12.8	+0.2
	baz=23						
BTK				⇑*i*S	Sg	10 46 25.6	+0.9
	baz=23						
CHGR	Chuyangaron	1.06	239	⇑*i*P	Pb	10 46 14.2	-1.3
	baz=41						
CHGR				⇑*i*S	Sg	10 46 28.3	-0.5
	baz=41						
DRK	Karamyk	1.18	76	⇑*i*P	Pb	10 46 17.0	-0.6
	baz=75						
DRK				⇑*i*S	Sb	10 46 33.0	-0.2
	baz=75						
OHH	Osh	2.31	54	⇑*e*P	Pb	10 46 34.9	-1.8
	baz=54						
OHH				⇑*i*S	Sb	10 47 03.8	-1.7
	baz=54						
TRKS	Terek-Say	2.40	15	⇑*e*P	Pn	10 46 35.6	+0.9
	baz=16						
TRKS				⇑*i*S	Sn	10 47 05.2	+0.7
	baz=16						
ARK	Arkit	2.87	25	⇓*i*P	Pn	10 46 42.8	+1.7
	baz=25						
ARK				⇓*i*S	Sn	10 47 18.1	+2.0
	baz=25						
KK09	Karatay Array	3.91	2	⇑Pn	Pn	10 46 59.0	+3.7
	4.6nm,0.3s,baz=189,slow=13						
KK09				⇓Lg	Lg	10 47 58.3	
	17nm,0.6s,baz=182,slow=28						

ARLS	Aral	4.04	48	⇓eP	Pn	10 46 58.8	+1.6
	baz=48						
ARLS				⇓eS	Sn	10 47 45.7	+0.8
	baz=48						
EKS2	Erkin-Say	4.33	36	⇑eP	Pn	10 47 03.1	+1.9
	baz=36						
EKS2				⇑iS	Sn	10 47 52.6	+0.6
	baz=36						
UCH	Uchtor	4.38	45	⇑iP	Pn	10 47 04.2	+2.0
	baz=45						
UCH				⇑iS	Sn	10 47 54.4	+0.5
	baz=45						
USP	Ospenovka	5.13	36	⇓iP	Pn	10 47 13.9	+1.8
	baz=36						
USP				⇓iS	Sn	10 48 11.7	0.0
	baz=36						
TKM2	Tokmak 2	5.44	45	⇓Pn	Pn	10 47 20.0	+3.4
	6.6nm,0.7s						
TKM2				⇓Sn	Sb	10 48 28.4	-7.5
	7.5nm,0.6s						
TKM2				⇓Lg	Lg	10 48 55.3	
	8.4nm,0.8s						
MKAR	Makanchi Array	11.58	45	Pn	Pn	10 48 42.2	+1.7
	0.1nm,0.3s,baz=231,slow=12,SNR=2.3						
MKAR				Sn	Sn	10 50 34.9	-15
	0.1nm,0.3s,baz=323,slow=24,SNR=8.6						
ZALV	Zalesovo Beam	17.74	29	P	P	10 50 03.5	+0.5
	0.2nm,0.3s,baz=224,slow=10,SNR=4.9						
TORD	Torodi Ar. Bea	65.29	267	P	P	10 56 36.8	-0.9
	0.4nm,0.6s,baz=62,slow=6.5,SNR=2.6						
YKA	Yellowknife Ar	78.57	2	P	P	10 57 56.9	+0.3
	0.3nm,0.5s,baz=350,slow=5.5,SNR=7.4						

VAO 04 10:47:23.3±0.3, 19°.43S×56°.35W, h0^{km}, mbR3.5, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQDB	Aquidauana	1.21	150	eP	Pg	10 47 46.3	-0.1
PP1B	Ponte de Pedra	2.29	38	eP	Pn	10 48 02.0	-0.5
SALV	Santo Antonio	3.57	10	eP	Pn	10 48 20.2	+0.2
PTLB	Pontes e Lacer	4.77	326	eP	Pn	10 48 35.7	-0.8
PTLB				eS	Sn	10 49 32.8	+0.3
PCMB	Pacaembu	5.24	115	eP	Pn	10 48 43.0	+0.1
ITRB	Iturama	5.66	94	eP	Pn	10 48 47.0	-1.6
ITRB				eS	Sn	10 49 53.6	-0.8
ARAG	Araguaiana, MT	5.70	50	eP	Pn	10 48 49.7	+0.4
ARAG				eS	Sn	10 49 56.7	+1.3
PTGB	Pitanga	6.59	144	eP	Pn	10 49 02.0	+0.4
CPUP	Villa Florida	6.92	187	eP	Pn	10 49 05.5	-0.6
FRTB	Fartura	7.42	123	eP	Pn	10 49 13.0	0.0
VILB	Vilhena	7.43	330	eP	Pn	10 49 13.2	+0.2
VILB				eS	Sn	10 50 38.8	+0.6
BB19B	Bebedouro	7.52	104	eP	Pn	10 49 15.0	+0.7
PDRB	Porto dos Gac	7.78	357	eP	Pn	10 49 18.1	+0.2
PDRB				eS	Sn	10 50 47.2	+0.3
IPMB	Ipameri, GO	7.85	81	eP	Pn	10 49 18.9	0.0

MDD 04 10:53:56.0±0.6, 35°.52N×3°.83W, h0^{km}, mb_Lg2.4/4, Error ellipse: s-maj=4.9km s-min=3.6km az=25.0
CNRM 04 10:53:56.9, 35°.49N×3°.80W, h22^{km}, ml2.7
SFS 04 10:53:57.0, 35°.46N×3°.75W, ML2.5, ALBORAN SUR
ISC 04 10:53:56.6±1.0, 35°.52N±0°.02×3°.77W±0°.03, h16^{km}±8^{km}, n24, σ1s.44/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.33	205	P	Pg	10 54 03.2	-0.4
PALE				S	Sg	10 54 07.9	-0.4
GOG	Mont Gurugu	0.69	115	P	Pg	10 54 10.1	-0.2
GOG				S	Sg	10 54 19.1	-0.4
EMEL	Melilla	0.69	108	Pg	Pg	10 54 10.6	+0.4
EMEL				Sg	Sg	10 54 19.1	-0.3
EALB	Alboran	0.73	54	Pg	Pg	10 54 11.1	+0.2
EALB				Sg	Sg	10 54 21.1	+0.6
EALB				i Vmb_Lg		10 54 24.3	
TAF	Taforalt	1.31	122	P	Pn	10 54 21.2	+0.8
TAF				S	Sb	10 54 38.3	+0.8
EMIJ	Mijas	1.33	322	Pg	Pn	10 54 20.7	+0.1
EMIJ				Sg	Sb	10 54 37.1	-0.9
EMIJ				i Vmb_Lg		10 54 42.4	
SMIR	Smir Dam	1.33	278	P	Pn	10 54 18.4	-2.1
SMIR				S	Sb	10 54 35.1	-2.8
CHEFC	Chefchaouen	1.35	253	P	Pn	10 54 20.8	-0.2
CHEFC				S	Sb	10 54 37.9	-0.9
ELGU	Los Guajares,	1.35	5	Pg	Pn	10 54 18.7	-2.3
ELGU				Sg	Sb	10 54 36.0	-2.7
ELGU				i Vmb_Lg		10 54 42.0	
EMAL	Malaga-Limoner	1.35	337	P	Pg	10 54 23.8	+1.1
EMAL				S	Sn	10 54 40.3	+1.8
JBK	JBK	1.54	140	P	Pn	10 54 23.2	-0.4
JBK				S	Sn	10 54 41.4	-1.9
EGOR	Sierra Gorda,	1.61	350	Sn	Sn	10 54 44.5	-0.7
EGOR				i Vmb_Lg		10 54 55.7	
SICH	Sidi Chahed	1.90	223	P	Pn	10 54 29.3	+0.9
SICH				S	Sn	10 54 53.1	+1.0
LCRM	LCR	2.04	207	P	Pb	10 54 33.8	+0.4
LCRM				S	Sn	10 54 56.9	+1.3
IFR	Ifrane	2.29	210	P	Pn	10 54 34.3	+0.4
IFR				S	Sn	10 54 59.8	-2.2
CZD	Col de Zad	2.69	203	P	Pn	10 54 41.3	+1.7
CZD				S	Sn	10 55 10.6	-1.4
MD31	MD31	2.77	198	P	Pn	10 54 41.5	+1.1
MD31				S	Sn	10 55 13.0	-0.6
MDT	Midelt	2.79	195	P	Pn	10 54 42.2	+1.5
MDT				S	Sn	10 55 13.8	-0.2
TDRA	Tendrara	2.86	149	P	Pn	10 54 41.3	-0.5
TDRA				S	Sn	10 55 13.8	-2.1
ECAB	El Cabril	2.88	333	Sn	Sn	10 55 18.3	+2.1
ZHG	ZHG	3.15	230	P	Pn	10 54 47.1	+1.4
ZHG				S	Sn	10 55 24.5	+1.6
ETOB	Tobarra	3.59	29	Pn	Pn	10 54 54.1	+2.4
EGRO	El Granado	3.61	305	Pn	Pn	10 54 53.4	+1.5
EGRO				Sn	Sn	10 55 32.1	-2.0
OUZM	OUZ	5.24	209	P	Pn	10 55 15.3	+0.9
OUZM				S	Sn	10 56 16.3	+1.8

IGQ 04 11:25:45±0.2, 1°S±2°×8°1W±°, h21^{km}
IDC 04 11:25:46.5±0.9, 1°.19S×80°.34W, h33^{km}±6^{km}, mb3.6/8, mb1 3.9/14, mb1mx3.8/39, mbtmp4.0/14, ML3.7/6, MS3.5/12, Ms1 3.5/12, ms1mx3.3/50, Error ellipse: s-maj=22.7km s-min=14.3km az=60.0
NEIC 04 11:25:47.5±2.0, 1°.26S±0°.08×80°.38W±0°.04, h35^{km}±2^{km}, mb4.3/17, Error ellipse: s-maj=12.9km s-min=5.8km az=184.0
ISC 04 11:25:45.6±0.8, 1°.25S±0°.03×80°.43W±0°.04, h31^{km}±5^{km}, n156, σ1s.67/148, mb4.0/11, MS3.5/9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APO1	Ecuador-Portov	0.21	352	P	Pn	11 25 52.0	-0.6
APO1				S	Sb	11 25 58.0	+1.6
AMNT	Manta-Manabi	0.43	315	P	Pb	11 25 54.0	-1.0
AMNT				S	Sn	11 26 01.0	-1.5
PPLP	Puerto Lpez	0.45	230	P	Pn	11 25 54.0	-2.0
PPLP				S	Sn	11 26 01.0	-2.1
CAB1	Cabo Pasado-Ma	0.86	0	P	Pb	11 26 01.0	-1.0
AGUAY	Guayaquil	0.93	149	P	Pn	11 26 05.0	+2.4
AGUAY				S	Sn	11 26 15.0	+0.1
JAMA	Jama	1.01	13	P	Pn	11 26 03.0	-0.7
JAMA				S	Sn	11 26 18.0	+1.2
AMIL	Milagro (Trans	1.21	137	P	Pb	11 26 07.0	-0.9
AMIL				S	Sb	11 26 23.0	-0.3
MAG1	Magdalena	1.34	29	P	Pn	11 26 07.0	-1.2
CHSH	Refugio Sur-Vo	1.58	99	P	Pn	11 26 12.0	0.0
ASDO	Santo Domingo	1.63	53	P	Pn	11 26 10.0	-2.3
PORT	Chimborazo Vol	1.67	97	P	Pn	11 26 13.0	-0.2
TAMH	Tambohuasha Ch	1.67	100	P	Pn	11 26 13.0	-0.2
ISPG	Isla Puna-Puer	1.73	171	P	Pb	11 26 15.0	-1.7
ILLI	Illinizas Sur	1.78	73	P	Pn	11 26 14.0	-0.7
IGUA	Igualata	1.81	98	P	Pn	11 26 16.0	+0.9
AV18	Acelerografo,	1.82	32	P	Pb	11 26 17.0	-1.2
BV15	Puerto Quito-O	1.85	41	P	Pn	11 26 15.0	-0.2
BV15				S	Sn	11 26 38.0	+0.5
PAST	Pastocalle	1.87	73	P	Pn	11 26 16.0	+0.1
SRAM	San Ramn-Vol	1.93	75	P	Pb	11 26 19.0	-1.3
BIL2	Estacion Bilba	1.94	96	P	Pn	11 26 17.0	+0.3
BBIL	Ulba Tungurahu	1.95	96	P	Pn	11 26 18.0	+1.1
BMAS	Trigal station	1.97	97	P	Pn	11 26 18.0	+0.9
APR2	Miler	1.97	48	P	Pn	11 26 16.0	-0.9
JUI6	Juive	1.97	95	P	Pn	11 26 19.0	+1.9
ARRY	Arrayan	1.99	97	P	Pn	11 26 18.0	+0.5
SLOR	San Lorenzo -	2.00	75	P	Pn	11 26 18.0	+0.3
CAMI	Rancho Maria	2.01	74	P	Pn	11 26 19.0	+1.2
BRRN	Barrancas-Volc	2.01	77	P	Pn	11 26 18.0	+0.2
BPAT	Tungurahua Vol	2.01	97	P	Pn	11 26 19.0	+1.2
BRUN	Tungurahua Vol	2.02	95	P	Pn	11 26 19.0	+1.1
SUCR	Mariscal Sucre	2.03	73	P	Pn	11 26 19.0	+0.9
BNAS	Cotopaxi Volca	2.03	74	P	Pn	11 26 19.0	+0.9
BMOR	Cotopaxi Volca	2.04	75	P	Pn	11 26 19.0	+0.7
NAS2	Nasa	2.05	73	P	Pn	11 26 20.0	+1.6
HPAL	Hacienda Las P	2.05	60	P	Pn	11 26 17.0	-1.3
BREF	Cotopaxi Volca	2.07	74	P	Pn	11 26 20.0	+1.2
GGPT	Toaza - Volcan	2.08	61	P	Pn	11 26 18.0	-0.7
VCES	Cotopaxi	2.08	78	P	Pn	11 26 20.0	+1.1
AV21	Acelerografo,	2.09	25	P	Pb	11 26 21.0	-1.9
JUA2	San Juan 2	2.09	61	P	Pn	11 26 19.0	0.0
BVC2	Cotopaxi Volca	2.10	74	P	Pn	11 26 20.0	+0.8
BTAM	Cotopaxi Volca	2.11	74	P	Pn	11 26 20.0	+0.7
PITA	Cotopaxi Volc	2.11	71	P	Pn	11 26 20.0	+0.8
VC1	Cotopaxi 1	2.11	73	P	Pn	11 26 20.0	+0.7
TERV	Terraza Guagua	2.11	60	P	Pn	11 26 19.0	-0.3
GGPC	Guagua Pichinc	2.12	60	P	Pn	11 26 19.0	-0.4
PINO	Pino	2.12	59	P	Pn	11 26 19.0	-0.4
TOMA	Boca Toma-Volc	2.13	70	P	Pn	11 26 21.0	+1.6
TAMB	Tambo	2.13	75	P	Pn	11 26 20.0	+0.4
YANA	Yana	2.17	59	P	Pn	11 26 19.0	-1.1
APR1	Acelerografo,	2.17	57	P	Pn	11 26 20.0	0.0
SANGA	Volcan Sangay	2.21	111	P	Pn	11 26 21.0	+0.5
ACUE	Ecuador-Cuenca	2.21	138	P	Pn	11 26 21.0	+0.6
BELL	Bellavista	2.23	62	P	Pb	11 26 24.0	-1.5
AMA1	Acelerografo,	2.28	18	P	Pb	11 26 24.0	-2.1
ANTG	Antisana-Guama	2.30	71	P	Pn	11 26 23.0	+1.2
PULU	Pululahua	2.30	57	P	Pn	11 26 21.0	-0.8
ARNL	Arenillas	2.31	171	P	Pn	11 26 22.0	+0.4
ANTM	Antisana-La Mi	2.32	72	P	Pn	11 26 23.0	+0.9
ANTS	Antisana-Sarah	2.38	72	P	Pn	11 26 24.0	+1.0
ANTI	Antisana	2.40	71	P	Pn	11 26 24.0	+0.7
PUYO	Puyo, Santa Ro	2.42	96	P	Pb	11 26 26.0	-2.5
CUSE	Cuicocha Este	2.55	53	eP	Pn	11 26 26.7	+1.5
CUSE	Cuicocha Este	2.55	53	P	Pn	11 26 26.0	+0.8
CUSW	Cuicocha Oeste	2.58	54	P	Pn	11 26 26.0	+0.4
CUIC	Cuicocha-Domo	2.58	53	P	Pn	11 26 23.0	-2.6
COTA	Cotacachi	2.62	53	P	Pn	11 26 27.0	+0.8
IMBA	Imbabura, San	2.70	56	P	Pn	11 26 29.0	+1.8
BOSC	San Juan Bosco	2.70	134	P	Pb	11 26 30.0	-3.4
CAYR	Refugio Cayamb	2.73	63	P	Pn	11 26 30.0	+2.1
ANGU	Angureal	2.74	62	P	Pn	11 26 30.0	+2.0
URCU	Urcuqui	2.74	52	P	Pn	11 26 29.0	+1.1
CAYA	Cayambe	2.77	62	P	Pn	11 26 30.0	+1.7
YAHU	Yahuarcocha	2.85	56	P	Pn	11 26 31.0	+1.6
CONE	Cono NE Rev Vo	3.02	67	P	Pn	11 26 33.0	+1.4
REVN	San Rafael	3.04	67	P	Pn	11 26 35.0	+3.2
LNGL	El Angel-Carch	3.13	51	P	Pn	11 26 35.0	+1.7
GONZ	Gonzanam	3.14	161	P	Pn	11 26 35.0	+1.6
CHL1	Volc¡n Chiles	3.21	51	P	Pn	11 26 36.0	+1.7
ECEN	Cerro Negro	3.21	50	P	Pn	11 26 36.0	+1.6
CHL2	Volc¡n Chiles	3.23	51	P	Pn	11 26 37.0	+2.3
TULM	Tulcn-Chalpat	3.29	54	eP	Pn	11 26 39.3	+4.0
TULM	Tulcn-Chalpat	3.29	54	P	Pn	11 26 38.0	+2.6
CASC	Dorado de Casc	3.38	66	P	Pn	11 26 40.0	+3.6
CMBC	Cumbal	3.39	50	eP	Pn	11 26 39.8	+3.0
CTUM2	Tumaco	3.49	29	eP	Pn	11 26 41.3	+3.4
ZUMB	Zumba	3.81	160	P	Pn	11 26 46.0	+3.6
CPAS1	Pasto	3.94	52	eP	Pb	11 26 51.6	-3.0
CCUFI	Cufio, Nario	3.94	51	eP	Pn	11 26 48.8	+4.3
GCUF	Volcan Galeras	3.94	51	eP	Pn	11 26 48.0	+3.6
BBAC	Balboa, Cauca	4.55	44	eP	Pn	11 26 52.8	+0.3
BBAC				eS	Sn	11 27 43.1	-1.4
BBAC	Balboa, Cauca	4.55	44	P	Pn	11 26 54.0	+1.5
GR1C	Gorgona, Isla	4.79	28	eP	Pn	11 26 58.3	+2.6
SOTA	Rioblanco	5.09	49	eP	Pn	11 27 05.0	+4.8
POPC	Popayan, Colom	5.31	45	eP	Pn	11 27 04.2	+1.1
PCON	Cinco Dias	5.37	49	eP	Pn	11 27 07.1	+2.9
FLOC	Florencia	5.54	60	eP	Pn	11 27 07.7	+1.7
PTLC	Puerto Leguiza	5.81	76	eP	Pn	11 27 11.5	+1.9
PTLC	Puerto Leguiza	5.81	76	P	Pn	11 27 11.0	+1.4
GARC	Garzon, Huila	6.00	55	eP	Pn	11 27 15.6	+3.0
MARP	Paez Belalcaza	6.04	48	eP	Pn	11 27 15.8	+2.7
ATAH	Atahualpa	6.19	161	Pn	Pn	11 27 17.3	+2.1
	2.1nm,0.3s,baz=8.2,slow=8.3,SNR=14						
ATAH				LR	LR	11 29 52.9	
	comp=Z,418nm,18.6s,baz=330,slow=40						
BETC	Betania	6.33	52	eP	Pn	11 27 16.8	-0.2
YOTC	Yotoco, Valle	6.61	38	eP	Pn	11 27 19.3	-1.5
ORTC	Ortega, Tolima	7.29	45	eP	Pn	11 27 36.8	+6.8
PLMC	San Jos del P	7.38	34	eP	Pn	11 27 33.6	+2.2
MACC	Macarena, Meta	7.39	63	eP	Pn	11 27 38.0	+6.6
ANIL	Santa Ana	7.60	41	eP	Pn	11 27 39.2	+4.7
GUY2C	Guyana, Caldas	8.18	38	eP	Pn	11 27 45.6	+2.9
CBOC	Ciudad Bolivar	8.33	32	eP	Pn	11 27 48.5	+4.0
ROSC	El Rosal	8.59	45	Pn	Pn	11 27 48.9	+0.6
	3.1nm,0.3s,baz=47,slow=21,SNR=2.2						
ROSC				LR	LR	11 31 37.7	
	comp=Z,258nm,18.5s,baz=208,slow=41						
PAYG	Puerto Ayora	9.87	273	Pn	Pn	11 28 08.5	+3.0
ZARC	Zaragoza, Cauc	10.31	33		Pn	11 28 14.1	+2.6
NNA	Nana	11.25	162	Pn	Pn	11 28 25.6	+1.3
	2.2nm,0.3s,baz=270,slow=8.1,SNR=2.3						
NNA	Nana	11.25	162	Pn	Pn	11 28 25.4	+1.0
SDV	Santo Domingo	14.02	44	Pn	Pn	11 29 03.4	+0.9
	1.6nm,0.3s,baz=214,slow=3.6,SNR=4.8						
SDV				LR	LR	11 35 25.6	
	comp=Z,205nm,19.7s,baz=232,slow=42						
URIC	Uribia, Colomb	15.36	33	Pn	Pn	11 29 20.7	+0.5
URIC				IAmb	IAmb	11 29 29.1	
	comp=Z,16nm,0.9s						
BIRV	Birongo	18.28	50	P	Pn	11 29 58.2	+1.1
BIRV				IAmb	IAmb	11 30 11.0	
	comp=Z,26nm,1.3s						
LPAZ	La Paz	19.24	142	P	Pn	11 30 10.5	+1.2
	comp=Z,0.2nm,0.3s,baz=322,slow=10,SNR=9.6						
LPAZ	La Paz	19.24	142		Pn	11 30 09.4	+0.1
PCRV	Puerto La Cruz	19.39	54	P	Pn	11 30 10.9	+0.4
	comp=Z,0.8nm,0.3s,baz=1.6,slow=11,SNR=2.0						
PTGA	Pitinga	20.47	89	P	P	11 30 20.6	-0.4
	comp=Z,2.1nm,0.5s,baz=263,slow=24,SNR=5.8						
PTGA				LR	LR	11 38 42.3	
	comp=Z,149nm,20.6s,baz=186,slow=38						
PB11	IPOC Station P	21.21	151	P	P	11 30 29.3	+0.3
PB11				IAmb	IAmb	11 30 42.2	
	comp=Z,16nm,0.9s						
GO01	Chusmiza	21.36	150	P	P	11 30 31.8	+0.8
GO01				IAmb	IAmb	11 30 46.2	
	comp=Z,22nm,0.9s						
PB08	IPOC Station P	21.77	150	P	P	11 30 34.7	-0.7
PB08				IAmb	IAmb	11 30 49.1	
	comp=Z,7.3nm,0.9s						
CMIG	Matias Romero	23.14	323	LR	LR	11 37 30.8	
	comp=Z,48nm,21.3s,baz=175,slow=30						
SJG	San Juan	23.82	36	LR	LR	11 40 22.8	
	comp=Z,50nm,21.9s,baz=221,slow=37						
SIV	San Ignacio	24.06	129	P	P	11 30 59.6	+1.3
	comp=Z,2.0nm,0.7s,baz=290,slow=10,SNR=7.9						
SIV				LR	LR	11 41 47.7	
	comp=Z,162nm,21.5s,baz=304,slow=40						
CBYP	Canovanas	24.12	36	P	P	11 30 59.9	+1.0
ILAM	Ilet Lapin Mar	25.06	50	P	P	11 31 06.9	-0.6
MDP	Montagnes des	28.46	77	LR	LR	11 42 59.4	
	comp=Z,269nm,18.2s,baz=226,slow=36						
BO01	Tunca	34.11	166	P	P	11 32 27.4	-0.3
BO01				IAmb	IAmb	11 32 51.2	
	comp=Z,8.7nm,1.3s						
TXAR	Lajitas Array	37.66	326	P	P	11 32 59.1	+0.8
	comp=Z,0.2nm,0.7s,baz=144,slow=10.0,SNR=2.5						
TXAR				PcP	PcP	11 35 16.0	+0.6
	comp=Z,0.3nm,0.8s,baz=134,slow=5.4,SNR=3.9						
TX31	Lajitas Ar. Si	37.66	326	P	P	11 32 57.0	-1.2
PLCA	Paso Flores	40.31	168	P	P	11 33 20.1	-0.1
	comp=Z,2.5nm,1.0s,baz=324,slow=9.5,SNR=6.2						
PLCA				pP	sP	11 33 31.1	-2.1
	comp=Z,1.4nm,0.8s,baz=21,slow=8.4,SNR=2.3						
PLCA	Paso Flores	40.31	168	IAmb	IAmb	11 33 36.7	
	comp=Z,5.5nm,1.4s						
MNTX	Cornudas Mount	40.42	326	P	P	11 33 22.5	+1.3
ANMO	Albuquerque	43.48	328	LR	LR	11 50 31.9	
	comp=Z,40nm,20.7s,baz=159,slow=34						
RCBR	Riachuelo	44.66	97	LR	LR	11 53 50.2	
	comp=Z,340nm,18.2s,baz=356,slow=38						
PFO	Pinyon Flats O	48.49	319	LR	LR	11 53 54.3	
	comp=Z,48nm,18.5s,baz=203,slow=35						
NVAR	Mina Array Bea	52.67	323	P	P	11 34 58.3	+0.8
	comp=Z,0.8nm,0.8s,baz=142,slow=6.9,SNR=6.5						
NVAR				pP	sP	11 35 09.7	-0.8
	comp=Z,0.2nm,0.5s,baz=135,slow=7.1,SNR=3.4						
NVAR	Mina Array Bea	52.67	323	P	P	11 34 58.8	+1.4
YKA	Yellowknife Ar	68.60	344	P	P	11 36 45.0	-0.3
	comp=Z,0.3nm,0.6s,baz=143,slow=5.5,SNR=7.4						
WRAK	Wrangell Islan	71.05	332	P	P	11 36 58.8	-1.7
DBIC	Dimbokro	75.82	83	P	P	11 37 28.9	-0.6
	comp=Z,1.7nm,0.5s,baz=278,slow=11,SNR=3.2						
KOWA	Kowa	77.17	75	LR	LR	12 12 59.5	
	comp=Z,33nm,18.3s,baz=199,slow=37						
TORD	Torodi Ar. Bea	82.61	77	P	P	11 38 05.7	-0.9
	comp=Z,0.5nm,0.4s,baz=284,slow=6.0,SNR=4.7						
TORD				pP	pP	11 38 15.2	-1.2
	comp=Z,0.7nm,0.6s,baz=278,slow=5.2,SNR=3.9						
TORD	Torodi Ar. Bea	82.61	77	IAmb	IAmb	11 38 06.5	
	comp=Z,3.1nm,1.5s						
H11S2	WAKE ISLAND Hy	112.06	289	T	T	13 45 25.2	
	baz=85,slow=75,SNR=5.9						
H11S1	WAKE ISLAND Hy	112.06	289	T	T	13 45 28.4	
	baz=85,slow=75,SNR=7.4						
H11S3	WAKE ISLAND Hy	112.07	289	T	T	13 45 29.1	
	baz=85,slow=75,SNR=6.3						
KURK	Kurchatov	127.61	17		PKPdf	11 44 47.8	-0.1
KURBB	Kurchatov Arra	127.67	17	PKP	PKPdf	11 44 47.8	-0.2
	comp=Z,0.4nm,0.5s,baz=329,slow=1.9,SNR=4.8						
ASAR	Alice Springs	138.44	231	PKP	PKiKP	11 45 10.3	-0.9
	comp=Z,0.3nm,1.1s,baz=98,slow=2.8,SNR=4.3						
ASAR	Alice Springs	138.44	231		PKPdf	11 45 08.5	-0.6
WRA	Warramunga Arr	139.93	236	PKhKP	PKPpre	11 45 06.4	
	comp=Z,0.4nm,1.1s,baz=115,slow=2.2,SNR=1.8						

NNC 04 11:26:35.6±0.4, 50°.04N×78°.81E, h0^{km}, mb3.0, mpv2.6, Error ellipse: s-maj=7.6km s-min=2.2km az=75.0, Suspected Mining explosion.
IDC 04 11:26:36.6±1.0, 50°.06N×78°.68E, h0^{km}, mb1 2.9/2, mb1mx2.9/39, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=8.9km s-min=6.4km az=58.0
ISC 04 11:26:36.9±1.0, 50°.05N±0°.05×78°.80E±0°.07, h0^{km}, n17, σ0s.83/29, 17C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.56	341	⇓P	Pg	11 26 46.8	-0.9
KUR07				⇓S	Sg	11 26 55.6	+0.5
KUR14	Kurchatov Arra	0.58	347	⇓P	Pg	11 26 47.1	-1.0
KUR14				⇑S	Sg	11 26 55.9	+0.4
KUR06	Kurchatov Arra	0.58	342	⇑P	Pg	11 26 47.2	-0.8
KUR06				⇑S	Sg	11 26 55.7	+0.2
KUR15	Kurchatov Arra	0.59	345	⇑P	Pg	11 26 47.4	-0.8
KUR15				⇑S	Sg	11 26 56.2	+0.4
KURBB	Kurchatov Arra	0.60	343	Pg	Pg	11 26 47.3	-1.1
	1.3nm,0.3s,baz=169,slow=39,SNR=49						
KURBB				Lg	Lg	11 26 56.6	
	1.3nm,0.3s,baz=172,slow=34,SNR=12						
KURBB	Kurchatov Arra	0.60	343	⇑P	Pg	11 26 47.5	-0.9
	13nm,0.3s						
KURBB				⇓S	Sg	11 26 56.3	+0.2
	39nm,0.8s						
KUR16	Kurchatov Arra	0.61	341	⇑P	Pg	11 26 47.6	-1.0
KUR16				⇑S	Sg	11 26 56.5	+0.1
KUR05	Kurchatov Arra	0.62	344	⇑P	Pg	11 26 47.8	-0.9
KUR05				⇓S	Sg	11 26 56.2	-0.5
KUR17	Kurchatov Arra	0.62	340	⇑P	Pg	11 26 47.9	-0.9
KUR17				⇓S	Sg	11 26 57.0	+0.2
KUR04	Kurchatov Arra	0.63	345	⇓P	Pg	11 26 48.1	-1.0
KUR04				⇑S	Sg	11 26 56.8	-0.4
KURK	Kurchatov	0.68	350	⇑P	Pg	11 26 48.8	-1.1
	4.2nm,0.3s						
KURK				⇑S	Sg	11 26 59.0	+0.4
	27nm,1.0s						
MAKZ	Makanchi	3.87	146	⇓Pg	Pb	11 27 46.5	+0.5
	0.9nm,0.4s						
MAKZ				⇑Lg	Lg	11 28 39.2	
	3.3nm,0.7s						
MK31	Makanchi Array	4.00	143	⇑Pn	Pn	11 27 39.7	+0.2
	0.1nm,0.2s,baz=322,slow=10.0,SNR=9.6						
MK31				⇑Pg	Pb	11 27 48.4	+0.1
	0.4nm,0.2s,baz=325,slow=14,SNR=17						
MK31				⇑Lg	Lg	11 28 43.6	
	1.9nm,0.5s,baz=330,slow=27,SNR=12						
MKAR	Makanchi Array	4.00	143	Pn	Pn	11 27 39.8	+0.3
	0.3nm,0.3s,baz=319,slow=10,SNR=17						
MKAR				Pg	Pb	11 27 48.1	-0.2
	0.5nm,0.3s,baz=328,slow=14,SNR=22						
MKAR				Lg	Lg	11 28 44.6	
	0.9nm,0.3s,baz=324,slow=29,SNR=17						
OTUK	Ortayu	4.61	249	⇓Pn	Pn	11 27 46.6	-1.3
	0.5nm,0.4s						
OTUK				⇓Pg	Pb	11 28 00.1	+1.4
	1.0nm,0.6s						
OTUK				⇓Lg	Lg	11 29 01.5	
	1.1nm,0.4s						
I46RU	ZALESOVO INFRA	5.39	41	i		11 59 20.0	
	baz=220,slow=320,SNR=4.5						
ZALV	Zalesovo Beam	5.39	41	Pn	Pn	11 28 00.1	+1.6
	0.7nm,0.3s,baz=232,slow=13,SNR=12						

IDC 04 11:34:18.1±727.0, 46°.65N×39°.95E, h0^{km}, Error ellipse: s-maj=285.0km s-min=174.9km az=22.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	10.23	352	i		12 40 50.0	
	baz=170,slow=323,SNR=1.5						
I31KZ	AKTYUBINSK INF	12.56	66	i		12 54 30.0	
	baz=260,slow=323,SNR=1.7						
I46RU	ZALESOVO INFRA	29.16	59	i		14 31 10.0	
	baz=275,slow=327,SNR=1.7						

NEIC 04 11:36:12.6±1.2, 12°.25S±0°.10×167°.0E±0°.2, h207^{km}±8^{km}, mb4.1/13, Error ellipse: s-maj=26.4km s-min=14.0km az=86.0
IDC 04 11:36:14.7±6.9, 12°.22S×166°.76E, h228^{km}±71^{km}, mb3.4/8, mb1 3.6/9, mb1mx3.4/32, mbtmp3.9/9, Error ellipse: s-maj=60.2km s-min=22.3km az=161.0
ISC 04 11:36:13.6±0.8, 12°.3S±0°.1×167°.0E±0°.1, h220^{km}, n25, σ0s.85/25, mb3.9/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	3.15	176	Pn	Pn	11 37 04.8	-1.3
DZM	Mont Dzumac	9.74	183	P	Pn	11 38 31.4	+2.1
	0.3nm,0.3s,baz=103,slow=20,SNR=1.5						
DZM	Mont Dzumac	9.74	183		Pn	11 38 29.0	-0.4
EIDS	Eidsvold	19.84	227	P	P	11 40 28.4	+0.3
CTA	Charters Tower	21.32	246	P	P	11 40 42.8	-0.9
	3.5nm,0.6s,baz=91,slow=10,SNR=5.7						
ARMA	Armidale	22.95	216	P	P	11 40 59.9	+0.9
ARMA				IAmb	IAmb	11 41 08.5	
	comp=Z,11nm,1.4s						
COEN	Coen	23.21	263	P	P	11 41 02.7	+1.3
COEN				IAmb	IAmb	11 41 03.3	
	comp=Z,5.0nm,0.8s						
STKA	Stephens Creek	30.39	226	P	P	11 42 05.3	-0.1
	comp=Z,0.5nm,0.4s,baz=62,slow=10.0,SNR=4.5						
STKA	Stephens Creek	30.39	226	IAmb	IAmb	11 42 06.4	
	comp=Z,0.9nm,1.4s						
WR0	Warramunga Arr	32.01	252	P	P	11 42 18.8	-1.0
WR0				IAmb	IAmb	11 42 36.6	
	comp=Z,13nm,1.4s						
WB0	Warramunga Arr	32.12	252	P	P	11 42 20.1	-0.6
WB0				IAmb	IAmb	11 42 20.2	
	comp=Z,1.9nm,0.8s						
WB2	Warramunga Arr	32.19	252	P	P	11 42 20.4	-0.8
WB2				IAmb	IAmb	11 42 33.3	
	comp=Z,6.2nm,1.2s						
WRAB	Tennant Creek	32.19	252	P	P	11 42 20.4	-0.8
WRAB				IAmb	IAmb	11 42 33.0	
	comp=Z,3.9nm,1.1s						
WRA	Warramunga Arr	32.20	252	P	P	11 42 20.1	-1.2
	comp=Z,0.8nm,0.4s,baz=84,slow=8.9,SNR=24						
AS31	Alice Springs	33.32	246	P	P	11 42 30.5	-0.6
ASAR	Alice Springs	33.32	246	P	P	11 42 29.9	-1.3
	comp=Z,1.0nm,0.6s,baz=68,slow=9.5,SNR=16						
ASAR				pP	pP	11 43 15.2	+0.2
	comp=Z,0.8nm,0.7s,baz=73,slow=9.3,SNR=7.8						
ASAR	Alice Springs	33.32	246	P	P	11 42 30.8	-0.3
BBOO	Buckleboo	34.88	229	P	P	11 42 44.1	-0.2

KNRA	**Kununurra**	**37.18**	**260**	P	**P**	**11 43 04.0**	**0.0**
FITZ	**Fitzroy Crossi**	**40.22**	**257**	P	**P**	**11 43 29.4**	**+0.2**
FITZ				IAmb	IAmb	11 43 36.5	
	comp=Z,7.5nm,1.3s						
ILAR	**Eielson Array**	**84.32**	**18**	P	**P**	**11 48 20.9**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=246,slow=5.1,SNR=35						
MKAR	**Makanchi Array**	**95.23**	**317**	P	**P**	**11 49 12.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=94,slow=5.8,SNR=2.7						
TXAR	**Lajitas Array**	**95.39**	**61**	P	**P**	**11 49 13.7**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=242,slow=7.7,SNR=2.2						
YKA	**Yellowknife Ar**	**95.53**	**27**	P	**P**	**11 49 12.8**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=260,slow=4.5,SNR=5.3						
ARCES	**ARCESS Array B**	**117.83**	**346**	PKP	**PKPdf**	**11 54 33.4**	**+0.1**
	comp=Z,4.3nm,1.1s,baz=46,slow=3.9,SNR=5.8						

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*UPP **04** 12:06:32.5±3.0, 55°.21N×20°.99E, h0km, ML2.0, Suspected explosion*
*DNK **04** 12:06:38.9±0.7, 55°.55N×20°.33E, h0km, ML2.0(UPP), Suspected explosion*
*LVSN **04** 12:06:38.7±5.4, 56°.71N×25°.70E, h0km±17km, ML2.3*
ISC 04 12:06:37.1±1.4**, 55°.55N**±0°.08×**21°.03E**±0°.04**, h0km, n25, σ2s.22**/26**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBUR	**Paburge**	**0.69**	**47**	*e*P	**Pg**	**12 06 49.7**	**-0.7**
PBUR				IAML		12 07 25.2	
	comp=Z,29nm,0.5s						
PABE	**Paberze**	**1.67**	**90**	*e*P	**Pn**	**12 07 06.8**	**-0.8**
PABE				IAML		12 07 34.1	
	comp=Z,14nm,0.4s						
PABE	**Paberze**	**1.67**	**90**	*e*P	**Pn**	**12 07 06.6**	**-0.9**
PABE				AML	AML	12 07 07.6	
	comp=Z,40nm,0.1s						
PABE				*e*S	**Sn**	**12 07 30.4**	**+0.7**
PABE				AML	AML	12 07 33.5	
	comp=E,33nm,0.4s						
PABE				AML	AML	12 07 33.7	
	comp=N,17nm,0.3s						
SLIT	**Slitere, Latvi**	**2.19**	**18**	*e*P	**Pn**	**12 07 13.8**	**-0.9**
SLIT				IAML		12 07 52.2	
	comp=Z,46nm,0.5s						
SLIT	**Slitere, Latvi**	**2.19**	**18**	*e*P	**Pn**	**12 07 14.8**	**0.0**
SLIT				AML	AML	12 07 15.9	
	comp=Z,65nm,0.1s						
SLIT				AML	AML	12 07 43.6	
	comp=E,88nm,0.8s						
SLIT				*e*S	**Sn**	**12 07 45.4**	**+2.8**
SLIT				AML	AML	12 08 24.1	
	comp=N,71nm,0.6s						
GOTU	**Gotland**	**2.53**	**329**	P	**Pn**	**12 07 19.1**	**-0.4**
GOTU				S	**Sn**	**12 07 53.7**	**+2.8**
GOTU	**Gotland**	**2.53**	**329**	P	**Pn**	**12 07 19.1**	**-0.4**
GOTU				S	**Sn**	**12 07 53.7**	**+2.8**
BYXU	**Byxelkrok**	**2.83**	**310**	P	**Pn**	**12 07 21.9**	**-1.6**
BYXU	**Byxelkrok**	**2.83**	**310**	P	**Pn**	**12 07 21.9**	**-1.6**
IIGN	**Ignalina**	**2.96**	**92**	*e*P	**Pn**	**12 07 24.3**	**-1.1**
BLEU	**Blekinge**	**3.03**	**287**	P	**Pn**	**12 07 23.0**	**-3.2**
BLEU	**Blekinge**	**3.03**	**287**	P	**Pn**	**12 07 23.0**	**-3.2**
VSTU	**Vaestervik**	**3.26**	**312**	P	**Pn**	**12 07 27.8**	**-1.6**
VSTU	**Vaestervik**	**3.26**	**312**	P	**Pn**	**12 07 27.8**	**-1.6**
BSD	**Bornholm Skovb**	**3.52**	**265**	*e*P	**Pn**	**12 07 37.2**	**+4.2**
VXJU	**Vaexsjoe**	**3.67**	**294**	P	**Pn**	**12 07 32.0**	**-3.0**
VXJU	**Vaexsjoe**	**3.67**	**294**	P	**Pn**	**12 07 32.0**	**-3.0**
EKSU	**Eksjoe**	**3.76**	**305**	P	**Pn**	**12 07 34.1**	**-2.2**
EKSU	**Eksjoe**	**3.76**	**305**	P	**Pn**	**12 07 34.1**	**-2.2**
VIKU	**Vikbolandet**	**3.79**	**323**	P	**Pn**	**12 07 35.0**	**-1.6**
VIKU	**Vikbolandet**	**3.79**	**323**	*e*P	**Pn**	**12 07 35.0**	**-1.6**
VIKU				IAML		12 08 33.6	
	comp=Z,3.4nm,0.7s						
VIKU	**Vikbolandet**	**3.79**	**323**	P	**Pn**	**12 07 35.0**	**-1.6**
DEL	**Delary**	**4.12**	**286**	*e*P	Pn	12 07 37.6	-3.6
VSU	**Vasula**	**4.27**	**45**	AML	AML	12 07 56.6	
	comp=Z,36nm,0.1s						
VSU				*e*S	Pn	12 07 38.7	-4.6
VSU				AML	AML	12 07 59.3	
	comp=N,65nm,0.1s						
VSU				AML	AML	12 08 03.3	
	comp=E,49nm,0.1s						
AAL	**Aland**	**4.67**	**354**	*e*P	Pn	12 07 44.8	-3.9

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*IDC **04** 12:09:19.9±0.8, 5°.85S×146°.70E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/44, mbtmp3.8/11, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/65, Error ellipse: s-maj=28.0km s-min=15.5km az=90.0*
ISC 04 12:09:21.2±0.8**, 5°.90S**±0°.08×**146°.8E**±0°.2**, h10km, n16, σ1s.28**/14**, mb4.0**/8**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**174**	Pn	**Pn**	**12 10 17.9**	**+2.2**
	4.5nm,0.3s,baz=22,slow=11,SNR=7.0						
PMG				Pg	**Pg**	**12 10 27.5**	**-0.8**
	9.7nm,0.3s,baz=342,slow=11,SNR=34						
PMG				Lg	Lg	12 11 14.4	
	8.4nm,0.3s,baz=290,slow=22,SNR=7.6						
PMG				LR	LR	12 12 00.6	
	comp=Z,270nm,19.6s,baz=2.0,slow=45						
JAY	**Jayapura**	**6.91**	**299**	LR	LR	12 14 14.2	
	comp=Z,189nm,18.7s,baz=62,slow=43						
CTA	**Charters Tower**	**14.11**	**182**	LR	LR	12 17 49.0	
	comp=Z,118nm,18.2s,baz=64,slow=36						
WRA	**Warramunga Arr**	**18.45**	**220**	P	**Pn**	**12 13 36.2**	**-1.0**
	0.2nm,0.3s,baz=45,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**21.56**	**214**	P	**P**	**12 14 11.3**	**+0.3**
	0.5nm,0.6s,baz=51,slow=8.0,SNR=8.0						
FITZ	**Fitzroy Crossi**	**23.91**	**238**	P	**P**	**12 14 35.0**	**-0.5**
	4.3nm,0.9s,baz=56,slow=5.8,SNR=5.9						
KSRS	**Korea Array**	**46.58**	**339**	P	**P**	**12 17 50.6**	**+1.3**
	1.3nm,0.8s,baz=161,slow=11,SNR=6.1						
CMAR	**Chiang Mai Arr**	**52.99**	**298**	P	**P**	**12 18 39.3**	**+0.8**
	0.7nm,0.3s,baz=127,slow=5.6,SNR=8.7						
SONM	**Songino Array**	**64.20**	**331**	P	**P**	**12 19 57.5**	**+1.1**
	1.1nm,0.8s,baz=131,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**77.27**	**321**	P	**P**	**12 21 15.5**	**-0.3**
	0.4nm,0.7s,baz=96,slow=8.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**78.80**	**328**	P	**P**	**12 21 22.3**	**-1.8**
	0.5nm,0.4s,baz=118,slow=8.3,SNR=2.3						
ILAR	**Eielson Array**	**85.49**	**23**	P	**P**	**12 21 58.1**	**-0.9**
	0.8nm,0.7s,baz=251,slow=5.1,SNR=17						
NVAR	**Mina Array Bea**	**97.50**	**52**	P	Pdif	12 22 58.1	+2.0
	0.4nm,0.7s,baz=207,slow=6.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**144.83**	**284**	PKP	**PKPdf**	**12 28 57.9**	**-1.6**
	1.0nm,0.7s,baz=67,slow=3.1,SNR=8.1						
SIV	**San Ignacio**	**144.90**	**129**	PKP	**PKPdf**	**12 28 59.0**	**-0.7**
	2.2nm,0.5s,baz=235,slow=3.8,SNR=10						
PTGA	**Pitinga**	**152.52**	**103**	PKPbc	**PKiKP**	**12 29 19.5**	**+0.2**
	2.0nm,0.6s,baz=256,slow=8.1,SNR=4.3						

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*DJA **04** 12:12:40.3±0.5, 3°N±5°×12°8E±°, h64km±15km, M4.2/10, mb4.2/5, mB5.0/2, MLv4.2/10, Mw(mB)4.3/2*
*IDC **04** 12:12:41.5±3.1, 2°.96N×127°.57E, h114km±32km, mb3.5/9, mb1 3.7/10, mb1mx3.4/49, mbtmp3.9/10, MS3.6/1, Ms1 3.6/1, ms1mx2.4/47, Error ellipse: s-maj=37.5km s-min=15.6km az=66.0*
ISC 04 12:12:40.0±0.8**, 3°.14N**±0°.09×**127°.61E**±0°.10**, h100km, n18, σ1s.67**/21**, mb3.8**/9**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.15**	**285**	P	**Pn**	**12 13 13.1**	**-1.4**
TNTI	**Ternate**	**2.37**	**186**	P	**Pn**	**12 13 17.6**	**+0.2**
LBMI	**Labuha**	**3.76**	**182**	P	**Pn**	**12 13 34.9**	**-1.1**
GTOI	**Gorontalo**	**5.23**	**242**	P	**Pn**	**12 13 55.8**	**-0.1**
	0.0nm16nm,0.7s						
SWI	**Sorong**	**5.40**	**137**	P	**Pn**	**12 13 58.6**	**+0.5**
	0.2nm19nm,0.5s						
SWI				S	**Sn**	**12 14 58.0**	**-1.0**
	0.2nm19nm,0.5s						
SIJI	**Sorong**	**5.40**	**137**	P	**Pn**	**12 13 58.9**	**+0.6**
	8.7nm,0.3s,baz=150,slow=22,SNR=14						
SIJI				S	**Sn**	**12 14 58.9**	**-0.3**
	5.3nm,0.3s,baz=202,slow=24,SNR=11						
SANI	**Sanana**	**5.41**	**198**	P	**Pn**	**12 13 57.3**	**-1.0**
	0.1nm1μm14nm,0.7s						
MRSI	**Marisa**	**6.26**	**245**	P	**Pn**	**12 14 10.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.20**	**185**	P	**P**	**12 17 15.7**	**-2.0**
	1.5nm,0.7s,baz=19,slow=10.0,SNR=1.8						
WRA	**Warramunga Arr**	**23.87**	**164**	P	**P**	**12 17 42.6**	**-1.9**
	1.2nm,0.3s,baz=345,slow=11,SNR=27						
ASAR	**Alice Springs**	**27.34**	**167**	P	**P**	**12 18 15.3**	**-0.5**
	0.3nm,0.3s,baz=351,slow=12,SNR=2.8						
ASAR				pP	**pP**	**12 18 42.4**	**+4.8**
	0.4nm,0.5s,baz=345,slow=8.1,SNR=2.5						
JNU	**Nakatsue**	**29.98**	**5**	LR	LR	12 29 38.4	
	comp=Z,114nm,21.1s,baz=292,slow=34						
CMAR	**Chiang Mai Arr**	**31.93**	**301**	P	**P**	**12 18 57.2**	**+0.8**
	0.5nm,0.3s,baz=114,slow=8.5,SNR=4.7						
STKA	**Stephens Creek**	**37.28**	**160**	P	**P**	**12 19 41.4**	**-1.0**
	5.2nm,0.6s,baz=334,slow=9.3,SNR=15						
MKAR	**Makanchi Array**	**58.54**	**325**	P	**P**	**12 22 27.2**	**+1.1**
	1.1nm,0.5s,baz=119,slow=8.1,SNR=17						
KURBB	**Kurchatov Arra**	**62.71**	**327**	P	**P**	**12 22 54.8**	**+0.5**
	1.0nm,0.2s,baz=126,slow=5.9,SNR=9.1						
KURBB				pP	**sP**	**12 23 26.1**	**-2.9**
	0.6nm,0.6s,baz=129,slow=6.3,SNR=1.9						
BVAR	**Borovoye Array**	**68.29**	**327**	P	**P**	**12 23 30.9**	**+0.6**
	0.7nm,0.8s,baz=50,slow=16,SNR=3.6						
ILAR	**Eielson Array**	**85.25**	**25**	P	**P**	**12 25 06.0**	**+0.7**
	0.4nm,0.9s,baz=215,slow=12,SNR=5.2						

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*NIED **04** 12:19:51.4, 31°.70N×128°.94E, h17km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr-2.26; Mθθ2.13; Mϕϕ0.13; Mrθ0.27; Mθϕ2.07; Mϕr-1.93; Fault plane solution: M0 3.59000×10^{14} NP1:ϕs27.00000°, δ62.00000°, λ-130.00000°. NP2:ϕs268.00000°, δ47.00000°, λ-39.00000°.*
JMA 04 12:19:51.3±0.2**, 31°.70N**×**128°.94E, h17km**±2km**, M3.5, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.66**	**92**	P	Pg	12 20 03.7	-0.6
JSJ				S	Sg	12 20 12.5	-0.6
JFU	**Fukue jima 2**	**0.97**	**350**	P	Pb	12 20 09.4	-0.2
JFU				S	Sg	12 20 22.5	-0.3
NGSJ	**Nagasakinomoza**	**1.18**	**38**	P	Pn	12 20 12.5	-0.5
NGSJ				*e*S	Sg	12 20 29.4	-0.2
JTN	**Tanegashima 3**	**2.04**	**120**	P	Pn	12 20 25.1	+0.3

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*NEIC **04** 12:28:14.1±2.0, 18°.92S±0°.05×70°.62W±0°.07, h35km±2km, mb4.0/6, ML4.3(GUC), Error ellipse: s-maj=11.8km s-min=8.3km az=110.0*
*IDC **04** 12:28:16.0±3.2, 18°.92S×70°.23W, h71km±34km, mb3.8/7, mb1 4.0/9, mb1mx3.8/32, mbtmp4.1/9, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/56, Error ellipse: s-maj=32.0km s-min=17.4km az=108.0*
*GUC **04** 12:28:16.4±0.5, 19°.01S×70°.48W, h49km±5km, ML4.3*
*VAO **04** 12:28:20.1±0.7, 18°.84S×70°.34W, h109km, mb4.2*
ISC 04 12:28:15.6±1.3**, 19°.03S**±0°.07×**70°.52W**±0°.08**, h73km**±12km**, n86, σ1s.26**/97**, mb3.9**/8**, 1C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**1.09**	**132**		**Pn**	**12 28 35.4**	**-0.2**
PB11				Sn	**Sn**	**12 28 50.4**	**0.0**
PB11	**IPOC Station P**	**1.09**	**132**	*e*P	**Pn**	**12 28 34.9**	**-0.7**
PB11				*e*S	**Sn**	**12 28 49.2**	**-1.1**
PB11				IAML		12 28 51.1	
	comp=E,19μm,0.4s						
TA02	**Huaiquique**	**1.28**	**164**		**Pn**	**12 28 38.4**	**+0.5**
TA02				Sn	**Sn**	**12 28 55.1**	**+0.6**
TA02	**Huaiquique**	**1.28**	**164**	*e*P	**Pn**	**12 28 37.9**	**0.0**
TA02				*e*S	**Sn**	**12 28 54.0**	**-0.5**
TA02				IAML		12 28 55.7	
	comp=N,15μm,0.4s						
HMBC	**Humberstone**	**1.37**	**155**	*e*P	**Pn**	**12 28 39.2**	**0.0**
HMBC				*e*S	**Sn**	**12 28 56.6**	**-0.3**
GO01	**Chusmiza**	**1.40**	**117**		**Pn**	**12 28 40.3**	**+0.4**
GO01				Sn	**Sn**	**12 28 58.4**	**+0.5**
GO01	**Chusmiza**	**1.40**	**117**	*e*P	**Pn**	**12 28 39.8**	**0.0**
GO01				*e*S	**Sn**	**12 28 58.4**	**+0.5**
GO01				IAML		12 29 00.1	
	comp=N,17μm,0.1s						
PB08	**IPOC Station P**	**1.69**	**131**		**Pn**	**12 28 44.0**	**+0.4**
PB08				Sn	**Sn**	**12 29 05.2**	**+0.4**
PB08	**IPOC Station P**	**1.69**	**131**	*e*P	**Pn**	**12 28 44.0**	**+0.4**
PB08				*e*S	**Sn**	**12 29 05.2**	**+0.4**
PB08				IAML		12 29 06.8	
	comp=E,5μm,0.2s						
PATCX	**Punta Patache**	**1.81**	**169**	Pn	**Pn**	**12 28 45.1**	**+0.2**
PATCX				Sn	**Sn**	**12 29 07.9**	**+0.8**
PATCX	**Punta Patache**	**1.81**	**169**	*e*P	**Pn**	**12 28 44.9**	**0.0**
PATCX				*e*S	**Sn**	**12 29 07.0**	**-0.2**
PB01	**IPOC Station P**	**2.22**	**154**		**Pn**	**12 28 50.6**	**+0.1**
PB01				Sn	**Sn**	**12 29 16.6**	**-0.4**
PB01	**IPOC Station P**	**2.22**	**154**	*e*P	**Pn**	**12 28 50.6**	**+0.1**
PB01				*e*S	**Sn**	**12 29 17.2**	**+0.1**
PB01				IAML		12 29 33.4	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**2.35**	**166**		**Pn**	**12 28 52.8**	**+0.6**
PB02	**IPOC Station P**	**2.35**	**166**	*e*P	**Pn**	**12 28 52.2**	**0.0**
PB02				*e*S	**Sn**	**12 29 19.3**	**-0.8**
PB02				IAML		12 29 29.0	
	comp=E,974nm,0.4s						
PB07	**IPOC Station P**	**2.75**	**168**		**Pn**	**12 28 58.1**	**+0.5**
PB07	**IPOC Station P**	**2.75**	**168**	*e*P	**Pn**	**12 28 58.0**	**+0.4**
PB07				*e*S	**Sn**	**12 29 28.8**	**-1.0**
PB07				IAML		12 29 30.5	
	comp=E,756nm,0.4s						
PB09	**IPOC Station P**	**3.00**	**157**		**Pn**	**12 29 02.4**	**+1.4**
PB09	**IPOC Station P**	**3.00**	**157**	*e*P	**Pn**	**12 29 01.9**	**+0.9**
PB09				*i* S	**Sn**	**12 29 37.6**	**+1.7**
PB09				IAML		12 30 00.8	
	comp=E,481nm,0.5s						
PB04	**IPOC Station P**	**3.30**	**174**		**Pn**	**12 29 04.7**	**-0.5**
PB04	**IPOC Station P**	**3.30**	**174**	⇑*e*P	**Pn**	**12 29 04.8**	**-0.3**
PB04				*e*S	**Sn**	**12 29 41.0**	**-2.4**
PB04				IAML		12 29 46.4	
	comp=N,557nm,0.4s						
LPAZ	**La Paz**	**3.55**	**40**	P	**Pn**	**12 29 11.1**	**+2.1**
	comp=N,6.0nm,0.3s,baz=232,slow=1.9,SNR=161						
LPAZ	**La Paz**	**3.55**	**40**	*e*P	**Pn**	**12 29 11.0**	**+2.0**
PB06	**IPOC Station P**	**3.76**	**167**		**Pn**	**12 29 11.1**	**-0.3**
PB06	**IPOC Station P**	**3.76**	**167**	*e*P	**Pn**	**12 29 10.9**	**-0.5**
PB06				*i* S	**Sn**	**12 29 52.0**	**-2.6**
LVC	**Limon Verde**	**3.86**	**157**	P	**Pn**	**12 29 14.0**	**+1.0**
	comp=N,2.6nm,0.3s,baz=2.2,slow=8.6,SNR=64						
LVC				S	**Sn**	**12 29 57.8**	**+0.4**
	comp=N,18nm,0.3s,baz=5.9,slow=22,SNR=5.9						
LVC	**Limon Verde**	**3.86**	**157**	Pn	**Pn**	**12 29 13.9**	**+1.0**
PB15	**IPOC Station P**	**4.27**	**167**		**Pn**	**12 29 18.4**	**0.0**
PB14	**IPOC Station P**	**5.57**	**179**	Pn	**Pn**	**12 29 34.6**	**-1.6**
AC01	**Pan de Azucar**	**7.08**	**181**	Pn	**Pn**	**12 29 54.4**	**-2.2**
AC02	**Maricunga**	**7.87**	**171**	Pn	**Pn**	**12 30 07.6**	**-0.3**
SIV	**San Ignacio**	**9.50**	**73**	P	**Pn**	**12 30 26.9**	**-2.9**
	comp=N,2.1nm,0.3s,baz=262,slow=9.6,SNR=20						
SIV				LR	LR	12 35 02.7	
	comp=N,131nm,19.8s,baz=304,slow=44						
SALV	**Santo Antonio**	**14.48**	**80**	*e*P	**Pn**	**12 31 37.5**	**+0.6**
PDRB	**Porto dos Gac**	**15.20**	**63**	*e*P	**Pn**	**12 31 45.9**	**-0.4**
H03N1	**Juan Fernandez**	**16.20**	**206**	P	**P**	**12 31 60.0**	**-0.3**
	baz=14,slow=74,SNR=11						
H03N1				T	T	12 48 28.1	
	baz=32,slow=72,SNR=269						
H03N2	**Juan Fernandez**	**16.20**	**206**	P	**P**	**12 32 00.2**	**-0.1**
	baz=14						
H03N2				T	T	12 48 28.3	
	baz=32,slow=72,SNR=289						
H03N3	**Juan Fernandez**	**16.21**	**206**	P	**P**	**12 31 59.9**	**-0.6**
	baz=14,slow=74,SNR=19						
H03N3				T	T	12 48 26.1	
	baz=32,slow=72,SNR=348						
CLDB	**Colider**	**16.36**	**62**	*e*P	**Pn**	**12 32 00.6**	**-0.3**
PTGB	**Pitanga**	**18.03**	**112**	*e*P	**Pn**	**12 32 23.5**	**+2.1**
ARAG	**Araguaiana, MT**	**18.16**	**82**	*e*P	**Pn**	**12 32 21.7**	**-1.3**
MACA	**Manacapuru-AM**	**18.47**	**33**	*e*P	**P**	**12 32 24.4**	**-1.4**
ITAB	**Concordia**	**18.76**	**119**	*e*P	**Pn**	**12 32 29.3**	**-0.8**
NPGB	**Novo Progresso**	**18.95**	**53**	*e*P	**P**	**12 32 28.9**	**-2.2**
ITRB	**Iturama**	**19.03**	**95**	*e*P	**Pn**	**12 32 32.8**	**-0.7**
CPSB	**Cacapava Do Su**	**19.18**	**129**	*e*P	**Pn**	**12 32 33.9**	**-1.2**
SNDB	**Serra Nova Dou**	**19.80**	**72**	*e*P	**P**	**12 32 39.1**	**-1.2**
FRTB	**Fartura**	**20.00**	**106**	*e*P	**Pn**	**12 32 43.9**	**-1.0**
ITTB	**Itaituba**	**20.51**	**47**	*e*P	**P**	**12 32 46.3**	**-1.8**
PTGA	**Pitinga**	**20.92**	**31**	P	**P**	**12 32 50.2**	**-2.3**
	comp=N,31nm,0.5s,baz=208,slow=14,SNR=112						
IPMB	**Ipameri, GO**	**21.18**	**91**	*e*P	**P**	**12 32 55.0**	**-0.3**
PLCA	**Paso Flores**	**21.63**	**180**	P	**P**	**12 33 03.3**	**+3.4**
	comp=N,1.3nm,0.6s,baz=2.6,slow=12,SNR=6.1						
PLCA	**Paso Flores**	**21.63**	**180**	*e*P	**P**	**12 33 03.7**	**+3.8**
BDFB	**Brasilia**	**21.74**	**85**	P	**P**	**12 33 02.4**	**+1.0**
BDFB				IAmb	IAmb	12 33 03.5	
	comp=Z,5.3nm,0.5s						
PEXB	**Peixe**	**22.47**	**75**	*e*P	**P**	**12 33 09.4**	**+0.3**
MALB	**Monte Alegre**	**23.34**	**45**	*e*P	**P**	**12 33 16.3**	**-1.6**
BOAV	**Boa Vista**	**23.45**	**26**	*e*P	**P**	**12 33 17.9**	**-1.0**
PRPB	**Parauapebas**	**23.87**	**60**	*e*P	**P**	**12 33 21.6**	**-1.0**
SMTB	**Santa Maria do**	**24.41**	**69**	*e*P	**P**	**12 33 26.6**	**-0.9**
JANB	**Januaria**	**25.35**	**85**	*e*P	**P**	**12 33 34.6**	**-1.5**
DIAM	**Diamantina, MG**	**25.43**	**93**	*e*P	**P**	**12 33 37.5**	**+0.5**
SDBA	**SAO DESIDERIO**	**25.50**	**79**	*e*P	**P**	**12 33 37.5**	**0.0**
MCPB	**Macapa, AP**	**25.93**	**46**	*e*P	**P**	**12 33 40.3**	**-1.0**
MDP	**Montagnes des**	**29.75**	**38**	P	**P**	**12 34 14.1**	**-1.3**
	comp=Z,20nm,1.1s,baz=190,slow=6.1,SNR=4.8						
GDU01	**Guandu, BA**	**30.12**	**85**	*e*P	**P**	**12 34 19.2**	**+0.5**
NBPN	**Ponto Novo - B**	**30.36**	**79**	*e*P	**P**	**12 34 20.0**	**-1.0**
NBLA	**Lagarto - SE**	**32.56**	**81**	*e*P	**P**	**12 34 38.0**	**-2.2**
NBPB	**Pedra_Branca-C**	**32.98**	**70**	*e*P	**P**	**12 34 43.7**	**-0.2**
NBAN	**Anadia - AL**	**34.40**	**79**	*e*P	**P**	**12 34 54.3**	**-1.9**
NBLV	**Livramento - P**	**34.63**	**75**	*e*P	**P**	**12 34 57.6**	**-0.7**
RCBR	**Riachuelo**	**36.17**	**73**	P	**P**	**12 35 13.0**	**+1.5**
TXAR	**Lajitas Array**	**57.75**	**326**	P	**P**	**12 37 59.9**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=152,slow=9.0,SNR=4.3						
TXAR	**Lajitas Array**	**57.75**	**326**	P	**P**	**12 38 00.6**	**+1.2**
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**12 39 28.6**	**+2.2**
QSPA				IAmb	IAmb	12 39 42.5	
	comp=Z,1.1nm,1.0s						
NVAR	**Mina Array Bea**	**72.63**	**322**	P	**P**	**12 39 37.6**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=154,slow=4.4,SNR=4.1						
KOWA	**Kowa**	**73.46**	**68**	LR	LR	13 09 54.4	
	comp=Z,65nm,18.8s,baz=201,slow=34						
TORD	**Torodi Ar. Bea**	**77.98**	**72**	P	**P**	**12 40 05.1**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=247,slow=2.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.98**	**72**	IAmb	IAmb	12 40 14.9	
	comp=Z,1.4nm,0.6s						
YKA	**Yellowknife Ar**	**88.37**	**341**	P	**P**	**12 40 59.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=133,slow=4.8,SNR=34						
H11S2	**WAKE ISLAND Hy**	**126.03**	**279**	T	T	15 06 13.6	
	baz=101,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**126.04**	**279**	T	T	15 06 24.1	
	baz=101,slow=75,SNR=80						
H11S3	**WAKE ISLAND Hy**	**126.05**	**279**	T	T	15 06 21.7	
	baz=101,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**126.05**	**281**	T	T	15 06 17.4	
	baz=100,slow=74,SNR=43						
H11N2	**WAKE ISLAND Hy**	**126.07**	**281**	T	T	15 06 18.4	
	baz=100,slow=74,SNR=58						
H11N1	**WAKE ISLAND Hy**	**126.07**	**281**	T	T	15 06 22.0	
	baz=100,slow=74,SNR=32						
ZALV	**Zalesovo Beam**	**140.32**	**23**	PKP	**PKiKP**	**12 47 36.2**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=260,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**144.45**	**33**	PKP	**PKPdf**	**12 47 43.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.0,SNR=3.8						

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*HEL **04** 12:31:18.0±0.1, 63°.97N×28°.18E, h0km, ML1.8, Explosion*
*IDC **04** 12:31:19.2±1.6, 63°.96N×28°.04E, h0km, mb1 3.0/3, mb1mx2.9/32, mbtmp2.9/3, ML1.8/3, Error ellipse: s-maj=30.4km s-min=8.8km az=95.0*
*UPP **04** 12:31:20.3±2.5, 63°.84N×27°.60E, h0km, ML1.6, Suspected explosion*
ISC 04 12:31:17.6±1.0**, 63°.88N**±0°.04×**28°.08E**±0°.06**, h0km, n32, σ1s.20**/49**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**1.46**	**218**	PG	**Pb**	**12 31 46.0**	**+0.6**
	baz=34						
SUF				MSG		12 32 04.7	
	comp=Z,4.0nm,0.2s						
OUL	**Oulu**	**1.53**	**323**	PG	**Pn**	**12 31 45.0**	**-1.2**
OUL				SG	**Sn**	**12 32 04.6**	**-2.1**
OUF	**Merijarvi**	**1.54**	**290**	PG	**Pn**	**12 31 45.8**	**-0.5**
OUF				MSG		12 32 04.7	
	comp=Z,7.2nm,0.2s						
OUF				SG	**Sn**	**12 32 06.2**	**-0.8**
OBF0	**Syolatti, Pyha**	**1.79**	**292**	PG	**Pn**	**12 31 50.1**	**+0.4**
OBF0				SN	**Sn**	**12 32 13.7**	**+0.6**
KAF	**Kangasniemi**	**1.95**	**205**	PG	**Pg**	**12 31 54.6**	**-0.3**
KAF				SG	**Sg**	**12 32 22.1**	**+1.9**
MSF	**Maaselka**	**2.08**	**11**	PG	**Pn**	**12 31 53.3**	**-0.4**
	baz=189						
MSF				SG	**Sn**	**12 32 18.9**	**-1.4**
KEF	**Keuruu**	**2.26**	**222**	PB	**Pb**	**12 31 59.2**	**0.0**
KEF				MSG		12 32 27.7	
	comp=Z,4.6nm,0.2s						
KEF				SG	**Sg**	**12 32 29.8**	**-0.2**
KU6	**Riekki**	**2.29**	**19**	PG	**Pn**	**12 31 57.4**	**+0.9**
	baz=200						
KU6				MSG		12 32 22.8	
	comp=Z,4.0nm,0.2s						
KU6				SG	**Sn**	**12 32 25.0**	**-0.3**
VAF	**Ylistaro**	**2.57**	**253**	PB	**Pb**	**12 32 03.7**	**-0.8**
VAF				MSG		12 32 35.7	
	comp=Z,4.6nm,0.2s						
VAF				SB	**Sb**	**12 32 37.6**	**+1.1**
FIA0	**FINESS Array S**	**2.62**	**202**	PB	**Pb**	**12 32 05.1**	**-0.2**
FIA0				SB	**Sb**	**12 32 37.8**	**-0.1**
FINES	**FINESS Array B**	**2.62**	**202**	Pn	**Pb**	**12 32 05.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=17,slow=15,SNR=19						
FINES				Sn	**Sg**	**12 32 40.0**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=22,slow=25,SNR=19						
TOF	**Tornio**	**2.72**	**326**	PB	**Pn**	**12 32 03.0**	**+0.5**
TOF				MSG		12 32 36.8	
	comp=Z,2.1nm,0.2s						
TOF				SG	**Sn**	**12 32 38.7**	**+2.7**
KALU	**Kalix**	**2.83**	**317**	P	**Pn**	**12 32 04.5**	**+0.6**
KALU				S	**Sn**	**12 32 38.6**	**0.0**
KALU	**Kalix**	**2.83**	**317**	PB	**Pn**	**12 32 05.4**	**+1.5**
KALU				SB	**Sn**	**12 32 38.9**	**+0.3**
RNF	**Rovaniemi**	**2.87**	**343**	SB	**Sn**	**12 32 41.7**	**+2.0**
SJUU	**Sjulsmark**	**3.22**	**303**	P	**Pn**	**12 32 10.1**	**+0.8**
ODEU	**Stanfors**	**3.27**	**283**	P	**Pn**	**12 32 09.9**	**-0.1**
UMAU	**Umeaa**	**3.27**	**273**	PN	**Pn**	**12 32 11.2**	**+1.2**
SGF	**Sodankyl**	**3.63**	**351**	PN	**Pn**	**12 32 16.1**	**+1.1**
	baz=172						
ERTU	**Ertsjaerv**	**3.65**	**320**	PN	**Pn**	**12 32 16.2**	**+0.9**
PAJU	**Pajala**	**3.77**	**329**	P	**Pn**	**12 32 17.7**	**+0.8**
PAJU	**Pajala**	**3.77**	**329**	PN	**Pn**	**12 32 17.8**	**+0.8**
PAJU				SN	**Sn**	**12 33 00.5**	**-1.5**
KLF	**Kolari**	**3.77**	**335**	PN	**Pn**	**12 32 17.3**	**+0.4**
KLF				SN	**Sn**	**12 32 59.9**	**-2.1**
HARU	**Harads**	**3.78**	**310**	P	**Pn**	**12 32 17.6**	**+0.6**
LILU	**Lilltraesk**	**3.82**	**295**	P	**Pn**	**12 32 17.8**	**+0.3**
LILU				S	**Sn**	**12 33 02.8**	**-0.2**
MASU	**Masugnsbyn**	**4.38**	**328**	P	**Pn**	**12 32 27.2**	**+1.9**
DUNU	**Dundret**	**4.51**	**319**	P	**Pn**	**12 32 28.0**	**+0.9**
LANU	**Lannavaara**	**4.87**	**332**	P	**Pn**	**12 32 33.5**	**+1.6**
SALU	**Saltoluokta**	**5.29**	**316**	P	**Pn**	**12 32 38.6**	**+0.9**
KOVU	**Salmi**	**5.42**	**327**	P	**Pn**	**12 32 40.7**	**+1.2**
ARCES	**ARCESS Array B**	**5.77**	**351**	Pn	**Pn**	**12 32 44.5**	**+0.2**
	baz=169,slow=12,SNR=5.3						
ARCES				Sn	**Sn**	**12 33 48.6**	**-2.4**
	baz=172,slow=26,SNR=5.6						
ARCES				Lg	Lg	12 34 14.6	
	baz=162,slow=35,SNR=5.4						
NOA	**NORSAR Array B**	**8.31**	**258**	Pn	**Pn**	**12 33 16.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=60,slow=16,SNR=1.2						

JMA 04 13:00:31.4±0.1**, 37°.62N**×**141°.79E, h38km**±2km**, M3.9, 6C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.72**	**279**	⇓P	Pn	13 00 45.2	+0.1
JMST				S	Sn	13 00 54.7	-0.2
JIKH	**Ishinomakikobu**	**0.74**	**340**	⇑P	Pn	13 00 45.5	+0.2
JIKH				S	Sn	13 00 54.5	-0.7
JFK	**Kawauchi**	**0.77**	**251**	⇓P	Pn	13 00 45.8	0.0
JFK				S	Sn	13 00 55.9	-0.3
JMM	**Marumori**	**0.83**	**288**	⇓P	Pn	13 00 46.8	+0.3
JMM				S	Sn	13 00 57.6	+0.1
JIO	**Ouri**	**0.90**	**337**	⇑P	Pn	13 00 47.9	+0.3
JIO				S	Sn	13 00 59.2	-0.2
ONAJ	**Iwakimizuishiy**	**0.94**	**237**	⇓P	Pn	13 00 48.1	-0.1
ONAJ				S	Sn	13 00 59.8	-0.7
JFT	**Otama**	**1.16**	**265**	⇓P	Pn	13 00 52.3	+1.2
JFT				S	Sn	13 01 07.2	+1.5
JOU	**Okura**	**1.16**	**310**	⇑P	Pn	13 00 51.9	+0.8
JOU				*e*S	Sn	13 01 07.0	+1.3
JKMT	**Kesennumamotoy**	**1.22**	**348**	⇑P	Pn	13 00 52.3	+0.5
JMK	**Ichinoseki**	**1.40**	**342**	⇑P	Pn	13 00 55.3	+0.9
JYS	**Shirataka**	**1.49**	**294**	S	Sn	13 01 16.3	+2.5

JFY	Yanaizu	1.67	263	P	Pn	13 00 59.5	+1.4
JYK	Kaneyama	1.72	319	⇑P	Pn	13 00 59.8	+1.1
MAT	Matsushiro	3.06	251	P	Pn	13 01 19.6	+2.4
MAT				S	Sn	13 01 58.4	+5.8

IDC 04 13:14:21.9±2.0**,1°26N×126°68E,h0km,mb3.5**/3**, mb1 3.7**/3**,mb1mx3.3**/41**,mbtmp3.5**/3**,Error ellipse: s-maj=178.7km s-min=23.9km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.37	161	P	P	13 19 22.1	+0.2
	0.3nm,0.3s,baz=339,slow=11,SNR=7.5						
ASAR	Alice Springs	25.76	165	P	P	13 19 54.3	-0.2
	0.5nm,0.3s,baz=346,slow=12,SNR=24						
MKAR	Makanchi Array	59.55	326	P	P	13 24 27.3	0.0
	0.3nm,0.3s,baz=121,slow=7.5,SNR=11						

IDC 04 13:15:26.4±5.9**,2°47N×127°25E,h85km**±59km**,mb3.3**/4**, mb1 3.5**/5**,mb1mx3.1**/43**,mbtmp3.6**/5**,ML3.8**/1**,Error ellipse: s-maj=82.8km s-min=25.6km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.20	129	P	Pn	13 16 42.9	+1.1
	3.2nm,0.3s,baz=141,slow=23,SNR=8.8						
SIJI				S	Sn	13 17 40.3	-0.2
	1.1nm,0.3s,baz=199,slow=22,SNR=1.5						
WRA	Warramunga Arr	23.33	163	P	P	13 20 26.7	-0.6
	1.1nm,0.7s,baz=342,slow=10,SNR=11						
ASAR	Alice Springs	26.77	166	P	P	13 20 58.5	0.0
	0.3nm,0.3s,baz=341,slow=8.1,SNR=7.8						
ASAR				PcP	PcP	13 24 19.6	-0.2
	0.4nm,0.8s,baz=360,slow=1.9,SNR=4.5						
STKA	Stephens Creek	36.77	159	P	P	13 22 26.4	+0.6
	0.6nm,0.3s,baz=354,slow=10,SNR=3.9						
MKAR	Makanchi Array	58.89	325	P	P	13 25 16.2	-0.3
	0.1nm,0.4s,baz=115,slow=7.7,SNR=2.1						

*TRN **04** 13:40:33.0,10°14N×62°23W,h24km,MD4.2*
*FUNV **04** 13:40:34.5,10°31N×62°15W,h3km,MW4.0*
ISC 04 13:40:34.8±1.0**,10°29N**±0°05×**62°19W**±0°04**,h25km,n29,** σ1s.**27**/40**,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.73	88	eP	Pb	13 40 48.6	-0.3
TRN	Trinidad (W)	0.85	65	i P	Pb	13 40 49.7	-1.3
TRN				eS	Sn	13 41 02.4	-0.6
CRUV	Carupano	1.10	291	eP	Pn	13 40 53.6	-0.9
COAV	Cumanacoa	1.61	266	eP	Pb	13 41 04.0	+0.1
GRGR	Grenville	1.91	16	eP	Pn	13 41 06.6	+0.8
GRGR				eS	Sn	13 41 30.6	+1.6
TOSP	Speyside	1.91	58	eP	Pb	13 41 07.9	-1.1
CUMV	Cumana_UDO	1.97	274	eP	Pb	13 41 09.1	-0.9
CUMV				eS	Sb	13 41 34.5	+0.3
GCMP	Grenada, Carri	2.31	19	eP	Pn	13 41 11.5	+0.3
GCMP				eS	Sn	13 41 40.0	+1.1
PCRV	Puerto La Cruz	2.41	268	eP	Pn	13 41 14.3	+1.6
PRGV	PARIAGUAN	2.86	238	eP	Pn	13 41 20.0	+1.3
SVB	Belmont	3.11	17	eP	Pn	13 41 23.9	+1.7
SVB				eS	Sn	13 42 00.7	+2.1
SLBI	Saint Lucia, B	3.90	18	eP	Pn	13 41 34.4	+1.2
SLBI				eS	Sn	13 42 19.1	+1.0
BIRV	Birongo	4.02	273	eP	Pn	13 41 37.1	+2.4
BIRV				eS	Sn	13 42 21.8	+0.8
MERV	Las Mercedes	4.17	256	eP	Pn	13 41 38.1	+1.2
MERV				eS	Sn	13 42 24.7	-0.2
LUEV	Luepa	4.47	171	eP	Pn	13 41 42.3	+1.1
LUEV				eS	Sn	13 42 31.8	-0.8
CACV	CAICARA DEL OR	5.08	238	eP	Pn	13 41 44.6	-4.7
CACV				eS	Sn	13 42 37.5	-10
DSLB	Salisbury	5.17	8	eP	Pn	13 41 51.8	+1.1
DSLB	Salisbury	5.17	8	eS	Sn	13 42 49.7	+0.1
BENV	Beln	5.33	267	eP	Pn	13 41 53.9	+1.0
BENV				eS	Sn	13 42 52.6	-1.0
TURV	Turiamo	5.56	272	eP	Pn	13 41 56.7	+0.8
TURV				eS	Sn	13 42 58.0	-1.1
MAGL	Barre de l'ile	5.70	9	eP	Pn	13 41 59.3	+1.5
MAGL	Barre de l'ile	5.70	9	eS	Sn	13 43 02.0	-0.5
CBE	Ff, Capester	5.78	6	eP	Pn	13 41 59.3	+0.3
CBE	Ff, Capester	5.78	6	eS	Sn	13 43 03.9	-0.6
ABD	La Joyeuse, An	6.19	6	eP	Pn	13 42 05.8	+1.2
ANBD	Bethesda, Anti	6.73	3	eP	Pn	13 42 13.8	+1.7
ANBD	Bethesda, Anti	6.73	3	eS	Sn	13 43 28.2	+0.2
PAYV	Puerto Ayacuch	7.26	229	eP	Pn	13 42 20.1	+0.8
ELOV	Elorza	7.91	246	eP	Pn	13 42 28.8	+0.5
ELOV				eS	Sn	13 43 53.4	-3.7

IDC 04 13:43:31.7±2.8**,4°29S×94°56E,h0km,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.5**/33**,mbtmp3.7**/4**,Error ellipse: s-maj=97.9km s-min=31.5km az=59.0,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.01	11	P	P	13 48 38.9	+0.5
	0.6nm,0.3s,baz=199,slow=9.8,SNR=8.5						
WRA	Warramunga Arr	41.74	115	P	P	13 51 22.9	-0.1
	0.5nm,0.8s,baz=296,slow=8.4,SNR=2.5						
MKAR	Makanchi Array	52.01	349	P	P	13 52 43.0	+0.2
	0.6nm,0.9s,baz=156,slow=9.3,SNR=7.0						
ZALV	Zalesovo Beam	58.59	353	P	P	13 53 29.8	-0.4
	2.3nm,0.8s,baz=180,slow=5.0,SNR=8.9						
TXAR	Lajitas Array	149.69	33	PKPbc	PKPbc	14 03 23.6	-0.8
	0.2nm,0.6s,baz=188,slow=0.9,SNR=3.4						

*NEIC **04** 14:03:59.5±1.6,27°60S±0°08×177°3W±0°2,h51km±5km, mb4.4/11,Error ellipse: s-maj=22.3km s-min=11.5km az=90.0*
*IDC **04** 14:04:00.7±3.4,27°69S×177°22W,h71km±32km,mb3.8/9, mb1 4.0/9,mb1mx3.7/40,mbtmp4.1/9,MS3.6/9,Ms1 3.6/9, ms1mx3.2/56,Error ellipse: s-maj=32.8km s-min=24.0km az=162.0*
ISC 04 14:03:58.6±0.6**,27°60S**±0°08×**177°2W**±0°1**,h50km,n44,** σ1s.**31**/36**,mb4.2**/14**,MS3.7**/9**,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.77	201	P	Pn	14 04 27.1	+0.2
	1µm,0.3s,baz=74,slow=9.4,SNR=28						
RAO				S	Sn	14 04 49.0	+0.8
	2µm,0.3s,baz=90,slow=22,SNR=13						
RAO				LR	LR	14 04 50.1	
	comp=Z,433nm,19.5s,baz=109,slow=30						
RAO	Raoul Island	1.77	201	Sn	Sn	14 04 48.4	+0.2
MSVF	Nonsavu	10.75	335	LR	LR	14 10 05.4	
	comp=Z,150nm,18.6s,baz=179,slow=34						
DZM	Mont Dzumac	15.84	287	LR	LR	14 12 44.4	
	comp=Z,85nm,20.5s,baz=41,slow=33						
DZM	Mont Dzumac	15.84	287	eLR	LR	14 10 58.3	
	comp=Z,359nm,25.5s						
PPT2	Papeete2	27.31	74	eLR	LR	14 16 09.7	
	comp=Z,351nm,26.8s						
CTA	Charters Tower	34.17	275	LR	LR	14 22 49.4	
	comp=Z,90nm,19.6s,baz=85,slow=33						
STKA	Stephens Creek	35.89	253	P	P	14 10 54.3	+0.3
	2.5nm,0.8s,baz=101,slow=13,SNR=3.8						
STKA				LR	LR	14 23 56.1	
	comp=Z,80nm,19.9s,baz=37,slow=33						
STKA	Stephens Creek	35.89	253	P	P	14 10 53.9	-0.2
STKA				IAmb	IAmb	14 11 00.6	
	comp=Z,1.7nm,1.4s						
TAOE	Nuku Hiva Isla	39.59	69	eLR	LR	14 22 01.8	
	comp=Z,133nm,25.2s						
AS31	Alice Springs	44.05	264	P	P	14 12 00.5	-1.3
ASAR	Alice Springs	44.05	264	P	P	14 12 00.8	-1.1
	comp=Z,1.1nm,0.6s,baz=95,slow=6.6,SNR=26						
ASAR				PcP	PcP	14 13 46.3	-0.4
	comp=Z,0.3nm,0.6s,baz=107,slow=4.5,SNR=5.1						
ASAR	Alice Springs	44.05	264	P	P	14 12 00.1	-1.7
WR0	Warramunga Arr	44.60	269	P	P	14 12 04.9	-1.3
WR0				IAmb	IAmb	14 12 07.9	
	comp=Z,3.8nm,0.9s						
WB2	Warramunga Arr	44.77	269	P	P	14 12 06.7	-0.9
WB2				IAmb	IAmb	14 12 11.2	
	comp=Z,9.1nm,1.4s						
WRA	Warramunga Arr	44.78	269	P	P	14 12 06.4	-1.3
	comp=Z,2.1nm,0.5s,baz=110,slow=6.4,SNR=33						
WRA				PcP	PcP	14 13 49.1	-0.1
	comp=Z,0.9nm,0.8s,baz=105,slow=3.3,SNR=5.6						
WRA				LR	LR	14 30 24.8	
	comp=Z,42nm,18.6s,baz=123,slow=35						
WRA	Warramunga Arr	44.78	269	P	P	14 12 06.8	-0.9
WB0	Warramunga Arr	44.80	269	P	P	14 12 06.7	-1.1
WB0				IAmb	IAmb	14 12 23.1	
	comp=Z,17nm,1.5s						
VNDA	Vanda	50.95	186	P	P	14 12 55.7	+1.2
QSPA	South Pole Qui	62.51	180	P	P	14 14 16.9	0.0
QSPA				IAmb	IAmb	14 14 34.9	
	comp=Z,5.2nm,0.8s						
LEM	Lembang	73.76	271	LR	LR	14 48 09.4	
	comp=Z,75nm,18.9s,baz=77,slow=36						
MJAR	Matsushiro Arr	76.37	324	P	P	14 15 43.8	+1.2
	comp=Z,4.5nm,0.9s,baz=157,slow=5.9,SNR=9.9						
MJAR	Matsushiro Arr	76.37	324	P	P	14 15 45.0	+2.5
MJAR				IAmb	IAmb	14 15 45.2	
	comp=Z,2.9nm,0.7s						
H03S2	Juan Fernandez	81.42	124	T	T	15 46 13.3	
	baz=242,SNR=8.7						
H03S1	Juan Fernandez	81.43	124	T	T	15 46 15.6	
	baz=242,SNR=10						
H03S3	Juan Fernandez	81.43	124	T	T	15 46 14.8	
	baz=242,SNR=9.1						
KSRS	Korea Array	82.69	319	P	P	14 16 17.6	+0.8
	comp=Z,1.4nm,0.6s,baz=131,slow=5.2,SNR=7.3						
PEA0B	Petropavlovsk-	83.29	345	P	P	14 16 20.2	+0.7
PFO	Pinyon Flats O	83.78	47	LR	LR	14 48 53.0	
	comp=Z,47nm,18.2s,baz=234,slow=32						
PLCA	Paso Flores	83.89	133	P	P	14 16 22.8	-0.6
PLCA				IAmb	IAmb	14 16 26.0	
	comp=Z,10nm,1.5s						
NVAR	Mina Array Bea	85.70	42	P	P	14 16 32.5	+0.1
	comp=Z,0.7nm,0.7s,baz=222,slow=7.6,SNR=6.7						
KLR	Kul'dur	88.99	329	P	P	14 16 47.6	-0.1
	comp=Z,1.2nm,0.7s,baz=113,slow=1.0,SNR=5.0						
TXAR	Lajitas Array	90.27	57	P	P	14 16 54.0	-0.3
	comp=Z,0.2nm,0.6s,baz=221,slow=5.0,SNR=3.5						
TXAR				LR	LR	14 47 45.6	
	comp=Z,24nm,20.8s,baz=228,slow=29						
SEY	Seymchan	93.42	347	P	P	14 17 07.9	0.0
	comp=Z,0.2nm,0.2s,baz=188,slow=3.4,SNR=4.4						
LVC	Limon Verde	94.65	118	LR	LR	14 52 31.4	
	comp=Z,78nm,19.5s,baz=212,slow=31						
MKAR	Makanchi Array	116.50	311	PKP	PKPdf	14 22 34.4	-2.3
	comp=Z,0.3nm,0.5s,baz=250,slow=2.0,SNR=5.6						
MKAR	Makanchi Array	116.50	311		PKPdf	14 22 35.1	-1.6
FINES	FINESS Array B	142.74	342	PKhKP	PKPpre	14 23 20.3	
	comp=Z,1.5nm,0.8s,baz=47,slow=6.1,SNR=1.1						
FINES	FINESS Array B	142.74	342		PKPdf	14 23 27.8	+2.1
NOA	NORSAR Array B	146.08	353	PKPbc	PKPdf	14 23 31.2	-0.4
	comp=Z,0.5nm,0.7s,baz=11,slow=3.2,SNR=3.4						
AKASG	Malin Array Be	149.44	326	PKPbc	PKPbc	14 23 40.4	-1.4
	comp=Z,3.3nm,0.7s,baz=42,slow=3.2,SNR=13						
AKASG	Malin Array Be	149.44	326		PKPdf	14 23 38.9	+1.5
AKASG				PKPab	PKiKP	14 23 45.5	+2.6
TORD	Torodi Ar. Bea	165.59	176	PKPab	PKPab	14 24 56.6	-0.3
	comp=Z,0.4nm,0.6s,baz=188,slow=3.8,SNR=2.9						
TORD	Torodi Ar. Bea	165.59	176	PKPdf	PKPdf	14 23 55.7	-2.7
TORD					PKPab	14 24 55.7	-1.2

*MOS **04** 14:15:27.2±0.9,42°47N×142°83E,h52km,mb4.3/18,Error ellipse: s-maj=9.5km s-min=6.5km az=82.7*
*SKHL **04** 14:15:27.7±0.5,42°40N×142°90E,h115km±4km,mb5.0/6, msha5.9/4*
*JMA **04** 14:15:29.4±0.1,42°51N×142°94E,h99km±1km,M3.5*
JMA Felt I J1.
*IDC **04** 14:15:29.1±1.4,42°49N×142°84E,h107km±10km, mb3.6/16,mb1 3.7/19,mb1mx3.6/56,mbtmp3.9/19,Error ellipse: s-maj=16.5km s-min=11.9km az=121.0*
*NEIC **04** 14:15:29.1±1.4,42°46N±0°06×142°83E±0°07, h110km±6km,mb4.2/18,Error ellipse: s-maj=10.0km s-min=5.0km az=214.0*
*NIED **04** 14:15:29.4,42°51N×142°94E,h99km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.37; Mθθ-0.54; Mφφ-0.83; Mrθ4.09; Mθφ2.55; Mφr1.05; Fault plane solution: M0 4.98000×10^14 NP1:φs92.00000°, δ81.00000°,λ57.00000°. NP2:φs349.00000°,δ34.00000°, λ164.00000°.*
ISC 04 14:15:28.2±0.6**,42°44N**±0°04×**142°90E**±0°03**,h106km**±4km**, n132,**σ1s.**07**/160**,mb4.1**/36**,6C-1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.19	215	P	Pn	14 15 44.0	+0.9
JSHD	Hidakashinhida	0.32	265	P	Pn	14 15 44.4	+0.9
JTHR	Tokachihiroo	0.33	116	P	Pn	14 15 44.1	+0.5
JTHR				eS	Sn	14 15 55.3	+0.2
JCH	Churui	0.39	62	P	Pn	14 15 44.0	+0.1
JCH				eS	Sn	14 15 54.9	-0.7
JEM	Erimo	0.46	155	P	Pn	14 15 45.4	+1.1
ERM	Erimo	0.46	156	cePN	Pn	14 15 45.3	+0.9
ERM				pmax	pmax		
	comp=Z,2µm,0.8s						
ERM	Erimo	0.46	156		Pn	14 15 45.4	+1.1
JBT2	Biratori 2	0.52	311	P	Pn	14 15 45.0	+0.2
JIAM	Iburiatsuma	0.75	285	P	Pn	14 15 48.1	+1.6
JIAM				eS	Sn	14 16 02.9	+2.6
JFR	Furan	0.76	343	P	Pn	14 15 46.7	0.0
JFR				eS	Sn	14 16 00.1	-0.5
JOB	Onbets	0.83	56	P	Pn	14 15 48.0	+0.7
JOB				eS	Sn	14 16 02.2	+0.4
JAR	Ashorobuto	1.07	36	P	Pn	14 15 49.8	0.0
JAR				eS	Sn	14 16 05.3	-0.8
JEW	Eniwo	1.14	291	P	Pn	14 15 51.3	+0.7
JEW				eS	Sn	14 16 08.2	+0.7
JEW	Eniwo	1.14	291	Pn	Pn	14 15 51.1	+0.5
JEW				Sn	Sn	14 16 08.7	+1.1
JAB	Ashibetsu	1.18	335	P	Pn	14 15 51.1	+0.1
JAB				eS	Sn	14 16 07.9	-0.3
JISS	Ishikarishitsu	1.38	308	P	Pn	14 15 53.8	+0.6
JISS				eS	Sn	14 16 12.7	+0.5
JNB	Noboribetsu	1.38	272	P	Pn	14 15 53.0	-0.3
JNB				eS	Sn	14 16 11.5	-0.8
JAK	Akkeshi	1.44	67	P	Pn	14 15 54.0	0.0
JAK				eS	Sn	14 16 12.7	-0.8
JKK2	Kamakawa 2	1.44	356	P	Pn	14 15 54.3	+0.2
JKB	Kayabe	1.49	249	P	Pn	14 15 54.5	-0.2
JKB				eS	Sn	14 16 13.6	-1.1
AKK	Akkeshi	1.54	67	eP	Pn	14 15 55.2	-0.1
AKK				eS	Sn	14 16 14.7	-1.1
JHR	Hokuryu	1.56	327	P	Pn	14 15 56.0	+0.5
JHR				eS	Sn	14 16 16.5	+0.2
JKA	Kamikawa-asahi	1.69	353		Pn	14 15 57.5	+0.4
JKA	Kamikawa-asahi	1.69	353	eP	Pn	14 15 57.6	+0.4
JKA				eS	Sn	14 16 19.1	0.0
ASAJ	Asahikawa	1.69	353	P	Pn	14 15 57.6	+0.5
	comp=Z,50nm,0.3s,baz=203,slow=14,SNR=604						
ASAJ				S	Sn	14 16 19.1	-0.1
	comp=Z,25nm,0.3s,baz=307,slow=32,SNR=14						
ASAJ				LR	LR	14 16 37.9	
	comp=Z,76nm,21.2s,baz=178,slow=42						
JTKR	Abashiri--Toko	1.70	25	P	Pn	14 15 57.4	+0.2
JOT	Ohata	1.74	233	P	Pn	14 15 57.4	-0.3
JOT				eS	Sn	14 16 18.9	-1.2
JTM	Tenmabayashi	2.15	220	Pn	Pn	14 16 02.9	0.0
JTM				Sn	Sn	14 16 28.7	-0.6
NMR	Nemuro--Hokkai	2.28	65	eP	Pn	14 16 04.1	-0.4
NMR				eS	Sn	14 16 30.1	-2.3
GLVR	Golovnino	2.32	55	ePN	Pn	14 16 05.6	+0.5
GLVR				eS	Sn	14 16 33.5	+0.2
GLVR				pmax	pmax		
	comp=Z,371nm,0.1s						
GLVR				smax	smax		
	comp=E,940nm,0.2s						
GLVR				smax	smax		
	comp=N,2µm,0.3s						
GLVR	Golovnino	2.32	55	eP	Pn	14 16 05.6	+0.5
GLVR				AMB	AMB	14 16 06.8	
	comp=N,370nm,0.2s						
GLVR				eS	Sn	14 16 33.5	+0.2
GLVR				A	A	14 16 34.9	
	comp=N,2µm,0.3s						
GLVR				A	A	14 16 34.9	
	comp=N,940nm,0.3s						
RUSJ	Misakicho	2.39	45	ePN	Pn	14 16 07.0	+1.0
RUSJ				eS	Sn	14 16 36.2	+1.2
YUK	Yuzh-Kuril'sk	2.69	53	i PN	Pn	14 16 10.6	+0.7
YUK	Yuzh-Kuril'sk	2.69	53	eP	Pn	14 16 10.6	+0.7
YUK				AMB	AMB	14 16 11.5	
	comp=N,690nm,0.4s						
YUK				eS	Sn	14 16 42.4	+0.4
YUK				A	A	14 16 43.7	
	comp=N,2µm,0.6s						
YUK				A	A	14 16 43.7	
	comp=N,1µm,0.6s						
SHO	Shikotan	3.21	62	ePN	Pn	14 16 16.6	-0.3
SHO				eS	Sn	14 16 51.5	-2.9
SHO				pmax	pmax		
	comp=Z,109nm,0.3s						
SHO				smax	smax		
	comp=N,492nm,0.2s						
SHO				smax	smax		
	comp=E,591nm,0.4s						
SHO	Shikotan	3.21	62	eP	Pn	14 16 16.6	-0.3
SHO				AMB	AMB	14 16 17.2	
	comp=E,110nm,0.3s						
SHO				eS	Sn	14 16 51.7	-2.7
SHO				A	A	14 16 56.4	
	comp=E,490nm,0.4s						
SHO				A	A	14 16 56.4	
	comp=E,510nm,0.4s						
YSS	Yuzh-Sakhalins	4.52	359	ePN	Pn	14 16 35.5	+1.1
YSS				eS	Sn	14 17 26.7	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,200nm,2.6s						
YSS				smax	smax		
	comp=N,40nm,1.0s						
YSS	Yuzh-Sakhalins	4.52	359	eP	Pn	14 16 35.5	+1.1
YSS				AMB	AMB	14 16 42.7	
	comp=N,20nm,0.4s						
YSS				eS	Sn	14 17 26.7	+0.9
YSS				A	A	14 17 31.9	
	comp=N,40nm,0.5s						
YSS				A	A	14 17 31.9	
	comp=N,60nm,0.5s						
KUR	Kuril'sk	4.55	50	ePN	Pn	14 16 36.6	+1.8
KUR				eS	Sn	14 17 28.1	+1.5
KUR				pmax	pmax		
	comp=Z,63nm,0.4s						
KUR				smax	smax		
	comp=E,90nm,0.4s						
KUR				smax	smax		
	comp=N,68nm,0.5s						
KUR	Kuril'sk	4.55	50	eP	Pn	14 16 36.6	+1.8
KUR				AMB	AMB	14 16 37.5	
	comp=N,70nm,0.6s						
KUR				eS	Sn	14 17 28.2	+1.6
KUR				A	A	14 17 33.8	
	comp=N,80nm,0.4s						
KUR				A	A	14 17 33.8	
	comp=N,70nm,0.4s						
JMM	Marumori	4.84	200	Pn	Pn	14 16 38.0	-0.8
JSD	Sado	5.65	220	Pn	Pn	14 16 50.1	+0.3
MJB9	Matsu-Tunnel	6.91	213	Pn	Pn	14 17 07.0	0.0
MAJO	Matsushiro	6.91	213	i PN	Pn	14 17 06.4	-0.6
MAJO	Matsushiro	6.91	213		Pn	14 17 07.0	0.0
MJAR	Matsushiro Arr	6.91	213	P	Pn	14 17 07.1	+0.1
	comp=N,0.3nm,0.3s,baz=22,slow=13,SNR=14						
MJAR	Matsushiro Arr	6.91	213	Pn	Pn	14 17 06.3	-0.7
JGF	Kuroka	8.07	214	Pn	Pn	14 17 22.2	-0.5
INU	Inuyama	8.43	215	Pn	Pn	14 17 28.2	+0.7
KLR	Kul'dur	10.32	315	cePN	Pn	14 17 52.1	-1.0
KLR				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KLR	Kul'dur	10.32	315	eP	Pn	14 17 52.1	-1.0
KSRS	Korea Array	12.52	252	P	Pn	14 18 23.6	+1.0
	comp=Z,0.1nm,0.3s,baz=68,slow=13,SNR=4.7						
ZEA	Zeya	15.36	323	eP	P	14 19 00.6	-0.7
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	15.36	323	eP	Pn	14 18 55.5	-3.5
HIA	Hailar	17.48	301	P	P	14 19 23.3	-1.5
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	Hailar	17.48	301	P	P	14 19 23.3	-1.5
HIA				IAmb	IAmb	14 19 25.5	
	comp=Z,6.3nm,0.7s						
MA2	Magadan	17.84	13	P	P	14 19 28.2	-0.4
	comp=Z,0.2nm,0.3s,baz=180,slow=9.7,SNR=6.8						
MA2	Magadan	17.84	13	ceP	P	14 19 27.2	-1.4
MA2				pmax	pmax		
	comp=Z,10.0nm,2.5s						
MA2	Magadan	17.84	13	P	P	14 19 28.2	-0.4
MA2	Magadan	17.84	13	eP	P	14 19 27.2	-1.4
YAK	Yakutsk	21.15	343	eP	P	14 20 00.8	-3.6
YAK				eS	S	14 23 50.4	-3.0
YAK				eS	Sn	14 23 50.5	-17
YAK				e		14 24 00.1	
YAK				e*SS	sS	14 24 26.3	-0.9
YAK				e		14 31 16.7	
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				smax	smax		
	comp=N,108nm,4.4s						
YAK				smax	smax		
	comp=E,129nm,4.0s						
SEY	Seymchan	21.27	12	P	P	14 20 04.2	-1.6
	comp=E,1.3nm,0.5s,baz=199,slow=8.6,SNR=15						
HHC	Hu-ho-hao-te	23.41	277	eP	P	14 20 26.5	-1.3
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.8s						
ULN	Ulaanbaatar	25.70	295	i P	P	14 20 47.6	-0.9
ULN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ULN	Ulaanbaatar	25.70	295	eP	P	14 20 47.6	-0.9
SONM	Songino Array	26.14	295	P	P	14 20 53.1	+0.6
	comp=Z,0.9nm,0.6s,baz=97,slow=7.8,SNR=5.1						
H11N2	WAKE ISLAND Hy	30.38	131	T	T	14 53 11.6	
	baz=327,slow=75,SNR=45						
H11N1	WAKE ISLAND Hy	30.39	131	T	T	14 53 12.5	
	baz=327,slow=75,SNR=36						
H11N3	WAKE ISLAND Hy	30.40	131	T	T	14 53 12.9	
	baz=327,slow=75,SNR=29						
H11S1	WAKE ISLAND Hy	31.26	132	T	T	14 54 22.7	
	baz=328,slow=76,SNR=65						
H11S3	WAKE ISLAND Hy	31.26	132	T	T	14 54 20.9	
	baz=328,slow=76,SNR=56						
H11S2	WAKE ISLAND Hy	31.27	132	T	T	14 54 24.1	
	baz=328,slow=76,SNR=37						
PZH	PanZhiHua	37.07	258	P	P	14 22 30.0	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,6.3s						
KMI	Kunming	37.18	255	⇓P	P	14 22 29.6	+0.2
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
GOMU	GeErMu	37.31	277	P	P	14 22 31.8	+1.2
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,35nm,5.1s						
ZAA0	Zalesovo Array	39.32	308	P	P	14 22 47.2	+0.5
ZAA0				IAmb	IAmb	14 22 48.7	
	comp=Z,6.8nm,1.2s						
ZALV	Zalesovo Beam	39.32	308	P	P	14 22 47.1	+0.5
	comp=Z,2.2nm,0.4s,baz=94,slow=9.3,SNR=12						
ZALV				PcP	PcP	14 24 54.0	+0.9
	comp=Z,0.9nm,0.6s,baz=120,slow=4.6,SNR=3.9						
ZALV	Zalesovo Beam	39.32	308	P	P	14 22 46.5	-0.2
WMQ	Urumqi	39.68	291	eP	P	14 22 51.0	+1.1
MK31	Makanchi Array	42.43	297	P	P	14 23 12.5	+0.1
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	Makanchi Array	42.43	297	P	P	14 23 12.4	+0.1
MK31				IAmb	IAmb	14 23 17.8	
	comp=Z,2.7nm,0.8s						
MKAR	Makanchi Array	42.43	297	P	P	14 23 12.5	+0.2
	comp=Z,2.1nm,0.7s,baz=80,slow=10,SNR=23						
MKAR				PcP	PcP	14 25 04.1	+0.7
	comp=Z,0.2nm,0.7s,baz=82,slow=4.7,SNR=2.4						
MKAR	Makanchi Array	42.43	297	P	P	14 23 12.0	-0.4
MAKZ	Makanchi	42.63	298	P	P	14 23 13.9	-0.1
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAKZ	Makanchi	42.63	298	P	P	14 23 13.9	-0.1
MAKZ				IAmb	IAmb	14 23 19.1	
	comp=Z,3.3nm,0.7s						

KURK	**Kurchatov**	**43.68**	**304**	*ce*P	**P**	**14 23 22.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**43.68**	**304**	P	**P**	**14 23 22.2**	**-0.1**
KURK				IAmb	IAmb	14 23 25.7	
	comp=Z,5.1nm,0.6s						
KURK	**Kurchatov**	**43.68**	**304**	*e*P	**P**	**14 23 22.2**	**-0.1**
COLA	**College**	**43.95**	**35**	*i* P	**P**	**14 23 23.4**	**-0.8**
COLA				pmax	pmax		
	comp=Z,20nm,3.3s						
ILAR	**Eielson Array**	**44.37**	**35**	P	**P**	**14 23 28.1**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=257,slow=5.2,SNR=14						
BRVK	**Borovoye**	**47.97**	**309**	*i* P	**P**	**14 23 54.5**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**47.97**	**309**	P	**P**	**14 23 56.2**	**+0.2**
BRVK				IAmb	IAmb	14 24 00.1	
	comp=Z,5.5nm,1.1s						
BRVK	**Borovoye**	**47.97**	**309**	*e*P	**P**	**14 23 54.5**	**-1.5**
INK	**Inuvik**	**49.09**	**29**	P	**P**	**14 24 04.8**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=320,slow=5.1,SNR=14						
AAK	**Ala-Archa**	**49.10**	**295**	*i* P	**P**	**14 24 03.9**	**-1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**49.10**	**295**	*e*P	**P**	**14 24 03.9**	**-1.1**
HYT	**Haines Junctio**	**49.34**	**39**	P	**P**	**14 24 08.1**	**+1.6**
KSH	**Kashi**	**49.42**	**290**	*e*P	**P**	**14 24 07.9**	**+0.5**
N31M	**Braeburn, Yuko**	**49.95**	**38**	P	**P**	**14 24 12.8**	**+1.8**
A36M	**Sachs Harbour**	**50.84**	**24**	P	**P**	**14 24 18.8**	**+1.3**
A36M				IAmb	IAmb	14 24 24.5	
	comp=Z,2.2nm,1.0s						
C36M	**Paulatuk**	**52.07**	**27**	P	**P**	**14 24 27.2**	**+0.5**
C36M				IAmb	IAmb	14 24 32.7	
	comp=Z,1.4nm,1.0s						
ARU	**Arti**	**53.16**	**316**	*i* P	**P**	**14 24 33.3**	**-1.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ARU	**Arti**	**53.16**	**316**	*e*P	**P**	**14 24 33.3**	**-1.6**
EUNU	**Eureka**	**54.68**	**9**	P	**P**	**14 24 44.6**	**-1.1**
EUNU				IAmb	IAmb	14 24 54.6	
	comp=Z,1.7nm,0.9s						
ABKAR	**Akbulak array**	**55.43**	**308**	P	**P**	**14 24 51.8**	**+0.3**
RES	**Resolute Bay**	**57.09**	**16**	P	**P**	**14 25 02.7**	**-0.1**
RES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RES	**Resolute Bay**	**57.09**	**16**	P	**P**	**14 25 02.7**	**-0.1**
RES				IAmb	IAmb	14 25 03.2	
	comp=Z,2.6nm,0.6s						
YKA	**Yellowknife Ar**	**58.59**	**32**	P	**P**	**14 25 14.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=305,slow=6.8,SNR=9.4						
BELG	**Belogornoye**	**60.69**	**316**	*i* P	**P**	**14 25 25.3**	**-2.7**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**62.57**	**189**	P	**P**	**14 25 41.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=5.5,slow=6.8,SNR=6.3						
WRA	**Warramunga Arr**	**62.57**	**189**	P	**P**	**14 25 41.4**	**+0.4**
FIA1	**FINESS Array S**	**64.59**	**332**	P	**P**	**14 25 53.6**	**-0.2**
FINES	**FINESS Array B**	**64.59**	**332**	P	**P**	**14 25 53.4**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=52,slow=6.7,SNR=13						
FINES	**FINESS Array B**	**64.59**	**332**	*i* P	**P**	**14 25 53.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**64.59**	**332**	P	**P**	**14 25 53.6**	**-0.2**
SUMG	**Summit**	**65.28**	**0**	P	**P**	**14 25 59.4**	**+0.8**
SUMG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SUMG	**Summit**	**65.28**	**0**	P	**P**	**14 25 59.4**	**+0.8**
ASAR	**Alice Springs**	**66.29**	**189**	P	**P**	**14 26 06.3**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=11,slow=6.9,SNR=5.9						
KIV	**Kislovodsk**	**68.27**	**310**	*e*P	**P**	**14 26 16.1**	**-1.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	**Kislovodsk**	**68.27**	**310**	*e*P	**P**	**14 26 16.1**	**-1.6**
KBZ	**Khabaz**	**68.29**	**310**	P	**P**	**14 26 19.1**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=152,slow=19,SNR=4.8						
KBZ	**Khabaz**	**68.29**	**310**	*ce*P	**P**	**14 26 17.9**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.9s						
KBZ	**Khabaz**	**68.29**	**310**	*e*P	**P**	**14 26 17.9**	**+0.2**
FCC	**Fort Churchill**	**68.68**	**28**	P	**P**	**14 26 20.3**	**+0.5**
FCC				pmax	pmax		
	comp=Z,1.0nm,1.1s						
FCC	**Fort Churchill**	**68.68**	**28**	P	**P**	**14 26 20.3**	**+0.5**
NB2	**NORSAR Subarra**	**69.65**	**337**	P	**P**	**14 26 25.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**69.65**	**337**	P	**P**	**14 26 25.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.1,SNR=5.7						
AKASG	**Malin Array Be**	**70.74**	**322**	P	**P**	**14 26 32.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=46,slow=6.0,SNR=5.1						
AKASG	**Malin Array Be**	**70.74**	**322**	*ce*P	**P**	**14 26 33.2**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVAR	**Mina Array Bea**	**70.90**	**55**	P	**P**	**14 26 35.7**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=282,slow=5.3,SNR=4.3						
PDAR	**Pinedale Array**	**73.11**	**47**	P	**P**	**14 26 48.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=288,slow=2.1,SNR=4.0						
TXAR	**Lajitas Array**	**85.95**	**53**	P	**P**	**14 27 58.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=290,slow=3.9,SNR=8.6						

IDC 04 14:22:30.7±1.8**, 3°.84N**×**127°.07E, h0**^{km}**, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.3**/38**, mbtmp3.7**/4**, Error ellipse: s-maj=149.1km s-min=23.0km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**163**	P	P	14 27 52.7	-1.0
	1.8nm,0.6s,baz=344,slow=11,SNR=20						
ASAR	**Alice Springs**	**28.14**	**167**	P	P	14 28 25.4	+0.6
	0.4nm,0.5s,baz=343,slow=11,SNR=9.5						
STKA	**Stephens Creek**	**38.12**	**160**	P	P	14 29 52.2	+0.5
	1.3nm,0.7s,baz=335,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	14 32 22.9	-0.1
	0.5nm,0.5s,baz=118,slow=8.2,SNR=12						

PRU 04 14:26:40.2±0.0**, 50°.13N**×**19°.13E, h0**^{km}**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**1.00**	**167**	*e*SG	Sg	14 27 12.3	-0.1
MORC	**Moravsky Berou**	**1.08**	**252**	*e*PG	Pg	14 27 00.6	-0.4
MORC				*e*SG	Sg	14 27 14.0	-1.0
VYHS	**Vyhne**	**1.65**	**187**	*e*P	Pn	14 27 09.6	-0.8
VYHS	**Vyhne**	**1.65**	**187**	*e*PN	Pn	14 27 09.6	-0.8
VYHS				*e*SN	Sn	14 27 30.4	-1.9
DPC	**Dobruska-Polom**	**1.82**	**278**	*e*	Sg	14 27 38.5	0.0
DPC	**Dobruska-Polom**	**1.82**	**278**	*e*PG	Pn	14 27 13.2	+0.4
DPC				*e*SG	Sg	14 27 38.5	0.0
DPC	**Dobruska-Polom**	**1.82**	**278**	*e*P	Pn	14 27 13.2	+0.4

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*SFS **04** 14:27:17.0, 35°.49N×3°.88W, ML2.7, ALBORAN SUR*
*MDD **04** 14:27:19.6±0.5, 35°.57N×3°.80W, h0^{km}, mb_Lg2.7/5, Error ellipse: s-maj=4.3km s-min=3.0km az=16.0*
*CNRM **04** 14:27:19.9, 35°.56N×3°.79W, h17^{km}*
ISC 04 14:27:18.3±1.3**, 35°.57N**±0°.02×**3°.81W**±0°.02**, h3**^{km}±11^{km}**, n26, σ1s47**/50**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.36**	**197**	P	**Pb**	**14 27 26.9**	**-0.6**
PALE				S	**Sb**	**14 27 32.7**	**-0.9**
EALB	**Alboran**	**0.73**	**59**	Pg	**Pb**	**14 27 34.1**	**+0.4**
EALB				Sg	**Sb**	**14 27 44.1**	**0.0**
EALB				*i* Vmb_Lg		14 27 46.4	
EMEL	**Melilla**	**0.74**	**111**	Pg	**Pg**	**14 27 33.4**	**+0.8**
EMEL				Sg	**Sg**	**14 27 42.2**	**0.0**
GOG	**Mont Gurugu**	**0.75**	**117**	P	**Pb**	**14 27 33.6**	**-0.4**
GOG				S	**Sb**	**14 27 43.9**	**-0.7**
EMIJ	**Mijas**	**1.27**	**322**	Pg	**Pb**	**14 27 43.2**	**+0.3**
EMIJ				Sg	**Sg**	**14 27 59.1**	**+0.1**
EMIJ				*i* Vmb_Lg		14 28 05.4	
SMIR	**Smir Dam**	**1.29**	**276**	P	**Pn**	**14 27 41.8**	**-1.4**
SMIR				S	**Sg**	**14 27 58.6**	**-1.1**
EMAL	**Malaga-Limoner**	**1.29**	**337**	P	**Pg**	**14 27 43.6**	**+0.5**
EMAL				S	**Sn**	**14 28 01.1**	**-0.1**
ELGU	**Los Guajares,**	**1.31**	**6**	Pg	**Pn**	**14 27 43.4**	**-0.2**
ELGU				Sg	**Sg**	**14 27 59.3**	**-1.1**
ELGU				*i* Vmb_Lg		14 28 05.2	
CEU	**Ceuta**	**1.32**	**285**	P	**Pn**	**14 27 41.8**	**-1.8**
CEU				S	**Sb**	**14 27 58.0**	**-3.0**
CHEFC	**Chefchaouen**	**1.33**	**250**	P	**Pn**	**14 27 43.9**	**0.0**
CHEFC				S	**Sb**	**14 28 01.3**	**-0.3**
TAF	**Taforalt**	**1.37**	**123**	P	**Pn**	**14 27 41.8**	**-2.6**
TAF				S	**Sb**	**14 28 01.3**	**-1.2**
JBK	**JBK**	**1.60**	**140**	P	**Pn**	**14 27 47.6**	**-0.1**
JBK				S	**Sn**	**14 28 07.7**	**-1.2**
LCRM	**LCR**	**2.07**	**205**	P	**Pb**	**14 27 57.6**	**+1.1**
LCRM				S	**Sb**	**14 28 23.8**	**+1.1**
IFR	**Ifrane**	**2.32**	**208**	P	**Pn**	**14 27 56.8**	**-0.7**
IFR				S	**Sn**	**14 28 23.9**	**-2.7**
TLOR	**Lorca, Murcia**	**2.69**	**39**	Sg	**Sg**	**14 28 44.0**	**-0.8**
CZD	**Col de Zad**	**2.73**	**202**	P	**Pn**	**14 28 04.6**	**+1.4**
CZD				S	**Sn**	**14 28 38.4**	**+1.5**
MD31	**MD31**	**2.81**	**197**	P	**Pn**	**14 28 05.0**	**+0.8**
MD31				S	**Sn**	**14 28 40.3**	**+1.7**
ECAB	**El Cabril**	**2.82**	**333**	Pn	**Pn**	**14 28 06.0**	**+1.7**
ECAB				Sn	**Sn**	**14 28 37.4**	**-1.4**
ECAB				*i* Vmb_Lg		14 28 49.8	
MDT	**Midelt**	**2.83**	**194**	P	**Pn**	**14 28 06.2**	**+1.7**
MDT				S	**Sn**	**14 28 40.0**	**+0.9**
TDRA	**Tendrara**	**2.92**	**149**	P	**Pn**	**14 28 07.1**	**+1.2**
TDRA				S	**Sn**	**14 28 40.6**	**-1.0**
ZHG	**ZHG**	**3.15**	**229**	P	**Pb**	**14 28 12.9**	**-2.2**
ZHG				S	**Sn**	**14 28 50.3**	**+3.1**
EGRO	**El Granado**	**3.55**	**305**	Pn	**Pn**	**14 28 15.8**	**+1.5**
EGRO				Sn	**Sn**	**14 28 55.0**	**-1.8**
PVAQ	**Vaqueiros**	**3.64**	**301**	P	**Pn**	**14 28 16.2**	**+0.6**
PVAQ				S	**Sn**	**14 29 02.2**	**+3.0**
PAB	**San Pablo**	**4.00**	**354**	Pn	**Pn**	**14 28 23.0**	**+2.5**
EBAD	**Badajoz**	**4.08**	**322**	Pn	**Pn**	**14 28 23.1**	**+1.4**
EBAD				Sn	**Sn**	**14 29 09.0**	**-1.0**
EBAD				*i* Vmb_Lg		14 29 12.7	
OUZM	**OUZ**	**5.26**	**209**	P	**Pn**	**14 28 39.4**	**+1.3**
OUZM				S	**Sn**	**14 29 39.7**	**+0.4**

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*NEIC **04** 14:31:23.9±2.0, 16°.98N±0°.08×146°.1E±0°.1, h2^{km}±2^{km}, mb4.5/18, Error ellipse: s-maj=16.7km s-min=11.3km az=80.0*
*IDC **04** 14:31:25.8±0.9, 16°.95N×146°.06E, h0^{km}, mb3.7/7, mb1 4.0/7, mb1mx3.7/34, mbtmp3.7/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/81, Error ellipse: s-maj=32.4km s-min=22.2km az=121.0*
ISC 04 14:31:24.9±0.6**, 16°.96N**±0°.08×**146°.1E**±0°.1**, h10**^{km}**, n44, σ1s35**/36**, mb4.2**/16**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.54**	**199**	Pn	**Pn**	**14 32 19.8**	**-0.2**
PATS	**Pohnpei**	**15.65**	**129**	Pn	**Pn**	**14 35 05.3**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**19.72**	**82**	T	T	14 56 26.0	
	baz=268,slow=75,SNR=133						
H11S1	**WAKE ISLAND Hy**	**19.73**	**82**	T	T	14 56 27.0	
	baz=268,slow=75,SNR=142						
H11S2	**WAKE ISLAND Hy**	**19.74**	**82**	T	T	14 56 27.2	
	baz=268,slow=75,SNR=186						
JMN	**Monobe**	**19.96**	**329**	P	**Pn**	**14 35 59.5**	**+0.5**
JMN				IAmb	IAmb	14 36 26.1	
	comp=Z,14nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**19.98**	**79**	T	T	14 56 45.2	
	baz=265,slow=74,SNR=490						
H11N2	**WAKE ISLAND Hy**	**19.98**	**79**	T	T	14 56 45.4	
	baz=265,slow=74,SNR=336						
H11N3	**WAKE ISLAND Hy**	**19.99**	**79**	T	T	14 56 46.6	
	baz=265,slow=74,SNR=449						
MJAR	**Matsushiro Arr**	**20.70**	**342**	LR	LR	14 43 44.4	
	comp=Z,45nm,20.2s,baz=148,slow=36						
YOJ	**Yonaguni jima**	**22.78**	**293**	P	**P**	**14 36 26.5**	**-1.3**
KSAR	**Wonju Array Be**	**25.93**	**325**	P	**P**	**14 36 56.5**	**-0.9**
KS19	**Wonju Array Si**	**25.98**	**326**	P	**P**	**14 36 54.2**	**-3.7**
KS19				IAmb	IAmb	14 37 19.8	
	comp=Z,14nm,1.3s						
TOLI2	**Tolitoli**	**29.43**	**240**	P	**P**	**14 37 29.3**	**+0.3**
TOLI2				IAmb	IAmb	14 37 40.6	
	comp=Z,9.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**29.64**	**339**	P	**P**	**14 37 29.0**	**-1.5**
WB0	**Warramunga Arr**	**38.25**	**198**	P	**P**	**14 38 45.7**	**+0.2**
WB0				IAmb	IAmb	14 38 47.1	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**38.39**	**198**	P	**P**	**14 38 46.9**	**+0.3**
WRA	**Warramunga Arr**	**38.43**	**198**	P	**P**	**14 38 48.8**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=18,slow=9.6,SNR=5.7						
AS31	**Alice Springs**	**42.08**	**197**	P	**P**	**14 39 16.2**	**-1.0**
ASAR	**Alice Springs**	**42.09**	**197**	P	**P**	**14 39 18.8**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=17,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**42.09**	**197**	P	**P**	**14 39 16.9**	**-0.4**
LIFNC	**LIFOU**	**42.88**	**150**	P	**P**	**14 39 22.9**	**-0.8**
DZM	**Mont Dzumac**	**43.63**	**152**	P	**P**	**14 39 28.1**	**-1.8**
DZM				IAmb	IAmb	14 39 41.9	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.80**	**279**	P	**P**	**14 39 42.4**	**+3.0**
	comp=Z,1.8nm,0.7s,baz=72,slow=6.2,SNR=13						
CMAR	**Chiang Mai Arr**	**44.80**	**279**	P	**P**	**14 39 39.4**	**0.0**
MNAI	**Manna**	**47.55**	**247**		**P**	**14 40 01.2**	**+0.2**
GSI	**Gunungsitoli**	**50.14**	**257**	P	**P**	**14 40 21.3**	**+0.3**
GSI				IAmb	IAmb	14 40 26.3	
	comp=Z,19nm,0.9s						
TIXI	**Tiksi**	**55.62**	**353**	P	**P**	**14 40 59.6**	**-0.9**
TIXI				IAmb	IAmb	14 41 01.9	
	comp=Z,3.3nm,1.5s						
MK31	**Makanchi Array**	**59.91**	**315**	P	**P**	**14 41 30.7**	**-0.5**
MKAR	**Makanchi Array**	**59.91**	**315**	P	**P**	**14 41 33.7**	**+2.5**
	comp=Z,0.2nm,0.7s,baz=84,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**59.91**	**315**	P	**P**	**14 41 31.6**	**+0.4**
CAST	**Castle Rocks**	**62.49**	**27**	P	**P**	**14 41 49.7**	**+1.3**
CAST				IAmb	IAmb	14 41 55.1	
	comp=Z,6.0nm,1.3s						
IMAR	**Indian Mountai**	**62.67**	**24**	P	**P**	**14 41 48.3**	**-1.2**
H21K	**Melozitna Rive**	**62.92**	**24**	P	**P**	**14 41 52.9**	**+1.7**
H21K				IAmb	IAmb	14 41 55.1	
	comp=Z,1.4nm,0.8s						
LTZ	**Lake Taylor**	**64.16**	**159**	P	**P**	**14 41 59.5**	**-0.1**
ILAR	**Eielson Array**	**65.05**	**26**	P	**P**	**14 42 06.5**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=249,slow=5.5,SNR=7.7						
TOLK	**Toolik Lake Re**	**65.08**	**21**	P	**P**	**14 42 06.3**	**+0.9**
NIL	**Nilore**	**66.67**	**300**	P	**P**	**14 42 15.9**	**-0.4**
NIL				IAmb	IAmb	14 42 23.5	
	comp=Z,9.9nm,1.1s						
BCAR	**Beaver Creek A**	**66.95**	**28**	P	**P**	**14 42 17.3**	**-0.2**
KKAR	**Karatay Array**	**68.13**	**310**	P	**P**	**14 42 24.6**	**-0.8**
ABKAR	**Akbulak array**	**74.83**	**317**	P	**P**	**14 43 05.2**	**-0.4**
YKA	**Yellowknife Ar**	**79.36**	**28**	P	**P**	**14 43 32.7**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.6,SNR=9.5						
NVAR	**Mina Array Bea**	**83.95**	**52**	P	P	14 44 00.3	+4.5
	comp=Z,0.4nm,0.5s,baz=274,slow=5.9,SNR=4.6						
LPAZ	**La Paz**	**147.27**	**94**	PKPbc	**PKiKP**	**14 51 13.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=331,slow=2.0,SNR=4.5						

WEL 04 14:37:21.5±0.6**, 32°S**±6°×**18°0E**±1°4**, h33**^{km}**, M4.0**/20**, mB4.7**/14**, ML4.5**/31**, MLv4.3**/20**, Mw(mB)3.9**/14**, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.68**	**37**	P	Pn	14 38 09.6	-6.4
GLKZ				S	Sn	14 38 59.5	+1.2
MXZ	**Matakaoa Point**	**5.40**	**191**	P	Pn	14 38 42.7	+3.0
MXZ				S	Sn	14 39 44.1	+3.4
HAZ	**Te Kaha**	**5.69**	**194**	P	Pn	14 38 44.4	+0.8
HAZ				S	Sn	14 39 49.3	+1.6
PKGZ	**Pakihiroa**	**5.76**	**192**	P	Pn	14 38 45.7	+1.1
PKGZ				S	Sn	14 39 50.2	+0.6
PUZ	**Puketiti**	**5.91**	**190**	P	Pn	14 38 48.0	+1.3
PUZ				S	Sn	14 39 53.5	+0.2
RUGZ	**Raukumara Rang**	**5.91**	**195**	P	Pn	14 38 48.3	+1.5
RUGZ				S	Sn	14 39 51.5	-1.9
TWGZ	**Tauwhareparae**	**6.06**	**192**	P	Pn	14 38 50.9	+2.2
TWGZ				S	Sn	14 39 59.8	+2.9
MWZ	**Matawai**	**6.30**	**195**	P	Pn	14 38 52.3	+0.3
MWZ				S	Sn	14 40 02.2	-0.6
CNGZ	**Carnagh Statio**	**6.32**	**190**	P	Pn	14 38 53.5	+1.2
URZ	**Urewera**	**6.33**	**198**	P	Pn	14 38 53.3	+0.9
URZ				S	Sn	14 40 04.7	+1.2
TKGZ	**Te Karaka**	**6.33**	**192**	P	Pn	14 38 51.6	-0.9
TKGZ				S	Sn	14 40 03.8	+0.2
RIGZ	**Rimuhau**	**6.61**	**192**	P	Pn	14 38 56.2	-0.1
RIGZ				S	Sn	14 40 09.6	-1.0
MUGZ	**Murupara**	**6.62**	**199**	P	Pn	14 38 54.6	-1.9
MUGZ				S	Sn	14 40 11.7	+0.9
RTZ	**Ruatahuna**	**6.70**	**198**	P	Pn	14 38 56.7	-0.8
SNGZ	**Shannon Statio**	**6.77**	**195**	P	Pn	14 38 58.3	-0.2
SNGZ				S	Sn	14 40 13.9	-0.5
PRGZ	**Paritu Road**	**6.80**	**191**	P	Pn	14 38 59.5	+0.6
PRGZ				S	Sn	14 40 15.0	-0.2
TLZ	**Tolley Road**	**6.90**	**207**	P	Pn	14 39 04.4	+4.0
MTHZ	**Maungataniwha**	**6.95**	**198**	P	Pn	14 39 01.1	0.0
MTHZ				S	Sn	14 40 21.4	+2.4
RAHZ	**Arahi**	**6.95**	**196**	P	Pn	14 39 01.3	+0.3
RAHZ				S	Sn	14 40 20.9	+2.0
MRHZ	**Matea Rd**	**7.05**	**200**	P	Pn	14 39 02.9	+0.5
WHHZ	**Waihua**	**7.07**	**195**	P	Pn	14 39 04.0	+1.4
NMHZ	**Naumai**	**7.19**	**197**	P	Pn	14 39 04.4	0.0
NMHZ				S	Sn	14 40 27.4	+2.5
HATZ	**Hinemaiaia**	**7.21**	**202**	P	Pn	14 39 05.0	+0.5
ARHZ	**Aropaoanui**	**7.30**	**196**	P	Pn	14 39 05.2	-0.6
ARHZ				S	Sn	14 40 29.1	+1.5
HIZ	**Hauiti**	**7.34**	**210**	P	Pn	14 39 10.4	+4.1
BKZ	**Black Stump Fm**	**7.34**	**199**	P	Pn	14 39 05.5	-0.9
BKZ				S	Sn	14 40 29.8	+1.3
TMVZ	**Te Maari**	**7.54**	**204**	P	Pn	14 39 09.2	+0.1
MCHZ	**McNeill Hill**	**7.55**	**197**	P	Pn	14 39 08.1	-1.1
MCHZ				S	Sn	14 40 33.9	+0.3
ETVZ	**East Tongariro**	**7.55**	**203**	P	Pn	14 39 09.2	-0.2
OTVZ	**Oturere**	**7.59**	**204**	P	Pn	14 39 09.8	-0.2
KWHZ	**Kaweka Forest**	**7.60**	**199**	P	Pn	14 39 05.5	-4.4
SNVZ	**South Ngauruho**	**7.62**	**204**	P	Pn	14 39 10.1	-0.2
FWVZ	**Far West T-bar**	**7.71**	**204**	P	Pn	14 39 11.3	-0.3
WNVZ	**Wahianoa**	**7.76**	**203**	P	Pn	14 39 11.2	-1.1
BHHZ	**Black Hill Sta**	**7.76**	**200**	P	Pn	14 39 10.4	-1.8
MOVZ	**Moawhango**	**7.79**	**202**	P	Pn	14 39 10.8	-1.6
KRHZ	**Kereru**	**7.82**	**198**	P	Pn	14 39 10.2	-2.8
KAHZ	**Kahuranaki**	**7.84**	**195**	P	Pn	14 39 11.2	-2.0
PXZ	**Pawanui**	**8.07**	**195**	P	Pn	14 39 13.3	-3.0
WPHZ	**Waipukurau**	**8.20**	**197**	P	Pn	14 39 15.9	-2.2

IDC 04 14:50:42.3±2.2**, 3°.79S**×**95°.64E, h0**^{km}**, mb3.5**/5**, mb1 3.6**/5**, mb1mx3.3**/46**, mbtmp3.5**/5**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/55**, Error ellipse: s-maj=73.5km s-min=32.2km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.35**	**8**	P	P	14 55 42.5	+0.4
	0.3nm,0.3s,baz=204,slow=8.8,SNR=4.8						
BATI	**Baumata**	**28.52**	**104**	LR	LR	15 07 17.8	
	comp=Z,56nm,21.5s,baz=4.0,slow=35						
WRA	**Warramunga Arr**	**40.99**	**116**	P	P	14 58 27.3	-0.1
	0.6nm,0.9s,baz=286,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**51.73**	**348**	P	P	14 59 51.2	-0.3
	0.3nm,0.7s,baz=153,slow=9.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**58.24**	**353**	P	P	15 00 38.0	-0.5
	0.5nm,0.5s,baz=180,slow=2.9,SNR=3.8						
AKASG	**Malin Array Be**	**78.28**	**323**	P	P	15 02 44.5	+0.4
	1.2nm,0.6s,baz=114,slow=11,SNR=4.1						

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*NNC **04** 14:57:22.4±1.4, 38°.39N×55°.96E, h0^{km}, mb3.9, Error ellipse: s-maj=15.3km s-min=5.2km az=43.0*
*TEH **04** 14:57:25.0, 38°.32N×56°.07E, h8^{km}, ML3.4*
*AZER **04** 14:57:32.1±1.0, 38°.51N×55°.61E, h2^{km}, Error ellipse: s-maj=11.7km s-min=6.5km az=178.0*
ISC 04 14:57:25.1±0.7**, 38°.36N**±0°.04×**56°.11E**±0°.04**, h10**^{km}**, n60, σ1s83**/77**, 4C-4D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.70**	**181**	*e*Pg	**Pg**	**14 57 37.9**	**-0.8**
BJRD	**Bojnurd**	**1.22**	**122**	*e*Pg	**Pn**	**14 57 46.7**	**-1.7**
IMND	**Minoodasht**	**1.24**	**207**	*e*Pg	**Pg**	**14 57 48.6**	**-0.3**
IMND				*e*Sg	**Sn**	**14 58 04.9**	**-0.3**
GYA0B	**ALIBECK ARRAY**	**1.64**	**105**	⇑P	**Pn**	**14 57 54.1**	**0.0**
GYA0B				⇑S	**Sg**	**14 58 18.0**	**0.0**
ISFR	**Sfrayin**	**1.99**	**130**	*e*Pn	**Pb**	**14 58 00.7**	**-0.9**
ISFR				*e*		14 58 42.8	
	comp=Z,13μm,0.5s						
SBZV	**Sabzevar**	**2.31**	**148**	*e*Pn	**Pb**	**14 58 04.9**	**-2.1**
SHRO	**Shahrood**	**2.37**	**182**	*e*Pn	**Pn**	**14 58 05.2**	**+1.0**
IGLO	**Ghaloghah**	**2.59**	**225**	*e*Pn	**Pb**	**14 58 09.2**	**-2.7**
IGLO				*e*		14 59 02.0	
	comp=Z,9μm,0.7s						
IAKL	**Akhelmad**	**2.75**	**129**	*e*Pn	**Pb**	**14 58 12.8**	**-1.7**
IAKL				*e*		14 58 56.1	
	comp=Z,5μm,0.6s						
IPAY	**Payeh**	**2.99**	**129**	*e*Pn	**Pn**	**14 58 15.2**	**+2.4**
IPAY				*e*		14 59 05.6	
	comp=Z,3μm,0.7s						
IANJ	**Anjilo**	**3.38**	**212**	*e*Pn	**Pn**	**14 58 20.4**	**+2.2**
IANJ				*e*		14 59 14.0	
	comp=Z,1μm,0.4s						
ISHM	**Shahmirzad**	**3.40**	**222**	*e*	**Sb**	**14 59 09.2**	**+2.0**
	comp=Z,5μm,0.4s						
IPRN	**Peran**	**3.68**	**236**	*e*Pn	**Pn**	**14 58 23.6**	**+1.4**
IMYA	**Miami**	**3.77**	**121**	*e*Pn	**Pn**	**14 58 24.6**	**+1.1**
IMYA				*e*		14 59 43.2	
	comp=Z,651nm,1.0s						
IFIR	**Firoozkooh**	**3.82**	**226**	*e*Pn	**Pn**	**14 58 27.0**	**+2.7**
IFIR				*e*		14 59 15.1	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**4.29**	**231**	*e*Pn	**Pn**	**14 58 31.6**	**+0.9**
IDMV				*e*		14 59 56.9	
	comp=Z,633nm,0.7s						
DAMV	**Damavand**	**4.29**	**232**	*e*Pn	**Pn**	**14 58 33.3**	**+2.6**
TNSJ	**Nastanj**	**4.41**	**175**	*e*Pn	**Pn**	**14 58 33.7**	**+1.5**
TBJM	**Torbat-e-JAM**	**4.58**	**131**	*e*Pn	**Pn**	**14 58 37.1**	**+2.4**
CHTH	**Charan**	**4.67**	**240**	*e*Pn	**Pn**	**14 58 38.6**	**+2.6**
QALM	**Alamut, Qazvin**	**4.76**	**248**	*e*Pn	**Pn**	**14 58 38.7**	**+1.6**
TABS	**Tabas**	**4.78**	**170**	*e*Pn	**Pn**	**14 58 39.2**	**+1.9**
TKDS	**Koohdasht(Taba**	**4.81**	**170**	*e*Pn	**Pn**	**14 58 39.7**	**+1.9**
THKV	**Tehran--Karaj**	**4.84**	**241**	*e*Pn	**Pn**	**14 58 38.5**	**+0.3**
ISFB	**Sefidab**	**5.08**	**219**	*e*Pn	**Pn**	**14 58 43.8**	**+2.4**
TPRV	**Parvadeh(Tabas**	**5.34**	**175**	*e*Pn	**Pn**	**14 58 46.8**	**+1.7**
AFRZ	**Afriz**	**5.46**	**154**	*e*Pn	**Pn**	**14 58 48.5**	**+1.7**
ANAR	**Anarak**	**5.51**	**201**	*e*Pn	**Pn**	**14 58 49.2**	**+1.8**
ASTR	**Astara**	**5.75**	**274**	P	**Pn**	**14 58 52.7**	**+2.3**
	SNR=5.5						
ASTR				S	**Sn**	**14 59 56.0**	**-0.4**
SHRT	**Shahrakht**	**5.80**	**143**	*e*Pn	**Pn**	**14 58 52.3**	**+1.0**
QABG	**Abgarm-Qazvin**	**5.85**	**245**	*e*Pn	**Pn**	**14 58 52.3**	**+0.1**
ITEG	**Tejag**	**5.86**	**158**	*e*Pn	**Pn**	**14 58 54.4**	**+2.1**
IMON	**Monand**	**5.92**	**150**	*e*Pn	**Pn**	**14 58 55.4**	**+2.3**
GLBA	**Clilabad**	**6.09**	**281**	S	**Sn**	**15 00 04.2**	**-0.7**
YZKH	**Yazd**	**6.09**	**192**	*e*Pn	**Pn**	**14 58 57.3**	**+2.0**
LRK	**Lerik**	**6.10**	**275**	P	**Pn**	**14 58 56.6**	**+1.1**
	SNR=10						
LRK				S	**Sn**	**15 00 03.7**	**-1.7**
ZNJK	**Zanjan**	**6.14**	**256**	*e*Pn	**Pn**	**14 58 58.1**	**+2.0**
SIZA	**Siyzn**	**6.18**	**298**	P	**Pn**	**14 58 58.8**	**+2.3**
SIZA				S	**Sn**	**15 00 07.8**	**+0.6**
YRD	**Yardimli**	**6.18**	**278**	P	**Pn**	**14 58 57.9**	**+1.2**
	SNR=6.2						
YRD				S	**Sn**	**15 00 06.7**	**-0.8**
ASAO	**Ashtian**	**6.21**	**234**	*e*Pn	**Pn**	**14 58 59.9**	**+2.9**
ICHK	**Chekchek**	**6.26**	**193**	*e*Pn	**Pn**	**14 58 59.6**	**+1.8**
IZEF	**Zefreh**	**6.26**	**211**	*e*Pn	**Pn**	**14 59 00.2**	**+2.4**
PQL	**Pirkuli**	**6.29**	**295**	P	**Pn**	**14 59 01.2**	**+3.1**
PQL				S	**Sn**	**15 00 10.4**	**+0.4**
IDAH	**Dahanechah**	**6.39**	**150**	*e*Pn	**Pn**	**14 59 01.5**	**+1.9**
GRMI	**Germi**	**6.45**	**276**	*e*Pn	**Pn**	**14 59 01.0**	**+0.7**
ISRB	**Sarab**	**6.68**	**268**	*e*Pn	**Pn**	**14 59 05.2**	**+1.7**
XNQ	**Khinaliq**	**6.75**	**297**	P	**Pn**	**14 59 06.6**	**+2.2**
XNQ				S	**Sn**	**15 00 21.8**	**+0.4**
BSRN	**Basiran**	**6.85**	**158**	*e*Pn	**Pn**	**14 59 06.9**	**+1.2**
IHRS	**Heris**	**7.12**	**272**	*e*Pn	**Pn**	**14 59 11.2**	**+1.6**
IHRS				*e*		14 59 13.7	
	comp=Z,318nm,0.3s						
IRAM	**Ramesheh**	**7.22**	**206**	*e*Pn	**Pn**	**14 59 13.7**	**+2.8**
IBST	**Bostanabad**	**7.30**	**268**	*e*Pn	**Pn**	**14 59 13.0**	**+0.9**
GANJ	**Ganja**	**7.90**	**290**	P	**Pn**	**14 59 20.6**	**+0.6**
GANJ				S	**Sn**	**15 00 47.3**	**-2.2**
ORD	**Ordubad**	**7.93**	**277**	P	**Pn**	**14 59 22.8**	**+2.2**
	SNR=4.5						
ORD				S	**Sn**	**15 00 50.1**	**-0.3**
ZKTA	**Zakatala**	**7.98**	**297**	P	**Pn**	**14 59 24.4**	**+3.2**
ZKTA				S	**Sn**	**15 00 52.1**	**+0.6**
SBZ	**Shahbuz**	**8.30**	**280**	P	**Pn**	**14 59 27.4**	**+1.8**
	SNR=5.4						
SBZ				S	**Sn**	**15 00 57.7**	**-1.7**
NAX	**Nakhchivan**	**8.33**	**279**	P	**Pn**	**14 59 28.0**	**+2.0**
	SNR=3.0						
NAX				S	**Sn**	**15 01 00.1**	**-0.1**
GDB	**GEDABAY**	**8.34**	**290**	P	**Pn**	**14 59 28.1**	**+1.9**
	SNR=4.5						
GDB				S	**Sn**	**15 00 57.5**	**-3.0**

AB31	**Akbulak array**	**11.23**	**13**	⇓P	**Pn**	**15 00 04.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=15						
AB31				⇓S	**Sn**	**15 02 10.4**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=198,slow=26,SNR=4.1						
KK09	**Karatay Array**	**11.90**	**62**	⇓P	**Pn**	**15 00 13.2**	**-1.7**
	comp=Z,2.7nm,0.8s						
KK09				⇑S	**Sn**	**15 02 31.5**	**+3.8**
	comp=Z,2.8nm,0.7s						
AKTO	**Aktyubinsk**	**12.14**	**6**	⇓P	**Pn**	**15 00 17.2**	**-1.0**
	comp=Z,2.3nm,0.7s						
AKTO				⇑S	**Sn**	**15 02 35.2**	**+1.7**
	comp=Z,6.2nm,1.2s						

IDC 04 15:01:13.2±61.0, 16°87'S×176°49'W, h586km±54km, mb2.9/3, mb1 3.1/4, mb1mx2.8/31, mbtmp3.9/4, Error ellipse: s-maj=1024.0km s-min=139.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.29**	**260**	P	P	15 02 47.6	0.0
	1.3nm,0.3s,baz=117,slow=9.0,SNR=8.4						
STKA	**Stephens Creek**	**40.73**	**241**	P	P	15 08 04.0	-0.4
	2.1nm,1.1s,baz=76,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**46.63**	**258**	P	P	15 08 50.0	-0.1
	0.2nm,0.4s,baz=93,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**46.84**	**253**	P	P	15 08 51.6	-0.1
	1.9nm,0.4s,baz=89,slow=7.6,SNR=61						

IDC 04 15:19:27.1±8.9, 10°37S×163°35E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/41, Error ellipse: s-maj=273.9km s-min=52.2km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.00**	**166**	LR	LR	15 26 04.6	
	comp=Z,86nm,19.7s,baz=20,slow=33						
RAO	**Raoul Island**	**25.68**	**140**	LR	LR	15 33 35.8	
	comp=Z,253nm,20.9s,baz=92,slow=33						
H11S2	**WAKE ISLAND Hy**	**28.87**	**7**	T	T	15 55 46.1	
	baz=192						
H11S3	**WAKE ISLAND Hy**	**28.87**	**7**	T	T	15 55 46.6	
	baz=192						
H11S1	**WAKE ISLAND Hy**	**28.89**	**7**	T	T	15 55 53.2	
	baz=192						
WRA	**Warramunga Arr**	**29.53**	**248**	P	P	15 25 33.8	+0.2
	0.2nm,0.4s,baz=78,slow=8.9,SNR=1.9						
H11N1	**WAKE ISLAND Hy**	**30.10**	**7**	T	T	15 57 23.7	
	baz=190,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**30.11**	**7**	T	T	15 57 21.3	
	baz=190,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**30.12**	**7**	T	T	15 57 23.3	
	baz=190,slow=75,SNR=5.6						
ASAR	**Alice Springs**	**31.02**	**241**	P	P	15 25 46.6	-0.2
	0.3nm,0.6s,baz=63,slow=10,SNR=6.9						
MKAR	**Makanchi Array**	**91.43**	**317**	P	P	15 32 35.3	0.0
	0.4nm,0.8s,baz=98,slow=8.1,SNR=5.2						

*CNRM **04** 15:40:33.6, 35°.49N×3°.79W, h21km, ml2.0*
*MDD **04** 15:40:34.5±0.5, 35°.47N×3°.82W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=4.6km s-min=3.8km az=17.0*
*SFS **04** 15:40:34.0, 35°.44N×3°.82W, ML2.6, ALBORAN SUR*
ISC 04 15:40:33.2±1.0, 35°.52N±0°.02×3°.80W±0°.03, h16km±8km, n20, σ1°62/36, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.32**	**201**	P	**Pg**	**15 40 40.6**	**+0.7**
PALE				S	**Sg**	**15 40 43.9**	**-0.6**
GOG	**Mont Gurugu**	**0.72**	**114**	P	**Pb**	**15 40 47.4**	**+0.1**
GOG				S	**Sg**	**15 40 55.8**	**-0.9**
EMEL	**Melilla**	**0.72**	**107**	Pg	**Pn**	**15 40 48.5**	**-0.1**
EMEL				Sg	**Sb**	**15 40 56.8**	**-0.1**
EALB	**Alboran**	**0.75**	**56**	Pg	**Pn**	**15 40 48.9**	**-0.2**
EALB				Sg	**Sn**	**15 40 59.2**	**-0.9**
EALB				*i* Vmb_Lg		15 41 03.8	
SMIR	**Smir Dam**	**1.30**	**278**	P	**Pn**	**15 40 55.8**	**-0.8**
SMIR				S	**Sb**	**15 41 13.6**	**-0.1**
EMIJ	**Mijas**	**1.31**	**323**	Pg	**Pg**	**15 40 59.6**	**+1.2**
EMIJ				Sg	**Sg**	**15 41 14.7**	**-0.8**
EMIJ				*i* Vmb_Lg		15 41 20.6	
CHEFC	**Chefchaouen**	**1.32**	**252**	P	**Pn**	**15 40 58.3**	**+1.3**
TAF	**Taforalt**	**1.33**	**121**	P	**Pb**	**15 40 57.8**	**0.0**
CEU	**Ceuta**	**1.34**	**287**	P	**Pb**	**15 40 58.7**	**+0.9**
CEU				S	**Sn**	**15 41 10.6**	**-3.9**
EMAL	**Malaga-Limoner**	**1.34**	**338**	P	**Pg**	**15 40 58.5**	**-0.6**
EMAL				S	**Sb**	**15 41 13.6**	**-1.3**
ELGU	**Los Guajares,**	**1.35**	**6**	Pg	**Pb**	**15 40 57.4**	**-0.8**
ELGU				Sg	**Sb**	**15 41 14.2**	**-1.1**
ELGU				*i* Vmb_Lg		15 41 20.3	
JBK	**JBK**	**1.55**	**139**	P	**Pn**	**15 41 00.3**	**0.0**
JBK				S	**Sn**	**15 41 17.5**	**-2.7**
EGOR	**Sierra Gorda,**	**1.61**	**351**	*i* Vmb_Lg		15 41 24.5	
EGOR				Sn	**Sg**	**15 41 24.6**	**-0.5**
LCRM	**LCR**	**2.02**	**206**	P	**Pb**	**15 41 09.9**	**+0.3**
LCRM				S	**Sn**	**15 41 32.8**	**+1.0**
IFR	**Ifrane**	**2.28**	**209**	P	**Pn**	**15 41 07.5**	**-2.7**
IFR				S	**Sn**	**15 41 37.6**	**-0.4**
MD31	**MD31**	**2.76**	**197**	P	**Pn**	**15 41 18.4**	**+1.6**
MD31				S	**Sn**	**15 41 51.1**	**+1.3**
MDT	**Midelt**	**2.78**	**194**	P	**Pn**	**15 41 18.4**	**+1.3**
MDT				S	**Sn**	**15 41 51.1**	**+0.9**
ECAB	**El Cabril**	**2.87**	**333**	Pn	**Pb**	**15 41 23.4**	**-0.5**
ECAB				Sn	**Sb**	**15 41 56.6**	**-2.2**
EGRO	**El Granado**	**3.59**	**305**	Pn	**Pn**	**15 41 31.0**	**+3.0**
ETOB	**Tobarra**	**3.60**	**29**	Pn	**Pn**	**15 41 31.6**	**+3.2**
ETOB				Sn	**Sn**	**15 42 13.9**	**+3.3**

*STR **04** 15:51:17.8±0.8, 43°N±3°×1°1E±°, h0km, MLv3.5/18, preliminary*
*PRU **04** 15:51:18.9±0.0, 43°.22N×11°.26E, h12km*
*GEN **04** 15:51:18.8, 43°.41N×11°.20E, h9km±1km, Ml3.5*
*ROM **04** 15:51:19.2±0.1, 43°.412N±0°.003×11°.170E±0°.004, h8km, ML3.4/38, Mw3.5, Error ellipse: s-maj=0.3km s-min=0.2km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.80; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-0.96; $M_{r\theta}$-1.07; $M_{\theta\phi}$-1.17; $M_{r\phi}$0.30; Fault plane solution: $M_0$1.83263×10^{14} NP1:ϕ_s357.00000°, δ53.00000°, λ29.00000°. NP2:ϕ_s249.00000°, δ67.00000°, λ140.00000°.*
*LDG **04** 15:51:20.4±0.1, 43°.35N×11°.21E, h8km, Md2.7/1, Ml3.1/30 Error ellipse: s-maj=2.8km s-min=2.3km az=16.0*
ISC 04 15:51:18.8±0.8, 43°36N±0°.02×11°17E±0°.01, h10km±6km, n233, σ1°33/318, 12C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSNT	**Castellina Chi**	**0.14**	**37**	⇑P	**Pg**	**15 51 22.1**	**0.0**
CSNT				S	**Sg**	**15 51 23.8**	**-0.6**
CSNT				AML	AML		
	comp=E,53300μm,0.3s						
CSNT				AML	AML		
	comp=N,39000μm,0.4s						
CSNT	**Castellina Chi**	**0.14**	**37**	P	**Pg**	**15 51 22.1**	**0.0**
CSNT				S	**Sg**	**15 51 23.9**	**-0.6**
OSSC	**Osservatorio P**	**0.17**	**18**	⇑P	**Pg**	**15 51 22.6**	**0.0**
OSSC				S	**Sg**	**15 51 24.8**	**-0.4**
OSSC	**Osservatorio P**	**0.17**	**18**	P	**Pg**	**15 51 22.6**	**0.0**
OSSC				S	**Sg**	**15 51 24.8**	**-0.4**
FIR	**Firenze**	**0.42**	**8**	P	**Pg**	**15 51 27.1**	**0.0**
FIR				S	**Sg**	**15 51 32.9**	**+0.3**
CRMI	**Carmignano**	**0.46**	**341**	P	**Pg**	**15 51 27.8**	**0.0**
CRMI				S	**Sg**	**15 51 34.2**	**+0.4**
CRMI				AML	AML		
	comp=E,5635μm,0.5s						
CRMI				AML	AML		
	comp=E,5640μm,0.5s						
CRMI				AML	AML		
	comp=N,4955μm,0.2s						
CRMI				AML	AML		
	comp=E,5885μm,0.6s						
CRMI				AML	AML		
	comp=N,5265μm,0.2s						
CRMI	**Carmignano**	**0.46**	**341**	P	**Pg**	**15 51 27.8**	**0.0**
CRMI				S	**Sg**	**15 51 34.3**	**+0.4**
RUFI	**Rufina**	**0.54**	**27**	⇑P	**Pg**	**15 51 29.3**	**0.0**
RUFI				S	**Sg**	**15 51 36.6**	**+0.1**
RUFI				AML	AML		
	comp=N,17200μm,0.6s						
RUFI				AML	AML		
	comp=E,40400μm,0.3s						
RUFI				AML	AML		
	comp=E,40350μm,0.3s						
RUFI	**Rufina**	**0.54**	**27**	P	**Pg**	**15 51 29.3**	**0.0**
RUFI				S	**Sg**	**15 51 36.9**	**+0.4**
ARCI	**Arcidosso**	**0.55**	**156**	⇑P	**Pb**	**15 51 31.0**	**+0.3**
ARCI				S	**Sb**	**15 51 40.1**	**+1.5**
ARCI				AML	AML		
	comp=E,4550μm,0.6s						
ARCI				AML	AML		
	comp=N,5975μm,0.8s						
CAFI	**Castiglion Fio**	**0.58**	**93**	P	**Pb**	**15 51 30.6**	**-0.5**
CAFI				S	**Sb**	**15 51 38.9**	**-0.5**
CAFI				AML	AML		
	comp=E,3705μm,0.3s						
CAFI				AML	AML		
	comp=N,4075μm,0.9s						
CAFI				AML	AML		
	comp=N,4215μm,0.9s						
CAFI				AML	AML		
	comp=E,3795μm,0.3s						
CAFI				AML	AML		
	comp=N,4070μm,0.9s						
PII	**Pisa**	**0.60**	**308**	P	**Pg**	**15 51 30.8**	**+0.4**
PII				S	**Sg**	**15 51 38.6**	**+0.4**
PII				AML	AML		
	comp=E,15950μm,0.2s						
PII				AML	AML		
	comp=N,16600μm,0.3s						
PII	**Pisa**	**0.60**	**308**	P	**Pg**	**15 51 30.8**	**+0.4**
PII				S	**Sg**	**15 51 38.4**	**+0.2**
MPPT	**Montemurlo**	**0.60**	**354**	P	**Pg**	**15 51 30.4**	**-0.2**
MPPT				S	**Sg**	**15 51 38.9**	**+0.4**
MPPT				AML	AML		
	comp=N,5045μm,0.7s						
MPPT				AML	AML		
	comp=E,6705μm,0.6s						
MPPT				AML	AML		
	comp=N,5040μm,0.7s						
CASP	**Castiglione de**	**0.61**	**202**	⇑P	**Pb**	**15 51 32.5**	**+0.9**
CASP				S	**Sb**	**15 51 41.6**	**+1.3**
CASP				AML	AML		
	comp=E,4715μm,0.4s						
CASP				AML	AML		
	comp=N,5065μm,0.3s						
CRE	**Caprese Michel**	**0.62**	**65**	⇑P	**Pb**	**15 51 31.3**	**-0.6**
CRE				S	**Sb**	**15 51 40.0**	**-0.8**
CRE				AML	AML		
	comp=E,6615μm,1.1s						
CRE				AML	AML		
	comp=N,8720μm,0.3s						
ASQU	**Asqua**	**0.63**	**45**	P	**Pg**	**15 51 30.8**	**-0.2**
ASQU				S	**Sb**	**15 51 39.6**	**-1.2**
ASQU				AML	AML		
	comp=N,7445μm,0.4s						
ASQU				AML	AML		
	comp=E,4960μm,0.6s						
ASQU	**Asqua**	**0.63**	**45**	P	**Pg**	**15 51 30.9**	**-0.1**
ASQU				S	**Sb**	**15 51 39.7**	**-1.2**
MTCR	**Monte La Croce**	**0.68**	**349**	P	**Pg**	**15 51 31.8**	**-0.2**
MTCR				S	**Sg**	**15 51 41.3**	**+0.3**
MTCR				AML	AML		
	comp=E,5860μm,0.4s						
MTCR				AML	AML		
	comp=N,5255μm,1.4s						
MTCR				AML	AML		
	comp=E,5855μm,0.4s						
MTCR				AML	AML		
	comp=N,5250μm,1.4s						
MTCR	**Monte La Croce**	**0.68**	**349**	P	**Pg**	**15 51 31.9**	**-0.2**
MTCR				S	**Sg**	**15 51 41.7**	**+0.7**
SSP9	**Sansepolcro**	**0.73**	**72**	P	**Pb**	**15 51 33.8**	**+0.1**
SSP9				AML	AML		
	comp=E,5400μm,0.4s						
SSP9				AML	AML		
	comp=N,5220μm,0.8s						
SFI	**Santa Sofia**	**0.73**	**42**	⇑P	**Pg**	**15 51 32.7**	**-0.3**
SFI				S	**Sg**	**15 51 42.6**	**0.0**
SFI				AML	AML		
	comp=N,3145μm,0.4s						
SFI				AML	AML		
	comp=N,3140μm,0.4s						
SFI				AML	AML		
	comp=E,3755μm,0.6s						
SFI				AML	AML		
	comp=N,3170μm,0.5s						
SFI				AML	AML		
	comp=E,3810μm,0.7s						
SACS	**San Casciano d**	**0.74**	**133**	P	**Pn**	**15 51 34.6**	**-0.8**
SACS				AML	AML		
	comp=E,1165μm,0.5s						
SACS				AML	AML		
	comp=N,1355μm,1.1s						
SACS				AML	AML		
	comp=N,1310μm,1.1s						
SACS				AML	AML		
	comp=E,1248μm,0.5s						
MAIM	**Mastiano**	**0.74**	**319**	P	**Pg**	**15 51 33.2**	**0.0**
MAIM				S	**Sg**	**15 51 42.2**	**-0.7**
MAIM	**Mastiano**	**0.74**	**319**	P	**Pg**	**15 51 33.3**	**+0.1**
MAIM				S	**Sg**	**15 51 42.5**	**-0.4**
BADI	**Badiali**	**0.80**	**79**	P	**Pb**	**15 51 34.9**	**+0.2**
BADI				AML	AML		
	comp=E,2805μm,0.3s						
BADI				AML	AML		
	comp=N,3435μm,0.3s						
ATMI	**Monte Miggiano**	**0.80**	**91**	P	**Pb**	**15 51 35.0**	**+0.1**
ATMI				AML	AML		
	comp=E,6175μm,1.2s						
ATMI				AML	AML		
	comp=N,10200μm,0.6s						
FNVD	**Fontana Vidola**	**0.81**	**357**	P	**Pg**	**15 51 34.6**	**+0.1**
FNVD				S	**Sg**	**15 51 45.1**	**0.0**
FNVD				AML	AML		
	comp=E,10350μm,0.7s						
FNVD				AML	AML		
	comp=N,12850μm,0.5s						
FNVD	**Fontana Vidola**	**0.81**	**357**	P	**Pg**	**15 51 34.7**	**+0.2**
FNVD				S	**Sb**	**15 51 47.2**	**+1.1**
LMD	**Lutirano**	**0.82**	**28**	P	**Pg**	**15 51 34.5**	**-0.1**
LMD				S	**Sg**	**15 51 44.9**	**-0.4**
LMD				AML	AML		
	comp=E,7230μm,0.4s						
LMD				AML	AML		
	comp=N,7230μm,1.2s						
LMD	**Lutirano**	**0.82**	**28**	P	**Pg**	**15 51 34.6**	**0.0**
LMD				S	**Sb**	**15 51 45.7**	**-0.5**
BDI	**Bagni Di Lucca**	**0.82**	**330**	P	**Pg**	**15 51 34.8**	**+0.1**
BDI				S	**Sg**	**15 51 45.8**	**+0.4**
BDI				AML	AML		
	comp=E,4090μm,0.5s						
BDI				AML	AML		
	comp=N,4255μm,1.1s						
BDI				AML	AML		
	comp=N,4130μm,1.0s						
BDI				AML	AML		
	comp=E,4275μm,0.5s						
BDI	**Bagni Di Lucca**	**0.82**	**330**	P	**Pg**	**15 51 34.7**	**+0.1**
BDI				S	**Sg**	**15 51 45.6**	**+0.3**
MGAB	**Montegabbione**	**0.82**	**123**	P	**Pn**	**15 51 35.8**	**-0.7**
MGAB				AML	AML		
	comp=N,2210μm,0.4s						
MGAB				AML	AML		
	comp=E,1515μm,0.4s						
MGAB				AML	AML		
	comp=N,2155μm,0.8s						
MGAB				AML	AML		
	comp=E,1475μm,1.3s						
PARC	**Parchiule**	**0.83**	**69**	P	**Pb**	**15 51 35.1**	**-0.2**
PARC				S	**Sb**	**15 51 46.4**	**-0.2**
PARC				AML	AML		
	comp=N,3630μm,0.5s						
PARC				AML	AML		
	comp=E,4525μm,0.8s						
BRIS	**BRISIGHELLA**	**0.83**	**17**	AML	AML		
	comp=N,5220μm,0.6s						
BRIS				AML	AML		
	comp=E,2695μm,0.6s						
CARD	**Cardoso**	**0.83**	**323**	P	**Pg**	**15 51 34.9**	**0.0**
CARD				S	**Sg**	**15 51 45.3**	**-0.5**
CARD	**Cardoso**	**0.83**	**323**	P	**Pg**	**15 51 35.0**	**0.0**
CARD				S	**Sg**	**15 51 45.7**	**-0.1**
ATTE	**AVT- Monte Tez**	**0.88**	**100**	P	**Pb**	**15 51 36.3**	**+0.1**
ATTE				AML	AML		
	comp=E,2225μm,0.4s						
ATTE				AML	AML		
	comp=N,2005μm,1.5s						
ATPI	**Pietralunga -**	**0.90**	**84**	P	**Pb**	**15 51 36.6**	**0.0**
ATPI				AML	AML		
	comp=E,3045μm,0.5s						
ATPI				AML	AML		
	comp=N,2845μm,0.5s						
ATVO	**AVT- Monte Val**	**0.90**	**88**	P	**Pb**	**15 51 36.5**	**-0.1**
ATVO				AML	AML		
	comp=E,2020μm,0.5s						
ATVO				AML	AML		
	comp=N,3095μm,0.8s						
APEC	**Apecchio**	**0.93**	**77**	P	**Pb**	**15 51 37.1**	**+0.1**
APEC				AML	AML		
	comp=N,3990μm,0.5s						
APEC				AML	AML		
	comp=E,3275μm,0.5s						
MAON	**Monte Argentar**	**0.93**	**182**	P	**Pn**	**15 51 38.2**	**+0.3**
MAON				S	**Sn**	**15 51 51.6**	**+0.2**
MAON				AML	AML		
	comp=E,2750μm,0.7s						
MAON				AML	AML		
	comp=N,2975μm,0.7s						
MAON	**Monte Argentar**	**0.93**	**182**	P	**Pn**	**15 51 38.3**	**+0.3**
MAON				S	**Sn**	**15 51 52.2**	**+0.9**
CELB	**S.Piero in Cam**	**0.93**	**229**	P	**Pb**	**15 51 37.8**	**+0.7**
CELB				AML	AML		
	comp=E,1605μm,0.5s						
CELB				AML	AML		
	comp=N,2455μm,0.6s						
CELB	**S.Piero in Cam**	**0.93**	**229**	P	**Pb**	**15 51 37.9**	**+0.7**
CELB				S	**Sn**	**15 51 53.6**	**+2.1**
GROG	**Isola di Gorgo**	**0.94**	**275**	P	**Pg**	**15 51 36.1**	**-0.7**
GROG				S	**Sg**	**15 51 50.0**	**+1.0**
CPGN	**Carpegna, Ital**	**0.94**	**62**	AML	AML		
	comp=E,69050μm,0.6s						
CPGN				AML	AML		
VLC	**Villacollemand**	**0.98**	**325**	P	**Pg**	**15 51 37.0**	**-0.7**
VLC				S	**Sg**	**15 51 49.7**	**-0.9**
VLC				AML	AML		
	comp=N,1995μm,0.4s						
VLC				AML	AML		
	comp=E,1140μm,1.3s						
VLC				AML	AML		
	comp=E,1200μm,1.3s						
VLC				AML	AML		
	comp=N,1975μm,0.5s						
VLC	**Villacollemand**	**0.98**	**325**	P	**Pg**	**15 51 37.9**	**+0.1**
VLC				S	**Sg**	**15 51 50.5**	**0.0**
MURB	**Monte Urbino**	**0.99**	**95**	P	**Pn**	**15 51 38.5**	**-0.4**
MURB				AML	AML		
	comp=E,5405μm,0.3s						
MURB				AML	AML		
	comp=N,6120μm,0.3s						
MURB				AML	AML		
	comp=N,6125μm,0.3s						
MURB				AML	AML		
	comp=N,6285μm,0.4s						
MURB				AML	AML		
	comp=E,5400μm,0.3s						
MURB				AML	AML		
	comp=E,5910μm,0.3s						
SARO	**Sassorosso**	**1.00**	**326**	P	**Pg**	**15 51 37.9**	**-0.1**
SARO				S	**Sb**	**15 51 52.3**	**+0.8**
ZCCA	**Zocca**	**1.00**	**352**	P	**Pn**	**15 51 39.1**	**+0.1**
ZCCA				AML	AML		
	comp=N,1870μm,0.5s						
ZCCA				AML	AML		
	comp=E,2605μm,1.0s						
ZCCA	**Zocca**	**1.00**	**352**	P	**Pn**	**15 51 39.8**	**+0.8**
PIEI	**Pieia**	**1.01**	**79**	P	**Pb**	**15 51 38.4**	**0.0**
PIEI				S	**Sb**	**15 51 51.9**	**+0.2**
PIEI				AML	AML		
	comp=N,1009μm,0.3s						
PIEI				AML	AML		
	comp=E,1135μm,0.4s						
ATFO	**Monte Foce - G**	**1.02**	**89**	P	**Pb**	**15 51 38.7**	**+0.1**
ATFO				AML	AML		
	comp=N,2275μm,0.4s						
ATFO				AML	AML		
	comp=E,2350μm,0.6s						
PE3	**Peglio**	**1.02**	**70**	P	**Pb**	**15 51 38.6**	**0.0**
MTRZ	**Monterenzio**	**1.04**	**12**	P	**Pg**	**15 51 37.8**	**-1.1**
MTRZ				AML	AML		
	comp=E,3315μm,0.6s						
MTRZ				AML	AML		
	comp=N,4335μm,0.6s						
MTRZ				AML	AML		
	comp=N,4345μm,0.6s						
MTRZ				AML	AML		
	comp=E,3315μm,0.6s						
MTRZ	**Monterenzio**	**1.04**	**12**	P	**Pg**	**15 51 38.9**	**0.0**
MTRZ				S	**Sg**	**15 51 52.4**	**0.0**
GSCL	**Gusciola**	**1.08**	**337**	P	**Pg**	**15 51 39.8**	**+0.2**
GSCL				S	**Sb**	**15 51 54.6**	**+0.8**
IMOL	**Imola, Italy**	**1.08**	**22**	⇓P	**Pn**	**15 51 41.0**	**+1.0**
IMOL				AML	AML		
	comp=E,3500μm,1.1s						
IMOL				AML	AML		
	comp=N,4335μm,0.6s						
IMOL	**Imola, Italy**	**1.08**	**22**	P	**Pn**	**15 51 41.4**	**+1.4**
IMOL				S	**Sn**	**15 51 59.6**	**+4.5**
EQUI	**Equi**	**1.09**	**318**	P	**Pg**	**15 51 39.5**	**-0.3**
EQUI				S	**Sg**	**15 51 52.6**	**-1.5**
EQUI	**Equi**	**1.09**	**318**	P	**Pg**	**15 51 39.5**	**-0.3**
EQUI				S	**Sg**	**15 51 53.6**	**-0.5**
ASSB	**Assisi San Ben**	**1.13**	**106**	P	**Pn**	**15 51 40.9**	**+0.1**
ASSB				AML	AML		
	comp=E,620μm,0.9s						
ASSB				AML	AML		
	comp=N,642μm,0.5s						
MOMA	**Monte Martano**	**1.16**	**118**	P	**Pn**	**15 51 41.6**	**+0.4**
MOMA				AML	AML		
	comp=E,750μm,0.4s						
MOMA				AML	AML		
	comp=N,636μm,0.4s						
PLMA	**Palmaria, Port**	**1.18**	**306**	P	**Pb**	**15 51 41.1**	**-0.2**
PLMA	**Palmaria, Port**	**1.18**	**306**	P	**Pb**	**15 51 41.1**	**-0.2**
PLMA				S	**Sb**	**15 51 56.7**	**0.0**
MPAG	**Monte Paganucc**	**1.19**	**76**	P	**Pb**	**15 51 41.2**	**-0.2**
MPAG				AML	AML		
	comp=N,862μm,0.4s						
MPAG				AML	AML		
	comp=E,638μm,0.7s						
FSSB	**Fossombrone**	**1.21**	**73**	P	**Pn**	**15 51 41.9**	**0.0**
FSSB				AML	AML		
	comp=N,1955μm,0.4s						
FSSB				AML	AML		
	comp=E,2060μm,1.3s						
BLLA	**Bellaria**	**1.22**	**50**	⇑P	**Pg**	**15 51 43.9**	**+1.6**
CESX	**Cesi**	**1.27**	**125**	P	**Pg**	**15 51 43.2**	**-0.1**
CESX				AML	AML		
	comp=E,506μm,0.6s						
CESX				AML	AML		
	comp=N,447μm,0.5s						
SNTG	**Esanatoglia**	**1.29**	**94**	P	**Pb**	**15 51 43.0**	**-0.3**
SNTG				AML	AML		
	comp=E,690μm,0.6s						
SNTG				AML	AML		
	comp=N,782μm,0.5s						
CESI	**CESI - Serrava**	**1.31**	**105**	P	**Pg**	**15 51 43.6**	**-0.5**
CESI				AML	AML		
	comp=E,311μm,0.5s						
CESI				AML	AML		
	comp=N,333μm,0.5s						
PESA	**Pesaro**	**1.34**	**64**	P	**Pg**	**15 51 44.0**	**-0.5**
PESA				AML	AML		
	comp=E,1305μm,0.4s						
PESA				AML	AML		
	comp=N,1130μm,0.6s						
COR1	**Corinaldo**	**1.36**	**78**	P	**Pg**	**15 51 44.9**	**0.0**
COR1				AML	AML		
	comp=N,99050μm,1.6s						
COR1				AML	AML		
	comp=N,1599μm,1.2s						
COR1				AML	AML		
	comp=E,8335μm,1.6s						
COR1				AML	AML		
	comp=E,1096μm,1.3s						
GRAM	**Graiana**	**1.39**	**325**	P	**Pb**	**15 51 45.3**	**+0.4**
GRAM				S	**Sg**	**15 52 04.3**	**+0.8**
EL6	**Elcito**	**1.41**	**91**	P	**Pg**	**15 51 45.2**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TOLF	**Tolfa**	**1.43**	**154**	P	**Pn**	**15 51 43.9**	**-0.9**
FDMO	**Fiordimonte**	**1.44**	**102**	P	**Pn**	**15 51 45.1**	**+0.1**
FDMO				AML	AML		
	comp=N,310µm,0.5s						
FDMO				AML	AML		
	comp=E,307µm,0.5s						
SRES	**S.Oreste - Sor**	**1.49**	**138**	P	**Pb**	**15 51 46.4**	**-0.2**
CSP1	**Cessapalombo**	**1.51**	**99**	P	**Pb**	**15 51 46.4**	**-0.6**
MSSA	**Maissana**	**1.53**	**309**	P	**Pn**	**15 51 46.5**	**+0.1**
MSSA				AML	AML		
	comp=E,478µm,1.3s						
MSSA				AML	AML		
	comp=N,776µm,0.9s						
LNSS	**Leonessa**	**1.56**	**118**	P	**Pb**	**15 51 47.5**	**-0.5**
LNSS				AML	AML		
	comp=N,450µm,1.3s						
LNSS				AML	AML		
	comp=E,438µm,0.9s						
RM33	**Pellescritta (**	**1.72**	**119**	P	**Pb**	**15 51 49.8**	**-0.8**
RM33				AML	AML		
	comp=E,314µm,1.1s						
RM33				AML	AML		
	comp=N,278µm,0.6s						
SMA1	**SAN MARTINO**	**1.75**	**114**	P	**Pb**	**15 51 50.4**	**-0.6**
SMA1				AML	AML		
	comp=E,587µm,1.5s						
SMA1				AML	AML		
	comp=N,412µm,1.4s						
PGF	**Pioggiola**	**1.79**	**244**	*e*Pn	**Pn**	**15 51 50.3**	**+0.4**
PGF	**Pioggiola**	**1.79**	**244**	*e*P	**Pb**	**15 51 51.5**	**-0.3**
PGF				*e*Sn	**Sn**	**15 52 12.2**	**-0.5**
	comp=N,80nm,0.4s						
PGF	**Pioggiola**	**1.79**	**244**	P	**Pn**	**15 51 50.3**	**+0.4**
FIAM	**Fiamignano**	**1.80**	**127**	P	**Pb**	**15 51 50.8**	**-1.1**
CORF	**Corte**	**1.82**	**235**	P	**Pn**	**15 51 51.7**	**+1.4**
CORF	**Corte**	**1.82**	**235**	P	**Pn**	**15 51 50.4**	**+0.1**
SMPL	**Sampolo**	**1.88**	**228**	P	**Pn**	**15 51 52.2**	**+1.2**
SMPL	**Sampolo**	**1.88**	**228**	P	**Pn**	**15 51 51.9**	**+0.8**
SMPL	**Sampolo**	**1.88**	**228**	AML	AML		
	comp=E,208µm,0.7s						
SMPL				AML	AML		
	comp=N,148µm,1.2s						
TEOL	**Teolo**	**2.03**	**10**	P	**Pn**	**15 51 53.0**	**-0.1**
TEOL				AML	AML		
	comp=E,1515µm,0.7s						
TEOL				AML	AML		
	comp=N,1115µm,0.9s						
T0110	**Collepietro**	**2.23**	**120**	P	**Pg**	**15 52 00.5**	**-1.0**
T0110				AML	AML		
	comp=E,320µm,0.8s						
T0110				AML	AML		
	comp=N,315µm,1.5s						
QLNO	**Quiliano**	**2.26**	**296**	P	**Pn**	**15 51 56.1**	**-0.2**
AJAC	**Base Areonaval**	**2.28**	**232**	P	**Pn**	**15 51 57.7**	**+1.2**
AJAC	**Base Areonaval**	**2.28**	**232**	P	**Pn**	**15 51 58.0**	**+1.5**
AJAC	**Base Areonaval**	**2.28**	**232**	AML	AML		
	comp=N,202µm,0.3s						
AJAC				AML	AML		
	comp=E,276µm,0.3s						
ROVR	**Rover Verones**	**2.29**	**358**	P	**Pn**	**15 51 56.8**	**0.0**
ROVR				AML	AML		
	comp=N,204µm,0.4s						
ROVR				AML	AML		
	comp=E,142µm,0.5s						
BRJN	**Brijuni**	**2.42**	**49**	*e*Pn	**Pn**	**15 51 58.3**	**-0.1**
MAGA	**Magasa**	**2.45**	**351**	P	**Pn**	**15 51 59.0**	**+0.1**
MAGA				AML	AML		
	comp=N,588µm,0.6s						
MAGA				AML	AML		
	comp=E,1019µm,0.6s						
ZONE	**Zone**	**2.52**	**343**	P	**Pn**	**15 52 01.0**	**+1.1**
ZONE				AML	AML		
	comp=E,226µm,0.4s						
ZONE				AML	AML		
	comp=N,344µm,0.4s						
DOSS	**Dosso del Somm**	**2.52**	**0**	P	**Pn**	**15 52 00.0**	**0.0**
DOSS				AML	AML		
	comp=E,370µm,1.0s						
DOSS				AML	AML		
	comp=N,320µm,1.0s						
DOSS				AML	AML		
	comp=N,404µm,0.6s						
DOSS				AML	AML		
	comp=E,421µm,0.6s						
LPEL	**Lama dei Pelig**	**2.58**	**120**	S	**Sg**	**15 52 43.0**	**+1.4**
MDI	**Monti di Nese**	**2.63**	**337**	P	**Pn**	**15 52 02.0**	**+0.5**
MDI				AML	AML		
	comp=E,177µm,0.4s						
MDI				AML	AML		
	comp=N,189µm,1.3s						
SAOF	**Saorge**	**2.70**	**285**	P	**Pn**	**15 52 02.6**	**+0.2**
SAOF				S	**Sn**	**15 52 33.6**	**-1.5**
CTI	**Castel Tesino**	**2.71**	**7**	P	**Pn**	**15 52 02.8**	**+0.2**
CTI				AML	AML		
	comp=E,272µm,1.0s						
CTI				AML	AML		
	comp=N,384µm,0.2s						
SMRN	**Sveta Marina**	**2.72**	**51**	*e*Pn	**Pn**	**15 52 02.2**	**-0.3**
MABI	**Malga Bissina**	**2.74**	**350**	P	**Pn**	**15 52 03.5**	**+0.5**
MABI				AML	AML		
	comp=N,146µm,0.5s						
MABI				AML	AML		
	comp=E,114µm,1.2s						
CERA	**Filignano**	**2.74**	**129**	P	**Pg**	**15 52 09.6**	**-1.8**
SBF	**Sospel**	**2.76**	**282**	*e*Pn	**Pn**	**15 52 02.7**	**-0.5**
SBF				*e*Sn	**Sn**	**15 52 35.5**	**-1.2**
	comp=E,42nm,0.5s						
TURF	**col de Turini**	**2.81**	**284**	P	**Pn**	**15 52 04.2**	**+0.2**
DUGI	**Dugi Otok**	**2.89**	**76**	*e*Pn	**Pn**	**15 52 05.5**	**+0.6**
NVLJ	**Novalja**	**2.93**	**64**	*e*Pn	**Pn**	**15 52 05.9**	**+0.5**
SPIF	**crte de Spivo**	**2.94**	**285**	P	**Pn**	**15 52 06.5**	**+0.8**
RABC	**Rab**	**2.95**	**61**	*e*Pn	**Pn**	**15 52 06.0**	**+0.3**
MUGIO	**Muggio**	**2.98**	**330**	P	**Pn**	**15 52 06.6**	**+0.4**
MUGIO				AML	AML		
	comp=E,99µm,0.6s						
MUGIO				AML	AML		
	comp=N,95µm,0.8s						
TRI	**Trieste**	**2.99**	**37**	⇓P	**Pg**	**15 52 15.2**	**-1.0**
RIY	**Rijeka**	**3.08**	**49**	*e*Pn	**Pn**	**15 52 07.6**	**0.0**
CIMO	**Cimolais**	**3.09**	**17**	P	**Pn**	**15 52 07.8**	**+0.1**
CIMO				AML	AML		
	comp=E,54µm,0.9s						
CIMO				AML	AML		
	comp=N,59µm,1.4s						
STAL	**STALIGIAL**	**3.10**	**20**	P	**Pn**	**15 52 08.1**	**+0.2**
STAL				AML	AML		
	comp=E,321µm,0.5s						
STAL				AML	AML		
	comp=N,192µm,1.4s						
STAL				AML	AML		
	comp=N,309µm,1.1s						
STAL				AML	AML		
	comp=E,314µm,1.4s						
KOSI	**Kohlern**	**3.11**	**3**	P	**Pn**	**15 52 08.2**	**+0.1**
KOSI				AML	AML		
	comp=N,196µm,1.6s						
KOSI				AML	AML		
	comp=E,194µm,0.6s						
CALF	**Calern**	**3.12**	**279**	P	**Pn**	**15 52 08.2**	**+0.1**
CALF				S	**Sn**	**15 52 43.4**	**-2.0**
APPI	**Appiano**	**3.12**	**1**	P	**Pn**	**15 52 09.0**	**+0.8**
APPI				AML	AML		
	comp=E,209µm,0.5s						
APPI				AML	AML		
	comp=N,209µm,0.4s						
A250A	**Rusevo Krmpots**	**3.19**	**56**	*e*Pn	**Pn**	**15 52 09.7**	**+0.6**
ZIRJ	**Zirje**	**3.27**	**83**	*e*Pn	**Pn**	**15 52 10.9**	**+0.9**
MOSI	**Grossmontoni**	**3.29**	**352**	AML	AML		
	comp=E,278µm,0.9s						
MOSI				AML	AML		
	comp=N,386µm,1.0s						
FRF	**La Foret Royal**	**3.30**	**275**	*e*Pn	**Pn**	**15 52 10.3**	**-0.3**
FRF				*e*Sn	**Sn**	**15 52 47.0**	**-2.9**
	comp=N,31nm,0.3s						
MORI	**Morici**	**3.33**	**80**	*e*Pn	**Pn**	**15 52 12.3**	**+1.3**
SURF	**Saint Ours**	**3.34**	**291**	P	**Pn**	**15 52 11.9**	**+0.5**
ABSI	**Aberstueckl**	**3.37**	**2**	P	**Pn**	**15 52 12.3**	**+0.6**
ABSI				AML	AML		
	comp=E,300µm,0.7s						
ABSI				AML	AML		
	comp=N,299µm,0.5s						
LMR	**La Mourre**	**3.40**	**271**	*e*Pn	**Pn**	**15 52 11.4**	**-0.5**
LMR				*e*Sn	**Sn**	**15 52 49.2**	**-3.1**
	comp=N,17nm,0.3s						
MBDF	**Montbardon**	**3.46**	**295**	*e*Pn	**Pn**	**15 52 12.7**	**-0.1**
MBDF	**Montbardon**	**3.46**	**295**	*e*P	**Pb**	**15 52 17.5**	**-2.7**
MBDF				*e*Sn	**Sn**	**15 52 53.3**	**-0.6**
	comp=N,7.9nm,0.3s						
UDBI	**Udbina**	**3.52**	**69**	*e*Pn	**Pn**	**15 52 14.9**	**+1.3**
ABTA	**Abfaltersbach**	**3.52**	**15**	*e*Pn	**Pn**	**15 52 14.7**	**+1.1**
	comp=N,25nm,0.4s,SNR=14						
ABTA				*i* Sn	**Sb**	**15 53 04.8**	**+0.8**
	comp=N,46nm,0.7s						
OGAG	**Argentiere**	**3.52**	**290**	P	**Pn**	**15 52 16.7**	**+3.0**
DAVOX	**Davos/Dischmat**	**3.54**	**345**	P	**Pn**	**15 52 15.1**	**+1.0**
DAVOX				AML	AML		
	comp=E,80µm,0.7s						
DAVOX				AML	AML		
	comp=N,142µm,0.7s						
FUSIO	**Fusio**	**3.57**	**331**	P	**Pn**	**15 52 15.1**	**+0.7**
FUSIO				AML	AML		
	comp=N,73µm,1.1s						
FUSIO				AML	AML		
	comp=E,103µm,0.4s						
ROSI	**Rosskopf**	**3.57**	**3**	P	**Pn**	**15 52 15.4**	**+0.9**
ROSI				AML	AML		
	comp=E,131µm,0.9s						
ROSI				AML	AML		
	comp=N,276µm,0.9s						
FLAF	**Flassans-sur-I**	**3.59**	**272**	P	**Pn**	**15 52 14.8**	**+0.3**
RISI	**Rein**	**3.65**	**10**	P	**Pn**	**15 52 16.5**	**+1.1**
RISI				AML	AML		
	comp=N,361µm,0.5s						
RISI				AML	AML		
	comp=E,257µm,0.3s						
FETA	**Feichten**	**3.68**	**355**	*e*Pn	**Pn**	**15 52 18.0**	**+2.1**
	comp=E,9.9nm,0.3s,SNR=12						
FETA				*e*Sn	**Sn**	**15 53 00.9**	**+1.5**
	comp=E,14nm,0.7s						
MYKA	**Terra Mystica**	**3.71**	**27**	*i* Pn	**Pn**	**15 52 17.6**	**+1.4**
	comp=E,1.1nm,0.2s						
MYKA				*i* Sn	**Sn**	**15 53 01.3**	**+1.2**
	comp=E,14nm,0.5s						
BLAF	**les Blancs**	**3.77**	**281**	P	**Pn**	**15 52 18.2**	**+1.2**
CAFE	**Carife**	**3.81**	**126**	S	**Sg**	**15 53 21.0**	**-0.2**
DIX	**Grande Dixence**	**3.82**	**317**	P	**Pn**	**15 52 19.5**	**+1.5**
LPG	**La Plagne**	**3.82**	**306**	*e*Pn	**Pn**	**15 52 19.3**	**+1.3**
LPG	**La Plagne**	**3.82**	**306**	*e*P	**Pn**	**15 52 22.5**	**+4.5**
LPG				*e*Sn	**Sn**	**15 53 02.9**	**-0.2**
	comp=E,0.8nm,0.2s						
LPL	**La Plagne**	**3.84**	**306**	*e*Pn	**Pn**	**15 52 18.9**	**+0.7**
LPL	**La Plagne**	**3.84**	**306**	*e*P	**Pn**	**15 52 22.5**	**+4.3**
LPL				*e*Sn	**Sn**	**15 53 03.0**	**-0.6**
	comp=E,5.5nm,0.3s						
KIJV	**Kijevo**	**3.85**	**79**	*e*Pn	**Pn**	**15 52 20.4**	**+2.3**
HVAR	**Hvar**	**3.86**	**91**	*e*Pn	**Pn**	**15 52 19.3**	**+1.2**
HVAR				Sn	**Sn**	**15 52 59.4**	**-4.2**
PLONS	**Plons/SG**	**3.90**	**342**	P	**Pn**	**15 52 19.7**	**+0.8**
PLONS				AML	AML		
	comp=E,62µm,1.3s						
PLONS				AML	AML		
	comp=N,57µm,0.7s						
ARTF	**Artigues**	**3.91**	**275**	P	**Pn**	**15 52 19.8**	**+0.8**
WTTA	**Wattenberg**	**3.92**	**5**	*i* Pn	**Pn**	**15 52 21.3**	**+2.1**
	comp=N,12nm,0.3s						
WTTA				*e*Sn	**Sn**	**15 53 07.5**	**+2.1**
	comp=N,16nm,0.3s						
WTTA	**Wattenberg**	**3.92**	**5**	P	**Pn**	**15 52 20.1**	**+0.9**
WTTA				AML	AML		
	comp=E,126µm,1.0s						
WTTA				AML	AML		
	comp=N,132µm,0.8s						
OBKA	**Obir**	**3.96**	**36**	*e*Pn	**Pn**	**15 52 21.6**	**+1.9**
	comp=N,11nm,0.4s						
OBKA				Sg	**Sg**	**15 53 27.1**	**+1.2**
	comp=N,37nm,0.6s						
MLYF	**Mely**	**3.97**	**281**	P	**Pn**	**15 52 21.4**	**+1.5**
MOTA	**Moosalm**	**3.99**	**359**	*i* Pn	**Pn**	**15 52 22.3**	**+2.2**
	comp=N,22nm,0.5s,SNR=8.9						
MOTA				*e*Sn	**Sn**	**15 53 04.8**	**-2.2**
	comp=N,36nm,0.8s						
WATA	**Walderalm**	**3.99**	**4**	*i* Pn	**Pn**	**15 52 22.4**	**+2.2**
	comp=N,15nm,0.2s,SNR=9.8						
WATA				*i* Sn	**Sn**	**15 53 07.8**	**+0.7**
	comp=N,22nm,0.4s						
BNALP	**Bannalp**	**4.01**	**332**	P	**Pn**	**15 52 22.2**	**+1.6**
KBA	**Koelnbreinsper**	**4.02**	**22**	*i* Pn	**Pn**	**15 52 21.9**	**+1.2**
	comp=N,6.7nm,0.3s						
KBA				*i* Sn	**Sn**	**15 53 08.4**	**+0.4**
	comp=N,14nm,0.5s						
DAVA	**Damuels**	**4.03**	**347**	*i* Pn	**Pn**	**15 52 23.1**	**+2.4**
	comp=N,17nm,0.3s,SNR=7.5						
DAVA				*i* Sn	**Sn**	**15 53 09.5**	**+1.3**
	comp=N,45nm,0.5s						
VSL	**Villasalto**	**4.09**	**200**	⇑P	**Pn**	**15 52 22.7**	**+1.3**
SMRF	**Simiane la Rot**	**4.11**	**281**	*e*Pn	**Pn**	**15 52 22.6**	**+0.9**
SMRF	**Simiane la Rot**	**4.11**	**281**	*e*P	**Pn**	**15 52 25.1**	**+3.4**
SMRF				*e*Sn	**Sn**	**15 53 09.0**	**-0.8**
	comp=N,9.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.12**	**294**	*e*Pn	**Pn**	**15 52 23.6**	**+1.7**
ORIF	**Oris-en-Rattie**	**4.12**	**294**	*e*P	**Pn**	**15 52 25.4**	**+3.5**
ORIF				*e*Sn	**Sn**	**15 53 09.9**	**-0.2**
	comp=N,9.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.12**	**294**	P	**Pn**	**15 52 24.2**	**+2.3**
RETA	**Reutte**	**4.14**	**356**	*i* Pn	**Pn**	**15 52 24.3**	**+2.2**
	comp=N,18nm,0.4s,SNR=8.8						
RETA				*e*Sn	**Sn**	**15 53 12.8**	**+2.2**
	comp=N,22nm,0.6s						
RUSF	**Rustrel**	**4.17**	**280**	P	**Pn**	**15 52 23.8**	**+1.2**
AIGLE	**Aigle**	**4.23**	**316**	P	**Pn**	**15 52 25.8**	**+2.4**
LSTV	**Lastovo**	**4.23**	**96**	*e*Pn	**Pn**	**15 52 24.2**	**+0.9**
CGL	**Cagliari Serpe**	**4.23**	**200**	⇑P	**Pn**	**15 52 26.0**	**+2.5**
CGL				AML	AML		
	comp=E,97µm,1.6s						
CGL				AML	AML		
	comp=N,88µm,0.3s						
SOKA	**Soboth**	**4.30**	**38**	*e*Pn	**Pn**	**15 52 27.1**	**+2.7**
	comp=N,3.1nm,0.3s						
RICI	**Ricice**	**4.34**	**86**	*e*Pn	**Pn**	**15 52 26.9**	**+2.0**
OGSM	**Saint Maurice**	**4.52**	**302**	P	**Pn**	**15 52 29.6**	**+2.3**
BALST	**Balsthal**	**4.67**	**330**	S	**Sn**	**15 53 21.8**	**-1.9**
BALST	**Balsthal**	**4.67**	**330**	P	**Pn**	**15 52 30.4**	**+1.0**
SULZ	**Cheisacher**	**4.69**	**334**	P	**Pn**	**15 52 30.4**	**+0.7**
SLE	**Schleitheim**	**4.79**	**338**	P	**Pn**	**15 52 31.3**	**+0.3**
CABF	**La Chapelle**	**4.86**	**314**	*e*Pn	**Pn**	**15 52 33.0**	**+1.0**
CABF				*e*Sn	**Sn**	**15 53 26.9**	**-1.5**
	comp=N,7.7nm,0.5s						
BRANT	**Les Verrieres**	**4.88**	**319**	S	**Sn**	**15 53 28.5**	**-0.6**
BRANT	**Les Verrieres**	**4.88**	**319**	P	**Pn**	**15 52 34.0**	**+1.6**
BOURR	**Bourrignon**	**4.90**	**327**	P	**Pn**	**15 52 33.7**	**+1.1**
VIVF	**Saint-Julien-l**	**4.92**	**290**	*e*Pn	**Pn**	**15 52 33.7**	**+0.9**
VIVF				*e*Sn	**Sn**	**15 53 28.1**	**-1.6**
	comp=N,5.7nm,0.5s						
GUT	**Gutenstein**	**4.93**	**344**	P	**Pn**	**15 52 33.7**	**+0.8**
ARSA	**Arzberg**	**4.96**	**37**	*i* Pn	**Pn**	**15 52 35.1**	**+1.8**
	comp=N,5.2nm,0.3s						
ARSA	**Arzberg**	**4.96**	**37**	⇑P	**Pn**	**15 52 35.1**	**+1.8**
MOA	**Molln**	**4.99**	**25**	*e*Pn	**Pn**	**15 52 35.3**	**+1.6**
	comp=N,16nm,0.5s,SNR=8.0						
MOA				*i* Sn	**Sn**	**15 53 32.1**	**+0.7**
	comp=N,6.7nm,0.3s						
CHMF	**Charmoille**	**5.03**	**322**	P	**Pn**	**15 52 35.2**	**+0.9**
CHMF				S	**Sn**	**15 53 31.7**	**-0.8**
FELD	**Feldberg im Sc**	**5.04**	**335**	P	**Pn**	**15 52 35.2**	**+0.6**
KIZ	**Kirchzarten**	**5.13**	**335**	S	**Sn**	**15 53 32.0**	**-3.0**
KIZ	**Kirchzarten**	**5.13**	**335**	P	**Pn**	**15 52 35.9**	**+0.2**
A252A	**Venje**	**5.21**	**64**	*e*Pn	**Pn**	**15 52 37.4**	**+0.5**
VOGT	**Vogtsburg - To**	**5.32**	**334**	S	**Sn**	**15 53 38.3**	**-1.4**
VOGT	**Vogtsburg - To**	**5.32**	**334**	P	**Pn**	**15 52 38.8**	**+0.5**
LASF	**Ste Croix**	**5.35**	**280**	*e*Pn	**Pn**	**15 52 38.3**	**-0.5**
LASF	**Ste Croix**	**5.35**	**280**	*e*P	**Pn**	**15 52 42.6**	**+3.8**
LASF				*e*Sn	**Sn**	**15 53 37.2**	**-3.2**
	comp=N,3.5nm,0.4s						
TDS	**Terranova Siba**	**5.36**	**132**	P	**Pb**	**15 52 50.8**	**-1.6**
RONF	**Ronchamp**	**5.39**	**325**	P	**Pn**	**15 52 40.3**	**+1.0**
HINF	**Hinteralfeld**	**5.39**	**327**	*e*Pn	**Pn**	**15 52 39.0**	**-0.3**
HINF				*e*Sn	**Sn**	**15 53 39.4**	**-2.0**
	comp=N,6.9nm,0.2s						
IST3	**Stromboli F**	**5.49**	**145**	⇓P	**Pb**	**15 52 58.4**	**+3.6**
OPP	**Oppenau**	**5.55**	**339**	P	**Pn**	**15 52 41.6**	**+0.2**
SPS2	**Spezzano della**	**5.62**	**135**	P	**Pb**	**15 52 57.8**	**+0.8**
CONA	**Conrad Observa**	**5.63**	**34**	*i* Pn	**Pn**	**15 52 43.5**	**+0.9**
	comp=N,2.4nm,0.3s						
CONA				*e*Sn	**Sn**	**15 53 45.5**	**-1.8**
	comp=N,7.0nm,0.5s						
CDF	**Champ du Feu**	**5.74**	**333**	*e*Pn	**Pn**	**15 52 44.3**	**+0.2**
CDF				*e*Sn	**Sn**	**15 53 47.9**	**-2.2**
	comp=N,9.7nm,0.3s						
HAU	**Haudompre**	**5.75**	**326**	*e*Pn	**Pn**	**15 52 44.4**	**+0.2**
HAU				*e*Sn	**Sn**	**15 53 47.6**	**-2.6**
	comp=N,49nm,0.5s						
CKRC	**Cesky Krumlov**	**5.88**	**21**	*e*PN	**Pn**	**15 52 46.4**	**+0.4**
CKRC				*e*SN	**Sn**	**15 53 53.1**	**-0.4**
KHC	**Kasperske Hory**	**6.01**	**15**	*e*PN	**Pn**	**15 52 47.5**	**-0.3**
KHC				*e*SN	**Sn**	**15 53 54.7**	**-2.0**
SMF	**Signal de Mont**	**6.15**	**305**	*e*Pn	**Pn**	**15 52 50.3**	**+0.6**
SMF				*e*Sn	**Sn**	**15 53 58.4**	**-1.7**
	comp=N,10nm,0.5s						
PAGF	**Fort de Pagny**	**6.44**	**326**	*e*Pn	**Pn**	**15 52 54.5**	**+0.9**
PAGF				*e*Sn	**Sn**	**15 54 03.5**	**-3.6**
	comp=N,1.6nm,0.2s						
LOR	**Lormes**	**6.47**	**310**	*e*Pn	**Pn**	**15 52 54.8**	**+0.7**
	baz=130						
LOR				*e*Sn	**Sn**	**15 54 05.4**	**-2.6**
	comp=N,5.5nm,0.4s						
SFTF	**Sexfontaines**	**6.47**	**321**	*e*Pn	**Pn**	**15 52 54.9**	**+0.8**
	baz=133						
SFTF				*e*Sn	**Sn**	**15 54 06.4**	**-1.6**
	comp=N,2.2nm,0.3s						
AVF	**Avril sur Loir**	**6.51**	**304**	*e*Pn	**Pn**	**15 52 55.8**	**+1.1**
AVF				*e*Sn	**Sn**	**15 54 06.2**	**-2.8**
	comp=N,1.4nm,0.3s						
MTLF	**Montolieu**	**6.53**	**273**	*e*Pn	**Pn**	**15 52 55.1**	**+0.2**
MTLF				*e*Sn	**Sn**	**15 54 05.8**	**-3.6**
	comp=N,1.7nm,0.2s						
SSF	**Saint Saulge**	**6.56**	**307**	*e*Pn	**Pn**	**15 52 56.4**	**+1.1**
SSF				*e*Sn	**Sn**	**15 54 07.6**	**-2.6**
	comp=N,1.2nm,0.3s						
MEZF	**Maizieres J'vi**	**6.68**	**322**	*e*Pn	**Pn**	**15 52 57.8**	**+0.8**
	baz=140						
MEZF				*e*Sn	**Sn**	**15 54 11.7**	**-1.5**
	comp=N,5.5nm,0.3s						
SAVF	**Savonnieres en**	**6.74**	**323**	*e*Pn	**Pn**	**15 52 58.5**	**+0.8**
	baz=140						
SAVF				*e*Sn	**Sn**	**15 54 12.8**	**-1.7**
	comp=N,2.9nm,0.3s						
CAF	**Calviac**	**6.74**	**287**	*e*Pn	**Pn**	**15 52 58.1**	**+0.3**
CAF				*e*Sn	**Sn**	**15 54 11.1**	**-3.5**
	comp=N,1.3nm,0.3s						
VLO	**Vlora**	**6.84**	**112**	P	Pn	15 53 06.0	+6.8
TCF	**Toulx Ste Croi**	**7.01**	**298**	*e*Pn	**Pn**	**15 53 02.0**	**+0.4**
TCF				*e*Sn	**Sn**	**15 54 19.3**	**-2.1**
	comp=N,3.4nm,0.5s						
HYF	**Humbligny**	**7.17**	**306**	*e*Pn	**Pn**	**15 53 04.1**	**+0.3**
HPAC	**Pachino**	**7.31**	**154**	⇑P	**Pb**	**15 53 26.4**	**+0.8**
BRG	**Berggiesshubel**	**7.75**	**13**	Pn	**Pn**	**15 53 13.7**	**+2.1**
BRG				*e*x	x	15 55 02.5	
BRG				*e*x	x	15 55 35.6	
BRG				Amp		15 55 44.2	
	comp=Z,6.9nm,1.1s						
ETSF	**Etsaut**	**8.60**	**271**	*e*P	**Pn**	**15 53 28.0**	**+4.7**
SJPF	**Ste Jean**	**9.06**	**273**	*e*Pn	**Pn**	**15 53 28.4**	**-1.2**
LDF	**La Druitiere**	**9.44**	**308**	*e*Pn	**Pn**	**15 53 33.9**	**-1.0**
GRR	**Gorron**	**9.78**	**305**	*e*Pn	**Pn**	**15 53 38.9**	**-0.6**

IDC ***04*** *15:51:34.1±7.3, 19°.13S×178°.73W, h619km±33km, mb2.8/3, mb1 3.1/4, mb1mx2.8/30, mbtmp3.8/4, Error ellipse: s-maj=226.9km s-min=26.8km az=143.0*

ISC 04 15:51:33.8±3.5**, 19°.2S**±0°.7×**178°.7W**±0°.5**, h620**km**, n6, σ0ˢ.54**/5**, mb3.4**/3**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**295**	P	**P**	**15 52 57.0**	**-0.3**
	6.6nm,0.3s,baz=237,slow=21,SNR=28						
WRA	**Warramunga Arr**	**44.15**	**261**	P	**P**	**15 58 50.0**	**+0.3**
	0.4nm,0.3s,baz=97,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**44.20**	**256**	P	**P**	**15 58 50.1**	**+0.1**
	1.2nm,0.7s,baz=85,slow=8.0,SNR=34						
ILAR	**Eielson Array**	**87.20**	**13**	P	**P**	**16 03 15.4**	**+0.3**
	0.4nm,0.5s,baz=211,slow=5.3,SNR=9.9						
MKAR	**Makanchi Array**	**109.83**	**314**	PKiKP	**PKiKP**	**16 08 55.2**	**-0.5**
	0.4nm,0.9s,baz=57,slow=5.3,SNR=3.7						
AKASG	**Malin Array Be**	**141.57**	**331**	PKhKP	PKPpre	16 09 51.3	
	0.8nm,0.6s,baz=38,slow=4.7,SNR=5.1						

IDC 04 16:17:12.9±3.2**, 8°.33N**×**124°.71E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/28**, mbtmp3.3**/3**, Error ellipse: s-maj=311.8km s-min=28.5km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.65**	**161**	P	P	16 23 20.7	+0.3
	0.3nm,0.7s,baz=342,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**33.05**	**164**	P	P	16 23 49.9	-0.4
	0.2nm,0.6s,baz=343,slow=6.9,SNR=6.0						
MKAR	**Makanchi Array**	**52.66**	**324**	P	P	16 26 29.0	-0.1
	0.1nm,0.3s,baz=107,slow=7.9,SNR=4.1						

SNET ***04*** *16:35:15.1±1.0, 13°.28N×89°.66W, h51km±7km, ML3.7*
UCR ***04*** *16:35:15.2±1.0, 13°.28N×89°.66W, h51km±7km, ML3.7*

ISC 04 16:35:15.2±3.3**, 13°.2N**±0°.2×**89°.7W**±0°.1**, h49**km±15km**, n39, σ0ˢ.39**/64**, 2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**54**	*i* P	**Pn**	**16 35 25.6**	**+0.1**
LALI				*e*S	**Sn**	**16 35 32.5**	**-0.3**
LALI	**Alcalda de L**	**0.42**	**54**	*i* P	**Pn**	**16 35 25.6**	**+0.1**
LALI				*e*S	**Sn**	**16 35 32.5**	**-0.3**
JAYA	**Jayaque - finc**	**0.47**	**28**	*e*P	**Pn**	**16 35 25.9**	**-0.3**
JAYA				*e*S	**Sn**	**16 35 34.6**	**+0.6**
JAYA				IAML		16 35 37.1	
	comp=Z,7µm,0.2s						
JAYA	**Jayaque - finc**	**0.47**	**28**	*e*P	**Pn**	**16 35 25.9**	**-0.3**
JAYA				*e*S	**Sn**	**16 35 34.6**	**+0.6**
JAYA				IAML		16 35 37.1	
	comp=Z,7µm,0.2s						
CEVE	**Cerro Verde**	**0.59**	**5**	*e*P	**Pn**	**16 35 27.6**	**-0.2**
CEVE				*e*S	**Sn**	**16 35 37.2**	**+0.4**
CEVE				IAML		16 35 40.5	
	comp=Z,4µm,0.3s						
CEVE	**Cerro Verde**	**0.59**	**5**	*e*P	**Pn**	**16 35 27.6**	**-0.2**
CEVE				*e*S	**Sn**	**16 35 37.2**	**+0.4**
CEVE				IAML		16 35 40.5	
	comp=Z,4µm,0.3s						
SBLS	**San Blas**	**0.60**	**5**	*e*P	**Pn**	**16 35 27.7**	**-0.2**
SBLS	**San Blas**	**0.60**	**5**	*e*P	**Pn**	**16 35 27.7**	**-0.2**
SNET	**Serv Nac Est T**	**0.62**	**44**	*e*P	**Pn**	**16 35 27.6**	**-0.3**
SNET				*e*S	**Sn**	**16 35 37.0**	**-0.1**
SNET	**Serv Nac Est T**	**0.62**	**44**	*e*P	**Pn**	**16 35 27.6**	**-0.3**
SNET				*e*S	**Sn**	**16 35 37.0**	**-0.1**
CEDA	**San Andres**	**0.62**	**26**	*e*P	**Pn**	**16 35 27.7**	**-0.3**
CEDA				*e*S	**Sn**	**16 35 37.6**	**+0.4**
CEDA				IAML		16 35 45.2	
	comp=Z,2µm,0.3s						
CEDA	**San Andres**	**0.62**	**26**	*e*P	**Pn**	**16 35 27.7**	**-0.3**
CEDA				*e*S	**Sn**	**16 35 37.6**	**+0.4**
CEDA				IAML		16 35 45.2	
	comp=Z,2µm,0.3s						
BOQS	**Boqueron**	**0.63**	**38**	*i* P	**Pn**	**16 35 28.0**	**-0.2**
BOQS	**Boqueron**	**0.63**	**38**	*i* P	**Pn**	**16 35 28.0**	**-0.2**
SNJE	**San Jose**	**0.63**	**6**	*e*P	**Pn**	**16 35 28.0**	**-0.2**
SNJE	**San Jose**	**0.63**	**6**	*e*P	**Pn**	**16 35 28.0**	**-0.2**
UEES	**Universidad Ev**	**0.64**	**42**	*e*P	**Pn**	**16 35 27.9**	**-0.3**
UEES				*e*S	**Sn**	**16 35 37.4**	**-0.2**
UEES	**Universidad Ev**	**0.64**	**42**	*e*P	**Pn**	**16 35 27.9**	**-0.3**
UEES				*e*S	**Sn**	**16 35 37.4**	**-0.2**
RTR	**El Retiro**	**0.66**	**2**	*e*P	**Pn**	**16 35 28.4**	**-0.1**
RTR	**El Retiro**	**0.66**	**2**	*e*P	**Pn**	**16 35 28.4**	**-0.1**
LFRS	**El Faro**	**0.71**	**57**	⇓*i*P	**Pn**	**16 35 28.9**	**-0.2**
LFRS	**El Faro**	**0.71**	**57**	⇓*i*P	**Pn**	**16 35 28.9**	**-0.2**
LFU	**La Fuente**	**0.74**	**47**	*e*P	**Pn**	**16 35 29.6**	**0.0**
LFU	**La Fuente**	**0.74**	**47**	*e*P	**Pn**	**16 35 29.6**	**0.0**
SJTE	**Alcalda de S**	**0.75**	**60**	*e*P	**Pn**	**16 35 29.5**	**-0.1**
SJTE				*e*S	**Sn**	**16 35 40.1**	**0.0**
SJTE	**Alcalda de S**	**0.75**	**60**	*e*P	**Pn**	**16 35 29.5**	**-0.1**
SJTE				*e*S	**Sn**	**16 35 40.1**	**0.0**
LBRS	**Las Brisas**	**0.79**	**51**	*e*P	**Pn**	**16 35 30.0**	**-0.2**
LBRS	**Las Brisas**	**0.79**	**51**	*e*P	**Pn**	**16 35 30.0**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.79**	**352**	*e*P	**Pn**	**16 35 29.9**	**-0.3**
SLOZ				*e*S	**Sn**	**16 35 41.7**	**+0.7**
TACO	**Tacachico**	**0.79**	**23**	*e*P	**Pn**	**16 35 29.3**	**-0.9**
TACO				*e*S	**Sn**	**16 35 41.1**	**+0.1**
TACO	**Tacachico**	**0.79**	**23**	*e*P	**Pn**	**16 35 29.3**	**-0.9**
TACO				*e*S	**Sn**	**16 35 41.1**	**+0.1**
PAVA	**Las Pavas**	**0.86**	**56**	*e*P	**Pn**	**16 35 30.9**	**-0.2**
PAVA				*e*S	**Sn**	**16 35 43.3**	**+0.5**
PAVA				IAML		16 35 44.8	
	comp=Z,2µm,0.4s						
PAVA	**Las Pavas**	**0.86**	**56**	*e*P	**Pn**	**16 35 30.9**	**-0.2**

PAVA				eS	Sn	16 35 43.3	+0.5
PAVA				IAML		16 35 44.8	
	comp=Z,2μm,0.4s						
COEG	Centro de Oper	0.86	64	eP	Pn	16 35 31.0	-0.2
COEG				eS	Sn	16 35 43.1	+0.3
COEG	Centro de Oper	0.86	64	eP	Pn	16 35 31.0	-0.2
COEG				eS	Sn	16 35 43.1	+0.3
TECO	Alcaldia de Te	0.92	71	eP	Pn	16 35 31.4	-0.5
TECO				eS	Sn	16 35 44.2	+0.1
TECO	Alcaldia de Te	0.92	71	eP	Pn	16 35 31.4	-0.5
TECO				eS	Sn	16 35 44.2	+0.1
SCLA	Alcaldia de Sa	1.03	63	eP	Pn	16 35 33.1	-0.3
SCLA				eS	Sn	16 35 47.9	+1.1
SCLA	Alcaldia de Sa	1.03	63	eP	Pn	16 35 33.1	-0.3
SCLA				eS	Sn	16 35 47.9	+1.1

*NOU **04** 16:43:32.1, 32.̊31S×175.̊51W, h75km, mb5.0/9, South of Kermadec Islands*

*WEL **04** 16:43:55.5±0.7, 33˚S±5˚×17˚8W±1˚3, h33km, M4.5/54, mB5.1/49, ML5.5/54, MLv5.2/54, Mw(mB)4.5/49, Error ellipse: s-maj=0.0km s-min=0.0km az=107.2*

*IDC **04** 16:43:57.0±0.8, 32.̊98S×178.̊57W, h0km, mb4.6/9, mb1 4.8/12, mb1mx4.4/29, mbtmp4.6/12, ML4.9/3, MS4.4/48, Ms1 4.4/48, ms1mx4.4/61, Error ellipse: s-maj=30.5km s-min=18.7km az=135.0*

*BJI **04** 16:43:58.0±0.0, 33.̊20S×178.̊60W, h20km, mb5.1/8, mB5.7/4, Ms5.0/2, Ms7 4.7/2*

*NEIC **04** 16:43:59.1±0.9, 32.̊7S±0.̊1×178.̊5W±0.̊2, h10km±1km, mb4.8/19, Error ellipse: s-maj=23.6km s-min=18.5km az=95.0*

*GCMT **04** 16:44:01.2±0.3, 32.̊99S±0.̊02×178.̊01W±0.̊02, h22km, MW5.0/92, Moment Tensor Solution. s55,c69; s92,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.55±.18; $M_{\theta\theta}$-0.71±.11; $M_{\phi\phi}$-2.84±.11; $M_{r\theta}$0.70±.20; $M_{\theta\phi}$-0.68±.07; $M_{\phi r}$2.97±.18; Best double couple: $M_0$4.49000×10^{16} NP1:ϕ_s198.00000°,δ24.00000°,λ93.00000°. NP2: ϕ_s14.00000°,δ66.00000°,λ89.00000°. Principal axes: T 4.7470, Plg69.0000°, Azm282.0000°; N -0.5190, Plg1.0000°, Azm15.0000°; P -4.2330, Plg21.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 16:43:58.0±0.6**, 33.̊12S**±0.̊05×**177.̊81W**±0.̊09**, h35**km**, n240, σ2.̊29**/201**, mb4.8**/22**, MS4.5**/48**, 1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.84	359	P	Pn	16 44 52.5	-2.1
GLKZ				S	Sn	16 45 35.2	-3.3
RAO	Raoul Island	3.85	359	Pn	Pn	16 44 54.1	-0.7
	197nm,0.3s,baz=103,slow=15,SNR=5.3						
RAO				Sn	Sn	16 45 37.5	-1.3
	241nm,0.3s,baz=268,slow=23,SNR=5.7						
RAO	Raoul Island	3.85	359	Pn	Pn	16 44 52.5	-2.2
RIZ	Raoul Island	3.86	358	P	Pn	16 44 53.5	-1.3
RIZ				S	Sn	16 45 36.7	-2.3
MXZ	Matakaoa Point	5.46	214	Pn	Pn	16 45 16.4	-0.3
MXZ	Matakaoa Point	5.46	214	P	Pn	16 45 15.3	-1.5
MXZ				S	Sn	16 46 18.1	-0.2
PKGZ	Pakihiroa	5.83	214	P	Pn	16 45 21.3	-0.6
PKGZ				S	Sn	16 46 27.9	+0.4
HAZ	Te Kaha	5.86	217	P	Pn	16 45 22.4	0.0
HAZ				S	Sn	16 46 29.3	+1.0
PUZ	Puketiti	5.89	212	P	Pn	16 45 21.8	-1.0
PUZ				S	Sn	16 46 30.3	+1.2
RUGZ	Raukumara Rang	6.08	216	P	Pn	16 45 25.4	0.0
RUGZ				S	Sn	16 46 34.5	+0.7
TWGZ	Tauwhareparae	6.10	213	P	Pn	16 45 25.4	-0.3
TWGZ				S	Sn	16 46 34.6	+0.3
CNGZ	Carnagh Statio	6.26	210	P	Pn	16 45 27.6	-0.2
CNGZ				S	Sn	16 46 40.4	+2.3
WHRZ	Whale Island	6.36	221	P	Pn	16 45 31.6	+2.4
TKGZ	Te Karaka	6.38	212	P	Pn	16 45 30.1	+0.7
TKGZ				S	Sn	16 46 41.3	+0.4
MWZ	Matawai	6.44	215	P	Pn	16 45 29.4	-0.9
MWZ				S	Sn	16 46 42.1	-0.5
URZ	Urewera	6.59	217	Pn	Pn	16 45 30.9	-1.4
	18nm,0.3s,baz=280,slow=2.2,SNR=108						
URZ				Sn	Sn	16 46 44.7	-1.5
	21nm,0.3s,baz=86,slow=22,SNR=9.0						
URZ	Urewera	6.59	217	Pn	Pn	16 45 31.1	-1.2
URZ	Urewera	6.59	217	P	Pn	16 45 31.5	-0.8
URZ	Urewera	6.59	217	P	Pn	16 45 32.0	-0.3
MARZ	Manawahe	6.62	221	P	Pn	16 45 33.9	+1.2
RAGZ	Rawiri	6.62	214	P	Pn	16 45 33.4	+0.5
RAGZ				S	Sn	16 46 46.6	-0.6
RIGZ	Rimuhau	6.63	212	P	Pn	16 45 32.9	-0.1
RIGZ				S	Sn	16 46 47.3	-0.1
EDRZ	Edgecumbe	6.67	220	P	Pn	16 45 36.0	+2.5
PRGZ	Paritu Road	6.76	210	P	Pn	16 45 33.5	-1.3
PRGZ				S	Sn	16 46 49.7	-0.9
MKRZ	Makatiti	6.84	221	P	Pn	16 45 39.5	+3.5
OMRZ	Omania	6.87	222	P	Pn	16 45 39.3	+3.0
KARZ	Kaharoa	6.89	223	P	Pn	16 45 37.9	+1.4
SNGZ	Shannon Statio	6.89	213	P	Pn	16 45 36.5	0.0
SNGZ				S	Sn	16 46 53.4	-0.2
TARZ	Mount Tarawera	6.89	221	P	Pn	16 45 38.9	+2.3
RTZ	Ruatahuna	6.93	216	P	Pn	16 45 35.7	-1.4
RRRZ	Republican Roa	6.96	220	P	Pn	16 45 38.6	+1.1
NGRZ	Ngongotaha	6.97	223	P	Pn	16 45 45.9	+8.2
RAHZ	Arahi	7.11	214	P	Pn	16 45 40.3	+0.7
PRRZ	Plateau Road	7.14	220	P	Pn	16 45 41.0	+1.1
WHHZ	Waihua	7.17	213	P	Pn	16 45 43.7	+3.4
MTHZ	Maungataniwha	7.18	216	P	Pn	16 45 40.3	-0.2
ALRZ	Allen Road	7.22	219	P	Pn	16 45 42.2	+1.2
MRHZ	Matea Rd	7.38	218	P	Pn	16 45 43.1	-0.1
NMHZ	Naumai	7.39	215	P	Pn	16 45 44.2	+0.8
OUZ	Omahuta	7.43	251	Pn	Pn	16 45 44.1	+0.3
OUZ	Omahuta	7.43	251	P	Pn	16 45 46.4	+2.6
ARHZ	Aropaoanui	7.43	213	P	Pn	16 45 44.2	+0.2
TLZ	Tolley Road	7.50	224	P	Pn	16 45 46.3	+1.4
BKZ	Black Stump Fm	7.59	216	Pn	Pn	16 45 45.0	-1.2
BKZ	Black Stump Fm	7.59	216	P	Pn	16 45 44.8	-1.4
BKZ	Black Stump Fm	7.59	216	P	Pn	16 45 45.5	-0.7
WATZ	Wairara	7.65	221	P	Pn	16 45 47.5	+0.5
MCHZ	McNeill Hill	7.72	214	P	Pn	16 45 46.9	-1.0
CKHZ	Cape Kidnapper	7.72	211	P	Pn	16 45 48.0	+0.2
RATZ	Rangitukua	7.74	220	P	Pn	16 45 48.4	+0.2
RITZ	Rihia Road	7.78	219	P	Pn	16 45 48.9	+0.3
KWHZ	Kaweka Forest	7.83	215	P	Pn	16 45 49.2	-0.3
KAHZ	Kahuranaki	7.92	211	P	Pn	16 45 47.5	-3.2
TMVZ	Te Maari	7.96	219	P	Pn	16 45 50.8	-0.5
NTVZ	North Tongarir	7.96	220	P	Pn	16 45 50.9	-0.4
ETVZ	East Tongariro	7.97	219	P	Pn	16 45 50.8	-0.7
KRVZ	Karewarewa	7.98	220	P	Pn	16 45 51.7	+0.1
OTVZ	Oturere	8.02	219	P	Pn	16 45 51.3	-0.8
NNVZ	North Ngauruho	8.02	220	P	Pn	16 45 52.6	+0.5
WTVZ	West Tongariro	8.02	220	P	Pn	16 45 52.4	+0.3
KRHZ	Kereru	8.03	214	P	Pn	16 45 51.2	-0.9
HIZ	Hauiti	8.03	226		Pn	16 45 52.6	+0.5
HIZ	Hauiti	8.03	226	P	Pn	16 45 52.6	+0.5
SNVZ	South Ngauruho	8.05	219	P	Pn	16 45 52.9	+0.4
BHHZ	Black Hill Sta	8.06	216	P	Pn	16 45 52.4	-0.2
NGZ	Ngauruhoe	8.06	220	P	Pn	16 45 53.3	+0.6
TWVZ	Taurewa	8.07	221	P	Pn	16 45 53.5	+0.7
TUVZ	Tukino	8.10	219	P	Pn	16 45 54.3	+1.1
PXZ	Pawanui	8.12	210	P	Pn	16 45 51.5	-1.8
FWVZ	Far West T-bar	8.14	219	P	Pn	16 45 53.5	-0.4
MOVZ	Moawhango	8.15	218	P	Pn	16 45 53.0	-0.8
WNVZ	Wahianoa	8.17	219	P	Pn	16 45 53.7	-0.5
TRVZ	Turoa	8.18	219	P	Pn	16 45 55.0	+0.7
PKVZ	Pokaka	8.28	220	P	Pn	16 45 55.4	-0.2
MTVZ	Mangateitei	8.28	219	P	Pn	16 45 54.1	-1.5
PNHZ	Pukenui	8.32	214	P	Pn	16 45 54.2	-1.9
WPHZ	Waipukurau	8.33	212	P	Pn	16 45 53.5	-2.7
PRHZ	Porangahau	8.41	210	P	Pn	16 45 55.9	-1.5
VRZ	Vera Road	8.49	223	P	Pn	16 45 58.2	-0.2
TSZ	Takapari Road	8.55	214	P	Pn	16 45 56.7	-2.6
ANWZ	Angora Road	8.64	210	P	Pn	16 46 01.1	+0.6
DVHZ	Dannevirke	8.65	212	P	Pn	16 45 58.5	-2.1
WAZ	Wanganui	8.81	219	P	Pn	16 46 01.5	-1.3
BFZ	Birch Farm	8.93	211	P	Pn	16 46 01.9	-2.5
BFZ	Birch Farm	8.93	211	P	Pn	16 46 01.6	-2.8
PRWZ	Pori Road	8.94	212	P	Pn	16 46 02.9	-1.7
KHEZ	Kahui Hut	9.04	225	P	Pn	16 46 10.7	+4.7
HOWZ	Holdsworth Sta	9.42	213	P	Pn	16 46 09.0	-2.2
TMWZ	Te Maipa	9.43	210	P	Pn	16 46 09.4	-1.9
OGWZ	Otaki Gorge	9.52	214	P	Pn	16 46 09.9	-2.6
MTW	Mount Morrison	9.64	212	P	Pn	16 46 10.7	-3.5
CAW	Cannon Point	9.79	213	P	Pn	16 46 13.0	-3.3
PAWZ	Paruwai Farm	9.85	211	P	Pn	16 46 15.0	-2.1
MSWZ	Moikau Station	9.96	212	P	Pn	16 46 15.4	-3.2
DUWZ	D'Urville Isla	10.13	218	P	Pn	16 46 18.8	-2.1
NNZ	Nelson	10.71	218	Pn	Pn	16 46 24.9	-4.0
QRZ	Quartz Range	10.90	222	Pn	Pn	16 46 28.5	-2.9
QRZ	Quartz Range	10.90	222	P	Pn	16 46 31.5	+0.1
THZ	Tophouse	11.35	218		Pn	16 46 33.5	-4.1
KHZ	Kahutara	11.53	214	Pn	Pn	16 46 35.8	-4.2
KHZ	Kahutara	11.53	214	P	Pn	16 46 37.7	-2.3
DSZ	Denniston Nort	11.92	221	P	Pn	16 46 43.8	-1.7
LTZ	Lake Taylor	12.42	216	Pn	Pn	16 46 47.4	-4.8
INZ	Inchbonnie	12.79	218	P	Pn	16 46 55.2	-2.1
OXZ	Oxford	12.94	215		Pn	16 46 57.8	-1.5
MQZ	McQueen's Vall	12.94	212	Pn	Pn	16 46 53.9	-5.4
RPZ	Rata Peaks	13.71	216	Pn	Pn	16 47 04.2	-5.6
	1.3nm,0.3s,baz=65,slow=4.1,SNR=11						
RPZ	Rata Peaks	13.71	216	Pn	Pn	16 47 03.8	-6.0
RPZ	Rata Peaks	13.71	216	P	Pn	16 47 06.0	-3.8
GCSZ	Gaunt Creek Bo	13.79	219	P	Pn	16 47 08.6	-2.4
ARCZ	Arundel	13.82	215	P	Pn	16 47 09.8	-1.5
FOZ	Fox Glacier	14.21	219	Pn	Pn	16 47 11.2	-5.4
FOZ	Fox Glacier	14.21	219	P	Pn	16 47 13.9	-2.8
ODZ	Otahua Downs	14.89	214	Pn	Pn	16 47 21.6	-4.2
ODZ	Otahua Downs	14.89	214	P	Pn	16 47 21.1	-4.7
WKZ	Wanaka	15.52	217	Pn	Pn	16 47 28.8	-5.4
WKZ				IAmb	IAmb	16 47 53.7	
	comp=Z,44nm,1.2s						
EAZ	Earnscleugh	15.66	216	P	Pn	16 47 32.5	-3.5
MSVF	Nonsavu	15.76	345	LR	LR	16 52 44.1	
	comp=Z,2μm,18.7s,baz=169,slow=34						
MLZ	Mavora Lakes	16.36	217	P	Pn	16 47 40.2	-4.6
SYZ	Scrubby Hill	16.71	213	P	Pn	16 47 48.8	-0.4
WHZ	Wether Hill Ro	16.81	216	Pn	Pn	16 47 46.0	-4.6
DCZ	Deep Cove	16.92	219	Pn	Pn	16 47 49.2	-2.7
DZM	Mont Dzumac	17.75	304	LR	LR	16 53 35.9	
	comp=Z,4μm,18.5s,baz=142,slow=34						
DZM	Mont Dzumac	17.75	304	eP	P	16 48 04.9	+1.9
	comp=Z,142nm,1.2s						
DZM				eLR	LR	16 52 09.7	
	comp=Z,3μm,22.8s						
DZM	Mont Dzumac	17.75	304	P	Pn	16 47 58.5	-4.0
DZM				IAmb	IAmb	16 48 09.8	
	comp=Z,50nm,1.0s						
AFI	Afiamalu	19.89	17	P	Pn	16 48 30.8	+2.5
	comp=Z,2.6nm,0.3s,baz=116,slow=21,SNR=1.8						
AFI	Afiamalu	19.89	17	P	Pn	16 48 27.7	-0.7
AFI				IAmb	IAmb	16 48 46.1	
	comp=Z,87nm,1.2s						
RAR	Rarotonga	19.92	58	LR	LR	16 54 18.5	
	comp=Z,525nm,21.1s,baz=270,slow=30						
ARMA	Armidale	26.08	268	P	P	16 49 28.2	-0.3
	baz=26,SNR=4.9						
EIDS	Eidsvold	28.15	278	P	P	16 49 48.8	+1.9
	baz=28,SNR=6.0						
MOO	Moorlands	29.02	241	P	P	16 49 55.9	+1.3
	baz=29,SNR=4.1						
RMQ	Roma	29.67	274	P	P	16 50 02.6	+2.1
	baz=30,SNR=9.0						
PPT2	Papeete2	29.70	66	eLR	LR	16 57 58.2	
	comp=Z,584nm,22.2s						
PPT	Papeete	29.72	66	LR	LR	17 02 24.6	
	comp=Z,380nm,18.6s,baz=229,slow=37						
TOO	Toolangi	30.14	251	P	P	16 50 04.4	-0.2
	baz=30,SNR=4.8						
CMSA	Cobar Meteorol	30.79	263	P	P	16 50 11.9	+1.5
	baz=31,SNR=14						
ARPS	Mount Arapiles	33.11	252	P	P	16 50 32.7	+2.0
	baz=33,SNR=9.6						
QLP	Quilpie	33.43	271	P	P	16 50 35.4	+1.9
	baz=33,SNR=6.3						
STKA	Stephens Creek	34.11	261	P	P	16 50 40.6	+1.2
	comp=Z,2.7nm,0.8s,baz=94,slow=11,SNR=4.3						
STKA				LR	LR	17 03 49.5	
	comp=Z,2μm,18.3s,baz=91,slow=36						
STKA	Stephens Creek	34.11	261	P	P	16 50 37.4	-2.0
CTA	Charters Tower	34.48	283	P	P	16 50 43.9	+1.2
	comp=Z,15nm,0.5s,baz=118,slow=10.0,SNR=39						
CTA				LR	LR	17 03 05.7	
	comp=Z,601nm,18.2s,baz=127,slow=34						
HTT	Hallett	35.98	257	P	P	16 50 56.7	+1.0
	baz=36,SNR=6.5						
MTSU	Mount Surprise	37.04	284	P	P	16 51 06.5	+1.7
	baz=37,SNR=6.0						
QIS	Mount Isa	39.75	277	P	P	16 51 27.2	-0.3
	baz=40,SNR=7.9						
PMG	Port Moresby	39.97	298	LR	LR	17 07 17.8	
	comp=Z,801nm,18.0s,baz=142,slow=36						
TAOE	Nuku Hiva Isla	42.29	64	eS	S	16 58 19.1	+12
	comp=Z,162nm,23.6s						
TAOE				eLR	LR	17 03 47.8	
	comp=Z,345nm,22.8s						
AS31	Alice Springs	43.19	270	P	P	16 51 55.3	-0.4
AS31				IAmb	IAmb	16 51 56.7	
	comp=Z,5.0nm,0.8s						
ASAR	Alice Springs	43.19	270	P	P	16 51 55.1	-0.6
	comp=Z,12nm,0.7s,baz=109,slow=7.6,SNR=161						
ASAR				S	S	16 58 15.2	-5.1
	comp=Z,1.0nm,0.8s,baz=111,slow=17,SNR=4.4						
ASAR				LR	LR	17 08 09.2	
	comp=Z,271nm,20.1s,baz=282,slow=34						
WR0	Warramunga Arr	44.25	275	P	P	16 52 03.4	-0.8
WR0				IAmb	IAmb	16 52 17.8	
	comp=Z,14nm,0.8s						
WB2	Warramunga Arr	44.41	275	P	P	16 52 04.7	-0.8
WRAB	Tennant Creek	44.42	275	P	P	16 52 05.5	-0.1
WRAB				IAmb	IAmb	16 52 19.0	
	comp=Z,20nm,0.7s						
WRA	Warramunga Arr	44.42	275	P	P	16 52 04.8	-0.9
	comp=Z,13nm,0.4s,baz=115,slow=7.8,SNR=269						
WRA				S	S	16 58 32.9	-5.4
	comp=Z,1.0nm,0.8s,baz=111,slow=15,SNR=4.8						
WRA				LR	LR	17 09 15.2	
	comp=Z,536nm,19.9s,baz=126,slow=35						
WRA	Warramunga Arr	44.42	275	P	P	16 52 04.4	-1.2
WB0	Warramunga Arr	44.46	275	P	P	16 52 05.1	-0.8
VNDA	Vanda	45.42	186	LR	LR	17 06 48.1	
	comp=Z,206nm,19.3s,baz=12,slow=30						
FORT	Forrest	45.57	258	P	P	16 52 14.8	+0.2
	baz=45,SNR=9.7						
WRKA	Warakurna	47.35	265	P	P	16 52 27.5	-1.3
	baz=47,SNR=28						
JAY	Jayapura	49.32	299	LR	LR	17 13 00.6	
	comp=Z,313nm,18.0s,baz=146,slow=36						
KDU	Kakadu	49.59	282	P	P	16 52 45.7	-0.3
	baz=50,SNR=4.7						
KNRA	Kununurra	51.12	276	P	P	16 52 57.6	+0.1
	baz=51,SNR=17						
FITZ	Fitzroy Crossi	52.56	272	P	P	16 53 08.0	-0.3
	comp=Z,6.6nm,0.7s,baz=151,slow=6.9,SNR=19						
FITZ				LR	LR	17 15 09.3	
	comp=Z,883nm,18.3s,baz=112,slow=36						
FITZ	Fitzroy Crossi	52.56	272	P	P	16 53 08.1	-0.2
	baz=52,SNR=12						
SIJI	Sorong	57.51	293	LR	LR	17 19 10.9	
	comp=Z,430nm,18.0s,baz=103,slow=37						
BATI	Baumata	58.19	279	LR	LR	17 18 44.0	
	comp=Z,579nm,19.1s,baz=162,slow=36						
GUMO	Guam	58.53	316	LR	LR	17 16 17.2	
	comp=Z,177nm,20.0s,baz=104,slow=34						
RPN	Rapa Nui	58.60	104	LR	LR	17 15 59.5	
	comp=Z,330nm,18.0s,baz=258,slow=32						
MMRI	Maumere	60.22	280	P	P	16 54 02.5	-0.5
KAPI	Kappang	64.28	281	LR	LR	17 22 27.1	
	comp=Z,200nm,18.6s,baz=142,slow=36						
DAV	Davao City (W)	66.93	296	LR	LR	17 23 26.0	
	comp=Z,142nm,19.9s,baz=119,slow=36						
BELA	Belgrano 2	67.08	172	P	P	16 54 53.4	+6.2
MAW	Mawson	69.83	201	LR	LR	17 24 09.0	
	comp=Z,546nm,20.1s,baz=80,slow=35						
LEM	Lembang	73.39	273	LR	LR	17 28 47.8	
	comp=Z,350nm,19.6s,baz=161,slow=37						
SYO	Syowa Base	74.52	193	⇓iP	P	16 55 38.0	+5.5
SNAA	Sanae	75.44	178	P	P	16 55 45.0	+7.0
SNAA				IAmb	IAmb	16 55 53.9	
	comp=Z,12nm,1.0s						
JHJ	Hachijo jima 2	77.04	324	LR	LR	17 26 50.0	
	comp=Z,105nm,18.6s,baz=82,slow=34						
H03N3	Juan Fernandez	79.05	123	T	T	18 25 21.4	
	baz=243,slow=74,SNR=4.7						
H03N2	Juan Fernandez	79.05	123	T	T	18 25 07.3	
	baz=243						
H03N1	Juan Fernandez	79.06	123	T	T	18 25 13.5	
	baz=243,slow=74,SNR=5.5						
PLCA	Paso Flores	80.55	133	LR	LR	17 26 36.6	
	comp=Z,242nm,18.6s,baz=206,slow=32						
PLCA	Paso Flores	80.55	133	P	P	16 56 14.9	+8.0
PLCA				IAmb	IAmb	16 56 19.2	
	comp=Z,20nm,1.4s						
MJAR	Matsushiro Arr	80.56	325	LR	LR	17 27 56.6	
	comp=Z,108nm,19.9s,baz=143,slow=33						
ASAJ	Asahikawa	84.92	333	LR	LR	17 31 24.5	
	comp=Z,188nm,18.4s,baz=168,slow=34						
LPIG	La Paz	85.83	58	LR	LR	17 30 10.7	
	comp=Z,296nm,18.1s,baz=218,slow=32						
PSI	Prapat	85.88	276	LR	LR	17 35 31.7	
	comp=Z,318nm,20.6s,baz=140,slow=36						
GSI	Gunungsitoli	86.19	274	P	P	16 56 37.4	+1.2
GSI				IAmb	IAmb	16 56 50.9	
	comp=Z,10nm,0.8s						
KSRS	Korea Array	86.52	320	P	P	16 56 39.2	+2.1
	comp=Z,1.3nm,0.7s,baz=141,slow=5.4,SNR=5.9						
KSRS				LR	LR	17 33 19.1	
	comp=Z,81nm,18.7s,baz=120,slow=34						
PFO	Pinyon Flats O	87.92	47	LR	LR	17 32 21.7	
	comp=Z,241nm,18.1s,baz=234,slow=33						
ISA	Isabella, Lake	88.11	44	P	P	16 56 50.3	+5.3
ISA				IAmb	IAmb	16 57 04.4	
	comp=Z,11nm,1.3s						
NJ2	Nanjing	88.13	311	eP	P	16 56 47.6	+2.6
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PETK	Petropavlovsk-	88.47	346	P	P	16 56 49.9	+3.7
	comp=Z,4.9nm,0.8s,baz=188,slow=10.0,SNR=5.5						
PETK				LR	LR	17 32 48.9	
	comp=Z,183nm,19.0s,baz=163,slow=33						
GSC	Goldstone, Bar	88.86	46	P	P	16 56 55.8	+7.3
GSC				IAmb	IAmb	16 56 56.8	
	comp=Z,6.2nm,1.1s						
USRK	Ussuriysk Ar.	89.51	326	P	P	16 56 52.6	+1.3
	comp=Z,3.2nm,0.8s,baz=154,slow=3.9,SNR=9.2						
USRK	Ussuriysk Ar.	89.51	326	P	P	16 56 51.7	+0.5
YBH	Yreka Blue Hor	90.07	38	LR	LR	17 32 52.5	
	comp=Z,227nm,18.7s,baz=228,slow=32						
NVAR	Mina Array Bea	90.12	43	P	P	16 57 01.1	+6.6
	comp=Z,2.0nm,1.0s,baz=223,slow=7.7,SNR=8.1						
NVAR				LR	LR	17 33 22.6	
	comp=Z,212nm,18.2s,baz=205,slow=33						
LVC	Limon Verde	92.48	119	LR	LR	17 30 50.7	
	comp=Z,115nm,20.3s,baz=218,slow=30						
NNA	Nana	92.52	106	LR	LR	17 32 09.8	
	comp=Z,267nm,18.3s,baz=211,slow=31						
KDAK	Kodiak Island	93.01	13	LR	LR	17 32 18.1	
	comp=Z,112nm,22.0s,baz=222,slow=31						
ELK	Elko	93.43	42	LR	LR	17 35 26.3	
	comp=Z,200nm,18.4s,baz=250,slow=33						
CMIG	Matias Romero	93.44	72	LR	LR	17 33 48.5	
	comp=Z,119nm,18.1s,baz=206,slow=32						
KLR	Kul'dur	93.45	330	P	P	16 57 12.9	+3.4
	comp=Z,2.0nm,0.8s,baz=356,slow=1.3,SNR=7.4						
KLR				LR	LR	17 37 44.6	
	comp=Z,98nm,18.3s,baz=146,slow=35						
TXAR	Lajitas Array	93.71	57	P	P	16 57 18.9	+7.6
	comp=Z,0.8nm,1.1s,baz=197,slow=2.8,SNR=4.5						
TXAR				LR	LR	17 35 43.3	
	comp=Z,188nm,18.3s,baz=240,slow=33						
ATAH	Atahualpa	93.97	101	LR	LR	17 33 05.1	
	comp=Z,131nm,18.8s,baz=233,slow=31						
ANMO	Albuquerque	95.14	51	LR	LR	17 35 15.0	
	comp=Z,196nm,18.4s,baz=243,slow=32						
BBB	Bella Bella	95.41	28	LR	LR	17 34 36.5	
	comp=Z,112nm,18.9s,baz=247,slow=32						
APG	El Apazote	95.87	76	LR	LR	17 32 58.9	
	comp=Z,876nm,19.8s,baz=269,slow=30						
MA2	Magadan	95.94	345	LR	LR	17 35 22.0	
	comp=Z,153nm,21.7s,baz=171,slow=32						
PZH	PanZhiHua	96.69	297	P	P	16 57 26.8	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LPAZ	La Paz	96.88	114	LR	LR	17 30 51.2	
	comp=Z,94nm,21.6s,baz=212,slow=29						
NEW	Newport	97.47	36	LR	LR	17 35 15.8	
	comp=Z,429nm,19.3s,baz=222,slow=32						
PDAR	Pinedale Array	97.98	44	LR	LR	17 39 14.6	
	comp=Z,137nm,18.0s,baz=252,slow=34						
CPUP	Villa Florida	98.17	129	LR	LR	17 37 08.4	
	comp=Z,276nm,18.2s,baz=220,slow=32						
HHC	Hu-ho-hao-te	98.23	314	eP	Pdif	16 57 33.6	+2.0
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,7.9s						
HHC				LR	LR		
	comp=Z,120nm,14.9s						
HHC				LR	LR		
	comp=Z,160nm,15.2s						
HHC				LR	LR		
	comp=Z,200nm,16.5s						
SEY	Seymchan	98.65	347	LR	LR	17 37 13.9	
	comp=Z,148nm,21.2s,baz=170,slow=32						
YKA	Yellowknife Ar	107.81	26	PKKPbc	PKKPbc	17 13 38.0	+2.1
	comp=Z,0.3nm,0.8s,baz=46,slow=3.5,SNR=3.7						
WMQ	Urumqi	115.01	307	ePKP	PKiKP	17 02 38.2	+3.1
MKAR	Makanchi Array	119.62	309	PKP	PKiKP	17 02 46.5	+2.6
	comp=Z,0.4nm,0.6s,baz=221,slow=1.7,SNR=6.2						
ZALV	Zalesovo Beam	120.15	317	PKP	PKiKP	17 02 47.6	+3.0
	comp=Z,0.4nm,0.4s,baz=19,slow=28,SNR=2.4						
NRIK	Noril'sk	122.17	335	PKP	PKiKP	17 02 52.1	+3.9
	comp=Z,2.4nm,0.8s,baz=40,slow=1.3,SNR=4.0						
KURBB	Kurchatov Arra	123.05	312	PKP	PKiKP	17 02 53.3	+2.9
	comp=Z,0.8nm,0.6s,baz=107,slow=1.7,SNR=9.4						
BVAR	Borovoye Array	128.44	314	PKP	PKiKP	17 03 04.1	+3.0
	comp=Z,0.6nm,0.6s,baz=225,slow=14,SNR=6.6						
ARCES	ARCESS Array B	141.27	347	PKhKP	PKPpre	17 03 22.0	
	comp=Z,3.8nm,0.9s,baz=348,slow=1.7,SNR=5.3						
KLMR	Klimovskoe	143.21	330	ePKPdf	PKiKP	17 03 27.3	-3.5
KLMR				AMP		17 03 40.8	
	comp=Z,12nm,1.3s						
KBZ	Khabaz	146.69	301	PKPbc	PKiKP	17 03 38.2	-0.3
	comp=Z,6.9nm,1.0s,baz=184,slow=1.4,SNR=12						
FINES	FINESS Array B	147.74	339	PKPbc	PKPab	17 03 41.2	+0.6
	comp=Z,13nm,0.5s,baz=43,slow=4.1,SNR=78						
FINES	FINESS Array B	147.74	339		PKPab	17 03 41.1	+0.5
VSU	Vasula	149.75	334	eP	PKPab	17 03 46.4	-2.5
MTSE	Matsula	150.57	337	eP	PKPab	17 03 49.3	-2.9
NB2	NORSAR Subarra	151.45	351	PKP	PKPab	17 03 50.6	-5.3
	comp=Z,10nm,0.8s,baz=17,slow=4.1						
NOA	NORSAR Array B	151.45	351	PKPbc	PKPab	17 03 51.5	-4.4
	comp=Z,5.5nm,0.9s,baz=13,slow=4.6,SNR=24						
IDID	Didziasalis	151.95	330	eP	PKPab	17 03 53.2	-4.8
MNK	Minsk	151.98	327	i PKP	PKPbc	17 03 44.2	-4.6
	comp=E,2.0nm,1.1s						
MNK				i PKP	PKPbc	17 03 44.2	-4.6
	comp=N,20nm,1.0s						
MNK				i PKP	PKPbc	17 03 44.2	-4.6
	comp=Z,11nm,1.1s,baz=51						
MNK				i PP	PP	17 07 30.1	+0.1
MNK				i SKS		17 09 40.5	
MNK				i PPP	PPP	17 10 54.4	
MNK				i SKKS		17 13 01.1	
MNK				i SS	SS	17 26 53.0	-1.5
MNK				i SSS	SSS	17 32 37.6	
MNK				i LR	LR	18 09 37.3	
IIGN	Ignalina	152.14	330	eP	PKPab	17 03 53.7	-5.1
NACGM	Naroch	152.21	329	i PKP	PKPab	17 03 57.0	-2.1
PABE	Paberze	152.94	332	eP	PKPab	17 03 54.8	-7.4
AKASG	Malin Array Be	153.51	320	PKPbc	PKiKP	17 03 55.6	+3.2
	comp=Z,1.2nm,0.5s,baz=47,slow=2.4,SNR=11						
BRTR	Keskin Array B	153.94	294	PKPbc	PKiKP	17 03 56.8	+2.9
	comp=Z,3.1nm,0.5s,baz=154,slow=3.4,SNR=18						
TORD	Torodi Ar. Bea	160.12	179	PKP	PKPdf	17 03 59.2	+5.0
	comp=Z,0.7nm,1.0s,baz=342,slow=1.8,SNR=3.1						
TORD				PKPab	pPKPab	17 04 38.2	-4.3
	comp=Z,1.0nm,0.6s,baz=171,slow=3.1,SNR=3.7						
CLL	Collm	160.17	340	ePKPdf	PKPdf	17 03 58.0	+4.9
CLL				ePKPab	pPKPab	17 04 36.0	-6.1
GERES	GERESS Array B	162.08	335	PKPab	PKPab	17 04 44.2	+2.2
	comp=Z,1.3nm,0.8s,baz=29,slow=3.0,SNR=8.1						

*IDC **04** 16:58:42.5±5.2, 21.̊53N×143.̊17E, h316km±53km, mb3.3/14, mb1 3.4/14, mb1mx3.1/53, mbtmp4.0/14, Error ellipse: s-maj=23.6km s-min=12.3km az=86.0*

ISC 04 16:58:41.9±1.0**, 21.̊5N**±0.̊1×**143.̊2E**±0.̊2**, h311**km**, n14, σ0.̊55**/15**, mb3.4**/13**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.66	324	P	P	17 02 58.4	-0.2
	1.5nm,0.6s,baz=147,slow=8.8,SNR=11						
KLR	Kul'dur	29.11	344	P	P	17 04 14.9	+0.5
	2.5nm,0.6s,baz=142,slow=5.4,SNR=9.4						
CMAR	Chiang Mai Arr	41.60	274	P	P	17 06 01.1	+0.6
	0.7nm,0.3s,baz=81,slow=6.7,SNR=4.0						
WRA	Warramunga Arr	42.11	192	P	P	17 06 04.7	+0.2
	0.5nm,0.4s,baz=14,slow=9.2,SNR=12						
ASAR	Alice Springs	45.82	192	P	P	17 06 33.5	-0.2
	0.2nm,0.3s,baz=11,slow=6.6,SNR=9.5						
TIXI	Tiksi	50.82	354	P	P	17 07 10.9	0.0
	0.4nm,0.3s,baz=91,slow=20,SNR=5.3						
ZALV	Zalesovo Beam	54.36	322	P	P	17 07 36.1	-0.8
	0.5nm,0.3s,baz=114,slow=7.8,SNR=4.3						
ZALV				PcP	PcP	17 08 35.8	-0.7
	0.7nm,0.4s,baz=120,slow=5.2,SNR=4.2						
MKAR	Makanchi Array	54.83	313	P	P	17 07 40.6	+0.1
	0.5nm,0.5s,baz=86,slow=9.1,SNR=7.8						
KURBB	Kurchatov Arra	57.66	317	P	P	17 07 59.8	-0.4
	2.1nm,0.4s,baz=94,slow=7.4,SNR=34						
ILAR	Eielson Array	62.19	27	P	P	17 08 30.2	-0.4
	0.4nm,0.6s,baz=258,slow=6.7,SNR=5.8						
BVAR	Borovoye Array	62.81	320	P	P	17 08 34.9	0.0
	1.9nm,0.3s,baz=181,slow=6.9,SNR=37						
YKA	Yellowknife Ar	76.60	28	P	P	17 09 58.9	+0.7
	0.7nm,0.5s,baz=290,slow=5.4,SNR=8.8						
ARCES	ARCESS Array B	79.09	342	P	P	17 10 12.4	+0.6
	3.3nm,0.9s,baz=74,slow=8.4,SNR=15						
FINES	FINESS Array B	83.34	334	P	P	17 10 33.3	-0.8
	1.2nm,0.5s,baz=77,slow=4.3,SNR=12						

IDC 04 16:59:01.3±1.8**, 25°.74N×96°.10E, h0km, mb3.1**/2, **mb1 3.2**/3, **mb1mx3.0**/55, **mbtmp3.1**/3, **ML3.5**/1, **MS2.4**/1, **Ms1 2.6**/1, **ms1mx2.3**/23, **Error ellipse: s-maj=93.4km s-min=22.6km az=66.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.71	159	Pn	Pn	17 00 53.4	-1.5
	0.2nm,0.3s,baz=341,slow=12,SNR=6.1						
CMAR				Lg	Lg	17 03 06.8	
	0.1nm,0.3s,baz=336,slow=28,SNR=4.1						
CMAR				LR	LR	17 04 10.0	
	comp=Z,27nm,21.4s,baz=295,slow=40						
MKAR	Makanchi Array	23.72	336	P	P	17 04 14.8	-0.1
	0.3nm,0.5s,baz=148,slow=8.7,SNR=6.0						
ASAR	Alice Springs	61.24	140	P	P	17 09 19.0	+0.5
	0.2nm,0.7s,baz=325,slow=6.2,SNR=1.6						

IDC 04 16:59:29.6±2.5**, 48°.53N×27°.82W, h0km, mb3.4**/3, **mb1 3.7**/3, **mb1mx3.2**/49, **mbtmp3.4**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.6**/56, **Error ellipse: s-maj=92.6km s-min=40.2km az=172.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRAC	Vranov	28.88	71	LR	LR	17 17 45.1	
	comp=Z,63nm,18.6s,baz=317,slow=38						
H10N2	ASCENSION HYDR	57.33	164	T	T	18 11 12.5	
	baz=348						
H10N3	ASCENSION HYDR	57.34	164	T	T	18 11 11.3	
	baz=348						
H10N1	ASCENSION HYDR	57.35	164	T	T	18 11 13.8	
	baz=348						
ILAR	Eielson Array	57.55	334	P	P	17 09 20.1	-0.3
	0.3nm,0.9s,baz=40,slow=4.7,SNR=3.3						
TXAR	Lajitas Array	59.60	281	P	P	17 09 35.5	+0.2
	0.3nm,0.7s,baz=67,slow=7.1,SNR=4.4						
MKAR	Makanchi Array	67.31	44	P	P	17 10 26.3	+0.3
	0.3nm,0.8s,baz=310,slow=4.7,SNR=3.6						
ASAR	Alice Springs	151.27	37	PKPbc	PKPbc	17 19 24.6	-0.5
	0.4nm,0.6s,baz=343,slow=2.0,SNR=7.0						

IDC ***04*** *17:04:11.8±1.6, 42°.26N×139°.47E, h191km±11km, mb3.4/11, mb1 3.5/14, mb1mx3.2/51, mbtmp3.9/14, MS3.3/4, Ms1 3.3/4, ms1mx2.7/58, Error ellipse: s-maj=31.8km s-min=10.7km az=163.0*
NEIC ***04*** *17:04:12.3±1.4, 42°.23N±0°.07×139°.55E±0°.09, h199km±7km, mb4.0/36, Error ellipse: s-maj=11.0km s-min=8.1km az=131.0*
JMA ***04*** *17:04:12.0±0.1, 42°.16N×139°.57E, h189km±1km, M3.4*
ISC 04 17:04:11.4±0.6**, 42°.17N**±0°.05×**139°.56E**±0°.06**, h193**km±5km**, n103, σ0s.79**/108**, mb4.0**/38**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.11	217	P	Pn	17 04 36.7	0.0
JOSM				eS	Sn	17 04 55.6	-0.6
JHST	Hiyamasetana	0.34	43	P	Pn	17 04 37.6	+0.5
JHST				eS	Sn	17 04 56.7	-0.3
JSH	Shimam	0.59	37	P	Pn	17 04 38.5	+0.5
JYM2	Yakumo 2	0.60	95	P	Pn	17 04 38.7	+0.7
JYM2				eS	Sn	17 04 59.3	+0.7
JOMM	Oshimamatsumae	0.73	153	P	Pn	17 04 39.0	+0.3
JOMM				eS	Sn	17 04 59.3	-0.4
JSR	Shiriuchi	0.91	135	P	Pn	17 04 40.1	+0.4
JSR				eS	Sn	17 05 01.6	0.0
JKB	Kayabe	1.13	104	P	Pn	17 04 41.6	+0.3
JNB	Noboribetsu	1.13	74	P	Pn	17 04 41.3	0.0
JSK	Shakotan	1.36	29	P	Pn	17 04 43.6	+0.5
JOT	Ohata	1.36	125	P	Pn	17 04 43.3	+0.1
JEW	Eniwo	1.55	64	P	Pn	17 04 45.7	+0.9
JEW	Eniwo	1.55	64	Pn	Pn	17 04 45.6	+0.9
JIW	Iwasaki	1.61	168	P	Pn	17 04 46.1	+0.6
JIW				eS	Sn	17 05 12.3	+0.3
JISS	Ishikarishitsu	1.76	50	P	Pn	17 04 47.8	+1.0
JTM	Tenmabayashi	1.79	140	P	Pn	17 04 47.3	+0.1
JTM				eS	Sn	17 05 14.8	-0.1
JTM	Tenmabayashi	1.79	140	Pn	Pn	17 04 47.2	+0.1
JTM				Sn	Sn	17 05 14.2	-0.8
JIAM	Iburiatsuma	1.80	75	P	Pn	17 04 48.0	+0.7
JHR	Hokuryu	2.23	45	P	Pn	17 04 53.1	+1.3
JANG	Nango	2.32	140	P	Pn	17 04 52.0	-0.8
JNBK	Urakawa-nobuka	2.37	86	P	Pn	17 04 53.3	0.0
JFR	Furan	2.44	65	P	Pn	17 04 54.1	0.0
ERM	Erimo	2.68	92	Pn	Pn	17 04 57.2	+0.4
ASAJ	Asahikawa	2.95	48	P	Pn	17 05 00.6	+0.7
	14nm,0.3s,baz=231,slow=11,SNR=240						
ASAJ				S	Sn	17 05 37.8	-0.3
	2.0nm,0.3s,baz=100,slow=31,SNR=2.1						
JKA	Kamikawa-asahi	2.95	48	Pn	Pn	17 05 00.5	+0.5
JKA				Sn	Sn	17 05 34.8	-3.2
JSD	Sado	4.25	194	Pn	Pn	17 05 16.7	+0.7
JMM	Marumori	4.40	167		Pn	17 05 12.7	-5.3
YSS	Yuzh-Sakhalins	5.30	24	Pn	Pn	17 05 29.3	0.0
MJB9	Matsu-Tunnel	5.72	191	Pn	Pn	17 05 34.9	0.0
MAJO	Matsushiro	5.72	191	Pn	Pn	17 05 35.1	+0.2
MJAR	Matsushiro Arr	5.72	191	LR	LR	17 07 58.6	
	comp=Z,56nm,21.1s,baz=126,slow=39						
MJAR	Matsushiro Arr	5.72	191	Pn	Pn	17 05 34.6	-0.3
USA0B	Ussuriysk Arra	5.90	293		Pn	17 05 37.5	+0.4
USRK	Ussuriysk Ar.	5.90	293	P	Pn	17 05 37.5	+0.4
	baz=96,slow=12,SNR=26						
USRK	Ussuriysk Ar.	5.90	293	Pn	Pn	17 05 36.9	-0.2
JYT	Yasato	5.96	175	Pn	Pn	17 05 36.6	-1.4
MDJ	Mudanjiang	7.66	292	Pn	Pn	17 05 59.9	-0.2
JHS	Saijyo	8.76	217	Pn	Pn	17 06 15.5	+1.0
KLR	Kul'dur	8.92	325	LR	LR	17 09 58.6	
	comp=Z,48nm,20.5s,baz=156,slow=39						
KSRS	Korea Array	10.12	246	P	Pn	17 06 33.1	+1.0
	0.1nm,0.3s,baz=59,slow=12,SNR=6.4						
JOW	Kunigami	17.88	215	LR	LR	17 15 28.1	
	comp=Z,203nm,18.3s,baz=132,slow=38						
HHC	Hu-ho-hao-te	20.98	276	eP	P	17 08 39.9	+0.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
ULN	Ulaanbaatar	23.56	295	P	P	17 09 03.8	-0.6
ULN				IAmb	IAmb	17 09 04.7	
	comp=Z,2.2nm,0.7s						
SONM	Songino Array	24.00	295	P	P	17 09 07.8	-0.6
	comp=Z,0.3nm,0.5s,baz=104,slow=7.7,SNR=4.3						
SONM	Songino Array	24.00	295	P	P	17 09 06.7	-1.7
YULB	Yu-li	24.13	225	P	P	17 09 07.9	-1.7
GTA	Gaotai	30.03	278	eP	P	17 10 02.9	+0.6
GTA				pP	pP	17 10 07.5	-33
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU	GeErMu	34.88	275	P	P	17 10 44.7	0.0
GOMU				pP	pP	17 10 45.5	-38
GOMU				sP	pwP	17 10 49.6	-39
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,68nm,5.0s						
WMQ	Urumqi	37.46	291	eP	P	17 11 07.9	+1.7
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
ZAA0	Zalesovo Array	37.52	308	P	P	17 11 05.8	-0.6
ZAA0				IAmb	IAmb	17 11 08.0	
	comp=Z,2.2nm,0.5s						
ZALV	Zalesovo Beam	37.52	308	P	P	17 11 06.2	-0.2
	comp=Z,2.1nm,0.4s,baz=87,slow=8.1,SNR=11						
ZALV	Zalesovo Beam	37.52	308	P	P	17 11 05.6	-0.8
UBPT	Khong Chiam	39.71	238	P	P	17 11 25.2	+0.2
UBPT				IAmb	IAmb	17 11 52.5	
	comp=Z,11nm,1.5s						
MK31	Makanchi Array	40.35	297	P	P	17 11 29.8	-0.2
MK31				IAmb	IAmb	17 11 30.3	
	comp=Z,3.4nm,0.7s						
MKAR	Makanchi Array	40.35	297	P	P	17 11 29.8	-0.3
	comp=Z,2.7nm,0.5s,baz=84,slow=11,SNR=46						
MAKZ	Makanchi	40.55	297	P	P	17 11 31.5	-0.2
MAKZ				IAmb	IAmb	17 11 32.0	
	comp=Z,3.9nm,0.8s						
CHTO	Chiang Mai	41.51	249	P	P	17 11 39.4	-0.4
CMAR	Chiang Mai Arr	41.75	248	P	P	17 11 41.6	-0.1
	comp=Z,0.2nm,0.3s,baz=38,slow=6.9,SNR=5.2						
KURK	Kurchatov	41.77	303	P	P	17 11 41.0	-0.4
KURK				IAmb	IAmb	17 11 43.6	
	comp=Z,2.7nm,0.8s						
KURBB	Kurchatov Arra	41.84	303	P	P	17 11 41.6	-0.5
	comp=Z,2.5nm,0.5s,baz=78,slow=8.9,SNR=24						
J20K	Nowinta River	42.93	36	P	P	17 11 51.9	+1.3
J20K				IAmb	IAmb	17 11 55.5	
	comp=Z,9.9nm,1.6s						
N19K	Bonanza Creek	42.99	41	P	P	17 11 51.6	+0.3
N19K				IAmb	IAmb	17 11 58.9	
	comp=Z,6.9nm,1.1s						
K20K	Telida	43.00	37	P	P	17 11 51.4	+0.1
K20K				IAmb	IAmb	17 12 19.4	
	comp=Z,12nm,1.6s						
IMAR	Indian Mountai	43.06	33	P	P	17 11 51.6	0.0
COLD	Coldfoot	44.44	32	P	P	17 12 02.8	+0.2
TOLK	Toolik Lake Re	44.63	30	P	P	17 12 04.2	0.0
JIRN	Jiri	45.39	269	eP	P	17 12 11.0	-0.1
	comp=Z,3.8nm,0.2s						
RAMN	Ramite	45.48	268	eP	P	17 12 11.4	-0.2
	comp=Z,6.3nm,0.3s						
GUN	Gumba	45.49	270	eP	P	17 12 11.3	-0.5
	comp=Z,25nm,0.4s						
KKN	Kakani	46.00	270	eP	P	17 12 15.5	-0.2
ILAR	Eielson Array	46.01	35	P	P	17 12 15.6	+0.6
	comp=Z,1.1nm,0.7s,baz=260,slow=5.3,SNR=19						
PKI	Pulchoki	46.02	270	eP	P	17 12 15.4	-0.6
	comp=Z,3.0nm,0.3s						
BRVK	Borovoye	46.21	309	P	P	17 12 16.8	+0.1
GKN	Gorkha	46.36	271	eP	P	17 12 17.9	-0.5
	comp=Z,12nm,0.4s						
DANN	Dangsing	46.83	272	eP	P	17 12 22.3	+0.1
AAK	Ala-Archa	46.95	294	P	P	17 12 22.7	-0.1
	comp=Z,0.9nm,0.4s,baz=107,slow=3.9,SNR=10						
AAK	Ala-Archa	46.95	294	P	P	17 12 21.1	-1.7
KOLN	Koldanda	47.26	271	eP	P	17 12 25.4	0.0
	comp=Z,10nm,0.4s						
SCRK	Sand Creek	47.38	36	P	P	17 12 26.0	+0.2
DOT	Dot Lake	47.41	36	P	P	17 12 25.4	-0.5
PYUN	Piuthan	47.53	272	eP	P	17 12 27.4	-0.2
	comp=Z,11nm,0.4s						
VRDI	Verde Repeater	48.21	39	P	P	17 12 32.2	-0.1
BERG	Berg Lake	48.30	40	P	P	17 12 33.9	+1.2
L27K	Beaver Creek,	48.52	37	P	P	17 12 35.5	+1.1
L27K				IAmb	IAmb	17 12 58.1	
	comp=Z,11nm,1.6s						
BCAR	Beaver Creek A	48.54	37	P	P	17 12 36.1	+1.5
M27K	Edge Creek, AK	48.67	38	P	P	17 12 37.2	+1.5
M27K				IAmb	IAmb	17 12 47.4	
	comp=Z,6.0nm,1.4s						
ISLE	Juniper Island	48.90	40	P	P	17 12 38.3	+0.8
BARN	Barnard Glacie	49.10	39	P	P	17 12 40.1	+1.1
BARN				IAmb	IAmb	17 12 53.0	
	comp=Z,6.8nm,1.0s						
CTGM	Chitina Glacie	49.27	39	P	P	17 12 41.4	+1.0
KKAR	Karatay Array	49.45	296	P	P	17 12 41.6	-0.1
INK	Inuvik	50.52	29	P	P	17 12 49.9	+0.6
	comp=Z,0.8nm,0.3s,baz=297,slow=8.6,SNR=6.2						
INK	Inuvik	50.52	29	P	P	17 12 49.9	+0.6
M30M	Minto, Yukon	50.88	36	P	P	17 12 54.4	+2.1
M30M				IAmb	IAmb	17 13 06.4	
	comp=Z,8.9nm,1.5s						
GAR	Garm	51.36	291	P	P	17 12 55.7	-0.5
GAR				IAmb	IAmb	17 13 00.3	
	comp=Z,8.0nm,1.4s						
M31M	Drury Creek, Y	52.06	36	P	P	17 13 02.5	+1.6
M31M				IAmb	IAmb	17 13 22.4	
	comp=Z,9.8nm,1.6s						
P33M	Teslin, Yukon	53.49	38	P	P	17 13 12.7	+1.1
ABKAR	Akbulak array	53.63	307	P	P	17 13 12.3	-0.2
ABKAR				IAmb	IAmb	17 13 12.7	
	comp=Z,1.5nm,0.6s						
ABKAR	Akbulak array	53.63	307	P	P	17 13 12.5	-0.1
RES	Resolute Bay	57.99	15	P	P	17 13 43.1	0.0
RES				IAmb	IAmb	17 13 43.5	
	comp=Z,1.4nm,0.7s						
WR0	Warramunga Arr	61.99	185	P	P	17 14 10.5	-0.5
PALK	Pallekele	62.26	254	LR	LR	17 45 50.9	
	comp=Z,205nm,18.0s,baz=247,slow=40						
AKASG	Malin Array Be	69.40	320	P	P	17 14 57.5	-0.5
	comp=Z,0.3nm,0.4s,baz=43,slow=6.7,SNR=4.5						
NVAR	Mina Array Bea	73.06	53	P	P	17 15 21.8	+1.3
	comp=Z,0.3nm,0.5s,baz=295,slow=7.4,SNR=3.9						
PDAR	Pinedale Array	75.08	45	P	P	17 15 32.6	+0.4
	comp=Z,0.4nm,0.5s,baz=323,slow=2.8,SNR=4.5						

IDC 04 17:16:15.4±2.5**, 10°.29N×93°.97E, h0km, mb3.3**/3, **mb1 3.5**/4, **mb1mx3.2**/45, **mbtmp3.2**/4, **ML3.2**/1, **Error ellipse: s-maj=81.1km s-min=29.0km az=68.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.44	30	Pn	Pn	17 18 32.7	-0.1
	0.1nm,0.3s,baz=214,slow=14,SNR=4.3						
MKAR	Makanchi Array	37.71	347	P	P	17 23 32.5	-0.3
	0.2nm,0.6s,baz=164,slow=8.8,SNR=3.0						
WRA	Warramunga Arr	49.82	127	P	P	17 25 10.6	+0.1
	0.4nm,0.8s,baz=304,slow=9.1,SNR=5.6						
ASAR	Alice Springs	51.61	131	P	P	17 25 23.9	-0.1
	0.3nm,0.8s,baz=303,slow=6.8,SNR=1.9						

JMA ***04*** *17:24:24.2±0.1, 24°.88N×122°.34E, h0km, M2.3*
TAP ***04*** *17:24:24.2, 24°.96N×122°.31E, h15km, ML2.7, C*
ISC 04 17:24:24.3±1.0**, 24°.92N**±0°.03×**122°.33E**±0°.02**, h10**km±10km**, n48, σ0s.40**/82**, 5D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.32	286	⇓iP	Pg	17 24 30.8	0.0
	baz=280						
TWB1				i S	Sg	17 24 35.4	+0.3
	baz=280						
EGS		0.37	259	P	Pb	17 24 32.3	-0.7
	baz=251						
SXI1	Grass Mountain	0.45	293	⇓iP	Pg	17 24 33.5	+0.3
	baz=289						
SXI1				i S	Sg	17 24 39.5	+0.4
	baz=289						
NTC	Toucheng	0.46	262	⇓iP	Pg	17 24 33.6	+0.3
	baz=257						
NTC				S	Sb	17 24 40.6	-0.7
	baz=257						
TIPB	Shuangxi	0.46	277	⇓iP	Pg	17 24 33.6	+0.2
	baz=272						
TIPB				i S	Sg	17 24 40.0	+0.6
	baz=272						
NWF	Wu-fen Shan	0.52	287	i P	Pb	17 24 35.0	-0.6
	baz=284						
NWF				i S	Sg	17 24 41.7	+0.3
	baz=284						
WFSB	Wu-fen Shan	0.52	287	i P	Pb	17 24 34.9	-0.6
	baz=284						
WFSB				i S	Sg	17 24 41.7	+0.3
	baz=284						
TWC	Suao	0.53	235	i P	Pg	17 24 34.8	+0.1
	baz=230						
TWC				S	Sg	17 24 41.3	-0.4
	baz=230						
TNOU	National Taiwa	0.56	295	i P	Pb	17 24 35.5	-0.7
	baz=292						
TNOU				i S	Sg	17 24 42.3	-0.2
	baz=292						
NDS	Dongshan	0.63	243	P	Pg	17 24 36.5	0.0
	baz=239						
NDS				eS	Sg	17 24 45.1	+0.4
	baz=239						
TWE	Neicheng	0.63	252	i P	Pg	17 24 36.7	+0.1
	baz=247						
TWE				eS	Sb	17 24 45.6	-0.8
	baz=247						
TWA	Mucha	0.68	275	eP	Pb	17 24 38.1	-0.2
	baz=272						
TWA				eS	Sb	17 24 47.5	-0.2
	baz=272						
EWUT	Wuta	0.69	227	P	Pb	17 24 37.9	-0.5
	baz=223						
EWUT				eS	Sg	17 24 46.6	0.0
	baz=223						
FUSB	Fushanzhiwuyua	0.69	257	P	Pg	17 24 37.8	+0.1
	baz=253						
FUSB				eS	Sb	17 24 48.3	+0.2
	baz=253						
YM08	YM08	0.72	292	eP	Pb	17 24 38.7	-0.4
	baz=290						
YM08				eS	Sg	17 24 47.2	-0.5
	baz=290						
ENA	Nanau	0.72	228	eP	Pg	17 24 38.5	+0.2
	baz=224						
ENA				eS	Sg	17 24 47.9	+0.1
	baz=224						
YM01	YM01	0.73	288	⇓eP	Pb	17 24 39.0	-0.1
	baz=286						
YM01				eS	Sb	17 24 48.4	-0.7
	baz=286						
JYNG	Yonagunijimaku	0.73	130	P	Pg	17 24 38.2	-0.2
JYNG				eS	Sg	17 24 48.2	+0.3
NHDH	Xindian Distri	0.73	274	eP	Pb	17 24 39.1	0.0
	baz=271						
PCYT	Pengchaiyu	0.75	342	eP	Pg	17 24 38.9	+0.1
	baz=343						
PCYT				eS	Sb	17 24 49.5	-0.1
	baz=343						
ENTT	Nioudou	0.75	248	eP	Pg	17 24 38.9	+0.1
	baz=245						
ENTT				eS	Sb	17 24 50.8	+1.1
	baz=245						
TWY	Chenhua	0.75	298	eP	Pb	17 24 39.2	-0.3
	baz=296						
TWY				eS	Sg	17 24 48.9	+0.2
	baz=296						
NWLT	Wulai	0.76	260	eP	Pg	17 24 39.1	0.0
	baz=256						
TATO	Taipei	0.77	274	eP	Pb	17 24 39.6	-0.2
	baz=271						
YOJ	Yonaguni jima	0.77	126	P	Pg	17 24 38.8	-0.4
YOJ				eS	Sg	17 24 49.3	+0.1
YOJ	Yonaguni jima	0.77	126	P	Pg	17 24 38.7	-0.5
	baz=127						
YOJ				eS	Sg	17 24 49.5	+0.3
	baz=127						
NDT	Datong Townshi	0.81	247	eP	Pg	17 24 39.7	-0.2
	baz=244						
LATG	Datong	0.82	243	eP	Pg	17 24 40.0	-0.2
	baz=239						
LATG				eS	Sb	17 24 51.7	-0.4
	baz=239						
TWS1	Kuangyinshan	0.85	283	eP	Pb	17 24 41.7	+0.5
	baz=280						
YHNB	Yeheng	0.90	254	eP	Pb	17 24 41.8	-0.3
	baz=251						
YHNB				eS	Sb	17 24 55.0	+0.8
	baz=251						
NSK	Sanguang	0.92	255	eP	Pg	17 24 42.0	0.0
	baz=252						
NNSB	Datong	0.99	241	eP	Pb	17 24 43.5	-0.1
	baz=238						
NNSB				eS	Sb	17 24 57.0	+0.2
	baz=238						
ETL	Fush Village	0.99	221	eP	Pb	17 24 43.8	+0.1
	baz=218						
ETL				eS	Sb	17 24 56.9	+0.1
	baz=218						
NNS	Nan Shan	0.99	242	eP	Pg	17 24 43.3	-0.2
	baz=238						
NACB	Ninganchiao	1.00	222	eP	Pg	17 24 43.5	-0.1
	baz=220						
NACB				eS	Sg	17 24 56.3	-0.2
	baz=220						
ETLH	Xiulin Townshi	1.05	228	eP	Pg	17 24 44.1	-0.3
	baz=225						
ETLH				eS	Sg	17 24 57.3	-0.8
	baz=225						
TWD	Chiawan	1.07	219	eP	Pb	17 24 45.2	+0.3
	baz=216						
NFF	Wufeng Townshi	1.14	256	eP	Pg	17 24 45.8	-0.4
	baz=253						
FUSS	Fushou	1.19	236	eP	Pg	17 24 47.0	-0.2
	baz=234						
FUSS				eS	Sn	17 25 04.5	+0.8
	baz=234						
LIOB	Emei	1.23	257	eP	Pb	17 24 47.2	-0.4
	baz=255						
LIOB				eS	Sg	17 25 03.4	-0.4
	baz=255						
WHF	Hehuan Shan	1.24	232	eP	Pb	17 24 48.0	-0.1
	baz=229						
WHF				eS	Sb	17 25 04.6	+0.4
	baz=229						
NSTT	Nanjuang	1.24	257	eP	Pb	17 24 47.4	-0.5
	baz=255						
CHGB	Renai	1.36	231	eP	Pg	17 24 50.7	+0.3
	baz=229						
CHGB				eS	Sn	17 25 08.1	+0.4
	baz=229						
ESL	Shilin	1.37	217	eP	Pg	17 24 50.4	-0.3
	baz=215						
IRIF	Iriomote-Funau	1.40	114	P	Pg	17 24 51.6	+0.4
WHP	Taichung City	1.41	243	eP	Pg	17 24 51.4	-0.1
	baz=241						
WHP				eS	Sg	17 25 09.4	-0.4
	baz=241						
WUSB	Renai	1.44	230	eP	Pg	17 24 51.7	-0.3
	baz=228						
WUSB				eS	Sg	17 25 11.2	+0.5
	baz=228						
JIJ	Ishigaki jima	1.74	108	P	Pb	17 24 56.1	-0.3

IDC ***04*** *17:52:39.5±0.6, 14°.69N×45°.08W, h0km, mb4.1/13, mb1 4.3/14, mb1mx3.9/48, mbtmp4.2/14, ML4.1/1, MS3.6/21, Ms1 3.6/21, ms1mx3.3/86, Error ellipse: s-maj=26.8km s-min=14.2km az=123.0*
NEIC ***04*** *17:52:40.9±1.3, 14°.8N±0°.1×45°.17W±0°.09, h10km±1km, mb4.7/13, Error ellipse: s-maj=24.8km s-min=9.6km az=330.0*
ISC 04 17:52:41.0±0.6**, 14°.7N**±0°.1×**45°.2W**±0°.1**, h12**km**, n52, σ0s.72**/29**, mb4.1**/13**, MS3.6**/20**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.07	218	Pn	Pn	17 55 32.8	-0.1
	1.2nm,0.3s,baz=27,slow=13,SNR=15						
MDP				LR	LR	17 59 21.1	
	comp=Z,176nm,19.2s,baz=88,slow=33						
H05S1	Guadeloupe/Mar	15.18	271	T	T	18 11 53.4	
	SNR=17						
TOSP	Speyside	15.37	259	Pn	Pn	17 56 17.1	-0.7
TOSP				IAmb	IAmb	17 56 26.8	
	comp=Z,53nm,1.3s						
BIM	Bigot	15.40	271	Pn	Pn	17 56 17.7	-0.7
SJG	San Juan	20.42	282	LR	LR	18 04 21.2	
	comp=Z,84nm,19.8s,baz=288,slow=34						
PTGA	Pitinga	21.22	225	P	P	17 57 27.3	+0.3
	comp=Z,3.9nm,0.7s,baz=36,slow=15,SNR=7.1						
PTGA				LR	LR	18 04 47.4	
	comp=Z,105nm,18.5s,baz=92,slow=34						
DR12	Loma Pena Alta	23.54	283	P	P	17 57 50.5	-0.9
BDFB	Brasilia	30.30	185	P	P	17 58 52.6	+0.1
	comp=Z,5.7nm,0.8s,baz=43,slow=9.2,SNR=6.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BDFB	**Brasilia**	**30.30**	**185**	P	**P**	**17 58 52.0**	**-0.5**
BDFB				IAmb	IAmb	17 58 59.8	
	comp=Z,15nm,1.2s						
SIV	**San Ignacio**	**34.33**	**208**	P	**P**	**17 59 28.8**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=40,slow=7.2,SNR=4.6						
H10N3	**ASCENSION HYDR**	**37.77**	**124**	T	T	18 39 41.7	
	baz=306,slow=75,SNR=128						
H10N2	**ASCENSION HYDR**	**37.77**	**124**	T	T	18 39 46.1	
	baz=306,slow=75,SNR=141						
H10N1	**ASCENSION HYDR**	**37.79**	**124**	T	T	18 39 47.3	
	baz=306,slow=75,SNR=168						
LPAZ	**La Paz**	**38.26**	**217**	P	**P**	**18 00 02.9**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=24,slow=6.4,SNR=5.6						
LPAZ	**La Paz**	**38.26**	**217**	P	**P**	**18 00 02.6**	**+0.4**
H10S3	**ASCENSION HYDR**	**38.31**	**126**	T	T	18 40 32.0	
	baz=276,slow=74,SNR=44						
H10S2	**ASCENSION HYDR**	**38.32**	**126**	T	T	18 40 30.1	
	baz=304,slow=74,SNR=24						
ATAH	**Atahualpa**	**39.47**	**239**	LR	LR	18 16 59.9	
	comp=Z,71nm,18.4s,baz=101,slow=37						
KOWA	**Kowa**	**39.77**	**85**	P	**P**	**18 00 13.5**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=259,slow=9.6,SNR=5.9						
KOWA				LR	LR	18 15 51.5	
	comp=Z,238nm,18.0s,baz=216,slow=35						
TKL	**Tuckaleechee C**	**40.34**	**308**	LR	LR	18 14 39.8	
	comp=Z,51nm,21.5s,baz=149,slow=33						
DBIC	**Dimbokro**	**40.34**	**97**	LR	LR	18 16 14.6	
	comp=Z,137nm,18.2s,baz=223,slow=35						
NNA	**Nana**	**41.10**	**231**	LR	LR	18 17 27.1	
	comp=Z,60nm,18.3s,baz=170,slow=36						
SADO	**Sadowa**	**41.52**	**323**	LR	LR	18 14 51.5	
	comp=Z,59nm,19.2s,baz=174,slow=32						
TORD	**Torodi Ar. Bea**	**45.44**	**86**	P	**P**	**18 00 59.5**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=286,slow=7.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**45.44**	**86**	P	**P**	**18 00 59.0**	**-1.2**
CMIG	**Matias Romero**	**47.78**	**280**	LR	LR	18 21 11.1	
	comp=Z,32nm,19.9s,baz=118,slow=36						
DAVOX	**Davos/Dischmat**	**55.63**	**43**	LR	LR	18 20 42.3	
	comp=Z,102nm,21.6s,baz=261,slow=30						
TXAR	**Lajitas Array**	**55.64**	**296**	LR	LR	18 28 49.4	
	comp=Z,36nm,18.0s,baz=100,slow=39						
ANMO	**Albuquerque**	**58.29**	**302**	LR	LR	18 27 11.6	
	comp=Z,22nm,18.2s,baz=126,slow=36						
CLL	**Collm**	**58.87**	**39**	*e*P	**P**	**18 02 40.0**	**+0.3**
PLCA	**Paso Flores**	**59.99**	**202**	P	**P**	**18 02 47.6**	**+0.1**
	comp=Z,6.1nm,1.1s,baz=17,slow=8.0,SNR=4.9						
PLCA				LR	LR	18 28 55.6	
	comp=Z,64nm,18.2s,baz=198,slow=36						
PLCA	**Paso Flores**	**59.99**	**202**	P	**P**	**18 02 47.7**	**+0.1**
PLCA				IAmb	IAmb	18 02 48.7	
	comp=Z,11nm,1.3s						
NB2	**NORSAR Subarra**	**61.23**	**28**	P	**P**	**18 02 56.4**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=246,slow=6.9						
NOA	**NORSAR Array B**	**61.23**	**28**	P	**P**	**18 02 56.9**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=247,slow=6.3,SNR=7.4						
PDAR	**Pinedale Array**	**61.40**	**311**	LR	LR	18 26 10.2	
	comp=Z,44nm,21.9s,baz=78,slow=33						
ELK	**Elko**	**65.50**	**308**	LR	LR	18 30 57.0	
	comp=Z,47nm,19.7s,baz=196,slow=35						
MLR	**Muntele Rosu**	**66.43**	**47**	P	**P**	**18 03 29.9**	**-0.5**
YKA	**Yellowknife Ar**	**67.58**	**332**	P	**P**	**18 03 37.0**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=108,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**68.22**	**29**	P	**P**	**18 03 41.8**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=282,slow=9.3,SNR=5.1						
FINES	**FINESS Array B**	**68.22**	**29**	P	**P**	**18 03 40.8**	**-0.5**
ARCES	**ARCESS Array B**	**69.57**	**21**	P	**P**	**18 03 50.1**	**+0.5**
	comp=Z,5.6nm,1.1s,baz=258,slow=6.1,SNR=6.5						
ARCES	**ARCESS Array B**	**69.57**	**21**	P	**P**	**18 03 49.1**	**-0.5**
BR131	**Keskin Array S**	**72.20**	**53**	P	**P**	**18 04 05.3**	**-1.0**
BR131				IAmb	IAmb	18 04 07.3	
	comp=Z,5.3nm,0.8s						
BRTR	**Keskin Array B**	**72.20**	**53**	P	**P**	**18 04 06.4**	**0.0**
	comp=Z,2.4nm,0.7s,baz=261,slow=5.7,SNR=14						
BRTR	**Keskin Array B**	**72.20**	**53**	P	**P**	**18 04 05.3**	**-1.0**
BNN	**Bunyan**	**73.98**	**53**	P	**P**	**18 04 17.8**	**+0.9**
RPN	**Rapa Nui**	**74.86**	**236**	LR	LR	18 33 55.4	
	comp=Z,60nm,19.5s,baz=152,slow=33						
INK	**Inuvik**	**75.84**	**337**	LR	LR	18 36 09.8	
	comp=Z,100nm,19.0s,baz=24,slow=34						
LBTB	**Lobatse**	**79.44**	**119**	LR	LR	18 35 59.9	
	comp=Z,58nm,18.4s,baz=196,slow=33						
KIRV	**Kirov**	**79.94**	**32**	LR	LR	18 36 20.0	
	comp=Z,44nm,20.0s,baz=284,slow=33						
GNI	**Garni**	**80.59**	**51**	LR	LR	18 40 03.8	
	comp=Z,42nm,19.3s,baz=163,slow=35						
ILAR	**Eielson Array**	**81.73**	**335**	P	**P**	**18 05 00.2**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=62,slow=4.9,SNR=11						

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*IDC **04** 17:57:34.0±1.9, 9°39N×126°72E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.4/38, mbtmp3.8/6, MS2.3/1, Ms1 2.3/1, ms1mx2.2/79, Error ellipse: s-maj=218.5km s-min=22.4km az=69.0*

*NEIC **04** 17:57:39.9±2.0, 9°4N±0°1×127°1E±0°2, h43km±9km, mb4.1/7, Error ellipse: s-maj=25.5km s-min=15.0km az=84.0*

ISC 04 17:57:39.3±0.7**, 9°33N**±0°06×**126°92E**±0°08**, h41**km**, n32, σ1°56**/29**, mb3.9**/10**, 4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.27**	**206**	⇑*i*P	**Pn**	**17 58 01.6**	**+1.1**
BIPH				*i*S	**Sn**	**17 58 14.6**	**-1.7**
SCPH	**Surigao**	**1.49**	**288**	⇓*i*P	**Pn**	**17 58 01.4**	**-2.1**
SCPH				*i*S	**Sn**	**17 58 20.0**	**-1.7**
DAV	**Davao City (W)**	**2.61**	**211**	LR	LR	17 58 50.1	
	comp=Z,70nm,21.9s,baz=16,slow=30						
DAV	**Davao City (W)**	**2.61**	**211**	Pn	**Pn**	**17 58 21.5**	**+2.5**
KCP	**Kidapawan**	**2.93**	**218**	⇑*e*P	**Pn**	**17 58 25.6**	**+2.1**
TBP	**Tagbilaran**	**3.04**	**277**	⇑*e*P	**Pn**	**17 58 23.7**	**-1.2**
TBP				*i*S	**Sn**	**17 59 02.3**	**+2.1**
LLP	**Lapu-Lapu**	**3.08**	**289**	⇓*e*P	**Pn**	**17 58 25.4**	**+0.1**
LLP				*e*S	**Sn**	**17 59 03.0**	**+2.0**
CTBH	**Cotabato--PC H**	**3.38**	**232**	⇓*i*P	**Pn**	**17 58 30.1**	**+0.5**
CTBH				*i*S	**Sn**	**17 59 05.2**	**-3.2**
RCP	**Roxas**	**4.67**	**299**	⇑*e*P	**Pn**	**17 58 48.4**	**+1.1**
TNTI	**Ternate**	**8.51**	**177**	Pn	**Pn**	**17 59 41.7**	**+1.7**
LUWI	**Luwuk**	**11.10**	**202**	Pn	**Pn**	**18 00 17.8**	**+2.3**
WB0	**Warramunga Arr**	**29.83**	**166**		**P**	**18 03 42.2**	**-0.5**
WB0				IAmb	IAmb	18 04 15.7	
	comp=Z,10nm,1.6s						
WRA	**Warramunga Arr**	**29.99**	**166**	P	**P**	**18 03 45.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=348,slow=9.2,SNR=1.9						
WRA	**Warramunga Arr**	**29.99**	**166**	IAmb	IAmb	18 03 48.7	
	comp=Z,0.4nm,1.4s						
ASAR	**Alice Springs**	**33.49**	**168**	P	**P**	**18 04 16.5**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=345,slow=7.1,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**39.58**	**72**	T	T	18 48 12.3	
	baz=271						
H11S1	**WAKE ISLAND Hy**	**39.59**	**72**	T	T	18 48 13.5	
	baz=271						
H11S2	**WAKE ISLAND Hy**	**39.60**	**72**	T	T	18 48 10.4	
	baz=271						
H11N1	**WAKE ISLAND Hy**	**39.95**	**70**	T	T	18 48 47.2	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**39.96**	**70**	T	T	18 48 43.2	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**39.97**	**70**	T	T	18 48 48.0	
	baz=264						
STKA	**Stephens Creek**	**43.31**	**162**	P	**P**	**18 05 36.4**	**-0.9**
STKA				IAmb	IAmb	18 05 39.5	
	comp=Z,1.1nm,1.1s						
PET	**Petropavlovsk**	**50.55**	**24**	P	**P**	**18 06 31.5**	**-2.0**
MKAR	**Makanchi Array**	**53.16**	**323**	P	**P**	**18 06 52.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=122,slow=8.0,SNR=8.8						
MKAR	**Makanchi Array**	**53.16**	**323**	P	**P**	**18 06 53.0**	**-0.2**
MAKZ	**Makanchi**	**53.36**	**323**	P	**P**	**18 06 54.0**	**-0.6**
MAKZ				IAmb	IAmb	18 07 21.6	
	comp=Z,2.7nm,1.5s						
ZALV	**Zalesovo Beam**	**55.76**	**331**	P	**P**	**18 07 10.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=117,slow=12,SNR=2.9						
KKAR	**Karatay Array**	**59.37**	**315**	P	**P**	**18 07 37.1**	**-0.4**
NRIK	**Noril'sk**	**65.08**	**346**	P	**P**	**18 08 15.5**	**+0.3**
NRIK				IAmb	IAmb	18 08 17.0	
	comp=Z,1.8nm,0.6s						
ABKAR	**Akbulak array**	**68.01**	**319**	P	**P**	**18 08 34.9**	**+0.5**
ARCES	**ARCESS Array B**	**85.30**	**340**	P	**P**	**18 10 12.6**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=76,slow=7.5,SNR=4.1						
FINES	**FINESS Array B**	**87.02**	**332**	P	**P**	**18 10 20.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=76,slow=5.9,SNR=2.3						

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*DJA **04** 18:01:11.1±0.4, 6°S±8°×11°1E±°, h598km±7km, M3.8/18, mB4.6/3, mb3.9/15, MLv3.7/18, Mw(mB)3.8/3*

*IDC **04** 18:01:13.6±1.3, 5°70S×110°74E, h556km±20km, mb2.9/4, mb1 3.2/8, mb1mx2.7/40, mbtmp4.0/8, Error ellipse: s-maj=42.4km s-min=15.3km az=46.0*

*NEIC **04** 18:01:13.7±2.5, 5°9S±0°1×110°6E±0°1, h552km±4km, mb4.2/11, Error ellipse: s-maj=19.8km s-min=15.2km az=48.0*

ISC 04 18:01:13.0±0.6**, 5°94S**±0°10×**110°57E**±0°09**, h550**km**, n60, σ1°25**/60**, mb4.1**/11**, Java Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.97**	**181**	P	**P**	**18 02 24.4**	**+1.8**
UGM	**Wanagama**	**1.97**	**181**	P	**P**	**18 02 24.3**	**+1.8**
GRJI	**Gresik**	**2.13**	**117**	P	**P**	**18 02 25.4**	**+2.1**
KPJI	**Karang Pucung**	**2.14**	**229**	P	**P**	**18 02 25.2**	**+1.9**
PCJI	**Pacitan**	**2.33**	**165**	P	**P**	**18 02 25.6**	**+1.4**
PWJI	**Pagerwojo**	**2.41**	**149**	P	**P**	**18 02 25.7**	**+1.1**
CMJI	**Cimerak**	**2.79**	**229**	P	**P**	**18 02 27.6**	**+0.8**
LEM	**Lembang**	**3.06**	**253**	P	**P**	**18 02 31.2**	**+2.6**
	7.6nm,0.3s,baz=314,slow=23,SNR=9.3						
LEM	**Lembang**	**3.06**	**253**	P	**P**	**18 02 30.7**	**+2.1**
BLJI	**Banyuglugur**	**3.50**	**121**	P	**P**	**18 02 31.4**	**+0.1**
KMMI	**Kalianget**	**3.55**	**108**	P	**P**	**18 02 32.7**	**+1.1**
CNJI	**Cibinong**	**3.68**	**248**	P	**P**	**18 02 33.1**	**+0.6**
CBJI	**Citeko**	**3.73**	**262**	P	**P**	**18 02 34.7**	**+1.8**
DBJI	**Dramaga**	**3.85**	**261**	P	**P**	**18 02 34.5**	**+0.8**
ABJI	**Asem Bagus**	**4.08**	**117**	P	**P**	**18 02 37.2**	**+1.7**
SKJI	**Sukabumi**	**4.13**	**255**	P	**P**	**18 02 37.4**	**+1.6**
JAGI	**Jajag, Banyuwa**	**4.36**	**126**	P	**P**	**18 02 35.6**	**-2.0**
CGJI	**Cibinong**	**4.89**	**262**	P	**P**	**18 02 43.2**	**+1.3**
KASI	**Kota Agung**	**6.06**	**274**	P	**P**	**18 02 52.6**	**+0.5**
	0.2nm2µm44nm,0.4s						
MDSI	**Maura Dua**	**6.53**	**282**	P	**P**	**18 02 57.7**	**+1.2**
	0.0nm7.9nm,0.7s						
KSM	**Kuching**	**7.36**	**358**	P	**P**	**18 03 05.0**	**+0.4**
PLAI	**Plampang**	**7.70**	**112**	P	**P**	**18 03 06.9**	**-0.9**
	0.1nm14nm,0.5s						
MNAI	**Manna**	**7.74**	**281**	P	**P**	**18 03 08.4**	**+0.2**
MNAI	**Manna**	**7.74**	**281**	P	**P**	**18 03 08.4**	**+0.2**
	0.6nm95nm,0.5s						
KSI	**Kapahiang**	**8.27**	**286**	P	**P**	**18 03 13.9**	**+0.4**
SBUM	**Sibu**	**8.49**	**11**	P	**P**	**18 03 16.3**	**+0.6**
KAPI	**Kappang**	**9.19**	**85**	P	**P**	**18 03 22.4**	**-0.2**
	1.2nm,0.3s,baz=259,slow=5.7,SNR=4.7						
KAPI	**Kappang**	**9.19**	**85**	P	**P**	**18 03 22.1**	**-0.6**
SPSI	**Sidrap Palu**	**9.37**	**78**	P	**P**	**18 03 24.3**	**-0.3**
	7.4nm,0.7s						
WBSI	**Waikabubak, Su**	**9.48**	**113**	P	**P**	**18 03 24.2**	**-1.5**
	27nm,0.6s						
BKSI	**Bulukumba**	**9.53**	**87**	P	**P**	**18 03 26.2**	**+0.1**
	9.3nm,0.9s						
BNSI	**Bone**	**9.62**	**81**	P	**P**	**18 03 27.5**	**+0.4**
	14nm,1.0s						
TTSI	**Tana Toraja**	**9.66**	**73**	P	**P**	**18 03 26.5**	**-1.0**
	8.5nm,0.5s						
BSSI	**Bau Bau, Buton**	**9.87**	**92**	P	**P**	**18 03 29.2**	**-0.4**
	342nm33nm,0.5s						
PPSI	**Pulau Pagai**	**10.99**	**286**	P	**P**	**18 03 39.0**	**-2.2**
	147nm,0.9s						
MMRI	**Maumere**	**11.88**	**104**	P	**P**	**18 03 47.7**	**-2.7**
BBSI	**Bau Bau**	**11.95**	**88**	P	**P**	**18 03 48.9**	**-2.2**
	2.6nm,0.8s						
APSI	**Ampana**	**12.13**	**66**	P	**P**	**18 03 52.8**	**-0.2**
	8.1nm,1.1s						
SISI	**Saibi**	**12.33**	**291**	P	**P**	**18 03 53.4**	**-1.7**
	67nm,0.6s						
TOLI2	**Tolitoli**	**12.37**	**56**	P	**P**	**18 03 55.2**	**-0.2**
BATI	**Baumata**	**13.64**	**109**	P	**P**	**18 04 06.8**	**-1.8**
	2.1nm,0.3s,baz=335,slow=6.1,SNR=3.0						
IPM	**Ipoh**	**14.06**	**317**	P	**P**	**18 04 13.4**	**+0.5**
KULM	**Kulim**	**14.91**	**318**	P	**P**	**18 04 19.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.04**	**131**	P	**P**	**18 05 00.9**	**+0.4**
	0.3nm,0.3s,baz=327,slow=8.3,SNR=8.7						
WB0	**Warramunga Arr**	**26.94**	**123**	P	**P**	**18 06 10.3**	**-0.7**
WB0				IAmb	IAmb	18 06 18.1	
	comp=Z,6.8nm,1.3s						
WRA	**Warramunga Arr**	**26.97**	**123**	P	**P**	**18 06 11.4**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=303,slow=9.1,SNR=15						
WB2	**Warramunga Arr**	**26.98**	**123**	P	**P**	**18 06 10.9**	**-0.4**
WB2				IAmb	IAmb	18 06 11.1	
	comp=Z,4.9nm,1.2s						
WR0	**Warramunga Arr**	**27.15**	**123**	P	**P**	**18 06 12.4**	**-0.3**
WR0				IAmb	IAmb	18 06 13.7	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**28.55**	**131**	P	**P**	**18 06 25.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=306,slow=7.8,SNR=27						
ASAR	**Alice Springs**	**28.55**	**131**	P	**P**	**18 06 23.9**	**-1.1**
STKA	**Stephens Creek**	**38.81**	**136**	P	**P**	**18 07 51.9**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=317,slow=8.7,SNR=9.8						
STKA	**Stephens Creek**	**38.81**	**136**	P	**P**	**18 07 51.5**	**+0.4**
MAJO	**Matsushiro**	**49.55**	**29**	P	**P**	**18 09 14.8**	**+0.9**
MAJO				IAmb	IAmb	18 09 15.7	
	comp=Z,8.2nm,0.3s						
MJAR	**Matsushiro Arr**	**49.55**	**29**	P	**P**	**18 09 14.4**	**+0.6**
MJAR				IAmb	IAmb	18 09 15.6	
	comp=Z,2.2nm,0.3s						
MJB9	**Matsu-Tunnel**	**49.55**	**29**	P	**P**	**18 09 14.7**	**+0.9**
MKAR	**Makanchi Array**	**58.18**	**337**	P	**P**	**18 10 13.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=149,slow=7.9,SNR=7.8						
ABKAR	**Akbulak array**	**70.38**	**327**	P	**P**	**18 11 30.8**	**-0.9**
VNDA	**Vanda**	**76.37**	**170**	P	**P**	**18 12 05.3**	**-0.1**
VNDA				IAmb	IAmb	18 12 15.2	
	comp=Z,14nm,1.6s						
BNN	**Bunyan**	**81.92**	**310**	P	**P**	**18 12 37.6**	**+1.9**
QSPA	**South Pole Qui**	**84.05**	**180**	P	**P**	**18 12 45.9**	**+0.1**
QSPA				IAmb	IAmb	18 12 57.0	
	comp=Z,7.4nm,1.4s						

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*IDC **04** 18:40:07.7±1.1, 0°82S×4°47E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.7/45, mbtmp4.0/6, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/75, Error ellipse: s-maj=31.0km s-min=27.7km az=72.0*

*NEIC **04** 18:40:09.5±1.8, 0°85S±0°09×4°52E±0°07, h16km±3km, mb4.6/16, Error ellipse: s-maj=14.5km s-min=8.1km az=204.0*

ISC 04 18:40:08.4±0.6**, 0°71S**±0°07×**4°50E**±0°08**, h10**km**, n29, σ2°11**/29**, mb4.4**/11**, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.87**	**308**	Pn	**Pn**	**18 42 59.2**	**+1.4**
	0.9nm,0.3s,baz=131,slow=11,SNR=14						
DBIC				Sn	**Sn**	**18 45 07.0**	**-3.5**
	3.8nm,0.3s,baz=268,slow=23,SNR=14						
DBIC	**Dimbokro**	**11.87**	**308**		**Pn**	**18 42 59.1**	**+1.2**
DBIC					**Sn**	**18 45 09.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**14.05**	**349**	Pn	**Pn**	**18 43 31.0**	**+3.3**
	0.2nm,0.3s,baz=168,slow=14,SNR=12						
TORD				Sn	**Sn**	**18 45 59.0**	**-4.8**
	1.0nm,0.3s,baz=171,slow=25,SNR=9.8						
TORD	**Torodi Ar. Bea**	**14.05**	**349**		**Pn**	**18 43 29.9**	**+2.2**
TORD					**Sn**	**18 46 00.2**	**-3.6**
KOWA	**Kowa**	**17.30**	**331**	P	**P**	**18 44 13.6**	**+1.9**
TSUM	**Tsumeb**	**22.41**	**146**	P	**P**	**18 45 08.0**	**+0.5**
	4.2nm,0.8s,baz=315,slow=11,SNR=5.4						
TSUM	**Tsumeb**	**22.41**	**146**	P	**P**	**18 45 06.2**	**-1.4**
MBAR	**Mbarara**	**26.24**	**90**	LR	LR	18 55 38.2	
	comp=Z,82nm,18.1s,baz=212,slow=35						
LODK	**Lodwar**	**31.12**	**82**		**S**	**18 51 28.7**	**-4.9**
LBTB	**Lobatse**	**31.62**	**141**	P	**P**	**18 46 32.1**	**+0.2**
LBTB				IAmb	IAmb	18 46 37.9	
	comp=Z,7.8nm,1.1s						
BOSA	**Boshof**	**34.11**	**146**	P	P	18 46 45.7	-7.9
BOSA				IAmb	IAmb	18 46 53.9	
	comp=Z,14nm,1.6s						
SUR	**Sutherland**	**35.06**	**156**	P	P	18 46 52.2	-10
MACI	**Morro de la Ar**	**35.14**	**327**	P	P	18 46 54.6	-8.1
PMOZ	**Porto Moniz, M**	**39.14**	**330**	P	**P**	**18 47 38.0**	**+1.5**
SGRT	**San Giovanni R**	**43.48**	**12**	P	**P**	**18 48 12.7**	**+0.7**
AKASG	**Malin Array Be**	**55.39**	**19**	P	**P**	**18 49 44.3**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=214,slow=7.8,SNR=4.6						
AKASG	**Malin Array Be**	**55.39**	**19**	P	**P**	**18 49 42.8**	**+0.1**
ONI	**Oni**	**55.54**	**34**	P	**P**	**18 49 45.8**	**+1.8**
ONI				IAmb	IAmb	18 49 54.5	
	comp=Z,7.1nm,1.4s						
HOPE	**Hope Point**	**63.09**	**206**	P	**P**	**18 50 34.5**	**-1.4**
SIV	**San Ignacio**	**66.35**	**253**	P	**P**	**18 50 58.5**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=97,slow=8.3,SNR=9.1						
CBYP	**Canovanas**	**71.60**	**289**	P	**P**	**18 51 29.1**	**-1.6**
NIL	**Nilore**	**72.82**	**54**	P	**P**	**18 51 37.8**	**+0.1**
NIL				IAmb	IAmb	18 51 42.1	
	comp=Z,5.8nm,1.1s						
KKAR	**Karatay Array**	**73.19**	**44**	P	**P**	**18 51 39.3**	**-0.4**
AAK	**Ala-Archa**	**75.88**	**46**	P	**P**	**18 51 56.1**	**+0.6**
AAK				IAmb	IAmb	18 52 05.9	
	comp=Z,3.5nm,1.2s						
BRVK	**Borovoye**	**76.25**	**35**	P	**P**	**18 51 56.9**	**-0.2**
BRVK				IAmb	IAmb	18 51 58.9	
	comp=Z,4.8nm,1.4s						
LMEL	**Las Melosas**	**76.91**	**236**	P	**P**	**18 52 00.6**	**-0.9**
LMEL				IAmb	IAmb	18 52 10.0	
	comp=Z,21nm,1.5s						
MK31	**Makanchi Array**	**82.17**	**43**	P	**P**	**18 52 29.8**	**0.0**
MKAR	**Makanchi Array**	**82.17**	**43**	P	**P**	**18 52 30.8**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=257,slow=4.3,SNR=7.8						
MKAR	**Makanchi Array**	**82.17**	**43**	P	**P**	**18 52 29.6**	**-0.1**

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*ATH **04** 18:41:17.1, 34°56N×27°03E, h37km±9km, ML2.3/1, Error ellipse: s-maj=12.7km s-min=3.0km az=359.0*

*HLW **04** 18:41:17.9, 34°50N×27°05E, h24km±14km, Md3.6, Ml3.6*

*GII **04** 18:41:22.0±0.0, 34°03N×27°66E, h1km, Mm3.2/3*

ISC 04 18:41:15.7±0.9**, 34°49N**±0°07×**27°17E**±0°05**, h24**km**, n22, σ2°24**/33**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.00**	**309**	P	**Pb**	**18 41 34.0**	**-0.4**
ZKR				S	**Sb**	**18 41 46.3**	**-0.9**
ZKR				AML	AML	18 41 48.3	
	comp=N,278µm,0.3s						
ZKR				AML	AML	18 41 48.5	
	comp=E,556µm,0.3s						
KARP	**Karpathos**	**1.05**	**360**	P	**Pb**	**18 41 36.0**	**+0.7**
NPS	**Neapolis**	**1.49**	**301**	P	**Pn**	**18 41 41.4**	**+0.3**
IDI	**Anoyia**	**2.04**	**294**	P	**Pn**	**18 41 48.9**	**+0.3**
VAM	**Vamos**	**2.61**	**291**	P	**Pn**	**18 41 56.9**	**+0.6**
IMMV	**Iera Moni Meta**	**2.79**	**291**	P	**Pn**	**18 41 59.7**	**+0.8**
SLUM	**Salum**	**3.42**	**209**	P	**Pn**	**18 42 09.0**	**+1.5**
	baz=208						
SLUM				S	**Sn**	**18 42 45.5**	**-1.8**
	baz=208						
SWA2		**5.43**	**196**	P	**Pn**	**18 42 37.2**	**+1.9**
	baz=195						
SWA2				S	**Sn**	**18 43 35.3**	**-1.7**
	baz=195						
RYAN	**Fayoum**	**6.01**	**153**	P	**Pn**	**18 42 45.2**	**+2.1**
	baz=152						
GLL	**Jalalah**	**6.23**	**141**	P	**Pn**	**18 42 49.6**	**+3.4**
	baz=139						
SUZ	**Suez**	**6.67**	**132**	P	**Pn**	**18 42 54.4**	**+2.1**
	baz=131						
HMDT	**Nahal Hemdat**	**7.34**	**105**	Pn	**Pn**	**18 43 03.1**	**+1.7**
HMDT				Sn	**Sn**	**18 44 23.1**	**-0.8**
YTIR	**Yattir**	**7.37**	**113**	Pn	**Pn**	**18 43 03.6**	**+1.7**
YTIR				Sn	**Sn**	**18 44 22.6**	**-2.3**
HFRF	**Wahat Farafira**	**7.39**	**172**	P	**Pn**	**18 43 04.5**	**+2.5**
	baz=171						
DSI	**Dead Sea**	**7.48**	**111**	Pn	**Pn**	**18 43 05.3**	**+1.9**
DSI				Sn	**Sn**	**18 44 26.6**	**-0.9**
KRMI	**Paran Flat**	**7.74**	**122**	Pn	**Pn**	**18 43 08.9**	**+2.0**
KRMI				Sn	**Sn**	**18 44 31.4**	**-2.4**
PRNI	**Paran**	**7.80**	**120**	Pn	**Pn**	**18 43 08.8**	**+1.0**
PRNI				Sn	**Sn**	**18 44 32.4**	**-3.0**
ZFRI	**Zfri**	**7.82**	**118**	Sn	**Sn**	**18 44 32.4**	**-3.3**
HRFI	**Mount Harif**	**8.01**	**122**	Pn	**Pn**	**18 43 12.5**	**+1.9**
HRFI				Sn	**Sn**	**18 44 37.4**	**-3.0**
MBRI	**Mt Berech**	**8.06**	**123**	Pn	**Pn**	**18 43 13.3**	**+1.9**
MBRI				Sn	**Sn**	**18 44 39.1**	**-2.8**
EIL	**Elat**	**8.16**	**124**	Pn	**Pn**	**18 43 14.5**	**+1.8**
EIL				Sn	**Sn**	**18 44 40.1**	**-4.2**
HHRG	**Al Ghardaqah**	**9.10**	**141**	P	**Pn**	**18 43 29.9**	**+4.3**
	baz=141						

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*IDC **04** 18:46:00.7±1.2, 1°23S×24°57W, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.8/42, mbtmp4.2/7, ML4.8/1, MS3.6/12, Ms1 3.6/12, ms1mx3.2/85, Error ellipse: s-maj=52.7km s-min=22.6km az=165.0*

*NEIC **04** 18:46:03.0±2.7, 1°0S±0°1×24°71W±0°09, h19km±4km, mb4.6/10, Error ellipse: s-maj=16.7km s-min=11.9km az=209.0*

*VAO **04** 18:46:53.5±1.2, 3°13S×28°04W, h10km, mb4.2*

ISC 04 18:46:03.2±0.6**, 1°1S**±0°1×**24°59W**±0°08**, h22**km**, n49, σ1°74**/32**, mb4.2**/8**, MS3.7**/11**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NBPV	**Pedro Velho**	**11.90**	**243**	*e*P	**Pn**	**18 48 49.0**	**-2.8**
H10N3	**ASCENSION HYDR**	**12.07**	**124**	T	T	19 01 07.2	
	baz=304,slow=74,SNR=514						
H10N2	**ASCENSION HYDR**	**12.07**	**124**	T	T	19 00 58.8	
	baz=304,slow=74,SNR=9.9						
H10N1	**ASCENSION HYDR**	**12.09**	**124**	T	T	19 01 09.5	
	baz=304,slow=74,SNR=791						
RCBR	**Riachuelo**	**12.22**	**247**	Pn	**Pn**	**18 48 54.6**	**-1.6**
	5.2nm,0.3s,baz=226,slow=14,SNR=28						
RCBR				Sn	Sn	18 50 59.2	-13
	1.4nm,0.3s,baz=138,slow=23,SNR=2.6						
RCBR				LR	LR	18 52 41.0	
	comp=Z,63nm,20.0s,baz=156,slow=33						
RCBR	**Riachuelo**	**12.22**	**247**		**Pn**	**18 48 54.3**	**-1.9**
RCBR					Sn	18 50 57.5	-14
RCBR	**Riachuelo**	**12.22**	**247**	*e*P	**Pn**	**18 48 55.4**	**-0.8**
ASCN	**Ascension**	**12.24**	**124**	Pn	**Pn**	**18 48 55.9**	**-0.5**
H10S3	**ASCENSION HYDR**	**12.58**	**129**	T	T	19 01 43.4	
	baz=307,slow=74,SNR=146						
H10S2	**ASCENSION HYDR**	**12.60**	**129**	T	T	19 01 50.5	
	baz=273,slow=74,SNR=52						
NBRF	**Rio Formoso -**	**12.91**	**234**	*e*P	**Pn**	**18 49 02.8**	**-2.7**
NBLV	**Livramento - P**	**13.77**	**243**	*e*P	**Pn**	**18 49 14.9**	**-2.4**
NBCL	**Cascavel-CE**	**14.03**	**257**	*e*P	**Pn**	**18 49 21.2**	**+0.4**
NBAN	**Anadia - AL**	**14.40**	**233**	*e*P	**Pn**	**18 49 23.1**	**-2.8**
NBMO	**Morrinhos-CE**	**15.59**	**262**	*e*P	**Pn**	**18 49 42.2**	**+0.3**
NBPB	**Pedra_Branca-C**	**15.60**	**253**	*e*P	**Pn**	**18 49 42.0**	**0.0**
SACV	**Santiago Islan**	**16.01**	**3**	Pn	**Pn**	**18 49 44.7**	**-2.6**
SACV				IAmb	IAmb	18 50 41.2	
	comp=Z,54nm,1.4s						
NBLA	**Lagarto - SE**	**16.38**	**233**	*e*P	**Pn**	**18 49 50.5**	**-1.4**
NBPS	**Pedro II - PI**	**17.15**	**259**	*e*P	**P**	**18 50 06.2**	**+2.9**
MBO	**M'Bour**	**17.16**	**26**	Pn	**Pn**	**18 50 00.5**	**-1.3**
MBO				IAmb	IAmb	18 50 06.7	
	comp=Z,36nm,0.9s						
NBPN	**Ponto Novo - B**	**18.27**	**237**	*e*P	**Pn**	**18 50 15.2**	**-0.4**
GDU01	**Guandu, BA**	**19.41**	**229**	*e*P	**Pn**	**18 50 33.1**	**+3.7**
NBIT	**Itapeh - BA**	**20.09**	**226**	*e*P	Pn	18 50 41.1	+3.8
CMC01	**Camacan, BA**	**20.43**	**225**	*e*P	Pn	18 50 45.6	+4.2
DBIC	**Dimbokro**	**21.16**	**68**	P	**P**	**18 50 47.5**	**+0.4**
	comp=Z,10nm,0.9s,baz=256,slow=11,SNR=6.8						
DBIC				LR	LR	18 56 16.2	
	comp=Z,100nm,21.0s,baz=238,slow=29						
DBIC	**Dimbokro**	**21.16**	**68**	P	**P**	**18 50 46.2**	**-1.0**
DBIC				IAmb	IAmb	18 50 49.0	
	comp=Z,43nm,1.5s						
SHEL	**Horse Pasture**	**23.72**	**129**	P	**P**	**18 51 14.8**	**+0.8**
KOWA	**Kowa**	**25.60**	**52**	P	**P**	**18 51 32.9**	**+1.7**
	comp=Z,8.6nm,0.6s,baz=235,slow=9.7,SNR=6.3						
KOWA				LR	LR	19 00 13.7	
	comp=Z,68nm,19.6s,baz=196,slow=33						
KOWA	**Kowa**	**25.60**	**52**	P	**P**	**18 51 32.4**	**+1.2**
KOWA				IAmb	IAmb	18 51 34.1	
	comp=Z,9.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.67**	**61**	P	**P**	**18 52 08.3**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=231,slow=7.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**29.67**	**61**	P	**P**	**18 52 08.2**	**+0.5**
MDT	**Midelt**	**38.66**	**27**	LR	LR	19 08 36.2	
	comp=Z,114nm,18.4s,baz=165,slow=35						
CPUP	**Villa Florida**	**40.25**	**229**	LR	LR	19 08 00.8	
	comp=Z,321nm,21.3s,baz=284,slow=33						
BIRV	**Birongo**	**43.03**	**287**	P	P	18 53 55.3	-6.4
BIRV				IAmb	IAmb	18 55 36.2	
	comp=Z,25nm,1.2s						
ESDC	**Sonseca Array**	**44.77**	**23**	LR	LR	19 10 48.4	
	comp=Z,40nm,19.5s,baz=186,slow=33						
TSUM	**Tsumeb**	**45.04**	**116**	LR	LR	19 08 50.5	
	comp=Z,64nm,18.4s,baz=147,slow=30						
CRPR	**Cabo Rojo, PR**	**45.95**	**297**	P	**P**	**18 54 23.0**	**-1.9**
KEST	**Kesra**	**48.42**	**37**	LR	LR	19 16 09.0	
	comp=Z,103nm,18.1s,baz=190,slow=37						
VAE	**Valguarnera**	**52.67**	**39**	LR	LR	19 18 46.6	
	comp=Z,95nm,18.8s,baz=154,slow=37						
BOSA	**Boshof**	**54.83**	**125**	P	**P**	**18 55 31.9**	**-0.3**
BOSA				IAmb	IAmb	18 56 23.9	
	comp=Z,28nm,1.6s						
VRAC	**Vranov**	**61.45**	**29**	LR	LR	19 21 42.1	
	comp=Z,55nm,18.1s,baz=308,slow=35						
MLR	**Muntele Rosu**	**64.32**	**37**	LR	LR	19 25 29.0	
	comp=Z,73nm,20.0s,baz=0.5,slow=37						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	68.87	33	LR	LR	19 27 20.5	
	comp=Z,42nm,18.1s,baz=360,slow=36						
TXAR	Lajitas Array	81.03	300	P	P	18 58 19.1	+2.0
	comp=Z,0.5nm,0.7s,baz=107,slow=6.4,SNR=6.2						
TXAR	Lajitas Array	81.03	300	P	P	18 58 16.5	-0.6
PDAR	Pinedale Array	87.05	313	P	P	18 58 49.4	+1.7
	comp=Z,0.2nm,0.5s,baz=126,slow=4.7,SNR=1.9						
YKA	Yellowknife Ar	90.99	332	P	P	18 59 06.5	+1.0
	comp=Z,0.6nm,0.8s,baz=96,slow=5.3,SNR=7.2						
YKA	Yellowknife Ar	90.99	332	P	P	18 59 06.0	+0.5
ASAR	Alice Springs	147.69	141	PKPbc	PKPbc	19 05 47.6	+0.5
	comp=Z,0.9nm,0.5s,baz=206,slow=2.3,SNR=13						

*NEIC **04** 18:49:28.6±2.0, 21.°8S±0.°2×177.°9W±0.°2, h558km±4km, mb4.2/7, Error ellipse: s-maj=26.4km s-min=25.7km az=49.0*

*IDC **04** 18:49:31.0±10.0, 22.°21S×178.°04W, h581km±72km, mb2.9/3, mb1 3.3/4, mb1mx2.7/45, mbtmp3.9/4, Error ellipse: s-maj=219.4km s-min=31.0km az=146.0*

ISC 04 18:49:28.2±0.8**, 22.°0S**±0.°1×**177.°9W**±0.°2**, h550**km**, n27,** σ1.**23**/24**, mb4.0**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.67	318	P	P	18 51 09.7	+5.6
	5.6nm,0.3s,baz=280,slow=22,SNR=31						
MSVF	Nonsavu	5.67	318	P	P	18 51 09.1	+5.0
RAO	Raoul Island	7.23	180		P	18 51 16.6	-1.7
MARNC	Mare, Loyalty	13.04	270		P	18 52 18.6	+1.1
PINNC	Pines Island,	13.54	265	P	P	18 52 25.1	+2.4
LIFNC	LIFOU	13.86	272	P	P	18 52 24.8	-1.2
OUENC	Ouen Island, N	14.10	265	P	P	18 52 28.1	-0.3
ONTNC	Ouen Toro	14.46	266	P	P	18 52 32.6	+0.4
DZM	Mont Dzumac	14.48	267	P	P	18 52 33.5	+1.0
KOUNC	Koumac, New Ca	16.63	272	P	P	18 52 54.0	+0.4
KOUNC				IAmb	IAmb	18 53 25.5	
	comp=Z,16nm,1.0s						
WR0	Warramunga Arr	44.27	264	P	P	18 56 49.1	-0.5
WR0				IAmb	IAmb	18 56 57.0	
	comp=Z,8.1nm,1.4s						
WB0	Warramunga Arr	44.45	264	P	P	18 56 49.8	-1.2
WB0				IAmb	IAmb	18 56 59.4	
	comp=Z,8.0nm,1.4s						
WB2	Warramunga Arr	44.45	264	P	P	18 56 50.1	-0.9
WB2				IAmb	IAmb	18 57 05.0	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	44.47	264	P	P	18 56 50.5	-0.6
	comp=Z,0.3nm,0.5s,baz=96,slow=7.7,SNR=13						
WRA	Warramunga Arr	44.47	264	P	P	18 56 49.8	-1.3
VNDA	Vanda	56.43	185	P	P	18 58 18.6	+1.3
VNDA				IAmb	IAmb	18 58 37.3	
	comp=Z,19nm,1.4s						
PEA0B	Petropavlovsk-	77.72	345	P	P	19 00 27.4	-0.8
PETK	Petropavlovsk-	77.72	345	P	P	19 00 26.8	-1.4
ILAR	Eielson Array	89.75	13	P	P	19 01 27.5	-0.1
	comp=Z,0.3nm,0.5s,baz=215,slow=5.6,SNR=6.3						
CMAR	Chiang Mai Arr	90.66	290	P	P	19 01 33.2	+0.3
	comp=Z,0.6nm,0.9s,baz=118,slow=3.4,SNR=5.6						
ARCES	ARCESS Array B	130.39	349	PKP	PKPdf	19 07 36.2	+0.6
	comp=Z,2.8nm,0.8s,baz=348,slow=5.3,SNR=3.7						
FINES	FINESS Array B	137.21	343	PKP	PKiKP	19 07 50.4	-0.2
	comp=Z,2.2nm,0.9s,baz=76,slow=5.9,SNR=1.7						
AKASG	Malin Array Be	144.33	330	PKP	PKPbc	19 08 00.1	-1.4
	comp=Z,1.1nm,0.4s,baz=43,slow=4.2,SNR=22						
BRTR	Keskin Array B	147.86	311	PKPbc	PKPbc	19 08 11.7	-0.4
	comp=Z,0.6nm,0.5s,baz=138,slow=4.4,SNR=4.2						
CLL	Collm	149.52	346	ePKPbc	PKiKP	19 08 16.0	-0.2
GERES	GERESS Array B	151.64	344	PKPbc	PKiKP	19 08 21.2	+0.4
	comp=Z,0.6nm,0.7s,baz=309,slow=2.8,SNR=4.8						
GERES	GERESS Array B	151.64	344		PKPdf	19 08 16.8	+3.0

*IDC **04** 18:54:26.6±0.7, 48.°89S×106.°49E, h0km, mb4.5/11, mb1 4.6/11, mb1mx4.3/43, mbtmp4.5/11, MS3.7/16, Ms1 3.7/16, ms1mx3.4/51, Error ellipse: s-maj=29.5km s-min=17.9km az=113.0*

*NEIC **04** 18:54:27.1±2.7, 49.°0S±0.°1×106.°3E±0.°2, h10km±1km, mb4.7/26, Error ellipse: s-maj=21.6km s-min=17.8km az=292.0*

ISC 04 18:54:27.5±0.5**, 48.°95S**±0.°09×**106.°4E**±0.°1**, h10**km**, n76,** σ1.**11**/68**, mb4.7**/30**, MS3.7**/16**, 2C-1D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.15	25	T	T	19 13 19.8	
	baz=199,slow=73,SNR=18						
H01W1	Cape Leeuwin H	15.16	25	T	T	19 13 20.6	
	baz=199,slow=73,SNR=27						
H01W3	Cape Leeuwin H	15.17	25	T	T	19 13 20.9	
	baz=199,slow=73,SNR=21						
MAW	Mawson	28.65	213	LR	LR	19 09 03.7	
	comp=Z,360nm,18.8s,baz=70,slow=30						
STKA	Stephens Creek	31.38	70	P	P	19 00 48.1	-0.3
	2.5nm,0.9s,baz=284,slow=13,SNR=3.1						
STKA				LR	LR	19 12 14.8	
	comp=Z,56nm,18.8s,baz=206,slow=34						
STKA	Stephens Creek	31.38	70	P	P	19 00 47.3	-1.1
ASAR	Alice Springs	33.23	50	P	P	19 01 04.0	-0.7
	3.9nm,0.8s,baz=210,slow=8.4,SNR=26						
ASAR				PcP	PcP	19 03 46.4	-0.7
	1.0nm,0.8s,baz=211,slow=1.3,SNR=6.4						
ASAR				LR	LR	19 14 02.2	
	comp=Z,96nm,18.6s,baz=290,slow=35						
ASAR	Alice Springs	33.23	50	P	P	19 01 03.8	-0.9
AS31	Alice Springs	33.23	50	P	P	19 01 04.0	-0.7
CAN	Canberra	33.91	82	P	P	19 01 09.8	-0.8
FITZ	Fitzroy Crossi	34.48	34	P	P	19 01 16.4	+0.9
	5.8nm,1.1s,baz=185,slow=8.2,SNR=4.3						
FITZ				LR	LR	19 14 01.3	
	comp=Z,148nm,18.9s,baz=204,slow=34						
VNDA	Vanda	35.38	162	P	P	19 01 23.8	+1.2
	8.1nm,1.0s,baz=283,slow=8.4,SNR=6.5						
VNDA				LR	LR	19 15 03.9	
	comp=Z,269nm,18.3s,baz=307,slow=35						
VNDA	Vanda	35.38	162	P	P	19 01 20.8	-1.9
CRZF	Crozet Islands	36.16	253	P	P	19 01 27.6	-2.1
WRA	Warramunga Arr	36.58	48	P	P	19 01 33.1	-0.5
	8.2nm,1.0s,baz=210,slow=8.4,SNR=29						
WRA				LR	LR	19 14 48.0	
	comp=Z,157nm,19.7s,baz=151,slow=33						
WRA	Warramunga Arr	36.58	48	P	P	19 01 33.2	-0.4
WB2	Warramunga Arr	36.58	48	P	P	19 01 32.4	-1.2
WB2				IAmb	IAmb	19 01 34.2	
	comp=Z,13nm,1.1s						
WRAB	Tennant Creek	36.59	48	P	P	19 01 32.5	-1.2
WRAB				IAmb	IAmb	19 01 34.3	
	comp=Z,12nm,1.0s						
WR0	Warramunga Arr	36.66	48	P	P	19 01 33.2	-1.1
WR0				IAmb	IAmb	19 01 35.4	
	comp=Z,14nm,1.2s						
WB0	Warramunga Arr	36.75	48	P	P	19 01 34.6	-0.5
WB0				IAmb	IAmb	19 01 35.5	
	comp=Z,12nm,1.1s						
BATI	Baumata	41.22	26	P	P	19 02 14.1	+1.6
	comp=Z,13nm,0.8s,baz=1.8,slow=3.5,SNR=6.6						
BATI				LR	LR	19 19 31.2	
	comp=Z,133nm,19.1s,baz=205,slow=37						
SMRI	Semarang	41.90	6	P	P	19 02 16.8	-1.1
LEM	Lembang	41.99	2	LR	LR	19 17 31.3	
	comp=Z,118nm,18.2s,baz=179,slow=33						
MMRI	Maumere	42.32	24	P	P	19 02 19.5	-2.0
MMRI				IAmb	IAmb	19 02 30.8	
	comp=Z,26nm,1.2s						
CTA	Charters Tower	42.89	62	P	P	19 02 26.3	+0.2
	comp=Z,16nm,1.0s,baz=200,slow=11,SNR=5.2						
CTA				LR	LR	19 19 12.7	
	comp=Z,89nm,19.0s,baz=240,slow=35						
RPZ	Rata Peaks	43.72	109	LR	LR	19 16 03.8	
	comp=Z,78nm,20.5s,baz=178,slow=30						
KAPI	Kappang	45.22	19	LR	LR	19 19 32.4	
	comp=Z,59nm,21.8s,baz=192,slow=33						
KHZ	Kahutara	45.95	108	P	P	19 02 51.2	+0.9
BSWZ	Blackbirch Sta	46.54	108	P	P	19 02 54.8	-0.2
BKZ	Black Stump Fm	49.62	106	P	P	19 03 17.7	-1.3
BKZ				IAmb	IAmb	19 03 19.4	
	comp=Z,10.0nm,1.1s						
SNAA	Sanae	49.87	203	P	P	19 03 21.9	+1.5
SNAA	Sanae	49.87	203	P	P	19 03 22.2	+1.8
	comp=Z,4.8nm,0.8s,baz=166,slow=14,SNR=6.2						
SNAA	Sanae	49.87	203	P	P	19 03 19.1	-1.3
SNAA				IAmb	IAmb	19 03 29.8	
	comp=Z,19nm,1.2s						
BELA	Belgrano 2	51.20	190	P	P	19 03 30.5	+0.2
BELA				IAmb	IAmb	19 03 31.9	
	comp=Z,12nm,1.0s						
VNA2	Neumayer--Watz	51.49	203	P	P	19 03 34.1	+1.5
	baz=105,slow=6.0						
RPSI	Rantau Prapat	51.85	350	P	P	19 03 37.3	+1.5
VNA3	Neumayer Olymp	51.85	202	P	P	19 03 36.3	+1.0
VNA1	Neumayer--Stat	51.89	203	P	P	19 03 37.1	+1.6
PSI	Prapat	51.96	350	LR	LR	19 23 58.6	
	comp=Z,73nm,18.5s,baz=202,slow=34						
PMG	Port Moresby	52.04	55	P	P	19 03 38.2	+0.9
	comp=Z,6.3nm,0.8s,baz=233,slow=9.9,SNR=4.6						
PMG				LR	LR	19 24 21.8	
	comp=Z,46nm,19.6s,baz=216,slow=34						
PMG	Port Moresby	52.04	55	P	P	19 03 36.9	-0.4
PMG				IAmb	IAmb	19 03 39.6	
	comp=Z,13nm,1.1s						
OUENC	Ouen Island, N	54.10	83	P	P	19 03 52.3	-0.1
DAV	Davao City (W)	58.25	22	LR	LR	19 31 04.5	
	comp=Z,28nm,18.6s,baz=157,slow=38						
PALK	Pallekele	60.36	330	LR	LR	19 25 15.9	
	comp=Z,62nm,19.1s,baz=275,slow=31						
CM31	Chiang Mai Arr	67.44	352	P	P	19 05 22.9	-0.3
CM31				IAmb	IAmb	19 05 24.8	
	comp=Z,13nm,1.2s						
CMAR	Chiang Mai Arr	67.44	352	P	P	19 05 23.8	+0.6
	comp=Z,3.3nm,0.9s,baz=191,slow=5.8,SNR=32						
CMAR				LR	LR	19 30 16.2	
	comp=Z,18nm,21.4s,baz=150,slow=32						
CMAR	Chiang Mai Arr	67.44	352	P	P	19 05 23.1	0.0
CHTO	Chiang Mai	67.79	352	P	P	19 05 25.6	+0.3
KMI	Kunming	73.81	357	⇑P	P	19 06 04.4	+2.3
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
GYA	Guiyang	75.07	0	⇑iP	P	19 06 10.8	+1.5
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
PZH	PanZhiHua	75.23	356	P	P	19 06 10.2	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
ENH	Enshi	78.91	3	P	P	19 06 30.0	-0.7
ENH				IAmb	IAmb	19 06 32.7	
	comp=Z,15nm,1.3s						
LSA	Lhasa	79.48	347	P	P	19 06 32.8	-1.6
LSA				IAmb	IAmb	19 06 35.9	
	comp=Z,6.5nm,1.0s						
CD2	Chengdu	79.54	358	P	P	19 06 35.4	+1.2
CD2				pP	sP	19 06 38.9	+1.8
CD2				sP	pwP	19 06 39.7	-1.2
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2	Nanjing	81.40	11	eP	P	19 06 45.8	+1.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	Xi'an	82.65	2	P	P	19 06 50.4	-0.3
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,84nm,6.0s						
NIL	Nilore	87.40	333	P	P	19 07 13.7	-0.8
GTA	Gaotai	88.18	355	⇓P	P	19 07 18.5	+0.3
GTA				pP	pwP	19 07 24.5	-0.5
GTA				sP	sP	19 07 28.1	+6.9
GTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HHC	Hu-ho-hao-te	89.53	4	eP	P	19 07 28.0	+3.5
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,58nm,6.1s						
KSH	Kashi	92.12	337	P	P	19 07 36.4	-0.3
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	Urumqi	93.84	347	eP	P	19 07 46.1	+1.7
SONM	Songino Array	96.41	360	P	P	19 07 55.8	-0.3
	comp=Z,1.0nm,0.8s,baz=195,slow=5.1,SNR=6.4						
SONM	Songino Array	96.41	360	IAmb	IAmb	19 07 56.6	
	comp=Z,1.8nm,1.0s						
GERES	GERESS Array B	125.83	306	PKP	PKPdf	19 13 28.5	-0.2
	comp=Z,0.5nm,0.8s,baz=225,slow=4.9,SNR=4.1						
ILAR	Eielson Array	139.50	39	PKP	PKiKP	19 13 56.1	0.0
	comp=Z,0.7nm,0.9s,baz=246,slow=2.7,SNR=5.1						
INK	Inuvik	145.16	34	PKPbc	PKPbc	19 14 03.4	+0.1
	comp=Z,14nm,1.2s,baz=253,slow=3.1,SNR=15						
NVAR	Mina Array Bea	146.43	91	PKPbc	PKPbc	19 14 09.2	+0.7
	comp=Z,4.1nm,1.1s,baz=225,slow=4.5,SNR=14						
NVAR	Mina Array Bea	146.43	91		PKPab	19 14 09.4	0.0
ELK	Elko	149.65	90	PKPbc	PKPbc	19 14 17.9	+0.9
	comp=Z,6.6nm,1.3s,baz=172,slow=9.5,SNR=3.9						
ELK	Elko	149.65	90		PKiKP	19 14 18.3	+0.2
TXAR	Lajitas Array	149.82	119	PKPbc	PKPbc	19 14 18.2	+0.6
	comp=Z,5.6nm,1.1s,baz=204,slow=2.7,SNR=14						
ANMO	Albuquerque	152.06	108	PKPbc	PKPbc	19 14 23.3	+0.4
	comp=Z,1.2nm,0.8s,baz=329,slow=2.1,SNR=3.7						
RES	Resolute Bay	152.63	12	PKPbc	PKPbc	19 14 22.5	-0.2
	comp=Z,3.2nm,1.0s,baz=331,slow=4.0,SNR=8.3						
RES				PKPab	PKPab	19 14 33.6	+0.2
	comp=Z,0.8nm,0.8s,baz=317,slow=3.6,SNR=4.3						
RES	Resolute Bay	152.63	12		PKPbc	19 14 23.0	+0.4
YKA	Yellowknife Ar	153.74	44	PKPbc	PKPbc	19 14 25.2	-0.2
	comp=Z,1.6nm,1.0s,baz=292,slow=3.1,SNR=7.9						
YKA				PKPab	PKPab	19 14 38.8	+0.4
	comp=Z,3.0nm,0.9s,baz=278,slow=4.3,SNR=16						
YKA	Yellowknife Ar	153.74	44	PKPdf	PKPdf	19 14 16.4	-1.2

*IDC **04** 18:58:28.1±0.7, 20.°62S×70.°90W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.4/47, mbtmp4.6/15, ML4.4/2, MS3.9/29, Ms1 3.9/29, ms1mx3.7/62, Error ellipse: s-maj=18.5km s-min=16.8km az=39.0*

*VAO **04** 18:58:30.7±0.4, 20.°48S×70.°90W, h10km, mb4.8*

*NEIC **04** 18:58:31.6±2.9, 20.°67S±0.°04×71.°03W±0.°06, h25km±3km, mb4.8/36, Mwr4.5/38, ML4.5(GUC), Error ellipse: s-maj=7.9km s-min=5.2km az=104.0*

*NEIC **04** 18:58:31.7, 20.°68S×71.°05W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-0.55; Mθθ1.38; Mφφ-0.83; Mrθ0.30; Mθφ-4.54; Mφr-5.85; Fault plane solution: M0 7.51000×10^15 NP1:φs85.89000°, δ38.75000°, λ-175.44000°. NP2:φs352.33000°, δ87.15000°, λ-51.33000°. Principal axes: T 7.3380, Plg31.0000°, Azm51.0000°; N 0.3395, Plg39.0000°, Azm170.0000°; P -7.6774, Plg36.0000°, Azm295.0000°;*

*GUC **04** 18:58:33.6±0.8, 20.°66S×71.°02W, h20km, ML4.5*

ISC 04 18:58:29.6±1.6**, 20.°68S**±0.°03×**71.°10W**±0.°04**, h15**km±9km**, n218,** σ1.**38**/212**, mb4.8**/23**, MS4.0**/25**, 3C-4D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PATCX	Punta Patache	0.89	99		Pn	18 58 47.7	0.0
PATCX				Sn	Sn	18 58 59.4	-1.0
PATCX	Punta Patache	0.89	99	⇓iP	Pn	18 58 48.3	+0.6
PATCX				eS	Sb	18 58 59.3	+0.6
PATCX				IAML		18 59 00.9	
	comp=N,30µm,0.3s						
TA02	Huaiquique	0.99	66		Pn	18 58 49.1	+0.2
TA02				Sn	Sb	18 59 00.8	-0.5
TA02	Huaiquique	0.99	66	eP	Pn	18 58 49.1	+0.2
TA02				eS	Sb	18 59 00.6	-0.7
HMBC	Humberstone	1.20	71	⇑iP	Pg	18 58 52.3	-0.5
HMBC				eS	Sb	18 59 06.1	-1.4
HMBC				IAML		18 59 08.0	
	comp=E,34µm,0.5s						
PB02	IPOC Station P	1.29	120		Pb	18 58 53.9	+0.2
PB02					Sn	18 59 10.3	0.0
PB02	IPOC Station P	1.29	120	⇓iP	Pg	18 58 54.6	+0.1
PB02				eS	Sn	18 59 10.2	0.0
PB02				IAML		18 59 11.4	
	comp=E,28µm,0.4s						
PB07	IPOC Station P	1.54	133		Pn	18 58 57.2	+0.6
PB07				Sn	Sn	18 59 15.5	-1.0
PB07	IPOC Station P	1.54	133	⇓iP	Pb	18 58 58.0	+0.1
PB07				eS	Sn	18 59 16.1	-0.3
PB07				IAML		18 59 18.1	
	comp=N,7µm,0.2s						
PB01	IPOC Station P	1.55	104		Pb	18 58 57.8	-0.2
PB01				Sn	Sn	18 59 15.4	-1.1
PB01	IPOC Station P	1.55	104	eP	Pb	18 58 57.8	-0.2
PB01				eS	Sn	18 59 15.5	-1.1
PB01				IAML		18 59 18.7	
	comp=E,10µm,0.2s						
PB11	IPOC Station P	1.63	56		Pn	18 58 58.1	+0.2
PB11				Sn	Sn	18 59 16.5	-2.3
PB11	IPOC Station P	1.63	56	⇑iP	Pn	18 58 58.2	+0.3
PB11				eS	Sn	18 59 16.5	-2.3
PB11				IAML		18 59 17.9	
	comp=N,23µm,0.3s						
PB04	IPOC Station P	1.87	152		Pn	18 59 02.3	+1.1
PB04				Sn	Sn	18 59 21.9	-2.7
PB04	IPOC Station P	1.87	152	iP	Pb	18 59 02.6	-0.9
PB04				IAML		18 59 26.6	
	comp=E,6µm,0.3s						
PB08	IPOC Station P	1.90	74		Pn	18 59 02.5	+0.7
PB08				Sn	Sn	18 59 24.5	-1.2
PB08	IPOC Station P	1.90	74	⇑iP	Pn	18 59 02.6	+0.8
PB08				eS	Sn	18 59 24.0	-1.7
PB08				IAML		18 59 29.1	
	comp=N,5µm,0.2s						
GO01	Chusmiza	2.05	61		Pn	18 59 04.5	+0.5
GO01				Sn	Sn	18 59 28.6	-0.9
GO01	Chusmiza	2.05	61	eP	Pn	18 59 04.5	+0.5
GO01				IAML		18 59 31.4	
	comp=N,13µm,0.1s						
PB09	IPOC Station P	2.06	123		Pb	18 59 06.2	-0.6
PB09				Sn	Sn	18 59 30.2	+0.9
PB09	IPOC Station P	2.06	123	⇓iP	Pb	18 59 06.3	-0.4
PB06	IPOC Station P	2.46	145		Pn	18 59 10.2	+0.8
PB06				Sn	Sn	18 59 37.2	-2.1
PB06	IPOC Station P	2.46	145	iP	Pn	18 59 10.7	+1.3
PB06				IAML		18 59 44.2	
	comp=E,2µm,0.2s						
LVC	Limon Verde	2.80	134	Pn	Pb	18 59 17.0	-2.5
	comp=E,66nm,0.3s,baz=319,slow=7.8,SNR=465						
LVC				Sn	Sn	18 59 50.3	+2.5
	comp=E,342nm,0.3s,baz=138,slow=11,SNR=23						
LVC				LR	LR	19 00 28.7	
	comp=E,2µm,19.4s,baz=270,slow=44						
LVC	Limon Verde	2.80	134		Pn	18 59 16.9	+2.7
LVC	Limon Verde	2.80	134	eP	Pn	18 59 16.8	+2.7
PB15	IPOC Station P	2.93	149		Pn	18 59 17.2	+1.3
PB14	IPOC Station P	3.98	171	Pn	Pn	18 59 31.0	+0.6
PB14				Sn	Sn	19 00 14.0	-2.9
LPAZ	La Paz	5.20	33	Pn	Pn	18 59 50.9	+3.5
	comp=E,14nm,0.3s,baz=211,slow=7.7,SNR=74						
LPAZ				LR	LR	19 02 06.0	
	comp=E,1µm,19.1s,baz=224,slow=43						
LPAZ	La Paz	5.20	33	Pn	Pn	18 59 50.1	+2.7
AC01	Pan de Azucar	5.46	175	Pn	Pn	18 59 50.3	-0.2
AC02	Maricunga	6.39	164	Pn	Pn	19 00 03.4	-0.3
AC06	Mina Casimiro	6.68	174	Pn	Pn	19 00 07.2	-0.1
GO03	Copiap	6.93	174		Pn	19 00 10.6	-0.1
AC04	Llanos de Chal	7.49	180	Pn	Pn	19 00 16.8	-1.5
LCO	Las Campanas	8.30	178	Pn	Pn	19 00 30.9	+1.1
CO05	La Serena	9.20	181	Pn	Pn	19 00 40.9	-0.9
GO04	Tololo Observa	9.46	178	Pn	Pn	19 00 44.3	-1.2
GO04					Sn	19 02 28.9	-2.8
CO06	Fray Jorge	9.96	183	Pn	Pn	19 00 50.0	-2.2
CO03	El Pedregal	10.12	178	Pn	Pn	19 00 53.3	-1.2
NNA	Nana	10.25	327	Pn	Pn	19 00 57.1	+0.8
	comp=E,3.0nm,0.3s,baz=150,slow=15,SNR=11						
NNA				Sn	Sn	19 02 44.7	-6.4
	comp=E,6.1nm,0.3s,baz=237,slow=14,SNR=4.3						
NNA				LR	LR	19 04 50.0	
	comp=E,328nm,21.8s,baz=149,slow=37						
NNA	Nana	10.25	327	Pn	Pn	19 00 56.2	-0.1
CO02	Combarbal	10.48	180	Pn	Pn	19 00 58.4	-1.1
SIV	San Ignacio	10.60	66	Pn	Pn	19 00 59.2	-1.8
	comp=E,3.9nm,0.3s,baz=254,slow=10,SNR=38						
SIV				LR	LR	19 05 51.9	
	comp=E,736nm,20.0s,baz=270,slow=43						
ZON	Zonda	11.04	169	Pn	Pn	19 01 05.2	-1.8
ETMB	Extrema	11.78	24	eP	Pn	19 01 16.4	-0.8
VA06	Catapilco	11.84	181	Pn	Pn	19 01 15.8	-2.0
ROC1	El Roble	12.25	180	Pn	Pn	19 01 21.5	-2.2
VA01	Torpederas	12.30	182	Pn	Pn	19 01 22.8	-1.4
PTLB	Pontes e Lacer	12.50	67	eP	Pn	19 01 25.6	-1.5
MT02	Curacav	12.53	180	Pn	Pn	19 01 24.5	-2.9
MT03	Universidad Ad	12.78	178	Pn	Pn	19 01 28.3	-2.5
VILB	Vilhena	12.95	55	eP	Pn	19 01 31.7	-1.5
CZSB	Cruzeiro do Su	12.97	353	eP	Pn	19 01 33.5	+0.1
MT09	Talagante	13.05	180	Pn	Pn	19 01 32.2	-2.4
MT01	Popeta	13.13	181	Pn	Pn	19 01 32.8	-2.9
BO02	Sierra Bellavi	14.06	179	Pn	Pn	19 01 46.7	-1.7
AQDB	Aquidauana	14.42	92		Pn	19 01 54.4	+1.1
AQDB	Aquidauana	14.42	92	eP	Pn	19 01 52.4	-0.9
H03N1	Juan Fernandez	14.48	207	Pn	Pn	19 01 54.3	+0.5
	baz=109,slow=14,SNR=32						
H03N1				T	T	19 17 05.2	
	baz=228,slow=74,SNR=36						
H03N2	Juan Fernandez	14.49	207	Pn	Pn	19 01 54.4	+0.5
	baz=109,slow=14,SNR=37						
H03N2				T	T	19 17 24.5	
	baz=34,slow=74,SNR=46						
H03N3	Juan Fernandez	14.50	207	Pn	Pn	19 01 54.3	+0.2
	baz=109,slow=14,SNR=48						
H03N3				T	T	19 17 39.3	
	SNR=56						
H03S3	Juan Fernandez	14.81	206	Pn	Pn	19 01 58.2	-0.1
	SNR=48						
H03S1	Juan Fernandez	14.83	206	Pn	Pn	19 01 57.9	-0.6
	SNR=21						
H03S2	Juan Fernandez	14.83	206	Pn	Pn	19 01 58.4	-0.1
	SNR=27						
ML02	Panimavida	15.03	181	Pn	Pn	19 02 03.1	+1.7
ML02				IAmb	IAmb	19 02 24.1	
	comp=Z,96nm,1.2s						
SALV	Santo Antonio	15.38	75	eP	Pn	19 02 05.8	-0.4
PP1B	Ponte de Pedra	15.63	81	eP	Pn	19 02 08.8	-0.7
PDRB	Porto dos Gac	16.47	59	eP	Pn	19 02 17.8	-2.5
CLDB	Colider	17.64	59	eP	Pn	19 02 34.6	-0.4
PTGB	Pitanga	18.01	106	eP	P	19 02 42.6	+2.5
LC01	Cunco	18.17	182		Pn	19 02 40.8	-0.6
ITAB	Concordia	18.51	114	eP	Pn	19 02 47.5	+1.9
PCMB	Pacaembu	18.53	96	eP	P	19 02 45.2	-0.4
CPSB	Cacapava Do Su	18.62	125	eP	Pn	19 02 48.5	+1.5
ARAG	Araguaiana, MT	18.97	78	eP	P	19 02 50.2	-0.3
ITRB	Iturama	19.49	91	eP	Pn	19 02 57.0	-0.5
PLCA	Paso Flores	20.00	179	P	Pn	19 03 04.5	+1.1
	comp=Z,6.5nm,1.0s,baz=359,slow=12,SNR=9.3						
PLCA	Paso Flores	20.00	179		Pn	19 03 02.9	-0.5
PLCA				IAmb	IAmb	19 03 18.2	
	comp=Z,39nm,1.3s						
PLCA	Paso Flores	20.00	179	eP	Pn	19 03 05.4	+2.0
FRTB	Fartura	20.14	102	eP	Pn	19 03 04.4	-0.8
MACA	Manacapuru-AM	20.15	32	eP	P	19 03 03.8	+0.3
NPGB	Novo Progresso	20.40	51	eP	P	19 03 04.2	-1.9
TIJ01	Guaruva-PR	20.85	107	eP	P	19 03 11.2	+0.2
SNDB	Serra Nova Dou	20.86	69	eP	P	19 03 09.5	-1.7
IPMB	Ipameri, GO	21.76	87	eP	P	19 03 19.4	-1.4
RCLB	Rio Claro- Sao	21.98	99	eP	P	19 03 22.6	-0.7
OTAV	Otavalo	22.00	340	P	P	19 03 24.5	+0.7
OTAV	Otavalo	22.00	340	eP	P	19 03 24.5	+0.7
ITTB	Itaituba	22.05	45	eP	P	19 03 22.0	-2.0
PET01	Itanhaem-SP	22.29	104	eP	P	19 03 26.4	-0.1
BDFB	Brasilia	22.49	81	P	P	19 03 27.9	-0.9
	comp=Z,18nm,0.8s,baz=263,slow=9.3,SNR=16						
BDFB				LR	LR	19 13 59.0	
	comp=Z,715nm,18.3s,baz=275,slow=42						
BDFB	Brasilia	22.49	81	P	P	19 03 27.8	-1.0
BDFB				IAmb	IAmb	19 03 30.4	
	comp=Z,18nm,0.8s						
VAO	Valinhos	22.51	100	eP	P	19 03 27.9	-1.1
PTGA	Pitinga	22.61	30	P	P	19 03 28.9	-1.1
	comp=Z,50nm,0.3s,baz=215,slow=13,SNR=170						
PTGA				LR	LR	19 12 48.2	
	comp=Z,296nm,18.2s,baz=220,slow=38						
GARC	Garzon, Huila	23.13	349	eP	P	19 03 38.8	+3.2
SOTA	Rioblanco	23.31	346	eP	P	19 03 40.0	+2.3
BBAC	Balboa, Cauca	23.35	344	eP	P	19 03 39.5	+1.7
PCON	Cinco Dias	23.45	347	eP	P	19 03 42.6	+3.4
PEXB	Peixe	23.45	72	eP	P	19 03 37.7	-0.9
POPC	Popayan, Colom	23.72	346	eP	P	19 03 42.6	+1.2
PARB	Paraibuna	23.76	101	eP	P	19 03 40.9	-0.8
BSCB	Bom Sucesso	24.60	95	eP	P	19 03 49.1	-0.3
ORTC	Ortega, Tolima	24.77	350	eP	P	19 03 53.2	+2.2
MALB	Monte Alegre	24.90	43	eP	P	19 03 51.6	-0.5
YOTC	Yotoco, Valle	25.05	348	eP	P	19 03 54.6	+1.1
BOAV	Boa Vista	25.17	26	eP	P	19 03 55.1	+0.6
PRPB	Parauapebas	25.18	58	eP	P	19 03 53.9	-0.8
MAN01	Angra dos Reis	25.28	100	eP	P	19 03 55.5	-0.1
ANIL	Santa Ana	25.37	350	eP	P	19 03 58.3	+1.7
SMTB	Santa Maria do	25.54	66	eP	P	19 03 57.9	-0.1
VAS01	Vassouras-RJ	25.77	99	eP	P	19 04 01.3	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DIAM	Diamantina, MG	25.95	89	eP	P	19 04 01.8	0.0
JANB	Januaria	26.08	82	eP	P	19 04 02.3	-0.6
GUY2C	Guyana, Caldas	26.08	350	eP	P	19 04 04.5	+1.2
NORC	Norcasia	26.34	352	eP	P	19 04 04.3	-0.9
SDBA	SAO DESIDERIO	26.39	76	eP	P	19 04 05.3	-0.4
RUSC	La Rusia	26.48	356	eP	P	19 04 08.4	+1.5
DUB01	Friburgo-RJ	26.77	98	eP	P	19 04 10.1	+1.0
CBOC	Ciudad Bolivar	26.82	349	eP	P	19 04 11.5	+1.9
MCPB	Macapa, AP	27.46	45	eP	P	19 04 15.5	+0.2
GO08	Villa O'Higgin	27.75	182	P	P	19 04 17.6	+0.1
GO08				IAmb	IAmb	19 04 35.1	
	comp=Z,33nm,1.5s						
SJMB	Sao Joao De Ma	28.21	91	eP	P	19 04 23.1	+1.1
ZARC	Zaragoza, Cauc	28.24	352	P	P	19 04 21.5	-0.7
SDV	Santo Domingo	29.38	1	P	P	19 04 32.3	-0.2
	comp=Z,5.3nm,0.7s,baz=192,slow=6.8,SNR=7.1						
SDV				LR	LR	19 18 06.0	
	comp=Z,148nm,18.8s,baz=224,slow=40						
SDV	Santo Domingo	29.38	1	P	P	19 04 31.4	-1.2
SDV	Santo Domingo	29.38	1	eP	P	19 04 32.8	+0.2
GUA01	Guaratinga, BA	29.90	87	eP	P	19 04 37.3	+0.3
CMC01	Camacan, BA	30.46	85	eP	P	19 04 41.7	-0.2
NBIT	Itapeh - BA	30.65	84	eP	P	19 04 44.2	+0.5
SJCC	San Jacinto, C	30.65	352	P	P	19 04 43.7	+0.1
GDU01	Guandu, BA	30.86	82	eP	P	19 04 45.1	-0.4
NBPN	Ponto Novo - B	31.25	77	eP	P	19 04 48.2	-0.7
BIRV	Birongo	31.32	9	P	P	19 04 49.3	-0.2
BIRV				IAmb	IAmb	19 05 10.3	
	comp=Z,23nm,1.2s						
MDP	Montagnes des	31.38	37	P	P	19 04 50.0	0.0
	comp=Z,27nm,0.8s,baz=207,slow=7.2,SNR=7.7						
MDP				LR	LR	19 18 19.4	
	comp=Z,211nm,19.6s,baz=215,slow=38						
ROSB	Rosrio	31.67	60	eP	P	19 04 51.4	-1.3
NBPS	Pedro II - PI	33.06	65	eP	P	19 05 04.5	-0.5
NBLA	Lagarto - SE	33.40	78	eP	P	19 05 06.7	-1.1
NBMA	Muriti-CE	33.96	72	eP	P	19 05 12.3	-0.5
NBPB	Pedra_Branca-C	34.08	68	eP	P	19 05 13.5	-0.2
NBMO	Morrinhos-CE	34.82	64	eP	P	19 05 18.4	-1.8
NBAN	Anadia - AL	35.27	77	eP	P	19 05 23.1	-0.9
RPN	Rapa Nui	35.44	252	LR	LR	19 16 25.3	
	comp=Z,288nm,18.1s,baz=96,slow=30						
NBLV	Livramento - P	35.61	73	eP	P	19 05 25.7	-1.3
NBCL	Cascavel-CE	35.85	67	eP	P	19 05 29.3	+0.3
NBRF	Rio Formoso -	36.69	76	eP	P	19 05 35.9	-0.3
RCBR	Riachuelo	37.19	72	LR	LR	19 22 21.4	
	comp=Z,326nm,18.5s,baz=354,slow=39						
RCBR	Riachuelo	37.19	72	P	P	19 05 40.8	+0.4
RCBR				IAmb	IAmb	19 05 41.1	
	comp=Z,18nm,0.9s						
RCBR	Riachuelo	37.19	72	eP	P	19 05 40.9	+0.4
NBPV	Pedro Velho	37.47	73	eP	P	19 05 42.8	-0.1
CELP	Cerrillos	38.77	7	P	P	19 05 52.5	-1.1
CELP				IAmb	IAmb	19 06 02.3	
	comp=Z,12nm,0.8s						
PDPR	Patillas Dam,	38.78	8	P	P	19 05 52.4	-1.3
PDPR				IAmb	IAmb	19 05 53.0	
	comp=Z,15nm,0.8s						
CBYP	Canovanas	39.05	8	P	P	19 05 54.4	-1.7
CBYP				IAmb	IAmb	19 06 02.3	
	comp=Z,35nm,1.2s						
MTO3	Montecristo	39.21	331	P	P	19 05 59.0	+1.3
APG	El Apazote	40.24	330	P	P	19 06 08.2	+1.9
	comp=Z,2.0nm,0.4s,baz=113,slow=2.8,SNR=4.5						
CMIG	Matias Romero	44.20	326	P	P	19 06 39.9	+1.6
	comp=Z,7.7nm,1.2s,baz=154,slow=10,SNR=3.8						
CMIG				LR	LR	19 22 07.6	
	comp=Z,70nm,21.5s,baz=179,slow=32						
TKL	Tuckaleechee C	57.30	348	LR	LR	19 34 21.6	
	comp=Z,52nm,18.5s,baz=168,slow=38						
WLAR	White Oak Lake	58.00	338	P	P	19 08 22.9	+1.2
SLBS	Sierra La Lagu	58.11	317	P	P	19 08 25.3	+2.5
TXAR	Lajitas Array	58.81	327	P	P	19 08 28.4	+0.8
	comp=Z,0.9nm,0.6s,baz=155,slow=9.4,SNR=11						
TXAR	Lajitas Array	58.81	327	P	P	19 08 28.1	+0.5
TX31	Lajitas Ar. Si	58.81	327	P	P	19 08 27.4	-0.2
TX32	Lajitas Array	58.81	327	P	P	19 08 27.8	+0.2
TX32				IAmb	IAmb	19 08 51.7	
	comp=Z,11nm,1.7s						
Q56A	Snyder Ridge,	59.89	353	P	P	19 08 35.5	+0.7
VNA3	Neumayer Olymp	61.51	161	P	P	19 08 55.9	+10
TRNY	Table Rock, Ra	61.58	357	P	P	19 08 46.4	+0.2
MNTX	Cornudas Mount	61.58	327	P	P	19 08 46.1	-0.3
S39A	Bolivar	61.71	340	P	P	19 08 47.2	0.0
S39A				IAmb	IAmb	19 09 07.1	
	comp=Z,20nm,1.6s						
VNA2	Neumayer--Watz	62.10	161	P	P	19 08 51.6	+2.2
	baz=302,slow=3.0						
121A	Cookes Peak, D	63.49	326	P	P	19 08 59.7	+0.3
121A				IAmb	IAmb	19 09 02.2	
	comp=Z,8.9nm,1.4s						
L48A	N Adams	63.52	349	P	P	19 08 59.6	+0.5
SNAA	Sanae	63.72	161	P	P	19 09 02.6	+2.3
SNAA	Sanae	63.72	161	P	P	19 09 01.5	+1.2
LENM	Lemitar	64.35	327	P	P	19 09 05.7	+0.6
ANMO	Albuquerque	64.72	328	P	P	19 09 08.9	+1.5
	comp=Z,1.6nm,0.7s,baz=164,slow=7.4,SNR=3.6						
ANMO				LR	LR	19 35 08.5	
	comp=Z,41nm,21.9s,baz=190,slow=34						
SADO	Sadowa	65.54	354	LR	LR	19 40 47.7	
	comp=Z,53nm,18.6s,baz=206,slow=39						
DBIC	Dimbokro	70.47	75	P	P	19 09 43.5	-0.5
	comp=Z,9.0nm,0.7s,baz=251,slow=5.9,SNR=10						
DBIC				LR	LR	19 39 08.3	
	comp=Z,133nm,20.5s,baz=258,slow=35						
DBIC	Dimbokro	70.47	75	P	P	19 09 42.7	-1.3
DBIC				IAmb	IAmb	19 09 44.6	
	comp=Z,11nm,0.9s						
TPNV	Topopah Spring	71.41	323	P	P	19 09 51.2	+1.7
ISA	Isabella, Lake	71.79	321	P	P	19 09 53.2	+1.5
ISA				IAmb	IAmb	19 09 54.9	
	comp=Z,12nm,1.4s						
OMMB	Old Mammoth Mi	73.44	322	P	P	19 10 03.0	+1.3
NVAR	Mina Array Bea	73.60	323	P	P	19 10 04.7	+2.1
	comp=Z,1.1nm,0.7s,baz=157,slow=7.1,SNR=8.3						
ULM	Lac du Bonnet	73.94	344	LR	LR	19 45 28.1	
	comp=Z,33nm,18.3s,baz=116,slow=38						
KOWA	Kowa	74.58	68	LR	LR	19 41 45.7	
	comp=Z,164nm,21.8s,baz=240,slow=35						
YBH	Yreka Blue Hor	78.32	323	LR	LR	19 43 17.9	
	comp=Z,52nm,18.2s,baz=273,slow=34						
TORD	Torodi Ar. Bea	79.02	71	P	P	19 10 32.9	-0.7
	comp=Z,22nm,0.8s,baz=254,slow=5.2,SNR=103						
TORD	Torodi Ar. Bea	79.02	71	P	P	19 10 32.7	-0.9
TORD				IAmb	IAmb	19 10 34.0	
	comp=Z,15nm,0.9s						
SUR	Sutherland	80.75	121	LR	LR	19 45 30.8	
	comp=Z,63nm,18.5s,baz=188,slow=35						
TSUM	Tsumeb	82.23	108	P	P	19 10 51.6	+0.6
TSUM				IAmb	IAmb	19 10 53.4	
	comp=Z,8.9nm,0.8s						
MDT	Midelt	82.81	51	LR	LR	19 48 36.6	
	comp=Z,35nm,18.3s,baz=179,slow=36						
BOSA	Boshof	85.63	119	LR	LR	19 45 29.3	
	comp=Z,62nm,20.2s,baz=186,slow=33						
ESDC	Sonseca Array	86.70	45	LR	LR	19 45 45.1	
	comp=Z,63nm,19.2s,baz=237,slow=33						
LBTB	Lobatse	87.21	116	LR	LR	19 47 50.7	
	comp=Z,72nm,18.6s,baz=187,slow=34						
YKA	Yellowknife Ar	89.75	341	P	P	19 11 26.9	+0.1
	comp=Z,0.7nm,0.8s,baz=142,slow=4.6,SNR=8.3						
MATP	Matopo	91.41	112	LR	LR	19 49 17.6	
	comp=Z,47nm,19.1s,baz=251,slow=33						
LSZ	Lusaka	93.09	107	LR	LR	19 50 23.7	
	comp=Z,84nm,20.8s,baz=168,slow=34						
URZ	Urewera	93.28	227	LR	LR	19 44 54.7	
	comp=Z,109nm,19.4s,baz=204,slow=30						
BORG	Borgarnes	93.31	19	LR	LR	19 53 25.1	
	comp=Z,35nm,18.6s,baz=202,slow=35						
AFI	Afiamalu	94.86	253	LR	LR	19 46 07.1	
	comp=Z,103nm,19.4s,baz=146,slow=30						
DAVOX	Davos/Dischmat	98.86	43	LR	LR	19 55 14.6	
	comp=Z,40nm,19.7s,baz=263,slow=34						
KBZ	Khabaz	121.19	51	PKP	PKiKP	19 17 23.1	+1.0
	comp=Z,2.7nm,0.9s,baz=281,slow=1.7,SNR=6.9						
H11S2	WAKE ISLAND Hy	125.74	278	T	T	21 37 08.2	
	baz=102,slow=74,SNR=74						
H11S1	WAKE ISLAND Hy	125.75	278	T	T	21 37 10.3	
	baz=102,slow=74,SNR=51						
H11S3	WAKE ISLAND Hy	125.76	278	T	T	21 37 09.5	
	baz=102,slow=74,SNR=31						
H11N3	WAKE ISLAND Hy	125.81	280	T	T	21 37 09.3	
	baz=102,slow=74,SNR=20						
H11N2	WAKE ISLAND Hy	125.83	280	T	T	21 37 11.4	
	baz=102,slow=74,SNR=20						
H11N1	WAKE ISLAND Hy	125.83	280	T	T	21 37 18.6	
	baz=102,slow=74,SNR=17						
ASAR	Alice Springs	129.64	210	PKP	PKiKP	19 17 39.7	+0.1
	comp=Z,1.1nm,0.8s,baz=128,slow=2.0,SNR=12						
WRA	Warramunga Arr	132.57	213	PKP	PKiKP	19 17 45.7	+0.1
	comp=Z,0.9nm,0.6s,baz=153,slow=1.9,SNR=21						
ZALV	Zalesovo Beam	142.04	23	PKP	PKPdf	19 17 58.9	-2.0
	comp=Z,1.9nm,0.7s,baz=283,slow=2.8,SNR=8.3						
MKAR	Makanchi Array	146.12	34	PKPbc	PKPbc	19 18 09.0	-0.1
	comp=Z,2.6nm,0.4s,baz=353,slow=2.9,SNR=44						
MKAR	Makanchi Array	146.12	34		PKPbc	19 18 09.3	+0.2
MJAR	Matsushiro Arr	149.96	308	PKPbc	PKiKP	19 18 21.2	+0.5
	comp=Z,2.7nm,0.7s,baz=129,slow=0.9,SNR=6.8						
MAT	Matsushiro	149.96	308	PKP	PKPbc	19 18 19.5	-0.3
HYBB	Hyderabad (bro	151.15	91	ePKPbc	PKiKP	19 18 24.5	+0.8
SONM	Songino Array	152.83	4	PKPbc	PKiKP	19 18 26.6	+0.2
	comp=Z,0.7nm,0.5s,baz=312,slow=1.2,SNR=5.7						
CMAR	Chiang Mai Arr	170.35	102	PKPab	PKPab	19 19 54.5	+0.2
	comp=Z,0.3nm,0.3s,baz=271,slow=7.9,SNR=4.1						
PZH	PanZhiHua	171.24	47	PKP	PKPdf	19 18 35.1	-3.1

*IDC **04** 19:03:44.8±1.9, 43.°71N×105.°51W, h0^{km}, mb3.8/3, mb1 3.6/8, mb1mx3.4/53, mbtmp3.4/8, ML3.1/5, MS3.4/2, Ms1 3.3/2, ms1mx2.7/92, Error ellipse: s-maj=53.3km s-min=9.1km az=148.0*

*NEIC **04** 19:03:45.1±1.2, 43.°71N±0.°05×105.°29W±0.°03, h0^{km}±2^{km}, ML3.5/64, Error ellipse: s-maj=9.2km s-min=3.0km az=155.0*

ISC 04 19:03:44.5±0.8**, 43.°70N**±0.°05×**105.°32W**±0.°05**, h0^{km}, n75, σ1^{s}02**/73**, mb3.8**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.02	65	Pg	Pg	19 04 04.0	+0.1
K22A	Casper	1.37	220		Pg	19 04 10.2	-0.6
K22A				IAML		19 04 32.6	
	comp=E,864nm,0.8s						
K22A				IAML		19 04 34.5	
	comp=N,685nm,0.3s						
PHWY	Pilot Hill	2.40	183		Pn	19 04 26.1	+0.7
PHWY				IAML		19 05 02.5	
	comp=N,163nm,0.4s						
RWWY	Rawlins	2.45	215		Pn	19 04 26.9	+1.0
RWWY				IAML		19 05 01.4	
	comp=N,238nm,0.9s						
N23A	Red Feather La	2.84	190	Pn	Pn	19 04 32.9	+1.5
N23A				IAML		19 05 22.0	
	comp=E,157nm,0.8s						
N23A				IAML		19 05 23.4	
	comp=N,155nm,0.8s						
LAO	LASA Array	3.05	348	Pn	Pn	19 04 34.9	+0.8
LAO				IAML		19 05 26.3	
	comp=N,166nm,1.1s						
LAO				IAML		19 05 29.8	
	comp=N,185nm,0.9s						
RLMT	Red Lodge	3.17	298		Pn	19 04 36.5	+0.8
RLMT				IAML		19 05 40.4	
	comp=N,73nm,1.2s						
BW06	Boulder Array	3.24	255		Pn	19 04 37.4	+0.6
BW06				IAML		19 05 40.2	
	comp=N,78nm,1.1s						
BW06				IAML		19 05 45.4	
	comp=N,67nm,1.1s						
PD31	Pinedale Array	3.24	255		Pn	19 04 37.2	+0.5
PDAR	Pinedale Array	3.24	255	Pn	Pn	19 04 37.9	+1.1
	comp=N,2.6nm,0.3s,baz=74,slow=17,SNR=40						
PDAR				Lg	Lg	19 05 21.1	
	comp=N,2.9nm,0.3s,baz=72,slow=33,SNR=5.9						
PDAR				LR	LR	19 06 16.6	
	comp=N,109nm,20.1s,baz=196,slow=49						
PDAR	Pinedale Array	3.24	255		Pn	19 04 37.3	+0.5
YMP	Mirror Lake Pl	3.63	288		Pn	19 04 42.8	+0.6
YMP				IAML		19 05 45.5	
	comp=N,99nm,1.0s						
OGNE	Ogallala	3.68	137	Pn	Pn	19 04 43.3	+0.6
GCMT	Greycliff	3.74	305	Pn	Pn	19 04 44.2	+0.6
LKWY	Lake	3.76	285		Pn	19 04 44.4	+0.5
LKWY				IAML		19 05 55.6	
	comp=N,43nm,2.4s						
LKWY				IAML		19 06 02.6	
	comp=N,71nm,1.2s						
LOHW	Long Hollow	3.84	270		Pn	19 04 45.4	+0.4
H17A	Grant Village	3.85	282		Pn	19 04 45.6	+0.4
YUF	Upper Falls	3.87	287	Pn	Pn	19 04 45.9	+0.4
YUF				IAML		19 07 04.5	
	comp=N,49nm,0.1s						
ISCO	Idaho Springs	3.91	183	Pn	Pn	19 04 46.8	+0.8
ISCO				IAML		19 05 52.0	
	comp=N,44nm,1.1s						
FLWY	Flagg Ranch	3.91	277		Pn	19 04 47.3	+1.4
FLWY				IAML		19 05 56.2	
	comp=N,78nm,1.1s						
FLWY				IAML		19 06 02.2	
	comp=N,63nm,1.6s						
MOOW	Moose Ponds	3.93	273	Pn	Pn	19 04 47.6	+1.3
SNOW	Snow King Moun	3.96	268		Pn	19 04 47.6	+0.9
SNOW				IAML		19 06 09.4	
	comp=N,63nm,1.1s						
SNOW				IAML		19 06 15.5	
	comp=N,78nm,1.1s						
YNR	Norris Junctio	3.99	287	Pn	Pn	19 04 48.3	+1.3
REDW	Red Top Meadow	4.04	267		Pn	19 04 49.0	+1.2
REDW				IAML		19 05 54.9	
	comp=N,73nm,1.3s						
REDW				IAML		19 06 04.1	
	comp=N,76nm,0.8s						
TPAW	Teton Pass	4.10	269		Pn	19 04 49.2	+0.6
TPAW				IAML		19 06 09.9	
	comp=N,69nm,0.9s						
YHH	Holmes Hill	4.12	287	Pn	Pn	19 04 49.6	+0.6
YHH				IAML		19 06 14.6	
	comp=N,37nm,1.1s						
YMR	Madison River	4.17	285		Pn	19 04 51.0	+1.4
YMR				IAML		19 06 02.9	
	comp=E,79nm,1.1s						
O20A	White River Ci	4.18	212	Pn	Pn	19 04 49.0	-0.7
ECR	Eagle Creek	4.46	264		Pn	19 04 54.9	+1.4
QLMT	Earthquake Lak	4.53	287		Pn	19 04 53.9	-0.7
SMCO	Snowmass	4.69	196		Pn	19 04 55.9	-1.0
SMCO				IAML		19 06 20.5	
	comp=E,43nm,1.1s						
SMCO				IAML		19 06 21.9	
	comp=E,45nm,1.0s						
Q24A	Divide	4.74	178		Pn	19 04 56.9	-0.5
Q24A				IAML		19 06 19.4	
	comp=N,25nm,0.7s						
Q24A				IAML		19 06 23.0	
	comp=E,47nm,1.1s						
DGMT	Dagmar	4.83	9		Pn	19 04 57.3	-1.2
BOZ	Bozeman (W)	4.89	295		Pn	19 04 59.4	+0.1
BOZ				IAML		19 06 18.3	
	comp=E,32nm,2.5s						
BOZ				IAML		19 06 21.4	
	comp=E,21nm,1.1s						
K31A	O'Neill	4.92	100		Pn	19 04 59.6	-0.1
HWUT	Hardware Ranch	5.06	248		Pn	19 05 01.9	+0.1
HWUT				IAML		19 06 23.0	
	comp=E,38nm,1.0s						
KSCO	Kaye Shedlock'	5.11	156		Pn	19 05 02.6	+0.2
EGMT	Eagleton	5.32	326		Pn	19 05 05.3	+0.1
DLMT	Dillon	5.46	290		Pn	19 05 06.5	-0.8
P18A	Preston Nutter	5.50	224		Pn	19 05 09.1	+1.2
HRY	Holter Researc	5.50	305		Pn	19 05 07.6	-0.1
LRM	Limekiln Ridge	5.50	295		Pn	19 05 08.7	+0.8
JLU	Jordanelle	5.51	238		Pn	19 05 07.0	-1.0
MCMT	McKenzie Canyo	5.53	284		Pn	19 05 11.2	+3.0
MDND	Maddock	5.76	42		Pn	19 05 12.4	+1.2
HVU	Hansel Valley	5.82	253	Pn	Pn	19 05 12.3	+0.1
PV07	Paradox Valley	5.83	207		Pn	19 05 12.2	-0.1
P17A	Butcher Ranch,	5.86	226		Pn	19 05 13.6	+0.8
PV15	Paradox Valley	5.87	205		Pn	19 05 13.1	+0.1
PV23	Carpenter Ridg	5.94	209		Pn	19 05 15.3	+1.4
SDCO	Great Sand Dun	5.95	181		Pn	19 05 14.9	+0.7
SRU	San Rafael Swe	6.03	222		Pn	19 05 15.5	+0.4
PV11	David Mesa, Pa	6.03	208		Pn	19 05 16.0	+0.9
S22A	4UR Ranch, Cre	6.06	191		Pn	19 05 17.2	+1.6
PV13	Radium Mtn., P	6.14	207		Pn	19 05 17.7	+1.0
TMUT	Trail Mountain	6.24	227		Pn	19 05 19.6	+1.5
NLU	North Lily Min	6.28	236		Pn	19 05 18.8	+0.2
ECSD	EROS Data Cent	6.31	87		Pn	19 05 19.9	+1.1
Q16A	Castle Valley	6.50	225		Pn	19 05 20.8	-0.8
T25A	Trinidad	6.59	174		Pn	19 05 21.0	-1.8
DUG	Dugway, Tooele	6.60	240	Pn	Pn	19 05 23.4	+0.6
MVCO	Mesa Verde	6.92	202		Pn	19 05 26.3	-1.1
MSU	Marysvale	7.33	227	Pn	Pn	19 05 32.0	-1.0
MTPU	Mount Pierson	7.68	225		Pn	19 05 38.4	+0.5
ELK	Elko	7.93	252	Pn	Pn	19 05 42.4	+1.2
	comp=E,0.2nm,0.3s,baz=78,slow=15,SNR=3.6						
I10CA	LAC DU BONNET	9.09	41	i		20 01 40.0	
	baz=223,slow=331,SNR=3.7						
ULM	Lac du Bonnet	9.19	41	Pn	Pn	19 05 57.2	-1.0
	comp=E,0.7nm,0.3s,baz=233,slow=13,SNR=3.3						
ULM				Lg	Lg	19 08 30.3	
	comp=E,0.4nm,0.3s,baz=325,slow=22,SNR=2.0						
ULM	Lac du Bonnet	9.19	41		Pn	19 05 56.3	-1.9
NVAR	Mina Array Bea	11.12	246	Pn	Pn	19 06 27.9	+2.9
	comp=E,0.1nm,0.3s,baz=48,slow=14,SNR=2.6						
NVAR	Mina Array Bea	11.12	246		Pn	19 06 24.4	-0.6
YKA	Yellowknife Ar	19.59	347	P	P	19 08 14.4	+0.5
	comp=E,0.0nm,0.3s,baz=160,slow=11,SNR=3.2						
ZALV	Zalesovo Beam	82.34	354	P	P	19 16 07.4	-0.4
	comp=E,0.6nm,0.6s,baz=17,slow=6.0,SNR=2.9						
SONM	Songino Array	84.66	339	P	P	19 16 20.7	+0.7
	comp=E,0.4nm,0.7s,baz=18,slow=5.2,SNR=4.0						
MKAR	Makanchi Array	89.64	355	P	P	19 16 44.1	+0.1
	comp=E,0.3nm,0.6s,baz=1.3,slow=4.5,SNR=3.1						
EIL	Elat	98.42	34	LR	LR	20 06 49.6	
	comp=E,74nm,18.8s,baz=281,slow=38						

IDC 04 19:03:52.5±5.8**, 5.°31S**×**154.°91E, h0^{km}, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/46**, mbtmp3.5**/4**, Error ellipse: s-maj=163.7km s-min=40.7km az=109.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.74	232	P	P	19 09 16.6	+0.7
	0.2nm,0.5s,baz=58,slow=9.0,SNR=6.2						
ASAR	Alice Springs	27.25	226	P	P	19 09 38.1	-0.5
	0.3nm,0.3s,baz=58,slow=9.3,SNR=9.8						
FITZ	Fitzroy Crossi	31.29	244	P	P	19 10 14.3	-0.2
	0.6nm,0.3s,baz=59,slow=9.4,SNR=7.9						
MKAR	Makanchi Array	82.09	319	P	P	19 16 15.0	0.0
	0.4nm,0.7s,baz=97,slow=3.3,SNR=4.3						

IDC 04 19:38:02.3±2.9**, 5.°07S**×**134.°08E, h0^{km}, mb3.4**/1**, mb1 3.7**/5**, mb1mx3.5**/31**, mbtmp3.5**/5**, ML3.6**/4**, Error ellipse: s-maj=97.9km s-min=26.5km az=78.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.03	326	Pn	Pn	19 39 18.4	-0.7
	1.2nm,0.3s,baz=43,slow=22,SNR=9.2						
SIJI				Sn	Sn	19 40 09.0	-9.0
	3.9nm,0.3s,baz=232,slow=22,SNR=12						
WRA	Warramunga Arr	14.78	179	Pn	Pn	19 41 31.2	-1.6
	0.2nm,0.3s,baz=0.1,slow=13,SNR=13						
FITZ	Fitzroy Crossi	15.35	212	Pn	Pn	19 41 39.2	-1.2
	0.3nm,0.3s,baz=37,slow=12,SNR=10						
ASAR	Alice Springs	18.49	181	P	Pn	19 42 21.0	+0.9
	0.2nm,0.3s,baz=6.1,slow=9.1,SNR=12						
MKAR	Makanchi Array	68.93	325	P	P	19 49 09.6	+0.3
	0.3nm,0.9s,baz=123,slow=7.5,SNR=2.4						

*DJA **04** 19:49:16.2±0.9, 2˚S±2˚×12˚8E±˚, h38^{km}±22^{km}, M3.9/12, mb4.3/4, mB4.8/2, MLv3.7/12, Mw(mB)4.0/2*

*IDC **04** 19:49:18.2±2.5, 2.°50S×128.°44E, h42^{km}±31^{km}, mb3.2/3, mb1 3.6/6, mb1mx3.2/55, mbtmp3.6/6, ML3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=25.6km s-min=16.3km az=130.0*

ISC 04 19:49:16.0±0.9**, 2.°21S**±0.°05×**128.°14E**±0.°05**, h33^{km}, n18, σ2^{s}04**/20**, mb3.5**/3**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.38	145	P	Pn	19 49 39.1	+0.2
MSAI				S	Sn	19 49 57.2	+1.2
AAI	Ambon	1.47	178	P	Pn	19 49 39.8	-0.4
AAI				S	Sn	19 49 58.2	0.0
LBMI	Labuha	1.69	338	P	Pb	19 49 44.8	-1.7
SANI	Sanana	2.15	274	P	Pn	19 49 47.9	-1.7
SANI				S	Sn	19 50 13.2	-2.0
TNTI	Ternate	3.06	345	P	Pn	19 50 01.3	-0.9
SWI	Sorong	3.40	67	P	Pn	19 50 06.7	-0.1
SIJI	Sorong	3.40	67	P	Pn	19 50 05.9	-1.0
	8.3nm,0.3s,baz=99,slow=4.9,SNR=55						
SIJI				S	Sn	19 50 45.0	-1.1
	6.4nm,0.3s,baz=131,slow=23,SNR=16						
KMSI	Cibinong	4.99	304	P	Pn	19 50 28.0	-0.7
LUWI	Luwuk	5.49	282	P	Pn	19 50 36.1	+0.6
	0.2nm1μm44nm,0.9s						
GTOI	Gorontalo	5.85	299	P	Pn	19 50 44.1	+3.6
	0.0nm3.8nm,0.5s						
APSI	Ampana	6.61	281	P	Pn	19 50 51.9	+0.9
	0.1nm354nm35nm,0.8s						
MRSI	Marisa	6.75	293	P	Pn	19 50 53.2	+0.4
KAPI	Kappang	8.82	251	P	Pn	19 51 26.4	+5.2
	1.4nm,0.3s,baz=112,slow=5.4,SNR=12						
WRA	Warramunga Arr	18.63	161	P	P	19 53 27.8	-3.3
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
ASAR	Alice Springs	22.05	166	P	P	19 54 05.9	-2.2
	3.2nm,0.7s,baz=348,slow=12,SNR=33						
MJAR	Matsushiro Arr	39.68	13	LR	LR	20 12 13.8	
	comp=Z,45nm,18.9s,baz=85,slow=34						
MKAR	Makanchi Array	63.23	326	P	P	19 59 44.8	+3.6
	0.3nm,0.8s,baz=111,slow=8.0,SNR=2.4						
KURBB	Kurchatov Arra	67.49	328	P	P	20 00 12.4	+3.7
	0.3nm,0.8s,baz=126,slow=5.8,SNR=2.3						

IDC 04 19:49:25.2±5.7**, 13.°52S**×**110.°95W, h0^{km}, mb3.3**/2**, mb1 3.8**/2**, mb1mx3.5**/36**, mbtmp3.3**/2**, MS3.7**/7**, Ms1 3.7**/7**, ms1mx3.3**/31**, Error ellipse: s-maj=351.9km s-min=68.1km az=105.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	13.63	174	LR	LR	19 56 30.7	
	comp=Z,252nm,20.9s,baz=303,slow=31						
ATAH	Atahualpa	32.63	82	LR	LR	20 04 37.7	
	comp=Z,85nm,19.4s,baz=178,slow=28						
H03N2	Juan Fernandez	35.22	130	T	T	20 34 30.1	
	baz=300,slow=77,SNR=46						
H03N3	Juan Fernandez	35.23	130	T	T	20 34 28.8	
	baz=300,slow=77,SNR=51						
H03N1	Juan Fernandez	35.24	130	T	T	20 34 29.6	
	baz=300,slow=77,SNR=62						
PPT	Papeete	37.38	259	LR	LR	20 06 53.7	
	comp=Z,96nm,19.0s,baz=131,slow=28						
PLCA	Paso Flores	44.45	135	LR	LR	20 09 50.8	
	comp=Z,64nm,19.6s,baz=210,slow=28						
PFO	Pinyon Flats O	47.16	354	LR	LR	20 12 21.8	
	comp=Z,66nm,18.8s,baz=212,slow=29						
ANMO	Albuquerque	48.38	5	LR	LR	20 15 16.7	
	comp=Z,99nm,18.7s,baz=204,slow=32						
NVAR	Mina Array Bea	52.13	353	P	P	19 58 37.4	-0.3
	0.3nm,0.5s,baz=185,slow=9.9,SNR=2.1						
YBH	Yreka Blue Hor	56.03	349	LR	LR	20 18 59.1	
	comp=Z,86nm,19.0s,baz=184,slow=32						
YKA	Yellowknife Ar	75.82	358	P	P	20 01 13.0	+0.1
	0.3nm,0.8s,baz=170,slow=4.7,SNR=4.2						
MKAR	Makanchi Array	145.01	344	PKPbc	PKPbc	20 09 03.1	-0.8
	0.6nm,0.9s,baz=17,slow=4.5,SNR=2.5						
CMAR	Chiang Mai Arr	150.86	284	PKPbc	PKPbc	20 09 20.5	-0.3
	0.9nm,0.3s,baz=97,slow=1.1,SNR=5.2						

*NEIC **04** 19:55:56.6±2.2, 20.°5S±0.°1×178.°2W±0.°2, h586^{km}±9^{km}, mb4.2/13, Error ellipse: s-maj=26.9km s-min=10.7km az=54.0*

*IDC **04** 19:55:57.1±2.7, 20.°35S×178.°37W, h586^{km}±24^{km}, mb3.3/9, mb1 3.4/10, mb1mx3.2/40, mbtmp4.2/10, Error ellipse: s-maj=57.0km s-min=19.3km az=153.0*

ISC 04 19:55:56.2±0.8**, 20.°4S**±0.°1×**178.°3W**±0.°1**, h587^{km}, n33, σ1^{s}20**/36**, mb4.0**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.39	307	P	P	19 57 23.5	-0.2
	2.9nm,0.3s,baz=148,slow=3.6,SNR=14						
MSVF	Nonsavu	4.39	307	P	P	19 57 23.1	-0.6
DZM	Mont Dzumac	14.36	261	P	P	19 59 01.3	+2.4
	0.9nm,0.3s,baz=116,slow=21,SNR=10.0						
DZM	Mont Dzumac	14.36	261	P	P	19 58 59.7	+0.8

KOUNC	Koumac, New Ca	16.36	266	P	P	19 59 16.2	-1.3
MXZ	Matakaoa Point	17.34	189	P	P	19 59 23.6	-2.7
URZ	Urewera	18.23	192	P	P	19 59 34.0	-0.3
BKZ	Black Stump Fm	19.22	192	P	P	19 59 43.4	0.0
BKZ				IAmb	IAmb	19 59 46.1	
	comp=Z,11nm,1.4s						
CTA	Charters Tower	33.26	264	P	P	20 01 46.9	+0.4
	comp=Z,7.4nm,0.4s,baz=90,slow=10,SNR=31						
PMG	Port Moresby	35.09	283	P	P	20 02 01.8	0.0
	comp=Z,6.5nm,0.7s,baz=84,slow=6.7,SNR=5.7						
PMG	Port Moresby	35.09	283	P	P	20 02 01.2	-0.5
PMG				IAmb	IAmb	20 02 02.4	
	comp=Z,6.3nm,0.8s						
STKA	Stephens Creek	37.60	244	P	P	20 02 23.1	+0.9
	comp=Z,1.0nm,0.4s,baz=97,slow=13,SNR=6.3						
STKA	Stephens Creek	37.60	244	P	P	20 02 22.4	+0.1
WR0	Warramunga Arr	44.18	262	P	P	20 03 12.8	-1.7
WR0				IAmb	IAmb	20 03 23.9	
	comp=Z,12nm,1.5s						
WR0					PcP	20 04 46.4	+0.2
AS31	Alice Springs	44.30	257	P	P	20 03 15.3	-0.1
AS31					PcP	20 04 46.5	-0.1
ASAR	Alice Springs	44.30	257	P	P	20 03 15.3	0.0
	comp=Z,4.7nm,0.8s,baz=88,slow=8.5,SNR=46						
ASAR				PcP	PcP	20 04 46.7	+0.1
	comp=Z,0.6nm,0.5s,baz=102,slow=3.7,SNR=7.7						
ASAR	Alice Springs	44.30	257	P	P	20 03 14.7	-0.7
ASAR					PcP	20 04 46.9	+0.3
WB0	Warramunga Arr	44.35	262	P	P	20 03 15.1	-0.7
WB0				IAmb	IAmb	20 03 15.3	
	comp=Z,21nm,1.5s						
WB2	Warramunga Arr	44.36	262	P	P	20 03 15.1	-0.7
WB2				IAmb	IAmb	20 03 15.7	
	comp=Z,4.1nm,0.7s						
WRAB	Tennant Creek	44.36	262	P	P	20 03 15.0	-0.9
WRAB				IAmb	IAmb	20 03 15.6	
	comp=Z,9.3nm,1.2s						
WRA	Warramunga Arr	44.37	262	P	P	20 03 15.2	-0.7
	comp=Z,1.7nm,0.3s,baz=97,slow=7.5,SNR=90						
WRA	Warramunga Arr	44.37	262	P	P	20 03 14.6	-1.4
FITZ	Fitzroy Crossi	52.80	262	P	P	20 04 18.3	+0.1
	comp=Z,1.2nm,0.4s,baz=104,slow=5.9,SNR=16						
QSPA	South Pole Qui	69.65	180	P	P	20 06 08.3	+0.8
QSPA				IAmb	IAmb	20 06 12.4	
	comp=Z,7.9nm,1.6s						
TXAR	Lajitas Array	87.22	57	P	P	20 07 43.4	+1.9
	comp=Z,0.4nm,0.8s,baz=211,slow=6.8,SNR=4.8						
PDAR	Pinedale Array	89.07	43	P	P	20 07 50.2	+0.2
	comp=Z,0.3nm,0.7s,baz=241,slow=4.9,SNR=3.6						
PDAR	Pinedale Array	89.07	43	P	P	20 07 49.5	-0.5
CMAR	Chiang Mai Arr	89.86	290	P	P	20 07 55.4	+1.6
	comp=Z,0.4nm,0.3s,baz=126,slow=2.8,SNR=7.3						
CMAR	Chiang Mai Arr	89.86	290	P	P	20 07 54.6	+0.7
AKASG	Malin Array Be	142.82	331	PKhKP	PKPpre	20 14 19.9	
	comp=Z,1.1nm,0.5s,baz=41,slow=4.0,SNR=10						
AKASG	Malin Array Be	142.82	331		PKPdf	20 14 19.5	-3.9
BRTR	Keskin Array B	146.60	312	PKPbc	PKPbc	20 14 32.6	-0.6
	comp=Z,0.6nm,0.6s,baz=125,slow=4.2,SNR=3.9						
CLL	Collm	147.93	347	*e*PKPbc	PKPbc	20 14 36.0	0.0

NNC 04 20:09:18.8±2.2, 37°.87N×78°.07E, h0km, mb3.8, mpv3.5, 4C-5D, Error ellipse: s-maj=19.5km s-min=14.3km az=60.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	Medeo	5.34	352	Pg	Pb	20 10 56.7	+3.5
	5.5nm,0.6s						
MDOK				Lg	Lg	20 12 11.7	
	21nm,0.9s						
MDOK	Medeo	5.34	352	Pg	Pb	20 10 56.2	+3.0
	5.3nm,0.4s						
MDOK				Lg	Lg	20 12 09.1	
	12nm,0.9s						
TKM2	Tokmak 2	5.39	340	⇑Pg	Pb	20 10 57.1	+3.1
	3.4nm,0.8s						
TKM2				⇑Lg	Lg	20 12 09.9	
	4.9nm,0.6s						
MTBS	Maitube	5.40	347	Pg	Pb	20 10 56.1	+2.0
	1.2nm,0.4s						
MTBS				Lg	Lg	20 12 09.1	
	4.7nm,0.6s						
KOTS	Kotyrbulak	5.41	353	Pg	Pb	20 10 58.3	+4.1
	2.4nm,0.4s						
KOTS				Lg	Lg	20 12 12.9	
	15nm,0.6s						
PDGK	Podgornoye	5.56	11	⇓Pn	Pn	20 10 43.9	+0.9
	1.7nm,0.5s						
PDGK				⇑Pg	Pg	20 11 01.5	-3.8
	5.7nm,0.8s						
PDGK				⇓Lg	Lg	20 12 17.3	
	30nm,0.9s						
DGS	Degeres	5.64	343	Pg	Pb	20 11 02.1	+3.9
	2.2nm,0.5s						
DGS				Lg	Lg	20 12 19.5	
	7.3nm,0.7s						
KTBS	Karatobe	5.93	350	Pg	Pb	20 11 05.3	+2.2
	1.2nm,0.7s						
KTBS				Lg	Lg	20 12 24.6	
	4.8nm,0.9s						
CHKK	Chushkaly	6.03	353	Pg	Pb	20 11 09.5	+4.6
	1.9nm,0.3s						
CHKK				Lg	Lg	20 12 32.0	
	9.2nm,0.6s						
KRBS	Karabastau	6.10	343	Pg	Pb	20 11 08.2	+2.3
	1.5nm,0.4s						
KRBS				Lg	Lg	20 12 29.6	
	7.6nm,1.2s						
MAKZ	Makanchi	9.39	17	⇓Pn	Pn	20 11 34.9	-0.4
	1.1nm,0.7s						
MAKZ				⇓Sn	Sn	20 13 21.6	0.0
	1.6nm,1.0s						
MK31	Makanchi Array	9.45	18	⇑Pn	Pn	20 11 36.0	-0.2
	1.3nm,0.7s,baz=202,slow=12,SNR=38						
MK31				⇓Sn	Sn	20 13 21.6	-1.4
	0.7nm,0.5s,baz=196,slow=27,SNR=3.9						

NEIC 04 20:11:41.9±2.7, 43°.64N±0°.05×105°.43W±0°.04, h0km±1km, ML3.3/68, Error ellipse: s-maj=8.9km s-min=4.9km az=170.0
IDC 04 20:11:43.5±2.1, 43°.61N×105°.48W, h0km, mb1 3.4/3, mb1mx3.2/51, mbtmp3.2/3, ML2.4/2, Error ellipse: s-maj=45.5km s-min=10.6km az=150.0
ISC 04 20:11:41.0±1.0, 43°.64N±0°.04×105°.48W±0°.05, h0km, n46, σ1s.11/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.15	65	Pg	Pn	20 12 04.3	-0.2
K22A	Casper	1.25	218	Pn	Pn	20 12 06.7	+0.8
RWWY	Rawlins	2.33	214		Pb	20 12 24.2	+0.1
RWWY				IAML		20 12 59.0	
	145nm,0.8s						
PHWY	Pilot Hill	2.34	180		Pb	20 12 23.0	-1.2
N23A	Red Feather La	2.77	187	Pn	Pn	20 12 29.1	+2.3
N23A				IAML		20 13 10.2	
	comp=E,89nm,0.6s						
N23A				IAML		20 13 12.3	
	comp=N,92nm,0.7s						
LAO	LASA Array	3.09	350	Pn	Pb	20 12 35.6	-1.2
LAO				IAML		20 13 32.7	
	comp=N,123nm,0.9s						
RLMT	Red Lodge	3.09	300		Pb	20 12 36.0	-1.0
RLMT				IAML		20 13 32.5	
	comp=N,57nm,0.9s						
RLMT				IAML		20 13 33.4	
	comp=N,73nm,0.7s						
BW06	Boulder Array	3.11	255		Pb	20 12 35.6	-1.6
BW06				IAML		20 13 25.0	
	comp=N,44nm,0.6s						
PD31	Pinedale Array	3.11	255	Pn	Pb	20 12 36.5	-0.8
PDAR	Pinedale Array	3.11	255	Pn	Pb	20 12 37.3	0.0
	comp=N,4.8nm,0.3s,baz=76,slow=17,SNR=17						
PDAR				Lg	Lg	20 13 19.9	
	comp=N,7.4nm,0.3s,baz=75,slow=35,SNR=2.5						
PDAR	Pinedale Array	3.11	255		Pb	20 12 35.7	-1.5
YMP	Mirror Lake Pl	3.54	290		Pn	20 12 38.6	+1.1
YMP				IAML		20 13 51.4	
	comp=E,74nm,1.1s						
YMP				IAML		20 13 56.7	
	comp=N,83nm,0.9s						
LKWY	Lake	3.66	286		Pn	20 12 41.2	+2.1
LKWY				IAML		20 13 51.6	
	comp=N,57nm,0.9s						
LKWY				IAML		20 14 03.0	
	comp=N,32nm,1.1s						
OGNE	Ogallala	3.71	135	Pn	Pn	20 12 40.1	+0.5
LOHW	Long Hollow	3.72	271		Pn	20 12 40.2	+0.3
LOHW				IAML		20 13 45.9	
	comp=N,26nm,0.8s						
H17A	Grant Village	3.75	283	Pn	Pn	20 12 42.6	+2.3
H17A				IAML		20 13 51.3	
	comp=N,32nm,1.6s						
FLWY	Flagg Ranch	3.80	278		Pn	20 12 42.2	+1.2
FLWY				IAML		20 13 55.2	
	comp=N,41nm,0.9s						
MOOW	Moose Ponds	3.82	273		Pn	20 12 43.1	+1.9
SNOW	Snow King Moun	3.84	269		Pn	20 12 42.0	+0.5
SNOW				IAML		20 14 04.7	
	comp=N,44nm,0.8s						
SNOW				IAML		20 14 10.3	
	comp=N,45nm,1.1s						
ISCO	Idaho Springs	3.84	182		Pn	20 12 42.4	+0.8
YNR	Norris Junctio	3.89	288		Pn	20 12 42.9	+0.7
REDW	Red Top Meadow	3.92	268		Pn	20 12 43.1	+0.5
REDW				IAML		20 13 57.4	
	comp=N,57nm,2.5s						
REDW				IAML		20 14 03.9	
	comp=N,60nm,0.9s						
TPAW	Teton Pass	3.98	270		Pn	20 12 44.7	+1.2
TPAW				IAML		20 14 14.5	
	comp=N,42nm,1.1s						
TPAW				IAML		20 14 29.1	
	comp=N,31nm,3.9s						
YHH	Holmes Hill	4.03	288		Pn	20 12 43.9	-0.2
O20A	White River Ci	4.07	211	Pn	Pn	20 12 43.6	-1.0
O20A				IAML		20 13 56.6	
	comp=E,49nm,2.7s						
O20A				IAML		20 14 30.1	
	comp=N,50nm,3.9s						
YMR	Madison River	4.08	286		Pn	20 12 44.8	0.0
YMR				IAML		20 14 32.0	
	comp=E,46nm,1.2s						
AHID	Auburn Hatcher	4.20	260		Pn	20 12 46.7	+0.2
AHID				IAML		20 14 10.5	
	comp=E,33nm,3.3s						
AHID				IAML		20 14 15.1	
	comp=E,31nm,1.5s						
ECR	Eagle Creek	4.34	264		Pn	20 12 49.8	+1.5
E28A	Huff	4.48	47	Pn	Pn	20 12 51.5	+1.4
SMCO	Snowmass	4.60	195		Pn	20 12 53.6	+1.4
SMCO				IAML		20 14 23.4	
	comp=E,24nm,1.2s						
SMCO				IAML		20 14 39.5	
	comp=E,22nm,4.2s						
Q24A	Divide	4.68	177		Pn	20 12 54.1	+0.9
Q24A				IAML		20 14 09.7	
	comp=E,19nm,0.5s						
Q24A				IAML		20 14 58.3	
	comp=N,14nm,4.2s						
SUSD	Miller	4.77	78	Pn	Pn	20 12 53.3	-0.8
BOZ	Bozeman (W)	4.81	296	Pn	Pn	20 12 55.3	+0.5
BOZ				IAML		20 14 23.5	
	comp=N,16nm,2.4s						
BOZ				IAML		20 14 29.0	
	comp=N,17nm,0.9s						
DGMT	Dagmar	4.91	10		Pn	20 12 56.1	+0.1
HWUT	Hardware Ranch	4.93	248		Pn	20 12 56.1	-0.3
HWUT				IAML		20 14 51.0	
	comp=N,25nm,1.0s						
HWUT				IAML		20 15 11.3	
	comp=N,29nm,4.2s						
K31A	O'Neill	5.03	99	Pn	Pn	20 12 57.0	-0.6
EGMT	Eagleton	5.30	327		Pn	20 13 01.3	-0.1
P18A	Preston Nutter	5.37	223		Pn	20 13 03.1	+0.5
P18A				IAML		20 14 36.0	
	comp=N,18nm,1.2s						
DLMT	Dillon	5.37	291		Pn	20 13 04.0	+1.5
LRM	Limekiln Ridge	5.42	296	Pn	Pn	20 13 02.8	-0.5
MCMT	McKenzie Canyo	5.43	285		Pn	20 13 03.6	+0.2
P17A	Butcher Ranch,	5.74	225		Pn	20 13 06.5	-1.0
I10CA	LAC DU BONNET	9.21	41	*i*		21 07 20.0	
	baz=222,slow=329,SNR=3.9						
ULM	Lac du Bonnet	9.31	41	Pn	Pn	20 13 56.6	+0.3
	comp=N,0.5nm,0.3s,baz=238,slow=14,SNR=3.0						
ULM				Lg	Lg	20 16 33.6	
	comp=N,0.3nm,0.3s,baz=346,slow=18,SNR=2.0						
NEW	Newport	9.33	304	Lg	Lg	20 16 35.3	
	comp=N,0.1nm,0.3s,baz=224,slow=20,SNR=1.6						
YKA	Yellowknife Ar	19.62	347	P	Pn	20 16 13.6	+1.5
	comp=N,0.0nm,0.3s,baz=157,slow=11,SNR=2.1						

NEIC 04 20:17:16.4±0.7, 13°.8N±0°.1×145°.6E±0°.1, h95km±3km, mb3.7/3, ML3.3/6, Error ellipse: s-maj=24.4km s-min=8.1km az=124.0
IDC 04 20:17:17.1±1.7, 13°.85N×145°.26E, h100km±11km, mb3.1/4, mb1 3.3/4, mb1mx2.9/40, mbtmp3.4/4, Error ellipse: s-maj=45.5km s-min=24.9km az=74.0
ISC 04 20:17:16.5±1.3, 13°.8N±0°.2×145°.5E±0°.2, h100km, n10, σ0s.43/10, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.66	250	P	Pn	20 17 34.2	+0.6
	425nm,0.3s,baz=283,slow=2.2,SNR=350						
GUMO				S	Sn	20 17 46.0	-0.4
	562nm,0.3s,baz=42,slow=15,SNR=13						
GUMO	Guam	0.66	250		Pn	20 17 34.1	+0.6
GUMO				Sn	Sn	20 17 45.9	-0.5
GUMO				IAML		20 17 47.1	
	3μm,0.5s						
WR0	Warramunga Arr	35.26	198	P	P	20 24 01.8	+0.1
WR0				IAmb	IAmb	20 24 16.8	
	comp=Z,6.9nm,1.4s						
WRA	Warramunga Arr	35.30	198	P	P	20 24 01.8	-0.3
	comp=Z,0.4nm,0.7s,baz=22,slow=9.6,SNR=4.9						
WRA	Warramunga Arr	35.30	198	IAmb	IAmb	20 24 28.2	
	comp=Z,0.2nm,1.4s						
MKAR	Makanchi Array	61.76	316	P	P	20 27 24.4	-0.2
	comp=Z,0.2nm,0.8s,baz=83,slow=7.1,SNR=4.1						
KURK	Kurchatov	64.81	320	P	P	20 27 44.8	+0.2
KURK	Kurchatov	64.81	320	IAmb	IAmb	20 28 01.0	
	comp=Z,1.4nm,1.1s						
KURBB	Kurchatov Arra	64.85	320	P	P	20 27 44.8	-0.1
	comp=Z,0.3nm,0.7s,baz=105,slow=7.4,SNR=2.0						
YKA	Yellowknife Ar	82.37	27	P	P	20 29 27.0	-0.1
	comp=Z,0.3nm,0.7s,baz=282,slow=5.1,SNR=2.5						

NIED 04 20:19:00.6, 32°.09N×129°.36E, h3km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr-4.53; Mθθ5.41; Mφφ-0.88; Mrθ-2.24; Mθφ1.60; Mφr2.46; Fault plane solution: M0 6.24000×10^{14} NP1: φs103.00000°, δ60.00000°, λ-57.00000°. NP2: φs231.00000°, δ43.00000°, λ-134.00000°.
JMA 04 20:19:00.6±0.1, 32°.09N×129°.36E, h3km±3km, M3.7, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.51	144	⇑P	Pg	20 19 10.2	-0.2
JSJ				*e*S	Sg	20 19 17.3	+0.3
NGSJ	Nagasakinomoza	0.66	34	⇑P	Pg	20 19 13.4	+0.2
NGSJ				*e*S	Sg	20 19 22.2	+0.5
JHD	Hondo	0.76	60	P	Pg	20 19 15.2	+0.1
JHD				*e*S	Sg	20 19 25.4	+0.5
JFU	Fukue jima 2	0.77	318	⇑P	Pg	20 19 15.9	+0.6
JFU				*e*S	Sb	20 19 26.4	-1.0
JZO	Okuchi	1.05	87	⇓P	Pg	20 19 20.7	-0.1
JZO				*e*S	Sg	20 19 34.5	+0.1
JSU	Suzuyama	1.10	122	P	Pg	20 19 21.4	-0.3
JSU				*e*S	Sg	20 19 36.3	+0.4
JUR	Ureshino	1.12	26	⇓P	Pg	20 19 21.7	-0.3
JUR				*e*S	Sg	20 19 36.6	+0.1
JIU3	Izumi3	1.31	69	⇓P	Pg	20 19 24.4	-1.4
JIU3				S	Sb	20 19 43.1	0.0
JTA	Tamana	1.32	48	P	Pg	20 19 24.7	-1.2
JTA				S	Sg	20 19 42.9	-0.1

KRNET 04 20:19:51.1±0.1, 40°.86N×71°.17E, h10km, mb2.8
ISU 04 20:19:52, 40°.76N×71°.10E, h10km
NNC 04 20:19:54.9±1.9, 40°.94N×71°.28E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=14.3km s-min=6.5km az=9.0
SOME 04 20:19:55.4, 41°.10N×71°.17E, h10km
ISC 04 20:19:51.1±1.1, 40°.91N±0°.02×71°.25E±0°.02, h4km±10km, n34, σ1s.56/61, 13C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.63	353	⇓*i*P	Pg	20 20 03.0	-0.2
	baz=0.0						
TRKS				⇓*i*S	Sb	20 20 11.5	-2.6
	baz=0.0						
FRG	Fergana	0.67	142	P	Pg	20 20 05.0	+1.0
FRG				S	Sg	20 20 15.0	+2.4
ANR	Andizhan	0.86	100	S	Sn	20 20 24.0	+0.9
BTK	Batken	0.91	201	⇑*i*P	Pg	20 20 07.4	-1.1
	baz=99						
BTK				⇑*i*S	Sg	20 20 19.4	-0.9
	baz=99						
TSTA	Tashata	0.99	109	*e*P	Pn	20 20 13.0	+1.1
TSTA				S	Sn	20 20 28.0	+1.6
ARK	Arkit	1.04	31	⇑*i*P	Pn	20 20 12.4	-0.3
	baz=32						
ARK				⇑*i*S	Sn	20 20 28.1	+0.3
	baz=32						
OHH	Osh	1.23	108	⇑*i*P	Pn	20 20 15.3	+0.1
	baz=5.0						
OHH				⇑*i*S	Sn	20 20 32.9	+0.6
	baz=5.0						
OHH	Osh	1.23	108	*e*P	Pn	20 20 12.0	-3.2
OHH				*e*S	Sg	20 20 30.0	-0.6
TGS	TashGRES	1.40	292	*e*P	Pg	20 20 20.0	+2.0
TGS				S	Sn	20 20 40.0	+3.5
DRK	Karamyk	1.49	163	⇑*e*P	Pn	20 20 18.8	-0.1
	baz=60						
DRK				⇑*i*S	Sn	20 20 39.2	+0.3
	baz=60						
TAS	Tashkent	1.53	287	*e*P	Pg	20 20 21.0	+0.5
TAS				S	Sg	20 20 41.0	+0.6
NZBK	Nazarbek	1.64	282	P	Pg	20 20 22.0	-0.6
NZBK				S	Sg	20 20 46.0	+2.2
CHM	Chimkent	1.88	319	*e*P	Pg	20 20 28.2	+1.1
	38nm,0.2s						
CHM				*e*S	Sg	20 20 51.6	+0.2
	572nm,0.3s						
DZA	Taraz	1.99	2	*e*P	Pg	20 20 29.8	+0.6
	11nm,0.1s						
DZA				*e*S	Sg	20 20 54.8	-0.1
	94nm,0.2s						
KK09	Karatay Array	2.28	346	⇑Pn	Pb	20 20 32.8	-0.2
	8.1nm,0.6s,baz=166,slow=17						
KK09				⇓Sn	Sg	20 21 03.2	-1.3
	28nm,0.4s,baz=163,slow=26						
MRKS	Merke	2.36	38	*e*P	Pg	20 20 39.1	+2.8
	3.2nm,0.4s						
MRKS				*e*S	Sg	20 21 10.8	+3.9
	18nm,0.4s						
MRKS	Merke	2.36	38	Pg	Pg	20 20 38.5	+2.1
	3.2nm,0.4s						
MRKS				Lg	Lg	20 21 10.2	
	18nm,0.4s						
BRLS	Borolday	2.37	334	*e*P	Pg	20 20 34.4	-2.2
	2.9nm,0.3s						
BRLS				*e*S	Sb	20 21 02.0	-2.0
	52nm,0.3s						
ARLS	Aral	2.50	67	⇑*i*P	Pb	20 20 36.8	0.0
	baz=66						
ARLS				⇑*i*S	Sb	20 21 09.4	+1.4
	baz=66						
EKS2	Erkin-Say	2.58	46	⇓*e*P	Pb	20 20 37.4	-0.7
	baz=46						
EKS2				⇓*i*S	Sb	20 21 11.0	+0.8
	baz=46						
CHGR	Chuyangaron	2.76	216	⇑*i*P	Pn	20 20 37.9	+1.6
	baz=16						
CHGR				⇑*i*S	Sb	20 21 11.9	-3.5
	baz=16						
SGDS	Sogindy	3.58	44	*e*P	Pg	20 20 59.8	+0.2
	1.1nm,0.4s						
SGDS				*e*S	Sg	20 21 45.9	-0.1
	4.6nm,0.4s						
DGS	Degeres	4.10	54	*e*P	Pg	20 21 09.7	+0.1
	0.8nm,0.3s						
DGS				*e*S	Sg	20 22 03.1	+0.3
	4.1nm,0.5s						
DGS	Degeres	4.10	54	Pg	Pg	20 21 09.3	-0.3
	0.9nm,0.6s						
DGS				Lg	Lg	20 22 03.1	
	4.1nm,0.5s						
KRBS	Karabastau	4.31	48	*e*P	Pg	20 21 13.8	+0.2
	0.6nm,0.2s						
KRBS				*e*S	Sg	20 22 10.1	+0.6
	5.3nm,0.6s						
KRBS	Karabastau	4.31	48	Pg	Pg	20 21 13.8	+0.2
	0.6nm,0.2s						
KRBS				Lg	Lg	20 22 10.1	
	5.3nm,0.6s						
BTLS	Baital	4.62	25	*e*P	Pg	20 21 19.4	-0.1
	1.0nm,0.5s						
BTLS				*e*S	Sg	20 22 19.1	-0.1
	3.9nm,0.4s						
TNSS	Tian-Shan	4.75	62	*e*P	Pg	20 21 22.8	+0.6
	1.0nm,0.5s						
TNSS				*e*S	Sg	20 22 25.1	+1.3
	2.0nm,0.5s						
KUU	Kurty	4.81	50	*e*P	Pg	20 21 21.3	-2.0
	0.8nm,0.9s						
KUU				*e*S	Sg	20 22 22.8	-2.7
	6.2nm,0.6s						
KUU	Kurty	4.81	50	Pg	Pg	20 21 21.3	-2.0
	0.8nm,0.9s						
KUU				Lg	Lg	20 22 22.8	
	6.2nm,0.6s						
KTBS	Karatobe	4.91	53	*e*P	Pg	20 21 23.5	-1.6
	0.5nm,0.6s						
KTBS				*e*S	Sg	20 22 26.7	-2.0
	5.1nm,0.5s						
KTBS	Karatobe	4.91	53	Pg	Pg	20 21 23.5	-1.6
	0.5nm,0.6s						
KTBS				Lg	Lg	20 22 26.7	
	5.1nm,0.5s						
KOTS	Kotyrbulak	4.95	60	*e*P	Pg	20 21 25.4	-0.4
	1.1nm,0.4s						
KOTS				*e*S	Sg	20 22 30.1	+0.2
	8.3nm,0.8s						
KOTS	Kotyrbulak	4.95	60	Pg	Pg	20 21 25.5	-0.4
	1.1nm,0.4s						
KOTS				Lg	Lg	20 22 30.1	
	8.3nm,0.8s						

IDC 04 20:20:53.0±0.5, 4°.25S×94°.40E, h0km, mb4.7/25, mb1 4.8/28, mb1mx4.6/40, mbtmp4.7/28, ML4.6/3, MS4.8/80, Ms1 4.8/80, ms1mx4.8/86, Error ellipse: s-maj=16.5km s-min=11.7km az=30.0
BJI 04 20:20:53.0±0.0, 4°.20S×94°.50E, h5km, mb4.9/73, mB4.9/58, Ms5.2/83, Ms7 5.1/76
NEIC 04 20:20:54.1, 4°.18S×94°.42E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr0.02; Mθθ-0.40; Mφφ0.38; Mrθ0.34; Mθφ-1.13; Mφr-0.27; Fault plane solution: M0 1.27000×10^{17} NP1: φs190.91000°, δ73.25000°, λ8.51000°. NP2: φs98.44000°, δ81.86000°, λ163.08000°. Principal axes: T 1.3216, Plg18.0000°, Azm54.0000°; N -0.1027, Plg71.0000°, Azm253.0000°; P -1.2189, Plg6.0000°, Azm146.0000°;
MOS 04 20:20:54.8±1.2, 4°.15S×94°.46E, h25km, mb5.2/49, MS4.9/21 Error ellipse: s-maj=6.7km s-min=4.1km az=113.1
NEIC 04 20:20:54.3±1.9, 4°.19S±0°.08×94°.42E±0°.07, h10km±1km, mb5.2/128, Mwb5.3/20, Mww5.4, Error ellipse: s-maj=13.3km s-min=11.5km az=196.0
DJA 04 20:20:55.6±0.1, 4°S±2°×9°5E±°, h10km, M5.0/97, mb5.2/97, mB5.5/61, MLv5.9/11, Mw(mB)5.0/61, MwMwp5.1/17, Mwp5.3/17
GCMT 04 20:20:55.3±0.1, 4°.33S±0°.01×94°.42E±0°.01, h12km, MW5.4/141, Moment Tensor Solution. s100, c158; s141, c275; Duration: 1s.2 Moment tensor: Scale 10^{17} Nm; Mrr-0.01±.02; Mθθ-0.31±.02; Mφφ0.32±.02; Mrθ-0.14±.04; Mθφ-1.38±.01; Mφr-0.67±.04; Best double couple: M0 1.57400×10^{17} NP1: φs97.00000°, δ64.00000°, λ-178.00000°. NP2: φs6.00000°, δ88.00000°, λ-26.00000°. Principal axes: T 1.5570, Plg17.0000°, Azm55.0000°; N 0.0360, Plg64.0000°, Azm183.0000°; P -1.5920, Plg19.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

Triangular moment-rate function
*KLM **04** 20:20:55, 4°.15S×94°.37E, h10km, mb5.3*
*NEIC **04** 20:20:58, 4°.19S×94°.39E, h14km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$0.49; $M_{r\theta}$0.45; $M_{\theta\phi}$-1.49; $M_{\phi r}$0.19; Fault plane solution: $M_0$1.63000×10^{17} NP1: ϕ_s278.00000°, δ79.00000°, λ-162.00000°. NP2: ϕ_s185.00000°, δ73.00000°, λ-11.00000°. Principal axes: T 1.6730, Plg4.0000°, Azm51.0000°; N -0.0995, Plg70.0000°, Azm311.0000°; P -1.5735, Plg20.0000°, Azm143.0000°;*
ISC 04 20:20:54.1±0.3**, 4°.26S**±0°.04×**94°.37E**±0°.03**, h10km, n715,** σ**1s65**/772**, mb5.1**/205**, MS5.0**/123**, 66C-30D, Fault plane solution: NP1:**ϕ_s156.22232°**,**δ86.45785°**,**λ22.34747°. **NP2:**ϕ_s64.76739°**,**δ67.69753°**,**λ176.17104°. **Principal axes:** T Plg18.1817°, Azm22.7212°**;** N Plg67.3878°, Azm164.7692°**;** P Plg12.9827°, Azm288.3787°**; Fault plane solution: NP1:**ϕ_s180.11012°**,**δ62.74299°**,** λ-1.44249°. **NP2:**ϕ_s270.77087°**,**δ88.71771°**,** λ-152.73560°. **Principal axes:** T Plg17.9399°, Azm42.1219°**;** N Plg62.7078°, Azm273.2573°**;** P Plg19.8566°, Azm138.8364°**; Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISI	**Saibi**	**5.54**	**58**	P	**Pn**	**20 22 15.8**	**-0.9**
	5.1nm18µm16µm1µm,0.9s						
PPSI	**Pulau Pagai**	**5.82**	**75**	P	**Pn**	**20 22 19.6**	**-1.0**
	6.7nm18µm19µm2µm,0.9s						
GSI	**Gunungsitoli**	**6.38**	**30**	Pn	**Pn**	**20 22 26.7**	**-1.7**
GSI	**Gunungsitoli**	**6.38**	**30**	P	**Pn**	**20 22 26.5**	**-1.8**
	2.2nm35µm6µm643nm,0.6s						
GSI	**Gunungsitoli**	**6.38**	**30**	P	**Pn**	**20 22 27.2**	**-1.1**
PPI	**Padang Panjang**	**7.11**	**58**	P	**Pn**	**20 22 37.4**	**-0.8**
	12µm847nm,0.8s						
KRJI	**Kerinci**	**7.40**	**73**	P	**Pn**	**20 22 40.9**	**-1.5**
	9.1nm10µm25µm2µm,0.9s						
MASI	**Maura Aman, Be**	**7.93**	**82**	P	**Pn**	**20 22 47.9**	**-1.7**
	3.4nm6µm744nm,0.9s						
BKNI	**Bangkinang**	**8.07**	**56**	Pn	**Pn**	**20 22 50.5**	**-1.0**
BKNI	**Bangkinang**	**8.07**	**56**	P	**Pn**	**20 22 51.4**	**-0.1**
	3.1nm10µm9µm875nm,0.9s						
BKNI	**Bangkinang**	**8.07**	**56**	P	**Pn**	**20 22 52.5**	**+1.0**
KSI	**Kapahiang**	**8.23**	**86**	P	**Pn**	**20 22 51.5**	**-2.2**
	1.1nm4µm307nm,0.7s						
RPSI	**Rantau Prapat**	**8.27**	**33**	Pn	**Pn**	**20 22 52.3**	**-1.9**
RPSI	**Rantau Prapat**	**8.27**	**33**		**Pn**	**20 22 53.1**	**-1.1**
PSI	**Prapat**	**8.36**	**33**	Pn	**Pn**	**20 22 53.1**	**-2.4**
	2.1nm,0.3s,baz=186,slow=8.2,SNR=27						
PSI				Sn	**Sn**	**20 24 24.9**	**-5.3**
	5.7nm,0.3s,baz=324,slow=22,SNR=2.1						
PSI	**Prapat**	**8.36**	**33**	P	**Pn**	**20 22 54.4**	**-1.1**
KCSI	**Kotacane, Aceh**	**8.44**	**24**	P	**Pn**	**20 22 55.3**	**-1.3**
	2µm148nm,0.7s						
MNAI	**Manna**	**8.56**	**91**		**Pn**	**20 22 56.6**	**-1.7**
MNAI	**Manna**	**8.56**	**91**	P	**Pn**	**20 22 56.0**	**-2.3**
	4µm4µm470nm,0.9s						
MNAI	**Manna**	**8.56**	**91**	P	**Pn**	**20 22 57.1**	**-1.2**
TSI	**Tuntungan**	**8.77**	**29**	P	**Pn**	**20 22 59.7**	**-1.4**
	6µm4µm405nm,0.7s						
RGRI	**Rengat**	**8.85**	**64**	P	**Pn**	**20 23 02.4**	**+0.2**
	2.3nm419nm,0.4s						
JMBI	**JAMBI**	**9.62**	**75**	P	**Pn**	**20 23 11.3**	**-1.5**
	270nm,0.9s						
LWLI	**Liwa**	**9.69**	**95**	P	**Pn**	**20 23 11.9**	**-1.9**
	386nm,0.7s						
LHMI	**Lhok Sumawe**	**9.77**	**15**	Pn	**Pn**	**20 23 11.5**	**-3.3**
LHMI	**Lhok Sumawe**	**9.77**	**15**	P	**Pn**	**20 23 14.1**	**-0.7**
	2µm130nm,0.7s						
MDSI	**Maura Dua**	**9.78**	**92**	P	**Pn**	**20 23 13.5**	**-1.5**
	734nm74nm,1.0s						
KASI	**Kota Agung**	**10.17**	**98**	P	**Pn**	**20 23 19.1**	**-1.2**
	2µm211nm,0.7s						
KLSI		**10.34**	**93**	P	**Pn**	**20 23 21.2**	**-1.4**
	518nm46nm,0.9s						
PMBI	**Palembang**	**10.47**	**83**	Pn	**Pn**	**20 23 20.2**	**-4.2**
PMBI	**Palembang**	**10.47**	**83**	P	**Pn**	**20 23 23.0**	**-1.4**
	3µm4µm353nm,1.0s						
PMBI	**Palembang**	**10.47**	**83**	P	**Pn**	**20 23 22.4**	**-2.0**
DSRI	**Dabo**	**10.87**	**70**	P	**Pn**	**20 23 27.3**	**-2.6**
	954nm84nm,0.9s						
IPM	**Ipoh**	**10.93**	**38**	Pn	**Pn**	**20 23 29.9**	**-0.9**
IPM	**Ipoh**	**10.93**	**38**	P	**Pn**	**20 23 31.0**	**+0.2**
IPM	**Ipoh**	**10.93**	**38**	P	**Pn**	**20 23 31.5**	**+0.7**
MYKOM	**Kota Tinggi**	**11.22**	**58**		**Pn**	**20 23 33.2**	**-1.5**
MYKOM	**Kota Tinggi**	**11.22**	**58**	P	**Pn**	**20 23 34.0**	**-0.7**
KULM	**Kulim**	**11.37**	**34**	Pn	**Pn**	**20 23 34.9**	**-1.8**
KULM	**Kulim**	**11.37**	**34**	P	**Pn**	**20 23 35.0**	**-1.8**
TPRI	**Tanjung Pinang**	**11.38**	**63**	P	**Pn**	**20 23 36.4**	**-0.4**
	3µm194nm,0.7s						
JRMM	**Jerantut**	**11.45**	**45**	P	**Pn**	**20 23 37.0**	**-0.8**
CGJI	**Cibinong**	**11.51**	**102**	P	**Pn**	**20 23 37.1**	**-1.6**
	1µm154nm,1.0s						
SKJI	**Sukabumi**	**12.43**	**103**	P	**Pn**	**20 23 50.8**	**-0.5**
	864nm58nm,1.0s						
DBJI	**Dramaga**	**12.54**	**101**	P	**Pn**	**20 23 53.2**	**+0.5**
	40µm49nm,0.7s						
CBJI	**Citeko**	**12.61**	**100**	P	**Pn**	**20 23 55.1**	**+1.4**
	3µm222nm,0.6s						
CNJI	**Cibinong**	**13.05**	**104**	P	**Pn**	**20 23 58.9**	**-0.9**
	2µm7µm110nm,0.9s						
TPI	**Tanjungpandan**	**13.34**	**84**	P	**Pn**	**20 24 01.9**	**-1.8**
	345nm29nm,1.2s						
LEM	**Lembang**	**13.43**	**102**	Pn	**Pn**	**20 24 05.5**	**+0.3**
	5.0nm,0.3s,baz=216,slow=6.0,SNR=14						
LEM				Sn	**Sn**	**20 26 31.0**	**-3.7**
	baz=64,slow=21,SNR=1.4						
LEM				LR	LR	20 29 00.6	
	comp=Z,4µm,18.1s,baz=259,slow=36						
LEM	**Lembang**	**13.43**	**102**	P	**Pn**	**20 24 05.4**	**+0.3**
	1µm1µm69nm,1.1s						
SRIT	**Nakonsritamara**	**13.79**	**22**	Pn	**Pn**	**20 24 08.0**	**-1.9**
CMJI	**Cimerak**	**14.43**	**105**	P	**Pn**	**20 24 17.4**	**-1.3**
	800nm47nm,0.7s						
KPJI	**Karang Pucung**	**14.81**	**103**	P	**Pn**	**20 24 23.7**	**-0.1**
	72nm,1.2s						
PBA	**Port Blair**	**15.89**	**354**		**P**	**20 24 40.0**	**-1.7**
YOGI	**Yogyakarta**	**16.23**	**103**	P	**Pn**	**20 24 42.8**	**+0.4**
	110nm,1.6s						
SMRI	**Semarang**	**16.23**	**101**	Pn	**Pn**	**20 24 41.3**	**-1.1**
SMRI				IAmb	IAmb	20 25 22.1	
	comp=Z,251nm,1.4s						
UGM	**Wanagama**	**16.47**	**104**	Pn	**Pn**	**20 24 41.9**	**-3.6**
UGM	**Wanagama**	**16.47**	**104**	P	**Pn**	**20 24 45.9**	**+0.4**
	comp=Z,244nm,1.3s						
UGM	**Wanagama**	**16.47**	**104**	P	**P**	**20 24 47.6**	**-0.6**
UWJI	**Ujung Watu**	**16.65**	**98**	P	**Pn**	**20 24 47.0**	**-0.7**
	comp=Z,5µmcomp=Z,140nm,1.5s						
KSM	**Kuching**	**16.91**	**71**		**Pn**	**20 24 46.9**	**-4.3**
KSM	**Kuching**	**16.91**	**71**	P	**P**	**20 24 53.0**	**-0.1**
KSM	**Kuching**	**16.91**	**71**	P	**P**	**20 24 52.5**	**-0.6**
PCJI	**Pacitan**	**17.16**	**104**	P	P	20 25 09.3	+13
PBKI	**Pangkalan Bun**	**17.34**	**85**	P	**P**	**20 24 57.7**	**-0.1**
	comp=Z,2µmcomp=Z,181nm,1.2s						
STKI	**Sintang**	**17.62**	**76**	P	**Pn**	**20 24 59.5**	**-0.5**
	comp=Z,2µmcomp=Z,85nm,1.1s						
PWJI	**Pagerwojo**	**17.73**	**103**	P	**P**	**20 25 02.7**	**+0.5**
	comp=Z,1µmcomp=Z,73nm,1.1s						
PALK	**Pallekele**	**17.81**	**310**	P	**P**	**20 25 03.4**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=239,slow=10,SNR=22						
PALK				S	Sn	20 28 06.6	-14
	comp=Z,1.8nm,0.3s,baz=137,slow=22,SNR=2.9						
PALK				LR	LR	20 30 40.9	
	comp=Z,7µm,20.1s,baz=244,slow=33						
PALK	**Pallekele**	**17.81**	**310**	P	**Pn**	**20 25 00.2**	**-2.1**
PALK				IAmb	IAmb	20 25 06.3	
	comp=Z,130nm,1.1s						
PALK	**Pallekele**	**17.81**	**310**	P	**P**	**20 25 03.2**	**+0.1**
PALK				P	**P**	**20 25 03.2**	**+0.1**
PALK				S	**Sn**	**20 28 18.9**	**-2.2**
PALK				S	**Sn**	**20 28 18.9**	**-2.2**
SBUM	**Sibu**	**19.04**	**70**	P	**P**	**20 25 15.5**	**-1.1**
SBUM	**Sibu**	**19.04**	**70**	P	**Pn**	**20 25 18.0**	**+0.6**
GMJI	**Gumukmas**	**19.37**	**103**	P	**P**	**20 25 20.6**	**+0.3**
	comp=Z,77nm,1.2s						
BLJI	**Banyuglugur**	**19.43**	**101**	P	Pn	20 25 32.9	+11
ABJI	**Asem Bagus**	**20.06**	**101**	P	**P**	**20 25 28.2**	**+0.4**
	comp=Z,162nm,1.1s						
JAGI	**Jajag, Banyuwa**	**20.10**	**103**		**P**	**20 25 25.5**	**-2.7**
JAGI	**Jajag, Banyuwa**	**20.10**	**103**	P	**P**	**20 25 28.6**	**+0.4**
	comp=Z,87nm,1.0s						
JAGI	**Jajag, Banyuwa**	**20.10**	**103**	P	Pn	20 25 30.1	+0.1
MTKI	**Muara Teweh, K**	**20.77**	**81**	P	Pn	20 25 36.4	-1.5
	comp=Z,2µmcomp=Z,1µmcomp=Z,155nm,1.0s						
SRBI	**Singaraja**	**21.07**	**101**	P	**P**	**20 25 39.8**	**+1.1**
	comp=Z,2µmcomp=Z,118nm,1.4s						
IGBI	**Denpasar**	**21.13**	**103**	P	**P**	**20 25 39.3**	**-0.1**
	comp=Z,2µmcomp=Z,118nm,1.2s						
DNP	**Denpasar**	**21.16**	**103**	P	**P**	**20 25 41.6**	**+1.8**
DNP				pmax	pmax		
	comp=Z,215nm,1.1s						
DNP	**Denpasar**	**21.16**	**103**	P	**P**	**20 25 39.8**	**0.0**
DLV	**T Lat**	**21.36**	**41**	P	**P**	**20 25 39.7**	**-2.3**
DLV				IAmb	IAmb	20 25 47.9	
	comp=Z,113nm,1.0s						
KBKI	**Kotabaru**	**21.77**	**88**	P	**P**	**20 25 47.6**	**+1.3**
	comp=Z,89nm,1.3s						
KAAM	**Kaadhehdhoo**	**21.87**	**282**	P	**P**	**20 25 46.2**	**-1.1**
KAAM	**Kaadhehdhoo**	**21.87**	**282**	P	**P**	**20 25 48.9**	**+1.5**
KAAM				S	**S**	**20 29 51.4**	**+2.1**
H08S2	**Diego Garcia H**	**22.01**	**260**	T	T	20 47 58.1	
	baz=82,slow=74,SNR=10.0						
H08S3	**Diego Garcia H**	**22.02**	**260**	T	T	20 48 02.2	
	baz=82,slow=74,SNR=9.8						
DGAR	**Diego Garcia**	**22.02**	**261**	*i* P	**P**	**20 25 48.7**	**-0.3**
DGAR				pmax	pmax		
	comp=Z,404nm,1.2s						
DGAR	**Diego Garcia**	**22.02**	**261**	P	**P**	**20 25 47.4**	**-1.6**
DGAR	**Diego Garcia**	**22.02**	**261**	P	**P**	**20 25 55.1**	**+6.1**
DGAR				S	Sn	20 30 00.1	-2.6
H08S1	**Diego Carcia H**	**22.03**	**260**	T	T	20 47 58.7	
	baz=82,slow=74,SNR=11						
UBPT	**Khong Chiam**	**22.31**	**29**	P	**P**	**20 25 50.5**	**-1.5**
UBPT				IAmb	IAmb	20 25 58.7	
	comp=Z,70nm,1.2s						
CM31	**Chiang Mai Arr**	**23.02**	**11**	P	**P**	**20 25 59.3**	**-0.1**
CM31				IAmb	IAmb	20 26 27.4	
	comp=Z,51nm,0.9s						
CM31	**Chiang Mai Arr**	**23.02**	**11**	P	**P**	**20 26 00.8**	**+1.4**
	SNR=27						
CMAR	**Chiang Mai Arr**	**23.02**	**11**	P	**P**	**20 26 00.4**	**+0.9**
	comp=Z,16nm,0.9s,baz=200,slow=9.2,SNR=69						
CMAR				LR	LR	20 35 02.1	
	comp=Z,2µm,18.1s,baz=210,slow=37						
CMAR	**Chiang Mai Arr**	**23.02**	**11**	P	**P**	**20 25 57.5**	**-1.9**
CHTO	**Chiang Mai**	**23.36**	**11**	P	**P**	**20 26 03.1**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,47nm,1.3s						
CHTO	**Chiang Mai**	**23.36**	**11**	P	**P**	**20 26 03.1**	**+0.1**
CHTO	**Chiang Mai**	**23.36**	**11**	P	**P**	**20 26 03.5**	**+0.5**
CHTO	**Chiang Mai**	**23.36**	**11**	P	**P**	**20 26 04.1**	**+1.1**
SGKI	**Sangatta, Kali**	**23.50**	**82**	P	**P**	**20 26 06.8**	**+2.3**
	comp=Z,196nm,1.4s						
PLAI	**Plampang**	**23.69**	**102**	P	**P**	**20 26 05.7**	**-0.6**
	comp=Z,3µmcomp=Z,185nm,1.8s						
PLAI	**Plampang**	**23.69**	**102**	P	**P**	**20 26 07.3**	**+1.0**
SPMM	**Sapulut**	**23.80**	**68**	P	**P**	**20 26 08.0**	**+0.5**
HMDM	**Hanimaadhoo**	**23.82**	**297**	P	**P**	**20 26 10.0**	**+2.4**
KKM	**Kota Kinabalu**	**24.09**	**65**	P	**P**	**20 26 06.7**	**-3.6**
KKM				IAmb	IAmb	20 26 11.9	
	comp=Z,69nm,0.9s						
KKM	**Kota Kinabalu**	**24.09**	**65**	P	**P**	**20 26 11.5**	**+1.2**
MNCI	**Minicoy**	**24.63**	**300**	P	**P**	**20 26 14.5**	**-0.6**
KAPI	**Kappang**	**25.31**	**93**	P	**P**	**20 26 22.4**	**+1.2**
	comp=Z,60nm,1.0s,baz=284,slow=12,SNR=20						
KAPI				LR	LR	20 37 02.4	
	comp=Z,1µm,18.7s,baz=295,slow=38						
KAPI	**Kappang**	**25.31**	**93**	P	**P**	**20 26 20.0**	**-1.3**
KAPI	**Kappang**	**25.31**	**93**	P	**P**	**20 26 22.5**	**+1.2**
KAPI	**Kappang**	**25.31**	**93**	P	**P**	**20 26 23.1**	**+1.9**
SPSI	**Sidrap Palu**	**25.34**	**90**	P	**P**	**20 26 22.6**	**+1.1**
	comp=Z,701nmcomp=Z,51nm,1.0s						
WBSI	**Waikabubak, Su**	**25.40**	**103**	P	**P**	**20 26 21.9**	**-0.2**
	comp=Z,2µmcomp=Z,258nm,1.0s						
TTSI	**Tana Toraja**	**25.43**	**88**	P	**P**	**20 26 23.4**	**+1.1**
	comp=Z,857nmcomp=Z,80nm,1.1s						
BNSI	**Bone**	**25.66**	**91**	P	**P**	**20 26 26.4**	**+1.9**
	comp=Z,2µmcomp=Z,133nm,1.3s						
BKSI	**Bulukumba**	**25.68**	**93**	P	**P**	**20 26 24.7**	**+0.1**
	comp=Z,781nmcomp=Z,86nm,0.9s						
MYLDM	**Lahad Datu**	**25.86**	**69**	P	**P**	**20 26 26.2**	**-0.1**
MPSI	**Mapaga**	**25.91**	**80**	P	**P**	**20 26 27.1**	**+0.4**
	comp=Z,1µmcomp=Z,652nmcomp=Z,42nm,1.2s						
BSSI	**Bau Bau, Buton**	**26.08**	**95**	P	**P**	**20 26 29.9**	**+1.6**
	comp=Z,34nm,1.5s						
HYBB	**Hyderabad (bro**	**26.60**	**324**	*e*P	**P**	**20 26 34.6**	**+1.7**
HYBB				IVmB_BB		20 26 40.7	
	comp=Z,215nm,2.1s						
HYBB				*e*S	**S**	**20 31 09.2**	**+1.3**
HYBB				IVMs_BB	IVMs_BB	20 34 20.9	
	comp=Z,734nm,26.4s						
BASI	**Baing, Sumba**	**26.65**	**104**	P	**P**	**20 26 40.0**	**+6.6**
TOLI2	**Tolitoli**	**26.93**	**79**	P	**P**	**20 26 33.3**	**-2.6**
TOLI2				IAmb	IAmb	20 26 48.3	
	comp=Z,52nm,1.1s						
TOLI2	**Tolitoli**	**26.93**	**79**	P	**P**	**20 26 37.5**	**+1.6**
QIZ	**Qiongzhong**	**27.70**	**33**	P	**P**	**20 26 39.6**	**-3.1**
QIZ				IAmb	IAmb	20 26 45.2	
	comp=Z,28nm,1.1s						
QIZ	**Qiongzhong**	**27.70**	**33**	P	**P**	**20 26 42.9**	**+0.1**
QIZ				PP	**PnPn**	**20 27 35.1**	**+6.6**
QIZ				S	**S**	**20 31 29.5**	**+4.3**
QIZ				PcS	**PcS**	**20 33 38.7**	**-3.3**
QIZ				pmax	pmax		
	comp=Z,23nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,230nm,9.0s						
QIZ				LR	LR		
	comp=Z,3µm,16.3s						
QIZ				LR	LR		
	comp=Z,2µm,13.9s						
QIZ				LR	LR		
	comp=Z,2µm,12.6s						
QIZ	**Qiongzhong**	**27.70**	**33**	P	**P**	**20 26 43.7**	**+0.9**
MRSI	**Marisa**	**27.95**	**81**	P	**P**	**20 26 45.5**	**+0.4**
	comp=Z,26nm,0.7s						
MMRI	**Maumere**	**28.02**	**100**	P	**P**	**20 26 42.3**	**-3.5**
MMRI	**Maumere**	**28.02**	**100**	P	**P**	**20 26 44.9**	**-0.9**
	comp=Z,1µmcomp=Z,88nm,1.5s						
BBSI	**Bau Bau**	**28.12**	**94**	P	**P**	**20 26 46.4**	**-0.3**
	comp=Z,186nmcomp=Z,8.4nm,1.0s						
GTOI	**Gorontalo**	**29.03**	**81**	P	**P**	**20 26 54.5**	**-0.2**
	comp=Z,200nmcomp=Z,13nm,0.7s						
BATI	**Baumata**	**29.64**	**103**	P	**P**	**20 27 00.3**	**+0.1**
	comp=Z,24nm,0.7s,baz=252,slow=2.2,SNR=15						
BATI	**Baumata**	**29.64**	**103**	P	**P**	**20 27 01.2**	**+1.0**
	comp=Z,25nm,0.8s						
SHL	**Shillong**	**29.74**	**355**	P	**P**	**20 26 59.8**	**-1.3**
SHL				pmax	pmax		
	comp=Z,43nm,1.1s						
SHL	**Shillong**	**29.74**	**355**	P	**P**	**20 26 59.8**	**-1.3**
SHL				IAmb	IAmb	20 27 28.7	
	comp=Z,43nm,1.1s						
SHL	**Shillong**	**29.74**	**355**	P	**P**	**20 27 02.6**	**+1.5**
	SNR=12						
KMI	**Kunming**	**30.31**	**15**	⇑P	**P**	**20 27 08.9**	**+2.7**
KMI				pP	pwP	20 27 11.4	-2.8
KMI				sP	sP	20 27 12.4	+4.0
KMI				S	**S**	**20 32 07.3**	**+0.7**
KMI				sS	sS	20 32 11.5	+2.3
KMI				PcS	**PcS**	**20 33 54.8**	**+4.3**
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
KMI				LR	LR		
	comp=Z,2µm,12.6s						
KMI				LR	LR		
	comp=Z,2µm,14.1s						
KMI				LR	LR		
	comp=Z,2µm,12.6s						
JBP	**Jabalpur**	**30.66**	**333**	*e*P	**P**	**20 27 11.2**	**+2.2**
JBP				IAmb	IAmb	20 27 13.2	
	comp=Z,18nm,0.9s						
JBP				*e*S	**S**	**20 32 16.0**	**+4.4**
PZH	**PanZhiHua**	**31.40**	**13**	P	**P**	**20 27 18.1**	**+2.5**
PZH				pP	**pwP**	**20 27 22.0**	**-1.7**
PZH				S	**S**	**20 32 26.0**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
PZH				LR	LR		
	comp=Z,2µm,15.1s						
PZH				LR	LR		
	comp=Z,2µm,15.3s						
PZH				LR	LR		
	comp=Z,2µm,14.3s						
SANI	**Sanana**	**31.64**	**87**	P	**P**	**20 27 19.3**	**+1.4**
	comp=Z,16nm,1.2s						
SANI	**Sanana**	**31.64**	**87**	P	**P**	**20 27 17.9**	**0.0**
ODAN	**Odare**	**31.66**	**348**	*e*P	**P**	**20 27 19.4**	**+1.4**
	comp=Z,63nm,0.8s						
RAMN	**Ramite**	**31.92**	**347**	*e*P	**P**	**20 27 21.9**	**+1.6**
	comp=Z,21nm,0.7s						
TGY	**Tagaytay City**	**32.05**	**55**	LR	LR	20 40 18.1	
	comp=Z,4µm,20.5s,baz=216,slow=36						
TAPN	**Taplejung**	**32.07**	**349**	*e*P	**P**	**20 27 23.2**	**+1.5**
	comp=Z,30nm,0.8s						
JIRN	**Jiri**	**32.70**	**346**	*e*P	**P**	**20 27 28.4**	**+1.1**
	comp=Z,67nm,0.8s						
GYA	**Guiyang**	**32.77**	**21**	⇓*i*P	**P**	**20 27 29.4**	**+1.7**
GYA				S	**S**	**20 32 46.2**	**+1.4**
GYA				pmax	pmax		
	comp=Z,21nm,1.1s						
GYA				LR	LR		
	comp=Z,3µm,13.6s						
GYA				LR	LR		
	comp=Z,2µm,13.2s						
GYA				LR	LR		
	comp=Z,3µm,14.0s						
PKI	**Pulchoki**	**32.80**	**345**	*e*P	**P**	**20 27 28.6**	**+0.4**
PKIN	**Phulchoki**	**32.81**	**345**	*e*P	**P**	**20 27 28.6**	**+0.4**
DMN	**Daman**	**32.91**	**345**	*e*P	**P**	**20 27 29.8**	**+0.7**
GUN	**Gumba**	**33.01**	**346**	*e*P	**P**	**20 27 31.0**	**+1.0**
	comp=Z,72nm,0.7s						
KKN	**Kakani**	**33.04**	**345**	*e*P	**P**	**20 27 30.8**	**+0.6**
DAV	**Davao City (W)**	**33.12**	**70**	LR	LR	20 41 47.7	
	comp=Z,2µm,21.7s,baz=251,slow=38						
GULI	**GuiLin**	**33.23**	**27**	⇓P	**P**	**20 27 32.3**	**+0.8**
GULI				S	**S**	**20 32 55.2**	**+3.5**
GULI				pmax	pmax		
	comp=Z,20nm,0.9s						
GULI				LR	LR		
	comp=Z,2µm,16.3s						
GULI				LR	LR		
	comp=Z,3µm,14.6s						
GULI				LR	LR		
	comp=Z,2µm,14.4s						
LBMI	**Labuha**	**33.29**	**85**	P	**P**	**20 27 33.3**	**+1.0**
	comp=Z,626nmcomp=Z,66nm,0.9s						
TNTI	**Ternate**	**33.35**	**82**	P	**P**	**20 27 32.5**	**-0.3**
TNTI				IAmb	IAmb	20 28 00.0	
	comp=Z,54nm,1.2s						
GKN	**Gorkha**	**33.41**	**344**	*e*P	**P**	**20 27 34.0**	**+0.7**
	comp=Z,44nm,1.0s						
KOLN	**Koldanda**	**33.49**	**343**	*e*P	**P**	**20 27 34.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**33.54**	**117**	LR	LR	20 38 47.2	
	comp=Z,1µm,21.5s,baz=304,slow=32						
FITZ	**Fitzroy Crossi**	**33.54**	**117**	P	**P**	**20 27 34.6**	**+0.2**
	baz=34,SNR=4.3						
LSA	**Lhasa**	**33.90**	**355**	P	**P**	**20 27 38.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s						
LSA	**Lhasa**	**33.90**	**355**	P	**P**	**20 27 38.6**	**+0.7**
LSA				IAmb	IAmb	20 27 42.4	
	comp=Z,16nm,0.7s						
LSA	**Lhasa**	**33.90**	**355**	P	**P**	**20 27 40.0**	**+2.1**
LSA				S	S	20 32 53.5	-9.4
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA				LR	LR		
	comp=Z,380nm,12.1s						
LSA				LR	LR		
	comp=Z,600nm,12.1s						
LSA				LR	LR		
	comp=Z,370nm,13.2s						
LSA	**Lhasa**	**33.90**	**355**	P	**P**	**20 27 40.5**	**+2.6**
PYUN	**Piuthan**	**33.98**	**342**	*e*P	**P**	**20 27 38.8**	**+0.4**
	comp=Z,33nm,0.9s						
DANN	**Dangsing**	**33.99**	**343**	*e*P	**P**	**20 27 38.7**	**+0.2**
	comp=Z,54nm,1.1s						
H01W3	**Cape Leeuwin H**	**35.56**	**151**	T	T	21 05 22.1	
	baz=328,slow=74,SNR=4.6						
H01W2	**Cape Leeuwin H**	**35.57**	**151**	T	T	21 05 17.7	
	baz=328,slow=74,SNR=4.3						
H01W1	**Cape Leeuwin H**	**35.58**	**151**	T	T	21 05 24.0	
	baz=328,slow=74,SNR=3.8						
KNRA	**Kununurra**	**35.66**	**111**	P	**P**	**20 27 52.4**	**-0.4**
	baz=36,SNR=8.5						
CD2	**Chengdu**	**36.10**	**14**	⇑*i*P	**P**	**20 27 57.3**	**+0.9**
CD2				pP	sP	20 27 59.1	+0.5
CD2				sP	pwP	20 28 01.4	-3.1
CD2				PP	**PP**	**20 29 20.4**	**+1.8**
CD2				S	**S**	**20 33 37.6**	**+1.6**
CD2				sS	sS	20 33 43.8	+5.3
CD2				pmax	pmax		
	comp=Z,80nm,4.5s						
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				LR	LR		
	comp=Z,4µm,17.8s						
CD2				LR	LR		
	comp=Z,3µm,12.4s						
SWI	**Sorong**	**37.00**	**86**	P	**P**	**20 28 04.4**	**+0.1**
	comp=Z,32nm,1.5s						
SIJI	**Sorong**	**37.01**	**86**	LR	LR	20 43 26.7	
	comp=Z,504nm,20.8s,baz=96,slow=37						
ENH	**Enshi**	**37.26**	**22**	P	**P**	**20 28 05.4**	**-0.9**
ENH				IAmb	IAmb	20 28 07.8	
	comp=Z,30nm,0.8s						
QZH	**Quanzhou**	**37.37**	**38**	*e*P	P	20 28 12.5	+5.3
QZH				PP	**PnPn**	**20 29 38.6**	**+5.4**
QZH				S	S	20 34 04.4	+9.0
QZH				pmax	pmax		
	comp=Z,440nm,9.4s						
QZH				LR	LR		
	comp=Z,2µm,16.4s						
QZH				LR	LR		
	comp=Z,2µm,15.5s						
QZH				LR	LR		
	comp=Z,2µm,16.5s						
TWG	**Pinlang**	**37.48**	**43**	P	**P**	**20 28 06.9**	**-1.3**
TWG				IAmb	IAmb	20 28 12.3	
	comp=Z,66nm,1.5s						
TPUB	**Ta-pu**	**37.51**	**42**	P	**P**	**20 28 08.8**	**+0.4**
TPUB				IAmb	IAmb	20 28 11.4	
	comp=Z,44nm,1.1s						
TPUB	**Ta-pu**	**37.51**	**42**	P	**P**	**20 28 10.1**	**+1.6**
YULB	**Yu-li**	**38.02**	**42**	P	**P**	**20 28 12.7**	**-0.1**
SSLB	**Suanglung**	**38.06**	**42**	P	**P**	**20 28 13.0**	**-0.1**
SSLB				IAmb	IAmb	20 28 15.7	
	comp=Z,52nm,1.3s						
SSLB	**Suanglung**	**38.06**	**42**	P	**P**	**20 28 14.7**	**+1.6**
WRKA	**Warakurna**	**38.59**	**126**	P	**P**	**20 28 18.3**	**+0.7**
	baz=39,SNR=6.2						
WHN	**Wuhan**	**39.53**	**28**	⇓P	**P**	**20 28 26.6**	**+1.3**
WHN				S	**S**	**20 34 33.1**	**+5.3**
WHN				pmax	pmax		
	comp=Z,28nm,0.7s						
WHN				LR	LR		
	comp=Z,3µm,14.0s						
WHN				LR	LR		
	comp=Z,4µm,14.1s						
WHN				LR	LR		
	comp=Z,5µm,16.9s						
GOMU	**GeErMu**	**40.24**	**1**	P	**P**	**20 28 33.6**	**+2.0**
GOMU				pP	pwP	20 28 36.9	-2.8
GOMU				sP	sP	20 28 38.2	+4.3
GOMU				PcP	**PcP**	**20 30 34.9**	**-0.7**
GOMU				S	**S**	**20 34 40.8**	**+1.6**
GOMU				ScS	**ScS**	**20 38 38.4**	**-0.6**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,47nm,4.3s						
GOMU				LR	LR		
	comp=Z,280nm,15.9s						
GOMU				LR	LR		
	comp=Z,600nm,15.3s						
XAN	**Xi'an**	**40.49**	**19**	P	**P**	**20 28 33.9**	**+0.6**
XAN				pP	sP	20 28 37.8	+2.2
XAN				sP	pwP	20 28 40.2	-1.2
XAN				PP	**PnPn**	**20 30 11.5**	**+0.9**
XAN				S	**S**	**20 34 45.5**	**+3.2**
XAN				sS	sS	20 34 53.6	+8.6
XAN				ScS	**ScS**	**20 38 39.1**	**-0.8**
XAN				pmax	pmax		
	comp=Z,61nm,0.9s						
XAN				pmax	pmax		
	comp=Z,100nm,4.3s						
XAN				LR	LR		
	comp=Z,2µm,16.1s						
XAN				LR	LR		
	comp=Z,3µm,17.5s						
XAN				LR	LR		

comp=Z,2µm,16.7s
RER Riviere de l'E 41.09 242 P **P** **20 28 38.8 +0.2**
RER Riviere de l'E 41.09 242 P **P** **20 28 38.1 -0.5**
LZH Lanzhou 41.10 12 ⇓P **P** **20 28 39.4 +0.9**
LZH pP pwP 20 28 44.2 -2.4
LZH sP sP 20 28 47.5 +6.8
LZH PP **PnPn** **20 30 17.9 +0.1**
LZH S **S** **20 34 50.1 -1.5**
LZH SS **SS** **20 37 52.9 -1.4**
LZH pmax pmax
comp=Z,11nm,1.6s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=Z,1µm,15.7s
LZH LR LR
comp=Z,3µm,16.8s
LZH LR LR
comp=Z,2µm,16.3s
WB0 Warramunga Arr 41.92 115 P **P** **20 28 45.0 -0.4**
WB0 IAmb IAmb 20 28 48.3
comp=Z,51nm,1.4s
WRA Warramunga Arr 41.93 115 P **P** **20 28 45.4 0.0**
comp=Z,9.1nm,0.9s,baz=288,slow=8.8,SNR=32
WRA LR LR 20 46 15.8
comp=Z,1µm,18.5s,baz=290,slow=36
WRA Warramunga Arr 41.93 115 P **P** **20 28 44.8 -0.5**
WRAB Tennant Creek 41.93 115*ce*P **P** **20 28 45.0 -0.4**
WRAB pmax pmax
comp=Z,52nm,1.7s
WRAB Tennant Creek 41.93 115 P **P** **20 28 45.1 -0.3**
WRAB IAmb IAmb 20 28 48.4
comp=Z,31nm,1.1s
WRAB Tennant Creek 41.93 115 P **P** **20 28 46.2 +0.8**
WB2 Warramunga Arr 41.94 115 P **P** **20 28 45.5 0.0**
baz=42
WB2 Warramunga Arr 41.94 115 **P** **20 28 45.2 -0.3**
WR0 Warramunga Arr 42.11 115 P **P** **20 28 46.4 -0.5**
WR0 IAmb IAmb 20 28 49.9
comp=Z,117nm,1.8s
LYN LuoYang 42.20 22 ⇑P **P** **20 28 48.8 +1.5**
LYN pP pwP 20 28 58.3 +2.9
LYN S **S** **20 35 10.3 +2.7**
LYN pmax pmax
comp=Z,20nm,0.6s
LYN pmax pmax
comp=Z,80nm,5.5s
LYN LR LR
comp=Z,1µm,14.3s
LYN LR LR
comp=Z,2µm,14.9s
LYN LR LR
comp=Z,1µm,14.1s
NIL Nilore 42.66 334 P **P** **20 28 49.4 -1.8**
NIL pmax pmax
comp=Z,13nm,0.8s
NIL Nilore 42.66 334 P **P** **20 28 49.4 -1.8**
NIL Nilore 42.66 334 P **P** **20 28 51.3 +0.1**
NIL P **P** **20 28 51.3 +0.1**
ASAR Alice Springs 42.72 121 P **P** **20 28 52.0 +0.1**
comp=Z,4.4nm,1.0s,baz=292,slow=8.0,SNR=29
ASAR LR LR 20 48 21.9
comp=Z,2µm,18.1s,baz=0.0,slow=39
ASAR Alice Springs 42.72 121 P **P** **20 28 52.0 +0.1**
ASAR Alice Springs 42.72 121 P **P** **20 28 51.2 -0.7**
AS31 Alice Springs 42.73 121 P **P** **20 28 51.1 -0.8**
NJ2 Nanjing 42.97 31 ⇓P **P** **20 28 55.0 +1.4**
NJ2 sP **pwP** **20 29 03.4 +1.7**
NJ2 S **S** **20 35 22.1 +3.2**
NJ2 sS sS 20 35 29.2 +7.7
NJ2 ScS **ScS** **20 38 54.5 -0.4**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 LR LR
comp=Z,2µm,14.2s
NJ2 LR LR
comp=Z,3µm,16.6s
NJ2 LR LR
comp=Z,2µm,14.7s
JLN Jalan Bani Buh 43.10 309 P **P** **20 28 55.6 +0.7**
JLN P **P** **20 28 55.6 +0.7**
SOCY Socotra 43.34 293 P **P** **20 28 57.2 +0.3**
SOCY IAmb IAmb 20 29 08.3
comp=Z,37nm,1.2s
SOCY Socotra 43.34 293 P **P** **20 28 58.9 +1.9**
SNR=5.5
SSE Sheshan 43.48 34 P **P** **20 28 59.4 +1.7**
SSE S **S** **20 35 28.5 +2.0**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,99nm,11.6s
SSE LR LR
comp=Z,860nm,16.3s
MHTO MHTO 43.63 307 P **P** **20 28 59.5 +0.4**
MHTO P **P** **20 28 59.5 +0.4**
GTA Gaotai 43.74 6 ⇑P **P** **20 29 01.3 +1.4**
GTA pP pwP 20 29 04.8 -3.2
GTA sP sP 20 29 09.9 +7.8
GTA S **S** **20 35 29.3 -1.0**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,59nm,8.0s
GTA LR LR
comp=Z,700nm,16.7s
GTA LR LR
comp=Z,1µm,16.7s
GTA LR LR
comp=Z,660nm,15.9s
SHAO Shalim 44.15 301 P **P** **20 29 04.2 +0.8**
JMDO Jabal Madar 44.24 308 P **P** **20 29 04.9 +0.9**
JMDO P **P** **20 29 04.9 +0.9**
WSAR Wadi Sarin 44.30 310 LR LR 20 44 55.9
comp=Z,3µm,20.6s,baz=136,slow=33
WSAR Wadi Sarin 44.30 310 P **P** **20 29 05.6 +1.0**
DMTO DMTO 44.60 300 P **P** **20 29 08.2 +1.3**
SMDO Samad 44.65 309 P **P** **20 29 08.7 +1.2**
SNR=7.9
SMDO P **P** **20 29 08.7 +1.2**
SNR=7.9
BIDO Bidbid 44.84 310 P **P** **20 29 10.5 +1.7**
SNR=9.8
BIDO P **P** **20 29 10.5 +1.7**
SNR=9.8
JOW Kunigami 45.05 45 LR LR 20 47 54.7
comp=Z,384nm,19.0s,baz=177,slow=36
JOW Kunigami 45.05 45 P **P** **20 29 09.0 -1.4**
BSY Bisya 45.15 308 P **P** **20 29 12.8 +1.5**
SNR=9.9
BSY P **P** **20 29 12.8 +1.5**
SNR=9.9
KBL Kabul 45.37 330 P **P** **20 29 11.5 -1.6**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 45.37 330 P **P** **20 29 11.5 -1.6**
KBL Kabul 45.37 330 P **P** **20 29 13.8 +0.7**
SNR=7.1
KBL P **P** **20 29 13.8 +0.7**
SNR=7.1
HOQ Hoqain 45.51 309 P **P** **20 29 16.0 +1.9**
SNR=12
HOQ P **P** **20 29 16.0 +1.9**
SNR=12
TIA Tai'an 45.54 26 ⇑P **P** **20 29 14.0 -0.2**
TIA S **S** **20 35 57.2 +0.8**
TIA pmax pmax
comp=Z,13nm,0.8s
TIA pmax pmax
comp=Z,150nm,6.5s
TIA LR LR
comp=Z,1µm,18.4s
TIA LR LR
comp=Z,1µm,13.1s
TIA LR LR
comp=Z,2µm,16.7s
HNS HongShan 45.56 23 ⇑P **P** **20 29 15.8 +1.5**
HNS S **S** **20 36 00.5 +3.9**
HNS pmax pmax
comp=Z,43nm,0.9s
HNS LR LR
comp=Z,1µm,13.1s
HNS LR LR
comp=Z,1µm,14.7s
DOK Doka 45.69 301 P **P** **20 29 16.6 +1.0**
DOK P **P** **20 29 16.6 +1.0**
WHFO Wadi Hawf 45.70 300 P **P** **20 29 16.5 +0.7**
WHFO P **P** **20 29 16.5 +0.7**
ABTO Aybut 45.88 299 P **P** **20 29 18.2 +1.0**
SNR=8.0
ABTO P **P** **20 29 18.2 +1.0**
SNR=8.0
ARQ Araqi 45.99 308 P **P** **20 29 19.5 +1.5**
ARQ P **P** **20 29 19.5 +1.5**
JAY Jayapura 46.28 89 P **P** **20 29 20.2 -0.3**
comp=Z,7.4nm,1.1s
KSH Kashi 46.74 340 P **P** **20 29 22.4 -1.3**
KSH S **S** **20 36 10.2 -3.6**
KSH sS sS 20 36 16.9 +0.5
KSH SS **SS** **20 39 33.6 -6.8**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH LR LR
comp=Z,1µm,20.3s
KSH LR LR
comp=Z,1µm,17.5s
KSH LR LR
comp=Z,3µm,20.3s
QIS Mount Isa 46.86 114 P **P** **20 29 25.1 +0.2**
baz=47,SNR=6.4
BTO Baotou 46.89 16 *e*P **P** **20 29 26.2 +1.3**
BTO S **S** **20 36 19.0 +3.1**
BTO LR LR
comp=Z,4µm,18.2s
BTO LR LR
comp=Z,12µm,21.2s
ALNE Al Ain 46.97 309 P **P** **20 29 27.8 +2.2**
SNR=6.3
ALNE P **P** **20 29 27.8 +2.2**
SNR=6.3
ALNE Al Ain 46.97 309 P **P** **20 29 27.2 +1.6**
ASHO Ashiyiah 47.06 310 P **P** **20 29 27.9 +1.5**
ASHO P **P** **20 29 27.9 +1.5**
ASHO Ashiyiah 47.06 310 P **P** **20 29 27.9 +1.5**
HATD Hatta, Dubai 47.08 310 P **P** **20 29 29.2 +2.7**
HATD P **P** **20 29 29.2 +2.7**
HATD Hatta, Dubai 47.08 310 *i* P **P** **20 29 29.4 +2.9**
SNR=5.8
UOSS Minazif 47.09 310 P **P** **20 29 26.3 -0.2**
UOSS Minazif 47.09 310 P **P** **20 29 27.5 +0.9**
UOSS P **P** **20 29 27.5 +0.9**
UOSS Minazif 47.09 310 P **P** **20 29 27.6 +1.1**
MSFE Esma-Masafi 47.34 310 P **P** **20 29 30.3 +1.8**
MASF Masafi 47.35 310 P **P** **20 29 30.6 +2.0**
FAQ Al Faqa, Dubai 47.45 309 P **P** **20 29 30.5 +1.1**
FAQ P **P** **20 29 30.5 +1.1**
FAQ Al Faqa, Dubai 47.45 309 *i* P **P** **20 29 30.6 +1.3**
SNR=9.2
NAZ Nazwa, Dubai 47.52 310 P **P** **20 29 32.0 +2.1**
NAZ P **P** **20 29 32.0 +2.1**
HHC Hu-ho-hao-te 47.57 18 *e*P **P** **20 29 32.2 +2.1**
HHC S **S** **20 36 24.2 -1.3**
HHC ScS **ScS** **20 39 25.1 +0.7**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.3s
HHC LR LR
comp=Z,1µm,19.8s
HHC LR LR
comp=Z,3µm,18.4s
HHC LR LR
comp=Z,2µm,17.1s
SHME Shamm 47.73 311 P **P** **20 29 34.4 +2.8**
SHME P **P** **20 29 34.4 +2.8**
TARG Taragay, Kyrgy 48.19 343 P **P** **20 29 35.1 -0.3**
TARG IAmb IAmb 20 30 13.5
comp=Z,20nm,1.1s
WMQ Urumqi 48.23 354 P **P** **20 29 36.6 +1.4**
WMQ pP pwP 20 29 41.1 -2.2
WMQ PcP **PcP** **20 31 00.9 -1.4**
WMQ S **S** **20 36 35.0 +0.3**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,330nm,4.3s
WMQ LR LR
comp=Z,600nm,19.9s
WMQ LR LR
comp=Z,710nm,16.7s
WMQ LR LR
comp=Z,650nm,22.1s
MZR Muzera 48.24 306 P **P** **20 29 37.1 +1.6**
SNR=10.0
MZR P **P** **20 29 37.1 +1.6**
SNR=10.0
MZR Muzera 48.24 306 *i* P **P** **20 29 37.0 +1.6**
SNR=16
ABPO Ambohimpanom 48.27 248 P **P** **20 29 35.4 -0.6**
ABPO pmax pmax
comp=Z,29nm,1.1s
ABPO Ambohimpanom 48.27 248 P **P** **20 29 35.4 -0.6**
ABPO IAmb IAmb 20 29 39.4
comp=Z,29nm,1.1s
BJT Baijiatuau 48.40 22 P **P** **20 29 35.7 -0.8**
BJT pmax pmax
comp=Z,53nm,1.5s
BJT Baijiatuau 48.40 22 P **P** **20 29 35.7 -0.8**
BJT IAmb IAmb 20 29 39.0
comp=Z,53nm,1.5s
BJI Beijing 48.42 22 P **P** **20 29 37.1 +0.5**
BJI S **S** **20 36 39.7 +2.3**
BJI ScS **ScS** **20 39 32.0 +2.2**
BJI pmax pmax
comp=Z,23nm,1.1s
BJI LR LR
comp=Z,860nm,15.2s
BJI LR LR
comp=Z,870nm,15.4s
BJI LR LR
comp=Z,1µm,16.9s
GAR Garm 48.44 335 P **P** **20 29 35.2 -1.8**
CHGR Chuyangaron 48.66 334 P **P** **20 29 37.3 -1.3**
CHGR pmax pmax
comp=Z,37nm,0.9s
CHGR Chuyangaron 48.66 334 P **P** **20 29 37.3 -1.3**
HRA Herat 48.92 324 P **P** **20 29 41.1 +0.2**
HRA IAmb IAmb 20 29 44.4
comp=Z,14nm,1.0s
SHLS Shalkode 49.08 346 *e*P **P** **20 29 41.2 -0.6**
SHLS Shalkode 49.08 346 *e*P **P** **20 29 41.3 -0.6**
baz=346
ULHL Ulahol 49.13 342 P **P** **20 29 42.7 +0.4**
SNR=6.3
UZB Uzunbulak 49.18 345 *e*P **P** **20 29 41.4 -1.2**
UZB *e*S **S** **20 36 47.1 -1.2**
UZB Uzunbulak 49.18 345 *e*P **P** **20 29 41.5 -1.2**
baz=345
UZB *e*S **S** **20 36 47.1 -1.2**
baz=345
SATY Saty 49.26 345 *e*P **P** **20 29 42.5 -0.7**
SATY *e*S **S** **20 36 48.7 -0.7**
SATY pmax pmax
comp=Z,23nm,1.9s
SATY Saty 49.26 345 *e*P **P** **20 29 42.5 -0.7**
comp=Z,23nm,1.9s,baz=344
SATY *e*S **S** **20 36 48.8 -0.7**
baz=344
VOI Vohitsoka 49.30 245 P **P** **20 29 43.2 -0.6**
VOI IAmb IAmb 20 29 46.8
comp=Z,31nm,1.3s
VOI Vohitsoka 49.30 245 P **P** **20 29 44.7 +0.8**
KPKS Kokpek 49.57 345 *e*P **P** **20 29 45.1 -0.4**
KPKS Kokpek 49.57 345 *e*P **P** **20 29 45.1 -0.4**
baz=345
TNSS Tian-Shan 49.64 343 *e*P **P** **20 29 46.2 -0.3**
baz=343
UCH Uchtor 49.66 341 P **P** **20 29 47.1 +0.5**
SNR=6.7
MDOK Medeo 49.73 343 *e*P **P** **20 29 44.9 -1.9**
MDOK *e*S **S** **20 36 54.5 -1.5**
MDOK MLR MLR
comp=Z,777nm,16.0s
MDOK Medeo 49.73 343 *e*P **P** **20 29 45.0 -1.9**
baz=343
MDOK *e*S **S** **20 36 54.5 -1.5**
baz=343
MDOK LR LR 20 51 18.7
comp=Z,777nm,15.7s,baz=343
DL2 Dalian 49.79 28 *e*P **P** **20 29 48.4 +1.3**
DL2 S **S** **20 36 59.3 +2.7**
DL2 pmax pmax
comp=Z,30nm,0.9s
DL2 pmax pmax
comp=Z,110nm,6.5s
DL2 LR LR
comp=Z,1µm,17.0s
DL2 LR LR
comp=Z,1µm,16.1s
DL2 LR LR
comp=Z,1µm,19.0s
AAA Alma-Ata 49.81 343 *e*P **P** **20 29 47.3 0.0**
AAA Alma-Ata 49.81 343 *e*P **P** **20 29 47.3 0.0**
baz=343
AML Almayashu 49.85 340 P **P** **20 29 48.5 +0.4**
SNR=14
AML Almayashu 49.85 340 P **P** **20 29 48.6 +0.6**
AML Almayashu 49.85 340 *i* P **P** **20 29 48.6 +0.6**
SNR=14
TKM2 Tokmak 2 49.94 342 P **P** **20 29 48.9 +0.4**
SNR=8.7
TKM2 Tokmak 2 49.94 342 *i* P **P** **20 29 47.5 -1.0**
TKM2 pmax pmax
comp=Z,19nm,1.4s
AAK Ala-Archa 50.03 341 LR LR 20 50 38.0
comp=Z,3µm,21.9s,baz=166,slow=36
AAK Ala-Archa 50.03 341*ce*P **P** **20 29 48.8 -0.3**
AAK pmax pmax
comp=Z,18nm,2.5s
AAK Ala-Archa 50.03 341 P **P** **20 29 48.6 -0.5**
AAK Ala-Archa 50.03 341 P **P** **20 29 49.6 +0.5**
AAK P **P** **20 29 49.6 +0.5**
SLWR Sila 50.19 306 P **P** **20 29 51.6 +1.2**
SLWR P **P** **20 29 51.6 +1.2**
CHMS Chumysh 50.27 341 P **P** **20 29 51.1 +0.3**
SNR=5.9
EKS2 Erkin-Say 50.29 340 P **P** **20 29 51.7 +0.6**
SNR=16
CHKK Chushkaly 50.38 344 *e*P **P** **20 29 50.8 -0.8**
baz=344
ARXS Arharly 50.49 345 *e*P **P** **20 29 52.1 -0.3**
USP Ospenovka 50.60 341 P **P** **20 29 53.5 +0.2**
SNR=30
USP Ospenovka 50.60 341 P **P** **20 29 53.3 +0.1**
USP pmax pmax
comp=Z,27nm,1.2s
KUU Kurty 50.60 343 *e*P **P** **20 29 52.3 -1.0**
KUU *e*S **S** **20 37 07.1 -0.8**
KUU pmax pmax
comp=Z,39nm,1.6s
KUU MLR MLR
comp=Z,486nm,16.0s
KUU Kurty 50.60 343 *e*P **P** **20 29 52.3 -1.0**
comp=Z,39nm,1.6s,baz=343
KUU *e*S **S** **20 37 07.1 -0.8**
baz=343
KUU LR LR 20 50 54.6
comp=Z,486nm,16.4s,baz=343
SGDS Sogindy 50.72 341 *e*P **P** **20 29 53.5 -0.7**
baz=341
MTSU Mount Surprise 50.72 110 P **P** **20 29 55.6 +1.0**
baz=51,SNR=6.2
JNU Nakatsue 50.76 40 LR LR 20 51 08.2
comp=Z,2µm,21.1s,baz=240,slow=36
TRNA Turayna 50.89 307 P **P** **20 29 56.4 +0.7**
DZA Taraz 51.36 338 *e*P **P** **20 29 57.8 -1.2**
DZA Taraz 51.36 338 *e*P **P** **20 29 57.8 -1.2**
baz=338
KSAR Wonju Array Be 51.89 34 P **P** **20 30 01.5 -1.5**
KSAR Wonju Array Be 51.89 34 P **P** **20 30 01.5 -1.5**
KSRS Korea Array 51.92 34 P **P** **20 30 03.2 0.0**
comp=Z,7.5nm,1.0s,baz=223,slow=8.1,SNR=21
KSRS LR LR 20 51 58.3
comp=Z,923nm,20.6s,baz=220,slow=36
KS19 Wonju Array Si 51.92 34 P **P** **20 30 02.2 -1.0**
KS19 IAmb IAmb 20 30 38.1
comp=Z,72nm,1.8s
MK31 Makanchi Array 51.94 349 *i* P **P** **20 30 02.6 -0.7**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 51.94 349 P **P** **20 30 02.5 -0.7**
MKAR Makanchi Array 51.94 349 P **P** **20 30 03.0 -0.2**
comp=Z,4.4nm,0.8s,baz=157,slow=7.9,SNR=47
MKAR LR LR 20 54 13.2
comp=Z,657nm,20.6s,baz=168,slow=38
MKAR Makanchi Array 51.94 349*ce*P **P** **20 30 03.2 0.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 52.01 349 P **P** **20 30 02.4 -1.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 52.01 349 P **P** **20 30 02.4 -1.4**
STKA Stephens Creek 52.05 128 P **P** **20 30 04.8 +0.4**
comp=Z,9.7nm,0.9s,baz=315,slow=9.0,SNR=15
STKA LR LR 20 50 49.4
comp=Z,4µm,21.6s,baz=288,slow=34
STKA Stephens Creek 52.05 128 P **P** **20 30 04.8 +0.4**
baz=52,SNR=10
STKA Stephens Creek 52.05 128 P **P** **20 30 04.0 -0.4**
ZSN Zaisan 52.16 352 *e*P **P** **20 30 04.7 -0.2**
ZSN *e*S **S** **20 37 29.6 +0.3**
ZSN pmax pmax
comp=Z,20nm,1.5s
ZSN Zaisan 52.16 352 *e*P **P** **20 30 04.7 -0.2**
comp=Z,20nm,1.5s,baz=352
ZSN *e*S **S** **20 37 29.7 +0.3**
baz=352
BTLS Baital 52.33 342 *e*P **P** **20 30 04.8 -1.3**
BTLS Baital 52.33 342 *e*P **P** **20 30 04.9 -1.3**
baz=342
PMG Port Moresby 52.62 99 LR LR 20 54 18.9
comp=Z,507nm,21.4s,baz=274,slow=38
PMG Port Moresby 52.62 99*ce*P **P** **20 30 08.7 -0.2**
PMG pmax pmax
comp=Z,39nm,1.7s
PMG Port Moresby 52.62 99 P **P** **20 30 06.8 -2.0**
PMG IAmb IAmb 20 30 31.5
comp=Z,24nm,1.1s
PMG Port Moresby 52.62 99 P **P** **20 30 11.8 +2.9**
PMG Port Moresby 52.62 99 P **P** **20 30 12.0 +3.1**
CTA Charters Tower 52.86 112 LR LR 20 55 20.2
comp=Z,1µm,18.1s,baz=274,slow=39
SONM Songino Array 52.94 10 P **P** **20 30 11.6 +0.9**
comp=Z,5.7nm,0.6s,baz=192,slow=9.1,SNR=28
SONM LR LR 20 54 33.6
comp=Z,462nm,18.0s,baz=186,slow=38
SONM Songino Array 52.94 10 P **P** **20 30 10.0 -0.7**
SNY Shenyang 53.02 27 ⇓P **P** **20 30 08.5 -2.7**
SNY S **S** **20 37 42.4 +1.3**
SNY pmax pmax
comp=Z,9.0nm,0.5s
SNY pmax pmax
comp=Z,99nm,3.5s
SNY LR LR
comp=Z,1µm,17.2s
SNY LR LR
comp=Z,700nm,16.1s
SNY LR LR
comp=Z,2µm,17.7s
ULN Ulaanbaatar 53.08 11*ce*P **P** **20 30 11.7 -0.2**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 53.08 11 P **P** **20 30 11.4 -0.5**
ULN Ulaanbaatar 53.08 11 P **P** **20 30 12.4 +0.5**
ULN P **P** **20 30 12.4 +0.5**
JMN Monobe 53.09 42 P **P** **20 30 11.0 -1.1**
JMN IAmb IAmb 20 30 13.7
comp=Z,30nm,0.8s
GUMO Guam 53.16 70 LR LR 20 52 23.3
comp=Z,229nm,21.8s,baz=236,slow=36
JHS Saijyo 53.38 40 P **P** **20 30 12.1 -2.1**
JHS IAmb IAmb 20 30 43.7
comp=Z,62nm,1.7s
ATD Arta Tunnel 53.59 288 LR LR 20 49 04.1
comp=Z,457nm,20.5s,baz=90,slow=32
GEYT Alibeck 53.78 325 P **P** **20 30 18.1 +1.0**
comp=Z,18nm,0.7s,baz=150,slow=10.0,SNR=36
GEYT LR LR 20 53 23.4
comp=Z,2µm,21.7s,baz=145,slow=36
GEYT Alibeck 53.78 325 P **P** **20 30 16.8 -0.3**
GYA0B ALIBECK ARRAY 53.78 325 P **P** **20 30 16.3 -0.7**
GYA0B IAmb IAmb 20 30 19.2
comp=Z,24nm,0.8s
ZAK Zakamensk 54.96 7 *e*P **P** **20 30 25.4 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.0s

RAYN Ar Rayn 55.05 302 ⇓P **P 20 30 26.9 +0.4**
RAYN 20 30 38.3
RAYN Ar Rayn 55.05 302 P **P 20 30 26.3 -0.3**
RAYN IAmb IAmb 20 30 43.3
comp=Z,15nm,0.8s
RAYN Ar Rayn 55.05 302 *i* P **P 20 30 26.8 +0.4**
SNR=9.7
CMSA Cobar Meteorol 55.21 126 P **P 20 30 28.5 +1.0**
baz=55,SNR=11
CN2 Changchun 55.42 27 *e*P **P 20 30 28.8 +0.1**
CN2 pP pwP 20 30 38.9 +2.0
CN2 S **S 20 38 09.7 -3.8**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
SEM Semipalatinsk 55.79 349 *e*P **P 20 30 30.0 -1.6**
SEM Semipalatinsk 55.79 349 *e*P **P 20 30 30.0 -1.6**
baz=349
MOY Mondy 55.99 5 *e*P **P 20 30 36.7 +3.8**
INU Inuyama 56.14 42 P **P 20 30 32.9 -1.2**
INU IAmb IAmb 20 30 35.3
comp=Z,13nm,0.9s
INU Inuyama 56.14 42 P **P 20 30 35.1 +1.0**
KIBK Kibwezi 56.25 270 P **P 20 30 34.9 -0.5**
KIBK IAmb IAmb 20 31 05.3
comp=Z,24nm,1.5s
KURBB Kurchatov Arra 56.34 348 LR LR 20 56 51.1
comp=Z,1μm,18.8s,baz=154,slow=38
KURK Kurchatov 56.41 348*ce*P **P 20 30 34.8 -0.9**
KURK pmax pmax
comp=Z,16nm,1.2s
KURK Kurchatov 56.41 348 P **P 20 30 34.9 -0.8**
KURK Kurchatov 56.41 348 P **P 20 30 35.3 -0.4**
KURK P **P 20 30 35.3 -0.4**
JGF Kuroka 56.51 42 P **P 20 30 35.6 -1.2**
JHJ Hachijo jima 2 56.81 46 LR LR 20 52 48.7
comp=Z,292nm,21.9s,baz=269,slow=34
KMBO Kilima Mbogo 57.13 271 P **P 20 30 43.4 +1.5**
comp=Z,0.5nm,0.4s,baz=37,slow=5.4,SNR=4.7
KMBO LR LR 20 51 22.2
comp=Z,222nm,20.3s,baz=95,slow=32
KMBO Kilima Mbogo 57.13 271 P **P 20 30 41.3 -0.6**
BRZS Berezniki 57.19 344 *e*P **P 20 30 40.0 -1.2**
BRZS Berezniki 57.19 344 *e*P **P 20 30 40.1 -1.2**
baz=343
MSHR Mys Shultsa 57.30 32 *i* P **P 20 30 39.5 -2.7**
MAJO Matsushiro 57.62 41*c i*P **P 20 30 43.4 -1.2**
MAJO pmax pmax
comp=Z,16nm,1.6s
MAJO Matsushiro 57.62 41 P **P 20 30 42.9 -1.7**
MAJO IAmb IAmb 20 30 45.0
comp=Z,34nm,1.8s
MAJO Matsushiro 57.62 41 P **P 20 30 45.6 +1.0**
MAT Matsushiro 57.62 41 P **P 20 30 43.7 -0.9**
MAT S **S 20 38 44.6 +1.7**
MJB9 Matsu-Tunnel 57.62 41 P **P 20 30 43.4 -1.2**
MJB9 IAmb IAmb 20 30 46.4
comp=Z,24nm,1.6s
MJAR Matsushiro Arr 57.62 41 P **P 20 30 44.2 -0.4**
comp=Z,5.8nm,0.9s,baz=227,slow=6.9,SNR=12
MJAR LR LR 20 55 50.9
comp=Z,714nm,19.8s,baz=238,slow=36
MJAR Matsushiro Arr 57.62 41 P **P 20 30 43.5 -1.1**
HIA Hailar 57.69 19 *i* P **P 20 30 43.3 -1.5**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 57.69 19 P **P 20 30 43.5 -1.3**
BNX BinXian 57.80 27 ⇑P **P 20 30 45.9 +0.2**
BNX PcP **PcP 20 31 38.8 +0.5**
BNX PP **PP 20 32 55.2 +1.3**
BNX S **S 20 38 47.0 +2.0**
BNX SS **SS 20 42 38.5 +2.7**
BNX pmax pmax
comp=Z,32nm,1.0s
BNX pmax pmax
comp=Z,200nm,3.5s
BNX LR LR
comp=Z,1μm,15.2s
BNX LR LR
comp=Z,2μm,16.1s
BNX LR LR
comp=Z,3μm,17.8s
MDJ Mudanjiang 57.98 29 P **P 20 30 44.8 -2.1**
CIT Chita 58.39 14 *e*P **P 20 30 50.4 +0.6**
JSD Sado 58.52 40 P **P 20 30 49.4 -1.4**
JSD IAmb IAmb 20 31 30.0
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 58.54 353 P **P 20 30 50.0 -0.7**
ZAA0 IAmb IAmb 20 31 12.1
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 58.54 353 P **P 20 30 50.3 -0.4**
comp=Z,8.4nm,0.7s,baz=178,slow=5.9,SNR=52
ZALV LR LR 20 57 05.9
comp=Z,675nm,20.5s,baz=181,slow=37
ZALV Zalesovo Beam 58.54 353 *i* P **P 20 30 50.2 -0.5**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 58.54 353 P **P 20 30 49.9 -0.8**
USA0B Ussuriysk Arra 58.87 31 P **P 20 30 52.6 -0.6**
USA0B pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 58.87 31 P **P 20 30 52.6 -0.6**
USA0B IAmb IAmb 20 30 54.7
comp=Z,19nm,0.9s
USRK Ussuriysk Ar. 58.87 31 P **P 20 30 53.5 +0.3**
comp=Z,17nm,0.8s,baz=239,slow=5.1,SNR=14
USRK LR LR 20 56 00.5
comp=Z,1μm,21.4s,baz=215,slow=36
USRK Ussuriysk Ar. 58.87 31 P **P 20 30 53.0 -0.2**
CAN Canberra 59.04 129 P **P 20 30 54.8 +0.1**
CAN pmax pmax
comp=Z,40nm,1.2s
CAN Canberra 59.04 129 P **P 20 30 54.8 +0.1**
CAN Canberra 59.04 129 P **P 20 30 56.7 +2.0**
comp=Z,52nm,1.6s
LODK Lodwar 59.45 276 P **P 20 30 58.6 +0.7**
LODK Lodwar 59.45 276 P **P 20 31 01.4 +3.5**
ARMA Armidale 59.80 123 P **P 20 31 01.5 +1.4**
baz=60,SNR=4.4
JMM Marumori 60.06 41 P **P 20 31 01.4 -0.1**
JMM IAmb IAmb 20 31 03.2
comp=Z,24nm,1.1s
BRVK Borovoye 60.61 344 *i* P **P 20 31 04.0 -1.0**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 60.61 344 P **P 20 31 03.7 -1.3**
BRVK Borovoye 60.61 344 P **P 20 31 04.3 -0.7**
BRVK P **P 20 31 04.3 -0.7**
AB31 Akbulak array 61.10 335 *i* P **P 20 31 08.7 +0.3**
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR Akbulak array 61.10 335 P **P 20 31 08.2 -0.2**
ABKAR IAmb IAmb 20 31 25.9
comp=Z,25nm,0.8s
KLR Kul'dur 62.37 27 LR LR 21 00 22.4
comp=Z,1μm,18.9s,baz=213,slow=38
KLR Kul'dur 62.37 27*ce*P **P 20 31 16.7 -0.2**
KLR pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 62.81 335 LR LR 21 00 19.5
comp=Z,720nm,18.9s,baz=146,slow=38
AKTO Aktyubinsk 62.81 335 *i* P **P 20 31 19.7 -0.2**
AKTO pmax pmax
comp=Z,20nm,1.6s
DDFL Dedoflistskaro 63.22 321 P **P 20 31 26.2 +3.3**
MAK Makhachkala 63.22 323 *e*P **P 20 31 20.0 -2.8**
MAK *e* 20 33 37.2
MAK *e*PPP PPP 20 35 10.0
MAK *e*S **S 20 39 51.3 -3.2**
MAK *e*SS **SS 20 43 56.2 -4.8**
MAK pmax pmax
comp=Z,71nm,1.3s
MAK MLR MLR
comp=Z,663nm,16.0s
LGD Lagodekhi 63.35 321 P **P 20 31 25.5 +1.8**
GNI Garni 63.40 319 LR LR 21 00 20.2
comp=Z,746nm,21.4s,baz=120,slow=37
GNI Garni 63.40 319 *i* P **P 20 31 24.9 +0.7**
GNI pmax pmax
comp=Z,26nm,1.2s
GNI Garni 63.40 319 P **P 20 31 23.4 -0.9**
GNI Garni 63.40 319 P **P 20 31 26.2 +2.0**
GNI P **P 20 31 26.2 +2.0**
MBAR Mbarara 63.66 271 LR LR 20 56 07.0
comp=Z,329nm,18.9s,baz=75,slow=33
MBAR Mbarara 63.66 271 P **P 20 31 24.8 -1.7**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
MBAR Mbarara 63.66 271 P **P 20 31 24.8 -1.7**
ERM Erimo 63.87 39 P **P 20 31 25.4 -1.6**
ERM pmax pmax
comp=Z,211nm,1.7s
ERM Erimo 63.87 39 P **P 20 31 25.4 -1.6**
BOD Bodaibo 63.87 12 *e*P **P 20 31 26.6 -0.1**
BOD pmax pmax
comp=Z,11nm,1.5s
ZEA Zeya 64.01 21 *e*P **P 20 31 28.0 +0.3**
ZEA *e*S **S 20 40 07.7 +3.8**
ZEA *e* 20 44 15.4
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA smax smax
comp=N,100nm,8.1s
GROC Groznyy 64.39 323 *e*P **P 20 31 31.3 +0.8**
GROC *e* 20 32 03.1
GROC pmax pmax
comp=Z,46nm,0.8s
GURO Guroymak-BITLI 64.40 317 P **P 20 31 31.5 +0.7**
GURO IAmb IAmb 20 31 50.1
comp=Z,22nm,1.2s
ASAJ Asahikawa 64.70 36 LR LR 21 00 23.3
comp=Z,423nm,18.8s,baz=252,slow=37
ASAJ Asahikawa 64.70 36 P **P 20 31 32.0 -0.5**
ASAJ pmax pmax
comp=Z,21nm,1.2s
JKA Kamikawa-asahi 64.70 36 P **P 20 31 32.0 -0.5**
JKA IAmb IAmb 20 32 22.1
comp=Z,21nm,1.2s
GUDG Gudauri 64.80 321 P **P 20 31 35.4 +2.0**
AKH Akhalkalaki 64.86 320 P **P 20 31 36.9 +3.0**
HNR Honiara 65.24 98 P **P 20 31 36.7 +0.1**
HNR pmax pmax
comp=Z,65nm,0.6s
HNR Honiara 65.24 98 P **P 20 31 36.7 +0.1**
ZEI Tsey 65.33 321 *e*P **P 20 31 37.9 +1.0**
ZEI pmax pmax
comp=Z,11nm,0.9s
ONI Oni 65.50 321 P **P 20 31 39.2 +1.4**
ONI pmax pmax
comp=Z,46nm,1.5s
ONI Oni 65.50 321 P **P 20 31 39.2 +1.4**
NCK Nalchik 65.89 322 *i* P **P 20 31 41.2 +0.9**
NCK pmax pmax
comp=Z,28nm,1.0s
LSZ Lusaka 65.92 255 LR LR 20 56 00.6
comp=Z,2μm,20.6s,baz=92,slow=32
LSZ Lusaka 65.92 255 P **P 20 31 40.6 -0.5**
LSZ pmax pmax
comp=Z,46nm,1.8s
LSZ Lusaka 65.92 255 P **P 20 31 40.6 -0.5**
LSZ IAmb IAmb 20 31 51.9
comp=Z,46nm,1.8s
MATP Matopo 65.92 250 LR LR 20 55 54.6
comp=Z,857nm,20.2s,baz=81,slow=32
EIL Elat 66.09 305 LR LR 20 57 57.3
comp=Z,945nm,21.9s,baz=106,slow=34
GHAJ Ghor Haditha 66.17 307 P **P 20 31 42.5 +0.3**
NEY Neytrino 66.31 321 *i* P **P 20 31 43.1 0.0**
NEY pmax pmax
comp=Z,7.0nm,1.4s
YSS Yuzh-Sakhalins 66.42 34 *e*P **P 20 31 43.9 +0.4**
YSS *e* 20 34 10.0
YSS *e*S **S 20 40 28.9 -4.9**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS Yuzh-Sakhalins 66.42 34 P **P 20 31 42.5 -1.0**
YSS IAmb IAmb 20 32 21.2
comp=Z,15nm,1.0s
YSS Yuzh-Sakhalins 66.42 34 P **P 20 31 44.5 +1.0**
KBZ Khabaz 66.45 322 P **P 20 31 45.1 +1.3**
comp=Z,11nm,0.8s,baz=122,slow=5.9,SNR=29
KBZ LR LR 21 03 38.3
comp=Z,220nm,19.5s,baz=124,slow=39
KBZ Khabaz 66.45 322*ce*P **P 20 31 42.8 -1.0**
KBZ pmax pmax
comp=Z,19nm,1.2s
KIV Kislovodsk 66.70 322 ⇑P **P 20 31 47.0 +1.5**
KIV Kislovodsk 66.70 322 *e*P **P 20 31 46.2 +0.7**
KIV *e* 20 34 13.4
KIV *e*S **S 20 40 38.7 +1.2**
KIV *e*SS **SS 20 44 57.2 +1.8**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,368nm,17.0s
KIV Kislovodsk 66.70 322 P **P 20 31 44.5 -1.0**
KIV Kislovodsk 66.70 322 P **P 20 31 46.7 +1.2**
KIV P **P 20 31 46.7 +1.2**
KIV Kislovodsk 66.70 322 *i* P **P 20 31 47.2 +1.6**
SNR=6.2
SVE Sverdlovsk 66.77 341 ⇓*e*P **P 20 31 46.3 +0.7**
SVE pmax pmax
comp=Z,35nm,1.0s
SVE MLR MLR
comp=Z,1μm,18.0s
MAW Mawson 66.80 193 LR LR 20 54 37.1
comp=Z,604nm,18.5s,baz=47,slow=30
MMAI Mount Meron Ar 66.92 309 LR LR 21 00 43.3
comp=Z,2μm,19.2s,baz=260,slow=36
GOF Gofitskoye 67.06 323 ⇑*e*P **P 20 31 49.2 +1.5**
GOF pmax pmax
comp=Z,34nm,1.4s
ARU Arti 67.17 339 LR LR 21 02 34.6
comp=Z,989nm,18.1s,baz=146,slow=37
ARU Arti 67.17 339*d i*P **P 20 31 48.0 -0.1**
ARU 20 32 11.0
ARU 20 34 15.5
ARU PPP PPP 20 35 51.1
ARU S **S 20 40 45.0 +2.5**
ARU 20 41 43.5
ARU SS **SS 20 44 58.3 -3.7**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 67.17 339 P **P 20 31 47.2 -0.9**
ARU IAmb IAmb 20 32 17.8
comp=Z,21nm,1.0s
SOC Sochi 68.37 320 *e*P **P 20 31 53.4 -2.6**
SOC *e* 20 34 29.1
TYV Tymovskoe 68.68 31 *e*P **P 20 31 59.5 +1.7**
TYV pmax pmax
comp=Z,200nm,6.2s
TYV pmax pmax
comp=Z,6.0nm,1.4s
BNN Bunyan 68.86 314 P **P 20 31 58.1 -1.2**
LBTB Lobatse 68.98 245 LR LR 20 58 06.8
comp=Z,2μm,18.2s,baz=84,slow=32
LBTB Lobatse 68.98 245 P **P 20 32 00.4 0.0**
LBTB pmax pmax
comp=Z,22nm,1.0s
LBTB Lobatse 68.98 245 P **P 20 32 00.4 0.0**
LBTB IAmb IAmb 20 32 03.9
comp=Z,22nm,1.0s
BOSA Boshof 69.65 241 P **P 20 32 04.6 +0.2**
comp=Z,4.2nm,0.8s,baz=87,slow=4.6,SNR=13
BOSA LR LR 20 56 16.3
comp=Z,1μm,21.9s,baz=88,slow=30
BOSA Boshof 69.65 241 P **P 20 32 03.6 -0.9**
ANN Anapa 70.39 321 *e*P P 20 32 01.5 -6.9
ANN MLR MLR
comp=Z,549nm,14.0s
BR131 Keskin Array S 70.78 315 *i* P **P 20 32 10.4 -0.8**
BR131 Keskin Array S 70.78 315 P **P 20 32 09.5 -1.7**
BR131 IAmb IAmb 20 32 23.4
comp=Z,30nm,1.5s
BR131 Keskin Array S 70.78 315 P **P 20 32 11.2 0.0**
BR131 P **P 20 32 11.2 0.0**
BRTR Keskin Array B 70.78 315 P **P 20 32 10.7 -0.5**
comp=Z,3.1nm,0.6s,baz=130,slow=6.5,SNR=17
BRTR LR LR 21 05 29.7
comp=Z,1μm,19.8s,baz=116,slow=38
BRTR Keskin Array B 70.78 315*ce*P **P 20 32 11.1 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 70.78 315 P **P 20 32 09.8 -1.4**
VRH Novokhopyorsk 71.13 328 *e*P **P 20 32 12.5 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
BZK Bozkurt 71.42 317 P **P 20 32 15.6 +0.8**
YAK Yakutsk 71.42 17 LR LR 21 05 57.4
comp=Z,820nm,18.3s,baz=224,slow=38
YAK Yakutsk 71.42 17 *e*P **P 20 32 13.7 -0.6**
YAK *e**PP **pwP 20 32 23.7 +1.2**
YAK *e* 20 32 33.0
YAK *e* 20 34 56.6
YAK *e*S **S 20 41 30.7 -1.7**
YAK *e* 20 42 19.5
YAK *e*SS **SS 20 46 08.0 +0.8**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,188nm,4.3s
YAK pmax pmax
comp=N,79nm,4.5s
YAK smax smax
comp=E,190nm,5.8s
YAK smax smax
comp=N,48nm,2.9s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,495nm,16.0s
YAK MLR MLR
comp=E,588nm,16.0s
YAK Yakutsk 71.42 17 P **P 20 32 13.8 -0.6**
ANTO Ankara 71.44 314 P **P 20 32 15.5 +0.4**
ANTO pmax pmax
comp=Z,45nm,1.7s
ANTO Ankara 71.44 314 P **P 20 32 15.5 +0.4**
ANTO IAmb IAmb 20 33 12.3
comp=Z,45nm,1.6s
DZM Mont Dzumac 71.81 112 LR LR 21 05 19.1
comp=Z,1μm,18.6s,baz=250,slow=37
DZM Mont Dzumac 71.81 112 *e*LR LR 20 54 11.0
comp=Z,1μm,23.9s
KIRV Kirov 72.13 337 LR LR 21 05 04.3
comp=Z,980nm,19.7s,baz=139,slow=37
KIRV Kirov 72.13 337*ce*P **P 20 32 18.4 -0.2**
VORR Voronezh 72.72 328 *e*P **P 20 32 20.5 -1.8**
VORR pmax pmax
comp=Z,10.0nm,0.3s
MDUB Mudurnu 72.80 315 P **P 20 32 22.6 -0.6**
LPSR Galich'ya Gora 73.34 328 *e*P **P 20 32 26.0 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 73.59 357 P **P 20 32 27.5 +0.4**
comp=Z,5.5nm,0.6s,baz=133,slow=3.7,SNR=9.5
NRIK LR LR 21 09 28.0
comp=Z,783nm,18.1s,baz=176,slow=40
NRIK Noril'sk 73.59 357*ce*P **P 20 32 27.2 +0.1**
NRIK pmax pmax
comp=Z,20nm,1.0s
NRIK Noril'sk 73.59 357 P **P 20 32 26.0 -1.2**
NRIK IAmb IAmb 20 32 37.0
comp=Z,18nm,1.1s
SUR Sutherland 73.85 238 LR LR 20 58 21.7
comp=Z,2μm,21.5s,baz=94,slow=30
SUR Sutherland 73.85 238 P **P 20 32 28.9 -0.9**
SUR IAmb IAmb 20 32 33.5
comp=Z,26nm,1.1s
SUR Sutherland 73.85 238 P **P 20 32 31.2 +1.4**
SYO Syowa Base 73.98 198 ⇓*e*P **P 20 32 28.8 -0.7**
SYO Syowa Base 73.98 198 ⇓*e*pP pP 20 32 33.8 +2.7
PRGR Permogore 75.56 338 *e*P **P 20 32 37.8 -0.9**
PRGR pmax pmax
comp=Z,125nm,1.5s
MOS Moscow 75.61 331 *e*P **P 20 32 38.2 -0.9**
MOS *e* 20 32 48.0
MOS *e* 20 35 27.6
MOS pmax pmax
comp=Z,37nm,0.7s
MOS MLR MLR
comp=E,1μm,21.0s
MOS MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 75.82 330 LR LR 21 09 17.5
comp=Z,211nm,18.2s,baz=140,slow=38
OBN Obninsk 75.82 330 ⇑*e*P **P 20 32 40.2 -0.1**
OBN *i* 20 32 49.4
OBN *e* 20 35 29.2
OBN *e*S **S 20 42 19.1 -3.3**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,835nm,17.0s
OBN Obninsk 75.82 330 P **P 20 32 40.7 +0.4**
OBN IAmb IAmb 20 32 53.6
comp=Z,38nm,1.3s
IDI Anoyia 75.90 308 LR LR 21 07 46.8
comp=Z,385nm,20.2s,baz=87,slow=37
SKR Severo-Kuril's 75.91 35 *e*P **P 20 32 39.7 -1.2**
SKR *e*S **S 20 42 29.3 +5.7**
SKR pmax pmax
comp=Z,200nm,6.9s
SKR MLR MLR
comp=Z,200nm,16.0s
TSUM Tsumeb 76.14 251 LR LR 21 03 47.7
comp=Z,2μm,18.2s,baz=134,slow=34
TSUM Tsumeb 76.14 251 P **P 20 32 41.9 -1.3**
PETR Petresti 77.36 319 ⇑P P 20 32 54.1 +4.8
MA2 Magadan 77.44 26 LR LR 21 09 06.9
comp=Z,858nm,20.1s,baz=244,slow=37
MA2 Magadan 77.44 26*ce*P **P 20 32 48.0 -1.5**
MA2 pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 77.44 26 P **P 20 32 48.6 -0.9**
MA2 Magadan 77.44 26 P **P 20 32 49.8 +0.3**
RPZ Rata Peaks 77.45 134 LR LR 21 07 52.5
comp=Z,1μm,18.0s,baz=275,slow=36
SORM Soroca 77.48 321 ⇓P **P 20 32 50.2 +0.3**
SORM Soroca 77.48 321 ⇓P **P 20 32 50.2 +0.3**
KLMR Klimovskoe 77.48 336 *e*P **P 20 32 49.0 -0.6**
KLMR *e*S **S 20 42 40.3 -0.1**
KLMR *e*SS **SS 20 47 39.7 +0.2**
KLMR pmax pmax
comp=Z,27nm,1.5s
KLMR Klimovskoe 77.48 336 *e*P **P 20 32 49.1 -0.6**
KLMR AMP 20 33 00.4
comp=Z,27nm,1.5s
KLMR *e*S **S 20 42 40.4 0.0**
KLMR *e*S **S 20 42 40.4 0.0**
KLMR *e*SS **SS 20 47 39.7 +0.2**
KLMR *e*SS **SS 20 47 39.7 +0.2**
KLMR LQ LQ 21 01 46.5
KLMR LQ LQ 21 01 46.5
KLMR LR LR 21 05 36.7
VRI Vrincioaia 77.74 319 ⇓P **P 20 32 52.7 +1.2**
VRI Vrincioaia 77.74 319 ⇓P **P 20 32 52.7 +1.2**
PLOR Plostina 77.79 319 ⇑P **P 20 32 52.0 +0.2**
PLOR Plostina 77.79 319 ⇑P **P 20 32 52.0 +0.2**
PETK Petropavlovsk- 77.81 33 LR LR 21 08 50.9
comp=Z,304nm,18.7s,baz=239,slow=37
NEHR Nehoiu 77.88 318 ⇑P **P 20 32 53.8 +1.5**
AKASG Malin Array Be 77.90 324 P **P 20 32 52.2 0.0**
comp=Z,4.8nm,0.7s,baz=96,slow=4.2,SNR=21
AKASG LR LR 21 08 39.3
comp=Z,770nm,21.7s,baz=114,slow=37
AKASG Malin Array Be 77.90 324 P **P 20 32 51.0 -1.2**
AKBB Malin Array Si 77.90 324*ce*P **P 20 32 51.5 -0.7**
AKBB Malin Array Si 77.90 324 P **P 20 32 51.9 -0.2**
AKBB IAmb IAmb 20 32 53.7
comp=Z,44nm,1.8s
KIEV Kiev 77.90 324 P **P 20 32 52.0 -0.2**
TESR Tescani 78.00 319 ⇑P **P 20 32 53.1 +0.2**
MLR Muntele Rosu 78.14 318 ⇓P **P 20 32 54.9 +1.1**
MLR Muntele Rosu 78.14 318 LR LR 21 10 06.8
comp=Z,870nm,21.5s,baz=82,slow=38
MLR Muntele Rosu 78.14 318 ⇓P **P 20 32 54.9 +1.1**
MLR Muntele Rosu 78.14 318 P **P 20 32 52.9 -0.9**
MLR IAmb IAmb 20 33 07.6
comp=Z,26nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PET	Petropavlovsk	78.31	34	eP	P	20 32 53.9	-0.5
PET				eS	S	20 42 45.4	-4.2
PET				ePS	PnS	20 43 21.4	-9.4
PET				ePPS	PPS	20 43 46.9	
PET				eSS	SS	20 47 56.2	+3.9
PET				pmax	pmax		
	comp=Z,16nm,1.2s						
PET				MLR	MLR		
	comp=Z,700nm,17.0s						
HUMR	Humele	78.49	317	⇓P	P	20 32 56.6	+1.0
PRAR	RASCA	78.56	320	⇑P	P	20 32 56.2	+0.2
DOPR	Dopca	78.66	318	⇑P	P	20 32 57.1	+0.6
VOIR		78.72	318	⇑P	P	20 32 58.1	+1.1
VOIR		78.72	318	⇑P	P	20 32 58.1	+1.1
KMPD	K-Podol'skiy	78.81	321	P	P	20 32 58.0	+0.7
TIXI	Tiksi	79.02	11	LR	LR	21 10 16.9	
	comp=Z,657nm,19.7s,baz=184,slow=38						
TIXI	Tiksi	79.02	11	ceP	P	20 32 57.4	-0.6
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s						
TIXI	Tiksi	79.02	11	P	P	20 32 57.2	-0.8
TIXI				IAmb	IAmb	20 33 08.1	
	comp=Z,12nm,0.9s						
HORU	Horodok	79.05	322	P	P	20 32 59.1	+0.5
VTS	Vitosha	79.14	315	⇓P	P	20 32 59.5	0.0
VTS	Vitosha	79.14	315	⇓P	P	20 32 59.5	0.0
VTS	Vitosha	79.14	315	P	P	20 32 58.4	-1.1
BURAR	Bucovina Array	79.29	320	⇑P	P	20 33 01.8	+1.7
BURAR	Bucovina Array	79.29	320	⇑P	P	20 33 01.8	+1.7
BURAR	Bucovina Array	79.29	320	P	P	20 33 01.1	+1.0
BUR08	Bucovina Ar. S	79.31	320	P	P	20 33 00.6	+0.4
KSV	Kosov	79.61	321	P	P	20 33 02.2	+0.5
SEY	Seymchan	79.86	23	LR	LR	21 10 55.4	
	comp=Z,992nm,19.6s,baz=228,slow=38						
MNK	Minsk	80.08	327	i P	P	20 33 04.1	+0.1
MNK				i		20 33 11.2	
MNK				i		20 36 06.0	
MNK				i PPP	PPP	20 37 55.1	
MNK				i S	S	20 43 09.4	+0.9
MNK				i		20 43 48.1	
MNK				i SS	SS	20 48 16.4	-2.5
MNK				pmax	pmax		
	comp=N,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,16nm,0.9s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,100nm,20.0s						
MNK				MLR	MLR		
	comp=Z,713nm,20.0s						
MNK				MLR	MLR		
	comp=N,524nm,19.0s						
MNK	Minsk	80.08	327	i P	P	20 33 04.2	+0.1
	comp=E,1.0nm,0.9s						
MNK				i P	P	20 33 04.2	+0.1
	comp=N,2.0nm,0.9s						
MNK				i P	P	20 33 04.2	+0.1
	comp=Z,16nm,0.9s,baz=112						
MNK				i PP	PP	20 36 06.0	-0.2
MNK				i PPP	PPP	20 37 55.1	
MNK				i S	S	20 43 09.4	+0.9
MNK				i SS	SS	20 48 16.4	-2.5
MNK				i SSS	SSS	20 50 17.9	
MNK				i LQ	LQ	21 02 44.0	
MNK				LR	LR	21 06 52.1	
MNK				i LRM	MLR	21 10 19.6	
	comp=E,100nm,19.8s						
MNK				i LRM	MLR	21 10 35.3	
	comp=Z,713nm,19.6s						
MNK				i LRM	MLR	21 11 12.2	
	comp=N,524nm,19.2s						
GZR	Gura Zlata	80.23	317	⇑P	P	20 33 06.7	+1.5
GZR	Gura Zlata	80.23	317	⇑P	P	20 33 06.7	+1.5
HERR	Herculane	80.34	317	⇑P	P	20 33 06.7	+1.0
LVV	L'vov	80.72	322	eP	P	20 33 08.8	+1.1
LVV				e		20 33 17.3	
LVV				e		20 36 19.0	
LVV				eS	S	20 43 13.2	-2.3
LVV				e		20 44 01.7	
LVV				e		20 48 26.4	
NACGM	Naroch	80.83	327	i P	P	20 33 09.5	+1.4
TRSU	Trosnyk	80.88	320	P	P	20 33 09.9	+1.4
IDID	Didziasalis	81.00	328	eP	P	20 33 09.6	+0.6
BZS	Buzias	81.08	317	⇑P	P	20 33 10.5	+0.8
BZS	Buzias	81.08	317	⇑P	P	20 33 10.5	+0.8
VNDA	Vanda	81.08	168	LR	LR	21 03 42.0	
	comp=N,946nm,20.0s,baz=298,slow=32						
VNDA	Vanda	81.08	168	P	P	20 33 09.7	+0.6
VNDA				pmax	pmax		
	comp=Z,73nm,1.9s						
VNDA	Vanda	81.08	168	P	P	20 33 09.7	+0.6
VNDA				IAmb	IAmb	20 35 55.2	
	comp=Z,73nm,1.9s						
TRPA	Tarpa	81.16	320	⇑P	P	20 33 10.8	+0.8
TRPA	Tarpa	81.16	320	P	P	20 33 11.6	+1.6
IIGN	Ignalina	81.28	328	eP	P	20 33 11.2	+0.7
UZH	Uzhgorod	81.46	320	eP	P	20 33 14.0	+2.4
UZH				e		20 33 21.3	
KWP	Kalwaria Pacla	81.49	321	P	P	20 33 10.8	-0.9
KWP	Kalwaria Pacla	81.49	321	P	P	20 33 10.8	-0.9
URZ	Urewera	81.68	128	LR	LR	21 08 18.1	
	comp=Z,878nm,19.4s,baz=274,slow=35						
DIVS	Divibare	81.81	315	P	P	20 33 13.2	-0.5
DIVS				IAmb	IAmb	20 33 29.4	
	comp=Z,21nm,1.3s						
PDG	Podgorica	81.94	314	⇑P	P	20 33 14.7	+0.4
CRVS	Cervenica-Dubn	82.07	320	eP	P	20 33 18.6	+3.8
CRVS				pmax	pmax		
	comp=Z,43nm,1.8s						
CRVS	Cervenica-Dubn	82.07	320	eP	P	20 33 18.6	+3.8
VSU	Vasula	82.14	331	i P	P	20 33 16.0	+1.1
VSU				pmax	pmax		
	comp=Z,47nm,1.0s						
VSU	Vasula	82.14	331	eP	P	20 33 15.7	+0.8
SUW	Suwalki	82.51	326	P	P	20 33 16.0	-1.0
SUW				pmax	pmax		
	comp=Z,44nm,1.2s						
SUW	Suwalki	82.51	326	P	P	20 33 16.0	-1.0
SUW	Suwalki	82.51	326	eP	P	20 33 17.8	+0.8
PABE	Paberze	82.55	327	P	P	20 33 16.4	-0.8
PABE				IAmb	IAmb	20 33 20.4	
	comp=Z,20nm,1.0s						
PABE	Paberze	82.55	327	eP	P	20 33 18.0	+0.9
MSVF	Nonsavu	82.71	107	LR	LR	21 10 53.9	
	comp=Z,724nm,20.1s,baz=188,slow=36						
PSZ	Piszkesteto	82.82	319	P	P	20 33 20.6	+1.7
MORH	Mrgy, Hungar	83.24	317	⇑P	P	20 33 21.1	+0.1
MORH	Mrgy, Hungar	83.24	317	P	P	20 33 21.4	+0.5
APA	Apatity	83.24	340	⇓iP	P	20 33 19.3	-1.2
APA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,1μm,16.0s						
LANS	Liptovska Anna	83.40	320	eP	P	20 33 23.1	+1.3
LANS	Liptovska Anna	83.40	320	eP	P	20 33 23.1	+1.3
OJC	Ojcow	83.46	321	P	P	20 33 20.2	-1.8
OJC				pmax	pmax		
	comp=Z,25nm,1.4s						
OJC	Ojcow	83.46	321	P	P	20 33 20.2	-1.8
OJC				IAmb	IAmb	20 33 36.0	
	comp=Z,24nm,1.4s						
FIA1	FINESS Array S	83.53	333	P	P	20 33 21.5	-0.6
FINES	FINESS Array B	83.53	333	P	P	20 33 22.5	+0.4
	comp=Z,2.6nm,0.6s,baz=111,slow=6.8,SNR=10						
FINES				LR	LR	21 12 42.0	
	comp=Z,1μm,21.0s,baz=112,slow=37						
FINES	FINESS Array B	83.53	333	i P	P	20 33 21.5	-0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	83.53	333	P	P	20 33 22.3	+0.2
KOVH	Kovagotottos	83.58	317	P	P	20 33 23.1	+0.4
CSKK	Cskako	83.76	318	P	P	20 33 24.3	+0.7
PBUR	Paburge	83.80	327	eP	P	20 33 24.4	+0.8
KOLL	Kolacno	83.94	320	eP	P	20 33 26.0	+1.5
MPLH	Magyarpolny	84.19	318	P	P	20 33 27.2	+1.3
EGYH	Egyhazaskeszo	84.39	318	P	P	20 33 27.9	+1.1
JAVC	Velka Javorina	84.48	320	eP	P	20 33 28.9	+1.6
SMOL	Smolenice	84.56	319	eP	P	20 33 29.9	+2.2
SMOL	Smolenice	84.56	319	eP	P	20 33 29.9	+2.2
VAE	Valguarnera	84.62	308	LR	LR	21 16 18.4	
	comp=Z,124nm,18.0s,baz=120,slow=39						
ZST	Bratislava	84.70	319	eP	P	20 33 30.4	+2.0
ZST	Bratislava	84.70	319	eP	P	20 33 30.3	+1.9
MORC	Moravsky Berou	84.77	321	⇑P	P	20 33 30.1	+1.3
MORC	Moravsky Berou	84.77	321	P	P	20 33 27.6	-1.2
MORC				IAmb	IAmb	20 34 08.4	
	comp=Z,12nm,1.4s						
MORC	Moravsky Berou	84.77	321	eP	P	20 33 29.9	+1.1
VRAC	Vranov	85.27	320	⇑P	P	20 33 32.5	+1.3
VRAC	Vranov	85.27	320	LR	LR	21 14 37.7	
	comp=Z,464nm,20.8s,baz=102,slow=38						
VRAC	Vranov	85.27	320	⇑P	P	20 33 32.5	+1.3
VRAC	Vranov	85.27	320	eP	P	20 33 33.6	+2.4
KRUC	Moravsky	85.34	320	eP	P	20 33 32.8	+1.2
BOJS	Bojanci	85.41	316	eP	P	20 33 33.1	+1.1
GROS	Grobnik	85.42	317	eP	P	20 33 33.3	+1.1
CONA	Conrad Observa	85.46	319	i P	P	20 33 34.2	+1.9
	comp=Z,6.6nm,1.2s						
ARSA	Arzberg	85.56	318	i P	P	20 33 34.4	+1.7
	comp=Z,9.8nm,0.9s						
DPC	Dobruska-Polom	85.66	321	eP	P	20 33 35.1	+1.9
DPC				e		20 33 43.3	
DPC	Dobruska-Polom	85.66	321	eP	P	20 33 35.1	+1.9
DPC				ex	x	20 33 43.3	
PERS	Pernice	85.71	317	eP	P	20 33 34.9	+1.3
OSTC	Ostas	85.77	321	eP	P	20 33 36.2	+2.5
OSTC				AMS	AMS	21 18 00.0	
	comp=Z,700nm,22.2s						
SOKA	Soboth	85.78	317	eP	P	20 33 35.4	+1.5
	comp=Z,22nm,1.3s						
CHVC	Chvalec	85.87	321	eP	P	20 33 36.2	+2.0
UPC	Upice	85.88	321	eP	P	20 33 36.3	+2.0
UPC	Upice	85.88	321	eP	P	20 33 36.3	+2.0
RAO	Raoul Island	85.95	119	LR	LR	21 08 50.4	
	comp=Z,860nm,21.9s,baz=3.5,slow=34						
OBKA	Obir	86.08	317	eP	P	20 33 37.5	+2.1
	comp=Z,10.0nm,1.1s						
AQU	L'Aquila	86.18	313	P	P	20 33 34.6	-1.4
AQU				pmax	pmax		
	comp=Z,28nm,1.0s						
AQU	L'Aquila	86.18	313	P	P	20 33 34.5	-1.4
MOA	Molln	86.50	318	eP	P	20 33 39.2	+1.8
	comp=Z,13nm,1.6s						
CKRC	Cesky Krumlov	86.65	319	eP	P	20 33 39.6	+1.5
CKRC				ex	x	20 33 48.9	
ARCES	ARCESS Array B	86.70	341	P	P	20 33 39.1	+1.2
	comp=Z,8.0nm,0.9s,baz=101,slow=6.3,SNR=10						
ARCES				LR	LR	21 14 13.6	
	comp=Z,874nm,18.5s,baz=119,slow=37						
PRU	Pruhonice	86.71	320	eP	P	20 33 41.5	+3.2
PRU				MLR	MLR		
	comp=Z,900nm,21.9s						
PRU	Pruhonice	86.71	320	eP	P	20 33 41.5	+3.2
PRU				AMS	AMS	21 11 10.0	
	comp=Z,900nm,21.9s						
MYKA	Terra Mystica	86.71	317	eP	P	20 33 39.7	+1.2
	comp=Z,8.8nm,1.1s						
BIOA	Bad Ischl, Aus	86.89	318	eP	P	20 33 40.1	+0.8
	comp=Z,16nm,1.2s						
KBA	Koelnbreinsper	86.99	317	eP	P	20 33 41.5	+1.5
	comp=Z,14nm,1.2s						
GERES	GERESS Array B	87.05	319	P	P	20 33 41.4	+1.3
	comp=Z,4.5nm,0.8s,baz=84,slow=5.5,SNR=24						
GERES	GERESS Array B	87.05	319	P	P	20 33 40.0	-0.1
SHEM	Shemya Is, Ala	87.16	37	LR	LR	21 15 37.8	
	comp=Z,159nm,18.8s,baz=270,slow=38						
KHC	Kasperske Hory	87.18	320	eP	P	20 33 43.7	+3.0
KHC				MLR	MLR		
	comp=Z,700nm,18.0s						
KHC	Kasperske Hory	87.18	320	eP	P	20 33 43.7	+3.0
KHC				AMS	AMS	21 15 00.0	
	comp=Z,700nm,18.0s						
BILL	Bilibino	87.23	21	eP	P	20 33 40.0	-0.5
BILL				eS	S	20 44 18.4	-1.8
BILL				eSS	SS	20 50 08.2	+4.1
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,505nm,16.0s						
BRG	Berggiesshubel	87.25	321	eP	P	20 33 44.6	+3.6
BRG				Amp		20 33 53.7	
	comp=Z,21nm,1.6s						
BRG	Berggiesshubel	87.25	321	eP	P	20 33 44.5	+3.6
BRG				pmax	pmax		
	comp=Z,21nm,1.6s						
STAL	STALIGIAL	87.29	317	P	P	20 33 39.5	-1.8
STAL				IAmb	IAmb	20 33 51.9	
	comp=Z,22nm,1.3s						
ABTA	Abfaltersbach	87.50	317	eP	P	20 33 42.9	+0.5
	comp=Z,12nm,1.4s						
CLL	Collm	87.90	322	eP	P	20 33 45.0	+0.9
CLL				e		20 44 07.0	
CLL				eS	S	20 44 29.0	+1.8
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,600nm,20.4s						
CLL	Collm	87.90	322	eP	P	20 33 45.0	+0.9
	comp=Z,7.0nm,1.0s						
CLL				e(PP)		20 37 20.0	
CLL				eSKSac	SKSac	20 44 07.0	-5.5
CLL				eS	S	20 44 29.0	+1.8
CLL				ePS	PnS	20 45 28.0	-1.0
CLL				eSS	SS	20 50 13.0	-1.6
CLL				eSSSS		20 56 54.0	
CLL				LmV		21 15 00.0	
	comp=Z,600nm,20.4s						
CLL				Lm	MLR	21 18 00.0	
	comp=N,300nm,19.5s						
CLL				Lm	MLR	21 18 00.0	
	comp=E,400nm,18.0s						
WTTA	Wattenberg	88.17	317	eP	P	20 33 46.4	+0.7
	comp=E,9.1nm,0.7s						
WATA	Walderalm	88.22	318	i P	P	20 33 46.0	+0.1
	comp=E,11nm,1.0s						
SNAA	Sanae	88.26	198	P	P	20 33 46.7	+1.1
SNAA	Sanae	88.26	198	LR	LR	21 05 06.6	
	comp=E,306nm,21.8s,baz=94,slow=30						
SNAA	Sanae	88.26	198	ceP	P	20 33 44.0	-1.5
SNAA				pmax	pmax		
	comp=Z,21nm,1.7s						
SNAA	Sanae	88.26	198	P	P	20 33 45.2	-0.3
DEL	Delary	88.28	327	eP	P	20 33 46.2	+0.5
KEST	Kesra	88.42	306	P	P	20 33 49.5	+2.4
	comp=Z,7.7nm,0.8s,baz=177,slow=5.1,SNR=6.4						
KEST				LR	LR	21 11 15.2	
	comp=Z,235nm,21.9s,baz=25,slow=34						
KEST	Kesra	88.42	306	P	P	20 33 49.4	+2.4
MOTA	Moosalm	88.54	318	eP	P	20 33 48.1	+0.7
	comp=Z,10nm,0.8s						
FETA	Feichten	88.75	317	eP	P	20 33 49.5	+1.1
	comp=Z,11nm,1.1s						
RETA	Reutte	88.79	318	eP	P	20 33 48.9	+0.4
	comp=Z,12nm,0.9s						
HFS	Hagfors	89.02	330	LR	LR	21 17 01.5	
	comp=Z,530nm,18.3s,baz=104,slow=38						
DAVOX	Davos/Dischmat	89.30	317	LR	LR	21 18 22.8	
	comp=Z,322nm,19.3s,baz=80,slow=39						
DAVA	Damuels	89.36	317	i P	P	20 33 52.8	+1.5
	comp=Z,11nm,0.7s						
TUE	Stuetta	89.62	316	P	P	20 33 52.9	+0.3
TUE				IAmb	IAmb	20 34 04.0	
	comp=Z,26nm,1.2s						
VNA2	Neumayer--Watz	89.84	199	P	P	20 33 54.1	+1.3
	baz=84,slow=4.0						
VNA1	Neumayer--Stat	90.18	199	P	P	20 33 56.0	+1.6
NB2	NORSAR Subarra	90.37	331	P	P	20 33 56.7	+1.2
	comp=Z,8.1nm,1.4s,baz=95,slow=5.1						
NOA	NORSAR Array B	90.37	331	P	P	20 33 57.3	+1.7
	comp=Z,2.9nm,1.0s,baz=96,slow=5.0,SNR=3.7						
NOA				LR	LR	21 16 27.0	
	comp=Z,580nm,20.5s,baz=110,slow=37						
ECH	Echery	91.28	318	P	P	20 33 58.6	-1.4
ECH				pmax	pmax		
	comp=Z,19nm,1.3s						
ECH	Echery	91.28	318	P	P	20 33 58.6	-1.4
ECH				IAmb	IAmb	20 34 04.0	
	comp=Z,19nm,1.3s						
BNI	Bardonecchia	91.35	315	P	P	20 34 01.4	+0.9
BNI				pmax	pmax		
	comp=Z,18nm,1.2s						
BNI	Bardonecchia	91.35	315	P	P	20 34 01.4	+0.9
BNI				IAmb	IAmb	20 34 13.4	
	comp=Z,18nm,1.2s						
SPITS	Spitsbergen Ar	91.68	348	LR	LR	21 19 42.1	
	comp=Z,894nm,21.2s,baz=198,slow=38						
AFI	Afiamalu	92.72	104	LR	LR	21 14 28.6	
	comp=Z,326nm,18.9s,baz=258,slow=35						
TORD	Torodi Ar. Bea	93.55	283	P	P	20 34 11.8	+0.6
	comp=Z,5.3nm,1.0s,baz=79,slow=4.3,SNR=20						
TORD	Torodi Ar. Bea	93.55	283	P	P	20 34 09.4	-1.8
TORD				IAmb	IAmb	20 34 14.7	
	comp=Z,7.1nm,1.1s						
EKA	Eskdalemuir Ar	97.77	325	LR	LR	21 22 40.7	
	comp=Z,289nm,20.5s,baz=41,slow=38						
JMIC	Jan Mayen	98.19	341	LR	LR	21 20 37.6	
	comp=Z,242nm,20.4s,baz=86,slow=36						
ESDC	Sonseca Array	99.11	309	PP	PP	20 38 38.3	-0.1
	comp=Z,1.3nm,0.9s,baz=78,slow=7.2,SNR=5.6						
ESDC				LR	LR	21 21 42.7	
	comp=Z,203nm,18.9s,baz=58,slow=37						
DBIC	Dimbokro	99.63	276	LR	LR	21 17 10.7	
	comp=Z,291nm,21.8s,baz=102,slow=34						
MDT	Midelt	99.83	302	LR	LR	21 19 46.6	
	comp=Z,417nm,20.2s,baz=112,slow=35						
PPT2	Papeete2	113.31	111	eLR	LR	21 13 27.7	
	comp=Z,977nm,24.0s						
YKA	Yellowknife Ar	118.06	15	PKKPbc	PKKPbc	20 50 04.0	+1.1
	comp=Z,0.3nm,0.8s,baz=150,slow=5.0,SNR=4.2						
TAOE	Nuku Hiva Isla	124.11	104	eLR	LR	21 18 11.3	
	comp=Z,324nm,21.0s						
PDAR	Pinedale Array	136.15	26	PKP	PKPdf	20 40 15.0	-1.5
	comp=Z,0.5nm,0.8s,baz=342,slow=1.7,SNR=3.7						
ANMO	Albuquerque	143.88	30	PKIKP	PKPab	20 40 27.8	+0.1
ANMO	Albuquerque	143.88	30		PKPab	20 40 27.8	+0.1
LENM	Lemitar	144.23	31		PKPab	20 40 28.1	-0.9
BNM	Barren Site	144.42	31		PKPab	20 40 28.7	-1.1
P48A	Milroy	144.95	360		PKPab	20 40 30.7	-0.5
R40A	Maddies Statio	145.59	9		PKPbc	20 40 29.8	-3.6
S39A	Bolivar	145.99	11		PKPdf	20 40 32.5	-1.4
MCPB	Macapa, AP	146.14	263	eP	PKPbc	20 40 36.0	+0.2
CLDB	Colider	146.72	243	eP	PKPbc	20 40 37.5	0.0
PTLB	Pontes e Lacer	147.27	233	eP	PKPbc	20 40 38.7	-0.2
NPGB	Novo Progresso	147.77	250	eP	PKPbc	20 40 39.5	-0.9
LCAR	Lake Charles	147.93	8		PKPdf	20 40 34.9	-2.4
FCAR	Ozark Folk Cen	147.95	10		PKPdf	20 40 37.7	+0.4
WVT	Waverly	148.22	3	PKP2	PKPbc	20 40 40.4	-0.5
WVT	Waverly	148.22	3		PKPbc	20 40 40.4	-0.5
LVC	Limon Verde	148.69	211	PKP2	PKPbc	20 40 41.8	-1.3
LVC	Limon Verde	148.69	211		PKPbc	20 40 41.8	-1.3
LVC	Limon Verde	148.69	211	eP	PKPdf	20 40 40.7	+1.4
ITTB	Itaituba	148.93	254	eP	PKPdf	20 40 41.7	+2.2
MIAR	Mount Ida	148.97	13	PKP2	PKPbc	20 40 42.2	-0.8
MIAR	Mount Ida	148.97	13		PKPbc	20 40 42.2	-0.8
VILB	Vilhena	149.50	236	eP	PKPdf	20 40 42.4	+2.0
PB09	IPOC Station P	149.54	211		PKPdf	20 40 41.6	+1.1
TX31	Lajitas Ar. Si	149.76	32		PKPdf	20 40 35.8	-4.7
TX31				PKPbc	sPKPdf	20 40 44.0	+1.1
TX32	Lajitas Array	149.76	32		PKPdf	20 40 36.7	-3.9
TXAR	Lajitas Array	149.76	32	PKPbc	PKPbc	20 40 45.1	-0.1
	comp=Z,2.3nm,0.8s,baz=153,slow=0.3,SNR=17						
LPAZ	La Paz	153.24	220	PKPbc	PKPbc	20 40 53.9	-0.3
	comp=Z,2.5nm,0.9s,baz=116,slow=7.1,SNR=6.3						
LPAZ	La Paz	153.24	220	eP	PKPdf	20 40 47.9	+1.1

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*DJA **04** 20:37:26.6±0.3, 8°S±3°×10°7E±°, h10^{km}, M4.8/31, mB5.5/4, mb4.9/16, MLv4.7/31, Mw(mB)5.0/4*
*NEIC **04** 20:37:28.6±2.0, 8.°2S±0.°1×107.°33E±0.°08, h65^{km}±5^{km}, mb4.1/12, Error ellipse: s-maj=17.8km s-min=8.7km az=210.0*
*IDC **04** 20:37:29.1±5.2, 8.°08S×107.°15E, h77^{km}±39^{km}, mb3.5/7, mb1 3.7/7, mb1mx3.3/38, mbtmp3.9/7, MS4.1/1, Ms1 4.1/1, ms1mx3.2/66, Error ellipse: s-maj=65.9km s-min=14.9km az=59.0*
ISC 04 20:37:27.6±1.3**, 8.°22S**±0.°09×**107.°34E**±0.°06**, h59**^{km}±12^{km}**, n74, σ1.°44**/74**, mb4.0**/11**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNJI	Cibinong	0.93	347	P	Pn	20 37 43.6	-1.0
CNJI				S	Sn	20 37 54.0	-3.2
CMJI	Cimerak	1.18	69	P	Pn	20 37 47.1	-0.8
CMJI				S	Sn	20 38 00.9	-2.2
LEM	Lembang	1.41	11	P	Pn	20 37 51.8	+0.6
	427nm,0.3s,baz=134,slow=5.8,SNR=109						
LEM				S	Sn	20 38 09.6	+0.8
	505nm,0.3s,baz=246,slow=4.3,SNR=29						
LEM	Lembang	1.41	11	P	Pn	20 37 51.2	0.0
LEM				S	Sn	20 38 09.2	+0.4
SKJI	Sukabumi	1.43	327	P	Pn	20 37 51.5	+0.1
SKJI				S	Sn	20 38 10.4	+1.1
DBJI	Dramaga	1.75	340	P	Pn	20 37 56.5	+0.8
KPJI	Karang Pucung	1.80	61	P	Pn	20 37 56.9	+0.6
TNG	Tangerang	2.15	341	P	Pn	20 38 01.3	+0.3
TNG				P	Pn	20 38 01.3	+0.3
CGJI	Cibinong	2.28	314	P	Pn	20 38 02.8	-0.1
YOGI	Yogyakarta	2.95	82	P	Pn	20 38 11.2	-0.8
UGM	Wanagama	3.16	85		Pn	20 38 15.6	+0.7
UGM	Wanagama	3.16	85	P	Pn	20 38 15.3	+0.3
UGM	Wanagama	3.16	85	P	Pn	20 38 15.8	+0.8
SMRI	Semarang	3.28	70		Pn	20 38 18.8	+2.2
SMRI	Semarang	3.28	70	P	Pn	20 38 18.8	+2.2
SMRI	Semarang	3.28	70	P	Pn	20 38 19.4	+2.8
BLSI	Bandar Lampung	3.51	324	P	Pn	20 38 19.9	+0.1
PCJI	Pacitan	3.79	90	P	Pn	20 38 24.7	+1.1
KASI	Kota Agung	3.89	313	P	Pn	20 38 25.5	+0.6
KLI	Kotabumi	4.15	323	P	Pn	20 38 30.1	+1.7
KLSI		4.36	323	P	Pn	20 38 33.5	+2.1
PWJI	Pagerwojo	4.42	88	P	Pn	20 38 32.4	+0.2
LWLI	Liwa	4.55	314	P	Pn	20 38 33.2	-0.9
MDSI	Maura Dua	4.86	319	P	Pn	20 38 39.7	+1.5
GRJI	Gresik	5.25	76	P	Pn	20 38 45.0	+1.4
	0.3nm899nm57nm,0.6s						
TPI	Tanjungpandan	5.43	3	P	Pn	20 38 47.3	+1.2
BWJI	Bawean	5.77	66	P	Pn	20 38 52.8	+2.1
	0.8nm246nm,1.0s						
MNAI	Manna	5.80	311	Pn	Pn	20 38 51.2	0.0
MNAI	Manna	5.80	311	P	Pn	20 38 53.6	+2.4
	0.9nm108nm,0.5s						
MNAI	Manna	5.80	311	P	Pn	20 38 51.4	+0.2
GMJI	Gumukmas	6.04	91	P	Pn	20 38 55.3	+0.9
	0.3nm53nm,0.7s						
PPBI	Pangkal Pinang	6.13	349	P	Pn	20 38 56.6	+0.9
	0.6nm4μm22nm,0.4s						
BLJI	Banyuglugur	6.21	86	P	Pn	20 38 57.4	+0.7
	0.3nm49nm,0.5s						
KSI	Kapahiang	6.55	314	P	Pn	20 39 02.8	+1.4
KMMI	Kalianget	6.67	80	P	Pn	20 39 03.5	+0.5
	0.2nm26nm,1.5s						
JAGI	Jajag, Banyuwa	6.74	93		Pn	20 39 04.9	+0.9
JAGI	Jajag, Banyuwa	6.74	93	P	Pn	20 39 04.9	+0.9
	0.5nm3μm84nm,0.8s						
JAGI	Jajag, Banyuwa	6.74	93	P	Pn	20 39 05.6	+1.6
ABJI	Asem Bagus	6.84	87	P	Pn	20 39 06.9	+1.6
	0.9nm190nm,0.6s						
PBKI	Pangkalan Bun	6.96	38	P	Pn	20 39 08.1	+1.0
	0.3nm92nm,1.0s						
MASI	Maura Aman, Be	7.16	315	P	Pn	20 39 10.9	+1.2
	0.4nm67nm,1.1s						
IGBI	Denpasar	7.74	95	P	Pn	20 39 18.9	+1.2
	0.3nm75nm,0.8s						
SRBI	Singaraja	7.79	90	P	Pn	20 39 21.4	+3.0
	0.2nm58nm,0.6s						
PLAI	Plampang	10.34	94	P	Pn	20 39 55.4	+2.2
	35nm,0.6s						
PLAI	Plampang	10.34	94	P	Pn	20 39 54.5	+1.3
MYKOM	Kota Tinggi	10.53	341	Pn	Pn	20 39 58.2	+2.3
BSSI	Bau Bau, Buton	13.21	82	P	P	20 40 43.0	+2.6
GSI	Gunungsitoli	13.57	314	Pn	Pn	20 40 32.2	-5.3
MMRI	Maumere	14.74	93		P	20 40 56.0	-1.5
MMRI	Maumere	14.74	93	P	Pn	20 40 54.0	+1.1
TOLI2	Tolitoli	16.29	56	Pn	P	20 41 13.3	-1.4
MYLDM	Lahad Datu	17.35	40	P	Pn	20 41 23.3	-2.5
FITZ	Fitzroy Crossi	20.32	121	P	Pn	20 42 01.8	+0.3
	4.7nm,0.8s,baz=273,slow=6.5,SNR=8.4						
WB0	Warramunga Arr	28.60	117		P	20 43 18.2	-0.3
WRA	Warramunga Arr	28.61	117	P	P	20 43 20.0	+1.4
	0.5nm,0.6s,baz=287,slow=12,SNR=7.1						
WRAB	Tennant Creek	28.62	117	P	P	20 43 18.8	+0.2
WRAB				IAmb	IAmb	20 43 29.0	
	comp=Z,6.9nm,1.3s						
WB2	Warramunga Arr	28.62	117	P	P	20 43 18.9	+0.2
WB2				IAmb	IAmb	20 43 33.8	
	comp=Z,12nm,1.6s						
WR0	Warramunga Arr	28.79	117	P	P	20 43 20.1	-0.1
WR0				IAmb	IAmb	20 43 32.0	
	comp=Z,11nm,1.4s						
ASAR	Alice Springs	29.72	124	P	P	20 43 28.4	0.0
	comp=Z,0.8nm,0.8s,baz=303,slow=8.6,SNR=5.9						

H08S2	Diego Garcia H	34.52	268	T	T	21 21 19.6	
	baz=92,slow=76,SNR=18						
H08S3	Diego Garcia H	34.53	268	T	T	21 21 01.3	
	baz=92,slow=76,SNR=3.4						
H08S1	Diego Carcia H	34.53	268	T	T	21 21 27.3	
	baz=92,slow=76,SNR=14						
STKA	Stephens Creek	39.58	131	P	P	20 44 56.4	+3.1
	comp=Z,5.9nm,0.5s,baz=311,slow=7.7,SNR=27						
STKA	Stephens Creek	39.58	131	P	P	20 44 54.4	+1.1
STKA				IAmb	IAmb	20 44 57.0	
	comp=Z,1.5nm,0.6s						
JNU	Nakatsue	46.81	27	LR	LR	21 05 53.5	
	comp=Z,202nm,19.2s,baz=220,slow=36						
SONM	Songino Array	55.81	359	P	P	20 46 57.9	-0.9
	comp=Z,0.4nm,0.5s,baz=169,slow=8.4,SNR=2.4						
MK31	Makanchi Array	59.14	340	P	P	20 47 21.0	-1.1
MK31				IAmb	IAmb	20 47 54.6	
	comp=Z,1.5nm,1.4s						
MKAR	Makanchi Array	59.14	340	P	P	20 47 20.0	-2.1
	comp=Z,0.4nm,0.5s,baz=152,slow=7.6,SNR=14						
UOSS	Minazif	59.72	305	P	P	20 47 27.7	+1.2
ZALV	Zalesovo Beam	64.79	346	P	P	20 47 58.1	-1.8
	comp=Z,0.4nm,0.3s,baz=158,slow=6.1,SNR=3.1						
ABKAR	Akbulak array	70.62	329	P	P	20 48 36.2	-0.5
ABKAR				IAmb	IAmb	20 48 39.6	
	comp=Z,2.3nm,0.7s						
ABKAR	Akbulak array	70.62	329	P	P	20 48 36.5	-0.2
TXAR	Lajitas Array	144.09	50	PKP	PKPdf	20 56 57.3	-0.1
	comp=Z,0.4nm,0.7s,baz=290,slow=0.3,SNR=4.2						
TXAR	Lajitas Array	144.09	50		PKPdf	20 56 56.0	-1.4

*SJA **04** 20:48:33.5±0.6, 21°.31S×69°.74W, h65km±2km, ML4.2, MW4.0*
*IDC **04** 20:48:35.0±0.9, 21°.14S×69°.57W, h66km±7km, mb3.1/4, mb1 3.6/6, mb1mx3.4/33, mbtmp3.6/6, MS2.5/1, Ms1 2.6/1, ms1mx2.5/13, Error ellipse: s-maj=32.7km s-min=7.6km az=73.0*
*NEIC **04** 20:48:34.2±3.1, 21°.34S±0°.03×69°.84W±0°.05, h61km±3km, Error ellipse: s-maj=6.2km s-min=4.0km az=83.0*
*GUC **04** 20:48:35.1±0.5, 21°.31S×69°.72W, h65km±1km, ML4.1*
ISC 04 20:48:33.9±0.7**, 21°.32S**±0°.02×**69°.79W**±0°.04**, h64**km±5km**, n71,** σ**1s.36**/104**, mb3.6**/5**, 1C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB02	IPOC Station P	0.10	272		Pn	20 48 43.4	-0.3
PB02				Sn	Sn	20 48 51.4	+0.7
PB02	IPOC Station P	0.10	272	eP	Pn	20 48 44.6	+0.9
PB02				eS	Sn	20 48 51.8	+1.1
PB02				IAML		20 48 52.6	
	comp=E,30µm,0.1s						
PB02	IPOC Station P	0.10	272	eP	Pn	20 48 44.4	+0.7
PB02				eS	Sn	20 48 51.9	+1.1
PB02				IAML		20 48 52.8	
	comp=Z,25µm,0.1s						
PB01	IPOC Station P	0.40	46		Pn	20 48 44.5	-0.9
PB01				Sn	Sn	20 48 53.5	-0.3
PB01	IPOC Station P	0.40	46	eP	Pn	20 48 45.5	+0.1
PB01				eS	Sn	20 48 53.6	-0.1
PB01				IAML		20 48 55.6	
	comp=N,23µm,0.4s						
PB01	IPOC Station P	0.40	46	eP	Pn	20 48 45.3	-0.1
PB01				eS	Sn	20 48 54.0	+0.2
PB01				IAML		20 48 55.5	
	comp=Z,14µm,0.3s						
PB07	IPOC Station P	0.41	192		Pn	20 48 45.4	-0.3
PB07				Sn	Sn	20 48 54.8	+0.6
PB07	IPOC Station P	0.41	192	⇓eP	Pn	20 48 46.5	+0.8
PB07				eS	Sn	20 48 55.4	+1.2
PB07				IAML		20 48 56.2	
	comp=E,20µm,0.2s						
PB07	IPOC Station P	0.41	192	eP	Pn	20 48 46.3	+0.6
PB07				eS	Sn	20 48 53.7	-0.5
PB07				eS	Sn	20 48 55.6	+1.4
PB07				IAML		20 48 56.8	
	comp=Z,16µm,0.4s						
PATCX	Punta Patache	0.60	326	Pn	Pn	20 48 47.6	+0.1
PATCX				Sn	Sn	20 48 58.3	+0.9
PATCX	Punta Patache	0.60	326	eP	Pn	20 48 48.0	+0.5
PATCX				i S	Sn	20 48 58.7	+1.3
PATCX				IAML		20 48 59.7	
	comp=N,11µm,0.3s						
PATCX	Punta Patache	0.60	326	eP	Pn	20 48 48.0	+0.5
PATCX				eP	Pn	20 48 48.0	+0.5
PATCX				eP	Pn	20 48 48.1	+0.5
PATCX				IAML		20 48 59.6	
	comp=Z,4µm,0.3s						
PB09	IPOC Station P	0.69	133		Pn	20 48 49.0	+0.3
PB09				Sn	Sn	20 48 59.7	+0.4
PB09	IPOC Station P	0.69	133	⇓eP	Pn	20 48 49.4	+0.8
PB09				eS	Sn	20 49 00.6	+1.2
PB09				IAML		20 49 01.2	
	comp=E,9µm,0.3s						
PB09	IPOC Station P	0.69	133	eP	Pn	20 48 48.7	+0.1
PB09				IAML		20 49 00.9	
	comp=Z,5µm,0.5s						
HMBC	Humberstone	1.04	355	eP	Pn	20 48 53.5	+0.6
HMBC				i S	Sn	20 49 07.8	+0.9
HMBC				IAML		20 49 11.1	
	comp=E,6µm,0.1s						
HMBC				IAML		20 49 13.5	
	comp=N,7µm,0.6s						
PB04	IPOC Station P	1.06	198		Pn	20 48 53.9	+0.7
PB04				Sn	Sn	20 49 08.0	+0.6
PB04	IPOC Station P	1.06	198	eP	Pn	20 48 54.0	+0.9
PB04				eS	Sn	20 49 08.8	+1.5
PB04				IAML		20 49 15.9	
	comp=N,5µm,0.5s						
PB04	IPOC Station P	1.06	198	eP	Pn	20 48 54.2	+1.1
PB04				eS	Sn	20 49 09.3	+1.9
PB04				IAML		20 49 11.7	
	comp=Z,4µm,0.2s						
TA02	Huaiquique	1.09	343		Pn	20 48 54.1	+0.7
TA02				Sn	Sn	20 49 08.8	+0.9
TA02	Huaiquique	1.09	343	⇓eP	Pn	20 48 54.2	+0.7
TA02				i S	Sn	20 49 08.6	+0.8
TA02				IAML		20 49 12.2	
	comp=E,13µm,0.1s						
TA02	Huaiquique	1.09	343	eP	Pn	20 48 54.0	+0.7
TA02				eS	Sn	20 49 10.8	+2.9
TA02				IAML		20 49 13.1	
	comp=Z,4µm,0.1s						
PB08	IPOC Station P	1.32	27		Pn	20 48 56.4	-0.3
PB08				Sn	Sn	20 49 14.1	+0.4
PB08	IPOC Station P	1.32	27	⇑eP	Pn	20 48 57.2	+0.5
PB08				eS	Sn	20 49 14.3	+0.6
PB08				IAML		20 49 15.9	
	comp=N,3µm,0.1s						
PB08	IPOC Station P	1.32	27	eP	Pn	20 48 57.2	+0.5
PB08				eS	Sn	20 49 14.8	+1.1
PB06	IPOC Station P	1.39	172		Pn	20 48 58.0	+0.5
PB06				Sn	Sn	20 49 12.9	-2.2
PB06	IPOC Station P	1.39	172	eP	Pn	20 48 58.2	+0.8
PB06				eS	Sn	20 49 16.6	+1.5
PB06				IAML		20 49 19.0	
	comp=N,3µm,0.2s						
PB06	IPOC Station P	1.39	172	eP	Pn	20 48 58.5	+1.0
PB06				eS	Sn	20 49 16.9	+1.8
PB06				IAML		20 49 19.1	
	comp=Z,2µm,0.3s						
LVC	Limon Verde	1.52	148	P	Pn	20 49 01.3	+1.9
	comp=Z,74nm,0.3s,baz=354,slow=9.6,SNR=937						
LVC				S	Sn	20 49 21.2	+2.7
	comp=Z,537nm,0.3s,baz=148,slow=16,SNR=35						
LVC	Limon Verde	1.52	148		Pn	20 49 01.3	+1.9
LVC				Sn	Sn	20 49 19.9	+1.4
LVC	Limon Verde	1.52	148	eP	Pn	20 49 00.5	+1.1
LVC				eS	Sn	20 49 20.0	+1.6
LVC	Limon Verde	1.52	148	eP	Pn	20 48 55.6	-3.8
LVC				eP	Pn	20 49 00.4	+1.0
LVC				eS	Sn	20 49 21.8	+3.3
PB11	IPOC Station P	1.56	5		Pn	20 48 59.2	-0.5
PB11				Sn	Sn	20 49 18.7	-0.4
PB11	IPOC Station P	1.56	5	eP	Pn	20 49 00.0	+0.3
PB11				eS	Sn	20 49 19.7	+0.6
PB11				IAML		20 49 23.0	
	comp=N,4µm,0.2s						
PB11	IPOC Station P	1.56	5	eP	Pn	20 49 00.5	+0.8
PB11				eS	Sn	20 49 20.5	+1.4
PB11				IAML		20 49 22.1	
	comp=Z,2µm,0.4s						
GO01	Chusmiza	1.74	19		Pn	20 49 03.1	+0.7
GO01				Sn	Sn	20 49 25.3	+1.4
GO01	Chusmiza	1.74	19	eP	Pn	20 49 03.0	+0.6
GO01				eS	Sn	20 49 24.4	+0.5
GO01	Chusmiza	1.74	19	eP	Pn	20 49 03.3	+0.9
GO01				eS	Sn	20 49 25.6	+1.7
PB15	IPOC Station P	1.90	171		Pn	20 49 05.3	+0.9
PB15	IPOC Station P	1.90	171	eP	Pn	20 49 05.4	+1.1
PB15				i S	Sn	20 49 28.9	+1.5
PB14	IPOC Station P	3.34	190	Pn	Pn	20 49 22.6	-1.4
AC01	Pan de Azucar	4.86	189	Pn	Pn	20 49 42.8	-1.7
LPAZ	La Paz	5.25	18	P	Pn	20 49 54.2	+3.8
	comp=Z,2.8nm,0.3s,baz=188,slow=8.3,SNR=74						
LPAZ				LR	LR	20 52 23.4	
	comp=Z,47nm,19.0s,baz=147,slow=46						
LPAZ	La Paz	5.25	18		Pn	20 49 53.1	+2.7
AC02	Maricunga	5.52	174		Pn	20 49 53.7	-0.3
AC06	Mina Casimiro	6.03	185		Pn	20 50 00.6	0.0
GO03	Copiap	6.26	184	Pn	Pn	20 50 05.2	+1.5
AC04	Llanos de Chal	6.95	189	Pn	Pn	20 50 11.8	-1.4
CO05	La Serena	8.66	188	Pn	Pn	20 50 36.7	+0.2
GO04	Tololo Observa	8.86	186	Pn	Pn	20 50 35.5	-4.0
CO06	Fray Jorge	9.46	190	Pn	Pn	20 50 44.7	-2.7
CO03	El Pedregal	9.51	185	Pn	Pn	20 50 46.3	-2.0
SIV	San Ignacio	9.82	59	P	Pn	20 50 51.1	-1.4
	comp=Z,6.2nm,0.3s,baz=254,slow=9.9,SNR=48						
CO02	Combarbal	9.90	186	Pn	Pn	20 50 51.8	-1.8
MT02	Curacav	11.95	185	Pn	Pn	20 51 16.6	-4.9
H03N1	Juan Fernandez	14.53	212	T	T	21 07 14.4	
	baz=35,slow=72,SNR=79						
H03N2	Juan Fernandez	14.54	212	T	T	21 07 14.8	
	baz=35,slow=72,SNR=28						
H03N3	Juan Fernandez	14.54	212	T	T	21 07 02.1	
	baz=35,slow=72,SNR=56						
PLCA	Paso Flores	19.36	182	P	Pn	20 52 57.1	+1.1
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=3.3						
OTAV	Otavalo	23.04	337	P	P	20 53 34.0	-0.4
OTAV				IAmb	IAmb	20 53 47.4	
	comp=Z,4.1nm,1.0s						
TXAR	Lajitas Array	60.02	326	P	P	20 58 34.6	+0.3
	comp=Z,0.2nm,0.5s,baz=148,slow=8.6,SNR=2.3						
PDAR	Pinedale Array	73.55	331	P	P	21 00 01.1	+0.8
	comp=Z,0.1nm,0.4s,baz=134,slow=7.7,SNR=1.8						
TORD	Torodi Ar. Bea	78.07	71	P	P	21 00 24.5	-1.8
	comp=Z,0.1nm,0.4s,baz=236,slow=3.8,SNR=1.4						
TORD				pP	pP	21 00 43.0	-1.3
	comp=Z,0.4nm,0.5s,baz=253,slow=5.2,SNR=3.3						
YKA	Yellowknife Ar	90.75	341	P	P	21 01 29.4	0.0
	comp=Z,0.3nm,0.4s,baz=135,slow=4.2,SNR=7.0						
YKA				pP	pP	21 01 47.7	0.0
	comp=Z,0.6nm,0.8s,baz=139,slow=4.5,SNR=5.6						
H11S2	WAKE ISLAND Hy	127.04	278	T	T	23 27 03.0	
	baz=103,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	127.05	278	T	T	23 27 06.3	
	baz=103,slow=75,SNR=32						
H11S3	WAKE ISLAND Hy	127.06	278	T	T	23 27 02.6	
	baz=103,slow=75,SNR=43						
H11N3	WAKE ISLAND Hy	127.12	279	T	T	23 27 09.2	
	baz=102,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	127.13	279	T	T	23 27 10.3	
	baz=102,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	127.14	279	T	T	23 27 10.4	
	baz=102,slow=75,SNR=12						
MKAR	Makanchi Array	145.97	35	PKPbc	PKPbc	21 08 06.4	0.0
	comp=Z,0.5nm,0.6s,baz=316,slow=4.2,SNR=9.5						
MKAR				pPKPbc	pPKPbc	21 08 25.2	+0.1
	comp=Z,0.4nm,0.6s,baz=317,slow=3.9,SNR=3.8						

IDC 04 20:49:03.1±1.9**, 1°.99N**×**127°.21E, h0**km**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.5**/33**, mbtmp3.8**/3**, Error ellipse: s-maj=144.5km s-min=24.0km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.89	163	P	P	20 54 07.3	-1.2
	1.7nm,0.7s,baz=342,slow=11,SNR=32						
ASAR	Alice Springs	26.32	166	P	P	20 54 41.7	+0.9
	1.1nm,0.4s,baz=348,slow=13,SNR=20						
MKAR	Makanchi Array	59.25	326	P	P	20 59 06.4	-0.1
	0.3nm,0.4s,baz=123,slow=7.4,SNR=8.8						

*IDC **04** 21:24:02.0±1.6, 3°.18S×123°.40E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/33, mbtmp3.2/5, ML3.0/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/28, Error ellipse: s-maj=52.5km s-min=23.1km az=55.0*
*NEIC **04** 21:24:04.1±1.6, 3°.31S±0°.06×123°.2E±0°.1, h10km±1km, mb4.1/12, Error ellipse: s-maj=18.9km s-min=9.3km az=105.0*
ISC 04 21:24:07.4±0.7**, 3°.29S**±0°.07×**123°.2E**±0°.1**, h38**km**, n22,** σ**0s.78**/21**, mb3.8**/6**, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	Luwuk	2.28	349	Pn	Pn	21 24 40.9	-1.6
KAPI	Kappang	3.86	244	Pn	Pn	21 25 04.1	-0.2
	1.1nm,0.3s,baz=277,slow=5.2,SNR=3.0						
KAPI	Kappang	3.86	244		Pn	21 25 03.8	-0.5
TOLI2	Tolitoli	5.01	331		Pn	21 25 20.6	+0.6
WRAB	Tennant Creek	19.79	148	P	P	21 28 34.7	+0.1
WRAB				IAmb	IAmb	21 28 53.7	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	19.79	148	P	P	21 28 34.4	-0.2
	comp=Z,0.1nm,0.3s,baz=337,slow=9.4,SNR=3.7						
WRA	Warramunga Arr	19.79	148	P	P	21 28 33.4	-1.2
WB2	Warramunga Arr	19.80	148	P	P	21 28 33.6	-1.1
WB2				IAmb	IAmb	21 28 52.3	
	comp=Z,7.8nm,1.4s						
WR0	Warramunga Arr	19.91	147	P	P	21 28 35.2	-0.7
WR0				IAmb	IAmb	21 28 39.2	
	comp=Z,6.2nm,1.4s						
ASAR	Alice Springs	22.74	154	P	P	21 29 06.1	-0.3
	comp=Z,0.7nm,0.7s,baz=339,slow=13,SNR=7.1						
IPM	Ipoh	23.48	289	P	P	21 29 13.0	-0.9
IPM				IAmb	IAmb	21 29 23.3	
	comp=Z,13nm,1.4s						
CMAR	Chiang Mai Arr	32.23	313	P	P	21 30 33.1	+0.7
	comp=Z,0.5nm,0.6s,baz=142,slow=8.1,SNR=6.1						
CMAR	Chiang Mai Arr	32.23	313	P	P	21 30 32.8	+0.4
CHTO	Chiang Mai	32.46	313	P	P	21 30 33.9	-0.5
CHTO				IAmb	IAmb	21 30 44.1	
	comp=Z,3.9nm,1.3s						
STKA	Stephens Creek	33.27	151	P	P	21 30 41.5	+0.2
CAN	Canberra	39.83	146	P	P	21 31 37.8	+0.6
ASAJ	Asahikawa	50.30	18	LR	LR	21 55 03.6	
	comp=Z,142nm,20.4s,baz=148,slow=37						
SONM	Songino Array	53.01	346	P	P	21 33 21.4	+0.8
MKAR	Makanchi Array	61.52	329	P	P	21 34 20.8	+0.2
	comp=Z,0.2nm,0.7s,baz=117,slow=8.3,SNR=2.7						
PETK	Petropavlovsk-	63.21	22	P	P	21 34 32.8	+1.1
KBL	Kabul	63.25	311	P	P	21 34 31.9	-0.7
KBL				IAmb	IAmb	21 34 34.6	
	comp=Z,3.1nm,1.4s						
ZALV	Zalesovo Beam	65.39	336	P	P	21 34 45.7	-0.2

*JMA **04** 21:26:53.7±0.2, 24°.80N×122°.43E, h5km±3km, M2.2*
*TAP **04** 21:26:54.2, 24°.81N×122°.43E, h7km, ML2.9, C*
ISC 04 21:26:54.0±1.0**, 24°.81N**±0°.03×**122°.44E**±0°.02**, h9**km±10km**, n52,** σ**0s.36**/86**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.46	296	i P	Pg	21 27 02.6	-0.3
	baz=296						
TWB1				S	Sg	21 27 08.6	-0.3
	baz=296						
EGS		0.46	275	eP	Pb	21 27 03.8	-0.6
	baz=274						
EGS				eS	Sg	21 27 09.8	+0.7
	baz=274						
NTC	Toucheng	0.56	275	eP	Pg	21 27 05.2	+0.4
	baz=274						
NTC				eS	Sg	21 27 12.6	+0.5
	baz=274						
TWC	Suao	0.57	250	P	Pg	21 27 04.8	-0.3
	baz=248						
TWC				S	Sg	21 27 12.3	-0.3
	baz=248						
JYNG	Yonagunijimaku	0.58	128	P	Pg	21 27 05.3	+0.1
JYNG				S	Sg	21 27 13.1	+0.3
TIPB	Shuangxi	0.58	286	i P	Pg	21 27 05.3	0.0
	baz=286						
TIPB				S	Sg	21 27 13.2	+0.3
	baz=286						
SXI1	Grass Mountain	0.59	299	⇑iP	Pg	21 27 05.4	0.0
	baz=299						
SXI1				S	Sg	21 27 13.6	+0.5
	baz=299						
YOJ	Yonaguni jima	0.62	124	P	Pg	21 27 06.0	0.0
YOJ				eS	Sg	21 27 14.0	-0.2
YOJ	Yonaguni jima	0.62	124	⇑iP	Pg	21 27 06.1	0.0
	baz=123						
YOJ				S	Sg	21 27 14.4	+0.2
	baz=123						
NWF	Wu-fen Shan	0.65	294	P	Pg	21 27 06.9	+0.3
	baz=293						
NWF				eS	Sg	21 27 15.2	0.0
	baz=293						
WFSB	Wu-fen Shan	0.65	294	eP	Pg	21 27 06.8	+0.2
	baz=293						
WFSB				eS	Sg	21 27 15.3	+0.2
	baz=293						
NDS	Dongshan	0.68	255	P	Pg	21 27 06.9	-0.2
	baz=254						
NDS				eS	Sg	21 27 15.9	-0.1
	baz=254						
EWUT	Wuta	0.70	239	eP	Pg	21 27 07.7	+0.2
	baz=238						
EWUT				eS	Sb	21 27 18.0	-0.3
	baz=238						
TWE	Neicheng	0.71	263	eP	Pg	21 27 07.4	-0.2
	baz=262						
TWE				eS	Sg	21 27 16.9	-0.1
	baz=262						
ENA	Nanau	0.74	239	P	Pg	21 27 08.1	-0.2
	baz=238						
ENA				eS	Sg	21 27 18.2	+0.3
	baz=238						
FUSB	Fushanzhiwuyua	0.78	267	P	Pg	21 27 09.1	+0.1
	baz=266						
FUSB				eS	Sg	21 27 19.2	+0.1
	baz=266						
TWA	Mucha	0.80	283	eP	Pg	21 27 09.3	0.0
	baz=282						
TWA				eS	Sg	21 27 19.7	-0.1
	baz=282						
ENTT	Nioudou	0.81	258	eP	Pg	21 27 09.8	+0.2
	baz=257						
NHDH	Xindian Distri	0.85	281	eP	Pg	21 27 10.2	0.0
	baz=280						
NHDH				S	Sg	21 27 21.3	0.0
	baz=280						
NWLT	Wulai	0.85	268	P	Pb	21 27 10.7	-0.4
	baz=267						
NWLT				eS	Sg	21 27 21.5	-0.1
	baz=267						
YM01	YM01	0.86	293	eP	Pg	21 27 09.9	-0.6
	baz=293						
YM01				eS	Sg	21 27 21.5	-0.2
	baz=293						
NDT	Datong Townshi	0.87	257	eP	Pg	21 27 10.8	+0.1
	baz=256						
LATG	Datong	0.88	252	P	Pg	21 27 10.7	-0.2
	baz=251						
LATG				eS	Sg	21 27 22.2	-0.1
	baz=251						
PCYT	Pengchaiyu	0.88	338	eP	Pg	21 27 10.7	-0.3
	baz=338						
TWY	Chenhua	0.89	302	eP	Pg	21 27 11.3	+0.1
	baz=301						
TWS1	Kuangyinshan	0.97	288	eP	Pg	21 27 12.6	-0.1
	baz=287						
TWS1				eS	Sg	21 27 25.5	+0.2
	baz=287						
YHNB	Yeheng	0.98	262	eP	Pg	21 27 12.3	-0.5
	baz=261						
YHNB				eS	Sg	21 27 25.2	-0.3
	baz=261						
ETL	Fush Village	0.99	229	eP	Pb	21 27 13.2	-0.1
	baz=228						
NSK	Sanguang	0.99	263	eP	Pg	21 27 12.9	-0.2
	baz=262						
NSK				eS	Sg	21 27 25.4	-0.6
	baz=262						
NACB	Ninganchiao	1.00	231	P	Pg	21 27 12.5	-0.6
	baz=230						
NACB				eS	Sb	21 27 26.6	-0.2
	baz=230						
NNSB	Datong	1.03	249	P	Pg	21 27 13.6	-0.3
	baz=248						
NNSB				eS	Sb	21 27 28.1	+0.1
	baz=248						
NNS	Nan Shan	1.04	250	eP	Pg	21 27 13.7	-0.3
	baz=248						
NNS				eS	Sg	21 27 27.6	+0.1
	baz=248						
ETLH	Xiulin Townshi	1.06	236	P	Pg	21 27 13.8	-0.5
	baz=235						
NFF	Wufeng Townshi	1.22	262	eP	Pg	21 27 16.0	-1.3
	baz=261						
NFF				eS	Sg	21 27 32.9	-0.3
	baz=261						
FUSS	Fushou	1.23	243	eP	Pg	21 27 17.1	-0.5
	baz=242						
WHF	Hehuan Shan	1.26	239	P	Pg	21 27 17.8	-0.4
	baz=237						
IRIF	Iriomote-Funau	1.27	112	P	Pn	21 27 17.8	-0.1
IRIF				S	Sg	21 27 33.8	-0.9
TWT	Tachien	1.28	245	eP	Pb	21 27 18.4	0.0
	baz=244						
TDCB	Techi	1.29	245	eP	Pg	21 27 18.1	-0.7
	baz=244						
TDCB				eS	Sn	21 27 35.9	-0.1
	baz=244						
NSTT	Nanjuang	1.32	263	eP	Pn	21 27 18.9	+0.2
	baz=262						
CHGB	Renai	1.38	237	eP	Pg	21 27 20.1	-0.3
	baz=236						
CHGB				eS	Sn	21 27 38.7	+0.6
	baz=236						
HATJ	Hateruma jima	1.45	121	P	Pb	21 27 21.3	+0.1
HATJ				eS	Sg	21 27 40.7	0.0
WUSB	Renai	1.46	236	eP	Pb	21 27 21.3	0.0
	baz=235						
WUSB				eS	Sg	21 27 41.1	+0.3
	baz=235						
WHP	Taichung City	1.46	249	eP	Pg	21 27 22.1	0.0
	baz=248						
WHP				eS	Sb	21 27 40.1	-0.1
	baz=248						
JKRS	Kuro-shima	1.54	111	P	Pn	21 27 22.0	+0.4
WCS	Beigang Elemen	1.58	242	eP	Pb	21 27 23.7	+0.2
	baz=241						
VWDT	VWDT	1.58	229	eP	Pn	21 27 22.8	+0.6
	baz=228						
JIJ	Ishigaki jima	1.61	106	P	Pb	21 27 23.8	-0.1
SMLT	Sun Moon Lake	1.68	237	eP	Pb	21 27 25.0	-0.2
	baz=236						
SSLB	Suanglung	1.70	233	eP	Pn	21 27 24.6	+0.7
	baz=232						
TYC	Yuchr	1.70	238	eP	Pb	21 27 25.3	-0.2
	baz=237						
JISG	Ishigakijimahi	1.71	97	P	Pn	21 27 24.1	0.0

*MEX **04** 21:27:54.1±1.4, 17°.13N×100°.03W, h44km±13km, MD4.4*
*IDC **04** 21:27:58.4±4.1, 17°.29N×99°.71W, h83km±36km, mb3.5/4, mb1 3.6/7, mb1mx3.4/40, mbtmp3.6/7, MS3.0/1, Ms1 3.0/1, ms1mx2.8/45, Error ellipse: s-maj=45.4km s-min=22.8km az=37.0*
ISC 04 21:27:53.3±0.8**, 17°.19N**±0°.03×**99°.93W**±0°.02**, h31**km±7km**, n61,** σ**1s.63**/97**, mb3.7**/4**, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNTA	La Mica	0.29	158	eP	Pb	21 28 00.9	+0.2
VNTA				i S	Sn	21 28 06.9	+0.1
ACP2	Acapulco	0.31	172	eP	Pb	21 28 00.9	-0.1
ACP2				i S	Sb	21 28 06.8	+0.6
DAIG	Los Arroyos	0.32	121	eP	Pn	21 28 01.6	-0.2
DAIG				eS	Sn	21 28 08.2	+0.7
CAIG	El Cayaco	0.35	247	eP	Pb	21 28 00.4	-1.0
CAIG				eS	Sb	21 28 06.3	-0.7
ATYC	Atoyac	0.48	274	eP	Pb	21 28 02.0	-1.4
ATYC				i S	Sb	21 28 08.8	-1.5
MEIG	Mezcala	0.80	22	eP	Pn	21 28 08.0	-0.6
MEIG				eS	Sb	21 28 17.8	-1.4
CRIG	Cruz Grande	0.89	120	eP	Pn	21 28 09.2	-0.5
CRIG				i S	Sn	21 28 21.6	0.0
ARIG	Puente Sto Nin	1.16	340	eP	Pn	21 28 12.6	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARIG				eS	Sn	21 28 27.2	-1.1
MGIG	Malinaltepec	1.24	88	eP	Pn	21 28 15.1	+0.4
MGIG				iS	Sb	21 28 32.5	+0.4
PLIG	Platanillo	1.27	19	eP	Pn	21 28 15.1	0.0
PLIG				iS	Sb	21 28 32.9	+0.1
TLIG	Tlapa	1.36	74	eP	Pn	21 28 16.8	+0.5
TLIG				eS	Sb	21 28 34.8	-0.5
HMTT	Tlapaneco	1.45	65	eP	Pn	21 28 18.1	+0.6
HMTT				eS	Sb	21 28 38.9	+1.1
ZIIG	Zihuatanejo	1.52	286	eP	Pn	21 28 16.4	-2.0
ZIIG				eS	Sn	21 28 35.4	-1.8
ZIIG				eS	Sb	21 28 35.8	-4.0
TEJU	Tejupilco	1.72	353	eP	Pn	21 28 22.1	+0.7
TEJU				iS	Sb	21 28 44.3	-1.5
MAVM	Malinalco, Edo	1.81	13	eP	Pn	21 28 22.6	-0.1
FTIG	Fresnillo de T	1.86	67	eP	Pn	21 28 23.9	+0.7
FTIG				eS	Sb	21 28 48.7	-1.1
PNIG	Pinotepa	1.90	114	eP	Pn	21 28 23.6	-0.1
PNIG				iS	Sb	21 28 50.8	+0.1
UON	La Union	1.96	294	eP	Pn	21 28 24.1	-0.3
UON				eS	Sn	21 28 48.2	+0.3
TXIG	Tlaxiaco	2.07	88	eP	Pn	21 28 27.1	+0.9
TXIG				eS	Sb	21 28 55.7	-0.2
TOVM	TOLUCA	2.10	7	eP	Pn	21 28 26.7	-0.1
TOVM				eS	Sn	21 28 52.1	+0.1
HLIG	Huajuapan de L	2.13	72	eP	Pn	21 28 27.6	+0.6
HLIG				eS	Sb	21 28 55.5	-2.1
TLVM	San Miguel Top	2.15	20	iP	Pn	21 28 27.0	-0.3
TLVM				eS	Sn	21 28 54.8	+1.6
AOVM	Tlapan	2.15	16	eP	Pn	21 28 27.2	-0.4
AOVM				eS	Sb	21 29 00.8	+2.4
INVM	La Marquesa	2.16	14	eP	Pn	21 28 27.6	+0.1
XCVM	Xochimilco	2.20	21	eP	Pn	21 28 28.1	0.0
XCVM				eS	Sn	21 28 53.2	-1.1
AMVM	AMECAMECA	2.22	29	eP	Pn	21 28 27.9	-0.4
CJVM	Cuajimalpa	2.25	16	eP	Pn	21 28 29.9	+1.2
COVM	Coyoacan	2.28	19	eS	Sb	21 29 05.2	+3.4
BJVM	Benito Juarez	2.30	18	eP	Pb	21 28 32.5	-1.7
BJVM				eS	Sb	21 29 01.9	-0.4
THVM	De Xico	2.30	23	eP	Pn	21 28 29.7	+0.2
THVM				eS	Sn	21 28 59.0	+2.1
PBVM	Pinon	2.38	20	eP	Pb	21 28 34.1	-1.5
GMVM	Gustavo A Made	2.42	19	eP	Pn	21 28 31.5	+0.3
AZVM	Cuida Lopez Ma	2.47	14	eP	Pn	21 28 32.8	+1.1
PTVM	Pico Tres Padr	2.52	18	eP	Pn	21 28 33.6	+1.2
ATVM	ATLACOMULCO	2.56	2	eP	Pn	21 28 34.5	+1.4
ATVM				eS	Sb	21 29 07.0	-3.1
THEZ	Tehuacan	2.75	62	eP	Pn	21 28 35.2	-0.3
THEZ				eS	Sb	21 29 15.8	+0.5
ZUVM	ZUMPANGO	2.75	17	eP	Pn	21 28 34.9	-0.7
ZUVM				eS	Sb	21 29 16.4	+1.0
ACIG	Acambay	2.78	1	eP	Pn	21 28 34.4	-1.5
VTVM	Tizayuca	2.80	23	eP	Pn	21 28 36.4	+0.1
URUA	Uruapan	3.01	318	eP	Pb	21 28 47.1	+0.7
URUA				eS	Sb	21 29 22.9	0.0
JAUV	Jalcomulco	3.68	53	eP	Pn	21 28 48.5	+0.3
JAUV				eS	Sb	21 29 37.8	-4.2
NEUV	Arroyo Zacate	3.98	82	eP	Pn	21 28 52.9	+0.7
NEUV				iS	Sn	21 29 38.9	+1.0
COIG	Colima	4.08	300	eP	Pn	21 28 55.3	+1.5
COIG				eS	Sn	21 29 44.1	+3.5
JUBC	Volcan de Coli	4.16	304	eP	Pn	21 28 57.9	+2.9
EZ5V		4.17	304	eP	Pn	21 28 56.9	+1.8
EZ5V				eS	Sb	21 30 00.0	+4.0
MNGA	Volcan de Coli	4.17	304	eP	Pn	21 28 57.8	+2.6
MNGA				iS	Sb	21 29 55.3	-1.0
INCO	Volcan de Coli	4.19	304	eP	Pn	21 28 57.3	+1.8
INCO				eS	Sb	21 29 57.8	+0.8
R15V		4.33	298	eP	Pn	21 28 58.0	+0.9
R15V				eS	Sn	21 29 52.5	+6.0
CMIG	Matias Romero	4.83	90	P	Pn	21 29 04.8	+0.8
	2.6nm,0.3s,baz=256,slow=12,SNR=20						
CMIG				S	Sn	21 29 59.0	+0.1
	4.5nm,0.3s,baz=285,slow=19,SNR=4.0						
CMIG				LR	LR	21 31 16.2	
	comp=Z,178nm,21.4s,baz=269,slow=43						
PAVE	Pavencul	7.71	104	eP	Pn	21 29 45.7	+1.9
PAVE				eP	Pn	21 29 45.9	+2.1
CHUJ	Union Juarez	7.80	104	eP	Pn	21 29 47.4	+2.4
APG	El Apazote	9.36	102	P	Pn	21 30 08.9	+2.6
	0.7nm,0.3s,baz=150,slow=20,SNR=5.3						
TXAR	Lajitas Array	12.57	345	P	Pn	21 30 52.7	+2.5
	0.0nm,0.3s,baz=165,slow=18,SNR=2.8						
NVAR	Mina Array Bea	26.58	326	P	P	21 33 30.4	+1.3
	1.2nm,0.8s,baz=150,slow=10,SNR=6.4						
PDAR	Pinedale Array	26.79	344	P	P	21 33 30.7	-0.1
	0.5nm,0.9s,baz=130,slow=16,SNR=4.5						
SCHQ	Schefferville	45.35	26	P	P	21 36 06.8	-1.8
	1.8nm,0.5s,baz=238,slow=9.5,SNR=4.8						
YKA	Yellowknife Ar	46.41	351	P	P	21 36 14.7	-2.1
	1.3nm,0.9s,baz=158,slow=7.2,SNR=8.7						
H03N2	Juan Fernandez	54.19	158	T	T	22 35 31.9	
	baz=328,slow=73,SNR=22						
H03N1	Juan Fernandez	54.20	158	T	T	22 35 32.4	
	baz=328,slow=73,SNR=38						
H03N3	Juan Fernandez	54.20	158	T	T	22 35 32.0	
	baz=328,slow=73,SNR=25						
WRA	Warramunga Arr	128.66	258	PKP	PKPdf	21 46 56.6	-1.7
	0.4nm,0.7s,baz=86,slow=2.8,SNR=7.3						

IDC 04 21:42:17.1±4.3**, 4°.00S**×**95°.07E, h0km, mb3.4**/5**, mb1 3.6**/5**, mb1mx3.3**/39**, mbtmp3.4**/5**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.6**/38**, Error ellipse: s-maj=133.6km s-min=25.6km az=62.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	Pallekele	18.19	308	LR	LR	21 52 00.9	
	comp=Z,90nm,18.1s,baz=261,slow=32						
CMAR	Chiang Mai Arr	22.64	10	P	P	21 47 20.9	+1.0
	0.3nm,0.3s,baz=202,slow=9.4,SNR=5.9						
WRA	Warramunga Arr	41.40	116	P	P	21 50 05.6	-0.1
	0.4nm,0.7s,baz=303,slow=9.1,SNR=5.8						
ASAR	Alice Springs	42.25	121	P	P	21 50 12.1	-0.5
	0.2nm,0.5s,baz=304,slow=7.6,SNR=1.8						
SONM	Songino Array	52.56	10	P	P	21 51 34.0	+1.5
	0.3nm,0.7s,baz=195,slow=8.5,SNR=2.0						
ZALV	Zalesovo Beam	58.37	353	P	P	21 52 12.1	-2.0
	0.4nm,0.4s,baz=168,slow=6.7,SNR=2.8						

*JMA **04** 21:59:29.4±0.2, 24°.92N×122°.94E, h23km±3km, M1.6*
*TAP **04** 21:59:30.4, 24°.87N×122°.82E, h5km±1km, ML2.6, D*
ISC 04 21:59:27.3±1.4**, 24°.92N**±0°.07×**122°.93E**±0°.03**, h2km**±11km**, n32,** σ0s.**56**/45**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.46	170	P	Pb	21 59 38.7	+0.6
YOJ	Yonaguni jima	0.46	170	iP	Pb	21 59 38.7	+0.6
	baz=156						
JYNG	Yonagunijimaku	0.47	178	P	Pb	21 59 38.8	+0.6
JYNG				S	Sb	21 59 45.6	0.0
EGS		0.91	265	eP	Pb	21 59 46.0	+0.2
	baz=268						
IRIF	Iriomote-Funau	0.94	128	P	Pb	21 59 46.8	+0.6
SXI1	Grass Mountain	0.97	281	P	Pb	21 59 47.3	+0.4
	baz=284						
TIPB	Shuangxi	1.00	273	eP	Pb	21 59 47.6	+0.2
	baz=276						
TWC	Suao	1.03	253	eP	Pb	21 59 47.7	-0.1
	baz=253						
TWC				eS	Sg	22 00 00.1	-0.2
	baz=253						
NDS	Dongshan	1.14	256	P	Pb	21 59 49.5	-0.2
	baz=256						
NDS				S	Sg	22 00 03.9	+0.1
	baz=256						
EWUT	Wuta	1.15	246	eS	Sg	22 00 04.2	0.0
	baz=246						
TWE	Neicheng	1.16	260	eP	Pb	21 59 49.9	-0.1
	baz=261						
TWE				eS	Sb	22 00 05.5	-0.1
	baz=261						
ENA	Nanau	1.18	246	P	Pg	21 59 50.2	+0.2
	baz=245						
ENA				eS	Sg	22 00 04.1	-1.2
	baz=245						
JKRS	Kuro-shima	1.20	124	P	Pg	21 59 51.0	+0.7
JKRS				eS	Sg	22 00 04.5	-1.3
FUSB	Fushanzhiwuyua	1.23	263	eP	Pn	21 59 51.8	+0.3
	baz=264						
FUSB				eS	Sb	22 00 07.6	+0.1
	baz=264						
JIJ	Ishigaki jima	1.24	116	P	Pg	21 59 51.1	+0.1
JIJ				eS	Sg	22 00 05.2	-1.9
ENTT	Nioudou	1.27	258	eP	Pn	21 59 52.2	+0.2
	baz=258						
ENTT				eS	Sg	22 00 08.0	-0.1
	baz=258						
NWLT	Wulai	1.30	264	eP	Pb	21 59 52.9	+0.4
	baz=265						
JISG	Ishigakijimahi	1.30	104	eS	Sg	22 00 08.6	-0.5
LATG	Datong	1.33	254	eP	Pb	21 59 53.0	-0.1
	baz=254						
LATG				eS	Sb	22 00 10.2	-0.4
	baz=254						
NACB	Ninganchiao	1.42	239	eP	Pg	21 59 54.8	+0.2
	baz=238						
YHNB	Yeheng	1.43	260	eP	Pn	21 59 54.5	+0.1
	baz=261						
NSK	Sanguang	1.45	261	eP	Pg	21 59 55.7	+0.6
	baz=261						
NNSB	Datong	1.49	251	eP	Pb	21 59 55.4	-0.3
	baz=251						
NNSB				eS	Sn	22 00 14.7	-0.5
	baz=251						
NNS	Nan Shan	1.49	252	eP	Pb	21 59 55.5	-0.2
	baz=251						
ETLH	Xiulin Townshi	1.50	242	eP	Pb	21 59 55.6	-0.2
	baz=241						
ETLH				eS	Sn	22 00 14.8	-0.5
	baz=241						
FUSS	Fushou	1.67	247	eP	Pb	21 59 59.0	0.0
	baz=246						
FUSS				eS	Sn	22 00 19.4	-0.5
	baz=246						
WHF	Hehuan Shan	1.70	243	eP	Pb	21 59 59.4	-0.1
	baz=242						
CHGB	Renai	1.81	242	eP	Pb	22 00 01.0	-0.3
	baz=241						
WUSB	Renai	1.89	241	eP	Pb	22 00 01.9	-0.7
	baz=240						
WHP	Taichung City	1.91	251	eP	Pb	22 00 03.1	+0.1
	baz=251						
HGSD	Ruisui	1.98	224	eP	Pn	22 00 02.3	+0.5
	baz=222						
VWDT	VWDT	2.00	235	eP	Pn	22 00 03.1	+1.0
	baz=234						

*UPA **04** 22:03:42.8±1.5, 9°.09N×82°.70W, h10km±5km, MW3.6*
*INET **04** 22:03:45.9±0.9, 8°.78N×83°.37W, h88km±10km, ML2.8*
ISC 04 22:03:41.9±1.4**, 9°.12N**±0°.04×**82°.65W**±0°.05**, h18**km±4km**, n13,** σ0s.**68**/24**, 2C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.33	188	⇑iP	Pb	22 03 50.0	+0.6
BRU2				eS	Sg	22 03 54.2	+0.2
MLIR3	Monte Lirio, C	0.37	208	⇓iP	Pb	22 03 50.6	+0.4
MLIR3				eS	Sg	22 03 55.1	0.0
BCO2	Palmira	0.42	164	⇑eP	Pn	22 03 52.1	-1.1
BCO2				eS	Sb	22 03 58.1	+1.0
CHGR2	Aguacate	0.53	110	⇓eP	Pn	22 03 53.9	-0.7
CHGR2				eS	Sn	22 04 02.1	-1.0
CDITO	Canoas	0.59	202	eP	Pb	22 03 54.5	+0.8
CDITO				eS	Sg	22 04 01.6	-0.1
DRK0	Durika	0.61	283	eP	Pb	22 03 54.5	+0.4
DRK0				eS	Sg	22 04 02.3	0.0
CHIR3	Chiriqui UPA,	0.79	157	eP	Pn	22 03 59.1	+0.9
CHIR3				eS	Sn	22 04 09.2	-0.3
PTPM	Petroterminale	0.94	194	eP	Pg	22 04 00.8	+0.5
PTPM				eS	Sb	22 04 12.2	+0.3
PIRO	Carate, Puerto	0.99	224	eP	Pb	22 03 59.9	-0.6
PIRO				eS	Sb	22 04 12.5	-0.7
PIRO	Carate, Puerto	0.99	224	eP	Pb	22 03 59.5	-1.1
PEZE	Perez Zeledon,	1.05	284	eP	Pg	22 04 02.4	+0.1
PEZE				eS	Sb	22 04 14.8	-0.3
PEZE				IAML		22 04 23.1	
	comp=E,273nm,0.4s						
CDM	Cerro de Muert	1.18	291	eP	Pb	22 04 04.6	+0.5
CDM				eS	Sn	22 04 20.1	+0.3
CDM				IAML		22 04 25.8	
	comp=N,155nm,0.2s						
RIMA	Rio Macho	1.36	298	eP	Pb	22 04 07.7	+0.7

*NNC **04** 22:14:46.1±0.4, 42°.81N×78°.16E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=4.2km s-min=1.3km az=174.0*
*KRNET **04** 22:14:46.7±0.1, 42°.80N×78°.14E, h22km, mb3.9*
*SOME **04** 22:14:46.8, 42°.80N×78°.15E, h20km*
ISC 04 22:14:47.2±1.1**, 42°.81N**±0°.03×**78°.13E**±0°.02**, h4**km±9km**, n86,** σ1s.**17**/149**, 27C-13D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SATY	Saty	0.32	39	eP	Pg	22 14 53.7	+0.2
	baz=36						
SATY				eS	Sg	22 14 58.7	+0.9
	baz=36						
SATY	Saty	0.32	39	eP	Pg	22 14 53.7	+0.2
	774nm,0.1s						
SATY				eS	Sg	22 14 58.6	+0.9
	4µm,0.1s						
SATY	Saty	0.32	39	P	Pg	22 14 53.7	+0.2
	774nm,0.1s						
SATY				S	Sg	22 14 58.6	+0.9
	4µm,0.1s						
ANVS	Anan'yevo	0.34	266	⇓iP	Pg	22 14 54.8	+1.0
	baz=68						
ANVS				⇓iS	Sg	22 15 00.1	+1.8
	baz=68						
ZHN	Zhinishke	0.42	32	eP	Pg	22 14 55.4	0.0
	baz=30						
ZHN				eS	Sg	22 15 01.5	+0.5
	baz=30						
ZHN	Zhinishke	0.42	32	eP	Pg	22 14 55.4	0.0
	1µm,0.1s						
ZHN				eS	Sg	22 15 01.4	+0.5
	7µm,0.2s						
KURS	Kuram	0.68	3	eP	Pg	22 15 00.0	-0.3
	baz=2.0						
KURS				eS	Sg	22 15 09.4	+0.3
	baz=2.0						
KURS	Kuram	0.68	3	eP	Pg	22 14 60.0	-0.3
	80nm,0.1s						
KURS				eS	Sg	22 15 09.4	+0.3
	598nm,0.2s						
KURS	Kuram	0.68	3	P	Pg	22 14 60.0	-0.3
	80nm,0.1s						
KURS				S	Sg	22 15 09.4	+0.3
	598nm,0.2s						
UZB	Uzynbulak	0.74	62	eP	Pg	22 15 00.2	-1.2
	215nm,0.1s						
UZB				eS	Sg	22 15 09.6	-1.4
	904nm,0.2s						
UZB	Uzynbulak	0.74	62	P	Pg	22 15 00.2	-1.2
	215nm,0.1s						
UZB				S	Sg	22 15 09.6	-1.4
	904nm,0.2s						
KPKS	Kokpek	0.77	32	eP	Pg	22 15 01.2	-0.8
	baz=31						
KPKS				eS	Sg	22 15 11.7	-0.4
	baz=31						
KPKS	Kokpek	0.77	32	eP	Pg	22 15 01.2	-0.8
	224nm,0.1s						
KPKS				eS	Sg	22 15 11.7	-0.4
	1µm,0.1s						
KOTS	Kotyrbulak	0.86	300	eP	Pg	22 15 03.2	-0.5
	baz=0.0						
KOTS				eS	Sg	22 15 15.4	+0.6
	baz=0.0						
KOTS	Kotyrbulak	0.86	300	eP	Pg	22 15 03.2	-0.5
	66nm,0.2s						
KOTS				eS	Sg	22 15 15.3	+0.6
	164nm,0.1s						
KOTS	Kotyrbulak	0.86	300	P	Pg	22 15 03.2	-0.5
	66nm,0.2s						
KOTS				S	Sg	22 15 15.3	+0.6
	164nm,0.1s						
MDOK	Medeo	0.87	295	eP	Pg	22 15 03.1	-0.7
	baz=95						
MDOK				eS	Sg	22 15 14.8	-0.3
	baz=95						
MDOK	Medeo	0.87	295	eP	Pg	22 15 03.1	-0.7
	65nm,0.2s						
MDOK				eS	Sg	22 15 14.8	-0.3
	128nm,0.4s						
MDOK	Medeo	0.87	295	⇑P	Pg	22 15 03.0	-0.7
	28nm,0.4s						
MDOK				⇑S	Sg	22 15 15.0	-0.1
	49nm,0.5s						
MDOK	Medeo	0.87	295	Pg	Pg	22 15 03.1	-0.7
	65nm,0.2s						
MDOK				Lg	Lg	22 15 14.8	
	128nm,0.4s						
KNDC	Almaty	0.94	296	⇓P	Pg	22 15 04.7	-0.6
	42nm,0.5s						
KNDC				⇑S	Sg	22 15 18.2	+0.6
	258nm,0.9s						
KDJ	Kajisay	0.97	226	⇓iP	Pg	22 15 04.5	-1.4
	baz=27						
KDJ				⇓iS	Sg	22 15 17.7	-0.8
	baz=27						
AAA	Alma-Ata	0.98	295	eP	Pg	22 15 05.5	-0.4
	baz=95						
AAA				eS	Sg	22 15 19.2	+0.7
	baz=95						
AAA	Alma-Ata	0.98	295	eP	Pg	22 15 05.5	-0.4
	92nm,0.2s						
AAA				eS	Sg	22 15 19.2	+0.7
	247nm,0.2s						
AAA	Alma-Ata	0.98	295	P	Pg	22 15 05.5	-0.4
	92nm,0.2s						
AAA				S	Sg	22 15 19.2	+0.7
	247nm,0.2s						
SHLS	Shalkode	1.04	70	eP	Pn	22 15 11.3	+2.7
	baz=74						
SHLS				eS	Sn	22 15 28.8	+5.2
	baz=74						
SHLS	Shalkode	1.04	70	eP	Pn	22 15 11.3	+2.7
	76nm,0.2s						
SHLS				eS	Sn	22 15 28.8	+5.2
	278nm,0.3s						
SHLS	Shalkode	1.04	70	P	Pn	22 15 11.3	+2.7
	76nm,0.2s						
SHLS				S	Sn	22 15 28.8	+5.2
	278nm,0.3s						
PDGK	Podgornoye	1.13	62	P	Pg	22 15 07.4	-1.4
	17nm,0.2s						
PDGK				S	Sg	22 15 21.7	-1.7
	75nm,0.1s						
PDGK	Podgornoye	1.13	62	⇑P	Pg	22 15 06.5	-2.3
	16nm,0.3s						
PDGK				⇑S	Sg	22 15 21.6	-1.8
	100nm,0.6s						
MTBS	Maitube	1.29	285	eP	Pg	22 15 10.6	-1.3
	baz=85						
MTBS				eS	Sg	22 15 27.7	-0.9
	baz=85						
MTBS	Maitube	1.29	285	eP	Pg	22 15 10.6	-1.3
	31nm,0.2s						
MTBS				eS	Sg	22 15 27.6	-0.9
	180nm,0.2s						
MTBS	Maitube	1.29	285	P	Pg	22 15 10.6	-1.3
	31nm,0.2s						
MTBS				S	Sg	22 15 27.6	-0.9
	180nm,0.2s						
BLB	Baldybastay	1.31	11	eP	Pn	22 15 10.8	-1.6
	65nm,0.1s						
BLB				eS	Sg	22 15 28.1	-1.3
	734nm,0.2s						
BLB	Baldybastay	1.31	11	P	Pn	22 15 10.8	-1.6
	65nm,0.1s						
BLB				S	Sg	22 15 28.1	-1.3
	734nm,0.2s						
CHKK	Chushkaly	1.34	322	eP	Pn	22 15 11.6	-1.0
	baz=22						
CHKK				eS	Sg	22 15 29.6	-0.6
	baz=22						
CHKK	Chushkaly	1.34	322	eP	Pn	22 15 11.6	-1.0
	369nm,0.2s						
CHKK				eS	Sg	22 15 29.5	-0.6
	651nm,0.3s						
CHKK	Chushkaly	1.34	322	P	Pn	22 15 11.6	-1.0
	369nm,0.2s						
CHKK				S	Sg	22 15 29.5	-0.6
	651nm,0.3s						
KTBS	Karatobe	1.39	311	eP	Pn	22 15 12.7	-0.7
	baz=11						
KTBS				eS	Sb	22 15 31.1	-0.7
	baz=11						
KTBS	Karatobe	1.39	311	eP	Pn	22 15 12.7	-0.7
	125nm,0.2s						
KTBS				eS	Sb	22 15 31.1	-0.7
	626nm,0.3s						
KTBS	Karatobe	1.39	311	P	Pn	22 15 12.7	-0.7
	125nm,0.2s						
KTBS				S	Sb	22 15 31.1	-0.7
	626nm,0.3s						
ARXS	Arharly	1.42	351	eP	Pn	22 15 12.7	-1.1
	72nm,0.2s						
ARXS				eS	Sb	22 15 31.8	-1.0
	346nm,0.2s						
ARXS	Arharly	1.42	351	P	Pn	22 15 12.7	-1.1
	72nm,0.2s						
ARXS				S	Sb	22 15 31.8	-1.0
	346nm,0.2s						
ULHL	Ulahol	1.50	249	P	Pn	22 15 13.9	-1.2
	SNR=220						
ULHL	Ulahol	1.50	249	⇑iP	Pn	22 15 14.3	-0.7
	baz=49						
ULHL				⇑iS	Sn	22 15 33.8	-1.4
	baz=49						
BOOM	Boomskoye usch	1.65	260	⇓iP	Pn	22 15 16.2	-0.8
	baz=60						
BOOM				⇓iS	Sn	22 15 38.1	-0.5
	baz=60						
KUU	Kurty	1.70	310	eP	Pn	22 15 17.7	+0.1
	baz=10.0						
KUU				eS	Sn	22 15 40.1	+0.4
	baz=10.0						
KUU	Kurty	1.70	310	eP	Pn	22 15 17.7	+0.1
	84nm,0.2s						
KUU				eS	Sn	22 15 40.1	+0.4
	191nm,0.2s						
KUU	Kurty	1.70	310	P	Pn	22 15 17.7	+0.1
	84nm,0.2s						
KUU				S	Sn	22 15 40.1	+0.4
	191nm,0.2s						
KNOS	Konyrlen	1.73	26	eP	Pn	22 15 17.9	-0.2
	14nm,0.8s						
KNOS				eS	Sn	22 15 40.3	-0.4
	2.7nm,0.2s						
KTMS	Ketmen	1.75	68	eP	Pn	22 15 18.4	+0.1
	baz=67						
KTMS				eS	Sn	22 15 41.1	0.0
	baz=67						
KTMS	Ketmen	1.75	68	eP	Pn	22 15 18.4	+0.1
	28nm,0.1s						
KTMS				eS	Sn	22 15 41.2	0.0
	178nm,0.3s						
KTMS	Ketmen	1.75	68	P	Pn	22 15 18.4	+0.1
	28nm,0.1s						
KTMS				S	Sn	22 15 41.2	0.0
	178nm,0.3s						
DGS	Degeres	1.78	285	eP	Pn	22 15 19.2	+0.4
	baz=85						
DGS				eS	Sn	22 15 42.6	+0.7
	baz=85						
DGS	Degeres	1.78	285	eP	Pn	22 15 19.2	+0.4
	62nm,0.2s						
DGS				eS	Sn	22 15 42.6	+0.7
	246nm,0.3s						
DGS	Degeres	1.78	285	P	Pn	22 15 19.2	+0.4
	62nm,0.2s						
DGS				S	Sn	22 15 42.6	+0.7
	246nm,0.3s						
TKM2	Tokmak 2	1.86	274	P	Pn	22 15 20.8	+0.8
	SNR=85						
TKM2	Tokmak 2	1.86	274	⇑iP	Pn	22 15 20.5	+0.5
	baz=75						
TKM2				⇑iS	Sn	22 15 44.6	+0.5
	baz=75						
TKM2	Tokmak 2	1.86	274	⇑P	Pn	22 15 21.0	+1.0
	18nm,0.2s						
TKM2				⇑S	Sb	22 15 45.5	-0.1
	224nm,0.4s						
DJR	Jarkent	1.94	38	eP	Pn	22 15 21.6	+0.5
	17nm,0.2s						
DJR				eS	Sn	22 15 46.2	+0.3
	114nm,0.3s						
DJR	Jarkent	1.94	38	P	Pn	22 15 21.5	+0.5
	17nm,0.2s						
DJR				S	Sn	22 15 46.2	+0.3
	114nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRBS	Karabastau	2.00	297	eP	Pn	22 15 23.0	+1.3
	41nm,0.2s						
KRBS				eS	Sb	22 15 48.8	-0.6
	236nm,0.4s						
KRBS	Karabastau	2.00	297	P	Pn	22 15 23.0	+1.3
	41nm,0.2s						
KRBS				S	Sb	22 15 48.8	-0.6
	236nm,0.4s						
CHMS	Chumysh	2.49	276	P	Pn	22 15 29.8	+1.4
	SNR=16						
CHMS	Chumysh	2.49	276	⇑iP	Pn	22 15 29.3	+0.9
	baz=76						
CHMS				⇑iS	Sn	22 15 59.5	+0.3
	baz=76						
FRU1	Bishkek	2.57	271	⇑iP	Pn	22 15 30.7	+1.1
	baz=72						
FRU1				⇑iS	Sn	22 16 01.6	+0.2
	baz=72						
KAPS	Kapalarasan	2.63	19	eP	Pb	22 15 34.5	-0.4
	14nm,0.4s						
KAPS				eS	Sb	22 16 08.3	+0.8
	50nm,0.3s						
KAPS	Kapalarasan	2.63	19	Pg	Pb	22 15 34.5	-0.4
	14nm,0.4s						
KAPS				Lg	Lg	22 16 08.3	
	50nm,0.3s						
USP	Ospenovka	2.70	281	P	Pn	22 15 32.6	+1.3
	SNR=22						
USP	Ospenovka	2.70	281	⇑iP	Pn	22 15 32.3	+1.0
	baz=81						
USP				⇑iS	Sn	22 16 04.6	+0.2
	baz=81						
UCH	Uchtor	2.73	259	P	Pn	22 15 33.7	+1.5
	SNR=24						
UCH	Uchtor	2.73	259	⇑iP	Pn	22 15 32.5	+0.3
	baz=59						
UCH				⇑iS	Sn	22 16 05.1	-0.8
	baz=59						
ARLS	Aral	2.98	253	⇓iP	Pn	22 15 35.6	+0.4
	baz=53						
ARLS				⇓iS	Sn	22 16 10.3	-1.1
	baz=53						
EKS2	Erkin-Say	3.21	269	P	Pb	22 15 42.9	-1.9
	SNR=10						
EKS2	Erkin-Say	3.21	269	⇑iP	Pn	22 15 39.0	+0.6
	baz=69						
EKS2				⇑iS	Sn	22 16 16.7	-0.4
	baz=69						
AML	Almayashu	3.35	260	P	Pg	22 15 52.3	+1.0
	SNR=6.2						
MRKS	Merke	3.61	271	eP	Pb	22 15 51.7	+0.2
	2.2nm,0.5s						
MRKS				eS	Sb	22 16 38.6	+2.9
	19nm,0.4s						
MRKS	Merke	3.61	271	Pg	Pb	22 15 51.7	+0.2
	2.2nm,0.5s						
MRKS				Lg	Lg	22 16 38.6	
	19nm,0.4s						
BTLS	Baital	3.70	309	eP	Pb	22 15 53.4	+0.4
	7.5nm,0.3s						
BTLS				eS	Sb	22 16 41.3	+3.1
	19nm,0.4s						
BTLS	Baital	3.70	309	Pg	Pb	22 15 53.4	+0.4
	7.5nm,0.3s						
BTLS				Lg	Lg	22 16 41.3	
	19nm,0.4s						
MAKZ	Makanchi	4.85	33	⇑Pn	Pn	22 16 02.3	+1.5
	2.9nm,1.1s						
MAKZ				⇓Lg	Lg	22 17 18.5	
	1.8nm,0.4s						
MK31	Makanchi Array	4.96	35	⇑Pn	Pn	22 16 02.3	-0.2
	0.6nm,0.3s,baz=212,slow=14,SNR=15						
MK31				⇓Lg	Lg	22 17 19.2	
	1.7nm,0.4s,baz=214,slow=29,SNR=5.7						
KK09	Karatay Array	5.61	276	⇑Pg	Pb	22 16 29.5	+3.9
	1.8nm,0.5s						
KK09				⇑Lg	Lg	22 17 44.6	
	5.4nm,0.5s						
OTUK	Ortayu	6.79	325	⇓Pn	Pn	22 16 27.3	-0.2
	0.5nm,0.3s						
OTUK				⇓Lg	Lg	22 18 19.6	
	5.4nm,0.8s						
KURBB	Kurchatov Arra	7.82	2	⇑Lg	Lg	22 18 52.0	
	12nm,0.6s						
KURK	Kurchatov	7.92	2	⇑Lg	Lg	22 18 56.4	
	6.6nm,0.8s						

*SFS **04** 22:27:26.0, 35°.32N×3°.86W, ML2.7, ALBORAN SUR*
*MDD **04** 22:27:27.5±0.5, 35°.44N×3°.85W, h0km, mb_Lg2.7/3, Error ellipse: s-maj=3.9km s-min=3.0km az=9.0*
*CNRM **04** 22:27:28.1, 35°.41N×3°.78W, h9km, ml2.6*
ISC 04 22:27:27.5±1.0**, 35°.43N**±0°.04×**3°.84W**±0°.03**, h15**km±8km**, n16, σ1§24**/28**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.22	201	P	Pg	22 27 32.7	+0.2
PALE				S	Sg	22 27 36.1	+0.2
GOG	Mont Gurugu	0.72	106	P	Pg	22 27 41.2	-0.4
EMEL	Melilla	0.74	100	Pg	Pg	22 27 41.0	-0.8
EMEL				Sg	Sg	22 27 50.4	-1.2
EALB	Alboran	0.83	52	Sg	Sb	22 27 54.5	-0.1
EALB				i Vmb_Lg		22 27 55.3	
TAF	Taforalt	1.32	117	P	Pn	22 27 51.6	+0.1
CEU	Ceuta	1.33	291	P	Pn	22 27 50.9	-0.6
CEU				S	Sn	22 28 04.7	-4.2
EMIJ	Mijas	1.36	327	Pg	Pb	22 27 52.3	-0.4
EMIJ				Sg	Sn	22 28 09.4	-0.3
EMIJ				i Vmb_Lg		22 28 16.0	
EMAL	Malaga-Limoner	1.42	341	P	Pb	22 27 53.5	0.0
EMAL				S	Sb	22 28 12.1	+0.7
ELGU	Los Guajares,	1.45	7	Pg	Pn	22 27 52.9	-0.3
ELGU				Sg	Sn	22 28 11.6	-0.4
ELGU				i Vmb_Lg		22 28 15.2	
ENIJ	Nijar	2.03	40	Pn	Pn	22 28 01.9	+0.7
ENIJ				Sn	Sn	22 28 25.9	-0.4
IFR	Ifrane	2.18	209	P	Pn	22 28 04.0	+0.7
IFR				S	Sn	22 28 30.2	+0.1
MD31	MD31	2.66	197	P	Pn	22 28 11.6	+1.8
ECAB	El Cabril	2.93	335	Pn	Pn	22 28 15.5	+1.9
ECAB				Sn	Sn	22 28 48.7	+0.2
EGRO	El Granado	3.61	307	Pn	Pn	22 28 23.7	+0.9
EGRO				Sn	Sn	22 29 04.1	-1.0
ETOB	Tobarra	3.70	29	Pn	Pn	22 28 25.8	+1.7
ETOB				Sn	Sn	22 29 08.5	+1.0
EBAD	Badajoz	4.18	324	Pn	Pn	22 28 32.2	+1.5
EBAD				Sn	Sn	22 29 19.3	+0.1

*THE **04** 22:32:42.3, 34°.83N×24°.40E, h44km±3km, ML2.6/5, Error ellipse: s-maj=3.3km s-min=1.2km az=188.0*
*ATH **04** 22:32:43.2, 34°.92N×24°.36E, h30km±2km, ML2.6/2, Error ellipse: s-maj=2.6km s-min=1.4km az=254.0*
ISC 04 22:32:44.3±1.0**, 34°.96N**±0°.05×**24°.39E**±0°.03**, h17**km±9km**, n13, σ1§17**/23**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVDS	Gavdos	0.27	244	P	Pg	22 32 50.3	0.0
GVDS				S	Sb	22 32 56.8	+1.8
GVD	Gavdhos	0.28	243	P	Pg	22 32 50.0	-0.5
GVD				S	Sg	22 32 55.0	+0.5
GVD				AML	AML	22 32 59.6	
	comp=N,2148μm,0.3s						
GVD				AML	AML	22 33 01.1	
	comp=E,2958μm,0.3s						
GVD	Gavdhos	0.28	243	P	Pg	22 32 49.9	-0.5
GVD				S	Sb	22 32 56.2	+1.0
	comp=E,978nm,0.2s						
SIVA	Sivas	0.35	81	P	Pb	22 32 51.5	-0.7
SIVA				S	Sb	22 32 58.7	+1.2
SIVA				AML	AML	22 33 01.4	
	comp=N,2445μm,0.3s						
SIVA				AML	AML	22 33 01.9	
	comp=E,2015μm,0.2s						
SIVA	Sivas	0.35	81	P	Pb	22 32 52.0	-0.2
SIVA				S	Sb	22 32 58.6	+1.2
	comp=E,1μm,0.3s						
PRNS	Prines Rethymn	0.41	13	P	Pb	22 32 52.4	-0.8
PRNS				S	Sb	22 33 00.6	+1.5
	comp=E,120nm,0.3s						
VAM	Vamos	0.47	341	P	Pb	22 32 53.5	-0.6
VAM				S	Sb	22 33 01.9	+1.1
VAM	Vamos	0.47	341	P	Pb	22 32 53.8	-0.3
VAM				S	Sb	22 33 03.7	+2.9
	comp=E,370nm,0.3s						
IDI	Anoyia	0.53	52	P	Pb	22 32 54.7	-0.4
IMMV	Iera Moni Meta	0.60	326	P	Pb	22 32 55.9	-0.4
IMMV				S	Sn	22 33 05.8	-1.5
IMMV	Iera Moni Meta	0.60	326	P	Pb	22 32 55.7	-0.6
IMMV				S	Sn	22 33 06.2	-1.1
	comp=E,368nm,0.4s						
NPS	Neapolis	1.05	73	P	Pn	22 33 04.0	-0.3
ZKR	Zakros	1.51	84	P	Pn	22 33 10.8	+0.2

*IDC **04** 22:55:43.6±4.0, 35°.26N×70°.28E, h50km±37km, mb3.8/4, mb1 3.9/8, mb1mx3.4/52, mbtmp4.0/8, ML3.8/4, Error ellipse: s-maj=35.5km s-min=21.6km az=163.0*
*BJI **04** 22:55:47.5±0.0, 35°.51N×70°.43E, h72km, mb4.3/2*
*NEIC **04** 22:55:48.5±2.0, 35°.53N±0°.05×70°.24E±0°.07, h89km±8km, mb4.0/18, Error ellipse: s-maj=9.1km s-min=6.3km az=123.0*
*NNC **04** 22:55:49.5±6.1, 36°.17N×69°.95E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=50.3km s-min=38.1km az=5.0*
ISC 04 22:55:47.5±0.5**, 35°.54N**±0°.04×**70°.39E**±0°.04**, h98**km**, n66, σ2§48**/80**, mb4.0**/9**, 3C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	1.49	228		Pn	22 56 13.0	-0.8
KBL				Sn	Sn	22 56 34.0	+0.4
NIL	Nilore	3.02	128	Pn	Pn	22 56 34.2	+0.7
CHGR	Chuyangaron	3.26	343	Pn	Pn	22 56 36.5	-0.3
CHGR				Sn	Sn	22 57 15.4	+0.6
GAR	Garm	3.45	359	Pn	Pn	22 56 39.7	+0.3
GAR				Sn	Sn	22 57 19.8	+0.4
JMU	Jammu	4.68	126	eP	Pn	22 56 55.4	-0.4
JMU				eS	Sn	22 57 47.5	-1.4
THN	Thein Dam	5.40	124	eP	Pn	22 57 06.7	+1.1
THN				eS	Sn	22 58 06.0	-0.4
DHRM	DHARAMSHALA	5.91	122	eP	Pn	22 57 12.2	-0.5
DHRM				i x	x	22 57 13.8	
DHRM				eS	Sn	22 58 18.1	-1.0
DHRM				IAML		22 58 20.4	
	comp=E,124nm,0.1s						
DHRM				IAML		22 58 21.0	
	comp=N,211nm,0.2s						
KSH	Kashi	5.95	47	P	Pn	22 57 10.6	-2.5
KSH				S	Sn	22 58 13.4	-6.5
KSH				smax	smax		
	comp=N,35nm,0.9s						
KSH				smax	smax		
	comp=N,32nm,1.0s						
BHK	Bhakra	6.50	128	eP	Pn	22 57 18.4	-2.1
HRA	Herat	6.79	263	Pn	Pn	22 57 23.4	-1.2
AML	Almayashu	7.07	20	P	Pn	22 57 29.1	+0.5
	SNR=53						
SMLA	Simla	7.17	126	eP	Pn	22 57 28.2	-1.5
SMLA				eS	Sn	22 58 46.3	-3.3
SMLA				IAML		22 58 48.7	
	comp=E,60nm,0.1s						
SMLA				IAML		22 58 48.8	
	comp=N,78nm,0.0s						
UCH	Uchtor	7.41	24	P	Pn	22 57 34.0	+0.8
	SNR=12						
KKAR	Karatay Array	7.55	1	Pn	Pn	22 57 34.5	-0.4
KK09	Karatay Array	7.57	1	⇓P	Pn	22 57 34.2	-0.8
	comp=N,8.8nm,0.5s						
KK09				⇑S	Sn	22 58 55.4	-3.9
	comp=N,4.3nm,0.3s						
EKS2	Erkin-Say	7.58	19	P	Pn	22 57 36.0	+0.7
	SNR=8.2						
AAK	Ala-Archa	7.77	23	P	Pn	22 57 38.7	+0.8
	comp=N,1.4nm,0.3s,baz=201,slow=9.3,SNR=22						
AAK				S	Sn	22 59 04.7	+0.4
	comp=N,2.2nm,0.3s,baz=1.1,slow=19,SNR=7.7						
AAK	Ala-Archa	7.77	23	⇓P	Pn	22 57 38.5	+0.6
	comp=N,2.5nm,0.4s						
CHMS	Chumysh	8.18	23	P	Pn	22 57 44.5	+1.1
	SNR=7.8						
USP	Ospenovka	8.34	21	P	Pn	22 57 46.2	+0.6
	SNR=11						
TKM2	Tokmak 2	8.40	27	P	Pn	22 57 47.4	+0.9
	SNR=6.0						
TKM2	Tokmak 2	8.40	27	⇓P	Pn	22 57 47.2	+0.7
	comp=N,3.3nm,0.7s						
TKM2				⇑S	Sn	22 59 18.1	-1.6
	comp=N,7.3nm,1.0s						
TARG	Taragay, Kyrgy	8.47	41	Pn	Pn	22 57 49.2	+1.6
KUDL	Kundal	9.01	143	eP	Pn	22 57 55.2	+0.5
KUDL				eS	Sn	22 59 27.0	-7.4
GEYT	Alibeck	10.14	287	P	Pn	22 58 08.2	-1.8
	comp=N,0.9nm,0.3s,baz=113,slow=14,SNR=7.0						
GEYT				S	Sn	22 59 59.2	-2.6
	comp=N,1.9nm,0.3s,baz=107,slow=20,SNR=3.5						
GEYT	Alibeck	10.14	287	Pn	Pn	22 58 10.3	+0.2
GYA0B	ALIBECK ARRAY	10.14	287	Pn	Pn	22 58 09.4	-0.6
PYUN	Piuthan	13.02	121	eP	Pn	22 58 46.3	-2.6
	comp=N,5.5nm,0.3s						
DANN	Dangsing	13.42	119	eP	Pn	22 58 51.0	-3.1
	comp=N,3.4nm,0.2s						
GKN	Gorkha	14.25	118	eP	Pn	22 59 01.1	-3.7
	comp=N,4.1nm,0.3s						
PKIN	Phulchoki	15.04	118	eP	Pn	22 59 11.9	-3.2
PKI	Pulchoki	15.05	118	eP	Pn	22 59 11.9	-3.4
JIRN	Jiri	15.57	116	eP	Pn	22 59 18.4	-3.4
	comp=N,4.9nm,0.3s						
WMQ	Urumqi	15.66	53	eP	P	22 59 27.4	+2.8
WMQ				pmax	pmax		
	comp=N,14nm,0.9s						
AB31	Akbulak array	15.71	334	⇓P	Pn	22 59 21.6	-1.4
	comp=N,2.5nm,0.5s,baz=163,slow=13,SNR=117						
AB31				⇓S	Sn	23 02 07.5	-9.1
	comp=N,1.8nm,0.6s,baz=159,slow=24,SNR=5.3						
ABKAR	Akbulak array	15.71	334		Pn	22 59 22.0	-1.0
ABKAR				IAmb	IAmb	22 59 23.6	
	comp=Z,11nm,1.2s						
ABKAR	Akbulak array	15.71	334		Pn	22 59 21.9	-1.0
RAMN	Ramite	16.28	117	eP	Pn	22 59 28.7	-1.8
	comp=Z,3.9nm,0.3s						
AKTO	Aktyubinsk	17.39	333	P	Pn	22 59 44.7	+1.0
	comp=Z,0.5nm,0.3s,baz=141,slow=14,SNR=8.5						
AKTO	Aktyubinsk	17.39	333	⇓P	P	22 59 44.0	+0.5
	comp=Z,5.1nm,0.8s						
AKTO				⇑S	Sn	23 02 49.7	-7.3
	comp=Z,4.5nm,1.2s						
BVAR	Borovoye Array	17.48	360	P	Pn	22 59 45.4	+0.6
	comp=Z,0.2nm,0.3s,baz=156,slow=44,SNR=3.2						
BRVK	Borovoye	17.52	360	P	Pn	22 59 45.8	+0.6
GNI	Garni	20.75	290	P	P	23 00 20.6	+0.2
GNI				IAmb	IAmb	23 00 31.5	
	comp=Z,4.3nm,0.7s						
SHL	Shillong	20.97	112	P	Pn	23 00 25.7	-0.7
SHL				IAmb	IAmb	23 00 29.4	
	comp=Z,2.8nm,0.4s						
ZAA0	Zalesovo Array	20.99	24	P	P	23 00 25.2	+2.6
ZAA0				IAmb	IAmb	23 00 28.6	
	comp=Z,3.5nm,0.5s						
ZALV	Zalesovo Beam	20.99	24	P	P	23 00 25.0	+2.3
	comp=Z,4.0nm,0.6s,baz=213,slow=9.5,SNR=15						
ZALV	Zalesovo Beam	20.99	24	P	P	23 00 25.2	+2.5
ARU	Arti	22.39	343	P	P	23 00 42.3	+4.8
	comp=Z,0.5nm,0.5s,baz=181,slow=14,SNR=3.9						
ARU	Arti	22.39	343	P	P	23 00 38.8	+1.4
ARU				IAmb	IAmb	23 00 42.2	
	comp=Z,11nm,1.5s						
GURO	Guroymak-BITLI	22.80	286	P	P	23 00 39.9	-2.1
GURO				IAmb	IAmb	23 00 41.4	
	comp=Z,4.9nm,0.7s						
KIV	Kislovodsk	22.82	300	P	P	23 00 43.5	+1.3
RAYN	Ar Rayn	24.67	248	P	P	23 01 01.2	+1.9
LZH	Lanzhou	27.06	79	eP	P	23 01 20.7	-0.2
LZH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
SOCY	Socotra	27.59	217	P	P	23 01 24.2	-1.3
SOCY				IAmb	IAmb	23 01 27.6	
	comp=Z,7.4nm,1.3s						
BNN	Bunyan	27.62	287	P	P	23 01 23.2	-2.6
BNN				IAmb	IAmb	23 01 25.8	
	comp=Z,15nm,1.4s						
ARCES	ARCESS Array B	41.85	338	P	P	23 03 29.0	+1.7
	comp=Z,6.7nm,1.1s,baz=106,slow=9.5,SNR=2.3						
CLL	Collm	43.42	310	eP	P	23 03 40.0	-0.2
MURB	Monte Urbino	44.60	298	P	P	23 03 51.1	+1.2
NC300	NORSAR Array S	44.79	324	P	P	23 03 52.9	+1.9
TEOL	Teolo	44.85	301	P	P	23 03 51.8	0.0
KS19	Wonju Array Si	45.61	70	P	P	23 04 01.2	+3.3
TORD	Torodi Ar. Bea	65.20	269	P	P	23 06 19.8	+1.2
	comp=Z,1.4nm,0.6s,baz=45,slow=5.8,SNR=14						
TORD	Torodi Ar. Bea	65.20	269	P	P	23 06 19.6	+0.9
TORD				IAmb	IAmb	23 06 20.4	
	comp=Z,1.1nm,0.7s						
WRA	Warramunga Arr	81.91	121	P	P	23 07 58.3	+2.0
	comp=Z,0.4nm,1.0s,baz=324,slow=5.0,SNR=5.8						
WRA	Warramunga Arr	81.91	121	P	P	23 07 58.3	+2.0
WB2	Warramunga Arr	81.92	121	P	P	23 07 57.9	+1.5
WB2				IAmb	IAmb	23 08 13.4	
	comp=Z,3.4nm,1.2s						

*NNC **04** 22:57:18.6±2.1, 43°.54N×84°.61E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=16.1km s-min=7.4km az=131.0*
*SOME **04** 22:57:19.8, 43°.63N×84°.60E, h10km*
ISC 04 22:57:18.3±2.0**, 43°.55N**±0°.08×**84°.68E**±0°.08**, h10**km**, n27, σ1§99**/40**, 4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	Ketmen	3.15	270	eP	Pb	22 58 16.0	+1.6
	4.2nm,0.3s						
KTMS				eS	Sg	22 58 56.5	-2.9
	28nm,0.3s						
KTMS	Ketmen	3.15	270	Pg	Pb	22 58 13.9	-0.5
	4.2nm,0.3s						
KTMS				Lg	Lg	22 58 56.5	
	28nm,0.3s						
DJR	Jarkent	3.61	284	eP	Pg	22 58 25.5	-2.0
	2.7nm,0.3s						
DJR				eS	Sg	22 59 13.3	-1.0
	23nm,0.3s						
DJR	Jarkent	3.61	284	Pg	Pb	22 58 23.9	+1.6
	2.2nm,0.2s						
DJR				Lg	Lg	22 59 13.3	
	23nm,0.3s						
MK31	Makanchi Array	3.65	333	⇑Pg	Pg	22 58 27.0	-1.2
	0.7nm,0.3s,baz=153,slow=17,SNR=18						
MK31				⇑Lg	Lg	22 59 12.4	
	2.5nm,0.2s,baz=145,slow=27,SNR=12						
MAKZ	Makanchi	3.77	331	⇑Pg	Pg	22 58 29.7	-0.8
	3.8nm,1.2s						
MAKZ				⇓Lg	Lg	22 59 17.2	
	7.3nm,0.6s						
PDGK	Podgornoye	3.78	268	Pg	Pb	22 58 25.8	+0.6
	0.7nm,0.3s						
PDGK				Lg	Lg	22 59 16.9	
	3.6nm,0.3s						
PDGK	Podgornoye	3.78	268	⇓Pg	Pg	22 58 28.8	-1.9
	1.6nm,0.4s						
PDGK				⇑Lg	Lg	22 59 17.1	
	12nm,0.8s						
SHLS	Shalkode	3.82	266	eP	Pb	22 58 23.4	-2.5
	2.9nm,0.3s						
SHLS				eS	Sb	22 59 09.7	-2.6
	27nm,0.3s						
SHLS	Shalkode	3.82	266	Pg	Pn	22 58 21.2	+3.9
	1.8nm,0.2s						
SHLS				Lg	Lg	22 59 08.5	
	27nm,0.3s						
ZSN	Zaisan	3.90	2	eP	Pg	22 58 30.4	-2.6
	1.2nm,0.5s						
ZSN				eS	Sg	22 59 21.4	-2.1
	9.2nm,0.6s						
ZSN	Zaisan	3.90	2	Pg	Pb	22 58 27.8	+0.7
	1.7nm,0.3s						
ZSN				Lg	Lg	22 59 19.9	
	9.2nm,0.6s						
KNOS	Konyrlen	4.05	283	eP	Pb	22 58 33.0	+3.2
	2.1nm,0.1s						
KNOS				eS	Sg	22 59 25.9	-2.4
	3.4nm,0.6s						
UZB	Uzynbulak	4.14	266	eP	Pg	22 58 35.3	-2.3
	2.8nm,0.4s						
UZB				eS	Sg	22 59 29.9	-1.4
	6.9nm,0.5s						
UZB	Uzynbulak	4.14	266	Pg	Pb	22 58 32.5	+1.1
	3.7nm,0.5s						
UZB				Lg	Lg	22 59 27.8	
	6.9nm,0.5s						
KAPS	Kapalarasan	4.18	296	eP	Pg	22 58 36.8	-1.6
	1.7nm,0.3s						
KAPS				eS	Sg	22 59 32.4	-0.2
KAPS	Kapalarasan	4.18	296	Pg	Pb	22 58 34.4	+2.4
KAPS				Lg	Lg	22 59 31.7	
KPKS	Kokpek	4.36	271	eP	Pg	22 58 40.0	-1.7
	2.4nm,0.2s						
KPKS				eS	Sg	22 59 38.0	-0.2
	17nm,0.2s						
BLB	Baldybastay	4.52	279	eP	Pg	22 58 42.2	-2.6
	4.4nm,0.1s						
BLB				eS	Sg	22 59 41.8	-1.5
	17nm,0.3s						
BLB	Baldybastay	4.52	279	Pg	Pb	22 58 39.3	+1.6
	4.8nm,0.2s						
BLB				Lg	Lg	22 59 40.3	
	17nm,0.3s						
ZHN	Zhinishke	4.57	267	eP	Pg	22 58 44.0	-1.7
	3.4nm,0.3s						
ZHN				eS	Sg	22 59 44.4	-0.5
	13nm,0.3s						
SATY	Saty	4.60	266	eP	Pg	22 58 44.1	-2.3
	2.2nm,0.5s						
SATY				eS	Sg	22 59 45.1	-0.9
	6.6nm,0.4s						
SATY	Saty	4.60	266	Pg	Pb	22 58 41.7	+2.5
	1.3nm,0.2s						
SATY				Lg	Lg	22 59 43.9	
	3.6nm,0.3s						
KURS	Kuram	4.73	271	eP	Pg	22 58 47.3	-1.6
	1.3nm,0.4s						
KURS				eS	Sg	22 59 50.7	+0.6
	3.4nm,0.8s						
KURS	Kuram	4.73	271	Pg	Pb	22 58 43.1	+1.7
	1.2nm,0.2s						
KURS				Lg	Lg	22 59 46.5	
	1.9nm,0.3s						
ARXS	Arharly	4.99	280	eP	Pg	22 58 52.5	-1.4
	2.3nm,0.7s						
ARXS				eS	Sg	22 59 59.2	+0.7
	11nm,0.5s						
ARXS	Arharly	4.99	280	Pg	Pb	22 58 49.1	+3.2
	1.6nm,0.2s						
ARXS				Lg	Lg	22 59 57.4	
	11nm,0.5s						

*IDC **04** 23:00:04.8±6.4, 34°.92N×22°.46E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/44, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=118.2km s-min=34.7km az=28.0*
*ISK **04** 23:00:13.7, 35°.32N×22°.72E, h69km, ML3.7/8*
*ATH **04** 23:00:15.7, 35°.31N×22°.84E, h41km±2km, ML3.1/6, Error ellipse: s-maj=4.0km s-min=1.7km az=42.0*
*THE **04** 23:00:16.1, 35°.28N×22°.82E, h14km±1km, ML3.0/6, Error ellipse: s-maj=2.3km s-min=1.0km az=66.0*
*DDA **04** 23:00:21.0±0.0, 35°.71N×22°.93E, h46km, ML3.0*
ISC 04 23:00:13.5±1.9**, 35°.20N**±0°.10×**22°.6E**±0°.1**, h55**km±15km**, n56, σ1§67**/67**, mb3.5**/3**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANKY	Antikythira Is	0.87	40	P	Pn	23 00 29.6	-0.2
ANKY				S	Sn	23 00 39.5	-2.0
ANKY				AML	AML	23 00 45.4	
	comp=E,4581μm,0.5s						
ANKY				AML	AML	23 00 45.9	
	comp=N,3925μm,0.8s						
ANKY	Antikythira Is	0.87	40	P	Pn	23 00 29.5	-0.2
ANKY				S	Sn	23 00 39.6	-2.0
	comp=N,2μm,0.5s						
KNDR	Palaiochora Ch	0.88	88	P	Pn	23 00 28.4	-1.4
KNDR				S	Sn	23 00 38.5	-3.2
	comp=N,798nm,0.5s						
KNDR	Palaiochora Ch	0.88	88	PG	Pn	23 00 29.8	0.0
KNDR				SG	Sn	23 00 41.6	-0.1
RODP	Rodopos	1.00	69	P	Pn	23 00 32.6	+1.2
RODP				S	Sn	23 00 43.8	-0.9
	comp=N,342nm,0.5s						
KTHR	Kythira	1.10	17	P	Pn	23 00 34.0	+1.2
KTHR				S	Sn	23 00 48.3	+1.2
	comp=N,2μm,0.4s						
KTHA	Kythira Island	1.11	19	P	Pn	23 00 34.3	+1.4
KTHA				S	Sn	23 00 48.0	+0.7
KTHA				AML	AML	23 00 51.5	
	comp=N,1743μm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTHA				AML	AML	23 00 52.1	
	comp=E,3535µm,0.6s						
KTHA	Kythira Island	1.11	19	P	Pn	23 00 34.2	+1.2
KTHA				S	Sn	23 00 49.3	+2.0
	comp=E,1µm,0.5s						
IMMV	Iera Moni Meta	1.15	77	P	Pn	23 00 34.0	+0.6
IMMV				S	Sn	23 00 47.3	-0.9
IMMV				AML	AML	23 00 55.1	
	comp=N,2372µm,0.5s						
IMMV				AML	AML	23 00 57.1	
	comp=E,2034µm,0.6s						
IMMV	Iera Moni Meta	1.15	77	P	Pn	23 00 34.0	+0.6
IMMV				S	Sn	23 00 47.6	-0.5
	comp=E,1µm,0.6s						
IMMV	Iera Moni Meta	1.15	77	PG	Pn	23 00 33.8	+0.4
IMMV				SG	Sn	23 00 47.9	-0.2
GVD	Gavdhos	1.27	106	P	Pn	23 00 35.8	+0.9
GVD				AML	AML	23 01 00.1	
	comp=E,1358µm,0.4s						
GVD				AML	AML	23 01 03.2	
	comp=N,1112µm,0.5s						
GVD	Gavdhos	1.27	106	PN	Pn	23 00 35.8	+0.9
VAM	Vamos	1.31	81	P	Pn	23 00 36.4	+0.8
VAM				AML	AML	23 01 04.9	
	comp=E,1387µm,0.6s						
VAM				AML	AML	23 01 05.7	
	comp=N,1340µm,0.4s						
VAM	Vamos	1.31	81	P	Pn	23 00 36.5	+0.8
MNVA	Monemvasia	1.52	13	P	Pn	23 00 40.7	+2.3
VLI	Veliai	1.54	10	P	Pn	23 00 40.9	+2.3
VLI				AML	AML	23 01 05.9	
	comp=N,1029µm,0.5s						
VLI				AML	AML	23 01 06.7	
	comp=E,930µm,0.5s						
IDI	Anoyia	1.87	87	P	Pn	23 00 44.2	+1.0
IDI	Anoyia	1.87	87	PN	Pn	23 00 43.5	+0.3
HRKL	Herakleio	2.04	86	PN	Pn	23 00 45.8	+0.3
ITM	Ithomi	2.05	345	P	Pn	23 00 48.4	+2.8
MHLO	Agia Marina, M	2.08	44	P	Pn	23 00 46.0	0.0
KRND	KRANIDI	2.22	11	P	Pn	23 00 49.6	+1.7
NPS	Neapolis	2.46	88	P	Pn	23 00 52.7	+1.5
VLY	Voula,Athens	2.81	19	P	Pn	23 00 57.9	+1.9
DRO	Drossia	2.84	345	P	Pn	23 00 59.2	+2.8
KLV	Kalavryta, Ach	2.86	353	P	Pn	23 00 59.4	+2.6
ZKR	Zakros	2.96	91	P	Pn	23 00 59.5	+1.5
ZKR	Zakros	2.96	91	PN	Pn	23 00 58.6	+0.6
APE	Apeiranthos	3.01	51	PN	Pn	23 00 58.8	0.0
EFP	Efpalio	3.27	350	P	Pn	23 01 06.1	+3.9
KARP	Karpathos	3.73	83	PN	Pn	23 01 09.2	+0.5
AGG	Agios Georgios	3.82	357	P	Pn	23 01 11.3	+1.5
AGG				S	Sn	23 01 53.4	-0.1
TURN	Turunc	4.83	69	PN	Pn	23 01 24.1	+0.4
TURN	Turunc	4.83	69	P	Pn	23 01 18.4	-5.3
LIT	Litokhoron	4.89	359	P	Pn	23 01 25.9	+1.4
LIT				*i* AML	AML	23 02 06.0	
	comp=E,14nm,1.1s						
LIT				S	Sn	23 02 16.5	-3.3
YER	Yerkesik	4.98	66	PN	Pn	23 01 26.4	+0.6
YER	Yerkesik	4.98	66	P	Pn	23 01 27.0	+1.3
MULA	Mugla, Merkez-	5.05	64	P	Pn	23 01 29.6	+2.8
DALY	Dalyan (Mula)	5.16	70	PN	Pn	23 01 28.9	+0.8
FNA	Florina	5.66	350	P	Pn	23 01 35.1	+0.1
FNA				S	Sn	23 02 32.4	-6.3
FNA				*i* AML	AML	23 02 38.0	
	comp=E,12nm,0.5s						
FNA				*i* AML	AML	23 02 42.0	
	comp=E,11nm,0.3s						
GOLH	Golhisar	5.97	68	P	Pn	23 01 39.1	-0.4
DBRK	Dubrovnik	8.23	336	*e*Pn	Pn	23 02 10.9	+0.7
LSTV	Lastovo	8.77	331	*e*Pn	Pn	23 02 15.9	-1.7
LSTV				Sn	Sn	23 03 44.5	-10
HVAR	Hvar	9.29	331	*e*Pn	Pn	23 02 23.7	-1.0
RICI	Ricice	9.30	335	*e*Pn	Pn	23 02 23.6	-1.3
RICI				Sn	Sn	23 03 59.1	-8.9
BRTR	Keskin Array B	9.86	60	Pn	Pn	23 02 33.7	+1.1
	comp=E,0.1nm,0.3s,baz=237,slow=14,SNR=6.8						
KIJV	Kijevo	10.01	333	*e*Pn	Pn	23 02 33.8	-0.7
ZIRJ	Zirje	10.01	330	*e*Pn	Pn	23 02 33.9	-0.7
MORI	Morici	10.16	330	*e*Pn	Pn	23 02 35.8	-0.7
MMAI	Mount Meron Ar	10.83	98	Pn	Pn	23 02 41.8	-4.0
	comp=E,0.4nm,0.3s,baz=289,slow=14,SNR=5.0						
A252A	Venje	10.85	342	*e*Pn	Pn	23 02 44.0	-2.0
A250A	Rusevo Krmpots	11.49	332	*e*Pn	Pn	23 02 53.8	-1.0
FINES	FINESS Array B	26.35	4	P	P	23 05 44.3	+0.2
	comp=E,1.0nm,0.8s,baz=170,slow=8.5,SNR=4.2						
NOA	NORSAR Array B	26.87	348	P	P	23 05 49.6	+0.7
	comp=E,0.2nm,0.5s,baz=161,slow=9.1,SNR=1.4						
MKAR	Makanchi Array	45.49	56	P	P	23 08 27.9	+0.5
	comp=E,0.6nm,0.5s,baz=267,slow=8.8,SNR=6.1						

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*VAO **04** 23:50:15.4±0.6, 38°.77S×71°.64W, h111km, mb4.4*
*NEIC **04** 23:50:15.5±2.0, 38°.77S±0°.05×71°.66W±0°.07, h107km±4km, mb4.1/16, ML4.2(GUC), Error ellipse: s-maj=8.3km s-min=6.7km az=81.0*
*IDC **04** 23:50:16.0±1.3, 38°.78S×71°.51W, h110km±19km, mb3.7/6, mb1 3.8/7, mb1mx3.6/31, mbtmp4.0/7, Error ellipse: s-maj=41.5km s-min=12.9km az=57.0*
*GUC **04** 23:50:17.0±0.7, 38°.77S×71°.74W, h98km±5km, ML4.1*
ISC 04 23:50:15.0±0.7**, 38°.74S**±0°.04×**71°.67W**±0°.05**, h105**km±7km**, n99,** σ1ˢ**15**/111**, mb4.0**/8**, 1D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LC01	Cunco	0.23	225		Pn	23 50 31.3	+1.3
LC01	Cunco	0.23	225	⇓*i*P	Pn	23 50 31.2	+1.2
LC01				*e*S	Sn	23 50 40.5	-0.7
LR03	Panguipulli	1.04	210		Pn	23 50 36.7	+0.4
LR03				Sn	Sn	23 50 53.0	+0.7
LR03	Panguipulli	1.04	210	*e*P	Pn	23 50 36.6	+0.4
LR03				*e*S	Sn	23 50 51.8	-0.5
LR03				IAML		23 51 00.5	
	comp=E,3µm,0.4s						
LC02	Puerto Saavedr	1.34	267	Pn	Pn	23 50 40.5	+0.9
LC02				Sn	Sn	23 50 59.6	+1.3
LC02	Puerto Saavedr	1.34	267	*i* P	Pn	23 50 40.6	+1.0
LC02				*e*S	Sn	23 50 57.9	-0.4
LR02	Universidad Au	1.63	228	*e*P	Pn	23 50 42.9	-0.2
LR02				*e*S	Sn	23 51 03.9	-0.6
LR02				IAML		23 51 06.0	
	comp=N,10µm,0.5s						
LR04	Corral	1.78	229		Pn	23 50 44.5	-0.5
LR04				Sn	Sn	23 51 07.2	-0.6
LR04	Corral	1.78	229	*e*P	Pn	23 50 44.2	-0.8
LR04				*e*S	Sn	23 51 06.2	-1.6
LR04				IAML		23 51 09.7	
	comp=E,5µm,0.2s						
PLCA	Paso Flores	2.17	157	P	Pn	23 50 51.3	+1.1
	comp=E,23nm,0.3s,baz=324,slow=11,SNR=763						
PLCA				S	Sn	23 51 16.5	-0.4
	comp=E,3.3nm,0.3s,baz=65,slow=19,SNR=8.0						
PLCA	Paso Flores	2.17	157	Pn	Pn	23 50 51.2	+1.1
PLCA				Sn	Sn	23 51 16.1	-0.9
PLCA	Paso Flores	2.17	157	*e*P	Pn	23 50 51.3	+1.1
LL04	Puerto Octay	2.25	194		Pn	23 50 51.2	+0.2
LL04				Sn	Sn	23 51 17.3	-1.2
LL04	Puerto Octay	2.25	194	*e*P	Pn	23 50 51.1	+0.2
LL04				*e*S	Sn	23 51 17.5	-1.0
LL04				IAML		23 51 21.2	
	comp=N,546nm,0.3s						
BI05	Punta Hualpn	2.32	328	Pn	Pn	23 50 53.4	+1.4
BI05				Sn	Sn	23 51 20.0	-0.3
BI05	Punta Hualpn	2.32	328	*i* P	Pn	23 50 53.3	+1.3
BI05				*i* S	Sn	23 51 19.5	-0.8
BI05				IAML		23 51 20.2	
	comp=E,3µm,0.2s						
LL03	Petrohue	2.46	193		Pn	23 50 54.2	+0.3
LL03	Petrohue	2.46	193	*e*P	Pn	23 50 53.6	-0.2
LL03				*e*S	Sn	23 51 23.5	-0.1
LL03				IAML		23 51 30.7	
	comp=N,639nm,0.4s						
LL03				IAML		23 51 39.7	
	comp=N,607nm,0.4s						
ML02	Panimavida	2.98	4	Pn	Pn	23 51 02.9	+2.3
ML02	Panimavida	2.98	4	*e*P	Pn	23 51 02.7	+2.1
ML02				IAML		23 51 45.8	
	comp=N,319nm,0.5s						
LL05	Los Muermos	3.00	207	Pn	Pn	23 50 59.5	-1.5
LL05	Los Muermos	3.00	207	*e*P	Pn	23 50 59.1	-1.9
LL05				IAML		23 51 34.8	
	comp=N,414nm,0.1s						
LL01	San Ignacio de	3.68	189	Pn	Pn	23 51 11.0	+1.0
GO05	Huala	3.73	357	Pn	Pn	23 51 12.2	+1.5
LL06	Loncomilla	3.78	203	*e*S	Sn	23 51 46.1	-8.8
LL06				IAML		23 51 52.0	
	comp=N,430nm,0.5s						
BO02	Sierra Bellavi	4.00	11	Pn	Pn	23 51 16.4	+2.0
LL07	Hotel Espejo d	4.32	198	Pn	Pn	23 51 18.5	0.0
BO01	Tunca	4.36	6		Pn	23 51 19.9	+0.7
GO07	Milladeo Hill,	4.63	198		Pn	23 51 21.5	-1.2
BO04	La Punta	4.81	11	Pn	Pn	23 51 26.2	+0.9
MT09	Talagante	4.98	7		Pn	23 51 27.6	-0.1
LMEL	Las Melosas	5.02	14		Pn	23 51 29.6	+1.3
MT03	Universidad Ad	5.32	11		Pn	23 51 32.4	+0.2
MT05	Renca	5.39	8	Pn	Pn	23 51 33.7	+0.6
PEL	Peldehue	5.64	8		Pn	23 51 36.5	0.0
VA01	Torpederas	5.70	0		Pn	23 51 36.7	-0.6
AY01	Puyuhuapi	5.73	187	Pn	Pn	23 51 37.0	-0.6
ROC1	El Roble	5.77	5	Pn	Pn	23 51 37.1	-1.4
COYC	Coyhaique	6.84	182	Pn	Pn	23 51 52.3	-0.4
CO02	Combarbal	7.54	4	Pn	Pn	23 52 01.4	-0.9
ZON	Zonda	7.58	20	Pn	Pn	23 52 03.1	+0.3
H03S1	Juan Fernandez	7.61	308	P	Pn	23 52 04.7	+1.8
H03S1				T	T	23 58 09.1	
	baz=127						
H03S3	Juan Fernandez	7.63	308	T	T	23 58 09.7	
	baz=127,SNR=6.6						
H03S2	Juan Fernandez	7.63	308	T	T	23 58 07.6	
	baz=127,SNR=8.4						
H03N3	Juan Fernandez	7.89	310	P	Pn	23 52 09.5	+2.7
H03N3				S	Sn	23 53 31.0	-3.2
	SNR=11						
H03N1	Juan Fernandez	7.89	310	P	Pn	23 52 09.2	+2.4
H03N1				S	Sn	23 53 31.0	-3.2
	SNR=8.7						
H03N2	Juan Fernandez	7.90	310	P	Pn	23 52 09.6	+2.7
H03N2				S	Sn	23 53 31.2	-3.3
	SNR=7.7						
CO03	El Pedregal	7.92	6		Pn	23 52 06.6	-0.9
CO05	La Serena	8.80	2	Pn	Pn	23 52 20.5	+1.0
GO08	Villa O'Higgin	9.75	183		Pn	23 52 32.8	+0.7
MG03	Isla Dawson	15.14	177		P	23 53 44.8	-0.8
MG03				IAmb	IAmb	23 53 51.5	
	comp=Z,15nm,1.0s						
EFI	East Falkland	16.07	148		P	23 53 55.7	-0.3
PLTB	Pedras Altas	16.30	70		Pn	23 53 58.1	+0.3
PLTB				IAmb	IAmb	23 54 07.5	
	comp=Z,7.2nm,1.0s						
PLTB	Pedras Altas	16.30	70	*e*P	Pn	23 53 57.9	+0.2
CPUP	Villa Florida	17.27	48	*e*P	P	23 54 10.2	+0.8
PB08	IPOC Station P	18.66	7	P	P	23 54 26.8	+1.7
PB11	IPOC Station P	18.99	6	P	P	23 54 29.4	+0.9
PB11				IAmb	IAmb	23 54 31.4	
	comp=Z,6.7nm,0.7s						
GO01	Chusmiza	19.12	7	P	Pn	23 54 32.8	+0.5
ITAB	Concordia	19.96	61	P	P	23 54 36.8	-2.0
ITAB				IAmb	IAmb	23 54 37.0	
	comp=Z,20nm,1.2s						
LPAZ	La Paz	22.58	9	P	P	23 55 08.6	+1.3
	comp=Z,1.4nm,0.6s,baz=197,slow=6.9,SNR=7.3						
LPAZ	La Paz	22.58	9	P	P	23 55 08.2	+0.9
LPAZ	La Paz	22.58	9	*e*P	P	23 55 08.5	+1.1
TRCB	Terra Rica	22.73	51	P	P	23 55 07.7	-0.6
TRCB	Terra Rica	22.73	51	*e*P	P	23 55 07.5	-0.7
AQDB	Aquidauana	22.83	42	P	P	23 55 08.5	-0.6
AQDB				IAmb	IAmb	23 55 08.9	
	comp=Z,5.4nm,0.7s						
AQDB	Aquidauana	22.83	42	*e*P	P	23 55 08.3	-0.8
PCMB	Pacaembu	24.46	52	*e*P	P	23 55 23.1	-1.0
SIV	San Ignacio	24.50	25	P	P	23 55 24.7	+0.1
	comp=Z,3.6nm,0.9s,baz=218,slow=8.7,SNR=12						
PTLB	Pontes e Lacer	25.69	29	*e*P	P	23 55 35.2	-0.1
VAO	Valinhos	26.26	61	*e*P	P	23 55 39.6	-0.9
RCLB	Rio Claro- Sao	26.27	59	*e*P	P	23 55 39.9	-0.7
ITRB	Iturama	26.45	50	*e*P	P	23 55 42.1	-0.1
VILB	Vilhena	27.62	25	*e*P	P	23 55 52.7	0.0
ARAG	Araguaiana, MT	28.82	43	*e*P	P	23 56 04.3	+0.9
BSCB	Bom Sucesso	29.11	60	*e*P	P	23 56 05.3	-0.6
ETMB	Extrema	29.21	11	*e*P	P	23 56 07.5	+0.7
PDRB	Porto dos Gac	30.11	30	*e*P	P	23 56 15.0	+0.2
DIAM	Diamantina, MG	31.73	58	*e*P	P	23 56 28.5	-0.7
SNDB	Serra Nova Dou	32.23	40	*e*P	P	23 56 32.1	-1.3
PEXB	Peixe	33.69	44	*e*P	P	23 56 45.6	-0.5
JANB	Januaria	33.70	53	*e*P	P	23 56 45.8	-0.5
NPGB	Novo Progresso	34.82	29	*e*P	P	23 56 55.3	-0.6
SDBA	SAO DESIDERIO	35.39	49	*e*P	P	23 56 59.6	-1.2
GUA01	Guaratinga, BA	35.54	61	*e*P	P	23 57 01.1	-0.9
CMC01	Camacan, BA	36.60	59	*e*P	P	23 57 10.4	-0.7
SMTB	Santa Maria do	36.77	42	*e*P	P	23 57 12.2	-0.4
MACA	Manacapuru-AM	36.80	19	*e*P	P	23 57 12.5	-0.3
NBIT	Itapeh - BA	36.96	59	*e*P	P	23 57 14.2	+0.1
NBPN	Ponto Novo - B	39.48	54	*e*P	P	23 57 34.6	-0.7
NBLA	Lagarto - SE	40.92	57	*e*P	P	23 57 46.4	-0.8
NBPV	Pedro Velho	45.98	55	*e*P	P	23 58 28.0	+0.3
SNAA	Sanae	47.12	156	P	P	23 58 36.3	+0.3
SNAA				IAmb	IAmb	23 58 53.3	
	comp=Z,4.2nm,1.1s						
TXAR	Lajitas Array	74.01	331	P	P	00 01 40.6	+1.4
	comp=Z,0.3nm,0.8s,baz=153,slow=5.0,SNR=2.5						
DBIC	Dimbokro	76.47	70	P	P	00 01 53.6	+0.1
	comp=Z,3.1nm,0.6s,baz=243,slow=4.5,SNR=5.8						
DBIC	Dimbokro	76.47	70	IAmb	IAmb	00 01 57.0	
	comp=Z,4.9nm,0.8s						
BOSA	Boshof	77.64	117	P	P	00 01 59.9	-0.2
	comp=Z,1.1nm,0.4s,baz=236,slow=3.6,SNR=9.4						
BOSA	Boshof	77.64	117	IAmb	IAmb	00 02 15.2	
	comp=Z,3.8nm,1.1s						
TORD	Torodi Ar. Bea	85.57	69	P	P	00 02 41.2	-0.5
	comp=Z,0.6nm,0.3s,baz=218,slow=4.4,SNR=15						
TORD	Torodi Ar. Bea	85.57	69	IAmb	IAmb	00 02 44.6	
	comp=Z,0.6nm,0.8s						

IDC 04 23:58:09.6±6.9**, 7°.86S**×**129°.85E, h181**km±74km**, mb3.4**/2**, mb1 3.5**/5**, mb1mx3.0**/39**, mbtmp3.9**/5**, Error ellipse: s-maj=69.8km s-min=34.0km az=46.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.54	249	P	Pn	23 59 44.0	+0.2
	4.7nm,0.3s,baz=98,slow=5.5,SNR=2.5						
FITZ	Fitzroy Crossi	10.97	202	P	Pn	00 00 42.1	+0.3
	0.6nm,0.3s,baz=26,slow=10,SNR=29						
FITZ				S	S	00 02 44.4	-0.1
	0.9nm,0.3s,baz=52,slow=6.9,SNR=3.6						
WRA	Warramunga Arr	12.78	161	P	Pn	00 01 04.7	-0.2
	0.3nm,0.3s,baz=340,slow=14,SNR=16						
WRA				S	Sn	00 03 24.5	-2.6
	0.8nm,0.3s,baz=339,slow=22,SNR=11						
ASAR	Alice Springs	16.19	167	P	Pn	00 01 51.3	+4.1
	0.2nm,0.3s,baz=344,slow=9.0,SNR=10.0						
ASAR				S	S	00 04 46.3	-0.3
	0.1nm,0.3s,baz=347,slow=23,SNR=2.9						
MKAR	Makanchi Array	68.86	327	P	P	00 08 54.8	+0.2
	0.5nm,0.4s,baz=120,slow=7.7,SNR=17						
ZALV	Zalesovo Beam	72.28	334	P	P	00 09 14.7	-0.4
	0.4nm,0.4s,baz=124,slow=7.3,SNR=4.3						

MAN 04 23:59:34.1, 7°.58N×**125°.89E, h21**km**, mb4.4, ML3.2, MS3.0, 2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	1.67	258	⇑*i*P	Pn	00 00 01.8	-0.3
CTBH				*i* S	Sb	00 00 24.1	-0.6
LLP	Lapu-Lapu	3.32	325	⇓*e*P	Pn	00 00 26.7	+1.9
LLP				*e*S	Sn	00 01 05.0	+1.4
RCP	Roxas	5.02	322	⇑*e*P	Pn	00 00 50.6	+2.3

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*DJA **05** 00:18:57.7±1.2, 3°S±3°×12°3E±°, h14km±9km, M3.9/14, mb4.1/1, MLv3.8/14*
*IDC **05** 00:18:57.8±1.0, 3°.33S×123°.33E, h22km±6km, mb3.7/6, mb1 3.8/9, mb1mx3.6/31, mbtmp3.8/9, ML3.4/3, Error ellipse: s-maj=31.8km s-min=17.0km az=57.0*
*NEIC **05** 00:19:00.3±1.5, 3°.16S±0°.04×123°.35E±0°.06, h33km±5km, mb4.3/22, Error ellipse: s-maj=10.1km s-min=3.6km az=117.0*
ISC 05 00:18:59.5±0.5**, 3°.25S**±0°.04×**123°.37E**±0°.06**, h35**km**, n50,** σ1ˢ**20**/55**, mb4.2**/17**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	2.27	345		Pn	00 19 34.2	-0.3
LUWI				Sn	Sn	00 19 59.7	-1.6
LUWI	Luwuk	2.27	345	P	Pn	00 19 34.0	-0.5
LUWI				S	Sn	00 20 02.1	+0.8
BBSI	Bau Bau	2.36	200	P	Pn	00 19 36.5	+0.7
SANI	Sanana	2.88	66	P	Pn	00 19 42.3	-0.5
APSI	Ampana	2.89	323	P	Pn	00 19 42.3	-0.7
BNSI	Bone	3.45	250	P	Pn	00 19 51.6	+0.9
TTSI	Tana Toraja	3.55	273	P	Pn	00 19 52.2	+0.1
SPSI	Sidrap Palu	3.66	259	P	Pn	00 19 52.8	-0.9
BKSI	Bulukumba	3.84	237	P	Pn	00 19 55.0	-1.1
GTOI	Gorontalo	3.87	355	P	Pn	00 19 58.9	+2.3
GTOI				S	Sn	00 20 45.4	+4.5
MRSI	Marisa	3.96	339	P	Pn	00 19 57.5	-0.3
KAPI	Kappang	4.01	244	Pn	Pn	00 19 57.4	-1.1
	1.4nm,0.3s,baz=71,slow=5.1,SNR=5.6						
KAPI	Kappang	4.01	244		Pn	00 19 59.4	+1.0
BSSI	Bau Bau, Buton	4.06	225	P	Pn	00 19 58.6	-0.6
LBMI	Labuha	4.88	58	P	Pn	00 20 09.8	-0.6
MPSI	Mapaga	4.97	316	P	Pn	00 20 11.4	-0.3
TOLI2	Tolitoli	5.04	329		Pn	00 20 12.9	+0.2
TNTI	Ternate	5.65	45	Pn	Pn	00 20 20.2	-0.8
SIJI	Sorong	8.24	74	Pn	Pn	00 20 58.5	+1.9
	2.1nm,0.3s,baz=254,slow=9.0,SNR=6.2						
WB0	Warramunga Arr	19.63	148	P	P	00 23 26.2	+0.9
WRA	Warramunga Arr	19.75	148	P	P	00 23 25.2	-1.3
	0.1nm,0.3s,baz=317,slow=14,SNR=5.4						
WRA	Warramunga Arr	19.75	148	P	P	00 23 27.3	+0.8
WB2	Warramunga Arr	19.75	148	P	Pn	00 23 28.0	-0.2
WR0	Warramunga Arr	19.87	148	P	Pn	00 23 29.7	+0.1
ASAR	Alice Springs	22.71	154	P	P	00 23 57.6	-0.9
	0.8nm,0.7s,baz=337,slow=9.7,SNR=7.2						
ASAR	Alice Springs	22.71	154	P	P	00 24 00.6	+2.1
JMZ	Minamidaito 2	29.88	14	P	P	00 25 03.9	0.0
CMAR	Chiang Mai Arr	32.31	313	P	P	00 25 26.3	+0.8
	1.4nm,0.3s,baz=138,slow=7.0,SNR=7.3						
CMAR				pP	pP	00 25 33.6	-1.1
	0.9nm,0.3s,baz=126,slow=6.4,SNR=1.5						
CMAR	Chiang Mai Arr	32.31	313	P	P	00 25 25.8	+0.3
CHTO	Chiang Mai	32.53	313	P	P	00 25 27.6	+0.2
CHTO				IAmb	IAmb	00 25 29.0	
	comp=Z,2.2nm,0.6s						
STKA	Stephens Creek	33.24	151	P	P	00 25 33.4	-0.1
	comp=Z,1.2nm,0.4s,baz=308,slow=11,SNR=3.7						
STKA	Stephens Creek	33.24	151	IAmb	IAmb	00 25 42.4	
	comp=Z,1.2nm,1.1s						
CAN	Canberra	39.78	146		S	00 32 30.9	-0.3
LIFNC	LIFOU	46.10	116	P	P	00 27 20.0	-0.6
JTM	Tenmabayashi	46.72	18	P	P	00 27 24.1	-1.0
SONM	Songino Array	53.00	346	P	P	00 28 13.6	+0.7
	comp=Z,0.6nm,0.8s,baz=165,slow=9.2,SNR=6.1						
LTZ	Lake Taylor	58.58	139	P	P	00 28 54.1	+1.2
LTZ				IAmb	IAmb	00 29 12.2	
	comp=Z,12nm,0.8s						
MQZ	McQueen's Vall	59.27	140	P	P	00 28 56.4	-1.2
MKAR	Makanchi Array	61.56	329	P	P	00 29 13.4	+0.2
	comp=Z,0.4nm,0.6s,baz=128,slow=7.6,SNR=5.9						
MKAR				pP	pP	00 29 20.8	-2.3
	comp=Z,0.7nm,0.8s,baz=127,slow=8.4,SNR=6.3						
KBL	Kabul	63.33	311	P	P	00 29 24.8	-0.7
KBL				IAmb	IAmb	00 29 33.4	
	comp=Z,1.7nm,0.8s						
AAK	Ala-Archa	63.47	322	P	P	00 29 27.1	+0.8
AAK				IAmb	IAmb	00 29 35.2	
	comp=Z,1.9nm,1.1s						
CASY	Casey	63.56	186	P	P	00 29 27.2	+1.0
CASY				IAmb	IAmb	00 29 43.0	
	comp=Z,16nm,1.1s						
ZAA0	Zalesovo Array	65.41	336	P	P	00 29 38.1	-0.4
ZAA0				IAmb	IAmb	00 29 46.2	
	comp=Z,2.1nm,0.8s						
ZALV	Zalesovo Beam	65.41	336	P	P	00 29 38.1	-0.3
	comp=Z,0.6nm,0.3s,baz=144,slow=5.4,SNR=2.1						
ZALV				pP	pP	00 29 45.3	-3.1
	comp=Z,0.4nm,0.3s,baz=116,slow=6.8,SNR=1.8						
KURK	Kurchatov	65.96	331	P	P	00 29 42.5	+0.4
KURK				IAmb	IAmb	00 29 43.7	
	comp=Z,2.3nm,0.7s						
BRVK	Borovoye	71.51	329	P	P	00 30 17.0	+0.3
BRVK				IAmb	IAmb	00 30 29.0	
	comp=Z,2.2nm,1.1s						
ADK	Adak	74.59	34	P	P	00 30 35.8	+1.0
TIXI	Tiksi	74.84	2	P	P	00 30 35.5	-0.5
TIXI				IAmb	IAmb	00 30 46.1	
	comp=Z,3.2nm,1.1s						
ABKAR	Akbulak array	75.51	323	P	P	00 30 40.4	+0.1
ABKAR				IAmb	IAmb	00 30 56.5	
	comp=Z,1.6nm,1.1s						
NRIK	Noril'sk	76.42	348	P	P	00 30 45.4	+0.3
NRIK				IAmb	IAmb	00 30 57.3	
	comp=Z,3.1nm,1.1s						

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*CNRM **05** 00:31:10.6, 35°.46N×3°.83W, h27km, ml2.6*
*MDD **05** 00:31:11.8±1.0, 35°.46N×3°.75W, h12km±8km, mb_Lg2.8/5, Error ellipse: s-maj=4.7km s-min=3.4km az=179.0*
*SFS **05** 00:31:12.0, 35°.43N×3°.65W, ML2.9, ALBORAN SUR*
ISC 05 00:31:10.5±1.0**, 35°.48N**±0°.03×**3°.76W**±0°.03**, h20**km±4km**, n24,** σ1ˢ**33**/46**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.30	209	P	Pb	00 31 17.5	+0.3
PALE				S	Sb	00 31 21.4	-0.4
GOG	Mont Gurugu	0.68	112	P	Pn	00 31 24.4	-0.6
GOG				S	Sn	00 31 33.8	-1.2
EMEL	Melilla	0.68	105	Pg	Pn	00 31 24.4	-0.6
EMEL				Sg	Sn	00 31 33.4	-1.6
EALB	Alboran	0.75	52	Pg	Pn	00 31 25.2	-0.7
EALB				Sg	Sn	00 31 35.4	-1.3
TAF	Taforalt	1.29	121	P	Pb	00 31 33.4	-0.7
TAF				S	Sb	00 31 50.4	+0.2
SMIR	Smir Dam	1.34	279	P	Pn	00 31 31.7	-2.2
SMIR				S	Sn	00 31 50.3	-0.9
CHEFC	Chefchaouen	1.34	254	P	Pb	00 31 35.1	+0.1
EMIJ	Mijas	1.36	323	Pn	Pn	00 31 35.0	+0.7
EMIJ				Sn	Sn	00 31 51.5	-0.2
EMIJ				*i* Vmb_Lg		00 31 57.8	
CEU	Ceuta	1.38	288	P	Pn	00 31 31.6	-3.0
CEU				S	Sn	00 31 48.9	-3.2
ELGU	Los Guajares,	1.39	4	Pn	Pn	00 31 34.9	+0.1
ELGU				Sn	Sn	00 31 51.7	-0.8
EMAL	Malaga-Limoner	1.39	337	P	Pn	00 31 33.6	-1.1
EMAL				S	Sn	00 31 52.0	-0.4
JBK	JBK	1.51	139	P	Pn	00 31 35.8	-0.7
JBK				S	Sn	00 31 54.8	-0.9
IFR	Ifrane	2.26	210	P	Pn	00 31 47.4	+0.5
IFR				S	Sn	00 32 14.3	0.0
MD31	MD31	2.74	198	P	Pn	00 31 55.1	+1.7
MD31				S	Sn	00 32 24.9	-1.0
MDT	Midelt	2.75	195	P	Pn	00 31 54.6	+1.1
MDT				S	Sn	00 32 27.5	+1.3
TDRA	Tendrara	2.83	149	P	Pn	00 31 54.3	-0.3
ECAB	El Cabril	2.91	333	Pn	Pn	00 31 57.5	+1.9
ECAB				*i* Vmb_Lg		00 32 08.7	
ECAB				Sn	Sn	00 32 31.2	+1.1
ZHG	ZHG	3.13	230	P	Pn	00 32 00.0	+1.3
ZHG				S	Sn	00 32 34.9	-0.6
ETOB	Tobarra	3.62	29	Pn	Pn	00 32 08.3	+2.8
ETOB				Sn	Sn	00 32 49.3	+1.7
EGRO	El Granado	3.63	305	Pn	Pn	00 32 07.1	+1.5
EGRO				*i* Vmb_Lg		00 32 31.5	
EGRO				Sn	Sn	00 32 47.5	-0.3
PVAQ	Vaqueiros	3.72	302	P	Pn	00 32 05.8	-1.1
PVAQ				S	Sn	00 32 48.4	-1.7
PAB	San Pablo	4.08	354	Pn	Pn	00 32 12.4	+0.6
PAB				Sn	Sn	00 32 58.1	-1.0
PAB				*i* Vmb_Lg		00 34 40.2	
EBAD	Badajoz	4.17	322	Pn	Pn	00 32 14.7	+1.7
EBAD				Sn	Sn	00 33 01.0	-0.3
EBAD				*i* Vmb_Lg		00 33 40.7	
OUZM	OUZ	5.21	210	P	Pn	00 32 28.7	+1.4
OUZM				S	Sn	00 33 27.5	+0.6

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*IDC **05** 00:33:18.9±0.4, 41°.72N×144°.16E, h0km, mb4.7/24, mb1 4.9/30, mb1mx4.8/48, mbtmp4.7/30, ML4.2/7, MS4.1/46, Ms1 4.1/46, ms1mx3.8/93, Error ellipse: s-maj=13.1km s-min=12.1km az=123.0*
*NEIC **05** 00:33:21.9±1.3, 41°.65N±0°.06×144°.23E±0°.07, h14km±3km, mb5.1/456, Error ellipse: s-maj=8.2km s-min=7.8km*

az=215.0

BJI ***05*** *00:33:22.4±0.0, 41.°84N×144.°00E, h25km, mb4.6/63, mB4.8/41, Ms4.4/64, Ms7 4.2/61*

NIED ***05*** *00:33:23.3, 41.°72N×144.°23E, h37km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.24; $M_{\theta\theta}$0.98; $M_{\phi\phi}$0.26; $M_{r\theta}$-0.03; $M_{\theta\phi}$-0.40; $M_{\phi r}$0.41; Fault plane solution: $M_0$1.26000×10^{16} NP1: ϕ_s128.00000°, δ51.00000°, λ-72.00000°. NP2: ϕ_s281.00000°, δ42.00000°, λ-111.00000°.*

MOS ***05*** *00:33:23.2±0.9, 41.°74N×144.°08E, h38km, mb5.2/102, MS4.3/9 Error ellipse: s-maj=5.3km s-min=3.7km az=106.2*

GCMT ***05*** *00:33:23.9±0.4, 41.°73N±0.°03×144.°23E±0.°05, h21km±1km, MW4.7/67, Moment Tensor Solution. s24,c25; s67,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.63±.13; $M_{\theta\theta}$1.40±.09; $M_{\phi\phi}$0.23±.08; $M_{r\theta}$0.04±.14; $M_{\theta\phi}$-0.59±.04; $M_{\phi r}$0.12±.15; Best double couple: $M_0$1.64200×10^{16} NP1: ϕ_s288.00000°, δ45.00000°, λ-96.00000°. NP2: ϕ_s117.00000°, δ45.00000°, λ-84.00000°. Principal axes: T 1.6440, Plg0.0000°, Azm203.0000°; N -0.0030, Plg4.0000°, Azm293.0000°; P -1.6390, Plg86.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JMA ***05*** *00:33:23.2±0.2, 41.°72N×144.°23E, h37km±2km, M4.8*

JMA Felt I J1.

BGR ***05*** *00:33:29.1±0.0, 42.°54N×144.°66E, h33km, mb5.1, Ms4.6*

ISC 05 00:33:23.3±0.5, **41.°77N**±0.°04×**144.°18E**±0.°03, **h29**km±2km, **h29km:pP-P, n1081, σ1.°26**/1010, **mb5.1**/397, **MS4.1**/64, **67C-53D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERM	Erimo	0.81	288	i P	Pn	00 33 39.5	+0.8
ERM	Erimo	0.81	288		Pn	00 33 39.5	+0.8
JEM	Erimo	0.81	288	P	Pn	00 33 39.5	+0.8
JTHR	Tokachihiroo	0.84	309	P	Pb	00 33 39.7	+0.3
JTHR				eS	Sn	00 33 52.0	+1.3
JCH	Churui	1.05	325	⇓P	Pn	00 33 42.5	+0.5
JCH				eS	Sn	00 33 56.4	+0.7
JOB	Onbets	1.17	347	⇓P	Pn	00 33 44.3	+0.6
JNBK	Urakawa-nobuka	1.18	296	⇓P	Pn	00 33 45.2	+1.3
JNBK				eS	Sb	00 34 01.9	+1.8
JAK	Akkeshi	1.29	17	⇑P	Pn	00 33 45.5	+0.1
JAK				eS	Sn	00 34 01.9	+0.3
JSHD	Hidakashinhida	1.43	297	⇓P	Pb	00 33 49.1	-0.3
JKHN	Kushirohamanak	1.50	28	⇑P	Pn	00 33 48.6	+0.3
JKHN				eS	Sn	00 34 07.0	+0.1
JAR	Ashorobuto	1.56	349	⇓P	Pn	00 33 49.3	+0.2
JAR				eS	Sn	00 34 09.2	+0.8
JBT2	Biratori 2	1.69	307	P	Pn	00 33 50.9	0.0
NMR	Nemuro--Hokkai	1.97	35	⇑iP	Pn	00 33 54.2	-0.5
NMR				eS	Sn	00 34 14.7	-3.7
GLVR	Golovnino	2.20	26	⇑iP	Pn	00 33 58.2	+0.2
GLVR				eS	Sn	00 34 22.6	-1.6
GLVR				pmax	pmax		
	comp=Z,488nm,0.3s						
GLVR				smax	smax		
	comp=N,3μm,0.4s						
GLVR				smax	smax		
	comp=E,4μm,0.5s						
JEW	Eniwo	2.30	299	Pn	Pn	00 34 00.7	+1.5
RUSJ	Misakicho	2.46	18	⇓iP	Pn	00 34 02.2	+0.7
RUSJ				eS	Sn	00 34 29.9	-0.8
JTM	Tenmabayashi	2.54	248	Pn	Pn	00 34 02.9	+0.2
YUK	Yuzh-Kuril'sk	2.58	28	eP	Pn	00 34 02.9	-0.2
YUK				eS	Sn	00 34 31.5	-2.0
YUK				pmax	pmax		
	comp=N,66nm,0.2s						
YUK				pmax	pmax		
	comp=Z,448nm,0.2s						
YUK				pmax	pmax		
	comp=E,64nm,0.1s						
YUK				smax	smax		
	comp=E,5μm,0.6s						
YUK				smax	smax		
	comp=N,4μm,0.4s						
JKA	Kamikawa-asahi	2.62	334	Pn	Pn	00 34 04.6	+0.9
ASAJ	Asahikawa	2.62	334	Pn	Pn	00 34 04.8	+1.1
	comp=N,18nm,0.3s,baz=216,slow=16,SNR=57						
ASAJ				LR	LR	00 35 13.9	
	comp=N,1μm,18.3s,baz=137,slow=43						
SHO	Shikotan	2.87	42	eP	Pn	00 34 06.1	-1.0
SHO				eS	Sn	00 34 37.6	-3.0
SHO				pmax	pmax		
	comp=Z,181nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.4s						
SHO				smax	smax		
	comp=E,884nm,0.3s						
KUR	Kuril'sk	4.38	36	eP	Pn	00 34 28.7	+0.8
KUR				eS	Sn	00 35 19.0	+1.1
KUR				pmax	pmax		
	comp=N,193nm,0.5s						
KUR				pmax	pmax		
	comp=Z,525nm,0.5s						
KUR				pmax	pmax		
	comp=E,149nm,0.2s						
KUR				smax	smax		
	comp=E,752nm,0.6s						
KUR				smax	smax		
	comp=N,477nm,0.3s						
KUR				MLR	MLR		
	comp=Z,4μm,12.0s						
JMM	Marumori	4.69	215		Pn	00 34 29.4	-2.7
YSS	Yuzh-Sakhalins	5.29	349	eP	Pn	00 34 42.8	+2.5
YSS				eS	Sn	00 35 42.2	+2.0
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				smax	smax		
	comp=E,90nm,1.0s						
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
YSS	Yuzh-Sakhalins	5.29	349	Pn	Pn	00 34 41.8	+1.4
JSD	Sado	5.88	233	Pn	Pn	00 34 47.8	-0.7
JYT	Yasato	6.34	211		Pn	00 34 51.8	-3.0
MJAR	Matsushiro Arr	6.98	224	Pn	Pn	00 35 03.2	-0.4
	comp=N,2.5nm,0.3s,baz=28,slow=14,SNR=89						
MJAR				LR	LR	00 38 20.8	
	comp=N,1μm,20.0s,baz=32,slow=44						
MJAR	Matsushiro Arr	6.98	224	P	Pn	00 35 03.4	-0.3
MJAR	Matsushiro Arr	6.98	224	Pn	Pn	00 35 03.4	-0.3
MJB9	Matsu-Tunnel	6.98	224	Pn	Pn	00 35 02.9	-0.7
MAJO	Matsushiro	6.98	224	c iP	Pn	00 35 03.1	-0.5
MAJO	Matsushiro	6.98	224		Pn	00 35 03.2	-0.5
MAT	Matsushiro	6.98	224	P	Pn	00 35 03.1	-0.6
MAT				S	Sn	00 36 21.0	-1.1
UGL	Uglegorsk	7.46	349	eP	Pb	00 35 25.5	-6.5
UGL				pmax	pmax		
	comp=Z,50nm,1.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=N,4μm,15.0s						
UGL				MLR	MLR		
	comp=Z,3μm,12.0s						
JGF	Kuroka	8.14	223	Pn	Pn	00 35 19.2	-0.4
INU	Inuyama	8.52	224	Pn	Pn	00 35 24.2	-0.5
USA0B	Ussuriysk Arra	9.27	289	P	Pn	00 35 35.8	+0.9
USA0B	Ussuriysk Arra	9.27	289	Pn	Pn	00 35 35.8	+0.9
USRK	Ussuriysk Ar.	9.27	289	Pn	Pn	00 35 36.7	+1.8
	baz=91,slow=17,SNR=8.3						
USRK				LR	LR	00 39 35.4	
	comp=Z,1μm,18.2s,baz=107,slow=41						
USRK	Ussuriysk Ar.	9.27	289	P	Pn	00 35 35.5	+0.6
USRK	Ussuriysk Ar.	9.27	289	Pn	Pn	00 35 35.5	+0.6
JHJ2	Mitsune	9.31	203	Pn	Pn	00 35 33.1	-2.4
JHJ	Hachijo jima 2	9.31	203	Pn	Pn	00 35 32.8	-2.8
	comp=Z,32nm,0.3s,baz=84,slow=21,SNR=8.8						
JHJ				Sn	Sn	00 37 08.9	-10
	comp=Z,139nm,0.3s,baz=248,slow=23,SNR=16						
GRNR	Gornyy	10.48	332	⇓iP	Pn	00 35 54.2	+2.7
GRNR				eS	Sn	00 37 55.2	+7.3
GRNR				pmax	pmax		
	comp=N,3.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GRNR				smax	smax		
	comp=N,2.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,670nm,14.0s						
GRNR				MLR	MLR		
	comp=N,830nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,890nm,16.0s						
JHS	Saijyo	11.00	236	Pn	Pn	00 35 59.0	+0.3
MDJ	Mudanjiang	11.03	290	Pn	Pn	00 36 01.2	+2.1
JMN	Monobe	11.43	229	Pn	Pn	00 36 03.5	-1.2
KLR	Kul'dur	11.47	315	Pn	Pn	00 36 04.1	-1.0
	comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=14						
KLR				LR	LR	00 40 51.6	
	comp=Z,319nm,20.7s,baz=69,slow=39						
KLR	Kul'dur	11.47	315	ceP	Pn	00 36 07.3	+2.2
SKR	Severo-Kuril's	12.14	39	i P	Pn	00 36 14.4	+0.2
BNX	BinXian	12.76	294	⇑P	Pn	00 36 23.6	+0.8
BNX				pmax	pmax		
	comp=Z,63nm,1.0s						
BNX				pmax	pmax		
	comp=Z,200nm,4.9s						
KSRS	Korea Array	13.26	256	Pn	Pn	00 36 30.2	+0.8
	comp=Z,0.5nm,0.3s,baz=64,slow=13,SNR=6.3						
KSRS				LR	LR	00 41 49.3	
	comp=Z,714nm,18.2s,baz=60,slow=38						
KS19	Wonju Array Si	13.28	257	Pn	Pn	00 36 28.9	-0.9
KSAR	Wonju Array Be	13.29	256	P	Pn	00 36 29.3	-0.6
KSAR	Wonju Array Be	13.29	256	Pn	Pn	00 36 29.3	-0.6
JNU	Nakatsue	13.63	235	LR	LR	00 42 21.8	
	comp=Z,1μm,18.0s,baz=37,slow=40						
CN2	Changchun	13.91	285	eP	Pn	00 36 36.0	-2.4
CN2				ePP	P	00 36 47.3	+1.0
CN2				eS	Sn	00 39 06.0	-5.8
CN2				esS	S	00 39 20.6	-13
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=Z,760nm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
PEA0B	Petropavlovsk-	14.54	34	i P	Pn	00 36 45.6	-1.4
PEA0B	Petropavlovsk-	14.54	34	Pn	Pn	00 36 47.5	+0.5
PETK	Petropavlovsk-	14.54	34	Pn	Pn	00 36 44.5	-2.5
	comp=Z,0.6nm,0.3s,baz=180,slow=13,SNR=10						
PETK	Petropavlovsk-	14.54	34	P	Pn	00 36 48.5	+1.5
PETK	Petropavlovsk-	14.54	34		Pn	00 36 48.5	+1.5
PET	Petropavlovsk	14.89	36	eP	Pn	00 36 52.5	+0.8
PET				eS	Sn	00 39 38.1	+2.5
PET				pmax	pmax		
	comp=Z,38nm,1.2s						
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET				MLR	MLR		
	comp=Z,900nm,14.0s						
SNY	Shenyang	15.37	277	⇑P	Pn	00 36 57.2	-0.9
SNY				pmax	pmax		
	comp=Z,11nm,1.2s						
SNY				pmax	pmax		
	comp=Z,120nm,4.7s						
SNY				LR	LR		
	comp=Z,310nm,13.9s						
SNY				LR	LR		
	comp=Z,820nm,14.3s						
SNY				LR	LR		
	comp=Z,1μm,16.1s						
MA2	Magadan	18.30	11	P	P	00 37 32.9	-1.8
	comp=Z,0.7nm,0.3s,baz=193,slow=9.4,SNR=38						
MA2				LR	LR	00 45 02.1	
	comp=Z,323nm,18.1s,baz=190,slow=38						
MA2	Magadan	18.30	11	ceP	P	00 37 32.3	-2.4
MA2				pmax	pmax		
	comp=Z,22nm,0.7s						
MA2	Magadan	18.30	11	P	P	00 37 34.3	-0.4
HIA	Hailar	18.64	302	i P	P	00 37 37.2	-1.5
HIA				pmax	pmax		
	comp=Z,37nm,0.8s						
BJI	Beijing	21.21	275	P	P	00 38 06.2	-0.3
BJI				pP	pP	00 38 12.4	-1.7
BJI				PP	PnPn	00 38 26.8	+0.5
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BJI				LR	LR		
	comp=Z,430nm,13.8s						
BJI				LR	LR		
	comp=Z,610nm,17.9s						
BJI				LR	LR		
	comp=Z,1μm,16.3s						
BJT	Baijiatuau	21.22	275	P	P	00 38 06.1	-0.6
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	Baijiatuau	21.22	275		P	00 38 06.1	-0.6
SSE	Sheshan	21.29	247	P	P	00 38 06.1	-1.4
SSE				S	S	00 42 07.0	+4.6
SSE				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SSE				pmax	pmax		
	comp=Z,61nm,8.0s						
SSE				LR	LR		
	comp=Z,170nm,16.6s						
SSE				LR	LR		
	comp=Z,140nm,16.4s						
TIA	Tai'an	21.71	264	⇓P	P	00 38 10.0	-2.0
TIA				S	S	00 42 04.7	-6.0
TIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIA				LR	LR		
	comp=Z,290nm,17.7s						
TIA				LR	LR		
	comp=Z,280nm,16.7s						
TIA				LR	LR		
	comp=Z,400nm,17.2s						
SEY	Seymchan	21.75	10	P	P	00 38 09.8	-2.3
	comp=Z,20nm,0.8s,baz=192,slow=8.2,SNR=50						
YAK	Yakutsk	22.08	342	P	P	00 38 11.6	-4.0
	comp=Z,21nm,0.4s,baz=347,slow=1.4,SNR=15						
YAK				S	S	00 42 08.3	-9.0
	comp=Z,9.2nm,0.4s,baz=181,slow=22,SNR=22						
YAK				LR	LR	00 47 34.1	
	comp=Z,725nm,19.3s,baz=137,slow=39						
YAK	Yakutsk	22.08	342	c iP	P	00 38 11.7	-4.0
YAK				e*PP	pP	00 38 20.7	-2.5
YAK				eS	S	00 42 14.2	-3.1
YAK				e*SS	sS	00 42 29.0	-0.4
YAK				pmax	pmax		
	comp=Z,70nm,0.9s						
YAK				pmax	pmax		
	comp=N,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,0.9s						
YAK				smax	smax		
	comp=E,123nm,1.5s						
YAK				smax	smax		
	comp=N,73nm,1.4s						
YAK				MLR	MLR		
	comp=Z,824nm,20.0s						
YAK				MLR	MLR		
	comp=N,451nm,18.0s						
YAK				MLR	MLR		
	comp=E,75nm,15.0s						
YAK	Yakutsk	22.08	342	P	P	00 38 11.9	-3.8
YAK				IAmb	IAmb	00 38 13.2	
	comp=Z,72nm,0.7s						
YAK					PcP	00 42 13.7	+1.3
NJ2	Nanjing	22.39	253	eP	P	00 38 19.4	+0.1
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,500nm,15.3s						
NJ2				LR	LR		
	comp=Z,530nm,16.2s						
NJ2				LR	LR		
	comp=Z,940nm,18.0s						
HNS	HongShan	23.08	269	⇓P	P	00 38 24.8	-1.7
HNS				S	S	00 42 36.6	+1.1
HNS				LR	LR		
	comp=Z,500nm,18.4s						
HNS				LR	LR		
	comp=Z,690nm,20.6s						
HNS				LR	LR		
	comp=Z,520nm,16.7s						
CIT	Chita	23.15	307	eP	P	00 38 26.1	-1.0
CIT				e		00 38 38.9	
CIT				e		00 38 50.2	
HHC	Hu-ho-hao-te	24.45	279	eP	P	00 38 40.3	+0.6
HHC				pP	pP	00 38 47.3	-0.5
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC				LR	LR		
	comp=Z,260nm,16.7s						
HHC				LR	LR		
	comp=Z,570nm,18.6s						
HHC				LR	LR		
	comp=Z,810nm,16.8s						
YOJ	Yonaguni jima	24.64	232	P	P	00 38 39.3	-2.0
YOJ				pmax	pmax		
	comp=Z,220nm,1.5s						
YOJ	Yonaguni jima	24.64	232	P	P	00 38 39.3	-2.0
BOD	Bodaibo	24.95	320	eP	P	00 38 41.1	-2.8
BOD				pmax	pmax		
	comp=Z,12nm,1.1s						
LYN	LuoYang	25.86	264	eP	P	00 38 54.1	+1.8
LYN				S	S	00 43 22.5	+2.3
LYN				sS	sS	00 43 33.8	-0.2
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LYN				LR	LR		
	comp=Z,230nm,16.1s						
LYN				LR	LR		
	comp=Z,300nm,18.0s						
LYN				LR	LR		
	comp=Z,270nm,19.7s						
WHN	Wuhan	26.44	255	⇑P	P	00 39 08.2	+11
WHN				S	S	00 43 36.6	+7.2
WHN				pmax	pmax		
	comp=Z,50nm,0.7s						
WHN				LR	LR		
	comp=N,650nm,11.0s						
WHN				LR	LR		
	comp=E,1μm,17.3s						
WHN				LR	LR		
	comp=Z,2μm,17.8s						
ULN	Ulaanbaatar	26.85	296	ceP	P	00 39 00.2	-1.2
ULN				pmax	pmax		
	comp=Z,37nm,1.3s						
ULN	Ulaanbaatar	26.85	296	P	P	00 39 01.7	+0.3
SONM	Songino Array	27.29	296	P	P	00 39 05.3	-0.1
	comp=Z,14nm,0.9s,baz=95,slow=6.9,SNR=49						
SONM				LR	LR	00 50 52.6	
	comp=Z,383nm,19.4s,baz=84,slow=39						
SONM	Songino Array	27.29	296	P	P	00 39 05.3	-0.1
XAN	Xi'an	28.72	266	P	P	00 39 20.5	+2.4
XAN				pP	sP	00 39 29.5	-0.1
XAN				sP	pP	00 39 33.8	+7.5
XAN				S	S	00 44 10.4	+4.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,4.5s						
XAN				LR	LR		
	comp=Z,270nm,15.3s						
XAN				LR	LR		
	comp=Z,300nm,14.6s						
XAN				LR	LR		
	comp=Z,350nm,14.6s						
BILL	Bilibino	28.89	17	d iP	P	00 39 19.1	-0.1
BILL				e*PP	sP	00 39 31.0	+0.5
BILL				e*SP	pwP	00 39 34.8	+7.6
BILL				PPP	PPP	00 40 22.0	
BILL				i		00 42 29.0	
BILL				i S	S	00 44 07.6	+0.3
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,297nm,16.0s						
BILL	Bilibino	28.89	17	P	P	00 39 18.4	-0.7
H11N2	WAKE ISLAND Hy	29.22	132	T	T	01 10 14.9	
	baz=324,slow=76,SNR=1181						
H11N1	WAKE ISLAND Hy	29.23	132	T	T	01 10 07.1	
	baz=324,slow=76,SNR=1050						
H11N3	WAKE ISLAND Hy	29.24	132	T	T	01 10 21.2	
	baz=324,slow=76,SNR=946						
ZAK	Zakamensk	29.34	301	eP	P	00 39 24.5	+1.0
ZAK				pmax	pmax		
	comp=Z,18nm,1.0s						
H11S1	WAKE ISLAND Hy	30.10	134	T	T	01 11 21.5	
	baz=325,slow=76,SNR=1652						
H11S3	WAKE ISLAND Hy	30.10	134	T	T	01 11 20.7	
	baz=325,slow=76,SNR=1199						
H11S2	WAKE ISLAND Hy	30.12	134	T	T	01 11 19.9	
	baz=325,slow=76,SNR=1328						
ENH	Enshi	30.12	259		P	00 39 29.8	-0.8
MOY	Mondy	30.81	304	eP	P	00 39 37.3	+0.8
MOY				pmax	pmax		
	comp=Z,27nm,1.5s						
TIXI	Tiksi	30.91	351	P	P	00 39 33.6	-3.5
	comp=Z,1.4nm,0.4s,baz=92,slow=23,SNR=12						
TIXI				LR	LR	00 54 06.3	
	comp=Z,536nm,18.1s,baz=179,slow=40						
TIXI	Tiksi	30.91	351	ceP	P	00 39 33.5	-3.5
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TIXI	Tiksi	30.91	351	P	P	00 39 34.7	-2.3
LZH	Lanzhou	31.68	273	eP	P	00 39 46.0	+1.6
LZH				pP	sP	00 39 55.3	-0.6
LZH				eS	S	00 44 47.2	-4.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,96nm,4.6s						
LZH				LR	LR		
	comp=Z,400nm,14.6s						
LZH				LR	LR		
	comp=Z,410nm,14.4s						
LZH				LR	LR		
	comp=Z,500nm,16.3s						
GTA	Gaotai	33.50	281	⇓P	P	00 40 00.8	+0.5
GTA				pP	pP	00 40 07.8	-0.6
GTA				sP	sP	00 40 11.7	-0.1
GTA				PcP	PcP	00 42 42.1	+1.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,93nm,5.6s						
GTA				LR	LR		
	comp=Z,220nm,17.5s						
GTA				LR	LR		
	comp=Z,580nm,16.7s						
GTA				LR	LR		
	comp=Z,730nm,18.7s						
CD2	Chengdu	34.04	265	P	P	00 40 04.5	-0.4
CD2				pP	pP	00 40 12.1	-1.0
CD2				sP	sP	00 40 14.8	-1.7
CD2				S	S	00 45 28.7	+0.1
CD2				sS	sS	00 45 41.3	-1.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,5.5s						
CD2				LR	LR		
	comp=Z,200nm,15.1s						
CD2				LR	LR		
	comp=Z,310nm,15.3s						
GYA	Guiyang	34.31	256	⇑P	P	00 40 07.4	0.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=Z,370nm,18.9s						
GYA				LR	LR		
	comp=Z,440nm,17.9s						
GYA				LR	LR		
	comp=Z,620nm,17.3s						
AKUT	Akutan	34.99	52	P	P	00 40 12.7	-0.2
TNA	Tin City	35.70	32	P	P	00 40 19.4	+0.6
TNA	Tin City	35.70	32	P	P	00 40 19.9	+1.2
	baz=252						
ANM	Nome	36.46	34	P	P	00 40 27.0	+1.7
ANM				pmax	pmax		
	comp=Z,13nm,1.0s						
ANM	Nome	36.46	34	P	P	00 40 27.0	+1.7
ANM	Nome	36.46	34	P	P	00 40 27.1	+1.7
	baz=256,SNR=5.9						
QIZ	Qiongzhong	36.92	243	P	P	00 40 29.7	0.0
QIZ	Qiongzhong	36.92	243	P	P	00 40 30.7	+1.0
QIZ				S	S	00 46 14.6	+1.6
QIZ				LR	LR		
	comp=Z,250nm,12.1s						
QIZ				LR	LR		
	comp=Z,250nm,12.8s						
QIZ				LR	LR		
	comp=Z,230nm,15.3s						
PZH	PanZhiHua	37.88	260	⇑P	P	00 40 37.0	-1.0

PZH pP **pP** **00 40 46.6 +0.6**
PZH sP **sP** **00 40 49.4 0.0**
PZH S **S** **00 46 26.0 -1.7**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.3s
PZH LR LR
comp=Z,490nm,15.6s
PZH LR LR
comp=Z,470nm,15.3s
PZH LR LR
comp=Z,510nm,16.1s
KMI Kunming 37.95 257 ⇑P **P** **00 40 39.5 +0.8**
KMI pP sP 00 40 48.9 -1.2
KMI sP pP 00 40 51.9 +5.1
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=Z,280nm,16.5s
KMI LR LR
comp=Z,230nm,19.9s
KMI LR LR
comp=Z,310nm,18.2s
RDOG Red Dog Mine 38.32 29 P **P** **00 40 41.1 0.0**
GOMU GeErMu 38.35 278 P **P** **00 40 42.9 +0.8**
GOMU PcP **PcP** **00 42 57.4 +1.9**
GOMU S **S** **00 46 31.5 -3.6**
GOMU ScS **ScS** **00 50 49.8 -1.7**
GOMU pmax pmax
comp=Z,12nm,0.8s
GOMU pmax pmax
comp=Z,44nm,4.7s
GOMU LR LR
comp=Z,140nm,19.4s
GOMU LR LR
comp=Z,170nm,19.1s
GOMU LR LR
comp=Z,220nm,19.3s
NRIK Noril'sk 39.97 333 P **P** **00 40 53.3 -1.4**
comp=Z,3.8nm,0.6s,baz=102,slow=9.5,SNR=12
NRIK PcP **PcP** **00 43 00.6 +1.2**
comp=Z,1.2nm,0.4s,baz=114,slow=4.9,SNR=4.9
NRIK LR LR 00 58 56.9
comp=Z,658nm,19.5s,baz=92,slow=38
NRIK Noril'sk 39.97 333 *ceP* **P** **00 40 53.0 -1.7**
NRIK pmax pmax
comp=Z,8.0nm,1.5s
NRIK Noril'sk 39.97 333 P **P** **00 40 53.8 -0.9**
TTA Tatalina 40.34 38 P **P** **00 40 58.9 +0.9**
TTA pmax pmax
comp=Z,16nm,0.9s
TTA Tatalina 40.34 38 P **P** **00 40 58.9 +0.9**
TTA Tatalina 40.34 38 P **P** **00 40 59.1 +1.1**
baz=267
ZAA0 Zalesovo Array 40.48 308 P **P** **00 40 59.2 -0.1**
ZALV Zalesovo Beam 40.48 308 P **P** **00 40 59.1 -0.1**
comp=Z,11nm,0.6s,baz=89,slow=7.6,SNR=52
ZALV PcP **PcP** **00 43 01.1 -0.3**
comp=Z,8.9nm,0.8s,baz=66,slow=3.3,SNR=5.9
ZALV LR LR 00 59 18.8
comp=Z,135nm,18.1s,baz=68,slow=38
ZALV Zalesovo Beam 40.48 308 *i* P **P** **00 40 59.0 -0.3**
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 40.48 308 P **P** **00 40 58.9 -0.3**
P18K Big Mountain, 40.70 43 P **P** **00 41 02.3 +1.2**
P18K IAmb IAmb 00 41 14.3
comp=Z,36nm,0.9s
P18K Big Mountain, 40.70 43 P **P** **00 41 02.2 +1.2**
baz=272
WMQ Urumqi 40.82 293 *eP* **P** **00 41 02.6 +0.4**
WMQ pP pP 00 41 07.0 -3.4
WMQ sP sP 00 41 12.2 -1.6
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ LR LR
comp=Z,510nm,15.1s
WMQ LR LR
comp=Z,680nm,21.1s
WMQ LR LR
comp=Z,390nm,24.1s
L19K White Mountain 40.85 39 P **P** **00 41 03.7 +1.5**
L19K White Mountain 40.85 39 P **P** **00 41 04.5 +2.3**
baz=269
N19K Bonanza Creek 41.03 41 P **P** **00 41 03.9 +0.1**
N19K Bonanza Creek 41.03 41 P **P** **00 41 05.9 +2.1**
baz=271
M19K Big River Lodg 41.07 39 P **P** **00 41 05.5 +1.5**
M19K Big River Lodg 41.07 39 P **P** **00 41 05.5 +1.5**
baz=270
O19K Port Alsworth 41.13 42 P **P** **00 41 05.0 +0.5**
J20K Nowinta River 41.23 36 IAmb IAmb 00 41 18.7
comp=Z,26nm,0.8s
J20K Nowinta River 41.23 36 P **P** **00 41 06.6 +1.3**
baz=267
K20K Telida 41.24 37 P **P** **00 41 06.5 +1.1**
K20K Telida 41.24 37 P **P** **00 41 06.4 +1.1**
baz=268,SNR=5.6
A21K Barrow 41.27 25 IAmb IAmb 00 41 07.7
comp=Z,26nm,0.8s
A21K Barrow 41.27 25 P **P** **00 41 05.4 -0.1**
baz=257,SNR=5.8
L20K Farewell, AK 41.31 38 P **P** **00 41 07.0 +1.0**
baz=270
ZSN Zaisan 41.72 299 *eP* **P** **00 41 09.3 -0.2**
ZSN Zaisan 41.72 299 *eP* **P** **00 41 09.4 -0.2**
baz=299
H21K Melozitna Rive 41.87 34 IAmb IAmb 00 41 23.8
comp=Z,30nm,0.9s
H21K Melozitna Rive 41.87 34 P **P** **00 41 11.8 +1.2**
baz=267,SNR=19
OHAK Old Harbor 41.88 46 P **P** **00 41 11.5 +0.9**
OHAK IAmb IAmb 00 41 21.0
comp=Z,73nm,1.4s
RSO Redoubt South 41.90 41 P **P** **00 41 12.4 +1.4**
CHUM Lake Minchumin 42.03 36 P **P** **00 41 13.6 +1.8**
baz=269
PPLA Purkeypile 42.09 38 P **P** **00 41 13.8 +1.4**
PPLA IAmb IAmb 00 41 26.4
comp=Z,27nm,0.8s
PPLA Purkeypile 42.09 38 P **P** **00 41 14.4 +2.0**
baz=271
CAST Castle Rocks 42.13 37 IAmb IAmb 00 41 26.4
comp=Z,31nm,0.8s
CAST Castle Rocks 42.13 37 P **P** **00 41 14.5 +1.8**
baz=270,SNR=8.5
KDAK Kodiak Island 42.20 45 LR LR 00 58 13.5
comp=Z,102nm,21.3s,baz=256,slow=35
I21K Tanana 42.20 34 IAmb IAmb 00 41 26.7
comp=Z,32nm,1.1s
I21K Tanana 42.20 34 P **P** **00 41 14.7 +1.5**
baz=268,SNR=11
SPU Mount Spurr 42.21 40 P **P** **00 41 15.0 +1.7**
BPAW Bear Paw Mtn. 42.62 36 P **P** **00 41 17.7 +1.1**
baz=270
KTH Kantishna Hill 42.65 37 IAmb IAmb 00 41 30.5
comp=Z,57nm,0.9s
MLY Manley 42.72 35 P **P** **00 41 19.2 +1.7**
baz=270,SNR=13
BRLK Bradley Lake 42.88 42 P **P** **00 41 20.4 +1.6**
BRLK IAmb IAmb 00 41 31.0
comp=Z,32nm,1.1s
TRF Thorofare Moun 42.94 37 P **P** **00 41 20.0 +0.6**
baz=272
COLD Coldfoot 42.99 31 P **P** **00 41 20.9 +1.3**
COLD Coldfoot 42.99 31 P **P** **00 41 20.6 +1.0**
baz=268,SNR=9.9
CUT Chulitna 42.99 38 P **P** **00 41 21.1 +1.5**
CUT IAmb IAmb 00 41 32.6
comp=Z,31nm,0.8s
MYLDM Lahad Datu 43.03 219 P **P** **00 41 21.7 +1.2**
H23K Yukon River 43.23 33 P **P** **00 41 23.2 +1.7**
H23K IAmb IAmb 00 41 35.3
comp=Z,47nm,0.9s
H23K Yukon River 43.23 33 P **P** **00 41 23.4 +1.9**
baz=270
TOLK Toolik Lake Re 43.29 29 P **P** **00 41 22.6 +0.5**
baz=267,SNR=6.0
I23K Minto, Yukon-K 43.31 34 IAmb IAmb 00 41 37.0
comp=Z,53nm,1.4s
I23K Minto, Yukon-K 43.31 34 P **P** **00 41 23.4 +1.3**
baz=271,SNR=7.8
RC01 Rabbit Creek A 43.33 40 P **P** **00 41 23.9 +1.5**
RC01 IAmb IAmb 00 41 35.4
comp=Z,34nm,0.8s

NEA2 Nenana 43.44 35 IAmb IAmb 00 41 36.4
comp=Z,29nm,0.7s
NEA2 Nenana 43.44 35 P **P** **00 41 24.6 +1.4**
baz=272,SNR=7.4
MCK McKinley 43.53 36 P **P** **00 41 25.1 +1.1**
MCK pmax pmax
comp=Z,35nm,1.0s
MCK McKinley 43.53 36 P **P** **00 41 25.1 +1.1**
MCK IAmb IAmb 00 41 37.3
comp=Z,35nm,1.0s
MCK McKinley 43.53 36 P **P** **00 41 25.1 +1.1**
baz=273,SNR=8.2
PMR Palmer 43.58 40 P **P** **00 41 24.3 -0.1**
PMR pmax pmax
comp=Z,13nm,0.8s
PMR Palmer 43.58 40 P **P** **00 41 24.3 -0.1**
PMR Palmer 43.58 40 P **P** **00 41 25.3 +0.9**
baz=275
RND Reindeer 43.59 37 IAmb IAmb 00 41 37.0
comp=Z,30nm,0.8s
MK31 Makanchi Array 43.59 298 *i* P **P** **00 41 24.2 -0.5**
MK31 Makanchi Array 43.59 298 P **P** **00 41 24.6 -0.1**
MKAR Makanchi Array 43.59 298 P **P** **00 41 24.8 0.0**
comp=Z,8.5nm,0.8s,baz=80,slow=9.4,SNR=104
MKAR PcP **PcP** **00 43 12.0 +0.2**
comp=Z,3.8nm,0.7s,baz=62,slow=1.9,SNR=3.3
MKAR ScP **ScP** **00 47 02.9 +1.7**
comp=Z,0.5nm,0.8s,baz=64,slow=6.6,SNR=2.9
MKAR LR LR 01 01 44.7
comp=Z,76nm,19.4s,baz=98,slow=39
GHO Glory Hole Cre 43.67 39 P **P** **00 41 25.3 +0.1**
GHO IAmb IAmb 00 41 37.9
comp=Z,36nm,0.8s
MDM Murphy Dome 43.79 35 IAmb IAmb 00 41 39.4
comp=Z,27nm,0.8s
MAKZ Makanchi 43.79 299 P **P** **00 41 26.5 +0.2**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 43.79 299 P **P** **00 41 26.5 +0.2**
H24K Noodor Dome 43.91 33 IAmb IAmb 00 41 41.4
comp=Z,48nm,1.1s
H24K Noodor Dome 43.91 33 P **P** **00 41 28.9 +1.8**
baz=271,SNR=22
KNK Knik Glacier 43.92 40 P **P** **00 41 27.7 +0.6**
KNK IAmb IAmb 00 41 39.4
comp=Z,40nm,1.3s
KNK Knik Glacier 43.92 40 P **P** **00 41 27.9 +0.7**
baz=275
SEM Semipalatinsk 43.92 304 *eP* **P** **00 41 26.4 -1.2**
SEM Semipalatinsk 43.92 304 *eP* **P** **00 41 26.4 -1.2**
baz=304
SML Sawmill 43.94 39 P **P** **00 41 28.4 +1.1**
baz=275,SNR=5.1
TCOL CIGO, UAF Yank 43.95 35 P **P** **00 41 28.1 +0.8**
TCOL IAmb IAmb 00 41 40.6
comp=Z,37nm,1.0s
TCOL CIGO, UAF Yank 43.95 35 P **P** **00 41 28.9 +1.6**
baz=272
COLA College 43.95 35 *i* P **P** **00 41 28.4 +1.1**
COLA pmax pmax
comp=Z,36nm,1.0s
COLA College 43.95 35 P **P** **00 41 29.5 +2.2**
COLA IAmb IAmb 00 41 40.6
comp=Z,34nm,0.9s
PWL Port Wells 44.04 41 P **P** **00 41 28.1 0.0**
PWL IAmb IAmb 00 41 42.2
comp=Z,28nm,1.0s
PWL Port Wells 44.04 41 P **P** **00 41 28.5 +0.4**
baz=276
LSA Lhasa 44.07 272 P **P** **00 41 29.8 +0.5**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 44.07 272 P **P** **00 41 29.8 +0.5**
POKR Poker Plat Res 44.12 34 P **P** **00 41 30.4 +1.7**
baz=272,SNR=9.4
WAT6 Susitna Watana 44.15 38 P **P** **00 41 29.3 +0.1**
baz=275
JAY Jayapura 44.19 185 P **P** **00 41 27.6 -2.1**
comp=Z,9.9nm,0.9s
DHY Denali Highway 44.28 37 IAmb IAmb 00 41 42.7
comp=Z,26nm,0.9s
DHY Denali Highway 44.28 37 P **P** **00 41 31.0 +0.8**
baz=275,SNR=5.2
HDA Harding Lake 44.37 35 IAmb IAmb 00 41 43.5
comp=Z,25nm,0.8s
HDA Harding Lake 44.37 35 P **P** **00 41 31.5 +0.9**
baz=274
IL31 44.37 35 IAmb IAmb 00 41 43.3
comp=Z,26nm,0.9s
ILAR Eielson Array 44.37 35 P **P** **00 41 31.1 +0.3**
comp=Z,7.2nm,0.7s,baz=260,slow=6.1,SNR=57
SCM Sheep Creek Mo 44.41 39 P **P** **00 41 32.3 +1.1**
SCM pmax pmax
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 44.41 39 P **P** **00 41 32.3 +1.1**
SCM IAmb IAmb 00 41 44.1
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 44.41 39 P **P** **00 41 31.9 +0.7**
baz=276
CHTO Chiang Mai 44.63 253 P **P** **00 41 33.8 +0.5**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 44.63 253 P **P** **00 41 33.8 +0.5**
GLI Glacier Island 44.64 40 P **P** **00 41 32.6 -0.3**
KURK Kurchatov 44.85 305 *ceP* **P** **00 41 34.3 -0.4**
KURK pmax pmax
comp=Z,9.0nm,0.5s
KURK Kurchatov 44.85 305 P **P** **00 41 34.5 -0.2**
KURK IAmb IAmb 00 41 39.1
comp=Z,17nm,0.5s
CMAR Chiang Mai Arr 44.86 253 P **P** **00 41 35.3 +0.1**
comp=Z,2.4nm,0.4s,baz=44,slow=6.7,SNR=19
CMAR LR LR 01 01 27.6
comp=Z,163nm,19.4s,baz=55,slow=38
CMAR Chiang Mai Arr 44.86 253 *i* P **P** **00 41 36.4 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
PRP Porcupine Dome 44.90 34 P **P** **00 41 36.6 +1.5**
baz=274
M24K Tolsona, Glenn 44.93 39 P **P** **00 41 36.7 +1.4**
M24K Tolsona, Glenn 44.93 39 P **P** **00 41 36.9 +1.6**
baz=277
KURBB Kurchatov Arra 44.93 305 LR LR 01 02 46.1
comp=Z,122nm,20.2s,baz=64,slow=39
KURBB Kurchatov Arra 44.93 305 P **P** **00 41 35.0 -0.3**
FYU Fort Yukon 44.95 32 P **P** **00 41 36.7 +1.4**
KLU Klutina 45.12 39 IAmb IAmb 00 41 50.5
comp=Z,44nm,1.1s
KLU Klutina 45.12 39 P **P** **00 41 38.0 +1.2**
baz=277
PAX Paxson 45.15 37 P **P** **00 41 38.6 +1.6**
PAX pmax pmax
comp=Z,24nm,1.4s
PAX Paxson 45.15 37 P **P** **00 41 38.6 +1.6**
PAX IAmb IAmb 00 41 51.1
comp=Z,24nm,1.4s
PAX Paxson 45.15 37 P **P** **00 41 39.3 +2.3**
baz=276
DIV Divide 45.24 40 P **P** **00 41 38.5 +0.7**
DIV IAmb IAmb 00 41 51.0
comp=Z,31nm,0.8s
RIDG Independent Ri 45.35 36 P **P** **00 41 40.3 +1.8**
RIDG Independent Ri 45.35 36 P **P** **00 41 38.1 -0.5**
baz=276
HARP HAARP 45.36 38 P **P** **00 41 40.4 +1.7**
baz=277
TOLI2 Tolitoli 45.64 214 P **P** **00 41 40.1 -1.2**
SCRK Sand Creek 45.70 36 IAmb IAmb 00 41 53.8
comp=Z,27nm,0.8s
SCRK Sand Creek 45.70 36 P **P** **00 41 41.9 +0.5**
baz=277,SNR=9.6
N25K Chitina, Valde 45.73 39 P **P** **00 41 42.7 +1.0**
baz=278
SHL Shillong 45.73 266 P **P** **00 41 42.3 +0.1**
SHL pmax pmax
comp=Z,11nm,0.9s
SHL Shillong 45.73 266 P **P** **00 41 42.3 +0.1**
J26L Joseph Creek 45.82 35 P **P** **00 41 42.6 +0.2**
baz=276
BMRM Bremner River 45.83 40 P **P** **00 41 44.1 +1.7**
BMRM IAmb IAmb 00 41 56.2
comp=Z,31nm,1.0s
BMRM Bremner River 45.83 40 P **P** **00 41 43.3 +0.9**
baz=279
MENT Mentasta 45.95 37 P **P** **00 41 44.7 +1.4**
MENT IAmb IAmb 00 42 01.5
comp=Z,34nm,1.2s
L26K Log Cabin Wild 46.10 37 P **P** **00 41 46.1 +1.6**
baz=278,SNR=12
VRDI Verde Repeater 46.34 40 **P** **00 41 48.0 +1.4**
VRDI IAmb IAmb 00 42 00.0
comp=Z,21nm,0.8s
MCARA McCarthy VSAT 46.51 39 P **P** **00 41 48.8 +1.1**
baz=280
PDGK Podgornoye 46.60 295 P **P** **00 41 47.9 -0.9**
SHLS Shalkode 46.68 295 *eP* **P** **00 41 46.5 -2.9**
SHLS Shalkode 46.68 295 *eP* **P** **00 41 46.5 -2.9**
baz=294
MPSI Mapaga 46.70 214 P **P** **00 41 49.1 -0.6**
comp=Z,5.0nm,0.9s
TGL Tana Glacier 46.72 40 P **P** **00 41 50.4 +0.9**
TGL IAmb IAmb 00 42 03.6
comp=Z,28nm,1.0s
WAX Waxell Ridge 46.77 41 P **P** **00 41 51.2 +1.4**
L27K Beaver Creek, 46.78 37 P **P** **00 41 51.6 +1.7**
L27K Beaver Creek, 46.78 37 P **P** **00 41 51.6 +1.7**
baz=279
EGAK Eagle 46.81 35 IAmb IAmb 00 42 02.6
comp=Z,22nm,1.0s
EGAK Eagle 46.81 35 P **P** **00 41 50.7 +0.7**
baz=278
SNH Sunshine Point 46.83 41 P **P** **00 41 52.4 +2.1**
M27K Edge Creek, AK 46.88 38 P **P** **00 41 52.3 +1.6**
baz=280
ISLE Juniper Island 46.99 40 P **P** **00 41 53.1 +1.5**
ISLE IAmb IAmb 00 42 04.9
comp=Z,21nm,0.7s
UZB Uzynbulak 46.99 295 *eP* **P** **00 41 51.3 -0.5**
UZB Uzynbulak 46.99 295 *eP* **P** **00 41 51.4 -0.5**
baz=295
KPKS Kokpek 47.10 295 *eP* **P** **00 41 52.2 -0.4**
KPKS pmax pmax
comp=Z,7.0nm,1.0s
KPKS Kokpek 47.10 295 *eP* **P** **00 41 52.3 -0.4**
comp=Z,7.1nm,1.0s,baz=295
BARN Barnard Glacie 47.22 40 IAmb IAmb 00 42 07.5
comp=Z,40nm,1.3s
GRNC Granite Creek 47.24 40 P **P** **00 41 54.6 +0.9**
YAH Yahtse 47.32 41 P **P** **00 41 55.4 +1.0**
YAH IAmb IAmb 00 42 07.9
comp=Z,30nm,1.0s
BVCY Beaver Creek 47.34 38 P **P** **00 41 55.5 +1.3**
baz=281,SNR=5.4
ZHN Zhinishke 47.38 295 *eP* **P** **00 41 54.5 -0.3**
ZHN Zhinishke 47.38 295 *eP* **P** **00 41 54.5 -0.3**
baz=295
CTG Chitna Glacier 47.40 40 P **P** **00 41 56.3 +1.5**
baz=282
CTGM Chitina Glacie 47.40 40 P **P** **00 41 55.8 +1.0**
ARXS Arharly 47.40 297 *eP* **P** **00 41 54.8 -0.2**
SATY Saty 47.44 295 *eP* **P** **00 41 55.0 -0.3**
SATY Saty 47.44 295 *eP* **P** **00 41 55.0 -0.3**
baz=295
YUK3 Moose Creek 47.65 38 P **P** **00 41 57.9 +1.1**
baz=282
DAWY Dawson 47.69 35 P **P** **00 41 58.0 +1.1**
DAWY Dawson 47.69 35 P **P** **00 41 57.7 +0.8**
baz=280
TAPN Taplejung 47.87 271 *eP* **P** **00 42 00.1 +1.0**
comp=Z,41nm,0.8s
I29M Ogilvie Camp, 47.91 33 P **P** **00 41 59.9 +1.3**
baz=280,SNR=15
CHKK Chushkaly 48.09 296 *eP* **P** **00 41 59.8 -0.5**
baz=296
MDOK Medeo 48.32 295 *eP* **P** **00 42 02.0 -0.2**
MDOK Medeo 48.32 295 *eP* **P** **00 42 02.0 -0.2**
baz=296
TARG Taragay, Kyrgy 48.36 293 P **P** **00 42 03.4 +0.5**
ODAN Odare 48.38 271 *eP* **P** **00 42 03.6 +0.7**
AAA Alma-Ata 48.39 296 *eP* **P** **00 42 02.9 +0.3**
AAA pmax pmax
comp=Z,11nm,0.5s
AAA Alma-Ata 48.39 296 *eP* **P** **00 42 03.0 +0.3**
comp=Z,12nm,0.5s,baz=296
TNSS Tian-Shan 48.44 295 *eP* **P** **00 42 03.3 -0.1**
baz=295
KUU Kurty 48.52 297 *eP* **P** **00 42 02.7 -0.8**
KUU pmax pmax
comp=Z,16nm,0.9s
KUU Kurty 48.52 297 *eP* **P** **00 42 02.7 -0.8**
comp=Z,16nm,0.9s,baz=297
YUK4 Talbot Arm 48.59 39 P **P** **00 42 05.2 +1.2**
baz=283
BRZS Berezniki 48.70 305 *eP* **P** **00 42 04.3 -0.6**
BRZS pmax pmax
comp=Z,6.0nm,0.7s
BRZS Berezniki 48.70 305 *eP* **P** **00 42 04.3 -0.6**
comp=Z,5.7nm,0.7s,baz=305
JIRN Jiri 48.84 273 *eP* **P** **00 42 07.4 +0.7**
RAMN Ramite 48.92 271 *eP* **P** **00 42 07.6 +0.5**
comp=Z,34nm,0.7s
GUN Gumba 48.94 273 *eP* **P** **00 42 08.0 +0.6**
comp=Z,143nm,0.7s
BRVK Borovoye 49.13 310 P **P** **00 42 08.6 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 49.13 310 P **P** **00 42 08.6 +0.5**
M30M Minto, Yukon 49.15 37 IAmb IAmb 00 42 22.8
comp=Z,22nm,0.9s
M30M Minto, Yukon 49.15 37 P **P** **00 42 10.1 +1.9**
baz=284,SNR=5.8
INK Inuvik 49.21 29 LR LR 01 05 10.7
comp=Z,139nm,18.1s,baz=256,slow=39
INK Inuvik 49.21 29 P **P** **00 42 09.7 +1.3**
baz=282,SNR=54
HYT Haines Junctio 49.25 39 P **P** **00 42 10.4 +1.3**
HYT Haines Junctio 49.25 39 P **P** **00 42 11.5 +2.4**
baz=285,SNR=18
KKN Kakani 49.45 273 *eP* **P** **00 42 11.9 +0.7**
comp=Z,69nm,0.8s
PKI Pulchoki 49.48 273 *eP* **P** **00 42 11.6 +0.1**
comp=Z,37nm,0.9s
PKIN Phulchoki 49.48 273 *eP* **P** **00 42 11.5 +0.1**
BTLS Baital 49.59 299 *eP* **P** **00 42 10.9 -0.9**
BTLS Baital 49.59 299 *eP* **P** **00 42 10.1 -1.7**
baz=299
DMN Daman 49.68 273 *eP* **P** **00 42 13.4 +0.5**
comp=Z,64nm,0.9s
GKN Gorkha 49.82 274 *eP* **P** **00 42 14.1 +0.2**
SGDS Sogindy 49.83 297 *eP* **P** **00 42 12.7 -1.0**
baz=297
N31M Braeburn, Yuko 49.89 38 P **P** **00 42 15.5 +1.8**
N31M Braeburn, Yuko 49.89 38 P **P** **00 42 15.9 +2.2**
baz=285
USP Ospenovka 49.99 297 P **P** **00 42 15.0 +0.1**
USP pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 50.25 296 LR LR 01 06 06.2
comp=Z,415nm,18.2s,baz=78,slow=39
AAK Ala-Archa 50.25 296 *ceP* **P** **00 42 17.2 +0.2**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 50.25 296 P **P** **00 42 17.2 +0.2**
AAK Ala-Archa 50.25 296 P **P** **00 42 16.9 0.0**
DANN Dangsing 50.29 275 *eP* **P** **00 42 18.4 +0.8**
comp=Z,186nm,0.8s
M31M Drury Creek, Y 50.33 37 IAmb IAmb 00 42 31.0
comp=Z,20nm,0.9s
M31M Drury Creek, Y 50.33 37 P **P** **00 42 18.8 +1.7**
baz=286
KSM Kuching 50.37 226 P **P** **00 42 17.9 0.0**
KSM IAmb IAmb 00 42 32.6
comp=Z,20nm,1.2s
WHY Whitehorse 50.54 39 P **P** **00 42 20.3 +1.5**
baz=287
KSH Kashi 50.55 292 P **P** **00 42 23.8 +4.5**
KSH pP sP 00 42 31.5 +0.5
KSH S **S** **00 49 38.5 +6.8**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH LR LR
comp=Z,200nm,14.0s
KSH LR LR
comp=Z,230nm,14.0s
KSH LR LR
comp=Z,390nm,16.6s
KOLN Koldanda 50.72 274 *eP* **P** **00 42 21.4 +0.7**
comp=Z,47nm,0.7s
FARO Faro, Yukon 50.79 37 P **P** **00 42 22.2 +1.6**
baz=287,SNR=5.5
PYUN Piuthan 51.00 275 *eP* **P** **00 42 23.3 +0.5**
AML Almayashu 51.00 296 P **P** **00 42 23.7 +0.8**

AML pmax pmax
comp=Z,12nm,1.0s
AML Almayashu 51.00 296 *i* P **P 00 42 22.9 0.0**
SNR=12
A36M Sachs Harbour 51.07 24 IAmb IAmb 00 42 24.6
comp=Z,20nm,1.1s
A36M Sachs Harbour 51.07 24 P **P 00 42 23.5 +1.0**
baz=286,SNR=17
BESE Bessie Mountai 51.19 42 P **P 00 42 25.0 +1.4**
BESE IAmb IAmb 00 42 27.4
comp=Z,20nm,1.0s
SRIT Nakonsritamara 51.28 243 P **P 00 42 25.6 +0.7**
SRIT IAmb IAmb 00 42 46.9
comp=Z,23nm,1.2s
KBKI Kotabaru 51.58 217 P **P 00 42 25.0 -2.0**
comp=Z,17nm,0.6s
MMPY Sheldon Lake, 51.59 36 P **P 00 42 28.5 +1.8**
baz=288
KAPI Kappang 51.62 212 P **P 00 42 26.8 -0.4**
KAPI pmax pmax
comp=Z,30nm,1.4s
KAPI Kappang 51.62 212 P **P 00 42 26.8 -0.4**
KAPI IAmb IAmb 00 42 40.5
comp=Z,30nm,1.4s
P33M Teslin, Yukon 51.65 39 IAmb IAmb 00 42 41.7
comp=Z,18nm,0.9s
P33M Teslin, Yukon 51.65 39 P **P 00 42 28.8 +1.7**
baz=289
C36M Paulatuk 52.24 27 P **P 00 42 32.1 +0.8**
C36M IAmb IAmb 00 42 33.0
comp=Z,32nm,0.8s
C36M Paulatuk 52.24 27 P **P 00 42 32.2 +0.9**
baz=289,SNR=24
DZA Taraz 52.26 297 *eP* **P 00 42 31.7 -0.1**
DZA pmax pmax
comp=Z,8.0nm,0.6s
DZA Taraz 52.26 297 *eP* **P 00 42 31.7 -0.1**
comp=Z,8.4nm,0.6s,baz=297
SVE Sverdlovsk 53.09 317 *ceP* **P 00 42 38.3 +0.5**
SVE pmax pmax
comp=Z,36nm,0.9s
BRLS Borolday 53.19 298 *eP* **P 00 42 39.5 +0.8**
BRLS Borolday 53.19 298 *eP* **P 00 42 39.5 +0.8**
baz=298
TGTN Hyland Airport 53.29 37 P **P 00 42 40.8 +1.6**
baz=291
DLBC Dease Lake 53.61 41 LR LR 01 09 20.2
comp=Z,94nm,18.1s,baz=227,slow=40
PBA Port Blair 53.84 252 P **P 00 42 41.9 -1.9**
ARU Arti 54.30 317 LR LR 01 08 25.2
comp=Z,123nm,20.2s,baz=80,slow=39
ARU Arti 54.30 317 *d iP* **P 00 42 46.6 0.0**
ARU 00 43 49.4
ARU S **S 00 50 24.6 +2.3**
ARU SS **SS 00 54 04.6 +0.7**
ARU pmax pmax
comp=Z,28nm,0.9s
ARU Arti 54.30 317 P **P 00 42 46.6 0.0**
ARU IAmb IAmb 00 42 47.7
comp=Z,29nm,1.0s
GAR Garm 54.70 293 IAmb IAmb 00 43 07.9
comp=Z,17nm,1.1s
EUNU Eureka 55.19 9 IAmb IAmb 00 43 06.1
comp=Z,14nm,0.9s
NIL Nilore 55.26 286 P **P 00 42 54.6 +0.6**
NIL pmax pmax
comp=Z,26nm,1.2s
NIL Nilore 55.26 286 P **P 00 42 54.6 +0.6**
NIL IAmb IAmb 00 42 55.6
comp=Z,26nm,1.2s
CHGR Chuyanganon 55.66 294 IAmb IAmb 00 42 57.1
comp=Z,22nm,0.7s
SPITS Spitsbergen Ar 56.31 349 LR LR 01 08 02.5
comp=Z,154nm,21.1s,baz=270,slow=37
AB31 Akbulak array 56.60 309 *i* P **P 00 43 03.3 +0.1**
ABKAR Akbulak array 56.60 309 IAmb IAmb 00 43 04.5
comp=Z,18nm,0.7s
AKTO Aktyubinsk 57.17 311 LR LR 01 09 34.6
comp=Z,90nm,18.6s,baz=62,slow=38
BBB Bella Bella 57.22 47 LR LR 01 09 00.1
comp=Z,55nm,18.9s,baz=270,slow=37
RES Resolute Bay 57.48 16 LR LR 01 11 21.0
comp=Z,125nm,18.4s,baz=322,slow=40
RES Resolute Bay 57.48 16 P **P 00 43 09.4 +0.3**
RES pmax pmax
comp=Z,40nm,0.8s
KBL Kabul 57.80 289 P **P 00 43 11.6 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 57.80 289 P **P 00 43 11.6 -0.6**
KIRV Kirov 57.81 322 LR LR 01 12 48.5
comp=Z,140nm,18.5s,baz=48,slow=41
KIRV Kirov 57.81 322 *ceP* **P 00 43 11.3 -0.3**
PRGR Permogore 58.00 326 *eP* **P 00 43 12.3 -0.6**
PRGR pmax pmax
comp=Z,91nm,1.3s
YKA Yellowknife Ar 58.66 32 P **P 00 43 17.9 +0.4**
comp=Z,3.7nm,0.9s,baz=302,slow=6.7,SNR=26
YKA PcP **PcP 00 44 07.4 +0.1**
comp=Z,3.1nm,0.7s,baz=301,slow=4.2,SNR=6.7
YKA Yellowknife Ar 58.66 32 *i* P **P 00 43 17.8 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.9s
APA Apatity 59.27 335 ⇓ *i* P P 00 43 39.0 +17
APA pmax pmax
comp=Z,7.0nm,0.9s
TULEG Thule 60.12 8 *i* P **P 00 43 26.1 -1.3**
TULEG IAmb IAmb 00 43 27.3
comp=Z,16nm,0.7s
TULEG Thule 60.12 8 P **P 00 43 26.9 -0.5**
ARCES ARCESS Array B 60.34 339 P **P 00 43 29.6 +0.6**
comp=Z,4.2nm,0.9s,baz=31,slow=7.3,SNR=7.8
ARCES LR LR 01 13 47.6
comp=Z,230nm,19.1s,baz=52,slow=40
NEEM North Greenlan 60.69 4 *i* P **P 00 43 30.9 -0.8**
NEEM IAmb IAmb 00 43 33.0
comp=Z,19nm,0.7s
KLMR Klimovskoe 60.93 327 *eP* **P 00 43 30.0 -3.1**
KLMR pmax pmax
comp=Z,19nm,0.9s
KLMR Klimovskoe 60.93 327 *eP* **P 00 43 30.1 -3.1**
KLMR AMP 00 43 33.5
comp=Z,19nm,0.9s
DAG Danmarks Havn 61.24 356 P **P 00 43 36.0 +1.0**
DAG pmax pmax
comp=Z,11nm,1.2s
DAG Danmarks Havn 61.24 356 *i* P **P 00 43 34.0 -1.0**
DAG IAmb IAmb 00 43 38.4
comp=Z,4.8nm,0.8s
LLLB Lillooet 61.40 46 IAmb IAmb 00 43 51.7
comp=Z,9.5nm,0.9s
WB0 Warramunga Arr 61.89 190 P **P 00 43 39.0 -1.1**
WB0 IAmb IAmb 00 43 39.8
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 61.98 200 LR LR 01 10 42.3
comp=Z,40nm,18.9s,baz=229,slow=36
WR0 Warramunga Arr 62.06 190 P **P 00 43 40.4 -0.8**
WR0 IAmb IAmb 00 43 40.9
comp=Z,12nm,1.0s
WRAB Tennant Creek 62.06 190 *d iP* **P 00 43 39.2 -2.0**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 62.06 190 P **P 00 43 40.4 -0.7**
WRAB IAmb IAmb 00 43 40.9
comp=Z,10.0nm,0.9s
WB2 Warramunga Arr 62.07 190 P **P 00 43 40.5 -0.8**
WB2 IAmb IAmb 00 43 41.0
comp=Z,13nm,0.9s
WRA Warramunga Arr 62.07 190 P **P 00 43 40.1 -1.2**
comp=Z,6.6nm,0.6s,baz=8.0,slow=6.7,SNR=104
HRA Herat 62.63 293 P **P 00 43 45.6 +0.4**
E04D Cinebar 63.19 51 P **P 00 43 50.1 +1.6**
baz=303
GEYT Alibeck 63.46 298 P **P 00 43 50.9 +0.3**
comp=Z,6.0nm,0.7s,baz=257,slow=11,SNR=12
GEYT LR LR 01 13 40.0
comp=Z,255nm,18.9s,baz=92,slow=38
GEYT Alibeck 63.46 298 P **P 00 43 50.8 +0.3**
GEYT IAmb IAmb 00 43 51.8
comp=Z,16nm,1.2s
GYA0B ALIBECK ARRAY 63.46 298 P **P 00 43 50.6 +0.1**
GYA0B IAmb IAmb 00 43 51.7
comp=Z,19nm,1.2s
DBG Daneborg 63.74 355 *i* P **P 00 43 51.7 -0.1**
DBG IAmb IAmb 00 44 05.7
comp=Z,2.4nm,0.7s

B08A Colville Reser 64.02 47 P **P 00 43 54.5 +0.5**
B08A IAmb IAmb 00 44 07.8
comp=Z,24nm,1.4s
EDM Edmonton 64.33 41 IAmb IAmb 00 43 57.6
comp=Z,18nm,1.0s
HOOD Mount Hood Mea 64.41 51 P **P 00 43 58.0 +1.2**
H04A Detroit Lake 64.45 52 P **P 00 43 58.3 +1.3**
H04A IAmb IAmb 00 44 10.4
comp=Z,17nm,0.9s
K02D Willamette Mer 64.68 55 P **P 00 43 59.4 +0.8**
baz=304
MOS Moscow 64.74 323 *eP* **P 00 43 58.1 -0.5**
MOS *e* 00 44 30.8
MOS pmax pmax
comp=Z,36nm,1.4s
E07A Sunnyside 64.74 49 P **P 00 43 60.0 +1.1**
E07A IAmb IAmb 00 44 01.3
comp=Z,14nm,1.0s
I04A Tendick Farm, 64.82 53 P **P 00 44 00.8 +1.4**
baz=304
UPNV Upernavik 64.88 7 *i* P **P 00 43 57.9 -1.3**
UPNV IAmb IAmb 00 44 13.9
comp=Z,10nm,0.8s
C09A Chrisman Ranch 64.92 48 IAmb IAmb 00 44 13.1
comp=Z,14nm,0.8s
D08A Wollman Farm, 64.99 49 P **P 00 44 01.3 +0.9**
D08A IAmb IAmb 00 44 13.4
comp=Z,9.1nm,0.7s
HAWA Hanford 65.02 49 P **P 00 44 01.6 +1.0**
F07A Phinny Hill Vi 65.08 50 P **P 00 44 02.0 +1.0**
F07A IAmb IAmb 00 44 03.0
comp=Z,19nm,1.0s
E08A Dider Farm, El 65.23 49 P **P 00 44 02.9 +0.9**
E08A IAmb IAmb 00 44 15.3
comp=Z,11nm,0.7s
NEW Newport 65.28 47 LR LR 01 10 05.4
comp=Z,45nm,22.0s,baz=274,slow=34
NEW Newport 65.28 47 P **P 00 44 03.2 +0.9**
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 65.28 47 P **P 00 44 03.2 +0.9**
NEW IAmb IAmb 00 44 04.3
comp=Z,17nm,1.1s
NEW Newport 65.28 47 P **P 00 44 03.2 +0.9**
baz=306,SNR=9.8
J04D Umpqua Nationa 65.31 53 P **P 00 44 03.3 +0.5**
J04D Umpqua Nationa 65.31 53 P **P 00 44 04.7 +1.9**
baz=305
VRH Novokhopyorsk 65.53 318 *eP* **P 00 44 02.1 -1.7**
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 65.60 323 *d iP* **P 00 44 04.0 -0.1**
OBN *PP **sP 00 44 15.0 -0.9**
OBN *i *SP pP 00 44 20.2 +7.5
OBN *i* 00 44 34.2
OBN *eS **S 00 52 46.2 -1.2**
OBN *i *SS **sS 00 53 06.4 +4.7**
OBN SS **SS 00 56 57.0 -3.7**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,182nm,15.0s
FINES FINESS Array B 65.63 332 P **P 00 44 04.2 0.0**
comp=Z,21nm,0.5s,baz=53,slow=7.1,SNR=130
FINES LR LR 01 15 38.5
comp=Z,386nm,19.5s,baz=46,slow=39
FINES FINESS Array B 65.63 332 *i* P **P 00 44 04.1 -0.2**
FINES pmax pmax
comp=Z,21nm,0.5s
PINE Pine Mountain 65.70 52 P **P 00 44 06.8 +1.5**
E09A Wood Farm, Sta 65.73 49 P **P 00 44 06.5 +1.3**
L04D Klamath Falls 65.78 54 P **P 00 44 06.9 +1.1**
L04D Klamath Falls 65.78 54 P **P 00 44 07.2 +1.4**
baz=305,SNR=5.6
ASAR Alice Springs 65.79 190 P **P 00 44 05.2 -0.6**
comp=Z,4.0nm,0.7s,baz=1.5,slow=4.8,SNR=45
ASAR Alice Springs 65.79 190 P **P 00 44 04.4 -1.3**
J05D Fort Rock, OR 65.81 53 P **P 00 44 07.7 +1.7**
baz=305,SNR=7.7
M02C Callahan 65.92 55 P **P 00 44 08.4 +1.8**
M02C IAmb IAmb 00 44 26.9
comp=Z,20nm,1.2s
M02C Callahan 65.92 55 P **P 00 44 08.7 +2.1**
baz=305
SUMG Summit 65.94 1 P **P 00 44 06.8 +0.2**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 65.94 1 *i* P **P 00 44 05.9 -0.7**
SUMG IAmb IAmb 00 44 10.9
comp=Z,18nm,0.6s
SUMG Summit 65.94 1 P **P 00 44 06.8 +0.2**
LPSR Galich'ya Gora 66.06 320 *eP* **P 00 44 06.2 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.5s
N02D Trinity Center 66.25 56 P **P 00 44 09.3 +0.6**
N02D IAmb IAmb 00 44 11.1
comp=Z,14nm,0.9s
N02D Trinity Center 66.25 56 P **P 00 44 10.4 +1.7**
baz=305
M04C Macdoel 66.32 55 P **P 00 44 10.3 +1.1**
M04C Macdoel 66.32 55 P **P 00 44 10.7 +1.5**
baz=305,SNR=5.8
K05A Summer Lake 66.34 53 P **P 00 44 10.4 +0.9**
KCPM Cahto Peak 66.45 57 P **P 00 44 10.7 +0.6**
VORR Voronezh 66.50 319 *eP* **P 00 44 10.5 +0.5**
VORR pmax pmax
comp=Z,50nm,0.4s
WALA Waterton Lakes 66.53 45 P **P 00 44 11.2 +0.8**
WALA IAmb IAmb 00 44 23.7
comp=Z,13nm,0.9s
F10A Beach Ranch, E 66.57 49 P **P 00 44 11.6 +0.9**
F10A IAmb IAmb 00 44 28.5
comp=Z,13nm,1.4s
WDC Whiskeytown Da 66.58 56 IAmb IAmb 00 44 13.1
comp=Z,14nm,1.0s
O02D Mt. Diablo Mer 66.66 56 P **P 00 44 12.5 +1.1**
O02D IAmb IAmb 00 44 13.9
comp=Z,14nm,0.9s
O02D Mt. Diablo Mer 66.66 56 P **P 00 44 13.0 +1.6**
baz=306
DZM Mont Dzumac 66.78 158 LR LR 01 09 41.2
comp=Z,45nm,20.4s,baz=167,slow=33
VORD Divnogorie 66.89 318 *eP* **P 00 44 12.3 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
JTMT Jette 67.12 46 P **P 00 44 15.1 +0.9**
JTMT IAmb IAmb 00 44 27.8
comp=Z,14nm,0.9s
MOD Modoc Plateau 67.18 54 P **P 00 44 15.4 +0.7**
MOD IAmb IAmb 00 44 16.9
comp=Z,13nm,1.1s
BMO Blue Mountains 67.19 50 P **P 00 44 15.8 +1.1**
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO Blue Mountains 67.19 50 P **P 00 44 15.8 +1.1**
O03E Paynes Creek 67.21 56 P **P 00 44 15.3 +0.5**
O03E IAmb IAmb 00 44 16.6
comp=Z,24nm,1.1s
O03E Paynes Creek 67.21 56 P **P 00 44 15.6 +0.8**
baz=306,SNR=8.0
J08A Circle Bar Ran 67.40 52 P **P 00 44 17.4 +1.4**
VSU Vasula 67.46 330 *i* P **P 00 44 14.9 -1.1**
VSU Vasula 67.46 330 *eP* **P 00 44 16.0 0.0**
SCO Scoresbysund 67.61 355 *i* P **P 00 44 15.0 -1.7**
SCO IAmb IAmb 00 44 17.6
comp=Z,3.2nm,0.7s
PLID Pearl Lake 67.79 49 IAmb IAmb 00 44 20.4
comp=Z,18nm,1.2s
ORV Oroville 67.83 56 IAmb IAmb 00 44 20.1
comp=Z,8.6nm,0.9s
WVOR Wild Horse Val 67.86 52 P **P 00 44 20.2 +1.2**
WVOR pmax pmax
comp=Z,12nm,1.1s
WVOR Wild Horse Val 67.86 52 P **P 00 44 20.1 +1.2**
WVOR IAmb IAmb 00 44 21.2
comp=Z,12nm,1.1s
MSO Missoula 67.87 46 P **P 00 44 19.6 +0.6**
MSO IAmb IAmb 00 44 20.8
comp=Z,15nm,1.1s
MSO Missoula 67.87 46 P **P 00 44 19.9 +0.9**
baz=308,SNR=7.3
GROC Groznyy 68.11 309 *eP* **P 00 44 19.9 -0.4**
GROC *e* 00 44 47.3
GROC *e* 00 46 52.1
GROC pmax pmax

comp=Z,9.0nm,0.6s
BEKR Beckworth 68.35 56 P **P 00 44 23.2 +1.0**
BEKR IAmb IAmb 00 44 24.0
comp=Z,18nm,0.9s
MTSE Matsula 68.37 331 ⇑ *eP* **P 00 44 21.7 +0.1**
GOF Gofitskoye 68.55 312 ⇑ *eP* **P 00 44 24.0 +0.9**
GOF pmax pmax
comp=Z,45nm,0.6s
FFC Flin Flon 68.58 35 P **P 00 44 23.8 +0.7**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 68.58 35 P **P 00 44 23.8 +0.7**
FFC IAmb IAmb 00 44 24.8
comp=Z,12nm,0.9s
AAL Aland 68.62 334 *eP* **P 00 44 22.7 -0.5**
ILULI Ilulissat 68.76 6 P **P 00 44 24.8 +0.8**
ILULI pmax pmax
comp=Z,43nm,1.3s
ILULI Ilulissat 68.76 6 P **P 00 44 24.8 +0.8**
FCC Fort Churchill 68.82 28 IAmb IAmb 00 44 37.1
comp=Z,20nm,1.1s
MPK Martis Peak 68.90 56 P **P 00 44 25.9 +0.2**
MPK IAmb IAmb 00 44 39.9
comp=Z,24nm,1.0s
PAHR Pah Rah Range 69.05 55 P **P 00 44 27.4 +0.9**
PAHR IAmb IAmb 00 44 28.5
comp=Z,16nm,1.0s
HRY Holter Researc 69.08 46 P **P 00 44 27.4 +0.9**
VCNR Virginia City 69.13 56 P **P 00 44 28.4 +1.3**
VCNR IAmb IAmb 00 44 29.3
comp=Z,10.0nm,0.9s
PYA1 Pyatigorsk 69.14 311 *i* P **P 00 44 25.8 -1.0**
NCK Nalchik 69.20 310 *i* P **P 00 44 27.3 +0.1**
NCK pmax pmax
comp=Z,21nm,1.0s
PNTR Pine Nut 69.29 56 P **P 00 44 29.2 +1.1**
PNTR IAmb IAmb 00 44 29.9
comp=Z,13nm,0.9s
EGMT Eagleton 69.33 44 IAmb IAmb 00 44 41.1
comp=Z,14nm,0.9s
EGMT Eagleton 69.33 44 P **P 00 44 28.8 +0.8**
baz=310,SNR=7.6
ICESG Greenland Ices 69.43 1 *i* P **P 00 44 28.8 +0.2**
ICESG IAmb IAmb 00 44 46.2
comp=Z,13nm,0.6s
KIV Kislovodsk 69.43 311 ⇑ P **P 00 44 30.1 +1.4**
KIV Kislovodsk 69.43 311 *eP* **P 00 44 30.6 +1.9**
KIV pmax pmax
comp=Z,56nm,1.1s
KIV Kislovodsk 69.43 311 P **P 00 44 29.8 +1.0**
CMB Columbia Colle 69.44 57 P **P 00 44 29.7 +0.9**
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 69.44 57 P **P 00 44 29.7 +0.9**
KBZ Khabaz 69.45 311 P **P 00 44 28.9 +0.2**
comp=Z,20nm,0.8s,baz=73,slow=4.2,SNR=64
KBZ Khabaz 69.45 311 *ceP* **P 00 44 28.6 -0.1**
KBZ pmax pmax
comp=Z,25nm,0.9s
ZEI Tsey 69.46 309 *eP* **P 00 44 28.5 -0.6**
ZEI pmax pmax
comp=Z,14nm,0.9s
DLMT Dillon 69.51 47 P **P 00 44 30.5 +1.3**
DLMT IAmb IAmb 00 44 43.2
comp=Z,15nm,0.9s
YERR Yerington 69.57 56 P **P 00 44 30.8 +1.0**
YERR IAmb IAmb 00 44 32.0
comp=Z,22nm,1.0s
HLID Hailey 69.62 49 P **P 00 44 30.6 +0.6**
HLID Hailey 69.62 49 P **P 00 44 31.1 +1.0**
baz=308,SNR=8.1
UPP Uppsala 69.64 334 *eP* **P 00 44 29.4 -0.1**
IDID Didziasalis 69.67 327 *eP* **P 00 44 30.5 +0.6**
MCMT McKenzie Canyo 69.71 48 P **P 00 44 31.2 +0.6**
SLIT Slitere, Latvi 69.71 331 *eP* **P 00 44 29.4 -0.6**
BCYI Bear Canyon 69.72 48 P **P 00 44 31.0 +0.3**
ISAL Salakas 69.74 328 *eP* **P 00 44 30.9 +0.7**
ONI Oni 69.84 309 P **P 00 44 32.0 +0.8**
ONI pmax pmax
comp=Z,19nm,0.9s
ONI Oni 69.84 309 P **P 00 44 32.0 +0.8**
ONI IAmb IAmb 00 44 33.8
comp=Z,20nm,0.9s
IIGN Ignalina 69.86 327 *eP* **P 00 44 31.6 +0.6**
BOZ Bozeman (W) 69.89 46 P **P 00 44 32.0 +0.4**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 69.89 46 P **P 00 44 32.0 +0.4**
BOZ IAmb IAmb 00 44 45.3
comp=Z,15nm,0.8s
BOZ Bozeman (W) 69.89 46 P **P 00 44 32.7 +1.1**
baz=309,SNR=13
BMN Battle Mountai 69.92 53 P **P 00 44 32.8 +0.9**
BMN Battle Mountai 69.92 53 P **P 00 44 32.8 +0.9**
BMN IAmb IAmb 00 44 34.3
comp=Z,17nm,1.2s
NACGM Naroch 69.95 327 *i* P **P 00 44 31.9 +0.3**
RYN Ryan 70.23 56 P **P 00 44 35.2 +1.3**
RYN IAmb IAmb 00 44 36.0
comp=Z,10nm,0.9s
KVN Kaiserville 70.23 55 IAmb IAmb 00 44 36.1
comp=Z,21nm,0.9s
NC405 NORSAR Array S 70.44 338 P **P 00 44 35.3 +0.8**
NC303 NORSAR Array S 70.44 338 P **P 00 44 35.6 +1.1**
NC303 IAmb IAmb 00 44 50.0
comp=Z,30nm,1.4s
LHV Little Huntoon 70.48 56 P **P 00 44 36.6 +1.6**
LHV IAmb IAmb 00 44 38.0
comp=Z,24nm,1.0s
NVAR Mina Array Bea 70.49 56 P **P 00 44 36.6 +1.1**
comp=Z,8.4nm,0.8s,baz=288,slow=6.6,SNR=59
AKH Akhalkalaki 70.56 308 ⇓ P **P 00 44 37.5 +1.7**
OMMB Old Mammoth Mi 70.56 57 P **P 00 44 37.0 +1.0**
NC204 NORSAR Array S 70.57 338 IAmb IAmb 00 44 51.5
comp=Z,25nm,0.9s
NV11 Mina Array Sit 70.58 56 P **P 00 44 36.6 +0.6**
GNI Garni 70.60 307 *ceP* **P 00 44 36.9 +0.8**
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 70.60 307 P **P 00 44 37.1 +1.0**
GNI IAmb IAmb 00 45 04.1
comp=Z,10nm,0.9s
NB201 NORSAR Array S 70.61 338 P **P 00 44 36.6 +1.0**
PABE Paberze 70.64 329 P **P 00 44 36.1 +0.4**
PABE IAmb IAmb 00 44 36.6
comp=Z,17nm,0.7s
PABE Paberze 70.64 329 *eP* **P 00 44 35.9 +0.1**
NB2 NORSAR Subarra 70.64 338 P **P 00 44 36.0 +0.2**
comp=Z,4.5nm,0.8s,baz=34,slow=6.5
NOA NORSAR Array B 70.64 338 P **P 00 44 35.7 -0.1**
comp=Z,6.3nm,0.8s,baz=36,slow=6.1,SNR=25
NOA LR LR 01 19 54.8
comp=Z,202nm,19.4s,baz=60,slow=40
HFS Hagfors 70.65 336 LR LR 01 19 22.9
comp=Z,212nm,18.8s,baz=37,slow=39
NBO00 NORSAR Array S 70.77 338 P **P 00 44 37.0 +0.5**
NBO00 IAmb IAmb 00 44 56.3
comp=Z,22nm,1.1s
YHH Holmes Hill 70.83 47 P **P 00 44 38.6 +1.1**
YHH IAmb IAmb 00 44 39.8
comp=Z,12nm,1.1s
YMR Madison River 70.85 47 P **P 00 44 38.8 +1.2**
YMR IAmb IAmb 00 44 57.2
comp=Z,19nm,1.1s
ELK Elko 70.91 52 P **P 00 44 39.3 +1.3**
ELK pmax pmax
comp=Z,7.0nm,1.3s
ELK Elko 70.91 52 P **P 00 44 39.3 +1.3**
PAGB Antelope Grade 70.93 59 P **P 00 44 38.4 +0.5**
PAGB IAmb IAmb 00 44 40.2
comp=Z,17nm,1.0s
YNR Norris Junctio 70.97 47 P **P 00 44 39.5 +1.1**
YNR IAmb IAmb 00 44 52.6
comp=Z,16nm,1.1s
VIKU Vikbolandet 70.99 334 *eP* **P 00 44 37.4 -0.4**
LKWY Lake 71.22 47 P **P 00 44 41.5 +1.6**
LKWY pmax pmax
comp=Z,15nm,1.2s
LKWY Lake 71.22 47 P **P 00 44 41.5 +1.6**
LKWY IAmb IAmb 00 44 43.6
comp=Z,15nm,1.1s
H17A Grant Village 71.23 47 P **P 00 44 42.1 +2.2**
H17A IAmb IAmb 00 44 44.4
comp=Z,24nm,1.1s
H17A Grant Village 71.23 47 P **P 00 44 42.8 +2.9**

baz=310,SNR=17
YMP Mirror Lake Pl 71.24 46 P **P** **00 44 41.3 +1.3**
YMP IAmb IAmb 00 44 42.7
comp=Z,20nm,1.3s
KARS Kars 71.29 308 P **P** **00 44 41.5 +1.3**
KARS pmax pmax
comp=Z,75nm,1.0s
KARS Kars 71.29 308 P **P** **00 44 41.5 +1.3**
FLWY Flagg Ranch 71.37 47 P **P** **00 44 41.5 +0.7**
FLWY IAmb IAmb 00 44 59.0
comp=Z,14nm,1.2s
TPH Tonopah 71.38 55 P **P** **00 44 41.7 +0.8**
TPH pmax pmax
comp=Z,77nm,0.9s
TPH Tonopah 71.38 55 P **P** **00 44 41.7 +0.8**
RLMT Red Lodge 71.47 46 P **P** **00 44 42.4 +1.1**
baz=311
MOOW Moose Ponds 71.56 48 IAmb IAmb 00 44 44.7
comp=Z,16nm,1.1s
TPAW Teton Pass 71.61 48 IAmb IAmb 00 44 56.0
comp=Z,21nm,1.1s
FRB Frobisher Bay 71.67 15 LR LR 01 21 07.4
comp=Z,78nm,18.0s,baz=212,slow=40
HVU Hansel Valley 71.69 50 P **P** **00 44 43.7 +1.1**
HVU pmax pmax
comp=Z,7.0nm,1.0s
HVU Hansel Valley 71.69 50 P **P** **00 44 43.7 +1.1**
WSAR Wadi Sarin 71.72 285 LR LR 01 19 00.1
comp=Z,82nm,21.3s,baz=118,slow=38
LOHW Long Hollow 71.73 48 P **P** **00 44 43.7 +0.8**
BANOM Banah 71.74 289 *i* P **P** **00 44 43.0 +0.1**
SNR=6.5
SNOW Snow King Moun 71.74 48 P **P** **00 44 44.4 +1.4**
SNOW IAmb IAmb 00 44 45.8
comp=Z,15nm,1.2s
REDW Red Top Meadow 71.75 48 P **P** **00 44 44.5 +1.5**
SHME Shamm 71.77 289 *i* P **P** **00 44 43.2 +0.1**
SNR=7.5
ANN Anapa 71.79 314 *e*P **P** **00 44 41.0 -1.9**
ANN *e**PP **pP** **00 44 51.4 -0.1**
ANN *e*PPP PPP 00 49 03.3
ANN *e*S **S** **00 54 00.2 -1.0**
ANN pmax pmax
comp=Z,45nm,1.2s
DGMT Dagmar 71.83 41 IAmb IAmb 00 44 44.6
comp=Z,15nm,0.7s
DGMT Dagmar 71.83 41 P **P** **00 44 43.9 +0.7**
baz=313
AKASG Malin Array Be 71.86 323 P **P** **00 44 43.1 -0.1**
comp=Z,16nm,0.7s,baz=42,slow=6.0,SNR=71
AKBB Malin Array Si 71.86 323 *ce*P **P** **00 44 42.8 -0.4**
AKBB Malin Array Si 71.86 323 IAmb IAmb 00 44 44.1
comp=Z,16nm,0.8s
CWC Cottonwood Cre 71.87 57 P **P** **00 44 44.0 +0.2**
baz=309
KIEV Kiev 71.87 323 P **P** **00 44 42.0 -1.3**
GRAC Grapevine Rang 71.97 56 P **P** **00 44 45.5 +1.3**
GRAC IAmb IAmb 00 44 46.5
comp=Z,18nm,0.7s
GRAC Grapevine Rang 71.97 56 P **P** **00 44 45.8 +1.6**
baz=309,SNR=7.9
AHID Auburn Hatcher 72.00 48 P **P** **00 44 45.3 +0.8**
LAO LASA Array 72.02 43 P **P** **00 44 45.5 +1.1**
baz=312
BGU Big Grassy Mou 72.09 51 P **P** **00 44 46.1 +1.1**
ISA Isabella, Lake 72.10 58 P **P** **00 44 45.1 +0.1**
baz=309
MSFE Esma-Masafi 72.18 288 P **P** **00 44 46.1 +0.4**
R11A Troy Canyon, C 72.21 54 P **P** **00 44 46.1 +0.3**
R11A IAmb IAmb 00 44 48.0
comp=Z,15nm,1.1s
R11A Troy Canyon, C 72.21 54 P **P** **00 44 46.9 +1.1**
baz=309,SNR=20
UOSS Minazif 72.41 288 P **P** **00 44 47.1 +0.1**
UOSS IAmb IAmb 00 44 47.9
comp=Z,20nm,0.7s
UOSS Minazif 72.41 288 *i* P **P** **00 44 46.8 -0.2**
SNR=11
MPMC Manual Prospec 72.48 57 P **P** **00 44 48.3 +0.9**
baz=309,SNR=13
HATD Hatta, Dubai 72.53 288 *i* P **P** **00 44 48.1 +0.3**
SNR=11
S11A Rachel 72.56 55 P **P** **00 44 48.9 +1.0**
S11A IAmb IAmb 00 44 50.2
comp=Z,23nm,0.8s
FURC Furnace Creek, 72.61 57 P **P** **00 44 49.3 +1.4**
baz=309,SNR=9.5
ASHO Ashiyiah 72.67 288 *i* P **P** **00 44 48.7 +0.2**
SNR=8.3
DUG Dugway, Tooele 72.68 51 IAmb IAmb 00 44 51.0
comp=Z,20nm,0.9s
DUG Dugway, Tooele 72.68 51 P **P** **00 44 49.7 +1.2**
baz=310,SNR=20
TPNV Topopah Spring 72.69 56 P **P** **00 44 49.8 +1.1**
baz=309,SNR=15
CCAC Calif City Air 72.71 58 P **P** **00 44 49.0 +0.3**
CCAC IAmb IAmb 00 44 50.5
comp=Z,21nm,0.8s
NAZ Nazwa, Dubai 72.77 288 P **P** **00 44 49.3 +0.2**
BW06 Boulder Array 72.86 48 P **P** **00 44 50.1 +0.4**
BW06 IAmb IAmb 00 44 51.3
comp=Z,17nm,1.4s
BW06 Boulder Array 72.86 48 P **P** **00 44 50.3 +0.6**
baz=311,SNR=9.3
PDAR Pinedale Array 72.86 48 P **P** **00 44 50.1 +0.4**
comp=Z,5.0nm,0.7s,baz=263,slow=2.0,SNR=45
EDW2 Edwards Air Fo 72.90 58 P **P** **00 44 50.8 +0.9**
baz=309,SNR=7.8
GWY Greenwater Val 72.91 57 IAmb IAmb 00 44 51.8
comp=Z,12nm,0.7s
QSM Queen of Sheba 72.93 57 IAmb IAmb 00 44 51.9
comp=Z,18nm,0.9s
FAQ Al Faqa, Dubai 72.97 288 P **P** **00 44 50.4 +0.1**
CTU Camp Tracy 72.98 50 P **P** **00 44 51.4 +1.1**
PRN Pahroc Range 73.13 55 P **P** **00 44 51.9 +0.6**
PSUT Pine Spring 73.14 53 P **P** **00 44 52.5 +1.1**
PSUT IAmb IAmb 00 44 53.5
comp=Z,13nm,0.9s
JLU Jordanelle 73.21 50 P **P** **00 44 53.0 +1.2**
ASUD Al Ashush, Dub 73.23 288 *i* P **P** **00 44 52.2 +0.4**
SNR=6.9
GURO Guroymak-BITLI 73.24 307 P **P** **00 44 53.4 +1.6**
GURO IAmb IAmb 00 44 54.5
comp=Z,17nm,0.8s
NLU North Lily Min 73.27 51 P **P** **00 44 53.0 +0.9**
NLU IAmb IAmb 00 44 54.4
comp=Z,16nm,1.0s
ALNE Al Ain 73.28 287 *i* P **P** **00 44 52.4 +0.3**
SNR=8.4
STKA Stephens Creek 73.32 182 P **P** **00 44 51.8 -0.2**
comp=Z,1.8nm,0.6s,baz=328,slow=11,SNR=4.1
GSC Goldstone, Bar 73.39 57 P **P** **00 44 53.6 +0.9**
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 73.39 57 P **P** **00 44 53.6 +0.9**
GSC Goldstone, Bar 73.39 57 P **P** **00 44 53.6 +0.9**
baz=310
MPU Maple Canyon 73.49 51 IAmb IAmb 00 44 55.6
comp=Z,18nm,1.0s
SHPR Sheep Range 73.64 56 P **P** **00 44 55.3 +1.0**
TUQ Turquoise Moun 73.85 57 P **P** **00 44 56.8 +1.2**
baz=310
TCRU Three Creeks R 73.93 52 P **P** **00 44 56.7 +0.6**
TCRU IAmb IAmb 00 44 58.6
comp=Z,14nm,0.9s
HEC Hector,Ludlow 73.98 58 P **P** **00 44 57.1 +0.9**
baz=310
SORM Soroca 74.08 321 ⇑P **P** **00 44 55.8 -0.6**
SORM Soroca 74.08 321 ⇑P **P** **00 44 55.8 -0.6**
HORU Horodok 74.19 323 P **P** **00 44 56.6 -0.5**
TMUT Trail Mountain 74.21 51 P **P** **00 44 58.5 +0.7**
MURC Murrieta 74.22 59 P **P** **00 44 58.0 +0.4**
baz=310
P17A Butcher Ranch, 74.36 51 IAmb IAmb 00 45 00.8
comp=Z,26nm,1.0s
ULM Lac du Bonnet 74.39 35 P **P** **00 44 58.4 +0.1**
comp=Z,2.9nm,0.6s,baz=324,slow=9.3,SNR=5.7
ULM Lac du Bonnet 74.39 35 P **P** **00 44 58.7 +0.5**
ULM pmax pmax
comp=Z,6.0nm,1.0s
ULM Lac du Bonnet 74.39 35 P **P** **00 44 58.7 +0.5**
GMRC Granite Mounta 74.44 57 P **P** **00 44 59.8 +0.9**
baz=310,SNR=8.4
MTPU Mount Pierson 74.45 53 P **P** **00 45 00.6 +1.3**
MTPU IAmb IAmb 00 45 02.0
comp=Z,16nm,0.8s
MDND Maddock 74.46 39 P **P** **00 44 59.4 +0.8**
MDND IAmb IAmb 00 45 00.4
comp=Z,21nm,0.8s
MDND Maddock 74.46 39 P **P** **00 44 59.5 +0.8**
baz=316
Q16A Castle Valley 74.48 52 IAmb IAmb 00 45 01.6
comp=Z,15nm,1.1s
LCMT Little Creek M 74.49 54 IAmb IAmb 00 45 01.7
comp=Z,16nm,0.8s
P18A Preston Nutter 74.55 51 P **P** **00 45 00.3 +0.6**
K22A Casper 74.60 46 IAmb IAmb 00 45 01.5
comp=Z,17nm,1.1s
K22A Casper 74.60 46 P **P** **00 45 00.5 +0.7**
baz=313,SNR=5.7
KMPD K-Podol'skiy 74.64 322 P **P** **00 45 00.0 +0.3**
PFO Pinyon Flats O 74.69 59 LR LR 01 11 23.9
comp=Z,104nm,21.9s,baz=253,slow=31
PFO Pinyon Flats O 74.69 59 P **P** **00 45 00.8 +0.4**
PFO pmax pmax
comp=Z,11nm,0.9s
PFO Pinyon Flats O 74.69 59 P **P** **00 45 00.8 +0.4**
PFO Pinyon Flats O 74.69 59 P **P** **00 45 00.9 +0.4**
baz=310
MILM Milestii Mici 74.73 320 ⇑P **P** **00 44 59.1 -1.1**
MILM Milestii Mici 74.73 320 ⇑P **P** **00 44 59.1 -1.1**
SRU San Rafael Swe 74.73 51 IAmb IAmb 00 45 02.6
comp=Z,28nm,0.9s
BELC Belle Mtn. Jos 74.73 58 P **P** **00 45 01.0 +0.3**
baz=310,SNR=5.1
109C Camp Elliot, M 74.73 60 P **P** **00 45 01.1 +0.6**
109C IAmb IAmb 00 45 02.2
comp=Z,23nm,1.0s
KNB Kanab 74.74 54 P **P** **00 45 01.7 +1.0**
KNB pmax pmax
comp=Z,17nm,0.9s
KNB Kanab 74.74 54 P **P** **00 45 01.7 +1.0**
KNB IAmb IAmb 00 45 03.4
comp=Z,17nm,0.9s
PKCU Pink Cliffs 74.77 53 P **P** **00 45 02.2 +1.1**
LVV L'vov 74.80 325 *e*P **P** **00 45 00.5 -0.1**
RWWY Rawlins 74.88 47 IAmb IAmb 00 45 02.2
comp=Z,14nm,0.9s
RSSD Black Hills 74.90 44 P **P** **00 45 02.3 +0.7**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 74.90 44 P **P** **00 45 02.3 +0.7**
RSSD Black Hills 74.90 44 P **P** **00 45 02.0 +0.4**
baz=314
KVT Kavak 75.03 312 P **P** **00 45 04.3 +2.2**
BAR Barrett 75.15 59 P **P** **00 45 02.3 -0.6**
IRM Iron Mountain 75.17 57 P **P** **00 45 04.0 +1.0**
baz=310,SNR=10
BC3 Big Chuckawall 75.30 58 P **P** **00 45 04.6 +0.7**
baz=310,SNR=6.0
W13A Hualapai Mount 75.34 56 P **P** **00 45 04.8 +0.5**
O20A White River Ci 75.35 49 P **P** **00 45 04.5 +0.2**
O20A IAmb IAmb 00 45 06.1
comp=Z,27nm,1.4s
O20A White River Ci 75.35 49 P **P** **00 45 05.0 +0.8**
baz=312,SNR=6.7
MORS Morshin 75.37 324 P **P** **00 45 03.8 -0.1**
CBX Cerro Bola 75.39 60 P **P** **00 45 04.7 +0.2**
VASR Vaslui 75.42 320 ⇓P **P** **00 45 04.9 +0.7**
U15A North Rim 75.45 54 P **P** **00 45 06.1 +1.1**
U15A IAmb IAmb 00 45 07.6
comp=Z,20nm,1.0s
KSV Kosov 75.46 323 P **P** **00 45 04.6 +0.2**
KWP Kalwaria Pacla 75.51 325 P **P** **00 45 06.0 +1.2**
KWP Kalwaria Pacla 75.51 325 P **P** **00 45 06.0 +1.2**
BZK Bozkurt 75.55 314 ⇑P **P** **00 45 06.0 +0.9**
BZK Bozkurt 75.55 314 P **P** **00 45 05.7 +0.7**
MZR Muzera 75.56 288 *i* P **P** **00 45 05.2 -0.2**
SNR=40
PRAR RASCA 75.63 322 ⇑P **P** **00 45 05.9 +0.4**
PDMCI Parker Dam,Lak 75.70 57 P **P** **00 45 07.2 +1.1**
baz=311
BLYC Blythe 75.82 57 P **P** **00 45 07.9 +1.1**
BLYC IAmb IAmb 00 45 08.8
comp=Z,11nm,0.8s
AGMN Agassiz Nation 75.84 37 P **P** **00 45 06.6 -0.1**
baz=318
VLDR Vladesti 75.85 320 ⇑P **P** **00 45 07.6 +0.9**
BURAR Bucovina Array 75.91 322 ⇓P **P** **00 45 07.9 +0.7**
BURAR Bucovina Array 75.91 322 ⇓P **P** **00 45 07.9 +0.7**
BURAR Bucovina Array 75.91 322 IAmb IAmb 00 45 09.1
comp=Z,12nm,0.7s
TLCR 75.97 319 ⇓P **P** **00 45 07.7 +0.3**
TLCR 75.97 319 ⇓P **P** **00 45 07.7 +0.3**
PV23 Carpenter Ridg 76.05 51 P **P** **00 45 09.1 +0.8**
PV23 IAmb IAmb 00 45 10.4
comp=Z,31nm,1.1s
TESR Tescani 76.05 321 ⇑P **P** **00 45 08.1 +0.3**
PV10 Paradox Valley 76.08 51 P **P** **00 45 09.4 +0.9**
GLA Glamis 76.09 58 P **P** **00 45 09.1 +0.8**
GLA pmax pmax
comp=Z,12nm,1.0s
GLA Glamis 76.09 58 P **P** **00 45 09.1 +0.8**
GLA IAmb IAmb 00 45 10.3
comp=Z,12nm,0.9s
GLA Glamis 76.09 58 P **P** **00 45 09.4 +1.0**
baz=311
N23A Red Feather La 76.11 47 P **P** **00 45 10.1 +1.4**
N23A IAmb IAmb 00 45 11.1
comp=Z,14nm,1.0s
N23A Red Feather La 76.11 47 P **P** **00 45 09.9 +1.3**
baz=314,SNR=7.8
PV11 David Mesa, Pa 76.23 51 P **P** **00 45 10.3 +1.0**
PV11 IAmb IAmb 00 45 11.4
comp=Z,27nm,1.0s
PV07 Paradox Valley 76.27 51 IAmb IAmb 00 45 11.6
comp=Z,16nm,1.1s
OJC Ojcow 76.28 327 IAmb IAmb 00 45 11.0
comp=Z,20nm,0.9s
CFR Carcaliu 76.31 319 ⇑P **P** **00 45 09.7 +0.4**
CFR Carcaliu 76.31 319 ⇑P **P** **00 45 09.7 +0.4**
PV13 Radium Mtn., P 76.36 51 IAmb IAmb 00 45 12.2
comp=Z,28nm,0.9s
TPGR Topolog 76.40 319 ⇓P **P** **00 45 10.7 +0.8**
ODBI Odobesti 76.40 320 ⇑P **P** **00 45 11.3 +1.5**
PV15 Paradox Valley 76.43 51 P **P** **00 45 11.6 +1.2**
UZH Uzhgorod 76.45 325 *e*P P 00 45 01.3 -8.7
UZH *e* 00 45 09.6
UZH *e* 00 45 18.3
VRI Vrincioaia 76.48 320 ⇓P **P** **00 45 10.6 +0.3**
VRI Vrincioaia 76.48 320 ⇓P **P** **00 45 10.6 +0.3**
PLOR Plostina 76.53 320 ⇑P **P** **00 45 11.8 +1.2**
PLOR Plostina 76.53 320 ⇑P **P** **00 45 11.8 +1.2**
CRVS Cervenica-Dubn 76.60 325 *e*P **P** **00 45 12.0 +1.1**
CRVS pmax pmax
comp=Z,81nm,2.3s
CRVS Cervenica-Dubn 76.60 325 *e*P **P** **00 45 12.0 +1.1**
WUAZ Wupatki 76.61 54 IAmb IAmb 00 45 13.9
comp=Z,20nm,0.9s
WUAZ Wupatki 76.61 54 P **P** **00 45 12.8 +1.4**
baz=312,SNR=16
BMR Baia Mare 76.64 323 ⇓P **P** **00 45 11.8 +0.7**
BMR Baia Mare 76.64 323 ⇓P **P** **00 45 11.8 +0.7**
Y14A Wickenburg 76.65 56 P **P** **00 45 12.6 +1.1**
ARCR ARCALIA 76.69 322 ⇑P **P** **00 45 12.4 +0.9**
TRPA Tarpa 76.72 324 ⇓P **P** **00 45 12.7 +1.2**
SMCO Snowmass 76.72 49 P **P** **00 45 13.0 +0.7**
COVR Voineasa-Covas 76.75 321 ⇓P **P** **00 45 13.0 +1.1**
HARR Harsova 76.76 319 ⇑P **P** **00 45 12.0 +0.1**
HARR Harsova 76.76 319 ⇑P **P** **00 45 12.0 +0.1**
BSEG Bad Segeberg 76.78 334 *e*P **P** **00 45 12.9 +1.1**
comp=Z,15nm,0.8s,baz=33,slow=5.5
RUE Ruedersdorf 76.80 331 *e*P **P** **00 45 12.4 +0.5**
RUE Ruedersdorf 76.80 331 *e*P **P** **00 45 13.1 +1.2**
comp=Z,56nm,1.5s,baz=33,slow=5.5
TLBR Tonalu 76.81 319 ⇑P **P** **00 45 12.3 +0.2**
113A Mohawk Valley, 76.94 58 P **P** **00 45 13.1 0.0**
DOPR Dopca 77.05 321 ⇓P **P** **00 45 15.2 +1.6**
ISCO Idaho Springs 77.05 48 P **P** **00 45 15.2 +1.2**
baz=314,SNR=9.4
ISR Istrita 77.12 320 ⇑P **P** **00 45 15.1 +1.1**
ISR Istrita 77.12 320 ⇑P **P** **00 45 15.1 +1.1**
MLR Muntele Rosu 77.13 321 ⇓P **P** **00 45 14.6 +0.5**
MLR Muntele Rosu 77.13 321 LR LR 01 23 06.0
comp=Z,203nm,19.0s,baz=31,slow=39
MLR Muntele Rosu 77.13 321 P **P** **00 45 15.6 +1.4**
MLR pmax pmax
comp=Z,10.0nm,1.2s
MLR Muntele Rosu 77.13 321 P **P** **00 45 15.6 +1.4**
MVCO Mesa Verde 77.19 51 IAmb IAmb 00 45 16.8
comp=Z,15nm,0.9s
MVCO Mesa Verde 77.19 51 P **P** **00 45 15.9 +1.1**
baz=313,SNR=10
ICOR Ion Corvin 77.24 319 ⇑P **P** **00 45 15.9 +1.3**
LANS Liptovska Anna 77.25 326 *e*P **P** **00 45 15.5 +0.9**
LANS pmax pmax
comp=Z,10.0nm,1.6s
LANS Liptovska Anna 77.25 326 *e*P **P** **00 45 15.5 +0.9**
MESR Meseseni 77.28 323 ⇑P **P** **00 45 15.7 +0.9**
BR131 Keskin Array S 77.30 312 *i* P **P** **00 45 14.9 -0.3**
BRTR Keskin Array B 77.30 312 P **P** **00 45 15.7 +0.5**
comp=Z,3.7nm,0.8s,baz=87,slow=3.9,SNR=21
BRTR LR LR 01 26 43.0
comp=Z,78nm,19.7s,baz=22,slow=41
BRTR Keskin Array B 77.30 312 *i* P **P** **00 45 15.8 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
CBBR Cluj-Babes-Bol 77.30 323 ⇓P **P** **00 45 16.3 +1.4**
X16A Lo Mia Camp, P 77.30 55 IAmb IAmb 00 45 18.0
comp=Z,14nm,0.9s
OSTC Ostas 77.44 329 *e*P **P** **00 45 16.4 +0.8**
CHVC Chvalec 77.48 329 *e*P **P** **00 45 16.6 +0.8**
MORC Moravsky Berou 77.54 328 ⇓P **P** **00 45 17.1 +0.9**
MORC Moravsky Berou 77.54 328 ⇓P **P** **00 45 17.1 +0.9**
MORC Moravsky Berou 77.54 328 IAmb IAmb 00 45 18.2
comp=Z,15nm,0.9s
MORC Moravsky Berou 77.54 328 *e*P **P** **00 45 17.2 +1.0**
UPC Upice 77.56 329 *e*P **P** **00 45 17.4 +1.1**
UPC Upice 77.56 329 *e*P **P** **00 45 17.4 +1.1**
DPC Dobruska-Polom 77.56 329 *e*P **P** **00 45 17.4 +1.0**
DPC Dobruska-Polom 77.56 329 *e*P **P** **00 45 17.4 +1.0**
SULR 77.58 320 ⇑P **P** **00 45 17.3 +0.8**
IZAB Izabela 77.60 326 *e*P **P** **00 45 17.8 +1.3**
VOIR 77.60 321 ⇑P **P** **00 45 17.2 +0.5**
VOIR 77.60 321 ⇑P **P** **00 45 17.2 +0.5**
ANTO Ankara 77.66 313 P **P** **00 45 17.6 +0.5**
ANTO pmax pmax
comp=Z,16nm,0.8s
ANTO Ankara 77.66 313 P **P** **00 45 17.6 +0.5**
ANTO IAmb IAmb 00 45 19.1
comp=Z,16nm,0.8s
BR231 Keskin MP Arra 77.69 313 IAmb IAmb 00 45 19.3
comp=Z,16nm,0.8s
S22A 4UR Ranch, Cre 77.78 50 IAmb IAmb 00 45 20.8
comp=Z,14nm,1.1s
S22A 4UR Ranch, Cre 77.78 50 P **P** **00 45 19.7 +1.6**
baz=314,SNR=9.8
FLTG Flechtingen 77.81 333 *e*P **P** **00 45 18.1 +0.5**
comp=Z,24nm,0.9s,baz=33,slow=5.5
ARR Arges 77.84 321 ⇓P **P** **00 45 19.7 +1.7**
Q24A Divide 77.89 48 P **P** **00 45 18.8 +0.1**
Q24A Divide 77.89 48 P **P** **00 45 19.8 +1.0**
baz=314
EYMN Ely 78.02 35 IAmb IAmb 00 45 19.3
comp=Z,9.9nm,0.8s
EYMN Ely 78.02 35 P **P** **00 45 18.7 -0.1**
baz=321,SNR=6.6
VYHS Vyhne 78.02 326 *e*P **P** **00 45 20.0 +1.1**
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 78.02 326 *e*P **P** **00 45 20.0 +1.1**
PSZ Piszkesteto 78.02 325 ⇑P **P** **00 45 19.6 +0.6**
PSZ Piszkesteto 78.02 325 ⇑P **P** **00 45 19.6 +0.6**
CLL Collm 78.03 331 ⇓ *i*P **P** **00 45 19.1 +0.2**
CLL pmax pmax
comp=Z,25nm,0.8s
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 78.03 331 IAmb IAmb 00 45 20.1
comp=Z,24nm,0.8s
CLL Collm 78.03 331 ⇓ *i*P **P** **00 45 19.1 +0.2**
comp=Z,25nm,0.8s
CLL *ex* x 00 48 06.0
CLL Lm MLR 01 23 00.0
comp=N,300nm,21.0s
CLL Lm MLR 01 23 00.0
comp=E,100nm,20.0s
CLL Lm MLR 01 23 00.0
comp=Z,400nm,18.6s
CLL Collm 78.03 331 *e*P **P** **00 45 19.4 +0.5**
comp=Z,25nm,0.8s,baz=33,slow=5.5
BRG Berggiesshubel 78.04 330 *e*P **P** **00 45 19.1 +0.1**
BRG Amp 00 45 20.5
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 78.04 330 *e*P **P** **00 45 19.0 +0.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 78.04 330 *e*P **P** **00 45 19.7 +0.8**
comp=Z,8.3nm,0.8s,baz=33,slow=5.5
NRDL Niedersach Rie 78.06 333 *e*P **P** **00 45 19.8 +0.9**
comp=Z,9.1nm,0.9s,baz=33,slow=5.5
214A Organ Pipe Nat 78.09 58 P **P** **00 45 20.8 +1.2**
214A Organ Pipe Nat 78.09 58 P **P** **00 45 20.0 +0.4**
baz=312,SNR=5.2
PVCC Panska Ves 78.09 330 *e*P **P** **00 45 20.3 +1.1**
PVCC MLR MLR
comp=Z,500nm,23.4s
PVCC Panska Ves 78.09 330 *e*P **P** **00 45 20.3 +1.1**
PVCC AMS AMS 01 22 40.0
comp=Z,500nm,23.4s
RETH Rethem/Aller, 78.10 334 *e*P **P** **00 45 20.1 +0.9**
comp=Z,15nm,0.8s,baz=33,slow=5.5
MDUB Mudurnu 78.10 314 P **P** **00 45 20.1 +0.5**
X18A Snowflake 78.14 54 P **P** **00 45 21.3 +1.3**
OGNE Ogallala 78.19 45 P **P** **00 45 20.6 +0.6**
OGNE Ogallala 78.19 45 P **P** **00 45 20.7 +0.6**
baz=316
JAVC Velka Javorina 78.21 327 *e*P **P** **00 45 21.9 +1.9**
FBE Freiberg 78.22 331 *e*P **P** **00 45 21.0 +1.0**
comp=Z,18nm,0.8s,baz=33,slow=5.5
VRAC Vranov 78.29 328 ⇑P **P** **00 45 20.4 +0.1**
VRAC Vranov 78.29 328 LR LR 01 22 56.0
comp=Z,187nm,19.4s,baz=20,slow=38
VRAC Vranov 78.29 328 ⇑P **P** **00 45 20.4 +0.1**
VRAC Vranov 78.29 328 *e*P **P** **00 45 21.5 +1.1**
COPA Copaceanca 78.49 320 ⇓P **P** **00 45 22.4 +0.9**
CLZ Clausthal 78.51 333 *e*P **P** **00 45 22.8 +1.2**
comp=Z,68nm,1.7s,baz=33,slow=5.5
PRU Pruhonice 78.54 330 *e*P **P** **00 45 22.5 +0.8**
PRU MLR MLR
comp=Z,500nm,20.9s
PRU Pruhonice 78.54 330 *e*P **P** **00 45 22.5 +0.8**
PRU AMS AMS 01 23 00.0
comp=Z,500nm,20.9s
SDCO Great Sand Dun 78.54 49 P **P** **00 45 23.4 +1.0**
SDCO Great Sand Dun 78.54 49 P **P** **00 45 23.3 +1.0**
baz=314,SNR=6.5
NEUB Neuenburg 78.55 332 *e*P **P** **00 45 22.5 +0.8**
comp=Z,27nm,0.9s,baz=33,slow=5.5
KRUC Moravsky 78.56 328 *e*P **P** **00 45 22.7 +0.8**
SMOL Smolenice 78.58 327 *e*P **P** **00 45 23.6 +1.6**
SMOL Smolenice 78.58 327 *e*P **P** **00 45 23.6 +1.6**
GZR Gura Zlata 78.69 322 ⇑P **P** **00 45 22.1 -0.6**
GZR Gura Zlata 78.69 322 ⇑P **P** **00 45 22.1 -0.6**
TREC Trest 78.73 329 *e*P **P** **00 45 23.9 +1.1**
TREC Trest 78.73 329 *e*P **P** **00 45 23.9 +1.1**
SRO Srobarova 78.77 326 *e*P **P** **00 45 24.7 +1.7**
SRO pmax pmax
comp=Z,14nm,0.8s
SRO Srobarova 78.77 326 *e*P **P** **00 45 24.7 +1.7**
SRO2 Moca 78.78 326 *e*P **P** **00 45 23.1 +0.1**
SRO2 Moca 78.78 326 *e*P **P** **00 45 23.1 +0.1**
ECSD EROS Data Cent 78.90 40 IAmb IAmb 00 45 25.0
comp=Z,19nm,0.9s
ECSD EROS Data Cent 78.90 40 P **P** **00 45 24.0 +0.2**
baz=318,SNR=10
GTTG Gottingen 78.90 333 *e*P **P** **00 45 24.6 +1.0**
comp=Z,29nm,1.1s,baz=33,slow=5.5
VLAD Vladila 78.98 320 ⇑P **P** **00 45 24.4 +0.2**
IBBN Ibbenburen 78.99 334 *e*P **P** **00 45 25.0 +0.9**
comp=Z,110nm,2.0s,baz=33,slow=5.5
WERD Werda 78.99 331 *e*P **P** **00 45 25.2 +1.0**
comp=Z,16nm,1.2s,baz=33,slow=5.5
PLN Plauen 79.01 331 *e*P **P** **00 45 25.3 +0.9**
comp=Z,7.4nm,0.9s,baz=33,slow=5.5
E38A The Farm, Brul 79.03 35 IAmb IAmb 00 45 37.3
comp=Z,26nm,1.2s
BZS Buzias 79.04 323 ⇓P **P** **00 45 22.8 -1.7**
BZS Buzias 79.04 323 ⇓P **P** **00 45 22.8 -1.7**
GUNZ Gunzen 79.05 331 *e*P **P** **00 45 25.6 +1.0**
comp=Z,3µm,7.9s,baz=33,slow=5.5
MOX Moxa 79.08 331 *e*P **P** **00 45 25.5 +0.8**
comp=Z,18nm,1.4s,baz=33,slow=5.5
MOX *e*L L 01 24 21.2
comp=Z,286nm,19.1s

WERN Wernitzgruen 79.10 331 eP P 00 45 25.9 +1.0
comp=Z,10nm,0.8s,baz=33,slow=5.5
NKC Novy Kostel 79.11 331 eP P 00 45 25.6 +0.7
NKC Novy Kostel 79.11 331 eP P 00 45 25.6 +0.7
TUC Tucson 79.12 56 P P 00 45 26.0 +0.6
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 79.12 56 P P 00 45 25.9 +0.6
TUC Tucson 79.12 56 P P 00 45 26.7 +1.4
baz=313
KSCO Kaye Shedlock' 79.25 47 IAmb IAmb 00 45 39.0
comp=Z,33nm,1.2s
EKA Eskdalemuir Ar 79.36 342 P P 00 45 26.5 +0.4
MANZ Manzenberg 79.44 331 eP P 00 45 27.6 +0.9
comp=Z,5.0nm,1.4s,baz=33,slow=5.5
SPMN Marine on St. 79.55 37 P P 00 45 27.3 -0.1
baz=320
CKRC Cesky Krumlov 79.57 329 eP P 00 45 28.4 +1.0
T25A Trinidad 79.59 49 P P 00 45 28.7 +0.7
T25A IAmb IAmb 00 45 30.0
comp=Z,19nm,1.1s
T25A Trinidad 79.59 49 P P 00 45 28.8 +0.8
baz=315,SNR=11
ROTZ Rotzenmuhle 79.59 331 eP P 00 45 28.6 +1.2
comp=Z,3.9nm,1.1s,baz=33,slow=5.5
KHC Kasperske Hory 79.60 330 iP P 00 45 27.9 +0.3
KHC pmax pmax
comp=Z,33nm,0.7s
KHC Kasperske Hory 79.60 330 eP P 00 45 28.4 +0.8
KHC ex x 00 45 39.6
KHC AMS AMS 01 24 10.0
comp=Z,500nm,22.0s
KHC Kasperske Hory 79.60 330 IAmb IAmb 00 45 29.5
comp=Z,16nm,0.8s
CONA Conrad Observa 79.68 328 eP P 00 45 29.4 +1.3
comp=Z,7.6nm,0.8s
KASTN Kahler Asten 79.71 334 eP P 00 45 29.0 +0.8
comp=Z,26nm,1.2s,baz=33,slow=5.5
GERES GERESS Array B 79.79 329 P P 00 45 29.1 +0.4
comp=Z,2.9nm,0.7s,baz=28,slow=6.0,SNR=25
WET Wettzell 79.85 330 eP P 00 45 30.4 +1.4
comp=Z,16nm,1.0s,baz=33,slow=5.5
BGNE Belgrade 79.86 43 P P 00 45 29.4 +0.2
baz=318
BUG Bochum--Univer 79.89 334 eP P 00 45 29.6 +0.6
comp=Z,21nm,1.0s,baz=33,slow=5.5
MORH Mrgy, Hungar 79.89 325 eP P 00 45 28.2 -0.9
ANMO Albuquerque 79.94 52ceP P 00 45 29.8 -0.1
ANMO pmax pmax
comp=Z,14nm,1.3s
ANMO Albuquerque 79.94 52 P P 00 45 31.4 +1.5
ANMO Albuquerque 79.94 52 P P 00 45 31.4 +1.5
baz=314
GRA1 Grafenberg Arr 80.01 331 IAmb IAmb 00 45 31.8
comp=Z,26nm,0.8s
GRF Grafenberg Arr 80.01 331 eP P 00 45 31.1 +1.3
comp=Z,33nm,1.0s,baz=33,slow=5.5
GRF eL L 01 24 39.5
comp=Z,278nm,18.6s
GRFO Grafenberg 80.01 331 P P 00 45 30.9 +1.1
GRFO pmax pmax
comp=Z,26nm,0.9s
GRFO Grafenberg 80.01 331 P P 00 45 30.9 +1.1
GRFO IAmb IAmb 00 45 31.8
comp=Z,26nm,0.9s
SCHQ Schefferville 80.19 18 P P 00 45 31.0 +0.4
comp=Z,7.1nm,0.8s,baz=0.0,slow=6.7,SNR=7.4
SCHQ LR LR 01 25 04.0
comp=Z,70nm,18.2s,baz=266,slow=39
FRGS Fruska Gora 80.21 324 ⇑P P 00 45 30.5 -0.4
ARSA Arzberg 80.36 327 iP P 00 45 32.2 +0.4
comp=Z,7.2nm,0.9s
MOA Molln 80.38 328 iP P 00 45 32.5 +0.6
comp=Z,5.1nm,1.0s
COWI Conover 80.46 34 P P 00 45 31.7 -0.6
TNS Taunus Mts 80.53 333 eP P 00 45 33.5 +0.9
comp=Z,26nm,1.4s,baz=33,slow=5.5
VTS Vitosha 80.58 320 ⇓P P 00 45 34.5 +1.3
VTS Vitosha 80.58 320 ⇓P P 00 45 34.5 +1.3
VTS Vitosha 80.58 320 IAmb IAmb 00 45 34.9
comp=Z,13nm,0.8s
319A Douglas 80.69 56 P P 00 45 34.5 +0.5
319A IAmb IAmb 00 45 36.1
comp=Z,18nm,0.8s
AHRW Bad Neuenahr-A 80.72 334 eP P 00 45 34.5 +1.0
comp=Z,19nm,1.2s,baz=33,slow=5.5
BIOA Bad Ischl, Aus 80.75 329 iP P 00 45 34.7 +0.9
comp=Z,12nm,0.9s
RAYN Ar Rayn 80.81 293 P P 00 45 34.9 +0.3
RAYN pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 80.81 293 P P 00 45 34.9 +0.3
RAYN Ar Rayn 80.81 293 iP P 00 45 34.8 +0.3
SNR=8.8
121A Cookes Peak, D 80.82 54 P P 00 45 35.4 +0.7
121A Cookes Peak, D 80.82 54 P P 00 45 36.2 +1.6
baz=314,SNR=6.8
MMAI Mount Meron Ar 80.94 306 LR LR 01 24 11.1
comp=Z,83nm,19.2s,baz=214,slow=38
CBKS Cedar Bluff 80.95 45 IAmb IAmb 00 45 35.8
comp=Z,21nm,0.8s
CBKS Cedar Bluff 80.95 45 P P 00 45 35.0 -0.1
baz=317
DIVS Divibare 80.95 323 eP P 00 45 35.1 +0.1
BEBN Eben Emael 80.95 335 dP P 00 45 35.2 +0.5
comp=Z,28nm,0.8s
BTNL Ternell 80.99 334 dP P 00 45 35.4 +0.3
comp=Z,7.5nm,0.9s
GROS Grobnik 81.01 327 iP P 00 45 35.6 +0.4
MEM Membach 81.01 335 dP P 00 45 35.2 +0.1
comp=Z,13nm,0.9s
SOKA Soboth 81.02 327 eP P 00 45 36.1 +0.7
comp=Z,13nm,0.8s,SNR=8.1
RJOB Jochberg 81.04 329 eP P 00 45 36.8 +1.4
comp=Z,15nm,0.8s,baz=33,slow=5.5
BSTI Sart Tilman 81.17 335 dP P 00 45 36.4 +0.4
comp=Z,3.0nm,0.7s
BHOU Houvegnez 81.23 334 dP P 00 45 36.8 +0.5
FUR Furstenfeldbru 81.26 330 eP P 00 45 37.8 +1.3
comp=Z,37nm,1.0s,baz=33,slow=5.5
OBKA Obir 81.36 327 eP P 00 45 37.5 +0.4
comp=Z,9.0nm,0.8s
KBA Koelnbreinsper 81.37 328 eP P 00 45 38.1 +0.8
comp=Z,9.8nm,0.8s,SNR=5.6
BBLS Lazići 81.40 323⇑iP P 00 45 37.5 +0.1
BCLA Clavier 81.40 335 dP P 00 45 37.1 -0.1
comp=Z,7.2nm,0.9s
BGES Gesves 81.50 335 dP P 00 45 38.0 +0.3
comp=Z,9.5nm,0.9s
STU Stuttgart 81.50 332 eP P 00 45 38.7 +0.9
comp=Z,54nm,1.0s,baz=33,slow=5.5
CRES Cresnjev 81.54 327⇑iP P 00 45 38.0 0.0
MRAK Mrakovica 81.59 325 eP P 00 45 38.5 +0.1
RUDO Rudo 81.61 323 eP P 00 45 37.6 -0.8
SNF Seneffe 81.64 335 dP P 00 45 38.8 +0.3
comp=Z,15nm,0.9s
RCHB Rochefort 81.65 335 dP P 00 45 38.9 +0.4
comp=Z,7.0nm,1.1s
BMRD Maredsous 81.67 335 dP P 00 45 38.5 -0.1
comp=Z,15nm,0.9s
BLY Banja Luka 81.68 325 eP P 00 45 40.0 +1.3
LJU Ljubljana 81.74 327⇑iP P 00 45 39.3 +0.2
R32A Long Quarter, 81.78 45 P P 00 45 39.5 0.0
R32A IAmb IAmb 00 45 41.8
comp=Z,28nm,1.4s
STIP Stip 81.79 320 iP P 00 45 39.1 -0.3
STIP Stip 81.79 320 iP P 00 45 39.1 -0.3
WATA Walderalm 81.84 330 eP P 00 45 40.5 +0.7
comp=Z,16nm,1.0s
WTTA Wattenberg 81.88 330 iP P 00 45 40.8 +0.8
comp=Z,14nm,0.8s,SNR=5.3
BOJS Bojanci 81.89 326 iP P 00 45 40.1 +0.3
VAY Valandovo 81.89 320 iP P 00 45 41.1 +1.1
VAY Valandovo 81.89 320 iP P 00 45 41.0 +1.1
DOU Dourbes 81.91 335 dP P 00 45 39.5 -0.3
comp=Z,5.5nm,1.0s
SCIA State Center 81.91 39 P P 00 45 40.4 +0.4
baz=320
SKO Skopje 81.93 321 iP P 00 45 41.8 +1.6
ABTA Abfaltersbach 81.97 329 iP P 00 45 40.3 -0.1
comp=Z,6.4nm,1.1s
MGRS Mrkonjic Grad 81.98 325⇑iP P 00 45 41.7 +1.3
MOTA Moosalm 82.01 330 eP P 00 45 41.3 +0.7
comp=Z,32nm,0.9s,SNR=9.5
RETA Reutte 82.02 330 eP P 00 45 41.4 +0.8
comp=Z,21nm,1.1s,SNR=6.3

GHAJ Ghor Haditha 82.03 305 P P 00 45 41.6 +0.8
GHAJ IAmb IAmb 00 45 45.8
comp=Z,18nm,1.3s
CEY Cerknica 82.03 327⇑iP P 00 45 40.3 -0.3
BAIF Baives 82.06 335 eP P 00 45 40.4 -0.2
BAIF pmax pmax
comp=Z,65nm,2.0s
UBR Ueberruh 82.10 331 eP P 00 45 41.7 +0.7
comp=Z,8.9nm,1.1s,baz=33,slow=5.5
SOCY Socotra 82.14 279 P P 00 45 40.1 -1.7
SOCY IAmb IAmb 00 45 41.2
comp=Z,18nm,0.9s
BFO Black Forest 82.19 332 P P 00 45 41.6 +0.2
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 82.19 332 P P 00 45 41.6 +0.2
BFO Black Forest 82.19 332 eP P 00 45 42.2 +0.8
comp=Z,15nm,1.1s,baz=33,slow=5.5
E46A Sault Ste Mari 82.22 32 P P 00 45 41.6 +0.1
STAL STALIGIAL 82.29 328 IAmb IAmb 00 45 42.1
comp=Z,11nm,0.8s
I42A Draeger Farm, 82.32 36 P P 00 45 41.9 -0.3
I42A IAmb IAmb 00 45 42.8
comp=Z,9.0nm,0.8s
SKDS Skadanscina 82.36 327⇑iP P 00 45 41.5 -0.8
KSU1 Kansas State U 82.37 43 IAmb IAmb 00 45 43.2
comp=Z,21nm,0.9s
KSU1 Kansas State U 82.37 43 P P 00 45 42.4 -0.1
baz=319,SNR=5.7
FETA Feichten 82.42 330 eP P 00 45 43.4 +0.6
comp=Z,15nm,1.0s,SNR=5.2
UDBI Udbina 82.46 326 iP P 00 45 42.8 -0.1
CDF Champ du Feu 82.48 333 eP P 00 45 42.9 -0.1
CDF pmax pmax
comp=Z,16nm,1.1s
DAVA Damuels 82.51 331 iP P 00 45 43.8 +0.5
comp=Z,19nm,1.1s
PDG Podgorica 82.59 322⇑iP P 00 45 43.5 -0.1
KIJV Kijevo 82.61 325 iP P 00 45 43.8 +0.1
RICI Ricice 82.70 324 P P 00 45 43.2 -1.0
L40A Anamosa 82.72 38 IAmb IAmb 00 45 45.1
comp=Z,20nm,0.8s
AMTX Amarillo 82.74 49 P P 00 45 45.5 +0.8
AMTX IAmb IAmb 00 45 46.6
comp=Z,12nm,0.9s
AMTX Amarillo 82.74 49 P P 00 45 45.8 +1.2
baz=316
MSTX Muleshoe 82.78 50 P P 00 45 45.1 +0.2
MSTX Muleshoe 82.78 50 P P 00 45 45.4 +0.5
baz=316
DRME Dracevica, Mon 82.81 322⇑iP P 00 45 44.9 +0.1
MNTX Cornudas Mount 82.86 54 P P 00 45 45.6 +0.4
MNTX IAmb IAmb 00 45 47.2
comp=Z,16nm,1.5s
MNTX Cornudas Mount 82.86 54 P P 00 45 46.1 +1.0
baz=315,SNR=8.4
LIT Litokhoron 82.86 319 P P 00 45 44.7 -0.4
LIT pmax pmax
comp=Z,25nm,1.0s
LIT Litokhoron 82.86 319 P P 00 45 44.7 -0.4
FNA Florina 82.88 320 P P 00 45 45.7 +0.5
FNA pmax pmax
comp=Z,17nm,1.3s
FNA Florina 82.88 320 P P 00 45 45.7 +0.5
FNA IAmb IAmb 00 45 59.9
comp=Z,17nm,1.3s
CTI Castel Tesino 82.88 329 IAmb IAmb 00 45 45.5
comp=Z,7.8nm,0.8s
OHR Ohrid 82.90 321 iP P 00 45 42.1 -3.2
DAVOX Davos/Dischmat 82.94 330 LR LR 01 26 26.3
comp=Z,256nm,19.1s,baz=76,slow=38
STON Ston 82.94 323 eP P 00 45 43.8 -1.6
MORI Morici 83.02 325 iP P 00 45 44.1 -1.6
HINF Hinteralfeld 83.14 333 eP P 00 45 46.5 +0.1
HINF pmax pmax
comp=Z,24nm,1.7s
HAU Haudompre 83.15 333 eP P 00 45 46.9 +0.5
HAU pmax pmax
comp=Z,15nm,1.1s
ZIRJ Zirje 83.22 325 iP P 00 45 45.5 -1.2
VLDQ Val d'Or 83.23 27 IAmb IAmb 00 45 58.1
comp=Z,17nm,0.9s
KBN Korca 83.28 320 P P 00 45 47.2 -0.1
KBN pmax pmax
comp=Z,54nm,1.2s
KBN Korca 83.28 320 P P 00 45 47.1 -0.1
TUE Stuetta 83.39 330 IAmb IAmb 00 45 49.4
comp=Z,9.0nm,0.7s
TEOL Teolo 83.44 328 P P 00 45 48.1 +0.2
TEOL IAmb IAmb 00 45 49.0
comp=Z,16nm,0.9s
SALO Salr 83.67 329 P P 00 45 48.7 -0.5
SALO IAmb IAmb 00 45 49.6
comp=Z,18nm,0.9s
AGG Agios Georgios 83.77 318 P P 00 45 49.3 -0.5
AGG pmax pmax
comp=Z,24nm,1.2s
AGG Agios Georgios 83.77 318 P P 00 45 49.3 -0.5
AGG IAmb IAmb 00 46 05.8
comp=Z,24nm,1.2s
T35A Sooner Cattle 84.06 45 P P 00 45 51.7 +0.4
CABF La Chapelle 84.44 332 eP P 00 45 53.1 0.0
CABF pmax pmax
comp=Z,92nm,1.9s
WMOK Wichita Mounta 84.47 47 P P 00 45 53.9 +0.5
WMOK pmax pmax
comp=Z,12nm,1.1s
WMOK Wichita Mounta 84.47 47 P 00 45 53.9 +0.5
WMOK IAmb IAmb 00 45 55.1
comp=Z,12nm,1.1s
WMOK Wichita Mounta 84.47 47 P P 00 45 54.0 +0.6
baz=318,SNR=8.7
LOR Lormes 84.62 334 eP P 00 45 53.7 -0.2
LOR pmax pmax
comp=Z,17nm,1.0s
FLN La Foliniere 84.62 337 eP P 00 45 54.2 +0.3
FLN pmax pmax
comp=Z,36nm,1.4s
LDF La Druitiere 84.67 337 eP P 00 45 53.7 -0.4
LDF pmax pmax
comp=Z,104nm,2.3s
OKCFA Oklahoma City 84.69 46 P P 00 45 54.4 -0.1
M44A Midewin, Midew 84.70 37 P P 00 45 54.2 -0.2
HDIL Hopedale 84.80 38 P P 00 45 55.3 +0.3
baz=323
FNO Franklin 84.84 46 P 00 45 55.9 +0.7
MURB Monte Urbino 84.84 327 P P 00 45 56.4 +1.2
MURB IAmb IAmb 00 45 58.1
comp=Z,21nm,1.0s
PPT Papeete 84.92 119 LR LR 01 25 11.8
comp=Z,204nm,18.1s,baz=298,slow=37
GRR Gorron 85.07 337 eP P 00 45 56.3 +0.2
GRR pmax pmax
comp=Z,100nm,1.5s
X34A Smith Ranch, M 85.09 47 P P 00 45 56.9 +0.4
S39A Bolivar 85.11 42 IAmb IAmb 00 45 57.2
comp=Z,13nm,0.8s
LPL La Plagne 85.16 332 eP P 00 45 57.3 +0.4
LPL pmax pmax
comp=Z,34nm,1.1s
LPG La Plagne 85.17 331 eP P 00 45 57.5 +0.4
LPG pmax pmax
comp=Z,25nm,0.9s
R40A Maddies Statio 85.17 41 IAmb IAmb 00 45 57.4
comp=Z,12nm,0.7s
W35A Tecumseh 85.20 46 P 00 45 57.9 +0.8
W35A IAmb IAmb 00 45 58.2
comp=Z,13nm,0.7s
AVF Avril sur Loir 85.20 334 eP P 00 45 56.9 +0.1
AVF pmax pmax
comp=Z,23nm,1.0s
TUL1 Leonard 85.20 45 P P 00 45 57.9 +0.9
baz=320,SNR=5.0
SADO Sadowa 85.52 29 LR LR 01 29 10.8
comp=Z,63nm,19.3s,baz=236,slow=39
ABTX Abilene, Hawle 85.55 49 P P 00 45 59.5 +0.6
ABTX Abilene, Hawle 85.55 49 P P 00 45 59.6 +0.7
baz=318,SNR=7.2
TX32 Lajitas Array 85.57 54 IAmb IAmb 00 46 00.9
comp=Z,13nm,0.8s
TXAR Lajitas Array 85.58 54 P P 00 45 59.9 +0.8
comp=Z,12nm,0.8s,baz=298,slow=3.5,SNR=151
MBDF Montbardon 85.83 331 eP P 00 46 01.1 +0.9
MBDF pmax pmax
comp=Z,9.0nm,0.6s

TRQ Mont Tremblant 85.84 26 IAmb IAmb 00 46 12.9
comp=Z,16nm,1.0s
CCM Cathedral Cave 85.86 41 P P 00 46 00.6 +0.3
CCM pmax pmax
comp=Z,17nm,0.9s
CCM Cathedral Cave 85.86 41 P P 00 46 00.6 +0.3
CCM IAmb IAmb 00 46 01.5
comp=Z,17nm,0.8s
CCM Cathedral Cave 85.86 41 P P 00 46 00.6 +0.3
baz=322
HHAR Hobbs 85.89 43 IAmb IAmb 00 46 01.5
comp=Z,17nm,1.1s
SFIN Lafayette 85.94 37 P P 00 46 00.9 +0.3
baz=324
ORIF Oris-en-Rattie 85.98 332 eP P 00 46 01.1 +0.2
ORIF pmax pmax
comp=Z,13nm,0.9s
MGMO Mountain Grove 86.06 42 IAmb IAmb 00 46 02.3
comp=Z,15nm,0.9s
N47A Urbana 86.15 36 IAmb IAmb 00 46 02.7
comp=Z,21nm,1.0s
FVM French Village 86.31 40 IAmb IAmb 00 46 15.3
comp=Z,12nm,1.1s
U40A Yellville 86.38 43 P P 00 46 03.1 +0.2
baz=321,SNR=16
VIVF Saint-Julien-l 86.46 332 P P 00 46 03.5 +0.4
VIVF pmax pmax
comp=Z,23nm,1.1s
MFF Saint Martin d 86.47 336 eP P 00 46 03.5 +0.4
MFF pmax pmax
comp=Z,157nm,2.1s
W39A Magazine 86.80 44 P P 00 46 05.3 +0.4
baz=321
O48B Farmland 86.90 36 P P 00 46 05.3 -0.1
baz=325
JCT Junction City 87.04 51 P P 00 46 06.9 +0.7
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 87.04 51 P P 00 46 06.9 +0.7
JCT IAmb IAmb 00 46 07.8
comp=Z,7.6nm,0.8s
JCT Junction City 87.04 51 P P 00 46 07.2 +1.0
baz=318
FCAR Ozark Folk Cen 87.12 43 IAmb IAmb 00 46 07.4
comp=Z,18nm,1.0s
WHTX Lake Whitney, 87.25 48 IAmb IAmb 00 46 08.9
comp=Z,18nm,0.9s
WHTX Lake Whitney, 87.25 48 P P 00 46 08.0 +0.8
baz=319
CAF Calviac 87.27 334 eP P 00 46 08.0 +0.9
CAF pmax pmax
comp=Z,25nm,1.0s
MIAR Mount Ida 87.41 44 P P 00 46 08.6 +0.7
baz=321,SNR=8.6
ERPA Erie 87.47 31 P P 00 46 08.5 +0.5
baz=329
W41B Gary Mavity, V 87.61 43 P P 00 46 09.0 +0.1
baz=321
P49A Miami Univ. Ec 87.69 36 P P 00 46 09.6 +0.4
baz=326,SNR=5.8
LFF La Frestale 87.69 335 eP P 00 46 09.9 +0.9
LFF pmax pmax
comp=Z,29nm,1.4s
M53A WI Miller and 87.78 32 P P 00 46 10.0 +0.5
baz=328
X40A Basin Creek Fa 87.84 44 IAmb IAmb 00 46 24.4
comp=Z,23nm,1.4s
X40A Basin Creek Fa 87.84 44 P P 00 46 11.1 +1.1
baz=321,SNR=5.3
ACSO Alum Creek Sta 87.85 34 P P 00 46 10.6 +0.7
baz=327
WCI Wyandotte Cave 88.05 37 P P 00 46 11.8 +0.9
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 88.05 37 P P 00 46 11.8 +0.9
WCI IAmb IAmb 00 46 12.4
comp=Z,14nm,0.8s
WCI Wyandotte Cave 88.05 37 P P 00 46 11.5 +0.6
baz=325
M54A Oil Creek Stat 88.11 31 P P 00 46 11.6 +0.4
baz=329
OXZ Oxford 88.34 160 P P 00 46 13.1 +1.3
N54A Moraine State 88.45 32 P P 00 46 13.4 +0.6
baz=329
O53A New Philadelph 88.57 33 P P 00 46 13.9 +0.6
baz=328
P52A Corning 88.71 34 P P 00 46 14.2 +0.2
baz=327
CCAR Cane Creek 88.84 44 P P 00 46 15.4 +0.7
WVT Waverly 89.04 40 P P 00 46 16.0 +0.4
baz=324
SSPA Standing Stone 89.55 31 P P 00 46 18.7 +0.7
baz=330
O56A Blue Knob Stat 89.61 31 P P 00 46 18.7 +0.4
baz=330
MCWV Mont Chateau 89.62 32 P P 00 46 18.9 +0.6
baz=329
T50A Nancy 89.70 37 IAmb IAmb 00 46 20.1
comp=Z,16nm,0.8s
CLTN Cedars of Leba 89.78 39 P P 00 46 20.1 +1.0
Q54A Coxs Mills 89.79 33 IAmb IAmb 00 46 46.2
comp=Z,18nm,1.2s
ETSF Etsaut 89.93 335 eP P 00 46 20.9 +1.1
ETSF pmax pmax
comp=Z,26nm,1.3s
N59A State Game Lan 90.09 29 P P 00 46 20.8 +0.2
baz=331
TKL Tuckaleechee C 91.31 37 P P 00 46 26.9 +0.7
comp=Z,8.0nm,1.0s,baz=270,slow=6.1,SNR=4.9
KEST Kesra 92.48 325 LR LR 01 33 54.0
comp=Z,282nm,19.0s,baz=268,slow=39
ESDC Sonseca Array 93.93 336 LR LR 01 34 42.1
comp=Z,189nm,18.9s,baz=12,slow=39
TORD Torodi Ar. Bea 115.35 319 PKP PKiKP 00 52 01.7 -0.9
comp=Z,0.5nm,0.5s,baz=40,slow=2.4,SNR=5.9
TORD PP PP 00 52 58.6 -4.2
comp=Z,0.7nm,0.7s,baz=23,slow=5.9,SNR=3.6
SDV Santo Domingo 120.34 41 PKP PKPdf 00 52 12.2 -0.3
comp=Z,1.1nm,0.4s,baz=30,slow=6.4,SNR=4.2
DBIC Dimbokro 124.10 322 PKP PKPdf 00 52 19.5 +0.1
comp=Z,13nm,1.4s,baz=329,slow=2.2,SNR=4.1
ATAH Atahualpa 128.94 60 PKP PKiKP 00 52 30.8 +1.0
comp=Z,4.4nm,0.8s,baz=323,slow=6.1,SNR=4.7
TBTG Tabatinga, AM 131.76 49 eP PKiKP 00 52 35.4 +0.3
CZSB Cruzeiro do Su 132.97 54 eP PKPdf 00 52 36.6 +0.3
SYO Syowa Base 133.39 209⇓epPdiff pPdif 00 49 39.0 -2.9
LPAZ La Paz 142.39 57 PKP PKPdf 00 52 53.0 -1.3
comp=Z,1.5nm,0.8s,baz=18,slow=9.3,SNR=5.8
LPAZ La Paz 142.39 57 PKIKP PKPdf 00 52 53.0 -1.3
PB11 IPOC Station P 143.93 63 PKPbc 00 52 55.6 +1.4
RCBR Riachuelo 144.22 0 eP PKPdf 00 52 58.2 +1.3
NBPV Pedro Velho 144.80 359 eP PKPab 00 52 57.1 +0.4
PB02 IPOC Station P 144.84 65 PKPab 00 52 57.0 +0.1
H03N2 Juan Fernandez 145.14 91 T T 03 35 21.3
baz=300,slow=77,SNR=33
H03N3 Juan Fernandez 145.16 91 T T 03 35 22.2
baz=300,slow=77,SNR=27
H03N1 Juan Fernandez 145.16 91 T T 03 35 22.5
baz=300,slow=77,SNR=24
SMTB Santa Maria do 145.62 21 eP PKPab 00 53 00.2 +0.4
NBMA Muriti-CE 145.64 5 eP PKPdf 00 52 59.6 +0.2
NBLV Livramento - P 145.72 2 eP PKPbc 00 53 00.3 +0.5
SNAA Sanae 145.90 198 PKPdf PKPdf 00 52 55.9 -2.2
SNAA Sanae 145.90 198 PKP2 PKPdf 00 52 58.4 +0.3
SNAA Sanae 145.90 198 PKPdf PKPdf 00 52 58.4 +0.3
LVC Limon Verde 146.39 66 eP PKPbc 00 53 02.5 +0.5
NBCA Caruaru-PE 146.60 0 eP PKPdf 00 53 02.2 +1.2
PTLB Pontes e Lacer 146.94 44 eP PKPbc 00 53 03.2 -0.1
SNDB Serra Nova Dou 147.38 29 eP PKPbc 00 53 05.0 +0.4
VNA2 Neumayer--Watz 147.46 197 PKPdf PKPdf 00 53 00.6 -0.1
baz=126,slow=1.8
VNA3 Neumayer Olymp 147.69 195 PKPdf PKPdf 00 52 59.2 -1.9
VNA1 Neumayer--Stat 147.86 197 PKPdf PKPdf 00 53 00.9 -0.3
NBAN Anadia - AL 148.03 1 eP PKPdf 00 53 04.8 +1.4
ARAG Araguaiana, MT 150.59 33 eP PKPdf 00 53 08.4 +1.1
BO02 Sierra Bellavi 151.82 87 PKPbc 00 53 15.6 +0.4
BDFB Brasilia 151.92 26 PKPbc PKPbc 00 53 16.3 +0.3
comp=Z,3.9nm,0.6s,baz=151,slow=4.3,SNR=7.0
PLCA Paso Flores 153.97 99 PKPbc PKPbc 00 53 19.6 -0.1
comp=Z,1.8nm,0.7s,baz=322,slow=4.6,SNR=6.3
PLCA PKPab PKPab 00 53 34.4 +1.1
comp=Z,3.1nm,0.8s,baz=295,slow=3.7,SNR=6.8
GUA01 Guaratinga, BA 154.67 9 eP PKPdf 00 53 14.1 +0.8
CPUP Villa Florida 156.54 56 eP PKPdf 00 53 16.1 +0.6
PET01 Itanhaem-SP 160.13 32 eP PKPdf 00 53 20.8 +0.9

GII 05 00:33:50.4±0.0,29.98N×32.37E,h1km±1km,MD3.0/7, Mm3.0/6
HLW 05 00:33:51.5,29.92N×32.43E,h1km±1km,Md2.8,Ml3.3
ISC 05 00:33:50.9±1.7,29.95N±0.05×32.39E±0.04,h2km±14km, n27,σ0.57/41,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHAG	Hagoal	0.25	271	P	Pb	00 33 57.8	-0.5
	baz=277						
SUZ	Suez	0.40	106	P	Pg	00 33 59.0	+0.4
	baz=102						
KOT	Kottamia	0.49	268	S	Sb	00 34 09.8	0.0
	baz=272						
ZAF	Zafarana	0.68	168	P	Pg	00 34 04.2	+0.3
	baz=171						
GLL	Jalalah	0.70	238	P	Pb	00 34 05.5	-0.4
	baz=242						
HRDS	Abu Rudays	1.46	147	P	Pn	00 34 17.7	-0.6
	baz=147						
NBNS	Bani Suef	1.63	216	P	Pn	00 34 20.9	+0.3
	baz=218						
GRB	Gharib	1.71	168	P	Pn	00 34 21.1	-0.6
	baz=169						
KZIT	Kziot	1.98	61	Pn	Pn	00 34 25.1	-0.3
KZIT				Sn	Sn	00 34 51.4	+0.7
HKAT	Jabal Katrina	1.99	135	P	Pn	00 34 24.9	-0.9
	baz=135						
KRMI	Paran Flat	2.03	85	Pn	Pn	00 34 25.2	-0.9
KRMI				Sn	Sn	00 34 52.2	+0.1
MBRI	Mt Berech	2.20	93	Pn	Pn	00 34 28.8	+0.3
EIL	Elat	2.24	96	Pn	Pn	00 34 28.4	-0.6
EIL				Sn	Sn	00 34 58.5	+1.3
HRFI	Mount Harif	2.30	87	Pn	Pn	00 34 29.1	-0.7
HRFI				Sn	Sn	00 34 59.4	+0.8
PRNI	Paran	2.30	79	Pn	Pn	00 34 29.5	-0.3
PRNI				Sn	Sn	00 35 00.1	+1.4
ZFRI	Zfri	2.48	75	Pn	Pn	00 34 31.6	-0.7
ZFRI				Sn	Sn	00 35 03.7	+0.5
TAMRE	El Minia	2.60	210	P	Pn	00 34 34.2	+0.2
	baz=212						
AMAZ	Amatzia	2.69	53	Pn	Pn	00 34 34.9	-0.3
AMAZ				Sn	Sn	00 35 07.8	-0.4
YTIR	Yattir	2.74	58	Pn	Pn	00 34 35.6	-0.3
YTIR				Sn	Sn	00 35 09.1	-0.5
DSI	Dead Sea	3.04	57	Pn	Pn	00 34 40.0	0.0
GHAJ	Ghor Haditha	3.05	63	Pn	Pn	00 34 40.0	-0.1
SLTI	Sal'it	3.22	44	Pn	Pn	00 34 42.8	+0.3
SLTI				Sn	Sn	00 35 21.6	+0.1
HMDT	Nahal Hemdat	3.54	49	Pn	Pn	00 34 46.8	0.0
HMDT				Sn	Sn	00 35 29.9	+0.7
MMLI	Mount Malkishu	3.59	46	Pn	Pn	00 34 48.0	+0.4
MMLI				Sn	Sn	00 35 31.1	+0.5
MMA0B	Mount Meron ar	4.00	39	Pn	Pn	00 34 52.9	-0.3
MMA0B				Sn	Sn	00 35 40.2	-0.4
GEM	Giv'at Ha'Em	4.29	40	Pn	Pn	00 34 57.1	0.0
GEM				Sn	Sn	00 35 47.2	-0.5
NATI	Neve Ativ	4.37	40	Pn	Pn	00 34 58.3	+0.1
NATI				Sn	Sn	00 35 49.9	+0.3

IDC 05 00:39:42.3±1.1,32.47N×137.64E,h397km±12km,mb3.2/9, mb1 3.3/13,mb1mx3.0/55,mbtmp4.0/13,Error ellipse: s-maj=27.3km s-min=12.3km az=77.0
NEIC 05 00:39:43.1±0.9,32.47N±0.10×137.6E±0.1,h406km±7km, mb4.0/28,Error ellipse: s-maj=14.6km s-min=12.2km az=144.0
JMA 05 00:39:43.3±0.4,32.47N×137.42E,h403km±4km,M3.4
ISC 05 00:39:42.2±0.7,32.48N±0.08×137.58E±0.07,h400km,n71, σ1.27/76,mb3.9/22,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	1.32	330	P	Pn	00 40 36.0	+1.9
TTO2	TONANKAI O.B.S	1.34	340	P	Pn	00 40 36.3	+2.1
TTO3	TONANKAI O.B.S	1.39	354	P	Pn	00 40 36.9	+2.3
TK02	Tokai 2	1.47	6	P	Pn	00 40 37.1	+2.2
JHJ2	Mitsune	1.98	71	P	Pn	00 40 40.4	+2.4
JHJ2	Mitsune	1.98	71	Pn	Pn	00 40 39.2	+1.2
JIE	Ise	2.04	339	P	Pn	00 40 39.7	+1.3
JTNC	Tanabenakahech	2.13	309	P	Pn	00 40 39.6	+0.6
JWY	Kouya	2.41	317	P	Pn	00 40 42.1	+1.2
INU	Inuyama	2.90	351		Pn	00 40 45.9	+1.3
JAI	Aioi	2.94	297	P	Pn	00 40 45.5	+0.6
JOD2	Odawara 2	3.05	24	P	Pn	00 40 47.6	+1.9
JOD2				eS	S	00 41 38.7	+1.5
JYN	Shimob	3.12	15	P	Pn	00 40 49.1	+2.7
JGF	Kuroka	3.12	357		Pn	00 40 47.5	+1.2
JWT	Wachi	3.33	328	P	Pn	00 40 49.3	+1.1
JMN	Monobe	3.35	293	P	Pn	00 40 49.3	+0.9
JMN	Monobe	3.35	293		Pn	00 40 49.4	+1.0
JRY	Ryogami san	3.69	17	P	Pn	00 40 53.1	+1.7
JRY				eS	S	00 41 48.5	+1.0
JTO	Tosashimizu	4.05	277	P	Pn	00 40 55.3	+0.5
MJAR	Matsushiro Arr	4.09	7	P	Pn	00 40 55.9	+0.9
	1.0nm,0.3s,baz=186,slow=9.7,SNR=14						
MJAR				S	S	00 41 53.4	-0.8
	0.2nm,0.3s,baz=180,slow=16,SNR=4.7						
MJAR	Matsushiro Arr	4.09	7		Pn	00 40 56.1	+1.1
MAJO	Matsushiro	4.09	7		Pn	00 40 56.7	+1.7
MAT	Matsushiro	4.09	7	P	Pn	00 40 55.7	+0.7
MAT				S	S	00 41 53.2	-1.0
MJB9	Matsu-Tunnel	4.09	7		Pn	00 40 56.9	+1.8
JYT	Yasato	4.32	29	Pn	Pn	00 40 57.6	+0.4
JYT				Sn	S	00 41 54.5	-3.7
JHS	Saijyo	4.49	305	P	Pn	00 41 00.0	+1.0
JHS	Saijyo	4.49	305		Pn	00 41 00.1	+1.0
JSD	Sado	5.57	6		Pn	00 41 11.2	+1.1
JNU	Nakatsue	5.68	278	P	Pn	00 41 11.9	+0.5
	0.4nm,0.3s,baz=149,slow=8.3,SNR=4.7						
JNU	Nakatsue	5.68	278		Pn	00 41 12.2	+0.7
JMM	Marumori	5.98	25	Pn	Pn	00 41 15.2	+0.7
JMM				Sn	S	00 42 27.1	-2.7
KSRS	Korea Array	9.35	305	P	Pn	00 41 53.9	+1.3
	0.6nm,0.3s,baz=122,slow=10,SNR=7.3						
ERM	Erimo	10.50	23	P	P	00 42 05.9	+0.7
KLR	Kul'dur	17.30	347	P	P	00 43 19.3	+0.3
	0.3nm,0.3s,baz=160,slow=8.4,SNR=6.9						
ULN	Ulaanbaatar	27.71	313	P	P	00 44 56.7	+0.8
ULN				IAmb	IAmb	00 45 00.8	
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	28.11	312	P	P	00 45 00.0	+0.7
	comp=Z,0.6nm,0.4s,baz=121,slow=8.2,SNR=7.8						
SONM	Songino Array	28.11	312	P	P	00 44 59.9	+0.6
ZAA0	Zalesovo Array	42.83	316	P	P	00 47 03.1	+0.5
ZALV	Zalesovo Beam	42.83	316	P	P	00 47 03.1	+0.5
	comp=Z,0.9nm,0.4s,baz=86,slow=8.2,SNR=6.7						
MK31	Makanchi Array	44.03	306	P	P	00 47 12.7	+0.5
MKAR	Makanchi Array	44.03	306	P	P	00 47 12.5	+0.3
	comp=Z,1.4nm,0.6s,baz=88,slow=9.7,SNR=15						
MAKZ	Makanchi	44.25	306	P	P	00 47 14.3	+0.4
MAKZ				IAmb	IAmb	00 47 14.6	
	comp=Z,2.0nm,0.5s						
KURK	Kurchatov	46.41	311	P	P	00 47 30.5	+0.1
BRVK	Borovoye	51.47	315	P	P	00 48 08.8	+0.5
N19K	Bonanza Creek	51.58	35	P	P	00 48 14.4	+5.2
N19K				IAmb	IAmb	00 48 52.5	
	comp=Z,18nm,1.2s						
WB2	Warramunga Arr	52.22	184	P	P	00 48 13.9	-0.3
WB2				IAmb	IAmb	00 48 21.0	
	comp=Z,18nm,1.6s						
WRA	Warramunga Arr	52.22	184	P	P	00 48 14.2	0.0
	comp=Z,0.9nm,0.5s,baz=0.7,slow=7.6,SNR=12						
WRA	Warramunga Arr	52.22	184	P	P	00 48 14.4	+0.2
WR0	Warramunga Arr	52.22	184	P	P	00 48 14.2	0.0
WR0				IAmb	IAmb	00 48 16.3	
	comp=Z,11nm,1.6s						
PPLA	Purkeypile	52.70	33	P	P	00 48 16.9	-0.4
PPLA				IAmb	IAmb	00 48 42.9	
	comp=Z,27nm,1.6s						
KKAR	Karatay Array	52.77	302	P	P	00 48 18.6	+0.5
TOLK	Toolik Lake Re	53.94	26	P	P	00 48 26.5	+0.4
CCB	Clear Creek Bu	54.63	31	P	P	00 48 28.8	-2.1
CCB				IAmb	IAmb	00 48 29.5	
	comp=Z,10nm,1.7s						
CHGR	Chuyangaron	54.84	297	P	P	00 48 33.5	+0.5
CHGR				IAmb	IAmb	00 48 33.9	
	comp=Z,7.1nm,0.6s						
ASAR	Alice Springs	55.94	184	P	P	00 48 41.1	+0.4
	comp=Z,0.9nm,0.5s,baz=16,slow=12,SNR=11						
ASAR	Alice Springs	55.94	184	P	P	00 48 40.8	+0.1
ABKAR	Akbulak array	58.52	311	P	P	00 48 58.6	+0.5
ABKAR				IAmb	IAmb	00 48 58.8	
	comp=Z,1.5nm,0.5s						
HRA	Herat	61.49	294	P	P	00 49 18.6	0.0
HRA				IAmb	IAmb	00 49 32.1	
	comp=Z,6.9nm,1.8s						
ARCES	ARCESS Array B	67.14	339	P	P	00 49 55.1	+1.1
	comp=Z,3.1nm,1.0s,baz=54,slow=7.9,SNR=4.5						
KAAM	Kaadhehdhoo	68.45	256	P	P	00 50 02.0	-1.0
FIA1	FINESS Array S	71.35	332	P	P	00 50 20.1	+0.5
FINES	FINESS Array B	71.35	332	P	P	00 50 20.2	+0.6
	comp=Z,1.4nm,0.5s,baz=69,slow=5.5,SNR=14						
NLWA	Neilton Lookou	72.14	45	P	P	00 50 24.2	-0.3
KMRM	Mail Ridge	75.77	51	P	P	00 50 42.2	-3.3
AKASG	Malin Array Be	75.93	322	P	P	00 50 46.2	+0.1
	comp=Z,0.3nm,0.4s,baz=40,slow=17,SNR=2.9						
NC405	NORSAR Array S	76.90	336	P	P	00 50 52.2	+0.9
NC405				IAmb	IAmb	00 51 28.8	
	comp=Z,16nm,1.3s						
NB201	NORSAR Array S	77.09	336	P	P	00 50 51.0	-1.4
NC204	NORSAR Array S	77.10	337	P	P	00 50 53.1	+0.6
NOA	NORSAR Array B	77.12	336	P	P	00 50 53.2	+0.6
	comp=Z,0.5nm,0.6s,baz=45,slow=5.5,SNR=3.3						
SOCY	Socotra	78.21	277	P	P	00 50 57.8	-1.6
SOCY				IAmb	IAmb	00 51 02.1	
	comp=Z,3.7nm,1.1s						
RAYN	Ar Rayn	79.40	291	P	P	00 51 06.0	+0.4
RAYN				IAmb	IAmb	00 51 14.5	
	comp=Z,4.0nm,1.5s						

KRSC 05 00:40:26.9±1.6,56.04N×163.82E,h7km±17km,ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.59	287	eP	Pg	00 40 38.2	0.0
KBTR				S	Sg	00 40 45.2	-0.7
KBG	Krutoberegovo	0.66	290	eP	Pg	00 40 39.6	-0.1
KBG				eS	Sg	00 40 47.4	-0.9
SMKR	Semkarok	1.42	294	eP	Pb	00 40 53.5	-0.3
SMKR				eS	Sn	00 41 12.3	+0.2
BKI	Bering	1.48	124	eP	Pg	00 40 55.5	+0.3
BKI				eS	Sg	00 41 15.4	+1.0
BDR	Baidarnaya	1.55	291	eP	Pb	00 40 55.7	-0.3
BDR				eS	Sb	00 41 15.6	-0.2
SRKR	Sorokina	1.60	294	eP	Pb	00 40 56.5	-0.3
SRKR				eS	Sg	00 41 18.8	+0.4
ZLN	Zelenaya	1.69	271	eP	Pb	00 40 58.4	0.0
ZLN				eS	Sg	00 41 20.9	-0.5
CIRR	Tsirk	1.73	274	eP	Pb	00 40 58.5	-0.5
CIRR				eS	Sg	00 41 22.1	-0.2
LGNR	Loginova	1.76	273	eP	Pb	00 40 59.5	-0.1
LGNR				S	Sb	00 41 22.5	+0.5
BZGR	Bezymyannyi-Gr	1.76	268	eP	Pb	00 40 59.3	-0.2
BZGR				S	Sb	00 41 22.1	+0.3
KLY	Klyuchi	1.79	280	eP	Pn	00 40 57.6	-0.6
KLY				eS	Sn	00 41 19.4	-1.8
KRSR	Krestovskiy	1.83	277	eP	Pn	00 40 59.6	+0.7
KRSR				eS	Sg	00 41 25.3	-0.5
BZWR	Bezymyannyi-We	1.87	269	eP	Pb	00 41 01.5	0.0
BZWR				eS	Sb	00 41 25.3	+0.2
KIRR	Kirishev	1.96	269	eP	Pb	00 41 02.4	-0.5
KIRR				eS	Sb	00 41 27.2	-0.4
KPT	Kopyto	2.02	269	eP	Pb	00 41 03.3	-0.7
KPT				eS	Sb	00 41 30.6	+1.2
KMNR	Kamenistaya	2.04	264	eP	Pb	00 41 03.7	-0.6
KMNR				S	Sb	00 41 31.1	+1.2
TUMD	Tumrok D	2.12	248	eP	Pb	00 41 04.2	-1.3
TUMD				eS	Sn	00 41 29.9	+0.7
TUMR	Tumrok	2.22	252	eP	Pb	00 41 06.3	-1.0
TUMR				S	Sb	00 41 35.6	+0.6
ESO	Esso	2.88	270	P	Pb	00 41 17.5	-1.1
OSSR	Ossora	3.25	353	eP	Pn	00 41 18.8	+0.7
SDLR	Sedlovina	3.98	228	eP	Pn	00 41 31.0	+2.6
SMAR	Somma	4.03	228	eP	Pn	00 41 31.8	+2.7
AVH	Avacha	4.05	229	P	Pn	00 41 32.6	+3.2
UGLR	Uglovaya	4.06	228	eP	Pn	00 41 31.6	+2.1
KOK	Koryaka	4.08	230	eP	Pn	00 41 32.5	+2.8
GNL	Ganaly	4.13	238	P	Pn	00 41 35.0	+4.6
RUS	Russkaya	4.77	223	eP	Pn	00 41 41.1	+2.0
GRL	Gorelyy	4.85	226	P	Pn	00 41 43.9	+3.6
MTVR	Mutnovka	4.86	225	eP	Pn	00 41 43.2	+2.7

NEIC 05 00:40:52.4±1.2,20.3S±0.1×178.4W±0.1,h595km±6km, mb4.1/15,Error ellipse: s-maj=20.7km s-min=16.9km az=179.0
IDC 05 00:40:54.6±2.4,19.94S×178.70W,h622km±24km,mb3.2/8, mb1 3.4/10,mb1mx3.1/41,mbtmp4.2/10,Error ellipse: s-maj=61.4km s-min=16.7km az=158.0
ISC 05 00:40:52.0±0.7,20.3S±0.1×178.41W±0.09,h600km,n33, σ1.24/32,mb4.0/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.18	306	P	P	00 42 20.1	+1.2
	5.3nm,0.3s,baz=113,slow=23,SNR=34						
MSVF	Nonsavu	4.18	306	P	P	00 42 18.8	-0.1
AFI	Afiamalu	8.94	46	P	P	00 43 01.1	+0.5
FUNA	Funafuti	11.88	348	P	P	00 43 27.8	-1.9
DZM	Mont Dzumac	14.25	260	P	P	00 43 55.2	+1.8
	0.5nm,0.3s,baz=63,slow=16,SNR=6.4						
DZM	Mont Dzumac	14.25	260	P	P	00 43 54.7	+1.3
CTA	Charters Tower	33.13	264	P	P	00 46 40.2	-0.3
	2.1nm,0.3s,baz=100,slow=9.0,SNR=2.3						
PMG	Port Moresby	34.91	283	P	P	00 46 54.5	-0.9
	4.9nm,0.3s,baz=169,slow=5.2,SNR=4.4						
JAY	Jayapura	43.60	289	P	P	00 48 04.2	-0.9
	11nm,0.7s,baz=146,slow=8.9,SNR=5.1						
ASAR	Alice Springs	44.20	257	P	P	00 48 08.8	-0.8
	0.9nm,0.5s,baz=90,slow=7.8,SNR=12						
WB0	Warramunga Arr	44.23	262	IAmb	IAmb	00 48 25.9	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	44.23	262	P	P	00 48 08.6	-1.2
WB0				IAmb	IAmb	00 48 25.9	
	comp=Z,11nm,1.4s						
WB0	Warramunga Arr	44.23	262	P	P	00 48 08.6	-1.2
WB2	Warramunga Arr	44.24	262	P	P	00 48 08.7	-1.2
WB2				IAmb	IAmb	00 48 09.5	
	comp=Z,5.4nm,1.2s						
WRA	Warramunga Arr	44.26	262	P	P	00 48 08.7	-1.3
	comp=Z,0.7nm,0.3s,baz=97,slow=7.5,SNR=39						
WRA	Warramunga Arr	44.26	262	P	P	00 48 08.5	-1.4
WRA				IAmb	IAmb	00 48 15.2	
	comp=Z,0.3nm,0.9s						
PTCN	Pitcairn Islan	44.66	106	P	P	00 48 09.9	-3.1
QSPA	South Pole Qui	69.82	180	P	P	00 51 04.3	+1.1
QSPA				IAmb	IAmb	00 51 05.3	
	comp=Z,3.5nm,0.8s						
USA0B	Ussuriysk Arra	78.54	326	P	P	00 51 53.2	+0.9
USA0B				IAmb	IAmb	00 51 55.3	
	comp=Z,11nm,0.8s						
SII	Sitkinak Islan	79.19	13	P	P	00 51 56.4	+0.9
PNTR	Pine Nut	80.66	42	P	P	00 52 04.3	+0.5
PNTR				IAmb	IAmb	00 52 17.0	
	comp=Z,13nm,1.5s						
YERR	Yerington	80.82	43	P	P	00 52 05.5	+0.8
DBO	Dodson Butte	80.89	37	P	P	00 52 04.0	-0.8
DBO				IAmb	IAmb	00 52 10.2	
	comp=Z,10nm,1.4s						
NVAR	Mina Array Bea	81.11	44	P	P	00 52 06.6	+0.4
	comp=Z,0.8nm,0.7s,baz=221,slow=7.4,SNR=6.1						
NVAR	Mina Array Bea	81.11	44	P	P	00 52 07.3	+1.1
K05A	Summer Lake	82.01	39	P	P	00 52 11.6	+0.9
K05A				IAmb	IAmb	00 52 16.1	
	comp=Z,18nm,1.5s						
U15A	North Rim	84.08	48	P	P	00 52 22.4	+1.3
U15A				IAmb	IAmb	00 52 22.9	
	comp=Z,1.4nm,0.6s						
KAIM	Kayak Island	84.56	16	P	P	00 52 23.7	+1.1
TX31	Lajitas Ar. Si	87.24	57	P	P	00 52 36.6	+0.3
TX31				IAmb	IAmb	00 52 49.0	
	comp=Z,3.0nm,1.4s						
TX32	Lajitas Array	87.24	57	P	P	00 52 36.6	+0.4
TXAR	Lajitas Array	87.25	57	P	P	00 52 37.8	+1.6
	comp=Z,1.3nm,0.8s,baz=224,slow=6.9,SNR=15						
TXAR	Lajitas Array	87.25	57	P	P	00 52 37.6	+1.4
PDAR	Pinedale Array	89.04	43	P	P	00 52 44.8	+0.3
	comp=Z,0.4nm,0.5s,baz=228,slow=3.8,SNR=4.6						

IDC 05 00:46:13.3±2.2,6.99S×128.80E,h0km,mb3.7/1, mb1 3.8/4,mb1mx3.3/37,mbtmp3.6/4,ML3.6/3,Error ellipse: s-maj=104.4km s-min=27.7km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.46	195	Pn	Pn	00 48 59.0	+0.6
	0.7nm,0.3s,baz=12,slow=12,SNR=37						
FITZ				Sn	Sn	00 50 55.3	-12
	0.5nm,0.3s,baz=82,slow=16,SNR=5.3						
WRA	Warramunga Arr	13.95	158	Pn	Pn	00 49 31.3	-1.1
	0.3nm,0.3s,baz=331,slow=14,SNR=11						
WRA				Sn	Sn	00 51 52.0	-16
	0.7nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	Alice Springs	17.29	164	P	Pn	00 50 16.5	+0.2
	0.1nm,0.3s,baz=340,slow=10,SNR=2.2						
MKAR	Makanchi Array	67.57	327	P	P	00 57 11.7	0.0
	0.3nm,0.4s,baz=123,slow=8.2,SNR=8.3						

IDC 05 00:51:04.8±1.1,4.61S×94.28E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.6/47,mbtmp3.9/8,MS3.5/7,Ms1 3.5/7, ms1mx3.0/84,Error ellipse: s-maj=33.1km s-min=27.5km az=83.0
NEIC 05 00:51:05.6±1.6,4.65S±0.05×94.52E±0.09,h10km±1km, mb4.5/32,Error ellipse: s-maj=16.0km s-min=7.7km az=108.0
ISC 05 00:51:05.1±0.5,4.66S±0.08×94.44E±0.08,h10km,n56, σ0.88/49,mb4.4/21,MS3.6/6,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	6.70	28	Pn	Pn	00 52 42.6	-1.1
COCO	West Island	7.85	163	Pn	Pn	00 52 59.0	-0.4
BKNI	Bangkinang	8.24	53	Pn	Pn	00 53 04.8	0.0
MNAI	Manna	8.49	88	Pn	Pn	00 53 06.5	-1.8
RPSI	Rantau Prapat	8.57	32	Pn	Pn	00 53 08.0	-1.4
KULM	Kulim	11.66	32	Pn	Pn	00 53 50.6	-1.2
PALK	Pallekele	18.13	311	LR	LR	01 00 36.7	
	comp=Z,117nm,21.7s,baz=231,slow=32						
DGAR	Diego Garcia	22.04	262	P	P	00 55 59.4	-0.8
CMAR	Chiang Mai Arr	23.39	11	P	P	00 56 15.6	+1.3
	1.7nm,0.3s,baz=204,slow=8.6,SNR=13						
CMAR	Chiang Mai Arr	23.39	11	P	P	00 56 14.8	+0.4
RER	Riviere de l'E	40.97	243	P	P	00 58 48.6	0.0
WRA	Warramunga Arr	41.69	115	P	P	00 58 56.6	+2.1
	0.5nm,0.8s,baz=287,slow=8.9,SNR=3.6						
SOCY	Socotra	43.56	293	P	P	00 59 09.0	-0.8
ABPO	Ambohimpanom	48.19	249	P	P	00 59 46.9	+0.4
ABPO				IAmb	IAmb	00 59 50.7	
	comp=Z,3.7nm,1.1s						
TARG	Taragay, Kyrgy	48.60	343	P	P	00 59 49.9	+0.4
TARG				IAmb	IAmb	01 00 00.1	
	comp=Z,2.0nm,1.0s						
GAR	Garm	48.83	335	P	P	00 59 51.0	0.0
GAR				IAmb	IAmb	00 59 57.5	
	comp=Z,3.3nm,1.2s						
CHGR	Chuyangaron	49.05	334	P	P	00 59 52.9	+0.3
CHGR				IAmb	IAmb	01 00 01.1	
	comp=Z,3.6nm,0.7s						
HRA	Herat	49.30	324	P	P	00 59 55.2	+0.4
JSU	Suzuyama	49.71	41	P	P	00 59 58.2	+0.5
AAK	Ala-Archa	50.44	341	LR	LR	01 22 45.8	
	comp=Z,52nm,18.6s,baz=132,slow=38						
STKA	Stephens Creek	51.75	127	LR	LR	01 20 32.7	
	comp=Z,103nm,21.3s,baz=284,slow=34						
KSRS	Korea Array	52.21	34	LR	LR	01 23 17.0	
	comp=Z,19nm,19.9s,baz=260,slow=37						
KS19	Wonju Array Si	52.21	34	P	P	01 00 16.6	+0.2
KS19				IAmb	IAmb	01 00 33.8	
	comp=Z,6.1nm,1.1s						
KKAR	Karatay Array	52.24	338	P	P	01 00 16.4	-0.1
MK31	Makanchi Array	52.35	349	P	P	01 00 17.6	+0.3
MKAR	Makanchi Array	52.35	349	P	P	01 00 17.4	+0.2
	comp=Z,2.2nm,0.9s,baz=152,slow=7.9,SNR=15						
MKAR	Makanchi Array	52.35	349	P	P	01 00 17.2	-0.1
SONM	Songino Array	53.32	10	P	P	01 00 25.8	+1.3
	comp=Z,0.8nm,0.9s,baz=193,slow=9.4,SNR=7.3						
SONM	Songino Array	53.32	10	P	P	01 00 25.9	+1.4
KIBK	Kibwezi	56.33	270	P	P	01 00 47.0	0.0
KURK	Kurchatov	56.81	348	P	P	01 00 49.0	-0.6
KURK				IAmb	IAmb	01 00 51.5	
	comp=Z,2.1nm,1.1s						
KMBO	Kilima Mbogo	57.21	272	P	P	01 00 52.6	-0.8
MJAR	Matsushiro Arr	57.87	41	LR	LR	01 27 53.5	
	comp=Z,27nm,18.3s,baz=160,slow=38						
JSD	Sado	58.77	40	P	P	01 01 02.6	-1.0
ZAA0	Zalesovo Array	58.95	353	P	P	01 01 04.0	-0.5
ZAA0				IAmb	IAmb	01 01 05.9	
	comp=Z,3.3nm,0.8s						
ZALV	Zalesovo Beam	58.95	353	P	P	01 01 04.7	+0.2
	comp=Z,3.1nm,0.7s,baz=177,slow=4.9,SNR=19						
ZALV	Zalesovo Beam	58.95	353	P	P	01 01 04.2	-0.3
JMM	Marumori	60.32	41	P	P	01 01 14.2	-0.1
JMM				IAmb	IAmb	01 01 24.5	
	comp=Z,10nm,1.0s						
ABKAR	Akbulak array	61.49	335	P	P	01 01 22.6	+0.6
ABKAR	Akbulak array	61.49	335	P	P	01 01 22.9	+0.9
ABKAR				IAmb	IAmb	01 01 24.0	
	comp=Z,5.0nm,0.8s						
EIL	Elat	66.38	305	LR	LR	01 29 31.4	
	comp=Z,69nm,18.9s,baz=242,slow=35						
BOSA	Boshof	69.53	241	P	P	01 02 15.2	+0.5
	comp=Z,3.4nm,1.0s,baz=111,slow=8.0,SNR=3.3						
BOSA	Boshof	69.53	241	P	P	01 02 14.9	+0.2
BOSA				IAmb	IAmb	01 02 23.9	
	comp=Z,2.3nm,0.8s						
BRTR	Keskin Array B	71.12	315	P	P	01 02 24.6	+0.4
	comp=Z,0.6nm,0.6s,baz=130,slow=7.6,SNR=5.0						
LBZ	Lake Benmore	76.57	134	P	P	01 02 56.2	+0.2
MA2	Magadan	77.77	26	P	P	01 03 01.8	-0.5
MA2				IAmb	IAmb	01 03 19.5	
	comp=Z,2.7nm,0.3s						
AKASG	Malin Array Be	78.26	324	P	P	01 03 06.2	+1.0
	comp=Z,0.1nm,0.3s,baz=90,slow=4.2,SNR=4.8						
TARA	Tarawa	78.63	88	P	P	01 03 05.8	-2.2
BURAR	Bucovina Array	79.64	320	P	P	01 03 13.2	+0.2
BUR08	Bucovina Ar. S	79.66	320	P	P	01 03 13.5	+0.3
BUR08				IAmb	IAmb	01 03 15.9	
	comp=Z,1.6nm,0.9s						
BKZ	Black Stump Fm	80.91	129	P	P	01 03 19.8	-0.3
BKZ				IAmb	IAmb	01 03 30.5	
	comp=Z,5.5nm,1.0s						
TIR	Tirane	81.58	313	P	P	01 03 21.8	-1.6
PDG	Podgorica	82.28	314	P	P	01 03 26.0	-1.0
PDG				IAmb	IAmb	01 03 43.3	
	comp=Z,11nm,1.1s						
SCTE	Santa Cesarea	82.32	311	P	P	01 03 26.7	-0.7
NOA	NORSAR Array B	90.76	331	LR	LR	01 46 45.7	
	comp=Z,21nm,19.3s,baz=175,slow=37						
TXAR	Lajitas Array	150.06	33	PKPbc	PKiKP	01 10 59.0	+1.1
	comp=Z,0.1nm,0.5s,baz=183,slow=1.8,SNR=2.3						

IDC 05 01:05:59.4±3.4,8.71S×118.11E,h126km±26km,mb3.2/4, mb1 3.3/7,mb1mx3.0/36,mbtmp3.6/7,Error ellipse: s-maj=58.0km s-min=16.1km az=65.0
DJA 05 01:06:01.9±0.3,9°S±3°×11°8E±°,h111km±5km,M3.9/20, mb3.8/3,mB5.0/1,MLv4.0/20,Mw(mB)4.3/1
ISC 05 01:06:01.1±0.7,8.75S±0.06×118.37E±0.05,h150km,n27, σ1.68/33,mb3.6/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.59	262	P	Pn	01 06 21.1	-1.8
PLAI				S	Sn	01 06 35.8	-3.7
WBSI	Waikabubak, Su	1.34	131	P	Pn	01 06 28.2	-0.9
WBSI				S	Sn	01 06 47.9	-2.6
BASI	Baing, Sumba	2.62	124	P	Pn	01 06 44.6	+0.9
BASI				S	Sn	01 07 15.4	-1.3
DNP	Denpasar	3.12	271	P	Pn	01 06 49.5	-0.5
IGBI	Denpasar	3.19	268	P	Pn	01 06 51.1	+0.3
SRBI	Singaraja	3.19	282	P	Pn	01 06 50.2	-0.7
BSSI	Bau Bau, Buton	3.33	39	P	Pn	01 06 51.3	-1.4
BKSI	Bulukumba	3.82	27	P	Pn	01 06 57.9	-1.1
MMRI	Maumere	3.83	89	P	Pn	01 06 59.2	+0.1
KAPI	Kappang	3.95	20	P	Pn	01 06 59.5	-1.2
	3.6nm,0.3s,baz=212,slow=7.2,SNR=20						
JAGI	Jajag, Banyuwa	4.18	273	P	Pn	01 07 02.1	-1.6
ABJI	Asem Bagus	4.20	283	P	Pn	01 07 03.9	0.0
BNSI	Bone	4.65	22	P	Pn	01 07 09.9	0.0
KMMI	Kalianget	4.67	291	P	Pn	01 07 11.1	+0.9
BLJI	Banyuglugur	4.83	282	P	Pn	01 07 11.8	-0.4
GMJI	Gumukmas	4.89	275	P	Pn	01 07 13.4	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SPSI	Sidrap Palu	4.95	16	P	Pn	01 07 12.6	-1.3
BBSI	Bau Bau	5.28	52	P	Pn	01 07 17.7	-0.5
	0.0nm6.8nm,0.8s						
BATI	Baumata	5.42	106	P	Pn	01 07 20.8	+0.7
TTSI	Tana Toraja	5.84	14	P	Pn	01 07 25.5	-0.3
	0.1nm15nm,0.4s						
FITZ	Fitzroy Crossi	11.68	143	P	Pn	01 08 44.0	+0.8
	0.1nm,0.3s,baz=341,slow=11,SNR=8.7						
FITZ				S	Sn	01 10 47.6	-4.7
	0.4nm,0.3s,baz=173,slow=21,SNR=8.4						
WRA	Warramunga Arr	19.04	127	P	Pn	01 10 13.8	-0.4
	0.2nm,0.3s,baz=302,slow=12,SNR=14						
ASAR	Alice Springs	21.00	137	P	P	01 10 35.9	+2.9
	0.8nm,0.5s,baz=312,slow=9.3,SNR=18						
ASAR				PcP	PcP	01 14 35.7	+1.6
	0.4nm,0.4s,baz=334,slow=1.5,SNR=5.3						
ASAR				ScP	ScP	01 18 00.2	+3.2
	0.1nm,0.3s,baz=321,slow=2.2,SNR=5.0						
KSRS	Korea Array	46.82	10	P	P	01 14 16.5	+0.8
	1.5nm,0.8s,baz=188,slow=8.4,SNR=4.3						
SONM	Songino Array	57.32	350	P	P	01 15 33.5	+0.1
	0.6nm,0.6s,baz=173,slow=8.8,SNR=6.1						
MKAR	Makanchi Array	63.95	333	P	P	01 16 17.6	-0.5
	0.2nm,0.4s,baz=148,slow=5.7,SNR=5.4						
TORD	Torodi Ar. Bea	117.80	280	PKP	PKiKP	01 24 31.7	+1.1
	0.5nm,0.5s,baz=31,slow=2.1,SNR=6.9						

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*IDC **05** 01:46:43.4±1.8, 59°.81N×152°.73W, h66^{km}±29^{km}, mb3.5/4, mb1 3.9/9, mb1mx3.4/51, mbtmp4.0/9, ML4.0/5, Error ellipse: s-maj=36.1km s-min=9.6km az=109.0*
*NEIC **05** 01:46:44.8±1.2, 59°.77N±0°.03×152°.61W±0°.06, h87^{km}±5^{km}, Error ellipse: s-maj=4.5km s-min=4.0km az=149.0*
*AEIC **05** 01:46:45.8±1.3, 59°.77N±0°.03×152°.58W±0°.05, h83^{km}±4^{km}, ML3.5/123, ML3.7/122(NEIC), Error ellipse: s-maj=4.5km s-min=3.4km az=145.0*
ISC 05 01:46:44.7±0.8**, 59°.76N**±0°.04×**152°.54W**±0°.04**, h87**^{km}±5^{km}**, n221, σ0^s.66**/205**, mb4.0**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.33	353		Pn	01 46 58.0	0.0
O20K					Sn	01 47 07.6	-0.3
O20K	Slope Mountain	0.33	353	P	Pn	01 46 58.0	0.0
	baz=176						
O20K				S	Sn	01 47 07.9	0.0
	baz=176						
OPT	Oil Point	0.37	254		Pn	01 46 58.3	+0.1
OPT	Oil Point	0.37	254	P	Pn	01 46 58.3	+0.1
	baz=70						
HOM	Homer	0.47	102		Pn	01 46 59.3	+0.5
HOM					Sn	01 47 10.6	+1.3
HOM	Homer	0.47	102	IAML		01 47 11.4	
	comp=E,5µm,0.5s						
HOM	Homer	0.47	102	P	Pn	01 46 59.3	+0.5
	baz=284						
AU22	Augustine Moun	0.57	228		Pn	01 46 59.9	+0.3
AUL	Augustine Lava	0.59	231		Pn	01 47 00.3	+0.4
AUL					Sn	01 47 11.1	0.0
AUQ	Augustine Qik’	0.60	228		Pn	01 47 00.3	+0.3
AGU	Augustine-Summ	0.60	229		Pn	01 47 00.3	+0.2
AUH	Augustine H	0.60	230		Pn	01 47 00.4	+0.3
RED	Redoubt Volcan	0.68	350		Pn	01 47 00.5	-0.3
RED					Sn	01 47 12.3	-0.5
CNPM	China Poot	0.70	109		Pn	01 47 01.5	+0.6
CNPM				IAML		01 47 14.2	
	comp=N,3µm,0.4s						
CNPM	China Poot	0.70	109		Sn	01 47 13.5	+0.4
CNPM	China Poot	0.70	109	IAML		01 47 02.0	
	comp=E,2µm,0.5s						
RSO	Redoubt South	0.72	352		Pn	01 47 01.1	-0.2
RDWB	Redoubt West	0.75	349		Pn	01 47 01.2	-0.4
RDN	Redoubt North	0.77	352		Sn	01 47 13.8	-0.7
RDT	Redoubt	0.82	5		Pn	01 47 01.9	-0.4
NCT	North Crescent	0.83	347		Pn	01 47 02.1	-0.3
BRLK	Bradley Lake	0.84	89		Pn	01 47 02.5	+0.1
BRLK					Sn	01 47 15.7	+0.1
BRLK	Bradley Lake	0.84	89	IAML		01 47 16.7	
	comp=E,2µm,0.2s						
BRLK				IAML		01 47 17.0	
	comp=N,2µm,0.2s						
DFR	Drift River	0.84	355		Pn	01 47 02.3	-0.2
DFR					Sn	01 47 15.6	-0.2
RDJH	Redoubt Jeurge	0.85	351		Pn	01 47 02.4	-0.2
BRSE	Bradley Lake S	0.91	90		Pn	01 47 03.2	+0.1
BRSE	Bradley Lake S	0.91	90	P	Pn	01 47 03.2	+0.1
	baz=272						
O19K	Port Alsworth	1.00	297		Pn	01 47 03.9	-0.2
O19K					Sn	01 47 18.1	-0.5
O19K	Port Alsworth	1.00	297	IAML		01 47 18.7	
	comp=N,2µm,0.4s						
O19K				IAML		01 47 21.4	
	comp=E,3µm,0.5s						
O19K	Port Alsworth	1.00	297	P	Pn	01 47 03.8	-0.3
	baz=115						
Q19K	Cape Douglas,	1.00	215		Pn	01 47 04.3	+0.1
Q19K	Cape Douglas,	1.00	215	IAML		01 47 26.9	
	comp=E,1µm,0.8s						
Q19K				IAML		01 47 29.7	
	comp=N,958nm,1.1s						
Q19K	Cape Douglas,	1.00	215	P	Pn	01 47 04.3	+0.1
	baz=32						
CAPN	Captain Cook N	1.23	34		Pn	01 47 08.8	+2.0
CAPN	Captain Cook N	1.23	34	IAML		01 47 28.5	
	comp=E,3µm,0.5s						
O18K	Koktuh Hills	1.35	275		Pn	01 47 08.2	-0.1
O18K				IAML		01 47 26.1	
	comp=N,784nm,0.5s						
SLKM	Skilak Lake	1.39	56		Pn	01 47 08.5	-0.3
P18K	Big Mountain,	1.42	256		Pn	01 47 08.8	-0.4
P18K					Sn	01 47 26.6	-1.2
P18K	Big Mountain,	1.42	256	P	Pn	01 47 08.8	-0.4
	baz=73						
N19K	Bonanza Creek	1.44	318		Pn	01 47 09.4	-0.1
SPU	Mount Spurr	1.45	9	Pn	Pn	01 47 10.0	+0.3
SPCN	Chakachatna No	1.49	7		Pn	01 47 10.4	+0.3
SPBG	Spurr Blockage	1.51	3		Pn	01 47 10.7	+0.2
SPCG	Spurr Capps Gl	1.56	9		Pn	01 47 11.4	+0.3
O22K	Cooper Landing	1.59	61		Pn	01 47 11.8	+0.4
O22K	Cooper Landing	1.59	61	P	Pn	01 47 11.8	+0.4
	baz=245						
SEW	Seward	1.59	76		Pn	01 47 11.4	0.0
SEW	Seward	1.59	76	P	Pn	01 47 11.7	+0.3
	baz=259						
STLK	Strandline Lak	1.78	11		Pn	01 47 14.3	+0.4
FIS	Fire Island	1.81	39	Pn	Pn	01 47 15.0	+0.9
FIS				IAML		01 47 47.2	
	comp=N,942nm,0.6s						
FIS				IAML		01 47 52.8	
	comp=E,750nm,0.4s						
RC01	Rabbit Creek A	1.93	45		Pn	01 47 15.9	+0.1
RC01	Rabbit Creek A	1.93	45	IAML		01 47 42.5	
	comp=N,1µm,0.3s						
RC01	Rabbit Creek A	1.93	45	P	Pn	01 47 15.9	+0.1
	baz=228						
KDAK	Kodiak Island	1.98	181	P	Pn	01 47 16.2	-0.2
	comp=N,46nm,0.3s,baz=54,slow=6.9,SNR=951						
KDAK				S	Sn	01 47 40.1	-0.5
	comp=N,26nm,0.3s,baz=131,slow=23,SNR=16						
KDAK	Kodiak Island	1.98	181	IAML		01 47 41.9	
	comp=N,242nm,0.2s						
SVW2	Sparrevohn	2.02	313		Pn	01 47 16.6	-0.5
M22K	Willow	2.33	30		Pn	01 47 21.8	+0.8
M22K	Willow	2.33	30	P	Pn	01 47 21.8	+0.8
	baz=212						
M19K	Big River Lodg	2.34	338		Pn	01 47 21.3	+0.1
PWL	Port Wells	2.37	60		Pn	01 47 21.3	-0.3
PWL	Port Wells	2.37	60	P	Pn	01 47 21.3	-0.3
	baz=244						
PMR	Palmer	2.49	41		Pn	01 47 23.2	0.0
PMR	Palmer	2.49	41	IAML		01 47 53.0	
	comp=N,301nm,0.3s						
PMR				IAML		01 47 53.0	
	comp=E,341nm,0.4s						
PMR	Palmer	2.49	41	P	Pn	01 47 23.2	0.0
	baz=224						
OHAK	Old Harbor	2.57	189		Pn	01 47 23.6	-0.6
OHAK	Old Harbor	2.57	189	P	Pn	01 47 23.6	-0.6
	baz=8.0						
KNK	Knik Glacier	2.61	49		Pn	01 47 24.5	-0.3
KNK					Sn	01 47 54.6	-1.2
KNK	Knik Glacier	2.61	49	IAML		01 47 57.6	
	comp=E,657nm,0.5s						
KNK				IAML		01 47 57.9	
	comp=N,624nm,0.5s						
KNK	Knik Glacier	2.61	49	P	Pn	01 47 24.5	-0.3
	baz=233						
KNK				S	Sn	01 47 54.6	-1.2
	baz=233						
L19K	White Mountain	2.68	336		Pn	01 47 26.0	+0.2
L19K	White Mountain	2.68	336	IAML		01 47 57.4	
	comp=E,127nm,0.6s						
L19K	White Mountain	2.68	336	P	Pn	01 47 26.0	+0.2
	baz=154						
GHO	Glory Hole Cre	2.69	40		Pn	01 47 26.2	+0.2
GHO				IAML		01 47 58.6	
	comp=N,436nm,0.4s						
CUT	Chulitna	2.88	22		Pn	01 47 28.7	+0.3
CUT	Chulitna	2.88	22	IAML		01 48 06.7	
	comp=N,252nm,0.4s						
CUT				IAML		01 48 26.2	
	comp=E,312nm,0.6s						
CUT	Chulitna	2.88	22	P	Pn	01 47 28.7	+0.3
	baz=204						
SML	Sawmill	2.92	43		Pn	01 47 28.8	-0.2
SML	Sawmill	2.92	43	IAML		01 48 03.6	
	comp=N,266nm,0.5s						
SML				IAML		01 48 03.7	
	comp=E,231nm,0.5s						
SML	Sawmill	2.92	43	P	Pn	01 47 29.2	+0.2
	baz=227						
GLI	Glacier Island	2.93	65		Pn	01 47 28.1	-1.0
PPLA	Purkeypile	3.16	3		Pn	01 47 33.5	+1.2
FID	Port Fidalgo	3.18	69		Pn	01 47 31.1	-1.4
JPK	Jack Peak	3.22	64		Pn	01 47 32.6	-0.5
SCM	Sheep Creek Mo	3.30	49		Pn	01 47 34.1	-0.1
SCM	Sheep Creek Mo	3.30	49	IAML		01 48 15.1	
	comp=N,180nm,0.8s						
SCM				IAML		01 48 16.5	
	comp=E,233nm,0.4s						
SCM	Sheep Creek Mo	3.30	49	P	Pn	01 47 34.1	-0.1
	baz=233						
SII	Sitkinak Islan	3.32	196		Pn	01 47 34.1	-0.3
SII	Sitkinak Islan	3.32	196	IAML		01 48 44.0	
	comp=E,222nm,2.7s						
SII				IAML		01 49 28.3	
	comp=N,243nm,3.1s						
SII	Sitkinak Islan	3.32	196	P	Pn	01 47 34.5	+0.1
	baz=14						
EYAK	Cordova Ski Ar	3.49	74		Pn	01 47 35.6	-1.0
TT01	Tatalina	3.58	334		Pn	01 47 37.8	-0.1
TTA	Tatalina	3.60	334		Pn	01 47 37.9	-0.3
TTA	Tatalina	3.60	334	P	Pn	01 47 37.9	-0.3
	baz=151						
DIV	Divide	3.63	65		Pn	01 47 38.1	-0.5
WAT6	Susitna Watana	3.67	37		Pn	01 47 39.1	-0.1
WAT6	Susitna Watana	3.67	37	P	Pn	01 47 39.1	-0.1
	baz=222						
CAST	Castle Rocks	3.68	3	Pn	Pn	01 47 39.5	+0.2
K20K	Telida	3.69	349		Pn	01 47 39.8	+0.4
KLU	Klutina	3.70	59		Pn	01 47 39.2	-0.4
KLU	Klutina	3.70	59	P	Pn	01 47 39.2	-0.4
	baz=245						
TRF	Thorofare Moun	3.86	15		Pn	01 47 41.6	-0.2
TRF	Thorofare Moun	3.86	15	IAML		01 48 46.9	
	comp=N,70nm,0.8s						
TRF	Thorofare Moun	3.86	15	P	Pn	01 47 41.6	-0.2
	baz=198						
KTH	Kantishna Hill	3.89	11		Pn	01 47 42.4	+0.2
KTH	Kantishna Hill	3.89	11	IAML		01 48 34.1	
	comp=N,52nm,0.9s						
M24K	Tolsona, Glenn	3.90	50		Pn	01 47 42.4	+0.1
M24K	Tolsona, Glenn	3.90	50	IAML		01 48 36.0	
	comp=N,173nm,1.5s						
M24K	Tolsona, Glenn	3.90	50	P	Pn	01 47 42.4	+0.1
	baz=236						
RAGM	Ragged Mountai	3.99	77		Pn	01 47 44.2	+0.7
RND	Reindeer	4.07	24		Pn	01 47 44.5	0.0
RND	Reindeer	4.07	24	IAML		01 48 31.8	
	comp=N,41nm,0.5s						
RND				IAML		01 48 32.9	
	comp=E,60nm,0.3s						
KAIM	Kayak Island	4.10	84	Pn	Pn	01 47 46.2	+1.2
KAIM				IAML		01 48 51.1	
	comp=N,152nm,2.9s						
KAIM				IAML		01 49 20.3	
	comp=E,188nm,3.4s						
BMRM	Bremner River	4.12	69		Pn	01 47 44.4	-0.9
BMRM	Bremner River	4.12	69	IAML		01 48 33.5	
	comp=E,107nm,0.4s						
BMRM				IAML		01 48 36.4	
	comp=N,124nm,0.5s						
BMRM	Bremner River	4.12	69	P	Pn	01 47 44.5	-0.9
	baz=257						
CHUM	Lake Minchumin	4.14	1		Pn	01 47 45.9	+0.4
CHUM	Lake Minchumin	4.14	1	P	Pn	01 47 45.9	+0.4
	baz=182						
DHY	Denali Highway	4.15	34		Pn	01 47 45.8	0.0
DHY	Denali Highway	4.15	34	IAML		01 48 34.7	
	comp=N,164nm,0.3s						
DHY	Denali Highway	4.15	34	P	Pn	01 47 45.8	0.0
	baz=219						
HMT	Hamilton	4.19	78	Pn	Pn	01 47 46.0	-0.2
HMT				IAML		01 48 33.3	
	comp=N,138nm,0.5s						
N25K	Chitina, Valde	4.32	61		Pn	01 47 47.7	-0.3
N25K	Chitina, Valde	4.32	61	IAML		01 48 37.1	
	comp=N,94nm,0.6s						
N25K				IAML		01 48 38.0	
	comp=E,142nm,0.7s						
N25K	Chitina, Valde	4.32	61	P	Pn	01 47 47.8	-0.3
	baz=248						
MCK	McKinley	4.34	22		Pn	01 47 48.9	+0.7
MCK	McKinley	4.34	22	IAML		01 48 42.4	
	comp=E,53nm,0.4s						
MCK				IAML		01 49 07.6	
	comp=N,42nm,0.9s						
BPAW	Bear Paw Mtn.	4.42	9		Pn	01 47 48.9	-0.4
BPAW	Bear Paw Mtn.	4.42	9	P	Pn	01 47 49.5	+0.2
	baz=190						
HARP	HAARP	4.46	50		Pn	01 47 50.2	+0.4
HARP	HAARP	4.46	50	P	Pn	01 47 50.0	+0.2
	baz=237						
BERG	Berg Lake	4.47	78		Pn	01 47 50.1	+0.1
J20K	Nowinta River	4.50	351	Pn	Pn	01 47 50.8	+0.4
GLB	Gilahina Butte	4.62	65		Pn	01 47 51.5	-0.6
GLB	Gilahina Butte	4.62	65	IAML		01 48 46.7	
	comp=N,65nm,0.5s						
GLB				IAML		01 48 47.3	
	comp=E,60nm,0.6s						
CHGN	Chignik	4.66	225	Pn	Pn	01 47 52.9	+0.4
BWN	Browne	4.66	17	Pn	Pn	01 47 53.8	+1.2
BWN				IAML		01 48 49.9	
	comp=E,53nm,2.2s						
BWN				IAML		01 49 27.2	
	comp=N,64nm,1.5s						
PAX	Paxson	4.69	43		Pn	01 47 53.0	0.0
PAX	Paxson	4.69	43	P	Pn	01 47 53.2	+0.2
	baz=230						
KHIT	Khitrov Hills	4.70	78		Pn	01 47 52.1	-1.1
VRDI	Verde Repeater	4.73	68		Pn	01 47 52.8	-0.9
VRDI	Verde Repeater	4.73	68	IAML		01 48 48.2	
	comp=E,25nm,0.3s						
VRDI				IAML		01 48 54.4	
	comp=N,46nm,0.5s						
SNH	Sunshine Point	4.89	81	Pn	Pn	01 47 57.2	+1.4
SNH				IAML		01 48 53.7	
	comp=E,105nm,1.8s						
PS10	TAPS Pump St10	4.90	38		Pn	01 47 56.9	+1.1
WAX	Waxell Ridge	4.90	78		Pn	01 47 56.6	+0.7
TGL	Tana Glacier	4.94	74		Pn	01 47 57.0	+0.5
TGL				IAML		01 48 56.1	
	comp=E,56nm,0.4s						
TGL				IAML		01 48 56.3	
	comp=N,47nm,0.6s						
MCARA	McCarthy VSAT	4.97	67		Pn	01 47 57.1	+0.4
MCARA	McCarthy VSAT	4.97	67	IAML		01 49 04.9	
	comp=N,84nm,0.6s						
NEA2	Nenana	5.12	17		Pn	01 47 58.8	+0.1
NEA2	Nenana	5.12	17	P	Pn	01 47 58.8	+0.1
	baz=200						
ISLE	Juniper Island	5.16	76		Pn	01 47 58.6	-0.9
ISLE	Juniper Island	5.16	76	IAML		01 48 59.3	
	comp=E,75nm,1.0s						
ISLE				IAML		01 48 59.7	
	comp=N,60nm,1.2s						
WRH	Wood River Hil	5.17	22		Pn	01 47 58.9	-0.5
WRH	Wood River Hil	5.17	22	IAML		01 49 26.3	
	comp=N,20nm,3.5s						
WRH				IAML		01 49 42.4	
	comp=E,18nm,1.8s						
PTPK	Patty Peak	5.19	70		Pn	01 47 59.6	-0.3
KIAG	Kiagna River	5.19	73		Pn	01 47 59.1	-0.8
BALM	Baldy	5.22	71		Pn	01 47 59.4	-0.8
BAGL	Bagley Icefiel	5.28	77		Pn	01 48 00.8	-0.1
HDA	Harding Lake	5.36	27		Pn	01 48 02.1	+0.1
MLY	Manley	5.36	8		Pn	01 48 02.6	+0.5
MLY	Manley	5.36	8	IAML		01 49 32.3	
	comp=N,16nm,4.9s						
CCB	Clear Creek Bu	5.38	22		Pn	01 48 01.6	-0.7
CCB	Clear Creek Bu	5.38	22	IAML		01 49 05.5	
	comp=N,17nm,0.5s						
CCB				IAML		01 49 35.3	
	comp=E,23nm,4.8s						
RIDG	Independent Ri	5.42	39		Pn	01 48 03.3	+0.4
YAH	Yahtse	5.44	79		Pn	01 48 04.4	+1.0
I21K	Tanana	5.45	2		Pn	01 48 03.9	+0.6
GRNC	Granite Creek	5.46	75		Pn	01 48 04.9	+1.3
L26K	Log Cabin Wild	5.50	49		Pn	01 48 04.8	+0.8
PS08	TAPS Pump Stn8	5.50	27		Pn	01 48 04.0	+0.1
BARN	Barnard Glacie	5.55	72		Pn	01 48 04.7	-0.1
TCOL	CIGO, UAF Yank	5.58	21		Pn	01 48 05.2	+0.2
COLA	College	5.58	21		Pn	01 48 05.1	+0.1
MDM	Murphy Dome	5.59	19		Pn	01 48 05.2	0.0
I23K	Minto, Yukon-K	5.61	14		Pn	01 48 05.8	+0.5
DOT	Dot Lake	5.61	42		Pn	01 48 06.0	+0.5
IL31		5.68	25		Pn	01 48 05.9	-0.5
ILAR	Eielson Array	5.68	25	P	Pn	01 48 06.0	-0.5
	comp=E,4.7nm,0.3s,baz=206,slow=14,SNR=129						
ILAR				S	Sn	01 49 07.8	-2.4
	comp=E,6.1nm,0.3s,baz=209,slow=24,SNR=10						
ILAR	Eielson Array	5.68	25		Pn	01 48 05.8	-0.6
CTGM	Chitina Glacie	5.69	73		Pn	01 48 07.2	+0.5
TABL	Table Mountain	5.75	78		Pn	01 48 06.9	-0.5
M27K	Edge Creek, AK	5.80	59	Pn	Pn	01 48 08.9	+0.8
LOGN	Logan Glacier	5.84	74		Pn	01 48 08.9	+0.2
SCRK	Sand Creek	5.86	40		Pn	01 48 08.7	-0.2
POKR	Poker Plat Res	5.88	22		Pn	01 48 09.2	+0.1
J25K	Salcha River,	5.92	31		Pn	01 48 09.4	-0.2
H21K	Melozitna Rive	5.93	359		Pn	01 48 09.4	-0.4
YUK2	White River	6.08	65		Pn	01 48 12.4	+0.4
L27K	Beaver Creek,	6.12	53		Pn	01 48 13.2	+0.8
BC03		6.14	53		Pn	01 48 12.3	-0.3
BCAR	Beaver Creek A	6.14	53	Pn	Pn	01 48 12.9	+0.3
PCA	Pinnacle	6.19	82		Pn	01 48 14.3	+1.0
H23K	Yukon River	6.25	11		Pn	01 48 14.2	+0.1
YUK3	Moose Creek	6.26	66		Pn	01 48 15.2	+0.7
IM03		6.28	355		Pn	01 48 14.6	+0.1
IMAR	Indian Mountai	6.28	355		Pn	01 48 14.4	-0.1
H24K	Noodor Dome	6.47	17	Pn	Pn	01 48 17.0	-0.2
BCPM	Bancas Point	6.51	83	Pn	Pn	01 48 18.4	+0.7
PRP	Porcupine Dome	6.62	26	Pn	Pn	01 48 19.1	-0.2
PNL	Peninsula	6.65	85		Pn	01 48 19.7	0.0
YUK6	Outpost Mounta	7.13	74		Pn	01 48 27.4	+0.9
YUK7	Dusty Glacier	7.23	78		Pn	01 48 28.6	+0.9
EGAK	Eagle	7.31	42		Pn	01 48 28.0	-0.6
YUK5	Granite Creek	7.39	73		Pn	01 48 30.6	+0.7
HYT	Haines Junctio	7.55	75	Pn	Pn	01 48 33.4	+1.4
DAWY	Dawson	7.56	50		Pn	01 48 33.5	+1.5
COLD	Coldfoot	7.57	7		Pn	01 48 32.7	+0.6
N31M	Braeburn, Yuko	8.42	71	Pn	Pn	01 48 45.2	+1.5
BMAR	Burnt Mountain	8.47	21	Pn	Pn	01 48 43.3	-1.1
SKAG	Skagway	8.73	84	Pn	Pn	01 48 49.5	+1.6
WHY	Whitehorse	8.84	77		Pn	01 48 50.5	+1.0
TOLK	Toolik Lake Re	9.01	7	Pn	Pn	01 48 51.4	-0.4
BESE	Bessie Mountai	9.16	90	Pn	Pn	01 48 55.4	+1.6
JIS	Juneau Island	9.48	91	Pn	Pn	01 48 59.2	+1.1
P33M	Teslin, Yukon	9.89	79	Pn	Pn	01 49 03.7	-0.1
DLBC	Dease Lake	11.64	87	P	Pn	01 49 28.9	+1.3
	comp=E,1.7nm,0.3s,baz=264,slow=7.0,SNR=25						
DLBC				S	Sn	01 51 33.2	-2.2
	comp=E,0.4nm,0.3s,baz=51,slow=11,SNR=1.6						
DLBC	Dease Lake	11.64	87	Pn	Pn	01 49 29.5	+2.0
INK	Inuvik	11.90	36	P	Pn	01 49 31.0	+0.2
	comp=E,0.2nm,0.3s,baz=230,slow=13,SNR=5.3						
YKA	Yellowknife Ar	18.34	65	P	Pn	01 50 53.1	+0.3
	comp=E,0.3nm,0.3s,baz=278,slow=10.0,SNR=41						
KSRS	Korea Array	53.46	283	P	P	01 55 56.5	+1.0
	comp=E,1.1nm,0.6s,baz=50,slow=6.5,SNR=3.0						
SONM	Songino Array	55.12	306	P	P	01 56 08.4	+0.9
	comp=E,0.8nm,0.7s,baz=45,slow=6.6,SNR=5.6						
ZALV	Zalesovo Beam	57.71	324	P	P	01 56 25.7	+0.1
	comp=E,1.1nm,0.6s,baz=31,slow=8.8,SNR=5.3						
MKAR	Makanchi Array	64.77	322	P	P	01 57 12.8	-0.6
	comp=E,0.4nm,0.5s,baz=41,slow=6.2,SNR=12						

IDC 05 01:55:12.5±3.2**, 5°.30S×133°.83E, h0**^{km}**, mb3.8**/1**, mb1 3.9**/4**, mb1mx3.6**/30**, mbtmp3.8**/4**, ML3.7**/3**, Error ellipse: s-maj=129.1km s-min=30.5km az=83.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.56	178	Pn	Pn	01 58 40.0	-0.1
	0.2nm,0.3s,baz=358,slow=13,SNR=14						
WRA				Sn	Sn	02 01 17.3	-5.1
	0.2nm,0.3s,baz=358,slow=23,SNR=3.1						
FITZ	Fitzroy Crossi	15.03	212	Pn	Pn	01 58 46.0	-0.4
	1.3nm,0.3s,baz=28,slow=9.6,SNR=49						
FITZ				Sn	Sn	02 01 28.2	-5.5
	0.6nm,0.3s,baz=211,slow=9.0,SNR=6.0						
ASAR	Alice Springs	18.26	180	P	Pn	01 59 27.6	0.0
	0.1nm,0.3s,baz=6.5,slow=11,SNR=2.6						
MKAR	Makanchi Array	68.97	325	P	P	02 06 19.8	+0.1
	0.6nm,0.6s,baz=113,slow=8.1,SNR=6.0						

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*CNRM **05** 01:59:19.7, 35°.52N×3°.76W, h20^{km}, ml2.3*
*MDD **05** 01:59:20.8±0.7, 35°.45N×3°.79W, h6^{km}±6^{km}, mb_Lg2.7/3, Error ellipse: s-maj=5.0km s-min=3.6km az=127.0*
*SFS **05** 01:59:22.0, 35°.43N×3°.65W, ML2.8, ALBORAN SUR*
ISC 05 01:59:19.4±1.4**, 35°.47N**±0°.02×**3°.82W**±0°.03**, h11**^{km}±11^{km}**, n20, σ1^s.33**/37**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.27	201	P	Pb	01 59 27.2	+0.8
PALE				S	Sb	01 59 31.4	+0.5
GOG	Mont Gurugu	0.72	110	P	Pb	01 59 34.3	+0.3
GOG				S	Sg	01 59 42.0	-0.7
EMEL	Melilla	0.72	103	Pg	Pb	01 59 33.9	-0.1
EMEL				Sg	Sb	01 59 43.4	-0.6
EALB	Alboran	0.79	54	Pg	Pb	01 59 34.9	-0.3
EALB				Sg	Sb	01 59 46.2	+0.3
EALB				*i* Vmb_Lg		01 59 47.0	
SMIR	Smir Dam	1.29	280	P	Pn	01 59 41.6	-1.8
CHEFC	Chefchaouen	1.30	254	P	Pn	01 59 44.0	+0.5
TAF	Taforalt	1.32	119	P	Pg	01 59 44.4	-0.5
TAF				S	Sb	01 59 59.2	-2.1
CEU	Ceuta	1.34	289	P	Pn	01 59 43.7	-0.3
CEU				S	Sb	01 59 57.7	-3.9
EMIJ	Mijas	1.34	325	Pn	Pb	01 59 45.0	+0.5
EMIJ				Sn	Sn	02 00 03.3	+1.5
EMIJ				*i* Vmb_Lg		02 00 07.2	
EMAL	Malaga-Limoner	1.38	339	P	Pn	01 59 45.1	+0.5
EMAL				S	Sg	02 00 05.3	+1.4
ELGU	Los Guajares,	1.40	6	Pn	Pn	01 59 44.7	-0.3
ELGU				Sn	Sb	02 00 03.6	0.0
ELGU				*i* Vmb_Lg		02 00 06.3	
JBK	JBK	1.53	137	P	Pn	01 59 45.5	-1.3
IFR	Ifrane	2.23	209	P	Pn	01 59 57.2	+0.8
IFR				S	Sn	02 00 23.6	-0.5
MD31	MD31	2.71	197	P	Pn	02 00 04.1	+1.1
MD31				S	Sn	02 00 36.5	+0.7
MDT	Midelt	2.73	194	P	Pn	02 00 05.1	+1.8
MDT				S	Sn	02 00 37.6	+1.2
ECAB	El Cabril	2.90	334	Pn	Pn	02 00 06.6	+1.1
ECAB				Sn	Sn	02 00 41.2	+0.8
ETOB	Tobarra	3.65	29	Pn	Pn	02 00 18.4	+2.5
ETOB				Sn	Sn	02 00 58.0	-1.0
PAB	San Pablo	4.09	354	Pn	Pn	02 00 23.5	+1.6
PAB				Sn	Sn	02 01 09.5	-0.3
EBAD	Badajoz	4.16	323	Pn	Pn	02 00 22.5	-0.2
EBAD				Sn	Sn	02 01 09.0	-2.3
ESDC	Sonseca Array	4.20	358	Pn	Pn	02 00 24.7	+1.3
ESDC				Sn	Sn	02 01 12.2	-0.2

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*KEA **05** 02:11:48.2, 35°.45N×130°.13E, h21^{km}, ML3.0/1*
*JMA **05** 02:11:49.9±0.2, 35°.71N×129°.81E, h11^{km}, M3.5*

KMA 05 02:11:52.6±1.4, 35°.61N×129°.82E, h0^{km}, Error ellipse: s-maj=11.8km s-min=4.1km az=109.0
ISC 05 02:11:51.4±1.5**, 35°.61N**±0°.03×**129°.83E**±0°.05**, h7^{km}**±15^{km}**, n19, σ1.33**/26**, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSUSN	Ulsan	0.58	279	P	Pb	02 12 04.3	+0.4
	SNR=218						
KSUSN				S	Sg	02 12 11.8	+1.5
KSBUS	Busan	0.69	239	P	Pb	02 12 05.9	+0.3
	SNR=502						
KSPHA	Pohang	0.69	328	P	Pb	02 12 06.4	+0.7
	SNR=451						
KSPHA				S	Sb	02 12 16.0	+0.5
KSDAG	Daegu	0.78	282	P	Pb	02 12 07.6	+0.4
	SNR=202						
YOCB	Yeongcheon	0.80	297	P	Pb	02 12 08.1	+0.5
	SNR=43						
MIYA	Miryang-si	0.89	263	P	Pb	02 12 09.5	+0.4
	SNR=13						
YODB	Yeongdeok	0.98	340	P	Pb	02 12 11.4	+0.7
	SNR=222						
KSDAU	Deagu-acc	1.02	286	P	Pg	02 12 11.6	+0.6
	SNR=18						
KSADO	Andong	1.07	319	P	Pg	02 12 12.3	+0.3
	SNR=185						
KSCHR	CHANGNYEONG	1.09	267	P	Pg	02 12 12.4	0.0
	SNR=26						
JTU	Tsushima	1.14	198	P	Pg	02 12 12.8	-0.4
JTU				eS	Sg	02 12 27.8	-0.2
JTSM	Tsushimamitsus	1.32	196	P	Pn	02 12 15.6	-0.6
JTSM				eS	Sg	02 12 33.5	-0.3
JHGM	Hagimishima	1.35	127	eS	Sb	02 12 34.3	-0.2
JTY	Toyota	1.68	143	P	Pn	02 12 20.9	-0.3
JTY				eS	Sb	02 12 44.7	+0.7
JII	Iki	1.81	183	P	Pn	02 12 23.0	+0.1
JII				eS	Sb	02 12 47.8	+0.1
JGT2	ShimaneMisato	2.26	103	P	Pn	02 12 28.5	-0.6
HHU	Hamhung	4.68	338	Pg	Pb	02 13 16.7	+3.0
HHU				Sg	Sg	02 14 19.1	-2.5
HHU				AML	AML		
	comp=N,20nm,0.5s						
HHU				AML	AML		
	comp=E,35nm,0.2s						
HHU				AML	AML		
	comp=Z,32nm,0.8s						
PYS	Pyongsong	4.82	320	Sg	Sg	02 14 24.7	-1.4
SUJ	Sinuiju	6.16	318	Sg	Sg	02 15 05.2	-3.9

IDC 05 02:26:50.6±5.2**, 13°.99N**×**93°.31E, h0^{km}, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.3**/59**, mbtmp3.6**/4**, Error ellipse: s-maj=333.2km s-min=27.2km az=60.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.98	346	P	P	02 33 35.9	-0.1
	0.4nm,0.6s,baz=156,slow=9.3,SNR=5.4						
FITZ	Fitzroy Crossi	45.09	134	P	P	02 35 08.8	0.0
	1.8nm,0.9s,baz=313,slow=7.8,SNR=9.0						
WRA	Warramunga Arr	52.59	129	P	P	02 36 06.3	-0.2
	0.3nm,0.6s,baz=303,slow=10,SNR=9.2						
WRA				PcP	PcP	02 37 16.6	-0.2
	0.2nm,0.5s,baz=321,slow=3.4,SNR=5.7						
ASAR	Alice Springs	54.55	133	P	P	02 36 20.7	-0.2
	0.3nm,0.4s,baz=309,slow=6.9,SNR=4.2						

PRE 05 02:31:52.7±1.1, 26°.44S×27°.47E, h2^{km}, ML3.2
IDC 05 02:31:53.8±1.2, 26°.40S×27°.38E, h0^{km}, mb4.0/3, mb1 4.2/9, mb1mx3.8/43, mbtmp4.1/9, ML3.9/5, Error ellipse: s-maj=19.5km s-min=15.1km az=104.0
NEIC 05 02:31:54.3±2.0, 26°.38S±0°.05×27°.44E±0°.06, h5^{km}±1^{km}, mb4.3/5, Error ellipse: s-maj=10.8km s-min=6.9km az=53.0
BUL 05 02:31:55.6±0.7, 26°.41S×27°.54E, h10^{km}, MD4.3
EAF 05 02:31:55.6±0.7, 26°.41S×27°.54E, h10^{km}, MD3.9
ISC 05 02:31:53.5±1.2**, 26°.41S**±0°.03×**27°.48E**±0°.03**, h6^{km}**±8^{km}**, n48, σ2.08**/82**, mb4.1**/5**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	Parys	0.53	191	eP	Pg	02 32 02.8	-1.0
PRYS				eS	Sg	02 32 08.5	-2.1
PRYS				IAML		02 32 21.0	
	comp=Z,431nm,0.6s						
KSR	Koster	0.76	317	eP	Pg	02 32 07.3	-0.8
KSR				eS	Sg	02 32 18.4	+0.4
KSR				IAML		02 32 25.4	
	comp=Z,977nm,0.4s						
SLR	Silverton	0.99	47	eP	Pg	02 32 12.8	+0.3
SLR				eS	Sg	02 32 25.9	+0.6
SLR				IAML		02 32 31.6	
	comp=Z,1μm,1.4s						
SNKL	Senekal, Frees	1.88	172	eP	Pn	02 32 26.6	+0.2
SNKL				eS	Sn	02 32 51.3	+0.7
SNKL				IAML		02 32 55.4	
	comp=Z,558nm,0.9s						
SWZ	Schweizer	2.07	248	eP	Pn	02 32 29.3	+0.3
SWZ				eS	Sn	02 32 55.1	-0.1
SWZ				IAML		02 33 12.5	
	comp=Z,599nm,1.2s						
LBTB	Lobatse	2.19	309	Pn	Pn	02 32 32.1	+1.4
	comp=Z,43nm,0.3s,baz=129,slow=11,SNR=574						
LBTB				Lg	Lg	02 33 01.0	
	comp=Z,215nm,0.3s,baz=228,slow=10,SNR=60						
LBTB				Rg	Rg	02 33 07.8	
	comp=Z,207nm,0.4s,baz=347,slow=13,SNR=5.3						
LBTB	Lobatse	2.19	309	eP	Pn	02 32 31.6	+0.9
LBTB				eS	Sn	02 32 59.7	+1.5
LBTB				IAML		02 33 01.8	
	comp=Z,542nm,1.1s						
LBTB	Lobatse	2.19	309	Pn	Pn	02 32 31.6	+0.9
LBTB					Sb	02 33 01.1	0.0
LBTB	Lobatse	2.19	309	iP	Pn	02 32 32.3	+1.7
LBTB				iS	Sn	02 32 59.5	+1.4
LBTB	Lobatse	2.19	309	iP	Pn	02 32 32.3	+1.7
LBTB				iS	Sn	02 32 59.5	+1.4
CRLN	Carolina, Mapu	2.33	80	eP	Pn	02 32 33.5	+1.0
CRLN				eS	Sn	02 33 01.6	+0.1
CRLN				IAML		02 33 23.2	
	comp=Z,117nm,1.7s						
NWCL	Newcastle	2.53	122	eP	Pn	02 32 35.6	+0.3
NWCL				eS	Sn	02 33 07.2	+0.6
NWCL				IAML		02 33 14.9	
	comp=Z,160nm,0.4s						
BOSA	Boshof	2.95	221	Pn	Pn	02 32 41.8	+0.7
	comp=Z,8.6nm,0.3s,baz=41,slow=13,SNR=345						
BOSA				Lg	Lg	02 33 24.1	
	comp=Z,26nm,0.3s,baz=0.2,slow=17,SNR=16						
BOSA	Boshof	2.95	221	eP	Pn	02 32 40.8	-0.3
BOSA				eS	Sn	02 33 16.8	-0.2
BOSA				IAML		02 33 31.3	
	comp=Z,87nm,0.7s						
BOSA	Boshof	2.95	221	Pn	Pn	02 32 41.8	+0.7
BOSA				Sn	Sn	02 33 15.8	-1.2
BOSA	Boshof	2.95	221	iP	Pn	02 32 42.0	+0.9
BOSA				iS	Sn	02 33 17.7	+0.7
BOSA	Boshof	2.95	221	iP	Pn	02 32 42.0	+0.9
BOSA				iS	Sn	02 33 17.7	+0.7
POGA	Pongola	3.89	105	eP	Pn	02 32 54.8	+0.8
POGA				eS	Sn	02 33 38.6	-1.4
POGA				IAML		02 33 56.7	
	comp=Z,81nm,0.4s						
CNG	Changalane	4.23	89	iP	Pn	02 32 59.2	+0.7
CNG				iS	Sn	02 33 45.2	-3.1
CNG	Changalane	4.23	89	iP	Pn	02 32 59.2	+0.7
CNG				iS	Sn	02 33 45.2	-3.1
HVD	Gariep Dam	4.53	202	eP	Pn	02 33 02.7	-0.2
HVD				eS	Sn	02 33 55.1	-0.8
HVD				IAML		02 34 01.8	
	comp=Z,18nm,0.8s						
MOPA	Mopani	4.58	52	eP	Pn	02 33 04.2	+0.8
MOPA				eS	Sn	02 33 55.9	-1.1
MOPA				IAML		02 34 19.5	
	comp=Z,57nm,0.6s						
MOPA	Mopani	4.58	52	iP	Pn	02 33 03.6	+0.3
MOPA				iS	Sn	02 33 52.9	-4.1
MOPA	Mopani	4.58	52	iP	Pn	02 33 03.6	+0.3
MOPA				iS	Sn	02 33 52.9	-4.1
MSNA	Messina	4.66	30	eP	Pn	02 33 04.2	-0.4
MSNA				eS	Sn	02 33 57.2	-2.0
MSNA				IAML		02 34 28.0	
	comp=Z,72nm,0.8s						
MSNA	Messina	4.66	30	iP	Pn	02 33 05.4	+0.8
MSNA				iS	Sn	02 33 55.9	-3.2
MSNA	Messina	4.66	30	iP	Pn	02 33 05.4	+0.8
MSNA				iS	Sn	02 33 55.9	-3.2
UPI	Upington	5.87	249	eP	Pn	02 33 22.1	+0.9
UPI				eS	Sn	02 34 25.7	-3.0
UPI				IAML		02 35 25.6	
	comp=Z,36nm,1.8s						
MATP	Matopo	6.03	9	Pn	Pn	02 33 23.7	+0.3
	comp=Z,1.1nm,0.3s,baz=190,slow=18,SNR=64						
MATP				Sn	Sn	02 34 30.0	-2.9
	comp=Z,1.6nm,0.3s,baz=116,slow=22,SNR=8.6						
MATP				Lg	Lg	02 35 00.2	
	comp=Z,5.9nm,0.3s,baz=270,slow=23,SNR=14						
MATP	Matopo	6.03	9	iP	Pn	02 33 24.4	+0.9
MATP				iS	Sn	02 34 28.9	-4.0
MATP	Matopo	6.03	9	iP	Pn	02 33 24.4	+0.9
MATP				iS	Sn	02 34 28.9	-4.0
BLWY	Bulawayo	6.33	10	iP	Pn	02 33 27.8	+0.3
BLWY				iS	Sn	02 34 35.8	-4.5
BLWY	Bulawayo	6.33	10	iP	Pn	02 33 27.8	+0.3
BLWY				iS	Sn	02 34 35.8	-4.5
KROM	Kromhout	8.10	197	eP	Pn	02 33 51.8	+0.2
KROM				eS	Sn	02 35 18.9	-4.7
KROM				IAML		02 35 21.6	
	comp=Z,110nm,1.3s						
SUR	Sutherland	8.32	223	Pn	Pn	02 33 55.3	+0.4
	comp=Z,1.7nm,0.3s,baz=52,slow=15,SNR=25						
SUR				Sn	Sn	02 35 25.9	-3.4
	comp=Z,0.8nm,0.3s,baz=129,slow=19,SNR=2.2						
SUR				Lg	Lg	02 36 09.8	
	comp=Z,4.1nm,0.3s,baz=129,slow=20,SNR=5.1						
CVNA	Calvinia	8.44	231	eP	Pn	02 33 56.2	-0.3
CVNA				eS	Sn	02 35 27.0	-5.2
CVNA				IAML		02 36 15.7	
	comp=Z,28nm,0.9s						
LSZ	Lusaka	11.10	4	Pn	Pn	02 34 31.9	-1.1
	comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=10						
LSZ				Sn	Sn	02 36 30.7	-6.8
	comp=Z,0.9nm,0.3s,baz=51,slow=19,SNR=3.7						
LSZ				Lg	Lg	02 37 37.0	
	comp=Z,0.3nm,0.3s,baz=80,slow=21,SNR=2.4						
TSUM	Tsumeb	11.60	306	Pn	Pn	02 34 39.9	0.0
	comp=Z,1.1nm,0.3s,baz=129,slow=11,SNR=14						
TSUM				Lg	Lg	02 37 53.3	
	comp=Z,0.7nm,0.3s,baz=71,slow=18,SNR=3.6						
MBAR	Mbarara	25.85	8	P	P	02 37 25.9	-0.4
MBAR				IAmb	IAmb	02 37 30.6	
	comp=Z,4.9nm,1.2s						
TORD	Torodi Ar. Bea	46.63	324	P	P	02 40 23.0	+0.1
	comp=Z,2.3nm,0.9s,baz=137,slow=6.5,SNR=15						
TORD	Torodi Ar. Bea	46.63	324	P	P	02 40 23.2	+0.3
TORD				IAmb	IAmb	02 40 24.9	
	comp=Z,3.3nm,1.3s						
SNAA	Sanae	48.35	192	P	P	02 40 37.6	+1.9
SNAA				IAmb	IAmb	02 40 38.6	
	comp=Z,4.7nm,0.9s						
HOPE	Hope Point	53.90	221	P	P	02 41 21.5	+3.9
QSPA	South Pole Qui	63.78	180	P	P	02 42 27.4	+1.1
ESDC	Sonseca Array	71.98	335	P	P	02 43 19.2	+1.1
	comp=Z,1.3nm,0.8s,baz=154,slow=6.4,SNR=7.4						
ESDC	Sonseca Array	71.98	335	IAmb	IAmb	02 43 19.8	
	comp=Z,1.2nm,0.9s						
MKAR	Makanchi Array	88.07	34	P	P	02 44 45.6	+0.8
	comp=Z,0.6nm,0.6s,baz=240,slow=3.9,SNR=5.5						
NVAR	Mina Array Bea	148.90	301	PKPbc	PKiKP	02 51 44.6	+0.6
	comp=Z,0.4nm,0.6s,baz=74,slow=4.9,SNR=4.9						

KRSC 05 02:38:07.7±1.1**, 56°.33N**×**162°.96E, h19^{km}**±6^{km}**, ML3.5, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.14	213	eP	Pg	02 38 13.1	+1.2
KBTR				eS	Sg	02 38 16.2	+1.5
KBG	Krutoberegovo	0.16	243	eP	Pg	02 38 12.6	+0.5
KBG				eS	Sg	02 38 15.6	+0.6
SMKR	Semkarok	0.86	288	eP	Pb	02 38 23.3	-0.8
BDR	Baidarnaya	1.00	285	eP	Pb	02 38 25.8	-0.6
BDR				eS	Sn	02 38 41.8	+1.4
SRKR	Sorokina	1.04	289	eP	Pb	02 38 26.5	-0.7
ZLN	Zelenaya	1.24	256	eP	Pb	02 38 30.5	-0.1
ZLN				eS	Sn	02 38 47.0	+0.6
CIRR	Tsirk	1.25	261	eP	Pn	02 38 30.4	+0.1
CIRR				eS	Sb	02 38 46.3	-0.2
KLY	Klyuchi	1.28	270	eP	Pn	02 38 28.3	-2.3
LGNR	Loginova	1.29	260	eP	Pb	02 38 31.3	-0.2
LGNR				eS	Sn	02 38 47.9	+0.1
BZGR	Bezymyannyi-Gr	1.32	254	eP	Pn	02 38 31.5	+0.3
KRSR	Krestovskiy	1.34	266	eP	Pn	02 38 31.0	-0.4
BZWR	Bezymyannyi-We	1.42	256	eP	Pn	02 38 33.0	+0.3
KIRR	Kirishev	1.51	257	eP	Pn	02 38 34.2	+0.3
KPT	Kopyto	1.57	258	eP	Pb	02 38 35.8	-0.4
KMNR	Kamenistaya	1.63	251	eP	Pb	02 38 36.4	-0.8
TUMD	Tumrok D	1.83	233	eP	Pb	02 38 39.6	-1.0
TUMR	Tumrok	1.90	238	eP	Pb	02 38 41.1	-0.7
BKI	Bering	2.04	122	eP	Pb	02 38 43.3	-0.8
ESO	Esso	2.42	262	eP	Pb	02 38 49.8	-0.7
SPN	Mys Shipunski	3.66	209	eP	Pn	02 39 06.0	+2.8
SDLR	Sedlovina	3.86	219	eP	Pn	02 39 08.7	+2.6
UGLR	Uglovaya	3.94	219	eP	Pn	02 39 10.9	+3.8

IDC 05 02:41:21.3±0.6, 4°.58S×94°.36E, h0^{km}, mb4.3/20, mb1 4.4/22, mb1mx4.2/54, mbtmp4.3/22, ML4.5/2, MS4.2/62, Ms1 4.2/62, ms1mx4.2/78, Error ellipse: s-maj=19.9km s-min=13.4km az=34.0
GCMT 05 02:41:23.4±0.2, 4°.64S±0°.01×94°.50E±0°.01, h12^{km}, MW5.0/120, Moment Tensor Solution. s39,c47; s120,c184; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.08; $M_{\theta\theta}$-0.55±.07; $M_{\phi\phi}$0.32±.08; $M_{r\theta}$0.17±.21; $M_{\theta\phi}$-3.11±.06; $M_{\phi r}$-2.87±.22; Best double couple: $M_0$4.25500×10^{16} NP1:ϕ_s92.00000°, δ48.00000°, λ176.00000°. NP2:ϕ_s185.00000°, δ87.00000°, λ42.00000°. Principal axes: T 4.4040, Plg31.0000°, Azm57.0000°; N -0.3000, Plg48.0000°, Azm188.0000°; P -4.1050, Plg26.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 05 02:41:24.8±0.4, 4°S±4°×9°5E±°, h10^{km}, M4.8/37, mb4.8/37, mB5.3/20, MLv5.4/11, Mw(mB)4.7/20, MwMwp4.6/3, Mwp5.0/3
NEIC 05 02:41:24.4±1.3, 4°.50S±0°.07×94°.40E±0°.08, h14^{km}±3^{km}, mb4.7/53, Error ellipse: s-maj=11.6km s-min=10.6km az=63.0
ISC 05 02:41:23.2±0.4**, 4°.58S**±0°.05×**94°.38E**±0°.06**, h10^{km}, n228, σ1.69**/195**, mb4.7**/70**, MS4.3**/76**, 12C-5D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SISI	Saibi	5.71	56	P	Pn	02 42 46.0	-2.1
	1.5nm6μm331nm,0.7s						
PPSI	Pulau Pagai	5.90	72	P	Pn	02 42 48.9	-1.9
	2.5nm9μm435nm,0.6s						
GSI	Gunungsitoli	6.66	29	Pn	Pn	02 42 58.3	-2.9
GSI	Gunungsitoli	6.66	29	P	Pn	02 42 58.8	-2.4
	0.7nm2μm156nm,0.7s						
GSI	Gunungsitoli	6.66	29	P	Pn	02 42 58.8	-2.4
KRJI	Kerinci	7.49	71	P	Pn	02 43 10.7	-2.0
	3.4nm16μm544nm,0.4s						
SBSI	Sibolga	7.58	37	P	Pn	02 43 15.2	+1.4
	0.6nm5μm4μm108nm,0.6s						
COCO	West Island	7.94	162	Pn	Pn	02 43 18.0	-0.8
COCO	West Island	7.94	162	P	Pb	02 43 35.1	-5.9
MASI	Maura Aman, Be	7.97	80	P	Pn	02 43 16.7	-2.6
	1.3nm3μm154nm,0.6s						
BKNI	Bangkinang	8.25	54	Pn	Pn	02 43 21.5	-1.6
BKNI	Bangkinang	8.25	54	P	Pn	02 43 22.4	-0.6
	1.1nm2μm3μm283nm,1.2s						
BKNI	Bangkinang	8.25	54	P	Pn	02 43 23.3	+0.3
RPSI	Rantau Prapat	8.53	32		Pn	02 43 25.5	-1.5
RPSI	Rantau Prapat	8.53	32		Pn	02 43 25.6	-1.3
MNAI	Manna	8.55	89	Pn	Pn	02 43 27.5	+0.3
MNAI	Manna	8.55	89	P	Pn	02 43 29.7	+2.5
	0.9nm114nm,0.7s						
PSI	Prapat	8.62	32	Pn	Pn	02 43 25.5	-2.8
	2.4nm,0.3s,baz=146,slow=11,SNR=7.3						
PSI	Prapat	8.62	32	P	Pn	02 43 25.8	-2.5
KCSI	Kotacane, Aceh	8.73	23	P	Pn	02 43 28.0	-1.7
	0.8nm1μm46nm,0.9s						
LWLI	Liwa	9.66	93	P	Pn	02 43 43.5	+1.1
	124nm,0.6s						
MDSI	Maura Dua	9.77	90	P	Pn	02 43 40.7	-3.2
	411nm27nm,0.8s						
KLSI		10.32	91	P	Pn	02 43 49.5	-1.9
	13nm,0.8s						
DSRI	Dabo	10.97	68	P	Pn	02 43 58.1	-2.3
	26nm,0.6s						
IPM	Ipoh	11.18	37	Pn	Pn	02 44 02.6	-0.7
IPM	Ipoh	11.18	37	P	Pn	02 44 03.5	+0.2
MYKOM	Kota Tinggi	11.38	56	Pn	Pn	02 44 04.0	-2.0
KULM	Kulim	11.63	33	Pn	Pn	02 44 07.2	-2.2
CNJI	Cibinong	12.97	103	P	Pn	02 44 31.1	+3.4
	42nm,1.4s						
LEM	Lembang	13.36	100	LR	LR	02 49 26.3	
	comp=Z,1μm,18.5s,baz=228,slow=36						
SRIT	Nakonsritamara	14.09	22	Pn	Pn	02 44 40.3	-2.7
KSM	Kuching	17.01	70	Pn	Pn	02 45 19.7	-1.7
KSM	Kuching	17.01	70	P	P	02 45 23.6	+0.3
STKI	Sintang	17.69	75	P	Pn	02 45 30.0	0.0
PALK	Pallekele	18.03	311	P	Pn	02 45 34.2	+0.1
	3.8nm,0.3s,baz=234,slow=12,SNR=15						
PALK				LR	LR	02 51 03.9	
	comp=Z,1μm,21.3s,baz=243,slow=32						
PALK	Pallekele	18.03	311	Pn	Pn	02 45 30.9	-3.2
SBUM	Sibu	19.14	69	P	P	02 45 45.6	-1.3
BLJI	Banyuglugur	19.36	100	P	P	02 45 48.2	-1.0
	2μm27nm,1.1s						
ABJI	Asem Bagus	19.99	100	P	Pn	02 45 59.0	+1.1
	74nm,1.6s						
MTKI	Muara Teweh, K	20.80	81	P	P	02 46 04.7	-0.3
SRBI	Singaraja	20.99	101	P	Pn	02 46 11.8	+2.2
	44nm,1.1s						
KBKI	Kotabaru	21.77	87	P	P	02 46 16.9	+1.5
	42nm,1.2s						
UBPT	Khong Chiam	22.58	29	P	P	02 46 23.1	-1.0
UBPT				IAmb	IAmb	02 46 42.0	
	comp=Z,30nm,1.3s						
CM31	Chiang Mai Arr	23.33	11	P	P	02 46 29.9	-1.9
CM31				IAmb	IAmb	02 46 51.1	
	comp=Z,33nm,1.1s						
CMAR	Chiang Mai Arr	23.33	11	P	P	02 46 31.8	0.0
	comp=Z,4.1nm,0.4s,baz=199,slow=7.9,SNR=20						
CMAR	Chiang Mai Arr	23.33	11	P	P	02 46 30.2	-1.6
PLAI	Plampang	23.61	102	P	P	02 46 33.0	-1.7
	comp=Z,2μmcomp=Z,111nm,1.9s						
CHTO	Chiang Mai	23.68	11	P	P	02 46 34.3	-0.9
CHTO				IAmb	IAmb	02 46 37.9	
	comp=Z,25nm,1.4s						
CHTO	Chiang Mai	23.68	11	P	P	02 46 35.6	+0.4
KKM	Kota Kinabalu	24.22	64	P	P	02 46 39.5	-1.1
KKM	Kota Kinabalu	24.22	64	P	P	02 46 43.0	+2.4
	comp=Z,47nm,1.4s						
KAPI	Kappang	25.29	92	P	P	02 46 50.4	+0.3
	comp=Z,16nm,1.0s,baz=285,slow=8.0,SNR=8.1						
KAPI				LR	LR	02 57 29.7	
	comp=Z,356nm,18.7s,baz=296,slow=38						
KAPI	Kappang	25.29	92	P	P	02 46 50.0	-0.1
KAPI	Kappang	25.29	92	P	P	02 46 53.7	+3.6
WBSI	Waikabubak, Su	25.32	103	P	P	02 46 50.5	+0.1
	comp=Z,1μmcomp=Z,66nm,0.8s						
SPSI	Sidrap Palu	25.33	90	P	P	02 46 50.5	0.0
	comp=Z,22nm,0.9s						
BNSI	Bone	25.65	91	P	P	02 46 54.2	+0.8
	comp=Z,721nmcomp=Z,46nm,1.2s						
BKSI	Bulukumba	25.66	93	P	P	02 46 52.6	-0.9
	comp=Z,24nm,1.4s						
MPSI	Mapaga	25.96	80	P	P	02 46 57.3	+1.1
	comp=Z,526nmcomp=Z,14nm,1.3s						
MYLDM	Lahad Datu	25.97	68	P	P	02 46 55.7	-0.6
HYBB	Hyderabad (bro	26.87	325	eP	P	02 47 04.2	-0.2
TOLI2	Tolitoli	26.98	79	P	P	02 47 05.0	-0.5
TOLI2				IAmb	IAmb	02 47 24.4	
	comp=Z,40nm,1.3s						
TOLI2	Tolitoli	26.98	79	P	P	02 47 07.3	+1.8
	comp=Z,27nm,1.4s						
MMRI	Maumere	27.96	100	P	P	02 47 15.5	+1.3
QIZ	Qiongzhong	27.97	33	P	P	02 47 14.8	+0.6
QIZ				S	S	02 52 01.4	+2.9
QIZ				LR	LR		
	comp=Z,600nm,15.3s						
QIZ				LR	LR		
	comp=Z,440nm,14.7s						
QIZ				LR	LR		
	comp=Z,410nm,14.3s						
KMI	Kunming	30.62	15 ⇑	P	P	02 47 40.5	+2.5
KMI				pP	pwP	02 47 44.4	-1.7
KMI				sP	sP	02 47 46.6	+6.4
KMI				S	S	02 52 44.6	+4.1
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,55nm,4.3s						
KMI				LR	LR		
	comp=Z,380nm,14.8s						
KMI				LR	LR		
	comp=Z,390nm,13.5s						
KMI				LR	LR		
	comp=Z,470nm,13.5s						
PZH	PanZhiHua	31.71	13	P	P	02 47 50.6	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
GYA	Guiyang	33.07	20 ⇓	P	P	02 48 02.0	+2.6
GYA				PP	PP	02 49 14.5	+0.2
GYA				S	S	02 53 19.1	+0.6
GYA				pmax	pmax		
	comp=Z,120nm,4.1s						
GYA				LR	LR		
	comp=Z,410nm,13.1s						
GYA				LR	LR		
	comp=Z,490nm,12.4s						
GYA				LR	LR		
	comp=Z,640nm,13.9s						
DAV	Davao City (W)	33.22	70	LR	LR	03 02 17.0	
	comp=Z,550nm,20.5s,baz=228,slow=38						
FITZ	Fitzroy Crossi	33.39	116	P	P	02 48 02.0	-0.1
	comp=Z,2.4nm,0.9s,baz=264,slow=5.4,SNR=3.6						
FITZ				LR	LR	02 59 10.1	
	comp=Z,338nm,21.2s,baz=295,slow=32						
LSA	Lhasa	34.22	355	P	P	02 48 10.2	+0.4
KNRA	Kununurra	35.53	111	P	P	02 48 20.8	0.0
	baz=36						
CD2	Chengdu	36.41	14 ⇓	iP	P	02 48 28.1	0.0
CD2				S	S	02 54 11.8	+2.0
CD2				sS	sS	02 54 18.1	+5.7
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,110nm,6.0s						
CD2				LR	LR		
	comp=Z,770nm,18.1s						
CD2				LR	LR		
	comp=Z,570nm,12.5s						
KDU	Kakadu	38.47	105	P	P	02 48 44.9	-0.9
	baz=38						
WHN	Wuhan	39.81	27	eP	P	02 48 57.2	+0.5
GOMU	GeErMu	40.57	1	P	P	02 49 03.8	+0.4
GOMU				pP	pP	02 49 05.2	+0.2
GOMU				sP	pwP	02 49 12.1	+0.6
GOMU				S	S	02 55 11.9	-1.2
GOMU				ScS	ScS	02 59 11.0	+1.0
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,74nm,3.7s						
GOMU				LR	LR		
	comp=Z,86nm,15.0s						
GOMU				LR	LR		
	comp=Z,140nm,14.4s						
GOMU				LR	LR		
	comp=Z,64nm,14.8s						
XAN	Xi'an	40.79	19	P	P	02 49 04.4	-0.5
XAN				sP	pwP	02 49 11.4	-1.7
XAN				PP	PnPn	02 50 44.7	+1.5
XAN				S	S	02 55 15.5	-0.4
XAN				SS	SS	02 58 12.0	-5.1
XAN				ScS	ScS	02 59 05.7	-5.1
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
XAN				pmax	pmax		

comp=Z,180nm,5.2s
XAN LR LR
comp=Z,290nm,14.8s
XAN LR LR
comp=Z,640nm,17.2s
XAN LR LR
comp=Z,350nm,15.6s
LZH Lanzhou 41.41 12 *eP* **P 02 49 10.1 0.0**
LZH sP pwP 02 49 18.8 +0.5
LZH *eS* **S 02 55 21.3 -4.0**
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,130nm,5.4s
LZH LR LR
comp=Z,380nm,10.6s
LZH LR LR
comp=Z,280nm,13.3s
LZH LR LR
comp=Z,320nm,16.3s
WRA Warramunga Arr 41.78 115 P **P 02 49 12.8 -0.5**
comp=Z,4.8nm,1.0s,baz=286,slow=9.2,SNR=13
WRA LR LR 03 04 06.4
comp=Z,292nm,21.8s,baz=285,slow=33
WB0 Warramunga Arr 41.78 115 P **P 02 49 13.1 -0.2**
WB0 IAmb IAmb 02 49 31.5
comp=Z,14nm,1.3s
WB2 Warramunga Arr 41.79 115 P **P 02 49 12.9 -0.5**
WB2 IAmb IAmb 02 49 22.8
comp=Z,22nm,1.4s
WC3 Warramunga Arr 41.81 115 P **P 02 49 13.7 +0.2**
baz=42
WR0 Warramunga Arr 41.97 115 P **P 02 49 14.6 -0.2**
LYN LuoYang 42.49 22 *eP* **P 02 49 19.2 +0.4**
LYN S **S 02 55 43.0 +2.0**
LYN pmax pmax
comp=Z,10.0nm,1.3s
LYN pmax pmax
comp=Z,60nm,4.8s
LYN LR LR
comp=Z,360nm,13.9s
LYN LR LR
comp=Z,330nm,12.8s
ASAR Alice Springs 42.55 120 P **P 02 49 18.9 -0.7**
comp=Z,2.6nm,1.0s,baz=289,slow=7.9,SNR=14
ASAR Alice Springs 42.55 120 P **P 02 49 19.4 -0.1**
NIL Nilore 42.96 334 P **P 02 49 21.8 -0.9**
NJ2 Nanjing 43.23 31 *eP* **P 02 49 26.7 +1.9**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,500nm,13.9s
NJ2 LR LR
comp=Z,480nm,12.2s
NJ2 LR LR
comp=Z,380nm,14.2s
SSE Sheshan 43.74 34 P **P 02 49 29.2 +0.3**
SSE S **S 02 56 00.0 +0.6**
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax
comp=Z,51nm,3.2s
SSE LR LR
comp=Z,240nm,18.8s
SSE LR LR
comp=Z,210nm,18.8s
GTA Gaotai 44.06 6 ⇑P **P 02 49 31.5 0.0**
GTA pP sP 02 49 36.2 +2.5
GTA sP pwP 02 49 39.7 0.0
GTA pmax pmax
comp=Z,15nm,1.4s
GTA pmax pmax
comp=Z,100nm,7.2s
GTA LR LR
comp=Z,170nm,16.3s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,140nm,10.8s
JOW Kunigami 45.27 45 LR LR 03 07 16.9
comp=Z,171nm,21.6s,baz=187,slow=34
KBL Kabul 45.66 330 P **P 02 49 44.3 -0.2**
KBL IAmb IAmb 02 50 03.1
comp=Z,9.5nm,1.1s
HNS HongShan 45.86 23 ⇓P **P 02 49 46.5 +0.8**
HNS S **S 02 56 30.9 +1.0**
HNS pmax pmax
comp=Z,11nm,0.7s
HNS LR LR
comp=Z,370nm,19.5s
HNS LR LR
comp=Z,460nm,18.4s
HNS LR LR
comp=Z,280nm,18.6s
KSH Kashi 47.05 341 P **P 02 49 57.2 +2.0**
KSH pP pwP 02 50 01.8 -1.6
KSH S **S 02 56 49.7 +2.5**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,220nm,10.5s
KSH LR LR
comp=Z,170nm,9.1s
KSH LR LR
comp=Z,340nm,14.8s
HHC Hu-ho-hao-te 47.87 18 *eP* **P 02 50 04.5 +2.9**
HHC sP pwP 02 50 10.6 +0.9
HHC S **S 02 57 05.1 +6.2**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,75nm,5.7s
HHC LR LR
comp=Z,410nm,14.7s
HHC LR LR
comp=Z,200nm,13.9s
HHC LR LR
comp=Z,470nm,16.0s
TARG Taragay, Kyrgy 48.51 343 IAmb IAmb 02 50 16.9
comp=Z,9.2nm,1.0s
WMQ Urumqi 48.55 354 *eP* **P 02 50 08.3 +1.6**
WMQ sP pwP 02 50 15.4 +0.5
WMQ pmax pmax
comp=Z,35nm,1.9s
WMQ pmax pmax
comp=Z,250nm,3.6s
WMQ LR LR
comp=Z,100nm,29.1s
BJI Beijing 48.72 22 P **P 02 50 07.9 -0.1**
BJI PcP **PcP 02 51 31.6 -1.5**
BJI S **S 02 57 14.9 +4.3**
BJI pmax pmax
comp=Z,14nm,1.6s
BJI LR LR
comp=Z,210nm,14.9s
BJI LR LR
comp=Z,250nm,15.0s
BJI LR LR
comp=Z,270nm,17.8s
HRA Herat 49.19 324 P **P 02 50 11.6 -0.4**
AAK Ala-Archa 50.34 341 LR LR 03 11 23.7
comp=Z,617nm,21.2s,baz=168,slow=36
AAK Ala-Archa 50.34 341 P **P 02 50 20.2 -0.3**
MTSU Mount Surprise 50.60 110 P **P 02 50 23.5 +0.7**
baz=51,SNR=4.8
STKA Stephens Creek 51.85 127 LR LR 03 10 59.6
comp=Z,898nm,21.5s,baz=281,slow=34
STKA Stephens Creek 51.85 127 P **P 02 50 31.2 -0.7**
KKAR Karatay Array 52.15 338 P **P 02 50 33.1 -0.8**
KSAR Wonju Array Be 52.15 34 P **P 02 50 33.2 -0.8**
KSRS Korea Array 52.18 34 LR LR 03 12 11.3
comp=Z,222nm,21.6s,baz=215,slow=36
MKAR Makanchi Array 52.26 350 P **P 02 50 33.3 -1.4**
comp=Z,2.3nm,0.7s,baz=160,slow=7.5,SNR=17
MKAR LR LR 03 14 47.6
comp=Z,136nm,20.4s,baz=172,slow=38
MKAR Makanchi Array 52.26 350 P **P 02 50 33.6 -1.1**
MAKZ Makanchi 52.33 349 P **P 02 50 34.8 -0.4**
MAKZ IAmb IAmb 02 50 44.4
comp=Z,10nm,1.3s
PMG Port Moresby 52.56 98 P **P 02 50 37.9 +0.3**
comp=Z,3.7nm,0.3s,baz=232,slow=6.3,SNR=4.5
PMG LR LR 03 14 52.5
comp=Z,115nm,19.7s,baz=291,slow=38
PMG Port Moresby 52.56 98 P **P 02 50 36.7 -0.8**
PMG IAmb IAmb 02 51 00.4
comp=Z,7.3nm,0.8s
CTA Charters Tower 52.73 112 LR LR 03 15 42.7
comp=Z,299nm,18.0s,baz=264,slow=39
SONM Songino Array 53.25 10 P **P 02 50 42.0 -0.1**
comp=Z,1.9nm,0.7s,baz=188,slow=8.7,SNR=19
SONM LR LR 03 15 08.8
comp=Z,117nm,18.1s,baz=176,slow=38
SONM Songino Array 53.25 10 P **P 02 50 41.8 -0.3**
SONM IAmb IAmb 02 50 44.0
comp=Z,13nm,1.5s
ULN Ulaanbaatar 53.40 11 P **P 02 50 42.7 -0.6**
ATD Arta Tunnel 53.70 288 LR LR 03 10 40.9
comp=Z,98nm,18.6s,baz=68,slow=33
GEYT Alibeck 54.05 325 P **P 02 50 48.7 +0.6**
comp=Z,1.1nm,0.4s,baz=216,slow=25,SNR=3.8
GYA0B ALIBECK ARRAY 54.05 325 P **P 02 50 48.5 +0.4**
GYA0B IAmb IAmb 02 50 58.6
comp=Z,15nm,1.1s
CMSA Cobar Meteorol 55.02 126 P **P 02 50 56.1 +0.8**
baz=55,SNR=10.0
KIBK Kibwezi 56.26 270 P **P 02 51 03.6 -1.0**
KURBB Kurchatov Arra 56.66 348 LR LR 03 17 25.6
comp=Z,255nm,18.7s,baz=152,slow=38
KURK Kurchatov 56.72 348 P **P 02 51 06.0 -1.0**
JHJ Hachijo jima 2 57.03 45 LR LR 03 13 10.5
comp=Z,110nm,21.7s,baz=63,slow=34
KMBO Kilima Mbogo 57.15 272 P **P 02 51 11.1 +0.1**
MJAR Matsushiro Arr 57.85 41 LR LR 03 17 49.9
comp=Z,116nm,18.5s,baz=234,slow=38
BNX BinXian 58.08 27 ⇓P **P 02 51 16.2 -0.5**
BNX pmax pmax
comp=Z,19nm,1.3s
BNX pmax pmax
comp=Z,220nm,3.7s
ZAA0 Zalesovo Array 58.86 353 P **P 02 51 21.1 -1.0**
ZALV Zalesovo Beam 58.86 353 P **P 02 51 20.7 -1.3**
comp=Z,5.6nm,0.6s,baz=181,slow=6.9,SNR=28
ZALV LR LR 03 17 41.6
comp=Z,153nm,20.5s,baz=162,slow=37
USRK Ussuriysk Ar. 59.14 31 P **P 02 51 23.6 -0.6**
comp=Z,4.3nm,0.6s,baz=243,slow=7.3,SNR=5.8
USRK LR LR 03 16 25.0
comp=Z,234nm,21.7s,baz=213,slow=36
USRK Ussuriysk Ar. 59.14 31 P **P 02 51 23.1 -1.1**
BRVK Borovoye 60.92 344 P **P 02 51 35.2 -1.0**
BRVK IAmb IAmb 02 51 55.3
comp=Z,4.7nm,1.0s
ABKAR Akbulak array 61.40 335 P **P 02 51 39.0 -0.5**
KLR Kul'dur 62.65 27 LR LR 03 21 05.6
comp=Z,146nm,18.7s,baz=220,slow=38
GNI Garni 63.65 319 LR LR 03 20 43.1
comp=Z,166nm,21.4s,baz=126,slow=37
MBAR Mbarara 63.68 272 LR LR 03 17 15.9
comp=Z,63nm,18.3s,baz=78,slow=34
MBAR Mbarara 63.68 272 P **P 02 51 55.0 -0.7**
MBAR IAmb IAmb 02 52 05.3
comp=Z,4.8nm,1.1s
GURO Guroymak-BITLI 64.64 317 P **P 02 52 01.8 +0.2**
GURO IAmb IAmb 02 52 26.1
comp=Z,8.1nm,1.4s
ASAJ Asahikawa 64.95 36 LR LR 03 20 38.7
comp=Z,94nm,19.8s,baz=122,slow=36
MATP Matopo 65.82 250 LR LR 03 15 48.7
comp=Z,174nm,21.4s,baz=83,slow=31
LSZ Lusaka 65.85 255 P **P 02 52 09.3 -0.4**
comp=Z,0.9nm,0.3s,baz=112,slow=5.7,SNR=5.1
LSZ LR LR 03 16 35.2
comp=Z,244nm,19.8s,baz=111,slow=32
LSZ Lusaka 65.85 255 IAmb IAmb 02 52 26.4
comp=Z,7.8nm,1.4s
EIL Elat 66.28 305 LR LR 03 18 27.9
comp=Z,221nm,21.6s,baz=110,slow=34
GHAJ Ghor Haditha 66.37 307 P **P 02 52 12.5 -0.1**
GHAJ IAmb IAmb 02 52 21.9
comp=Z,8.9nm,0.9s
YSS Yuzh-Sakhalins 66.68 34 P **P 02 52 13.6 -0.7**
KBZ Khabaz 66.71 322 P **P 02 52 15.2 +0.7**
comp=Z,2.8nm,0.8s,baz=118,slow=2.7,SNR=6.2
KBZ LR LR 03 24 25.5
comp=Z,63nm,19.3s,baz=111,slow=39
KIV Kislovodsk 66.96 322 ⇑P **P 02 52 17.5 +1.2**
KIV Kislovodsk 66.96 322 P **P 02 52 16.1 -0.1**
KIV IAmb IAmb 02 52 42.0
comp=Z,10.0nm,1.1s
MMAI Mount Meron Ar 67.13 309 LR LR 03 21 05.3
comp=Z,402nm,19.3s,baz=255,slow=36
ARU Arti 67.47 339 P **P 02 52 18.9 -0.3**
ARU IAmb IAmb 02 52 28.6
comp=Z,8.9nm,1.0s
LBTB Lobatse 68.86 245 LR LR 03 17 44.6
comp=Z,387nm,19.1s,baz=88,slow=32
BOSA Boshof 69.51 241 P **P 02 52 32.1 -0.5**
comp=Z,2.4nm,0.9s,baz=90,slow=11,SNR=3.3
BOSA LR LR 03 16 38.9
comp=Z,283nm,21.6s,baz=101,slow=30
BOSA Boshof 69.51 241 IAmb IAmb 02 52 35.0
comp=Z,10nm,1.5s
BR131 Keskin Array S 71.02 315 P **P 02 52 40.6 -1.1**
BR131 IAmb IAmb 02 53 03.5
comp=Z,10nm,1.2s
BRTR Keskin Array B 71.02 315 P **P 02 52 40.6 -1.1**
comp=Z,1.7nm,0.6s,baz=138,slow=5.6,SNR=15
BRTR LR LR 03 25 53.1
comp=Z,308nm,19.4s,baz=114,slow=38
BRTR Keskin Array B 71.02 315 P **P 02 52 41.7 0.0**
DZM Mont Dzumac 71.68 112 LR LR 03 26 17.7
comp=Z,336nm,18.2s,baz=218,slow=38
YAK Yakutsk 71.72 17 LR LR 03 26 33.7
comp=Z,142nm,18.3s,baz=262,slow=38
SYO Syowa Base 73.67 198 ⇓ *eP* **P 02 52 59.4 +2.6**
SUR Sutherland 73.69 238 LR LR 03 18 33.3
comp=Z,444nm,21.5s,baz=108,slow=30
NRIK Noril'sk 73.91 357 P **P 02 52 58.2 +0.1**
comp=Z,2.0nm,0.5s,baz=187,slow=5.3,SNR=6.0
NRIK LR LR 03 27 13.9
comp=Z,164nm,21.3s,baz=166,slow=37
NRIK Noril'sk 73.91 357 IAmb IAmb 02 53 06.8
comp=Z,14nm,1.2s
TSUM Tsumeb 76.05 251 LR LR 03 22 38.9
comp=Z,410nm,19.9s,baz=148,slow=33
OBN Obninsk 76.10 330 LR LR 03 30 01.7
comp=Z,58nm,18.1s,baz=166,slow=38
OBN Obninsk 76.10 330 P **P 02 53 10.7 -0.3**
OBN IAmb IAmb 02 53 12.9
comp=Z,10nm,0.8s
IDI Anoyia 76.11 308 LR LR 03 27 03.8
comp=Z,106nm,22.0s,baz=86,slow=36
RPZ Rata Peaks 77.22 134 LR LR 03 27 00.3
comp=Z,416nm,18.7s,baz=268,slow=36
MA2 Magadan 77.73 26 LR LR 03 29 41.9
comp=Z,211nm,19.8s,baz=254,slow=37
MA2 Magadan 77.73 26 P **P 02 53 19.1 -1.0**
MA2 IAmb IAmb 02 53 36.8
comp=Z,14nm,1.5s
SORM Soroca 77.74 321 ⇑P **P 02 53 20.1 -0.3**
KLMR Klimovskoe 77.78 336 *eP* **P 02 53 16.5 -3.9**
KLMR AMP 02 53 28.3
comp=Z,16nm,1.4s
VRI Vrincioaia 77.99 319 ⇑P **P 02 53 22.9 +0.9**
PLOR Plostina 78.03 319 ⇑P **P 02 53 23.0 +0.8**
PETK Petropavlovsk- 78.08 33 LR LR 03 29 17.2
comp=Z,92nm,19.5s,baz=216,slow=37
AKASG Malin Array Be 78.16 324 P **P 02 53 22.2 -0.5**
comp=Z,0.3nm,0.4s,baz=96,slow=3.9,SNR=13
AKASG LR LR 03 29 03.1
comp=Z,217nm,21.9s,baz=146,slow=37
TESR Tescani 78.26 319 ⇑P **P 02 53 23.7 +0.3**
MLR Muntele Rosu 78.38 318 ⇑P **P 02 53 25.7 +1.5**
MLR Muntele Rosu 78.38 318 LR LR 03 32 05.5
comp=Z,227nm,18.3s,baz=82,slow=39
MLR Muntele Rosu 78.38 318 P **P 02 53 24.5 +0.2**
DOPR Dopca 78.91 318 ⇑P **P 02 53 27.0 0.0**
TIXI Tiksi 79.34 11 P **P 02 53 27.5 -1.3**
TIXI IAmb IAmb 02 53 29.2
comp=Z,4.9nm,0.7s
BUR01 Bucovina Ar. S 79.54 320 P **P 02 53 32.2 +1.6**
BURAR Bucovina Array 79.54 320 ⇑P **P 02 53 32.0 +1.5**
BUR08 Bucovina Ar. S 79.56 320 P **P 02 53 30.6 0.0**
GZR Gura Zlata 80.48 317 ⇑P **P 02 53 35.9 +0.3**
VNDA Vanda 80.77 168 LR LR 03 24 00.4
comp=Z,231nm,18.6s,baz=296,slow=32
NACGM Naroch 81.10 327 *i* P P 02 53 46.5 +7.8
BZS Buzias 81.33 317 P **P 02 53 39.8 -0.2**
TRPA Tarpa 81.42 320 ⇑P **P 02 53 41.4 +1.0**
CRVS Cervenica-Dubn 82.32 320 *eP* **P 02 53 48.6 +3.4**
MSVF Nonsavu 82.60 107 LR LR 03 31 24.6
comp=Z,225nm,19.4s,baz=142,slow=36
FINES FINESS Array B 83.83 333 P **P 02 53 52.5 -0.2**
comp=Z,1.6nm,0.6s,baz=90,slow=5.7,SNR=7.0
FINES LR LR 03 33 26.3
comp=Z,296nm,20.4s,baz=128,slow=37
KOLL Kolacno 84.20 320 *eP* **P 02 53 58.0 +3.1**
VAE Valguarnera 84.83 308 LR LR 03 35 02.7
comp=Z,80nm,18.8s,baz=133,slow=38
QSPA South Pole Qui 85.41 180 LR LR 03 27 41.1
comp=Z,143nm,19.4s,baz=317,slow=32
VRAC Vranov 85.52 320 LR LR 03 35 12.9
comp=Z,113nm,20.8s,baz=94,slow=38
CONA Conrad Observa 85.71 319 *eP* **P 02 54 04.4 +1.7**
comp=Z,4.7nm,1.4s
RAO Raoul Island 85.79 119 LR LR 03 29 21.1
comp=Z,216nm,20.7s,baz=120,slow=34
ARSA Arzberg 85.80 318 *eP* **P 02 54 05.5 +2.4**
comp=Z,6.4nm,1.2s
SOKA Soboth 86.02 317 *eP* **P 02 54 05.5 +1.2**
comp=Z,10nm,1.4s
ARCES ARCESS Array B 87.01 341 LR LR 03 34 49.4
comp=Z,204nm,18.9s,baz=138,slow=37
BIOA Bad Ischl, Aus 87.14 318 *i* P **P 02 54 11.0 +1.3**
comp=Z,4.6nm,0.8s
GERES GERESS Array B 87.30 319 P **P 02 54 11.5 +1.0**
comp=Z,1.9nm,0.9s,baz=108,slow=4.3,SNR=11
GERES GERESS Array B 87.30 319 P **P 02 54 10.7 +0.3**
SNAA Sanae 87.96 198 LR LR 03 29 11.1
comp=Z,53nm,19.5s,baz=102,slow=33
CLL Collm 88.16 322 *eP* **P 02 54 16.0 +1.6**
CLL *ex* x 02 54 30.0
CLL *eP*P **PP 02 57 45.0 +3.6**
WATA Walderalm 88.46 318 *eP* **P 02 54 18.5 +2.4**
comp=Z,12nm,1.7s
KEST Kesra 88.62 306 LR LR 03 31 46.1
comp=Z,60nm,21.9s,baz=338,slow=34
MOTA Moosalm 88.78 318 *eP* **P 02 54 20.1 +2.5**
comp=Z,7.3nm,1.3s
HFS Hagfors 89.31 330 LR LR 03 37 27.8
comp=Z,98nm,18.5s,baz=98,slow=38
DAVOX Davos/Dischmat 89.54 317 LR LR 03 37 35.3
comp=Z,129nm,20.4s,baz=77,slow=38
DAVA Damuels 89.60 317 *eP* **P 02 54 23.6 +2.1**
comp=Z,17nm,1.1s
NOA NORSAR Array B 90.66 331 LR LR 03 37 01.6
comp=Z,152nm,20.3s,baz=110,slow=37
SPITS Spitsbergen Ar 92.00 348 LR LR 03 40 17.1
comp=Z,195nm,21.4s,baz=194,slow=38
TORD Torodi Ar. Bea 93.64 283 P **P 02 54 39.3 -1.3**
comp=Z,1.5nm,1.0s,baz=83,slow=4.2,SNR=5.8
TORD Torodi Ar. Bea 93.64 283 P **P 02 54 40.4 -0.2**
TORD IAmb IAmb 02 55 04.6
comp=Z,4.1nm,1.4s
EKA Eskdalemuir Ar 98.04 325 LR LR 03 43 52.2
comp=Z,174nm,18.0s,baz=7.5,slow=38
KOWA Kowa 99.25 284 LR LR 03 40 01.3
comp=Z,71nm,18.1s,baz=38,slow=36
ESDC Sonseca Array 99.33 309 LR LR 03 41 54.0
comp=Z,60nm,18.2s,baz=108,slow=37
MDT Midelt 100.02 302 LR LR 03 40 27.4
comp=Z,105nm,20.1s,baz=155,slow=36
PDAR Pinedale Array 136.44 26 PKP **PKPdf 03 00 44.6 -1.5**
comp=Z,0.2nm,0.6s,baz=48,slow=2.2,SNR=4.4
121A Cookes Peak, D 145.31 34 PKPbc **PKPbc 03 01 00.6 -1.4**
S39A Bolivar 146.30 11 PKPbc **PKPdf 03 01 03.0 -0.5**
MNTX Cornudas Mount 147.26 32 PKPbc **PKPdf 03 01 06.6 +1.2**
Z35A Perchaven, San 149.41 19 PKPbc **PKPdf 03 01 10.1 +1.5**
TX31 Lajitas Ar. Si 150.03 33 PKPbc **PKPdf 03 01 12.8 +2.8**
TXAR Lajitas Array 150.03 33 PKPbc **PKPbc 03 01 14.2 -0.8**
comp=Z,0.9nm,0.8s,baz=31,slow=1.4,SNR=7.6
TXAR Lajitas Array 150.03 33 PKPbc **PKPdf 03 01 12.7 +2.6**

*NOU **05** 03:29:23.4, 40.98S×174.92E, h18km, MLv3.6/8, Cook Strait, New Zealand*
*WEL **05** 03:29:23.0±0.2, 41.5°S±2.2×17.5°E±0.7, h7km±2km, M3.1/48, ML3.4/49, MLv3.1/48, Error ellipse: s-maj=0.0km s-min=0.0km az=150.0*

ISC 05 03:29:23.2±0.9, 40.91S±0.02×174.77E±0.02, h18km±4km, **n95**, σ=**0.87**/106, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.11**	**67**	P	**Pg**	**03 29 27.3**	**+0.3**
KIW				S	**Sg**	**03 29 30.2**	**+0.6**
CAW	**Cannon Point**	**0.30**	**132**	P	**Pb**	**03 29 30.6**	**+0.5**
OGWZ	**Otaki Gorge**	**0.31**	**74**	P	**Pb**	**03 29 30.1**	**-0.2**
OGWZ				S	**Sb**	**03 29 35.0**	**0.0**
WEL	**Wellington**	**0.38**	**181**	P	**Pb**	**03 29 31.8**	**+0.3**
WEL				S	**Sb**	**03 29 37.8**	**+0.7**
SNZO	**South Karori**	**0.41**	**187**	P	**Pb**	**03 29 32.3**	**+0.3**
TCW	**Tory Channel**	**0.48**	**231**	P	**Pg**	**03 29 32.7**	**-0.4**
BHW	**Baring Head**	**0.51**	**172**	P	**Pb**	**03 29 34.1**	**+0.5**
BHW				S	**Sb**	**03 29 41.3**	**+0.6**
HOWZ	**Holdsworth Sta**	**0.56**	**89**	P	**Pb**	**03 29 34.8**	**+0.2**
HOWZ				S	**Sb**	**03 29 42.8**	**+0.6**
MTW	**Mount Morrison**	**0.61**	**115**	P	**Pb**	**03 29 36.0**	**+0.7**
MTW				S	**Sn**	**03 29 45.7**	**-0.7**
MSWZ	**Moikau Station**	**0.62**	**145**	P	**Pn**	**03 29 36.5**	**-0.7**
MSWZ				S	**Sn**	**03 29 46.2**	**-0.4**
DUWZ	**D'Urville Isla**	**0.66**	**279**	P	**Pg**	**03 29 35.5**	**-0.7**
DUWZ				S	**Sg**	**03 29 44.5**	**-0.4**
MRZ	**Mangatainoka R**	**0.66**	**68**	P	**Pb**	**03 29 35.8**	**-0.3**
PAWZ	**Paruwai Farm**	**0.69**	**134**	P	**Pn**	**03 29 37.6**	**-0.5**
PAWZ				S	**Sn**	**03 29 48.2**	**-0.1**
PLWZ	**Palliser**	**0.76**	**152**	P	**Pn**	**03 29 38.8**	**-0.3**
PLWZ				S	**Sn**	**03 29 50.6**	**+0.5**
OHWZ	**Ohakea**	**0.81**	**31**	P	**Pg**	**03 29 38.0**	**-1.1**
TUWZ	**Tuamarina**	**0.82**	**230**	P	**Pg**	**03 29 38.1**	**-1.1**
TUWZ				S	**Sg**	**03 29 49.0**	**-1.0**
TRWZ	**Traveller**	**0.85**	**126**	P	**Pn**	**03 29 40.2**	**-0.2**
TIWZ	**Tintock**	**0.85**	**82**	P	**Pn**	**03 29 40.8**	**+0.4**
TMWZ	**Te Maipa**	**0.87**	**104**	P	**Pn**	**03 29 40.7**	**0.0**
POWZ	**Post Office Ro**	**0.91**	**56**	P	**Pg**	**03 29 40.0**	**-1.0**
PRWZ	**Pori Road**	**0.97**	**69**	P	**Pb**	**03 29 41.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.05**	**220**	P	**Pb**	**03 29 42.9**	**-0.1**
CPWZ	**Castlepoint**	**1.08**	**91**	P	**Pn**	**03 29 45.6**	**+2.1**
NNZ	**Nelson**	**1.10**	**253**	P	**Pb**	**03 29 43.3**	**-0.4**
WAZ	**Wanganui**	**1.16**	**8**	P	**Pb**	**03 29 44.2**	**-0.6**
DVHZ	**Dannevirke**	**1.22**	**61**	P	**Pn**	**03 29 44.9**	**-0.6**
TSZ	**Takapari Road**	**1.24**	**47**	P	**Pn**	**03 29 45.5**	**-0.2**
ANWZ	**Angora Road**	**1.37**	**72**	P	**Pb**	**03 29 48.2**	**-0.1**
TKNZ	**Takaka Hill**	**1.38**	**264**	P	**Pn**	**03 29 48.0**	**+0.4**
LREZ	**Lake Rotokare**	**1.47**	**349**	P	**Pn**	**03 29 48.7**	**-0.2**
PNHZ	**Pukenui**	**1.47**	**48**	P	**Pn**	**03 29 48.5**	**-0.4**
WPHZ	**Waipukurau**	**1.52**	**57**	P	**Pg**	**03 29 52.0**	**-0.6**
PRHZ	**Porangahau**	**1.55**	**66**	P	**Pn**	**03 29 50.1**	**+0.1**
MRNZ	**Matariki Terra**	**1.60**	**251**	P	**Pn**	**03 29 51.5**	**+0.9**
MTVZ	**Mangateitei**	**1.61**	**20**	P	**Pn**	**03 29 51.6**	**+0.8**
PREZ	**Palmer Road**	**1.63**	**343**	P	**Pn**	**03 29 51.4**	**+0.3**
THZ	**Tophouse**	**1.65**	**238**	P	**Pn**	**03 29 52.0**	**+0.6**
PKVZ	**Pokaka**	**1.67**	**15**	P	**Pn**	**03 29 52.7**	**+1.0**
MOVZ	**Moawhango**	**1.67**	**27**	P	**Pn**	**03 29 51.7**	**0.0**
WNVZ	**Wahianoa**	**1.70**	**22**	P	**Pn**	**03 29 52.2**	**+0.1**
QRZ	**Quartz Range**	**1.70**	**272**	P	**Pn**	**03 29 53.0**	**+0.9**
QRZ	**Quartz Range**	**1.70**	**272**	P	**Pn**	**03 29 53.8**	**+1.7**
KHEZ	**Kahui Hut**	**1.71**	**340**	P	**Pn**	**03 29 52.5**	**+0.3**
TRVZ	**Turoa**	**1.71**	**21**	P	**Pn**	**03 29 52.7**	**+0.3**
NEZ	**North Egmont**	**1.71**	**342**	P	**Pn**	**03 29 52.7**	**+0.4**
BHHZ	**Black Hill Sta**	**1.73**	**35**	P	**Pn**	**03 29 52.5**	**+0.1**
DRZ	**Dome Shelter**	**1.74**	**21**	P	**Pn**	**03 29 54.2**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.74**	**21**	P	**Pn**	**03 29 53.6**	**+0.9**
FWVZ	**Far West T-bar**	**1.75**	**20**	P	**Pn**	**03 29 53.7**	**+0.8**
KRHZ	**Kereru**	**1.75**	**45**	P	**Pn**	**03 29 52.6**	**-0.2**
TUVZ	**Tukino**	**1.77**	**23**	P	**Pn**	**03 29 53.9**	**+0.8**
KHZ	**Kahutara**	**1.77**	**211**	P	**Pn**	**03 29 52.9**	**-0.1**
KHZ	**Kahutara**	**1.77**	**211**	P	**Pn**	**03 29 53.0**	**0.0**
NBEZ	**Newall Road No**	**1.78**	**337**	P	**Pn**	**03 29 54.1**	**+1.1**
VRZ	**Vera Road**	**1.78**	**360**	P	**Pn**	**03 29 53.4**	**+0.3**
PKE	**Pukeiti**	**1.81**	**340**	P	**Pn**	**03 29 54.5**	**+0.9**
PXZ	**Pawanui**	**1.82**	**62**	P	**Pg**	**03 29 58.4**	**+0.2**
NGZ	**Ngauruhoe**	**1.84**	**20**	P	**Pn**	**03 29 54.8**	**+0.8**
SNVZ	**South Ngauruho**	**1.84**	**21**	P	**Pn**	**03 29 54.8**	**+0.6**
OTVZ	**Oturere**	**1.87**	**22**	P	**Pn**	**03 29 54.9**	**+0.4**
NNVZ	**North Ngauruho**	**1.89**	**20**	P	**Pn**	**03 29 55.4**	**+0.7**
WTVZ	**West Tongariro**	**1.89**	**20**	P	**Pn**	**03 29 55.9**	**+1.1**
TWVZ	**Taurewa**	**1.90**	**16**	P	**Pn**	**03 29 55.2**	**+0.3**
ETVZ	**East Tongariro**	**1.91**	**22**	P	**Pn**	**03 29 55.4**	**+0.5**
TMVZ	**Te Maari**	**1.93**	**22**	P	**Pn**	**03 29 55.7**	**+0.5**
KRVZ	**Karewarewa**	**1.93**	**21**	P	**Pn**	**03 29 56.8**	**+1.6**
NTVZ	**North Tongariro**	**1.93**	**21**	P	**Pn**	**03 29 56.2**	**+0.9**
KWHZ	**Kaweka Forest**	**1.94**	**41**	P	**Pn**	**03 29 55.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MCHZ	McNeill Hill	2.07	46	P	Pb	03 30 01.5	+1.2
RITZ	Rihia Road	2.10	24	P	Pb	03 29 60.0	-0.8
RATZ	Rangitukua	2.18	21	P	Pb	03 30 01.5	-0.6
BKZ	Black Stump Fm	2.18	38	P	Pn	03 29 58.9	+0.3
BKZ	Black Stump Fm	2.18	38	P	Pn	03 29 58.6	-0.1
WATZ	Wairara	2.31	19	P	Pb	03 30 03.9	-0.6
NMHZ	Naumai	2.39	42	P	Pb	03 30 06.8	+1.1
DSZ	Denniston Nort	2.39	248	P	Pn	03 30 02.2	+0.6
HIZ	Hauiti	2.39	2	P	Pn	03 30 02.3	+0.8
HIZ	Hauiti	2.39	2	P	Pn	03 30 02.4	+0.9
MRHZ	Matea Rd	2.42	32	P	Pb	03 30 05.2	-1.2
GVZ	Greta Valley S	2.44	212	P	Pn	03 30 02.0	-0.1
MTHZ	Maungataniwha	2.59	38	P	Pn	03 30 03.5	-0.9
TLZ	Tolley Road	2.64	13	P	Pn	03 30 07.4	+2.4
LTZ	Lake Taylor	2.65	224	P	Pn	03 30 04.8	-0.3
RAHZ	Arahi	2.67	43	P	Pb	03 30 11.4	+0.9
RTZ	Ruatahuna	2.85	37	P	Pb	03 30 13.3	-0.4
MUGZ	Murupara	2.87	33	P	Pb	03 30 13.8	-0.1
TARZ	Mount Tarawera	2.98	27	P	Pn	03 30 10.5	+0.7
INZ	Inchbonnie	3.08	233	P	Pn	03 30 10.7	-0.3
URZ	Urewera	3.20	35	P	Pn	03 30 13.2	+0.6
WVZ	Waitaha Valley	3.71	233	P	Pn	03 30 23.6	+4.0
RPZ	Rata Peaks	3.94	223	P	Pn	03 30 24.3	+1.5
GCSZ	Gaunt Creek Bo	4.09	232	P	Pn	03 30 27.0	+2.1
TMZ	Timaru	4.45	217	P	Pn	03 30 28.9	-0.9
ODZ	Otahua Downs	5.13	215	P	Pn	03 30 37.8	-1.3
ODZ	Otahua Downs	5.13	215	P	Pn	03 30 38.5	-0.6
	26nm,2.4s						

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*AEIC **05** 04:07:22.3±1.9, 67.°64N±0.°06×162.°80W±0.°06, h11km±4km, ML4.2/42, mb4.4/38(NEIC), ML4.3/18(NEIC), Error ellipse: s-maj=8.3km s-min=3.1km az=188.0*

*NEIC **05** 04:07:22.6±1.7, 67.°64N±0.°06×162.°7W±0.°1, h3km±4km, Error ellipse: s-maj=8.4km s-min=7.4km az=158.0*

*IDC **05** 04:07:23.6±0.6, 67.°77N×162.°57W, h0km, mb4.1/25, mb1 4.3/28, mb1mx4.1/53, mbtmp4.1/28, ML3.7/3, MS3.7/48, Ms1 3.7/48, ms1mx3.5/104, Error ellipse: s-maj=18.5km s-min=11.2km az=14.0*

ISC 05 04:07:24.0±0.4, **67.°67N**±0.°04×**162.°57W**±0.°04, **h10**km, **n209**, σ1.s**33**/190, **mb4.4**/47, **MS3.7**/43, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	0.41	342	Pg	Pg	04 07 30.6	-1.6
RDOG	Red Dog Mine	0.41	342		Sg	04 07 36.4	-1.2
RDOG	Red Dog Mine	0.41	342	P	Pg	04 07 30.5	-1.6
	baz=174						
RDOG				S	Sg	04 07 36.4	-1.2
	baz=174						
TNA	Tin City	3.00	228	Pn	Pn	04 08 09.4	-2.2
TNA	Tin City	3.00	228	P	Pn	04 08 08.7	-2.9
	baz=42						
ANM	Nome	3.31	201		Pn	04 08 13.8	-2.1
ANM					Sn	04 08 52.4	-2.9
ANM	Nome	3.31	201	P	Pn	04 08 13.4	-2.5
	baz=18						
GCSA	Galena City Sc	3.73	139		Pn	04 08 21.3	-0.2
GCSA					Sn	04 09 05.2	-0.3
GCSA	Galena City Sc	3.73	139	P	Pn	04 08 21.3	-0.2
	baz=323						
IM03		3.88	112		Pn	04 08 22.9	-0.6
IMAR	Indian Mountai	3.88	112		Pn	04 08 22.7	-0.9
A21K	Barrow	4.23	27		Pn	04 08 27.0	-1.4
A21K	Barrow	4.23	27	IAML		04 09 52.2	
	comp=N,424nm,1.8s						
A21K				IAML		04 09 57.2	
	comp=E,409nm,3.1s						
A21K	Barrow	4.23	27	P	Pn	04 08 27.0	-1.4
	baz=213						
H21K	Melozitna Rive	4.38	113		Pn	04 08 29.6	-0.8
H21K				IAML		04 09 58.0	
	comp=E,201nm,1.4s						
H21K				IAML		04 10 05.5	
	comp=N,255nm,1.5s						
COLD	Coldfoot	4.78	90		Pn	04 08 36.2	+0.2
COLD	Coldfoot	4.78	90	P	Pn	04 08 37.4	+1.4
	baz=281						
J20K	Nowinta River	4.91	131	Pn	Pn	04 08 37.8	-0.1
J20K				IAML		04 10 08.9	
	comp=E,176nm,1.7s						
J20K				IAML		04 10 12.6	
	comp=N,180nm,1.4s						
I21K	Tanana	4.93	115		Pn	04 08 37.1	-0.9
I21K				IAML		04 10 14.3	
	comp=N,255nm,0.9s						
I21K				IAML		04 10 16.0	
	comp=E,270nm,1.1s						
TOLK	Toolik Lake Re	4.95	73		Pn	04 08 38.5	0.0
TOLK	Toolik Lake Re	4.95	73	P	Pn	04 08 38.5	0.0
	baz=265						
TOLK				S	Sn	04 09 36.5	+0.7
	baz=265						
GAMB	Gambell	5.42	228	Pn	Pn	04 08 44.3	-0.5
GAMB				IAML		04 10 30.3	
	comp=N,164nm,0.8s						
GAMB				IAML		04 10 31.9	
	comp=E,209nm,1.0s						
MLY	Manley	5.45	113		Pn	04 08 44.8	-0.4
H23K	Yukon River	5.48	104		Pn	04 08 45.0	-0.6
TTA	Tatalina	5.49	147		Pn	04 08 45.7	-0.1
TTA	Tatalina	5.49	147	P	Pn	04 08 45.7	-0.1
	baz=332						
TT01	Tatalina	5.51	147		Pn	04 08 45.6	-0.4
K20K	Telida	5.58	137	Pn	Pn	04 08 45.9	-1.1
CHUM	Lake Minchumin	5.67	127		Pn	04 08 47.9	-0.3
CHUM	Lake Minchumin	5.67	127	P	Pn	04 08 48.6	+0.3
	baz=316						
I23K	Minto, Yukon-K	5.87	109		Pn	04 08 51.4	+0.4
I23K	Minto, Yukon-K	5.87	109	P	Pn	04 08 52.1	+1.1
	baz=301						
BPAW	Bear Paw Mtn.	5.94	122		Pn	04 08 52.3	+0.3
BPAW	Bear Paw Mtn.	5.94	122	P	Pn	04 08 52.3	+0.3
	baz=312						
CAST	Castle Rocks	6.09	129	Pn	Pn	04 08 53.6	-0.4
H24K	Noodor Dome	6.10	101	Pn	Pn	04 08 54.0	-0.1
H24K	Noodor Dome	6.10	101	P	Pn	04 08 53.6	-0.5
	baz=294						
PS07	TAPS Pump Stn7	6.18	106		Pn	04 08 56.3	+1.0
NEA2	Nenana	6.28	113		Pn	04 08 56.0	-0.7
NEA2	Nenana	6.28	113	P	Pn	04 08 56.9	+0.3
	baz=305						
KTH	Kantishna Hill	6.34	125		Pn	04 08 57.5	0.0
MDM	Murphy Dome	6.38	108		Pn	04 08 57.6	-0.4
BWN	Browne	6.40	117		Pn	04 08 59.2	+0.9
L19K	White Mountain	6.40	146		Pn	04 08 57.7	-0.6
L19K	White Mountain	6.40	146	P	Pn	04 08 59.1	+0.8
	baz=332						
PPLA	Purkeypile	6.46	133	Pn	Pn	04 08 59.6	+0.3
PPLA	Purkeypile	6.46	133	P	Pn	04 09 00.5	+1.2
	baz=322						
TCOL	CIGO, UAF Yank	6.56	108		Pn	04 09 01.0	+0.6
TCOL	CIGO, UAF Yank	6.56	108	P	Pn	04 09 01.0	+0.6
	baz=301						
COLA	College	6.56	108		Pn	04 09 00.3	-0.1
POKR	Poker Plat Res	6.59	106		Pn	04 09 00.7	-0.2
POKR	Poker Plat Res	6.59	106	P	Pn	04 09 00.7	-0.2
	baz=299						
TRF	Thorofare Moun	6.62	124		Pn	04 09 01.5	+0.1
TRF	Thorofare Moun	6.62	124	P	Pn	04 09 01.5	+0.1
	baz=314						
WRH	Wood River Hil	6.70	112		Pn	04 09 02.5	+0.2
CCB	Clear Creek Bu	6.70	110		Pn	04 09 02.3	0.0
M19K	Big River Lodg	6.75	145		Pn	04 09 02.6	-0.5
FYU	Fort Yukon	6.85	91	Pn	Pn	04 09 03.4	-0.9
MCK	McKinley	6.87	119		Pn	04 09 04.2	-0.4
MCK	McKinley	6.87	119	P	Pn	04 09 04.8	+0.2
	baz=311						
BMAR	Burnt Mountain	6.89	84	Pn	Pn	04 09 05.7	+0.7
IL31		6.97	107		Pn	04 09 05.5	-0.5
ILAR	Eielson Array	6.97	107	Pn	Pn	04 09 06.4	+0.3
	comp=E,6.9nm,0.3s,baz=302,slow=13,SNR=418						
ILAR				Sn	Sn	04 10 24.4	-0.9
	comp=E,1.1nm,0.3s,baz=298,slow=24,SNR=6.1						
ILAR				LR	LR	04 12 15.7	
	comp=E,366nm,18.6s,baz=283,slow=42						
ILAR	Eielson Array	6.97	107		Pn	04 09 05.1	-1.0
RND	Reindeer	7.11	120		Pn	04 09 07.9	-0.1
PRP	Porcupine Dome	7.12	100	Pn	Pn	04 09 06.5	-1.7
HDA	Harding Lake	7.14	110		Pn	04 09 08.6	+0.2
SVW2	Sparrevohn	7.25	152	Pn	Pn	04 09 08.7	-1.2
CUT	Chulitna	7.40	130		Pn	04 09 10.5	-1.4
J25K	Salcha River,	7.61	106		Pn	04 09 15.4	+0.6
N19K	Bonanza Creek	7.72	149	Pn	Pn	04 09 16.1	-0.4
DHY	Denali Highway	7.83	119		Pn	04 09 18.4	+0.4
SPU	Mount Spurr	7.93	140		Pn	04 09 18.9	-0.4
M22K	Willow	7.96	132		Pn	04 09 17.6	-2.0
WAT6	Susitna Watana	8.05	122		Pn	04 09 21.1	0.0
RIDG	Independent Ri	8.29	110		Pn	04 09 22.9	-1.2
GHO	Glory Hole Cre	8.29	129		Pn	04 09 23.3	-1.0
PMR	Palmer	8.38	130		Pn	04 09 24.4	-0.9
RSO	Redoubt South	8.40	145		Pn	04 09 23.6	-2.2
SCRK	Sand Creek	8.46	107	Pn	Pn	04 09 25.9	-0.7
O18K	Koktuh Hills	8.48	154		Pn	04 09 25.6	-1.2
PAX	Paxson	8.55	115		Pn	04 09 27.0	-0.8
DOT	Dot Lake	8.62	109		Pn	04 09 29.6	+0.9
KNK	Knik Glacier	8.71	129		Pn	04 09 29.3	-0.7
SCM	Sheep Creek Mo	8.74	125		Pn	04 09 28.6	-1.7
M24K	Tolsona, Glenn	8.90	121		Pn	04 09 31.8	-0.8
P18K	Big Mountain,	8.92	155	Pn	Pn	04 09 30.3	-2.5
L26K	Log Cabin Wild	9.26	111		Pn	04 09 36.2	-1.2
KLU	Klutina	9.44	123		Pn	04 09 38.3	-1.7
L27K	Beaver Creek,	9.78	108		Pn	04 09 43.2	-1.4
N25K	Chitina, Valde	9.79	120		Pn	04 09 44.1	-0.5
BCAR	Beaver Creek A	9.79	108	Pn	Pn	04 09 44.6	-0.2
I29M	Ogilvie Camp,	9.93	92		Pn	04 09 46.1	-0.4
DAWY	Dawson	10.12	100	Pn	Pn	04 09 50.1	+0.9
M27K	Edge Creek, AK	10.21	112		Pn	04 09 49.8	-0.7
INK	Inuvik	10.87	73	Pn	Pn	04 09 57.9	-1.5
	comp=E,0.7nm,0.3s,baz=280,slow=10.0,SNR=58						
INK				Sn	Sn	04 11 53.5	-7.3
	comp=E,0.5nm,0.3s,baz=144,slow=13,SNR=3.4						
INK				LR	LR	04 15 05.5	
	comp=E,258nm,19.6s,baz=250,slow=43						
INK	Inuvik	10.87	73	Pn	Pn	04 09 58.0	-1.3
KDAK	Kodiak Island	10.90	151	Pn	Pn	04 10 01.7	+1.8
	comp=E,0.1nm,0.3s,baz=187,slow=13,SNR=1.1						
KDAK				LR	LR	04 13 57.5	
	comp=E,196nm,19.3s,baz=80,slow=36						
BILL	Bilibino	11.70	286	Pn	Pn	04 10 07.4	-3.2
M30M	Minto, Yukon	11.93	103		Pn	04 10 13.4	-0.5
N31M	Braeburn, Yuko	12.98	106		Pn	04 10 29.3	+1.1
A36M	Sachs Harbour	13.40	54	Pn	Pn	04 10 33.3	-0.5
C36M	Paulatuk	14.05	65	Pn	Pn	04 10 43.9	+1.2
DLBC	Dease Lake	17.18	107	P	P	04 11 25.7	+0.2
	comp=E,0.1nm,0.3s,baz=303,slow=11,SNR=3.2						
DLBC				LR	LR	04 18 35.6	
	comp=E,378nm,18.0s,baz=310,slow=39						
SHEM	Shemya Is, Ala	18.74	229	LR	LR	04 19 24.9	
	comp=E,146nm,18.1s,baz=355,slow=38						
SEY	Seymchan	19.05	277	P	Pn	04 11 47.5	+0.9
	comp=E,0.5nm,0.3s,baz=83,slow=7.5,SNR=12						
SEY				LR	LR	04 19 14.8	
	comp=E,270nm,18.5s,baz=0.5,slow=37						
YKA	Yellowknife Ar	20.41	82	P	P	04 12 01.4	+0.7
	comp=E,5.1nm,0.7s,baz=308,slow=12,SNR=40						
YKA				LR	LR	04 20 49.5	
	comp=E,236nm,18.6s,baz=333,slow=39						
YKA	Yellowknife Ar	20.41	82		P	04 12 00.5	-0.2
RES	Resolute Bay	21.65	42	P	P	04 12 13.7	-0.4
	comp=E,0.3nm,0.4s,baz=264,slow=15,SNR=1.5						
RES				S	S	04 16 08.7	-4.6
	comp=E,2.4nm,1.1s,baz=180,slow=17,SNR=2.7						
RES				LR	LR	04 21 55.4	
	comp=E,114nm,21.1s,baz=336,slow=40						
MA2	Magadan	21.73	271	P	P	04 12 14.7	-0.3
	comp=E,1.6nm,0.4s,baz=39,slow=10.0,SNR=8.4						
MA2				LR	LR	04 20 50.2	
	comp=E,122nm,18.3s,baz=48,slow=37						
MA2	Magadan	21.73	271	P	P	04 12 13.9	-1.1
MA2				IAmb	IAmb	04 12 21.3	
	comp=Z,28nm,1.3s						
EUNU	Eureka	22.20	27	P	P	04 12 20.3	+0.4
EUNU				IAmb	IAmb	04 12 28.9	
	comp=Z,24nm,1.5s						
BBB	Bella Bella	22.75	116	LR	LR	04 20 40.9	
	comp=Z,224nm,18.6s,baz=334,slow=35						
TIXI	Tiksi	22.96	311	P	P	04 12 29.5	+1.4
	comp=Z,2.4nm,0.8s,baz=270,slow=23,SNR=7.0						
TIXI				LR	LR	04 23 32.2	
	comp=Z,126nm,18.3s,baz=0.0,slow=42						
TIXI	Tiksi	22.96	311	P	P	04 12 28.0	-0.1
PETK	Petropavlovsk-	23.87	252	P	P	04 12 40.1	+2.9
	comp=Z,4.1nm,1.0s,baz=99,slow=9.2,SNR=3.9						
PETK				LR	LR	04 22 14.8	
	comp=Z,62nm,19.6s,baz=20,slow=37						
YAK	Yakutsk	27.97	292	LR	LR	04 26 04.9	
	comp=Z,57nm,19.0s,baz=91,slow=40						
NEW	Newport	29.93	107	LR	LR	04 27 32.3	
	comp=Z,163nm,18.7s,baz=342,slow=40						
JTMT	Jette	31.40	105	P	P	04 13 45.2	+0.3
JTMT				IAmb	IAmb	04 13 49.7	
	comp=Z,6.0nm,1.0s						
BOZ	Bozeman (W)	34.20	104	P	P	04 14 10.8	+1.3
BOZ				IAmb	IAmb	04 14 13.8	
	comp=Z,4.8nm,0.9s						
HLID	Hailey	34.92	109	P	P	04 14 15.3	-0.5
NRIK	Noril'sk	35.13	325	P	P	04 14 18.2	+1.1
	comp=Z,2.3nm,0.4s,baz=42,slow=7.8,SNR=4.6						
NRIK				LR	LR	04 32 49.3	
	comp=Z,111nm,18.4s,baz=116,slow=44						
NRIK	Noril'sk	35.13	325	P	P	04 14 16.2	-0.8
NRIK				IAmb	IAmb	04 14 20.3	
	comp=Z,3.9nm,0.8s						
YHH	Holmes Hill	35.17	104	P	P	04 14 17.6	-0.5
YHH				IAmb	IAmb	04 14 23.3	
	comp=Z,9.0nm,1.2s						
FRB	Frobisher Bay	35.34	50	LR	LR	04 31 22.5	
	comp=Z,237nm,18.1s,baz=10,slow=41						
TPAW	Teton Pass	36.25	105	P	P	04 14 27.5	+0.3
KLR	Kul'dur	36.77	274	LR	LR	04 28 33.5	
	comp=Z,88nm,20.1s,baz=241,slow=34						
ASAJ	Asahikawa	36.91	259	LR	LR	04 31 17.3	
	comp=Z,36nm,18.9s,baz=81,slow=39						
ELK	Elko	37.10	112	LR	LR	04 31 59.5	
	comp=Z,156nm,18.8s,baz=353,slow=40						
BW06	Boulder Array	37.39	104	P	P	04 14 35.4	-1.6
BW06				IAmb	IAmb	04 14 41.4	
	comp=Z,6.0nm,1.1s						
PD31	Pinedale Array	37.39	104	P	P	04 14 37.3	+0.4
PD31				IAmb	IAmb	04 14 41.4	
	comp=Z,5.7nm,1.1s						
PDAR	Pinedale Array	37.39	104	P	P	04 14 38.0	+1.1
	comp=Z,3.3nm,0.8s,baz=334,slow=7.4,SNR=21						
PDAR				LR	LR	04 31 16.8	
	comp=Z,112nm,21.8s,baz=6.0,slow=38						
PDAR	Pinedale Array	37.39	104	P	P	04 14 36.4	-0.5
SFJD	Kangerlussuaq	37.48	37	LR	LR	04 31 53.9	
	comp=Z,144nm,18.6s,baz=316,slow=39						
NVAR	Mina Array Bea	38.10	117	P	P	04 14 44.2	+1.3
	comp=Z,2.6nm,0.8s,baz=312,slow=6.7,SNR=16						
NVAR				LR	LR	04 30 40.0	
	comp=Z,58nm,19.2s,baz=326,slow=37						
NVAR	Mina Array Bea	38.10	117	P	P	04 14 42.0	-0.9
R11A	Troy Canyon, C	39.11	114	P	P	04 14 51.9	+0.6
RWWY	Rawlins	39.20	103	P	P	04 14 51.1	-1.1
P18A	Preston Nutter	39.88	108	P	P	04 14 56.7	-1.2
P18A				IAmb	IAmb	04 15 03.4	
	comp=Z,14nm,1.1s						
SRU	San Rafael Swe	40.23	108	P	P	04 14 59.9	-0.8
SRU				IAmb	IAmb	04 15 08.7	
	comp=Z,7.7nm,1.2s						
JMIC	Jan Mayen	40.50	13	LR	LR	04 30 26.0	
	comp=Z,162nm,20.4s,baz=252,slow=34						
SZCU	Shurtz Canyon	40.66	112	P	P	04 15 03.1	-1.1
USRK	Ussuriysk Ar.	40.86	269	LR	LR	04 32 19.5	
	comp=Z,109nm,18.1s,baz=62,slow=37						
PV13	Radium Mtn., P	41.69	107	P	P	04 15 11.5	-1.3
PV13				IAmb	IAmb	04 15 17.5	
	comp=Z,7.8nm,0.9s						
I37A	Lemond, Waseca	42.45	88	P	P	04 15 18.2	-0.4
I37A				IAmb	IAmb	04 15 22.6	
	comp=Z,13nm,0.9s						
ARCES	ARCESS Array B	42.95	356	LR	LR	04 31 47.4	
	comp=Z,55nm,21.4s,baz=249,slow=34						
W18A	Petrified Fore	44.07	110	P	P	04 15 32.1	+0.1
W18A				IAmb	IAmb	04 15 37.5	
	comp=Z,5.7nm,1.1s						
MJAR	Matsushiro Arr	45.14	257	P	P	04 15 42.9	+2.5
	comp=Z,1.8nm,0.3s,baz=15,slow=8.1,SNR=8.8						
MJAR				LR	LR	04 35 08.8	
	comp=Z,73nm,19.1s,baz=46,slow=37						
BNM	Barren Site	46.06	107	P	P	04 15 47.9	0.0
SADO	Sadowa	47.18	75	LR	LR	04 36 36.0	
	comp=Z,157nm,19.6s,baz=8.0,slow=37						
SONM	Songino Array	47.30	294	P	P	04 15 59.0	+1.7
	comp=Z,0.9nm,0.6s,baz=34,slow=6.8,SNR=7.0						
SONM				LR	LR	04 38 47.0	
	comp=Z,75nm,18.4s,baz=36,slow=40						
SONM	Songino Array	47.30	294	P	P	04 15 59.0	+1.7
SONM	Songino Array	47.30	294	IAmb	IAmb	04 16 01.3	
	comp=Z,2.5nm,1.1s						
MSTX	Muleshoe	47.65	104	P	P	04 15 59.5	-0.6
KSRS	Korea Array	48.23	268	P	P	04 16 04.5	0.0
	comp=Z,2.9nm,1.0s,baz=25,slow=8.5,SNR=5.1						
KSRS				LR	LR	04 36 18.6	
	comp=Z,45nm,18.4s,baz=55,slow=36						
MNTX	Cornudas Mount	48.72	108	P	P	04 16 09.4	+1.0
MNTX				IAmb	IAmb	04 16 12.9	
	comp=Z,3.9nm,0.9s						
FVM	French Village	48.78	89	P	P	04 16 09.2	+0.4
ZAA0	Zalesovo Array	48.81	314	P	P	04 16 08.3	-0.5
ZAA0				IAmb	IAmb	04 16 11.5	
	comp=Z,3.4nm,0.8s						
ZALV	Zalesovo Beam	48.81	314	P	P	04 16 07.7	-1.1
	comp=Z,2.8nm,0.7s,baz=25,slow=6.7,SNR=12						
ZALV				LR	LR	04 40 06.4	
	comp=Z,62nm,19.1s,baz=340,slow=40						
ZALV	Zalesovo Beam	48.81	314	P	P	04 16 07.4	-1.4
SIUC	Southern Illin	49.48	88	P	P	04 16 14.7	+0.7
KLMR	Klimovskoe	50.77	346	eP	P	04 16 24.1	+0.5
KLMR				AMP		04 16 34.0	
	comp=Z,21nm,1.2s						
FINES	FINESS Array B	51.04	355	P	P	04 16 25.6	+0.1
	comp=Z,2.6nm,0.8s,baz=26,slow=6.7,SNR=10						
HHC	Hu-ho-hao-te	51.46	285	eP	P	04 16 27.9	-1.3
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC				LR	LR		
	comp=N,170nm,15.1s						
HHC				LR	LR		
	comp=E,180nm,18.6s						
HHC				LR	LR		
	comp=Z,280nm,16.8s						
TX31	Lajitas Ar. Si	51.48	107	P	P	04 16 28.4	-1.0
TX32	Lajitas Array	51.48	107	P	P	04 16 28.7	-0.8
TXAR	Lajitas Array	51.48	107	P	P	04 16 30.3	+0.8
	comp=Z,6.9nm,0.8s,baz=336,slow=5.9,SNR=31						
TXAR	Lajitas Array	51.48	107	P	P	04 16 28.9	-0.5
NOA	NORSAR Array B	51.52	4	LR	LR	04 39 26.1	
	comp=Z,29nm,18.6s,baz=275,slow=37						
JCT	Junction City	51.88	103	P	P	04 16 33.6	+1.3
JCT				IAmb	IAmb	04 16 35.6	
	comp=Z,7.8nm,0.9s						
KIRV	Kirov	51.88	339	LR	LR	04 41 56.6	
	comp=Z,73nm,18.0s,baz=8.4,slow=40						
OXF	Oxford	52.22	90	P	P	04 16 34.8	0.0
ARU	Arti	52.52	333	P	P	04 16 36.5	-0.2
	comp=Z,2.1nm,0.7s,baz=13,slow=2.9,SNR=6.3						
BRVK	Borovoye	53.31	323	P	P	04 16 43.2	+0.7
BRVK				IAmb	IAmb	04 16 45.5	
	comp=Z,3.8nm,0.8s						
BVAR	Borovoye Array	53.32	323	P	P	04 16 42.1	-0.6
	comp=Z,2.1nm,0.8s,baz=45,slow=17,SNR=10						
KURK	Kurchatov	53.40	316	P	P	04 16 42.2	-1.0
KURK				IAmb	IAmb	04 16 50.4	
	comp=Z,5.0nm,0.9s						
KURBB	Kurchatov Arra	53.51	316	P	P	04 16 42.9	-1.2
	comp=Z,3.3nm,0.9s,baz=27,slow=7.2,SNR=12						
KURBB				LR	LR	04 41 39.1	
	comp=Z,62nm,19.6s,baz=19,slow=38						
MK31	Makanchi Array	55.95	311	P	P	04 17 00.8	-1.1
MKAR	Makanchi Array	55.95	311	P	P	04 17 00.6	-1.3
	comp=Z,1.2nm,0.5s,baz=33,slow=6.9,SNR=15						
MKAR				LR	LR	04 42 10.2	
	comp=Z,46nm,19.6s,baz=18,slow=37						
MKAR	Makanchi Array	55.95	311	P	P	04 16 59.5	-2.4
MAKZ	Makanchi	56.03	312	P	P	04 17 02.3	-0.1
NJ2	Nanjing	56.47	273	eP	P	04 17 02.7	-3.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
GTA	Gaotai	56.97	294	eP	P	04 17 12.2	+2.8
GTA				pP	sP	04 17 16.1	+2.3
GTA				sP	pP	04 17 20.0	+7.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	Urumqi	57.03	306	eP	P	04 17 09.9	+0.2
ZAIG	Zacatecas	57.86	109	P	P	04 17 16.5	+0.5
ZAIG				IAmb	IAmb	04 17 20.1	
	comp=Z,6.1nm,1.3s						
AKTO	Aktyubinsk	58.34	331	P	P	04 17 19.9	+1.1
	comp=Z,3.7nm,0.7s,baz=26,slow=6.0,SNR=10						
LZH	Lanzhou	58.50	289	eP	P	04 17 23.2	+3.0
LZH				pP	sP	04 17 26.5	+1.9
LZH				sP	pP	04 17 28.4	+5.0
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
ABKAR	Akbulak array	59.10	329	P	P	04 17 23.9	-0.1
GOMU	GeErMu	61.59	296	P	P	04 17 41.6	0.0
GOMU				sP	pP	04 17 44.0	-0.8
GOMU				PcP	PcP	04 18 33.0	+10
GOMU				S	S	04 25 26.1	-37
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,5.2s						
GOMU				LR	LR		
	comp=N,88nm,13.4s						
GOMU				LR	LR		
	comp=E,86nm,13.3s						
GOMU				LR	LR		
	comp=Z,71nm,13.9s						
AKASG	Malin Array Be	61.62	352	P	P	04 17 40.3	-0.9
	comp=Z,1.3nm,0.7s,baz=7.1,slow=6.7,SNR=5.3						
AKASG				LR	LR	04 44 59.6	
	comp=Z,64nm,19.9s,baz=350,slow=37						
AAK	Ala-Archa	61.95	315	P	P	04 17 44.2	+0.5
KKAR	Karatay Array	62.55	319	P	P	04 17 47.4	-0.1
CD2	Chengdu	63.17	286	P	P	04 17 49.5	-2.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=N,20nm,15.1s						
CD2				LR	LR		
	comp=E,83nm,5.5s						
CD2				LR	LR		
	comp=Z,260nm,17.8s						
VRAC	Vranov	63.35	1	LR	LR	04 47 22.9	
	comp=Z,34nm,18.5s,baz=345,slow=38						
GERES	GERESS Array B	63.78	3	P	P	04 17 57.4	+1.7
	comp=Z,0.6nm,0.7s,baz=348,slow=4.4,SNR=3.8						
GAR	Garm	66.45	317	P	P	04 18 13.8	+0.5
KBZ	Khabaz	67.27	340	P	P	04 18 20.8	+2.6
	comp=Z,2.7nm,1.0s,baz=353,slow=3.4,SNR=5.1						
KBZ				LR	LR	04 49 26.5	
	comp=Z,51nm,21.4s,baz=18,slow=38						
PZH	PanZhiHua	67.90	286	P	P	04 18 21.0	-1.6
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
GEYT	Alibeck	70.34	327	LR	LR	04 54 53.6	
	comp=Z,69nm,19.4s,baz=349,slow=41						
GNI	Garni	70.54	338	LR	LR	04 54 12.8	
	comp=Z,49nm,19.1s,baz=314,slow=40						
ESDC	Sonseca Array	71.76	17	P	P	04 18 48.5	+2.4
	comp=Z,1.2nm,1.0s,baz=44,slow=5.7,SNR=2.9						
BRTR	Keskin Array B	72.23	347	P	P	04 18 51.5	+2.5
	comp=Z,0.5nm,0.8s,baz=32,slow=5.8,SNR=2.8						
BRTR				LR	LR	04 56 56.6	
	comp=Z,38nm,18.6s,baz=338,slow=41						
SJG	San Juan	75.83	77	LR	LR	04 57 10.4	
	comp=Z,54nm,18.0s,baz=318,slow=39						
JTS	Las Juntas de	75.84	98	LR	LR	04 57 32.5	
	comp=Z,29nm,18.2s,baz=351,slow=40						
CMAR	Chiang Mai Arr	76.28	285	P	P	04 19 15.1	+2.4
	comp=Z,2.0nm,0.6s,baz=5.0,slow=6.5,SNR=7.5						
CMAR				LR	LR	04 56 16.2	
	comp=Z,142nm,18.3s,baz=290,slow=38						
MMAI	Mount Meron Ar	78.72	345	LR	LR	04 57 05.5	
	comp=Z,31nm,21.2s,baz=34,slow=38						
SDV	Santo Domingo	82.59	85	LR	LR	05 01 05.6	
	comp=Z,53nm,18.1s,baz=105,slow=39						
PALK	Pallekele	93.11	297	LR	LR	05 06 55.0	
	comp=Z,35nm,18.0s,baz=217,slow=38						
WRA	Warramunga Arr	98.66	238	P	Pdif	04 21 03.2	+0.2
	comp=Z,0.9nm,1.0s,baz=37,slow=5.5,SNR=4.9						

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*SNET **05** 04:10:06.4±0.8, 13.°90N×91.°35W, h13km±8km, ML3.2*

*GCG **05** 04:10:09.8±0.5, 14.°11N×91.°42W, h22km±5km, MD3.8*

ISC 05 04:10:05.0±2.1**, 13°.85N**±0°.09×**91°.45W**±0°.07**, h14**km±11km**, n21, σ0.72**/29**, 1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.71**	**341**	*e*P	**Pg**	**04 10 19.3**	**+0.4**
RTAL				IAML		04 10 31.5	
	comp=Z,267nm,0.2s						
FUG	**Fuego 3**	**0.84**	**45**	*e*P	**Pn**	**04 10 22.6**	**0.0**
FUG				*e*S	**Sn**	**04 10 36.1**	**+1.3**
STG3	**Santiaguito 3,**	**0.87**	**352**	*e*P	**Pb**	**04 10 22.1**	**+0.1**
STG3				*e*S	**Sn**	**04 10 34.2**	**-1.3**
PCG	**Pacaya**	**0.98**	**56**	*e*P	**Pn**	**04 10 25.9**	**+1.3**
PCG				*e*S	**Sn**	**04 10 38.9**	**+0.5**
NBG	**Las Nubes**	**1.30**	**55**	*e*P	**Pg**	**04 10 30.9**	**+0.8**
NBG				*e*S	**Sg**	**04 10 47.4**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.63**	**84**	*e*P	**Pn**	**04 10 33.1**	**-0.3**
SLOZ				*e*S	**Sn**	**04 10 54.0**	**-0.2**
SLOZ				IAML		04 10 57.0	
	comp=Z,336nm,0.2s						
RTR	**El Retiro**	**1.75**	**88**	*e*P	**Pn**	**04 10 35.4**	**+0.2**
RTR				IAML		04 11 04.3	
	comp=Z,310nm,0.4s						
SBLS	**San Blas**	**1.78**	**90**	*e*P	**Pn**	**04 10 35.5**	**0.0**
SNJE	**San Jose**	**1.79**	**89**	*e*P	**Pn**	**04 10 35.9**	**+0.2**
JAYA	**Jayaque - finc**	**1.96**	**95**	*e*P	**Pn**	**04 10 37.5**	**-0.4**
TACO	**Tacachico**	**2.04**	**86**	*e*P	**Pn**	**04 10 39.1**	**+0.1**
TACO				IAML		04 10 41.7	
	comp=Z,97nm,0.3s						
TACO				*e*S	**Sn**	**04 11 04.6**	**+0.4**
LALI	**Alcalda de L**	**2.10**	**99**	*e*P	**Pn**	**04 10 39.8**	**0.0**
LALI				*e*S	**Sn**	**04 11 05.1**	**-0.6**
LALI				IAML		04 11 13.7	
	comp=Z,252nm,0.3s						
MTO3	**Montecristo**	**2.10**	**75**	*e*P	**Pn**	**04 10 39.7**	**-0.2**
MRL	**Marmol**	**2.11**	**54**	*e*P	**Pb**	**04 10 42.2**	**-0.9**
MRL				*e*S	**Sg**	**04 11 10.9**	**-2.0**
ESQI	**Esquipulas**	**2.17**	**71**	*e*P	**Pn**	**04 10 41.1**	**+0.3**
ESQI				IAML		04 11 17.4	
	comp=Z,71nm,0.6s						
LFRS	**El Faro**	**2.33**	**95**	⇑*e*P	**Pn**	**04 10 43.6**	**+0.6**
SJTE	**Alcalda de S**	**2.39**	**95**	*e*P	**Pn**	**04 10 44.2**	**+0.4**
SJTE				*e*S	**Sn**	**04 11 12.8**	**-0.1**
SJTE				IAML		04 11 18.8	
	comp=Z,160nm,0.3s						
PAVA	**Las Pavas**	**2.45**	**93**	IAML		04 11 30.1	
	comp=Z,355nm,0.4s						
TECO	**Alcaldia de Te**	**2.61**	**96**	*e*P	**Pn**	**04 10 47.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.65**	**93**	*e*P	**Pn**	**04 10 48.2**	**+0.8**
COEB	**Comit de Eme**	**2.86**	**97**	*e*P	**Pn**	**04 10 50.8**	**+0.5**

*AEIC **05** 04:12:04.4±2.0, 67°.66N±0°.02×162°.3W±0°.1, h8km±5km, ML2.9/10, ML3.3/14(NEIC), Error ellipse: s-maj=6.0km s-min=2.8km az=83.0*
*IDC **05** 04:12:05.9±4.5, 68°.41N×162°.78W, h0km, mb3.1/2, mb1 3.8/4, mb1mx3.3/58, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=59.4km s-min=53.9km az=172.0*
*NEIC **05** 04:12:05.7±3.3, 67°.67N±0°.03×162°.3W±0°.1, h24km±3km, Error ellipse: s-maj=6.2km s-min=4.5km az=106.0*
ISC 05 04:12:05.7±0.9**, 67°.72N**±0°.06×**162°.41W**±0°.06**, h10**km**, n17, σ2.23**/19**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.39**	**331**		**Pg**	**04 12 13.6**	**+0.2**
RDOG					**Sg**	**04 12 19.7**	**+1.2**
RDOG	**Red Dog Mine**	**0.39**	**331**	IAML		04 12 20.0	
	comp=E,6μm,0.3s						
TNA	**Tin City**	**3.09**	**228**		**Pn**	**04 12 56.0**	**+1.5**
TNA					**Sb**	**04 13 36.0**	**-2.3**
ANM	**Nome**	**3.39**	**202**		**Pn**	**04 12 57.5**	**-1.1**
IM03		**3.84**	**113**		**Pn**	**04 13 05.9**	**+1.2**
IMAR	**Indian Mountai**	**3.84**	**113**		**Pn**	**04 13 02.9**	**-1.8**
A21K	**Barrow**	**4.15**	**27**		**Pn**	**04 13 06.8**	**-2.2**
A21K				IAML		04 13 52.3	
	comp=E,41nm,3.2s						
A21K				IAML		04 14 03.1	
	comp=N,35nm,1.5s						
H21K	**Melozitna Rive**	**4.34**	**114**		**Pn**	**04 13 10.6**	**-1.0**
H21K				IAML		04 14 25.7	
	comp=E,20nm,4.8s						
TOLK	**Toolik Lake Re**	**4.88**	**73**	Pn	**Pn**	**04 13 18.0**	**-1.0**
TOLK				IAML		04 14 56.1	
	comp=N,24nm,1.9s						
TOLK				IAML		04 14 59.8	
	comp=E,24nm,1.2s						
I21K	**Tanana**	**4.89**	**116**	Pn	**Pn**	**04 13 16.6**	**-2.6**
I21K				IAML		04 14 51.3	
	comp=E,21nm,2.0s						
I21K				IAML		04 14 56.5	
	comp=N,24nm,3.5s						
BPAW	**Bear Paw Mtn.**	**5.92**	**122**	Pn	**Pn**	**04 13 30.4**	**-2.9**
ILAR	**Eielson Array**	**6.92**	**108**	Pn	**Pn**	**04 13 49.1**	**+2.0**
	comp=N,1.3nm,0.3s,baz=306,slow=14,SNR=9.5						
ILAR				Sn	**Sn**	**04 15 08.3**	**+2.5**
	comp=N,0.1nm,0.3s,baz=310,slow=25,SNR=3.6						
ILAR	**Eielson Array**	**6.92**	**108**		**Pn**	**04 13 46.3**	**-0.8**
INK	**Inuvik**	**10.79**	**74**	Pn	**Pn**	**04 14 40.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=150,slow=28,SNR=1.7						
INK				Sn	**Sn**	**04 16 37.1**	**-3.5**
	comp=N,0.1nm,0.3s,baz=105,slow=33,SNR=1.9						
YKA	**Yellowknife Ar**	**20.33**	**82**	P	Pn	04 16 43.8	+0.2
	comp=N,0.5nm,0.7s,baz=309,slow=12,SNR=5.3						
YKA	**Yellowknife Ar**	**20.33**	**82**	P	**P**	**04 16 39.7**	**-1.9**
TXAR	**Lajitas Array**	**51.44**	**107**	P	**P**	**04 21 14.6**	**+3.8**
	comp=N,0.2nm,0.5s,baz=332,slow=5.5,SNR=2.5						

*IDC **05** 04:26:54.2±0.6, 33°.92N×136°.85E, h369km±9km, mb3.2/12, mb1 3.3/19, mb1mx3.1/69, mbtmp4.0/19, Error ellipse: s-maj=18.7km s-min=9.6km az=70.0*
*JMA **05** 04:26:54.3±0.2, 34°.01N×136°.81E, h375km±2km, M2.7*
ISC 05 04:26:54.3±0.7**, 33°.97N**±0°.07×**136°.85E**±0°.06**, h371**km±6km**, n37, σ0.83**/48**, mb3.4**/12**, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.28**	**148**	P	**Pn**	**04 27 41.4**	**+1.1**
TTO1	**TONANKAI O.B.S**	**0.35**	**189**	P	**Pn**	**04 27 41.4**	**+1.0**
JIE	**Ise**	**0.44**	**344**	P	**Pn**	**04 27 41.6**	**+0.8**
JIE				*e*S	**S**	**04 28 18.0**	**-0.2**
JKN2	**Miekihoku**	**0.55**	**299**	P	**Pn**	**04 27 41.6**	**+0.6**
JKN2				S	**S**	**04 28 17.8**	**-0.8**
TK02	**Tokai 2**	**0.75**	**92**	P	**Pn**	**04 27 42.5**	**+1.3**
JWY	**Kouya**	**1.07**	**284**	P	**Pn**	**04 27 43.2**	**+0.5**
JWY				S	**S**	**04 28 20.8**	**-0.8**
JYTA	**Yamagatataniai**	**1.62**	**357**	P	**Pn**	**04 27 46.0**	**+0.8**
JYTA				S	**S**	**04 28 26.1**	**-0.1**
JWT	**Wachi**	**1.77**	**318**	P	**Pn**	**04 27 46.6**	**+0.5**
JWT				S	**S**	**04 28 26.5**	**-1.3**
JAI	**Aioi**	**2.00**	**266**	P	**Pn**	**04 27 47.7**	**+0.1**
JYN	**Shimob**	**2.06**	**42**	P	**Pn**	**04 27 48.8**	**+0.8**
JOD2	**Odawara 2**	**2.25**	**54**	P	**Pn**	**04 27 50.1**	**+0.8**
JKG	**Kaga**	**2.34**	**350**	P	**Pn**	**04 27 50.5**	**+0.6**
JMN	**Monobe**	**2.48**	**265**	P	**Pn**	**04 27 51.4**	**+0.3**
JHJ	**Hachijo jima 2**	**2.59**	**108**	P	**Pn**	**04 27 51.9**	**0.0**
	25nm,0.3s,baz=49,slow=21,SNR=5.5						
JHJ				S	**S**	**04 28 39.2**	**+0.8**
	6.9nm,0.3s,baz=252,slow=15,SNR=1.3						
JRY	**Ryogami san**	**2.65**	**39**	P	**Pn**	**04 27 53.0**	**+0.7**
JRY				*e*S	**S**	**04 28 38.8**	**-0.3**
MJAR	**Matsushiro Arr**	**2.79**	**23**	P	**Pn**	**04 27 53.6**	**+0.1**
	0.4nm,0.3s,baz=197,slow=9.0,SNR=14						
MJAR				S	**S**	**04 28 40.6**	**-0.7**
	0.1nm,0.3s,baz=145,slow=45,SNR=1.7						
MAT	**Matsushiro**	**2.80**	**23**	P	**Pn**	**04 27 54.2**	**+0.7**
MAT				S	**S**	**04 28 40.3**	**-1.0**
JAG	**Ashikaga**	**3.25**	**40**	P	**Pn**	**04 27 56.6**	**-0.8**
JAG				*e*S	**S**	**04 28 46.0**	**-2.3**
JHS	**Saijyo**	**3.25**	**289**	P	**Pn**	**04 27 57.9**	**+0.4**
BSO1	**Boso 1**	**3.48**	**78**	P	**Pn**	**04 27 57.7**	**-1.3**
BSO1				S	**S**	**04 28 49.9**	**-1.4**
JNU	**Nakatsue**	**5.06**	**262**	P	**Pn**	**04 28 15.6**	**-0.1**
	2.4nm,0.3s,baz=56,slow=1.8,SNR=12						
KSRS	**Korea Array**	**8.05**	**298**	P	**Pn**	**04 28 49.9**	**+0.6**
	0.6nm,0.3s,baz=122,slow=9.9,SNR=13						
USRK	**Ussuriysk Ar.**	**10.89**	**341**	P	**Pn**	**04 29 23.2**	**+0.7**
	baz=152,slow=11,SNR=16						
ASAJ	**Asahikawa**	**11.07**	**22**	P	**Pn**	**04 29 25.1**	**+0.5**
	1.7nm,0.3s,baz=239,slow=14,SNR=4.1						
KLR	**Kul'dur**	**15.71**	**348**	P	**Pn**	**04 30 18.0**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.5nm,0.3s,baz=163,slow=13,SNR=6.4						
SONM	**Songino Array**	**26.66**	**310**	P	**P**	**04 32 02.1**	**+1.4**
	0.9nm,0.6s,baz=114,slow=9.0,SNR=8.6						
CMAR	**Chiang Mai Arr**	**37.12**	**255**	P	**P**	**04 33 30.0**	**-1.1**
	2.9nm,0.3s,baz=41,slow=7.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.34**	**315**	P	**P**	**04 34 05.2**	**+0.1**
	0.5nm,0.4s,baz=96,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**42.67**	**304**	P	**P**	**04 34 16.3**	**+0.4**
	0.6nm,0.4s,baz=88,slow=9.2,SNR=12						
KURBB	**Kurchatov Arra**	**45.03**	**310**	P	**P**	**04 34 34.4**	**+0.1**
	1.4nm,0.5s,baz=91,slow=6.7,SNR=16						
FITZ	**Fitzroy Crossi**	**52.87**	**193**	P	**P**	**04 35 33.9**	**+0.4**
	1.5nm,0.8s,baz=8.5,slow=9.6,SNR=6.3						
WRA	**Warramunga Arr**	**53.67**	**183**	P	**P**	**04 35 38.3**	**-0.9**
	0.6nm,0.3s,baz=360,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.39**	**183**	P	**P**	**04 36 05.0**	**-0.4**
	0.5nm,0.5s,baz=12,slow=13,SNR=8.6						
ARCES	**ARCESS Array B**	**65.53**	**339**	P	**P**	**04 36 59.2**	**+0.6**
	4.8nm,1.0s,baz=56,slow=8.1,SNR=1.7						
FINES	**FINESS Array B**	**69.75**	**331**	P	**P**	**04 37 24.9**	**+0.1**
	0.7nm,0.4s,baz=57,slow=5.5,SNR=14						
KBZ	**Khabaz**	**70.03**	**310**	P	**P**	**04 37 27.0**	**+0.2**
	1.6nm,0.8s,baz=267,slow=4.0,SNR=3.7						
NOA	**NORSAR Array B**	**75.51**	**336**	P	**P**	**04 37 58.7**	**+0.2**
	0.5nm,1.0s,baz=57,slow=8.5,SNR=1.8						

IDC 05 04:40:03.0±2.6**, 14°.17S**×**171°.00E, h0**km**, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.6**/39**, mbtmp3.6**/4**, ML3.0**/1**, Error ellipse: s-maj=87.7km s-min=34.0km az=131.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.97**	**208**	Pn	Pn	04 42 13.7	-0.3
	0.2nm,0.3s,baz=59,slow=12,SNR=7.3						
WRA	**Warramunga Arr**	**35.46**	**256**	P	P	04 47 01.7	+0.2
	0.3nm,0.7s,baz=88,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**36.25**	**249**	P	P	04 47 08.1	-0.2
	1.2nm,0.6s,baz=76,slow=9.1,SNR=20						
ILAR	**Eielson Array**	**84.92**	**17**	P	P	04 52 39.5	0.0
	0.3nm,0.7s,baz=227,slow=4.8,SNR=2.4						

*IDC **05** 04:40:45.3±1.1, 38°.71N×142°.40E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.7/59, mbtmp3.8/12, ML3.3/3, MS2.5/3, Ms1 2.5/3, ms1mx2.3/91, Error ellipse: s-maj=27.2km s-min=18.4km az=116.0*
*JMA **05** 04:40:50.8±0.1, 38°.69N×142°.25E, h39km±2km, M3.7*
JMA Felt I J1.
*NEIC **05** 04:40:50.5±1.4, 38°.82N±0°.06×142°.4E±0°.1, h34km±7km, mb4.2/8, Error ellipse: s-maj=13.5km s-min=7.3km az=121.0*
*NIED **05** 04:40:50.9, 38°.69N×142°.25E, h39km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.60; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$-1.97; $M_{r\theta}$2.68; $M_{\theta\phi}$-1.08; $M_{\phi r}$2.03; Fault plane solution: $M_0$4.23000×10^{14} NP1:ϕ_s47.00000°, δ72.00000°, λ101.00000°. NP2:ϕ_s195.00000°, δ21.00000°, λ59.00000°.*
ISC 05 04:40:48.9±1.8**, 38°.70N**±0°.04×**142°.38E**±0°.07**, h24**km±11km**, n51, σ1.29**/53**, mb3.8**/11**, 6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**304**	P	**Pb**	**04 41 02.9**	**+1.0**
OFUJ				S	**Sb**	**04 41 11.4**	**+0.6**
JKMT	**Kesennumamotoy**	**0.72**	**279**	⇓P	**Pb**	**04 41 03.1**	**+0.4**
JKMT				S	**Sb**	**04 41 11.5**	**-0.6**
JIKH	**Ishinomakikobu**	**0.82**	**242**	⇓P	**Pb**	**04 41 04.4**	**0.0**
JIKH				*i* S	**Sb**	**04 41 13.9**	**-1.1**
JIO	**Ouri**	**0.84**	**253**	⇓P	**Pb**	**04 41 04.7**	**-0.2**
JIO				S	**Sb**	**04 41 14.2**	**-1.6**
JMK	**Ichinoseki**	**0.94**	**286**	⇓P	**Pn**	**04 41 06.5**	**0.0**
JMK				S	**Sb**	**04 41 17.3**	**-1.2**
JOM	**Ohasama**	**1.14**	**313**	⇓P	**Pn**	**04 41 10.0**	**+0.7**
JOM				S	**Sn**	**04 41 23.9**	**-0.3**
JTH	**Tanohata**	**1.30**	**342**	P	**Pb**	**04 41 12.4**	**-0.2**
JOU	**Okura**	**1.39**	**256**	P	**Pn**	**04 41 13.1**	**+0.4**
JOU				S	**Sn**	**04 41 29.5**	**-0.8**
JMM	**Marumori**	**1.50**	**237**	P	**Pn**	**04 41 14.1**	**-0.2**
JMM	**Marumori**	**1.50**	**237**		**Pn**	**04 41 14.0**	**-0.3**
JRG	**Rokugo**	**1.53**	**298**	P	**Pn**	**04 41 15.2**	**+0.6**
JYK	**Kaneyama**	**1.59**	**278**	⇓P	**Pn**	**04 41 15.9**	**+0.4**
JTM	**Tenmabayashi**	**2.31**	**335**		**Pn**	**04 41 27.0**	**+1.6**
JYT	**Yasato**	**3.02**	**216**	Pn	**Pn**	**04 41 38.6**	**+3.4**
JSD	**Sado**	**3.31**	**260**		**Pn**	**04 41 40.6**	**+1.5**
ERM	**Erimo**	**3.36**	**10**	Pn	**Pn**	**04 41 37.6**	**-2.2**
MJAR	**Matsushiro Arr**	**3.95**	**238**	Pn	**Pn**	**04 41 49.2**	**+1.2**
	0.4nm,0.3s,baz=35,slow=12,SNR=18						
MJAR				Sn	**Sn**	**04 42 35.6**	**+2.0**
	0.3nm,0.3s,baz=81,slow=15,SNR=1.5						
MJAR				LR	LR	04 43 37.1	
	comp=Z,50nm,20.9s,baz=76,slow=43						
MJAR	**Matsushiro Arr**	**3.95**	**238**		**Pn**	**04 41 51.3**	**+3.3**
MAJO	**Matsushiro**	**3.95**	**238**		**Pn**	**04 41 49.0**	**+1.0**
MAT	**Matsushiro**	**3.95**	**238**	P	**Pn**	**04 41 50.2**	**+2.2**
MAT				*e*S	**Sn**	**04 42 35.9**	**+2.3**
MJB9	**Matsu-Tunnel**	**3.95**	**238**		**Pn**	**04 41 49.5**	**+1.5**
JEW	**Eniwo**	**4.19**	**351**	Pn	**Pn**	**04 41 51.2**	**-0.1**
JGF	**Kuroka**	**5.07**	**234**		**Pn**	**04 42 04.5**	**+1.1**
ASAJ	**Asahikawa**	**5.41**	**2**	Pn	**Pn**	**04 42 07.6**	**-0.4**
	1.1nm,0.3s,baz=239,slow=8.2,SNR=5.8						
ASAJ				LR	LR	04 44 32.7	
	comp=Z,70nm,20.8s,baz=42,slow=42						
JKA	**Kamikawa-asahi**	**5.41**	**2**		**Pn**	**04 42 07.6**	**-0.4**
JHJ	**Hachijo jima 2**	**5.96**	**201**	Pn	**Pn**	**04 42 15.4**	**-0.1**
	7.9nm,0.3s,baz=349,slow=16,SNR=1.6						
JHJ				Sn	**Sn**	**04 43 19.4**	**-3.5**
	6.1nm,0.3s,baz=68,slow=23,SNR=1.5						
USRK	**Ussuriysk Ar.**	**9.54**	**308**	Pn	**Pn**	**04 43 05.5**	**+1.0**
	baz=109,slow=13,SNR=1.7						
KSRS	**Korea Array**	**11.46**	**268**	LR	LR	04 47 19.6	
	comp=Z,24nm,20.7s,baz=15,slow=34						
SEY	**Seymchan**	**25.01**	**11**	P	**P**	**04 46 10.9**	**+0.4**
	2.1nm,0.9s,baz=193,slow=6.1,SNR=7.9						
ENH	**Enshi**	**28.27**	**263**	P	**P**	**04 46 40.6**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.41**	**125**	T	T	05 17 05.9	
	baz=316,slow=75,SNR=170						
H11N1	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	05 17 06.6	
	baz=316,slow=75,SNR=106						
H11N3	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	05 17 07.3	
	baz=316,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	05 18 08.2	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	05 18 02.9	
	baz=318,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	05 18 02.3	
	baz=318,slow=76,SNR=21						
ZAA0	**Zalesovo Array**	**41.38**	**311**	P	**P**	**04 48 32.4**	**-0.3**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**04 48 32.7**	**0.0**
	1.2nm,0.5s,baz=84,slow=9.0,SNR=6.5						
MK31	**Makanchi Array**	**43.90**	**301**	P	**P**	**04 48 53.1**	**-0.3**
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**04 48 53.2**	**-0.2**
	0.6nm,0.6s,baz=89,slow=9.5,SNR=7.7						
KURK	**Kurchatov**	**45.52**	**307**	P	**P**	**04 49 05.9**	**-0.3**
KURK				IAmb	IAmb	04 49 06.6	
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**47.68**	**33**	P	**P**	**04 49 22.4**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=242,slow=5.7,SNR=2.5						
ABKAR	**Akbulak array**	**57.46**	**310**	P	**P**	**04 50 34.4**	**-1.2**
KBL	**Kabul**	**57.54**	**290**	P	**P**	**04 50 36.2**	**-0.4**
KBL				IAmb	IAmb	04 50 52.2	
	comp=Z,2.2nm,0.6s						
WB0	**Warramunga Arr**	**58.64**	**189**	P	**P**	**04 50 44.0**	**-0.1**
WB2	**Warramunga Arr**	**58.82**	**189**	P	**P**	**04 50 45.8**	**+0.5**
WB2				IAmb	IAmb	04 51 02.6	
	comp=Z,3.2nm,1.1s						
WRA	**Warramunga Arr**	**58.82**	**189**	P	**P**	**04 50 44.8**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=5.8,slow=7.0,SNR=5.5						
HFS	**Hagfors**	**72.88**	**336**	P	**P**	**04 52 15.2**	**-0.2**
	comp=Z,3.1nm,1.1s,baz=124,slow=7.3,SNR=1.9						
AKASG	**Malin Array Be**	**73.44**	**322**	P	**P**	**04 52 18.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=41,slow=6.6,SNR=2.2						
AKASG	**Malin Array Be**	**73.44**	**322**	IAmb	IAmb	04 52 38.0	
	comp=Z,1.2nm,1.3s						
PDAR	**Pinedale Array**	**75.96**	**46**	P	**P**	**04 52 35.6**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=295,slow=8.9,SNR=2.5						

*MDD **05** 04:40:56.9±0.6, 35°.46N×3°.83W, h0km±4km, mb_Lg2.9/6, Error ellipse: s-maj=4.1km s-min=2.6km az=153.0*
*CNRM **05** 04:40:57.1, 35°.46N×3°.68W, h18km, ml3.1*
*SFS **05** 04:40:57.0, 35°.43N×3°.83W, ML2.9, ALBORAN SUR*
ISC 05 04:40:57.3±1.2**, 35°.51N**±0°.02×**3°.77W**±0°.03**, h19**km±3km**, n31, σ1.30**/51**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**205**	P	**Pg**	**04 41 03.8**	**-0.5**
PALE				S	**Sg**	**04 41 08.4**	**-0.6**
EMEL	**Melilla**	**0.70**	**107**	Pg	**Pb**	**04 41 10.6**	**-0.1**
EMEL				Sg	**Sb**	**04 41 19.8**	**-0.1**
EMEL				*i* Vmb_Lg		04 41 22.3	
EALB	**Alboran**	**0.74**	**54**	Pg	**Pg**	**04 41 11.9**	**+0.1**
EALB				Sg	**Sg**	**04 41 22.1**	**+0.4**
TAF	**Taforalt**	**1.31**	**121**	P	**Pn**	**04 41 19.8**	**-0.8**
TAF				S	**Sn**	**04 41 34.2**	**-3.4**
EMIJ	**Mijas**	**1.33**	**323**	Pn	**Pn**	**04 41 20.2**	**-0.7**
EMIJ				Sn	**Sn**	**04 41 37.1**	**-0.9**
CHEFC	**Chefchaouen**	**1.34**	**253**	P	**Pg**	**04 41 24.0**	**+0.7**
CEU	**Ceuta**	**1.36**	**287**	P	**Pn**	**04 41 18.8**	**-2.4**
CEU				S	**Sn**	**04 41 34.4**	**-4.3**
EMAL	**Malaga-Limoner**	**1.36**	**337**	P	**Pn**	**04 41 20.9**	**-0.4**
EMAL				S	**Sn**	**04 41 39.3**	**+0.5**
ELGU	**Los Guajares,**	**1.36**	**5**	Pn	**Pn**	**04 41 20.8**	**-0.6**
ELGU				Sn	**Sn**	**04 41 38.6**	**-0.4**
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**04 41 22.4**	**-1.4**
EGOR	**Sierra Gorda,**	**1.62**	**350**	Pn	**Pb**	**04 41 26.3**	**-0.4**
EGOR				Sn	**Sg**	**04 41 49.3**	**-0.5**
EGOR				*i* Vmb_Lg		04 41 52.2	
EQUE	**Quentar**	**1.72**	**9**	Pn	**Pb**	**04 41 28.0**	**-0.2**
EQUE				Sn	**Sn**	**04 41 48.7**	**+1.0**
EQUE				*i* Vmb_Lg		04 42 00.7	
LCRM	**LCR**	**2.02**	**207**	P	**Pb**	**04 41 33.7**	**+0.2**
LCRM				S	**Sn**	**04 41 56.4**	**+1.0**
IFR	**Ifrane**	**2.28**	**210**	P	**Pn**	**04 41 34.0**	**0.0**
IFR				S	**Sn**	**04 42 01.1**	**-0.6**
CZD	**Col de Zad**	**2.68**	**203**	P	**Pn**	**04 41 40.5**	**+0.8**
MD31	**MD31**	**2.76**	**198**	P	**Pn**	**04 41 41.1**	**+0.6**
MD31				S	**Sn**	**04 42 13.6**	**+0.2**
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**04 41 42.1**	**+1.4**
MDT				S	**Sn**	**04 42 16.0**	**+2.2**
TDRA	**Tendrara**	**2.85**	**149**	P	**Pn**	**04 41 41.9**	**0.0**
ECAB	**El Cabril**	**2.88**	**333**	Pn	**Pn**	**04 41 43.1**	**+0.9**
ECAB				Sn	**Sn**	**04 42 17.8**	**+1.4**
ECAB				*i* Vmb_Lg		04 42 46.2	
ETOB	**Tobarra**	**3.60**	**29**	Pn	**Pn**	**04 41 54.6**	**+2.5**
ETOB				Sn	**Sn**	**04 42 35.0**	**+0.9**
ETOB				*i* Vmb_Lg		04 44 10.0	
EGRO	**El Granado**	**3.61**	**305**	Pn	**Pn**	**04 41 52.6**	**+0.4**
EGRO				Sn	**Sn**	**04 42 33.8**	**-0.4**
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**04 41 53.8**	**+0.3**
PAB	**San Pablo**	**4.06**	**354**	Pn	**Pn**	**04 42 00.5**	**+2.1**
PAB				Sn	**Sn**	**04 42 45.1**	**-0.4**
EBAD	**Badajoz**	**4.15**	**322**	Pn	**Pn**	**04 42 00.6**	**+1.0**
EBAD				Sn	**Sn**	**04 42 46.4**	**-1.1**
PFVI	**Vila Bisbo**	**4.39**	**293**	P	**Pn**	**04 42 04.5**	**+1.5**
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**04 42 05.4**	**+0.6**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**04 42 05.4**	**+0.4**
EVO				S	**Sn**	**04 42 55.7**	**-1.5**
TZRR	**Tazzarine**	**4.94**	**198**	P	**Pn**	**04 42 11.5**	**+0.9**
OUZM	**OUZ**	**5.22**	**209**	P	**Pn**	**04 42 15.6**	**+1.1**
OUK	**Oukaimeden**	**5.49**	**220**	P	**Pn**	**04 42 16.8**	**-1.5**
TTIG	**Tnine Tigouga,**	**6.31**	**220**	P	**Pn**	**04 42 30.3**	**+0.9**

*TAP **05** 04:47:45.8, 23°.93N×122°.98E, h38km±1km, ML3.3, D*
*JMA **05** 04:47:46.5±0.1, 23°.97N×122°.85E, h29km±2km, M2.6*
ISC 05 04:47:44.5±1.1**, 23°.90N**±0°.03×**122°.92E**±0°.02**, h16**km±9km**, n83, σ1.03**/131**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.55**	**3**	P	**Pn**	**04 47 56.3**	**-1.3**
JYNG				*e*S	**Sb**	**04 48 03.3**	**0.0**
YOJ	**Yonaguni jima**	**0.56**	**9**	P	**Pn**	**04 47 56.8**	**-1.1**
YOJ				S	**Sn**	**04 48 04.2**	**-2.6**
YOJ	**Yonaguni jima**	**0.56**	**9**	P	**Pn**	**04 47 56.7**	**-1.1**
	baz=3.0						
YOJ				S	**Sn**	**04 48 05.5**	**-1.4**
	baz=3.0						
HATJ	**Hateruma jima**	**0.83**	**79**	P	**Pn**	**04 48 02.6**	**+1.1**
HATJ				*e*S	**Sn**	**04 48 14.6**	**+1.3**
IRIF	**Iriomote-Funau**	**0.86**	**60**	P	**Pn**	**04 48 02.6**	**+0.7**
IRIF				*e*S	**Sn**	**04 48 14.5**	**+0.4**
JKRS	**Kuro-shima**	**1.05**	**71**	P	**Pg**	**04 48 06.1**	**+1.2**
JKRS				*e*S	**Sn**	**04 48 20.2**	**+1.3**
EWUT	**Wuta**	**1.17**	**298**	P	**Pg**	**04 48 07.0**	**-0.1**
	baz=296						
EWUT				*e*S	**Sg**	**04 48 23.1**	**+0.7**
	baz=296						
TWC	**Suao**	**1.20**	**306**	*i* P	**Pb**	**04 48 07.1**	**+0.2**
	baz=304						
TWC				*i* S	**Sb**	**04 48 22.4**	**+0.2**
	baz=304						
JIJ	**Ishigaki jima**	**1.21**	**68**	P	**Pg**	**04 48 08.2**	**+0.3**
JIJ				*e*S	**Sg**	**04 48 24.8**	**+1.1**
TWD	**Chiawan**	**1.22**	**279**	*e*P	**Pb**	**04 48 07.5**	**+0.4**
	baz=277						
NACB	**Ninganchiao**	**1.24**	**283**	P	**Pn**	**04 48 06.9**	**-0.2**
	baz=281						
TEGC	**Jichi Village**	**1.27**	**262**	S	**Sn**	**04 48 24.0**	**-0.4**
	baz=262						
EGS		**1.30**	**316**	P	**Pg**	**04 48 09.3**	**-0.2**
	baz=313						
ETM	**Tongmen**	**1.30**	**273**	P	**Pn**	**04 48 08.3**	**+0.2**
	baz=263						
NDS	**Dongshan**	**1.31**	**304**	P	**Pg**	**04 48 09.4**	**-0.4**
	baz=302						
NDS				S	**Sb**	**04 48 26.5**	**+1.1**
	baz=302						
ETLH	**Xiulin Townshi**	**1.34**	**283**	P	**Pn**	**04 48 08.2**	**-0.5**
	baz=282						
ESL	**Shilin**	**1.36**	**267**	*e*P	**Pn**	**04 48 09.0**	**+0.2**
	baz=256						
NTC	**Toucheng**	**1.37**	**314**	*i* P	**Pg**	**04 48 10.8**	**-0.1**
	baz=311						
NTC				*e*S	**Sb**	**04 48 27.5**	**+0.5**
	baz=311						
TWB1	**Santiao Chiao**	**1.39**	**323**	*e*P	**Pb**	**04 48 09.2**	**-0.9**
	baz=319						
TWE	**Neicheng**	**1.40**	**306**	*i* P	**Pb**	**04 48 10.3**	**+0.1**
	baz=305						
TWE				S	**Sb**	**04 48 28.8**	**+0.9**
	baz=305						
LATG	**Datong**	**1.42**	**297**	P	**Pg**	**04 48 11.4**	**-0.3**
	baz=295						
HGSD	**Ruisui**	**1.43**	**254**	P	**Pn**	**04 48 09.0**	**-0.7**
	baz=254						
HGSD				*e*S	**Sn**	**04 48 27.7**	**-0.5**
	baz=254						
ENTT	**Nioudou**	**1.43**	**301**	*i* P	**Pb**	**04 48 11.4**	**+0.5**
	baz=300						
ENTT				S	**Sb**	**04 48 29.9**	**+1.0**
	baz=300						
JISG	**Ishigakijimahi**	**1.44**	**62**	S	**Sg**	**04 48 30.8**	**-0.3**
TIPB	**Shuangxi**	**1.46**	**317**	*i* P	**Pb**	**04 48 10.4**	**-0.8**
	baz=314						
TIPB				*i* S	**Sn**	**04 48 28.8**	**-0.1**
	baz=314						
NDT	**Datong Townshi**	**1.46**	**299**	*i* P	**Pb**	**04 48 11.7**	**+0.4**
	baz=297						
FUSB	**Fushanzhiwuyua**	**1.48**	**305**	P	**Pb**	**04 48 12.1**	**+0.5**
	baz=304						
FUSB				S	**Sg**	**04 48 32.0**	**-0.3**
	baz=304						
NNSB	**Datong**	**1.50**	**291**	*e*P	**Pg**	**04 48 13.3**	**0.0**
	baz=289						
SXI1	**Grass Mountain**	**1.52**	**322**	P	**Pn**	**04 48 10.7**	**-0.4**
	baz=329						
SXI1				*e*S	**Sn**	**04 48 29.4**	**-1.1**
	baz=329						
WHF	**Hehuan Shan**	**1.53**	**279**	*i* P	**Pn**	**04 48 11.5**	**0.0**
	baz=278						
NWLT	**Wulai**	**1.56**	**304**	*i* P	**Pg**	**04 48 13.9**	**-0.5**
	baz=303						
NWLT				S	**Sb**	**04 48 33.5**	**+1.1**
	baz=303						
NWF	**Wu-fen Shan**	**1.56**	**319**	*i* P	**Pn**	**04 48 11.7**	**+0.1**
	baz=316						
NWF				*i* S	**Sn**	**04 48 31.3**	**-0.1**
	baz=316						
WFSB	**Wu-fen Shan**	**1.56**	**319**	P	**Pb**	**04 48 11.8**	**-1.1**
	baz=316						
WFSB				S	**Sn**	**04 48 31.3**	**0.0**
	baz=316						
EYUL	**Yuli**	**1.57**	**250**	P	**Pn**	**04 48 11.6**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=241						
EYUL				S	Sn	04 48 32.2	+0.6
	baz=241						
FUSS	**Fushou**	**1.57**	**283**	*i* P	**Pn**	**04 48 12.2**	**+0.3**
	baz=281						
YULB	**Yu-li**	**1.57**	**251**	P	**Pn**	**04 48 11.9**	**+0.2**
	baz=243						
YULB				S	Sn	04 48 30.5	-1.2
	baz=243						
TWF1	**Yuli**	**1.58**	**250**	P	**Pn**	**04 48 12.1**	**+0.2**
	baz=241						
TWF1				*i* S	Sn	04 48 31.5	-0.6
	baz=241						
YHNB	**Yeheng**	**1.60**	**299**	P	**Pb**	**04 48 13.0**	**-0.7**
	baz=297						
CHGB	**Renai**	**1.60**	**276**	P	**Pn**	**04 48 12.3**	**0.0**
	baz=276						
CHGB				*e*S	Sn	04 48 34.1	+1.4
	baz=276						
NSK	**Sanguang**	**1.62**	**299**	*i* P	**Pb**	**04 48 13.6**	**-0.4**
	baz=297						
TWA	**Mucha**	**1.62**	**312**	*e*P	**Pb**	**04 48 13.2**	**-0.9**
	baz=309						
TWT	**Tachien**	**1.63**	**283**	*i* P	**Pb**	**04 48 14.2**	**-0.1**
	baz=281						
VWDT	**VWDT**	**1.63**	**265**	P	**Pn**	**04 48 12.6**	**+0.1**
	baz=256						
VWDT				*e*S	Sn	04 48 31.6	-1.6
	baz=256						
CHKT	**Chengkung**	**1.63**	**241**	P	**Pn**	**04 48 12.0**	**-0.6**
	baz=242						
CHKT				*i* S	Sn	04 48 30.8	-2.5
	baz=242						
TDCB	**Techi**	**1.64**	**283**	P	**Pn**	**04 48 13.5**	**+0.7**
	baz=281						
FULB	**Fuli**	**1.65**	**245**	P	**Pn**	**04 48 12.6**	**-0.1**
	baz=237						
FULB				*e*S	Sn	04 48 33.7	+0.1
	baz=237						
WUSB	**Renai**	**1.65**	**273**	P	**Pn**	**04 48 12.8**	**0.0**
	baz=272						
TATO	**Taipei**	**1.68**	**310**	*e*P	**Pb**	**04 48 15.1**	**0.0**
	baz=307						
YM01	**YM01**	**1.74**	**316**	P	**Pb**	**04 48 15.6**	**-0.5**
	baz=312						
EDH	**Donghe**	**1.75**	**238**	*i* P	**Pn**	**04 48 13.7**	**-0.4**
	baz=239						
EDH				*i* S	Sn	04 48 34.0	-2.1
	baz=239						
JTJ	**Tarama**	**1.79**	**65**	P	**Pg**	**04 48 16.6**	**-2.2**
NFF	**Wufeng Townshi**	**1.79**	**294**	P	**Pb**	**04 48 16.7**	**-0.4**
	baz=283						
SSLB	**Suanglung**	**1.80**	**267**	P	**Pn**	**04 48 15.6**	**+0.7**
	baz=258						
SSLB				*e*S	Sn	04 48 37.7	+0.3
	baz=258						
LDUT	**Ludao**	**1.81**	**228**	*i* P	**Pn**	**04 48 14.7**	**-0.2**
	baz=229						
LDUT				*i* S	Sn	04 48 35.6	-1.9
	baz=229						
WHP	**Taichung City**	**1.84**	**282**	*i* P	**Pb**	**04 48 17.5**	**-0.3**
	baz=283						
WHP				*e*S	Sn	04 48 38.9	+0.4
	baz=283						
WCS	**Beigang Elemen**	**1.84**	**275**	P	**Pb**	**04 48 16.8**	**-0.9**
	baz=276						
WCS				*e*S	Sn	04 48 39.7	+1.3
	baz=276						
SMLT	**Sun Moon Lake**	**1.85**	**270**	*i* P	**Pb**	**04 48 18.1**	**+0.2**
	baz=259						
ELDTW	**Lidau**	**1.88**	**248**	*i* P	**Pn**	**04 48 15.8**	**-0.3**
	baz=249						
ELDTW				*e*S	Sn	04 48 38.1	-1.5
	baz=249						
LIOB	**Emei**	**1.89**	**293**	*e*P	**Pn**	**04 48 17.0**	**+0.9**
	baz=292						
TYC	**Yuchr**	**1.89**	**270**	P	**Pb**	**04 48 18.4**	**-0.1**
	baz=263						
TYC				*e*S	Sn	04 48 40.9	+1.5
	baz=263						
NSTT	**Nanjuang**	**1.89**	**293**	P	**Pb**	**04 48 18.5**	**-0.2**
	baz=291						
LONT	**Longtian**	**1.92**	**239**	P	**Pn**	**04 48 16.6**	**+0.1**
	baz=241						
LONT				S	Sn	04 48 40.2	-0.1
	baz=241						
ALS	**Alishan**	**1.97**	**259**	*i* P	**Pn**	**04 48 18.5**	**+1.0**
	baz=250						
TWG	**Pinlang**	**2.01**	**238**	*e*P	**Pn**	**04 48 17.9**	**+0.2**
	baz=229						
CHN5	**Tsauling**	**2.07**	**262**	P	**Pb**	**04 48 20.9**	**-0.9**
	baz=263						
CHN5				*e*S	Sn	04 48 45.5	+1.2
	baz=263						
STYH	**Taoyuan**	**2.10**	**250**	P	**Pn**	**04 48 18.5**	**-0.4**
	baz=244						
STYH				S	Sn	04 48 44.0	-0.6
	baz=244						
TPUB	**Ta-pu**	**2.18**	**254**	P	**Pb**	**04 48 22.0**	**-1.6**
	baz=250						
TPUB				S	Sn	04 48 48.6	+1.7
	baz=250						
WDLH	**Douliu**	**2.19**	**265**	*e*P	**Pb**	**04 48 23.4**	**-0.2**
	baz=266						
WDLH				*e*S	Sb	04 48 50.2	-0.4
	baz=266						
CHN4	**Tsaushan**	**2.20**	**256**	*e*P	**Pb**	**04 48 22.4**	**-1.5**
	baz=249						
CHN4				S	Sn	04 48 49.7	+2.5
	baz=249						
WTP	**Ta-pu**	**2.21**	**253**	P	**Pb**	**04 48 23.7**	**-0.4**
	baz=253						
LAY	**Lan-yu**	**2.24**	**214**	*e*P	**Pn**	**04 48 21.0**	**+0.1**
	baz=225						
LAY				*e*S	Sn	04 48 47.0	-1.3
	baz=225						
SLGT	**Liugui**	**2.27**	**247**	*i* P	**Pb**	**04 48 23.4**	**-1.8**
	baz=243						
SLGT				S	Sn	04 48 51.5	+2.4
	baz=243						
SGST	**Jiashian**	**2.29**	**250**	P	**Pb**	**04 48 24.1**	**-1.4**
	baz=249						
CHN1	**Nanshi**	**2.31**	**252**	*i* P	**Pb**	**04 48 24.4**	**-1.3**
	baz=254						
CHN1				S	Sb	04 48 52.9	-1.0
	baz=254						
TWK	**Hsinying**	**2.32**	**255**	*i* P	**Pb**	**04 48 24.5**	**-1.4**
	baz=248						
TWK				*i* S	Sn	04 48 51.9	+1.7
	baz=248						
SSD	**Sandimen**	**2.40**	**242**	*e*P	**Pn**	**04 48 24.2**	**+1.2**
	baz=236						
TSMG	**Majia**	**2.41**	**241**	*e*P	**Pn**	**04 48 25.2**	**+2.0**
	baz=233						
TAWH	**Dawu Township**	**2.43**	**231**	P	**Pn**	**04 48 25.2**	**+1.7**
	baz=241						
TAWH				*e*S	Sn	04 48 51.1	-1.8
	baz=241						
EAST	**Anshuo**	**2.43**	**232**	*i* P	**Pn**	**04 48 23.9**	**+0.3**
	baz=241						
MASBT	**Mashibuluo**	**2.46**	**239**	P	**Pn**	**04 48 25.6**	**+1.6**
	baz=241						
MASBT				*e*S	Sn	04 48 54.0	+0.3
	baz=241						
SLIU	**Shizi**	**2.57**	**230**	*i* P	**Pn**	**04 48 26.8**	**+1.3**
	baz=230						
PHUB	**P'eng-hu**	**3.09**	**263**	*e*P	**Pn**	**04 48 34.7**	**+2.1**
	baz=281						
PHUB				*e*S	Sn	04 49 10.2	+1.0
	baz=281						
PNG	**Penghu**	**3.10**	**264**	*e*P	**Pn**	**04 48 34.7**	**+2.0**
	baz=282						
PNG				*e*S	Sn	04 49 09.3	-0.1
	baz=282						

*IDC **05** 04:55:08.6±0.9, 58°.89S×25°.67W, h0^{km}, mb3.9/2, mb1 4.0/3, mb1mx3.7/26, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=65.9km s-min=28.0km az=91.0*

ISC 05 04:55:13.5±0.9**, 58°.9S**±0°.1×**25°.9W**±0°.4**, h35**^{km}**, n13, σ2^{s}.25**/15**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.94**	**155**	P	**Pn**	**04 58 25.6**	**-2.5**
VNA3	**Neumayer Olymp**	**14.11**	**158**	P	**Pn**	**04 58 28.0**	**-2.6**
VNA3				S	**S**	**05 01 29.0**	**+3.1**
VNA2	**Neumayer--Watz**	**14.33**	**155**	P	**Pn**	**04 58 30.4**	**-3.2**
	baz=322,slow=14						
VNA2				S	**S**	**05 01 34.0**	**+3.6**
SNAA	**Sanae**	**15.90**	**153**	P	**Pn**	**04 58 51.7**	**-2.5**
SNAA	**Sanae**	**15.90**	**153**	Pn	**Pn**	**04 58 51.8**	**-2.5**
	0.7nm,0.3s,baz=314,slow=17,SNR=30						
QSPA	**South Pole Qui**	**31.38**	**180**	P	**P**	**05 01 31.0**	**+0.3**
	0.8nm,0.5s,baz=276,slow=16,SNR=13						
TORD	**Torodi Ar. Bea**	**75.20**	**28**	P	**P**	**05 06 53.0**	**+0.8**
	0.9nm,0.6s,baz=199,slow=6.5,SNR=9.5						
FINES	**FINESS Array B**	**126.55**	**28**	PKP	**PKiKP**	**05 14 11.1**	**-0.6**
	1.3nm,0.9s,baz=248,slow=2.6,SNR=4.5						
ARCES	**ARCESS Array B**	**133.30**	**22**	PKP	**PKPdf**	**05 14 23.8**	**-0.1**
	2.3nm,0.9s,baz=200,slow=2.4,SNR=4.2						
YKA	**Yellowknife Ar**	**138.69**	**315**	PKP	**PKPdf**	**05 14 34.2**	**+0.2**
	1.1nm,0.6s,baz=131,slow=2.3,SNR=21						
INK	**Inuvik**	**148.38**	**317**	PKPbc	**PKPbc**	**05 14 54.7**	**+0.3**
	0.9nm,0.5s,baz=346,slow=0.8,SNR=4.9						
SONM	**Songino Array**	**150.12**	**90**	PKPbc	**PKPbc**	**05 14 59.3**	**-0.3**
	0.4nm,0.7s,baz=186,slow=4.3,SNR=3.3						
ILAR	**Eielson Array**	**152.44**	**307**	PKPbc	**PKiKP**	**05 15 05.1**	**+0.7**
	0.1nm,0.4s,baz=147,slow=1.8,SNR=4.2						

*IDC **05** 04:55:49.3±0.6, 58°.89S×25°.43W, h0^{km}, mb4.4/11, mb1 4.4/12, mb1mx4.2/26, mbtmp4.4/12, ML4.9/1, Error ellipse: s-maj=25.1km s-min=18.5km az=80.0*
*NEIC **05** 04:55:57.5±1.7, 59°.1S±0°.1×25°.5W±0°.2, h56^{km}±4^{km}, mb4.5/12, Error ellipse: s-maj=15.9km s-min=12.8km az=202.0*

ISC 05 04:55:56.5±0.5**, 59°.03S**±0°.10×**25°.3W**±0°.1**, h50**^{km}**, n45, σ1^{s}.33**/37**, mb4.4**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.77**	**303**		**Pn**	**04 57 49.3**	**+2.5**
SNAA	**Sanae**	**15.61**	**153**	Pn	**Pn**	**04 59 31.5**	**-1.4**
	4.3nm,0.3s,baz=322,slow=14,SNR=24						
SNAA				Sn	Sn	05 02 13.8	-11
	0.4nm,0.3s,baz=295,slow=13,SNR=3.1						
SNAA	**Sanae**	**15.61**	**153**		**Pn**	**04 59 33.3**	**+0.4**
SNAA				IAmb	IAmb	04 59 46.4	
	comp=Z,18nm,0.6s						
BELA	**Belgrano 2**	**19.19**	**186**	P	**P**	**05 00 15.5**	**-0.1**
BELA				IAmb	IAmb	05 00 21.3	
	comp=Z,29nm,1.2s						
EFI	**East Falkland**	**19.85**	**277**	P	**P**	**05 00 23.3**	**+0.4**
QSPA	**South Pole Qui**	**31.21**	**180**	P	**P**	**05 02 09.7**	**-1.1**
	comp=Z,5.3nm,0.6s,baz=206,slow=2.7,SNR=7.8						
QSPA	**South Pole Qui**	**31.21**	**180**	P	**P**	**05 02 11.2**	**+0.4**
PLCA	**Paso Flores**	**33.58**	**283**	P	**P**	**05 02 29.7**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=116,slow=7.4,SNR=5.2						
PLCA	**Paso Flores**	**33.58**	**283**	IAmb	IAmb	05 02 46.7	
	comp=Z,7.0nm,1.3s						
BO02	**Sierra Bellavi**	**38.31**	**289**	P	**P**	**05 03 11.7**	**-0.4**
BO02				IAmb	IAmb	05 03 24.0	
	comp=Z,8.9nm,0.9s						
VA03	**San Esteban**	**39.84**	**291**	P	**P**	**05 03 23.9**	**-1.0**
VNDA	**Vanda**	**43.63**	**182**	P	**P**	**05 03 55.1**	**-0.2**
	comp=Z,5.9nm,0.9s,baz=18,slow=5.6,SNR=5.6						
BOSA	**Boshof**	**45.85**	**71**	P	**P**	**05 04 14.9**	**+1.3**
	comp=Z,2.7nm,1.0s,baz=145,slow=8.0,SNR=2.1						
BOSA	**Boshof**	**45.85**	**71**	IAmb	IAmb	05 04 26.1	
	comp=Z,7.9nm,1.1s						
BDFB	**Brasilia**	**46.45**	**329**	P	**P**	**05 04 17.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=22,slow=11,SNR=3.1						
BDFB	**Brasilia**	**46.45**	**329**	IAmb	IAmb	05 04 31.6	
	comp=Z,11nm,1.4s						
H10S2	**ASCENSION HYDR**	**50.62**	**14**	T	T	05 59 24.2	
	baz=187,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**50.62**	**14**	T	T	05 59 24.5	
	baz=33,slow=74,SNR=12						
H10N1	**ASCENSION HYDR**	**51.73**	**14**	T	T	06 00 45.1	
	baz=187						
H10N3	**ASCENSION HYDR**	**51.73**	**14**	T	T	06 00 48.7	
	baz=187,slow=74,SNR=9.6						
H10N2	**ASCENSION HYDR**	**51.75**	**14**	T	T	06 00 50.1	
	baz=187,slow=74						
LPAZ	**La Paz**	**52.92**	**305**	P	**P**	**05 05 06.9**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=5.9,slow=4.6,SNR=2.9						
LPAZ	**La Paz**	**52.92**	**305**	P	**P**	**05 05 07.2**	**-1.0**
DBIC	**Dimbokro**	**67.51**	**22**	P	**P**	**05 06 45.3**	**-1.8**
	comp=Z,6.5nm,1.1s,baz=349,slow=16,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.20**	**27**	P	**P**	**05 07 31.4**	**-2.1**
	comp=Z,5.9nm,0.6s,baz=192,slow=6.7,SNR=6.7						
KOWA	**Kowa**	**75.30**	**21**	P	**P**	**05 07 31.7**	**-2.3**
	comp=Z,1.4nm,0.8s,baz=247,slow=3.6,SNR=1.8						
KOWA	**Kowa**	**75.30**	**21**	P	**P**	**05 07 34.0**	**-0.1**
STKA	**Stephens Creek**	**88.78**	**169**	P	**P**	**05 08 46.2**	**+1.6**
	comp=Z,3.0nm,0.7s,baz=152,slow=7.4,SNR=4.9						
STKA	**Stephens Creek**	**88.78**	**169**	P	**P**	**05 08 43.8**	**-0.9**
ASAR	**Alice Springs**	**95.84**	**161**	P	**P**	**05 09 18.5**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=184,slow=4.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**123.07**	**111**	PKP	**PKPdf**	**05 14 48.4**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=226,slow=3.6,SNR=5.0						
ULM	**Lac du Bonnet**	**123.07**	**314**	PKP	**PKPdf**	**05 14 45.9**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=308,slow=2.4,SNR=4.6						
NVAR	**Mina Array Bea**	**123.43**	**290**	PKP	**PKiKP**	**05 14 48.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=115,slow=4.1,SNR=5.5						
FINES	**FINESS Array B**	**126.55**	**28**	PKP	**PKPdf**	**05 14 52.7**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=207,slow=1.6,SNR=9.9						
ARCES	**ARCESS Array B**	**133.34**	**22**	PKP	**PKPdf**	**05 15 02.4**	**-2.7**
	comp=Z,4.7nm,1.1s,baz=202,slow=3.3,SNR=5.3						
ARCES	**ARCESS Array B**	**133.34**	**22**		**PKPdf**	**05 15 06.5**	**+1.4**
MKAR	**Makanchi Array**	**136.83**	**73**	PKP	**PKPdf**	**05 15 11.9**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=224,slow=4.0,SNR=3.5						
YKA	**Yellowknife Ar**	**139.03**	**315**	PKP	**PKPdf**	**05 15 13.0**	**-2.8**
	comp=Z,6.1nm,0.7s,baz=129,slow=2.3,SNR=34						
YKA	**Yellowknife Ar**	**139.03**	**315**		**PKPdf**	**05 15 15.7**	**-0.1**
P33M	**Teslin, Yukon**	**145.00**	**304**	PKPdf	**PKPdf**	**05 15 27.4**	**+0.7**
A36M	**Sachs Harbour**	**147.26**	**325**	PKPbc	**PKPbc**	**05 15 33.1**	**+0.7**
INK	**Inuvik**	**148.72**	**317**	PKPbc	**PKPbc**	**05 15 37.1**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=65,slow=4.0,SNR=5.7						
SONM	**Songino Array**	**149.80**	**90**	PKPbc	**PKPbc**	**05 15 41.3**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=210,slow=2.4,SNR=13						
SONM	**Songino Array**	**149.80**	**90**	PKPbc	**PKPbc**	**05 15 40.8**	**+0.9**
ILAR	**Eielson Array**	**152.79**	**307**	PKPbc	**PKPbc**	**05 15 46.3**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=177,slow=2.0,SNR=7.1						

*TUL **05** 05:02:13.9±1.0, 36°.60N±0°.02×97°.77W±0°.02, h7^{km}±7^{km}, ML2.9, mb_Lg2.5/14(NEIC), Error ellipse: s-maj=2.6km s-min=2.2km az=91.0*

NEIC 05 05:02:13.7±0.8**, 36°.58N**±0°.02×**97°.77W**±0°.02**, h5**^{km}±2^{km}**, Error ellipse: s-maj=3.1km s-min=3.0km az=77.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.01**	**259**		Pg	05 02 33.0	-0.2
T35A	**Sooner Cattle**	**1.06**	**71**	Pg	Pg	05 02 33.8	-0.4
OKCFA	**Oklahoma City**	**1.20**	**167**		Pg	05 02 36.4	-0.3
OKCSW	**OKLAHOMA CITY**	**1.21**	**167**	Pn	Pg	05 02 36.1	-0.8
FNO	**Franklin**	**1.36**	**167**	Pn	Pn	05 02 39.3	-0.1
W35A	**Tecumseh**	**1.60**	**153**		Pb	05 02 43.3	-0.5
TUL1	**Leonard**	**1.73**	**112**		Pn	05 02 45.2	+0.6
TUL1				IAmb_Lg		05 03 10.1	
	comp=Z,26nm,0.9s						
X34A	**Smith Ranch, M**	**1.98**	**181**	Pn	Pn	05 02 49.1	+1.2
R32A	**Long Quarter,**	**1.98**	**338**	Pn	Pb	05 02 49.3	-1.0
WMOK	**Wichita Mounta**	**2.02**	**204**		Pn	05 02 48.6	+0.1
KSU1	**Kansas State U**	**2.67**	**20**	Pn	Pn	05 02 57.4	-0.1
CBKS	**Cedar Bluff**	**2.72**	**326**	Pn	Pn	05 02 57.7	-0.4
X37A	**Clayton**	**2.79**	**135**	Pn	Pn	05 02 58.9	-0.2
HHAR	**Hobbs**	**3.10**	**94**	Pn	Pn	05 03 03.8	+0.4
W39A	**Magazine**	**3.52**	**112**	Pn	Pn	05 03 09.5	+0.4
AMTX	**Amarillo**	**3.60**	**243**	Pn	Pn	05 03 10.3	0.0
AMTX				IAmb_Lg		05 04 10.4	
	comp=Z,10nm,1.0s						
S39A	**Bolivar**	**3.72**	**71**	IAmb_Lg		05 04 10.1	
	comp=Z,8.8nm,1.1s						
U40A	**Yellville**	**3.97**	**92**	Pn	Pn	05 03 14.9	-0.4
U40A				IAmb_Lg		05 04 27.8	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.98**	**120**	Pn	Pn	05 03 15.2	-0.2
MGMO	**Mountain Grove**	**4.45**	**81**	Pn	Pn	05 03 21.5	-0.4
P38A	**Dawn**	**4.51**	**46**	Pn	Pn	05 03 21.4	-1.4
P38A				IAmb_Lg		05 04 47.3	
	comp=Z,9.2nm,0.8s						
WHTX	**Lake Whitney,**	**4.59**	**177**	Pn	Pn	05 03 23.0	-0.8
WHAR	**Wooly Hollow**	**4.63**	**105**	Pn	Pn	05 03 24.8	+0.4
R40A	**Maddies Statio**	**4.70**	**67**	IAmb_Lg		05 04 41.1	
	comp=Z,8.1nm,0.8s						
BGNE	**Belgrade**	**4.83**	**357**	Pn	Pn	05 03 25.9	-1.2
P40A	**Paris**	**5.39**	**55**	IAmb_Lg		05 05 10.0	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**5.41**	**72**	Pn	Pn	05 03 34.9	-0.1
CCM				IAmb_Lg		05 05 11.4	
	comp=Z,8.8nm,0.8s						

*IDC **05** 05:10:35.4±1.8, 52°.06N×178°.11E, h125^{km}±16^{km}, mb3.5/15, mb1 3.8/17, mb1mx3.5/43, mbtmp3.9/17, Error ellipse: s-maj=25.1km s-min=11.5km az=164.0*
*AEIC **05** 05:10:36.4±3.0, 52°.9N±0°.2×178°.4E±0°.1, h44^{km}±9^{km}, Error ellipse: s-maj=23.8km s-min=9.6km az=185.0*
*NEIC **05** 05:10:37.4±2.3, 52°.6N±0°.2×178°.3E±0°.1, h107^{km}±18^{km}, mb4.2/26, Error ellipse: s-maj=33.2km s-min=9.7km az=187.0*

ISC 05 05:10:35.6±0.8**, 52°.6N**±0°.1×**178°.25E**±0°.04**, h100**^{km}**, n58, σ1^{s}.55**/56**, mb4.0**/21**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**2.40**	**107**		**Pn**	**05 11 14.9**	**+1.5**
TAFP	**Tanaga Falls P**	**2.42**	**105**		**Pn**	**05 11 15.1**	**+1.6**
TAFP					**Sn**	**05 11 44.5**	**+1.8**
SHEM	**Shemya Is, Ala**	**2.53**	**275**	P	**Pn**	**05 11 16.4**	**+1.4**
	56nm,0.3s,baz=107,slow=4.6,SNR=44						
SHEM				S	**Sn**	**05 11 47.5**	**+2.2**
	27nm,0.3s,baz=264,slow=22,SNR=10						
SMY	**Shemya**	**2.53**	**275**		**Pn**	**05 11 16.6**	**+1.5**
KIMD	**Kanaga Island**	**2.90**	**105**		**Pn**	**05 11 20.9**	**+1.0**
KIWB	**Kanaga Island**	**2.92**	**103**	Pn	**Pn**	**05 11 20.7**	**+0.5**
ADK	**Adak**	**3.19**	**101**		**Pn**	**05 11 24.7**	**+0.9**
ADK					**Sn**	**05 12 02.2**	**+1.1**
GSTD	**Great Sitkin T**	**3.48**	**96**		**Pn**	**05 11 29.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.43**	**281**	Pn	**Pn**	**05 13 30.0**	**+1.2**
PETK	**Petropavlovsk-**	**12.43**	**281**	P	**Pn**	**05 13 32.3**	**+3.5**
	0.4nm,0.3s,baz=88,slow=20,SNR=1.8						
PETK				S	**Sn**	**05 15 42.3**	**-3.0**
	0.3nm,0.3s,baz=129,slow=17,SNR=1.8						
PETK	**Petropavlovsk-**	**12.43**	**281**		**Pn**	**05 13 31.5**	**+2.7**
P18K	**Big Mountain,**	**16.25**	**55**	P	**Pn**	**05 14 16.4**	**-1.2**
P18K				IAmb	IAmb	05 14 27.5	
	comp=Z,23nm,1.2s						
O18K	**Koktuh Hills**	**16.37**	**53**		**Pn**	**05 14 18.6**	**-0.5**
SVW2	**Sparrevohn**	**16.56**	**49**	Pn	**Pn**	**05 14 21.0**	**-0.5**
SVW2				IAmb	IAmb	05 14 22.2	
	comp=Z,23nm,1.4s						
Q19K	**Cape Douglas,**	**16.96**	**57**	P	**Pn**	**05 14 24.7**	**-1.7**
L19K	**White Mountain**	**17.26**	**46**	P	**Pn**	**05 14 29.9**	**-0.1**
KDAK	**Kodiak Island**	**17.37**	**61**	P	**P**	**05 14 31.2**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=327,slow=0.6,SNR=23						
KDAK	**Kodiak Island**	**17.37**	**61**	P	**P**	**05 14 30.6**	**-0.5**
BRLK	**Bradley Lake**	**18.49**	**55**	P	**P**	**05 14 43.9**	**+0.4**
BRLK				IAmb	IAmb	05 14 47.1	
	comp=Z,25nm,1.1s						
CAST	**Castle Rocks**	**18.90**	**43**	P	**P**	**05 14 48.3**	**+0.3**
IMAR	**Indian Mountai**	**19.38**	**35**	P	**P**	**05 14 55.2**	**+2.1**
KTH	**Kantishna Hill**	**19.44**	**44**	P	**P**	**05 14 56.0**	**+2.2**
KTH				IAmb	IAmb	05 15 01.4	
	comp=Z,13nm,0.9s						
H21K	**Melozitna Rive**	**19.56**	**37**	P	**P**	**05 14 57.0**	**+1.9**
GHO	**Glory Hole Cre**	**19.82**	**49**	P	**P**	**05 14 59.4**	**+1.4**
PWL	**Port Wells**	**19.92**	**52**	P	**P**	**05 15 01.3**	**+2.2**
SCM	**Sheep Creek Mo**	**20.57**	**50**	P	**P**	**05 15 07.7**	**+1.6**
SCM				IAmb	IAmb	05 15 11.0	
	comp=Z,14nm,1.0s						
FID	**Port Fidalgo**	**20.81**	**53**	P	**P**	**05 15 09.2**	**+0.7**
DHY	**Denali Highway**	**20.83**	**46**	P	**P**	**05 15 08.8**	**-0.1**
DHY				IAmb	IAmb	05 15 14.6	
	comp=Z,11nm,0.7s						
WRH	**Wood River Hil**	**20.92**	**42**	P	**P**	**05 15 09.7**	**0.0**
IL31		**21.51**	**42**	P	**P**	**05 15 17.4**	**+1.5**
ILAR	**Eielson Array**	**21.51**	**42**	P	**P**	**05 15 17.4**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=243,slow=8.9,SNR=26						
PAX	**Paxson**	**21.65**	**47**	P	**P**	**05 15 20.0**	**+2.4**
PAX				IAmb	IAmb	05 15 21.9	
	comp=Z,7.6nm,0.7s						
N25K	**Chitina, Valde**	**21.82**	**51**	P	**P**	**05 15 21.4**	**+1.9**
N25K				IAmb	IAmb	05 15 23.2	
	comp=Z,6.5nm,0.7s						
RIDG	**Independent Ri**	**22.09**	**45**	P	**P**	**05 15 23.2**	**+1.0**
RIDG				IAmb	IAmb	05 15 46.1	
	comp=Z,16nm,0.9s						
VRDI	**Verde Repeater**	**22.33**	**52**	P	**P**	**05 15 25.2**	**+0.3**
VRDI				IAmb	IAmb	05 15 27.5	
	comp=Z,12nm,1.1s						
DOT	**Dot Lake**	**22.41**	**46**	P	**P**	**05 15 26.6**	**+1.0**
DOT				IAmb	IAmb	05 15 45.1	
	comp=Z,16nm,1.2s						
MENT	**Mentasta**	**22.43**	**48**	P	**P**	**05 15 26.6**	**+0.8**
MENT				IAmb	IAmb	05 15 30.9	
	comp=Z,6.6nm,0.7s						
BMAR	**Burnt Mountain**	**23.29**	**36**	P	**P**	**05 15 35.2**	**+1.1**
L27K	**Beaver Creek,**	**23.30**	**48**	P	**P**	**05 15 35.8**	**+1.5**
INK	**Inuvik**	**27.55**	**37**	P	**P**	**05 16 14.9**	**+2.5**
	comp=Z,2.1nm,0.4s,baz=228,slow=7.9,SNR=9.8						
INK	**Inuvik**	**27.55**	**37**	IAmb	IAmb	05 16 16.3	
	comp=Z,6.7nm,1.2s						
KLR	**Kul'dur**	**29.12**	**282**	P	**P**	**05 16 24.7**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=29,slow=4.0,SNR=4.2						
DLBC	**Dease Lake**	**29.24**	**58**	P	**P**	**05 16 28.8**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=347,slow=9.6,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**33.96**	**199**	T	T	05 52 26.8	
	baz=11,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**33.97**	**199**	T	T	05 52 28.4	
	baz=11,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.98**	**199**	T	T	05 52 31.0	
	baz=11,slow=76,SNR=13						
YKA	**Yellowknife Ar**	**35.74**	**47**	P	**P**	**05 17 25.8**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=282,slow=8.2,SNR=26						
YKA	**Yellowknife Ar**	**35.74**	**47**	P	**P**	**05 17 25.4**	**+1.3**
YBH	**Yreka Blue Hor**	**40.51**	**81**	P	**P**	**05 18 04.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=322,slow=12,SNR=2.1						
SONM	**Songino Array**	**44.48**	**294**	P	**P**	**05 18 35.7**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=74,slow=11,SNR=2.2						
NVAR	**Mina Array Bea**	**45.20**	**82**	P	**P**	**05 18 41.6**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=300,slow=7.0,SNR=9.3						
PDAR	**Pinedale Array**	**47.67**	**72**	P	**P**	**05 19 00.2**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=323,slow=2.3,SNR=5.4						
ARCES	**ARCESS Array B**	**56.58**	**349**	P	**P**	**05 20 07.4**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=9.2,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**57.85**	**306**	P	**P**	**05 20 15.1**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=53,slow=5.7,SNR=4.4						
SCHQ	**Schefferville**	**60.17**	**37**	P	**P**	**05 20 31.5**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=49,slow=16,SNR=2.1						
TXAR	**Lajitas Array**	**60.25**	**80**	P	**P**	**05 20 31.4**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=310,slow=5.5,SNR=7.0						
WRA	**Warramunga Arr**	**81.67**	**221**	P	P	05 22 36.7	-5.8
	comp=Z,0.9nm,0.6s,baz=32,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**85.19**	**220**	P	P	05 22 55.4	-5.2
	comp=Z,0.1nm,0.4s,baz=3.0,slow=5.3,SNR=4.3						

MAN 05 05:24:39.6, 12°.50N×122°.26E, h10^{km}, mb4.5, ML3.3, MS3.1, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.05**	**153**	⇓ *e*P	Pg	05 24 59.6	-0.3
RCP				*e*S	Sn	05 25 15.2	+0.1
GQP	**Guinayangan**	**1.41**	**8**	⇑ *e*P	Pn	05 25 03.9	-1.4
GQP				*e*S	Sg	05 25 24.7	-0.2
PGP	**Puerto Galera**	**1.61**	**308**	⇑ *e*P	Pn	05 25 07.4	-0.7
PGP				*i* S	Sn	05 25 29.4	+0.3

IDC 05 05:47:55.9±1.8**, 2°.28S×139°.76E, h0**^{km}**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.1**/31**, mbtmp3.3**/3**, ML2.9**/1**, Error ellipse: s-maj=31.0km s-min=14.5km az=7.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.97**	**104**	Pg	Pg	05 48 15.0	+0.4
	6.2nm,0.3s,baz=228,slow=5.2,SNR=14						
JAY				Lg	Lg	05 48 27.8	
	22nm,0.3s,baz=123,slow=18,SNR=9.0						
WRA	**Warramunga Arr**	**18.33**	**196**	P	Pn	05 52 11.1	-0.8
	0.0nm,0.3s,baz=19,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.00**	**194**	P	P	05 52 52.1	+0.2
	0.4nm,0.9s,baz=24,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**85.01**	**24**	P	P	06 00 33.0	-0.1
	0.5nm,0.6s,baz=251,slow=5.6,SNR=5.7						

*NEIC **05** 06:03:14.2±1.9, 18°.83N±0°.08×69°.49W±0°.06, h91^{km}±10^{km}, mb4.2/5, Error ellipse: s-maj=12.1km s-min=8.2km*

az=194.0

*OSPL **05** 06:03:16.5±1.7, 18°.85N×69°.51W, h94km±11km, ML3.5*
*SSNC **05** 06:03:33.8±1.6, 19°.48N×71°.11W, h50km, MD4.1, ML3.8, MW4.4*
ISC 05 06:03:12.7±0.7**, 18°.72N**±0°.05×**69°.57W**±0°.04**, h103**km±10km**, n71, σ2ˢ.40**/97**, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.19**	**69**		**Pn**	**06 03 26.5**	**-0.9**
SDD	**Santo Domingo**	**0.42**	**231**		**Pn**	**06 03 29.3**	**+1.0**
LONA1	**Toro Cenizo, N**	**0.71**	**337**	*i* P	**Pn**	**06 03 31.5**	**+0.9**
LONA1				*e*S	**Sn**	**06 03 43.1**	**-0.9**
LONA1				IAML		06 03 50.6	
	comp=Z,2µm,0.3s						
BANI	**BANI**	**0.81**	**247**		**Pn**	**06 03 33.9**	**+2.3**
PCDR	**Punta Cana, DR**	**1.15**	**100**		**Pn**	**06 03 35.2**	**+0.2**
SC01	**Santiago de lo**	**1.30**	**303**		**Pn**	**06 03 39.4**	**+2.7**
LOBA2	**Hotel Casa Bon**	**1.58**	**247**	*i* P	**Pn**	**06 03 42.8**	**+2.7**
LOBA2				*e*S	**Sn**	**06 04 02.6**	**+1.7**
LOBA2				IAML		06 04 05.2	
	comp=Z,358nm,0.6s						
SDDR	**Presa de Saban**	**1.65**	**279**		**Pn**	**06 03 43.5**	**+2.5**
SDDR	**Presa de Saban**	**1.65**	**279**	*i* P	**Pn**	**06 03 44.5**	**+3.5**
SDDR				*e*S	**Sn**	**06 04 08.2**	**+5.7**
SDDR	**Presa de Saban**	**1.65**	**279**	*i* P	**Pn**	**06 03 44.5**	**+3.5**
SDDR				*e*S	**Sn**	**06 04 04.5**	**+2.0**
SDDR				IAML		06 04 10.4	
	comp=Z,765nm,0.7s						
LONE2	**Loma La Sidra**	**1.81**	**265**	*i* P	**Pn**	**06 03 46.6**	**+3.5**
LONE2				*e*S	**Sn**	**06 04 07.7**	**+1.4**
LONE2				IAML		06 04 25.9	
	comp=Z,270nm,0.6s						
LOPP1	**Punta Rusia, P**	**1.91**	**307**	*e*S	**Sn**	**06 04 08.5**	**+0.3**
LOPP1				IAML		06 04 10.9	
	comp=Z,1µm,3.4s						
LOPE2	**Hotel El Peder**	**2.17**	**252**	*i* P	**Pn**	**06 03 51.7**	**+4.0**
LODA1	**ITESIL, Dajabo**	**2.18**	**293**	*i* P	**Pn**	**06 03 50.0**	**+2.3**
LODA1				IAML		06 04 20.9	
	comp=Z,1µm,0.3s						
AGPR	**Aguadilla, PR**	**2.35**	**96**		**Pn**	**06 03 50.5**	**+0.6**
AGPR	**Aguadilla, PR**	**2.35**	**96**	*i* P	**Pn**	**06 03 50.9**	**+1.0**
AGPR				*e*S	**Sn**	**06 04 17.6**	**-0.9**
AGPR				IAML		06 04 29.1	
	comp=Z,572nm,0.2s						
PRSN	**Puerto Rico Se**	**2.36**	**102**		**Pn**	**06 03 51.4**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.44**	**106**		**Pn**	**06 03 51.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.44**	**106**	*e*P	**Pn**	**06 03 52.9**	**+1.7**
CRPR				*e*S	**Sn**	**06 04 20.5**	**-0.2**
CRPR				IAML		06 04 34.1	
	comp=Z,206nm,0.6s						
MLPR	**Magueyes Islan**	**2.51**	**107**		**Pn**	**06 03 53.6**	**+1.5**
PAPH	**Port-au-Prince**	**2.59**	**266**	*i* P	**Pn**	**06 03 57.0**	**+3.9**
PAPH				IAML		06 04 38.5	
	comp=Z,76nm,0.6s						
AOPR	**Arecibo Observ**	**2.70**	**97**	Pn	**Pn**	**06 03 54.7**	**+0.1**
JAKH	**Jacmel**	**2.84**	**261**		**Pn**	**06 03 59.4**	**+3.1**
JAKH	**Jacmel**	**2.84**	**261**	*e*P	**Pn**	**06 03 59.8**	**+3.4**
JAKH				IAML		06 04 49.1	
	comp=Z,50nm,0.9s						
LGNH	**Logne**	**2.88**	**266**		**Pn**	**06 04 00.1**	**+3.1**
LGNH	**Logne**	**2.88**	**266**	*e*P	**Pn**	**06 04 00.5**	**+3.5**
LGNH	**Logne**	**2.88**	**266**	*i* P	**Pn**	**06 04 00.6**	**+3.6**
LGNH				IAML		06 04 43.0	
	comp=Z,31nm,1.0s						
EMPR	**Esperanza - Ma**	**2.90**	**94**		**Pn**	**06 03 56.7**	**-0.4**
OBIP	**Obispado Ponce**	**2.90**	**103**		**Pn**	**06 03 57.4**	**+0.3**
CELP	**Cerrillos**	**2.91**	**102**		**Pn**	**06 03 58.3**	**+0.9**
ICMP	**Isla Caja de M**	**3.01**	**105**		**Pn**	**06 03 58.8**	**+0.2**
GRTK	**Grand Turk**	**3.14**	**332**	Pn	**Pn**	**06 03 59.9**	**-0.6**
GRTK	**Grand Turk**	**3.14**	**332**	*i* P	**Pn**	**06 04 00.3**	**-0.1**
GRTK				*e*S	**Sn**	**06 04 34.4**	**-2.8**
GRTK				IAML		06 04 38.0	
	comp=Z,304nm,0.1s						
SJG	**San Juan**	**3.30**	**100**		**Pn**	**06 04 03.0**	**+0.4**
SJG	**San Juan**	**3.30**	**100**	*e*P	**Pn**	**06 04 02.6**	**0.0**
SJG				*e*S	**Sn**	**06 04 43.3**	**+2.2**
SJG				*i*		06 04 50.7	
	comp=Z,1µm,0.2s						
GCPR	**Guaynabo City**	**3.33**	**96**		**Pn**	**06 04 02.5**	**-0.5**
PDPR	**Patillas Dam,**	**3.44**	**101**		**Pn**	**06 04 05.1**	**+0.7**
CBYP	**Canovanas**	**3.55**	**97**		**Pn**	**06 04 05.5**	**-0.5**
CUPR	**Culebra, Puert**	**4.09**	**95**		**Pn**	**06 04 11.8**	**-1.3**
STVI	**Saint Thomas**	**4.40**	**94**	Pn	**Pn**	**06 04 16.5**	**-0.8**
MASC	**Masc**	**4.63**	**289**	*e*P	**Pn**	**06 04 19.4**	**-1.0**
MASC				*e*S	**Sn**	**06 05 11.7**	**-1.4**
GTBY	**Guantanamo Bay**	**5.37**	**284**	Pn	**Pn**	**06 04 30.9**	**+0.5**
GTBY	**Guantanamo Bay**	**5.37**	**284**	*e*P	**Pn**	**06 04 30.1**	**-0.3**
GTBY				*e*S	**Sn**	**06 05 29.8**	**-1.2**
GTBY	**Guantanamo Bay**	**5.37**	**284**	*i* P	**Pn**	**06 04 30.5**	**+0.1**
GTBY				*e*S	**Sn**	**06 05 26.8**	**-4.2**
GTBY				IAML		06 05 55.4	
	comp=Z,25nm,2.1s						
GTMO	**Guantanamo**	**5.43**	**285**	*e*S	**Sn**	**06 05 29.0**	**-3.5**
MOAC	**Moa**	**5.43**	**292**	*e*P	**Pn**	**06 04 29.4**	**-1.9**
MOAC				*e*S	**Sn**	**06 05 30.1**	**-2.4**
RCC	**Rio Carpintero**	**5.92**	**283**	*e*P	**Pn**	**06 04 36.9**	**-1.0**
RCC				*e*S	**Sn**	**06 05 41.3**	**-3.1**
SMRT	**St. Maarten**	**6.20**	**95**	Pn	**Pn**	**06 04 40.2**	**-1.6**
HLGC	**Holguin**	**6.48**	**291**	*e*P	**Pn**	**06 04 45.6**	**0.0**
HLGC				*e*S	**Sn**	**06 05 59.8**	**+1.7**
HATO	**Hato, Curacao**	**6.53**	**175**	Pn	**Pn**	**06 04 48.1**	**+1.9**
LMGC	**Las Mercedes**	**7.14**	**282**	*e*P	**Pn**	**06 04 53.1**	**-1.4**
LMGC				*e*S	**Sn**	**06 06 09.9**	**-4.2**
LMGC				IAML		06 06 15.5	
	comp=N,17nm,0.3s						
LMGC				IAML		06 06 16.2	
	comp=E,28nm,0.3s						
MTDJ	**Mount Denham**	**7.57**	**268**	Pn	**Pn**	**06 05 02.6**	**+2.1**
MTDJ	**Mount Denham**	**7.57**	**268**	*e*P	**Pn**	**06 05 02.9**	**+2.4**
GDHS	**Morne Mazeau,**	**7.83**	**107**	Pn	**Pn**	**06 05 05.0**	**+0.9**
CRJC	**Cerrejon, Guaj**	**8.29**	**203**	*e*P	**Pn**	**06 05 11.9**	**+1.6**
CRJC				*e*S	**Sn**	**06 06 40.7**	**-1.8**
CRJC				*i*		06 06 44.0	
	comp=Z,130nm,0.5s						
SMRC	**Santa Marta, M**	**8.75**	**212**	*e*P	**Pn**	**06 05 14.1**	**-2.4**
SMRC				*e*S	**Sn**	**06 06 48.6**	**-4.8**
SMRC				*i*		06 06 53.6	
	comp=Z,31nm,0.3s						
BIM	**Bigot**	**9.16**	**116**	Pn	**Pn**	**06 05 23.1**	**+1.1**
SDV	**Santo Domingo**	**9.83**	**186**	Pn	**Pn**	**06 05 34.4**	**+3.1**
SDV	**Santo Domingo**	**9.83**	**186**	*e*P	**Pn**	**06 05 35.0**	**+3.7**
SDV				*e*S	**Sn**	**06 07 18.7**	**-1.2**
SDV				*i*		06 07 24.8	
	comp=Z,3.2nm,0.3s						
SOCV	**Socops**	**10.45**	**187**	*e*P	**Pn**	**06 05 43.7**	**+4.1**
SOCV				*e*S	Sn	06 07 14.1	-21
OCAC	**Ocana**	**11.04**	**200**	Pn	**Pn**	**06 05 49.6**	**+1.9**
OCAC	**Ocana**	**11.04**	**200**	*e*P	**Pn**	**06 05 48.9**	**+1.2**
OCAC				*e*S	**Sn**	**06 07 45.0**	**-4.2**
OCAC				*i*		06 07 57.7	
	comp=Z,42nm,0.5s						
PAMC	**Pamplona, Colo**	**11.71**	**195**	*e*P	**Pn**	**06 06 00.3**	**+3.3**
PAMC				*e*S	**Sn**	**06 08 01.9**	**-4.2**
PAMC				*i*		06 08 15.5	
	comp=Z,4.6nm,0.5s						
ZARC	**Zaragoza, Cauc**	**12.29**	**205**	*e*P	**P**	**06 06 09.2**	**-2.9**
ZARC				*e*S	**Sn**	**06 08 18.9**	**-0.5**
ZARC				*i*		06 08 26.1	
	comp=Z,6.2nm,0.4s						
TAMC	**Tame, Arauca**	**12.40**	**190**	*e*P	**Pn**	**06 06 08.1**	**+2.4**
TAMC				*i*		06 07 49.6	
	comp=Z,4.5nm,0.3s						
TAMC				*e*S	**Sn**	**06 08 20.4**	**-1.7**
BARC	**Barichara**	**12.56**	**197**	*e*P	**P**	**06 06 14.7**	**-0.7**
BARC				*e*S	**Sn**	**06 08 28.7**	**+2.4**
BARC				*i*		06 08 43.6	
	comp=Z,3.5nm,0.2s						
PTBC	**PUERTO BERRIO,**	**13.01**	**202**	*e*P	**Pn**	**06 06 17.2**	**+3.5**
PTBC				*e*S	**Sn**	**06 08 36.0**	**-0.9**
PTBC				*i*		06 08 44.0	
	comp=Z,4.8nm,0.4s						
RUSC	**La Rusia**	**13.20**	**195**	*e*P	**P**	**06 06 20.8**	**-2.0**
RUSC				*e*S	**Sn**	**06 08 37.3**	**-4.9**
RUSC				*i*		06 08 52.9	
	comp=Z,3.8nm,0.8s						
W57A	**Gilead**	**18.80**	**333**	P	**Pn**	**06 07 26.6**	**+0.9**
W57A				IAmb	IAmb	06 07 37.1	
	comp=Z,14nm,1.1s						
U59A	**Littleton**	**19.00**	**339**	P	**P**	**06 07 26.2**	**0.0**
WUPA	**West Chester U**	**21.77**	**347**	P	**P**	**06 08 00.3**	**+4.3**
WUPA				IAmb	IAmb	06 08 18.4	
	comp=Z,17nm,1.2s						

*IDC **05** 06:05:51.2±0.9, 37°.87N×72°.67E, h0km, mb3.7/12, mb1 3.8/17, mb1mx3.7/49, mbtmp3.7/17, ML3.1/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/92, Error ellipse: s-maj=17.9km s-min=16.7km az=45.0*
*NNC **05** 06:05:56.8±1.5, 38°.20N×72°.63E, h1km±7km, mb4.2, mpv3.8, Error ellipse: s-maj=10.7km s-min=7.9km az=5.0*
ISC 05 06:05:54.0±0.9**, 38°.06N**±0°.07×**72°.49E**±0°.06**, h10**km**, n43, σ2ˢ.72**/40**, mb3.7**/11**, 8C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKS	**Merke**	**4.71**	**7**	Pg	**Pg**	**06 07 22.4**	**-1.8**
	18nm,0.5s						
MRKS				Lg	Lg	06 08 26.3	
	28nm,0.6s						
AAK	**Ala-Archa**	**4.82**	**18**	Pn	**Pn**	**06 07 10.7**	**+3.9**
	1.3nm,0.3s,baz=184,slow=7.5,SNR=21						
AAK				Sn	**Sb**	**06 08 12.6**	**-4.1**
	1.0nm,0.3s,baz=155,slow=12,SNR=4.0						
KK02	**Karatay Array**	**5.26**	**344**	⇓Pn	**Pn**	**06 07 15.1**	**+2.5**
	6.5nm,0.4s						
KK02				⇑Pg	**Pb**	**06 07 28.7**	**+2.7**
	13nm,0.7s						
KK02				⇑Sn	**Sn**	**06 08 16.9**	**+3.7**
	10nm,0.6s						
KK02				⇓Lg	Lg	06 08 39.0	
	9.7nm,0.6s						
BRLS	**Borolday**	**5.36**	**339**	Pg	**Pb**	**06 07 30.7**	**+3.0**
	5.6nm,0.4s						
BRLS				Lg	Lg	06 08 40.4	
	21nm,1.5s						
TKM2	**Tokmak 2**	**5.40**	**25**	⇑Pn	**Pn**	**06 07 17.6**	**+2.8**
	3.4nm,0.7s						
TKM2				⇓Pg	**Pg**	**06 07 32.7**	**-4.6**
	13nm,1.1s						
TKM2				⇑Lg	Lg	06 08 44.3	
	27nm,1.1s						
DGS	**Degeres**	**5.74**	**25**	Pg	**Pg**	**06 07 40.3**	**-3.6**
	11nm,0.9s						
DGS				Lg	Lg	06 08 56.5	
	17nm,0.7s						
MTBS	**Maitube**	**5.88**	**29**	Pg	**Pb**	**06 07 40.6**	**+4.0**
	5.1nm,0.4s						
MTBS				Lg	Lg	06 08 56.8	
	13nm,0.9s						
TNSS	**Tian-Shan**	**6.01**	**33**	Pg	**Pb**	**06 07 43.2**	**+4.1**
	4.5nm,0.6s						
TNSS				Lg	Lg	06 09 01.0	
	5.7nm,0.8s						
KRBS	**Karabastau**	**6.12**	**22**	Pg	Pb	06 07 45.6	+4.9
	4.5nm,0.5s						
KRBS				Lg	Lg	06 09 06.3	
	9.2nm,0.7s						
MDOK	**Medeo**	**6.16**	**33**	Pg	**Pb**	**06 07 45.9**	**+4.5**
	5.7nm,0.8s						
MDOK				Lg	Lg	06 09 05.9	
	11nm,0.8s						
KOTS	**Kotyrbulak**	**6.25**	**33**	Pg	**Pb**	**06 07 45.9**	**+3.0**
	9.0nm,0.7s						
KOTS				Lg	Lg	06 09 05.9	
	33nm,1.1s						
KTBS	**Karatobe**	**6.47**	**28**	Pg	Pb	06 07 51.9	+5.2
	5.0nm,0.5s						
KTBS				Lg	Lg	06 09 16.3	
	13nm,0.7s						
KUU	**Kurty**	**6.51**	**25**	Pg	**Pb**	**06 07 51.8**	**+4.5**
	4.9nm,0.5s						
KUU				Lg	Lg	06 09 16.0	
	19nm,1.1s						
SATY	**Saty**	**6.72**	**40**	Pg	**Pb**	**06 07 55.1**	**+4.1**
	5.6nm,0.8s						
SATY				Lg	Lg	06 09 22.3	
	17nm,0.9s						
KURS	**Kuram**	**6.92**	**37**	Pg	**Pb**	**06 07 58.3**	**+3.9**
	7.3nm,0.9s						
KURS				Lg	Lg	06 09 28.1	
	9.3nm,1.2s						
UZB	**Uzynbulak**	**7.10**	**42**	Pg	Pb	06 08 03.3	+5.8
	5.4nm,0.5s						
UZB				Lg	Lg	06 09 35.5	
	3.8nm,0.7s						
ARXS	**Arharly**	**7.34**	**32**	Pg	Pb	06 08 07.1	+5.5
ARXS				Lg	Lg	06 09 43.2	
SHLS	**Shalkode**	**7.35**	**44**	Pg	**Pg**	**06 08 12.6**	**-2.0**
	5.1nm,0.8s						
SHLS				Lg	Lg	06 09 52.5	
	11nm,1.6s						
PDGK	**Podgornoye**	**7.48**	**43**	Pg	Pb	06 08 09.9	+6.1
	3.1nm,0.9s						
PDGK				Lg	Lg	06 09 46.9	
	4.7nm,0.8s						
PDGK	**Podgornoye**	**7.48**	**43**	⇑Pn	**Pn**	**06 07 44.9**	**+1.7**
	5.1nm,1.1s						
PDGK				⇓Pg	Pg	06 08 11.3	-5.8
	7.5nm,0.9s						
PDGK				⇓Lg	Lg	06 09 52.6	
	14nm,0.9s						
BLB	**Baldybastay**	**7.53**	**35**	Pg	Pg	06 08 13.1	-5.1
BLB				Lg	Lg	06 09 53.4	
OTUK	**Ortayu**	**10.18**	**359**	⇑Pn	**Pn**	**06 08 21.3**	**+1.2**
	2.2nm,0.7s						
OTUK				⇑Lg	Lg	06 11 17.7	
	10nm,1.4s						
MKAR	**Makanchi Array**	**11.33**	**37**	Pn	**Pn**	**06 08 37.6**	**+1.7**
	0.1nm,0.3s,baz=220,slow=11,SNR=5.6						
KURBB	**Kurchatov Arra**	**13.27**	**17**	Pn	**Pn**	**06 09 01.9**	**-0.5**
	0.0nm,0.3s,baz=205,slow=12,SNR=6.6						
KURBB				Lg	Lg	06 12 54.5	
	0.0nm,0.3s,baz=199,slow=29,SNR=4.8						
KURBB	**Kurchatov Arra**	**13.27**	**17**	⇑Pn	**Pn**	**06 09 03.4**	**+1.0**
	3.0nm,0.9s						
AB31	**Akbulak array**	**14.39**	**325**	Pn	**Pn**	**06 09 17.8**	**+0.1**
	0.9nm,0.5s,baz=134,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**16.10**	**325**	Pn	**Pn**	**06 09 40.8**	**+0.5**
	0.3nm,0.3s,baz=120,slow=12,SNR=10.0						
AKTO				Sn	**Sn**	**06 12 34.1**	**-4.8**
	0.1nm,0.3s,baz=1.8,slow=23,SNR=1.7						
AKTO	**Aktyubinsk**	**16.10**	**325**	⇓Pn	**Pn**	**06 09 42.3**	**+1.9**
	9.8nm,1.3s						
ZALV	**Zalesovo Beam**	**18.00**	**24**	P	**Pn**	**06 10 03.0**	**-1.2**
	0.4nm,0.3s,baz=213,slow=11,SNR=8.6						
ARU	**Arti**	**20.59**	**338**	P	**P**	**06 10 33.1**	**+0.2**
	1.2nm,0.6s,baz=71,slow=12,SNR=4.0						
SONM	**Songino Array**	**26.48**	**57**	P	**P**	**06 11 30.5**	**-0.9**
	0.9nm,0.8s,baz=256,slow=12,SNR=6.0						
OBN	**Obninsk**	**29.57**	**317**	LR	LR	06 24 52.9	
	comp=Z,19nm,18.9s,baz=134,slow=38						
FINES	**FINESS Array B**	**36.88**	**325**	P	**P**	**06 13 02.6**	**+0.3**
	0.7nm,0.4s,baz=115,slow=9.4,SNR=10						
ARCES	**ARCESS Array B**	**40.17**	**337**	P	**P**	**06 13 30.0**	**+0.1**
	25nm,1.4s,baz=82,slow=14,SNR=5.0						
KLR	**Kul'dur**	**43.27**	**55**	P	**P**	**06 13 54.4**	**-1.1**
	0.6nm,0.4s,baz=287,slow=17,SNR=1.8						
NB2	**NORSAR Subarra**	**43.87**	**322**	P	**P**	**06 14 00.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.87**	**322**	P	**P**	**06 14 00.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.7,SNR=3.4						
ESDC	**Sonseca Array**	**57.79**	**298**	P	**P**	**06 15 45.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=63,slow=7.2,SNR=1.4						
TORD	**Torodi Ar. Bea**	**66.94**	**269**	P	**P**	**06 16 47.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=38,slow=3.6,SNR=2.0						
ILAR	**Eielson Array**	**72.95**	**17**	P	**P**	**06 17 22.1**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=321,slow=6.6,SNR=8.2						
YKA	**Yellowknife Ar**	**79.62**	**3**	P	**P**	**06 18 00.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=348,slow=5.5,SNR=14						
WRA	**Warramunga Arr**	**81.82**	**123**	P	P	06 18 10.8	-2.7
	comp=Z,0.5nm,0.9s,baz=326,slow=5.0,SNR=6.0						
ASAR	**Alice Springs**	**84.19**	**126**	P	**P**	**06 18 24.4**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=329,slow=4.9,SNR=2.3						

*TAP **05** 06:06:25.7, 24°.10N×122°.33E, h27km, ML2.8, D*
*JMA **05** 06:06:26.1±0.1, 24°.06N×122°.31E, h16km, M2.7*
ISC 05 06:06:25.8±0.9**, 24°.05N**±0°.02×**122°.30E**±0°.02**, h22**km±8km**, n78, σ0ˢ.86**/142**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.62**	**309**	P	**Pb**	**06 06 37.2**	**-0.9**
	baz=304						
EWUT				S	**Sb**	**06 06 46.4**	**0.0**
	baz=304						
ETL	**Fush Village**	**0.63**	**280**	P	**Pb**	**06 06 37.9**	**-0.4**
	baz=260						
ETL				S	**Sn**	**06 06 48.6**	**-0.3**
	baz=260						
ENA	**Nanau**	**0.64**	**306**	S	**Sb**	**06 06 46.3**	**-0.5**
	baz=309						
TWD	**Chiawan**	**0.65**	**273**	*i* P	**Pb**	**06 06 38.4**	**-0.1**
	baz=268						
TWD				S	**Sb**	**06 06 48.3**	**+1.2**
	baz=268						
NACB	**Ninganchiao**	**0.66**	**281**	P	**Pb**	**06 06 38.6**	**-0.1**
	baz=261						
NACB				S	**Sb**	**06 06 48.4**	**+0.9**
	baz=261						
TWC	**Suao**	**0.69**	**323**	*i* P	**Pb**	**06 06 38.5**	**-0.7**
	baz=319						
TWC				*i* S	**Sb**	**06 06 46.8**	**-1.6**
	baz=319						
JYNG	**Yonagunijimaku**	**0.71**	**56**	P	**Pb**	**06 06 39.4**	**-0.1**
JYNG				S	**Sb**	**06 06 49.0**	**+0.2**
ETM	**Tongmen**	**0.75**	**264**	P	**Pb**	**06 06 39.8**	**-0.3**
	baz=251						
ETM				S	**Sb**	**06 06 50.6**	**+0.6**
	baz=251						
YOJ	**Yonaguni jima**	**0.76**	**57**	P	**Pn**	**06 06 40.6**	**-0.7**
YOJ				*e*S	**Sb**	**06 06 50.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.76**	**57**	P	**Pb**	**06 06 40.4**	**-0.1**
	baz=59						
YOJ				S	**Sb**	**06 06 50.1**	**-0.2**
	baz=59						
ETLH	**Xiulin Townshi**	**0.77**	**282**	P	**Pb**	**06 06 40.2**	**-0.3**
	baz=278						
ETLH				S	**Sn**	**06 06 51.8**	**-0.6**
	baz=278						
NDS	**Dongshan**	**0.79**	**317**	P	**Pb**	**06 06 40.3**	**-0.6**
	baz=313						
NDS				S	**Sb**	**06 06 50.0**	**-1.2**
	baz=313						
ESL	**Shilin**	**0.83**	**254**	*i* P	**Pb**	**06 06 41.1**	**-0.5**
	baz=244						
ESL				*i* S	**Sb**	**06 06 53.1**	**+0.8**
	baz=244						
LATG	**Datong**	**0.86**	**304**	P	**Pb**	**06 06 41.9**	**-0.2**
	baz=300						
LATG				S	**Sb**	**06 06 53.6**	**+0.4**
	baz=300						
EGS		**0.86**	**337**	*e*P	**Pb**	**06 06 40.9**	**-1.2**
	baz=326						
EGS				*i* S	**Sb**	**06 06 52.8**	**-0.4**
	baz=326						
TWE	**Neicheng**	**0.89**	**319**	P	**Pn**	**06 06 42.7**	**-0.2**
	baz=316						
ENTT	**Nioudou**	**0.89**	**311**	*i* P	**Pb**	**06 06 42.2**	**-0.5**
	baz=307						
ENTT				S	**Sn**	**06 06 54.6**	**-0.8**
	baz=307						
NDT	**Datong Townshi**	**0.91**	**307**	*i* P	**Pb**	**06 06 42.7**	**-0.2**
	baz=313						
NDT				*i* S	**Sb**	**06 06 54.7**	**+0.1**
	baz=313						
NTC	**Toucheng**	**0.91**	**332**	*i* P	**Pn**	**06 06 43.0**	**-0.3**
	baz=328						
NTC				S	**Sb**	**06 06 54.5**	**-0.1**
	baz=328						
NNSB	**Datong**	**0.92**	**294**	P	**Pb**	**06 06 43.4**	**+0.2**
	baz=278						
NNS	**Nan Shan**	**0.93**	**295**	P	**Pn**	**06 06 44.5**	**+0.8**
	baz=291						
NNS				*i* S	**Sn**	**06 06 56.5**	**-0.1**
	baz=291						
WHF	**Hehuan Shan**	**0.95**	**276**	*i* P	**Pb**	**06 06 43.3**	**-0.7**
	baz=273						
WHF				S	**Sb**	**06 06 56.6**	**+0.3**
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.96**	**317**	P	**Pb**	**06 06 43.3**	**-0.5**
	baz=313						
FUSB				*e*S	**Sb**	**06 06 56.4**	**+0.2**
	baz=313						
HGSD	**Ruisui**	**0.98**	**236**	P	**Pb**	**06 06 43.5**	**-0.6**
	baz=235						
HGSD				S	**Sb**	**06 06 57.3**	**+0.7**
	baz=235						
FUSS	**Fushou**	**0.99**	**282**	*i* P	**Pb**	**06 06 44.5**	**+0.1**
	baz=278						
TWB1	**Santiao Chiao**	**1.00**	**343**	*e*P	**Pn**	**06 06 44.2**	**-0.2**
	baz=357						
TWB1				*i* S	**Sn**	**06 06 57.1**	**-0.7**
	baz=357						
TIPB	**Shuangxi**	**1.01**	**335**	*i* P	**Pn**	**06 06 45.0**	**+0.2**
	baz=331						
TIPB				*i* S	**Sb**	**06 06 57.4**	**-0.3**
	baz=331						
NWLT	**Wulai**	**1.03**	**315**	*i* P	**Pn**	**06 06 45.2**	**+0.2**
	baz=311						
NWLT				*i* S	**Sn**	**06 06 58.6**	**-0.1**
	baz=311						
CHGB	**Renai**	**1.03**	**271**	P	**Pb**	**06 06 44.7**	**-0.4**
	baz=257						
YHNB	**Yeheng**	**1.05**	**306**	P	**Pb**	**06 06 45.0**	**-0.3**
	baz=291						
YHNB				S	**Sn**	**06 06 60.0**	**+0.7**
	baz=291						
EHY	**Hungye**	**1.05**	**239**	*i* P	**Pn**	**06 06 44.8**	**-0.5**
	baz=238						
EHY				S	**Sb**	**06 06 58.9**	**+0.3**
	baz=238						
NSK	**Sanguang**	**1.06**	**306**	*i* P	**Pn**	**06 06 45.5**	**0.0**
	baz=291						
NSK				S	**Sb**	**06 06 59.0**	**-0.1**
	baz=291						
TDCB	**Techi**	**1.07**	**281**	P	**Pn**	**06 06 45.7**	**+0.2**
	baz=266						
WUSB	**Renai**	**1.09**	**267**	P	**Pn**	**06 06 45.7**	**-0.2**
	baz=265						
WUSB				S	**Sb**	**06 06 59.6**	**-0.2**
	baz=265						
VWDT	**VWDT**	**1.10**	**255**	P	**Pn**	**06 06 45.9**	**-0.1**
	baz=242						
VWDT				S	**Sn**	**06 07 01.0**	**+0.5**
	baz=242						
SXI1	**Grass Mountain**	**1.11**	**339**	P	**Pn**	**06 06 45.8**	**-0.3**
	baz=336						
SXI1				*e*S	**Sn**	**06 07 01.1**	**+0.3**
	baz=336						
NWF	**Wu-fen Shan**	**1.12**	**335**	*i* P	**Pn**	**06 06 45.7**	**-0.6**
	baz=331						
NWF				S	**Sn**	**06 07 01.2**	**+0.1**
	baz=331						
YULB	**Yu-li**	**1.13**	**235**	P	**Pn**	**06 06 45.4**	**-1.0**
	baz=249						
YULB				S	**Sb**	**06 07 00.7**	**-0.3**
	baz=249						
EYUL	**Yuli**	**1.14**	**232**	*i* P	**Pn**	**06 06 46.0**	**-0.5**
	baz=220						
EYUL				*i* S	**Sb**	**06 07 01.6**	**+0.3**
	baz=220						
NFF	**Wufeng Townshi**	**1.23**	**298**	P	**Pb**	**06 06 48.7**	**+0.3**
	baz=295						
NFF				*e*S	**Sb**	**06 07 03.8**	**0.0**
	baz=295						
FULB	**Fuli**	**1.26**	**228**	*i* P	**Pn**	**06 06 47.3**	**-0.8**
	baz=215						
FULB				*i* S	**Sn**	**06 07 03.5**	**-0.8**
	baz=215						
WHP	**Taichung City**	**1.26**	**281**	P	**Pb**	**06 06 49.9**	**+0.9**
	baz=268						
SSLB	**Suanglung**	**1.26**	**258**	P	**Pn**	**06 06 48.3**	**+0.1**
	baz=246						
WCS	**Beigang Elemen**	**1.27**	**271**	P	**Pn**	**06 06 47.4**	**-0.9**
	baz=261						
WCS				*e*S	**Sn**	**06 07 05.0**	**+0.3**
	baz=261						
YM01	**YM01**	**1.28**	**329**	P	**Pb**	**06 06 49.5**	**+0.2**
	baz=340						
CHKT	**Chengkung**	**1.28**	**222**	*i* P	**Pn**	**06 06 47.0**	**-1.3**
	baz=212						
CHKT				*i* S	**Sn**	**06 07 02.7**	**-2.1**
	baz=212						
SMLT	**Sun Moon Lake**	**1.30**	**263**	*i* P	**Pn**	**06 06 49.0**	**+0.3**
	baz=261						
LIOB	**Emei**	**1.32**	**297**	*i* P	**Pn**	**06 06 49.3**	**+0.4**
	baz=294						
NSTT	**Nanjuang**	**1.32**	**296**	*e*P	**Pb**	**06 06 50.5**	**+0.5**
	baz=293						
IRIF	**Iriomote-Funau**	**1.33**	**77**	P	**Pb**	**06 06 49.8**	**-0.3**
IRIF				S	**Sb**	**06 07 07.4**	**+0.7**
TYC	**Yuchr**	**1.33**	**264**	*i* P	**Pn**	**06 06 49.1**	**0.0**
	baz=262						
TYC				*e*S	**Sn**	**06 07 05.8**	**-0.3**
	baz=262						
YUS	**Yu-Shan**	**1.36**	**246**	*i* P	**Pn**	**06 06 50.2**	**+0.3**
	baz=245						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YUS				eS	Sn	06 07 07.4	-0.1
	baz=245						
HATJ	Hateruma jima	1.37	89	P	Pb	06 06 51.6	+0.8
HATJ				eS	Sb	06 07 10.6	+2.7
EDH	Donghe	1.41	221	iP	Pn	06 06 48.6	-1.6
	baz=212						
EDH				iS	Sn	06 07 06.2	-2.0
	baz=212						
ELDTW	Lidau	1.46	234	iP	Pn	06 06 50.4	-0.6
	baz=223						
ELDTW				iS	Sn	06 07 08.0	-1.5
	baz=223						
ALS	Alishan	1.48	249	iP	Pn	06 06 51.6	+0.3
	baz=248						
ALS				iS	Sn	06 07 10.6	+0.5
	baz=248						
WNT	Mingjian	1.49	264	eS	Sb	06 07 12.1	+0.7
	baz=262						
CHN5	Tsauling	1.56	253	iP	Pn	06 06 53.2	+0.9
	baz=243						
CHN5				eS	Sb	06 07 13.8	+0.4
	baz=243						
JKRS	Kuro-shima	1.57	83	P	Pb	06 06 54.2	+0.1
JKRS				eS	Sb	06 07 14.7	+1.2
LONT	Longtian	1.57	224	P	Pn	06 06 51.8	-0.6
	baz=237						
LONT				S	Sn	06 07 10.8	-1.3
	baz=237						
LDUT	Ludao	1.57	209	iP	Pn	06 06 51.6	-0.8
	baz=211						
LDUT				iS	Sn	06 07 09.8	-2.2
	baz=211						
STYH	Taoyuan	1.65	238	P	Pn	06 06 53.7	+0.2
	baz=229						
STYH				S	Sn	06 07 15.0	+0.9
	baz=229						
WDLH	Douliu	1.66	258	eS	Sb	06 07 17.1	+1.0
	baz=257						
TWGBT	Beinan	1.67	223	P	Pn	06 06 52.9	-0.8
	baz=235						
TWGBT				S	Sn	06 07 13.1	-1.3
	baz=235						
TWG	Pinlang	1.67	223	P	Pn	06 06 52.2	-1.5
	baz=234						
TWG				S	Sn	06 07 13.1	-1.4
	baz=234						
JIJ	Ishigaki jima	1.71	79	P	Pb	06 06 55.2	-1.3
JIJ				S	Sb	06 07 16.5	-1.0
TPUB	Ta-pu	1.71	244	P	Pn	06 06 55.6	+1.3
	baz=244						
TPUB				eS	Sn	06 07 16.9	+1.4
	baz=244						
WTP	Ta-pu	1.75	243	iP	Pn	06 06 56.2	+1.4
	baz=243						
WTP				iS	Sb	06 07 19.4	+0.7
	baz=243						
WRL	Guolierlin Hig	1.77	266	eP	Pb	06 06 57.0	-0.6
	baz=265						
WRL				eS	Sb	06 07 20.1	+0.7
	baz=265						
CHN1	Nanshi	1.84	242	iP	Pn	06 06 57.2	+1.1
	baz=243						
CHN1				iS	Sb	06 07 22.1	+0.6
	baz=243						
SLGT	Liugui	1.85	236	iP	Pb	06 06 58.2	-0.7
	baz=227						
SLGT				iS	Sn	06 07 21.0	+2.0
	baz=227						
JISG	Ishigakijimahi	1.91	73	P	Pn	06 06 57.8	+0.8
JISG				S	Sn	06 07 20.7	+0.4
SSD	Sandimen	2.01	230	P	Pn	06 06 59.6	+1.2
	baz=225						
SSD				S	Sb	06 07 25.6	-0.7
	baz=225						
TSMG	Majia	2.03	229	iP	Pn	06 07 00.1	+1.4
	baz=224						
TSMG				S	Sn	06 07 25.7	+2.4
	baz=224						
MASBT	Mashibuluo	2.10	227	P	Pn	06 07 00.1	+0.4
	baz=223						
MASBT				S	Sn	06 07 25.9	+0.7
	baz=223						
EAST	Anshuo	2.13	219	P	Pn	06 06 59.3	-0.9
	baz=220						
EAST				eS	Sn	06 07 24.7	-1.3
	baz=220						
SLIU	Shizi	2.29	217	P	Pn	06 07 04.2	+1.9
	baz=219						
SLIU				eS	Sn	06 07 29.9	0.0
	baz=219						
PHUB	P'eng-hu	2.56	258	eP	Pn	06 07 06.9	+0.9
	baz=258						
PHUB				eS	Sn	06 07 37.8	+1.4
	baz=258						

IDC 05 06:14:59.5±2.0, 5°.98S×126°.69E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/28, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=141.3km s-min=29.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.74	153	Pn	Pn	06 18 41.6	-1.2
	0.2nm,0.3s,baz=331,slow=10,SNR=14						
WRA				Sn	Sn	06 21 40.5	+2.5
	0.0nm,0.3s,baz=302,slow=24,SNR=1.4						
ASAR	Alice Springs	18.90	159	P	Pn	06 19 22.1	-0.2
	0.2nm,0.3s,baz=328,slow=11,SNR=4.3						
MKAR	Makanchi Array	65.61	328	P	P	06 25 45.4	0.0
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.1						

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*IDC **05** 06:36:36.2±2.7, 30°.94S×71°.82W, h0km, mb3.7/1, mb1 3.8/5, mb1mx3.6/32, mbtmp3.7/5, ML3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/56, Error ellipse: s-maj=79.7km s-min=33.3km az=96.0*
*GUC **05** 06:36:40.0±0.6, 30°.84S×71°.71W, h34km±1km, ML3.9*
ISC 05 06:36:38.3±1.4, **30°.87S**±0°.03×**71°.80W**±0°.07, **h12**km±9km, **n35**, σ1ˢ**34**/46, **1C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.24	37⇓	iP	Pb	06 36 45.8	+1.3
CO06				iS	Sg	06 36 49.9	+3.2
CO06				IAML		06 36 50.7	
	comp=E,28μm,0.2s						
CO02	Combarbal	0.77	116⇓	iP	Pb	06 36 53.5	-0.1
CO02				iS	Sb	06 37 03.0	-1.0
CO02				IAML		06 37 04.5	
	comp=N,11μm,0.3s						
CO03	El Pedregal	0.95	89⇓	iP	Pg	06 36 56.0	-0.7
CO03				iS	Sb	06 37 08.2	-1.2
CO03				IAML		06 37 09.9	
	comp=E,3μm,0.4s						
CO05	La Serena	1.06	27⇓	iP	Pb	06 36 57.8	-0.8
CO05				iS	Sg	06 37 11.3	-1.3
CO05				IAML		06 37 15.4	
	comp=E,2μm,0.3s						
GO04	Tololo Observa	1.10	52⇓	iP	Pg	06 36 58.6	-1.0
GO04				iS	Sg	06 37 12.7	-1.4
GO04				IAML		06 37 16.8	
	comp=N,21μm,0.5s						
VA06	Catapilco	1.74	166	eP	Pn	06 37 08.5	+0.1
VA06				iS	Sn	06 37 30.1	-0.3
VA06				IAML		06 37 37.9	
	comp=E,3μm,0.4s						
LCO	Las Campanas	2.08	28⇑	iP	Pn	06 37 12.7	-0.6
LCO				iS	Sn	06 37 39.3	+0.2
VA01	Torpederas	2.15	177	IAML		06 37 49.6	
	comp=E,701nm,0.4s						
VA03	San Esteban	2.17	151	eP	Pn	06 37 15.6	+1.3
VA03				iS	Sn	06 37 42.8	+1.6
VA03				IAML		06 37 49.9	
	comp=E,2μm,0.3s						
ROCH	El Roble	2.21	162	eP	Pb	06 37 15.4	-2.8
ROCH				eP	Pn	06 37 13.7	-1.2
ROCH				IAML		06 37 49.5	
	comp=E,1μm,0.5s						
ROCH				IAML		06 37 53.5	
	comp=N,1μm,0.5s						
MT02	Curacav	2.45	167	eP	Pn	06 37 18.6	+0.5
MT02				iS	Sn	06 37 50.5	+2.5
MT02				IAML		06 38 00.2	
	comp=E,301nm,0.3s						
PEL	Peldehue	2.46	158	iP	Pn	06 37 19.3	+1.0
PEL				iS	Sn	06 37 50.9	+2.6
PEL				IAML		06 37 54.7	
	comp=N,870nm,0.6s						
MT05	Renca	2.67	161	IAML		06 38 01.6	
	comp=E,1μm,0.4s						
AC04	Llanos de Chal	2.73	14	eP	Pn	06 37 20.8	-1.0
AC04				IAML		06 38 07.7	
	comp=E,299nm,0.5s						
MT03	Universidad Ad	2.84	158	eP	Pn	06 37 25.0	+1.4
MT03				iS	Sn	06 37 59.2	+1.5
MT03				IAML		06 38 12.9	
	comp=N,926nm,0.4s						
MT09	Talagante	2.98	167	eP	Pn	06 37 26.6	+1.1
MT09				iS	Sn	06 38 03.1	+1.8
MT09				IAML		06 38 13.1	
	comp=E,449nm,0.5s						
MT01	Popeta	3.03	171	eP	Pn	06 37 27.1	+1.1
MT01				iS	Sn	06 38 03.9	+1.8
MT01				IAML		06 38 14.9	
LMEL	Las Melosas	3.27	156	eP	Pn	06 37 31.3	+1.8
LMEL				iS	Sn	06 38 09.2	+0.9
LMEL				IAML		06 38 25.7	
	comp=N,367nm,0.6s						
BO04	La Punta	3.27	162	eP	Pn	06 37 30.5	+1.1
BO04				iS	Sn	06 38 09.4	+1.0
BO04				IAML		06 38 25.1	
	comp=E,388nm,0.5s						
BO01	Tunca	3.57	170	eP	Pn	06 37 34.1	+0.6
BO01				IAML		06 38 31.3	
	comp=N,98nm,0.3s						
AC06	Mina Casimiro	3.72	20	eP	Pn	06 37 35.1	-0.4
AC06				iS	Sn	06 38 18.8	-0.5
BO02	Sierra Bellavi	4.01	168	eP	Pn	06 37 40.7	+1.1
H03N1	Juan Fernandez	6.55	245	Pn	Pn	06 38 14.1	-0.1
	baz=22,slow=28,SNR=26						
H03N1				T	T	06 45 07.0	
	baz=72,slow=72,SNR=1713						
H03N3	Juan Fernandez	6.57	245	Pn	Pn	06 38 14.4	-0.1
	baz=22,slow=28,SNR=22						
H03N3				T	T	06 45 06.1	
	baz=72,slow=72,SNR=1717						
H03N2	Juan Fernandez	6.57	245	Pn	Pn	06 38 14.7	+0.3
	baz=22,slow=28,SNR=30						
H03N2				T	T	06 45 07.4	
	baz=72,slow=72,SNR=1461						
LVC	Limon Verde	8.62	18	Pn	Pn	06 38 45.0	+1.8
	comp=N,0.4nm,0.3s,baz=151,slow=10,SNR=1.6						
PLCA	Paso Flores	9.90	174	Pn	Pn	06 38 59.8	-0.6
	comp=N,0.1nm,0.3s,baz=346,slow=14,SNR=1.7						
CPUP	Villa Florida	13.49	74	Pn	Pn	06 39 49.7	+0.2
	comp=N,0.2nm,0.3s,baz=125,slow=10,SNR=1.5						
LPAZ	La Paz	14.89	14	Pn	Pn	06 40 09.6	+0.3
	comp=N,0.1nm,0.3s,baz=184,slow=7.1,SNR=4.4						
SIV	San Ignacio	17.76	36	LR	LR	06 48 50.0	
	comp=N,88nm,19.0s,baz=201,slow=41						
TORD	Torodi Ar. Bea	82.96	70	P	P	06 49 03.1	-0.4
	comp=N,0.2nm,0.4s,baz=289,slow=5.3,SNR=2.8						
H11S2	WAKE ISLAND Hy	125.96	271	T	T	09 14 30.0	
	baz=115,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	125.97	271	T	T	09 14 24.4	
	baz=115,slow=75,SNR=19						
H11S3	WAKE ISLAND Hy	125.98	271	T	T	09 14 27.4	
	baz=115,slow=75,SNR=12						
ZALV	Zalesovo Beam	151.44	29	PKPab	PKPab	06 56 39.4	-0.5
	comp=N,0.6nm,0.5s,baz=308,slow=5.4,SNR=2.8						

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*IDC **05** 06:38:35.6±3.0, 47°.64N×151°.46E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/48, mbtmp3.5/6, ML2.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/86, Error ellipse: s-maj=81.5km s-min=32.3km az=174.0*
ISC 05 06:38:37.8±2.4, **47°.8N**±0°.4×**151°.5E**±0°.2, **h10**km, **n10**, σ1ˢ**22**/6, **mb3.5**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.67	34	Pn	Pn	06 40 15.5	-0.4
	0.2nm,0.3s,baz=196,slow=9.8,SNR=1.2						
SHEM	Shemya Is, Ala	15.29	63	LR	LR	06 47 53.1	
	comp=Z,53nm,21.5s,baz=35,slow=36						
H11S1	WAKE ISLAND Hy	31.73	152	T	T	07 17 34.7	
	baz=334						
H11S3	WAKE ISLAND Hy	31.73	152	T	T	07 17 33.3	
	baz=334						
H11S2	WAKE ISLAND Hy	31.75	152	T	T	07 17 29.6	
	baz=334						
MKAR	Makanchi Array	45.47	296	P	P	06 46 57.5	+0.6
	0.1nm,0.5s,baz=79,slow=7.5,SNR=3.5						
YKA	Yellowknife Ar	50.79	37	P	P	06 47 39.3	+1.6
	0.3nm,0.8s,baz=295,slow=7.4,SNR=2.9						
FINES	FINESS Array B	62.63	334	P	P	06 49 01.7	-0.2
	1.3nm,1.0s,baz=58,slow=8.4,SNR=3.8						
AKASG	Malin Array Be	70.07	325	P	P	06 49 48.8	-0.9
	0.6nm,0.5s,baz=35,slow=6.1,SNR=3.2						
TXAR	Lajitas Array	77.97	60	P	P	06 50 35.6	-0.8
	0.3nm,0.6s,baz=308,slow=4.4,SNR=4.2						

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*IDC **05** 06:38:34.2±1.1, 16°.98N×147°.37E, h0km, mb3.4/7, mb1 3.7/7, mb1mx3.4/50, mbtmp3.4/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/45, Error ellipse: s-maj=45.0km s-min=24.5km az=97.0*
ISC 05 06:38:40.3±1.0, **17°.0N**±0°.2×**147°.3E**±0°.3, **h41**km, **n8**, σ1ˢ**12**/7, **mb3.4**/7, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.83	200	P	P	06 46 00.1	-1.4
	0.4nm,0.6s,baz=22,slow=9.1,SNR=7.3						
ASAR	Alice Springs	42.45	198	P	P	06 46 32.7	+1.3
	0.2nm,0.7s,baz=14,slow=12,SNR=2.2						
MA2	Magadan	42.62	3	LR	LR	07 04 10.1	
	comp=Z,17nm,20.1s,baz=54,slow=36						
SONM	Songino Array	45.45	322	P	P	06 46 55.2	-0.2
	0.1nm,0.4s,baz=123,slow=7.4,SNR=1.9						
MKAR	Makanchi Array	60.76	314	P	P	06 48 48.6	+0.5
	0.2nm,0.5s,baz=94,slow=9.5,SNR=2.5						
YKA	Yellowknife Ar	78.80	28	P	P	06 50 37.7	-0.8
	0.1nm,0.4s,baz=283,slow=5.7,SNR=2.1						
NVAR	Mina Array Bea	82.99	52	P	P	06 51 02.4	+0.7
	0.2nm,0.5s,baz=286,slow=6.5,SNR=1.8						
FINES	FINESS Array B	89.09	336	P	P	06 51 30.9	-0.1
	1.9nm,0.9s,baz=60,slow=8.3,SNR=4.2						

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*IDC **05** 06:50:34.7±1.4, 0°.18N×17°.50W, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/39, mbtmp4.0/10, ML4.1/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/86, Error ellipse: s-maj=55.2km s-min=22.9km az=152.0*
ISC 05 06:50:36.2±1.1, **0°.1N**±0°.3×**17°.5W**±0°.2, **h12**km, **n21**, σ1ˢ**26**/16, **mb3.8**/7, **North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	8.46	159	T	T	07 01 43.2	
	baz=339,slow=74,SNR=83						
H10N3	ASCENSION HYDR	8.46	160	T	T	07 01 32.1	
	baz=339,slow=74,SNR=90						
H10N1	ASCENSION HYDR	8.47	159	T	T	07 01 30.8	
	baz=339,slow=74,SNR=202						
H10S3	ASCENSION HYDR	9.46	163	T	T	07 02 54.9	
	baz=342,slow=74,SNR=45						
H10S2	ASCENSION HYDR	9.47	163	T	T	07 02 59.5	
	baz=238,slow=74,SNR=13						
LIC	Lamto	13.81	64	ePKP1	Pn	06 53 54.8	+2.8
	19nm,0.8s						
TIC	Toumodi	14.00	62	ePKP1	Pn	06 53 55.0	+0.3
KIC	Kosan Boka	14.13	64	ePKP1	Pn	06 53 55.7	-0.7
	5.6nm,0.4s						
DBIC	Dimbokro	14.16	62	Pn	Pn	06 53 55.6	-1.1
	1.1nm,0.3s,baz=262,slow=14,SNR=13						
DBIC				Sn	Sn	06 56 21.2	-13
	0.6nm,0.3s,baz=160,slow=22,SNR=2.0						
DBIC				LR	LR	06 58 21.9	
	comp=Z,122nm,18.7s,baz=232,slow=33						
RCBR	Riachuelo	19.33	252	P	P	06 55 01.4	-0.3
	0.3nm,0.3s,baz=348,slow=3.7,SNR=1.9						
KOWA	Kowa	19.51	42	P	Pn	06 55 04.2	-0.7
	0.9nm,0.3s,baz=218,slow=8.5,SNR=33						
KOWA				LR	LR	07 02 13.4	
	comp=Z,100nm,18.7s,baz=200,slow=36						
TORD	Torodi Ar. Bea	22.98	55	P	P	06 55 40.4	-0.5
	5.6nm,0.8s,baz=242,slow=8.8,SNR=26						
TORD				S	S	06 59 49.0	-2.4
	0.6nm,0.6s,baz=236,slow=23,SNR=2.5						
KMBO	Kilima Mbogo	54.73	91	LR	LR	07 22 30.5	
	comp=Z,31nm,18.0s,baz=90,slow=35						
GERES	GERESS Array B	55.46	25	P	P	07 00 11.9	+1.0
	0.4nm,0.6s,baz=178,slow=4.7,SNR=3.7						
BRTR	Keskin Array B	60.94	43	P	P	07 00 50.6	+1.1
	0.8nm,0.7s,baz=246,slow=7.1,SNR=3.7						
AKASG	Malin Array Be	64.02	31	P	P	07 01 10.1	+0.4
	0.2nm,0.4s,baz=232,slow=5.9,SNR=2.1						
FINES	FINESS Array B	69.49	21	P	P	07 01 43.9	-0.4
	3.4nm,1.1s,baz=22,slow=2.1,SNR=4.3						
TXAR	Lajitas Array	86.61	299	P	P	07 03 20.4	+0.1
	0.5nm,0.8s,baz=118,slow=7.3,SNR=5.5						
YKA	Yellowknife Ar	93.18	333	P	P	07 03 50.0	-0.2
	0.3nm,0.9s,baz=83,slow=5.0,SNR=2.5						
ASAR	Alice Springs	143.69	132	PKP	PKiKP	07 10 14.2	-1.4
	0.3nm,0.7s,baz=236,slow=2.4,SNR=1.5						
WRA	Warramunga Arr	146.10	127	PKPbc	PKPdf	07 10 16.8	+0.3
	0.2nm,0.7s,baz=238,slow=3.1,SNR=1.6						

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*IDC **05** 06:54:33.7±4.3, 23°.87N×95°.73E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/34, mbtmp3.4/3, Error ellipse: s-maj=416.3km s-min=27.9km az=59.0*
ISC 05 06:54:35.0±1.3, **23°.6N**±0°.3×**95°.4E**±0°.3, **h10**km, **n11**, σ1ˢ**08**/11, **mb3.4**/3, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	7.88	300	eP	Pn	06 56 31.8	+1.8
	7.7nm,0.3s						
ODAN	Odare	7.94	296	eP	Pn	06 56 31.1	+0.3
	6.5nm,0.3s						
RAMN	Ramite	8.63	295	eP	Pn	06 56 40.8	+0.6
	6.0nm,0.3s						
JIRN	Jiri	9.24	298	eP	Pn	06 56 50.1	+1.4
	11nm,0.2s						
GUN	Gumba	9.59	299	eP	Pn	06 56 54.2	+0.7
	7.6nm,0.3s						
PKI	Pulchoki	9.84	296	eP	Pn	06 56 56.6	-0.3
	5.4nm,0.5s						
GKN	Gorkha	10.64	297	eP	Pn	06 57 07.1	-0.6
	6.5nm,0.2s						
KOLN	Koldanda	11.42	294	eP	Pn	06 57 17.2	-1.2
	2.1nm,0.2s						
MKAR	Makanchi Array	25.43	339	P	P	07 00 01.8	-1.1
	0.3nm,0.5s,baz=142,slow=11,SNR=6.0						
WRA	Warramunga Arr	57.57	136	P	P	07 04 25.4	+0.2
	0.3nm,0.8s,baz=324,slow=7.6,SNR=5.6						
ASAR	Alice Springs	60.05	139	P	P	07 04 42.6	+0.2
	0.6nm,1.1s,baz=315,slow=6.8,SNR=5.8						

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*IDC **05** 07:15:48.1±0.8, 19°.17S×67°.24W, h225km±8km, mb3.1/4, mb1 3.4/10, mb1mx3.3/32, mbtmp3.9/10, Error ellipse: s-maj=17.0km s-min=9.4km az=93.0*
*VAO **05** 07:15:49.7±0.7, 19°.09S×67°.28W, h227km, mb3.8*
*SCB **05** 07:15:51.9±1.9, 19°.25S×67°.38W, h186km±31km, ML3.3/12, MW3.4, Error ellipse: s-maj=9.0km s-min=5.0km az=1.0*
ISC 05 07:15:48.4±0.6, **19°.17S**±0°.05×**67°.33W**±0°.06, **h220**km, **n51**, σ1ˢ**39**/54, **mb3.5**/4, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	1.98	240	P	Pn	07 16 30.6	+2.0
PB08				IAML		07 17 06.4	
	50nm,0.3s						
PB11	IPOC Station P	2.27	255	P	Pn	07 16 32.9	+1.5
PB11				IAML		07 17 10.3	
	146nm,0.3s						
BBOE	La Paz, Chanca	2.42	345	P	Pn	07 16 36.4	+3.0
BBOE				IAML		07 17 11.6	
	63nm,0.6s						
MOCB	Mochara	2.61	143	P	Pn	07 16 37.9	+2.6
MOCB				S	S	07 17 10.1	-1.7
MOCB				IAML		07 17 15.2	
	75nm,0.9s						
PB01	IPOC Station P	2.76	227	P	Pn	07 16 37.8	+1.3
PB01				IAML		07 17 16.9	
	61nm,0.2s						
BBOD	La Paz, Gloria	2.79	334	P	Pn	07 16 39.8	+2.4
BBOD				IAML		07 17 20.4	
	34nm,0.8s						
LPAZ	La Paz	2.96	345	P	Pn	07 16 41.2	+1.9
	15nm,0.3s,baz=144,slow=6.7,SNR=498						
LPAZ				S	S	07 17 19.9	+0.9
	1.1nm,0.3s,baz=353,slow=18,SNR=7.2						
LPAZ	La Paz	2.96	345	eP	Pn	07 16 41.0	+1.6
LPAZ	La Paz	2.96	345	P	Pn	07 16 41.3	+1.9
LPAZ				IAML		07 17 21.5	
	18nm,0.8s						
PB09	IPOC Station P	3.17	214	IAML		07 17 29.1	
	43nm,0.4s						
PB02	IPOC Station P	3.23	228	P	Pn	07 16 43.6	+1.8
PB02				IAML		07 17 27.7	
	235nm,0.3s						
PB07	IPOC Station P	3.50	223	P	Pn	07 16 46.8	+1.7
PB07				S	S	07 17 26.4	-3.1
PB07				IAML		07 17 42.1	
	55nm,0.5s						
LVC	Limon Verde	3.73	203	P	Pn	07 16 49.9	+1.9
	1.0nm,0.3s,baz=35,slow=8.7,SNR=16						
LVC				S	S	07 17 35.2	+0.4
	2.2nm,0.3s,baz=207,slow=20,SNR=11						
LVC	Limon Verde	3.73	203	P	Pn	07 16 49.8	+1.7
PB06	IPOC Station P	4.10	210	P	Pn	07 16 53.8	+1.5
PB06				IAML		07 17 45.1	
	70nm,0.8s						
PB04	IPOC Station P	4.11	219	P	Pn	07 16 53.8	+1.3
PB04				IAML		07 17 44.9	
	76nm,0.4s						
PB15	IPOC Station P	4.49	206	P	Pn	07 16 58.6	+1.4
SIV	San Ignacio	6.75	63	P	Pn	07 17 24.7	-1.0
	5.4nm,0.3s,baz=254,slow=10,SNR=40						
PTLB	Pontes e Lacer	8.65	66	eP	Pn	07 17 50.0	-0.1
VILB	Vilhena	9.22	49	eP	Pn	07 17 57.4	-0.1
ETMB	Extrema	9.36	7	eP	Pn	07 17 58.8	-0.4
AQDB	Aquidauana	11.02	99	eP	Pn	07 18 21.1	+0.6
SALV	Santo Antonio	11.56	76	eP	Pn	07 18 29.0	+1.7
NNA	Nana	11.61	307	P	Pn	07 18 28.4	+0.4
	3.5nm,0.3s,baz=136,slow=12,SNR=7.4						
CPUP	Villa Florida	11.66	130	P	Pn	07 18 27.1	-1.3
	0.1nm,0.3s,baz=308,slow=12,SNR=2.0						
CPUP	Villa Florida	11.66	130	eP	Pn	07 18 30.3	+1.9
PP1B	Ponte de Pedra	11.92	84	eP	Pn	07 18 32.4	+0.5
PTGB	Pitanga	15.20	114	eP	P	07 19 13.7	+1.3
ITRB	Iturama	16.02	95	eP	Pn	07 19 22.1	0.0
ITAB	Concordia	16.11	123	eP	Pn	07 19 23.7	+0.6
NPGB	Novo Progresso	16.75	46	eP	P	07 19 30.0	+0.5
CPSB	Cacapava Do Su	16.84	134	eP	P	07 19 31.0	+0.7
SNDB	Serra Nova Dou	17.01	67	eP	P	07 19 31.9	-0.5
FRTB	Fartura	17.07	107	eP	P	07 19 33.4	+0.5
PLTB	Pedras Altas	17.61	138	eP	P	07 19 38.2	-0.5
BB19B	Bebedouro	17.76	99	eP	P	07 19 40.9	+0.5
IPMB	Ipameri, GO	18.16	89	eP	P	07 19 45.8	+0.9
ITTB	Itaituba	18.56	39	eP	P	07 19 48.5	-0.6
BDFB	Brasilia	18.76	82	P	P	07 19 50.5	-0.9
	0.3nm,0.3s,baz=254,slow=5.2,SNR=3.7						
PET01	Itanhaem-SP	19.31	109	eP	P	07 19 59.1	+2.0
VAO	Valinhos	19.38	105	eP	P	07 19 57.4	-0.6
PEXB	Peixe	19.61	72	eP	P	07 20 00.2	-0.3
PLCA	Paso Flores	21.67	187	P	P	07 20 21.9	+0.1
	1.3nm,1.0s,baz=353,slow=10,SNR=3.2						
SMTB	Santa Maria do	21.69	65	eP	P	07 20 22.2	0.0
JANB	Januaria	22.37	83	eP	P	07 20 27.6	-1.0
DIAM	Diamantina, MG	22.42	92	eP	P	07 20 28.4	-0.8
SDBA	SAO DESIDERIO	22.59	76	eP	P	07 20 29.8	-0.8
TXAR	Lajitas Array	59.61	323	P	P	07 25 28.9	-0.6
	0.1nm,0.6s,baz=144,slow=7.8,SNR=2.6						
TORD	Torodi Ar. Bea	75.17	70	P	P	07 27 05.1	-2.1
	1.3nm,0.6s,baz=252,slow=5.4,SNR=10						
YKA	Yellowknife Ar	89.50	340	P	P	07 28 19.6	-0.6
	0.5nm,0.6s,baz=131,slow=4.5,SNR=11						
SONM	Songino Array	150.95	9	PKPbc	PKPbc	07 35 14.5	-0.7
	0.3nm,0.7s,baz=355,slow=0.6,SNR=2.9						

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*CNRM **05** 07:40:03.3, 35°.46N×3°.65W, h13km, ml2.9*
*MDD **05** 07:40:04.6±0.4, 35°.48N×3°.81W, h0km, mb_Lg2.4/7, Error ellipse: s-maj=3.7km s-min=2.9km az=9.0*
*SFS **05** 07:40:04.0, 35°.48N×3°.80W, ML2.4, ALBORAN SUR*
ISC 05 07:40:03.8±1.1, **35°.46N**±0°.02×**3°.72W**±0°.03, **h17**km±8km, **n29**, σ1ˢ**48**/46, **Strait of Gibraltar**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.30	217	P	Pg	07 40 10.4	+0.2
PALE				S	Sg	07 40 14.8	+0.2
EMEL	Melilla	0.64	104	Pg	Pn	07 40 18.3	+0.2
EMEL				Sg	Sn	07 40 26.9	-1.0
EALB	Alboran	0.74	49	Pg	Pn	07 40 19.0	-0.5
EALB				Sg	Sn	07 40 29.5	-0.9
EALB				*i* Vmb_Lg		07 40 31.9	
TAF	Taforalt	1.25	120	P	Pg	07 40 27.2	-0.7
TAF				S	Sn	07 40 42.5	-0.5
CHEFC	Chefchaouen	1.37	256	P	Pn	07 40 28.1	-0.1
CHEFC				S	Sb	07 40 48.2	+1.9
EMIJ	Mijas	1.40	323	Pg	Pn	07 40 28.6	0.0
EMIJ				Sg	Sn	07 40 46.1	-0.6
EMIJ				*i* Vmb_Lg		07 40 50.2	
ELGU	Los Guajares,	1.41	3	Pg	Pb	07 40 29.2	-0.6
ELGU				Sg	Sn	07 40 46.1	-1.0
CEU	Ceuta	1.42	289	P	Pn	07 40 25.3	-3.5
CEU				S	Sn	07 40 42.9	-4.2
EMAL	Malaga-Limoner	1.43	336	P	Pn	07 40 28.9	0.0
EMAL				S	Sn	07 40 47.4	+0.1
JBK	JBK	1.47	139	P	Pn	07 40 29.0	-0.7
JBK				S	Sn	07 40 47.1	-1.5
EGOR	Sierra Gorda,	1.68	349	Pg	Pb	07 40 34.0	-0.5
EGOR				*i* Vmb_Lg		07 41 01.1	
EQUE	Quentar	1.76	7	Pn	Pg	07 40 36.2	-1.5
EQUE				Sg	Sb	07 40 58.1	+0.5
RSA	Sarsar	1.81	252	P	Pn	07 40 34.1	-0.2
SICH	Sidi Chahed	1.88	225	P	Pb	07 40 37.6	-0.2
SICH				S	Sb	07 41 02.2	+1.2
ENIJ	Nijar	1.95	39	Pn	Pb	07 40 37.5	-1.4
ENIJ				*i* Vmb_Lg		07 40 42.8	
LCRM	LCR	2.00	208	P	Pn	07 40 38.5	+1.5
IFR	Ifrane	2.25	211	P	Pn	07 40 41.5	+0.9
IFR				S	Sn	07 41 07.1	-0.9
MD31	MD31	2.72	199	P	Pn	07 40 47.6	+0.7
MDT	Midelt	2.73	196	P	Pn	07 40 47.7	+0.6
TDRA	Tendrara	2.79	149	P	Pn	07 40 48.3	+0.4
ECAB	El Cabril	2.95	333	Pn	Pn	07 40 52.1	+2.1
ECAB				Sn	Sn	07 41 27.3	+2.3
ETOB	Tobarra	3.63	28	Pn	Pn	07 41 01.9	+2.6
ETOB				Sn	Sn	07 41 43.3	+1.6
EGRO	El Granado	3.67	305	Pn	Pn	07 41 00.1	+0.3
EGRO				Sn	Sn	07 41 41.2	-1.6
EGRO				*i* Vmb_Lg		07 41 46.0	
PVAQ	Vaqueiros	3.76	302	P	Pn	07 41 01.2	+0.1
PAB	San Pablo	4.11	353	Pn	Pn	07 41 08.2	+2.2
EBAD	Badajoz	4.22	322	Pn	Pn	07 41 10.4	+3.1
EBAD				Sn	Sn	07 41 55.7	-0.4
EBAD				*i* Vmb_Lg		07 42 01.5	
PFVI	Vila Bisbo	4.45	294	P	Pn	07 41 11.0	+0.5
PESTR	Estremoz	4.60	319	P	Pn	07 41 13.5	+0.9
OUZM	OUZ	5.20	210	P	Pn	07 41 22.7	+1.8

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*IDC **05** 07:49:58.4±1.5, 16°.84N×145°.32E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.4/38, mbtmp3.3/6, Error ellipse: s-maj=62.1km s-min=22.9km az=89.0*

ISC 05 07:49:60.0±1.4, **16°.9N**±0°.2×**145°.3E**±0°.4, **h10km, n6, σ1s.71**/6, **mb3.3**/5, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	20.57	344	P	P	07 54 37.4	-1.6
	0.9nm,0.6s,baz=168,slow=8.9,SNR=1.3						
WRA	Warramunga Arr	38.13	197	P	P	07 57 18.3	-1.2
	0.5nm,0.7s,baz=26,slow=9.3,SNR=7.2						
ASAR	Alice Springs	41.80	196	P	P	07 57 50.4	+0.4
	0.2nm,0.7s,baz=27,slow=8.3,SNR=1.8						
SONM	Songino Array	44.33	323	P	P	07 58 09.7	-0.8
	0.3nm,0.8s,baz=124,slow=7.2,SNR=1.8						
MKAR	Makanchi Array	59.45	315	P	P	08 00 05.0	+2.0
	0.1nm,0.4s,baz=89,slow=9.3,SNR=2.2						
YKA	Yellowknife Ar	79.78	28	P	P	08 02 08.6	+0.4
	0.2nm,0.6s,baz=280,slow=5.6,SNR=2.5						

KRSC 05 07:51:42.4±1.2, **49°.73N×156°.84E, h16km**±18km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.06	335	P	Pb	07 52 01.0	-1.4
SKR				S	Sb	07 52 15.0	-1.1
PAU	Pauzhetka	1.74	359	P	Pn	07 52 12.6	+0.6
PAU				S	Sb	07 52 35.4	-0.3
KDTR	Khodutka, Kamc	2.23	20	P	Pb	07 52 20.6	-1.7
KDTR				S	Sb	07 52 48.9	-0.7
MTVR	Mutnovka	2.89	17	P	Pn	07 52 30.4	+2.5
MTVR				S	Sb	07 53 06.0	-2.8
RUS	Russkaya	2.91	21	P	Pn	07 52 30.0	+2.0
RUS				S	Sn	07 53 05.3	+2.7
GRL	Gorelyy	2.94	15	P	Pn	07 52 30.9	+2.4
GRL				S	Sb	07 53 07.4	-2.7
PET	Petropavlovsk	3.49	18	S	Sn	07 53 21.1	+4.1
DALK	Dalny	3.52	19	P	Pn	07 52 38.8	+2.4
DALK				S	Sn	07 53 21.1	+3.4
UGLR	Uglovaya	3.70	19	P	Pb	07 52 43.5	-4.0
AVH	Avacha	3.74	18	P	Pn	07 52 43.6	+4.1
KOK	Koryaka	3.74	17	P	Pb	07 52 44.2	-4.0
SMAR	Somma	3.75	18	P	Pn	07 52 43.8	+4.0
SDLR	Sedlovina	3.78	19	P	Pn	07 52 42.9	+2.8
SPN	Mys Shipunski	3.92	29	P	Pn	07 52 45.7	+3.8
SPN				S	Sn	07 53 32.3	+4.7
GNL	Ganaly	4.03	9	P	Pb	07 52 48.4	-4.7

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*AEIC **05** 08:15:46.6±1.1, 67°.66N±0°.03×163°.06W±0°.09, h23km±8km, ML3.0/11, ML3.2/14(NEIC), Error ellipse: s-maj=5.4km s-min=3.8km az=125.0*
*NEIC **05** 08:15:48.0±1.2, 67°.65N±0°.06×163°.1W±0°.2, h34km±8km, Error ellipse: s-maj=9.8km s-min=8.2km az=107.0*
*IDC **05** 08:15:50.5±3.5, 68°.51N×161°.99W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.3/43, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=50.4km s-min=37.8km az=29.0*

ISC 05 08:15:46.8±1.0, **67°.67N**±0°.06×**163°.00W**±0°.07, **h10km, n31, σ1s.68**/31, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	0.38	5		Pb	08 15 55.5	-0.2
RDOG					Sb	08 16 01.4	-0.3
RDOG	Red Dog Mine	0.38	5	IAML		08 16 01.7	
	comp=E,4μm,0.4s						
TNA	Tin City	2.89	225		Pn	08 16 29.8	-3.0
TNA					Sn	08 17 06.3	-1.2
ANM	Nome	3.27	198	Pn	Pn	08 16 36.4	-1.6
IMAR	Indian Mountai	4.03	111	Pn	Pn	08 16 47.8	-0.7
IM05	Indian Mountai	4.04	111		Pn	08 16 48.1	-0.5
A21K	Barrow	4.30	29		Pn	08 16 52.2	+0.1
A21K	Barrow	4.30	29	IAML		08 17 48.3	
	comp=E,23nm,1.0s						
A21K				IAML		08 18 16.8	
	comp=N,24nm,1.1s						
H21K	Melozitna Rive	4.53	112		Pn	08 16 54.5	-0.9
H21K	Melozitna Rive	4.53	112	IAML		08 18 08.4	
	comp=E,16nm,4.0s						
H21K				IAML		08 18 40.5	
	comp=N,16nm,4.8s						
COLD	Coldfoot	4.95	89		Pn	08 17 01.8	+0.8
I21K	Tanana	5.08	114	Pn	Pn	08 17 01.4	-1.5
I21K				IAML		08 18 34.3	
	comp=E,24nm,1.6s						
TOLK	Toolik Lake Re	5.11	73		Pn	08 17 02.2	-1.1
TOLK				IAML		08 18 38.2	
	comp=N,20nm,2.1s						
TOLK				IAML		08 18 41.8	
	comp=E,18nm,1.1s						
TT01	Tatalina	5.61	145		Pn	08 17 10.7	+0.6
K20K	Telida	5.70	135	Pn	Pn	08 17 10.5	-0.9
H24K	Noodor Dome	6.26	100	Pn	Pn	08 17 17.5	-1.6
KTH	Kantishna Hill	6.48	124	Pn	Pn	08 17 21.9	-0.3
MDM	Murphy Dome	6.54	108		Pn	08 17 22.6	-0.4
COLA	College	6.72	108		Pn	08 17 24.3	-1.0
POKR	Poker Plat Res	6.75	105		Pn	08 17 25.1	-0.7
WRH	Wood River Hil	6.86	111		Pn	08 17 25.6	-1.6
CCB	Clear Creek Bu	6.86	109		Pn	08 17 26.1	-1.1
BMAR	Burnt Mountain	7.05	83		Pn	08 17 29.4	-0.5
IL31		7.13	107	Pn	Pn	08 17 30.2	-0.7
ILAR	Eielson Array	7.13	107	Pn	Pn	08 17 30.9	-0.1
	comp=E,1.3nm,0.3s,baz=301,slow=14,SNR=35						
ILAR				Sn	Sn	08 18 48.7	-3.2
	comp=E,0.3nm,0.3s,baz=316,slow=27,SNR=5.1						
ILAR				Lg	Lg	08 19 35.6	
	baz=306,slow=28,SNR=1.2						
ILAR	Eielson Array	7.13	107		Pn	08 17 29.8	-1.1
J25K	Salcha River,	7.77	105		Pn	08 17 39.2	-0.6
DHY	Denali Highway	7.97	118	Pn	Pn	08 17 42.1	-0.6
INK	Inuvik	11.02	73	Pn	Pn	08 18 19.8	-4.4
	comp=E,0.2nm,0.3s,baz=286,slow=10.0,SNR=6.1						
INK				Sn	Sn	08 20 11.8	-16
	comp=E,0.1nm,0.3s,baz=281,slow=21,SNR=3.6						
YKA	Yellowknife Ar	20.56	81	P	P	08 20 25.4	+0.1
	comp=E,0.5nm,0.6s,baz=306,slow=12,SNR=7.2						
TXAR	Lajitas Array	51.64	107	P	P	08 24 57.6	+4.2
	comp=E,0.3nm,0.6s,baz=346,slow=6.3,SNR=5.1						

ROM 05 08:17:05.8±0.1, **43°.225N**±0°.002×**12°.579E**±0°.003, **h12km, Md1.1**/3, **1D, Error ellipse: s-maj=0.3km s-min=0.1km az=137.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MURB	Monte Urbino	0.06	314	⇓P	Pg	08 17 08.5	+0.3
MURB				S	Sg	08 17 10.2	+0.2
MURB				AML	AML		
	comp=E,558μm,0.5s						
MURB				AML	AML		
	comp=N,375μm,0.9s						
MURB				AML	AML		
	comp=E,206μm,1.1s						
MURB				AML	AML		
	comp=N,207μm,1.6s						
MURB				AML	AML		
	comp=N,206μm,1.6s						
MURB				END			
ATCC	AVT- Casa Cast	0.06	132	P	Pg	08 17 08.7	+0.4
ATCC				S	Sg	08 17 10.4	+0.4
ATCC				END			
ASSB	Assisi San Ben	0.19	162	P	Pg	08 17 10.6	+0.5
ASSB				S	Sg	08 17 13.8	+0.8
ASSB				AML	AML		
	comp=E,68μm,1.3s						
ASSB				AML	AML		
	comp=N,63μm,0.6s						
ASSB				END			
ATVO	AVT- Monte Val	0.20	321	P	Pg	08 17 10.8	+0.6
ATVO				S	Sg	08 17 14.1	+0.8
CAFI	Castiglion Fio	0.46	283	P	Pg	08 17 12.7	-2.2

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*MDD **05** 08:17:22.8±0.5, 35°.36N×3°.86W, h0km, mb_Lg2.5/3, Error ellipse: s-maj=4.3km s-min=3.5km az=13.0*
*CNRM **05** 08:17:23.4, 35°.35N×3°.93W, h23km, ml1.8*

ISC 05 08:17:22.9±1.0, **35°.36N**±0°.03×**3°.85W**±0°.04, **h16km**±8km, **n15, σ0s.89**/26, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.16	207	P	Pb	08 17 28.3	+0.9
PALE				S	Sg	08 17 30.9	+1.0
EMEL	Melilla	0.73	94	Pg	Pg	08 17 36.9	-0.4
EMEL				Sg	Sg	08 17 46.7	-0.2
EALB	Alboran	0.88	49	Pg	Pg	08 17 38.9	-1.1
EALB				Sg	Sg	08 17 50.4	-1.3
EALB				*i* Vmb_Lg		08 17 54.1	
CHEFC	Chefchaouen	1.24	259	S	Sb	08 18 01.0	-0.8
SMIR	Smir Dam	1.29	285	P	Pn	08 17 45.8	-0.4
SMIR				S	Sb	08 18 01.7	-1.4
EMIJ	Mijas	1.42	328	Pn	Pn	08 17 47.8	-0.2
EMIJ				Sg	Sn	08 18 06.0	-0.3
EMIJ				*i* Vmb_Lg		08 18 13.5	
JBK	JBK	1.47	134	P	Pn	08 17 49.1	+0.2
JBK				S	Sn	08 18 07.5	-0.4
ELGU	Los Guajares,	1.52	7	Pn	Pn	08 17 48.7	-0.7
ELGU				Sn	Sn	08 18 08.4	-0.5
ELGU				*i* Vmb_Lg		08 18 11.2	
EGOR	Sierra Gorda,	1.76	353	Sg	Sb	08 18 18.4	+1.6
MD31	MD31	2.60	197	P	Pn	08 18 04.6	+0.3
MD31				S	Sn	08 18 34.9	-0.6
MDT	Midelt	2.62	194	P	Pn	08 18 04.6	0.0
MDT				S	Sn	08 18 35.6	-0.3
ECAB	El Cabril	2.99	336	Pn	Pn	08 18 09.8	+0.2
ECAB				Sn	Sn	08 18 46.1	+0.9
EGRO	El Granado	3.65	308	Pn	Pn	08 18 19.9	+1.3
ETOB	Tobarra	3.76	29	Pn	Pn	08 18 21.6	+1.3
ETOB				Sn	Sn	08 19 05.2	+1.0
EBAD	Badajoz	4.23	324	Sn	Sn	08 19 15.2	-0.4

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*IDC **05** 08:26:22.4±0.8, 10°.67N×92°.61E, h0km, mb3.9/17, mb1 4.1/19, mb1mx3.9/49, mbtmp4.0/19, ML4.2/2, MS3.4/5, Ms1 3.5/5, ms1mx2.8/90, Error ellipse: s-maj=35.7km s-min=12.5km az=56.0*

ISC 05 08:26:27.0±0.7, **10°.7N**±0°.1×**92°.6E**±0°.1, **h29km, n25, σ0s.80**/23, **mb3.8**/17, **MS3.5**/3, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.87	38	Pn	Pn	08 28 47.7	+0.7
	1.5nm,0.3s,baz=227,slow=15,SNR=38						
CMAR				LR	LR	08 32 58.7	
	comp=Z,79nm,20.9s,baz=215,slow=40						
PSI	Prapat	10.06	141	Pn	Pn	08 28 51.0	+1.3
	0.6nm,0.3s,baz=324,slow=13,SNR=2.4						
PSI				LR	LR	08 33 04.2	
	comp=Z,150nm,20.3s,baz=292,slow=40						
H08S3	Diego Garcia H	27.05	229	T	T	09 00 17.0	
	baz=47,slow=75						
H08S2	Diego Garcia H	27.06	228	T	T	09 00 20.8	
	baz=47,slow=75						
H08S1	Diego Carcia H	27.07	228	T	T	09 00 26.7	
	baz=47,slow=75						
AAK	Ala-Archa	35.52	337	P	P	08 33 21.0	-0.6
	0.5nm,0.4s,baz=180,slow=8.1,SNR=1.7						
MKAR	Makanchi Array	37.02	348	P	P	08 33 33.4	-0.8
	0.7nm,0.6s,baz=171,slow=8.0,SNR=8.7						
SONM	Songino Array	38.80	15	P	P	08 33 48.3	-1.0
	0.9nm,0.9s,baz=189,slow=8.6,SNR=2.6						
GEYT	Alibeck	41.09	317	P	P	08 34 07.9	-0.5
	0.9nm,0.4s,baz=146,slow=16,SNR=1.6						
KURBB	Kurchatov Arra	41.45	346	P	P	08 34 11.1	0.0
	0.3nm,0.3s,baz=157,slow=6.5,SNR=2.5						
KURBB				LR	LR	08 53 41.4	
	comp=Z,52nm,18.8s,baz=353,slow=40						
FITZ	Fitzroy Crossi	43.40	131	P	P	08 34 26.2	-1.1
	4.2nm,0.8s,baz=342,slow=8.9,SNR=11						
ZALV	Zalesovo Beam	43.58	353	P	P	08 34 27.8	-0.5
	0.4nm,0.4s,baz=144,slow=5.2,SNR=1.9						
ZALV				LR	LR	08 57 58.7	
	comp=Z,49nm,18.0s,baz=344,slow=44						
WRA	Warramunga Arr	51.15	126	P	P	08 35 26.8	-1.1
	1.9nm,0.8s,baz=307,slow=8.1,SNR=20						
WRA				PcP	PcP	08 36 42.9	-0.3
	0.6nm,0.8s,baz=332,slow=3.3,SNR=5.3						
ASAR	Alice Springs	52.90	131	P	P	08 35 40.0	-0.9
	2.8nm,0.6s,baz=305,slow=6.7,SNR=49						
ASAR				PcP	PcP	08 36 49.6	-0.1
	0.6nm,0.7s,baz=296,slow=3.4,SNR=5.1						
CTA	Charters Tower	61.03	120	P	P	08 36 37.9	-0.6
	1.9nm,0.8s,baz=329,slow=5.9,SNR=1.3						
STKA	Stephens Creek	63.16	134	P	P	08 36 52.5	0.0
	1.3nm,0.3s,baz=303,slow=6.1,SNR=6.2						
AKASG	Malin Array Be	65.00	321	P	P	08 37 05.3	+1.0
	0.2nm,0.2s,baz=92,slow=5.0,SNR=1.9						
PETK	Petropavlovsk-	66.64	37	P	P	08 37 15.6	+0.7
	1.3nm,0.7s,baz=292,slow=4.2,SNR=1.5						
FINES	FINESS Array B	69.51	332	P	P	08 37 32.2	-0.5
	1.4nm,0.8s,baz=114,slow=6.8,SNR=2.1						
ARCES	ARCESS Array B	72.11	340	P	P	08 37 49.4	+1.1
	3.9nm,0.9s,baz=71,slow=5.9,SNR=3.0						
GERES	GERESS Array B	74.71	318	P	P	08 38 05.2	+0.9
	0.3nm,0.4s,baz=101,slow=2.7,SNR=4.0						
ILAR	Eielson Array	92.71	22	P	P	08 39 35.7	-0.4
	0.3nm,0.9s,baz=287,slow=3.7,SNR=2.1						
RAO	Raoul Island	94.71	119	LR	LR	09 23 17.5	
	comp=Z,87nm,20.7s,baz=119,slow=36						
NVAR	Mina Array Bea	123.25	29	PKP	PKiKP	08 45 22.8	+0.7
	0.2nm,0.6s,baz=316,slow=3.8,SNR=2.2						
TXAR	Lajitas Array	137.22	21	PKP	PKPdf	08 45 48.4	-0.1
	0.3nm,0.9s,baz=4.4,slow=1.2,SNR=1.9						

MAN 05 08:44:58.4, 14°.55N×120°.09E, h33km, mb3.7, ML2.5, MS2.0, Luzon

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*IDC **05** 08:45:47.4±6.9, 37°.18N×19°.31E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=123.1km s-min=64.5km az=58.0*
*THE **05** 08:45:59.5, 38°.39N×20°.44E, h12km, ML2.8/3, Error ellipse: s-maj=1.2km s-min=0.4km az=279.0*
*ATH **05** 08:45:59.1, 38°.38N×20°.48E, h15km±1km, ML3.0/14, Error ellipse: s-maj=1.6km s-min=0.6km az=271.0*

ISC 05 08:45:59.4±0.7, **38°.38N**±0°.02×**20°.46E**±0°.03, **h14km**±4km, **n56, σ0s.67**/81, **mb3.7**/3, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FSK	Fiskardo	0.11	48	P	Pg	08 46 02.5	-0.1
FSK				S	Sg	08 46 04.5	-0.3
FSK				AML	AML	08 46 05.0	
FSK				AML	AML	08 46 05.1	
	comp=N,36450μm,0.2s						
FSK	Fiskardo	0.11	48	P	Pg	08 46 02.6	0.0
FSK				S	Sg	08 46 04.7	-0.2
KEF4	Livadi, Kephal	0.13	191	P	Pg	08 46 02.0	-0.8
KEF4				S	Sg	08 46 05.5	+0.4
KEF4	Livadi, Kephal	0.13	191	P	Pg	08 46 02.0	-0.8
KEF4				S	Sg	08 46 05.4	+0.3
DMLN	Damoulianata-K	0.16	204	P	Pg	08 46 03.3	+0.1
DMLN				S	Sg	08 46 06.2	+0.3
DMLN	Damoulianata-K	0.16	204	P	Pg	08 46 03.3	+0.1
DMLN				S	Sg	08 46 06.4	+0.5
KEF3	Kipouria, Keph	0.20	205	P	Pg	08 46 03.5	-0.4
KEF3				S	Sg	08 46 06.7	-0.2
KEF3	Kipouria, Keph	0.20	205	P	Pg	08 46 03.5	-0.4
KEF3				S	Sg	08 46 06.7	-0.2
VLS	Valsamata	0.23	153	P	Pg	08 46 04.2	-0.1
VLS				S	Sg	08 46 08.3	+0.5
VLS				AML	AML	08 46 09.6	
	comp=E,16743μm,0.2s						
VLS				AML	AML	08 46 10.1	
	comp=N,19043μm,0.2s						
VLS	Valsamata	0.23	153	P	Pg	08 46 04.3	-0.1
VLS				S	Sg	08 46 08.4	+0.5
	comp=N,9μm,0.1s						
EVGI	Lefkada island	0.28	33	P	Pg	08 46 05.3	0.0
EVGI				S	Sg	08 46 09.8	+0.5
EVGI	Lefkada island	0.28	33	P	Pg	08 46 05.3	0.0
EVGI				S	Sg	08 46 10.0	+0.6
PSDA	Pessada-Kefalo	0.29	159	P	Pg	08 46 05.3	0.0
PSDA				S	Sg	08 46 09.7	+0.3
PSDA	Pessada-Kefalo	0.29	159	P	Pg	08 46 05.4	0.0
PSDA				S	Sb	08 46 10.4	-0.6
	comp=N,1μm,0.2s						
DRAG	Dragano-Lefkad	0.32	17	P	Pg	08 46 05.6	-0.2
DRAG				S	Sg	08 46 09.9	-0.4
DRAG	Dragano-Lefkad	0.32	17	P	Pg	08 46 05.8	-0.1
DRAG				S	Sb	08 46 11.0	-0.9
NYDR	Nydri-Lefkada	0.38	30	P	Pg	08 46 06.8	-0.2
NYDR				S	Sg	08 46 12.5	+0.3
NYDR	Nydri-Lefkada	0.38	30	P	Pg	08 46 06.8	-0.2
NYDR				S	Sg	08 46 12.6	+0.3
LKD2	Lefkada island	0.43	21	P	Pg	08 46 07.8	-0.3
LKD2				S	Sb	08 46 14.7	-0.7
LKD2				AML	AML	08 46 18.6	
	comp=E,4222μm,0.5s						
LKD2				AML	AML	08 46 21.1	
	comp=N,5161μm,0.5s						
LKD2	Lefkada island	0.43	21	P	Pg	08 46 07.7	-0.4
LKD2				S	Sb	08 46 14.8	-0.6
	comp=N,2μm,0.5s						
LTHK	Lithakia	0.74	156	P	Pg	08 46 13.1	-0.6
LTHK	Lithakia	0.74	156	P	Pg	08 46 12.9	-0.8
LTHK				S	Sn	08 46 25.4	-1.0
RLS	Riolos of Patr	0.86	112	P	Pg	08 46 15.5	-0.6
RLS				S	Sg	08 46 26.9	-0.4
RLS				AML	AML	08 46 32.6	
	comp=N,1486μm,0.5s						
RLS				AML	AML	08 46 37.6	
	comp=E,1595μm,0.4s						
RLS	Riolos of Patr	0.86	112	P	Pg	08 46 15.7	-0.3
DRO	Drossia	1.08	113	P	Pb	08 46 19.1	-0.7
DRO				AML	AML	08 46 43.6	
	comp=E,3584μm,0.4s						
DRO				AML	AML	08 46 44.0	
	comp=N,2894μm,0.5s						
DRO	Drossia	1.08	113	P	Pb	08 46 19.3	-0.6
EFP	Efpalio	1.14	87	P	Pb	08 46 20.1	-0.8
EFP				AML	AML	08 46 43.4	
	comp=E,3745μm,0.6s						
EFP				AML	AML	08 46 43.7	
	comp=N,1906μm,0.4s						
EFP	Efpalio	1.14	87	P	Pb	08 46 20.0	-0.9
IGT	Igoumenitsa	1.15	355	P	Pb	08 46 20.5	-0.6
IGT				AML	AML	08 46 41.1	
	comp=E,1081μm,0.6s						
IGT				AML	AML	08 46 42.1	
	comp=N,1025μm,0.3s						
IGT	Igoumenitsa	1.15	355	P	Pn	08 46 21.2	0.0
EVR	Evrytania	1.19	63	P	Pn	08 46 21.3	-0.4
EVR				S	Sb	08 46 37.2	+0.2
EVR				AML	AML	08 46 44.9	
	comp=E,1019μm,0.8s						
EVR				AML	AML	08 46 46.2	
	comp=N,1049μm,0.6s						
LAKA	Lakka	1.21	96	P	Pn	08 46 21.4	-0.5
LAKA				AML	AML	08 46 45.1	
	comp=N,2263μm,0.4s						
LAKA				AML	AML	08 46 49.7	
	comp=E,2632μm,0.4s						
LAKA	Lakka	1.21	96	P	Pn	08 46 21.3	-0.6
TRIZ	Trizonia	1.27	90	P	Pn	08 46 22.5	-0.2
JAN	Janina	1.31	13	P	Pb	08 46 23.9	+0.1
JAN				S	Sg	08 46 41.5	-0.1
JAN				AML	AML	08 46 45.7	
	comp=E,1134μm,0.4s						
JAN				AML	AML	08 46 45.8	
	comp=N,1268μm,0.5s						
KLV	Kalavryta, Ach	1.38	104	P	Pn	08 46 24.3	+0.1
KLV				AML	AML	08 46 46.7	
	comp=N,655μm,0.4s						
KLV				AML	AML	08 46 50.9	
	comp=E,604μm,0.6s						
KLV	Kalavryta, Ach	1.38	104	P	Pn	08 46 24.4	+0.1
KEK	Kerkira	1.42	339	P	Pg	08 46 26.2	-0.6
KEK				AML	AML	08 46 53.9	
	comp=E,705μm,0.5s						
KEK				AML	AML	08 46 56.2	
	comp=N,618μm,0.6s						
MAKR	Makrakomi, Fth	1.46	64	P	Pb	08 46 26.3	0.0
MAKR				AML	AML	08 46 58.0	
	comp=E,567μm,0.5s						
MAKR				AML	AML	08 46 58.1	
	comp=N,405μm,0.5s						
ITM	Ithomi	1.67	135	P	Pb	08 46 30.3	+0.3
THL	Klokotos Trika	1.69	45	P	Pb	08 46 30.4	0.0
THL				AML	AML	08 47 02.9	
	comp=E,666μm,0.6s						
THL				AML	AML	08 47 03.3	
	comp=N,825μm,0.7s						
ATAL	Atalanti	2.04	80	P	Pb	08 46 35.0	-1.2
VIL2	Platees	2.22	94	P	Pb	08 46 38.5	-0.9
DBRK	Dubrovnik	4.63	338	*e*Pn	Pn	08 47 08.6	-0.3
DBRK				Sn	Sn	08 48 00.5	-1.9
STON	Ston	4.95	336	*e*Pn	Pn	08 47 12.8	-0.4
LSTV	Lastovo	5.15	329	*e*Pn	Pn	08 47 15.2	-0.9
HVAR	Hvar	5.67	329	*e*Pn	Pn	08 47 22.6	-0.7
RICI	Ricice	5.69	335	*e*Pn	Pn	08 47 22.8	-0.7
KIJV	Kijevo	6.39	333	*e*Pn	Pn	08 47 33.2	+0.1
ZIRJ	Zirje	6.40	327	*e*Pn	Pn	08 47 32.2	-1.0
MORI	Morici	6.54	328	*e*Pn	Pn	08 47 35.2	0.0
DUGI	Dugi Otok	6.92	326	*e*Pn	Pn	08 47 40.9	+0.5
AKASG	Malin Array Be	13.80	24	Pn	P	08 49 22.7	-0.3
	comp=N,0.4nm,0.3s,baz=217,slow=15,SNR=4.2						
FINES	FINESS Array B	23.35	7	P	P	08 51 09.4	+2.4
	comp=N,2.4nm,1.0s,baz=183,slow=8.4,SNR=4.9						
MKAR	Makanchi Array	45.24	59	P	P	08 54 16.8	+0.6
	comp=N,0.3nm,0.6s,baz=275,slow=7.0,SNR=4.7						
ZALV	Zalesovo Beam	45.59	48	P	P	08 54 21.3	+2.5
	comp=N,0.3nm,0.3s,baz=282,slow=8.4,SNR=2.0						

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*ISN **05** 08:53:55.8±0.8, 32°.37N×47°.74E, h5km±16km, ML3.0*
*TEH **05** 08:53:57.2, 32°.37N×47°.74E, h9km, ML3.2*

ISC 05 08:53:57.6±1.0, **32°.37N**±0°.05×**47°.69E**±0°.04, **h10km, n24, σ1s.05**/24, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.16**	**6**	*e*Pg	**Pb**	**08 54 18.8**	**-0.9**
IDOB	**Doab**	**1.47**	**16**	*e*Pg	**Pg**	**08 54 25.5**	**-0.4**
RAFI	**Al-Rafai**	**1.49**	**245**	*i* P	**Pn**	**08 54 24.6**	**+0.2**
RAFI				*i* S	**Sb**	**08 54 45.4**	**+1.1**
RAFI				AML	AML	08 55 15.6	
	comp=E,224nm,0.4s						
AMIS	**Naft Sefid**	**1.53**	**117**	*e*Pn	**Pb**	**08 54 25.2**	**-0.8**
BMDN	**Meydan**	**1.61**	**36**	*e*Pg	**Pg**	**08 54 27.6**	**-0.9**
IBDR	**Badra** baz=115	**1.66**	**297**	*i* P	**Pn**	**08 54 26.7**	**0.0**
IBDR				*i* S	**Sb**	**08 54 49.5**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.98**	**344**	*e*Pg	**Pg**	**08 54 35.1**	**-0.4**
KCHF				*e*		08 55 21.4	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**2.17**	**335**	*e*Pg	**Pg**	**08 54 39.2**	**0.0**
IGHG				*e*		08 55 43.4	
	comp=Z,1μm,0.8s						
KHMZ	**Khomeyn**	**2.34**	**54**	*e*Pn	**Pb**	**08 54 38.7**	**-1.4**
IPIR	**Pirpir**	**2.72**	**83**	*e*Pn	**Pn**	**08 54 42.8**	**+1.1**
IPIR				*e*		08 55 48.2	
	comp=Z,684nm,0.6s						
SNGE	**Sanandaj**	**2.73**	**354**	*e*Pn	**Pn**	**08 54 43.7**	**+2.0**
ASAO	**Ashtian**	**2.92**	**41**	*e*Pn	**Pn**	**08 54 45.7**	**+1.4**
QAMS	**Qamsar**	**3.40**	**65**	*e*	Sg	08 56 00.3	+14
	comp=Z,753nm,0.4s						
IKLH	**Kolahrood**	**3.41**	**73**	*e*Pn	**Pn**	**08 54 52.1**	**+1.1**
IRAZ	**Razeghan**	**3.55**	**31**	*e*Pn	**Pn**	**08 54 54.2**	**+1.2**
IRAZ				*e*		08 55 20.4	
	comp=Z,569nm,0.6s						
KLNJ	**Kolanjah**	**3.59**	**111**	*e*Pn	**Pn**	**08 54 54.4**	**+0.7**
GHVR	**GHOM**	**3.67**	**54**	*e*Pn	**Pn**	**08 54 55.2**	**+0.6**
IQOM	**Qom**	**3.75**	**48**	*e*	Pg	08 55 19.3	+10
	comp=Z,292nm,0.7s						
IZEF	**Zefreh**	**3.95**	**81**	*e*Pn	**Pn**	**08 54 59.6**	**+1.1**
IZEF				*e*		08 55 15.1	
	comp=Z,192nm,0.3s						
KRSH	**Karshahi**	**4.05**	**66**	*e*Pn	**Pn**	**08 54 59.5**	**-0.4**
ISFB	**Sefidab**	**4.29**	**61**	*e*Pn	**Pn**	**08 55 03.9**	**+0.9**
NASN	**Na'in**	**4.34**	**83**	*e*Pn	**Pn**	**08 55 04.9**	**+1.0**
ANAR	**Anarak**	**5.15**	**79**	*e*Pn	**Pn**	**08 55 15.3**	**+0.4**
YZKH	**Yazd**	**5.84**	**88**	*e*Pn	**Pn**	**08 55 26.2**	**+1.9**

*JMA **05** 09:07:31.4, 23°.94N×121°.50E, h21km±1km, M3.2*
*TAP **05** 09:07:33.9, 24°.13N×121°.53E, h24km, ML3.8, B*
ISC 05 09:07:33.9±0.8**, 24°.11N**±0°.01×**121°.60E**±0°.02**, h25**km±3km**,**
n133, σ0s.89/235**, 18C-13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=128	**0.03**	**185**	⇓*i*P	**Pb**	**09 07 38.3**	**+0.1**
TWD	baz=128			*i* S	**Sb**	**09 07 41.4**	**+0.2**
ETL	**Fush Village** baz=74	**0.06**	**24**	⇓*i*P	**Pb**	**09 07 38.4**	**-0.1**
ETL	baz=74			S	**Sb**	**09 07 41.6**	**+0.2**
NACB	**Ninganchiao** baz=56	**0.07**	**357**	⇓*i*P	**Pb**	**09 07 38.2**	**-0.2**
NACB	baz=56			*i* S	**Sb**	**09 07 41.5**	**+0.1**
HWA	**Hwalien** baz=160	**0.13**	**177**	⇓*i*P	**Pn**	**09 07 39.4**	**-1.0**
HWA	baz=160			*i* S	**Sb**	**09 07 43.6**	**+1.4**
ETLH	**Xiulin Townshi** baz=329	**0.14**	**313**	⇑*i*P	**Pb**	**09 07 38.6**	**-0.5**
ETLH	baz=329			*i* S	**Sb**	**09 07 41.7**	**-0.9**
ETM	**Tongmen** baz=191	**0.17**	**214**	⇓*i*P	**Pb**	**09 07 39.0**	**-0.3**
ETM	baz=191			S	**Sb**	**09 07 42.7**	**-0.2**
EHP	**Heping Village** baz=55	**0.24**	**33**	P	**Pn**	**09 07 40.5**	**-1.4**
EHP	baz=55			S	**Sb**	**09 07 45.2**	**+0.9**
TEYL	**Yanliau Villag** baz=169	**0.24**	**180**	⇓*i*P	**Pb**	**09 07 40.1**	**0.0**
TEYL	baz=169			*e*S	**Sb**	**09 07 45.4**	**+1.0**
WHF	**Hehuan Shan** baz=278	**0.31**	**277**	⇑*i*P	**Pb**	**09 07 40.5**	**-0.9**
WHF	baz=278			*i* S	**Sb**	**09 07 45.1**	**-1.4**
ESL	**Shilin** baz=198	**0.33**	**207**	⇓*i*P	**Pb**	**09 07 40.7**	**-0.7**
ESL	baz=198			S	**Sb**	**09 07 46.6**	**+0.1**
ENA	**Nanau** baz=40	**0.34**	**22**	*i* P	**Pb**	**09 07 41.7**	**+0.1**
ENA	baz=40			S	**Sb**	**09 07 47.1**	**+0.2**
FUSS	**Fushou** baz=298	**0.35**	**293**	⇑*i*P	**Pb**	**09 07 41.2**	**-0.8**
FUSS	baz=298			*i* S	**Sb**	**09 07 46.1**	**-1.3**
EWUT	**Wuta** baz=41	**0.37**	**26**	P	**Pb**	**09 07 42.0**	**-0.1**
EWUT	baz=41			*e*S	**Sb**	**09 07 48.0**	**+0.3**
NNSB	**Datong** baz=340	**0.37**	**328**	⇑*i*P	**Pb**	**09 07 41.4**	**-0.8**
NNSB	baz=340			*i* S	**Sb**	**09 07 46.8**	**-1.1**
NNS	**Nan Shan** baz=340	**0.39**	**328**	⇑*i*P	**Pb**	**09 07 41.6**	**-0.8**
NNS	baz=340			S	**Sb**	**09 07 46.8**	**-1.4**
CHGB	**Renai** baz=253	**0.39**	**263**	P	**Pb**	**09 07 41.9**	**-0.7**
CHGB	baz=253			S	**Sb**	**09 07 47.0**	**-1.4**
TDCB	**Techi** baz=289	**0.43**	**290**	⇑*i*P	**Pb**	**09 07 42.3**	**-0.8**
TDCB	baz=289			S	**Sb**	**09 07 47.8**	**-1.5**
LATG	**Datong** baz=360	**0.43**	**351**	⇑*i*P	**Pb**	**09 07 42.5**	**-0.6**
LATG	baz=360			S	**Sb**	**09 07 48.1**	**-1.2**
WUSB	**Renai** baz=245	**0.46**	**255**	P	**Pb**	**09 07 42.9**	**-0.6**
WUSB	baz=245			S	**Sb**	**09 07 48.7**	**-1.3**
NDT	**Datong Townshi** baz=1.0	**0.50**	**351**	⇓*i*P	**Pb**	**09 07 43.8**	**-0.4**
NDT	baz=1.0			S	**Sb**	**09 07 50.4**	**-0.7**
ENTT	**Nioudou** baz=5.0	**0.53**	**357**	⇑*i*P	**Pb**	**09 07 44.3**	**-0.4**
ENTT	baz=5.0			S	**Sb**	**09 07 52.0**	**0.0**
NDS	**Dongshan** baz=25	**0.53**	**12**	⇑*i*P	**Pb**	**09 07 44.8**	**+0.1**
NDS	baz=25			S	**Sb**	**09 07 51.7**	**-0.4**
VWDT	**VWDT** baz=228	**0.55**	**230**	⇑*i*P	**Pb**	**09 07 44.5**	**-0.4**
VWDT	baz=228			S	**Sb**	**09 07 52.4**	**-0.1**
TWC	**Suao** baz=33	**0.55**	**25**	⇑*i*P	**Pb**	**09 07 44.7**	**-0.3**
TWC	baz=33			*i* S	**Sb**	**09 07 52.8**	**+0.3**
WPL	**Puli Township** baz=251	**0.59**	**261**	*i* P	**Pb**	**09 07 45.0**	**-0.7**
WPL	baz=251			*e*S	**Sb**	**09 07 52.4**	**-1.4**
YHNB	**Yeheng** baz=345	**0.59**	**340**	⇑*i*P	**Pb**	**09 07 45.1**	**-0.7**
YHNB	baz=345			*i* S	**Sb**	**09 07 52.7**	**-1.2**
NSK	**Sanguang** baz=344	**0.61**	**339**	⇓*i*P	**Pb**	**09 07 45.4**	**-0.6**
NSK	baz=344			*i* S	**Sb**	**09 07 52.9**	**-1.3**
TWE	**Neicheng** baz=14	**0.61**	**6**	⇑*i*P	**Pb**	**09 07 45.6**	**-0.5**
TWE	baz=14			S	**Sb**	**09 07 54.2**	**-0.1**
DPDB	**Guoxing** baz=254	**0.62**	**263**	*i* P	**Pb**	**09 07 45.6**	**-0.6**
DPDB	baz=254			*e*S	**Sb**	**09 07 53.2**	**-1.4**
WHP	**Taichung City** baz=285	**0.62**	**286**	⇑*i*P	**Pb**	**09 07 45.5**	**-0.7**
WHP	baz=285			*i* S	**Sb**	**09 07 53.4**	**-1.2**
WCS	**Beigang Elemen** baz=259	**0.63**	**265**	*e*P	**Pb**	**09 07 45.5**	**-0.8**
WCS	baz=259			*e*S	**Sb**	**09 07 54.3**	**-0.4**
HGSD	**Ruisui** baz=199	**0.63**	**195**	*e*P	**Pn**	**09 07 47.2**	**-0.1**
FUSB	**Fushanzhiwuyua** baz=356	**0.65**	**359**	P	**Pb**	**09 07 46.2**	**-0.5**
FUSB	baz=356			*e*S	**Sb**	**09 07 54.5**	**-0.9**
EHY	**Hungye** baz=189	**0.65**	**203**	*e*P	**Pb**	**09 07 46.1**	**-0.6**
EHY	baz=189			*e*S	**Sn**	**09 07 56.0**	**-1.0**
ILA	**Ilan** baz=19	**0.67**	**12**	*e*S	**Sn**	**09 07 57.3**	**-0.1**
SSLB	**Suanglung** baz=236	**0.67**	**242**	⇑P	**Pb**	**09 07 46.0**	**-1.1**
SSLB	baz=236			*e*S	**Sb**	**09 07 54.7**	**-1.2**
NWLT	**Wulai** baz=358	**0.67**	**353**	P	**Pb**	**09 07 46.5**	**-0.6**
NWLT	baz=358			*e*S	**Sb**	**09 07 54.5**	**-1.6**
SMLT	**Sun Moon Lake** baz=241	**0.68**	**251**	⇑*i*P	**Pb**	**09 07 46.2**	**-1.0**
SMLT	baz=241			*e*S	**Sb**	**09 07 54.6**	**-1.6**
NFF	**Wufeng Townshi** baz=323	**0.68**	**320**	*e*P	**Pb**	**09 07 46.7**	**-0.5**
NFF	baz=323			*e*S	**Sb**	**09 07 55.9**	**-0.4**
NSTT	**Nanjuang** baz=316	**0.75**	**314**	⇓*i*P	**Pb**	**09 07 48.0**	**-0.4**
NSTT	baz=316			*i* S	**Sb**	**09 07 57.1**	**-1.2**
LIOB	**Emei** baz=317	**0.75**	**315**	⇓P	**Pb**	**09 07 48.2**	**-0.2**
LIOB	baz=317			*e*S	**Sb**	**09 07 57.7**	**-0.7**
YULB	**Yu-li** baz=189	**0.76**	**201**	*i* P	**Pb**	**09 07 48.0**	**-0.6**
YULB	baz=189			*e*S	**Sb**	**09 07 58.0**	**-0.6**
NTC	**Toucheng** baz=22	**0.77**	**16**	P	**Pn**	**09 07 49.1**	**-0.1**
NTC	baz=22			*e*S	**Sb**	**09 07 58.9**	**+0.1**
TWQ1	**Liyutan** baz=293	**0.79**	**288**	⇓*i*P	**Pb**	**09 07 49.0**	**0.0**
TWQ1	baz=293			S	**Sb**	**09 07 59.5**	**+0.1**
EGS	baz=19	**0.79**	**22**	*e*P	**Pn**	**09 07 50.3**	**+0.8**
EYUL	**Yuli** baz=192	**0.80**	**199**	*e*P	**Pn**	**09 07 49.0**	**-0.6**
EYUL	baz=192			*e*S	**Sn**	**09 08 00.9**	**+0.2**
WWF	**Wufeng** baz=260	**0.82**	**266**	*i* P	**Pn**	**09 07 50.3**	**+0.3**
WWF	baz=260			*e*S	**Sn**	**09 08 03.5**	**+2.2**
TCU	**Taichung** baz=270	**0.84**	**273**	*e*P	**Pn**	**09 07 50.4**	**+0.2**
TCU	baz=270			*e*S	**Sn**	**09 08 02.1**	**+0.4**
WJS	**Zhushan** baz=246	**0.85**	**250**	P	**Pn**	**09 07 50.4**	**+0.2**
WJS	baz=246			*e*S	**Sn**	**09 08 02.6**	**+0.8**
HSN1	**Hsinchu** baz=330	**0.85**	**322**	*e*P	**Pn**	**09 07 50.9**	**+0.6**
NMLH	**Miaoli** baz=300	**0.85**	**300**	P	**Pn**	**09 07 50.5**	**+0.2**
NMLH	baz=300			S	**Sb**	**09 08 01.1**	**0.0**
NHDH	**Xindian Distri** baz=360	**0.85**	**356**	*i* P	**Pn**	**09 07 50.8**	**+0.4**
NHDH	baz=360			*i* S	**Sn**	**09 08 01.8**	**-0.2**
YUS	**Yu-Shan** baz=206	**0.85**	**224**	⇑*i*P	**Pb**	**09 07 49.9**	**-0.5**
YUS	baz=206			*e*S	**Sb**	**09 08 01.3**	**-0.4**
WNT	**Mingjian** baz=251	**0.87**	**255**	P	**Pn**	**09 07 50.5**	**0.0**
WNT	baz=251			*e*S	**Sn**	**09 08 02.6**	**+0.3**
TWA	**Mucha** baz=358	**0.87**	**359**	*i* P	**Pn**	**09 07 51.4**	**+0.8**
TWA	baz=358			*e*S	**Sb**	**09 08 02.0**	**+0.4**
TATO	**Taipei** baz=4.0	**0.87**	**353**	*i* P	**Pn**	**09 07 50.9**	**+0.3**
SBCB	**Hsinchu** baz=322	**0.88**	**321**	*e*P	**Pb**	**09 07 50.4**	**-0.2**
SBCB	baz=322			*e*S	**Sb**	**09 08 02.2**	**+0.3**
TIPB	**Shuangxi** baz=12	**0.88**	**13**	*e*P	**Pn**	**09 07 50.6**	**-0.1**
TIPB	baz=12			*e*S	**Sn**	**09 08 03.0**	**+0.2**
HSN	**Hsinchu** baz=331	**0.90**	**320**	*e*P	**Pb**	**09 07 51.8**	**+1.0**
HSN	baz=331			*e*S	**Sb**	**09 08 03.4**	**+0.9**
WDJ	**Dajia District** baz=284	**0.91**	**285**	P	**Pb**	**09 07 51.2**	**+0.2**
WDJ	baz=284			*e*S	**Sn**	**09 08 03.8**	**+0.5**
NTY	**Taoyuan** baz=346	**0.93**	**343**	P	**Pb**	**09 07 52.2**	**+0.8**
NTY	baz=346			*e*S	**Sn**	**09 08 05.6**	**+1.7**
NCUH	**Zhongli** baz=339	**0.94**	**336**	P	**Pb**	**09 07 51.8**	**+0.3**
NCUH	baz=339			*e*S	**Sn**	**09 08 05.1**	**+1.1**
NCU	**National Centr** baz=339	**0.94**	**336**	P	**Pb**	**09 07 51.9**	**+0.3**
NCU	baz=339			*e*S	**Sn**	**09 08 05.3**	**+1.3**
ALS	**Alishan** baz=213	**0.94**	**231**	⇑*i*P	**Pb**	**09 07 51.5**	**-0.3**
ALS	baz=213			*i* S	**Sn**	**09 08 04.2**	**-0.3**
FULB	**Fuli** baz=202	**0.95**	**197**	*e*P	**Pb**	**09 07 52.6**	**+0.9**
FULB	baz=202			*e*S	**Sn**	**09 08 06.6**	**+2.2**
WCHH	**Zhanghua** baz=265	**0.95**	**268**	P	**Pb**	**09 07 52.3**	**+0.6**
WCHH	baz=265			*e*S	**Sb**	**09 08 04.7**	**+0.7**
TWB1	**Santiao Chiao** baz=23	**0.96**	**22**	P	**Pb**	**09 07 52.5**	**+0.5**
TWB1	baz=23			*e*S	**Sn**	**09 08 05.6**	**+0.9**
NWF	**Wu-fen Shan** baz=21	**0.97**	**10**	P	**Pb**	**09 07 52.8**	**+0.6**
NWF	baz=21			*e*S	**Sn**	**09 08 05.5**	**+0.4**
CHN5	**Tsauling** baz=234	**0.98**	**239**	P	**Pb**	**09 07 52.6**	**+0.2**
CHN5	baz=234			*i* S	**Sn**	**09 08 06.5**	**+1.2**
TWS1	**Kuangyinshan** baz=6.0	**1.00**	**351**	⇓*i*P	**Pb**	**09 07 52.9**	**+0.3**
TWS1	baz=6.0			S	**Sn**	**09 08 07.2**	**+1.5**
SXI1	**Grass Mountain** baz=5.0	**1.01**	**14**	*e*P	**Pb**	**09 07 53.1**	**+0.2**
SXI1	baz=5.0			*e*S	**Sn**	**09 08 06.4**	**+0.3**
NHW	**Xinwu Township** baz=332	**1.02**	**331**	*i* P	**Pb**	**09 07 53.3**	**+0.3**
NHW	baz=332			*e*S	**Sn**	**09 08 07.9**	**+1.7**
CHKT	**Chengkung** baz=186	**1.03**	**192**	*e*P	**Pn**	**09 07 51.4**	**-1.3**
CHKT	baz=186			*e*S	**Sn**	**09 08 06.1**	**-0.2**
YM01	**YM01** baz=2.0	**1.03**	**359**	P	**Pb**	**09 07 53.1**	**-0.1**
YM01	baz=2.0			S	**Sn**	**09 08 07.3**	**+0.8**
WGK	**Gukeng** baz=242	**1.04**	**246**	*e*P	**Pb**	**09 07 53.8**	**+0.6**
WGK	baz=242			S	**Sn**	**09 08 07.8**	**+1.3**
WDLH	**Douliu** baz=233	**1.06**	**247**	*e*P	**Pb**	**09 07 53.6**	**+0.1**
WDLH	baz=233			*e*S	**Sb**	**09 08 07.9**	**+1.0**
ELDTW	**Lidau** baz=193	**1.06**	**210**	*e*P	**Pn**	**09 07 52.8**	**-0.5**
ELDTW	baz=193			*e*S	**Sn**	**09 08 07.3**	**+0.1**
NTST	**Danshui** baz=7.0	**1.06**	**353**	*e*P	**Pb**	**09 07 54.0**	**+0.4**
NTST	baz=7.0			*e*S	**Sb**	**09 08 07.8**	**+0.7**
ANP	**Anpu** baz=360	**1.08**	**356**	P	**Pn**	**09 07 53.5**	**+0.1**
ANP	baz=360			*e*S	**Sb**	**09 08 08.3**	**+0.7**
WRL	**Guolierlin Hig** baz=257	**1.14**	**260**	*e*P	**Pn**	**09 07 54.3**	**+0.1**
WRL	baz=257			*e*S	**Sb**	**09 08 09.6**	**+0.3**
EDH	**Donghe** baz=188	**1.16**	**194**	*e*P	**Pb**	**09 07 55.2**	**-0.1**
EDH	baz=188			*e*S	**Sb**	**09 08 09.4**	**-0.6**
WTK	**Tuku** baz=246	**1.18**	**250**	*i* P	**Pb**	**09 07 55.6**	**-0.1**
WTK	baz=246			*e*S	**Sb**	**09 08 11.1**	**+0.5**
TPUB	**Ta-pu** baz=212	**1.20**	**228**	*e*P	**Pb**	**09 07 56.0**	**+0.1**
TPUB	baz=212			S	**Sb**	**09 08 12.5**	**+1.4**
STYH	**Taoyuan** baz=206	**1.20**	**219**	P	**Pb**	**09 07 56.2**	**+0.2**
STYH	baz=206			*e*S	**Sb**	**09 08 11.9**	**+0.8**
STYT	**Tauyuan** baz=204	**1.22**	**220**	P	**Pb**	**09 07 55.8**	**-0.6**
WTCT	**Ta-ch'eng** baz=255	**1.23**	**259**	*e*S	**Sb**	**09 08 12.6**	**+0.7**
CHY	**Chiayi** baz=237	**1.24**	**241**	*e*P	**Pb**	**09 07 57.1**	**+0.6**
CHY	baz=237			*e*S	**Sb**	**09 08 13.7**	**+1.6**
WTP	**Ta-pu** baz=212	**1.25**	**227**	P	**Pb**	**09 07 57.0**	**+0.2**
WTP	baz=212			*e*S	**Sb**	**09 08 14.6**	**+2.2**
LONT	**Longtian** baz=182	**1.27**	**200**	*e*P	**Pb**	**09 07 57.7**	**+0.5**
TWK	**Hsinying** baz=225	**1.32**	**231**	*e*P	**Pb**	**09 07 58.3**	**+0.3**
TWK	baz=225			*e*S	**Sb**	**09 08 16.2**	**+1.6**
YOJ	**Yonaguni jima**	**1.34**	**74**	P	**Pb**	**09 07 57.5**	**-0.8**
YOJ				*e*S	**Sb**	**09 08 15.0**	**0.0**
YOJ	**Yonaguni jima** baz=78	**1.34**	**74**	*e*P	**Pb**	**09 07 57.7**	**-0.6**
SNST	**Tainan City** baz=212	**1.34**	**229**	P	**Pb**	**09 07 58.8**	**+0.4**
SNST	baz=212			*e*S	**Sb**	**09 08 16.8**	**+1.6**
WSF	**Szhu** baz=246	**1.34**	**250**	*e*P	**Pb**	**09 07 57.8**	**-0.6**
WSF	baz=246			*e*S	**Sb**	**09 08 15.8**	**+0.5**
CHN1	**Nanshi** baz=210	**1.34**	**227**	P	**Pb**	**09 07 58.5**	**+0.1**
CHN1	baz=210			*e*S	**Sb**	**09 08 16.6**	**+1.4**
TWG	**Pinlang** baz=183	**1.37**	**201**	*e*P	**Pb**	**09 07 58.7**	**-0.2**
TWGBT	**Beinan** baz=183	**1.37**	**200**	*e*P	**Pb**	**09 07 58.9**	**0.0**
SGST	**Jiashian** baz=203	**1.38**	**223**	*e*P	**Pb**	**09 07 58.5**	**-0.6**
SGST	baz=203			*e*S	**Sb**	**09 08 17.4**	**+1.0**
WSL	**Shuilin Townsh** baz=241	**1.38**	**245**	*e*P	**Pb**	**09 07 58.5**	**-0.6**
WSL	baz=241			*e*S	**Sb**	**09 08 17.6**	**+1.2**
SLGT	**Liugui** baz=214	**1.41**	**218**	*e*P	**Pb**	**09 07 59.0**	**-0.7**
SLGT	baz=214			*e*S	**Sb**	**09 08 19.7**	**+2.5**
ICHU	**Yijhu** baz=219	**1.42**	**239**	*i* P	**Pb**	**09 07 59.6**	**-0.2**
ICHU	baz=219			*e*S	**Sb**	**09 08 18.1**	**+0.7**
LDUT	**Ludao** baz=168	**1.43**	**185**	*e*P	**Pb**	**09 07 59.9**	**-0.1**
LDUT	baz=168			*e*S	**Sn**	**09 08 16.0**	**-0.3**
SHHT	**Tainan City** baz=218	**1.58**	**227**	*e*P	**Pb**	**09 08 03.0**	**+0.6**
SCST	**Cishan** baz=214	**1.58**	**220**	*e*P	**Pb**	**09 08 02.6**	**+0.1**
SCST	baz=214			*e*S	**Sb**	**09 08 22.9**	**+0.8**
SCLT	**Jiali** baz=214	**1.59**	**234**	*e*S	**Sb**	**09 08 22.6**	**+0.3**
ECL	**Taimali** baz=186	**1.62**	**202**	*e*P	**Pn**	**09 08 01.0**	**+0.2**
SSD	**Sandimen** baz=208	**1.62**	**213**	*e*P	**Pb**	**09 08 02.3**	**-0.8**
SSD	baz=208			*e*S	**Sb**	**09 08 23.8**	**+0.6**
TSMG	**Majia** baz=221	**1.65**	**212**	*e*P	**Pn**	**09 08 01.8**	**+0.6**
TSMG	baz=221			*e*S	**Sb**	**09 08 23.4**	**-0.6**
MASBT	**Mashibuluo** baz=219	**1.73**	**211**	*e*P	**Pb**	**09 08 03.3**	**-1.8**
MASBT	baz=219			*e*S	**Sb**	**09 08 26.2**	**-0.3**
EAST	**Anshuo** baz=185	**1.85**	**202**	*e*P	**Pb**	**09 08 05.5**	**-1.6**
PNG	**Penghu** baz=249	**1.95**	**254**	P	**Pn**	**09 08 05.7**	**+0.3**
PNG	baz=249			S	**Sn**	**09 08 29.2**	**+0.2**
PHUB	**P'eng-hu** baz=248	**1.95**	**253**	*e*P	**Pn**	**09 08 05.0**	**-0.4**
PHUB	baz=248			*e*S	**Sn**	**09 08 28.9**	**-0.2**
SCZT	**Fangliau** baz=188	**1.95**	**208**	*e*P	**Pb**	**09 08 07.0**	**-1.7**
IRIF	**Iriomote-Funau**	**1.96**	**83**	P	**Pb**	**09 08 06.1**	**-2.8**
IRIF				*e*S	**Sb**	**09 08 31.1**	**-1.8**
WDGT	**Dungji** baz=239	**1.97**	**245**	P	**Pn**	**09 08 06.2**	**+0.5**
WDGT	baz=239			*e*S	**Sn**	**09 08 30.7**	**+1.2**
HATJ	**Hateruma jima**	**2.02**	**91**	*e*S	**Sb**	**09 08 32.1**	**-2.5**
SLIU	**Shizi** baz=186	**2.02**	**201**	*e*P	**Pb**	**09 08 08.2**	**-1.8**
VCHM	**Qimei** baz=226	**2.18**	**246**	*e*P	**Pn**	**09 08 09.3**	**+0.7**
VCHM	baz=226			*e*S	**Sn**	**09 08 35.3**	**+0.6**
JKRS	**Kuro-shima**	**2.21**	**86**	P	**Pn**	**09 08 09.4**	**+0.5**
JIJ	**Ishigaki jima**	**2.34**	**83**	P	**Pn**	**09 08 11.3**	**+0.6**
JIJ				S	**Sn**	**09 08 38.8**	**+0.2**
JISG	**Ishigakijimahi**	**2.52**	**79**	P	**Pn**	**09 08 14.1**	**+0.9**
MATB	**Ma-tsu** baz=328	**2.53**	**324**	*e*P	**Pn**	**09 08 12.7**	**-0.7**
JTJ	**Tarama**	**2.88**	**79**	*e*S	**Sn**	**09 08 53.7**	**+1.7**
KNM	**Kinmen** baz=272	**2.91**	**277**	*e*P	**Pn**	**09 08 19.4**	**+0.9**
KNMB	**Chin-men Tao** baz=275	**2.95**	**278**	*e*P	**Pn**	**09 08 17.6**	**-1.5**
KNMB	baz=275			*e*S	**Sn**	**09 08 52.7**	**-1.1**
MHZQ	**Yeshan** baz=313	**3.06**	**311**	*e*P	**Pn**	**09 08 20.1**	**-0.6**
XPSS	**Dashiqiu** baz=343	**3.08**	**336**	*e*P	**Pn**	**09 08 20.5**	**-0.5**
JIRB	**Irabujima**	**3.33**	**77**	*e*S	**Sn**	**09 09 05.1**	**+1.8**
AXDP	**Jialang** baz=281	**3.40**	**284**	*e*P	**Pn**	**09 08 24.4**	**-0.9**
JIKM	**Ikemajima**	**3.42**	**76**	*e*S	**Sn**	**09 09 07.8**	**+2.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JMJ2	Miyako jima3	3.46	79	eS	Sn	09 09 06.8	+0.5
ZPLA	Ao Xicun	3.52	268	eP	Pn	09 08 26.1	-1.0
	baz=262						
SXFK	Yanhouchang	4.24	303	eP	Pn	09 08 36.1	-0.9
	baz=303						

*IDC **05** 09:18:14.5±1.2, 35.°47N×3.°71W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/50, mbtmp3.5/6, ML3.3/2, MS3.0/1, Ms1 3.1/1, ms1mx2.3/62, Error ellipse: s-maj=31.9km s-min=12.9km az=97.0*
*CNRM **05** 09:18:16.0, 35.°50N×3.°80W, h27km, ml3.7*
*IGIL **05** 09:18:16.5, 35.°45N×3.°80W, h1km*
*SFS **05** 09:18:16.0, 35.°44N×3.°80W, ML3.3, ALBORAN SUR*
*MDD **05** 09:18:17.0±0.7, 35.°42N×3.°76W, h10km±5km, mb_Lg3.6/6, Error ellipse: s-maj=3.9km s-min=2.2km az=165.0*
ISC 05 09:18:15.8±1.2, **35.°46N**±0.°02×**3.°81W**±0.°03, **h11**km±9km, **n51**, σ**1.s59**/82, **mb3.5**/4, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.27	203	P	Pb	09 18 22.6	0.0
PALE				S	Sb	09 18 27.2	0.0
EMEL	Melilla	0.72	103	Pg	Pg	09 18 29.8	+0.1
EMEL				Sg	Sg	09 18 38.7	-0.4
EALB	Alboran	0.79	53	Pg	Pg	09 18 31.2	+0.2
EALB				Sg	Sg	09 18 41.7	+0.3
SMIR	Smir Dam	1.30	280	P	Pn	09 18 37.7	-2.1
SMIR				S	Sb	09 18 52.4	-4.4
TAF	Taforalt	1.32	119	P	Pn	09 18 38.6	-1.5
TAF				S	Sb	09 18 55.4	-2.0
CEU	Ceuta	1.34	289	P	Pn	09 18 37.9	-2.5
CEU				S	Sb	09 18 53.6	-4.5
EMIJ	Mijas	1.35	325	Pn	Pn	09 18 40.9	+0.4
EMIJ				Sn	Sb	09 18 57.9	-0.4
EMAL	Malaga-Limoner	1.39	339	P	Pn	09 18 41.2	+0.1
EMAL				S	Sn	09 19 00.1	+0.7
ELGU	Los Guajares,	1.41	6	Pn	Pn	09 18 40.8	-0.7
ELGU				Sn	Sn	09 18 59.9	-0.1
ELGU				i Vmb_Lg		09 19 05.8	
JBK	JBK	1.52	137	P	Pn	09 18 41.6	-1.5
JBK				S	Sg	09 19 07.6	+2.9
EGOR	Sierra Gorda,	1.66	352	Pn	Pn	09 18 45.7	+0.8
EGOR				Sn	Sn	09 19 06.5	+0.2
EQUE	Quentar	1.76	10	Pn	Pn	09 18 46.4	+0.1
EQUE				Sn	Sn	09 19 08.8	0.0
SICH	Sidi Chahed	1.84	223	P	Pn	09 18 47.0	-0.2
SICH				S	Sb	09 19 12.7	+0.3
LCRM	LCR	1.97	206	P	Pn	09 18 49.6	+0.4
LCRM				S	Sn	09 19 14.3	+0.3
ENIJ	Nijar	1.99	40	Pn	Pn	09 18 48.1	-1.2
ENIJ				Sn	Sn	09 19 11.0	-3.2
IFR	Ifrane	2.23	210	P	Pn	09 18 52.9	+0.1
IFR				S	Sn	09 19 19.9	-0.4
CZD	Col de Zad	2.63	203	P	Pn	09 18 59.3	+0.9
CZD				S	Sn	09 19 30.5	+0.1
MD31	MD31	2.71	197	P	Pn	09 19 00.0	+0.8
MD31				S	Sn	09 19 32.0	0.0
MDT	Midelt	2.72	194	Pn	Pn	09 19 00.1	+0.5
	5.4nm,0.3s,baz=185,slow=16,SNR=84						
MDT				Sn	Sn	09 19 33.1	+0.7
	14nm,0.3s,baz=121,slow=20,SNR=7.8						
MDT				Lg	Lg	09 19 40.9	
	14nm,0.3s,baz=273,slow=11,SNR=7.8						
MDT	Midelt	2.72	194	P	Pn	09 19 01.1	+1.6
MDT				S	Sn	09 19 31.9	-0.6
TDRA	Tendrara	2.83	148	P	Pn	09 19 00.8	-0.3
TDRA				S	Sn	09 19 32.7	-2.6
ECAB	El Cabril	2.91	334	Pn	Pn	09 19 04.6	+2.6
ECAB				Sn	Sn	09 19 39.6	+2.6
EZAR	Zarzadilla de	2.95	35	Pn	Pn	09 19 02.3	-0.3
EZAR				Sn	Sn	09 19 37.7	-0.3
ZHG	ZHG	3.09	230	P	Pn	09 19 04.4	-0.1
CART	Cartagena	3.10	46	P	Pn	09 19 04.0	-0.6
CART				S	Sn	09 19 37.3	-4.3
EGRO	El Granado	3.61	306	Pn	Pn	09 19 12.2	+0.6
EGRO				Sn	Sn	09 19 51.5	-2.7
ETOB	Tobarra	3.66	29	Pn	Pn	09 19 14.2	+1.9
ETOB				Sn	Sn	09 19 55.6	+0.2
AVE	Averroes	3.68	235	P	Pg	09 19 23.9	-2.4
AVE				S	Sn	09 19 57.6	+1.7
PVAQ	Vaqueiros	3.70	303	P	Pn	09 19 13.4	+0.6
PVAQ				S	Sn	09 19 54.8	-1.5
FIGM	Figuig	3.94	147	P	Pn	09 19 15.6	-0.7
PAB	San Pablo	4.10	354	Pn	Pn	09 19 20.2	+1.8
PAB				i Vmb_Lg		09 20 29.1	
EBAD	Badajoz	4.16	323	Pn	Pn	09 19 20.3	+1.1
EBAD				Sn	Sn	09 20 07.9	0.0
ESDC	Sonseca Array	4.21	358	Pn	Pn	09 19 21.5	+1.6
	0.9nm,0.3s,baz=178,slow=12,SNR=34						
ESDC				Sn	Sn	09 20 08.3	-0.7
	0.8nm,0.3s,baz=174,slow=22,SNR=4.5						
ESDC				Lg	Lg	09 20 25.3	
	1.4nm,0.3s,baz=176,slow=29,SNR=6.4						
ESDC	Sonseca Array	4.21	358	Pn	Pn	09 19 19.8	-0.1
MORF	Marmelete	4.32	297	eP	Pn	09 19 21.6	+0.2
PFVI	Vila Bisbo	4.38	294	P	Pn	09 19 23.0	+0.8
PESTR	Estremoz	4.54	320	P	Pn	09 19 27.0	+2.6
EVO	Evora	4.55	314	P	Pn	09 19 25.1	+0.6
EVO				S	Sn	09 20 14.1	-3.2
ECHE	Chera	4.70	28	Pn	Pn	09 19 28.0	+1.4
ECHE				i Vmb_Lg		09 21 29.9	
TZRR	Tazzarine	4.89	198	P	Pn	09 19 30.3	+1.0
EPLA	Plasencia	4.93	339	Pn	Pn	09 19 32.7	+2.9
EPLA				Sn	Sn	09 20 26.9	+0.1
EPLA				i Vmb_Lg		09 21 32.0	
OUZM	OUZ	5.17	209	P	Pn	09 19 34.1	+1.0
OUK	Oukaimeden	5.43	220	P	Pn	09 19 37.1	+0.1
ETOR	Torete	5.52	14	Pn	Pn	09 19 39.8	+1.8
ETOR				i Vmb_Lg		09 23 38.9	
ZGR	Zagora	5.54	196	P	Pn	09 19 39.2	+0.9
TTIG	Tnine Tigouga,	6.26	220	P	Pn	09 19 46.2	-2.0
TORD	Torodi Ar. Bea	22.77	166	P	P	09 23 18.4	+0.2
	0.5nm,0.7s,baz=342,slow=8.8,SNR=3.9						
NOA	NORSAR Array B	27.34	16	LR	LR	09 35 21.7	
	comp=Z,27nm,18.1s,baz=310,slow=38						
KURBB	Kurchatov Arra	59.03	47	P	P	09 28 16.1	+0.6
	1.3nm,0.8s,baz=295,slow=7.6,SNR=2.2						
PDAR	Pinedale Array	76.84	313	P	P	09 30 08.2	+0.2
	0.4nm,0.5s,baz=61,slow=7.3,SNR=4.6						
TXAR	Lajitas Array	80.82	299	P	P	09 30 31.8	+1.9
	0.1nm,0.3s,baz=69,slow=4.9,SNR=1.8						

*IDC **05** 09:24:59.5±3.2, 53.°83N×91.°01E, h0km, mb1 3.3/3, mb1mx3.0/61, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=27.0km s-min=23.3km az=45.0*
*NNC **05** 09:25:05.6±8.5, 53.°62N×90.°32E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=68.0km s-min=36.9km az=56.0, Suspected Mining explosion.*
ISC 05 09:24:58.2±4.4, **54.°0N**±0.°2×**90.°8E**±0.°2, **h0**km, **n7**, σ**2.s08**/10, **2C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.51	272	i		09 48 30.0	
	baz=92,slow=317,SNR=3.9						
ZAA0	Zalesovo Array	3.51	271	⇓Pg	Pg	09 26 06.4	+1.0
	0.9nm,0.5s						
ZAA0				⇓Lg	Lg	09 26 51.6	
	10nm,0.8s						
ZALV	Zalesovo Beam	3.51	271	Pn	Pb	09 25 59.3	-1.9
	1.1nm,0.3s,baz=88,slow=16,SNR=11						
ZALV				Lg	Lg	09 26 54.2	
	4.5nm,0.3s,baz=86,slow=28,SNR=8.8						
KURK	Kurchatov	8.13	251	⇑Pn	Pn	09 26 56.7	-0.6
	6.1nm,1.1s						
KURK				⇓Sn	Sn	09 28 28.5	-1.4
	12nm,0.7s						
KURBB	Kurchatov Arra	8.22	251	Pn	Pn	09 26 59.5	+0.8
	0.1nm,0.3s,baz=66,slow=15,SNR=8.7						
KURBB				Sn	Sn	09 28 35.9	+3.7
	0.2nm,0.3s,baz=66,slow=25,SNR=7.5						
KURBB				Lg	Lg	09 29 20.6	
	baz=62,slow=34,SNR=3.3						
MK31	Makanchi Array	9.02	220	Pn	Pn	09 27 10.3	+0.7
	0.5nm,0.5s,baz=35,slow=12,SNR=26						
MK31				⇓Sn	Sn	09 28 49.8	-2.0
	0.9nm,0.5s,baz=29,slow=27,SNR=4.4						
MK31				⇑Lg	Lg	09 29 36.0	
	9.9nm,1.1s,baz=35,slow=28,SNR=3.9						
MKAR	Makanchi Array	9.02	220	Pn	Pn	09 27 11.5	+1.9
	0.4nm,0.3s,baz=39,slow=13,SNR=26						
MKAR				Sn	Sn	09 28 50.9	-0.8
	0.3nm,0.3s,baz=41,slow=24,SNR=5.6						
MKAR				Lg	Lg	09 29 41.1	
	0.1nm,0.3s,baz=35,slow=29,SNR=3.0						

IDC 05 09:35:07.6±1.1, **5.°10S**×**151.°38E**, **h75**km±17km, **mb3.1**/3, **mb1 3.4**/4, **mb1mx3.0**/35, **mbtmp3.5**/4, **Error ellipse: s-maj=110.9km s-min=14.5km az=130.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.01	39	P	Pn	09 35 24.8	-1.8
	8.7nm,0.3s,baz=56,slow=0.3,SNR=112						
KRVT				S	Sn	09 35 41.3	+0.5
	14nm,0.3s,baz=94,slow=24,SNR=27						
PMG	Port Moresby	5.99	224	P	Pn	09 36 34.3	+0.5
	1.2nm,0.3s,baz=7.1,slow=16,SNR=4.4						
PMG				S	Sn	09 37 42.2	+1.2
	1.2nm,0.3s,baz=163,slow=20,SNR=1.5						
WRA	Warramunga Arr	22.20	227	P	P	09 39 57.5	-0.5
	0.3nm,0.5s,baz=52,slow=10.0,SNR=5.7						
ASAR	Alice Springs	24.99	221	P	P	09 40 24.8	+0.2
	0.6nm,0.5s,baz=55,slow=9.3,SNR=9.5						
FITZ	Fitzroy Crossi	28.28	241	P	P	09 40 54.6	+0.4
	1.2nm,0.8s,baz=61,slow=10,SNR=1.7						
TORD	Torodi Ar. Bea	149.05	287	PKPbc	PKPbc	09 54 47.9	-0.4
	0.3nm,0.4s,baz=87,slow=2.2,SNR=2.6						

*NNC **05** 09:40:38.8±0.7, 43.°72N×69.°73E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=4.0km s-min=3.7km az=105.0, Suspected Mining explosion.*
*SOME **05** 09:40:38.2, 43.°67N×69.°67E*
*KRNET **05** 09:40:40.7±0.1, 43.°70N×69.°11E, mb3.0*
ISC 05 09:40:38.3±2.1, **43.°91N**±0.°07×**69.°99E**±0.°09, **h0**km, **n25**, σ**1.s01**/38, **19C-5D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	Karatay Array	0.87	154	⇑P	Pg	09 40 54.6	-0.3
KK09				⇑S	Sg	09 41 06.6	+0.5
KK08	Karatay Array	0.88	155	⇑P	Pg	09 40 54.6	-0.5
KK08				⇑S	Sg	09 41 06.7	+0.2
KK05	Karatay Array	0.88	153	⇓P	Pg	09 40 54.7	-0.5
KK05				⇑S	Sg	09 41 06.6	+0.1
KK04	Karatay Array	0.88	154	⇓P	Pg	09 40 54.6	-0.5
KK04				⇓S	Sg	09 41 06.2	-0.4
BRLS	Borolday	0.88	187	P	Pg	09 40 55.5	+0.4
	4.9nm,0.2s						
BRLS				S	Sb	09 41 10.0	+1.2
	19nm,0.3s						
KK01	Karatay Array	0.89	155	⇑P	Pg	09 40 54.8	-0.5
KK01				⇑S	Sg	09 41 06.3	-0.4
KK03	Karatay Array	0.89	155	⇑P	Pg	09 40 54.8	-0.4
KK03				⇑S	Sg	09 41 06.3	-0.5
KK02	Karatay Array	0.89	154	⇑P	Pg	09 40 54.8	-0.5
	2.5nm,0.3s,baz=324,slow=18						
KK02				⇑S	Sg	09 41 06.4	-0.4
	44nm,0.6s						
KK07	Karatay Array	0.90	155	⇑P	Pg	09 40 55.0	-0.5
KK07				⇓S	Sg	09 41 06.8	-0.4
KK06	Karatay Array	0.90	154	⇑P	Pg	09 40 54.9	-0.6
KK06				⇓S	Sg	09 41 06.9	-0.4
TRKS	Terek-Say	2.52	160	⇑iP	Pb	09 41 24.2	-0.3
	baz=45						
TRKS				⇑iS	Sb	09 41 56.0	-0.2
	baz=45						
ARK	Arkit	2.56	145	⇑iP	Pb	09 41 26.1	+1.0
	baz=31						
ARK				⇑iS	Sb	09 41 59.0	+1.8
	baz=31						
MRKS	Merke	2.63	115	Pg	Pg	09 41 30.3	+1.5
	6.3nm,0.6s						
MRKS				Lg	Lg	09 42 09.7	
	16nm,0.5s						
BTK	Batken	3.90	171	⇑iP	Pn	09 41 40.6	+1.2
	baz=60						
BTK				⇑iS	Sn	09 42 22.5	-3.4
	baz=60						
KRBS	Karabastau	4.12	91	Pg	Pg	09 41 57.7	+0.4
	4.4nm,0.5s						
KRBS				Lg	Lg	09 42 56.8	
	6.4nm,0.5s						
DGS	Degeres	4.26	97	Pg	Pg	09 41 59.8	-0.1
	4.9nm,0.5s						
DGS				Lg	Lg	09 43 00.7	
	6.9nm,0.5s						
KUU	Kurty	4.59	88	Pg	Pg	09 42 06.9	+0.7
	2.1nm,0.4s						
KUU				Lg	Lg	09 43 12.6	
	7.8nm,0.6s						
MTBS	Maitube	4.75	97	Pg	Pg	09 42 10.2	+0.9
	1.7nm,0.5s						
MTBS				Lg	Lg	09 43 18.1	
	8.2nm,0.4s						
KTBS	Karatobe	4.85	90	Pg	Pg	09 42 11.1	-0.1
	3.1nm,0.7s						
KTBS				Lg	Lg	09 43 19.9	
	8.5nm,0.5s						
TNSS	Tian-Shan	5.14	97	Pg	Pg	09 42 16.4	-0.4
	1.6nm,0.5s						
TNSS				Lg	Lg	09 43 28.8	
	2.2nm,0.5s						
KOTS	Kotyrbulak	5.22	95	Pg	Pg	09 42 17.5	-0.8
	2.8nm,0.6s						
KOTS				Lg	Lg	09 43 31.7	
	7.4nm,0.5s						
ARXS	Arharly	5.66	84	Pg	Pg	09 42 26.1	-0.6
	1.4nm,0.6s						
ARXS				Lg	Lg	09 43 45.8	
	4.4nm,0.5s						
KURS	Kuram	5.95	91	Pg	Pg	09 42 32.8	+0.6
	1.7nm,0.6s						
KURS				Lg	Lg	09 43 58.1	
	2.8nm,0.4s						
BLB	Baldybastay	6.13	85	Pg	Pg	09 42 33.1	-2.5
	2.9nm,0.4s						
BLB				Lg	Lg	09 43 58.5	
	3.7nm,0.6s						
PDGK	Podgornoye	6.92	92	Pg	Pg	09 42 49.5	-1.4
	0.6nm,0.5s						
PDGK				Lg	Lg	09 44 25.6	
	0.8nm,0.6s						

*SFS **05** 09:41:53.0, 35.°47N×3.°79W, ML2.0, ALBORAN SUR*
*MDD **05** 09:41:53.5±0.5, 35.°47N×3.°80W, h0km, mb_Lg2.0/4, Error ellipse: s-maj=4.2km s-min=3.3km az=21.0*
*CNRM **05** 09:41:54.9, 35.°38N×3.°80W, h16km, ml2.5*
ISC 05 09:41:53.3±1.0, **35.°45N**±0.°03×**3.°79W**±0.°04, **h14**km±8km, **n13**, σ**0.s75**/25, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.27	208	P	Pg	09 41 59.4	+0.4
PALE				S	Sg	09 42 03.0	+0.2
EMEL	Melilla	0.69	103	Pg	Pg	09 42 07.1	+0.3
EMEL				Sg	Sg	09 42 15.8	-0.1
EALB	Alboran	0.78	51	Pg	Pg	09 42 07.7	-0.7
EALB				Sg	Sg	09 42 17.9	-0.8
EALB				i Vmb_Lg		09 42 18.3	
EMIJ	Mijas	1.37	324	Pg	Pn	09 42 18.2	+0.2
EMIJ				Sg	Sb	09 42 35.3	-0.7
EMIJ				i Vmb_Lg		09 42 40.3	
EMAL	Malaga-Limoner	1.41	338	P	Pb	09 42 19.5	+0.2
EMAL				S	Sg	09 42 38.5	-0.1
EGOR	Sierra Gorda,	1.67	351	Pn	Pn	09 42 23.1	+0.8
EGOR				Sg	Sn	09 42 44.2	+0.6
EGOR				i Vmb_Lg		09 42 52.8	
EQUE	Quentar	1.77	9	Pg	Pn	09 42 24.9	+1.3
EQUE				Sn	Sn	09 42 45.7	-0.3
IFR	Ifrane	2.23	210	P	Pn	09 42 29.9	0.0
IFR				S	Sn	09 42 55.7	-1.6
MD31	MD31	2.70	198	P	Pn	09 42 36.3	-0.1
MD31				S	Sn	09 43 09.5	+0.5
MDT	Midelt	2.72	195	P	Pn	09 42 37.7	+1.1
MDT				S	Sn	09 43 09.3	0.0
ECAB	El Cabril	2.93	334	Pg	Pb	09 42 44.2	-1.1
ECAB				Sn	Sn	09 43 14.4	0.0
ECAB				i Vmb_Lg		09 43 31.4	
ETOB	Tobarra	3.65	29	Pn	Pn	09 42 50.2	+0.8
ETOB				Sn	Sn	09 43 32.7	+0.4
EBAD	Badajoz	4.18	323	Sn	Sn	09 43 46.5	+1.1

TAP 05 10:08:32.2, 22.°90N×120.°97E, h7km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.12	129	i P	Pg	10 08 35.8	+0.8
	baz=128						
TWG				i S	Sg	10 08 38.0	+1.1
	baz=128						
TWGBT	Beinan	0.13	128	i P	Pg	10 08 35.8	+0.7
	baz=128						
TWGBT				S	Sg	10 08 37.9	+0.8
	baz=128						
LONT	Longtian	0.15	87	i P	Pg	10 08 35.8	+0.3
	baz=87						
LONT				eS	Sg	10 08 38.0	+0.4
	baz=87						
TTN	Taitung	0.22	131	eS	Sg	10 08 42.5	+2.9
	baz=131						
ELDTW	Lidau	0.29	9	eS	Sg	10 08 41.3	-0.7
	baz=10.0						
ECL	Taimali	0.30	182	eP	Pg	10 08 38.7	+0.5
	baz=181						
ECL				S	Sg	10 08 42.7	+0.5
	baz=181						
SLGT	Liugui	0.31	288	eP	Pg	10 08 38.6	+0.3
	baz=288						
SLGT				eS	Sg	10 08 43.8	+1.3
	baz=288						
EDH	Donghe	0.32	77	P	Pg	10 08 39.4	+0.8
	baz=73						
EDH				eS	Sb	10 08 45.1	-0.5
	baz=73						
STYH	Taoyuan	0.32	327	i P	Pg	10 08 39.4	+0.8
	baz=327						
STYH				eS	Sg	10 08 43.3	+0.4
	baz=327						
STYT	Tauyuan	0.33	324	i P	Pg	10 08 39.3	+0.6
	baz=325						
SSD	Sandimen	0.34	244	P	Pg	10 08 39.1	+0.1
	baz=243						
SSD				eS	Sg	10 08 44.0	+0.4
	baz=243						
TSMG	Majia	0.35	237	P	Pg	10 08 39.4	+0.2
	baz=237						
TSMG				eS	Sg	10 08 44.0	+0.1
	baz=237						
SGST	Jiashian	0.40	297	i P	Pg	10 08 40.1	+0.1
	baz=301						
SGST				eS	Sg	10 08 46.4	+1.2
	baz=301						
CHKT	Chengkung	0.42	61	eP	Pg	10 08 40.6	+0.2
	baz=62						
CHKT				eS	Sb	10 08 48.7	+0.2
	baz=62						
MASBT	Mashibuluo	0.42	227	P	Pg	10 08 40.8	+0.4
	baz=228						
FULB	Fuli	0.42	45	P	Pg	10 08 41.2	+0.7
	baz=35						
FULB				eS	Sb	10 08 47.7	-1.0
	baz=35						
SCST	Cishan	0.44	268	eP	Pb	10 08 41.8	-0.5
	baz=262						
WTP	Ta-pu	0.47	317	eP	Pb	10 08 42.6	-0.3
	baz=316						
WTP				eS	Sb	10 08 49.5	-0.7
	baz=316						
CHN1	Nanshi	0.49	305	P	Pb	10 08 43.7	+0.5
	baz=307						
CHN1				eS	Sb	10 08 52.4	+1.7
	baz=307						
TPUB	Ta-pu	0.51	322	eP	Pb	10 08 42.9	-0.5
	baz=327						
TPUB				eS	Sb	10 08 50.4	-0.6
	baz=327						
LDUT	Ludao	0.52	116	eP	Pb	10 08 43.4	-0.2
	baz=116						
LDUT				eS	Sb	10 08 51.8	+0.5
	baz=116						
EYUL	Yuli	0.55	36	P	Pg	10 08 42.5	-0.4
	baz=28						
EYUL				eS	Sg	10 08 50.5	+0.3
	baz=28						
CHN4	Tsaushan	0.57	323	eP	Pb	10 08 44.5	+0.1
	baz=333						
CHN4				S	Sb	10 08 53.2	+0.4
	baz=333						
TWK	Hsinying	0.57	310	P	Pb	10 08 45.1	+0.4
	baz=312						
TWK				eS	Sb	10 08 53.9	+0.9
	baz=312						
YULB	Yu-li	0.58	32	eP	Pg	10 08 42.7	-0.8
	baz=32						
YULB				eS	Sg	10 08 51.3	+0.3
	baz=32						
ALS	Alishan	0.63	346	eP	Pb	10 08 45.6	-0.1
	baz=347						
ALS				eS	Sb	10 08 54.5	-0.3
	baz=347						
EHY	Hungye	0.69	28	eP	Pg	10 08 45.1	-0.4
	baz=29						
EHY				eS	Sg	10 08 55.2	+0.8
	baz=29						
HGSD	Ruisui	0.72	35	P	Pg	10 08 46.1	-0.1
	baz=27						
HGSD				eS	Sn	10 08 59.0	-1.2
	baz=27						
CHN5	Tsauling	0.74	339	eP	Pb	10 08 47.3	-0.2
	baz=349						
CHN5				eS	Sn	10 08 59.4	-1.4
	baz=349						
VWDT	VWDT	0.87	11	eP	Pg	10 08 48.9	-0.1
	baz=18						
VWDT				eS	Sb	10 09 02.1	+0.8
	baz=18						
SSLB	Suanglung	0.88	359	eP	Pb	10 08 50.2	+0.3
	baz=352						
SSLB				eS	Sn	10 09 04.0	-0.2
	baz=352						
WJS	Zhushan	0.94	347	eS	Sn	10 09 05.3	-0.4
	baz=347						
WTK	Tuku	0.95	326	eS	Sn	10 09 05.4	-0.3
	baz=326						
SMLT	Sun Moon Lake	0.98	356	P	Pn	10 08 52.2	-0.4
	baz=357						
SMLT				eS	Sn	10 09 07.3	+0.6
	baz=357						
TYC	Yuchr	1.00	354	eP	Pn	10 08 53.0	+0.3
	baz=356						
TYC				S	Sn	10 09 07.6	+0.5
	baz=356						
WUSB	Renai	1.10	7	eP	Pg	10 08 53.3	-0.1
	baz=22						
WUSB				eS	Sn	10 09 11.1	+1.5
	baz=22						
WCS	Beigang Elemen	1.15	358	eP	Pn	10 08 55.8	+1.0
	baz=359						
WCS				eS	Sn	10 09 11.4	+0.6
	baz=359						
CHGB	Renai	1.17	9	eP	Pg	10 08 54.8	0.0
	baz=21						
WHF	Hehuan Shan	1.27	12	eP	Pg	10 08 56.4	-0.3
	baz=24						
WHF				eS	Sn	10 09 14.9	+0.6
	baz=24						
WHP	Taichung City	1.37	359	eP	Pg	10 08 58.7	+0.1
	baz=1.0						
WHP				eS	Sg	10 09 18.3	+1.9
	baz=1.0						
ETLH	Xiulin Townshi	1.39	20	eS	Sg	10 09 18.3	+1.4
	baz=33						

TAP 05 10:08:39.2, 22.°25N×120.°74E, h5km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIU	Shizi	0.06	122	i P	Pg	10 08 41.0	+0.2
	baz=121						
SLIU				i S	Sg	10 08 42.2	+0.3
	baz=121						
TAWH	Dawu Township	0.16	57	eP	Pg	10 08 42.8	+0.3
	baz=196						
TAWH	Dawu Township	0.16	57	i P	Pg	10 08 42.8	+0.3
	baz=56						
TAWH				S	Sg	10 08 45.5	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=56						
EAST	**Anshuo**	**0.17**	**37**	*i* P	Pg	10 08 42.9	+0.3
	baz=192						
EAST	**Anshuo**	**0.17**	**37**	*i* P	Pg	10 08 42.9	+0.4
	baz=39						
EAST				*i* S	Sg	10 08 45.9	+1.1
	baz=39						
SCZT	**Fangliau**	**0.17**	**317**	*i* P	Pg	10 08 42.9	+0.4
	baz=318						
SCZT				*i* S	Sg	10 08 45.3	+0.6
	baz=318						
MASBT	**Mashibuluo**	**0.37**	**344**	*e*P	Pg	10 08 46.8	+0.3
	baz=344						
MASBT	**Mashibuluo**	**0.37**	**344**	*e*S	Sg	10 08 46.5	-4.9
	baz=228						

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*NEIC **05** 10:26:50.6±1.4, 19.°6S±0.°1×177.°2W±0.°1, h551km±8km, mb4.4/25, Error ellipse: s-maj=19.5km s-min=17.3km az=130.0*

*IDC **05** 10:26:53.8±1.4, 19.°62S×177.°60W, h578km±15km, mb3.3/14, mb1 3.5/17, mb1mx3.4/31, mbtmp4.2/17, Error ellipse: s-maj=19.0km s-min=11.5km az=151.0*

ISC 05 10:26:50.6±0.5**, 19.°5S**±0.°1×**177.°32W**±0.°08**, h550**km**, n73, σ1.s15**/77**, mb4.1**/24**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**291**	P	**P**	**10 28 20.1**	**+1.8**
	34nm,0.3s,baz=41,slow=23,SNR=166						
MSVF	**Nonsavu**	**4.73**	**291**	P	**P**	**10 28 19.9**	**+1.6**
AFI	**Afiamalu**	**7.69**	**44**	P	**P**	**10 28 44.9**	**-0.6**
	5.4nm,0.3s,baz=135,slow=6.5,SNR=5.8						
AFI				S	**S**	**10 30 15.9**	**-3.6**
	7.0nm,0.3s,baz=298,slow=23,SNR=7.8						
AFI	**Afiamalu**	**7.69**	**44**	P	**P**	**10 28 46.0**	**+0.5**
AFI				S	**S**	**10 30 16.7**	**-2.8**
MARNC	**Mare, Loyalty**	**13.87**	**259**	P	**P**	**10 29 48.1**	**-0.4**
SANVU	**Saraoutou**	**15.31**	**283**	P	**P**	**10 30 04.2**	**+0.8**
DZM	**Mont Dzumac**	**15.40**	**258**	P	**P**	**10 30 05.2**	**+0.9**
	0.6nm,0.3s,baz=127,slow=21,SNR=6.1						
DZM	**Mont Dzumac**	**15.40**	**258**	P	**P**	**10 30 06.7**	**+2.4**
DZM				IAmb	IAmb	10 30 32.3	
	comp=Z,14nm,1.3s						
URZ	**Urewera**	**19.30**	**193**	P	**P**	**10 30 39.3**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=280,slow=2.5,SNR=12						
URZ	**Urewera**	**19.30**	**193**	P	**P**	**10 30 40.5**	**+0.4**
URZ				IAmb	IAmb	10 31 07.9	
	comp=Z,24nm,1.3s						
CAN	**Canberra**	**33.60**	**235**	P	**P**	**10 32 46.5**	**+0.8**
CAN				IAmb	IAmb	10 33 08.7	
	comp=Z,27nm,1.4s						
CTA	**Charters Tower**	**34.24**	**263**	P	**P**	**10 32 51.0**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=102,slow=8.9,SNR=12						
PMG	**Port Moresby**	**35.76**	**281**	P	**P**	**10 33 03.7**	**-0.2**
	comp=Z,7.5nm,0.7s,baz=104,slow=6.4,SNR=7.2						
PMG	**Port Moresby**	**35.76**	**281**	P	**P**	**10 33 04.1**	**+0.1**
PMG				IAmb	IAmb	10 33 05.2	
	comp=Z,8.8nm,0.8s						
STKA	**Stephens Creek**	**38.80**	**243**	P	**P**	**10 33 28.4**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=47,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**38.80**	**243**	IAmb	IAmb	10 33 30.1	
	comp=Z,2.7nm,1.3s						
WR0	**Warramunga Arr**	**45.19**	**261**	P	**P**	**10 34 18.1**	**-1.0**
WB0	**Warramunga Arr**	**45.35**	**261**	P	**P**	**10 34 19.1**	**-1.2**
WB0				IAmb	IAmb	10 34 20.2	
	comp=Z,9.0nm,1.2s						
WB2	**Warramunga Arr**	**45.37**	**261**	P	**P**	**10 34 19.6**	**-0.8**
WB2				IAmb	IAmb	10 34 20.3	
	comp=Z,8.7nm,1.2s						
WRAB	**Tennant Creek**	**45.37**	**261**	P	**P**	**10 34 19.3**	**-1.2**
ASAR	**Alice Springs**	**45.38**	**256**	P	**P**	**10 34 19.9**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=86,slow=8.2,SNR=81						
ASAR				PcP	**PcP**	**10 35 48.1**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=104,slow=4.2,SNR=8.9						
ASAR				S	**S**	**10 40 18.1**	**-3.7**
	comp=Z,0.8nm,0.8s,baz=88,slow=14,SNR=9.0						
ASAR	**Alice Springs**	**45.38**	**256**	P	**P**	**10 34 19.8**	**-0.7**
WRA	**Warramunga Arr**	**45.38**	**261**	P	**P**	**10 34 19.5**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=97,slow=7.8,SNR=75						
WRA				PcP	**PcP**	**10 35 48.2**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=94,slow=3.2,SNR=6.2						
WRA				S	S	10 40 13.5	-8.4
	comp=Z,0.3nm,0.9s,baz=96,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**45.38**	**261**	P	**P**	**10 34 19.6**	**-1.0**
MJAR	**Matsushiro Arr**	**69.80**	**323**	P	**P**	**10 37 05.5**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=151,slow=5.7,SNR=7.5						
MJAR	**Matsushiro Arr**	**69.80**	**323**	P	**P**	**10 37 06.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**69.81**	**323**	P	**P**	**10 37 06.4**	**+0.2**
MJB9				IAmb	IAmb	10 37 07.4	
	comp=Z,6.6nm,0.9s						
KKM	**Kota Kinabalu**	**70.13**	**284**	P	**P**	**10 37 08.8**	**+0.1**
QSPA	**South Pole Qui**	**70.56**	**180**	P	**P**	**10 37 12.4**	**+2.1**
UGM	**Wanagama**	**70.63**	**268**	P	**P**	**10 37 11.5**	**-0.1**
JHS	**Saijyo**	**71.78**	**319**	P	**P**	**10 37 18.4**	**+0.6**
TPUB	**Ta-pu**	**73.98**	**302**	P	**P**	**10 37 29.5**	**-1.2**
TPUB				IAmb	IAmb	10 37 29.9	
	comp=Z,17nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.51**	**325**	P	**P**	**10 37 56.1**	**+1.0**
	comp=Z,4.5nm,1.0s,baz=165,slow=7.9,SNR=5.4						
USRK	**Ussuriysk Ar.**	**78.51**	**325**	P	**P**	**10 37 55.3**	**+0.2**
OHAK	**Old Harbor**	**79.04**	**13**	P	**P**	**10 37 58.2**	**+0.6**
NVAR	**Mina Array Bea**	**79.87**	**43**	P	**P**	**10 38 04.4**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=213,slow=7.7,SNR=4.0						
O19K	**Port Alsworth**	**81.59**	**11**	P	**P**	**10 38 11.5**	**+0.7**
O19K				IAmb	IAmb	10 38 38.5	
	comp=Z,29nm,1.5s						
PMSA	**Palmer Station**	**81.94**	**157**	P	**P**	**10 38 10.1**	**-2.6**
KLR	**Kul'dur**	**82.01**	**329**	P	**P**	**10 38 13.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=180,slow=2.0,SNR=2.1						
BMRM	**Bremner River**	**84.41**	**15**	P	**P**	**10 38 25.7**	**+0.7**
BMRM				IAmb	IAmb	10 38 52.6	
	comp=Z,25nm,1.3s						
RND	**Reindeer**	**85.60**	**12**	P	**P**	**10 38 31.2**	**+0.5**
RND				IAmb	IAmb	10 38 32.0	
	comp=Z,5.7nm,1.0s						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**10 38 36.1**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=223,slow=6.7,SNR=7.8						
CCB	**Clear Creek Bu**	**86.92**	**12**	P	**P**	**10 38 36.6**	**-0.2**
CCB				IAmb	IAmb	10 38 37.1	
	comp=Z,3.4nm,0.7s						
IMAR	**Indian Mountai**	**87.08**	**9**	P	**P**	**10 38 38.0**	**+0.4**
ILAR	**Eielson Array**	**87.21**	**13**	P	**P**	**10 38 38.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=229,slow=5.3,SNR=13						
ILAR	**Eielson Array**	**87.21**	**13**	P	**P**	**10 38 38.2**	**-0.1**
J25K	**Salcha River,**	**87.39**	**13**	P	**P**	**10 38 39.7**	**+0.5**
J25K				IAmb	IAmb	10 39 04.6	
	comp=Z,5.2nm,1.3s						
PDAR	**Pinedale Array**	**87.80**	**43**	P	**P**	**10 38 43.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=270,slow=0.5,SNR=1.7						
CMAR	**Chiang Mai Arr**	**90.39**	**289**	P	**P**	**10 38 54.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=116,slow=2.6,SNR=11						
SONM	**Songino Array**	**95.43**	**319**	P	**P**	**10 39 16.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=120,slow=5.2,SNR=1.9						
MKAR	**Makanchi Array**	**110.98**	**314**	PKiKP	**PKiKP**	**10 44 20.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=140,slow=1.4,SNR=11						
BOSA	**Boshof**	**127.42**	**205**	PKP	**PKPdf**	**10 44 52.8**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=270,slow=1.0,SNR=1.7						
ARCES	**ARCESS Array B**	**128.06**	**350**	PKP	**PKPdf**	**10 44 53.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=42,slow=1.8,SNR=15						
ARCES	**ARCESS Array B**	**128.06**	**350**		**PKPdf**	**10 44 53.8**	**+0.1**
FINES	**FINESS Array B**	**135.00**	**344**	PKP	**PKPdf**	**10 45 07.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.1,SNR=4.9						
FINES	**FINESS Array B**	**135.00**	**344**		**PKPdf**	**10 45 05.5**	**-1.5**
AKASG	**Malin Array Be**	**142.45**	**332**	PKhKP	PKPpre	10 45 17.0	
	comp=Z,1.0nm,0.4s,baz=39,slow=3.8,SNR=10						
AKASG				PKP	**PKiKP**	**10 45 22.9**	**-1.3**
	comp=Z,0.3nm,0.2s,baz=38,slow=3.3,SNR=4.8						
BUR08	**Bucovina Ar. S**	**146.49**	**332**		**PKPbc**	**10 45 31.5**	**+1.0**
BRTR	**Keskin Array B**	**146.63**	**314**	PKPbc	**PKPbc**	**10 45 30.9**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=137,slow=4.2,SNR=11						
OSTC	**Ostas**	**147.21**	**344**	*e*PKP	**PKPbc**	**10 45 33.1**	**+0.8**
CLL	**Collm**	**147.24**	**348**	⇓*i*PKPbc	**PKPbc**	**10 45 32.5**	**+0.2**
	comp=Z,6.0nm,0.6s						
DPC	**Dobruska-Polom**	**147.37**	**344**	*e*PKP	**PKPbc**	**10 45 33.6**	**+0.9**
DPC				*e*x	x	10 45 37.1	
PRU	**Pruhonice**	**148.15**	**345**	*e*PKP	**PKPbc**	**10 45 35.1**	**+0.5**
KHC	**Kasperske Hory**	**149.17**	**346**	*e*PKP	**PKPbc**	**10 45 37.8**	**+0.5**
CKRC	**Cesky Krumlov**	**149.29**	**345**	*e*PKP	**PKiKP**	**10 45 38.1**	**-0.2**
GERES	**GERESS Array B**	**149.41**	**346**	PKPbc	**PKPbc**	**10 45 38.1**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=23,slow=4.4,SNR=15						
CONA	**Conrad Observa**	**149.70**	**342**	*i* P	**PKiKP**	**10 45 39.3**	**0.0**
	comp=Z,4.5nm,0.6s						
MOA	**Molln**	**150.20**	**344**	*i* P	**PKPbc**	**10 45 40.0**	**+0.3**
	comp=Z,1.7nm,0.6s						
BIOA	**Bad Ischl, Aus**	**150.51**	**345**	*i* P	**PKPbc**	**10 45 40.5**	**+0.1**
	comp=Z,1.9nm,0.4s						
KBA	**Koelnbreinsper**	**151.15**	**345**	*i* P	**PKPbc**	**10 45 42.3**	**+0.2**
	comp=Z,3.2nm,0.5s						
WATA	**Walderalm**	**151.31**	**347**	*i* P	**PKPbc**	**10 45 42.6**	**+0.1**
	comp=Z,11nm,1.3s						
WTTA	**Wattenberg**	**151.37**	**347**	*i* P	**PKPbc**	**10 45 42.8**	**+0.2**
	comp=Z,6.1nm,0.6s						
ABTA	**Abfaltersbach**	**151.66**	**346**	*i* P	**PKPbc**	**10 45 42.7**	**-0.4**
	comp=Z,4.7nm,0.6s						

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*NIED **05** 11:02:02.9, 33.°67N×130.°42E, h13km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-0.35; Mθθ1.39; Mφφ-1.04; Mrθ-0.06; Mθφ0.94; Mφr-0.69; Fault plane solution: M0 1.71000×10^14 NP1:φs29.00000°, δ78.00000°, λ-155.00000°. NP2:φs293.00000°, δ66.00000°, λ-13.00000°.*

JMA 05 11:02:02.8, 33.°67N×130.°42E, h13km**, M3.6, 2C-2D Broadband fault plane solution: P waves. NP1:** φs29.00000°**,** δ75.00000°**,** λ-163.00000°. **NP2:** φs295.00000°**,** δ73.00000°**,** λ-16.00000°. **Principal axes:** T Plg1.0000°**,** Azm162.0000°**;** N Plg67.0000°**,** Azm70.0000°**;** P Plg23.0000°**,** Azm252.0000°**; Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.24**	**186**	⇑P	Pg	11 02 08.1	+0.1
JFI				S	Sg	11 02 11.6	+0.1
JFA	**Akaike**	**0.32**	**82**	⇓P	Pg	11 02 09.3	0.0
JFA				S	Sg	11 02 13.9	+0.3
JII	**Iki**	**0.59**	**283**	⇓P	Pg	11 02 14.3	0.0
JII				S	Sg	11 02 22.2	+0.1
JTA	**Tamana**	**0.71**	**172**	⇑P	Pg	11 02 16.3	-0.3
JTA				*e*S	Sg	11 02 25.8	-0.2

WEL 05 11:04:05.4±1.1**, 33.°S**±23°×**18.°0E**±4.°2**, h346**km±24km**, M4.0**/7**, mB4.7**/2**, ML4.2**/10**, MLv4.0**/7**, Mw(mB)3.9**/2 **Error ellipse: s-maj=0.1km s-min=0.0km az=117.8, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**193**	S	S	11 06 18.1	0.0
HAZ	**Te Kaha**	**4.75**	**197**	P	Pn	11 05 21.4	-0.6
HAZ				S	S	11 06 21.9	-2.1
PKGZ	**Pakihiroa**	**4.81**	**194**	P	Pn	11 05 22.1	-0.6
PKGZ				S	S	11 06 24.5	-0.8
PUZ	**Puketiti**	**4.96**	**192**	P	Pn	11 05 23.0	-1.3
PUZ				S	S	11 06 29.0	+0.9
MWZ	**Matawai**	**5.36**	**197**	P	Pn	11 05 30.0	+1.2
MWZ				S	S	11 06 37.2	+0.8
URZ	**Urewera**	**5.41**	**201**	P	Pn	11 05 29.6	+0.3
URZ				S	S	11 06 39.0	+1.9
MUGZ	**Murupara**	**5.71**	**202**	P	Pn	11 05 33.4	+0.7
MUGZ				S	S	11 06 45.6	+2.1
SNGZ	**Shannon Statio**	**5.83**	**197**	P	Pn	11 05 35.3	+1.1
SNGZ				S	S	11 06 47.2	+1.2
ARHZ	**Aropaoanui**	**6.38**	**198**	P	Pn	11 05 41.3	+1.0
BKZ	**Black Stump Fm**	**6.43**	**202**	P	Pn	11 05 41.2	+0.2
BKZ				S	S	11 06 59.4	+0.8
MCHZ	**McNeill Hill**	**6.63**	**200**	P	Pn	11 05 43.8	+0.6
MCHZ				S	S	11 07 05.3	+2.7
BHHZ	**Black Hill Sta**	**6.86**	**203**	P	Pn	11 05 45.7	-0.4
BHHZ				S	S	11 07 07.8	0.0
KRHZ	**Kereru**	**6.91**	**201**	P	Pn	11 05 46.6	0.0
KRHZ				S	S	11 07 07.7	-1.0
KAHZ	**Kahuranaki**	**6.91**	**197**	P	Pn	11 05 47.3	+0.7
KAHZ				S	S	11 07 11.5	+2.7
TSZ	**Takapari Road**	**7.41**	**202**	P	Pn	11 05 51.9	-0.6
PRHZ	**Porangahau**	**7.41**	**198**	P	Pn	11 05 52.4	-0.1
MRZ	**Mangatainoka R**	**8.08**	**202**	P	Pn	11 05 59.3	-1.1
MRZ				S	S	11 07 31.6	-2.4

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*IDC **05** 11:09:49.8±1.1, 50.°05N×78.°75E, h0km, mb1 2.7/2, mb1mx2.7/51, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=15.4km s-min=7.1km az=64.0*

*NNC **05** 11:09:50.2±0.3, 50.°08N×78.°84E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=9.7km s-min=1.7km az=68.0, Suspected Mining explosion.*

ISC 05 11:09:50.6±1.4**, 50.°04N**±0.°07×**78.°7E**±0.°2**, h0**km**, n16, σ0.s55**/28**, 16C-10D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**348**	⇑P	**Pg**	**11 10 00.9**	**-0.3**
KUR07				⇑S	**Sg**	**11 10 09.3**	**+1.0**
KUR06	**Kurchatov Arra**	**0.57**	**348**	⇑P	**Pg**	**11 10 01.2**	**-0.3**
KUR06				⇑S	**Sg**	**11 10 09.3**	**+0.4**
KUR14	**Kurchatov Arra**	**0.58**	**353**	⇓P	**Pg**	**11 10 00.9**	**-0.6**
KUR14				⇓S	**Sg**	**11 10 09.4**	**+0.3**
KUR15	**Kurchatov Arra**	**0.58**	**351**	⇑P	**Pg**	**11 10 01.4**	**-0.3**
KUR15				⇑S	**Sg**	**11 10 09.5**	**+0.2**
KURBB	**Kurchatov Arra**	**0.59**	**349**	Pg	**Pg**	**11 10 01.1**	**-0.8**
	0.9nm,0.3s,baz=165,slow=19,SNR=41						
KURBB				Lg	Lg	11 10 09.8	
	0.7nm,0.3s,baz=166,slow=31,SNR=5.7						
KURBB	**Kurchatov Arra**	**0.59**	**349**	⇑P	**Pg**	**11 10 01.5**	**-0.4**
	5.8nm,0.3s						
KURBB				⇑S	**Sg**	**11 10 10.2**	**+0.7**
KUR16	**Kurchatov Arra**	**0.60**	**347**	⇓P	**Pg**	**11 10 01.8**	**-0.3**
KUR16				⇑S	**Sg**	**11 10 10.0**	**+0.2**
KUR17	**Kurchatov Arra**	**0.61**	**346**	⇓P	**Pg**	**11 10 01.9**	**-0.3**
KUR17				⇓S	**Sg**	**11 10 10.3**	**+0.2**
KUR05	**Kurchatov Arra**	**0.61**	**350**	⇑P	**Pg**	**11 10 01.7**	**-0.5**
KUR05				⇑S	**Sg**	**11 10 09.4**	**-0.7**
KUR04	**Kurchatov Arra**	**0.63**	**351**	⇑P	**Pg**	**11 10 02.0**	**-0.6**
KUR04				⇓S	**Sg**	**11 10 09.9**	**-0.9**
KURK	**Kurchatov**	**0.68**	**355**	⇓P	**Pg**	**11 10 03.0**	**-0.5**
	2.1nm,0.3s						
KURK				⇓S	**Sg**	**11 10 12.1**	**-0.2**
	5.7nm,0.8s						
MAKZ	**Makanchi**	**3.90**	**145**	⇑Pn	**Pn**	**11 10 52.0**	**+0.2**
	0.7nm,0.7s						
MAKZ				⇓Pg	**Pb**	**11 11 00.9**	**+0.6**
	2.0nm,1.0s						
MAKZ				⇑Lg	Lg	11 11 51.9	
	2.4nm,0.7s						
MK31	**Makanchi Array**	**4.03**	**142**	⇓Pn	**Pn**	**11 10 53.6**	**0.0**
	baz=321,slow=9.9,SNR=22						
MK31				⇑Pg	**Pb**	**11 11 03.1**	**+0.7**
	0.1nm,0.2s,baz=326,slow=13,SNR=13						
MK31				⇑Lg	Lg	11 11 57.2	
	1.6nm,0.6s,baz=317,slow=25,SNR=8.8						
MKAR	**Makanchi Array**	**4.03**	**142**	Pn	**Pn**	**11 10 53.3**	**-0.3**
	0.2nm,0.3s,baz=325,slow=10,SNR=16						
MKAR				Sn	**Sn**	**11 11 40.6**	**-0.9**
	0.1nm,0.3s,baz=322,slow=28,SNR=2.8						
MKAR				Lg	Lg	11 11 56.0	
	0.8nm,0.3s,baz=329,slow=26,SNR=10						
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	**Pn**	**11 11 13.2**	**+0.4**
	0.4nm,0.3s,baz=231,slow=14,SNR=5.1						
I46RU	**ZALESOVO INFRA**	**5.44**	**42**	*i*		11 42 00.0	
	baz=222,slow=341,SNR=1.7						

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*IDC **05** 11:20:23.0±0.6, 21.°74N×101.°34E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.0/42, mbtmp4.1/19, ML4.6/2, MS3.7/34, Ms1 3.7/34, ms1mx3.5/90, Error ellipse: s-maj=17.9km s-min=12.6km az=93.0*

*BJI **05** 11:20:23.7±0.0, 21.°70N×101.°38E, h10km, mb4.3/30, mB4.6/18, ML4.9/7, Ms4.6/47, Ms7 4.2/42*

*PLV **05** 11:20:23.2±0.8, 21.°52N×101.°43E, h14km±11km, ML4.8*

*NEIC **05** 11:20:26.1±1.9, 21.°69N±0.°07×101.°37E±0.°06, h16km±3km, mb4.5/36, Error ellipse: s-maj=10.3km s-min=7.8km az=161.0*

ISC 05 11:20:24.4±0.4**, 21.°65N**±0.°04×**101.°38E**±0.°04**, h10**km**, n123, σ1.s36**/108**, mb4.4**/34**, MS3.8**/36**, 2C-3D, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**1.69**	**76**	*e*Pn	**Pn**	**11 20 53.0**	**-1.1**
MLAV				*e*Pg	**Pg**	**11 20 55.7**	**-1.2**
MLAV				*e*Sg	**Sg**	**11 21 18.3**	**-0.5**
MLAV				IAML		11 21 22.0	
	comp=N,8μm,0.6s						
MLAV				IAML		11 21 25.4	
	comp=E,9μm,0.7s						
TGV	**Tuan Giao**	**1.89**	**92**	*e*Pn	**Pn**	**11 20 56.2**	**-0.6**
TGV				IAML		11 21 31.2	
	comp=E,9μm,1.0s						
TGV				IAML		11 21 34.6	
	comp=N,11μm,0.9s						
CHTO	**Chiang Mai**	**3.64**	**219**	Pn	**Pn**	**11 21 20.7**	**-0.2**
KMI	**Kunming**	**3.67**	**20**	⇓Pn	**Pn**	**11 21 22.2**	**+0.7**
KMI				Sn	**Sn**	**11 22 06.3**	**+1.3**
KMI				Sg	**Sg**	**11 22 22.7**	**+0.2**
KMI				smax	smax		
	comp=N,790nm,1.1s						
KMI				smax	smax		
	comp=N,520nm,0.9s						
KMI				LR	LR		
	comp=N,3μm,6.9s						
KMI				LR	LR		
	comp=N,5μm,7.6s						
KMI				LR	LR		
	comp=N,2μm,6.4s						
HBVN	**Hoa-Binh**	**3.79**	**102**	*e*Pn	**Pn**	**11 21 22.7**	**-0.2**
HBVN				IAML		11 22 42.4	
	comp=E,1μm,0.9s						
HBVN				IAML		11 22 47.7	
	comp=N,1μm,1.1s						
CM31	**Chiang Mai Arr**	**3.92**	**216**		**Pn**	**11 21 25.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**3.92**	**216**	Pn	**Pn**	**11 21 24.9**	**+0.1**
	comp=N,16nm,0.3s,baz=29,slow=12,SNR=121						
CMAR				Pg	**Pg**	**11 21 37.0**	**-2.6**
	comp=N,51nm,0.3s,baz=31,slow=18,SNR=60						
CMAR				Lg	Lg	11 22 29.5	
	comp=N,110nm,0.3s,baz=61,slow=9.4,SNR=34						
CMAR				LR	LR	11 23 16.1	
	comp=N,448nm,21.1s,baz=40,slow=44						
PZH	**PanZhiHua**	**4.84**	**4**	Pn	**Pn**	**11 21 36.3**	**-1.2**
PZH				Sn	**Sn**	**11 22 33.1**	**-0.6**
PZH				Sg	**Sg**	**11 22 58.8**	**-1.1**
PZH				LR	LR		
	comp=N,2μm,4.2s						
PZH				LR	LR		
	comp=N,2μm,5.4s						
PZH				LR	LR		
	comp=N,2μm,5.1s						
PBKT	**Sadao Pong**	**5.07**	**184**	Pn	**Pn**	**11 21 42.0**	**+1.5**
GYA	**Guiyang**	**6.79**	**44**	⇓Pn	**Pn**	**11 22 04.0**	**-0.4**
GYA				Sn	**Sn**	**11 23 25.5**	**+3.6**
GYA				Sg	**Sg**	**11 23 59.2**	**-3.4**
GYA				smax	smax		
	comp=N,610nm,1.0s						
GYA				smax	smax		
	comp=N,570nm,1.2s						
GYA				LR	LR		
	comp=N,980nm,4.8s						
UBPT	**Khong Chiam**	**7.43**	**148**	Pn	**Pn**	**11 22 14.1**	**+1.1**
QIZ	**Qiongzhong**	**8.36**	**107**	Pn	**Pn**	**11 22 25.9**	**+0.2**
QIZ	**Qiongzhong**	**8.36**	**107**	P	**Pn**	**11 22 25.7**	**0.0**
QIZ				S	**Sn**	**11 24 01.3**	**+1.2**
QIZ				pmax	pmax		
	comp=N,33nm,0.5s						
QIZ				pmax	pmax		
	comp=N,140nm,3.1s						
QIZ				LR	LR		
	comp=N,1μm,9.8s						
QIZ				LR	LR		
	comp=N,870nm,7.1s						
QIZ				LR	LR		
	comp=N,1μm,10.2s						
GULI	**GuiLin**	**9.01**	**65**	⇓P	**Pn**	**11 22 32.5**	**-2.1**
GULI				LR	LR		
	comp=N,4μm,5.3s						
GULI				LR	LR		
	comp=N,2μm,5.7s						
GULI				LR	LR		
	comp=N,1μm,6.4s						
CD2	**Chengdu**	**9.46**	**13**	P	**Pn**	**11 22 41.7**	**+0.8**
CD2				S	**Sn**	**11 24 28.6**	**+1.2**
CD2				pmax	pmax		
	comp=N,20nm,0.8s						
CD2				pmax	pmax		
	comp=N,40nm,3.6s						
CD2				LR	LR		
	comp=N,1μm,6.7s						
SHL	**Shillong**	**9.54**	**296**	Pn	**Pn**	**11 22 41.7**	**-0.4**
TAPN	**Taplejung**	**13.68**	**297**	*e*P	**Pn**	**11 23 38.2**	**-0.6**
ODAN	**Odare**	**13.77**	**295**	*e*P	**Pn**	**11 23 41.4**	**+1.3**
	comp=N,13nm,0.5s						
XAN	**Xi'an**	**14.02**	**27**	P	**Pn**	**11 23 39.9**	**-3.3**
XAN				S	**Sn**	**11 26 16.1**	**-2.8**
XAN				pmax	pmax		
	comp=N,6.0nm,0.7s						
XAN				LR	LR		
	comp=N,2μm,12.7s						
XAN				LR	LR		
	comp=N,3μm,12.4s						
XAN				LR	LR		
	comp=N,850nm,12.4s						
LZH	**Lanzhou**	**14.54**	**8**	*e*P	**Pn**	**11 23 49.6**	**-0.9**
LZH				pP	P	11 23 50.8	-6.3
LZH				pmax	pmax		
	comp=N,10.0nm,1.1s						
LZH				LR	LR		
	comp=N,890nm,7.6s						
LZH				LR	LR		
	comp=N,740nm,7.9s						
LZH				LR	LR		
	comp=N,680nm,7.9s						
WHN	**Wuhan**	**14.62**	**50**	*e*P	**Pn**	**11 23 52.2**	**+0.8**
WHN				S	**Sn**	**11 26 38.9**	**+5.3**
WHN				LR	LR		
	comp=N,5μm,9.9s						
WHN				LR	LR		
	comp=N,3μm,9.1s						
WHN				LR	LR		
	comp=N,2μm,6.1s						
GUN	**Gumba**	**15.39**	**297**	*e*P	**Pn**	**11 24 01.5**	**-0.6**
	comp=N,82nm,0.8s						
GOMU	**GeErMu**	**15.59**	**340**	P	**Pn**	**11 24 03.7**	**-0.9**
GOMU				S	**Sn**	**11 27 01.4**	**+3.8**
GOMU				pmax	pmax		
	comp=N,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=N,57nm,5.0s						
GOMU				LR	LR		
	comp=N,1μm,11.2s						
GOMU				LR	LR		
	comp=N,2μm,11.4s						
GOMU				LR	LR		
	comp=N,430nm,11.6s						
PKI	**Pulchoki**	**15.67**	**295**	*e*P	**Pn**	**11 24 05.8**	**+0.1**
KULM	**Kulim**	**16.28**	**183**		**Pn**	**11 24 13.3**	**0.0**
KOLN	**Koldanda**	**17.26**	**294**	*e*P	**P**	**11 24 27.0**	**-0.4**
DANN	**Dangsing**	**17.30**	**296**	*e*P	**Pn**	**11 24 26.2**	**-0.3**
	comp=N,64nm,0.9s						
GTA	**Gaotai**	**17.75**	**356**	⇑P	**P**	**11 24 33.7**	**+1.0**
GTA				pP	sP	11 24 37.5	+0.3
GTA				sP	pP	11 24 40.0	+4.3
GTA				pmax	pmax		
	comp=N,7.0nm,0.7s						
GTA				pmax	pmax		
	comp=N,84nm,7.6s						
GTA				LR	LR		
	comp=N,350nm,10.0s						
GTA				LR	LR		
	comp=N,670nm,10.0s						
GTA				LR	LR		
	comp=N,320nm,10.4s						
PYUN	**Piuthan**	**17.87**	**295**	*e*P	**P**	**11 24 33.3**	**-0.9**
PSI	**Prapat**	**18.89**	**188**	P	**Pn**	**11 24 48.8**	**+2.9**
	comp=N,0.8nm,0.3s,baz=332,slow=12,SNR=6.8						
PSI				LR	LR	11 33 29.8	
	comp=N,260nm,18.9s,baz=359,slow=41						
RPSI	**Rantau Prapat**	**19.00**	**188**	P	**P**	**11 24 45.5**	**-0.9**
RPSI				IAmb	IAmb	11 24 53.8	
	comp=Z,19nm,0.9s						
RPSI	**Rantau Prapat**	**19.00**	**188**	P	**Pn**	**11 24 48.8**	**+1.8**
HNS	**HongShan**	**19.48**	**33**	⇑P	**Pn**	**11 24 52.8**	**+0.1**
HNS				S	**S**	**11 28 30.9**	**-0.7**
HNS				pmax	pmax		
	comp=Z,14nm,1.0s						
HNS				LR	LR		
	comp=Z,900nm,13.0s						
HNS				LR	LR		
	comp=Z,1μm,13.7s						
HNS				LR	LR		
	comp=Z,550nm,11.2s						
SSE	**Sheshan**	**20.05**	**58**	P	Pn	11 25 00.7	+1.1
SSE				S	Sn	11 28 47.2	+1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSE				pmax	pmax		
	comp=Z,26nm,0.7s						
SSE				pmax	pmax		
	comp=Z,60nm,3.9s						
SSE				LR	LR		
	comp=Z,800nm,12.0s						
SSE				LR	LR		
	comp=Z,560nm,11.9s						
BTO	**Baotou**	**20.27**	**19**	*e*P	Pn	11 25 00.3	-1.9
BTO				S	Sn	11 28 51.6	+1.1
BTO				LR	LR		
	comp=Z,2μm,9.3s						
BTO				LR	LR		
	comp=Z,2μm,8.1s						
HHC	**Hu-ho-hao-te**	**20.99**	**22**	*e*P	Pn	11 25 10.3	-0.4
HHC				sP	sP	11 25 19.7	+7.1
HHC				S	Sn	11 29 04.1	-3.8
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC				LR	LR		
	comp=Z,730nm,10.0s						
HHC				LR	LR		
	comp=Z,300nm,10.7s						
HHC				LR	LR		
	comp=Z,750nm,10.2s						
SBUM	**Sibu**	**21.80**	**150**	P	**P**	**11 25 17.5**	**+0.6**
HYBB	**Hyderabad (bro**	**21.92**	**263**	*e*P	**P**	**11 25 19.6**	**+1.5**
MYLDM	**Lahad Datu**	**23.31**	**132**	P	**P**	**11 25 32.5**	**-0.2**
MYLDM				IAmb	IAmb	11 25 40.0	
	comp=Z,17nm,1.1s						
PALK	**Pallekele**	**24.55**	**237**	LR	LR	11 35 17.9	
	comp=Z,81nm,19.1s,baz=176,slow=36						
WMQ	**Urumqi**	**24.86**	**336**	*e*P	**P**	**11 25 48.8**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ				LR	LR		
	comp=Z,530nm,12.9s						
WMQ				LR	LR		
	comp=Z,520nm,11.5s						
WMQ				LR	LR		
	comp=Z,120nm,15.7s						
SONM	**Songino Array**	**26.43**	**8**	P	**P**	**11 26 01.7**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=186,slow=9.2,SNR=19						
SONM				LR	LR	11 36 38.8	
	comp=Z,88nm,19.3s,baz=166,slow=37						
SONM	**Songino Array**	**26.43**	**8**	P	**P**	**11 26 01.7**	**+0.2**
ULN	**Ulaanbaatar**	**26.55**	**9**	P	**P**	**11 26 02.1**	**-0.5**
NIL	**Nilore**	**27.55**	**302**	P	**P**	**11 26 11.8**	**+0.2**
NIL				IAmb	IAmb	11 26 17.2	
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**27.82**	**50**	LR	LR	11 37 35.9	
	comp=Z,164nm,18.0s,baz=215,slow=37						
KSH	**Kashi**	**28.06**	**315**	P	P	11 26 21.1	+4.9
KSH				pP	sP	11 26 26.3	+5.3
KSH				LR	LR		
	comp=Z,510nm,13.4s						
KSH				LR	LR		
	comp=Z,220nm,13.1s						
KSH				LR	LR		
	comp=Z,360nm,14.4s						
LEM	**Lembang**	**28.95**	**167**	LR	LR	11 38 21.0	
	comp=Z,72nm,18.4s,baz=250,slow=37						
MK31	**Makanchi Array**	**29.48**	**333**	P	**P**	**11 26 28.3**	**-0.3**
MKAR	**Makanchi Array**	**29.48**	**333**	P	**P**	**11 26 28.9**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=141,slow=9.5,SNR=28						
MKAR	**Makanchi Array**	**29.48**	**333**	P	**P**	**11 26 28.3**	**-0.3**
KBL	**Kabul**	**31.14**	**301**	P	**P**	**11 26 43.9**	**+0.2**
GAR	**Garm**	**31.70**	**310**	P	**P**	**11 26 48.2**	**-0.2**
KAPI	**Kappang**	**32.04**	**144**	LR	LR	11 41 48.0	
	comp=Z,105nm,18.6s,baz=344,slow=40						
CHGR	**Chuyangaron**	**32.40**	**309**	P	**P**	**11 26 56.1**	**+1.6**
CHGR				IAmb	IAmb	11 26 57.3	
	comp=Z,7.2nm,1.0s						
KKAR	**Karatay Array**	**33.43**	**317**	P	**P**	**11 27 05.6**	**+2.1**
USRK	**Ussuriysk Ar.**	**33.82**	**41**	P	**P**	**11 27 05.1**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=249,slow=9.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**34.02**	**334**	P	**P**	**11 27 07.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=139,slow=10,SNR=9.8						
KURK	**Kurchatov**	**34.05**	**334**	P	**P**	**11 27 11.4**	**+2.7**
KURK				IAmb	IAmb	11 27 18.6	
	comp=Z,4.2nm,0.9s						
ZAA0	**Zalesovo Array**	**34.62**	**343**	P	**P**	**11 27 13.7**	**+0.1**
ZAA0				IAmb	IAmb	11 27 20.6	
	comp=Z,7.0nm,0.8s						
ZALV	**Zalesovo Beam**	**34.62**	**343**	P	**P**	**11 27 14.0**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=148,slow=9.2,SNR=18						
ZALV				LR	LR	11 42 18.5	
	comp=Z,67nm,18.0s,baz=148,slow=38						
ZALV	**Zalesovo Beam**	**34.62**	**343**	P	**P**	**11 27 13.9**	**+0.3**
MJAR	**Matsushiro Arr**	**35.20**	**57**	P	**P**	**11 27 20.1**	**+1.2**
	comp=Z,2.2nm,1.0s,baz=251,slow=11,SNR=3.3						
BRVK	**Borovoye**	**39.35**	**331**	P	**P**	**11 27 54.5**	**+0.7**
WSAR	**Wadi Sarin**	**39.44**	**281**	LR	LR	11 45 33.8	
	comp=Z,66nm,18.1s,baz=117,slow=38						
GEYT	**Alibeck**	**40.52**	**303**	P	**P**	**11 28 05.8**	**+2.0**
GEYT				IAmb	IAmb	11 28 07.2	
	comp=Z,5.5nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**40.52**	**303**	P	**P**	**11 28 06.1**	**+2.2**
GYA0B				IAmb	IAmb	11 28 07.1	
	comp=Z,8.6nm,0.7s						
ASAJ	**Asahikawa**	**40.67**	**47**	P	**P**	**11 28 05.1**	**+0.2**
	comp=Z,5.4nm,1.1s,baz=243,slow=14,SNR=4.8						
ASAJ				LR	LR	11 44 15.8	
	comp=Z,99nm,19.5s,baz=356,slow=35						
JKA	**Kamikawa-asahi**	**40.67**	**47**	P	**P**	**11 28 03.7**	**-1.2**
JKA				IAmb	IAmb	11 28 10.1	
	comp=Z,14nm,1.3s						
GUMO	**Guam**	**42.10**	**94**	LR	LR	11 44 37.4	
	comp=Z,56nm,21.7s,baz=114,slow=34						
ABKAR	**Akbulak array**	**42.77**	**320**	P	**P**	**11 28 21.9**	**-0.2**
ABKAR	**Akbulak array**	**42.77**	**320**	P	**P**	**11 28 22.2**	**+0.1**
ABKAR				IAmb	IAmb	11 28 26.0	
	comp=Z,9.0nm,1.0s						
AKTO	**Aktyubinsk**	**44.40**	**321**	LR	LR	11 49 33.4	
	comp=Z,82nm,20.2s,baz=116,slow=40						
YAK	**Yakutsk**	**44.79**	**18**	LR	LR	11 51 02.0	
	comp=Z,54nm,18.5s,baz=258,slow=41						
FITZ	**Fitzroy Crossi**	**46.10**	**147**	LR	LR	11 53 00.2	
	comp=Z,45nm,18.3s,baz=320,slow=42						
NRIK	**Noril'sk**	**48.43**	**353**	P	**P**	**11 29 06.0**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=149,slow=5.6,SNR=4.9						
NRIK				LR	LR	11 50 58.3	
	comp=Z,99nm,20.3s,baz=158,slow=38						
NRIK	**Noril'sk**	**48.43**	**353**	P	**P**	**11 29 05.9**	**-0.6**
GNI	**Garni**	**51.12**	**305**	LR	LR	11 53 03.8	
	comp=Z,64nm,18.6s,baz=84,slow=38						
MA2	**Magadan**	**51.39**	**30**	P	**P**	**11 29 28.8**	**-0.4**
KIRV	**Kirov**	**52.22**	**329**	LR	LR	11 54 31.6	
	comp=Z,98nm,18.1s,baz=110,slow=39						
WRAB	**Tennant Creek**	**52.41**	**140**	P	**P**	**11 29 37.7**	**+0.4**
WRAB				IAmb	IAmb	11 29 42.9	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**52.41**	**140**	P	**P**	**11 29 37.3**	**0.0**
	comp=Z,1.8nm,0.8s,baz=329,slow=8.1,SNR=14						
WB2	**Warramunga Arr**	**52.42**	**140**	P	**P**	**11 29 37.7**	**+0.4**
WB2				IAmb	IAmb	11 29 43.0	
	comp=Z,4.6nm,1.0s						
TIXI	**Tiksi**	**52.46**	**11**	LR	LR	11 53 48.9	
	comp=Z,112nm,21.5s,baz=184,slow=38						
TIXI	**Tiksi**	**52.46**	**11**	P	**P**	**11 29 35.3**	**-1.6**
TIXI				IAmb	IAmb	11 29 38.3	
	comp=Z,2.6nm,0.6s						
WR0	**Warramunga Arr**	**52.55**	**140**	P	**P**	**11 29 39.1**	**+0.8**
WR0				IAmb	IAmb	11 29 44.0	
	comp=Z,13nm,1.4s						
KBZ	**Khabaz**	**52.76**	**309**	LR	LR	11 56 02.5	
	comp=Z,90nm,18.1s,baz=82,slow=41						
PETK	**Petropavlovsk-**	**52.86**	**39**	LR	LR	11 53 32.2	
	comp=Z,88nm,18.9s,baz=233,slow=38						
GURO	**Guroymak-BITLI**	**53.16**	**303**	P	**P**	**11 29 42.0**	**-0.9**
SEY	**Seymchan**	**53.56**	**26**	LR	LR	11 54 26.9	
	comp=Z,76nm,20.3s,baz=231,slow=38						
AS31	**Alice Springs**	**55.05**	**143**	P	**P**	**11 29 57.0**	**+0.3**
ASAR	**Alice Springs**	**55.05**	**143**	P	**P**	**11 29 57.3**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=323,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**55.05**	**143**	P	**P**	**11 29 56.8**	**+0.1**
ATD	**Arta Tunnel**	**56.72**	**270**	LR	LR	11 53 24.3	
	comp=Z,52nm,21.4s,baz=20,slow=35						
KLMR	**Klimovskoe**	**57.68**	**329**	*e*P	**P**	**11 30 14.5**	**-0.4**
KLMR				AMP		11 30 16.3	
	comp=Z,13nm,1.3s						
AKASG	**Malin Array Be**	**62.33**	**317**	P	**P**	**11 30 45.9**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=79,slow=6.2,SNR=8.4						
AKASG				LR	LR	12 00 40.2	
	comp=Z,81nm,18.1s,baz=58,slow=39						
AKASG	**Malin Array Be**	**62.33**	**317**	P	**P**	**11 30 46.6**	**-0.3**
AKBB	**Malin Array Si**	**62.33**	**317**	P	**P**	**11 30 47.7**	**+0.7**
AKBB				IAmb	IAmb	11 30 48.5	
	comp=Z,4.9nm,1.1s						
FIA1	**FINESS Array S**	**64.21**	**329**	P	**P**	**11 30 57.8**	**-1.4**
FINES	**FINESS Array B**	**64.21**	**329**	P	**P**	**11 30 58.1**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=109,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**64.21**	**329**	P	**P**	**11 30 59.7**	**+0.5**
ARCES	**ARCESS Array B**	**64.96**	**338**	P	**P**	**11 31 02.6**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=81,slow=7.5,SNR=6.4						
BURAR	**Bucovina Array**	**65.13**	**314**	P	**P**	**11 31 04.9**	**-0.8**
STKA	**Stephens Creek**	**65.69**	**143**	LR	LR	12 02 48.9	
	comp=Z,62nm,18.4s,baz=16,slow=39						
KMBO	**Kilima Mbogo**	**66.51**	**259**	LR	LR	12 00 28.6	
	comp=Z,36nm,19.4s,baz=96,slow=36						
SPITS	**Spitsbergen Ar**	**67.94**	**347**	LR	LR	12 04 07.7	
	comp=Z,90nm,18.3s,baz=212,slow=39						
HFS	**Hagfors**	**70.34**	**328**	LR	LR	12 05 24.9	
	comp=Z,144nm,18.3s,baz=64,slow=38						
VRAC	**Vranov**	**70.57**	**316**	LR	LR	12 08 40.1	
	comp=Z,56nm,20.1s,baz=90,slow=41						
NC405	**NORSAR Array S**	**71.14**	**329**	P	**P**	**11 31 43.3**	**+0.3**
NC405				IAmb	IAmb	11 32 11.3	
	comp=Z,4.2nm,0.8s						
NB2	**NORSAR Subarra**	**71.39**	**329**	P	**P**	**11 31 43.1**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=79,slow=6.2						
NOA	**NORSAR Array B**	**71.39**	**329**	P	**P**	**11 31 43.0**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=78,slow=6.1,SNR=7.8						
NOA				LR	LR	12 05 53.8	
	comp=Z,63nm,18.3s,baz=80,slow=38						
GERES	**GERESS Array B**	**72.53**	**316**	P	**P**	**11 31 51.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=60,slow=7.9,SNR=5.6						
GERES	**GERESS Array B**	**72.53**	**316**	P	**P**	**11 31 52.6**	**+0.9**
DAVOX	**Davos/Dischmat**	**75.54**	**315**	LR	LR	12 10 03.6	
	comp=Z,76nm,20.6s,baz=82,slow=40						
TOLK	**Toolik Lake Re**	**76.69**	**21**	P	**P**	**11 32 15.4**	**0.0**
TOLK				IAmb	IAmb	11 32 22.5	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	**79.41**	**24**	P	**P**	**11 32 31.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=299,slow=4.9,SNR=2.1						
BCAR	**Beaver Creek A**	**82.22**	**24**	P	**P**	**11 32 47.0**	**+1.3**
RES	**Resolute Bay**	**83.32**	**4**	LR	LR	12 12 36.0	
	comp=Z,61nm,18.4s,baz=86,slow=38						
LBTB	**Lobatse**	**86.96**	**242**	P	**P**	**11 33 10.1**	**-0.2**
SFJD	**Kangerlussuaq**	**89.17**	**349**	LR	LR	12 20 41.1	
	comp=Z,81nm,18.2s,baz=192,slow=41						
YKA	**Yellowknife Ar**	**91.41**	**16**	P	**P**	**11 33 29.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=331,slow=4.7,SNR=7.8						
TSUM	**Tsumeb**	**91.43**	**250**	LR	LR	12 11 44.7	
	comp=Z,38nm,20.5s,baz=328,slow=34						
KOWA	**Kowa**	**98.51**	**289**	LR	LR	12 22 21.1	
	comp=Z,46nm,18.4s,baz=20,slow=38						

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*IDC **05** 11:45:33.8±1.1, 19°.85N×144°.88E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.4/43, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.4/68, Error ellipse: s-maj=46.2km s-min=27.5km az=111.0*

*NEIC **05** 11:45:54±2.7, 19°.7N±0°.1×144°.9E±0°.2, h163km±9km, mb3.9/10, Error ellipse: s-maj=28.6km s-min=14.4km az=111.0*

ISC 05 11:45:51.8±0.9**, 19°.7N**±0°.1×**144°.9E**±0°.2**, h150**km**, n21, σ1°.05**/21**, mb3.6**/11**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INU	**Inuyama**	**17.05**	**338**	P	**P**	**11 49 39.1**	**-1.5**
INU				IAmb	IAmb	11 50 00.0	
	comp=Z,11nm,1.2s						
WB0	**Warramunga Arr**	**40.56**	**195**	P	**P**	**11 53 16.4**	**-0.2**
WB0				IAmb	IAmb	11 53 38.9	
	comp=Z,3.1nm,1.1s						
WR0	**Warramunga Arr**	**40.71**	**195**	P	**P**	**11 53 18.5**	**+0.6**
WR0				IAmb	IAmb	11 53 47.4	
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**40.73**	**195**	P	**P**	**11 53 18.2**	**+0.2**
WRAB				IAmb	IAmb	11 53 44.8	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**40.74**	**195**	P	**P**	**11 53 19.0**	**+0.8**
WRA	**Warramunga Arr**	**40.74**	**195**	P	**P**	**11 53 17.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=20,slow=8.2,SNR=7.3						
WRA				LR	LR	12 10 04.3	
	comp=Z,54nm,19.1s,baz=304,slow=36						
WRA	**Warramunga Arr**	**40.74**	**195**	P	**P**	**11 53 17.3**	**-0.9**
SONM	**Songino Array**	**41.86**	**321**	P	**P**	**11 53 29.2**	**+2.0**
MKAR	**Makanchi Array**	**57.19**	**313**	P	**P**	**11 55 22.2**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=77,slow=7.8,SNR=2.4						
TOLK	**Toolik Lake Re**	**62.95**	**22**	P	**P**	**11 56 04.0**	**+1.9**
TOLK				IAmb	IAmb	11 56 04.3	
	comp=Z,3.8nm,1.4s						
IL31		**63.09**	**27**	P	**P**	**11 56 02.0**	**-0.9**
IL31				IAmb	IAmb	11 56 20.3	
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	**63.09**	**27**	P	**P**	**11 56 02.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=261,slow=5.7,SNR=7.6						
BMAR	**Burnt Mountain**	**64.51**	**24**	P	**P**	**11 56 13.6**	**+1.3**
BCAR	**Beaver Creek A**	**65.07**	**29**	P	**P**	**11 56 16.4**	**+0.4**
DAWY	**Dawson**	**66.22**	**28**	P	**P**	**11 56 24.4**	**+1.0**
YKA	**Yellowknife Ar**	**77.47**	**28**	P	**P**	**11 57 30.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=291,slow=5.5,SNR=8.5						
YKA	**Yellowknife Ar**	**77.47**	**28**	P	**P**	**11 57 31.0**	**+0.6**
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**11 58 01.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=269,slow=5.7,SNR=7.1						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**11 58 00.4**	**-1.2**
FINES	**FINESS Array B**	**85.64**	**335**	P	**P**	**11 58 13.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=52,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**85.64**	**335**	P	**P**	**11 58 12.5**	**-0.7**

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*NOU **05** 11:48:45.1, 38°.23S×178°.25E, h97km, MLv4.2/6, Off E. Coast of N. Island, N.Z.*

*NEIC **05** 11:48:46.4±2.1, 38°.37S±0°.05×178°.09E±0°.08, h37km±6km, mb4.2/13, Error ellipse: s-maj=10.0km s-min=5.6km az=129.0*

*IDC **05** 11:48:47.6±1.7, 37°.79S×176°.86E, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.7/40, mbtmp4.2/4, ML3.8/1, Error ellipse: s-maj=57.7km s-min=12.1km az=54.0*

*WEL **05** 11:48:48.7±0.5, 38°S±3°×17°8E±°, h49km±4km, M3.7/49, ML4.0/49, MLv3.7/49, Error ellipse: s-maj=0.0km s-min=0.0km az=79.6*

ISC 05 11:48:48.5±0.7**, 38°.17S**±0°.03×**177°.95E**±0°.04**, h67**km±5km**, n170, σ1°.36**/181**, mb4.2**/10**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**0.03**	**112**	P	**Pn**	**11 48 58.0**	**-0.3**
TWGZ				S	**Sn**	**11 49 05.8**	**+0.3**
PUZ	**Puketiti**	**0.26**	**69**	P	**Pn**	**11 48 58.6**	**-0.5**
TKGZ	**Te Karaka**	**0.28**	**196**	P	**Pn**	**11 48 59.0**	**-0.2**
TKGZ				S	**Sn**	**11 49 07.4**	**+0.3**
RUGZ	**Raukumara Rang**	**0.29**	**313**	P	**Pn**	**11 48 58.5**	**-0.9**
RUGZ				S	**Sn**	**11 49 05.7**	**-1.7**
PKGZ	**Pakihiroa**	**0.30**	**20**	P	**Pn**	**11 48 58.6**	**-0.9**
PKGZ				S	**Sn**	**11 49 06.3**	**-1.0**
MWZ	**Matawai**	**0.37**	**243**	P	**Pn**	**11 48 59.3**	**-0.7**
MWZ				S	**Sn**	**11 49 07.2**	**-1.0**
CNGZ	**Carnagh Statio**	**0.38**	**147**	P	**Pn**	**11 49 00.6**	**+0.6**
HAZ	**Te Kaha**	**0.43**	**342**	P	**Pn**	**11 48 59.5**	**-0.8**
HAZ				S	**Sn**	**11 49 07.9**	**-1.1**
RAGZ	**Rawiri**	**0.53**	**232**	P	**Pn**	**11 49 01.2**	**-0.2**
RAGZ				S	**Sn**	**11 49 11.1**	**+0.2**
RIGZ	**Rimuhau**	**0.56**	**195**	P	**Pn**	**11 49 01.9**	**+0.2**
RIGZ				S	**Sn**	**11 49 12.6**	**+1.2**
URZ	**Urewera**	**0.67**	**262**	Pn	**Pn**	**11 49 02.1**	**-0.7**
	803nm,0.3s,baz=254,slow=3.9,SNR=6683						
URZ				Sn	**Sn**	**11 49 12.6**	**-0.7**
	544nm,0.3s,baz=291,slow=23,SNR=11						
URZ	**Urewera**	**0.67**	**262**		**Pn**	**11 49 02.2**	**-0.6**
URZ				Sn	**Sn**	**11 49 12.2**	**-1.1**
URZ	**Urewera**	**0.67**	**262**	P	**Pn**	**11 49 02.2**	**-0.6**
MXZ	**Matakaoa Point**	**0.67**	**25**	Pn	**Pn**	**11 49 02.5**	**-0.3**
MXZ				Sn	**Sn**	**11 49 13.1**	**-0.2**
MXZ	**Matakaoa Point**	**0.67**	**25**	P	**Pn**	**11 49 02.5**	**-0.3**
PRGZ	**Paritu Road**	**0.76**	**184**	P	**Pn**	**11 49 03.9**	**0.0**
SNGZ	**Shannon Statio**	**0.78**	**218**	P	**Pn**	**11 49 04.4**	**+0.2**
SNGZ				S	**Sn**	**11 49 17.4**	**+1.7**
WHRZ	**Whale Island**	**0.83**	**292**	P	**Pn**	**11 49 03.8**	**-0.9**
KNZ	**Kokohu**	**0.88**	**194**	P	**Pn**	**11 49 05.1**	**-0.2**
RTZ	**Ruatahuna**	**0.88**	**239**	P	**Pn**	**11 49 05.2**	**-0.3**
EDRZ	**Edgecumbe**	**0.95**	**273**	P	**Pn**	**11 49 05.5**	**-0.8**
MUGZ	**Murupara**	**0.98**	**251**	P	**Pn**	**11 49 06.0**	**-0.6**
RAHZ	**Arahi**	**1.01**	**222**	P	**Pn**	**11 49 07.4**	**+0.4**
MARZ	**Manawahe**	**1.02**	**280**	P	**Pn**	**11 49 05.9**	**-1.3**
WHHZ	**Waihua**	**1.07**	**211**	P	**Pn**	**11 49 09.4**	**+1.7**
MTHZ	**Maungataniwha**	**1.11**	**231**	P	**Pn**	**11 49 08.2**	**-0.1**
TARZ	**Mount Tarawera**	**1.14**	**266**	P	**Pn**	**11 49 08.1**	**-0.6**
RRRZ	**Republican Roa**	**1.14**	**261**	P	**Pn**	**11 49 08.1**	**-0.6**
OPRZ	**Ohinepanea**	**1.15**	**286**	P	**Pn**	**11 49 07.3**	**-1.4**
MKRZ	**Makatiti**	**1.17**	**271**	P	**Pn**	**11 49 08.9**	**-0.1**
LIRZ	**Lichensteins R**	**1.24**	**277**	P	**Pn**	**11 49 09.1**	**-0.9**
OMRZ	**Omania**	**1.24**	**272**	P	**Pn**	**11 49 09.2**	**-0.8**
HLRZ	**Highlands Stat**	**1.26**	**266**	P	**Pn**	**11 49 10.3**	**+0.1**
PRRZ	**Plateau Road**	**1.27**	**254**	P	**Pn**	**11 49 09.7**	**-0.6**
NMHZ	**Naumai**	**1.29**	**224**	P	**Pn**	**11 49 11.1**	**+0.4**
ALRZ	**Allen Road**	**1.32**	**252**	P	**Pn**	**11 49 10.5**	**-0.5**
ARHZ	**Aropaoanui**	**1.32**	**214**	P	**Pn**	**11 49 11.4**	**+0.4**
HRRZ	**Handcock Road**	**1.33**	**260**	P	**Pn**	**11 49 10.6**	**-0.6**
HSRZ	**Hossack Road**	**1.35**	**263**	P	**Pn**	**11 49 11.1**	**-0.3**
KARZ	**Kaharoa**	**1.35**	**276**	P	**Pn**	**11 49 10.4**	**-1.1**
MRHZ	**Matea Rd**	**1.37**	**240**	P	**Pn**	**11 49 11.4**	**-0.3**
UTU	**Utuhina**	**1.38**	**269**	P	**Pn**	**11 49 11.8**	**0.0**
NGRZ	**Ngongotaha**	**1.39**	**272**	P	**Pn**	**11 49 11.7**	**-0.3**
TGRZ	**Tauranga**	**1.40**	**288**	P	**Pn**	**11 49 10.6**	**-1.4**
WPRZ	**Whakapapatarin**	**1.45**	**255**	P	**Pn**	**11 49 12.4**	**-0.3**
GRRZ	**Galatos Road**	**1.46**	**262**	P	**Pn**	**11 49 12.5**	**-0.3**
BKZ	**Black Stump Fm**	**1.51**	**228**		**Pn**	**11 49 13.5**	**-0.1**
BKZ	**Black Stump Fm**	**1.51**	**228**	P	**Pn**	**11 49 13.5**	**-0.1**
BKZ	**Black Stump Fm**	**1.51**	**228**	P	**Pn**	**11 49 13.4**	**-0.2**
MCHZ	**McNeill Hill**	**1.61**	**217**	P	**Pn**	**11 49 14.9**	**+0.1**
KMRZ	**Kaimai**	**1.62**	**281**	P	**Pn**	**11 49 13.6**	**-1.3**
MYRZ	**Mayor Island**	**1.62**	**303**	P	**Pn**	**11 49 13.7**	**-1.3**
HATZ	**Hinemaiaia**	**1.62**	**243**	P	**Pn**	**11 49 14.7**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.64**	**204**	P	**Pn**	**11 49 14.6**	**-0.6**
WHTZ	**Whakaora**	**1.64**	**252**	P	**Pn**	**11 49 15.6**	**+0.3**
KUTZ	**Kaahu Road**	**1.70**	**258**	P	**Pn**	**11 49 15.6**	**-0.5**
KWHZ	**Kaweka Forest**	**1.73**	**223**	P	**Pn**	**11 49 16.2**	**-0.4**
WATZ	**Wairara**	**1.82**	**252**	P	**Pn**	**11 49 17.5**	**-0.2**
RITZ	**Rihia Road**	**1.83**	**243**	P	**Pn**	**11 49 17.7**	**-0.1**
KAHZ	**Kahuranaki**	**1.83**	**207**	P	**Pn**	**11 49 17.4**	**-0.4**
RATZ	**Rangitukua**	**1.84**	**247**	P	**Pn**	**11 49 18.1**	**+0.1**
TLZ	**Tolley Road**	**1.90**	**264**	P	**Pn**	**11 49 18.0**	**-0.8**
KRHZ	**Kereru**	**1.92**	**219**	P	**Pn**	**11 49 18.2**	**-0.9**
KATZ	**Kakaramea**	**1.94**	**245**	P	**Pn**	**11 49 19.4**	**0.0**
BHHZ	**Black Hill Sta**	**1.98**	**227**	P	**Pn**	**11 49 19.5**	**-0.4**
TOZ	**Tahuroa Road**	**1.98**	**282**	P	**Pn**	**11 49 18.7**	**-1.1**
TMVZ	**Te Maari**	**2.00**	**241**	P	**Pn**	**11 49 19.7**	**-0.4**
ETVZ	**East Tongariro**	**2.00**	**240**	P	**Pn**	**11 49 19.8**	**-0.5**
NTVZ	**North Tongarir**	**2.01**	**242**	P	**Pn**	**11 49 19.9**	**-0.4**
KRVZ	**Karewarewa**	**2.03**	**242**	P	**Pn**	**11 49 20.3**	**-0.3**
PXZ	**Pawanui**	**2.04**	**204**	P	**Pn**	**11 49 19.1**	**-1.6**
OTVZ	**Oturere**	**2.04**	**240**	P	**Pn**	**11 49 20.4**	**-0.5**
NNVZ	**North Ngauruho**	**2.06**	**241**	P	**Pn**	**11 49 20.9**	**-0.2**
SNVZ	**South Ngauruho**	**2.07**	**240**	P	**Pn**	**11 49 20.8**	**-0.4**
WTVZ	**West Tongariro**	**2.08**	**242**	P	**Pn**	**11 49 21.1**	**-0.1**
NGZ	**Ngauruhoe**	**2.10**	**241**	P	**Pn**	**11 49 21.1**	**-0.4**
TUVZ	**Tukino**	**2.10**	**238**	P	**Pn**	**11 49 21.3**	**-0.4**
MOVZ	**Moawhango**	**2.12**	**233**	P	**Pn**	**11 49 21.0**	**-0.8**
WHVZ	**Whangaehu Hut**	**2.15**	**238**	P	**Pn**	**11 49 22.0**	**-0.4**
TWVZ	**Taurewa**	**2.16**	**245**	P	**Pn**	**11 49 22.4**	**0.0**
FWVZ	**Far West T-bar**	**2.17**	**239**	P	**Pn**	**11 49 22.1**	**-0.5**
DRZ	**Dome Shelter**	**2.17**	**239**	P	**Pn**	**11 49 22.2**	**-0.4**
WNVZ	**Wahianoa**	**2.17**	**237**	P	**Pn**	**11 49 22.0**	**-0.6**
TRVZ	**Turoa**	**2.19**	**238**	P	**Pn**	**11 49 22.4**	**-0.5**
PNHZ	**Pukenui**	**2.21**	**217**	P	**Pn**	**11 49 21.6**	**-1.4**
WPHZ	**Waipukurau**	**2.23**	**211**	P	**Pn**	**11 49 21.9**	**-1.3**
KUZ	**Kuaotunu**	**2.27**	**308**	P	**Pn**	**11 49 21.8**	**-1.9**
MTVZ	**Mangateitei**	**2.29**	**237**	P	**Pn**	**11 49 23.7**	**-0.3**
PKVZ	**Pokaka**	**2.32**	**240**	P	**Pn**	**11 49 24.1**	**-0.4**
PRHZ	**Porangahau**	**2.33**	**206**	P	**Pn**	**11 49 23.0**	**-1.6**
TSZ	**Takapari Road**	**2.44**	**219**	P	**Pn**	**11 49 24.3**	**-1.8**
HIZ	**Hauiti**	**2.46**	**261**	Pn	**Pn**	**11 49 26.2**	**0.0**
HIZ	**Hauiti**	**2.46**	**261**	P	**Pn**	**11 49 26.4**	**+0.1**
HIZ	**Hauiti**	**2.46**	**261**	P	**Pn**	**11 49 26.4**	**+0.1**
DVHZ	**Dannevirke**	**2.54**	**212**	P	**Pn**	**11 49 25.3**	**-2.1**
ANWZ	**Angora Road**	**2.56**	**206**	P	**Pn**	**11 49 25.9**	**-1.7**
WIAZ	**Waiheke Island**	**2.62**	**301**	P	**Pn**	**11 49 27.5**	**-1.0**
VRZ	**Vera Road**	**2.67**	**248**	P	**Pn**	**11 49 29.6**	**+0.4**
ETAZ	**East Tamaki Re**	**2.69**	**296**	P	**Pn**	**11 49 28.6**	**-0.8**
GRZ	**Great Barrier**	**2.76**	**313**	P	**Pn**	**11 49 29.0**	**-1.4**
POWZ	**Post Office Ro**	**2.79**	**217**	P	**Pn**	**11 49 28.9**	**-2.0**
MBAZ	**Motutapu North**	**2.80**	**299**	P	**Pn**	**11 49 30.1**	**-0.8**
WAZ	**Wanganui**	**2.80**	**235**	P	**Pn**	**11 49 31.0**	**0.0**
PRWZ	**Pori Road**	**2.83**	**212**	P	**Pn**	**11 49 29.6**	**-1.8**
BFZ	**Birch Farm**	**2.84**	**207**		**Pn**	**11 49 29.0**	**-2.5**
BFZ	**Birch Farm**	**2.84**	**207**	P	**Pn**	**11 49 29.3**	**-2.1**
BFZ	**Birch Farm**	**2.84**	**207**	P	**Pn**	**11 49 29.3**	**-2.1**
AWAZ	**Awhitu Peninsu**	**2.84**	**292**	P	**Pn**	**11 49 31.1**	**-0.4**
EPAZ	**Eden Park BICE**	**2.85**	**296**	P	**Pn**	**11 49 31.4**	**-0.3**
HBAZ	**Herne Bay Bore**	**2.88**	**296**	P	**Pn**	**11 49 31.7**	**-0.3**
OHWZ	**Ohakea**	**2.89**	**224**	P	**Pn**	**11 49 31.5**	**-0.6**
ABAZ	**Army Bay**	**2.93**	**301**	P	**Pn**	**11 49 32.2**	**-0.5**
WTAZ	**Waiatarua**	**2.95**	**294**	P	**Pn**	**11 49 32.8**	**-0.2**
MHEZ	**Mangahewa**	**2.98**	**251**	P	**Pn**	**11 49 35.0**	**+1.6**
RVAZ	**Riverhead Bore**	**3.02**	**296**	P	**Pn**	**11 49 33.4**	**-0.5**
LREZ	**Lake Rotokare**	**3.06**	**244**	P	**Pn**	**11 49 34.9**	**+0.5**
TIWZ	**Tintock**	**3.06**	**211**	P	**Pn**	**11 49 32.7**	**-1.8**
MRZ	**Mangatainoka R**	**3.09**	**216**	P	**Pn**	**11 49 32.3**	**-2.7**
DREZ	**Durham Road**	**3.10**	**250**	P	**Pn**	**11 49 36.2**	**+1.1**
PREZ	**Palmer Road**	**3.19**	**247**	P	**Pn**	**11 49 37.6**	**+1.4**
NEZ	**North Egmont**	**3.21**	**249**	P	**Pn**	**11 49 37.7**	**+1.1**
PKE	**Pukeiti**	**3.27**	**250**	P	**Pn**	**11 49 38.2**	**+0.9**
KHEZ	**Kahui Hut**	**3.27**	**249**	P	**Pn**	**11 49 38.4**	**+0.9**
NBEZ	**Newall Road No**	**3.38**	**250**	P	**Pn**	**11 49 39.5**	**+0.8**
NMEZ	**Namu Road**	**3.42**	**247**	P	**Pn**	**11 49 41.1**	**+1.8**
WCZ	**Waipu Caves**	**3.64**	**307**	P	**Pn**	**11 49 41.9**	**-0.5**
MSWZ	**Moikau Station**	**3.85**	**212**	Pn	**Pn**	**11 49 41.7**	**-3.6**
PLWZ	**Palliser**	**3.98**	**211**	Pn	**Pn**	**11 49 43.4**	**-3.7**
BHW	**Baring Head**	**4.01**	**215**	Pn	Pn	11 49 43.2	-4.3
SNZO	**South Karori**	**4.01**	**218**	Pn	**Pn**	**11 49 43.7**	**-3.7**
SNZO	**South Karori**	**4.01**	**218**	P	**Pn**	**11 49 45.9**	**-1.6**
TUWZ	**Tuamarina**	**4.49**	**222**		**Pn**	**11 49 50.6**	**-3.3**
OUZ	**Omahuta**	**4.57**	**309**	Pn	**Pn**	**11 49 54.4**	**-0.7**
OUZ	**Omahuta**	**4.57**	**309**	P	**Pn**	**11 49 55.0**	**-0.1**
OUZ	**Omahuta**	**4.57**	**309**	P	**Pn**	**11 49 55.0**	**-0.1**
CMWZ	**Cape Campbell**	**4.59**	**218**	Pn	**Pn**	**11 49 52.6**	**-2.7**
NNZ	**Nelson**	**4.66**	**228**	Pn	**Pn**	**11 49 52.8**	**-3.5**
BSWZ	**Blackbirch Sta**	**4.73**	**220**	Pn	**Pn**	**11 49 53.5**	**-3.8**
QRZ	**Quartz Range**	**4.96**	**236**	Pn	**Pn**	**11 49 58.1**	**-2.3**
QRZ	**Quartz Range**	**4.96**	**236**	P	**Pn**	**11 49 59.5**	**-1.0**
THZ	**Tophouse**	**5.28**	**226**	Pn	**Pn**	**11 50 01.9**	**-3.0**
KHZ	**Kahutara**	**5.42**	**217**	Pn	**Pn**	**11 50 03.2**	**-3.5**
LTZ	**Lake Taylor**	**6.32**	**221**	Pn	**Pn**	**11 50 16.1**	**-2.9**
MQZ	**McQueen's Vall**	**6.83**	**214**	Pn	Pn	11 50 21.1	-4.9
CTZ	**Chatham Island**	**6.92**	**145**	P	**Pn**	**11 50 27.6**	**+0.4**
RPZ	**Rata Peaks**	**7.61**	**221**	Pn	**Pn**	**11 50 32.8**	**-3.9**
	1.8nm,0.3s,baz=282,slow=1.6,SNR=20						
RPZ				Sn	Sn	11 51 52.0	-9.4
	5.6nm,0.3s,baz=335,slow=23,SNR=21						
RPZ	**Rata Peaks**	**7.61**	**221**		**Pn**	**11 50 33.0**	**-3.6**
FOZ	**Fox Glacier**	**8.16**	**226**	Pn	**Pn**	**11 50 41.6**	**-2.7**
LBZ	**Lake Benmore**	**8.53**	**221**	Pn	**Pn**	**11 50 45.7**	**-3.5**
ODZ	**Otahua Downs**	**8.78**	**216**	Pn	Pn	11 50 48.2	-4.4
PINNC	**Pines Island,**	**17.93**	**327**	P	**P**	**11 52 55.4**	**+2.4**
DZM	**Mont Dzumac**	**18.85**	**325**	P	**P**	**11 53 00.0**	**-3.3**
	0.3nm,0.3s,baz=108,slow=20,SNR=13						
STKA	**Stephens Creek**	**30.29**	**271**	P	**P**	**11 54 52.8**	**-0.6**
CTA	**Charters Tower**	**32.81**	**294**	P	**P**	**11 55 16.2**	**+0.6**
	4.3nm,0.9s,baz=105,slow=12,SNR=2.0						
CTAO	**Charters Tower**	**32.81**	**294**	P	**P**	**11 55 16.5**	**+0.9**
VNDA	**Vanda**	**40.06**	**185**	P	**P**	**11 56 15.6**	**-1.0**
VNDA				IAmb	IAmb	11 56 24.4	
	comp=Z,9.5nm,1.4s						
AS31	**Alice Springs**	**40.08**	**278**	P	**P**	**11 56 19.2**	**+1.6**
ASAR	**Alice Springs**	**40.08**	**278**	P	**P**	**11 56 16.8**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=125,slow=8.1,SNR=31						
ASAR	**Alice Springs**	**40.08**	**278**	P	**P**	**11 56 17.9**	**+0.3**
WR0	**Warramunga Arr**	**41.63**	**283**	P	**P**	**11 56 30.6**	**+0.4**
WR0				IAmb	IAmb	11 56 36.6	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**41.78**	**283**	P	**P**	**11 56 31.4**	**-0.2**
WB2				IAmb	IAmb	11 56 31.5	
	comp=Z,3.3nm,0.8s						
WRAB	**Tennant Creek**	**41.79**	**283**	P	**P**	**11 56 31.3**	**-0.3**
WRAB				IAmb	IAmb	11 56 56.6	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**41.79**	**283**	P	**P**	**11 56 30.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=121,slow=8.0,SNR=24						
WRA	**Warramunga Arr**	**41.79**	**283**	P	**P**	**11 56 31.4**	**-0.2**
WB0	**Warramunga Arr**	**41.85**	**283**	P	**P**	**11 56 31.9**	**-0.2**
WB0				IAmb	IAmb	11 56 44.4	
	comp=Z,5.8nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	51.96	180	P	P	11 57 50.5	0.0
QSPA				IAmb	IAmb	11 58 12.3	
	comp=Z,4.1nm,1.5s						
FAKI	Fak Fak	54.48	299	P	P	11 58 11.2	+1.7
SNAA	Sanae	70.46	180	P	P	11 59 55.5	+0.1
SNAA				IAmb	IAmb	12 00 14.4	
	comp=Z,3.3nm,1.1s						
FINES	FINESS Array B	150.89	332	PKPbc	PKPab	12 08 39.4	-0.7
	comp=Z,8.9nm,1.2s,baz=42,slow=3.1,SNR=5.8						
FINES	FINESS Array B	150.89	332	PKPdf	PKPdf	12 08 28.2	+1.5
FINES				PKPbc	PKPbc	12 08 34.0	+1.5
FINES				PKPab	PKPab	12 08 42.4	+2.3

IDC 05 11:50:37.1±135.0, 12°.92S×169°.68E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/41, mbtmp3.5/3, Error ellipse: s-maj=2307.0km s-min=145.9km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	31.94	229	P	P	11 57 04.8	+0.1
	0.7nm,0.4s,baz=56,slow=10,SNR=3.7						
WRA	Warramunga Arr	34.55	254	P	P	11 57 27.7	-0.1
	0.2nm,0.7s,baz=83,slow=7.7,SNR=1.6						
ASAR	Alice Springs	35.51	247	P	P	11 57 35.9	-0.2
	0.3nm,0.4s,baz=76,slow=9.0,SNR=5.3						

IDC 05 11:56:46.3±4.2, 11°.10N×127°.38E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.1/42, mbtmp3.5/3, Error ellipse: s-maj=307.6km s-min=26.4km az=66.0
MAN 05 11:56:54.9, 10°.48N×126°.03E, h12km, mb4.7, ML3.5, MS3.4
ISC 05 11:56:51.8±1.3, 10°.54N±0°.06×126°.16E±0°.07, h10km, n11, σ2s.08/14, mb3.5/3, 8C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	0.75	182	⇑eP	Pg	11 57 08.3	+2.1
SCPH	Surigao	1.00	221	⇑eP	Pg	11 57 11.4	+0.4
SCPH				eS	Sg	11 57 23.3	-0.7
BESP	Borongan	1.27	326	⇑eP	Pn	11 57 16.8	+1.2
LLP	Lapu-Lapu	2.17	264	⇑eP	Pg	11 57 34.3	+1.0
LLP				eS	Sg	11 58 03.9	+2.3
TBP	Tagbilaran	2.41	250	⇑eP	Pn	11 57 32.3	+0.9
TBP				iS	Sn	11 57 58.6	-2.4
BUKP	Musuan	2.85	202	⇑eP	Pn	11 57 40.1	+2.7
RCP	Roxas	3.50	287	⇑eP	Pn	11 57 48.0	+1.7
KCP	Kidapawan	3.66	197	⇑eP	Pn	11 57 50.6	+2.1
KCP				iS	Sg	11 58 46.3	-3.2
WRA	Warramunga Arr	31.34	165	P	P	12 03 10.5	-2.2
	0.6nm,1.1s,baz=349,slow=9.3,SNR=2.1						
ASAR	Alice Springs	34.83	168	P	P	12 03 42.2	-0.9
	0.2nm,0.3s,baz=346,slow=7.2,SNR=5.7						
MKAR	Makanchi Array	51.75	323	P	P	12 05 57.8	-1.8
	1.0nm,0.7s,baz=119,slow=8.2,SNR=13						

NOU 05 12:08:53.9, 39°.81S×176°.64E, h35km, MLv3.6/9, North Island, New Zealand
WEL 05 12:08:54.9±0.2, 40°S±2°×17°7E±°, h30km±2km, M3.0/52, ML3.3/53, MLv3.0/52, Error ellipse: s-maj=0.0km s-min=0.0km az=107.1
ISC 05 12:08:54.5±1.6, 39°.81S±0°.03×176°.63E±0°.02, h37km, n135, σ1s.25/142, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAHZ	Kahuranaki	0.19	85	P	Pn	12 09 03.2	-0.9
KAHZ				S	Sn	12 09 10.4	-3.1
KRHZ	Kereru	0.26	309	P	Pn	12 09 02.7	0.0
KRHZ				S	Sn	12 09 08.6	-1.7
PXZ	Pawanui	0.28	142	P	Pn	12 09 04.5	+1.8
PXZ				S	Sn	12 09 12.2	+2.3
WPHZ	Waipukurau	0.29	210	P	Pn	12 09 04.6	+2.0
WPHZ				S	Sn	12 09 12.1	+2.4
PNHZ	Pukenui	0.35	253	P	Pn	12 09 04.6	+1.6
PNHZ				S	Sn	12 09 11.7	+2.0
MCHZ	McNeill Hill	0.37	8	P	Pn	12 09 03.9	+0.8
MCHZ				S	Sn	12 09 10.8	+1.0
CKHZ	Cape Kidnapper	0.37	66	P	Pn	12 09 04.6	+1.5
CKHZ				S	Sn	12 09 12.4	+2.5
KWHZ	Kaweka Forest	0.42	337	P	Pn	12 09 04.0	+0.2
KWHZ				S	Sn	12 09 11.0	+0.3
PRHZ	Porangahau	0.46	180	P	Pn	12 09 06.7	+2.3
BHHZ	Black Hill Sta	0.55	306	P	Pn	12 09 06.0	+0.2
BHHZ				S	Sn	12 09 14.0	+0.3
TSZ	Takapari Road	0.57	244	P	Pn	12 09 07.4	+1.1
DVHZ	Dannevirke	0.61	216	P	Pn	12 09 08.0	+1.3
ARHZ	Aropaoanui	0.61	27	P	Pn	12 09 06.9	+0.1
BKZ	Black Stump Fm	0.65	350	P	Pn	12 09 06.9	-0.5
BKZ	Black Stump Fm	0.65	350	P	Pn	12 09 07.0	-0.4
ANWZ	Angora Road	0.66	191	P	Pn	12 09 09.3	+1.9
NMHZ	Naumai	0.72	11	P	Pn	12 09 08.3	+0.1
MOVZ	Moawhango	0.79	300	P	Pn	12 09 09.9	+0.7
POWZ	Post Office Ro	0.88	229	P	Pn	12 09 11.7	+1.3
PRWZ	Pori Road	0.90	214	P	Pn	12 09 12.2	+1.5
BFZ	Birch Farm	0.92	199	P	Pn	12 09 12.1	+1.3
BFZ	Birch Farm	0.92	199	P	Pn	12 09 12.2	+1.3
TUVZ	Tukino	0.93	305	P	Pn	12 09 12.2	+1.0
WNVZ	Wahianoa	0.94	301	P	Pn	12 09 12.2	+1.0
RAHZ	Arahi	0.96	22	P	Pn	12 09 11.1	-0.3
WHVZ	Whangaehu Hut	0.96	303	P	Pn	12 09 12.8	+1.2
MTHZ	Maungataniwha	0.97	10	P	Pn	12 09 11.2	-0.4
ETVZ	East Tongariro	0.98	313	P	Pn	12 09 12.4	+0.6
TRVZ	Turoa	0.98	301	P	Pn	12 09 12.8	+0.9
DRZ	Dome Shelter	0.98	302	P	Pn	12 09 13.4	+1.4
MRHZ	Matea Rd	0.99	350	P	Pn	12 09 11.9	+0.1
OTVZ	Oturere	0.99	310	P	Pn	12 09 12.6	+0.7
SNVZ	South Ngauruho	0.99	309	P	Pn	12 09 12.6	+0.7
MTVZ	Mangateitei	0.99	295	P	Pn	12 09 13.4	+1.5
TMVZ	Te Maari	1.00	314	P	Pn	12 09 12.6	+0.6
FWVZ	Far West T-bar	1.00	303	P	Pn	12 09 12.9	+0.7
HATZ	Hinemaiaia	1.01	335	P	Pn	12 09 12.3	+0.3
NGZ	Ngauruhoe	1.02	308	P	Pn	12 09 13.1	+0.7
RITZ	Rihia Road	1.03	324	P	Pn	12 09 13.0	+0.7
NTVZ	North Tongarir	1.03	313	P	Pn	12 09 13.0	+0.5
NNVZ	North Ngauruho	1.04	310	P	Pn	12 09 13.3	+0.6
KRVZ	Karewarewa	1.05	313	P	Pn	12 09 13.4	+0.6
WTVZ	West Tongariro	1.06	310	P	Pn	12 09 13.6	+0.7
OHWZ	Ohakea	1.09	248	P	Pn	12 09 15.4	+2.2
KATZ	Kakaramea	1.11	319	P	Pn	12 09 14.1	+0.6
TIWZ	Tintock	1.12	210	P	Pn	12 09 15.1	+1.5
PKVZ	Pokaka	1.12	297	P	Pn	12 09 15.0	+1.3
KNZ	Kokohu	1.13	46	P	Pn	12 09 13.0	-0.7
RATZ	Rangitukua	1.16	324	P	Pn	12 09 14.4	+0.3
SNGZ	Shannon Statio	1.16	28	P	Pn	12 09 13.7	-0.5
MRZ	Mangatainoka R	1.17	223	P	Pn	12 09 15.1	+0.8
TWVZ	Taurewa	1.18	308	P	Pn	12 09 15.4	+0.8
RTZ	Ruatahuna	1.22	13	P	Pn	12 09 14.5	-0.5
WHTZ	Whakaora	1.26	335	P	Pn	12 09 15.9	+0.4
ALRZ	Allen Road	1.27	350	P	Pn	12 09 15.5	-0.2
WAZ	Wanganui	1.27	272	P	Pn	12 09 18.0	+2.3
WATZ	Wairara	1.30	327	P	Pn	12 09 16.0	-0.2
PRGZ	Paritu Road	1.31	48	P	Pn	12 09 15.6	-0.7
PRRZ	Plateau Road	1.32	352	P	Pn	12 09 16.3	-0.1
MUGZ	Murupara	1.33	5	P	Pn	12 09 16.0	-0.5
WPRZ	Whakapapatarin	1.34	344	P	Pn	12 09 16.5	-0.1
HOWZ	Holdsworth Sta	1.38	218	P	Pn	12 09 17.6	+0.4
RIGZ	Rimuhau	1.41	39	P	Pn	12 09 16.9	-0.7
TMWZ	Te Maipa	1.41	203	P	Pn	12 09 18.2	+0.5
HRRZ	Handcock Road	1.44	349	P	Pn	12 09 18.4	+0.3
RAGZ	Rawiri	1.45	25	P	Pn	12 09 17.4	-0.7
KUTZ	Kaahu Road	1.46	334	P	Pn	12 09 18.3	0.0
RRRZ	Republican Roa	1.47	356	P	Pn	12 09 18.7	+0.3
OGWZ	Otaki Gorge	1.50	228	P	Pn	12 09 19.4	+0.5
GRRZ	Galatos Road	1.51	344	P	Pn	12 09 19.0	0.0
HSRZ	Hossack Road	1.53	348	P	Pn	12 09 19.0	-0.1
TARZ	Mount Tarawera	1.57	356	P	Pn	12 09 19.9	0.0
URZ	Urewera	1.59	14	P	Pn	12 09 19.0	-1.0
URZ	Urewera	1.59	14	P	Pn	12 09 19.1	-1.0
MTW	Mount Morrison	1.60	212	P	Pn	12 09 20.2	0.0
VRZ	Vera Road	1.60	295	P	Pn	12 09 20.9	+0.7
MWZ	Matawai	1.63	26	P	Pn	12 09 19.5	-1.1
TKGZ	Te Karaka	1.66	35	P	Pn	12 09 20.0	-1.0
KIW	Kapiti Island	1.69	231	P	Pn	12 09 21.9	+0.6
TLZ	Tolley Road	1.71	330	P	Pn	12 09 21.4	-0.3
TRWZ	Traveller	1.74	204	P	Pn	12 09 22.1	0.0
LREZ	Lake Rotokare	1.76	281	P	Pn	12 09 26.1	+3.8
CAW	Cannon Point	1.76	222	P	Pn	12 09 22.4	0.0
CNGZ	Carnagh Statio	1.80	43	P	Pn	12 09 21.9	-1.1
PAWZ	Paruwai Farm	1.82	210	P	Pn	12 09 23.1	-0.1
HIZ	Hauiti	1.89	313	P	Pn	12 09 24.2	0.0
HIZ	Hauiti	1.89	313	P	Pn	12 09 24.2	0.0
MSWZ	Moikau Station	1.92	213	P	Pn	12 09 24.1	-0.5
TWGZ	Tauwhareparae	1.94	33	P	Pn	12 09 24.0	-0.9
OPRZ	Ohinepanea	1.96	358	P	Pn	12 09 24.5	-0.7
PREZ	Palmer Road	1.97	283	P	Pn	12 09 27.6	+2.4
DREZ	Durham Road	1.98	287	P	Pn	12 09 31.4	+6.0
RUGZ	Raukumara Rang	2.01	24	P	Pn	12 09 24.7	-1.3
NEZ	North Egmont	2.04	285	P	Pn	12 09 28.7	+2.5
PLWZ	Palliser	2.05	210	P	Pn	12 09 25.7	-0.6
WEL	Wellington	2.05	223	P	Pn	12 09 26.2	-0.1
BHW	Baring Head	2.09	219	P	Pn	12 09 26.1	-0.7
KHEZ	Kahui Hut	2.09	283	P	Pn	12 09 30.2	+3.2
SNZO	South Karori	2.10	224	P	Pn	12 09 26.6	-0.4
PKE	Pukeiti	2.14	286	P	Pn	12 09 30.2	+2.6
PUZ	Puketiti	2.15	37	P	Pn	12 09 26.1	-1.7
NBEZ	Newall Road No	2.21	283	P	Pn	12 09 33.0	+4.5
PKGZ	Pakihiroa	2.23	31	P	Pn	12 09 27.5	-1.4
HAZ	Te Kaha	2.24	24	P	Pn	12 09 26.9	-2.0
TOZ	Tahuroa Road	2.26	337	P	Pn	12 09 28.8	-0.4
TCW	Tory Channel	2.28	231	P	Pn	12 09 29.1	-0.4
DUWZ	D'Urville Isla	2.30	244	P	Pn	12 09 30.0	+0.1
MXZ	Matakaoa Point	2.60	31	P	Pn	12 09 32.7	-1.2
TUWZ	Tuamarina	2.61	231	P	Pn	12 09 33.1	-0.9
BSWZ	Blackbirch Sta	2.83	227	P	Pn	12 09 36.1	-1.0
NNZ	Nelson	2.85	239	P	Pn	12 09 37.1	-0.3
TKNZ	Takaka Hill	3.06	245	P	Pn	12 09 40.2	-0.1
ETAZ	East Tamaki Re	3.15	334	P	Pn	12 09 41.7	+0.2
AWAZ	Awhitu Peninsu	3.16	330	P	Pn	12 09 40.8	-0.8
QRZ	Quartz Range	3.30	251	P	Pn	12 09 43.0	-0.5
QRZ	Quartz Range	3.30	251	P	Pn	12 09 43.0	-0.5
MBAZ	Motutapu North	3.33	335	P	Pn	12 09 44.2	+0.3
MRNZ	Matariki Terra	3.35	240	P	Pn	12 09 44.2	-0.1
RVAZ	Riverhead Bore	3.44	331	P	Pn	12 09 46.0	+0.6
THZ	Tophouse	3.44	234	P	Pn	12 09 44.2	-1.3
KHZ	Kahutara	3.50	221	P	Pn	12 09 44.3	-2.0
KHZ	Kahutara	3.50	221	P	Pn	12 09 45.5	-0.8
ABAZ	Army Bay	3.50	336	P	Pn	12 09 47.2	+0.8
DSZ	Denniston Nort	4.14	241	P	Pn	12 09 54.6	-0.6
GVZ	Greta Valley S	4.16	219	P	Pn	12 09 54.2	-1.2
WCZ	Waipu Caves	4.27	334	P	Pn	12 09 57.5	+0.6
OKCZ	Okains Bay	4.74	213	P	Pn	12 10 01.9	-1.4
INZ	Inchbonnie	4.88	232	P	Pn	12 10 03.3	-1.9
AKCZ	Akaroa Harbour	4.92	213	P	Pn	12 10 04.1	-1.7
OUZ	Omahuta	5.18	331	P	Pn	12 10 09.8	+0.4
OUZ	Omahuta	5.18	331	P	Pn	12 10 09.9	+0.5
WACZ	Wakanui South	5.46	219	P	Pn	12 10 11.3	-2.0
CTZ	Chatham Island	6.39	130	P	Pn	12 10 27.0	+1.0
ODZ	Otahua Downs	6.85	218	P	Pn	12 10 30.7	-1.6
PYZ	Puysegur Point	9.67	226	P	Pn	12 11 17.1	+6.2

JMA 05 12:14:05.8±0.3, 34°.37N×141°.55E, h36km±1km, M3.3
IDC 05 12:14:10.8±2.8, 34°.40N×141°.34E, h54km±24km, mb3.4/11, mb1 3.6/12, mb1mx3.5/42, mbtmp3.6/12, ML2.6/1, Error ellipse: s-maj=24.3km s-min=9.2km az=89.0
ISC 05 12:14:07.6±0.8, 34°.43N±0°.06×141°.46E±0°.08, h27km, n26, σ0s.77/30, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.46	299	P	Pb	12 14 16.9	0.0
BSO1				X		12 14 25.1	
BSO3	Boso 3	0.87	296	P	Pn	12 14 23.4	-0.4
BSO3				S	Sn	12 14 36.1	+0.6
BSO4	Boso 4	1.08	301	P	Pn	12 14 26.9	0.0
JKUC	kamogawauchiur	1.27	305	P	Pn	12 14 29.1	-0.5
TATJ	Tateyama 2	1.43	295	P	Pn	12 14 31.5	-0.3
JSMT	Sammumatsuo	1.47	326	P	Pn	12 14 32.5	+0.2
JMKN	Mikurajimanish	1.64	251	P	Pn	12 14 33.9	-0.8
JIM2	Oshima 3	1.70	280	P	Pn	12 14 34.7	-0.9
JHJ2	Mitsune	1.90	227	P	Pn	12 14 38.1	-0.1
JHJ	Hachijo jima 2	1.91	227	P	Pn	12 14 39.3	+0.8
	22nm,0.3s,baz=276,slow=24,SNR=8.9						
JHJ				S	Sn	12 15 01.5	-0.1
	60nm,0.3s,baz=58,slow=22,SNR=11						
JKO	Kozu shima	1.94	263	P	Pn	12 14 38.5	-0.3
MJAR	Matsushiro Arr	3.39	309	P	Pn	12 14 59.7	+0.9
	0.6nm,0.3s,baz=140,slow=10.0,SNR=8.7						
MJAR				S	Sn	12 15 39.0	+0.9
	0.9nm,0.3s,baz=281,slow=18,SNR=9.2						
MAT	Matsushiro	3.39	309	P	Pn	12 14 59.1	+0.3
MAT				eS	Sn	12 15 39.9	+1.7
ASAJ	Asahikawa	9.71	5	P	Pn	12 16 23.4	-2.2
	0.7nm,0.3s,baz=221,slow=9.6,SNR=14						
MA2	Magadan	25.89	11	P	P	12 19 37.2	+0.2
	0.8nm,0.3s,baz=179,slow=9.4,SNR=4.0						
SONM	Songino Array	29.34	308	P	P	12 20 07.8	-0.4
	0.7nm,0.9s,baz=115,slow=9.4,SNR=4.2						
MKAR	Makanchi Array	45.58	304	P	P	12 22 24.4	-0.8
	0.2nm,0.5s,baz=79,slow=9.2,SNR=5.5						
ILAR	Eielson Array	51.68	31	P	P	12 23 12.8	+1.0
	0.9nm,0.6s,baz=268,slow=6.3,SNR=14						
WRA	Warramunga Arr	54.49	188	P	P	12 23 32.8	-0.2
	0.3nm,0.4s,baz=0.9,slow=7.6,SNR=7.2						
ASAR	Alice Springs	58.22	188	P	P	12 23 59.8	+0.2
	0.3nm,0.5s,baz=0.5,slow=5.5,SNR=5.1						
YKA	Yellowknife Ar	66.04	30	P	P	12 24 52.0	+0.5
	0.1nm,0.4s,baz=297,slow=6.6,SNR=1.9						
FINES	FINESS Array B	71.14	333	P	P	12 25 22.3	-1.1
	1.0nm,0.7s,baz=71,slow=12,SNR=2.0						
KBZ	Khabaz	72.64	311	P	P	12 25 32.6	-0.1
	1.1nm,0.7s,baz=78,slow=3.0,SNR=3.9						
NB2	NORSAR Subarra	76.60	338	P	P	12 25 55.6	+0.2
	comp=Z,0.3nm,0.5s,baz=40,slow=5.3						
NOA	NORSAR Array B	76.60	338	P	P	12 25 55.3	-0.1
	comp=Z,0.4nm,0.5s,baz=40,slow=5.6,SNR=3.5						
BRTR	Keskin Array B	80.61	312	P	P	12 26 18.3	+0.2
	comp=Z,0.3nm,0.3s,baz=42,slow=4.5,SNR=2.6						

IDC 05 12:14:41.5±1.6, 17°.55S×178°.74W, h571km±16km, mb3.2/6, mb1 3.5/9, mb1mx3.2/28, mbtmp4.1/9, Error ellipse: s-maj=99.0km s-min=15.0km az=154.0
ISC 05 12:14:39.0±1.2, 18°.6S±0°.5×178°.2W±0°.3, h550km, n9, σ1s.32/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.68	282	P	P	12 16 00.1	+1.4
	3.1nm,0.3s,baz=97,slow=1.8,SNR=22						
AFI	Afiamalu	7.69	54	P	P	12 16 34.5	+0.5
	3.7nm,0.3s,baz=265,slow=15,SNR=4.5						
DZM	Mont Dzumac	14.84	254	P	P	12 17 47.2	+0.2
	0.4nm,0.3s,baz=87,slow=19,SNR=7.2						
STKA	Stephens Creek	38.51	242	P	P	12 21 15.9	+1.2
	3.2nm,0.4s,baz=82,slow=9.3,SNR=10.0						
WRA	Warramunga Arr	44.73	260	P	P	12 22 01.6	-2.5
	1.6nm,0.6s,baz=96,slow=6.9,SNR=53						
ASAR	Alice Springs	44.83	255	P	P	12 22 03.7	-1.0
	16nm,0.6s,baz=89,slow=7.8,SNR=456						
ASAR				PcP	PcP	12 23 34.6	-0.2
	0.6nm,0.6s,baz=104,slow=3.8,SNR=4.7						
NVAR	Mina Array Bea	79.74	44	P	P	12 25 49.5	-1.0
	0.2nm,0.6s,baz=224,slow=6.3,SNR=3.9						
TXAR	Lajitas Array	86.16	57	P	P	12 26 22.9	+0.2
	0.3nm,0.7s,baz=208,slow=6.9,SNR=5.1						
PDAR	Pinedale Array	87.67	43	P	P	12 26 29.2	-0.5
	0.2nm,0.5s,baz=231,slow=5.7,SNR=2.2						

NEIC 05 12:20:27.9±1.4, 19°.0S±0°.2×178°.60W±0°.08, h560km±13km, mb4.0/10, Error ellipse: s-maj=28.7km s-min=10.6km az=173.0
IDC 05 12:20:28.1±4.5, 18°.78S×178°.72W, h565km±35km, mb3.0/3, mb1 3.3/5, mb1mx2.9/30, mbtmp3.9/5, Error ellipse: s-maj=216.3km s-min=27.3km az=157.0
ISC 05 12:20:26.8±0.8, 19°.0S±0°.2×178°.6W±0°.1, h550km, n18, σ0s.90/18, mb3.9/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.42	291	P	P	12 21 46.2	+1.5
	3.1nm,0.3s,baz=278,slow=23,SNR=17						
PINNC	Pines Island,	13.53	252	P	P	12 23 20.1	-1.1
DZM	Mont Dzumac	14.34	255	P	P	12 23 29.0	-0.7
	0.3nm,0.3s,baz=334,slow=22,SNR=1.6						
DZM	Mont Dzumac	14.34	255	P	P	12 23 29.5	-0.2
BFZ	Birch Farm	22.06	190	P	P	12 24 41.5	+0.2
XMAS	Kiritimati	29.50	47	P	P	12 25 46.9	-0.2
WR0	Warramunga Arr	44.08	261	P	P	12 27 46.2	-0.6
WB0	Warramunga Arr	44.24	261	P	P	12 27 48.1	+0.1
WB0				IAmb	IAmb	12 27 48.6	
	comp=Z,9.7nm,1.3s						
WB2	Warramunga Arr	44.26	261	P	P	12 27 48.0	-0.1
WB2				IAmb	IAmb	12 28 00.8	
	comp=Z,7.9nm,1.5s						
WRAB	Tennant Creek	44.26	261	P	P	12 27 47.9	-0.2
WRAB				IAmb	IAmb	12 28 01.6	
	comp=Z,6.3nm,1.4s						
WRA	Warramunga Arr	44.27	261	P	P	12 27 48.2	0.0
	comp=Z,1.0nm,0.3s,baz=96,slow=7.7,SNR=94						
WRA	Warramunga Arr	44.27	261	P	P	12 27 48.5	+0.3
ASAR	Alice Springs	44.33	255	P	P	12 27 48.1	-0.6
	comp=Z,2.6nm,0.7s,baz=85,slow=8.4,SNR=40						
ASAR	Alice Springs	44.33	255	P	P	12 27 47.7	-1.0
VNDA	Vanda	59.35	185	P	P	12 29 37.8	+2.0
VNDA				IAmb	IAmb	12 30 04.0	
	comp=Z,9.1nm,1.4s						
QSPA	South Pole Qui	71.06	180	P	P	12 30 48.2	-1.3
QSPA				IAmb	IAmb	12 31 03.4	
	comp=Z,3.9nm,1.5s						
TXAR	Lajitas Array	86.73	58	P	P	12 32 12.8	-0.4
	comp=Z,0.3nm,0.7s,baz=215,slow=8.0,SNR=4.4						
SNAA	Sanae	89.51	179	P	P	12 32 25.2	-0.2
SNAA				IAmb	IAmb	12 32 51.7	
	comp=Z,9.4nm,1.4s						

NEIC 05 12:20:38.8±0.6, 19°.1N±0°.1×67°.92W±0°.03, h35km±14km, Error ellipse: s-maj=15.3km s-min=4.0km az=182.0
RSPR 05 12:20:39.0, 19°.08N×67°.95W, h54km±4km, MD3.1/7
OSPL 05 12:20:40.8±0.5, 18°.92N×67°.84W, h15km±3km, ML1.9
ISC 05 12:20:37.2±1.4, 19°.05N±0°.08×67°.93W±0°.03, h20km, n48, σ0s.48/51, 8C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.69	219	⇑eP	Pn	12 20 52.1	+0.3
PCDR	Punta Cana, DR	0.69	219	eS	Sn	12 21 02.0	+0.2
PCDR	Punta Cana, DR	0.69	219		Pn	12 20 52.1	+0.3
PCDR					Sn	12 21 02.0	+0.2
PCDR	Punta Cana, DR	0.69	219	IAML		12 21 03.0	
	comp=N,141nm,0.8s						
PCDR	Punta Cana, DR	0.69	219	iP	Pn	12 20 52.3	+0.5
PCDR				eS	Sn	12 21 01.4	-0.5
PCDR				IAML		12 21 02.6	
	comp=Z,114nm,0.3s						
IDE	Isla Desecheo	0.79	147	⇓eP	Pb	12 20 52.3	+0.1
AGPR	Aguadilla, PR	0.96	127	⇑eP	Pn	12 20 56.4	+0.7
AGPR	Aguadilla, PR	0.96	127	eS	Sb	12 21 07.6	0.0
AGPR	Aguadilla, PR	0.96	127		Pn	12 20 56.4	+0.7
AGPR				IAML		12 21 17.5	
	comp=E,61nm,1.8s						
AGPR	Aguadilla, PR	0.96	127		Sb	12 21 07.6	0.0
AGPR	Aguadilla, PR	0.96	127	IAML		12 21 07.0	
	comp=N,84nm,2.1s						
AGPR	Aguadilla, PR	0.96	127	iP	Pb	12 20 55.5	+0.2
AGPR				eS	Sb	12 21 06.1	-1.5
AGPR				IAML		12 21 12.4	
	comp=Z,47nm,0.9s						
PRSN	Puerto Rico Se	1.11	138	Pn	Pb	12 20 58.3	+0.5
LSP	Las Mesas	1.18	137	⇑eP	Pb	12 20 58.9	0.0
LSP	Las Mesas	1.18	137	eS	Sn	12 21 14.3	+0.2
CRPR	Cabo Rojo, PR	1.30	143	⇑eP	Pn	12 21 00.6	+0.4
CRPR	Cabo Rojo, PR	1.30	143	eS	Sn	12 21 17.1	+0.2
CRPR	Cabo Rojo, PR	1.30	143		Pn	12 21 00.6	+0.4
CRPR					Sn	12 21 17.1	+0.2
CRPR	Cabo Rojo, PR	1.30	143	iP	Pb	12 21 00.8	-0.1
CRPR				eS	Sn	12 21 15.1	-1.8
CRPR				IAML		12 21 19.1	
	comp=Z,14nm,1.1s						
AOPR	Arecibo Observ	1.31	122	⇑eP	Pn	12 21 00.4	-0.1
AOPR	Arecibo Observ	1.31	122	eS	Sn	12 21 17.6	+0.2
AOPR	Arecibo Observ	1.31	122		Pn	12 21 00.4	-0.1
AOPR					Sn	12 21 17.6	+0.2
AOPR	Arecibo Observ	1.31	122	IAML		12 21 19.0	
	comp=N,59nm,0.3s						
AOPR				IAML		12 21 22.4	
	comp=E,86nm,0.3s						
MLPR	Magueyes Islan	1.36	142	⇓eP	Pb	12 21 01.9	-0.2
MLPR	Magueyes Islan	1.36	142	eS	Sn	12 21 18.9	+0.3
MLPR	Magueyes Islan	1.36	142		Pb	12 21 01.9	-0.2
MLPR					Sn	12 21 18.9	+0.3
DR12	Loma Pena Alta	1.40	259		Pb	12 21 03.5	+0.8
EMPR	Esperanza - Ma	1.44	113	⇑eP	Pn	12 21 02.5	+0.3
EMPR	Esperanza - Ma	1.44	113	eS	Sn	12 21 20.6	+0.1
EMPR	Esperanza - Ma	1.44	113		Pn	12 21 02.5	+0.3
EMPR	Esperanza - Ma	1.44	113		Sn	12 21 20.6	+0.1
EMPR	Esperanza - Ma	1.44	113	IAML		12 21 19.8	
	comp=N,86nm,2.0s						
CELP	Cerrillos	1.60	127	⇑eP	Pn	12 21 04.7	+0.3
CELP	Cerrillos	1.60	127	eS	Sn	12 21 24.7	+0.1
CELP	Cerrillos	1.60	127		Pn	12 21 04.7	+0.3
CELP					Sn	12 21 24.7	+0.1
CELP	Cerrillos	1.60	127	IAML		12 21 27.5	
	comp=N,25nm,0.6s						
OBIP	Obispado Ponce	1.60	128	⇑eP	Pn	12 21 04.3	-0.1
OBIP	Obispado Ponce	1.60	128	eS	Sn	12 21 24.4	-0.2
OBIP	Obispado Ponce	1.60	128		Pn	12 21 04.3	-0.1
OBIP					Sn	12 21 24.4	-0.2
OBIP	Obispado Ponce	1.60	128	IAML		12 21 24.7	
	comp=N,32nm,0.5s						
SJG	San Juan	1.93	119	Pn	Pn	12 21 09.3	+0.4
SJG				IAML		12 22 15.1	
	comp=N,32nm,0.3s						
PDPR	Patillas Dam,	2.08	119	Pn	Pn	12 21 11.4	+0.4
PDPR				IAML		12 21 27.0	
	comp=E,34nm,5.0s						
CBYP	Canovanas	2.11	111	⇓eP	Pn	12 21 11.3	-0.2
CBYP	Canovanas	2.11	111	eS	Sn	12 21 37.4	+0.2
CBYP	Canovanas	2.11	111		Pn	12 21 11.3	-0.2
CBYP					Sn	12 21 37.4	+0.2
CBYP	Canovanas	2.11	111	IAML		12 21 49.4	
	comp=E,36nm,0.2s						
CBYP				IAML		12 21 50.3	
	comp=N,40nm,0.2s						
HUMP	Col San Antoni	2.17	114	Pn	Pn	12 21 12.4	+0.2
HUMP				IAML		12 21 45.0	
	comp=N,16nm,1.0s						
SDDR	Presa de Saban	3.18	269	Pn	Pn	12 21 25.2	-1.0
SDDR				IAML		12 22 25.5	
	comp=N,12nm,0.8s						
SDDR				IAML		12 22 26.7	
	comp=N,14nm,1.8s						

NOU 05 12:27:30.7, 18°.85S×169°.30E, h223km, MLv4.1/17, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.34	322	P	Pn	12 28 05.6	+0.4
DVP	Devils Point	1.54	316	P	Pn	12 28 07.1	+0.3
LIFNC	LIFOU	2.73	225	P	Pn	12 28 17.8	-0.7
MARNC	Mare, Loyalty	2.88	204	P	Pn	12 28 19.7	-0.5
YATNC	Mamie plateau,	3.91	215	P	Pn	12 28 32.0	-0.3
SANVU	Saraoutou	3.93	329	P	Pn	12 28 32.1	-0.5
PINNC	Pines Island,	4.13	205	P	Pn	12 28 34.7	-0.1
DZM	Mont Dzumac	4.18	219	P	Pn	12 28 35.9	+0.3
OUENC	Ouen Island, N	4.23	213	P	Pn	12 28 36.1	0.0
NOUC	Port Laguerre	4.28	220	P	Pn	12 28 37.1	+0.3
ONTNC	Ouen Toro	4.35	217	P	Pn	12 28 38.0	+0.4
KOUNC	Koumac, New Ca	5.02	249	P	Pn	12 28 46.3	+0.4

NNC 05 12:44:13.8±2.6, 37°.02N×68°.72E, h0km, mb3.8, mpv3.3, 3C-1D, Error ellipse: s-maj=30.0km s-min=21.1km az=127.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.24	12	⇑P	Pn	12 45 46.8	-0.2
	0.9nm,0.3s						
KK02				⇑S	Sn	12 47 00.3	+1.2
	2.4nm,0.3s						
AB31	Akbulak array	13.80	335	⇑P	Pn	12 47 30.3	-0.2
	0.9nm,0.5s,baz=155,slow=13,SNR=25						
MK31	Makanchi Array	14.04	42	P	Pn	12 47 34.1	+0.3
	0.4nm,0.6s,baz=216,slow=9.8,SNR=4.8						
AKTO	Aktyubinsk	15.46	334	⇓P	Pn	12 47 53.7	+0.7
	3.7nm,1.1s						

*ATH **05** 13:02:21.4, 34°.91N×24°.77E, h35km±1km, ML3.6/6, Error ellipse: s-maj=3.1km s-min=1.5km az=162.0*
*IDC **05** 13:02:22.2±2.1, 34°.98N×24°.82E, h40km±17km, mb3.4/8, mb1 3.5/13, mb1mx3.4/52, mbtmp3.6/13, ML3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/51, Error ellipse: s-maj=21.6km s-min=18.7km az=84.0*
*ISK **05** 13:02:22.0, 34°.96N×24°.72E, h26km, ML3.6/13*
*THE **05** 13:02:22.5, 34°.86N×24°.79E, h25km±1km, ML3.5/10, Error ellipse: s-maj=2.0km s-min=0.9km az=343.0*
*DDA **05** 13:02:23.0±0.0, 34°.99N×24°.67E, h36km, ML3.6*
ISC 05 13:02:20.9±0.9**, 34°.83N**±0°.04×**24°.79E**±0°.02**, h35**km±3km**, n70, σ1°.84**/101**, mb3.5**/8**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIVA	Sivas	0.19	5	P	Pb	13 02 27.5	-0.1
SIVA				S	Sb	13 02 32.4	+0.2
SIVA				AML	AML	13 02 32.5	
	comp=E,85252μm,0.3s						
SIVA				AML	AML	13 02 32.6	
	comp=N,71835μm,0.2s						
SIVA	Sivas	0.19	5	P	Pb	13 02 27.6	0.0
SIVA				S	Sb	13 02 32.1	0.0
	comp=N,39μm,0.2s						
TMBK	Timbaki Herakl	0.24	356	P	Pn	13 02 27.9	+0.1
TMBK				S	Sb	13 02 33.7	+0.6
	comp=N,5μm,0.3s						
IDI	Anoyia	0.47	10	Pn	Pb	13 02 30.4	-0.7
	comp=N,244nm,0.3s,baz=210,slow=14,SNR=721						
IDI				Sn	Sb	13 02 35.5	-2.7
	comp=N,619nm,0.3s,baz=233,slow=23,SNR=29						
IDI	Anoyia	0.47	10	P	Pb	13 02 30.4	-0.7
IDI				S	Sb	13 02 36.9	-1.3
IDI				AML	AML	13 02 38.1	
	comp=E,8994μm,0.3s						
IDI				AML	AML	13 02 41.3	
	comp=N,10300μm,0.4s						
IDI	Anoyia	0.47	10	P	Pb	13 02 30.4	-0.7
IDI				S	Sb	13 02 37.7	-0.5
	comp=N,5μm,0.3s						
IDI	Anoyia	0.47	10	PG	Pb	13 02 30.4	-0.7
IDI				SG	Sb	13 02 36.9	-1.3
KSTL	Kastelli Herak	0.53	26	P	Pn	13 02 33.7	+1.8
KSTL				S	Sn	13 02 42.1	+2.4
	comp=N,3μm,0.5s						
IACM	Heraklion	0.53	26	P	Pb	13 02 32.1	0.0
IACM				S	Sn	13 02 39.8	+0.1
IACM	Heraklion	0.53	26	P	Pb	13 02 31.9	-0.1
IACM				S	Sn	13 02 40.4	+0.7
HRKL	Herakleio	0.55	28	P	Pn	13 02 32.4	+0.2
HRKL				S	Sn	13 02 41.1	+1.0
HRKL	Herakleio	0.55	28	PG	Pb	13 02 32.2	-0.1
HRKL				SG	Sn	13 02 40.2	+0.1
GVDS	Gavdos	0.57	272	P	Pn	13 02 33.4	+0.8
GVDS				S	Sn	13 02 43.5	+2.7
	comp=N,8μm,0.5s						
GVD	Gavdhos	0.58	271	P	Pn	13 02 33.2	+0.6
GVD				S	Sn	13 02 42.0	+1.2
GVD				AML	AML	13 02 48.7	
	comp=E,26123μm,0.6s						
GVD				AML	AML	13 02 51.6	
	comp=N,15844μm,0.6s						
GVD	Gavdhos	0.58	271	P	Pn	13 02 33.2	+0.6
GVD				S	Sn	13 02 42.9	+2.0
	comp=N,8μm,0.4s						
GVD	Gavdhos	0.58	271	PG	Pn	13 02 33.5	+0.9
GVD				SG	Sn	13 02 41.8	+0.9
PRNS	Prines Rethymn	0.58	336	P	Pn	13 02 32.9	+0.2
PRNS				S	Sn	13 02 42.4	+1.4
	comp=N,2μm,0.4s						
VAM	Vamos	0.75	320	P	Pn	13 02 35.3	+0.2
VAM				S	Sb	13 02 46.2	+0.5
VAM				AML	AML	13 02 50.7	
	comp=E,9335μm,0.5s						
VAM				AML	AML	13 02 50.8	
	comp=N,13139μm,0.5s						
VAM	Vamos	0.75	320	P	Pn	13 02 35.2	+0.2
VAM				S	Sb	13 02 45.9	+0.2
	comp=N,6μm,0.5s						
NPS	Neapolis	0.80	57	P	Pb	13 02 36.7	+0.2
NPS				AML	AML	13 02 49.5	
	comp=N,8456μm,0.5s						
NPS				AML	AML	13 02 49.9	
	comp=E,8673μm,0.9s						
NPS	Neapolis	0.80	57	P	Pb	13 02 37.1	+0.6
NPS				S	Sb	13 02 48.5	+1.4
	comp=E,4μm,0.7s						
IMMV	Iera Moni Meta	0.91	314	P	Pn	13 02 37.6	+0.3
IMMV	Iera Moni Meta	0.91	314	P	Pb	13 02 38.4	0.0
IMMV				S	Sb	13 02 51.1	+0.8
	comp=E,4μm,0.6s						
IMMV	Iera Moni Meta	0.91	314	PG	Pn	13 02 37.8	+0.5
KNDR	Palaiochora Ch	0.99	294	PG	Pb	13 02 39.8	+0.2
ZKR	Zakros	1.21	76	P	Pb	13 02 44.6	+1.3
ZKR				AML	AML	13 03 09.0	
	comp=E,3364μm,0.7s						
ZKR				AML	AML	13 03 09.6	
	comp=N,1210μm,0.8s						
ZKR	Zakros	1.21	76	PN	Pb	13 02 44.6	+1.3
ANKY	Antikythira Is	1.60	311	P	Pb	13 02 49.3	-0.6
KTHA	Kythira Island	2.00	316	P	Pn	13 02 54.2	+2.0
KARP	Karpathos	2.07	69	PN	Pb	13 02 56.3	-1.6
APE	Apeiranthos	2.31	15	P	Pn	13 02 57.4	+0.8
APE	Apeiranthos	2.31	15	PN	Pn	13 02 57.6	+1.0
APE	Apeiranthos	2.31	15	P	Pn	13 02 57.9	+1.4
APE				S	Sn	13 03 24.2	+0.3
VLI	Veliai	2.41	322	P	Pn	13 02 58.7	+0.8
NIS1	Nisyros Isl.	2.63	47	PN	Pn	13 03 03.4	+2.5
BODT	Bodrum	3.02	42	PN	Pn	13 03 08.9	+2.6
ARG	Arkhangelos	3.05	62	PN	Pn	13 03 09.6	+2.9
ITM	Ithomi	3.30	316	PN	Pn	13 03 11.2	+1.1
TURN	Turunc	3.42	54	P	Pn	13 03 13.9	+2.3
TURN				S	Sn	13 03 45.8	-5.1
YER	Yerkesik	3.65	50	PN	Pn	13 03 18.2	+3.2
YER	Yerkesik	3.65	50	P	Pn	13 03 18.0	+3.0
YER				S	Sn	13 03 54.4	-2.4
CHOS	Chios island	3.69	16	PN	Pn	13 03 17.5	+1.9
DALY	Dalyan (Mula)	3.71	57	PN	Pn	13 03 18.8	+3.0
AYDN	Tasoluk	3.77	41	P	Pn	13 03 19.8	+3.1
URLA	Izmir	3.81	22	P	Pn	13 03 18.2	+1.1
URLA				S	Sn	13 04 06.3	+5.6
FETY	Fethiye	3.93	61	P	Pn	13 03 20.0	+1.2
FETY				S	Sn	13 04 03.3	-0.4
FETY				*i* AML	AML	13 04 06.0	
	comp=N,29nm,0.8s						
FETY				*i* AML	AML	13 04 06.0	
	comp=N,36nm,1.0s						
AKAS	Kas	4.17	69	P	Pn	13 03 20.9	-1.3
AKAS				S	Sn	13 04 10.9	+1.1
AKAS				*i* AML	AML	13 04 13.0	
	comp=N,118nm,1.3s						
AKAS				*i* AML	AML	13 04 19.0	
	comp=N,44nm,0.6s						
TAVA	DENIZLI_Tavas	4.25	51	P	Pn	13 03 24.1	+0.8
TAVA				S	Sn	13 04 15.0	+3.3
CAEL	Denizli, Camel	4.33	57	P	Pn	13 03 27.7	+3.4
CAEL				*i* AML	AML	13 04 39.0	
	comp=N,93nm,0.9s						
CAEL				*i* AML	AML	13 04 44.0	
	comp=N,78nm,1.6s						
GOLH	Golhisar	4.55	57	P	Pn	13 03 26.9	-0.5
GOLH				S	Sn	13 04 15.0	-4.2
AGG	Agios Georgios	4.62	336	P	Pn	13 03 28.8	+0.5
AGG				S	Sn	13 04 23.0	+2.2
AKUM	Antalya-Kumluc	4.77	70	P	Pn	13 03 31.3	+1.1
AKUM				S	Sn	13 04 22.1	-2.1
AKUM				*i* AML	AML	13 04 23.0	
	comp=N,66nm,1.3s						
KORT	Korkueli	5.01	63	P	Pn	13 03 39.2	+5.5
USAK	Uak-Merkez	5.15	40	P	Pn	13 03 39.1	+3.5
LIT	Litokhoron	5.57	342	P	Pn	13 03 40.8	-0.5
BRTR	Keskin Array B	8.58	53	Pn	Pn	13 04 24.1	+1.3
	comp=N,0.0nm,0.3s,baz=20,slow=22,SNR=2.7						
VAE	Valguarnera	8.80	290	Pn	Pn	13 04 22.9	-2.8
	comp=N,1.8nm,0.3s,baz=225,slow=8.6,SNR=1.7						
VAE				Sn	Sn	13 05 59.6	-4.0
	comp=N,0.6nm,0.3s,baz=84,slow=8.3,SNR=1.6						
EIL	Elat	10.02	118	Pn	Pn	13 04 43.9	+1.5
	comp=N,0.4nm,0.3s,baz=215,slow=5.9,SNR=8.8						
EIL				Sn	Sn	13 06 28.4	-5.2
	comp=N,0.6nm,0.3s,baz=8.2,slow=22,SNR=2.3						
AKASG	Malin Array Be	16.19	10	Pn	Pn	13 06 05.1	-0.4
	comp=N,0.8nm,0.3s,baz=201,slow=11,SNR=7.2						
GERES	GERESS Array B	16.23	333	Pn	P	13 06 08.1	-1.0
	comp=N,0.2nm,0.3s,baz=134,slow=11,SNR=11						
KBZ	Khabaz	16.57	52	Pn	P	13 06 14.0	+1.3
	comp=N,0.1nm,0.3s,baz=230,slow=3.5,SNR=5.2						
HFS	Hagfors	26.33	347	P	P	13 07 51.6	-1.7
	comp=N,0.5nm,0.3s,baz=156,slow=15,SNR=9.0						
FINES	FINESS Array B	26.65	1	P	P	13 07 55.6	-0.4
	comp=N,1.0nm,0.8s,baz=152,slow=10.0,SNR=4.9						
EKA	Eskdalemuir Ar	28.14	325	P	P	13 08 10.9	+1.4
	comp=N,0.3nm,0.4s,baz=122,slow=12,SNR=4.3						
TORD	Torodi Ar. Bea	30.04	230	P	P	13 08 27.9	+1.1
	comp=N,0.3nm,0.4s,baz=41,slow=7.8,SNR=5.5						
ARU	Arti	31.50	36	LR	LR	13 22 32.4	
	comp=N,54nm,18.8s,baz=130,slow=39						
MKAR	Makanchi Array	44.21	56	P	P	13 10 26.5	0.0
	comp=N,0.2nm,0.3s,baz=266,slow=8.3,SNR=6.9						
ZALV	Zalesovo Beam	45.45	46	P	P	13 10 35.5	-0.8
	comp=N,0.4nm,0.4s,baz=266,slow=7.8,SNR=1.8						
SCHQ	Schefferville	63.24	320	P	P	13 12 45.4	-0.2
	comp=N,3.8nm,1.0s,baz=88,slow=7.8,SNR=5.1						
YKA	Yellowknife Ar	77.67	342	P	P	13 14 13.3	-0.1
	comp=N,0.1nm,0.4s,baz=34,slow=5.0,SNR=4.3						

IDC 05 13:02:20.6±4.1**, 17°.26S**×**179°.40W, h566**km±21km**, mb3.0**/3**, mb1 3.1**/4**, mb1mx2.7**/33**, mbtmp3.8**/4**, Error ellipse: s-maj=108.2km s-min=72.1km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.48	259	P	P	13 03 34.1	0.0
	baz=253,slow=23,SNR=1.4						
STKA	Stephens Creek	38.12	240	P	P	13 08 52.3	+0.1
	0.9nm,0.4s,baz=101,slow=10,SNR=7.7						
WRA	Warramunga Arr	43.82	259	P	P	13 09 36.9	-0.7
	0.3nm,0.5s,baz=96,slow=7.8,SNR=19						
ASAR	Alice Springs	44.06	254	P	P	13 09 39.6	+0.2
	3.1nm,0.5s,baz=89,slow=7.9,SNR=90						
ASAR				PcP	PcP	13 11 11.8	-0.4
	0.3nm,0.5s,baz=101,slow=3.8,SNR=4.1						

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*IDC **05** 13:18:05.5±6.7, 13°.21N×119°.56E, h135km±74km, mb3.1/4, mb1 3.2/4, mb1mx2.9/48, mbtmp3.5/4, Error ellipse: s-maj=111.4km s-min=18.0km az=63.0*
*MAN **05** 13:18:14.7, 14°.01N×120°.36E, h131km, mb4.1, ML2.8, MS2.5*
ISC 05 13:18:08.6±1.8**, 13°.6N**±0°.2×**120°.6E**±0°.3**, h200**km**, n12, σ0°.69**/6**, mb3.1**/5**, 3C-4D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.35	302	⇓*e*P	Pn	13 18 35.6	+0.3
PGP	Puerto Galera	0.40	97	⇓*e*P	Pn	13 18 35.6	+0.1
PGP				*i* S	Sn	13 18 55.8	-0.3
TGY	Tagaytay City	0.67	34	P	Pn	13 18 37.0	+0.4
	49nm,0.3s,baz=308,slow=2.0,SNR=2.1						
TGY				S	Sn	13 18 57.8	-0.4
	37nm,0.3s,baz=320,slow=22,SNR=8.1						
MACP	Maragondon, Ca	0.73	13	⇓*e*P	Pn	13 18 35.8	-1.0
LQP	Lukban	1.11	60	⇓*e*P	Pn	13 18 39.4	0.0
LQP				*i* S	Sn	13 19 01.7	-1.6
PCPH	Palayan	2.07	15	⇑*e*P	Pn	13 18 45.2	-2.7
PCPH				*e*S	Pn	13 18 48.3	+0.4
SMPP	San Manuel, Pa	2.59	3	⇑*e*P	Pn	13 18 51.0	-2.6
WRA	Warramunga Arr	35.94	158	P	P	13 24 53.2	+2.9
	0.3nm,0.7s,baz=329,slow=10,SNR=16						
ASAR	Alice Springs	39.23	160	P	P	13 25 21.4	+3.7
	0.6nm,0.3s,baz=333,slow=7.6,SNR=27						
MKAR	Makanchi Array	46.07	324	P	P	13 26 13.8	+1.3
	0.2nm,0.7s,baz=108,slow=9.4,SNR=2.6						
KURBB	Kurchatov Arra	50.23	326	P	P	13 26 45.4	+1.1
	0.3nm,0.5s,baz=134,slow=7.8,SNR=4.4						
AB31	Akbulak array	60.75	319	⇑P	P	13 28 02.4	+3.2
	0.2nm,0.6s,baz=162,slow=9.3,SNR=6.1						

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*DJA **05** 13:31:11.9±0.4, 8°S±4°×12°9E±°, h160km±8km, M4.4/12, mB5.0/8, mb4.6/12, MLv4.5/10, Mw(mB)4.3/8*
*NEIC **05** 13:31:11.9±1.5, 7°.64S±0°.05×128°.6E±0°.1, h152km±8km, mb4.2/14, Error ellipse: s-maj=16.0km s-min=3.3km az=64.0*
*IDC **05** 13:31:12.6±1.6, 7°.43S×128°.47E, h145km±16km, mb3.9/14, mb1 3.9/18, mb1mx3.7/45, mbtmp4.3/18, MS3.0/1, Ms1 3.0/1, ms1mx2.3/69, Error ellipse: s-maj=14.6km s-min=10.1km az=72.0*
ISC 05 13:31:11.9±0.4**, 7°.72S**±0°.05×**128°.56E**±0°.06**, h151**km**, n72, σ1°.90**/77**, mb4.2**/24**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.73	96		Pn	13 31 55.3	-0.6
AAI	Ambon	4.03	355	P	Pn	13 32 11.9	-0.7
MSAI	Masohi	4.36	5	P	Pn	13 32 17.2	+0.2
BATI	Baumata	5.43	243	P	Pn	13 32 33.0	+1.8
	261nm,0.3s,baz=135,slow=3.0,SNR=175						
BATI				S	Sn	13 33 34.9	+1.9
	65nm,0.3s,baz=90,slow=23,SNR=14						
BATI	Baumata	5.43	243	P	Pn	13 32 33.0	+1.8
	3.3nm9μm886nm,0.6s						
MMRI	Maumere	6.33	261		Pn	13 32 43.8	+0.8
MMRI	Maumere	6.33	261	P	Pn	13 32 43.8	+0.8
	0.4nm2μm121nm,0.7s						
BBSI	Bau Bau	6.35	290	P	Pn	13 32 42.4	-1.0
	0.0nm113nm11nm,1.0s						
SIJI	Sorong	7.32	22	P	Pn	13 32 54.5	-1.9
	18nm,0.3s,baz=217,slow=12,SNR=46						
SWI	Sorong	7.33	22	P	Pn	13 32 54.5	-1.9
	0.4nm2μm105nm,0.8s						
BASI	Baing, Sumba	8.27	252	P	Pn	13 33 08.3	-0.7
	2μm89nm,0.8s						
BKSI	Bulukumba	8.72	285	P	Pn	13 33 15.8	+0.9
	29nm,1.0s						
BNSI	Bone	9.03	291	P	Pn	13 33 19.1	0.0
	24nm,0.9s						
KAPI	Kappang	9.16	287	P	Pn	13 33 21.1	+0.3
	0.4nm,0.3s,baz=147,slow=9.9,SNR=4.7						
WBSI	Waikabubak, Su	9.26	257	P	Pn	13 33 19.9	-2.4
	2μm102nm,0.6s						
BAKI	Biak	9.93	50	P	Pn	13 33 30.9	-0.2
GTOI	Gorontalo	9.98	326	P	Pn	13 33 35.0	+3.3
	5.6nm,0.9s						
FITZ	Fitzroy Crossi	10.70	195	P	Pn	13 33 41.2	0.0
	3.0nm,0.3s,baz=19,slow=11,SNR=90						
FITZ				S	Sn	13 35 33.6	-6.0
	4.5nm,0.3s,baz=4.2,slow=4.5,SNR=4.4						
PLAI	Plampang	10.73	263	P	Pn	13 33 39.9	-1.8
	841nm49nm,0.6s						
WB0	Warramunga Arr	13.24	155	Pn	Pn	13 34 14.3	+0.1
WRAB	Tennant Creek	13.37	156		Pn	13 34 16.1	+0.2
WRA	Warramunga Arr	13.38	156	P	Pn	13 34 16.2	+0.2
	1.5nm,0.3s,baz=330,slow=13,SNR=60						
WRA				S	Sn	13 36 37.5	-6.7
	3.6nm,0.3s,baz=323,slow=24,SNR=13						
WRA	Warramunga Arr	13.38	156	Pn	Pn	13 34 16.1	+0.1
WB2	Warramunga Arr	13.38	156	Pn	Pn	13 34 15.8	-0.3
WR0	Warramunga Arr	13.47	155		Pn	13 34 17.1	-0.2
GMJI	Gumukmas	14.98	267	P	Pn	13 34 36.0	-0.2
ASAR	Alice Springs	16.66	163	P	Pn	13 34 59.4	+2.6
	4.7nm,0.3s,baz=342,slow=9.8,SNR=428						
ASAR				S	S	13 37 58.2	-3.8
	1.4nm,0.3s,baz=322,slow=18,SNR=5.2						
ASAR	Alice Springs	16.66	163	P	Pn	13 34 59.8	+3.0
UGM	Wanagama	17.87	268	P	P	13 35 09.0	-0.9
PMG	Port Moresby	18.47	97	P	Pn	13 35 18.2	-0.1
	0.5nm,0.3s,baz=285,slow=14,SNR=1.6						
SBUM	Sibu	19.18	301	P	Pn	13 35 25.9	-0.7
CTA	Charters Tower	21.09	127	P	P	13 35 48.9	+4.2
	2.4nm,0.5s,baz=300,slow=10.0,SNR=7.8						
CTA				LR	LR	13 44 58.3	
	comp=Z,41nm,21.1s,baz=314,slow=39						
STKA	Stephens Creek	26.93	155	P	P	13 36 42.9	+3.8
	10.0nm,0.5s,baz=328,slow=9.6,SNR=39						
STKA	Stephens Creek	26.93	155	P	P	13 36 40.4	+1.3
UBPT	Khong Chiam	32.34	315	P	P	13 37 26.8	-0.4
CMAR	Chiang Mai Arr	39.12	312	P	P	13 38 23.6	-1.4
	0.9nm,0.6s,baz=136,slow=7.0,SNR=8.7						
CMAR	Chiang Mai Arr	39.12	312	P	P	13 38 24.7	-0.3
CHTO	Chiang Mai	39.35	312	P	P	13 38 26.3	-0.5
CHTO				IAmb	IAmb	13 38 28.1	
	comp=Z,2.5nm,0.7s						
KSRS	Korea Array	44.94	359	P	P	13 39 11.2	-0.6
	comp=Z,1.0nm,0.8s,baz=174,slow=10.0,SNR=3.1						
MJAR	Matsushiro Arr	44.95	11	P	P	13 39 09.8	-2.2
	comp=Z,0.7nm,0.6s,baz=293,slow=16,SNR=5.0						
MJB9	Matsu-Tunnel	44.95	11	P	P	13 39 09.4	-2.5
MJB9				IAmb	IAmb	13 39 13.6	
	comp=Z,4.5nm,0.9s						
XAN	Xi'an	45.52	337	P	P	13 39 14.5	-2.0
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC	Hu-ho-hao-te	50.80	343	*e*P	P	13 39 59.5	+2.5
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
RPZ	Rata Peaks	51.55	141	P	P	13 40 05.2	+2.7
	comp=Z,7.5nm,0.6s,baz=23,slow=0.5,SNR=7.1						
ASAJ	Asahikawa	53.14	13	P	P	13 40 13.2	-0.9
	comp=Z,0.9nm,0.4s,baz=31,slow=30,SNR=5.1						
GTA	Gaotai	53.93	333	⇓P	P	13 40 19.7	-0.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	58.52	343	P	P	13 40 52.5	-0.1
ULN				IAmb	IAmb	13 40 53.7	
	comp=Z,4.4nm,1.0s						
SONM	Songino Array	58.69	343	P	P	13 40 53.7	+0.1
	comp=Z,2.2nm,0.8s,baz=151,slow=7.0,SNR=13						
SONM	Songino Array	58.69	343	P	P	13 40 53.7	+0.1
SONM				IAmb	IAmb	13 40 54.7	
	comp=Z,3.6nm,1.1s						
WMQ	Urumqi	63.23	328	*e*P	P	13 41 26.4	+2.1
PETK	Petropavlovsk-	65.46	19	P	P	13 41 38.0	-0.5
	comp=Z,3.7nm,0.7s,baz=188,slow=2.8,SNR=11						
PETK	Petropavlovsk-	65.46	19	P	P	13 41 38.6	+0.1
NIL	Nilore	66.62	312	P	P	13 41 45.2	-1.2
KSH	Kashi	67.59	318	P	P	13 41 53.0	+0.4
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	Makanchi Array	68.06	328	P	P	13 41 54.3	-0.9
MK31				IAmb	IAmb	13 41 55.6	
	comp=Z,4.2nm,1.1s						
MKAR	Makanchi Array	68.06	328	P	P	13 41 54.5	-0.7
	comp=Z,3.5nm,0.6s,baz=119,slow=7.6,SNR=47						
MKAR	Makanchi Array	68.06	328	P	P	13 41 54.0	-1.2
MAKZ	Makanchi	68.23	328	P	P	13 41 55.4	-0.9
MAKZ				IAmb	IAmb	13 41 57.0	
	comp=Z,2.7nm,0.6s						
MA2	Magadan	69.39	12	P	P	13 42 02.9	-0.2
	comp=Z,2.1nm,0.8s,baz=187,slow=5.0,SNR=6.9						
MA2	Magadan	69.39	12	P	P	13 42 02.5	-0.6
MA2				IAmb	IAmb	13 42 03.6	
	comp=Z,2.7nm,0.9s						
AAK	Ala-Archa	70.18	321	P	P	13 42 08.5	0.0
ZAA0	Zalesovo Array	71.61	334	P	P	13 42 15.0	-1.7
ZAA0				IAmb	IAmb	13 42 16.0	
	comp=Z,3.3nm,0.9s						
ZALV	Zalesovo Beam	71.61	334	P	P	13 42 15.4	-1.2
	comp=Z,3.2nm,0.7s,baz=132,slow=5.9,SNR=13						
ZALV	Zalesovo Beam	71.61	334	P	P	13 42 14.5	-2.1
VNDA	Vanda	71.91	173	P	P	13 42 20.9	+2.7
	comp=Z,1.6nm,0.5s,baz=346,slow=5.1,SNR=5.1						
KURK	Kurchatov	72.40	329	P	P	13 42 19.7	-1.7
SEY	Seymchan	72.78	11	P	P	13 42 23.2	-0.3
	comp=Z,2.7nm,0.5s,baz=214,slow=4.6,SNR=26						
KKAR	Karatay Array	72.95	319	P	P	13 42 23.9	-1.0
TXAR	Lajitas Array	126.52	59	PKP	PKiKP	13 49 59.1	+0.7
	comp=Z,0.1nm,0.4s,baz=202,slow=2.5,SNR=6.1						
TORD	Torodi Ar. Bea	127.54	281	PKP	PKiKP	13 50 00.8	+0.2
	comp=Z,0.6nm,0.8s,baz=105,slow=2.0,SNR=4.2						
CPUP	Villa Florida	145.67	171	PKPbc	PKiKP	13 50 36.1	-1.2
	comp=Z,1.0nm,0.5s,baz=226,slow=4.3,SNR=2.8						
LPAZ	La Paz	150.98	145	PKPbc	PKiKP	13 50 51.1	+1.8
	comp=Z,1.2nm,0.4s,baz=51,slow=5.7,SNR=7.3						
LPAZ				PKPab	PKPab	13 50 60.0	+3.5
	comp=Z,2.4nm,0.6s,baz=189,slow=4.4,SNR=11						

INET 05 13:33:53.8±0.1**, 11°.55N**×**85°.62W, h1**km**, ML2.4, MW4.0, Nicaragua**

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*IDC **05** 13:37:22.7±1.5, 62°.46N×149°.91W, h49km±16km, mb3.7/13, mb1 4.0/18, mb1mx3.7/48, mbtmp4.0/18, ML3.7/5, Error ellipse: s-maj=13.3km s-min=12.3km az=119.0*
*AEIC **05** 13:37:25.9±1.1, 62°.47N±0°.03×149°.58W±0°.07, h56km±6km, ML3.9/131, mb4.1/8(NEIC), ML4.1/144(NEIC), Error ellipse: s-maj=4.8km s-min=3.9km az=82.0*
*NEIC **05** 13:37:25.2±1.1, 62°.48N±0°.03×149°.57W±0°.04, h61km±7km, Error ellipse: s-maj=4.1km s-min=2.8km az=191.0*
ISC 05 13:37:24.9±0.6**, 62°.48N**±0°.03×**149°.63W**±0°.03**, h69**km±5km**, n239, σ0°.85**/243**, mb4.1**/20**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUT	Chulitna	0.31	257		Pn	13 37 35.5	-0.4
CUT	Chulitna	0.31	257		Sn	13 37 44.0	-0.1
CUT	Chulitna	0.31	257	IAML		13 37 36.9	
	comp=N,5μm,0.4s						
CUT	Chulitna	0.31	257	P	Pn	13 37 35.2	-0.7
	baz=78						
CUT				S	Sn	13 37 43.7	-0.3
	baz=78						
M22K	Willow	0.76	198		Pn	13 37 39.9	-0.5
M22K	Willow	0.76	198	P	Pn	13 37 39.7	-0.7
	baz=19						
GHO	Glory Hole Cre	0.78	155		Pn	13 37 40.2	-0.5
GHO					Sn	13 37 52.2	-0.2
GHO	Glory Hole Cre	0.78	155	IAML		13 37 53.3	
	comp=N,7μm,0.4s						
GHO				IAML		13 37 54.7	
	comp=E,8μm,0.5s						
WAT6	Susitna Watana	0.88	82		Pn	13 37 41.0	-1.0
WAT6	Susitna Watana	0.88	82	P	Pn	13 37 40.9	-1.1
	baz=264						
SML	Sawmill	0.91	137	Pn	Pn	13 37 41.5	-0.7
SML				IAML		13 37 56.1	
	comp=N,9μm,0.4s						
SML	Sawmill	0.91	137		Sn	13 37 54.9	-0.1
SML	Sawmill	0.91	137	P	Pn	13 37 41.4	-0.7
	baz=319						
SML				S	Sn	13 37 54.9	-0.1
	baz=319						
PMR	Palmer	0.92	165		Sn	13 37 54.9	-0.3
PMR	Palmer	0.92	165	P	Pn	13 37 41.7	-0.6
	baz=347						
RND	Reindeer	1.00	20		Pn	13 37 43.0	-0.3
RND					Sn	13 37 56.5	-0.6
TRF	Thorofare Moun	1.02	343		Sn	13 37 58.1	+0.4
TRF	Thorofare Moun	1.02	343	P	Pn	13 37 43.8	+0.1
	baz=162						
DHY	Denali Highway	1.20	59		Pn	13 37 45.5	-0.5
DHY				IAML		13 38 05.5	
	comp=N,2μm,0.5s						
DHY	Denali Highway	1.20	59		Sn	13 38 02.2	+0.5
DHY	Denali Highway	1.20	59	P	Pn	13 37 45.5	-0.5
	baz=240						
KNK	Knik Glacier	1.20	152	Pn	Pn	13 37 46.0	+0.1
KNK				IAML		13 38 06.2	
	comp=N,5μm,0.6s						
KNK	Knik Glacier	1.20	152	P	Pn	13 37 45.9	0.0
	baz=334						
KTH	Kantishna Hill	1.23	332		Pn	13 37 46.6	+0.3
KTH				IAML		13 38 03.8	
	comp=N,2μm,0.9s						
KTH				IAML		13 38 05.1	
	comp=E,2μm,0.7s						
KTH	Kantishna Hill	1.23	332		Sn	13 38 03.1	+0.8
PPLA	Purkeypile	1.25	291		Pn	13 37 46.7	0.0
PPLA	Purkeypile	1.25	291	P	Pn	13 37 46.7	0.0
	baz=108						
SCM	Sheep Creek Mo	1.26	120		Pn	13 37 46.3	-0.4
SCM	Sheep Creek Mo	1.26	120	P	Pn	13 37 46.3	-0.4
	baz=302						
MCK	McKinley	1.30	14		Pn	13 37 47.4	+0.3
MCK					Sn	13 38 04.1	+0.2
MCK	McKinley	1.30	14	P	Pn	13 37 47.4	+0.3
	baz=193						
FIS	Fire Island	1.37	192		Pn	13 37 49.2	+1.2
FIS				IAML		13 38 18.8	
	comp=E,4μm,0.7s						
RC01	Rabbit Creek A	1.39	182		Pn	13 37 48.3	-0.1
RC01					Sn	13 38 07.0	+0.9
RC01	Rabbit Creek A	1.39	182	IAML		13 38 10.3	
	comp=E,3μm,0.4s						
RC01				IAML		13 38 10.4	

comp=N,4µm,0.3s
RC01 Rabbit Creek A 1.39 182 P Pn 13 37 48.3 -0.1
baz=3.0
STLK Strandline Lak 1.43 228 Pn 13 37 49.0 +0.1
CAST Castle Rocks 1.47 311 Pn Pn 13 37 49.4 0.0
SPCG Spurr Capps Gl 1.64 225 Pn 13 37 52.1 +0.3
M24K Tolsona, Glenn 1.66 101 P Pn 13 37 52.8 +0.9
baz=284
M24K S Sn 13 38 15.2 +2.9
baz=284
BWN Browne 1.70 2 Pn 13 37 52.8 +0.3
BWN IAML 13 38 23.9
comp=E,2µm,0.6s
BWN IAML 13 38 37.8
comp=N,1µm,1.0s
PWL Port Wells 1.74 159 P Pn 13 37 52.6 -0.3
baz=340
SPU Mount Spurr 1.74 223 Pn 13 37 53.3 +0.3
BPAW Bear Paw Mtn. 1.74 340 Pn Pn 13 37 52.9 -0.1
BPAW Bear Paw Mtn. 1.74 340 P Pn 13 37 52.8 -0.1
baz=158
SPCN Chakachatna No 1.75 225 Pn 13 37 53.9 +0.8
SPBG Spurr Blockage 1.79 228 Pn 13 37 54.5 +0.9
CAPN Captain Cook N 1.86 204 Pn 13 37 55.6 +1.0
CHUM Lake Minchumin 1.86 320 Pn 13 37 54.9 +0.3
CHUM Lake Minchumin 1.86 320 P Pn 13 37 54.9 +0.3
baz=138
PAX Paxson 1.98 74 Pn 13 37 57.0 +0.8
PAX Paxson 1.98 74 P Pn 13 37 56.7 +0.5
baz=257
PS11 TAPS Pump St11 1.98 100 Pn 13 37 57.4 +1.2
SLKM Skilak Lake 2.00 188 Pn 13 37 56.1 -0.3
PS10 TAPS Pump St10 2.00 60 Pn 13 37 57.4 +0.9
O22K Cooper Landing 2.00 181 Pn 13 37 56.2 -0.3
O22K Cooper Landing 2.00 181 P Pn 13 37 57.2 +0.7
baz=1.9
GLI Glacier Island 2.01 142 Pn 13 37 56.1 -0.4
GLI Glacier Island 2.01 142 IAML 13 38 28.1
comp=E,3µm,0.4s
GLI IAML 13 38 33.7
comp=N,2µm,0.6s
GLI Glacier Island 2.01 142 P Pn 13 37 56.1 -0.4
baz=324
KLU Klutina 2.01 118 Pn 13 37 56.5 -0.1
KLU IAML 13 38 26.0
comp=E,2µm,0.3s
KLU Klutina 2.01 118 P Pn 13 37 56.5 -0.1
baz=301
JPK Jack Peak 2.03 133 Pn 13 37 56.5 -0.4
HARP HAARP 2.08 90 Pn 13 37 58.6 +1.0
HARP HAARP 2.08 90 P Pn 13 37 58.6 +1.0
baz=274
VMT TAPS Ti Valdez 2.09 131 Pn 13 37 57.2 -0.3
WRH Wood River Hil 2.12 18 Pn Pn 13 37 57.9 -0.1
NEA2 Nenana 2.14 6 Pn 13 37 58.2 -0.2
NEA2 Nenana 2.14 6 P Pn 13 37 58.1 -0.3
baz=186
K20K Telida 2.22 295 Pn 13 37 59.4 0.0
DIV Divide 2.27 125 Pn 13 37 59.5 -0.7
HDA Harding Lake 2.28 31 Pn 13 38 00.2 0.0
HDA IAML 13 38 30.1
comp=E,1µm,0.5s
HDA IAML 13 38 33.6
comp=N,1µm,0.5s
HDA Harding Lake 2.28 31 P Pn 13 38 00.3 0.0
baz=212
FID Port Fidalgo 2.29 138 Pn Pn 13 38 00.1 -0.4
M19K Big River Lodg 2.31 258 Pn 13 38 00.6 0.0
M19K IAML 13 38 30.1
comp=N,805nm,0.4s
M19K IAML 13 38 32.8
comp=E,738nm,0.4s
CCB Clear Creek Bu 2.33 20 Pn 13 38 00.7 -0.2
RDT Redoubt 2.33 216 Pn 13 38 01.4 +0.5
SEW Seward 2.38 178 Pn Pn 13 38 02.8 +1.1
SEW Seward 2.38 178 P Pn 13 38 02.5 +0.9
baz=358
DFR Drift River 2.39 219 Pn 13 38 02.3 +0.4
PS08 TAPS Pump Stn8 2.42 30 Pn 13 38 02.2 0.0
RDJH Redoubt Jeurge 2.43 220 Pn 13 38 03.2 +0.8
L19K White Mountain 2.46 265 Pn Pn 13 38 02.8 +0.1
L19K IAML 13 38 32.8
comp=N,854nm,0.4s
L19K IAML 13 38 33.1
comp=E,1µm,0.3s
L19K White Mountain 2.46 265 P Pn 13 38 02.6 0.0
baz=81
L19K S Sn 13 38 31.3 -0.3
baz=81
NCT North Crescent 2.49 221 Pn 13 38 04.0 +0.8
RIDG Independent Ri 2.52 58 Pn Pn 13 38 05.0 +1.5
RIDG IAML 13 38 41.2
comp=N,1µm,0.7s
RIDG Independent Ri 2.52 58 P Pn 13 38 05.0 +1.5
baz=242
RSO Redoubt South 2.52 218 Pn 13 38 04.6 +0.9
RDWB Redoubt West 2.52 219 Pn 13 38 03.9 +0.2
N25K Chitina, Valde 2.52 108 Pn 13 38 03.6 0.0
N25K IAML 13 38 44.0
comp=N,1µm,0.6s
N25K IAML 13 38 46.4
comp=E,794nm,0.7s
N25K Chitina, Valde 2.52 108 P Pn 13 38 03.5 -0.1
baz=292
TCOL CIGO, UAF Yank 2.53 17 Pn 13 38 03.8 +0.2
TCOL CIGO, UAF Yank 2.53 17 IAML 13 38 36.8
comp=E,1µm,0.5s
TCOL CIGO, UAF Yank 2.53 17 P Pn 13 38 03.8 +0.2
baz=198
RED Redoubt Volcan 2.56 218 Pn 13 38 04.5 +0.4
MDM Murphy Dome 2.57 13 Pn 13 38 04.3 +0.2
IL31 2.61 27 Pn 13 38 04.7 0.0
ILAR Eielson Array 2.61 27 P Pn 13 38 04.2 -0.4
comp=E,16nm,0.3s,baz=208,slow=14,SNR=534
ILAR Eielson Array 2.61 27 Pn Pn 13 38 04.7 0.0
MLY Manley 2.61 350 Pn 13 38 04.7 -0.1
J20K Nowinta River 2.66 312 Pn Pn 13 38 05.7 +0.3
J20K IAML 13 38 37.8
comp=E,1µm,0.5s
J20K IAML 13 38 37.9
comp=N,1µm,0.5s
EYAK Cordova Ski Ar 2.68 134 Pn 13 38 05.6 0.0
EYAK Cordova Ski Ar 2.68 134 P Pn 13 38 05.7 0.0
baz=318
I23K Minto, Yukon-K 2.68 2 Pn Pn 13 38 06.0 +0.4
I23K IAML 13 38 38.1
comp=N,506nm,0.8s
I23K Minto, Yukon-K 2.68 2 P Pn 13 38 05.9 +0.2
baz=182
MENT Mentasta 2.76 78 Pn 13 38 07.4 +0.6
BRLK Bradley Lake 2.79 193 Pn Pn 13 38 08.2 +1.0
BRLK IAML 13 38 49.3
comp=N,348nm,0.6s
BRLK IAML 13 38 50.4
comp=E,431nm,0.5s
BRSE Bradley Lake S 2.80 192 Pn 13 38 07.5 +0.2
BRSE Bradley Lake S 2.80 192 P Pn 13 38 08.5 +1.2
baz=11
O20K Slope Mountain 2.81 212 Pn 13 38 08.3 +0.9
POKR Poker Plat Res 2.82 19 Pn Pn 13 38 07.9 +0.3
POKR Poker Plat Res 2.82 19 P Pn 13 38 07.9 +0.3
baz=201
BMRM Bremner River 2.83 120 P Pn 13 38 06.9 -0.9
baz=305
N19K Bonanza Creek 2.86 236 Pn Pn 13 38 08.4 +0.3
N19K IAML 13 39 01.0
comp=N,323nm,0.8s
N19K IAML 13 39 06.4
comp=E,388nm,0.7s
J25K Salcha River, 2.87 40 Pn Pn 13 38 08.3 +0.1
J25K IAML 13 38 47.5
comp=N,522nm,0.5s
J25K IAML 13 38 49.3
comp=E,393nm,0.6s
J25K Salcha River, 2.87 40 P Pn 13 38 08.1 -0.1
baz=223
PS07 TAPS Pump Stn7 2.91 11 Pn 13 38 09.4 +0.7
I21K Tanana 2.91 340 Pn 13 38 08.8 0.0
I21K IAML 13 38 43.4
comp=N,356nm,0.8s
L26K Log Cabin Wild 2.94 76 Pn Pn 13 38 10.0 +0.8
L26K IAML 13 39 01.9
comp=E,981nm,0.5s
L26K IAML 13 39 02.6
comp=N,944nm,0.4s
L26K Log Cabin Wild 2.94 76 P Pn 13 38 09.9 +0.8
baz=262
SCRK Sand Creek 2.96 57 Pn Pn 13 38 10.2 +0.6
SCRK IAML 13 38 47.6
comp=N,301nm,0.4s
SCRK Sand Creek 2.96 57 P Pn 13 38 10.2 +0.6
baz=242
TTA Tatalina 2.98 282 13 38 09.5 -0.3
TTA Tatalina 2.98 282 IAML 13 38 43.8
comp=N,280nm,0.5s
TTA IAML 13 38 58.0
comp=E,321nm,0.6s
TTA Tatalina 2.98 282 P Pn 13 38 09.5 -0.3
baz=96
TT01 Tatalina 2.98 281 Pn 13 38 09.6 -0.2
HOM Homer 2.99 200 Pn Pn 13 38 10.9 +1.0
CNPM China Poot 3.06 196 Pn Pn 13 38 11.7 +0.8
CNPM IAML 13 38 59.6
comp=E,430nm,0.6s
CNPM IAML 13 38 59.7
comp=N,455nm,0.4s
SVW2 Sparrevohn 3.15 247 Pn 13 38 12.0 0.0
SVW2 IAML 13 39 03.8
comp=E,273nm,0.5s
SVW2 IAML 13 39 11.3
comp=N,346nm,0.8s
VRDI Verde Repeater 3.18 110 Pn Pn 13 38 12.0 -0.6
VRDI IAML 13 39 02.1
comp=E,560nm,0.6s
VRDI IAML 13 39 05.2
comp=N,594nm,1.0s
O19K Port Alsworth 3.22 227 Pn Pn 13 38 13.5 +0.5
O19K IAML 13 38 54.6
comp=N,700nm,0.5s
O19K IAML 13 39 16.8
comp=E,779nm,0.5s
O19K Port Alsworth 3.22 227 P Pn 13 38 13.4 +0.5
baz=43
MCARA McCarthy VSAT 3.31 106 Pn 13 38 14.2 0.0
MCARA McCarthy VSAT 3.31 106 P Pn 13 38 14.2 0.0
baz=292
HMT Hamilton 3.36 127 Pn 13 38 14.4 -0.4
H24K Noodor Dome 3.46 12 Pn Pn 13 38 16.4 +0.1
H21K Melozitna Rive 3.48 338 Pn 13 38 16.8 +0.2
BERG Berg Lake 3.53 124 Pn 13 38 16.8 -0.4
PRP Porcupine Dome 3.55 29 Pn 13 38 17.9 +0.4
PRP Porcupine Dome 3.55 29 IAML 13 39 05.8
comp=N,210nm,0.4s
PRP Porcupine Dome 3.55 29 P Pn 13 38 17.9 +0.4
baz=212
M27K Edge Creek, AK 3.61 88 Pn Pn 13 38 19.2 +0.8
M27K IAML 13 39 18.8
comp=E,179nm,0.8s
M27K IAML 13 39 25.6
comp=N,386nm,1.0s
L27K Beaver Creek, 3.63 77 Pn 13 38 18.6 0.0
L27K IAML 13 39 18.4
comp=N,210nm,1.0s
PTPK Patty Peak 3.63 108 Pn 13 38 18.6 -0.2
BC03 3.65 77 Pn 13 38 18.9 +0.1
BCAR Beaver Creek A 3.65 77 Pn Pn 13 38 18.7 -0.2
TGL Tana Glacier 3.67 115 Pn 13 38 18.8 -0.5
KHIT Khitrov Hills 3.68 121 Pn 13 38 18.6 -0.7
GRIN Grindle Hills 3.75 123 Pn 13 38 19.9 -0.3
BALM Baldy 3.75 109 Pn 13 38 19.5 -0.9
KIAG Kiagna River 3.79 111 Pn 13 38 20.1 -0.9
WAX Waxell Ridge 3.83 119 Pn 13 38 20.7 -0.7
IM03 3.95 335 Pn 13 38 23.4 +0.4
IMAR Indian Mountai 3.95 335 Pn 13 38 23.7 +0.7
GCSA Galena City Sc 3.96 308 Pn 13 38 23.7 +0.7
GCSA Galena City Sc 3.96 308 P Pn 13 38 23.5 +0.5
baz=122
ISLE Juniper Island 3.96 115 Pn 13 38 23.1 -0.1
SNH Sunshine Point 4.00 122 Pn Pn 13 38 23.3 -0.4
SNH IAML 13 39 29.9
comp=E,385nm,0.7s
SNH IAML 13 39 30.0
comp=N,362nm,1.0s
BARN Barnard Glacie 4.04 107 Pn 13 38 24.4 0.0
BARN IAML 13 39 34.8
comp=E,360nm,0.7s
BARN IAML 13 39 37.1
comp=N,346nm,0.8s
Q19K Cape Douglas, 4.07 211 Pn Pn 13 38 25.7 +1.0
Q19K Cape Douglas, 4.07 211 P Pn 13 38 25.7 +1.0
baz=28
BAGL Bagley Icefiel 4.13 116 Pn 13 38 24.5 -0.8
P18K Big Mountain, 4.13 224 Pn 13 38 27.0 +1.6
P18K Big Mountain, 4.13 224 P Pn 13 38 24.4 -1.0
baz=39
GRNC Granite Creek 4.15 111 Pn 13 38 24.8 -1.0
GRNC IAML 13 39 29.2
comp=E,257nm,0.6s
YUK2 White River 4.18 96 Pn 13 38 26.4 +0.2
CTG Chitna Glacier 4.22 107 P Pn 13 38 26.5 -0.3
baz=295
CTGM Chitina Glacie 4.23 107 Pn 13 38 26.6 -0.2
CTGM IAML 13 39 30.3
comp=N,225nm,0.6s
CTGM IAML 13 39 44.4
comp=E,138nm,1.4s
YUK3 Moose Creek 4.36 95 Pn 13 38 29.1 +0.3
YUK3 Moose Creek 4.36 95 P Pn 13 38 28.9 +0.2
baz=283
PS05 TAPS Pump Stn5 4.38 355 Pn 13 38 29.7 +1.0
LOGN Logan Glacier 4.43 108 Pn 13 38 29.6 -0.1
LOGN Logan Glacier 4.43 108 IAML 13 39 37.8
comp=N,294nm,0.8s
LOGN IAML 13 39 37.8
comp=E,214nm,1.0s
FYU Fort Yukon 4.52 23 Pn 13 38 31.2 +0.5
FYU IAML 13 39 52.8
comp=N,104nm,1.7s
FYU IAML 13 40 05.1
comp=E,125nm,2.5s
TABL Table Mountain 4.55 113 Pn 13 38 31.0 -0.4
TABL IAML 13 39 48.2
comp=E,196nm,0.7s
TABL IAML 13 39 51.3
comp=N,212nm,0.8s
COLD Coldfoot 4.78 357 P Pn 13 38 34.8 +0.6
baz=176
DAWY Dawson 4.89 66 Pn Pn 13 38 36.3 +0.5
DAWY IAML 13 40 00.4
comp=E,108nm,1.2s
DAWY IAML 13 40 01.4
comp=N,113nm,0.9s
DAWY Dawson 4.89 66 P Pn 13 38 36.0 +0.2
baz=255
KDAK Kodiak Island 4.94 199 P Pn 13 38 34.8 -1.6
comp=N,1.9nm,0.3s,baz=54,slow=7.1,SNR=138
KDAK S Sn 13 39 28.4 -3.7
comp=N,12nm,0.3s,baz=264,slow=21,SNR=8.2
KDAK Kodiak Island 4.94 199 Pn Pn 13 38 35.5 -0.9
KDAK IAML 13 39 50.1
comp=N,91nm,0.6s
KDAK IAML 13 39 53.8
comp=N,103nm,0.8s
PCA Pinnacle 5.11 114 Pn 13 38 38.1 -0.7
YUK4 Talbot Arm 5.31 97 P Pn 13 38 41.9 +0.2
baz=286
BMAR Burnt Mountain 5.41 21 Pn Pn 13 38 43.3 +0.3
YUK6 Outpost Mounta 5.57 101 Pn 13 38 44.9 -0.5
YUK6 Outpost Mounta 5.57 101 P Pn 13 38 44.9 -0.5
baz=291
OHAK Old Harbor 5.58 201 Pn Pn 13 38 44.6 -0.7
I29M Ogilvie Camp, 5.77 55 Pn 13 38 47.8 0.0
M30M Minto, Yukon 5.94 83 Pn 13 38 50.1 -0.1
M30M Minto, Yukon 5.94 83 P Pn 13 38 50.5 +0.3
baz=275
HYT Haines Junctio 6.01 101 Pn 13 38 50.6 -0.6
HYT Haines Junctio 6.01 101 P Pn 13 38 50.4 -0.8
baz=291
TOLK Toolik Lake Re 6.19 0 Pn Pn 13 38 55.5 +2.0
TOLK Toolik Lake Re 6.19 0 P Pn 13 38 55.3 +1.7
baz=180
N31M Braeburn, Yuko 6.60 93 Pn 13 38 59.6 +0.4
EPYK Eagle Plains 6.81 49 Pn 13 39 02.0 0.0
M31M Drury Creek, Y 7.10 85 Pn 13 39 06.6 +0.6
WHY Whitehorse 7.27 98 Pn 13 39 07.3 -1.1
ANM Nome 7.34 293 Pn Pn 13 39 10.8 +1.5
SKAG Skagway 7.58 107 Pn 13 39 12.4 -0.1
BESE Bessie Mountai 8.26 112 Pn Pn 13 39 21.8 -0.1
P33M Teslin, Yukon 8.39 98 Pn 13 39 22.7 -0.9
TNA Tin City 8.60 299 Pn Pn 13 39 28.2 +1.9
JIS Juneau Island 8.64 112 Pn 13 39 26.2 -0.7
INK Inuvik 8.88 42 P Pn 13 39 29.8 -0.4
comp=N,0.5nm,0.3s,baz=251,slow=15,SNR=12
INK S Sn 13 41 07.7 -0.8
comp=N,0.7nm,0.3s,baz=295,slow=26,SNR=1.7
INK Inuvik 8.88 42 Pn Pn 13 39 30.8 +0.6
SIT Sitka 9.02 121 Pn Pn 13 39 31.7 -0.4
A21K Barrow 9.29 346 Pn Pn 13 39 36.3 +0.6
GAMB Gambell 10.07 287 Pn 13 39 47.5 +1.1
DLBC Dease Lake 10.47 104 P Pn 13 39 50.4 -1.7
comp=N,0.6nm,0.3s,baz=302,slow=6.8,SNR=18
DLBC Dease Lake 10.47 104 Pn Pn 13 39 51.9 -0.2
WRAK Wrangell Islan 10.66 117 Pn Pn 13 39 54.4 -0.2
C36M Paulatuk 12.41 45 Pn 13 40 15.6 -2.7
A36M Sachs Harbour 13.28 34 Pn Pn 13 40 29.4 -0.7
YKA Yellowknife Ar 16.06 74 P Pn 13 41 04.6 -1.5
comp=N,0.2nm,0.3s,baz=285,slow=10,SNR=21
YKA ScP ScP 13 49 23.2 -2.7
comp=N,0.0nm,0.3s,baz=294,slow=1.7,SNR=5.1
YKA Yellowknife Ar 16.06 74 Pn Pn 13 41 06.0 -0.1
EDM Edmonton 21.13 99 P P 13 42 04.2 +0.4
EDM IAmb IAmb 13 42 05.0
comp=Z,8.4nm,0.7s
NEW Newport 22.98 113 P P 13 42 24.2 +0.7
comp=Z,3.2nm,0.8s,baz=324,slow=7.3,SNR=8.1
NEW Newport 22.98 113 P P 13 42 24.4 +0.9
JTMT Jette 24.60 110 P P 13 42 39.8 +1.3
JTMT IAmb IAmb 13 42 40.5
comp=Z,6.8nm,1.1s
SEY Seymchan 25.83 297 P P 13 42 48.1 -1.1
comp=Z,2.8nm,0.8s,baz=104,slow=8.0,SNR=6.4
EGMT Eagleton 26.40 105 P P 13 42 53.8 -0.9
YHH Holmes Hill 28.40 110 P P 13 43 13.7 +0.9
PETK Petropavlovsk- 28.80 276 P P 13 43 14.2 -1.8
comp=Z,1.2nm,0.8s,baz=258,slow=41,SNR=1.4
RLMT Red Lodge 28.83 108 P P 13 43 18.6 +2.0
RLMT IAmb IAmb 13 43 19.2
comp=Z,5.3nm,0.9s
PDAR Pinedale Array 30.58 111 P P 13 43 33.4 +1.3
comp=Z,0.2nm,0.4s,baz=318,slow=4.2,SNR=4.5
NVAR Mina Array Bea 30.70 127 P P 13 43 34.5 +1.4
comp=Z,2.1nm,0.6s,baz=315,slow=9.1,SNR=24
NV11 Mina Array Sit 30.76 127 P P 13 43 35.2 +1.7
NV11 IAmb IAmb 13 43 36.0
comp=Z,2.9nm,0.7s
RSSD Black Hills 31.95 104 P P 13 43 43.8 -0.3
TXAR Lajitas Array 44.47 116 P P 13 45 29.0 -0.1
comp=Z,0.5nm,0.7s,baz=329,slow=6.4,SNR=5.2
TXAR Lajitas Array 44.47 116 P P 13 45 28.8 -0.3
ARCES ARCESS Array B 48.23 2 P P 13 45 59.0 +1.1
comp=Z,3.1nm,0.9s,baz=2.7,slow=7.7,SNR=5.4
ARCES PcP PcP 13 47 23.4 -0.5
comp=Z,9.1nm,1.3s,baz=353,slow=4.0,SNR=4.0
CN2 Changchun 50.17 290 eP P 13 46 11.8 -1.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
KSRS Korea Array 54.21 283 P P 13 46 42.4 -0.7
comp=Z,1.2nm,0.7s,baz=20,slow=6.7,SNR=3.8
SONM Songino Array 54.63 307 P P 13 46 46.4 +0.2
comp=Z,2.3nm,0.8s,baz=23,slow=6.6,SNR=17
ZALV Zalesovo Beam 56.32 325 P P 13 46 56.8 -1.2
comp=Z,2.1nm,0.7s,baz=34,slow=5.6,SNR=7.7
HHC Hu-ho-hao-te 58.47 298 eP P 13 47 15.5 +2.1
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,69nm,5.6s
MKAR Makanchi Array 63.48 323 P P 13 47 45.5 -1.7
comp=Z,1.6nm,0.5s,baz=41,slow=6.8,SNR=35
KBZ Khabaz 73.67 351 P P 13 48 50.9 +0.3
comp=Z,1.3nm,0.8s,baz=35,slow=6.8,SNR=4.3
PZH PanZhiHua 74.93 298 P P 13 49 02.6 +4.2
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,4.1s
CMAR Chiang Mai Arr 83.25 297 P P 13 49 42.5 -1.2
comp=Z,0.3nm,0.3s,baz=4.1,slow=6.9,SNR=4.9

TRN 05 13:38:54.1, 16°82N×61°79W, h86km, MD2.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.23**	**6**	*eS*	Sn	13 39 17.5	+1.4
ANBD	**Bethesda, Anti**	**0.23**	**6**	*eP*	Pn	13 39 08.1	+1.3
ABD	**La Joyeuse, An**	**0.45**	**140**	*eS*	Sn	13 39 20.4	+2.0
ABD	**La Joyeuse, An**	**0.45**	**140**	*eP*	Pn	13 39 09.5	+1.4
CBE	**Ff, Capester**	**0.77**	**167**	*eP*	Pn	13 39 12.4	+1.4
CBE				*eS*	Sn	13 39 25.6	+2.0
ANWB	**Willy Bob**	**0.84**	**0**	*eP*	Pn	13 39 13.3	+1.5
ANWB				*eS*	Sn	13 39 26.8	+1.8
TBG	**Guadaloupe-3**	**0.97**	**172**	*eP*	Pn	13 39 14.4	+1.1
TBG				*eS*	Sn	13 39 29.7	+2.2
TDBA	**Terre de Bas,**	**0.98**	**171**	*eP*	Pn	13 39 14.5	+1.2
TDBA				*eS*	Sn	13 39 29.9	+2.3
MAGL	**Barre de l'ile**	**0.99**	**151**	*eP*	Pn	13 39 15.0	+1.5
MAGL				*eS*	Sn	13 39 30.1	+2.1
MDCT	**Cottage Hill,**	**1.24**	**165**	*eP*	Pn	13 39 17.6	+1.2
MDCT				*eS*	Sn	13 39 34.7	+1.6
DSLB	**Salisbury**	**1.42**	**166**	*eP*	Pn	13 39 20.0	+1.3
DSLB				*eS*	Sn	13 39 38.8	+1.6
MPOM	**Morne Pois Mar**	**2.52**	**159**	*eP*	Pn	13 39 34.1	+0.9
MPOM				*eS*	Sn	13 40 04.4	+1.2

*CNRM **05** 13:54:59.9, 35°.40N×3°.81W, h20km, ml2.6*
*SFS **05** 13:55:00.0, 35°.41N×3°.79W, ML2.4, ALBORAN SUR*
*MDD **05** 13:55:00.2±0.7, 35°.41N×3°.79W, h6km±6km, mb_Lg2.4/6,*
Error ellipse: s-maj=5.4km s-min=3.5km az=146.0

ISC 05 13:54:59.3±1.0, 35°.44N±0°.02×3°.82W±0°.03, h15km±7km, n23, σ1.9 40/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.24**	**204**	P	**Pg**	13 55 04.5	-0.1
PALE				S	**Sg**	13 55 08.9	+0.7
GOG	**Mont Gurugu**	**0.71**	**107**	P	**Pg**	13 55 12.4	-0.8
GOG				S	**Sg**	13 55 22.0	-0.6
EMEL	**Melilla**	**0.72**	**101**	Pg	**Pb**	13 55 13.9	+0.4
EMEL				Sg	**Sg**	13 55 21.6	-1.3
EALB	**Alboran**	**0.81**	**52**	Pg	**Pg**	13 55 14.4	-0.7
EALB				Sg	**Sg**	13 55 25.1	-0.8
EALB				*i* Vmb_Lg		13 55 28.6	
CHEFC	**Chefchaouen**	**1.29**	**256**	P	**Pn**	13 55 24.0	+1.2
CHEFC				S	**Sb**	13 55 40.0	+0.4
SMIR	**Smir Dam**	**1.30**	**281**	P	**Pn**	13 55 23.3	+0.4
SMIR				S	**Sb**	13 55 40.3	+0.3
TAF	**Taforalt**	**1.31**	**118**	P	**Pg**	13 55 24.8	+0.3
TAF				S	**Sb**	13 55 38.4	-1.9
CEU	**Ceuta**	**1.35**	**291**	P	**Pn**	13 55 20.6	-2.9
CEU				S	**Sn**	13 55 37.7	-3.4
EMIJ	**Mijas**	**1.37**	**326**	Pn	**Pn**	13 55 23.7	-0.1
EMIJ				Sn	**Sn**	13 55 42.3	+0.6
EMAL	**Malaga-Limoner**	**1.41**	**340**	P	**Pn**	13 55 22.2	-2.2
EMAL				S	**Sn**	13 55 44.3	+1.5
ELGU	**Los Guajares,**	**1.44**	**6**	Pn	**Pn**	13 55 26.1	+1.2
ELGU				Sn	**Sb**	13 55 45.6	+1.6
ELGU				*i* Vmb_Lg		13 55 46.9	
JBK	**JBK**	**1.51**	**136**	P	**Pn**	13 55 26.2	+0.3
JBK				S	**Sn**	13 55 44.4	-1.0
EGOR	**Sierra Gorda,**	**1.69**	**352**	Pn	**Pn**	13 55 29.7	+1.3
EGOR				Sn	**Sb**	13 55 52.5	+1.3
EGOR				*i* Vmb_Lg		13 55 56.0	
EQUE	**Quentar**	**1.79**	**10**	Pn	**Pn**	13 55 31.3	+1.5
EQUE				Sn	**Sn**	13 55 53.5	+1.1
ENIJ	**Nijar**	**2.01**	**40**	Sn	**Sn**	13 55 55.2	-2.5
ENIJ				*i* Vmb_Lg		13 55 57.2	
IFR	**Ifrane**	**2.20**	**210**	P	**Pn**	13 55 36.8	+1.4
IFR				S	**Sn**	13 56 02.5	0.0
MD31	**MD31**	**2.68**	**197**	P	**Pn**	13 55 43.5	+1.5
MD31				S	**Sn**	13 56 13.3	-0.8
MDT	**Midelt**	**2.69**	**194**	P	**Pn**	13 55 43.5	+1.3
MDT				S	**Sn**	13 56 13.6	-1.0
TDRA	**Tendrara**	**2.81**	**148**	P	**Pn**	13 55 44.7	+0.8
ECAB	**El Cabril**	**2.93**	**335**	Pn	**Pn**	13 55 44.1	-1.3
ECAB				Sn	**Sb**	13 56 26.1	-0.9
EZAR	**Zarzadilla de**	**2.98**	**34**	Pn	**Pn**	13 55 48.3	+2.2
EZAR				Sn	**Sn**	13 56 20.6	-0.9
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	13 55 56.5	+1.7
EGRO				Sn	**Sn**	13 56 36.8	-0.5
EGRO				*i* Vmb_Lg		13 56 42.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETOB	Tobarra	3.68	29	Pn	Pn	13 55 57.5	+1.7
ETOB				Sn	Sn	13 56 38.9	0.0

IDC 05 14:07:15.6±6.9**,33°.36S**×**175°.57W,h0km,mb3.5**/2**, mb1 3.7**/3**,mb1mx3.6**/20**,mbtmp3.5**/3**,ML3.5**/1**,Error ellipse: s-maj=141.8km s-min=66.2km az=116.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.69	229	Pn	Pn	14 09 08.9	+0.1
	0.7nm,0.3s,baz=274,slow=6.0,SNR=9.3						
URZ				Sn	Sn	14 10 21.3	-15
	1.3nm,0.3s,baz=68,slow=19,SNR=7.3						
ASAR	Alice Springs	45.07	269	P	P	14 15 33.2	-0.3
	0.4nm,0.8s,baz=115,slow=7.2,SNR=5.7						
WRA	Warramunga Arr	46.31	274	P	P	14 15 43.4	0.0
	0.4nm,0.4s,baz=116,slow=7.6,SNR=16						
ARCES	ARCESS Array B	141.91	348	PKP	PKPdf	14 26 47.8	-0.5
	4.6nm,1.0s,baz=25,slow=4.0,SNR=6.4						

*IDC **05** 14:26:00.9±1.6, 59°.67N×153°.38W, h95km±29km, mb3.7/4, mb1 3.6/6, mb1mx3.1/60, mbtmp3.9/6, Error ellipse: s-maj=35.1km s-min=11.8km az=109.0*
*NEIC **05** 14:26:01.8±1.3, 59°.64N±0°.04×153°.44W±0°.09, h121km±6km, Error ellipse: s-maj=6.4km s-min=5.3km az=93.0*
*AEIC **05** 14:26:03.0±1.3, 59°.63N±0°.03×153°.41W±0°.09, h116km±5km, ML3.4/104, ML3.6/92(NEIC), Error ellipse: s-maj=6.3km s-min=3.8km az=89.0*
ISC 05 14:26:02.5±0.8**,59°.63N**±0°.04×**153°.37W**±0°.06**, h117km**±6km**,n213,**σ**0s86**/197**,mb3.9**/4**,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPT	Oil Point	0.07	69		Pn	14 26 18.4	-0.2
OPT	Oil Point	0.07	69	P	Pn	14 26 18.4	-0.2
	baz=253						
AUL	Augustine Lava	0.25	188		Pn	14 26 19.0	+0.1
AUL					Sn	14 26 31.4	+0.1
AUH	Augustine H	0.27	188		Pn	14 26 19.1	0.0
AGU	Augustine-Summ	0.27	187		Pn	14 26 19.0	-0.1
AUQ	Augustine Qik'	0.27	185		Pn	14 26 19.0	0.0
O20K	Slope Mountain	0.59	39		Pn	14 26 20.7	-0.1
O20K					Sn	14 26 33.9	-0.7
O20K	Slope Mountain	0.59	39	P	Pn	14 26 20.7	-0.1
	baz=221						
Q19K	Cape Douglas,	0.71	192		Pn	14 26 21.6	-0.2
Q19K					Sn	14 26 35.5	-0.6
Q19K	Cape Douglas,	0.71	192	IAML		14 26 41.0	
	comp=N,3µm,0.8s						
Q19K	Cape Douglas,	0.71	192	P	Pn	14 26 21.6	-0.2
	baz=9.7						
O19K	Port Alsworth	0.75	320		Pn	14 26 21.5	-0.4
O19K					Sn	14 26 35.6	-0.9
O19K	Port Alsworth	0.75	320	IAML		14 26 36.3	
	comp=N,5µm,0.5s						
O19K				IAML		14 26 37.3	
	comp=E,3µm,0.5s						
O19K	Port Alsworth	0.75	320	P	Pn	14 26 21.2	-0.6
	baz=141						
RED	Redoubt Volcan	0.85	20		Pn	14 26 22.6	-0.3
RED					Sn	14 26 37.5	-0.9
HOM	Homer	0.88	87		Pn	14 26 23.4	+0.3
HOM					Sn	14 26 39.1	+0.5
HOM	Homer	0.88	87	IAML		14 26 40.0	
	comp=E,4µm,0.8s						
HOM	Homer	0.88	87	P	Pn	14 26 23.3	+0.3
	baz=269						
RSO	Redoubt South	0.89	20		Pn	14 26 23.1	-0.3
RDWB	Redoubt West	0.90	17		Pn	14 26 23.2	-0.3
RDWB					Sn	14 26 38.7	-0.7
NCT	North Crescent	0.96	13		Pn	14 26 23.7	-0.3
NCT					Sn	14 26 39.5	-0.8
P18K	Big Mountain,	0.98	257		Pn	14 26 23.4	-0.7
P18K	Big Mountain,	0.98	257	P	Pn	14 26 23.4	-0.7
	baz=75						
RDJH	Redoubt Jeurge	1.01	16		Pn	14 26 24.2	-0.3
DFR	Drift River	1.03	19		Pn	14 26 24.4	-0.2
RDT	Redoubt	1.07	26		Pn	14 26 24.7	-0.2
CNPM	China Poot	1.09	94		Pn	14 26 25.1	-0.1
CNPM	China Poot	1.09	94	IAML		14 26 43.3	
	comp=N,1µm,0.6s						
CNPM				IAML		14 26 45.6	
	comp=E,625nm,0.5s						
BRLK	Bradley Lake	1.27	83		Pn	14 26 26.5	-0.5
BRLK	Bradley Lake	1.27	83	IAML		14 26 46.8	
	comp=E,497nm,0.5s						
BRLK				IAML		14 26 47.9	
	comp=N,806nm,0.4s						
N19K	Bonanza Creek	1.31	335		Pn	14 26 27.3	-0.3
BRSE	Bradley Lake S	1.34	84		Pn	14 26 27.5	-0.4
BRSE	Bradley Lake S	1.34	84	P	Pn	14 26 27.5	-0.4
	baz=266						
SPU	Mount Spurr	1.69	22		Pn	14 26 31.8	-0.2
SPCN	Chakachatna No	1.71	20		Pn	14 26 32.3	+0.1
SPBG	Spurr Blockage	1.71	16		Pn	14 26 32.5	+0.3
SPCG	Spurr Capps Gl	1.80	21		Pn	14 26 33.4	0.0
SLKM	Skilak Lake	1.81	59		Pn	14 26 32.9	-0.5
SVW2	Sparrevohn	1.84	324		Pn	14 26 33.2	-0.6
KDAK	Kodiak Island	1.89	167	P	Pn	14 26 33.5	-0.9
	comp=N,21nm,0.3s,baz=53,slow=9.0,SNR=331						
KDAK				S	Sn	14 26 56.7	-2.1
	comp=N,91nm,0.3s,baz=134,slow=23,SNR=68						
KDAK	Kodiak Island	1.89	167		Pn	14 26 33.6	-0.8
KDAK	Kodiak Island	1.89	167	IAML		14 26 58.6	
	comp=N,943nm,0.4s						
KDAK				IAML		14 26 59.2	
	comp=N,904nm,0.4s						
KDAK	Kodiak Island	1.89	167	S	Sn	14 26 56.9	-1.9
	baz=347						
O22K	Cooper Landing	2.02	63		Pn	14 26 36.0	+0.1
O22K	Cooper Landing	2.02	63	P	Pn	14 26 36.0	+0.1
	baz=247						
STLK	Strandline Lak	2.03	21		Pn	14 26 36.3	+0.2
SEW	Seward	2.03	75		Pn	14 26 35.8	-0.3
SEW	Seward	2.03	75	P	Pn	14 26 35.8	-0.3
	baz=258						
RC01	Rabbit Creek A	2.33	49		Pn	14 26 39.7	-0.1
RC01	Rabbit Creek A	2.33	49	IAML		14 27 09.6	
	comp=E,739nm,0.4s						
RC01	Rabbit Creek A	2.33	49	P	Pn	14 26 39.7	-0.1
	baz=233						
M19K	Big River Lodg	2.34	348		Pn	14 26 39.8	-0.3
OHAK	Old Harbor	2.41	179		Pn	14 26 39.8	-1.2
OHAK	Old Harbor	2.41	179	IAML		14 27 09.1	
	comp=E,242nm,0.3s						
OHAK				IAML		14 27 09.8	
	comp=N,264nm,0.2s						
OHAK	Old Harbor	2.41	179	P	Pn	14 26 39.8	-1.2
	baz=359						
L19K	White Mountain	2.67	345		Pn	14 26 43.9	-0.4
L19K	White Mountain	2.67	345	P	Pn	14 26 43.9	-0.4
	baz=164						
M22K	Willow	2.67	35		Pn	14 26 44.4	+0.2
M22K	Willow	2.67	35	P	Pn	14 26 44.4	+0.2
	baz=219						
PWL	Port Wells	2.80	62		Pn	14 26 45.1	-0.9
PWL	Port Wells	2.80	62	P	Pn	14 26 45.1	-0.9
	baz=246						
L20K	Farewell, AK	2.87	355		Pn	14 26 47.0	0.0
L20K	Farewell, AK	2.87	355	P	Pn	14 26 47.0	0.0
	baz=175						
PMR	Palmer	2.87	45		Pn	14 26 45.8	-1.1
PMR	Palmer	2.87	45	IAML		14 27 19.8	
	comp=E,145nm,0.6s						
PMR				IAML		14 27 21.2	
	comp=N,187nm,0.4s						
PMR	Palmer	2.87	45	P	Pn	14 26 45.8	-1.1
	baz=229						
KNK	Knik Glacier	3.02	51		Pn	14 26 47.9	-0.9
KNK	Knik Glacier	3.02	51	P	Pn	14 26 48.1	-0.8
	baz=236						
GHO	Glory Hole Cre	3.07	44		Pn	14 26 48.4	-1.1
GHO				IAML		14 27 25.5	
	comp=E,338nm,0.3s						
GHO				IAML		14 27 26.4	
	comp=N,267nm,0.4s						
SII	Sitkinak Islan	3.11	188		Pn	14 26 48.9	-1.2
SII	Sitkinak Islan	3.11	188	IAML		14 27 28.1	
	comp=E,217nm,0.4s						
SII	Sitkinak Islan	3.11	188	P	Pn	14 26 49.5	-0.6
	baz=7.3						
CUT	Chulitna	3.17	27		Pn	14 26 50.8	0.0
CUT	Chulitna	3.17	27	IAML		14 27 28.7	
	comp=N,149nm,0.4s						
CUT				IAML		14 27 28.8	
	comp=E,180nm,0.5s						
CUT	Chulitna	3.17	27	P	Pn	14 26 51.5	+0.7
	baz=210						
SML	Sawmill	3.30	46		Pn	14 26 51.6	-0.9
SML	Sawmill	3.30	46	IAML		14 27 30.8	
	comp=N,176nm,0.9s						
SML				IAML		14 27 37.8	
	comp=E,143nm,0.6s						
SML	Sawmill	3.30	46	P	Pn	14 26 51.7	-0.9
	baz=231						
PPLA	Purkeypile	3.33	9		Pn	14 26 53.8	+0.8
PPLA	Purkeypile	3.33	9	P	Pn	14 26 54.2	+1.1
	baz=191						
GLI	Glacier Island	3.37	65		Pn	14 26 52.6	-0.9
GLI	Glacier Island	3.37	65	IAML		14 27 32.6	
	comp=N,225nm,0.5s						
GLI	Glacier Island	3.37	65	P	Pn	14 26 52.6	-0.9
	baz=251						
TT01	Tatalina	3.53	340		Pn	14 26 55.1	-0.5
TTA	Tatalina	3.55	340		Pn	14 26 55.2	-0.7
TTA	Tatalina	3.55	340	P	Pn	14 26 55.2	-0.7
	baz=158						
Q23K	Middleton Isla	3.58	90	Pn	Pn	14 26 55.5	-0.8
MID	Middleton Isla	3.59	90	Pn	Pn	14 26 55.4	-0.9
FID	Port Fidalgo	3.62	69		Pn	14 26 55.0	-1.8
FID	Port Fidalgo	3.62	69	IAML		14 27 39.5	
	comp=N,210nm,0.5s						
SCM	Sheep Creek Mo	3.70	51		Pn	14 26 57.2	-0.8
SCM	Sheep Creek Mo	3.70	51	IAML		14 27 42.1	
	comp=N,153nm,0.6s						
SCM				IAML		14 27 50.6	
	comp=E,153nm,0.7s						
SCM	Sheep Creek Mo	3.70	51	P	Pn	14 26 57.2	-0.8
	baz=236						
K20K	Telida	3.76	355		Pn	14 26 58.2	-0.5
CAST	Castle Rocks	3.86	9	Pn	Pn	14 26 59.8	-0.2
EYAK	Cordova Ski Ar	3.93	73		Pn	14 27 00.0	-0.8
EYAK	Cordova Ski Ar	3.93	73	P	Pn	14 27 00.5	-0.3
	baz=260						
CHIR	Chirikof Islan	4.00	199	Pn	Pn	14 27 00.7	-1.2
WAT6	Susitna Watana	4.03	40		Pn	14 27 01.4	-1.0
WAT6	Susitna Watana	4.03	40	P	Pn	14 27 01.4	-1.0
	baz=225						
DIV	Divide	4.06	65		Pn	14 27 02.1	-0.6
KTH	Kantishna Hill	4.11	15		Pn	14 27 02.9	-0.4
KTH	Kantishna Hill	4.11	15	IAML		14 27 51.8	
	comp=N,36nm,0.9s						
TRF	Thorofare Moun	4.11	20		Pn	14 27 03.0	-0.5
TRF	Thorofare Moun	4.11	20	IAML		14 27 55.3	
	comp=E,44nm,1.9s						
TRF				IAML		14 28 14.5	
	comp=N,50nm,0.6s						
TRF	Thorofare Moun	4.11	20	P	Pn	14 27 03.0	-0.5
	baz=203						
KLU	Klutina	4.12	60		Pn	14 27 02.7	-0.9
KLU	Klutina	4.12	60	P	Pn	14 27 02.7	-0.9
	baz=246						
CHUM	Lake Minchumin	4.30	6		Pn	14 27 06.1	+0.3
CHUM	Lake Minchumin	4.30	6	P	Pn	14 27 06.3	+0.5
	baz=187						
M24K	Tolsona, Glenn	4.31	52		Pn	14 27 05.8	-0.3
M24K	Tolsona, Glenn	4.31	52	IAML		14 28 06.5	
	comp=N,116nm,0.8s						
M24K	Tolsona, Glenn	4.31	52	P	Pn	14 27 05.8	-0.3
	baz=238						
RND	Reindeer	4.37	28		Pn	14 27 05.8	-0.9
RND	Reindeer	4.37	28	IAML		14 27 56.8	
	comp=N,27nm,0.7s						
RND				IAML		14 28 16.0	
	comp=E,25nm,1.4s						
DHY	Denali Highway	4.50	37		Pn	14 27 08.0	-0.7
DHY	Denali Highway	4.50	37	IAML		14 28 01.5	
	comp=N,48nm,0.4s						
DHY				IAML		14 28 05.1	
	comp=E,53nm,0.5s						
DHY	Denali Highway	4.50	37	P	Pn	14 27 07.8	-0.9
	baz=223						
BMRM	Bremner River	4.56	69		Pn	14 27 09.1	-0.3
BMRM	Bremner River	4.56	69	IAML		14 28 05.0	
	comp=E,85nm,0.4s						
BMRM	Bremner River	4.56	69	P	Pn	14 27 09.2	-0.2
	baz=257						
PS11	TAPS Pump St11	4.58	54		Pn	14 27 09.3	-0.3
J20K	Nowinta River	4.58	356		Pn	14 27 09.2	-0.5
BPAW	Bear Paw Mtn.	4.63	13		Pn	14 27 09.7	-0.6
BPAW	Bear Paw Mtn.	4.63	13	P	Pn	14 27 10.5	+0.2
	baz=195						
MCK	McKinley	4.63	25		Pn	14 27 10.0	-0.3
MCK	McKinley	4.63	25	IAML		14 28 10.1	
	comp=E,22nm,0.5s						
MCK				IAML		14 28 32.4	
	comp=N,27nm,3.5s						
MCK	McKinley	4.63	25	P	Pn	14 27 10.0	-0.3
	baz=209						
N25K	Chitina, Valde	4.75	62		Pn	14 27 11.3	-0.7
N25K	Chitina, Valde	4.75	62	IAML		14 28 05.7	
	comp=E,62nm,0.7s						
N25K				IAML		14 28 07.4	
	comp=N,73nm,0.8s						
N25K	Chitina, Valde	4.75	62	P	Pn	14 27 12.8	+0.8
	baz=249						
HARP	HAARP	4.87	52		Pn	14 27 13.0	-0.5
HARP	HAARP	4.87	52	P	Pn	14 27 13.5	0.0
	baz=239						
GLB	Gilahina Butte	5.06	65		Pn	14 27 15.3	-0.8
GLB	Gilahina Butte	5.06	65	IAML		14 28 14.2	
	comp=E,57nm,0.6s						
GLB				IAML		14 28 14.2	
	comp=N,84nm,0.5s						
PAX	Paxson	5.07	45		Pn	14 27 15.7	-0.6
PAX	Paxson	5.07	45	P	Pn	14 27 15.5	-0.8
	baz=232						
VRDI	Verde Repeater	5.17	68		Pn	14 27 17.7	0.0
VRDI	Verde Repeater	5.17	68	IAML		14 28 14.8	
	comp=E,46nm,0.5s						
VRDI				IAML		14 28 15.0	
	comp=N,65nm,0.6s						
NEA2	Nenana	5.38	20		Pn	14 27 19.4	-0.9
NEA2	Nenana	5.38	20	IAML		14 29 55.0	
	comp=N,19nm,4.9s						
NEA2				IAML		14 30 01.6	
	comp=E,15nm,4.4s						
NEA2	Nenana	5.38	20	P	Pn	14 27 19.4	-0.9
	baz=204						
MCARA	McCarthy VSAT	5.41	67		Pn	14 27 20.8	0.0
MCARA	McCarthy VSAT	5.41	67	P	Pn	14 27 21.2	+0.5
	baz=256						
WRH	Wood River Hil	5.46	25		Pn	14 27 20.5	-0.9
MLY	Manley	5.56	12		Pn	14 27 21.2	-1.6
ISLE	Juniper Island	5.60	75		Pn	14 27 23.6	+0.1
I21K	Tanana	5.61	6		Pn	14 27 21.8	-1.6
PTPK	Patty Peak	5.63	69		Pn	14 27 24.3	+0.4
KIAG	Kiagna River	5.63	72		Pn	14 27 24.1	+0.2
BALM	Baldy	5.66	71		Pn	14 27 24.2	0.0
HDA	Harding Lake	5.67	29		Pn	14 27 23.8	-0.4
HDA	Harding Lake	5.67	29	P	Pn	14 27 24.2	-0.1
	baz=215						
CCB	Clear Creek Bu	5.67	25		Pn	14 27 23.2	-1.1
MENT	Mentasta	5.71	50		Pn	14 27 23.5	-1.4
BAGL	Bagley Icefiel	5.72	76		Pn	14 27 25.7	+0.9
RIDG	Independent Ri	5.78	41		Pn	14 27 25.5	-0.4
RIDG	Independent Ri	5.78	41	P	Pn	14 27 26.3	+0.4
	baz=228						
I23K	Minto, Yukon-K	5.85	17		Pn	14 27 26.2	-0.4
I23K	Minto, Yukon-K	5.85	17	P	Pn	14 27 26.2	-0.4
	baz=201						
TCOL	CIGO, UAF Yank	5.86	24		Pn	14 27 25.8	-0.9
TCOL	CIGO, UAF Yank	5.86	24	P	Pn	14 27 26.1	-0.6
	baz=209						
COLA	College	5.86	24		Pn	14 27 25.9	-0.9
MDM	Murphy Dome	5.86	22		Pn	14 27 25.8	-1.1
CNBA	Chernabura Isl	5.88	218	Pn	Pn	14 27 25.0	-2.2
L26K	Log Cabin Wild	5.91	50	P	Pn	14 27 29.5	+2.1
	baz=239						
IL31		5.99	28		Pn	14 27 27.5	-1.0
ILAR	Eielson Array	5.99	28	P	Pn	14 27 27.1	-1.4
	comp=E,4.5nm,0.3s,baz=216,slow=13,SNR=180						
ILAR				S	Sn	14 28 32.7	-3.0
	comp=E,2.0nm,0.3s,baz=214,slow=22,SNR=7.8						
ILAR	Eielson Array	5.99	28		Pn	14 27 26.3	-2.2
BARN	Barnard Glacie	5.99	71		Pn	14 27 29.2	+0.4
DOT	Dot Lake	5.99	44		Pn	14 27 28.6	-0.1
H21K	Melozitna Rive	6.06	2		Pn	14 27 29.4	-0.1
CTG	Chitna Glacier	6.13	72	P	Pn	14 27 31.5	+0.9
	baz=263						
CTGM	Chitina Glacie	6.13	72		Pn	14 27 31.1	+0.5
POKR	Poker Plat Res	6.16	24		Pn	14 27 30.2	-0.6
POKR	Poker Plat Res	6.16	24	P	Pn	14 27 30.5	-0.4
	baz=209						
TABL	Table Mountain	6.18	77		Pn	14 27 31.9	+0.5
M27K	Edge Creek, AK	6.22	59		Pn	14 27 33.0	+1.1
SCRK	Sand Creek	6.23	42		Pn	14 27 30.6	-1.3
SCRK	Sand Creek	6.23	42	P	Pn	14 27 31.3	-0.6
	baz=230						
J25K	Salcha River,	6.25	33		Pn	14 27 31.2	-1.0
J25K	Salcha River,	6.25	33	P	Pn	14 27 31.1	-1.0
	baz=221						
LOGN	Logan Glacier	6.28	74		Pn	14 27 33.0	+0.3
IM03		6.38	359		Pn	14 27 34.2	+0.4
IMAR	Indian Mountai	6.38	359		Pn	14 27 33.7	-0.1
YUK2	White River	6.52	65		Pn	14 27 36.7	+0.9
L27K	Beaver Creek,	6.53	53		Pn	14 27 36.3	+0.3
BC03		6.55	53		Pn	14 27 35.7	-0.4
BCAR	Beaver Creek A	6.55	53	Pn	Pn	14 27 36.3	+0.1
PCA	Pinnacle	6.62	80	Pn	Pn	14 27 38.0	+0.8
BVCY	Beaver Creek	6.69	60	P	Pn	14 27 39.2	+1.2
	baz=251						
H24K	Noodor Dome	6.72	20	Pn	Pn	14 27 37.7	-0.8
COLD	Coldfoot	7.76	9	Pn	Pn	14 27 51.9	-0.6
FYU	Fort Yukon	7.88	24		Pn	14 27 53.4	-0.6
DAWY	Dawson	7.96	50	Pn	Pn	14 27 55.1	-0.2
HYT	Haines Junctio	7.99	75	Pn	Pn	14 27 56.5	+0.8
BMAR	Burnt Mountain	8.75	23	Pn	Pn	14 28 04.0	-1.9
N31M	Braeburn, Yuko	8.86	70	Pn	Pn	14 28 08.5	+1.1
SKAG	Skagway	9.16	83	Pn	Pn	14 28 12.7	+1.2
TOLK	Toolik Lake Re	9.20	9	Pn	Pn	14 28 12.0	+0.1
WHY	Whitehorse	9.28	76	Pn	Pn	14 28 13.2	+0.1
BESE	Bessie Mountai	9.58	88	Pn	Pn	14 28 20.3	+3.2
M31M	Drury Creek, Y	9.59	66	Pn	Pn	14 28 16.8	-0.4
SIT	Sitka	9.82	97	Pn	Pn	14 28 21.2	+0.8
EPYK	Eagle Plains	10.12	41	Pn	Pn	14 28 25.2	+0.8
P33M	Teslin, Yukon	10.33	78	Pn	Pn	14 28 28.6	+1.3
CRAG	Craig	11.63	102	Pn	Pn	14 28 44.6	+0.1
DLBC	Dease Lake	12.06	86	P	Pn	14 28 53.7	+3.3
	comp=E,1.0nm,0.3s,baz=236,slow=11,SNR=26						
YKA	Yellowknife Ar	18.78	65	P	P	14 30 12.4	+0.3
	comp=E,0.1nm,0.3s,baz=276,slow=10,SNR=8.8						
PETK	Petropavlovsk-	27.33	278	P	P	14 31 36.2	+0.3
	comp=E,1.9nm,0.8s,baz=68,slow=12,SNR=8.4						
KSRS	Korea Array	53.08	283	P	P	14 35 08.0	+0.7
	comp=E,0.8nm,0.6s,baz=35,slow=7.2,SNR=3.2						
SONM	Songino Array	54.86	306	P	P	14 35 21.2	+0.9
	comp=E,1.4nm,0.6s,baz=43,slow=6.2,SNR=9.5						
ZALV	Zalesovo Beam	57.56	323	P	P	14 35 39.3	+0.1
	comp=E,0.6nm,0.4s,baz=32,slow=5.8,SNR=3.2						

*IDC **05** 14:25:43.2±14.0, 23°.83S×179°.93W, h271km±140km, mb3.7/8, mb1 3.9/8, mb1mx3.4/39, mbtmp4.4/8, Error ellipse: s-maj=61.3km s-min=40.3km az=3.0*
ISC 05 14:26:04.6±1.7**,24°.4S**±0°.4×**179°.8E**±0°.2**,h500km,n9,** σ**1s02**/9**,mb3.9**/8**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.35	249	P	P	14 32 08.8	-0.2
	2.6nm,0.5s,baz=100,slow=11,SNR=12						
ASAR	Alice Springs	41.74	261	P	P	14 33 09.2	-0.4
	1.6nm,0.5s,baz=92,slow=6.7,SNR=66						
WRA	Warramunga Arr	42.16	267	P	P	14 33 12.0	-0.9
	3.3nm,0.4s,baz=98,slow=8.1,SNR=140						
SIJI	Sorong	52.37	289	P	P	14 34 29.1	-0.9
	10nm,0.6s,baz=79,slow=7.1,SNR=6.4						
BATI	Baumata	55.04	275	P	P	14 34 49.7	+0.8
	11nm,0.4s,baz=168,slow=3.2,SNR=3.7						
USRK	Ussuriysk Ar.	81.03	327	P	P	14 37 26.5	-0.1
	0.9nm,0.6s,baz=99,slow=12,SNR=4.6						
CMAR	Chiang Mai Arr	89.47	290	P	P	14 38 09.4	+1.1
	0.3nm,0.4s,baz=136,slow=3.6,SNR=4.4						
TXAR	Lajitas Array	90.86	58	P	P	14 38 13.9	-0.8
	0.8nm,0.8s,baz=228,slow=5.9,SNR=8.8						
BRTR	Keskin Array B	147.67	306	PKPbc	PKiKP	14 44 55.8	+1.5
	0.7nm,0.6s,baz=75,slow=5.2,SNR=4.3						

IDC 05 14:35:22.7±1.4**,4°.05N**×**127°.03E,h0km,mb3.5**/5**, mb1 3.7**/5**,mb1mx3.5**/38**,mbtmp3.5**/5**,Error ellipse: s-maj=79.6km s-min=20.2km az=64.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.91	163	P	P	14 40 47.8	+0.2
	1.1nm,0.6s,baz=343,slow=10,SNR=14						
ASAR	Alice Springs	28.36	167	P	P	14 41 18.4	-0.3
	0.3nm,0.7s,baz=350,slow=7.3,SNR=4.8						
CMAR	Chiang Mai Arr	30.97	300	P	P	14 41 42.6	+0.7
	0.3nm,0.3s,baz=118,slow=7.0,SNR=4.7						
SONM	Songino Array	47.09	341	P	P	14 43 56.7	+0.2
	0.3nm,0.5s,baz=159,slow=8.7,SNR=2.8						
MKAR	Makanchi Array	57.46	325	P	P	14 45 13.0	-0.6
	0.5nm,0.4s,baz=118,slow=7.9,SNR=18						

DJA 05 14:36:14.4±0.6**,8°S**±6°×**10°6E**±°**,h10km,M3.9**/16**,mb4.3**/1**, mB6.0**/1**,MLv3.6**/16**,Mw(mB)5.6**/1**,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.86	37	P	Pg	14 36 30.4	-0.6
CGJI	Cibinong	1.13	342	P	Pb	14 36 35.2	-0.9
CNJI	Cibinong	1.15	70	P	Pb	14 36 35.1	-1.3
DBJI	Dramaga	1.34	32	P	Pn	14 36 38.1	-1.1
TNG	Tangerang	1.63	22	P	Pn	14 36 43.7	+0.5
LEM	Lembang	1.79	61	P	Pn	14 36 46.3	+0.8
CMJI	Cimerak	2.39	92	P	Pn	14 36 52.5	-1.1
KASI	Kota Agung	2.65	325	P	Pn	14 36 57.6	+0.4
KPJI	Karang Pucung	2.89	83	P	Pn	14 37 00.8	+0.3
KLI	Kotabumi	3.05	337	P	Pn	14 37 02.5	-0.3
KLSI		3.26	336	P	Pn	14 37 07.0	+1.4
LWLI	Liwa	3.31	323	P	Pn	14 37 06.7	+0.2
MDSI	Maura Dua	3.69	330	P	Pn	14 37 12.1	+0.6
UGM	Wanagama	4.45	93	P	Pn	14 37 21.3	-0.7
MNAI	Manna	4.52	317	P	Pn	14 37 22.4	-0.5
PCJI	Pacitan	5.11	96	P	Pn	14 37 31.2	+0.1
	0.2nm25nm,0.8s						

*JMA **05** 14:41:57.7±0.1, 42°.87N×145°.66E, h47km±1km, M3.8*
*SKHL **05** 14:41:59.0±0.7, 42°.90N×145°.60E, h31km±3km, mb4.7/4*
ISC 05 14:41:58.4±1.9**,42°.86N**±0°.09×**145°.63E**±0°.07**,h32km**±10km**, n16,**σ**0s69**/28**,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKHN	Kushirohamanak	0.41	303	P	Pn	14 42 08.0	0.0
JKHN				eS	Sn	14 42 15.5	+1.0
NEM2	Nemuro 2	0.51	10	P	Pb	14 42 08.8	-0.2
NEM2				eS	Sb	14 42 16.5	+0.2
NMR	Nemuro--Hokkai	0.51	8	iP	Pb	14 42 08.8	-0.2
NMR				eS	Sb	14 42 16.5	+0.1
AKK	Akkeshi	0.59	285	iP	Pb	14 42 10.3	-0.1
AKK				eS	Sn	14 42 19.3	+0.1
JAK	Akkeshi	0.69	281	P	Pb	14 42 11.7	-0.3
JAK				eS	Sn	14 42 22.1	+0.5
GLVR	Golovnino	0.88	355	eP	Pn	14 42 14.0	-0.5
GLVR				AMB	AMB	14 42 14.7	
	760nm,0.3s						
GLVR				eS	Sn	14 42 25.9	-0.3
GLVR				A	A	14 42 26.6	
	3µm,0.3s						
GLVR				A	A	14 42 26.6	
	630nm,0.3s						
JNK	Nakash	0.98	318	P	Pn	14 42 15.3	-0.6
JNK				eS	Sn	14 42 27.9	-0.8
JRA	Rausu	1.13	341	P	Pn	14 42 17.8	-0.2
JRA				eS	Sn	14 42 32.3	-0.2
YUK	Yuzh-Kuril'sk	1.18	8	iP	Pn	14 42 18.0	-0.7
YUK				AMB	AMB	14 42 19.5	
	400nm,0.3s						
YUK				eS	Sn	14 42 32.5	-1.2
YUK				A	A	14 42 35.8	
	2µm,0.4s						
YUK				A	A	14 42 35.8	
	2µm,0.4s						

JOB	Onbets	1.32	272	P	Pn	14 42 20.1	-0.4
JAR	Ashorobuto	1.43	288	P	Pn	14 42 21.8	-0.3
JTKR	Abashiri--Toko	1.67	312	P	Pn	14 42 25.7	+0.3
JTKR				eS	Sn	14 42 46.6	+0.9
JCH	Churui	1.69	262	P	Pn	14 42 25.1	-0.5
KUR	Kuril'sk	2.87	34	eP	Pn	14 42 42.8	+1.0
KUR				AMB	AMB	14 42 45.0	
	60nm,0.3s						
KUR				AMB	AMB	14 42 45.0	
	40nm,0.3s						
KUR				AMB	AMB	14 42 45.0	
	130nm,0.3s						
KUR				eS	Sn	14 43 15.0	-0.2
KUR				A	A	14 43 21.3	
	170nm,0.2s						
KUR				A	A	14 43 21.3	
	90nm,0.2s						
YSS	Yuzh-Sakhalins	4.57	334	eP	Pn	14 43 05.8	+0.6
YSS				AMB	AMB	14 43 06.6	
YSS				eS	Sn	14 43 55.9	-1.3
YSS				A	A	14 43 57.0	
	10.0nm,0.3s						
TYV	Tymovskoe	8.26	347	eP	Pn	14 43 57.3	+1.5
TYV				AMB	AMB	14 44 03.4	

*NEIC **05** 15:11:56.1±1.3, 6.64S±0.06×102.48E±0.08, h10^{km}±1^{km}, mb4.9/49, Error ellipse: s-maj=13.0km s-min=10.8km az=260.0*

*DJA **05** 15:11:56.6±1.1, 7°S±4°×10°2E±°, h28^{km}±9^{km}, M4.7/44, mB5.2/25, mb4.8/44, MLv4.9/24, Mw(mB)4.6/25*

*MOS **05** 15:11:57.8±1.1, 6.75S×102.46E, h42^{km}, mb5.0/41, Error ellipse: s-maj=9.6km s-min=6.5km az=104.4*

*IDC **05** 15:12:02.3±2.8, 6.66S×102.67E, h57^{km}±24^{km}, mb4.2/22, mb1 4.3/24, mb1mx4.1/48, mbtmp4.5/24, ML4.4/2, MS3.8/7, Ms1 3.8/7, ms1mx3.2/78, Error ellipse: s-maj=17.5km s-min=10.1km az=37.0*

ISC 05 15:11:57.7±0.4, **6.72S**±0.05×**102.53E**±0.05, **h24^{km}, n280,** σ1^{s}**47**/290, **mb4.9**/99, **MS4.5**/21, **20C-4D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	2.28	42	P	Pn	15 12 33.9	-0.1
KASI	Kota Agung	2.29	59	P	Pn	15 12 33.7	-0.3
MNAI	Manna	2.39	10	Pn	Pn	15 12 33.9	-1.5
MNAI	Manna	2.39	10	P	Pn	15 12 34.3	-1.1
MNAI	Manna	2.39	10	P	Pn	15 12 34.7	-0.7
MDSI	Maura Dua	2.76	36	P	Pn	15 12 40.8	+0.3
KLI	Kotabumi	2.96	51	P	Pn	15 12 44.4	+1.1
KLI	Kotabumi	2.96	51	P	Pn	15 12 44.1	+0.8
KLSI		2.98	47	P	Pn	15 12 44.0	+0.5
BLSI	Bandar Lampung	3.02	64	P	Pn	15 12 44.6	+0.5
KSI	Kapahiang	3.05	1	P	Pn	15 12 43.2	-1.4
CGJI	Cibinong	3.14	88	P	Pn	15 12 45.5	-0.3
MASI	Maura Aman, Be	3.57	355	P	Pn	15 12 50.3	-1.4
SKJI	Sukabumi	4.01	94	P	Pn	15 12 58.0	+0.3
DBJI	Dramaga	4.19	88	P	Pn	15 13 00.8	+0.5
CBJI	Citeko	4.30	86	P	Pn	15 13 04.1	+2.4
PMBI	Palembang	4.38	31	Pn	Pn	15 13 01.0	-1.8
PMBI	Palembang	4.38	31	P	Pn	15 13 03.3	+0.5
PMBI	Palembang	4.38	31	P	Pn	15 13 03.7	+0.9
CNJI	Cibinong	4.60	98	P	Pn	15 13 04.8	-1.0
PPSI	Pulau Pagai	4.67	327	P	Pn	15 13 05.1	-1.7
KRJI	Kerinci	4.72	347	P	Pn	15 13 06.5	-1.1
LEM	Lembang	5.05	91	P	Pn	15 13 14.5	+2.3
	32nm,0.3s,baz=220,slow=4.7,SNR=63						
LEM				S	Sn	15 14 10.5	+0.5
	5.4nm,0.3s,baz=320,slow=21,SNR=1.0						
LEM	Lembang	5.05	91	P	Pn	15 13 14.7	+2.5
LEM				pmax	pmax		
	comp=Z,401nm,0.9s						
LEM	Lembang	5.05	91	P	Pn	15 13 14.0	+1.8
	comp=Z,0.7nmcomp=Z,3µmcomp=Z,252nm,0.9s						
JMBI	JAMBI	5.18	12	P	Pn	15 13 13.5	-0.3
	comp=Z,0.6nmcomp=Z,2µmcomp=Z,171nm,1.0s						
JCJI	Jatiwangi	5.71	88	P	Pn	15 13 22.3	+1.3
	comp=Z,1.0nmcomp=Z,223nm,0.9s						
PPBI	Pangkal Pinang	5.78	39	P	Pn	15 13 22.5	+0.4
	comp=Z,0.5nmcomp=Z,5µmcomp=Z,33nm,0.8s						
CMJI	Cimerak	5.96	101	P	Pn	15 13 24.8	+0.2
	comp=Z,1.0nmcomp=Z,4µmcomp=Z,190nm,0.8s						
SISI	Saibi	6.37	327	P	Pn	15 13 28.0	-2.1
	comp=Z,0.3nmcomp=Z,601nmcomp=Z,64nm,1.0s						
KPJI	Karang Pucung	6.38	96	P	Pn	15 13 32.3	+2.0
	comp=Z,0.6nmcomp=Z,2µmcomp=Z,215nm,0.8s						
DSRI	Dabo	6.53	18	P	Pn	15 13 32.1	-0.3
	comp=Z,0.3nmcomp=Z,69nm,1.1s						
PPI	Padang Panjang	6.58	341	P	Pn	15 13 31.4	-1.6
	comp=Z,45nm,0.8s						
BKNI	Bangkinang	7.16	348	Pn	Pn	15 13 38.8	-2.2
BKNI	Bangkinang	7.16	348	P	Pn	15 13 39.6	-1.4
	comp=Z,0.4nmcomp=Z,109nm,0.9s						
BKNI	Bangkinang	7.16	348	P	Pn	15 13 39.6	-1.4
COCO	West Island	7.81	226	P	Pn	15 13 48.6	-1.4
COCO	West Island	7.81	226	Pn	Pn	15 13 48.5	-1.4
TPRI	Tanjung Pinang	7.85	15	P	Pn	15 13 50.6	+0.1
	comp=Z,1.0nmcomp=Z,4µmcomp=Z,22nm,0.6s						
SMRI	Semarang	7.86	93	Pn	Pn	15 13 51.9	+1.3
SMRI	Semarang	7.86	93	P	Pn	15 13 52.6	+1.9
	comp=Z,3µmcomp=Z,265nm,1.0s						
SMRI	Semarang	7.86	93	P	Pn	15 13 51.8	+1.1
UGM	Wanagama	8.02	99	Pn	Pn	15 13 52.6	-0.1
UGM	Wanagama	8.02	99	P	Pn	15 13 52.7	-0.1
	comp=Z,218nm,1.0s						
UGM	Wanagama	8.02	99	P	Pn	15 13 52.9	+0.1
UWJI	Ujung Watu	8.37	88	P	Pn	15 14 00.3	+2.7
	comp=Z,170nm,1.0s						
PCJI	Pacitan	8.70	100	P	Pn	15 14 01.6	-0.5
	comp=Z,2µmcomp=Z,103nm,0.9s						
PWJI	Pagerwojo	9.29	99	P	Pn	15 14 10.1	-0.1
	comp=Z,1µmcomp=Z,167nm,0.9s						
GSI	Gunungsitoli	9.38	328	Pn	Pn	15 14 10.1	-1.4
GSI	Gunungsitoli	9.38	328	P	Pn	15 14 09.8	-1.8
	comp=Z,25nm,1.2s						
GRJI	Gresik	9.88	92	P	Pn	15 14 20.2	+1.8
	comp=Z,1µmcomp=Z,162nm,0.9s						
RPSI	Rantau Prapat	10.03	339	Pn	Pn	15 14 17.5	-2.9
PSI	Prapat	10.12	339	P	Pn	15 14 17.5	-4.3
	comp=Z,0.6nm,0.3s,baz=175,slow=23,SNR=5.9						
PSI				S	Sn	15 16 06.2	-8.6
	comp=Z,0.3nm,0.3s,baz=254,slow=22,SNR=1.4						
PSI	Prapat	10.12	339	P	Pn	15 14 18.9	-2.9
GMJI	Gumukmas	10.93	99	P	Pn	15 14 33.3	+0.6
	comp=Z,36nm,0.9s						
STKI	Sintang	11.19	53	P	Pn	15 14 37.5	+1.2
	comp=Z,46nm,1.0s						
IPM	Ipoh	11.23	352	Pn	Pn	15 14 34.8	-2.0
KMMI	Kalianget	11.36	92	P	Pn	15 14 38.3	-0.3
	comp=Z,62nm,1.1s						
JAGI	Jajag, Banyuwa	11.65	99	Pn	Pn	15 14 38.8	-3.8
JAGI	Jajag, Banyuwa	11.65	99	P	Pn	15 14 40.6	-2.0
	comp=Z,62nm,1.0s						
JAGI	Jajag, Banyuwa	11.65	99	P	Pn	15 14 40.6	-2.0
ABJI	Asem Bagus	11.66	96	P	Pn	15 14 43.2	+0.5
	comp=Z,2µmcomp=Z,196nm,0.8s						
KULM	Kulim	12.08	351	Pn	Pn	15 14 45.8	-2.7
IGBI	Denpasar	12.67	100	P	Pn	15 14 57.6	+1.0
	comp=Z,47nm,0.8s						
SBUM	Sibu	13.29	47	Pn	Pn	15 15 02.6	-2.5
MTKI	Muara Teweh, K	13.60	66	P	Pn	15 15 10.3	+0.9
	comp=Z,2µmcomp=Z,26nm,1.3s						
PLAI	Plampang	15.25	99	P	Pn	15 15 29.1	-2.6
	comp=Z,764nmcomp=Z,74nm,1.0s						
PLAI	Plampang	15.25	99	P	Pn	15 15 29.9	-1.8
WBSI	Waikabubak, Su	16.94	101	P	Pn	15 15 54.0	+0.6
	comp=Z,48nm,0.8s						
KAPI	Kappang	17.21	85	P	Pn	15 15 55.5	-1.3
	comp=Z,0.6nm,0.3s,baz=262,slow=15,SNR=1.3						
KAPI				LR	LR	15 24 01.1	
	comp=Z,292nm,18.3s,baz=280,slow=42						
BKSI	Bulukumba	17.55	86	P	Pn	15 16 00.6	-0.4
	comp=Z,717nmcomp=Z,51nm,1.0s						
TTSI	Tana Toraja	17.61	79	P	Pn	15 16 01.9	+0.2
	comp=Z,1µmcomp=Z,26nm,1.2s						
BNSI	Bone	17.64	83	P	Pn	15 16 01.4	-0.7
	comp=Z,35nm,1.1s						
BSSI	Bau Bau, Buton	17.86	89	P	Pn	15 16 04.9	+0.1
	comp=Z,18nm,0.9s						
BASI	Baing, Sumba	18.18	102	P	P	15 16 09.4	+0.5
	comp=Z,2µmcomp=Z,120nm,1.6s						
MPSI	Mapaga	18.70	69	P	P	15 16 14.7	+0.2
	comp=Z,709nmcomp=Z,48nm,1.2s						
MMRI	Maumere	19.62	97		P	15 16 24.6	-0.1
MMRI	Maumere	19.62	97	P	P	15 16 24.7	-0.1
	comp=Z,2µmcomp=Z,184nm,1.0s						
MMRI	Maumere	19.62	97	P	P	15 16 24.8	+0.1
TOLI2	Tolitoli	19.81	68	P	P	15 16 26.6	-0.1
TOLI2	Tolitoli	19.81	68	P	Pn	15 16 27.6	-0.8
MYLDM	Lahad Datu	19.85	54		P	15 16 25.1	-2.0
MYLDM				IAmb	IAmb	15 16 49.2	
	comp=Z,120nm,1.1s						
APSI	Ampana	19.92	74	P	P	15 16 28.0	0.0
	comp=Z,466nmcomp=Z,49nm,1.0s						
BBSI	Bau Bau	19.96	88	P	P	15 16 28.9	+0.4
	comp=Z,5.6nm,1.0s						
MRSI	Marisa	20.65	70	P	P	15 16 35.1	-0.8
	comp=Z,22nm,0.7s						
BATI	Baumata	21.18	101	P	P	15 16 41.9	+0.2
	comp=Z,131nm,0.8s,baz=269,slow=2.5,SNR=34						
BATI				S	S	15 20 33.3	-3.1
	comp=Z,14nm,0.7s,baz=24,slow=20,SNR=2.8						
BATI	Baumata	21.18	101	P	P	15 16 42.0	+0.3
	comp=Z,988nmcomp=Z,95nm,0.9s						
GTOI	Gorontalo	21.70	71	P	P	15 16 47.0	-0.3
	comp=Z,9.5nm,0.9s						
UBPT	Khong Chiam	22.05	8	P	P	15 16 49.2	-1.7
UBPT				IAmb	IAmb	15 16 51.1	
	comp=Z,66nm,1.0s						
SANI	Sanana	23.84	80	P	P	15 17 08.3	-1.0
	comp=Z,29nm,1.3s						
SANI	Sanana	23.84	80	P	P	15 17 08.3	-1.0
FITZ	Fitzroy Crossi	25.20	119	P	P	15 17 22.0	+0.2
	comp=Z,6.3nm,0.8s,baz=265,slow=6.1,SNR=10						
FITZ	Fitzroy Crossi	25.20	119	P	P	15 17 22.2	+0.4
	baz=25						
CM31	Chiang Mai Arr	25.27	352	P	P	15 17 21.6	-0.8
CM31				IAmb	IAmb	15 17 25.3	
	comp=Z,38nm,0.8s						
CMAR	Chiang Mai Arr	25.27	352	P	P	15 17 22.8	+0.4
	comp=Z,25nm,0.7s,baz=182,slow=8.7,SNR=141						
CMAR	Chiang Mai Arr	25.27	352	P	P	15 17 22.4	+0.1
CHTO	Chiang Mai	25.62	352	P	P	15 17 25.2	-0.3
CHTO				pmax	pmax		
	comp=Z,31nm,1.1s						
CHTO	Chiang Mai	25.62	352	P	P	15 17 25.2	-0.3
CHTO				IAmb	IAmb	15 17 28.6	
	comp=Z,31nm,1.1s						
CHTO	Chiang Mai	25.62	352	P	P	15 17 25.6	+0.1
	comp=Z,20nm,1.1s						
LBMI	Labuha	25.63	77	P	P	15 17 25.0	-0.7
QIZ	Qiongzhong	26.59	16	P	P	15 17 35.8	+1.5
QIZ				S	S	15 22 11.7	+4.0
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
QIZ				LR	LR		
	comp=Z,340nm,11.7s						
QIZ				LR	LR		
	comp=Z,380nm,12.0s						
QIZ				LR	LR		
	comp=Z,320nm,13.0s						
QIZ	Qiongzhong	26.59	16	P	P	15 17 36.0	+1.7
KNRA	Kununurra	27.20	111	P	P	15 17 39.7	-0.1
	baz=27,SNR=3.8						
SIJI	Sorong	29.24	80	P	P	15 17 56.2	-2.0
	comp=Z,5.1nm,0.7s,baz=184,slow=23,SNR=2.4						
H08S2	Diego Garcia H	29.81	266	T	T	15 49 31.0	
	baz=91,slow=75						
H08S3	Diego Garcia H	29.82	266	T	T	15 50 03.8	
	baz=91						
H08S1	Diego Carcia H	29.83	266	T	T	15 49 56.2	
	baz=91,slow=75						
H01W3	Cape Leeuwin H	30.00	161	T	T	15 50 02.4	
	baz=338,slow=75,SNR=7.2						
H01W2	Cape Leeuwin H	30.01	161	T	T	15 50 03.3	
	baz=338,slow=75,SNR=9.5						
H01W1	Cape Leeuwin H	30.01	161	T	T	15 49 56.4	
	baz=338,slow=75,SNR=7.4						
KMI	Kunming	31.66	0	⇑P	P	15 18 21.1	+1.6
KMI				pP	pP	15 18 25.4	-0.3
KMI				pmax	pmax		
	comp=Z,31nm,1.1s						
KMI				LR	LR		
	comp=Z,1µm,12.9s						
KMI				LR	LR		
	comp=Z,670nm,11.9s						
KMI				LR	LR		
	comp=Z,1µm,13.9s						
PZH	PanZhiHua	33.04	359	P	P	15 18 35.1	+3.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
GYA	Guiyang	33.23	7	⇓iP	P	15 18 34.3	+1.1
GYA				sP	sP	15 18 41.9	-0.1
GYA				S	S	15 23 53.6	+1.6
GYA				pmax	pmax		
	comp=Z,29nm,1.0s						
GYA				LR	LR		
	comp=Z,430nm,11.7s						
GYA				LR	LR		
	comp=Z,800nm,13.9s						
GYA				LR	LR		
	comp=Z,550nm,13.5s						
WB0	Warramunga Arr	33.53	116	P	P	15 18 35.8	-0.1
WB0				IAmb	IAmb	15 18 46.0	
	comp=Z,24nm,1.1s						
WRA	Warramunga Arr	33.54	116	P	P	15 18 36.3	+0.3
	comp=Z,11nm,0.8s,baz=287,slow=11,SNR=51						
WRA	Warramunga Arr	33.54	116	P	P	15 18 36.2	+0.3
WRAB	Tennant Creek	33.55	116	ceP	P	15 18 36.1	+0.1
WRAB				pmax	pmax		
	comp=Z,21nm,1.3s						
WRAB	Tennant Creek	33.55	116	P	P	15 18 36.2	+0.1
WRAB				IAmb	IAmb	15 18 46.2	
	comp=Z,18nm,1.1s						
WRAB	Tennant Creek	33.55	116	P	P	15 18 36.4	+0.4
WB2	Warramunga Arr	33.55	116	P	P	15 18 36.3	+0.3
WB2				IAmb	IAmb	15 18 46.8	
	comp=Z,15nm,1.0s						
WC3	Warramunga Arr	33.58	116	P	P	15 18 35.7	-0.6
	baz=34						
WR0	Warramunga Arr	33.73	116	P	P	15 18 37.6	+0.1
WR0				IAmb	IAmb	15 18 47.9	
	comp=Z,21nm,1.1s						
ASAR	Alice Springs	34.52	123	P	P	15 18 44.5	0.0
	comp=Z,3.5nm,1.0s,baz=293,slow=7.8,SNR=24						
ASAR				PcP	PcP	15 21 19.4	+0.1
	comp=Z,1.6nm,0.9s,baz=304,slow=2.7,SNR=5.3						
ODAN	Odare	36.47	337	eP	P	15 19 02.3	+1.0
	comp=Z,31nm,0.9s						
TAPN	Taplejung	36.78	338	eP	P	15 19 05.6	+1.5
	comp=Z,51nm,0.9s						
RAMN	Ramite	36.86	336	eP	P	15 19 06.2	+1.5
	comp=Z,9.2nm,0.5s						
ENH	Enshi	37.38	10	P	P	15 19 08.2	-0.7
ENH				IAmb	IAmb	15 19 09.7	
	comp=Z,20nm,1.0s						
CD2	Chengdu	37.44	2	P	P	15 19 09.4	+0.1
CD2				pP	pP	15 19 12.5	-3.1
CD2				sP	sP	15 19 14.9	-3.2
CD2				S	S	15 25 00.4	+3.9
CD2				sS	pS	15 25 04.9	+0.9
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,110nm,5.2s						
CD2				LR	LR		
	comp=Z,770nm,21.0s						
CD2				LR	LR		
	comp=Z,770nm,14.7s						
JIRN	Jiri	37.66	336	eP	P	15 19 12.8	+1.2
	comp=Z,91nm,1.0s						
LSA	Lhasa	37.83	344	P	P	15 19 13.0	-0.1
LSA				pmax	pmax		
	comp=Z,11nm,0.9s						
LSA	Lhasa	37.83	344	P	P	15 19 13.0	-0.1
LSA	Lhasa	37.83	344	P	P	15 19 13.7	+0.6
LSA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PKI	Pulchoki	37.90	335	eP	P	15 19 14.5	+0.9
PKIN	Phulchoki	37.91	335	eP	P	15 19 14.3	+0.7
GUN	Gumba	38.01	336	eP	P	15 19 15.7	+1.2
	comp=Z,53nm,0.7s						
DMN	Daman	38.06	334	eP	P	15 19 15.8	+0.9
	comp=Z,66nm,1.1s						
KKN	Kakani	38.15	335	eP	P	15 19 16.6	+1.0
	comp=Z,29nm,0.8s						
QIS	Mount Isa	38.45	115	P	P	15 19 17.7	-0.3
	baz=38,SNR=6.7						
GKN	Gorkha	38.61	334	eP	P	15 19 20.5	+1.1
	comp=Z,105nm,1.1s						
KOLN	Koldanda	38.87	333	eP	P	15 19 22.8	+1.2
	comp=Z,55nm,1.1s						
DANN	Dangsing	39.29	333	eP	P	15 19 26.4	+1.1
	comp=Z,117nm,1.1s						
PYUN	Piuthan	39.43	332	eP	P	15 19 27.3	+1.0
	comp=Z,49nm,1.2s						
XAN	Xi'an	40.99	8	P	P	15 19 38.4	-0.5
XAN				pP	pP	15 19 43.2	-2.0
XAN				sP	sP	15 19 46.1	-1.7
XAN				PP	PnPn	15 21 16.7	-1.5
XAN				S	S	15 25 52.0	+2.1
XAN				sS	sS	15 26 01.2	+0.7
XAN				SS	SS	15 28 52.4	-0.1
XAN				pmax	pmax		
	comp=Z,35nm,0.8s						
XAN				pmax	pmax		
	comp=Z,250nm,4.6s						
XAN				LR	LR		
	comp=Z,410nm,14.8s						
XAN				LR	LR		
	comp=Z,620nm,14.1s						
XAN				LR	LR		
	comp=Z,840nm,13.4s						
NJ2	Nanjing	41.58	21	eP	P	15 19 45.6	+1.8
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				LR	LR		
	comp=Z,280nm,11.9s						
NJ2				LR	LR		
	comp=Z,380nm,11.9s						
NJ2				LR	LR		
	comp=Z,630nm,14.5s						
LYN	LuoYang	42.11	12	⇑P	P	15 19 48.7	+0.6
LYN				sP	sP	15 19 55.8	-1.1
LYN				S	S	15 26 12.8	+6.4
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LYN				pmax	pmax		
	comp=Z,60nm,5.0s						
LYN				LR	LR		
	comp=Z,500nm,15.7s						
LYN				LR	LR		
	comp=Z,480nm,17.9s						
MTSU	Mount Surprise	42.25	110	P	P	15 19 48.4	-1.1
	baz=42,SNR=5.6						
LZH	Lanzhou	42.60	2	eP	P	15 19 53.0	+0.8
LZH				pP	pP	15 19 56.7	-1.9
LZH				sP	sP	15 20 00.2	-0.9
LZH				eS	S	15 26 22.9	+9.0
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,4.1s						
LZH				LR	LR		
	comp=Z,690nm,12.5s						
LZH				LR	LR		
	comp=Z,560nm,12.7s						
LZH				LR	LR		
	comp=Z,780nm,13.6s						
GOMU	GeErMu	43.31	351	P	P	15 19 58.8	+0.6
GOMU				pP	pP	15 20 00.8	-3.8
GOMU				sP	sP	15 20 04.8	-2.4
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,60nm,4.6s						
GOMU				LR	LR		
	comp=Z,66nm,19.0s						
GOMU				LR	LR		
	comp=Z,170nm,18.4s						
GOMU				LR	LR		
	comp=Z,67nm,19.4s						
STKA	Stephens Creek	44.17	130	P	P	15 20 05.7	+0.7
	comp=Z,4.7nm,0.7s,baz=301,slow=10,SNR=9.8						
STKA	Stephens Creek	44.17	130	P	P	15 20 05.7	+0.7
	baz=44,SNR=4.1						
STKA	Stephens Creek	44.17	130	P	P	15 20 05.6	+0.7
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	Stephens Creek	44.17	130	P	P	15 20 05.6	+0.7
PMG	Port Moresby	44.24	97	LR	LR	15 41 58.7	
	comp=Z,88nm,18.8s,baz=282,slow=41						
PMG	Port Moresby	44.24	97	P	P	15 20 05.4	-0.3
PMG				pmax	pmax		
	comp=Z,17nm,0.9s						
PMG	Port Moresby	44.24	97	P	P	15 20 05.4	-0.3
PMG				IAmb	IAmb	15 20 16.4	
	comp=Z,17nm,0.9s						
QLP	Quilpie	44.29	121	P	P	15 20 07.5	+1.6
	baz=44,SNR=8.2						
HNS	HongShan	45.34	14	⇓P	P	15 20 14.6	+0.6
HNS				S	S	15 27 03.1	+10
HNS				pmax	pmax		
	comp=Z,12nm,0.7s						
HNS				LR	LR		
	comp=Z,380nm,16.7s						
HNS				LR	LR		
	comp=Z,310nm,17.2s						
HNS				LR	LR		
	comp=Z,260nm,14.2s						
GTA	Gaotai	45.97	357	⇑P	P	15 20 19.9	+0.8
GTA				pP	pP	15 20 24.7	-0.8
GTA				sP	sP	15 20 27.6	-0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,120nm,6.0s						
GTA				LR	LR		
	comp=Z,420nm,14.3s						
GTA				LR	LR		
	comp=Z,370nm,15.5s						
GTA				LR	LR		
	comp=Z,470nm,14.3s						
CMSA	Cobar Meteorol	47.22	127	P	P	15 20 30.3	+1.3
	baz=47,SNR=8.1						
JNU	Nakatsue	47.91	32	P	P	15 20 33.1	-1.2
HHC	Hu-ho-hao-te	48.06	9	eP	P	15 20 35.9	+0.5
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.8s						
HHC				LR	LR		
	comp=Z,470nm,14.9s						
HHC				LR	LR		
	comp=Z,230nm,16.3s						
HHC				LR	LR		
	comp=Z,490nm,14.1s						
BJT	Baijiatuau	48.18	14	P	P	15 20 35.7	-0.5
BJT				pmax	pmax		
	comp=Z,14nm,0.9s						
BJT	Baijiatuau	48.18	14	P	P	15 20 35.7	-0.5
BJT				IAmb	IAmb	15 20 37.7	
	comp=Z,14nm,0.9s						
BJI	Beijing	48.21	14	P	P	15 20 36.2	-0.2
BJI				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI				LR	LR		
	comp=Z,490nm,14.9s						
BJI				LR	LR		
	comp=Z,170nm,14.8s						
BJI				LR	LR		
	comp=Z,530nm,14.4s						
NIL	Nilore	48.81	327	P	P	15 20 41.0	-0.3
NIL				pmax	pmax		
	comp=Z,21nm,1.2s						
NIL	Nilore	48.81	327	P	P	15 20 41.0	-0.3
NIL				IAmb	IAmb	15 20 50.2	
	comp=Z,22nm,1.2s						
KSAR	Wonju Array Be	49.91	26	P	P	15 20 49.7	+0.2
KSAR	Wonju Array Be	49.91	26	P	P	15 20 49.7	+0.2
KSRS	Korea Array	49.94	26	P	P	15 20 50.0	+0.2
	comp=Z,10nm,0.8s,baz=224,slow=7.7,SNR=32						
KS19	Wonju Array Si	49.95	26	P	P	15 20 49.9	+0.1
KS19				IAmb	IAmb	15 20 51.1	
	comp=Z,14nm,0.8s						
KBL	Kabul	51.82	325	P	P	15 21 03.1	-1.1
KBL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBL	Kabul	51.82	325	P	P	15 21 03.1	-1.1
WMQ	Urumqi	52.07	346	eP	P	15 21 07.2	+1.4
WMQ				pP	pP	15 21 12.3	0.0
WMQ				sP	sP	15 21 15.0	+0.2
WMQ				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,53nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,81nm,3.7s						
KSH	**Kashi**	**52.16**	**334**	P	**P**	**15 21 05.6**	**-1.0**
KSH				sP	pP	15 21 12.6	-0.2
KSH				S	**S**	**15 28 29.0**	**-0.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CN2	**Changchun**	**54.40**	**20**	*e*P	**P**	**15 21 20.9**	**-1.9**
CN2				*e*PP	**PP**	**15 23 24.8**	**-0.3**
CN2				*e*S	**S**	**15 28 59.9**	**+0.1**
CN2				*e*SS	**SS**	**15 32 42.0**	**-0.5**
CN2				pmax	pmax		
	comp=Z,20nm,1.6s						
CN2				LR	LR		
	comp=Z,310nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,320nm,16.0s						
GAR	**Garm**	**54.42**	**329**	P	**P**	**15 21 22.0**	**-1.2**
GAR				IAmb	IAmb	15 21 31.4	
	comp=Z,9.7nm,1.0s						
SONM	**Songino Array**	**54.43**	**3**	P	**P**	**15 21 24.2**	**+1.1**
	comp=Z,9.3nm,0.9s,baz=179,slow=8.5,SNR=45						
SONM	**Songino Array**	**54.43**	**3**	P	**P**	**15 21 23.8**	**+0.7**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**54.43**	**3**	P	**P**	**15 21 23.8**	**+0.7**
SONM				IAmb	IAmb	15 21 28.7	
	comp=Z,8.0nm,0.8s						
MJAR	**Matsushiro Arr**	**54.49**	**35**	P	**P**	**15 21 19.7**	**-4.0**
	comp=Z,3.1nm,0.9s,baz=229,slow=7.7,SNR=5.3						
MJAR	**Matsushiro Arr**	**54.49**	**35**	P	**P**	**15 21 21.4**	**-2.3**
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MJAR	**Matsushiro Arr**	**54.49**	**35**	P	**P**	**15 21 21.4**	**-2.3**
ULN	**Ulaanbaatar**	**54.50**	**4**	*ce*P	**P**	**15 21 24.4**	**+0.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**54.50**	**4**	P	**P**	**15 21 23.8**	**+0.1**
ULN				IAmb	IAmb	15 21 33.8	
	comp=Z,8.1nm,0.9s						
CHGR	**Chuyangaron**	**54.76**	**328**	P	**P**	**15 21 24.4**	**-1.2**
CHGR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHGR	**Chuyangaron**	**54.76**	**328**	P	**P**	**15 21 24.4**	**-1.2**
CHGR				IAmb	IAmb	15 21 34.0	
	comp=Z,8.4nm,0.9s						
AAK	**Ala-Archa**	**55.36**	**335**	P	**P**	**15 21 30.3**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=183,slow=4.2,SNR=4.8						
AAK	**Ala-Archa**	**55.36**	**335**	*ce*P	**P**	**15 21 29.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AAK	**Ala-Archa**	**55.36**	**335**	P	**P**	**15 21 30.6**	**+0.6**
EKS2	**Erkin-Say**	**55.68**	**335**	P	**P**	**15 21 33.8**	**+1.5**
EKS2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USP	**Ospenovka**	**55.88**	**336**	P	**P**	**15 21 35.5**	**+1.9**
USP				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MK31	**Makanchi Array**	**56.24**	**343**	P	**P**	**15 21 36.2**	**+0.1**
MK31				pmax	pmax		
	comp=Z,19nm,1.1s						
MK31	**Makanchi Array**	**56.24**	**343**	P	**P**	**15 21 36.2**	**+0.1**
MK31				IAmb	IAmb	15 21 46.0	
	comp=Z,19nm,1.1s						
MKAR	**Makanchi Array**	**56.24**	**343**	P	**P**	**15 21 36.3**	**+0.3**
	comp=Z,12nm,0.9s,baz=149,slow=7.9,SNR=98						
MKAR	**Makanchi Array**	**56.24**	**343**	*i* P	**P**	**15 21 36.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,12nm,0.9s						
MKAR	**Makanchi Array**	**56.24**	**343**	P	**P**	**15 21 36.0**	**0.0**
MAKZ	**Makanchi**	**56.34**	**343**	P	**P**	**15 21 36.2**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.2s						
MAKZ	**Makanchi**	**56.34**	**343**	P	**P**	**15 21 36.2**	**-0.6**
MAKZ				IAmb	IAmb	15 21 46.1	
	comp=Z,14nm,1.2s						
BNX	**BinXian**	**56.77**	**21**	⇓P	**P**	**15 21 40.2**	**+0.4**
BNX				pmax	pmax		
	comp=Z,87nm,1.2s						
BNX				pmax	pmax		
	comp=Z,220nm,5.0s						
ZAK	**Zakamensk**	**56.88**	**1**	*e*P	**P**	**15 21 38.5**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**57.23**	**25**	P	**P**	**15 21 43.1**	**0.0**
	comp=Z,16nm,0.8s,baz=219,slow=6.1,SNR=26						
USRK	**Ussuriysk Ar.**	**57.23**	**25**	P	**P**	**15 21 42.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**57.23**	**25**	P	**P**	**15 21 42.8**	**-0.3**
KKAR	**Karatay Array**	**57.48**	**333**	P	**P**	**15 21 43.7**	**-1.2**
KKAR	**Karatay Array**	**57.48**	**333**	P	**P**	**15 21 43.7**	**-1.2**
GEYT	**Alibeck**	**60.67**	**321**	P	**P**	**15 22 07.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=202,slow=43,SNR=1.6						
GEYT	**Alibeck**	**60.67**	**321**	P	**P**	**15 22 04.7**	**-2.5**
KURK	**Kurchatov**	**60.83**	**343**	*ce*P	**P**	**15 22 08.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s						
KURK	**Kurchatov**	**60.83**	**343**	P	**P**	**15 22 07.5**	**-0.4**
KLR	**Kul'dur**	**61.29**	**21**	*ce*P	**P**	**15 22 10.8**	**-0.3**
KLR				pmax	pmax		
	comp=Z,14nm,1.4s						
ZAA0	**Zalesovo Array**	**62.26**	**348**	P	**P**	**15 22 17.2**	**-0.3**
ZALV	**Zalesovo Beam**	**62.26**	**348**	P	**P**	**15 22 17.8**	**+0.3**
	comp=Z,33nm,0.9s,baz=159,slow=4.5,SNR=83						
ZALV	**Zalesovo Beam**	**62.26**	**348**	P	**P**	**15 22 17.3**	**-0.2**
ZEA	**Zeya**	**63.74**	**16**	*e*P	**P**	**15 22 27.9**	**+0.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**64.23**	**29**	*e*P	**P**	**15 22 30.4**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**64.23**	**29**	P	**P**	**15 22 29.5**	**-1.2**
GRNR	**Gornyy**	**64.30**	**23**	⇑*i*P	**P**	**15 22 31.4**	**+0.3**
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIBK	**Kibwezi**	**64.39**	**271**	P	**P**	**15 22 33.0**	**+0.4**
KMBO	**Kilima Mbogo**	**65.32**	**272**	P	**P**	**15 22 41.2**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=95,slow=5.3,SNR=1.8						
BRVK	**Borovoye**	**65.53**	**339**	*ce*P	**P**	**15 22 38.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**65.53**	**339**	P	**P**	**15 22 38.8**	**-0.3**
BRVK				IAmb	IAmb	15 22 48.2	
	comp=Z,7.7nm,1.1s						
MAW	**Mawson**	**66.39**	**195**	LR	LR	15 45 27.1	
	comp=Z,96nm,19.6s,baz=62,slow=30						
ABKAR	**Akbulak array**	**66.97**	**331**	P	**P**	**15 22 48.1**	**-0.3**
ABKAR	**Akbulak array**	**66.97**	**331**	P	**P**	**15 22 48.4**	**0.0**
ABKAR				IAmb	IAmb	15 22 57.7	
	comp=Z,21nm,1.0s						
YAK	**Yakutsk**	**71.69**	**13**	*c i*P	**P**	**15 23 16.7**	**-0.7**
YAK				*e*		15 23 35.7	
YAK				*e*		15 25 55.6	
YAK				*e*PPP	PPP	15 27 38.9	
YAK				*e*S	**S**	**15 32 36.8**	**+1.3**
YAK				*e**SS	**SKiKP**	**15 32 57.5**	**+2.8**
YAK				*e*		15 33 23.7	
YAK				*e*SS	**SS**	**15 37 08.8**	**-2.9**
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,76nm,3.8s						
YAK				pmax	pmax		
	comp=N,138nm,4.9s						
YAK				pmax	pmax		
	comp=E,88nm,4.7s						
YAK				smax	smax		
	comp=E,141nm,5.8s						
YAK				smax	smax		
	comp=N,53nm,4.7s						
YAK	**Yakutsk**	**71.69**	**13**	P	**P**	**15 23 16.6**	**-0.7**
SVE	**Sverdlovsk**	**71.98**	**337**	*e*P	**P**	**15 23 20.2**	**+1.0**
SVE				pmax	pmax		
	comp=Z,26nm,1.3s						
ZEI	**Tsey**	**72.43**	**319**	*e*P	**P**	**15 23 24.6**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU	**Arti**	**72.52**	**336**	*c i*P	**P**	**15 23 22.8**	**+0.4**
ARU				S	**S**	**15 32 51.3**	**+6.1**
ARU				SS	**SS**	**15 37 27.8**	**+3.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**72.52**	**336**	P	**P**	**15 23 21.9**	**-0.5**
ARU				IAmb	IAmb	15 23 32.0	
	comp=Z,19nm,1.1s						
MATP	**Matopo**	**72.75**	**251**	P	**P**	**15 23 25.7**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=78,slow=5.3,SNR=4.1						
KBZ	**Khabaz**	**73.51**	**319**	P	**P**	**15 23 29.4**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=157,slow=5.9,SNR=9.9						
KBZ	**Khabaz**	**73.51**	**319**	*ce*P	**P**	**15 23 28.8**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**73.75**	**319**	*e*P	**P**	**15 23 27.6**	**-2.5**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SYO	**Syowa Base**	**74.26**	**199**	⇑*e*P	**P**	**15 23 33.8**	**+1.3**
LBTB	**Lobatse**	**75.37**	**246**	LR	LR	15 49 24.8	
	comp=Z,52nm,20.5s,baz=147,slow=30						
PETK	**Petropavlovsk-**	**75.57**	**31**	P	**P**	**15 23 39.2**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=226,slow=3.8,SNR=6.3						
PET	**Petropavlovsk**	**76.01**	**31**	*e*P	**P**	**15 23 42.7**	**-0.1**
PET				pmax	pmax		
	comp=Z,34nm,1.0s						
PET	**Petropavlovsk**	**76.01**	**31**	P	**P**	**15 23 42.4**	**-0.5**
MA2	**Magadan**	**76.32**	**23**	*ce*P	**P**	**15 23 45.2**	**+0.7**
MA2				pmax	pmax		
	comp=Z,29nm,0.9s						
MA2	**Magadan**	**76.32**	**23**	P	**P**	**15 23 44.7**	**+0.2**
NRIK	**Noril'sk**	**76.60**	**355**	P	**P**	**15 23 45.7**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=160,slow=4.6,SNR=6.5						
NRIK	**Noril'sk**	**76.60**	**355**	*ce*P	**P**	**15 23 46.1**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,12nm,1.3s						
NRIK	**Noril'sk**	**76.60**	**355**	P	**P**	**15 23 45.8**	**0.0**
NRIK				IAmb	IAmb	15 23 55.0	
	comp=Z,15nm,1.1s						
ANN	**Anapa**	**77.52**	**319**	*e*P	**P**	**15 23 49.3**	**-2.2**
ANN				*e*S	**S**	**15 33 40.9**	**-0.5**
ANN				*e*SSS	SSS	15 42 04.3	
ANN				pmax	pmax		
	comp=Z,14nm,0.7s						
VRH	**Novokhopyorsk**	**77.62**	**326**	*e*P	**P**	**15 23 51.1**	**-0.9**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIRV	**Kirov**	**77.69**	**335**	*ce*P	**P**	**15 23 53.4**	**+1.2**
BR131	**Keskin Array S**	**78.36**	**313**	P	**P**	**15 23 55.7**	**-0.8**
BR131				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BR131	**Keskin Array S**	**78.36**	**313**	P	**P**	**15 23 55.7**	**-0.8**
BRTR	**Keskin Array B**	**78.36**	**313**	P	**P**	**15 23 56.2**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=111,slow=6.8,SNR=7.1						
BRTR	**Keskin Array B**	**78.36**	**313**	*i* P	**P**	**15 23 56.7**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SUR	**Sutherland**	**79.45**	**238**	LR	LR	15 58 37.8	
	comp=Z,58nm,18.1s,baz=156,slow=35						
LPSR	**Galich'ya Gora**	**79.80**	**326**	*e*P	**P**	**15 24 03.6**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIXI	**Tiksi**	**80.12**	**8**	*ce*P	**P**	**15 24 04.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TIXI	**Tiksi**	**80.12**	**8**	P	**P**	**15 24 03.8**	**-1.5**
TIXI				IAmb	IAmb	15 24 13.8	
	comp=Z,10nm,1.1s						
PRGR	**Permogore**	**80.98**	**336**	*e*P	**P**	**15 24 09.7**	**-0.4**
PRGR				pmax	pmax		
	comp=Z,38nm,0.9s						
MOS	**Moscow**	**81.82**	**329**	*e*P	P	15 24 22.1	+7.5
OBN	**Obninsk**	**82.11**	**328**	⇓*e*P	**P**	**15 24 17.3**	**+1.1**
OBN				*e*		15 24 24.6	
OBN				pmax	pmax		
	comp=Z,14nm,1.0s						
OBN				MLR	MLR		
	comp=Z,82nm,17.0s						
KLMR	**Klimovskoe**	**83.15**	**334**	*e*P	**P**	**15 24 21.1**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,35nm,1.3s						
KLMR	**Klimovskoe**	**83.15**	**334**	*e*P	**P**	**15 24 21.2**	**-0.3**
KLMR				AMP		15 24 32.1	
	comp=Z,35nm,1.3s						
IDI	**Anoyia**	**83.86**	**307**	LR	LR	16 05 12.2	
	comp=Z,16nm,19.0s,baz=89,slow=38						
AKASG	**Malin Array Be**	**84.74**	**322**	P	**P**	**15 24 29.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=89,slow=4.3,SNR=7.7						
AKBB	**Malin Array Si**	**84.74**	**322**	*ce*P	**P**	**15 24 29.5**	**-0.3**
MLR	**Muntele Rosu**	**85.45**	**317**	P	**P**	**15 24 34.1**	**+0.4**
MLR				pmax	pmax		
	comp=Z,14nm,1.1s						
MLR	**Muntele Rosu**	**85.45**	**317**	P	**P**	**15 24 34.1**	**+0.4**
MLR				IAmb	IAmb	15 24 43.8	
	comp=Z,14nm,1.1s						
BUR08	**Bucovina Ar. S**	**86.47**	**319**	P	**P**	**15 24 39.2**	**+0.5**
BUR08				IAmb	IAmb	15 24 57.4	
	comp=Z,9.6nm,1.2s						
BILL	**Bilibino**	**86.70**	**20**	⇑*i*P	**P**	**15 24 39.5**	**+0.3**
BILL				*e*		15 24 55.5	
BILL						15 27 59.0	
BILL				*e*S	**S**	**15 35 19.2**	**+4.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**86.70**	**20**	P	**P**	**15 24 39.3**	**+0.1**
IDID	**Didziasalis**	**87.48**	**326**	*e*P	**P**	**15 24 43.9**	**+0.6**
IIGN	**Ignalina**	**87.78**	**326**	*e*P	**P**	**15 24 45.1**	**+0.4**
SNAA	**Sanae**	**88.45**	**198**	P	**P**	**15 24 48.6**	**+0.9**
SNAA				pmax	pmax		
	comp=Z,21nm,1.5s						
SNAA	**Sanae**	**88.45**	**198**	P	**P**	**15 24 48.6**	**+0.9**
SUW	**Suwalki**	**89.17**	**325**	*e*P	**P**	**15 24 51.5**	**+0.2**
FINES	**FINESS Array B**	**89.44**	**332**	P	**P**	**15 24 53.0**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=108,slow=6.2,SNR=6.6						
FINES	**FINESS Array B**	**89.44**	**332**	*i* P	**P**	**15 24 54.5**	**+2.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**89.44**	**332**	P	**P**	**15 24 52.7**	**+0.3**
ARCES	**ARCESS Array B**	**91.75**	**340**	LR	LR	16 12 57.8	
	comp=Z,107nm,18.5s,baz=101,slow=40						
YKA	**Yellowknife Ar**	**118.08**	**19**	PKP	**PKPdf**	**15 30 41.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=294,slow=1.7,SNR=3.2						
TXAR	**Lajitas Array**	**146.60**	**44**	PKPbc	**PKPab**	**15 31 39.0**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=295,slow=1.8,SNR=37						
SIV	**San Ignacio**	**152.20**	**216**	PKPbc	**PKiKP**	**15 31 53.5**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=269,slow=1.8,SNR=4.1						
SIV				PKPab	**sPKPbc**	**15 32 01.5**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=124,slow=3.9,SNR=6.4						

IDC ***05*** *15:18:15.6±0.9, 7°.74S×106°.15E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.8/44, mbtmp4.1/13, ML4.8/1, Error ellipse: s-maj=26.7km s-min=14.7km az=44.0*
DJA ***05*** *15:18:20.6±0.4, 8°S±5°×10°6E±°, h10km, M4.4/19, mb4.6/6, mB5.1/1, MLv4.3/19, Mw(mB)4.4/1*
NEIC ***05*** *15:18:27.5±1.1, 7°.2S±0°.1×106°.81E±0°.08, h78km±11km, mb4.3/14, Error ellipse: s-maj=17.8km s-min=10.0km az=208.0*
ISC 05 15:18:22.0±0.7**, 7°.87S**±0°.09×**106°.35E**±0°.07**, h50**km**, n70, σ1§73**/67**, mb4.1**/20**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.89**	**13**	P	**Pn**	**15 18 37.5**	**-0.7**
CNJI	**Cibinong**	**0.96**	**54**	P	**Pn**	**15 18 37.1**	**-2.0**
DBJI	**Dramaga**	**1.37**	**17**	P	**Pn**	**15 18 45.1**	**+0.3**
CGJI	**Cibinong**	**1.41**	**332**	P	**Pn**	**15 18 46.5**	**+1.2**
LEM	**Lembang**	**1.63**	**51**	Pn	**Pn**	**15 18 48.5**	**-0.1**
	288nm,0.3s,baz=354,slow=6.8,SNR=146						
LEM				Sn	**Sn**	**15 19 11.1**	**+2.6**
	504nm,0.3s,baz=352,slow=23,SNR=6.5						
LEM	**Lembang**	**1.63**	**51**	P	**Pn**	**15 18 48.4**	**-0.1**
TNG	**Tangerang**	**1.72**	**10**	P	**Pn**	**15 18 50.8**	**+1.3**
CMJI	**Cimerak**	**2.08**	**88**	P	**Pn**	**15 18 52.9**	**-1.6**
JCJI	**Jatiwangi**	**2.35**	**54**	P	**Pn**	**15 18 56.8**	**-1.4**
KPJI	**Karang Pucung**	**2.62**	**78**	P	**Pn**	**15 19 01.7**	**-0.1**
BLSI	**Bandar Lampung**	**2.72**	**336**	P	**Pn**	**15 19 05.4**	**+2.1**
KASI	**Kota Agung**	**2.97**	**322**	P	**Pn**	**15 19 09.2**	**+2.5**
KLSI		**3.55**	**333**	P	**Pn**	**15 19 17.8**	**+3.2**
LWLI	**Liwa**	**3.64**	**321**	P	**Pn**	**15 19 19.1**	**+3.2**
YOGI	**Yogyakarta**	**3.91**	**89**	P	**Pn**	**15 19 19.4**	**-0.2**
MDSI	**Maura Dua**	**4.00**	**327**	P	**Pn**	**15 19 23.7**	**+2.9**
UGM	**Wanagama**	**4.14**	**91**		**Pn**	**15 19 21.8**	**-0.9**
UGM	**Wanagama**	**4.14**	**91**	P	**Pn**	**15 19 21.8**	**-0.9**
SMRI	**Semarang**	**4.14**	**79**	Pn	**Pn**	**15 19 23.6**	**+0.8**
SMRI	**Semarang**	**4.14**	**79**	P	**Pn**	**15 19 22.9**	**+0.2**
PCJI	**Pacitan**	**4.79**	**94**	P	**Pn**	**15 19 31.0**	**-0.7**
MNAI	**Manna**	**4.85**	**316**	Pn	**Pn**	**15 19 35.3**	**+2.7**
MNAI	**Manna**	**4.85**	**316**	P	**Pn**	**15 19 34.9**	**+2.3**
TPI	**Tanjungpandan**	**5.25**	**14**	P	**Pn**	**15 19 39.2**	**+1.3**
	13nm,0.6s						
PWJI	**Pagerwojo**	**5.41**	**92**	P	**Pn**	**15 19 39.4**	**-0.7**
	0.5nm93nm,0.7s						
KSI	**Kapahiang**	**5.62**	**318**	P	**Pn**	**15 19 45.5**	**+2.4**
MASI	**Maura Aman, Be**	**6.23**	**319**	P	**Pn**	**15 19 54.1**	**+2.6**
	0.5nm54nm,1.1s						
GMJI	**Gumukmas**	**7.04**	**94**	P	**Pn**	**15 20 02.2**	**-0.3**
	0.1nm20nm,0.8s						
JAGI	**Jajag, Banyuwa**	**7.75**	**95**		**Pn**	**15 20 13.7**	**+1.4**
JAGI	**Jajag, Banyuwa**	**7.75**	**95**	P	**Pn**	**15 20 13.7**	**+1.4**
	0.3nm36nm,1.1s						
PPSI	**Pulau Pagai**	**8.10**	**308**	P	**Pn**	**15 20 18.0**	**+0.9**
	105nm,0.6s						
IGBI	**Denpasar**	**8.76**	**97**	P	**Pn**	**15 20 25.7**	**-0.4**
	926nm33nm,1.3s						
SRBI	**Singaraja**	**8.78**	**92**	P	**Pn**	**15 20 26.3**	**-0.1**
GSI	**Gunungsitoli**	**12.64**	**316**		**Pn**	**15 21 15.9**	**-3.3**
BATI	**Baumata**	**17.26**	**99**	P	**P**	**15 22 22.9**	**+2.3**
	3.5nm,0.3s,baz=194,slow=4.2,SNR=6.5						
BATI				S	**S**	**15 25 38.8**	**+1.0**
	1.1nm,0.3s,baz=84,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**21.35**	**120**	P	**P**	**15 23 08.6**	**+3.5**
	5.6nm,0.9s,baz=300,slow=9.5,SNR=3.6						
SAUI	**Saumlaki**	**24.71**	**92**	P	**P**	**15 23 36.6**	**-2.2**
CMAR	**Chiang Mai Arr**	**27.16**	**344**	P	**P**	**15 23 58.9**	**-2.1**
	0.5nm,0.5s,baz=181,slow=8.4,SNR=6.2						
H01W3	**Cape Leeuwin H**	**27.82**	**166**	T	T	15 53 44.1	
	baz=342,slow=78,SNR=4.8						
H01W1	**Cape Leeuwin H**	**27.83**	**166**	T	T	15 53 44.2	
	baz=342,slow=78,SNR=4.5						
H01W2	**Cape Leeuwin H**	**27.83**	**166**	T	T	15 53 44.4	
	baz=342,slow=78,SNR=4.7						
WB0	**Warramunga Arr**	**29.63**	**116**	P	**P**	**15 24 24.2**	**+1.2**
WB0				IAmb	IAmb	15 24 38.2	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**29.64**	**117**	P	**P**	**15 24 23.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=289,slow=11,SNR=11						
WRA	**Warramunga Arr**	**29.64**	**117**	P	**P**	**15 24 24.5**	**+1.4**
WRAB	**Tennant Creek**	**29.65**	**117**	P	**P**	**15 24 24.4**	**+1.3**
WRAB				IAmb	IAmb	15 24 32.4	
	comp=Z,7.8nm,1.3s						
WB2	**Warramunga Arr**	**29.65**	**117**	P	**P**	**15 24 24.2**	**+1.1**
WB2				IAmb	IAmb	15 24 41.0	
	comp=Z,3.3nm,0.8s						
WR0	**Warramunga Arr**	**29.83**	**117**	P	**P**	**15 24 25.6**	**+0.9**
WR0				IAmb	IAmb	15 24 47.8	
	comp=Z,5.2nm,1.2s						
ASAR	**Alice Springs**	**30.72**	**124**	P	**P**	**15 24 34.5**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=295,slow=8.4,SNR=8.8						
H08S2	**Diego Garcia H**	**33.54**	**268**	T	T	16 00 26.3	
	baz=92,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**33.55**	**268**	T	T	16 00 27.1	
	baz=92,slow=76,SNR=60						
H08S1	**Diego Carcia H**	**33.56**	**268**	T	T	16 00 26.2	
	baz=92,slow=76,SNR=56						
STKA	**Stephens Creek**	**40.55**	**131**	P	**P**	**15 25 58.2**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=314,slow=9.0,SNR=5.7						
STKA	**Stephens Creek**	**40.55**	**131**	P	**P**	**15 25 59.1**	**+2.5**
SONM	**Songino Array**	**55.47**	**0**	P	**P**	**15 27 51.8**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=178,slow=9.5,SNR=12						
SONM				PcP	**PcP**	**15 28 52.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=182,slow=4.2,SNR=11						
USA0B	**Ussuriysk Arra**	**56.78**	**22**	P	**P**	**15 27 57.3**	**-3.7**
USRK	**Ussuriysk Ar.**	**56.78**	**22**	P	**P**	**15 27 59.4**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=184,slow=5.4,SNR=7.6						
GAR	**Garm**	**57.39**	**327**	P	**P**	**15 28 05.0**	**-0.5**
GAR				IAmb	IAmb	15 28 06.6	
	comp=Z,3.5nm,0.7s						
CHGR	**Chuyangaron**	**57.77**	**326**	P	**P**	**15 28 07.0**	**-1.3**
MK31	**Makanchi Array**	**58.49**	**341**	P	**P**	**15 28 12.0**	**-1.0**
MKAR	**Makanchi Array**	**58.49**	**341**	P	**P**	**15 28 11.8**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=154,slow=8.4,SNR=23						
MKAR	**Makanchi Array**	**58.49**	**341**	P	**P**	**15 28 11.6**	**-1.5**
KURK	**Kurchatov**	**63.10**	**341**	P	**P**	**15 28 43.1**	**-1.2**
KURK				IAmb	IAmb	15 28 45.1	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**64.22**	**346**	P	**P**	**15 28 49.3**	**-2.2**
	comp=Z,1.3nm,0.4s,baz=158,slow=6.0,SNR=9.9						
BRVK	**Borovoye**	**67.98**	**337**	P	**P**	**15 29 14.5**	**-1.3**
BRVK				IAmb	IAmb	15 29 16.8	
	comp=Z,4.0nm,0.3s						
ABKAR	**Akbulak array**	**69.83**	**330**	P	**P**	**15 29 27.7**	**+0.4**
ABKAR	**Akbulak array**	**69.83**	**330**	P	**P**	**15 29 27.8**	**+0.4**
ABKAR				IAmb	IAmb	15 29 28.8	
	comp=Z,5.6nm,0.6s						
BRTR	**Keskin Array B**	**81.93**	**312**	P	**P**	**15 30 37.8**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=146,slow=8.4,SNR=5.1						
FINES	**FINESS Array B**	**92.23**	**332**	P	**P**	**15 31 27.8**	**+1.6**
	comp=Z,4.8nm,1.2s,baz=72,slow=4.5,SNR=4.0						
ARCES	**ARCESS Array B**	**94.13**	**340**	P	**P**	**15 31 34.9**	**0.0**
	comp=Z,2.6nm,0.9s,baz=103,slow=7.5,SNR=5.1						
TXAR	**Lajitas Array**	**144.62**	**49**	PKP	**PKiKP**	**15 37 55.8**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=236,slow=1.2,SNR=6.0						

IDC ***05*** *15:35:36.8±1.3, 40°.51N×72°.80E, h0km, mb3.4/3, mb1 3.4/8, mb1mx3.2/59, mbtmp3.3/8, ML2.6/4, Error ellipse: s-maj=29.9km s-min=17.7km az=112.0*
ISU ***05*** *15:35:40, 40°.81N×72°.82E, h10km*
KRNET ***05*** *15:35:40.9±0.1, 40°.84N×72°.73E, h20km, mb4.0*
SOME ***05*** *15:35:41.7, 40°.88N×72°.80E, h15km*
NNC ***05*** *15:35:43.0±0.9, 40°.98N×72°.74E, h5km±6km, mb4.2, mpv4.0, Error ellipse: s-maj=7.6km s-min=3.1km az=3.0*
ISC 05 15:35:38.9±1.1**, 40°.85N**±0°.02×**72°.80E**±0°.02**, h10**km±9km**, n93, σ1§47**/131**, mb3.4**/3**, 29C-27D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.33**	**182**	⇑*i*P	**Pb**	**15 35 47.7**	**+0.8**
	baz=72						
OHH				⇑*i*S	**Sb**	**15 35 52.3**	**+0.1**
	baz=72						
OHH	**Osh**	**0.33**	**182**	P	**Pb**	**15 35 47.0**	**+0.1**
OHH				S	**Sb**	**15 35 53.0**	**+0.8**
ANR	**Andizhan**	**0.35**	**254**	*i* P	**Pb**	**15 35 48.0**	**+0.8**
ANR				*i* S	**Sb**	**15 35 54.0**	**+1.3**
FRG	**Fergana**	**0.91**	**239**	*i* P	**Pn**	**15 35 58.0**	**+0.2**
FRG				S	**Sn**	**15 36 10.0**	**-0.9**
ARK	**Arkit**	**1.14**	**327**	⇑*i*P	**Pg**	**15 36 01.7**	**+0.9**
	baz=30						
ARK				⇑*i*S	**Sn**	**15 36 16.8**	**+0.1**
	baz=30						
TRKS	**Terek-Say**	**1.42**	**299**	⇓*i*P	**Pb**	**15 36 05.4**	**-0.3**
	baz=99						
TRKS				⇓*i*S	**Sb**	**15 36 23.4**	**-0.5**
	baz=99						
MINT	**Mingtut**	**1.44**	**255**	P	**Pg**	**15 36 07.0**	**+0.4**
AML	**Almayashu**	**1.45**	**27**	P	**Pg**	**15 36 08.3**	**+1.5**
	SNR=1205						
ARLS	**Aral**	**1.53**	**48**	⇓*i*P	**Pg**	**15 36 09.6**	**+1.3**
	baz=49						
ARLS				⇓*i*S	**Sg**	**15 36 30.5**	**+2.4**
	baz=49						
DRK	**Karamyk**	**1.57**	**210**	⇑*i*P	**Pg**	**15 36 08.9**	**-0.1**
	baz=8.0						
DRK				⇑*i*S	**Sg**	**15 36 28.9**	**-0.5**
	baz=8.0						
BTK	**Batken**	**1.71**	**243**	⇑*i*P	**Pb**	**15 36 10.7**	**+0.3**
	baz=43						
BTK				⇑*i*S	**Sg**	**15 36 32.6**	**-1.2**
	baz=43						
MRKS	**Merke**	**1.92**	**9**	*e*P	**Pg**	**15 36 17.7**	**+1.9**
	152nm,0.1s						
MRKS				*e*S	**Sg**	**15 36 43.6**	**+3.0**
	1μm,0.4s						
MRKS	**Merke**	**1.92**	**9**	Pg	**Pg**	**15 36 17.7**	**+1.9**
	152nm,0.1s						
MRKS				Lg	Lg	15 36 43.6	
	1μm,0.4s						
EKS2	**Erkin-Say**	**1.95**	**22**	P	**Pg**	**15 36 16.3**	**-0.1**
	SNR=122						
EKS2	**Erkin-Say**	**1.95**	**22**	⇓*i*P	**Pg**	**15 36 15.8**	**-0.6**
	baz=23						
EKS2				⇓*i*S	**Sg**	**15 36 41.1**	**-0.6**
	baz=23						
AAK	**Ala-Archa**	**2.19**	**35**	Pn	**Pg**	**15 36 20.3**	**-0.6**
	24nm,0.3s,baz=182,slow=8.9,SNR=166						
AAK				Sn	**Sg**	**15 36 50.8**	**+1.5**
	31nm,0.3s,baz=228,slow=6.0,SNR=7.4						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CHMG	Chimgan	2.22	289	iP	Pg	15 36 20.0	-1.4
CHMG				S	Sg	15 36 49.0	-1.2
CHRV	Charvak	2.29	291	P	Pg	15 36 22.0	-0.8
CHRV				S	Sg	15 36 51.0	-1.4
DZA	Taraz	2.32	332	eP	Pg	15 36 23.1	-0.2
	375nm,0.2s						
DZA				eS	Sg	15 36 53.0	-0.4
	799nm,0.2s						
DZA	Taraz	2.32	332	Pg	Pg	15 36 23.1	-0.2
	375nm,0.2s						
DZA				Lg	Lg	15 36 52.9	
	799nm,0.2s						
FRU1	Bishkek	2.39	34	⇓iP	Pb	15 36 22.1	0.0
	baz=35						
FRU1				⇓iS	Sb	15 36 52.1	+0.5
	baz=35						
CHMS	Chumysh	2.59	34	P	Pb	15 36 25.6	0.0
	SNR=20						
CHMS	Chumysh	2.59	34	⇓iP	Pb	15 36 24.8	-0.7
	baz=34						
CHMS				⇓iS	Sb	15 36 56.7	-0.8
	baz=34						
GAR	Garm	2.66	227	⇑iP	Pb	15 36 24.5	-2.1
	baz=26						
GAR				⇑iS	Sb	15 36 56.1	-3.2
	baz=26						
TAS	Tashkent	2.69	281	⇑iP	Pb	15 36 24.9	-2.3
	baz=82						
TAS				⇑iS	Sb	15 36 56.8	-3.4
	baz=82						
USP	Ospenovka	2.73	27	P	Pb	15 36 27.1	-0.7
	SNR=7.4						
USP	Ospenovka	2.73	27	⇓iP	Pb	15 36 26.5	-1.3
	baz=28						
USP				⇓iS	Sb	15 36 59.8	-1.5
	baz=28						
KK02	Karatay Array	2.83	324	⇓Pn	Pb	15 36 26.4	-3.1
	2.6nm,0.2s						
KK02				⇑Pg	Pg	15 36 31.6	-1.5
	44nm,0.5s						
KK02				⇓Lg	Lg	15 37 07.5	
	68nm,0.4s						
BOOM	Boomskoye usch	2.87	54	⇑iP	Pb	15 36 28.8	-1.5
	baz=54						
BOOM				⇑iS	Sb	15 37 03.8	-1.7
	baz=54						
SGDS	Sogindy	2.94	27	eP	Pg	15 36 34.8	-0.4
	25nm,0.3s						
SGDS				eS	Sg	15 37 13.0	-0.2
	410nm,0.4s						
SGDS	Sogindy	2.94	27	Pg	Pg	15 36 34.8	-0.4
	25nm,0.3s						
SGDS				Lg	Lg	15 37 13.0	
	410nm,0.4s						
ULHL	Ulahol	2.94	61	P	Pb	15 36 31.0	-0.4
	SNR=7.1						
ULHL	Ulahol	2.94	61	⇓iP	Pb	15 36 29.9	-1.6
	baz=61						
ULHL				⇓iS	Sb	15 37 05.5	-2.0
	baz=61						
TKM2	Tokmak 2	2.94	44	P	Pb	15 36 30.4	-1.1
	SNR=15						
TKM2	Tokmak 2	2.94	44	⇓iP	Pb	15 36 29.8	-1.7
	baz=45						
TKM2				⇓iS	Sb	15 37 05.4	-2.2
	baz=45						
TKM2	Tokmak 2	2.94	44	⇑Pn	Pb	15 36 29.9	-1.7
	3.4nm,0.3s						
TKM2				⇓Pg	Pg	15 36 34.9	-0.4
	14nm,0.3s						
TKM2				⇑Lg	Lg	15 37 13.2	
	54nm,0.4s						
BRLS	Borolday	3.10	316	eP	Pb	15 36 35.6	+1.4
	29nm,0.2s						
BRLS				eS	Sb	15 37 14.2	+2.1
	427nm,0.2s						
BRLS	Borolday	3.10	316	Pg	Pb	15 36 35.6	+1.4
	29nm,0.2s						
BRLS				Lg	Lg	15 37 14.3	
	427nm,0.2s						
DGS	Degeres	3.26	42	eP	Pg	15 36 40.5	-0.8
	39nm,0.3s						
DGS				eS	Sg	15 37 22.8	-0.8
	111nm,0.5s						
DGS	Degeres	3.26	42	Pg	Pg	15 36 40.5	-0.8
	39nm,0.3s						
DGS				Lg	Lg	15 37 22.8	
	111nm,0.5s						
KDJ	Kajisay	3.53	67	⇑iP	Pb	15 36 38.2	-3.4
	baz=68						
KDJ				⇑iS	Sb	15 37 20.0	-4.6
	baz=68						
MTBS	Maitube	3.54	49	eP	Pg	15 36 45.7	-0.9
	13nm,0.1s						
MTBS				eS	Sg	15 37 31.4	-1.1
	68nm,0.2s						
MTBS	Maitube	3.54	49	Pg	Pg	15 36 45.7	-0.9
	13nm,0.1s						
MTBS				Lg	Lg	15 37 31.4	
	68nm,0.2s						
KRBS	Karabastau	3.56	36	eP	Pg	15 36 46.1	-0.9
	19nm,0.4s						
KRBS				eS	Sg	15 37 32.3	-0.8
	89nm,0.2s						
KRBS	Karabastau	3.56	36	Pg	Pg	15 36 46.1	-0.9
	19nm,0.4s						
KRBS				Lg	Lg	15 37 32.3	
	89nm,0.2s						
CHGR	Chuyangaron	3.56	233	⇑iP	Pn	15 36 36.8	+2.5
	baz=33						
CHGR				⇑iS	Sn	15 37 17.7	+1.3
	baz=33						
TNSS	Tian-Shan	3.79	53	eP	Pg	15 36 51.1	-0.4
	16nm,0.2s						
TNSS				eS	Sg	15 37 41.0	+0.5
	27nm,0.4s						
TNSS	Tian-Shan	3.79	53	Pg	Pg	15 36 51.1	-0.4
	16nm,0.2s						
TNSS				Lg	Lg	15 37 41.0	
	27nm,0.4s						
KNDC	Almaty	3.90	51	⇓Pg	Pg	15 36 53.8	+0.1
	18nm,0.4s						
KNDC				⇑Lg	Lg	15 37 45.0	
	90nm,0.5s						
MDOK	Medeo	3.92	52	eP	Pg	15 36 53.5	-0.6
	15nm,0.4s						
MDOK				eS	Sg	15 37 45.0	+0.2
	37nm,0.5s						
MDOK	Medeo	3.92	52	⇑Pg	Pg	15 36 55.1	+1.1
	12nm,0.6s						
MDOK				⇓Lg	Lg	15 37 46.1	
	58nm,0.9s						
MDOK	Medeo	3.92	52	Pg	Pg	15 36 53.5	-0.6
	15nm,0.4s						
MDOK				Lg	Lg	15 37 45.0	
	37nm,0.5s						
KOTS	Kotyrbulak	4.00	52	eP	Pg	15 36 55.2	-0.3
	15nm,0.3s						
KOTS				eS	Sg	15 37 48.1	+0.8
	82nm,0.4s						
KOTS	Kotyrbulak	4.00	52	Pg	Pg	15 36 55.2	-0.3
	15nm,0.3s						
KOTS				Lg	Lg	15 37 48.1	
	82nm,0.4s						
KUU	Kurty	4.02	40	eP	Pg	15 36 54.6	-1.3
	9.8nm,0.2s						
KUU				eS	Sg	15 37 47.0	-0.8
	87nm,0.2s						
KUU	Kurty	4.02	40	Pg	Pg	15 36 54.6	-1.3
	9.8nm,0.2s						
KUU				Lg	Lg	15 37 47.0	
	87nm,0.2s						
KTBS	Karatobe	4.06	44	eP	Pg	15 36 55.2	-1.5
	6.4nm,0.3s						
KTBS				eS	Sg	15 37 48.1	-1.2
	88nm,0.4s						
KTBS	Karatobe	4.06	44	Pg	Pg	15 36 55.2	-1.5
	6.4nm,0.3s						
KTBS				Lg	Lg	15 37 48.1	
	88nm,0.4s						
ANVS	Anan'yevo	4.12	60	⇓iP	Pb	15 36 46.4	-5.2
	baz=61						
ANVS				⇓iS	Sn	15 37 33.9	+3.5
	baz=61						
BTLS	Baital	4.29	12	eP	Pg	15 36 59.6	-1.5
	24nm,0.3s						
BTLS				eS	Sg	15 37 55.5	-1.1
	66nm,0.3s						
BTLS	Baital	4.29	12	Pg	Pg	15 36 59.6	-1.5
	24nm,0.3s						
BTLS				Lg	Lg	15 37 55.4	
	66nm,0.3s						
CHKK	Chushkaly	4.32	45	eP	Pg	15 37 00.0	-1.6
	9.1nm,0.3s						
CHKK				eS	Sg	15 37 56.3	-1.3
	54nm,0.2s						
CHKK	Chushkaly	4.32	45	Pg	Pg	15 37 00.0	-1.6
	9.1nm,0.3s						
CHKK				Lg	Lg	15 37 56.3	
	54nm,0.2s						
SATY	Saty	4.73	60	eP	Pg	15 37 09.3	-0.2
	12nm,0.5s						
SATY				eS	Sg	15 38 13.0	+2.3
	33nm,0.3s						
SATY	Saty	4.73	60	Pg	Pg	15 37 09.3	-0.2
	12nm,0.5s						
SATY				Lg	Lg	15 38 13.0	
	33nm,0.3s						
ZHN	Zhinishke	4.80	59	eP	Pg	15 37 09.8	-0.9
	16nm,0.1s						
ZHN				eS	Sg	15 38 13.2	+0.3
	44nm,0.1s						
ZHN	Zhinishke	4.80	59	Pg	Pg	15 37 09.8	-0.9
	16nm,0.1s						
ZHN				Lg	Lg	15 38 13.2	
	44nm,0.1s						
ARXS	Arharly	5.01	46	eP	Pg	15 37 13.9	-0.9
	16nm,0.4s						
ARXS				eS	Sg	15 38 20.8	+1.1
	45nm,0.4s						
ARXS	Arharly	5.01	46	Pg	Pg	15 37 13.9	-0.9
	16nm,0.4s						
ARXS				Lg	Lg	15 38 20.8	
	45nm,0.4s						
KPKS	Kokpek	5.10	57	eP	Pg	15 37 16.2	-0.3
	9.9nm,0.3s						
KPKS				eS	Sg	15 38 24.2	+1.7
	48nm,0.2s						
UZB	Uzynbulak	5.17	62	eP	Pg	15 37 16.8	-1.2
	9.6nm,0.2s						
UZB				eS	Sg	15 38 25.2	+0.2
	18nm,0.3s						
UZB	Uzynbulak	5.17	62	Pg	Pg	15 37 16.8	-1.2
	9.6nm,0.2s						
UZB				Lg	Lg	15 38 25.2	
	18nm,0.3s						
BLB	Baldybastay	5.31	50	eP	Pg	15 37 18.2	-2.4
	25nm,0.5s						
BLB				eS	Sg	15 38 27.6	-1.7
	30nm,0.4s						
BLB	Baldybastay	5.31	50	Pg	Pg	15 37 18.2	-2.4
	25nm,0.5s						
BLB				Lg	Lg	15 38 27.6	
	30nm,0.4s						
SHLS	Shalkode	5.47	63	eP	Pg	15 37 29.3	+5.6
	6.2nm,0.4s						
SHLS				eS	Sg	15 38 46.6	+12
	19nm,0.3s						
SHLS	Shalkode	5.47	63	Pg	Pg	15 37 29.3	+5.6
	6.2nm,0.4s						
SHLS				Lg	Lg	15 38 46.6	
	19nm,0.3s						
PDGK	Podgornoye	5.56	61	Pg	Pg	15 37 25.3	-0.1
	1.8nm,0.4s						
PDGK				Lg	Lg	15 38 40.0	
	9.9nm,0.3s						
PDGK	Podgornoye	5.56	61	⇓Pg	Pg	15 37 25.5	+0.1
	5.2nm,0.7s						
PDGK				⇓Lg	Lg	15 38 38.5	
	17nm,0.6s						
KTMS	Ketmen	6.18	63	Pg	Pg	15 37 37.3	0.0
	3.6nm,0.4s						
KTMS				Lg	Lg	15 39 00.5	
	14nm,0.4s						
DJR	Jarkent	6.22	54	Pg	Pg	15 37 37.9	-0.1
	4.4nm,0.5s						
DJR				Lg	Lg	15 39 01.6	
	15nm,0.5s						
KAPS	Kapalarasan	6.53	45	Pg	Pg	15 37 42.7	-1.3
	5.0nm,0.4s						
KAPS				Lg	Lg	15 39 09.7	
	13nm,0.3s						
OTUK	Ortayu	7.40	358	⇑Pn	Pn	15 37 30.7	+3.8
	4.6nm,1.1s						
OTUK				⇑Pg	Pg	15 37 54.0	-6.5
	3.3nm,0.7s						
OTUK				⇑Lg	Lg	15 39 31.6	
	20nm,0.6s						
MAKZ	Makanchi	8.91	45	⇑Lg	Lg	15 40 21.7	
	4.9nm,1.1s						
MK31	Makanchi Array	9.07	46	Pn	Pn	15 37 55.8	+5.9
	1.9nm,0.8s,baz=231,slow=14,SNR=7.5						
MK31				⇑Lg	Lg	15 40 27.3	
	3.2nm,0.8s,baz=234,slow=28,SNR=4.7						
MKAR	Makanchi Array	9.07	46	Pn	Pn	15 37 54.4	+4.5
	0.0nm,0.3s,baz=227,slow=14,SNR=2.7						
MKAR				Lg	Lg	15 40 29.4	
	0.2nm,0.3s,baz=245,slow=24,SNR=2.4						
KURBB	Kurchatov Arra	10.56	20	Pn	Pn	15 38 14.6	+4.4
	0.0nm,0.3s,baz=216,slow=12,SNR=2.2						
KURBB				Lg	Lg	15 41 14.4	
	0.1nm,0.3s,baz=206,slow=28,SNR=5.9						
KURBB	Kurchatov Arra	10.56	20	⇑Pn	Pn	15 38 12.3	+2.1
	2.0nm,0.8s						
KURBB				⇓Lg	Lg	15 41 11.9	
	20nm,0.7s						
KURK	Kurchatov	10.67	20	⇓Lg	Lg	15 41 17.2	
	16nm,1.1s						
BVAR	Borovoye Array	12.29	353	Pn	Pn	15 38 37.0	+3.1
	0.1nm,0.3s,baz=174,slow=14,SNR=1.5						
BVAR				Lg	Lg	15 42 11.1	
	0.3nm,0.3s,baz=118,slow=22,SNR=5.2						
ZALV	Zalesovo Beam	15.39	28	Pn	P	15 39 20.5	-0.1
	0.1nm,0.3s,baz=213,slow=13,SNR=2.9						
TORD	Torodi Ar. Bea	67.26	268	P	P	15 46 32.4	-1.4
	0.3nm,0.4s,baz=34,slow=4.4,SNR=2.4						
WRA	Warramunga Arr	83.16	124	P	P	15 48 04.4	-0.8
	0.1nm,0.5s,baz=310,slow=6.6,SNR=1.4						
ASAR	Alice Springs	85.64	126	P	P	15 48 16.6	-1.2
	0.2nm,0.7s,baz=324,slow=4.6,SNR=5.6						

*BJI **05** 15:43:02.2±0.0, 14.°63N×122.°95E, h40km, mb4.4/55, mB4.8/34, Ms4.2/41, Ms7 4.1/40*

*MOS **05** 15:43:03.7±1.1, 14.°93N×122.°75E, h34km, mb5.0/47, Error ellipse: s-maj=9.2km s-min=5.5km az=114.9*

*MAN **05** 15:43:05.8, 14.°91N×122.°60E, h52km, mb5.5, ML4.5, MS4.8*

MAN INTENSITY III - JOMALIG, QUEZON; INTENSITY II - LABO & MERCEDES, CAMARINES NORTE.

*NEIC **05** 15:43:07.5±1.5, 15.°09N±0.°07×122.°71E±0.°10, h42km±6km, mb4.8/82, Error ellipse: s-maj=13.9km s-min=9.5km az=104.0*

*DJA **05** 15:43:09.7±1.0, 15°N±5°×12°2E±°, h68km±10km, M4.6/25, mB5.2/5, mb4.7/25, Mw(mB)4.5/5*

*IDC **05** 15:43:09.6±1.5, 14.°77N×122.°74E, h75km±13km, mb4.2/31, mb1 4.3/31, mb1mx4.1/53, mbtmp4.5/31, MS3.9/28, Ms1 3.9/28, ms1mx3.6/86, Error ellipse: s-maj=12.8km s-min=7.4km az=94.0*

ISC 05 15:43:06.5±0.4**, 14.°91N**±0.°03×**122.°70E**±0.°04**, h43**km±3km**, h42**km**:pP-P, n330,** σ1.s49/361**, mb4.8**/126**, MS4.0**/43**, 51C-19D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	1.02	194	⇑eP	Pn	15 43 23.4	-1.1
GQP				eS	Sn	15 43 37.5	-0.2
LQP	Lukban	1.38	235	⇓eP	Pn	15 43 28.6	-0.9
LQP				iS	Sn	15 43 48.4	+1.8
PCPH	Palayan	1.68	293	⇑eP	Pn	15 43 32.0	-1.5
PCPH				eS	Sn	15 43 52.8	-1.1
TGY	Tagaytay City	1.89	245	P	Pn	15 43 38.0	+1.6
	441nm,0.3s,baz=95,slow=3.0,SNR=21						
TGY				S	Sn	15 44 03.2	+4.2
	3µm,0.3s,baz=212,slow=22,SNR=34						
TGY	Tagaytay City	1.89	245	P	Pn	15 43 38.0	+1.6
TGY	Tagaytay City	1.89	245	⇓eP	Pn	15 43 38.1	+1.7
TGY				eS	Sn	15 44 04.1	+5.1
PVCP	Virac	1.92	133	⇑eP	Pn	15 43 37.7	+1.0
MACP	Maragondon, Ca	2.02	252	⇓eP	Pn	15 43 38.7	+0.5
PGP	Puerto Galera	2.20	231	⇓eP	Pn	15 43 40.0	-0.7
SMPP	San Manuel, Pa	2.31	303	⇓eP	Pn	15 43 41.0	-1.2
LUBP	Lubang	2.65	244	⇓eP	Pn	15 43 47.5	+0.7
MMPH	Masbate	2.69	160	⇓eP	Pn	15 43 48.9	+1.6
MMPH				eS	Sn	15 44 20.3	+1.7
RCP	Roxas	3.33	179	⇑eP	Pn	15 43 56.6	+0.5
SIPP	Brgy, Tapao	3.69	325	⇓eP	Pn	15 44 04.5	+3.4
SIPP				iS	Sn	15 45 02.4	+19
BESP	Borongan	4.23	141	⇓eP	Pn	15 44 11.3	+2.9
LLP	Lapu-Lapu	4.72	165	⇓eP	Pn	15 44 16.3	+1.0
LLP				eS	Sn	15 45 19.1	+10
TBP	Tagbilaran	5.30	168	⇓eP	Pn	15 44 24.2	+0.9
TBP				eS	Sn	15 45 43.6	+20
CTBH	Cotabato--PC H	7.78	169	⇑iP	Pn	15 45 00.4	+3.0
TWG	Pinlang	8.02	349	Pn	Pn	15 44 57.5	-3.1
YULB	Yu-li	8.55	351		Pn	15 45 06.3	-1.5
TPUB	Ta-pu	8.58	347	Pn	Pn	15 45 06.7	-1.5
SSLB	Suanglung	8.99	350	Pn	Pn	15 45 10.0	-3.9
NACB	Ninganchiao	9.28	354	Pn	Pn	15 45 15.4	-2.5
YOJ	Yonaguni jima	9.51	2	P	Pn	15 45 19.5	-1.5
YOJ	Yonaguni jima	9.51	2	Pn	Pn	15 45 19.5	-1.5
YHNB	Yeheng	9.79	353		Pn	15 45 24.2	-0.8
MYLDM	Lahad Datu	10.51	204		Pn	15 45 38.4	+3.7
JOW	Kunigami	12.96	23	LR	LR	15 50 19.5	
	comp=Z,199nm,21.9s,baz=126,slow=33						
QIZ	Qiongzhong	12.97	290	P	Pn	15 46 08.2	-0.1
QIZ				S	Sn	15 48 30.3	-1.0
QIZ				LR	LR		
	comp=N,180nm,13.9s						
QIZ				LR	LR		
	comp=E,320nm,15.7s						
QIZ				LR	LR		
	comp=Z,380nm,16.9s						
GTOI	Gorontalo	14.18	179	P	Pn	15 46 25.0	+0.1
	7.8nm,1.0s						
APSI	Ampana	15.75	184	P	Pn	15 46 46.2	+0.7
	422nm22nm,1.3s						
SBUM	Sibu	16.13	221	P	P	15 46 55.0	+1.9
UBPT	Khong Chiam	16.65	274		P	15 46 59.7	+0.9
WHN	Wuhan	17.36	335	P	P	15 47 09.8	+3.3
NJ2	Nanjing	17.43	349	eP	Pn	15 47 05.5	-1.0
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SIJI	Sorong	17.82	151	P	P	15 47 13.4	+1.7
	1.6nm,0.3s,baz=343,slow=17,SNR=5.6						
JSU	Suzuyama	17.98	22	P	P	15 47 13.6	+0.1
JSU				IAmb	IAmb	15 47 18.4	
	comp=Z,80nm,1.5s						
KSM	Kuching	18.11	224		Pn	15 47 17.0	+1.9
STKI	Sintang	18.45	218	P	P	15 47 18.9	+0.1
GYA	Guiyang	18.88	310	⇑P	Pn	15 47 27.3	+2.9
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
GYA				LR	LR		
	comp=Z,400nm,16.9s						
GYA				LR	LR		
	comp=Z,430nm,20.2s						
GYA				LR	LR		
	comp=Z,650nm,17.7s						
JNU	Nakatsue	19.60	21	P	P	15 47 29.9	-1.3
JNU				IAmb	IAmb	15 47 50.5	
	comp=Z,54nm,1.4s						
KAPI	Kappang	20.00	189	P	Pn	15 47 40.5	+2.8
	comp=Z,0.4nm,0.3s,baz=27,slow=7.2,SNR=2.3						
KAPI	Kappang	20.00	189	P	Pn	15 47 37.6	-0.1
KAPI				pmax	pmax		
	comp=Z,21nm,1.2s						
KAPI	Kappang	20.00	189	P	Pn	15 47 37.6	-0.1
JMN	Monobe	21.30	26	P	P	15 47 49.6	0.0
JMN				IAmb	IAmb	15 48 01.4	
	comp=Z,44nm,1.1s						
GUMO	Guam	21.52	91	LR	LR	15 55 46.3	
	comp=Z,160nm,19.9s,baz=172,slow=35						
LYN	LuoYang	21.63	337	⇓P	P	15 47 54.5	+1.4
LYN				pmax	pmax		
	comp=Z,30nm,1.0s						
LYN				pmax	pmax		
	comp=Z,150nm,12.0s						
LYN				LR	LR		
	comp=Z,330nm,16.1s						
LYN				LR	LR		
	comp=Z,290nm,16.9s						
JHS	Saijyo	22.09	23	P	P	15 47 58.3	+0.1
JHS				IAmb	IAmb	15 48 00.6	
	comp=Z,40nm,1.2s						
PZH	PanZhiHua	22.71	304	P	P	15 48 10.2	+5.2
PZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
MYKOM	Kota Tinggi	22.72	237	P	P	15 48 04.6	-0.4
MYKOM				IAmb	IAmb	15 48 06.5	
	comp=Z,36nm,1.1s						
XAN	Xi'an	22.76	329	P	P	15 48 05.2	-0.1
XAN				pP	pwP	15 48 16.9	-1.5
XAN				sP	sP	15 48 22.3	+2.0
XAN				PP	PnPn	15 48 37.6	+7.0
XAN				S	S	15 52 12.3	+1.0
XAN				sS	sS	15 52 30.4	+0.6
XAN				pmax	pmax		
	comp=Z,39nm,0.9s						
XAN				pmax	pmax		
	comp=Z,210nm,6.0s						
XAN				LR	LR		
	comp=Z,450nm,15.5s						
XAN				LR	LR		
	comp=Z,270nm,15.3s						
XAN				LR	LR		
	comp=Z,600nm,15.1s						
KSRS	Korea Array	22.93	11	P	P	15 48 08.0	+1.1
	comp=Z,2.9nm,0.7s,baz=192,slow=11,SNR=10						
KSRS				LR	LR	15 56 49.6	
	comp=Z,74nm,19.7s,baz=205,slow=36						
TPI	Tanjungpandan	23.02	222	P	P	15 48 06.7	-1.4
	comp=Z,15nm,1.0s						
CM31	Chiang Mai Arr	23.03	282	P	P	15 48 08.1	-0.1
CM31				IAmb	IAmb	15 48 10.3	
	comp=Z,49nm,0.9s						
CMAR	Chiang Mai Arr	23.03	282	P	P	15 48 08.5	+0.3
	comp=Z,27nm,0.9s,baz=93,slow=7.5,SNR=188						
CMAR				PcP	PcP	15 51 57.5	+0.7
	comp=Z,1.1nm,0.8s,baz=141,slow=0.5,SNR=8.3						
CMAR	Chiang Mai Arr	23.03	282	P	P	15 48 07.7	-0.5
CHTO	Chiang Mai	23.06	283	P	P	15 48 07.5	-1.0
CHTO				pmax	pmax		
	comp=Z,17nm,1.0s						
CHTO	Chiang Mai	23.06	283	P	P	15 48 07.5	-1.0
MMRI	Maumere	23.39	181	P	P	15 48 14.1	+2.4
MMRI				IAmb	IAmb	15 48 33.5	
	comp=Z,24nm,0.7s						
SRIT	Nakonsritamara	23.46	257	P	P	15 48 12.0	-0.4
SRIT				IAmb	IAmb	15 48 13.1	
	comp=Z,28nm,1.1s						
KMMI	Kalianget	23.47	202	P	P	15 48 12.6	+0.1
	comp=Z,16nm,1.0s						
HNS	HongShan	23.50	344	⇑P	P	15 48 13.4	+0.8
HNS				S	S	15 52 27.7	+4.4
HNS				pmax	pmax		
	comp=Z,15nm,1.4s						
HNS				LR	LR		
	comp=Z,360nm,15.2s						
HNS				LR	LR		
	comp=Z,380nm,17.7s						
DSRI	Dabo	23.56	231	P	P	15 48 13.0	-0.4
	comp=Z,42nm,0.9s						
CD2	Chengdu	23.57	316	P	P	15 48 14.3	+0.9
CD2				S	S	15 52 19.9	-4.8
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				LR	LR		
	comp=Z,40nm,18.2s						
CD2				LR	LR		
	comp=Z,340nm,15.8s						
CD2				LR	LR		
	comp=Z,510nm,15.6s						
KULM	Kulim	23.70	248	P	P	15 48 13.6	-1.1
KULM				IAmb	IAmb	15 48 15.9	
	comp=Z,35nm,1.2s						
IPM	Ipoh	23.72	246	P	P	15 48 13.8	-1.1
IPM				IAmb	IAmb	15 48 15.0	
	comp=Z,42nm,0.9s						
INU	Inuyama	24.08	30	P	P	15 48 17.6	-0.4
PLAI	Plampang	24.08	192	P	P	15 48 19.8	+1.6
	comp=Z,40nm,0.8s						
SAUI	Saumlaki	24.28	159	P	P	15 48 22.2	+2.2
SAUI	Saumlaki	24.28	159	P	P	15 48 22.7	+2.7
	comp=Z,159nm,0.9s						
JGF	Kuroka	24.44	30	P	P	15 48 19.3	-2.1

BATI Baumata 24.97 178 P **P** **15 48 25.1 -1.1**
comp=Z,33nm,0.7s,baz=324,slow=1.5,SNR=13
BATI Baumata 24.97 178 P **P** **15 48 23.9 -2.4**
comp=Z,28nm,1.0s
MJAR Matsushiro Arr 25.61 30 P **P** **15 48 30.5 -1.5**
comp=Z,1.1nm,0.8s,baz=188,slow=7.4,SNR=4.2
BJI Beijing 25.68 348 P **P** **15 48 33.2 +0.7**
BJI pP **pwP** **15 48 44.3 -1.3**
BJI sP **sP** **15 48 49.3 +0.8**
BJI PP **PnPn** **15 49 09.1 -1.3**
BJI pmax pmax
comp=Z,111nm,0.8s
PSI Prapat 26.35 245 P **P** **15 48 38.7 -0.4**
comp=Z,13nm,0.7s,baz=61,slow=5.8,SNR=16
PSI Prapat 26.35 245 P **P** **15 48 38.3 -0.7**
PSI pmax pmax
comp=Z,33nm,1.1s
KLSI 26.39 224 P **P** **15 48 39.5 +0.3**
comp=Z,8.8nm,0.9s
RPSI Rantau Prapat 26.41 245 P **P** **15 48 38.3 -1.0**
RPSI IAmb IAmb 15 48 39.8
comp=Z,33nm,1.1s
MDSI Maura Dua 26.61 225 P **P** **15 48 40.5 -0.7**
comp=Z,5.5nm,0.9s
LZH Lanzhou 27.01 325 *e*P **P** **15 48 44.6 -0.2**
LZH pP pP 15 48 55.3 -0.4
LZH sP sP 15 49 02.5 +1.8
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=Z,540nm,15.7s
LZH LR LR
comp=Z,400nm,16.8s
LZH LR LR
comp=Z,680nm,17.3s
MNAI Manna 27.38 227 P **P** **15 48 48.8 +0.8**
HHC Hu-ho-hao-te 27.61 342 *e*P **P** **15 48 52.1 +2.1**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.9s
HHC LR LR
comp=Z,290nm,16.1s
HHC LR LR
comp=Z,170nm,13.9s
HHC LR LR
comp=Z,350nm,20.2s
JMM Marumori 27.92 32 P **P** **15 48 51.4 -1.3**
GSI Gunungsitoli 28.26 244 P **P** **15 48 53.7 -2.2**
GSI IAmb IAmb 15 48 55.2
comp=Z,29nm,0.9s
GSI Gunungsitoli 28.26 244 P **P** **15 48 53.9 -2.1**
comp=Z,35nm,1.1s
SISI Saibi 28.39 237 P **P** **15 48 55.4 -1.7**
comp=Z,22nm,1.2s
MDJ Mudanjiang 30.19 10 P **P** **15 49 13.5 +0.8**
MDJ sP sP 15 49 31.2 +2.4
MDJ S **S** **15 54 09.8 +0.8**
MDJ sS sS 15 54 30.0 +1.7
MDJ ScP **ScP** **15 55 51.0 -1.1**
MDJ PcS **PcS** **15 55 55.8 -0.7**
MDJ ScS **ScS** **15 59 48.9 +1.3**
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,88nm,3.9s
MDJ LR LR
comp=Z,590nm,13.7s
MDJ LR LR
comp=Z,390nm,13.7s
MDJ LR LR
comp=Z,320nm,14.0s
USA0B Ussuriysk Arra 30.25 13 P **P** **15 49 10.5 -2.8**
USA0B pmax pmax
comp=Z,27nm,1.3s
USA0B Ussuriysk Arra 30.25 13 P **P** **15 49 10.5 -2.8**
USA0B IAmb IAmb 15 49 41.0
comp=Z,27nm,1.3s
USRK Ussuriysk Ar. 30.25 13 P **P** **15 49 14.2 +0.9**
comp=Z,6.4nm,0.8s,baz=189,slow=8.5,SNR=12
USRK LR LR 16 03 02.8
comp=Z,76nm,18.8s,baz=179,slow=39
USRK Ussuriysk Ar. 30.25 13 P **P** **15 49 09.9 -3.4**
USRK Ussuriysk Ar. 30.25 13 P **P** **15 49 09.9 -3.4**
SHL Shillong 30.73 295 P **P** **15 49 16.8 -1.2**
SHL pmax pmax
comp=Z,37nm,0.8s
SHL Shillong 30.73 295 P **P** **15 49 16.8 -1.2**
BNX BinXian 30.99 6 ⇓P **P** **15 49 20.7 +0.9**
BNX pmax pmax
comp=Z,15nm,0.8s
BNX pmax pmax
comp=Z,310nm,6.4s
GTA Gaotai 31.61 325 *e*P **P** **15 49 27.5 +1.9**
GTA pP pwP 15 49 39.2 +0.1
GTA sP sP 15 49 44.8 +3.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,5.2s
GTA LR LR
comp=Z,190nm,18.3s
GTA LR LR
comp=Z,230nm,15.9s
GTA LR LR
comp=Z,240nm,19.9s
LSA Lhasa 32.56 302 P **P** **15 49 33.9 -0.5**
LSA pmax pmax
comp=Z,30nm,1.0s
GOMU GeErMu 32.71 316 P **P** **15 49 37.2 +1.7**
GOMU PcP **PcP** **15 52 22.0 +1.5**
GOMU S **S** **15 54 49.5 +0.1**
GOMU pmax pmax
comp=Z,5.0nm,0.7s
GOMU pmax pmax
comp=Z,120nm,5.3s
GOMU LR LR
comp=Z,180nm,14.7s
GOMU LR LR
comp=Z,93nm,14.0s
GOMU LR LR
comp=Z,120nm,14.7s
FITZ Fitzroy Crossi 32.92 175 P **P** **15 49 36.1 -0.9**
comp=Z,1.7nm,0.4s,baz=348,slow=10,SNR=12
ASAJ Asahikawa 33.69 26 P **P** **15 49 44.0 +0.6**
comp=Z,4.5nm,1.0s,baz=230,slow=13,SNR=5.2
PMG Port Moresby 34.22 133 LR LR 16 04 04.5
comp=Z,77nm,21.8s,baz=280,slow=37
TAPN Taplejung 34.79 297 *e*P **P** **15 49 53.9 +0.3**
ODAN Odare 34.95 296 *e*P **P** **15 49 55.2 +0.2**
comp=Z,108nm,0.8s
KLR Kul'dur 35.02 10 P **P** **15 49 55.4 +0.4**
comp=Z,7.7nm,0.7s,baz=202,slow=5.6,SNR=32
KLR PcP **PcP** **15 52 26.9 +0.5**
comp=Z,1.9nm,0.6s,baz=187,slow=1.8,SNR=4.7
KLR LR LR 16 06 35.2
comp=Z,161nm,18.3s,baz=219,slow=40
KLR Kul'dur 35.02 10*ce*P **P** **15 49 55.6 +0.6**
KLR pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 35.33 342*ce*P **P** **15 49 58.7 +0.8**
ULN pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 35.33 342 P **P** **15 49 58.2 +0.3**
ULN IAmb IAmb 15 49 59.9
comp=Z,19nm,1.2s
ULN PcP **PcP** **15 52 28.2 +0.7**
SONM Songino Array 35.51 341 P **P** **15 50 00.1 +0.8**
comp=Z,7.5nm,0.9s,baz=159,slow=9.6,SNR=52
SONM PcP **PcP** **15 52 28.5 +0.5**
comp=Z,1.1nm,0.7s,baz=172,slow=1.9,SNR=4.4
SONM LR LR 16 05 29.6
comp=Z,279nm,19.5s,baz=164,slow=38
SONM Songino Array 35.51 341 P **P** **15 49 59.9 +0.5**
SONM IAmb IAmb 15 50 01.2
comp=Z,14nm,1.2s
SONM PcP **PcP** **15 52 28.5 +0.5**
RAMN Ramite 35.66 296 *e*P **P** **15 50 01.5 +0.4**
YSS Yuzh-Sakhalins 36.06 24 *e*P **P** **15 50 04.5 +0.6**
YSS pmax pmax
comp=Z,10.0nm,1.1s
JIRN Jiri 36.17 297 *e*P **P** **15 50 05.9 +0.3**
comp=Z,56nm,0.8s
WB0 Warramunga Arr 36.32 161 P **P** **15 50 04.8 -1.6**
WB0 IAmb IAmb 15 50 13.4
comp=Z,13nm,1.2s

WRAB Tennant Creek 36.47 161*ce*P **P** **15 50 06.9 -0.7**
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 36.47 161 P **P** **15 50 06.0 -1.7**
WRA Warramunga Arr 36.47 161 P **P** **15 50 06.1 -1.6**
comp=Z,2.7nm,0.7s,baz=334,slow=9.6,SNR=34
WRA S **S** **15 55 39.8 -7.1**
comp=Z,1.1nm,1.0s,baz=342,slow=14,SNR=6.2
WRA LR LR 16 06 13.2
comp=Z,112nm,20.6s,baz=350,slow=38
WRA Warramunga Arr 36.47 161 P **P** **15 50 06.1 -1.6**
WRA PcP **PcP** **15 52 34.2 +3.1**
WB2 Warramunga Arr 36.47 161 P **P** **15 50 06.2 -1.5**
WB2 IAmb IAmb 15 50 14.3
comp=Z,11nm,0.9s
WB2 PcP **PcP** **15 52 35.0 +3.9**
GUN Gumba 36.50 297 *e*P **P** **15 50 08.5 +0.2**
comp=Z,92nm,1.0s
WR0 Warramunga Arr 36.55 161 P **P** **15 50 06.7 -1.6**
WR0 IAmb IAmb 15 50 14.9
comp=Z,10nm,1.1s
PKI Pulchoki 36.83 296 *e*P **P** **15 50 10.7 -0.5**
comp=Z,62nm,1.1s
PKIN Phulchoki 36.84 296 *e*P **P** **15 50 10.7 -0.5**
comp=Z,49nm,1.1s
KKN Kakani 36.99 297 *e*P **P** **15 50 12.0 -0.4**
DMN Daman 37.10 296 *e*P **P** **15 50 13.2 -0.2**
comp=Z,86nm,1.1s
GRNR Gornyy 37.45 14 ⇓*i*P **P** **15 50 16.8 +1.1**
GRNR pmax pmax
comp=Z,6.0nm,0.8s
GRNR MLR MLR
comp=E,50nm,16.0s
GRNR MLR MLR
comp=Z,100nm,15.0s
GKN Gorkha 37.59 297 *e*P **P** **15 50 16.9 -0.5**
DANN Dangsing 38.42 297 *e*P **P** **15 50 24.2 -0.4**
KOLN Koldanda 38.44 296 *e*P **P** **15 50 24.4 -0.2**
comp=Z,66nm,1.1s
ZAK Zakamensk 38.73 340 *e*P **P** **15 50 26.5 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 38.91 4 *e*P **P** **15 50 28.4 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
PYUN Piuthan 39.03 296 *e*P **P** **15 50 29.6 0.0**
AS31 Alice Springs 39.87 164 P **P** **15 50 34.6 -1.7**
ASAR Alice Springs 39.87 164 P **P** **15 50 35.2 -1.1**
comp=Z,1.4nm,0.4s,baz=339,slow=7.8,SNR=63
ASAR PcP **PcP** **15 52 41.0 -0.6**
comp=Z,1.0nm,0.6s,baz=340,slow=3.1,SNR=4.6
ASAR S **S** **15 56 34.0 -4.2**
comp=Z,0.4nm,1.0s,baz=345,slow=14,SNR=2.5
ASAR Alice Springs 39.87 164 P **P** **15 50 34.8 -1.5**
ASAR Alice Springs 39.87 164 P **P** **15 50 34.8 -1.5**
MOY Mondy 40.59 339 *e*P **P** **15 50 43.2 +1.1**
MOY pmax pmax
comp=Z,24nm,1.4s
WMQ Urumqi 41.45 321 *e*P **P** **15 50 50.2 +1.0**
WMQ pP pP 15 50 59.2 -1.6
WMQ pmax pmax
comp=Z,11nm,1.5s
WMQ LR LR
comp=Z,520nm,18.5s
WMQ LR LR
comp=Z,440nm,12.7s
WMQ LR LR
comp=Z,210nm,18.5s
CTA Charters Tower 41.78 146 LR LR 16 07 58.5
comp=Z,143nm,21.9s,baz=324,slow=36
H11S3 WAKE ISLAND Hy 42.20 79 T T 16 35 55.8
baz=271,slow=75,SNR=200
H11S1 WAKE ISLAND Hy 42.22 79 T T 16 35 56.5
baz=271,slow=75,SNR=124
H11S2 WAKE ISLAND Hy 42.22 79 T T 16 35 57.0
baz=271,slow=75,SNR=175
H11N1 WAKE ISLAND Hy 42.37 77 T T 16 36 18.2
baz=271,slow=75,SNR=50
H11N2 WAKE ISLAND Hy 42.37 77 T T 16 36 18.1
baz=271,slow=75,SNR=54
H11N3 WAKE ISLAND Hy 42.39 77 T T 16 36 20.1
baz=271,slow=75,SNR=41
HNR Honiara 44.13 121 P **P** **15 51 11.7 +0.5**
HNR pmax pmax
comp=Z,54nm,0.7s
HNR Honiara 44.13 121 P **P** **15 51 11.7 +0.5**
MK31 Makanchi Array 46.25 322 P **P** **15 51 27.2 -0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 46.25 322 P **P** **15 51 27.2 -0.5**
MKAR Makanchi Array 46.25 322 P **P** **15 51 28.4 +0.7**
comp=Z,7.0nm,0.9s,baz=120,slow=8.2,SNR=61
MKAR PcP **PcP** **15 53 03.0 +0.3**
comp=Z,2.3nm,0.8s,baz=95,slow=5.2,SNR=5.3
MKAR LR LR 16 12 18.7
comp=Z,111nm,18.9s,baz=104,slow=38
MKAR Makanchi Array 46.25 322 P **P** **15 51 27.5 -0.3**
MAKZ Makanchi 46.45 322 P **P** **15 51 28.3 -0.9**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 46.45 322 P **P** **15 51 28.3 -0.9**
PEA0B Petropavlovsk- 47.05 28 P **P** **15 51 33.8 0.0**
PEA0B pmax pmax
comp=Z,35nm,1.3s
PEA0B Petropavlovsk- 47.05 28 P **P** **15 51 33.8 0.0**
PETK Petropavlovsk- 47.05 28 P **P** **15 51 34.4 +0.7**
comp=Z,7.8nm,0.7s,baz=203,slow=4.6,SNR=13
PETK Petropavlovsk- 47.05 28 P **P** **15 51 33.8 0.0**
PETK Petropavlovsk- 47.05 28 P **P** **15 51 33.8 0.0**
YAK Yakutsk 47.33 4 P **P** **15 51 35.5 -0.2**
comp=Z,7.1nm,0.6s,baz=94,slow=0.9,SNR=12
YAK Yakutsk 47.33 4*d* *i*P **P** **15 51 35.7 0.0**
YAK *e**PP **pP** **15 51 43.0 -4.2**
YAK *e* 15 53 03.5
YAK *e* 15 53 26.1
YAK *e*PPP PPP 15 54 11.6
YAK *e*S **S** **15 58 25.9 -0.3**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,75nm,5.1s
YAK pmax pmax
comp=N,45nm,3.6s
YAK pmax pmax
comp=E,104nm,4.5s
YAK smax smax
comp=E,99nm,6.5s
YAK smax smax
comp=N,52nm,4.3s
YAK Yakutsk 47.33 4 P **P** **15 51 35.0 -0.7**
KSH Kashi 47.58 310 P **P** **15 51 41.4 +3.1**
KSH pP pP 15 51 52.8 +2.8
KSH sP sP 15 51 59.7 +4.8
KSH pmax pmax
comp=N,5.0nm,1.1s
KSH LR LR
comp=N,73nm,10.3s
KSH LR LR
comp=N,160nm,14.4s
KSH LR LR
comp=N,190nm,13.1s
ZAA0 Zalesovo Array 48.91 331 P **P** **15 51 48.0 -0.2**
ZAA0 IAmb IAmb 15 51 49.3
comp=Z,7.8nm,0.9s
ZALV Zalesovo Beam 48.91 331 P **P** **15 51 48.2 +0.1**
comp=Z,5.8nm,0.8s,baz=117,slow=7.3,SNR=23
ZALV PcP **PcP** **15 53 10.5 -1.5**
comp=Z,0.7nm,0.5s,baz=123,slow=5.3,SNR=1.3
ZALV LR LR 16 13 58.6
comp=Z,177nm,18.5s,baz=138,slow=38
ZALV Zalesovo Beam 48.91 331 P **P** **15 51 47.7 -0.5**
MA2 Magadan 49.14 18 P **P** **15 51 50.0 +0.1**
comp=Z,3.7nm,0.8s,baz=204,slow=6.8,SNR=13
MA2 Magadan 49.14 18*ce*P **P** **15 51 47.6 -2.2**
MA2 pmax pmax
comp=Z,4.0nm,1.0s
MA2 Magadan 49.14 18 P **P** **15 51 49.5 -0.3**
AAK Ala-Archa 49.62 314 P **P** **15 51 53.8 -0.2**
comp=Z,0.7nm,0.4s,baz=19,slow=22,SNR=2.4
AAK LR LR 16 14 23.6
comp=Z,204nm,19.5s,baz=100,slow=38
AAK Ala-Archa 49.62 314 *i* P **P** **15 51 54.0 0.0**
AAK pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 49.92 159 P **P** **15 51 55.5 -0.6**
comp=Z,4.0nm,0.6s,baz=334,slow=19,SNR=7.6
STKA LR LR 16 15 16.6
comp=Z,97nm,19.2s,baz=24,slow=39
STKA Stephens Creek 49.92 159 P **P** **15 51 55.9 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 49.92 159 P **P** **15 51 55.9 -0.2**
KURK Kurchatov 50.30 325*ce*P **P** **15 51 59.3 +0.5**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 50.30 325 P **P** **15 51 58.0 -0.7**
GAR Garm 51.69 308 P **P** **15 52 09.2 -0.4**
KBL Kabul 51.89 302 P **P** **15 52 10.7 -0.6**
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 51.89 302 P **P** **15 52 10.7 -0.6**
KBL IAmb IAmb 15 52 12.5
comp=Z,7.9nm,0.7s
SEY Seymchan 52.30 17 P **P** **15 52 14.8 +1.3**
comp=Z,3.7nm,0.7s,baz=229,slow=5.7,SNR=30
CHGR Chuyangaron 52.50 307 P **P** **15 52 14.5 -1.1**
CHGR pmax pmax
comp=Z,14nm,0.8s
CHGR Chuyangaron 52.50 307 P **P** **15 52 14.5 -1.1**
CHGR IAmb IAmb 15 52 16.5
comp=Z,14nm,0.8s
KKAR Karatay Array 52.55 313 P **P** **15 52 15.5 -0.3**
KKAR 15 53 26.3
KKAR Karatay Array 52.55 313 P **P** **15 52 15.5 -0.3**
KKAR PcP **PcP** **15 53 26.3 +0.6**
BRVK Borovoye 55.97 325*ce*P **P** **15 52 40.6 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 55.97 325 P **P** **15 52 39.9 -0.6**
BRVK IAmb IAmb 15 52 42.0
comp=Z,12nm,1.1s
TIXI Tiksi 56.85 2 ⇑*e*P **P** **15 52 45.4 -1.0**
TIXI pmax pmax
comp=Z,11nm,0.7s
TIXI Tiksi 56.85 2 P **P** **15 52 45.4 -1.0**
NRIK Noril'sk 58.70 346 P **P** **15 52 59.6 +0.1**
comp=Z,12nm,0.9s,baz=138,slow=7.7,SNR=18
NRIK LR LR 16 20 24.4
comp=Z,120nm,21.2s,baz=149,slow=38
NRIK Noril'sk 58.70 346*ce*P **P** **15 52 59.4 -0.1**
NRIK pmax pmax
comp=Z,13nm,1.0s
NRIK Noril'sk 58.70 346 P **P** **15 52 58.8 -0.7**
BILL Bilibino 59.98 17 ⇓*i*P **P** **15 53 08.5 +0.2**
BILL *e* 15 53 14.9
BILL *e**PP **pP** **15 53 21.4 +1.2**
BILL 15 53 52.0
BILL S **S** **16 01 19.0 +1.6**
BILL *e*SS **SS** **16 05 21.2 +7.0**
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,51nm,16.0s
BILL Bilibino 59.98 17 P **P** **15 53 08.4 +0.1**
BILL IAmb IAmb 15 53 09.9
comp=Z,7.7nm,0.9s
GEYT Alibeck 61.02 305 P **P** **15 53 16.6 +0.6**
comp=Z,3.2nm,0.6s,baz=82,slow=12,SNR=7.2
GEYT LR LR 16 23 47.4
comp=Z,139nm,18.7s,baz=73,slow=40
ABKAR Akbulak array 61.12 318 P **P** **15 53 15.7 -0.7**
ABKAR PcP **PcP** **15 53 58.0 -1.1**
ABKAR Akbulak array 61.12 318 P **P** **15 53 16.1 -0.2**
ABKAR IAmb IAmb 15 53 17.5
comp=Z,5.5nm,0.8s
SVE Sverdlovsk 62.45 327 *e*P **P** **15 53 25.9 +0.7**
SVE pmax pmax
comp=Z,16nm,1.1s
AKTO Aktyubinsk 62.56 319 LR LR 16 22 36.1
comp=Z,157nm,19.2s,baz=95,slow=38
ARU Arti 63.46 326 LR LR 16 23 39.7
comp=Z,104nm,18.8s,baz=109,slow=38
ARU Arti 63.46 326*d* *i*P **P** **15 53 31.5 -0.5**
ARU *PP **sP** **15 53 46.9 -2.0**
ARU 15 54 08.9
ARU 15 55 47.1
ARU S **S** **16 02 01.1 -0.7**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 63.46 326 P **P** **15 53 31.4 -0.6**
ARU IAmb IAmb 15 53 32.1
comp=Z,8.2nm,0.8s
KIRV Kirov 68.69 327 LR LR 16 26 37.9
comp=Z,171nm,18.3s,baz=83,slow=38
KIRV Kirov 68.69 327*ce*P **P** **15 54 05.1 -0.4**
ANM Nome 68.89 26 P **P** **15 54 06.6 0.0**
ANM pmax pmax
comp=Z,4.0nm,0.9s
ANM Nome 68.89 26 P **P** **15 54 06.6 0.0**
GNI Garni 71.42 308 LR LR 16 29 46.0
comp=Z,62nm,18.8s,baz=76,slow=39
ZEI Tsey 71.87 311 *e*P **P** **15 54 24.4 -1.1**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
ONI Oni 72.21 310 P **P** **15 54 27.4 0.0**
ONI pmax pmax
comp=Z,6.0nm,1.0s
ONI Oni 72.21 310 P **P** **15 54 27.4 0.0**
KBZ Khabaz 72.54 312 P **P** **15 54 29.2 0.0**
comp=Z,5.5nm,0.9s,baz=153,slow=2.0,SNR=11
KBZ LR LR 16 29 54.4
comp=Z,108nm,19.0s,baz=80,slow=39
KBZ Khabaz 72.54 312*ce*P **P** **15 54 29.3 +0.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 72.66 290 P **P** **15 54 29.6 -0.8**
RAYN pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 72.66 290 P **P** **15 54 29.6 -0.8**
RAYN IAmb IAmb 15 54 31.2
comp=Z,11nm,0.9s
KIV Kislovodsk 72.67 312 *e*P **P** **15 54 30.8 +0.6**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,92nm,18.0s
KIV Kislovodsk 72.67 312 P **P** **15 54 29.9 -0.2**
KIV IAmb IAmb 15 54 31.6
comp=Z,12nm,0.9s
VRH Novokhopyorsk 72.90 319 *e*P **P** **15 54 30.4 -0.8**
VRH pmax pmax
comp=Z,30nm,0.9s
RPZ Rata Peaks 73.15 146 LR LR 16 26 23.6
comp=Z,70nm,20.8s,baz=291,slow=36
J20K Nowinta River 73.72 27 P **P** **15 54 36.4 +0.6**
J20K IAmb IAmb 15 54 43.0
comp=Z,21nm,1.6s
KLMR Klimovskoe 73.80 330 *e*P **P** **15 54 34.6 -1.7**
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR Klimovskoe 73.80 330 *e*P **P** **15 54 34.7 -1.6**
KLMR AMP 15 54 37.0
comp=Z,19nm,1.2s
H21K Melozitna Rive 74.27 25 P **P** **15 54 39.9 +0.8**
H21K IAmb IAmb 15 54 41.7
comp=Z,13nm,1.2s
VORR Voronezh 74.44 320 ⇑*i*P **P** **15 54 40.6 +0.4**
VORR pmax pmax
comp=Z,31nm,1.9s
LPSR Galich'ya Gora 74.55 321 *e*P **P** **15 54 40.0 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
CAST Castle Rocks 74.66 28 P **P** **15 54 41.1 -0.2**
CAST IAmb IAmb 15 54 43.5
comp=Z,12nm,0.8s
MLY Manley 75.16 26 P **P** **15 54 43.4 -0.8**
MLY IAmb IAmb 15 54 46.5
comp=Z,8.1nm,0.9s
COLD Coldfoot 75.25 24 P **P** **15 54 45.4 +0.8**
TOLK Toolik Lake Re 75.41 22 P **P** **15 54 46.0 +0.4**
OBN Obninsk 75.72 324*ce*P **P** **15 54 47.5 0.0**
OBN *e* 15 54 56.7
OBN *PP **PcP** **15 55 01.0 +0.9**
OBN *e**SP **sP** **15 55 05.2 +0.7**
OBN S **S** **16 04 22.0 -3.9**
OBN *SS **sS** **16 04 48.0 +2.0**
OBN SS **SS** **16 09 14.0 -3.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN				MLR	MLR		
	comp=Z,65nm,14.0s						
MCK	**McKinley**	**76.04**	**27**	P	**P**	**15 54 49.4**	**+0.1**
MCK				pmax	pmax		
	comp=Z,14nm,0.8s						
MCK	**McKinley**	**76.04**	**27**	P	**P**	**15 54 49.4**	**+0.1**
MCK				IAmb	IAmb	15 54 50.7	
	comp=Z,14nm,0.8s						
RND	**Reindeer**	**76.11**	**28**	P	**P**	**15 54 49.6**	**-0.1**
RND				pmax	pmax		
	comp=Z,11nm,0.9s						
RND	**Reindeer**	**76.11**	**28**	P	**P**	**15 54 49.6**	**-0.1**
RND				IAmb	IAmb	15 54 50.8	
	comp=Z,11nm,0.9s						
COLA	**College**	**76.40**	**26**	⇑P	**P**	**15 54 51.4**	**+0.2**
ILAR	**Eielson Array**	**76.82**	**26**	P	**P**	**15 54 53.1**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=256,slow=4.1,SNR=9.5						
ARCES	**ARCESS Array B**	**78.66**	**339**	P	**P**	**15 55 04.0**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=79,slow=6.5,SNR=15						
BRTR	**Keskin Array B**	**79.93**	**308**	P	**P**	**15 55 11.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=114,slow=3.2,SNR=3.5						
BRTR				LR	LR	16 35 34.8	
	comp=Z,56nm,18.1s,baz=108,slow=39						
DAWY	**Dawson**	**80.15**	**26**	P	**P**	**15 55 13.0**	**+1.0**
FINES	**FINESS Array B**	**80.18**	**331**	P	**P**	**15 55 12.1**	**0.0**
	comp=Z,3.9nm,0.5s,baz=50,slow=6.3,SNR=34						
FINES	**FINESS Array B**	**80.18**	**331**	P	**P**	**15 55 12.0**	**-0.1**
VSU	**Vasula**	**80.53**	**328**	*e*P	**P**	**15 55 14.2**	**+0.1**
EPYK	**Eagle Plains**	**80.66**	**24**	P	**P**	**15 55 15.0**	**+0.3**
EPYK				IAmb	IAmb	15 55 16.9	
	comp=Z,13nm,0.9s						
MNK	**Minsk**	**80.78**	**324**	*i* P	**P**	**15 55 15.9**	**+0.4**
MNK				*i* *PP	**sP**	**15 55 30.4**	**-2.2**
MNK				*i*		15 58 19.8	
MNK				*i* PPP	PPP	16 00 09.6	
MNK				*i* S	**S**	**16 05 21.0**	**+0.7**
MNK				*i* SS	**SS**	**16 10 34.3**	**+0.5**
MNK				pmax	pmax		
	comp=N,11nm,0.6s						
MNK				pmax	pmax		
	comp=Z,27nm,0.9s						
MNK				pmax	pmax		
	comp=E,5.0nm,1.3s						
MNK				MLR	MLR		
	comp=Z,67nm,15.0s						
MNK				MLR	MLR		
	comp=E,17nm,17.0s						
MNK				MLR	MLR		
	comp=N,109nm,14.0s						
MNK	**Minsk**	**80.78**	**324**	*i* P	**P**	**15 55 16.0**	**+0.4**
	comp=E,5.0nm,1.3s,baz=258						
MNK				*i* P	**P**	**15 55 16.0**	**+0.4**
	comp=N,11nm,0.6s						
MNK				*i* P	**P**	**15 55 16.0**	**+0.4**
	comp=Z,27nm,0.9s						
MNK				*i* pP	**sP**	**15 55 30.4**	**-2.2**
MNK				*i* PP	**PP**	**15 58 19.9**	**+0.2**
MNK				*i* PPP	PPP	16 00 09.6	
MNK				*i* S	**S**	**16 05 21.1**	**+0.7**
MNK				*i* SS	**SS**	**16 10 34.3**	**+0.5**
MNK				*i* SSS	SSS	16 13 49.3	
MNK				*i* LQ	LQ	16 25 50.8	
MNK				*i* LR	LR	16 28 17.1	
MNK				*i* LRM	MLR	16 32 41.4	
	comp=Z,67nm,15.2s						
MNK				*i* LRM	MLR	16 32 58.3	
	comp=E,17nm,17.4s						
MNK				*i* LRM	MLR	16 33 25.2	
	comp=N,109nm,13.7s						
AKASG	**Malin Array Be**	**80.80**	**320**	P	**P**	**15 55 15.0**	**-0.7**
	comp=N,4.6nm,0.8s,baz=66,slow=4.4,SNR=21						
AKBB	**Malin Array Si**	**80.80**	**320**	P	**P**	**15 55 14.6**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKBB	**Malin Array Si**	**80.80**	**320**	P	**P**	**15 55 14.6**	**-1.1**
AKBB				IAmb	IAmb	15 55 15.9	
	comp=Z,8.5nm,0.9s						
KIEV	**Kiev**	**80.81**	**320**	P	**P**	**15 55 14.0**	**-1.8**
IDID	**Didziasalis**	**81.24**	**325**	*e*P	**P**	**15 55 18.2**	**+0.3**
INK	**Inuvik**	**81.27**	**21**	P	**P**	**15 55 18.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**81.27**	**21**	P	**P**	**15 55 18.1**	**+0.2**
INK				IAmb	IAmb	15 55 19.4	
	comp=Z,9.5nm,0.9s						
NACGM	**Naroch**	**81.31**	**324**	*i* P	**P**	**15 55 18.9**	**+0.6**
IIGN	**Ignalina**	**81.52**	**325**	*e*P	**P**	**15 55 19.8**	**+0.4**
ISAL	**Salakas**	**81.52**	**325**	*e*P	**P**	**15 55 19.8**	**+0.4**
NOR	**Nord**	**81.67**	**354**	*i* P	**P**	**15 55 18.1**	**-1.7**
SORM	**Soroca**	**81.92**	**318**	⇓P	**P**	**15 55 21.0**	**-0.7**
SORM	**Soroca**	**81.92**	**318**	⇓P	**P**	**15 55 21.0**	**-0.7**
MTSE	**Matsula**	**81.95**	**329**	*e*P	**P**	**15 55 20.8**	**-0.8**
TLCR		**82.28**	**315**	⇑P	**P**	**15 55 24.5**	**+0.8**
TLCR		**82.28**	**315**	⇑P	**P**	**15 55 24.5**	**+0.8**
A36M	**Sachs Harbour**	**82.53**	**17**	P	**P**	**15 55 24.2**	**-0.2**
A36M				IAmb	IAmb	15 55 25.8	
	comp=Z,13nm,0.9s						
TPGR	**Topolog**	**82.63**	**314**	⇑P	**P**	**15 55 25.8**	**+0.3**
PABE	**Paberze**	**82.72**	**325**	P	**P**	**15 55 25.8**	**0.0**
PABE	**Paberze**	**82.72**	**325**	*e*P	**P**	**15 55 26.2**	**+0.5**
CFR	**Carcaliu**	**82.75**	**315**	⇑P	**P**	**15 55 26.3**	**+0.2**
CFR	**Carcaliu**	**82.75**	**315**	⇑P	**P**	**15 55 26.3**	**+0.2**
HORU	**Horodok**	**82.90**	**319**	P	**P**	**15 55 25.9**	**-0.9**
HARR	**Harsova**	**83.01**	**314**	⇑P	**P**	**15 55 28.4**	**+0.9**
HARR	**Harsova**	**83.01**	**314**	⇑P	**P**	**15 55 28.4**	**+0.9**
KMPD	**K-Podol'skiy**	**83.04**	**318**	P	**P**	**15 55 27.0**	**-0.5**
PANC	**Panciu**	**83.25**	**316**	⇑P	**P**	**15 55 29.9**	**+1.2**
TESR	**Tescani**	**83.43**	**316**	⇑P	**P**	**15 55 30.0**	**+0.4**
VRI	**Vrincioaia**	**83.54**	**316**	⇑P	**P**	**15 55 31.5**	**+1.3**
VRI	**Vrincioaia**	**83.54**	**316**	⇑P	**P**	**15 55 31.5**	**+1.3**
SUW	**Suwalki**	**83.57**	**324**	P	**P**	**15 55 29.3**	**-0.8**
SUW				pmax	pmax		
	comp=Z,68nm,1.0s						
SUW	**Suwalki**	**83.57**	**324**	P	**P**	**15 55 29.3**	**-0.8**
SUW	**Suwalki**	**83.57**	**324**	*e*P	**P**	**15 55 30.2**	**+0.1**
PLOR	**Plostina**	**83.60**	**316**	⇑P	**P**	**15 55 31.4**	**+0.8**
PLOR	**Plostina**	**83.60**	**316**	⇑P	**P**	**15 55 31.4**	**+0.8**
C36M	**Paulatuk**	**84.05**	**19**	P	**P**	**15 55 31.8**	**-0.5**
BURAR	**Bucovina Array**	**84.09**	**318**	⇑P	**P**	**15 55 33.9**	**+0.8**
BURAR	**Bucovina Array**	**84.09**	**318**	⇑P	**P**	**15 55 33.9**	**+0.8**
BURAR	**Bucovina Array**	**84.09**	**318**	P	**P**	**15 55 33.4**	**+0.3**
BUR08	**Bucovina Ar. S**	**84.09**	**318**	P	**P**	**15 55 33.0**	**-0.1**
BUR08				IAmb	IAmb	15 55 34.4	
	comp=Z,9.3nm,0.8s						
OZUR		**84.11**	**316**	⇑P	**P**	**15 55 34.9**	**+1.7**
MLR	**Muntele Rosu**	**84.17**	**315**	⇑P	**P**	**15 55 34.4**	**+0.8**
MLR	**Muntele Rosu**	**84.17**	**315**	LR	LR	16 37 52.6	
	comp=Z,142nm,19.4s,baz=54,slow=39						
MLR	**Muntele Rosu**	**84.17**	**315**	⇑P	**P**	**15 55 34.4**	**+0.8**
MLR	**Muntele Rosu**	**84.17**	**315**	P	**P**	**15 55 33.7**	**+0.1**
MLR				IAmb	IAmb	15 55 34.9	
	comp=Z,9.9nm,1.0s						
SGRR	**Singureni**	**84.48**	**314**	⇑P	**P**	**15 55 35.4**	**+0.4**
MORS	**Morshin**	**84.52**	**319**	P	**P**	**15 55 35.8**	**+0.7**
UPP	**Uppsala**	**84.62**	**331**	*e*P	**P**	**15 55 34.3**	**-1.0**
VOIR		**84.79**	**316**	⇑P	**P**	**15 55 36.4**	**-0.2**
VOIR		**84.79**	**316**	⇑P	**P**	**15 55 36.4**	**-0.2**
ARR	**Arges**	**85.09**	**316**	⇑P	**P**	**15 55 38.1**	**-0.1**
KWP	**Kalwaria Pacla**	**85.12**	**320**	P	**P**	**15 55 38.2**	**+0.1**
KWP	**Kalwaria Pacla**	**85.12**	**320**	P	**P**	**15 55 38.2**	**+0.1**
BMR	**Baia Mare**	**85.19**	**318**	⇑P	**P**	**15 55 39.8**	**+1.3**
BMR	**Baia Mare**	**85.19**	**318**	⇑P	**P**	**15 55 39.8**	**+1.3**
KIBK	**Kibwezi**	**85.44**	**266**	P	**P**	**15 55 41.2**	**+0.7**
KIBK				IAmb	IAmb	15 55 42.5	
	comp=Z,4.4nm,0.9s						
VIKU	**Vikbolandet**	**85.55**	**330**	*e*P	**P**	**15 55 39.7**	**-0.4**
TRPA	**Tarpa**	**85.67**	**319**	⇑P	**P**	**15 55 41.4**	**+0.5**
UZH	**Uzhgorod**	**85.68**	**319***c*	*i* P	**P**	**15 55 39.6**	**-1.3**
UZH				*i*		15 55 47.5	
UZH				*i*		15 55 54.3	
DAG	**Danmarks Havn**	**85.71**	**352**	*i* P	**P**	**15 55 37.8**	**-2.7**
KMBO	**Kilima Mbogo**	**85.89**	**268**	P	**P**	**15 55 43.9**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=46,slow=7.9,SNR=11						
KMBO	**Kilima Mbogo**	**85.89**	**268**	*i* P	**P**	**15 55 44.2**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMBO	**Kilima Mbogo**	**85.89**	**268**	P	**P**	**15 55 42.4**	**-0.5**
KMBO				IAmb	IAmb	15 55 45.0	
	comp=Z,7.5nm,1.0s						
DRGR		**85.96**	**317**	⇑P	**P**	**15 55 43.1**	**+0.6**
DRGR		**85.96**	**317**	⇑P	**P**	**15 55 43.1**	**+0.6**
GZR	**Gura Zlata**	**86.33**	**316**	⇑P	**P**	**15 55 44.7**	**+0.3**
HFS	**Hagfors**	**86.35**	**332**	LR	LR	16 37 16.0	
	comp=Z,134nm,19.7s,baz=55,slow=38						
OJC	**Ojcow**	**86.72**	**321**	P	**P**	**15 55 46.1**	**+0.1**
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
OJC	**Ojcow**	**86.72**	**321**	P	**P**	**15 55 46.1**	**+0.1**
NC405	**NORSAR Array S**	**86.83**	**333**	P	**P**	**15 55 45.6**	**-0.8**
NB2	**NORSAR Subarra**	**87.08**	**333**	P	**P**	**15 55 46.8**	**-0.8**
	comp=Z,9.7nm,0.8s,baz=65,slow=4.6						
NB2	**NORSAR Subarra**	**87.08**	**333**	P	**P**	**15 55 45.2**	**-2.4**
NB2	**NORSAR Subarra**	**87.08**	**333**	P	**P**	**15 55 46.8**	**-0.8**
	baz=65,slow=4.6						
NOA	**NORSAR Array B**	**87.08**	**333**	P	**P**	**15 55 46.8**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=64,slow=4.8,SNR=20						
NOA				LR	LR	16 38 48.8	
	comp=Z,89nm,18.3s,baz=70,slow=38						
RES	**Resolute Bay**	**87.54**	**9**	P	**P**	**15 55 49.8**	**+0.3**
RES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
RES	**Resolute Bay**	**87.54**	**9**	P	**P**	**15 55 49.8**	**+0.3**
IDI	**Anoyia**	**87.74**	**306**	LR	LR	16 40 44.8	
	comp=Z,23nm,18.1s,baz=136,slow=39						
NEEM	**North Greenlan**	**87.76**	**359**	*i* P	**P**	**15 55 50.2**	**-0.7**
VRAC	**Vranov**	**88.99**	**321**	⇑P	**P**	**15 55 57.7**	**+0.8**
VRAC	**Vranov**	**88.99**	**321**	⇑P	**P**	**15 55 57.7**	**+0.8**
GERES	**GERESS Array B**	**90.92**	**321**	P	**P**	**15 56 05.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=31,slow=0.8,SNR=6.9						
YKA	**Yellowknife Ar**	**90.92**	**23**	P	**P**	**15 56 06.5**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=302,slow=4.5,SNR=37						
SUMG	**Summit**	**91.83**	**354**	*i* P	P	15 56 03.4	-6.8
DAVOX	**Davos/Dischmat**	**94.13**	**321**	LR	LR	16 43 53.0	
	comp=Z,69nm,18.0s,baz=80,slow=39						
VNDA	**Vanda**	**94.96**	**172**	LR	LR	16 41 55.0	
	comp=Z,94nm,18.1s,baz=310,slow=37						
NVAR	**Mina Array Bea**	**102.11**	**45**	P	**Pdif**	**15 56 58.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=268,slow=6.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**115.30**	**293**	PKP	**PKPdf**	**16 01 43.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=94,slow=3.3,SNR=2.9						
TORD				PP	PP	16 02 37.3	-8.1
	comp=Z,1.7nm,0.9s,baz=66,slow=7.3,SNR=6.4						
TXAR	**Lajitas Array**	**117.25**	**45**	PKP	**PKPdf**	**16 01 47.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=169,slow=2.2,SNR=4.2						

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*IDC **05** 16:03:41.2±1.4, 4°.03S×152°.11E, h85km±14km, mb3.2/4, mb1 3.4/5, mb1mx3.1/34, mbtmp3.6/5, Error ellipse: s-maj=78.7km s-min=22.6km az=123.0*

ISC 05 16:03:43.2±1.2**, 3°.9S**±0°.2×**151°.9E**±0°.2**, h100**km**, n7,** σ2s**84**/9**, mb3.3**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.38**	**165**	P	**Pn**	**16 03 55.0**	**-3.3**
KRVT				S	**Sn**	**16 04 14.3**	**+4.9**
PMG	**Port Moresby**	**7.21**	**221**	P	**Pn**	**16 05 23.9**	**-2.0**
	0.8nm,0.3s,baz=53,slow=7.2,SNR=2.2						
PMG				S	**Sn**	**16 06 47.6**	**+1.3**
	5.1nm,0.3s,baz=158,slow=21,SNR=9.3						
WRA	**Warramunga Arr**	**23.39**	**226**	P	**P**	**16 08 43.0**	**-0.4**
	0.6nm,0.4s,baz=50,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**26.22**	**220**	P	**P**	**16 09 09.5**	**+0.5**
	0.2nm,0.4s,baz=51,slow=8.8,SNR=9.8						
FITZ	**Fitzroy Crossi**	**29.33**	**239**	P	**P**	**16 09 37.3**	**+0.6**
	1.1nm,0.8s,baz=58,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**79.11**	**319**	P	**P**	**16 15 38.6**	**+1.7**
	0.4nm,0.9s,baz=96,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.21**	**289**	PKPbc	**PKPbc**	**16 23 19.1**	**-2.1**
	0.2nm,0.3s,baz=92,slow=1.1,SNR=2.3						

IDC 05 16:17:01.2±6.7**, 6°.91S**×**102°.30E, h0**km**, mb3.3**/3**, mb1 3.6**/3**, mb1mx3.3**/28**, mbtmp3.3**/3**, 1D, Error ellipse: s-maj=252.2km s-min=32.9km az=52.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.43**	**353**	P	P	16 22 30.9	0.0
	0.4nm,0.3s,baz=175,slow=10,SNR=5.4						
H08S2	**Diego Garcia H**	**29.58**	**267**	T	T	16 54 41.9	
	baz=89						
H08S3	**Diego Garcia H**	**29.59**	**267**	T	T	16 54 46.0	
	baz=89						
H08S1	**Diego Carcia H**	**29.59**	**267**	T	T	16 54 53.7	
	baz=89						
WRA	**Warramunga Arr**	**33.66**	**116**	P	P	16 23 44.1	0.0
	0.3nm,0.7s,baz=285,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**56.35**	**344**	P	P	16 26 44.0	-0.1
	0.4nm,0.9s,baz=142,slow=7.3,SNR=2.9						
TIR	**Tirane**	**88.87**	**312**	⇓P	PKiKP	16 34 53.5	-3.9

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*NEIC **05** 17:28:49.2±1.8, 20°.31S±0°.07×173°.32W±0°.04, h10km±1km, mb5.0/113, Error ellipse: s-maj=12.0km s-min=5.1km az=165.0*

*IDC **05** 17:28:54.5±0.5, 20°.29S×173°.91W, h0km, mb4.5/22, mb1 4.7/24, mb1mx4.6/38, mbtmp4.5/24, ML4.7/2, MS3.8/28, Ms1 3.8/28, ms1mx3.6/69, Error ellipse: s-maj=18.6km s-min=13.8km az=119.0*

*MOS **05** 17:28:58.7±2.0, 20°.33S×173°.97W, h37km, mb5.0/24, Error ellipse: s-maj=10.8km s-min=9.8km az=160.8*

*GCMT **05** 17:28:59.2±0.5, 20°.61S±0°.06×173°.24W±0°.03, h22km±1km, MW4.8/61, Moment Tensor Solution. s25,c30; s61,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.20; $M_{\theta\theta}$-0.79±.12; $M_{\phi\phi}$-1.76±.12; $M_{r\theta}$0.54±.27; $M_{\theta\phi}$-0.32±.07; $M_{\phi r}$0.60±.18; Best double couple: $M_0$2.33800×10^{16} NP1:ϕ_s193.00000°, δ36.00000°, λ81.00000°. NP2: ϕ_s24.00000°, δ55.00000°, λ96.00000°. Principal axes: T 2.7010, Plg79.0000°, Azm319.0000°; N -0.7260, Plg5.0000°, Azm200.0000°; P -1.9750, Plg9.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **05** 17:29:00.0±0.0, 20°.40S×173°.80W, h40km, mb5.0/29, mB5.4/16, Ms4.9/3, Ms7 4.6/3*

*NOU **05** 17:29:00.7, 20°.02S×173°.26W, h101km, mb4.9/16, Tonga Islands*

ISC 05 17:28:54.7±0.3**, 20°.36S**±0°.05×**173°.32W**±0°.05**, h35**km**, n387,** σ2s**71**/326**, mb5.0**/112**, MS3.9**/27**, 38C-27D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.44**	**69**	P	**Pn**	**17 29 48.2**	**+2.4**
	baz=3.5,SNR=16						
AFI	**Afiamalu**	**6.58**	**13**	Pn	**Pn**	**17 30 28.3**	**-0.8**
	10nm,0.3s,baz=25,slow=11,SNR=9.8						
AFI				Sn	**Sn**	**17 31 38.1**	**-4.8**
	21nm,0.3s,baz=66,slow=22,SNR=3.7						
AFI				LR	LR	17 32 59.9	
	comp=Z,390nm,18.3s,baz=197,slow=37						
AFI	**Afiamalu**	**6.58**	**13**	P	Pn	17 30 34.9	+5.9
AFI				pmax	pmax		
	comp=Z,119nm,0.7s						
AFI	**Afiamalu**	**6.58**	**13**		**Pn**	**17 30 25.0**	**-4.0**
AFI				Sn	**Sn**	**17 31 40.5**	**-2.4**
AFI	**Afiamalu**	**6.58**	**13**	P	**Pn**	**17 30 29.0**	**0.0**
MSVF	**Nonsavu**	**8.57**	**286**	Pn	**Pn**	**17 31 00.1**	**+3.8**
	comp=Z,1.7nm,0.3s,baz=156,slow=11,SNR=18						
MSVF				LR	LR	17 33 06.2	
	comp=Z,164nm,21.5s,baz=103,slow=31						
MSVF	**Nonsavu**	**8.57**	**286**	P	**Pn**	**17 31 00.0**	**+3.7**
MSVF	**Nonsavu**	**8.57**	**286**		**Pn**	**17 31 01.0**	**+4.6**
MSVF	**Nonsavu**	**8.57**	**286**	P	Pn	17 31 01.6	+5.3
	comp=Z,110nm,1.0s						
RAO	**Raoul Island**	**9.79**	**204**	Sn	**Sn**	**17 32 54.6**	**-7.1**
	comp=Z,32nm,0.3s,baz=74,slow=23,SNR=1.3						
RAO				LR	LR	17 34 45.8	
	comp=Z,176nm,18.2s,baz=89,slow=36						
RAO	**Raoul Island**	**9.79**	**204**	Pn	**Pn**	**17 31 11.5**	**-1.5**
RAR	**Rarotonga**	**12.70**	**96**	Pn	**Pn**	**17 31 54.7**	**+1.8**
	comp=Z,7.4nm,0.3s,baz=252,slow=7.1,SNR=9.4						
RAR				LR	LR	17 37 30.7	
	comp=Z,600nm,18.2s,baz=248,slow=39						
RAR	**Rarotonga**	**12.70**	**96**	Pn	**Pn**	**17 31 50.6**	**-2.3**
MARNC	**Mare, Loyalty**	**17.46**	**263**		**Pn**	**17 32 52.8**	**-2.8**
PINNC	**Pines Island,**	**18.04**	**259**		**Pn**	**17 33 00.4**	**-2.3**
PINNC				IAmb	IAmb	17 33 27.2	
	comp=Z,240nm,1.8s						
PINNC	**Pines Island,**	**18.04**	**259**	P	**P**	**17 33 04.9**	**+2.0**
LIFNC	**LIFOU**	**18.21**	**265**		**P**	**17 33 01.0**	**-3.7**
LIFNC				IAmb	IAmb	17 33 34.4	
	comp=Z,80nm,0.8s						
YATNC	**Mamie plateau,**	**18.53**	**261**	P	**Pn**	**17 33 10.8**	**+2.1**
OUENC	**Ouen Island, N**	**18.59**	**260**		**P**	**17 33 06.1**	**-2.9**
OUENC	**Ouen Island, N**	**18.59**	**260**	P	**Pn**	**17 33 11.1**	**+1.7**
DZM	**Mont Dzumac**	**18.94**	**261**	P	**P**	**17 33 13.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=67,slow=20,SNR=16						
DZM	**Mont Dzumac**	**18.94**	**261**	*e*P	**P**	**17 33 12.6**	**-0.3**
	comp=Z,162nm,1.6s						
DZM				*e*S	**Sn**	**17 36 39.9**	**-5.1**
	comp=Z,133nm,24.2s						
DZM				*e*LR	LR	17 37 40.0	
	comp=Z,525nm,27.0s						
DZM	**Mont Dzumac**	**18.94**	**261**	P	**P**	**17 33 06.3**	**-6.6**
DZM	**Mont Dzumac**	**18.94**	**261**	P	**Pn**	**17 33 14.6**	**+0.8**
NOUC	**Port Laguerre**	**19.07**	**261**	P	**Pn**	**17 33 16.2**	**+0.9**
SANVU	**Saraoutou**	**19.16**	**282**	P	**P**	**17 33 08.3**	**-6.9**
SANVU				IAmb	IAmb	17 33 29.1	
	comp=Z,190nm,1.6s						
URZ	**Urewera**	**19.67**	**203**	P	**Pn**	**17 33 23.4**	**+1.1**
	comp=Z,4.2nm,0.3s,baz=344,slow=3.7,SNR=31						
URZ				S	S	17 36 46.7	-14
	comp=Z,0.7nm,0.3s,baz=312,slow=22,SNR=6.9						
URZ	**Urewera**	**19.67**	**203**	P	**P**	**17 33 15.2**	**-5.5**
URZ	**Urewera**	**19.67**	**203**	P	**Pn**	**17 33 24.8**	**+2.5**
BKZ	**Black Stump Fm**	**20.70**	**203**	P	**P**	**17 33 27.3**	**-4.6**
BKZ	**Black Stump Fm**	**20.70**	**203**	P	Pn	17 33 35.6	+1.2
HIZ	**Hauiti**	**20.78**	**207**	P	**P**	**17 33 26.7**	**-6.1**
HIZ				IAmb	IAmb	17 33 39.4	
	comp=Z,62nm,0.8s						
HIZ	**Hauiti**	**20.78**	**207**	P	Pn	17 33 37.9	+2.6
KOUNC	**Koumac, New Ca**	**20.98**	**266**	P	Pn	17 33 37.3	-0.5
PPT2	**Papeete2**	**22.62**	**87**	*e*LR	LR	17 39 20.0	
	comp=Z,610nm,27.0s						
PPT	**Papeete**	**22.62**	**87**	LR	LR	17 41 13.6	
	comp=Z,316nm,18.6s,baz=258,slow=32						
SNZO	**South Karori**	**23.23**	**203**	P	**P**	**17 33 54.7**	**-4.0**
SNZO				IAmb	IAmb	17 34 27.9	
	comp=Z,54nm,1.0s						
SNZO	**South Karori**	**23.23**	**203**	P	**P**	**17 34 00.2**	**+1.5**
PLWZ	**Palliser**	**23.26**	**202**	P	**P**	**17 33 58.1**	**-1.0**
PLWZ	**Palliser**	**23.26**	**202**	P	**P**	**17 34 02.6**	**+3.5**
TCW	**Tory Channel**	**23.31**	**204**	P	**P**	**17 34 01.0**	**+1.5**
TUWZ	**Tuamarina**	**23.63**	**204**	P	**P**	**17 33 56.9**	**-5.6**
TUWZ	**Tuamarina**	**23.63**	**204**	P	**P**	**17 34 04.9**	**+2.3**
NNZ	**Nelson**	**23.67**	**206**	P	**P**	**17 34 04.8**	**+1.8**
TKNZ	**Takaka Hill**	**23.69**	**207**	P	P	17 34 12.0	+8.8
QRZ	**Quartz Range**	**23.70**	**207**	P	**P**	**17 34 00.2**	**-3.1**
QRZ	**Quartz Range**	**23.70**	**207**	P	**P**	**17 34 07.5**	**+4.2**
QRZ	**Quartz Range**	**23.70**	**207**	P	**P**	**17 34 07.2**	**+3.9**
MRNZ	**Matariki Terra**	**24.08**	**206**	P	**P**	**17 34 11.8**	**+5.0**
THZ	**Tophouse**	**24.32**	**206**	P	**P**	**17 34 12.7**	**+3.6**
KHZ	**Kahutara**	**24.63**	**204**	P	**P**	**17 34 10.8**	**-0.9**
KHZ				IAmb	IAmb	17 34 21.9	
	comp=Z,43nm,1.0s						
KHZ	**Kahutara**	**24.63**	**204**	P	**P**	**17 34 15.5**	**+3.7**
KHZ	**Kahutara**	**24.63**	**204**	P	**P**	**17 34 15.9**	**+4.1**
DSZ	**Denniston Nort**	**24.77**	**207**	P	**P**	**17 34 19.6**	**+6.4**
GVZ	**Greta Valley S**	**25.29**	**204**	P	**P**	**17 34 21.3**	**+3.5**
LTZ	**Lake Taylor**	**25.43**	**205**	P	**P**	**17 34 15.8**	**-3.3**
LTZ				IAmb	IAmb	17 34 42.2	
	comp=Z,29nm,0.8s						
LTZ	**Lake Taylor**	**25.43**	**205**	P	**P**	**17 34 22.6**	**+3.4**
INZ	**Inchbonnie**	**25.72**	**206**	P	**P**	**17 34 27.7**	**+6.0**
OXZ	**Oxford**	**25.98**	**205**	P	**P**	**17 34 20.5**	**-3.6**
MQZ	**McQueen's Vall**	**26.07**	**204**	P	P	17 34 32.6	+7.8
RPZ	**Rata Peaks**	**26.70**	**206**	P	**P**	**17 34 32.6**	**+2.0**
	comp=Z,9.7nm,0.7s,baz=205,slow=2.6,SNR=6.3						
RPZ	**Rata Peaks**	**26.70**	**206**	P	**P**	**17 34 27.2**	**-3.4**
RPZ				IAmb	IAmb	17 34 56.1	
	comp=Z,21nm,0.8s						
FOZ	**Fox Glacier**	**27.07**	**208**	P	**P**	**17 34 31.7**	**-2.2**
FOZ				IAmb	IAmb	17 34 44.2	
	comp=Z,39nm,0.8s						
LBZ	**Lake Benmore**	**27.61**	**206**	P	**P**	**17 34 36.1**	**-2.6**
LBZ				IAmb	IAmb	17 35 00.1	
	comp=Z,37nm,1.1s						
HNR	**Honiara**	**27.98**	**289**	P	**P**	**17 34 40.5**	**-1.8**
HNR				pmax	pmax		
	comp=Z,19nm,0.8s						
HNR	**Honiara**	**27.98**	**289**	P	**P**	**17 34 40.5**	**-1.8**
HNR				IAmb	IAmb	17 35 05.6	
	comp=Z,19nm,0.8s						
WHZ	**Wether Hill Ro**	**29.76**	**207**	P	**P**	**17 34 56.1**	**-1.8**
TAOE	**Nuku Hiva Isla**	**34.00**	**75**	*e*LR	LR	17 44 28.4	
	comp=Z,335nm,26.8s						
RMQ	**Roma**	**35.24**	**253**	P	**P**	**17 35 47.0**	**+1.0**
	baz=35,SNR=8.0						
CNB	**Canberra Magne**	**35.97**	**238**	P	**P**	**17 35 54.0**	**+1.7**
	baz=36,SNR=7.2						
CAN	**Canberra**	**36.26**	**238**	P	**P**	**17 35 52.5**	**-2.3**
CAN				pmax	pmax		
	comp=Z,24nm,1.1s						
CAN	**Canberra**	**36.26**	**238**	P	**P**	**17 35 52.5**	**-2.3**
CAN				IAmb	IAmb	17 35 57.6	
	comp=Z,24nm,1.1s						
CTA	**Charters Tower**	**37.87**	**263**	LR	LR	17 50 16.8	
	comp=Z,171nm,18.9s,baz=89,slow=34						
CMSA	**Cobar Meteorol**	**38.30**	**245**	P	**P**	**17 36 12.6**	**+0.6**
	baz=38,SNR=14						
QLP	**Quilpie**	**39.29**	**253**	P	**P**	**17 36 20.6**	**+0.2**
	baz=39,SNR=3.5						
TOO	**Toolangi**	**39.55**	**235**	P	**P**	**17 36 24.2**	**+1.7**
	baz=40,SNR=12						
PMG	**Port Moresby**	**39.61**	**280**	LR	LR	17 51 43.4	
	comp=Z,130nm,18.1s,baz=134,slow=35						
PMG	**Port Moresby**	**39.61**	**280***ce*	P	**P**	**17 36 22.8**	**-0.4**
PMG				pmax	pmax		
	comp=Z,39nm,1.0s						
PMG	**Port Moresby**	**39.61**	**280**	P	**P**	**17 36 20.6**	**-2.6**
PMG				IAmb	IAmb	17 36 26.1	
	comp=Z,34nm,0.8s						
TAU	**Tasmania Unive**	**39.86**	**227**	P	**P**	**17 36 25.2**	**+0.3**
TAU				pmax	pmax		
	comp=Z,89nm,1.8s						
TAU	**Tasmania Unive**	**39.86**	**227**	P	**P**	**17 36 25.2**	**+0.3**
TAU				IAmb	IAmb	17 36 31.0	
	comp=Z,88nm,1.8s						
MTSU	**Mount Surprise**	**39.98**	**266**	P	**P**	**17 36 26.5**	**+0.3**
	baz=40,SNR=26						
STKA	**Stephens Creek**	**41.81**	**245**	P	**P**	**17 36 41.3**	**+0.1**
	comp=Z,8.5nm,0.8s,baz=86,slow=11,SNR=17						
STKA				LR	LR	17 51 50.4	
	comp=Z,132nm,19.4s,baz=41,slow=33						
STKA	**Stephens Creek**	**41.81**	**245**	P	**P**	**17 36 42.2**	**+1.0**
	baz=42,SNR=6.4						
STKA	**Stephens Creek**	**41.81**	**245**	P	**P**	**17 36 39.4**	**-1.8**
AIN	**Ainahou**	**43.19**	**25**	P	**P**	**17 36 49.1**	**-3.4**
HTT	**Hallett**	**44.18**	**243**	P	**P**	**17 37 00.9**	**+0.4**
	baz=44,SNR=5.0						
BBOO	**Buckleboo**	**46.54**	**244**	P	**P**	**17 37 20.7**	**+1.6**
	baz=46,SNR=5.1						
JAY	**Jayapura**	**48.20**	**285**	LR	LR	17 56 16.5	
	comp=Z,92nm,20.6s,baz=184,slow=34						
JAY	**Jayapura**	**48.20**	**285**	P	**P**	**17 37 33.6**	**+1.4**
	comp=Z,854nmcomp=Z,86nm,0.9s						
WR0	**Warramunga Arr**	**48.77**	**261**	P	**P**	**17 37 33.8**	**-2.7**
ASAR	**Alice Springs**	**48.82**	**256**	P	**P**	**17 37 36.9**	**-0.1**
	comp=Z,11nm,0.8s,baz=85,slow=8.7,SNR=97						
ASAR				PcP	**PcP**	**17 39 05.1**	**+3.7**
	comp=Z,4.3nm,0.7s,baz=107,slow=3.8,SNR=10						
ASAR	**Alice Springs**	**48.82**	**256**	P	**P**	**17 37 34.7**	**-2.2**
ASAR				PcP	**PcP**	**17 39 05.7**	**+4.3**
WB0	**Warramunga Arr**	**48.94**	**261**	P	**P**	**17 37 35.6**	**-2.2**
WB0				IAmb	IAmb	17 37 38.4	
	comp=Z,10nm,0.9s						
WB2	**Warramunga Arr**	**48.95**	**261**	P	**P**	**17 37 35.3**	**-2.6**
WB2				IAmb	IAmb	17 37 38.5	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**48.95**	**261***ce*	P	**P**	**17 37 36.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**48.95**	**261**	P	**P**	**17 37 35.5**	**-2.4**
WRAB				IAmb	IAmb	17 37 38.4	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**48.96**	**261**	P	**P**	**17 37 37.4**	**-0.6**
	comp=Z,7.4nm,0.8s,baz=96,slow=7.7,SNR=94						
WRA				PcP	**PcP**	**17 39 05.4**	**+3.5**
	comp=Z,3.9nm,0.8s,baz=94,slow=3.9,SNR=6.8						
WRA	**Warramunga Arr**	**48.96**	**261**	P	**P**	**17 37 34.8**	**-3.2**
KDU	**Kakadu**	**52.34**	**269**	P	**P**	**17 38 03.6**	**+0.1**
	baz=52,SNR=8.4						
GUMO	**Guam**	**53.18**	**306**	LR	LR	17 56 36.4	
	comp=Z,52nm,21.7s,baz=112,slow=32						
WRKA	**Warakurna**	**53.72**	**253**	P	**P**	**17 38 14.2**	**+0.6**

baz=54,SNR=34
KNRA Kununurra 55.04 265 P **P** 17 38 24.0 +0.7
baz=55,SNR=11
FITZ Fitzroy Crossi 57.39 261 P **P** 17 38 41.4 +1.4
baz=57,SNR=5.2
SIJI Sorong 57.47 282 LR LR 18 04 10.6
comp=Z,103nm,18.2s,baz=124,slow=37
SWI Sorong 57.47 282 P **P** 17 38 42.5 +1.8
SWI pmax pmax
comp=Z,150nm,0.9s
SWI Sorong 57.47 282 P **P** 17 38 42.2 +1.5
comp=Z,1µmcomp=Z,151nm,0.9s
SBA Scott Base 58.34 185 P **P** 17 38 44.4 -1.4
SBA pmax pmax
comp=Z,107nm,1.7s
SBA Scott Base 58.34 185 P **P** 17 38 44.4 -1.4
RPN Rapa Nui 58.43 110 LR LR 17 59 44.2
comp=Z,183nm,19.7s,baz=168,slow=31
VNDA Vanda 58.48 186 P P 17 38 53.2 +6.4
comp=Z,5.6nm,0.9s,baz=39,slow=6.1,SNR=7.5
VNDA Vanda 58.48 186 P **P** 17 38 44.7 -2.1
VNDA pmax pmax
comp=Z,111nm,1.1s
VNDA Vanda 58.48 186 P **P** 17 38 44.7 -2.1
VNDA IAmb IAmb 17 38 58.2
comp=Z,11nm,1.1s
AAI Ambon 59.23 278 P **P** 17 38 54.1 +1.1
AAI pmax pmax
comp=Z,25nm,1.0s
AAI Ambon 59.23 278 P **P** 17 38 53.8 +0.8
comp=Z,25nm,1.0s
LBMI Labuha 61.02 281 P **P** 17 39 07.2 +2.0
comp=Z,39nm,0.9s
BATI Baumata 61.31 269 P **P** 17 39 09.5 +2.2
comp=Z,7.0nm,0.8s
TNTI Ternate 61.69 282 P **P** 17 39 07.2 -2.6
TNTI Ternate 61.69 282 P **P** 17 39 11.4 +1.6
comp=Z,741nmcomp=Z,86nm,0.9s
SANI Sanana 61.88 279 P **P** 17 39 12.0 +0.9
comp=Z,34nm,1.0s
KLBR Kellerberrin 62.08 244 P **P** 17 39 14.5 +2.3
baz=62,SNR=14
BLDU Ballidu 63.11 245 P **P** 17 39 21.2 +2.1
baz=63,SNR=7.6
JCJ Chichijima 63.89 316 P **P** 17 39 21.6 -2.5
MORW Morawa 63.93 247 P **P** 17 39 26.7 +2.2
baz=64,SNR=4.9
KMSI Cibinong 64.73 281 P **P** 17 39 31.5 +1.6
comp=Z,1µmcomp=Z,90nm,0.8s
LUWI Luwuk 65.24 279 P **P** 17 39 30.8 -2.4
LUWI Luwuk 65.24 279 P **P** 17 39 35.4 +2.2
comp=Z,1µmcomp=Z,66nm,0.9s
APSI Ampana 66.33 278 P **P** 17 39 43.1 +2.8
comp=Z,389nmcomp=Z,36nm,1.0s
BNSI Bone 66.53 274 P **P** 17 39 43.1 +1.6
comp=Z,17nm,1.2s
PLAI Plampang 67.26 269 P **P** 17 39 46.8 +0.6
comp=Z,21nm,0.9s
TOLI2 Tolitoli 67.89 280 P **P** 17 39 46.9 -3.3
MPSI Mapaga 68.41 279 P **P** 17 39 55.3 +1.8
comp=Z,409nmcomp=Z,32nm,0.9s
QSPA South Pole Qui 69.72 180 P P 17 40 06.7 +5.8
comp=Z,10nm,1.0s,baz=36,slow=2.4,SNR=16
QSPA South Pole Qui 69.72 180 P **P** 17 39 60.0 -0.9
QSPA IAmb IAmb 17 40 11.3
comp=Z,13nm,1.0s
MYLDM Lahad Datu 71.56 283 P **P** 17 40 10.1 -2.7
MTKI Muara Teweh, K 72.61 276 P **P** 17 40 21.7 +2.6
MJAR Matsushiro Arr 72.78 321 P **P** 17 40 22.8 +3.1
comp=Z,13nm,1.0s,baz=157,slow=5.4,SNR=22
MJAR Matsushiro Arr 72.78 321 P **P** 17 40 18.0 -1.6
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 72.78 321 P **P** 17 40 18.0 -1.6
MAJO Matsushiro 72.78 321 *i* P **P** 17 40 23.3 +3.7
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 72.78 321 P **P** 17 40 16.8 -2.9
MAJO IAmb IAmb 17 40 24.3
comp=Z,13nm,0.9s
MAT Matsushiro 72.78 321 P **P** 17 40 23.0 +3.4
MJB9 Matsu-Tunnel 72.79 321 P **P** 17 40 16.8 -2.9
MJB9 IAmb IAmb 17 40 24.3
comp=Z,13nm,0.9s
JMN Monobe 73.64 316 P **P** 17 40 23.3 -1.5
KKM Kota Kinabalu 73.98 283 P **P** 17 40 25.4 -2.0
KKM IAmb IAmb 17 40 30.8
comp=Z,17nm,0.8s
UNV Unalaska Valle 74.13 4 P **P** 17 40 27.7 +0.7
UGM Wanagama 74.35 267 P **P** 17 40 26.8 -2.7
JHS Saijyo 74.92 317 P **P** 17 40 29.6 -2.6
LPIG La Paz 75.60 57 LR LR 18 07 22.5
comp=Z,119nm,19.2s,baz=221,slow=30
ASAJ Asahikawa 75.78 329 LR LR 18 12 21.6
comp=Z,44nm,18.2s,baz=177,slow=35
ISA Isabella, Lake 76.16 43 P P 17 40 47.7 +8.3
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella, Lake 76.16 43 P **P** 17 40 38.5 -0.8
PFO Pinyon Flats O 76.26 46 P **P** 17 40 37.0 -3.0
PFO pmax pmax
comp=Z,10.0nm,1.4s
PFO Pinyon Flats O 76.26 46 P **P** 17 40 37.0 -3.0
YULB Yu-li 77.14 301 P **P** 17 40 43.0 -2.0
NACB Ninganchiao 77.28 302 P **P** 17 40 43.7 -2.2
PEA0B Petropavlovsk- 77.35 343 P **P** 17 40 44.0 -1.6
PEA0B pmax pmax
comp=Z,36nm,1.3s
PEA0B Petropavlovsk- 77.35 343 P **P** 17 40 44.0 -1.6
PETK Petropavlovsk- 77.35 343 P **P** 17 40 49.9 +4.3
comp=Z,4.5nm,0.7s,baz=106,slow=9.3,SNR=7.3
QSM Queen of Sheba 77.38 44 P **P** 17 40 44.0 -2.1
QSM IAmb IAmb 17 40 59.2
comp=Z,15nm,1.6s
LEM Lembang 77.43 267 LR LR 18 17 08.2
comp=Z,54nm,18.0s,baz=40,slow=38
LEM Lembang 77.43 267 P **P** 17 40 50.2 +3.1
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 77.50 36 LR LR 18 11 08.9
comp=Z,142nm,19.3s,baz=270,slow=33
SSLB Suanglung 77.60 301 P **P** 17 40 44.4 -3.3
TPUB Ta-pu 77.63 301 P **P** 17 40 47.6 -0.2
LCH Last Change Ra 77.65 42 P **P** 17 40 46.6 -1.2
GRAC Grapevine Rang 77.68 43 P **P** 17 40 47.2 -0.6
GRAC IAmb IAmb 17 40 59.8
comp=Z,8.3nm,1.0s
YHNB Yeheng 77.69 302 P **P** 17 40 45.6 -2.7
LHV Little Huntoon 77.73 41 P **P** 17 40 43.4 -4.6
LHV IAmb IAmb 17 41 00.0
comp=Z,12nm,1.2s
YSS Yuzh-Sakhalins 77.82 331 *e*P P 17 40 53.3 +5.0
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 77.82 331 P **P** 17 40 46.0 -2.3
YSS IAmb IAmb 17 41 04.7
comp=Z,16nm,1.0s
NVAR Mina Array Bea 77.97 41 P P 17 40 56.8 +7.1
comp=Z,4.0nm,0.8s,baz=227,slow=8.0,SNR=16
NVAR Mina Array Bea 77.97 41 P **P** 17 40 46.9 -2.8
NV11 Mina Array Sit 78.06 41 P **P** 17 40 48.4 -1.6
TPNV Topopah Spring 78.37 43 P P 17 40 58.4 +6.6
TPNV pmax pmax
comp=Z,5.0nm,1.4s
TPNV Topopah Spring 78.37 43 P **P** 17 40 50.0 -1.8
TPH Tonopah 78.42 42 P P 17 40 58.5 +6.3
TPH pmax pmax
comp=Z,31nm,0.9s
TPH Tonopah 78.42 42 P **P** 17 40 48.0 -4.2
KVN Kaiserville 78.48 41 P P 17 40 58.8 +6.4
KVN pmax pmax
comp=Z,4.0nm,1.0s
KVN Kaiserville 78.48 41 P **P** 17 40 49.0 -3.4
Y14A Wickenburg 78.81 47 P **P** 17 40 51.5 -2.6
SHPR Sheep Range 78.81 44 P **P** 17 40 50.7 -3.6
BELA Belgrano 2 79.11 172 P **P** 17 40 54.7 -0.4
BELA pmax pmax
comp=Z,13nm,1.3s
CGJI Cibinong 79.30 267 P **P** 17 40 59.2 +1.9
comp=Z,25nm,0.9s
PRN Pahroc Range 79.41 44 P **P** 17 40 55.7 -1.8
PRN IAmb IAmb 17 41 10.1
comp=Z,12nm,1.2s
TUC Tucson 79.48 50 P P 17 41 05.2 +7.2
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 79.48 50 P **P** 17 40 55.3 -2.7
R11A Troy Canyon, C 79.62 43 P **P** 17 40 55.5 -3.1
KSRS Korea Array 79.75 316 P **P** 17 41 03.7 +4.6
comp=Z,4.1nm,0.8s,baz=135,slow=6.1,SNR=16
X16A Lo Mia Camp, P 80.15 48 P **P** 17 40 58.0 -3.6
LCMT Little Creek M 80.36 45 P **P** 17 41 00.1 -2.5
CCUT Cedar City 80.59 44 P **P** 17 41 03.1 -1.0
KNB Kanab 80.65 45 P **P** 17 41 03.5 -0.8
KNB pmax pmax
comp=Z,9.0nm,1.3s
KNB Kanab 80.65 45 P **P** 17 41 03.5 -0.8
U15A North Rim 80.67 46 P **P** 17 41 04.6 +0.1
U15A IAmb IAmb 17 41 17.3
comp=Z,14nm,1.4s
KASI Kota Agung 80.79 268 P **P** 17 41 07.4 +2.1
comp=Z,31nm,1.0s
PSUT Pine Spring 80.83 43 P **P** 17 41 04.3 -0.9
PKCU Pink Cliffs 81.22 45 P **P** 17 41 06.2 -1.4
PKCU IAmb IAmb 17 41 28.7
comp=Z,24nm,1.4s
LWLI Liwa 81.37 268 P **P** 17 41 10.9 +2.3
comp=Z,25µmcomp=Z,28nm,0.9s
USRK Ussuriysk Ar. 81.38 324 P **P** 17 41 12.5 +4.8
comp=Z,1.4nm,0.8s,baz=100,slow=5.4,SNR=1.9
USRK Ussuriysk Ar. 81.38 324 P **P** 17 41 05.3 -2.4
USRK Ussuriysk Ar. 81.38 324 P **P** 17 41 05.3 -2.4
MDSI Maura Dua 81.43 268 P **P** 17 41 10.0 +1.2
comp=Z,367nmcomp=Z,10.0nm,1.0s
MTPU Mount Pierson 81.64 44 P **P** 17 41 06.7 -3.1
MTPU IAmb IAmb 17 41 37.2
comp=Z,23nm,1.6s
H03S2 Juan Fernandez 82.43 123 T T 19 14 09.7
baz=247
H03S1 Juan Fernandez 82.44 123 T T 19 14 01.3
baz=247
H03S3 Juan Fernandez 82.44 123 T T 19 13 59.1
baz=247
H03N2 Juan Fernandez 82.55 123 T T 19 13 58.1
baz=257
H03N3 Juan Fernandez 82.55 123 T T 19 14 00.9
baz=257
H03N1 Juan Fernandez 82.57 123 T T 19 14 09.9
baz=257
TMUT Trail Mountain 82.97 44 P **P** 17 41 14.1 -2.6
MNTX Cornudas Mount 83.13 53 P **P** 17 41 15.5 -1.8
KSI Kapahiang 83.20 269 P **P** 17 41 20.5 +2.4
comp=Z,31nm,0.9s
NJ2 Nanjing 83.22 308 *e*P P 17 41 23.3 +5.7
NJ2 pmax pmax
comp=Z,11nm,0.5s
F10A Beach Ranch, E 83.27 36 P **P** 17 41 15.4 -2.3
F10A IAmb IAmb 17 41 28.0
comp=Z,7.2nm,1.0s
SRU San Rafael Swe 83.31 44 P P 17 41 24.6 +6.4
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 83.31 44 P **P** 17 41 17.0 -1.3
SRU IAmb IAmb 17 41 45.4
comp=Z,9.3nm,1.0s
TX31 Lajitas Ar. Si 83.32 56 P **P** 17 41 15.8 -2.6
TX31 IAmb IAmb 17 41 31.9
comp=Z,21nm,1.4s
TX32 Lajitas Array 83.32 56 P **P** 17 41 15.9 -2.5
TXAR Lajitas Array 83.32 56 P P 17 41 25.3 +6.9
comp=Z,0.8nm,0.7s,baz=211,slow=7.1,SNR=12
TXAR LR LR 18 11 33.7
comp=Z,37nm,18.1s,baz=204,slow=31
HVU Hansel Valley 83.36 41 P P 17 41 25.2 +6.8
HVU pmax pmax
comp=Z,20nm,1.8s
HVU Hansel Valley 83.36 41 P **P** 17 41 15.2 -3.2
HVU IAmb IAmb 17 41 29.3
comp=Z,20nm,1.8s
P17A Butcher Ranch, 83.37 44 P **P** 17 41 15.7 -2.8
P17A IAmb IAmb 17 41 32.7
comp=Z,9.4nm,1.1s
PLID Pearl Lake 83.41 37 P **P** 17 41 15.6 -3.0
HLID Hailey 83.41 39 P **P** 17 41 15.5 -3.1
HLID IAmb IAmb 17 41 30.0
comp=Z,7.0nm,1.1s
P18A Preston Nutter 83.77 44 P **P** 17 41 17.5 -3.2
P18A IAmb IAmb 17 41 32.4
comp=Z,15nm,1.4s
ANMO Albuquerque 83.93 49*ce*P P 17 41 28.1 +6.6
ANMO pmax pmax
comp=Z,10.0nm,1.7s
ANMO Albuquerque 83.93 49 P **P** 17 41 18.2 -3.3
ANMO IAmb IAmb 17 41 34.2
comp=Z,10.0nm,1.4s
PV13 Radium Mtn., P 83.93 46 P **P** 17 41 18.1 -3.5
PV13 IAmb IAmb 17 41 33.7
comp=Z,17nm,1.3s
PV23 Carpenter Ridg 83.96 45 P **P** 17 41 19.7 -2.0
PV23 IAmb IAmb 17 41 33.8
comp=Z,11nm,0.9s
PV11 David Mesa, Pa 83.97 46 P **P** 17 41 18.5 -3.1
KLR Kul'dur 84.70 327 LR LR 18 16 51.7
comp=Z,25nm,18.2s,baz=166,slow=34
KLR Kul'dur 84.70 327*ce*P **P** 17 41 28.0 +3.2
KLR pmax pmax
comp=Z,2.0nm,0.8s
MA2 Magadan 84.89 343 P **P** 17 41 29.0 +3.5
comp=Z,3.5nm,0.8s,baz=149,slow=4.3,SNR=14
MA2 Magadan 84.89 343⇑*e*P **P** 17 41 29.0 +3.5
MA2 pmax pmax
comp=Z,12nm,1.6s
MA2 Magadan 84.89 343 P **P** 17 41 23.3 -2.2
MA2 IAmb IAmb 17 41 30.4
comp=Z,5.3nm,0.9s
BNX BinXian 84.90 323 ⇓P **P** 17 41 30.6 +4.7
BNX pmax pmax
comp=Z,44nm,1.2s
BNX pmax pmax
comp=Z,350nm,3.8s
CN2 Changchun 84.92 320 *e*P **P** 17 41 30.1 +4.0
CN2 pmax pmax
comp=Z,10.0nm,1.3s
AHID Auburn Hatcher 84.95 41 P **P** 17 41 24.7 -1.8
AHID IAmb IAmb 17 41 41.5
comp=Z,6.3nm,1.0s
MCMT McKenzie Canyo 85.06 38 P **P** 17 41 24.3 -2.8
S22A 4UR Ranch, Cre 85.07 47 P **P** 17 41 25.9 -1.4
S22A IAmb IAmb 17 41 41.7
comp=Z,7.5nm,1.1s
CMIG Matias Romero 85.48 70 LR LR 18 13 46.4
comp=Z,94nm,18.0s,baz=208,slow=31
J20K Nowinta River 85.57 8 P **P** 17 41 26.8 -2.0
J20K IAmb IAmb 17 41 53.5
comp=Z,12nm,1.1s
RND Reindeer 85.67 11 P **P** 17 41 27.7 -1.7
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 85.67 11 P **P** 17 41 27.7 -1.7
RND IAmb IAmb 17 42 02.7
comp=Z,14nm,1.0s
PDAR Pinedale Array 85.90 41 P P 17 41 37.4 +6.1
comp=Z,0.9nm,0.8s,baz=203,slow=3.1,SNR=7.5
PDAR Pinedale Array 85.90 41 P **P** 17 41 28.1 -3.2
WHN Wuhan 85.94 305 ⇑P P 17 41 39.4 +8.0
MCK McKinley 85.95 11 P P 17 41 35.9 +5.1
MCK pmax pmax
comp=Z,21nm,1.3s
MCK McKinley 85.95 11 P **P** 17 41 29.3 -1.5
MCK IAmb IAmb 17 41 55.6
comp=Z,21nm,1.3s
M27K Edge Creek, AK 86.13 14 P **P** 17 41 29.4 -2.4
M27K IAmb IAmb 17 41 50.0
comp=Z,15nm,1.2s
MSTX Muleshoe 86.14 52 P **P** 17 41 29.4 -3.1
MSTX IAmb IAmb 17 41 43.1
comp=Z,6.9nm,0.7s
PLCA Paso Flores 86.15 132 P P 17 41 41.5 +8.9
comp=Z,0.9nm,0.8s,baz=239,slow=22,SNR=1.7
PLCA LR LR 18 14 12.0
comp=Z,143nm,18.8s,baz=194,slow=31
TIA Tai'an 86.46 311 ⇓P P 17 41 38.9 +5.0
TIA pmax pmax
comp=Z,12nm,0.6s
WRH Wood River Hil 86.78 11 P **P** 17 41 33.0 -1.8
CCB Clear Creek Bu 86.99 11 P **P** 17 41 33.3 -2.5
CCB IAmb IAmb 17 42 02.4
comp=Z,20nm,1.5s
H21K Melozitna Rive 87.16 8 P **P** 17 41 35.9 -0.7
H21K IAmb IAmb 17 42 03.3
comp=Z,12nm,1.4s
MDM Murphy Dome 87.20 10 P **P** 17 41 33.6 -3.3
MDM IAmb IAmb 17 42 09.0
comp=Z,22nm,1.7s
UBPT Khong Chiam 87.26 287 P **P** 17 41 35.4 -2.8
UBPT IAmb IAmb 17 41 43.7
comp=Z,11nm,0.9s
ILAR Eielson Array 87.27 11 P P 17 41 42.1 +4.9
comp=Z,0.8nm,0.6s,baz=231,slow=6.1,SNR=15
ILAR Eielson Array 87.27 11 P P 17 41 42.5 +5.4
ILAR Eielson Array 87.27 11 P **P** 17 41 34.2 -3.0
SEY Seymchan 87.30 345 P **P** 17 41 41.7 +4.4
comp=Z,9.9nm,0.9s,baz=144,slow=5.5,SNR=36
SEY LR LR 18 17 40.8
comp=Z,36nm,18.8s,baz=176,slow=34
IPM Ipoh 87.47 276 P **P** 17 41 36.1 -3.3
SYO Syowa Base 87.78 191⇓*e*PcP **PcP** 17 41 39.1 -2.5
SNAA Sanae 87.98 177 P P 17 41 48.1 +7.3
comp=Z,4.0nm,1.1s,baz=338,slow=19,SNR=2.7
APG El Apazote 88.64 74 P P 17 41 52.5 +7.4
comp=Z,2.4nm,0.3s,baz=109,slow=12,SNR=4.4
HNS HongShan 88.73 311 ⇓P P 17 41 50.2 +5.5
HNS pmax pmax
comp=Z,8.0nm,1.5s
PSI Prapat 88.86 273 LR LR 18 21 30.3
comp=Z,18nm,18.3s,baz=128,slow=36
BILL Bilibino 89.41 352⇓*e*P **P** 17 41 51.3 +4.1
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,49nm,15.0s
BILL Bilibino 89.41 352 P **P** 17 41 46.8 -0.4
ENH Enshi 89.63 302 P **P** 17 41 46.6 -2.6
ZEA Zeya 89.69 329 *e*P P 17 41 54.3 +5.4
ZEA pmax pmax
comp=Z,10.0nm,1.0s
SRIT Nakonsritamara 90.23 279 P **P** 17 41 51.1 -1.3
XAN Xi'an 91.57 306 P P 17 42 03.3 +5.1
XAN pmax pmax
comp=Z,13nm,1.0s
XAN pmax pmax
comp=Z,130nm,6.9s
NNA Nana 91.85 103 LR LR 18 16 04.3
comp=Z,78nm,18.1s,baz=204,slow=31
JTS Las Juntas de 92.01 80 LR LR 18 18 38.0
comp=Z,44nm,18.1s,baz=144,slow=32
ATAH Atahualpa 92.14 98 LR LR 18 16 42.4
comp=Z,77nm,18.2s,baz=242,slow=31
HHC Hu-ho-hao-te 92.43 313 *e*P P 17 42 08.2 +6.1
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.9s
KMI Kunming 93.22 295 ⇑P P 17 42 11.4 +5.2
KMI pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 93.67 337 LR LR 18 17 32.3
comp=Z,35nm,21.9s,baz=116,slow=31
YAK Yakutsk 93.67 337*ce*P **P** 17 42 10.7 +3.6
YAK pmax pmax
comp=Z,10.0nm,0.7s
CM31 Chiang Mai Arr 94.22 288 P **P** 17 42 07.4 -3.3
CM31 IAmb IAmb 17 42 17.9
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 94.22 288 P **P** 17 42 15.0 +4.3
comp=Z,5.8nm,0.9s,baz=122,slow=2.8,SNR=38
CMAR Chiang Mai Arr 94.22 288 *i* P P 17 42 15.8 +5.1
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 94.22 288 P **P** 17 42 07.4 -3.3
CHTO Chiang Mai 94.34 288 P **P** 17 42 15.2 +4.0
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 94.34 288 P **P** 17 42 07.9 -3.3
CHTO IAmb IAmb 17 42 18.0
comp=Z,9.3nm,1.1s
PZH PanZhiHua 94.55 296 P **P** 17 42 16.3 +4.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
YKA Yellowknife Ar 94.59 23 P P 17 42 16.8 +5.5
comp=Z,0.6nm,0.9s,baz=237,slow=4.5,SNR=8.0
OTAV Otavalo 94.65 91 P P 17 42 21.9 +8.5
OTAV pmax pmax
comp=Z,4.0nm,0.6s
OTAV Otavalo 94.65 91 P **P** 17 42 09.9 -3.5
OTAV IAmb IAmb 17 42 43.0
comp=Z,3.9nm,0.6s
LVC Limon Verde 94.80 116 LR LR 18 17 35.5
comp=Z,69nm,19.1s,baz=216,slow=31
LPAZ La Paz 98.03 111 LR LR 18 19 48.8
comp=Z,50nm,18.2s,baz=214,slow=31
ULN Ulaanbaatar 98.16 318 *i* P Pdif 17 42 31.8 +3.7
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 98.56 318 P Pdif 17 42 33.2 +3.3
comp=Z,0.3nm,0.9s,baz=119,slow=1.8,SNR=3.2
TIXI Tiksi 99.77 344 *i* P **Pdif** 17 42 38.3 +3.8
TIXI pmax pmax
comp=Z,1.0nm,1.1s
ZALV Zalesovo Beam 113.14 321 PKiKP **PKiKP** 17 47 31.3 +3.2
comp=Z,0.4nm,0.5s,baz=135,slow=0.6,SNR=4.5
ZALV Zalesovo Beam 113.14 321 *i* PKiKP **PKiKP** 17 47 27.5 -0.6
ZALV Zalesovo Beam 113.14 321 **PKiKP** 17 47 27.5 -0.6
MKAR Makanchi Array 114.30 313 PKiKP **PKiKP** 17 47 34.5 +3.9
comp=Z,0.6nm,0.7s,baz=53,slow=1.8,SNR=8.3
MKAR Makanchi Array 114.30 313 *i* PKiKP **PKiKP** 17 47 31.3 +0.7
MKAR Makanchi Array 114.30 313 **PKiKP** 17 47 31.3 +0.7
KSH Kashi 118.41 305 *e*PKP **PKPdf** 17 47 38.0 -0.9
BRVK Borovoye 121.83 320*c* *i* PKiKP **PKiKP** 17 47 49.8 +4.8
BRVK pmax pmax
comp=Z,4.0nm,1.7s
ARCES ARCESS Array B 129.50 352 PKP **PKiKP** 17 48 05.1 +5.3
comp=Z,2.1nm,0.8s,baz=5.7,slow=1.2,SNR=3.9
FINES FINESS Array B 136.76 347 PKiKP PKPpre 17 48 14.4
comp=Z,0.6nm,0.7s,baz=338,slow=4.5,SNR=1.2
OBN Obninsk 138.63 334⇑*e*PKiKP **PKiKP** 17 48 21.9 +3.2
OBN pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 141.90 316 *i* PKiKP **PKiKP** 17 48 28.1 +2.4
KIV Kislovodsk 141.94 316 *e*PKiKP **PKiKP** 17 48 31.9 +5.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 143.22 238 PKP **PKiKP** 17 48 28.9 -0.9
comp=Z,0.8nm,0.3s,baz=40,slow=3.5,SNR=4.9
AKASG Malin Array Be 144.88 335 PKP **PKiKP** 17 48 31.2 -0.5
comp=Z,14nm,0.8s,baz=39,slow=4.4,SNR=56
AKASG Malin Array Be 144.88 335 PKHKP PKPpre 17 48 24.4
AKASG Malin Array Be 144.88 335 PKPdf **PKPab** 17 48 24.4 -2.6
SORM Soroca 147.23 333 ⇓P **PKiKP** 17 48 38.8 +2.2
SORM Soroca 147.23 333 ⇓PKP2 **PKiKP** 17 48 38.8 +2.2
LVV L'vov 147.52 339 *e*PKP2 **PKiKP** 17 48 39.2 +2.1
MILM Milestii Mici 147.95 331 ⇓P **PKPab** 17 48 41.0 +2.1
MILM Milestii Mici 147.95 331 ⇓PKP2 **PKPab** 17 48 41.0 +2.1
MBAR Mbarara 148.56 231*c* *i* PKiKP **PKPab** 17 48 45.4 +2.9
MBAR pmax pmax
comp=Z,7.0nm,1.0s
VASR Vaslui 148.62 332 ⇑P **PKPab** 17 48 43.4 +1.8
CLL Collm 148.71 352 *e*PKiKP **PKPab** 17 48 41.0 -0.8
CLL *i* 17 48 43.1
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 148.71 352 *i* PKPbc **PKPab** 17 48 43.1 +1.3
comp=Z,13nm,1.2s
CLL *i* PKPab **pPKPbc** 17 48 46.8 +0.4
CLL *i* pPKPbc **sPKPab** 17 48 55.0 +2.2
comp=Z,10.0nm,1.0s
BURAR Bucovina Array 148.93 335 ⇓P **PKPab** 17 48 45.7 +2.7
OSTC Ostas 148.93 348 *e*PKP **PKPab** 17 48 43.8 +1.1
BRG Berggiesshubel 149.01 351 *e*PKP **PKPab** 17 48 44.9 +1.9
BRG Amp 17 48 48.4
comp=Z,7.7nm,0.9s
BRG *ex* x 17 48 52.5
BRG Amp 17 48 56.3
comp=Z,6.2nm,1.1s
BRG Berggiesshubel 149.01 351 *e*PKP2 **PKPab** 17 48 44.9 +1.9
BRG pmax pmax
comp=Z,8.0nm,1.0s
VLDR Vladesti 149.09 330 ⇓P **PKPab** 17 48 44.6 +1.1
DPC Dobruska-Polom 149.11 348 *e*PKP2 **PKPab** 17 48 45.1 +1.6
DPC Dobruska-Polom 149.11 348 *e*PKP **PKPab** 17 48 45.1 +1.6
DPC *ex* x 17 48 49.2
UZH Uzhgorod 149.12 340*c* *i* PKP2 **PKPab** 17 48 43.9 +0.4
VARL Varlezi 149.15 331 ⇓P **PKPab** 17 48 45.3 +1.6
TLCR 149.22 329 ⇑P **PKPab** 17 48 45.5 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TLCR		**149.22**	**329**	⇑PKP2	**PKPab**	**17 48 45.5**	**+1.4**
TESR	**Tescani**	**149.22**	**333**	⇓P	**PKPab**	**17 48 44.0**	**0.0**
GHRR		**149.23**	**331**	⇓P	**PKPab**	**17 48 45.9**	**+1.9**
MORC	**Moravsky Berou**	**149.39**	**346**	⇓P	**PKPab**	**17 48 46.1**	**+1.4**
IZVR	**Izvoarele**	**149.46**	**330**	⇑P	**PKPab**	**17 48 48.5**	**+3.5**
TRPA	**Tarpa**	**149.47**	**339**	⇑P	**PKPab**	**17 48 45.7**	**+0.7**
CFR	**Carcaliu**	**149.55**	**329**	⇓P	**PKPab**	**17 48 45.8**	**+0.4**
CFR	**Carcaliu**	**149.55**	**329**	⇓PKP2	**PKPab**	**17 48 45.8**	**+0.4**
ODBI	**Odobesti**	**149.62**	**331**	⇓P	**PKPab**	**17 48 46.7**	**+1.0**
TPGR	**Topolog**	**149.65**	**329**	⇓P	**PKPab**	**17 48 46.1**	**+0.2**
VRI	**Vrincioaia**	**149.69**	**332**	⇓P	**PKPab**	**17 48 46.1**	**+0.1**
ARCR	**ARCALIA**	**149.70**	**336**	⇑P	**PKPab**	**17 48 47.0**	**+1.1**
PLOR	**Plostina**	**149.73**	**332**	⇑P	**PKPab**	**17 48 46.3**	**+0.1**
PLOR	**Plostina**	**149.73**	**332**	⇑PKP2	**PKPab**	**17 48 46.3**	**+0.1**
PRU	**Pruhonice**	**149.78**	**350**	*e*PKP2	**PKPab**	**17 48 46.6**	**+0.4**
PRU	**Pruhonice**	**149.78**	**350**	*e*PKP	**PKPab**	**17 48 46.6**	**+0.4**
BRTR	**Keskin Array B**	**149.90**	**316**	PKPbc	**PKPab**	**17 48 46.1**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=129,slow=3.1,SNR=11						
BRTR	**Keskin Array B**	**149.90**	**316**	PKPdf	**PKPdf**	**17 48 34.6**	**-2.2**
BRTR					**PKPab**	**17 48 46.3**	**-1.0**
OZUR		**149.92**	**333**	⇓P	**PKPab**	**17 48 47.4**	**+0.4**
COVR	**Voineasa-Covas**	**149.93**	**332**	⇓P	**PKPab**	**17 48 46.2**	**-0.8**
HARR	**Harsova**	**150.01**	**329**	⇑P	**PKPab**	**17 48 47.6**	**+0.3**
HARR	**Harsova**	**150.01**	**329**	⇑PKP2	**PKPab**	**17 48 47.6**	**+0.3**
VRAC	**Vranov**	**150.04**	**347**	⇑P	**PKPab**	**17 48 53.4**	**+6.1**
VRAC	**Vranov**	**150.04**	**347**	⇑PKP2	**PKPab**	**17 48 53.4**	**+6.1**
EFOR	**EFORIE**	**150.10**	**327**	⇓P	**PKPbc**	**17 48 41.7**	**-0.1**
DOPR	**Dopca**	**150.19**	**333**	⇓P	**PKPab**	**17 48 48.1**	**+0.1**
CJR	**Cluj-Napoca**	**150.30**	**336**	⇑P	**PKPab**	**17 48 49.5**	**+1.0**
CJR	**Cluj-Napoca**	**150.30**	**336**	⇑PKIKP	**PKPab**	**17 48 49.5**	**+1.0**
MLR	**Muntele Rosu**	**150.32**	**332**	⇑P	**PKPab**	**17 48 48.0**	**-0.8**
MLR	**Muntele Rosu**	**150.32**	**332**	⇑PKIKP	**PKPab**	**17 48 48.0**	**-0.8**
ISR	**Istrita**	**150.34**	**331**	⇑P	**PKPab**	**17 48 48.4**	**-0.4**
ISR	**Istrita**	**150.34**	**331**	⇑PKIKP	**PKPab**	**17 48 48.4**	**-0.4**
PSZ	**Piszkesteto**	**150.50**	**342**	⇑P	**PKPab**	**17 48 54.8**	**+5.5**
SECR		**150.62**	**331**	⇑P	**PKPab**	**17 48 49.0**	**-0.9**
BORR	**Bors**	**150.63**	**339**	⇓P	**PKPab**	**17 48 50.3**	**+0.6**
VOIR		**150.75**	**333**	⇑P	**PKPab**	**17 48 49.3**	**-1.1**
VOIR		**150.75**	**333**	⇑PKIKP	**PKPab**	**17 48 49.3**	**-1.1**
KHC	**Kasperske Hory**	**150.76**	**351**	*e*PKIKP	**PKPab**	**17 48 48.8**	**-1.5**
KHC				*e*		17 48 55.7	
KHC				*e*		17 49 03.6	
KHC	**Kasperske Hory**	**150.76**	**351**	*e*PKP	**PKPab**	**17 48 48.8**	**-1.5**
KHC				*e*x	x	17 48 55.7	
KHC				*e*x	x	17 49 03.6	
CKRC	**Cesky Krumlov**	**150.95**	**350**	*e*PKP	**PKPab**	**17 48 49.2**	**-1.9**
CKRC				*e*x	x	17 49 00.4	
CKRC				*e*x	x	17 49 00.4	
ARR	**Arges**	**150.99**	**333**	⇑P	**PKPab**	**17 48 50.0**	**-1.5**
GERES	**GERESS Array B**	**151.02**	**350**	PKPbc	**PKPab**	**17 48 48.9**	**-2.6**
	comp=Z,1.3nm,0.8s,baz=333,slow=1.8,SNR=8.5						
GERES	**GERESS Array B**	**151.02**	**350**	PKIKP	**PKPdf**	**17 48 37.6**	**-0.6**
GERES	**GERESS Array B**	**151.02**	**350**		**PKPdf**	**17 48 37.6**	**-0.6**
CONA	**Conrad Observa**	**151.51**	**347**	*e*P	**PKPab**	**17 48 50.9**	**-2.6**
	comp=Z,4.7nm,0.8s						
GZR	**Gura Zlata**	**151.72**	**336**	⇑P	**PKPab**	**17 48 51.2**	**-3.2**
GZR	**Gura Zlata**	**151.72**	**336**	⇑PKIKP	**PKPab**	**17 48 51.2**	**-3.2**
MOA	**Molln**	**151.89**	**349**	*e*P	**PKiKP**	**17 48 49.9**	**+3.7**
	comp=Z,9.5nm,1.4s						
BZS	**Buzias**	**151.96**	**337**	⇓P	**PKPab**	**17 48 51.5**	**-3.8**
BIOA	**Bad Ischl, Aus**	**152.15**	**350**	*e*P	**PKiKP**	**17 48 51.2**	**+4.4**
	comp=Z,8.9nm,1.4s						
HERR	**Herculane**	**152.28**	**336**	⇓P	**PKiKP**	**17 48 51.5**	**+4.4**
MORH	**Mrgy, Hungar**	**152.40**	**342**	⇑P	**PKiKP**	**17 48 51.5**	**+4.2**
MOTA	**Moosalm**	**152.84**	**353**	*e*P	**PKiKP**	**17 48 52.3**	**+3.9**
	comp=Z,12nm,1.4s						
WTTA	**Wattenberg**	**152.86**	**353**	*e*P	**PKiKP**	**17 48 52.6**	**+4.1**
	comp=Z,9.0nm,1.4s						

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*NEIC **05** 17:31:50.3±2.2, 20°.74S±0°.02×69°.75W±0°.04, h38^{km}±6^{km}, mb4.5/32, ML4.4(GUC), Error ellipse: s-maj=5.3km s-min=3.2km az=107.0*
*GUC **05** 17:31:51.4±0.7, 20°.73S×69°.69W, h35^{km}±2^{km}, ML4.4*
*VAO **05** 17:31:51.1±0.4, 20°.62S×69°.75W, h38^{km}, mb4.3*
*IDC **05** 17:31:53.0±1.8, 20°.62S×69°.47W, h56^{km}±18^{km}, mb3.7/12, mb1 4.0/14, mb1mx3.9/35, mbtmp4.1/14, ML4.4/3, MS3.4/9, Ms1 3.4/9, ms1mx3.2/59, Error ellipse: s-maj=22.8km s-min=12.0km az=87.0*
ISC 05 17:31:50.2±0.4, **20°.72S**±0°.02×**69°.76W**±0°.04, **h39**^{km}±2^{km}, **n146**, σ**1^{s}45**/151, **mb4.3**/18, **MS3.4**/5, **2C-10D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.38**	**255**		**Pn**	**17 31 59.4**	**+0.2**
PATCX					**Sn**	**17 32 06.8**	**+0.9**
PATCX	**Punta Patache**	**0.38**	**255**	⇑*i*P	**Pn**	**17 32 00.3**	**+1.1**
PATCX				*e*S	**Sn**	**17 32 06.9**	**+0.9**
PATCX				IAML		17 32 07.9	
	comp=N,28μm,0.3s						
PB01	**IPOC Station P**	**0.41**	**141**		**Pn**	**17 31 58.4**	**-1.3**
PB01					**Sn**	**17 32 05.6**	**-0.9**
PB01	**IPOC Station P**	**0.41**	**141**	⇑*i*P	**Pn**	**17 31 59.6**	**-0.1**
PB01				*e*S	**Sn**	**17 32 05.6**	**-0.9**
PB01				IAML		17 32 06.2	
	comp=N,110μm,0.2s						
HMBC	**Humberstone**	**0.46**	**345**	⇓*i*P	**Pn**	**17 32 01.1**	**+0.7**
HMBC				*e*S	**Sn**	**17 32 08.1**	**+0.5**
HMBC				IAML		17 32 09.8	
	comp=N,40μm,0.5s						
TA02	**Huaiquique**	**0.57**	**322**		**Pn**	**17 32 02.6**	**+0.8**
TA02					**Sn**	**17 32 11.5**	**+1.4**
TA02	**Huaiquique**	**0.57**	**322**	⇓*i*P	**Pn**	**17 32 02.7**	**+0.8**
TA02				*e*S	**Sn**	**17 32 10.8**	**+0.7**
PB02	**IPOC Station P**	**0.61**	**192**		**Pn**	**17 32 02.1**	**-0.4**
PB02					**Sn**	**17 32 10.3**	**-0.8**
PB02	**IPOC Station P**	**0.61**	**192**	⇓*i*P	**Pn**	**17 32 02.9**	**+0.3**
PB02				*e*S	**Sn**	**17 32 10.5**	**-0.7**
PB02				IAML		17 32 14.8	
	comp=E,29μm,0.3s						
PB08	**IPOC Station P**	**0.81**	**45**		**Pn**	**17 32 04.8**	**-0.7**
PB08					**Sn**	**17 32 16.6**	**0.0**
PB08	**IPOC Station P**	**0.81**	**45**	⇓*i*P	**Pn**	**17 32 05.8**	**+0.3**
PB08				*e*S	**Sn**	**17 32 16.6**	**0.0**
PB08				IAML		17 32 17.7	
	comp=N,42μm,0.2s						
PB11	**IPOC Station P**	**0.96**	**6**		**Pn**	**17 32 07.4**	**0.0**
PB11				Sn	**Sn**	**17 32 21.0**	**+1.1**
PB11	**IPOC Station P**	**0.96**	**6**	⇓*i*P	**Pn**	**17 32 07.9**	**+0.5**
PB11				*e*S	**Sn**	**17 32 20.8**	**+0.8**
PB11				IAML		17 32 22.4	
	comp=N,44μm,0.3s						
PB07	**IPOC Station P**	**1.00**	**187**		**Pn**	**17 32 08.4**	**+0.5**
PB07					**Sn**	**17 32 21.9**	**+1.0**
PB07	**IPOC Station P**	**1.00**	**187**	⇓*i*P	**Pn**	**17 32 08.9**	**+0.9**
PB07				*e*S	**Sn**	**17 32 21.8**	**+0.8**
PB07				IAML		17 32 22.8	
	comp=E,22μm,0.4s						
PB09	**IPOC Station P**	**1.17**	**156**		**Pn**	**17 32 11.2**	**+0.9**
PB09				Sn	**Sn**	**17 32 26.3**	**+1.2**
PB09	**IPOC Station P**	**1.17**	**156**	⇓*i*P	**Pn**	**17 32 11.8**	**+1.5**
PB09				*e*S	**Sn**	**17 32 26.5**	**+1.4**
PB09				IAML		17 32 28.2	
	comp=E,11μm,0.2s						
GO01	**Chusmiza**	**1.18**	**27**		**Pn**	**17 32 11.3**	**+0.7**
GO01				Sn	**Sn**	**17 32 25.6**	**0.0**
PB04	**IPOC Station P**	**1.64**	**193**		**Pn**	**17 32 18.1**	**+1.3**
PB04	**IPOC Station P**	**1.64**	**193**	⇓*i*P	**Pn**	**17 32 18.3**	**+1.6**
PB04				*e*S	**Sn**	**17 32 38.8**	**+2.1**
PB04				IAML		17 32 45.6	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**1.98**	**175**		**Pn**	**17 32 22.8**	**+1.5**
PB06	**IPOC Station P**	**1.98**	**175**	⇓*i*P	**Pn**	**17 32 23.0**	**+1.7**
PB06				*e*S	**Sn**	**17 32 47.2**	**+2.2**
PB06				IAML		17 32 52.0	
	comp=E,5μm,0.4s						
LVC	**Limon Verde**	**2.04**	**157**	P	**Pn**	**17 32 25.2**	**+2.9**
	comp=E,827nm,0.3s,baz=351,slow=9.7,SNR=437						
LVC				S	**Sn**	**17 32 50.6**	**+3.9**
	comp=E,714nm,0.3s,baz=111,slow=19,SNR=25						
LVC				LR	LR	17 33 24.8	
	comp=E,652nm,20.5s,baz=299,slow=45						
LVC	**Limon Verde**	**2.04**	**157**	⇓*i*P	**Pn**	**17 32 25.4**	**+3.1**
LVC				*e*S	**Sn**	**17 32 50.1**	**+3.4**
LVC	**Limon Verde**	**2.04**	**157**	*e*P	**Pn**	**17 32 25.7**	**+3.3**
PB15	**IPOC Station P**	**2.49**	**174**		**Pn**	**17 32 29.2**	**+0.9**
PB15	**IPOC Station P**	**2.49**	**174**	*e*P	**Pn**	**17 32 30.6**	**+2.3**
PB14	**IPOC Station P**	**3.93**	**189**	Pn	**Pn**	**17 32 48.5**	**+0.2**
LPAZ	**La Paz**	**4.68**	**20**	P	**Pn**	**17 33 03.2**	**+4.4**
	comp=E,2.7nm,0.3s,baz=194,slow=6.3,SNR=61						
LPAZ				LR	LR	17 35 11.9	
	comp=E,367nm,20.0s,baz=154,slow=44						
LPAZ	**La Paz**	**4.68**	**20**	Pn	Pn	17 33 03.6	+4.7
AC01	**Pan de Azucar**	**5.45**	**188**		**Pn**	**17 33 08.5**	**-0.5**
AC02	**Maricunga**	**6.11**	**175**	Pn	**Pn**	**17 33 19.3**	**+0.8**
AC06	**Mina Casimiro**	**6.63**	**185**	Pn	**Pn**	**17 33 25.4**	**+0.3**
GO03	**Copiap**	**6.85**	**184**		**Pn**	**17 33 27.2**	**-1.0**
AC04	**Llanos de Chal**	**7.54**	**189**	Pn	**Pn**	**17 33 35.1**	**-2.6**
GO04	**Tololo Observa**	**9.46**	**185**	Pn	**Pn**	**17 34 01.5**	**-2.6**
SIV	**San Ignacio**	**9.50**	**62**	P	**Pn**	**17 34 04.1**	**-0.4**
	comp=E,3.8nm,0.3s,baz=257,slow=9.7,SNR=48						
CO06	**Fray Jorge**	**10.05**	**189**	Pn	**Pn**	**17 34 10.0**	**-2.0**
CO03	**El Pedregal**	**10.11**	**185**	Pn	**Pn**	**17 34 09.8**	**-3.1**
CO02	**Combarbal**	**10.50**	**186**	Pn	**Pn**	**17 34 15.8**	**-2.4**
NNA	**Nana**	**11.03**	**321**	P	Pn	17 34 31.0	+5.6
	comp=E,0.7nm,0.3s,baz=254,slow=17,SNR=1.3						
NNA				LR	LR	17 39 08.1	
	comp=E,71nm,20.1s,baz=170,slow=39						
NNA	**Nana**	**11.03**	**321**		**Pn**	**17 34 24.7**	**-0.7**
PTLB	**Pontes e Lacer**	**11.38**	**64**	*e*P	**Pn**	**17 34 31.8**	**+1.5**
VILB	**Vilhena**	**11.97**	**51**	*e*P	**Pn**	**17 34 39.8**	**+1.3**
VA03	**San Esteban**	**12.01**	**183**	Pn	**Pn**	**17 34 36.4**	**-2.5**
ROC1	**El Roble**	**12.26**	**185**	Pn	**Pn**	**17 34 40.7**	**-1.7**
MT02	**Curacav**	**12.55**	**185**	Pn	**Pn**	**17 34 43.5**	**-2.6**
CPUP	**Villa Florida**	**12.69**	**118**	LR	LR	17 40 22.0	
	comp=E,92nm,20.3s,baz=238,slow=41						
MT01	**Popeta**	**13.16**	**185**	Pn	**Pn**	**17 34 53.7**	**-0.8**
AQDB	**Aquidauana**	**13.17**	**91**	*e*P	**Pn**	**17 34 54.7**	**0.0**
BO02	**Sierra Bellavi**	**14.04**	**183**	Pn	**Pn**	**17 35 06.2**	**-0.4**
PP1B	**Ponte de Pedra**	**14.40**	**80**	*e*P	**Pn**	**17 35 11.8**	**+0.3**
H03N1	**Juan Fernandez**	**15.05**	**211**	T	T	17 50 22.1	
	baz=35,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**15.06**	**211**	T	T	17 50 05.0	
	baz=35,slow=72,SNR=25						
H03N3	**Juan Fernandez**	**15.07**	**211**	T	T	17 50 33.1	
	baz=35,slow=72,SNR=34						
PDRB	**Porto dos Gac**	**15.44**	**56**	*e*P	**Pn**	**17 35 25.7**	**+0.3**
CLDB	**Colider**	**16.62**	**56**	*e*P	**P**	**17 35 41.5**	**-0.9**
ITAB	**Concordia**	**17.36**	**115**	Pn	**Pn**	**17 35 46.9**	**-2.6**
ITAB				IAmb	IAmb	17 35 47.3	
	comp=Z,56nm,1.6s						
ITAB	**Concordia**	**17.36**	**115**	*e*P	**P**	**17 35 50.3**	**-0.2**
ARAG	**Araguaiana, MT**	**17.76**	**77**	*e*P	**P**	**17 35 56.6**	**+1.5**
PLTB	**Pedras Altas**	**18.17**	**131**	Pn	**Pn**	**17 35 56.6**	**-2.9**
PLTB	**Pedras Altas**	**18.17**	**131**	*e*P	**P**	**17 36 02.4**	**+2.9**
LC01	**Cunco**	**18.20**	**185**	P	**P**	**17 35 57.4**	**-2.4**
FRTB	**Fartura**	**18.91**	**102**	*e*P	**Pn**	**17 36 09.5**	**+1.0**
NPGB	**Novo Progresso**	**19.48**	**48**	*e*P	**P**	**17 36 14.6**	**+0.6**
MACA	**Manacapuru-AM**	**19.57**	**28**	*e*P	**P**	**17 36 15.0**	**0.0**
SNDB	**Serra Nova Dou**	**19.73**	**67**	*e*P	**P**	**17 36 16.5**	**-0.1**
PLCA	**Paso Flores**	**19.96**	**182**	P	**Pn**	**17 36 20.9**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=350,slow=12,SNR=12						
PLCA	**Paso Flores**	**19.96**	**182**	P	**P**	**17 36 19.3**	**+0.2**
PLCA	**Paso Flores**	**19.96**	**182**	*e*P	**P**	**17 36 20.0**	**+1.0**
LL04	**Puerto Octay**	**20.25**	**186**	P	**P**	**17 36 22.8**	**+0.6**
LL03	**Petrohue**	**20.47**	**186**	P	**P**	**17 36 24.6**	**+0.1**
IPMB	**Ipameri, GO**	**20.51**	**86**	*e*P	**P**	**17 36 25.1**	**-0.1**
RCLB	**Rio Claro- Sao**	**20.74**	**99**	*e*P	Pn	17 36 29.4	-0.8
ITTB	**Itaituba**	**21.22**	**42**	*e*P	**P**	**17 36 31.2**	**-1.7**
BDFB	**Brasilia**	**21.26**	**80**	P	**P**	**17 36 31.8**	**-1.7**
	comp=Z,1.7nm,0.4s,baz=247,slow=4.7,SNR=3.8						
BDFB	**Brasilia**	**21.26**	**80**	P	**P**	**17 36 32.9**	**-0.6**
BDFB				IAmb	IAmb	17 37 09.4	
	comp=Z,25nm,1.6s						
VAO	**Valinhos**	**21.28**	**100**	*e*P	**P**	**17 36 34.6**	**+1.1**
PTGA	**Pitinga**	**22.06**	**27**	P	**P**	**17 36 39.7**	**-2.0**
	comp=Z,3.1nm,0.4s,baz=209,slow=16,SNR=7.1						
PTGA				LR	LR	17 46 03.3	
	comp=Z,75nm,21.5s,baz=103,slow=39						
PEXB	**Peixe**	**22.28**	**71**	*e*P	**P**	**17 36 45.3**	**+1.1**
OTAV	**Otavalo**	**22.50**	**337**	P	**P**	**17 36 48.1**	**+1.1**
OTAV	**Otavalo**	**22.50**	**337**	*e*P	**P**	**17 36 47.5**	**+0.5**
BSCB	**Bom Sucesso**	**23.35**	**95**	*e*P	**P**	**17 36 55.6**	**+0.3**
MALB	**Monte Alegre**	**24.09**	**41**	*e*P	**P**	**17 37 02.4**	**+0.1**
SMTB	**Santa Maria do**	**24.43**	**64**	*e*P	**P**	**17 37 05.4**	**0.0**
BOAV	**Boa Vista**	**24.70**	**23**	*e*P	**P**	**17 37 08.0**	**+0.2**
DIAM	**Diamantina, MG**	**24.70**	**89**	*e*P	**P**	**17 37 08.2**	**+0.2**
JANB	**Januaria**	**24.85**	**81**	*e*P	**P**	**17 37 09.4**	**+0.1**
SDBA	**SAO DESIDERIO**	**25.19**	**75**	*e*P	**P**	**17 37 12.3**	**-0.1**
ROSC	**El Rosal**	**25.80**	**350**	LR	LR	17 48 52.2	
	comp=Z,73nm,18.1s,baz=64,slow=40						
ROSC	**El Rosal**	**25.80**	**350**	P	**P**	**17 37 18.2**	**+0.1**
ROSC				IAmb	IAmb	17 37 39.7	
	comp=Z,11nm,0.5s						
MCPB	**Macapa, AP**	**26.63**	**43**	*e*P	**P**	**17 37 25.6**	**+0.3**
PAYG	**Puerto Ayora**	**28.27**	**312**	P	**P**	**17 37 39.3**	**-0.7**
ZARC	**Zaragoza, Cauc**	**28.48**	**349**	P	**P**	**17 37 40.7**	**-1.2**
SDV	**Santo Domingo**	**29.44**	**358**	P	**P**	**17 37 51.0**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=277,slow=20,SNR=1.8						
SDV				LR	LR	17 50 39.9	
	comp=Z,78nm,18.4s,baz=186,slow=38						
SDV	**Santo Domingo**	**29.44**	**358**	P	**P**	**17 37 50.0**	**-0.5**
SDV				IAmb	IAmb	17 37 56.4	
	comp=Z,9.1nm,1.3s						
SDV	**Santo Domingo**	**29.44**	**358**	*e*P	**P**	**17 37 50.6**	**+0.1**
NBPN	**Ponto Novo - B**	**30.05**	**75**	*e*P	**P**	**17 37 56.0**	**+0.1**
ROSB	**Rosrio**	**30.62**	**58**	*e*P	**P**	**17 38 00.9**	**-0.1**
MDP	**Montagnes des**	**30.68**	**35**	LR	LR	17 51 09.2	
	comp=Z,167nm,18.7s,baz=178,slow=38						
SJCC	**San Jacinto, C**	**30.89**	**350**	P	**P**	**17 38 01.8**	**-1.5**
SJCC				IAmb	IAmb	17 38 41.4	
	comp=Z,13nm,1.1s						
BIRV	**Birongo**	**31.19**	**7**	P	**P**	**17 38 05.2**	**-0.7**
NBPS	**Pedro II - PI**	**31.96**	**63**	*e*P	**P**	**17 38 13.0**	**+0.3**
NBLA	**Lagarto - SE**	**32.18**	**77**	*e*P	**P**	**17 38 14.6**	**-0.1**
NBPB	**Pedra_Branca-C**	**32.94**	**67**	*e*P	**P**	**17 38 22.2**	**+0.9**
NBAN	**Anadia - AL**	**34.06**	**76**	*e*P	**P**	**17 38 31.2**	**+0.1**
SVB	**Belmont**	**34.80**	**15**	P	**P**	**17 38 37.1**	**-0.3**
PDPR	**Patillas Dam,**	**38.68**	**6**	P	**P**	**17 39 09.0**	**-1.3**
PDPR				IAmb	IAmb	17 39 24.8	
	comp=Z,12nm,0.8s						
CELP	**Cerrillos**	**38.69**	**5**	P	**P**	**17 39 09.8**	**-0.6**
CELP				IAmb	IAmb	17 39 11.5	
	comp=Z,13nm,0.7s						
CUPR	**Culebra, Puert**	**39.04**	**7**	P	**P**	**17 39 12.0**	**-1.3**
CUPR				IAmb	IAmb	17 39 12.2	
	comp=Z,9.3nm,0.8s						
T59A	**Double "B" Far**	**57.85**	**353**	P	**P**	**17 41 38.6**	**+0.7**
WVT	**Waverly**	**59.07**	**343**	P	**P**	**17 41 45.9**	**-0.6**
WVT				IAmb	IAmb	17 42 00.8	
	comp=Z,5.5nm,1.1s						
MIAR	**Mount Ida**	**59.45**	**337**	P	**P**	**17 41 49.0**	**-0.1**
R55A	**Marlinton**	**59.49**	**351**	P	**P**	**17 41 49.2**	**-0.2**
TXAR	**Lajitas Array**	**59.54**	**326**	P	**P**	**17 41 50.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=171,slow=8.5,SNR=3.6						
TXAR	**Lajitas Array**	**59.54**	**326**	P	**P**	**17 41 50.5**	**+0.6**
LCAR	**Lake Charles**	**60.01**	**340**	P	**P**	**17 41 53.5**	**+0.7**
Q56A	**Snyder Ridge,**	**60.10**	**352**	P	**P**	**17 41 53.1**	**-0.5**
QSPA	**South Pole Qui**	**69.46**	**180**	P	**P**	**17 42 56.3**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=283,slow=14,SNR=1.4						
QSPA	**South Pole Qui**	**69.46**	**180**	IAmb	IAmb	17 43 00.4	
	comp=Z,8.2nm,1.6s						
PDAR	**Pinedale Array**	**73.05**	**330**	P	**P**	**17 43 17.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=123,slow=5.5,SNR=2.3						
ULM	**Lac du Bonnet**	**74.34**	**343**	P	**P**	**17 43 23.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=214,slow=17,SNR=2.2						
ULM				LR	LR	18 21 13.6	
	comp=Z,116nm,18.2s,baz=276,slow=40						
NVAR	**Mina Array Bea**	**74.39**	**322**	P	**P**	**17 43 26.6**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=179,slow=7.1,SNR=3.5						
FLWY	**Flagg Ranch**	**74.59**	**331**	P	**P**	**17 43 26.2**	**+0.8**
FLWY				IAmb	IAmb	17 43 28.5	
	comp=Z,5.8nm,0.9s						
YHH	**Holmes Hill**	**75.20**	**331**	P	**P**	**17 43 30.2**	**+1.1**
SCHQ	**Schefferville**	**75.29**	**2**	P	**P**	**17 43 28.6**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=285,slow=6.2,SNR=4.5						
SCHQ	**Schefferville**	**75.29**	**2**	IAmb	IAmb	17 43 33.2	
	comp=Z,7.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.85**	**71**	P	**P**	**17 43 43.4**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=255,slow=5.1,SNR=11						
EDM	**Edmonton**	**82.73**	**335**	P	**P**	**17 44 09.2**	**-0.5**
YKA	**Yellowknife Ar**	**90.19**	**341**	P	**P**	**17 44 46.9**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=137,slow=4.5,SNR=34						
H11S2	**WAKE ISLAND Hy**	**126.99**	**278**	T	T	20 10 23.7	
	baz=102,slow=74,SNR=90						
H11S1	**WAKE ISLAND Hy**	**127.00**	**278**	T	T	20 10 29.8	
	baz=102,slow=74,SNR=76						
H11S3	**WAKE ISLAND Hy**	**127.00**	**278**	T	T	20 10 25.1	
	baz=102,slow=74,SNR=61						
H11N3	**WAKE ISLAND Hy**	**127.05**	**280**	T	T	20 10 30.1	
	baz=102,slow=75,SNR=48						
H11N2	**WAKE ISLAND Hy**	**127.06**	**280**	T	T	20 10 31.2	
	baz=102,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**127.07**	**280**	T	T	20 10 29.8	
	baz=102,slow=75,SNR=37						
ASAR	**Alice Springs**	**130.22**	**209**	PKP	**PKPdf**	**17 50 57.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=135,slow=1.8,SNR=5.1						
WRA	**Warramunga Arr**	**133.20**	**212**	PKP	**PKPdf**	**17 51 03.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=145,slow=1.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**141.58**	**24**	PKP	**PKPdf**	**17 51 16.7**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=334,slow=3.5,SNR=2.9						
KSH	**Kashi**	**145.22**	**50**	PKPbc	**PKPdf**	**17 51 25.3**	**+1.3**
KSH				pPKP	pPKPbc	17 51 36.5	0.0
MKAR	**Makanchi Array**	**145.46**	**35**	PKPbc	**PKPab**	**17 51 24.7**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=321,slow=4.1,SNR=29						
USRK	**Ussuriysk Ar.**	**150.43**	**327**	PKPbc	**PKiKP**	**17 51 39.0**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=226,slow=0.3,SNR=7.8						
MJAR	**Matsushiro Arr**	**150.97**	**309**	PKPbc	**PKPbc**	**17 51 39.8**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=60,slow=0.9,SNR=3.2						
SONM	**Songino Array**	**152.78**	**6**	PKPbc	**PKiKP**	**17 51 43.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=42,slow=0.2,SNR=6.3						
LZH	**Lanzhou**	**163.70**	**19**	*e*PKP	**PKPdf**	**17 51 42.6**	**-6.9**
LZH				pPKP	pPKPdf	17 51 52.0	-10
PZH	**PanZhiHua**	**170.32**	**52**	PKP	**PKPdf**	**17 51 53.6**	**-1.1**

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*IDC **05** 17:39:05.7±0.7, 56°.50S×26°.74W, h101^{km}±7^{km}, mb3.8/6, mb1 3.9/7, mb1mx3.6/23, mbtmp4.1/7, Error ellipse: s-maj=31.7km s-min=18.1km az=69.0*
*NEIC **05** 17:39:06.6±1.9, 56°.6S±0°.1×26°.8W±0°.2, h110^{km}±7^{km}, mb4.7/18, Error ellipse: s-maj=20.7km s-min=14.5km az=50.0*
ISC 05 17:39:05.4±0.6, **56°.51S**±0°.09×**26°.7W**±0°.1, **h100**^{km}, **n40**, σ**1^{s}07**/36, **mb4.4**/11, **1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.99**	**288**	Pn	**Pn**	**17 40 32.0**	**+0.6**
ORCD	**Orcadas**	**10.29**	**238**	Pn	**Pn**	**17 41 31.4**	**+1.7**
VNA1	**Neumayer--Stat**	**16.27**	**158**	P	**P**	**17 42 50.6**	**+1.8**
VNA3	**Neumayer Olymp**	**16.47**	**160**	P	**P**	**17 42 51.7**	**+0.6**
ESPZ	**Base Esperanza**	**16.52**	**233**	Pn	**Pn**	**17 42 49.7**	**-1.0**
ESPZ				IAmb	IAmb	17 43 47.7	
	comp=Z,132nm,1.5s						
VNA2	**Neumayer--Watz**	**16.67**	**158**	P	**Pn**	**17 42 53.0**	**+0.5**
	baz=319,slow=12						
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**17 43 10.7**	**+0.4**
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**17 43 09.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=294,slow=10,SNR=7.4						
SNAA				S	S	17 46 23.0	-10
	comp=Z,0.0nm,0.3s,baz=201,slow=23,SNR=0.9						
SNAA	**Sanae**	**18.22**	**156**	P	**P**	**17 43 09.7**	**-0.6**
EFI	**East Falkland**	**18.90**	**272**	P	**P**	**17 43 16.9**	**-0.9**
BELA	**Belgrano 2**	**21.64**	**185**	P	**P**	**17 43 45.7**	**-1.4**
SYO	**Syowa Base**	**31.07**	**140**	⇑*e*P	**P**	**17 45 10.8**	**-2.6**
QSPA	**South Pole Qui**	**33.74**	**180**	P	**P**	**17 45 36.9**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=182,slow=2.4,SNR=31						
QSPA	**South Pole Qui**	**33.74**	**180**	IAmb	IAmb	17 45 38.0	
	comp=Z,3.2nm,0.7s						
MT02	**Curacav**	**38.17**	**288**	P	**P**	**17 46 14.0**	**-0.9**
SBA	**Scott Base**	**45.64**	**184**	P	**P**	**17 47 16.1**	**+1.0**
LVC	**Limon Verde**	**45.75**	**300**	P	**P**	**17 47 17.1**	**0.0**
	comp=Z,1.5nm,0.5s,baz=180,slow=8.1,SNR=2.4						
LVC	**Limon Verde**	**45.75**	**300**	IAmb	IAmb	17 48 04.1	
	comp=Z,6.2nm,1.1s						
VNDA	**Vanda**	**46.12**	**183**	P	**P**	**17 47 20.9**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=202,slow=6.3,SNR=2.1						
VNDA	**Vanda**	**46.12**	**183**	P	**P**	**17 47 20.2**	**+1.3**
VNDA				IAmb	IAmb	17 48 30.6	
	comp=Z,47nm,2.0s						
PB04	**IPOC Station P**	**46.58**	**299**	P	**P**	**17 47 22.5**	**-0.8**
PB09	**IPOC Station P**	**46.60**	**300**	P	**P**	**17 47 23.8**	**+0.3**
PB09				IAmb	IAmb	17 49 03.4	
	comp=Z,44nm,1.8s						
PB07	**IPOC Station P**	**46.97**	**300**	P	**P**	**17 47 25.8**	**-0.6**
PB07				IAmb	IAmb	17 49 15.1	
	comp=Z,43nm,1.9s						
PB01	**IPOC Station P**	**47.36**	**300**	P	**P**	**17 47 29.2**	**-0.1**
PB01				IAmb	IAmb	17 48 22.9	
	comp=Z,21nm,1.6s						
PB08	**IPOC Station P**	**47.98**	**301**	P	**P**	**17 47 35.0**	**+0.5**
PB08				IAmb	IAmb	17 49 07.0	
	comp=Z,19nm,2.0s						
H10S2	**ASCENSION HYDR**	**48.37**	**16**	T	T	18 40 30.5	
	baz=189,slow=74,SNR=3.6						
H10S3	**ASCENSION HYDR**	**48.37**	**16**	T	T	18 40 33.8	
	baz=31,slow=74,SNR=4.9						
GO01	**Chusmiza**	**48.40**	**302**	P	**P**	**17 47 37.9**	**0.0**
H10N1	**ASCENSION HYDR**	**49.49**	**16**	T	T	18 41 55.9	
	baz=196						
H10N3	**ASCENSION HYDR**	**49.49**	**16**	T	T	18 41 56.3	
	baz=196,slow=74						
H10N2	**ASCENSION HYDR**	**49.50**	**16**	T	T	18 41 51.8	
	baz=196,slow=74						
LPAZ	**La Paz**	**50.85**	**305**	P	**P**	**17 47 56.6**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=160,slow=6.0,SNR=15						
LPAZ	**La Paz**	**50.85**	**305**	P	**P**	**17 47 56.6**	**+0.1**
LPAZ				IAmb	IAmb	17 47 57.6	
	comp=Z,3.6nm,0.7s						
OTAV	**Otavalo**	**70.12**	**303**	P	**P**	**17 50 08.0**	**+0.6**
OTAV				IAmb	IAmb	17 50 09.9	
	comp=Z,12nm,1.8s						
TORD	**Torodi Ar. Bea**	**73.33**	**29**	P	**P**	**17 50 26.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=197,slow=7.2,SNR=2.8						
TORD				pP	**pP**	**17 50 52.9**	**+2.5**
	comp=Z,1.9nm,0.7s,baz=198,slow=6.7,SNR=6.3						
ASAR	**Alice Springs**	**98.47**	**162**	P	**P**	**17 52 33.1**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=173,slow=4.3,SNR=1.9						
YKA	**Yellowknife Ar**	**136.68**	**317**	PKP	**PKPdf**	**17 58 13.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=128,slow=2.4,SNR=8.7						
SONM	**Songino Array**	**150.50**	**87**	PKPbc	**PKPbc**	**17 58 43.7**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=222,slow=3.3,SNR=7.7						
SONM				pPKPbc	**pPKPbc**	**17 59 11.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=209,slow=3.5,SNR=3.0						
SONM	**Songino Array**	**150.50**	**87**		**PKPbc**	**17 58 43.6**	**-0.9**
ILAR	**Eielson Array**	**150.61**	**311**	PKPbc	**PKPbc**	**17 58 43.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=136,slow=5.9,SNR=9.8						
ILAR				pPKPbc	**pPKPbc**	**17 59 10.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=112,slow=1.7,SNR=4.4						

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*IDC **05** 17:40:43.5±0.8, 51°.58N×173°.04W, h0^{km}, mb3.7/18, mb1 3.9/20, mb1mx3.8/36, mbtmp3.7/20, ML3.4/2, Error ellipse: s-maj=25.1km s-min=13.5km az=174.0*
*AEIC **05** 17:40:49.8±2.5, 51°.76N±0°.08×172°.89W±0°.07, h3^{km}±5^{km}, Error ellipse: s-maj=12.1km s-min=5.1km az=193.0*
*NEIC **05** 17:40:50.1±2.1, 51°.77N±0°.10×173°.06W±0°.08, h47^{km}±9^{km}, mb4.1/60, ML3.8/6, ML3.2/10(AEIC), Error ellipse: s-maj=14.1km s-min=7.6km az=177.0*
ISC 05 17:40:50.5±0.7, **51°.8N**±0°.1×**173°.05W**±0°.05, **h50**^{km}, **n110**, σ**1^{s}21**/104, **mb3.8**/22, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.81**	**307**		**Pn**	**17 41 05.4**	**-0.4**
ATKA	**Atka Island**	**0.82**	**301**		**Pn**	**17 41 04.5**	**-1.3**
ATKA					**Sn**	**17 41 15.4**	**-1.7**
GSMY	**Great Sitkin M**	**1.88**	**279**		**Pn**	**17 41 19.9**	**-0.3**
GSTR	**Great Sitkin T**	**1.89**	**280**	Pn	**Pn**	**17 41 22.1**	**+1.8**
GSTD	**Great Sitkin T**	**1.94**	**279**		**Pn**	**17 41 20.6**	**-0.5**
GSTD					**Sn**	**17 41 46.2**	**+1.9**
GSCK	**Great Sitkin C**	**1.94**	**278**		**Pn**	**17 41 20.6**	**-0.4**
ADK	**Adak**	**2.26**	**274**		**Sn**	**17 41 52.4**	**+0.5**
ADK	**Adak**	**2.26**	**274**	Pn	**Pn**	**17 41 23.2**	**-2.1**
ADK				IAML		17 42 04.7	
	376nm,0.6s						
KIWB	**Kanaga Island**	**2.55**	**273**		**Pn**	**17 41 27.6**	**-1.8**
KIMD	**Kanaga Island**	**2.60**	**271**		**Pn**	**17 41 29.7**	**-0.3**
NIKH	**Nikolski High**	**2.83**	**64**	Pn	**Pn**	**17 41 32.2**	**-0.9**
UNV	**Unalaska Valle**	**4.47**	**60**	Pn	**Pn**	**17 41 56.7**	**+1.1**
AKUT	**Akutan**	**4.99**	**59**	Pn	**Pn**	**17 42 03.7**	**+1.0**
AKUT				IAML		17 45 04.8	
	comp=E,138nm,3.9s						
CHGN	**Chignik**	**9.71**	**57**	Pn	**Pn**	**17 43 08.6**	**+1.2**
OHAK	**Old Harbor**	**12.68**	**57**	Pn	**Pn**	**17 43 44.7**	**-3.2**
Q19K	**Cape Douglas,**	**13.12**	**49**	Pn	**Pn**	**17 43 52.4**	**-1.5**
KDAK	**Kodiak Island**	**13.22**	**55**	Pn	**Pn**	**17 43 53.0**	**-2.2**
SVW2	**Sparrevohn**	**13.38**	**39**	Pn	**Pn**	**17 43 57.6**	**+0.1**
TNA	**Tin City**	**14.06**	**9**	Pn	**Pn**	**17 44 06.0**	**-0.6**
L19K	**White Mountain**	**14.32**	**36**	Pn	**Pn**	**17 44 10.9**	**+0.8**
M19K	**Big River Lodg**	**14.32**	**38**	Pn	**Pn**	**17 44 07.8**	**-2.3**
CNPM	**China Poot**	**14.49**	**49**	Pn	**Pn**	**17 44 12.5**	**+0.1**
BRLK	**Bradley Lake**	**14.75**	**49**	Pn	**Pn**	**17 44 14.7**	**-1.1**
SEW	**Seward**	**15.54**	**48**	Pn	**Pn**	**17 44 22.7**	**-3.3**
O22K	**Cooper Landing**	**15.56**	**47**	Pn	**Pn**	**17 44 23.0**	**-3.3**
PPLA	**Purkeypile**	**15.73**	**37**	Pn	**Pn**	**17 44 26.8**	**-1.8**
PPLA				IAmb	IAmb	17 44 43.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,34nm,1.6s						
RC01	**Rabbit Creek A**	**15.81**	**45**	Pn	**Pn**	**17 44 27.3**	**-2.2**
RC01				IAmb	IAmb	17 45 03.1	
	comp=Z,36nm,1.6s						
J20K	**Nowinta River**	**15.86**	**31**		**P**	**17 44 32.4**	**-0.7**
PMR	**Palmer**	**16.30**	**44**	Pn	**Pn**	**17 44 35.7**	**+0.1**
PWL	**Port Wells**	**16.34**	**47**	Pn	**Pn**	**17 44 34.9**	**-1.3**
GHO	**Glory Hole Cre**	**16.46**	**43**	Pn	**Pn**	**17 44 37.6**	**-0.2**
GHO				IAmb	IAmb	17 44 48.7	
	comp=Z,30nm,1.5s						
KNK	**Knik Glacier**	**16.51**	**45**	Pn	**Pn**	**17 44 36.5**	**-1.9**
KNK				IAmb	IAmb	17 44 39.1	
	comp=Z,22nm,1.4s						
KTH	**Kantishna Hill**	**16.58**	**36**		**P**	**17 44 41.5**	**+0.3**
KTH				IAmb	IAmb	17 45 04.5	
	comp=Z,14nm,1.4s						
SML	**Sawmill**	**16.73**	**44**	Pn	**Pn**	**17 44 40.6**	**-0.5**
SML				IAmb	IAmb	17 44 41.9	
	comp=Z,14nm,1.1s						
BPAW	**Bear Paw Mtn.**	**16.88**	**35**	Pn	**Pn**	**17 44 42.5**	**-0.5**
BPAW				IAmb	IAmb	17 44 43.7	
	comp=Z,16nm,1.3s						
FID	**Port Fidalgo**	**17.15**	**48**	Pn	**Pn**	**17 44 45.2**	**-1.2**
SCM	**Sheep Creek Mo**	**17.18**	**44**		**Pn**	**17 44 46.9**	**+0.2**
SCM				IAmb	IAmb	17 45 25.1	
	comp=Z,37nm,1.5s						
RND	**Reindeer**	**17.28**	**38**		**P**	**17 44 48.6**	**-0.3**
H21K	**Melozitna Rive**	**17.30**	**29**		**Pn**	**17 44 48.1**	**0.0**
MCK	**McKinley**	**17.42**	**37**		**Pn**	**17 44 49.3**	**-0.4**
KLU	**Klutina**	**17.66**	**46**	P	**Pn**	**17 44 51.5**	**-1.2**
KLU				IAmb	IAmb	17 45 12.8	
	comp=Z,23nm,1.5s						
DHY	**Denali Highway**	**17.70**	**40**		**P**	**17 44 54.6**	**+0.9**
DHY				IAmb	IAmb	17 45 09.1	
	comp=Z,19nm,1.6s						
M24K	**Tolsona, Glenn**	**17.79**	**44**		**P**	**17 44 54.3**	**-0.1**
M24K				IAmb	IAmb	17 45 07.8	
	comp=Z,30nm,1.2s						
PETK	**Petropavlovsk-**	**17.83**	**286**	P	**P**	**17 44 54.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=93,slow=15,SNR=1.1						
I23K	**Minto, Yukon-K**	**18.07**	**33**	P	**Pn**	**17 44 57.6**	**+0.1**
I23K				IAmb	IAmb	17 45 12.5	
	comp=Z,14nm,1.5s						
HMT	**Hamilton**	**18.07**	**51**	P	**Pn**	**17 44 58.5**	**+0.8**
BMRM	**Bremner River**	**18.09**	**48**	P	**Pn**	**17 44 58.3**	**+0.4**
BMRM				IAmb	IAmb	17 45 27.7	
	comp=Z,28nm,1.4s						
WRH	**Wood River Hil**	**18.13**	**36**	P	**Pn**	**17 44 58.5**	**+0.1**
N25K	**Chitina, Valde**	**18.30**	**46**	P	**P**	**17 44 58.6**	**-1.5**
N25K				IAmb	IAmb	17 45 20.2	
	comp=Z,19nm,1.6s						
CCB	**Clear Creek Bu**	**18.33**	**36**	P	**P**	**17 44 59.9**	**-0.4**
MDM	**Murphy Dome**	**18.35**	**35**	P	**P**	**17 44 58.8**	**-1.8**
BERG	**Berg Lake**	**18.36**	**51**	P	**P**	**17 44 58.0**	**-2.6**
HDA	**Harding Lake**	**18.52**	**37**	P	**Pn**	**17 45 02.9**	**-0.1**
HDA				IAmb	IAmb	17 45 21.9	
	comp=Z,17nm,1.5s						
GLB	**Gilahina Butte**	**18.60**	**47**	P	**P**	**17 45 03.0**	**-0.4**
GLB				IAmb	IAmb	17 45 36.2	
	comp=Z,20nm,1.5s						
VRDI	**Verde Repeater**	**18.70**	**48**	P	**P**	**17 45 04.4**	**-0.2**
VRDI				IAmb	IAmb	17 45 31.3	
	comp=Z,23nm,1.3s						
IL31		**18.73**	**36**		**P**	**17 45 04.0**	**-0.7**
ILAR	**Eielson Array**	**18.73**	**36**	P	**P**	**17 45 04.0**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=219,slow=9.1,SNR=31						
ILAR	**Eielson Array**	**18.73**	**36**	P	**P**	**17 45 03.6**	**-1.2**
WAX	**Waxell Ridge**	**18.78**	**51**	P	**P**	**17 45 05.5**	**+0.1**
TGL	**Tana Glacier**	**18.86**	**50**	P	**P**	**17 45 06.6**	**+0.2**
MCARA	**McCarthy VSAT**	**18.95**	**48**	P	**Pn**	**17 45 08.0**	**-0.2**
MCARA				IAmb	IAmb	17 45 37.8	
	comp=Z,23nm,1.3s						
H24K	**Noodor Dome**	**18.98**	**33**	P	**Pn**	**17 45 08.3**	**-0.2**
RIDG	**Independent Ri**	**19.02**	**40**	P	**P**	**17 45 07.7**	**-0.2**
RIDG				IAmb	IAmb	17 45 19.1	
	comp=Z,16nm,1.5s						
ISLE	**Juniper Island**	**19.06**	**50**	P	**Pn**	**17 45 09.9**	**+0.2**
ISLE				IAmb	IAmb	17 45 20.9	
	comp=Z,19nm,1.1s						
J25K	**Salcha River,**	**19.22**	**37**	P	**P**	**17 45 10.3**	**+0.1**
J25K				IAmb	IAmb	17 45 12.2	
	comp=Z,8.4nm,0.8s						
GRNC	**Granite Creek**	**19.37**	**50**	P	**Pn**	**17 45 12.7**	**-0.8**
SCRK	**Sand Creek**	**19.47**	**40**		**P**	**17 45 13.3**	**+0.4**
BARN	**Barnard Glacie**	**19.50**	**49**	P	**P**	**17 45 13.8**	**+0.5**
BARN				IAmb	IAmb	17 45 41.5	
	comp=Z,21nm,1.4s						
TABL	**Table Mountain**	**19.60**	**51**	P	**P**	**17 45 14.2**	**-0.3**
CTGM	**Chitina Glacie**	**19.63**	**50**	P	**P**	**17 45 12.3**	**-2.4**
CTGM				IAmb	IAmb	17 45 44.2	
	comp=Z,15nm,1.3s						
LOGN	**Logan Glacier**	**19.75**	**50**	P	**P**	**17 45 15.2**	**-0.8**
M27K	**Edge Creek, AK**	**19.76**	**46**	P	**P**	**17 45 15.1**	**-1.0**
M27K				IAmb	IAmb	17 45 37.0	
	comp=Z,12nm,1.6s						
PCA	**Pinnacle**	**19.97**	**53**	P	**P**	**17 45 18.3**	**0.0**
L27K	**Beaver Creek,**	**20.01**	**44**	P	**P**	**17 45 18.6**	**-0.1**
L27K				IAmb	IAmb	17 45 27.4	
	comp=Z,8.9nm,1.5s						
BCAR	**Beaver Creek A**	**20.03**	**44**	P	**P**	**17 45 19.1**	**+0.1**
TOLK	**Toolik Lake Re**	**20.29**	**25**		Pn	17 45 24.1	0.0
DAWY	**Dawson**	**21.37**	**42**	P	**P**	**17 45 32.7**	**-0.7**
SEY	**Seymchan**	**21.43**	**315**	P	**P**	**17 45 36.2**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=73,slow=22,SNR=4.2						
HYT	**Haines Junctio**	**21.44**	**51**	P	**P**	**17 45 34.1**	**-0.1**
HYT				IAmb	IAmb	17 45 38.9	
	comp=Z,14nm,1.5s						
MA2	**Magadan**	**21.60**	**305**	P	**P**	**17 45 37.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=123,slow=22,SNR=1.5						
MA2	**Magadan**	**21.60**	**305**	P	**P**	**17 45 36.1**	**+0.2**
I29M	**Ogilvie Camp,**	**22.26**	**39**	P	**P**	**17 45 43.1**	**+0.3**
I29M				IAmb	IAmb	17 46 15.6	
	comp=Z,9.3nm,1.6s						
SKAG	**Skagway**	**22.37**	**55**	P	**P**	**17 45 44.0**	**-0.1**
SKAG				IAmb	IAmb	17 46 04.3	
	comp=Z,7.4nm,1.0s						
JIS	**Juneau Island**	**22.83**	**58**	P	**P**	**17 45 49.8**	**+0.9**
INK	**Inuvik**	**25.09**	**34**	P	**P**	**17 46 10.6**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=208,slow=6.8,SNR=3.4						
INK	**Inuvik**	**25.09**	**34**	IAmb	IAmb	17 46 12.2	
	comp=Z,3.7nm,1.0s						
DLBC	**Dease Lake**	**25.12**	**58**	P	**P**	**17 46 12.6**	**+2.1**
	comp=Z,2.5nm,0.7s,baz=190,slow=23,SNR=1.5						
C36M	**Paulatuk**	**28.67**	**34**	P	**P**	**17 46 41.9**	**-0.2**
C36M				IAmb	IAmb	17 47 02.4	
	comp=Z,5.6nm,1.2s						
A36M	**Sachs Harbour**	**29.00**	**28**	P	**P**	**17 46 43.5**	**-1.4**
YKA	**Yellowknife Ar**	**32.32**	**48**	P	**P**	**17 47 14.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=332,slow=20,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**35.65**	**214**	T	T	18 25 50.5	
	baz=21,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**35.65**	**214**	T	T	18 25 58.5	
	baz=21,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**35.66**	**214**	T	T	18 25 57.5	
	baz=21,slow=76,SNR=10.0						
USRK	**Ussuriysk Ar.**	**36.78**	**280**	P	**P**	**17 47 52.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=137,slow=40,SNR=1.6						
H11S1	**WAKE ISLAND Hy**	**36.85**	**213**	T	T	18 27 09.0	
	baz=20,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**36.86**	**213**	T	T	18 27 11.8	
	baz=20,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**36.87**	**213**	T	T	18 27 09.6	
	baz=20,slow=75,SNR=3.6						
NVAR	**Mina Array Bea**	**39.94**	**87**	P	**P**	**17 48 20.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=294,slow=5.6,SNR=1.8						
PDAR	**Pinedale Array**	**42.74**	**76**	P	**P**	**17 48 43.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=302,slow=4.7,SNR=9.0						
KSRS	**Korea Array**	**43.20**	**275**	P	**P**	**17 48 45.4**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=33,slow=9.9,SNR=2.7						
SONM	**Songino Array**	**49.63**	**299**	P	**P**	**17 49 37.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=70,slow=6.5,SNR=7.4						
TXAR	**Lajitas Array**	**55.04**	**86**	P	**P**	**17 50 17.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=304,slow=6.0,SNR=8.1						
SCHQ	**Schefferville**	**57.39**	**41**	P	**P**	**17 50 33.9**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=217,slow=12,SNR=3.6						
ARCES	**ARCESS Array B**	**58.23**	**352**	P	**P**	**17 50 39.4**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=19,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**62.52**	**311**	P	**P**	**17 51 08.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=47,slow=5.8,SNR=16						
FINES	**FINESS Array B**	**66.09**	**350**	P	**P**	**17 51 31.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=52,slow=16,SNR=1.3						
CMAR	**Chiang Mai Arr**	**74.51**	**280**	P	**P**	**17 52 26.0**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=27,slow=7.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**74.51**	**280**	P	**P**	**17 52 25.1**	**+1.3**
WRA	**Warramunga Arr**	**84.89**	**229**	P	**P**	**17 53 17.8**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=30,slow=5.6,SNR=2.5						
ASAR	**Alice Springs**	**88.31**	**227**	P	**P**	**17 53 35.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=25,slow=5.1,SNR=12						

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*IDC **05** 18:07:15.4±1.5, 9°.12S×112°.69E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/40, mbtmp3.9/8, ML4.1/1, MS3.5/1, Ms1 3.4/1, ms1mx2.5/73, Error ellipse: s-maj=63.9km s-min=16.4km az=47.0*

*DJA **05** 18:07:18.3±0.5, 10°S±6°×11°2E±°, h10km, M4.0/19, mb4.3/6, mB4.9/1, MLv3.8/19, Mw(mB)4.1/1*

ISC 05 18:07:18.8±0.9**, 9°.7S**±0°.1×**112°.18E**±0°.08**, h35**km**, n29,** σ1°.65/28**, mb3.8**/7**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.66**	**347**	P	**Pn**	**18 07 45.1**	**-0.4**
PCJI	**Pacitan**	**1.75**	**326**	P	**Pn**	**18 07 46.3**	**-0.5**
GMJI	**Gumukmas**	**1.85**	**42**	P	**Pn**	**18 07 48.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.27**	**59**	P	**Pn**	**18 07 54.8**	**+0.9**
BLJI	**Banyuglugur**	**2.35**	**37**	P	**Pn**	**18 07 56.3**	**+1.3**
UGM	**Wanagama**	**2.38**	**316**	P	**Pn**	**18 07 56.6**	**+1.2**
YOGI	**Yogyakarta**	**2.61**	**314**	P	**Pn**	**18 08 00.3**	**+1.8**
ABJI	**Asem Bagus**	**2.74**	**48**	P	**Pn**	**18 08 02.8**	**+2.4**
IGBI	**Denpasar**	**3.04**	**74**	P	**Pn**	**18 08 07.0**	**+2.5**
KMMI	**Kalianget**	**3.13**	**34**	P	**Pn**	**18 08 05.8**	**+0.1**
DNP	**Denpasar**	**3.14**	**72**	P	**Pn**	**18 08 07.4**	**+1.5**
SRBI	**Singaraja**	**3.38**	**63**	P	**Pn**	**18 08 11.1**	**+2.0**
UWJI	**Ujung Watu**	**3.44**	**339**	P	**Pn**	**18 08 11.9**	**+2.0**
KPJI	**Karang Pucung**	**3.95**	**305**	P	**Pn**	**18 08 18.3**	**+1.3**
CMJI	**Cimerak**	**4.13**	**296**	P	**Pn**	**18 08 20.0**	**+0.6**
CNJI	**Cibinong**	**5.51**	**295**	P	**Pn**	**18 08 40.3**	**+1.8**
	0.1nm31nm,1.1s						
PLAI	**Plampang**	**5.58**	**82**	P	**Pn**	**18 08 41.4**	**+1.9**
	0.1nm24nm,0.9s						
CGJI	**Cibinong**	**7.10**	**295**	P	**Pn**	**18 09 02.8**	**+2.6**
	0.1nm703nm12nm,0.6s						
WBSI	**Waikabubak, Su**	**7.11**	**91**	P	**Pn**	**18 09 00.8**	**+0.3**
	0.1nm27nm,1.1s						
MMRI	**Maumere**	**9.98**	**85**	P	**Pn**	**18 09 41.1**	**+1.2**
BATI	**Baumata**	**11.33**	**94**	Pn	Pn	18 09 52.2	-6.1
	1.4nm,0.3s,baz=260,slow=6.1,SNR=2.4						
BATI				Sn	Sn	18 11 56.6	-7.1
	0.5nm,0.3s,baz=29,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**15.52**	**124**	Pn	**Pn**	**18 10 51.5**	**-3.7**
	0.1nm,0.3s,baz=295,slow=11,SNR=1.5						
FITZ				Sn	Sn	18 13 35.8	-10
	0.1nm,0.3s,baz=101,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**23.71**	**118**	P	**P**	**18 12 27.7**	**-0.1**
	1.8nm,0.6s,baz=293,slow=11,SNR=46						
ASAR	**Alice Springs**	**24.99**	**127**	P	**P**	**18 12 39.9**	**+0.3**
	1.4nm,0.8s,baz=302,slow=9.0,SNR=21						
CMAR	**Chiang Mai Arr**	**30.84**	**335**	P	**P**	**18 13 31.8**	**0.0**
	0.3nm,0.7s,baz=169,slow=10.0,SNR=1.6						
STKA	**Stephens Creek**	**35.09**	**133**	P	**P**	**18 14 10.8**	**+2.0**
	4.1nm,0.7s,baz=305,slow=8.0,SNR=8.8						
STKA				LR	LR	18 30 32.5	
	comp=Z,70nm,19.2s,baz=207,slow=40						
SONM	**Songino Array**	**57.46**	**355**	P	**P**	**18 17 02.7**	**-1.7**
	0.5nm,0.6s,baz=183,slow=8.1,SNR=2.2						
MKAR	**Makanchi Array**	**62.20**	**337**	P	**P**	**18 17 36.7**	**-0.2**
	0.9nm,0.5s,baz=150,slow=7.5,SNR=16						
ZALV	**Zalesovo Beam**	**67.46**	**343**	P	**P**	**18 18 10.4**	**-0.5**
	0.6nm,0.7s,baz=111,slow=3.2,SNR=2.6						

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*JMA **05** 18:11:05.8±0.1, 24°.71N×121°.74E, h73km±2km, M3.7*

*ASIES **05** 18:11:06.5, 24°.79N×121°.71E, h65km, MW3.8*

*TAP **05** 18:11:06.4, 24°.72N×121°.77E, h70km, ML4.7, B*

*IDC **05** 18:11:07.0±0.9, 24°.68N×121°.86E, h83km±8km, mb3.3/8, mb1 3.5/10, mb1mx3.2/43, mbtmp3.7/10, Error ellipse: s-maj=20.6km s-min=14.3km az=76.0*

ISC 05 18:11:06.9±0.6**, 24°.75N**±0°.02×**121°.76E**±0°.02**, h75**km±3km**,** **n191,** σ1°.08/328**, mb3.6**/8**, 58C-11D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.02**	**326**	⇑*i*P	**Pn**	**18 11 17.6**	**-0.1**
	baz=344						
ILA				*i* S	**Sn**	**18 11 25.9**	**+0.3**
	baz=344						
TWE	**Neicheng**	**0.09**	**253**	⇑*i*P	**Pn**	**18 11 17.4**	**-0.4**
	baz=260						
TWE				*i* S	**Sn**	**18 11 25.6**	**-0.1**
	baz=260						
NDS	**Dongshan**	**0.12**	**200**	⇑*i*P	**Pn**	**18 11 17.5**	**-0.4**
	baz=221						
NDS				*i* S	**Sn**	**18 11 25.3**	**-0.6**
	baz=221						
NTC	**Toucheng**	**0.12**	**30**	P	**Pn**	**18 11 17.3**	**-0.6**
	baz=21						
NTC				S	**Sn**	**18 11 24.9**	**-1.0**
	baz=21						
FUSB	**Fushanzhiwuyua**	**0.16**	**275**	⇑*i*P	**Pn**	**18 11 17.4**	**-0.7**
	baz=284						
FUSB				*i* S	**Sn**	**18 11 24.9**	**-1.4**
	baz=284						
EGS		**0.18**	**58**	P	**Pn**	**18 11 17.8**	**-0.3**
	baz=52						
EGS				S	**Sn**	**18 11 25.7**	**-0.5**
	baz=52						
ENTT	**Nioudou**	**0.21**	**239**	⇑*i*P	**Pn**	**18 11 17.7**	**-0.5**
	baz=256						
ENTT				S	**Sn**	**18 11 25.5**	**-1.0**
	baz=256						
TIPB	**Shuangxi**	**0.23**	**15**	⇓*i*P	**Pn**	**18 11 17.8**	**-0.6**
	baz=3.0						
TIPB				*i* S	**Sn**	**18 11 25.9**	**-0.9**
	baz=3.0						
NWLT	**Wulai**	**0.24**	**277**	⇑*i*P	**Pn**	**18 11 17.5**	**-0.9**
	baz=293						
NWLT				*i* S	**Sn**	**18 11 25.3**	**-1.5**
	baz=293						
NDT	**Datong Townshi**	**0.27**	**238**	⇑*i*P	**Pn**	**18 11 17.9**	**-0.6**
	baz=253						
NDT				S	**Sn**	**18 11 26.0**	**-1.0**
	baz=253						
TWA	**Mucha**	**0.28**	**325**	⇑P	**Pn**	**18 11 18.1**	**-0.6**
	baz=323						
TWA				S	**Sn**	**18 11 26.3**	**-1.0**
	baz=323						
LATG	**Datong**	**0.30**	**225**	⇑*i*P	**Pn**	**18 11 18.3**	**-0.5**
	baz=239						
LATG				*i* S	**Sn**	**18 11 26.8**	**-0.7**
	baz=239						
EWUT	**Wuta**	**0.30**	**177**	⇑P	**Pn**	**18 11 18.2**	**-0.5**
	baz=183						
EWUT				S	**Sn**	**18 11 26.9**	**-0.4**
	baz=183						
NHDH	**Xindian Distri**	**0.30**	**315**	⇑*i*P	**Pn**	**18 11 18.2**	**-0.6**
	baz=310						
NHDH				S	**Sn**	**18 11 26.3**	**-1.1**
	baz=310						
ENA	**Nanau**	**0.32**	**183**	⇑*i*P	**Pn**	**18 11 18.2**	**-0.7**
	baz=189						
ENA				S	**Sn**	**18 11 28.1**	**+0.6**
	baz=189						
NWF	**Wu-fen Shan**	**0.32**	**3**	⇓*i*P	**Pn**	**18 11 18.5**	**-0.5**
	baz=354						
NWF				*i* S	**Sn**	**18 11 26.9**	**-0.8**
	baz=354						
WFSB	**Wu-fen Shan**	**0.32**	**3**	⇓*i*P	**Pn**	**18 11 18.4**	**-0.4**
	baz=354						
WFSB				*i* S	**Sn**	**18 11 27.0**	**-0.7**
	baz=354						
TWB1	**Santiao Chiao**	**0.33**	**38**	⇓*i*P	**Pn**	**18 11 18.4**	**-0.6**
	baz=43						
TWB1				*i* S	**Sn**	**18 11 26.6**	**-1.0**
	baz=43						
TATO	**Taipei**	**0.34**	**313**	⇑*i*P	**Pn**	**18 11 18.2**	**-0.7**
	baz=308						
TATO				*i* S	**Sn**	**18 11 26.6**	**-1.2**
	baz=308						
NHY	**Taipei**	**0.34**	**329**	⇓*i*P	**Pn**	**18 11 18.6**	**-0.3**
	baz=323						
NHY				*i* S	**Sn**	**18 11 27.5**	**-0.3**
	baz=323						
YHNB	**Yeheng**	**0.36**	**258**	⇑*i*P	**Pn**	**18 11 18.3**	**-0.9**
	baz=263						
YHNB				*e*S	**Sn**	**18 11 26.7**	**-1.5**
	baz=263						
YHNB	**Yeheng**	**0.36**	**258**	P	**Pn**	**18 11 18.5**	**-0.7**
SXI1	**Grass Mountain**	**0.36**	**17**	⇓*i*P	**Pn**	**18 11 18.5**	**-0.7**
	baz=6.0						
SXI1				*i* S	**Sn**	**18 11 26.9**	**-1.3**
	baz=6.0						
TAP	**Taipei**	**0.37**	**321**	P	**Pn**	**18 11 18.7**	**-0.5**
	baz=317						
TAP				S	**Sn**	**18 11 27.4**	**-0.8**
	baz=317						
NSK	**Sanguang**	**0.37**	**259**	⇑*i*P	**Pn**	**18 11 18.3**	**-0.9**
	baz=263						
NSK				*i* S	**Sn**	**18 11 26.7**	**-1.6**
	baz=263						
BACT	**New Taipei Cit**	**0.38**	**311**	*i* P	**Pn**	**18 11 19.0**	**-0.3**
	baz=309						
BACT				*e*S	**Sn**	**18 11 28.0**	**-0.3**
	baz=309						
TNOU	**National Taiwa**	**0.40**	**1**	⇑*i*P	**Pn**	**18 11 18.9**	**-0.6**
	baz=354						
TNOU				*i* S	**Sn**	**18 11 27.9**	**-0.7**
	baz=354						
YM01	**YM01**	**0.43**	**336**	⇓*i*P	**Pn**	**18 11 19.2**	**-0.6**
	baz=329						
YM01				*i* S	**Sn**	**18 11 28.3**	**-0.8**
	baz=329						
EHP	**Heping Village**	**0.43**	**182**	*e*P	**Pn**	**18 11 18.3**	**-1.4**
	baz=189						
EHP				*e*S	**Sn**	**18 11 29.7**	**+0.6**
	baz=189						
NWRT	**Kuosheng**	**0.46**	**349**	P	**Pn**	**18 11 19.7**	**-0.3**
	baz=348						
NWRT				S	**Sn**	**18 11 28.8**	**-0.7**
	baz=348						
YM08	**YM08**	**0.47**	**340**	⇓*i*P	**Pn**	**18 11 19.3**	**-0.7**
	baz=333						
YM08				*i* S	**Sn**	**18 11 28.2**	**-1.3**
	baz=333						
NNS	**Nan Shan**	**0.47**	**229**	⇑*i*P	**Pn**	**18 11 19.5**	**-0.6**
	baz=235						
NNS				S	**Sn**	**18 11 28.8**	**-1.0**
	baz=235						
NNSB	**Datong**	**0.47**	**227**	⇑*i*P	**Pn**	**18 11 19.5**	**-0.6**
	baz=234						
NNSB				S	**Sn**	**18 11 28.8**	**-1.1**
	baz=234						
TWS1	**Kuangyinshan**	**0.47**	**319**	⇑*i*P	**Pn**	**18 11 19.7**	**-0.3**
	baz=309						
TWS1				*i* S	**Sn**	**18 11 29.6**	**0.0**
	baz=309						
ANP	**Anpu**	**0.49**	**333**	P	**Pn**	**18 11 19.6**	**-0.7**
	baz=334						
ANP				S	**Sn**	**18 11 28.9**	**-1.2**
	baz=334						
NTY	**Taoyuan**	**0.49**	**301**	P	**Pn**	**18 11 19.8**	**-0.4**
	baz=310						
NTY				S	**Sn**	**18 11 30.0**	**+0.1**
	baz=310						
NTST	**Danshui**	**0.50**	**326**	P	**Pn**	**18 11 20.1**	**-0.2**
	baz=331						
NTST				S	**Sn**	**18 11 29.6**	**-0.5**
	baz=331						
TWY	**Chenhua**	**0.55**	**344**	⇓*i*P	**Pn**	**18 11 20.5**	**-0.1**
	baz=336						
TWY				S	**Sn**	**18 11 30.9**	**+0.1**
	baz=336						
NSM	**Shimen**	**0.56**	**344**	*i* P	**Pn**	**18 11 20.9**	**0.0**
	baz=337						
NSM				S	**Sn**	**18 11 31.5**	**+0.4**
	baz=337						
NCU	**National Centr**	**0.57**	**293**	⇑*i*P	**Pn**	**18 11 20.5**	**-0.4**
	baz=287						
NCU				*i* S	**Sn**	**18 11 31.0**	**-0.2**
	baz=287						
NCUH	**Zhongli**	**0.57**	**293**	⇑P	**Pn**	**18 11 20.5**	**-0.4**
	baz=287						
NCUH				S	**Sn**	**18 11 30.5**	**-0.7**
	baz=287						
NACB	**Ninganchiao**	**0.59**	**195**	⇑*i*P	**Pn**	**18 11 19.5**	**-1.6**
	baz=205						
NACB				*e*S	**Sn**	**18 11 29.9**	**-1.6**
	baz=205						
ETLH	**Xiulin Townshi**	**0.59**	**205**	⇑*i*P	**Pn**	**18 11 20.4**	**-0.9**
	baz=207						
ETLH				S	**Sn**	**18 11 30.2**	**-1.6**
	baz=207						
NFF	**Wufeng Townshi**	**0.60**	**259**	⇑P	**Pn**	**18 11 20.5**	**-0.7**
	baz=270						
NFF				S	**Sn**	**18 11 30.6**	**-1.2**
	baz=270						
ETL	**Fush Village**	**0.60**	**192**	P	**Pn**	**18 11 19.8**	**-1.4**
	baz=202						
ETL				*e*S	**Sn**	**18 11 30.0**	**-1.8**
	baz=202						
NJD	**Zhudong**	**0.61**	**269**	⇑*i*P	**Pn**	**18 11 21.0**	**-0.3**
	baz=272						
HSN1	**Hsinchu**	**0.68**	**273**	*i* P	**Pn**	**18 11 21.7**	**-0.3**
	baz=275						
TWD	**Chiawan**	**0.68**	**193**	⇑*i*P	**Pn**	**18 11 20.6**	**-1.5**
	baz=202						
TWD				S	**Sn**	**18 11 31.0**	**-2.2**
	baz=202						
FUSS	**Fushou**	**0.69**	**224**	P	**Pn**	**18 11 22.3**	**-0.1**
	baz=226						
FUSS				S	**Sn**	**18 11 33.1**	**-0.6**
	baz=226						
LIOB	**Emei**	**0.69**	**262**	⇑*i*P	**Pn**	**18 11 21.6**	**-0.5**
	baz=264						
LIOB				*i* S	**Sn**	**18 11 32.8**	**-0.6**
	baz=264						
NHW	**Xinwu Township**	**0.70**	**292**	⇑*i*P	**Pn**	**18 11 21.9**	**-0.3**
	baz=293						
NHW				S	**Sn**	**18 11 33.7**	**+0.2**
	baz=293						
NSTT	**Nanjuang**	**0.70**	**261**	⇑*i*P	**Pn**	**18 11 21.6**	**-0.6**
	baz=263						
NSTT				*i* S	**Sn**	**18 11 32.7**	**-0.9**
	baz=263						
SBCB	**Hsinchu**	**0.71**	**274**	⇑*i*P	**Pn**	**18 11 22.0**	**-0.4**
	baz=276						
SBCB				S	**Sn**	**18 11 33.3**	**-0.4**
	baz=276						
HSN	**Hsinchu**	**0.72**	**275**	⇑*i*P	**Pn**	**18 11 21.7**	**-0.7**
	baz=279						
HSN				S	**Sn**	**18 11 32.9**	**-1.1**
	baz=279						
TWT	**Tachien**	**0.72**	**227**	⇑*i*P	**Pn**	**18 11 22.9**	**+0.2**
	baz=230						
TWT				*i* S	**Sn**	**18 11 34.5**	**+0.1**
	baz=230						
TDCB	**Techi**	**0.74**	**228**	⇑*i*P	**Pn**	**18 11 22.9**	**+0.1**
	baz=230						
TDCB				S	**Sn**	**18 11 34.1**	**-0.5**
	baz=230						
WHF	**Hehuan Shan**	**0.75**	**217**	⇑*i*P	**Pn**	**18 11 22.8**	**-0.5**
	baz=211						
WHF				*i* S	**Sn**	**18 11 34.6**	**-0.7**
	baz=211						
HWA	**Hwalien**	**0.78**	**191**	P	**Pn**	**18 11 22.1**	**-1.0**
	baz=200						
HWA				S	**Sn**	**18 11 35.5**	**+0.4**
	baz=200						
ETM	**Tongmen**	**0.82**	**198**	*i* P	**Pn**	**18 11 22.0**	**-1.6**
	baz=199						
CHGB	**Renai**	**0.87**	**218**	⇑*i*P	**Pn**	**18 11 24.4**	**0.0**
	baz=220						
CHGB				S	**Sn**	**18 11 36.4**	**-0.9**
	baz=220						
WHP	**Taichung City**	**0.88**	**238**	⇑*i*P	**Pn**	**18 11 24.5**	**+0.1**
	baz=250						
WHP				S	**Sn**	**18 11 37.2**	**-0.1**
	baz=250						
TEYL	**Yanliau Villag**	**0.89**	**190**	*e*P	**Pn**	**18 11 23.9**	**-0.5**
	baz=200						
NMLH	**Miaoli**	**0.91**	**257**	⇑P	**Pn**	**18 11 24.3**	**-0.3**
	baz=259						
NMLH				S	**Sn**	**18 11 37.1**	**-0.6**
	baz=259						
PCYT	**Pengchaiyu**	**0.92**	**18**	⇓P	**Pn**	**18 11 24.4**	**-0.4**
	baz=17						
WUSB	**Renai**	**0.95**	**218**	⇑*i*P	**Pn**	**18 11 25.4**	**+0.1**
	baz=213						
WUSB				S	**Sn**	**18 11 38.9**	**-0.1**
	baz=213						
NSY	**Sanyi**	**0.97**	**250**	⇑*i*P	**Pn**	**18 11 25.3**	**-0.1**
	baz=261						
NSY				*i* S	**Sn**	**18 11 39.2**	**+0.1**
	baz=261						
ESL	**Shilin**	**0.98**	**198**	P	**Pn**	**18 11 23.4**	**-2.0**
	baz=191						
TWQ1	**Liyutan**	**0.98**	**246**	⇑*i*P	**Pn**	**18 11 25.3**	**-0.3**
	baz=249						
TWQ1				*i* S	**Sn**	**18 11 39.1**	**-0.3**
	baz=249						

WCS	**Beigang Elemen**	**1.03**	**229**	P	**Pn**	**18 11 26.3**	**+0.1**
	baz=240						
WCS				S	**Sn**	**18 11 40.3**	**-0.2**
	baz=240						
WPL	**Puli Township**	**1.04**	**225**	*i* P	**Pn**	**18 11 26.5**	**+0.3**
	baz=237						
DPDB	**Guoxing**	**1.04**	**227**	*i* P	**Pn**	**18 11 26.5**	**+0.2**
	baz=239						
TEGC	**Jichi Village**	**1.05**	**191**	*e*P	**Pn**	**18 11 26.4**	**0.0**
	baz=199						
TEGC				*e*S	**Sn**	**18 11 42.3**	**+1.4**
	baz=199						
WDJ	**Dajia District**	**1.10**	**249**	⇑P	**Pn**	**18 11 26.8**	**-0.1**
	baz=251						
WDJ				S	**Sn**	**18 11 41.3**	**-0.5**
	baz=251						
JYNG	**Yonagunijimaku**	**1.12**	**105**	P	**Pn**	**18 11 26.5**	**-0.7**
JYNG				S	**Sn**	**18 11 41.1**	**-1.2**
VWDT	**VWDT**	**1.14**	**210**	⇑P	**Pn**	**18 11 27.4**	**-0.1**
	baz=205						
VWDT				S	**Sn**	**18 11 43.5**	**+0.7**
	baz=205						
TCU	**Taichung**	**1.16**	**239**	⇑*i*P	**Pn**	**18 11 27.6**	**0.0**
	baz=242						
TCU				S	**Sn**	**18 11 42.5**	**-0.6**
	baz=242						
SMLT	**Sun Moon Lake**	**1.17**	**223**	⇑*i*P	**Pn**	**18 11 28.0**	**+0.1**
	baz=232						
SMLT				*i* S	**Sn**	**18 11 43.9**	**+0.4**
	baz=232						
YOJ	**Yonaguni jima**	**1.17**	**104**	P	**Pn**	**18 11 27.2**	**-0.6**
YOJ				S	**Sn**	**18 11 42.3**	**-1.2**
YOJ	**Yonaguni jima**	**1.17**	**104**	⇑P	**Pn**	**18 11 27.1**	**-0.8**
	baz=102						
YOJ				S	**Sn**	**18 11 42.3**	**-1.2**
	baz=102						
YOJ	**Yonaguni jima**	**1.17**	**104**	P	**Pn**	**18 11 27.5**	**-0.3**
WWF	**Wufeng**	**1.20**	**234**	*i* P	**Pn**	**18 11 28.3**	**+0.1**
	baz=237						
SSLB	**Suanglung**	**1.21**	**218**	⇑*i*P	**Pn**	**18 11 28.5**	**+0.1**
	baz=232						
SSLB				S	**Sn**	**18 11 44.5**	**+0.1**
	baz=232						
SSLB	**Suanglung**	**1.21**	**218**	P	**Pn**	**18 11 28.9**	**+0.5**
WCHH	**Zhanghua**	**1.28**	**239**	⇑*i*P	**Pn**	**18 11 28.9**	**-0.3**
	baz=242						
WCHH				*i* S	**Sn**	**18 11 45.4**	**-0.6**
	baz=242						
HGSD	**Ruisui**	**1.29**	**194**	P	**Pn**	**18 11 28.9**	**-0.4**
	baz=202						
HGSD				S	**Sn**	**18 11 46.3**	**+0.2**
	baz=202						
WNT1	**Nantou City**	**1.29**	**230**	*i* P	**Pn**	**18 11 29.6**	**+0.2**
	baz=242						
WNT1				S	**Sn**	**18 11 46.6**	**+0.3**
	baz=242						
EHY	**Hungye**	**1.30**	**198**	P	**Pn**	**18 11 27.3**	**-2.2**
	baz=198						
EHY				*e*S	**Sn**	**18 11 45.1**	**-1.3**
	baz=198						
WNT	**Mingjian**	**1.31**	**229**	⇑*i*P	**Pn**	**18 11 29.7**	**+0.1**
	baz=241						
WNT				*i* S	**Sn**	**18 11 46.9**	**+0.2**
	baz=241						
WJS	**Zhushan**	**1.32**	**226**	⇑P	**Pn**	**18 11 29.7**	**0.0**
	baz=239						
WJS				S	**Sn**	**18 11 46.9**	**0.0**
	baz=239						
WYL	**Yuanlin Townsh**	**1.33**	**234**	*i* P	**Pn**	**18 11 30.0**	**+0.1**
	baz=246						
WYL				*i* S	**Sn**	**18 11 46.9**	**-0.3**
	baz=246						
YULB	**Yu-li**	**1.41**	**198**	P	**Pn**	**18 11 29.2**	**-1.8**
	baz=192						
YULB				*e*S	**Sn**	**18 11 45.9**	**-3.2**
	baz=192						
EYUL	**Yuli**	**1.45**	**196**	*e*P	**Pn**	**18 11 31.8**	**+0.3**
	baz=196						
EYUL				*e*S	**Sn**	**18 11 50.5**	**+0.6**
	baz=196						
ECBN	**Changbin**	**1.45**	**191**	*i* P	**Pn**	**18 11 31.4**	**0.0**
	baz=199						
TWF1	**Yuli**	**1.45**	**197**	*e*P	**Pn**	**18 11 29.8**	**-1.7**
	baz=198						
YUS	**Yu-Shan**	**1.45**	**211**	P	**Pn**	**18 11 32.2**	**+0.3**
	baz=225						
YUS				S	**Sn**	**18 11 51.6**	**+0.8**
	baz=225						
ALS	**Alishan**	**1.51**	**216**	P	**Pn**	**18 11 33.0**	**+0.4**
	baz=229						
ALS				S	**Sn**	**18 11 52.6**	**+0.8**
	baz=229						
CHN5	**Tsauling**	**1.51**	**221**	⇑P	**Pn**	**18 11 32.4**	**0.0**
	baz=223						
CHN5				S	**Sn**	**18 11 52.0**	**+0.5**
	baz=223						
WRL	**Guolierlin Hig**	**1.52**	**237**	⇑*i*P	**Pn**	**18 11 31.9**	**-0.4**
	baz=239						
WRL				S	**Sn**	**18 11 50.4**	**-1.1**
	baz=239						
WGK	**Gukeng**	**1.52**	**226**	*i* P	**Pn**	**18 11 32.8**	**+0.4**
	baz=239						
WGK				*i* S	**Sn**	**18 11 52.4**	**+0.8**
	baz=239						
WDLH	**Douliu**	**1.54**	**227**	⇑P	**Pn**	**18 11 32.7**	**+0.1**
	baz=239						
WDLH				*i* S	**Sn**	**18 11 51.9**	**0.0**
	baz=239						
FULB	**Fuli**	**1.60**	**196**	P	**Pn**	**18 11 33.1**	**-0.4**
	baz=196						
FULB				S	**Sn**	**18 11 53.6**	**+0.1**
	baz=196						
WTCT	**Ta-ch'eng**	**1.61**	**237**	⇑*i*P	**Pn**	**18 11 33.1**	**-0.4**
	baz=240						
WTCT				*i* S	**Sn**	**18 11 53.1**	**-0.5**
	baz=240						
WTK	**Tuku**	**1.64**	**230**	P	**Pn**	**18 11 33.8**	**-0.1**
	baz=233						
WTK				S	**Sn**	**18 11 53.7**	**-0.6**
	baz=233						
CHKT	**Chengkung**	**1.68**	**193**	P	**Pn**	**18 11 34.0**	**-0.5**
	baz=197						
CHKT				S	**Sn**	**18 11 54.4**	**-0.9**
	baz=197						
CHN2	**Minshiung**	**1.69**	**224**	*i* P	**Pn**	**18 11 35.4**	**+0.8**
	baz=237						
CHN2				*i* S	**Sn**	**18 11 56.4**	**+1.0**
	baz=237						
ELDTW	**Lidau**	**1.69**	**204**	P	**Pn**	**18 11 33.7**	**-1.1**
	baz=198						
ELDTW				*e*S	**Sn**	**18 11 55.3**	**-0.5**
	baz=198						
ECS	**Chishang**	**1.72**	**197**	*i* P	**Pn**	**18 11 35.0**	**0.0**
	baz=190						
CHY	**Chiayi**	**1.74**	**225**	*i* P	**Pn**	**18 11 35.9**	**+0.6**
	baz=237						
CHY				*i* S	**Sn**	**18 11 57.8**	**+1.0**
	baz=237						
TPUB	**Ta-pu**	**1.77**	**216**	P	**Pn**	**18 11 35.8**	**+0.1**
	baz=218						
TPUB				S	**Sn**	**18 11 58.2**	**+0.6**
	baz=218						
TPUB	**Ta-pu**	**1.77**	**216**	P	**Pn**	**18 11 36.5**	**+0.8**
WSF	**Szhu**	**1.79**	**232**	*e*P	**Pn**	**18 11 34.4**	**-1.5**
	baz=235						
WSF				S	**Sn**	**18 11 57.5**	**-0.3**
	baz=235						
STYH	**Taoyuan**	**1.81**	**210**	*e*P	**Pn**	**18 11 36.6**	**+0.4**
	baz=225						
STYH				S	**Sn**	**18 11 59.3**	**+1.0**
	baz=225						
EDH	**Donghe**	**1.81**	**193**	P	**Pn**	**18 11 35.5**	**-0.8**
	baz=193						
EDH				S	**Sn**	**18 11 57.0**	**-1.5**
	baz=193						
STYT	**Tauyuan**	**1.82**	**210**	*i* P	**Pn**	**18 11 37.2**	**+0.7**
	baz=212						
WTP	**Ta-pu**	**1.83**	**215**	P	**Pn**	**18 11 36.7**	**+0.3**
	baz=216						
WTP				S	**Sn**	**18 12 01.2**	**+2.3**
	baz=216						
IRIF	**Iriomote-Funau**	**1.84**	**102**	P	**Pn**	**18 11 35.8**	**-0.8**
IRIF				*e*S	**Sn**	**18 11 58.2**	**-0.9**
WSL	**Shuilin Townsh**	**1.86**	**229**	P	**Pn**	**18 11 36.7**	**-0.1**
	baz=232						
WSL				S	**Sn**	**18 11 58.0**	**-1.5**
	baz=232						
TWK	**Hsinying**	**1.88**	**219**	P	**Pn**	**18 11 37.1**	**-0.1**
	baz=220						
TWK				S	**Sn**	**18 12 02.4**	**+2.3**
	baz=220						
SNST	**Tainan City**	**1.91**	**218**	*e*P	**Pn**	**18 11 38.1**	**+0.6**
	baz=220						
SNST				*e*S	**Sn**	**18 12 03.6**	**+2.8**
	baz=220						
CHN1	**Nanshi**	**1.92**	**216**	P	**Pn**	**18 11 37.8**	**0.0**
	baz=218						
CHN1				S	**Sn**	**18 12 01.2**	**+0.1**
	baz=218						
LONT	**Longtian**	**1.92**	**198**	*e*P	**Pn**	**18 11 36.6**	**-1.1**
	baz=191						
LONT				*e*S	**Sn**	**18 11 58.8**	**-2.3**
	baz=191						
ICHU	**Yijhu**	**1.93**	**225**	*e*P	**Pn**	**18 11 37.8**	**0.0**
	baz=237						
ICHU				*e*S	**Sn**	**18 12 01.1**	**-0.2**
	baz=237						
SGST	**Jiashian**	**1.98**	**213**	P	**Pn**	**18 11 37.9**	**-0.6**
	baz=227						
SGST				*e*S	**Sn**	**18 12 02.0**	**-0.5**
	baz=227						
HATJ	**Hateruma jima**	**1.99**	**110**	P	**Pn**	**18 11 38.9**	**+0.4**
CHN8	**Yiju**	**1.99**	**226**	⇓P	**Pn**	**18 11 38.5**	**0.0**
	baz=237						
CHN8				S	**Sn**	**18 12 03.1**	**+0.5**
	baz=237						
TWG	**Pinlang**	**2.02**	**198**	P	**Pn**	**18 11 37.0**	**-2.0**
	baz=191						
TWGBT	**Beinan**	**2.02**	**198**	*e*P	**Pn**	**18 11 37.1**	**-1.9**
	baz=192						
TWGBT				*e*S	**Sn**	**18 12 00.4**	**-3.0**
	baz=192						
SLGT	**Liugui**	**2.02**	**211**	*e*P	**Pn**	**18 11 37.8**	**-1.3**
	baz=225						
SLGT				*e*S	**Sn**	**18 12 04.8**	**+1.3**
	baz=225						
TTN	**Taitung**	**2.06**	**196**	*e*P	**Pn**	**18 11 39.0**	**-0.5**
	baz=187						
TTN				*e*S	**Sn**	**18 12 03.4**	**-1.0**
	baz=187						
LDUT	**Ludao**	**2.08**	**187**	*e*P	**Pn**	**18 11 38.0**	**-1.8**
	baz=195						
LDUT				*e*S	**Sn**	**18 12 02.6**	**-2.3**
	baz=195						
SSHA	**Shanhua**	**2.10**	**220**	*e*P	**Pn**	**18 11 39.9**	**-0.1**
	baz=224						
SSHA				*e*S	**Sn**	**18 12 06.4**	**+1.2**
	baz=224						
CHN3	**Shinhua**	**2.10**	**218**	*e*P	**Pn**	**18 11 41.1**	**+1.0**
	baz=221						
CHN3				*e*S	**Sn**	**18 12 06.7**	**+1.5**
	baz=221						
JKRS	**Kuro-shima**	**2.11**	**103**	P	**Pn**	**18 11 39.9**	**-0.3**
JKRS				S	**Sn**	**18 12 04.9**	**-0.6**
SCLT	**Jiali**	**2.12**	**223**	*e*P	**Pn**	**18 11 40.4**	**0.0**
	baz=226						
SCLT				*e*S	**Sn**	**18 12 05.8**	**0.0**
	baz=226						
SHHT	**Tainan City**	**2.15**	**217**	*e*P	**Pn**	**18 11 41.8**	**+1.1**
	baz=230						
SHHT				*e*S	**Sn**	**18 12 07.4**	**+0.8**
	baz=230						
MATB	**Ma-tsu**	**2.16**	**311**	⇑P	**Pn**	**18 11 39.9**	**-0.9**
	baz=307						
MSUT	**Lienchiang**	**2.18**	**311**	*i* P	**Pn**	**18 11 40.4**	**-0.8**
	baz=308						
SCST	**Cishan**	**2.19**	**212**	*e*P	**Pn**	**18 11 42.0**	**+0.7**
	baz=226						
JIJ	**Ishigaki jima**	**2.20**	**99**	P	**Pn**	**18 11 40.6**	**-0.8**
JIJ				*e*S	**Sn**	**18 12 06.3**	**-1.5**
TAI1	**Yung-k'ang**	**2.20**	**220**	*e*P	**Pn**	**18 11 42.6**	**+1.2**
	baz=233						
TAI1				*e*S	**Sn**	**18 12 09.2**	**+1.4**
	baz=233						
SSD	**Sandimen**	**2.25**	**208**	*i* P	**Pn**	**18 11 42.8**	**+0.8**
	baz=223						
SSD				S	**Sn**	**18 12 10.6**	**+1.8**
	baz=223						
ECL	**Taimali**	**2.27**	**199**	*e*P	**Pn**	**18 11 41.1**	**-1.2**
	baz=192						
ECL				*e*S	**Sn**	**18 12 09.4**	**+0.1**
	baz=192						
TWM1	**Shoushan**	**2.27**	**213**	*e*P	**Pn**	**18 11 43.6**	**+1.2**
	baz=226						
TWM1				*e*S	**Sn**	**18 12 12.9**	**+3.3**
	baz=226						
TSMG	**Majia**	**2.27**	**207**	*e*P	**Pn**	**18 11 42.9**	**+0.5**
	baz=223						
TSMG				*e*S	**Sn**	**18 12 10.1**	**+0.5**
	baz=223						
JISG	**Ishigakijimahi**	**2.33**	**93**	P	**Pn**	**18 11 42.7**	**-0.4**
JISG				*e*S	**Sn**	**18 12 10.5**	**-0.2**
SGLT	**Jiouru**	**2.33**	**210**	*e*P	**Pn**	**18 11 45.2**	**+2.1**
	baz=224						
PNG	**Penghu**	**2.33**	**240**	⇑*i*P	**Pn**	**18 11 41.9**	**-1.3**
	baz=244						
PNG				S	**Sn**	**18 12 08.2**	**-2.7**
	baz=244						
PHUB	**P'eng-hu**	**2.35**	**239**	⇑P	**Pn**	**18 11 41.9**	**-1.5**
	baz=243						
PHUB				S	**Sn**	**18 12 08.3**	**-3.0**
	baz=243						
MASBT	**Mashibuluo**	**2.36**	**206**	*e*P	**Pn**	**18 11 44.1**	**+0.5**
	baz=221						
WDGT	**Dungji**	**2.43**	**233**	P	**Pn**	**18 11 43.5**	**-1.0**
	baz=236						
WDGT				S	**Sn**	**18 12 10.4**	**-2.8**
	baz=236						
EAST	**Anshuo**	**2.50**	**200**	*e*P	**Pn**	**18 11 44.7**	**-0.8**
	baz=192						
SSPT	**Xinbi**	**2.50**	**206**	*e*P	**Pn**	**18 11 46.8**	**+1.3**
	baz=207						
TAWH	**Dawu Township**	**2.53**	**199**	*e*P	**Pn**	**18 11 47.2**	**+1.4**
	baz=193						
LYJJ	**Jianjiangzhen**	**2.55**	**315**	⇑*e*P	**Pn**	**18 11 45.2**	**-0.9**
	baz=312						
SCZT	**Fangliau**	**2.59**	**204**	*e*P	**Pn**	**18 11 47.1**	**+0.5**
	baz=203						
SCZT				*e*S	**Sn**	**18 12 18.8**	**+1.7**
	baz=203						
XPSS	**Dashiqiu**	**2.59**	**327**	*e*P	**Pn**	**18 11 45.9**	**-0.8**
	baz=323						
VCHM	**Qimei**	**2.63**	**235**	*e*P	**Pn**	**18 11 45.7**	**-1.4**
	baz=240						
VCHM				*e*S	**Sn**	**18 12 15.2**	**-2.8**
	baz=240						
SLIU	**Shizi**	**2.67**	**200**	*e*P	**Pn**	**18 11 48.3**	**+0.5**
	baz=200						
JTJ	**Tarama**	**2.68**	**92**	P	**Pn**	**18 11 48.5**	**+0.7**
WLCH	**Liuqiu**	**2.70**	**208**	*e*P	**Pn**	**18 11 50.1**	**+2.0**
	baz=223						
LAY	**Lan-yu**	**2.70**	**184**	*e*P	**Pn**	**18 11 46.7**	**-1.5**
	baz=180						
LAY				*e*S	**Sn**	**18 12 17.2**	**-2.8**
	baz=180						
LYUB	**Lan-yu**	**2.74**	**183**	*e*P	**Pn**	**18 11 46.5**	**-2.2**
	baz=180						
LYUB				*e*S	**Sn**	**18 12 15.9**	**-4.9**
	baz=180						
MHZQ	**Yeshan**	**2.81**	**299**	*e*P	**Pn**	**18 11 48.5**	**-1.2**
	baz=296						
SMST	**Manzhou Townsh**	**2.84**	**198**	*e*P	**Pn**	**18 11 51.5**	**+1.3**
	baz=197						
SMST				*e*S	**Sn**	**18 12 22.4**	**-1.0**
	baz=197						
HEN	**Hengchun**	**2.89**	**199**	*e*P	**Pn**	**18 11 51.2**	**+0.5**
	baz=213						
QZH	**Quanzhou**	**2.89**	**275**	⇑*i*Pn	**Pn**	**18 11 49.7**	**-1.0**
QZH				Sn	**Sn**	**18 12 20.8**	**-3.5**
QZH				smax	smax		
	comp=N,140nm,0.2s						
QZH				smax	smax		
	comp=E,110nm,0.3s						
TWK1	**Hengchun**	**2.93**	**198**	*e*P	**Pn**	**18 11 51.8**	**+0.5**
	baz=190						
TWKBT	**Hengchun**	**2.93**	**198**	*e*P	**Pn**	**18 11 51.7**	**+0.4**
	baz=190						
TSEB	**Hengchuen, Pin**	**2.94**	**196**	*e*P	**Pn**	**18 11 51.1**	**-0.4**
	baz=197						
KNM	**Kinmen**	**3.05**	**264**	*e*P	**Pn**	**18 11 53.4**	**+0.6**
	baz=265						
KNMB	**Chin-men Tao**	**3.08**	**265**	*e*P	**Pn**	**18 11 51.9**	**-1.4**
	baz=265						
JIRB	**Irabujima**	**3.10**	**88**	P	**Pn**	**18 11 54.5**	**+0.9**
JIKM	**Ikemajima**	**3.17**	**86**	P	**Pn**	**18 11 55.9**	**+1.4**
JMJ	**Miyako jima 2**	**3.21**	**88**	P	**Pn**	**18 11 56.6**	**+1.5**
JMJ2	**Miyako jima3**	**3.24**	**89**	P	**Pn**	**18 11 56.5**	**+1.0**
JMJ2				*e*S	**Sn**	**18 12 34.1**	**+1.1**
JOGS	**Gusukube**	**3.31**	**89**	P	**Pn**	**18 11 57.6**	**+1.1**
AXDP	**Jialang**	**3.45**	**273**	*e*P	**Pn**	**18 11 57.8**	**-0.6**
	baz=272						
ZPLA	**Ao Xicun**	**3.75**	**258**	*e*P	**Pn**	**18 12 01.4**	**-1.0**
	baz=257						
SXFK	**Yanhouchang**	**4.07**	**295**	*e*P	**Pn**	**18 12 05.4**	**-1.3**
	baz=291						
JOW	**Kunigami**	**6.23**	**69**	P	**Pn**	**18 12 35.7**	**-0.5**
	comp=E,10nm,0.3s,baz=247,slow=7.4,SNR=25						
JOW	**Kunigami**	**6.23**	**69**	P	**Pn**	**18 12 36.0**	**-0.3**
KSRS	**Korea Array**	**13.72**	**21**	P	**Pn**	**18 14 19.9**	**+1.9**
	comp=E,0.3nm,0.3s,baz=205,slow=14,SNR=5.4						
CMAR	**Chiang Mai Arr**	**22.11**	**258**	P	**P**	**18 15 57.5**	**+1.3**
	comp=E,0.1nm,0.3s,baz=106,slow=16,SNR=2.2						
CMAR				pP	**pP**	**18 16 13.6**	**+1.6**
	comp=E,0.3nm,0.4s,baz=64,slow=8.2,SNR=3.2						
KLR	**Kul'dur**	**25.66**	**15**	P	**P**	**18 16 30.0**	**+0.4**
	comp=E,1.4nm,0.6s,baz=186,slow=9.5,SNR=7.1						
SONM	**Songino Array**	**26.06**	**336**	P	**P**	**18 16 34.3**	**+0.9**
	comp=E,1.0nm,0.7s,baz=148,slow=8.4,SNR=6.7						
SONM				pP	**pP**	**18 16 52.2**	**+1.2**
	comp=E,1.1nm,1.0s,baz=154,slow=11,SNR=4.0						
WMQ	**Urumqi**	**33.65**	**313**	*e*P	P	18 17 47.8	+7.3
MKAR	**Makanchi Array**	**38.31**	**315**	P	**P**	**18 18 19.2**	**-1.0**
	comp=E,0.4nm,0.6s,baz=101,slow=10.0,SNR=4.3						
MKAR				pP	**pP**	**18 18 39.7**	**+1.4**
	comp=E,0.3nm,0.6s,baz=101,slow=10.0,SNR=1.5						
MKAR				PcP	**PcP**	**18 20 32.7**	**0.0**
	comp=E,0.1nm,0.7s,baz=123,slow=2.4,SNR=1.2						
WRA	**Warramunga Arr**	**46.08**	**163**	P	**P**	**18 19 22.1**	**-1.5**
	comp=E,1.1nm,0.7s,baz=346,slow=8.4,SNR=10						
WRA				pP	**pP**	**18 19 42.1**	**+0.3**
	comp=E,0.4nm,0.5s,baz=346,slow=8.7,SNR=1.8						
ASAR	**Alice Springs**	**49.55**	**165**	P	**P**	**18 19 48.8**	**-1.6**
	comp=E,0.8nm,0.7s,baz=342,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**71.23**	**330**	P	**P**	**18 22 17.4**	**-0.3**
	comp=E,1.5nm,0.8s,baz=46,slow=8.2,SNR=5.6						
YKA	**Yellowknife Ar**	**82.25**	**23**	P	**P**	**18 23 18.4**	**-1.4**
	comp=E,0.3nm,0.6s,baz=310,slow=5.1,SNR=8.0						

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*IDC **05** 18:16:27.3±0.7, 7°.36N×126°.33E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.8/44, mbtmp4.0/13, ML4.8/1, MS3.3/2, Ms1 3.4/2, ms1mx2.6/76, Error ellipse: s-maj=14.8km s-min=9.8km az=153.0*

*MAN **05** 18:16:31.9, 7°.41N×125°.84E, h1km, mb5.0, ML3.9, MS3.9*
MAN INTENSITY II - TAGUM CITY, DAVAO DEL NORTE.

*NEIC **05** 18:16:33.9±2.5, 7°.25N±0°.08×125°.81E±0°.09, h46km±7km, mb4.0/14, Error ellipse: s-maj=13.6km s-min=11.6km az=64.0*

ISC 05 18:16:33.5±0.9, **7°.29N**±0°.05×**125°.92E**±0°.05, **h48**km±9km, **n49**, σ1s**30**/50, **mb4.0**/18, **4C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.40**	**238**	Pg	**Pn**	**18 16 43.3**	**-0.2**
	656nm,0.3s,baz=80,slow=6.1,SNR=60						
DAV				Lg	Lg	18 16 53.6	
	2μm,0.3s,baz=75,slow=23,SNR=14						
DAV				LR	LR	18 17 14.4	
	comp=Z,1μm,21.1s,baz=335,slow=59						
DAV	**Davao City (W)**	**0.40**	**238**		**Pn**	**18 16 42.3**	**-1.2**
MATI	**Mati**	**0.47**	**135**	⇓*e*P	**Pn**	**18 16 43.7**	**-0.6**
KCP	**Kidapawan**	**0.87**	**252**	⇓*i*P	**Pn**	**18 16 48.6**	**-0.9**
KCP				*i* S	**Sn**	**18 17 01.3**	**+0.1**
BIPH	**Bislig**	**0.99**	**26**	⇓*e*P	**Pn**	**18 16 50.7**	**-0.4**
BIPH				*i* S	**Sn**	**18 17 04.9**	**+0.9**
GSPH	**General Santos**	**1.53**	**219**	⇑*e*P	**Pn**	**18 16 58.8**	**+0.2**
GSPH				*e*S	**Sn**	**18 17 18.9**	**+1.4**
CTBH	**Cotabato--PC H**	**1.66**	**268**	⇑*i*P	**Pn**	**18 16 59.8**	**-0.4**
CTBH				*i* S	**Sn**	**18 17 23.4**	**+3.0**
GLSP	**General Luna,**	**2.49**	**5**	⇓*e*P	**Pn**	**18 17 13.0**	**+1.4**
SCPH	**Surigao**	**2.52**	**350**	⇓*e*P	**Pn**	**18 17 12.3**	**+0.4**
PAGZ	**Pagadian**	**2.58**	**283**	⇓*e*P	**Pn**	**18 17 13.2**	**+0.4**
DCPH	**Dipolog City**	**2.85**	**297**	⇑*e*P	Pn	18 17 20.8	+4.2
TBP	**Tagbilaran**	**3.14**	**320**	⇓*e*P	**Pn**	**18 17 19.9**	**-0.6**
TBP				*i* S	**Sn**	**18 17 55.7**	**-1.1**
LLP	**Lapu-Lapu**	**3.58**	**327**	⇑*e*P	**Pn**	**18 17 28.0**	**+1.5**
LLP				*e*S	Sn	18 18 22.9	+15
TNTI	**Ternate**	**6.63**	**167**	Pn	**Pn**	**18 18 07.7**	**-0.7**
MYLDM	**Lahad Datu**	**7.67**	**255**	Pn	**Pn**	**18 18 20.5**	**-2.2**
TOLI2	**Tolitoli**	**7.99**	**220**	Pn	**Pn**	**18 18 24.8**	**-2.3**
LQP	**Lukban**	**8.04**	**328**	⇓*e*P	Pn	18 18 32.9	+5.0
LUWI	**Luwuk**	**8.85**	**201**	Pn	**Pn**	**18 18 39.6**	**+0.8**
SIJI	**Sorong**	**9.70**	**146**	Pn	**Pn**	**18 18 51.6**	**+1.1**
	1.9nm,0.3s,baz=334,slow=16,SNR=10						
SBUM	**Sibu**	**14.47**	**251**		**P**	**18 19 59.8**	**-1.4**
BATI	**Baumata**	**17.52**	**187**	P	**P**	**18 20 36.0**	**+0.9**
	3.0nm,0.3s,baz=32,slow=4.8,SNR=7.1						
UBPT	**Khong Chiam**	**21.56**	**293**	P	**P**	**18 21 20.4**	**+1.3**
UBPT				IAmb	IAmb	18 22 01.6	
	comp=Z,13nm,1.5s						
FITZ	**Fitzroy Crossi**	**25.22**	**181**	P	**P**	**18 21 55.4**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=349,slow=7.7,SNR=9.6						
PMG	**Port Moresby**	**26.88**	**128**	P	**P**	**18 22 10.7**	**+0.6**
PSI	**Prapat**	**27.25**	**262**	LR	LR	18 34 44.4	
	comp=Z,77nm,19.4s,baz=139,slow=40						
JMN	**Monobe**	**27.32**	**15**	P	**P**	**18 22 11.2**	**-2.7**
WB0	**Warramunga Arr**	**28.15**	**163**	P	**P**	**18 22 20.7**	**-0.6**
WB0				IAmb	IAmb	18 22 35.9	
	comp=Z,9.3nm,1.4s						
WRAB	**Tennant Creek**	**28.29**	**163**	P	**P**	**18 22 21.5**	**-1.2**
WRAB				IAmb	IAmb	18 23 07.6	
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**28.30**	**163**	P	**P**	**18 22 22.0**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=344,slow=10.0,SNR=12						
WB2	**Warramunga Arr**	**28.30**	**163**	P	**P**	**18 22 21.3**	**-1.5**
WB2				IAmb	IAmb	18 22 54.6	
	comp=Z,3.2nm,0.9s						
WR0	**Warramunga Arr**	**28.37**	**163**	P	**P**	**18 22 20.9**	**-2.4**
WR0				IAmb	IAmb	18 23 05.7	
	comp=Z,3.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**28.50**	**296**	LR	LR	18 33 59.8	
	comp=Z,36nm,19.4s,baz=95,slow=36						
GSI	**Gunungsitoli**	**28.87**	**259**	P	**P**	**18 22 27.0**	**-1.0**
ASAR	**Alice Springs**	**31.74**	**166**	P	**P**	**18 22 53.2**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=343,slow=7.0,SNR=49						
STKA	**Stephens Creek**	**41.72**	**160**	P	**P**	**18 24 17.8**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=333,slow=7.9,SNR=6.9						
STKA	**Stephens Creek**	**41.72**	**160**	P	**P**	**18 24 16.5**	**-1.4**
SONM	**Songino Array**	**43.70**	**341**	P	**P**	**18 24 34.1**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=132,slow=8.3,SNR=2.3						
CAN	**Canberra**	**47.64**	**154**	P	**P**	**18 25 07.2**	**+2.1**
PETK	**Petropavlovsk-**	**52.49**	**24**	P	**P**	**18 25 41.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=272,slow=13,SNR=1.0						
MK31	**Makanchi Array**	**54.21**	**324**	P	**P**	**18 25 55.6**	**+1.3**
MKAR	**Makanchi Array**	**54.21**	**324**	P	**P**	**18 25 56.6**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=114,slow=7.5,SNR=9.8						
MKAR	**Makanchi Array**	**54.21**	**324**	P	**P**	**18 25 56.1**	**+1.7**
MAKZ	**Makanchi**	**54.40**	**324**		**P**	**18 25 56.3**	**+0.6**
MAKZ				IAmb	IAmb	18 26 13.3	
	comp=Z,2.4nm,1.3s						
KURK	**Kurchatov**	**58.34**	**327**	P	**P**	**18 26 23.9**	**+0.2**
KURBB	**Kurchatov Arra**	**58.34**	**327**	P	**P**	**18 26 25.8**	**+2.1**
	comp=Z,1.6nm,0.2s,baz=124,slow=6.0,SNR=1.5						
ILAR	**Eielson Array**	**82.26**	**26**	P	**P**	**18 28 49.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=261,slow=4.4,SNR=2.5						
FINES	**FINESS Array B**	**88.34**	**332**	P	**P**	**18 29 20.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=35,slow=4.7,SNR=5.3						
NOA	**NORSAR Array B**	**95.27**	**334**	P	**P**	**18 29 51.9**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=51,slow=5.8,SNR=1.9						
YKA	**Yellowknife Ar**	**96.61**	**24**	P	**P**	**18 29 58.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=295,slow=4.5,SNR=4.4						

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*MAN **05** 18:34:01.5, 14°.93N×122°.62E, h7km, mb5.2, ML4.1, MS4.2*
MAN INTENSITY II - JOMALIG, QUEZON.

*BJI **05** 18:34:01.9±0.0, 14°.63N×122°.69E, h40km, mb4.2/36, mB4.7/21, Ms4.0/21, Ms7 3.9/23*

*DJA **05** 18:34:05.5±2.5, 15°N±6°×12°3E±°, h48km±26km, M4.5/16, mB5.0/3, mb4.5/16, Mw(mB)4.4/3*

*IDC **05** 18:34:06.6±2.6, 14°.79N×122°.60E, h64km±25km, mb3.8/24, mb1 3.9/24, mb1mx3.8/57, mbtmp4.1/24, MS3.5/10, Ms1 3.6/10, ms1mx3.2/83, Error ellipse: s-maj=19.7km s-min=12.7km az=84.0*

*NEIC **05** 18:34:06.4±2.3, 15°.02N±0°.06×122°.53E±0°.08, h49km±6km, mb4.6/66, Error ellipse: s-maj=10.9km s-min=8.4km az=111.0*

ISC 05 18:34:04.1±0.3, **14°.92N**±0°.04×**122°.63E**±0°.04, **h35**km, **n154**, σ1s**51**/152, **mb4.5**/65, **MS3.6**/14, **7C-8D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GQP	Guinayangan	1.02	190	⇑eP	Pn	18 34 21.5	-0.5
GQP				eS	Sn	18 34 34.4	-0.6
LQP	Lukban	1.33	233	⇓eP	Pn	18 34 27.0	+0.6
LQP				iS	Sn	18 34 44.6	+1.7
PCPH	Palayan	1.62	294	⇑eP	Pn	18 34 30.0	-0.1
PCPH				eS	Sn	18 34 52.0	+2.2
TGY	Tagaytay City	1.83	244	P	Pn	18 34 35.0	+1.8
	304nm,0.3s,baz=104,slow=3.6,SNR=30						
TGY				S	Sn	18 35 01.8	+6.6
	631nm,0.3s,baz=68,slow=19,SNR=11						
TGY	Tagaytay City	1.83	244	⇓eP	Pn	18 34 36.4	+3.3
TGY				eS	Sn	18 35 10.8	+16
MACP	Maragondon, Ca	1.96	251	⇑eP	Pn	18 34 34.6	-0.3
PVCP	Virac	1.97	131	⇑eP	Pn	18 34 35.8	+0.8
PGP	Puerto Galera	2.15	229	⇓eP	Pn	18 34 38.2	+0.6
SMPP	San Manuel, Pa	2.25	303	⇓eP	Pn	18 34 39.0	+0.2
LUBP	Lubang	2.60	243	⇓eP	Pn	18 34 45.1	+1.5
RCP	Roxas	3.34	178	⇓eP	Pn	18 35 04.0	+10
JAP	San Jose, Anti	4.20	189	⇑eP	Pn	18 35 25.4	+20
LLP	Lapu-Lapu	4.75	164	⇓eP	Pn	18 35 21.7	+8.4
LLP				eS	Sn	18 36 13.5	+6.3
TBP	Tagbilaran	5.33	167	⇓eP	Pn	18 35 19.9	-1.4
TWG	Pinlang	8.00	350	Pn	Pn	18 35 59.2	+1.3
DAV	Davao City (W)	8.31	159	Pn	Pn	18 36 06.0	+3.8
YULB	Yu-li	8.53	352		Pn	18 36 05.4	+0.3
TPUB	Ta-pu	8.55	348	Pn	Pn	18 36 05.4	-0.1
SSLB	Suanglung	8.97	350	Pn	Pn	18 36 11.5	+0.3
NACB	Ninganchiao	9.26	354	Pn	Pn	18 36 15.2	0.0
YOJ	Yonaguni jima	9.50	2	Pn	Pn	18 36 19.9	+1.4
YHNB	Yeheng	9.78	353	Pn	Pn	18 36 21.6	-0.7
QIZ	Qiongzhong	12.90	290	P	Pn	18 37 04.0	-1.1
QIZ				S	Sn	18 39 26.8	-0.7
QIZ				LR	LR		
	comp=N,190nm,16.9s						
QIZ				LR	LR		
	comp=E,190nm,18.2s						
QIZ				LR	LR		
	comp=Z,310nm,18.3s						
LUWI	Luwuk	15.86	179	Pn	P	18 37 46.2	-2.0
LUWI				IAmb	IAmb	18 38 25.6	
	comp=Z,44nm,1.1s						
SBUM	Sibu	16.09	221	P	Pn	18 37 46.2	-1.7
UBPT	Khong Chiam	16.58	273		Pn	18 37 49.9	-4.1
NJ2	Nanjing	17.40	349	eP	P	18 38 06.5	+1.3
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SIJI	Sorong	17.86	151	LR	LR	18 45 28.6	
	comp=Z,88nm,20.5s,baz=9.0,slow=38						
JSU	Suzuyama	18.00	22	P	Pn	18 38 08.9	-2.6
JSU				IAmb	IAmb	18 38 12.2	
	comp=Z,48nm,1.1s						
KSM	Kuching	18.07	223	P	Pn	18 38 10.3	-2.3
STKI	Sintang	18.42	218	P	Pn	18 38 17.2	+0.4
	comp=Z,2µmcomp=Z,7.4nm,1.0s						
GYA	Guiyang	18.82	310	P	Pn	18 38 25.4	+3.7
GYA				LR	LR		
	comp=Z,380nm,14.2s						
ENH	Enshi	19.49	324		P	18 38 26.2	-2.0
JNU	Nakatsue	19.61	21	P	P	18 38 27.4	-2.1
JNU				IAmb	IAmb	18 38 54.9	
	comp=Z,40nm,1.3s						
KAPI	Kappang	20.01	188	P	P	18 38 31.8	-2.1
KMI	Kunming	21.25	302	⇑P	P	18 38 50.7	+3.2
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				LR	LR		
	comp=Z,140nm,15.4s						
KMI				LR	LR		
	comp=Z,170nm,17.1s						
KMI				LR	LR		
	comp=Z,210nm,20.5s						
JMN	Monobe	21.32	27	P	P	18 38 47.4	-0.7
GUMO	Guam	21.59	91	LR	LR	18 46 44.8	
	comp=Z,86nm,19.2s,baz=198,slow=35						
TJN	Taejon	21.79	10	P	P	18 38 52.4	-0.6
JCJ	Chichijima	21.87	53	P	P	18 38 53.7	-0.3
JHS	Saijyo	22.11	23	P	P	18 38 55.2	-1.3
JHS				IAmb	IAmb	18 39 10.7	
	comp=Z,26nm,1.1s						
PZH	PanZhiHua	22.65	304	P	P	18 39 03.1	+0.6
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
MYKOM	Kota Tinggi	22.67	237	P	P	18 39 01.7	-1.0
MYKOM				IAmb	IAmb	18 39 13.0	
	comp=Z,20nm,1.1s						
XAN	Xi'an	22.72	329	P	P	18 39 03.4	+0.3
XAN				pP	pP	18 39 12.0	+0.1
XAN				S	S	18 43 09.6	+0.2
XAN				sS	sS	18 43 22.8	-2.6
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
XAN				pmax	pmax		
	comp=Z,100nm,4.3s						
XAN				LR	LR		
	comp=Z,260nm,13.4s						
XAN				LR	LR		
	comp=Z,200nm,13.2s						
XAN				LR	LR		
	comp=Z,320nm,14.3s						
KSRS	Korea Array	22.93	11	P	P	18 39 05.7	+0.6
	comp=Z,0.9nm,0.7s,baz=190,slow=10,SNR=3.3						
KSRS				LR	LR	18 49 48.4	
	comp=Z,60nm,18.1s,baz=195,slow=41						
CM31	Chiang Mai Arr	22.96	282	P	P	18 39 04.7	-0.9
CM31				IAmb	IAmb	18 39 08.5	
	comp=Z,32nm,1.1s						
CMAR	Chiang Mai Arr	22.96	282	P	P	18 39 06.2	+0.5
	comp=Z,12nm,1.0s,baz=92,slow=7.5,SNR=88						
CMAR				LR	LR	18 48 29.9	
	comp=Z,108nm,18.9s,baz=105,slow=38						
CMAR	Chiang Mai Arr	22.96	282	P	P	18 39 05.9	+0.3
KS19	Wonju Array Si	22.97	11	P	P	18 39 05.8	+0.2
KS19				IAmb	IAmb	18 39 52.9	
	comp=Z,39nm,1.6s						
CHTO	Chiang Mai	22.99	283	P	P	18 39 06.2	+0.2
SRIT	Nakonsritamara	23.39	257	P	P	18 39 07.9	-2.1
HNS	HongShan	23.48	344	⇑P	P	18 39 11.5	+1.0
DSRI	Dabo	23.51	231	P	P	18 39 11.3	+0.1
	comp=Z,324nmcomp=Z,30nm,1.2s						
CD2	Chengdu	23.51	316	P	P	18 39 09.3	-1.8
CD2				S	S	18 43 21.1	-1.6
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,70nm,4.3s						
CD2				LR	LR		
	comp=Z,260nm,15.9s						
CD2				LR	LR		
	comp=Z,310nm,15.7s						
KULM	Kulim	23.64	248	P	P	18 39 12.2	-0.1
KULM				IAmb	IAmb	18 39 13.5	
	comp=Z,28nm,1.3s						
IPM	Ipoh	23.66	246	P	P	18 39 12.2	-0.4
IPM				IAmb	IAmb	18 39 13.3	
	comp=Z,20nm,1.0s						
PLAI	Plampang	24.08	192	P	P	18 39 16.6	+0.2
	comp=Z,28nm,0.8s						
INU	Inuyama	24.10	30	P	P	18 39 16.2	-0.3
INU				IAmb	IAmb	18 39 28.4	
	comp=Z,22nm,1.3s						
SAUI	Saumlaki	24.32	159	P	P	18 39 19.1	+0.4
BKNI	Bangkinang	25.80	238	P	P	18 39 32.0	-0.1
LEM	Lembang	26.24	216	LR	LR	18 49 41.3	
	comp=Z,87nm,18.9s,baz=41,slow=36						
PSI	Prapat	26.30	245	P	P	18 39 36.0	-0.8
	comp=Z,4.1nm,0.4s,baz=23,slow=6.9,SNR=9.8						
PSI				LR	LR	18 49 58.8	
	comp=Z,110nm,20.4s,baz=97,slow=36						
RPSI	Rantau Prapat	26.35	245	P	P	18 39 36.2	-1.0
RPSI				IAmb	IAmb	18 39 38.1	
	comp=Z,17nm,1.1s						
JYT	Yasato	26.39	33	P	P	18 39 37.7	+0.4
LZH	Lanzhou	26.96	325	eP	P	18 39 43.9	+1.3
LZH				pP	pP	18 39 52.6	+0.2
LZH				sP	sP	18 39 58.3	+1.8
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LHMI	Lhok Sumawe	27.03	252	P	P	18 39 41.2	-2.1
HHC	Hu-ho-hao-te	27.58	342	eP	P	18 39 51.2	+3.1
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.0s						
HHC				LR	LR		
	comp=Z,180nm,18.0s						
HHC				LR	LR		
	comp=Z,120nm,18.2s						
HHC				LR	LR		
	comp=Z,210nm,16.9s						
GSI	Gunungsitoli	28.20	244	P	P	18 39 52.0	-1.8
GSI				IAmb	IAmb	18 39 53.5	
	comp=Z,16nm,1.0s						
GSI	Gunungsitoli	28.20	244	P	P	18 39 53.0	-0.8
	comp=Z,20nm,1.1s						
PBA	Port Blair	29.26	267	P	P	18 40 02.3	-0.9
MDJ	Mudanjiang	30.19	10	P	P	18 40 13.4	+2.3
MDJ				sP	sP	18 40 31.8	+7.2
MDJ				S	S	18 45 07.7	-0.3
MDJ				ScP	ScP	18 46 52.9	+1.5
MDJ				PcS	PcS	18 46 57.0	+2.0
MDJ				pmax	pmax		
	comp=Z,16nm,3.3s						
MDJ				pmax	pmax		
	comp=Z,330nm,3.7s						
MDJ				LR	LR		
	comp=Z,390nm,4.3s						
MDJ				LR	LR		
	comp=Z,440nm,4.0s						
MDJ				LR	LR		
	comp=Z,260nm,4.6s						
USRK	Ussuriysk Ar.	30.26	13	P	P	18 40 12.6	+0.9
	comp=Z,2.0nm,0.8s,baz=139,slow=18,SNR=4.2						
USRK	Ussuriysk Ar.	30.26	13	P	P	18 40 11.0	-0.6
SHL	Shillong	30.66	295	P	P	18 40 14.4	-1.4
JEW	Eniwo	32.18	26	P	P	18 40 31.4	+2.7
LSA	Lhasa	32.50	302	P	P	18 40 33.2	+1.0
LSA				IAmb	IAmb	18 40 35.4	
	comp=Z,12nm,1.1s						
GOMU	GeErMu	32.65	316	P	P	18 40 35.1	+1.8
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,120nm,5.1s						
TAPN	Taplejung	34.72	297	eP	P	18 40 52.3	+0.9
	comp=Z,31nm,1.2s						
ODAN	Odare	34.89	296	eP	P	18 40 53.2	+0.5
	comp=Z,44nm,0.9s						
ULN	Ulaanbaatar	35.30	342	P	P	18 40 55.1	-0.8
ULN				IAmb	IAmb	18 40 58.1	
	comp=Z,9.3nm,1.2s						
SONM	Songino Array	35.48	341	P	P	18 40 58.3	+0.9
	comp=Z,2.4nm,0.9s,baz=155,slow=9.3,SNR=17						
SONM				PcP	PcP	18 43 26.1	-0.3
	comp=Z,0.2nm,0.6s,baz=153,slow=4.8,SNR=3.3						
SONM				LR	LR	18 56 27.6	
	comp=Z,119nm,19.8s,baz=170,slow=38						
SONM	Songino Array	35.48	341	P	P	18 40 57.4	+0.1
RAMN	Ramite	35.60	296	eP	P	18 40 59.8	+1.0
JIRN	Jiri	36.11	297	eP	P	18 41 04.1	+0.7
WB0	Warramunga Arr	36.35	161	P	P	18 41 08.0	+3.0
GUN	Gumba	36.43	297	eP	P	18 41 06.6	+0.5
	comp=Z,53nm,1.1s						
WRA	Warramunga Arr	36.50	161	P	P	18 41 04.3	-2.0
	comp=Z,0.9nm,0.7s,baz=339,slow=9.6,SNR=5.8						
WRA	Warramunga Arr	36.50	161	P	P	18 41 10.1	+3.8
WB2	Warramunga Arr	36.51	161	P	P	18 41 08.2	+1.8
WB2				IAmb	IAmb	18 41 12.2	
	comp=Z,8.1nm,1.1s						
WR0	Warramunga Arr	36.58	161	P	P	18 41 08.9	+1.9
WR0				IAmb	IAmb	18 41 14.7	
	comp=Z,11nm,1.4s						
PKI	Pulchoki	36.76	296	eP	P	18 41 08.9	0.0
	comp=Z,27nm,1.1s						
KKN	Kakani	36.92	297	eP	P	18 41 09.5	-0.6
DMN	Daman	37.03	296	eP	P	18 41 11.7	+0.6
GKN	Gorkha	37.52	297	eP	P	18 41 14.6	-0.6
KOLN	Koldanda	38.38	296	eP	P	18 41 22.5	+0.1
PYUN	Piuthan	38.97	296	eP	P	18 41 27.9	+0.5
	comp=Z,44nm,1.1s						
ASAR	Alice Springs	39.90	164	P	P	18 41 33.5	-1.4
	comp=Z,0.4nm,0.3s,baz=338,slow=7.4,SNR=7.6						
ASAR				PcP	PcP	18 43 39.7	-0.5
	comp=Z,0.6nm,0.7s,baz=340,slow=3.2,SNR=2.8						
ASAR	Alice Springs	39.90	164	P	P	18 41 37.5	+2.7
WMQ	Urumqi	41.40	321	eP	P	18 41 47.7	+0.5
WMQ				LR	LR		
	comp=Z,90nm,18.9s						
H11S3	WAKE ISLAND Hy	42.27	79	T	T	19 26 53.9	
	baz=271,slow=75,SNR=296						
H11S1	WAKE ISLAND Hy	42.28	79	T	T	19 26 54.7	
	baz=271,slow=75,SNR=103						
H11S2	WAKE ISLAND Hy	42.29	79	T	T	19 26 55.2	
	baz=271,slow=75,SNR=126						
H11N1	WAKE ISLAND Hy	42.43	77	T	T	19 27 15.3	
	baz=267,slow=74,SNR=32						
H11N3	WAKE ISLAND Hy	42.45	77	T	T	19 27 16.6	
	baz=246,slow=74,SNR=28						
MK31	Makanchi Array	46.20	322	P	P	18 42 25.9	+0.3
MK31				IAmb	IAmb	18 42 35.7	
	comp=Z,5.4nm,1.1s						
MKAR	Makanchi Array	46.20	322	P	P	18 42 26.3	+0.6
	comp=Z,2.7nm,0.9s,baz=116,slow=8.4,SNR=24						
MKAR				LR	LR	19 04 27.6	
	comp=Z,67nm,19.6s,baz=102,slow=39						
MAKZ	Makanchi	46.40	322	P	P	18 42 27.7	+0.5
PETK	Petropavlovsk-	47.07	28	P	P	18 42 32.8	+0.5
	comp=Z,3.8nm,0.9s,baz=185,slow=13,SNR=3.7						
YAK	Yakutsk	47.32	5	P	P	18 42 34.5	+0.5
	comp=Z,1.1nm,0.4s,baz=223,slow=1.1,SNR=4.5						
YAK	Yakutsk	47.32	5	P	P	18 42 33.9	-0.2
YAK				IAmb	IAmb	18 42 35.1	
	comp=Z,9.4nm,1.0s						
KSH	Kashi	47.52	310	P	P	18 42 39.6	+3.4
KSH				pP	sP	18 42 51.7	+1.5
KSH				sP	pP	18 42 56.7	+10
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NIL	Nilore	48.24	302	P	P	18 42 40.4	-1.4
NIL				IAmb	IAmb	18 42 42.9	
	comp=Z,6.6nm,1.0s						
ZAA0	Zalesovo Array	48.87	331	P	P	18 42 46.7	+0.4
ZAA0				IAmb	IAmb	18 42 56.1	
	comp=Z,3.7nm,0.8s						
ZALV	Zalesovo Beam	48.87	331	P	P	18 42 46.6	+0.3
	comp=Z,2.0nm,0.8s,baz=116,slow=6.8,SNR=10						
MA2	Magadan	49.15	18	P	P	18 42 48.5	+0.2
	comp=Z,0.5nm,0.3s,baz=178,slow=9.1,SNR=4.2						
AAK	Ala-Archa	49.56	314	LR	LR	19 05 21.6	
	comp=Z,109nm,19.4s,baz=80,slow=38						
STKA	Stephens Creek	49.95	159	P	P	18 42 53.7	-1.0
	comp=Z,1.2nm,0.6s,baz=277,slow=0.5,SNR=3.6						
STKA	Stephens Creek	49.95	159	P	P	18 42 57.1	+2.4
KURK	Kurchatov	50.25	325	P	P	18 42 55.6	-1.2
KURBB	Kurchatov Arra	50.26	325	P	P	18 42 57.3	+0.5
	comp=Z,0.6nm,0.3s,baz=122,slow=6.9,SNR=4.1						
GAR	Garm	51.63	308	P	P	18 43 07.7	+0.2
GAR				IAmb	IAmb	18 43 09.1	
	comp=Z,11nm,1.1s						
KBL	Kabul	51.83	302	P	P	18 43 09.0	-0.2
KBL				IAmb	IAmb	18 43 47.7	
	comp=Z,4.3nm,1.1s						
SEY	Seymchan	52.31	17	P	P	18 43 13.1	+1.1
	comp=Z,1.3nm,0.8s,baz=229,slow=6.9,SNR=8.2						
CHGR	Chuyangaron	52.44	307	P	P	18 43 12.9	-0.6
CHGR				IAmb	IAmb	18 43 15.8	
	comp=Z,11nm,1.2s						
KKAR	Karatay Array	52.49	313	P	P	18 43 13.7	0.0
CAN	Canberra	55.87	154	P	P	18 43 39.3	+0.9
BRVK	Borovoye	55.92	325	P	P	18 43 39.0	+0.5
BRVK				IAmb	IAmb	18 43 40.3	
	comp=Z,5.3nm,1.0s						
TIXI	Tiksi	56.84	2	P	P	18 43 44.3	-0.4
	comp=Z,5.0nm,0.9s,baz=301,slow=11,SNR=27						
TIXI	Tiksi	56.84	2	P	P	18 43 44.1	-0.6
TIXI				IAmb	IAmb	18 43 45.5	
	comp=Z,5.2nm,0.8s						
MARNC	Mare, Loyalty	57.38	128	P	P	18 43 51.1	+1.9
NRIK	Noril'sk	58.67	346	P	P	18 43 57.6	0.0
	comp=Z,4.1nm,0.8s,baz=121,slow=7.3,SNR=5.3						
NRIK	Noril'sk	58.67	346	P	P	18 43 57.8	+0.2
NRIK				IAmb	IAmb	18 43 59.1	
	comp=Z,5.9nm,0.9s						
BILL	Bilibino	59.99	17	P	P	18 44 05.9	-0.9
BILL				IAmb	IAmb	18 44 08.2	
	comp=Z,3.0nm,0.9s						
ABKAR	Akbulak array	61.06	318	P	P	18 44 13.7	-0.8
ABKAR	Akbulak array	61.06	318	P	P	18 44 13.5	-0.9
ABKAR				IAmb	IAmb	18 44 15.8	
	comp=Z,3.3nm,1.1s						
ARU	Arti	63.42	326	P	P	18 44 29.1	-1.0
ARU				IAmb	IAmb	18 44 43.2	
	comp=Z,15nm,1.6s						
MSVF	Nonsavu	63.54	119	P	P	18 44 31.9	+0.3
RAYN	Ar Rayn	72.59	290	P	P	18 45 26.9	-1.6
RAYN				IAmb	IAmb	18 45 29.5	
	comp=Z,4.8nm,1.0s						
CAST	Castle Rocks	74.68	28	P	P	18 45 39.6	-0.3
CAST				IAmb	IAmb	18 45 41.8	
	comp=Z,7.5nm,1.0s						
ILAR	Eielson Array	76.84	26	P	P	18 45 52.5	+0.3
	comp=Z,0.3nm,0.8s,baz=252,slow=5.6,SNR=2.8						
ARCES	ARCESS Array B	78.62	339	P	P	18 46 01.9	-0.2
	comp=Z,1.5nm,0.8s,baz=79,slow=9.0,SNR=1.2						
FINES	FINESS Array B	80.14	331	P	P	18 46 10.2	-0.2
	comp=Z,2.4nm,0.8s,baz=36,slow=8.2,SNR=7.7						
AKASG	Malin Array Be	80.74	320	P	P	18 46 12.3	-1.6
	comp=Z,1.9nm,0.8s,baz=64,slow=5.0,SNR=6.5						
AKASG	Malin Array Be	80.74	320	P	P	18 46 13.1	-0.8
NACGM	Naroch	81.26	324	iP	P	18 46 17.2	+0.6
SUW	Suwalki	83.52	324	P	P	18 46 27.1	-1.3
BUR08	Bucovina Ar. S	84.04	318	P	P	18 46 29.6	-1.8
KMBO	Kilima Mbogo	85.82	268	P	P	18 46 39.3	-1.8
KMBO				IAmb	IAmb	18 46 43.4	
	comp=Z,3.7nm,1.1s						
NB2	NORSAR Subarra	87.04	333	P	P	18 46 45.3	-0.6
	comp=Z,4.1nm,1.1s,baz=67,slow=4.8						
NOA	NORSAR Array B	87.04	333	P	P	18 46 45.2	-0.7
	comp=Z,0.5nm,0.7s,baz=69,slow=5.0,SNR=4.8						
NOA				LR	LR	19 29 46.0	
	comp=Z,59nm,18.1s,baz=325,slow=38						
RES	Resolute Bay	87.54	9	P	P	18 46 47.6	-0.4
	comp=Z,2.7nm,0.9s,baz=320,slow=6.2,SNR=4.2						
RES	Resolute Bay	87.54	9	IAmb	IAmb	18 47 32.6	
	comp=Z,9.1nm,1.4s						
CLL	Collm	90.27	324	eP	P	18 47 01.0	-0.3
YKA	Yellowknife Ar	90.94	23	P	P	18 47 04.8	+0.7
	comp=Z,0.8nm,0.7s,baz=303,slow=4.5,SNR=3.8						

PGC ***05*** *18:37:58.8±65.0, 49°.41N×129°.66W, h10km, mb4.2, ML3.8/39, MLSn3.8/38, Mw4.4/38, 215km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***05*** *18:37:58.9±0.8, 49°.47N×129°.46W, h0km, mb3.7/14, mb1 4.0/26, mb1mx3.9/61, mbtmp3.8/26, ML3.9/11, MS3.9/5, Ms1 3.9/5, ms1mx3.4/57, Error ellipse: s-maj=16.7km s-min=9.1km az=52.0*

NEIC ***05*** *18:37:59.8±2.3, 49°.59N±0°.07×129°.4W±0°.1, h10km±1km, mb4.2/90, Mwr4.2(OTT), Error ellipse: s-maj=13.9km s-min=9.3km az=235.0*

ISC 05 18:37:59.5±0.5, **49°.49N**±0°.06×**129°.36W**±0°.05, **h7km, n297,** σ1.56/286, **mb4.1**/29, **MS3.9**/6, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.22	56	P	Pn	18 38 23.3	+0.2
HOLB	Holberg	1.39	34		Pn	18 38 23.5	-1.8
HOLB	Holberg	1.39	34	Pn	Pn	18 38 24.6	-0.7
HOLB				Sn	Sb	18 38 43.2	-0.6
EDB	Eliza Dome	1.50	74	Pn	Pn	18 38 26.1	-0.7
PACB	Port Alice, BC	1.53	51	Pn	Pn	18 38 26.8	-0.4
KEMF	NEPTUNE Canada	1.56	174	Pn	Pn	18 38 19.8	-7.4
KEMF				Sn	Sn	18 38 35.9	-12
MAYB	Maynard	1.68	56	Pn	Pn	18 38 29.3	-0.1
PHC	Port Hardy	1.73	45	Pn	Pn	18 38 29.6	-0.4
PHC				Sn	Sn	18 38 52.0	-0.3
NC89	ODP889	1.84	116	Pn	Pn	18 38 30.1	-1.2
WOSB	Woss	1.92	69	Pn	Pn	18 38 33.3	+0.6
GDR	Gold River	2.18	81	Pn	Pn	18 38 35.4	-0.7
NCRB	Newcastle Ridg	2.32	66	Pn	Pn	18 38 39.2	+1.1
SPLB	Strathcona Par	2.44	79	Pn	Pn	18 38 39.6	0.0
BTB	Buttle Lake	2.50	89	Pn	Pn	18 38 40.7	0.0
OZB	Mount Ozzard	2.59	100	Pn	Pn	18 38 41.2	-0.6
OZB	Mount Ozzard	2.59	100	Pn	Pn	18 38 41.1	-0.7
CBB	Campbell River	2.64	77	Pn	Pn	18 38 42.5	0.0
CBB	Campbell River	2.64	77	Pn	Pn	18 38 43.4	+1.0
BBB	Bella Bella	2.81	16	Pn	Pn	18 38 44.3	-0.4
	34nm,0.3s,baz=203,slow=7.2,SNR=250						
BBB	Bella Bella	2.81	16		Pn	18 38 44.2	-0.5
BBB	Bella Bella	2.81	16	Pn	Pn	18 38 44.5	-0.2
BFSB	Bamfield	2.85	102	Pn	Pn	18 38 44.9	-0.4
B928	Bamfield	2.85	102	Pn	Pn	18 38 44.4	-0.9
B927	Port Alberni	2.98	94	Pn	Pn	18 38 47.8	+0.7
HG4B	Hotspring	3.04	338	Pn	Pn	18 38 44.9	-3.0
TXB	Texada	3.21	84	Pn	Pn	18 38 51.7	+1.4
GHNB	Nanoose	3.35	91	Pn	Pn	18 38 53.8	+1.6
PFB	Port Renfrew	3.36	104	Pn	Pn	18 38 51.4	-1.0
B926	Mesachie Lake	3.50	99	Pn	Pn	18 38 54.4	+0.2
CLRS	Cowichan Lake	3.50	99		Pn	18 38 54.5	+0.4
CLRS	Cowichan Lake	3.50	99	Pn	Pn	18 38 54.3	+0.1
NLLB	Nanaimo Lost L	3.52	92	Pn	Pn	18 38 56.4	+1.9
C03A	Quillayute Air	3.53	114	Pn	Pn	18 38 54.2	-0.4
SHB	Sechelt	3.57	86	Pn	Pn	18 38 57.0	+1.6
BUTB	Butedale	3.62	9	Pn	Pn	18 38 55.4	-0.6
BNKB	Banks Island	3.86	355	Pn	Pn	18 38 58.2	-1.0
GOBB	Galiano Island	3.87	96	Pn	Pn	18 39 00.7	+1.3
BIB	Bowen Island	3.95	89	Pn	Pn	18 39 02.0	+1.6
B010	North Saanich	3.97	100	Pn	Pn	18 39 00.6	-0.1
B009	North Saanich	3.97	100	Pn	Pn	18 39 01.1	+0.3
PGC	Sidney	3.97	100	Pn	Pn	18 39 02.2	+1.5
PGC	Sidney	3.97	100	Pn	Pn	18 39 01.7	+0.9
B011	North Saanich	3.97	100	Pn	Pn	18 39 00.6	-0.2
WPB	Watts Point	4.00	85	Pn	Pn	18 39 03.0	+1.8
HWKB	Hawksbury Isla	4.11	2	Pn	Pn	18 39 01.2	-1.5
VGZ	Gonzales	4.12	103	Pn	Pn	18 39 04.0	+1.2
SNB	Saturna Island	4.12	98	Pn	Pn	18 39 04.6	+1.7
B04A	Port Angeles	4.13	108	Pn	Pn	18 39 01.6	-1.3
DIB	Dawson Inlet,	4.20	333	Pn	Pn	18 39 02.9	-1.0
H02S1	DAWSON INLET T	4.20	333	Pn	Pn	18 39 03.0	-0.9
NLWA	Neilton Lookou	4.21	118	Pn	Pn	18 39 03.3	-0.8
WSLR	Whistler	4.21	79	Pn	Pn	18 39 07.0	+2.8
GRNB	Grenville Isla	4.38	355	Pn	Pn	18 39 05.9	-0.5
GRNB	Grenville Isla	4.38	355	Pn	Pn	18 39 05.8	-0.5
WISH	Wishkah	4.42	120	Pn	Pn	18 39 07.4	+0.6
HNBB	Haney	4.43	90	Pn	Pn	18 39 09.1	+2.0
KITB	Kitimat	4.61	5	Pn	Pn	18 39 09.4	-0.1
UBRB	Upper Baezaeko	4.75	42	Pn	Pn	18 39 14.2	+2.6
VDB	Vedder Mountai	4.77	93	Pn	Pn	18 39 13.4	+1.6
RUBB	Prince Rupert	4.87	354		Pn	18 39 12.4	-0.7
RUBB	Prince Rupert	4.87	354	Pn	Pn	18 39 11.6	-1.4
E03A	Lebam	4.88	125	Pn	Pn	18 39 13.8	+0.6
LLLB	Lillooet	4.94	74	Pn	Pn	18 39 14.7	+0.6
LLLB	Lillooet	4.94	74	Pn	Pn	18 39 16.6	+2.5
B06A	Marblemount	5.27	98	Pn	Pn	18 39 16.3	-2.3
E04D	Cinebar	5.42	120	Pn	Pn	18 39 21.1	+0.5
FSJB	Fort St James	5.87	30	Pn	Pn	18 39 28.4	+1.6
FSB	Fort Saint Jam	5.88	30	Pn	Pn	18 39 28.6	+1.6
F04A	Amboy	5.88	125		Pn	18 39 28.5	+1.5
G03D	McMinnville, O	5.96	134	Pn	Pn	18 39 29.1	+1.1
LTY	Liberty	6.20	108		Pn	18 39 32.9	+1.4
PNT	Penticton	6.36	88	Pn	Pn	18 39 35.5	+2.0
CRAG	Craig	6.41	340	Pn	Pn	18 39 31.8	-2.4
COR	Corvallis	6.42	138	Pn	Pn	18 39 34.6	+0.3
I02E	Swisshome, OR	6.58	143	Pn	Pn	18 39 36.6	+0.1
HOOD	Mount Hood Mea	6.69	126		Pn	18 39 38.1	-0.1
B08A	Colville Reser	6.70	96	Pn	Pn	18 39 40.1	+1.9
H04D	Lebanon	6.72	135		Pn	18 39 38.6	+0.2
H04A	Detroit Lake	6.86	132	Pn	Pn	18 39 41.8	+1.3
BUCK	Buck Mountain	6.86	138	Pn	Pn	18 39 41.9	+1.3
E07A	Sunnyside	7.01	111	Pn	Pn	18 39 42.3	-0.3
HAWA	Hanford	7.29	111	Pn	Pn	18 39 46.5	+0.2
F07A	Phinny Hill Vi	7.31	116	Pn	Pn	18 39 47.0	+0.4
D08A	Wollman Farm,	7.38	105		Pn	18 39 46.9	-0.6
SLEB	Sale Mountain	7.38	73	P	Pn	18 39 49.9	+2.2
MNB	Mounoet Dainar	7.46	65	P	Pn	18 39 51.5	+2.7
C09A	Chrisman Ranch	7.53	99	Pn	Pn	18 39 49.7	0.0
BMBC	Bull Mountain	7.89	31	P	Pn	18 39 57.8	+3.3
J04D	Umpqua Nationa	8.01	139	Pn	Pn	18 39 56.8	+0.4
E09A	Wood Farm, Sta	8.09	107	Pn	Pn	18 39 56.2	-1.1
PINE	Pine Mountain	8.12	131	Pn	Pn	18 39 58.3	+0.4
NBC4	NorthernBC 4	8.15	37	P	Pn	18 40 01.6	+3.5
NEW	Newport	8.16	94	Pn	Pn	18 40 00.0	+1.7
	3.7nm,0.3s,baz=295,slow=12,SNR=54						
NEW	Newport	8.16	94	Pn	Pn	18 39 58.6	+0.4
HUMO	Hull Mountain	8.20	145	Pn	Pn	18 39 59.3	+0.5
G08A	Pilot Rock	8.21	117		Pn	18 40 01.2	+2.1
BDMTA	Bald Mountain	8.34	46	P	Pn	18 40 04.3	+3.6

L02E Cave Junction 8.36 149 Pn Pn 18 40 00.9 -0.2
L04D Klamath Falls 8.78 143 Pn Pn 18 40 06.8 -0.1
F10A Beach Ranch, E 8.90 109 Pn 18 40 10.1 +1.6
NBC5 NorthernBC 5 8.97 24 P Pn 18 40 12.0 +2.6
DLBC Dease Lake 8.97 358 Pn Pn 18 40 11.2 +1.9
0.5nm,0.3s,baz=186,slow=12,SNR=9.0
DLBC Dease Lake 8.97 358 Pn Pn 18 40 07.5 -1.9
DLBC Dease Lake 8.97 358 P Pn 18 40 11.3 +1.9
YBH Yreka Blue Hor 9.05 147 Pn Pn 18 40 13.2 +2.7
0.1nm,0.3s,baz=287,slow=18,SNR=3.7
YBH Yreka Blue Hor 9.05 147 Pn 18 40 13.0 +2.5
JIS Juneau Island 9.28 343 Pn Pn 18 40 12.3 -1.2
M02C Callahan 9.30 148 Pn Pn 18 40 18.2 +4.3
BMO Blue Mountains 9.43 115 Pn Pn 18 40 16.6 +0.9
SWHSA Sweathouse Loo 9.44 50 P Pn 18 40 21.6 +5.8
KHMM Horse Mountain 9.49 153 Pn 18 40 21.1 +4.6
J08A Circle Bar Ran 9.70 125 Pn 18 40 21.2 +1.8
N02D Trinity Center 9.72 149 Pn 18 40 22.4 +2.7
BSMT Bassoo Peak 9.78 94 P Pn 18 40 22.3 +1.7
PLID Pearl Lake 10.09 111 Pn Pn 18 40 25.7 +0.9
WALA Waterton Lakes 10.11 87 Pn Pn 18 40 24.2 -0.8
JTMT Jette 10.14 94 Pn Pn 18 40 26.2 +0.7
JTMT Jette 10.14 94 P Pn 18 40 27.2 +1.8
YBMT Yellow Bay 10.28 93 P Pn 18 40 29.2 +1.8
MSO Missoula 10.64 99 Pn Pn 18 40 33.0 +0.7
EDM Edmonton 10.68 63 Pn Pn 18 40 31.6 -1.1
EDM Edmonton 10.68 63 P Pn 18 40 35.2 +2.5
MFID Camas Ranch 11.13 118 Pn 18 40 40.6 +1.6
OVMT Ovando 11.17 96 P Pn 18 40 41.2 +1.6
ORV Oroville 11.40 148 Pn 18 40 45.3 +2.6
WHY Whitehorse 11.62 346 Pn 18 40 45.4 -0.3
WHY Whitehorse 11.62 346 P Pn 18 40 48.9 +3.2
HLID Hailey 11.87 114 Pn Pn 18 40 51.1 +1.9
LRM Limekiln Ridge 11.97 101 Pn 18 40 50.7 0.0
HRY Holter Researc 12.04 97 Pn 18 40 52.8 +1.3
DLMT Dillon 12.07 104 Pn 18 40 52.0 0.0
TGTN Hyland Airport 12.08 2 P Pn 18 40 58.0 +6.2
PAHR Pah Rah Range 12.08 140 Pn Pn 18 40 55.6 +3.6
MCMT McKenzie Canyo 12.16 106 Pn 18 40 53.2 -0.1
BMN Battle Mountai 12.47 132 Pn Pn 18 40 58.4 +1.0
EGMT Eagleton 13.02 89 Pn Pn 18 41 05.0 +0.2
KVN Kaiserville 13.18 138 Pn Pn 18 41 10.2 +3.2
MMPY Sheldon Lake, 13.20 356 P Pn 18 41 10.4 +3.2
ELK Elko 13.24 126 Pn Pn 18 41 12.6 +4.5
0.1nm,0.3s,baz=302,slow=14,SNR=2.3
YMR Madison River 13.42 104 Pn 18 41 10.2 -0.2
YHH Holmes Hill 13.44 103 Pn Pn 18 41 11.4 +0.7
YNR Norris Junctio 13.58 104 Pn 18 41 14.1 +1.4
NVAR Mina Array Bea 13.61 140 Pn Pn 18 41 15.9 +2.9
0.1nm,0.3s,baz=315,slow=10,SNR=2.0
GCMT Greycliff 13.78 98 Pn 18 41 14.8 -0.4
H17A Grant Village 13.79 105 Pn 18 41 15.9 +0.4
LKWY Lake 13.83 104 Pn 18 41 17.4 +1.4
FLWY Flagg Ranch 13.87 106 Pn 18 41 17.8 +1.2
MOOW Moose Ponds 14.01 107 Pn Pn 18 41 20.2 +1.8
TPAW Teton Pass 14.01 108 Pn 18 41 18.2 -0.3
REDW Red Top Meadow 14.14 109 Pn P 18 41 24.7 -3.4
SNOW Snow King Moun 14.15 108 Pn 18 41 21.2 +0.8
LOHW Long Hollow 14.16 107 Pn 18 41 21.6 +1.0
RLMT Red Lodge 14.30 100 Pn Pn 18 41 22.3 -0.2
AHID Auburn Hatcher 14.32 111 Pn 18 41 24.5 +1.8
BGU Big Grassy Mou 14.32 121 Pn 18 41 23.8 +1.1
M27K Edge Creek, AK 14.64 336 Pn 18 41 26.3 -0.6
DUG Dugway, Tooele 14.94 122 Pn Pn 18 41 31.1 0.0
L27K Beaver Creek, 15.22 338 P Pn 18 41 35.3 +0.7
L27K IAmb IAmb 18 41 42.9
comp=Z,8.9nm,1.2s
BW06 Boulder Array 15.26 109 Pn 18 41 35.7 +0.3
PD31 Pinedale Array 15.26 109 P Pn 18 41 37.4 +2.0
PD31 IAmb IAmb 18 41 47.0
comp=Z,32nm,1.6s
PDAR Pinedale Array 15.26 109 Pn P 18 41 38.6 -1.9
comp=Z,0.2nm,0.3s,baz=310,slow=10.0,SNR=30
PDAR Pinedale Array 15.26 109 P P 18 41 38.1 -2.3
YKA Yellowknife Ar 15.36 26 Pn Pn 18 41 35.7 -0.7
comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=34
YKA Yellowknife Ar 15.36 26 P Pn 18 41 34.4 -2.1
S11A Rachel 15.38 135 P Pn 18 41 37.0 0.0
S11A IAmb IAmb 18 41 55.5
comp=Z,16nm,1.1s
JLU Jordanelle 15.43 118 P Pn 18 41 39.7 +2.0
JLU IAmb IAmb 18 41 58.9
comp=Z,11nm,1.0s
NLU North Lily Min 15.52 121 P Pn 18 41 37.6 -1.2
NLU IAmb IAmb 18 41 59.2
comp=Z,7.7nm,0.9s
DAWY Dawson 15.58 343 Pn 18 41 39.2 0.0
DAWY IAmb IAmb 18 41 45.0
comp=Z,44nm,1.9s
DAWY Dawson 15.58 343 P Pn 18 41 41.0 +1.8
PSUT Pine Spring 15.60 129 P Pn 18 41 40.0 +0.1
PSUT IAmb IAmb 18 41 55.1
comp=Z,14nm,1.5s
LAO LASA Array 15.70 91 P Pn 18 41 38.9 -2.1
LAO IAmb IAmb 18 42 05.2
comp=Z,16nm,1.0s
TPNV Topopah Spring 15.73 138 P Pn 18 41 42.6 +1.0
TPNV IAmb IAmb 18 41 58.5
comp=Z,20nm,1.7s
PRN Pahroc Range 15.90 134 Pn 18 41 43.1 -0.6
ISA Isabella, Lake 15.95 146 P Pn 18 41 44.9 +0.5
ISA IAmb IAmb 18 42 00.4
comp=Z,34nm,1.9s
KDAK Kodiak Island 16.01 310 Pn Pn 18 41 44.7 -0.2
comp=Z,0.1nm,0.3s,baz=199,slow=6.9,SNR=2.3
QSM Queen of Sheba 16.31 141 Pn 18 41 50.0 +1.1
SCRK Sand Creek 16.52 337 P Pn 18 41 50.3 -1.2
SCRK IAmb IAmb 18 42 06.0
comp=Z,47nm,1.9s
DGMT Dagmar 16.53 84 Pn 18 41 50.3 -1.3
DGMT IAmb IAmb 18 41 56.3
comp=Z,29nm,1.0s
RIDG Independent Ri 16.55 335 P Pn 18 41 51.9 0.0
RIDG IAmb IAmb 18 42 00.1
comp=Z,40nm,1.8s
I29M Ogilvie Camp, 16.59 347 P Pn 18 41 51.1 -1.2
I29M IAmb IAmb 18 41 58.4
comp=Z,20nm,1.5s
P17A Butcher Ranch, 16.59 120 P Pn 18 41 53.0 +0.3
Q16A Castle Valley 16.74 122 P P 18 41 57.1 +0.3
P18A Preston Nutter 16.77 119 P P 18 41 56.7 -0.6
P18A IAmb IAmb 18 42 07.3
comp=Z,19nm,1.3s
MTPU Mount Pierson 16.83 126 P P 18 41 58.2 +0.2
SRU San Rafael Swe 16.97 121 P P 18 41 59.2 -0.1
LCMT Little Creek M 17.08 131 P P 18 42 00.6 0.0
PKCU Pink Cliffs 17.22 128 P Pn 18 42 01.1 +0.5
PKCU IAmb IAmb 18 42 15.1
comp=Z,32nm,1.6s
K22A Casper 17.22 105 Pn 18 41 59.5 -1.0
K22A IAmb IAmb 18 42 11.4
comp=Z,34nm,1.2s
EPYK Eagle Plains 17.35 350 P Pn 18 42 01.0 -0.8
EPYK IAmb IAmb 18 42 10.2
comp=Z,39nm,1.8s
J25K Salcha River, 17.39 337 P P 18 42 03.5 -0.2
FFC Flin Flon 17.55 62 P Pn 18 42 04.1 -0.2
O20A White River Ci 17.61 114 P P 18 42 06.7 +0.2
O20A IAmb IAmb 18 42 28.7
comp=Z,16nm,0.9s
ILAR Eielson Array 17.92 335 P P 18 42 10.1 +0.6
comp=Z,0.1nm,0.3s,baz=151,slow=10.0,SNR=14
ILAR Eielson Array 17.92 335 P Pn 18 42 08.9 0.0
U15A North Rim 18.01 130 P P 18 42 10.8 -0.3
WRH Wood River Hil 18.03 333 Pn 18 42 10.3 +0.1
CCB Clear Creek Bu 18.08 334 P P 18 42 11.2 0.0
RSSD Black Hills 18.11 98 Pn 18 41 11.0 -0.5
RSSD IAmb IAmb 18 42 29.7
comp=Z,12nm,0.9s
PV23 Carpenter Ridg 18.27 119 P P 18 42 14.5 +0.6
PV23 IAmb IAmb 18 42 22.0
comp=Z,28nm,1.2s
PV10 Paradox Valley 18.31 120 Pn 18 42 12.0 -2.1
PV10 IAmb IAmb 18 42 23.1
comp=Z,32nm,1.1s
W13A Hualapai Mount 18.33 136 Pn 18 42 12.7 -1.6
PV11 David Mesa, Pa 18.46 120 P P 18 42 14.2 -1.6
PV11 IAmb IAmb 18 42 28.2
comp=Z,25nm,0.7s
PV07 Paradox Valley 18.49 119 P 18 42 13.7 -2.5
PV07 IAmb IAmb 18 42 22.5
comp=Z,12nm,1.0s
PFO Pinyon Flats O 18.53 144 P Pn 18 42 17.0 +0.3
comp=Z,0.2nm,0.3s,baz=331,slow=18,SNR=1.6
N23A Red Feather La 18.55 109 P 18 42 13.1 -3.8
N23A IAmb IAmb 18 42 37.7
comp=Z,14nm,1.1s
PV13 Radium Mtn., P 18.59 120 P P 18 42 17.3 +0.1
PHWY Pilot Hill 18.62 107 P P 18 42 16.1 -1.5
PHWY IAmb IAmb 18 42 22.4
comp=Z,15nm,0.8s
PV15 Paradox Valley 18.65 119 P P 18 42 17.0 -1.0
PV15 IAmb IAmb 18 42 24.2
comp=Z,17nm,1.0s
L19K White Mountain 18.97 322 P P 18 42 20.9 -0.3
L19K IAmb IAmb 18 42 36.2
comp=Z,22nm,1.3s
INK Inuvik 18.98 355 P P 18 42 20.7 -0.4
comp=Z,0.9nm,0.3s,baz=162,slow=12,SNR=12
INK Inuvik 18.98 355 P P 18 42 18.3 -2.8
INK IAmb IAmb 18 42 24.6
comp=Z,14nm,1.1s
H24K Noodor Dome 19.01 336 P P 18 42 20.5 -1.0
H24K IAmb IAmb 18 42 27.8
comp=Z,21nm,1.6s
MLY Manley 19.23 332 P P 18 42 22.0 -1.9
MLY IAmb IAmb 18 42 29.8
comp=Z,18nm,1.4s
K20K Telida 19.30 325 P P 18 42 22.7 -2.0
E28A Huff 19.34 88 P 18 42 22.7 -2.5
ISCO Idaho Springs 19.40 111 P 18 42 24.6 -1.7
ISCO IAmb IAmb 18 42 34.4
comp=Z,15nm,1.6s
MVCO Mesa Verde 19.44 121 P P 18 42 24.2 -2.4
MVCO IAmb IAmb 18 42 48.2
comp=Z,16nm,1.1s
BMAR Burnt Mountain 19.56 342 P 18 42 23.7 -3.8
I21K Tanana 19.72 331 P P 18 42 27.1 -2.1
I21K IAmb IAmb 18 42 46.8
comp=Z,8.0nm,0.9s
KUKN Kugluktuk,NWT 19.73 16 P Pn 18 42 31.4 +0.7
S22A 4UR Ranch, Cre 20.01 117 P P 18 42 31.2 -1.7
X16A Lo Mia Camp, P 20.03 132 P 18 42 31.3 -1.8
C36M Paulatuk 20.08 5 P P 18 42 29.4 -3.7
C36M IAmb IAmb 18 42 50.7
comp=Z,12nm,1.2s
C36M Paulatuk 20.08 5 P Pn 18 42 34.5 -0.4
H21K Melozitna Rive 20.29 332 P P 18 42 33.2 -2.3
COLD Coldfoot 20.68 337 P P 18 42 36.7 -2.9
SDCO Great Sand Dun 20.79 115 P P 18 42 40.1 -1.2
OGNE Ogallala 20.97 104 P 18 42 41.5 -1.6
ULM Lac du Bonnet 21.49 75 P P 18 42 49.3 +0.8
comp=Z,15nm,0.8s,baz=285,slow=7.5,SNR=5.2
ULM Lac du Bonnet 21.49 75 P P 18 42 48.5 -0.1
ULM Lac du Bonnet 21.49 75 P P 18 42 51.8 +3.2
TOLK Toolik Lake Re 21.62 340 P P 18 42 49.3 -0.5
TOLK IAmb IAmb 18 43 01.2
comp=Z,9.4nm,0.9s
AGMN Agassiz Nation 21.95 80 P P 18 42 51.5 -2.0
AGMN IAmb IAmb 18 43 04.9
comp=Z,15nm,0.8s
TUC Tucson 22.07 134 P P 18 42 56.4 +1.4
ANMO Albuquerque 22.21 122 P P 18 42 57.8 +1.2
comp=Z,5.0nm,0.9s,baz=332,slow=11,SNR=11
ANMO Albuquerque 22.21 122 P P 18 42 58.0 +1.3
ANMO IAmb IAmb 18 43 04.5
comp=Z,7.7nm,1.1s
FCC Fort Churchill 22.40 52 P P 18 42 55.4 -2.8
FCC Fort Churchill 22.40 52 P P 18 43 00.6 +2.4
F33A 5 Mile Ranch, 22.46 87 P P 18 42 57.8 -1.2
LENM Lemitar 22.52 124 P P 18 43 00.9 +1.0
A36M Sachs Harbour 22.65 3 P P 18 42 59.8 -0.9
A36M IAmb IAmb 18 43 15.7
comp=Z,8.6nm,0.9s
A36M Sachs Harbour 22.65 3 P P 18 43 01.9 +1.2
BNM Barren Site 22.72 124 P P 18 43 00.7 -1.3
EPLO Experimental L 22.97 76 P P 18 43 06.8 +2.4
ECSD EROS Data Cent 23.10 92 P P 18 43 04.8 -0.9
ECSD IAmb IAmb 18 43 18.8
comp=Z,13nm,0.8s
B35A Bob, Littlefor 23.31 79 P P 18 43 07.0 -0.7
B35A IAmb IAmb 18 43 16.9
comp=Z,11nm,0.8s
121A Cookes Peak, D 23.36 128 P P 18 43 08.0 -0.7
121A IAmb IAmb 18 43 27.9
comp=Z,7.7nm,1.1s
319A Douglas 23.56 133 P P 18 43 10.5 0.0
319A IAmb IAmb 18 43 23.6
comp=Z,5.4nm,0.8s
SOLO Sioux Lookout 23.93 74 P P 18 43 14.6 +0.7
F36A Milaca 24.25 85 P P 18 43 15.4 -1.5
ATKO Atikokan Iron 24.54 77 P P 18 43 25.3 +5.8
PKLO Pickle Lake 24.70 70 P P 18 43 21.9 +1.0
EYMN Ely 24.86 79 P P 18 43 21.1 -1.3
SPMN Marine on St. 24.96 86 P P 18 43 23.0 -0.3
AMTX Amarillo 24.99 115 P P 18 43 24.2 +0.4
N35A Tabor 25.11 97 P P 18 43 24.6 -0.1
MNTX Cornudas Mount 25.27 126 P P 18 43 25.8 -0.5
MNTX IAmb IAmb 18 43 36.8
comp=Z,6.2nm,1.2s
T35A Sooner Cattle 26.81 105 P P 18 43 39.8 -0.4
COWI Conover 27.00 82 P P 18 43 41.2 -0.6
GTO Geraldton 27.20 73 P P 18 43 47.0 +3.4
TX32 Lajitas Array 28.04 126 P P 18 43 52.3 +1.0
TX32 IAmb IAmb 18 43 55.5
comp=Z,8.4nm,1.7s
TXAR Lajitas Array 28.04 126 P P 18 43 51.7 +0.4
comp=Z,0.4nm,0.7s,baz=236,slow=1.4,SNR=3.6
RES Resolute Bay 29.10 18 P P 18 44 00.0 -0.1
comp=Z,0.9nm,0.9s,baz=293,slow=11,SNR=2.3
RES LR LR 18 55 42.6
comp=Z,149nm,21.6s,baz=19,slow=36
U40A Yellville 29.47 103 P P 18 44 03.0 -0.9
U40A IAmb IAmb 18 44 12.2
comp=Z,6.5nm,0.9s
FCAR Ozark Folk Cen 30.22 103 P P 18 44 10.4 -0.2
LCAR Lake Charles 30.73 101 P P 18 44 15.0 0.0
VLDQ Val d'Or 33.66 72 P P 18 44 42.2 +1.6
LG4Q La Grande 4 33.87 61 P P 18 44 42.7 +0.4
SHEM Shemya Is, Ala 34.87 297 P P 18 44 51.0 +0.1
comp=Z,106nm,0.9s,baz=72,slow=12,SNR=2.8
SHEM LR LR 18 56 51.4
comp=Z,122nm,18.2s,baz=10.0,slow=32
FPAL Fort Paine 35.24 98 P P 18 44 54.2 -0.2
V53A Saluda 36.36 94 P P 18 45 04.0 -0.1
250A Grady 36.46 102 P P 18 45 04.0 -0.9
152A Waverly Hall 37.00 100 P P 18 45 08.4 -1.1
NEEM North Greenlan 39.76 20 *i* P P 18 45 42.4 +10
NEEM IAmb IAmb 18 45 43.2
comp=Z,2.0nm,0.6s
SEY Seymchan 42.70 319 P P 18 45 55.3 -1.3
comp=Z,0.6nm,0.5s,baz=102,slow=14,SNR=2.2
PETK Petropavlovsk- 43.93 304 P P 18 46 06.5 -0.1
comp=Z,2.9nm,0.9s,baz=58,slow=12,SNR=2.0
SUMG Summit 43.96 26 *i* P P 18 46 07.0 0.0
SUMG IAmb IAmb 18 46 10.4
comp=Z,2.3nm,0.9s
DAG Danmarks Havn 46.79 17 *e*P P 18 46 35.4 +6.4
DAG IAmb IAmb 18 46 38.8
comp=Z,1.1nm,0.8s
DBG Daneborg 47.83 20 *e*P P 18 46 44.3 +7.2
DBG IAmb IAmb 18 46 47.5
comp=Z,1.4nm,0.8s
H11N2 WAKE ISLAND Hy 58.26 263 T T 19 50 40.8
baz=43,slow=75,SNR=54
H11N3 WAKE ISLAND Hy 58.26 263 T T 19 50 40.9
baz=43,slow=75,SNR=64
H11N1 WAKE ISLAND Hy 58.27 263 T T 19 50 42.0
baz=43,slow=75,SNR=36
OCAC Ocana 62.06 112 P P 18 48 21.1 +0.2
SDV Santo Domingo 63.20 109 LR LR 19 18 12.3
comp=Z,92nm,21.8s,baz=260,slow=38
NOA NORSAR Array B 65.34 20 P P 18 48 42.8 +0.9
comp=Z,0.4nm,0.8s,baz=302,slow=4.7,SNR=1.3
FINES FINESS Array B 67.67 12 P P 18 48 56.1 -0.5
comp=Z,2.0nm,1.0s,baz=304,slow=3.2,SNR=2.1
SONM Songino Array 71.76 324 P P 18 49 23.8 +1.5
comp=Z,0.2nm,0.7s,baz=35,slow=3.5,SNR=2.0
ZALV Zalesovo Beam 72.98 340 P P 18 49 31.5 +2.3
comp=Z,0.5nm,0.5s,baz=29,slow=9.9,SNR=2.2
HHC Hu-ho-hao-te 75.31 317 *e*P P 18 49 43.4 +0.1
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.4s
HHC LR LR
comp=N,190nm,16.7s
HHC LR LR
comp=E,200nm,18.0s
AKASG Malin Array Be 78.52 14 P P 18 50 01.0 0.0
comp=E,0.1nm,0.3s,baz=334,slow=11,SNR=1.5
ESDC Sonseca Array 79.01 40 P P 18 50 04.3 +0.4
comp=E,0.5nm,0.8s,baz=343,slow=2.7,SNR=2.0
MKAR Makanchi Array 80.24 339 P P 18 50 11.3 +0.8
comp=E,0.3nm,0.7s,baz=24,slow=3.8,SNR=3.5
WMQ Urumqi 81.58 334 *e*P P 18 50 20.0 +2.2
LPAZ La Paz 84.83 122 P P 18 50 37.0 +1.6
comp=E,0.4nm,0.5s,baz=0.0,slow=1.0,SNR=1.9
SIV San Ignacio 88.60 117 LR LR 19 38 37.2
comp=E,45nm,18.4s,baz=276,slow=41
PZH PanZhiHua 91.74 316 P P 18 51 08.8 +0.8
DAV Davao City (W) 94.33 286 LR LR 19 26 38.1
comp=E,239nm,20.5s,baz=132,slow=31

NEIC ***05*** *18:38:31.8±2.2, 49°.64N±0°.08×129°.3W±0°.1, h12km±5km, mb4.6/113, ML3.7/34, Mwr4.4(OTT), Error ellipse: s-maj=14.6km s-min=8.2km az=48.0*

PGC ***05*** *18:38:31.9±21.0, 49°.42N×129°.64W, h10km, mb4.7, ML3.7/36, MLSn3.8/37, Mw4.4/37, 213km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***05*** *18:38:32.7±0.7, 49°.54N×129°.51W, h0km, mb3.9/14, mb1 4.3/23, mb1mx4.2/53, mbtmp4.1/23, ML4.2/7, MS3.9/4, Ms1 3.9/4, ms1mx3.3/57, Error ellipse: s-maj=14.1km s-min=9.7km az=53.0*

GCMT ***05*** *18:38:35.4±0.4, 49°.34N±0°.03×129°.69W±0°.03, h20km±2km, MW4.8/75, Moment Tensor Solution. s15,c18; s75,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.08±.13; Mθθ-1.60±.10; Mφφ 1.67±.10; Mrθ 0.00±.18; Mrφ-0.56±.08; Mθφ 0.04±.16; Best double couple: Mo 1.72800×10¹⁶ NP1: φs306.00000°, δ89.00000°, λ179.00000°. NP2: φs36.00000°, δ89.00000°, λ1.00000°. Principal axes: T 1.7640, Plg1.0000°, Azm261.0000°; N -0.0770, Plg89.0000°, Azm64.0000°; P -1.6930, Plg0.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 18:38:31.8±0.5, 49°.46N±0°.06×129°.49W±0°.05, h7km, n320, σ2.9s02/303, mb4.7/42, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	Holberg	1.47	36	Sn	Sn	18 39 16.3	-1.9
KEMF	NEPTUNE Canada	1.53	170	Pn	Pn	18 38 53.1	-6.1
KEMF				Sn	Sn	18 39 08.9	-10
EDB	Eliza Dome	1.59	74	Sn	Sn	18 39 20.0	-1.1
PACB	Port Alice, BC	1.62	52	Sn	Sn	18 39 20.3	-1.4
MAYB	Maynard	1.77	57	Sn	Sn	18 39 21.9	-3.9
PHC	Port Hardy	1.82	46	Sn	Sn	18 39 25.9	-0.8
WOSB	Woss	2.02	68	Pn	Pn	18 39 06.7	+0.4
NCRB	Newcastle Ridg	2.41	66	Pn	Pn	18 39 11.0	-0.7
SPLB	Strathcona Par	2.53	79	Pn	Pn	18 39 13.1	-0.1
BTB	Buttle Lake	2.59	88	Pn	Pn	18 39 12.8	-1.3
OZB	Mount Ozzard	2.66	99	Pn	Pn	18 39 13.3	-1.9
OZB	Mount Ozzard	2.66	99	Pn	Pn	18 39 14.2	-0.9
CBB	Campbell River	2.73	76	Pn	Pn	18 39 13.1	-3.0
CBB				IAML		18 39 51.2	
	comp=N,423nm,1.1s						
CBB				IAML		18 40 02.7	
	comp=E,320nm,1.2s						
CBB	Campbell River	2.73	76	Pn	Pn	18 39 16.5	+0.4
BBB	Bella Bella	2.87	17	Pn	Pn	18 39 17.9	0.0
	comp=E,88nm,0.3s,baz=208,slow=14,SNR=14						
BBB				Sn	Sn	18 39 50.1	-2.5
	comp=E,62nm,0.3s,baz=285,slow=20,SNR=6.5						
BBB	Bella Bella	2.87	17		Pn	18 39 15.6	-2.3
BBB				IAML		18 39 56.1	
	comp=N,437nm,0.6s						
BBB	Bella Bella	2.87	17	Pn	Pn	18 39 17.6	-0.3
BBB				Sn	Sn	18 39 49.8	-2.7
BFSB	Bamfield	2.92	101	Pn	Pn	18 39 18.2	-0.4
B928	Bamfield	2.92	101	Pn	Pn	18 39 17.6	-1.0
HG4B	Hotspring	3.04	340	Pn	Pn	18 39 16.7	-3.6
B927	Port Alberni	3.07	93	Pn	Pn	18 39 20.8	+0.3
TXB	Texada	3.29	84	Pn	Pn	18 39 25.4	+1.6
GHNB	Nanoose	3.43	91	Pn	Pn	18 39 27.6	+2.0
BNB	Barry Inlet	3.44	336	Pn	Pn	18 39 24.5	-1.2
PFB	Port Renfrew	3.44	103	Pn	Pn	18 39 25.6	-0.1
B926	Mesachie Lake	3.57	98	Pn	Pn	18 39 28.6	+1.0
CLRS	Cowichan Lake	3.57	98	Pn	Pn	18 39 25.2	-2.4
CLRS				IAML		18 40 19.5	
	comp=N,108nm,1.8s						
CLRS	Cowichan Lake	3.57	98	Pn	Pn	18 39 28.7	+1.1
C03A	Quillayute Air	3.59	113	Pn	Pn	18 39 27.1	-0.7
C03A				IAML		18 40 24.3	
	comp=E,246nm,3.0s						
NLLB	Nanaimo Lost L	3.60	92	Pn	Pn	18 39 29.5	+1.6
SHB	Sechelt	3.66	86	Pn	Pn	18 39 31.0	+2.2
BUTB	Butedale	3.67	10	Pn	Pn	18 39 27.8	-1.2
BUTB				Sn	Sn	18 40 10.4	-2.1
BNKB	Banks Island	3.89	356	Pn	Pn	18 39 31.2	-0.8
GOBB	Galiano Island	3.95	95	Pn	Pn	18 39 34.2	+1.5
BIB	Bowen Island	4.03	88	Pn	Pn	18 39 35.1	+1.2
B010	North Saanich	4.05	99	Pn	Pn	18 39 35.5	+1.4
B009	North Saanich	4.05	99	Pn	Pn	18 39 34.7	+0.6
PGC	Sidney	4.05	99	Pn	Pn	18 39 35.0	+0.9
PGC				IAML		18 40 25.3	
	comp=E,90nm,1.6s						
PGC				IAML		18 40 27.0	
	comp=N,92nm,2.8s						
PGC	Sidney	4.05	99	Pn	Pn	18 39 35.4	+1.3
PA02	PA02 Ocean	4.05	99	Pn	Pn	18 39 35.5	+1.4
B011	North Saanich	4.05	99	Pn	Pn	18 39 34.4	+0.2
WPB	Watts Point	4.09	85	Pn	Pn	18 39 36.5	+1.8
HWKB	Hawksbury Isla	4.15	3	Pn	Pn	18 39 35.5	-0.1
DIB	Dawson Inlet,	4.19	335	Pn	Pn	18 39 33.9	-2.2
DIB				IAML		18 40 37.6	
	comp=E,88nm,4.8s						
DIB	Dawson Inlet,	4.19	335	Pn	Pn	18 39 36.1	0.0
H02S1	DAWSON INLET T	4.19	335	Pn	Pn	18 39 36.4	+0.3
	SNR=64						
VGZ	Gonzales	4.19	102	Pn	Pn	18 39 36.7	+0.7
B04A	Port Angeles	4.20	107	Pn	Pn	18 39 35.6	-0.6
B04A				IAML		18 40 26.5	
	comp=E,65nm,4.6s						
B04A				IAML		18 41 41.7	
	comp=N,65nm,2.7s						
SNB	Saturna Island	4.20	97	Pn	Pn	18 39 37.5	+1.3
NLWA	Neilton Lookou	4.27	117		Pn	18 39 37.3	+0.1
WSLR	Whistler	4.30	79	Pn	Pn	18 39 40.4	+2.7
GRNB	Grenville Isla	4.41	356	Pn	Pn	18 39 36.0	-3.1
GRNB				IAML		18 40 41.9	
	comp=E,97nm,1.2s						
GRNB				IAML		18 41 14.9	
	comp=N,85nm,2.0s						
GRNB	Grenville Isla	4.41	356	Pn	Pn	18 39 39.0	-0.1
WISH	Wishkah	4.48	119	Pn	Pn	18 39 39.6	-0.3
WISH				IAML		18 41 16.1	
	comp=E,129nm,4.7s						
HNBB	Haney	4.52	90	Pn	Pn	18 39 42.3	+1.7
KITB	Kitimat	4.66	6	Pn	Pn	18 39 42.8	+0.4
VDB	Vedder Mountai	4.86	92	Pn	Pn	18 39 46.7	+1.5
RUBB	Prince Rupert	4.90	355		Pn	18 39 43.8	-2.0
RUBB				IAML		18 41 55.7	
	comp=N,50nm,4.3s						
RUBB	Prince Rupert	4.90	355	Pn	Pn	18 39 45.1	-0.7
E03A	Lebam	4.93	124	Pn	Pn	18 39 46.2	0.0
E03A				IAML		18 41 15.6	
	comp=N,62nm,2.9s						
E03A				IAML		18 41 32.9	
	comp=E,68nm,4.8s						
LLLB	Lillooet	5.03	74	Pn	Pn	18 39 47.2	-0.5
LLLB				IAML		18 41 17.3	
	comp=E,102nm,1.2s						
LLLB	Lillooet	5.03	74	Pn	Pn	18 39 49.9	+2.2
B06A	Marblemount	5.35	97	Pn	Pn	18 39 52.8	+0.8
E04D	Cinebar	5.47	119	Pn	Pn	18 39 54.0	+0.2
D05A	Enumclaw	5.49	112	Pn	Pn	18 39 54.3	+0.4
F04A	Amboy	5.93	124		Pn	18 40 00.7	+0.8
FSJB	Fort St James	5.95	31	Pn	Pn	18 40 04.2	+4.0
LTY	Liberty	6.27	107	Pn	Pn	18 40 02.9	-1.9
CRAG	Craig	6.42	341	Pn	Pn	18 40 04.0	-2.6
PNT	Penticton	6.45	88	Pn	Pn	18 40 08.1	+1.1
COR	Corvallis	6.45	137	Pn	Pn	18 40 08.7	+1.6
I02E	Swisshome, OR	6.60	142	Pn	Pn	18 40 09.7	+0.5
HOOD	Mount Hood Mea	6.74	125		Pn	18 40 13.1	+1.9
H04D	Lebanon	6.75	134	Pn	Pn	18 40 12.0	+0.7

B08A	**Colville Reser**	**6.78**	**95**	Pn	**Pn**	**18 40 12.2**	**+0.5**
BUCK	**Buck Mountain**	**6.89**	**137**	Pn	**Pn**	**18 40 13.2**	**-0.1**
H04A	**Detroit Lake**	**6.90**	**131**	Pn	**Pn**	**18 40 13.1**	**-0.3**
E07A	**Sunnyside**	**7.08**	**111**		**Pn**	**18 40 15.1**	**-0.7**
HAWA	**Hanford**	**7.36**	**111**	Pn	**Pn**	**18 40 21.7**	**+2.1**
F07A	**Phinny Hill Vi**	**7.37**	**115**		**Pn**	**18 40 22.0**	**+2.3**
J01E	**Myrtle Point**	**7.38**	**147**	Pn	**Pn**	**18 40 21.1**	**+1.3**
D08A	**Wollman Farm,**	**7.45**	**105**		**Pn**	**18 40 21.9**	**+1.1**
SLEB	**Sale Mountain**	**7.47**	**72**	P	**Pn**	**18 40 23.5**	**+2.2**
MNB	**Mounoet Dainar**	**7.55**	**64**	P	**Pn**	**18 40 24.9**	**+2.5**
E08A	**Dider Farm, El**	**7.60**	**109**		**Pn**	**18 40 22.3**	**-0.6**
C09A	**Chrisman Ranch**	**7.61**	**98**	Pn	**Pn**	**18 40 24.6**	**+1.5**
DBO	**Dodson Butte**	**7.67**	**143**	Pn	**Pn**	**18 40 26.4**	**+2.4**
BMBC	**Bull Mountain**	**7.96**	**31**	P	**Pn**	**18 40 31.1**	**+3.2**
E09A	**Wood Farm, Sta**	**8.16**	**107**		**Pn**	**18 40 28.7**	**-1.8**
PINE	**Pine Mountain**	**8.16**	**131**	Pn	**Pn**	**18 40 33.0**	**+2.2**
HUMO	**Hull Mountain**	**8.22**	**144**		**Pn**	**18 40 31.3**	**-0.1**
NBC4	**NorthernBC 4**	**8.23**	**37**	P	**Pn**	**18 40 35.3**	**+3.8**
NEW	**Newport**	**8.24**	**94**	Pn	**Pn**	**18 40 33.6**	**+1.9**
	comp=E,11nm,0.3s,baz=294,slow=12,SNR=28						
NEW				LR	LR	18 43 46.4	
	comp=E,2μm,19.5s,baz=274,slow=38						
NEW	**Newport**	**8.24**	**94**		**Pn**	**18 40 33.6**	**+1.9**
G08A	**Pilot Rock**	**8.27**	**116**	Pn	**Pn**	**18 40 31.4**	**-0.7**
L02E	**Cave Junction**	**8.37**	**148**	Pn	**Pn**	**18 40 34.8**	**+1.3**
BDMTA	**Bald Mountain**	**8.42**	**46**	P	**Pn**	**18 40 38.4**	**+4.2**
I07A	**Izee**	**8.71**	**124**		**Pn**	**18 40 39.9**	**+1.7**
L04D	**Klamath Falls**	**8.80**	**143**	Pn	**Pn**	**18 40 42.8**	**+3.3**
DLBC	**Dease Lake**	**9.00**	**358**	Pn	**Pn**	**18 40 43.7**	**+1.6**
	comp=E,1.7nm,0.3s,baz=191,slow=14,SNR=10						
DLBC	**Dease Lake**	**9.00**	**358**		**Pn**	**18 40 43.7**	**+1.6**
DLBC	**Dease Lake**	**9.00**	**358**	P	**Pn**	**18 40 44.3**	**+2.1**
YBH	**Yreka Blue Hor**	**9.06**	**146**	Pn	Pn	18 40 48.4	+5.3
	comp=E,0.4nm,0.3s,baz=333,slow=9.7,SNR=5.6						
YBH				LR	LR	18 43 52.0	
	comp=E,854nm,18.9s,baz=330,slow=35						
YBH	**Yreka Blue Hor**	**9.06**	**146**	Pn	**Pn**	**18 40 45.4**	**+2.3**
M04C	**Macdoel**	**9.36**	**142**		**Pn**	**18 40 48.5**	**+1.4**
BMO	**Blue Mountains**	**9.49**	**114**	Pn	**Pn**	**18 40 49.3**	**+0.5**
SWHSA	**Sweathouse Loo**	**9.53**	**50**	P	**Pn**	**18 40 53.4**	**+4.0**
N02D	**Trinity Center**	**9.73**	**148**	Pn	**Pn**	**18 40 55.3**	**+3.1**
PRDA	**Priddis**	**9.86**	**76**	P	**Pn**	**18 40 57.5**	**+3.6**
BSMT	**Bassoo Peak**	**9.86**	**94**	P	**Pn**	**18 40 55.5**	**+1.4**
WDC	**Whiskeytown Da**	**10.14**	**148**	Pn	**Pn**	**18 41 00.9**	**+3.1**
PLID	**Pearl Lake**	**10.15**	**110**	Pn	**Pn**	**18 40 56.8**	**-1.2**
WALA	**Waterton Lakes**	**10.19**	**86**	Pn	**Pn**	**18 40 57.2**	**-1.4**
WALA	**Waterton Lakes**	**10.19**	**86**	P	**Pn**	**18 41 00.8**	**+2.2**
JTMT	**Jette**	**10.22**	**94**	Pn	**Pn**	**18 41 00.3**	**+1.4**
JTMT	**Jette**	**10.22**	**94**	P	**Pn**	**18 41 00.0**	**+1.2**
YBMT	**Yellow Bay**	**10.36**	**93**	P	**Pn**	**18 41 02.5**	**+1.7**
O02D	**Mt. Diablo Mer**	**10.42**	**150**		**Pn**	**18 41 05.1**	**+3.4**
MSO	**Missoula**	**10.72**	**98**	Pn	**Pn**	**18 41 05.6**	**-0.1**
P33M	**Teslin, Yukon**	**10.95**	**351**	Pn	**Pn**	**18 41 09.2**	**+0.5**
OVMT	**Ovando**	**11.25**	**96**	P	**Pn**	**18 41 14.4**	**+1.4**
ORV	**Oroville**	**11.42**	**147**	Pn	**Pn**	**18 41 17.2**	**+2.1**
BEKR	**Beckworth**	**11.57**	**143**		**Pn**	**18 41 17.6**	**+0.1**
WHY	**Whitehorse**	**11.64**	**347**		**Pn**	**18 41 15.8**	**-2.4**
WHY	**Whitehorse**	**11.64**	**347**	P	**Pn**	**18 41 20.9**	**+2.6**
LRM	**Limekiln Ridge**	**12.05**	**101**	Pn	**Pn**	**18 41 26.4**	**+2.3**
PAHR	**Pah Rah Range**	**12.11**	**140**		**Pn**	**18 41 26.2**	**+1.4**
HRY	**Holter Researc**	**12.12**	**96**	Pn	**Pn**	**18 41 26.8**	**+1.9**
DLMT	**Dillon**	**12.15**	**103**	Pn	**Pn**	**18 41 25.0**	**-0.3**
MCMT	**McKenzie Canyo**	**12.23**	**106**	Pn	**Pn**	**18 41 26.8**	**+0.2**
HYT	**Haines Junctio**	**12.27**	**341**	Pn	**Pn**	**18 41 24.3**	**-2.5**
N31M	**Braeburn, Yuko**	**12.56**	**346**	Pn	**Pn**	**18 41 31.2**	**+0.4**
M31M	**Drury Creek, Y**	**13.06**	**350**		**Pn**	**18 41 34.5**	**-3.1**
LOGN	**Logan Glacier**	**13.13**	**334**		**Pn**	**18 41 36.7**	**-1.9**
CMB	**Columbia Colle**	**13.16**	**147**	Pn	**Pn**	**18 41 40.8**	**+1.7**
MMPY	**Sheldon Lake,**	**13.23**	**356**	P	**Pn**	**18 41 42.8**	**+2.9**
GRNC	**Granite Creek**	**13.27**	**333**		**Pn**	**18 41 39.9**	**-0.8**
CTGM	**Chitina Glacie**	**13.34**	**334**		**Pn**	**18 41 39.8**	**-1.7**
CTGM	**Chitina Glacie**	**13.34**	**334**	P	**Pn**	**18 41 44.5**	**+3.1**
BARN	**Barnard Glacie**	**13.51**	**334**	Pn	**Pn**	**18 41 45.3**	**+1.4**
YHH	**Holmes Hill**	**13.51**	**103**	Pn	**Pn**	**18 41 45.6**	**+1.6**
NVAR	**Mina Array Bea**	**13.63**	**140**	Pn	**Pn**	**18 41 50.0**	**+4.3**
	comp=E,0.1nm,0.3s,baz=326,slow=13,SNR=3.7						
YNR	**Norris Junctio**	**13.65**	**103**		**Pn**	**18 41 45.3**	**-0.7**
NV11	**Mina Array Sit**	**13.70**	**139**		**Pn**	**18 41 46.3**	**-0.2**
GCMT	**Greycliff**	**13.85**	**98**		**Pn**	**18 41 47.5**	**-1.1**
LKWY	**Lake**	**13.90**	**103**		**Pn**	**18 41 48.2**	**-1.1**
YMP	**Mirror Lake Pl**	**13.98**	**102**	Pn	**Pn**	**18 41 47.5**	**-2.9**
REDW	**Red Top Meadow**	**14.21**	**108**		**Pn**	**18 41 56.5**	**+3.0**
SNOW	**Snow King Moun**	**14.22**	**108**	P	**P**	**18 41 58.0**	**-3.2**
LOHW	**Long Hollow**	**14.23**	**107**		**Pn**	**18 41 57.5**	**+3.6**
BGU	**Big Grassy Mou**	**14.38**	**120**	P	**Pn**	**18 41 57.7**	**+1.9**
AHID	**Auburn Hatcher**	**14.38**	**111**	P	**P**	**18 42 00.0**	**-3.0**
TPH	**Tonopah**	**14.40**	**138**		**Pn**	**18 41 58.4**	**+2.3**
M27K	**Edge Creek, AK**	**14.64**	**337**		**Pn**	**18 41 58.0**	**-1.2**
KLU	**Klutina**	**15.18**	**329**		**Pn**	**18 42 07.1**	**+0.7**
KLU				IAmb	IAmb	18 42 15.6	
	comp=Z,38nm,1.4s						
BCAR	**Beaver Creek A**	**15.21**	**338**		**Pn**	**18 42 07.4**	**+0.6**
L27K	**Beaver Creek,**	**15.22**	**338**	Pn	**Pn**	**18 42 04.4**	**-2.5**
L27K				IAmb	IAmb	18 42 22.5	
	comp=Z,18nm,1.1s						
GRAC	**Grapevine Rang**	**15.24**	**140**		**Pn**	**18 42 09.4**	**+2.0**
GRAC				IAmb	IAmb	18 42 58.1	
	comp=Z,21nm,0.6s						
BW06	**Boulder Array**	**15.33**	**108**		**Pn**	**18 42 08.4**	**-0.3**
BW06				IAmb	IAmb	18 42 16.5	
	comp=Z,28nm,1.1s						
PDAR	**Pinedale Array**	**15.33**	**108**	Pn	**P**	**18 42 12.4**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=312,slow=12,SNR=9.9						
PDAR	**Pinedale Array**	**15.33**	**108**		**Pn**	**18 42 08.3**	**-0.4**
S11A	**Rachel**	**15.42**	**135**	P	**Pn**	**18 42 12.1**	**+2.3**
S11A				IAmb	IAmb	18 42 50.3	
	comp=Z,42nm,1.1s						
YKA	**Yellowknife Ar**	**15.43**	**27**	Pn	**Pn**	**18 42 08.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=213,slow=12,SNR=6.5						
JLU	**Jordanelle**	**15.49**	**118**	P	**Pn**	**18 42 12.3**	**+1.5**
JLU				IAmb	IAmb	18 42 24.7	
	comp=Z,33nm,1.4s						
L26K	**Log Cabin Wild**	**15.57**	**336**	P	**P**	**18 42 13.6**	**-2.3**
L26K				IAmb	IAmb	18 42 15.8	
	comp=Z,48nm,1.6s						
DAWY	**Dawson**	**15.59**	**344**	P	**Pn**	**18 42 12.7**	**+1.0**
DAWY				IAmb	IAmb	18 42 16.0	
	comp=Z,78nm,1.6s						
DAWY	**Dawson**	**15.59**	**344**	P	**P**	**18 42 14.3**	**-1.8**
MENT	**Mentasta**	**15.60**	**335**		**Pn**	**18 42 10.6**	**-1.3**
MPU	**Maple Canyon**	**15.78**	**120**	P	**Pn**	**18 42 15.8**	**+1.3**
LAO	**LASA Array**	**15.78**	**91**	P	**Pn**	**18 42 14.8**	**+0.5**
LAO				IAmb	IAmb	18 42 23.1	
	comp=Z,36nm,1.0s						
ISA	**Isabella, Lake**	**15.97**	**146**	P	**P**	**18 42 20.0**	**-0.5**
KDAK	**Kodiak Island**	**15.97**	**310**	LR	LR	18 46 59.4	
	comp=Z,161nm,21.6s,baz=138,slow=32						
KNK	**Knik Glacier**	**16.02**	**325**	P	**Pn**	**18 42 18.6**	**+1.3**
KNK				IAmb	IAmb	18 42 27.6	
	comp=Z,34nm,1.1s						
BRLK	**Bradley Lake**	**16.05**	**318**		**P**	**18 42 20.4**	**-0.8**
BRLK				IAmb	IAmb	18 42 32.2	
	comp=Z,50nm,1.0s						
PAX	**Paxson**	**16.13**	**333**	P	**Pn**	**18 42 19.9**	**+1.1**
GWY	**Greenwater Val**	**16.23**	**140**	P	**P**	**18 42 22.7**	**-0.8**
SCRK	**Sand Creek**	**16.52**	**337**		**P**	**18 42 25.0**	**-1.5**
SCRK				IAmb	IAmb	18 42 30.8	
	comp=Z,51nm,1.4s						
DGMT	**Dagmar**	**16.62**	**84**		**Pn**	**18 42 24.5**	**-0.6**
DGMT				IAmb	IAmb	18 42 32.8	
	comp=Z,52nm,0.9s						
DHY	**Denali Highway**	**16.79**	**331**	P	**P**	**18 42 28.4**	**-1.0**
GSC	**Goldstone, Bar**	**16.93**	**142**	P	**P**	**18 42 31.4**	**+0.3**
RSO	**Redoubt South**	**17.21**	**319**	P	**Pn**	**18 42 33.1**	**+0.5**
CUT	**Chulitna**	**17.32**	**326**		**Pn**	**18 42 32.6**	**-1.1**
CUT				IAmb	IAmb	18 43 17.6	
	comp=Z,81nm,1.4s						
EPYK	**Eagle Plains**	**17.37**	**350**	P	**P**	**18 42 35.5**	**-0.3**
EPYK				IAmb	IAmb	18 42 43.6	
	comp=Z,48nm,1.2s						
EPYK	**Eagle Plains**	**17.37**	**350**	P	**P**	**18 42 37.5**	**+1.8**
J25K	**Salcha River,**	**17.39**	**337**	P	**Pn**	**18 42 35.0**	**+0.3**
RND	**Reindeer**	**17.50**	**330**		**P**	**18 42 36.7**	**-0.6**
HDA	**Harding Lake**	**17.65**	**335**	P	**P**	**18 42 38.3**	**-0.6**
MCK	**McKinley**	**17.75**	**331**		**Pn**	**18 42 38.9**	**-0.3**
IL31		**17.92**	**335**		**Pn**	**18 42 39.0**	**-2.1**
ILAR	**Eielson Array**	**17.92**	**335**	P	**P**	**18 42 42.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=9.9,SNR=15						
ILAR				PcP	**PcP**	**18 47 17.1**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=172,slow=1.8,SNR=2.2						
ILAR	**Eielson Array**	**17.92**	**335**	P	**Pn**	**18 42 39.3**	**-1.9**
ILAR	**Eielson Array**	**17.92**	**335**		**PcP**	**18 47 17.1**	**+0.4**
WRH	**Wood River Hil**	**18.03**	**333**	P	**Pn**	**18 42 42.4**	**-0.1**
CCB	**Clear Creek Bu**	**18.08**	**334**		**Pn**	**18 42 41.8**	**-1.3**
PRP	**Porcupine Dome**	**18.16**	**338**		**Pn**	**18 42 42.0**	**-2.3**
PRP				IAmb	IAmb	18 42 50.6	
	comp=Z,48nm,1.2s						
BWN	**Browne**	**18.23**	**331**	P	**Pn**	**18 42 42.3**	**-2.7**
KTH	**Kantishna Hill**	**18.28**	**329**	P	**Pn**	**18 42 44.3**	**-1.4**
POKR	**Poker Flat Res**	**18.33**	**336**	P	**Pn**	**18 42 44.3**	**-2.0**
W13A	**Hualapai Mount**	**18.36**	**136**	P	**Pn**	**18 42 45.0**	**-2.0**
PV10	**Paradox Valley**	**18.37**	**119**	P	**Pn**	**18 42 44.5**	**-2.6**
NEA2	**Nenana**	**18.41**	**333**	P	**Pn**	**18 42 44.6**	**-2.5**
MDM	**Murphy Dome**	**18.43**	**334**	P	**P**	**18 42 43.9**	**-3.6**
MDM				IAmb	IAmb	18 42 53.6	
	comp=Z,53nm,1.4s						
CAST	**Castle Rocks**	**18.60**	**327**	P	**P**	**18 42 45.6**	**-3.7**
PHWY	**Pilot Hill**	**18.69**	**107**	P	**P**	**18 42 46.5**	**-4.3**
PHWY				IAmb	IAmb	18 42 55.7	
	comp=Z,32nm,0.9s						
SVW2	**Sparrevohn**	**18.73**	**318**	P	**P**	**18 42 48.3**	**-2.5**
I23K	**Minto, Yukon-K**	**18.90**	**334**	P	**P**	**18 42 50.3**	**-2.2**
I23K				IAmb	IAmb	18 42 59.3	
	comp=Z,42nm,1.4s						
L19K	**White Mountain**	**18.95**	**322**	P	**P**	**18 42 50.7**	**-2.5**
L19K				IAmb	IAmb	18 43 03.3	
	comp=Z,32nm,1.2s						
INK	**Inuvik**	**19.01**	**355**	P	**Pn**	**18 42 55.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=14						
INK	**Inuvik**	**19.01**	**355**	P	**P**	**18 42 52.0**	**-1.7**
INK				IAmb	IAmb	18 42 57.9	
	comp=Z,34nm,1.1s						
INK	**Inuvik**	**19.01**	**355**	P	**Pn**	**18 42 56.0**	**+1.5**
MLY	**Manley**	**19.22**	**332**	IAmb	IAmb	18 43 03.1	
	comp=Z,66nm,1.4s						
K20K	**Telida**	**19.28**	**325**	P	**P**	**18 42 53.4**	**-3.4**
K20K				IAmb	IAmb	18 43 12.1	
	comp=Z,23nm,1.1s						
E28A	**Huff**	**19.42**	**88**	P	**P**	**18 42 55.0**	**-3.5**
TKX	**Tecate**	**19.42**	**146**	P	**P**	**18 42 58.1**	**-0.5**
ISCO	**Idaho Springs**	**19.47**	**111**		**P**	**18 42 56.4**	**-3.0**
MVCO	**Mesa Verde**	**19.49**	**121**	P	**P**	**18 42 56.7**	**-2.8**
MVCO				IAmb	IAmb	18 43 12.3	
	comp=Z,25nm,0.8s						
BMAR	**Burnt Mountain**	**19.57**	**343**		**P**	**18 42 55.9**	**-4.1**
I21K	**Tanana**	**19.71**	**331**	P	**P**	**18 42 58.7**	**-2.7**
I21K				IAmb	IAmb	18 43 06.4	
	comp=Z,38nm,1.1s						
MDND	**Maddock**	**19.75**	**83**		**P**	**18 42 58.4**	**-3.6**
KUKN	**Kugluktuk,NWT**	**19.78**	**16**	P	**Pn**	**18 43 04.8**	**+1.1**
J20K	**Nowinta River**	**19.79**	**327**	P	**P**	**18 42 57.9**	**-4.4**
J20K				IAmb	IAmb	18 43 09.5	
	comp=Z,30nm,1.2s						
TTA	**Tatalina**	**19.79**	**323**	P	**P**	**18 42 58.3**	**-4.2**
TTA				IAmb	IAmb	18 43 09.8	
	comp=Z,48nm,1.5s						
C36M	**Paulatuk**	**20.12**	**6**	P	Pn	18 43 09.1	+1.3
COLD	**Coldfoot**	**20.68**	**337**	P	**P**	**18 43 07.5**	**-4.5**
COLD				IAmb	IAmb	18 43 18.4	
	comp=Z,42nm,1.4s						
X18A	**Snowflake**	**20.73**	**129**	P	**P**	**18 43 12.5**	**-0.5**
IMAR	**Indian Mountai**	**20.79**	**332**	P	**P**	**18 43 11.3**	**-1.9**
SDCO	**Great Sand Dun**	**20.85**	**115**	P	**P**	**18 43 12.1**	**-2.2**
SDCO				IAmb	IAmb	18 43 24.7	
	comp=Z,35nm,1.6s						
ULM	**Lac du Bonnet**	**21.59**	**75**	P	**P**	**18 43 24.5**	**+2.7**
	comp=Z,105nm,1.0s,baz=280,slow=11,SNR=18						
ULM	**Lac du Bonnet**	**21.59**	**75**	P	**P**	**18 43 24.8**	**+2.9**
D32A	**Dogwood Acres,**	**21.64**	**84**	P	**P**	**18 43 19.7**	**-2.7**
D32A				IAmb	IAmb	18 43 28.8	
	comp=Z,66nm,1.1s						
KSCO	**Kaye Shedlock'**	**21.78**	**108**	P	**P**	**18 43 21.6**	**-2.6**
T25A	**Trinidad**	**21.90**	**115**	P	**P**	**18 43 22.9**	**-2.7**
T25A				IAmb	IAmb	18 43 38.7	
	comp=Z,46nm,1.5s						
AGMN	**Agassiz Nation**	**22.04**	**80**	P	**P**	**18 43 23.8**	**-3.0**
AGMN				IAmb	IAmb	18 43 41.7	
	comp=Z,34nm,0.8s						
TUC	**Tucson**	**22.11**	**134**	P	**P**	**18 43 26.2**	**-1.6**
TUC				IAmb	IAmb	18 43 41.7	
	comp=Z,17nm,1.2s						
ANMO	**Albuquerque**	**22.27**	**122**	P	**P**	**18 43 33.2**	**+3.7**
	comp=Z,5.8nm,0.8s,baz=326,slow=11,SNR=5.1						
ANMO	**Albuquerque**	**22.27**	**122**	P	**P**	**18 43 28.1**	**-1.4**
F33A	**5 Mile Ranch,**	**22.55**	**87**	P	**P**	**18 43 29.3**	**-2.9**
LENM	**Lemitar**	**22.57**	**124**	P	**P**	**18 43 30.4**	**-2.3**
A36M	**Sachs Harbour**	**22.69**	**3**	P	**P**	**18 43 36.6**	**+3.1**
BNM	**Barren Site**	**22.77**	**124**	P	**P**	**18 43 32.5**	**-2.3**
EPLO	**Experimental L**	**23.06**	**76**	P	**P**	**18 43 40.0**	**+2.4**
BGNE	**Belgrade**	**23.28**	**98**	P	**P**	**18 43 36.4**	**-3.5**
B35A	**Bob, Littlefor**	**23.40**	**79**	P	**P**	**18 43 37.3**	**-3.7**
121A	**Cookes Peak, D**	**23.41**	**128**	P	**P**	**18 43 40.3**	**-1.1**
319A	**Douglas**	**23.60**	**132**		**P**	**18 43 42.2**	**-1.0**
319A				IAmb	IAmb	18 43 58.0	
	comp=Z,18nm,1.1s						
SOLO	**Sioux Lookout**	**24.02**	**74**	P	**P**	**18 43 47.8**	**+0.7**
ATKO	**Atikokan Iron**	**24.62**	**77**	P	**P**	**18 43 57.8**	**+5.1**
PKLO	**Pickle Lake**	**24.79**	**70**	P	**P**	**18 43 54.4**	**+0.4**
SPMN	**Marine on St.**	**25.05**	**86**	P	**P**	**18 43 53.1**	**-3.3**
AMTX	**Amarillo**	**25.05**	**115**	P	**P**	**18 43 54.8**	**-1.9**
AMTX				IAmb	IAmb	18 44 06.2	
	comp=Z,17nm,0.8s						
N35A	**Tabor**	**25.19**	**97**	P	**P**	**18 43 55.5**	**-2.3**
MNTX	**Cornudas Mount**	**25.32**	**126**	P	**P**	**18 43 57.8**	**-1.2**
MNTX				IAmb	IAmb	18 44 20.3	
	comp=Z,16nm,1.4s						
E38A	**The Farm, Brul**	**25.35**	**82**	P	**P**	**18 43 56.1**	**-3.0**
E38A				IAmb	IAmb	18 44 36.2	
	comp=Z,29nm,1.0s						
KSU1	**Kansas State U**	**25.52**	**101**		**P**	**18 44 00.4**	**-0.4**
KSU1				IAmb	IAmb	18 44 15.8	
	comp=Z,20nm,0.7s						
TBO	**Thunder Bay**	**26.07**	**76**	P	**P**	**18 44 08.1**	**+2.4**
T35A	**Sooner Cattle**	**26.88**	**105**	P	**P**	**18 44 12.0**	**-1.2**
T35A				IAmb	IAmb	18 44 16.3	
	comp=Z,16nm,0.8s						
I40A	**Norwalk**	**27.02**	**87**	P	**P**	**18 44 12.4**	**-1.9**
I40A				IAmb	IAmb	18 44 23.0	
	comp=Z,23nm,0.8s						
COWI	**Conover**	**27.09**	**82**	P	**P**	**18 44 13.3**	**-1.6**
COWI				IAmb	IAmb	18 44 20.4	
	comp=Z,16nm,0.7s						
D41A	**Chassel**	**27.11**	**79**	P	**P**	**18 44 12.7**	**-2.4**
P38A	**Dawn**	**27.21**	**97**	P	**P**	**18 44 13.5**	**-2.6**
OKCFA	**Oklahoma City**	**27.25**	**109**	P	**P**	**18 44 14.7**	**-1.8**
GTO	**Geraldton**	**27.30**	**73**	P	**P**	**18 44 18.8**	**+2.1**
TXAR	**Lajitas Array**	**28.09**	**126**	P	**P**	**18 44 26.6**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=353,slow=9.4,SNR=3.6						
TXAR	**Lajitas Array**	**28.09**	**126**	P	**P**	**18 44 26.6**	**+2.5**
S39A	**Bolivar**	**28.45**	**101**	P	**P**	**18 44 25.5**	**-1.6**
RES	**Resolute Bay**	**29.16**	**18**	P	**P**	**18 44 33.7**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=219,slow=12,SNR=3.7						
RES	**Resolute Bay**	**29.16**	**18**	IAmb	IAmb	18 44 41.3	
	comp=Z,6.2nm,1.0s						
MGMO	**Mountain Grove**	**29.44**	**101**	P	**P**	**18 44 34.3**	**-1.6**
MGMO				IAmb	IAmb	18 44 38.9	
	comp=Z,15nm,0.8s						
U40A	**Yellville**	**29.55**	**102**	P	**P**	**18 44 34.6**	**-2.3**
U40A				IAmb	IAmb	18 44 52.2	
	comp=Z,17nm,1.1s						
E46A	**Sault Ste Mari**	**30.09**	**78**	P	**P**	**18 44 38.9**	**-2.8**
MIAR	**Mount Ida**	**30.23**	**106**	P	**P**	**18 44 41.2**	**-1.7**
MIAR				IAmb	IAmb	18 44 58.8	
	comp=Z,16nm,1.1s						
S44A	**Carbondale**	**31.07**	**97**	IAmb	IAmb	18 45 07.8	
	comp=Z,15nm,0.8s						
L48A	**N Adams**	**31.95**	**86**	P	**P**	**18 44 56.0**	**-2.1**
WVT	**Waverly**	**32.91**	**98**	P	**P**	**18 45 04.4**	**-2.1**
WVT				IAmb	IAmb	18 45 23.5	
	comp=Z,14nm,1.2s						
R50A	**Paris**	**33.94**	**92**	P	**P**	**18 45 13.6**	**-1.9**
LG4Q	**La Grande 4**	**33.96**	**61**	P	**P**	**18 45 17.0**	**+1.6**
FPAL	**Fort Paine**	**35.31**	**98**	IAmb	IAmb	18 45 35.9	
	comp=Z,20nm,1.0s						
TZTN	**Tazewell**	**35.44**	**94**	P	**P**	**18 45 26.9**	**-1.6**
X51A	**Calhoun**	**35.79**	**98**	IAmb	IAmb	18 45 33.5	
	comp=Z,15nm,0.8s						
V52A	**Sevierville**	**35.83**	**95**	P	**P**	**18 45 30.6**	**-1.2**
250A	**Grady**	**36.53**	**102**	P	**P**	**18 45 36.7**	**-1.1**
Y52A	**Lilburn**	**36.74**	**98**	IAmb	IAmb	18 45 46.0	
	comp=Z,31nm,1.4s						
152A	**Waverly Hall**	**37.08**	**100**	P	**P**	**18 45 40.8**	**-1.6**
152A				IAmb	IAmb	18 45 48.9	
	comp=Z,18nm,1.0s						
GOGA	**Godfrey**	**37.41**	**98**	P	**P**	**18 45 45.3**	**0.0**
GOGA				IAmb	IAmb	18 45 51.8	
	comp=Z,15nm,1.1s						
SEY	**Seymchan**	**42.67**	**319**	P	**P**	**18 46 29.3**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=76,slow=8.3,SNR=7.0						
PETK	**Petropavlovsk-**	**43.88**	**304**	P	**P**	**18 46 40.5**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=60,slow=8.8,SNR=4.3						
MA2	**Magadan**	**44.65**	**315**	P	P	18 46 49.5	+4.9
	comp=Z,1.4nm,0.7s,baz=23,slow=7.4,SNR=4.3						
TIXI	**Tiksi**	**47.39**	**335**	P	**P**	**18 47 10.3**	**+4.3**
	comp=Z,1.7nm,0.6s,baz=272,slow=22,SNR=5.3						
TIXI	**Tiksi**	**47.39**	**335**	P	**P**	**18 47 04.5**	**-1.4**
TIXI				IAmb	IAmb	18 47 39.0	
	comp=Z,7.4nm,1.4s						
YAK	**Yakutsk**	**52.38**	**324**	LR	LR	19 09 11.1	
	comp=Z,88nm,20.0s,baz=82,slow=35						
H11N2	**WAKE ISLAND Hy**	**58.17**	**263**	T	T	19 51 13.2	
	baz=43						
H11N3	**WAKE ISLAND Hy**	**58.17**	**263**	T	T	19 51 15.0	
	baz=43						
H11N1	**WAKE ISLAND Hy**	**58.18**	**263**	T	T	19 51 15.8	
	baz=43						
H11S1	**WAKE ISLAND Hy**	**59.18**	**263**	T	T	19 52 33.9	
	baz=34						
H11S2	**WAKE ISLAND Hy**	**59.19**	**263**	T	T	19 52 35.0	
	baz=34						
H11S3	**WAKE ISLAND Hy**	**59.20**	**263**	T	T	19 52 35.2	
	baz=34						
MJAR	**Matsushiro Arr**	**64.65**	**297**	P	**P**	**18 49 11.5**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=31,slow=4.5,SNR=2.3						
NB2	**NORSAR Subarra**	**65.41**	**20**	P	P	18 49 22.3	+7.7
	comp=Z,8.3nm,1.2s,baz=333,slow=6.9						
NOA	**NORSAR Array B**	**65.41**	**20**	P	**P**	**18 49 17.6**	**+3.1**
	comp=Z,0.8nm,1.0s,baz=331,slow=6.6,SNR=3.0						
JHJ	**Hachijo jima 2**	**66.10**	**293**	P	**P**	**18 49 21.8**	**+2.3**
	comp=Z,183nm,1.0s,baz=67,slow=13,SNR=2.5						
FINES	**FINESS Array B**	**67.72**	**12**	P	**P**	**18 49 30.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=322,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**71.74**	**324**	P	**P**	**18 49 54.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=42,slow=5.0,SNR=3.3						
SONM	**Songino Array**	**71.74**	**324**	P	**P**	**18 49 54.8**	**+0.4**
SONM	**Songino Array**	**71.74**	**324**	IAmb	IAmb	18 50 13.0	
	comp=Z,6.3nm,1.6s						
ZALV	**Zalesovo Beam**	**72.99**	**340**	P	**P**	**18 50 04.5**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=3.8,slow=4.3,SNR=5.9						
GERES	**GERESS Array B**	**77.07**	**24**	P	**P**	**18 50 28.5**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=1.3,slow=8.9,SNR=2.0						
NJ2	**Nanjing**	**78.72**	**306**	*e*P	**P**	**18 50 32.7**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ESDC	**Sonseca Array**	**79.09**	**40**	P	**P**	**18 50 37.9**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=316,slow=4.2,SNR=1.3						
ESDC	**Sonseca Array**	**79.09**	**40**	P	**P**	**18 50 38.0**	**+1.2**
ESDC	**Sonseca Array**	**79.09**	**40**	IAmb	IAmb	18 50 38.6	
	comp=Z,3.7nm,1.3s						
MK31	**Makanchi Array**	**80.24**	**338**	P	**P**	**18 50 41.6**	**-1.3**
MKAR	**Makanchi Array**	**80.24**	**338**	P	**P**	**18 50 42.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=25,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**80.24**	**338**	P	**P**	**18 50 42.7**	**-0.2**
MAKZ	**Makanchi**	**80.31**	**339**	P	**P**	**18 50 40.5**	**-2.7**
MAKZ				IAmb	IAmb	18 50 55.4	
	comp=Z,3.2nm,0.8s						
ABKAR	**Akbulak array**	**81.33**	**354**	P	**P**	**18 50 47.8**	**-0.8**
WMQ	**Urumqi**	**81.57**	**334**	*e*P	**P**	**18 50 50.5**	**+0.4**
KBZ	**Khabaz**	**86.96**	**6**	P	**P**	**18 51 18.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=15,slow=9.3,SNR=3.8						
CHGR	**Chuyangaron**	**90.73**	**346**	P	**P**	**18 51 33.5**	**-1.8**
PZH	**PanZhiHua**	**91.71**	**316**	P	**P**	**18 51 38.9**	**-1.3**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
BOSA	**Boshof**	**151.63**	**52**	PKPbc	**PKiKP**	**18 58 29.5**	**+2.3**
	comp=Z,2.2nm,0.8s,baz=294,slow=2.1,SNR=4.1						

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*BJI **05** 18:45:28.9±0.0, 33°.29S×178°.29W, h12km, mb5.1/21, mB5.8/21, Ms5.0/18, Ms7 4.7/19*

*WEL **05** 18:45:28.9±0.7, 33°S±6°×17°8W±1°3, h123km±15km, M4.8/55, mB5.3/55, ML6.2/13, MLv5.8/48, Mw(mB)4.7/55, Error ellipse: s-maj=0.0km s-min=0.0km az=110.6*

*NOU **05** 18:45:29.1, 33°.63S×177°.17W, h62km, mb5.2/19, South of Kermadec Islands*

*MOS **05** 18:45:29.4±1.2, 32°.98S×178°.22W, h10km, mb5.5/12, MS4.9/7, Error ellipse: s-maj=10.7km s-min=9.0km az=106.1*

*IDC **05** 18:45:29.0±0.3, 33°.08S×178°.21W, h0km, mb4.9/29, mb1 5.0/33, mb1mx4.8/47, mbtmp4.9/33, ML5.2/4, MS4.7/42, Ms1 4.7/42, ms1mx4.6/59, Error ellipse: s-maj=13.2km s-min=10.9km az=14.0*

*NEIC **05** 18:45:30.1±2.3, 32°.96S±0°.07×178°.2W±0°.1, h10km±1km, mb5.5/160, Ms_20 5.0/47, Error ellipse: s-maj=15.0km s-min=11.0km az=104.0*

*GCMT **05** 18:45:34.1±0.3, 32°.85S±0°.02×178°.18W±0°.02, h17km, MW5.3/66, Moment Tensor Solution. s50,c65; s66,c78; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.13±.19; $M_{\theta\theta}$-0.92±.16; $M_{\phi\phi}$2.06±.11; $M_{r\theta}$3.84±.42; $M_{\theta\phi}$-0.33±.11; $M_{\phi r}$8.69±.31; Best double couple: $M_0$9.67100×10^{16} NP1:ϕ_s319.00000°, δ9.00000°, λ-155.00000°. NP2:ϕ_s204.00000°, δ86.00000°, λ-82.00000°. Principal axes: T 9.7790, Plg41.0000°, Azm286.0000°; N -0.2100, Plg8.0000°, Azm23.0000°; P -9.5620, Plg48.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 18:45:29.8±0.5**, 33°.07S**±0°.03×**178°.10W**±0°.04**, h10**km±2km**, h10**km**:pP-P, n688,** σ**2s.15**/626**, mb5.4**/132**, MS4.9**/77**,**
32C-17D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.80**	**2**	P	**Pn**	**18 46 25.2**	**-3.2**
GLKZ				S	**Sn**	**18 47 07.8**	**-5.4**
GLKZ	**Green Lake**	**3.80**	**2**	P	**Pn**	**18 46 26.3**	**-2.1**
GLKZ				S	**Sn**	**18 47 08.9**	**-4.3**
RAO	**Raoul Island**	**3.81**	**2**	Pn	**Pn**	**18 46 28.1**	**-0.4**
	108nm,0.3s,baz=156,slow=19,SNR=4.1						
RAO				Sn	**Sn**	**18 47 09.6**	**-3.9**
	386nm,0.3s,baz=92,slow=22,SNR=7.9						
RAO	**Raoul Island**	**3.81**	**2**	Pn	Pn	18 46 23.4	-5.1
RAO				Sn	**Sn**	**18 47 09.2**	**-4.2**
RIZ	**Raoul Island**	**3.82**	**2**	S	**Sn**	**18 47 09.1**	**-4.4**
RIZ	**Raoul Island**	**3.82**	**2**	P	Pn	18 46 23.0	-5.6
RIZ				S	**Sn**	**18 47 08.9**	**-4.7**
MXZ	**Matakaoa Point**	**5.36**	**212**	Pn	**Pn**	**18 46 47.6**	**-2.1**
MXZ	**Matakaoa Point**	**5.36**	**212**	P	**Pn**	**18 46 49.1**	**-0.6**
MXZ				S	**Sn**	**18 47 50.3**	**-1.2**
MXZ	**Matakaoa Point**	**5.36**	**212**	P	**Pn**	**18 46 48.4**	**-1.4**
MXZ				S	**Sn**	**18 47 49.0**	**-2.5**
PKGZ	**Pakihiroa**	**5.73**	**212**	P	**Pn**	**18 46 54.3**	**-0.6**
PKGZ				S	**Sn**	**18 47 59.4**	**-1.3**
PKGZ	**Pakihiroa**	**5.73**	**212**	P	**Pn**	**18 46 54.1**	**-0.8**
PKGZ				S	**Sn**	**18 47 58.8**	**-1.9**
HAZ	**Te Kaha**	**5.76**	**215**	P	**Pn**	**18 46 56.2**	**+1.0**
HAZ				S	**Sn**	**18 48 02.3**	**+1.0**
PUZ	**Puketiti**	**5.80**	**210**	P	**Pn**	**18 46 54.1**	**-1.9**
PUZ				S	**Sn**	**18 48 01.5**	**-1.1**
RUGZ	**Raukumara Rang**	**5.97**	**214**	P	**Pn**	**18 46 57.5**	**-0.8**
RUGZ				S	**Sn**	**18 48 05.0**	**-1.9**
TWGZ	**Tauwhareparae**	**6.01**	**211**	P	**Pn**	**18 46 58.0**	**-0.8**
TWGZ				S	**Sn**	**18 48 05.9**	**-1.8**
CNGZ	**Carnagh Statio**	**6.18**	**208**	P	**Pn**	**18 46 60.0**	**-1.1**
CNGZ				S	**Sn**	**18 48 11.1**	**-0.7**
WHRZ	**Whale Island**	**6.24**	**219**	P	**Pn**	**18 47 04.2**	**+2.3**
WHRZ				S	**Sn**	**18 48 12.1**	**-1.1**
TKGZ	**Te Karaka**	**6.29**	**210**	P	**Pn**	**18 47 02.2**	**-0.3**
TKGZ				S	**Sn**	**18 48 11.2**	**-3.2**
MWZ	**Matawai**	**6.34**	**213**	P	**Pn**	**18 47 01.8**	**-1.5**
MWZ				S	**Sn**	**18 48 14.3**	**-1.6**
OPRZ	**Ohinepanea**	**6.46**	**221**	P	**Pn**	**18 47 05.6**	**+0.7**
URZ	**Urewera**	**6.48**	**216**	Pn	**Pn**	**18 47 03.2**	**-1.9**
	65nm,0.3s,baz=351,slow=3.3,SNR=142						
URZ				Sn	**Sn**	**18 48 15.8**	**-3.3**
	124nm,0.3s,baz=144,slow=19,SNR=16						
URZ	**Urewera**	**6.48**	**216**	Pn	**Pn**	**18 47 03.9**	**-1.2**
URZ	**Urewera**	**6.48**	**216**	P	**Pn**	**18 47 04.1**	**-1.1**
URZ				S	**Sn**	**18 48 16.1**	**-3.0**
URZ	**Urewera**	**6.48**	**216**	P	**Pn**	**18 47 03.9**	**-1.2**

MARZ	Manawahe	6.49	219	P	Pn	18 47 07.7	+2.3
MARZ				S	Sn	18 48 19.3	-0.3
RAGZ	Rawiri	6.52	213	P	Pn	18 47 05.0	-0.9
RAGZ				S	Sn	18 48 17.9	-2.5
RIGZ	Rimuhau	6.55	210	P	Pn	18 47 04.6	-1.6
RIGZ				S	Sn	18 48 18.4	-2.5
EDRZ	Edgecumbe	6.55	218	P	Pn	18 47 07.9	+1.6
EDRZ				S	Sn	18 48 21.5	+0.5
PRGZ	Paritu Road	6.68	208	P	Pn	18 47 05.9	-2.1
PRGZ				S	Sn	18 48 21.9	-2.4
OMRZ	Omania	6.74	220	P	Pn	18 47 11.3	+2.4
KARZ	Kaharoa	6.75	221	P	Pn	18 47 08.2	-0.8
TARZ	Mount Tarawera	6.77	219	P	Pn	18 47 11.5	+2.3
SNGZ	Shannon Statio	6.79	212	P	Pn	18 47 08.4	-1.2
SNGZ				S	Sn	18 48 24.8	-2.2
MUGZ	Murupara	6.81	216	P	Pn	18 47 09.1	-0.7
RRRZ	Republican Roa	6.84	218	P	Pn	18 47 11.7	+1.5
KNZ	Kokohu	6.85	209	P	Pn	18 47 07.7	-2.6
KNZ				S	Sn	18 48 22.9	-5.4
UTU	Utuhina	6.89	221	P	Pn	18 47 14.1	+3.2
HSRZ	Hossack Road	6.96	220	P	Pn	18 47 16.0	+4.1
HRRZ	Handcock Road	7.00	219	P	Pn	18 47 15.1	+2.7
RAHZ	Arahi	7.01	212	P	Pn	18 47 13.6	+1.0
PRRZ	Plateau Road	7.02	218	P	Pn	18 47 13.8	+1.1
GRRZ	Galatos Road	7.06	220	P	Pn	18 47 17.5	+4.2
MTHZ	Maungataniwha	7.08	214	P	Pn	18 47 12.3	-1.1
WHHZ	Waihua	7.08	211	P	Pn	18 47 14.9	+1.5
ALRZ	Allen Road	7.10	218	P	Pn	18 47 15.0	+1.3
OUZ	Omahuta	7.21	250	P	Pn	18 47 18.8	+3.6
NMHZ	Naumai	7.29	213	P	Pn	18 47 16.5	+0.1
ARHZ	Aropaoanui	7.34	211	P	Pn	18 47 15.4	-1.6
BKZ	Black Stump Fm	7.49	214	Pn	Pn	18 47 17.2	-2.0
BKZ	Black Stump Fm	7.49	214	P	Pn	18 47 17.8	-1.4
BKZ	Black Stump Fm	7.49	214	P	Pn	18 47 17.4	-1.7
WATZ	Wairara	7.53	220	P	Pn	18 47 20.3	+0.7
MCHZ	McNeill Hill	7.62	212	P	Pn	18 47 19.3	-1.6
RATZ	Rangitukua	7.62	219	P	Pn	18 47 21.3	+0.3
CKHZ	Cape Kidnapper	7.63	209	P	Pn	18 47 18.0	-3.0
RITZ	Rihia Road	7.66	218	P	Pn	18 47 22.0	+0.6
KWHZ	Kaweka Forest	7.73	213	P	Pn	18 47 22.5	+0.1
KAHZ	Kahuranaki	7.83	210	P	Pn	18 47 20.3	-3.5
TMVZ	Te Maari	7.84	218	P	Pn	18 47 23.3	-0.7
NTVZ	North Tongarir	7.84	218	P	Pn	18 47 23.4	-0.6
ETVZ	East Tongariro	7.85	218	P	Pn	18 47 23.5	-0.7
HIZ	Hauiti	7.88	225		Pn	18 47 24.8	+0.3
HIZ	Hauiti	7.88	225	P	Pn	18 47 26.4	+1.9
HIZ	Hauiti	7.88	225	P	Pn	18 47 25.4	+0.9
OTVZ	Oturere	7.90	218	P	Pn	18 47 24.9	+0.1
NNVZ	North Ngauruho	7.90	218	P	Pn	18 47 25.5	+0.6
WTVZ	West Tongariro	7.90	218	P	Pn	18 47 25.4	+0.6
SNVZ	South Ngauruho	7.93	218	P	Pn	18 47 26.2	+1.0
KRHZ	Kereru	7.93	213	P	Pn	18 47 23.7	-1.5
NGZ	Ngauruhoe	7.94	218	P	Pn	18 47 25.5	+0.1
TWVZ	Taurewa	7.95	219	P	Pn	18 47 25.7	+0.3
BHHZ	Black Hill Sta	7.95	215	P	Pn	18 47 24.5	-1.0
TUVZ	Tukino	7.98	217	P	Pn	18 47 25.8	-0.1
FWVZ	Far West T-bar	8.02	218	P	Pn	18 47 27.3	+0.7
WHVZ	Whangaehu Hut	8.03	218	P	Pn	18 47 27.0	+0.4
MOVZ	Moawhango	8.04	216	P	Pn	18 47 25.5	-1.2
PXZ	Pawanui	8.04	209	P	Pn	18 47 23.9	-2.7
WNVZ	Wahianoa	8.05	217	P	Pn	18 47 26.0	-1.0
TRVZ	Turoa	8.06	218	P	Pn	18 47 27.4	+0.3
PKVZ	Pokaka	8.15	219	P	Pn	18 47 29.5	+1.2
PNHZ	Pukenui	8.22	212	P	Pn	18 47 26.0	-3.2
WPHZ	Waipukurau	8.24	211	P	Pn	18 47 26.0	-3.4
VRZ	Vera Road	8.36	222	P	Pn	18 47 32.1	+1.2
DVHZ	Dannevirke	8.55	211	P	Pn	18 47 31.2	-2.5
ANWZ	Angora Road	8.56	209	P	Pn	18 47 33.0	-0.7
WAZ	Wanganui	8.69	218	P	Pn	18 47 36.2	+0.7
POWZ	Post Office Ro	8.80	212	P	Sn	18 49 10.9	-5.5
NEZ	North Egmont	8.83	223	P	Pn	18 47 43.6	+6.0
BFZ	Birch Farm	8.84	209		Pn	18 47 33.1	-4.5
BFZ	Birch Farm	8.84	209	P	Pn	18 47 33.5	-4.0
BFZ	Birch Farm	8.84	209	P	Pn	18 47 33.7	-3.9
BFZ				P	Sn	18 49 11.2	-6.1
BFZ	Birch Farm	8.84	209	P	Pn	18 47 33.0	-4.6
PRWZ	Pori Road	8.85	211	P	Pn	18 47 34.6	-3.1
PRWZ	Pori Road	8.85	211	P	Pn	18 47 35.3	-2.4
PRWZ				S	Sn	18 49 11.2	-6.3
KHEZ	Kahui Hut	8.89	223	P	Pn	18 47 42.9	+4.5
CPWZ	Castlepoint	9.05	209	S	Sn	18 49 15.0	-7.4
TIWZ	Tintock	9.07	210	P	Pn	18 47 34.5	-6.3
TIWZ				S	Sn	18 49 16.1	-6.9
MRZ	Mangatainoka R	9.11	212	P	Pn	18 47 38.0	-3.2
MRZ	Mangatainoka R	9.11	212	P	Pn	18 47 37.7	-3.6
MRZ				S	Sn	18 49 15.1	-8.7
HOWZ	Holdsworth Sta	9.33	211	P	Pn	18 47 41.1	-3.2
HOWZ	Holdsworth Sta	9.33	211	P	Pn	18 47 39.1	-5.2
HOWZ				S	Sn	18 49 19.9	-9.4
TMWZ	Te Maipa	9.34	209	P	Pn	18 47 39.5	-5.0
TMWZ	Te Maipa	9.34	209	P	Pn	18 47 39.3	-5.2
TMWZ				S	Sn	18 49 18.4	-11
OGWZ	Otaki Gorge	9.42	213	P	Pn	18 47 41.7	-3.8
OGWZ	Otaki Gorge	9.42	213	P	Pn	18 47 41.5	-4.0
OGWZ				S	Sn	18 49 21.4	-10
MTW	Mount Morrison	9.55	210	P	Pn	18 47 43.1	-4.2
MTW	Mount Morrison	9.55	210	P	Pn	18 47 42.7	-4.6
MTW				S	Sn	18 49 26.7	-7.9
KIW	Kapiti Island	9.57	214	P	Pn	18 47 45.0	-2.6
KIW	Kapiti Island	9.57	214	P	Pn	18 47 44.2	-3.5
KIW				S	Sn	18 49 25.7	-10
TRWZ	Traveller	9.67	209	P	Pn	18 47 45.7	-3.2
CAW	Cannon Point	9.70	212	P	Pn	18 47 45.2	-4.1
PAWZ	Paruwai Farm	9.76	210	P	Pn	18 47 46.3	-4.0
MSWZ	Moikau Station	9.87	211	Pn	Pn	18 47 46.4	-5.3
MSWZ	Moikau Station	9.87	211	P	Pn	18 47 47.2	-4.5
PLWZ	Palliser	9.99	210	Pn	Pn	18 47 47.8	-5.6
PLWZ	Palliser	9.99	210	P	Pn	18 47 49.9	-3.5
DUWZ	D'Urville Isla	10.01	217	P	Pn	18 47 51.9	-1.8
SNZO	South Karori	10.02	213	Pn	Pn	18 47 48.9	-4.9
SNZO	South Karori	10.02	213	P	Pn	18 47 49.6	-4.2
BHW	Baring Head	10.03	212	Pn	Pn	18 47 48.5	-5.3
BHW	Baring Head	10.03	212	P	Pn	18 47 50.3	-3.5
TCW	Tory Channel	10.14	215	P	Pn	18 47 51.3	-4.1
TUWZ	Tuamarina	10.47	215		Pn	18 47 55.1	-4.9
TUWZ	Tuamarina	10.47	215	P	Pn	18 47 55.4	-4.5
NNZ	Nelson	10.59	217	P	Pn	18 47 57.8	-3.8
TKNZ	Takaka Hill	10.68	219	P	Pn	18 47 58.8	-4.0
BSWZ	Blackbirch Sta	10.72	214	P	Pn	18 48 00.9	-2.5
QRZ	Quartz Range	10.77	221	P	Pn	18 48 00.6	-3.4
MRNZ	Matariki Terra	11.05	219	P	Pn	18 48 02.6	-5.2
THZ	Tophouse	11.23	217	Pn	Pn	18 48 05.4	-5.0
THZ	Tophouse	11.23	217	P	Pn	18 48 07.4	-3.0
KHZ	Kahutara	11.43	213		Pn	18 48 07.5	-5.6
KHZ	Kahutara	11.43	213	P	Pn	18 48 07.9	-5.1
KHZ	Kahutara	11.43	213	P	Pn	18 48 08.9	-4.1
DSZ	Denniston Nort	11.80	220	P	Pn	18 48 16.7	-1.5
GVZ	Greta Valley S	12.09	213	P	Pn	18 48 18.4	-3.8
LTZ	Lake Taylor	12.31	215	Pn	Pn	18 48 19.5	-5.6
LTZ	Lake Taylor	12.31	215	P	Pn	18 48 20.8	-4.3
AMCZ	Amberley	12.43	213	P	Pn	18 48 25.9	-0.8
OKCZ	Okains Bay	12.68	210	P	Pn	18 48 27.1	-3.2
OXZ	Oxford	12.83	214		Pn	18 48 25.5	-6.7
MQZ	McQueen's Vall	12.85	212	P	Pn	18 48 26.9	-5.5
RPZ	Rata Peaks	13.60	215	Pn	Pn	18 48 36.1	-6.6
	1.4nm,0.3s,baz=323,slow=22,SNR=2.2						
RPZ				Sn	Sn	18 50 58.2	-16
	6.6nm,0.3s,baz=327,slow=20,SNR=14						
RPZ				LR	LR	18 54 26.6	
	comp=Z,5μm,18.2s,baz=40,slow=40						
RPZ	Rata Peaks	13.60	215		Pn	18 48 36.4	-6.2
RPZ	Rata Peaks	13.60	215	P	Pn	18 48 37.9	-4.8
ODZ	Otahua Downs	14.79	213		Pn	18 48 51.7	-7.2
ODZ	Otahua Downs	14.79	213	P	Pn	18 48 54.6	-4.4
MSVF	Nonsavu	15.66	346	Pn	Pn	18 49 09.3	-1.4
	0.7nm,0.3s,baz=153,slow=8.2,SNR=6.7						
MSVF				LR	LR	18 54 03.1	
	comp=Z,2μm,19.6s,baz=176,slow=33						
MSVF	Nonsavu	15.66	346	P	Pn	18 49 09.6	-1.1
MSVF				pmax	pmax		
	comp=Z,167nm,1.3s						
MSVF	Nonsavu	15.66	346		Pn	18 49 09.6	-1.1
MSVF	Nonsavu	15.66	346	P	P	18 49 14.7	-0.1
MLZ	Mavora Lakes	16.24	217	P	Pn	18 49 13.1	-4.9
PINNC	Pines Island,	16.47	306	P	P	18 49 22.2	-1.5
WHZ	Wether Hill Ro	16.70	216	P	Pn	18 49 17.9	-5.9
OUENC	Ouen Island, N	17.02	305		P	18 49 27.7	-2.1
OUENC	Ouen Island, N	17.02	305	P	P	18 49 34.9	+5.1
YATNC	Mamie plateau,	17.22	306	P	P	18 49 37.0	+4.9
ONTNC	Ouen Toro	17.36	304	Pn	Pn	18 49 30.3	-1.9

DZM	Mont Dzumac	17.52	305	P	Pn	18 49 31.4	-2.9
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=2.2						
DZM				LR	LR	18 55 32.2	
	comp=Z,8μm,18.1s,baz=142,slow=35						
DZM	Mont Dzumac	17.52	305	eP	P	18 49 37.0	+1.5
	comp=Z,276nm,1.1s						
DZM				eLR	LR	18 53 38.9	
	comp=Z,5μm,21.7s,baz=152						
DZM	Mont Dzumac	17.52	305	P	P	18 49 35.1	-0.4
DZM	Mont Dzumac	17.52	305	P	P	18 49 39.8	+4.3
NOUC	Port Laguerre	17.60	304	P	P	18 49 40.6	+4.4
LIFNC	LIFOU	17.88	310	P	Pn	18 49 35.3	-3.5
LIFNC				IAmb	IAmb	18 50 02.0	
	comp=Z,247nm,1.0s						
AFI	Afiamalu	19.93	18	P	P	18 50 01.0	-0.9
	comp=Z,2.7nm,0.3s,baz=257,slow=21,SNR=3.3						
AFI				S	S	18 53 31.0	-15
	comp=Z,3.6nm,0.3s,baz=160,slow=24,SNR=1.7						
AFI	Afiamalu	19.93	18	P	P	18 50 01.0	-0.9
AFI	Afiamalu	19.93	18		P	18 49 58.0	-3.9
AFI				IAmb	IAmb	18 50 28.5	
	comp=Z,190nm,1.1s						
AFI	Afiamalu	19.93	18	P	P	18 49 59.2	-2.7
KOUNC	Koumac, New Ca	20.03	304	P	Pn	18 50 06.8	+2.1
RAR	Rarotonga	20.10	59	P	P	18 50 04.4	+0.7
	comp=Z,41nm,0.5s,baz=234,slow=4.2,SNR=4.8						
RAR	Rarotonga	20.10	59	IAmb	IAmb	18 50 08.3	
	comp=Z,86nm,0.9s						
SANVU	Saraoutou	22.03	319	P	P	18 50 20.7	-3.9
MGCD	Mangrove Creek	25.74	261	P	P	18 51 01.5	+1.0
	baz=25,SNR=6.0						
ARMA	Armidale	25.83	268	P	P	18 51 03.1	+1.5
	baz=26,SNR=5.8						
CNB	Canberra Magne	26.94	256	P	P	18 51 13.5	+2.0
	baz=26,SNR=9.7						
CAN	Canberra	27.24	256	P	P	18 51 13.3	-0.8
CAN				pmax	pmax		
	comp=Z,49nm,1.4s						
CAN				MLR	MLR		
	comp=Z,5μm,18.0s						
CAN	Canberra	27.24	256	P	P	18 51 13.2	-0.8
CAN				IAMs_20	IAMs_20	19 01 32.6	
	comp=Z,5μm,18.0s						
EIDS	Eidsvold	27.90	278	P	P	18 51 22.4	+2.4
	baz=28,SNR=5.0						
TAU	Tasmania Unive	28.79	240	P	P	18 51 26.5	-1.3
TAU				pmax	pmax		
	comp=Z,177nm,1.7s						
TAU				MLR	MLR		
	comp=Z,2μm,20.0s						
TAU	Tasmania Unive	28.79	240	P	P	18 51 26.5	-1.3
TAU				IAmb	IAmb	18 51 48.2	
	comp=Z,177nm,1.6s						
MOO	Moorlands	28.82	241	P	P	18 51 25.6	-2.6
	baz=28,SNR=5.1						
RMQ	Roma	29.42	274	P	P	18 51 36.0	+2.4
	baz=29,SNR=17						
PPT2	Papeete2	29.91	66	eLR	LR	18 59 14.8	
	comp=Z,1μm,22.8s,baz=227						
TOO	Toolangi	29.92	251	P	P	18 51 39.5	+1.5
	baz=29,SNR=4.6						
PPTF	Pamatai, Papee	29.92	66	P	P	18 51 37.1	-1.0
PPT	Papeete	29.93	66	P	P	18 51 39.6	+1.5
	comp=Z,27nm,0.5s,baz=213,slow=22,SNR=3.6						
CMSA	Cobar Meteorol	30.55	263	P	P	18 51 45.6	+2.1
	baz=30,SNR=20						
KNTN	Kanton	30.73	13	P	P	18 51 44.2	-0.9
KNTN				IAmb	IAmb	18 52 23.7	
	comp=Z,112nm,1.4s						
HNR	Honiara	31.04	314	P	P	18 51 48.2	+0.2
	comp=Z,5μm,0.3s,baz=184,slow=0.0,SNR=4.9						
HNR	Honiara	31.04	314	P	P	18 51 45.3	-2.6
ARPS	Mount Arapiles	32.89	252	P	P	18 52 05.5	+1.5
	baz=32,SNR=11						
QLP	Quilpie	33.18	271	P	P	18 52 08.6	+1.9
	baz=33,SNR=12						
STKA	Stephens Creek	33.88	261	P	P	18 52 13.8	+1.0
	comp=Z,1.6nm,0.3s,baz=108,slow=8.5,SNR=9.1						
STKA				PcP	PcP	18 54 52.7	+1.3
	comp=Z,5.2nm,0.8s,baz=84,slow=7.6,SNR=3.2						
STKA				LR	LR	19 05 36.0	
	comp=Z,4μm,18.1s,baz=89,slow=36						
STKA	Stephens Creek	33.88	261	P	P	18 52 14.1	+1.3
	baz=33,SNR=5.6						
STKA	Stephens Creek	33.88	261	eP	P	18 52 10.1	-2.6
STKA	Stephens Creek	33.88	261	P	P	18 52 10.1	-2.6
CTA	Charters Tower	34.23	283	P	P	18 52 17.5	+1.6
	comp=Z,32nm,0.5s,baz=113,slow=9.7,SNR=79						
CTA				S	S	18 57 43.2	+0.5
	comp=Z,6.0nm,0.9s,baz=240,slow=17,SNR=1.9						
CTA				LR	LR	19 04 23.1	
	comp=Z,915nm,19.1s,baz=124,slow=33						
TARA	Tarawa	35.27	344	P	P	18 52 23.8	-1.1
TARA				IAmb	IAmb	18 52 38.4	
	comp=Z,88nm,1.0s						
HTT	Hallett	35.75	257	P	P	18 52 29.5	+0.5
	baz=35,SNR=11						
MTSU	Mount Surprise	36.79	284	P	P	18 52 39.6	+1.6
	baz=37,SNR=35						
BBOO	Buckleboo	38.23	257	P	P	18 52 49.7	-0.3
	baz=38,SNR=12						
QIS	Mount Isa	39.50	278	P	P	18 53 01.7	+0.9
	baz=39,SNR=14						
PMG	Port Moresby	39.73	298	P	P	18 53 03.8	+1.1
	comp=Z,9.0nm,0.7s,baz=118,slow=6.0,SNR=5.9						
PMG				LR	LR	19 07 41.4	
	comp=Z,934nm,19.0s,baz=108,slow=34						
PMG	Port Moresby	39.73	298	iP	P	18 53 01.5	-1.2
PMG				pmax	pmax		
	comp=Z,18nm,0.9s						
PMG	Port Moresby	39.73	298	P	P	18 53 01.0	-1.7
XMAS	Kiritimati	40.01	33	P	P	18 53 02.8	-2.1
XMAS				IAmb	IAmb	18 54 36.6	
	comp=Z,168nm,1.2s						
TAOE	Nuku Hiva Isla	42.49	64	eLR	LR	19 05 04.7	
	comp=Z,769nm,24.3s						
TAOE	Nuku Hiva Isla	42.49	64	P	P	18 53 25.2	-0.3
AS31	Alice Springs	42.95	270	P	P	18 53 27.8	-1.4
ASAR	Alice Springs	42.95	270	P	P	18 53 28.9	-0.2
	comp=Z,31nm,0.8s,baz=109,slow=7.2,SNR=272						
ASAR				PcP	PcP	18 55 20.6	+0.9
	comp=Z,1.7nm,0.5s,baz=103,slow=4.0,SNR=1.0						
ASAR				ScP	ScP	18 59 11.6	+0.7
	comp=Z,0.5nm,0.6s,baz=101,slow=3.7,SNR=4.1						
ASAR				S	S	18 59 49.5	-5.0
	comp=Z,2.9nm,0.7s,baz=108,slow=15,SNR=8.7						
ASAR	Alice Springs	42.95	270	P	P	18 53 27.9	-1.2
WR0	Warramunga Arr	44.00	275	P	P	18 53 36.7	-0.9
WR0				IAmb	IAmb	18 53 52.2	
	comp=Z,90nm,1.2s						
WC3	Warramunga Arr	44.14	275	P	P	18 53 38.5	-0.3
	baz=44						
WB2	Warramunga Arr	44.16	275	P	P	18 53 38.1	-0.9
WRAB	Tennant Creek	44.17	275	ceP	P	18 53 38.5	-0.5
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s						
WRAB	Tennant Creek	44.17	275	P	P	18 53 38.0	-1.0
WRAB				IAmb	IAmb	18 53 54.0	
	comp=Z,150nm,1.4s						
WRA	Warramunga Arr	44.17	275	P	P	18 53 38.6	-0.5
	comp=Z,33nm,0.4s,baz=115,slow=7.7,SNR=564						
WRA				PcP	PcP	18 55 25.3	+1.4
	comp=Z,3.6nm,0.8s,baz=117,slow=3.6,SNR=1.9						
WRA				ScP	ScP	18 59 15.3	-0.6
	comp=Z,1.7nm,0.9s,baz=122,slow=4.1,SNR=6.5						
WRA				S	S	19 00 07.9	-4.5
	comp=Z,4.2nm,0.9s,baz=116,slow=13,SNR=7.3						
WRA				LR	LR	19 12 04.8	
	comp=Z,907nm,18.1s,baz=120,slow=36						
WRA	Warramunga Arr	44.17	275	P	P	18 53 37.9	-1.2
WB0	Warramunga Arr	44.21	275	P	P	18 53 38.4	-0.9
WB0				IAmb	IAmb	18 53 53.8	
	comp=Z,115nm,1.2s						
FORT	Forrest	45.33	258	P	P	18 53 48.0	-0.2
	baz=45,SNR=9.6						
VNDA	Vanda	45.44	186	P	P	18 53 48.8	+0.5
	comp=Z,2.6nm,0.7s,baz=3.6,slow=9.5,SNR=3.9						
VNDA				LR	LR	19 10 23.2	
	comp=Z,559nm,19.1s,baz=26,slow=33						
WRKA	Warakurna	47.11	265	P	P	18 54 01.2	-1.1
	baz=47,SNR=74						
JAY	Jayapura	49.09	299	P	P	18 54 17.9	+0.3
	comp=Z,24nm,1.0s,baz=189,slow=6.6,SNR=5.5						
JAY	Jayapura	49.09	299	P	P	18 54 18.3	+0.7
	comp=Z,550nmcomp=Z,32nm,1.1s						
KDU	Kakadu	49.34	282	P	P	18 54 18.7	-0.8
	baz=49,SNR=17						

GENI	Genyem	49.43	299	P	P	18 54 20.6	+0.4
	comp=Z,84nm,1.5s						
KNRA	Kununurra	50.87	277	P	P	18 54 31.1	0.0
	baz=51,SNR=54						
FITZ	Fitzroy Crossi	52.31	272	P	P	18 54 41.1	-0.8
	comp=Z,18nm,0.9s,baz=161,slow=7.9,SNR=33						
FITZ				LR	LR	19 16 56.2	
	comp=Z,1μm,18.1s,baz=118,slow=36						
FITZ	Fitzroy Crossi	52.31	272	P	P	18 54 41.8	-0.2
	baz=52,SNR=19						
CASY	Casey	52.75	209	P	P	18 54 44.3	-0.2
CASY				IAmb	IAmb	18 55 02.7	
	comp=Z,56nm,1.0s						
SRPI	Serui, Papua	52.83	296	P	P	18 54 45.6	-0.2
	comp=Z,33nm,1.0s						
SAUI	Saumlaki	52.93	286	P	P	18 54 45.9	-0.6
KLBR	Kellerberrin	53.44	253	P	P	18 54 49.8	-0.3
	baz=53,SNR=8.1						
KMPI	Kaimana, Papua	53.62	292	P	P	18 54 52.0	+0.4
	comp=Z,3μm,0.7s						
WAKE	Wake Island	54.06	342		P	18 54 54.4	-0.2
MORW	Morawa	55.73	255	P	P	18 55 06.6	-0.1
	baz=55,SNR=5.6						
HMH	Humu'ula Sheep	56.66	26	P	P	18 55 15.1	+1.4
HPAH	Hawaii Prepara	56.98	25	P	P	18 55 16.0	+0.3
QSPA	South Pole Qui	57.05	180	P	P	18 55 17.2	+1.4
	comp=Z,36nm,1.1s,baz=53,slow=8.1,SNR=51						
QSPA				LR	LR	19 18 40.6	
	comp=Z,766nm,18.0s,baz=41,slow=35						
QSPA	South Pole Qui	57.05	180	P	P	18 55 17.3	+1.5
QSPA	South Pole Qui	57.05	180	IAMs_20	IAMs_20	19 18 38.8	
	comp=Z,966nm,18.0s						
SIJI	Sorong	57.27	293	P	P	18 55 18.1	+0.2
	comp=Z,11nm,0.6s,baz=83,slow=8.1,SNR=4.4						
SIJI				LR	LR	19 19 48.8	
	comp=Z,673nm,18.8s,baz=101,slow=36						
SWI	Sorong	57.27	293	P	P	18 55 17.2	-0.7
	comp=Z,52nm,1.3s						
MSAI	Masohi	57.57	289	P	P	18 55 20.5	+0.5
	comp=Z,86nmcomp=Z,9.7nm,0.8s						
BATI	Baumata	57.94	279	P	P	18 55 23.2	+0.6
	comp=Z,32nm,0.3s,baz=68,slow=5.4,SNR=6.2						
BATI				PKiKP	PKiKP	19 02 39.2	-0.5
	comp=Z,20nm,0.3s,baz=108,slow=2.7,SNR=13						
BATI				LR	LR	19 20 13.3	
	comp=Z,636nm,18.4s,baz=140,slow=36						
AAI	Ambon	57.94	288	P	P	18 55 20.7	-1.9
	comp=Z,747nmcomp=Z,30nm,0.8s						
MMRI	Maumere	59.97	280	P	P	18 55 34.1	-2.6
MMRI	Maumere	59.97	280	P	P	18 55 35.9	-0.8
	comp=Z,1μmcomp=Z,131nm,1.1s						
LBMI	Labuha	60.34	291	P	P	18 55 39.4	+0.1
	comp=Z,645nmcomp=Z,36nm,1.3s						
BASI	Baing, Sumba	60.50	277	P	P	18 55 40.3	-0.1
	comp=Z,759nmcomp=Z,65nm,1.4s						
SANI	Sanana	60.68	288	P	P	18 55 40.3	-1.3
	comp=Z,820nmcomp=Z,62nm,1.1s						
TNTI	Ternate	61.32	292	P	P	18 55 45.5	-0.4
TNTI				IAmb	IAmb	18 56 04.2	
	comp=Z,23nm,1.0s						
BBSI	Bau Bau	61.45	283	P	P	18 55 45.8	-1.0
	comp=Z,58nmcomp=Z,4.7nm,1.1s						
BKSI	Bulukumba	63.55	281	P	P	18 55 59.8	-1.0
	comp=Z,23nm,1.1s						
PLAI	Plampang	63.58	277	P	P	18 55 59.0	-2.0
	comp=Z,36nm,1.2s						
KAPI	Kappang	64.02	282	P	P	18 56 03.4	-0.6
	comp=Z,5.7nm,0.7s,baz=177,slow=7.8,SNR=6.8						
KAPI				LR	LR	19 24 41.0	
	comp=Z,464nm,18.3s,baz=107,slow=37						
KAPI	Kappang	64.02	282	P	P	18 56 01.5	-2.5
KAPI				IAmb	IAmb	18 56 20.5	
	comp=Z,28nm,1.2s						
BNSI	Bone	64.08	282	P	P	18 56 04.4	+0.1
	comp=Z,553nmcomp=Z,26nm,1.2s						
SRBI	Singaraja	66.11	276	P	P	18 56 17.1	-0.5
	comp=Z,42nm,1.4s						
TOLI2	Tolitoli	66.73	288	P	P	18 56 18.9	-2.6
MPSI	Mapaga	66.98	286	P	P	18 56 21.7	-1.4
	comp=Z,338nmcomp=Z,24nm,1.1s						
BELA	Belgrano 2	67.16	172	P	P	18 56 22.3	-1.0
BELA				IAmb	IAmb	18 56 37.9	
	comp=Z,26nm,1.1s						
PCJI	Pacitan	69.43	274	P	P	18 56 38.5	0.0
	comp=Z,57nm,1.1s						
PMSA	Palmer Station	69.88	155	LR	LR	19 25 15.3	
	comp=Z,314nm,18.3s,baz=227,slow=34						
MYLDM	Lahad Datu	70.99	290	P	P	18 56 46.3	-1.7
MYLDM				IAmb	IAmb	18 57 57.0	
	comp=Z,56nm,1.6s						
LEM	Lembang	73.14	273	P	P	18 57 01.1	-0.1
	comp=Z,13nm,0.8s,baz=163,slow=19,SNR=5.9						
LEM				LR	LR	19 31 21.8	
	comp=Z,681nm,18.6s,baz=140,slow=38						
USHA	Ushuaia	73.77	145	LR	LR	19 22 12.0	
	comp=Z,864nm,19.3s,baz=247,slow=30						
DSPA	Despedida	74.35	145	P	P	18 57 07.7	+0.2
SBUM	Sibu	74.44	283	P	P	18 57 07.3	-1.2
SYO	Syowa Base	74.50	193⇓	eP	P	18 57 08.4	+0.4
SYO	Syowa Base	74.50	193⇓	ipP	pP	18 57 10.8	+1.6
SYO	Syowa Base	74.50	193⇑	esP	sP	18 57 11.6	+2.0
SNAA	Sanae	75.50	178	pP	P	18 57 15.1	+1.3
SNAA	Sanae	75.50	178	P	P	18 57 13.9	0.0
	comp=Z,4.5nm,0.6s,baz=204,slow=9.6,SNR=29						
SNAA				LR	LR	19 29 46.2	
	comp=Z,541nm,18.2s,baz=194,slow=35						
SNAA	Sanae	75.50	178	eP	P	18 57 12.4	-1.4
SNAA	Sanae	75.50	178	P	P	18 57 12.4	-1.4
SNAA				IAmb	IAmb	18 57 42.1	
	comp=Z,79nm,1.6s						
VNA3	Neumayer Olymp	75.65	176	pP	P	18 57 16.2	+1.5
VNA2	Neumayer--Watz	76.08	177	pP	P	18 57 18.7	+1.5
	baz=194,slow=5.6						
NVL	N'lazarevskaya	76.21	183⇓	iP	P	18 57 31.8	+14
NVL				i PPP	PPP	19 02 06.7	
NVL				eS	S	19 07 11.3	+10
NVL				pmax	pmax		
	comp=Z,38nm,1.0s						
NVL				MLR	MLR		
	comp=N,603nm,18.0s						
NVL				MLR	MLR		
	comp=E,2μm,18.0s						
NVL				MLR	MLR		
	comp=Z,605nm,18.0s						
VNA1	Neumayer--Stat	76.32	177	pP	pP	18 57 20.4	+0.8
KLSI		76.70	273	P	P	18 57 19.5	-2.1
	comp=Z,8.2nm,1.1s						
COYC	Coyhaique	77.07	136	P	P	18 57 23.1	-0.1
COYC				IAmb	IAmb	18 57 39.5	
	comp=Z,56nm,1.0s						
MDSI	Maura Dua	77.28	273	P	P	18 57 22.5	-2.3
AY01	Puyuhuapi	77.38	135	P	P	18 57 24.9	+0.1
PMBI	Palembang	77.62	275	IAMs_20	IAMs_20	19 34 33.5	
	comp=Z,770nm,18.0s						
JOW	Kunigami	78.39	313	LR	LR	19 31 12.1	
	comp=Z,333nm,18.1s,baz=132,slow=35						
LL04	Puerto Octay	79.50	132	P	P	18 57 37.2	+0.4
LL04				IAmb	IAmb	18 57 52.5	
	comp=Z,39nm,0.9s						
INU	Inuyama	80.00	324	IAMs_20	IAMs_20	19 31 57.7	
	comp=Z,467nm,18.0s						
LR03	Panguipulli	80.27	131	P	P	18 57 42.4	+1.5
LR03				IAmb	IAmb	18 57 57.5	
	comp=Z,66nm,1.1s						
MJAR	Matsushiro Arr	80.39	326	P	P	18 57 42.1	+0.8
	comp=Z,2.1nm,0.9s,baz=120,slow=7.0,SNR=2.6						
MJAR				LR	LR	19 28 03.9	
	comp=Z,145nm,21.6s,baz=140,slow=32						
PLCA	Paso Flores	80.76	133	P	P	18 57 44.0	+0.4
	comp=Z,24nm,1.1s,baz=227,slow=6.9,SNR=21						
PLCA				LR	LR	19 26 51.7	
	comp=Z,227nm,19.2s,baz=238,slow=31						
PLCA	Paso Flores	80.76	133	eP	P	18 57 43.8	+0.2
PLCA	Paso Flores	80.76	133	P	P	18 57 43.8	+0.2
PLCA				IAmb	IAmb	18 57 47.3	
	comp=Z,68nm,1.4s						
MYKOM	Kota Tinggi	80.97	278	IAMs_20	IAMs_20	19 35 33.4	
	comp=Z,555nm,19.0s						
LC01	Cunco	80.99	131	P	P	18 57 45.1	+0.3
LC01				IAmb	IAmb	18 57 48.0	
	comp=Z,94nm,1.4s						
BKNI	Bangkinang	82.51	275	IAMs_20	IAMs_20	19 41 44.2	
	comp=Z,509nm,18.0s						
ML02	Panimavida	83.11	128	P	P	18 57 56.4	+0.4
GO05	Huala	83.21	127	P	P	18 57 56.5	-0.1
QZH	Quanzhou	83.42	305	eP	P	18 58 01.9	+4.4

QZH SKS **S** **19 08 19.1 +0.2**
QZH S **SKSac** **19 08 20.4 +0.3**
BO02 Sierra Bellavi 84.10 128 P **P** **18 58 01.6 +0.4**
BO01 Tunca 84.14 127 P **P** **18 57 60.0 -1.3**
MT01 Popeta 84.34 127 P **P** **18 58 01.8 -0.5**
MT09 Talagante 84.56 127 P **P** **18 58 04.3 +0.6**
BO04 La Punta 84.69 127 P **P** **18 58 03.1 -1.1**
BO04 IAmb IAmb 18 58 18.9
comp=Z,70nm,1.7s
ASAJ Asahikawa 84.77 333 LR LR 19 30 20.5
comp=Z,453nm,20.6s,baz=180,slow=32
IPM Ipoh 84.80 279 IAMs_20 IAMs_20 19 42 23.8
comp=Z,663nm,18.0s
ROC1 El Roble 85.02 126 P **P** **18 58 05.9 -0.2**
ROC1 IAmb IAmb 18 58 25.9
comp=Z,44nm,1.1s
LMEL Las Melosas 85.05 127 P **P** **18 58 05.3 -0.9**
LMEL IAmb IAmb 18 58 21.5
comp=Z,55nm,1.2s
MT03 Universidad Ad 85.05 127 P **P** **18 58 05.5 -0.6**
VA06 Catapilco 85.07 126 P **P** **18 58 06.8 +0.8**
PEL Peldehue 85.14 127 P **P** **18 58 06.5 0.0**
PEL pmax pmax
comp=Z,176nm,1.5s
PEL Peldehue 85.14 127 P **P** **18 58 06.5 0.0**
VA03 San Esteban 85.46 126 P **P** **18 58 08.8 +0.6**
VA03 IAmb IAmb 18 58 23.5
comp=Z,57nm,1.2s
KULM Kulim 85.56 279 IAMs_20 IAMs_20 19 43 45.9
comp=Z,522nm,19.0s
RPSI Rantau Prapat 85.57 276 IAMs_20 IAMs_20 19 36 57.3
comp=Z,528nm,20.0s
PSI Prapat 85.63 276 P **P** **18 58 07.9 -1.3**
comp=Z,1.2nm,0.4s,baz=114,slow=10.0,SNR=1.9
PSI LR LR 19 36 48.5
comp=Z,550nm,20.7s,baz=135,slow=36
SHEM Shemya Is, Ala 85.71 355 LR LR 19 30 35.8
comp=Z,496nm,19.3s,baz=117,slow=32
GSI Gunungsitoli 85.94 274 P **P** **18 58 08.1 -2.5**
GSI IAmb IAmb 18 58 28.1
comp=Z,33nm,1.1s
LPIG La Paz 86.02 58 LR LR 19 31 05.3
comp=Z,525nm,18.1s,baz=218,slow=32
SLBS Sierra La Lagu 86.02 59 P **P** **18 58 11.3 +0.5**
SLBS IAmb IAmb 18 58 14.8
comp=Z,47nm,1.4s
QIZ Qiongzhong 86.06 296 P **P** **18 58 11.6 +0.6**
QIZ S **S** **19 08 45.4 -0.1**
QIZ SS **SS** **19 14 25.1 +0.8**
QIZ pmax pmax
comp=Z,210nm,6.5s
QIZ LR LR
comp=Z,160nm,11.2s
QIZ LR LR
comp=Z,130nm,14.3s
QIZ LR LR
comp=Z,160nm,19.4s
KSRS Korea Array 86.32 320 P **P** **18 58 12.7 +0.9**
comp=Z,2.5nm,0.7s,baz=138,slow=5.0,SNR=11
KSRS LR LR 19 35 06.5
comp=Z,260nm,18.9s,baz=95,slow=34
KSAR Wonju Array Be 86.33 320 P **P** **18 58 10.0 -1.9**
KSAR Wonju Array Be 86.33 320 P **P** **18 58 10.0 -1.9**
YSS Yuzh-Sakhalins 87.11 334 *e*P **P** **18 58 17.5 +2.1**
YSS e 19 08 37.3
YSS *e*S **S** **19 08 59.0 +4.5**
YSS *e*PS **PnS** **19 09 54.0 -0.8**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=N,300nm,16.0s
YSS Yuzh-Sakhalins 87.11 334 P **P** **18 58 14.3 -1.1**
YSS IAMs_20 IAMs_20 19 35 50.7
comp=Z,513nm,20.0s
SMMC Simmler 87.12 44 P **P** **18 58 19.1 +3.2**
baz=226
PAGB Antelope Grade 87.26 44 P **P** **18 58 16.3 -0.2**
PMPB Monarch Peak 87.29 43 P **P** **18 58 17.3 +0.6**
PASC Pasadena Art C 87.40 46 IAmb IAmb 18 58 20.7
comp=Z,23nm,1.0s
ELS Elsinore Mount 87.51 47 P **P** **18 58 17.8 0.0**
ELS IAmb IAmb 18 58 21.6
comp=Z,30nm,1.2s
LCO Las Campanas 87.59 123 P **P** **18 58 20.6 +1.8**
LCO pmax pmax
comp=Z,49nm,1.3s
LCO Las Campanas 87.59 123 P **P** **18 58 20.6 +1.8**
MURC Murrieta 87.62 47 P **P** **18 58 21.3 +3.0**
baz=227,SNR=8.6
MONP2 Monument Peak 87.62 48 P **P** **18 58 21.3 +2.8**
baz=228,SNR=5.9
IKP In-Ko-Pah, Jac 87.65 48 P **P** **18 58 21.3 +2.7**
baz=228,SNR=5.5
ARVC Arvin 87.67 45 P **P** **18 58 21.6 +3.1**
baz=226
YUH Yuha Desert 87.77 48 IAmb IAmb 18 58 22.9
comp=Z,31nm,1.3s
NJ2 Nanjing 87.91 311 *e*P **P** **18 58 21.5 +1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
EDW2 Edwards Air Fo 88.00 45 P **P** **18 58 22.7 +2.5**
baz=227,SNR=12
VES Vestal, Richgr 88.02 44 P **P** **18 58 22.5 +2.4**
baz=226,SNR=9.1
SWSC Sam W. Stewart 88.04 48 P **P** **18 58 23.1 +2.8**
baz=229
TPFO Pinon Flats 88.08 47 P **P** **18 58 23.3 +2.6**
baz=228,SNR=9.2
PFO Pinyon Flats O 88.08 47 LR LR 19 31 07.6
comp=Z,568nm,19.1s,baz=228,slow=31
PFO Pinyon Flats O 88.08 47 *e*P **P** **18 58 22.0 +1.4**
PFO Pinyon Flats O 88.08 47 P **P** **18 58 18.9 -1.8**
PFO IAmb IAmb 18 58 24.6
comp=Z,25nm,1.1s
PFO Pinyon Flats O 88.08 47 P **P** **18 58 23.4 +2.7**
baz=228,SNR=7.7
CCAC Calif City Air 88.18 45 IAmb IAmb 18 58 24.9
comp=Z,36nm,1.2s
ISA Isabella, Lake 88.25 45 P **P** **18 58 24.3 +2.9**
baz=226,SNR=18
PETK Petropavlovsk- 88.37 346 P **P** **18 58 22.4 +1.0**
comp=Z,13nm,1.1s,baz=123,slow=6.8,SNR=11
PETK LR LR 19 31 20.4
comp=Z,288nm,21.6s,baz=152,slow=31
PETK Petropavlovsk- 88.37 346 P **P** **18 58 20.9 -0.5**
BELC Belle Mtn. Jos 88.62 47 P **P** **18 58 26.4 +3.2**
baz=228,SNR=17
GLA Glamis 88.72 49 IAmb IAmb 18 58 28.0
comp=Z,43nm,1.2s
GLA Glamis 88.72 49 P **P** **18 58 26.9 +3.3**
baz=229,SNR=8.8
BC3 Big Chuckawall 88.73 48 P **P** **18 58 27.1 +3.4**
baz=228,SNR=18
GO03 Copiap 88.76 122 P **P** **18 58 23.7 -0.5**
GO03 IAmb IAmb 18 58 27.6
comp=Z,51nm,1.4s
CMB Columbia Colle 88.80 42 IAmb IAmb 18 58 27.2
comp=Z,24nm,1.1s
AC06 Mina Casimiro 88.82 122 P **P** **18 58 22.8 -1.6**
HEC Hector,Ludlow 88.97 46 P **P** **18 58 27.7 +2.9**
baz=228,SNR=8.5
GSC Goldstone, Bar 89.00 46 P **P** **18 58 24.5 -0.4**
GSC pmax pmax
comp=Z,36nm,1.2s
GSC Goldstone, Bar 89.00 46 P **P** **18 58 24.5 -0.4**
GSC IAmb IAmb 18 58 28.8
comp=Z,36nm,1.1s
GSC Goldstone, Bar 89.00 46 P **P** **18 58 27.8 +2.9**
baz=228,SNR=11
CWC Cottonwood Cre 89.02 44 P **P** **18 58 27.7 +2.6**
baz=227
O02D Mt. Diablo Mer 89.02 39 P **P** **18 58 28.0 +3.2**
baz=224,SNR=8.0
MPMC Manual Prospec 89.11 45 P **P** **18 58 28.3 +2.8**
baz=227,SNR=16
IRM Iron Mountain 89.25 48 P **P** **18 58 29.5 +3.5**
baz=228,SNR=25
OMMB Old Mammoth Mi 89.29 43 IAmb IAmb 18 58 30.9
comp=Z,28nm,1.5s
214A Organ Pipe Nat 89.30 51 IAmb IAmb 18 58 30.5
comp=Z,26nm,1.4s
214A Organ Pipe Nat 89.30 51 P **P** **18 58 28.9 +2.6**
baz=230
USRK Ussuriysk Ar. 89.33 327 P **P** **18 58 27.2 +1.0**
comp=Z,2.5nm,0.5s,baz=140,slow=3.3,SNR=14
USRK LR LR 19 34 10.8
comp=Z,234nm,20.1s,baz=126,slow=33
GMRC Granite Mounta 89.35 47 P **P** **18 58 29.7 +3.0**
baz=228,SNR=11
TIN Tinemaha, Big 89.35 44 IAmb IAmb 18 58 29.9 +3.3
baz=227
QSM Queen of Sheba 89.41 45 IAmb IAmb 18 58 30.4
comp=Z,33nm,1.2s
WDC Whiskeytown Da 89.44 39 P **P** **18 58 27.5 +0.8**
WDC pmax pmax
comp=Z,39nm,1.3s
WDC Whiskeytown Da 89.44 39 P **P** **18 58 27.5 +0.8**
WDC IAmb IAmb 18 58 30.3
comp=Z,39nm,1.2s
O03E Paynes Creek 89.63 40 IAmb IAmb 18 58 37.8
comp=Z,54nm,1.4s
O03E Paynes Creek 89.63 40 P **P** **18 58 30.4 +2.6**
baz=224,SNR=5.2
N02D Trinity Center 89.64 39 IAmb IAmb 18 58 32.3
comp=Z,44nm,1.3s
N02D Trinity Center 89.64 39 P **P** **18 58 31.4 +3.6**
baz=224,SNR=6.6
GWY Greenwater Val 89.68 45 IAmb IAmb 18 58 31.8
comp=Z,23nm,1.2s
FURC Furnace Creek, 89.76 45 P **P** **18 58 31.6 +3.3**
baz=227
GRAC Grapevine Rang 89.82 44 IAmb IAmb 18 58 32.6
comp=Z,37nm,1.1s
GRAC Grapevine Rang 89.82 44 P **P** **18 58 31.7 +3.1**
baz=227,SNR=5.3
M02C Callahan 89.86 38 P **P** **18 58 30.4 +1.6**
M02C IAmb IAmb 18 58 32.9
comp=Z,36nm,1.2s
M02C Callahan 89.86 38 P **P** **18 58 32.0 +3.2**
baz=224,SNR=6.0
PDMCI Parker Dam,Lak 89.97 48 P **P** **18 58 32.5 +3.1**
baz=229,SNR=13
LHV Little Huntoon 90.02 43 IAmb IAmb 18 58 46.2
comp=Z,23nm,1.0s
YERR Yerington 90.11 42 IAmb IAmb 18 58 33.9
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 90.19 38 P **P** **18 58 30.9 +0.6**
YBH pmax pmax
comp=Z,46nm,1.7s
YBH Yreka Blue Hor 90.19 38 P **P** **18 58 30.9 +0.6**
YBH IAmb IAmb 18 58 47.5
comp=Z,46nm,1.6s
NVAR Mina Array Bea 90.25 43 P **P** **18 58 32.6 +1.7**
comp=Z,9.2nm,0.9s,baz=219,slow=7.8,SNR=36
RYN Ryan 90.27 42 IAmb IAmb 18 58 34.2
comp=Z,25nm,1.4s
TPNV Topopah Spring 90.44 45 P **P** **18 58 34.6 +2.9**
baz=228,SNR=9.3
TYV Tymovskoe 90.46 336 *e*P **P** **18 58 32.9 +1.7**
TYV pmax pmax
comp=Z,300nm,6.7s
TYV pmax pmax
comp=Z,14nm,1.5s
M04C Macdoel 90.67 38 P **P** **18 58 34.0 +1.4**
M04C IAmb IAmb 18 58 54.3
comp=Z,28nm,1.2s
M04C Macdoel 90.67 38 P **P** **18 58 35.1 +2.4**
baz=224
HUMO Hull Mountain 90.69 37 IAmb IAmb 18 58 37.4
comp=Z,48nm,1.5s
L04D Klamath Falls 90.75 38 P **P** **18 58 35.2 +2.3**
baz=224
MDJ Mudanjiang 90.77 326 P **P** **18 58 35.3 +2.5**
MDJ S **S** **19 09 33.4 +4.3**
MDJ pmax pmax
comp=Z,21nm,1.9s
MDJ pmax pmax
comp=Z,530nm,3.6s
MDJ LR LR
comp=Z,400nm,13.7s
MDJ LR LR
comp=Z,360nm,15.6s
MDJ LR LR
comp=Z,530nm,13.1s
SHPR Sheep Range 90.80 46 IAmb IAmb 18 58 37.6
comp=Z,21nm,1.3s
TUC Tucson 90.84 51 P **P** **18 58 34.7 +1.1**
TUC pmax pmax
comp=Z,26nm,1.2s
TUC Tucson 90.84 51 P **P** **18 58 34.7 +1.1**
TUC IAmb IAmb 18 58 38.1
comp=Z,26nm,1.2s
TUC Tucson 90.84 51 P **P** **18 58 37.1 +3.5**
baz=231
TLIG Tlapa 91.00 70 IAmb IAmb 18 58 39.6
comp=Z,39nm,1.3s
I03D Drain, OR 91.28 36 P **P** **18 58 38.0 +2.7**
baz=223
PRN Pahroc Range 91.46 45 IAmb IAmb 18 58 40.6
comp=Z,24nm,1.2s
MOD Modoc Plateau 91.57 39 IAmb IAmb 18 58 39.9
comp=Z,15nm,1.1s
R11A Troy Canyon, C 91.77 44 P **P** **18 58 39.2 +1.3**
baz=228
I04A Tendick Farm, 91.82 37 P **P** **18 58 39.8 +2.0**
baz=224
K05A Summer Lake 91.84 38 P **P** **18 58 40.0 +1.9**
K05A IAmb IAmb 18 58 53.6
comp=Z,22nm,1.0s
PB15 IPOC Station P 91.95 119 IAmb IAmb 18 58 43.0
comp=Z,28nm,1.2s
J05D Fort Rock, OR 92.06 38 P **P** **18 58 40.7 +1.6**
baz=225
H04D Lebanon 92.19 36 P **P** **18 58 42.4 +3.0**
baz=224
CN2 Changchun 92.21 323 *e*P **P** **18 58 38.8 -0.7**
CN2 *e*sP pwP 18 58 45.8 -2.9
CN2 *e*PP **PP** **19 02 23.0 +2.7**
CN2 SKS **SKSac** **19 09 10.2 -2.4**
CN2 *e*sS sS 19 09 48.0 +3.7
CN2 *e*SS **SS** **19 15 55.9 +2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,250nm,18.0s
CN2 LR LR
comp=Z,130nm,18.0s
CN2 LR LR
comp=Z,270nm,19.0s
BMN Battle Mountai 92.23 42 IAmb IAmb 18 58 43.1
comp=Z,18nm,1.2s
WUAZ Wupatki 92.49 49 IAmb IAmb 18 58 45.4
comp=Z,21nm,1.3s
WUAZ Wupatki 92.49 49 P **P** **18 58 44.4 +3.1**
baz=231
KNB Kanab 92.55 47 IAmb IAmb 18 58 58.1
comp=Z,14nm,1.0s
PINE Pine Mountain 92.57 38 IAmb IAmb 18 58 57.5
comp=Z,27nm,0.9s
H04A Detroit Lake 92.58 36 IAmb IAmb 18 59 00.5
comp=Z,25nm,1.1s
GRNR Gornyy 92.62 333 *e*P **P** **18 58 43.3 +2.0**
GRNR MLR MLR
comp=N,130nm,16.0s
BNX BinXian 92.64 325 ||P **P** **18 58 42.6 +1.1**
BNX pmax pmax
comp=N,8.0nm,0.9s
BNX pmax pmax
comp=N,420nm,4.8s
LVC Limon Verde 92.72 119 P **P** **18 58 45.4 +2.3**
comp=N,13nm,1.1s,baz=203,slow=4.2,SNR=8.3
LVC LR LR 19 31 58.2
comp=N,286nm,20.5s,baz=224,slow=30
LVC Limon Verde 92.72 119 *e*P **P** **18 58 42.0 -1.0**
LVC Limon Verde 92.72 119 P **P** **18 58 42.4 -0.6**
I05D Terrebonne, OR 92.75 37 P **P** **18 58 44.3 +2.2**
baz=225
NNA Nana 92.77 106 LR LR 19 31 13.1
comp=N,424nm,20.7s,baz=232,slow=30
GYA Guiyang 92.80 300 ||*i*P **P** **18 58 45.6 +2.8**
GYA pmax pmax
comp=N,170nm,3.7s
GYA LR LR
comp=N,170nm,18.9s
PB09 IPOC Station P 92.97 118 P **P** **18 58 43.0 -0.9**
PB09 IAmb IAmb 18 58 48.1
comp=Z,24nm,1.1s
PKCU Pink Cliffs 93.14 47 IAmb IAmb 18 59 01.5
comp=Z,15nm,1.1s
TA02 Huaiquique 93.22 117 P **P** **18 58 44.4 -0.5**
PB01 IPOC Station P 93.24 118 IAmb IAmb 18 58 48.5
comp=Z,23nm,1.2s
KLR Kul'dur 93.29 330 P **P** **18 58 45.0 +0.7**
comp=Z,1.5nm,0.6s,baz=105,slow=5.3,SNR=1.4
KLR LR LR 19 36 22.5
comp=Z,361nm,20.6s,baz=138,slow=33
KLR Kul'dur 93.29 330 *ce*P **P** **18 58 45.4 +1.0**
KLR pmax pmax
comp=Z,14nm,1.1s
G05D Wamic, OR 93.41 36 P **P** **18 58 47.8 +2.7**
baz=225
I07A Izee 93.51 38 P **P** **18 58 46.5 +0.8**
J08A Circle Bar Ran 93.55 39 P **P** **18 58 46.6 +0.8**
MTPU Mount Pierson 93.60 46 IAmb IAmb 18 58 51.0
comp=Z,19nm,1.3s
CMIG Matias Romero 93.66 72 LR LR 19 35 00.2
comp=Z,193nm,18.1s,baz=210,slow=32
PB11 IPOC Station P 93.88 116 IAmb IAmb 18 58 51.8
comp=Z,31nm,1.1s
TXAR Lajitas Array 93.90 57 P **P** **18 58 49.9 +2.1**
comp=Z,4.6nm,1.1s,baz=207,slow=5.2,SNR=24
TXAR LR LR 19 36 01.9
comp=Z,402nm,18.1s,baz=243,slow=32
HNS HongShan 93.97 313 ⇑P P 18 59 01.7 +14
HNS pmax pmax
comp=Z,8.0nm,1.7s
PB08 IPOC Station P 94.03 117 IAmb IAmb 18 58 52.7
comp=Z,30nm,1.6s
MNTX Cornudas Mount 94.09 55 P **P** **18 58 49.2 +0.7**
MNTX Cornudas Mount 94.09 55 P **P** **18 58 50.7 +2.1**
baz=234
CMAR Chiang Mai Arr 94.19 289 P **P** **18 58 50.4 +1.0**
comp=Z,0.4nm,0.7s,baz=149,slow=3.4,SNR=4.7
CMAR PP **PP** **19 02 35.6 -0.7**
comp=Z,1.2nm,0.9s,baz=134,slow=7.6,SNR=7.3
CMAR LR LR 19 45 44.5
comp=Z,122nm,18.5s,baz=160,slow=38
CMAR Chiang Mai Arr 94.19 289 P **P** **18 58 46.5 -2.8**
CMAR **PP** **19 02 32.9 -3.4**
ATAH Atahualpa 94.22 101 LR LR 19 34 44.7
comp=Z,172nm,18.5s,baz=254,slow=31
GO01 Chusmiza 94.28 117 P **P** **18 58 50.4 0.0**
GO01 IAmb IAmb 18 58 54.6
comp=Z,25nm,1.5s
G08A Pilot Rock 94.63 37 IAmb IAmb 18 58 53.9
comp=Z,15nm,1.2s
MFID Camas Ranch 95.01 40 P **P** **18 58 52.6 0.0**
MFID IAmb IAmb 18 58 55.6
comp=Z,14nm,1.2s
E07A Sunnyside 95.06 36 IAmb IAmb 18 58 55.9
comp=Z,29nm,1.5s
BMO Blue Mountains 95.18 39 P **P** **18 58 51.4 -1.9**
BMO pmax pmax
comp=Z,12nm,1.6s
BMO Blue Mountains 95.18 39 P **P** **18 58 51.4 -1.9**
ANMO Albuquerque 95.31 52 LR LR 19 36 26.6
comp=Z,444nm,18.2s,baz=236,slow=32
ANMO Albuquerque 95.31 52 *ce*P **P** **18 58 55.4 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 95.31 52 P **P** **18 58 52.1 -2.2**
ANMO Albuquerque 95.31 52 P **P** **18 58 56.0 +1.7**
baz=233
XAN Xi'an 95.65 307 P P 18 59 05.7 +10
XAN pP pwP 18 59 09.2 +4.4
XAN Xi'an 95.65 307 S S 19 10 24.0 +11
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN LR LR
comp=N,170nm,18.4s
XAN LR LR
comp=E,210nm,18.6s
XAN LR LR
comp=Z,270nm,18.7s
MA2 Magadan 95.84 345 LR LR 19 41 52.1
comp=Z,309nm,18.2s,baz=158,slow=35
MA2 Magadan 95.84 345 *i*P **P** **18 58 55.9 +0.1**
MA2 pmax pmax
comp=Z,11nm,1.6s
MA2 Magadan 95.84 345 P **P** **18 58 55.9 +0.1**
MA2 IAmb IAmb 18 59 06.1
comp=Z,30nm,2.0s
MA2 IAMs_20 IAMs_20 19 43 11.3
comp=Z,461nm,20.0s
HLID Hailey 95.88 41 P **P** **18 58 57.5 +0.9**
HLID Hailey 95.88 41 P **P** **18 58 58.6 +2.0**
baz=229
PLID Pearl Lake 96.03 39 P **P** **18 58 56.7 -0.7**
PLID IAmb IAmb 18 59 00.0
comp=Z,13nm,1.2s
PZH PanZhiHua 96.45 297 P **P** **18 59 00.3 +0.7**
PZH SKS **SKSac** **19 09 34.1 -2.6**
PZH S **S** **19 10 18.2 -2.2**
PZH sS **sS** **19 10 24.2 +1.6**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,70nm,5.9s
PZH LR LR
comp=Z,640nm,16.7s
PZH LR LR
comp=Z,460nm,16.0s
PZH LR LR
comp=Z,580nm,16.8s
S22A 4UR Ranch, Cre 96.74 49 P **P** **18 58 59.4 -1.5**
S22A IAmb IAmb 19 00 16.1
comp=Z,19nm,1.9s
S22A 4UR Ranch, Cre 96.74 49 P **P** **18 59 05.0 +4.1**
baz=233
LPAZ La Paz 97.13 115 P Pdif 18 59 05.2 +1.5
comp=Z,2.0nm,0.9s,baz=235,slow=3.6,SNR=9.7
LPAZ LR LR 19 34 53.3
comp=Z,136nm,20.2s,baz=244,slow=30
LPAZ La Paz 97.13 115 P **P** **18 59 02.1 -1.5**
LPAZ IAmb IAmb 18 59 08.7
comp=Z,28nm,1.9s
CD2 Chengdu 97.43 302 P Pdif 18 59 03.8 -0.1
CD2 PP **PP** **19 03 01.0 -0.3**
CD2 SKS **SKSac** **19 09 39.4 -2.0**
CD2 S **ScS** **19 10 28.7 0.0**
CD2 sS sS 19 10 34.7 +4.1
CD2 SS **SS** **19 17 08.4 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,70nm,8.2s
CD2 LR LR
comp=Z,100nm,18.0s
CD2 LR LR
comp=Z,230nm,17.7s
NEW Newport 97.58 36 LR LR 19 36 17.2
comp=Z,775nm,19.9s,baz=228,slow=31
REDW Red Top Meadow 97.75 43 P **P** **18 59 04.8 -0.4**
REDW IAmb IAmb 18 59 13.2
comp=Z,24nm,1.8s
HHC Hu-ho-hao-te 98.02 314 *e*P Pdif 18 59 07.6 +1.2
HHC S **S** **19 10 36.6 +3.4**
HHC sS sS 19 10 44.8 +9.5
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.1s
HHC LR LR
comp=Z,200nm,17.3s
HHC LR LR
comp=Z,240nm,18.9s
HHC LR LR
comp=Z,320nm,16.1s
PDAR Pinedale Array 98.12 44 P Pdif 18 59 08.1 +1.2
comp=Z,0.7nm,0.7s,baz=230,slow=3.7,SNR=5.7
JTS Las Juntas de 98.15 83 LR LR 19 34 14.8
comp=Z,198nm,20.6s,baz=357,slow=30
CPUP Villa Florida 98.39 129 LR LR 19 38 19.4
comp=Z,318nm,18.8s,baz=224,slow=32
ZEA Zeya 98.53 331 *e*P Pdif 18 59 16.6 +8.5
SEY Seymchan 98.55 347 LR LR 19 39 00.8
comp=Z,374nm,20.6s,baz=162,slow=33
YHH Holmes Hill 98.63 42 P **P** **18 59 07.8 -1.4**
YHH IAmb IAmb 18 59 13.5
comp=Z,11nm,1.4s
HIA Hailar 98.83 324 IAMs_20 IAMs_20 19 44 51.1
comp=Z,318nm,18.0s
LZH Lanzhou 100.24 306 *e*P **Pdif** **18 59 15.3 -1.1**
LZH sP pwP 18 59 24.7 -0.9
LZH SKS **SKSac** **19 09 58.2 +2.7**
LZH *e*S SKKSac 19 10 43.6 +14
LZH sS sS 19 11 00.9 +6.5
LZH pmax pmax
comp=Z,7.0nm,1.1s

LZH				pmax	pmax		
	comp=Z,88nm,4.6s						
LZH				LR	LR		
	comp=Z,140nm,14.4s						
LZH				LR	LR		
	comp=Z,280nm,12.7s						
LZH				LR	LR		
	comp=Z,330nm,16.0s						
ILAR	**Eielson Array**	**100.54**	**13**	P	**Pdif**	**18 59 19.2**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=129,slow=9.0,SNR=1.9						
ILAR				PP	**PP**	**19 03 25.5**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=205,slow=5.8,SNR=1.7						
PALK	**Pallekele**	**103.30**	**270**	IAMs_20	IAMs_20	19 49 45.9	
	comp=Z,527nm,19.0s						
SONM	**Songino Array**	**105.05**	**318**	Pdiff	**Pdif**	**18 59 37.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=0.6,SNR=1.6						
SONM				PP	**PP**	**19 03 59.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=140,slow=9.1,SNR=2.8						
SONM				PKKP	**PKKPdf**	**19 15 33.1**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=228,slow=2.5,SNR=4.0						
A21K	**Barrow**	**105.21**	**7**	IAMs_20	IAMs_20	19 52 02.8	
	comp=Z,275nm,19.0s						
YKA	**Yellowknife Ar**	**107.88**	**26**	PKiKP	**PKiKP**	**19 03 56.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=1.0,SNR=2.1						
YKA				PKKPbc	**PKKPbc**	**19 15 12.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=46,slow=3.2,SNR=5.6						
YKA	**Yellowknife Ar**	**107.88**	**26**	P	**Pdif**	**18 59 44.7**	**-4.8**
YKA	**Yellowknife Ar**	**107.88**	**26**	Pdif	**Pdif**	**18 59 44.6**	**-4.8**
HMDM	**Hanimaadhoo**	**109.34**	**265**	IAMs_20	IAMs_20	19 55 03.2	
	comp=Z,495nm,19.0s						
TIXI	**Tiksi**	**110.81**	**344**	PKiKP	**PKiKP**	**19 04 02.2**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=303,slow=10.0,SNR=6.6						
TIXI	**Tiksi**	**110.81**	**344**	c iPKIKP	**PKiKP**	**19 04 01.9**	**0.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**110.81**	**344**	Pdif	**Pdif**	**18 59 58.4**	**-3.9**
TIXI				IAMs_20	IAMs_20	19 44 19.7	
	comp=Z,433nm,22.0s						
LGTI	**Lohaghat**	**114.43**	**290**	i x	x	19 03 58.0	
PTH	**Pithoragarh**	**114.50**	**290**	i x	x	19 04 23.0	
WMQ	**Urumqi**	**114.79**	**307**	ePKP	**PKiKP**	**19 04 11.0**	**+0.5**
MSEY	**Mahe Island**	**116.93**	**244**	IAMs_20	IAMs_20	19 53 54.2	
	comp=Z,435nm,18.0s						
THN	**Thein Dam**	**119.19**	**292**	i x	x	19 04 21.1	
MK31	**Makanchi Array**	**119.40**	**309**	PKIKP	**PKPdf**	**19 04 17.9**	**-1.3**
MK31	**Makanchi Array**	**119.40**	**309**		**PKPdf**	**19 04 17.9**	**-1.3**
MKAR	**Makanchi Array**	**119.40**	**309**	PKP	**PKPdf**	**19 04 19.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=99,slow=1.9,SNR=16						
MKAR	**Makanchi Array**	**119.40**	**309**	PKPdf	**PKPdf**	**19 04 18.2**	**-1.0**
MAKZ	**Makanchi**	**119.61**	**309**	PKIKP	**PKPdf**	**19 04 18.7**	**-0.9**
MAKZ	**Makanchi**	**119.61**	**309**	PKPdf	**PKPdf**	**19 04 18.7**	**-0.9**
RES	**Resolute Bay**	**119.81**	**18**	PKIKP	**PKPdf**	**19 04 18.8**	**-0.3**
RES	**Resolute Bay**	**119.81**	**18**	PKPdf	**PKPdf**	**19 04 18.8**	**-0.3**
ZALV	**Zalesovo Beam**	**119.95**	**317**	PKP	**PKPdf**	**19 04 19.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=121,slow=2.4,SNR=7.4						
SEUS	**St. Eustatius**	**120.16**	**88**	IAMs_20	IAMs_20	19 43 31.8	
	comp=Z,363nm,20.0s						
SMRT	**St. Maarten**	**120.35**	**87**	IAMs_20	IAMs_20	19 43 02.7	
	comp=Z,282nm,20.0s						
KSH	**Kashi**	**121.49**	**299**	PKP	**PKiKP**	**19 04 26.2**	**+2.5**
KSH				PP	PP	19 06 03.3	+7.4
NRIK	**Noril'sk**	**122.03**	**335**	PKP	**PKPdf**	**19 04 21.9**	**-1.6**
	comp=Z,3.3nm,0.7s,baz=170,slow=1.9,SNR=5.4						
NRIK	**Noril'sk**	**122.03**	**335**	c iPKIKP	**PKiKP**	**19 04 24.2**	**+0.5**
NRIK	**Noril'sk**	**122.03**	**335**		**PKPdf**	**19 04 23.2**	**-0.3**
KURK	**Kurchatov**	**122.81**	**313**	c iPKIKP	**PKPdf**	**19 04 25.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
KURK	**Kurchatov**	**122.81**	**313**	PKPdf	**PKPdf**	**19 04 25.2**	**-0.4**
KURBB	**Kurchatov Arra**	**122.84**	**312**	PKP	**PKPdf**	**19 04 24.8**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=108,slow=1.9,SNR=20						
AAK	**Ala-Archa**	**123.49**	**302**	PKP	**PKiKP**	**19 04 28.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=136,slow=4.6,SNR=7.3						
AAK				PKKPbc	**PKKPbc**	**19 14 18.5**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=234,slow=4.0,SNR=4.3						
AAK	**Ala-Archa**	**123.49**	**302**	i PKIKP	**PKiKP**	**19 04 27.8**	**+0.2**
AAK	**Ala-Archa**	**123.49**	**302**	PKPdf	**PKPdf**	**19 04 27.4**	**0.0**
KBL	**Kabul**	**125.15**	**292**	PKIKP	**PKPdf**	**19 04 31.0**	**+0.1**
KBL	**Kabul**	**125.15**	**292**	PKPdf	**PKPdf**	**19 04 30.9**	**+0.1**
TSUM	**Tsumeb**	**125.90**	**198**	IAMs_20	IAMs_20	19 56 38.5	
	comp=Z,459nm,19.0s						
KKAR	**Karatay Array**	**126.44**	**302**	PKIKP	**PKPdf**	**19 04 32.4**	**-0.5**
KKAR	**Karatay Array**	**126.44**	**302**	PKPdf	**PKPdf**	**19 04 32.4**	**-0.5**
SOCY	**Socotra**	**128.19**	**259**	IAMs_20	IAMs_20	19 58 15.1	
	comp=Z,434nm,19.0s						
BVAR	**Borovoye Array**	**128.23**	**314**	PKP	**PKiKP**	**19 04 37.0**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=224,slow=6.5,SNR=16						
BVAR	**Borovoye Array**	**128.23**	**314**	PKIKP	**PKiKP**	**19 04 37.0**	**+0.5**
SCHQ	**Schefferville**	**128.26**	**43**	PKP	**PKPdf**	**19 04 36.0**	**+0.1**
	comp=Z,5.5nm,1.1s,baz=275,slow=15,SNR=3.3						
SCHQ				SKP	**SKPdf**	**19 08 06.0**	**-5.3**
	comp=Z,2.4nm,0.9s,baz=223,slow=19,SNR=1.8						
BRVK	**Borovoye**	**128.29**	**314**	c iPKIKP	**PKPdf**	**19 04 36.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRVK	**Borovoye**	**128.29**	**314**	PKPdf	**PKPdf**	**19 04 34.4**	**-1.6**
KIBK	**Kibwezi**	**130.95**	**231**	IAMs_20	IAMs_20	19 54 01.0	
	comp=Z,307nm,20.0s						
UOSS	**Minazif**	**132.26**	**275**	IAMs_20	IAMs_20	19 52 02.6	
	comp=Z,232nm,18.0s						
KMBO	**Kilima Mbogo**	**132.38**	**232**	PKP	**PKiKP**	**19 04 46.2**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=129,slow=3.0,SNR=4.3						
KMBO				SKPbc	**SKPab**	**19 08 14.2**	**+0.8**
	comp=Z,6.9nm,0.9s,baz=134,slow=3.6,SNR=19						
KMBO	**Kilima Mbogo**	**132.38**	**232**	IAMs_20	IAMs_20	20 03 39.2	
	comp=Z,308nm,18.0s						
SPITS	**Spitsbergen Ar**	**134.35**	**356**	PKP	**PKPdf**	**19 04 47.5**	**+0.7**
	comp=Z,40nm,1.2s,baz=288,slow=1.3,SNR=3.3						
GEYT	**Alibeck**	**134.56**	**293**	PKP	**PKPdf**	**19 04 48.9**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=71,slow=9.3,SNR=2.1						
GEYT				SKPbc	**SKPab**	**19 08 20.2**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=224,slow=4.1,SNR=4.1						
ARU	**Arti**	**135.07**	**319**	PKP	**PKPdf**	**19 04 48.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=43,slow=3.3,SNR=9.9						
ARU				SKPbc	**SKPbc**	**19 08 20.4**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=95,slow=2.2,SNR=7.3						
ARU	**Arti**	**135.07**	**319**	i PKIKP	**PKiKP**	**19 04 50.9**	**+0.7**
ARU						19 07 26.2	
ARU				PPP	PPP	19 10 17.9	
ARU	**Arti**	**135.07**	**319**	PKPdf	**PKPdf**	**19 04 47.1**	**-1.6**
AKTO	**Aktyubinsk**	**135.80**	**310**	PKP	**PKPdf**	**19 04 50.8**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=38,slow=4.0,SNR=5.4						
LODK	**Lodwar**	**137.01**	**234**	IAMs_20	IAMs_20	19 50 10.9	
	comp=Z,292nm,20.0s						
KIRV	**Kirov**	**139.44**	**324**	PKP	**PKPdf**	**19 04 57.0**	**+0.4**
	comp=Z,5.1nm,0.5s,baz=7.4,slow=3.5,SNR=4.2						
PRGR	**Permogore**	**140.08**	**329**	ePKIKP	**PKPdf**	**19 04 56.1**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,59nm,1.5s						
ARCES	**ARCESS Array B**	**141.17**	**347**	PKP	**PKPdf**	**19 04 58.4**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=61,slow=2.3,SNR=18						
KTK1	**Kautokeino**	**142.04**	**348**	ePKPdf	**PKPdf**	**19 04 59.4**	**-1.8**
KLMR	**Klimovskoe**	**143.05**	**330**	ePKHKP	PKPpre	19 04 59.0	
KLMR				pmax	pmax		
	comp=Z,40nm,1.1s						
KLMR	**Klimovskoe**	**143.05**	**330**	eP	**PKPdf**	**19 04 59.1**	**-4.0**
KLMR				AMP		19 05 13.5	
	comp=Z,40nm,1.1s						
MAK	**Makhachkala**	**143.13**	**299**	ePKHKP	PKPpre	19 04 58.4	
MAK				e		19 12 03.7	
MAK				pmax	pmax		
	comp=Z,65nm,1.1s						
GROC	**Groznyy**	**144.38**	**299**	ePKIKP	**PKPdf**	**19 05 07.4**	**+1.4**
GROC				pmax	pmax		
	comp=Z,16nm,0.4s						
FAUS	**Fauske**	**144.76**	**351**	ePKPab	**PKPdf**	**19 05 05.5**	**-0.4**
GNI	**Garni**	**145.16**	**294**	PKPbc	**PKPbc**	**19 05 07.1**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=121,slow=2.6,SNR=5.4						
ZEI	**Tsey**	**145.78**	**299**	i PKIKP	**PKPdf**	**19 05 08.9**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,45nm,1.4s						
KONS	**Konsvik**	**145.87**	**352**	ePKPab	**PKPab**	**19 05 09.4**	**+0.5**
VRH	**Novokhopyorsk**	**145.88**	**314**	ePKP2	**PKPab**	**19 05 09.5**	**+0.1**
VRH				pmax	pmax		
	comp=Z,90nm,0.8s						
NCK	**Nalchik**	**145.97**	**300**	i PKP2	**PKPab**	**19 05 10.0**	**-0.1**
MOR8	**Moi Rana**	**146.02**	**351**	ePKPab	**PKPab**	**19 05 09.5**	**0.0**
AKH	**Akhalkalaki**	**146.12**	**296**	⇑P	**PKiKP**	**19 05 12.7**	**-0.9**
AKH	**Akhalkalaki**	**146.12**	**296**	PKP2	**PKiKP**	**19 05 12.6**	**-0.9**
GOF	**Gofitskoye**	**146.23**	**303**	⇑ePKP2	**PKPab**	**19 05 11.1**	**+0.1**
GOF				pmax	pmax		
	comp=Z,150nm,1.0s						
MOS	**Moscow**	**146.45**	**323**	i PKP2	**PKPbc**	**19 05 10.3**	**-0.2**
MOS				pmax	pmax		
	comp=Z,267nm,1.1s						
KBZ	**Khabaz**	**146.46**	**301**	PKPbc	**PKPab**	**19 05 11.5**	**-0.4**
	comp=Z,8.1nm,0.9s,baz=135,slow=8.6,SNR=15						
KBZ	**Khabaz**	**146.46**	**301**	c iPKP2	**PKPdf**	**19 05 10.0**	**+0.5**
KIV	**Kislovodsk**	**146.59**	**301**	⇑P	PKiKP	19 05 24.9	+11
KIV	**Kislovodsk**	**146.59**	**301**	⇑ePKP2	**PKPab**	**19 05 12.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.7s						
LPSR	**Galich'ya Gora**	**147.06**	**318**	ePKP2	**PKPab**	**19 05 13.8**	**-0.1**
LPSR				pmax	pmax		
	comp=Z,140nm,1.1s						
VORR	**Voronezh**	**147.23**	**316**	ePKP2	**PKPab**	**19 05 13.7**	**-0.9**
VORR				pmax	pmax		
	comp=Z,30nm,0.5s						
OBN	**Obninsk**	**147.28**	**323**	⇑P	PKiKP	19 05 26.0	+11
OBN	**Obninsk**	**147.28**	**323**	PKPbc	**PKPbc**	**19 05 13.5**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=45,slow=4.8,SNR=13						
OBN	**Obninsk**	**147.28**	**323**	⇓ePKIKP	**PKPdf**	**19 05 11.0**	**+0.5**
OBN				i		19 05 13.7	
OBN				e		19 12 19.0	
OBN				pmax	pmax		
	comp=Z,15nm,1.1s						
OBN				pmax	pmax		
	comp=Z,96nm,1.7s						
OBN				MLR	MLR		
	comp=Z,164nm,19.0s						
PUL	**Pulkovo**	**147.36**	**333**	c iPKP2	**PKPbc**	**19 05 12.1**	**-0.9**
PUL				pmax	pmax		
	comp=Z,69nm,0.6s						
FINES	**FINESS Array B**	**147.60**	**338**	PKPbc	**PKPbc**	**19 05 14.2**	**+0.5**
	comp=Z,38nm,0.5s,baz=47,slow=3.4,SNR=204						
FINES	**FINESS Array B**	**147.60**	**338**	PKPdf	**PKPdf**	**19 05 10.2**	**-0.7**
NSS	**Namsos**	**147.91**	**352**	e	**PKPbc**	**19 05 15.2**	**+0.9**
SOC	**Sochi**	**148.77**	**301**	ePKP2	**PKPab**	**19 05 20.0**	**-1.1**
KTUT	**Trabzon**	**148.94**	**296**	⇑P	**PKPab**	**19 05 23.1**	**+1.2**
TBLU	**Trondheim**	**149.34**	**353**	ePKPbc	**PKPbc**	**19 05 18.6**	**+0.6**
VSU	**Vasula**	**149.60**	**334**	eP	**PKiKP**	**19 05 20.3**	**+0.4**
ANN	**Anapa**	**150.21**	**304**	i PKIKP	**PKPbc**	**19 05 21.1**	**+0.4**
ANN				e		19 08 54.2	
ANN				eSS	SS	19 28 15.8	+1.5
ANN				pmax	pmax		
	comp=Z,62nm,1.5s						
MTSE	**Matsula**	**150.44**	**337**	eP	**PKiKP**	**19 05 22.0**	**+0.5**
DOMB	**Dombas**	**150.65**	**353**	ePKPbc	**PKiKP**	**19 05 23.0**	**+0.9**
NC303	**NORSAR Array S**	**151.17**	**350**	ePKPbc	**PKiKP**	**19 05 23.3**	**+0.2**
NC204	**NORSAR Array S**	**151.20**	**351**	PKPbc	**PKPdf**	**19 05 19.6**	**+2.9**
NB2	**NORSAR Subarra**	**151.37**	**351**	PKP	**PKiKP**	**19 05 23.8**	**+0.2**
	comp=Z,91nm,1.1s,baz=16,slow=4.1						
NB2	**NORSAR Subarra**	**151.37**	**351**	PKP	**PKiKP**	**19 05 23.8**	**+0.2**
	baz=16,slow=4.1						
NOA	**NORSAR Array B**	**151.37**	**351**	PKPbc	**PKiKP**	**19 05 23.8**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=14,slow=4.1,SNR=30						
NAO01	**NORSAR Array S**	**151.60**	**351**		**PKPdf**	**19 05 16.1**	**-1.2**
NAO01				PKPbc	**PKiKP**	**19 05 24.3**	**+0.3**
IDID	**Didziasalis**	**151.79**	**329**	eP	**PKiKP**	**19 05 24.9**	**+0.4**
MNK	**Minsk**	**151.81**	**327**	i PKIKP	**PKPdf**	**19 05 16.2**	**-1.6**
MNK				i PPP	PPP	19 12 19.9	
MNK	**Minsk**	**151.81**	**327**	i PKP	**PKPdf**	**19 05 16.2**	**-1.6**
MNK				i PKP	**PKPdf**	**19 05 16.2**	**-1.6**
MNK				i PKP	**PKPdf**	**19 05 16.2**	**-1.6**
	baz=58						
MNK				i PP	**PP**	**19 08 57.9**	**-6.8**
MNK				i PPP	PPP	19 12 19.9	
MNK				i SS	SS	19 28 18.3	-12
MNK				i SSS	SSS	19 33 59.5	
MNK				i LR	LR	20 08 15.1	
HFS	**Hagfors**	**151.83**	**347**	PKPbc	**PKiKP**	**19 05 24.5**	**+0.1**
	comp=Z,10nm,0.6s,baz=34,slow=0.5,SNR=26						
HFS				PKPab	**pPKPab**	**19 05 33.9**	**-0.6**
	comp=Z,72nm,0.8s,baz=79,slow=2.2,SNR=34						
ISAL	**Salakas**	**151.87**	**330**	eP	**PKiKP**	**19 05 24.6**	**-0.1**
IIGN	**Ignalina**	**151.98**	**330**	eP	**PKiKP**	**19 05 25.7**	**+0.8**
NACGM	**Naroch**	**152.04**	**329**	i PKP	**PKiKP**	**19 05 26.1**	**+1.1**
LIC	**Lamto**	**152.52**	**165**	eP	**PKiKP**	**19 05 29.5**	**+2.2**
	comp=Z,125nm,1.3s						
BER	**Bergen**	**152.58**	**356**	ePKPab	**PKPab**	**19 05 36.9**	**+0.6**
VIKU	**Vikbolandet**	**152.68**	**343**	eP	**PKiKP**	**19 05 27.4**	**+1.2**
KIC	**Kosan Boka**	**152.72**	**165**	eP	**PKiKP**	**19 05 28.7**	**+1.0**
	comp=Z,19nm,0.7s						
PABE	**Paberze**	**152.79**	**332**	PKPdf	**PKPdf**	**19 05 17.9**	**-1.3**
PABE				PKPbc	**pPKPbc**	**19 05 27.2**	**-0.5**
PABE				PKPab	**sPKPab**	**19 05 39.8**	**+0.6**
PABE	**Paberze**	**152.79**	**332**	eP	**PKiKP**	**19 05 27.4**	**+0.9**
KONO	**Kongsberg**	**152.93**	**351**	PKIKP	**PKPdf**	**19 05 17.8**	**-1.5**
KONO						19 05 37.5	
KONO	**Kongsberg**	**152.93**	**351**		**PKPdf**	**19 05 17.8**	**-1.5**
KONO				PKPab	**PKPab**	**19 05 37.5**	**-0.2**
KONO	**Kongsberg**	**152.93**	**351**	ePKPbc	**PKiKP**	**19 05 27.4**	**+0.7**
TIC	**Toumodi**	**152.93**	**165**	eP	**PKPbc**	**19 05 27.4**	**-0.6**
DBIC	**Dimbokro**	**152.99**	**165**	PKPbc	**PKPbc**	**19 05 28.4**	**+0.3**
	comp=Z,10nm,1.0s,baz=170,slow=3.6,SNR=4.8						
DBIC				PKPab	**PKPab**	**19 05 40.6**	**+1.4**
	comp=Z,18nm,0.9s,baz=197,slow=1.7,SNR=9.9						
DBIC	**Dimbokro**	**152.99**	**165**	PKIKP	**PKPdf**	**19 05 19.9**	**-0.9**
DBIC						19 05 39.9	
DBIC	**Dimbokro**	**152.99**	**165**		**PKPdf**	**19 05 19.9**	**-0.9**
DBIC				PKPab	**PKPab**	**19 05 39.9**	**+0.7**
PBUR	**Paburge**	**153.17**	**335**	eP	**PKiKP**	**19 05 28.3**	**+1.0**
AKASG	**Malin Array Be**	**153.32**	**319**	PKP	**PKPdf**	**19 05 20.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=19,slow=1.4,SNR=4.3						
AKASG				PKPbc	**PKiKP**	**19 05 28.4**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=46,slow=2.5,SNR=18						
AKASG				PKPab	**pPKPab**	**19 05 40.5**	**-0.6**
	comp=Z,7.0nm,0.7s,baz=37,slow=3.0,SNR=8.5						
AKASG	**Malin Array Be**	**153.32**	**319**	PKIKP	**PKPdf**	**19 05 19.6**	**-0.5**
AKASG	**Malin Array Be**	**153.32**	**319**	PKPdf	**PKPdf**	**19 05 19.6**	**-0.5**
BRTR	**Keskin Array B**	**153.69**	**294**	PKPbc	**PKiKP**	**19 05 29.9**	**+0.8**
	comp=Z,4.5nm,0.5s,baz=144,slow=3.9,SNR=42						
BRTR				PKPab	**pPKPab**	**19 05 43.1**	**-0.1**
	comp=Z,8.4nm,0.6s,baz=136,slow=3.3,SNR=14						
BRTR	**Keskin Array B**	**153.69**	**294**	PKIKP	**PKPdf**	**19 05 19.2**	**-2.1**
BRTR	**Keskin Array B**	**153.69**	**294**	PKPdf	**PKPdf**	**19 05 19.2**	**-2.1**
SUW	**Suwalki**	**154.18**	**331**	eP	**PKiKP**	**19 05 31.1**	**+1.6**
SORM	**Soroca**	**155.07**	**315**	⇑P	PKPdf	19 05 32.0	+9.3
SORM	**Soroca**	**155.07**	**315**	⇑PKIKP	PKPdf	19 05 32.0	+9.3
TPGR	**Topolog**	**156.37**	**308**	⇑P	PKPdf	19 05 32.6	+8.1
LVV	**L'vov**	**156.57**	**322**	ePKP2	**PKPab**	**19 05 46.3**	**-7.3**
TESR	**Tescani**	**156.84**	**313**	⇑P	PKPdf	19 05 34.7	+10
KSV	**Kosov**	**156.88**	**318**	PKIKP	**PKPdf**	**19 05 25.5**	**+0.4**
VRI	**Vrincioaia**	**157.07**	**311**	⇑P	PKPdf	19 05 37.9	+12
VRI	**Vrincioaia**	**157.07**	**311**	⇑PKIKP	PKPdf	19 05 37.9	+12
PLOR	**Plostina**	**157.13**	**311**	⇑P	PKPdf	19 05 36.3	+11
PLOR	**Plostina**	**157.13**	**311**	⇑PKIKP	PKPdf	19 05 36.3	+11
BURAR	**Bucovina Array**	**157.16**	**316**	⇓P	**PKPdf**	**19 05 24.8**	**-0.8**
BURAR	**Bucovina Array**	**157.16**	**316**	⇓PKIKP	**PKPdf**	**19 05 24.8**	**-0.8**
BISRR	**Bisoca**	**157.22**	**310**	⇑P	PKPdf	19 05 38.0	+12
MLR	**Muntele Rosu**	**157.73**	**311**	⇑P	PKPdf	19 05 37.6	+11
MLR	**Muntele Rosu**	**157.73**	**311**	PKP	**PKPdf**	**19 05 27.3**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=339,slow=6.6,SNR=2.4						
MLR				PKPab	**PKPab**	**19 05 59.0**	**+0.1**
	comp=Z,7.4nm,1.1s,baz=321,slow=6.5,SNR=3.6						
MLR	**Muntele Rosu**	**157.73**	**311**	PKPdf	**PKPdf**	**19 05 24.5**	**-1.9**
MLR					**PKPab**	**19 05 59.2**	**+0.2**
SECR		**157.84**	**310**	⇓P	**PKPab**	**19 06 04.1**	**+4.8**
DOPR	**Dopca**	**157.87**	**312**	⇑P	**PKPdf**	**19 05 33.9**	**+7.4**
ARCR	**ARCALIA**	**157.94**	**316**	⇑P	PKPdf	19 05 40.8	+14
UZH	**Uzhgorod**	**158.20**	**321**	ePKP2	**PKPab**	**19 06 07.2**	**+6.5**
VOIR		**158.32**	**311**	⇓P	**PKPab**	**19 06 08.2**	**+6.8**
VOIR		**158.32**	**311**	⇓PKP2	**PKPab**	**19 06 08.2**	**+6.8**
TRPA	**Tarpa**	**158.38**	**320**	⇓P	PKPdf	19 05 39.2	+12
ARR	**Arges**	**158.61**	**312**	⇑P	PKPab	19 05 51.7	-11
OSTC	**Ostas**	**159.59**	**333**	ePKPAB	**PKPab**	**19 06 13.8**	**+7.1**
DPC	**Dobruska-Polom**	**159.72**	**333**	ePKP2	**PKPab**	**19 06 08.4**	**+1.2**
DPC	**Dobruska-Polom**	**159.72**	**333**	ePKPAB	**PKPab**	**19 06 08.4**	**+1.2**
DPC				ex	x	19 06 20.1	
GZR	**Gura Zlata**	**159.75**	**313**	⇓P	**PKPdf**	**19 05 28.4**	**-0.4**
GZR	**Gura Zlata**	**159.75**	**313**	⇓PKIKP	**PKPdf**	**19 05 28.4**	**-0.4**
CLL	**Collm**	**160.05**	**339**	ePKIKP	**PKPdf**	**19 05 28.0**	**-0.8**
CLL				pmax	pmax		
	comp=Z,26nm,1.4s						
CLL	**Collm**	**160.05**	**339**	PKPdf	**PKPdf**	**19 05 27.4**	**-1.4**
CLL				PKPab	**PKPab**	**19 06 08.9**	**+0.4**
CLL	**Collm**	**160.05**	**339**	ePKPdf	**PKPdf**	**19 05 28.0**	**-0.8**
CLL				ePKPdif	PKPdf	19 05 46.0	+17
CLL				ex	x	19 05 55.0	
CLL				ePKPab	**sPKPab**	**19 06 10.0**	**-0.4**
	comp=Z,26nm,1.4s						
CLL				i x	x	19 06 20.8	
	comp=Z,30nm,1.1s						
CLL				i x	x	19 06 27.6	
CLL				eSSS	SSS	19 36 18.0	
BRG	**Berggiesshubel**	**160.13**	**337**	⇓ePKPf	**PKPdf**	**19 05 34.9**	**+6.0**
BRG				Amp		19 05 38.8	
	comp=Z,28nm,2.0s						
BRG				ePKPab	**PKPab**	**19 06 12.9**	**+3.9**
BRG				Amp		19 06 22.3	
	comp=Z,18nm,1.0s						
BRG	**Berggiesshubel**	**160.13**	**337**	ePKP2	**PKPab**	**19 06 12.8**	**+3.9**
BRG				pmax	pmax		
	comp=Z,18nm,1.0s						
TORD	**Torodi Ar. Bea**	**160.17**	**179**	PKP	**PKPdf**	**19 05 31.1**	**+1.1**
	comp=Z,2.7nm,1.1s,baz=264,slow=1.4,SNR=7.5						
TORD				PKPbc	PKPdf	19 05 43.7	+14
	comp=Z,4.8nm,1.0s,baz=259,slow=2.4,SNR=6.9						
TORD				PKPab	**PKPab**	**19 06 10.3**	**+0.4**
	comp=Z,7.2nm,1.1s,baz=175,slow=3.1,SNR=8.6						
TORD				PP	**PP**	**19 09 54.6**	**+4.1**
	comp=Z,1.3nm,1.0s,baz=131,slow=4.1,SNR=3.8						
PVCC	**Panska Ves**	**160.21**	**336**	ePKP2	**PKPab**	**19 06 13.4**	**+4.1**
PVCC	**Panska Ves**	**160.21**	**336**	ePKPAB	**PKPab**	**19 06 13.4**	**+4.1**
PVCC				ex	x	19 06 22.1	
PRU	**Pruhonice**	**160.67**	**335**	ePKP2	**PKPab**	**19 06 12.4**	**+1.1**
PRU				MLR	MLR		
	comp=Z,400nm,20.7s						
PRU	**Pruhonice**	**160.67**	**335**	ePKPAB	**PKPab**	**19 06 12.4**	**+1.1**
PRU				AMS	AMS	20 25 10.0	
	comp=Z,400nm,20.7s						
VTS	**Vitosha**	**160.68**	**306**	⇓P	**PKPab**	**19 06 17.2**	**+5.3**
VTS	**Vitosha**	**160.68**	**306**	⇓PKP2	**PKPab**	**19 06 17.2**	**+5.3**
KRUC	**Moravsky**	**160.70**	**330**	ePKP	**PKPdf**	**19 05 31.2**	**+1.6**
NKC	**Novy Kostel**	**161.16**	**339**	ePKP2	**PKPab**	**19 06 16.2**	**+2.7**
NKC	**Novy Kostel**	**161.16**	**339**	ePKPAB	**PKPab**	**19 06 16.2**	**+2.7**
NKC				ex	x	19 06 26.0	
FRGS	**Fruska Gora**	**161.64**	**316**	⇓P	PKPab	19 05 58.9	-17
MORH	**Mrgy, Hungar**	**161.65**	**321**	⇑P	**PKPdf**	**19 05 31.5**	**+0.8**
CKRC	**Cesky Krumlov**	**161.72**	**333**	ePKPDF	**PKPdf**	**19 05 32.1**	**+1.4**
CKRC				ex	x	19 05 44.0	
CKRC				ePKPAB	**sPKPab**	**19 06 17.9**	**0.0**
CKRC				ex	x	19 06 28.5	
KHC	**Kasperske Hory**	**161.74**	**335**	ePKIKP	**PKPdf**	**19 05 30.5**	**-0.3**
KHC				e		19 06 16.8	
KHC	**Kasperske Hory**	**161.74**	**335**	ePKPDF	**PKPdf**	**19 05 30.5**	**-0.3**
KHC				ex	x	19 05 43.5	
KHC				ePKPAB	**pPKPab**	**19 06 16.8**	**-0.6**
KHC				ex	x	19 06 28.7	
CONA	**Conrad Observa**	**161.80**	**329**	eP	**PKPab**	**19 06 17.7**	**+1.3**
	comp=Z,22nm,1.0s						
GERES	**GERESS Array B**	**161.93**	**334**	PKPbc	PKPdf	19 05 43.8	+13
	comp=Z,1.5nm,0.9s,baz=325,slow=1.6,SNR=6.7						
GERES				PKPab	pPKPab	19 06 17.6	-0.8
	comp=Z,1.7nm,0.8s,baz=38,slow=6.8,SNR=6.9						
GRF	**Grafenberg Arr**	**162.00**	**340**	ePKPab	**PKPab**	**19 06 19.5**	**+2.3**
	baz=27,slow=4.0						
MOA	**Molln**	**162.53**	**331**	eP	**PKPab**	**19 06 20.8**	**+1.2**
	comp=Z,12nm,1.6s						
BIOA	**Bad Ischl, Aus**	**162.91**	**332**	eP	**PKPab**	**19 06 22.2**	**+1.0**
	comp=Z,17nm,1.3s						
OBKA	**Obir**	**163.46**	**328**	eP	**PKPab**	**19 06 24.0**	**+0.2**
	comp=Z,13nm,1.1s						
RETA	**Reutte**	**164.11**	**338**	eP	**PKPab**	**19 06 28.0**	**+1.4**
	comp=Z,21nm,1.2s						
ABTA	**Abfaltersbach**	**164.12**	**332**	eP	**PKPab**	**19 06 26.4**	**-0.3**
	comp=Z,12nm,1.3s						
MOTA	**Moosalm**	**164.12**	**337**	eP	**PKPab**	**19 06 29.9**	**+3.2**
	comp=Z,27nm,1.4s						
FETA	**Feichten**	**164.53**	**337**	eP	**PKPab**	**19 06 29.3**	**+0.7**
	comp=Z,9.9nm,1.1s						
DAVA	**Damuels**	**164.56**	**339**	eP	**PKPab**	**19 06 30.6**	**+1.9**
	comp=Z,36nm,1.6s						
TUE	**Stuetta**	**165.45**	**339**	PKPdf	**PKPdf**	**19 05 32.5**	**-2.0**
TUE				PKPab	**PKPab**	**19 06 31.3**	**-1.3**
PBRG	**Braganca**	**168.91**	**36**	ePKP	PKPdf	19 06 00.9	+24
PVIS	**Viseu**	**169.07**	**43**	ePKP	**PKPdf**	**19 05 39.7**	**+2.5**
PCBR	**Castelo Branco**	**169.87**	**46**	ePKP	PKPdf	19 05 52.4	+15
PNCL	**Nicolau / Gran**	**170.13**	**56**	ePKP	PKPdf	19 05 53.1	+15
EVO	**Evora**	**170.28**	**53**	ePKP	PKPdf	19 05 53.1	+15
PESTR	**Estremoz**	**170.38**	**50**	ePKP	**PKPdf**	**19 05 40.0**	**+2.0**
MORF	**Marmelete**	**170.39**	**61**	ePKP	**PKPdf**	**19 05 43.6**	**+5.5**
PBEJ	**Beja**	**170.64**	**55**	ePKP	PKPdf	19 05 53.4	+15
PCVE	**Castro Verde**	**170.70**	**58**	ePKP	PKPdf	19 05 53.2	+15
PBDV	**Barranco-do-Ve**	**170.94**	**60**	ePKP	PKPdf	19 05 53.1	+15
PBAR	**Barrancos**	**171.12**	**52**	ePKP	PKPdf	19 05 53.3	+15
ESDC	**Sonseca Array**	**171.89**	**34**	PKP	**PKPdf**	**19 05 39.3**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=318,slow=2.0,SNR=5.6						
ESDC				PKPab	**PKPab**	**19 07 02.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=336,slow=2.8,SNR=2.2						

*TAP **05** 18:46:44.5, 23.°99N×122.°36E, h25km±1km, ML3.0, D*
*JMA **05** 18:46:44.5±0.3, 23.°94N×122.°37E, h15km±4km, M2.9*
ISC 05 18:46:44.4±1.1**, 23.°98N**±0.°02×**122.°35E**±0.°02**, h17**km±8km**,**
n111, σ0.s55/214, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.68**	**270**	eP	**Pb**	**18 46 58.6**	**+0.9**
	baz=268						
HWA				eS	**Sn**	**18 47 08.8**	**-0.5**
	baz=268						
ETL	**Fush Village**	**0.68**	**285**	eP	**Pb**	**18 46 58.6**	**+0.8**
	baz=283						
ETL				eS	**Sb**	**18 47 08.4**	**+1.4**
	baz=283						
TWD	**Chiawan**	**0.69**	**278**	P	**Pb**	**18 46 58.3**	**+0.3**
	baz=277						
TWD				S	**Sb**	**18 47 08.3**	**+1.1**
	baz=277						
EWUT	**Wuta**	**0.69**	**312**	P	**Pg**	**18 46 58.0**	**0.0**
	baz=310						
EWUT				S	**Sb**	**18 47 07.7**	**+0.5**
	baz=310						
ENA	**Nanau**	**0.71**	**309**	P	**Pg**	**18 46 58.3**	**0.0**
	baz=308						
ENA				eS	**Sb**	**18 47 08.8**	**+1.0**
	baz=308						
NACB	**Ninganchiao**	**0.71**	**286**	P	**Pb**	**18 46 58.7**	**+0.4**
	baz=284						
NACB				S	**Sb**	**18 47 09.0**	**+1.2**
	baz=284						
JYNG	**Yonagunijimaku**	**0.72**	**49**	P	**Pg**	**18 46 58.5**	**0.0**
TWC	**Suao**	**0.77**	**324**	P	**Pg**	**18 46 59.0**	**-0.4**
	baz=323						
TWC				eS	**Sb**	**18 47 10.2**	**+0.7**
	baz=323						
YOJ	**Yonaguni jima**	**0.77**	**52**	P	**Pg**	**18 46 59.4**	**0.0**
YOJ	**Yonaguni jima**	**0.77**	**52**	P	**Pg**	**18 46 59.4**	**0.0**
	baz=51						
YOJ				eS	**Sb**	**18 47 10.0**	**+0.4**
	baz=51						
ETLH	**Xiulin Townshi**	**0.82**	**286**	P	**Pg**	**18 47 00.5**	**+0.1**
	baz=285						
ETLH				S	**Sb**	**18 47 11.5**	**+0.4**
	baz=285						
ESL	**Shilin**	**0.85**	**259**	eP	**Pb**	**18 47 00.2**	**-0.5**
	baz=257						
ESL				eS	**Sb**	**18 47 12.9**	**+1.0**
	baz=257						
NDS	**Dongshan**	**0.87**	**319**	P	**Pb**	**18 47 00.9**	**0.0**
	baz=317						
NDS				eS	**Sg**	**18 47 12.1**	**-0.6**
	baz=317						
LATG	**Datong**	**0.93**	**306**	P	**Pb**	**18 47 02.3**	**+0.2**
	baz=305						
LATG				eS	**Sg**	**18 47 15.2**	**+0.5**
	baz=305						
EGS		**0.94**	**336**	eP	**Pb**	**18 47 02.2**	**0.0**
	baz=336						
EGS				eS	**Sb**	**18 47 14.8**	**+0.5**
	baz=336						
ILA	**Ilan**	**0.95**	**325**	eP	**Pb**	**18 47 02.4**	**0.0**
	baz=324						
ILA				eS	**Sb**	**18 47 14.9**	**+0.1**
	baz=324						
TWE	**Neicheng**	**0.96**	**320**	P	**Pb**	**18 47 02.6**	**0.0**
	baz=319						
TWE				eS	**Sb**	**18 47 15.2**	**+0.2**
	baz=319						
ENTT	**Nioudou**	**0.97**	**313**	eP	**Pb**	**18 47 02.8**	**+0.1**
	baz=312						
ENTT				eS	**Sb**	**18 47 15.5**	**+0.3**
	baz=312						
HGSD	**Ruisui**	**0.98**	**240**	P	**Pb**	**18 47 02.2**	**-0.6**
	baz=239						
HGSD				eS	**Sg**	**18 47 16.5**	**+0.3**
	baz=239						
NDT	**Datong Townshi**	**0.98**	**309**	eP	**Pb**	**18 47 03.0**	**+0.1**
	baz=308						
NDT				eS	**Sg**	**18 47 16.3**	**0.0**
	baz=308						
NNSB	**Datong**	**0.98**	**297**	eP	**Pb**	**18 47 03.1**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=296						
NNSB				eS	Sg	18 47 16.4	-0.1
	baz=296						
NTC	**Toucheng**	**0.99**	**332**	eP	**Pb**	**18 47 03.0**	**0.0**
	baz=330						
NTC				eS	Sb	18 47 15.9	+0.2
	baz=330						
NNS	**Nan Shan**	**1.00**	**297**	P	**Pb**	**18 47 03.6**	**+0.3**
	baz=296						
NNS				eS	Sb	18 47 16.5	+0.3
	baz=296						
WHF	**Hehuan Shan**	**1.00**	**280**	P	**Pb**	**18 47 03.4**	**-0.1**
	baz=278						
WHF				S	Sb	18 47 16.9	+0.3
	baz=278						
FUSB	**Fushanzhiwuyua**	**1.04**	**318**	P	**Pb**	**18 47 04.2**	**+0.2**
	baz=317						
FUSB				eS	Sb	18 47 17.2	-0.1
	baz=317						
FUSS	**Fushou**	**1.04**	**285**	P	**Pb**	**18 47 04.1**	**0.0**
	baz=284						
FUSS				eS	Sb	18 47 18.0	+0.4
	baz=284						
EHY	**Hungye**	**1.05**	**243**	P	**Pb**	**18 47 03.5**	**-0.6**
	baz=242						
EHY				eS	Sb	18 47 17.8	+0.1
	baz=242						
TWB1	**Santiao Chiao**	**1.07**	**342**	eP	**Pb**	**18 47 04.1**	**-0.3**
	baz=342						
TWB1				eS	Sb	18 47 17.7	-0.5
	baz=342						
CHGB	**Renai**	**1.07**	**274**	P	**Pb**	**18 47 04.5**	**-0.1**
	baz=273						
CHGB				eS	Sb	18 47 19.0	+0.6
	baz=273						
TIPB	**Shuangxi**	**1.09**	**334**	P	**Pb**	**18 47 04.1**	**-0.7**
	baz=333						
TIPB				S	Sb	18 47 18.9	+0.1
	baz=333						
TWT	**Tachien**	**1.10**	**284**	eP	**Pb**	**18 47 04.9**	**-0.2**
	baz=283						
TWT				eS	Sb	18 47 19.8	+0.6
	baz=283						
NWLT	**Wulai**	**1.10**	**316**	eP	**Pn**	**18 47 05.5**	**+0.4**
	baz=315						
NWLT				eS	Sb	18 47 19.5	+0.4
	baz=315						
TDCB	**Techi**	**1.12**	**284**	eP	**Pb**	**18 47 04.9**	**-0.5**
	baz=283						
TDCB				eS	Sb	18 47 19.3	-0.4
	baz=283						
YHNB	**Yeheng**	**1.12**	**308**	eP	**Pb**	**18 47 04.7**	**-0.6**
	baz=307						
YHNB				eS	Sb	18 47 19.3	-0.3
	baz=307						
WUSB	**Renai**	**1.12**	**271**	P	**Pb**	**18 47 05.2**	**-0.3**
	baz=270						
WUSB				eS	Sb	18 47 20.1	+0.2
	baz=270						
VWDT	**VWDT**	**1.13**	**259**	P	**Pb**	**18 47 05.1**	**-0.3**
	baz=258						
VWDT				eS	Sb	18 47 20.3	+0.6
	baz=258						
YULB	**Yu-li**	**1.13**	**239**	P	**Pb**	**18 47 04.6**	**-0.8**
	baz=238						
YULB				S	Sb	18 47 19.3	-0.5
	baz=238						
EYUL	**Yuli**	**1.14**	**236**	P	**Pb**	**18 47 04.8**	**-0.7**
	baz=235						
EYUL				S	Sb	18 47 20.1	+0.1
	baz=235						
NSK	**Sanguang**	**1.14**	**308**	eP	**Pb**	**18 47 05.7**	**+0.1**
	baz=306						
NSK				eS	Sb	18 47 20.6	+0.6
	baz=306						
SXI1	**Grass Mountain**	**1.19**	**339**	eP	**Pn**	**18 47 05.7**	**-0.5**
	baz=338						
SXI1				eS	Sb	18 47 21.1	-0.5
	baz=338						
NWF	**Wu-fen Shan**	**1.20**	**335**	eP	**Pn**	**18 47 06.2**	**-0.2**
	baz=334						
NWF				eS	Sb	18 47 21.6	-0.4
	baz=334						
TWA	**Mucha**	**1.21**	**325**	eP	**Pn**	**18 47 06.6**	**0.0**
	baz=324						
TWA				eS	Sb	18 47 21.8	-0.4
	baz=324						
NHDH	**Xindian Distri**	**1.23**	**323**	eP	**Pn**	**18 47 06.5**	**-0.3**
	baz=321						
NHDH				eS	Sb	18 47 22.2	-0.6
	baz=321						
FULB	**Fuli**	**1.24**	**231**	P	**Pn**	**18 47 05.9**	**-1.1**
	baz=230						
FULB				eS	Sb	18 47 22.3	-0.8
	baz=230						
SSLB	**Suanglung**	**1.29**	**262**	eP	**Pn**	**18 47 07.6**	**0.0**
	baz=261						
SSLB				eS	Sb	18 47 24.2	-0.3
	baz=261						
NFF	**Wufeng Townshi**	**1.29**	**300**	eP	**Pn**	**18 47 07.5**	**-0.2**
	baz=299						
NFF				eS	Sb	18 47 24.2	-0.4
	baz=299						
IRIF	**Iriomote-Funau**	**1.31**	**74**	P	**Pn**	**18 47 07.8**	**-0.1**
IRIF				eS	Sb	18 47 25.0	-0.1
WHP	**Taichung City**	**1.31**	**283**	eP	**Pn**	**18 47 08.3**	**+0.3**
	baz=282						
WHP				eS	Sb	18 47 25.0	-0.2
	baz=282						
WCS	**Beigang Elemen**	**1.31**	**274**	eP	**Pn**	**18 47 07.9**	**0.0**
	baz=272						
WCS				eS	Sb	18 47 24.9	-0.2
	baz=272						
SMLT	**Sun Moon Lake**	**1.33**	**266**	eP	**Pn**	**18 47 08.2**	**0.0**
	baz=265						
SMLT				eS	Sb	18 47 25.1	-0.5
	baz=265						
HATJ	**Hateruma jima**	**1.34**	**87**	P	**Pn**	**18 47 08.6**	**+0.4**
HATJ				eS	Sn	18 47 26.0	+0.4
YM01	**YM01**	**1.36**	**329**	eP	**Pn**	**18 47 08.4**	**-0.2**
	baz=328						
YM01				eS	Sn	18 47 25.3	-0.9
	baz=328						
TYC	**Yuchr**	**1.36**	**267**	eP	**Pn**	**18 47 08.5**	**-0.2**
	baz=266						
TYC				eS	Sn	18 47 26.4	+0.1
	baz=266						
YUS	**Yu-Shan**	**1.37**	**249**	eP	**Pn**	**18 47 09.1**	**0.0**
	baz=248						
YUS				eS	Sb	18 47 26.2	-1.0
	baz=248						
LIOB	**Emei**	**1.38**	**299**	eP	**Pn**	**18 47 09.7**	**+0.8**
	baz=298						
LIOB				eS	Sn	18 47 27.2	+0.4
	baz=298						
NSTT	**Nanjuang**	**1.39**	**298**	eP	**Pn**	**18 47 08.6**	**-0.3**
	baz=297						
NSTT				eS	Sn	18 47 26.2	-0.7
	baz=297						
EDH	**Donghe**	**1.39**	**224**	eP	**Pn**	**18 47 08.2**	**-0.7**
	baz=223						
EDH				eS	Sn	18 47 26.8	-0.1
	baz=223						
TWS1	**Kuangyinshan**	**1.40**	**323**	eP	**Pn**	**18 47 09.7**	**+0.6**
	baz=322						
TWS1				eS	Sb	18 47 27.9	+0.4
	baz=322						
ANP	**Anpu**	**1.42**	**328**	eP	**Pn**	**18 47 08.7**	**-0.7**
	baz=327						
ANP				eS	Sn	18 47 26.4	-1.3
	baz=327						
NTST	**Danshui**	**1.43**	**325**	eP	**Pn**	**18 47 09.1**	**-0.5**
	baz=324						
NTST				eS	Sn	18 47 27.4	-0.6
	baz=324						
ELDTW	**Lidau**	**1.45**	**237**	eP	**Pn**	**18 47 09.1**	**-0.9**
	baz=236						
ELDTW				eS	Sn	18 47 27.1	-1.5
	baz=236						
TWQ1	**Liyutan**	**1.48**	**285**	eP	**Pn**	**18 47 11.0**	**+0.8**
	baz=283						
TWQ1				eS	Sn	18 47 29.1	-0.1
	baz=283						
ALS	**Alishan**	**1.49**	**252**	eP	**Pn**	**18 47 10.6**	**0.0**
	baz=251						
ALS				eS	Sn	18 47 29.1	-0.6
	baz=251						
WJS	**Zhushan**	**1.49**	**264**	eP	**Pn**	**18 47 10.6**	**+0.2**
	baz=263						
WJS				eS	Sn	18 47 29.1	-0.4
	baz=263						
WNT	**Mingjian**	**1.52**	**266**	eP	**Pn**	**18 47 10.4**	**-0.4**
	baz=265						
WNT				eS	Sn	18 47 30.1	-0.2
	baz=265						
LDUT	**Ludao**	**1.53**	**212**	eP	**Pn**	**18 47 09.8**	**-1.1**
	baz=211						
LDUT				eS	Sn	18 47 29.3	-1.1
	baz=211						
TCU	**Taichung**	**1.54**	**276**	eP	**Pn**	**18 47 11.1**	**+0.1**
	baz=275						
TCU				eS	Sn	18 47 30.2	-0.4
	baz=275						
JKRS	**Kuro-shima**	**1.54**	**80**	P	**Pb**	**18 47 12.5**	**+0.1**
JKRS				eS	Sb	18 47 32.0	+0.3
LONT	**Longtian**	**1.55**	**226**	eP	**Pn**	**18 47 10.4**	**-0.7**
	baz=226						
LONT				eS	Sn	18 47 29.7	-1.1
	baz=226						
CHN5	**Tsauling**	**1.58**	**256**	eP	**Pn**	**18 47 11.4**	**-0.2**
	baz=255						
CHN5				eS	Sn	18 47 31.3	-0.4
	baz=255						
WCHH	**Zhanghua**	**1.64**	**274**	eP	**Pn**	**18 47 12.7**	**+0.3**
	baz=273						
WCHH				eS	Sn	18 47 32.5	-0.5
	baz=273						
TWGBT	**Beinan**	**1.64**	**225**	eP	**Pn**	**18 47 11.9**	**-0.6**
	baz=225						
TWGBT				eS	Sn	18 47 31.3	-1.9
	baz=225						
TWG	**Pinlang**	**1.65**	**226**	eP	**Pn**	**18 47 12.0**	**-0.5**
	baz=225						
TWG				eS	Sn	18 47 32.6	-0.6
	baz=225						
STYH	**Taoyuan**	**1.65**	**241**	eP	**Pn**	**18 47 12.7**	**+0.2**
	baz=240						
STYH				eS	Sn	18 47 33.1	-0.3
	baz=240						
WDLH	**Douliu**	**1.68**	**260**	eP	**Pn**	**18 47 13.1**	**+0.2**
	baz=259						
WDLH				eS	Sn	18 47 33.7	-0.5
	baz=259						
JIJ	**Ishigaki jima**	**1.68**	**77**	P	**Pn**	**18 47 13.2**	**+0.2**
JIJ				S	Sn	18 47 34.6	+0.4
TPUB	**Ta-pu**	**1.71**	**247**	eP	**Pn**	**18 47 13.3**	**-0.2**
	baz=246						
TPUB				eS	Sn	18 47 34.7	-0.3
	baz=246						
CHN4	**Tsaushan**	**1.73**	**249**	eP	**Pn**	**18 47 13.9**	**+0.3**
	baz=248						
CHN4				eS	Sn	18 47 34.9	-0.3
	baz=248						
WTP	**Ta-pu**	**1.75**	**246**	eP	**Pn**	**18 47 14.2**	**+0.2**
	baz=244						
WTP				eS	Sn	18 47 35.5	-0.4
	baz=244						
WRL	**Guolierlin Hig**	**1.80**	**268**	eP	**Pn**	**18 47 14.8**	**+0.1**
	baz=267						
WRL				eS	Sn	18 47 36.8	-0.3
	baz=267						
WTK	**Tuku**	**1.82**	**261**	eP	**Pn**	**18 47 15.3**	**+0.4**
	baz=260						
WTK				eS	Sn	18 47 37.6	+0.2
	baz=260						
SLGT	**Liugui**	**1.84**	**238**	eP	**Pn**	**18 47 16.0**	**+0.8**
	baz=237						
SLGT				eS	Sn	18 47 38.6	+0.4
	baz=237						
CHN1	**Nanshi**	**1.85**	**245**	eP	**Pn**	**18 47 15.3**	**0.0**
	baz=244						
CHN1				eS	Sn	18 47 38.1	-0.2
	baz=244						
SGST	**Jiashian**	**1.85**	**241**	eP	**Pn**	**18 47 15.6**	**+0.3**
	baz=240						
SGST				eS	Sn	18 47 38.2	-0.1
	baz=240						
SNST	**Tainan City**	**1.86**	**246**	eP	**Pn**	**18 47 16.2**	**+0.8**
	baz=245						
SNST				eS	Sn	18 47 38.9	+0.4
	baz=245						
ECL	**Taimali**	**1.88**	**223**	eP	**Pn**	**18 47 15.4**	**-0.4**
	baz=222						
ECL				eS	Sn	18 47 39.3	+0.2
	baz=222						
JISG	**Ishigakijimahi**	**1.89**	**71**	P	**Pn**	**18 47 15.9**	**0.0**
WTCT	**Ta-ch'eng**	**1.89**	**267**	eP	**Pn**	**18 47 16.0**	**+0.2**
	baz=266						
WTCT				eS	Sn	18 47 38.9	-0.4
	baz=266						
WSF	**Szhu**	**1.98**	**260**	eP	**Pn**	**18 47 17.4**	**+0.4**
	baz=259						
WSF				eS	Sn	18 47 41.2	-0.2
	baz=259						
ICHU	**Yijhu**	**1.99**	**252**	eP	**Pn**	**18 47 18.1**	**+0.8**
	baz=251						
ICHU				eS	Sn	18 47 43.3	+1.4
	baz=251						
WSL	**Shuilin Townsh**	**1.99**	**257**	eP	**Pn**	**18 47 17.8**	**+0.5**
	baz=256						
WSL				eS	Sn	18 47 41.7	-0.1
	baz=256						
SSD	**Sandimen**	**2.00**	**232**	eP	**Pn**	**18 47 18.0**	**+0.6**
	baz=231						
SSD				eS	Sn	18 47 42.3	+0.4
	baz=231						
TSMG	**Majia**	**2.02**	**231**	eP	**Pn**	**18 47 18.2**	**+0.6**
	baz=230						
TSMG				eS	Sn	18 47 42.4	0.0
	baz=230						
SCST	**Cishan**	**2.02**	**238**	eP	**Pn**	**18 47 18.0**	**+0.3**
	baz=237						
SCST				eS	Sn	18 47 42.4	-0.1
	baz=237						
CHN8	**Yiju**	**2.06**	**252**	eS	**Sn**	**18 47 43.0**	**-0.4**
	baz=251						
LAY	**Lan-yu**	**2.07**	**201**	eP	**Pn**	**18 47 18.7**	**+0.3**
	baz=200						
LAY				eS	Sn	18 47 44.0	+0.2
	baz=200						
SHHT	**Tainan City**	**2.07**	**243**	eP	**Pn**	**18 47 18.6**	**+0.3**
	baz=242						
SHHT				eS	Sn	18 47 43.6	-0.1
	baz=242						
MASBT	**Mashibuluo**	**2.08**	**229**	eP	**Pn**	**18 47 18.9**	**+0.4**
	baz=229						
MASBT				eS	Sn	18 47 44.2	+0.1
	baz=229						
EAST	**Anshuo**	**2.11**	**221**	eP	**Pn**	**18 47 19.4**	**+0.5**
	baz=220						
EAST				eS	Sn	18 47 44.9	+0.2
	baz=220						
TWM1	**Shoushan**	**2.11**	**237**	eP	**Pn**	**18 47 19.0**	**+0.1**
	baz=236						
TWM1				eS	Sn	18 47 44.5	-0.3
	baz=236						
TAWH	**Dawu Township**	**2.12**	**220**	eP	**Pn**	**18 47 20.5**	**+1.5**
	baz=219						
TAWH				eS	Sn	18 47 45.4	+0.6
	baz=219						
SCZT	**Fangliau**	**2.26**	**225**	eP	**Pn**	**18 47 21.9**	**+1.0**
	baz=224						
SCZT				eS	Sn	18 47 48.5	+0.1
	baz=224						
SLIU	**Shizi**	**2.26**	**219**	eP	**Pn**	**18 47 21.2**	**+0.2**
	baz=219						
SLIU				eS	Sn	18 47 48.0	-0.5
	baz=219						
HEN	**Hengchun**	**2.46**	**217**	eP	**Pn**	**18 47 25.3**	**+1.6**
	baz=216						
TWKBT	**Hengchun**	**2.48**	**215**	eS	**Sn**	**18 47 54.7**	**+0.9**
	baz=214						
WDGT	**Dungji**	**2.57**	**254**	eP	**Pn**	**18 47 26.2**	**+1.0**
	baz=253						
WDGT				eS	Sn	18 47 56.5	+0.5
	baz=253						
PHUB	**P'eng-hu**	**2.58**	**260**	eP	**Pn**	**18 47 26.0**	**+0.6**
	baz=259						
PHUB				eS	Sn	18 47 56.4	0.0
	baz=259						
PNG	**Penghu**	**2.59**	**261**	eP	**Pn**	**18 47 26.2**	**+0.7**
	baz=260						
PNG				eS	Sn	18 47 56.7	+0.2
	baz=260						
VCHM	**Qimei**	**2.78**	**255**	eS	**Sn**	**18 48 01.7**	**+0.3**
	baz=253						
MATB	**Ma-tsu**	**3.07**	**315**	eS	**Sn**	**18 48 07.7**	**-0.6**
	baz=314						
PTMZ	**Houxiangcun**	**3.12**	**290**	eP	**Pn**	**18 47 33.8**	**+1.0**
	baz=289						
PTMZ				eS	Sn	18 48 09.1	-0.5
	baz=289						

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*SFS **05** 19:06:43.0, 35.°43N×3.°82W, ML2.5, ALBORAN SUR*
*MDD **05** 19:06:43.5±0.7, 35.°43N×3.°81W, h2km±5km, mb_Lg2.6/5,*
Error ellipse: s-maj=4.9km s-min=3.3km az=154.0
*CNRM **05** 19:06:45.5, 35.°39N×3.°82W, h24km, ml2.8*
ISC 05 19:06:43.2±1.2, **35.°47N**±0.°02×**3.°81W**±0.°03, **h8**km±10km,
n27, σ**1.s46**/52, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.27**	**203**	P	**Pb**	**19 06 51.0**	**+0.8**
PALE				S	**Sb**	**19 06 55.5**	**+0.5**
GOG	**Mont Gurugu**	**0.71**	**110**	P	**Pb**	**19 06 57.8**	**-0.1**
GOG				S	**Sb**	**19 07 08.0**	**+0.2**
EMEL	**Melilla**	**0.72**	**103**	Pg	**Pg**	**19 06 57.4**	**+0.4**
EMEL				Sg	**Sg**	**19 07 06.2**	**-0.2**
EALB	**Alboran**	**0.79**	**53**	Pg	**Pg**	**19 06 57.4**	**-1.0**
EALB				Sg	**Sg**	**19 07 09.3**	**+0.6**
EALB				i Vmb_Lg		19 07 26.7	
SMIR	**Smir Dam**	**1.30**	**280**	P	**Pn**	**19 07 06.7**	**-0.8**
SMIR				S	**Sg**	**19 07 24.9**	**+0.1**
CHEFC	**Chefchaouen**	**1.30**	**254**	P	**Pn**	**19 07 08.6**	**+1.0**
CHEFC				S	**Sg**	**19 07 24.3**	**-0.7**
TAF	**Taforalt**	**1.32**	**119**	P	**Pn**	**19 07 07.0**	**-0.9**
TAF				S	**Sn**	**19 07 26.2**	**+0.5**
CEU	**Ceuta**	**1.34**	**289**	P	**Pn**	**19 07 07.7**	**-0.5**
CEU				S	**Sb**	**19 07 21.0**	**-4.8**
EMIJ	**Mijas**	**1.34**	**325**	Pn	**Pn**	**19 07 08.8**	**+0.5**
EMIJ				Sn	**Sb**	**19 07 26.6**	**+0.6**
EMIJ				i Vmb_Lg		19 07 31.1	
EMAL	**Malaga-Limoner**	**1.39**	**339**	P	**Pn**	**19 07 09.9**	**+1.2**
EMAL				S	**Sb**	**19 07 25.1**	**-2.1**
ELGU	**Los Guajares,**	**1.41**	**6**	Pn	**Pn**	**19 07 08.7**	**-0.4**
ELGU				Sn	**Sb**	**19 07 29.1**	**+1.3**
ELGU				i Vmb_Lg		19 07 30.1	
JBK	**JBK**	**1.52**	**137**	P	**Pn**	**19 07 10.5**	**-0.3**
JBK				S	**Sn**	**19 07 28.5**	**-2.5**
EGOR	**Sierra Gorda,**	**1.66**	**352**	Pn	**Pn**	**19 07 13.8**	**+1.2**
EGOR				i Vmb_Lg		19 07 31.5	
EGOR				Sn	**Sn**	**19 07 34.8**	**+0.6**
LCRM	**LCR**	**1.97**	**206**	P	**Pb**	**19 07 19.2**	**-0.2**
LCRM				S	**Sb**	**19 07 45.1**	**+0.9**
IFR	**Ifrane**	**2.23**	**210**	P	**Pn**	**19 07 21.4**	**+0.8**
IFR				S	**Sn**	**19 07 47.6**	**-0.7**
CZD	**Col de Zad**	**2.63**	**203**	P	**Pn**	**19 07 27.2**	**+1.0**
CZD				S	**Sn**	**19 07 55.3**	**-3.1**
MD31	**MD31**	**2.71**	**197**	P	**Pn**	**19 07 28.1**	**+1.1**
MD31				S	**Sn**	**19 08 00.5**	**+0.4**
MDT	**Midelt**	**2.73**	**194**	P	**Pn**	**19 07 28.1**	**+0.8**
MDT				S	**Sn**	**19 08 01.7**	**+1.2**
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**19 07 29.8**	**+0.1**
ECAB				Sn	**Sn**	**19 08 03.2**	**-1.7**
EGRO	**El Granado**	**3.61**	**306**	Sn	**Sn**	**19 08 20.3**	**-1.7**
ETOB	**Tobarra**	**3.65**	**29**	Pn	**Pn**	**19 07 41.2**	**+1.2**
ETOB				Sn	**Sn**	**19 08 21.7**	**-1.6**
PVAQ	**Vaqueiros**	**3.69**	**303**	P	**Pn**	**19 07 41.3**	**+0.7**
PVAQ				S	**Sn**	**19 08 26.4**	**+2.1**
PAB	**San Pablo**	**4.09**	**354**	Pn	**Pn**	**19 07 46.6**	**+0.5**
PAB				Sn	**Sn**	**19 08 33.9**	**-0.4**
EBAD	**Badajoz**	**4.16**	**323**	Pn	**Pn**	**19 07 47.9**	**+0.9**
EBAD				Sn	**Sn**	**19 08 35.1**	**-0.6**
ESDC	**Sonseca Array**	**4.20**	**358**	Pn	**Pn**	**19 07 49.1**	**+1.5**
PESTR	**Estremoz**	**4.54**	**319**	P	**Pn**	**19 07 55.0**	**+2.8**
PESTR				S	**Sn**	**19 08 48.1**	**+3.0**
OUZM	**OUZ**	**5.17**	**209**	P	**Pn**	**19 08 03.0**	**+2.0**
OUZM				S	**Sn**	**19 08 60.0**	**-0.9**

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*NNC **05** 19:18:16.0±0.5, 44.°48N×79.°49E, h0km, mb2.7, mpv2.9,*
Error ellipse: s-maj=3.6km s-min=3.0km az=45.0
*SOME **05** 19:18:16.4, 44.°53N×79.°52E, h15km*
ISC 05 19:18:16.5±1.0, **44.°50N**±0.°03×**79.°52E**±0.°03, **h11**km±9km,
n42, σ**0.s80**/74, **3C-1D**, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.26**	**130**	eP	**Pg**	**19 18 22.3**	**+0.5**
	32nm,0.1s						
DJR				eS	**Sg**	**19 18 26.5**	**+1.1**
	53nm,0.1s						
DJR	**Jarkent**	**0.26**	**130**	P	**Pg**	**19 18 22.4**	**+0.5**
	40nm,0.1s						
DJR				S	**Sg**	**19 18 25.7**	**+0.3**
	86nm,0.2s						
KNOS	**Konyrlen**	**0.28**	**241**	eP	**Pb**	**19 18 22.8**	**-0.8**
	3.8nm,0.1s						
KNOS				eS	**Sb**	**19 18 27.2**	**-1.2**
	19nm,0.1s						
KAPS	**Kapalarasan**	**0.80**	**352**	eP	**Pg**	**19 18 31.4**	**-0.5**
	1.5nm,0.1s						
KAPS				eS	**Sg**	**19 18 41.5**	**-0.8**
	3.0nm,0.1s						
KAPS	**Kapalarasan**	**0.80**	**352**	P	**Pg**	**19 18 31.4**	**-0.5**
	3.5nm,0.1s						
KAPS				S	**Sg**	**19 18 41.5**	**-0.8**
	2.7nm,0.2s						
BLB	**Baldybastay**	**0.85**	**242**	eP	**Pg**	**19 18 32.7**	**-0.2**
	9.2nm,0.1s						
BLB				eS	**Sg**	**19 18 43.6**	**-0.4**
	17nm,0.2s						
BLB	**Baldybastay**	**0.85**	**242**	P	**Pg**	**19 18 32.7**	**-0.2**
	9.2nm,0.1s						
BLB				S	**Sg**	**19 18 43.6**	**-0.4**
	17nm,0.2s						
PDGK	**Podgornoye**	**1.17**	**181**	P	**Pg**	**19 18 37.9**	**-1.1**
	1.5nm,0.1s						
PDGK				S	**Sg**	**19 18 52.6**	**-1.5**
	1.0nm,0.3s						
PDGK	**Podgornoye**	**1.17**	**181**	⇑P	**Pg**	**19 18 37.8**	**-1.1**
	0.9nm,0.5s						
PDGK				⇓S	**Sg**	**19 18 53.4**	**-0.8**
	1.2nm,0.5s						
KPKS	**Kokpek**	**1.19**	**211**	eP	**Pg**	**19 18 38.4**	**-1.1**
	3.8nm,0.1s						
KPKS				eS	**Sg**	**19 18 53.4**	**-1.6**
	27nm,0.3s						
KTMS	**Ketmen**	**1.21**	**150**	eP	**Pg**	**19 18 38.6**	**-1.2**
	1.8nm,0.2s						
KTMS				eS	**Sg**	**19 18 53.9**	**-1.7**
	5.5nm,0.2s						
KTMS	**Ketmen**	**1.21**	**150**	P	**Pg**	**19 18 38.6**	**-1.2**
	1.8nm,0.2s						
KTMS				S	**Sg**	**19 18 53.9**	**-1.7**
	5.5nm,0.2s						
ARXS	**Arharly**	**1.25**	**257**	eP	**Pb**	**19 18 39.6**	**-0.5**
	2.2nm,0.2s						
ARXS				eS	**Sg**	**19 18 55.5**	**-1.2**
	8.0nm,0.1s						
ARXS	**Arharly**	**1.25**	**257**	P	**Pb**	**19 18 39.6**	**-0.5**
	2.2nm,0.2s						
ARXS				S	**Sg**	**19 18 55.5**	**-1.2**
	8.0nm,0.1s						
SHLS	**Shalkode**	**1.34**	**182**	eP	**Pg**	**19 18 42.2**	**-0.1**
	1.7nm,0.1s						
SHLS				eS	**Sn**	**19 18 59.9**	**+0.9**
	3.3nm,0.3s						
SHLS	**Shalkode**	**1.34**	**182**	P	**Pg**	**19 18 42.2**	**-0.1**
	1.7nm,0.1s						
SHLS				S	**Sn**	**19 18 59.9**	**+0.9**
	3.3nm,0.3s						
UZB	**Uzynbulak**	**1.40**	**195**	eP	**Pb**	**19 18 42.7**	**+0.1**
	7.8nm,0.2s						
UZB				eS	**Sb**	**19 19 00.7**	**+0.2**
	12nm,0.3s						
UZB	**Uzynbulak**	**1.40**	**195**	P	**Pb**	**19 18 42.7**	**+0.1**
	7.8nm,0.2s						
UZB				S	**Sb**	**19 19 00.7**	**+0.2**
	12nm,0.3s						
KURS	**Kuram**	**1.40**	**224**	eP	**Pg**	**19 18 43.4**	**0.0**
	0.8nm,0.1s						
KURS				eS	**Sg**	**19 19 02.0**	**+0.4**
	3.4nm,0.2s						
KURS	**Kuram**	**1.40**	**224**	P	**Pg**	**19 18 43.4**	**0.0**
	0.8nm,0.1s						
KURS				S	**Sg**	**19 19 02.0**	**+0.4**
	3.4nm,0.2s						
ZHN	**Zhinishke**	**1.54**	**211**	eP	**Pb**	**19 18 45.1**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.7nm,0.2s						
ZHN				eS	Sb	19 19 04.9	+0.2
	26nm,0.2s						
ZHN	Zhinishke	1.54	211	P	Pb	19 18 45.1	-0.1
	4.7nm,0.2s						
ZHN				S	Sb	19 19 04.9	+0.2
	26nm,0.2s						
SATY	Saty	1.65	210	eP	Pb	19 18 46.7	-0.2
	2.2nm,0.1s						
SATY				eS	Sn	19 19 07.6	+0.9
	17nm,0.1s						
SATY	Saty	1.65	210	P	Pb	19 18 46.7	-0.2
	2.2nm,0.1s						
SATY				S	Sn	19 19 07.6	+0.9
	17nm,0.1s						
CHKK	Chushkaly	1.93	251	eP	Pb	19 18 51.5	-0.2
	1.4nm,0.1s						
CHKK				eS	Sb	19 19 15.8	+0.1
	7.9nm,0.1s						
CHKK	Chushkaly	1.93	251	P	Pb	19 18 51.5	-0.2
	1.4nm,0.1s						
CHKK				S	Sb	19 19 15.8	+0.1
	7.9nm,0.1s						
KOTS	Kotyrbulak	2.15	235	eP	Pb	19 18 55.6	+0.1
	0.7nm,0.1s						
KOTS				eS	Sb	19 19 22.7	+0.5
	8.9nm,0.3s						
KOTS	Kotyrbulak	2.15	235	Pg	Pb	19 18 55.6	+0.1
	0.7nm,0.1s						
KOTS				Lg	Lg	19 19 22.7	
	8.9nm,0.3s						
KTBS	Karatobe	2.19	250	eP	Pb	19 18 56.5	+0.5
	0.4nm,0.2s						
KTBS				eS	Sb	19 19 24.4	+1.2
	5.4nm,0.2s						
KTBS	Karatobe	2.19	250	Pg	Pb	19 18 56.5	+0.5
	0.4nm,0.2s						
KTBS				Lg	Lg	19 19 24.4	
	5.4nm,0.2s						
MDOK	Medeo	2.23	234	eP	Pb	19 18 57.0	+0.2
	0.6nm,0.2s						
MDOK				eS	Sb	19 19 25.2	+0.7
	2.1nm,0.3s						
MDOK	Medeo	2.23	234	⇑Sn	Sb	19 19 23.6	-0.9
	4.3nm,0.8s						
MDOK	Medeo	2.23	234	Pg	Pb	19 18 57.0	+0.2
	0.6nm,0.2s						
MDOK				Lg	Lg	19 19 25.2	
	2.1nm,0.3s						
KUU	Kurty	2.37	256	eP	Pb	19 18 59.7	+0.6
	1.1nm,0.3s						
KUU				eS	Sb	19 19 29.8	+1.5
	3.0nm,0.3s						
KUU	Kurty	2.37	256	Pg	Pb	19 18 59.7	+0.6
	1.1nm,0.3s						
KUU				Lg	Lg	19 19 29.8	
	3.0nm,0.3s						
TNSS	Tian-Shan	2.37	233	eP	Pb	19 19 00.1	+0.8
	0.9nm,0.2s						
TNSS				eS	Sb	19 19 30.2	+1.6
	1.1nm,0.2s						
TNSS	Tian-Shan	2.37	233	Pg	Pb	19 19 00.1	+0.8
	0.9nm,0.2s						
TNSS				Lg	Lg	19 19 30.2	
	1.1nm,0.2s						
MTBS	Maitube	2.62	240	eP	Pb	19 19 04.2	+0.7
	0.7nm,0.1s						
MTBS				eS	Sb	19 19 37.2	+1.5
	4.5nm,0.3s						
MTBS	Maitube	2.62	240	Pg	Pb	19 19 04.2	+0.7
	0.7nm,0.1s						
MTBS				Lg	Lg	19 19 37.2	
	4.5nm,0.3s						
DGS	Degeres	2.99	246	eP	Pb	19 19 09.7	0.0
	0.7nm,0.5s						
DGS				eS	Sb	19 19 46.2	0.0
	1.7nm,0.2s						
DGS	Degeres	2.99	246	Pg	Pb	19 19 10.5	+0.8
	0.9nm,0.2s						
DGS				Lg	Lg	19 19 48.4	
	1.7nm,0.2s						
MK31	Makanchi Array	3.01	39	⇑Lg	Lg	19 19 50.0	
	0.1nm,0.3s,baz=220,slow=29,SNR=6.7						

*IDC **05** 19:35:43.0±5.4, 7.00°S×129.43E, h219km±58km, mb3.1/4, mb1 3.1/9, mb1mx2.8/55, mbtmp3.5/9, Error ellipse: s-maj=56.7km s-min=21.0km az=49.0*

ISC 05 19:35:40.8±0.9**, 7.01S**±0.08×**129.6E**±0.1**, h200km, n9, σ2.23**/11**, mb3.3**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.67	241	P	Pn	19 37 18.2	+1.4
	1.3nm,0.3s,baz=74,slow=20,SNR=5.7						
BATI				S	Sn	19 38 32.1	-0.8
	0.6nm,0.3s,baz=117,slow=12,SNR=1.7						
KAPI	Kappang	9.99	281	P	Pn	19 37 60.0	0.0
	baz=60,slow=8.1,SNR=3.5						
KAPI				S	Sn	19 39 41.0	-11
	0.8nm,0.3s,baz=109,slow=17,SNR=2.6						
FITZ	Fitzroy Crossi	11.67	199	P	Pn	19 38 22.7	+1.2
	0.1nm,0.3s,baz=8.1,slow=9.8,SNR=7.2						
FITZ				S	Sn	19 40 22.9	-8.9
	0.2nm,0.3s,baz=291,slow=14,SNR=1.5						
WRA	Warramunga Arr	13.65	161	P	Pn	19 38 49.1	+2.6
	0.2nm,0.3s,baz=345,slow=11,SNR=15						
WRA				S	S	19 41 14.0	-4.6
	0.1nm,0.3s,baz=325,slow=27,SNR=1.7						
ASAR	Alice Springs	17.07	166	P	P	19 39 28.1	+1.6
	0.0nm,0.3s,baz=346,slow=10,SNR=1.9						
SONM	Songino Array	58.33	342	P	P	19 45 13.4	-1.5
	0.2nm,0.7s,baz=94,slow=10,SNR=1.8						
MKAR	Makanchi Array	68.02	327	P	P	19 46 19.8	+1.3
	0.1nm,0.8s,baz=50,slow=4.5,SNR=1.6						
GEYT	Alibeck	79.92	310	P	P	19 47 26.7	-1.0
	1.1nm,0.4s,baz=72,slow=9.3,SNR=2.2						
ILAR	Eielson Array	93.53	25	P	P	19 48 33.4	-0.2
	0.5nm,1.1s,baz=222,slow=9.1,SNR=2.7						

*NEIC **05** 19:41:16.1±1.6, 17.63N±0.10×40.3E±0.1, h10km±1km, mb4.2/19, Error ellipse: s-maj=22.0km s-min=15.3km az=293.0*

*IDC **05** 19:41:19.9±3.3, 17.54N×40.28E, h49km±38km, mb3.6/16, mb1 3.7/18, mb1mx3.5/50, mbtmp3.9/18, ML3.3/2, MS3.7/7, Ms1 3.6/7, ms1mx3.1/68, Error ellipse: s-maj=23.6km s-min=16.1km az=165.0*

ISC 05 19:41:15.3±0.7**, 17.63N**±0.09×**40.30E**±0.09**, h10km, n44, σ0.86**/40**, mb4.0**/23**, MS4.0**/5**, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	6.55	158	P	Pn	19 42 52.9	+1.1
	1.2nm,0.3s,baz=288,slow=20,SNR=1.4						
ATD				LR	LR	19 45 09.3	
	comp=Z,188nm,20.8s,baz=54,slow=35						
ATD	Arta Tunnel	6.55	158		Pn	19 42 52.3	+0.5
RAYN	Ar Rayn	7.62	39		Pn	19 43 06.7	+0.1
MMAI	Mount Meron Ar	15.94	345	LR	LR	19 50 33.0	
	comp=Z,96nm,18.1s,baz=22,slow=34						
UOSS	Minazif	16.51	61	Pn	Pn	19 45 06.9	-0.1
WSAR	Wadi Sarin	18.06	69	P	Pn	19 45 25.9	-0.6
	0.1nm,0.3s,baz=293,slow=2.2,SNR=4.4						
BR131	Keskin Array S	22.76	347	P	P	19 46 18.8	+0.8
BR131				IAmb	IAmb	19 46 20.9	
	comp=Z,5.8nm,1.0s						
BRTR	Keskin Array B	22.76	347	P	P	19 46 19.5	+1.5
	comp=Z,2.6nm,0.9s,baz=169,slow=8.2,SNR=10						
BRTR	Keskin Array B	22.76	347	P	P	19 46 18.9	+0.9
GNI	Garni	22.77	9	P	P	19 46 20.1	+2.0
	comp=Z,2.2nm,0.7s,baz=207,slow=6.8,SNR=3.1						
GNI	Garni	22.77	9	P	P	19 46 18.7	+0.7
GNI				IAmb	IAmb	19 46 45.0	
	comp=Z,16nm,1.4s						
GEYT	Alibeck	25.56	34	P	P	19 46 46.9	+2.4
	comp=Z,1.0nm,0.4s,baz=221,slow=15,SNR=2.3						
GEYT	Alibeck	25.56	34	P	P	19 46 45.2	+0.8
GYA0B	ALIBECK ARRAY	25.56	34	P	P	19 46 45.3	+0.9
GYA0B				IAmb	IAmb	19 47 00.1	
	comp=Z,2.2nm,0.7s						
HRA	Herat	25.75	45	P	P	19 46 47.3	+0.9
KBZ	Khabaz	26.11	4	P	P	19 46 49.9	+0.6
	comp=Z,2.4nm,1.0s,baz=188,slow=11,SNR=4.7						
KBZ				LR	LR	19 57 09.1	
	comp=Z,71nm,21.6s,baz=70,slow=36						
KIV	Kislovodsk	26.32	4	P	P	19 46 52.5	+1.1
KIV				IAmb	IAmb	19 46 58.9	
	comp=Z,8.4nm,1.2s						
CHGR	Chuyangaron	32.74	44	P	P	19 47 47.6	-0.8
GAR	Garm	33.69	45	P	P	19 47 56.8	0.0
AKASG	Malin Array Be	34.16	347	P	P	19 48 00.2	-0.3
	comp=Z,0.2nm,0.3s,baz=164,slow=7.4,SNR=1.7						
KKAR	Karatay Array	36.05	39	P	P	19 48 17.3	+0.3
TORD	Torodi Ar. Bea	37.44	269	P	P	19 48 28.5	-0.6
	comp=Z,2.4nm,0.8s,baz=82,slow=6.9,SNR=13						
GERES	GERESS Array B	37.88	331	P	P	19 48 32.0	-0.5
	comp=Z,0.2nm,0.3s,baz=128,slow=6.4,SNR=1.9						
AAK	Ala-Archa	38.26	42	LR	LR	20 06 45.6	
	comp=Z,153nm,19.6s,baz=121,slow=40						
ESDC	Sonseca Array	44.07	309	P	P	19 49 24.9	+1.3
	comp=Z,0.8nm,1.0s,baz=104,slow=7.1,SNR=2.0						
KURBB	Kurchatov Arra	44.83	34	P	P	19 49 29.7	+0.2
	comp=Z,1.8nm,0.9s,baz=237,slow=8.1,SNR=14						
FINES	FINESS Array B	44.91	350	P	P	19 49 28.7	-1.2
	comp=Z,2.0nm,0.9s,baz=144,slow=12,SNR=2.9						
MAKZ	Makanchi	44.93	40	P	P	19 49 30.5	+0.1
MAKZ				IAmb	IAmb	19 49 32.9	
	comp=Z,3.8nm,1.1s						
KURK	Kurchatov	44.93	34	P	P	19 49 30.6	+0.3
KURK				IAmb	IAmb	19 49 31.8	
	comp=Z,2.7nm,0.9s						
MK31	Makanchi Array	45.12	40	P	P	19 49 31.7	-0.1
MK31				IAmb	IAmb	19 49 34.4	
	comp=Z,2.4nm,1.0s						
MKAR	Makanchi Array	45.12	40	P	P	19 49 32.0	+0.1
	comp=Z,1.2nm,0.8s,baz=243,slow=5.3,SNR=13						
MKAR				LR	LR	20 10 51.8	
	comp=Z,206nm,18.4s,baz=139,slow=39						
MKAR	Makanchi Array	45.12	40	P	P	19 49 31.4	-0.5
DBIC	Dimbokro	45.35	262	P	P	19 49 33.5	-0.7
	comp=Z,3.8nm,0.8s,baz=65,slow=10,SNR=3.2						
DBIC	Dimbokro	45.35	262	P	P	19 49 33.9	-0.2
NOA	NORSAR Array B	48.04	341	P	P	19 49 54.5	-0.1
	comp=Z,0.9nm,0.9s,baz=153,slow=5.9,SNR=3.3						
SHL	Shillong	48.37	71	P	P	19 49 56.9	-0.9
SHL				IAmb	IAmb	19 50 01.0	
	comp=Z,3.0nm,1.0s						
ZAA0	Zalesovo Array	49.86	33	P	P	19 50 08.2	-0.4
ZAA0				IAmb	IAmb	19 50 10.3	
	comp=Z,5.3nm,1.0s						
ZALV	Zalesovo Beam	49.86	33	P	P	19 50 08.3	-0.3
	comp=Z,4.3nm,0.9s,baz=252,slow=7.6,SNR=16						
ZALV	Zalesovo Beam	49.86	33	P	P	19 50 08.0	-0.6
CMAR	Chiang Mai Arr	55.55	79	P	P	19 50 50.9	-0.3
	comp=Z,0.1nm,0.3s,baz=292,slow=5.7,SNR=2.2						
SONM	Songino Array	61.13	45	P	P	19 51 30.1	0.0
	comp=Z,1.3nm,0.9s,baz=271,slow=6.8,SNR=11						
SONM	Songino Array	61.13	45	P	P	19 51 29.6	-0.4
SONM				IAmb	IAmb	19 51 31.2	
	comp=Z,2.0nm,1.1s						
LEM	Lembang	70.76	104	LR	LR	20 20 55.4	
	comp=Z,78nm,18.8s,baz=61,slow=34						
KLR	Kul'dur	77.79	42	LR	LR	20 33 14.8	
	comp=Z,71nm,18.0s,baz=233,slow=40						

IDC 05 19:45:38.4±3.3**, 32.79S**×**178.44W, h0km, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/35**, mbtmp3.7**/3**, ML3.5**/1**, Error ellipse: s-maj=78.0km s-min=48.8km az=121.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.55	212	Pn	Pn	19 47 14.8	-1.1
	0.9nm,0.3s,baz=346,slow=8.3,SNR=2.9						
URZ				Sn	Sn	19 48 25.3	-6.1
	1.1nm,0.3s,baz=29,slow=13,SNR=8.9						
ASAR	Alice Springs	42.66	270	P	P	19 53 36.9	0.0
	0.3nm,0.4s,baz=104,slow=6.7,SNR=2.3						
WRA	Warramunga Arr	43.87	275	P	P	19 53 46.7	0.0
	0.4nm,0.4s,baz=114,slow=7.8,SNR=7.0						
FINES	FINESS Array B	147.24	338	PKPbc	PKPbc	20 05 22.2	-0.7
	1.5nm,0.9s,baz=41,slow=4.4,SNR=4.0						

*IDC **05** 19:57:19.5±2.8, 43.28N×105.29W, h0km, mb2.6/1, mb1 3.6/3, mb1mx3.2/49, mbtmp3.3/3, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/15, Error ellipse: s-maj=58.9km s-min=10.0km az=154.0*

*NEIC **05** 19:57:23.2±1.7, 43.54N±0.05×105.25W±0.05, h0km±1km, ML3.3/40, Error ellipse: s-maj=9.6km s-min=5.9km az=153.0*

ISC 05 19:57:22.1±1.0**, 43.55N**±0.05×**105.30W**±0.06**, h0km, n40, σ1.23**/39**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.08	58	Pg	Pg	19 57 42.3	-0.5
K22A	Casper	1.27	225		Pg	19 57 45.3	-1.2
PHWY	Pilot Hill	2.25	183		Pn	19 58 01.5	+0.6
PHWY				IAML		19 58 37.1	
	129nm,0.5s						
PHWY				IAML		19 58 41.3	
	128nm,0.4s						
RWWY	Rawlins	2.33	218		Pn	19 58 02.5	+0.4
RWWY				IAML		19 58 37.8	
	252nm,1.3s						
N23A	Red Feather La	2.70	190		Pn	19 58 08.1	+1.1
N23A				IAML		19 58 47.7	
	comp=N,204nm,0.4s						
N23A				IAML		19 58 52.5	
	comp=E,154nm,0.7s						
LAO	LASA Array	3.20	349		Pn	19 58 14.9	+1.1
LAO				IAML		19 59 12.3	
	comp=E,114nm,0.5s						
PD31	Pinedale Array	3.21	257	Pn	Pn	19 58 14.2	+0.1
PDAR	Pinedale Array	3.21	257	Pn	Pn	19 58 14.1	+0.1
	comp=E,3.1nm,0.3s,baz=81,slow=14,SNR=56						
PDAR				Lg	Lg	19 58 58.6	
	comp=E,21nm,0.3s,baz=72,slow=33,SNR=2.8						
PDAR				LR	LR	19 59 16.6	
	comp=E,159nm,18.3s,baz=194,slow=37						
PDAR	Pinedale Array	3.21	257	Pn	Pn	19 58 14.4	+0.4
RLMT	Red Lodge	3.25	300	Pn	Pn	19 58 15.1	+0.6
RLMT				IAML		19 59 04.9	
	comp=E,58nm,0.4s						
RLMT				IAML		19 59 17.0	
	comp=E,52nm,0.5s						
OGNE	Ogallala	3.56	136	Pn	Pn	19 58 19.0	+0.3
YMP	Mirror Lake Pl	3.69	290		Pn	19 58 22.4	+1.7
ISCO	Idaho Springs	3.76	184		Pn	19 58 22.6	+1.0
ISCO				IAML		19 59 43.9	
	comp=E,35nm,3.2s						
GCMT	Greycliff	3.83	307		Pn	19 58 23.6	+1.1
H17A	Grant Village	3.90	284		Pn	19 58 24.9	+1.4
H17A				IAML		19 59 28.1	
	comp=E,35nm,0.5s						
H17A				IAML		19 59 29.9	
	comp=N,48nm,1.1s						
SNOW	Snow King Moun	3.97	271		Pn	19 58 25.8	+1.4
SNOW				IAML		19 59 53.1	
	comp=N,57nm,2.1s						
YNR	Norris Junctio	4.04	289		Pn	19 58 28.6	+3.2
O20A	White River Ci	4.06	214	Pn	Pn	19 58 26.8	+1.1
AHID	Auburn Hatcher	4.31	261		Pn	19 58 31.1	+1.9
AHID				IAML		19 59 46.7	
	comp=N,41nm,1.0s						
AHID				IAML		19 59 52.6	
	comp=N,36nm,1.6s						
E28A	Huff	4.45	46	Pn	Pn	19 58 31.3	+0.5
Q24A	Divide	4.59	179		Pn	19 58 34.8	+1.8
KSCO	Kaye Shedlock'	4.96	155		Pn	19 58 39.1	+1.0
DGMT	Dagmar	4.98	9		Pn	19 58 40.3	+2.2
P18A	Preston Nutter	5.39	225		Pn	19 58 44.3	+0.2
JLU	Jordanelle	5.44	239		Pn	19 58 46.5	+1.8
EGMT	Eagleton	5.45	327		Pn	19 58 44.7	+0.1
LRM	Limekiln Ridge	5.58	296	Pn	Pn	19 58 47.3	+0.7
CTU	Camp Tracy	5.58	241		Pn	19 58 47.3	+0.8
HRY	Holter Researc	5.59	307		Pn	19 58 46.6	-0.1
PV07	Paradox Valley	5.70	207	Pn	Pn	19 58 49.4	+1.2
BGNE	Belgrade	5.71	110	Pn	Pn	19 58 49.0	+0.8
P17A	Butcher Ranch,	5.77	227		Pn	19 58 50.0	+0.9
SDCO	Great Sand Dun	5.80	182	Pn	Pn	19 58 50.7	+1.0
S22A	4UR Ranch, Cre	5.92	192	Pn	Pn	19 58 52.4	+1.1
ECSD	EROS Data Cent	6.31	85	Pn	Pn	19 58 55.8	-0.5
DUG	Dugway, Tooele	6.53	242		Pn	19 58 59.5	-0.1
HLID	Hailey	6.62	273	Pn	Pn	19 59 02.6	+1.8
I10CA	LAC DU BONNET	9.19	40	i		20 56 10.0	
	baz=223,slow=319,SNR=1.0						
ULM	Lac du Bonnet	9.30	41	Pn	Pn	19 59 35.4	-1.9
	comp=N,1.0nm,0.3s,baz=223,slow=13,SNR=7.9						
ULM				Lg	Lg	20 02 10.5	
	comp=N,0.3nm,0.3s,baz=291,slow=11,SNR=2.5						
YKA	Yellowknife Ar	19.74	347	P	P	20 01 53.1	0.0
	comp=N,0.1nm,0.3s,baz=155,slow=12,SNR=3.6						

*UPA **05** 19:57:28.7±1.6, 8.72N×77.49W, h18km±16km, MW3.7*

*RSNC **05** 19:57:30.2±0.7, 8.63N×77.51W, h84km±9km, ML2.8*

ISC 05 19:57:28.6±1.3**, 8.72N**±0.05×**77.53W**±0.02**, h27km**±13km**, n22, σ0.93**/42**, 1C-1D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPD2	Meteti	0.51	251	⇓iP	Pb	19 57 39.9	+0.8
UPD2				eS	Sn	19 57 48.6	+0.6
LCBC	Los crdobas,	1.16	83	eP	Pb	19 57 50.6	+0.6
LCBC				eS	Sn	19 58 07.0	+3.0
LCBC				i		19 58 09.7	
	comp=Z,117nm,0.3s						
LCBC	Los crdobas,	1.16	83	eP	Pn	19 57 48.9	-0.1
LCBC				eS	Sb	19 58 03.1	-1.5
CNTA3	Canitas, Panam	1.43	291	eP	Pn	19 57 52.0	-0.9
CNTA3				eS	Sn	19 58 09.6	-1.2
PTAC	Punta Ardita,	1.58	190	eP	Pn	19 57 54.8	-0.2
PTAC				eS	Sn	19 58 15.1	+0.5
PTAC				i		19 58 17.1	
	comp=Z,96nm,0.2s						
PTAC	Punta Ardita,	1.58	190	⇑iP	Pn	19 57 54.8	-0.2
PTAC				eS	Sn	19 58 14.6	0.0
CHPO	Chepo, Panama	1.63	286	eP	Pn	19 57 54.9	-0.7
CHPO				eS	Sn	19 58 15.9	+0.2
MOTC	Monteria, Cord	1.84	88	eP	Pn	19 57 58.4	-0.2
MOTC				eS	Sn	19 58 21.2	+0.2
MOTC				i		19 58 24.2	
	comp=Z,21nm,0.5s						
UPA	Univ. de Panam	2.00	278	eP	Pn	19 58 01.9	+1.2
UPA				eS	Sn	19 58 25.1	+0.3
UPA				i		19 58 36.1	
	comp=Z,22nm,0.4s						
UPA	Univ. de Panam	2.00	278	eP	Pn	19 58 00.9	+0.2
UPA				eS	Sn	19 58 24.2	-0.6
ARRA3	Arraijan, Pana	2.12	277	eS	Sn	19 58 29.0	+1.3
DBBC	Dabeiba	2.14	142	eP	Pn	19 58 03.5	+0.8
DBBC				i		19 58 40.2	
	comp=Z,189nm,0.6s						
GAMB1	Gamboa	2.19	281	eP	Pn	19 58 04.5	+1.2
GAMB1				eS	Sb	19 58 33.3	-1.0
UREC	San Jos de Ur	2.20	116	eP	Pn	19 58 03.6	+0.2
UREC				eS	Sn	19 58 28.9	-0.9
UREC				i		19 58 31.7	
	comp=Z,41nm,0.2s						
UREC	San Jos de Ur	2.20	116	eP	Pn	19 58 03.4	0.0
UREC				eS	Sn	19 58 29.2	-0.5
CHOR3	La Chorrera	2.22	275	eP	Pn	19 58 04.2	+0.5
CHOR3				eS	Sn	19 58 29.3	-0.9
BCIP	Isla Barro Col	2.32	281	eP	Pn	19 58 05.4	+0.3
BCIP				eS	Sn	19 58 32.0	-0.9
AZU	Azuero	2.87	252	eP	Pb	19 58 19.3	+0.2
AZU				eS	Sn	19 58 46.8	+0.6
ZARC	Zaragoza, Cauc	2.91	114	eP	Pn	19 58 13.4	+0.2
ZARC				eS	Sn	19 58 46.2	-1.2
ZARC				i		19 58 49.7	
	comp=Z,39nm,0.2s						
PTBC	PUERTO BERRIO,	3.74	125	eP	Pn	19 58 24.9	+0.3
PTBC				eS	Sn	19 59 06.4	-1.4
PTBC				i		19 59 10.5	
	comp=Z,11nm,0.3s						
OCAC	Ocana	4.19	96	eP	Pn	19 58 32.6	+1.6
OCAC				eS	Sn	19 59 18.9	-0.4
OCAC				i		19 59 21.2	
	comp=Z,43nm,0.5s						
PAMC	Pamplona, Colo	4.98	106	eP	Pn	19 58 42.0	-0.1
PAMC				eS	Sn	19 59 38.7	-0.4
PAMC				i		19 59 40.7	
	comp=Z,8.3nm,0.5s						

IDC 05 20:00:21.8±3.4**, 32.90S**×**178.38W, h0km, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.6**/23**, mbtmp3.5**/3**, ML3.5**/1**, Error ellipse: s-maj=77.5km s-min=49.1km az=121.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.49	213	Pn	Pn	20 01 57.5	-1.0
	1.1nm,0.3s,baz=122,slow=18,SNR=1.9						
URZ				Sn	Sn	20 03 08.4	-4.8
	1.2nm,0.3s,baz=90,slow=19,SNR=7.0						
ASAR	Alice Springs	42.71	270	P	P	20 08 20.7	-0.1
	0.2nm,0.5s,baz=112,slow=7.7,SNR=1.9						
WRA	Warramunga Arr	43.93	275	P	P	20 08 30.6	0.0
	0.4nm,0.4s,baz=114,slow=7.6,SNR=22						
FINES	FINESS Array B	147.36	338	PKPbc	PKPbc	20 20 05.9	-0.7
	2.2nm,0.9s,baz=33,slow=3.3,SNR=3.5						

*JMA **05** 20:02:32.9±0.2, 24.07N×122.11E, h47km±4km, M2.6*

*TAP **05** 20:02:33.6, 24.28N×122.10E, h25km, ML3.3, B*

ISC 05 20:02:33.2±1.1**, 24.23N**±0.02×**122.16E**±0.02**, h20km**±4km**, n106, σ0.74**/155**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.39	281	eP	Pg	20 02 41.4	+0.1
	baz=279						
EWUT	Wuta	0.41	301	eP	Pg	20 02 41.2	-0.5
	baz=304						
EWUT				S	Sg	20 02 46.9	-0.5
	baz=304						
ENA	Nanau	0.43	297	eP	Pg	20 02 41.5	-0.5
	baz=298						
ENA				S	Sg	20 02 47.5	-0.6
	baz=298						
TWC	Suao	0.47	323	P	Pb	20 02 42.2	-0.6
	baz=326						
TWC				S	Sg	20 02 48.1	-1.1
	baz=326						
ETL	Fush Village	0.49	262	P	Pg	20 02 43.9	+0.6
	baz=257						
ETL				eS	Sn	20 02 52.4	-0.8
	baz=257						
NACB	Ninganchiao	0.52	264	P	Pg	20 02 44.0	+0.3
	baz=260						
NACB				eS	Sn	20 02 52.6	-1.1
	baz=260						
TWD	Chiawan	0.54	254	P	Pg	20 02 44.6	+0.6
	baz=230						
TWD				eS	Sg	20 02 52.3	+1.0
	baz=230						
NDS	Dongshan	0.57	315	P	Pb	20 02 44.1	-0.3
	baz=316						
NDS				eS	Sb	20 02 51.5	-0.6
	baz=316						
ETLH	Xiulin Townshi	0.62	268	eP	Pb	20 02 45.5	+0.2
	baz=263						
ETLH				eS	Sg	20 02 54.9	+1.0
	baz=263						
EGS		0.64	341	P	Pb	20 02 45.8	+0.1
	baz=346						
EGS				S	Sb	20 02 53.8	-0.5
	baz=346						
ILA	Ilan	0.65	325	P	Pb	20 02 46.0	+0.2
	baz=327						
ILA				S	Sb	20 02 54.3	-0.1
	baz=327						
LATG	Datong	0.65	298	P	Pb	20 02 45.7	-0.2
	baz=301						
LATG				eS	Sb	20 02 54.2	-0.4
	baz=301						
TWE	Neicheng	0.66	317	P	Pb	20 02 45.6	-0.4
	baz=324						
TWE				S	Sb	20 02 54.1	-0.6
	baz=324						
ENTT	Nioudou	0.67	307	P	Pb	20 02 46.0	-0.3
	baz=307						
ENTT				eS	Sb	20 02 54.7	-0.5
	baz=307						
NTC	Toucheng	0.69	334	eP	Pb	20 02 46.3	-0.2
	baz=346						
NTC				S	Sb	20 02 55.8	+0.3
	baz=346						
NDT	Datong Townshi	0.69	302	eP	Pb	20 02 46.6	0.0
	baz=306						
NDT				eS	Sb	20 02 55.2	-0.5
	baz=306						

NNSB	**Datong**	**0.73**	**286**	*e*P	**Pb**	**20 02 47.5**	**+0.2**
	baz=290						
NNSB				*e*S	**Sb**	**20 02 56.9**	**-0.2**
	baz=290						
FUSB	**Fushanzhiwuyua**	**0.74**	**315**	*e*P	**Pb**	**20 02 47.2**	**-0.2**
	baz=316						
NNS	**Nan Shan**	**0.74**	**286**	*e*P	**Pb**	**20 02 47.8**	**+0.3**
	baz=290						
NNS				S	**Sb**	**20 02 57.4**	**0.0**
	baz=290						
JYNG	**Yonagunijimaku**	**0.75**	**73**	P	**Pn**	**20 02 48.7**	**0.0**
JYNG				S	**Sn**	**20 02 59.3**	**-0.2**
ESL	**Shilin**	**0.78**	**238**	*e*P	**Pg**	**20 02 48.8**	**+0.3**
	baz=216						
TWB1	**Santiao Chiao**	**0.79**	**349**	*e*P	**Pb**	**20 02 48.4**	**+0.2**
	baz=353						
TIPB	**Shuangxi**	**0.80**	**338**	P	**Pb**	**20 02 48.2**	**-0.2**
	baz=346						
TIPB				*e*S	**Sb**	**20 02 58.3**	**-0.5**
	baz=346						
NWLT	**Wulai**	**0.81**	**312**	P	**Pb**	**20 02 48.5**	**-0.1**
	baz=313						
NWLT				*e*S	**Sb**	**20 02 59.7**	**+0.6**
	baz=313						
YOJ	**Yonaguni jima**	**0.81**	**74**	P	**Pn**	**20 02 49.7**	**+0.2**
YOJ				S	**Sn**	**20 03 01.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.81**	**74**	P	**Pn**	**20 02 49.6**	**+0.2**
	baz=70						
YOJ				S	**Sn**	**20 03 01.7**	**+0.8**
	baz=70						
WHF	**Hehuan Shan**	**0.82**	**264**	*e*P	**Pb**	**20 02 49.1**	**0.0**
	baz=260						
WHF				*e*S	**Sg**	**20 03 00.9**	**+0.6**
	baz=260						
FUSS	**Fushou**	**0.83**	**271**	*e*P	**Pb**	**20 02 49.4**	**+0.3**
	baz=268						
FUSS				*e*S	**Sg**	**20 03 00.8**	**0.0**
	baz=268						
YHNB	**Yeheng**	**0.83**	**302**	*e*P	**Pb**	**20 02 49.2**	**+0.1**
	baz=309						
YHNB				*e*S	**Sb**	**20 02 60.0**	**+0.1**
	baz=309						
NSK	**Sanguang**	**0.85**	**301**	*e*P	**Pb**	**20 02 49.4**	**+0.1**
	baz=303						
NSK				*e*S	**Sb**	**20 02 59.9**	**-0.5**
	baz=303						
SXI1	**Grass Mountain**	**0.90**	**343**	*e*P	**Pb**	**20 02 50.2**	**+0.1**
	baz=2.0						
TWT	**Tachien**	**0.90**	**271**	*e*P	**Pb**	**20 02 50.7**	**+0.5**
	baz=268						
TWT				*e*S	**Sn**	**20 03 03.5**	**+0.1**
	baz=268						
NWF	**Wu-fen Shan**	**0.90**	**338**	*e*P	**Pb**	**20 02 50.5**	**+0.3**
	baz=355						
NWF				*e*S	**Sg**	**20 03 02.7**	**-0.1**
	baz=355						
TWA	**Mucha**	**0.91**	**325**	*e*P	**Pb**	**20 02 50.8**	**+0.5**
	baz=317						
TDCB	**Techi**	**0.91**	**271**	*e*P	**Pn**	**20 02 51.1**	**+0.1**
	baz=269						
TDCB				*e*S	**Sb**	**20 03 02.8**	**+0.6**
	baz=269						
CHGB	**Renai**	**0.92**	**259**	*e*P	**Pb**	**20 02 50.2**	**-0.3**
	baz=241						
NHDH	**Xindian Distri**	**0.93**	**322**	*e*P	**Pn**	**20 02 51.2**	**+0.1**
	baz=314						
HGSD	**Ruisui**	**1.00**	**222**	*e*P	**Pb**	**20 02 52.0**	**+0.2**
	baz=207						
TAP	**Taipei**	**1.00**	**324**	*e*P	**Pg**	**20 02 52.8**	**+0.2**
	baz=325						
NFF	**Wufeng Townshi**	**1.03**	**293**	*e*P	**Pb**	**20 02 52.4**	**0.0**
	baz=297						
NFF				*e*S	**Sn**	**20 03 06.4**	**0.0**
	baz=297						
VWDT	**VWDT**	**1.04**	**243**	*e*P	**Pn**	**20 02 53.1**	**+0.3**
	baz=227						
EHY	**Hungye**	**1.05**	**227**	*e*P	**Pb**	**20 02 52.2**	**-0.6**
	baz=222						
YM01	**YM01**	**1.05**	**330**	*e*P	**Pn**	**20 02 53.4**	**+0.5**
	baz=348						
TWS1	**Kuangyinshan**	**1.09**	**322**	*e*P	**Pb**	**20 02 53.8**	**+0.3**
	baz=324						
WHP	**Taichung City**	**1.11**	**273**	*e*P	**Pb**	**20 02 54.0**	**+0.3**
	baz=262						
ANP	**Anpu**	**1.11**	**329**	*e*P	**Pn**	**20 02 54.0**	**+0.2**
	baz=330						
LIOB	**Emei**	**1.12**	**292**	*e*P	**Pb**	**20 02 54.2**	**+0.3**
	baz=291						
NSTT	**Nanjuang**	**1.13**	**291**	*e*P	**Pb**	**20 02 54.2**	**+0.2**
	baz=290						
NTST	**Danshui**	**1.13**	**325**	*e*P	**Pb**	**20 02 54.5**	**+0.5**
	baz=327						
NCU	**National Centr**	**1.15**	**310**	*e*P	**Pb**	**20 02 54.7**	**+0.3**
	baz=310						
NCUH	**Zhongli**	**1.15**	**310**	*e*P	**Pn**	**20 02 54.4**	**+0.2**
	baz=310						
YULB	**Yu-li**	**1.15**	**223**	*e*P	**Pn**	**20 02 52.5**	**-1.7**
	baz=219						
TWY	**Chenhua**	**1.16**	**334**	*e*P	**Pb**	**20 02 55.1**	**+0.7**
	baz=352						
EYUL	**Yuli**	**1.17**	**221**	*e*P	**Pn**	**20 02 54.1**	**-0.3**
	baz=232						
SSLB	**Suanglung**	**1.19**	**248**	*e*P	**Pn**	**20 02 54.3**	**-0.4**
	baz=245						
SMLT	**Sun Moon Lake**	**1.20**	**253**	*e*P	**Pn**	**20 02 54.7**	**-0.3**
	baz=237						
SMLT				*e*S	**Sb**	**20 03 10.3**	**-0.2**
	baz=237						
SBCB	**Hsinchu**	**1.20**	**298**	*e*P	**Pb**	**20 02 55.7**	**+0.4**
	baz=297						
TYC	**Yuchr**	**1.23**	**255**	*e*P	**Pn**	**20 02 55.1**	**-0.2**
	baz=239						
TWQ1	**Liyutan**	**1.27**	**275**	*e*P	**Pb**	**20 02 56.8**	**+0.3**
	baz=273						
NMLH	**Miaoli**	**1.28**	**284**	*e*P	**Pb**	**20 02 56.8**	**+0.2**
	baz=282						
FULB	**Fuli**	**1.30**	**218**	*e*P	**Pn**	**20 02 54.9**	**-1.4**
	baz=201						
YUS	**Yu-Shan**	**1.33**	**236**	*e*P	**Pn**	**20 02 56.7**	**-0.4**
	baz=218						
YUS				*e*S	**Sn**	**20 03 13.3**	**-1.2**
	baz=218						
TCU	**Taichung**	**1.36**	**267**	*e*P	**Pb**	**20 02 58.1**	**+0.2**
	baz=264						
WJS	**Zhushan**	**1.37**	**253**	*e*P	**Pb**	**20 02 57.9**	**-0.2**
	baz=238						
WDJ	**Dajia District**	**1.39**	**275**	*e*P	**Pn**	**20 02 58.1**	**+0.6**
	baz=273						
WNT	**Mingjian**	**1.39**	**256**	*e*P	**Pb**	**20 02 59.1**	**+0.5**
	baz=238						
ALS	**Alishan**	**1.43**	**240**	*e*P	**Pn**	**20 02 58.7**	**+0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.44**	**86**	P	**Pn**	**20 02 58.7**	**+0.6**
IRIF				*e*S	**Sb**	**20 03 17.7**	**+0.5**
WCHH	**Zhanghua**	**1.47**	**264**	*e*P	**Pn**	**20 02 59.2**	**+0.6**
	baz=261						
ELDTW	**Lidau**	**1.47**	**225**	*e*P	**Pn**	**20 02 59.4**	**+0.7**
	baz=210						
ELDTW				*e*S	**Sn**	**20 03 15.8**	**-1.7**
	baz=210						
EDH	**Donghe**	**1.48**	**212**	*e*P	**Pn**	**20 02 57.1**	**-1.7**
	baz=196						
EDH				*e*S	**Sn**	**20 03 14.9**	**-2.5**
	baz=196						
CHN5	**Tsauling**	**1.50**	**245**	*e*P	**Pn**	**20 02 59.6**	**+0.5**
	baz=227						
CHN5				*e*S	**Sn**	**20 03 18.4**	**+0.4**
	baz=227						
WDLH	**Douliu**	**1.58**	**250**	*e*P	**Pn**	**20 03 00.6**	**+0.5**
	baz=247						
WDLH				*e*S	**Sb**	**20 03 21.3**	**+0.1**
	baz=247						
LONT	**Longtian**	**1.62**	**216**	*e*P	**Pn**	**20 02 59.9**	**-0.8**
	baz=212						
STYH	**Taoyuan**	**1.65**	**230**	*e*P	**Pn**	**20 03 01.3**	**+0.2**
	baz=215						
WRL	**Guolierlin Hig**	**1.66**	**259**	*e*P	**Pn**	**20 03 02.0**	**+0.8**
	baz=256						
LDUT	**Ludao**	**1.68**	**202**	*e*P	**Pn**	**20 02 58.8**	**-2.6**
	baz=198						
TPUB	**Ta-pu**	**1.68**	**237**	*e*P	**Pn**	**20 03 02.2**	**+0.7**
	baz=222						
TPUB				*e*S	**Sb**	**20 03 23.7**	**-0.5**
	baz=222						
CHN4	**Tsaushan**	**1.68**	**239**	*e*P	**Pn**	**20 03 02.1**	**+0.6**
	baz=222						
JKRS	**Kuro-shima**	**1.69**	**89**	P	**Pb**	**20 03 03.2**	**-0.4**
WTK	**Tuku**	**1.71**	**252**	*e*P	**Pn**	**20 03 02.8**	**+1.0**
	baz=248						
TWGBT	**Beinan**	**1.72**	**215**	*e*P	**Pn**	**20 03 00.8**	**-1.3**
	baz=212						
TWGBT				*e*S	**Sn**	**20 03 22.6**	**-0.9**
	baz=212						
TWG	**Pinlang**	**1.72**	**216**	*e*P	**Pn**	**20 03 00.6**	**-1.5**
	baz=212						
TWG				*e*S	**Sn**	**20 03 22.9**	**-0.7**
	baz=212						
JIJ	**Ishigaki jima**	**1.82**	**85**	P	**Pn**	**20 03 03.8**	**+0.5**
JIJ				*e*S	**Sn**	**20 03 26.2**	**+0.4**
CHN1	**Nanshi**	**1.82**	**235**	*e*P	**Pn**	**20 03 04.8**	**+1.4**
	baz=232						
CHN1				*e*S	**Sb**	**20 03 27.7**	**-0.6**
	baz=232						
SGST	**Jiashian**	**1.84**	**232**	*e*P	**Pn**	**20 03 04.8**	**+1.1**
	baz=218						
SLGT	**Liugui**	**1.86**	**229**	*e*P	**Pn**	**20 03 05.0**	**+1.1**
	baz=215						
SLGT				*e*S	**Sn**	**20 03 27.6**	**+0.8**
	baz=215						
WSF	**Szhu**	**1.87**	**252**	*e*P	**Pn**	**20 03 04.7**	**+0.7**
	baz=248						
WSF				*e*S	**Sn**	**20 03 27.6**	**+0.6**
	baz=248						
WSL	**Shuilin Townsh**	**1.90**	**249**	*e*P	**Pn**	**20 03 05.0**	**+0.4**
	baz=245						
ECL	**Taimali**	**1.97**	**214**	*e*P	**Pb**	**20 03 07.4**	**-0.9**
	baz=210						
JISG	**Ishigakijimahi**	**1.99**	**79**	*e*S	**Sn**	**20 03 29.9**	**-0.3**
SCST	**Cishan**	**2.03**	**229**	*e*P	**Pn**	**20 03 07.6**	**+1.2**
	baz=226						
SCST				*e*S	**Sb**	**20 03 34.6**	**+0.3**
	baz=226						
SSD	**Sandimen**	**2.04**	**224**	*e*P	**Pn**	**20 03 07.2**	**+0.7**
	baz=220						
SSD				*e*S	**Sn**	**20 03 32.5**	**+1.1**
	baz=220						
TSMG	**Majia**	**2.06**	**223**	*e*P	**Pn**	**20 03 08.1**	**+1.3**
	baz=220						
TSMG				*e*S	**Sn**	**20 03 33.1**	**+1.3**
	baz=220						
TWM1	**Shoushan**	**2.12**	**229**	*e*P	**Pn**	**20 03 08.9**	**+1.3**
	baz=225						
MASBT	**Mashibuluo**	**2.14**	**221**	*e*P	**Pn**	**20 03 08.0**	**+0.2**
	baz=212						
MASBT				*e*S	**Sn**	**20 03 35.0**	**+1.3**
	baz=212						
SCZT	**Fangliau**	**2.33**	**218**	*e*P	**Pn**	**20 03 11.9**	**+1.5**
	baz=201						
SCZT				*e*S	**Sn**	**20 03 40.0**	**+1.5**
	baz=201						
SLIU	**Shizi**	**2.37**	**212**	*e*P	**Pn**	**20 03 12.4**	**+1.5**
	baz=199						
PNG	**Penghu**	**2.47**	**255**	*e*P	**Pn**	**20 03 11.8**	**-0.6**
	baz=251						
PHUB	**P'eng-hu**	**2.47**	**254**	*e*P	**Pn**	**20 03 13.2**	**+0.8**
	baz=250						
WDGT	**Dungji**	**2.48**	**248**	*e*P	**Pn**	**20 03 13.3**	**+0.8**
	baz=243						
VCHM	**Qimei**	**2.70**	**248**	*e*P	**Pn**	**20 03 15.9**	**+0.4**
	baz=231						
MATB	**Ma-tsu**	**2.77**	**314**	*e*P	**Pn**	**20 03 15.8**	**-0.7**
	baz=315						
XPSS	**Dashiqiu**	**3.22**	**327**	*e*P	**Pn**	**20 03 21.5**	**-1.1**
	baz=341						
AXDP	**Jialang**	**3.87**	**281**	*e*P	**Pn**	**20 03 31.6**	**0.0**
	baz=279						
ZPLA	**Ao Xicun**	**4.04**	**267**	*e*P	**Pn**	**20 03 32.9**	**-1.1**
	baz=263						

IDC 05 20:05:21.3±2.9**, 32°.97S×178°.39W, h0**km**, mb3.7**/2**, mb1 4.0**/3**, mb1mx3.8**/21**, mbtmp3.8**/3**, ML3.6**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.7**/61**, Error ellipse: s-maj=70.5km s-min=44.4km az=126.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.42**	**213**	Pn	Pn	20 06 56.1	-1.0
	1.5nm,0.3s,baz=349,slow=16,SNR=10						
URZ				Sn	Sn	20 08 07.4	-3.7
	4.0nm,0.3s,baz=6.8,slow=17,SNR=15						
ASAR	**Alice Springs**	**42.70**	**270**	P	P	20 13 20.3	0.0
	0.8nm,0.8s,baz=109,slow=7.6,SNR=12						
ASAR				LR	LR	20 29 57.2	
	comp=Z,102nm,19.7s,baz=271,slow=35						
WRA	**Warramunga Arr**	**43.92**	**275**	P	P	20 13 30.1	0.0
	0.7nm,0.4s,baz=114,slow=7.9,SNR=24						
FINES	**FINESS Array B**	**147.42**	**338**	PKPbc	PKPbc	20 25 05.5	-0.8
	0.7nm,0.5s,baz=66,slow=4.3,SNR=8.4						

*IDC **05** 20:08:49.0±1.6, 17°.53N×40°.31E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/52, mbtmp3.8/10, ML3.2/1, MS3.7/13, Ms1 3.7/13, ms1mx3.3/84, Error ellipse: s-maj=37.3km s-min=21.5km az=174.0*

*NEIC **05** 20:08:54.3±1.3, 18°.28N±0°.07×40°.0E±0°.1, h10km±2km, mb4.2/26, Error ellipse: s-maj=23.0km s-min=8.0km az=292.0*

ISC 05 20:08:56.2±0.7**, 18°.16N**±0°.08×**40°.16E**±0°.09**, h28**km**, n53, σ1ˢ.56**/45**, mb4.1**/20**, MS3.7**/10**, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.08**	**158**	Pn	**Pn**	**20 10 39.8**	**+1.6**
RAYN	**Ar Rayn**	**7.32**	**42**		**Pn**	**20 10 40.9**	**-0.4**
FURI	**Furi**	**9.31**	**189**	Pn	**Pn**	**20 11 10.2**	**+1.2**
SOCY	**Socotra**	**14.61**	**112**	Pn	**Pn**	**20 12 20.4**	**-0.8**
LODK	**Lodwar**	**15.38**	**198**	Pn	**Pn**	**20 12 30.6**	**-0.9**
MMAI	**Mount Meron Ar**	**15.40**	**345**	LR	LR	20 17 33.9	
	comp=Z,324nm,19.0s,baz=258,slow=33						
UOSS	**Minazif**	**16.38**	**63**	Pn	**Pn**	**20 12 44.9**	**+0.6**
UOSS				IAmb	IAmb	20 12 50.8	
	comp=Z,18nm,1.1s						
WSAR	**Wadi Sarin**	**18.00**	**71**	P	**Pn**	**20 13 01.1**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=285,slow=12,SNR=3.1						
WSAR				LR	LR	20 20 35.1	
	comp=Z,196nm,19.9s,baz=264,slow=39						
KMBO	**Kilima Mbogo**	**19.37**	**189**	LR	LR	20 20 17.4	
	comp=Z,195nm,18.2s,baz=3.5,slow=37						
GURO	**Guroymak-BITLI**	**20.39**	**4**	P	**P**	**20 13 30.3**	**-0.7**
MBAR	**Mbarara**	**20.82**	**207**	LR	LR	20 22 00.3	
	comp=Z,130nm,19.1s,baz=315,slow=39						
BR131	**Keskin Array S**	**22.22**	**347**	P	**P**	**20 13 49.4**	**-1.4**
BR131				IAmb	IAmb	20 14 06.1	
	comp=Z,11nm,1.4s						
BRTR	**Keskin Array B**	**22.22**	**347**	P	**P**	**20 13 55.0**	**+4.3**
	comp=Z,1.2nm,0.9s,baz=169,slow=14,SNR=5.8						
BRTR	**Keskin Array B**	**22.22**	**347**	P	**P**	**20 13 49.8**	**-0.9**
GNI	**Garni**	**22.27**	**9**	P	**P**	**20 13 55.5**	**+4.1**
	comp=Z,1.7nm,0.5s,baz=120,slow=11,SNR=4.2						
GNI				LR	LR	20 22 44.5	
	comp=Z,220nm,18.6s,baz=140,slow=36						
GNI	**Garni**	**22.27**	**9**	P	**P**	**20 13 50.9**	**-0.5**
GNI				IAmb	IAmb	20 13 59.2	
	comp=Z,12nm,1.4s						
KARS	**Kars**	**22.54**	**6**	P	**P**	**20 13 52.2**	**-1.9**
ONI	**Oni**	**24.52**	**6**	P	**P**	**20 14 14.3**	**+0.9**
ONI				IAmb	IAmb	20 14 28.0	
	comp=Z,8.8nm,1.3s						
GEYT	**Alibeck**	**25.20**	**35**	LR	LR	20 25 17.8	
	comp=Z,224nm,19.4s,baz=286,slow=39						
GEYT	**Alibeck**	**25.20**	**35**	P	**P**	**20 14 19.3**	**-0.3**
GEYT				IAmb	IAmb	20 14 41.4	
	comp=Z,6.3nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**25.20**	**35**	P	**P**	**20 14 19.4**	**-0.1**
GYA0B				IAmb	IAmb	20 14 37.6	
	comp=Z,3.2nm,0.7s						
HRA	**Herat**	**25.48**	**46**	P	**P**	**20 14 22.1**	**-0.3**
HRA				IAmb	IAmb	20 14 26.4	
	comp=Z,3.9nm,0.9s						
KBL	**Kabul**	**30.45**	**52**	P	**P**	**20 15 06.6**	**-0.3**
KBL				IAmb	IAmb	20 15 08.6	
	comp=Z,3.0nm,1.2s						
BURAR	**Bucovina Array**	**31.83**	**341**	P	**P**	**20 15 16.8**	**-1.8**
CHGR	**Chuyangaron**	**32.46**	**45**	P	**P**	**20 15 24.2**	**-0.2**
GAR	**Garm**	**33.41**	**45**	P	**P**	**20 15 32.7**	**0.0**
ABKAR	**Akbulak array**	**34.90**	**23**	P	**P**	**20 15 45.9**	**+0.6**
ABKAR	**Akbulak array**	**34.90**	**23**	P	**P**	**20 15 45.6**	**+0.3**
ABKAR				IAmb	IAmb	20 15 47.8	
	comp=Z,0.9nm,0.8s						
LSZ	**Lusaka**	**35.25**	**200**	LR	LR	20 30 04.2	
	comp=Z,242nm,18.1s,baz=74,slow=37						
KKAR	**Karatay Array**	**35.73**	**39**	P	**P**	**20 15 53.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**37.32**	**268**	P	**P**	**20 16 04.8**	**-1.6**
	comp=Z,3.2nm,0.9s,baz=80,slow=5.7,SNR=12						
GERES	**GERESS Array B**	**37.36**	**331**	P	**P**	**20 16 07.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=133,slow=5.9,SNR=5.3						
AAK	**Ala-Archa**	**37.97**	**43**	LR	LR	20 32 21.0	
	comp=Z,102nm,18.3s,baz=296,slow=37						
AAK	**Ala-Archa**	**37.97**	**43**	P	**P**	**20 16 12.5**	**+0.8**
KURK	**Kurchatov**	**44.57**	**34**	P	**P**	**20 17 06.5**	**+0.9**
KURK				IAmb	IAmb	20 17 07.9	
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**44.62**	**41**	P	**P**	**20 17 06.7**	**+0.5**
MAKZ				IAmb	IAmb	20 17 08.8	
	comp=Z,2.5nm,0.9s						
MK31	**Makanchi Array**	**44.81**	**41**	P	**P**	**20 17 08.4**	**+0.7**
MKAR	**Makanchi Array**	**44.81**	**41**	P	**P**	**20 17 08.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=231,slow=7.8,SNR=15						
MKAR				LR	LR	20 38 25.3	
	comp=Z,91nm,18.6s,baz=240,slow=39						
MKAR	**Makanchi Array**	**44.81**	**41**	P	**P**	**20 17 07.7**	**0.0**
LBTB	**Lobatse**	**45.19**	**199**	LR	LR	20 36 25.5	
	comp=Z,64nm,20.4s,baz=242,slow=37						
WMQ	**Urumqi**	**47.29**	**47**	*e*P	**P**	**20 17 29.6**	**+2.3**
NOA	**NORSAR Array B**	**47.50**	**341**	P	**P**	**20 17 29.2**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=158,slow=7.2,SNR=3.3						
LSA	**Lhasa**	**47.67**	**66**	P	**P**	**20 17 31.8**	**+0.8**
LSA				IAmb	IAmb	20 17 43.9	
	comp=Z,4.3nm,1.2s						
ZAA0	**Zalesovo Array**	**49.49**	**33**	P	**P**	**20 17 43.8**	**-0.2**
ZALV	**Zalesovo Beam**	**49.49**	**33**	P	**P**	**20 17 43.9**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=247,slow=7.9,SNR=17						
ZALV	**Zalesovo Beam**	**49.49**	**33**	P	**P**	**20 17 43.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**55.59**	**80**	P	**P**	**20 18 26.6**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=294,slow=6.8,SNR=1.0						
CMAR				LR	LR	20 43 59.1	
	comp=Z,6.6nm,18.2s,baz=185,slow=38						
PZH	**PanZhiHua**	**57.12**	**70**	P	**P**	**20 18 44.0**	**+3.2**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
SONM	**Songino Array**	**60.86**	**45**	P	**P**	**20 19 05.6**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=269,slow=8.1,SNR=11						
SONM				LR	LR	20 48 51.0	
	comp=Z,71nm,20.6s,baz=164,slow=39						
SONM	**Songino Array**	**60.86**	**45**	P	**P**	**20 19 05.7**	**-0.7**
SONM				IAmb	IAmb	20 19 08.5	
	comp=Z,2.8nm,1.1s						
HHC	**Hu-ho-hao-te**	**64.42**	**53**	*e*P	**P**	**20 19 31.7**	**+1.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
TIXI	**Tiksi**	**72.51**	**19**	P	**P**	**20 20 20.1**	**+0.1**
TIXI				IAmb	IAmb	20 20 21.7	
	comp=Z,3.0nm,1.1s						
KLR	**Kul'dur**	**77.49**	**42**	LR	LR	21 00 59.1	
	comp=Z,61nm,19.1s,baz=270,slow=40						

IDC 05 20:12:08.9±2.9**, 18°.83N×39°.72E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.3**/51**, mbtmp3.6**/5**, Error ellipse: s-maj=92.4km s-min=29.5km az=158.0, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**36.94**	**267**	P	P	20 19 20.2	+0.2
	0.7nm,1.0s,baz=80,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**44.58**	**41**	P	P	20 20 23.4	+0.6
	0.5nm,0.8s,baz=248,slow=7.6,SNR=4.2						
NOA	**NORSAR Array B**	**46.74**	**341**	P	P	20 20 39.0	-0.7
	0.9nm,0.9s,baz=155,slow=6.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**49.16**	**34**	P	P	20 20 59.4	+0.9
	1.3nm,0.8s,baz=260,slow=8.3,SNR=4.0						
SONM	**Songino Array**	**60.68**	**45**	P	P	20 22 20.8	-1.4
	0.6nm,1.0s,baz=258,slow=5.3,SNR=3.6						

*IDC **05** 20:46:46.9±2.7, 27°.66N×66°.27E, h0km, mb3.3/6, mb1 3.5/8, mb1mx3.2/59, mbtmp3.4/8, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/48, Error ellipse: s-maj=55.3km s-min=27.1km az=150.0*

*DSN **05** 20:47:01.5±2.1, 28°.07N×65°.00E, h10km, ML3.4/4, Error ellipse: s-maj=60.8km s-min=17.7km az=165.0*

ISC 05 20:46:50.4±1.5**, 27°.7N**±0°.2×**66°.0E**±0°.1**, h25**km**, n13, σ2ˢ.75**/16**, mb3.3**/6**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.99**	**238**	Pn	**Pn**	**20 48 47.6**	**+2.7**
	0.7nm,0.3s,baz=57,slow=6.9,SNR=24						
WSAR				Sn	**Sn**	**20 50 11.9**	**-2.6**
	0.6nm,0.3s,baz=95,slow=16,SNR=1.9						
BANOM	**Banah**	**8.83**	**261**	P	**Pn**	**20 48 59.5**	**+2.9**
BANOM				S	**Sn**	**20 50 29.1**	**-6.3**
SHME	**Shamm**	**8.94**	**262**	P	**Pn**	**20 49 01.4**	**+3.3**
MSFE	**Esma-Masafi**	**9.10**	**257**	P	**Pn**	**20 49 02.0**	**+1.7**
UOSS	**Minazif**	**9.19**	**255**	P	**Pn**	**20 49 03.1**	**+1.6**
ASHO	**Ashiyiah**	**9.40**	**254**	P	**Pn**	**20 49 06.6**	**+2.1**
ASHO				S	**Sn**	**20 50 48.1**	**-1.4**
AAK	**Ala-Archa**	**16.44**	**23**	Pn	**Pn**	**20 50 38.2**	**-1.5**
	0.1nm,0.3s,baz=214,slow=7.3,SNR=3.8						
AAK				Sn	Sn	20 53 30.7	-11
	0.0nm,0.3s,baz=285,slow=6.0,SNR=1.6						
AAK				LR	LR	20 58 15.9	
	comp=Z,90nm,18.1s,baz=56,slow=42						
MKAR	**Makanchi Array**	**22.99**	**30**	P	**P**	**20 51 51.9**	**-1.3**
	0.2nm,0.5s,baz=210,slow=9.6,SNR=2.7						
AKTO	**Aktyubinsk**	**23.52**	**347**	P	**P**	**20 51 59.5**	**+1.1**
	1.0nm,0.8s,baz=111,slow=8.9,SNR=3.2						
KBZ	**Khabaz**	**24.53**	**317**	P	**P**	**20 52 09.2**	**+1.3**
	0.9nm,1.0s,baz=148,slow=9.5,SNR=1.6						
KURBB	**Kurchatov Arra**	**24.82**	**19**	P	**P**	**20 52 11.5**	**+1.0**
	0.5nm,0.8s,baz=212,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**37.21**	**46**	P	**P**	**20 53 57.7**	**-2.1**
	0.2nm,0.8s,baz=265,slow=7.2,SNR=2.1						
FINES	**FINESS Array B**	**42.93**	**333**	P	**P**	**20 54 48.0**	**+1.1**
	1.4nm,0.9s,baz=128,slow=9.0,SNR=3.5						

*LDG **05** 21:00:28.8±0.4, 35°.19N×3°.63W, h10km, Ml3.2/3, Error ellipse: s-maj=8.7km s-min=3.0km az=173.0*

*IDC **05** 21:00:29.1±0.9, 35°.56N×3°.90W, h0km, mb3.6/5, mb1 3.8/10, mb1mx3.5/55, mbtmp3.5/10, ML3.6/5, MS2.6/2, Ms1 2.6/2, ms1mx2.4/97, Error ellipse: s-maj=28.4km s-min=14.0km az=93.0*

*IGIL **05** 21:00:30.6, 35°.46N×3°.82W, h0km, ML3.4*

*SFS **05** 21:00:30.0, 35°.45N×3°.82W, ML3.7, ALBORAN SUR*

*MDD **05** 21:00:30.2±0.4, 35°.45N×3°.79W, h2km±3km, mb_Lg3.8/29, Error ellipse: s-maj=3.1km s-min=1.9km az=158.0*

*CNRM **05** 21:00:30.8, 35°.51N×3°.83W, h8km, ml3.6*

*INMG **05** 21:00:31.0±1.8, 35°.43N×3°.78W, h14km±9km, ML3.1, Error ellipse: s-maj=5.9km s-min=3.9km az=141.0*

ISC 05 21:00:32.1±1.1**, 35°.50N**±0°.03×**3°.74W**±0°.03**, h25**km±10km**, n92, σ1ˢ.79**/159**, mb3.7**/5**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.67**	**115**	P	**Pb**	**21 00 45.0**	**-0.3**
EMEL	**Melilla**	**0.67**	**107**	Pg	**Pb**	**21 00 43.3**	**-1.8**
EMEL				Sg	**Sb**	**21 00 52.6**	**-1.5**
EALB	**Alboran**	**0.72**	**53**	Pg	**Pb**	**21 00 45.0**	**-1.0**
EALB				Sg	**Sb**	**21 00 55.5**	**0.0**
EALB				*i* Vmb_Lg		21 00 57.2	
TAF	**Taforalt**	**1.28**	**122**	P	**Pb**	**21 00 56.0**	**+0.3**
EMIJ	**Mijas**	**1.35**	**322**	Pn	**Pn**	**21 00 53.7**	**-1.7**
EMIJ				Sn	**Sn**	**21 01 12.3**	**-0.3**
EMIJ				*i* Vmb_Lg		21 01 17.4	
ELGU	**Los Guajares,**	**1.36**	**4**	Pn	**Pn**	**21 00 54.7**	**-0.9**
ELGU				Sg	**Sn**	**21 01 11.5**	**-1.5**
ELGU				Sn	**Sb**	**21 01 11.9**	**-2.2**
ELGU				*i* Vmb_Lg		21 01 17.0	
CHEFC	**Chefchaouen**	**1.37**	**254**	P	**Pn**	**21 00 54.8**	**-0.9**
EMAL	**Malaga-Limoner**	**1.37**	**336**	P	**Pn**	**21 00 54.1**	**-1.6**
EMAL				S	**Sn**	**21 01 12.3**	**-0.8**
CEU	**Ceuta**	**1.39**	**287**	P	**Pn**	**21 00 51.9**	**-4.0**
CEU				S	**Sn**	**21 01 08.5**	**-4.8**
JBK	**JBK**	**1.51**	**140**	P	**Pn**	**21 00 58.0**	**+0.2**
EGOR	**Sierra Gorda,**	**1.63**	**350**	Pg	**Pn**	**21 00 59.6**	**+0.2**
EGOR				Sn	**Sn**	**21 01 20.4**	**+0.8**
EGOR				*i* Vmb_Lg		21 01 26.1	
EJIF	**Jimena Fronter**	**1.69**	**304**	Pn	**Pn**	**21 00 59.5**	**-0.6**
EQUE	**Quentar**	**1.71**	**8**	Pn	**Pn**	**21 01 00.6**	**+0.1**
EQUE				Sn	**Sn**	**21 01 22.2**	**+0.5**
EQUE				*i* Vmb_Lg		21 01 26.8	

SICH	Sidi Chahed	1.91	223	S	Pb	21 01 10.0	+3.7
ENIJ	Nijar	1.92	40	Pg	Pn	21 01 01.5	-1.7
ENIJ				Pn	Pb	21 01 02.2	-4.2
ENIJ				Sn	Sn	21 01 25.3	-1.3
ENIJ				Sg	Sn	21 01 25.3	-1.3
ENIJ				i Vmb_Lg		21 01 27.5	
LCRM	LCR	2.04	207	P	Pb	21 01 07.0	-1.5
IFR	Ifrane	2.29	210	P	Pn	21 01 07.1	-1.4
IFR				S	Sn	21 01 34.3	-1.7
CZD	Col de Zad	2.69	204	P	Pn	21 01 14.1	0.0
TLOR	Lorca, Murcia	2.71	37	Pn	Pn	21 01 14.3	+0.2
TLOR				Sn	Sn	21 01 45.5	-0.5
MDT	Midelt	2.78	195	Pn	Pn	21 01 14.8	-0.3
	2.3nm,0.3s,baz=304,slow=18,SNR=76						
MDT				Pg	Pb	21 01 21.2	0.0
	9.8nm,0.3s,baz=327,slow=18,SNR=25						
MDT				Lg	Lg	21 01 51.7	
	11nm,0.3s,baz=61,slow=20,SNR=6.8						
MDT				LR	LR	21 02 26.1	
	comp=Z,63nm,20.0s,baz=332,slow=42						
MDT	Midelt	2.78	195	P	Pn	21 01 15.1	-0.1
EZAR	Zarzadilla de	2.88	34	Pn	Pn	21 01 16.1	-0.4
EZAR				Sn	Sn	21 01 50.7	+0.2
ECAB	El Cabril	2.90	333	Pn	Pn	21 01 17.1	+0.4
ECAB				Sn	Sn	21 01 49.8	-1.0
ECAB				Sg	Sb	21 01 59.1	+0.9
ECAB				i Vmb_Lg		21 02 03.2	
ETRV	Los Montesinos	3.47	43	Pn	Pn	21 01 25.3	+0.9
ETRV				Sn	Sn	21 02 02.2	-2.5
ETRV				i Vmb_Lg		21 02 14.6	
ETOB	Tobarra	3.59	29	Pn	Pn	21 01 28.0	+1.7
ETOB				i Vmb_Lg		21 01 29.6	
ETOB				Sn	Sn	21 02 09.7	+1.8
EGRO	El Granado	3.63	305	Pn	Pn	21 01 26.0	-0.8
EGRO				Sn	Sn	21 02 06.4	-2.4
EGRO				i Vmb_Lg		21 02 10.7	
PVAQ	Vaqueiros	3.73	302	ePn	Pn	21 01 27.1	-0.9
PVAQ				eSn	Sn	21 02 09.2	-1.9
PVAQ				A	A	21 02 10.7	
	52nm,0.6s						
PVAQ	Vaqueiros	3.73	302	P	Pn	21 01 27.1	-0.9
PVAQ				S	Sn	21 02 10.1	-1.0
AVE	Averroes	3.75	235	P	Pb	21 01 37.7	0.0
AVE				S	Sn	21 02 09.8	-1.9
PBAR	Barrancos	3.76	316	ePn	Pn	21 01 28.0	-0.5
PBAR				eSn	Sn	21 02 09.8	-2.1
PBAR				A	A	21 02 22.2	
	18nm,0.4s						
PBDV	Barranco-do-Ve	3.80	298	ePn	Pn	21 01 28.1	-1.0
PBDV				eSn	Sn	21 02 10.7	-2.4
PBDV				A	A	21 02 16.3	
	36nm,0.5s						
AFON	Font Roja	4.06	38	Pn	Pn	21 01 34.0	+1.3
AFON				Sn	Sn	21 02 16.8	-2.8
AFON				i Vmb_Lg		21 02 27.9	
PCVE	Castro Verde	4.06	303	ePn	Pn	21 01 31.8	-0.8
PCVE				eSn	Sn	21 02 17.4	-2.0
PCVE				A	A	21 02 23.1	
	24nm,0.3s						
PAB	San Pablo	4.06	353	P	Pn	21 01 33.8	+1.0
PAB	San Pablo	4.06	353	Pn	Pn	21 01 33.8	+1.0
PAB				Sn	Sn	21 02 19.4	-0.1
PAB				i Vmb_Lg		21 02 53.2	
PBEJ	Beja	4.16	308	ePn	Pn	21 01 33.4	-0.6
PBEJ				eSn	Sn	21 02 20.5	-1.4
PBEJ				A	A	21 02 25.5	
	21nm,0.4s						
ESDC	Sonseca Array	4.17	358	Pn	Pn	21 01 35.4	+1.2
	1.4nm,0.3s,baz=177,slow=12,SNR=45						
ESDC				Sn	Sn	21 02 22.2	+0.2
	1.7nm,0.3s,baz=176,slow=23,SNR=4.2						
ESDC				Lg	Lg	21 02 38.8	
	3.7nm,0.3s,baz=178,slow=28,SNR=6.6						
ESDC	Sonseca Array	4.17	358	Pn	Pn	21 01 35.7	+1.5
ESDC				Sn	Sn	21 02 22.3	+0.2
ESDC				Sg	Sb	21 02 37.9	+3.2
ESDC				i Vmb_Lg		21 02 41.5	
EBAD	Badajoz	4.17	322	Pn	Pn	21 01 33.9	-0.2
EBAD				Sn	Sn	21 02 20.7	-1.3
EBAD				i Vmb_Lg		21 02 26.2	
MORF	Marmelete	4.35	296	eP	Pn	21 01 35.4	-1.2
MORF				eS	Sn	21 02 23.0	-3.6
MORF				IAML		21 02 28.3	
	comp=N,74nm,0.3s						
MORF	Marmelete	4.35	296	ePn	Pn	21 01 35.9	-0.8
MORF				eSn	Sn	21 02 25.1	-1.5
MORF				A	A	21 02 27.6	
	comp=N,32nm,0.2s						
PFVI	Vila Bisbo	4.42	293	ePn	Pn	21 01 36.9	-0.7
PFVI				eSn	Sn	21 02 25.4	-2.8
PFVI				A	A	21 02 33.2	
	comp=N,36nm,0.5s						
PFVI	Vila Bisbo	4.42	293	P	Pn	21 01 37.9	+0.4
PTEO	Sao Teotonio	4.50	298	ePn	Pn	21 01 38.1	-0.6
PTEO				eSn	Sn	21 02 29.5	-0.8
PTEO				A	A	21 02 31.6	
	comp=N,32nm,0.4s						
PESTR	Estremoz	4.55	319	ePn	Pn	21 01 39.5	+0.1
PESTR				eSn	Sn	21 02 29.1	-2.4
PESTR				A	A	21 02 54.2	
	comp=N,17nm,0.5s						
PESTR	Estremoz	4.55	319	P	Pn	21 01 39.3	-0.1
EVO	Evora	4.56	313	P	Pn	21 01 39.2	-0.4
EVO				S	Sn	21 02 26.6	-5.2
EVO	Evora	4.56	313	ePn	Pn	21 01 39.3	-0.3
EVO				eSn	Sn	21 02 29.8	-2.0
EVO				A	A	21 02 34.3	
	comp=N,26nm,0.3s						
ECHE	Chera	4.63	28	Pn	Pn	21 01 42.0	+1.4
ECHE				Sn	Sn	21 02 33.5	-0.1
ECHE				i Vmb_Lg		21 02 48.6	
PNCL	Nicolau / Gran	4.64	306	ePn	Pn	21 01 39.9	-0.7
PNCL				eSn	Sn	21 02 32.2	-1.5
PNCL				A	A	21 02 36.8	
	comp=N,18nm,0.6s						
UCM	Universidad Co	4.81	5	P	Pn	21 01 44.6	+1.6
UCM				S	Sn	21 02 37.8	-0.1
PMRV	Marv??o	4.88	325	ePn	Pn	21 01 44.2	+0.3
PMRV				eSn	Sn	21 02 37.8	-1.7
PMRV				A	A	21 03 14.7	
	comp=N,16nm,0.7s						
EPLA	Plasencia	4.92	339	Pn	Pn	21 01 45.1	+0.7
EPLA				Sn	Sn	21 02 40.4	-0.1
EPLA				i Vmb_Lg		21 03 18.7	
PMTG	Montargil	5.04	316	ePn	Pn	21 01 46.1	-0.1
PMTG				eSn	Sn	21 02 43.0	-0.6
PMTG				A	A	21 03 06.6	
	comp=N,12nm,0.6s						
GUD	Guadarrama	5.14	356	Pn	Pn	21 01 48.3	+0.7
GUD				Sg	Sb	21 03 07.4	+4.7
GUD				i Vmb_Lg		21 03 24.1	
PCBR	Castelo Branco	5.25	327	ePn	Pn	21 01 49.4	+0.5
PCBR				eSn	Sn	21 02 47.0	-1.6
PCBR				A	A	21 03 02.3	
	comp=N,11nm,0.5s						
PMST	Lisbon--Monsan	5.42	308	ePn	Pn	21 01 51.2	-0.1
PMST				eSn	Sn	21 02 51.3	-1.5
ETOR	Torete	5.47	14	Pn	Pn	21 01 53.3	+1.2
ETOR				Sn	Sn	21 02 52.6	-1.6
ETOR				Sg	Sb	21 03 16.3	+4.1
ETOR				i Vmb_Lg		21 03 30.9	
PMAFR	Mafra	5.61	310	ePn	Pn	21 01 53.8	-0.1
PMAFR				eSn	Sn	21 02 55.8	-1.7
PMAFR				A	A	21 03 02.7	
	comp=N,28nm,0.5s						
PSBE	So Bento	5.67	316	ePn	Pn	21 01 55.1	+0.3
PSBE				eSn	Sn	21 02 58.4	-0.7
PSBE				A	A	21 03 04.9	
	comp=N,7.4nm,0.7s						
MTE	Manteigas	5.74	330	ePn	Pn	21 01 57.0	+1.2
MTE				eSn	Sn	21 03 00.0	-0.8
PCAS	Casmilo, Conde	5.90	322	ePn	Pn	21 01 58.5	+0.6
PCAS				eSn	Sn	21 03 01.5	-3.2
PCAS				A	A	21 03 36.2	
	comp=N,13nm,0.5s						
PVIS	Viseu	6.15	329	ePn	Pn	21 02 02.0	+0.6
PVIS				eSn	Sn	21 03 09.5	-1.4
PVIS				A	A	21 03 22.1	
	comp=N,9.6nm,0.4s						
MVO	Moncorvo	6.21	336	ePn	Pn	21 02 03.2	+0.9
MVO				eSn	Sn	21 03 11.3	-1.3
MVO				A	A	21 03 17.1	
	comp=N,16nm,0.7s						
PVRL	Vila Real	6.55	333	ePn	Pn	21 02 07.4	+0.5
PVRL				eSn	Sn	21 03 17.9	-3.0
PVRL				A	A	21 03 23.3	
	comp=N,13nm,0.8s						
POLO	Lamas de Olo	6.67	333	ePn	Pn	21 02 09.5	+0.9
POLO				eSn	Sn	21 03 20.1	-3.7
POLO				A	A	21 03 28.6	
	comp=N,4.0nm,0.6s						
PBRG	Braganca	6.71	340	ePn	Pn	21 02 10.3	+1.2
PBRG				eSn	Sn	21 03 23.9	-0.9
PCAB	Cabril	7.05	333	ePn	Pn	21 02 14.3	+0.6
ELOB	Lobios	7.20	333	Pn	Pn	21 02 15.5	-0.3
ELOB				Sn	Sn	21 03 33.0	-3.7
ELOB				i Vmb_Lg		21 04 42.0	
PGAV	Gavieira, Arco	7.36	333	ePn	Pn	21 02 18.9	+0.9
PGAV				eSn	Sn	21 03 38.7	-2.0
ELAN	Lanestosa	7.72	2	Pn	Pn	21 02 25.0	+2.0
ELAN				i Vmb_Lg		21 05 47.4	
ETSF	Etsaut	7.79	18	ePn	Pn	21 02 23.8	-0.1
ETSF				eSn	Sn	21 03 48.9	-2.3
	comp=N,0.6nm,0.2s						
SJPF	Ste Jean	7.84	14	ePn	Pn	21 02 24.8	+0.2
SJPF				eSn	Sn	21 03 50.4	-2.2
	comp=N,2.6nm,0.3s						
EARI	Arriondas	7.87	352	Pn	Pn	21 02 25.6	+0.6
EARI				i Vmb_Lg		21 07 02.1	
EALK	Alkurruntz	7.90	12	Pn	Pn	21 02 27.8	+2.4
EALK				Sn	Sn	21 03 51.4	-2.5
EALK				i Vmb_Lg		21 06 40.9	
EAGO	Agolada(Pontev	8.03	336	Pn	Pn	21 02 28.5	+1.3
EAGO				i Vmb_Lg		21 03 41.6	
EAGO				Sn	Sn	21 03 55.7	-1.6
EPF	Esparros	8.15	22	ePn	Pn	21 02 28.6	-0.3
EPF				eSn	Sn	21 03 57.2	-3.0
	comp=N,1.5nm,0.3s						
MTLF	Montolieu	9.08	29	eP	Pn	21 02 46.0	+4.5
CAF	Calviac	10.40	23	ePn	Pn	21 02 57.4	-2.3
KEST	Kesra	10.65	85	Pn	Pn	21 03 04.9	+1.7
	comp=N,0.1nm,0.3s,baz=262,slow=21,SNR=2.4						
FRF	La Foret Royal	11.35	42	eP	Pn	21 03 17.0	+4.4
PGF	Pioggiola	12.14	51	eP	Pn	21 03 26.2	+2.7
QUIF	Quistinic	12.41	2	ePn	Pn	21 03 27.6	+0.5
SGMF	Saint Gilles	12.77	4	eP	P	21 03 38.5	-4.3
GERES	GERESS Array B	18.51	39	P	Pn	21 04 48.8	+2.0
	comp=N,0.1nm,0.3s,baz=240,slow=7.8,SNR=2.3						
EKA	Eskdalemuir Ar	19.84	1	P	P	21 05 01.1	+0.3
	baz=174,slow=11,SNR=4.4						
TORD	Torodi Ar. Bea	22.79	166	P	P	21 05 34.2	+1.2
	comp=N,0.6nm,0.8s,baz=355,slow=9.3,SNR=2.9						
IDI	Anoyia	23.31	82	LR	LR	21 16 18.1	
	comp=N,27nm,18.4s,baz=125,slow=40						
MKAR	Makanchi Array	62.68	50	P	P	21 10 55.1	+0.4
	comp=N,0.5nm,0.8s,baz=286,slow=6.2,SNR=3.0						
YKA	Yellowknife Ar	67.84	332	P	P	21 11 28.1	+0.3
	comp=N,2.0nm,0.7s,baz=60,slow=6.5,SNR=24						
PDAR	Pinedale Array	76.86	313	P	P	21 12 22.2	0.0
	comp=N,1.1nm,0.7s,baz=60,slow=5.8,SNR=12						
TXAR	Lajitas Array	80.85	299	P	P	21 12 45.0	+0.8
	comp=N,0.2nm,0.7s,baz=35,slow=9.9,SNR=2.0						

*IDC **05** 21:07:13.4±1.0, 16°.98N×147°.79E, h0km, mb3.6/11, mb1 3.9/12, mb1mx3.7/54, mbtmp3.7/12, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/78, Error ellipse: s-maj=31.8km s-min=18.5km az=94.0*

ISC 05 21:07:18.7±0.9**, 16°.9N**±0°.1×**147°.7E**±0°.2**, h35**km**, n13,** σ**0s.93**/13**, mb3.5**/11**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.30	220	Pn	Pn	21 08 22.6	+0.9
	6.0nm,0.3s,baz=41,slow=20,SNR=1.2						
GUMO				Sn	Sn	21 09 09.3	-1.3
	4.2nm,0.3s,baz=184,slow=20,SNR=0.9						
MJAR	Matsushiro Arr	21.26	339	P	P	21 12 01.4	-0.6
	1.6nm,0.8s,baz=155,slow=10,SNR=3.1						
KSRS	Korea Array	26.86	323	LR	LR	21 23 50.4	
	comp=Z,22nm,18.4s,baz=165,slow=37						
WRA	Warramunga Arr	38.92	200	P	P	21 14 41.7	+0.3
	0.7nm,0.7s,baz=22,slow=9.0,SNR=7.9						
ASAR	Alice Springs	42.54	199	P	P	21 15 12.4	+1.2
	0.1nm,0.4s,baz=14,slow=6.3,SNR=2.1						
SONM	Songino Array	45.70	322	P	P	21 15 37.0	+0.6
	0.4nm,0.6s,baz=134,slow=7.8,SNR=3.6						
CMAR	Chiang Mai Arr	46.36	280	P	P	21 15 42.5	+0.6
	0.5nm,0.3s,baz=70,slow=7.1,SNR=8.5						
STKA	Stephens Creek	48.88	187	P	P	21 16 00.1	-1.1
	1.0nm,0.7s,baz=346,slow=17,SNR=3.2						
ZALV	Zalesovo Beam	60.56	323	P	P	21 17 24.4	-1.2
	0.4nm,0.4s,baz=111,slow=8.0,SNR=2.5						
MKAR	Makanchi Array	61.05	314	P	P	21 17 28.4	-0.7
	0.2nm,0.5s,baz=94,slow=7.7,SNR=3.6						
YKA	Yellowknife Ar	78.65	28	P	P	21 19 16.9	0.0
	0.2nm,0.5s,baz=282,slow=5.1,SNR=4.3						
NVAR	Mina Array Bea	82.72	52	P	P	21 19 39.4	-0.1
	0.2nm,0.4s,baz=274,slow=4.4,SNR=1.8						
FINES	FINESS Array B	89.27	336	P	P	21 20 11.6	+0.6
	2.2nm,1.0s,baz=76,slow=5.9,SNR=5.5						

*IDC **05** 21:13:40.5±2.2, 5°.99S×151°.33E, h61km±14km, mb3.2/7, mb1 3.4/8, mb1mx3.2/43, mbtmp3.5/8, Error ellipse: s-maj=55.2km s-min=9.1km az=124.0*

ISC 05 21:13:38.6±1.8**, 6°.1S**±0°.2×**151°.5E**±0°.3**, h50**km**, n10,** σ**1s.18**/12**, mb3.4**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.86	17	P	Pn	21 14 08.8	+0.7
KRVT				S	Sn	21 14 31.9	+1.3
PMG	Port Moresby	5.39	232	P	Pn	21 14 56.5	-0.1
	1.5nm,0.3s,baz=42,slow=14,SNR=3.1						
PMG				S	Sn	21 15 58.4	+1.1
	1.8nm,0.3s,baz=110,slow=20,SNR=8.0						
WRA	Warramunga Arr	21.60	229	P	P	21 18 25.9	+1.4
	0.8nm,0.6s,baz=52,slow=10.0,SNR=10						
ASAR	Alice Springs	24.31	222	P	P	21 18 53.6	+1.9
	0.3nm,0.3s,baz=55,slow=9.7,SNR=8.9						
FITZ	Fitzroy Crossi	27.89	242	P	P	21 19 24.1	0.0
	1.3nm,0.6s,baz=37,slow=7.2,SNR=1.5						
CMAR	Chiang Mai Arr	57.25	296	P	P	21 23 20.6	-0.9
	0.2nm,0.3s,baz=76,slow=5.0,SNR=2.2						
SONM	Songino Array	66.73	329	P	P	21 24 24.7	0.0
	0.2nm,0.4s,baz=119,slow=4.9,SNR=2.0						
MKAR	Makanchi Array	80.44	319	P	P	21 25 44.5	-0.7
	0.1nm,0.5s,baz=104,slow=4.6,SNR=1.8						
ILAR	Eielson Array	83.85	22	P	P	21 26 01.1	-1.5
	0.2nm,0.5s,baz=236,slow=4.7,SNR=4.3						
TORD	Torodi Ar. Bea	149.42	285	PKPbc	PKPbc	21 33 23.6	+0.3
	0.9nm,0.4s,baz=112,slow=1.0,SNR=9.0						

*IDC **05** 21:13:48.4±1.0, 43°.44N×105°.17W, h0km, mb3.9/3, mb1 3.7/10, mb1mx3.5/65, mbtmp3.6/10, ML3.5/7, MS3.2/1, Ms1 3.2/1, ms1mx2.5/91, Error ellipse: s-maj=21.6km s-min=8.0km az=152.0*

*NEIC **05** 21:13:52.2±1.4, 43°.75N±0°.05×105°.31W±0°.07, h0km±2km, ML3.4/48, Error ellipse: s-maj=9.6km s-min=8.8km az=317.0*

ISC 05 21:13:51.0±0.8**, 43°.83N**±0°.07×**105°.28W**±0°.07**, h0**km**, n54,** σ**1s.28**/51**, mb3.9**/3**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	71		Pb	21 14 10.1	-0.2
K22A	Casper	1.49	218	Pn	Pn	21 14 17.1	-2.1
K22A				IAML		21 14 40.5	
	comp=N,513nm,0.3s						
K22A				IAML		21 14 44.0	
	comp=E,455nm,0.3s						
PHWY	Pilot Hill	2.53	183		Pn	21 14 33.0	-0.6
PHWY				IAML		21 15 14.1	
	comp=E,221nm,0.7s						
RWWY	Rawlins	2.57	214		Pn	21 14 33.7	-0.4
RWWY				IAML		21 15 11.0	
	comp=E,249nm,1.1s						
RWWY				IAML		21 15 12.0	
	comp=E,248nm,0.8s						
LAO	LASA Array	2.94	347	Pn	Pn	21 14 40.7	+1.6
N23A	Red Feather La	2.97	190	Pn	Pn	21 14 39.5	-0.2
N23A				IAML		21 15 22.8	
	comp=N,161nm,0.6s						
N23A				IAML		21 15 30.3	
	comp=E,120nm,0.8s						
RLMT	Red Lodge	3.14	296	Pn	Pn	21 14 41.7	-0.2
PD31	Pinedale Array	3.30	253		Pn	21 14 44.1	-0.1
PDAR	Pinedale Array	3.30	253	Pn	Pn	21 14 44.3	+0.1
	comp=E,5.1nm,0.3s,baz=70,slow=16,SNR=102						
PDAR				Lg	Lg	21 15 29.6	
	comp=E,14nm,0.3s,baz=72,slow=31,SNR=13						
PDAR	Pinedale Array	3.30	253		Pn	21 14 44.0	-0.2
YMP	Mirror Lake Pl	3.62	286		Pn	21 14 49.0	+0.4
GCMT	Greycliff	3.69	304		Pn	21 14 50.5	+1.0
OGNE	Ogallala	3.75	139		Pn	21 14 51.1	+0.9
LKWY	Lake	3.76	283		Pn	21 14 52.3	+1.8
LKWY				IAML		21 16 07.5	
	comp=E,64nm,1.3s						
LKWY				IAML		21 17 13.9	
	comp=E,44nm,4.7s						
H17A	Grant Village	3.86	280		Pn	21 14 53.2	+1.3
FLWY	Flagg Ranch	3.92	276		Pn	21 14 54.2	+1.4
FLWY				IAML		21 16 06.5	
	comp=E,54nm,1.5s						
ISCO	Idaho Springs	4.03	184	Pn	Pn	21 14 54.7	+0.4
ISCO				IAML		21 16 00.3	
	comp=E,37nm,1.3s						
REDW	Red Top Meadow	4.08	265	Pn	Pn	21 14 55.3	+0.5
REDW				IAML		21 16 13.2	
	comp=E,78nm,0.9s						
REDW				IAML		21 16 15.7	
	comp=E,67nm,0.9s						
YHH	Holmes Hill	4.12	285	Pn	Pn	21 14 57.6	+2.1
YHH				IAML		21 16 09.1	
	comp=N,38nm,1.0s						
E28A	Huff	4.25	48	Pn	Pn	21 14 59.3	+2.3
O20A	White River Ci	4.30	212	Pn	Pn	21 14 57.8	-0.1
AHID	Auburn Hatcher	4.38	258		Pn	21 15 00.5	+1.5
AHID				IAML		21 16 12.3	
	comp=N,50nm,1.4s						
AHID				IAML		21 16 40.6	
	comp=N,32nm,3.1s						
ECR	Eagle Creek	4.50	262		Pn	21 15 02.6	+1.9
DGMT	Dagmar	4.71	9	Pn	Pn	21 15 05.6	+2.3
Q24A	Divide	4.86	179		Pn	21 15 05.6	-0.1
BOZ	Bozeman (W)	4.86	294	Pn	Pn	21 15 06.4	+0.8
BOZ				IAML		21 16 24.8	
	comp=N,24nm,1.2s						
BOZ				IAML		21 16 27.9	
	comp=N,39nm,2.7s						
KSCO	Kaye Shedlock'	5.21	157	Pn	Pn	21 15 10.2	-0.1
EGMT	Eagleton	5.23	325		Pn	21 15 11.0	+0.4
HRY	Holter Researc	5.45	304		Pn	21 15 14.4	+0.8
P18A	Preston Nutter	5.61	223		Pn	21 15 16.0	0.0
BGNE	Belgrade	5.79	112	Pn	Pn	21 15 18.0	-0.1
PV07	Paradox Valley	5.95	206	Pn	Pn	21 15 21.7	+1.0
SDCO	Great Sand Dun	6.08	182		Pn	21 15 22.6	+0.2
PV10	Paradox Valley	6.14	209	Pn	Pn	21 15 24.4	+1.1
SRU	San Rafael Swe	6.14	222		Pn	21 15 22.1	-1.0
S22A	4UR Ranch, Cre	6.19	191	Pn	Pn	21 15 23.8	-0.1
ECSD	EROS Data Cent	6.27	88		Pn	21 15 26.0	+1.2
CBKS	Cedar Bluff	6.51	138	Pn	Pn	21 15 29.0	+0.8
HLID	Hailey	6.63	271		Pn	21 15 31.1	+1.2
DUG	Dugway, Tooele	6.68	240	Pn	Pn	21 15 30.0	-0.6
F33A	5 Mile Ranch,	6.70	69	Pn	Pn	21 15 31.0	+0.4
T25A	Trinidad	6.71	174	Pn	Pn	21 15 30.9	-0.1
R32A	Long Quarter,	7.33	135	Pn	Pn	21 15 40.2	+0.9
ELK	Elko	8.00	251	Pn	Pn	21 15 48.1	-0.6
	comp=N,0.2nm,0.3s,baz=90,slow=9.1,SNR=4.0						
ELK				Lg	Lg	21 17 56.3	
	comp=N,0.1nm,0.3s,baz=92,slow=18,SNR=1.5						
ANMO	Albuquerque	8.92	186	LR	LR	21 19 34.8	
	comp=N,154nm,18.9s,baz=23,slow=41						
ULM	Lac du Bonnet	9.08	42	Pn	Pn	21 16 02.4	-0.8
	comp=N,1.3nm,0.3s,baz=232,slow=13,SNR=10						
ULM				Pg		21 16 35.2	
	comp=N,1.0nm,0.3s,baz=225,slow=17,SNR=7.7						
ULM				Lg	Lg	21 18 32.5	
	comp=N,0.9nm,0.3s,baz=311,slow=19,SNR=2.5						
NEW	Newport	9.36	302	Lg	Lg	21 18 46.3	
	comp=N,0.1nm,0.3s,baz=77,slow=18,SNR=4.5						
NVAR	Mina Array Bea	11.20	246	Pn	Pn	21 16 33.4	+0.9
	comp=N,0.1nm,0.3s,baz=47,slow=11,SNR=3.1						
YBH	Yreka Blue Hor	12.98	267	Pn	Pn	21 17 01.5	+4.7
	comp=N,0.1nm,0.3s,baz=101,slow=5.2,SNR=1.4						
TXAR	Lajitas Array	14.52	174	Pn	Pn	21 17 09.7	-8.2
	comp=N,0.1nm,0.3s,baz=0.0,slow=8.1,SNR=2.2						
TXAR				Lg	Lg	21 21 19.4	
	comp=N,0.1nm,0.3s,baz=30,slow=24,SNR=3.3						
YKA	Yellowknife Ar	19.48	347	P	P	21 18 19.7	+0.6
	comp=N,0.1nm,0.3s,baz=162,slow=10,SNR=5.9						
FINES	FINESS Array B	67.95	23	P	P	21 24 50.2	-1.0
	comp=N,1.8nm,1.0s,baz=298,slow=9.0,SNR=1.7						
ZALV	Zalesovo Beam	82.22	354	P	P	21 26 13.3	-0.4
	comp=N,0.5nm,0.6s,baz=0.0,slow=5.9,SNR=2.2						
MKAR	Makanchi Array	89.52	355	P	P	21 26 47.9	-2.1
	comp=N,0.4nm,0.7s,baz=354,slow=2.9,SNR=7.0						

*JMA **05** 21:17:28.5±0.7, 22°.78N×121°.52E, h4km*

*TAP **05** 21:17:28.6, 22°.70N×121°.34E, h26km, ML2.9, B*

ISC 05 21:17:28.2±0.9**, 22°.63N**±0°.02×**121°.38E**±0°.03**, h26**km±4km**, n70,** σ**1s.13**/112**, 16C-4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LDUT	Ludao	0.10	61	⇓ iP	Pn	21 17 33.7	+0.8
	baz=100						
LDUT				i S	Sb	21 17 37.1	+1.0
	baz=100						
TTN	Taitung	0.25	301	⇑ iP	Pb	21 17 34.5	-0.1
	baz=289						
TTN				eS	Sb	21 17 38.6	-0.3
	baz=289						
TWGBT	Beinan	0.33	305	⇑ iP	Pb	21 17 35.4	-0.4
	baz=297						
TWGBT				eS	Sb	21 17 39.8	-1.2
	baz=297						
TWG	Pinlang	0.34	304	⇑ iP	Pb	21 17 35.4	-0.5
	baz=297						
TWG				eS	Sb	21 17 39.6	-1.6
	baz=297						
EDH	Donghe	0.35	349	⇑ iP	Pb	21 17 35.4	-0.7
	baz=353						
EDH				i S	Sb	21 17 40.5	-0.9
	baz=353						
LONT	Longtian	0.36	321	⇑ iP	Pb	21 17 35.6	-0.6
	baz=318						
LONT				eS	Sb	21 17 40.8	-0.9
	baz=318						
ECL	Taimali	0.39	266	⇑ iP	Pb	21 17 36.3	-0.4
	baz=254						
ECL				eS	Sb	21 17 41.4	-1.1
	baz=254						
CHKT	Chengkung	0.47	359	⇑ P	Pb	21 17 37.5	-0.5
	baz=4.0						
CHKT				eS	Sb	21 17 43.6	-1.0
	baz=4.0						
ECS	Chishang	0.49	343	eP	Pb	21 17 38.3	0.0
	baz=345						
ECS				eS	Sn	21 17 46.3	-0.9
	baz=345						
TAW	Tawu	0.52	239	eP	Pb	21 17 38.7	-0.1
	baz=230						
TAWH	Dawu Township	0.54	238	⇑ iP	Pb	21 17 39.1	0.0
	baz=230						
TAWH				S	Sb	21 17 46.2	-0.1
	baz=230						
EAST	Anshuo	0.55	244	⇑ iP	Pb	21 17 39.2	-0.1
	baz=235						
EAST				eS	Sb	21 17 46.4	-0.3
	baz=235						
FULB	Fuli	0.57	352	⇑ iP	Pb	21 17 39.0	-0.7
	baz=355						
FULB				eS	Sb	21 17 47.2	-0.3
	baz=355						
LAY	Lan-yu	0.61	165	eP	Pn	21 17 41.3	+0.1
	baz=163						
LAY				eS	Sn	21 17 50.0	-0.1
	baz=163						
ELDTW	Lidau	0.65	329	⇓ iP	Pb	21 17 39.6	-1.4
	baz=329						
ELDTW				eS	Sb	21 17 47.1	-2.7
	baz=329						
LYUB	Lan-yu	0.65	163	eP	Pb	21 17 40.8	-0.1
	baz=162						
LYUB				eS	Sn	21 17 50.3	-0.9
	baz=162						
SLIU	Shizi	0.67	233	⇑ iP	Pb	21 17 41.1	-0.2
	baz=226						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SLIU				eS	Sb	21 17 49.7	-0.6
	baz=226						
TSMG	Majia	0.68	277	P	Pb	21 17 40.7	-0.8
	baz=271						
TSMG				eS	Sb	21 17 46.6	-3.9
	baz=271						
MASBT	Mashibuluo	0.69	269	⇑iP	Pb	21 17 41.1	-0.5
	baz=263						
MASBT				eS	Sb	21 17 49.2	-1.5
	baz=263						
ECBN	Changbin	0.69	6	eP	Pb	21 17 41.4	-0.3
	baz=9.0						
ECBN				eS	Sb	21 17 51.2	+0.4
	baz=9.0						
SSD	Sandimen	0.70	280	⇑iP	Pb	21 17 40.9	-0.9
	baz=274						
SSD				eS	Sb	21 17 47.6	-3.5
	baz=274						
EYUL	Yuli	0.72	356	eP	Pb	21 17 41.7	-0.4
	baz=358						
EYUL				eS	Sb	21 17 51.6	0.0
	baz=358						
TWF1	Yuli	0.73	354	eP	Pb	21 17 41.1	-1.1
	baz=357						
TWF1				eS	Sb	21 17 51.8	0.0
	baz=357						
SCZT	Fangliau	0.74	250	⇑eP	Pb	21 17 42.3	-0.2
	baz=244						
SSPT	Xinbi	0.76	259	eP	Pn	21 17 43.2	0.0
	baz=254						
YULB	Yu-li	0.77	354	eP	Pb	21 17 41.4	-1.5
	baz=357						
YULB				eS	Sb	21 17 51.9	-1.1
	baz=357						
SLGT	Liugui	0.77	299	eP	Pb	21 17 42.7	-0.2
	baz=295						
STYH	Taoyuan	0.78	314	⇓iP	Pb	21 17 42.2	-0.8
	baz=313						
STYH				eS	Sb	21 17 51.6	-1.6
	baz=313						
STYT	Tauyuan	0.78	313	⇓P	Pb	21 17 42.3	-0.9
	baz=311						
STYT				eS	Sb	21 17 51.9	-1.6
	baz=311						
SMST	Manzhou Townsh	0.78	220	⇑eP	Pn	21 17 43.3	-0.2
	baz=215						
SMST				eS	Sn	21 17 53.8	-0.6
	baz=215						
SCST	Cishan	0.85	288	eP	Pn	21 17 45.0	+0.4
	baz=284						
HEN	Hengchun	0.86	224	eP	Pn	21 17 44.7	+0.1
	baz=219						
TWKBT	Hengchun	0.86	218	eP	Pn	21 17 44.5	-0.1
	baz=213						
TWKBT				eS	Sn	21 17 56.2	-0.1
	baz=213						
SGST	Jiashian	0.86	302	eP	Pb	21 17 44.0	-0.5
	baz=299						
HGSD	Ruisui	0.86	3	eP	Pb	21 17 44.1	-0.5
	baz=6.0						
TWK1	Hengchun	0.86	218	eP	Pn	21 17 44.6	0.0
	baz=213						
EHY	Hungye	0.88	357	eP	Pb	21 17 43.1	-1.7
	baz=359						
EHY				eS	Sb	21 17 54.5	-1.6
	baz=359						
TWM1	Shoushan	0.90	283	eP	Pn	21 17 48.2	+3.0
	baz=279						
TWM1				eS	Sn	21 18 03.2	+5.8
	baz=279						
WTP	Ta-pu	0.94	311	eP	Pb	21 17 45.6	-0.1
	baz=310						
WTP				eS	Sb	21 17 57.8	0.0
	baz=310						
YUS	Yu-Shan	0.94	336	eP	Pb	21 17 45.0	-1.2
	baz=336						
CHN1	Nanshi	0.96	306	eP	Pb	21 17 46.5	+0.3
	baz=303						
CHN1				eS	Sn	21 17 59.4	+0.6
	baz=303						
TPUB	Ta-pu	0.96	314	eP	Pb	21 17 46.0	-0.2
	baz=313						
WLCH	Liuqiu	0.96	254	eP	Pb	21 17 46.8	+0.6
	baz=249						
SNST	Tainan City	1.00	306	eP	Pb	21 17 47.0	+0.1
	baz=304						
CHN4	Tsaushan	1.02	315	eP	Pb	21 17 47.2	0.0
	baz=314						
CHN4				eS	Sn	21 18 00.8	+0.5
	baz=314						
ALS	Alishan	1.02	329	⇑eP	Pn	21 17 46.9	-0.2
	baz=329						
ALS				eS	Sn	21 18 01.4	+0.6
	baz=329						
SHHT	Tainan City	1.03	293	eP	Pb	21 17 49.2	+1.9
	baz=290						
TWK	Hsinying	1.04	308	eP	Pb	21 17 47.5	0.0
	baz=306						
VWDT	VWDT	1.14	349	eP	Pn	21 17 48.0	-0.5
	baz=350						
CHN5	Tsauling	1.16	326	eP	Pb	21 17 49.3	-0.4
	baz=326						
ESL	Shilin	1.18	2	eP	Pn	21 17 48.3	-0.7
	baz=5.0						
SSLB	Suanglung	1.22	341	eP	Pn	21 17 49.9	+0.3
	baz=342						
SSLB				eS	Sb	21 18 06.3	+0.4
	baz=342						
CHY	Chiayi	1.23	315	eP	Pb	21 17 51.2	+0.4
	baz=314						
CHY				eS	Sb	21 18 07.5	+1.2
	baz=314						
WDLH	Douliu	1.31	324	eP	Pb	21 17 52.4	+0.3
	baz=323						
SMLT	Sun Moon Lake	1.32	341	eP	Pb	21 17 51.8	-0.6
	baz=341						
SMLT				eS	Sb	21 18 09.8	+0.7
	baz=341						
WJS	Zhushan	1.33	333	eP	Pb	21 17 52.9	+0.4
	baz=333						
ETM	Tongmen	1.34	5	eP	Pn	21 17 51.2	+0.1
	baz=6.0						
TYC	Yuchr	1.36	339	eP	Pb	21 17 52.8	-0.2
	baz=340						
TYC				eS	Sb	21 18 10.7	+0.8
	baz=340						
WUSB	Renai	1.38	350	eP	Pn	21 17 52.1	+0.2
	baz=351						
WSL	Shuilin Townsh	1.38	310	eP	Pn	21 17 51.3	-0.5
	baz=309						
WTK	Tuku	1.39	319	eP	Pn	21 17 52.1	+0.2
	baz=319						
WTK				eS	Sb	21 18 11.3	+0.4
	baz=319						
WNT	Mingjian	1.40	333	eP	Pb	21 17 54.0	+0.4
	baz=333						
CHGB	Renai	1.44	353	eP	Pn	21 17 52.7	0.0
	baz=354						
DPDB	Guoxing	1.46	344	eP	Pb	21 17 54.1	-0.6
	baz=344						
DPDB				eS	Sb	21 18 14.3	+1.3
	baz=344						
WCS	Beigang Elemen	1.49	343	eP	Pb	21 17 54.5	-0.6
	baz=344						
WHP	Taichung City	1.69	347	eP	Pb	21 17 58.0	-0.7
	baz=347						
IRIF	Iriomote-Funau	2.75	51	P	Pn	21 18 12.0	+1.4
IRIF				eS	Sn	21 18 43.5	+0.6
JKRS	Kuro-shima	2.90	56	eS	Sn	21 18 46.7	0.0
JIJ	Ishigaki jima	3.07	55	P	Pn	21 18 16.7	+1.7
JIJ				eS	Sn	21 18 50.8	-0.1
JISG	Ishigakijimahi	3.32	53	P	Pn	21 18 19.6	+1.1
JISG				eS	Sn	21 18 56.1	-1.0

IDC 05 21:46:56.0±1.5**, 35.°62N**×**10.°05E, h0**km**, mb3.4**/2**, mb1 3.6**/4**, mb1mx3.1**/51**, mbtmp3.5**/4**, ML3.7**/1**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/58**, Error ellipse: s-maj=30.9km s-min=10.7km az=8.0, Tunisia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KEST	Kesra	0.58	281	Pg	Pg	21 47 06.2	-1.0
	60nm,0.3s,baz=98,slow=5.8,SNR=886						
KEST				Lg	Lg	21 47 16.4	
	878nm,0.3s,baz=83,slow=23,SNR=48						
VAE	Valguarnera	3.97	61	Pn	Pn	21 47 57.6	-0.5
	0.5nm,0.3s,baz=189,slow=17,SNR=1.5						
DAVOX	Davos/Dischmat	11.15	359	LR	LR	21 54 49.2	
	comp=Z,51nm,18.6s,baz=225,slow=42						
ESDC	Sonseca Array	11.82	294	Pn	Pn	21 49 45.3	-0.5
	0.1nm,0.3s,baz=100,slow=14,SNR=9.2						
TORD	Torodi Ar. Bea	23.61	201	P	P	21 52 08.9	+0.2
	1.6nm,0.9s,baz=12,slow=10,SNR=6.6						
MKAR	Makanchi Array	53.70	54	P	P	21 56 20.1	+0.6
	0.4nm,0.9s,baz=284,slow=5.8,SNR=2.8						

*TUL **05** 21:57:21.2±1.4, 35.°86N±0.°01×97.°22W±0.°01, h5km±6km, ML2.6, ML2.4/44(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=138.0*

NEIC 05 21:57:21.4±0.9**, 35.°870N**±0.°010×**97.°22W**±0.°02**, h12**km±3km**, Error ellipse: s-maj=1.9km s-min=1.4km az=104.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.21	174	Pg	Pg	21 57 25.8	-0.3
OK005				Sg	Sg	21 57 29.2	-0.1
OKCFA	Oklahoma City	0.49	203		Pg	21 57 30.9	-0.2
OKCFA				Sg	Sg	21 57 38.0	+0.4
OKCFA				IAML		21 57 38.1	
	comp=N,247nm,0.3s						
OKCFA				IAML		21 57 38.1	
	comp=E,200nm,1.5s						
OKCSW	OKLAHOMA CITY	0.50	201	Pg	Pg	21 57 31.0	-0.2
FNO	Franklin	0.63	194	Pg	Pg	21 57 33.3	-0.3
FNO				Sg	Sg	21 57 42.1	+0.1
FNO				IAML		21 57 42.4	
	comp=E,154nm,0.3s						
W35A	Tecumseh	0.77	158	Pg	Pg	21 57 35.2	-1.1
W35A				Sg	Sg	21 57 46.2	-0.2
W35A				IAML		21 57 46.5	
	comp=E,97nm,0.4s						
TUL1	Leonard	1.16	88	Pg	Pb	21 57 42.5	-0.9
TUL1				IAML		21 57 58.6	
	comp=N,88nm,0.5s						
TUL1				IAML		21 58 03.1	
	comp=E,78nm,0.2s						
T35A	Sooner Cattle	1.19	28		Pn	21 57 43.4	-0.5
T35A				IAML		21 58 00.2	
	comp=N,52nm,0.2s						
T35A				IAML		21 58 05.8	
	comp=E,56nm,0.5s						
X34A	Smith Ranch, M	1.36	202	Pn	Pn	21 57 46.4	+0.2
U32A	Winter Ranch,	1.53	290	Pn	Pn	21 57 49.0	+0.4
WMOK	Wichita Mounta	1.71	229	Pn	Pb	21 57 52.1	-0.6
X37A	Clayton	1.98	130		Pn	21 57 55.8	+1.1
W39A	Magazine	2.88	102	Pn	Pn	21 58 08.2	+1.1
MIAR	Mount Ida	3.26	113	Pn	Pn	21 58 14.3	+2.0
U40A	Yellville	3.57	81	Pn	Pn	21 58 17.3	+0.7
S39A	Bolivar	3.62	59	Pn	Pn	21 58 18.0	+0.8
X40A	Basin Creek Fa	3.85	110	Pn	Pn	21 58 21.9	+1.5
WHAR	Wooly Hollow	4.06	97	Pn	Pn	21 58 24.2	+0.9

*GCG **05** 22:01:28.9±2.6, 15.°98N×95.°19W, h95km±999km, MD5.1*

*IDC **05** 22:01:38.7±0.5, 15.°48N×93.°32W, h0km, mb4.6/28, mb1 4.8/31, mb1mx4.7/41, mbtmp4.7/31, ML4.8/3, MS3.9/53, Ms1 3.9/53, ms1mx3.8/70, Error ellipse: s-maj=20.4km s-min=10.4km az=52.0*

*GCMT **05** 22:01:45.1±0.3, 15.°44N±0.°02×93.°83W±0.°02, h56km±2km, MW5.0/104, Moment Tensor Solution. s58,c73; s104,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.14; $M_{\theta\theta}$0.79±.12; $M_{\phi\phi}$1.79±.13; $M_{r\theta}$2.21±.09; $M_{\theta\phi}$-1.71±.12; $M_{\phi r}$-2.09±.09; Best double couple: $M_0$4.16000×10^{16} NP1:ϕ_s153.00000°,δ22.00000°, λ-73.00000°. NP2:ϕ_s315.00000°,δ69.00000°, λ-97.00000°. Principal axes: T 4.3740, Plg23.0000°, Azm51.0000°; N -0.4340, Plg6.0000°, Azm318.0000°; P -3.9470, Plg66.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 22:01:47.1±2.1, 15.°36N±0.°05×93.°87W±0.°05, h65km±5km, mb5.1/214, Mwr5.0/14, Md4.9/86(MEX) Error ellipse: s-maj=7.9km s-min=5.5km az=224.0*

*MEX **05** 22:01:47.1±1.9, 15.°26N×93.°95W, h51km±38km, MD4.9*

*NEIC **05** 22:01:49.4, 15.°49N×93.°71W, h70km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-3.67; $M_{\theta\theta}$2.88; $M_{\phi\phi}$0.79; $M_{r\theta}$1.83; $M_{\theta\phi}$-2.26; $M_{\phi r}$-0.28; Fault plane solution: $M_0$4.44000×10^{16} NP1:ϕ_s291.39000°, δ57.54000°,λ-103.24000°. NP2:ϕ_s135.06000°, δ34.78000°,λ-70.20000°. Principal axes: T 4.6719, Plg12.0000°, Azm31.0000°; N -0.5018, Plg11.0000°, Azm299.0000°; P -4.1700, Plg74.0000°, Azm166.0000°;*

*UCR **05** 22:01:50.7±1.7, 14.°95N×93.°74W, h36km±999km, ML4.8*

*BGR **05** 22:01:51.8±0.0, 15.°95N×93.°93W, h75km, mb5.3*

*SNET **05** 22:01:51.1±2.3, 14.°97N×93.°71W, h33km±999km, ML5.1*

ISC 05 22:01:45.9±0.6**, 15.°34N**±0.°04×**93.°85W**±0.°03**, h60**km±4km**, n712, σ1.°77**/749**, mb5.1**/133**, MS3.9**/55**, 8D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PCIG		0.71	59		Pn	22 02 01.2	+1.0
PCIG					Sn	22 02 12.2	+1.5
PCIG		0.71	59	eP	Pn	22 02 01.2	+1.0
PCIG				iS	Sn	22 02 12.2	+1.5
CARR	Arriaga	0.90	356	eP	Pn	22 02 03.4	+0.7
CARR				eS	Sn	22 02 16.7	+1.6
PATR	El Naranjo	1.57	98	eP	Pn	22 02 12.4	+0.6
PATR				eS	Sn	22 02 32.0	+0.7
THIG		1.59	106		Pn	22 02 12.6	+0.8
THIG					Sn	22 02 32.1	+0.8
THIG		1.59	106	eP	Pn	22 02 12.6	+0.8
THIG				eS	Sn	22 02 32.0	+0.7
THIG				eS	Sn	22 02 32.1	+0.8
TGIG		1.59	26		Pn	22 02 13.3	+1.4
TGIG					Sn	22 02 32.6	+1.1
TGIG		1.59	26	eP	Pn	22 02 13.3	+1.4
TGIG				eS	Sn	22 02 32.6	+1.1
TGBT	Tuxtla Gutierr	1.60	27		Pn	22 02 13.6	+1.5
TGBT					Sn	22 02 33.6	+1.9
TGBT	Tuxtla Gutierr	1.60	27	eP	Pn	22 02 13.6	+1.5
TGBT				eS	Sn	22 02 33.6	+1.9
PAVE	Pavencul	1.62	95	eP	Pn	22 02 13.8	+1.3
PAVE				eS	Sn	22 02 33.0	+0.6
CHUJ	Union Juarez	1.70	98	eP	Pn	22 02 14.4	+0.9
CHUJ				eS	Sn	22 02 35.6	+1.2
CCIG	Comitan	1.90	60		Pn	22 02 18.1	+1.9
CCIG				Sn	Sn	22 02 42.1	+3.1
CCIG	Comitan	1.90	60	eP	Pn	22 02 18.2	+2.0
CCIG				eS	Sn	22 02 42.8	+3.8
UXUV	UXUV	1.99	352	iP	Pn	22 02 18.9	+1.7
UXUV				eS	Sn	22 02 42.9	+1.9
CMIG	Matias Romero	2.00	330	Pn	Pn	22 02 18.1	+0.6
	319nm,0.3s,baz=153,slow=8.5,SNR=402						
CMIG				Sn	Sn	22 02 42.0	+0.5
	2μm,0.3s,baz=337,slow=15,SNR=26						
CMIG				LR	LR	22 03 18.8	
	comp=Z,1μm,18.8s,baz=131,slow=46						
CMIG	Matias Romero	2.00	330	eP	Pn	22 02 18.2	+0.7
CMIG				eS	Sn	22 02 42.0	+0.5
HUIG	Huatulco	2.22	281		Pn	22 02 19.2	-1.2
HUIG	Huatulco	2.22	281	eP	Pn	22 02 19.2	-1.2
HUIG				eS	Sn	22 02 42.2	-4.5
RTAL	Retalhuleu	2.23	111		Pn	22 02 21.8	+1.2
RTAL				Sn	Sn	22 02 47.1	0.0
HUEH	Huehuetenango	2.26	90		Pn	22 02 23.6	+2.4
HUEH				Sn	Sn	22 02 51.5	+3.3
HUEH	Huehuetenango	2.26	90	eP	Pn	22 02 24.3	+3.1
HUEH				eS	Sn	22 02 53.3	+5.2
HUEH				IAML		22 03 03.4	
	comp=Z,44μm,0.5s						
HUEH	Huehuetenango	2.26	90	eP	Pn	22 02 24.3	+3.1
HUEH				eS	Sn	22 02 53.3	+5.2
HUEH				IAML		22 03 03.4	
	comp=Z,44μm,0.5s						
STG3	Santiaguito 3,	2.29	106	eP	Pn	22 02 23.3	+1.8
STG3				eS	Sn	22 03 05.1	+16
TUIG	Tuzandepetl	2.73	348		Pn	22 02 28.2	+0.8
TUIG					Sn	22 03 00.1	+0.8
TUIG	Tuzandepetl	2.73	348	eP	Pn	22 02 28.2	+0.8
TUIG				eS	Sn	22 03 00.1	+0.8
VHSA	Villahermosa	2.77	18	eP	Pn	22 02 30.4	+2.5
VHSA				eS	Sn	22 03 04.1	+4.0
NEUV	Arroyo Zacate	3.01	322	eP	Pn	22 02 31.9	+0.7
NEUV				eS	Sn	22 03 06.0	-0.1
FUG	Fuego 3	3.04	107	eP	Pn	22 02 35.0	+3.3
OXLC	Oaxaca	3.23	302	iP	Pn	22 02 33.5	-1.0
OXLC				eS	Sn	22 03 09.2	-2.7
PEIG	Puerto Escondi	3.25	282	iP	Pn	22 02 33.6	-0.8
PEIG				eS	Sn	22 03 08.9	-2.9
VHO	Vista Hermosa	3.26	302	iP	Pn	22 02 36.6	+1.8
VHO				eS	Sn	22 03 10.0	-2.6
PCG	Pacaya	3.27	106	eP	Pn	22 02 38.3	+3.2
NBG	Las Nubes	3.47	102	eP	Pn	22 02 41.6	+4.0
NBG				eS	Sn	22 03 37.0	+19
YOIG	Yosondua	3.86	293	eP	Pn	22 02 44.6	+1.5
YOIG				eS	Sn	22 03 25.2	-2.2
MRL	Marmol	4.03	93	eP	Pn	22 02 47.3	+2.0
MRL				eS	Sn	22 03 48.9	+18
TOIG	Toxpalan	4.12	312	eP	Pn	22 02 48.4	+1.9
TOIG				eS	Sn	22 03 36.1	+2.5
PETF	Flores	4.13	67		Pn	22 02 47.8	+1.2
PNIG	Pinotepa	4.25	285		Pn	22 02 47.9	-0.3
PNIG	Pinotepa	4.25	285	eP	Pn	22 02 47.9	-0.3
PNIG				eS	Sn	22 03 29.5	-7.1
SCIG	Sabancuy	4.41	35		Pn	22 02 51.3	+0.9
SCIG	Sabancuy	4.41	35	iP	Pn	22 02 51.3	+0.9
ESQI	Esquipulas	4.42	100		Pn	22 02 52.2	+1.6
MTO3	Montecristo	4.44	102		Pn	22 02 52.0	+1.1
JAYA	Jayaque - finc	4.58	111	eP	Pn	22 02 54.8	+2.0
JAYA				eS	Sn	22 03 44.1	-0.7
JAYA				IAML		22 03 53.0	
	comp=Z,2μm,0.4s						
JAYA	Jayaque - finc	4.58	111	eP	Pn	22 02 54.8	+2.0
JAYA				eS	Sn	22 03 44.1	-0.7
JAYA				IAML		22 03 53.0	
	comp=Z,2μm,0.4s						
LALI	Alcalda de L	4.76	112	eP	Pn	22 02 59.4	+4.3
LALI				eS	Sn	22 03 47.8	-1.2
LALI	Alcalda de L	4.76	112	eP	Pn	22 02 59.4	+4.3
LALI				eS	Sn	22 03 47.8	-1.2
SNET	Serv Nac Est T	4.76	110		Pn	22 02 56.9	+1.6
JAUV	Jalcomulco	4.90	325	eP	Pn	22 02 56.7	-0.4
JAUV				eS	Sn	22 03 50.7	-1.8
LFRS	El Faro	4.94	110	eP	Pn	22 03 00.4	+2.7
LFRS	El Faro	4.94	110	eP	Pn	22 03 00.4	+2.7
TLIG	Tlapa	5.04	297		Pn	22 03 01.0	+1.9
COEG	Centro de Oper	5.11	109	eP	Pn	22 03 03.0	+3.0
COEG				eS	Sn	22 04 00.1	+2.4
COEG	Centro de Oper	5.11	109	eP	Pn	22 03 03.0	+3.0
COEG				eS	Sn	22 04 00.1	+2.4
PPM	Popocatepetl	5.88	310	eP	Pn	22 03 15.3	+4.3
PPM				eS	Sn	22 04 16.6	-0.7
CXUV	Coxquihui	5.98	324	eP	Pn	22 03 13.9	+2.0
CXUV				eS	Sn	22 04 21.4	+2.2
YAIG	Yautepec	6.10	306		Pn	22 03 16.7	+3.1
YAIG					Sn	22 04 22.6	+0.5
YAIG	Yautepec	6.10	306	eP	Pn	22 03 16.7	+3.1
YAIG				eS	Sn	22 04 22.6	+0.5
UNM	Universidad Na	6.45	309	Pn	Pn	22 03 20.4	+1.8
MAVM	Malinalco, Edo	6.49	304		Pn	22 03 21.4	+2.4
MAVM					Sn	22 04 31.9	+0.1
MAVM	Malinalco, Edo	6.49	304	eP	Pn	22 03 21.4	+2.4
MAVM				eS	Sn	22 04 31.9	+0.1
TGUH	Tegucigalpa,Un	6.49	100		Pn	22 03 18.9	-0.1
INVM	La Marquesa	6.59	307	eP	Pn	22 03 24.6	+4.1
INVM				eS	Sn	22 04 35.7	+1.2
ARIG	Puente Sto Nin	6.88	296		Pn	22 03 27.1	+2.9
ARIG					Sn	22 04 39.5	-1.6
ARIG	Puente Sto Nin	6.88	296	iP	Pn	22 03 27.1	+2.9
ARIG				eS	Sn	22 04 39.5	-1.6
DEIG	Demacu	6.98	316	eP	Pn	22 03 30.4	+4.6
DEIG				eS	Sn	22 04 41.3	-2.7
CRIN	San Cristobal	7.10	111		Pn	22 03 28.9	+1.6
CNGN	Cerro Negro	7.49	111		Pn	22 03 33.8	+1.1
ZIIG	Zihuatanejo	7.65	288		Pn	22 03 36.5	+1.9
ZIIG					Sn	22 04 59.1	-0.9
ZIIG	Zihuatanejo	7.65	288	iP	Pn	22 03 36.5	+1.9
ZIIG				eS	Sn	22 04 59.1	-0.9
MATN	Matagalpa	8.05	106		Pn	22 03 41.5	+1.2
MOIG	Morelia	8.22	303		Pn	22 03 46.5	+3.6
MOIG	Morelia	8.22	303		Sn	22 05 17.2	+2.7
MOIG	Morelia	8.22	303	eP	Pn	22 03 46.9	+4.1
MOIG				eS	Sn	22 05 17.2	+2.7
BOAB	BOACO BROADBAN	8.45	109	Pn	Pn	22 03 46.8	+1.0
ACON	Acoyapa	9.07	111		Pn	22 03 54.8	+0.5
HZTE	Horizontes, Gu	9.26	119	Pn	Pn	22 03 58.9	+2.0
HZTE	Horizontes, Gu	9.26	119	eP	Pn	22 03 59.8	+2.9
SAJU	San Juanillo,	9.51	122	eP	Pn	22 04 02.9	+2.7
MMIG	Aquila	9.55	289		Pn	22 04 03.0	+2.1
MMIG	Aquila	9.55	289	iP	Pn	22 04 03.0	+2.1
MMIG				eS	Sn	22 05 49.4	+2.7
ORTG	Ortega, Santa	9.56	120	Pn	Pn	22 04 03.0	+2.0
ORTG	Ortega, Santa	9.56	120	eP	Pn	22 04 03.6	+2.6
PLVR	Palo Verde	9.66	120	eP	Pn	22 04 04.9	+2.5
DUNO	Dulce Nombre,	9.68	122		Pn	22 04 04.7	+2.1
ESPN	Las Esperanzas	9.79	107		Pn	22 04 04.5	+0.4
JTS	Las Juntas de	10.02	119	Pn	Pn	22 04 09.3	+2.1
	comp=Z,5.6nm,0.3s,baz=182,slow=21,SNR=16						
JTS				Sn	Sn	22 06 04.6	+6.4
	comp=Z,1.9nm,0.3s,baz=26,slow=22,SNR=2.0						
JTS	Las Juntas de	10.02	119	Pn	Pn	22 04 08.7	+1.5
JTS	Las Juntas de	10.02	119	eP	Pn	22 04 10.1	+2.8
ARE1	Arenal 1	10.13	118	eP	Pn	22 04 12.2	+3.4
COIG	Colima	10.15	294	eP	Pn	22 04 13.2	+4.2
COIG				eS	Sn	22 06 06.0	+4.7
JUBC	Volcan de Coli	10.16	295	eP	Pn	22 04 10.9	+1.5
JUBC				eS	Sn	22 05 52.6	-9.4
EZ5V		10.18	295	eP	Pn	22 04 12.5	+2.9
EZ5V				eS	Sn	22 05 58.1	-4.3
MNGA	Volcan de Coli	10.19	295	eP	Pn	22 04 12.1	+2.3
MNGA				eS	Sn	22 05 59.4	-3.2
INCO	Volcan de Coli	10.20	295	eP	Pn	22 04 14.4	+4.4
INCO				eS	Sn	22 06 05.4	+2.3
CAO2	Cobano, Puntar	10.22	122		Pn	22 04 11.8	+1.9
COVE	Coope Vega, Sa	10.29	115		Pn	22 04 13.2	+2.3
LAFE	Finca La Fe, P	10.31	121	eP	Pn	22 04 13.2	+2.0
CDAR	Ciudad de Arme	10.35	292	eP	Pn	22 04 11.9	+0.2
CDAR				eS	Sn	22 06 13.3	+7.0
R15V		10.40	293	eP	Pn	22 04 13.9	+1.5
R15V				eS	Sn	22 06 09.2	+1.6
JACO	JACO, Garabito	10.60	121	Pn	Pn	22 04 17.3	+2.2
JACO	JACO, Garabito	10.60	121	eP	Pn	22 04 17.5	+2.4
HDC	Heredia	10.88	118		Pn	22 04 20.7	+1.6
ZAIG	Zacatecas	11.07	313	Pn	Pn	22 04 24.8	+3.0
LCR2	La Lucha 2	11.10	119	eP	Pn	22 04 24.3	+2.1
CVTR	Volcan Turrial	11.17	117	Pn	Pn	22 04 24.0	+0.6
RIMA	Rio Macho	11.21	118		Pn	22 04 25.1	+1.4
RIMA	Rio Macho	11.21	118	eP	Pn	22 04 25.6	+1.9
CDM	Cerro de Muert	11.40	119	eP	Pn	22 04 28.5	+2.0
CJM	Chamela	11.46	293	eP	Pn	22 04 29.1	+2.3
CJM				eS	Sn	22 06 24.1	-9.2
PEZE	Perez Zeledon,	11.56	120		Pn	22 04 30.1	+1.7
SRBA	San Rafael, Bu	11.91	119		Pn	22 04 34.5	+1.3
DRK0	Durika	11.99	119		Pn	22 04 35.0	+0.7
RIOS	Rincon, Osa	12.07	122		Pn	22 04 36.3	+1.1
PRVC	Isla de Provid	12.25	98	Pn	Pn	22 04 37.4	-0.3
SOR	Soroa	12.64	52	Pn	Pn	22 04 40.9	-2.2
BRU2	Volcan	12.70	120		Pn	22 04 44.8	+0.8
833A	Chaparral WMA,	13.90	339	Pn	Pn	22 05 01.3	+1.2
833A	Chaparral WMA,	13.90	339	P	Pn	22 05 02.6	+2.5
	baz=157,SNR=25						
CACAO	El Cacao, Vera	15.00	121	eP	P	22 05 17.0	-1.7
AZU	Azuero	15.26	118	eP	Pn	22 05 18.5	+0.7
441A	DeRidder	15.35	2		Pn	22 05 18.7	-0.2
435B	Jarrell	15.75	348		Pn	22 05 24.3	+0.3
435B				IAmb	IAmb	22 05 29.5	
	comp=Z,92nm,0.5s						
435B	Jarrell	15.75	348	P	P	22 05 25.9	-1.0
	baz=166						
MTDJ	Mount Denham	15.88	77		Pn	22 05 25.8	-0.1
MTDJ				IAmb	IAmb	22 05 34.2	
	comp=Z,76nm,0.8s						
HPIG		15.94	318	P	P	22 05 28.1	-1.2
342A	Flagon Creek P	16.02	5		Pn	22 05 26.7	-0.7
JCT	Junction City	16.03	341	Pn	Pn	22 05 27.9	+0.2
JCT				IAmb	IAmb	22 05 33.2	
	comp=Z,75nm,0.8s						
JCT	Junction City	16.03	341	P	P	22 05 29.2	-0.8
	baz=158,SNR=34						
344A	Westbrook Farm	16.29	10		Pn	22 05 30.2	-0.7
344A				IAmb	IAmb	22 05 34.1	
	comp=Z,108nm,1.0s						

NATX Nacogdoches 16.36 358 Pn **Pn** **22 05 31.6 -0.2**
NATX Nacogdoches 16.36 358 P **P** **22 05 33.4 -0.3**
baz=177,SNR=6.5
TXAR Lajitas Array 16.61 329 Pn **P** **22 05 37.2 +0.7**
comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=77
TXAR Lajitas Array 16.61 329 **P** **22 05 36.9 +0.3**
TX32 Lajitas Array 16.61 329 P **P** **22 05 37.0 +0.4**
237A Washetta, Mont 16.68 354 **Pn** **22 05 35.7 0.0**
237A IAmb IAmb 22 05 49.0
comp=Z,127nm,1.0s
WHTX Lake Whitney, 16.90 349 **Pn** **22 05 38.6 +0.2**
WHTX IAmb IAmb 22 05 47.2
comp=Z,316nm,1.8s
WHTX Lake Whitney, 16.90 349 P **P** **22 05 39.3 -0.3**
baz=168,SNR=14
451A Vernon 16.92 25 P **Pn** **22 05 38.8 +0.1**
451A IAmb IAmb 22 05 44.1
comp=Z,138nm,1.1s
BRAL Brewton 16.94 20 P **Pn** **22 05 39.1 +0.2**
BRAL Brewton 16.94 20 P **P** **22 05 40.1 +0.1**
baz=203
VBMS Vicksburg 17.07 10 P **Pn** **22 05 40.6 0.0**
VBMS IAmb IAmb 22 05 43.4
comp=Z,176nm,0.9s
VBMS Vicksburg 17.07 10 P **P** **22 05 42.4 +0.9**
baz=191,SNR=7.0
DWPF Disney Wildern 17.14 40 **Pn** **22 05 40.4 -1.1**
DWPF Disney Wildern 17.14 40 P **P** **22 05 42.0 -0.3**
baz=225
656A Willston 17.43 35 P **Pn** **22 05 43.9 -1.1**
656A IAmb IAmb 22 06 05.4
comp=Z,122nm,0.9s
146A Union 17.76 13 P **Pn** **22 05 48.9 -0.1**
146A IAmb IAmb 22 05 55.6
comp=Z,115nm,1.1s
LPIG La Paz 17.77 302 P **P** **22 05 53.6 +4.3**
comp=Z,14nm,0.3s,baz=141,slow=6.5,SNR=4.4
LPIG LR LR 22 13 28.8
comp=Z,141nm,20.1s,baz=128,slow=39
Z41A Richland Creek 17.86 3 P **P** **22 05 51.5 +1.2**
baz=183,SNR=14
Z38A Mt. Pleasant 17.87 357 P **Pn** **22 05 50.1 -0.3**
Z38A IAmb IAmb 22 05 56.1
comp=Z,225nm,1.4s
250A Grady 17.95 21 P **P** **22 05 50.9 -0.3**
250A IAmb IAmb 22 05 54.4
comp=Z,217nm,1.4s
ABTX Abilene, Hawle 18.00 344 P **Pn** **22 05 52.8 +0.8**
ABTX IAmb IAmb 22 05 55.7
comp=Z,72nm,0.8s
ABTX Abilene, Hawle 18.00 344 P **Pn** **22 05 53.8 +1.8**
baz=161,SNR=35
Z35A Perchaven, San 18.18 351 P **Pn** **22 05 54.6 +0.5**
Z35A IAmb IAmb 22 06 03.9
comp=Z,61nm,0.8s
GTBY Guantanamo Bay 18.43 73 **P** **22 05 55.8 -0.8**
GTBY IAmb IAmb 22 05 57.4
comp=Z,128nm,0.8s
Z47A Carrollton 18.54 15 P **Pn** **22 05 58.3 -0.2**
Z47A IAmb IAmb 22 06 28.4
comp=Z,237nm,1.6s
TIGA Tifton 18.57 29 P **P** **22 05 57.7 -0.3**
TIGA IAmb IAmb 22 06 01.1
comp=Z,163nm,0.9s
TIGA Tifton 18.57 29 P **P** **22 05 58.2 +0.2**
baz=212,SNR=20
CCAR Cane Creek 18.59 5 P **Pn** **22 05 59.2 +0.1**
LRAL Lakeview Retre 18.68 18 P **P** **22 05 58.9 -0.4**
LRAL Lakeview Retre 18.68 18 P **Pn** **22 05 59.8 -0.4**
baz=201,SNR=34
SJCC San Jacinto, C 19.00 104 P **P** **22 06 01.4 -1.6**
SJCC San Jacinto, C 19.00 104 eP **P** **22 06 01.6 -1.3**
X40A Basin Creek Fa 19.09 3 P **P** **22 06 04.0 +0.4**
baz=183,SNR=7.7
MIAR Mount Ida 19.12 1 P **P** **22 06 03.7 -0.4**
MIAR Mount Ida 19.12 1 P **P** **22 06 04.2 +0.1**
baz=181,SNR=28
DBBC Dabeiba 19.17 114 eP **P** **22 06 04.7 -0.1**
MNTX Cornudas Mount 19.39 329 P **Pn** **22 06 08.2 -0.5**
MNTX Cornudas Mount 19.39 329 P **Pn** **22 06 09.0 +0.3**
baz=144,SNR=19
UREC San Jos de Ur 19.45 111 eP **P** **22 06 05.8 -2.1**
OXF Oxford 19.50 11 P **P** **22 06 08.2 -0.1**
OXF Oxford 19.50 11 P **P** **22 06 08.8 +0.5**
baz=193,SNR=16
W39A Magazine 19.77 0 P **P** **22 06 10.9 -0.2**
W39A IAmb IAmb 22 06 17.6
comp=Z,73nm,1.0s
W39A Magazine 19.77 0 P **P** **22 06 11.7 +0.6**
baz=180,SNR=12
W41B Gary Mavity, V 19.80 4 P **P** **22 06 10.8 -0.7**
W41B IAmb IAmb 22 06 18.5
comp=Z,117nm,1.1s
W41B Gary Mavity, V 19.80 4 P **P** **22 06 11.2 -0.2**
baz=184,SNR=49
WMOK Wichita Mounta 19.82 348 P **P** **22 06 11.5 -0.2**
WMOK Wichita Mounta 19.82 348 P **P** **22 06 12.2 +0.5**
baz=166,SNR=35
CBOC Ciudad Bolivar 19.88 116 eP **P** **22 06 13.6 +0.9**
WHAR Wooly Hollow 19.92 4 P **P** **22 06 11.8 -0.9**
WHAR IAmb IAmb 22 06 20.4
comp=Z,119nm,1.0s
PLMC San Jos del P 20.14 119 eP **P** **22 06 14.4 -1.1**
HELC Santa Helena 20.15 115 eP **P** **22 06 13.7 -2.1**
ZARC Zaragoza, Cauc 20.17 111 P **P** **22 06 13.6 -2.1**
ZARC Zaragoza, Cauc 20.17 111 eP **P** **22 06 13.6 -2.1**
MSTX Muleshoe 20.22 338 P **P** **22 06 16.4 +0.2**
MSTX Muleshoe 20.22 338 P Pn 22 06 17.4 -1.2
baz=154,SNR=50
GOGA Godfrey 20.30 26 P **P** **22 06 16.2 -0.7**
GOGA IAmb IAmb 22 06 23.0
comp=Z,132nm,1.0s
GOGA Godfrey 20.30 26 P **P** **22 06 16.0 -0.9**
baz=210,SNR=36
Y52A Lilburn 20.45 24 P **P** **22 06 17.7 -0.9**
FPAL Fort Paine 20.51 20 P **P** **22 06 17.9 -1.3**
FCAR Ozark Folk Cen 20.52 4 P **P** **22 06 18.5 -0.8**
TUL1 Leonard 20.56 356 **P** **22 06 18.7 -1.0**
TUL1 IAmb IAmb 22 06 57.0
comp=Z,105nm,1.2s
TUL1 Leonard 20.56 356 P **P** **22 06 19.7 0.0**
baz=174
YOTC Yotoco, Valle 20.59 121 eP **P** **22 06 21.8 +1.4**
JAKH Jacmel 20.62 79 P **P** **22 06 19.3 -1.2**
JAKH IAmb IAmb 22 07 02.4
comp=Z,52nm,0.9s
AMTX Amarillo 20.70 342 P **P** **22 06 22.0 +0.7**
AMTX Amarillo 20.70 342 P Pn 22 06 22.7 -1.4
baz=158
GUY2C Guyana, Caldas 20.76 117 eP **P** **22 06 23.4 +0.8**
LCAR Lake Charles 20.78 6 P **P** **22 06 20.9 -1.2**
LCAR IAmb IAmb 22 06 29.4
comp=Z,110nm,1.3s
PTBC PUERTO BERRIO, 20.93 113 eP **P** **22 06 22.1 -1.9**
U40A Yellville 20.95 2 P **P** **22 06 23.3 -0.5**
U40A IAmb IAmb 22 06 34.1
comp=Z,66nm,1.1s
U40A Yellville 20.95 2 P **P** **22 06 23.4 -0.5**
baz=182,SNR=15
NORC Norcasia 21.02 116 eP **P** **22 06 24.9 0.0**
SWET Sewanee 21.03 18 P **P** **22 06 23.7 -1.1**
SWET IAmb IAmb 22 06 41.4
comp=Z,57nm,0.9s
ANIL Santa Ana 21.10 119 eP **P** **22 06 27.7 +1.7**
POPC Popayan, Colom 21.17 125 eP **P** **22 06 29.7 +3.0**
W50A Signal Mountai 21.21 20 P **P** **22 06 25.2 -1.6**
OCAC Ocana 21.29 107 P **P** **22 06 27.9 0.0**
121A Cookes Peak, D 21.30 326 P **P** **22 06 29.2 +1.4**
121A Cookes Peak, D 21.30 326 P **P** **22 06 31.3 +3.5**
baz=140,SNR=28
319A Douglas 21.30 321 P **P** **22 06 29.5 +1.7**
OTAV Otavalo 21.37 133 P **P** **22 06 30.6 +1.6**
OTAV Otavalo 21.37 133 eP **P** **22 06 30.1 +1.1**
WVT Waverly 21.39 13 P **P** **22 06 28.3 -0.2**
WVT IAmb IAmb 22 06 36.5
comp=Z,126nm,1.4s
WVT Waverly 21.39 13 P **P** **22 06 28.4 -0.2**
baz=196
SOTA Rioblanco 21.48 126 eP **P** **22 06 34.6 +4.3**
GCUF Volcan Galeras 21.50 129 eP **P** **22 06 35.1 +4.7**
HICK Hickman 21.51 10 P **P** **22 06 29.4 -0.5**
HODGE Hodges 21.52 27 P **P** **22 06 28.4 -1.6**
HODGE IAmb IAmb 22 06 36.6
comp=Z,74nm,1.1s
PCON Cinco Dias 21.52 125 eP **P** **22 06 34.6 +3.8**

ORTC Ortega, Tolima 21.55 120 eP **P** **22 06 32.3 +1.8**
PARMO Parma 21.55 9 P **P** **22 06 29.3 -0.9**
PARMO IAmb IAmb 22 06 47.4
comp=Z,100nm,0.9s
URIC Uribia, Colomb 21.55 97 P **P** **22 06 28.7 -1.8**
URIC IAmb IAmb 22 07 02.4
comp=Z,62nm,1.1s
URIC Uribia, Colomb 21.55 97 eP **P** **22 06 28.7 -1.8**
MARP Paez Belalcaza 21.57 123 eP **P** **22 06 34.3 +3.3**
NHSC New Hope 21.60 33 P **P** **22 06 31.3 +0.4**
NHSC New Hope 21.60 33 P **P** **22 06 32.5 +1.7**
baz=218,SNR=12
SPBC San Pablo de B 21.68 114 eP **P** **22 06 30.7 -1.3**
CPCT Cooper Cave 21.70 21 P **P** **22 06 30.0 -1.9**
ROSC El Rosal 21.85 116 P **P** **22 06 36.8 +2.7**
comp=Z,70nm,0.9s,baz=352,slow=0.3,SNR=35
ROSC El Rosal 21.85 116 P **P**
ROSC IAmb IAmb 22 06 38.0 **22 06 35.6 +1.5**
comp=Z,138nm,1.2s
ROSC El Rosal 21.85 116 eP **P** **22 06 37.3 +3.1**
SDDR Presa de Saban 21.85 77 P **P** **22 06 32.3 -1.5**
SDDR IAmb IAmb 22 06 59.6
comp=Z,36nm,0.8s
BNM Barren Site 21.99 331 P **P** **22 06 36.7 +1.3**
JSC Jenkinsville 22.01 29 P **P** **22 06 34.2 -1.1**
JSC IAmb IAmb 22 06 43.1
comp=Z,57nm,1.0s
BARC Barichara 22.05 111 eP **P** **22 06 35.0 -1.1**
Y22D IRIS PASSCAL I 22.07 330 P **P** **22 06 43.0 +6.9**
baz=144
V51A Loudon 22.08 21 P **P** **22 06 34.7 -1.3**
V51A IAmb IAmb 22 06 44.2
comp=Z,89nm,1.2s
TKL Tuckaleechee C 22.15 22 P **P** **22 06 33.5 -3.3**
comp=Z,6.4nm,0.5s,baz=182,slow=8.8,SNR=16
TKL LR LR 22 16 59.9
comp=Z,255nm,18.4s,baz=219,slow=42
TKL Tuckaleechee C 22.15 22 P **P** **22 06 35.2 -1.6**
TKL IAmb IAmb 22 06 45.3
comp=Z,109nm,1.1s
PAMC Pamplona, Colo 22.19 109 eP **P** **22 06 35.6 -2.3**
PAULI Pauline 22.21 27 P **P** **22 06 36.7 -0.7**
PAULI IAmb IAmb 22 06 45.6
comp=Z,76nm,1.0s
GARC Garzon, Huila 22.32 124 eP **P** **22 06 40.8 +1.6**
T47A Sharon Grove 22.38 14 P **P** **22 06 37.4 -1.9**
T47A IAmb IAmb 22 07 13.9
comp=Z,51nm,0.9s
GRTK Grand Turk 22.39 71 P **P** **22 06 38.0 -1.6**
GRTK IAmb IAmb 22 06 40.0
comp=Z,85nm,0.8s
SC01 Santiago de lo 22.43 76 P **P** **22 06 38.9 -1.0**
RUSC La Rusia 22.44 113 eP **P** **22 06 39.4 -1.2**
CHIC Chingaza 22.46 116 eP **P** **22 06 40.8 +0.1**
FLOC Florencia 22.57 126 eP **P** **22 06 36.2 -5.3**
ANMO Albuquerque 22.57 332 P **P** **22 06 43.0 +1.4**
comp=Z,12nm,0.9s,baz=150,slow=12,SNR=27
ANMO Albuquerque 22.57 332 P **P** **22 06 42.7 +1.2**
ANMO Albuquerque 22.57 332 P **P** **22 06 43.9 +2.3**
baz=146
KMSC Kings Mountain 22.70 27 P **P** **22 06 40.6 -2.0**
baz=213
CCM Cathedral Cave 22.74 5 P **P** **22 06 41.4 -1.7**
CCM IAmb IAmb 22 06 53.9
comp=Z,49nm,1.1s
CCM Cathedral Cave 22.74 5 P **P** **22 06 41.3 -1.7**
baz=186
VILC Villavicencio, 22.75 117 eP **P** **22 06 42.4 -1.2**
TUC Tucson 22.87 321 P **P** **22 06 45.6 +1.1**
TUC Tucson 22.87 321 P **P** **22 06 47.3 +2.8**
baz=134
TZTN Tazewell 23.03 22 P **P** **22 06 44.6 -1.4**
TZTN IAmb IAmb 22 07 23.3
comp=Z,56nm,1.0s
TZTN Tazewell 23.03 22 P **P** **22 06 43.9 -2.1**
baz=206,SNR=6.5
TAMC Tame, Arauca 23.38 110 eP **P** **22 06 45.6 -4.0**
R32A Long Quarter, 23.39 350 P **P** **22 06 48.9 -0.6**
R32A IAmb IAmb 22 07 06.5
comp=Z,91nm,1.2s
SDV Santo Domingo 23.57 103 P **P** **22 06 48.2 -3.5**
comp=Z,13nm,0.6s,baz=297,slow=5.3,SNR=21
SDV LR LR 22 16 40.1
comp=Z,258nm,21.2s,baz=294,slow=39
SDV Santo Domingo 23.57 103 P **P** **22 06 49.8 -1.9**
SDV IAmb IAmb 22 07 15.6
comp=Z,54nm,0.8s
SDV Santo Domingo 23.57 103 eP **P** **22 06 49.1 -2.5**
SDV Santo Domingo 23.57 103 eP **P** **22 06 49.5 -2.2**
DR12 Loma Pena Alta 23.63 78 P **P** **22 06 50.3 -1.7**
T25A Trinidad 23.65 339 P **P** **22 06 53.5 +1.4**
T25A IAmb IAmb 22 06 57.8
comp=Z,84nm,1.1s
T25A Trinidad 23.65 339 P **P** **22 06 54.7 +2.6**
baz=154,SNR=39
WCI Wyandotte Cave 23.76 15 P **P** **22 06 51.5 -1.3**
WCI IAmb IAmb 22 07 21.2
comp=Z,64nm,0.8s
WCI Wyandotte Cave 23.76 15 P **P** **22 06 50.9 -1.9**
baz=198
KSU1 Kansas State U 23.79 355 P **P** **22 06 52.1 -1.1**
KSU1 IAmb IAmb 22 06 53.9
comp=Z,59nm,0.8s
KSU1 Kansas State U 23.79 355 P **P** **22 06 52.4 -0.8**
baz=173,SNR=13
214A Organ Pipe Nat 23.92 317 P **P** **22 06 56.1 +1.6**
214A Organ Pipe Nat 23.92 317 P **P** **22 06 57.1 +2.7**
baz=129,SNR=13
CBKS Cedar Bluff 23.95 349 P **P** **22 06 54.5 -0.1**
CBKS Cedar Bluff 23.95 349 P **P** **22 06 55.1 +0.4**
baz=166,SNR=10.0
PTGC Puerto Gaitan, 24.06 115 eP **P** **22 06 56.8 +0.9**
PTLC Puerto Leguiza 24.11 127 eP **P** **22 07 02.2 +5.9**
SDCO Great Sand Dun 24.59 337 P **P** **22 07 01.1 +0.4**
SDCO Great Sand Dun 24.59 337 P **P** **22 07 03.3 +2.5**
baz=152,SNR=20
KSCO Kaye Shedlock' 24.81 344 P **P** **22 07 02.6 0.0**
KSCO IAmb IAmb 22 07 05.7
comp=Z,66nm,0.9s
KSCO Kaye Shedlock' 24.81 344 P **P** **22 07 04.2 +1.6**
baz=159,SNR=6.8
BLA Blacksburg 24.83 26 P **P** **22 07 06.8 +4.1**
baz=212
113A Mohawk Valley, 25.06 317 P **P** **22 07 05.8 +1.0**
S22A 4UR Ranch, Cre 25.10 335 P **P** **22 07 07.8 +2.3**
baz=149,SNR=11
ELOV Elorza 25.28 106 eP **P** **22 07 08.6 +1.6**
MVCO Mesa Verde 25.37 332 P **P** **22 07 09.3 +1.5**
MVCO Mesa Verde 25.37 332 P **P** **22 07 10.0 +2.2**
baz=145,SNR=11
HDIL Hopedale 25.43 8 P **P** **22 07 07.1 -1.0**
HDIL IAmb IAmb 22 07 40.7
comp=Z,52nm,0.9s
WUAZ Wupatki 25.50 325 P **P** **22 07 09.7 +0.8**
WUAZ Wupatki 25.50 325 P **P** **22 07 13.1 +4.2**
baz=137,SNR=12
Q24A Divide 25.55 339 P **P** **22 07 12.8 +3.3**
baz=154
SFIN Lafayette 25.63 12 P **P** **22 07 08.2 -1.7**
baz=195
CRPR Cabo Rojo, PR 25.74 80 P **P** **22 07 10.7 -0.4**
MLPR Magueyes Islan 25.80 80 P **P** **22 07 11.0 -0.7**
MLPR IAmb IAmb 22 07 16.0
comp=Z,72nm,1.4s
P51A Williamsport 25.84 19 P **P** **22 07 10.0 -1.8**
P51A IAmb IAmb 22 07 50.0
comp=Z,79nm,1.2s
GLA Glamis 25.93 317 P **P** **22 07 13.4 +0.6**
GLA Glamis 25.93 317 P **P** **22 07 15.3 +2.5**
baz=128
O48B Farmland 25.96 15 P **P** **22 07 10.1 -2.7**
baz=199
BGNE Belgrade 26.24 353 P **P** **22 07 14.4 -1.0**
BGNE IAmb IAmb 22 08 13.3
comp=Z,43nm,0.8s
BGNE Belgrade 26.24 353 P **P** **22 07 16.1 +0.7**
baz=170
PDMCI Parker Dam,Lak 26.28 320 P **P** **22 07 17.7 +1.9**
baz=131
PV11 David Mesa, Pa 26.43 333 P **P** **22 07 18.0 +0.6**
PV11 IAmb IAmb 22 07 26.8
comp=Z,87nm,1.5s
ISCO Idaho Springs 26.45 339 P **P** **22 07 17.9 +0.2**
ISCO Idaho Springs 26.45 339 P **P** **22 07 19.3 +1.7**
baz=154,SNR=14

SCIA State Center 26.48 1 P **P** **22 07 16.3 -1.2**
SCIA IAmb IAmb 22 07 18.0
comp=Z,51nm,0.6s
SCIA State Center 26.48 1 P **P** **22 07 17.0 -0.5**
baz=181,SNR=13
OGNE Ogallala 26.48 346 P **P** **22 07 17.1 -0.5**
OGNE Ogallala 26.48 346 P **P** **22 07 19.4 +1.8**
baz=162
ACSO Alum Creek Sta 26.55 19 P **P** **22 07 15.9 -2.3**
ACSO IAmb IAmb 22 07 39.9
comp=Z,69nm,1.1s
SJG San Juan 26.66 80 P **P** **22 07 15.3 -4.1**
comp=Z,12nm,0.6s,baz=240,slow=8.7,SNR=4.4
SJG PcP **PcP** **22 10 43.5 +1.5**
comp=Z,9.4nm,0.6s,baz=337,slow=7.7,SNR=5.4
BC3 Big Chuckawall 26.72 317 P **P** **22 07 22.3 +2.4**
baz=128,SNR=10
IRM Iron Mountain 26.83 318 P **P** **22 07 23.7 +2.9**
baz=129
ATAH Atahualpa 27.08 144 P **P** **22 07 25.1 +1.5**
comp=Z,9.9nm,0.9s,baz=327,slow=7.5,SNR=7.9
ATAH LR LR 22 16 51.7
comp=Z,137nm,20.7s,baz=310,slow=34
PFO Pinyon Flats O 27.36 316 LR LR 22 18 59.2
comp=Z,220nm,21.6s,baz=146,slow=38
GMRC Granite Mounta 27.55 319 P **P** **22 07 29.8 +2.4**
baz=129,SNR=6.7
JFWS Jewell Farm 27.65 6 P **P** **22 07 26.4 -1.7**
baz=187
O20A White River Ci 27.71 336 P **P** **22 07 32.1 +3.2**
baz=149
STVI Saint Thomas 27.80 80 P **P** **22 07 27.3 -2.3**
ECSD EROS Data Cent 28.40 356 P **P** **22 07 33.5 -1.2**
ECSD IAmb IAmb 22 07 35.2
comp=Z,56nm,0.8s
ECSD EROS Data Cent 28.40 356 P **P** **22 07 33.6 -1.1**
baz=174,SNR=56
RWWY Rawlins 28.68 339 P **P** **22 07 37.4 -0.2**
RWWY IAmb IAmb 22 08 24.7
comp=Z,102nm,1.9s
K22A Casper 29.32 341 P **P** **22 07 42.9 -0.1**
MPMC Manual Prospec 29.51 319 P **P** **22 07 47.0 +2.1**
baz=128
SPMN Marine on St. 29.80 1 P **P** **22 07 46.2 -0.9**
baz=182,SNR=13
R11A Troy Canyon, C 29.88 324 P **P** **22 07 50.4 +2.3**
baz=134
RSSD Black Hills 29.97 345 P **P** **22 07 49.4 +0.6**
RSSD Black Hills 29.97 345 P **P** **22 07 50.2 +1.4**
baz=160
VES Vestal, Richgr 30.42 317 P **P** **22 07 56.1 +3.4**
baz=126
BW06 Boulder Array 30.48 337 P **P** **22 07 54.6 +1.2**
baz=149
PD31 Pinedale Array 30.48 337 P **P** **22 07 53.9 +0.5**
PDAR Pinedale Array 30.48 337 P **P** **22 07 54.3 +0.9**
comp=Z,1.9nm,0.7s,baz=137,slow=9.5,SNR=18
PDAR PcP **PcP** **22 10 53.3 +1.8**
comp=Z,0.5nm,0.6s,baz=139,slow=3.5,SNR=2.7
PDAR LR LR 22 23 25.7
comp=Z,194nm,18.6s,baz=152,slow=43
PDAR Pinedale Array 30.48 337 P **P** **22 07 54.1 +0.7**
COWI Conover 30.92 6 P **P** **22 07 54.8 -2.2**
CZSB Cruzeiro do Su 31.05 136 eP **P** **22 08 00.7 +2.2**
AHID Auburn Hatcher 31.09 335 P **P** **22 07 60.0 +1.3**
ELK Elko 31.41 328 P **P** **22 08 04.0 +2.4**
comp=Z,2.4nm,0.9s,baz=132,slow=7.8,SNR=6.0
ELK LR LR 22 22 57.2
comp=Z,251nm,18.6s,baz=158,slow=40
NV11 Mina Array Sit 31.43 322 P **P** **22 08 03.1 +1.4**
BBSR BB Station 31.45 52 P **P** **22 08 00.3 -1.5**
NVAR Mina Array Bea 31.51 322 P **P** **22 08 05.4 +2.8**
comp=Z,5.9nm,0.8s,baz=128,slow=8.9,SNR=21
NVAR PcP **PcP** **22 10 55.6 +1.3**
comp=Z,2.0nm,0.8s,baz=146,slow=3.2,SNR=3.8
NVAR LR LR 22 21 11.5
comp=Z,365nm,21.0s,baz=146,slow=37
NVAR Mina Array Bea 31.51 322 P **P** **22 08 04.5 +1.9**
KVN Kaiserville 31.80 323 P **P** **22 08 06.2 +1.2**
SADO Sadowa 31.87 20 P **P** **22 08 03.8 -1.5**
comp=Z,3.8nm,0.8s,baz=258,slow=9.3,SNR=4.1
SADO LR LR 22 22 34.4
comp=Z,220nm,21.6s,baz=192,slow=40
NNA Nana 31.95 147 LR LR 22 18 55.7
comp=Z,114nm,20.4s,baz=325,slow=33
H17A Grant Village 32.25 337 P **P** **22 08 11.6 +2.6**
baz=148
LKWY Lake 32.34 338 P **P** **22 08 11.4 +1.7**
LKWY IAmb IAmb 22 08 31.1
comp=Z,78nm,1.9s
RLMT Red Lodge 32.42 339 P **P** **22 08 10.4 0.0**
RLMT IAmb IAmb 22 08 29.5
comp=Z,53nm,1.6s
RLMT Red Lodge 32.42 339 P **P** **22 08 12.0 +1.6**
baz=151
EYMN Ely 32.57 3 P **P** **22 08 09.9 -1.5**
baz=184
YMR Madison River 32.63 337 P **P** **22 08 13.3 +1.0**
MDND Maddock 32.76 353 P **P** **22 08 12.3 -0.9**
MDND Maddock 32.76 353 P **P** **22 08 13.1 0.0**
baz=170,SNR=9.8
AGMN Agassiz Nation 32.91 358 P **P** **22 08 12.8 -1.6**
AGMN Agassiz Nation 32.91 358 P **P** **22 08 13.3 -1.1**
baz=176,SNR=26
LAO LASA Array 32.92 344 P **P** **22 08 13.7 -0.9**
LAO IAmb IAmb 22 08 16.4
comp=Z,24nm,1.2s
LAO LASA Array 32.92 344 P **P** **22 08 14.5 -0.1**
baz=158
QLMT Earthquake Lak 32.95 337 P **P** **22 08 16.0 +1.0**
HLID Hailey 33.15 332 P **P** **22 08 16.9 0.0**
HLID Hailey 33.15 332 P **P** **22 08 18.8 +2.0**
baz=142
BCYI Bear Canyon 33.31 334 P **P** **22 08 19.6 +1.4**
MCMT McKenzie Canyo 33.50 335 P **P** **22 08 21.4 +1.5**
BOZ Bozeman (W) 33.67 337 P **P** **22 08 23.3 +2.0**
baz=148
DLMT Dillon 33.84 336 P **P** **22 08 23.8 +1.0**
DLMT IAmb IAmb 22 08 30.7
comp=Z,18nm,1.1s
DGMT Dagmar 34.12 348 P **P** **22 08 24.7 -0.3**
DGMT Dagmar 34.12 348 P **P** **22 08 25.7 +0.8**
baz=156,SNR=12
LRM Limekiln Ridge 34.17 337 P **P** **22 08 26.5 +0.8**
ULM Lac du Bonnet 34.86 358 P **P** **22 08 29.6 -1.7**
comp=Z,33nm,0.7s,baz=176,slow=9.6,SNR=51
ULM PcP **PcP** **22 11 04.0 +0.9**
comp=Z,9.4nm,1.0s,baz=188,slow=7.1,SNR=3.2
ULM LR LR 22 24 16.8
comp=Z,188nm,21.0s,baz=102,slow=39
ULM Lac du Bonnet 34.86 358 P **P** **22 08 29.3 -2.0**
J08A Circle Bar Ran 34.96 328 P **P** **22 08 32.5 +0.1**
J08A IAmb IAmb 22 08 53.1
comp=Z,20nm,0.9s
BOAV Boa Vista 35.27 108 eP **P** **22 08 35.0 -0.3**
MSO Missoula 35.58 336 P **P** **22 08 38.2 +0.5**
MSO IAmb IAmb 22 08 58.0
comp=Z,48nm,1.8s
MSO Missoula 35.58 336 P **P** **22 08 39.1 +1.4**
baz=145
YBH Yreka Blue Hor 36.22 322 LR LR 22 23 55.1
comp=Z,238nm,21.1s,baz=152,slow=37
F10A Beach Ranch, E 36.29 332 P **P** **22 08 44.4 +0.7**
F10A IAmb IAmb 22 09 13.4
comp=Z,18nm,0.9s
JTMT Jette 36.47 337 P **P** **22 08 45.9 +0.6**
JTMT IAmb IAmb 22 09 03.5
comp=Z,15nm,1.0s
ETMB Extrema 37.07 131 eP **P** **22 08 50.7 +0.1**
PTGA Pitinga 37.10 112 LR LR 22 25 50.6
comp=Z,82nm,20.3s,baz=275,slow=40
MACA Manacapuru-AM 37.62 117 eP **P** **22 08 55.3 -0.1**
NEW Newport 38.02 335 P **P** **22 08 59.0 +0.7**
comp=Z,4.3nm,0.8s,baz=115,slow=8.6,SNR=9.0
NEW PcP **PcP** **22 11 17.1 +4.3**
comp=Z,0.9nm,0.4s,baz=90,slow=13,SNR=1.6
NEW LR LR 22 26 22.2
comp=Z,119nm,20.0s,baz=150,slow=39
NEW Newport 38.02 335 P **P** **22 08 59.9 +1.6**
baz=142
BATG Bathurst New B 39.31 30 P **P** **22 09 07.9 -1.2**
FFC Flin Flon 39.81 353 P **P** **22 09 12.6 -0.5**
FFC IAmb IAmb 22 09 13.8
comp=Z,19nm,0.7s
LPAZ La Paz 40.40 140 P **P** **22 09 18.9 -0.2**
comp=Z,2.2nm,0.7s,baz=338,slow=9.1,SNR=8.2

LPAZ PcP **PcP** **22 11 26.5 +5.0**
comp=Z,2.2nm,0.8s,baz=313,slow=4.5,SNR=2.4
LPAZ La Paz **40.40 140** P **P** **22 09 18.7 -0.5**
LPAZ La Paz **40.40 140** *e*P **P** **22 09 19.0 -0.2**
LPAZ La Paz **40.40 140** *e*P **P** **22 09 19.8 +0.6**
EDM Edmonton **40.81 342** P **P** **22 09 21.6 +0.1**
MDP Montagnes des **41.73 100** LR LR 22 27 50.9
comp=Z,156nm,20.8s,baz=254,slow=38
PB11 IPOC Station P **42.22 145** P **P** **22 09 33.8 +0.3**
PB11 IAmb IAmb 22 09 53.3
comp=Z,31nm,0.9s
GO01 Chusmiza **42.41 144** P **P** **22 09 36.4 +1.0**
GO01 IAmb IAmb 22 09 56.0
comp=Z,18nm,0.9s
ITTB Itaituba **42.52 114** *e*P **P** **22 09 34.5 -1.4**
MALB Monte Alegre **42.71 110** *e*P **P** **22 09 36.5 -1.0**
FCC Fort Churchill **43.35 360** P **P** **22 09 40.3 -1.6**
PB01 IPOC Station P **43.35 146** P **P** **22 09 42.7 +0.1**
PB02 IPOC Station P **43.36 147** P **P** **22 09 42.9 +0.2**
PB02 IAmb IAmb 22 10 02.8
comp=Z,28nm,0.9s
VILB Vilhena **43.58 128** *e*P **P** **22 09 45.3 +0.8**
PB09 IPOC Station P **44.09 146** P **P** **22 09 48.2 -0.5**
PB09 IAmb IAmb 22 09 50.9
comp=Z,24nm,1.1s
MCPB Macapa, AP **44.14 107** *e*P **P** **22 09 48.2 -0.8**
SCHQ Schefferville **44.62 22** P **P** **22 09 48.9 -3.5**
comp=Z,1.1nm,0.5s,baz=233,slow=8.3,SNR=7.0
SCHQ PcP **PcP** **22 11 34.2 0.0**
comp=Z,3.8nm,0.6s,baz=250,slow=5.3,SNR=4.2
RPN Rapa Nui **44.81 200** LR LR 22 24 42.8
comp=Z,58nm,18.1s,baz=37,slow=31
SIV San Ignacio **44.91 132** LR LR 22 27 30.8
comp=Z,88nm,18.2s,baz=294,slow=35
LVC Limon Verde **44.93 147** *e*P **P** **22 09 57.3 +1.7**
PDRB Porto dos Gac **45.48 124** *e*P **P** **22 10 00.1 +0.5**
CLDB Colider **45.81 122** *e*P **P** **22 10 01.6 -0.7**
PTLB Pontes e Lacer **45.95 130** *e*P **P** **22 10 03.1 -0.2**
AC06 Mina Casimiro **48.18 152** P **P** **22 10 21.1 +0.7**
AC06 IAmb IAmb 22 10 22.2
comp=Z,14nm,0.8s
AC02 Maricunga **48.31 150** P **P** **22 10 22.3 +0.2**
AC02 IAmb IAmb 22 10 24.6
comp=Z,28nm,1.1s
TMAB Tom-Au,PA,Br **48.56 107** *e*P **P** **22 10 23.1 -0.6**
PRPB Parauapebas **48.58 113** *e*P **P** **22 10 23.4 -0.4**
SALV Santo Antonio **48.82 128** *e*P **P** **22 10 25.2 -0.4**
YKA Yellowknife Ar **49.33 347** P **P** **22 10 28.8 -0.1**
comp=Z,24nm,0.7s,baz=152,slow=7.4,SNR=292
YKA LR LR 22 34 47.2
comp=Z,87nm,18.2s,baz=105,slow=40
YKA Yellowknife Ar **49.33 347** P **P** **22 10 28.5 -0.3**
LCO Las Campanas **49.44 153** P **P** **22 10 31.1 +0.7**
LCO IAmb IAmb 22 10 32.2
comp=Z,28nm,1.0s
SNDB Serra Nova Dou **50.11 120** *e*P **P** **22 10 35.2 -0.3**
PP1B Ponte de Pedra **50.47 129** *e*P **P** **22 10 38.0 -0.2**
DLBC Dease Lake **50.71 336** P **P** **22 10 41.7 +2.2**
comp=Z,11nm,0.7s,baz=149,slow=8.8,SNR=17
DLBC Dease Lake **50.71 336** P **P** **22 10 40.0 +0.5**
DLBC IAmb IAmb 22 11 01.3
comp=Z,40nm,1.4s
CO03 El Pedregal **51.03 154** P **P** **22 10 42.9 +0.6**
CO02 Combarbal **51.22 155** P **P** **22 10 44.2 +0.6**
FRB Frobisher Bay **51.44 14** LR LR 22 34 26.1
comp=Z,182nm,18.7s,baz=193,slow=38
AQDB Aquidauana **51.69 132** P **P** **22 10 47.2 0.0**
AQDB IAmb IAmb 22 11 07.2
comp=Z,10nm,0.9s
AQDB Aquidauana **51.69 132** *e*P **P** **22 10 46.5 -0.7**
ARAG Araguaiana, MT **51.72 125** *e*P **P** **22 10 47.3 -0.3**
SMTB Santa Maria do **51.76 115** *e*P **P** **22 10 48.4 +0.5**
TAOE Nuku Hiva Isla **51.79 245** *e*LR LR 22 25 22.5
comp=Z,434nm,28.4s
TAOE Nuku Hiva Isla **51.79 245** *e*T T 23 05 57.5
comp=Z,63nm,0.2s
TGTN Hyland Airport **52.26 340** P **P** **22 10 53.4 +2.4**
baz=136,SNR=6.9
VA06 Catapilco **52.29 156** P **P** **22 10 51.8 +0.3**
ROSB Rosrio **52.43 106** *e*P **P** **22 10 52.2 -0.7**
ZON Zonda **52.51 153** P **P** **22 10 54.0 +0.9**
ZON IAmb IAmb 22 10 55.4
comp=Z,15nm,0.9s
PEXB Peixe **52.69 119** *e*P **P** **22 10 54.4 -0.4**
VA03 San Esteban **52.77 155** P **P** **22 10 55.7 +0.6**
VA03 IAmb IAmb 22 10 56.9
comp=Z,28nm,0.8s
P33M Teslin, Yukon **52.96 337** P **P** **22 10 57.2 +1.0**
P33M Teslin, Yukon **52.96 337** P **P** **22 10 58.6 +2.3**
baz=130
MT02 Curacav **52.97 156** P **P** **22 10 57.4 +0.9**
MT02 IAmb IAmb 22 12 34.2
comp=Z,43nm,1.4s
MT03 Universidad Ad **53.42 156** P **P** **22 11 00.8 +0.9**
MT01 Popeta **53.46 157** P **P** **22 11 00.3 +0.2**
MT01 IAmb IAmb 22 11 03.2
comp=Z,14nm,0.8s
MT09 Talagante **53.48 156** P **P** **22 11 01.0 +0.6**
MT09 IAmb IAmb 22 11 01.8
comp=Z,16nm,0.7s
BO04 La Punta **53.82 156** P **P** **22 11 03.3 +0.5**
BO04 IAmb IAmb 22 11 23.8
comp=Z,30nm,1.2s
LMEL Las Melosas **53.86 156** P **P** **22 11 03.9 +0.8**
BO01 Tunca **53.99 157** P **P** **22 11 04.6 +0.7**
BO01 IAmb IAmb 22 11 05.6
comp=Z,20nm,1.1s
MMPY Sheldon Lake, **54.03 340** P **P** **22 11 05.5 +1.6**
baz=134,SNR=6.7
GO05 Huala **54.23 158** P **P** **22 11 06.0 +0.3**
BO02 Sierra Bellavi **54.46 157** P **P** **22 11 07.9 +0.4**
BO02 IAmb IAmb 22 11 08.6
comp=Z,15nm,0.9s
CPUP Villa Florida **54.56 139** P **P** **22 11 05.8 -2.4**
comp=Z,3.1nm,0.7s,baz=318,slow=9.7,SNR=2.9
CPUP LR LR 22 33 33.2
comp=Z,93nm,20.2s,baz=274,slow=35
CPUP Villa Florida **54.56 139** P **P** **22 11 09.2 +1.0**
CPUP IAmb IAmb 22 11 26.7
comp=Z,18nm,1.1s
CPUP Villa Florida **54.56 139** *e*P **P** **22 11 08.2 0.0**
BDFB Brasilia **54.75 122** P **P** **22 11 08.6 -1.3**
comp=Z,10.0nm,0.5s,baz=295,slow=8.6,SNR=22
BDFB PcP **PcP** **22 12 15.2 +3.2**
comp=Z,5.3nm,0.7s,baz=240,slow=2.2,SNR=3.3
BDFB LR LR 22 36 27.0
comp=Z,110nm,19.2s,baz=309,slow=38
BDFB Brasilia **54.75 122** P **P** **22 11 09.5 -0.4**
BDFB IAmb IAmb 22 11 28.2
comp=Z,27nm,0.9s
M31M Drury Creek, Y **54.83 338** P **P** **22 11 10.4 +0.6**
N31M Braeburn, Yuko **54.90 337** P **P** **22 11 13.2 +3.0**
baz=128
ITRB Ituiutaba **55.15 128** *e*P **P** **22 11 14.7 +2.1**
NBPS Pedro II - PI **55.46 106** *e*P **P** **22 11 14.7 -0.4**
SDBA SAO DESIDERIO **55.74 117** *e*P **P** **22 11 17.0 -0.1**
IPMB Ipameri, GO **55.85 125** *e*P **P** **22 11 18.6 +0.9**
M30M Minto, Yukon **55.94 338** P **P** **22 11 18.0 +0.3**
M30M IAmb IAmb 22 11 22.3
comp=Z,16nm,1.4s
M30M Minto, Yukon **55.94 338** P **P** **22 11 20.4 +2.7**
baz=127
NBMO Morrinhos-CE **56.38 105** *e*P **P** **22 11 20.9 -0.7**
PTGB Pitanga **56.98 134** *e*P **P** **22 11 28.0 +2.3**
C36M Paulatuk **57.21 348** P **P** **22 11 26.4 -0.1**
C36M Paulatuk **57.21 348** P **P** **22 11 24.9 -1.6**
baz=145
BB19B Bebedouro **57.34 128** *e*P **P** **22 11 28.7 +0.4**
ITQB Itaqui **57.38 141** *e*P **P** **22 11 28.1 -0.2**
JANB Januaria **57.52 119** *e*P **P** **22 11 29.6 0.0**
NBPB Pedra_Branca-C **57.61 107** *e*P **P** **22 11 30.2 -0.1**
MCARA McCarthy VSAT **57.72 334** P **P** **22 11 34.5 +4.2**
baz=120
LC01 Cunco **57.74 160** P **P** **22 11 31.0 +0.3**
DAWY Dawson **57.77 338** P **P** **22 11 30.7 0.0**
BCAR Beaver Creek A **58.10 337** P **P** **22 11 34.0 +1.0**
L27K Beaver Creek, **58.12 337** P **P** **22 11 34.3 +1.1**
L27K Beaver Creek, **58.12 337** P **P** **22 11 34.7 +1.6**
baz=122
EPYK Eagle Plains **58.29 341** P **P** **22 11 36.8 +2.6**
baz=129
NBCL Cascavel-CE **58.33 105** *e*P **P** **22 11 36.0 +0.6**
ITAB Concordia **58.56 136** P **P** **22 11 36.1 -0.5**
ITAB Concordia **58.56 136** *e*P **P** **22 11 36.2 -0.5**

INK Inuvik **58.66 344** P **P** **22 11 37.1 +0.4**
comp=Z,12nm,1.0s,baz=120,slow=6.9,SNR=22
INK LR LR 22 41 28.3
comp=Z,126nm,18.8s,baz=137,slow=41
INK Inuvik **58.66 344** P **P** **22 11 37.0 +0.4**
INK Inuvik **58.66 344** P **P** **22 11 37.3 +0.6**
baz=134,SNR=16
L26K Log Cabin Wild **58.69 336** P **P** **22 11 39.2 +2.1**
baz=121
SFJD Kangerlussuaq **58.80 18** LR LR 22 39 44.1
comp=Z,157nm,18.2s,baz=239,slow=39
NBMA Muriti-CE **59.05 108** *e*P **P** **22 11 40.9 +0.5**
NBPN Ponto Novo - B **59.16 113** *e*P **P** **22 11 40.8 -0.3**
RES Resolute Bay **59.35 360** LR LR 22 38 11.7
comp=Z,113nm,21.2s,baz=92,slow=37
RES Resolute Bay **59.35 360** P **P** **22 11 40.9 -0.5**
RES IAmb IAmb 22 11 41.6
comp=Z,14nm,0.8s
LL04 Puerto Octay **59.39 161** P **P** **22 11 41.7 -0.4**
LL04 IAmb IAmb 22 11 42.8
comp=Z,18nm,0.8s
SCRK Sand Creek **59.42 337** P **P** **22 11 45.0 +2.7**
baz=120
PAX Paxson **59.50 335** P **P** **22 11 45.6 +2.9**
baz=118
J26L Joseph Creek **59.53 337** P **P** **22 11 44.3 +1.3**
baz=121
A36M Sachs Harbour **59.60 349** P **P** **22 11 42.8 -0.4**
A36M IAmb IAmb 22 11 46.1
comp=Z,14nm,0.9s
A36M Sachs Harbour **59.60 349** P **P** **22 11 43.0 -0.2**
baz=144,SNR=15
RIDG Independent Ri **59.63 336** P **P** **22 11 47.0 +3.4**
baz=120
VAO Valinhos **59.64 129** *e*P **P** **22 11 44.5 +0.2**
DIAM Diamantina, MG **59.67 122** *e*P **P** **22 11 45.8 +1.1**
PLCA Paso Flores **59.83 160** P **P** **22 11 45.5 +0.2**
comp=Z,22nm,0.9s,baz=335,slow=8.3,SNR=36
PLCA Paso Flores **59.83 160** P **P** **22 11 45.9 +0.7**
PLCA Paso Flores **59.83 160** *e*P **P** **22 11 45.8 +0.6**
CPSB Carapava Do Su **59.85 140** *e*P **P** **22 11 44.9 -0.6**
BSCB Bom Sucesso **60.20 126** *e*P **P** **22 11 48.5 +0.3**
WAT6 Susitna Watana **60.25 334** P **P** **22 11 49.6 +1.6**
baz=116
J25K Salcha River, **60.26 337** P **P** **22 11 48.3 +0.4**
J25K Salcha River, **60.26 337** P **P** **22 11 50.9 +3.0**
baz=120
KDAK Kodiak Island **60.64 328** LR LR 22 38 03.3
comp=Z,84nm,18.0s,baz=150,slow=36
PLTB Pedras Altas **60.69 141** P **P** **22 11 50.6 -0.7**
PLTB Pedras Altas **60.69 141** *e*P **P** **22 11 50.7 -0.5**
NBLV Livramento - P **60.74 108** *e*P **P** **22 11 52.9 +0.9**
HDA Harding Lake **60.76 337** P **P** **22 11 51.5 +0.2**
HDA Harding Lake **60.76 337** P **P** **22 11 51.9 +0.6**
baz=118
IL31 **60.91 337** P **P** **22 11 52.1 -0.1**
IL31 IAmb IAmb 22 11 55.7
comp=Z,21nm,1.2s
ILAR Eielson Array **60.91 337** P **P** **22 11 52.6 +0.4**
comp=Z,5.7nm,0.9s,baz=135,slow=4.6,SNR=30
ILAR Eielson Array **60.91 337** P **P** **22 11 52.2 -0.1**
GDU01 Guandu, BA **60.95 116** *e*P **P** **22 11 53.6 +0.2**
RND Reindeer **61.06 335** P **P** **22 11 53.8 +0.4**
RND IAmb IAmb 22 11 57.9
comp=Z,30nm,1.2s
RCBR Riachuelo **61.12 106** LR LR 22 40 06.8
comp=Z,146nm,18.9s,baz=92,slow=38
RCBR Riachuelo **61.12 106** P **P** **22 11 53.5 -1.1**
RCBR Riachuelo **61.12 106** *e*P **P** **22 11 55.5 +0.9**
MCK McKinley **61.24 335** P **P** **22 11 55.0 +0.5**
MCK IAmb IAmb 22 12 22.9
comp=Z,20nm,1.2s
MCK McKinley **61.24 335** P **P** **22 11 55.3 +0.8**
baz=115
NBLA Lagarto - SE **61.37 112** *e*P **P** **22 11 56.3 +0.1**
BMAR Burnt Mountain **61.43 340** P **P** **22 11 56.7 +0.9**
NBIT Itapeh - BA **61.61 117** *e*P **P** **22 11 59.1 +1.4**
TRF Thorofare Moun **61.67 335** P **P** **22 11 57.2 -0.5**
TRF IAmb IAmb 22 12 02.9
comp=Z,13nm,0.8s
TRF Thorofare Moun **61.67 335** P **P** **22 11 58.6 +1.0**
baz=114
CMC01 Camacan, BA **61.73 117** *e*P **P** **22 11 58.9 +0.4**
H24K Noodor Dome **61.78 338** P **P** **22 11 58.2 0.0**
H24K IAmb IAmb 22 12 01.6
comp=Z,14nm,1.0s
H24K Noodor Dome **61.78 338** P **P** **22 11 59.1 +1.0**
baz=118
NBPV Pedro Velho **61.90 106** *e*P **P** **22 11 59.7 -0.1**
SJMB Sao Joao De Ma **61.91 121** *e*P **P** **22 12 01.2 +1.4**
GUA01 Guaratinga, BA **62.05 119** *e*P **P** **22 12 01.7 +1.0**
NBAN Anadia - AL **62.21 110** *e*P **P** **22 12 01.6 -0.3**
CAST Castle Rocks **62.40 334** P **P** **22 12 02.6 +0.2**
baz=112
MLY Manley **62.50 336** P **P** **22 12 03.8 +0.8**
baz=114
AY01 Puyuhuapi **62.54 163** P **P** **22 12 03.3 -0.1**
AY01 IAmb IAmb 22 12 04.5
comp=Z,25nm,0.9s
N19K Bonanza Creek **62.55 331** P **P** **22 12 04.0 +0.6**
baz=108
L20K Farewell, AK **62.83 333** P **P** **22 12 05.7 +0.4**
baz=110
RIB01 Linhares ES **62.86 122** *e*P **P** **22 12 07.0 +0.9**
NBRF Rio Formoso - **62.88 108** *e*P **P** **22 12 06.3 0.0**
I21K Tanana **63.04 336** P **P** **22 12 07.3 +0.7**
baz=113
CAM01 Campos-RJ **63.10 125** *e*P **P** **22 12 08.9 +1.3**
K20K Telida **63.21 334** P **P** **22 12 07.9 +0.2**
baz=110
ALF01 Guarapari-ES **63.23 123** *e*P **P** **22 12 10.1 +1.6**
COLD Coldfoot **63.24 339** P **P** **22 12 11.2 +3.4**
baz=116
ICESG Greenland Ices **63.38 19** *i* P **P** **22 12 05.6 -3.6**
ICESG IAmb IAmb 22 12 09.0
comp=Z,9.2nm,0.7s
J20K Nowinta River **63.53 335** P **P** **22 12 09.9 +0.1**
baz=110
H21K Melozitna Rive **63.55 337** P **P** **22 12 09.9 0.0**
baz=112
TOLK Toolik Lake Re **63.66 340** P **P** **22 12 11.4 +0.8**
baz=117
COYC Coyhaique **63.75 163** P **P** **22 12 11.6 +0.2**
COYC IAmb IAmb 22 12 13.1
comp=Z,28nm,0.9s
TTA Tatalina **63.90 333** P **P** **22 12 12.4 0.0**
baz=108
PPT Papeete **63.93 241** LR LR 22 32 34.2
comp=Z,281nm,20.6s,baz=92,slow=29
PPT2 Papeete2 **63.94 241** *e*LR LR 22 31 01.3
comp=Z,398nm,27.5s
EUNU Eureka **64.83 1** P **P** **22 12 18.2 0.0**
SUMG Summit **65.43 16** *i* P **P** **22 12 21.1 -1.4**
SUMG IAmb IAmb 22 12 22.9
comp=Z,10nm,0.5s
SUMG Summit **65.43 16** P **P** **22 12 22.5 -0.1**
NEEM North Greenlan **65.70 9** *i* P **P** **22 12 22.8 -1.4**
NEEM IAmb IAmb 22 12 24.6
comp=Z,31nm,0.8s
BORG Borgarnes **68.79 26** LR LR 22 41 17.7
comp=Z,37nm,18.1s,baz=272,slow=35
SCO Scoresbysund **69.61 20** *i* P **P** **22 12 47.6 -0.9**
SCO IAmb IAmb 22 12 48.6
comp=Z,5.4nm,0.6s
SCO Scoresbysund **69.61 20** P **P** **22 12 48.1 -0.3**
SCO IAmb IAmb 22 13 06.6
comp=Z,43nm,1.8s
DBG Daneborg **70.91 16** *i* P **P** **22 12 54.9 -1.5**
DBG IAmb IAmb 22 12 56.8
comp=Z,7.4nm,0.7s
DAG Danmarks Havn **71.78 14** *i* P **P** **22 13 00.0 -1.6**
DAG IAmb IAmb 22 13 01.5
comp=Z,28nm,0.7s
NOR Nord **73.05 9** *i* P **P** **22 13 08.4 -0.7**
NOR IAmb IAmb 22 13 09.7
comp=Z,19nm,0.6s
JMIC Jan Mayen **74.09 20** LR LR 22 45 44.8
comp=Z,173nm,22.0s,baz=254,slow=36
RAR Rarotonga **74.18 242** LR LR 22 37 20.3
comp=Z,125nm,21.0s,baz=54,slow=29
ESK Eskdalemuir **77.91 36** P **P** **22 13 36.0 -1.2**
EKA Eskdalemuir Ar **77.93 36** LR LR 22 43 46.4
comp=Z,50nm,21.8s,baz=259,slow=33
SPITS Spitsbergen Ar **79.14 11** LR LR 22 51 02.4
comp=Z,64nm,18.6s,baz=357,slow=38

SPB2 Spitsbergen Ar **79.14 11** P **P** **22 13 44.6 +0.9**
BILL Bilibino **79.55 338** P **P** **22 13 46.2 +0.1**
ESDC Sonseca Array **80.29 52** P **P** **22 13 48.1 -2.6**
comp=Z,3.6nm,0.9s,baz=292,slow=5.4,SNR=11
ESDC LR LR 22 41 42.1
comp=Z,116nm,21.6s,baz=276,slow=30
ESDC Sonseca Array **80.29 52** P **P** **22 13 48.5 -2.3**
SUE Sulen **80.83 29** *e*P **P** **22 13 53.5 +0.5**
MDT Midelt **81.22 58** LR LR 22 45 50.4
comp=Z,47nm,19.4s,baz=340,slow=33
ODD1 Odda **82.03 30** *e*P **P** **22 14 00.4 +0.9**
BLS5 Blasjo **82.08 31** *e*P **P** **22 14 00.8 +1.0**
AFI Afiamalu **82.35 253** LR LR 22 41 09.3
comp=Z,77nm,20.4s,baz=82,slow=29
DOMB Dombas **82.52 28** *e*P **P** **22 14 02.8 +0.8**
SKAR Skarslia **82.59 29** *e*P **P** **22 14 03.3 +0.8**
TBLU Trondheim **82.64 26** *e*P **P** **22 14 03.6 +1.0**
STEI Steigen **82.87 21** *e*P **P** **22 14 04.8 +1.1**
NSS Namsos **82.91 25** *e*P **P** **22 14 04.5 +0.5**
FAUS Fauske **83.10 22** *e*P **P** **22 14 05.2 +0.3**
MOR8 Moi Rana **83.27 23** *e*P **P** **22 14 06.8 +1.0**
TRO Tromso **83.37 19** *e*P **P** **22 14 07.4 +1.2**
NC204 NORSAR Array S **83.53 28** *e*P **P** **22 14 07.9 +0.6**
NB000 NORSAR Array S **83.62 28** P **P** **22 14 07.9 +0.2**
NB000 NORSAR Array S **83.62 28** *e*P **P** **22 14 08.4 +0.6**
NAO01 NORSAR Array S **83.74 28** *e*P **P** **22 14 09.3 +0.9**
BMRD Maredsous **83.74 40** *d*P **P** **22 14 07.6 -0.9**
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra **83.82 28** P **P** **22 14 08.9 +0.1**
comp=Z,29nm,1.0s,baz=292,slow=5.1
NB2 NORSAR Subarra **83.82 28** P **P** **22 14 08.9 +0.1**
baz=292,slow=5.1
NOA NORSAR Array B **83.82 28** P **P** **22 14 08.9 +0.1**
comp=Z,14nm,0.9s,baz=290,slow=5.2,SNR=29
NOA PKKP **PKKPdf** **22 32 15.6 -1.4**
comp=Z,0.8nm,0.8s,baz=3.1,slow=6.4,SNR=3.2
NOA LR LR 22 51 23.7
comp=Z,30nm,18.1s,baz=290,slow=36
NC303 NORSAR Array S **83.83 28** *e*P **P** **22 14 09.5 +0.7**
NB201 NORSAR Array S **83.85 28** *e*P **P** **22 14 09.4 +0.5**
JETT Jettan, Norway **83.86 19** *e*P **P** **22 14 11.5 +2.7**
BGES Gesves **83.91 39** *d*P **P** **22 14 08.2 -1.2**
comp=Z,15nm,0.8s
OSL Oslo **83.98 29** *e*P **P** **22 14 10.9 +1.4**
BCLA Clavier **84.03 39** *d*P **P** **22 14 09.3 -0.7**
comp=Z,10.0nm,0.9s
BCLA *dp*P **sP** **22 14 30.9 -2.5**
RCHB Rochefort **84.06 40** *d*P **P** **22 14 10.0 -0.1**
comp=Z,7.2nm,1.1s
NC602 NORSAR Array S **84.08 28** *e*P **P** **22 14 11.6 +1.6**
BSTI Sart Tilman **84.15 39** *d*P **P** **22 14 11.3 +0.7**
HOPE Hope Point **84.71 150** P **P** **22 14 13.7 +0.6**
WLF Walferdange **84.78 40** P **P** **22 14 14.2 +0.3**
WLF IAmb IAmb 22 15 01.9
comp=Z,18nm,1.1s
WLF Walferdange **84.78 40** *d*P **P** **22 14 13.4 -0.5**
comp=Z,6.0nm,0.9s
BUG Bochum-Univer **84.92 38** *e*P **P** **22 14 15.4 +1.0**
comp=Z,23nm,1.2s,baz=291,slow=4.6
IBBN Ibbenburen **84.93 37** *e*P **P** **22 14 15.6 +1.1**
comp=Z,21nm,0.9s,baz=291,slow=4.6
KTK1 Kautokeino **85.01 19** *e*P **P** **22 14 14.8 +0.1**
AHRW Bad Neuenahr-A **85.08 39** *e*P **P** **22 14 16.6 +1.4**
comp=Z,28nm,0.9s,baz=291,slow=4.6
HFS Hagfors **85.29 29** LR LR 22 53 09.8
comp=Z,64nm,18.2s,baz=272,slow=36
ARA0 ARCESS Array S **85.42 18** *e*P **P** **22 14 16.1 -0.6**
ARCES ARCESS Array B **85.42 18** P **P** **22 14 16.3 -0.4**
comp=Z,9.7nm,0.7s,baz=298,slow=5.1,SNR=50
ARCES LR LR 22 52 41.0
comp=Z,76nm,20.7s,baz=287,slow=36
ARCES ARCESS Array B **85.42 18** P **P** **22 14 16.3 -0.4**
KASTN Kahler Asten **85.67 38** *e*P **P** **22 14 19.2 +0.9**
comp=Z,30nm,1.4s,baz=291,slow=4.6
RETH Rethem/Aller, **85.72 36** *e*P **P** **22 14 19.9 +1.5**
comp=Z,48nm,1.0s,baz=291,slow=4.6
KEV Kevo **85.74 17** P **P** **22 14 17.7 -0.5**
BSEG Bad Segeberg **85.85 35** *e*P **P** **22 14 20.3 +1.3**
comp=Z,41nm,0.9s,baz=291,slow=4.6
TNS Taunus Mts **86.01 39** *e*P **P** **22 14 21.0 +0.9**
comp=Z,36nm,0.8s,baz=291,slow=4.6
KOWA Kowa **86.09 76** LR LR 22 48 22.2
comp=Z,66nm,21.4s,baz=281,slow=33
KOWA Kowa **86.09 76** P **P** **22 14 19.2 -1.8**
KOWA IAmb IAmb 22 14 20.3
comp=Z,9.8nm,0.9s
NRDL Niedersach Rie **86.23 36** *e*P **P** **22 14 22.2 +1.4**
comp=Z,29nm,1.1s,baz=291,slow=4.6
GTTG Gottingen **86.47 37** *e*P **P** **22 14 23.4 +1.2**
comp=Z,27nm,1.1s,baz=291,slow=4.6
BNI Bardonecchia **86.53 44** P **P** **22 14 21.9 -0.9**
BFO Black Forest **86.56 41** P **P** **22 14 22.2 -0.5**
BFO Black Forest **86.56 41** *e*P **P** **22 14 24.2 +1.4**
comp=Z,58nm,2.0s,baz=291,slow=4.6
CLZ Clausthal **86.61 37** *e*P **P** **22 14 24.2 +1.3**
comp=Z,13nm,0.9s,baz=291,slow=4.6
ASSE Asse, Remlinge **86.68 37** *e*P **P** **22 14 24.5 +1.4**
comp=Z,14nm,1.0s,baz=291,slow=4.6
UBBA Unterbreizbach **86.75 38** *e*P **P** **22 14 24.5 +1.1**
comp=Z,32nm,1.8s,baz=291,slow=4.6
FLTG Flechtingen **86.93 36** *e*P **P** **22 14 25.1 +0.7**
comp=Z,21nm,1.3s,baz=291,slow=4.6
TIC Toumodi **87.14 84** *e*P **P** **22 14 23.7 -2.5**
UPP Uppsala **87.21 28** *e*P **P** **22 14 25.1 -0.5**
LIC Lamto **87.25 84** *e*P **P** **22 14 24.6 -2.1**
comp=Z,63nm,1.2s
DBIC Dimbokro **87.30 84** P **P** **22 14 25.1 -1.9**
comp=Z,4.9nm,0.8s,baz=283,slow=4.9,SNR=5.8
DBIC LR LR 22 50 25.8
comp=Z,38nm,21.8s,baz=295,slow=34
DBIC Dimbokro **87.30 84** P **P** **22 14 24.9 -2.1**
DBIC IAmb IAmb 22 15 49.0
comp=Z,31nm,1.6s
VIKU Vikbolandet **87.37 29** *e*P **P** **22 14 26.1 -0.2**
KIC Kosan Boka **87.48 84** *e*P **P** **22 14 25.7 -2.1**
comp=Z,18nm,0.7s
NEUB Neuenburg **87.66 37** *e*P **P** **22 14 29.1 +1.1**
comp=Z,17nm,1.1s,baz=291,slow=4.6
TUE Stuetta **87.83 42** P **P** **22 14 28.9 -0.3**
TUE IAmb IAmb 22 14 30.5
comp=Z,14nm,1.1s
GRF Grafenberg Arr **87.88 39** *e*P **P** **22 14 30.2 +1.2**
comp=Z,24nm,1.3s,baz=291,slow=4.6
DAVA Damuels **87.90 41** *i* P **P** **22 14 29.1 -0.3**
comp=Z,12nm,1.0s
DAVOX Davos/Dischmat **88.07 42** LR LR 22 47 59.4
comp=Z,111nm,21.4s,baz=277,slow=32
GUNZ Gunzen **88.30 38** *e*P **P** **22 14 31.9 +0.9**
comp=Z,9.5nm,0.9s,baz=291,slow=4.6
CLL Collm **88.33 37** *i* P **P** **22 14 30.8 -0.3**
comp=Z,11nm,1.2s
CLL *e*SKKSac **SKKSac** **22 25 00.0 -5.7**
CLL *e*SP **SP** **22 26 17.0 +2.9**
CLL *e*PPS PPS 22 26 48.0
WERN Wernitzgruen **88.35 38** *e*P **P** **22 14 32.3 +1.0**
comp=Z,9.3nm,1.0s,baz=291,slow=4.6
TANN Tannenbergstha **88.36 38** *e*P **P** **22 14 32.2 +0.9**
comp=Z,8.1nm,1.0s,baz=291,slow=4.6
NKC Novy Kostel **88.42 38** *e*P **P** **22 14 32.1 +0.5**
TIXI Tiksi **88.58 348** LR LR 23 00 35.4
comp=Z,32nm,19.8s,baz=359,slow=40
TIXI Tiksi **88.58 348** P **P** **22 14 31.7 -0.2**
BRG Berggiesshubel **89.05 37** *e*P **P** **22 14 34.5 0.0**
BRG Amp 22 14 36.8
comp=Z,9.5nm,1.0s
BRG *ex* x 22 14 55.7
BRG Amp 22 15 12.7
comp=Z,31nm,2.0s
BRG Berggiesshubel **89.05 37** *e*P **P** **22 14 35.3 +0.8**
comp=Z,9.6nm,1.0s,baz=291,slow=4.6
BRG *ep*P **sP** **22 14 55.7 -2.3**
baz=290,slow=5.0
MA2 Magadan **89.09 333** P **P** **22 14 34.5 0.0**
KHC Kasperske Hory **89.52 39** *e*P **P** **22 14 36.9 +0.1**
KHC *ex* x 22 15 14.7
GERES GERESS Array B **89.70 39** P **P** **22 14 37.0 -0.8**
comp=Z,2.7nm,0.8s,baz=290,slow=5.5,SNR=17
GERES GERESS Array B **89.70 39** P **P** **22 14 36.9 -0.8**
PRU Pruhonice **89.75 38** *e*P **P** **22 14 37.7 -0.1**
ABTA Abfaltersbach **89.77 41** *i* P **P** **22 14 36.6 -1.5**
comp=Z,14nm,1.2s
GKP Gorka Klasztor **89.90 34** *e*P **P** **22 14 39.1 +0.6**
FIA1 FINESS Array S **90.04 25** P **P** **22 14 38.2 -0.7**
FINES FINESS Array B **90.04 25** P **P** **22 14 37.9 -1.0**
comp=Z,12nm,1.2s,baz=269,slow=3.0,SNR=16

FINES				LR	LR	22 55 19.2	
	comp=Z,60nm,19.1s,baz=306,slow=36						
FINES	**FINESS Array B**	**90.04**	**25**	P	**P**	**22 14 38.1**	**-0.8**
CHVC	**Chvalec**	**90.39**	**37**	*e*P	**P**	**22 14 40.6**	**-0.2**
OSTC	**Ostas**	**90.50**	**37**	*e*P	**P**	**22 14 41.2**	**-0.1**
DPC	**Dobruska-Polom**	**90.64**	**37**	*e*P	**P**	**22 14 42.1**	**0.0**
KRUC	**Moravsky**	**91.23**	**38**	*e*P	**P**	**22 14 44.8**	**0.0**
VRAC	**Vranov**	**91.25**	**38**	LR	LR	22 55 18.3	
	comp=Z,58nm,20.8s,baz=288,slow=35						
VRAC	**Vranov**	**91.25**	**38**	*e*P	**P**	**22 14 45.1**	**+0.3**
CONA	**Conrad Observa**	**91.39**	**39**	*e*P	**P**	**22 14 43.8**	**-1.8**
	comp=Z,10nm,2.0s						
KEST	**Kesra**	**91.51**	**52**	P	**P**	**22 14 45.5**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=239,slow=4.1,SNR=7.0						
KEST				LR	LR	22 49 57.9	
	comp=Z,85nm,21.4s,baz=330,slow=32						
MORC	**Moravsky Berou**	**91.60**	**37**	*e*P	**P**	**22 14 46.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**91.80**	**76**	P	**P**	**22 14 45.9**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=292,slow=5.7,SNR=6.9						
PABE	**Paberze**	**92.29**	**30**	*e*P	**P**	**22 14 48.7**	**-0.7**
SUW	**Suwalki**	**92.67**	**32**	P	**P**	**22 14 50.7**	**-0.5**
SUW	**Suwalki**	**92.67**	**32**	*e*P	**P**	**22 14 51.0**	**-0.3**
OJC	**Ojcow**	**92.70**	**36**	P	**P**	**22 14 51.1**	**-0.4**
MSVF	**Nonsavu**	**92.82**	**252**	LR	LR	22 46 44.8	
	comp=Z,146nm,21.0s,baz=57,slow=29						
IIGN	**Ignalina**	**93.46**	**30**	*e*P	**P**	**22 14 54.7**	**-0.2**
IDID	**Didziasalis**	**93.72**	**30**	*e*P	**P**	**22 14 55.5**	**-0.6**
PSZ	**Piszkesteto**	**93.83**	**38**	P	**P**	**22 14 56.9**	**0.0**
NRIK	**Noril'sk**	**95.54**	**360**	LR	LR	23 02 50.9	
	comp=Z,29nm,18.2s,baz=334,slow=38						
YAK	**Yakutsk**	**95.62**	**341**	LR	LR	23 03 52.6	
	comp=Z,41nm,21.4s,baz=97,slow=39						
AKASG	**Malin Array Be**	**97.58**	**33**	P	**P**	**22 15 11.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=292,slow=3.9,SNR=5.4						
AKASG				LR	LR	22 57 14.2	
	comp=Z,50nm,21.9s,baz=345,slow=34						
OBN	**Obninsk**	**98.29**	**26**	LR	LR	22 59 10.5	
	comp=Z,18nm,21.3s,baz=353,slow=35						
URZ	**Urewera**	**98.59**	**233**	LR	LR	22 51 39.6	
	comp=Z,72nm,19.7s,baz=31,slow=30						
MLR	**Muntele Rosu**	**98.65**	**38**	LR	LR	22 58 30.9	
	comp=Z,44nm,20.4s,baz=308,slow=35						
MLR	**Muntele Rosu**	**98.65**	**38**	P	**P**	**22 15 18.2**	**-0.6**
DZM	**Mont Dzumac**	**104.43**	**251**	*e*LR	LR	22 49 43.6	
	comp=Z,196nm,22.8s						
ZALV	**Zalesovo Beam**	**110.98**	**1**	PP	**PP**	**22 20 46.8**	**-3.4**
	comp=Z,1.7nm,0.8s,baz=12,slow=7.5,SNR=5.2						
SONM	**Songino Array**	**114.56**	**345**	PKP	PKPdf	22 20 20.2	+0.6
	comp=Z,0.3nm,0.6s,baz=74,slow=1.5,SNR=2.6						
SONM				PKKPbc	**PKKPbc**	**22 30 57.1**	**-2.5**
	comp=Z,0.8nm,0.9s,baz=207,slow=4.0,SNR=5.3						
MKAR	**Makanchi Array**	**118.06**	**3**	PKP	**PKiKP**	**22 20 27.4**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=1.9,slow=4.3,SNR=7.3						
MKAR				PP	**PP**	**22 21 35.0**	**-5.3**
	comp=Z,0.7nm,0.8s,baz=356,slow=3.8,SNR=3.9						
MKAR				PKKPbc	**PKKPbc**	**22 30 44.7**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=107,slow=1.5,SNR=4.4						
MKAR	**Makanchi Array**	**118.06**	**3**		**PKiKP**	**22 20 27.0**	**+0.7**
SYO	**Syowa Base**	**118.97**	**163**⇓	*e*Pdiff	**Pdif**	**22 16 48.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**119.33**	**338**	*e*PKP	**PKPdf**	**22 20 26.2**	**-2.8**
WMQ	**Urumqi**	**121.11**	**359**	*e*PKP	**PKPdf**	**22 20 32.3**	**0.0**
WMQ				LR	LR		
	comp=Z,90nm,25.7s						
BOSA	**Boshof**	**122.54**	**114**	PKP	**PKiKP**	**22 20 38.1**	**+2.5**
	comp=Z,7.6nm,0.9s,baz=274,slow=2.4,SNR=14						
BOSA	**Boshof**	**122.54**	**114**		**PKiKP**	**22 20 37.8**	**+2.1**
NJ2	**Nanjing**	**123.41**	**327**	*e*PKP	**PKPdf**	**22 20 36.6**	**-0.3**
KSH	**Kashi**	**124.61**	**10**	PKP	**PKiKP**	**22 20 43.8**	**+4.3**
STKA	**Stephens Creek**	**127.14**	**242**	PKP	**PKPdf**	**22 20 44.0**	**0.0**
	comp=Z,5.3nm,0.8s,baz=101,slow=2.4,SNR=11						
KMBO	**Kilima Mbogo**	**129.74**	**78**	PKP	**PKiKP**	**22 20 50.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=308,slow=7.9,SNR=4.1						
KMBO				SKPbc	SKPbc	22 24 08.4	+1.3
	comp=Z,0.8nm,0.6s,baz=326,slow=3.6,SNR=3.7						
WRA	**Warramunga Arr**	**133.97**	**257**	PKP	**PKPdf**	**22 20 57.4**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=90,slow=3.1,SNR=4.7						
WRA	**Warramunga Arr**	**133.97**	**257**	PKPdf	**PKPdf**	**22 20 57.2**	**-0.1**
ASAR	**Alice Springs**	**134.40**	**252**	PKhKP	PKPpre	22 20 42.0	
	comp=Z,0.6nm,1.0s,baz=104,slow=3.0,SNR=2.7						
ASAR				PKP	**PKPdf**	**22 20 58.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=95,slow=2.4,SNR=15						
ASAR	**Alice Springs**	**134.40**	**252**		**PKPdf**	**22 20 58.0**	**-0.1**
PZH	**PanZhiHua**	**135.73**	**340**	PKP	**PKPdf**	**22 20 58.3**	**-2.3**
DANN	**Dangsing**	**136.51**	**3**	*e*P	**PKiKP**	**22 21 05.7**	**+1.7**
	comp=Z,21nm,0.7s						
PYUN	**Piuthan**	**136.71**	**4**	*e*P	**PKiKP**	**22 21 05.4**	**+1.1**
	comp=Z,9.2nm,0.6s						
GKN	**Gorkha**	**136.89**	**2**	*e*P	**PKiKP**	**22 21 05.8**	**+1.2**
	comp=Z,9.1nm,0.4s						
KOLN	**Koldanda**	**137.07**	**3**	*e*P	**PKiKP**	**22 21 05.0**	**0.0**
PKIN	**Phulchoki**	**137.33**	**1**	*e*P	**PKiKP**	**22 21 06.4**	**+0.7**
	comp=Z,6.6nm,0.5s						
UBPT	**Khong Chiam**	**144.08**	**327**	PKPdf	PKPbc	22 21 14.2	+0.4
CMAR	**Chiang Mai Arr**	**144.13**	**339**	PKhKP	PKPpre	22 21 13.3	
	comp=Z,2.4nm,0.6s,baz=338,slow=3.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**144.13**	**339**		**PKPab**	**22 21 13.9**	**+0.4**
HYBB	**Hyderabad (bro**	**146.60**	**13**	*e*PKPbc	**PKPab**	**22 21 22.5**	**-0.3**
HYBB				*e*		22 21 39.1	
SBUM	**Sibu**	**148.73**	**302**		**PKPbc**	**22 21 28.0**	**+0.4**

*IDC **05** 22:08:06.8±7.0, 32°.45S×178°.55W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/19, mbtmp3.7/2, Error ellipse: s-maj=320.0km s-min=53.9km az=160.0*

*WEL **05** 22:08:06.9±0.9, 33°S±11°×17°8W±2°8, h33km, M4.1/10, mB4.5/7, ML4.6/14, MLv4.4/10, Mw(mB)3.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*

ISC 05 22:08:04.3±2.0**, 33°.0S**±0°.1×**178°.2W**±0°.3**, h10**km**, n21,** σ**1.94**/33**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**4**	P	**Pn**	**22 09 00.7**	**-0.8**
GLKZ				S	**Sn**	**22 09 41.3**	**-3.8**
MXZ	**Matakaoa Point**	**5.41**	**211**	P	**Pn**	**22 09 25.4**	**+0.4**
MXZ				S	**Sn**	**22 10 25.5**	**-1.8**
PKGZ	**Pakihiroa**	**5.78**	**211**	P	**Pn**	**22 09 30.8**	**+0.7**
PKGZ				S	**Sn**	**22 10 34.7**	**-1.9**
HAZ	**Te Kaha**	**5.80**	**213**	P	**Pn**	**22 09 28.9**	**-1.5**
HAZ				S	**Sn**	**22 10 38.9**	**+1.9**
PUZ	**Puketiti**	**5.86**	**209**	P	Pn	22 09 26.1	-5.2
PUZ				S	**Sn**	**22 10 36.2**	**-2.3**
RUGZ	**Raukumara Rang**	**6.02**	**213**	P	**Pn**	**22 09 31.1**	**-2.4**
RUGZ				S	**Sn**	**22 10 42.2**	**-0.4**
TWGZ	**Tauwhareparae**	**6.06**	**210**	P	Pn	22 09 31.3	-2.8
TWGZ				S	**Sn**	**22 10 43.4**	**-0.2**
CNGZ	**Carnagh Statio**	**6.24**	**207**	P	**Pn**	**22 09 36.5**	**+0.1**
CNGZ				S	**Sn**	**22 10 48.4**	**+0.6**
MWZ	**Matawai**	**6.39**	**212**	P	**Pn**	**22 09 39.3**	**+0.7**
MWZ				S	**Sn**	**22 10 49.9**	**-1.7**
URZ	**Urewera**	**6.52**	**214**	P	**Pn**	**22 09 41.9**	**+1.6**
URZ				S	**Sn**	**22 10 52.7**	**-2.0**
RAGZ	**Rawiri**	**6.57**	**212**	P	**Pn**	**22 09 42.1**	**+1.0**
RIGZ	**Rimuhau**	**6.60**	**209**	P	**Pn**	**22 09 41.9**	**+0.4**
RIGZ				S	**Sn**	**22 10 52.3**	**-4.6**
SNGZ	**Shannon Statio**	**6.84**	**211**	P	**Pn**	**22 09 46.2**	**+1.4**
SNGZ				S	**Sn**	**22 11 01.2**	**-1.5**
RTZ	**Ruatahuna**	**6.87**	**213**	P	**Pn**	**22 09 45.7**	**+0.6**
RTZ				S	**Sn**	**22 11 00.8**	**-2.6**
RAHZ	**Arahi**	**7.06**	**211**	P	**Pn**	**22 09 49.9**	**+2.0**
RAHZ				S	**Sn**	**22 11 04.7**	**-3.5**
MTHZ	**Maungataniwha**	**7.12**	**213**	P	**Pn**	**22 09 50.6**	**+1.9**
BKZ	**Black Stump Fm**	**7.54**	**213**	P	**Pn**	**22 09 55.4**	**+1.1**
OTVZ	**Oturere**	**7.93**	**217**	P	**Pn**	**22 10 01.5**	**+1.6**
ASAR	**Alice Springs**	**42.86**	**270**	P	**P**	**22 16 04.5**	**+1.5**
	0.4nm,0.5s,baz=111,slow=7.8,SNR=9.8						
WRA	**Warramunga Arr**	**44.08**	**275**	P	**P**	**22 16 14.0**	**+1.2**
	0.8nm,0.4s,baz=116,slow=7.6,SNR=36						
FINES	**FINESS Array B**	**147.47**	**338**	PKPbc	**PKPbc**	**22 27 49.5**	**+1.7**
	1.1nm,0.5s,baz=42,slow=4.3,SNR=12						

*IDC **05** 22:16:15.9±7.9, 15°.49S×173°.34W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, ML4.4/1, MS3.7/10, Ms1 3.7/10, ms1mx3.3/59, Error ellipse: s-maj=425.5km s-min=26.4km az=144.0*

*NEIC **05** 22:16:22.6±1.6, 15°.0S±0°.2×173°.36W±0°.08, h47km±13km, mb4.4/4, Error ellipse: s-maj=25.2km s-min=10.6km az=167.0*

*NOU **05** 22:16:29.9, 13°.67S×172°.12W, h166km, MLv3.3/5, Samoa Islands*

ISC 05 22:16:22.7±0.8**, 15°.0S**±0°.1×**173°.4W**±0°.1**, h50**km**, n24,** σ**1.07**/15**, mb4.2**/3**, MS3.9**/9**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.90**	**56**	Pn	**Pn**	**22 16 53.3**	**+0.7**
	107nm,0.3s,baz=225,slow=5.7,SNR=63						
AFI				Sn	**Sn**	**22 17 13.8**	**-1.6**
	266nm,0.3s,baz=49,slow=23,SNR=21						
AFI	**Afiamalu**	**1.90**	**56**		**Pn**	**22 16 53.2**	**+0.5**
AFI				Sn	**Sn**	**22 17 13.7**	**-1.7**
AFI	**Afiamalu**	**1.90**	**56**	P	**Pn**	**22 16 53.8**	**+1.1**
MSVF	**Nonsavu**	**8.66**	**250**	LR	LR	22 21 05.0	
	comp=Z,268nm,21.0s,baz=126,slow=34						
KNTN	**Kanton**	**12.25**	**8**	Pn	**Pn**	**22 19 15.4**	**+0.8**
SANVU	**Saraoutou**	**18.74**	**266**	P	**P**	**22 20 37.1**	**-0.4**
SANVU				IAmb	IAmb	22 20 52.5	
	comp=Z,18nm,0.8s						
MARNC	**Mare, Loyalty**	**18.78**	**247**	P	**P**	**22 20 36.7**	**-1.2**
URZ	**Urewera**	**24.65**	**198**	LR	LR	22 30 24.8	
	comp=Z,139nm,20.4s,baz=31,slow=35						
RPZ	**Rata Peaks**	**31.56**	**202**	LR	LR	22 34 42.3	
	comp=Z,213nm,18.7s,baz=22,slow=36						
WHZ	**Wether Hill Ro**	**34.57**	**203**	P	**P**	**22 23 07.0**	**+0.5**
KIP	**Kipapa**	**39.21**	**23**	P	P	22 23 27.9	-18
WB0	**Warramunga Arr**	**49.91**	**257**	P	**P**	**22 25 11.2**	**-0.6**
WB0				IAmb	IAmb	22 25 18.4	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**49.95**	**256**	P	**P**	**22 25 11.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=88,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**49.95**	**256**	P	**P**	**22 25 11.2**	**-0.9**
ASAR	**Alice Springs**	**50.25**	**252**	P	**P**	**22 25 13.4**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=87,slow=7.8,SNR=18						
ASAJ	**Asahikawa**	**71.20**	**328**	LR	LR	22 51 07.8	
	comp=Z,15nm,20.8s,baz=308,slow=29						
YBH	**Yreka Blue Hor**	**73.27**	**37**	LR	LR	22 52 01.5	
	comp=Z,79nm,19.4s,baz=346,slow=29						
QSPA	**South Pole Qui**	**75.05**	**180**	LR	LR	22 56 07.2	
	comp=Z,77nm,20.2s,baz=141,slow=32						
QSPA	**South Pole Qui**	**75.05**	**180**	P	**P**	**22 27 59.6**	**+0.6**
PDAR	**Pinedale Array**	**81.96**	**42**	LR	LR	23 01 38.7	
	comp=Z,50nm,19.0s,baz=242,slow=33						
ILAR	**Eielson Array**	**82.05**	**11**	LR	LR	23 03 18.9	
	comp=Z,32nm,18.4s,baz=214,slow=34						
YKA	**Yellowknife Ar**	**89.72**	**23**	LR	LR	23 04 15.1	
	comp=Z,47nm,18.4s,baz=318,slow=32						
ULM	**Lac du Bonnet**	**93.61**	**39**	LR	LR	23 06 33.0	
	comp=Z,61nm,19.8s,baz=69,slow=32						
BRTR	**Keskin Array B**	**145.85**	**321**	PKPbc	**PKPab**	**22 35 58.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=29,slow=2.5,SNR=3.1						

*TUL **05** 22:21:32.4±0.5, 35°.86N±0°.01×97°.21W±0°.01, h5km±4km, ML3.0, mb_Lg2.9/54(NEIC), Error ellipse: s-maj=1.9km s-min=1.0km az=131.0*

NEIC 05 22:21:33.1±0.5**, 35°.87N**±0°.01×**97°.22W**±0°.01**, h5**km±6km**, Error ellipse: s-maj=1.9km s-min=0.6km az=149.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.21**	**174**		Pg	22 21 36.9	-0.4
OK001	**Jones High Sch**	**0.31**	**191**	Pg	Pg	22 21 38.5	-0.7
OK009	**Oakdale Elemen**	**0.33**	**210**		Pg	22 21 39.2	-0.4
OKCFA	**Oklahoma City**	**0.49**	**203**		Pg	22 21 42.1	-0.5
OKCFA				Sg	Sg	22 21 49.2	+0.2
OKCSW	**OKLAHOMA CITY**	**0.49**	**201**	Pg	Pg	22 21 42.1	-0.5
FNO	**Franklin**	**0.63**	**194**	Pg	Pg	22 21 44.4	-0.8
W35A	**Tecumseh**	**0.77**	**158**	Pg	Pg	22 21 46.7	-1.2
TUL1	**Leonard**	**1.16**	**87**		Pg	22 21 53.5	-1.9
T35A	**Sooner Cattle**	**1.19**	**28**		Pg	22 21 54.4	-1.6
X34A	**Smith Ranch, M**	**1.36**	**202**	Pg	Pn	22 21 57.9	-0.9
U32A	**Winter Ranch,**	**1.53**	**290**		Pn	22 22 00.4	-0.8
WMOK	**Wichita Mounta**	**1.70**	**229**		Pn	22 22 03.1	-0.4
X37A	**Clayton**	**1.98**	**130**		Pn	22 22 06.9	-0.4
X37A				IAmb_Lg		22 22 35.3	
	comp=Z,36nm,1.0s						
Z35A	**Perchaven, San**	**2.53**	**181**	Pn	Pn	22 22 14.1	-0.7
HHAR	**Hobbs**	**2.69**	**80**		Pn	22 22 16.8	-0.3
R32A	**Long Quarter,**	**2.81**	**335**		Pn	22 22 18.1	-0.7
R32A				IAmb_Lg		22 23 08.5	
	comp=Z,26nm,0.7s						
W39A	**Magazine**	**2.88**	**102**		Pn	22 22 19.2	-0.5
W39A				IAmb_Lg		22 23 08.6	
	comp=Z,41nm,0.8s						
Z38A	**Mt. Pleasant**	**3.19**	**144**		Pn	22 22 23.4	-0.5
MIAR	**Mount Ida**	**3.26**	**113**		Pn	22 22 24.9	0.0
MIAR				IAmb_Lg		22 23 23.0	
	comp=Z,26nm,0.7s						
KSU1	**Kansas State U**	**3.26**	**8**	Pn	Pn	22 22 24.5	-0.5
KSU1				IAmb_Lg		22 23 24.8	
	comp=Z,38nm,0.8s						
CBKS	**Cedar Bluff**	**3.56**	**326**		Pn	22 22 27.5	-1.6
U40A	**Yellville**	**3.57**	**81**	Pn	Pn	22 22 27.7	-1.4
S39A	**Bolivar**	**3.62**	**59**	Pn	Pn	22 22 29.2	-0.6
S39A				IAmb_Lg		22 23 34.2	
	comp=Z,25nm,0.7s						
AMTX	**Amarillo**	**3.78**	**256**	IAmb_Lg		22 23 42.8	
	comp=Z,24nm,0.8s						
X40A	**Basin Creek Fa**	**3.85**	**110**	Pn	Pn	22 22 32.8	-0.2
WHTX	**Lake Whitney,**	**3.87**	**183**	Pn	Pn	22 22 32.8	-0.5
WLAR	**White Oak Lake**	**4.02**	**122**	IAmb_Lg		22 23 44.7	
	comp=Z,25nm,1.0s						
WHAR	**Wooly Hollow**	**4.06**	**97**		Pn	22 22 35.3	-0.6
WHAR				IAmb_Lg		22 23 49.0	
	comp=Z,20nm,0.8s						
W41B	**Gary Mavity, V**	**4.11**	**98**		Pn	22 22 36.3	-0.3
W41B				IAmb_Lg		22 23 44.7	
	comp=Z,18nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.14**	**88**		Pn	22 22 36.9	0.0
FCAR				IAmb_Lg		22 23 48.7	
	comp=Z,26nm,0.7s						
Z41A	**Richland Creek**	**4.48**	**124**	IAmb_Lg		22 24 00.4	
	comp=Z,19nm,0.9s						
R40A	**Maddies Statio**	**4.64**	**57**	Pn	Pn	22 22 43.0	-0.8
P38A	**Dawn**	**4.75**	**37**		Pn	22 22 45.2	-0.2
P38A				IAmb_Lg		22 24 13.1	
	comp=Z,21nm,0.8s						
LCAR	**Lake Charles**	**4.92**	**86**	Pn	Pn	22 22 46.1	-1.7
LCAR				IAmb_Lg		22 24 07.0	
	comp=Z,21nm,0.8s						
CCM	**Cathedral Cave**	**5.26**	**64**	Pn	Pn	22 22 51.4	-0.9
KSCO	**Kaye Shedlock'**	**5.33**	**308**	IAmb_Lg		22 24 34.2	
	comp=Z,16nm,0.7s						
P40A	**Paris**	**5.49**	**47**	IAmb_Lg		22 24 33.2	
	comp=Z,17nm,0.8s						
PBMO	**Poplar Bluff**	**5.56**	**79**	IAmb_Lg		22 24 33.4	
	comp=Z,29nm,0.9s						
JCT	**Junction City**	**5.79**	**203**	IAmb_Lg		22 24 45.6	
	comp=Z,19nm,0.9s						
N38A	**Joes South For**	**5.83**	**31**	Pn	Pn	22 22 58.7	-1.5
FVM	**French Village**	**5.84**	**67**	Pn	Pn	22 22 59.1	-1.2
FVM				IAmb_Lg		22 24 46.3	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**5.93**	**284**	IAmb_Lg		22 24 46.0	
	comp=Z,24nm,1.0s						
SLM	**Saint Louis**	**6.22**	**62**	IAmb_Lg		22 24 58.6	
	comp=Z,14nm,0.9s						
S44A	**Carbondale**	**6.65**	**72**	IAmb_Lg		22 25 07.1	
	comp=Z,24nm,0.9s						
SCIA	**State Center**	**6.79**	**26**	IAmb_Lg		22 25 18.1	
	comp=Z,21nm,0.8s						
SDCO	**Great Sand Dun**	**6.90**	**288**	IAmb_Lg		22 25 13.7	
	comp=Z,7.9nm,0.9s						
Q24A	**Divide**	**7.03**	**298**	IAmb_Lg		22 25 17.7	
	comp=Z,9.2nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.20**	**63**	IAmb_Lg		22 25 26.8	
	comp=Z,21nm,1.1s						
PHWY	**Pilot Hill**	**8.43**	**313**	IAmb_Lg		22 26 19.1	
	comp=Z,12nm,1.3s						
JFWS	**Jewell Farm**	**8.86**	**35**	IAmb_Lg		22 26 14.6	
	comp=Z,12nm,0.7s						

IDC 05 22:27:25.5±3.8**, 30°.12S**×**178°.09W, h0**km**, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/30**, mbtmp3.7**/3**, Error ellipse: s-maj=87.3km s-min=19.6km az=121.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.88**	**10**	Pn	Pn	22 27 45.2	+0.1
	137nm,0.3s,baz=158,slow=19,SNR=2.9						
RAO				Sn	Sn	22 27 58.9	+0.3
	291nm,0.3s,baz=165,slow=19,SNR=7.2						
ASAR	**Alice Springs**	**43.05**	**267**	P	P	22 35 26.2	-1.1
	0.3nm,0.5s,baz=111,slow=7.9,SNR=8.4						
WRA	**Warramunga Arr**	**44.01**	**272**	P	P	22 35 35.9	+0.9
	0.5nm,0.4s,baz=114,slow=8.0,SNR=17						
FITZ	**Fitzroy Crossi**	**52.28**	**270**	P	P	22 36 38.5	-0.5
	2.6nm,1.1s,baz=67,slow=7.7						
FINES	**FINESS Array B**	**144.86**	**340**	PKP	PKPdf	22 47 03.6	-0.1
	1.7nm,0.7s,baz=53,slow=5.4,SNR=3.3						

*IDC **05** 22:35:31.2±1.7, 17°.87N×118°.99E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.2/52, mbtmp3.4/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/41, Error ellipse: s-maj=93.2km s-min=21.6km az=83.0*

ISC 05 22:35:32.8±1.5**, 17°.9N**±0°.1×**119°.1E**±0°.4**, h10**km**, n8,** σ**0.69**/7**, mb3.4**/6**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**2.25**	**138**⇑	*e*P	**Pn**	**22 36 09.8**	**-0.3**
KSRS	**Korea Array**	**21.00**	**20**	P	**P**	**22 40 16.6**	**+0.2**
	0.8nm,0.8s,baz=205,slow=8.1,SNR=1.4						
SONM	**Songino Array**	**31.67**	**344**	P	**P**	**22 41 56.1**	**-0.3**
	0.2nm,0.7s,baz=143,slow=5.0,SNR=1.4						
KLR	**Kul'dur**	**32.93**	**15**	P	**P**	**22 42 08.0**	**+0.7**
	0.7nm,0.8s,baz=242,slow=15,SNR=2.0						
WRA	**Warramunga Arr**	**40.42**	**158**	P	**P**	**22 43 11.6**	**+0.2**
	0.5nm,0.9s,baz=339,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**43.72**	**160**	P	**P**	**22 43 39.1**	**+0.7**
	0.5nm,0.6s,baz=335,slow=7.0,SNR=7.0						
CTA	**Charters Tower**	**46.16**	**144**	LR	LR	23 06 12.1	
	comp=Z,59nm,18.1s,baz=82,slow=40						
YKA	**Yellowknife Ar**	**89.53**	**22**	P	**P**	**22 48 29.3**	**-0.8**
	0.3nm,0.7s,baz=315,slow=5.5,SNR=2.9						

*IDC **05** 22:35:53.2±4.2, 17°.50S×66°.16E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/53, mbtmp3.8/6, MS3.7/7, Ms1 3.7/7, ms1mx3.1/80, Error ellipse: s-maj=122.9km s-min=29.7km az=61.0*

ISC 05 22:35:56.3±4.3**, 17°.5S**±0°.5×**66°.2E**±0°.7**, h17**km**, n18,** σ**0.38**/6**, mb3.8**/6**, MS3.7**/7**, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**11.51**	**33**	T	T	22 49 58.8	
	baz=210,slow=75,SNR=374						
H08S2	**Diego Garcia H**	**11.52**	**33**	T	T	22 49 59.9	
	baz=210,slow=75,SNR=314						
H08S3	**Diego Garcia H**	**11.53**	**33**	T	T	22 50 00.1	
	baz=210,slow=75,SNR=820						
PALK	**Pallekele**	**28.44**	**31**	LR	LR	22 50 41.2	
	comp=Z,58nm,18.1s,baz=299,slow=31						
KMBO	**Kilima Mbogo**	**32.79**	**297**	LR	LR	22 53 15.6	
	comp=Z,75nm,19.6s,baz=91,slow=32						
LEM	**Lembang**	**41.73**	**81**	LR	LR	22 57 41.9	
	comp=Z,82nm,20.5s,baz=182,slow=31						
H01W3	**Cape Leeuwin H**	**45.91**	**122**	T	T	23 33 13.6	
	baz=280,slow=75,SNR=382						
H01W2	**Cape Leeuwin H**	**45.91**	**122**	T	T	23 33 14.0	
	baz=280,slow=75,SNR=362						
H01W1	**Cape Leeuwin H**	**45.93**	**122**	T	T	23 33 14.9	
	baz=280,slow=75,SNR=438						
TSUM	**Tsumeb**	**46.09**	**260**	LR	LR	23 01 07.0	
	comp=Z,95nm,20.9s,baz=322,slow=33						
CMAR	**Chiang Mai Arr**	**48.06**	**44**	P	**P**	**22 44 35.0**	**-0.2**
	0.2nm,0.3s,baz=243,slow=7.9,SNR=6.5						
ASAR	**Alice Springs**	**63.16**	**108**	P	**P**	**22 46 23.7**	**-0.2**
	0.8nm,0.5s,baz=272,slow=5.8,SNR=22						
WRA	**Warramunga Arr**	**64.16**	**104**	P	**P**	**22 46 30.6**	**+0.2**
	1.1nm,0.7s,baz=265,slow=5.7,SNR=12						
WRA				LR	LR	23 13 02.2	
	comp=Z,74nm,18.2s,baz=166,slow=35						
MKAR	**Makanchi Array**	**65.58**	**12**	P	**P**	**22 46 39.0**	**0.0**
	0.6nm,0.9s,baz=213,slow=7.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**72.89**	**11**	P	**P**	**22 47 23.8**	**-0.4**
	0.4nm,0.4s,baz=182,slow=4.3,SNR=3.5						
DBIC	**Dimbokro**	**74.16**	**282**	LR	LR	23 18 40.2	
	comp=Z,58nm,18.9s,baz=148,slow=35						
SONM	**Songino Array**	**74.28**	**27**	P	**P**	**22 47 33.1**	**+0.5**
	0.7nm,0.9s,baz=215,slow=7.0,SNR=5.9						
CTA	**Charters Tower**	**75.10**	**107**	LR	LR	23 17 55.7	
	comp=Z,74nm,19.6s,baz=248,slow=34						

*MDD **05** 22:43:55.6±0.4, 35°.46N×3°.81W, h0km, mb_Lg2.8/6, Error ellipse: s-maj=3.8km s-min=2.6km az=177.0*

*SFS **05** 22:43:55.0, 35°.46N×3°.82W, ML2.8, ALBORAN SUR*

*CNRM **05** 22:43:57.2, 35°.40N×3°.77W, h20km, ml2.4*

ISC 05 22:43:55.5±1.1**, 35°.47N**±0°.02×**3°.78W**±0°.02**, h12**km±9km**, n29,** σ**1.50**/58**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**207**	P	**Pb**	**22 44 02.4**	**-0.1**
PALE				S	**Sb**	**22 44 07.1**	**-0.2**
GOG	**Mont Gurugu**	**0.69**	**111**	P	**Pg**	**22 44 09.1**	**+0.1**
GOG				S	**Sb**	**22 44 19.3**	**+0.2**
EMEL	**Melilla**	**0.70**	**104**	Pg	**Pg**	**22 44 08.9**	**-0.1**
EMEL				Sg	**Sg**	**22 44 17.4**	**-0.8**
EALB	**Alboran**	**0.77**	**52**	Pg	**Pg**	**22 44 10.3**	**0.0**
EALB				Sg	**Sg**	**22 44 20.9**	**+0.5**
EALB				*i* Vmb_Lg		22 44 22.5	
TAF	**Taforalt**	**1.30**	**120**	P	**Pn**	**22 44 19.5**	**0.0**
TAF				S	**Sb**	**22 44 36.1**	**-0.5**
SMIR	**Smir Dam**	**1.32**	**280**	P	**Pg**	**22 44 22.0**	**+1.2**
SMIR				S	**Sn**	**22 44 37.2**	**0.0**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pg**	**22 44 20.6**	**-0.3**
CHEFC				S	**Sg**	**22 44 38.6**	**+0.4**
EMIJ	**Mijas**	**1.35**	**324**	Pg	**Pn**	**22 44 19.1**	**-1.1**
EMIJ				Sn	**Sb**	**22 44 37.6**	**-0.5**
EMIJ				*i* Vmb_Lg		22 44 42.7	
CEU	**Ceuta**	**1.36**	**289**	P	**Pn**	**22 44 16.8**	**-3.5**
CEU				S	**Sb**	**22 44 33.9**	**-4.3**
EMAL	**Malaga-Limoner**	**1.39**	**338**	P	**Pn**	**22 44 20.0**	**-0.7**
EMAL				S	**Sn**	**22 44 39.0**	**0.0**
ELGU	**Los Guajares,**	**1.40**	**5**	Pg	**Pn**	**22 44 20.0**	**-0.9**
ELGU				Sn	**Sn**	**22 44 38.9**	**-0.4**
ELGU				*i* Vmb_Lg		22 44 41.2	
JBK	**JBK**	**1.51**	**138**	P	**Pb**	**22 44 23.7**	**+0.1**
JBK				S	**Sn**	**22 44 40.5**	**-1.8**
EGOR	**Sierra Gorda,**	**1.66**	**351**	Pn	**Pn**	**22 44 25.5**	**+1.0**
EGOR				Sn	**Sn**	**22 44 46.2**	**+0.4**
EGOR				*i* Vmb_Lg		22 44 55.8	
EJIF	**Jimena Fronter**	**1.68**	**306**	Pn	**Pb**	**22 44 25.9**	**-0.5**
EJIF				Sn	**Sb**	**22 44 47.5**	**0.0**
SICH	**Sidi Chahed**	**1.86**	**223**	P	**Pn**	**22 44 27.8**	**+0.6**
SICH				S	**Sn**	**22 44 49.3**	**-1.3**
LCRM	**LCR**	**1.99**	**207**	P	**Pb**	**22 44 30.6**	**-1.2**
LCRM				S	**Sn**	**22 44 54.8**	**+0.8**
IFR	**Ifrane**	**2.25**	**210**	P	**Pb**	**22 44 37.0**	**+0.9**
IFR				S	**Sn**	**22 44 59.7**	**-0.6**
MD31	**MD31**	**2.72**	**198**	P	**Pn**	**22 44 40.2**	**+1.1**
MD31				S	**Sn**	**22 45 12.8**	**+0.8**
MDT	**Midelt**	**2.74**	**195**	P	**Pn**	**22 44 40.8**	**+1.4**
MDT				S	**Sn**	**22 45 14.4**	**+2.0**
TDRA	**Tendrara**	**2.83**	**149**	P	**Pn**	**22 44 37.2**	**-3.5**
TDRA				S	**Sn**	**22 45 15.5**	**+0.8**
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**22 44 43.0**	**+1.4**
ECAB				Sn	**Sn**	**22 45 16.4**	**-0.2**
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**22 44 51.5**	**+0.1**
EGRO				Sn	**Sn**	**22 45 32.4**	**-1.7**
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**22 44 53.5**	**+1.9**
ETOB				Sn	**Sn**	**22 45 33.9**	**-0.7**
PVAQ	**Vaqueiros**	**3.71**	**302**	P	**Pn**	**22 44 52.9**	**+0.3**
PVAQ				S	**Sn**	**22 45 39.0**	**+2.7**
PAB	**San Pablo**	**4.09**	**354**	Pn	**Pn**	**22 44 59.5**	**+1.6**
PAB				Sn	**Sn**	**22 45 45.1**	**-0.7**
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**22 44 58.2**	**-0.7**
EBAD				Sn	**Sn**	**22 45 46.2**	**-1.4**
ESDC	**Sonseca Array**	**4.20**	**358**	Pn	**Pn**	**22 45 00.9**	**+1.6**
ESDC				Sn	**Sn**	**22 45 47.8**	**-0.5**
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**22 45 05.6**	**+1.4**
PESTR				S	**Sn**	**22 46 01.6**	**+4.5**
OUZM	**OUZ**	**5.19**	**210**	P	**Pn**	**22 45 15.2**	**+2.2**
OUZM				S	**Sn**	**22 46 14.5**	**+1.6**

*FUNV **05** 22:49:05.3, 7°.75N×71°.91W, h5km, MW3.5*

*RSNC **05** 22:49:06.1±1.1, 7°.76N×71°.93W, h7km±5km, ML2.8, Mw3.0*

ISC 05 22:49:04.6±1.1**, 7°.75N**±0°.03×**71°.89W**±0°.02**, h15**km±9km**, n29,** σ**1.72**/53**, 1D, Venezuela**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAPV	**Capacho**	**0.44**	**285**	eP	**Pg**	**22 49 13.4**	**-0.1**
CAPV				eS	**Sg**	**22 49 19.4**	**-0.2**
PAMC	**Pamplona, Colo**	**0.90**	**243⇓**	eP	**Pg**	**22 49 21.0**	**-1.2**
PAMC				eS	**Sb**	**22 49 34.8**	**+0.6**
PAMC				i		22 49 37.3	
	comp=Z,582nm,0.3s						
SOCV	**Socops**	**1.15**	**62**	eP	**Pn**	**22 49 26.0**	**-0.1**
SOCV				eS	**Sn**	**22 49 42.5**	**+0.9**
SOCV	**Socops**	**1.15**	**62**	eP	**Pn**	**22 49 26.1**	**0.0**
SOCV				eS	**Sn**	**22 49 42.2**	**+0.6**
TAMC	**Tame, Arauca**	**1.31**	**176**	eP	**Pn**	**22 49 29.0**	**+0.7**
TAMC				eS	**Sg**	**22 49 47.4**	**+0.6**
TAMC				i		22 49 49.7	
	comp=Z,221nm,0.5s						
OCAC	**Ocana**	**1.50**	**289**	eP	**Pb**	**22 49 32.3**	**+0.1**
OCAC				eS	**Sn**	**22 49 51.1**	**+0.7**
SDV	**Santo Domingo**	**1.68**	**48**	eP	**Pb**	**22 49 36.5**	**+1.2**
SDV				eS	**Sg**	**22 49 58.4**	**-0.3**
BARC	**Barichara**	**1.72**	**228**	eP	**Pb**	**22 49 35.9**	**-0.1**
BARC				eS	**Sn**	**22 49 57.1**	**+1.1**
BARC				i		22 50 00.1	
	comp=Z,205nm,0.3s						
RUSC	**La Rusia**	**2.19**	**213**	eP	**Pn**	**22 49 42.0**	**+1.1**
RUSC				eS	**Sb**	**22 50 10.3**	**-1.1**
RUSC				i		22 50 18.1	
	comp=Z,47nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.40**	**325**	eP	**Pn**	**22 49 44.4**	**+1.1**
LL6C				eS	**Sn**	**22 50 11.9**	**-0.6**
LL6C				i		22 50 21.5	
	comp=Z,26nm,0.4s						
ELOV	**Elorza**	**2.50**	**107**	eP	**Pb**	**22 49 51.3**	**+2.2**
ELOV				eS	**Sn**	**22 50 17.9**	**+3.1**
ELOV	**Elorza**	**2.50**	**107**	eP	**Pn**	**22 49 46.0**	**+1.4**
ELOV				eS	**Sn**	**22 50 16.7**	**+1.9**
PTBC	**PUERTO BERRIO,**	**2.82**	**245**	eP	**Pn**	**22 49 49.0**	**-0.1**
PTBC				eS	**Sn**	**22 50 20.9**	**-1.9**
PTBC				i		22 50 37.9	
	comp=Z,42nm,0.6s						
SANV	**Sanarito**	**2.91**	**53**	eP	**Pn**	**22 49 51.7**	**+1.4**
SANV				eS	**Sn**	**22 50 25.9**	**+0.8**
CURV	**Curarigua**	**2.95**	**40**	eP	**Pn**	**22 49 52.4**	**+1.5**
CURV				eS	**Sn**	**22 50 26.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**2.96**	**265**	eP	**Pn**	**22 49 51.6**	**+0.7**
ZARC				eS	**Sn**	**22 50 26.0**	**-0.2**
ZARC				i		22 50 38.6	
	comp=Z,25nm,0.3s						
SPBC	**San Pablo de B**	**3.01**	**226**	eP	**Pn**	**22 49 53.4**	**+1.7**
SPBC				eS	**Sn**	**22 50 28.4**	**+0.9**
SPBC				i		22 50 38.2	
	comp=Z,24nm,0.6s						
CHIC	**Chingaza**	**3.60**	**211**	eP	**Pn**	**22 50 01.1**	**+0.9**
CHIC				eS	**Sn**	**22 50 38.1**	**-4.5**
CHIC				i		22 51 11.3	
	comp=Z,13nm,0.5s						
UREC	**San Jos de Ur**	**3.61**	**270**	eP	**Pn**	**22 50 00.8**	**+0.8**
UREC				eS	**Sn**	**22 50 42.9**	**+0.5**
UREC				i		22 50 58.4	
	comp=Z,18nm,0.3s						
NORC	**Norcasia**	**3.67**	**234**	eP	**Pn**	**22 50 01.6**	**+0.7**
NORC				eS	**Sn**	**22 50 44.5**	**+0.5**
NORC				i		22 50 59.0	
	comp=Z,14nm,0.3s						
MOTC	**Monteria, Cord**	**3.88**	**286**	eP	**Pn**	**22 50 05.5**	**+1.9**
MOTC				eS	**Sn**	**22 50 49.6**	**+0.7**
MOTC				i		22 50 57.0	
	comp=Z,5.3nm,0.3s						
HELC	**Santa Helena**	**3.93**	**247**	eP	**Pn**	**22 50 07.2**	**+2.5**
HELC				eS	**Sn**	**22 50 49.5**	**-1.3**
HELC				i		22 51 07.2	
	comp=Z,8.4nm,0.5s						
GUY2C	**Guyana, Caldas**	**4.27**	**234**	eP	**Pn**	**22 50 11.4**	**+2.0**
DBBC	**Dabeiba**	**4.35**	**261**	eP	**Pn**	**22 50 13.0**	**+2.8**
DBBC				i		22 51 29.8	
	comp=Z,30nm,0.5s						
BENV	**Beln**	**4.77**	**62**	eP	**Pn**	**22 50 16.9**	**+0.8**
BENV				eS	**Sn**	**22 51 09.7**	**-1.5**
PAYV	**Puerto Ayacuch**	**4.80**	**119**	eP	**Pn**	**22 50 16.9**	**+0.6**
TURV	**Turiamo**	**4.81**	**56**	eS	**Sn**	**22 51 10.2**	**-1.8**
CACV	**CAICARA DEL OR**	**5.30**	**92**	eP	Pb	22 50 31.2	-5.7
CACV				eS	**Sb**	**22 51 34.3**	**-6.1**
BIRV	**Birongo**	**6.17**	**64**	eP	**Pn**	**22 50 36.3**	**+1.1**
BIRV				eS	**Sn**	**22 51 42.6**	**-3.0**

WEL 05 23:07:18.9±0.6**, 38°S**±3°×**17°8E**±°**, h11**km±3km**, M3.6**/22**, ML3.9**/22**, MLv3.6**/22**, Error ellipse: s-maj=0.0km s-min=0.0km az=99.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.16**	**11**	P	Pb	23 07 23.5	-0.4
PUZ				S	Sg	23 07 27.6	+2.6
TWGZ	**Tauwhareparae**	**0.20**	**285**	P	Pg	23 07 23.5	+0.4
TWGZ				S	Sg	23 07 27.9	+1.9
CNGZ	**Carnagh Statio**	**0.26**	**182**	P	Pg	23 07 24.6	+0.5
PKGZ	**Pakihiroa**	**0.36**	**342**	P	Pb	23 07 27.0	-0.3
PKGZ				S	Sb	23 07 33.5	+0.5
TKGZ	**Te Karaka**	**0.36**	**234**	P	Pg	23 07 26.0	-0.1
RUGZ	**Raukumara Rang**	**0.50**	**301**	P	Pg	23 07 28.8	+0.1
RUGZ				S	Sb	23 07 36.8	-0.5
MWZ	**Matawai**	**0.55**	**259**	P	Pg	23 07 29.3	-0.4
HAZ	**Te Kaha**	**0.58**	**324**	P	Pg	23 07 30.6	+0.4
HAZ				S	Sb	23 07 39.7	+0.2
RIGZ	**Rimuhau**	**0.60**	**217**	P	Pb	23 07 31.2	-0.2
RIGZ				S	Sn	23 07 42.5	-0.6
MXZ	**Matakaoa Point**	**0.67**	**6**	P	Pb	23 07 33.3	+0.7
RAGZ	**Rawiri**	**0.69**	**247**	P	Pg	23 07 32.0	-0.2
PRGZ	**Paritu Road**	**0.74**	**201**	P	Pg	23 07 33.5	+0.3
URZ	**Urewera**	**0.87**	**268**	P	Pg	23 07 35.2	-0.5
SNGZ	**Shannon Statio**	**0.88**	**231**	P	Pg	23 07 35.8	-0.1
SNGZ				S	Sn	23 07 49.6	-0.6
KNZ	**Kokohu**	**0.90**	**208**	P	Pg	23 07 35.2	-1.1
RTZ	**Ruatahuna**	**1.05**	**248**	P	Pg	23 07 38.5	-0.6
WHRZ	**Whale Island**	**1.05**	**290**	P	Pg	23 07 39.1	0.0
RAHZ	**Arahi**	**1.12**	**232**	P	Pb	23 07 39.1	-1.3
WHHZ	**Waihua**	**1.15**	**222**	P	Pb	23 07 40.8	+0.1
MUGZ	**Murupara**	**1.17**	**257**	P	Pb	23 07 40.5	-0.6
EDRZ	**Edgecumbe**	**1.17**	**275**	P	Pn	23 07 41.3	0.0
MARZ	**Manawahe**	**1.24**	**281**	P	Pn	23 07 42.1	-0.2
MTHZ	**Maungataniwha**	**1.25**	**240**	P	Pn	23 07 41.1	-1.3
RRRZ	**Republican Roa**	**1.35**	**265**	P	Pn	23 07 43.1	-0.6
TARZ	**Mount Tarawera**	**1.35**	**269**	P	Pn	23 07 43.4	-0.4
OPRZ	**Ohinepanea**	**1.37**	**286**	P	Pn	23 07 43.1	-0.9
MKRZ	**Makatiti**	**1.38**	**273**	P	Pg	23 07 45.6	+0.2
NMHZ	**Naumai**	**1.41**	**231**	P	Pn	23 07 43.2	-1.4
OMRZ	**Omania**	**1.46**	**274**	P	Pn	23 07 45.3	0.0
PRRZ	**Plateau Road**	**1.46**	**259**	P	Pb	23 07 46.1	0.0
LIRZ	**Lichensteins R**	**1.46**	**278**	P	Pg	23 07 47.4	+0.4
HLRZ	**Highlands Stat**	**1.47**	**268**	P	Pg	23 07 47.0	-0.2
ALRZ	**Allen Road**	**1.51**	**257**	P	Pb	23 07 46.8	-0.2
HRRZ	**Handcock Road**	**1.53**	**263**	P	Pb	23 07 46.9	-0.5
MRHZ	**Matea Rd**	**1.54**	**246**	P	Pn	23 07 45.6	-0.7
HSRZ	**Hossack Road**	**1.56**	**266**	P	Pn	23 07 46.5	-0.1
KARZ	**Kaharoa**	**1.57**	**277**	P	Pn	23 07 46.4	-0.4
UTU	**Utuhina**	**1.60**	**271**	P	Pg	23 07 53.7	+4.2
NGRZ	**Ngongotaha**	**1.61**	**274**	P	Pn	23 07 47.7	+0.4
TGRZ	**Tauranga**	**1.62**	**287**	P	Pn	23 07 46.7	-0.9
WPRZ	**Whakapapatarin**	**1.64**	**259**	P	Pg	23 07 49.8	-0.6
BKZ	**Black Stump Fm**	**1.64**	**235**	P	Pn	23 07 46.5	-1.4
GRRZ	**Galatos Road**	**1.66**	**265**	P	Pn	23 07 48.5	+0.4
CKHZ	**Cape Kidnapper**	**1.68**	**212**	P	Pn	23 07 46.1	-2.2
MCHZ	**McNeill Hill**	**1.70**	**224**	P	Pn	23 07 46.9	-1.7
HATZ	**Hinemaiaia**	**1.79**	**248**	P	Pb	23 07 51.9	+0.1
MYRZ	**Mayor Island**	**1.83**	**301**	P	Pn	23 07 50.2	-0.2
KWHZ	**Kaweka Forest**	**1.84**	**229**	P	Pn	23 07 48.9	-1.7
KAHZ	**Kahuranaki**	**1.88**	**213**	P	Pn	23 07 48.4	-2.7
RITZ	**Rihia Road**	**2.00**	**247**	P	Pn	23 07 53.9	+1.2
WATZ	**Wairara**	**2.01**	**255**	P	Pn	23 07 52.2	-0.7
KRHZ	**Kereru**	**2.02**	**225**	P	Pn	23 07 50.7	-2.3
PXZ	**Pawanui**	**2.09**	**210**	P	Pn	23 07 51.0	-2.9
BHHZ	**Black Hill Sta**	**2.10**	**233**	P	Pn	23 07 52.3	-1.8
TMVZ	**Te Maari**	**2.16**	**245**	P	Pn	23 07 53.9	-1.0
ETVZ	**East Tongariro**	**2.16**	**244**	P	Pn	23 07 54.0	-1.0
NTVZ	**North Tongarir**	**2.17**	**246**	P	Pn	23 07 54.1	-1.1
KRVZ	**Karewarewa**	**2.19**	**246**	P	Pn	23 07 55.7	+0.2
TOZ	**Tahuroa Road**	**2.20**	**282**	P	Pb	23 07 59.2	+0.4
OTVZ	**Oturere**	**2.21**	**244**	P	Pn	23 07 54.7	-1.0
NNVZ	**North Ngauruho**	**2.23**	**245**	P	Pn	23 07 55.6	-0.3
SNVZ	**South Ngauruho**	**2.23**	**244**	P	Pn	23 07 55.2	-0.8
WTVZ	**West Tongariro**	**2.24**	**246**	P	Pb	23 07 59.5	0.0
NGZ	**Ngauruhoe**	**2.26**	**244**	P	Pn	23 07 55.6	-0.8
MOVZ	**Moawhango**	**2.26**	**238**	P	Pn	23 07 55.1	-1.2
TUVZ	**Tukino**	**2.26**	**242**	P	Pn	23 07 56.1	-0.2
WPHZ	**Waipukurau**	**2.30**	**216**	P	Pn	23 07 54.3	-2.5
PNHZ	**Pukenui**	**2.30**	**222**	P	Pn	23 07 54.0	-2.8
WHVZ	**Whangaehu Hut**	**2.31**	**242**	P	Pb	23 08 01.5	+0.7
FWVZ	**Far West T-bar**	**2.32**	**243**	P	Pn	23 07 56.6	-0.7
WNVZ	**Wahianoa**	**2.32**	**241**	P	Pn	23 07 56.1	-1.2
TWVZ	**Taurewa**	**2.33**	**248**	P	Pn	23 07 57.8	+0.4
TRVZ	**Turoa**	**2.35**	**242**	P	Pn	23 07 56.8	-0.9
PRHZ	**Porangahau**	**2.38**	**211**	P	Pn	23 07 54.9	-3.0
TSZ	**Takapari Road**	**2.53**	**223**	P	Pn	23 07 56.9	-3.2
DVHZ	**Dannevirke**	**2.61**	**217**	P	Pn	23 07 57.8	-3.3
HIZ	**Hauiti**	**2.66**	**263**	P	Pn	23 08 02.3	+0.6
VRZ	**Vera Road**	**2.85**	**251**	P	Pn	23 08 04.5	+0.1
PRWZ	**Pori Road**	**2.90**	**216**	P	Pn	23 08 01.9	-3.2
NEZ	**North Egmont**	**3.39**	**251**	P	Pn	23 08 12.5	+0.6
KHEZ	**Kahui Hut**	**3.46**	**251**	P	Pn	23 08 13.6	+0.8

*IDC **05** 23:20:54.5±1.7, 11°23S×161°67E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/32, mbtmp3.7/5, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/59, Error ellipse: s-maj=38.2km s-min=31.4km az=96.0*

ISC 05 23:20:58.9±1.1**, 11°2S**±0°1×**161°6E**±0°2**, h28**km**, n7, σ0§98**/7**, mb3.6**/4**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.41**	**317**	Pn	**Pn**	**23 21 37.7**	**+1.3**
	1μm,0.3s,baz=167,slow=0.0,SNR=2.1						
HNR				Sn	**Sn**	**23 22 03.7**	**-1.4**
	917nm,0.3s,baz=84,slow=0.2,SNR=2.0						
DZM	**Mont Dzumac**	**11.74**	**157**	Pn	**Pn**	**23 23 44.7**	**-0.1**
	0.1nm,0.3s,baz=331,slow=19,SNR=1.0						
MSVF	**Nonsavu**	**17.18**	**114**	LR	LR	23 30 52.2	
	comp=Z,139nm,21.3s,baz=251,slow=35						
WRA	**Warramunga Arr**	**27.63**	**248**	P	**P**	**23 26 44.3**	**0.0**
	1.2nm,0.9s,baz=76,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**29.12**	**241**	P	**P**	**23 26 57.4**	**-0.2**
	0.8nm,0.9s,baz=68,slow=10,SNR=5.4						
ILAR	**Eielson Array**	**85.00**	**20**	P	**P**	**23 33 30.9**	**-0.5**
	0.6nm,1.0s,baz=242,slow=5.0,SNR=2.2						
MKAR	**Makanchi Array**	**90.89**	**318**	P	**P**	**23 34 00.3**	**+0.2**
	0.2nm,0.7s,baz=114,slow=3.6,SNR=1.8						

*CNRM **05** 23:24:58.6, 35°56N×3°73W, h13km, ml2.5*
*MDD **05** 23:24:59.9±1.3, 35°54N×3°76W, h21km±9km, mb_Lg2.4/3, Error ellipse: s-maj=8.6km s-min=4.7km az=120.0*

ISC 05 23:24:58.8±1.1**, 35°55N**±0°03×**3°74W**±0°03**, h12**km±9km**, n16, σ0§78**/30**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.38**	**206**	P	**Pg**	**23 25 05.2**	**-1.2**
PALE				S	**Sg**	**23 25 10.9**	**-0.5**
EMEL	**Melilla**	**0.68**	**112**	Pg	**Pg**	**23 25 12.1**	**0.0**
EMEL				Sg	**Sg**	**23 25 21.0**	**-0.1**
EALB	**Alboran**	**0.69**	**56**	Sg	**Sn**	**23 25 24.2**	**-0.6**
EALB				i Vmb_Lg		23 25 26.7	
GOG	**Mont Gurugu**	**0.69**	**119**	P	**Pg**	**23 25 12.4**	**+0.2**
GOG				S	**Sg**	**23 25 21.9**	**+0.6**
TAF	**Taforalt**	**1.31**	**124**	P	**Pn**	**23 25 22.7**	**-0.2**
TAF				S	**Sn**	**23 25 39.0**	**-1.3**
EMIJ	**Mijas**	**1.31**	**320**	Pg	**Pn**	**23 25 22.9**	**-0.1**
EMIJ				Sg	**Sb**	**23 25 40.4**	**+0.2**
EMIJ				i Vmb_Lg		23 25 44.8	
ELGU	**Los Guajares,**	**1.31**	**4**	Pg	**Pn**	**23 25 23.0**	**0.0**
ELGU				Sg	**Sn**	**23 25 39.6**	**-0.9**
ELGU				i Vmb_Lg		23 25 45.1	
SMIR	**Smir Dam**	**1.35**	**276**	P	**Pn**	**23 25 23.1**	**-0.3**
SMIR				S	**Sb**	**23 25 40.9**	**-0.2**
CHEFC	**Chefchaouen**	**1.39**	**252**	P	**Pb**	**23 25 24.2**	**-0.5**
CHEFC				S	**Sg**	**23 25 45.5**	**+2.0**
JBK	**JBK**	**1.55**	**141**	P	**Pn**	**23 25 26.5**	**+0.2**
JBK				S	**Sb**	**23 25 46.7**	**-0.5**
EQUE	**Quentar**	**1.67**	**8**	Pg	**Pb**	**23 25 30.4**	**+1.0**
EQUE				Sg	**Sb**	**23 25 49.8**	**-0.5**
ENIJ	**Nijar**	**1.88**	**41**	Sn	**Sn**	**23 25 54.0**	**-0.3**
LCRM	**LCR**	**2.08**	**207**	P	**Pb**	**23 25 37.1**	**+0.6**
LCRM				S	**Sb**	**23 26 01.5**	**-0.9**
MD31	**MD31**	**2.81**	**198**	P	**Pn**	**23 25 43.6**	**0.0**
MD31				S	**Sn**	**23 26 17.8**	**+0.4**
MDT	**Midelt**	**2.83**	**195**	P	**Pn**	**23 25 44.7**	**+0.9**
MDT				S	**Sn**	**23 26 19.4**	**+1.5**
PVAQ	**Vaqueiros**	**3.70**	**301**	P	**Pn**	**23 25 55.8**	**0.0**
PVAQ				S	**Sn**	**23 26 38.8**	**-0.5**

*ISK **05** 23:31:25.5, 39°26N×22°92E, h5km, ML3.2/20*
*IDC **05** 23:31:26.3±1.6, 39°24N×22°70E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/46, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=35.2km s-min=19.5km az=104.0*
*ATH **05** 23:31:27.0, 39°25N×22°87E, h22km, ML3.2/27, Error ellipse: s-maj=0.8km s-min=0.5km az=165.0*
*SOF **05** 23:31:27.0, 39°46N×22°81E, h2km, MD3.3*
*THE **05** 23:31:28.1, 39°25N×22°86E, h11km, ML3.2/14, Error ellipse: s-maj=0.9km s-min=0.5km az=252.0*

ISC 05 23:31:27.4±1.0**, 39°26N**±0°01×**22°87E**±0°02**, h8**km±8km**, n138, σ0§92**/175**, 8C-7D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.28**	**66**	P	**Pg**	**23 31 33.5**	**+0.6**
XOR				S	**Sb**	**23 31 38.4**	**-1.1**
XOR				AML	AML	23 31 38.8	
	comp=E,25811μm,0.3s						
XOR				AML	AML	23 31 39.3	
	comp=N,44161μm,0.4s						
XOR	**Xorichti**	**0.28**	**66**	P	**Pb**	**23 31 33.8**	**-0.8**
XOR				S	**Sb**	**23 31 38.4**	**-1.1**
	comp=N,18μm,0.4s						
NEO	**Neokhori**	**0.28**	**80**	P	**Pb**	**23 31 33.8**	**-0.9**
NEO				S	**Sb**	**23 31 38.4**	**-1.3**
NEO				AML	AML	23 31 38.7	
	comp=N,56240μm,0.3s						
NEO				AML	AML	23 31 39.8	
	comp=E,29754μm,0.3s						
NEO	**Neokhori**	**0.28**	**80**	P	**Pg**	**23 31 33.5**	**+0.5**
NEO				S	**Sb**	**23 31 38.5**	**-1.2**
	comp=E,22μm,0.2s						
AGG	**Agios Georgios**	**0.48**	**241**	P	**Pg**	**23 31 36.6**	**0.0**
AGG				S	**Sb**	**23 31 43.9**	**-1.4**
AGG				AML	AML	23 31 45.6	
	comp=E,11782μm,0.3s						
AGG				AML	AML	23 31 46.9	
	comp=N,7748μm,0.6s						
AGG	**Agios Georgios**	**0.48**	**241**	P	**Pg**	**23 31 36.5**	**-0.2**
AGG				S	**Sb**	**23 31 44.5**	**-0.8**
	comp=N,6μm,0.3s						
AGG	**Agios Georgios**	**0.48**	**241**	PG	**Pg**	**23 31 36.5**	**-0.2**
AGG				SG	**Sb**	**23 31 44.8**	**-0.5**
LRSO	**Larissa Observ**	**0.55**	**319**	P	**Pg**	**23 31 37.8**	**-0.3**
LRSO				S	**Sb**	**23 31 46.5**	**-1.0**
ATAL	**Atalanti**	**0.57**	**168**	P	**Pg**	**23 31 38.3**	**-0.2**
ATAL				S	**Sg**	**23 31 46.7**	**+0.7**
ATAL				AML	AML	23 31 52.3	
	comp=N,4270μm,0.7s						
ATAL				AML	AML	23 31 52.4	
	comp=E,5104μm,0.5s						
LKR	**Lokris**	**0.61**	**170**	P	**Pg**	**23 31 39.0**	**-0.3**
LKR				S	**Sb**	**23 31 47.9**	**-1.3**
LKR				AML	AML	23 31 49.5	
	comp=N,3827μm,0.2s						
LKR				AML	AML	23 31 51.2	
	comp=E,5459μm,0.2s						
LKR	**Lokris**	**0.61**	**170**	P	**Pg**	**23 31 39.1**	**-0.1**
LKR				S	**Sb**	**23 31 48.4**	**-0.7**
	comp=E,2μm,0.2s						
MAKR	**Makrakomi, Fth**	**0.62**	**247**	P	**Pg**	**23 31 39.2**	**-0.2**
MAKR				S	**Sb**	**23 31 48.1**	**-1.3**
MAKR				AML	AML	23 31 52.6	
	comp=E,5419μm,0.4s						
MAKR				AML	AML	23 31 52.8	
	comp=N,3588μm,0.5s						
THL	**Klokotos Trika**	**0.73**	**295**	P	**Pg**	**23 31 40.6**	**-0.8**
THL				S	**Sg**	**23 31 51.3**	**+0.4**
THL				AML	AML	23 31 52.6	
	comp=N,8426μm,0.5s						
THL				AML	AML	23 31 52.6	
	comp=E,6328μm,0.5s						
THL	**Klokotos Trika**	**0.73**	**295**	P	**Pg**	**23 31 40.6**	**-0.8**
THL				S	**Sb**	**23 31 52.0**	**-0.5**
	comp=E,4μm,0.5s						
ALNA	**Alonissos**	**0.78**	**98**	P	**Pg**	**23 31 42.1**	**-0.3**
ALNA				AML	AML	23 31 57.1	
	comp=N,13521μm,0.7s						
ALNA				AML	AML	23 31 57.5	
	comp=E,10564μm,0.6s						
DLFA	**Delphi**	**0.83**	**201**	P	**Pg**	**23 31 42.5**	**-0.8**
DLFA				S	**Sg**	**23 31 54.1**	**0.0**
EVR	**Evrytania**	**0.89**	**248**	P	**Pg**	**23 31 44.1**	**-0.4**
EVR				S	**Sb**	**23 31 56.9**	**-0.3**
EVR				AML	AML	23 32 03.3	
	comp=E,1595μm,0.7s						
EVR				AML	AML	23 32 03.5	
	comp=N,1938μm,0.7s						
EVR	**Evrytania**	**0.89**	**248**	P	**Pg**	**23 31 44.1**	**-0.4**
EVR				S	**Sb**	**23 31 58.1**	**+0.9**
	comp=N,910nm,0.7s						
LIT	**Litokhoron**	**0.89**	**341**	P	**Pg**	**23 31 44.4**	**-0.2**
LIT				S	**Sg**	**23 31 56.4**	**+0.3**
LIT				AML	AML	23 32 01.1	
	comp=N,4021μm,0.6s						
LIT				AML	AML	23 32 01.4	
	comp=E,3480μm,0.7s						
LIT	**Litokhoron**	**0.89**	**341**	P	**Pg**	**23 31 44.5**	**-0.1**
LIT				S	**Sn**	**23 31 58.8**	**-0.7**
	comp=E,2μm,0.7s						
PAIG	**Paliouri**	**0.92**	**43**	P	**Pb**	**23 31 45.4**	**-0.2**
PAIG				S	**Sb**	**23 31 57.6**	**-0.4**
PAIG				AML	AML	23 32 00.6	
	comp=E,1720μm,0.4s						
PAIG				AML	AML	23 32 03.3	
	comp=N,1204μm,0.4s						
PAIG	**Paliouri**	**0.92**	**43**	P	**Pb**	**23 31 45.7**	**+0.1**
PAIG				S	**Sb**	**23 31 58.8**	**+0.8**
	comp=N,732nm,0.4s						
TRIZ	**Trizonia**	**1.08**	**215**	P	**Pb**	**23 31 48.0**	**-0.4**
VIL2	**Platees**	**1.09**	**163**	P	**Pb**	**23 31 48.3**	**-0.2**
VIL2				AML	AML	23 32 08.0	
	comp=N,2282μm,0.5s						
VIL2				AML	AML	23 32 13.7	
	comp=E,3048μm,0.6s						
EFP	**Efpalio**	**1.12**	**222**	P	**Pg**	**23 31 48.3**	**-0.5**
EFP				S	**Sb**	**23 32 04.0**	**+0.4**
EFP				AML	AML	23 32 09.5	
	comp=E,1452μm,0.5s						
EFP				AML	AML	23 32 13.0	
	comp=N,1635μm,0.5s						
KYMI	**Kymi, Euboea I**	**1.15**	**123**	P	**Pb**	**23 31 49.3**	**-0.2**
KYMI				AML	AML	23 32 08.0	
	comp=N,1381μm,0.4s						
KYMI				AML	AML	23 32 08.4	
	comp=E,1355μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.15**	**123**	P	**Pg**	**23 31 49.0**	**-0.4**
KYMI				S	**Sb**	**23 32 05.1**	**+0.6**
	comp=E,685nm,0.3s						
PLG	**Polygyros**	**1.20**	**22**	P	**Pg**	**23 31 50.0**	**-0.5**
PLG				AML	AML	23 32 10.1	
	comp=E,1041μm,0.7s						
PLG				AML	AML	23 32 11.9	
	comp=N,811μm,0.5s						
PLG	**Polygyros**	**1.20**	**22**	P	**Pg**	**23 31 49.8**	**-0.7**
PLG				S	**Sb**	**23 32 06.1**	**-0.1**
	comp=N,382nm,0.7s						
THAL	**Thalero**	**1.23**	**188**	P	**Pn**	**23 31 50.7**	**-0.1**
THAL				AML	AML	23 32 16.0	
	comp=E,2319μm,0.5s						
THAL				AML	AML	23 32 19.7	
	comp=N,1800μm,0.5s						
LAKA	**Lakka**	**1.23**	**215**	P	**Pg**	**23 31 50.1**	**-0.8**
LAKA				AML	AML	23 32 17.5	
	comp=N,1391μm,1.1s						
LAKA				AML	AML	23 32 19.9	
	comp=E,2062μm,0.9s						
LTK	**Loutraki**	**1.23**	**176**	P	**Pg**	**23 31 50.1**	**-1.0**
LTK				S	**Sn**	**23 32 07.8**	**0.0**
LTK				AML	AML	23 32 10.5	
	comp=N,1878μm,0.4s						
LTK				AML	AML	23 32 15.9	
	comp=E,1324μm,0.4s						
LTK	**Loutraki**	**1.23**	**176**	P	**Pb**	**23 31 50.7**	**-0.3**
LTK				S	**Sn**	**23 32 08.3**	**+0.5**
	comp=E,832nm,0.4s						
KLV	**Kalavryta, Ach**	**1.33**	**205**	P	**Pn**	**23 31 51.6**	**-0.8**
KLV				AML	AML	23 32 12.5	
	comp=E,416μm,1.0s						
KLV				AML	AML	23 32 17.2	
	comp=N,576μm,0.6s						
KLV	**Kalavryta, Ach**	**1.33**	**205**	P	**Pg**	**23 31 52.6**	**-0.4**
KZN	**Kozani**	**1.35**	**322**	P	**Pn**	**23 31 52.4**	**-0.2**
KZN				AML	AML	23 32 16.1	
	comp=E,1174μm,0.5s						
KZN				AML	AML	23 32 17.3	
	comp=N,918μm,0.6s						
KZN	**Kozani**	**1.35**	**322**	P	**Pn**	**23 31 52.3**	**-0.3**
HORT	**Hortiatis**	**1.35**	**8**	P	**Pn**	**23 31 52.1**	**-0.6**
HORT				S	**Sg**	**23 32 09.9**	**-1.0**
	comp=N,285nm,0.5s						
HORT	**Hortiatis**	**1.35**	**8**	PN	**Pn**	**23 31 52.1**	**-0.6**
KPRO	**Kipourio**	**1.35**	**301**	P	**Pn**	**23 31 52.0**	**-0.7**
KPRO				AML	AML	23 32 20.3	
	comp=E,1717μm,1.0s						
KPRO				AML	AML	23 32 22.6	
	comp=N,2948μm,0.6s						
KPRO	**Kipourio**	**1.35**	**301**	P	**Pn**	**23 31 52.0**	**-0.7**
SKY	**Skiros Island**	**1.36**	**106**	P	**Pn**	**23 31 52.2**	**-0.5**
SKY				AML	AML	23 32 15.9	
	comp=N,2134μm,0.2s						
SKY				AML	AML	23 32 16.8	
	comp=E,2783μm,0.2s						
THE	**Thessaloniki**	**1.38**	**3**	P	**Pn**	**23 31 52.1**	**-0.8**
OUR	**Ouranopolis**	**1.38**	**38**	P	**Pn**	**23 31 52.8**	**-0.1**
OUR				AML	AML	23 32 13.3	
	comp=N,1162μm,0.4s						
OUR				AML	AML	23 32 16.1	
	comp=E,881μm,0.4s						
OUR	**Ouranopolis**	**1.38**	**38**	P	**Pn**	**23 31 52.8**	**-0.1**
OUR				S	**Sn**	**23 32 11.7**	**+0.4**
	comp=E,505nm,0.4s						
OUR	**Ouranopolis**	**1.38**	**38**	PN	**Pn**	**23 31 52.4**	**-0.5**
PTL	**Penteli**	**1.44**	**147**	P	**Pn**	**23 31 53.5**	**-0.3**
PTL				AML	AML	23 32 17.4	
	comp=E,1245μm,0.5s						
PTL				AML	AML	23 32 21.1	
	comp=N,870μm,0.6s						
PTL	**Penteli**	**1.44**	**147**	P	**Pn**	**23 31 53.8**	**0.0**
DION	**Dionisos Attik**	**1.44**	**144**	P	**Pn**	**23 31 53.7**	**-0.1**
DION				AML	AML	23 32 15.5	
	comp=N,2144μm,0.5s						
DION				AML	AML	23 32 16.6	
	comp=E,2347μm,0.3s						
DION	**Dionisos Attik**	**1.44**	**144**	P	**Pn**	**23 31 53.9**	**0.0**
DION				S	**Sb**	**23 32 12.8**	**-0.3**
	comp=E,2μm,0.4s						
ATHU	**Athens Univers**	**1.48**	**151**	P	**Pn**	**23 31 54.3**	**0.0**
VLY	**Voula,Athens**	**1.58**	**152**	P	**Pn**	**23 31 55.6**	**-0.1**
VLY				AML	AML	23 32 22.6	
	comp=N,2128μm,0.7s						
VLY				AML	AML	23 32 27.9	
	comp=E,747μm,0.3s						
VLY	**Voula,Athens**	**1.58**	**152**	P	**Pn**	**23 31 55.9**	**+0.2**
DRO	**Drossia**	**1.59**	**215**	P	**Pn**	**23 31 56.0**	**+0.2**
DRO				AML	AML	23 32 27.2	
	comp=E,851μm,0.4s						
DRO				AML	AML	23 32 28.2	
	comp=N,748μm,0.6s						
DRO	**Drossia**	**1.59**	**215**	P	**Pn**	**23 31 56.0**	**+0.2**
SOH	**Sokhos**	**1.61**	**13**	P	**Pn**	**23 31 56.7**	**+0.5**
SOH	**Sokhos**	**1.61**	**13**	P	**Pn**	**23 31 56.6**	**+0.5**
SOH				S	**Sb**	**23 32 18.1**	**+0.2**
JAN	**Janina**	**1.61**	**285**	P	**Pn**	**23 31 56.5**	**+0.4**
RLS	**Riolos of Patr**	**1.62**	**223**	P	**Pn**	**23 31 56.3**	**0.0**
EPID	**Epidavros**	**1.65**	**173**	P	**Pn**	**23 31 56.8**	**+0.1**
EFSA	**Agios Efstrati**	**1.67**	**80**	P	**Pn**	**23 31 56.7**	**-0.2**
KARY	**Karystos**	**1.73**	**134**	P	**Pn**	**23 31 58.0**	**+0.1**
GRG	**Griva**	**1.74**	**348**	P	**Pn**	**23 31 57.6**	**-0.3**
GRG	**Griva**	**1.74**	**348**	PN	**Pn**	**23 31 57.9**	**0.0**
NYDR	**Nydri-Lefkada**	**1.77**	**253**	P	**Pn**	**23 31 58.4**	**+0.1**
LKD2	**Lefkada island**	**1.78**	**256**	P	**Pn**	**23 31 58.9**	**+0.4**
KOKK	**Kokkinochori,**	**1.79**	**29**	P	**Pn**	**23 31 58.3**	**-0.3**
NEST	**Nestorio**	**1.82**	**310**	P	**Pb**	**23 32 00.2**	**-0.8**
EVGI	**Lefkada island**	**1.84**	**251**	P	**Pn**	**23 31 59.2**	**0.0**
KRND	**KRANIDI**	**1.88**	**173**	P	**Pn**	**23 32 00.2**	**+0.3**
LIA	**Limnos Island**	**1.90**	**70**	P	**Pn**	**23 31 58.9**	**-1.2**
KNT	**Kendrikon**	**1.90**	**1**	P	**Pn**	**23 32 00.6**	**+0.4**

KNT	Kendrikon	1.90	1	P	Pn	23 32 00.6	+0.4
KNT				S	Sn	23 32 24.9	+0.5
KNT	Kendrikon	1.90	1	PN	Pn	23 32 00.2	0.0
FNA	Florina	1.91	324	P	Pn	23 32 01.0	+0.7
FNA	Florina	1.91	324	PN	Pn	23 32 01.0	+0.7
SRS	Serrai	1.94	16	P	Pn	23 32 00.9	+0.1
SRS	Serrai	1.94	16	P	Pn	23 32 00.8	+0.1
SRS				S	Sn	23 32 24.6	-0.7
THAS	Thassos island	1.96	46	P	Pn	23 32 00.4	-0.5
FSK	Fiskardo	1.97	247	P	Pn	23 32 01.2	+0.2
IGT	Igoumenitsa	1.98	279	P	Pn	23 32 02.2	+0.9
VAY	Valandovo	2.08	354	*i* Pn	Pn	23 32 03.0	+0.4
VAY				*i* Sn	Sb	23 32 30.3	-0.9
VLS	Valsamata	2.08	240	P	Pn	23 32 02.3	-0.3
KAVA	Kavala	2.15	35	P	Pn	23 32 02.6	-0.9
KEF4	Livadi, Kephal	2.15	243	P	Pn	23 32 04.6	+1.0
ITM	Ithomi	2.20	200	P	Pn	23 32 04.3	0.0
ITM	Ithomi	2.20	200	PN	Pn	23 32 04.9	+0.6
LTHK	Lithakia	2.22	227	P	Pn	23 32 05.3	+0.9
NVR	Nevrokopi	2.23	20	P	Pn	23 32 04.8	+0.1
KEF3	Kipouria, Keph	2.23	243	P	Pn	23 32 04.9	+0.2
SIGR	SIGRI	2.32	90	PN	Pn	23 32 05.7	-0.2
SMTH	Samothraki Isl	2.38	59	P	Pn	23 32 05.7	-1.1
KEK	Kerkira	2.42	282	P	Pn	23 32 07.6	+0.3
MMB	Musomiste	2.42	15	*i* P	Pn	23 32 06.9	-0.4
STIP	Stip	2.49	348	*i* Pn	Pn	23 32 09.1	+0.8
STIP				*i* Sn	Sn	23 32 40.7	+1.8
GADA	Gvkgeada	2.52	67	PN	Pn	23 32 08.6	0.0
PYL	PYLOS	2.52	201	P	Pn	23 32 09.2	+0.6
VLI	Veliai	2.53	179	P	Pn	23 32 09.0	+0.1
KKB	Krupnik	2.61	4	*i* P	Pn	23 32 09.7	-0.3
CHOS	Chios island	2.64	108	P	Pn	23 32 10.7	+0.4
CHOS	Chios island	2.64	108	PN	Pn	23 32 10.2	-0.1
PRK	Paraskevi	2.64	89	P	Pn	23 32 11.3	+1.0
EZN	Ezine	2.73	77	PN	Pn	23 32 11.3	-0.3
RDO	Rodhopi	2.78	46	PN	Pn	23 32 12.2	-0.1
RZN	Rozhen	2.81	30	*i* P	Pn	23 32 13.4	+0.6
SKO	Skopje	2.92	339	*i* Pn	Pg	23 32 24.3	+0.9
ENEZ	Enez	2.92	59	PN	Pn	23 32 14.2	0.0
ALN	Alexandroupoli	2.94	55	PN	Pn	23 32 14.2	-0.2
GELI	Tayfur-Gelibol	3.00	67	PN	Pn	23 32 15.3	0.0
APE	Apeiranthos	3.03	135	⇑P	Pn	23 32 14.9	-0.8
APE				⇑S	Sg	23 33 04.7	0.0
APE	Apeiranthos	3.03	135	PN	Pn	23 32 15.9	+0.2
URLA	Izmir	3.05	106	PN	Pn	23 32 16.2	+0.3
KDZ	Kurdzhali	3.08	38	*e*P	Pn	23 32 17.0	+0.6
TIR	Tirane	3.10	313	⇑P	Pg	23 32 28.7	+1.9
ERIK	Erikli-Kesan	3.14	62	PN	Pn	23 32 17.1	0.0
DKL	Dikili	3.15	92	PN	Pn	23 32 17.3	+0.1
PLD	Plovdiv	3.17	26	PN	Pn	23 32 17.9	+0.3
VTS	Vitosha	3.37	5	⇑P	Pn	23 32 21.1	+0.6
VTS				⇑S	Sn	23 32 60.0	-0.8
UKOP	Uzunkopru-Edir	3.44	56	PN	Pn	23 32 21.6	+0.4
DIM	Dimitrovgrad	3.45	35	*e*P	Pn	23 32 22.9	+1.5
KRBG	Karabiga-Canak	3.60	70	PN	Pn	23 32 23.8	+0.4
MAR3	Marsite Statio	3.71	65	PN	Pn	23 32 25.5	+0.5
EDRB	Edirne	3.93	48	PN	Pn	23 32 28.6	+0.6
IDI	Anoyia	4.28	157	⇓P	Pn	23 32 36.0	+3.2
IDI	Anoyia	4.28	157	Pn	Pn	23 32 34.6	+1.7
	comp=N,1.6nm,0.3s,baz=292,slow=17,SNR=6.9						
IDI				Sn	Sn	23 33 26.4	+3.4
	comp=N,0.6nm,0.3s,baz=287,slow=19,SNR=1.3						
BLKB	Belogradchik	4.37	358	⇓S	Sn	23 33 25.5	+0.4
TIP	Timpagrande	4.75	271	⇓P	Pn	23 32 41.0	+1.7
VOIR		6.38	14	⇑P	Pn	23 33 03.3	+1.5
EFOR	EFORIE	6.47	40	⇑P	Pn	23 32 59.7	-3.2
MLR	Muntele Rosu	6.63	19	⇓P	Pn	23 33 07.0	+1.7
MLR	Muntele Rosu	6.63	19	Pn	Pn	23 33 07.1	+1.9
	comp=N,0.5nm,0.3s,baz=210,slow=16,SNR=8.7						
NEHR	Nehoiu	6.67	21	⇓P	Pn	23 33 08.5	+2.8
COVR	Voineasa-Covas	7.03	19	⇑P	Pn	23 33 12.8	+2.1
PLOR	Plostina	7.16	22	⇓P	Pn	23 33 15.5	+3.1
VRI	Vrincioaia	7.19	22	⇓P	Pn	23 33 15.2	+2.4
BRTR	Keskin Array B	8.34	83	Pn	Pn	23 33 32.0	+3.3
	comp=N,0.1nm,0.3s,baz=265,slow=16,SNR=3.5						
TORD	Torodi Ar. Bea	32.04	222	P	P	23 37 53.6	-1.0
	comp=N,0.2nm,0.5s,baz=29,slow=8.7,SNR=1.8						
MKAR	Makanchi Array	43.17	60	P	P	23 39 28.9	+0.4
	comp=N,0.3nm,0.5s,baz=271,slow=8.3,SNR=9.3						

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*IDC **05** 23:49:55.9±3.0, 5°.88S×149°.95E, h52km±39km, mb3.1/3, mb1 3.4/4, mb1mx2.9/48, mbtmp3.4/4, ML1.6/1, Error ellipse: s-maj=110.5km s-min=22.8km az=133.0*

ISC 05 23:49:55.9±1.1**, 5°.9S**±0°.4×**149°.9E**±0°.3**, h52**km**, n6,** σ**0s.59**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.61	54	P	Pn	23 50 35.4	-0.2
	baz=233,slow=20						
KRVT				S	Sn	23 51 06.6	+0.5
	baz=233,slow=20						
PMG	Port Moresby	4.46	218	P	Pn	23 51 01.7	+0.7
	2.3nm,0.3s,baz=27,slow=18,SNR=2.3						
PMG				S	Sn	23 51 50.8	-0.7
	6.6nm,0.3s,baz=18,slow=20,SNR=7.2						
WRA	Warramunga Arr	20.62	226	P	P	23 54 30.7	-0.3
	0.6nm,0.6s,baz=51,slow=10,SNR=8.7						
ASAR	Alice Springs	23.47	219	P	P	23 55 00.9	-0.1
	0.2nm,0.4s,baz=55,slow=8.9,SNR=9.1						
FITZ	Fitzroy Crossi	26.63	241	P	P	23 55 30.2	+0.3
	1.4nm,0.8s,baz=52,slow=8.6,SNR=1.9						
TORD	Torodi Ar. Bea	147.86	285	PKPbc	PKPbc	00 09 36.0	-0.3
	0.3nm,0.3s,baz=71,slow=2.9,SNR=9.9						

IDC 05 23:53:07.6±1.4**, 7°.85S**×**109°.66E, h0**km**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.0**/55**, mbtmp3.4**/4**, ML3.8**/1**, Error ellipse: s-maj=76.9km s-min=19.7km az=34.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	2.26	296	Pn	Pn	23 53 46.8	+0.4
	23nm,0.3s,baz=114,slow=8.9,SNR=14						
LEM				Sn	Sb	23 54 17.4	-0.7
	20nm,0.3s,baz=107,slow=19,SNR=6.9						
FITZ	Fitzroy Crossi	18.60	125	S	Sn	00 00 41.2	-14
	0.0nm,0.3s,baz=330,slow=20,SNR=2.0						
WRA	Warramunga Arr	26.76	119	P	P	23 58 50.0	+0.6
	0.3nm,0.4s,baz=291,slow=11,SNR=5.9						
ASAR	Alice Springs	28.07	127	P	P	23 59 00.8	-0.2
	0.4nm,0.9s,baz=297,slow=9.3,SNR=5.3						
MKAR	Makanchi Array	59.60	339	P	P	00 03 12.6	-0.7
	0.2nm,0.4s,baz=152,slow=6.4,SNR=2.4						

IDC 06 00:04:34.0±6.3**, 17°.92N**×**40°.22E, h0**km**, mb3.6**/5**, mb1 3.6**/5**, mb1mx3.3**/42**, mbtmp3.6**/5**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx3.1**/18**, Error ellipse: s-maj=260.5km s-min=27.7km az=155.0, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	33.86	347	LR	LR	00 24 59.3	
	comp=Z,100nm,20.7s,baz=163,slow=36						
TORD	Torodi Ar. Bea	37.37	268	P	P	00 11 48.7	-0.1
	1.1nm,0.9s,baz=92,slow=7.5,SNR=5.5						
KURBB	Kurchatov Arra	44.63	34	P	P	00 12 48.7	+0.5
	0.2nm,0.4s,baz=236,slow=8.0,SNR=4.6						
MKAR	Makanchi Array	44.95	41	P	P	00 12 50.6	-0.1
	0.5nm,0.9s,baz=238,slow=4.3,SNR=3.9						
ZALV	Zalesovo Beam	49.66	33	P	P	00 13 26.5	-0.8
	1.4nm,0.9s,baz=241,slow=8.0,SNR=5.2						
SONM	Songino Array	60.98	45	P	P	00 14 49.4	+0.1
	0.2nm,0.4s,baz=254,slow=5.4,SNR=2.8						
SFJD	Kangerlussuaq	73.99	336	LR	LR	00 50 16.2	
	comp=Z,20nm,21.8s,baz=82,slow=37						

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*SGS **06** 00:04:58.7, 17°.41N×40°.31E, h7km, Ml3.0*

*IDC **06** 00:04:59.8±0.8, 17°.91N×40°.13E, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.9/43, mbtmp3.9/22, ML3.7/1, MS4.1/9, Ms1 4.2/9, ms1mx3.7/34, Error ellipse: s-maj=19.9km s-min=14.1km az=153.0*

*GCMT **06** 00:05:01.8±0.3, 17°.54N±0°.02×40°.48E±0°.03, h12km, MW4.8/99, Moment Tensor Solution. s14,c17; s99,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.86±.06; $M_{\theta\theta}$0.80±.05; $M_{\phi\phi}$1.06±.06; $M_{r\theta}$-1.23±.21; $M_{\theta\phi}$-0.85±.04; $M_{\phi r}$-0.66±.23; Best double couple: $M_0$2.20000×10^{16} NP1:ϕ_s341.00000°, δ45.00000°, λ-51.00000°. NP2: ϕ_s112.00000°, δ57.00000°, λ-122.00000°. Principal axes: T 1.8180, Plg6.0000°, Azm224.0000°; N 0.7590, Plg27.0000°, Azm131.0000°; P -2.5810, Plg63.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **06** 00:05:02.8±1.7, 17°.90N±0°.08×40°.3E±0°.1, h10km±1km, mb4.5/41 Error ellipse: s-maj=18.3km s-min=11.9km az=109.0*

ISC 06 00:05:00.8±0.5**, 17°.71N**±0°.05×**40°.36E**±0°.05**, h10**km**, n146,** σ**1s.67**/140**, mb4.3**/40**, MS4.2**/14**, 5C-4D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS2	Sair Farasan I	1.62	122	P	Pn	00 05 25.0	-4.4
FRSS	Farasan al Kab	1.94	120	P	Pn	00 05 29.3	-4.5
FRSS	Farasan al Kab	1.94	120	S	Sn	00 05 52.4	-5.8
MKHL	Mahalah	2.25	98	P	Pn	00 05 32.9	-5.2
AKWA	Algayed	2.28	101	P	Pn	00 05 35.4	-3.2
BESHS	BESHS	2.39	98	P	Pn	00 05 37.1	-3.0
JAZS	Jizan	2.53	104	P	Pn	00 05 37.7	-4.3
DJNS	Zahran al Janu	3.04	90	P	Pn	00 05 47.0	-2.3
MQOL	MQOL	4.29	314	*i* P	Pg	00 06 29.3	+6.2
MQOL				*i* S	Sg	00 08 10.9	+52
ATD	Arta Tunnel	6.60	158	Pn	Pn	00 06 42.1	+4.1
	1.5nm,0.3s,baz=86,slow=4.1,SNR=8.2						
ATD				LR	LR	00 08 52.9	
	comp=Z,1μm,20.2s,baz=7.0,slow=34						
ATD	Arta Tunnel	6.60	158		Pn	00 06 41.2	+3.2
ATD	Arta Tunnel	6.60	158	P	Pn	00 06 37.7	-0.3
ATD				S	Sb	00 08 12.8	-1.9
RAYN	Ar Rayn	7.53	39	Pn	Pn	00 06 50.8	0.0
RAYN	Ar Rayn	7.53	39	P	Pn	00 06 50.7	-0.1
RAYN				S	Sb	00 08 46.3	+4.7
RAYN	Ar Rayn	7.53	39	*i* Pn	Pn	00 06 50.8	0.0
	SNR=6.5						
FURI	Furi	8.91	191	Pn	Pn	00 07 13.8	+3.9
TRNA	Turayna	12.30	54	P	Pn	00 08 06.2	+10
TRNA				S	Sn	00 11 02.1	+49
SLWR	Sila	12.34	57	P	Pn	00 08 07.4	+11
SHMA	Al-Shehemyia	12.76	49	P	Pn	00 08 07.4	+5.1
WHFO	Wadi Hawf	12.78	87	P	Pn	00 08 15.5	+13
DOK	Doka	13.12	84	P	P	00 08 18.7	+1.0
GHWR	Ruwais	13.25	60	P	P	00 08 20.3	+1.2
MZR	Muzera	13.39	65	P	P	00 08 21.3	+0.8
DMTO	DMTO	13.91	88	P	P	00 08 34.8	+8.5
GHAJ	Ghor Haditha	14.22	343		Pn	00 08 19.9	-2.3
SOCY	Socotra	14.27	111	Pn	Pn	00 08 22.9	-0.2
LODK	Lodwar	15.02	200		Pn	00 08 36.4	+3.0
ASUD	Al Ashush, Dub	15.56	61	P	P	00 08 46.0	+1.3
ASUD	Al Ashush, Dub	15.56	61	Pn	P	00 08 43.6	-1.2
ALNE	Al Ain	15.71	64	P	P	00 08 48.2	+1.8
	SNR=13						
ALNE	Al Ain	15.71	64	*i* Pn	Pn	00 08 42.4	+0.1
	SNR=9.2						
FAQ	Al Faqa, Dubai	15.83	61	P	P	00 08 49.1	+1.4
FAQ	Al Faqa, Dubai	15.83	61	*i* Pn	Pn	00 08 45.0	+1.0
	SNR=5.4						
NAZ	Nazwa, Dubai	15.99	60	P	P	00 08 50.7	+1.2
NAZ	Nazwa, Dubai	15.99	60	*i* Pn	Pn	00 08 45.9	0.0
	SNR=5.3						
ARQ	Araqi	16.14	67	P	P	00 08 51.4	+0.2
ARQ				P	pP	00 08 51.5	-2.3
ASHO	Ashiyiah	16.20	62	P	Pn	00 08 49.8	+1.2
	SNR=13						
ASHO	Ashiyiah	16.20	62	*i* Pn	Pn	00 08 49.5	+0.8
	SNR=7.0						
HATD	Hatta, Dubai	16.31	62	P	Pn	00 08 51.0	+0.8
	SNR=10						
HATD	Hatta, Dubai	16.31	62	*i* Pn	Pn	00 08 50.2	0.0
	SNR=7.2						
UOSS	Minazif	16.42	61		Pn	00 08 51.5	+0.1
UOSS				IAmb	IAmb	00 09 06.7	
	comp=Z,83nm,1.8s						
UOSS	Minazif	16.42	61	P	Pn	00 08 52.7	+1.2
UOSS	Minazif	16.42	61	*i* Pn	Pn	00 08 52.6	+1.1
	SNR=11						
MSFE	Esma-Masafi	16.55	60	*i* Pn	P	00 08 55.4	-0.3
	SNR=9.1						
MASF	Masafi	16.55	60	P	P	00 08 54.8	-1.0
	SNR=8.3						
SHME	Shamm	16.83	58	P	Pn	00 08 56.4	-0.3
SHME	Shamm	16.83	58	*i* Pn	Pn	00 08 57.0	+0.3
	SNR=6.8						
BANOM	Banah	16.90	58	*i* Pn	Pn	00 08 56.2	-1.4
	SNR=5.9						
WSAR	Wadi Sarin	17.98	69	P	P	00 09 11.8	+0.2
	baz=260,slow=6.1,SNR=5.3						
KMBO	Kilima Mbogo	18.96	190	P	Pn	00 09 26.5	+3.2
MARD	Mardin	19.54	1	P	P	00 09 28.1	-0.6
MBAR	Mbarara	20.51	208	P	P	00 09 40.5	+1.0
	comp=Z,1.4nm,0.3s,baz=352,slow=15,SNR=2.3						
MBAR	Mbarara	20.51	208	P	Pn	00 09 42.5	+0.9
GEVA	Gevas	20.67	6	P	P	00 09 40.6	-0.4
GEVA				IAmb	IAmb	00 10 07.0	
	comp=Z,19nm,1.1s						
GURO	Guroymak-BITLI	20.82	4	P	P	00 09 41.4	-1.3
BNN	Bunyan	21.43	350	P	P	00 09 47.6	-1.6
GNI	Garni	22.68	9	P	P	00 10 03.6	+0.9
	comp=Z,2.8nm,0.7s,baz=311,slow=3.1,SNR=7.5						
GNI	Garni	22.68	9	P	P	00 10 02.5	-0.2
GNI				IAmb	IAmb	00 10 25.4	
	comp=Z,32nm,1.3s						
BR131	Keskin Array S	22.70	346	P	P	00 10 01.9	-0.9
BR131				IAmb	IAmb	00 10 07.5	
	comp=Z,40nm,1.6s						
BRTR	Keskin Array B	22.70	346	P	P	00 10 01.2	-1.6
	comp=Z,1.8nm,1.0s,baz=151,slow=6.6,SNR=6.8						
BRTR	Keskin Array B	22.70	346	P	P	00 10 02.1	-0.8
TOKA	Tokat	22.79	352	P	P	00 10 02.7	-0.9
TOKA				IAmb	IAmb	00 10 09.3	
	comp=Z,10nm,1.2s						
KARS	Kars	22.96	5	P	P	00 10 05.3	-0.3
BR231	Keskin MP Arra	23.02	345	P	P	00 10 07.2	+1.1
BR231				IAmb	IAmb	00 10 39.4	
	comp=Z,44nm,1.8s						
ANTO	Ankara	23.04	345	P	P	00 10 06.4	+0.1
MANT	Manisa	23.13	336	P	P	00 10 08.0	+0.6
BORA	Eskisehir	23.70	341	P	P	00 10 13.4	+0.4
BORA				IAmb	IAmb	00 10 34.0	
	comp=Z,12nm,1.3s						
ILGA	Ilgaz	23.96	348	P	P	00 10 16.7	+1.1
ONI	Oni	24.94	5	P	P	00 10 25.2	+0.9
ONI				IAmb	IAmb	00 10 37.3	
	comp=Z,22nm,1.4s						
GEYT	Alibeck	25.46	34	P	P	00 10 27.5	-1.6
	comp=Z,1.0nm,0.4s,baz=246,slow=14,SNR=2.3						
HRA	Herat	25.65	45	P	P	00 10 32.4	+1.3
HRA				IAmb	IAmb	00 10 53.5	
	comp=Z,33nm,1.8s						
KBZ	Khabaz	26.03	4	P	P	00 10 31.4	-2.6
	comp=Z,1.3nm,0.7s,baz=216,slow=19,SNR=2.7						
KIV	Kislovodsk	26.24	4	P	P	00 10 36.9	+0.7
KIV				IAmb	IAmb	00 10 48.0	
	comp=Z,17nm,1.5s						
VTS	Vitosha	28.79	333	⇓P	P	00 11 03.0	+3.9
CFR	Carcaliu	29.24	342	⇑P	P	00 11 03.0	+0.2
MLR	Muntele Rosu	30.20	340	⇑P	P	00 11 13.9	+2.4
VRI	Vrincioaia	30.28	341	⇑P	P	00 11 14.7	+2.5
PLOR	Plostina	30.29	341	⇓P	P	00 11 14.4	+2.2
VOIR		30.46	338	⇓P	P	00 11 14.2	+0.4
ARR	Arges	30.55	338	⇑P	P	00 11 15.2	+0.6
BZS	Buzias	31.91	335	⇑P	P	00 11 26.1	-0.4
BURAR	Bucovina Array	32.31	341	P	P	00 11 31.4	+1.3
BUR08	Bucovina Ar. S	32.34	341	P	P	00 11 31.9	+1.6
BUR08				IAmb	IAmb	00 11 39.5	
	comp=Z,5.1nm,1.3s						
AKASG	Malin Array Be	34.10	347	P	P	00 11 42.3	-3.2
	comp=Z,0.2nm,0.4s,baz=165,slow=7.1,SNR=6.1						
LSZ	Lusaka	34.90	201	LR	LR	00 26 13.8	
	comp=Z,1μm,18.5s,baz=27,slow=36						
ABKAR	Akbulak array	35.24	22	P	P	00 11 54.7	-0.7
ABKAR	Akbulak array	35.24	22	P	P	00 11 54.7	-0.7
ABKAR				IAmb	IAmb	00 12 13.1	
	comp=Z,2.7nm,0.9s						
KKAR	Karatay Array	35.96	39	P	P	00 12 02.5	+0.8
OJC	Ojcow	36.39	338	P	P	00 12 05.5	+0.2
OJC				IAmb	IAmb	00 12 19.0	
	comp=Z,10nm,1.3s						
KRUC	Moravsky	36.81	334	*e*P	P	00 12 09.5	+0.6
MORC	Moravsky Berou	36.89	335	*e*P	P	00 12 08.2	-1.4
VRAC	Vranov	36.91	334	*e*P	P	00 12 09.7	-0.1
TORD	Torodi Ar. Bea	37.50	269	P	P	00 12 13.1	-2.0
	comp=Z,5.5nm,0.9s,baz=80,slow=7.2,SNR=20						
TORD	Torodi Ar. Bea	37.50	269	P	P	00 12 14.0	-1.1
TORD				IAmb	IAmb	00 12 16.6	
	comp=Z,8.4nm,1.1s						
CKRC	Cesky Krumlov	37.55	332	*e*P	P	00 12 16.4	+1.3
KSH	Kashi	37.72	47	P	P	00 12 15.3	-1.6
DPC	Dobruska-Polom	37.83	335	*e*pP	pP	00 12 24.2	+3.9
GERES	GERESS Array B	37.84	331	P	P	00 12 16.1	-1.7
	comp=Z,1.0nm,0.7s,baz=111,slow=7.3,SNR=8.9						
GERES	GERESS Array B	37.84	331	P	P	00 12 16.4	-1.4
MNK	Minsk	37.96	348	*i* P	P	00 12 17.5	-1.1
	comp=E,3.0nm,1.4s						
MNK				*i* P	P	00 12 17.5	-1.1
	comp=N,13nm,1.4s						
MNK				*i* P	P	00 12 17.5	-1.1
	comp=Z,7.0nm,0.9s,baz=160						
MNK				*i* PP	PP	00 13 44.1	-1.2
MNK				*i* PPP	PPP	00 14 01.0	
MNK				*i* S	S	00 18 09.3	-1.1
MNK				*i* SS	SnSn	00 20 52.9	+0.8
MNK				*i* SSS	SSS	00 21 07.9	
MNK				*i* LQ	LQ	00 25 02.5	
MNK				*i* LR	LR	00 27 34.6	
MNK				*i* LRM	MLR	00 30 08.2	
	comp=N,77nm,11.5s						
MNK				*i* LRM	MLR	00 30 18.5	
	comp=E,10.0nm,14.7s						
MNK				*i* LRM	MLR	00 30 30.0	
	comp=Z,139nm,23.0s						
KHC	Kasperske Hory	38.10	331	*e*P	P	00 12 20.5	+0.6
AAK	Ala-Archa	38.17	42	P	P	00 12 22.0	+1.3
	comp=Z,0.6nm,0.8s,baz=246,slow=11,SNR=5.3						
AAK	Ala-Archa	38.17	42	P	P	00 12 20.6	-0.1
AAK				IAmb	IAmb	00 12 42.6	
	comp=Z,11nm,1.6s						
NACGM	Naroch	38.56	347	*i* P	P	00 12 30.2	+6.6
SUW	Suwalki	38.60	344	P	P	00 12 23.3	-0.6
CLL	Collm	39.94	333	*e*P	P	00 12 34.0	-1.1
ARU	Arti	41.03	15	P	P	00 12 43.7	-0.4
	comp=Z,0.8nm,0.6s,baz=172,slow=7.1,SNR=3.2						
ARU	Arti	41.03	15	P	P	00 12 43.3	-0.8
BVAR	Borovoye Array	42.32	27	P	P	00 12 54.3	-0.4
	comp=Z,0.3nm,0.5s,baz=197,slow=1.5,SNR=1.6						
KOWA	Kowa	42.68	272	P	P	00 12 56.2	-1.9
	comp=Z,2.9nm,1.1s,baz=77,slow=5.9,SNR=3.4						
ESDC	Sonseca Array	44.06	309	P	P	00 13 08.6	-0.5
	comp=Z,0.9nm,0.7s,baz=102,slow=6.9,SNR=6.9						
KURBB	Kurchatov Arra	44.74	34	P	P	00 13 15.2	+1.0
	comp=Z,2.1nm,0.8s,baz=238,slow=8.1,SNR=12						
MAKZ	Makanchi	44.83	40	P	P	00 13 15.1	-0.1
MAKZ				IAmb	IAmb	00 13 33.9	
	comp=Z,7.4nm,1.3s						
KURK	Kurchatov	44.84	34	P	P	00 13 15.2	+0.1
KURK				IAmb	IAmb	00 13 32.0	
	comp=Z,19nm,1.7s						
FINES	FINESS Array B	44.85	350	P	P	00 13 14.3	-0.6
	comp=Z,0.9nm,0.6s,baz=141,slow=9.3,SNR=5.7						
MK31	Makanchi Array	45.02	40	P	P	00 13 17.0	+0.4
MK31				IAmb	IAmb	00 13 37.2	
	comp=Z,7.1nm,1.4s						
MKAR	Makanchi Array	45.02	40	P	P	00 13 16.9	+0.2
	comp=Z,1.4nm,0.8s,baz=232,slow=7.3,SNR=13						
MKAR	Makanchi Array	45.02	40	P	P	00 13 16.3	-0.3
DBIC	Dimbokro	45.42	262	P	P	00 13 19.4	-0.7
	comp=Z,6.0nm,0.9s,baz=69,slow=12,SNR=4.9						
DBIC	Dimbokro	45.42	262	P	P	00 13 21.2	+1.0
WMQ	Urumqi	47.46	46	*e*P	P	00 13 37.3	+1.4
WMQ				pP	sP	00 13 41.6	+1.8
WMQ				sP	pP	00 13 46.3	+7.6
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
WMQ				LR	LR		
	comp=N,320nm,17.1s						
WMQ				LR	LR		
	comp=E,280nm,13.9s						
WMQ				LR	LR		
	comp=Z,200nm,14.9s						
NB2	NORSAR Subarra	47.99	341	P	P	00 13 40.3	+0.6
	comp=Z,3.6nm,1.2s,baz=141,slow=9.3						
NB2	NORSAR Subarra	47.99	341	P	P	00 13 38.4	-1.3
	comp=Z,9.7nm,1.2s,baz=142,slow=7.9						
NOA	NORSAR Array B	47.99	341	P	P	00 13 38.5	-1.3
	comp=Z,0.8nm,0.7s,baz=140,slow=8.8,SNR=6.2						
NBO00	NORSAR Array S	48.12	341	P	P	00 13 40.3	-0.3
ZAA0	Zalesovo Array	49.76	33	P	P	00 13 53.4	+0.1
ZAA0				IAmb	IAmb	00 14 00.5	
	comp=Z,5.8nm,0.9s						
ZALV	Zalesovo Beam	49.76	33	P	P	00 13 53.3	-0.1
	comp=Z,4.2nm,0.8s,baz=250,slow=8.0,SNR=15						
ZALV	Zalesovo Beam	49.76	33	P	P	00 13 53.8	+0.4
GOMU	GeErMu	51.25	58	P	P	00 14 06.8	+1.4
GOMU				pP	sP	00 14 13.1	+3.8
GOMU				sP	pP	00 14 18.4	+10
GOMU				PcP	PcP	00 15 23.0	+2.4
GOMU				PP	PP	00 16 02.5	+0.2
GOMU				S	S	00 21 25.6	+1.0
GOMU				sS	sS	00 21 30.7	+1.2
GOMU	GeErMu	51.25	58	SS	SS	00 25 01.5	+1.5
GOMU				pmax	pmax		
	comp=Z,74nm,5.0s						
GOMU				LR	LR		
	comp=N,84nm,21.0s						
GOMU				LR	LR		
	comp=E,160nm,17.5s						
GOMU				LR	LR		
	comp=Z,170nm,19.6s						
CMAR	Chiang Mai Arr	55.48	79	P	P	00 14 38.6	+2.3
	comp=Z,1.1nm,0.3s,baz=291,slow=6.8,SNR=4.4						
CMAR				LR	LR	00 39 40.5	
	comp=Z,51nm,21.0s,baz=275,slow=37						
GTA	Gaotai	55.50	54	*e*P	P	00 14 36.8	+0.5
GTA				pP	sP	00 14 40.2	0.0
GTA				sP	pP	00 14 43.5	+4.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,86nm,5.1s						
GTA				LR	LR		
	comp=N,88nm,17.8s						
GTA				LR	LR		
	comp=E,61nm,16.4s						
GTA				LR	LR		
	comp=Z,89nm,17.1s						
PZH	PanZhiHua	57.10	70	P	P	00 14 50.2	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
LZH	Lanzhou	58.54	58	*e*P	P	00 15 00.2	+2.2
LZH				sP	sP	00 15 07.5	+5.6
LZH				sS	sS	00 23 14.1	+7.0
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LZH				LR	LR		
	comp=N,230nm,15.5s						
LZH				LR	LR		
	comp=E,240nm,15.2s						
LZH				LR	LR		
	comp=Z,440nm,17.1s						
SONM	Songino Array	61.04	45	P	P	00 15 15.4	+0.4
	comp=Z,1.2nm,0.8s,baz=259,slow=8.0,SNR=9.5						
SONM	Songino Array	61.04	45	P	P	00 15 15.6	+0.7
SONM				IAmb	IAmb	00 15 21.7	
	comp=Z,4.7nm,1.2s						
HHC	Hu-ho-hao-te	64.54	53	*e*P	P	00 15 39.3	+0.9
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC				LR	LR		
	comp=N,110nm,14.6s						
HHC				LR	LR		
	comp=E,100nm,15.0s						
HHC				LR	LR		
	comp=Z,130nm,15.2s						
WHN	Wuhan	67.69	64	⇓P	P	00 15 57.7	-0.9
NJ2	Nanjing	71.27	61	*e*P	P	00 16 21.0	+0.2
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
TIXI	Tiksi	72.87	19	P	P	00 16 28.8	-0.8
TIXI				IAmb	IAmb	00 16 41.0	
	comp=Z,4.8nm,1.2s						
ASAJ	Asahikawa	86.32	45	LR	LR	01 00 18.2	
	comp=Z,328nm,18.4s,baz=338,slow=38						
FITZ	Fitzroy Crossi	91.08	109	LR	LR	00 55 10.2	
	comp=Z,39nm,18.1s,baz=272,slow=33						
PETK	Petropavlovsk-	91.31	32	LR	LR	01 03 06.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,153nm,18.7s,baz=290,slow=38						
SNAA	Sanae	93.83	193	LR	LR	00 58 18.8	
	comp=Z,80nm,19.3s,baz=285,slow=34						
INK	Inuvik	94.11	358	LR	LR	01 05 30.6	
	comp=Z,39nm,18.1s,baz=38,slow=39						
SHEM	Shemya Is, Ala	99.26	26	LR	LR	01 08 55.6	
	comp=Z,129nm,18.4s,baz=322,slow=39						

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*IDC **06** 00:32:52.4±1.3, 24.°15N×122.°82E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.2/43, mbtmp3.3/6, Error ellipse: s-maj=48.3km s-min=28.2km az=71.0*

*JMA **06** 00:32:56.3±0.2, 23.°97N×122.°84E, h28km±5km, M3.3*

ISC 06 00:32:56.7±1.8, **24.°06N**±0.°09×**122.°81E**±0.°07, **h31**km±11km, **n16**, σ**0.s84**/27, **mb3.2**/6, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.41	17	P	Pb	00 33 06.0	+0.1
JYNG				S	Sn	00 33 13.2	+0.1
YOJ	Yonaguni jima	0.44	24	P	Pb	00 33 06.9	+0.6
YOJ				eS	Sn	00 33 13.9	+0.1
IRIF	Iriomote-Funau	0.88	72	P	Pn	00 33 12.4	-0.6
IRIF				eS	Sn	00 33 24.7	0.0
HATJ	Hateruma jima	0.91	90	P	Pn	00 33 12.7	-0.6
HATJ				eS	Sn	00 33 24.6	-0.8
JKRS	Kuro-shima	1.11	81	P	Pn	00 33 16.0	-0.1
JKRS				S	Sn	00 33 29.7	-0.6
JIJ	Ishigaki jima	1.25	76	P	Pn	00 33 18.2	+0.1
JIJ				eS	Sb	00 33 35.1	-0.5
JISG	Ishigakijimahi	1.47	69	P	Pn	00 33 21.2	+0.2
JISG				eS	Sn	00 33 39.7	+0.6
JTJ	Tarama	1.82	71	P	Pn	00 33 26.6	+0.7
JTJ				eS	Sb	00 33 50.5	-1.3
JIRB	Irabujima	2.28	70	P	Pn	00 33 33.6	+1.3
JIRB				eS	Sn	00 34 00.3	+1.0
JIKM	Ikemajima	2.38	68	P	Pn	00 33 34.4	+0.8
JIKM				eS	Sn	00 34 03.3	+1.6
USRK	Ussuriysk Ar.	21.45	18	P	P	00 37 41.8	-0.5
	0.8nm,0.6s,baz=186,slow=13,SNR=1.3						
SONM	Songino Array	27.08	335	P	P	00 38 36.0	-0.7
	0.3nm,0.6s,baz=157,slow=9.5,SNR=3.0						
MKAR	Makanchi Array	39.47	315	P	P	00 40 24.5	+0.3
	0.2nm,0.5s,baz=98,slow=9.9,SNR=6.4						
MKAR				PcP	PcP	00 42 30.1	-1.5
	0.1nm,0.5s,baz=81,slow=4.5,SNR=2.3						
ZALV	Zalesovo Beam	41.16	326	P	P	00 40 37.5	-0.5
	0.3nm,0.5s,baz=101,slow=7.8,SNR=1.8						
ASAR	Alice Springs	48.65	166	P	P	00 41 39.4	+1.5
	0.1nm,0.4s,baz=346,slow=6.8,SNR=1.9						
YKA	Yellowknife Ar	82.50	23	P	P	00 45 16.0	-0.1
	0.2nm,0.5s,baz=308,slow=4.9,SNR=5.3						

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*IDC **06** 00:50:10.8±0.9, 24.°28N×92.°79E, h0km, mb3.7/13, mb1 3.8/13, mb1mx3.6/50, mbtmp3.7/13, Error ellipse: s-maj=41.8km s-min=17.1km az=56.0*

*NDI **06** 00:50:20.3±3.7, 24.°47N×92.°84E, h31km±10km, ML3.7*

ISC 06 00:50:17.8±1.1, **24.°36N**±0.°06×**92.°92E**±0.°05, **h48**km±10km, **n28**, σ**2.s29**/33, **mb3.8**/13, **India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SILR	SILCHAR	0.43	346	eP	Pn	00 50 27.1	-1.0
SILR				eS	Sn	00 50 35.0	-0.5
SILR				IAML		00 50 44.5	
	comp=E,10µm,0.6s						
SHL	Shillong	1.52	322	eP	Pn	00 50 42.8	0.0
SHL				eS	Sn	00 51 00.8	-0.8
SHL				IAML		00 51 02.8	
	comp=N,2µm,0.1s						
SHL				IAML		00 51 03.6	
	comp=E,2µm,0.1s						
SHL	Shillong	1.52	322	IAML		00 51 03.6	
	comp=E,2µm,0.1s						
SHL	Shillong	1.52	322	eP	Pn	00 50 42.8	0.0
SHL	Shillong	1.52	322	eS	Sn	00 51 00.8	-0.8
SHL	Shillong	1.52	322	IAML		00 51 02.8	
	comp=N,2µm,0.1s						
AGT	Agartala	1.59	253	ex	Pn	00 50 40.6	-3.0
AGT				eS	Sn	00 51 06.3	+3.3
KOHI	KOHIMA	1.73	38	eP	Pn	00 50 46.0	+0.3
KOHI				eS	Sn	00 51 10.5	+3.9
KOHI				IAML		00 51 14.6	
	comp=E,430nm,1.1s						
KOHI				IAML		00 51 15.5	
	comp=N,590nm,1.1s						
BELO	BELONIA	1.74	231	ex	Pn	00 50 55.7	+10
BELO				eS	Sn	00 51 10.4	+3.8
GUWA	GUWAHATI	2.13	329	eS	Sn	00 51 17.1	+0.8
GUWA				IAML		00 51 19.4	
	comp=E,590nm,0.4s						
TEZP	TEZPUR	2.25	357	eP	Pn	00 50 55.9	+3.3
TEZP				eS	Sn	00 51 17.5	-1.6
MOKO	MOKOCHONG	2.43	36	eP	Pn	00 50 56.1	+0.9
MOKO				eS	Sn	00 51 26.4	+2.6
MOKO				IAML		00 51 36.2	
	comp=N,369nm,0.4s						
MOKO				IAML		00 51 39.3	
	comp=E,449nm,0.8s						
TURI	Tura	2.62	297	eP	Pn	00 50 57.9	+0.1
TURI				eS	Sn	00 51 36.9	+8.5
ITAN	ITANAGAR	2.87	15	eP	Pn	00 51 07.6	+6.5
ITAN				eS	Sn	00 51 33.9	-0.5
ITAN				IAML		00 51 49.5	
	comp=E,829nm,0.8s						
GTK	Tadong	4.88	308	eP	Pn	00 51 30.2	+1.5
GTK				eS	Sn	00 52 44.0	+20
MKAR	Makanchi Array	23.95	342	P	P	00 55 27.1	-0.4
	comp=E,1.4nm,0.7s,baz=162,slow=10,SNR=19						
SONM	Songino Array	25.76	21	P	P	00 55 44.2	+0.1
	comp=E,0.4nm,0.8s,baz=208,slow=9.0,SNR=3.1						
KURBB	Kurchatov Arra	28.49	341	P	P	00 56 08.3	-0.1
	comp=E,0.2nm,0.5s,baz=154,slow=11,SNR=2.5						
ZALV	Zalesovo Beam	30.17	350	P	P	00 56 23.4	+0.2
	comp=E,0.8nm,0.4s,baz=166,slow=8.4,SNR=5.7						
AKTO	Aktyubinsk	37.47	323	P	P	00 57 26.0	-0.6
	comp=E,0.9nm,0.6s,baz=90,slow=6.1,SNR=4.3						
AKASG	Malin Array Be	55.00	316	P	P	00 59 43.2	-1.0
	comp=E,0.3nm,0.3s,baz=80,slow=6.7,SNR=4.2						
FINES	FINESS Array B	57.85	329	P	P	01 00 04.2	-0.2
	comp=E,1.7nm,1.0s,baz=77,slow=8.2,SNR=3.7						
WRA	Warramunga Arr	59.72	134	P	P	01 00 17.9	+0.1
	comp=E,0.4nm,0.9s,baz=326,slow=7.2,SNR=2.7						
ASAR	Alice Springs	62.13	137	P	P	01 00 34.5	+0.3
	comp=E,0.6nm,0.9s,baz=329,slow=6.9,SNR=5.0						
NOA	NORSAR Array B	65.01	328	P	P	01 00 51.3	-1.4
	comp=E,1.0nm,1.0s,baz=95,slow=5.4,SNR=2.6						
GERES	GERESS Array B	65.12	314	P	P	01 00 54.1	+0.3
	comp=E,0.6nm,0.6s,baz=60,slow=7.9,SNR=7.8						
STKA	Stephens Creek	72.74	138	P	P	01 01 40.3	-0.7
	comp=E,0.8nm,0.4s,baz=345,slow=12,SNR=3.2						
TORD	Torodi Ar. Bea	85.77	282	P	P	01 02 52.1	-0.5
	comp=E,0.4nm,0.7s,baz=87,slow=3.3,SNR=2.4						

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*NEIC **06** 00:54:41.4±1.7, 1.°43S±0.°06×80.°40W±0.°06, h10km±1km, mb5.1/196, ML5.5(IGQ), Error ellipse: s-maj=10.8km s-min=10.3km az=301.0*

*IGQ **06** 00:54:42±0.2, 1°S±1°×8°0W±°, h8km*

*MOS **06** 00:54:43.8±0.8, 1.°34S×80.°42W, h44km, mb5.3/61, Error ellipse: s-maj=9.0km s-min=5.5km az=101.2*

*GCMT **06** 00:54:45.4±0.3, 1.°43S±0.°02×80.°69W±0.°02, h36km, MW5.0/62, Moment Tensor Solution. s39,c44; s62,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.58±.15; $M_{\theta\theta}$0.47±.09; $M_{\phi\phi}$3.11±.10; $M_{r\theta}$-0.72±.07; $M_{\theta\phi}$0.32±.10; $M_{\phi r}$-0.72±.10; Best double couple: $M_0$3.50600×10^{16} NP1:ϕ_s179.00000°, δ39.00000°, λ-103.00000°. NP2: ϕ_s16.00000°, δ52.00000°, λ-80.00000°. Principal axes: T 3.2450, Plg7.0000°, Azm98.0000°; N 0.5260, Plg8.0000°, Azm189.0000°; P -3.7670, Plg79.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 00:54:46.2±1.8, 1.°47S×80.°44W, h57km±16km, mb4.3/22, mb1 4.5/29, mb1mx4.5/37, mbtmp4.6/29, MS4.1/49, Ms1 4.1/49, ms1mx4.0/61 Error ellipse: s-maj=15.6km s-min=9.6km az=63.0*

*VAO **06** 00:54:48.7±0.4, 1.°33S×80.°16W, h56km, mb5.2*

ISC 06 00:54:44.3±0.5, **1.°47S**±0.°03×**80.°54W**±0.°04, **h41**km±5km, **n808**, σ**1.s23**/792, **mb5.1**/160, **MS4.1**/48, **46C-58D**, **Fault plane solution: NP1:**ϕ_s1.15840°, δ50.43041°, λ-61.34438°. **NP2:**ϕ_s140.53302°, δ47.43424°, λ-120.12641°. **Principal axes:** T Plg1.5973°, Azm71.3290°; N Plg21.6945°, Azm161.9647°; P Plg68.2408°, Azm337.3229°; **Fault plane solution: NP1:**ϕ_s28.54346°, δ62.34039°, λ-88.14708°. **NP2:** ϕ_s204.55702°, δ27.71672°, λ-93.53026°. **Principal axes:** T Plg17.3207°, Azm117.1711°; N Plg1.6411°, Azm207.6831°; P Plg72.5968°, Azm302.9276°; **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPLP	Puerto Lpez	0.25	252	P	Pn	00 54 50.0	-2.2
PPLP				S	Sn	00 54 55.0	-2.6
APO1	Ecuador-Portov	0.43	11	P	Pn	00 54 51.0	-3.3
AMNT	Manta-Manabi	0.56	340	P	Pn	00 54 53.0	-2.9
AGUAY	Guayaquil	0.83	135	P	Pn	00 55 01.0	+1.4
AGUAY				S	Sn	00 55 10.0	-0.6
CAB1	Cabo Pasado-Ma	1.08	6	P	Pn	00 55 01.0	-2.0
CAB1				S	Sn	00 55 18.0	+1.2
AMIL	Milagro (Trans	1.16	125	P	Pn	00 55 03.0	-1.0
AMIL				S	Sn	00 55 19.0	+0.4
JAMA	Jama	1.24	16	P	Pn	00 55 02.0	-3.3
JAMA				S	Sn	00 55 21.0	+0.1
FLF1	Flavio Alfaro-	1.30	32	P	Pn	00 55 03.0	-3.1
ISPG	Isla Puna-Puer	1.54	166	P	Pn	00 55 10.0	+0.7
ISPG				S	Sn	00 55 38.0	+10
MAG1	Magdalena	1.58	29	P	Pn	00 55 08.0	-2.0
COHC	Cochancay	1.62	128	P	Pn	00 55 09.0	-1.5
COHC				S	Sn	00 55 27.0	-3.2
CHSH	Refugio Sur-Vo	1.67	91	P	Pn	00 55 11.0	-0.6
TAMH	Tambohuasha Ch	1.76	92	P	Pn	00 55 12.0	-0.8
PORT	Chimborazo Vol	1.77	90	P	Pn	00 55 12.0	-1.0
ASDO	Santo Domingo	1.85	50	P	Pn	00 55 10.0	-3.7
IGUA	Igualata	1.90	91	P	Pn	00 55 14.0	-0.8
ACH2	Ecuador-Machal	1.93	158	P	Pn	00 55 17.0	+2.3
ILLI	Illinizas Sur	1.96	68	P	Pn	00 55 13.0	-2.6
BIL2	Estacion Bilba	2.04	90	P	Pn	00 55 16.0	-0.4
PAST	Pastocalle	2.05	68	P	Pn	00 55 15.0	-1.7
BBIL	Ulba Tungurahu	2.05	90	P	Pn	00 55 16.0	-0.7
BMAS	Trigal station	2.06	91	P	Pn	00 55 17.0	+0.2
JUI6	Juive	2.07	89	P	Pn	00 55 17.0	+0.1
BV15	Puerto Quito-O	2.08	39	P	Pn	00 55 14.0	-2.8
ARRY	Arrayan	2.08	91	P	Pn	00 55 17.0	-0.2
RETU	Refugio	2.09	90	P	Pn	00 55 17.0	-0.4
SRAM	San Ramn-Vol	2.10	70	P	Pn	00 55 16.0	-1.4
BPAT	Tungurahua Vol	2.11	91	P	Pn	00 55 18.0	+0.5
BPAT				S	Sn	00 55 43.0	+0.2
ARNL	Arenillas	2.12	167	P	Pn	00 55 18.0	+0.7
BRUN	Tungurahua Vol	2.13	89	P	Pn	00 55 17.0	-0.7
ACUE	Ecuador-Cuenca	2.13	132	P	Pn	00 55 18.0	+0.2
SLOR	San Lorenzo -	2.17	70	P	Pn	00 55 18.0	-0.4
BRRN	Barrancas-Volc	2.17	72	P	Pn	00 55 18.0	-0.5
CAMI	Rancho Maria	2.18	69	P	Pn	00 55 18.0	-0.6
APR2	Miler	2.20	46	P	Pn	00 55 16.0	-2.4
SUCR	Mariscal Sucre	2.20	68	P	Pn	00 55 18.0	-0.9
NAS2	Nasa	2.23	69	P	Pn	00 55 18.0	-1.2
BREF	Cotopaxi Volca	2.24	69	P	Pn	00 55 19.0	-0.6
SANGA	Volcan Sangay	2.24	105	P	Pn	00 55 19.0	-0.4
VCES	Cotopaxi	2.25	73	P	Pn	00 55 19.0	-0.5
HPAL	Hacienda Las P	2.26	57	P	Pn	00 55 17.0	-2.5
BVC2	Cotopaxi Volca	2.27	69	P	Pn	00 55 19.0	-0.9
BTAM	Cotopaxi Volca	2.28	70	P	Pn	00 55 19.0	-1.0
GGPT	Toaza - Volcan	2.28	57	P	Pn	00 55 18.0	-1.9
VC1	Cotopaxi 1	2.29	69	P	Pn	00 55 20.0	-0.1
JUA2	San Juan 2	2.30	57	P	Pn	00 55 19.0	-1.2
TAMB	Tambo	2.30	71	P	Pn	00 55 20.0	-0.3
TOMA	Boca Toma-Volc	2.31	65	P	Pn	00 55 20.0	-0.4
TOMA				S	Sn	00 55 53.0	+5.2
TERV	Terraza Guagua	2.32	56	P	Pn	00 55 19.0	-1.6
PIAT	Ana Tenorio	2.33	78	P	Pn	00 55 20.0	-0.5
PIAT				S	Sn	00 55 47.0	-1.1
GGPC	Guagua Pichinc	2.33	57	P	Pn	00 55 19.0	-1.7
PINO	Pino	2.33	56	P	Pn	00 55 19.0	-1.7
AV21	Acelerografo,	2.33	25	P	Pn	00 55 21.0	+0.7
VIFL	Administracin	2.35	59	P	Pn	00 55 20.0	-0.8
YANA	Yana	2.38	56	P	Pn	00 55 19.0	-2.3
BELL	Bellavista	2.44	58	P	Pn	00 55 22.0	0.0
ACHO	Acelerografo,	2.45	46	P	Pn	00 55 20.0	-2.0
PAC1	Pacto, Paraso	2.45	45	eP	Pn	00 55 20.1	-2.0
PAC1	Pacto, Paraso	2.45	45	P	Pn	00 55 19.0	-3.0
ANTG	Antisana-Guama	2.48	67	P	Pn	00 55 22.0	-0.7
ANTM	Antisana-La Mi	2.50	68	P	Pn	00 55 22.0	-0.9
PUYO	Puyo, Santa Ro	2.52	91	P	Pn	00 55 24.0	+1.1
PULU	Pululahua	2.52	54	P	Pn	00 55 21.0	-2.1
AMA1	Acelerografo,	2.52	19	P	Pn	00 55 24.0	+1.2
ANTS	Antisana-Sarah	2.56	68	P	Pn	00 55 23.0	-0.9
AV11	Acelerografo,	2.57	57	P	Pn	00 55 24.0	+0.2
ANTI	Antisana	2.58	67	P	Pn	00 55 24.0	-0.2
BOSC	San Juan Bosco	2.64	129	P	Pn	00 55 27.0	+2.4
APS4	Papallacta	2.67	66	P	Pn	00 55 25.0	-0.1
OTAV	Otavalo	2.69	51	P	Pn	00 55 23.8	-1.8
OTAV						00 55 54.8	
OTAV	Otavalo	2.69	51	Pn	Pn	00 55 23.8	-1.8
OTAV				Sn	Sn	00 55 54.8	-2.3
OTAV	Otavalo	2.69	51	eP	Pn	00 55 24.3	-1.3
OTAV	Otavalo	2.69	51	P	Pn	00 55 24.0	-1.5
CUSE	Cuicocha Este	2.77	51	eP	Pn	00 55 26.3	-0.4
CUSE	Cuicocha Este	2.77	51	P	Pn	00 55 25.0	-1.7
CUSW	Cuicocha Oeste	2.80	52	P	Pn	00 55 26.0	-1.0
CUIC	Cuicocha-Domo	2.80	51	P	Pn	00 55 25.0	-2.0
COTA	Cotacachi	2.84	51	P	Pn	00 55 27.0	-0.7
IMBA	Imbabura, San	2.91	54	P	Pn	00 55 28.0	-0.6
CAYR	Refugio Cayamb	2.93	60	P	Pn	00 55 29.0	0.0
MCRA	Macar, Loja	2.94	169	P	Pn	00 55 29.0	+0.3
ANGU	Angureal	2.94	59	P	Pn	00 55 31.0	+1.8
URCU	Urcuqui	2.97	50	P	Pn	00 55 29.0	-0.3
CAYA	Cayambe	2.97	59	P	Pn	00 55 30.0	+0.5
GONZ	Gonzanam	2.98	157	P	Pn	00 55 31.0	+1.5
AIB2	Ibarra (Univer	3.03	54	P	Pn	00 55 31.0	+1.0
YAHU	Yahuarcocha	3.07	54	P	Pn	00 55 31.0	+0.3
CONE	Cono NE Rev Vo	3.21	64	P	Pn	00 55 33.0	+0.4
REVN	San Rafael	3.23	65	P	Pn	00 55 34.0	+1.2
LNGL	El Angel-Carch	3.35	49	P	Pn	00 55 35.0	+0.3
CHMA	Chilma	3.39	47	P	Pn	00 55 34.0	-1.1
CHL1	Volc¡n Chiles	3.43	49	P	Pn	00 55 36.0	+0.2
ECEN	Cerro Negro	3.43	48	P	Pn	00 55 36.0	+0.2
CHL2	Volc¡n Chiles	3.46	49	P	Pn	00 55 36.0	-0.2
TULM	Tulcn-Chalpat	3.50	52	eP	Pn	00 55 38.7	+1.9
TULM	Tulcn-Chalpat	3.50	52	P	Pn	00 55 37.0	+0.2
BONI	La Bonita	3.56	58	P	Pn	00 55 38.0	+0.6
CASC	Dorado de Casc	3.58	64	P	Pn	00 55 40.0	+2.6
ATUL	Tulcn	3.59	52	P	Pn	00 55 41.0	+3.2
CMBC	Cumbal	3.62	49	eP	Pn	00 55 41.4	+3.1
ZUMB	Zumba	3.65	158	P	Pn	00 55 41.0	+2.5
CPAS1	Pasto	4.16	51	eP	Pn	00 55 50.6	+4.9
GCUF	Volcan Galeras	4.17	50	eP	Pn	00 55 48.8	+2.9
CPAS2	Pasto	4.24	51	eP	Pn	00 55 47.3	+0.6
GR1C	Gorgona, Isla	5.03	28	eP	Pn	00 55 56.1	-1.3
SOTA	Rioblanco	5.32	48	eP	Pn	00 56 03.5	+1.8
POPC	Popayan, Colom	5.55	44	eP	Pn	00 56 04.6	0.0
PCON	Cinco Dias	5.60	48	eP	Pn	00 56 06.8	+1.1
FLOC	Florencia	5.75	58	eP	Pn	00 56 07.8	+0.5
PTLC	Puerto Leguiza	5.97	74	eP	Pn	00 56 10.9	+0.7
PTLC	Puerto Leguiza	5.97	74	P	Pn	00 56 09.0	-1.2
ATAH	Atahualpa	6.02	159	P	Pn	00 56 14.5	+3.2
	14nm,0.3s,baz=12,slow=9.0,SNR=84						
ATAH				S	Sn	00 57 18.8	-0.5
	18nm,0.3s,baz=298,slow=23,SNR=2.4						
GARC	Garzon, Huila	6.22	54	eP	Pn	00 56 15.2	+1.4
MARP	Paez Belalcaza	6.27	47	eP	Pn	00 56 15.5	+0.9
MALC	Bahia Malaga	6.32	30	eP	Pn	00 56 14.0	-1.0
BETC	Betania	6.55	51	eP	Pn	00 56 21.3	+3.0
YOTC	Yotoco, Valle	6.85	38	eP	Pn	00 56 18.4	-4.0
ORTC	Ortega, Tolima	7.52	45	eP	Pn	00 56 30.1	-1.4
MACC	Macarena, Meta	7.59	62	eP	Pn	00 56 33.3	+0.7
PLMC	San Jos del P	7.63	34	eP	Pn	00 56 28.7	-4.4
ANIL	Santa Ana	7.83	41	eP	Pn	00 56 36.4	+0.3
GUY2C	Guyana, Caldas	8.42	38	eP	Pn	00 56 32.8	-12
CACAO	El Cacao, Vera	8.76	358	eP	Pn	00 56 50.6	+2.1
VILC	Villavicencio,	8.80	51	eP	Pn	00 56 50.7	+1.4
ROSC	El Rosal	8.82	45	P	Pn	00 56 50.8	+1.0
	5.5nm,0.3s,baz=7.4,slow=12,SNR=5.1						
ROSC				S	Sn	00 58 33.1	+4.9
	5.8nm,0.3s,baz=54,slow=18,SNR=1.3						
ROSC				LR	LR	01 00 17.9	
	comp=Z,878nm,18.2s,baz=229,slow=38						
ROSC	El Rosal	8.82	45	P	Pn	00 56 49.2	-0.6
ROSC	El Rosal	8.82	45	Pn	Pn	00 56 49.2	-0.6
ROSC	El Rosal	8.82	45	eP	Pn	00 56 51.9	+2.1
NORC	Norcasia	8.99	39	eP	Pn	00 56 54.3	+2.6
HELC	Santa Helena	9.11	33	eP	Pn	00 56 56.6	+3.0
CHIC	Chingaza	9.11	48	eP	Pn	00 56 57.2	+3.5
GMAL	Guarumal, Vera	9.20	356	eP	Pn	00 56 49.9	-4.7
AZU	Azuero	9.20	2	eP	Pn	00 56 57.5	+2.9
DBBC	Dabeiba	9.47	27	eP	Pn	00 57 03.4	+5.0
PAYG	Puerto Ayora	9.78	275		Pn	00 57 04.7	+2.2
PTGC	Puerto Gaitan,	10.11	56	eP	Pn	00 57 08.7	+1.6
CDITO	Canoas	10.24	347		Pn	00 57 10.1	+1.3
BRU2	Volcan	10.42	348		Pn	00 57 12.5	+1.1
RUSC	La Rusia	10.44	45	eP	Pn	00 57 14.8	+2.9
RIOS	Rincon, Osa	10.53	344	Pn	Pn	00 57 11.2	-1.6
ZARC	Zaragoza, Cauc	10.55	32	Pn	Pn	00 57 10.2	-2.9
ZARC	Zaragoza, Cauc	10.55	32	eP	Pn	00 57 15.4	+2.3
BCIP	Isla Barro Col	10.59	4	eP	Pn	00 57 14.2	+0.6
BARC	Barichara	10.86	42	eP	Pn	00 57 20.0	+2.4
TBTG	Tabatinga, AM	10.96	104	eP	Pn	00 57 18.3	-0.4
TBTG	Tabatinga, AM	10.96	104	eP	Pn	00 57 17.8	-0.9
SRBA	San Rafael, Bu	10.99	345	Pn	Pn	00 57 20.0	+0.8
DRK0	Durika	10.99	346		Pn	00 57 19.5	+0.1
NNA	Nana	11.08	161	P	Pn	00 57 21.4	+1.1
	14nm,0.3s,baz=310,slow=12,SNR=21						
NNA				S	Sn	00 59 22.9	-0.1
	35nm,0.3s,baz=243,slow=20,SNR=12						
NNA				LR	LR	01 02 33.9	
	comp=Z,277nm,18.2s,baz=280,slow=42						
NNA	Nana	11.08	161	ceP	Pn	00 57 25.7	+5.4
NNA				pmax	pmax		
	comp=Z,61nm,0.6s						
NNA	Nana	11.08	161	Pn	Pn	00 57 20.5	+0.2
NNA	Nana	11.08	161	P	Pn	00 57 20.0	-0.3
PEZE	Perez Zeledon,	11.22	344		Pn	00 57 22.5	+0.2
MOTC	Monteria, Cord	11.28	25	Pn	Pn	00 57 22.9	-0.2
RIMA	Rio Macho	11.64	344		Pn	00 57 28.9	+0.7
PAMC	Pamplona, Colo	11.74	42	eP	Pn	00 57 32.3	+2.5
TAMC	Tame, Arauca	11.74	48	eP	Pn	00 57 33.5	+4.0
HDC	Heredia	11.94	343	Pn	Pn	00 57 33.5	+1.3
JTS	Las Juntas de	12.48	339	P	Pn	00 57 41.3	+1.8
	comp=Z,0.3nm,0.3s,baz=226,slow=11,SNR=8.7						
JTS				LR	LR	01 01 35.1	
	comp=Z,2µm,20.4s,baz=194,slow=33						
JTS	Las Juntas de	12.48	339	iP	Pn	00 57 41.7	+2.2
SJCC	San Jacinto, C	12.49	25	Pn	Pn	00 57 37.1	-2.6
ELOV	Elorza	13.88	53	eP	P	00 58 11.8	+5.8
ESPN	Las Esperanzas	14.08	345		Pn	00 58 02.3	+1.0
ACON	Acoyapa	14.12	341		Pn	00 58 00.3	-1.5
SDV	Santo Domingo	14.26	44	P	Pn	00 58 04.2	+0.3
	comp=Z,1.3nm,0.3s,baz=214,slow=12,SNR=15						
SDV				LR	LR	01 04 23.7	
	comp=Z,2µm,21.4s,baz=221,slow=41						
SDV	Santo Domingo	14.26	44	Pn	Pn	00 58 01.9	-2.0
SDV	Santo Domingo	14.26	44	eP	Pn	00 58 05.4	+1.5
SDV	Santo Domingo	14.26	44	eP	Pn	00 58 02.6	-1.3
CRJC	Cerrejon, Guaj	14.56	31	eP	P	00 58 16.7	+3.0
BOAB	BOACO BROADBAN	14.73	340	Pn	Pn	00 58 10.5	+0.4
CNGN	Cerro Negro	15.16	336		Pn	00 58 18.7	+2.9
CNGN				IAmb	IAmb	00 58 23.3	
	comp=Z,112nm,1.5s						
MATN	Matagalpa	15.27	340	Pn	Pn	00 58 16.2	-1.1
CRIN	San Cristobal	15.49	336		Pn	00 58 20.9	+0.8
URIC	Uribia, Colomb	15.60	33	Pn	Pn	00 58 21.3	-0.2
URIC	Uribia, Colomb	15.60	33	eP	P	00 58 23.8	-1.3
TGUH	Tegucigalpa,Un	16.80	337	P	Pn	00 58 38.1	+1.1
MTO3	Montecristo	18.02	331	P	P	00 58 53.7	+1.4
ESQI	Esquipulas	18.15	332	P	P	00 58 54.0	+0.5
BIRV	Birongo	18.50	50	P	P	00 58 55.8	-1.6
LPAZ	La Paz	19.14	141	P	P	00 59 04.9	0.0
	comp=Z,0.9nm,0.3s,baz=318,slow=10,SNR=32						
LPAZ	La Paz	19.14	141	P	P	00 59 04.4	-0.5
LPAZ				pmax	pmax		
	comp=Z,83nm,1.1s						
LPAZ	La Paz	19.14	141		P	00 59 04.4	-0.5
LPAZ				IAmb	IAmb	00 59 22.2	
	comp=Z,84nm,1.1s						
LPAZ	La Paz	19.14	141	eP	Pn	00 59 06.1	+0.1
LPAZ	La Paz	19.14	141	eP	Pn	00 59 06.2	+0.2
PCRV	Puerto La Cruz	19.61	54	P	Pn	00 59 11.0	0.0
	comp=Z,7.8nm,0.3s,baz=239,slow=4.8,SNR=21						
PCRV				LR	LR	01 07 35.9	
	comp=Z,2µm,19.8s,slow=39						
MTDJ	Mount Denham	19.79	8	P	P	00 59 11.0	-0.5
MTDJ				IAmb	IAmb	00 59 31.8	
	comp=Z,95nm,1.2s						
HUEH	Huehuetenango	19.89	327	P	P	00 59 14.5	+1.8
MACA	Manacapuru-AM	19.91	95	eP	P	00 59 11.0	-1.7
BOAV	Boa Vista	20.38	79	eP	P	00 59 17.4	-0.4
PETF	Flores	20.45	334	P	P	00 59 20.3	+1.7
PETF				IAmb	IAmb	00 59 22.1	
	comp=Z,122nm,1.3s						
PTGA	Pitinga	20.58	88	P	P	00 59 19.6	-0.4
	comp=Z,7.2nm,0.6s,baz=261,slow=15,SNR=12						
PTGA				LR	LR	01 07 53.5	
	comp=Z,651nm,20.4s,baz=278,slow=38						
CCIG	Comitan	21.03	327	P	P	00 59 25.6	+0.6
PB11	IPOC Station P	21.07	150	P	P	00 59 25.6	+0.2
PB11				IAmb	IAmb	00 59 48.0	
	comp=Z,59nm,0.7s						
JAKH	Jacmel	21.11	22	P	P	00 59 24.8	-0.8
JAKH				IAmb	IAmb	00 59 40.6	
	comp=Z,99nm,1.2s						
GO01	Chusmiza	21.23	149	P	P	00 59 27.9	+0.5
GO01				IAmb	IAmb	00 59 47.3	
	comp=Z,108nm,1.0s						
TA02	Huaiquique	21.28	152	P	P	00 59 28.0	+0.6
LGNH	Logne	21.33	21	P	P	00 59 28.4	+0.4
LGNH				IAmb	IAmb	00 59 30.5	
	comp=Z,56nm,0.9s						
PB08	IPOC Station P	21.64	150	P	P	00 59 31.7	-0.1
PATCX	Punta Patache	21.75	153	P	P	00 59 32.7	+0.1
PATCX				IAmb	IAmb	01 00 06.7	
	comp=Z,57nm,1.1s						
GTBY	Guantanamo Bay	21.92	14	P	P	00 59 32.9	-1.4
GTBY				IAmb	IAmb	01 00 06.9	
	comp=Z,90nm,1.2s						
PB01	IPOC Station P	22.25	152	P	P	00 59 38.2	+0.3
SDDR	Presa de Saban	22.26	24	P	P	00 59 38.0	-0.1
SC01	Santiago de lo	22.89	24	P	P	00 59 44.4	-0.3
SC01				IAmb	IAmb	01 00 29.8	
	comp=Z,73nm,1.1s						
DR12	Loma Pena Alta	22.92	28	P	P	00 59 44.6	-0.5
PB09	IPOC Station P	23.01	152	P	P	00 59 47.4	+1.3
PB09				IAmb	IAmb	01 00 12.3	
	comp=Z,58nm,0.9s						
VILB	Vilhena	23.15	120	eP	P	00 59 47.7	+0.3
CMIG	Matias Romero	23.24	323	P	P	00 59 49.3	+1.1
	comp=Z,21nm,1.0s,baz=129,slow=8.0,SNR=16						
CRPR	Cabo Rojo, PR	23.44	34	P	P	00 59 49.9	-0.2
MLPR	Magueyes Islan	23.45	34	P	P	00 59 49.4	-0.8
MLPR				IAmb	IAmb	01 00 08.6	
	comp=Z,66nm,1.2s						
PRSN	Puerto Rico Se	23.59	33	P	P	00 59 50.7	-0.8
PRSN				IAmb	IAmb	01 00 12.9	
	comp=Z,63nm,1.1s						
TOSP	Speyside	23.59	57	P	P	00 59 50.4	-1.2
TOSP				IAmb	IAmb	01 00 16.7	
	comp=Z,51nm,0.7s						
CELP	Cerrillos	23.79	35	P	P	00 59 53.1	-0.4
CELP				IAmb	IAmb	01 00 15.0	
	comp=Z,30nm,0.8s						
LVC	Limon Verde	23.86	153	P	P	00 59 54.2	-0.3
	comp=Z,4.4nm,0.7s,baz=304,slow=11,SNR=3.4						
LVC				LR	LR	01 10 24.3	
	comp=Z,518nm,19.0s,baz=322,slow=39						
LVC	Limon Verde	23.86	153	P	P	00 59 54.8	+0.2
LVC				pmax	pmax		
	comp=Z,50nm,0.8s						
LVC	Limon Verde	23.86	153	P	P	00 59 54.8	+0.2
LVC				IAmb	IAmb	01 00 22.8	
	comp=Z,50nm,0.8s						
LVC	Limon Verde	23.86	153	eP	P	00 59 57.8	+3.3
AOPR	Arecibo Observ	23.91	34	P	P	00 59 54.2	-0.4
AOPR				IAmb	IAmb	01 00 17.3	
	comp=Z,48nm,0.8s						
SIV	San Ignacio	24.01	128	P	P	00 59 54.1	-1.5
	comp=Z,10nm,0.6s,baz=294,slow=8.1,SNR=33						
SIV				LR	LR	01 10 20.1	
	comp=Z,1µm,19.8s,baz=296,slow=39						
SJG	San Juan	24.07	35	P	P	00 59 55.9	-0.1
	comp=Z,18nm,0.6s,baz=197,slow=8.0,SNR=12						
SJG				LR	LR	01 11 24.8	

comp=Z,223nm,18.4s,baz=198,slow=42
SJG San Juan 24.07 35 P P 00 59 55.3 -0.7
SJG pmax pmax
comp=Z,111nm,1.4s
SJG San Juan 24.07 35 P P 00 59 55.3 -0.7
PDPR Patillas Dam, 24.07 36 P P 00 59 54.9 -1.1
PDPR IAmb IAmb 01 00 09.0
comp=Z,41nm,0.9s
GCPR Guaynabo City 24.26 35 P P 00 59 57.3 -0.5
HUMP Col San Antoni 24.27 36 P P 00 59 57.0 -0.9
HUMP IAmb IAmb 01 00 19.9
comp=Z,36nm,0.9s
CBYP Canovanas 24.36 36 P P 00 59 58.2 -0.7
CBYP IAmb IAmb 01 00 14.5
comp=Z,56nm,0.9s
CUPR Culebra, Puert 24.73 37 P P 01 00 00.9 -1.1
CUPR IAmb IAmb 01 00 16.9
comp=Z,48nm,1.0s
ITTB Itaituba 24.94 97 *eP* **P 01 00 03.1 -1.0**
PTLB Pontes e Lacer 25.28 124 *eP* **P 01 00 07.7 +0.6**
PDRB Porto dos Gac 25.68 114 *eP* **P 01 00 12.4 +1.6**
NPGB Novo Progresso 25.71 103 *eP* **P 01 00 09.9 -1.2**
MALB Monte Alegre 26.27 91 *eP* **P 01 00 15.4 -0.7**
CLDB Colider 26.29 112 *eP* **P 01 00 15.8 -0.6**
SALV Santo Antonio 28.38 122 *eP* **P 01 00 35.8 +0.7**
MCPB Macapa, AP 28.50 88 *eP* **P 01 00 36.4 +0.2**
MDP Montagnes des 28.62 77 P **P 01 00 36.8 -0.4**
comp=Z,16nm,1.1s,baz=252,slow=9.5,SNR=5.8
MDP LR LR 01 12 13.1
comp=Z,2µm,18.3s,baz=226,slow=37
PP1B Ponte de Pedra 29.88 124 *eP* **P 01 00 51.0 +2.7**
AQDB Aquidauana 30.75 130 P **P 01 00 55.8 -0.3**
AQDB IAmb IAmb 01 01 09.0
comp=Z,23nm,0.8s
AQDB Aquidauana 30.75 130 *eP* **P 01 00 56.1 +0.1**
SNDB Serra Nova Dou 30.82 111 *eP* **P 01 00 57.7 +1.0**
PRPB Parauapebas 31.00 100 *eP* **P 01 00 58.5 +0.1**
ZAIG Zacatecas 32.27 320 P **P 01 01 11.6 +1.9**
TMAB Tom-Au,PA,Br 32.44 92 *eP* **P 01 01 10.9 -0.1**
VA03 San Esteban 32.52 164 P **P 01 01 12.5 +1.0**
ROC1 El Roble 32.60 165 P **P 01 01 12.5 +0.1**
ROC1 IAmb IAmb 01 01 13.3
comp=Z,24nm,1.1s
MT02 Curacav 32.84 165 P **P 01 01 14.4 +0.3**
TIGA Tifton 32.85 355 P **P 01 01 14.4 +0.1**
baz=174
CPUP Villa Florida 33.31 140 P **P 01 01 22.6 +4.2**
comp=Z,5.0nm,0.9s,baz=319,slow=4.7,SNR=4.1
MT09 Talagante 33.36 165 P **P 01 01 19.2 +0.3**
MT09 IAmb IAmb 01 01 38.8
comp=Z,55nm,1.7s
MT01 Popeta 33.38 166 P **P 01 01 20.0 +1.0**
SMTB Santa Maria do 33.60 104 *eP* **P 01 01 20.7 -0.5**
LMEL Las Melosas 33.64 164 P **P 01 01 23.1 +1.7**
BO04 La Punta 33.66 165 P **P 01 01 22.8 +1.3**
PEXB Peixe 33.66 110 *eP* **P 01 01 21.9 +0.2**
BO01 Tunca 33.93 166 P **P 01 01 24.8 +1.1**
BO01 IAmb IAmb 01 02 02.1
comp=Z,43nm,1.7s
154A Montrose 33.98 356 P **P 01 01 23.8 -0.4**
344A Westbrook Farm 34.14 344 P **P 01 01 26.0 +0.5**
344A IAmb IAmb 01 01 27.9
comp=Z,32nm,1.0s
152A Waverly Hall 34.18 354 P **P 01 01 25.3 -0.6**
GO05 Huala 34.32 167 P **P 01 01 28.2 +1.1**
GO05 IAmb IAmb 01 01 59.5
comp=Z,30nm,1.2s
BO02 Sierra Bellavi 34.38 166 P **P 01 01 28.7 +0.9**
BO02 IAmb IAmb 01 01 30.0
comp=Z,15nm,0.8s
NHSC New Hope 34.39 1 P **P 01 01 27.9 +0.3**
baz=180
ITRB Iturama 34.64 124 *eP* **P 01 01 31.9 +1.8**
833A Chaparral WMA, 34.71 330 P **P 01 01 31.6 +1.1**
833A Chaparral WMA, 34.71 330 P **P 01 01 31.8 +1.2**
baz=145
GOGA Godfrey 34.80 356 P **P 01 01 30.8 -0.4**
GOGA pmax pmax
comp=Z,13nm,0.9s
GOGA Godfrey 34.80 356 P **P 01 01 30.8 -0.4**
GOGA Godfrey 34.80 356 P **P 01 01 31.0 -0.2**
baz=175,SNR=6.4
LRAL Lakeview Retre 34.85 350 P **P 01 01 31.4 -0.3**
LRAL Lakeview Retre 34.85 350 P **P 01 01 31.7 0.0**
baz=168,SNR=21
Z51A Franklin 34.87 353 P **P 01 01 31.6 -0.2**
Z51A IAmb IAmb 01 01 32.3
comp=Z,20nm,0.7s
BDFB Brasilia 35.03 116 P **P 01 01 33.4 -0.2**
comp=Z,2.5nm,0.6s,baz=243,slow=6.8,SNR=3.9
BDFB LR LR 01 16 43.0
comp=Z,596nm,19.5s,baz=317,slow=38
BDFB Brasilia 35.03 116 P **P 01 01 33.5 -0.1**
BDFB pmax pmax
comp=Z,23nm,0.9s
BDFB Brasilia 35.03 116 P **P 01 01 33.5 -0.1**
BDFB IAmb IAmb 01 01 44.6
comp=Z,23nm,0.9s
ML02 Panimavida 35.16 167 P **P 01 01 34.9 +0.6**
ML02 IAmb IAmb 01 01 36.2
comp=Z,29nm,0.9s
Z47A Carrollton 35.20 349 P **P 01 01 34.4 -0.3**
Z47A IAmb IAmb 01 01 35.6
comp=Z,22nm,0.8s
Y59A Loris 35.30 2 P **P 01 01 35.1 -0.4**
HODGE Hodges 35.55 358 P **P 01 01 37.2 -0.4**
JSC Jenkinsville 35.57 359 P **P 01 01 37.4 -0.4**
JSC pmax pmax
comp=Z,17nm,1.1s
JSC Jenkinsville 35.57 359 P **P 01 01 37.4 -0.4**
Y49A Blount Mountai 35.57 352 P **P 01 01 37.3 -0.5**
Y49A IAmb IAmb 01 01 38.3
comp=Z,22nm,1.1s
NATX Nacogdoches 35.66 339 P **P 01 01 40.3 +1.7**
baz=155
IPMB Ipameri, GO 35.73 119 *eP* **P 01 01 38.5 -1.0**
PTGB Pitanga 35.93 132 *eP* **P 01 01 45.4 +4.2**
435B Jarrell 35.94 335 P **P 01 01 42.4 +1.3**
435B IAmb IAmb 01 01 43.5
comp=Z,19nm,0.8s
ITQB Itaqui 36.11 143 *eP* **P 01 01 45.4 +2.8**
FPAL Fort Paine 36.13 353 P **P 01 01 42.1 -0.6**
FPAL IAmb IAmb 01 01 43.2
comp=Z,40nm,1.1s
BG3 Lake Jocassee 36.34 357 P **P 01 01 44.4 0.0**
BG3 IAmb IAmb 01 01 45.6
comp=Z,23nm,1.0s
ROSB Rosrio 36.42 93 *eP* **P 01 01 44.4 -1.0**
Z41A Richland Creek 36.42 343 P **P 01 01 45.7 +0.5**
baz=159
KMSC Kings Mountain 36.43 359 P **P 01 01 45.1 0.0**
baz=178,SNR=5.7
JCT Junction City 36.69 332 P **P 01 01 48.5 +0.9**
JCT pmax pmax
comp=Z,25nm,0.9s
JCT Junction City 36.69 332 P **P 01 01 48.5 +0.9**
JCT IAmb IAmb 01 01 49.7
comp=Z,24nm,0.8s
JCT Junction City 36.69 332 P **P 01 01 49.2 +1.7**
baz=146,SNR=13
OXF Oxford 36.74 348 P **P 01 01 47.3 -0.6**
baz=165
CCAR Cane Creek 36.75 344 P **P 01 01 48.6 +0.7**
W50A Signal Mountai 36.75 353 P **P 01 01 47.2 -0.7**
BB19B Bebedouro 36.80 124 *eP* **P 01 01 48.2 -0.4**
CPCT Cooper Cave 36.91 355 P **P 01 01 49.1 -0.3**
WHTX Lake Whitney, 36.94 336 P **P 01 01 50.4 +0.9**
WHTX IAmb IAmb 01 01 51.8
comp=Z,46nm,1.1s
WHTX Lake Whitney, 36.94 336 P **P 01 01 50.8 +1.2**
baz=151,SNR=6.9
SDBA SAO DESIDERIO 36.95 109 *eP* **P 01 01 49.4 -0.6**
TKL Tuckaleechee C 37.06 356 LR LR 01 17 17.8
comp=Z,301nm,18.8s,baz=173,slow=36
TKL Tuckaleechee C 37.06 356 P **P 01 01 49.9 -0.6**
TKL pmax pmax
comp=Z,27nm,1.5s
TKL Tuckaleechee C 37.06 356 P **P 01 01 49.9 -0.6**
HPIG 37.20 321 P **P 01 01 53.4 +1.2**
ITAB Concordia 37.39 136 P **P 01 01 53.1 -0.4**
ITAB IAmb IAmb 01 02 05.2
comp=Z,39nm,1.1s
ITAB Concordia 37.39 136 *eP* **P 01 01 54.0 +0.5**
RPN Rapa Nui 37.60 225 LR LR 01 13 06.0
comp=Z,368nm,19.4s,baz=61,slow=29
TXAR Lajitas Array 37.78 326 P **P 01 01 58.1 +1.2**
comp=Z,3.5nm,1.0s,baz=148,slow=9.8,SNR=17
TXAR PcP **PcP 01 04 13.8 +0.6**
comp=Z,4.6nm,0.8s,baz=142,slow=6.3,SNR=15
TXAR LR LR 01 16 02.4
comp=Z,178nm,19.7s,baz=122,slow=34
TXAR Lajitas Array 37.78 326 P **P 01 01 57.4 +0.5**
TXAR Lajitas Array 37.78 326 P **P 01 01 57.4 +0.5**
TX32 Lajitas Array 37.78 326 P **P 01 01 57.1 +0.2**
MIAR Mount Ida 37.85 342 P **P 01 01 57.1 -0.2**
MIAR pmax pmax
comp=Z,17nm,1.1s
MIAR Mount Ida 37.85 342 P **P 01 01 57.1 -0.2**
MIAR Mount Ida 37.85 342 P **P 01 01 57.5 +0.2**
baz=158,SNR=8.9
TZTN Tazewell 37.92 356 P **P 01 01 56.8 -1.1**
TZTN Tazewell 37.92 356 P **P 01 01 57.4 -0.5**
baz=175
SLBS Sierra La Lagu 37.98 313 P **P 01 02 00.9 +2.3**
SLBS IAmb IAmb 01 02 01.9
comp=Z,48nm,1.0s
WVT Waverly 38.02 350 P **P 01 01 57.4 -1.2**
WVT pmax pmax
comp=Z,13nm,0.6s
WVT Waverly 38.02 350 P **P 01 01 57.4 -1.2**
WVT Waverly 38.02 350 P **P 01 01 57.2 -1.4**
baz=168
W41B Gary Mavity, V 38.06 344 P **P 01 01 59.0 -0.1**
baz=161,SNR=9.8
LC01 Cunco 38.09 169 P **P 01 01 59.6 +0.3**
JANB Januaria 38.22 113 *eP* **P 01 01 60.0 -0.8**
ABTX Abilene, Hawle 38.42 334 P **P 01 02 02.6 +0.4**
ABTX IAmb IAmb 01 02 04.6
comp=Z,44nm,1.2s
ABTX Abilene, Hawle 38.42 334 P **P 01 02 03.4 +1.3**
baz=148,SNR=9.8
X37A Clayton 38.47 340 **P 01 02 03.0 +0.5**
LPIG La Paz 38.49 313 LR LR 01 15 45.5
comp=Z,125nm,20.6s,baz=134,slow=33
W39A Magazine 38.52 342 P **P 01 02 03.8 +0.9**
baz=158,SNR=14
JSRW J. Sargeant Re 39.04 3 P **P 01 02 07.2 0.0**
NBPS Pedro II - PI 39.15 95 *eP* **P 01 02 07.5 -1.0**
U40A Yellville 39.34 344 P **P 01 02 09.8 0.0**
U40A IAmb IAmb 01 02 11.1
comp=Z,51nm,1.1s
U40A Yellville 39.34 344 P **P 01 02 10.0 +0.2**
baz=160,SNR=24
PLTB Pedras Altas 39.42 143 P **P 01 02 10.5 -0.1**
PLTB IAmb IAmb 01 02 38.3
comp=Z,59nm,1.3s
PLTB Pedras Altas 39.42 143 *eP* **P 01 02 11.0 +0.4**
FNO Franklin 39.79 338 P **P 01 02 13.7 +0.2**
FNO IAmb IAmb 01 02 16.1
comp=Z,58nm,1.2s
TUL1 Leonard 39.82 341 **P 01 02 13.6 -0.1**
TUL1 IAmb IAmb 01 02 15.4
comp=Z,56nm,1.2s
TUL1 Leonard 39.82 341 P **P 01 02 14.4 +0.7**
baz=156,SNR=12
DIAM Diamantina, MG 39.85 117 *eP* **P 01 02 13.8 -0.6**
WCI Wyandotte Cave 39.85 353 P **P 01 02 12.5 -1.5**
WCI pmax pmax
comp=Z,16nm,0.8s
WCI Wyandotte Cave 39.85 353 P **P 01 02 12.4 -1.5**
WCI Wyandotte Cave 39.85 353 P **P 01 02 12.6 -1.5**
baz=171
WMOK Wichita Mounta 39.87 336 P **P 01 02 14.6 +0.3**
WMOK pmax pmax
comp=Z,18nm,1.1s
WMOK Wichita Mounta 39.87 336 P **P 01 02 14.6 +0.3**
WMOK Wichita Mounta 39.87 336 P **P 01 02 15.0 +0.7**
baz=151,SNR=17
BSCB Bom Sucesso 39.92 122 *eP* **P 01 02 16.4 +1.5**
LL04 Puerto Octay 39.95 170 P **P 01 02 15.4 +0.6**
PLCA Paso Flores 40.12 168 P **P 01 02 17.2 +0.9**
comp=Z,7.1nm,0.9s,baz=338,slow=9.8,SNR=19
PLCA LR LR 01 17 54.4
comp=Z,129nm,18.1s,baz=356,slow=35
PLCA Paso Flores 40.12 168 P **P 01 02 17.1 +0.9**
PLCA pmax pmax
comp=Z,11nm,0.9s
PLCA Paso Flores 40.12 168 P **P 01 02 17.1 +0.9**
PLCA Paso Flores 40.12 168 *eP* **P 01 02 17.8 +1.5**
PARB Paraibuna 40.23 125 *eP* **P 01 02 18.5 +1.0**
NBMO Morrinhos-CE 40.50 93 *eP* **P 01 02 19.8 0.0**
MNTX Cornudas Mount 40.54 327 P **P 01 02 20.4 +0.6**
MNTX Cornudas Mount 40.54 327 P **P 01 02 20.7 +0.9**
baz=140,SNR=29
CCM Cathedral Cave 40.55 347 P **P 01 02 18.8 -1.0**
CCM pmax pmax
comp=Z,20nm,1.2s
CCM Cathedral Cave 40.55 347 P **P 01 02 18.8 -1.0**
CCM Cathedral Cave 40.55 347 P **P 01 02 18.8 -1.0**
baz=163
P52A Corning 40.93 358 P **P 01 02 21.4 -1.5**
baz=177,SNR=5.2
P49A Miami Univ. Ec 40.98 355 P **P 01 02 21.5 -1.8**
baz=173
MSTX Muleshoe 40.98 331 P **P 01 02 24.2 +0.6**
MSTX Muleshoe 40.98 331 P **P 01 02 24.8 +1.2**
baz=145,SNR=25
NBPB Pedra_Branca-C 41.07 97 *eP* **P 01 02 23.6 -0.9**
NBPN Ponto Novo - B 41.12 105 *eP* **P 01 02 24.4 -0.6**
AMTX Amarillo 41.23 333 P **P 01 02 26.5 +1.0**
baz=147
O53A New Philadelph 41.52 359 P **P 01 02 27.0 -0.7**
baz=179,SNR=5.4
ACSO Alum Creek Sta 41.56 357 P **P 01 02 27.2 -0.9**
ACSO IAmb IAmb 01 02 28.0
comp=Z,36nm,0.9s
ACSO Alum Creek Sta 41.56 357 P **P 01 02 27.0 -1.1**
baz=176,SNR=11
O56A Blue Knob Stat 41.58 2 P **P 01 02 28.2 0.0**
baz=183
O48B Farmland 41.74 355 P **P 01 02 27.8 -1.7**
baz=177,SNR=9.2
SRIG Santa Rosalia 41.83 315 P **P 01 02 31.9 +1.4**
SSPA Standing Stone 41.97 3 P **P 01 02 30.9 -0.5**
SSPA Standing Stone 41.97 3 P **P 01 02 31.1 -0.3**
baz=184
NBMA Muriti-CE 42.04 99 *eP* **P 01 02 33.5 +1.0**
SJMB Sao Joao De Ma 42.20 117 *eP* **P 01 02 33.9 +0.2**
N54A Moraine State 42.23 1 P **P 01 02 32.7 -0.9**
baz=181
N59A State Game Lan 42.41 5 P **P 01 02 35.0 0.0**
N59A State Game Lan 42.41 5 P **P 01 02 35.5 +0.5**
baz=187,SNR=6.0
121A Cookes Peak, D 42.51 325 P **P 01 02 38.0 +1.8**
121A IAmb IAmb 01 02 39.7
comp=Z,31nm,1.0s
121A Cookes Peak, D 42.51 325 P **P 01 02 38.6 +2.4**
baz=137,SNR=19
319A Douglas 42.56 323 P **P 01 02 37.7 +1.2**
319A IAmb IAmb 01 02 39.7
comp=Z,34nm,1.1s
HDIL Hopedale 42.58 350 P **P 01 02 34.9 -1.4**
baz=167
M54A Oil Creek Stat 42.78 1 P **P 01 02 37.1 -0.9**
baz=181
KSU1 Kansas State U 42.99 342 P **P 01 02 40.5 +0.8**
baz=156,SNR=15
KSPA Keystone Colle 43.04 5 P **P 01 02 40.0 -0.1**
KSPA IAmb IAmb 01 02 42.8
comp=Z,79nm,1.7s
BNM Barren Site 43.08 328 P **P 01 02 42.4 +1.5**
NBLA Lagarto - SE 43.48 104 *eP* **P 01 02 43.4 -0.7**
ANMO Albuquerque 43.60 329 LR LR 01 20 44.0
comp=Z,157nm,18.5s,baz=120,slow=36
ANMO Albuquerque 43.60 329 *eP* **P 01 02 46.6 +1.6**
ANMO pmax pmax
comp=Z,41nm,1.0s
ANMO Albuquerque 43.60 329 P **P 01 02 46.5 +1.5**
ANMO IAmb IAmb 01 02 47.8
comp=Z,38nm,1.0s
ANMO Albuquerque 43.60 329 P **P 01 02 46.6 +1.6**
baz=141
BINY Binghamton 43.66 5 P **P 01 02 45.1 0.0**
BINY IAmb IAmb 01 02 46.2
comp=Z,50nm,1.1s
BINY Binghamton 43.66 5 P **P 01 02 45.4 +0.3**
baz=186,SNR=7.2
WVNY West Valley, N 43.71 2 P **P 01 02 44.8 -0.7**
WVNY IAmb IAmb 01 02 45.5
comp=Z,30nm,1.2s
CBKS Cedar Bluff 43.81 338 P **P 01 02 47.1 +0.7**
CBKS pmax pmax
comp=Z,52nm,1.4s
CBKS Cedar Bluff 43.81 338 P **P 01 02 47.1 +0.7**
CBKS IAmb IAmb 01 02 49.0
comp=Z,52nm,1.4s
CBKS Cedar Bluff 43.81 338 P **P 01 02 47.9 +1.5**
baz=152
NBLV Livramento - P 43.86 99 *eP* **P 01 02 46.6 -0.6**
TUC Tucson 44.13 322 P **P 01 02 50.0 +0.9**
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 44.13 322 P **P 01 02 50.0 +0.9**
TUC Tucson 44.13 322 P **P 01 02 50.7 +1.6**
baz=134
T25A Trinidad 44.34 332 P **P 01 02 52.3 +1.4**
T25A IAmb IAmb 01 02 54.0
comp=Z,30nm,1.0s
T25A Trinidad 44.34 332 P **P 01 02 52.9 +2.1**
baz=144,SNR=18
COYC Coyhaique 44.55 172 P **P 01 02 53.1 +0.9**
COYC IAmb IAmb 01 04 07.9
comp=Z,44nm,1.7s
K62A Royalston 44.57 9 P **P 01 02 52.3 0.0**
SCIA State Center 44.67 347 P **P 01 02 52.5 -0.7**
baz=162
RCBR Riachuelo 44.74 97 LR LR 01 23 20.1
comp=Z,976nm,19.7s,baz=70,slow=38
RCBR Riachuelo 44.74 97 P **P 01 02 55.1 +0.8**
RCBR pmax pmax
comp=Z,42nm,1.4s
RCBR Riachuelo 44.74 97 P **P 01 02 55.1 +0.8**
RCBR IAmb IAmb 01 03 25.2
comp=Z,42nm,1.4s
NBAN Anadia - AL 44.76 102 *eP* **P 01 02 53.8 -0.6**
JFWS Jewell Farm 45.04 350 P **P 01 02 54.7 -1.3**
baz=166,SNR=7.3
214A Organ Pipe Nat 45.16 320 P **P 01 02 59.3 +1.9**
baz=131,SNR=13
SDCO Great Sand Dun 45.34 332 P **P 01 03 00.1 +1.2**
SDCO IAmb IAmb 01 03 01.7
comp=Z,21nm,1.0s
SDCO Great Sand Dun 45.34 332 P **P 01 03 00.6 +1.7**
baz=144,SNR=26
W18A Petrified Fore 45.51 326 P **P 01 03 02.0 +1.8**
baz=137,SNR=10
DELO Deloro Mine 45.86 3 P **P 01 03 01.2 -1.3**
DELO IAmb IAmb 01 03 02.2
comp=Z,28nm,1.0s
SFX San Felipe 45.91 318 P **P 01 03 04.6 +1.4**
SFX IAmb IAmb 01 03 06.2
comp=Z,27nm,1.1s
S22A 4UR Ranch, Cre 45.97 331 P **P 01 03 05.4 +1.5**
baz=142,SNR=12
SADO Sadowa 46.05 1 LR LR 01 22 07.5
comp=Z,208nm,21.4s,baz=191,slow=36
LONY Lake Ozonia 46.19 6 P **P 01 03 04.5 -0.7**
LONY IAmb IAmb 01 03 05.0
comp=Z,27nm,1.1s
LONY Lake Ozonia 46.19 6 P **P 01 03 04.6 -0.7**
baz=188
GLMI Grayling 46.23 356 P **P 01 03 03.9 -1.6**
baz=174
MVCO Mesa Verde 46.40 329 P **P 01 03 08.6 +1.4**
baz=140,SNR=8.1
WUAZ Wupatki 46.72 325 P **P 01 03 11.4 +1.7**
WUAZ Wupatki 46.72 325 P **P 01 03 11.8 +2.1**
baz=135,SNR=24
ISCO Idaho Springs 47.05 334 P **P 01 03 13.2 +0.8**
ISCO pmax pmax
comp=Z,11nm,1.2s
ISCO Idaho Springs 47.05 334 P **P 01 03 13.2 +0.8**
ISCO Idaho Springs 47.05 334 P **P 01 03 13.8 +1.4**
baz=144,SNR=6.2
GLA Glamis 47.17 320 P **P 01 03 14.6 +1.5**
baz=130
SMCO Snowmass 47.17 332 P **P 01 03 14.6 +1.1**
SMCO IAmb IAmb 01 03 26.1
comp=Z,12nm,0.9s
ECSD EROS Data Cent 47.25 344 P **P 01 03 13.0 -0.5**
ECSD IAmb IAmb 01 03 13.5
comp=Z,15nm,0.8s
ECSD EROS Data Cent 47.25 344 P **P 01 03 12.9 -0.5**
baz=158,SNR=13
PV07 Paradox Valley 47.41 330 P **P 01 03 16.4 +1.3**
PDMCI Parker Dam,Lak 47.55 322 P **P 01 03 17.5 +1.6**
baz=131
PKME Peaks-Kenny Pk 47.59 11 P **P 01 03 16.5 +0.4**
PV23 Carpenter Ridg 47.61 330 P **P 01 03 17.5 +0.8**
PV23 IAmb IAmb 01 03 28.7
comp=Z,15nm,1.0s
YUH Yuha Desert 47.63 319 P **P 01 03 18.3 +1.7**
YUH IAmb IAmb 01 03 19.6
comp=Z,17nm,1.1s
SWSC Sam W. Stewart 47.73 319 P **P 01 03 19.5 +2.1**
baz=129,SNR=5.0
SPMN Marine on St. 47.75 348 P **P 01 03 15.9 -1.4**
baz=163
IKP In-Ko-Pah, Jac 47.75 318 P **P 01 03 20.0 +2.3**
baz=128
BC3 Big Chuckawall 47.95 320 P **P 01 03 20.9 +1.6**
baz=130,SNR=12
IRM Iron Mountain 48.08 321 P **P 01 03 21.9 +1.7**
baz=130,SNR=11
N23A Red Feather La 48.09 334 P **P 01 03 21.7 +1.3**
baz=145
MONP2 Monument Peak 48.11 319 P **P 01 03 22.1 +1.5**
baz=128
F64A Sherman 48.35 11 P **P 01 03 22.2 +0.3**
BELC Belle Mtn. Jos 48.52 320 P **P 01 03 25.4 +1.7**
baz=129,SNR=5.2
O20A White River Ci 48.53 332 P **P 01 03 25.2 +1.5**
baz=142,SNR=6.0
PFO Pinyon Flats O 48.58 319 LR LR 01 21 33.0
comp=Z,226nm,20.5s,baz=145,slow=33
PFO Pinyon Flats O 48.58 319 P **P 01 03 25.7 +1.6**
PFO pmax pmax
comp=Z,23nm,1.2s
PFO Pinyon Flats O 48.58 319 P **P 01 03 25.7 +1.6**
PFO IAmb IAmb 01 03 27.0
comp=Z,23nm,1.2s
PFO Pinyon Flats O 48.58 319 P **P 01 03 26.2 +2.1**
baz=128,SNR=5.3
KNB Kanab 48.61 325 P **P 01 03 25.5 +1.2**
KNB pmax pmax
comp=Z,20nm,1.1s
KNB Kanab 48.61 325 P **P 01 03 25.5 +1.2**
KNB IAmb IAmb 01 03 27.5
comp=Z,20nm,1.1s
GMRC Granite Mounta 48.81 321 P **P 01 03 27.6 +1.8**
baz=130,SNR=5.8
MURC Murrieta 49.05 319 P **P 01 03 29.7 +2.0**
baz=128
SZCU Shurtz Canyon 49.16 326 P **P 01 03 30.1 +1.5**
SZCU IAmb IAmb 01 03 31.5
comp=Z,17nm,1.1s
HEC Hector,Ludlow 49.26 321 P **P 01 03 31.4 +2.1**
baz=129,SNR=8.5
D62A Allapoint, All 49.39 10 P **P 01 03 30.3 +0.4**
LMQ La Malbaie 49.63 9 P **P 01 03 31.5 -0.2**
GSC Goldstone, Bar 49.86 321 P **P 01 03 35.6 +1.8**
GSC pmax pmax
comp=Z,51nm,0.9s
GSC Goldstone, Bar 49.86 321 P **P 01 03 35.6 +1.8**
GSC Goldstone, Bar 49.86 321 P **P 01 03 35.7 +1.8**
baz=129,SNR=8.9
RSSD Black Hills 50.01 338 P **P 01 03 35.9 +0.9**
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD Black Hills 50.01 338 P **P 01 03 35.9 +0.9**
RSSD IAmb IAmb 01 03 37.4
comp=Z,15nm,0.9s
RSSD Black Hills 50.01 338 P **P 01 03 36.4 +1.4**
baz=149
BATG Bathurst New B 50.17 13 P **P 01 03 36.3 +0.4**
EDW2 Edwards Air Fo 50.36 320 P **P 01 03 39.2 +1.6**
baz=128,SNR=11
FURC Furnace Creek, 50.64 322 P **P 01 03 41.8 +2.3**
baz=130
MPMC Manual Prospec 50.77 321 P **P 01 03 42.2 +1.4**
baz=129
DUG Dugway, Tooele 50.87 328 P **P 01 03 42.8 +1.3**
DUG pmax pmax
comp=Z,49nm,2.0s
DUG Dugway, Tooele 50.87 328 P **P 01 03 42.8 +1.3**

DUG IAmb IAmb 01 03 44.4
comp=Z,49nm,1.9s
DUG Dugway, Tooele 50.87 328 P **P** **01 03 42.9 +1.5**
baz=136,SNR=7.4
ARVC Arvin 51.05 319 P **P** **01 03 44.8 +2.1**
baz=127
R11A Troy Canyon, C 51.11 325 P **P** **01 03 45.1 +1.8**
baz=132,SNR=8.9
ISA Isabella, Lake 51.15 320 P **P** **01 03 45.0 +1.4**
ISA pmax pmax
comp=Z,26nm,1.3s
ISA Isabella, Lake 51.15 320 P **P** **01 03 45.0 +1.4**
ISA IAmb IAmb 01 03 46.6
comp=Z,26nm,1.3s
ISA Isabella, Lake 51.15 320 P **P** **01 03 45.4 +1.8**
baz=128,SNR=8.0
BW06 Boulder Array 51.20 333 P **P** **01 03 44.3 +0.3**
baz=141,SNR=6.8
PD31 Pinedale Array 51.20 333 P **P** **01 03 44.1 +0.1**
PDAR Pinedale Array 51.20 333 P **P** **01 03 44.4 +0.3**
comp=Z,2.4nm,0.8s,baz=134,slow=8.5,SNR=18
PDAR PcP **PcP** **01 04 58.4 -0.6**
comp=Z,3.0nm,0.9s,baz=137,slow=6.8,SNR=5.0
PDAR LR LR 01 26 02.9
comp=Z,224nm,18.0s,baz=149,slow=37
PDAR Pinedale Array 51.20 333 P **P** **01 03 44.1 +0.1**
AGMN Agassiz Nation 51.33 347 P **P** **01 03 44.6 +0.1**
baz=160,SNR=5.1
CWC Cottonwood Cre 51.38 321 P **P** **01 03 47.1 +1.7**
baz=129
VES Vestal, Richgr 51.65 320 P **P** **01 03 48.9 +1.8**
baz=127,SNR=5.8
MDND Maddock 51.86 344 P **P** **01 03 49.5 +1.0**
baz=155,SNR=7.6
AHID Auburn Hatcher 51.92 332 P **P** **01 03 49.6 +0.2**
ECR Eagle Creek 52.27 332 P **P** **01 03 52.8 +0.8**
ELK Elko 52.56 327 LR LR 01 25 52.8
comp=Z,474nm,18.1s,baz=123,slow=36
ELK Elko 52.56 327 P **P** **01 03 55.3 +1.1**
ELK pmax pmax
comp=Z,10.0nm,1.2s
ELK Elko 52.56 327 P **P** **01 03 55.3 +1.1**
NV11 Mina Array Sit 52.69 323 P **P** **01 03 56.3 +1.2**
NV11 IAmb IAmb 01 03 58.2
comp=Z,25nm,1.2s
NVAR Mina Array Bea 52.77 323 P **P** **01 03 57.6 +1.8**
comp=Z,3.1nm,0.6s,baz=132,slow=6.7,SNR=31
NVAR PcP **PcP** **01 05 04.9 -0.1**
comp=Z,1.9nm,0.7s,baz=134,slow=4.0,SNR=4.1
NVAR Mina Array Bea 52.77 323 P **P** **01 03 57.2 +1.4**
H17A Grant Village 52.94 333 P **P** **01 04 00.2 +3.3**
baz=141
LAO LASA Array 53.01 338 P **P** **01 03 57.5 +0.4**
baz=147
ULM Lac du Bonnet 53.17 348 P **P** **01 03 57.6 -0.5**
comp=Z,31nm,0.8s,baz=157,slow=7.6,SNR=50
BMN Battle Mountai 53.45 325 P **P** **01 04 02.1 +1.4**
BMN pmax pmax
comp=Z,29nm,1.3s
BMN Battle Mountai 53.45 325 P **P** **01 04 02.1 +1.4**
BMN IAmb IAmb 01 04 03.3
comp=Z,29nm,1.3s
GCMT Greycliff 53.64 335 P **P** **01 04 02.7 +0.8**
DGMT Dagmar 53.81 341 P **P** **01 04 04.1 +1.0**
DGMT IAmb IAmb 01 04 06.3
comp=Z,15nm,1.1s
DGMT Dagmar 53.81 341 P **P** **01 04 04.0 +1.0**
baz=150
USHA Ushuaia 54.11 171 LR LR 01 24 39.6
comp=Z,267nm,18.9s,baz=356,slow=33
HLID Hailey 54.13 330 P **P** **01 04 06.8 +1.1**
HLID Hailey 54.13 330 P **P** **01 04 06.7 +1.1**
baz=136,SNR=11
DRLN Deer Lake 54.30 18 P **P** **01 04 06.6 +0.1**
BOZ Bozeman (W) 54.34 334 P **P** **01 04 07.9 +0.8**
BOZ pmax pmax
comp=Z,79nm,1.8s
BOZ Bozeman (W) 54.34 334 P **P** **01 04 07.9 +0.8**
BOZ Bozeman (W) 54.34 334 P **P** **01 04 08.2 +1.1**
baz=140,SNR=9.0
DLMT Dillon 54.60 333 P **P** **01 04 10.0 +1.1**
EGMT Eagleton 55.47 337 P **P** **01 04 15.4 +0.3**
EGMT Eagleton 55.47 337 P **P** **01 04 15.9 +0.9**
baz=144,SNR=13
WVOR Wild Horse Val 55.58 326 P **P** **01 04 16.5 +0.5**
WVOR pmax pmax
comp=Z,27nm,1.1s
WVOR Wild Horse Val 55.58 326 P **P** **01 04 16.4 +0.5**
WVOR IAmb IAmb 01 04 19.2
comp=Z,27nm,1.1s
MSO Missoula 56.32 333 P **P** **01 04 22.2 +1.0**
MSO IAmb IAmb 01 04 24.3
comp=Z,26nm,1.4s
MSO Missoula 56.32 333 P **P** **01 04 22.2 +1.0**
baz=138,SNR=9.8
K05A Summer Lake 57.03 325 P **P** **01 04 28.0 +1.6**
K05A IAmb IAmb 01 04 30.2
comp=Z,24nm,1.1s
SCHQ Schefferville 57.24 9 P **P** **01 04 26.1 -1.3**
comp=Z,10nm,1.0s,baz=199,slow=6.5,SNR=12
SCHQ PcP **PcP** **01 05 21.1 -0.4**
comp=Z,6.5nm,0.9s,baz=232,slow=3.6,SNR=4.3
SCHQ LR LR 01 31 00.3
comp=Z,42nm,18.2s,baz=221,slow=38
YBH Yreka Blue Hor 57.47 323 LR LR 01 28 14.9
comp=Z,151nm,20.3s,baz=138,slow=35
J05D Fort Rock, OR 57.58 326 P **P** **01 04 31.8 +1.5**
baz=129
WALA Waterton Lakes 57.99 335 P **P** **01 04 33.8 +0.8**
WALA IAmb IAmb 01 04 35.0
comp=Z,24nm,1.2s
I05D Terrebonne, OR 58.31 327 P **P** **01 04 37.0 +1.8**
baz=130
I04A Tendick Farm, 58.56 325 P **P** **01 04 37.4 +0.4**
baz=128
K02D Willamette Mer 58.62 324 P **P** **01 04 37.9 +0.4**
baz=127
FFC Flin Flon 58.73 346 P **P** **01 04 37.8 -0.1**
FFC pmax pmax
comp=Z,37nm,1.4s
FFC Flin Flon 58.73 346 P **P** **01 04 37.8 -0.1**
NEW Newport 58.84 332 LR LR 01 31 08.4
comp=Z,191nm,18.7s,baz=140,slow=37
NEW Newport 58.84 332 P **P** **01 04 39.3 +0.4**
NEW pmax pmax
comp=Z,35nm,1.5s
NEW Newport 58.84 332 P **P** **01 04 39.3 +0.4**
NEW Newport 58.84 332 P **P** **01 04 39.8 +0.9**
baz=136,SNR=7.9
G05D Wamic, OR 58.88 327 P **P** **01 04 41.2 +2.1**
baz=130
TAOE Nuku Hiva Isla 59.76 261 eLR LR 01 22 24.0
comp=Z,206nm,24.0s
EDM Edmonton 60.99 338 P **P** **01 04 53.4 -0.1**
EDM pmax pmax
comp=Z,82nm,1.2s
EDM Edmonton 60.99 338 P **P** **01 04 53.4 -0.1**
FCC Fort Churchill 61.00 352 P **P** **01 04 53.0 -0.4**
FCC pmax pmax
comp=Z,18nm,0.9s
FCC Fort Churchill 61.00 352 P **P** **01 04 53.0 -0.4**
FCC IAmb IAmb 01 04 53.7
comp=Z,18nm,0.9s
LLLB Lillooet 62.70 332 P **P** **01 05 05.6 +0.5**
FRB Frobisher Bay 65.66 6 LR LR 01 36 08.3
comp=Z,61nm,18.1s,baz=199,slow=38
BBB Bella Bella 66.72 330 LR LR 01 36 14.8
comp=Z,126nm,19.5s,baz=107,slow=37
YKA Yellowknife Ar 68.78 344 P **P** **01 05 43.6 -0.3**
comp=Z,14nm,0.8s,baz=137,slow=5.9,SNR=222
PPT Papeete 69.58 252 LR LR 01 27 31.9
comp=Z,63nm,19.2s,baz=84,slow=28
PPT2 Papeete2 69.59 252 eLR LR 01 26 57.6
comp=Z,391nm,24.0s
DLBC Dease Lake 71.34 335 LR LR 01 39 44.4
comp=Z,134nm,18.3s,baz=116,slow=38
DLBC Dease Lake 71.34 335 P **P** **01 06 00.9 +1.1**
SFJD Kangerlussuaq 71.51 12 LR LR 01 35 52.8
comp=Z,44nm,21.5s,baz=216,slow=34
TGTN Hyland Airport 72.55 338 P **P** **01 06 08.5 +1.5**
baz=129,SNR=11
P33M Teslin, Yukon 73.54 336 P **P** **01 06 13.7 +0.8**
baz=124,SNR=14
MMPY Sheldon Lake, 74.33 338 P **P** **01 06 18.6 +1.1**
baz=126,SNR=12
WHY Whitehorse 74.64 335 P **P** **01 06 19.8 +0.4**
baz=122
FARO Faro, Yukon 74.90 337 P **P** **01 06 21.5 +0.8**
baz=124,SNR=6.2
M31M Drury Creek, Y 75.29 337 P **P** **01 06 23.9 +0.9**
baz=123,SNR=5.7
N31M Braeburn, Yuko 75.45 336 P **P** **01 06 24.8 +0.9**
baz=122,SNR=5.1
ICESG Greenland Ices 75.67 14 *i* P **P** **01 06 23.1 -2.3**
ICESG IAmb IAmb 01 06 24.4
comp=Z,8.3nm,0.7s
LIC Lamto 75.77 83 *e*P **P** **01 06 25.9 -0.8**
comp=Z,36nm,0.8s
TIC Toumodi 75.80 83 *e*P **P** **01 06 26.1 -0.8**
HYT Haines Junctio 75.83 335 P **P** **01 06 27.4 +1.2**
baz=120
DBIC Dimbokro 75.96 83 P **P** **01 06 27.0 -0.7**
comp=Z,5.5nm,0.6s,baz=286,slow=4.9,SNR=11
DBIC LR LR 01 38 00.1
comp=Z,201nm,18.9s,baz=274,slow=34
DBIC Dimbokro 75.96 83 P **P** **01 06 26.7 -1.1**
DBIC pmax pmax
comp=Z,29nm,1.4s
DBIC Dimbokro 75.96 83 P **P** **01 06 26.7 -1.1**
DBIC IAmb IAmb 01 06 37.3
comp=Z,29nm,1.4s
KIC Kosan Boka 76.06 83 *e*P **P** **01 06 27.7 -0.7**
comp=Z,27nm,0.6s
PNL Peninsula 76.08 333 P **P** **01 06 28.5 +0.9**
baz=118
YUK6 Outpost Mounta 76.25 335 P **P** **01 06 30.2 +1.4**
baz=119
M30M Minto, Yukon 76.43 337 P **P** **01 06 29.9 +0.4**
M30M IAmb IAmb 01 06 31.2
comp=Z,22nm,1.1s
M30M Minto, Yukon 76.43 337 P **P** **01 06 30.1 +0.6**
baz=121,SNR=11
C36M Paulatuk 76.50 345 P **P** **01 06 28.7 -0.9**
baz=135,SNR=5.0
RES Resolute Bay 76.53 356 P **P** **01 06 29.0 -0.8**
RES pmax pmax
comp=Z,9.0nm,1.0s
RES Resolute Bay 76.53 356 P **P** **01 06 29.0 -0.8**
YUK4 Talbot Arm 76.57 335 P **P** **01 06 31.8 +1.3**
baz=119,SNR=5.1
TABL Table Mountain 77.22 334 P **P** **01 06 35.0 +0.8**
KOWA Kowa 77.33 75 LR LR 01 38 18.3
comp=Z,191nm,20.9s,baz=252,slow=34
KOWA Kowa 77.33 75 P **P** **01 06 35.1 -0.4**
YUK3 Moose Creek 77.54 335 P **P** **01 06 36.8 +0.8**
baz=118,SNR=17
CTGM Chitina Glacie 77.54 334 P **P** **01 06 37.0 +1.0**
CTG Chitna Glacier 77.54 334 P **P** **01 06 37.1 +1.2**
baz=116,SNR=5.4
PESTR Estremoz 77.71 50 P **P** **01 06 36.5 -0.6**
PESTR IAmb IAmb 01 06 37.7
comp=Z,12nm,1.1s
BARN Barnard Glacie 77.72 334 P **P** **01 06 37.7 +0.7**
BARN IAmb IAmb 01 06 39.1
comp=Z,27nm,1.3s
BVCY Beaver Creek 78.00 336 P **P** **01 06 39.2 +0.9**
baz=117
DAWY Dawson 78.20 337 P **P** **01 06 39.5 +0.1**
DAWY IAmb IAmb 01 06 40.6
comp=Z,17nm,0.9s
DAWY Dawson 78.20 337 P **P** **01 06 39.4 0.0**
baz=119,SNR=17
M27K Edge Creek, AK 78.40 335 P **P** **01 06 41.4 +0.8**
M27K Edge Creek, AK 78.40 335 P **P** **01 06 41.4 +0.8**
baz=116
EPYK Eagle Plains 78.40 340 P **P** **01 06 40.8 +0.3**
baz=122,SNR=13
I29M Ogilvie Camp, 78.44 339 P **P** **01 06 41.1 +0.4**
baz=120,SNR=16
INK Inuvik 78.45 342 P **P** **01 06 41.1 +0.4**
INK pmax pmax
comp=Z,30nm,1.0s
INK Inuvik 78.45 342 P **P** **01 06 41.1 +0.4**
INK Inuvik 78.45 342 P **P** **01 06 41.0 +0.4**
baz=125,SNR=28
MCARA McCarthy VSAT 78.46 334 P **P** **01 06 41.8 +1.0**
baz=115,SNR=8.1
SUMG Summit 78.51 12 P **P** **01 06 40.8 -0.6**
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 78.51 12 *i* P **P** **01 06 39.4 -2.0**
SUMG IAmb IAmb 01 06 41.2
comp=Z,11nm,0.7s
SUMG Summit 78.51 12 P **P** **01 06 40.8 -0.6**
SUMG IAmb IAmb 01 06 41.6
comp=Z,19nm,0.8s
VRDI Verde Repeater 78.58 334 P **P** **01 06 42.4 +0.7**
A36M Sachs Harbour 78.65 347 P **P** **01 06 41.4 -0.2**
baz=134,SNR=99
BCAR Beaver Creek A 78.68 336 P **P** **01 06 42.9 +0.9**
L27K Beaver Creek, 78.69 336 P **P** **01 06 43.2 +1.1**
baz=116,SNR=12
BMRM Bremner River 78.98 333 P **P** **01 06 44.5 +0.7**
BMRM Bremner River 78.98 333 P **P** **01 06 44.3 +0.5**
baz=114,SNR=7.5
MDT Midelt 79.00 56 LR LR 01 41 14.0
comp=Z,60nm,18.6s,baz=344,slow=35
EGAK Eagle 79.21 338 P **P** **01 06 45.2 +0.4**
EGAK Eagle 79.21 338 P **P** **01 06 45.3 +0.4**
baz=117
N25K Chitina, Valde 79.24 334 P **P** **01 06 46.0 +0.8**
N25K Chitina, Valde 79.24 334 P **P** **01 06 45.6 +0.4**
baz=114
L26K Log Cabin Wild 79.30 336 P **P** **01 06 46.3 +0.8**
baz=115,SNR=6.6
RAR Rarotonga 79.43 249 LR LR 01 34 35.4
comp=Z,125nm,19.3s,baz=102,slow=30
KLU Klutina 79.78 334 P **P** **01 06 48.4 +0.2**
baz=112,SNR=6.5
DOT Dot Lake 79.85 336 P **P** **01 06 49.2 +0.7**
DOT IAmb IAmb 01 06 49.8
comp=Z,12nm,0.8s
SCRK Sand Creek 79.96 336 P **P** **01 06 49.6 +0.5**
baz=115,SNR=8.3
J26L Joseph Creek 80.02 337 P **P** **01 06 49.9 +0.5**
baz=115
BELA Beno 2 80.10 171 P **P** **01 06 49.7 +0.2**
M24K Tolsona, Glenn 80.12 334 P **P** **01 06 50.6 +0.6**
baz=112,SNR=6.7
PAX Paxson 80.16 335 P **P** **01 06 50.3 +0.1**
baz=113,SNR=17
RIDG Independent Ri 80.21 336 P **P** **01 06 50.9 +0.5**
baz=114,SNR=9.2
PAB San Pablo 80.31 50 P **P** **01 06 50.5 -1.0**
PAB pmax pmax
comp=Z,45nm,1.7s
PAB San Pablo 80.31 50 P **P** **01 06 50.5 -1.0**
PAB IAmb IAmb 01 08 22.5
comp=Z,45nm,1.6s
NEEM North Greenlan 80.47 6 *i* P **P** **01 06 50.5 -1.3**
NEEM IAmb IAmb 01 06 52.7
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 80.53 334 P **P** **01 06 52.4 +0.2**
SCM pmax pmax
comp=Z,37nm,0.8s
SCM Sheep Creek Mo 80.53 334 P **P** **01 06 52.4 +0.2**
SCM Sheep Creek Mo 80.53 334 P **P** **01 06 52.5 +0.2**
baz=111,SNR=7.6
ESDC Sonseca Array 80.62 50 P **P** **01 06 53.2 +0.1**
comp=Z,3.0nm,0.9s,baz=265,slow=4.3,SNR=10
ESDC LR LR 01 39 13.9
comp=Z,63nm,20.2s,baz=228,slow=33
ESDC Sonseca Array 80.62 50 P **P** **01 06 52.4 -0.8**
PWL Port Wells 80.63 333 P **P** **01 06 52.4 -0.3**
baz=110
J25K Salcha River, 80.77 337 P **P** **01 06 53.5 +0.1**
baz=113,SNR=8.6
KNK Knik Glacier 80.88 333 P **P** **01 06 54.4 +0.4**
baz=110,SNR=6.5
SML Sawmill 80.96 334 P **P** **01 06 54.6 +0.2**
baz=110,SNR=8.7
WAT6 Susitna Watana 80.98 334 P **P** **01 06 54.7 0.0**
baz=111,SNR=19
DHY Denali Highway 81.00 335 P **P** **01 06 55.1 +0.3**
baz=111
PMR Palmer 81.25 333 P **P** **01 06 55.4 -0.4**
PMR Palmer 81.25 333 P **P** **01 06 55.4 -0.4**
PMR IAmb IAmb 01 06 56.1
comp=Z,11nm,1.0s
PMR Palmer 81.25 333 P **P** **01 06 55.5 -0.4**
baz=110
SCO Scoresbysund 81.31 17 P **P** **01 06 55.6 -0.4**
SCO pmax pmax
SCO Scoresbysund 81.31 17 *i* P **P** **01 06 54.1 -1.9**
SCO IAmb IAmb 01 06 56.0
comp=Z,3.6nm,0.7s
SCO Scoresbysund 81.31 17 P **P** **01 06 55.6 -0.4**
HDA Harding Lake 81.32 336 P **P** **01 06 56.3 0.0**
baz=112,SNR=7.8
BRSE Bradley Lake S 81.40 331 P **P** **01 06 57.1 +0.3**
baz=108
IL31 81.44 337 P **P** **01 06 56.8 0.0**
IL31 IAmb IAmb 01 06 57.6
comp=Z,14nm,1.1s
ILAR Eielson Array 81.44 337 P **P** **01 06 56.3 -0.6**
comp=Z,5.2nm,0.9s,baz=137,slow=3.7,SNR=38
ILAR PP **PP** **01 10 05.2 +1.9**
comp=Z,2.6nm,1.0s,baz=105,slow=6.7,SNR=11
ILAR Eielson Array 81.44 337 P **P** **01 06 56.7 -0.2**
ILAR Eielson Array 81.44 337 P **P** **01 06 56.7 -0.2**
BMAR Burnt Mountain 81.64 339 P **P** **01 06 58.3 +0.4**
MCK McKinley 81.89 335 P **P** **01 06 59.3 0.0**
baz=110,SNR=6.3
CUT Chulitna 82.02 334 P **P** **01 06 59.8 -0.2**
baz=109,SNR=7.6
H24K Noodor Dome 82.22 337 P **P** **01 07 01.2 +0.2**
baz=111
NEA2 Nenana 82.25 336 P **P** **01 07 01.0 -0.1**
baz=110,SNR=7.2
TRF Thorofare Moun 82.37 335 P **P** **01 07 01.8 -0.2**
baz=109,SNR=7.0
VNA3 Neumayer Olymp 82.53 162 P **P** **01 07 01.8 -0.7**
TORD Torodi Ar. Bea 82.77 77 P **P** **01 07 03.8 -1.1**
comp=Z,1.8nm,0.6s,baz=275,slow=6.5,SNR=27
TORD Torodi Ar. Bea 82.77 77 P **P** **01 07 02.1 -2.8**
TORD IAmb IAmb 01 09 31.4
comp=Z,8.5nm,0.7s
BPAW Bear Paw Mtn. 82.87 335 P **P** **01 07 04.2 -0.2**
baz=108,SNR=15
PPLA Purkeypile 83.02 334 P **P** **01 07 05.1 -0.3**
baz=107,SNR=6.9
MLY Manley 83.07 336 P **P** **01 07 05.3 -0.1**
baz=108
CAST Castle Rocks 83.13 335 P **P** **01 07 05.3 -0.5**
baz=107,SNR=31
VNA2 Neumayer--Watz 83.15 162 P **P** **01 07 04.7 -1.0**
baz=303,slow=6.6
CHUM Lake Minchumin 83.36 335 P **P** **01 07 06.5 -0.4**
baz=107,SNR=8.3
N19K Bonanza Creek 83.49 332 P **P** **01 07 07.2 -0.6**
baz=105
COLD Coldfoot 83.58 338 P **P** **01 07 09.0 +1.0**
baz=109
I21K Tanana 83.61 336 P **P** **01 07 07.7 -0.5**
baz=107
L20K Farewell, AK 83.65 333 P **P** **01 07 08.0 -0.5**
baz=105,SNR=7.1
DBG Daneborg 83.67 14 *i* P **P** **01 07 07.7 -0.6**
DBG IAmb IAmb 01 07 09.1
comp=Z,2.6nm,0.8s
M19K Big River Lodg 83.73 333 P **P** **01 07 08.0 -0.9**
baz=105
TOLK Toolik Lake Re 83.83 340 P **P** **01 07 09.3 0.0**
baz=110,SNR=5.2
K20K Telida 83.97 334 P **P** **01 07 09.5 -0.6**
baz=105
L19K White Mountain 84.01 333 P **P** **01 07 09.9 -0.5**
baz=104
EKA Eskdalemuir Ar 84.03 34 LR LR 01 40 46.3
comp=Z,55nm,19.9s,baz=248,slow=33
H21K Melozitna Rive 84.08 337 P **P** **01 07 09.9 -0.7**
baz=107
J20K Nowinta River 84.22 335 P **P** **01 07 10.7 -0.6**
baz=105
GRR Gorron 84.24 41 *e*P **P** **01 07 12.0 +0.3**
GRR pmax pmax
comp=Z,141nm,1.8s
EPF Esparros 84.33 47 *e*P **P** **01 07 12.3 -0.1**
EPF pmax pmax
comp=Z,16nm,1.0s
MFF Saint Martin d 84.46 43 *e*P **P** **01 07 12.6 -0.3**
MFF pmax pmax
comp=Z,14nm,0.9s
FLN La Foliniere 84.54 41 *e*P **P** **01 07 12.9 -0.4**
FLN pmax pmax
comp=Z,54nm,1.3s
IMAR Indian Mountai 84.55 337 P **P** **01 07 12.7 -0.2**
SNAA Sanae 84.75 162 P **P** **01 07 13.2 -0.8**
SNAA Sanae 84.75 162 *ce*P **P** **01 07 12.7 -1.3**
SNAA pmax pmax
comp=Z,13nm,1.7s
SNAA Sanae 84.75 162 P **P** **01 07 13.8 -0.1**
SNAA IAmb IAmb 01 07 24.4
comp=Z,13nm,1.1s
LDF La Druitiere 84.75 41 *e*P **P** **01 07 13.8 -0.5**
LDF pmax pmax
comp=Z,78nm,1.7s
LFF La Frestale 84.85 45 *e*P **P** **01 07 14.5 -0.4**
LFF pmax pmax
comp=Z,17nm,0.7s
DAG Danmarks Havn 85.20 12 P **P** **01 07 15.4 -0.6**
DAG pmax pmax
comp=Z,29nm,1.4s
DAG Danmarks Havn 85.20 12 *i* P **P** **01 07 14.1 -1.9**
DAG IAmb IAmb 01 07 16.1
comp=Z,10nm,0.7s
RJF Les Rejaudoux 85.44 45 *e*P **P** **01 07 17.3 -0.6**
RJF pmax pmax
comp=Z,27nm,1.1s
CAF Calviac 85.78 45 *e*P **P** **01 07 19.0 -0.6**
CAF pmax pmax
comp=Z,14nm,1.1s
TCF Toulx Ste Croi 86.03 44 *e*P **P** **01 07 20.0 -0.8**
TCF pmax pmax
comp=Z,7.0nm,0.7s
CLF Chambon-Foret 86.26 42 P **P** **01 07 22.1 +0.3**
BGF Bois d'Agland 86.50 43 *e*P **P** **01 07 22.6 -0.5**
BGF pmax pmax
comp=Z,44nm,1.2s
AVF Avril sur Loir 86.87 43 *e*P **P** **01 07 23.9 -1.0**
AVF pmax pmax
comp=Z,14nm,1.0s
SSF Saint Saulge 87.00 43 *e*P **P** **01 07 25.4 -0.1**
SSF pmax pmax
comp=Z,7.0nm,0.8s
LOR Lormes 87.26 43 *e*P **P** **01 07 25.8 -1.0**
LOR pmax pmax
comp=Z,12nm,0.9s
NOR Nord 87.73 8 *i* P **P** **01 07 27.2 -1.1**
NOR IAmb IAmb 01 07 28.7
comp=Z,4.4nm,0.8s
GIVF Givet 88.13 40 *e*P **P** **01 07 30.7 -0.2**
GIVF pmax pmax
comp=Z,18nm,0.9s
ORIF Oris-en-Rattie 88.48 45 *e*P **P** **01 07 32.7 -0.1**
ORIF pmax pmax
comp=Z,12nm,0.9s
RDOG Red Dog Mine 88.49 338 P **P** **01 07 32.8 +0.6**
baz=98,SNR=8.8
QSPA South Pole Qui 88.59 180 P **P** **01 07 33.5 +0.6**
CABF La Chapelle 88.73 44 *e*P **P** **01 07 33.5 -0.4**
CABF pmax pmax
comp=Z,53nm,1.8s
FRF La Foret Royal 88.96 47 *e*P **P** **01 07 34.1 -0.8**
FRF pmax pmax
comp=Z,73nm,1.6s
WLF Walferdange 88.96 40 P **P** **01 07 35.4 +0.6**
WLF pmax pmax
comp=Z,16nm,0.8s
WLF Walferdange 88.96 40 P **P** **01 07 35.4 +0.6**
HAU Haudompre 88.99 42 *e*P **P** **01 07 35.2 +0.2**
HAU pmax pmax
comp=Z,34nm,1.5s
BNI Bardonecchia 89.06 45 P **P** **01 07 35.5 -0.1**
BNI pmax pmax
comp=Z,51nm,1.7s
BNI Bardonecchia 89.06 45 P **P** **01 07 35.5 -0.1**
ANM Nome 89.09 335 P **P** **01 07 35.6 +0.6**
baz=95
LPL La Plagne 89.12 45 *e*P **P** **01 07 38.8 +2.9**
LPL pmax pmax
comp=Z,12nm,1.2s
SENIN Lac Senin/Sane 89.56 44 P **P** **01 07 38.1 +0.1**
TNA Tin City 90.24 335 P **P** **01 07 41.2 +0.8**
baz=93
KEST Kesra 90.75 54 P **P** **01 07 44.1 +0.5**
comp=Z,4.9nm,0.7s,baz=14,slow=3.1,SNR=9.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEST				LR	LR	01 49 00.7	
	comp=Z,62nm,18.2s,baz=254,slow=36						
DAVOX	**Davos/Dischmat**	**91.35**	**43**	P	**P**	**01 07 46.2**	**0.0**
	comp=Z,6.3nm,0.8s,baz=142,slow=22,SNR=10						
DAVOX				LR	LR	01 45 30.3	
	comp=Z,36nm,20.3s,baz=263,slow=33						
DAVA	**Damuels**	**91.35**	**43**	*e*P	**P**	**01 07 46.8**	**+0.6**
	comp=Z,9.3nm,0.8s						
FETA	**Feichten**	**91.93**	**43**	*e*P	**P**	**01 07 49.2**	**+0.3**
	comp=Z,12nm,1.0s						
NOA	**NORSAR Array B**	**92.13**	**29**	LR	LR	01 49 38.4	
	comp=Z,26nm,18.8s,baz=255,slow=36						
MOTA	**Moosalm**	**92.19**	**43**	*e*P	**P**	**01 07 50.0**	**-0.1**
	comp=Z,11nm,1.1s						
WTTA	**Wattenberg**	**92.55**	**43**	*e*P	**P**	**01 07 52.1**	**+0.3**
	comp=Z,6.8nm,0.9s						
SPITS	**Spitsbergen Ar**	**92.85**	**12**	LR	LR	01 48 30.7	
	comp=Z,36nm,21.9s,baz=16,slow=35						
CLL	**Collm**	**93.36**	**39**	*e*P	**P**	**01 07 54.0**	**-1.2**
CLL	**Collm**	**93.36**	**39**	*e*P	**P**	**01 07 55.0**	**-0.2**
CLL				*e*(PS)		01 20 09.0	
CLL				LmH		01 43 00.0	
	comp=Z,100nm,21.9s						
HFS	**Hagfors**	**93.38**	**30**	LR	LR	01 47 30.1	
	comp=Z,45nm,19.0s,baz=268,slow=34						
KHC	**Kasperske Hory**	**93.80**	**41**	*i* P	**P**	**01 07 57.0**	**-0.3**
KHC				pmax	pmax		
	comp=Z,61nm,3.7s						
KHC	**Kasperske Hory**	**93.80**	**41**	*e*P	**P**	**01 07 57.3**	**0.0**
GERES	**GERESS Array B**	**93.90**	**41**	P	**P**	**01 07 57.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=342,slow=0.4,SNR=12						
GERES	**GERESS Array B**	**93.90**	**41**	P	**P**	**01 07 57.7**	**-0.2**
GERES	**GERESS Array B**	**93.90**	**41**	P	**P**	**01 07 57.7**	**-0.2**
BIOA	**Bad Ischl, Aus**	**93.90**	**42**	*e*P	**P**	**01 07 57.8**	**0.0**
	comp=Z,6.7nm,1.1s						
MOA	**Molln**	**94.31**	**42**	*e*P	**P**	**01 07 59.8**	**+0.1**
	comp=Z,4.2nm,1.1s						
VNDA	**Vanda**	**94.36**	**191**	LR	LR	01 44 34.0	
	comp=Z,115nm,18.1s,baz=177,slow=32						
PRU	**Pruhonice**	**94.39**	**40**	*e*P	**P**	**01 08 00.1**	**+0.1**
ARSA	**Arzberg**	**95.19**	**43**	*e*P	**P**	**01 08 03.6**	**-0.1**
	comp=Z,7.3nm,1.1s						
UPC	**Upice**	**95.30**	**40**	*e*P	**P**	**01 08 04.9**	**+0.8**
UPC	**Upice**	**95.30**	**40**	*e*P	**P**	**01 08 04.9**	**+0.8**
CONA	**Conrad Observa**	**95.38**	**42**	*i* P	**P**	**01 08 04.6**	**0.0**
	comp=Z,5.3nm,0.9s						
OSTC	**Ostas**	**95.43**	**40**	*e*P	**P**	**01 08 05.5**	**+0.8**
DPC	**Dobruska-Polom**	**95.51**	**40**	*e*P	**P**	**01 08 05.8**	**+0.7**
DPC				*e*pP	**pP**	**01 08 13.4**	**-4.4**
KRUC	**Moravsky**	**95.66**	**41**	*e*P	**P**	**01 08 06.4**	**+0.6**
VRAC	**Vranov**	**95.77**	**41**	P	**P**	**01 08 06.5**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=267,slow=4.1,SNR=6.4						
VRAC				LR	LR	01 45 31.9	
	comp=Z,76nm,21.6s,baz=272,slow=32						
VRAC	**Vranov**	**95.77**	**41**	*e*P	**P**	**01 08 07.1**	**+0.8**
ARCES	**ARCESS Array B**	**96.95**	**20**	LR	LR	01 46 55.7	
	comp=Z,30nm,21.6s,baz=276,slow=32						
TSUM	**Tsumeb**	**97.19**	**109**	LR	LR	01 50 43.8	
	comp=Z,255nm,19.3s,baz=314,slow=35						
TSUM	**Tsumeb**	**97.19**	**109**	P	**P**	**01 08 13.6**	**+0.1**
TSUM				IAmb	IAmb	01 08 14.6	
	comp=Z,4.5nm,0.9s						
URZ	**Urewera**	**98.78**	**231**	LR	LR	01 44 44.0	
	comp=Z,131nm,18.1s,baz=210,slow=30						
SUR	**Sutherland**	**98.80**	**123**	LR	LR	01 52 57.2	
	comp=Z,142nm,18.4s,baz=232,slow=35						
SYO	**Syowa Base**	**99.04**	**162**⇑	*e*Pdiff	**Pdif**	**01 08 20.3**	**-0.3**
FINES	**FINESS Array B**	**99.19**	**28**	LR	LR	01 46 23.3	
	comp=Z,74nm,21.8s,baz=268,slow=31						
BILL	**Bilibino**	**99.88**	**339**	*e*P	**Pdif**	**01 08 23.7**	**-0.7**
BILL				*e**PP	**pP**	**01 08 38.5**	**+1.4**
BILL				*e*		01 12 29.2	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
DZM	**Mont Dzumac**	**110.67**	**246**	*e*LR	LR	01 46 04.0	
	comp=Z,100nm,22.9s						
H11S2	**WAKE ISLAND Hy**	**112.02**	**289**	T	T	03 14 28.7	
	baz=85,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**112.03**	**289**	T	T	03 14 26.0	
	baz=85,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**112.04**	**289**	T	T	03 14 26.7	
	baz=85,slow=75,SNR=18						
KIV	**Kislovodsk**	**114.41**	**42**	*e*PKIKP	PKPdf	01 13 20.6	+0.4
KIV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KBZ	**Khabaz**	**114.64**	**42**	PKP	**PKiKP**	**01 13 20.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=302,slow=3.7,SNR=3.7						
ABKAR	**Akbulak array**	**121.63**	**29**	PKPdf	**PKPdf**	**01 13 33.7**	**-0.1**
ABKAR	**Akbulak array**	**121.63**	**29**	PKPdf	**PKPdf**	**01 13 33.9**	**+0.1**
ZAA0	**Zalesovo Array**	**126.32**	**11**	PKPdf	**PKPdf**	**01 13 42.0**	**-0.6**
ZALV	**Zalesovo Beam**	**126.32**	**11**	PKP	**PKPdf**	**01 13 42.0**	**-0.7**
	comp=Z,5.6nm,0.6s,baz=276,slow=2.7,SNR=34						
ZALV	**Zalesovo Beam**	**126.32**	**11**	PKIKP	**PKPdf**	**01 13 41.8**	**-0.9**
ZALV	**Zalesovo Beam**	**126.32**	**11**	PKPdf	**PKPdf**	**01 13 41.8**	**-0.9**
KURK	**Kurchatov**	**127.85**	**17***c*	*i*PKIKP	**PKPdf**	**01 13 45.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	**127.85**	**17**	PKPdf	**PKPdf**	**01 13 45.3**	**-0.4**
KURBB	**Kurchatov Arra**	**127.91**	**17**	PKhKP	PKPpre	01 13 39.8	
	comp=Z,0.2nm,0.3s,baz=309,slow=2.0,SNR=4.7						
KURBB				PKP	**PKPdf**	**01 13 45.8**	**0.0**
	comp=Z,7.8nm,0.7s,baz=326,slow=2.3,SNR=80						
STKA	**Stephens Creek**	**128.12**	**227**	PKP	**PKPdf**	**01 13 45.9**	**-0.9**
	comp=Z,7.5nm,0.8s,baz=42,slow=1.7,SNR=14						
STKA	**Stephens Creek**	**128.12**	**227**	PKIKP	**PKPdf**	**01 13 46.5**	**-0.3**
STKA	**Stephens Creek**	**128.12**	**227**		**PKPdf**	**01 13 46.5**	**-0.3**
MJAR	**Matsushiro Arr**	**130.01**	**319**	PKP	**PKPdf**	**01 13 49.2**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=80,slow=2.8,SNR=2.9						
ZAK	**Zakamensk**	**131.16**	**357**	*e*PKIKP	**PKPdf**	**01 13 51.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HRA	**Herat**	**132.27**	**43**		**PKPdf**	**01 13 54.4**	**-0.5**
MAKZ	**Makanchi**	**132.33**	**16**	PKIKP	**PKPdf**	**01 13 53.1**	**-1.3**
MAKZ	**Makanchi**	**132.33**	**16**	PKPdf	**PKPdf**	**01 13 53.1**	**-1.3**
MK31	**Makanchi Array**	**132.43**	**16**	PKIKP	**PKPdf**	**01 13 53.7**	**-0.9**
MK31	**Makanchi Array**	**132.43**	**16**		**PKPdf**	**01 13 53.7**	**-0.9**
MKAR	**Makanchi Array**	**132.43**	**16**	PKP	**PKPdf**	**01 13 53.9**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=308,slow=2.7,SNR=26						
AAK	**Ala-Archa**	**133.31**	**25**	PKP	**PKPdf**	**01 13 55.8**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=159,slow=1.8,SNR=6.8						
AAK	**Ala-Archa**	**133.31**	**25***c*	*i*PKIKP	**PKPdf**	**01 13 56.9**	**+0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
AAK	**Ala-Archa**	**133.31**	**25**	PKPdf	**PKPdf**	**01 13 56.6**	**+0.1**
ULN	**Ulaanbaatar**	**133.32**	**353***c*	*i*PKIKP	**PKPdf**	**01 13 55.8**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**133.42**	**354**	PKP	**PKPdf**	**01 13 56.3**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=337,slow=1.6,SNR=11						
SONM				PP	**PP**	**01 16 18.2**	**-5.0**
	comp=Z,1.9nm,1.1s,baz=6.4,slow=4.8,SNR=5.7						
SONM	**Songino Array**	**133.42**	**354**		**PKPdf**	**01 13 56.2**	**-0.4**
XLT	**XiLinHaoTe**	**135.24**	**343**	*e*PKP	**PKPdf**	**01 13 59.8**	**-0.2**
KSRS	**Korea Array**	**135.63**	**327**	PKP	**PKPdf**	**01 14 00.8**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=0.2,slow=0.4,SNR=7.3						
KSH	**Kashi**	**136.50**	**27**	PKP	**PKPdf**	**01 14 01.8**	**-0.8**
WMQ	**Urumqi**	**136.55**	**12**	*e*PKP	**PKPdf**	**01 14 02.7**	**+0.3**
ASAR	**Alice Springs**	**138.22**	**231**	PKhKP	PKPpre	01 13 56.4	
	comp=Z,3.5nm,0.7s,baz=120,slow=4.0,SNR=30						
ASAR				PKP	**PKPdf**	**01 14 06.2**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=121,slow=3.0,SNR=17						
ASAR	**Alice Springs**	**138.22**	**231**	PKIKP	**PKPdf**	**01 14 04.9**	**-1.2**
ASAR	**Alice Springs**	**138.22**	**231**		**PKPdf**	**01 14 04.9**	**-1.2**
HHC	**Hu-ho-hao-te**	**139.29**	**346**	*e*PKP	**PKPdf**	**01 14 08.8**	**+1.2**
WB2	**Warramunga Arr**	**139.71**	**236**	PKPdf	**PKPdf**	**01 14 08.3**	**-0.5**
WRAB	**Tennant Creek**	**139.72**	**236***c*	*i*PKIKP	**PKPdf**	**01 14 09.5**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**139.72**	**236**	PKhKP	PKPpre	01 14 02.0	
	comp=Z,2.2nm,0.8s,baz=118,slow=2.9,SNR=17						
WRA				PKP	**PKPdf**	**01 14 09.0**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=114,slow=1.1,SNR=24						
WRA	**Warramunga Arr**	**139.72**	**236**	PKIKP	**PKPdf**	**01 14 08.4**	**-0.5**
WRA	**Warramunga Arr**	**139.72**	**236**	PKPdf	**PKPdf**	**01 14 08.4**	**-0.5**
WB0	**Warramunga Arr**	**139.76**	**237**	PKPdf	**PKPdf**	**01 14 08.1**	**-0.9**
GTA	**Gaotai**	**142.23**	**360**	*e*PKP	**PKPdf**	**01 14 13.4**	**+0.4**
GTA				PP	**PP**	**01 17 17.3**	**-0.7**
GTA				AMB	AMB		
	comp=Z,72nm,5.8s						
GTA				LR	LR		
	comp=Z,77nm,17.5s						
GTA				LR	LR		
	comp=Z,67nm,18.9s						
GTA				LR	LR		
	comp=Z,110nm,19.6s						
NJ2	**Nanjing**	**144.50**	**331**	*e*PKP	**PKPdf**	**01 14 17.3**	**+0.3**
LYN	**LuoYang**	**144.92**	**341**	⇓PKP	**PKPab**	**01 14 15.8**	**-1.0**
GOMU	**GeErMu**	**145.18**	**7**	PKPbc	**PKPbc**	**01 14 17.8**	**-0.3**
GOMU				pPKP	pPKPdf	01 14 34.6	+3.0
GOMU				sPKP		01 14 39.2	
GOMU				AMB	AMB		
	comp=Z,120nm,5.2s						
LZH	**Lanzhou**	**145.31**	**354**	*e*PKPbc	**PKPbc**	**01 14 18.5**	**+0.2**
LZH				PP	**PP**	**01 17 36.3**	**-0.3**
LZH				AMB	AMB		
	comp=Z,180nm,7.5s						
XAN	**Xi'an**	**146.41**	**346**	PKPbc	**PKPdf**	**01 14 20.9**	**+0.6**
XAN				pPKP	pPKPdf	01 14 31.9	-1.5
FAKI	**Fak Fak**	**146.93**	**262**	PKPbc	**PKPdf**	**01 14 23.6**	**+1.9**
WHN	**Wuhan**	**147.82**	**335**	PKPbc	**PKPbc**	**01 14 25.3**	**-0.3**
PYUN	**Piuthan**	**149.19**	**29**	*e*P	**PKPdf**	**01 14 25.3**	**0.0**
	comp=Z,64nm,1.1s						
DANN	**Dangsing**	**149.34**	**28**	*e*P	**PKPdf**	**01 14 26.0**	**+0.4**
	comp=Z,126nm,0.9s						
KOLN	**Koldanda**	**149.76**	**29**	*e*P	**PKPdf**	**01 14 27.0**	**+0.8**
	comp=Z,49nm,1.0s						
ENH	**Enshi**	**149.81**	**343**	PKPdf	**PKPdf**	**01 14 25.4**	**-0.6**
ENH					**PKPbc**	**01 14 30.2**	**-0.6**
GKN	**Gorkha**	**150.04**	**27**	*e*P	**PKPdf**	**01 14 26.6**	**0.0**
CD2	**Chengdu**	**150.44**	**352**	PKPbc	**PKPdf**	**01 14 25.8**	**-1.2**
KKN	**Kakani**	**150.51**	**26**	*e*P	**PKPdf**	**01 14 27.2**	**-0.2**
	comp=Z,53nm,0.8s						
DMN	**Daman**	**150.59**	**27**	*e*P	**PKPdf**	**01 14 27.4**	**-0.2**
	comp=Z,35nm,0.7s						
GUN	**Gumba**	**150.67**	**25**	*e*P	**PKPdf**	**01 14 27.8**	**0.0**
	comp=Z,60nm,0.8s						
PKI	**Pulchoki**	**150.76**	**26**	*e*P	**PKPdf**	**01 14 27.5**	**-0.4**
LSA	**Lhasa**	**150.83**	**15**	PKPbc	**PKPdf**	**01 14 28.7**	**+0.5**
JIRN	**Jiri**	**151.02**	**25**	*e*P	**PKPdf**	**01 14 29.1**	**+0.7**
	comp=Z,26nm,0.6s						
RAMN	**Ramite**	**151.81**	**25**	*e*P	**PKPdf**	**01 14 29.3**	**-0.2**
	comp=Z,51nm,0.5s						
ODAN	**Odare**	**152.22**	**24**	*e*P	**PKPdf**	**01 14 30.0**	**-0.1**
HYBB	**Hyderabad (bro**	**154.04**	**51**	*e*PKPdf	**PKPdf**	**01 14 34.4**	**+1.7**
HYBB				*e*		01 14 51.8	
SHL	**Shillong**	**154.95**	**16**	PKIKP	**PKPbc**	**01 14 40.1**	**-2.5**
SHL						01 14 56.1	
SHL	**Shillong**	**154.95**	**16**		**PKPdf**	**01 14 32.9**	**-1.0**
SHL				PKPbc	**PKPbc**	**01 14 40.1**	**-2.5**
SHL				PKPab	**pPKPbc**	**01 14 56.1**	**+0.5**
PZH	**PanZhiHua**	**155.01**	**355**	PKPbc	**PKPdf**	**01 14 33.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**163.11**	**2**	PKP	**PKPdf**	**01 14 42.8**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=288,slow=1.8,SNR=14						
CMAR				PKPab	**PKPab**	**01 15 32.3**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=339,slow=5.9,SNR=15						

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*TIF **06** 00:57:04.9, 43.°18N×41.°60E, h2km±2km*
*IDC **06** 00:57:06.0±0.7, 43.°29N×41.°59E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.2/36, mbtmp3.3/7, ML0.6/1, Error ellipse: s-maj=11.1km s-min=6.9km az=166.0*
*DDA **06** 00:57:07.0±0.0, 42.°94N×41.°47E, h10km±5km, ML3.2*
*ISK **06** 00:57:07.4, 43.°29N×41.°50E, h27km, ML3.6/13*
*MOS **06** 00:57:08.8±0.0, 43.°26N×41.°72E, h2km, MPVA4.1*
*NORS **06** 00:57:11.4±0.0, 43.°20N×42.°04E, h2km, MPVA3.9*
*AZER **06** 00:57:12.4±1.9, 42.°87N×40.°92E, h10km, Error ellipse: s-maj=55.3km s-min=28.5km az=237.0*
ISC 06 00:57:07.2±0.9**, 43.°17N**±0.°02×**41.°62E**±0.°02**, h8**km±7km**, n83,** σ**1**S**43**/140**, mb3.5**/3**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.12**	**1**	*i* Pg	**Pg**	**00 57 10.4**	**+0.4**
DOMR				*i* Sg	**Sg**	**00 57 12.6**	**+0.6**
CHVG	**Ch'k'valeri**	**0.57**	**143**	P	**Pg**	**00 57 17.6**	**-0.5**
CHVG				S	**Sg**	**00 57 25.8**	**+0.2**
SHA1	**Shidzhatmaz**	**0.94**	**53**	*i* Pg	**Pg**	**00 57 24.2**	**-1.2**
SHA1				*e*Sg	**Sg**	**00 57 36.6**	**-1.1**
AHMR	**Akhmetovskaya**	**1.07**	**337**	*e*Pg	**Pn**	**00 57 28.1**	**-0.5**
AHMR				*e*Sg	**Sn**	**00 57 43.2**	**-0.4**
KBZ	**Khabaz**	**1.08**	**59**	Pg	**Pb**	**00 57 26.5**	**-1.7**
	39nm,0.3s,baz=256,slow=2.2,SNR=1122						
KBZ				Lg	Lg	00 57 39.5	
	88nm,0.3s,baz=242,slow=19,SNR=17						
KBZ	**Khabaz**	**1.08**	**59**	*i* Pg	**Pb**	**00 57 27.5**	**-0.7**
KBZ				*e*Sg	**Sg**	**00 57 41.2**	**-0.9**
KIV	**Kislovodsk**	**1.10**	**44**	PN	**Pb**	**00 57 27.3**	**-1.3**
KIV				SN	**Sg**	**00 57 41.9**	**-0.8**
KIV	**Kislovodsk**	**1.10**	**44**	*i* Pg	**Pb**	**00 57 27.2**	**-1.3**
KIV				*e*Sg	**Sg**	**00 57 41.6**	**-1.1**
RPOR	**Krasnaya Polya**	**1.12**	**299**	*e*Pg	**Pn**	**00 57 29.9**	**+0.7**
RPOR				*e*Sg	**Sn**	**00 57 46.8**	**+1.9**
BEYR	**Belyy Ugol+**	**1.21**	**46**	*i* Pg	**Pn**	**00 57 29.3**	**-1.2**
BEYR				*i* Sg	**Sb**	**00 57 44.5**	**-1.7**
TKB	**Tkibuli**	**1.30**	**129**	P	**Pn**	**00 57 31.7**	**-0.1**
TKB				S	**Sg**	**00 57 51.0**	**+1.9**
GUZR	**Guzeripl'**	**1.37**	**308**	*e*Pg	**Pg**	**00 57 34.6**	**+1.2**
GUZR				*e*Sg	**Sg**	**00 57 53.9**	**+2.7**
PYA1	**Pyatigorsk**	**1.39**	**50**	*e*Pg	**Pn**	**00 57 32.3**	**-0.7**
PYA1				*e*Sg	**Sn**	**00 57 50.9**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.46**	**100**	*e*Pg	**Pn**	**00 57 34.0**	**-0.1**
DIGR				*e*Sg	**Sn**	**00 57 53.1**	**-0.4**
ONI	**Oni**	**1.47**	**113**	P	**Pn**	**00 57 34.0**	**0.0**
ONI				S	**Sg**	**00 57 55.5**	**+1.1**
NCK	**Nalchik**	**1.48**	**77**	*e*Pg	**Pb**	**00 57 34.9**	**-0.1**
NCK				*e*Sg	**Sb**	**00 57 54.5**	**+0.6**
LABN	**Labinsk**	**1.60**	**337**	*e*Pg	**Pg**	**00 57 38.4**	**+0.4**
LABN				*e*Sg	**Sg**	**00 58 00.3**	**+1.5**
LSNR	**Lesken**	**1.62**	**85**	*e*Pg	**Pb**	**00 57 37.0**	**-0.3**
LSNR				*e*Sg	**Sb**	**00 57 58.7**	**+0.8**
ABS	**Abastumani**	**1.67**	**148**	P	**Pn**	**00 57 37.1**	**+0.3**
ABS				S	**Sg**	**00 58 00.8**	**-0.1**
ZEI	**Tsey**	**1.72**	**102**	*e*Pg	**Pg**	**00 57 40.2**	**+0.1**
ZEI				*e*Sg	**Sg**	**00 58 03.3**	**+0.9**
HOPA	**Hopa-Artvin**	**1.79**	**184**	PN	**Pn**	**00 57 38.7**	**+0.3**
STDR	**Stavd-Durt**	**1.79**	**83**	*e*Pg	**Pg**	**00 57 41.4**	**-0.2**
STDR				*e*Sg	**Sg**	**00 58 04.4**	**-0.5**
LZRR	**Lazarevskoye**	**1.80**	**296**	*e*Pg	**Pg**	**00 57 42.1**	**+0.4**
LZRR				*e*Sg	**Sg**	**00 58 07.2**	**+2.2**
DBOC	**Borcka**	**1.83**	**179**	P	**Pn**	**00 57 38.2**	**-0.8**
DBOC				S	**Sn**	**00 58 01.6**	**-0.7**
DBOC				*i* AML	AML	00 58 05.0	
	comp=E,601nm,0.2s						
ALER	**Alexandrovskoy**	**1.84**	**30**	*e*Pg	**Pb**	**00 57 40.6**	**-0.5**
ALER				*e*Sg	**Sb**	**00 58 05.0**	**+0.6**
EPOS	**Posof**	**1.86**	**153**	P	**Pn**	**00 57 39.8**	**+0.3**
EPOS				S	**Sg**	**00 58 06.0**	**-1.0**
EPOS				*i* AML	AML	00 58 07.0	
	comp=E,575nm,0.5s						
EPOS				*i* AML	AML	00 58 10.0	
	comp=N,869nm,1.1s						
ARNR	**Ardon**	**1.95**	**89**	*e*Pg	**Pg**	**00 57 43.9**	**-0.7**
ARNR				*e*Sg	**Sg**	**00 58 09.1**	**-0.8**
GOYR	**Goytkh**	**1.95**	**304**	*e*Pg	**Pg**	**00 57 43.8**	**-0.8**
GOYR				*e*Sg	**Sg**	**00 58 10.8**	**+1.0**
LACR	**Lac**	**1.99**	**99**	*e*Pg	**Pg**	**00 57 44.9**	**-0.5**
LACR				*e*Sg	**Sb**	**00 58 10.2**	**+1.3**
DAGI	**Agillar**	**2.10**	**174**	P	**Pn**	**00 57 42.5**	**-0.4**
DAGI				S	**Sn**	**00 58 08.9**	**-0.3**
DAGI				*i* AML	AML	00 58 13.0	
	comp=E,155nm,0.5s						
DAGI				*i* AML	AML	00 58 14.0	
	comp=N,92nm,0.2s						
BTKR	**Batakoyurt**	**2.14**	**84**	*i* Pg	**Pg**	**00 57 49.2**	**+0.9**
BTKR				*e*Sg	**Sg**	**00 58 16.1**	**+0.1**
GOF	**Gofitskoye**	**2.15**	**28**	*e*Pg	**Pb**	**00 57 45.9**	**-0.5**
GOF				*e*Sg	**Sb**	**00 58 12.9**	**-0.2**
DBAD	**Bademkaya**	**2.15**	**178**	P	**Pn**	**00 57 42.8**	**-0.7**
DBAD				*i* AML	AML	00 58 17.0	
	comp=E,156nm,0.4s						
DBAD				*i* AML	AML	00 58 17.0	
	comp=N,244nm,0.5s						
CHOM	**Cayeli-Rize**	**2.17**	**197**	PN	**Pn**	**00 57 42.9**	**-0.7**
GUDG	**Gudauri**	**2.22**	**108**	P	**Pb**	**00 57 47.5**	**-0.1**
AKH	**Akhalkalaki**	**2.24**	**141**	P	**Pb**	**00 57 47.2**	**-0.9**
AKH				S	**Sb**	**00 58 17.1**	**+1.0**
AKH	**Akhalkalaki**	**2.24**	**141**	PN	**Pn**	**00 57 45.9**	**+1.1**
BRNG	**Burnasheti**	**2.25**	**133**	P	**Pb**	**00 57 47.8**	**-0.4**
BRNG				S	**Sb**	**00 58 15.7**	**-0.6**
PNSH	**Pansheti**	**2.27**	**103**	P	**Pb**	**00 57 47.0**	**-1.5**
DDEM	**Demirkent**	**2.28**	**178**	P	**Pn**	**00 57 45.4**	**+0.1**
DDEM				*i* AML	AML	00 58 21.0	
	comp=E,282nm,0.4s						
DDEM				*i* AML	AML	00 58 21.0	
	comp=N,366nm,0.4s						
TRKR	**Terskaya**	**2.33**	**75**	*e*Pg	**Pg**	**00 57 52.5**	**+0.6**
TRKR				*i* Sg	**Sg**	**00 58 21.7**	**-0.4**
KMGR	**Komgaron**	**2.38**	**92**	*i* Pn	**Pb**	**00 57 49.5**	**-0.9**
KMGR				*e*Sn	**Sb**	**00 58 18.7**	**-1.2**
BGD	**Bogdanovka**	**2.41**	**142**	P	**Pb**	**00 57 49.2**	**-1.7**
BGD				S	**Sb**	**00 58 21.4**	**+0.6**
KTUT	**Trabzon**	**2.58**	**213**	PN	**Pn**	**00 57 49.2**	**-0.1**
KTUT				SN	**Sn**	**00 58 19.8**	**-1.0**
MACK	**Trabzon**	**2.62**	**212**	P	**Pn**	**00 57 49.9**	**+0.1**
MACK				S	**Sn**	**00 58 22.0**	**+0.2**
MACK				*i* AML	AML	00 58 23.0	
	comp=N,428nm,0.3s						
MACK				*i* AML	AML	00 58 25.0	
	comp=E,378nm,0.3s						
DMNI	**Dmanisi**	**2.65**	**133**	P	**Pb**	**00 57 52.5**	**-2.5**
ERBR	**Yeremizino-Bor**	**2.67**	**343**	*e*Pn	**Pb**	**00 57 53.9**	**-1.3**
ERBR				*e*Sn	**Sb**	**00 58 25.6**	**-2.6**
KARS	**Kars**	**2.77**	**156**	PN	**Pn**	**00 57 53.6**	**+1.6**
BTNK	**Botanikuri**	**2.78**	**121**	P	**Pn**	**00 57 50.8**	**-1.3**
KRIK	**Erzurum-spir**	**2.88**	**191**	P	**Pn**	**00 57 53.2**	**-0.4**
KRIK				S	**Sn**	**00 58 29.6**	**+1.1**
GL1R	**Gelendzhik**	**2.91**	**299**	*e*Pn	**Pb**	**00 57 57.5**	**-1.9**
GL1R				*e*Sn	**Sb**	**00 58 33.5**	**-1.6**
BAYT	**Aydıntepe-Bayb**	**2.99**	**202**	PN	**Pn**	**00 57 55.5**	**+0.5**
BAYT				SN	**Sn**	**00 58 30.5**	**-0.6**
SPGR	**Shapsug**	**3.00**	**303**	*i* Pn	**Pb**	**00 57 58.2**	**-2.7**
SPGR				*e*Sn	**Sb**	**00 58 35.5**	**-2.2**
GROC	**Groznyy**	**3.05**	**88**	*e*Pn	**Pb**	**00 58 03.4**	**+1.6**
GROC				*i* Sn	**Sb**	**00 58 40.4**	**+1.2**
ERZM	**Erzurum**	**3.27**	**183**	PN	**Pn**	**00 58 00.1**	**+1.1**
DGRG	**David-gareji**	**3.27**	**120**	P	**Pb**	**00 58 02.2**	**-3.3**
EJDE	**Erzurum, Palan**	**3.34**	**184**	PN	**Pn**	**00 58 01.2**	**+1.1**
BTLR	**Botlikh**	**3.42**	**97**	*e*Pn	**Pg**	**00 58 11.2**	**-1.5**
BTLR				*e*Sn	**Sb**	**00 58 51.7**	**+1.9**
ANN	**Anapa**	**3.43**	**300**	*e*Pn	**Pb**	**00 58 05.9**	**-2.4**
ANN				*e*Sn	**Sb**	**00 58 48.7**	**-1.3**
QZX	**Qazax, Azerbai**	**3.50**	**126**	P	**Pb**	**00 58 09.9**	**+0.5**
QZX				S	**Sb**	**00 58 55.8**	**+3.7**
KELT	**Kelkit**	**3.50**	**211**	P	**Pn**	**00 58 03.2**	**+1.0**
KELT				S	**Sn**	**00 58 45.5**	**+1.6**
KELT				*i* AML	AML	00 58 47.0	
	comp=E,49nm,0.3s						
KELT				*i* AML	AML	00 58 48.0	
	comp=N,38nm,0.2s						
ALUC	**Giresun/Alucra**	**3.54**	**218**	P	**Pn**	**00 58 03.7**	**+1.1**
ALUC				S	**Sn**	**00 58 45.8**	**+1.1**
ALUC				*i* AML	AML	00 58 48.0	
	comp=E,69nm,0.4s						
ALUC				*i* AML	AML	00 58 49.0	
	comp=N,75nm,0.3s						
TASB	**TASBURUN-IGDIR**	**3.74**	**147**	PN	**Pn**	**00 58 07.3**	**+2.0**
GNI	**Garni**	**3.82**	**141**	Pn	**Pn**	**00 58 09.8**	**+3.3**
	0.2nm,0.3s,baz=322,slow=17,SNR=1.7						
GNI				Pg	**Pg**	**00 58 18.4**	**-1.9**
	1.9nm,0.3s,baz=318,slow=9.3,SNR=16						
GNI				Lg	Lg	00 59 13.3	
	1.4nm,0.3s,baz=241,slow=22,SNR=1.5						
GNI	**Garni**	**3.82**	**141**	PN	**Pn**	**00 58 08.4**	**+1.9**
GDB	**GEDABAY**	**3.94**	**127**	P	**Pb**	**00 58 17.5**	**+0.6**
GDB				S	**Sb**	**00 59 04.4**	**-0.4**
ZKTA	**Zakatala**	**4.01**	**111**	P	**Pb**	**00 58 20.1**	**+2.0**
ZKTA				S	**Sg**	**00 59 12.5**	**-3.4**
HYR	**Heyderabad**	**4.22**	**144**	P	**Pb**	**00 58 17.8**	**-3.9**
HYR				S	**Sb**	**00 59 10.5**	**-2.3**
RSDY	**Resadiye-TOKAT**	**4.24**	**231**	PN	**Pn**	**00 58 12.4**	**+0.3**
GANJ	**Ganja**	**4.32**	**124**	P	**Pb**	**00 58 23.1**	**-0.3**
GANJ				S	**Sb**	**00 59 15.5**	**-0.2**
SEKA	**Sheki**	**4.58**	**113**	P	**Pb**	**00 58 29.3**	**+1.4**
SEKA				S	**Sb**	**00 59 26.4**	**+3.1**
KVT	**Kavak**	**4.64**	**245**	PN	**Pn**	**00 58 17.5**	**-0.1**
TOKT	**Tokat**	**4.75**	**235**	PN	**Pn**	**00 58 19.4**	**+0.3**
SBZ	**Shahbuz**	**4.80**	**141**	P	**Pb**	**00 58 32.7**	**+1.2**
SBZ				S	**Sb**	**00 59 23.1**	**-6.3**
BZK	**Bozkurt**	**5.75**	**260**	PN	**Pn**	**00 58 32.9**	**+0.1**
CORM	**Corum**	**6.03**	**243**	PN	**Pn**	**00 58 37.4**	**+0.6**
BRTR	**Keskin Array B**	**6.91**	**243**	Pn	**Pn**	**00 58 50.4**	**+1.5**
	0.2nm,0.3s,baz=43,slow=9.5,SNR=9.7						
BRTR				Sn	**Sn**	**01 00 08.3**	**+0.5**
	0.1nm,0.3s,baz=46,slow=24,SNR=1.8						
BRTR	**Keskin Array B**	**6.91**	**243**	PN	**Pn**	**00 58 49.6**	**+0.7**
MLR	**Muntele Rosu**	**11.47**	**287**	Pn	**Pn**	**00 59 52.4**	**+1.1**
	0.2nm,0.3s,baz=114,slow=10.0,SNR=7.3						
MLR				Sn	**Sn**	**01 01 59.1**	**-0.4**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.7						
FINES	**FINESS Array B**	**20.52**	**338**	P	**P**	**01 01 45.7**	**+0.2**
	0.5nm,0.5s,baz=134,slow=12,SNR=1.9						
KURBB	**Kurchatov Arra**	**26.08**	**60**	P	**P**	**01 02 42.3**	**+1.2**
	0.6nm,0.6s,baz=273,slow=9.4,SNR=7.1						
MKAR	**Makanchi Array**	**28.77**	**69**	P	**P**	**01 03 05.9**	**+0.7**
	0.1nm,0.6s,baz=301,slow=6.1,SNR=2.1						
ZALV	**Zalesovo Beam**	**30.10**	**54**	P	**P**	**01 03 18.2**	**+1.3**
	0.4nm,0.5s,baz=282,slow=6.8,SNR=1.4						

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*KRNET **06** 01:10:34.1±0.1, 40.°50N×78.°11E, mb2.3*
*SOME **06** 01:10:37.8, 40.°70N×77.°22E, h20km*
*NNC **06** 01:10:39.3±4.9, 40.°71N×77.°21E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=33.4km s-min=27.1km az=16.0*
ISC 06 01:10:37.3±2.2**, 40.°69N**±0.°09×**77.°25E**±0.°04**, h10**km±12km**, n30,** σ**1**S**61**/49**, 6C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.12**	**22**⇓	*i*P	**Pg**	**01 10 56.4**	**-2.4**
	baz=49						
TARG			⇓	*i*S	**Sg**	**01 11 12.6**	**-0.8**
	baz=49						
ULHL	**Ulahol**	**1.73**	**334**⇑	*i*P	**Pb**	**01 11 10.0**	**+0.8**
	baz=22						
ULHL			⇑	*i*S	**Sg**	**01 11 36.2**	**+3.4**
	baz=22						
BOOM	**Boomskoye usch**	**2.05**	**332**⇓	*e*P	**Pb**	**01 11 14.7**	**+0.1**
	baz=21						
BOOM			⇓	*i*S	**Sg**	**01 11 44.3**	**+1.2**
	baz=21						
ANVS	**Anan'yevo**	**2.11**	**8**⇑	*i*P	**Pn**	**01 11 10.8**	**-2.1**
	baz=52						
ANVS			⇑	*i*S	**Sn**	**01 11 37.6**	**-1.7**
	baz=52						
TNSS	**Tian-Shan**	**2.35**	**355**	*e*P	**Pb**	**01 11 20.9**	**+0.9**
	7.2nm,0.3s						
TNSS				*e*S	**Sg**	**01 11 52.0**	**-0.9**
	2.8nm,0.5s						
TNSS	**Tian-Shan**	**2.35**	**355**	Pg	**Pb**	**01 11 20.9**	**+0.9**
	7.2nm,0.3s						
TNSS				Lg	Lg	01 11 52.5	
	2.8nm,0.5s						
MDOK	**Medeo**	**2.47**	**357**	*e*P	**Pb**	**01 11 22.9**	**+1.0**
	1.9nm,0.2s						
MDOK				*e*S	**Sg**	**01 11 55.3**	**-1.4**
	4.1nm,0.6s						
MDOK	**Medeo**	**2.47**	**357**	P	**Pb**	**01 11 22.4**	**+0.5**
	0.7nm,0.4s						
MDOK				S	**Sg**	**01 11 59.5**	**+2.7**
	3.5nm,0.6s						
MDOK	**Medeo**	**2.47**	**357**	Pg	**Pb**	**01 11 22.9**	**+1.0**
	1.9nm,0.2s						
MDOK				Lg	Lg	01 11 55.8	
	4.1nm,0.6s						
ARLS	**Aral**	**2.49**	**299**⇓	*i*P	**Pb**	**01 11 22.8**	**+0.6**
	baz=97						
ARLS			⇓	*i*S	**Sg**	**01 11 58.3**	**+0.9**
	baz=97						
SATY	**Saty**	**2.52**	**20**	*e*P	**Pb**	**01 11 24.0**	**+1.3**
	2.1nm,0.2s						
SATY				*e*S	**Sg**	**01 11 57.1**	**-1.1**
	5.6nm,0.4s						
SATY	**Saty**	**2.52**	**20**	Pg	**Pb**	**01 11 24.0**	**+1.3**
	2.1nm,0.2s						
SATY				Lg	Lg	01 11 58.0	
	5.6nm,0.4s						
KOTS	**Kotyrbulak**	**2.54**	**358**	*e*P	**Pb**	**01 11 24.3**	**+1.2**
	5.1nm,0.2s						
KOTS				*e*S	**Sg**	**01 11 57.9**	**-1.0**
	3.9nm,0.5s						
KOTS	**Kotyrbulak**	**2.54**	**358**	Pg	**Pb**	**01 11 24.3**	**+1.2**
	5.1nm,0.2s						
KOTS				Lg	Lg	01 11 57.9	
	3.9nm,0.5s						
UCH	**Uchtor**	**2.56**	**308**⇑	*i*P	**Pb**	**01 11 23.7**	**+0.1**
	baz=4.0						
UCH			⇑	*i*S	**Sg**	**01 11 59.6**	**-0.1**
	baz=4.0						
DGS	**Degeres**	**2.77**	**337**	*e*P	**Pb**	**01 11 27.5**	**+0.5**
	1.1nm,0.3s						
DGS				*e*S	**Sb**	**01 12 03.0**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	2.2nm,0.5s						
DGS	Degeres	2.77	337	Pg	Pb	01 11 27.5	+0.5
	1.1nm,0.3s						
DGS				Lg	Lg	01 12 03.7	
	2.2nm,0.5s						
UZB	Uzynbulak	2.79	28	eP	Pb	01 11 28.8	+1.5
	2.2nm,0.2s						
UZB				eS	Sg	01 12 05.4	-1.4
	3.5nm,0.4s						
UZB	Uzynbulak	2.79	28	Pg	Pb	01 11 28.8	+1.5
	2.2nm,0.2s						
UZB				Lg	Lg	01 12 05.4	
	3.5nm,0.4s						
SHLS	Shalkode	2.97	33	eP	Pg	01 11 35.0	+0.9
	1.3nm,0.1s						
SHLS				eS	Sg	01 12 16.0	+3.4
	3.9nm,0.3s						
SHLS	Shalkode	2.97	33	Pg	Pg	01 11 35.0	+0.9
	1.3nm,0.1s						
SHLS				Lg	Lg	01 12 16.0	
	3.9nm,0.3s						
KPKS	Kokpek	2.97	21	eP	Pb	01 11 32.3	+2.0
	0.8nm,0.1s						
KPKS				eS	Sg	01 12 11.7	-1.0
	6.2nm,0.4s						
KTBS	Karatobe	3.05	352	eP	Pb	01 11 33.3	+1.7
	2.3nm,0.4s						
KTBS				eS	Sg	01 12 13.3	-1.8
	2.7nm,0.2s						
KTBS	Karatobe	3.05	352	Pg	Pb	01 11 33.3	+1.7
	2.3nm,0.4s						
KTBS				Lg	Lg	01 12 12.8	
	2.7nm,0.2s						
PDGK	Podgornoye	3.12	32	Pg	Pb	01 11 34.0	+1.1
	0.3nm,0.1s						
PDGK				Lg	Lg	01 12 14.6	
	4.0nm,0.6s						
PDGK	Podgornoye	3.12	32	P	Pb	01 11 32.1	-0.8
	0.9nm,0.6s						
PDGK				⇓S	Sb	01 12 11.7	+0.6
	3.8nm,0.6s						
BLB	Baldybastay	3.52	15	eP	Pb	01 11 41.9	+2.1
	1.1nm,0.0s						
BLB				eS	Sg	01 12 27.8	-2.6
	4.3nm,0.2s						
BLB	Baldybastay	3.52	15	Pg	Pb	01 11 41.9	+2.1
	1.1nm,0.0s						
BLB				Lg	Lg	01 12 27.8	
	4.3nm,0.2s						
KTMS	Ketmen	3.59	39	eP	Pb	01 11 41.8	+0.8
	0.3nm,0.2s						
KTMS				eS	Sb	01 12 27.8	+3.0
	3.6nm,0.6s						
KTMS	Ketmen	3.59	39	Pg	Pb	01 11 41.8	+0.8
	0.3nm,0.2s						
KTMS				Lg	Lg	01 12 27.8	
	3.6nm,0.6s						

IDC 06 01:25:30.3±3.2**, 27.°54N×86.°00E, h0km, mb3.3**/3**, mb1 3.4**/4**, mb1mx3.1**/40**, mbtmp3.2**/4**, ML3.2**/1**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.6**/56**, Error ellipse: s-maj=108.0km s-min=29.5km az=72.0, Nepal**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MKAR	Makanchi Array	19.44	352	P	P	01 29 57.2	-1.2
	0.1nm,0.3s,baz=180,slow=10.0,SNR=5.3						
SONM	Songino Array	25.76	33	P	P	01 31 02.8	0.0
	0.2nm,0.5s,baz=218,slow=10,SNR=1.8						
ZALV	Zalesovo Beam	26.40	358	P	P	01 31 09.3	+1.0
	0.4nm,0.4s,baz=181,slow=12,SNR=1.9						
MMAI	Mount Meron Ar	43.70	290	LR	LR	01 55 24.2	
	comp=Z,25nm,20.9s,baz=51,slow=41						
JAY	Jayapura	60.49	110	LR	LR	02 06 08.5	
	comp=Z,86nm,18.2s,baz=201,slow=40						
WRA	Warramunga Arr	66.46	130	P	P	01 36 21.8	-0.1
	0.2nm,0.3s,baz=322,slow=6.3,SNR=5.4						

*SNET **06** 01:26:05.7±0.9, 12.°96N×89.°43W, h48km±11km, ML3.4*
*GCG **06** 01:26:07.4±0.7, 12.°88N×89.°75W, h23km±71km, MD3.7*
*INET **06** 01:26:07.2±1.0, 13.°02N×89.°32W, h28km±29km, ML3.1*
ISC 06 01:26:04.8±1.8**, 12.°91N**±0.°07×**89.°42W**±0.°05**, h28**km±14km**, n30, σ0.s52**/46**, 2C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.59	10	eP	Pn	01 26 17.3	0.0
LALI				eS	Sn	01 26 26.4	+0.4
JAYA	Jayaque - finc	0.74	358	⇑iP	Pn	01 26 19.3	-0.4
JAYA				eS	Sn	01 26 29.3	-0.8
JAYA				IAML		01 26 30.3	
	comp=Z,5µm,0.2s						
SNET	Serv Nac Est T	0.80	14	eP	Pn	01 26 20.1	-0.2
SNET				eS	Sb	01 26 31.3	+0.6
SNET	Serv Nac Est T	0.80	14	eP	Pn	01 26 20.1	-0.2
UEES	Universidad Ev	0.82	13	eP	Pn	01 26 20.5	-0.2
UEES				eS	Sb	01 26 32.1	+0.6
UEES				IAML		01 26 33.8	
	comp=Z,2µm,0.1s						
OPAM	Oficina de Pla	0.83	15	eP	Pn	01 26 20.7	-0.1
OPAM				eS	Sb	01 26 32.4	+0.7
OPAM				IAML		01 26 33.8	
	comp=Z,1µm,0.3s						
BOQS	Boqueron	0.84	10	⇑iP	Pn	01 26 20.9	-0.1
TECO	Alcaldia de Te	0.89	45	eP	Pn	01 26 21.2	-0.3
TECO				eS	Sb	01 26 33.3	+0.1
LFU	La Fuente	0.89	20	eP	Pb	01 26 21.9	+0.1
CEDA	San Andres	0.89	2	eP	Pn	01 26 21.3	-0.2
CEDA				eS	Sb	01 26 33.7	+0.4
CEDA				IAML		01 26 41.7	
	comp=Z,1µm,0.3s						
CEDA	San Andres	0.89	2	i P	Pn	01 26 21.3	-0.2
PAVA	Las Pavas	0.93	31	eP	Pn	01 26 22.2	0.0
PAVA				eS	Sb	01 26 35.0	+0.4
PAVA				IAML		01 26 36.2	
	comp=Z,1µm,0.2s						
PAVA	Las Pavas	0.93	31	i P	Pn	01 26 22.2	0.0
SBLS	San Blas	0.95	348	eP	Pn	01 26 22.3	-0.2
SNJE	San Jose	0.97	350	eP	Pn	01 26 22.6	-0.3
RTR	El Retiro	1.01	348	eP	Pn	01 26 23.3	0.0
SCLA	Alcaldia de Sa	1.04	41	eP	Pn	01 26 23.8	+0.2
SCLA				eS	Sb	01 26 38.0	+0.4
TACO	Tacachico	1.06	4	i P	Pn	01 26 23.7	-0.2
TACO				eS	Sb	01 26 37.6	-0.5
SLOZ	Alcaldia de Sa	1.17	343	eP	Pn	01 26 25.4	+0.1
SLOZ				eS	Sb	01 26 41.2	+0.1
SLOZ				IAML		01 26 47.3	
	comp=Z,384nm,0.4s						
LCY	Lacayo	1.21	65	eP	Pb	01 26 26.8	-0.4
VSM	San Miguel	1.23	65	eP	Pb	01 26 27.3	-0.4
MTO3	Montecristo	1.48	2	eP	Pn	01 26 30.0	+0.1
MTO3				eS	Sn	01 26 48.9	+0.4
MTO3	Montecristo	1.48	2	eP	Pn	01 26 29.7	-0.2
NBG	Las Nubes	1.90	332	eP	Pb	01 26 37.6	-1.3
NBG				eS	Sb	01 27 02.0	-0.3
FUG	Fuego 3	2.06	318	eP	Pn	01 26 38.6	+0.8
FUG				eS	Sn	01 27 02.9	+0.2
MRL	Marmol	2.18	353	eP	Pn	01 26 40.9	+1.5
MRL				eS	Sb	01 27 11.0	+0.6
CRIN	San Cristobal	2.33	95	eP	Pn	01 26 42.1	+0.8
CNGN	Cerro Negro	2.69	98	eP	Pn	01 26 46.2	-0.1
STG3	Santiaguito 3,	2.75	311	eP	Pn	01 26 48.3	+1.1
STG3				eS	Sn	01 27 19.4	-0.3
BOAB	BOACO BROADBAN	3.70	97	eP	Pn	01 26 59.7	-0.4

*MEX **06** 01:33:36.4±0.5, 14.°53N×92.°66W, h61km±21km, MD3.4*
*GCG **06** 01:33:38.8±0.5, 14.°99N×92.°46W, h56km±12km, MD3.8*
ISC 06 01:33:37.5±2.2**, 14.°6N**±0.°1×**92.°67W**±0.°10**, h42**km±27km**, n9, σ0.s61**/17**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THIG		0.48	56	eP	Pn	01 33 47.9	-0.1
THIG				i S	Sn	01 33 56.3	+0.8
PATR	El Naranjo	0.64	42	eP	Pn	01 33 49.5	-0.9
PATR				eS	Sn	01 33 59.9	+0.3
CHUJ	Union Juarez	0.71	50	eP	Pn	01 33 50.4	-1.0
CHUJ				eS	Sn	01 34 01.5	+0.2
PAVE	Pavencul	0.73	41	eP	Pn	01 33 50.9	-0.8
PAVE				eS	Sn	01 34 02.3	+0.5
STG3	Santiaguito 3,	1.07	86	eP	Pn	01 33 56.1	-0.1
STG3				eS	Sn	01 34 09.5	-0.5
PCIG		1.19	334	eP	Pn	01 33 57.4	-0.2
PCIG				eS	Sn	01 34 12.6	0.0
CCIG	Comitan	1.71	17	eP	Pn	01 34 05.2	+0.1
CCIG				eS	Sn	01 34 26.9	+1.0
FUG	Fuego 3	1.78	96	eP	Pn	01 34 06.2	+0.2
FUG				eS	Sn	01 34 27.8	+0.3
PCG	Pacaya	2.02	97	eS	Sn	01 34 33.6	+0.2

IDC 06 01:44:37.2±1.9**, 0.°92N×124.°42E, h0km, mb3.2**/3**, mb1 3.5**/4**, mb1mx3.3**/35**, mbtmp3.3**/4**, ML3.4**/1**, Error ellipse: s-maj=123.4km s-min=26.8km az=66.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.93	176	P	P	01 49 00.1	+0.2
	0.1nm,0.3s,baz=354,slow=9.2,SNR=6.9						
WRA	Warramunga Arr	22.90	155	P	P	01 49 42.9	+0.1
	0.7nm,0.4s,baz=335,slow=10,SNR=12						
ASAR	Alice Springs	26.12	160	P	P	01 50 12.6	-0.5
	0.1nm,0.4s,baz=342,slow=15,SNR=2.0						
MKAR	Makanchi Array	58.60	327	P	P	01 54 36.2	+0.1
	0.1nm,0.3s,baz=121,slow=9.3,SNR=1.9						

*NEIC **06** 01:46:49.5±1.8, 7.°65S±0.°09×128.°60E±0.°07, h162km±10km, mb3.6/3, Error ellipse: s-maj=14.1km s-min=8.3km az=143.0*
*IDC **06** 01:46:54.9±6.4, 8.°00S×128.°21E, h196km±70km, mb3.1/1, mb1 3.4/5, mb1mx3.1/31, mbtmp3.9/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=73.7km s-min=21.5km az=40.0*
ISC 06 01:46:48.6±0.7**, 7.°73S**±0.°06×**128.°54E**±0.°06**, h150**km**, n18, σ1.s89**/23**, mb3.5**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.75	95	Pn	Pn	01 47 34.2	+1.4
SAUI				Sn	Sn	01 48 08.0	+1.1
BATI	Baumata	5.41	243	P	Pn	01 48 10.4	+2.9
	14nm,0.3s,baz=99,slow=5.3,SNR=14						
BATI				S	Sn	01 49 07.6	-1.4
	14nm,0.3s,baz=257,slow=23,SNR=11						
FAKI	Fak Fak	6.04	38		Pn	01 48 15.3	-0.6
FAKI				Sn	Sn	01 49 22.4	-1.8
FITZ	Fitzroy Crossi	10.69	195	P	Pn	01 49 18.6	+0.9
	1.8nm,0.3s,baz=16,slow=9.9,SNR=123						
FITZ				S	Sn	01 51 12.3	-3.6
	0.4nm,0.3s,baz=288,slow=21,SNR=1.7						
WB0	Warramunga Arr	13.25	155	P	Pn	01 49 53.1	+2.1
WRA	Warramunga Arr	13.38	156	P	Pn	01 49 55.0	+2.2
	0.6nm,0.3s,baz=333,slow=10,SNR=20						
WRA				S	Sn	01 52 17.5	-3.5
	1.2nm,0.3s,baz=333,slow=23,SNR=12						
WRA	Warramunga Arr	13.38	156	P	Pn	01 49 53.9	+1.2
WB2	Warramunga Arr	13.39	156	Pn	Pn	01 49 54.2	+1.4
WR0	Warramunga Arr	13.48	155	Pn	Pn	01 49 55.0	+1.0
ASAR	Alice Springs	16.66	163	P	Pn	01 50 36.1	+2.6
	0.2nm,0.3s,baz=338,slow=9.5,SNR=12						
ASAR				S	S	01 53 38.2	-0.6
	0.2nm,0.3s,baz=353,slow=24,SNR=4.9						
PMG	Port Moresby	18.49	97	LR	LR	02 00 01.3	
	comp=Z,123nm,19.0s,baz=102,slow=42						
LTZ	Lake Taylor	51.86	140	P	P	01 55 40.5	-1.1
LTZ				IAmb	IAmb	01 55 47.4	
	comp=Z,4.7nm,1.1s						
MK31	Makanchi Array	68.05	328	P	P	01 57 31.9	+0.1
MK31				IAmb	IAmb	01 57 48.0	
	comp=Z,0.4nm,1.0s						
MKAR	Makanchi Array	68.05	328	P	P	01 57 33.5	+1.7
	comp=Z,0.3nm,0.5s,baz=122,slow=8.1,SNR=12						
MKAR	Makanchi Array	68.05	328	P	P	01 57 30.6	-1.3
KURK	Kurchatov	72.39	329	P	P	01 57 57.0	-1.2
KURK				IAmb	IAmb	01 58 00.7	
	comp=Z,1.0nm,0.8s						
MAW	Mawson	73.75	201	P	P	01 58 06.3	+0.5
ABKAR	Akbulak array	82.18	322	P	P	01 58 53.3	+0.6

KRSC 06 02:03:33.6±0.8**, 52.°89N×158.°55E, h144**km±6km**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PET	Petropavlovsk	0.15	26	eP	Pn	02 03 54.0	+1.0
PET				eS	Sn	02 04 08.8	+1.0
DALK	Dalny	0.19	42	eP	Pn	02 03 54.0	+1.0
DALK				eS	Sn	02 04 08.6	+0.7
UGLR	Uglovaya	0.36	28	eP	Pn	02 03 55.2	+1.5
AVH	Avacha	0.39	17	eP	Pn	02 03 55.2	+1.4
SMAR	Somma	0.40	22	eP	Pn	02 03 55.3	+1.3
KOK	Koryaka	0.41	8	eP	Pn	02 03 55.1	+1.2
KOK				eS	Sn	02 04 10.9	+1.5
KRER	Koryakskii	0.43	16	eP	Pn	02 03 55.3	+1.2
KRER				eS	Sn	02 04 11.3	+1.5
SDLR	Sedlovina	0.44	28	eP	Pn	02 03 55.2	+1.1
SDLR				eS	Sn	02 04 11.0	+1.3
GRL	Gorelyy	0.45	220	eP	Pn	02 03 55.6	+1.5
RUS	Russkaya	0.46	182	eP	Pn	02 03 55.0	+1.0
RUS				eS	Sn	02 04 11.0	+1.5
MTVR	Mutnovka	0.46	208	eP	Pn	02 03 55.7	+1.5
NLC	Nalytchevo	0.56	60	eP	Pn	02 03 55.5	+1.0
APC	Apacha	0.84	273	eP	Pn	02 03 56.9	+0.5
GNL	Ganaly	0.88	336	eP	Pn	02 03 57.1	+0.2
GNL				eS	Sn	02 04 14.2	-0.5
SPN	Mys Shipunski	0.92	76	eP	Pn	02 03 58.5	+1.5
SPN				eS	Sn	02 04 16.6	+1.7
KDTR	Khodutka, Kamc	1.12	195	eP	Pn	02 03 59.9	+1.1
KDTR				eS	Sn	02 04 19.0	+1.0
PAU	Pauzhetka	1.78	217	eP	Pn	02 04 07.8	+2.0
MKZ	Mys Kozlova	2.52	47	eP	Pn	02 04 16.0	+1.4
MKZ				eS	Sn	02 04 45.8	-0.4
KMNR	Kamenistaya	3.04	18	eP	Pn	02 04 23.7	+2.5
KBTR	Krutoberegovo	4.15	35	eP	Pn	02 04 37.0	+1.5
BKI	Bering	4.95	59	eS	Sn	02 05 40.5	-2.1

*NEIC **06** 02:05:31.2±1.6, 16.°7N±0.°1×147.°0E±0.°2, h33km±4km, mb4.2/24, Error ellipse: s-maj=27.0km s-min=12.2km az=115.0*
*IDC **06** 02:05:32.4±3.6, 16.°70N×146.°96E, h49km±34km, mb3.5/13, mb1 3.7/14, mb1mx3.6/46, mbtmp3.8/14, ML3.8/1, Error ellipse: s-maj=31.4km s-min=15.3km az=93.0*
ISC 06 02:05:31.1±0.7**, 16.°73N**±0.°09×**146.°9E**±0.°2**, h35**km**, n47, σ0.s69**/47**, mb4.1**/24**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	Guam	3.70	213	P	Pn	02 06 27.4	+1.6
	7.5nm,0.3s,baz=41,slow=17,SNR=2.3						
GUMO	Guam	3.70	213	Pn	Pn	02 06 26.4	+0.6
H11N1	WAKE ISLAND Hy	19.19	78	T	T	02 29 19.3	
	baz=264,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	19.20	78	T	T	02 29 16.4	
	baz=264,slow=75,SNR=9.6						
H11N3	WAKE ISLAND Hy	19.21	78	T	T	02 29 20.1	
	baz=264,slow=75,SNR=12						
MJAR	Matsushiro Arr	21.20	340	P	P	02 10 13.7	0.0
	0.9nm,0.4s,baz=173,slow=9.9,SNR=5.2						
MJAR	Matsushiro Arr	21.20	340	P	P	02 10 13.8	+0.1
MAJO	Matsushiro	21.20	340	P	P	02 10 14.3	+0.6
MAJO				IAmb	IAmb	02 10 25.6	
	comp=Z,11nm,1.2s						
FAKI	Fak Fak	24.32	218	P	P	02 10 45.7	0.0
FAKI				IAmb	IAmb	02 10 49.3	
	comp=Z,7.6nm,1.0s						
JTM	Tenmabayashi	24.51	349	P	P	02 10 47.6	+0.5
KLR	Kul'dur	34.69	342	P	P	02 12 17.9	+0.5
	comp=Z,1.1nm,0.7s,baz=160,slow=6.8,SNR=5.4						
PEA0B	Petropavlovsk-	37.27	11	P	P	02 12 39.3	-0.2
WB0	Warramunga Arr	38.30	199	P	P	02 12 47.5	-1.1
WR0	Warramunga Arr	38.44	199	P	P	02 12 48.2	-1.5
WR0				IAmb	IAmb	02 12 54.9	
	comp=Z,3.5nm,1.1s						
WRAB	Tennant Creek	38.47	199	P	P	02 12 49.4	-0.5
WRAB				IAmb	IAmb	02 12 59.9	
	comp=Z,3.3nm,1.0s						
WB2	Warramunga Arr	38.48	199	P	P	02 12 49.0	-1.1
WB2				IAmb	IAmb	02 12 50.3	
	comp=Z,2.8nm,1.0s						
WRA	Warramunga Arr	38.48	199	P	P	02 12 48.9	-1.1
	comp=Z,0.6nm,0.4s,baz=27,slow=8.7,SNR=16						
WRA				PcP	PcP	02 15 02.8	+0.1
	comp=Z,0.2nm,0.5s,baz=16,slow=3.7,SNR=2.0						
ASAR	Alice Springs	42.12	198	P	P	02 13 20.1	-0.1
	comp=Z,0.4nm,0.5s,baz=17,slow=9.9,SNR=11						
ASAR	Alice Springs	42.12	198	P	P	02 13 19.7	-0.5
SONM	Songino Array	45.41	322	P	P	02 13 47.1	+0.6
	comp=Z,0.4nm,0.6s,baz=145,slow=6.6,SNR=4.2						
SONM				PcP	PcP	02 15 25.1	-0.3
	comp=Z,0.4nm,0.7s,baz=90,slow=2.9,SNR=3.6						
SONM	Songino Array	45.41	322	P	P	02 13 45.8	-0.8
SEY	Seymchan	46.31	3	P	P	02 13 53.8	+0.6
	comp=Z,0.4nm,0.3s,baz=167,slow=3.3,SNR=3.5						
GSI	Gunungsitoli	50.92	258	P	P	02 14 29.8	+0.4
MK31	Makanchi Array	60.67	315	P	P	02 15 39.8	+0.9
MKAR	Makanchi Array	60.67	315	P	P	02 15 38.9	0.0
	comp=Z,0.3nm,0.6s,baz=81,slow=9.7,SNR=5.5						
MKAR				PcP	PcP	02 16 22.4	-0.5
	comp=Z,0.3nm,0.6s,baz=98,slow=5.0,SNR=5.1						
MKAR	Makanchi Array	60.67	315	P	P	02 15 39.3	+0.4
MAKZ	Makanchi	60.89	315	P	P	02 15 39.7	-0.6
CAST	Castle Rocks	62.32	26	P	P	02 15 49.2	-0.5
CAST				IAmb	IAmb	02 16 04.1	
	comp=Z,1.2nm,0.6s						
H21K	Melozitna Rive	62.79	24	P	P	02 15 53.4	+0.7
H21K				IAmb	IAmb	02 15 59.1	
	comp=Z,2.0nm,1.1s						
KTH	Kantishna Hill	62.86	26	P	P	02 15 53.0	-0.3
KTH				IAmb	IAmb	02 15 54.3	
	comp=Z,2.7nm,1.1s						
KURK	Kurchatov	63.52	319	P	P	02 15 57.6	-0.3
KURK				IAmb	IAmb	02 16 08.8	
	comp=Z,1.5nm,0.7s						
KURBB	Kurchatov Arra	63.57	319	P	P	02 15 58.3	+0.1
	comp=Z,1.4nm,0.7s,baz=101,slow=6.8,SNR=13						
POKR	Poker Plat Res	64.76	25	P	P	02 16 06.1	+0.4
POKR				IAmb	IAmb	02 16 09.2	
	comp=Z,5.7nm,1.1s						
ILAR	Eielson Array	64.89	26	P	P	02 16 05.5	-1.1
	comp=Z,0.3nm,0.5s,baz=247,slow=6.7,SNR=6.9						
TOLK	Toolik Lake Re	64.99	21	P	P	02 16 08.0	+0.8
TOLK				IAmb	IAmb	02 16 22.8	
	comp=Z,6.2nm,1.4s						
BCAR	Beaver Creek A	66.75	28	P	P	02 16 18.4	-0.3
HYT	Haines Junctio	68.51	31	P	P	02 16 29.5	-0.4
KKAR	Karatay Array	68.93	310	P	P	02 16 32.2	-0.5
INK	Inuvik	70.72	23	P	P	02 16 43.2	0.0
	comp=Z,1.2nm,0.9s,baz=248,slow=3.0,SNR=3.0						
INK	Inuvik	70.72	23	P	P	02 16 43.9	+0.7
INK				IAmb	IAmb	02 16 43.9	
	comp=Z,3.2nm,1.1s						
A36M	Sachs Harbour	73.55	19	P	P	02 17 00.7	+0.6
ABKAR	Akbulak array	75.58	318	P	P	02 17 11.7	-0.6
CLRS	Cowichan Lake	76.91	43	P	P	02 17 20.9	+1.0
YKA	Yellowknife Ar	79.17	28	P	P	02 17 32.2	0.0
	comp=Z,0.5nm,0.5s,baz=284,slow=5.6,SNR=8.8						
ARCES	ARCESS Array B	84.72	342	P	P	02 18 01.0	-0.2
	comp=Z,3.6nm,0.9s,baz=41,slow=8.1,SNR=4.3						
FINES	FINESS Array B	89.16	336	P	P	02 18 21.2	-1.6
	comp=Z,0.9nm,0.7s,baz=55,slow=7.2,SNR=6.3						
LPAZ	La Paz	146.41	94	PKPbc	PKPbc	02 25 09.8	-0.3
	comp=Z,0.9nm,0.6s,baz=248,slow=5.4,SNR=2.9						

*ATH **06** 02:21:17.1, 41.°29N×20.°19E, h17km±1km, ML2.3/3, Error ellipse: s-maj=3.2km s-min=1.1km az=22.0*
*TIR **06** 02:21:18.9, 41.°27N×20.°28E, h20km±2km, Md2.7, Ml2.5*
*SKO **06** 02:21:18.1, 41.°20N×20.°12E, h6km*
ISC 06 02:21:18.3±0.9**, 41.°26N**±0.°02×**20.°16E**±0.°02**, h10**km±9km**, n29, σ1.s65**/44**, Albania**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TIR	Tirane	0.24	292	P	Pg	02 21 22.6	-0.7
TIR				S	Sg	02 21 27.1	+0.5
TIR				AML	AML	02 21 28.2	
	comp=E,3552µm,0.3s						
TIR				AML	AML	02 21 30.5	
	comp=N,3079µm,0.3s						
TIR	Tirane	0.24	292	i Pg	Pg	02 21 22.5	-0.7
TIR	Tirane	0.24	292	P	Pg	02 21 22.6	-0.7
	baz=284						
TIR				S	Sg	02 21 26.6	+0.1
	baz=284						
TIR				AMP			
	comp=E,2.9nm,0.3s,baz=284						
PHP	Peshkopia	0.47	26	P	Pg	02 21 27.4	-0.1
	baz=16						
PHP				S	Sb	02 21 34.6	-1.3
	baz=16						
PHP				AMP			
	comp=N,1.2nm,0.1s,baz=16						
OHR	Ohrid	0.50	107	i Pg	Pg	02 21 27.2	-0.9
OHR				i Sg	Sb	02 21 35.3	-1.3
OHR				eLg	Lg	02 21 36.8	
	comp=N,161nm,0.3s						
KBN	Korca	0.79	143	P	Pb	02 21 32.2	-1.9
	baz=149						
KBN				S	Sg	02 21 44.8	+0.9
	baz=149						
KBN				AMP			
	comp=N,1.0nm,0.7s,baz=149						
VLO	Vlora	0.94	213	P	Pn	02 21 38.5	+1.0
	baz=217						
VLO				S	Sn	02 21 52.0	+1.1
	baz=217						
ULC	Ulcinj	0.98	316	i Pg	Pb	02 21 36.0	-1.5
FNA	Florina	1.03	117	P	Pb	02 21 36.9	-1.4
FNA				S	Sg	02 21 51.4	-0.2
FNA				AML	AML	02 21 56.7	
	comp=N,344µm,0.3s						
FNA				AML	AML	02 21 58.3	
	comp=E,376µm,0.3s						
FNA	Florina	1.03	117	P	Pb	02 21 36.9	-1.4
	baz=120						
FNA				S	Sn	02 21 52.4	-1.1
	baz=120						
NEST	Nestorio	1.08	141	P	Pb	02 21 37.6	-1.5
NEST				S	Sn	02 21 53.4	-1.2
NEST				AML	AML	02 21 58.3	
	comp=N,151µm,0.6s						
NEST				AML	AML	02 22 00.2	
	comp=E,142µm,0.4s						
BCI	Bajram Curri	1.11	356	P	Pg	02 21 40.2	+0.6
	baz=352						
BCI				S	Sg	02 21 56.6	+2.5
	baz=352						
LSK	Leskovik	1.16	163	P	Pg	02 21 40.7	+0.2
	baz=167						
LSK				S	Sg	02 21 57.7	+2.1
	baz=167						
SKO	Skopje	1.19	53	i Pg	Pg	02 21 41.0	-0.2
SKO				i Sg	Sg	02 21 57.6	+0.9
SKO				eLg	Lg	02 21 59.6	
	comp=N,9.2nm,0.3s						
PDG	Podgorica	1.35	330	i Pn	Pb	02 21 42.6	-1.1
PDG				i Sn	Sg	02 22 05.1	+3.3
SRN	Sarande	1.38	185	P	Pg	02 21 45.7	+0.9
	baz=189						
SRN				S	Sg	02 22 05.5	+2.7
	baz=189						
KZN	Kozani	1.55	127	P	Pb	02 21 46.6	-0.5
KEK	Kerkira	1.57	190	P	Pb	02 21 46.9	-0.5
STIP	Stip	1.58	73	i Pn	Pg	02 21 49.5	+0.9
STIP				eSn	Sg	02 22 15.6	+6.5
	comp=N,5.9nm,0.3s						
STIP				eLg	Lg	02 22 16.8	
KPRO	Kipourio	1.59	145	P	Pb	02 21 47.2	-0.6
BEY	Berane	1.62	353	i Pn	Pg	02 21 49.3	-0.1
JAN	Janina	1.69	162	P	Pn	02 21 47.7	-0.1
IGT	Igoumenitsa	1.73	176	P	Pb	02 21 49.2	-0.9
VAY	Valandovo	1.81	87	i Pn	Pb	02 21 50.5	-1.1
KNT	Kendrikon	2.07	92	P	Pn	02 21 52.8	-0.3
LIT	Litokhoron	2.12	122	P	Pb	02 21 54.7	-2.0
THL	Klokotos Trika	2.21	140	P	Pb	02 21 56.4	-1.8
LKD2	Lefkada island	2.50	171	P	Pn	02 21 59.5	+0.5
EVR	Evrytania	2.66	151	P	Pn	02 22 01.7	+0.5

*IDC **06** 02:26:40.6±1.1, 13.°86N×122.°49E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/42, mbtmp3.5/7, MS3.3/2, Ms1 3.3/2, ms1mx2.6/83, Error ellipse: s-maj=24.3km s-min=14.2km az=30.0*
*MAN **06** 02:26:43.0, 13.°90N×122.°38E, h26km, mb4.6, ML3.5, MS3.4*

MAN INTENSITY II - CATANUAN, GENERAL LUNA & LOPEZ, QUEZON; INTENSITY I - PITOGO, QUEZON.

ISC 06 02:26:43.5±1.0, **13.87N**±0.07×**122.30E**±0.06, **h16**km±8km, **n20**, σ**1.53**/22, **mb3.6**/8, **1C-8D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.14**	**74**	⇓*i*P	**Pg**	**02 26 46.9**	**-0.6**
GQP				*i* S	**Sg**	**02 26 51.4**	**+1.3**
AUQP	**San Andres**	**0.65**	**146**	⇓*e*P	**Pb**	**02 26 56.5**	**+0.1**
LQP	**Lukban**	**0.78**	**288**	⇑*e*P	**Pb**	**02 26 57.2**	**-1.7**
LQP				*i* S	**Sb**	**02 27 11.4**	**+2.1**
TGY	**Tagaytay City**	**1.35**	**280**	Pg	**Pn**	**02 27 07.6**	**-0.1**
	405nm,0.3s,baz=119,slow=2.2,SNR=19						
TGY				Lg	Lg	02 27 29.5	
	144nm,0.3s,baz=87,slow=24,SNR=7.9						
TGY	**Tagaytay City**	**1.35**	**280**	⇓*e*P	**Pn**	**02 27 07.6**	**-0.1**
TGY				*e*S	**Sb**	**02 27 28.8**	**+3.3**
PGP	**Puerto Galera**	**1.36**	**255**	⇓*e*P	**Pn**	**02 27 06.1**	**-1.8**
PGP				*i* S	**Sn**	**02 27 25.4**	**-0.2**
LUBP	**Lubang**	**2.00**	**267**	⇓*e*P	**Pn**	**02 27 16.1**	**-0.5**
PCPH	**Palayan**	**2.05**	**325**	⇓*e*P	**Pb**	**02 27 19.6**	**-0.8**
PCPH				*e*S	Sn	02 27 32.1	-11
RCP	**Roxas**	**2.33**	**169**	⇓*e*P	**Pn**	**02 27 20.5**	**-0.7**
SMPP	**San Manuel, Pa**	**2.76**	**326**	⇓*e*P	**Pb**	**02 27 30.8**	**-1.8**
DAV	**Davao City (W)**	**7.48**	**154**	LR	LR	02 32 11.5	
	comp=Z,139nm,19.5s,baz=350,slow=45						
CMAR	**Chiang Mai Arr**	**22.89**	**285**	P	**P**	**02 31 48.1**	**+1.4**
	1.3nm,0.4s,baz=99,slow=8.5,SNR=13						
BATI	**Baumata**	**23.95**	**177**	P	**P**	**02 31 58.4**	**+1.2**
	5.6nm,0.3s,baz=342,slow=3.2,SNR=3.7						
WRA	**Warramunga Arr**	**35.62**	**160**	P	**P**	**02 33 38.1**	**-2.7**
	0.2nm,0.6s,baz=333,slow=9.8,SNR=1.9						
SONM	**Songino Array**	**36.36**	**342**	P	**P**	**02 33 48.4**	**+1.4**
	0.1nm,0.4s,baz=164,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**38.99**	**163**	P	**P**	**02 34 08.4**	**-0.9**
	0.3nm,0.7s,baz=347,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**46.84**	**323**	P	**P**	**02 35 13.3**	**+0.6**
	0.6nm,0.8s,baz=116,slow=8.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**49.64**	**332**	P	**P**	**02 35 33.3**	**-0.8**
	0.5nm,0.8s,baz=104,slow=12,SNR=3.5						
GEYT	**Alibeck**	**61.30**	**306**	LR	LR	03 04 16.5	
	comp=Z,42nm,21.0s,baz=226,slow=37						
FINES	**FINESS Array B**	**80.90**	**331**	P	**P**	**02 38 56.7**	**-0.1**
	1.5nm,1.0s,baz=66,slow=4.7,SNR=1.5						

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*SJA **06** 02:28:22.5±0.6, 23.98S×66.79W, h227km±3km, ML4.8, MW4.4*

*VAO **06** 02:28:22.9±0.3, 23.93S×66.72W, h194km, mb4.6*

*IDC **06** 02:28:23.6±1.0, 23.90S×66.61W, h197km±7km, mb3.9/13, mb1 4.1/19, mb1mx4.1/33, mbtmp4.5/19, Error ellipse: s-maj=14.0km s-min=10.3km az=15.0*

*NEIC **06** 02:28:23.2±1.5, 24.01S±0.05×66.65W±0.08, h190km±6km, mb4.4/131, Md4.2(SJA), Error ellipse: s-maj=10.4km s-min=7.9km az=96.0*

*GUC **06** 02:28:24.2±0.6, 23.94S×67.10W, h249km±11km, MW4.5*

ISC 06 02:28:23.3±0.6, **24.00S**±0.03×**66.80W**±0.04, **h200**km±5km, **n311**, σ**1.43**/361, **mb4.4**/74, **14C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.38**	**122**	*e*P	**Pn**	**02 28 52.6**	**-3.6**
SLA				*e*P	**Pn**	**02 28 58.4**	**+2.2**
SLA				*e*S	**Sn**	**02 29 24.8**	**+3.1**
HJA	**Humahuaca**	**1.50**	**59**	*e*P	**Pn**	**02 28 59.0**	**+1.6**
HJA				*e*S	**Sn**	**02 29 27.2**	**+3.4**
FSA	**Cafayete**	**2.23**	**161**	*e*P	**Pn**	**02 29 06.0**	**+1.6**
FSA				*e*S	**Sn**	**02 29 32.1**	**-4.5**
LVC	**Limon Verde**	**2.38**	**305**	P	**Pn**	**02 29 07.3**	**+1.0**
	329nm,0.3s,baz=125,slow=6.2,SNR=3.7						
LVC				S	**Sn**	**02 29 41.6**	**+1.9**
	215nm,0.3s,baz=213,slow=14,SNR=12						
LVC	**Limon Verde**	**2.38**	**305**	Pn	**Pn**	**02 29 07.9**	**+1.6**
LVC				Sn	**Sn**	**02 29 41.0**	**+1.4**
LVC	**Limon Verde**	**2.38**	**305**	⇑*i*P	**Pn**	**02 29 07.9**	**+1.6**
LVC				*i* S	**Sn**	**02 29 41.2**	**+1.5**
LVC	**Limon Verde**	**2.38**	**305**	*e*P	**Pn**	**02 29 07.9**	**+1.6**
LVC				*e*S	**Sn**	**02 29 41.1**	**+1.4**
LVC				*e*S	**Sn**	**02 29 42.5**	**+2.8**
PB15	**IPOC Station P**	**2.57**	**287**		**Pn**	**02 29 09.9**	**+1.7**
PB15					**Sn**	**02 29 44.2**	**+1.0**
PB15	**IPOC Station P**	**2.57**	**287**	⇑*i*P	**Pn**	**02 29 10.0**	**+1.7**
PB15				*i* S	**Sn**	**02 29 44.3**	**+1.1**
PB15	**IPOC Station P**	**2.57**	**287**	*e*P	**Pn**	**02 29 10.0**	**+1.7**
PB15				*e*P	**Pn**	**02 29 10.1**	**+1.9**
PB15				*e*S	**Sn**	**02 29 44.5**	**+1.3**
PB06	**IPOC Station P**	**2.85**	**296**		**Pn**	**02 29 12.9**	**+1.4**
PB06				Sn	**Sn**	**02 29 49.2**	**+0.3**
PB06	**IPOC Station P**	**2.85**	**296**	⇑*i*P	**Pn**	**02 29 12.9**	**+1.4**
PB06				*i* S	**Sn**	**02 29 49.1**	**+0.2**
PB06	**IPOC Station P**	**2.85**	**296**	*e*P	**Pn**	**02 29 12.8**	**+1.4**
PB06				*e*S	**Sn**	**02 29 49.7**	**+0.8**
PB06				IAML		02 29 53.3	
	comp=Z,2μm,0.2s						
AHML	**Horco Molle**	**3.08**	**155**	*e*P	**Pn**	**02 29 10.1**	**-3.8**
AHML				*e*P	**Pn**	**02 29 15.0**	**+1.1**
AHML				*e*S	**Sn**	**02 29 54.6**	**+1.1**
PB09	**IPOC Station P**	**3.14**	**314**		**Pn**	**02 29 16.5**	**+1.6**
PB09				Sn	**Sn**	**02 29 55.9**	**+0.9**
PB09	**IPOC Station P**	**3.14**	**314**	⇑*i*P	**Pn**	**02 29 16.4**	**+1.6**
PB09				*i* S	**Sn**	**02 29 55.2**	**+0.2**
PB09	**IPOC Station P**	**3.14**	**314**	*e*P	**Pn**	**02 29 16.3**	**+1.4**
PB09				*e*S	**Sn**	**02 29 56.0**	**+1.0**
PB09				IAML		02 29 59.1	
	comp=Z,1μm,0.2s						
PB14	**IPOC Station P**	**3.35**	**258**		**Pn**	**02 29 18.3**	**+0.9**
PB14	**IPOC Station P**	**3.35**	**258**	*e*P	**Pn**	**02 29 18.6**	**+1.2**
PB14				*e*S	**Sn**	**02 29 59.9**	**+0.2**
PB14				IAML		02 30 01.1	
	comp=Z,822nm,0.6s						
PB04	**IPOC Station P**	**3.50**	**298**		**Pn**	**02 29 20.1**	**+1.1**
PB04	**IPOC Station P**	**3.50**	**298**	⇑*i*P	**Pn**	**02 29 19.9**	**+0.8**
PB04				*i* S	**Sn**	**02 30 01.5**	**-1.2**
PB04	**IPOC Station P**	**3.50**	**298**	*e*P	**Pn**	**02 29 20.2**	**+1.1**
PB04				*e*S	**Sn**	**02 30 02.8**	**0.0**
PB04				IAML		02 30 05.2	
	comp=Z,2μm,0.5s						
AC02	**Maricunga**	**3.52**	**216**		**Pn**	**02 29 20.7**	**+1.0**
AC02	**Maricunga**	**3.52**	**216**	⇑*i*P	**Pn**	**02 29 21.6**	**+1.9**
AC02				*i* S	**Sn**	**02 30 06.1**	**+2.2**
AC02	**Maricunga**	**3.52**	**216**	*e*P	**Pn**	**02 29 21.0**	**+1.3**
AC02				*e*S	**Sn**	**02 30 01.1**	**-2.8**
PB07	**IPOC Station P**	**3.63**	**308**		**Pn**	**02 29 21.3**	**+0.5**
PB07	**IPOC Station P**	**3.63**	**308**	⇑*i*P	**Pn**	**02 29 21.4**	**+0.7**
PB07				*i* S	**Sn**	**02 30 04.0**	**-1.8**
PB07	**IPOC Station P**	**3.63**	**308**	*e*P	**Pn**	**02 29 21.5**	**+0.7**
PB07				*e*S	**Sn**	**02 30 04.9**	**-0.9**
PB07				IAML		02 30 05.8	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**3.85**	**319**		**Pn**	**02 29 23.7**	**+0.3**
PB01	**IPOC Station P**	**3.85**	**319**	⇑*i*P	**Pn**	**02 29 23.8**	**+0.4**
PB01				*i* S	**Sn**	**02 30 09.6**	**-0.9**
PB02	**IPOC Station P**	**3.91**	**312**		**Pn**	**02 29 24.4**	**+0.2**
PB02	**IPOC Station P**	**3.91**	**312**	⇑*i*P	**Pn**	**02 29 24.3**	**+0.2**
PB02				*i* S	**Sn**	**02 30 09.4**	**-2.4**
AC01	**Pan de Azucar**	**4.06**	**237**		**Pn**	**02 29 26.0**	**+0.2**
AC01	**Pan de Azucar**	**4.06**	**237**	⇑*i*P	**Pn**	**02 29 25.9**	**+0.2**
AC01				*i* S	**Sn**	**02 30 13.4**	**-1.4**
AC01	**Pan de Azucar**	**4.06**	**237**	*e*P	**Pn**	**02 29 26.0**	**+0.2**
AC01				*e*S	**Sn**	**02 30 13.8**	**-1.0**
AC01				IAML		02 30 15.5	
	comp=Z,597nm,0.3s						
PB08	**IPOC Station P**	**4.42**	**330**		**Pn**	**02 29 31.8**	**+1.0**
PB08	**IPOC Station P**	**4.42**	**330**	⇑*i*P	**Pn**	**02 29 31.6**	**+0.9**
PB08				*i* S	**Sn**	**02 30 22.9**	**-0.7**
PATCX	**Punta Patache**	**4.43**	**315**	Pn	**Pn**	**02 29 30.1**	**-0.6**
PATCX	**Punta Patache**	**4.43**	**315**	⇑*i*P	**Pn**	**02 29 30.0**	**-0.6**
PATCX				*i* S	**Sn**	**02 30 21.4**	**-2.1**
PATCX	**Punta Patache**	**4.43**	**315**	*e*P	**Pn**	**02 29 30.0**	**-0.6**
PATCX				*e*P	**Pn**	**02 29 30.2**	**-0.4**
PATCX				*e*P	**Pn**	**02 29 30.7**	**+0.1**
PATCX				*e*S	**Sn**	**02 30 21.7**	**-1.8**
PATCX				IAML		02 30 31.1	
	comp=Z,574nm,1.2s						
AC06	**Mina Casimiro**	**4.63**	**223**	Pn	**Pn**	**02 29 33.0**	**0.0**
AC06	**Mina Casimiro**	**4.63**	**223**	⇑*i*P	**Pn**	**02 29 33.0**	**0.0**
AC06				*i* S	**Sn**	**02 30 26.4**	**-1.7**
HMBC	**Humberstone**	**4.68**	**322**	⇑*i*P	**Pn**	**02 29 32.9**	**-0.9**
HMBC				*i* S	**Sn**	**02 30 25.5**	**-3.7**
GO03	**Copiap**	**4.73**	**220**		**Pn**	**02 29 34.3**	**0.0**
GO03	**Copiap**	**4.73**	**220**	*e*P	**Pn**	**02 29 34.2**	**-0.1**
GO03				*i* S	**Sn**	**02 30 29.3**	**-1.0**
GO03	**Copiap**	**4.73**	**220**	*e*P	**Pn**	**02 29 34.7**	**+0.4**
GO03				*e*S	**Sn**	**02 30 29.3**	**-1.0**
TA02	**Huaiquique**	**4.83**	**320**		**Pn**	**02 29 35.3**	**-0.2**
TA02	**Huaiquique**	**4.83**	**320**	*e*P	**Pn**	**02 29 33.8**	**-1.8**
TA02				*i* S	**Sn**	**02 30 29.0**	**-3.4**
GO01	**Chusmiza**	**4.85**	**332**	Pn	**Pn**	**02 29 36.8**	**+0.5**
VCA	**Vinchina**	**4.88**	**195**	*e*P	**Pn**	**02 29 38.9**	**+2.6**
VCA				*e*S	**Sn**	**02 30 42.5**	**+8.5**
PB11	**IPOC Station P**	**4.98**	**327**	Pn	**Pn**	**02 29 37.0**	**-0.7**
ACLC	**CERRO LA CRUZ**	**5.41**	**181**	*e*P	**Pn**	**02 29 44.0**	**+0.9**
ACLC				*e*S	**Sn**	**02 30 45.9**	**-0.2**
AC04	**Llanos de Chal**	**5.69**	**222**	Pn	**Pn**	**02 29 45.6**	**-0.9**
AC04	**Llanos de Chal**	**5.69**	**222**	*e*P	**Pn**	**02 29 45.8**	**-0.7**
AC04				*e*S	**Sn**	**02 30 48.9**	**-3.4**
AC04				IAML		02 30 53.1	
	comp=Z,243nm,0.8s						
LCO	**Las Campanas**	**6.09**	**214**		**Pn**	**02 29 51.2**	**-0.8**
APLL	**PUNTA DE LOS L**	**6.38**	**178**	*e*P	**Pn**	**02 29 55.6**	**+0.2**
APLL				*e*S	**Sn**	**02 31 05.0**	**-3.5**
AROD	**Rodeo**	**6.59**	**201**	*e*P	**Pn**	**02 30 00.0**	**+1.5**
AROD				*e*S	**Sn**	**02 31 10.1**	**-3.8**
ACCO	**Cerro Coronel**	**6.87**	**197**	*e*P	**Pn**	**02 30 02.9**	**+0.8**
ACCO				*e*S	**Sn**	**02 31 20.7**	**+0.2**
CO05	**La Serena**	**7.10**	**213**	Pn	**Pn**	**02 30 05.3**	**+0.5**
GO04	**Tololo Observa**	**7.11**	**209**		**Pn**	**02 30 04.0**	**-1.1**
GO04	**Tololo Observa**	**7.11**	**209**	*e*P	**Pn**	**02 30 04.4**	**-0.7**
GO04				*e*S	**Sn**	**02 31 23.7**	**-2.3**
RTLL	**Cerro Villicun**	**7.45**	**191**	*e*P	**Pn**	**02 30 09.8**	**+0.4**
RTLL				*e*S	Sn	02 31 11.1	-23
ZON	**Zonda**	**7.70**	**192**		**Pn**	**02 30 12.7**	**0.0**
LPAZ	**La Paz**	**7.77**	**351**	P	**Pn**	**02 30 14.7**	**+0.5**
	comp=Z,5.2nm,0.3s,baz=173,slow=5.5,SNR=29						
LPAZ				S	**Sn**	**02 31 41.5**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=353,slow=23,SNR=4.7						
LPAZ	**La Paz**	**7.77**	**351**	Pn	**Pn**	**02 30 14.5**	**+0.3**
CO06	**Fray Jorge**	**7.92**	**212**	Pn	**Pn**	**02 30 15.2**	**-0.2**
RTLS	**Leoncito**	**8.08**	**195**	*e*P	**Pn**	**02 30 18.0**	**+0.2**
RTLS				*e*S	**Sn**	**02 31 41.1**	**-7.9**
CO02	**Combarbal**	**8.09**	**206**	Pn	**Pn**	**02 30 17.3**	**-0.4**
MRA	**San Martin**	**8.44**	**174**	*e*P	**Pn**	**02 30 21.0**	**-1.4**
MRA				*e*P	**Pn**	**02 30 21.5**	**-0.9**
MRA				*e*S	Sn	02 31 47.2	-10
AUSP	**Uspallata**	**8.51**	**195**	*e*P	**Pn**	**02 30 24.2**	**+0.8**
ASAL	**Salagasta**	**8.75**	**191**	*e*P	**Pn**	**02 30 26.0**	**-0.3**
CPUP	**Villa Florida**	**8.89**	**107**	P	**Pn**	**02 30 27.2**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=290,slow=10,SNR=30						
CPUP	**Villa Florida**	**8.89**	**107**	Pn	**Pn**	**02 30 26.1**	**-2.0**
CPUP	**Villa Florida**	**8.89**	**107**	*e*P	**Pn**	**02 30 27.6**	**-0.5**
ARCO	**CERRO ARCO**	**9.01**	**192**	*e*P	**Pn**	**02 30 30.0**	**+0.2**
ARCO				*e*P	**Pn**	**02 30 30.0**	**+0.2**
VA03	**San Esteban**	**9.34**	**200**		**Pn**	**02 30 34.2**	**+0.2**
VA06	**Catapilco**	**9.41**	**204**	Pn	**Pn**	**02 30 35.4**	**+0.6**
SIV	**San Ignacio**	**9.61**	**35**	P	**Pn**	**02 30 35.9**	**-1.8**
	comp=Z,3.4nm,0.3s,baz=214,slow=13,SNR=61						
ROC1	**El Roble**	**9.68**	**202**	Pn	**Pn**	**02 30 38.7**	**+0.1**
ROC1	**El Roble**	**9.68**	**202**	*e*P	**Pn**	**02 30 37.0**	**-1.6**
PEL	**Peldehue**	**9.73**	**200**		**Pn**	**02 30 39.5**	**+0.5**
MT05	**Renca**	**9.98**	**199**	Pn	**Pn**	**02 30 41.8**	**-0.5**
MT02	**Curacav**	**9.98**	**201**		**Pn**	**02 30 42.3**	**0.0**
MT02	**Curacav**	**9.98**	**201**	*e*P	**Pn**	**02 30 41.0**	**-1.3**
MT03	**Universidad Ad**	**10.01**	**198**	Pn	**Pn**	**02 30 43.2**	**+0.6**
LMEL	**Las Melosas**	**10.26**	**196**		**Pn**	**02 30 46.9**	**+1.0**
MT09	**Talagante**	**10.41**	**200**		**Pn**	**02 30 48.4**	**+0.5**
BO04	**La Punta**	**10.50**	**198**		**Pn**	**02 30 48.2**	**-0.8**
MT01	**Popeta**	**10.57**	**201**		**Pn**	**02 30 49.0**	**-0.9**
ITQB	**Itaqui**	**10.70**	**124**		**Pn**	**02 30 49.7**	**-1.8**
ITQB	**Itaqui**	**10.70**	**124**	*e*P	**Pn**	**02 30 50.9**	**-0.7**
AQDB	**Aquidauana**	**10.86**	**73**	Pn	**Pn**	**02 30 51.8**	**-1.9**
AQDB	**Aquidauana**	**10.86**	**73**	*e*P	**Pn**	**02 30 52.2**	**-1.5**
BO01	**Tunca**	**11.01**	**199**		**Pn**	**02 30 56.0**	**+0.5**
PTLB	**Pontes e Lacer**	**11.15**	**42**	*e*P	**Pn**	**02 30 56.2**	**-1.2**
BO02	**Sierra Bellavi**	**11.30**	**197**	Pn	**Pn**	**02 31 00.0**	**+0.7**
GO05	**Huala**	**11.85**	**201**	Pn	**Pn**	**02 31 06.8**	**+0.6**
VILB	**Vilhena**	**12.64**	**31**	*e*P	**Pn**	**02 31 16.4**	**0.0**
PP1B	**Ponte de Pedra**	**12.83**	**62**	*e*P	**Pn**	**02 31 17.4**	**-1.4**
TRCB	**Terra Rica**	**13.06**	**88**	Pn	**Pn**	**02 31 19.6**	**-2.1**
SALV	**Santo Antonio**	**13.18**	**54**	*e*P	**Pn**	**02 31 21.4**	**-1.8**
PTGB	**Pitanga**	**13.45**	**96**	*e*P	**Pn**	**02 31 26.0**	**-0.6**
CPSB	**Cacapava Do Su**	**13.49**	**121**	*e*P	**Pn**	**02 31 26.2**	**-0.7**
ITAB	**Concordia**	**13.62**	**107**		**Pn**	**02 31 28.0**	**-0.6**
ITAB	**Concordia**	**13.62**	**107**	*e*P	**Pn**	**02 31 27.9**	**-0.6**
PLTB	**Pedras Altas**	**13.99**	**126**		**Pn**	**02 31 32.5**	**-0.7**
PLTB	**Pedras Altas**	**13.99**	**126**	*e*P	**Pn**	**02 31 32.0**	**-1.2**
ETMB	**Extrema**	**14.11**	**2**	*e*P	**Pn**	**02 31 34.1**	**-0.7**
PCMB	**Pacaembu**	**14.53**	**84**	*e*P	**Pn**	**02 31 39.3**	**-0.6**
LC01	**Cunco**	**15.47**	**195**		**Pn**	**02 31 51.3**	**+0.1**
LC01				IAmb	IAmb	02 31 58.0	
	comp=Z,9.8nm,0.8s						
PDRB	**Porto dos Gac**	**15.60**	**40**	*e*P	**Pn**	**02 31 52.1**	**-0.8**
FRTB	**Fartura**	**15.81**	**91**	*e*P	**P**	**02 31 54.2**	**-1.0**
ITRB	**Iturama**	**15.85**	**78**	*e*P	**Pn**	**02 31 55.8**	**-0.2**
LR03	**Panguipulli**	**16.28**	**195**	P	**Pn**	**02 32 00.8**	**-0.1**
LR03				IAmb	IAmb	02 32 07.1	
	comp=Z,27nm,1.1s						
ARAG	**Araguaiana, MT**	**16.32**	**62**	*e*P	**Pn**	**02 32 01.4**	**-0.2**
CLDB	**Colider**	**16.73**	**41**	*e*P	**P**	**02 32 04.7**	**-0.8**
LR04	**Corral**	**16.80**	**198**	P	**Pn**	**02 32 07.4**	**+0.3**
PLCA	**Paso Flores**	**16.98**	**190**	P	**Pn**	**02 32 09.2**	**-0.2**
	baz=4.3,slow=11						
PLCA	**Paso Flores**	**16.98**	**190**	*e*P	**Pn**	**02 32 09.6**	**+0.2**
BB19B	**Bebedouro**	**17.13**	**84**	*e*P	**P**	**02 32 09.8**	**0.0**
CZSB	**Cruzeiro do Su**	**17.14**	**340**	*e*P	**P**	**02 32 09.4**	**-0.5**
LL03	**Petrohue**	**17.73**	**194**	P	**P**	**02 32 17.1**	**+1.1**
RCLB	**Rio Claro- Sao**	**17.78**	**89**	*e*P	**P**	**02 32 16.4**	**-0.6**
VAO	**Valinhos**	**18.22**	**91**	*e*P	**P**	**02 32 21.0**	**-0.7**
LL05	**Los Muermos**	**18.23**	**196**	P	**P**	**02 32 23.0**	**+1.4**
IPMB	**Ipameri, GO**	**18.35**	**74**	*e*P	**P**	**02 32 22.8**	**-0.3**
LL01	**San Ignacio de**	**18.91**	**193**	P	**P**	**02 32 29.7**	**+0.7**
SNDB	**Serra Nova Dou**	**18.96**	**54**	*e*P	**P**	**02 32 28.8**	**-1.0**
PARB	**Paraibuna**	**19.41**	**92**	*e*P	**P**	**02 32 34.3**	**-0.2**
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**02 32 35.4**	**-0.4**
	comp=Z,5.7nm,0.3s,baz=239,slow=12,SNR=168						
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**02 32 35.1**	**-0.7**
LL07	**Hotel Espejo d**	**19.58**	**195**	P	**P**	**02 32 37.6**	**+1.5**
GO07	**Milladeo Hill,**	**19.89**	**195**	P	**P**	**02 32 39.6**	**+0.2**
TBTG	**Tabatinga, AM**	**19.92**	**351**	*e*P	**P**	**02 32 40.5**	**+0.4**
BSCB	**Bom Sucesso**	**20.57**	**86**	*e*P	**P**	**02 32 45.9**	**-1.0**
AY01	**Puyuhuapi**	**20.93**	**192**	P	**P**	**02 32 51.1**	**+0.8**
AY01				IAmb	IAmb	02 32 53.2	
	comp=Z,12nm,0.8s						
PEXB	**Peixe**	**21.16**	**59**	*e*P	**P**	**02 32 51.4**	**-1.8**
MACA	**Manacapuru-AM**	**21.54**	**17**	*e*P	**P**	**02 32 56.3**	**-0.8**
COYC	**Coyhaique**	**21.95**	**190**	P	**P**	**02 33 02.0**	**+1.1**
DIAM	**Diamantina, MG**	**22.29**	**80**	*e*P	**P**	**02 33 03.6**	**-1.0**
JANB	**Januaria**	**22.96**	**71**	*e*P	**P**	**02 33 09.1**	**-1.5**
SDBA	**SAO DESIDERIO**	**23.74**	**65**	*e*P	**P**	**02 33 15.9**	**-1.7**
SMTB	**Santa Maria do**	**23.74**	**54**	*e*P	**P**	**02 33 16.5**	**-1.1**
PTGA	**Pitinga**	**24.06**	**17**	P	**P**	**02 33 18.6**	**-1.9**
	comp=Z,4.2nm,0.5s,baz=186,slow=8.8,SNR=8.4						
PRPB	**Parauapebas**	**24.09**	**45**	*e*P	**P**	**02 33 18.5**	**-2.3**
SJMB	**Sao Joao De Ma**	**24.41**	**82**	*e*P	**P**	**02 33 22.3**	**-1.4**
MALB	**Monte Alegre**	**25.14**	**31**	*e*P	**P**	**02 33 28.4**	**-1.8**
OTAV	**Otavalo**	**26.61**	**333**	P	**P**	**02 33 44.7**	**+0.7**
BOAV	**Boa Vista**	**26.93**	**14**	*e*P	**P**	**02 33 46.0**	**-0.3**
NBIT	**Itapeh - BA**	**27.29**	**76**	*e*P	**P**	**02 33 48.6**	**-0.9**
MCPB	**Macapa, AP**	**27.50**	**33**	*e*P	**P**	**02 33 50.1**	**-1.3**
NBPN	**Ponto Novo - B**	**28.48**	**67**	*e*P	**P**	**02 33 58.3**	**-1.9**
NBLA	**Lagarto - SE**	**30.46**	**70**	*e*P	**P**	**02 34 15.4**	**-2.2**
NBPS	**Pedro II - PI**	**31.25**	**55**	*e*P	**P**	**02 34 23.0**	**-1.6**
NBMA	**Muriti-CE**	**31.55**	**63**	*e*P	**P**	**02 34 25.9**	**-1.3**
NBPB	**Pedra_Branca-C**	**31.96**	**59**	*e*P	**P**	**02 34 29.6**	**-1.2**
NBAN	**Anadia - AL**	**32.41**	**69**	*e*P	**P**	**02 34 32.6**	**-2.0**
SDV	**Santo Domingo**	**32.90**	**353**	P	**P**	**02 34 37.7**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=166,slow=8.3,SNR=2.5						
SDV	**Santo Domingo**	**32.90**	**353**	*e*P	**P**	**02 34 38.6**	**-0.4**
NBMO	**Morrinhos-CE**	**33.02**	**56**	*e*P	**P**	**02 34 37.8**	**-2.1**
NBLV	**Livramento - P**	**33.07**	**65**	*e*P	**P**	**02 34 38.7**	**-1.7**
NBCL	**Cascavel-CE**	**33.79**	**59**	*e*P	**P**	**02 34 46.4**	**-0.1**
NBRF	**Rio Formoso -**	**33.88**	**69**	*e*P	**P**	**02 34 45.2**	**-2.2**
RCBR	**Riachuelo**	**34.76**	**64**	P	**P**	**02 34 54.5**	**-0.5**
	comp=Z,16nm,0.7s,baz=26,slow=11,SNR=12						
RCBR	**Riachuelo**	**34.76**	**64**	P	**P**	**02 34 52.8**	**-2.2**
RCBR	**Riachuelo**	**34.76**	**64**	*e*P	**P**	**02 34 54.7**	**-0.3**
NBPV	**Pedro Velho**	**34.93**	**65**	*e*P	**P**	**02 34 55.4**	**-1.0**
FDF	**Fort de France**	**38.89**	**9**	P	**P**	**02 35 30.3**	**+0.6**
BANI	**BANI**	**42.27**	**355**	P	**P**	**02 35 56.5**	**-0.9**
VNA3	**Neumayer Olymp**	**57.09**	**161**	P	**P**	**02 37 49.2**	**+0.8**
VNA2	**Neumayer--Watz**	**57.66**	**160**	P	**P**	**02 37 53.8**	**+1.5**
	baz=294,slow=8.5						
ZAIG	**Zacatecas**	**58.04**	**321**	P	**P**	**02 37 57.4**	**+1.4**
ZAIG				IAmb	IAmb	02 37 59.3	
	comp=Z,8.8nm,1.0s						
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**02 38 05.0**	**+1.3**
SNAA	**Sanae**	**59.29**	**161**	P	**P**	**02 38 03.5**	**-0.2**
SNAA				IAmb	IAmb	02 38 07.5	
	comp=Z,4.5nm,0.8s						
JSC	**Jenkinsville**	**59.56**	**346**	P	**P**	**02 38 06.6**	**+0.7**
JSC				IAmb	IAmb	02 38 07.2	
	comp=Z,8.2nm,1.1s						
LRAL	**Lakeview Retre**	**59.90**	**340**	P	**P**	**02 38 08.0**	**-0.1**
LRAL				IAmb	IAmb	02 38 08.3	
	comp=Z,4.2nm,0.8s						
Z47A	**Carrollton**	**60.38**	**340**	P	**P**	**02 38 10.5**	**-0.9**
833A	**Chaparral WMA,**	**60.76**	**327**	P	**P**	**02 38 15.6**	**+1.4**
143A	**Socs Landing,**	**61.08**	**336**	P	**P**	**02 38 15.8**	**-0.3**
X48A	**Hartselle**	**61.23**	**341**	IAmb	IAmb	02 38 17.8	
	comp=Z,8.5nm,0.9s						
SWET	**Sewanee**	**61.62**	**342**	IAmb	IAmb	02 38 20.5	
	comp=Z,5.9nm,0.7s						
CLTN	**Cedars of Leba**	**62.55**	**342**	P	**P**	**02 38 25.5**	**-0.5**
CLTN				IAmb	IAmb	02 38 26.4	
	comp=Z,4.7nm,0.9s						
WLAR	**White Oak Lake**	**62.59**	**335**	P	**P**	**02 38 26.4**	**+0.2**
JCT	**Junction City**	**62.74**	**328**	P	**P**	**02 38 27.8**	**+0.5**
WHTX	**Lake Whitney,**	**62.92**	**331**	P	**P**	**02 38 28.5**	**+0.1**
WHTX				IAmb	IAmb	02 38 29.8	
	comp=Z,4.0nm,0.8s						
WVT	**Waverly**	**63.02**	**341**	P	**P**	**02 38 28.6**	**-0.4**
MIAR	**Mount Ida**	**63.53**	**335**	IAmb	IAmb	02 38 33.1	
	comp=Z,4.2nm,0.8s						
TX32	**Lajitas Array**	**63.78**	**324**	P	**P**	**02 38 35.1**	**+0.8**
TXAR	**Lajitas Array**	**63.78**	**324**	P	**P**	**02 38 35.5**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=157,slow=8.5,SNR=12						
TXAR	**Lajitas Array**	**63.78**	**324**	P	**P**	**02 38 34.9**	**+0.6**
TX31	**Lajitas Ar. Si**	**63.78**	**324**	P	**P**	**02 38 35.1**	**+0.8**
TX31				IAmb	IAmb	02 38 36.2	
	comp=Z,8.3nm,0.9s						
HICK	**Hickman**	**63.83**	**340**	P	**P**	**02 38 34.5**	**+0.2**
Z35A	**Perchaven, San**	**63.97**	**332**	P	**P**	**02 38 36.0**	**+0.7**
LCAR	**Lake Charles**	**64.03**	**338**	P	**P**	**02 38 34.9**	**-0.7**
PARMO	**Parma**	**64.11**	**340**	P	**P**	**02 38 36.6**	**+0.5**
FCAR	**Ozark Folk Cen**	**64.20**	**337**	P	**P**	**02 38 36.8**	**+0.1**
FCAR				IAmb	IAmb	02 38 37.1	
	comp=Z,9.1nm,1.2s						
MGMO	**Mountain Grove**	**65.39**	**338**	IAmb	IAmb	02 38 45.3	
	comp=Z,6.7nm,0.9s						
TUL1	**Leonard**	**65.59**	**334**	P	**P**	**02 38 46.4**	**+0.6**
TUL1				IAmb	IAmb	02 38 50.0	
	comp=Z,3.3nm,0.6s						
CCM	**Cathedral Cave**	**65.86**	**339**	P	**P**	**02 38 47.6**	**+0.3**
QSPA	**South Pole Qui**	**66.21**	**180**	P	**P**	**02 38 51.4**	**+1.9**
S39A	**Bolivar**	**66.24**	**337**	P	**P**	**02 38 50.4**	**+0.6**
L59A	**Walton**	**66.29**	**353**	P	**P**	**02 38 51.2**	**+1.1**
L59A				IAmb	IAmb	02 38 52.0	
	comp=Z,5.6nm,0.8s						
HRV	**Adam Dziewonsk**	**66.32**	**356**	P	**P**	**02 38 50.6**	**+0.5**
HRV				IAmb	IAmb	02 38 58.7	
	comp=Z,5.0nm,0.8s						
MNTX	**Cornudas Mount**	**66.55**	**325**	P	**P**	**02 38 52.0**	**0.0**
MNTX				IAmb	IAmb	02 38 53.1	
	comp=Z,4.9nm,0.9s						
MSTX	**Muleshoe**	**67.03**	**328**	P	**P**	**02 38 54.7**	**-0.4**
MSTX				IAmb	IAmb	02 38 57.0	
	comp=Z,9.6nm,0.8s						
P40A	**Paris**	**67.46**	**339**	P	**P**	**02 38 57.5**	**+0.1**
P40A				IAmb	IAmb	02 38 58.7	
	comp=Z,12nm,1.0s						
J59A	**Piesco**	**67.50**	**354**	P	**P**	**02 38 57.6**	**-0.1**
HDIL	**Hopedale**	**67.55**	**342**	P	**P**	**02 38 58.3**	**+0.3**
HDIL				IAmb	IAmb	02 38 59.2	
	comp=Z,5.3nm,0.5s						
J56A	**Wolcott**	**67.58**	**352**	P	**P**	**02 38 58.9**	**+0.8**
J56A				IAmb	IAmb	02 39 07.3	
	comp=Z,10nm,1.1s						
DBIC	**Dimbokro**	**67.63**	**71**	P	**P**	**02 38 58.0**	**-1.1**
	comp=Z,6.5nm,0.5s,baz=237,slow=6.7,SNR=19						
DBIC	**Dimbokro**	**67.63**	**71**	P	**P**	**02 38 58.0**	**-1.1**
P38A	**Dawn**	**68.04**	**338**	P	**P**	**02 39 01.4**	**+0.3**
319A	**Douglas**	**68.45**	**322**	P	**P**	**02 39 06.2**	**+2.2**
319A				IAmb	IAmb	02 39 06.8	
	comp=Z,7.3nm,0.6s						
121A	**Cookes Peak, D**	**68.49**	**323**	P	**P**	**02 39 06.6**	**+2.3**
121A				IAmb	IAmb	02 39 07.3	
	comp=Z,6.4nm,0.9s						
L40A	**Anamosa**	**69.50**	**341**	P	**P**	**02 39 10.4**	**+0.4**
L40A				IAmb	IAmb	02 39 11.2	
	comp=Z,10nm,0.9s						
F64A	**Sherman**	**69.54**	**359**	P	**P**	**02 39 11.1**	**+0.9**
ANMO	**Albuquerque**	**69.65**	**326**	P	**P**	**02 39 13.3**	**+2.0**
ANMO				IAmb	IAmb	02 39 14.0	
	comp=Z,4.9nm,0.9s						
JFWS	**Jewell Farm**	**70.00**	**342**	P	**P**	**02 39 13.3**	**+0.3**
JFWS				IAmb	IAmb	02 39 13.8	
	comp=Z,6.8nm,0.7s						
TRQ	**Mont Tremblant**	**70.24**	**354**	P	**P**	**02 39 15.2**	**+0.7**
I42A	**Draeger Farm,**	**70.54**	**343**	P	**P**	**02 39 16.2**	**-0.1**
I42A				IAmb	IAmb	02 39 17.5	
	comp=Z,11nm,1.1s						
D62A	**Allapoint, All**	**70.77**	**358**	P	**P**	**02 39 18.2**	**+0.6**
G45A	**Suttons Bay**	**70.83**	**346**	P	**P**	**02 39 19.3**	**+1.2**
BATG	**Bathurst New B**	**70.94**	**1**	P	**P**	**02 39 19.3**	**+0.6**
SDCO	**Great Sand Dun**	**71.38**	**328**	P	**P**	**02 39 22.5**	**+0.6**
E46A	**Sault Ste Mari**	**71.81**	**347**	P	**P**	**02 39 23.7**	**-0.2**
S22A	**4UR Ranch, Cre**	**72.03**	**328**	P	**P**	**02 39 27.4**	**+1.7**
113A	**Mohawk Valley,**	**72.06**	**320**	P	**P**	**02 39 26.9**	**+1.2**
G40A	**Rib Lake**	**72.16**	**343**	P	**P**	**02 39 27.0**	**+0.9**
Q24A	**Divide**	**72.19**	**329**	P	**P**	**02 39 27.1**	**+0.4**
Q24A				IAmb	IAmb	02 39 29.3	
	comp=Z,8.8nm,1.1s						
KOWA	**Kowa**	**72.27**	**65**	P	**P**	**02 39 26.9**	**-0.4**
KOWA				IAmb	IAmb	02 39 27.4	
	comp=Z,6.4nm,0.6s						
OGNE	**Ogallala**	**72.43**	**333**	P	**P**	**02 39 28.1**	**+0.3**
OGNE				IAmb	IAmb	02 39 29.6	
	comp=Z,12nm,1.1s						
MVCO	**Mesa Verde**	**72.44**	**326**	P	**P**	**02 39 28.9**	**+0.8**
WUAZ	**Wupatki**	**72.69**	**323**	P	**P**	**02 39 30.0**	**+0.4**
WUAZ				IAmb	IAmb	02 39 32.8	
	comp=Z,6.9nm,0.9s						
ECSD	**EROS Data Cent**	**72.75**	**338**	P	**P**	**02 39 29.6**	**+0.1**
ECSD				IAmb	IAmb	02 39 31.0	
	comp=Z,11nm,1.1s						
BLYC	**Blythe**	**73.20**	**320**	P	**P**	**02 39 33.9**	**+1.5**
BLYC				IAmb	IAmb	02 39 35.5	
	comp=Z,5.6nm,1.1s						
SMCO	**Snowmass**	**73.22**	**328**	P	**P**	**02 39 34.3**	**+1.4**
SMCO				IAmb	IAmb	02 39 37.4	
	comp=Z,4.5nm,0.9s						
F36A	**Milaca**	**73.65**	**341**	P	**P**	**02 39 34.3**	**-0.4**
F36A				IAmb	IAmb	02 39 35.4	
	comp=Z,6.3nm,0.8s						
U15A	**North Rim**	**73.86**	**323**	P	**P**	**02 39 38.4**	**+1.8**
PHWY	**Pilot Hill**	**74.21**	**331**	P	**P**	**02 39 39.6**	**+1.2**
O20A	**White River Ci**	**74.58**	**328**	P	**P**	**02 39 42.1**	**+1.6**
O20A				IAmb	IAmb	02 39 43.4	
	comp=Z,5.2nm,0.8s						
KNB	**Kanab**	**74.58**	**323**	P	**P**	**02 39 42.1**	**+1.6**
KNB				IAmb	IAmb	02 39 44.1	
	comp=Z,13nm,1.1s						
SRU	**San Rafael Swe**	**74.92**	**326**	P	**P**	**02 39 43.6**	**+1.2**
SRU				IAmb	IAmb	02 39 44.5	
	comp=Z,4.7nm,0.7s						
MTPU	**Mount Pierson**	**74.99**	**324**	P	**P**	**02 39 42.2**	**-0.9**
Q16A	**Castle Valley**	**75.11**	**326**	P	**P**	**02 39 45.0**	**+1.4**
P18A	**Preston Nutter**	**75.17**	**327**	P	**P**	**02 39 45.8**	**+1.7**
CCUT	**Cedar City**	**75.27**	**323**	P	**P**	**02 39 46.3**	**+1.8**
CCUT				IAmb	IAmb	02 39 48.2	
	comp=Z,7.5nm,0.9s						
P17A	**Butcher Ranch,**	**75.31**	**326**	P	**P**	**02 39 45.8**	**+1.2**
RWWY	**Rawlins**	**75.31**	**330**	P	**P**	**02 39 45.2**	**+0.5**
RWWY				IAmb	IAmb	02 39 46.9	
	comp=Z,7.2nm,0.9s						
MSU	**Marysvale**	**75.33**	**325**	P	**P**	**02 39 46.1**	**+1.2**
SHPR	**Sheep Range**	**75.52**	**322**	P	**P**	**02 39 47.2**	**+1.3**
GSC	**Goldstone, Bar**	**75.63**	**320**	P	**P**	**02 39 47.6**	**+1.1**
RSSD	**Black Hills**	**75.89**	**333**	P	**P**	**02 39 48.8**	**+0.9**
RSSD				IAmb	IAmb	02 39 50.1	
	comp=Z,5.1nm,0.9s						
B35A	**Bob, Littlefor**	**75.97**	**342**	P	**P**	**02 39 48.3**	**+0.3**
B35A				IAmb	IAmb	02 39 49.0	
	comp=Z,7.6nm,0.8s						
QSM	**Queen of Sheba**	**76.13**	**320**		**P**	**02 39 50.4**	**+1.2**
PSUT	**Pine Spring**	**76.25**	**324**	P	**P**	**02 39 51.4**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSUT				IAmb	IAmb	02 39 53.1	
	comp=Z,3.7nm,0.8s						
NLU	North Lily Min	76.35	326	P	P	02 39 51.9	+1.3
TORD	Torodi Ar. Bea	76.40	69	P	P	02 39 50.3	-0.8
	comp=Z,7.2nm,0.5s,baz=258,slow=5.6,SNR=139						
JLU	Jordanelle	76.51	327	P	P	02 39 52.8	+1.2
AGMN	Agassiz Nation	76.54	341	P	P	02 39 52.0	+0.8
AGMN				IAmb	IAmb	02 39 52.4	
	comp=Z,5.5nm,0.8s						
PD31	Pinedale Array	77.24	329	P	P	02 39 56.7	+1.2
PDAR	Pinedale Array	77.24	329	P	P	02 39 56.8	+1.2
	comp=Z,0.9nm,0.6s,baz=131,slow=8.1,SNR=9.9						
PDAR	Pinedale Array	77.24	329	P	P	02 39 56.3	+0.7
BW06	Boulder Array	77.24	329	P	P	02 39 57.2	+1.7
MDND	Maddock	77.36	338	P	P	02 39 56.7	+0.9
TSUM	Tsumeb	77.48	106	P	P	02 39 56.6	-0.8
TSUM				IAmb	IAmb	02 39 57.8	
	comp=Z,7.3nm,0.8s						
BGU	Big Grassy Mou	77.56	326	P	P	02 39 58.7	+1.5
TPH	Tonopah	77.79	322	P	P	02 40 00.4	+1.7
TPH				IAmb	IAmb	02 40 07.3	
	comp=Z,6.0nm,0.7s						
AHID	Auburn Hatcher	77.97	328	P	P	02 40 00.5	+0.9
AHID				IAmb	IAmb	02 40 01.9	
	comp=Z,4.9nm,0.7s						
HVU	Hansel Valley	78.06	327	P	P	02 40 01.1	+1.1
ULM	Lac du Bonnet	78.28	341	P	P	02 40 00.7	-0.1
	comp=Z,3.7nm,0.6s,baz=161,slow=4.5,SNR=7.6						
REDW	Red Top Meadow	78.31	329		P	02 40 02.4	+1.0
REDW				IAmb	IAmb	02 40 11.0	
	comp=Z,5.3nm,1.1s						
SNOW	Snow King Moun	78.34	329	P	P	02 40 03.3	+1.7
SNOW				IAmb	IAmb	02 40 04.2	
	comp=Z,6.0nm,0.8s						
LOHW	Long Hollow	78.38	329	P	P	02 40 03.4	+1.6
LOHW				IAmb	IAmb	02 40 03.9	
	comp=Z,4.2nm,0.8s						
TPAW	Teton Pass	78.45	329	P	P	02 40 03.9	+1.7
OMMB	Old Mammoth Mi	78.50	320	P	P	02 40 04.2	+1.4
OMMB				IAmb	IAmb	02 40 05.4	
	comp=Z,3.9nm,0.8s						
SCHQ	Schefferville	78.50	360	P	P	02 40 02.5	+0.6
	comp=Z,3.8nm,1.0s,baz=224,slow=4.3,SNR=5.7						
SCHQ	Schefferville	78.50	360	P	P	02 40 02.2	+0.3
MOOW	Moose Ponds	78.55	329	P	P	02 40 03.9	+1.2
NVAR	Mina Array Bea	78.65	321	P	P	02 40 04.3	+0.9
	comp=Z,0.7nm,0.7s,baz=147,slow=5.4,SNR=4.2						
FLWY	Flagg Ranch	78.78	329	P	P	02 40 06.2	+2.2
FLWY				IAmb	IAmb	02 40 06.6	
	comp=Z,5.2nm,0.8s						
KVN	Kaiserville	78.96	322	P	P	02 40 06.5	+1.5
KVN				IAmb	IAmb	02 40 07.4	
	comp=Z,5.5nm,0.8s						
YMR	Madison River	79.35	330	P	P	02 40 09.7	+2.6
YMR				IAmb	IAmb	02 40 10.3	
	comp=Z,7.5nm,0.8s						
DGMT	Dagmar	79.53	336	P	P	02 40 09.3	+1.6
HLID	Hailey	80.19	327	P	P	02 40 13.6	+2.1
HLID				IAmb	IAmb	02 40 14.7	
	comp=Z,8.6nm,0.9s						
BCYI	Bear Canyon	80.24	328	P	P	02 40 14.3	+2.4
MCMT	McKenzie Canyo	80.36	329		P	02 40 14.2	+1.7
BOSA	Boshof	80.57	117	P	P	02 40 13.1	-0.9
	comp=Z,3.4nm,0.8s,baz=261,slow=3.4,SNR=10						
BOSA	Boshof	80.57	117	P	P	02 40 13.7	-0.3
DLMT	Dillon	80.64	329	P	P	02 40 15.6	+1.7
DLMT				IAmb	IAmb	02 40 16.7	
	comp=Z,5.4nm,1.1s						
LRM	Limekiln Ridge	80.91	330	P	P	02 40 17.0	+1.6
HRY	Holter Researc	81.30	330	P	P	02 40 19.3	+2.1
EGMT	Eagleton	81.40	332	P	P	02 40 18.9	+1.2
EGMT				IAmb	IAmb	02 40 19.4	
	comp=Z,6.4nm,0.9s						
PLID	Pearl Lake	82.07	327	P	P	02 40 23.1	+1.6
PLID				IAmb	IAmb	02 40 23.9	
	comp=Z,10nm,0.8s						
J08A	Circle Bar Ran	82.13	325	P	P	02 40 23.4	+1.8
J08A				IAmb	IAmb	02 40 23.9	
	comp=Z,3.9nm,0.7s						
K05A	Summer Lake	83.00	323	P	P	02 40 28.1	+1.8
JTMT	Jette	83.18	330	P	P	02 40 28.5	+1.5
JTMT				IAmb	IAmb	02 40 29.1	
	comp=Z,5.6nm,0.9s						
F10A	Beach Ranch, E	83.31	327	P	P	02 40 29.5	+1.8
F10A				IAmb	IAmb	02 40 34.0	
	comp=Z,3.7nm,0.7s						
HUMO	Hull Mountain	84.07	322	P	P	02 40 32.4	+0.8
ESDC	Sonseca Array	86.27	43	P	P	02 40 42.3	-0.2
	comp=Z,0.9nm,0.7s,baz=242,slow=4.3,SNR=11						
LSZ	Lusaka	88.33	106	P	P	02 40 51.7	-1.4
LSZ				IAmb	IAmb	02 40 56.5	
	comp=Z,7.2nm,1.1s						
YKA	Yellowknife Ar	94.19	340	P	P	02 41 19.5	+0.7
	comp=Z,2.0nm,0.6s,baz=134,slow=4.5,SNR=48						
ASAR	Alice Springs	128.53	204	PKP	PKiKP	02 47 07.8	-0.1
	comp=Z,2.8nm,0.7s,baz=134,slow=1.9,SNR=27						
ASAR				SKPbc	SKPbc	02 50 08.4	
	comp=Z,0.3nm,0.6s,baz=144,slow=3.4,SNR=4.4						
WRA	Warramunga Arr	131.71	207	PKP	PKiKP	02 47 14.5	+0.2
	comp=Z,1.2nm,0.3s,baz=153,slow=2.0,SNR=27						
WRA				SKPbc	SKPbc	02 50 20.4	+0.2
	comp=Z,1.8nm,0.7s,baz=155,slow=3.5,SNR=17						
KURBB	Kurchatov Arra	142.27	36	PKP	PKPdf	02 47 32.8	+1.2
	comp=Z,0.6nm,0.7s,baz=296,slow=2.6,SNR=6.5						
ZALV	Zalesovo Beam	143.31	28	PKP	PKPbc	02 47 31.8	+0.8
	comp=Z,2.4nm,0.7s,baz=306,slow=3.9,SNR=9.2						
MKAR	Makanchi Array	146.41	40	PKPbc	PKPbc	02 47 40.1	-0.6
	comp=Z,3.6nm,0.7s,baz=315,slow=2.3,SNR=37						
KAPI	Kappang	150.47	193	PKPbc	PKiKP	02 47 53.4	+0.7
	comp=Z,4.2nm,0.3s,baz=154,slow=21,SNR=2.5						
KAPI				PKPab	PKPab	02 48 00.3	+1.2
	comp=Z,4.4nm,0.3s,baz=70,slow=2.3,SNR=3.9						
MJAR	Matsushiro Arr	155.12	306	PKPab	PKPab	02 48 19.2	+0.8
	comp=Z,1.0nm,0.6s,baz=53,slow=5.0,SNR=4.2						
SONM	Songino Array	155.60	11	PKPab	PKPab	02 48 20.8	+0.6
	comp=Z,0.7nm,0.7s,baz=306,slow=2.4,SNR=4.8						
CMAR	Chiang Mai Arr	165.61	110	PKPab	PKPab	02 49 05.1	+0.5
	comp=Z,3.7nm,0.3s,baz=259,slow=5.8,SNR=9.8						
PZH	PanZhiHua	169.33	74	PKP	PKPdf	02 48 06.7	-0.6

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*IDC **06** 02:35:52.7±2.1, 32°.13S×177°.72W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/30, mbtmp4.1/4, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/60, Error ellipse: s-maj=68.7km s-min=36.8km az=144.0*

*NEIC **06** 02:35:57.8±1.9, 32°.32S±0°.08×177°.9W±0°.2, h18km±7km, mb4.3/12, Error ellipse: s-maj=28.5km s-min=10.3km az=102.0*

ISC 06 02:35:55.6±0.9**, 32°.06S**±0°.06×**177°.7W**±0°.2**, h18**km**, n42, σ1ˢ96**/55**, mb4.1**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.80	355	P	Pn	02 36 35.9	-3.6
GLKZ				S	Sn	02 37 04.5	-8.3
RAO	Raoul Island	2.81	355	Pn	Pb	02 36 46.1	+0.9
RIZ	Raoul Island	2.81	355	S	Sn	02 37 08.3	-4.9
MXZ	Matakaoa Point	6.41	210	Pn	Pn	02 37 26.1	-3.0
MXZ	Matakaoa Point	6.41	210	P	Pn	02 37 29.8	+0.6
MXZ				S	Sn	02 38 37.2	-4.7
PKGZ	Pakihiroa	6.78	210	P	Pn	02 37 31.5	-2.8
PKGZ				S	Sn	02 38 52.8	+1.7
HAZ	Te Kaha	6.80	212	P	Pn	02 37 34.5	0.0
HAZ				S	Sn	02 38 53.7	+2.2
RUGZ	Raukumara Rang	7.02	212	P	Pn	02 37 37.8	+0.2
RUGZ				S	Sn	02 38 56.2	-0.9
CNGZ	Carnagh Statio	7.24	207	P	Pn	02 37 39.6	-1.0
CNGZ				S	Sn	02 39 04.7	+2.3
MWZ	Matawai	7.39	211	P	Pn	02 37 41.4	-1.3
MWZ				S	Sn	02 39 07.7	+1.6
URZ	Urewera	7.52	213	Pn	Pn	02 37 41.8	-2.5
	0.7nm,0.3s,baz=321,slow=20,SNR=1.9						
URZ				Sn	Sn	02 39 07.1	-2.0
	3.8nm,0.3s,baz=186,slow=16,SNR=11						
URZ	Urewera	7.52	213	P	Pn	02 37 42.5	-1.8
URZ				S	Sn	02 39 08.0	-1.1
PRGZ	Paritu Road	7.75	207	P	Pn	02 37 45.5	-2.0
PRGZ				S	Sn	02 39 13.5	-1.3
SNGZ	Shannon Statio	7.85	210	P	Pn	02 37 48.2	-0.7
SNGZ				S	Sn	02 39 15.3	-1.9
RTZ	Ruatahuna	7.87	212	P	Pn	02 37 48.9	-0.3
RTZ				S	Sn	02 39 17.0	-0.9
RAHZ	Arahi	8.07	211	P	Pn	02 37 53.0	+1.0
RAHZ				S	Sn	02 39 21.4	-1.3
MTHZ	Maungataniwha	8.12	212	P	Pn	02 37 52.3	-0.5
MTHZ				S	Sn	02 39 23.6	-0.5
NMHZ	Naumai	8.34	211	P	Pn	02 37 55.6	-0.1
NMHZ				S	Sn	02 39 27.4	-2.1
BKZ	Black Stump Fm	8.54	212	P	Pn	02 37 55.9	-2.5
KAHZ	Kahuranaki	8.89	208	P	Pn	02 38 00.3	-3.0
OTVZ	Oturere	8.93	216	P	Pn	02 38 03.8	0.0
THZ	Tophouse	12.27	215	Pn	Pn	02 38 48.8	-0.7
WKZ	Wanaka	16.44	215	Pn	Pn	02 39 43.1	-2.3
WKZ				IAmb	IAmb	02 39 43.3	
	comp=Z,27nm,1.2s						
OUENC	Ouen Island, N	16.78	301		P	02 39 55.3	+3.4
OUENC				IAmb	IAmb	02 40 07.0	
	comp=Z,18nm,1.1s						
DZM	Mont Dzumac	17.28	301	LR	LR	02 45 25.4	
	comp=Z,116nm,19.6s,baz=262,slow=33						
FUNA	Funafuti	23.60	352	P	P	02 41 10.6	+5.1
STKA	Stephens Creek	34.42	259	P	P	02 42 43.2	+1.2
	comp=Z,0.7nm,0.4s,baz=100,slow=12,SNR=3.5						
STKA	Stephens Creek	34.42	259	P	P	02 42 43.0	+1.0
AS31	Alice Springs	43.33	269	P	P	02 43 58.1	+1.3
ASAR	Alice Springs	43.33	269	P	P	02 43 55.5	-1.4
	comp=Z,1.7nm,0.6s,baz=107,slow=7.9,SNR=16						
ASAR	Alice Springs	43.33	269	P	P	02 43 56.2	-0.7
WR0	Warramunga Arr	44.29	274	P	P	02 44 03.7	-0.9
WR0				IAmb	IAmb	02 44 15.8	
	comp=Z,2.2nm,0.8s						
WB2	Warramunga Arr	44.46	274	P	P	02 44 05.6	-0.4
WB2				IAmb	IAmb	02 44 15.9	
	comp=Z,5.6nm,0.6s						
WRA	Warramunga Arr	44.47	274	P	P	02 44 04.9	-1.1
	comp=Z,2.4nm,0.5s,baz=112,slow=7.9,SNR=44						
WRA	Warramunga Arr	44.47	274	P	P	02 44 05.5	-0.6
WB0	Warramunga Arr	44.50	274	P	P	02 44 05.6	-0.6
CASY	Casey	53.82	208	P	P	02 45 17.1	+0.2
QSPA	South Pole Qui	58.05	180	P	P	02 45 47.8	+0.4
QSPA				IAmb	IAmb	02 46 01.3	
	comp=Z,4.6nm,0.7s						
BELA	Belgrano 2	68.11	172	P	P	02 46 54.5	+0.7
BELA				IAmb	IAmb	02 47 10.0	
	comp=Z,1.6nm,1.0s						
FINES	FINESS Array B	146.80	339	PKPbc	PKPbc	02 55 35.9	+0.1
	comp=Z,1.3nm,0.4s,baz=46,slow=4.2,SNR=15						
AKASG	Malin Array Be	152.78	321	PKPbc	PKPbc	02 55 50.4	-0.6
	comp=Z,0.3nm,0.4s,baz=57,slow=1.8,SNR=2.2						
BRTR	Keskin Array B	153.61	296	PKPbc	PKiKP	02 55 53.3	-0.2
	comp=Z,0.5nm,0.6s,baz=140,slow=3.9,SNR=2.7						

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*MDD **06** 02:44:14.7±0.5, 35°.54N×3°.79W, h0km, mb_Lg2.3/6, Error ellipse: s-maj=3.9km s-min=3.4km az=22.0*

*SFS **06** 02:44:14.0, 35°.53N×3°.79W, ML2.3, ALBORAN SUR*

*CNRM **06** 02:44:15.4, 35°.58N×3°.75W, h17km, ml2.6*

ISC 06 02:44:15.5±1.2**, 35°.55N**±0°.03×**3°.64W**±0°.03**, h19**km±3km**, n16, σ1ˢ10**/32**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.41	217	P	Pb	02 44 23.5	-0.7
PALE				S	Sg	02 44 28.5	-1.3
EMEL	Melilla	0.61	114	Pg	Pb	02 44 27.2	-0.2
EMEL				Sg	Sn	02 44 39.0	+0.7
EALB	Alboran	0.63	51	Pg	Pn	02 44 29.2	-0.1
EALB				Sg	Sn	02 44 39.4	+0.6
EALB				*i* Vmb_Lg		02 44 41.4	
TAF	Taforalt	1.24	126	P	Pg	02 44 38.9	-0.6
TAF				S	Sg	02 44 56.6	+0.9
ELGU	Los Guajares,	1.32	0	Pg	Pn	02 44 38.9	0.0
ELGU				Sg	Sg	02 44 57.5	-0.8
ELGU				*i* Vmb_Lg		02 45 01.7	
EMIJ	Mijas	1.37	318	Pg	Pn	02 44 39.3	-0.3
EMIJ				Sg	Sn	02 44 57.2	0.0
EMIJ				*i* Vmb_Lg		02 45 01.1	
EMAL	Malaga-Limoner	1.37	332	P	Pg	02 44 44.3	+2.3
EMAL				S	Sb	02 44 58.3	+0.7
SMIR	Smir Dam	1.43	276	P	Pn	02 44 38.9	-1.4
SMIR				S	Sn	02 44 57.0	-1.6
CHEFC	Chefchaouen	1.46	253	P	Pn	02 44 40.9	0.0
CHEFC				S	Sn	02 44 59.3	-0.2
JBK	JBK	1.49	144	P	Pg	02 44 43.2	-1.1
JBK				S	Sg	02 45 03.0	-0.9
EQUE	Quentar	1.66	5	Pn	Pn	02 44 43.5	-0.2
EQUE				Sn	Sn	02 45 04.5	0.0
EQUE				*i* Vmb_Lg		02 45 16.7	
ENIJ	Nijar	1.83	39	Pn	Pn	02 44 45.8	-0.2
ENIJ				Sn	Sb	02 45 09.8	-1.2
ENIJ				*i* Vmb_Lg		02 45 15.1	
LCRM	LCR	2.11	209	P	Pb	02 44 52.9	-0.3
LCRM				S	Sb	02 45 19.4	+0.3
IFR	Ifrane	2.37	212	P	Pn	02 44 54.2	+0.8
IFR				S	Sn	02 45 20.4	-1.7
MD31	MD31	2.83	200	P	Pn	02 45 01.1	+1.4
MD31				S	Sn	02 45 34.8	+1.5
MDT	Midelt	2.84	197	P	Pn	02 45 02.0	+2.1
MDT				S	Sn	02 45 35.4	+1.8

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*IDC **06** 02:45:56.8±2.8, 36°.31N×71°.16E, h76km±24km, mb3.7/18, mb1 3.8/24, mb1mx3.6/52, mbtmp4.0/24, MS3.1/1, Ms1 3.1/1, ms1mx2.3/90, Error ellipse: s-maj=18.7km s-min=13.6km az=2.0*

*BJI **06** 02:45:58.5±0.0, 36°.70N×71°.09E, h95km, mb4.0/14, mB4.4/10*

*MOS **06** 02:45:59.0±1.1, 36°.48N×71°.27E, h101km, mb4.3/16, Error ellipse: s-maj=9.2km s-min=5.3km az=98.9*

*NEIC **06** 02:46:00.2±2.0, 36°.48N±0°.05×71°.10E±0°.07, h103km±6km, mb4.3/28, Error ellipse: s-maj=8.4km s-min=6.9km az=103.0*

*NNC **06** 02:46:03.4±3.0, 36°.79N×71°.00E, h106km±44km, mb3.9, mpv4.5, Error ellipse: s-maj=24.2km s-min=20.0km az=3.0*

ISC 06 02:45:59.3±0.5**, 36°.44N**±0°.04×**71°.34E**±0°.04**, h96**km±4km**, h96**km**:pP-P, n146, σ1ˢ99**/169**, mb4.2**/41**, 12C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.65	170	P	Pn	02 46 41.9	+1.4
CEP				S	Sn	02 47 14.0	+2.0
KBL	Kabul	2.67	225	PN	Pn	02 46 40.6	-0.1
KBL				S	Sn	02 47 12.9	+0.4
KBL	Kabul	2.67	225	Pn	Pn	02 46 40.4	-0.3
KBL				Sn	Sn	02 47 12.3	-0.2
GAR	Garm	2.68	343		Pn	02 46 40.8	-0.1
GAR				Sn	Sn	02 47 10.9	-1.9
CHGR	Chuyangaron	2.81	323	PN	Pn	02 46 41.2	-1.4
CHGR	Chuyangaron	2.81	323		Pn	02 46 41.2	-1.4
CHGR				Sn	Sn	02 47 12.4	-3.4
CHCP	Chirah Chowk	3.19	150	P	Pn	02 46 49.5	+1.9
NIL	Nilore	3.19	150	PN	Pn	02 46 49.8	+2.2
NIL	Nilore	3.19	150	Pn	Pn	02 46 49.8	+2.2
THW	Thamme Wali	3.65	175	P	Pn	02 46 54.4	+0.6
KSH	Kashi	4.78	49	P	Pn	02 47 05.5	-3.5
KSH				S	Sn	02 47 54.1	-9.1
KSH				smax	smax		
	comp=N,420nm,0.6s						
KSH				smax	smax		
	comp=E,350nm,0.8s						
TAS	Tashkent	5.13	342	PN	Pn	02 47 13.1	-0.7
TAS	Tashkent	5.13	342	Pn	Pn	02 47 13.1	-0.7
TAS				Sn	Sn	02 48 09.3	-2.5
THN	Thein Dam	5.39	137	*e*P	Pn	02 47 20.0	+2.8
THN				*e*S	Sn	02 48 13.0	-4.9
DHRM	DHARAMSHALA	5.85	134	*e*P	Pn	02 47 24.8	+1.0
DHRM				*e*S	Sn	02 48 27.7	-2.0
DHRM				IAML		02 48 30.6	
	comp=N,361nm,0.6s						
DHRM				IAML		02 48 31.5	
	comp=E,477nm,0.3s						
AML	Almayashu	5.97	17	P	Pn	02 47 26.3	+0.8
	SNR=173						
EKS2	Erkin-Say	6.49	16	P	Pn	02 47 33.5	+1.1
	SNR=86						
AAK	Ala-Archa	6.65	20	P	Pn	02 47 35.9	+1.4
	comp=E,11nm,0.3s,baz=184,slow=8.0,SNR=163						
AAK				S	Sn	02 48 49.9	+1.0
	comp=E,2.6nm,0.3s,baz=193,slow=7.1,SNR=3.6						
AAK	Ala-Archa	6.65	20	*ce*PN	Pn	02 47 35.7	+1.2
AAK				pmax	pmax		
	comp=Z,20nm,0.6s						
AAK	Ala-Archa	6.65	20	Pn	Pn	02 47 35.4	+0.9
KK02	Karatay Array	6.69	355	⇓P	Pn	02 47 34.3	-0.5
	comp=Z,25nm,0.4s,baz=178,slow=13						
KK02				⇑S	Sn	02 48 45.4	-4.1
	comp=Z,62nm,0.5s,baz=185,slow=20						
KKAR	Karatay Array	6.69	355	PN	Pn	02 47 34.4	-0.5
KKAR	Karatay Array	6.69	355	Pn	Pn	02 47 34.4	-0.5
CHMS	Chumysh	7.06	21	P	Pn	02 47 41.2	+1.3
	SNR=16						
SMLA	Simla	7.18	136	*e*P	Pn	02 47 41.4	-0.2
SMLA				*e*S	Sn	02 48 59.4	-2.2
SMLA				IAML		02 49 03.7	
	comp=N,163nm,0.3s						
SMLA				IAML		02 49 03.7	
	comp=E,167nm,0.7s						
USP	Ospenovka	7.24	19	P	Pn	02 47 43.7	+1.3
	SNR=28						
TKM2	Tokmak 2	7.26	26	P	Pn	02 47 44.2	+1.4
	SNR=24						
TKM2	Tokmak 2	7.26	26	*i* PN	Pn	02 47 44.0	+1.2
TKM2				pmax	pmax		
	comp=Z,22nm,0.7s						
TKM2	Tokmak 2	7.26	26	⇓P	Pn	02 47 44.1	+1.2
	comp=Z,22nm,0.8s						
TKM2				⇑S	Sn	02 49 03.5	-0.2
	comp=Z,33nm,0.8s						
TARG	Taragay, Kyrgy	7.29	42		Pn	02 47 41.4	-2.0
HRA	Herat	7.71	257	Pn	Pn	02 47 45.6	-3.4
GEYT	Alibeck	10.66	282	P	Pn	02 48 23.6	-5.3
	comp=Z,0.6nm,0.3s,baz=126,slow=10.0,SNR=5.4						
GEYT				S	Sn	02 50 15.5	-11
	comp=Z,2.4nm,0.3s,baz=112,slow=19,SNR=4.7						
GEYT	Alibeck	10.66	282	Pn	Pn	02 48 26.2	-2.8
GYA0B	ALIBECK ARRAY	10.66	282	Pn	Pn	02 48 24.8	-4.2
PYUN	Piuthan	12.88	127	*e*P	Pn	02 48 56.0	-3.0
	comp=Z,16nm,0.4s						
MAKZ	Makanchi	13.05	34	P	Pn	02 49 01.5	+0.6
MAKZ	Makanchi	13.05	34	Pn	Pn	02 49 01.5	+0.6
MK31	Makanchi Array	13.18	35	P	Pn	02 49 04.2	+1.6
MK31	Makanchi Array	13.18	35		Pn	02 49 04.2	+1.6
MKAR	Makanchi Array	13.18	35	P	Pn	02 49 03.1	+0.5
	comp=Z,0.1nm,0.3s,baz=219,slow=15,SNR=5.2						
MKAR	Makanchi Array	13.18	35	*ce*P	Pn	02 49 03.7	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DANN	Dangsing	13.22	124	*e*P	Pn	02 49 01.6	-2.0
	comp=Z,26nm,0.4s						
KOLN	Koldanda	13.50	126	*e*P	Pn	02 49 03.3	-3.9
GKN	Gorkha	14.04	123	*e*P	Pn	02 49 10.7	-3.3
BHPL	Bhopal	14.17	157	*e*x	Pn	02 49 12.4	-3.2
BHPL				*e*P	P	02 49 20.0	-0.1
BHPL				*i* x	P	02 49 20.3	+0.1
BHPL				*e*S	Sn	02 51 41.8	-10
WMQ	Urumqi	14.51	54	*e*P	P	02 49 22.5	-1.3
PKI	Pulchoki	14.84	123	*e*P	Pn	02 49 22.0	-2.5
GUN	Gumba	14.95	121	*e*P	Pn	02 49 22.1	-3.8
KURBB	Kurchatov Arra	15.09	18	P	P	02 49 29.0	-1.2
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=20						
KURBB				S	Sn	02 52 08.4	-5.2
	comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=4.4						
KURBB	Kurchatov Arra	15.09	18	P	Pn	02 49 28.6	+1.4
KURBB	Kurchatov Arra	15.09	18	⇑P	Pn	02 49 28.6	+1.4
	comp=Z,4.3nm,0.7s						
KURK	Kurchatov	15.20	18	*ce*P	P	02 49 30.0	-1.4
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	15.20	18		Pn	02 49 29.3	+0.7
AB31	Akbulak array	15.27	331	*i* P	Pn	02 49 26.1	-3.4
AB31	Akbulak array	15.27	331	P	Pn	02 49 26.1	-3.4
	comp=Z,2.8nm,0.4s,baz=140,slow=12,SNR=123						
ABKAR	Akbulak array	15.27	331	Pn	Pn	02 49 26.2	-3.3
JIRN	Jiri	15.32	121	*e*P	Pn	02 49 27.8	-2.8
	comp=Z,26nm,0.3s						
RAMN	Ramite	16.05	122	*e*P	Pn	02 49 37.3	-2.3
TAPN	Taplejung	16.57	119	*e*P	Pn	02 49 43.8	-2.4
	comp=Z,45nm,0.7s						
BVAR	Borovoye Array	16.60	358	P	Pn	02 49 45.1	-0.9
	comp=Z,0.4nm,0.3s,baz=184,slow=14,SNR=7.1						
BVAR				S	Sn	02 52 38.1	-12
	comp=Z,0.3nm,0.3s,baz=298,slow=25,SNR=2.5						
BRVK	Borovoye	16.64	358	*ce*P	Pn	02 49 46.3	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	16.64	358		Pn	02 49 45.5	-0.9
ODAN	Odare	16.65	120	*e*P	Pn	02 49 45.5	-1.6
AKTO	Aktyubinsk	16.97	330	P	Pn	02 49 48.0	-2.6
	comp=Z,0.3nm,0.3s,baz=141,slow=14,SNR=20						
AKTO				S	Sn	02 52 47.2	-12
	comp=Z,0.6nm,0.3s,baz=45,slow=22,SNR=7.7						
AKTO	Aktyubinsk	16.97	330	P	Pn	02 49 49.1	-1.5
AKTO	Aktyubinsk	16.97	330	⇑P	Pn	02 49 49.1	-1.5
	comp=Z,9.5nm,0.9s						
GOMU	GeErMu	18.91	84	P	Pn	02 50 16.0	+1.5
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,47nm,4.6s						
ZAA0	Zalesovo Array	19.86	24	P	P	02 50 22.7	+0.2
ZAA0				IAmb	IAmb	02 50 24.5	
	comp=Z,13nm,1.1s						
ZALV	Zalesovo Beam	19.86	24	P	P	02 50 22.2	-0.3
	comp=Z,7.6nm,0.6s,baz=216,slow=10,SNR=30						
ZALV	Zalesovo Beam	19.86	24	P	P	02 50 21.9	-0.6
SHL	Shillong	20.63	116	P	P	02 50 31.9	+0.6
SHL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SHL	Shillong	20.63	116	P	P	02 50 31.9	+0.6
SHL				IAmb	IAmb	02 50 32.5	
	comp=Z,8.2nm,0.9s						
GROC	Groznyy	20.71	297	*e*P	Pn	02 50 33.8	-1.2
GROC				*e*S	S	02 54 20.1	+2.5
GROC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GNI	Garni	21.18	288	P	P	02 50 34.8	-2.3
	comp=Z,3.4nm,0.8s,baz=124,slow=15,SNR=2.0						
GNI	Garni	21.18	288	*ce*P	P	02 50 38.8	+1.8
GNI				pmax	pmax		
	comp=Z,25nm,1.3s						
GNI	Garni	21.18	288	P	P	02 50 36.1	-0.9
GNI				IAmb	IAmb	02 50 45.4	
	comp=Z,27nm,1.2s						
ARU	Arti	21.78	341	P	P	02 50 44.2	+1.1
	comp=Z,1.7nm,0.5s,baz=177,slow=4.6,SNR=10						
ARU	Arti	21.78	341	*d i*P	P	02 50 45.1	+2.0
ARU						02 51 15.0	
ARU				S	S	02 54 40.7	+2.5
ARU				SS	SnSn	02 55 23.4	+12
ARU				pmax	pmax		
	comp=Z,14nm,1.1s						
ARU	Arti	21.78	341	P	P	02 50 42.8	-0.3
ARU				IAmb	IAmb	02 50 47.2	
	comp=Z,10nm,0.9s						
ZEI	Tsey	22.02	295	*e*P	P	02 50 45.6	-0.4
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ONI	Oni	22.32	295	P	P	02 50 47.9	-1.2
ONI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ONI	Oni	22.32	295	P	P	02 50 47.9	-1.2
GTA	Gaotai	22.61	74	*e*P	P	02 50 54.6	+2.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,94nm,5.1s						
GTA				LR	LR		
	comp=Z,57nm,16.0s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
GTA				LR	LR		
	comp=Z,90nm,16.0s						
KBZ	Khabaz	22.88	297	P	P	02 50 54.4	-0.2
	comp=Z,2.6nm,0.9s,baz=174,slow=5.9,SNR=4.1						
KBZ				S	S	02 55 02.2	+5.4
	comp=Z,1.2nm,0.9s,baz=157,slow=9.5,SNR=1.9						
KIV	Kislovodsk	23.06	298	*e*P	P	02 50 56.7	+0.1
KIV				*e*S	S	02 54 59.6	-0.4
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PZH	PanZhiHua	27.66	102	P	P	02 51 42.0	+3.7
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
SONM	Songino Array	28.14	55	P	P	02 51 44.0	+1.6
	comp=Z,0.3nm,0.8s,baz=256,slow=5.8,SNR=2.4						
SONM				LR	LR	03 03 06.0	
	comp=Z,36nm,19.3s,baz=200,slow=36						

OBN	Obninsk	30.16	319	eP	P	02 52 00.3	+0.3
OBN				e*PP	pP	02 52 21.2	-1.1
OBN				e*SP	sP	02 52 32.8	-0.9
OBN				e		02 53 01.3	
OBN				e		02 55 01.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMAR	Chiang Mai Arr	30.18	119	P	P	02 52 01.6	+0.9
	comp=Z,1.0nm,0.3s,baz=312,slow=9.5,SNR=4.5						
CMAR	Chiang Mai Arr	30.18	119	ceP	P	02 52 03.9	+3.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HHC	Hu-ho-hao-te	31.52	70	eP	P	02 52 15.9	+3.5
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,6.8s						
AKASG	Malin Array Be	33.20	309	P	P	02 52 25.9	-0.8
	comp=Z,1.8nm,0.6s,baz=82,slow=7.0,SNR=13						
AKASG	Malin Array Be	33.20	309	P	P	02 52 25.6	-1.1
AKBB	Malin Array Si	33.20	309	ceP	P	02 52 27.3	+0.6
AKBB	Malin Array Si	33.20	309	P	P	02 52 27.3	+0.6
AKBB				IAmb	IAmb	02 52 27.7	
	comp=Z,4.7nm,1.1s						
NRIK	Noril'sk	34.14	10	P	P	02 52 35.9	+1.3
	comp=Z,3.1nm,0.6s,baz=192,slow=2.7,SNR=5.1						
NRIK	Noril'sk	34.14	10	ceP	P	02 52 36.4	+1.8
NRIK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NRIK	Noril'sk	34.14	10	P	P	02 52 35.3	+0.7
NRIK				IAmb	IAmb	02 52 37.4	
	comp=Z,5.7nm,0.9s						
MLR	Muntele Rosu	35.05	299	P	P	02 52 42.9	-0.1
MLR				pmax	pmax		
	comp=Z,12nm,1.0s						
MLR	Muntele Rosu	35.05	299	P	P	02 52 42.9	-0.1
BURAR	Bucovina Array	35.55	303	P	P	02 52 47.3	+0.1
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BURAR	Bucovina Array	35.55	303	P	P	02 52 47.1	-0.1
BUR08	Bucovina Ar. S	35.56	303	P	P	02 52 47.0	-0.3
BUR08				IAmb	IAmb	02 52 49.0	
	comp=Z,3.1nm,1.0s						
WHN	Wuhan	36.12	87	⇓P	P	02 52 54.2	+2.1
FIA1	FINESS Array S	37.69	326	P	P	02 53 04.9	-0.1
FINES	FINESS Array B	37.69	326	P	P	02 53 04.6	-0.4
	comp=Z,0.9nm,0.4s,baz=108,slow=12,SNR=14						
ARCES	ARCESS Array B	41.31	338	P	P	02 53 35.0	0.0
	comp=Z,2.2nm,0.6s,baz=89,slow=6.7,SNR=11						
CONA	Conrad Observa	41.84	304	eP	P	02 53 40.7	+1.0
	comp=Z,3.8nm,0.9s						
SOKA	Soboth	42.54	302	eP	P	02 53 46.3	+0.8
	comp=Z,4.6nm,1.0s						
BRG	Berggiesshubel	42.88	308	eP	P	02 53 49.0	+1.0
BRG				Amp		02 53 50.5	
	comp=Z,6.6nm,1.1s						
BRG	Berggiesshubel	42.88	308	eP	P	02 53 49.0	+1.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MOA	Molln	42.92	304	eP	P	02 53 48.9	+0.5
	comp=Z,4.9nm,1.1s						
GERES	GERESS Array B	43.19	305	P	P	02 53 51.5	+0.8
	comp=Z,0.8nm,0.8s,baz=103,slow=5.9,SNR=4.5						
CLL	Collm	43.45	309	i P	P	02 53 52.4	-0.1
CLL				e		02 54 18.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CLL	Collm	43.45	309	i P	P	02 53 52.4	-0.1
	comp=Z,6.0nm,1.3s						
CLL				e(pP)	pP	02 54 18.0	+2.2
CLL				e(PP)		02 55 27.0	
NORES	NORESS Array B	44.41	323	P	P	02 54 01.0	+0.9
NB2	NORSAR Subarra	44.59	323	P	P	02 54 00.8	-0.9
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.59	323	P	P	02 54 01.5	-0.2
	comp=Z,0.9nm,0.5s,baz=97,slow=7.7,SNR=8.9						
WTTA	Wattenberg	44.76	303	eP	P	02 54 02.3	-1.1
	comp=Z,0.9nm,0.4s						
NC204	NORSAR Array S	44.84	323	P	P	02 54 03.3	-0.3
FETA	Feichten	45.41	303	eP	P	02 54 07.9	-0.6
	comp=Z,1.7nm,0.7s						
DAG	Danmarks Havn	54.87	344	i P	P	02 55 19.0	-0.2
BILL	Bilibino	58.54	26	eP	P	02 55 45.3	0.0
BILL				e*PP	pP	02 56 12.1	+1.8
BILL				e*SP	sP	02 56 24.3	+2.9
BILL				e		02 56 36.8	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SUMG	Summit	61.21	341	P	P	02 56 03.0	-1.0
SUMG				pmax	pmax		
	comp=Z,22nm,1.4s						
SUMG	Summit	61.21	341	i P	P	02 56 03.0	-1.0
SUMG	Summit	61.21	341	P	P	02 56 03.0	-1.0
TORD	Torodi Ar. Bea	65.99	269	P	P	02 56 33.7	-2.2
	comp=Z,2.4nm,0.6s,baz=48,slow=5.9,SNR=35						
A36M	Sachs Harbour	71.24	5	P	P	02 57 07.1	-0.5
A36M				IAmb	IAmb	02 57 09.2	
	comp=Z,6.6nm,1.1s						
BMAR	Burnt Mountain	72.94	14	P	P	02 57 18.7	+0.8
C36M	Paulatuk	73.91	6	P	P	02 57 23.6	+0.2
C36M				IAmb	IAmb	02 57 24.4	
	comp=Z,3.9nm,0.9s						
INK	Inuvik	73.92	9	P	P	02 57 23.7	+0.2
	comp=Z,1.0nm,0.5s,baz=333,slow=4.3,SNR=7.3						
INK	Inuvik	73.92	9	P	P	02 57 22.8	-0.7
INK				IAmb	IAmb	02 57 24.7	
	comp=Z,6.1nm,1.3s						
CAST	Castle Rocks	74.65	19	P	P	02 57 28.5	+0.6
CAST				IAmb	IAmb	02 57 29.2	
	comp=Z,5.5nm,1.1s						
ILAR	Eielson Array	74.76	16	P	P	02 57 28.1	-0.4
	comp=Z,1.3nm,1.1s,baz=319,slow=2.9,SNR=6.4						
ILAR	Eielson Array	74.76	16	P	P	02 57 27.8	-0.7
KTH	Kantishna Hill	74.84	18	P	P	02 57 29.3	+0.3
PPLA	Purkeypile	75.05	19	P	P	02 57 31.1	+0.7
BCAR	Beaver Creek A	77.35	15	P	P	02 57 42.5	-0.8
YKA	Yellowknife Ar	81.29	3	P	P	02 58 05.0	+0.4
	comp=Z,4.4nm,1.0s,baz=348,slow=5.2,SNR=45						
P33M	Teslin, Yukon	81.66	12	P	P	02 58 07.0	+0.2
WRA	Warramunga Arr	81.72	122	P	P	02 58 07.0	-0.4
	comp=Z,0.4nm,0.7s,baz=327,slow=4.9,SNR=3.1						
WRAB	Tennant Creek	81.72	122	P	P	02 58 07.4	-0.1
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	Tennant Creek	81.72	122	P	P	02 58 07.4	-0.1
WRAB				IAmb	IAmb	02 58 11.1	
	comp=Z,2.9nm,0.8s						
WB2	Warramunga Arr	81.73	122	P	P	02 58 07.4	-0.2
WB2				IAmb	IAmb	02 58 34.2	
	comp=Z,5.6nm,1.3s						
WR0	Warramunga Arr	81.87	122	P	P	02 58 09.4	+1.1
WR0				IAmb	IAmb	02 58 17.6	
	comp=Z,7.4nm,1.4s						
ASAR	Alice Springs	83.99	125	P	P	02 58 19.8	+0.6
	comp=Z,0.3nm,0.6s,baz=303,slow=4.5,SNR=5.1						

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*IDC **06** 03:00:40.8±4.1, 5°.93N×127°.31E, h134km±42km, mb3.2/6, mb1 3.3/7, mb1mx3.1/55, mbtmp3.6/7, Error ellipse: s-maj=75.4km s-min=15.3km az=71.0*

ISC 06 03:00:38.3±1.0**, 5°.9N**±0°.1×**127°.3E**±0°.2**, h100**km**, n10, σ2ˢ41**/12**, mb3.3**/6**, 1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.09	304	S	Sn	03 01 42.0	+4.2
	75nm,0.3s,baz=291,slow=22,SNR=5.8						
GSPH	General Santos	2.36	275	⇑eP	Pn	03 01 14.0	-1.7
KCP	Kidapawan	2.48	297	⇓iP	Pn	03 01 19.3	+2.1
KCP				i S	Sn	03 01 47.6	+0.6
SIJI	Sorong	7.79	149	P	Pn	03 02 33.0	+4.1
	2.0nm,0.3s,baz=338,slow=17,SNR=4.6						
FITZ	Fitzroy Crossi	23.89	184	P	P	03 05 42.1	-0.8
	1.5nm,0.9s,baz=357,slow=11,SNR=4.0						
WRA	Warramunga Arr	26.58	165	P	P	03 06 07.5	+0.2
	0.3nm,0.4s,baz=346,slow=11,SNR=15						
ASAR	Alice Springs	30.07	168	P	P	03 06 37.5	-0.8
	0.2nm,0.4s,baz=340,slow=7.2,SNR=13						
ASAR				PcP	PcP	03 09 37.2	-0.8
	0.3nm,0.6s,baz=344,slow=2.8,SNR=6.5						
STKA	Stephens Creek	39.95	161	P	P	03 08 01.6	-1.4
	0.5nm,0.3s,baz=340,slow=10,SNR=4.0						
SONM	Songino Array	45.46	340	P	P	03 08 45.0	-2.5
	0.1nm,0.4s,baz=167,slow=9.6,SNR=3.1						
MKAR	Makanchi Array	56.14	324	P	P	03 10 06.9	-0.7
	0.5nm,0.4s,baz=118,slow=7.7,SNR=15						

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*DDA **06** 03:02:28.0±0.0, 38°.55N×24°.55E, h10km±2km, MW3.9*
*IDC **06** 03:02:32.5±1.0, 38°.75N×24°.80E, h0km, mb3.5/6, mb1 3.7/11, mb1mx3.5/45, mbtmp3.6/11, ML3.2/5, MS2.9/6, Ms1 2.9/6, ms1mx2.6/72, Error ellipse: s-maj=19.6km s-min=16.7km az=117.0*
*ATH **06** 03:02:33.2, 38°.68N×24°.70E, h28km±1km, ML3.5/25, Error ellipse: s-maj=1.0km s-min=0.8km az=247.0*
*ISK **06** 03:02:33.5, 38°.71N×24°.76E, h14km, ML3.6/53*
*THE **06** 03:02:34.2, 38°.66N×24°.68E, h10km±1km, ML3.6/13, Error ellipse: s-maj=1.2km s-min=0.5km az=241.0*

ISC 06 03:02:33.9±0.9**, 38°.66N**±0°.02×**24°.71E**±0°.02**, h11**km±7km**, n208, σ0ˢ79**/235**, mb3.5**/6**, 19C-8D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	Skiros Island	0.25	330	P	Pg	03 02 39.4	+0.1
SKY				S	Sg	03 02 43.3	+0.5
SKY	Skiros Island	0.25	330	P	Pg	03 02 39.3	+0.1
SKY				S	Sg	03 02 43.3	+0.5
	93µm,0.3s						
KYMI	Kymi, Euboea I	0.48	267	P	Pb	03 02 43.3	-1.0
KYMI				S	Sb	03 02 51.1	-0.3
KYMI				AML	AML	03 03 00.1	
	comp=E,6926µm,0.5s						
KYMI				AML	AML	03 03 01.4	
	comp=N,5960µm,0.6s						
KYMI	Kymi, Euboea I	0.48	267	P	Pb	03 02 43.4	-1.0
KYMI				S	Sb	03 02 50.2	-1.2
	comp=N,3µm,0.6s						
KARY	Karystos	0.66	199	P	Pg	03 02 46.4	-0.4
KARY				S	Sb	03 02 56.7	+0.2
PSRA	Psara	0.68	99	P	Pb	03 02 47.7	0.0
ALNA	Alonissos	0.82	307	P	Pb	03 02 49.6	-0.6
ALNA				S	Sb	03 03 00.0	-1.2
ALNA				AML	AML	03 03 04.5	
	comp=E,24888µm,0.6s						
ALNA				AML	AML	03 03 05.0	
	comp=N,27213µm,0.9s						
DION	Dionisos Attik	0.84	227	P	Pg	03 02 49.8	-0.3
DION				AML	AML	03 03 05.0	
	comp=E,12995µm,0.6s						
DION				AML	AML	03 03 05.6	
	comp=N,16508µm,0.6s						
DION	Dionisos Attik	0.84	227	P	Pg	03 02 49.8	-0.3
DION				S	Sb	03 03 02.4	+0.6
	comp=N,11µm,0.6s						
PTL	Penteli	0.90	228	P	Pg	03 02 50.9	-0.4
PTL				S	Sn	03 03 04.8	-0.7
PTL				AML	AML	03 03 05.3	
	comp=E,6453µm,0.8s						
PTL				AML	AML	03 03 06.8	
	comp=N,8260µm,0.5s						
PTL	Penteli	0.90	228	P	Pg	03 02 50.7	-0.6
PTL				S	Sb	03 03 03.4	-0.1
	comp=N,4µm,0.7s						
EFSA	Agios Efstrati	0.91	14	P	Pn	03 02 51.6	-1.0
ATHU	Athens Univers	1.00	227	P	Pg	03 02 52.0	-1.3
ATHU	Athens Univers	1.00	227	P	Pn	03 02 53.2	-0.7
ATHU				S	Sb	03 03 06.8	+0.3
SIGR	SIGRI	1.05	58	P	Pb	03 02 53.6	-0.5
SIGR				AML	AML	03 03 11.5	
	comp=E,11247µm,0.6s						
SIGR				AML	AML	03 03 12.1	
	comp=N,11706µm,0.4s						
SIGR	SIGRI	1.05	58	P	Pb	03 02 53.5	-0.6
SIGR				S	Sn	03 03 09.3	+0.1
	comp=N,6µm,0.5s						
SIGR	SIGRI	1.05	58	PG	Pg	03 02 52.8	-1.4
SIGR				SG	Sb	03 03 07.4	-0.4
VLY	Voula,Athens	1.08	222	P	Pg	03 02 54.3	-0.5
VLY				AML	AML	03 03 12.9	
	comp=E,5792µm,0.8s						
VLY				AML	AML	03 03 13.7	
	comp=N,6214µm,0.6s						
VLY	Voula,Athens	1.08	222	P	Pg	03 02 54.2	-0.5
VLY				S	Sn	03 03 09.6	-0.3
	comp=N,3µm,0.6s						
CHOS	Chios island	1.09	104	P	Pb	03 02 54.5	-0.3
CHOS				AML	AML	03 03 13.8	
	comp=N,4754µm,0.5s						
CHOS				AML	AML	03 03 14.3	
	comp=E,7775µm,0.4s						
CHOS	Chios island	1.09	104	P	Pg	03 02 54.3	-0.6
CHOS				S	Sn	03 03 11.1	+0.9
	comp=E,3µm,0.5s						
CHOS	Chios island	1.09	104	PG	Pg	03 02 54.3	-0.6
CHOS				SG	Sn	03 03 09.5	-0.7
TNSA	Tinos	1.17	162	P	Pb	03 02 55.3	-0.8
TNSA				S	Sg	03 03 11.6	-0.1
VIL2	Platees	1.22	249	P	Pn	03 02 56.3	-0.6
VIL2				AML	AML	03 03 21.3	
	comp=N,4936µm,1.0s						
VIL2				AML	AML	03 03 27.4	
	comp=E,6220µm,1.2s						
LIA	Limnos Island	1.29	16	P	Pn	03 02 56.7	-1.2
LIA				AML	AML	03 03 17.6	
	comp=N,2541µm,0.6s						
LIA				AML	AML	03 03 20.5	
	comp=E,2243µm,0.9s						
LIA	Limnos Island	1.29	16	P	Pn	03 02 56.6	-1.3
LIA				S	Sg	03 03 16.9	+1.3
	comp=E,1µm,0.6s						
ATAL	Atalanti	1.32	272	P	Pb	03 02 57.9	-0.8
ATAL				AML	AML	03 03 21.1	
	comp=E,1708µm,0.4s						
ATAL				AML	AML	03 03 22.0	
	comp=N,1988µm,0.5s						
NEO	Neokhori	1.33	300	P	Pb	03 02 57.9	-1.0
NEO				S	Sb	03 03 14.9	-1.0
NEO				AML	AML	03 03 15.4	
	comp=N,5074µm,0.5s						
NEO				AML	AML	03 03 21.2	
	comp=E,6419µm,0.6s						
NEO	Neokhori	1.33	300	P	Pn	03 02 57.7	-0.7
NEO				S	Sb	03 03 14.9	-1.0
	comp=E,3µm,0.5s						
LKR	Lokris	1.34	270	P	Pn	03 02 57.9	-0.6
LKR				AML	AML	03 03 23.9	
	comp=N,1260µm,0.5s						
LKR				AML	AML	03 03 25.4	
	comp=E,1132µm,0.5s						
LKR	Lokris	1.34	270	P	Pn	03 02 57.7	-0.8
LKR				S	Sg	03 03 16.7	-0.4
	comp=E,665nm,0.7s						
PRK	Paraskevi	1.35	64	P	Pg	03 02 59.0	-1.0
PRK				AML	AML	03 03 21.6	
	comp=E,6969µm,0.8s						
PRK				AML	AML	03 03 23.4	
	comp=N,8738µm,0.5s						
PRK	Paraskevi	1.35	64	P	Pg	03 02 58.9	-1.0
PRK				S	Sg	03 03 17.5	0.0
	comp=N,4µm,0.8s						
GPNR	Gulpinar-Canak	1.36	54	PN	Pn	03 02 57.6	-1.3
XOR	Xorichti	1.38	301	P	Pn	03 02 58.4	-0.7
XOR				S	Sb	03 03 15.9	-1.4
XOR				AML	AML	03 03 20.6	
	comp=N,3851µm,0.6s						
XOR				AML	AML	03 03 21.2	
	comp=E,3231µm,0.4s						
XOR	Xorichti	1.38	301	P	Pb	03 02 58.7	-1.0
XOR				S	Sb	03 03 15.9	-1.4
	comp=E,2µm,0.6s						
KOCA	Canakkale, Ayv	1.40	52	P	Pn	03 02 58.5	-0.8
KOCA				S	Sg	03 03 20.0	+1.2
KOCA				i AML	AML	03 03 26.0	
	comp=E,863nm,0.8s						
KOCA				i AML	AML	03 03 28.0	
	comp=E,954nm,0.8s						
PAIG	Paliouri	1.50	328	P	Pn	03 03 00.2	-0.5
PAIG				AML	AML	03 03 25.5	
	comp=E,2883µm,0.6s						
PAIG				AML	AML	03 03 26.8	
	comp=N,3578µm,0.5s						
PAIG	Paliouri	1.50	328	P	Pn	03 03 00.2	-0.5
PAIG				S	Sg	03 03 23.0	+0.8
	comp=N,2µm,0.6s						
URLA	Izmir	1.51	101	PN	Pn	03 03 00.2	-0.7
LTK	Loutraki	1.51	246	P	Pn	03 03 00.3	-0.6
LTK				AML	AML	03 03 30.7	
	comp=E,5444µm,0.5s						
LTK				AML	AML	03 03 35.3	
	comp=N,4299µm,0.5s						
LTK	Loutraki	1.51	246	P	Pn	03 03 00.2	-0.7
BOZC	Bozcaada	1.58	41	PN	Pn	03 03 00.6	-1.2
BOZC	Bozcaada	1.58	41	P	Pn	03 03 00.5	-1.3
BOZC				S	Sg	03 03 24.1	-0.5
BOZC				i AML	AML	03 03 27.0	
	comp=N,693nm,0.5s						
BOZC				i AML	AML	03 03 28.0	
	comp=N,635nm,0.6s						
FOCM	Foa	1.58	87	PN	Pn	03 03 01.1	-0.7
EPID	Epidavros	1.63	231	P	Pn	03 03 01.6	-0.9
AYVA	Ayvalik	1.68	67	P	Pn	03 03 02.4	-0.7
AYVA				S	Sg	03 03 27.5	-0.3
AYVA				i AML	AML	03 03 32.0	
	comp=N,593nm,0.9s						
AYVA				i AML	AML	03 03 37.0	
	comp=N,692nm,0.9s						
APE	Apeiranthos	1.71	157	⇑S	Sn	03 03 24.1	-1.4
APE	Apeiranthos	1.71	157	P	Pn	03 03 03.0	-0.7
APE				AML	AML	03 03 34.1	
	comp=N,1505µm,0.5s						
APE				AML	AML	03 03 34.9	
	comp=E,1593µm,0.5s						
APE	Apeiranthos	1.71	157	P	Pn	03 03 02.9	-0.8
APE	Apeiranthos	1.71	157	PN	Pn	03 03 04.0	+0.3
EZN	Ezine	1.71	47	PN	Pn	03 03 02.6	-1.1
THAL	Thalero	1.73	250	P	Pn	03 03 03.5	-0.3
THAL				AML	AML	03 03 33.5	
	comp=N,4713µm,0.7s						
THAL				AML	AML	03 03 38.8	
	comp=E,3359µm,0.7s						
DKL	Dikili	1.76	76	PN	Pn	03 03 03.5	-0.8
OUR	Ouranopolis	1.77	342	P	Pn	03 03 03.7	-0.8
OUR				AML	AML	03 03 32.5	
	comp=N,2034µm,1.0s						
OUR				AML	AML	03 03 32.5	
	comp=E,1342µm,0.5s						
OUR	Ouranopolis	1.77	342	P	Pn	03 03 03.6	-0.8
OUR	Ouranopolis	1.77	342	PN	Pn	03 03 03.7	-0.8
KRND	KRANIDI	1.77	225	P	Pn	03 03 03.8	-0.6
KRND	KRANIDI	1.77	225	P	Pn	03 03 04.0	-0.5
GADA	Gvkgeada	1.79	31	PN	Pn	03 03 03.6	-1.1
BAYC	CANAKKALE_Bayr	1.79	52	P	Pn	03 03 03.7	-1.1
GOKA	anakkale-Gk	1.79	31	P	Pn	03 03 03.7	-1.1
GOKA				S	Sg	03 03 35.4	+3.9
GOKA				i AML	AML	03 03 40.0	
	comp=E,731nm,0.5s						
GMLD	Gumuldur	1.83	108	PN	Pn	03 03 04.9	-0.3
ZEDA	zmir-Bergama	1.88	80	P	Pn	03 03 05.1	-0.8
AGG	Agios Georgios	1.89	282	P	Pn	03 03 06.0	-0.2
AGG				AML	AML	03 03 41.9	
	comp=N,591µm,0.6s						
AGG				AML	AML	03 03 48.5	
	comp=E,699µm,0.7s						
AGG	Agios Georgios	1.89	282	P	Pn	03 03 06.0	-0.2
AGG	Agios Georgios	1.89	282	PN	Pn	03 03 06.5	+0.3
SMTH	Samothraki Isl	1.92	19	P	Pn	03 03 04.9	-1.6
SMTH				AML	AML	03 03 38.6	
	comp=E,400µm,0.5s						
SMTH				AML	AML	03 03 42.9	
	comp=N,533µm,0.5s						
SMTH	Samothraki Isl	1.92	19	P	Pn	03 03 05.0	-1.6
SMG	Samos	1.93	119	P	Pn	03 03 06.3	-0.3
SMG				AML	AML	03 03 35.1	
	comp=E,842µm,0.4s						
SMG				AML	AML	03 03 35.9	
	comp=N,1334µm,0.7s						
SMG	Samos	1.93	119	P	Pn	03 03 06.0	-0.6
THAS	Thassos island	1.95	0	P	Pn	03 03 05.5	-1.4
THAS	Thassos island	1.95	0	P	Pn	03 03 05.4	-1.5
PLG	Polygyros	1.97	331	P	Pn	03 03 06.7	-0.7
PLG				AML	AML	03 03 42.2	
	comp=E,780µm,0.8s						
PLG				AML	AML	03 03 48.0	
	comp=N,647µm,0.7s						
PLG	Polygyros	1.97	331	P	Pn	03 03 06.5	-0.8
MHLO	Agia Marina, M	1.98	187	P	Pn	03 03 06.6	-0.7
BUHA	Balikesir, Bur	2.03	65	P	Pn	03 03 07.5	-0.4
BUHA				S	Sg	03 03 40.0	+1.0
BUHA				i AML	AML	03 03 46.0	
	comp=N,259nm,0.6s						
BUHA				i AML	AML	03 03 48.0	
	comp=N,405nm,0.9s						
MAKR	Makrakomi, Fth	2.04	281	P	Pn	03 03 08.5	+0.2
MAKR				AML	AML	03 03 46.3	
	comp=N,1168µm,2.0s						
MAKR				AML	AML	03 03 57.0	
	comp=E,795µm,1.0s						
LRSO	Larissa Observ	2.07	300	P	Pn	03 03 08.4	-0.2
TRIZ	Trizonia	2.09	263	P	Pn	03 03 08.6	-0.2
KLV	Kalavryta, Ach	2.10	254	P	Pn	03 03 08.8	-0.3
KLV	Kalavryta, Ach	2.10	254	P	Pn	03 03 08.8	-0.3
LAKA	Lakka	2.19	260	P	Pn	03 03 10.5	+0.3
LAKA				AML	AML	03 03 55.4	
	comp=E,2167µm,1.9s						
LAKA				AML	AML	03 03 56.2	
	comp=N,1555µm,1.1s						
GCAM	G?zelcaml?	2.21	115	PN	Pn	03 03 10.4	0.0
GELI	Tayfur-Gelibol	2.21	38	PN	Pn	03 03 09.6	-0.9
EFP	Efpalio	2.21	265	P	Pn	03 03 10.7	+0.2
KOKK	Kokkinochori,	2.23	346	P	Pn	03 03 09.7	-1.0
KOKK	Kokkinochori,	2.23	346	P	Pn	03 03 10.0	-0.7
LIT	Litokhoron	2.25	311	P	Pn	03 03 10.7	-0.3
LIT	Litokhoron	2.25	311	P	Pn	03 03 11.6	+0.6
CMBO	Columbo, Santo	2.25	166	P	Pn	03 03 10.9	-0.2
EVR	Evrytania	2.28	277	P	Pn	03 03 11.3	-0.3
EVR	Evrytania	2.28	277	P	Pn	03 03 12.1	+0.5
THL	Klokotos Trika	2.29	294	P	Pn	03 03 11.8	+0.3
THL	Klokotos Trika	2.29	294	P	Pn	03 03 11.8	+0.3
HORT	Hortiatis	2.30	328	PN	Pn	03 03 11.6	-0.3
SNT5	Nea Kammeni, S	2.31	166	P	Pn	03 03 11.6	-0.4
KAVA	Kavala	2.34	356	P	Pn	03 03 11.8	-0.5
ENEZ	Enez	2.36	28	PN	Pn	03 03 11.8	-0.7
THE	Thessaloniki	2.39	326	P	Pn	03 03 13.1	+0.2
VLI	Veliai	2.39	217	P	Pn	03 03 12.6	-0.4
SOH	Sokhos	2.40	335	P	Pn	03 03 13.1	-0.1
SOH	Sokhos	2.40	335	P	Pn	03 03 13.2	0.0
ERIK	Erikli-Kesan	2.45	34	PN	Pn	03 03 13.0	-0.7
ALN	Alexandroupoli	2.46	24	P	Pn	03 03 12.5	-1.4
ALN	Alexandroupoli	2.46	24	PN	Pn	03 03 13.3	-0.7
DRO	Drossia	2.46	254	P	Pn	03 03 14.2	+0.2
DRO	Drossia	2.46	254	P	Pn	03 03 14.5	+0.5
RDO	Rodhopi	2.57	14	P	Pn	03 03 14.1	-1.2
RDO	Rodhopi	2.57	14	P	Pn	03 03 14.3	-1.1
RDO	Rodhopi	2.57	14	PN	Pn	03 03 14.2	-1.2
BODT	Bodrum	2.60	127	PN	Pn	03 03 16.0	+0.1
SRS	Serrai	2.60	341	P	Pn	03 03 15.5	-0.4
SRS	Serrai	2.60	341	P	Pn	03 03 15.3	-0.6
KOSK	Kos Island	2.62	136	PN	Pn	03 03 16.7	+0.6
RLS	Riolos of Patr	2.62	258	P	Pn	03 03 16.0	-0.1
KESN	Edirne-Kesan	2.65	34	P	Pn	03 03 15.8	-1.0
KESN				i AML	AML	03 04 02.0	
	comp=N,172nm,0.5s						
KESN				i AML	AML	03 04 14.0	
	comp=N,261nm,0.8s						
KRBG	Karabiga-Canak	2.65	48	PN	Pn	03 03 15.9	-0.6
ITM	Ithomi	2.65	237	P	Pn	03 03 17.1	+0.6
ITM	Ithomi	2.65	237	PN	Pn	03 03 17.9	+1.3
GONE	Gonen-Balikesi	2.69	58	PN	Pn	03 03 16.6	-0.5
KTHA	Kythira Island	2.73	209	P	Pn	03 03 17.3	-0.4
NVR	Nevrokopi	2.77	347	P	Pn	03 03 17.7	-0.5
MLSB	Milas	2.78	118	PN	Pn	03 03 18.7	+0.4
RKY	Sarkoy-Tekirda	2.78	42	PN	Pn	03 03 17.8	-0.6
KZN	Kozani	2.81	307	P	Pn	03 03 18.6	-0.2
NIS1	Nisyros Isl.	2.84	136	PN	Pn	03 03 19.7	+0.6
MAR6	Marsite Statio	2.84	43	PN	Pn	03 03 18.6	-0.6
KNT	Kendrikon	2.86	331	P	Pn	03 03 19.7	+0.1
KNT	Kendrikon	2.86	331	PN	Pn	03 03 19.5	0.0
UKOP	Uzunkopru-Edir	2.88	30	PN	Pn	03 03 19.2	-0.5
MAR3	Marsite Statio	2.88	43	PN	Pn	03 03 19.3	-0.5
KPRO	Kipourio	2.90	298	P	Pn	03 03 20.5	+0.4
GRG	Griva	2.91	323	PN	Pn	03 03 20.2	+0.1
PYL	PYLOS	2.94	234	P	Pn	03 03 21.3	+0.8
EDC	Edincik	2.97	54	PN	Pn	03 03 20.5	-0.4
ANKY	Antikythira Is	3.00	202	P	Pn	03 03 20.7	-0.7
KULA	Kula-Manisa	3.10	91	PN	Pn	03 03 22.8	0.0
VAY	Valandovo	3.13	329	i Pn	Pn	03 03 24.9	+1.8
PENT	Pentalofos	3.16	300	P	Pn	03 03 24.3	+0.6
RODP	Rodopos	3.18	194	PN	Pn	03 03 25.3	+1.4
YER	Yerkesik	3.21	117	PN	Pn	03 03 24.8	+0.5
IMMV	Iera Moni Meta	3.24	191	PN	Pn	03 03 26.1	+1.4
NEST	Nestorio	3.33	303	P	Pn	03 03 26.7	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FNA	Florina	3.33	311	P	Pn	03 03 26.6	+0.5
FNA	Florina	3.33	311	PN	Pn	03 03 26.5	+0.5
HRKL	Herakleio	3.35	175	PN	Pn	03 03 27.5	+1.3
SIMA	Simav-Kutahya	3.36	81	PN	Pn	03 03 26.3	-0.1
IDI	Anoyia	3.37	177	⇑P	Pn	03 03 26.4	-0.1
IDI	Anoyia	3.37	177	Pn	Pn	03 03 25.9	-0.6
	comp=N,2.5nm,0.3s,baz=342,slow=13,SNR=24						
IDI				LR	LR	03 05 10.0	
	comp=N,98nm,18.5s,baz=34,slow=46						
TURN	Turunc	3.37	123	PN	Pn	03 03 26.9	+0.4
PLD	Plovdiv	3.44	360	PN	Pn	03 03 27.4	-0.1
KNDR	Palaiochora Ch	3.51	194	PN	Pn	03 03 30.2	+1.8
EDRB	Edirne	3.55	25	PN	Pn	03 03 27.9	-1.0
STIP	Stip	3.60	328	i Pn	Pn	03 03 29.7	+0.1
DALY	Dalyan (Mula)	3.62	119	PN	Pn	03 03 30.7	+0.8
ARG	Arkhangelos	3.65	131	PN	Pn	03 03 30.8	+0.5
KARP	Karpathos	3.67	147	PN	Pn	03 03 31.3	+0.7
GEDZ	Gediz	3.69	83	PN	Pn	03 03 31.0	+0.1
SLVT	Silivri	3.72	45	PN	Pn	03 03 31.1	-0.2
ZKR	Zakros	3.74	161	PN	Pn	03 03 32.9	+1.4
TVSB	Tavsanli	3.78	76	PN	Pn	03 03 32.3	+0.1
CTKS	Kestanelik-??a	3.89	47	PN	Pn	03 03 33.2	-0.4
CTYL	Yalikoy Yolu	3.93	43	PN	Pn	03 03 34.1	-0.1
TRML	Termal-Yalova	3.96	59	PN	Pn	03 03 34.6	+0.1
BGKT	Bogazkoy	4.01	50	PN	Pn	03 03 35.4	+0.1
YLV	Yalova	4.08	61	PN	Pn	03 03 36.4	+0.2
VTS	Vitosha	4.11	345	⇑P	Pn	03 03 37.3	+0.5
ISK	Istanbul-Kandi	4.12	53	PN	Pn	03 03 36.9	+0.1
KAVV	Kandilli-Istan	4.12	53	PN	Pn	03 03 36.9	+0.1
KLYT	Kilyos	4.22	51	PN	Pn	03 03 38.3	+0.2
ICOR	Ion Corvin	5.93	22	⇑P	Pn	03 04 01.3	-0.3
HERR	Herculane	6.45	345	⇑P	Pn	03 04 08.0	-0.8
HARR	Harsova	6.49	21	⇑P	Pn	03 04 08.7	-0.6
ISR	Istrita	6.60	11	⇑P	Pn	03 04 11.2	+0.4
ARR	Arges	6.71	360	⇑P	Pn	03 04 11.8	-0.5
VOIR		6.78	2	⇑P	Pn	03 04 12.8	-0.5
LOT	Lotru	6.82	354	⇑P	Pn	03 04 12.8	-1.2
NEHR	Nehoiu	6.87	9	⇓P	Pn	03 04 14.5	0.0
GZR	Gura Zlata	6.88	349	⇓P	Pn	03 04 14.3	-0.5
MLR	Muntele Rosu	6.89	7	⇑P	Pn	03 04 14.4	-0.5
MLR	Muntele Rosu	6.89	7	Pn	Pn	03 04 13.4	-1.5
	comp=N,0.4nm,0.3s,baz=188,slow=12,SNR=32						
CFR	Carcaliu	7.00	20	⇑P	Pn	03 04 15.6	-0.6
BRTR	Keskin Array B	7.02	78	Pn	Pn	03 04 15.8	-0.9
	comp=N,0.2nm,0.3s,baz=250,slow=12,SNR=8.4						
BRTR				LR	LR	03 07 02.3	
	comp=N,111nm,18.5s,baz=298,slow=39						
COVR	Voineasa-Covas	7.27	8	⇓P	Pn	03 04 20.1	+0.1
DOPR	Dopca	7.32	4	⇓P	Pn	03 04 19.9	-0.9
BZS	Buzias	7.32	343	⇑P	Pn	03 04 19.9	-0.9
PLOR	Plostina	7.33	11	⇑P	Pn	03 04 21.1	+0.2
DEV	Deva	7.34	350	⇓P	Pn	03 04 20.9	-0.1
VRI	Vrincioaia	7.36	11	⇑P	Pn	03 04 21.0	-0.3
OZUR		7.48	6	⇓P	Pn	03 04 23.1	+0.2
VLDR	Vladesti	7.60	18	⇓P	Pn	03 04 24.9	+0.4
TESR	Tescani	7.98	10	⇑P	Pn	03 04 30.3	+0.5
VAE	Valguarnera	8.21	265	Pn	Pn	03 04 33.9	+0.9
	comp=N,0.2nm,0.3s,baz=96,slow=19,SNR=1.9						
DRGR		8.26	350	⇑P	Pn	03 04 33.0	-0.7
MILM	Milestii Mici	8.79	19	⇓P	Pn	03 04 40.5	-0.3
BURAR	Bucovina Array	8.96	2	⇑P	Pn	03 04 44.0	+0.7
SORM	Soroca	9.84	14	⇑P	Pn	03 04 54.1	-1.1
MMAI	Mount Meron Ar	10.34	120	Pn	Pn	03 05 01.0	-1.2
	comp=N,1.1nm,0.3s,baz=286,slow=15,SNR=6.3						
MMAI				LR	LR	03 10 58.0	
	comp=N,26nm,18.3s,baz=54,slow=49						
AKASG	Malin Array Be	12.46	13	LR	LR	03 10 58.8	
	comp=N,44nm,21.9s,baz=182,slow=41						
GNI	Garni	15.56	78	LR	LR	03 12 40.8	
	comp=N,48nm,20.2s,baz=282,slow=39						
ESDC	Sonseca Array	22.22	282	P	P	03 07 30.9	+0.4
	comp=N,1.2nm,0.8s,baz=77,slow=12,SNR=6.5						
FINES	FINESS Array B	22.83	2	P	P	03 07 36.3	-0.3
	comp=N,0.8nm,0.7s,baz=153,slow=13,SNR=4.5						
FINES				LR	LR	03 16 29.3	
	comp=N,60nm,18.8s,baz=188,slow=37						
NB2	NORSAR Subarra	23.94	344	P	P	03 07 47.3	-0.5
	comp=Z,4.6nm,1.2s,baz=149,slow=10						
NOA	NORSAR Array B	23.94	344	P	P	03 07 47.5	-0.3
	comp=Z,2.2nm,0.9s,baz=148,slow=9.6,SNR=5.4						
EKA	Eskdalemuir Ar	25.04	321	P	P	03 07 57.6	-0.2
	comp=Z,2.6nm,0.9s,baz=114,slow=9.6,SNR=3.4						
TORD	Torodi Ar. Bea	32.59	225	P	P	03 09 07.5	+2.1
	comp=Z,0.6nm,0.9s,baz=38,slow=8.7,SNR=3.4						
MKAR	Makanchi Array	42.23	60	P	P	03 10 27.9	+1.0
	comp=Z,0.4nm,0.6s,baz=286,slow=6.0,SNR=5.9						

*ATH **06** 03:11:49.6, 40°.75N×21°.24E, h18km, Mw3.9, Moment Tensor Solution. s7 Moment tensor: M_{rr}-5.41; $M_{\theta\theta}$4.00; $M_{\phi\phi}$1.41; $M_{r\theta}$5.69; $M_{\theta\phi}$2.91; $M_{\phi r}$1.46; Fault plane solution: NP1:ϕ_s250.00000°, δ68.00000°, λ-79.00000°. NP2: ϕ_s43.00000°, δ24.00000°, λ-115.00000°.*

*MOS **06** 03:11:49.7±0.9, 40°.75N×21°.18E, h13km, mb4.6/6 Error ellipse: s-maj=4.5km s-min=3.3km az=93.5*

*SKO **06** 03:11:50.4, 40°.71N×21°.19E, h10km*

*THE **06** 03:11:50.6, 40°.73N×21°.23E, h4km±1km, ML3.9/10, Error ellipse: s-maj=1.5km s-min=0.6km az=189.0*

*PDG **06** 03:11:50.4±0.6, 40°.76N×21°.22E, h10km, MD3.9/1, ML3.9/14, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

*NEIC **06** 03:11:51.3±1.9, 40°.74N±0°.03×21°.18E±0°.06, h10km±4km, mb4.3/21, ML3.9(TIR), ML3.8/1(BUC), ML4.3(THE), Error ellipse: s-maj=6.6km s-min=4.3km az=83.0*

*IDC **06** 03:11:53.1±3.0, 40°.81N×21°.16E, h29km±23km, mb3.8/16, mb1 3.9/26, mb1mx3.7/50, mbtmp3.9/26, ML3.6/9, MS3.1/6, Ms1 3.1/6, ms1mx2.6/98, Error ellipse: s-maj=11.3km s-min=10.7km az=125.0*

ISC 06 03:11:50.3±0.8**, 40°.73N**±0°.02×**21°.19E**±0°.02**, h9**km±5km**, n398, σ1^{s}38**/460**, mb4.2**/24**, MS3.1**/3**, 31C-18D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.15	70	P	Pg	03 11 53.5	-0.1
FNA				S	Sg	03 11 55.8	0.0
FNA				AML	AML	03 11 56.2	
FNA				AML	AML	03 11 56.3	
FNA	Florina	0.15	70	P	Pg	03 11 53.5	-0.1
FNA				S	Sg	03 11 55.9	0.0
	263µm,0.3s						
FNA	Florina	0.15	70	P	Pg	03 11 53.5	-0.1
FNA	Florina	0.15	70		Pg	03 11 53.5	-0.1
FNA				Sg	Sg	03 11 56.0	0.0
KBN	Korca	0.32	250	P	Pg	03 11 56.8	0.0
KBN				S	Sb	03 12 03.2	-0.5
	18µm,0.4s						
KBN	Korca	0.32	250	P	Pg	03 11 56.9	+0.2
KBN				S	Sb	03 12 03.2	-0.5
KBN	Korca	0.32	250		Pg	03 11 56.7	0.0
KBN				Sg	Sb	03 12 02.9	-0.8
NEST	Nestorio	0.34	199	P	Pg	03 11 57.2	+0.3
NEST				S	Sg	03 12 02.7	+1.4
NEST				AML	AML	03 12 03.6	
NEST				AML	AML	03 12 03.7	
NEST	Nestorio	0.34	199	P	Pg	03 11 57.1	+0.1
NEST				S	Sg	03 12 02.8	+1.4
OHR	Ohrid	0.48	322	P	Pg	03 11 59.0	-0.6
OHR	Ohrid	0.48	322	i Pg	Pg	03 11 59.7	0.0
OHR				i Sg	Sb	03 12 07.9	-0.3
OHR				eLg	Lg	03 12 07.9	
	comp=E,10µm,0.6s						
PENT	Pentalofos	0.54	184	P	Pg	03 12 01.1	+0.4
PENT				S	Sg	03 12 09.1	+1.3
PENT				AML	AML	03 12 13.9	
	comp=N,15259µm,0.7s						
PENT				AML	AML	03 12 14.0	
	comp=E,53943µm,0.6s						
PENT	Pentalofos	0.54	184	P	Pg	03 12 01.0	+0.3
PENT				S	Sb	03 12 09.8	-0.1
	comp=E,17µm,0.6s						
KZN	Kozani	0.61	134	P	Pg	03 12 01.7	-0.4
KZN				S	Sg	03 12 09.4	-0.8
KZN				AML	AML	03 12 12.9	
	comp=N,52251µm,0.4s						
KZN				AML	AML	03 12 14.2	
	comp=E,42314µm,0.5s						
KZN	Kozani	0.61	134	P	Pg	03 12 01.8	-0.4
KZN				S	Sg	03 12 10.3	0.0
	comp=E,23µm,0.5s						
KZN	Kozani	0.61	134	P	Pg	03 12 01.8	-0.4
KZN				S	Sg	03 12 10.3	0.0
LSK	Leskovik	0.74	218	P	Pg	03 12 04.5	0.0
LSK				S	Sb	03 12 15.5	-0.1
	comp=E,11µm,0.7s						
KTI	Kastanea	0.79	115	P	Pg	03 12 04.9	-0.5
KPRO	Kipourio	0.79	170	P	Pg	03 12 04.5	-1.0
KPRO				AML	AML	03 12 21.7	
	comp=N,22715µm,0.7s						
KPRO				AML	AML	03 12 23.5	
	comp=E,31735µm,0.8s						
KPRO	Kipourio	0.79	170	P	Pg	03 12 04.4	-1.1
KPRO				S	Sg	03 12 16.3	+0.5
	comp=E,14µm,0.7s						
GRG	Griva	0.95	76	P	Pg	03 12 07.5	-1.0
GRG				S	Sb	03 12 21.2	-0.4
	comp=E,3µm,0.7s						
GRG	Griva	0.95	76	P	Pg	03 12 07.5	-1.0
GRG				S	Sb	03 12 21.2	-0.4
PHP	Peshkopia	1.10	330	P	Pb	03 12 09.7	-2.0
PHP				S	Sn	03 12 29.5	+2.0
JAN	Janina	1.11	194	P	Pb	03 12 10.0	-1.7
JAN				AML	AML	03 12 33.5	
	comp=E,13962µm,0.5s						
JAN				AML	AML	03 12 36.3	
	comp=N,12814µm,0.5s						
TIR	Tirane	1.17	302	⇑P	Pb	03 12 12.1	-0.7
TIR	Tirane	1.17	302	P	Pb	03 12 12.0	-0.8
TIR	Tirane	1.17	302	P	Pb	03 12 12.0	-0.8
TIR	Tirane	1.17	302	P	Pb	03 12 12.1	-0.7
TIR	Tirane	1.17	302		Pb	03 12 12.1	-0.7
TIR	Tirane	1.17	302	i Pg	Pb	03 12 12.0	-0.8
LIT	Litokhoron	1.18	122	P	Pb	03 12 12.1	-0.7
LIT				AML	AML	03 12 32.2	
	comp=N,6736µm,0.5s						
LIT				AML	AML	03 12 33.0	
	comp=E,10404µm,0.6s						
LIT	Litokhoron	1.18	122	P	Pb	03 12 12.2	-0.7
LIT				S	Sg	03 12 28.8	+0.6
	comp=E,4µm,0.5s						
LIT	Litokhoron	1.18	122	P	Pb	03 12 12.4	-0.4
LIT	Litokhoron	1.18	122	Pn	Pb	03 12 12.4	-0.4
VAY	Valandovo	1.20	60	P	Pb	03 12 12.2	-1.0
VAY	Valandovo	1.20	60	i Pg	Pb	03 12 12.2	-1.0
VAY				i Sg	Sg	03 12 28.8	-0.1
VAY				eLg	Lg	03 12 30.1	
	comp=N,616nm,0.7s						
STIP	Stip	1.22	38	i Pg	Pg	03 12 15.6	+1.8
STIP				i Sg	Sn	03 12 36.0	+5.8
STIP				eLg	Lg	03 12 37.9	
	comp=N,265nm,0.3s						
SRN	Sarande	1.25	227	P	Pg	03 12 14.6	+0.4
SKO	Skopje	1.25	9	P	Pn	03 12 12.7	-1.3
SKO	Skopje	1.25	9	i Pg	Pn	03 12 12.9	-1.1
SKO				i Sg	Sn	03 12 30.8	-0.3
SKO				eLg	Lg	03 12 33.5	
	comp=E,196nm,0.3s						
VLO	Vlora	1.32	259	P	Pg	03 12 15.7	+0.1
VLO	Vlora	1.32	259		Pg	03 12 15.7	+0.1
THL	Klokotos Trika	1.33	151	P	Pn	03 12 14.2	-0.9
THL				AML	AML	03 12 39.2	
	comp=N,10147µm,0.5s						
THL				AML	AML	03 12 39.6	
	comp=E,7636µm,0.4s						
THL	Klokotos Trika	1.33	151	P	Pn	03 12 14.1	-0.9
THE	Thessaloniki	1.35	94	P	Pn	03 12 14.5	-0.9
THE	Thessaloniki	1.35	94	P	Pn	03 12 15.3	-0.1
KNT	Kendrikon	1.36	71	P	Pn	03 12 15.0	-0.6
KNT	Kendrikon	1.36	71	P	Pn	03 12 15.3	-0.3
KNT	Kendrikon	1.36	71	P	Pn	03 12 15.3	-0.3
IGT	Igoumenitsa	1.37	209	P	Pn	03 12 15.6	0.0
IGT				AML	AML	03 12 41.6	
	comp=N,11100µm,0.5s						
IGT				AML	AML	03 12 42.8	
	comp=E,12342µm,0.6s						
IGT	Igoumenitsa	1.37	209	P	Pg	03 12 16.9	+0.4
KASA	Kassiopi	1.38	225	P	Pg	03 12 16.8	+0.1
KASA				AML	AML	03 12 41.2	
	comp=N,9138µm,0.8s						
KASA				AML	AML	03 12 42.8	
	comp=E,7138µm,0.6s						
LRSO	Larissa Observ	1.41	139	P	Pn	03 12 16.3	+0.2
LRSO				AML	AML	03 12 46.2	
	comp=E,24146µm,0.8s						
LRSO				AML	AML	03 12 48.8	
	comp=N,17798µm,0.9s						
LRSO	Larissa Observ	1.41	139	P	Pn	03 12 16.3	+0.2
HORT	Hortiatis	1.46	95	P	Pn	03 12 16.1	-0.9
SOH	Sokhos	1.65	86	P	Pn	03 12 19.2	-0.3
SOH				AML	AML	03 12 47.1	
	comp=E,3278µm,0.8s						
SOH				AML	AML	03 12 48.6	
	comp=N,2767µm,0.6s						
SOH	Sokhos	1.65	86	P	Pn	03 12 19.2	-0.3
SOH	Sokhos	1.65	86	P	Pn	03 12 19.2	-0.3
PLG	Polygyros	1.76	101	P	Pn	03 12 20.7	-0.3
PLG				AML	AML	03 12 50.2	
	comp=N,2630µm,0.7s						
PLG				AML	AML	03 12 51.3	
	comp=E,1267µm,0.5s						
PLG	Polygyros	1.76	101	P	Pn	03 12 20.6	-0.4
PLG				S	Sn	03 12 43.7	+0.2
	comp=E,995nm,0.7s						
PLG	Polygyros	1.76	101	P	Pn	03 12 20.6	-0.4
PLG				S	Sn	03 12 43.7	+0.2
SRS	Serrai	1.86	77	P	Pn	03 12 22.0	-0.4
SRS				S	Sb	03 12 47.0	-0.9
	comp=E,295nm,0.7s						
SRS	Serrai	1.86	77	P	Pn	03 12 22.0	-0.4
SRS				S	Sb	03 12 47.0	-0.9
MAKR	Makrakomi, Fth	1.86	157	P	Pn	03 12 23.2	+0.7
MAKR				S	Sn	03 12 47.2	+1.0
MAKR				AML	AML	03 12 54.8	
	comp=E,12344µm,0.4s						
MAKR				AML	AML	03 12 56.3	
	comp=N,4312µm,0.5s						
EVR	Evrytania	1.88	165	P	Pn	03 12 23.7	+1.0
EVR				AML	AML	03 12 55.9	
	comp=E,3268µm,0.7s						
EVR				AML	AML	03 12 57.0	
	comp=N,4772µm,0.7s						
ULC	Ulcinj	1.91	311	i Pg	Pb	03 12 25.3	-0.1
ULC	Ulcinj	1.91	311	⇓i Pn	Pb	03 12 24.7	-0.7
ULC				i Sn	Sg	03 12 50.7	-1.0
AGG	Agios Georgios	1.92	152	P	Pn	03 12 23.7	+0.4
AGG				AML	AML	03 12 57.0	
	comp=E,3644µm,0.5s						
AGG				AML	AML	03 12 58.2	
	comp=N,4350µm,0.8s						
AGG	Agios Georgios	1.92	152	P	Pn	03 12 23.7	+0.4
AGG	Agios Georgios	1.92	152		Pn	03 12 23.7	+0.4
XOR	Xorichti	2.06	131	P	Pn	03 12 24.9	-0.2
XOR				AML	AML	03 12 59.9	
	comp=N,3072µm,1.0s						
XOR				AML	AML	03 13 00.9	
	comp=E,1716µm,0.7s						
XOR	Xorichti	2.06	131	P	Pn	03 12 24.8	-0.3
PAIG	Paliouri	2.07	112	P	Pn	03 12 24.7	-0.5
PAIG	Paliouri	2.07	112	P	Pn	03 12 24.7	-0.5
PVY	Plav	2.08	334	⇑i Pn	Pb	03 12 26.8	-1.4
PVY				i Sn	Sb	03 12 54.5	+0.3
DRME	Dracevica, Mon	2.09	315	ePn	Pb	03 12 28.0	-0.4
DRME	Dracevica, Mon	2.09	315	⇑i Pn	Pb	03 12 27.3	-1.1
DRME				i Sn	Sb	03 12 55.2	+0.7
MMB	Musomiste	2.10	65	P	Pn	03 12 26.0	+0.3
NEO	Neokhori	2.12	132	P	Pn	03 12 25.7	-0.2
NEO				AML	AML	03 13 06.3	
	comp=E,2801µm,0.5s						
NEO				AML	AML	03 13 08.2	
	comp=N,5906µm,0.8s						
BARS	Barje	2.13	12	i Pn	Pn	03 12 26.5	+0.3
BARS				i Sn	Sg	03 12 59.3	+0.4
OUR	Ouranopolis	2.17	100	P	Pn	03 12 27.1	+0.5
OUR	Ouranopolis	2.17	100	P	Pn	03 12 27.1	+0.5
SCTE	Santa Cesarea	2.18	253		Pn	03 12 27.8	+1.1
PDG	Podgorica	2.23	320	⇓P	Pn	03 12 28.8	+1.4
PDG				⇓S	Sn	03 12 54.3	-0.9
PDG	Podgorica	2.23	320		Pn	03 12 28.6	+1.1
PDG	Podgorica	2.23	320	ePn	Pb	03 12 30.1	-0.7
PDG	Podgorica	2.23	320	i Pn	Pb	03 12 29.5	-1.3
TTG	Podgorica	2.23	320	⇓i Pn	Pn	03 12 28.9	+1.4
TTG				i Sn	Sb	03 12 58.1	-0.4
BUM	Brajici-Budva	2.33	313	⇑i Pn	Pb	03 12 30.7	-1.8
BUM				i Sn	Sb	03 13 00.9	-0.5
BEY	Berane	2.35	336	i Pn	Pn	03 12 30.7	+1.5
IVA	Berane	2.35	336	⇑i Pn	Pn	03 12 30.2	+1.0
IVA				i Sn	Sb	03 13 00.5	-1.4
VTS	Vitosha	2.43	38	⇑P	Pn	03 12 31.5	+1.2
VTS	Vitosha	2.43	38	P	Pn	03 12 30.6	+0.3
VTS	Vitosha	2.43	38		Pn	03 12 30.6	+0.3
VTS	Vitosha	2.43	38	i Sn	Sn	03 13 00.6	+0.4
KOME	Kolasin	2.46	330	⇓i Pn	Pb	03 12 32.6	-2.1
KOME				i Sn	Sb	03 13 03.8	-1.4
DLFA	Delphi	2.47	155	P	Pn	03 12 31.5	+0.7
DLFA				AML	AML	03 13 05.4	
	comp=N,1924µm,0.6s						
DLFA				AML	AML	03 13 08.9	
	comp=E,1781µm,0.6s						
ATAL	Atalanti	2.48	145	P	Pn	03 12 31.3	+0.4
ATAL				AML	AML	03 13 19.1	
	comp=E,943µm,1.1s						
ATAL				AML	AML	03 13 22.8	
	comp=N,1255µm,1.4s						
CEME	Cevo	2.49	318	⇓i Pn	Pn	03 12 32.6	+1.6
CEME				i Sn	Sb	03 13 04.2	-1.7
LKR	Lokris	2.51	146	P	Pn	03 12 31.7	+0.5
LKR				AML	AML	03 13 16.1	
	comp=N,885µm,0.9s						
LKR				AML	AML	03 13 17.1	
	comp=E,609µm,0.6s						
VLS	Valsamata	2.59	190	P	Pn	03 12 33.6	+1.1
NKME	Niksic	2.63	321	⇑i Pn	Pn	03 12 35.1	+2.1
NKME				i Sn	Sb	03 13 08.5	-1.6
NKY	Niksic	2.65	322	⇑i Pn	Pn	03 12 34.4	+1.1
NKY				i Sn	Sb	03 13 08.5	-2.2
HCY	Herceg Novi	2.65	311	P	Pb	03 12 36.5	-1.4
HCY	Herceg Novi	2.65	311	ePn	Pn	03 12 34.1	+0.9
HCY	Herceg Novi	2.65	311	ePn	Pn	03 12 34.4	+1.2
HCY				i Sn	Sb	03 13 08.6	-2.0
TREB	Trebinje	2.91	314	ePn	Pn	03 12 38.2	+1.4
PLE	Pljevlja	2.92	333	P	Pn	03 12 39.1	+2.0
PLE	Pljevlja	2.92	333	⇑i Pn	Pn	03 12 38.0	+0.9
PLE				i Sn	Sb	03 13 15.1	-3.4
BOVS	Bovan	2.92	7	⇓P	Pn	03 12 37.1	0.0
BOVS	Bovan	2.92	7		Pn	03 12 37.1	0.0
BRY	Bratogost	2.94	318	ePn	Pn	03 12 39.4	+2.1
BRY	Bratogost	2.94	318	⇑i Pn	Pn	03 12 38.7	+1.4
BRY				i Sn	Sn	03 13 15.1	+2.3
PLD	Plovdiv	2.98	61	P	Pn	03 12 38.8	+1.1
PLD	Plovdiv	2.98	61	i Pn	Pn	03 12 38.8	+1.1
DBRK	Dubrovnik	2.99	311	ePn	Pn	03 12 38.6	+0.7
UPM	Unac-Piva	3.00	326	ePn	Pb	03 12 41.4	-2.6
UPM	Unac-Piva	3.00	326	⇑i Pn	Pn	03 12 39.4	+1.2
UPM				i Sn	Sn	03 13 16.6	+2.2
RUDO	Rudo	3.18	335	ePn	Pn	03 12 40.5	-0.1
KDZ	Kurdzhali	3.32	73	P	Pn	03 12 42.4	-0.1
STON	Ston	3.37	310	ePn	Pn	03 12 44.0	+0.9
STON	Ston	3.37	310	ePn	Pn	03 12 44.0	+0.9
BBLS	Lazići	3.40	338	ePn	Pn	03 12 44.1	+0.5
MATE	Matera	3.41	270	⇑P	Pn	03 12 44.5	+0.9
MATE	Matera	3.41	270		Pn	03 12 44.5	+0.9
DIVS	Divibare	3.48	346	Pn	Pn	03 12 45.0	+0.3
DIVS	Divibare	3.48	346	ePn	Pn	03 12 44.8	+0.1
ITM	Ithomi	3.59	171		Pn	03 12 47.7	+1.5
ALN	Alexandroupoli	3.69	86	P	Pn	03 12 49.2	+1.7
ALN	Alexandroupoli	3.69	86		Pn	03 12 49.2	+1.7
TIP	Timpagrande	3.74	247	⇑P	Pn	03 12 49.6	+1.3
TIP	Timpagrande	3.74	247		Pn	03 12 49.4	+1.0
LSTV	Lastovo	3.80	304	ePn	Pn	03 12 49.9	+0.8
TEKS	Tekeris	4.00	343	ePn	Pn	03 12 51.0	-0.9
MAKA	Makarska	4.02	311	ePn	Pn	03 12 52.6	+0.5
EZN	Ezine	4.03	101	P	Pn	03 12 53.2	+1.0
MDVR	Moldovita	4.06	5	⇑P	Pn	03 12 54.0	+1.3
MDVR	Moldovita	4.06	5		Pn	03 12 54.0	+1.3
RICI	Ricice	4.09	314	ePn	Pn	03 12 53.7	+0.6
RICI				Sn	Sn	03 13 42.1	+1.1
BEO	Beograd	4.11	353	P	Pn	03 12 54.2	+0.9
SRE	Strehaia	4.20	20	⇓P	Pn	03 12 55.1	+0.5
SRE	Strehaia	4.20	20	P	Pn	03 12 55.1	+0.5
SRE	Strehaia	4.20	20		Pn	03 12 55.1	+0.5
SGRT	San Giovanni R	4.23	286	Pn	Pn	03 12 55.4	+0.3
HERR	Herculane	4.24	12	⇓P	Pn	03 12 55.4	+0.3
HERR	Herculane	4.24	12		Pn	03 12 55.4	+0.3
BLJ	Bijeljina	4.29	341	ePn	Pn	03 12 55.3	-0.4
HVAR	Hvar	4.30	306	ePn	Pn	03 12 55.8	0.0
HVAR				Sn	Sn	03 13 43.7	-2.4
FRGS	Fruska Gora	4.54	348	⇓P	Pn	03 12 58.3	-0.8
FRGS	Fruska Gora	4.54	348		Pn	03 12 58.3	-0.8
FRGS	Fruska Gora	4.54	348	ePn	Pn	03 12 58.0	-1.2
DOB	Doboj	4.60	331	ePn	Pn	03 13 00.9	+0.9
MGRS	Mrkonjic Grad	4.77	322	ePn	Pn	03 13 04.5	+2.1
CEL	Celeste	4.78	241		Pn	03 13 03.2	+0.6
GZR	Gura Zlata	4.80	13	⇑P	Pn	03 13 03.5	+0.6
GZR	Gura Zlata	4.80	13	P	Pn	03 13 03.5	+0.6
GZR	Gura Zlata	4.80	13		Pn	03 13 03.5	+0.6
KIJV	Kijevo	4.82	314	ePn	Pn	03 13 04.1	+1.0
BZS	Buzias	4.89	4	P	Pn	03 13 05.5	+1.5
BLY	Banja Luka	4.98	325	ePn	Pn	03 13 07.1	+1.9
APE	Apeiranthos	4.99	136	⇑P	Pn	03 13 07.1	+1.7
APE	Apeiranthos	4.99	136	i P	Pn	03 13 06.3	+0.9
APE	Apeiranthos	4.99	136		Pn	03 13 07.1	+1.7
PAOL	Paolisi	5.03	276		Pn	03 13 07.9	+1.9
ZIRJ	Zirje	5.05	307	ePn	Pn	03 13 06.4	+0.2
LOT	Lotru	5.08	21	⇑P	Pn	03 13 08.9	+2.2
LOT	Lotru	5.08	21		Pn	03 13 08.9	+2.2
MORI	Morici	5.13	309	ePn	Pn	03 13 07.8	+0.5
ARR	Arges	5.27	27	⇑P	Pn	03 13 10.2	+0.8
ARR	Arges	5.27	27		Pn	03 13 10.2	+0.8
DEV	Deva	5.30	13	⇑P	Pn	03 13 11.2	+1.6
DEV	Deva	5.30	13	P	Pn	03 13 11.2	+1.6
DEV	Deva	5.30	13		Pn	03 13 11.2	+1.6
A252A	Venje	5.30	334	ePn	Pn	03 13 11.2	+1.6
MRAK	Mrakovica	5.31	325	ePn	Pn	03 13 10.9	+1.0
PRIJ	Prijedor	5.37	324	ePn	Pn	03 13 12.3	+1.8
VOIR		5.49	30	⇓P	Pn	03 13 13.7	+1.4
VOIR		5.49	30	P	Pn	03 13 13.7	+1.4
VOIR		5.49	30		Pn	03 13 13.7	+1.4
UDBI	Udbina	5.51	315	ePn	Pn	03 13 14.1	+1.5
DUGI	Dugi Otok	5.59	308	ePn	Pn	03 13 12.8	-0.8
AMBH	Ambrzfalva	5.62	357	PN	Pn	03 13 14.9	+0.8
AMBH				SN	Sn	03 14 21.8	+3.0
A251A	Rujevac	5.69	322	ePn	Pn	03 13 17.0	+2.0
MORH	Mrgy, Hungar	5.78	342	ePn	Pn	03 13 15.0	-1.3
MORH	Mrgy, Hungar	5.78	342	PN	Pn	03 13 16.6	+0.3
KOVH	Kovagotottos	5.81	338	PN	Pn	03 13 16.8	+0.2
KOVH				SN	Sn	03 14 25.4	+2.1
PLIT	Plitvice	5.82	317	ePn	Pn	03 13 18.2	+1.4
ISR	Istrita	5.89	40	⇑P	Pn	03 13 20.1	+2.4
ISR	Istrita	5.89	40	P	Pn	03 13 20.1	+2.4
ISR	Istrita	5.89	40		Pn	03 13 20.1	+2.4
MLR	Muntele Rosu	5.89	35	⇑P	Pn	03 13 20.4	+2.5
MLR	Muntele Rosu	5.89	35	Pn	Pn	03 13 19.3	+1.4
	comp=E,2.6nm,0.3s,baz=302,slow=4.3,SNR=30						
MLR	Muntele Rosu	5.89	35	P	Pn	03 13 20.2	+2.3
MLR	Muntele Rosu	5.89	35		Pn	03 13 20.1	+2.3
ICOR	Ion Corvin	5.95	53	⇓P	Pn	03 13 20.4	+1.9
ICOR	Ion Corvin	5.95	53		Pn	03 13 20.4	+1.9
NEHR	Nehoiu	6.00	37	⇑P	Pn	03 13 21.4	+2.2
NEHR	Nehoiu	6.00	37		Pn	03 13 21.4	+2.2
NVLJ	Novalja	6.03	311	ePn	Pn	03 13 19.7	+0.1
NVLJ				Sn	Sn	03 14 26.2	-2.5
DOPR	Dopca	6.06	29	⇓P	Pn	03 13 22.3	+2.2
DOPR	Dopca	6.06	29		Pn	03 13 22.3	+2.2
AQU	L'Aquila	6.06	288	P	Pn	03 13 21.5	+1.3
AQU	L'Aquila	6.06	288		Pn	03 13 21.5	+1.3
AQU	L'Aquila	6.06	288	ePn	Pn	03 13 19.9	-0.3
MANT	Manisa	6.12	109		Pn	03 13 21.6	+0.5
DRGR		6.16	10	⇑P	Pn	03 13 22.5	+1.0
DRGR		6.16	10	P	Pn	03 13 22.5	+1.0
DRGR		6.16	10		Pn	03 13 22.5	+1.0
IDI	Anoyia	6.17	151	⇑P	Pn	03 13 24.6	+2.8
IDI	Anoyia	6.17	151	Pn	Pn	03 13 23.6	+1.9
	comp=E,1.9nm,0.3s,baz=301,slow=18,SNR=15						
IDI				Sn	Sn	03 14 31.3	-1.1
	comp=E,3.0nm,0.3s,baz=342,slow=19,SNR=6.8						
IDI	Anoyia	6.17	151	Pn	Pn	03 13 23.3	+1.6
VAE	Valguarnera	6.19	241	Pn	Pn	03 13 24.9	+2.9
	comp=E,0.4nm,0.3s,baz=17,slow=14,SNR=2.0						
RABC	Rab	6.19	313	ePn	Pn	03 13 21.6	-0.2
BISRR	Bisoca	6.28	38	⇑P	Pn	03 13 24.1	+0.9
BISRR	Bisoca	6.28	38		Pn	03 13 24.1	+0.9
COVR	Voineasa-Covas	6.28	34	⇑P	Pn	03 13 24.9	+1.7
COVR	Voineasa-Covas	6.28	34		Pn	03 13 24.9	+1.7
A250A	Rusevo Krmpots	6.33	315	ePn	Pn	03 13 24.9	+0.9
HARR	Harsova	6.35	49	⇓P	Pn	03 13 25.4	+1.4
HARR	Harsova	6.35	49	P	Pn	03 13 25.4	+1.4

HARR	**Harsova**	**6.35**	**49**		**Pn**	**03 13 25.4**	**+1.4**
ZAG	**Zagreb**	**6.35**	**325**	*e*Pn	**Pn**	**03 13 25.7**	**+1.7**
RAFF	**Raffo Rosso**	**6.37**	**239**	Pn	**Pn**	**03 13 24.5**	**+0.1**
KALN	**Kalnik**	**6.40**	**329**	*e*Pn	**Pn**	**03 13 25.4**	**+0.6**
PTJ	**Puntijarka**	**6.42**	**325**	P	**Pn**	**03 13 26.7**	**+1.6**
PTJ	**Puntijarka**	**6.42**	**325**	*e*Pn	**Pn**	**03 13 26.1**	**+1.0**
OZLJ	**Ozalj**	**6.42**	**321**	*e*Pn	**Pn**	**03 13 25.8**	**+0.7**
PLOR	**Plostina**	**6.48**	**36**	⇓P	**Pn**	**03 13 28.2**	**+2.3**
PLOR	**Plostina**	**6.48**	**36**	P	**Pn**	**03 13 28.2**	**+2.3**
PLOR	**Plostina**	**6.48**	**36**		**Pn**	**03 13 28.2**	**+2.3**
VRI	**Vrincioaia**	**6.53**	**36**	⇓P	**Pn**	**03 13 28.9**	**+2.3**
VRI	**Vrincioaia**	**6.53**	**36**	P	**Pn**	**03 13 28.9**	**+2.3**
VRI	**Vrincioaia**	**6.53**	**36**		**Pn**	**03 13 28.9**	**+2.3**
LOBO	**Lobor**	**6.58**	**327**	*e*Pn	**Pn**	**03 13 28.1**	**+0.9**
CRES	**Cresnjev**	**6.59**	**322**	*e*Pn	**Pn**	**03 13 28.1**	**+0.8**
CRES	**Cresnjev**	**6.59**	**322**	*i* Pn	**Pn**	**03 13 28.3**	**+1.0**
YER	**Yerkesik**	**6.59**	**121**	P	**Pn**	**03 13 29.6**	**+2.1**
BSZH	**Besenyszg**	**6.60**	**355**	PN	**Pn**	**03 13 29.1**	**+1.6**
TIH	**Tihany**	**6.61**	**340**	PN	**Pn**	**03 13 28.5**	**+0.9**
RIY	**Rijeka**	**6.72**	**315**	*e*Pn	**Pn**	**03 13 29.9**	**+0.7**
RIY	**Rijeka**	**6.72**	**315**	*e*Pn	**Pn**	**03 13 29.7**	**+0.6**
ARCR	**ARCALIA**	**6.75**	**19**	⇑P	**Pn**	**03 13 31.4**	**+1.8**
ARCR	**ARCALIA**	**6.75**	**19**		**Pn**	**03 13 31.4**	**+1.8**
CFR	**Carcaliu**	**6.76**	**47**	⇑P	**Pn**	**03 13 32.0**	**+2.3**
CFR	**Carcaliu**	**6.76**	**47**	P	**Pn**	**03 13 32.0**	**+2.3**
CFR	**Carcaliu**	**6.76**	**47**		**Pn**	**03 13 32.0**	**+2.3**
BRJN	**Brijuni**	**6.88**	**310**	*e*Pn	**Pn**	**03 13 31.0**	**-0.3**
BUD	**Budapest**	**6.93**	**348**	P	**Pn**	**03 13 32.7**	**+0.8**
BUD				pmax	pmax		
	comp=Z,32nm,0.6s						
BUD	**Budapest**	**6.93**	**348**	PN	**Pn**	**03 13 32.1**	**+0.2**
BUD				SN	**Sn**	**03 14 53.3**	**+2.4**
CLTB	**Caltabellotta**	**6.95**	**246**	Pn	**Pn**	**03 13 34.8**	**+2.4**
MPLH	**Magyarpolny**	**6.95**	**339**	PN	**Pn**	**03 13 34.2**	**+1.9**
MPLH				SN	**Sn**	**03 14 53.7**	**+2.2**
CSKK	**Cskako**	**6.96**	**343**	PN	**Pn**	**03 13 34.2**	**+1.8**
CSKK				SN	**Sn**	**03 14 53.4**	**+1.8**
PDKS	**Podkum**	**6.98**	**322**	*i* Pn	**Pn**	**03 13 33.5**	**+0.8**
KARP	**Karpathos**	**7.00**	**136**	Pn	**Pn**	**03 13 35.0**	**+2.0**
TESR	**Tescani**	**7.00**	**33**	⇑P	**Pn**	**03 13 35.1**	**+2.1**
TESR	**Tescani**	**7.00**	**33**		**Pn**	**03 13 35.1**	**+2.1**
CEY	**Cerknica**	**7.03**	**318**	*e*Pn	**Pn**	**03 13 33.2**	**-0.2**
SKDS	**Skadanscina**	**7.12**	**315**	*e*Pn	**Pn**	**03 13 30.4**	**-4.2**
BORA	**Eskisehir**	**7.13**	**94**	Pn	**Pn**	**03 13 35.4**	**+0.5**
VLDR	**Vladesti**	**7.17**	**42**	⇓P	**Pn**	**03 13 37.9**	**+2.6**
VLDR	**Vladesti**	**7.17**	**42**		**Pn**	**03 13 37.9**	**+2.6**
LJU	**Ljubljana**	**7.19**	**320**	*e*Pn	**Pn**	**03 13 35.7**	**+0.1**
PSZ	**Piszkesteto**	**7.24**	**353**	⇑P	**Pn**	**03 13 37.0**	**+0.6**
PSZ	**Piszkesteto**	**7.24**	**353**	P	**Pn**	**03 13 37.0**	**+0.6**
PSZ	**Piszkesteto**	**7.24**	**353**	Pn	**Pn**	**03 13 36.6**	**+0.2**
PSZ	**Piszkesteto**	**7.24**	**353**		**Pn**	**03 13 37.0**	**+0.6**
PSZ	**Piszkesteto**	**7.24**	**353**	PN	**Pn**	**03 13 36.3**	**-0.1**
PSZ				SN	**Sn**	**03 14 59.5**	**+0.7**
TRI	**Trieste**	**7.36**	**315**	P	**Pn**	**03 13 38.4**	**+0.6**
TRI	**Trieste**	**7.36**	**315**	Pn	**Pn**	**03 13 38.4**	**+0.6**
PERS	**Pernice**	**7.36**	**325**	*i* Pn	**Pn**	**03 13 38.7**	**+0.8**
SOKA	**Soboth**	**7.43**	**325**	*e*Pn	**Pn**	**03 13 39.4**	**+0.5**
	comp=Z,9.1nm,0.4s,SNR=21						
SOKA				*e*Sn	**Sn**	**03 15 03.8**	**+0.5**
	comp=Z,5.0nm,0.5s						
TRPA	**Tarpa**	**7.46**	**7**	⇑P	**Pn**	**03 13 41.0**	**+1.7**
TRPA	**Tarpa**	**7.46**	**7**		**Pn**	**03 13 41.0**	**+1.7**
TRPA	**Tarpa**	**7.46**	**7**	PN	**Pn**	**03 13 40.3**	**+1.1**
BURAR	**Bucovina Array**	**7.46**	**21**	⇓P	**Pn**	**03 13 41.6**	**+2.1**
BURAR	**Bucovina Array**	**7.46**	**21**	P	**Pn**	**03 13 41.5**	**+2.1**
BURAR	**Bucovina Array**	**7.46**	**21**		**Pn**	**03 13 41.6**	**+2.1**
BURAR	**Bucovina Array**	**7.46**	**21**	Pn	**Pn**	**03 13 40.5**	**+1.0**
BUR08	**Bucovina Ar. S**	**7.49**	**21**		**Pn**	**03 13 41.9**	**+2.1**
OBKA	**Obir**	**7.52**	**322**	*e*Pn	**Pn**	**03 13 40.9**	**+0.8**
	comp=Z,9.9nm,0.6s						
OBKA				*e*Sn	**Sn**	**03 15 11.2**	**+5.7**
	comp=Z,21nm,0.5s						
ARSA	**Arzberg**	**7.69**	**330**	*e*Pn	**Pn**	**03 13 45.2**	**+2.8**
	comp=Z,8.9nm,0.5s						
ELL	**Elmali**	**7.89**	**117**	P	**Pn**	**03 13 46.3**	**+1.0**
ELL	**Elmali**	**7.89**	**117**	Pn	**Pn**	**03 13 46.3**	**+1.0**
OSSC	**Osservatorio P**	**7.90**	**294**	Pn	**Pn**	**03 13 46.8**	**+1.4**
MYKA	**Terra Mystica**	**8.04**	**320**	*e*Pn	**Pn**	**03 13 47.6**	**+0.3**
	comp=Z,1.3nm,0.2s						
CONA	**Conrad Observa**	**8.14**	**334**	*e*Pn	**Pn**	**03 13 51.4**	**+2.7**
	comp=Z,1.7nm,0.5s						
ZCCA	**Zocca**	**8.36**	**299**	Pn	**Pn**	**03 13 52.2**	**+0.5**
KBA	**Koelnbreinsper**	**8.50**	**321**	*e*Pn	**Pn**	**03 13 54.1**	**+0.4**
	comp=Z,3.0nm,0.3s						
KBA	**Koelnbreinsper**	**8.50**	**321**	P	**Pn**	**03 13 55.2**	**+1.5**
KBA				pmax	pmax		
	comp=Z,17nm,1.1s						
MOA	**Molln**	**8.67**	**327**	*e*Pn	**Pn**	**03 13 57.8**	**+1.9**
	comp=Z,5.8nm,0.8s,SNR=12						
MOA				*e*Sn	**Sn**	**03 15 38.2**	**+4.4**
	comp=Z,5.0nm,0.6s						
ABTA	**Abfaltersbach**	**8.69**	**317**	*e*Pn	**Pn**	**03 13 56.7**	**+0.4**
	comp=Z,4.6nm,0.3s,SNR=8.3						
ABTA				*e*Sn	**Sn**	**03 15 33.1**	**-1.3**
	comp=Z,7.9nm,0.5s						
BIOA	**Bad Ischl, Aus**	**8.81**	**325**	*e*Pn	**Pn**	**03 13 59.1**	**+1.2**
	comp=Z,13nm,1.0s						
PRMA	**PARMA**	**8.96**	**300**	Pn	**Pn**	**03 14 00.9**	**+1.1**
VSL	**Villasalto**	**9.13**	**266**	Pn	**Pn**	**03 14 03.6**	**+1.3**
VRAC	**Vranov**	**9.17**	**341**	LR	LR	03 18 20.8	
	comp=Z,84nm,20.9s,baz=174,slow=43						
MSSA	**Maissana**	**9.33**	**296**	Pn	**Pn**	**03 14 04.7**	**-0.3**
CKRC	**Cesky Krumlov**	**9.45**	**331**	*e*P	**Pn**	**03 14 07.9**	**+1.4**
WTTA	**Wattenberg**	**9.48**	**317**	*e*Pn	**Pn**	**03 14 08.0**	**+0.9**
	comp=Z,3.1nm,0.2s,SNR=9.7						
WTTA				*e*Sn	**Sn**	**03 15 52.6**	**-1.3**
	comp=Z,12nm,0.5s						
WTTA	**Wattenberg**	**9.48**	**317**	P	**Pn**	**03 14 10.0**	**+2.8**
WTTA				pmax	pmax		
	comp=Z,23nm,0.7s						
OJC	**Ojcow**	**9.54**	**355**	P	**Pn**	**03 14 09.1**	**+1.3**
OJC	**Ojcow**	**9.54**	**355**	Pn	**Pn**	**03 14 09.1**	**+1.3**
WATA	**Walderalm**	**9.56**	**317**	*e*Pn	**Pn**	**03 14 09.4**	**+1.2**
	comp=Z,8.1nm,0.5s,SNR=16						
WATA				*e*Sn	**Sn**	**03 15 54.4**	**-1.4**
	comp=Z,22nm,0.6s						
BR131	**Keskin Array S**	**9.58**	**92**	P	**Pn**	**03 14 08.3**	**-0.2**
BR131	**Keskin Array S**	**9.58**	**92**	Pn	**Pn**	**03 14 08.3**	**-0.2**
BRTR	**Keskin Array B**	**9.58**	**92**	Pn	**Pn**	**03 14 09.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=267,slow=12,SNR=6.7						
BRTR	**Keskin Array B**	**9.58**	**92**		**Pn**	**03 14 08.9**	**+0.4**
GERES	**GERESS Array B**	**9.70**	**329**	Pn	**Pn**	**03 14 10.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=144,slow=14,SNR=14						
GERES	**GERESS Array B**	**9.70**	**329**	*e*P	**Pn**	**03 14 11.7**	**+1.7**
MOTA	**Moosalm**	**9.81**	**316**	*e*Pn	**Pn**	**03 14 11.9**	**+0.2**
	comp=Z,7.9nm,0.4s,SNR=8.0						
MOTA				*e*Sn	**Sn**	**03 15 59.7**	**-2.4**
	comp=Z,14nm,0.7s						
FETA	**Feichten**	**9.82**	**313**	*e*Pn	**Pn**	**03 14 13.0**	**+1.2**
	comp=Z,2.0nm,0.4s						
KHC	**Kasperske Hory**	**9.97**	**330**	*i* P	**Pn**	**03 14 15.6**	**+1.8**
KHC	**Kasperske Hory**	**9.97**	**330**	*e*P	**Pn**	**03 14 13.7**	**-0.1**
KHC				*e*x	x	03 15 07.5	
KHC				*e*S	**Sn**	**03 16 10.5**	**+4.6**
KHC	**Kasperske Hory**	**9.97**	**330**		**Pn**	**03 14 13.9**	**+0.1**
RETA	**Reutte**	**10.08**	**315**	*e*Pn	**Pn**	**03 14 16.1**	**+0.7**
	comp=Z,1.7nm,0.4s						
RETA				*e*Sn	**Sn**	**03 16 05.4**	**-3.1**
	comp=Z,9.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**10.17**	**310**	Pn	**Pn**	**03 14 16.7**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=108,slow=20,SNR=6.7						
DAVOX				Sn	**Sn**	**03 16 08.9**	**-1.8**
	baz=270,slow=10.0						
DAVOX				LR	LR	03 19 07.7	
	comp=Z,119nm,18.2s,baz=98,slow=43						
DPC	**Dobruska-Polom**	**10.20**	**342**	*e*P	**Pn**	**03 14 20.5**	**+3.6**
DPC	**Dobruska-Polom**	**10.20**	**342**	*e*P	**Pn**	**03 14 20.5**	**+3.6**
WET	**Wettzell**	**10.26**	**328**	P	**Pn**	**03 14 17.8**	**+0.1**
WET				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TUE	**Stuetta**	**10.32**	**308**	Pn	**Pn**	**03 14 19.6**	**+0.9**
PRU	**Pruhonice**	**10.36**	**335**	*e*P	Pn	03 14 31.2	+12
PRU	**Pruhonice**	**10.36**	**335**	*e*P	Pn	03 14 31.2	+12
DAVA	**Damuels**	**10.45**	**313**	*e*Pn	**Pn**	**03 14 21.9**	**+1.5**
	comp=Z,2.2nm,0.3s						
DAVA				*e*Sn	**Sn**	**03 16 16.8**	**-0.8**
	comp=Z,14nm,0.5s						
KEST	**Kesra**	**10.57**	**246**	Pn	**Pn**	**03 14 23.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=204,slow=19,SNR=1.7						
AKASG	**Malin Array Be**	**11.43**	**27**	LR	LR	03 19 52.2	
	comp=Z,28nm,21.2s,baz=352,slow=42						
BNI	**Bardonecchia**	**11.48**	**297**	P	**Pn**	**03 14 34.1**	**-0.5**
BNI	**Bardonecchia**	**11.48**	**297**	Pn	**Pn**	**03 14 34.1**	**-0.5**
SENIN	**Lac Senin/Sane**	**11.54**	**304**		**Pn**	**03 14 36.6**	**+1.3**
BFO	**Black Forest**	**11.90**	**314**	P	**Pn**	**03 14 39.2**	**-0.9**
BFO	**Black Forest**	**11.90**	**314**		**Pn**	**03 14 39.2**	**-0.9**
MNK	**Minsk**	**14.49**	**16**	*i* P	**Pn**	**03 15 13.9**	**-1.4**
MNK				*i* S	**Sn**	**03 17 55.6**	**-0.4**
MNK				pmax	pmax		
	comp=N,14nm,1.1s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.4s						
MNK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MNK				MLR	MLR		
	comp=N,55nm,9.0s						
MNK				MLR	MLR		
	comp=Z,147nm,16.0s						
MNK				MLR	MLR		
	comp=E,10.0nm,12.0s						
MNK	**Minsk**	**14.49**	**16**	*i* P	**Pn**	**03 15 13.9**	**-1.4**
	comp=E,2.0nm,1.4s						
MNK				*i* P	**Pn**	**03 15 13.9**	**-1.4**
	comp=N,14nm,1.1s						
MNK				*i* P	**Pn**	**03 15 13.9**	**-1.4**
	comp=Z,4.0nm,1.1s,baz=200						
MNK				*i* PP	**P**	**03 15 22.4**	**+0.2**
MNK				*i* S	**Sn**	**03 17 55.6**	**-0.4**
MNK				*i* SS	**SnSn**	**03 18 10.0**	**+1.5**
MNK				*i* LQ	LQ	03 19 29.0	
MNK				*i* LR	LR	03 20 31.1	
MNK				*i* LRM	MLR	03 20 55.1	
	comp=N,55nm,8.6s						
MNK				*i* LRM	MLR	03 21 01.5	
	comp=Z,147nm,16.3s						
MNK				*i* LRM	MLR	03 21 18.4	
	comp=E,10.0nm,11.5s						
NACGM	**Naroch**	**14.66**	**13**	*i* P	**P**	**03 15 22.4**	**-1.7**
PABE	**Paberze**	**14.90**	**6**		**Pn**	**03 15 21.4**	**+0.4**
GHAJ	**Ghor Haditha**	**14.95**	**124**	Pn	**Pn**	**03 15 22.7**	**+1.0**
IIGN	**Ignalina**	**15.00**	**11**	*e*P	**P**	**03 15 28.8**	**+0.9**
IIGN				IAmb	IAmb	03 15 35.5	
	comp=Z,6.8nm,1.1s						
IDID	**Didziasalis**	**15.05**	**12**	*e*P	**P**	**03 15 29.2**	**+0.8**
ISAL	**Salakas**	**15.20**	**11**	IAmb	IAmb	03 15 33.9	
	comp=Z,6.7nm,0.9s						
MARD	**Mardin**	**15.60**	**96**	Pn	**Pn**	**03 15 30.1**	**-0.4**
KIV	**Kislovodsk**	**16.21**	**71**	*e*P	**P**	**03 15 39.9**	**-1.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	**Khabaz**	**16.35**	**72**	Pn	**P**	**03 15 43.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=124,slow=3.3,SNR=4.7						
OBN	**Obninsk**	**17.64**	**30**	*e*P	**P**	**03 15 56.8**	**-0.2**
OBN				pmax	pmax		
	comp=Z,17nm,1.2s						
OBN				MLR	MLR		
	comp=Z,84nm,9.0s						
VSU	**Vasula**	**18.09**	**9**	*e*P	**P**	**03 16 03.1**	**+1.0**
MOS	**Moscow**	**18.51**	**30**	*e*P	**Pn**	**03 16 11.8**	**+5.1**
ESBB	**Sonseca Array**	**19.23**	**275**	P	**P**	**03 16 14.9**	**+0.2**
ESBB				IAmb	IAmb	03 16 16.2	
	comp=Z,19nm,1.4s						
ESDC	**Sonseca Array**	**19.23**	**275**	P	**P**	**03 16 14.1**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=81,slow=10,SNR=3.8						
ESDC	**Sonseca Array**	**19.23**	**275**	P	**P**	**03 16 14.9**	**+0.1**
HFS	**Hagfors**	**19.98**	**349**	P	**P**	**03 16 21.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=174,slow=16,SNR=9.9						
NC602	**NORSAR Array S**	**20.89**	**347**	P	**P**	**03 16 31.6**	**-1.0**
NORES	**NORESS Array B**	**20.89**	**347**	P	Pn	03 16 35.5	+0.4
FINES	**FINESS Array B**	**20.95**	**7**	P	**P**	**03 16 31.8**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=178,slow=10,SNR=12						
FINES	**FINESS Array B**	**20.95**	**7**	*e*P	**P**	**03 16 32.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**20.95**	**7**	P	**P**	**03 16 33.6**	**+0.3**
FIA1	**FINESS Array S**	**20.95**	**7**	P	**P**	**03 16 33.0**	**-0.2**
FIA1				IAmb	IAmb	03 16 38.1	
	comp=Z,14nm,1.2s						
NB2	**NORSAR Subarra**	**21.24**	**347**	P	**P**	**03 16 34.7**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=161,slow=10						
NOA	**NORSAR Array B**	**21.24**	**347**	P	**P**	**03 16 35.6**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=161,slow=10,SNR=13						
NOA				LR	LR	03 26 01.8	
	comp=Z,16nm,19.8s,baz=50,slow=40						
NOA	**NORSAR Array B**	**21.24**	**347**	*e*P	**P**	**03 16 39.0**	**+2.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NC204	**NORSAR Array S**	**21.54**	**346**	P	**P**	**03 16 39.3**	**-0.3**
NC204				IAmb	IAmb	03 16 56.6	
	comp=Z,16nm,1.1s						
EKA	**Eskdalemuir Ar**	**21.71**	**320**	P	**P**	**03 16 40.2**	**-1.3**
	comp=Z,6.1nm,0.7s,baz=117,slow=9.9,SNR=14						
ESK	**Eskdalemuir**	**21.73**	**320**	P	**P**	**03 16 41.9**	**+0.2**
ESK				pmax	pmax		
	comp=Z,27nm,1.0s						
KLMR	**Klimovskoe**	**23.08**	**23**	*e*P	**P**	**03 16 57.0**	**+1.1**
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
KLMR	**Klimovskoe**	**23.08**	**23**	*e*P	**P**	**03 16 57.1**	**+1.1**
KLMR				AMP		03 16 59.9	
	comp=Z,16nm,1.2s						
KIRV	**Kirov**	**25.25**	**35**	P	**P**	**03 17 16.4**	**0.0**
	comp=Z,5.5nm,0.8s,baz=244,slow=15,SNR=4.2						
KIRV				LR	LR	03 28 12.7	
	comp=Z,58nm,19.3s,baz=222,slow=39						
PRGR	**Permogore**	**25.64**	**27**	*e*P	**P**	**03 17 19.3**	**-0.7**
PRGR				pmax	pmax		
	comp=Z,137nm,1.8s						
ABKAR	**Akbulak array**	**28.44**	**59**	P	**P**	**03 17 45.3**	**+0.1**
ARCES	**ARCESS Array B**	**28.95**	**3**	P	**P**	**03 17 47.9**	**-1.7**
	comp=Z,5.1nm,1.1s,baz=191,slow=9.9,SNR=8.5						
ARCES	**ARCESS Array B**	**28.95**	**3**	*e*P	**P**	**03 17 49.7**	**0.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**28.95**	**3**	P	**P**	**03 17 48.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**32.36**	**217**	P	**P**	**03 18 20.6**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=27,slow=8.8,SNR=12						
KOWA	**Kowa**	**34.14**	**227**	P	**P**	**03 18 35.4**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=65,slow=8.3,SNR=4.1						
SCO	**Scoresbysund**	**37.01**	**338**	P	**P**	**03 18 59.7**	**-0.1**
SCO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**37.61**	**358**	P	**P**	**03 19 03.5**	**-1.4**
	comp=Z,9.3nm,0.9s,baz=151,slow=10,SNR=7.7						
SOCY	**Socotra**	**40.46**	**125**	P	**P**	**03 19 26.4**	**-3.0**
SOCY				IAmb	IAmb	03 19 27.3	
	comp=Z,4.1nm,0.9s						
DBIC	**Dimbokro**	**41.13**	**222**	P	**P**	**03 19 34.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=48,slow=11,SNR=3.3						
DBIC	**Dimbokro**	**41.13**	**222**	P	**P**	**03 19 34.7**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**41.13**	**222**	P	**P**	**03 19 34.7**	**-0.2**
DBIC				IAmb	IAmb	03 19 37.6	
	comp=Z,14nm,1.4s						
SUMG	**Summit**	**42.65**	**337**	P	**P**	**03 19 47.1**	**0.0**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**43.56**	**61**	P	**P**	**03 19 53.7**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=282,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**43.56**	**61**	P	**P**	**03 19 54.1**	**-0.3**
MKAR	**Makanchi Array**	**43.56**	**61**	P	**P**	**03 19 54.1**	**-0.3**
ZAA0	**Zalesovo Array**	**43.63**	**50**	P	**P**	**03 19 55.7**	**+0.9**
ZALV	**Zalesovo Beam**	**43.63**	**50**	P	**P**	**03 19 54.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=286,slow=11,SNR=3.0						
KMBO	**Kilima Mbogo**	**44.16**	**157**	P	**P**	**03 19 59.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=8.8,slow=12,SNR=3.8						
EUNU	**Eureka**	**53.12**	**348**	P	**P**	**03 21 09.2**	**+1.4**
SCHQ	**Schefferville**	**56.95**	**316**	P	**P**	**03 21 35.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=76,slow=3.3,SNR=5.1						
SCHQ	**Schefferville**	**56.95**	**316**	IAmb	IAmb	03 21 43.6	
	comp=Z,11nm,1.4s						
A36M	**Sachs Harbour**	**65.12**	**349**	P	**P**	**03 22 31.8**	**+0.9**
A36M				IAmb	IAmb	03 22 33.9	
	comp=Z,2.6nm,0.8s						
BOSA	**Boshof**	**69.10**	**176**	P	**P**	**03 22 56.7**	**0.0**
	comp=Z,1.9nm,0.9s,baz=9.1,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**71.17**	**340**	P	**P**	**03 23 08.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=37,slow=5.4,SNR=16						
H21K	**Melozitna Rive**	**73.84**	**357**	P	**P**	**03 23 26.4**	**+1.5**
H21K				IAmb	IAmb	03 23 32.7	
	comp=Z,5.8nm,1.3s						
ULM	**Lac du Bonnet**	**73.95**	**323**	*e*P	P	03 23 30.4	+4.6
ULM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ILAR	**Eielson Array**	**74.42**	**355**	P	**P**	**03 23 27.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=357,slow=3.8,SNR=5.5						
ILAR	**Eielson Array**	**74.42**	**355**	P	**P**	**03 23 29.0**	**+0.7**
ILAR	**Eielson Array**	**74.42**	**355**	P	**P**	**03 23 28.9**	**+0.7**
DOT	**Dot Lake**	**75.30**	**353**	P	**P**	**03 23 34.1**	**+0.7**
DOT				IAmb	IAmb	03 23 40.9	
	comp=Z,7.3nm,1.4s						
J20K	**Nowinta River**	**75.37**	**358**	P	**P**	**03 23 34.3**	**+0.6**
BCAR	**Beaver Creek A**	**75.65**	**352**	P	**P**	**03 23 35.5**	**0.0**
DHY	**Denali Highway**	**76.13**	**355**	P	**P**	**03 23 38.7**	**+0.4**
YBH	**Yreka Blue Hor**	**91.63**	**334**	LR	LR	04 09 54.4	
	comp=Z,72nm,19.8s,baz=338,slow=38						

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*IDC **06** 03:25:55.4±1.4, 4.°75S×143.°18E, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.7/31, mbtmp3.8/6, ML3.0/3, Error ellipse: s-maj=37.4km s-min=23.0km az=70.0*

ISC 06 03:26:00.5±1.0**, 4.°8S**±0.°1×**143.°1E**±0.°1**, h35km, n6,** σ**1.°12**/7**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.27**	**314**	Pn	**Pn**	**03 26 49.6**	**+0.2**
	0.4nm,0.3s,baz=171,slow=19,SNR=2.7						
PMG	**Port Moresby**	**6.12**	**139**	Pn	**Pn**	**03 27 27.9**	**-0.7**
	3.5nm,0.3s,baz=300,slow=8.1,SNR=5.1						
PMG				Sn	**Sn**	**03 28 38.8**	**+1.4**
	1.6nm,0.3s,baz=179,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**17.29**	**209**	P	**Pn**	**03 29 58.9**	**-0.6**
	0.3nm,0.3s,baz=30,slow=12,SNR=26						
ASAR	**Alice Springs**	**20.74**	**204**	P	**P**	**03 30 38.4**	**0.0**
	3.5nm,0.6s,baz=30,slow=11,SNR=29						
MKAR	**Makanchi Array**	**74.10**	**321**	P	**P**	**03 37 34.4**	**+1.1**
	0.5nm,0.8s,baz=101,slow=8.8,SNR=4.9						
ILAR	**Eielson Array**	**85.94**	**24**	P	**P**	**03 38 35.8**	**-1.0**
	0.6nm,1.0s,baz=261,slow=4.5,SNR=3.7						

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*IDC **06** 03:39:13.2±4.3, 24.°09S×66.°78W, h166km±36km, mb3.0/1, mb1 3.1/5, mb1mx3.0/22, mbtmp3.5/5, Error ellipse: s-maj=67.2km s-min=28.4km az=170.0*

*GUC **06** 03:39:15.2±0.5, 24.°04S×67.°34W, h226km±8km, ML3.5*

ISC 06 03:39:13.2±1.1**, 24.°09S**±0.°06×**66.°99W**±0.°08**, h181km, n20,** σ**1.°44**/34**, 2C-4D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.30**	**309**	P	**Pn**	**03 39 56.0**	**+1.9**
	5.2nm,0.3s,baz=112,slow=6.7,SNR=96						
LVC				S	**Sn**	**03 40 27.0**	**+1.2**
	7.8nm,0.3s,baz=12,slow=23,SNR=19						
LVC	**Limon Verde**	**2.30**	**309**	⇓*i*P	**Pn**	**03 39 56.0**	**+1.9**
LVC				*i* S	**Sn**	**03 40 26.9**	**+1.2**
PB15	**IPOC Station P**	**2.44**	**291**	*e*P	**Pn**	**03 39 57.0**	**+1.6**
PB15				*i* S	**Sn**	**03 40 28.7**	**+0.4**
PB06	**IPOC Station P**	**2.75**	**300**	⇓*i*P	**Pn**	**03 40 00.5**	**+1.5**
PB06				*i* S	**Sn**	**03 40 34.7**	**+0.1**
PB06				IAML		03 40 38.0	
	comp=N,179nm,0.3s						
PB09	**IPOC Station P**	**3.09**	**317**	⇑*i*P	**Pn**	**03 40 05.4**	**+2.3**
PB09				*i* S	**Sn**	**03 40 43.1**	**+1.0**
PB09				IAML		03 40 45.1	
	comp=N,48nm,0.6s						
PB09				IAML		03 40 45.8	
	comp=E,50nm,0.2s						
PB14	**IPOC Station P**	**3.16**	**260**	*i* S	**Sn**	**03 40 41.2**	**-2.7**
PB14				IAML		03 40 43.1	
	comp=E,45nm,0.3s						
AC02	**Maricunga**	**3.35**	**215**	*i* S	**Sn**	**03 40 48.6**	**+0.2**
PB04	**IPOC Station P**	**3.39**	**300**	*e*P	**Pn**	**03 40 07.8**	**+0.9**
PB04				*i* S	**Sn**	**03 40 47.6**	**-1.2**
PB07	**IPOC Station P**	**3.56**	**311**	⇓*i*P	**Pn**	**03 40 10.0**	**+1.0**
PB07				*i* S	**Sn**	**03 40 51.3**	**-1.2**
PB01	**IPOC Station P**	**3.81**	**322**	*e*P	**Pn**	**03 40 12.9**	**+0.8**
PB01				⇓*i*P	**Pn**	**03 40 12.9**	**+0.8**
PB01				*i* S	**Sn**	**03 40 57.6**	**-0.5**
PB02	**IPOC Station P**	**3.85**	**315**	⇑*i*P	**Pn**	**03 40 13.2**	**+0.7**
PB02				*i* S	**Sn**	**03 40 57.3**	**-1.7**
PATCX	**Punta Patache**	**4.38**	**317**	*e*P	**Pn**	**03 40 18.7**	**-0.5**
PATCX				*i* S	**Sn**	**03 41 08.9**	**-2.1**
PB08	**IPOC Station P**	**4.41**	**333**	*e*P	**Pn**	**03 40 21.9**	**+1.8**
PB08				*i* S	**Sn**	**03 41 13.5**	**+1.1**
GO01	**Chusmiza**	**4.85**	**335**	*e*P	**Pn**	**03 40 26.9**	**+1.1**
GO01				*i* S	**Sn**	**03 41 23.4**	**+0.7**
PB11	**IPOC Station P**	**4.97**	**330**	*e*P	**Pn**	**03 40 26.8**	**-0.2**
PB11				*i* S	**Sn**	**03 41 22.2**	**-2.7**
LPAZ	**La Paz**	**7.84**	**352**	P	**Pn**	**03 41 06.6**	**+1.6**
	comp=E,0.7nm,0.3s,baz=157,slow=10,SNR=18						
SIV	**San Ignacio**	**9.79**	**36**	P	**Pn**	**03 41 28.0**	**-2.0**
	comp=E,0.2nm,0.3s,baz=290,slow=12,SNR=3.7						
BDFB	**Brasilia**	**19.71**	**68**	P	**P**	**03 43 28.4**	**-0.6**
	comp=E,0.2nm,0.3s,baz=230,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P	**P**	**03 50 44.0**	**-0.2**
	comp=E,0.3nm,0.7s,baz=245,slow=6.5,SNR=2.2						
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc	**PKPab**	**03 58 34.3**	**-0.4**
	comp=E,0.3nm,0.5s,baz=304,slow=2.9,SNR=5.7						

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*MDD **06** 03:48:36.7±0.4, 35.°52N×3.°80W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=3.5km s-min=2.8km az=178.0*

*SFS **06** 03:48:36.0, 35.°54N×3.°79W, h3km, ML2.5, ALBORAN SUR*

*CNRM **06** 03:48:38.2, 35.°44N×3.°76W, h18km, ml2.6*

ISC 06 03:48:36.5±1.3**, 35.°53N**±0.°02×**3.°73W**±0.°03**, h14km**±10km**, n22,** σ**1.°34**/42**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**209**	P	**Pb**	**03 48 44.5**	**-0.1**
PALE				S	**Sb**	**03 48 48.5**	**-1.6**
EMEL	**Melilla**	**0.67**	**109**	Pg	**Pn**	**03 48 51.0**	**-0.6**
EMEL				Sg	**Sb**	**03 49 00.0**	**+0.9**
EALB	**Alboran**	**0.70**	**54**	Pg	**Pn**	**03 48 51.0**	**-1.0**
EALB				Sg	**Sn**	**03 49 02.0**	**-0.6**
EALB				*i* Vmb_Lg		03 49 03.0	
TAF	**Taforalt**	**1.29**	**123**	P	**Pg**	**03 49 00.5**	**-0.9**
TAF				S	**Sn**	**03 49 17.9**	**+0.6**
EMIJ	**Mijas**	**1.34**	**321**	Pg	**Pb**	**03 49 00.8**	**-0.6**
EMIJ				Sg	**Sb**	**03 49 17.3**	**-1.1**
EMIJ				*i* Vmb_Lg		03 49 22.3	
ELGU	**Los Guajares,**	**1.34**	**4**	Pn	**Pn**	**03 49 00.0**	**-0.9**
ELGU				Sn	**Sb**	**03 49 18.4**	**-0.2**
ELGU				*i* Vmb_Lg		03 49 22.4	
SMIR	**Smir Dam**	**1.35**	**277**	P	**Pg**	**03 49 01.2**	**-1.4**
SMIR				S	**Sn**	**03 49 18.6**	**-0.1**
EMAL	**Malaga-Limoner**	**1.36**	**336**	P	**Pg**	**03 49 03.5**	**+0.9**
EMAL				S	**Sn**	**03 49 18.7**	**-0.1**
CHEFC	**Chefchaouen**	**1.38**	**253**	P	**Pb**	**03 49 01.6**	**-0.6**
CHEFC				S	**Sg**	**03 49 22.6**	**+1.5**
CEU	**Ceuta**	**1.39**	**286**	P	**Pg**	**03 49 03.8**	**+0.6**
CEU				S	**Sb**	**03 49 16.0**	**-3.8**
JBK	**JBK**	**1.53**	**141**	P	**Pn**	**03 49 03.4**	**-0.2**
JBK				S	**Sb**	**03 49 24.1**	**+0.1**
LCRM	**LCR**	**2.06**	**207**	P	**Pb**	**03 49 12.8**	**-1.0**
LCRM				S	**Sb**	**03 49 39.0**	**-0.3**
IFR	**Ifrane**	**2.31**	**210**	P	**Pn**	**03 49 14.6**	**+0.3**
IFR				S	**Sn**	**03 49 40.8**	**-1.9**
MD31	**MD31**	**2.79**	**198**	P	**Pn**	**03 49 21.9**	**+1.1**
MD31				S	**Sn**	**03 49 54.6**	**+0.3**
MDT	**Midelt**	**2.80**	**195**	P	**Pn**	**03 49 21.9**	**+0.9**
MDT				S	**Sn**	**03 49 56.8**	**+2.1**
EZAR	**Zarzadilla de**	**2.86**	**34**	Sn	**Sn**	**03 49 57.3**	**+1.2**
ECAB	**El Cabril**	**2.88**	**332**	Pn	**Pn**	**03 49 22.3**	**+0.2**
ECAB				Sn	**Sn**	**03 49 56.3**	**-0.2**
ETOB	**Tobarra**	**3.57**	**29**	Pn	**Pn**	**03 49 33.0**	**+1.5**
ETOB				Sn	**Sn**	**03 50 15.0**	**+1.5**
PVAQ	**Vaqueiros**	**3.72**	**301**	P	**Pn**	**03 49 36.1**	**+2.5**
PVAQ				S	**Sn**	**03 50 20.8**	**+3.6**
PAB	**San Pablo**	**4.04**	**353**	Sn	**Sn**	**03 50 25.1**	**-0.1**
EBAD	**Badajoz**	**4.16**	**322**	Pn	**Pn**	**03 49 38.6**	**-0.9**
EBAD				Sn	**Sn**	**03 50 27.3**	**-0.6**
OUZM	**OUZ**	**5.26**	**210**	P	**Pn**	**03 49 56.1**	**+1.2**
OUZM				S	**Sn**	**03 50 55.3**	**-0.1**

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*IDC **06** 03:53:36.1±2.8, 7.°20S×129.°55E, h134km±37km, mb3.4/1, mb1 3.4/5, mb1mx3.0/32, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.5/40, Error ellipse: s-maj=65.8km s-min=20.7km az=90.0*

ISC 06 03:53:35.9±1.0**, 7.°20S**±0.°06×**129.°9E**±0.°2**, h150km, n6,** σ**2.°71**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.44**	**12**	P	**Pn**	**03 55 10.0**	**+1.5**
	0.4nm,0.3s,baz=137,slow=22,SNR=8.0						

SIJI S Sn 03 56 17.4 -3.7
1.2nm,0.3s,baz=233,slow=22,SNR=5.1
FITZ Fitzroy Crossi 11.59 200 P **Pn 03 56 15.5 -1.3**
0.2nm,0.3s,baz=25,slow=13,SNR=16
FITZ S Sn 03 58 15.0 -10
0.7nm,0.3s,baz=253,slow=14,SNR=7.3
WRA Warramunga Arr 13.38 162 P **Pn 03 56 41.5 +1.4**
0.3nm,0.3s,baz=345,slow=13,SNR=19
WRA S **Sn 03 59 06.3 -2.0**
0.8nm,0.3s,baz=332,slow=24,SNR=8.5
ASAR Alice Springs 16.82 167 P **Pn 03 57 25.9 +3.2**
0.3nm,0.3s,baz=341,slow=9.9,SNR=30
ASAR S **S 04 00 28.5 -1.3**
0.2nm,0.3s,baz=342,slow=24,SNR=4.5
PSI Prapat 32.45 287 LR LR 04 14 17.4
comp=Z,92nm,18.5s,baz=224,slow=39
MKAR Makanchi Array 68.33 327 P **P 04 04 21.8 +0.9**
0.5nm,0.4s,baz=115,slow=8.2,SNR=14

IDC 06 04:05:39.5±3.1**, 6°.82S**×**129°.56E, h0**km**, mb3.5**/1**, mb1 3.5**/3**, mb1mx3.1**/27**, mbtmp3.4**/3**, ML3.5**/2**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.4**/45**, Error ellipse: s-maj=287.7km s-min=31.4km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.84**	**161**	Pn	Pn	04 08 56.6	-0.6
	0.3nm,0.3s,baz=340,slow=14,SNR=20						
WRA				Sn	Sn	04 11 19.1	-13
	0.4nm,0.3s,baz=347,slow=18,SNR=9.0						
DAV	**Davao City (W)**	**14.36**	**344**	LR	LR	04 15 00.1	
	comp=Z,49nm,19.4s,baz=32,slow=39						
ASAR	**Alice Springs**	**17.26**	**166**	P	Pn	04 09 42.6	+0.5
	0.1nm,0.3s,baz=344,slow=9.3,SNR=8.8						
ASAR				S	Sn	04 12 42.1	-13
	0.1nm,0.3s,baz=355,slow=28,SNR=5.5						
MJAR	**Matsushiro Arr**	**43.89**	**10**	LR	LR	04 31 33.1	
	comp=Z,16nm,18.4s,baz=182,slow=35						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	04 16 39.6	0.0
	0.2nm,0.4s,baz=122,slow=8.0,SNR=7.3						

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*IDC **06** 04:09:41.2±17.0, 3°.43S×145°.68E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.5/20, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=283.4km s-min=112.0km az=175.0*
*NEIC **06** 04:09:43.3±1.6, 3°.9S±0°.1×146°.3E±0°.2, h10km±1km, mb4.2/18, Error ellipse: s-maj=27.4km s-min=17.3km az=73.0*
ISC 06 04:09:42.9±0.8**, 3°.84S**±0°.08×**146°.2E**±0°.2**, h10**km**, n24,** σ**1s.07**/24**, mb4.3**/9**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**170**		**Pn**	**04 11 06.2**	**-0.1**
WB0	**Warramunga Arr**	**19.59**	**215**	P	**Pn**	**04 14 12.9**	**+0.2**
WR0	**Warramunga Arr**	**19.66**	**214**	P	**P**	**04 14 12.3**	**+0.2**
WR0				IAmb	IAmb	04 14 18.4	
	comp=Z,3.3nm,0.8s						
WRAB	**Tennant Creek**	**19.75**	**215**	P	**P**	**04 14 13.5**	**+0.5**
WRAB				IAmb	IAmb	04 14 35.7	
	comp=Z,6.3nm,0.7s						
WB2	**Warramunga Arr**	**19.75**	**215**		**Pn**	**04 14 14.6**	**0.0**
WB2				IAmb	IAmb	04 14 19.2	
	comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**19.76**	**215**	P	**P**	**04 14 14.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=36,slow=11,SNR=28						
WRA	**Warramunga Arr**	**19.76**	**215**	P	**P**	**04 14 14.0**	**+0.8**
AS31	**Alice Springs**	**23.02**	**210**	P	**P**	**04 14 47.7**	**-0.6**
ASAR	**Alice Springs**	**23.02**	**210**	P	**P**	**04 14 47.6**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=48,slow=8.6,SNR=30						
ASAR	**Alice Springs**	**23.02**	**210**	P	**P**	**04 14 48.5**	**+0.2**
OUENC	**Ouen Island, N**	**27.21**	**135**	P	**P**	**04 15 25.9**	**-1.2**
OUENC				IAmb	IAmb	04 15 31.5	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**28.23**	**188**	P	**P**	**04 15 39.8**	**+3.7**
	comp=Z,0.6nm,0.3s,baz=15,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**28.23**	**188**	P	**P**	**04 15 34.4**	**-1.6**
MYLDM	**Lahad Datu**	**29.11**	**288**	P	**P**	**04 15 43.8**	**-0.4**
MYLDM				IAmb	IAmb	04 16 02.9	
	comp=Z,8.5nm,1.1s						
SBUM	**Sibu**	**34.55**	**280**	P	**P**	**04 16 31.4**	**-0.6**
SBUM				IAmb	IAmb	04 16 35.3	
	comp=Z,6.5nm,1.5s						
NACB	**Ninganchiao**	**36.74**	**320**	P	**P**	**04 16 51.2**	**+0.6**
JNU	**Nakatsue**	**39.53**	**340**	P	**P**	**04 17 14.8**	**+0.7**
SRIT	**Nakonsritamara**	**48.10**	**285**	P	**P**	**04 18 22.4**	**-1.0**
USA0B	**Ussuriysk Arra**	**49.50**	**347**	P	**P**	**04 18 34.3**	**+0.7**
USA0B				IAmb	IAmb	04 18 52.3	
	comp=Z,6.1nm,1.1s						
BJT	**Baijiatuau**	**51.64**	**331**	P	**P**	**04 18 49.5**	**-0.4**
BJT				IAmb	IAmb	04 19 02.7	
	comp=Z,4.5nm,1.0s						
KURK	**Kurchatov**	**79.03**	**323**	P	**P**	**04 21 46.7**	**-0.5**
KURK				IAmb	IAmb	04 22 07.8	
	comp=Z,3.5nm,1.4s						
N25K	**Chitina, Valde**	**83.62**	**27**	P	**P**	**04 22 11.6**	**+0.1**
ILAR	**Eielson Array**	**83.82**	**23**	P	**P**	**04 22 12.3**	**+0.1**
BRVK	**Borovoye**	**84.65**	**324**	P	**P**	**04 22 16.2**	**-0.6**
BRVK				IAmb	IAmb	04 22 30.0	
	comp=Z,1.9nm,1.1s						

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*IDC **06** 04:32:58.1±70.0, 22°.67N×124°.36E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.2/46, mbtmp3.6/3, Error ellipse: s-maj=1259.0km s-min=175.5km az=132.0*
*JMA **06** 04:33:21.2±0.2, 24°.00N×122°.31E, h16km±4km, M3.0*
*TAP **06** 04:33:21.4, 23°.99N×122°.34E, h48km±1km, ML3.6, D*
ISC 06 04:33:19.6±1.0**, 23°.95N**±0°.02×**122°.31E**±0°.02**, h13**km±8km**, n145,** σ**0s.83**/176**, mb3.5**/3**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.63**	**305**	eP	**Pn**	**04 33 34.5**	**+0.3**
	baz=300						
HWA	**Hwalien**	**0.64**	**272**	eP	**Pn**	**04 33 34.5**	**+0.2**
	baz=261						
TEYL	**Yanliau Villag**	**0.65**	**263**	eP	**Pn**	**04 33 34.6**	**+0.2**
	baz=257						
TEYL				eS	**Sn**	**04 33 44.5**	**-0.1**
	baz=257						
ETL	**Fush Village**	**0.66**	**289**	P	**Pb**	**04 33 34.1**	**+1.2**
	baz=275						
ETL				eS	**Sb**	**04 33 44.0**	**+2.1**
	baz=275						
TWD	**Chiawan**	**0.66**	**281**	P	**Pb**	**04 33 33.9**	**+1.0**
	baz=278						
TWD				eS	**Sb**	**04 33 43.6**	**+1.6**
	baz=278						
NACB	**Ninganchiao**	**0.69**	**289**	eP	**Pb**	**04 33 34.4**	**+1.0**
	baz=278						
NACB				S	**Sb**	**04 33 44.5**	**+1.7**
	baz=278						
EWUT	**Wuta**	**0.69**	**316**	eP	**Pb**	**04 33 33.9**	**+0.5**
	baz=318						
ENA	**Nanau**	**0.70**	**313**	eP	**Pb**	**04 33 34.1**	**+0.5**
	baz=315						
TEGC	**Jichi Village**	**0.74**	**251**	eP	**Pn**	**04 33 35.8**	**+0.1**
	baz=249						
TEGC				eS	**Sn**	**04 33 46.7**	**-0.1**
	baz=249						
ETM	**Tongmen**	**0.74**	**271**	eP	**Pb**	**04 33 35.3**	**+0.9**
	baz=269						
ETM				S	**Sb**	**04 33 46.4**	**+2.0**
	baz=269						
JYNG	**Yonagunijimaku**	**0.77**	**49**	P	**Pb**	**04 33 35.3**	**+0.5**
JYNG				S	**Sg**	**04 33 44.4**	**-0.2**
TWC	**Suao**	**0.78**	**328**	eP	**Pb**	**04 33 35.0**	**+0.1**
	baz=330						
ETLH	**Xiulin Townshi**	**0.80**	**289**	eP	**Pb**	**04 33 36.1**	**+0.8**
	baz=279						
ETLH				eS	**Sb**	**04 33 47.3**	**+1.3**
	baz=279						
ESL	**Shilin**	**0.81**	**261**	eP	**Pb**	**04 33 36.0**	**+0.6**
	baz=253						
YOJ	**Yonaguni jima**	**0.82**	**52**	P	**Pb**	**04 33 36.3**	**+0.6**
YOJ				S	**Sg**	**04 33 45.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.82**	**52**	P	**Pb**	**04 33 36.3**	**+0.6**
	baz=59						
YOJ				eS	**Sg**	**04 33 46.1**	**-0.2**
	baz=59						
NDS	**Dongshan**	**0.87**	**322**	eP	**Pb**	**04 33 36.8**	**+0.3**
	baz=318						
NDS				S	**Sb**	**04 33 49.2**	**+1.3**
	baz=318						
LATG	**Datong**	**0.92**	**309**	eP	**Pb**	**04 33 37.9**	**+0.5**
	baz=307						
HGSD	**Ruisui**	**0.93**	**241**	eP	**Pn**	**04 33 38.4**	**+0.1**
	baz=240						
EGS		**0.95**	**339**	P	**Pb**	**04 33 38.5**	**+0.5**
	baz=337						
EGS				S	**Sb**	**04 33 51.2**	**+0.8**
	baz=337						
ENTT	**Nioudou**	**0.96**	**316**	eP	**Pn**	**04 33 39.0**	**+0.2**
	baz=304						
ENTT				eS	**Sb**	**04 33 51.6**	**+0.9**
	baz=304						
TWE	**Neicheng**	**0.96**	**323**	P	**Pb**	**04 33 38.7**	**+0.6**
	baz=320						
NNSB	**Datong**	**0.97**	**300**	P	**Pb**	**04 33 39.0**	**+0.7**
	baz=297						
WHF	**Hehuan Shan**	**0.97**	**282**	P	**Pb**	**04 33 39.0**	**+0.5**
	baz=279						
WHF				S	**Sb**	**04 33 52.4**	**+1.0**
	baz=279						
NDT	**Datong Townshi**	**0.97**	**312**	eP	**Pn**	**04 33 39.2**	**+0.3**
	baz=309						
NNS	**Nan Shan**	**0.98**	**300**	eP	**Pb**	**04 33 39.2**	**+0.7**
	baz=297						
NTC	**Toucheng**	**1.00**	**334**	eP	**Pb**	**04 33 39.4**	**+0.7**
	baz=340						
NTC				eS	**Sb**	**04 33 52.3**	**+0.6**
	baz=340						
EHY	**Hungye**	**1.00**	**244**	eP	**Pn**	**04 33 39.6**	**+0.3**
	baz=237						
EHY				eS	**Sb**	**04 33 53.0**	**+1.1**
	baz=237						
ECBN	**Changbin**	**1.01**	**231**	eP	**Pn**	**04 33 40.2**	**+0.8**
	baz=222						
FUSS	**Fushou**	**1.01**	**287**	P	**Pb**	**04 33 39.8**	**+0.7**
	baz=285						
FUSB	**Fushanzhiwuyua**	**1.04**	**321**	eP	**Pn**	**04 33 40.1**	**+0.3**
	baz=308						
CHGB	**Renai**	**1.04**	**276**	P	**Pn**	**04 33 40.3**	**+0.3**
	baz=274						
CHGB				eS	**Sb**	**04 33 54.1**	**+1.0**
	baz=274						
TWT	**Tachien**	**1.07**	**286**	eP	**Pn**	**04 33 41.3**	**+0.8**
	baz=284						
YULB	**Yu-li**	**1.08**	**239**	eP	**Pn**	**04 33 40.7**	**+0.4**
	baz=251						
YULB				eS	**Sb**	**04 33 55.1**	**+1.0**
	baz=251						
VWDT	**VWDT**	**1.08**	**260**	P	**Pn**	**04 33 40.9**	**+0.5**
	baz=258						
VWDT				eS	**Sn**	**04 33 55.8**	**+0.5**
	baz=258						
EYUL	**Yuli**	**1.09**	**237**	P	**Pn**	**04 33 41.0**	**+0.5**
	baz=229						
EYUL				eS	**Sn**	**04 33 56.0**	**+0.6**
	baz=229						
WUSB	**Renai**	**1.09**	**272**	P	**Pb**	**04 33 40.9**	**+0.6**
	baz=267						
TDCB	**Techi**	**1.09**	**286**	eP	**Pn**	**04 33 41.2**	**+0.6**
	baz=284						
TWB1	**Santiao Chiao**	**1.09**	**345**	eP	**Pn**	**04 33 41.0**	**+0.4**
	baz=343						
TWF1	**Yuli**	**1.10**	**237**	P	**Pn**	**04 33 41.1**	**+0.5**
	baz=229						
TWF1				eS	**Sn**	**04 33 56.1**	**+0.4**
	baz=229						
NWLT	**Wulai**	**1.10**	**319**	eP	**Pn**	**04 33 41.0**	**+0.3**
	baz=306						
TIPB	**Shuangxi**	**1.11**	**337**	eP	**Pb**	**04 33 40.9**	**+0.4**
	baz=334						
TIPB				eS	**Sb**	**04 33 55.3**	**+0.4**
	baz=334						
YHNB	**Yeheng**	**1.11**	**310**	eP	**Pb**	**04 33 41.2**	**+0.5**
	baz=308						
NSK	**Sanguang**	**1.13**	**310**	eP	**Pb**	**04 33 41.4**	**+0.4**
	baz=308						
FULB	**Fuli**	**1.19**	**231**	eP	**Pb**	**04 33 42.1**	**0.0**
	baz=222						
SXI1	**Grass Mountain**	**1.20**	**341**	P	**Pb**	**04 33 42.0**	**-0.3**
	baz=350						
CHKT	**Chengkung**	**1.21**	**226**	eP	**Pb**	**04 33 42.6**	**+0.3**
	baz=226						
NWF	**Wu-fen Shan**	**1.21**	**337**	P	**Pb**	**04 33 42.4**	**-0.1**
	baz=347						
WFSB	**Wu-fen Shan**	**1.21**	**337**	P	**Pb**	**04 33 42.4**	**0.0**
	baz=346						
TWA	**Mucha**	**1.22**	**327**	eP	**Pg**	**04 33 43.3**	**+0.2**
	baz=325						
WPL	**Puli Township**	**1.23**	**273**	eP	**Pg**	**04 33 43.4**	**0.0**
	baz=272						
SSLB	**Suanglung**	**1.25**	**263**	eP	**Pb**	**04 33 43.3**	**+0.3**
	baz=262						
TATO	**Taipei**	**1.26**	**324**	eP	**Pb**	**04 33 43.6**	**+0.3**
	baz=310						
DPDB	**Guoxing**	**1.26**	**274**	eP	**Pg**	**04 33 43.9**	**-0.1**
	baz=279						
NFF	**Wufeng Townshi**	**1.28**	**302**	eP	**Pg**	**04 33 44.0**	**-0.2**
	baz=300						
WCS	**Beigang Elemen**	**1.28**	**275**	eP	**Pg**	**04 33 44.0**	**-0.2**
	baz=274						
WHP	**Taichung City**	**1.28**	**285**	eP	**Pg**	**04 33 44.4**	**+0.1**
	baz=277						
SMLT	**Sun Moon Lake**	**1.29**	**267**	eP	**Pg**	**04 33 44.2**	**-0.2**
	baz=258						
TAP	**Taipei**	**1.31**	**326**	eP	**Pb**	**04 33 44.4**	**+0.4**
	baz=312						
ECS	**Chishang**	**1.31**	**230**	eP	**Pg**	**04 33 44.9**	**+0.1**
	baz=222						
YUS	**Yu-Shan**	**1.32**	**250**	eP	**Pg**	**04 33 45.0**	**-0.1**
	baz=249						
YUS				eS	**Sg**	**04 34 01.8**	**-0.6**
	baz=249						
TYC	**Yuchr**	**1.33**	**268**	eP	**Pb**	**04 33 44.8**	**+0.5**
	baz=259						
EDH	**Donghe**	**1.34**	**224**	eP	**Pn**	**04 33 44.6**	**+0.7**
	baz=224						
IRIF	**Iriomote-Funau**	**1.36**	**73**	P	**Pg**	**04 33 45.8**	**+0.1**
IRIF				S	**Sb**	**04 34 02.7**	**+0.6**
LIOB	**Emei**	**1.36**	**301**	eP	**Pg**	**04 33 46.0**	**+0.2**
	baz=299						
YM01	**YM01**	**1.37**	**331**	eP	**Pb**	**04 33 45.4**	**+0.4**
	baz=341						
NSTT	**Nanjuang**	**1.37**	**300**	eP	**Pg**	**04 33 46.1**	**+0.1**
	baz=299						
HATJ	**Hateruma jima**	**1.38**	**85**	P	**Pg**	**04 33 45.8**	**-0.2**
HATJ				S	**Sg**	**04 34 03.6**	**-0.3**
YM08	**YM08**	**1.39**	**332**	eP	**Pn**	**04 33 45.2**	**+0.5**
	baz=342						
TWS1	**Kuangyinshan**	**1.40**	**325**	eP	**Pn**	**04 33 45.3**	**+0.5**
	baz=312						
ELDTW	**Lidau**	**1.40**	**238**	eP	**Pn**	**04 33 45.4**	**+0.5**
	baz=238						
NCUH	**Zhongli**	**1.44**	**315**	eP	**Pn**	**04 33 46.1**	**+0.8**
	baz=314						
NTST	**Danshui**	**1.44**	**327**	eP	**Pb**	**04 33 46.3**	**+0.1**
	baz=338						
ALS	**Alishan**	**1.44**	**253**	eP	**Pb**	**04 33 46.8**	**+0.4**
	baz=252						
WJS	**Zhushan**	**1.45**	**265**	eP	**Pg**	**04 33 48.1**	**+0.6**
	baz=265						
SBCB	**Hsinchu**	**1.47**	**305**	eP	**Pb**	**04 33 46.8**	**+0.1**
	baz=304						
TWY	**Chenhua**	**1.47**	**334**	eP	**Pg**	**04 33 47.3**	**-0.5**
	baz=344						
WWF	**Wufeng**	**1.47**	**274**	eP	**Pg**	**04 33 48.1**	**+0.2**
	baz=273						
NSY	**Sanyi**	**1.48**	**288**	eP	**Pg**	**04 33 48.1**	**-0.1**
	baz=288						
WNT	**Mingjian**	**1.48**	**268**	eP	**Pg**	**04 33 48.3**	**+0.1**
	baz=267						
LDUT	**Ludao**	**1.49**	**211**	P	**Pn**	**04 33 45.7**	**-0.2**
	baz=212						
LDUT				S	**Sn**	**04 34 03.4**	**-1.8**
	baz=212						
WNT1	**Nantou City**	**1.49**	**269**	eP	**Pg**	**04 33 48.3**	**+0.1**
	baz=258						
LONT	**Longtian**	**1.50**	**226**	eP	**Pn**	**04 33 46.7**	**+0.6**
	baz=237						
NMLH	**Miaoli**	**1.50**	**293**	eP	**Pg**	**04 33 48.2**	**-0.2**
	baz=292						
TCU	**Taichung**	**1.50**	**278**	eP	**Pg**	**04 33 48.4**	**-0.1**
	baz=277						
CHN5	**Tsauling**	**1.53**	**257**	eP	**Pg**	**04 33 48.7**	**-0.4**
	baz=257						
WDJ	**Dajia District**	**1.57**	**285**	eP	**Pb**	**04 33 48.9**	**+0.4**
	baz=284						
JKRS	**Kuro-shima**	**1.58**	**79**	P	**Pb**	**04 33 48.9**	**+0.2**
JKRS				eS	**Sb**	**04 34 09.2**	**+0.6**
TWGBT	**Beinan**	**1.59**	**225**	eP	**Pn**	**04 33 48.2**	**+0.8**
	baz=236						
TWG	**Pinlang**	**1.60**	**225**	eP	**Pn**	**04 33 48.2**	**+0.7**
	baz=236						
WCHH	**Zhanghua**	**1.60**	**275**	eP	**Pb**	**04 33 49.2**	**+0.2**
	baz=274						
STYH	**Taoyuan**	**1.60**	**241**	eP	**Pb**	**04 33 49.0**	**0.0**
	baz=234						
WGK	**Gukeng**	**1.62**	**261**	eP	**Pb**	**04 33 49.2**	**0.0**
	baz=261						
STYT	**Tauyuan**	**1.62**	**241**	eP	**Pb**	**04 33 49.3**	**-0.1**
	baz=233						
WDLH	**Douliu**	**1.64**	**261**	eP	**Pb**	**04 33 50.0**	**+0.4**
	baz=261						
TPUB	**Ta-pu**	**1.67**	**247**	eP	**Pb**	**04 33 50.5**	**+0.3**
	baz=241						
WTP	**Ta-pu**	**1.70**	**246**	eP	**Pb**	**04 33 51.4**	**+0.6**
	baz=238						
JIJ	**Ishigaki jima**	**1.73**	**76**	P	**Pn**	**04 33 50.0**	**+0.7**
JIJ				S	**Sn**	**04 34 11.4**	**+0.2**
WRL	**Guolierlin Hig**	**1.77**	**269**	eP	**Pb**	**04 33 51.9**	**+0.1**
	baz=269						
WTK	**Tuku**	**1.77**	**262**	eP	**Pb**	**04 33 51.7**	**-0.2**
	baz=254						
CHY	**Chiayi**	**1.78**	**256**	eP	**Pb**	**04 33 51.8**	**-0.3**
	baz=256						
SLGT	**Liugui**	**1.80**	**238**	eP	**Pb**	**04 33 52.9**	**+0.5**
	baz=232						
CHN1	**Nanshi**	**1.80**	**245**	eP	**Pb**	**04 33 52.2**	**-0.2**
	baz=246						
TWK	**Hsinying**	**1.80**	**248**	eP	**Pb**	**04 33 52.3**	**-0.1**
	baz=248						
SGST	**Jiashian**	**1.80**	**242**	eP	**Pb**	**04 33 52.4**	**0.0**
	baz=233						
SNST	**Tainan City**	**1.81**	**247**	eP	**Pb**	**04 33 52.4**	**-0.1**
	baz=247						
ECL	**Taimali**	**1.83**	**223**	eP	**Pn**	**04 33 51.9**	**+1.2**
	baz=232						
JISG	**Ishigakijimahi**	**1.94**	**71**	P	**Pb**	**04 33 53.9**	**-0.8**
JISG				eS	**Sn**	**04 34 17.4**	**+1.1**
ICHU	**Yijhu**	**1.95**	**253**	eP	**Pb**	**04 33 54.5**	**-0.4**
	baz=254						
SSD	**Sandimen**	**1.95**	**232**	eP	**Pb**	**04 33 55.2**	**+0.3**
	baz=227						
WSL	**Shuilin Townsh**	**1.95**	**258**	eP	**Pb**	**04 33 54.2**	**-0.7**
	baz=258						
TSMG	**Majia**	**1.97**	**231**	eP	**Pb**	**04 33 55.1**	**-0.1**
	baz=226						
SCST	**Cishan**	**1.97**	**238**	eP	**Pb**	**04 33 55.2**	**-0.1**
	baz=230						
CHN8	**Yiju**	**2.01**	**253**	eP	**Pn**	**04 33 55.0**	**+1.8**
	baz=254						
SHHT	**Tainan City**	**2.02**	**243**	eP	**Pb**	**04 33 55.2**	**-0.9**
	baz=244						
LAY	**Lan-yu**	**2.03**	**200**	P	**Pn**	**04 33 54.0**	**+0.6**
	baz=201						
MASBT	**Mashibuluo**	**2.04**	**229**	eP	**Pn**	**04 33 54.5**	**+0.9**
	baz=224						
LYUB	**Lan-yu**	**2.05**	**199**	P	**Pn**	**04 33 53.2**	**-0.5**
	baz=200						
EAST	**Anshuo**	**2.06**	**221**	eP	**Pn**	**04 33 55.3**	**+1.5**
	baz=222						
TAWH	**Dawu Township**	**2.07**	**219**	eP	**Pn**	**04 33 55.6**	**+1.7**
	baz=228						
SCZT	**Fangliau**	**2.21**	**225**	eP	**Pb**	**04 33 58.7**	**-0.6**
	baz=223						
SLIU	**Shizi**	**2.21**	**219**	eP	**Pn**	**04 33 56.9**	**+0.9**
	baz=226						
JTJ	**Tarama**	**2.29**	**72**	eS	**Sn**	**04 34 25.9**	**+0.8**
WLCH	**Liuqiu**	**2.38**	**228**	eP	**Pn**	**04 34 00.6**	**+2.3**
	baz=243						
HEN	**Hengchun**	**2.42**	**217**	eP	**Pn**	**04 33 59.9**	**+1.2**
	baz=211						
HEN				eS	**Sn**	**04 34 29.0**	**+0.9**
	baz=211						
TWKBT	**Hengchun**	**2.43**	**215**	eP	**Pn**	**04 34 00.2**	**+1.3**
	baz=216						
TWK1	**Hengchun**	**2.43**	**215**	eP	**Pn**	**04 34 00.9**	**+2.0**
	baz=216						
WDGT	**Dungji**	**2.52**	**255**	eP	**Pn**	**04 34 01.8**	**+1.6**
	baz=256						
PHUB	**P'eng-hu**	**2.54**	**261**	eP	**Pn**	**04 34 01.8**	**+1.3**
	baz=275						
PNG	**Penghu**	**2.55**	**262**	eP	**Pn**	**04 34 02.1**	**+1.6**
	baz=263						
VCHM	**Qimei**	**2.74**	**255**	eP	**Pn**	**04 34 04.1**	**+0.9**
	baz=256						
JIRB	**Irabujima**	**2.76**	**71**	eS	**Sn**	**04 34 38.5**	**+1.9**
JIKM	**Ikemajima**	**2.85**	**70**	P	**Pn**	**04 34 07.1**	**+2.4**
JIKM				eS	**Sn**	**04 34 40.0**	**+1.1**
MATB	**Ma-tsu**	**3.06**	**316**	eP	**Pn**	**04 34 08.0**	**+0.4**
	baz=315						
PTMZ	**Houxiangcun**	**3.10**	**291**	eP	**Pn**	**04 34 06.6**	**-1.5**
	baz=292						
LYJJ	**Jianjiangzhen**	**3.46**	**319**	eP	**Pn**	**04 34 13.2**	**+0.1**
	baz=308						
XPSS	**Dashiqiu**	**3.53**	**328**	eP	**Pn**	**04 34 14.1**	**+0.1**
	baz=336						
KNM	**Kinmen**	**3.57**	**278**	eP	**Pn**	**04 34 16.9**	**+2.3**
	baz=279						
KNMB	**Chin-men Tao**	**3.61**	**279**	eP	**Pn**	**04 34 16.0**	**+0.8**
	baz=280						
MHZQ	**Yeshan**	**3.66**	**306**	eP	**Pn**	**04 34 16.0**	**+0.1**
	baz=307						
AXDP	**Jialang**	**4.06**	**284**	eP	**Pn**	**04 34 21.9**	**+0.5**
	baz=286						
ZPLA	**Ao Xicun**	**4.17**	**271**	eP	**Pn**	**04 34 23.7**	**+0.9**
	baz=272						
SONM	**Songino Array**	**26.99**	**336**	P	**P**	**04 38 59.2**	**-1.9**
	0.8nm,0.6s,baz=142,slow=9.4,SNR=7.5						
MKAR	**Makanchi Array**	**39.22**	**316**	P	**P**	**04 40 46.5**	**-1.0**
	0.3nm,0.5s,baz=100,slow=9.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.00**	**327**	P	**P**	**04 40 59.8**	**-2.3**
	0.6nm,0.4s,baz=106,slow=9.1,SNR=2.5						

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*NEIC **06** 04:38:19.0±1.1, 16°.50N±0°.09×39°.9E±0°.1, h10km±1km, mb4.4/55, Error ellipse: s-maj=18.1km s-min=14.4km az=281.0*
*SGS **06** 04:38:24.4, 17°.55N×40°.29E, h7km, Ml3.1*
*IDC **06** 04:38:26.5±1.0, 17°.72N×40°.18E, h0km, mb4.0/14, mb1 4.1/16, mb1mx3.9/47, mbtmp4.0/16, ML3.6/2, MS3.7/49, Ms1 3.7/49, ms1mx3.5/84, Error ellipse: s-maj=21.5km s-min=17.5km az=172.0*
ISC 06 04:38:18.7±0.6**, 16°.52N**±0°.06×**39°.91E**±0°.07**, h10**km**, n124,** σ**1s.08**/85**, mb4.3**/39**, MS3.8**/45**, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRSS2	**Sair Farasan I**	**1.84**	**79**	S	**Sn**	**04 39 11.8**	**-1.9**
FRSS2				P	**Pn**	**04 38 51.5**	**+1.2**
FRSS	**Farasan al Kab**	**2.13**	**84**	P	**Pn**	**04 38 56.0**	**+1.8**
FRSS	**Farasan al Kab**	**2.13**	**84**	S	**Sn**	**04 39 19.9**	**-0.9**
AMGES	**AMGES**	**2.48**	**38**	P	Pn	04 38 50.1	-9.1
MKHL	**Mahalah**	**2.79**	**72**	P	**Pn**	**04 39 01.3**	**-2.0**
DJNS	**Zahran al Janu**	**3.67**	**71**	P	**Pn**	**04 39 13.9**	**-1.9**
ATD	**Arta Tunnel**	**5.72**	**150**	Pn	**Pg**	**04 40 07.1**	**-1.1**
	2.4nm,0.3s,baz=301,slow=14,SNR=1.9						
ATD				LR	LR	04 42 18.7	
	comp=Z,374nm,20.5s,baz=344,slow=35						
ATD	**Arta Tunnel**	**5.72**	**150**		**Pn**	**04 39 43.4**	**-0.4**
RAYN	**Ar Rayn**	**8.73**	**36**	Pn	**Pn**	**04 40 25.0**	**-0.1**
LODK	**Lodwar**	**13.76**	**199**	Pn	**Pn**	**04 41 33.0**	**-1.0**
SOCY	**Socotra**	**14.30**	**106**	Pn	**Pn**	**04 41 40.9**	**-0.5**
GHAJ	**Ghor Haditha**	**15.24**	**346**	Pn	**Pn**	**04 41 53.8**	**-0.3**
GHAJ				IAmb	IAmb	04 42 19.2	
	comp=Z,24nm,1.1s						
MMAI	**Mount Meron Ar**	**16.93**	**347**	LR	LR	04 47 46.0	
	comp=Z,159nm,20.2s,baz=351,slow=35						
UOSS	**Minazif**	**17.39**	**58**	Pn	**Pn**	**04 42 19.1**	**-2.4**
KMBO	**Kilima Mbogo**	**17.72**	**189**	LR	LR	04 49 52.4	
	comp=Z,339nm,20.1s,baz=16,slow=36						
WSAR	**Wadi Sarin**	**18.83**	**66**	P	**Pn**	**04 42 41.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=2.0						
WSAR				LR	LR	04 50 12.7	
	comp=Z,272nm,21.9s,baz=268,slow=39						
MBAR	**Mbarara**	**19.27**	**209**	LR	LR	04 49 50.3	
	comp=Z,165nm,21.8s,baz=21,slow=34						
MARD	**Mardin**	**20.73**	**2**	P	**P**	**04 42 57.6**	**-2.0**
GEVA	**Gevas**	**21.89**	**7**	P	**P**	**04 43 09.1**	**-3.0**
ELL	**Elmali**	**22.02**	**338**	P	**P**	**04 43 11.7**	**-1.8**
GURO	**Guroymak-BITLI**	**22.03**	**4**	P	**P**	**04 43 12.6**	**-1.0**
KARP	**Karpathos**	**22.11**	**331**	P	**P**	**04 43 13.4**	**-0.9**
BNN	**Bunyan**	**22.54**	**352**	P	**P**	**04 43 17.9**	**-1.1**
BNN				IAmb	IAmb	04 43 28.9	
	comp=Z,32nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRTR	**Keskin Array B**	**23.76**	**348**	P	**P**	**04 43 30.9**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=168,slow=7.8,SNR=14						
BRTR				LR	LR	04 51 48.5	
	comp=Z,148nm,18.9s,baz=160,slow=35						
BRTR	**Keskin Array B**	**23.76**	**348**	P	**P**	**04 43 31.3**	**-0.2**
BR131	**Keskin Array S**	**23.76**	**348**	P	**P**	**04 43 31.0**	**-0.5**
BR131				IAmb	IAmb	04 43 33.5	
	comp=Z,12nm,1.1s						
GNI	**Garni**	**23.92**	**9**	P	**P**	**04 43 31.5**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=306,slow=3.0,SNR=5.4						
GNI				LR	LR	04 52 24.2	
	comp=Z,129nm,21.0s,baz=194,slow=37						
GNI	**Garni**	**23.92**	**9**	P	**P**	**04 43 32.8**	**-0.3**
GNI				IAmb	IAmb	04 43 42.5	
	comp=Z,12nm,1.1s						
MANT	**Manisa**	**24.05**	**338**	P	**P**	**04 43 33.9**	**-0.5**
BR231	**Keskin MP Arra**	**24.06**	**346**	P	**P**	**04 43 34.4**	**+0.1**
BR231				IAmb	IAmb	04 43 59.4	
	comp=Z,7.6nm,0.9s						
ANTO	**Ankara**	**24.08**	**346**	P	**P**	**04 43 34.2**	**-0.2**
ANTO				IAmb	IAmb	04 43 47.4	
	comp=Z,6.4nm,0.9s						
KARS	**Kars**	**24.18**	**6**	P	**P**	**04 43 35.4**	**-0.1**
BORA	**Eskisehir**	**24.69**	**342**	P	**P**	**04 43 37.8**	**-2.3**
BORA				IAmb	IAmb	04 44 04.9	
	comp=Z,9.2nm,1.5s						
ILGA	**Ilgaz**	**25.03**	**349**	P	**P**	**04 43 42.2**	**-1.1**
ONI	**Oni**	**26.16**	**6**	P	**P**	**04 43 53.0**	**-0.4**
ONI				IAmb	IAmb	04 44 05.0	
	comp=Z,12nm,1.3s						
GEYT	**Alibeck**	**26.68**	**33**	LR	LR	04 55 03.2	
	comp=Z,634nm,18.2s,baz=227,slow=39						
GEYT	**Alibeck**	**26.68**	**33**	P	**P**	**04 43 57.9**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**26.68**	**33**	P	**P**	**04 43 57.9**	**-0.1**
GYA0B				IAmb	IAmb	04 44 14.8	
	comp=Z,7.7nm,1.2s						
HRA	**Herat**	**26.80**	**44**	P	**P**	**04 43 59.4**	**+0.1**
HRA				IAmb	IAmb	04 44 00.8	
	comp=Z,4.7nm,0.8s						
AGG	**Agios Georgios**	**27.19**	**329**	P	**P**	**04 44 02.1**	**-0.5**
KBZ	**Khabaz**	**27.25**	**5**	P	**P**	**04 44 02.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=241,slow=14,SNR=3.7						
KBZ				LR	LR	04 55 12.0	
	comp=Z,199nm,18.1s,baz=192,slow=39						
KIV	**Kislovodsk**	**27.45**	**4**	P	**P**	**04 44 04.8**	**-0.2**
KIV				IAmb	IAmb	04 44 13.0	
	comp=Z,8.9nm,1.2s						
FNA	**Florina**	**29.02**	**330**	P	**P**	**04 44 18.5**	**-0.4**
FNA				IAmb	IAmb	04 44 46.6	
	comp=Z,6.6nm,1.1s						
VTS	**Vitosha**	**29.67**	**335**	P	**P**	**04 44 24.0**	**-0.7**
MLR	**Muntele Rosu**	**31.17**	**341**	P	**P**	**04 44 37.7**	**-0.3**
MLR				IAmb	IAmb	04 44 43.2	
	comp=Z,6.1nm,1.2s						
KBL	**Kabul**	**31.66**	**50**	P	**P**	**04 44 43.2**	**+0.6**
KBL				IAmb	IAmb	04 44 54.1	
	comp=Z,5.9nm,1.2s						
KEST	**Kesra**	**33.25**	**311**	LR	LR	04 58 10.3	
	comp=Z,74nm,20.5s,baz=188,slow=36						
BURAR	**Bucovina Array**	**33.30**	**342**	P	**P**	**04 44 56.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**33.33**	**342**	P	**P**	**04 44 56.9**	**0.0**
LSZ	**Lusaka**	**33.64**	**201**	LR	LR	04 59 40.1	
	comp=Z,488nm,18.5s,baz=12,slow=36						
CHGR	**Chuyangaron**	**33.79**	**43**	P	**P**	**04 45 01.0**	**-0.1**
CHGR				IAmb	IAmb	04 45 07.9	
	comp=Z,5.2nm,0.6s						
AQU	**L'Aquila**	**34.32**	**324**	P	**P**	**04 45 05.2**	**-0.3**
GAR	**Garm**	**34.74**	**44**	P	**P**	**04 45 09.0**	**-0.3**
AKASG	**Malin Array Be**	**35.17**	**348**	P	**P**	**04 45 11.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=161,slow=7.0,SNR=8.2						
AKASG				LR	LR	04 58 38.9	
	comp=Z,40nm,18.4s,baz=164,slow=36						
AKBB	**Malin Array Si**	**35.17**	**348**	P	**P**	**04 45 12.6**	**0.0**
AKBB				IAmb	IAmb	04 45 16.6	
	comp=Z,6.5nm,1.4s						
ABKAR	**Akbulak array**	**36.50**	**22**	P	**P**	**04 45 22.8**	**-1.3**
AKTO	**Aktyubinsk**	**36.84**	**19**	LR	LR	05 01 40.5	
	comp=Z,81nm,20.3s,baz=186,slow=39						
TORD	**Torodi Ar. Bea**	**37.06**	**270**	P	P	04 45 40.5	+11
	comp=Z,6.4nm,0.9s,baz=81,slow=7.5,SNR=18						
KKAR	**Karatay Array**	**37.15**	**38**	P	**P**	**04 45 30.0**	**+0.3**
OBN	**Obninsk**	**38.61**	**357**	LR	LR	05 04 23.0	
	comp=Z,11nm,18.2s,baz=172,slow=42						
OBN	**Obninsk**	**38.61**	**357**	P	**P**	**04 45 40.8**	**-1.0**
GERES	**GERESS Array B**	**38.68**	**332**	P	**P**	**04 45 44.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=105,slow=10,SNR=3.5						
GERES	**GERESS Array B**	**38.68**	**332**	P	**P**	**04 45 43.2**	**+0.5**
KHC	**Kasperske Hory**	**38.95**	**332**	P	**P**	**04 45 43.4**	**-1.5**
AAK	**Ala-Archa**	**39.34**	**41**	LR	LR	05 04 05.3	
	comp=Z,184nm,18.9s,baz=242,slow=40						
AAK	**Ala-Archa**	**39.34**	**41**	P	**P**	**04 45 49.0**	**+0.6**
SUW	**Suwalki**	**39.62**	**345**	P	**P**	**04 45 50.3**	**-0.1**
SUW				IAmb	IAmb	04 45 51.6	
	comp=Z,11nm,0.9s						
PALK	**Pallekele**	**40.89**	**98**	P	P	04 46 11.2	+10
	comp=Z,7.3nm,0.8s,baz=238,slow=2.6,SNR=3.6						
PALK				LR	LR	05 00 02.2	
	comp=Z,59nm,21.1s,baz=67,slow=32						
TSUM	**Tsumeb**	**41.73**	**213**	LR	LR	05 03 45.0	
	comp=Z,48nm,20.9s,baz=336,slow=35						
ARU	**Arti**	**42.28**	**15**	LR	LR	05 05 28.2	
	comp=Z,108nm,18.1s,baz=122,slow=40						
ARU	**Arti**	**42.28**	**15**	P	**P**	**04 46 12.3**	**0.0**
KOWA	**Kowa**	**42.31**	**274**	LR	LR	05 04 17.4	
	comp=Z,114nm,18.4s,baz=64,slow=36						
KIRV	**Kirov**	**42.59**	**7**	LR	LR	05 04 23.7	
	comp=Z,119nm,18.8s,baz=201,slow=38						
MDT	**Midelt**	**43.25**	**300**	LR	LR	05 07 18.2	
	comp=Z,78nm,21.1s,baz=156,slow=40						
BRVK	**Borovoye**	**43.55**	**26**	P	**P**	**04 46 22.0**	**-0.6**
BRVK				IAmb	IAmb	04 46 22.9	
	comp=Z,6.3nm,1.4s						
LBTB	**Lobatse**	**43.57**	**199**	LR	LR	05 04 54.1	
	comp=Z,108nm,19.3s,baz=32,slow=35						
ESDC	**Sonseca Array**	**44.49**	**310**	P	P	04 46 35.9	+5.4
	comp=Z,3.1nm,1.1s,baz=100,slow=8.1,SNR=5.2						
ESDC				LR	LR	05 04 56.1	
	comp=Z,55nm,19.4s,baz=296,slow=36						
ESDC	**Sonseca Array**	**44.49**	**310**	P	**P**	**04 46 30.2**	**-0.2**
ESDC				IAmb	IAmb	04 46 38.5	
	comp=Z,7.4nm,1.5s						
DBIC	**Dimbokro**	**44.84**	**263**	P	P	04 46 45.9	+12
	comp=Z,6.3nm,0.9s,baz=116,slow=7.4,SNR=4.4						
DBIC				LR	LR	05 05 21.8	
	comp=Z,141nm,19.2s,baz=88,slow=36						
FINES	**FINESS Array B**	**45.95**	**351**	P	**P**	**04 46 42.0**	**+0.5**
	comp=Z,1.9nm,1.1s,baz=123,slow=5.1,SNR=1.4						
FINES				LR	LR	05 07 09.7	
	comp=Z,39nm,20.4s,baz=199,slow=38						
FINES	**FINESS Array B**	**45.95**	**351**	P	**P**	**04 46 40.9**	**-0.6**
FIA1	**FINESS Array S**	**45.95**	**351**	P	**P**	**04 46 40.6**	**-1.0**
KURBB	**Kurchatov Arra**	**45.96**	**34**	LR	LR	05 07 23.7	
	comp=Z,129nm,21.0s,baz=207,slow=39						
MAKZ	**Makanchi**	**46.02**	**40**	P	**P**	**04 46 42.6**	**+0.2**
MAKZ				IAmb	IAmb	04 46 44.0	
	comp=Z,3.6nm,1.0s						
KURK	**Kurchatov**	**46.06**	**34**	P	**P**	**04 46 42.7**	**+0.1**
KURK				IAmb	IAmb	04 46 44.2	
	comp=Z,3.9nm,0.9s						
MK31	**Makanchi Array**	**46.20**	**40**	P	**P**	**04 46 44.0**	**+0.2**
MK31				IAmb	IAmb	04 46 45.4	
	comp=Z,3.1nm,1.0s						
MKAR	**Makanchi Array**	**46.20**	**40**	P	**P**	**04 46 43.8**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=229,slow=7.9,SNR=16						
MKAR				LR	LR	05 08 02.6	
	comp=Z,219nm,18.3s,baz=231,slow=39						
MKAR	**Makanchi Array**	**46.20**	**40**	P	**P**	**04 46 43.4**	**-0.5**
BOSA	**Boshof**	**47.05**	**198**	LR	LR	05 06 51.4	
	comp=Z,108nm,19.9s,baz=40,slow=35						
HFS	**Hagfors**	**47.52**	**343**	LR	LR	05 06 17.7	
	comp=Z,26nm,20.7s,baz=213,slow=36						
LSA	**Lhasa**	**48.56**	**65**	P	**P**	**04 47 02.8**	**-0.2**
LSA				IAmb	IAmb	04 47 07.6	
	comp=Z,3.9nm,0.7s						
WMQ	**Urumqi**	**48.59**	**46**	*e*P	**P**	**04 47 04.7**	**+2.1**
NC602	**NORSAR Array S**	**48.64**	**342**	P	**P**	**04 47 02.5**	**-0.1**
NB2	**NORSAR Subarra**	**48.98**	**342**	P	**P**	**04 47 05.3**	**+0.1**
	comp=Z,20nm,1.7s,baz=142,slow=7.9						
NOA	**NORSAR Array B**	**48.98**	**342**	P	**P**	**04 47 04.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=147,slow=6.4,SNR=4.3						
NOA				LR	LR	05 07 33.7	
	comp=Z,19nm,20.1s,baz=320,slow=36						
ZAA0	**Zalesovo Array**	**50.99**	**32**	P	**P**	**04 47 20.2**	**-0.4**
ZAA0				IAmb	IAmb	04 47 21.4	
	comp=Z,6.6nm,0.9s						
ZALV	**Zalesovo Beam**	**50.99**	**32**	P	**P**	**04 47 19.9**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=247,slow=8.3,SNR=21						
ZALV				LR	LR	05 10 33.3	
	comp=Z,79nm,18.9s,baz=258,slow=39						
ZALV	**Zalesovo Beam**	**50.99**	**32**	P	**P**	**04 47 20.0**	**-0.5**
SUR	**Sutherland**	**51.94**	**201**	LR	LR	05 08 53.2	
	comp=Z,54nm,20.4s,baz=33,slow=34						
ARCES	**ARCESS Array B**	**53.76**	**354**	LR	LR	05 09 57.8	
	comp=Z,44nm,18.9s,baz=214,slow=36						
CMAR	**Chiang Mai Arr**	**56.12**	**79**	LR	LR	05 13 06.5	
	comp=Z,17nm,19.7s,baz=225,slow=37						
GTA	**Gaotai**	**56.55**	**53**	*e*P	**P**	**04 48 03.8**	**+2.1**
GTA				pP	sP	04 48 12.4	+6.3
GTA				sP	pP	04 48 16.4	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,86nm,5.1s						
GTA				LR	LR		
	comp=N,83nm,17.5s						
GTA				LR	LR		
	comp=E,140nm,18.9s						
GTA				LR	LR		
	comp=Z,140nm,18.2s						
PZH	**PanZhiHua**	**57.92**	**69**	P	**P**	**04 48 13.8**	**+2.2**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.2s						
PSI	**Prapat**	**59.54**	**97**	LR	LR	05 11 32.4	
	comp=Z,76nm,19.0s,baz=168,slow=33						
SONM	**Songino Array**	**62.19**	**44**	P	**P**	**04 48 42.3**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=263,slow=7.6,SNR=9.5						
SONM				LR	LR	05 18 48.5	
	comp=Z,122nm,18.6s,baz=274,slow=40						
SONM	**Songino Array**	**62.19**	**44**	P	**P**	**04 48 41.6**	**+1.0**
SONM				IAmb	IAmb	04 48 43.5	
	comp=Z,4.1nm,1.2s						
HHC	**Hu-ho-hao-te**	**65.60**	**52**	*e*P	**P**	**04 49 04.4**	**+1.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,78nm,5.1s						
SUMG	**Summit**	**70.87**	**342**	P	**P**	**04 49 36.5**	**+0.5**
HIA	**Hailar**	**71.07**	**43**	P	**P**	**04 49 38.2**	**+1.1**
HIA				IAmb	IAmb	04 50 06.3	
	comp=Z,2.3nm,0.7s						
TIXI	**Tiksi**	**74.13**	**19**	P	**P**	**04 49 55.0**	**+0.2**
YAK	**Yakutsk**	**75.47**	**29**	LR	LR	05 25 46.5	
	comp=Z,48nm,18.3s,baz=272,slow=38						
RCBR	**Riachuelo**	**78.14**	**260**	LR	LR	05 25 10.2	
	comp=Z,70nm,18.2s,baz=312,slow=36						
KSRS	**Korea Array**	**78.61**	**54**	LR	LR	05 29 01.3	
	comp=Z,34nm,19.1s,baz=260,slow=39						
KLR	**Kul'dur**	**78.86**	**42**	LR	LR	05 27 20.3	
	comp=Z,83nm,21.6s,baz=257,slow=38						
USRK	**Ussuriysk Ar.**	**80.14**	**47**	LR	LR	05 29 36.8	
	comp=Z,64nm,20.7s,baz=189,slow=39						
KAPI	**Kappang**	**81.72**	**98**	LR	LR	05 27 30.6	
	comp=Z,26nm,18.3s,baz=293,slow=36						
SEY	**Seymchan**	**85.21**	**25**	LR	LR	05 32 08.8	
	comp=Z,54nm,21.5s,baz=196,slow=38						
MA2	**Magadan**	**86.02**	**28**	LR	LR	05 31 15.5	
	comp=Z,26nm,19.4s,baz=292,slow=37						
MJAR	**Matsushiro Arr**	**86.79**	**53**	LR	LR	05 33 03.0	
	comp=Z,39nm,18.9s,baz=275,slow=38						
ASAJ	**Asahikawa**	**87.47**	**45**	LR	LR	05 34 03.4	
	comp=Z,108nm,19.2s,baz=338,slow=39						
MDP	**Montagnes des**	**91.01**	**276**	LR	LR	05 32 50.2	
	comp=Z,54nm,18.1s,baz=170,slow=36						
A36M	**Sachs Harbour**	**91.15**	**355**	P	**P**	**04 51 25.0**	**+1.6**
A36M				IAmb	IAmb	04 51 33.4	
	comp=Z,3.7nm,1.1s						
PETK	**Petropavlovsk-**	**92.54**	**32**	LR	LR	05 36 24.1	
	comp=Z,69nm,18.1s,baz=241,slow=38						
SHEM	**Shemya Is, Ala**	**100.51**	**26**	LR	LR	05 43 16.3	
	comp=Z,54nm,18.3s,baz=10.0,slow=39						

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*HEL **06** 04:57:56.1, 67°.19N×20°.63E, h1km, ML2.4, Confirmed Induced event*
*NAO **06** 04:57:56.1±0.7, 67°.14N×20°.87E, ML2.8*
*DNK **06** 04:57:56.0±0.7, 67°.17N×20°.64E, h0km, ML2.8(UPP), Suspected explosion*
*IDC **06** 04:57:56.2±0.8, 67°.15N×20°.80E, h0km, mb1 3.3/5, mb1mx3.0/48, mbtmp3.3/5, ML2.6/5, Error ellipse: s-maj=13.2km s-min=6.9km az=111.0*
*HEL **06** 04:57:56.3±0.0, 67°.19N×20°.66E, h1km, ML2.4, ML2.8(UPP), Confirmed Induced event*
*BER **06** 04:57:58.2±3.4, 67°.12N×20°.77E, h1km, ML2.3, Confirmed Induced event*
ISC 06 04:57:54.5±0.6**, 67°.13N**±0°.02×**20°.63E**±0°.02**, h0**km**, n54, σ1§33**/97**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.63**	**58**	P	**Pg**	**04 58 07.0**	**+0.4**
MASU				S	**Sg**	**04 58 15.3**	**+0.7**
MASU	**Masugnsbyn**	**0.63**	**58**	*i* P	**Pg**	**04 58 07.0**	**+0.4**
MASU				*i* S	**Sg**	**04 58 15.3**	**+0.7**
ERTU	**Ertsjaerv**	**0.84**	**132**	*e*P	**Pb**	**04 58 11.9**	**-0.1**
ERTU				*e*S	**Sb**	**04 58 23.5**	**-0.4**
SALU	**Saltoluokta**	**0.86**	**288**	P	**Pg**	**04 58 11.8**	**+0.8**
SALU				S	**Sg**	**04 58 22.9**	**+0.7**
SALU	**Saltoluokta**	**0.86**	**288**	*i* P	**Pg**	**04 58 11.8**	**+0.8**
SALU				*i* S	**Sg**	**04 58 22.9**	**+0.7**
NIKU	**Nikkaluokta**	**0.96**	**321**	P	**Pg**	**04 58 12.9**	**0.0**
NIKU				S	**Sg**	**04 58 26.1**	**+0.7**
NIKU	**Nikkaluokta**	**0.96**	**321**	*e*P	**Pg**	**04 58 12.9**	**0.0**
NIKU				*e*S	**Sg**	**04 58 26.1**	**+0.7**
HARU	**Harads**	**0.98**	**172**	P	**Pb**	**04 58 14.7**	**+0.4**
HARU	**Harads**	**0.98**	**172**	*e*P	**Pb**	**04 58 14.7**	**+0.4**
PAJU	**Pajala**	**0.98**	**95**	P	**Pg**	**04 58 13.7**	**+0.4**
PAJU				S	**Sb**	**04 58 27.2**	**-0.6**
PAJU	**Pajala**	**0.98**	**95**	*e*P	**Pg**	**04 58 13.7**	**+0.4**
LANU	**Lannavaara**	**1.06**	**29**	P	**Pg**	**04 58 14.2**	**-0.7**
LANU	**Lannavaara**	**1.06**	**29**	*e*P	**Pg**	**04 58 14.2**	**-0.7**
LANU				*e*S	**Sg**	**04 58 27.3**	**-1.3**
KLF	**Kolari**	**1.31**	**84**	*e*P	**Pg**	**04 58 18.9**	**-0.6**
KLF				*e*S	**Sg**	**04 58 35.6**	**-0.8**
SJUU	**Sjulsmark**	**1.67**	**166**	P	**Pb**	**04 58 26.9**	**+0.8**
SJUU	**Sjulsmark**	**1.67**	**166**	*e*P	**Pb**	**04 58 26.9**	**+0.8**
KALU	**Kalix**	**1.68**	**138**	P	**Pb**	**04 58 26.7**	**+0.4**
KALU	**Kalix**	**1.68**	**138**	*e*P	**Pb**	**04 58 26.5**	**+0.3**
KALU				*e*S	**Sg**	**04 58 49.1**	**+0.7**
HEF	**Hetta**	**1.73**	**41**	Pn	**Pn**	**04 58 26.0**	**+0.2**
HEF				Sn	**Sn**	**04 58 48.5**	**-0.1**
HEF	**Hetta**	**1.73**	**41**	Pn	**Pn**	**04 58 26.0**	**+0.2**
HEF				Sn	**Sn**	**04 58 48.5**	**-0.1**
HEF	**Hetta**	**1.73**	**41**	*e*P	**Pn**	**04 58 25.8**	**0.0**
HEF				*e*S	**Sn**	**04 58 47.5**	**-1.0**
HEF				MSG		04 58 51.5	
	comp=Z,21nm,0.2s						
TOF	**Tornio**	**1.81**	**124**	*e*PN	**Pb**	**04 58 29.0**	**+0.5**
TOF				*e*SG	**Sg**	**04 58 53.6**	**+0.9**
TOF				MSG		04 58 55.2	
	comp=Z,73nm,0.3s						
KIF	**Kilpisjarvi**	**1.89**	**2**	Pn	**Pb**	**04 58 29.2**	**-0.6**
KIF				Sn	**Sg**	**04 58 54.9**	**-0.2**
KIF	**Kilpisjarvi**	**1.89**	**2**	Pn	**Pb**	**04 58 29.2**	**-0.6**
KIF				Sn	**Sg**	**04 58 54.9**	**-0.2**
KIF	**Kilpisjarvi**	**1.89**	**2**	*e*P	**Pn**	**04 58 28.8**	**+0.9**
KIF				MSG		04 58 50.9	
	comp=Z,41nm,0.2s						
KIF				*e*S	**Sb**	**04 58 53.5**	**-0.3**
KIF				MSG		04 58 56.4	
	comp=Z,24nm,0.1s						
FAUS	**Fauske**	**2.09**	**279**	*e*P	**Pb**	**04 58 33.2**	**-0.1**
FAUS				*e*S	**Sb**	**04 59 00.2**	**+0.5**
FAUS				IAML		04 59 03.3	
	comp=Z,60nm,0.7s						
KTK1	**Kautokeino**	**2.13**	**26**	*e*P	**Pb**	**04 58 32.8**	**-1.1**
KTK1				*e*S	**Sb**	**04 59 00.2**	**-0.7**
KTK1				IAML		04 59 02.2	
	comp=Z,55nm,0.5s						
RNF	**Rovaniemi**	**2.19**	**101**	*e*P	**Pn**	**04 58 33.6**	**+1.5**
STEI	**Steigen**	**2.22**	**294**	*e*P	**Pn**	**04 58 33.5**	**+1.0**
STEI				*e*S	**Sn**	**04 59 01.5**	**+0.9**
SGF	**Sodankyl**	**2.31**	**79**	*e*P	**Pn**	**04 58 34.7**	**+0.9**
SGF				*e*SG	**Sb**	**04 59 07.1**	**+1.0**
SGF				MSG		04 59 08.2	
	comp=Z,17nm,0.2s						
TRO	**Tromso**	**2.59**	**347**	*e*PB	**Pb**	**04 58 41.0**	**-0.8**
TRO				*e*SG	**Sb**	**04 59 14.2**	**0.0**
MOR8	**Moi Rana**	**2.64**	**252**	*e*P	**Pn**	**04 58 40.1**	**+1.8**
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn	**Pn**	**04 58 44.2**	**+0.7**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**04 59 20.2**	**-0.2**
	baz=218,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn	**Pn**	**04 58 44.2**	**+0.7**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**04 59 20.2**	**-0.2**
	baz=218,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**35**	*e*P	**Pn**	**04 58 44.7**	**+1.2**
ARCES	**ARCESS Array B**	**3.02**	**35**	Pn	**Pn**	**04 58 44.6**	**+1.1**
	baz=214,slow=13,SNR=181						
ARCES				Sn	**Sn**	**04 59 20.4**	**0.0**
	baz=217,slow=22,SNR=6.4						
UMAU	**Umeaa**	**3.26**	**180**	*e*P	**Pn**	**04 58 49.4**	**+2.6**
UMAU				*e*S	**Sn**	**04 59 27.9**	**+1.7**
HAMF	**Hammerfest**	**3.70**	**16**	*e*P	**Pn**	**04 58 51.2**	**-1.7**
HAMF				IAML		04 59 55.2	
	comp=Z,10nm,0.7s						
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**04 59 08.1**	**+0.1**
	baz=268,slow=11						
APA0				Sn	**Sn**	**05 00 02.0**	**-2.2**
	baz=280,slow=28						
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**04 59 08.1**	**+0.1**
	baz=268,slow=11						
APA0				Sn	**Sn**	**05 00 02.0**	**-2.2**
	baz=280,slow=28						
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**04 59 29.5**	**+2.6**
	baz=349,slow=14						
FIA0				Sn	**Sn**	**05 00 38.5**	**+0.4**
	baz=348,slow=28						
FIA0				Lg	Lg	05 01 07.8	
	baz=336,slow=28						
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**04 59 29.5**	**+2.6**
	baz=349,slow=14						
FIA0				Sn	**Sn**	**05 00 38.5**	**+0.4**
	baz=348,slow=28						
FIA0				Sg	**Sg**	**05 01 07.8**	**-4.9**
	baz=336,slow=28						
FINES	**FINESS Array B**	**6.18**	**155**	Pn	**Pn**	**04 59 29.4**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=36						
FINES				Sn	**Sn**	**05 00 39.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=342,slow=22,SNR=8.7						
FINES				Lg	Lg	05 01 09.0	
	comp=Z,0.9nm,0.3s,baz=340,slow=27,SNR=8.9						
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**04 59 45.4**	**+2.2**
	baz=26,slow=14						
NB2				Sn	**Sn**	**05 01 05.8**	**-1.6**
	baz=31,slow=22						
NB2				Lg	Lg	05 01 45.6	
	baz=33,slow=37						
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn	**Pn**	**04 59 45.4**	**+2.2**
	baz=26,slow=14						
NB2				Sn	**Sn**	**05 01 05.8**	**-1.6**
	baz=31,slow=22						
NB2				Sg	**Sg**	**05 01 45.6**	**-5.1**
	baz=33,slow=37						
NOA	**NORSAR Array B**	**7.36**	**218**	Pn	**Pn**	**04 59 43.8**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=35,slow=11,SNR=6.0						
NOA				Sn	**Sn**	**05 01 06.1**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=101,slow=14,SNR=6.2						
NOA				Lg	Lg	05 01 48.4	
	comp=Z,0.1nm,0.3s,baz=76,slow=19,SNR=4.9						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**04 59 47.3**	**+1.6**
	baz=30,slow=16						
NRA0				Sn	**Sn**	**05 01 10.1**	**-1.9**
	baz=25,slow=28						
NRA0				Lg	Lg	05 01 54.0	
	baz=39,slow=28						
NRA0	**NORESS Array S**	**7.55**	**216**	Pn	**Pn**	**04 59 47.3**	**+1.6**
	baz=30,slow=16						
NRA0				Sn	**Sn**	**05 01 10.1**	**-1.9**
	baz=25,slow=28						
NRA0				Sg	**Sg**	**05 01 54.0**	**-2.8**
	baz=39,slow=28						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**04 59 47.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=30,slow=9.0,SNR=16						
HFS				Sn	**Sn**	**05 01 13.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=48,slow=20,SNR=7.5						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**04 59 48.4**	**+1.2**
	baz=22,slow=8.6						
HFS				Sn	**Sn**	**05 01 13.9**	**-0.7**
	baz=27,slow=18						
HFS	**Hagfors**	**7.66**	**207**	Pn	**Pn**	**04 59 48.4**	**+1.2**
	baz=22,slow=8.6						
HFS				Sn	**Sn**	**05 01 13.9**	**-0.7**
	baz=27,slow=18						
SPA0	**Spitsbergen Ar**	**11.18**	**355**	Pn	**Pn**	**05 00 35.2**	**0.0**
	baz=156,slow=16						
SPA0	**Spitsbergen Ar**	**11.18**	**355**	Pn	**Pn**	**05 00 35.2**	**0.0**
	baz=156,slow=16						
SPITS	**Spitsbergen Ar**	**11.18**	**355**	Pn	**Pn**	**05 00 34.9**	**-0.3**
	baz=158,slow=16,SNR=6.4						

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*IDC **06** 04:59:16.6±0.8, 6°.77N×73°.08W, h158km±8km, mb3.5/2, mb1 3.6/5, mb1mx3.2/40, mbtmp4.0/5, Error ellipse: s-maj=27.9km s-min=7.5km az=130.0*
*NEIC **06** 04:59:16.1±1.2, 6°.88N±0°.06×73°.24W±0°.06, h160km±9km, mb4.2/7, Error ellipse: s-maj=9.4km s-min=8.2km az=111.0*
*RSNC **06** 04:59:17.3±1.2, 6°.79N×73°.21W, h138km±5km, ML3.5, Mw3.7, Fault plane solution: NP1:φs118.00000°, δ29.00000°, λ134.00000°.*
ISC 06 04:59:15.0±0.7**, 6°.78N**±0°.02×**73°.18W**±0°.03**, h150**km±5km**, n63, σ1§44**/100**, mb4.1**/6**, 6C-8D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**181**⇑	*e*P	**Pn**	**04 59 36.2**	**+0.5**
BARC				*e*S	**Sn**	**04 59 50.1**	**-1.3**
BARC				*i*		04 59 52.0	
	comp=Z,1μm,0.2s						
PAMC	**Pamplona, Colo**	**0.73**	**41**⇑	*i*P	**Pn**	**04 59 39.8**	**+1.4**
PAMC				*e*S	**Sn**	**04 59 56.7**	**+0.5**
PAMC				*i*		04 59 59.9	
	comp=Z,361nm,0.5s						
RUSC	**La Rusia**	**0.89**	**174**⇓	*i*P	**Pn**	**04 59 40.1**	**+0.6**
RUSC				*e*S	**Sn**	**04 59 57.4**	**-0.8**
RUSC				*i*		04 59 59.7	
	comp=Z,421nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.29**	**259**⇑	*e*P	**Pn**	**04 59 42.2**	**-0.4**
PTBC				*e*S	**Sn**	**05 00 02.1**	**-1.4**
PTBC				*i*		05 00 07.0	
	comp=Z,573nm,0.2s						
TAMC	**Tame, Arauca**	**1.42**	**104**⇓	*i*P	**Pn**	**04 59 45.5**	**+1.7**
TAMC				*e*S	**Sn**	**05 00 07.1**	**+1.2**
TAMC				*i*		05 00 08.5	
	comp=Z,200nm,0.3s						
SPBC	**San Pablo de B**	**1.43**	**218**⇓	*i*P	**Pn**	**04 59 44.6**	**+0.5**
SPBC				*e*S	**Sn**	**05 00 05.7**	**-0.5**
SPBC				*i*		05 00 07.2	
	comp=Z,1μm,0.2s						
OCAC	**Ocana**	**1.46**	**355**	Pn	**Pn**	**04 59 45.4**	**+0.9**
OCAC				Sn	**Sn**	**05 00 07.0**	**+0.1**
OCAC	**Ocana**	**1.46**	**355**⇑	*i*P	**Pn**	**04 59 45.3**	**+0.9**
OCAC				*e*S	**Sn**	**05 00 07.0**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.81**	**293**	Pn	**Pn**	**04 59 49.0**	**+0.9**
ZARC				Sn	**Sn**	**05 00 13.9**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.81**	**293**⇑	*e*P	**Pn**	**04 59 48.7**	**+0.7**
ZARC				*e*S	**Sn**	**05 00 13.8**	**+0.4**
ZARC				*i*		05 00 20.0	
	comp=Z,645nm,0.3s						
NORC	**Norcasia**	**2.07**	**234**	*e*P	**Pn**	**04 59 51.8**	**+0.6**
NORC				*e*S	**Sn**	**05 00 18.9**	**0.0**
NORC				*i*		05 00 23.5	
	comp=Z,363nm,0.2s						
CHIC	**Chingaza**	**2.21**	**194**⇓	*i*P	**Pn**	**04 59 53.9**	**+0.8**
CHIC				*e*S	**Sn**	**05 00 22.9**	**+0.5**
CHIC				*i*		05 00 27.3	
	comp=Z,113nm,0.3s						
ROSC	**El Rosal**	**2.24**	**211**	P	**Pn**	**04 59 55.5**	**+2.1**
	comp=Z,67nm,0.3s,baz=72,slow=20,SNR=212						
ROSC				S	**Sn**	**05 00 26.6**	**+3.7**
	comp=Z,46nm,0.3s,baz=128,slow=23,SNR=12						
ROSC	**El Rosal**	**2.24**	**211**		**Pn**	**04 59 55.3**	**+1.9**
ROSC	**El Rosal**	**2.24**	**211**⇓	*e*P	**Pn**	**04 59 55.5**	**+2.1**
ROSC				*e*S	**Sn**	**05 00 26.2**	**+3.2**
ROSC				*i*		05 00 31.7	
	comp=Z,149nm,0.6s						
HELC	**Santa Helena**	**2.41**	**256**	*e*P	**Pn**	**04 59 56.1**	**+0.6**
HELC				*e*S	**Sn**	**05 00 26.8**	**+0.3**
HELC				*i*		05 00 34.9	
	comp=Z,243nm,0.3s						
UREC	**San Jos de Ur**	**2.53**	**293**	*e*P	**Pn**	**04 59 56.4**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UREC				eS	Sn	05 00 27.5	-1.1
UREC				i		05 00 37.9	
	comp=Z,347nm,0.2s						
GUY2C	Guyana, Caldas	2.67	235	eP	Pn	05 00 00.6	+1.8
GUY2C				eS	Sn	05 00 35.4	+3.0
GUY2C				i		05 00 43.6	
	comp=Z,161nm,0.6s						
VILC	Villavicencio,	2.70	191⇓	eP	Pn	04 59 59.5	+0.7
VILC				eS	Sn	05 00 34.1	+1.4
SOCV	Socops	2.74	57⇓	eP	Pn	04 59 59.8	+0.6
SOCV				eS	Sn	05 00 33.9	+0.4
LL1C	La Loma 1 Cana	2.77	352	eP	Pn	05 00 03.1	+3.5
LL1C				eS	Sn	05 00 38.9	+4.9
PTGC	Puerto Gaitan,	2.77	158	eP	Pn	04 59 59.7	+0.1
PTGC				eS	Sn	05 00 32.7	-1.3
PTGC				i		05 00 35.5	
	comp=Z,104nm,0.3s						
LL6C	La Loma 6 Bece	2.94	358	eP	Pn	05 00 02.3	+0.7
LL6C				eS	Sn	05 00 38.9	+1.2
LL6C				i		05 00 52.3	
	comp=Z,90nm,0.3s						
CBOC	Ciudad Bolivar	2.96	252⇑	eP	Pn	05 00 03.7	+1.6
CBOC				eS	Sn	05 00 38.4	0.0
CBOC				i		05 00 42.6	
	comp=Z,103nm,0.5s						
MOTC	Monteria, Cord	3.16	309	Pn	Pn	05 00 04.0	-0.6
MOTC	Monteria, Cord	3.16	309	eP	Pn	05 00 04.2	-0.3
MOTC				eS	Sn	05 00 41.9	-1.0
MOTC				i		05 00 43.0	
	comp=Z,113nm,0.3s						
ANIL	Santa Ana	3.17	224	eP	Pn	05 00 07.2	+2.2
ANIL				eS	Sn	05 00 45.5	+1.9
ANIL				i		05 00 53.3	
	comp=Z,248nm,0.5s						
SDV	Santo Domingo	3.28	50	P	Pn	05 00 07.7	+1.6
	comp=Z,4.2nm,0.3s,baz=208,slow=9.3,SNR=53						
SDV				S	Sn	05 00 46.7	+1.0
	comp=Z,13nm,0.3s,baz=249,slow=22,SNR=41						
SDV	Santo Domingo	3.28	50		Pn	05 00 07.5	+1.4
SDV	Santo Domingo	3.28	50⇓	eP	Pn	05 00 07.6	+1.4
SDV				eS	Sn	05 00 46.5	+0.8
ORTC	Ortega, Tolima	3.52	216	eP	Pn	05 00 10.4	+1.2
ORTC				eS	Sn	05 00 52.1	+1.0
ORTC				i		05 01 04.0	
	comp=Z,57nm,0.6s						
PLMC	San Jos del P	3.61	239	eP	Pn	05 00 11.7	+1.4
PLMC				eS	Sn	05 00 53.9	+0.8
PLMC				i		05 00 59.1	
	comp=Z,68nm,0.5s						
SJCC	San Jacinto, C	3.67	328	Pn	Pn	05 00 11.0	-0.2
SJCC	San Jacinto, C	3.67	328	eP	Pn	05 00 10.9	-0.2
SJCC				eS	Sn	05 00 52.3	-2.4
SJCC				i		05 00 58.8	
	comp=Z,111nm,0.4s						
CVALL	Valledupar, Ce	3.70	359	eP	Pn	05 00 12.5	+1.0
CVALL				eS	Sn	05 00 56.2	+0.8
CVALL				i		05 00 57.8	
	comp=Z,81nm,0.3s						
LCBC	Los crdobas,	3.77	303	eP	Pn	05 00 20.2	+7.8
LCBC				eS	Sn	05 00 58.1	+1.2
LCBC				i		05 01 00.8	
	comp=Z,98nm,0.3s						
YOTC	Yotoco, Valle	4.20	229	eP	Pn	05 00 18.6	+0.5
YOTC				eS	Sn	05 01 06.3	-0.9
CRJC	Cerrejon, Guaj	4.22	4	eP	Pn	05 00 18.4	+0.1
CRJC				eS	Sn	05 01 05.7	-1.9
CRJC				i		05 01 11.1	
	comp=Z,114nm,0.3s						
GUVC	San Jose del G	4.24	173	eP	Pn	05 00 18.6	0.0
GUVC				eS	Sn	05 01 07.4	-0.6
GUVC				i		05 01 12.1	
	comp=Z,82nm,0.2s						
SMRC	Santa Marta, M	4.48	347	eP	Pn	05 00 23.1	+1.5
SMRC				eS	Sn	05 01 10.9	-2.5
SMRC				i		05 01 13.1	
	comp=Z,46nm,0.3s						
MACC	Macarena, Meta	4.65	188	eP	Pn	05 00 23.4	-0.6
MACC				eS	Sn	05 01 15.0	-2.7
MACC				i		05 01 18.7	
	comp=Z,21nm,0.5s						
URIC	Uribia, Colomb	5.03	13	Pn	Pn	05 00 28.6	-0.2
GARC	Garzon, Huila	5.11	207	eP	Pn	05 00 30.7	+0.4
GARC				eS	Sn	05 01 27.1	-1.8
GARC				i		05 01 36.2	
	comp=Z,30nm,0.3s						
PCON	Cinco Dias	5.46	216	eP	Pn	05 00 37.1	+1.9
SOTA	Rioblanco	5.74	217	eP	Pn	05 00 42.0	+3.1
SRBA	San Rafael, Bu	10.37	284	Pn	Pn	05 01 40.2	0.0
DR12	Loma Pena Alta	12.49	17	Pn	Pn	05 02 06.6	-1.2
DUNO	Dulce Nombre,	12.62	286	Pn	Pn	05 02 08.8	-0.6
CELP	Cerrillos	12.94	29	Pn	Pn	05 02 12.8	-0.7
PDPR	Patillas Dam,	13.17	31	Pn	Pn	05 02 14.6	-1.9
SJG	San Juan	13.18	31	P	Pn	05 02 15.8	-0.8
	comp=Z,1.1nm,0.3s,baz=351,slow=19,SNR=1.8						
SJG	San Juan	13.18	31	Pn	Pn	05 02 14.9	-1.7
STVI	Saint Thomas	14.02	34	Pn	Pn	05 02 27.8	+0.6
TGUH	Tegucigalpa,Un	15.63	299		Pn	05 02 46.1	-1.3
TGUH				IAmb	IAmb	05 03 03.8	
	comp=Z,8.6nm,0.7s						
PB08	IPOC Station P	27.05	172	P	P	05 04 43.0	-0.9
PB08				IAmb	IAmb	05 04 45.0	
	comp=Z,6.2nm,1.3s						
SDMD	Soldier's Deli	32.65	355	P	P	05 05 31.8	-0.9
SDMD				IAmb	IAmb	05 05 45.0	
	comp=Z,5.8nm,1.2s						
BDFB	Brasilia	33.43	132	P	P	05 05 40.1	+0.2
	comp=Z,1.7nm,0.6s,baz=295,slow=9.3,SNR=3.8						
BDFB	Brasilia	33.43	132	P	P	05 05 40.5	+0.6
SFIN	Lafayette	35.70	342	P	P	05 05 58.4	-0.6
SFIN				IAmb	IAmb	05 06 17.4	
	comp=Z,5.9nm,1.1s						
EYMN	Ely	43.89	342	P	P	05 07 06.5	-0.1
EYMN				IAmb	IAmb	05 07 15.5	
	comp=Z,6.1nm,1.1s						
YKA	Yellowknife Ar	63.28	340	P	P	05 09 28.5	+1.1
	comp=Z,0.5nm,0.5s,baz=134,slow=6.7,SNR=9.8						
ASAR	Alice Springs	149.04	234	PKPbc	PKPbc	05 18 46.9	+0.5
	comp=Z,0.5nm,0.3s,baz=114,slow=3.9,SNR=11						
WRA	Warramunga Arr	150.27	241	PKPbc	PKPbc	05 18 49.9	+0.5
	comp=Z,0.5nm,0.3s,baz=108,slow=2.7,SNR=22						

*MOS **06** 05:27:01.1±0.7, 49°.75N×157°.10E, h23km, mb4.4/4, Error ellipse: s-maj=23.3km s-min=4.3km az=81.8*
MOS Felt (II) at Severo-Kuril'sk.
*KRSC **06** 05:27:07.4±2.6, 50°.30N×157°.13E, h52km±21km, ML4.2*
ISC 06 05:27:06.4±3.1, **50°.1N**±0°.1×**156°.99E**±0°.07, **h31**km±20km, **n57**, σ**1s.97**/69, **mb4.3**/4, **3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.80	316⇑	iPN	Pn	05 27 21.5	0.0
SKR				pmax	pmax		
	comp=Z,906nm,0.4s						
SKR	Severo-Kuril's	0.80	316	eP	Pn	05 27 21.7	+0.2
SKR				eS	Sb	05 27 30.5	-1.8
PAU	Pauzhetka	1.36	355	PN	Pn	05 27 29.5	+0.2
PAU	Pauzhetka	1.36	355	eP	Pn	05 27 29.5	+0.2
PAU				eS	Sn	05 27 44.1	-2.1
KDTR	Khodutka, Kamc	1.83	22	PN	Pn	05 27 36.3	+0.6
KDTR	Khodutka, Kamc	1.83	22	eP	Pn	05 27 36.3	+0.6
KDTR				eS	Sn	05 27 56.3	-1.6
MIPR	Malaya Ipel'ka	2.17	356	PN	Pn	05 27 40.5	+0.1
MIPR	Malaya Ipel'ka	2.17	356	eP	Pn	05 27 40.5	+0.1
MTVR	Mutnovka	2.49	17	PN	Pn	05 27 45.9	+1.0
MTVR	Mutnovka	2.49	17	eP	Pn	05 27 45.9	+1.0
MTVR				eS	Sn	05 28 12.6	-1.7
RUS	Russkaya	2.51	22	PN	Pn	05 27 45.6	+0.5
RUS	Russkaya	2.51	22	eP	Pn	05 27 45.6	+0.5
RUS				eS	Sn	05 28 12.4	-2.2
GRL	Gorelyy	2.54	15	PN	Pn	05 27 46.9	+1.4
GRL	Gorelyy	2.54	15	eP	Pn	05 27 46.9	+1.4
GRL				eS	Sn	05 28 15.3	-0.1
KRMR	Karymshinskiy	2.81	14	PN	Pn	05 27 50.8	+1.6
KRMR	Karymshinskiy	2.81	14	eP	Pn	05 27 50.8	+1.6
KRMR				S	Sn	05 28 22.4	+0.4
APC	Apacha	2.82	2	PN	Pn	05 27 49.9	+0.6
APC	Apacha	2.82	2	eP	Pn	05 27 49.9	+0.6
PEA0B	Petropavlovsk-	3.03	8d	iPN	Pn	05 27 53.7	+1.4
PET	Petropavlovsk	3.10	19	PN	Pn	05 27 54.7	+1.6
PET	Petropavlovsk	3.10	19	eP	Pn	05 27 54.7	+1.6
PET				eS	Sn	05 28 28.9	-0.1
DALK	Dalny	3.12	20	PN	Pn	05 27 54.9	+1.4
DALK	Dalny	3.12	20	eP	Pn	05 27 54.9	+1.4
DALK				eS	Sn	05 28 28.9	-0.8
UGLR	Uglovaya	3.31	20	PN	Pn	05 27 58.2	+2.1
UGLR	Uglovaya	3.31	20	eP	Pn	05 27 58.2	+2.1
AVH	Avacha	3.34	18	PN	Pn	05 27 59.0	+2.5
AVH	Avacha	3.34	18	eP	Pn	05 27 59.0	+2.5
KOK	Koryaka	3.35	17	PN	Pn	05 27 59.3	+2.7
KOK	Koryaka	3.35	17	eP	Pn	05 27 59.3	+2.7
SMAR	Somma	3.35	19	PN	Pn	05 27 58.9	+2.1
SMAR	Somma	3.35	19	eP	Pn	05 27 58.9	+2.1
KRER	Koryakskii	3.38	18	PN	Pn	05 27 59.7	+2.5
KRER	Koryakskii	3.38	18	eP	Pn	05 27 59.7	+2.5
SDLR	Sedlovina	3.38	20	PN	Pn	05 27 58.6	+1.4
SDLR	Sedlovina	3.38	20	eP	Pn	05 27 58.6	+1.4
NLC	Nalytchevo	3.40	25	PN	Pn	05 27 57.2	0.0
NLC	Nalytchevo	3.40	25	eP	Pn	05 27 57.2	0.0
NLC				eS	Sn	05 28 33.2	-3.2
SPN	Mys Shipunski	3.54	31	PN	Pn	05 28 00.6	+1.4
SPN	Mys Shipunski	3.54	31	eP	Pn	05 28 00.6	+1.4
SPN				eS	Sn	05 28 38.4	-1.5
GNL	Ganaly	3.64	9	PN	Pn	05 28 02.4	+1.8
GNL	Ganaly	3.64	9	eP	Pn	05 28 02.4	+1.8
MKZ	Mys Kozlova	5.32	31	PN	Pn	05 28 24.5	+1.0
MKZ	Mys Kozlova	5.32	31	eP	Pn	05 28 24.5	+1.0
MKZ				eS	Sn	05 29 21.4	-2.2
TUMR	Tumrok	5.52	19	PN	Pn	05 28 29.8	+3.3
TUMR	Tumrok	5.52	19	eP	Pn	05 28 29.8	+3.3
KMNR	Kamenistaya	5.99	18	PN	Pn	05 28 36.3	+3.4
KMNR	Kamenistaya	5.99	18	eP	Pn	05 28 36.3	+3.4
KBTR	Krutoberegovo	7.04	28	PN	Pn	05 28 48.3	+1.1
KBTR	Krutoberegovo	7.04	28	eP	Pn	05 28 48.3	+1.1
BKI	Bering	7.47	44	PN	Pn	05 28 54.2	+1.1
BKI	Bering	7.47	44	eP	Pn	05 28 54.2	+1.1
BKI				eS	Sn	05 30 09.5	-7.1
YSS	Yuzh-Sakhalins	9.96	257	ePN	Pn	05 29 33.0	+5.8
BILL	Bilibino	18.56	11	eP	Pn	05 31 24.6	+3.9
BILL				pmax	pmax		
	comp=Z,6.0nm,1.8s						
BILL				MLR	MLR		
	comp=Z,56nm,21.0s						
TIXI	Tiksi	25.09	339⇑	eP	P	05 32 28.5	+0.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.0s						
COLA	College	31.90	42⇓	eP	P	05 33 27.6	-0.9
COLA				pmax	pmax		
	comp=Z,16nm,1.8s						
ULN	Ulaanbaatar	32.36	286⇑	eP	P	05 33 32.9	0.0
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN	Obninsk	63.96	327	eP	P	05 37 35.8	-0.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						

IDC 06 05:33:35.3±3.9, **6°.15S**×**149°.97E**, **h0**km, **mb3.3**/3, **mb1 3.6**/3, **mb1mx3.4**/25, **mbtmp3.4**/3, **Error ellipse: s-maj=118.5km s-min=52.2km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.46	226	P	P	05 38 14.6	-0.1
	1.2nm,0.6s,baz=52,slow=11,SNR=17						
ASAR	Alice Springs	23.29	220	P	P	05 38 44.9	-0.1
	0.5nm,0.9s,baz=52,slow=9.8,SNR=5.1						
FITZ	Fitzroy Crossi	26.55	241	P	P	05 39 15.4	+0.4
	0.8nm,0.8s,baz=61,slow=10,SNR=0.9						
TORD	Torodi Ar. Bea	147.99	285	PKPbc	PKPbc	05 53 22.9	-0.9
	0.6nm,0.5s,baz=58,slow=2.2,SNR=3.2						

*JMA **06** 05:52:49.9, 43°.36N×143°.08E, h7km±1km, M3.4*
JMA Felt I J1.
*IDC **06** 05:52:50.4±1.5, 43°.38N×143°.19E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, ML2.6/1, MS2.8/4, Ms1 2.8/4, ms1mx2.4/84, Error ellipse: s-maj=29.4km s-min=13.1km az=55.0*
ISC 06 05:52:50.7±0.8, **43°.37N**±0°.03×**143°.09E**±0°.04, **h10**km, **n19**, σ**1s.23**/17, **mb3.7**/3, **5C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFR	Furan	0.42	241	⇑P	Pg	05 52 57.8	-1.1
JAR	Ashorobuto	0.50	98	⇑P	Pg	05 52 59.7	-0.7
JAR				S	Sg	05 53 06.7	-0.3
JKK2	Kamakawa 2	0.56	334	P	Pb	05 53 01.5	-1.2
JAB	Ashibetsu	0.65	283	P	Pb	05 53 02.9	-1.2
JMP	Maruseppu	0.67	17	⇑P	Pg	05 53 02.9	-0.8
JMP				S	Sg	05 53 11.8	-0.7
JOB	Onbets	0.71	130	⇓P	Pb	05 53 04.2	-1.0
JCH	Churui	0.78	165	P	Pg	05 53 04.9	-0.8
JBT2	Biratori 2	0.79	223	⇑P	Pg	05 53 05.0	-1.0
ASAJ	Asahikawa	0.83	335	Pg	Pb	05 53 06.6	-0.7
	36nm,0.3s,baz=167,slow=12,SNR=140						
ASAJ				Lg	Lg	05 53 18.4	
	22nm,0.3s,baz=45,slow=24,SNR=8.7						
ASAJ				LR	LR	05 53 23.3	
	comp=Z,56nm,20.6s,baz=17,slow=39						
ASAJ	Asahikawa	0.83	335	P	Pb	05 53 06.5	-0.7
JTKR	Abashiri--Toko	0.85	44	⇑P	Pg	05 53 05.8	-1.2
MJAR	Matsushiro Arr	7.78	210	Pn	Pn	05 54 43.9	0.0
	0.1nm,0.3s,baz=34,slow=15,SNR=2.4						
MJAR				LR	LR	05 58 04.1	
	comp=Z,49nm,19.8s,baz=48,slow=40						
KSRS	Korea Array	12.97	248	LR	LR	06 00 29.8	
	comp=Z,24nm,18.3s,baz=210,slow=35						
SEY	Seymchan	20.34	12	P	Pn	05 57 27.9	-1.0
	2.2nm,0.8s,baz=199,slow=9.2,SNR=9.0						
JOW	Kunigami	20.42	221	LR	LR	06 06 23.2	
	comp=Z,50nm,20.3s,baz=36,slow=40						
SHEM	Shemya Is, Ala	22.59	55	LR	LR	06 05 58.0	
	comp=Z,27nm,20.5s,baz=24,slow=35						
SONM	Songino Array	25.90	293	P	P	05 58 25.8	+3.0
	0.7nm,0.6s,baz=91,slow=13,SNR=3.8						
YKA	Yellowknife Ar	57.73	32	P	P	06 02 42.5	+1.2
	0.8nm,0.9s,baz=303,slow=6.8,SNR=8.8						
TXAR	Lajitas Array	85.28	54	P	P	06 05 28.1	+0.1
	0.4nm,0.8s,baz=305,slow=3.2,SNR=3.5						

IDC 06 06:29:42.9±1.9, **1°.20N**×**126°.33E**, **h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.3**/41, **mbtmp3.5**/4, **Error ellipse: s-maj=209.5km s-min=22.2km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.43	160	P	P	06 34 42.8	-0.8
	0.5nm,0.4s,baz=338,slow=11,SNR=4.0						
ASAR	Alice Springs	25.79	164	P	P	06 35 16.3	+0.5
	0.2nm,0.3s,baz=347,slow=12,SNR=6.6						
MKAR	Makanchi Array	59.41	326	P	P	06 39 47.0	-0.4
	0.3nm,0.4s,baz=124,slow=7.9,SNR=9.2						
KURBB	Kurchatov Arra	63.66	328	P	P	06 40 16.4	+0.4
	0.2nm,0.3s,baz=124,slow=7.1,SNR=4.4						

*IDC **06** 06:34:18.2±1.4, 14°.87S×76°.49W, h0km, mb4.0/7, mb1 4.0/12, mb1mx3.9/32, mbtmp4.0/12, ML3.8/5, MS3.5/6, Ms1 3.5/6, ms1mx3.0/64, Error ellipse: s-maj=33.9km s-min=17.5km az=64.0*
*NEIC **06** 06:34:19.6±1.2, 14°.92S±0°.08×76°.6W±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=22.8km s-min=11.2km az=243.0*
ISC 06 06:34:22.5±1.0, **14°.94S**±0°.08×**76°.5W**±0°.1, **h35**km, **n44**, σ**0s.99**/32, **mb4.0**/8, **MS3.6**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	2.95	354	Pn	Pn	06 35 04.6	-2.3
	8.6nm,0.3s,baz=142,slow=13,SNR=15						
NNA				Sn	Sn	06 35 41.6	+0.5
	35nm,0.3s,baz=139,slow=21,SNR=5.9						
NNA	Nana	2.95	354		Pn	06 35 05.1	-1.8
ATAH	Atahualpa	7.96	347	Pn	Pn	06 36 16.4	+0.2
	0.3nm,0.3s,baz=26,slow=24,SNR=2.6						
TA02	Huaiquique	8.09	132	Pn	Pn	06 36 17.2	-0.4
PB11	IPOC Station P	8.14	127		Pn	06 36 17.0	-1.4
LPAZ	La Paz	8.21	101	Pn	Pn	06 36 19.9	0.0
	2.3nm,0.3s,baz=303,slow=9.1,SNR=38						
LPAZ				LR	LR	06 40 00.9	
	comp=Z,108nm,19.6s,baz=307,slow=42						
LPAZ	La Paz	8.21	101		Pn	06 36 21.2	+1.4
PATCX	Punta Patache	8.44	135	Pn	Pn	06 36 21.7	-0.7
GO01	Chusmiza	8.45	125		Pn	06 36 22.2	-0.7
PB08	IPOC Station P	8.74	127		Pn	06 36 26.1	-0.7
PB02	IPOC Station P	8.95	136		Pn	06 36 28.7	-0.8
PB01	IPOC Station P	9.05	133		Pn	06 36 30.0	-0.8
PB07	IPOC Station P	9.25	138		Pn	06 36 32.2	-1.4
PB04	IPOC Station P	9.53	141	Pn	Pn	06 36 36.8	-0.7
PB09	IPOC Station P	9.72	136		Pn	06 36 40.4	+0.3
LVC	Limon Verde	10.51	138	Pn	Pn	06 36 51.1	+0.1
	1.3nm,0.3s,baz=336,slow=11,SNR=8.6						
PB15	IPOC Station P	10.60	142	Pn	Pn	06 36 51.6	-0.6
SIV	San Ignacio	14.95	96	Pn	Pn	06 37 51.8	+0.4
	0.3nm,0.3s,baz=278,slow=11,SNR=6.7						
SIV				LR	LR	06 44 45.8	
	comp=Z,108nm,19.2s,baz=276,slow=42						
H03N1	Juan Fernandez	18.55	186	T	T	06 57 57.5	
	baz=8.8,slow=74,SNR=441						
H03N2	Juan Fernandez	18.55	186	T	T	06 57 54.6	
	baz=8.8,slow=74,SNR=241						
H03N3	Juan Fernandez	18.56	186	T	T	06 57 54.2	
	baz=8.8,slow=74,SNR=233						
ROSC	El Rosal	19.77	7	LR	LR	06 47 38.9	
	comp=Z,126nm,19.0s,baz=270,slow=41						
AQDB	Aquidauana	20.60	109	P	P	06 38 58.8	0.0
AQDB				IAmb	IAmb	06 39 13.1	
	comp=Z,4.8nm,0.8s						
PTGA	Pitinga	21.62	51	P	P	06 39 09.8	0.0
	comp=Z,2.7nm,0.5s,baz=204,slow=12,SNR=6.6						
ZARC	Zaragoza, Cauc	22.35	4	P	P	06 39 17.1	-0.5
ZARC				IAmb	IAmb	06 39 38.3	
	comp=Z,5.2nm,0.9s						
OCAC	Ocana	23.25	8	P	P	06 39 25.6	-1.4
SDV	Santo Domingo	24.38	14	P	P	06 39 37.4	-0.5
	comp=Z,3.4nm,0.5s,baz=164,slow=11,SNR=13						
SDV	Santo Domingo	24.38	14	P	P	06 39 37.6	-0.3
SDV				IAmb	IAmb	06 39 43.5	
	comp=Z,5.0nm,0.8s						
PLCA	Paso Flores	26.23	170	P	P	06 39 55.6	+1.3
	comp=Z,1.4nm,0.8s,baz=309,slow=13,SNR=3.2						
PLCA	Paso Flores	26.23	170	P	P	06 39 55.1	+0.8
PLCA				IAmb	IAmb	06 40 03.7	
	comp=Z,2.5nm,0.9s						
BDFB	Brasilia	27.52	95	P	P	06 40 06.4	+0.2
	comp=Z,1.3nm,0.7s,baz=296,slow=6.0,SNR=3.1						
MDP	Montagnes des	30.94	52	LR	LR	06 54 31.8	
	comp=Z,51nm,18.3s,baz=205,slow=39						
RCBR	Riachuelo	40.92	82	LR	LR	07 00 16.8	
	comp=Z,79nm,20.7s,baz=320,slow=38						
ULM	Lac du Bonnet	67.10	347	P	P	06 45 14.3	+2.0
	comp=Z,1.2nm,0.5s,baz=282,slow=2.5,SNR=2.9						
ULM	Lac du Bonnet	67.10	347	P	P	06 45 12.7	+0.4
ULM				IAmb	IAmb	06 45 37.8	
	comp=Z,1.3nm,0.8s						
VNDA	Vanda	81.96	191	LR	LR	07 20 13.1	
	comp=Z,126nm,18.2s,baz=311,slow=34						
TORD	Torodi Ar. Bea	82.29	74	P	P	06 46 41.0	-0.2
	comp=Z,2.4nm,0.7s,baz=271,slow=5.1,SNR=12						
YKA	Yellowknife Ar	82.73	343	P	P	06 46 42.9	+0.5
	comp=Z,0.1nm,0.6s,baz=256,slow=22,SNR=2.5						
H11N3	WAKE ISLAND Hy	19.53	284	T	T	09 04 10.2	
	baz=96,slow=74,SNR=9.8						
H11N2	WAKE ISLAND Hy	19.55	284	T	T	09 04 13.7	
	baz=96,slow=74,SNR=12						
H11N1	WAKE ISLAND Hy	19.55	284	T	T	09 04 11.1	
	baz=96,slow=74,SNR=6.9						
H11S2	WAKE ISLAND Hy	19.58	283	T	T	09 04 16.8	
	baz=98,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	19.59	283	T	T	09 04 14.2	
	baz=98,slow=75,SNR=9.3						
H11S3	WAKE ISLAND Hy	19.60	283	T	T	09 04 18.1	
	baz=98,slow=75,SNR=12						

*SEA **06** 06:35:10.3±1.4, 47°.54N±0°.02×122°.86W±0°.03, h19km±1km, ML2.6/97, ML2.4/34(NEIC), Error ellipse: s-maj=3.1km s-min=2.1km az=95.0*
NEIC 06 06:35:09.3±1.7, **47°.53N**±0°.02×**122°.91W**±0°.03, **h23**km±7km, **Error ellipse: s-maj=3.4km s-min=1.3km az=223.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNW	Green Mountain	0.07	61		Pb	06 35 13.2	-0.3
GNW					Sb	06 35 15.6	-0.6
GMW	Gold Mountain	0.09	79		Pb	06 35 13.3	-0.3
GMW					Sb	06 35 15.9	-0.7
KIMR	Kitsap County	0.10	106		Pb	06 35 13.5	-0.2
KIMR					Sb	06 35 16.2	-0.4
D03D	Eldon	0.12	272		Pb	06 35 14.3	+0.5
D03D					Sb	06 35 17.8	+0.9
HDW	Hoodsport	0.15	321		Pb	06 35 14.6	+0.3
HDW					Sb	06 35 18.2	+0.6
PSNS	PSNS Bremerton	0.18	81		Pb	06 35 14.2	-0.3
PSNS					Sb	06 35 17.8	-0.2
C04A	Brinnon	0.19	348		Pb	06 35 14.6	0.0
C04A					Sb	06 35 18.3	+0.1
MNWA	Manchester	0.26	82		Pb	06 35 15.3	-0.4
BABE	Bainbridge Sch	0.27	74		Pb	06 35 16.2	+0.5
BABE					Sb	06 35 21.6	+1.6
B013	Quilcene	0.28	0		Pb	06 35 15.8	-0.1
B013					Sb	06 35 20.3	0.0
B013	Quilcene	0.28	0		Pb	06 35 15.8	-0.1
KINR	Kitsap County	0.29	39		Pb	06 35 16.1	+0.1
KINR					Sb	06 35 21.8	+1.3
VVHS	Vashon High Sc	0.33	109		Pb	06 35 16.3	-0.3
SMW	South Mountain	0.36	234		Pn	06 35 18.3	-1.0
D04E	Lakebay	0.37	165		Pb	06 35 17.8	+0.6
D04E					Sn	06 35 24.9	-0.7
SP2	Seward Park 2	0.45	87		Pb	06 35 18.9	+0.3
BLN	Blyn Mountain	0.48	355		Pb	06 35 19.0	-0.1
PAYL	Puyallup Schoo	0.53	130		Sb	06 35 27.6	+0.5
SQM	Sequim	0.55	351		Pb	06 35 20.8	+0.5
CPW	Capitol Peak	0.58	195		Pb	06 35 21.0	+0.1
PCEP	Pierce County	0.60	135		Sb	06 35 28.9	-0.2
OSD	Olympics--Snow	0.61	299		Pn	06 35 22.4	-0.4
GHW	Garrison Hill	0.66	138		Pb	06 35 21.4	-0.7
B04A	Port Angeles	0.66	323		Pn	06 35 23.1	-0.2
B04A				Sg	Sn	06 35 32.5	-0.6
B04A				IAML		06 35 33.1	
	comp=N,129nm,0.5s						
NLWA	Neilton Lookou	0.66	258		Pn	06 35 23.0	-0.4
B017	Montesano	0.69	220		Pn	06 35 23.6	-0.1
D05A	Enumclaw	0.72	118		Pb	06 35 22.8	-0.3
D05A				Sg	Sb	06 35 32.6	+0.1
WISH	Wishkah	0.72	235	Pg	Pn	06 35 24.5	+0.5
WISH				IAML		06 35 34.1	
	comp=E,144nm,4.0s						
B941	Kapowsin	0.72	139		Pb	06 35 22.2	-1.0
RATT	Rattlesnake La	0.76	98		Pb	06 35 23.0	-0.9
HTW	Haystack Looko	0.82	70		Pb	06 35 23.9	-1.0
C05A	Tolt Reservoir	0.84	78		Pb	06 35 24.3	-1.1
B05A	Bryant	0.92	37		Pb	06 35 25.6	-1.0
E04D	Cinebar	1.00	166		Pb	06 35 27.5	-0.6
E04D				Sg	Sb	06 35 41.0	+0.3
E04D				IAML		06 35 42.0	
	comp=E,126nm,0.2s						
E04D				IAML		06 35 42.4	
	comp=N,71nm,0.3s						
B019	Raymond	1.01	210		Pb	06 35 28.9	+0.7
REMR	Mount Rainier-	1.02	134		Pb	06 35 27.4	-1.1
FMW	Mount Fremont	1.04	125		Pn	06 35 27.6	-1.1
BMW	Boistfort Moun	1.08	192		Pn	06 35 29.0	-0.2
E03A	Lebam	1.08	205		Pb	06 35 29.6	+0.2
E03A				IAML		06 35 45.3	
	comp=N,66nm,0.4s						
E03A				IAML		06 35 48.8	
	comp=E,70nm,1.3s						
LON	Longmire	1.08	136		Pn	06 35 28.3	-0.9
B011	North Saanich	1.18	342		Pn	06 35 30.2	-0.2
PGC	Sidney	1.18	342		Pn	06 35 30.2	-0.2
TDL	Tradedollar La	1.27	158		Pn	06 35 31.7	-0.2
B201	Coldwater, Mou	1.31	160		Pn	06 35 31.9	-0.4
RPW	Rockport	1.31	45		Pn	06 35 32.3	-0.1
B06A	Marblemount	1.38	44		Pn	06 35 33.4	+0.3
FL2	Flat Top 2	1.39	164		Pn	06 35 33.4	-0.1
BOLM	Sugar Bowl	1.41	159		Pb	06 35 34.5	-0.6
C06D	Leavenworth	1.42	73		Pn	06 35 33.9	+0.1
B203	Quarry, Mount	1.42	164		Pn	06 35 33.8	0.0
SEPW	September Lobe	1.42	159		Pb	06 35 34.8	-0.5
B023	Clatskanie	1.43	185		Pn	06 35 34.2	+0.4
TWW	Teanaway	1.45	105		Pb	06 35 35.2	-0.4
F04D	Rainier, OR	1.45	183		Pb	06 35 35.0	-0.6
CDFW	Cedar Flats	1.54	157		Pn	06 35 36.0	+0.6

LTY	**Liberty**	**1.55**	**99**		Pn	06 35 36.1	+0.5
VDB	**Vedder Mountai**	**1.59**	**20**		Pb	06 35 37.5	-0.5
TBM	**Table Mountain**	**1.61**	**102**		Pb	06 35 37.6	-0.8
NAC	**Naches**	**1.63**	**118**		Pb	06 35 38.3	-0.5
F04A	**Amboy**	**1.64**	**168**		Pb	06 35 37.9	-0.9
F04A				IAML		06 35 59.5	
	comp=N,66nm,0.5s						
EBG	**Ellensburg**	**1.71**	**110**		Pb	06 35 39.4	-0.8
ETW	**Entiat**	**1.75**	**87**		Pb	06 35 39.8	-1.0
WTV	**Waterville**	**2.01**	**84**		Pb	06 35 44.8	-0.4
E07A	**Sunnyside**	**2.31**	**114**		Pn	06 35 47.3	+1.3
E07A				IAML		06 36 19.3	
	comp=E,21nm,0.6s						
E07A				IAML		06 36 20.3	
	comp=N,31nm,0.6s						
BENWA	**Benson Ranch**	**2.41**	**114**		Pn	06 35 48.8	+1.4
GBL	**Gable Mountain**	**2.54**	**110**		Pn	06 35 51.0	+1.8
B08A	**Colville Reser**	**2.54**	**70**	Pn	Pn	06 35 50.3	+1.0
B08A				IAML		06 36 26.5	
	comp=N,15nm,0.9s						
B08A				IAML		06 36 33.8	
	comp=E,15nm,3.0s						
HAWA	**Hanford**	**2.58**	**115**		Pn	06 35 51.0	+1.3
HAWA				IAML		06 36 41.1	
	comp=E,22nm,4.7s						
HAWA				IAML		06 37 24.9	
	comp=E,15nm,4.4s						
MJ2	**May Junction 2**	**2.62**	**111**		Pn	06 35 49.4	-0.8
E08A	**Dider Farm, El**	**2.83**	**110**	Pn	Pn	06 35 54.4	+1.2
E08A				IAML		06 36 30.4	
	comp=E,16nm,4.3s						
E08A				IAML		06 36 45.4	
	comp=N,14nm,4.1s						
H04A	**Detroit Lake**	**2.89**	**170**	Pn	Pb	06 35 58.1	-2.2
H04A				IAML		06 37 42.2	
	comp=N,21nm,4.2s						
MPOR	**Mary's Peak**	**3.06**	**189**		Pn	06 35 54.0	-2.5
C09A	**Chrisman Ranch**	**3.15**	**83**	Pn	Pn	06 35 57.5	-0.1
BROR	**Big Rock Looko**	**3.28**	**174**		Pb	06 36 09.1	+2.2
G08A	**Pilot Rock**	**3.54**	**128**	Pn	Pn	06 36 03.8	+0.8

*BJI **06** 07:02:29.1±0.0,28˚.63N×142˚.65E,h6km,mb4.8/72, mB4.9/46,Ms4.4/68,Ms7 4.2/69*
*MOS **06** 07:02:29.3±0.9,28˚.61N×142˚.75E,h14km,mb5.1/45, MS4.0/7,Error ellipse: s-maj=8.7km s-min=4.1km az=120.7*
*IDC **06** 07:02:29.4±0.5,28˚.65N×142˚.74E,h0km,mb4.5/29, mb1 4.6/34,mb1mx4.5/49,mbtmp4.5/34,ML3.7/5,MS4.1/55, Ms1 4.1/55,ms1mx3.9/91,Error ellipse: s-maj=14.9km s-min=13.1km az=79.0*
*NEIC **06** 07:02:30.3±1.0,28˚.59N±0˚.06×142˚.9E±0˚.1,h10km±1km, mb5.1/116,Error ellipse: s-maj=15.3km s-min=9.5km az=92.0*
*NIED **06** 07:02:31.9,28˚.69N×142˚.65E,h50km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr1.88; Mθθ-0.17; Mφφ-1.72; Mrθ-0.09; Mθφ0.31; Mφr1.14; Fault plane solution: M0 2.16000×10^16^ NP1: φs352.00000°,δ61.00000°,λ93.00000°. NP2: φs166.00000°,δ29.00000°,λ85.00000°.*
*JMA **06** 07:02:31.9±0.1,28˚.69N×142˚.65E,h50km,M4.8*
*GCMT **06** 07:02:33.3±0.3,28˚.62N±0˚.04×142˚.80E±0˚.02,h18km±1km, MW4.8/89,Moment Tensor Solution. s18,c21; s89,c117; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.48±.16; Mθθ-0.34±.09; Mφφ-2.15±. 11; Mrθ0.06±.29; Mθφ0.34±.06; Mφr0.42±.21; Best double couple: M0 2.38400×10^16^ NP1:φs167.00000°,δ40.00000°,λ86.00000°. NP2: φs353.00000°,δ50.00000°,λ94.00000°. Principal axes: T 2.5210, Plg84.0000°, Azm289.0000°; N -0.2810, Plg3.0000°, Azm170.0000°; P -2.2460, Plg5.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 07:02:33.2±0.4,28˚.65N±0˚.04×142˚.71E±0˚.05,h25km,n462, σ1§**66**/465,**mb5.0**/157,**MS4.2**/80,**20C-16D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.61**	**197**	P	**Pn**	**07 02 59.0**	**-1.1**
CBIJ				*eS*	**Sn**	**07 03 18.7**	**-1.4**
JCJ	**Chichijima**	**1.62**	**197**		**Pn**	**07 02 58.4**	**-1.7**
JHJ2	**Mitsune**	**5.10**	**332**	P	**Pn**	**07 03 47.7**	**-0.2**
JHJ	**Hachijo jima 2**	**5.12**	**331**	Pn	**Pn**	**07 03 47.1**	**-1.1**
	7.2nm,0.3s,baz=198,slow=11,SNR=2.6						
JHJ				Sn	**Sn**	**07 04 43.5**	**-3.0**
	39nm,0.3s,baz=69,slow=18,SNR=6.3						
JHJ				LR	LR	07 05 43.1	
	comp=Z,2μm,18.3s,baz=266,slow=38						
BSO1	**Boso 1**	**6.17**	**347**	P	**Pn**	**07 04 00.8**	**-1.3**
BSO3	**Boso 3**	**6.41**	**344**	P	**Pn**	**07 04 04.6**	**-1.2**
BSO4	**Boso 4**	**6.64**	**343**	P	**Pn**	**07 04 08.9**	**-0.1**
BSO4				*eS*	**Sn**	**07 05 23.9**	**+0.1**
JOD2	**Odawara 2**	**7.28**	**336**	P	**Pn**	**07 04 17.6**	**-0.3**
JOD2				S	**Sn**	**07 05 36.5**	**-3.2**
HMMJ	**Hamamatsu 2**	**7.50**	**327**	P	**Pn**	**07 04 21.5**	**+0.5**
JHU	**Hanno**	**7.75**	**339**	P	**Pn**	**07 04 23.3**	**-1.0**
JHU				S	**Sn**	**07 05 47.0**	**-4.3**
JYT	**Yasato**	**7.85**	**345**	S	**Sn**	**07 05 49.9**	**-3.9**
JYT	**Yasato**	**7.85**	**345**		**Pn**	**07 04 23.5**	**-2.3**
JRY	**Ryogami san**	**8.02**	**337**	P	**Pn**	**07 04 27.9**	**-0.2**
JRY				*eS*	**Sn**	**07 05 55.5**	**-2.6**
JHO	**Hitachi**	**8.14**	**348**	P	**Pn**	**07 04 27.6**	**-2.2**
JHO				S	**Sn**	**07 05 54.4**	**-6.6**
JAG	**Ashikaga**	**8.23**	**341**	P	**Pn**	**07 04 29.2**	**-1.7**
JAG				S	**Sn**	**07 05 57.0**	**-6.1**
INU	**Inuyama**	**8.24**	**326**	Pn	**Pn**	**07 04 33.0**	**+1.9**
JGF	**Kuroka**	**8.28**	**328**	Pn	**Pn**	**07 04 33.6**	**+1.9**
JGF				Sn	Sn	07 06 16.5	+12
MJAR	**Matsushiro Arr**	**8.74**	**335**	Pn	**Pn**	**07 04 37.2**	**-0.7**
	1.0nm,0.3s,baz=155,slow=9.7,SNR=49						
MJAR				Sn	**Sn**	**07 06 14.6**	**-1.1**
	0.4nm,0.3s,baz=158,slow=20,SNR=3.5						
MJAR				LR	LR	07 07 44.2	
	comp=Z,836nm,18.9s,baz=140,slow=36						
MJAR	**Matsushiro Arr**	**8.74**	**335**	P	**Pn**	**07 04 37.9**	**-0.1**
MJAR	**Matsushiro Arr**	**8.74**	**335**	Pn	**Pn**	**07 04 37.9**	**-0.1**
MAJO	**Matsushiro**	**8.74**	**335**	*c iP*	**Pn**	**07 04 37.8**	**-0.2**
MAJO	**Matsushiro**	**8.74**	**335**	Pn	**Pn**	**07 04 38.1**	**+0.2**
MAT	**Matsushiro**	**8.74**	**335**	P	**Pn**	**07 04 37.5**	**-0.5**
MAT				S	**Sn**	**07 06 14.3**	**-1.4**
MJB9	**Matsu-Tunnel**	**8.74**	**335**	Pn	**Pn**	**07 04 38.1**	**+0.1**
JMN	**Monobe**	**9.10**	**306**	Pn	**Pn**	**07 04 47.5**	**+4.5**
JMM	**Marumori**	**9.33**	**351**		**Pn**	**07 04 43.1**	**-3.0**
JSD	**Sado**	**10.07**	**339**	Pn	**Pn**	**07 04 54.3**	**-1.9**
JHS	**Saijyo**	**10.32**	**310**		**Pn**	**07 05 02.6**	**+2.8**
JNU	**Nakatsue**	**11.10**	**297**	LR	LR	07 08 59.3	
	comp=Z,934nm,20.9s,baz=122,slow=35						
JNU	**Nakatsue**	**11.10**	**297**	Pn	**Pn**	**07 05 14.6**	**+4.3**
JOW	**Kunigami**	**12.91**	**265**	LR	LR	07 09 58.7	
	comp=Z,604nm,20.9s,baz=107,slow=35						
ERM	**Erimo**	**13.34**	**1**	P	Pn	07 05 35.4	-5.5
ERM	**Erimo**	**13.34**	**1**	Pn	Pn	07 05 35.4	-5.5
TJN	**Taejon**	**15.05**	**305**	*eP*	**Pn**	**07 06 05.0**	**+0.8**
TJN	**Taejon**	**15.05**	**305**		**P**	**07 06 07.3**	**-2.1**
KSRS	**Korea Array**	**15.18**	**309**	Pn	**Pn**	**07 06 06.3**	**+0.4**
	0.6nm,0.3s,baz=113,slow=12,SNR=20						
KSRS				LR	LR	07 11 56.7	
	comp=Z,524nm,19.2s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**15.20**	**309**	P	**Pn**	**07 06 08.2**	**+2.1**
KSAR	**Wonju Array Be**	**15.20**	**309**		**Pn**	**07 06 08.2**	**+2.1**
KS19	**Wonju Array Si**	**15.24**	**309**		**Pn**	**07 06 07.9**	**+1.2**
ASAJ	**Asahikawa**	**15.44**	**360**	Pn	**Pn**	**07 06 06.4**	**-2.8**
	0.6nm,0.3s,baz=183,slow=13,SNR=5.6						
ASAJ				LR	LR	07 13 15.8	
	comp=Z,597nm,21.1s,baz=184,slow=42						
ASAJ	**Asahikawa**	**15.44**	**360**	P	**Pn**	**07 06 08.1**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,30nm,1.1s						
JKA	**Kamikawa-asahi**	**15.44**	**360**	Pn	**Pn**	**07 06 08.1**	**-1.1**
INCN	**Inchon**	**16.08**	**307**	P	**Pn**	**07 06 18.3**	**+0.6**
INCN				pmax	pmax		
	comp=Z,97nm,0.9s						
INCN	**Inchon**	**16.08**	**307**		**Pn**	**07 06 18.2**	**+0.6**
INCN				IAmb	IAmb	07 06 22.2	
	comp=Z,97nm,0.9s						
MSHR	**Mys Shultsa**	**16.75**	**329**	*eP*	**Pn**	**07 06 24.2**	**-1.9**
MSHR				pmax	pmax		
	comp=Z,88nm,1.3s						
VLA	**Vladivostok**	**16.87**	**332**	*eP*	**P**	**07 06 28.9**	**-0.6**
KUR	**Kuril'sk**	**17.05**	**13**	P	P	07 06 46.0	+15
KUR				*eSS*	**S**	**07 09 46.8**	**-1.1**
KUR				MLR	MLR		
	comp=E,1μm,13.0s						
KUR				MLR	MLR		
	comp=Z,700nm,13.0s						
KUR				MLR	MLR		
	comp=N,600nm,9.0s						
USA0B	**Ussuriysk Arra**	**17.73**	**334**	P	**Pn**	**07 06 37.1**	**-1.1**
USA0B				pmax	pmax		
	comp=Z,72nm,1.4s						
USA0B	**Ussuriysk Arra**	**17.73**	**334**		**Pn**	**07 06 37.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**17.73**	**334**	P	**Pn**	**07 06 36.4**	**-1.8**
	baz=151,slow=12,SNR=21						
USRK				LR	LR	07 14 15.1	
	comp=Z,540nm,18.3s,baz=139,slow=40						
USRK	**Ussuriysk Ar.**	**17.73**	**334**		**Pn**	**07 06 36.1**	**-2.1**
YSS	**Yuzh-Sakhalins**	**18.27**	**0**	*eP*	**P**	**07 06 46.1**	**+1.2**
YSS				*eS*	**Sn**	**07 10 09.5**	**+1.3**
YSS				pmax	pmax		
	comp=Z,200nm,2.8s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=E,300nm,2.7s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**18.27**	**0**	P	**Pn**	**07 06 43.5**	**-1.4**
SSE	**Sheshan**	**18.82**	**283**	P	**P**	**07 06 51.0**	**-0.1**
SSE				S	**S**	**07 10 25.8**	**+2.1**
SSE				pmax	pmax		
	comp=E,33nm,0.7s						
SSE				pmax	pmax		
	comp=E,150nm,5.2s						
SSE				LR	LR		
	comp=E,290nm,14.5s						
SSE				LR	LR		
	comp=E,260nm,14.4s						
MDJ	**Mudanjiang**	**19.06**	**330**	P	**P**	**07 06 52.2**	**-1.4**
MDJ				IAmb	IAmb	07 06 56.5	
	comp=Z,143nm,1.4s						
MDJ	**Mudanjiang**	**19.06**	**330**	P	**P**	**07 06 52.6**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,530nm,4.6s						
MDJ				LR	LR		
	comp=Z,640nm,14.9s						
MDJ				LR	LR		
	comp=Z,720nm,13.5s						
MDJ				LR	LR		
	comp=Z,530nm,17.8s						
NACB	**Ninganchiao**	**19.43**	**262**	P	**P**	**07 06 58.0**	**+0.2**
NACB				IAmb	IAmb	07 07 16.1	
	comp=Z,89nm,1.4s						
DL2	**Dalian**	**20.25**	**306**	P	**P**	**07 07 05.9**	**-0.7**
DL2				S	**S**	**07 10 53.9**	**+1.4**
DL2				pmax	pmax		
	comp=Z,31nm,1.4s						
DL2				pmax	pmax		
	comp=Z,230nm,8.3s						
DL2				LR	LR		
	comp=Z,700nm,15.4s						
DL2				LR	LR		
	comp=Z,490nm,20.4s						
DL2				LR	LR		
	comp=Z,970nm,15.1s						
TWG	**Pinlang**	**20.33**	**258**	P	Pn	07 07 09.0	-0.7
SNY	**Shenyang**	**20.36**	**315**	*iP*	**P**	**07 07 07.5**	**-0.3**
SNY				S	**S**	**07 10 54.5**	**-0.3**
SNY				pmax	pmax		
	comp=Z,24nm,1.9s						
SNY				pmax	pmax		
	comp=Z,230nm,6.0s						
SNY				LR	LR		
	comp=Z,620nm,17.8s						
SNY				LR	LR		
	comp=Z,290nm,14.1s						
SNY				LR	LR		
	comp=Z,590nm,18.1s						
CN2	**Changchun**	**20.49**	**322**	*eP*	**P**	**07 07 08.6**	**-0.6**
CN2				*eS*	**S**	**07 10 56.6**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,19.2s						
TPUB	**Ta-pu**	**20.54**	**260**	P	**P**	**07 07 10.3**	**+0.3**
NJ2	**Nanjing**	**20.86**	**285**	*iP*	**P**	**07 07 12.9**	**-0.3**
NJ2				pP	Pn	07 07 17.4	+1.6
NJ2				PP	**PnPn**	**07 07 35.8**	**+3.9**
NJ2				sS	**sS**	**07 11 15.1**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,38nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,400nm,3.5s						
NJ2				LR	LR		
	comp=Z,520nm,11.9s						
NJ2				LR	LR		
	comp=Z,310nm,13.8s						
NJ2				LR	LR		
	comp=Z,600nm,17.1s						
BNX	**BinXian**	**20.91**	**329**	*↑iP*	**P**	**07 07 13.8**	**+0.1**
BNX				pP	Pn	07 07 16.5	+0.2
BNX				sP	**pP**	**07 07 17.8**	**-1.3**
BNX				PP	**PnPn**	**07 07 32.2**	**-0.3**
BNX				S	**S**	**07 11 00.6**	**-4.8**
BNX				sS	**sS**	**07 11 14.4**	**+0.2**
BNX				pmax	pmax		
	comp=Z,190nm,1.1s						
BNX				pmax	pmax		
	comp=Z,1μm,5.8s						
BNX				LR	LR		
	comp=Z,520nm,4.3s						
BNX				LR	LR		
	comp=Z,1μm,13.5s						
BNX				LR	LR		
	comp=Z,730nm,17.8s						
QZH	**Quanzhou**	**21.83**	**266**	P	**P**	**07 07 21.7**	**-2.1**
QZH				S	**S**	**07 11 18.6**	**-5.4**
QZH				LR	LR		
	comp=Z,320nm,9.0s						
KNMB	**Chin-men Tao**	**22.14**	**265**	P	**P**	**07 07 26.5**	**-0.6**
KNMB				IAmb	IAmb	07 07 29.3	
	comp=Z,70nm,0.9s						
TYV	**Tymovskoe**	**22.19**	**360**	*eP*	P	07 07 43.3	+16
TYV				pmax	pmax		
	comp=Z,17nm,1.3s						
KLR	**Kul'dur**	**22.20**	**341**	P	**P**	**07 07 27.4**	**-0.2**
	comp=Z,23nm,1.1s,baz=146,slow=8.4,SNR=25						
KLR	**Kul'dur**	**22.20**	**341**	*↑eP*	**P**	**07 07 29.6**	**+2.0**
KLR				pmax	pmax		
	comp=Z,55nm,1.5s						
GRNR	**Gornyy**	**22.60**	**350**	*↓iP*	**P**	**07 07 37.3**	**+5.5**
GRNR				pmax	pmax		
	comp=N,6.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA	**Tai'an**	**22.83**	**296**	*↓*P	**P**	**07 07 32.8**	**-1.6**
TIA				S	**S**	**07 11 41.8**	**-0.5**
TIA				pmax	pmax		
	comp=Z,15nm,0.9s						
TIA				pmax	pmax		
	comp=Z,80nm,3.5s						
TIA				LR	LR		
	comp=Z,470nm,13.7s						
TIA				LR	LR		
	comp=Z,310nm,13.1s						
TIA				LR	LR		
	comp=Z,340nm,14.9s						
H11N2	**WAKE ISLAND Hy**	**23.75**	**107**	T	T	07 32 48.3	
	baz=296,slow=74,SNR=19						
H11N1	**WAKE ISLAND Hy**	**23.75**	**107**	T	T	07 32 50.3	
	baz=296,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**23.76**	**107**	T	T	07 32 51.3	
	baz=296,slow=74,SNR=22						
SKR	**Severo-Kuril's**	**24.23**	**21**	*eP*	P	07 07 55.3	+7.5
SKR				*eS*	**S**	**07 12 06.8**	**+2.0**
SKR				pmax	pmax		
	comp=Z,100nm,3.4s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
NKL	**Nikolayevsk**	**24.52**	**357**	*eP*	**P**	**07 07 50.4**	**-0.1**
NKL				*eS*	**S**	**07 12 15.3**	**+5.9**
NKL				pmax	pmax		
	comp=E,3.0nm,0.6s						
NKL				pmax	pmax		
	comp=N,254nm,1.1s						
NKL				pmax	pmax		
	comp=Z,56nm,1.2s						
NKL				smax	smax		
	comp=E,2.0nm,1.3s						
NKL				smax	smax		
	comp=N,338nm,1.1s						
BJT	**Baijiatuau**	**24.59**	**304**	P	**P**	**07 07 49.4**	**-1.9**
BJT				pmax	pmax		
	comp=Z,34nm,1.4s						
BJT	**Baijiatuau**	**24.59**	**304**	P	**P**	**07 07 49.4**	**-1.9**
BJI	**Beijing**	**24.59**	**304**	P	**P**	**07 07 49.2**	**-2.0**
BJI				S	**S**	**07 12 15.7**	**+4.9**
BJI				pmax	pmax		
	comp=Z,18nm,1.2s						
BJI				pmax	pmax		
	comp=Z,190nm,8.1s						
BJI				LR	LR		
	comp=Z,390nm,15.8s						
BJI				LR	LR		
	comp=Z,560nm,17.3s						
BJI				LR	LR		
	comp=Z,760nm,18.9s						
WHN	**Wuhan**	**24.71**	**281**	*↑*P	**P**	**07 07 51.5**	**-0.9**
WHN				pP	**pP**	**07 07 55.9**	**-2.6**
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
WHN				LR	LR		
	comp=Z,3μm,17.6s						
WHN				LR	LR		
	comp=Z,1μm,14.1s						
WHN				LR	LR		
	comp=Z,950nm,14.5s						
HNS	**HongShan**	**24.98**	**298**	*↓*P	**P**	**07 07 53.1**	**-1.7**
HNS				pmax	pmax		
	comp=Z,13nm,1.4s						
HNS				LR	LR		
	comp=Z,350nm,15.2s						
HNS				LR	LR		
	comp=Z,490nm,14.1s						
HNS				LR	LR		
	comp=Z,680nm,15.2s						
XLT	**XiLinHaoTe**	**26.16**	**313**	*↑iP*	**P**	**07 08 05.2**	**-0.4**
XLT				pP	pP	07 08 09.1	-2.5
XLT				S	**S**	**07 12 37.1**	**+1.1**
XLT				sS	pS	07 12 44.7	+1.9
XLT				pmax	pmax		
	comp=Z,24nm,1.4s						
XLT				pmax	pmax		
	comp=Z,190nm,5.1s						
XLT				LR	LR		
	comp=Z,50nm,16.5s						
XLT				LR	LR		
	comp=Z,340nm,16.8s						
XLT				LR	LR		
	comp=Z,350nm,21.1s						
LYN	**LuoYang**	**26.36**	**291**	*eP*	**P**	**07 08 07.1**	**-0.3**
LYN				S	**S**	**07 12 37.3**	**-1.9**
LYN				pmax	pmax		
	comp=Z,110nm,7.5s						
LYN				LR	LR		
	comp=Z,340nm,19.1s						
LYN				LR	LR		
	comp=Z,410nm,19.6s						
PETK	**Petropavlovsk-**	**26.82**	**20**	P	**P**	**07 08 10.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=204,slow=6.3,SNR=1.7						
PETK				LR	LR	07 19 44.8	
	comp=Z,247nm,19.7s,baz=207,slow=39						
DAV	**Davao City (W)**	**26.88**	**220**	LR	LR	07 16 55.2	
	comp=Z,376nm,21.7s,baz=144,slow=32						
PET	**Petropavlovsk**	**27.05**	**21**	*eP*	**P**	**07 08 18.1**	**+4.8**
PET				*eS*	**S**	**07 12 51.9**	**+2.3**
PET						07 14 05.7	
PET				MLR	MLR		
	comp=Z,500nm,19.0s						
HIA	**Hailar**	**27.07**	**326**	P	**P**	**07 08 13.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,72nm,1.2s						
HIA	**Hailar**	**27.07**	**326**	P	**P**	**07 08 13.9**	**+0.3**
HIA				IAmb	IAmb	07 08 17.5	
	comp=Z,72nm,1.2s						
ZEA	**Zeya**	**27.51**	**340**	*eP*	**P**	**07 08 18.0**	**+0.5**
ZEA				*eS*	**S**	**07 12 55.9**	**-1.0**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				smax	smax		
	comp=Z,200nm,5.5s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
HHC	**Hu-ho-hao-te**	**28.19**	**304**	*eP*	**P**	**07 08 23.1**	**-0.8**
HHC				S	**S**	**07 13 02.3**	**-5.7**
HHC				SS	**SnSn**	**07 14 33.1**	**+8.2**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC				LR	LR		
	comp=Z,320nm,17.8s						
HHC				LR	LR		
	comp=Z,650nm,17.1s						
HHC				LR	LR		
	comp=Z,890nm,17.6s						
ENH	**Enshi**	**28.92**	**281**	P	**P**	**07 08 29.1**	**-1.3**
BTO	**Baotou**	**29.26**	**303**	*eP*	P	07 08 25.0	-8.4
BTO				S	S	07 13 15.6	-9.3
BTO				LR	LR		
	comp=N,1μm,12.9s						
BTO				LR	LR		
	comp=E,2μm,14.9s						
XAN	**Xi'an**	**29.27**	**289**	P	**P**	**07 08 31.6**	**-1.9**
XAN				pP	pP	07 08 35.2	-4.4
XAN				PP	**PnPn**	**07 09 28.9**	**+1.9**
XAN				S	**S**	**07 13 23.1**	**-2.0**
XAN				pmax	pmax		
	comp=E,20nm,1.1s						
XAN				pmax	pmax		
	comp=E,230nm,7.8s						
XAN				LR	LR		
	comp=E,280nm,13.1s						
XAN				LR	LR		
	comp=E,500nm,16.9s						
XAN				LR	LR		
	comp=E,720nm,17.2s						
GENI	**Genyem**	**31.16**	**185**	P	P	07 08 58.8	+8.6
SIJI	**Sorong**	**31.33**	**202**	LR	LR	07 18 56.4	
	comp=E,413nm,20.9s,baz=62,slow=32						
MA2	**Magadan**	**31.41**	**8**	*↓iP*	**P**	**07 08 52.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MA2	**Magadan**	**31.41**	**8**	P	**P**	**07 08 50.9**	**-1.1**
QIZ	**Qiongzhong**	**31.46**	**260**	P	**P**	**07 08 51.8**	**-1.1**
QIZ				IAmb	IAmb	07 08 54.9	
	comp=Z,67nm,2.0s						
QIZ	**Qiongzhong**	**31.46**	**260**	P	**P**	**07 08 53.0**	**+0.1**
QIZ				S	**S**	**07 14 04.4**	**+4.8**
QIZ				pmax	pmax		
	comp=Z,11nm,1.9s						
QIZ				LR	LR		
	comp=Z,220nm,13.5s						
QIZ				LR	LR		
	comp=Z,190nm,18.3s						
QIZ				LR	LR		
	comp=Z,290nm,15.2s						
GYA	**Guiyang**	**31.96**	**275**	*↑iP*	**P**	**07 08 57.3**	**-0.1**
GYA				sP	sP	07 09 07.0	+0.6
GYA				pmax	pmax		
	comp=Z,34nm,1.5s						
GYA				LR	LR		
	comp=Z,560nm,19.7s						
LBMI	**Labuha**	**32.56**	**209**	P	P	07 09 13.2	+11
MYLDM	**Lahad Datu**	**32.74**	**229**	P	**P**	**07 09 03.6**	**-0.5**
MYLDM				IAmb	IAmb	07 09 30.5	
	comp=Z,36nm,1.0s						
KMSI	**Cibinong**	**33.17**	**216**	P	**P**	**07 09 04.2**	**-3.6**
SHEM	**Shemya Is, Ala**	**33.39**	**35**	LR	LR	07 21 10.3	
	comp=Z,228nm,20.1s,baz=291,slow=34						
LZH	**Lanzhou**	**33.48**	**293**	*eP*	**P**	**07 09 11.0**	**+0.3**

LZH sP pP 07 09 17.8 +1.1
LZH PcP **PcP** **07 11 55.4 +4.0**
LZH *e*S **S** **07 14 28.7 -2.5**
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=Z,280nm,11.9s
LZH LR LR
comp=Z,560nm,12.7s
LZH LR LR
comp=Z,670nm,15.5s
ULN Ulaanbaatar 33.54 315*c i*P **P** **07 09 11.5 +0.5**
ULN pmax pmax
comp=Z,39nm,1.3s
ULN Ulaanbaatar 33.54 315 P **P** **07 09 11.0 -0.1**
ULN IAmb IAmb 07 09 13.9
comp=Z,41nm,1.2s
GTOI Gorontalo 33.62 217 P **P** **07 09 08.9 -2.9**
KKM Kota Kinabalu 33.68 233 P **P** **07 09 12.4 0.0**
KKM IAmb IAmb 07 09 33.6
comp=Z,38nm,1.4s
CD2 Chengdu 33.77 284 P **P** **07 09 11.6 -1.5**
CD2 S **S** **07 14 35.0 -0.4**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 LR LR
comp=Z,70nm,15.6s
CD2 LR LR
comp=Z,480nm,14.7s
CD2 LR LR
comp=Z,400nm,15.2s
SONM Songino Array 33.94 314 P **P** **07 09 13.8 -0.7**
comp=Z,10nm,1.0s,baz=123,slow=6.8,SNR=31
SONM LR LR 07 23 50.5
comp=Z,402nm,18.1s,baz=72,slow=38
SONM Songino Array 33.94 314 P **P** **07 09 14.5 0.0**
SONM pmax pmax
comp=Z,16nm,1.1s
SONM Songino Array 33.94 314 P **P** **07 09 14.5 0.0**
MRSI Marisa 34.34 219 P **P** **07 09 17.5 -0.5**
comp=Z,40nm,1.1s
MSAI Masohi 34.46 205 P **P** **07 09 20.3 +1.2**
comp=Z,6.3nm,0.6s
TOLI2 Tolitoli 34.48 221 P **P** **07 09 18.4 -0.8**
TOLI2 IAmb IAmb 07 09 39.0
comp=Z,22nm,1.2s
YAK Yakutsk 34.48 349 *e*P **P** **07 09 18.2 -0.6**
YAK *e* 07 10 35.5
YAK *e*PPP PPP 07 10 54.8
YAK *e* 07 11 49.8
YAK *e*S **S** **07 14 45.7 +0.2**
YAK *e*SS **SnSn** **07 16 56.2 -1.0**
YAK *e* 07 19 36.5
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK smax smax
comp=N,40nm,1.9s
YAK smax smax
comp=E,38nm,1.9s
YAK Yakutsk 34.48 349 P **P** **07 09 18.3 -0.4**
YAK IAmb IAmb 07 09 59.2
comp=Z,23nm,0.5s
SANI Sanana 34.48 211 P **P** **07 09 16.2 -3.1**
SEY Seymchan 34.87 8 P **P** **07 09 22.1 -0.1**
comp=Z,3.1nm,0.7s,baz=163,slow=6.3,SNR=17
AAI Ambon 35.05 206 P **P** **07 09 24.6 +0.4**
comp=Z,34nm,0.7s
LUWI Luwuk 35.16 216 P **P** **07 09 22.7 -2.5**
BOD Bodaibo 35.37 334 *e*P **P** **07 09 27.0 +0.5**
BOD pmax pmax
comp=Z,23nm,1.9s
MPSI Mapaga 35.61 222 P **P** **07 09 29.1 0.0**
comp=Z,8.1nm,2.0s
KMI Kunming 35.71 274 ⇑P **P** **07 09 29.7 -0.4**
KMI sP pP 07 09 37.6 +1.0
KMI S **S** **07 15 06.5 +0.7**
KMI LR LR
comp=Z,190nm,16.6s
KMI LR LR
comp=Z,320nm,19.3s
KMI LR LR
comp=Z,340nm,16.6s
PZH PanZhiHua 36.25 277 ⇑P **P** **07 09 33.9 -0.8**
PZH pP **pP** **07 09 40.7 -0.4**
PZH sP **sP** **07 09 41.9 -1.9**
PZH PP **PP** **07 11 00.9 +3.6**
PZH S **S** **07 15 12.3 -1.6**
PZH sS **sS** **07 15 23.7 -0.7**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,120nm,4.8s
PZH LR LR
comp=Z,820nm,16.9s
PZH LR LR
comp=Z,880nm,17.2s
PZH LR LR
comp=Z,730nm,17.4s
ZAK Zakamensk 36.77 317 *e*P **P** **07 09 39.6 +0.8**
ZAK pmax pmax
comp=Z,50nm,1.5s
GTA Gaotai 36.83 298 ⇓P **P** **07 09 38.3 -1.1**
GTA pP pP 07 09 43.6 -1.9
GTA sP sP 07 09 47.8 -0.2
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.1s
GTA LR LR
comp=Z,170nm,18.9s
GTA LR LR
comp=Z,300nm,20.7s
GTA LR LR
comp=Z,350nm,20.7s
UBPT Khong Chiam 36.85 257 P **P** **07 09 39.6 0.0**
UBPT IAmb IAmb 07 09 41.2
comp=Z,47nm,1.7s
IRK Irkutsk 36.92 320 *e*P **P** **07 09 39.9 0.0**
IRK pmax pmax
comp=Z,106nm,2.1s
SMKI Samarinda 37.85 225 P **P** **07 09 49.2 +1.1**
comp=Z,93nm,1.0s
PMG Port Moresby 38.08 173 LR LR 07 23 19.1
comp=Z,95nm,21.6s,baz=299,slow=33
TTSI Tana Toraja 38.43 219 P **P** **07 09 48.6 -4.3**
MOY Mondy 38.58 318 *e*P **P** **07 09 54.9 +0.9**
MOY pmax pmax
comp=Z,69nm,1.7s
SBUM Sibu 39.02 234 P **P** **07 09 57.5 -0.5**
SPSI Sidrap Palu 39.22 218 P **P** **07 09 58.8 -0.8**
comp=Z,632nmcomp=Z,18nm,1.3s
MTKI Muara Teweh, K 39.69 227 P **P** **07 10 03.4 -0.2**
comp=Z,5µmcomp=Z,29nm,0.7s
KAPI Kappang 40.11 217 LR LR 07 25 25.1
comp=Z,85nm,21.5s,baz=28,slow=34
GOMU GeErMu 40.79 293 P **P** **07 10 12.3 -0.7**
GOMU pP pP 07 10 15.4 -3.6
GOMU sP sP 07 10 20.8 -0.7
GOMU PP **PnPn** **07 11 49.9 -1.4**
GOMU PcP **PcP** **07 12 13.9 0.0**
GOMU S **S** **07 16 23.0 +0.3**
GOMU sS sS 07 16 34.9 +1.5
GOMU pmax pmax
comp=Z,21nm,1.0s
GOMU pmax pmax
comp=Z,100nm,6.1s
GOMU LR LR
comp=Z,130nm,14.1s
GOMU LR LR
comp=Z,89nm,15.9s
GOMU LR LR
comp=Z,100nm,13.2s
CHTO Chiang Mai 41.05 266 P **P** **07 10 14.2 -0.7**
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO Chiang Mai 41.05 266 P **P** **07 10 14.2 -0.7**
CM31 Chiang Mai Arr 41.19 266 P **P** **07 10 15.9 0.0**

CMAR Chiang Mai Arr 41.19 266 P **P** **07 10 16.1 +0.1**
comp=Z,1.8nm,0.4s,baz=53,slow=8.5,SNR=14
CMAR LR LR 07 28 31.8
comp=Z,178nm,20.5s,baz=85,slow=38
CMAR Chiang Mai Arr 41.19 266 P **P** **07 10 15.8 -0.2**
STKI Sintang 41.23 232 P **P** **07 10 15.2 -1.1**
BILL Bilibino 41.84 13 *e*P **P** **07 10 22.4 +1.7**
BILL *e* 07 12 16.4
BILL *e*PPP PPP 07 12 25.9
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 41.84 13 P **P** **07 10 20.1 -0.6**
MMRI Maumere 42.01 211 P **P** **07 10 23.5 +0.9**
comp=Z,43nm,1.1s
COEN Coen 42.36 179 P **P** **07 10 23.6 -1.8**
BATI Baumata 42.79 208 LR LR 07 27 01.2
comp=Z,148nm,21.0s,baz=312,slow=34
BATI Baumata 42.79 208 P **P** **07 10 29.1 +0.1**
comp=Z,22nm,1.0s
TIXI Tiksi 43.72 354⇓ *i*P **P** **07 10 36.1 +0.2**
TIXI pmax pmax
comp=Z,14nm,1.4s
TIXI Tiksi 43.72 354 P **P** **07 10 35.4 -0.4**
PLAI Plampang 44.36 217 P **P** **07 10 39.0 -2.6**
comp=Z,19nm,1.0s
LSA Lhasa 44.72 284 P **P** **07 10 45.3 +0.2**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 44.72 284 P **P** **07 10 45.3 +0.2**
LSA Lhasa 44.72 284 P **P** **07 10 45.3 +0.2**
SHL Shillong 45.08 279 P **P** **07 10 46.4 -1.2**
SHL Shillong 45.08 279 P **P** **07 10 46.4 -1.2**
SHL Shillong 45.08 279 P **P** **07 10 48.1 +0.5**
SNR=14
SRIT Nakonsritamara 45.14 252 P **P** **07 10 48.4 +0.5**
SRIT IAmb IAmb 07 11 03.8
comp=Z,26nm,1.1s
ABJI Asem Bagus 45.47 222 P P 07 10 44.4 -6.1
TPI Tanjungpandan 45.90 233 P **P** **07 10 51.0 -3.0**
comp=Z,7.1nm,1.8s
WMQ Urumqi 46.06 305 *e*P **P** **07 10 55.5 +0.5**
WMQ sP pwP 07 11 09.4 +2.1
WMQ pmax pmax
comp=Z,35nm,1.3s
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=Z,250nm,12.3s
WMQ LR LR
comp=Z,340nm,17.9s
WMQ LR LR
comp=Z,260nm,19.5s
IPM Ipoh 46.26 247 P **P** **07 10 56.5 -0.3**
IPM IAmb IAmb 07 10 57.1
comp=Z,12nm,0.9s
PPBI Pangkal Pinang 46.57 235 P **P** **07 10 59.4 +0.2**
PWJI Pagerwojo 47.10 224 P **P** **07 11 02.5 -0.8**
comp=Z,31nm,2.5s
ZSN Zaisan 48.10 309 *e*P **P** **07 11 11.2 +0.4**
ZSN Zaisan 48.10 309 *e*P **P** **07 11 11.3 +0.4**
baz=310
TAPN Taplejung 48.21 282 *e*P **P** **07 11 11.9 -0.4**
comp=Z,13nm,0.3s
ANM Nome 48.37 27 P **P** **07 11 13.8 +1.2**
baz=247
KPJI Karang Pucung 48.38 228 P **P** **07 11 11.8 -1.5**
comp=Z,43nm,0.8s
CTA Charters Tower 48.57 176 LR LR 07 32 33.5
comp=Z,108nm,18.4s,baz=342,slow=37
ODAN Odare 48.62 282 *e*P **P** **07 11 14.9 -0.4**
ZAA0 Zalesovo Array 48.63 318 P **P** **07 11 14.8 0.0**
ZAA0 IAmb IAmb 07 11 16.6
comp=Z,34nm,1.6s
ZALV Zalesovo Beam 48.63 318 P **P** **07 11 14.9 +0.1**
comp=Z,3.3nm,0.4s,baz=96,slow=7.8,SNR=18
ZALV PcP **PcP** **07 12 40.4 +0.4**
comp=Z,3.1nm,0.7s,baz=100,slow=5.0,SNR=4.0
ZALV LR LR 07 32 28.9
comp=Z,304nm,18.5s,baz=110,slow=37
ZALV Zalesovo Beam 48.63 318 *i*P **P** **07 11 14.8 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 48.63 318 P **P** **07 11 14.6 -0.1**
WB0 Warramunga Arr 48.80 190 P **P** **07 11 15.0 -1.4**
LEM Lembang 48.87 229 LR LR 07 33 24.2
comp=Z,107nm,20.1s,baz=270,slow=38
LEM Lembang 48.87 229 P **P** **07 11 17.3 +0.1**
LEM pmax pmax
comp=Z,75nm,1.1s
LEM Lembang 48.87 229 P **P** **07 11 16.9 -0.3**
comp=Z,47nm,1.1s
PSI Prapat 48.93 246 LR LR 07 31 48.6
comp=Z,180nm,19.1s,baz=74,slow=36
PSI Prapat 48.93 246 P **P** **07 11 17.3 -0.4**
PSI pmax pmax
comp=Z,13nm,0.8s
WR0 Warramunga Arr 48.96 190 P **P** **07 11 16.2 -1.4**
WR0 IAmb IAmb 07 11 31.9
comp=Z,35nm,1.1s
WRAB Tennant Creek 48.97 190*c i*P **P** **07 11 16.9 -0.7**
WRAB pmax pmax
comp=Z,33nm,1.0s
WRAB Tennant Creek 48.97 190 P **P** **07 11 16.9 -0.7**
WB2 Warramunga Arr 48.98 190 P **P** **07 11 16.8 -0.9**
WRA Warramunga Arr 48.98 190 P **P** **07 11 17.2 -0.5**
comp=Z,26nm,0.9s,baz=12,slow=8.5,SNR=28
WRA LR LR 07 31 49.4
comp=Z,154nm,19.5s,baz=310,slow=36
WRA Warramunga Arr 48.98 190 P **P** **07 11 16.6 -1.1**
RPSI Rantau Prapat 49.00 246 P **P** **07 11 17.3 -0.7**
RPSI IAmb IAmb 07 11 18.7
comp=Z,13nm,0.8s
RAMN Ramite 49.27 282 *e*P **P** **07 11 20.0 -0.4**
comp=Z,23nm,0.7s
FITZ Fitzroy Crossi 49.32 202 LR LR 07 30 26.5
comp=Z,69nm,20.6s,baz=0.0,slow=34
FITZ Fitzroy Crossi 49.32 202 P **P** **07 11 19.7 -0.6**
FITZ IAmb IAmb 07 11 31.9
comp=Z,10nm,0.8s
KLSI 49.33 234 P **P** **07 11 19.3 -1.2**
comp=Z,21nm,1.1s
JIRN Jiri 49.43 283 *e*P **P** **07 11 21.9 +0.1**
BLSI Bandar Lampung 49.44 233 P **P** **07 11 20.8 -0.6**
comp=Z,110nm,0.4s
MDSI Maura Dua 49.58 235 P **P** **07 11 21.4 -1.1**
comp=Z,417nmcomp=Z,43nm,0.9s
GUN Gumba 49.63 284 *e*P **P** **07 11 23.2 -0.1**
comp=Z,105nm,0.8s
MK31 Makanchi Array 49.86 309 *i*P **P** **07 11 24.4 +0.1**
MK31 Makanchi Array 49.86 309 P **P** **07 11 24.4 +0.1**
MKAR Makanchi Array 49.86 309 P **P** **07 11 24.4 +0.1**
comp=Z,4.5nm,0.7s,baz=92,slow=9.9,SNR=48
MKAR PcP **PcP** **07 12 45.3 +0.7**
comp=Z,2.0nm,0.8s,baz=87,slow=5.9,SNR=1.5
MKAR LR LR 07 33 18.6
comp=Z,342nm,20.2s,baz=83,slow=37
MKAR Makanchi Array 49.86 309 *i*P **P** **07 11 24.3 0.0**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 50.08 309 P **P** **07 11 25.8 -0.1**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 50.08 309 P **P** **07 11 25.8 -0.1**
MASI Maura Aman, Be 50.08 238 P **P** **07 11 25.9 -0.5**
comp=Z,2µmcomp=Z,98nm,1.2s
PKI Pulchoki 50.13 283 *e*P **P** **07 11 26.2 -0.8**
PKIN Phulchoki 50.13 283 *e*P **P** **07 11 26.1 -0.9**
KKN Kakani 50.18 284 *e*P **P** **07 11 26.9 -0.3**
DMN Daman 50.38 283 *e*P **P** **07 11 28.4 -0.4**
RDOG Red Dog Mine 50.62 23 P **P** **07 11 31.1 +1.3**
baz=247
GKN Gorkha 50.67 284 *e*P **P** **07 11 30.6 -0.3**
GSI Gunungsitoli 50.90 246 P **P** **07 11 31.5 -1.1**
GSI Gunungsitoli 50.90 246 P **P** **07 11 31.3 -1.3**
comp=Z,4µmcomp=Z,65nm,1.1s
SEM Semipalatinsk 51.20 313 *e*P **P** **07 11 34.5 -0.1**
SEM pmax pmax
comp=Z,31nm,1.5s
SEM Semipalatinsk 51.20 313 *e*P **P** **07 11 34.5 -0.1**
comp=Z,31nm,1.5s,baz=313
DANN Dangsing 51.33 285 *e*P **P** **07 11 35.9 -0.1**
comp=Z,106nm,0.9s
NRIK Noril'sk 51.38 338 P **P** **07 11 35.7 +0.3**
comp=Z,9.1nm,0.9s,baz=112,slow=7.6,SNR=13
NRIK Noril'sk 51.38 338 *i*P **P** **07 11 35.7 +0.3**
NRIK pmax pmax
comp=Z,23nm,1.2s
NRIK Noril'sk 51.38 338 P **P** **07 11 35.6 +0.3**
NRIK IAmb IAmb 07 11 48.7
comp=Z,26nm,1.1s
KOLN Koldanda 51.62 284 *e*P **P** **07 11 37.9 -0.2**
PDGK Podgornoye 52.04 304 P **P** **07 11 40.2 -0.7**
PYUN Piuthan 52.05 285 *e*P **P** **07 11 41.2 -0.1**
comp=Z,68nm,0.6s
SHLS Shalkode 52.08 304 *e*P **P** **07 11 38.7 -2.5**
SHLS Shalkode 52.08 304 *e*P **P** **07 11 38.7 -2.5**
baz=304
KURK Kurchatov 52.24 314*c i*P **P** **07 11 42.5 +0.4**
KURK pmax pmax
comp=Z,111nm,1.3s
KURK Kurchatov 52.24 314 P **P** **07 11 42.4 +0.4**
KURK Kurchatov 52.24 314 P **P** **07 11 46.1 +4.0**
KURK P **P** **07 11 46.1 +4.0**
KURBB Kurchatov Arra 52.30 314 P **P** **07 11 43.1 +0.6**
comp=Z,37nm,0.9s,baz=89,slow=7.2,SNR=127
KURBB LR LR 07 34 51.6
comp=Z,215nm,18.1s,baz=61,slow=37
UZB Uzynbulak 52.40 304 *e*P **P** **07 11 43.3 -0.3**
UZB Uzynbulak 52.40 304 *e*P **P** **07 11 43.4 -0.3**
baz=304
KPKS Kokpek 52.61 305 *e*P **P** **07 11 44.9 -0.2**
KPKS Kokpek 52.61 305 *e*P **P** **07 11 44.9 -0.2**
baz=305
ASAR Alice Springs 52.70 190 P **P** **07 11 45.0 -0.8**
comp=Z,3.6nm,0.9s,baz=7.6,slow=6.0,SNR=15
ASAR Alice Springs 52.70 190 P **P** **07 11 44.7 -1.1**
K20K Telida 52.82 30 IAmb IAmb 07 11 59.5
comp=Z,13nm,0.9s
K20K Telida 52.82 30 P **P** **07 11 47.9 +1.7**
baz=260
ZHN Zhinishke 52.82 304 *e*P **P** **07 11 47.5 +0.8**
ZHN Zhinishke 52.82 304 *e*P **P** **07 11 47.5 +0.8**
baz=304
KDAK Kodiak Island 52.85 37 P **P** **07 11 46.4 -0.1**
comp=Z,6.3nm,0.7s,baz=305,slow=5.7,SNR=5.3
KDAK LR LR 07 33 19.3
comp=Z,310nm,20.4s,baz=261,slow=35
SATY Saty 52.86 304 *e*P **P** **07 11 47.1 +0.1**
SATY Saty 52.86 304 *e*P **P** **07 11 47.1 +0.1**
baz=304
J20K Nowinta River 52.94 29 P **P** **07 11 45.9 -1.2**
J20K Nowinta River 52.94 29 P **P** **07 11 48.4 +1.3**
baz=259
ARXS Arharly 53.15 306 *e*P **P** **07 11 49.0 -0.1**
TARG Taragay, Kyrgy 53.47 302 P **P** **07 11 51.8 0.0**
TARG IAmb IAmb 07 12 07.2
comp=Z,16nm,1.1s
PPLA Purkeypile 53.60 31 P **P** **07 11 52.2 +0.1**
baz=262
CHUM Lake Minchumin 53.68 30 P **P** **07 11 54.3 +1.8**
baz=261
CAST Castle Rocks 53.72 30 P **P** **07 11 51.6 -1.2**
CAST IAmb IAmb 07 12 06.3
comp=Z,55nm,1.9s
CAST Castle Rocks 53.72 30 P **P** **07 11 54.3 +1.4**
baz=262
H21K Melozitna Rive 53.77 28 IAmb IAmb 07 12 11.0
comp=Z,17nm,1.4s
CHKK Chushkaly 53.79 305 *e*P **P** **07 11 53.3 -0.4**
baz=305
MDOK Medeo 53.83 304 *e*P **P** **07 11 54.7 +0.6**
MDOK Medeo 53.83 304 *e*P **P** **07 11 54.8 +0.6**
baz=304
TNSS Tian-Shan 53.92 304 *e*P **P** **07 11 55.9 +0.7**
baz=304
AAA Alma-Ata 53.92 304 *e*P **P** **07 11 55.3 +0.6**
AAA pmax pmax
comp=Z,13nm,0.7s
AAA Alma-Ata 53.92 304 *e*P **P** **07 11 55.4 +0.6**
comp=Z,13nm,0.7s,baz=304
KUU Kurty 54.25 305 *e*P **P** **07 11 57.0 0.0**
KUU pmax pmax
comp=Z,9.0nm,0.7s
KUU Kurty 54.25 305 *e*P **P** **07 11 57.1 0.0**
comp=Z,8.8nm,0.7s,baz=305
TRF Thorofare Moun 54.52 31 P **P** **07 11 57.4 -1.5**
TRF IAmb IAmb 07 12 23.8
comp=Z,58nm,2.0s
TRF Thorofare Moun 54.52 31 P **P** **07 11 59.6 +0.8**
baz=263
MLY Manley 54.53 29 IAmb IAmb 07 12 12.6
comp=Z,30nm,1.7s
MLY Manley 54.53 29 P **P** **07 12 00.2 +1.5**
baz=262
ULHL Ulahol 54.55 303 P **P** **07 11 59.8 +0.3**
SNR=7.7
TKM2 Tokmak 2 54.92 304 P **P** **07 12 03.0 +0.9**
SNR=6.0
TKM2 Tokmak 2 54.92 304 *i*P **P** **07 12 02.3 +0.1**
TKM2 pmax pmax
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 55.12 29 P **P** **07 12 05.3 +2.4**
baz=263
MCK McKinley 55.15 30 IAmb IAmb 07 12 15.7
comp=Z,26nm,1.3s
MCK McKinley 55.15 30 P **P** **07 12 03.8 +0.5**
baz=264
RND Reindeer 55.16 31 P **P** **07 12 01.9 -1.5**
RND pmax pmax
comp=Z,11nm,1.1s
RND Reindeer 55.16 31 P **P** **07 12 01.9 -1.5**
NEA2 Nenana 55.18 29 P **P** **07 12 03.0 -0.5**
NEA2 IAmb IAmb 07 12 20.5
comp=Z,11nm,1.0s
NEA2 Nenana 55.18 29 P **P** **07 12 05.1 +1.7**
baz=264
KNK Knik Glacier 55.19 33 P **P** **07 12 05.2 +1.6**
baz=266
KSH Kashi 55.19 300 P **P** **07 12 07.0 +2.9**
KSH pP pP 07 12 11.5 +1.1
KSH sP sP 07 12 14.1 +1.2
KSH ScS ScS 07 21 51.0 -0.9
KSH pmax pmax
comp=Z,11nm,1.3s
KSH LR LR
comp=Z,390nm,16.5s
KSH LR LR
comp=Z,290nm,18.6s
KSH LR LR
comp=Z,220nm,16.1s
DZM Mont Dzumac 55.38 153 LR LR 07 37 43.9
comp=Z,174nm,18.1s,baz=32,slow=38
DZM Mont Dzumac 55.38 153 *e*LR LR 07 27 22.4
comp=Z,308nm,23.9s
TOLK Toolik Lake Re 55.54 24 IAmb IAmb 07 12 27.8
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 55.54 24 P **P** **07 12 08.0 +2.0**
baz=260
SGDS Sogindy 55.54 305 *e*P **P** **07 12 06.4 0.0**
baz=305
MDM Murphy Dome 55.58 29 P **P** **07 12 04.8 -1.5**
MDM IAmb IAmb 07 12 18.9
comp=Z,16nm,1.4s
WAT6 Susitna Watana 55.60 32 P **P** **07 12 07.5 +0.9**
baz=266
USP Ospenovka 55.66 305 P **P** **07 12 08.0 +0.7**
SNR=6.6
CCB Clear Creek Bu 55.73 29 IAmb IAmb 07 12 26.0
comp=Z,34nm,1.9s
BTLS Baital 55.73 307*c i*P **P** **07 12 07.8 +0.1**
BTLS pmax pmax
comp=Z,12nm,0.7s
BTLS Baital 55.73 307⇑ *i*P **P** **07 12 07.9 +0.1**
comp=Z,12nm,0.7s,baz=307
COLA College 55.73 29⇓ *e*P **P** **07 12 07.8 +0.5**
COLA pmax pmax
comp=Z,15nm,2.8s
AAK Ala-Archa 55.77 304 P **P** **07 12 08.6 +0.4**
SNR=5.8
AAK Ala-Archa 55.77 304*c i*P **P** **07 12 08.3 +0.1**
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 55.77 304 P **P** **07 12 08.6 +0.4**
AAK Ala-Archa 55.77 304 P **P** **07 12 12.0 +3.8**
AAK P **P** **07 12 12.0 +3.8**
AAK Ala-Archa 55.77 304 *i*P **P** **07 12 08.3 +0.1**
SNR=7.1
H24K Noodor Dome 55.81 28 IAmb IAmb 07 12 31.5
comp=Z,17nm,1.4s
UCH Uchtor 55.82 304 P **P** **07 12 09.9 +1.0**
SNR=14
HDA Harding Lake 56.08 30 P **P** **07 12 09.1 -0.8**

BRZS Berezniki 56.08 313 *e*P **P** **07 12 10.8 +0.7**
BRZS pmax pmax
comp=Z,16nm,1.4s
BRZS Berezniki 56.08 313 *e*P **P** **07 12 10.8 +0.7**
comp=Z,16nm,1.4s,baz=313
IL31 56.13 29 P **P** **07 12 09.1 -1.1**
IL31 IAmb IAmb 07 12 23.0
comp=Z,14nm,1.3s
ILAR Eielson Array 56.13 29 P **P** **07 12 10.3 0.0**
comp=Z,2.5nm,0.9s,baz=258,slow=5.8,SNR=16
ILAR LR LR 07 35 27.7
comp=Z,95nm,19.7s,baz=276,slow=35
ILAR Eielson Array 56.13 29 P **P** **07 12 09.4 -0.8**
KLU Klutina 56.41 33 IAmb IAmb 07 12 25.4
comp=Z,39nm,1.6s
KLU Klutina 56.41 33 P **P** **07 12 14.0 +1.6**
baz=268
AML Almayashu 56.43 304 P **P** **07 12 14.3 +1.0**
SNR=23
AML Almayashu 56.43 304 P **P** **07 12 16.1 +2.8**
AML Almayashu 56.43 304 *i* P **P** **07 12 14.3 +1.0**
SNR=23
OTUK Ortayu 56.49 311 P **P** **07 12 13.9 +0.8**
PAX Paxson 56.66 31 IAmb IAmb 07 12 36.5
comp=Z,27nm,1.8s
PAX Paxson 56.66 31 P **P** **07 12 15.8 +1.6**
baz=268
BVAR Borovoye Array 57.23 317 P **P** **07 12 19.0 +0.8**
comp=Z,13nm,0.7s,baz=64,slow=20,SNR=80
BVAR Borovoye Array 57.23 317 P **P** **07 12 19.0 +0.8**
BRVK Borovoye 57.29 317 *c i* P **P** **07 12 19.0 +0.4**
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 57.29 317 P **P** **07 12 18.8 +0.2**
BRVK IAmb IAmb 07 12 20.4
comp=Z,18nm,0.8s
BRVK Borovoye 57.29 317 P **P** **07 12 22.8 +4.2**
BRVK P **P** **07 12 22.8 +4.2**
SCRK Sand Creek 57.35 30 IAmb IAmb 07 12 43.1
comp=Z,32nm,1.6s
SCRK Sand Creek 57.35 30 P **P** **07 12 20.0 +0.9**
baz=269
MSVF Nonsavu 57.39 139 LR LR 07 34 39.3
comp=Z,131nm,19.6s,baz=360,slow=34
J26L Joseph Creek 57.55 29 P **P** **07 12 21.1 +0.7**
baz=269
MCARA McCarthy VSAT 57.81 33 IAmb IAmb 07 12 35.9
comp=Z,29nm,1.1s
DZA Taraz 58.01 305 *e*P **P** **07 12 24.3 +0.3**
DZA Taraz 58.01 305 *e*P **P** **07 12 24.3 +0.3**
baz=305
L27K Beaver Creek, 58.33 31 P **P** **07 12 27.5 +1.7**
baz=271
KKAR Karatay Array 58.56 305 P **P** **07 12 28.0 +0.2**
KKAR Karatay Array 58.56 305 P **P** **07 12 28.0 +0.2**
NIL Nilore 58.65 294 P **P** **07 12 28.6 +0.1**
NIL pmax pmax
comp=Z,65nm,1.8s
NIL Nilore 58.65 294 P **P** **07 12 28.6 +0.1**
NIL Nilore 58.65 294 P **P** **07 12 30.8 +2.3**
NIL P **P** **07 12 30.8 +2.3**
BRLS Boroldoy 59.06 305 *e*P **P** **07 12 33.5 +2.2**
BRLS pmax pmax
comp=Z,5.0nm,1.0s
BRLS Boroldoy 59.06 305 *e*P **P** **07 12 33.5 +2.2**
comp=Z,5.3nm,1.0s,baz=305
DAWY Dawson 59.38 30 IAmb IAmb 07 12 47.3
comp=Z,25nm,1.6s
HYBB Hyderabad (bro 59.49 274 *e*P **P** **07 12 35.5 +0.9**
GAR Garm 59.59 301 P **P** **07 12 34.6 -0.5**
I29M Ogilvie Camp, 59.77 28 IAmb IAmb 07 12 54.0
comp=Z,25nm,1.5s
I29M Ogilvie Camp, 59.77 28 P **P** **07 12 38.2 +2.4**
baz=273
YUK4 Talbot Arm 59.91 33 P **P** **07 12 39.1 +2.1**
baz=275
STKA Stephens Creek 60.20 181 P **P** **07 12 39.5 +0.5**
comp=Z,2.0nm,0.8s,baz=325,slow=16,SNR=2.2
STKA LR LR 07 37 58.2
comp=Z,147nm,20.4s,baz=21,slow=35
EPYK Eagle Plains 60.36 27 IAmb IAmb 07 13 01.3
comp=Z,26nm,1.1s
EPYK Eagle Plains 60.36 27 P **P** **07 12 42.0 +2.2**
baz=274
CHGR Chuyangaron 60.56 300 P **P** **07 12 42.1 +0.4**
CHGR pmax pmax
comp=Z,60nm,0.7s
CHGR Chuyangaron 60.56 300 P **P** **07 12 41.7 0.0**
INK Inuvik 61.43 25 P **P** **07 12 46.1 -0.8**
comp=Z,6.2nm,0.9s,baz=301,slow=7.1,SNR=19
INK Inuvik 61.43 25 P **P** **07 12 46.4 -0.5**
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 61.43 25 P **P** **07 12 46.4 -0.5**
INK IAmb IAmb 07 13 07.7
comp=Z,18nm,1.2s
INK Inuvik 61.43 25 P **P** **07 12 48.3 +1.3**
baz=276
KBL Kabul 61.76 296 P **P** **07 12 49.7 -0.3**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 61.76 296 P **P** **07 12 49.7 -0.3**
KBL IAmb IAmb 07 12 51.3
comp=Z,9.0nm,0.9s
KBL Kabul 61.76 296 P **P** **07 12 52.1 +2.1**
KBL P **P** **07 12 52.1 +2.1**
M31M Drury Creek, Y 61.82 32 IAmb IAmb 07 13 03.1
comp=Z,7.2nm,0.9s
PALK Pallekele 62.02 263 LR LR 07 40 43.2
comp=Z,70nm,19.4s,baz=197,slow=37
SVE Sverdlovsk 62.29 322 *e*P **P** **07 12 53.6 +0.7**
SVE pmax pmax
comp=Z,26nm,1.1s
P33M Teslin, Yukon 62.90 34 P **P** **07 12 59.1 +2.0**
baz=280
ARU Arti 63.49 322 P **P** **07 13 00.9 0.0**
comp=Z,3.0nm,0.5s,baz=85,slow=5.4,SNR=2.7
ARU Arti 63.49 322 *c i* P **P** **07 13 01.1 +0.2**
ARU 07 13 37.6
ARU 07 15 17.8
ARU S **S** **07 21 36.8 +4.3**
ARU SS **SS** **07 25 36.0 -3.2**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 63.49 322 P **P** **07 13 00.7 -0.3**
A36M Sachs Harbour 63.67 20 P **P** **07 13 00.9 -0.9**
A36M IAmb IAmb 07 13 18.2
comp=Z,10nm,0.9s
AB31 Akbulak array 64.35 314 P **P** **07 13 07.0 +0.2**
ABKAR Akbulak array 64.35 314 P **P** **07 13 07.0 +0.2**
ABKAR Akbulak array 64.35 314 P **P** **07 13 07.1 +0.4**
ABKAR IAmb IAmb 07 13 08.8
comp=Z,19nm,0.6s
C36M Paulatuk 64.63 23 IAmb IAmb 07 13 21.1
comp=Z,11nm,0.9s
C36M Paulatuk 64.63 23 P **P** **07 13 09.4 +1.2**
baz=284
DLBC Dease Lake 64.68 36 LR LR 07 39 08.4
comp=Z,222nm,21.6s,baz=288,slow=34
TGTN Hyland Airport 64.80 32 P **P** **07 13 11.5 +2.0**
baz=284
AKTO Aktyubinsk 65.25 315 P **P** **07 13 12.6 0.0**
comp=Z,14nm,0.7s,baz=83,slow=9.6,SNR=5.4
AKTO LR LR 07 42 55.8
comp=Z,242nm,18.9s,baz=77,slow=37
HRA Herat 67.14 298 P **P** **07 13 25.4 +0.2**
BBB Bella Bella 67.44 42 LR LR 07 40 56.8
comp=Z,82nm,20.6s,baz=278,slow=34
KIRV Kirov 67.68 326 LR LR 07 44 22.9
comp=Z,140nm,21.2s,baz=70,slow=37
KIRV Kirov 67.68 326 *e*P **P** **07 13 28.1 +0.2**
EUNU Eureka 68.30 8 P **P** **07 13 32.1 +0.5**
EUNU IAmb IAmb 07 13 52.0
comp=Z,16nm,1.4s
PRGR Permogore 68.45 329 *e*P P 07 13 42.4 +10
PRGR pmax pmax
comp=Z,62nm,1.4s
GEYT Alibeck 69.06 303 P **P** **07 13 38.1 +1.0**
comp=Z,5.0nm,0.8s,baz=42,slow=2.4,SNR=8.1
GEYT LR LR 07 46 22.6
comp=Z,187nm,19.0s,baz=64,slow=38
GEYT Alibeck 69.06 303 P **P** **07 13 37.2 +0.1**
GEYT IAmb IAmb 07 13 38.6
comp=Z,12nm,1.1s
GYA0B ALIBECK ARRAY 69.06 303 P **P** **07 13 37.5 +0.4**
GYA0B IAmb IAmb 07 13 43.4
comp=Z,7.6nm,0.8s
RES Resolute Bay 70.45 14 P **P** **07 13 45.2 +0.3**
RES pmax pmax
comp=Z,32nm,1.8s
RES Resolute Bay 70.45 14 P **P** **07 13 45.2 +0.3**
RES IAmb IAmb 07 14 14.1
comp=Z,32nm,1.6s
YKA Yellowknife Ar 70.56 29 P **P** **07 13 46.1 +0.4**
comp=Z,1.0nm,0.6s,baz=293,slow=6.2,SNR=18
YKA Yellowknife Ar 70.56 29 *i* P **P** **07 13 46.0 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
KLMR Klimovskoe 71.47 330 *e*P **P** **07 13 48.2 -3.1**
KLMR *e* 07 16 27.4
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR Klimovskoe 71.47 330 *e*P **P** **07 13 48.3 -3.1**
KLMR AMP 07 14 01.6
comp=Z,22nm,1.5s
KLMR *e*PP **PP** **07 16 27.5 -2.1**
ARCES ARCESS Array B 72.23 341 P **P** **07 13 55.9 +0.1**
comp=Z,4.4nm,0.8s,baz=41,slow=11,SNR=4.5
ARCES LR LR 07 49 50.9
comp=Z,112nm,21.8s,baz=66,slow=39
RAR Rarotonga 74.40 125 LR LR 07 40 12.8
comp=Z,173nm,21.2s,baz=282,slow=30
MAK Makhachkala 74.61 311 *e*P **P** **07 14 06.0 -4.2**
MAK *e*S **S** **07 23 41.4 -3.0**
MAK *e*SSS SSS 07 31 51.9
MAK pmax pmax
comp=Z,29nm,0.4s
MAK MLR MLR
comp=Z,450nm,18.0s
MOS Moscow 74.69 326 *e*P P 07 14 21.4 +11
YBH Yreka Blue Hor 74.71 51 LR LR 07 41 31.4
comp=Z,199nm,20.6s,baz=314,slow=31
JMDO Jabal Madar 75.11 288 P **P** **07 14 14.6 +1.1**
SHME Shamm 75.19 292 P **P** **07 14 15.3 +1.4**
NEW Newport 75.45 43 LR LR 07 42 53.9
comp=Z,96nm,20.1s,baz=284,slow=32
MSFE Esma-Masafi 75.46 291 *i* P **P** **07 14 15.8 +0.2**
SNR=5.6
OBN Obninsk 75.52 325 *e*P **P** **07 14 15.3 +0.1**
OBN *e* 07 14 25.2
OBN *e* 07 17 04.4
OBN pmax pmax
comp=Z,7.0nm,0.9s
UOSS Minazif 75.60 291 P **P** **07 14 16.0 -0.3**
UOSS IAmb IAmb 07 14 29.2
comp=Z,16nm,1.1s
UOSS Minazif 75.60 291 P **P** **07 14 16.6 +0.3**
SOHO SOHO 75.67 290 *i* P **P** **07 14 18.0 +1.3**
SNR=6.1
HATD Hatta, Dubai 75.71 291 *i* P **P** **07 14 17.8 +0.8**
SNR=5.6
ASHO Ashiyiah 75.83 291 P **P** **07 14 18.1 +0.5**
FAQ Al Faqa, Dubai 76.19 291 P **P** **07 14 19.6 0.0**
ALNE Al Ain 76.35 290 P **P** **07 14 21.3 +0.7**
GOF Gofitskoye 76.59 314⇑ *e*P **P** **07 14 22.9 +1.3**
FINES FINESS Array B 76.76 334 P **P** **07 14 21.7 -0.5**
comp=Z,2.0nm,0.7s,baz=74,slow=6.3,SNR=14
FINES FINESS Array B 76.76 334 *i* P **P** **07 14 22.5 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 76.76 334 P **P** **07 14 22.3 +0.1**
NCK Nalchik 76.95 312⇑ *e*P **P** **07 14 25.5 +1.8**
NCK pmax pmax
comp=Z,9.0nm,0.2s
ZEI Tsey 77.07 312 *e*P **P** **07 14 24.5 -0.1**
ZEI pmax pmax
comp=Z,15nm,1.4s
KBZ Khabaz 77.29 313 P **P** **07 14 25.8 +0.2**
comp=Z,11nm,0.9s,baz=77,slow=1.0,SNR=20
KBZ LR LR 07 52 25.6
comp=Z,158nm,18.1s,baz=64,slow=39
KBZ Khabaz 77.29 313 *c e* P **P** **07 14 26.1 +0.6**
KBZ pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 77.33 313 *e*P **P** **07 14 26.8 +1.0**
KIV *e*S **S** **07 24 17.5 +2.9**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,124nm,19.0s
KIV Kislovodsk 77.33 313 P **P** **07 14 26.2 +0.3**
KIV IAmb IAmb 07 14 40.1
comp=Z,24nm,1.1s
ONI Oni 77.46 312 IAmb IAmb 07 14 40.5
comp=Z,23nm,1.2s
NEY Neytrino 77.63 313⇓ *e*P **P** **07 14 27.4 -0.3**
NEY pmax pmax
comp=Z,5.0nm,1.2s
GNI Garni 77.70 309 LR LR 07 51 15.7
comp=Z,102nm,20.3s,baz=60,slow=38
GNI Garni 77.70 309 *i* P **P** **07 14 30.3 +2.2**
GNI pmax pmax
comp=Z,36nm,1.5s
GNI Garni 77.70 309 P **P** **07 14 30.4 +2.3**
NVAR Mina Array Bea 79.20 52 P **P** **07 14 36.6 +0.1**
comp=Z,2.1nm,0.8s,baz=282,slow=4.4,SNR=7.2
NVAR LR LR 07 45 27.5
comp=Z,192nm,19.1s,baz=284,slow=32
HLID Hailey 79.33 46 P **P** **07 14 39.3 +2.3**
baz=299
BCYI Bear Canyon 79.59 45 P **P** **07 14 37.6 -0.9**
PPT Papeete 79.93 116 LR LR 07 44 13.2
comp=Z,173nm,19.1s,baz=318,slow=31
PPT2 Papeete2 79.94 116 *e* LR LR 07 38 51.3
comp=Z,124nm,21.2s
MNK Minsk 80.08 327 *i* P **P** **07 14 39.3 -1.3**
MNK *i* 07 17 41.2
MNK *i* PPP PPP 07 19 30.4
MNK *i* S **S** **07 24 44.7 +1.3**
MNK *i* SS **SS** **07 29 55.8 +2.9**
MNK *i* SSS SSS 07 33 22.8
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,23nm,1.2s
MNK pmax pmax
comp=Z,17nm,1.4s
MNK MLR MLR
comp=Z,137nm,15.0s
MNK MLR MLR
comp=E,27nm,18.0s
MNK MLR MLR
comp=N,95nm,13.0s
MNK Minsk 80.08 327 *i* P **P** **07 14 39.4 -1.3**
comp=E,2.0nm,0.8s
MNK *i* P **P** **07 14 39.4 -1.3**
comp=N,23nm,1.2s
MNK *i* P **P** **07 14 39.4 -1.3**
comp=Z,17nm,1.4s,baz=54
MNK *i* PP **PP** **07 17 41.3 -1.0**
MNK *i* PPP PPP 07 19 30.4
MNK *i* S **S** **07 24 44.8 +1.3**
MNK *i* SS **SS** **07 29 55.8 +2.9**
MNK *i* SSS SSS 07 33 22.9
MNK *i* LO LO 07 44 50.4
MNK *i* LR LR 07 50 02.1
MNK *i* LRM MLR 07 53 19.2
comp=Z,137nm,15.2s
MNK *i* LRM MLR 07 53 24.3
comp=E,27nm,17.8s
MNK *i* LRM MLR 07 53 54.9
comp=N,95nm,12.7s
ELK Elko 80.17 49 LR LR 07 46 40.9
comp=N,168nm,19.0s,baz=272,slow=33
GURO Guroymak-BITLI 80.31 309 IAmb IAmb 07 14 56.1
comp=Z,15nm,1.1s
NACGM Naroch 80.36 328 *i* P **P** **07 14 42.5 +0.3**
H17A Grant Village 81.30 44 P **P** **07 14 51.1 +3.4**
baz=302
AKASG Malin Array Be 81.64 324 P **P** **07 14 49.0 0.0**
comp=Z,1.0nm,0.5s,baz=51,slow=5.8,SNR=7.8
AKASG LR LR 07 53 30.4
comp=Z,301nm,18.4s,baz=8.5,slow=38
AKBB Malin Array Si 81.64 324⇓ *i* P **P** **07 14 49.0 -0.1**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 81.64 324 P **P** **07 14 48.3 -0.8**
MARD Mardin 81.78 308 P **P** **07 14 50.0 -0.3**
MARD IAmb IAmb 07 15 03.5
comp=Z,25nm,1.1s
DUG Dugway, Tooele 82.05 48 P **P** **07 14 53.3 +1.7**
baz=301
NC405 NORSAR Array S 82.13 338 P **P** **07 14 51.0 -0.4**
NB201 NORSAR Array S 82.31 338 P **P** **07 14 52.7 +0.2**
NB2 NORSAR Subarra 82.34 338 P **P** **07 14 52.1 -0.5**
comp=Z,5.0nm,0.7s,baz=42,slow=5.3
NOA NORSAR Array B 82.34 338 P **P** **07 14 52.3 -0.3**
comp=Z,3.2nm,0.6s,baz=41,slow=5.2,SNR=14
NOA LR LR 07 56 28.0
comp=Z,112nm,20.0s,baz=45,slow=39
NORES NORESS Array B 82.47 338 P **P** **07 14 55.5 +2.3**
PDAR Pinedale Array 82.79 45 P **P** **07 14 55.5 0.0**
comp=Z,0.9nm,0.8s,baz=286,slow=2.8,SNR=5.4
PDAR LR LR 07 50 01.2
comp=Z,100nm,18.8s,baz=315,slow=34
TAOE Nuku Hiva Isla 83.09 104 *e* LR LR 07 40 13.3
comp=Z,166nm,28.3s
SOCY Socotra 83.15 280 P **P** **07 14 56.4 -1.3**
SOCY IAmb IAmb 07 14 57.4
comp=Z,29nm,1.6s
BNN Bunyan 84.32 311 P **P** **07 15 03.5 +0.1**
RAYN Ar Rayn 84.95 294 P **P** **07 15 06.5 -0.2**
RAYN pmax pmax
comp=Z,102nm,1.3s
RAYN Ar Rayn 84.95 294 P **P** **07 15 06.5 -0.2**
RAYN Ar Rayn 84.95 294 *i* P **P** **07 15 07.9 +1.2**
SNR=30
BR131 Keskin Array S 85.29 313 P **P** **07 15 08.4 +0.2**
BR131 pmax pmax
comp=Z,15nm,0.9s
BR131 Keskin Array S 85.29 313 P **P** **07 15 08.4 +0.2**
BR131 IAmb IAmb 07 15 21.0
comp=Z,15nm,0.9s
BRTR Keskin Array B 85.29 313 P **P** **07 15 08.9 +0.6**
comp=Z,4.1nm,0.8s,baz=94,slow=4.2,SNR=22
BRTR LR LR 07 57 14.2
comp=Z,105nm,18.8s,baz=64,slow=38
BRTR Keskin Array B 85.29 313 *i* P **P** **07 15 09.6 +1.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 85.29 313 P **P** **07 15 08.1 -0.2**
ULM Lac du Bonnet 85.89 33 LR LR 07 57 06.5
comp=Z,2.0nm,18.2s,baz=306,slow=38
MLR Muntele Rosu 86.53 321 LR LR 07 55 00.6
comp=Z,101nm,19.9s,baz=52,slow=36
VRAC Vranov 88.77 328 LR LR 07 59 14.0
comp=Z,122nm,19.8s,baz=48,slow=38
CLL Collm 88.92 331 *e*P P 07 15 32.0 +6.6
ANMO Albuquerque 89.13 50 LR LR 07 52 38.9
comp=Z,129nm,20.2s,baz=297,slow=34
ANMO Albuquerque 89.13 50⇓ *e*P **P** **07 15 24.8 -2.2**
KHC Kasperske Hory 90.27 329 *e*P **P** **07 15 31.7 -0.1**
KHC Kasperske Hory 90.27 329 *e*P **P** **07 15 31.7 -0.1**
LPIG La Paz 92.34 61 LR LR 07 51 29.1
comp=Z,93nm,19.0s,baz=264,slow=32
SCHQ Schefferville 93.06 17 LR LR 07 59 04.6
comp=Z,60nm,21.6s,baz=65,slow=36
TX31 Lajitas Ar. Si 94.30 53 P **P** **07 15 48.7 -2.3**
TXAR Lajitas Array 94.31 53 P **P** **07 15 52.1 +1.2**
comp=Z,1.0nm,0.8s,baz=306,slow=1.7,SNR=9.8
TXAR LR LR 07 55 06.0
comp=Z,122nm,20.2s,baz=292,slow=34
NRCA Norcia 95.11 325 P **P** **07 15 53.4 -1.0**
SYO Syowa Base 121.12 204⇓ *e* Pdiff **Pdif** **07 17 48.7 -0.6**
TORD Tordi Ar. Bea 123.90 312 PKP **PKPdf** **07 21 29.8 0.0**
comp=Z,0.7nm,0.9s,baz=355,slow=3.1,SNR=3.0
LPAZ La Paz 149.06 73 PKPbc **PKPbc** **07 22 21.0 +0.4**
comp=Z,6.3nm,0.9s,baz=6.1,slow=6.2,SNR=15
LPAZ La Paz 149.06 73 **PKiKP** **07 22 23.0 +1.1**
PB11 IPOC Station P 149.26 81 **PKiKP** **07 22 22.6 +1.0**
GO01 Chusmiza 149.62 80 **PKiKP** **07 22 23.8 +0.9**
PLCA Paso Flores 150.29 123 PKPbc **PKPbc** **07 22 22.5 +0.2**
comp=Z,2.0nm,0.9s,baz=220,slow=10,SNR=3.8

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*NNC **06** 07:15:11.8±0.4, 50.03°N×78.77°E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=9.6km s-min=2.1km az=71.0, Suspected Mining explosion.*
*IDC **06** 07:15:12.5±1.0, 50.05°N×78.77°E, h0km, mb1 2.6/2, mb1mx2.6/49, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=14.0km s-min=6.7km az=64.0*
ISC 06 07:15:11.8±1.1, 49.99°N±0.06°×78.8°E±0.1, h0km, n18, σ1s09/27, 15C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.62**	**344**	⇑P	**Pg**	**07 15 23.0**	**-0.7**
KUR07				⇑S	**Sg**	**07 15 31.4**	**-0.4**
KUR06	**Kurchatov Arra**	**0.64**	**345**	⇑P	**Pg**	**07 15 23.2**	**-0.8**
KUR06				⇑S	**Sg**	**07 15 31.6**	**-0.8**
KUR14	**Kurchatov Arra**	**0.64**	**349**	⇓P	**Pg**	**07 15 23.2**	**-0.9**
KUR14				⇑S	**Sg**	**07 15 31.6**	**-0.8**
KUR15	**Kurchatov Arra**	**0.65**	**348**	⇑P	**Pg**	**07 15 23.4**	**-0.8**
KUR15				⇑S	**Sg**	**07 15 32.2**	**-0.5**
KURBB	**Kurchatov Arra**	**0.66**	**346**	P	**Pg**	**07 15 23.8**	**-0.7**
	1.1nm,0.3s,baz=167,slow=19,SNR=9.2						
KURBB				Lg	Lg	07 15 32.5	
	1.3nm,0.3s,baz=162,slow=33,SNR=9.4						
KURBB	**Kurchatov Arra**	**0.66**	**346**	⇑P	**Pg**	**07 15 23.5**	**-0.9**
	5.9nm,0.3s						
KURBB				⇓S	**Sg**	**07 15 32.5**	**-0.4**
	51nm,0.6s						
KUR16	**Kurchatov Arra**	**0.67**	**344**	⇑P	**Pg**	**07 15 23.9**	**-0.7**
KUR16				⇑S	**Sg**	**07 15 32.7**	**-0.5**
KUR05	**Kurchatov Arra**	**0.68**	**347**	⇑P	**Pg**	**07 15 23.9**	**-0.9**
KUR05				⇓S	**Sg**	**07 15 32.6**	**-1.0**
KUR17	**Kurchatov Arra**	**0.68**	**343**	⇑P	**Pg**	**07 15 24.2**	**-0.6**
KUR17				⇓S	**Sg**	**07 15 33.6**	**0.0**
KUR04	**Kurchatov Arra**	**0.69**	**347**	⇓P	**Pg**	**07 15 24.3**	**-0.8**
KUR04				⇑S	**Sg**	**07 15 33.5**	**-0.6**
KURK	**Kurchatov**	**0.74**	**352**	⇓P	**Pg**	**07 15 24.9**	**-1.1**
	1.6nm,0.3s						
KURK				⇑S	**Sg**	**07 15 35.2**	**-0.4**
	7.2nm,0.6s						
MAKZ	**Makanchi**	**3.83**	**145**	⇑Lg	Lg	07 17 12.2	
	2.8nm,0.5s						
MK31	**Makanchi Array**	**3.96**	**142**	Pn	**Pn**	**07 16 16.0**	**+2.2**
	0.1nm,0.2s,baz=278,slow=6.8,SNR=25						
MK31				⇓Pg	**Pg**	**07 16 25.3**	**-2.3**
	0.1nm,0.2s,baz=321,slow=13,SNR=20						
MK31				Lg	Lg	07 17 19.1	
	2.7nm,0.5s,baz=326,slow=26,SNR=5.9						
MKAR	**Makanchi Array**	**3.96**	**142**	Pn	**Pn**	**07 16 15.9**	**+2.2**
	0.2nm,0.3s,baz=322,slow=10,SNR=39						
MKAR				Pg	**Pb**	**07 16 22.6**	**+0.2**
	0.3nm,0.3s,baz=319,slow=13,SNR=9.3						
MKAR				Lg	Lg	07 17 18.6	
	0.9nm,0.3s,baz=326,slow=25,SNR=9.1						
OTUK	**Ortayu**	**4.58**	**250**	⇓Lg	Lg	07 17 37.5	
	3.9nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.45**	**41**	*i*		07 47 10.0	
	baz=223,slow=342,SNR=1.6						
ZALV	**Zalesovo Beam**	**5.45**	**41**	Pn	**Pn**	**07 16 35.6**	**+1.5**
	0.3nm,0.3s,baz=232,slow=14,SNR=5.4						
BVAR	**Borovoye Array**	**6.06**	**303**	Sn	**Sn**	**07 17 52.0**	**-0.6**
	0.6nm,0.3s,baz=159,slow=25,SNR=8.6						

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*IDC **06** 07:18:10.2±22.0, 32.03°N×137.34°E, h390km±87km, mb2.6/3, mb1 2.8/5, mb1mx2.5/50, mbtmp3.4/5, Error ellipse: s-maj=378.3km s-min=32.5km az=171.0*
*JMA **06** 07:18:14.0±0.4, 32.66°N×137.41°E, h408km, M3.2*
ISC 06 07:18:16.0±1.8, 32.9°N±0.2°×137.2°E±0.1, h400km, n16, σ1s46/21, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**1.57**	**329**	P	**Pn**	**07 19 10.1**	**+0.7**
JYTA	**Yamagatataniai**	**2.73**	**351**	P	**Pn**	**07 19 18.3**	**+1.4**
JWT	**Wachi**	**2.83**	**328**	P	**Pn**	**07 19 18.7**	**+1.0**
JMN	**Monobe**	**2.94**	**287**	P	**Pn**	**07 19 18.8**	**+0.1**
BSO4	**Boso 4**	**3.31**	**50**	P	**Pn**	**07 19 23.5**	**+1.9**
JHU	**Hanno**	**3.40**	**29**	P	**Pn**	**07 19 23.0**	**+0.6**
JHU				S	**S**	**07 20 16.9**	**+0.5**
JRY	**Ryogami san**	**3.40**	**23**	P	**Pn**	**07 19 24.7**	**+2.2**
JRY				*e*S	**S**	**07 20 17.7**	**+1.2**
MJAR	**Matsushiro Arr**	**3.72**	**12**	P	**Pn**	**07 19 26.7**	**+1.3**
	0.3nm,0.3s,baz=186,slow=8.6,SNR=13						
MAT	**Matsushiro**	**3.73**	**12**	P	**Pn**	**07 19 26.7**	**+1.3**
MAT				*e*S	**S**	**07 20 22.2**	**+0.5**
JAG	**Ashikaga**	**3.96**	**27**	P	**Pn**	**07 19 27.6**	**0.0**
JAG				*e*S	**S**	**07 20 24.8**	**-1.0**
JYT	**Yasato**	**4.12**	**35**	S	**S**	**07 20 26.7**	**-1.7**
JHO	**Hitachi**	**4.61**	**36**	P	**Pn**	**07 19 33.3**	**-0.6**
JHO				*e*S	**S**	**07 20 33.7**	**-3.5**
KSRS	**Korea Array**	**8.88**	**303**	P	**Pn**	**07 20 22.4**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.3s,baz=120,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**43.56**	**305**	P	**P**	**07 25 41.2**	**-1.0**
	0.1nm,0.5s,baz=86,slow=8.8,SNR=2.2						
INK	**Inuvik**	**59.60**	**26**	P	**P**	**07 27 39.0**	**+0.1**
	0.8nm,0.9s,baz=270,slow=4.0,SNR=3.9						
YKA	**Yellowknife Ar**	**69.08**	**28**	P	**P**	**07 28 39.5**	**-0.2**
	0.1nm,0.5s,baz=297,slow=5.7,SNR=2.2						

NOU 06 07:18:44.9, 16°02S×168°06E, h137km, MLv4.4/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.00**	**305**	P	Pn	07 19 08.4	-0.1
DVP	**Devils Point**	**1.70**	**176**	P	Pn	07 19 15.6	-0.1
RTV	**Rentapao**	**1.80**	**169**	P	Pn	07 19 17.2	+0.3
YATNC	**Mamie plateau,**	**6.11**	**190**	P	Pn	07 20 12.1	-0.8
DZM	**Mont Dzumac**	**6.21**	**194**	P	Pn	07 20 14.1	-0.3
OUENC	**Ouen Island, N**	**6.47**	**190**	P	Pn	07 20 18.8	+1.0

*RSNC **06** 07:19:49.0±1.1, 6°84N×73°14W, h152km±4km, ML3.3, Mw3.7, Fault plane solution: NP1:φs10.00000°, δ13.00000°, λ-42.00000°.*
*IDC **06** 07:19:51.0±4.4, 5°56N×73°12W, h254km±182km, mb2.8/2, mb1 3.2/2, mb1mx2.8/25, mbtmp3.4/2, Error ellipse: s-maj=524.9km s-min=82.9km az=8.0*
ISC 06 07:19:48.4±0.9, **6°84N**±0°03×**73°13W**±0°04, **h155**km±7km, **n40**, σ**1s52**/76, **3C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**193**	⇓iP	**Pn**	**07 20 09.7**	**0.0**
BARC				eS	**Sn**	**07 20 24.9**	**-1.1**
BARC				i		07 20 26.2	
	comp=Z,752nm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇑iP	**Pn**	**07 20 12.5**	**+0.8**
PAMC				eS	**Sn**	**07 20 29.7**	**+0.2**
PAMC				i		07 20 31.8	
	comp=Z,257nm,0.5s						
RUSC	**La Rusia**	**0.94**	**177**	⇓iP	**Pn**	**07 20 13.7**	**-0.1**
RUSC				eS	**Sn**	**07 20 32.4**	**-0.7**
RUSC				i		07 20 33.6	
	comp=Z,206nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	eP	**Pn**	**07 20 16.3**	**-0.5**
PTBC				eS	**Sn**	**07 20 37.4**	**-1.2**
PTBC				i		07 20 44.1	
	comp=Z,256nm,0.4s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑iP	**Pn**	**07 20 18.1**	**+0.9**
TAMC				i		07 20 38.9	
	comp=Z,131nm,0.4s						
TAMC				eS	**Sn**	**07 20 39.9**	**+0.6**
OCAC	**Ocana**	**1.40**	**352**	⇑iP	**Pn**	**07 20 17.8**	**+0.3**
OCAC				eS	**Sn**	**07 20 39.7**	**-0.2**
OCAC				i		07 20 42.9	
	comp=Z,505nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**219**	eP	**Pn**	**07 20 18.6**	**+0.1**
SPBC				eS	**Sn**	**07 20 41.2**	**-0.5**
SPBC				i		07 20 45.6	
	comp=Z,479nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	eP	**Pn**	**07 20 22.2**	**+0.3**
ZARC				eS	**Sn**	**07 20 47.5**	**-0.3**
ZARC				i		07 20 52.9	
	comp=Z,325nm,0.2s						
NORC	**Norcasia**	**2.15**	**234**	eP	**Pn**	**07 20 25.7**	**+0.1**
NORC				eS	**Sn**	**07 20 53.4**	**-0.8**
NORC				i		07 21 03.2	
	comp=Z,179nm,0.4s						
CHIC	**Chingaza**	**2.28**	**195**	eP	**Pn**	**07 20 27.8**	**+0.3**
CHIC				eS	**Sn**	**07 20 57.2**	**-0.4**
CHIC				i		07 21 00.6	
	comp=Z,172nm,0.7s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**07 20 29.6**	**+1.7**
	comp=Z,32nm,0.3s,baz=101,slow=16,SNR=139						
ROSC				S	**Sn**	**07 20 59.6**	**+1.2**
	comp=Z,42nm,0.3s,baz=121,slow=23,SNR=8.3						
ROSC	**El Rosal**	**2.32**	**211**	eP	**Pn**	**07 20 29.4**	**+1.5**
ROSC				eS	**Sn**	**07 21 00.1**	**+1.7**
HELC	**Santa Helena**	**2.47**	**255**	eP	**Pn**	**07 20 31.0**	**+1.2**
HELC				eS	**Sn**	**07 21 02.2**	**+0.5**
HELC				i		07 21 07.8	
	comp=Z,123nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**291**	eP	**Pn**	**07 20 29.4**	**-1.0**
UREC				eS	**Sn**	**07 21 00.3**	**-2.5**
UREC				i		07 21 08.8	
	comp=Z,133nm,0.1s						
SOCV	**Socops**	**2.67**	**57**	eP	**Pn**	**07 20 31.4**	**-0.4**
LL1C	**La Loma 1 Cana**	**2.72**	**351**	eP	**Pn**	**07 20 34.5**	**+2.1**
LL1C				eS	**Sn**	**07 21 10.3**	**+3.8**
GUY2C	**Guyana, Caldas**	**2.75**	**234**	eP	**Pn**	**07 20 33.8**	**+0.6**
GUY2C				eS	**Sn**	**07 21 12.1**	**+4.2**
GUY2C				i		07 21 15.8	
	comp=Z,173nm,0.3s						
VILC	**Villavicencio,**	**2.77**	**192**	eP	**Pn**	**07 20 33.0**	**-0.2**
VILC				eS	**Sn**	**07 21 07.6**	**-0.3**
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇓iP	**Pn**	**07 20 32.8**	**-0.7**
PTGC				eS	**Sn**	**07 21 06.4**	**-2.1**
PTGC				i		07 21 09.1	
	comp=Z,77nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.88**	**357**	eP	**Pn**	**07 20 34.8**	**+0.4**
LL6C				eS	**Sn**	**07 21 09.0**	**-1.1**
LL6C				i		07 21 15.7	
	comp=Z,73nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.03**	**251**	eP	**Pn**	**07 20 37.3**	**+0.8**
CBOC				eS	**Sn**	**07 21 14.6**	**+0.9**
CBOC				i		07 21 19.5	
	comp=Z,33nm,0.5s						
MOTC	**Monteria, Cord**	**3.17**	**308**	eP	**Pn**	**07 20 36.8**	**-1.2**
MOTC				eS	**Sn**	**07 21 14.9**	**-1.7**
MOTC				i		07 21 30.3	
	comp=Z,72nm,0.5s						
ANIL	**Santa Ana**	**3.25**	**224**	eP	**Pn**	**07 20 40.9**	**+1.5**
ANIL				eS	**Sn**	**07 21 20.0**	**+1.0**
ORTC	**Ortega, Tolima**	**3.60**	**216**	eP	**Pn**	**07 20 44.1**	**+0.5**
ORTC				eS	**Sn**	**07 21 25.8**	**-0.7**
ORTC				i		07 21 31.0	
	comp=Z,83nm,0.3s						
CVALL	**Valledupar, Ce**	**3.65**	**358**	eP	**Pn**	**07 20 43.6**	**-0.6**
CVALL				eS	**Sn**	**07 21 28.0**	**+0.3**
CVALL				i		07 21 32.6	
	comp=Z,68nm,0.2s						
SJCC	**San Jacinto, C**	**3.65**	**326**	eP	**Pn**	**07 20 43.9**	**-0.4**
SJCC				eS	**Sn**	**07 21 25.2**	**-2.6**
SJCC				i		07 21 39.4	
	comp=Z,42nm,0.6s						
PLMC	**San Jos del P**	**3.68**	**239**	eP	**Pn**	**07 20 45.2**	**+0.4**
PLMC				eS	**Sn**	**07 21 25.8**	**-2.7**
PLMC				i		07 21 42.2	
	comp=Z,26nm,0.5s						
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	eP	**Pn**	**07 20 49.9**	**-1.1**
CRJC				eS	**Sn**	**07 21 39.4**	**-0.2**
CRJC				i		07 21 45.0	
	comp=Z,81nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	eP	**Pn**	**07 20 52.2**	**-0.4**
YOTC				eS	**Sn**	**07 21 43.3**	**+0.7**
GUVC	**San Jose del G**	**4.30**	**173**	eP	**Pn**	**07 20 52.0**	**-0.7**
GUVC				eS	**Sn**	**07 21 41.5**	**-1.3**
GUVC				i		07 21 48.5	
	comp=Z,63nm,0.3s						
SMRC	**Santa Marta, M**	**4.43**	**346**	eP	**Pn**	**07 20 54.6**	**+0.2**
SMRC				eS	**Sn**	**07 21 42.8**	**-3.1**
SMRC				i		07 21 45.0	
	comp=Z,32nm,0.4s						
MACC	**Macarena, Meta**	**4.72**	**189**	eP	**Pn**	**07 20 56.8**	**-1.5**
MACC				eS	**Sn**	**07 21 48.3**	**-4.5**
MACC				i		07 22 12.4	
	comp=Z,27nm,0.5s						
MARP	**Paez Belalcaza**	**4.87**	**215**	eP	**Pn**	**07 21 00.9**	**+0.4**
MARP				eS	**Sn**	**07 21 53.3**	**-3.4**
MARP				i		07 22 01.3	
	comp=Z,8.1nm,0.4s						
URIC	**Uribia, Colomb**	**4.96**	**13**	eP	**Pn**	**07 21 00.0**	**-1.3**
URIC				eS	**Sn**	**07 21 57.2**	**-1.1**
URIC				i		07 22 02.6	
	comp=Z,13nm,0.4s						
GARC	**Garzon, Huila**	**5.19**	**207**	eP	**Pn**	**07 21 04.2**	**-0.5**
GARC				eS	**Sn**	**07 22 00.4**	**-3.9**
GARC				i		07 22 06.1	
	comp=Z,41nm,0.3s						
PCON	**Cinco Dias**	**5.54**	**216**	eP	**Pn**	**07 21 10.9**	**+1.3**
PCON				eS	**Sn**	**07 22 12.5**	**-0.6**
PCON				i		07 22 22.3	
	comp=Z,8.5nm,0.4s						
FLOC	**Florencia**	**5.80**	**206**	eP	**Pn**	**07 21 12.1**	**-0.4**
FLOC				eS	**Sn**	**07 22 19.9**	**+1.4**
FLOC				i		07 22 23.6	
	comp=Z,9.6nm,0.5s						
SOTA	**Rioblanco**	**5.82**	**217**	eP	**Pn**	**07 21 14.4**	**+1.2**
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**07 26 39.5**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=126,slow=9.1,SNR=2.5						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**07 30 00.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=132,slow=6.5,SNR=14						

*IDC **06** 07:22:00.7±1.1, 28°58N×142°77E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/44, mbtmp3.8/9, ML2.8/1, Error ellipse: s-maj=36.9km s-min=24.2km az=104.0*
ISC 06 07:22:04.6±1.1, **28°6N**±0°2×**142°7E**±0°2, **h25**km, **n9**, σ**0s56**/9, **mb3.9**/8, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.76**	**335**	Pn	**Pn**	**07 24 09.1**	**-0.7**
	0.1nm,0.3s,baz=158,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**48.95**	**190**	P	**P**	**07 30 48.6**	**-0.4**
	2.3nm,0.5s,baz=13,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**49.88**	**309**	P	**P**	**07 30 56.5**	**+0.6**
	0.1nm,0.5s,baz=83,slow=9.3,SNR=2.0						
KDAK	**Kodiak Island**	**52.87**	**37**	P	**P**	**07 31 17.7**	**-0.3**
	8.9nm,1.0s,baz=274,slow=16,SNR=6.0						
ILAR	**Eielson Array**	**56.15**	**29**	P	**P**	**07 31 42.0**	**+0.2**
	0.4nm,0.7s,baz=259,slow=7.3,SNR=4.4						
INK	**Inuvik**	**61.45**	**25**	P	**P**	**07 32 19.3**	**+0.7**
	1.0nm,0.6s,baz=285,slow=3.4,SNR=4.7						
YKA	**Yellowknife Ar**	**70.58**	**29**	P	**P**	**07 33 17.1**	**-0.2**
	0.2nm,0.6s,baz=293,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**76.79**	**334**	P	**P**	**07 33 53.8**	**0.0**
	1.6nm,0.9s,baz=19,slow=5.9,SNR=2.1						
NOA	**NORSAR Array B**	**82.37**	**338**	P	**P**	**07 34 24.7**	**+0.5**
	0.4nm,0.6s,baz=41,slow=8.7,SNR=1.2						

WEL 06 07:26:01.2±0.6, **45°S**±3°×**16°8E**±°, **h60**km±6km, **M3.3**/12, **mB5.1**/1, **ML3.5**/24, **MLv3.3**/12, **Mw(mB)4.4**/1, **Error ellipse: s-maj=0.0km s-min=0.0km az=113.5, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.31**	**26**	P	Pn	07 26 12.5	+1.2
MSZ				S	Sn	07 26 21.0	+2.3
MLZ	**Mavora Lakes**	**0.50**	**147**	P	Pn	07 26 14.3	+1.0
MLZ				S	Sn	07 26 24.4	+2.5
DCZ	**Deep Cove**	**0.66**	**218**	P	Pn	07 26 14.5	-0.4
DCZ				S	Sn	07 26 26.3	+1.4
WKZ	**Wanaka**	**0.92**	**83**	P	Pn	07 26 19.8	+1.6
WKZ				S	Sn	07 26 34.0	+3.1
WHZ	**Wether Hill Ro**	**0.95**	**171**	P	Pn	07 26 19.0	+0.3
WHZ				S	Sn	07 26 32.6	+1.1
EAZ	**Earnscleugh**	**1.15**	**105**	P	Pn	07 26 22.5	+1.3
EAZ				S	Sn	07 26 38.1	+1.9
JCZ	**Jackson Bay**	**1.16**	**41**	P	Pn	07 26 22.0	+0.6
JCZ				S	Sn	07 26 39.1	+2.7
PYZ	**Puysegur Point**	**1.42**	**211**	P	Pn	07 26 26.6	+1.7
TUZ	**Tuapeka**	**1.67**	**128**	P	Pn	07 26 29.1	+0.9
LBZ	**Lake Benmore**	**1.84**	**73**	P	Pn	07 26 30.5	+0.1
LBZ				S	Sn	07 26 52.3	-0.4
SYZ	**Scrubby Hill**	**1.87**	**149**	P	Pn	07 26 31.3	+0.5
APZ	**The Paps**	**1.89**	**175**	P	Pn	07 26 31.4	+0.2
APZ				S	Sn	07 26 54.4	+0.4
FOZ	**Fox Glacier**	**2.06**	**47**	P	Pn	07 26 33.1	-0.4
ODZ	**Otahua Downs**	**2.07**	**94**	P	Pn	07 26 33.7	+0.2
ODZ				S	Sn	07 26 57.1	-1.2
HHSZ	**Highcliff Hill**	**2.22**	**116**	P	Pn	07 26 36.6	+0.9
HHSZ				S	Sn	07 27 01.1	-0.9
TMZ	**Timaru**	**2.40**	**78**	P	Pn	07 26 37.6	-0.6
GCSZ	**Gaunt Creek Bo**	**2.48**	**50**	P	Pn	07 26 39.4	+0.2
ARCZ	**Arundel**	**2.66**	**69**	P	Pn	07 26 40.9	-0.8
RPZ	**Rata Peaks**	**2.68**	**64**	P	Pn	07 26 41.2	-0.8
WVZ	**Waitaha Valley**	**2.87**	**50**	P	Pn	07 26 44.4	0.0
WACZ	**Wakanui South**	**3.11**	**73**	P	Pn	07 26 46.8	-1.0
INZ	**Inchbonnie**	**3.49**	**52**	P	Pn	07 26 52.7	-0.2
MQZ	**McQueen's Vall**	**3.74**	**72**	P	Pn	07 26 55.4	-1.0
AKCZ	**Akaroa Harbour**	**3.86**	**76**	P	Pn	07 26 57.2	-0.9
LTZ	**Lake Taylor**	**3.93**	**58**	P	Pn	07 26 57.6	-1.5
OKCZ	**Okains Bay**	**4.01**	**74**	P	Pn	07 27 00.5	+0.3
DSZ	**Denniston Nort**	**4.37**	**44**	P	Pn	07 27 04.4	-0.6
THZ	**Tophouse**	**4.94**	**52**	P	Pn	07 27 11.4	-1.5
MRNZ	**Matariki Terra**	**5.11**	**48**	P	Pn	07 27 15.7	+0.5
QRZ	**Quartz Range**	**5.42**	**42**	P	Pn	07 27 19.6	+0.1
TKNZ	**Takaka Hill**	**5.48**	**46**	P	Pn	07 27 21.3	+1.0
NNZ	**Nelson**	**5.57**	**50**	P	Pn	07 27 22.6	+1.2
KUTZ	**Kaahu Road**	**8.84**	**46**	P	Pn	07 28 08.9	+2.6

IDC 06 07:34:18.5±2.5, **6°63S**×**129°29E**, **h0**km, **mb3.3**/1, **mb1 3.5**/3, **mb1mx3.3**/32, **mbtmp3.3**/3, **ML3.3**/2, **Error ellipse: s-maj=158.9km s-min=33.8km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**160**	Pn	Pn	07 37 40.4	+0.5
	0.2nm,0.3s,baz=343,slow=13,SNR=3.1						
WRA				Sn	Sn	07 40 04.6	-13
	0.2nm,0.3s,baz=330,slow=22,SNR=2.4						
ASAR	**Alice Springs**	**17.51**	**166**	P	Pn	07 38 24.0	-0.3
	0.1nm,0.3s,baz=341,slow=9.2,SNR=6.2						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	07 45 16.7	0.0
	0.2nm,0.8s,baz=129,slow=6.1,SNR=2.3						

*IDC **06** 07:44:00.9±3.5, 54°14N×162°75W, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/55, mbtmp3.5/7, ML3.3/3, Error ellipse: s-maj=85.0km s-min=21.5km az=162.0*
*AEIC **06** 07:44:06±1.9, 54°16N±0°06×162°53W±0°04, h27km±8km, ML3.4, ML3.5/10(NEIC), Error ellipse: s-maj=8.4km s-min=3.3km az=191.0*
*NEIC **06** 07:44:06.6±1.6, 54°15N±0°07×162°49W±0°06, h31km±12km, Error ellipse: s-maj=11.7km s-min=1.3km az=155.0*
ISC 06 07:44:04.1±2.0, **54°06N**±0°09×**162°46W**±0°06, **h25**km±15km, **n82**, σ**1s55**/80, **mb3.5**/4, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.95**	**309**		**Pb**	**07 44 21.7**	**-0.3**
FALS	**False Pass**	**0.98**	**326**		**Pn**	**07 44 21.9**	**-0.4**
FALS	**False Pass**	**0.98**	**326**	P	**Pn**	**07 44 21.9**	**-0.4**
	baz=143						
FALS				S	**Sb**	**07 44 33.7**	**-1.1**
	baz=143						
ISLZ	**Isanotski Laza**	**0.99**	**313**		**Pn**	**07 44 22.3**	**-0.3**
ISNN	**Isanotski Nort**	**1.09**	**316**		**Pb**	**07 44 24.6**	**+0.2**
SSLS	**Shishaldin Sou**	**1.11**	**307**		**Pn**	**07 44 24.7**	**+0.5**
BALA	**Baldy Mountain**	**1.16**	**351**		**Pb**	**07 44 25.4**	**-0.1**
SSLN	**Shishaldin Nor**	**1.17**	**311**		**Pb**	**07 44 26.0**	**+0.3**
HAG	**Hague Volcano**	**1.31**	**14**		**Pn**	**07 44 27.4**	**+0.5**
WESE	**West Dahl East**	**1.31**	**289**		**Pn**	**07 44 27.8**	**+0.8**
PS4A	**Pavlof South-4**	**1.34**	**15**		**Pn**	**07 44 27.7**	**+0.5**
PVV	**Pavlof Volcano**	**1.38**	**16**		**Pn**	**07 44 28.2**	**+0.4**
PS1A	**Pavlof South-1**	**1.43**	**17**		**Pn**	**07 44 29.3**	**+0.8**
WECS	**Westdahl Cape**	**1.44**	**290**		**Pn**	**07 44 29.8**	**+1.2**
BLHA	**Black Hill**	**1.67**	**8**		**Pn**	**07 44 33.3**	**+1.5**
BLHA	**Black Hill**	**1.67**	**8**	P	**Pn**	**07 44 33.3**	**+1.5**
	baz=190						
SDPT	**Sand Point**	**1.74**	**41**		**Pn**	**07 44 34.3**	**+1.6**
SDPT					**Sn**	**07 44 54.7**	**+0.7**
SDPT				IAML		07 45 00.4	
	comp=N,1μm,0.5s						
SDPT				IAML		07 45 00.6	
	comp=E,1μm,0.5s						
SDPT	**Sand Point**	**1.74**	**41**	P	**Pn**	**07 44 34.1**	**+1.4**
	baz=226						
SDPT				S	**Sn**	**07 44 55.6**	**+1.6**
	baz=226						
CNBA	**Chernabura Isl**	**1.85**	**64**		**Pn**	**07 44 35.2**	**+1.0**
CNBA					**Sn**	**07 44 57.2**	**+0.5**
CNBA				IAML		07 44 58.1	
	comp=N,245nm,0.3s						
CHNA	**Chernabura Isl**	**1.85**	**64**	P	**Pn**	**07 44 35.5**	**+1.2**
	baz=250						
CHNA				S	**Sn**	**07 44 57.7**	**+0.9**
	baz=250						
AKSA	**Akutan Strait**	**1.91**	**274**		**Pn**	**07 44 36.6**	**+1.6**
AKUT	**Akutan**	**1.95**	**274**		**Pn**	**07 44 36.8**	**+1.2**
AKUT				IAML		07 45 04.3	
	comp=E,222nm,0.6s						
AKBBA	**Akutan Broad B**	**2.04**	**273**		**Pn**	**07 44 39.0**	**+2.1**
ZRO	**Akutan Zero**	**2.07**	**272**		**Pn**	**07 44 39.1**	**+1.8**
AKMO	**Akutan Morgan**	**2.09**	**272**		**Pn**	**07 44 39.8**	**+2.2**
UNV	**Unalaska Valle**	**2.40**	**267**		**Pn**	**07 44 43.5**	**+1.8**
UNV	**Unalaska Valle**	**2.40**	**267**	P	**Pn**	**07 44 43.7**	**+2.0**
	baz=81						
MTBL	**Makushin Table**	**2.49**	**270**		**Pn**	**07 44 45.5**	**+2.4**
MREP	**Makushin Rep't**	**2.54**	**266**		**Pn**	**07 44 46.0**	**+2.2**
MSW	**Makushin Switc**	**2.55**	**269**		**Pn**	**07 44 45.7**	**+1.8**
VNFG	**Fog Glacier, M**	**2.79**	**36**		**Pn**	**07 44 49.6**	**+2.3**
VNFG	**Fog Glacier, M**	**2.79**	**36**	P	**Pn**	**07 44 49.6**	**+2.3**
	baz=220						
VNHG	**Veniaminof 1**	**2.88**	**40**		**Pn**	**07 44 50.9**	**+2.4**
CHGN	**Chignik**	**3.23**	**44**		**Pn**	**07 44 55.9**	**+2.7**
CHGN				IAML		07 45 40.8	
	comp=N,130nm,0.6s						
CHGN				IAML		07 45 41.4	
	comp=E,130nm,0.6s						
CHGN	**Chignik**	**3.23**	**44**	P	**Pn**	**07 44 55.7**	**+2.4**
	baz=229						
OKTU	**Okmok Mt. Tuli**	**3.38**	**261**		**Pn**	**07 44 58.6**	**+3.3**
OKRE	**Okmok R'deer P**	**3.42**	**263**		**Pn**	**07 44 58.6**	**+2.7**
NIKH	**Nikolski High**	**3.97**	**257**	Pn	**Pn**	**07 45 05.2**	**+1.9**
CHIR	**Chirikof Islan**	**4.33**	**63**	Pn	**Pn**	**07 45 09.3**	**+1.1**
OHAK	**Old Harbor**	**6.09**	**55**		**Pn**	**07 45 33.2**	**+0.8**
OHAK	**Old Harbor**	**6.09**	**55**	P	**Pn**	**07 45 32.7**	**+0.2**
	baz=243						
P18K	**Big Mountain,**	**6.67**	**34**		**Pn**	**07 45 42.4**	**+2.0**
P18K	**Big Mountain,**	**6.67**	**34**	P	**Pn**	**07 45 42.4**	**+2.0**
	baz=220						
KDAK	**Kodiak Island**	**6.69**	**52**	Pn	**Pn**	**07 45 41.1**	**+0.4**
	comp=E,0.4nm,0.3s,baz=194,slow=5.2,SNR=29						
KDAK				Sn	**Sn**	**07 46 52.7**	**-3.4**
	comp=E,0.2nm,0.3s,baz=55,slow=11,SNR=1.5						
KDAK	**Kodiak Island**	**6.69**	**52**		**Pn**	**07 45 41.5**	**+0.8**
KDAK	**Kodiak Island**	**6.69**	**52**	P	**Pn**	**07 45 41.5**	**+0.8**
	baz=241						
O18K	**Koktuh Hills**	**7.04**	**31**		**Pn**	**07 45 46.8**	**+1.3**
O18K	**Koktuh Hills**	**7.04**	**31**	P	**Pn**	**07 45 47.6**	**+2.1**
	baz=218						
IVE	**Iliamna Volcan**	**7.88**	**37**		**Pn**	**07 46 00.1**	**+2.9**
SVW2	**Sparrevohn**	**7.97**	**25**	Pn	**Pn**	**07 45 59.8**	**+1.6**
N19K	**Bonanza Creek**	**8.02**	**29**		**Pn**	**07 46 00.5**	**+1.5**
N19K	**Bonanza Creek**	**8.02**	**29**	P	**Pn**	**07 46 00.9**	**+1.9**
	baz=216						
CNPM	**China Poot**	**8.24**	**44**		**Pn**	**07 46 01.9**	**-0.1**
BRSE	**Bradley Lake S**	**8.57**	**44**		**Pn**	**07 46 07.0**	**+0.4**
BRSE	**Bradley Lake S**	**8.57**	**44**	P	**Pn**	**07 46 07.0**	**+0.4**
	baz=234						
ADK	**Adak**	**8.85**	**262**	Pn	**Pn**	**07 46 10.7**	**+0.3**
M19K	**Big River Lodg**	**8.96**	**25**		**Pn**	**07 46 12.0**	**+0.2**
M19K	**Big River Lodg**	**8.96**	**25**	P	**Pn**	**07 46 13.1**	**+1.4**
	baz=213						
L19K	**White Mountain**	**9.08**	**23**		**Pn**	**07 46 14.1**	**+0.6**
L19K	**White Mountain**	**9.08**	**23**	P	**Pn**	**07 46 14.3**	**+0.8**
	baz=210						
SEW	**Seward**	**9.31**	**44**		**Pn**	**07 46 17.6**	**+1.0**
SEW	**Seward**	**9.31**	**44**	P	**Pn**	**07 46 17.6**	**+1.0**
	baz=236						
L20K	**Farewell, AK**	**9.57**	**25**	P	**Pn**	**07 46 21.5**	**+1.3**
	baz=212						
RC01	**Rabbit Creek A**	**9.81**	**39**	Pn	**Pn**	**07 46 24.3**	**+0.9**
PWL	**Port Wells**	**10.20**	**42**	Pn	**Pn**	**07 46 28.9**	**0.0**
K20K	**Telida**	**10.29**	**22**	Pn	**Pn**	**07 46 31.3**	**+1.3**
J20K	**Nowinta River**	**11.00**	**19**	Pn	**Pn**	**07 46 41.1**	**+1.4**
SCM	**Sheep Creek Mo**	**11.18**	**40**	Pn	**Pn**	**07 46 41.5**	**-0.7**
ILAR	**Eielson Array**	**13.30**	**30**	Pn	**Pn**	**07 47 08.5**	**-2.7**
	comp=E,0.1nm,0.3s,baz=220,slow=14,SNR=3.2						
INK	**Inuvik**	**19.67**	**32**	P	**P**	**07 48 29.3**	**-1.6**
	comp=E,0.1nm,0.3s,baz=232,slow=16,SNR=6.1						
PETK	**Petropavlovsk-**	**23.46**	**284**	P	**P**	**07 49 09.9**	**-1.4**
	comp=E,0.8nm,0.5s,baz=81,slow=14,SNR=8.6						
YKA	**Yellowknife Ar**	**25.97**	**52**	P	**P**	**07 49 36.0**	**+1.7**
	comp=E,0.3nm,0.5s,baz=270,slow=8.9,SNR=13						
H11N2	**WAKE ISLAND Hy**	**41.50**	**226**	T	T	08 36 11.1	
	baz=26,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**41.51**	**226**	T	T	08 36 11.6	
	baz=26,slow=76,SNR=61						
H11N1	**WAKE ISLAND Hy**	**41.52**	**226**	T	T	08 36 12.4	
	baz=26,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**42.67**	**226**	T	T	08 37 38.6	
	baz=26,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**42.69**	**226**	T	T	08 37 38.8	
	baz=26,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**42.69**	**226**	T	T	08 37 40.3	
	baz=26,slow=76,SNR=35						
MKAR	**Makanchi Array**	**65.54**	**317**	P	**P**	**07 54 44.8**	**-0.3**
	comp=E,0.3nm,0.6s,baz=31,slow=5.8,SNR=3.9						
AKASG	**Malin Array Be**	**75.16**	**352**	P	**P**	**07 55 43.4**	**-0.4**
	comp=E,0.2nm,0.4s,baz=9.4,slow=5.7,SNR=2.0						
H03N1	**Juan Fernandez**	**112.81**	**116**	T	T	10 05 34.2	
	baz=326,slow=74,SNR=3.3						
H03N3	**Juan Fernandez**	**112.81**	**116**	T	T	10 05 32.6	
	baz=63,slow=74,SNR=3.9						

JMA 06 07:46:26.3±0.1, **38°38N**×**144°54E**, **h32**km, **M3.5**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.35**	**288**	P	Pn	07 47 04.2	+1.5
OFUJ				eS	Sn	07 47 31.5	+1.0
JIKH	**Ishinomakikobu**	**2.42**	**269**	P	Pn	07 47 04.8	+1.2
JIKH				S	Sn	07 47 33.9	+1.8
MIYJ	**Miyakonagasawa**	**2.43**	**300**	P	Pn	07 47 05.1	+1.3
MIYJ				S	Sn	07 47 33.7	+1.2
JMK	**Ichinoseki**	**2.66**	**283**	P	Pn	07 47 09.1	+2.2
JOM	**Ohasama**	**2.76**	**294**	P	Pn	07 47 10.2	+1.9
JOM				S	Sn	07 47 43.1	+2.6
JFT	**Otama**	**3.43**	**257**	P	Pn	07 47 20.0	+2.4
JFT				S	Sn	07 47 59.8	+2.7
JOT	**Ohata**	**4.03**	**319**	eS	Sn	07 48 11.1	-0.6
JCH	**Churui**	**4.32**	**348**	P	Pn	07 47 29.1	-0.7
JCH				eS	Sn	07 48 17.2	-1.9
JKB	**Kayabe**	**4.42**	**324**	P	Pn	07 47 33.1	+2.1
JKB				eS	Sn	07 48 20.3	-1.0
NEM2	**Nemuro 2**	**5.06**	**10**	P	Pn	07 47 37.2	-2.7
NEM2				eS	Sn	07 48 32.2	-5.1
JRY	**Ryogami san**	**5.08**	**244**	P	Pn	07 47 41.6	+1.3
JRY				eS	Sn	07 48 37.5	-0.3
JTKR	**Abashiri--Toko**	**5.61**	**355**	P	Pn	07 47 46.5	-0.9
JTKR				S	Sn	07 48 47.6	-3.0

*IDC **06** 07:56:58.5±2.8, 33°44S×179°29E, h260km±22km, mb3.7/4, mb1 3.9/6, mb1mx3.4/27, mbtmp4.4/6, Error ellipse: s-maj=30.6km s-min=17.1km az=60.0*
*NEIC **06** 07:56:58.6±1.1, 33°5S±0°1×179°4E±0°1, h262km±8km, mb4.1/9, Error ellipse: s-maj=19.7km s-min=13.6km az=219.0*
*WEL **06** 07:56:59.9±0.3, 34°S±3°×18°0E±°, h33km, M4.5/57, mB5.2/40, ML5.0/60, MLv4.8/57, Mw(mB)4.5/40, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*
ISC 06 07:56:57.0±0.7, **33°44S**±0°05×**179°61E**±0°08, **h250**km, **n104**, σ**1s98**/125, **mb4.0**/9, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.25**	**194**		**Pn**	**07 58 04.5**	**+0.9**
MXZ	**Matakaoa Point**	**4.25**	**194**	P	**Pn**	**07 58 05.3**	**+1.7**
HAZ	**Te Kaha**	**4.56**	**199**	P	**Pn**	**07 58 08.1**	**+0.8**
KUZ	**Kuaotunu**	**4.59**	**223**	P	**Pn**	**07 58 10.2**	**+2.4**
PKGZ	**Pakihiroa**	**4.61**	**195**	P	**Pn**	**07 58 09.2**	**+1.1**
GLKZ	**Green Lake**	**4.67**	**28**	P	**Pn**	**07 58 07.6**	**-1.2**
GLKZ				S	**S**	**07 59 03.1**	**-2.8**
RIZ	**Raoul Island**	**4.68**	**27**	S	**S**	**07 59 04.0**	**-2.2**
PUZ	**Puketiti**	**4.75**	**193**	P	**Pn**	**07 58 10.1**	**+0.4**
RUGZ	**Raukumara Rang**	**4.79**	**199**	P	**Pn**	**07 58 11.4**	**+1.2**
RUGZ				S	**S**	**07 59 05.2**	**-3.3**
WHRZ	**Whale Island**	**4.90**	**205**	P	Pn	07 58 16.7	+5.1
TWGZ	**Tauwhareparae**	**4.91**	**195**	P	**Pn**	**07 58 13.2**	**+1.5**
TWGZ				S	**S**	**07 59 12.1**	**+0.9**
WCZ	**Waipu Caves**	**5.01**	**239**	P	**Pn**	**07 58 15.7**	**+2.9**
OPRZ	**Ohinepanea**	**5.05**	**209**	P	**Pn**	**07 58 16.2**	**+2.9**
MBAZ	**Motutapu North**	**5.10**	**228**	P	**Pn**	**07 58 17.4**	**+3.6**
CNGZ	**Carnagh Statio**	**5.16**	**192**	P	**Pn**	**07 58 15.4**	**+0.8**
MWZ	**Matawai**	**5.17**	**199**	P	**Pn**	**07 58 14.9**	**+0.1**
MWZ				S	**S**	**07 59 16.4**	**-0.5**
TKGZ	**Te Karaka**	**5.19**	**196**	P	**Pn**	**07 58 15.1**	**+0.1**

TKGZ			S	**S**	07 59 15.8	-1.6	
URZ	**Urewera**	**5.22 202**	P	**Pn**	07 58 17.5	+2.2	
	27nm,0.3s,baz=270,slow=3.7,SNR=261						
URZ			S	**S**	07 59 16.7	-1.3	
	30nm,0.3s,baz=49,slow=23,SNR=23						
URZ	**Urewera**	**5.22 202**	P	**Pn**	07 58 17.4	+2.0	
OUZ	**Omahuta**	**5.29 249**		**Pn**	07 58 16.6	+0.3	
OUZ	**Omahuta**	**5.29 249**	P	**Pn**	07 58 18.3	+2.1	
KARZ	**Kaharoa**	**5.33 210**	P	**Pn**	07 58 20.1	+3.4	
RAGZ	**Rawiri**	**5.35 199**	P	**Pn**	07 58 16.6	-0.5	
TARZ	**Mount Tarawera**	**5.41 207**	P	**Pn**	07 58 21.6	+3.8	
TRRZ	**Republican Roa**	**5.50 206**	P	**Pn**	07 58 22.3	+3.4	
HSRZ	**Hossack Road**	**5.58 208**	P	**Pn**	07 58 24.0	+4.2	
SNGZ	**Shannon Statio**	**5.64 198**	P	**Pn**	07 58 20.3	-0.3	
SNGZ			S	**S**	07 59 25.2	-2.2	
GRRZ	**Galatos Road**	**5.67 209**	P	**Pn**	07 58 24.6	+3.7	
PRRZ	**Plateau Road**	**5.69 206**	P	**Pn**	07 58 23.6	+2.5	
PRRZ			S	**S**	07 59 26.0	-2.4	
ALRZ	**Allen Road**	**5.76 206**	P	**Pn**	07 58 24.3	+2.2	
RAHZ	**Arahi**	**5.84 200**	P	**Pn**	07 58 23.6	+0.6	
RAHZ			S	**S**	07 59 29.8	-2.0	
MTHZ	**Maungataniwha**	**5.85 202**	P	**Pn**	07 58 22.9	-0.3	
MTHZ			S	**S**	07 59 29.1	-3.1	
TLZ	**Tolley Road**	**5.90 213**	P	**Pn**	07 58 27.7	+3.9	
KUTZ	**Kaahu Road**	**5.90 210**	P	**Pn**	07 58 27.3	+3.4	
WHHZ	**Waihua**	**5.95 198**	P	**Pn**	07 58 22.2	-2.2	
WHHZ			S	**S**	07 59 34.0	-0.3	
MRHZ	**Matea Rd**	**5.97 205**	P	**Pn**	07 58 26.3	+1.6	
NMHZ	**Naumai**	**6.09 201**	P	**Pn**	07 58 26.2	+0.1	
NMHZ			S	**S**	07 59 37.2	-0.4	
WATZ	**Wairara**	**6.13 210**	P	**Pn**	07 58 29.6	+2.9	
HATZ	**Hinemaiaia**	**6.14 207**	P	**Pn**	07 58 28.1	+1.3	
ARHZ	**Aropaoanui**	**6.18 199**	P	**Pn**	07 58 27.1	-0.2	
ARHZ			S	**S**	07 59 35.9	-3.8	
RATZ	**Rangitukua**	**6.25 209**	P	**Pn**	07 58 30.4	+2.3	
BKZ	**Black Stump Fm**	**6.25 203**		**Pn**	07 58 27.4	-0.7	
BKZ	**Black Stump Fm**	**6.25 203**	P	**Pn**	07 58 27.4	-0.7	
BKZ			S	**S**	07 59 36.6	-4.6	
RITZ	**Rihia Road**	**6.31 208**	P	**Pn**	07 58 30.7	+1.8	
RITZ			S	**S**	07 59 43.3	+0.8	
MCHZ	**McNeill Hill**	**6.44 201**	P	**Pn**	07 58 29.3	-1.2	
MCHZ			S	**S**	07 59 42.3	-3.2	
NTVZ	**North Tongarir**	**6.48 208**	P	**Pn**	07 58 32.8	+1.6	
NTVZ			S	**S**	07 59 43.7	-3.0	
TMVZ	**Te Maari**	**6.49 208**	P	**Pn**	07 58 31.6	+0.4	
TMVZ			S	**S**	07 59 43.8	-3.0	
KRVZ	**Karewarewa**	**6.49 208**	P	**Pn**	07 58 33.1	+1.8	
ETVZ	**East Tongariro**	**6.50 208**	P	**Pn**	07 58 32.6	+1.2	
ETVZ			S	**S**	07 59 46.5	-0.6	
KWHZ	**Kaweka Forest**	**6.50 202**	P	**Pn**	07 58 31.7	+0.3	
KWHZ			S	**S**	07 59 43.5	-3.6	
WTVZ	**West Tongariro**	**6.53 209**	P	**Pn**	07 58 33.2	+1.4	
CKHZ	**Cape Kidnapper**	**6.54 197**	P	**Pn**	07 58 31.3	-0.4	
CKHZ			S	**S**	07 59 42.6	-5.0	
NNVZ	**North Ngauruho**	**6.54 208**	P	**Pn**	07 58 33.3	+1.4	
OTVZ	**Oturere**	**6.54 208**	P	**Pn**	07 58 31.6	-0.4	
TWVZ	**Taurewa**	**6.56 210**	P	**Pn**	07 58 33.7	+1.7	
SNVZ	**South Ngauruho**	**6.57 208**	P	**Pn**	07 58 33.2	+0.9	
NGZ	**Ngauruhoe**	**6.58 208**	P	**Pn**	07 58 34.0	+1.6	
TUVZ	**Tukino**	**6.64 208**	P	**Pn**	07 58 34.0	+0.9	
FWVZ	**Far West T-bar**	**6.67 208**	P	**Pn**	07 58 34.5	+0.9	
WHVZ	**Whangaehu Hut**	**6.67 208**	P	**Pn**	07 58 34.6	+0.9	
BHHZ	**Black Hill Sta**	**6.68 204**	P	**Pn**	07 58 33.6	0.0	
TRVZ	**Turoa**	**6.71 208**	P	**Pn**	07 58 34.9	+0.8	
WNVZ	**Wahianoa**	**6.71 208**	P	**Pn**	07 58 34.0	-0.1	
KAHZ	**Kahuranaki**	**6.71 198**	P	**Pn**	07 58 32.6	-1.5	
KRHZ	**Kereru**	**6.72 202**	P	**Pn**	07 58 32.7	-1.4	
MOVZ	**Moawhango**	**6.72 206**	P	**Pn**	07 58 34.2	+0.1	
PKVZ	**Pokaka**	**6.78 209**	P	**Pn**	07 58 35.7	+0.8	
MTVZ	**Mangateitei**	**6.81 208**	P	**Pn**	07 58 35.9	+0.7	
VRZ	**Vera Road**	**6.90 213**	P	**Pn**	07 58 38.8	+2.5	
PXZ	**Pawanui**	**6.94 198**	P	**Pn**	07 58 36.2	-0.6	
PNHZ	**Pukenui**	**7.02 202**	P	**Pn**	07 58 36.8	-1.1	
WPHZ	**Waipukurau**	**7.09 200**	P	**Pn**	07 58 38.0	-0.7	
PRHZ	**Porangahau**	**7.22 198**	P	**Pn**	07 58 37.9	-2.5	
TSZ	**Takapari Road**	**7.23 203**	P	**Pn**	07 58 38.7	-1.7	
WAZ	**Wanganui**	**7.32 209**	P	**Pn**	07 58 41.6	0.0	
DVHZ	**Dannevirke**	**7.38 201**	P	**Pn**	07 58 41.4	-1.0	
ANWZ	**Angora Road**	**7.45 199**	P	**Pn**	07 58 42.3	-0.8	
POWZ	**Post Office Ro**	**7.59 203**	P	**Pn**	07 58 44.7	-0.3	
PRWZ	**Peri Road**	**7.68 201**	P	**Pn**	07 58 45.4	-0.7	
BFZ	**Birch Farm**	**7.71 199**	P	**Pn**	07 58 45.3	-1.3	
TIWZ	**Tintock**	**7.91 201**	P	**Pn**	07 58 47.9	-1.1	
CPWZ	**Castlepoint**	**7.94 199**	P	**Pn**	07 58 49.0	-0.4	
TMWZ	**Te Maipa**	**8.21 200**	P	**Pn**	07 58 51.1	-1.8	
TRWZ	**Traveller**	**8.54 200**	P	**Pn**	07 58 55.3	-1.6	
PLWZ	**Palliser**	**8.82 202**		**Pn**	07 58 58.5	-2.1	
CTZ	**Chatham Island**	**10.70 165**	P	**P**	07 59 33.5	+4.6	
CTZ			S	**S**	08 01 27.5	+3.6	
RPZ	**Rata Peaks**	**12.24 211**	P	**Pn**	07 59 40.4	-3.1	
	1.7nm,0.3s,baz=269,slow=1.6,SNR=6.3						
RPZ			S	S	08 01 45.1	-15	
	2.1nm,0.3s,baz=31,slow=17,SNR=9.3						
MSVF	**Nonsavu**	**15.70 354**	P	**Pn**	**08 00 26.2**	**+0.5**	
	2.3nm,0.3s,baz=222,slow=1.5,SNR=12						
MSVF	**Nonsavu**	**15.70 354**	P	**P**	**08 00 25.6**	**+0.9**	
CTA	**Charters Tower**	**32.47 286**	P	**P**	**08 03 02.4**	**-1.9**	
	3.2nm,0.5s,baz=119,slow=10,SNR=11						
PMG	**Port Moresby**	**38.25 301**	P	**P**	**08 03 53.5**	**0.0**	
PMG			IAmb	IAmb	08 03 54.8		
	comp=Z,5.4nm,0.6s						
COEN	**Coen**	**38.32 292**	P	**P**	**08 03 53.3**	**-0.7**	
COEN			IAmb	IAmb	08 04 18.5		
	comp=Z,9.6nm,1.4s						
ASAR	**Alice Springs**	**41.04 272**	P	**P**	**08 04 15.0**	**-1.4**	
	comp=Z,2.6nm,0.7s,baz=110,slow=7.4,SNR=25						
ASAR	**Alice Springs**	**41.04 272**	P	**P**	**08 04 15.0**	**-1.4**	
WR0	**Warramunga Arr**	**42.13 277**	P	**P**	**08 04 23.7**	**-1.5**	
WR0			IAmb	IAmb	08 04 42.5		
	comp=Z,4.7nm,0.6s						
WB2	**Warramunga Arr**	**42.30 277**	P	**P**	**08 04 24.9**	**-1.7**	
WB2			IAmb	IAmb	08 04 45.3		
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**42.31 277**	P	**P**	**08 04 24.9**	**-1.7**	
	comp=Z,2.3nm,0.5s,baz=117,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**42.31 277**	P	**P**	**08 04 25.4**	**-1.3**	
WB0	**Warramunga Arr**	**42.35 277**	P	**P**	**08 04 25.7**	**-1.2**	
WB0			IAmb	IAmb	08 04 39.4		
	comp=Z,4.4nm,0.7s						
QSPA	**South Pole Qui**	**56.68 180**	P	**P**	**08 06 15.2**	**+0.9**	
	comp=Z,2.5nm,0.6s,baz=248,slow=0.5,SNR=22						
QSPA	**South Pole Qui**	**56.68 180**	P	**P**	**08 06 16.3**	**+2.0**	
SNAA	**Sanae**	**75.17 179**	P	**P**	**08 08 11.6**	**+0.1**	
FINES	**FINESS Array B**	**147.21 337**	PKPbc	**PKPdf**	**08 16 08.0**	**+0.7**	
	comp=Z,1.3nm,0.5s,baz=46,slow=5.5,SNR=8.6						
FINES	**FINESS Array B**	**147.21 337**		**PKPdf**	**08 16 08.4**	**+1.2**	

IDC 06 08:01:16.0±2.1, 7°.56S×126°.92E, h0km, mb3.4/1, mb1 4.1/3, mb1mx3.5/34, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=275.4km s-min=31.3km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**150**	Pn	Pn	08 04 39.1	-0.3
	0.7nm,0.3s,baz=326,slow=14,SNR=14						
WRA				Sn	Sn	08 07 03.5	-15
	2.2nm,0.3s,baz=326,slow=21,SNR=10						
ASAR	**Alice Springs**	**17.37**	**158**	P	Pn	08 05 20.1	+0.2
	0.6nm,0.3s,baz=342,slow=12,SNR=25						
ASAR				S	Sn	08 08 22.6	-11
	0.7nm,0.3s,baz=319,slow=18,SNR=6.5						
MKAR	**Makanchi Array**	**67.05**	**328**	P	P	08 12 11.2	0.0
	0.1nm,0.3s,baz=117,slow=8.1,SNR=6.3						

*IDC **06** 08:12:32.4±0.9, 38°.37N×16°.55E, h0km, mb3.8/11, mb1 3.9/17, mb1mx3.8/49, mbtmp3.8/17, ML3.8/4, MS3.2/5, Ms1 3.3/5, ms1mx2.7/96, Error ellipse: s-maj=21.2km s-min=13.8km az=141.0*

*MED_RC **06** 08:12:35.0±0.6, 38°.27N×16°.73E, h27km±3km, MW4.1/9, Moment Tensor Solution. Mantle waves: s9,c15; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr0.19±.40; Mθθ 1.22±.25; Mϕϕ-1.41±.35; Mrθ-1.35±.31; Mθϕ-0.75±.12; Mϕr-0.15±.24; Best double couple: M◎2.00000×10^15^ NP1:ϕs239.00000°,δ81.00000°,λ142.00000°. NP2: ϕs336.00000°,δ53.00000°,λ11.00000°. Principal axes: T 2.2300, Plg33.0000°, Azm190.0000°; N -0.4600, Plg51.0000°, Azm47.0000°; P -1.7700, Plg18.0000°,*

Azm292.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

*PDG **06** 08:12:36.1±0.9, 38°.27N×16°.78E, h39km±3km, MD4.8/3, ML4.8/12 Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*

*ROM **06** 08:12:36.2±0.1, 38°.198N±0°.006×16°.743E±0°.007, h39km, ML3.9/75, Mw4.0, Error ellipse: s-maj=0.8km s-min=0.5km az=318.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.20; Mθθ 0.56; Mϕϕ-0.76; Mrθ-0.47; Mθϕ-0.85; Mϕr0.13; Fault plane solution: M◎1.19583×10^15^ NP1:ϕs344.00000°,δ69.00000°, λ16.00000°. NP2:ϕs248.00000°,δ75.00000°,λ158.00000°.*

*LDG **06** 08:12:37.2, 38°.20N×16°.73E, h37km*

*GII **06** 08:12:49.0±0.0, 37°.44N×18°.08E, h15km*

ISC 06 08:12:34.6±0.5, 38°.30N±0°.03×16°.72E±0°.03, h26km, n285, σ2s23/330, mb3.9/10, 33C-35D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAC	**Placanica**	**0.27**	**303**	⇓P	Pn	08 12 45.0	+2.1
PLAC				S	Sn	08 12 51.2	+3.0
PLAC				AML	AML		
	comp=N,34850μm,1.4s						
PLAC				AML	AML		
	comp=N,88500μm,0.9s						
PLAC				AML	AML		
	comp=N,34900μm,1.4s						
PLAC				AML	AML		
	comp=E,37750μm,0.3s						
PLAC				AML	AML		
	comp=E,87350μm,0.9s						
GRI	**Girifalco**	**0.57**	**336**	⇓P	Pn	08 12 49.5	+2.4
GRI				S	Sn	08 12 59.4	+3.7
GRI				AML	AML		
	comp=E,15050μm,0.6s						
GRI				AML	AML		
	comp=N,15650μm,0.4s						
SOI	**Samo**	**0.57**	**247**	⇓P	Pn	08 12 48.5	+1.4
SOI				S	Sn	08 12 56.7	+1.0
SOI				AML	AML		
	comp=N,5360μm,0.9s						
SOI				AML	AML		
	comp=N,5365μm,0.9s						
SOI				AML	AML		
	comp=E,4670μm,1.0s						
CEL	**Celeste**	**0.65**	**266**	⇓P	Pn	08 12 49.9	+1.7
CEL				S	Sn	08 12 59.9	+2.1
CEL				AML	AML		
	comp=E,6985μm,1.0s						
CEL				AML	AML		
	comp=N,8615μm,0.6s						
CEL				AML	AML		
	comp=E,8375μm,1.0s						
CEL				AML	AML		
	comp=N,8610μm,0.6s						
CEL				AML	AML		
	comp=N,10460μm,0.6s						
GMB	**Gambarie**	**0.72**	**259**	⇓P	Pn	08 12 50.5	+1.4
GMB				S	Sn	08 13 01.2	+1.8
GMB				AML	AML		
	comp=E,28400μm,0.6s						
GMB				AML	AML		
	comp=N,34100μm,1.0s						
JOPP	**Joppolo**	**0.72**	**295**	⇓P	Pn	08 12 51.0	+1.9
JOPP				S	Sn	08 13 02.0	+2.5
JOPP				AML	AML		
	comp=E,5890μm,0.5s						
JOPP				AML	AML		
	comp=N,5155μm,0.7s						
SERS	**Sersale**	**0.73**	**358**	⇑P	Pn	08 12 52.1	+2.7
SERS				AML	AML		
	comp=E,4280μm,1.5s						
SERS				AML	AML		
	comp=N,6210μm,0.4s						
SERS				AML	AML		
	comp=E,6405μm,0.4s						
SERS				AML	AML		
	comp=N,3895μm,0.4s						
MSCL	**Scilla**	**0.74**	**265**	⇓P	Pn	08 12 51.0	+1.5
MSCL				S	Sn	08 13 01.7	+1.9
MTTG	**Motta San Giov**	**0.86**	**250**	⇓P	Pn	08 12 52.6	+1.5
MTTG				S	Sn	08 13 03.8	+0.8
MTTG				AML	AML		
	comp=N,8250μm,0.6s						
MTTG				AML	AML		
	comp=E,9890μm,1.2s						
TIP	**Timpagrande**	**0.88**	**2**	⇑P	Pn	08 12 53.9	+2.5
TIP				S	Sn	08 13 07.0	+3.7
TIP				AML	AML		
	comp=N,1825μm,0.4s						
TIP				AML	AML		
	comp=N,1830μm,0.4s						
TIP				AML	AML		
	comp=E,2510μm,0.8s						
TIP				AML	AML		
	comp=E,2955μm,0.7s						
TIP				AML	AML		
	comp=N,2310μm,0.4s						
MSRU	**Castanea**	**0.96**	**268**	⇓P	Pb	08 12 53.8	+1.3
MSRU				AML	AML		
	comp=E,7710μm,1.0s						
MSRU				AML	AML		
	comp=N,4085μm,0.6s						
LADO	**San Nicola del**	**1.00**	**11**	P	Pb	08 12 56.5	+3.2
LADO				AML	AML		
	comp=E,176μm,0.9s						
LADO				AML	AML		
	comp=E,176μm,0.9s						
LADO				AML	AML		
	comp=N,138μm,0.4s						
CAR1	**CAROLEI**	**1.03**	**337**	⇓P	Pb	08 12 56.3	+2.5
CAR1				S	Sn	08 13 10.8	+3.8
CAR1				AML	AML		
	comp=E,8410μm,1.5s						
CAR1				AML	AML		
	comp=N,10300μm,0.6s						
CAR1				AML	AML		
	comp=E,8405μm,1.5s						
CAR1				AML	AML		
	comp=N,11650μm,0.6s						
CAR1				AML	AML		
	comp=E,8635μm,0.4s						
CAR1				AML	AML		
	comp=N,10260μm,0.6s						
SPS2	**Spezzano della**	**1.03**	**343**	P	Pb	08 12 56.9	+3.0
SPS2				AML	AML		
	comp=E,2505μm,0.7s						
SPS2				AML	AML		
	comp=N,2640μm,0.6s						
MPNC	**Port Mandanici**	**1.09**	**262**	⇓P	Pb	08 12 55.6	+0.8
CELI	**Celico**	**1.11**	**351**	P	Pb	08 12 58.1	+2.8
MILZ	**Milazzo**	**1.17**	**269**	⇓P	Pb	08 12 57.6	+1.4
MILZ				AML	AML		
	comp=E,5215μm,0.6s						
MILZ				AML	AML		
	comp=N,3785μm,0.9s						
PIPA	**Pietrapaola**	**1.18**	**3**	P	Pb	08 12 58.5	+2.1
PIPA				AML	AML		
	comp=E,2590μm,1.4s						
PIPA				AML	AML		
	comp=N,2705μm,0.6s						
PIPA				AML	AML		
	comp=E,2620μm,1.3s						
PIPA				AML	AML		
	comp=N,2735μm,0.6s						
AIO	**Antillo**	**1.22**	**255**	⇓P	Pb	08 12 58.0	+0.9
AIO				AML	AML		
	comp=N,2465μm,0.5s						
AIO				AML	AML		
	comp=E,1820μm,0.9s						
IST3	**Stromboli F**	**1.27**	**293**	⇓P	Pb	08 12 57.7	-0.2
IST3				S	Sb	08 13 13.9	+0.1
IST3				AML	AML		
	comp=N,6380μm,0.4s						
IST3				AML	AML		
	comp=E,4310μm,1.0s						
NOV	**Novara**	**1.28**	**258**	⇓P	Pb	08 12 58.6	+0.5
NOV				AML	AML		
	comp=N,2085μm,0.6s						
NOV				AML	AML		
	comp=E,3275μm,0.8s						
CET2	**Cetraro**	**1.36**	**334**	⇓P	Pb	08 12 59.8	+0.3
CET2				S	Sb	08 13 16.9	+0.4
CET2				AML	AML		
	comp=N,6955μm,0.4s						
CET2				AML	AML		
	comp=E,8105μm,0.4s						
VPL	**Vulcano Piano**	**1.37**	**274**	⇓P	Pn	08 12 59.0	+0.9
VPL				AML	AML		
	comp=E,12150μm,0.6s						
VPL				AML	AML		
	comp=N,13450μm,0.6s						
TDS	**Terranova Siba**	**1.39**	**348**	P	Pb	08 13 01.7	+1.8
TDS				AML	AML		
	comp=E,1270μm,0.9s						
TDS				AML	AML		
	comp=N,1295μm,0.8s						
EMSG	**Monte Spagnolo**	**1.48**	**252**	P	Pb	08 13 01.7	+0.2
EMSG				AML	AML		
	comp=E,4340μm,0.7s						
EMSG				AML	AML		
	comp=N,3430μm,0.6s						
ESLN	**Serra La Nave**	**1.51**	**247**	P	Pn	08 13 01.4	+1.2
ESLN				AML	AML		
	comp=N,1635μm,1.4s						
ESLN				AML	AML		
	comp=E,2010μm,1.2s						
EPZF	**Pizzo Felice**	**1.55**	**253**	P	Pb	08 13 02.5	-0.1
EPZF				AML	AML		
	comp=N,3135μm,1.3s						
EPZF				AML	AML		
	comp=E,2735μm,1.3s						
AGST	**Augusta-Monte**	**1.58**	**229**	⇑P	Pn	08 13 00.5	-0.4
AGST				S	Sn	08 13 17.5	-3.0
AGST				AML	AML		
	comp=N,4640μm,0.2s						
AGST				AML	AML		
	comp=E,5435μm,0.9s						
SALB	**San Lorenzo Be**	**1.60**	**350**	P	Pb	08 13 05.3	+1.8
SALB				AML	AML		
	comp=N,881μm,0.7s						
SALB				AML	AML		
	comp=N,900μm,0.7s						
SALB				AML	AML		
	comp=E,1340μm,0.9s						
SALB				AML	AML		
	comp=E,1335μm,0.9s						
HAGA	**Augusta**	**1.60**	**231**	⇑P	Pn	08 13 00.9	-0.3
HAGA				S	Sn	08 13 18.5	-2.6
HAGA				AML	AML		
	comp=E,1215μm,1.3s						
HAGA				AML	AML		
	comp=N,1270μm,1.3s						
ESML	**S. M. di Licod**	**1.61**	**245**	⇑P	Pn	08 13 02.9	+1.5
ESML				AML	AML		
	comp=N,1505μm,0.6s						
ESML				AML	AML		
	comp=E,1880μm,0.8s						
MNO	**Monte Soro**	**1.64**	**258**	P	Pb	08 13 04.2	-0.1
MNO				AML	AML		
	comp=E,1710μm,0.8s						
MNO				AML	AML		
	comp=E,1705μm,0.8s						
MNO				AML	AML		
	comp=N,2080μm,0.8s						
MMN	**Mormanno**	**1.68**	**340**	P	Pb	08 13 05.0	+0.1
MMN				AML	AML		
	comp=E,888μm,0.3s						
MMN				AML	AML		
	comp=N,1200μm,1.5s						
MSFR	**San Fratello**	**1.70**	**262**	P	Pn	08 13 04.0	+1.3
MSFR				AML	AML		
	comp=E,624μm,0.9s						
MSFR				AML	AML		
	comp=N,502μm,1.6s						
IFIL	**Filicudi I Eol**	**1.71**	**279**	P	Pn	08 13 03.7	+0.9
IFIL				AML	AML		
	comp=E,7170μm,0.6s						
IFIL				AML	AML		
	comp=N,2225μm,0.8s						
SSY	**Sortino**	**1.74**	**229**	P	Pn	08 13 02.9	-0.2
SSY				S	Sn	08 13 21.8	-2.7
SSY				AML	AML		
	comp=E,2975μm,1.5s						
SSY				AML	AML		
	comp=N,7205μm,0.2s						
HLNI	**Lentini**	**1.75**	**238**	⇑P	Pn	08 13 03.3	+0.1
HLNI				S	Sn	08 13 22.4	-2.2
HLNI				AML	AML		
	comp=E,2660μm,0.2s						
HLNI				AML	AML		
	comp=N,1880μm,0.6s						
ORI	**Oriolo Calabro**	**1.77**	**353**	P	Pb	08 13 07.9	+1.5
ORI				AML	AML		
	comp=E,3575μm,0.6s						
ORI				AML	AML		
	comp=N,4215μm,0.4s						
GALF	**Gagliano Caste**	**1.80**	**252**	P	Pn	08 13 05.8	+1.8
GALF				AML	AML		
	comp=N,1335μm,0.7s						
GALF				AML	AML		
	comp=E,1170μm,1.4s						
HAVL	**Avola**	**1.85**	**224**	⇑P	Pn	08 13 04.3	-0.3
HAVL				S	Sn	08 13 24.5	-2.6
HAVL				AML	AML		
	comp=E,2755μm,0.8s						
HAVL				AML	AML		
	comp=N,3380μm,0.2s						
MEU	**Monte Lauro**	**1.86**	**230**	⇑P	Pn	08 13 05.5	+0.6
MEU				S	Sn	08 13 26.2	-1.4
MEU				AML	AML		
	comp=N,4925μm,0.5s						
MEU				AML	AML		
	comp=E,5740μm,0.2s						
IACL	**Alicudi**	**1.87**	**278**	⇓P	Pn	08 13 05.7	+0.7
IACL				AML	AML		
	comp=N,964μm,1.2s						
IACL				AML	AML		
	comp=E,1128μm,0.9s						
CAGR	**Agira**	**1.88**	**250**	⇓P	Pb	08 13 07.5	-0.8
CAGR				AML	AML		
	comp=N,1670μm,0.6s						
CAGR				AML	AML		
	comp=E,2210μm,1.3s						
HVZN	**Vizzini**	**1.95**	**235**	⇑P	Pn	08 13 06.3	+0.2
SIRI	**Monte Sirino -**	**1.99**	**341**	P	Pb	08 13 08.8	-1.5
SIRI				AML	AML		
	comp=E,1595μm,0.4s						
SIRI				AML	AML		
	comp=N,1212μm,1.4s						
SIRI				AML	AML		
	comp=E,1625μm,0.4s						
SIRI				AML	AML		
	comp=N,1250μm,0.2s						
VAE	**Valguarnera**	**2.00**	**246**	Pn	Pn	08 13 07.8	+1.0
	comp=N,4.2nm,0.3s,baz=181,slow=4.1,SNR=13						
HMDC	**Modica**	**2.04**	**230**	⇑P	Pn	08 13 07.5	+0.1
HMDC				S	Sn	08 13 29.5	-2.5
HMDC				AML	AML		
	comp=N,4275μm,0.4s						
HMDC				AML	AML		
	comp=E,4415μm,0.5s						
MGR	**Morigerati**	**2.04**	**334**	P	Pb	08 13 09.2	-1.8
MGR				AML	AML		
	comp=N,1690μm,1.5s						
MGR				AML	AML		
	comp=E,2145μm,0.3s						
MGR				AML	AML		
	comp=N,1970μm,1.5s						
MGR				AML	AML		
	comp=E,2425μm,0.3s						
HPAC	**Pachino**	**2.05**	**219**	⇑P	Pn	08 13 08.1	+0.7
HPAC				S	Sn	08 13 30.6	-1.6
HPAC				AML	AML		
	comp=E,2880μm,1.2s						
HPAC				AML	AML		
	comp=N,3275μm,0.5s						
PLLN	**Pollina**	**2.06**	**262**	P	Pn	08 13 09.0	+1.4
PLLN				AML	AML		
	comp=E,2295μm,0.8s						
PLLN				AML	AML		
	comp=N,1450μm,0.9s						
CRAC	**Craco**	**2.07**	**354**	P	Pb	08 13 11.4	-0.1
CRAC				AML	AML		
	comp=N,2185μm,1.3s						
CRAC				AML	AML		
	comp=E,2100μm,1.3s						
MTSN	**Montesano sull**	**2.10**	**339**	P	Pb	08 13 10.2	-1.8
MTSN				AML	AML		
	comp=E,825μm,1.6s						
MTSN				AML	AML		
	comp=N,1136μm,1.1s						

PETRA **Petralia Sopra** 2.11 258 P **Pb** 08 13 10.9 -1.4
PETRA AML AML
comp=E,988µm,0.6s
PETRA AML AML
comp=N,846µm,0.9s
CSLB Castelbuono 2.13 261 P **Pn** 08 13 09.6 +1.0
CSLB AML AML
comp=E,282µm,1.4s
CSLB AML AML
comp=N,320µm,1.1s
MCEL Monticello 2.14 341 P **Pb** 08 13 11.3 -1.5
MCEL AML AML
comp=E,1002µm,0.7s
MCEL AML AML
comp=E,1030µm,0.7s
MCEL AML AML
comp=N,862µm,0.4s
MCEL AML AML
comp=N,880µm,0.4s
RAFF Raffo Rosso 2.16 241 P **Pn** 08 13 10.0 +1.1
RAFF AML AML
comp=E,1074µm,0.5s
RAFF AML AML
comp=N,895µm,0.6s
SCTE Santa Cesarea 2.23 37 ⇑P **Pn** 08 13 11.8 +2.0
SCTE S **Sn** 08 13 37.9 +1.4
SCTE AML AML
comp=E,3275µm,0.8s
SCTE AML AML
comp=N,2345µm,0.4s
CMPR Campora 2.29 332 P **Pn** 08 13 12.5 +1.7
MIGL Miglionico 2.31 355 P **Pb** 08 13 13.2 -2.3
MIGL AML AML
comp=E,2685µm,0.7s
MIGL AML AML
comp=N,2955µm,0.6s
MATE Matera 2.34 360 ⇑P **Pb** 08 13 13.9 -2.2
MATE ⇑S **Sb** 08 13 41.6 -3.0
MATE Matera 2.34 360 ⇓P **Pb** 08 13 13.7 -2.4
MATE AML AML
comp=N,1445µm,0.9s
MATE AML AML
comp=E,1850µm,1.5s
MESG Mesagne 2.44 21 P **Pn** 08 13 14.7 +1.9
MESG AML AML
comp=E,2740µm,0.3s
MESG AML AML
comp=N,3295µm,1.6s
CDRU Civita di Ruta 2.44 334 P **Pn** 08 13 15.1 +2.2
CDRU AML AML
comp=E,698µm,0.4s
CDRU AML AML
comp=N,446µm,0.9s
CLTA Licata 2.47 243 P **Pn** 08 13 15.3 +2.1
CLTA AML AML
comp=E,1125µm,0.7s
CLTA AML AML
comp=N,1715µm,0.9s
NOCI Noci 2.50 6 P **Pn** 08 13 15.4 +1.9
NOCI AML AML
comp=E,2175µm,1.4s
NOCI AML AML
comp=N,3020µm,0.5s
ACER Acerenza 2.55 347 P **Pb** 08 13 17.4 -2.3
ACER AML AML
comp=E,1270µm,0.4s
ACER AML AML
comp=N,978µm,0.5s
ACER AML AML
comp=E,1201µm,0.4s
ACER AML AML
comp=N,1004µm,0.3s
MRLC Muro Lucano 2.63 339 P **Pb** 08 13 19.2 -1.9
MRLC AML AML
comp=N,718µm,0.3s
MRLC AML AML
comp=E,480µm,0.4s
MPG Monte Pellegri 2.65 268 P **Pn** 08 13 16.9 +1.2
PALZ Palazzo San Ge 2.70 348 P **Pn** 08 13 19.1 +2.7
PALZ AML AML
comp=N,1018µm,1.3s
PALZ AML AML
comp=E,964µm,1.3s
KEK Kerkira 2.78 59 P **Pn** 08 13 19.3 +1.9
KEK Kerkira 2.78 59 P **Pn** 08 13 19.6 +2.2
KEK AML AML
comp=N,1540µm,1.2s
KEK AML AML
comp=E,1655µm,0.3s
MRVN Minervino Murg 2.78 352 P **Pn** 08 13 19.8 +2.2
MRVN AML AML
comp=N,1285µm,0.7s
MRVN AML AML
comp=E,1240µm,0.6s
USI Ustica 2.81 279 P **Pn** 08 13 18.4 +0.5
KEF3 Kipouria, Keph 2.86 91 P **Pn** 08 13 20.7 +2.2
DMLN Damoulianata-K 2.87 90 P **Pn** 08 13 20.6 +1.9
CAPA Cerignola FG 2.94 347 P **Pn** 08 13 21.8 +2.2
CAPA AML AML
comp=E,1205µm,0.8s
CAPA AML AML
comp=N,850µm,1.0s
SRN Sarande 3.00 57 P **Pn** 08 13 22.2 +1.8
SRN AML AML
comp=E,1270µm,0.6s
SRN AML AML
comp=N,1185µm,0.3s
FSK Fiskardo 3.02 86 P **Pn** 08 13 23.5 +2.8
WDD Wied Dalam 3.02 216 ⇑P **Pn** 08 13 21.4 +0.6
WDD AML AML
comp=E,702µm,0.3s
WDD AML AML
comp=N,736µm,0.7s
DRAG Dragano-Lefkad 3.05 82 P **Pn** 08 13 23.4 +2.3
VLS Valsamata 3.05 91 P **Pn** 08 13 22.9 +1.7
VLS Valsamata 3.05 91 ⇓P **Pn** 08 13 22.9 +1.7
VLS AML AML
comp=N,1002µm,0.5s
VLS AML AML
comp=E,1115µm,0.2s
PSDA Pessada-Kefalo 3.05 92 P **Pn** 08 13 22.8 +1.7
IGT Igoumenitsa 3.07 65 P **Pn** 08 13 23.6 +2.1
EVGI Lefkada island 3.10 83 P **Pn** 08 13 24.3 +2.4
LKD2 Lefkada island 3.12 80 P **Pn** 08 13 24.5 +2.3
NYDR Nydri-Lefkada 3.15 81 P **Pn** 08 13 24.9 +2.5
PAOL Paolisi 3.19 329 P **Pn** 08 13 26.1 +3.0
PAOL AML AML
comp=E,211µm,0.9s
PAOL AML AML
comp=N,228µm,0.7s
LTHK Lithakia 3.30 99 P **Pn** 08 13 25.4 +0.8
MSAG Monte S. Angel 3.46 350 P **Pn** 08 13 28.7 +1.8
JAN Janina 3.49 66 P **Pn** 08 13 29.0 +1.8
SGRT San Giovanni R 3.53 348 P **Pn** 08 13 29.7 +1.9
APRC Apricena 3.57 346 P **Pn** 08 13 30.2 +1.9
APRC AML AML
comp=N,1182µm,0.5s
APRC AML AML
comp=E,918µm,0.8s
MELA Melanico ??? S 3.61 341 P **Pn** 08 13 31.2 +2.3
MELA AML AML
comp=N,677µm,0.6s
MELA AML AML
comp=E,582µm,1.4s
MELA AML AML
comp=N,713µm,0.7s
MELA AML AML
comp=E,598µm,1.4s
RLS Riolos of Patr 3.75 92 P **Pn** 08 13 33.0 +2.3
TIR Tirane 3.89 38 ⇑P **Pn** 08 13 32.3 -0.3
TIR ⇑S **Sn** 08 14 12.7 -4.7
TIR Tirane 3.89 38 P **Pn** 08 13 34.9 +2.3
TIR AML AML
comp=E,954µm,1.1s
TIR AML AML
comp=N,1325µm,0.2s
DRO Drossia 3.95 94 P **Pn** 08 13 35.9 +2.4
KPRO Kipourio 3.97 64 P **Pn** 08 13 37.4 +3.6
UPR University Cam 3.98 89 P **Pn** 08 13 36.8 +2.8
EVR Evrytania 4.03 80 P **Pn** 08 13 38.5 +3.8
EFP Efpalio 4.08 87 P **Pn** 08 13 38.6 +3.4
ULC Ulcinj 4.14 27 ePn **Pn** 08 13 36.6 +0.5
ULC eSn **Sn** 08 14 22.8 -0.8
LAKA Lakka 4.14 89 P **Pn** 08 13 38.7 +2.6
OHR Ohrid 4.21 47 *i* Pn **Pn** 08 13 40.3 +3.1

OHR *i* Sn **Sn** 08 14 26.9 +1.4
PYL PYLOS 4.23 108 P **Pn** 08 13 38.7 +1.4
ALIK Aliki, Aigiali 4.24 89 P **Pn** 08 13 40.6 +3.1
ITM Ithomi 4.28 104 P **Pn** 08 13 39.3 +1.3
ITM Ithomi 4.28 104 P **Pn** 08 13 39.5 +1.5
ITM AML AML
comp=N,93µm,0.5s
ITM AML AML
comp=E,114µm,0.7s
KLV Kalavryta, Ach 4.29 92 P **Pn** 08 13 40.3 +2.1
KLV Kalavryta, Ach 4.29 92 P **Pn** 08 13 40.5 +2.3
KLV AML AML
comp=E,284µm,0.7s
KLV AML AML
comp=N,260µm,0.9s
MAKR Makrakomi, Fth 4.29 79 P **Pn** 08 13 42.5 +4.2
DRME Dracevica, Mon 4.31 25 ePn **Pn** 08 13 39.2 +0.7
DRME Dracevica, Mon 4.31 25 ePn **Pn** 08 13 39.5 +1.0
THL Klokotos Trika 4.31 71 P **Pn** 08 13 42.3 +3.8
THL Klokotos Trika 4.31 71 P **Pn** 08 13 42.3 +3.8
BUM Brajici-Budva 4.32 22 ePn **Pn** 08 13 39.4 +0.7
BUM eSn **Sn** 08 14 27.8 -0.5
HCY Herceg Novi 4.36 18 ePn **Pn** 08 13 39.9 +0.8
HCY Herceg Novi 4.36 18 ePn **Pn** 08 13 39.7 +0.6
HCY eSn **Sn** 08 14 28.1 -0.9
FNA Florina 4.37 54 P **Pn** 08 13 42.9 +3.6
KZN Kozani 4.40 61 P **Pn** 08 13 42.9 +3.2
PHP Peshkopia 4.42 39 P **Pn** 08 13 42.2 +2.1
AGG Agios Georgios 4.45 79 P **Pn** 08 13 44.2 +3.8
LSTV Lastovo 4.46 2 ePn **Pn** 08 13 41.3 +0.8
LSTV **Sn** 08 14 27.7 -3.9
DBRK Dubrovnik 4.50 14 ePn **Pn** 08 13 41.7 +0.7
PDG Podgorica 4.55 24 ⇓P **Pn** 08 13 42.7 +0.9
PDG ⇑S **Sn** 08 14 30.4 -3.4
PDG Podgorica 4.55 24 ePn **Pn** 08 13 42.4 +0.6
PDG Podgorica 4.55 24 P **Pn** 08 13 42.9 +1.1
PDG AML AML
comp=E,626µm,0.4s
PDG AML AML
comp=N,518µm,0.3s
TTG Podgorica 4.55 24 ePn **Pn** 08 13 42.1 +0.3
TTG eSn **Sn** 08 14 33.6 -0.2
CEME Cevo 4.56 21 ePn **Pn** 08 13 42.8 +0.9
CEME eSn **Sn** 08 14 33.6 -0.5
TREB Trebinje 4.58 15 ePn **Pn** 08 13 42.4 +0.2
STON Ston 4.62 9 ePn **Pn** 08 13 42.8 +0.1
STON Ston 4.62 9 ePn **Pn** 08 13 43.5 +0.8
STON Ston 4.62 9 P **Pn** 08 13 43.5 +0.8
THAL Thalero 4.69 91 P **Pn** 08 13 47.4 +3.7
NKME Niksic 4.77 20 ePn **Pn** 08 13 45.8 +0.9
NKME eSn **Sn** 08 14 37.9 -1.4
BRY Bratogost 4.80 16 ePn **Pn** 08 13 46.2 +0.9
BRY Bratogost 4.80 16 ePn **Pn** 08 13 45.9 +0.6
BRY eSn **Sn** 08 14 39.4 -0.7
NKY Niksic 4.83 20 ePn **Pn** 08 13 47.8 +2.2
NKY eSn **Sn** 08 14 40.0 -0.7
LIT Litokhoron 4.83 66 P **Pn** 08 13 48.7 +3.1
HVAR Hvar 4.88 358 ePn **Pn** 08 13 46.9 +0.7
HVAR Sn **Sn** 08 14 37.3 -4.4
HVAR Hvar 4.88 358 P **Pn** 08 13 47.2 +1.0
LTK Loutraki 4.93 91 P **Pn** 08 13 48.4 +1.4
LKR Lokris 4.94 84 P **Pn** 08 13 50.3 +3.2
PVY Plav 4.95 29 ePn **Pn** 08 13 49.2 +1.9
PVY eSn **Sn** 08 14 42.9 -0.8
ATAL Atalanti 4.96 84 P **Pn** 08 13 50.5 +3.1
MAKA Makarska 4.99 2 ePn **Pn** 08 13 48.7 +1.0
KOME Kolasin 5.01 24 ePn **Pn** 08 13 49.9 +1.7
KOME eSn **Sn** 08 14 44.2 -1.2
SKO Skopje 5.15 43 *i* Pn **Pn** 08 13 52.6 +2.7
IVA Berane 5.16 27 ePn **Pn** 08 13 52.0 +1.7
IVA eSn **Sn** 08 14 48.5 -0.5
UPM Unac-Piva 5.17 18 ePn **Pn** 08 13 51.9 +1.5
UPM Unac-Piva 5.17 18 ePn **Pn** 08 13 51.8 +1.4
UPM eSn **Sn** 08 14 48.1 -1.2
NEO Neokhori 5.18 77 P **Pn** 08 13 53.1 +2.7
VLI Veliai 5.19 106 P **Pn** 08 13 53.5 +3.0
VILL Villia 5.19 89 P **Pn** 08 13 52.2 +1.6
RICI Ricice 5.20 3 ePn **Pn** 08 13 51.5 +0.8
STIP Stip 5.39 49 *i* Pn **Pn** 08 13 57.9 +4.6
STIP *i* Sn **Sn** 08 14 58.2 +3.7
KTHR Kythira 5.41 110 P **Pn** 08 13 55.8 +2.2
ZIRJ Zirje 5.41 352 ePn **Pn** 08 13 54.0 +0.5
PLE Pljevlja 5.41 21 ePn **Pn** 08 13 55.2 +1.5
PLE eSn **Sn** 08 14 54.0 -1.2
VAY Valandovo 5.42 54 *i* Pn **Pn** 08 13 56.5 +2.8
KTHA Kythira Island 5.45 110 P **Pn** 08 13 56.7 +2.5
VLY Voula,Athens 5.60 92 P **Pn** 08 13 57.6 +1.4
MORI Morici 5.61 352 ePn **Pn** 08 13 57.4 +1.1
PTL Penteli 5.63 90 P **Pn** 08 13 58.8 +2.1
PAIG Paliouri 5.65 71 P **Pn** 08 13 59.2 +2.4
RUDO Rudo 5.67 20 ePn **Pn** 08 13 58.5 +1.3
DION Dionisos Attik 5.69 90 P **Pn** 08 13 59.1 +1.7
KIJV Kijevo 5.70 358 ePn **Pn** 08 13 59.5 +1.9
SOH Sokhos 5.71 62 P **Pn** 08 14 00.3 +2.6
KYMI Kymi, Euboea I 5.80 84 P **Pn** 08 14 01.2 +2.3
DUGI Dugi Otok 5.82 348 ePn **Pn** 08 14 01.1 +1.9
VSL Villasalto 5.85 284 P **Pn** 08 13 59.6 -0.1
BBLS Lazi?i 5.92 19 ePn **Pn** 08 14 02.2 +1.6
OUR Ouranopolis 5.98 68 P **Pn** 08 14 03.7 +2.3
MGRS Mrkonjic Grad 6.12 2 ePn **Pn** 08 14 06.3 +3.0
KOKK Kokkinochori, 6.16 64 P **Pn** 08 14 05.8 +2.0
UDBI Udbina 6.26 354 ePn **Pn** 08 14 07.6 +2.3
RODP Rodopos 6.26 114 P **Pn** 08 14 07.2 +1.9
DIVS Divibare 6.29 22 ePn **Pn** 08 14 06.4 +0.6
NVLJ Novalja 6.41 348 ePn **Pn** 08 14 09.1 +1.9
KEST Kesra 6.43 249 Pn **Pn** 08 14 07.6 -0.2
comp=N,0.1nm,0.3s,baz=37,slow=15,SNR=2.0
BLY Banja Luka 6.45 3 ePn **Pn** 08 14 09.8 +2.0
IMMV Iera Moni Meta 6.47 114 P **Pn** 08 14 09.5 +1.3
BOVS Bovan 6.53 34 ⇑S **Sn** 08 15 19.8 -2.6
VTS Vitosha 6.57 47 ⇑P **Pn** 08 14 08.0 -1.7
VTS ⇑S **Sn** 08 15 18.9 -5.0
PLIT Plitvice 6.62 353 ePn **Pn** 08 14 12.2 +2.0
VAM Vamos 6.66 113 P **Pn** 08 14 12.2 +1.5
MRAK Mrakovica 6.71 1 ePn **Pn** 08 14 13.3 +1.9
BLKB Belogradchik 6.96 38 ⇓S **Sn** 08 15 28.8 -4.5
APE Apeiranthos 7.09 97 ⇓P **Pn** 08 14 17.0 +0.2
APE ⇓S **Sn** 08 15 32.9 -3.6
IDI Anoyia 7.21 112 ⇓P **Pn** 08 14 20.0 +1.6
IDI ⇓S **Sn** 08 15 39.2 -0.2
IDI Anoyia 7.21 112 Pn **Pn** 08 14 19.1 +0.7
comp=N,6.4nm,0.3s,baz=311,slow=15,SNR=28
IDI Sn **Sn** 08 15 36.3 -3.1
comp=N,41nm,0.3s,baz=10,slow=21,SNR=17
FRGS Fruska Gora 7.23 18 ⇓P **Pn** 08 14 19.2 +0.7
FRGS Fruska Gora 7.23 18 ePn **Pn** 08 14 14.3 -4.2
PGF Pioggiola 7.26 308 ePn **Pn** 08 14 20.6 +1.6
PGF eSn **Sn** 08 15 38.0 -2.6
comp=N,1.3nm,0.2s
MOSL Moslavina 7.30 0 ePn **Pn** 08 14 20.4 +0.8
MDVR Moldovita 7.47 28 ⇑P **Pn** 08 14 22.5 +0.5
MDVR ⇑S **Sn** 08 15 41.8 -4.1
SKDS Skadanscina 7.51 345 ePn **Pn** 08 14 24.9 +2.4
CRES Cresnjev 7.58 353 ePn **Pn** 08 14 24.9 +1.6
PTJ Puntijarka 7.62 356 ePn **Pn** 08 14 25.4 +1.4
CEY Cerknica 7.62 348 ePn **Pn** 08 14 27.1 +3.1
KALN Kalnik 7.83 359 ePn **Pn** 08 14 27.9 +1.1
HERR Herculane 7.83 31 ⇓P **Pn** 08 14 27.5 +0.7
HERR ⇑S **Sn** 08 15 50.3 -4.3
LOBO Lobor 7.86 357 ePn **Pn** 08 14 29.2 +2.0
LJU Ljubljana 7.91 349 ePn **Pn** 08 14 30.3 +2.5
MORH Mrgy, Hungar 8.03 10 ePn **Pn** 08 14 29.7 +0.2
BZS Buzias 8.16 25 ⇑P **Pn** 08 14 32.0 +0.6
BZS ⇓S **Sn** 08 15 59.4 -3.3
OBKA Obir 8.36 350 *i* Pn **Pn** 08 14 36.6 +2.5
comp=N,1.2nm,0.1s
GZR Gura Zlata 8.40 31 ⇓P **Pn** 08 14 34.5 -0.2
GZR ⇑S **Sn** 08 16 04.8 -3.8
SOKA Soboth 8.46 352 ePn **Pn** 08 14 37.0 +1.5
comp=N,0.8nm,0.2s
SOKA eSn **Sn** 08 16 05.9 -4.3
comp=N,2.3nm,0.5s
HUMR Humele 8.78 42 ⇓S **Sn** 08 16 12.8 -5.1
LOT Lotru 8.86 34 ⇑S **Sn** 08 16 14.7 -5.4
SBF Sospel 8.94 311 eP **Pn** 08 14 46.7 +4.6
ARSA Arzberg 8.99 355 ePn **Pn** 08 14 45.3 +2.7
comp=N,2.9nm,0.3s
ARR Arges 9.20 37 ⇓P **Pn** 08 14 45.7 +0.1
ARR ⇑S **Sn** 08 16 23.5 -4.8
LMR La Mourre 9.23 306 ePn **Pn** 08 14 46.2 +0.3
FRF La Foret Royal 9.26 308 ePn **Pn** 08 14 47.1 +0.8

VOIR 9.45 38 ⇑P **Pn** 08 14 49.1 +0.1
VOIR ⇑S **Sn** 08 16 29.3 -5.1
DRGR 9.56 26 ⇓P **Pn** 08 14 50.9 +0.3
DRGR ⇑S **Sn** 08 16 32.6 -4.5
CONA Conrad Observa 9.64 357 *i* Pn **Pn** 08 14 54.0 +2.4
comp=N,0.4nm,0.2s
CONA eSn **Sn** 08 16 34.5 -4.6
comp=N,0.8nm,0.3s
MOA Molln 9.71 350 ePn **Pn** 08 14 55.1 +2.5
comp=N,0.6nm,0.2s
MBDF Montbardon 9.84 314 eP Pn 08 15 01.0 +6.5
MLR Muntele Rosu 9.94 41 ⇑P **Pn** 08 14 54.8 -1.0
MLR Muntele Rosu 9.94 41 Pn **Pn** 08 14 57.6 +1.9
comp=N,0.1nm,0.3s,baz=136,slow=16,SNR=2.4
SMRF Simiane la Rot 10.14 308 ePn **Pn** 08 15 00.0 +1.6
SMRF Simiane la Rot 10.14 308 eP Pn 08 15 05.5 +7.1
SMRF Simiane la Rot 10.14 308 ePg Pn 08 15 43.2 +45
SMRF eSn **Sn** 08 16 45.4 -5.8
comp=N,3.1nm,0.5s
LPG La Plagne 10.33 317 eP Pn 08 15 08.5 +7.1
BISRR Bisoca 10.38 43 ⇑P **Pn** 08 15 00.6 -1.1
ORIF Oris-en-Rattie 10.46 313 eP Pn 08 15 10.6 +7.6
GERES GERESS Array B 10.76 349 Sn **Sn** 08 16 59.8 -6.9
comp=N,0.4nm,0.3s,baz=165,slow=21,SNR=4.7
VRAC Vranov 11.00 360 LR LR 08 20 29.8
comp=N,85nm,19.4s,baz=204,slow=44
KHC Kasperske Hory 11.06 349 ePN **Pn** 08 15 12.9 +1.9
KHC eSN **Sn** 08 17 09.6 -4.2
VIVF Saint-Julien-l 11.14 310 ePn **Pn** 08 15 12.5 +0.3
BUR01 Bucovina Ar. S 11.19 31 ⇓P **Pn** 08 15 13.3 +0.4
LASF Ste Croix 11.28 305 eP Pn 08 15 19.5 +5.5
CABF La Chapelle 11.42 320 eP Pn 08 15 23.0 +7.0
HINF Hinteralfeld 11.93 326 eP Pn 08 15 29.7 +6.8
MTLF Montolieu 12.08 299 eP Pn 08 15 31.4 +6.4
HAU Haudompre 12.29 325 ePn **Pn** 08 15 28.8 +0.9
CAF Calviac 12.80 306 ePn **Pn** 08 15 34.9 0.0
PAGF Fort de Pagny 12.98 326 eP **P** 08 15 43.7 -3.8
AVF Avril sur Loir 12.99 315 eP **P** 08 15 43.9 -3.7
LOR Lormes 13.01 318 eP **P** 08 15 44.2 -3.6
baz=138
SFTF Sexfontaines 13.04 323 eP **P** 08 15 43.7 -4.5
baz=146
SSF Saint Saulge 13.07 316 eP **P** 08 15 44.6 -3.9
BRTR Keskin Array B 13.23 79 Pn **Pn** 08 15 44.3 +3.4
comp=N,0.2nm,0.3s,baz=256,slow=13,SNR=6.9
MEZF Maizieres J'vi 13.25 324 ePn **Pn** 08 15 41.7 +0.8
baz=145
EPF Esparros 13.30 296 eP **P** 08 15 48.6 -2.6
RJF Les Rejaudoux 13.32 307 eP **Pn** 08 15 46.5 +4.6
LFF La Frestale 13.66 304 ePn **Pn** 08 15 47.2 +0.7
ETSF Etsaut 13.91 295 eP **P** 08 15 56.1 -1.8
SJPF Ste Jean 14.43 295 eP **P** 08 16 03.1 -0.6
GIVF Givet 14.54 328 eP **P** 08 16 04.8 0.0
BAIF Baives 14.76 327 eP **P** 08 16 06.5 -0.8
MFF Saint Martin d 14.94 309 ePn **Pn** 08 16 04.1 +0.2
MFF Saint Martin d 14.94 309 eP **P** 08 16 09.2 -0.1
AKASG Malin Array Be 15.24 32 Pn **Pn** 08 16 08.5 +0.6
baz=225,slow=11,SNR=0.9
AKASG LR LR 08 23 51.3
comp=N,56nm,18.7s,baz=148,slow=44
LDF La Druitiere 15.95 316 ePn **Pn** 08 16 18.8 +1.7
ESDC Sonseca Array 16.14 281 Pn **Pn** 08 16 20.7 +1.0
comp=N,0.1nm,0.3s,baz=78,slow=11,SNR=8.4
ESDC LR LR 08 21 46.1
comp=N,101nm,18.5s,baz=86,slow=35
GEM Giv'at Ha'Em 16.19 103 Pn **Pn** 08 16 19.2 -1.0
FLN La Foliniere 16.24 316 ePn **P** 08 16 22.7 -1.0
GRR Gorron 16.25 314 ePn **P** 08 16 22.9 -0.9
KZIT Kziot 16.30 112 Pn **Pn** 08 16 20.4 -1.3
AMAZ Amatzia 16.37 109 Pn **Pn** 08 16 21.3 -1.3
HMDT Nahal Hemdat 16.49 106 Pn **Pn** 08 16 23.4 -0.7
DSI Dead Sea 16.70 108 Pn **Pn** 08 16 25.7 -1.0
DSI Sn Sn 08 19 17.2 -14
KRMI Paran Flat 16.96 113 Pn **Pn** 08 16 29.1 -1.0
PRNI Paran 17.04 112 Pn **Pn** 08 16 30.1 -1.0
HRFI Mount Harif 17.23 113 Pn **Pn** 08 16 32.7 -0.8
HRFI Sn Sn 08 19 28.7 -16
MBRI Mt Berech 17.28 114 Pn **Pn** 08 16 33.2 -0.9
MBRI Sn Sn 08 19 29.5 -16
KBZ Khabaz 20.44 66 P Pn 08 17 13.3 +1.2
comp=N,1.3nm,0.8s,baz=258,slow=7.1,SNR=2.3
EKA Eskdalemuir Ar 21.67 328 P **P** 08 17 22.1 -0.9
comp=N,2.5nm,0.8s,baz=153,slow=12,SNR=5.7
HFS Hagfors 21.94 356 P **P** 08 17 26.1 +0.3
comp=N,3.7nm,0.7s,baz=166,slow=14,SNR=7.2
NB2 NORSAR Subarra 23.02 353 P **P** 08 17 37.0 -0.4
comp=Z,4.5nm,1.1s,baz=171,slow=10
NOA NORSAR Array B 23.02 353 P **P** 08 17 38.6 +1.3
comp=Z,0.7nm,0.7s,baz=172,slow=11,SNR=3.8
NOA LR LR 08 27 38.3
comp=Z,53nm,19.1s,baz=170,slow=40
FINES FINESS Array B 23.89 11 P **P** 08 17 46.2 +0.4
comp=Z,3.0nm,0.6s,baz=185,slow=7.9,SNR=14
TORD Torodi Ar. Bea 28.39 212 P **P** 08 18 28.0 +1.1
comp=Z,1.1nm,0.9s,baz=37,slow=9.4,SNR=5.7
ARCES ARCESS Array B 31.65 6 P **P** 08 18 55.6 +0.3
comp=Z,0.9nm,0.4s,baz=188,slow=7.4,SNR=11
MKAR Makanchi Array 47.77 58 P **P** 08 21 12.8 +3.3
comp=Z,0.4nm,0.3s,baz=284,slow=7.6,SNR=15
ZALV Zalesovo Beam 47.83 48 P **P** 08 21 12.7 +3.0
comp=Z,0.6nm,0.4s,baz=289,slow=7.4,SNR=3.3
TIXI Tiksi 60.56 20 LR LR 08 53 55.6
comp=Z,36nm,18.2s,baz=190,slow=41
YKA Yellowknife Ar 72.21 339 P **P** 08 23 57.1 +0.2
comp=Z,0.1nm,0.4s,baz=55,slow=7.8,SNR=2.5
BDFB Brasilia 80.90 242 P **P** 08 24 48.4 +1.5
comp=Z,1.2nm,0.6s,baz=71,slow=3.0,SNR=3.1

IDC 06 08:29:28.6±28.0, 20°.09S×173°.71W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/27, mbtmp4.0/4, Error ellipse: s-maj=516.1km s-min=162.3km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.53**	**263**	P	P	08 36 45.7	+1.0
	2.4nm,0.4s,baz=88,slow=10,SNR=6.5						
STKA	**Stephens Creek**	**41.59**	**244**	P	P	08 37 16.4	-2.1
	1.8nm,0.9s,baz=62,slow=9.8,SNR=3.6						
ASAR	**Alice Springs**	**48.52**	**256**	P	P	08 38 12.6	-1.3
	0.6nm,0.5s,baz=98,slow=7.2,SNR=6.9						
WRA	**Warramunga Arr**	**48.64**	**261**	P	P	08 38 15.9	+1.2
	0.3nm,0.3s,baz=90,slow=8.4,SNR=21						

*ANF **06** 08:41:32.7±1.2, 37°.50N×97°.82W, h14km±8km, ML3.5/6, Error ellipse: s-maj=5.0km s-min=2.8km az=53.0*
ISC 06 08:41:32.4±1.2, 37°.53N±0°.05×97°.81W±0°.06, h10km, n10, σ0s65/15, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSU1	**Kansas State U**	**1.83**	**31**	P	**Pn**	**08 42 04.2**	**+0.1**
	baz=211						
KSU1				S	**Sb**	**08 42 29.0**	**-0.1**
	baz=211						
CBKS	**Cedar Bluff**	**1.99**	**311**	P	**Pn**	**08 42 05.9**	**-0.2**
	baz=131						
CBKS				S	**Sn**	**08 42 32.3**	**+1.2**
	baz=131						
TUL1	**Leonard**	**2.29**	**134**	P	**Pn**	**08 42 10.8**	**+0.5**
	baz=315,SNR=5.3						
TUL1				Sb	**Sb**	**08 42 42.5**	**+0.3**
	baz=315						
WMOK	**Wichita Mounta**	**2.89**	**196**	P	**Pn**	**08 42 17.7**	**-0.9**
	baz=15						
U40A	**Yellville**	**4.14**	**105**	P	**Pn**	**08 42 35.7**	**-0.1**
	baz=288,SNR=5.8						
U40A				S	**Sn**	**08 43 23.9**	**-0.4**
	baz=288						
MIAR	**Mount Ida**	**4.54**	**130**	P	**Pn**	**08 42 41.3**	**0.0**
	baz=312						
MIAR				S	**Sn**	**08 43 34.9**	**+0.8**
	baz=312						
X40A	**Basin Creek Fa**	**5.05**	**125**	S	**Sn**	**08 43 46.2**	**-0.4**
	baz=308						
W41B	**Gary Mavity, V**	**5.07**	**116**	S	**Sn**	**08 43 46.7**	**-0.3**
	baz=299						
CCM	**Cathedral Cave**	**5.23**	**82**	S	**Sn**	**08 43 51.5**	**+0.4**
	baz=266						
ECSD	**EROS Data Cent**	**6.26**	**8**	P	**Pn**	**08 43 03.9**	**-1.1**
	baz=189						

*IDC **06** 08:55:22.1±3.6, 9°.35S×113°.38E, h0km, mb3.3/4,*

mb1 3.4/4, mb1mx3.2/40, mbtmp3.3/4, Error ellipse: s-maj=175.5km s-min=24.9km az=50.0
*DJA **06** 08:55:27.7±0.4, 9°S±3°×11°3E±°, h10km, M3.7/12, mb4.0/1, MLv3.5/12*
ISC 06 08:55:29.7±1.5**, 9°.40S**±0°.10×**113°.47E**±0°.04**, h56**km±16km**, n16,** σ1.**58**/24**, mb3.4**/4**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.12**	**359**	P	**Pn**	**08 55 48.5**	**-0.8**
GMJI				S	**Sn**	**08 56 01.8**	**-1.9**
JAGI	**Jajag, Banyuwa**	**1.15**	**36**	P	**Pn**	**08 55 48.6**	**-1.0**
JAGI				S	**Sn**	**08 56 02.0**	**-2.3**
BLJI	**Banyuglugur**	**1.65**	**4**	P	**Pn**	**08 55 57.8**	**+1.4**
IGBI	**Denpasar**	**1.75**	**71**	P	**Pn**	**08 55 59.6**	**+1.9**
IGBI				S	**Sn**	**08 56 18.3**	**-0.7**
ABJI	**Asem Bagus**	**1.77**	**25**	P	**Pn**	**08 56 00.2**	**+2.3**
ABJI				S	**Sn**	**08 56 23.2**	**+3.9**
DNP	**Denpasar**	**1.86**	**67**	P	**Pn**	**08 56 01.1**	**+1.9**
DNP				S	**Sn**	**08 56 22.5**	**+0.8**
PWJI	**Pagerwojo**	**2.15**	**310**	P	**Pn**	**08 56 03.8**	**+0.7**
PWJI				S	**Sn**	**08 56 29.2**	**+0.6**
SRBI	**Singaraja**	**2.16**	**53**	P	**Pn**	**08 56 03.8**	**+0.5**
PCJI	**Pacitan**	**2.57**	**298**	P	**Pn**	**08 56 10.0**	**+1.1**
PCJI				S	**Sn**	**08 56 38.5**	**-0.4**
UGM	**Wanagama**	**3.27**	**297**	P	**Pn**	**08 56 19.8**	**+1.2**
UGM				S	**Sn**	**08 56 56.4**	**+0.1**
PLAI	**Plampang**	**4.29**	**83**	P	**Pn**	**08 56 34.0**	**+1.5**
WBSI	**Waikabubak, Su**	**5.84**	**93**	P	**Pn**	**08 56 52.8**	**-1.1**
WRA	**Warramunga Arr**	**22.71**	**120**	P	**P**	**09 00 26.4**	**-0.7**
	0.6nm,1.0s,baz=301,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**24.13**	**128**	P	**P**	**09 00 41.2**	**+0.5**
	0.3nm,0.8s,baz=293,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**57.33**	**354**	P	**P**	**09 05 11.5**	**-0.6**
	0.4nm,0.4s,baz=181,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**62.48**	**336**	P	**P**	**09 05 46.7**	**-0.6**
	0.4nm,0.5s,baz=155,slow=7.7,SNR=6.3						

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*IDC **06** 09:08:19.0±0.5, 36°.61N×141°.63E, h0km, mb4.0/19, mb1 4.1/24, mb1mx4.0/67, mbtmp4.0/24, ML3.6/4, MS3.2/13, Ms1 3.2/13, ms1mx2.9/96, Error ellipse: s-maj=16.7km s-min=11.7km az=105.0*
*JMA **06** 09:08:20.4±0.2, 36°.66N×141°.73E, h52km±4km, M4.2*
*NIED **06** 09:08:20.5, 36°.66N×141°.73E, h52km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.61; Mθθ0.04; Mφφ1.57; Mrθ0.84; Mθφ-0.74; Mφr-0.50; Fault plane solution: M0 2.01000×10^15 NP1: φs320.00000°, δ60.00000°, λ-110.00000°. NP2: φs177.00000°, δ36.00000°, λ-59.00000°.*
*NEIC **06** 09:08:23.4±1.6, 36°.71N±0°.05×141°.73E±0°.07, h31km±5km, mb4.5/32 Error ellipse: s-maj=7.7km s-min=7.3km az=117.0*
ISC 06 09:08:19.3±1.7**, 36°.67N**±0°.04×**141°.74E**±0°.06**, h6**km±10km**, n115,** σ1.**24**/108**, mb4.3**/35**, MS3.2**/7**, 2C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.87**	**300**	⇓P	**Pg**	**09 08 36.4**	**+0.4**
JHO	**Hitachi**	**0.94**	**267**	⇑P	**Pg**	**09 08 37.5**	**+0.1**
JHO				*e*S	**Sg**	**09 08 50.3**	**+0.7**
JFK	**Kawauchi**	**0.98**	**315**	P	**Pg**	**09 08 37.9**	**-0.2**
JFK				*e*S	**Sg**	**09 08 50.9**	**+0.1**
JHYU	**Hitachinakayam**	**0.98**	**251**	⇑P	**Pb**	**09 08 38.2**	**-0.5**
JHYU				*e*S	**Sg**	**09 08 51.2**	**+0.2**
JFFD	**Fukushimafurud**	**1.03**	**294**	P	**Pb**	**09 08 38.9**	**-0.7**
JYT	**Yasato**	**1.32**	**251**		**Pn**	**09 08 43.0**	**-1.2**
JFT	**Otama**	**1.40**	**307**	P	**Pn**	**09 08 45.1**	**-0.3**
JMM	**Marumori**	**1.41**	**328**	P	**Pn**	**09 08 44.4**	**-1.1**
JMM	**Marumori**	**1.41**	**328**	Pn	**Pn**	**09 08 45.0**	**-0.5**
JFY	**Yanaizu**	**1.78**	**295**	P	**Pn**	**09 08 51.3**	**+0.6**
JIO	**Ouri**	**1.81**	**350**	P	**Pn**	**09 08 49.5**	**-1.4**
JIO				*e*S	**Sn**	**09 09 11.0**	**-3.1**
JAG	**Ashikaga**	**1.86**	**263**	P	**Pn**	**09 08 50.6**	**-1.0**
JOU	**Okura**	**1.89**	**334**	*e*S	**Sn**	**09 09 14.9**	**-1.4**
JKT	**Katashina**	**2.00**	**273**	P	**Pn**	**09 08 53.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.84**	**268**	Pn	**Pn**	**09 09 04.8**	**-0.4**
	4.8nm,0.3s,baz=83,slow=9.2,SNR=98						
MJAR				Sn	**Sn**	**09 09 38.2**	**-1.5**
	2.2nm,0.3s,baz=82,slow=14,SNR=4.7						
MJAR				LR	LR	09 10 20.9	
	comp=Z,521nm,18.7s,baz=357,slow=44						
MJAR	**Matsushiro Arr**	**2.84**	**268**		**Pn**	**09 09 06.3**	**+1.1**
MAJO	**Matsushiro**	**2.84**	**268**		**Pn**	**09 09 06.4**	**+1.2**
MAT	**Matsushiro**	**2.84**	**268**	P	**Pn**	**09 09 06.3**	**+1.1**
MAT				*e*S	**Sn**	**09 09 42.6**	**+2.8**
MJB9	**Matsu-Tunnel**	**2.85**	**269**		**Pn**	**09 09 06.3**	**+1.1**
JSD	**Sado**	**3.09**	**297**		**Pn**	**09 09 09.6**	**+1.0**
JGF	**Kuroka**	**3.70**	**255**	Pn	**Pn**	**09 09 18.4**	**+1.4**
JHJ2	**Mitsune**	**3.89**	**205**	Pn	**Pn**	**09 09 20.8**	**+1.2**
JHJ	**Hachijo jima 2**	**3.89**	**205**	Pn	**Pn**	**09 09 19.1**	**-0.5**
	71nm,0.3s,baz=280,slow=23,SNR=25						
JHJ				Sn	**Sn**	**09 10 03.8**	**-1.8**
	53nm,0.3s,baz=310,slow=24,SNR=6.1						
INU	**Inuyama**	**4.05**	**252**	Pn	**Pn**	**09 09 23.5**	**+1.8**
JTM	**Tenmabayashi**	**4.14**	**353**	Pn	**Pn**	**09 09 24.8**	**+1.7**
ERM	**Erimo**	**5.45**	**11**	Pn	**Pn**	**09 09 40.1**	**-0.9**
JEW	**Eniwo**	**6.16**	**358**	Pn	**Pn**	**09 09 51.8**	**+1.0**
JMN	**Monobe**	**7.07**	**248**	Pn	**Pn**	**09 10 06.7**	**+3.3**
JHS	**Saijyo**	**7.20**	**259**	Pn	**Pn**	**09 10 07.1**	**+2.1**
JKA	**Kamikawa-asahi**	**7.46**	**5**	Pn	**Pn**	**09 10 10.0**	**+1.4**
ASAJ	**Asahikawa**	**7.46**	**5**	Pn	**Pn**	**09 10 09.3**	**+0.6**
	1.6nm,0.3s,baz=270,slow=4.0,SNR=11						
ASAJ				LR	LR	09 13 26.9	
	comp=Z,122nm,19.2s,baz=164,slow=41						
JNU	**Nakatsue**	**9.60**	**252**	Pn	**Pn**	**09 10 37.0**	**-0.9**
	0.1nm,0.3s,baz=120,slow=16,SNR=1.8						
JNU				LR	LR	09 14 26.7	
	comp=Z,171nm,19.5s,baz=94,slow=39						
JNU	**Nakatsue**	**9.60**	**252**	Pn	**Pn**	**09 10 40.8**	**+2.9**
KSRS	**Korea Array**	**11.07**	**278**	LR	LR	09 14 54.0	
	comp=Z,61nm,21.1s,baz=90,slow=36						
CN2	**Changchun**	**14.32**	**305**	*e*P	**Pn**	**09 11 38.9**	**-3.6**
CN2				*e*S	**Sn**	**09 14 21.4**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,100nm,10.0s						
CN2				LR	LR		
	comp=Z,100nm,10.0s						
KLR	**Kul'dur**	**14.51**	**333**	LR	LR	09 17 17.8	
	comp=Z,63nm,18.3s,baz=132,slow=37						
JOW	**Kunigami**	**15.06**	**233**	LR	LR	09 17 36.1	
	comp=Z,57nm,20.1s,baz=30,slow=37						
PETK	**Petropavlovsk-**	**19.87**	**29**	P	**Pn**	**09 12 54.1**	**+1.5**
	baz=218,slow=14,SNR=2.3						
MA2	**Magadan**	**23.65**	**11**	P	**P**	**09 13 32.6**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=204,slow=8.5,SNR=6.8						
MA2				LR	LR	09 23 56.2	
	comp=Z,41nm,19.2s,baz=160,slow=40						
YAK	**Yakutsk**	**26.48**	**347**	LR	LR	09 24 28.5	
	comp=Z,68nm,20.9s,baz=116,slow=37						
SEY	**Seymchan**	**27.10**	**11**	P	**P**	**09 14 04.5**	**+2.0**
	comp=Z,1.9nm,0.6s,baz=207,slow=6.9,SNR=11						
H11N2	**WAKE ISLAND Hy**	**27.74**	**121**	T	T	09 43 08.5	
	baz=313,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	09 43 17.5	
	baz=313,slow=75,SNR=120						
H11N3	**WAKE ISLAND Hy**	**27.76**	**121**	T	T	09 43 18.5	
	baz=313,slow=75,SNR=113						
SONM	**Songino Array**	**28.20**	**304**	P	**P**	**09 14 12.7**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=101,slow=8.6,SNR=15						
SONM	**Songino Array**	**28.20**	**304**	P	**P**	**09 14 10.7**	**-2.0**
H11S1	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	09 44 04.4	
	baz=315,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	09 44 06.3	
	baz=315,slow=76,SNR=58						
H11S2	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	09 44 11.6	
	baz=315,slow=76,SNR=52						
DAV	**Davao City (W)**	**32.95**	**211**	LR	LR	09 27 51.4	
	comp=Z,33nm,20.4s,baz=322,slow=36						
TIXI	**Tiksi**	**35.68**	**353**	LR	LR	09 31 09.7	
	comp=Z,35nm,20.4s,baz=183,slow=38						
GOMU	**GeErMu**	**37.46**	**284**	P	**P**	**09 15 35.0**	**+1.1**
GOMU				pP	sP	09 15 38.6	+2.5
GOMU				sP	pwP	09 15 41.9	+6.5
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FAKI	**Fak Fak**	**40.37**	**195**	P	**P**	**09 15 55.4**	**-2.6**
FAKI				IAmb	IAmb	09 15 58.6	
	comp=Z,9.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.66**	**256**	P	**P**	**09 16 09.3**	**+0.7**
	comp=Z,8.0nm,0.2s,baz=35,slow=6.6,SNR=5.6						
CMAR	**Chiang Mai Arr**	**41.66**	**256**	P	**P**	**09 16 08.8**	**+0.1**
ZAA0	**Zalesovo Array**	**42.35**	**313**	P	**P**	**09 16 13.6**	**-0.3**
ZALV	**Zalesovo Beam**	**42.35**	**313**	P	**P**	**09 16 14.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=93,slow=7.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**42.35**	**313**	P	**P**	**09 16 13.2**	**-0.7**
MK31	**Makanchi Array**	**44.53**	**302**	P	**P**	**09 16 32.3**	**+0.6**
MKAR	**Makanchi Array**	**44.53**	**302**	P	**P**	**09 16 32.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=89,slow=9.9,SNR=19						
MKAR	**Makanchi Array**	**44.53**	**302**	P	**P**	**09 16 31.8**	**+0.2**
MAKZ	**Makanchi**	**44.74**	**303**	P	**P**	**09 16 33.3**	**0.0**
MAKZ				IAmb	IAmb	09 16 34.0	
	comp=Z,2.9nm,1.1s						
KURK	**Kurchatov**	**46.36**	**308**	P	**P**	**09 16 46.3**	**+0.2**
KURK				IAmb	IAmb	09 16 46.8	
	comp=Z,5.4nm,1.1s						
KURBB	**Kurchatov Arra**	**46.43**	**308**	P	**P**	**09 16 46.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=83,slow=7.8,SNR=13						
IMAR	**Indian Mountai**	**46.83**	**30**	P	**P**	**09 16 52.3**	**+2.8**
H21K	**Melozitna Rive**	**47.19**	**31**	P	**P**	**09 16 54.9**	**+2.5**
H21K				IAmb	IAmb	09 17 00.9	
	comp=Z,5.5nm,1.5s						
TOLK	**Toolik Lake Re**	**48.67**	**27**	P	**P**	**09 17 02.9**	**-0.9**
TOLK				IAmb	IAmb	09 17 19.2	
	comp=Z,3.7nm,1.1s						
TARG	**Taragay, Kyrgy**	**48.79**	**297**	P	**P**	**09 17 06.8**	**+1.2**
TARG				IAmb	IAmb	09 17 18.2	
	comp=Z,5.0nm,0.6s						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**09 17 13.9**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=264,slow=6.2,SNR=9.3						
COEN	**Coen**	**50.37**	**178**	P	**P**	**09 17 18.1**	**+0.8**
COEN				IAmb	IAmb	09 17 18.9	
	comp=Z,5.2nm,0.9s						
AAK	**Ala-Archa**	**50.89**	**299**	LR	LR	09 39 17.7	
	comp=Z,38nm,18.6s,baz=182,slow=37						
BCAR	**Beaver Creek A**	**52.05**	**34**	P	**P**	**09 17 31.0**	**+1.5**
KNRA	**Kununurra**	**53.49**	**196**	P	**P**	**09 17 40.8**	**+0.4**
GSI	**Gunungsitoli**	**53.84**	**240**	P	**P**	**09 17 44.0**	**+0.8**
INK	**Inuvik**	**54.59**	**27**	P	**P**	**09 17 49.4**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=330,slow=11,SNR=4.9						
INK	**Inuvik**	**54.59**	**27**	P	**P**	**09 17 47.5**	**-0.4**
INK				IAmb	IAmb	09 18 10.8	
	comp=Z,1.9nm,1.1s						
CHGR	**Chuyangaron**	**56.06**	**296**	P	**P**	**09 17 58.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**56.56**	**198**	P	**P**	**09 18 03.1**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=8.9,slow=8.7						
FITZ	**Fitzroy Crossi**	**56.56**	**198**	P	**P**	**09 18 03.2**	**+0.6**
FITZ				IAmb	IAmb	09 18 16.5	
	comp=Z,8.1nm,1.2s						
WB0	**Warramunga Arr**	**56.56**	**188**	P	**P**	**09 18 02.3**	**-0.4**
WB0				IAmb	IAmb	09 18 03.7	
	comp=Z,10nm,1.0s						
CTA	**Charters Tower**	**56.61**	**175**	P	**P**	**09 18 03.8**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=256,slow=17,SNR=1.1						
WRAB	**Tennant Creek**	**56.73**	**188**	P	**P**	**09 18 02.9**	**-0.9**
WRAB				IAmb	IAmb	09 18 04.9	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**56.73**	**188**	P	**P**	**09 18 03.3**	**-0.6**
WB2	**Warramunga Arr**	**56.74**	**188**	P	**P**	**09 18 03.4**	**-0.6**
WB2				IAmb	IAmb	09 18 05.5	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**09 18 03.4**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=5.5,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**09 18 03.8**	**-0.1**
ABKAR	**Akbulak array**	**58.37**	**310**	P	**P**	**09 18 15.1**	**-0.1**
ABKAR				IAmb	IAmb	09 18 15.9	
	comp=Z,1.6nm,0.7s						
ABKAR	**Akbulak array**	**58.37**	**310**	P	**P**	**09 18 14.9**	**-0.3**
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**09 18 29.9**	**0.0**
	comp=Z,3.4nm,0.8s,baz=10,slow=6.0,SNR=28						
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**09 18 30.4**	**+0.5**
EIDS	**Eidsvold**	**62.34**	**170**	P	**P**	**09 18 43.1**	**+0.6**
YKA	**Yellowknife Ar**	**63.99**	**30**	P	**P**	**09 18 53.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=299,slow=6.7,SNR=6.2						
YKA	**Yellowknife Ar**	**63.99**	**30**	P	**P**	**09 18 52.9**	**-0.1**
STKA	**Stephens Creek**	**68.19**	**180**	P	**P**	**09 19 20.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=326,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**68.19**	**180**	P	**P**	**09 19 18.9**	**-1.5**
FORT	**Forrest**	**68.31**	**193**	P	**P**	**09 19 21.8**	**+0.7**
FINES	**FINESS Array B**	**69.25**	**332**	P	**P**	**09 19 27.1**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=47,slow=10,SNR=1.7						
FINES	**FINESS Array B**	**69.25**	**332**	P	**P**	**09 19 26.7**	**0.0**
KBZ	**Khabaz**	**71.33**	**311**	LR	LR	09 52 21.6	
	comp=Z,35nm,18.1s,baz=54,slow=37						
NB201	**NORSAR Array S**	**74.59**	**337**	P	**P**	**09 19 58.8**	**0.0**
NB2	**NORSAR Subarra**	**74.62**	**337**	P	**P**	**09 19 59.3**	**+0.3**
	comp=Z,2.8nm,1.0s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.62**	**337**	P	**P**	**09 19 59.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=38,slow=5.7,SNR=4.1						
NOA				LR	LR	09 56 45.9	
	comp=Z,16nm,19.7s,baz=195,slow=39						
AKASG	**Malin Array Be**	**74.74**	**322**	P	**P**	**09 19 59.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=44,slow=6.1,SNR=8.1						
AKASG	**Malin Array Be**	**74.74**	**322**	P	**P**	**09 19 58.8**	**-1.0**
AKBB	**Malin Array Si**	**74.74**	**322**	P	**P**	**09 19 59.2**	**-0.6**
AKBB				IAmb	IAmb	09 20 00.7	
	comp=Z,3.9nm,0.9s						
BW06	**Boulder Array**	**77.73**	**46**	P	**P**	**09 20 16.0**	**-1.3**
PDAR	**Pinedale Array**	**77.73**	**46**	P	**P**	**09 20 18.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=270,slow=1.5,SNR=3.6						
PDAR	**Pinedale Array**	**77.73**	**46**	P	**P**	**09 20 17.1**	**-0.3**
BUR08	**Bucovina Ar. S**	**78.74**	**322**	P	**P**	**09 20 23.1**	**+0.4**
BUR08				IAmb	IAmb	09 20 39.5	
	comp=Z,4.8nm,1.2s						
BURAR	**Bucovina Array**	**78.75**	**322**	P	**P**	**09 20 22.8**	**+0.1**
SOCY	**Socotra**	**81.05**	**278**	P	**P**	**09 20 33.6**	**-2.0**
SOCY				IAmb	IAmb	09 20 34.6	
	comp=Z,3.4nm,0.8s						
CLL	**Collm**	**81.54**	**330**	*e*Px	Px	09 20 41.0	
GERES	**GERESS Array B**	**83.16**	**328**	P	**P**	**09 20 46.0**	**-0.2**
TXAR	**Lajitas Array**	**90.14**	**53**	P	**P**	**09 21 21.6**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=318,slow=2.4,SNR=3.2						
LPAZ	**La Paz**	**146.65**	**60**	PKPbc	**PKPbc**	**09 28 03.2**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=49,slow=10,SNR=6.3						

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*NEIC **06** 09:09:48.5±1.3, 8°.5S±0°.1×147°.7E±0°.1, h123km±7km, mb4.3/27, Error ellipse: s-maj=19.6km s-min=14.4km az=109.0*
*IDC **06** 09:09:49.3±1.1, 8°.55S×147°.74E, h134km±8km, mb3.7/11, mb1 3.9/12, mb1mx3.5/41, mbtmp4.2/12, Error ellipse: s-maj=32.1km s-min=14.4km az=102.0*
ISC 06 09:09:48.1±0.5**, 8°.44S**±0°.07×**147°.8E**±0°.1**, h123**km**, n53,** σ1.**06**/54**, mb4.1**/17**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.12**	**211**	P	**Pn**	**09 10 12.1**	**+0.4**
	209nm,0.3s,baz=55,slow=6.0,SNR=413						
PMG				LR	LR	09 10 27.7	
	comp=Z,80nm,18.4s,baz=152,slow=37						
PMG				S	**Sn**	**09 10 31.5**	**+2.0**
	137nm,0.3s,baz=146,slow=19,SNR=4.6						
PMG	**Port Moresby**	**1.12**	**211**		**Pn**	**09 10 12.0**	**+0.3**
COEN	**Coen**	**7.08**	**219**		**Pn**	**09 11 30.3**	**+1.0**
CTA	**Charters Tower**	**11.67**	**187**	P	**Pn**	**09 12 34.5**	**+3.5**
	0.3nm,0.3s,baz=349,slow=16,SNR=2.0						
EIDS	**Eidsvold**	**17.14**	**170**	P	**P**	**09 13 38.6**	**-1.3**
EIDS				IAmb	IAmb	09 13 41.8	
	comp=Z,9.5nm,1.0s						
WB0	**Warramunga Arr**	**17.15**	**228**	P	**P**	**09 13 39.4**	**-0.7**
WB0				IAmb	IAmb	09 13 41.7	
	comp=Z,9.4nm,1.1s						
WR0	**Warramunga Arr**	**17.16**	**227**	P	**P**	**09 13 39.3**	**-0.9**
WR0				IAmb	IAmb	09 13 41.9	
	comp=Z,9.6nm,0.8s						
WRAB	**Tennant Creek**	**17.28**	**227**	P	**P**	**09 13 40.8**	**-0.7**
WRAB				IAmb	IAmb	09 13 43.2	
	comp=Z,9.0nm,0.9s						
WB2	**Warramunga Arr**	**17.29**	**227**	P	**P**	**09 13 41.0**	**-0.6**
WB2				IAmb	IAmb	09 13 43.3	
	comp=Z,9.8nm,0.9s						
WRA	**Warramunga Arr**	**17.30**	**227**	P	**P**	**09 13 40.6**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=54,slow=11,SNR=94						
WRA	**Warramunga Arr**	**17.30**	**227**	P	**P**	**09 13 40.6**	**-1.2**
KNRA	**Kununurra**	**19.90**	**247**	P	**P**	**09 14 08.7**	**-1.4**
KNRA				IAmb	IAmb	09 14 28.1	
	comp=Z,47nm,1.4s						
ASAR	**Alice Springs**	**20.13**	**220**	P	**P**	**09 14 12.2**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=47,slow=9.8,SNR=63						
ASAR	**Alice Springs**	**20.13**	**220**	P	**P**	**09 14 12.0**	**-0.6**
ARMA	**Armidale**	**22.17**	**171**	P	**P**	**09 14 35.1**	**+0.8**
ARMA				IAmb	IAmb	09 14 36.2	
	comp=Z,7.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.54**	**244**	P	**P**	**09 14 45.8**	**-1.6**
	comp=Z,2.6nm,0.3s,baz=57,slow=5.8,SNR=50						
FITZ	**Fitzroy Crossi**	**23.54**	**244**	P	**P**	**09 14 46.1**	**-1.3**
FITZ				IAmb	IAmb	09 14 46.9	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**24.01**	**193**	P	**P**	**09 14 50.9**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=356,slow=9.0,SNR=18						
STKA	**Stephens Creek**	**24.01**	**193**	P	**P**	**09 14 51.1**	**-0.5**
BBOO	**Buckleboo**	**26.56**	**202**	P	**P**	**09 15 12.5**	**-2.1**
BBOO				IAmb	IAmb	09 15 33.6	
	comp=Z,22nm,1.4s						
CAN	**Canberra**	**26.78**	**178**	P	**P**	**09 15 16.9**	**+0.3**
CAN				IAmb	IAmb	09 15 38.9	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**28.85**	**217**	P	**P**	**09 15 34.4**	**-0.6**
TOO	**Toolangi**	**29.08**	**184**	P	**P**	**09 15 37.0**	**0.0**
TOO				IAmb	IAmb	09 15 45.4	
	comp=Z,16nm,1.4s						
MORW	**Morawa**	**36.17**	**231**	P	**P**	**09 16 37.6**	**-1.3**
MORW				IAmb	IAmb	09 16 49.5	
	comp=Z,13nm,1.4s						
BFZ	**Birch Farm**	**40.90**	**146**	P	**P**	**09 17 17.3**	**-1.0**
KSRS	**Korea Array**	**49.28**	**339**	P	**P**	**09 18 25.8**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=153,slow=8.2,SNR=6.2						
MIDW	**Midway**	**49.64**	**41**	P	**P**	**09 18 25.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**55.06**	**299**	P	**P**	**09 19 08.6**	**+1.0**
KLR	**Kul'dur**	**59.11**	**348**	P	**P**	**09 19 36.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=189,slow=5.8,SNR=4.7						
PEA0B	**Petropavlovsk-**	**61.89**	**7**	P	**P**	**09 19 55.3**	**+1.0**
PETK	**Petropavlovsk-**	**61.89**	**7**	P	**P**	**09 19 55.0**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=172,slow=5.4,SNR=4.6						
PETK	**Petropavlovsk-**	**61.89**	**7**	P	**P**	**09 19 55.3**	**+1.0**
SONM	**Songino Array**	**66.88**	**331**	P	**P**	**09 20 26.5**	**-0.7**
MA2	**Magadan**	**67.83**	**2**	P	**P**	**09 20 33.8**	**+1.1**
	comp=Z,0.7nm,0.2s,baz=145,slow=7.3,SNR=3.6						
MA2	**Magadan**	**67.83**	**2**	P	**P**	**09 20 32.9**	**+0.2**
VNDA	**Vanda**	**69.45**	**177**	P	**P**	**09 20 42.1**	**-0.4**
VNDA				IAmb	IAmb	09 21 02.2	
	comp=Z,4.4nm,1.4s						
MK31	**Makanchi Array**	**79.84**	**321**	P	**P**	**09 21 42.7**	**-0.3**
MKAR	**Makanchi Array**	**79.84**	**321**	P	**P**	**09 21 43.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=101,slow=6.8,SNR=8.3						
MKAR	**Makanchi Array**	**79.84**	**321**	P	**P**	**09 21 44.0**	**+1.0**
ZAA0	**Zalesovo Array**	**81.45**	**328**	P	**P**	**09 21 51.2**	**-0.3**
ZALV	**Zalesovo Beam**	**81.45**	**328**	P	**P**	**09 21 51.3**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=130,slow=4.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**81.45**	**328**	P	**P**	**09 21 51.4**	**0.0**
QSPA	**South Pole Qui**	**81.55**	**180**	P	**P**	**09 21 51.5**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=196,slow=1.4,SNR=43						
QSPA	**South Pole Qui**	**81.55**	**180**	P	**P**	**09 21 51.7**	**-0.2**
QSPA				IAmb	IAmb	09 21 51.9	
	comp=Z,3.0nm,0.6s						
IMAR	**Indian Mountai**	**85.50**	**20**	P	**P**	**09 22 12.0**	**+0.2**
WAX	**Waxell Ridge**	**87.37**	**28**	P	**P**	**09 22 22.2**	**+1.0**
ILAR	**Eielson Array**	**87.42**	**23**	P	**P**	**09 22 20.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=251,slow=5.0,SNR=11						
ILAR	**Eielson Array**	**87.42**	**23**	P	**P**	**09 22 20.8**	**-0.5**
BCAR	**Beaver Creek A**	**88.81**	**25**	P	**P**	**09 22 28.8**	**+0.8**
BMAR	**Burnt Mountain**	**89.39**	**21**	P	**P**	**09 22 31.3**	**+0.7**
DAWY	**Dawson**	**90.16**	**25**	P	**P**	**09 22 35.1**	**+0.9**
DAWY				IAmb	IAmb	09 22 36.2	
	comp=Z,4.3nm,1.2s						
SNAA	**Sanae**	**97.72**	**189**	P	**P**	**09 23 08.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**146.34**	**281**	PKPbc	**PKPbc**	**09 29 16.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=67,slow=4.2,SNR=1.9						

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*CNRM **06** 09:15:34.5, 35°.67N×3°.62W, h4km, ml2.8*
*MDD **06** 09:15:36.9±0.4, 35°.45N×3°.83W, h0km, mb_Lg2.8/7, Error ellipse: s-maj=3.5km s-min=2.6km az=173.0*
*SFS **06** 09:15:37.0, 35°.50N×3°.80W, ML2.6, ALBORAN SUR*
ISC 06 09:15:37.6±1.2**, 35°.46N**±0°.03×**3°.80W**±0°.03**, h21**km±3km**, n20,** σ1.**34**/35**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.27**	**205**	P	**Pb**	**09 15 44.1**	**+0.2**
EMEL	**Melilla**	**0.71**	**103**	Pg	**Pb**	**09 15 50.9**	**-0.4**
EMEL				Sg	**Sb**	**09 16 00.1**	**-0.4**
EALB	**Alboran**	**0.79**	**52**	Pg	**Pb**	**09 15 52.2**	**-0.4**
EALB				Sg	**Sb**	**09 16 02.4**	**-0.4**
EALB				*i* Vmb_Lg		09 16 06.1	
TAF	**Taforalt**	**1.30**	**119**	P	**Pn**	**09 15 60.0**	**-0.7**
CHEFC	**Chefchaouen**	**1.31**	**255**	P	**Pb**	**09 16 02.0**	**+0.5**
CEU	**Ceuta**	**1.35**	**289**	P	**Pn**	**09 15 59.4**	**-1.9**
CEU				S	**Sn**	**09 16 14.2**	**-4.4**
EMIJ	**Mijas**	**1.36**	**325**	Pn	**Pn**	**09 16 00.6**	**-0.8**
EMIJ				Sn	**Sb**	**09 16 19.8**	**+0.5**
EMIJ				*i* Vmb_Lg		09 16 23.8	
EMAL	**Malaga-Limoner**	**1.40**	**339**	P	**Pn**	**09 16 02.9**	**+1.0**
EMAL				S	**Sn**	**09 16 19.1**	**-0.6**
ELGU	**Los Guajares,**	**1.41**	**6**	Pn	**Pn**	**09 16 00.9**	**-1.3**
ELGU				Sn	**Sn**	**09 16 18.3**	**-2.0**
ELGU				*i* Vmb_Lg		09 16 22.6	
JBK	**JBK**	**1.51**	**138**	P	**Pn**	**09 16 03.0**	**-0.7**
EGOR	**Sierra Gorda,**	**1.67**	**351**	Pn	**Pn**	**09 16 06.5**	**+0.7**
EGOR				Sn	**Sn**	**09 16 27.2**	**+0.6**
EGOR				*i* Vmb_Lg		09 16 38.8	
EJIF	**Jimena Fronter**	**1.68**	**307**	Pn	**Pn**	**09 16 06.2**	**+0.4**
EJIF				Sn	**Sb**	**09 16 28.2**	**-0.3**
LCRM	**LCR**	**1.97**	**207**	P	**Pb**	**09 16 15.0**	**+2.1**
IFR	**Ifrane**	**2.23**	**210**	P	**Pn**	**09 16 14.1**	**+0.7**
IFR				S	**Sn**	**09 16 40.5**	**+0.1**
ECAB	**El Cabril**	**2.92**	**334**	Pn	**Pn**	**09 16 24.0**	**+1.1**
ECAB				Sn	**Sn**	**09 16 58.4**	**+1.1**
ECAB				*i* Vmb_Lg		09 17 23.0	
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**09 16 32.5**	**+0.1**
EGRO				Sn	**Sn**	**09 17 12.9**	**-1.6**
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**09 16 34.8**	**+1.8**
ETOB				Sn	**Sn**	**09 17 16.6**	**+1.1**
PAB	**San Pablo**	**4.10**	**354**	Pn	**Pn**	**09 16 40.3**	**+1.1**
PAB				Sn	**Sn**	**09 17 26.1**	**-0.5**
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**09 16 40.9**	**+0.8**
EBAD				Sn	**Sn**	**09 17 26.7**	**-1.6**
ESDC	**Sonseca Array**	**4.21**	**358**	Pn	**Pn**	**09 16 42.0**	**+1.3**
ESDC				Sn	**Sn**	**09 17 28.5**	**-0.7**

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*ISN **06** 09:55:31.8±1.3, 32°.71N×47°.70E, h3km±20km, ML2.9*
*TEH **06** 09:55:33.4, 32°.83N×47°.63E, h8km, ML3.1*
ISC 06 09:55:34.0±1.5**, 32°.81N**±0°.04×**47°.64E**±0°.03**, h1**km±14km**, n30,** σ1.**09**/36**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.74**	**13**	*e*Pg	**Pg**	**09 55 47.3**	**-0.8**
IDOB	**Doab**	**1.08**	**24**	*e*Pg	**Pg**	**09 55 55.0**	**+0.4**
BMDN	**Meydan**	**1.31**	**49**	*e*Pg	**Pn**	**09 55 58.0**	**-1.6**
BMDN				*e*		09 56 00.2	
	comp=Z,4μm,0.2s						
IBDR	**Badra**	**1.47**	**282**	*e*Pn	**Pb**	**09 56 02.0**	**-0.1**
IBDR				*e*Sn	**Sg**	**09 56 23.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**1.55**	**341**	*e*Pg	**Pn**	**09 56 02.4**	**-0.4**
KCHF				*e*Sg	**Sg**	**09 56 24.3**	**+0.5**
KCHF				*e*		09 56 29.6	
	comp=Z,4μm,0.4s						
KER	**Kermanshah**	**1.63**	**345**	*e*Sg	**Sg**	**09 56 27.6**	**+1.2**
KER				*e*Pg	**Pb**	**09 56 04.4**	**-0.5**
IBZA	**Bozab**	**1.67**	**6**	*e*		09 56 07.0	
	comp=Z,3μm,0.6s						
IBZA				*e*Pg	**Pb**	**09 56 05.4**	**-0.3**
RAFI	**Al-Rafai**	**1.69**	**231**	*e*Pn	**Pn**	**09 56 04.0**	**-0.5**
RAFI				*e*Sn	**Sb**	**09 56 27.0**	**-0.4**
RAFI				AML	AML	09 56 36.8	
	comp=E,153nm,0.3s						
AMIS	**Naft Sefid**	**1.80**	**129**	*e*Pn	**Pb**	**09 56 06.9**	**-0.8**
KHMZ	**Khomeyn**	**2.15**	**64**	*e*Pn	**Pb**	**09 56 12.4**	**-1.5**
IDHR	**Dehrash**	**2.16**	**331**	*e*Pn	**Pb**	**09 56 12.4**	**-1.6**
IDHR				*e*		09 56 47.6	
	comp=Z,2μm,0.5s						
SNGE	**Sanandaj**	**2.29**	**354**	*e*Pn	**Pn**	**09 56 13.8**	**+0.7**
HAGD	**Aghdareh**	**2.37**	**31**	*e*Pn	**Pn**	**09 56 14.2**	**+0.1**
HAGD				*e*		09 56 55.9	
	comp=Z,851nm,0.6s						
ASAO	**Ashtian**	**2.64**	**48**	*e*Pn	**Pn**	**09 56 18.4**	**+0.5**
IPIR	**Pirpir**	**2.74**	**92**	*e*Pn	**Pn**	**09 56 20.1**	**+0.8**
IPIR				*e*		09 57 02.0	
	comp=Z,864nm,0.4s						
BHD	**Baghdad**	**2.78**	**280**	*e*Pn	**Pn**	**09 56 20.0**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BHD				eSn	Sb	09 56 56.0	-2.9
SHK1	Shahrekord	2.78	99	ePn	Pn	09 56 20.7	+0.9
SHK1				e		09 57 05.1	
	comp=Z,625nm,0.4s						
IRAZ	Razeghan	3.21	36	ePn	Pn	09 56 26.9	+1.2
IRAZ				e		09 57 29.7	
	comp=Z,492nm,1.0s						
QAMS	Qamsar	3.28	73	ePn	Pn	09 56 27.2	+0.5
QAMS				e		09 56 40.7	
	comp=Z,463nm,0.4s						
IKLH	Kolahrood	3.34	80	ePn	Pn	09 56 28.8	+1.2
IKLH				e		09 57 22.2	
	comp=Z,257nm,0.4s						
GHVR	GHOM	3.48	60	ePn	Pn	09 56 30.8	+1.6
IQOM	Qom	3.50	54	ePn	Pn	09 56 29.8	0.0
IKRK	Kirkuk	3.77	314	ePn	Pn	09 56 34.0	+0.8
IKRK				eSn	Sn	09 57 20.0	+1.8
KLNJ	Kolanjah	3.81	117	ePn	Pn	09 56 34.4	+0.4
KRSH	Karshahi	3.93	72	ePn	Pn	09 56 36.7	+1.1
IZEF	Zefreh	3.95	87	ePn	Pn	09 56 36.8	+0.9
IVRN	Varamin	4.04	56	ePn	Pn	09 56 37.1	+0.1
IRAM	Ramesheh	4.13	103	ePn	Pn	09 56 39.1	+0.7
NASN	Na'in	4.35	89	ePn	Pn	09 56 42.2	+0.7
IFIR	Firoozkooh	5.09	55	ePn	Pn	09 56 52.3	+0.7

*SNET **06** 10:02:48.5±3.5, 12.°64N×87.°43W, h15km±115km, ML3.2*
*INET **06** 10:02:49.0±1.6, 12.°29N×87.°58W, h20km±15km, ML3.1*
ISC 06 10:02:48.2±2.0**, 12.°4N**±0.°1×**87.°58W**±0.°06**, h26**km±16km**,**
n17, σ1.s03/23**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.62	56	eP	Pn	10 03 02.7	+1.2
TEL3	Telica 3	0.75	73	i P	Pn	10 03 03.4	+0.2
TELN	Telica	0.78	71	eP	Pn	10 03 04.3	+0.8
CNGN	Cerro Negro	0.88	80	eP	Pb	10 03 05.2	+0.3
MOMN	Momotombo	1.02	87	eP	Pn	10 03 06.7	-0.3
TISN	Laguna Tiscapa	1.30	99	eP	Pn	10 03 10.4	-0.3
MGAN	Managua	1.32	99	eP	Pn	10 03 10.3	-0.7
FAGO	Alcalda de S	1.43	339	eP	Pn	10 03 07.5	-5.0
FAGO				eS	Sn	10 03 27.1	-3.4
COEB	Comit de Eme	1.47	321	eP	Pn	10 03 13.5	+0.4
COEB				eS	Sn	10 03 32.4	+0.9
COEB				IAML		10 03 42.6	
	comp=Z,197nm,0.3s						
COEB	Comit de Eme	1.47	321	eP	Pn	10 03 13.5	+0.4
PQSS	Presa 15 de Se	1.58	323	eP	Pn	10 03 15.6	+1.0
PQSS				eS	Sb	10 03 35.9	-0.5
MATN	Matagalpa	1.72	70	eP	Pn	10 03 16.9	+0.4
SCLA	Alcaldia de Sa	1.74	320	eP	Pn	10 03 17.9	+1.0
SCLA				eS	Sb	10 03 40.3	-0.8
SJTE	Alcalda de S	1.87	312	eP	Pn	10 03 19.2	+0.6
SJTE				eS	Sn	10 03 41.4	-0.1
BOAB	BOACO BROADBAN	1.88	87	eP	Pn	10 03 18.2	-0.4
BOAB				eS	Sn	10 03 42.4	+0.9
JAYA	Jayaque - finc	2.23	306	eP	Pn	10 03 24.0	+0.3
JAYA				eS	Sn	10 03 50.5	0.0
JAYA				IAML		10 03 52.2	
	comp=Z,230nm,0.2s						
ACON	Acoyapa	2.39	99	eP	Pn	10 03 26.1	+0.4

*NEIC **06** 10:06:21.3±1.4, 5.°86S±0.°09×152.°6E±0.°1, h12km±2km, mb4.1/14, Error ellipse: s-maj=22.2km s-min=10.1km az=112.0*
*IDC **06** 10:06:28.7±2.4, 5.°58S×152.°06E, h70km±15km, mb3.7/8, mb1 3.9/9, mb1mx3.6/39, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/62, Error ellipse: s-maj=48.4km s-min=12.8km az=111.0*
ISC 06 10:06:25.1±0.8**, 5.°74S**±0.°07×**152.°3E**±0.°1**, h40**km**, n33,**
σ1.s29/36**, mb4.0**/15**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.45	349	P	Pn	10 06 48.6	-0.3
	17nm,0.3s,baz=147,slow=1.2,SNR=1.4						
KRVT				LR	LR	10 07 04.4	
	comp=Z,591nm,21.1s,baz=148,slow=28						
KRVT				S	Sn	10 07 07.4	+0.8
	baz=343,slow=19						
RABL	Rabaul	1.54	355		Pn	10 06 50.7	+0.5
PMG	Port Moresby	6.27	234	P	Pn	10 07 55.6	+0.5
	2.8nm,0.3s,baz=17,slow=9.2,SNR=5.6						
PMG				S	Sn	10 09 02.9	-2.7
	2.9nm,0.3s,baz=13,slow=20,SNR=5.4						
PMG	Port Moresby	6.27	234		Pn	10 07 56.0	+0.8
WB0	Warramunga Arr	22.32	230	P	P	10 11 19.5	0.0
WB0				IAmb	IAmb	10 11 33.9	
	comp=Z,5.6nm,0.9s						
WR0	Warramunga Arr	22.32	229	P	P	10 11 19.7	+0.2
WRAB	Tennant Creek	22.45	229	P	P	10 11 20.8	-0.1
WRAB				IAmb	IAmb	10 11 35.6	
	comp=Z,4.9nm,0.8s						
WB2	Warramunga Arr	22.45	229	P	P	10 11 20.7	-0.2
WB2				IAmb	IAmb	10 11 36.2	
	comp=Z,5.5nm,0.9s						
WRA	Warramunga Arr	22.46	229	P	P	10 11 20.1	-0.9
	comp=Z,1.6nm,0.9s,baz=52,slow=9.9,SNR=9.0						
WRA	Warramunga Arr	22.46	229	P	P	10 11 19.8	-1.3
KNRA	Kununurra	25.12	245	P	P	10 11 47.4	+0.8
ASAR	Alice Springs	25.13	223	P	P	10 11 47.1	+0.5
	comp=Z,3.7nm,0.7s,baz=60,slow=8.7,SNR=62						
ASAR	Alice Springs	25.13	223	P	P	10 11 47.2	+0.6
STKA	Stephens Creek	27.87	200	P	P	10 12 14.2	+3.0
	comp=Z,1.3nm,0.5s,baz=48,slow=12,SNR=3.3						
FITZ	Fitzroy Crossi	28.78	242	P	P	10 12 20.0	+0.5
	comp=Z,2.1nm,0.3s,baz=51,slow=9.4,SNR=19						
FITZ	Fitzroy Crossi	28.78	242	P	P	10 12 20.6	+1.1
MORW	Morawa	41.38	232	P	P	10 14 10.0	+2.3
MORW				IAmb	IAmb	10 14 27.9	
	comp=Z,7.7nm,1.1s						
SONM	Songino Array	66.85	328	P	P	10 17 12.1	-1.0
	comp=Z,0.9nm,0.7s,baz=147,slow=5.6,SNR=6.8						
SONM	Songino Array	66.85	328	P	P	10 17 12.7	-0.4
SONM				IAmb	IAmb	10 17 13.5	
	comp=Z,1.0nm,0.8s						
VNDA	Vanda	71.92	178	P	P	10 17 41.8	-2.0
VNDA				IAmb	IAmb	10 18 05.8	
	comp=Z,3.2nm,1.4s						
J20K	Nowinta River	80.23	21	P	P	10 18 31.5	+0.3
J20K				IAmb	IAmb	10 18 35.5	
	comp=Z,4.0nm,1.2s						
MK31	Makanchi Array	80.70	319	P	P	10 18 34.9	+0.7
MKAR	Makanchi Array	80.70	319	P	P	10 18 32.0	-2.3
	comp=Z,1.7nm,1.1s,baz=93,slow=6.2,SNR=6.5						
MKAR	Makanchi Array	80.70	319	P	P	10 18 33.0	-1.2
ZALV	Zalesovo Beam	81.66	327	P	P	10 18 36.8	-2.2
	comp=Z,0.5nm,0.4s,baz=129,slow=3.9,SNR=2.7						
IL31		83.21	22	P	P	10 18 46.1	-0.8
ILAR	Eielson Array	83.21	22	P	P	10 18 46.2	-0.7
	comp=Z,0.5nm,0.6s,baz=244,slow=5.8,SNR=10						
ILAR	Eielson Array	83.21	22	P	P	10 18 47.2	+0.2
KURBB	Kurchatov Arra	84.23	322	LR	LR	10 59 52.3	
	comp=Z,15nm,18.0s,baz=297,slow=38						
QSPA	South Pole Qui	84.23	180	P	P	10 18 52.0	-0.3
QSPA				IAmb	IAmb	10 19 18.1	
	comp=Z,1.7nm,0.9s						
DAWY	Dawson	85.84	24	P	P	10 19 02.2	+1.8
TORD	Torodi Ar. Bea	150.11	286	PKPbc	PKPbc	10 26 12.6	-0.1
	comp=Z,4.9nm,0.7s,baz=61,slow=2.3,SNR=25						
TORD	Torodi Ar. Bea	150.11	286		PKPdf	10 26 05.5	-2.1
TORD				PKPbc	PKPbc	10 26 12.8	+0.1
TORD				PKPab	pPKPdf	10 26 18.2	-0.2

*NEIC **06** 10:10:56.8±1.5, 5.°54S±0.°08×151.°9E±0.°1, h45km±5km, mb4.3/19, Error ellipse: s-maj=20.4km s-min=9.7km az=114.0*
*IDC **06** 10:10:58.3±1.3, 5.°48S×151.°79E, h65km±9km, mb4.0/13, mb1 4.2/15, mb1mx4.0/37, mbtmp4.3/15, MS3.6/29, Ms1 3.6/29, ms1mx3.5/63, Error ellipse: s-maj=26.2km s-min=8.9km az=119.0*
ISC 06 10:10:56.2±0.5**, 5.°53S**±0.°07×**151.°9E**±0.°1**, h45**km**, n77,**
σ1.s53/63**, mb4.3**/22**, MS3.6**/27**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.22	6	P	Pn	10 11 17.9	+1.0
KRVT				S	Sn	10 11 34.7	+2.4
RABL	Rabaul	1.36	11	Pn	Pn	10 11 19.5	+0.7
PMG	Port Moresby	6.07	230	P	Pn	10 12 25.0	+1.6
	3.7nm,0.3s,baz=41,slow=9.0,SNR=16						
PMG				S	Sn	10 13 33.4	+1.7
	4.9nm,0.3s,baz=152,slow=21,SNR=6.3						
PMG				LR	LR	10 14 50.8	
	comp=Z,451nm,21.6s,baz=16,slow=39						
PMG	Port Moresby	6.07	230		Pn	10 12 24.0	+0.5
COEN	Coen	11.99	225	Pn	Pn	10 13 45.3	+0.6
CTA	Charters Tower	15.47	200	P	Pn	10 14 33.5	+2.0
	0.1nm,0.3s,baz=26,slow=10,SNR=4.7						
CTA				LR	LR	10 20 06.5	
	comp=Z,256nm,19.3s,baz=32,slow=35						
EIDS	Eidsvold	19.74	182	P	P	10 15 22.2	-0.1
EIDS				IAmb	IAmb	10 15 25.9	
	comp=Z,21nm,1.0s						
GUMO	Guam	20.23	340	LR	LR	10 23 08.0	
	comp=Z,34nm,19.4s,baz=130,slow=36						
DZM	Mont Dzumac	21.65	141	LR	LR	10 23 26.4	
	comp=Z,332nm,18.5s,baz=280,slow=34						
WB0	Warramunga Arr	22.14	229	P	P	10 15 48.1	-0.2
WB0				IAmb	IAmb	10 16 03.4	
	comp=Z,9.2nm,0.8s						
WR0	Warramunga Arr	22.15	228	P	P	10 15 48.1	-0.2
WR0				IAmb	IAmb	10 16 12.3	
	comp=Z,12nm,1.1s						
WRAB	Tennant Creek	22.27	228	P	P	10 15 49.5	-0.2
WRAB				IAmb	IAmb	10 16 13.1	
	comp=Z,20nm,1.2s						
WB2	Warramunga Arr	22.28	228	P	P	10 15 49.2	-0.6
WB2				IAmb	IAmb	10 16 05.8	
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	22.29	228	P	P	10 15 49.2	-0.6
	comp=Z,5.2nm,0.9s,baz=53,slow=9.6,SNR=16						
WRA				LR	LR	10 25 00.0	
	comp=Z,137nm,19.4s,baz=53,slow=38						
WRA	Warramunga Arr	22.29	228	P	P	10 15 49.7	-0.2
KNRA	Kununurra	24.84	244	P	P	10 16 14.8	+0.2
ASAR	Alice Springs	25.00	222	P	P	10 16 16.1	0.0
	comp=Z,9.9nm,0.8s,baz=55,slow=9.3,SNR=70						
ASAR	Alice Springs	25.00	222	P	P	10 16 15.6	-0.5
STKA	Stephens Creek	27.93	199	P	P	10 16 43.4	+1.1
	comp=Z,2.6nm,1.0s,baz=335,slow=16,SNR=2.6						
STKA				LR	LR	10 27 59.7	
	comp=Z,146nm,18.9s,baz=34,slow=37						
STKA	Stephens Creek	27.93	199	P	P	10 16 41.9	-0.4
FITZ	Fitzroy Crossi	28.52	242	P	P	10 16 46.7	-1.0
	comp=Z,16nm,0.9s,baz=78,slow=7.8,SNR=16						
FITZ				LR	LR	10 29 17.2	
	comp=Z,125nm,18.2s,baz=78,slow=39						
FITZ	Fitzroy Crossi	28.52	242	P	P	10 16 47.7	0.0
KAPI	Kappang	32.01	269	LR	LR	10 32 28.6	
	comp=Z,51nm,19.6s,baz=98,slow=40						
JOW	Kunigami	39.47	326	LR	LR	10 30 49.5	
	comp=Z,85nm,21.2s,baz=141,slow=30						
URZ	Urewera	39.83	148	LR	LR	10 33 40.2	
	comp=Z,134nm,18.2s,baz=29,slow=34						
JHJ	Hachijo jima 2	40.12	344	LR	LR	10 33 07.4	
	comp=Z,59nm,20.4s,baz=60,slow=33						
MORW	Morawa	41.19	231	P	P	10 18 36.6	-0.1
MORW				IAmb	IAmb	10 18 45.9	
	comp=Z,5.9nm,0.9s						
RPZ	Rata Peaks	41.61	159	LR	LR	10 34 29.9	
	comp=Z,141nm,18.5s,baz=302,slow=34						
MJAR	Matsushiro Arr	43.77	344	P	P	10 18 56.8	-0.7
	comp=Z,1.9nm,0.8s,baz=172,slow=9.9,SNR=4.4						
MJAR				LR	LR	10 34 15.1	
	comp=Z,64nm,19.9s,baz=160,slow=32						
LEM	Lembang	44.03	266	LR	LR	10 41 06.8	
	comp=Z,67nm,19.1s,baz=70,slow=41						
KSRS	Korea Array	48.25	334	LR	LR	10 39 52.2	
	comp=Z,30nm,18.9s,baz=145,slow=36						
KLR	Kul'dur	57.30	344	LR	LR	10 42 21.6	
	comp=Z,55nm,21.6s,baz=180,slow=33						
CMAR	Chiang Mai Arr	57.37	296	P	P	10 20 40.0	-0.5
	comp=Z,1.3nm,0.3s,baz=129,slow=5.6,SNR=7.3						
CMAR	Chiang Mai Arr	57.37	296	P	P	10 20 39.6	-0.9
PETK	Petropavlovsk-	58.62	4	P	P	10 20 47.9	-0.7
	comp=Z,2.3nm,1.1s,baz=166,slow=6.6,SNR=4.2						
PETK				LR	LR	10 41 19.1	
	comp=Z,55nm,21.1s,baz=174,slow=31						
MA2	Magadan	64.91	359	LR	LR	10 45 25.9	
	comp=Z,33nm,21.9s,baz=162,slow=32						
SONM	Songino Array	66.46	328	P	P	10 21 41.0	-0.1
	comp=Z,2.4nm,0.7s,baz=142,slow=4.7,SNR=17						
SONM				LR	LR	10 51 04.5	
	comp=Z,46nm,19.1s,baz=173,slow=36						
SONM	Songino Array	66.46	328	P	P	10 21 40.8	-0.4
SONM				IAmb	IAmb	10 21 42.4	
	comp=Z,2.7nm,0.8s						
YAK	Yakutsk	69.51	349	LR	LR	10 54 52.4	
	comp=Z,18nm,18.5s,baz=218,slow=38						
VNDA	Vanda	72.14	178	P	P	10 22 15.4	-0.2
VNDA				IAmb	IAmb	10 22 21.9	
	comp=Z,6.9nm,1.4s						
PALK	Pallekele	72.16	279	LR	LR	10 56 34.7	
	comp=Z,33nm,19.1s,baz=218,slow=38						
ANM	Nome	76.74	18	P	P	10 22 43.0	+0.6
ANM				IAmb	IAmb	10 22 58.0	
	comp=Z,4.6nm,1.4s						
MK31	Makanchi Array	80.28	319	P	P	10 23 01.9	-0.6
MKAR	Makanchi Array	80.28	319	P	P	10 23 01.6	-0.8
	comp=Z,2.7nm,1.0s,baz=102,slow=5.3,SNR=16						
MKAR	Makanchi Array	80.28	319	P	P	10 23 02.0	-0.4
MAKZ	Makanchi	80.49	319	P	P	10 23 02.4	-1.2
MAKZ				IAmb	IAmb	10 23 04.0	
	comp=Z,3.8nm,1.0s						
ZALV	Zalesovo Beam	81.26	327	P	P	10 23 05.6	-1.8
	comp=Z,1.2nm,0.5s,baz=111,slow=6.9,SNR=6.5						
ZALV	Zalesovo Beam	81.26	327	P	P	10 23 06.1	-1.4
IMAR	Indian Mountai	81.37	20	P	P	10 23 09.2	+1.4
IL31		83.17	22	P	P	10 23 16.9	-0.3
IL31				IAmb	IAmb	10 23 22.3	
	comp=Z,3.1nm,1.2s						
ILAR	Eielson Array	83.17	22	P	P	10 23 16.1	-1.1
	comp=Z,1.3nm,0.6s,baz=245,slow=5.3,SNR=16						
ILAR				LR	LR	10 57 53.8	
	comp=Z,43nm,19.1s,baz=12,slow=34						
ILAR	Eielson Array	83.17	22	P	P	10 23 16.9	-0.4
QSPA	South Pole Qui	84.43	180	P	P	10 23 24.1	+0.2
BCAR	Beaver Creek A	84.44	25	P	P	10 23 24.3	+0.4
BMAR	Burnt Mountain	85.24	20	P	P	10 23 29.4	+1.6
HYT	Haines Junctio	85.50	28	P	P	10 23 29.7	+0.4
DAWY	Dawson	85.82	24	P	P	10 23 31.9	+1.2
N31M	Braeburn, Yuko	86.50	27	P	P	10 23 34.1	-0.1
KKAR	Karatay Array	87.47	314	P	P	10 23 38.6	-0.7
BBB	Bella Bella	88.22	37	LR	LR	11 03 52.1	
	comp=Z,20nm,18.6s,baz=262,slow=36						
DLBC	Dease Lake	88.47	31	LR	LR	10 57 02.1	
	comp=Z,79nm,20.1s,baz=265,slow=31						
YBH	Yreka Blue Hor	90.21	48	LR	LR	10 55 45.8	
	comp=Z,57nm,20.9s,baz=322,slow=30						
NVAR	Mina Array Bea	93.24	52	P	P	10 24 07.3	+0.7
	comp=Z,1.1nm,0.7s,baz=254,slow=6.0,SNR=3.6						
NVAR				LR	LR	11 02 10.3	
	comp=Z,60nm,18.7s,baz=264,slow=33						
NEW	Newport	94.74	42	LR	LR	11 01 26.7	
	comp=Z,50nm,18.4s,baz=251,slow=32						
ARU	Arti	96.42	326	LR	LR	11 07 21.5	
	comp=Z,71nm,22.0s,baz=114,slow=35						
YKA	Yellowknife Ar	96.49	28	P	P	10 24 20.5	-0.1
	comp=Z,0.6nm,0.8s,baz=271,slow=4.6,SNR=7.6						
AKTO	Aktyubinsk	96.70	320	LR	LR	11 10 17.0	
	comp=Z,29nm,18.3s,baz=64,slow=37						
PDAR	Pinedale Array	100.01	48	P	Pdif	10 24 36.6	-0.5
	comp=Z,0.5nm,0.6s,baz=227,slow=5.7,SNR=4.4						
OSTC	Ostas	121.87	328	ePKP	PKiKP	10 29 53.9	+8.1
DPC	Dobruska-Polom	121.93	328	ePKP	PKiKP	10 29 52.2	+6.3
CKRC	Cesky Krumlov	123.89	328	ePKP	PKPdf	10 29 49.1	-0.4
CKRC				ex	x	10 29 59.5	
KHC	Kasperske Hory	124.09	328	ePKP	PKPdf	10 29 44.7	-5.2
KHC				ex	x	10 29 59.1	
GERES	GERESS Array B	124.19	328	PKP	PKPdf	10 29 49.8	-0.5
	comp=Z,0.8nm,0.8s,baz=44,slow=4.1,SNR=4.4						
TORD	Torodi Ar. Bea	149.66	287	PKPbc	PKPbc	10 30 41.0	-1.0
	comp=Z,12nm,0.8s,baz=66,slow=2.7,SNR=63						
TORD	Torodi Ar. Bea	149.66	287	PKPdf	PKPdf	10 30 36.6	-0.8
TORD					PKPbc	10 30 42.1	+0.1
TORD				PKPab	PKPab	10 30 47.7	+0.4
BDFB	Brasilia	151.17	137	PKPbc	PKPbc	10 30 45.2	-0.6
	comp=Z,2.4nm,0.6s,baz=216,slow=9.3,SNR=6.5						
BDFB	Brasilia	151.17	137	PKPdf	PKPdf	10 30 35.7	-4.2
BDFB					PKPbc	10 30 43.8	-1.9
BDFB				PKPab	PKiKP	10 30 49.3	+3.0

*IDC **06** 10:11:24.9±1.3, 17.°93S×178.°14W, h633km±15km, mb3.4/14, mb1 3.5/17, mb1mx3.4/34, mbtmp4.4/17, Error ellipse: s-maj=22.0km s-min=13.7km az=141.0*
*NEIC **06** 10:11:25±1.3, 17.°9S±0.°1×178.°0W±0.°1, h637km±9km, mb4.3/23, Error ellipse: s-maj=23.3km s-min=12.9km az=126.0*
ISC 06 10:11:25.5±0.6**, 17.°9S**±0.°1×**178.°1W**±0.°1**, h650**km**, n54,**
σ0.s94/57**, mb4.2**/26**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.70	272	P	P	10 12 50.9	-1.9
	1.6nm,0.3s,baz=107,slow=3.0,SNR=10						
MSVF	Nonsavu	3.70	272	P	P	10 12 52.2	-0.6
AFI	Afiamalu	7.25	58	P	P	10 13 18.3	-1.7
	4.0nm,0.3s,baz=160,slow=3.6,SNR=6.2						
AFI	Afiamalu	7.25	58	P	P	10 13 17.5	-2.5
MARNC	Mare, Loyalty	13.56	253	P	P	10 14 17.2	-1.3
DZM	Mont Dzumac	15.13	252	P	P	10 14 32.9	-0.1
	0.4nm,0.3s,baz=232,slow=21,SNR=2.5						
DZM	Mont Dzumac	15.13	252	P	P	10 14 33.8	+0.8
KNTN	Kanton	16.29	23	P	P	10 14 42.1	-1.5
OUZ	Omahuta	18.76	202	P	P	10 15 06.9	+1.2
OUZ				IAmb	IAmb	10 15 07.8	
	comp=Z,18nm,1.0s						
RPZ	Rata Peaks	27.31	197	P	P	10 16 21.4	+0.1
	comp=Z,6.4nm,0.7s,baz=54,slow=8.7,SNR=3.8						
CTA	Charters Tower	33.76	261	P	P	10 17 16.5	0.0
	comp=Z,2.8nm,0.5s,baz=79,slow=11,SNR=8.4						
CAN	Canberra	33.95	233	P	P	10 17 18.4	+0.4
TOO	Toolangi	37.41	231	P	P	10 17 46.5	+0.3
TOO				IAmb	IAmb	10 18 08.4	
	comp=Z,10nm,1.4s						
COEN	Coen	37.43	270	P	P	10 17 47.4	+0.8
STKA	Stephens Creek	38.91	241	P	P	10 17 58.6	+0.3
	comp=Z,2.1nm,0.5s,baz=83,slow=11,SNR=8.7						
STKA	Stephens Creek	38.91	241	P	P	10 17 58.3	0.0
JAY	Jayapura	43.22	286	P	P	10 18 32.7	+0.3
	comp=Z,18nm,1.0s,baz=158,slow=5.6,SNR=4.8						
BBOO	Buckleboo	43.68	241	P	P	10 18 35.5	-0.1
BBOO				IAmb	IAmb	10 18 36.1	
	comp=Z,13nm,0.9s						
WR0	Warramunga Arr	44.76	259	P	P	10 18 43.9	-0.1
WR0				IAmb	IAmb	10 19 07.7	
	comp=Z,9.0nm,1.2s						
WB0	Warramunga Arr	44.91	260	P	P	10 18 45.3	0.0
WB0				IAmb	IAmb	10 18 45.3	
	comp=Z,8.2nm,0.4s						
WB2	Warramunga Arr	44.94	259	P	P	10 18 45.3	-0.1
WB2				IAmb	IAmb	10 18 45.6	
	comp=Z,7.4nm,0.6s						
WRAB	Tennant Creek	44.94	260	P	P	10 18 45.2	-0.2
WRAB				IAmb	IAmb	10 18 45.5	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	44.95	259	P	P	10 18 45.0	-0.4
	comp=Z,4.1nm,0.4s,baz=95,slow=7.5,SNR=73						
WRA				PcP	PcP	10 20 12.6	+0.3
	comp=Z,0.7nm,0.3s,baz=90,slow=3.7,SNR=5.4						
WRA	Warramunga Arr	44.95	259	P	P	10 18 45.1	-0.4
ASAR	Alice Springs	45.10	254	P	P	10 18 46.5	-0.2
	comp=Z,13nm,0.7s,baz=90,slow=8.3,SNR=115						
ASAR				PcP	PcP	10 20 12.8	+0.1
	comp=Z,1.8nm,0.4s,baz=105,slow=3.9,SNR=11						
ASAR				S	S	10 24 39.5	-1.4
	comp=Z,1.5nm,1.1s,baz=90,slow=14,SNR=6.1						
ASAR	Alice Springs	45.10	254	P	P	10 18 46.3	-0.3
FORT	Forrest	50.29	245	P	P	10 19 24.0	-1.0
FORT				IAmb	IAmb	10 19 38.8	
	comp=Z,33nm,1.1s						
KNRA	Kununurra	50.81	264	P	P	10 19 29.1	+0.2
KNRA				IAmb	IAmb	10 19 31.7	
	comp=Z,26nm,1.1s						
FAKI	Fak Fak	50.90	281	P	P	10 19 29.0	-0.6
FAKI				IAmb	IAmb	10 19 32.6	
	comp=Z,12nm,1.1s						
SIJI	Sorong	52.55	283	P	P	10 19 41.5	+0.1
	comp=Z,15nm,0.4s,baz=155,slow=5.1,SNR=10.0						
FITZ	Fitzroy Crossi	53.34	260	P	P	10 19 47.0	+0.1
	comp=Z,1.8nm,0.3s,baz=34,slow=5.4,SNR=7.9						
GIRL	Giralia	63.20	253	P	P	10 20 52.8	0.0
MJAR	Matsushiro Arr	68.11	323	P	P	10 21 23.0	+0.2
	comp=Z,1.7nm,0.5s,baz=162,slow=5.9,SNR=3.8						
UGM	Wanagama	69.97	268	P	P	10 21 33.8	-0.6
QSPA	South Pole Qui	72.14	180	P	P	10 21 46.7	+0.6
TPUB	Ta-pu	72.54	302	P	P	10 21 48.6	-0.5
TPUB				IAmb	IAmb	10 21 49.5	
	comp=Z,19nm,0.9s						
PEA0B	Petropavlovsk-	73.77	345	P	P	10 21 56.0	+0.6
PEA0B				IAmb	IAmb	10 22 23.7	
	comp=Z,16nm,1.3s						
PETK	Petropavlovsk-	73.77	345	P	P	10 21 56.0	+0.6
	comp=Z,0.9nm,0.5s,baz=120,slow=8.7,SNR=5.6						
PETK	Petropavlovsk-	73.77	345	P	P	10 21 56.6	+1.2
USRK	Ussuriysk Ar.	76.81	326	P	P	10 22 14.3	+2.0
	comp=Z,1.1nm,0.7s,baz=125,slow=4.1,SNR=2.1						
TXAR	Lajitas Array	85.73	57	P	P	10 23 00.6	+2.4
	comp=Z,0.4nm,0.7s,baz=228,slow=6.9,SNR=5.8						
TXAR	Lajitas Array	85.73	57	P	P	10 22 59.8	+1.6
IL31		85.83	13	P	P	10 22 57.8	+0.2
IL31				IAmb	IAmb	10 23 09.9	
	comp=Z,5.3nm,1.4s						
ILAR	Eielson Array	85.83	13	P	P	10 22 57.8	+0.1
	comp=Z,0.4nm,0.4s,baz=216,slow=5.0,SNR=8.4						
ILAR	Eielson Array	85.83	13	P	P	10 22 58.2	+0.5
DAWY	Dawson	87.01	16	P	P	10 23 02.9	-0.4
CMAR	Chiang Mai Arr	89.19	290	P	P	10 23 16.1	+1.6
	comp=Z,0.8nm,0.3s,baz=118,slow=3.3,SNR=4.1						
MKAR	Makanchi Array	109.38	314	PKiKP	PKiKP	10 28 42.6	-1.0
	comp=Z,0.2nm,0.5s,baz=64,slow=3.4,SNR=6.0						
BRTR	Keskin Array B	145.02	315	PKP	PKPbc	10 29 52.5	+0.5
	comp=Z,1.2nm,0.4s,baz=123,slow=4.0,SNR=10						
BRTR	Keskin Array B	145.02	315		PKPbc	10 29 52.3	+0.4
CLL	Collm	145.54	348		PKPbc	10 29 53.4	+0.5
CLL	Collm	145.54	348	i PKPbc	PKPbc	10 29 53.5	+0.6
	comp=Z,8.0nm,0.7s						
GERES	GERESS Array B	147.71	345	PKPbc	PKPbc	10 29 59.4	+0.5
	comp=Z,1.1nm,0.6s,baz=32,slow=5.3,SNR=6.8						
TORD	Torodi Ar. Bea	175.25	177		PKPdf	10 30 21.6	-1.7

*IDC **06** 10:53:49.3±1.0, 8.°25S×128.°54E, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.7/35, mbtmp4.0/8, ML4.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/67, Error ellipse: s-maj=40.3km s-min=19.9km az=77.0*
*NEIC **06** 10:53:56.9±2.2, 8.°48S±0.°08×128.°5E±0.°1, h67km±7km, mb4.3/13, Error ellipse: s-maj=16.5km s-min=12.0km az=99.0*
*DJA **06** 10:53:56.6±0.5, 9°S±3°×12°8E±°, h40km±61km, M4.3/14, mB4.8/5, mb4.5/14, MLv4.3/11, Mw(mB)4.1/5*
ISC 06 10:53:55.5±0.5**, 8.°50S**±0.°05×**128.°52E**±0.°06**, h50**km**, n49,**
σ1.s56/54**, mb4.2**/10**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.80	80	Pn	Pn	10 54 39.9	+2.0
SAUI	Saumlaki	2.80	80	P	Pn	10 54 40.4	+2.5
AAI	Ambon	4.79	356	P	Pn	10 55 04.1	-1.1
BATI	Baumata	5.08	250	Pn	Pn	10 55 10.4	+1.1
	9.8nm,0.3s,baz=154,slow=2.5,SNR=10						
BATI				Sn	Sn	10 56 07.3	+0.6
	12nm,0.3s,baz=16,slow=23,SNR=12						
BATI	Baumata	5.08	250	P	Pn	10 55 10.8	+1.5
	0.4nm786nm52nm,0.6s						
BATI				S	Sn	10 56 06.5	-0.2
	0.4nm786nm52nm,0.6s						
BBSI	Bau Bau	6.62	296	P	Pn	10 55 29.3	-1.0
	0.0nm10nm,0.8s						
FAKI	Fak Fak	6.67	34	Pn	Pn	10 55 32.8	+1.8
FAKI	Fak Fak	6.67	34	P	Pn	10 55 32.3	+1.3
	0.1nm34nm,0.6s						
SANI	Sanana	6.88	338	P	Pn	10 55 34.7	+0.8
	0.1nm15nm,0.7s						
KNRA	Kununurra	7.14	178	Pn	Pn	10 55 40.4	+3.0
LBMI	Labuha	7.88	353	P	Pn	10 55 49.9	+2.4
	0.1nm963nm27nm,1.1s						
SWI	Sorong	8.06	20	P	Pn	10 55 53.8	+3.7
	21nm,0.7s						
BKSI	Bulukumba	8.91	290	P	Pn	10 56 03.0	+1.2
	489nm37nm,1.0s						
WBSI	Waikabubak, Su	9.09	262	P	Pn	10 56 01.8	-2.4
	32nm,0.7s						
BNSI	Bone	9.30	295	P	Pn	10 56 05.3	-1.7
	26nm,1.0s						
SPSI	Sidrap Palu	9.79	297	P	Pn	10 56 15.9	+2.1
	21nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.94	196	Pn	Pn	10 56 15.8	0.0
	0.7nm,0.3s,baz=23,slow=9.7,SNR=36						
FITZ				Sn	Sn	10 58 04.7	-1.5
	3.1nm,0.3s,baz=65,slow=20,SNR=7.7						
FITZ				LR	LR	11 01 31.1	
	comp=Z,52nm,20.3s,baz=6.0,slow=45						
FITZ	Fitzroy Crossi	9.94	196		Pn	10 56 17.1	+1.3
PLAI	Plampang	10.63	267	P	Pn	10 56 25.3	+0.1
	29nm,0.7s						
WB0	Warramunga Arr	12.56	154	Pn	Pn	10 56 52.2	+0.5
WRAB	Tennant Creek	12.69	154		Pn	10 56 54.1	+0.7
WRA	Warramunga Arr	12.70	154	Pn	Pn	10 56 53.5	0.0
	2.0nm,0.3s,baz=330,slow=13,SNR=91						
WRA				Sn	Sn	10 59 10.7	-2.7
	1.8nm,0.3s,baz=328,slow=23,SNR=8.7						
WRA	Warramunga Arr	12.70	154		Pn	10 56 52.8	-0.7
WB2	Warramunga Arr	12.70	154	Pn	Pn	10 56 55.0	+1.4
WR0	Warramunga Arr	12.80	154		Pn	10 56 55.2	+0.3
COEN	Coen	15.36	112		Pn	10 57 28.7	-0.5
COEN				IAmb	IAmb	10 57 52.6	
	comp=Z,8.5nm,0.9s						
ASAR	Alice Springs	15.94	162	Pn	Pn	10 57 38.0	+1.3
	comp=Z,1.0nm,0.3s,baz=337,slow=9.5,SNR=60						
ASAR				Sn	Sn	11 00 33.5	+1.1
	comp=Z,0.9nm,0.3s,baz=335,slow=22,SNR=8.6						
ASAR	Alice Springs	15.94	162		P	10 57 38.6	-0.9
SBUM	Sibu	19.55	303	P	P	10 58 18.2	-1.1
FORT	Forrest	22.17	181	P	P	10 58 48.6	+1.2
FORT				IAmb	IAmb	10 59 15.5	
	comp=Z,37nm,1.1s						
MORW	Morawa	23.59	208	P	P	10 59 01.2	-0.7
MORW				IAmb	IAmb	10 59 22.3	
	comp=Z,8.6nm,0.9s						
BBOO	Buckleboo	25.18	165	P	P	10 59 16.7	+0.3
BBOO				IAmb	IAmb	10 59 45.6	
	comp=Z,24nm,1.4s						
STKA	Stephens Creek	26.25	154	P	P	10 59 28.4	+2.3
	comp=Z,0.7nm,0.5s,baz=336,slow=14,SNR=1.4						
STKA	Stephens Creek	26.25	154	P	P	10 59 25.9	-0.2
KSRS	Korea Array	45.71	359	P	P	11 02 11.7	0.0
	comp=Z,0.6nm,0.6s,baz=172,slow=9.3,SNR=5.5						
NIUE	Niue	60.44	107	P	P	11 03 58.0	-2.5
PETK	Petropavlovsk-	66.20	19	P	P	11 04 38.2	+0.2
MK31	Makanchi Array	68.69	328	P	P	11 04 51.9	-1.9
MKAR	Makanchi Array	68.69	328	P	P	11 04 52.2	-1.7
	comp=Z,0.8nm,0.6s,baz=121,slow=7.4,SNR=14						
MKAR	Makanchi Array	68.69	328	P	P	11 04 52.8	-1.1
YAK	Yakutsk	70.32	1	P	P	11 05 03.5	0.0
VNDA	Vanda	71.15	173	P	P	11 05 07.8	-0.7
VNDA				IAmb	IAmb	11 05 09.2	
	comp=Z,7.7nm,1.4s						
ZALV	Zalesovo Beam	72.28	335	P	P	11 05 14.6	-1.0
	comp=Z,0.8nm,0.6s,baz=125,slow=4.4,SNR=4.2						
ZALV	Zalesovo Beam	72.28	335	P	P	11 05 13.8	-1.7
KURK	Kurchatov	73.04	329	P	P	11 05 19.2	-1.0
KURK				IAmb	IAmb	11 05 20.0	
	comp=Z,3.8nm,0.8s						
QSPA	South Pole Qui	81.49	180	P	P	11 06 09.5	+2.1
QSPA				IAmb	IAmb	11 06 10.5	
	comp=Z,2.7nm,1.2s						
SNAA	Sanae	93.87	194	P	P	11 07 06.1	-1.3
TORD	Torodi Ar. Bea	127.64	280	PKP	PKiKP	11 12 58.5	+1.7
	comp=Z,1.1nm,0.6s,baz=67,slow=2.2,SNR=6.2						
TORD	Torodi Ar. Bea	127.64	280		PKiKP	11 12 58.7	+1.8

AEIC 06 10:57:32±0.7, 53.°26N±0.°07×167.°94W±0.°10, h73km±6km, Error ellipse: s-maj=11.2km s-min=6.4km az=143.0

NEIC 06 10:57:33.4±0.6, 53.°29N±0.°09×168.°0W±0.°1, h70km±6km, ML3.5/6, ML3.1(AEIC), Error ellipse: s-maj=16.6km s-min=3.7km az=142.0, Fox Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKTU	Okmok Mt. Tuli	0.09	350		Pn	10 57 44.0	+0.3
OKFG	Magazine Ridge	0.13	27		Pn	10 57 43.9	+0.1
OKSP	Okmok Steeple	0.17	257		Pn	10 57 44.0	+0.1
NIKH	Nikolski High	0.60	238		Pn	10 57 47.0	-0.2
MREP	Makushin Rep't	0.92	55		Pn	10 57 50.5	-0.4
MSW	Makushin Switc	0.96	49		Pn	10 57 50.9	-0.5
MNAT	Makushin Natee	0.99	53		Pn	10 57 51.4	-0.4
MTBL	Makushin Table	1.05	49		Pn	10 57 52.2	-0.4
UNV	Unalaska Valle	1.06	58		Pn	10 57 52.1	-0.4
AKRB	Akutan Reef Bi	1.43	53		Pn	10 57 57.4	0.0
AKMO	Akutan Morgan	1.44	55		Pn	10 57 57.3	-0.2
AKBBA	Akutan Broad B	1.48	56		Pn	10 57 58.0	-0.1
AKGG	Akutan Green G	1.51	52		Pn	10 57 58.4	0.0
AKUT	Akutan	1.58	57		Pn	10 57 59.1	-0.2
AKUT	Akutan	1.58	57	IAML		10 58 21.3	
	comp=E,408nm,0.4s						
WECS	Westdahl Cape	2.28	56		Pn	10 58 08.9	0.0
WESE	West Dahl East	2.35	58		Pn	10 58 09.6	-0.3
SSLN	Shishaldin Nor	2.82	56		Pn	10 58 16.2	+0.2
ISLZ	Isanotski Laza	2.92	59		Pn	10 58 17.4	-0.1
FALS	False Pass	3.13	58		Pn	10 58 20.4	+0.1
SPIA	Saint Paul Isl	4.10	343	Pn	Pn	10 58 33.6	+0.1
SDPT	Sand Point	4.87	62	Pn	Pn	10 58 45.7	+1.7
SDPT				IAML		11 00 03.1	
	comp=N,66nm,2.9s						
ADK	Adak	5.47	259	Pn	Pn	10 58 53.1	+0.9

IDC 06 11:05:03.8±3.0, 42.°20N×129.°49E, h0km, mb1 2.5/2, mb1mx2.5/39, mbtmp2.5/2, ML1.7/2, Error ellipse: s-maj=46.6km s-min=20.3km az=121.0, North Korea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	2.71	41	*i*		11 20 20.0	
	baz=221,slow=335,SNR=3.0						
USRK	Ussuriysk Ar.	2.71	42	Pn	Pn	11 05 48.2	-0.5
	baz=227,slow=12,SNR=5.7						
USRK				Pg	Pb	11 05 53.2	0.0
	baz=228,slow=17,SNR=8.5						
USRK				Lg	Lg	11 06 30.4	
	baz=226,slow=25,SNR=9.3						
KSRS	Korea Array	4.89	195	Pn	Pn	11 06 19.0	+0.5
	0.2nm,0.3s,baz=11,slow=13,SNR=4.7						

IDC 06 11:09:41.1±8.0, 7.°29S×129.°21E, h140km±84km, mb2.8/1, mb1 3.3/4, mb1mx3.1/31, mbtmp3.7/4, Error ellipse: s-maj=74.3km s-min=28.2km az=34.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.20	242	P	Pn	11 11 11.3	+0.8
	4.3nm,0.3s,baz=66,slow=18,SNR=2.2						
BATI				S	Sn	11 12 20.4	+0.1
	2.8nm,0.3s,baz=291,slow=14,SNR=2.3						
WRA	Warramunga Arr	13.52	159	P	Pn	11 12 45.7	-1.8
	0.4nm,0.3s,baz=337,slow=14,SNR=29						
WRA				S	Sn	11 15 08.1	-9.0
	1.0nm,0.3s,baz=328,slow=22,SNR=14						
ASAR	Alice Springs	16.89	165	P	Pn	11 13 30.6	+1.2
	0.4nm,0.3s,baz=341,slow=9.1,SNR=42						
ASAR				S	S	11 16 26.3	-12
	0.1nm,0.3s,baz=336,slow=20,SNR=2.6						
MKAR	Makanchi Array	68.04	327	P	P	11 20 25.4	-0.1
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.4						

VAO 06 11:28:41.4±1.0, 16.°49S×73.°76W, h10km, mb4.3

NEIC 06 11:29:28.4±1.2, 17.°35S±0.°07×70.°0W±0.°1, h143km±6km, mb4.2/10, Error ellipse: s-maj=16.2km s-min=8.5km az=117.0

GUC 06 11:29:29.8±0.8, 17.°35S×69.°80W, h136km±7km, ML3.9

IDC 06 11:29:29.2±1.4, 17.°31S×69.°89W, h150km±11km, mb3.6/5, mb1 3.7/8, mb1mx3.5/27, mbtmp4.2/8, Error ellipse: s-maj=21.3km s-min=16.5km az=135.0

ISC 06 11:29:27.9±0.7, 17.°38S±0.°05×69.°95W±0.°06, h142km±8km, n48, σ1§66/55, mb4.1/6, 2C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.05	58	P	Pn	11 30 05.2	+1.5
	28nm,0.3s,baz=260,slow=7.7,SNR=538						
LPAZ				S	Sn	11 30 32.2	+1.0
	7.8nm,0.3s,baz=337,slow=23,SNR=22						
LPAZ	La Paz	2.05	58		Pn	11 30 05.4	+1.6
LPAZ	La Paz	2.05	58	⇓*i*P	Pn	11 30 05.4	+1.6
LPAZ				*i*S	Sn	11 30 31.6	+0.5
PB11	IPOC Station P	2.39	173		Pn	11 30 08.0	+0.6
PB11	IPOC Station P	2.39	173	⇑*i*P	Pn	11 30 08.2	+0.7
PB11				*i*S	Sn	11 30 37.8	-0.1
PB11				IAML		11 30 40.4	
	comp=N,463nm,0.4s						
GO01	Chusmiza	2.39	163		Pn	11 30 09.5	+1.7
GO01	Chusmiza	2.39	163	⇑*i*P	Pn	11 30 09.3	+1.5
GO01				*i*S	Sn	11 30 39.8	+1.3
GO01				IAML		11 30 44.2	
	comp=E,520nm,0.1s						
PB08	IPOC Station P	2.85	165		Pn	11 30 14.7	+1.2
PB08	IPOC Station P	2.85	165	⇓*i*P	Pn	11 30 14.8	+1.4
PB08				*i*S	Sn	11 30 48.9	+0.3
PB08				IAML		11 30 53.5	
	comp=E,194nm,0.2s						
TA02	Huaiquique	2.89	183	Pn	Pn	11 30 13.9	+0.4
TA02	Huaiquique	2.89	183	*e*P	Pn	11 30 14.6	+1.1
TA02				IAML		11 30 48.3	
	comp=N,333nm,0.3s						
HMBC	Humberstone	2.89	179	*e*P	Pn	11 30 13.6	-0.1
HMBC				*i*S	Sn	11 30 44.7	-4.4
HMBC				IAML		11 30 54.1	
	comp=N,256nm,0.4s						
PATCX	Punta Patache	3.43	183	Pn	Pn	11 30 21.4	+0.8
PATCX	Punta Patache	3.43	183	*e*P	Pn	11 30 21.3	+0.7
PB07	IPOC Station P	4.33	179		Pn	11 30 33.0	+0.5
LVC	Limon Verde	5.30	170	P	Pn	11 30 46.4	+0.9
	comp=N,5.3nm,0.3s,baz=346,slow=7.9,SNR=50						
LVC				S	Sn	11 31 42.5	-3.5
	comp=N,6.6nm,0.3s,baz=81,slow=21,SNR=22						
NNA	Nana	8.55	308	P	Pn	11 31 28.9	0.0
	comp=N,5.3nm,0.3s,baz=154,slow=11,SNR=8.4						
NNA				S	Sn	11 33 00.3	-3.6
	comp=N,1.1nm,0.3s,baz=225,slow=20,SNR=1.4						
NNA	Nana	8.55	308		Pn	11 31 28.6	-0.3
SIV	San Ignacio	8.62	82	P	Pn	11 31 28.9	-0.8
	comp=N,10nm,0.3s,baz=268,slow=9.7,SNR=129						
SIV				S	Sn	11 33 00.8	-4.7
	comp=N,0.2nm,0.3s,baz=331,slow=19,SNR=2.5						
AC02	Maricunga	9.45	176		Pn	11 31 40.4	-0.8
PDRB	Porto dos Gac	14.02	68	*e*P	P	11 32 42.6	-1.3
CLDB	Colider	15.16	67	*e*P	Pn	11 32 55.7	+0.8
VA03	San Esteban	15.33	182	P	Pn	11 32 57.4	+0.4
VA03				IAmb	IAmb	11 33 11.9	
	comp=Z,13nm,1.1s						
BO02	Sierra Bellavi	17.36	182	P	Pn	11 33 22.8	+1.1
NPGB	Novo Progresso	17.56	56	*e*P	P	11 33 18.7	-4.4
SNDB	Serra Nova Dou	18.82	76	*e*P	P	11 33 37.1	+0.1
ITAB	Concordia	19.16	124	P	P	11 33 41.5	+1.0
ITAB				IAmb	IAmb	11 34 06.9	
	comp=Z,25nm,1.4s						
CPSB	Cacapava Do Su	19.87	134	*e*P	P	11 33 48.5	+0.4
FRTB	Fartura	20.00	111	*e*P	Pn	11 33 53.0	+0.2
BB19B	Bebedouro	20.55	104	*e*P	Pn	11 33 58.8	-0.6
PLTB	Pedras Altas	20.60	137	P	P	11 33 55.1	-0.9
PLTB				IAmb	IAmb	11 34 09.7	
	comp=Z,14nm,1.3s						
PLTB	Pedras Altas	20.60	137	*e*P	P	11 33 55.3	-0.7
BDFB	Brasilia	21.10	89	P	P	11 34 02.1	+0.6
	comp=Z,4.1nm,0.5s,baz=254,slow=9.2,SNR=9.8						
BDFB	Brasilia	21.10	89	P	P	11 34 01.4	-0.2
BDFB				IAmb	IAmb	11 34 03.6	
	comp=Z,5.1nm,0.6s						
PEXB	Peixe	21.57	79	*e*P	P	11 34 05.7	-0.8
RCLB	Rio Claro- Sao	21.66	107	*e*P	P	11 34 09.4	+1.9
PLCA	Paso Flores	23.28	181	P	P	11 34 25.4	+2.3
	comp=Z,2.1nm,0.7s,baz=350,slow=13,SNR=6.9						
PLCA	Paso Flores	23.28	181	P	P	11 34 26.0	+2.9
PLCA				IAmb	IAmb	11 34 33.4	
	comp=Z,7.2nm,1.4s						
JANB	Januaria	24.72	88	*e*P	P	11 34 36.3	-0.1
DIAM	Diamantina, MG	25.02	96	*e*P	P	11 34 39.5	+0.3
SNAA	Sanae	66.48	161	P	P	11 40 02.0	+0.1
DBIC	Dimbokro	68.58	75	P	P	11 40 15.6	-0.4
	comp=Z,1.2nm,0.3s,baz=241,slow=5.2,SNR=1.8						
DBIC	Dimbokro	68.58	75	P	P	11 40 15.2	-0.7
QSPA	South Pole Qui	72.79	180	P	P	11 40 42.5	+1.7
TORD	Torodi Ar. Bea	76.94	72	P	P	11 41 04.8	-0.6
	comp=Z,1.0nm,0.3s,baz=262,slow=5.1,SNR=20						
TORD	Torodi Ar. Bea	76.94	72	P	P	11 41 04.5	-0.9
VNDA	Vanda	80.72	190	P	P	11 41 25.4	+0.5
VNDA				IAmb	IAmb	11 41 53.0	
	comp=Z,6.2nm,1.2s						
YKA	Yellowknife Ar	86.99	341	P	P	11 41 57.9	+1.2
	comp=Z,0.2nm,0.5s,baz=130,slow=4.4,SNR=5.3						

TUL 06 11:44:39.6±1.2, 36.°366N±0.°009×97.°05W±0.°02, h6km±5km, ML2.7, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=82.0

NEIC 06 11:44:39.9±0.9, 36.°359N±0.°010×97.°08W±0.°02, h2km±7km, Error ellipse: s-maj=2.0km s-min=1.3km az=62.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.72	39	Pg	Pg	11 44 53.2	-0.5
T35A				Sg	Sg	11 45 02.6	-0.4
OKCFA	Oklahoma City	0.99	198		Pg	11 44 58.5	-0.4
OKCFA				Sg	Sg	11 45 11.9	+0.2
OKCSW	OKLAHOMA CITY	1.00	197		Pg	11 44 58.6	-0.4
OKCSW				Sg	Sg	11 45 12.4	+0.5
FNO	Franklin	1.13	194		Pg	11 45 00.7	-0.9
FNO				Sg	Sb	11 45 17.2	-0.3
TUL1	Leonard	1.13	113		Pg	11 45 00.8	-0.8
TUL1				Sg	Sg	11 45 16.1	-0.1
W35A	Tecumseh	1.21	172		Pg	11 45 02.1	-1.1
W35A				Sg	Sg	11 45 19.0	+0.1
U32A	Winter Ranch,	1.56	271		Pn	11 45 08.4	-0.3
X34A	Smith Ranch, M	1.86	200	Pn	Pb	11 45 13.8	-0.9
WMOK	Wichita Mounta	2.13	221		Pn	11 45 17.4	+0.7
X37A	Clayton	2.25	141		Pn	11 45 19.1	+0.9
X37A				IAmb_Lg		11 45 54.8	
	comp=Z,18nm,0.8s						
R32A	Long Quarter,	2.44	328		Pn	11 45 20.3	-0.5
HHAR	Hobbs	2.53	91	Pn	Pn	11 45 23.5	+1.3
KSU1	Kansas State U	2.76	8		Pn	11 45 25.2	-0.1
W39A	Magazine	2.92	112		Pn	11 45 28.0	+0.6
W39A				IAmb_Lg		11 46 19.9	
	comp=Z,11nm,0.7s						
Z35A	Perchaven, San	3.02	183	Pn	Pn	11 45 29.4	+0.5
CBKS	Cedar Bluff	3.24	320		Pn	11 45 31.5	-0.4
S39A	Bolivar	3.28	65		Pn	11 45 32.8	+0.3
S39A				IAmb_Lg		11 46 22.0	
	comp=Z,6.5nm,0.8s						
MIAR	Mount Ida	3.38	121	Pn	Pn	11 45 34.0	+0.2
U40A	Yellville	3.41	89		Pn	11 45 34.2	+0.1
Z38A	Mt. Pleasant	3.54	150		Pn	11 45 36.0	0.0
X40A	Basin Creek Fa	3.93	117		Pn	11 45 41.4	0.0
X40A				IAmb_Lg		11 46 44.5	
	comp=Z,8.2nm,0.8s						
MGMO	Mountain Grove	3.94	77	Pn	Pn	11 45 41.8	+0.3
MGMO				IAmb_Lg		11 46 45.0	
	comp=Z,9.5nm,0.9s						
AMTX	Amarillo	4.03	250		Pn	11 45 42.6	-0.2
AMTX				IAmb_Lg		11 46 52.4	
	comp=Z,10nm,0.8s						
WHAR	Wooly Hollow	4.03	104		Pn	11 45 43.4	+0.7
FCAR	Ozark Folk Cen	4.04	95		Pn	11 45 42.8	+0.1
W41B	Gary Mavity, V	4.10	105		Pn	11 45 43.5	-0.2
WLAR	White Oak Lake	4.20	128	IAmb_Lg		11 47 02.3	
	comp=Z,7.7nm,0.7s						
R40A	Maddies Statio	4.29	62	Pn	Pn	11 45 47.0	+0.7
P38A	Dawn	4.30	40	Pn	Pn	11 45 46.0	-0.4
LCAR	Lake Charles	4.80	92	Pn	Pn	11 45 53.3	+0.1
CCM	Cathedral Cave	4.95	68	Pn	Pn	11 45 55.5	+0.1
P40A	Paris	5.08	50	Pn	Pn	11 45 57.2	+0.1
MSTX	Muleshoe	5.24	245		Pn	11 45 59.4	0.0
PBMO	Poplar Bluff	5.37	84	IAmb_Lg		11 47 30.6	
	comp=Z,6.2nm,0.8s						

DJA 06 11:50:30.6±0.2, 7°S±2°×10°6E±°, h123km±3km, M4.3/24, mb4.6/9, mB5.1/2, MLv4.2/24, Mw(mB)4.4/2

IDC 06 11:50:55.4±5.4, 9.°01S×109.°74E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.5/4, Error ellipse: s-maj=212.2km s-min=31.1km az=58.0

ISC 06 11:50:31.6±0.9, 6.°77S±0.°08×106.°14E±0.°06, h130km±7km, n36, σ1§39/52, mb3.3/3, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.47	290	P	Pn	11 50 51.0	+0.6
CGJI				S	Sn	11 51 04.2	-0.5
SKJI	Sukabumi	0.48	119	P	Pn	11 50 50.9	+0.4
SKJI				S	Sn	11 51 04.7	-0.1
DBJI	Dramaga	0.65	70	P	Pn	11 50 52.3	+0.7
DBJI				S	Sn	11 51 07.1	+0.4
TNG	Tangerang	0.78	40	P	Pn	11 50 51.7	-0.9
TNG				S	Sn	11 51 07.8	-0.7
CBJI	Citeko	0.79	64	P	Pn	11 50 53.4	+0.8
CNJI	Cibinong	1.12	119	P	Pn	11 50 55.4	-0.2
CNJI				S	Sn	11 51 12.7	-1.2
LEM	Lembang	1.47	92	P	Pn	11 51 00.6	+1.1
LEM				S	Sn	11 51 21.6	+0.8
BLSI	Bandar Lampung	1.65	328	P	Pn	11 51 02.2	+0.7
BLSI				S	Sn	11 51 24.0	-0.2
KASI	Kota Agung	2.05	307	P	Pn	11 51 07.0	+0.9
KASI				S	Sn	11 51 31.0	-1.6
KLI	Kotabumi	2.28	326	P	Pn	11 51 10.0	+0.9
KLI				S	Sn	11 51 38.6	+0.7
KLSI		2.50	326	P	Pn	11 51 12.6	+0.8
KLSI				S	Sn	11 51 42.5	-0.2
CMJI	Cimerak	2.50	114	P	Pn	11 51 11.9	+0.1
CMJI				S	Sn	11 51 40.9	-1.9
LWLI	Liwa	2.70	310	P	Pn	11 51 15.4	+0.9
LWLI				S	Sn	11 51 46.8	-0.7
KPJI	Karang Pucung	2.83	102	P	Pn	11 51 17.0	+1.0
MDSI	Maura Dua	2.99	319	P	Pn	11 51 19.0	+0.9
MDSI				S	Sn	11 51 53.3	-0.7
MNAI	Manna	3.97	307	P	Pn	11 51 31.6	+0.6
YOGI	Yogyakarta	4.25	104	P	Pn	11 51 33.8	-0.9
YOGI				S	Sn	11 52 23.5	-0.3
TPI	Tanjungpandan	4.26	21	P	Pn	11 51 34.5	-0.4
UGM	Wanagama	4.50	105	P	Pn	11 51 38.1	+0.1
UGM				S	Sn	11 52 27.6	-2.0
PPBI	Pangkal Pinang	4.58	360	P	Pn	11 51 38.6	-0.5
PCJI	Pacitan	5.19	106	P	Pn	11 51 47.2	-0.1
	0.4nm38nm,0.5s						
PCJI				S	Sn	11 52 42.1	-4.2
	0.4nm38nm,0.5s						
MASI	Maura Aman, Be	5.30	313	P	Pn	11 51 49.5	+0.7
	1.0nm3μm234nm,0.7s						
PWJI	Pagerwojo	5.76	103	P	Pn	11 51 55.1	+0.2
	0.3nm27nm,0.6s						
KRJI	Kerinci	6.58	315	P	Pn	11 52 04.7	-1.4
	0.7nm148nm,0.5s						
PPSI	Pulau Pagai	7.29	303	P	Pn	11 52 14.0	-1.5
	0.7nm200nm,1.1s						
GMJI	Gumukmas	7.40	102	P	Pn	11 52 17.5	+0.5
	0.2nm18nm,0.7s						
ABJI	Asem Bagus	8.10	98	P	Pn	11 52 28.9	+2.5
JAGI	Jajag, Banyuwa	8.12	103	P	Pn	11 52 26.9	+0.1
	48nm,0.9s						
PPI	Padang Panjang	8.49	317	P	Pn	11 52 28.6	-3.1
SISI	Saibi	8.87	307	P	Pn	11 52 33.6	-3.2
	916nm34nm,0.8s						
SRBI	Singaraja	9.10	99	P	Pn	11 52 38.9	-0.9
	16nm,0.5s						
MTKI	Muara Teweh, K	10.48	57	P	Pn	11 52 58.7	+0.2
PLAI	Plampang	11.71	101	P	Pn	11 53 13.0	-1.8
WRA	Warramunga Arr	30.34	118	P	P	11 56 31.6	+0.4
	0.4nm,0.7s,baz=289,slow=9.6,SNR=4.0						
ASAR	Alice Springs	31.52	125	P	P	11 56 42.2	+0.5
	0.1nm,0.4s,baz=301,slow=8.2,SNR=6.9						
STKA	Stephens Creek	41.43	132	P	P	11 58 09.3	+3.7
	1.1nm,0.6s,baz=260,slow=9.7,SNR=3.1						

ANF 06 11:50:45.5±1.1, 43.°09N×126.°16W, h0km, ML3.5/2, Error ellipse: s-maj=10.9km s-min=8.0km az=99.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
J01E	Myrtle Point	1.63	87	P	Pn	11 51 14.4	-1.0
	baz=268,SNR=22						
J01E				S	Sg	11 51 37.9	+0.1
	baz=268						
K02D	Willamette Mer	1.87	101	P	Pn	11 51 17.9	-0.9
	baz=283,SNR=53						
I02E	Swisshome, OR	1.96	58	P	Pn	11 51 18.9	-1.0
	baz=240,SNR=16						
I02E				S	Sn	11 51 45.6	+0.4
	baz=240						
I03D	Drain, OR	2.13	73	P	Pn	11 51 22.3	0.0
	baz=254,SNR=66						
I03D				S	Sb	11 51 51.0	-1.0
	baz=254						
I04A	Tendick Farm,	2.81	74	P	Pn	11 51 32.3	+0.5
	baz=257,SNR=8.3						
H04D	Lebanon	2.86	59	P	Pn	11 51 32.5	+0.3
	baz=241,SNR=30						
J04D	Umpqua Nationa	2.96	86	P	Pn	11 51 35.4	+1.5
	baz=268,SNR=11						
G03D	McMinnville, O	2.97	43	S	Sn	11 52 11.4	+1.3
	baz=225						
L04D	Klamath Falls	2.97	106	P	Pn	11 51 35.6	+1.6
	baz=288,SNR=9.2						
J05D	Fort Rock, OR	3.60	85	P	Pn	11 51 43.4	+0.7
	baz=269						
I05D	Terrebonne, OR	3.71	69	P	Pn	11 51 44.5	+0.5
	baz=252						
G05D	Wamic, OR	4.09	57	P	Pn	11 51 49.9	+0.6
	baz=240						
E04D	Cinebar	4.30	35	P	Pn	11 51 51.6	-0.5
	baz=218,SNR=18						
E04D				S	Sn	11 52 44.2	+1.2
	baz=218						

IDC 06 12:01:07.8±0.6, 16.°94N×122.°75E, h0km, mb3.9/20, mb1 4.0/22, mb1mx3.9/51, mbtmp3.9/22, ML3.7/2, MS3.5/31, Ms1 3.5/31, ms1mx3.3/89, Error ellipse: s-maj=21.7km s-min=12.8km az=83.0

BJI 06 12:01:09.8±0.0, 16.°91N×122.°87E, h18km, mb4.4/27, mB4.5/18, Ms3.9/15, Ms7 3.7/16

MAN 06 12:01:12.6, 17.°01N×122.°95E, h42km, mb5.0, ML4.0, MS4.0

MAN INTENSITY II - PALANAN, ISABELA.

NEIC 06 12:01:14.3±1.2, 17.°00N±0.°05×122.°86E±0.°08, h41km±7km, mb4.7/41, Error ellipse: s-maj=13.5km s-min=1.0km az=122.0

ISC 06 12:01:13.5±0.4, 17.°01N±0.°04×122.°92E±0.°05, h35km, n142, σ1§46/120, mb4.4/47, MS3.6/33, 8C-4D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	1.25	303	⇑*e*P	Pn	12 01 32.4	-2.1
CVP				*i*S	Sn	12 01 47.7	-2.5
PCPH	Palayan	2.27	231	⇑*e*P	Pn	12 01 48.6	+0.1
PCPH				*e*S	Sn	12 02 16.1	+0.8
SMPP	San Manuel, Pa	2.31	249	⇑*e*P	Pn	12 01 49.5	+0.3
SIPP	Brgy, Tapao	2.52	291	⇓*i*P	Pn	12 01 52.2	+0.3
SIPP				*i*S	Sn	12 02 40.9	+19
GQP	Guinayangan	3.12	188	⇑*e*P	Pn	12 02 01.3	+1.1
GQP				*e*S	Sn	12 02 36.9	+0.6
LQP	Lukban	3.17	205	⇑*e*P	Pn	12 02 02.1	+1.0
LQP				*i*S	Sn	12 02 39.3	+1.4
TGY	Tagaytay City	3.47	214	Pn	Pn	12 02 08.4	+3.3
	46nm,0.3s,baz=150,slow=8.1,SNR=1.9						
TGY				Sn	Sn	12 02 44.5	-0.4
	109nm,0.3s,baz=305,slow=19,SNR=4.9						
TGY	Tagaytay City	3.47	214	⇑*e*P	Pn	12 02 08.6	+3.6
PVCP	Virac	3.60	161	⇑*e*P	Pn	12 02 07.8	+1.0
PGP	Puerto Galera	3.97	209	⇓*e*P	Pn	12 02 13.1	+1.1
PGP				*i*S	Sn	12 02 34.2	-23
LUBP	Lubang	4.16	219	⇓*e*P	Pn	12 02 14.9	+0.5
YULB	Yu-li	6.53	347		Pn	12 02 46.6	-0.5
TPUB	Ta-pu	6.62	341	Pn	Pn	12 02 51.1	+2.7
SSLB	Suanglung	6.99	345		Pn	12 02 55.0	+1.6
NACB	Ninganchiao	7.23	350	Pn	Pn	12 02 55.3	-1.4
YOJ	Yonaguni jima	7.41	1	Pn	Pn	12 03 00.2	+1.0
YHNB	Yeheng	7.76	350		Pn	12 03 04.6	+0.6
DAV	Davao City (W)	10.22	165	LR	LR	12 08 20.5	
	comp=Z,412nm,18.9s,baz=11,slow=42						
JOW	Kunigami	10.96	26	Pn	Pn	12 03 45.8	-2.1
	2.1nm,0.3s,baz=179,slow=18,SNR=6.7						
JOW				Sn	Sn	12 05 38.3	-11
	1.0nm,0.3s,baz=127,slow=20,SNR=2.0						
JOW				LR	LR	12 07 35.9	
	comp=Z,86nm,20.3s,baz=188,slow=35						
JOW	Kunigami	10.96	26	Pn	Pn	12 03 47.2	-0.7
QIZ	Qiongzhong	12.60	281	Pn	Pn	12 04 09.0	-1.3
QIZ	Qiongzhong	12.60	281	P	Pn	12 04 09.2	-1.2
QIZ				S	Sn	12 06 28.2	-1.3
QIZ				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,160nm,20.1s						
QIZ				LR	LR		
	comp=E,250nm,17.7s						
QIZ				LR	LR		
	comp=Z,280nm,18.6s						
NJ2	**Nanjing**	**15.42**	**347**	*e*P	**Pn**	**12 04 50.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WHN	**Wuhan**	**15.58**	**331**	P	**P**	**12 04 59.9**	**+5.5**
WHN				pP	**sP**	**12 05 09.2**	**+2.6**
JNU	**Nakatsue**	**17.57**	**23**	P	**Pn**	**12 05 17.1**	**+1.3**
	0.1nm,0.3s,baz=161,slow=12,SNR=4.7						
SIJI	**Sorong**	**19.58**	**154**	LR	LR	12 13 38.9	
	comp=Z,47nm,21.3s,baz=54,slow=38						
LYN	**LuoYang**	**19.82**	**334**	⇑P	**Pn**	**12 05 44.0**	**+1.2**
LYN				sP	pwP	12 05 55.0	+1.1
LYN				S	**Sn**	**12 09 25.3**	**+0.7**
LYN				pmax	pmax		
	comp=Z,80nm,7.1s						
LYN				LR	LR		
	comp=N,190nm,18.6s						
LYN				LR	LR		
	comp=Z,180nm,16.9s						
KSAR	**Wonju Array Be**	**20.82**	**11**		**P**	**12 05 51.8**	**-0.1**
KSRS	**Korea Array**	**20.84**	**11**	P	**P**	**12 05 52.7**	**+0.6**
	1.2nm,0.6s,baz=190,slow=13,SNR=6.6						
KSRS				LR	LR	12 13 51.2	
	comp=Z,78nm,21.6s,baz=200,slow=36						
KS19	**Wonju Array Si**	**20.87**	**11**	P	**P**	**12 05 50.5**	**-2.1**
KS19				IAmb	IAmb	12 06 06.5	
	comp=Z,44nm,1.4s						
XAN	**Xi'an**	**21.11**	**326**	P	**P**	**12 05 57.0**	**+1.9**
XAN				pP	pP	12 06 07.0	+3.5
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
XAN				LR	LR		
	comp=Z,150nm,15.1s						
XAN				LR	LR		
	comp=Z,72nm,15.1s						
XAN				LR	LR		
	comp=Z,220nm,16.7s						
GUMO	**Guam**	**21.44**	**96**	LR	LR	12 12 54.5	
	comp=Z,132nm,19.1s,baz=146,slow=33						
HNS	**HongShan**	**21.56**	**342**	⇓P	**P**	**12 06 03.8**	**+3.9**
HNS				pmax	pmax		
	comp=Z,12nm,0.8s						
PZH	**PanZhiHua**	**21.79**	**299**	P	**P**	**12 06 03.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
FAKI	**Fak Fak**	**21.84**	**154**	P	**P**	**12 06 01.4**	**-1.7**
FAKI				IAmb	IAmb	12 06 21.4	
	comp=Z,24nm,0.9s						
KAPI	**Kappang**	**22.11**	**188**	LR	LR	12 15 34.3	
	comp=Z,65nm,19.4s,baz=354,slow=39						
CMAR	**Chiang Mai Arr**	**22.88**	**277**	P	**P**	**12 06 12.3**	**-1.9**
	comp=Z,1.7nm,0.3s,baz=81,slow=9.0,SNR=12						
CMAR				LR	LR	12 15 36.6	
	comp=Z,90nm,19.4s,baz=90,slow=38						
CMAR	**Chiang Mai Arr**	**22.88**	**277**	P	**P**	**12 06 13.6**	**-0.6**
CHTO	**Chiang Mai**	**22.88**	**278**	P	**P**	**12 06 12.6**	**-1.7**
MJAR	**Matsushiro Arr**	**23.70**	**32**	P	**P**	**12 06 23.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=161,slow=8.5,SNR=2.1						
MJAR				LR	LR	12 16 16.7	
	comp=Z,37nm,18.2s,baz=174,slow=38						
LZH	**Lanzhou**	**25.45**	**322**	*e*P	**P**	**12 06 39.9**	**+1.5**
LZH				sP	sP	12 06 54.8	+3.7
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=Z,180nm,15.7s						
LZH				LR	LR		
	comp=Z,170nm,16.4s						
LZH				LR	LR		
	comp=Z,310nm,16.9s						
HHC	**Hu-ho-hao-te**	**25.70**	**340**	*e*P	**P**	**12 06 43.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
HHC				LR	LR		
	comp=Z,180nm,16.5s						
HHC				LR	LR		
	comp=Z,160nm,17.1s						
HHC				LR	LR		
	comp=Z,200nm,17.1s						
JAY	**Jayapura**	**26.16**	**136**	LR	LR	12 16 48.6	
	comp=Z,82nm,18.8s,baz=12,slow=36						
CN2	**Changchun**	**26.79**	**4**	*e*P	**P**	**12 06 49.5**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LEM	**Lembang**	**28.11**	**214**	LR	LR	12 18 29.4	
	comp=Z,77nm,18.5s,baz=245,slow=37						
USRK	**Ussuriysk Ar.**	**28.17**	**14**	P	**P**	**12 07 04.0**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=182,slow=8.1,SNR=3.1						
USRK	**Ussuriysk Ar.**	**28.17**	**14**	P	**P**	**12 07 04.3**	**+1.8**
GTA	**Gaotai**	**30.05**	**323**	*e*P	P	12 07 33.0	+14
GTA				pP	sP	12 07 39.8	+7.5
GTA				sP	pwP	12 07 42.2	+9.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,43nm,5.8s						
GTA				LR	LR		
	comp=N,52nm,16.7s						
GTA				LR	LR		
	comp=E,88nm,16.4s						
GTA				LR	LR		
	comp=Z,98nm,16.0s						
GOMU	**GeErMu**	**31.39**	**313**	P	**P**	**12 07 32.2**	**+0.6**
GOMU				pP	pP	12 07 37.9	-2.8
GOMU				sP	sP	12 07 43.0	-1.5
GOMU				PcP	**PcP**	**12 10 24.6**	**-0.2**
GOMU				S	**S**	**12 12 41.3**	**+4.1**
GOMU				sS	sS	12 12 48.2	-3.3
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,73nm,7.6s						
GOMU				LR	LR		
	comp=Z,78nm,13.0s						
GOMU				LR	LR		
	comp=Z,140nm,17.7s						
GOMU				LR	LR		
	comp=Z,170nm,16.1s						
KLR	**Kul'dur**	**32.93**	**11**	P	**P**	**12 07 44.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=248,slow=16,SNR=1.9						
KLR				LR	LR	12 22 35.9	
	comp=Z,62nm,19.5s,baz=200,slow=39						
KNRA	**Kununurra**	**32.99**	**170**	P	**P**	**12 07 45.0**	**-0.3**
ULN	**Ulaanbaatar**	**33.42**	**340**	P	**P**	**12 07 48.3**	**-0.7**
SONM	**Songino Array**	**33.60**	**340**	P	**P**	**12 07 49.8**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=159,slow=10,SNR=8.9						
SONM				LR	LR	12 22 48.7	
	comp=Z,124nm,19.0s,baz=160,slow=39						
SONM	**Songino Array**	**33.60**	**340**	P	**P**	**12 07 50.6**	**0.0**
FITZ	**Fitzroy Crossi**	**34.99**	**175**	P	**P**	**12 08 02.0**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=42,slow=6.2,SNR=5.5						
FITZ	**Fitzroy Crossi**	**34.99**	**175**	P	**P**	**12 08 02.1**	**-0.5**
FITZ				IAmb	IAmb	12 08 03.6	
	comp=Z,5.6nm,0.9s						
COEN	**Coen**	**36.70**	**146**	P	**P**	**12 08 17.2**	**-0.2**
WB0	**Warramunga Arr**	**38.25**	**162**	P	**P**	**12 08 28.2**	**-2.2**
WB0				IAmb	IAmb	12 08 53.5	
	comp=Z,8.5nm,1.2s						
WRA	**Warramunga Arr**	**38.40**	**163**	P	**P**	**12 08 30.5**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=342,slow=9.4,SNR=15						
WRA	**Warramunga Arr**	**38.40**	**163**	P	**P**	**12 08 31.0**	**-0.7**
WB2	**Warramunga Arr**	**38.40**	**163**	P	**P**	**12 08 31.0**	**-0.8**
WB2				IAmb	IAmb	12 08 31.4	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**38.47**	**162**	P	**P**	**12 08 31.2**	**-1.1**
WR0				IAmb	IAmb	12 08 49.2	
	comp=Z,15nm,1.5s						
WMQ	**Urumqi**	**39.97**	**319**	*e*P	**P**	**12 08 46.9**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**41.63**	**81**	T	T	12 54 01.2	
	baz=276,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.65**	**81**	T	T	12 53 59.3	
	baz=276,slow=74						
H11S2	**WAKE ISLAND Hy**	**41.65**	**81**	T	T	12 54 07.1	
	baz=276,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.73**	**79**	T	T	12 54 08.8	
	baz=274,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.74**	**79**	T	T	12 54 05.6	
	baz=274,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.75**	**79**	T	T	12 54 06.6	
	baz=274,slow=75						
ASAR	**Alice Springs**	**41.83**	**165**	P	**P**	**12 08 59.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=350,slow=6.9,SNR=26						
ASAR	**Alice Springs**	**41.83**	**165**	P	**P**	**12 08 59.0**	**-1.2**
PALK	**Pallekele**	**42.31**	**262**	LR	LR	12 25 42.8	
	comp=Z,79nm,18.7s,baz=196,slow=35						
MK31	**Makanchi Array**	**44.75**	**321**	P	**P**	**12 09 23.4**	**-0.2**
MKAR	**Makanchi Array**	**44.75**	**321**	P	**P**	**12 09 23.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=105,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**44.75**	**321**	P	**P**	**12 09 22.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**45.11**	**29**	P	**P**	**12 09 27.1**	**+0.8**
PEA0B				IAmb	IAmb	12 09 38.1	
	comp=Z,20nm,1.4s						
PETK	**Petropavlovsk-**	**45.11**	**29**	P	**P**	**12 09 26.8**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=197,slow=4.4,SNR=9.0						
PETK	**Petropavlovsk-**	**45.11**	**29**	P	**P**	**12 09 27.7**	**+1.5**
KSH	**Kashi**	**46.41**	**309**	P	P	12 09 43.0	+6.1
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MA2	**Magadan**	**47.09**	**19**	LR	LR	12 28 25.8	
	comp=Z,28nm,21.9s,baz=146,slow=35						
ZALV	**Zalesovo Beam**	**47.19**	**330**	P	**P**	**12 09 41.6**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=116,slow=10,SNR=4.9						
ZALV				LR	LR	12 29 15.7	
	comp=Z,26nm,21.3s,baz=104,slow=36						
ZALV	**Zalesovo Beam**	**47.19**	**330**	P	**P**	**12 09 41.9**	**-0.7**
NIL	**Nilore**	**47.40**	**300**	P	**P**	**12 09 43.2**	**-1.4**
FORT	**Forrest**	**47.77**	**174**	P	**P**	**12 09 48.0**	**+0.6**
AAK	**Ala-Archa**	**48.34**	**312**	LR	LR	12 31 36.1	
	comp=Z,84nm,19.3s,baz=108,slow=38						
KURK	**Kurchatov**	**48.72**	**324**	P	**P**	**12 09 54.1**	**-0.4**
KURK				IAmb	IAmb	12 10 08.6	
	comp=Z,9.4nm,0.8s						
SEY	**Seymchan**	**50.23**	**17**	LR	LR	12 31 10.3	
	comp=Z,38nm,21.3s,baz=184,slow=36						
GAR	**Garm**	**50.58**	**307**	P	**P**	**12 10 08.2**	**-0.8**
GAR				IAmb	IAmb	12 10 09.1	
	comp=Z,9.5nm,0.8s						
KBL	**Kabul**	**50.97**	**301**	P	**P**	**12 10 11.5**	**-0.7**
KBL				IAmb	IAmb	12 10 12.5	
	comp=Z,4.3nm,0.8s						
BBOO	**Buckleboo**	**51.11**	**166**	P	**P**	**12 10 12.2**	**-0.6**
KKAR	**Karatay Array**	**51.28**	**312**	P	**P**	**12 10 13.2**	**-0.9**
KAAM	**Kaadhehdhoo**	**51.80**	**257**	P	**P**	**12 10 16.9**	**-1.4**
STKA	**Stephens Creek**	**51.80**	**160**	P	**P**	**12 10 17.9**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=326,slow=10,SNR=5.6						
BRVK	**Borovoye**	**54.39**	**324**	P	**P**	**12 10 36.4**	**-0.5**
BRVK				IAmb	IAmb	12 10 51.3	
	comp=Z,8.2nm,0.8s						
TIXI	**Tiksi**	**54.74**	**2**		**P**	**12 10 37.7**	**-1.4**
NRIK	**Noril'sk**	**56.72**	**346**	LR	LR	12 37 54.4	
	comp=Z,63nm,18.2s,baz=166,slow=39						
NRIK	**Noril'sk**	**56.72**	**346**		**P**	**12 10 53.4**	**+0.1**
NRIK				IAmb	IAmb	12 11 08.4	
	comp=Z,4.8nm,0.7s						
BILL	**Bilibino**	**57.92**	**18**	P	**P**	**12 11 02.1**	**+0.2**
BILL				IAmb	IAmb	12 11 16.7	
	comp=Z,12nm,1.2s						
TOO	**Toolangi**	**58.30**	**159**	P	**P**	**12 11 05.0**	**+0.1**
ABKAR	**Akbulak array**	**59.70**	**317**	P	**P**	**12 11 13.8**	**-0.7**
ABKAR				IAmb	IAmb	12 11 28.8	
	comp=Z,5.1nm,0.8s						
ABKAR	**Akbulak array**	**59.70**	**317**	P	**P**	**12 11 13.6**	**-0.9**
GEYT	**Alibeck**	**59.99**	**304**	LR	LR	12 39 49.9	
	comp=Z,65nm,18.2s,baz=134,slow=39						
GEYT	**Alibeck**	**59.99**	**304**	P	**P**	**12 11 16.2**	**-0.6**
GEYT				IAmb	IAmb	12 11 32.2	
	comp=Z,4.1nm,0.9s						
AKTO	**Aktyubinsk**	**61.12**	**319**	LR	LR	12 41 41.1	
	comp=Z,20nm,18.3s,baz=91,slow=40						
GNI	**Garni**	**70.31**	**307**	LR	LR	12 48 20.7	
	comp=Z,28nm,18.2s,baz=52,slow=40						
AFI	**Afiamalu**	**71.41**	**111**	LR	LR	12 37 31.6	
	comp=Z,95nm,21.0s,baz=298,slow=30						
J20K	**Nowinta River**	**71.76**	**27**	P	**P**	**12 12 32.4**	**+0.4**
J20K				IAmb	IAmb	12 12 43.8	
	comp=Z,8.5nm,1.2s						
IMAR	**Indian Mountai**	**71.89**	**25**	P	**P**	**12 12 34.5**	**+1.7**
KLMR	**Klimovskoe**	**72.10**	**329**	*e*P	**P**	**12 12 37.3**	**+3.2**
KLMR				AMP		12 12 48.0	
	comp=Z,9.0nm,1.2s						
TOLK	**Toolik Lake Re**	**73.39**	**22**	P	**P**	**12 12 42.7**	**+1.0**
TOLK				IAmb	IAmb	12 12 58.0	
	comp=Z,12nm,1.4s						
IL31		**74.85**	**26**	P	**P**	**12 12 50.8**	**+0.6**
ILAR	**Eielson Array**	**74.85**	**26**	P	**P**	**12 12 50.7**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=264,slow=6.3,SNR=2.8						
ILAR	**Eielson Array**	**74.85**	**26**	P	**P**	**12 12 50.4**	**+0.1**
ARCES	**ARCESS Array B**	**76.78**	**339**	P	**P**	**12 13 01.3**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=102,slow=6.7,SNR=1.4						
SPITS	**Spitsbergen Ar**	**76.80**	**348**	LR	LR	12 53 43.6	
	comp=Z,33nm,18.0s,baz=244,slow=41						
BCAR	**Beaver Creek A**	**77.37**	**28**	P	**P**	**12 13 05.1**	**+0.4**
DAWY	**Dawson**	**78.18**	**26**	P	**P**	**12 13 08.5**	**-0.6**
DAWY				IAmb	IAmb	12 13 16.9	
	comp=Z,7.5nm,1.4s						
FIA1	**FINESS Array S**	**78.45**	**331**	P	**P**	**12 13 09.4**	**-1.2**
FIA1				IAmb	IAmb	12 13 22.2	
	comp=Z,20nm,1.5s						
FINES	**FINESS Array B**	**78.45**	**331**	P	**P**	**12 13 09.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=71,slow=6.0,SNR=6.4						
FINES	**FINESS Array B**	**78.45**	**331**	P	**P**	**12 13 09.7**	**-0.8**
BRTR	**Keskin Array B**	**78.79**	**308**	P	**P**	**12 13 12.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=12,slow=7.4,SNR=3.5						
BRTR	**Keskin Array B**	**78.79**	**308**	P	**P**	**12 13 13.4**	**+0.3**
AKASG	**Malin Array Be**	**79.33**	**320**	P	**P**	**12 13 14.0**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=65,slow=4.5,SNR=1.5						
NACGM	**Naroch**	**79.73**	**324**	*i* P	P	12 13 31.3	+14
EUNU	**Eureka**	**81.88**	**5**	P	**P**	**12 13 28.5**	**-0.3**
BURAR	**Bucovina Array**	**82.69**	**317**	P	**P**	**12 13 33.7**	**0.0**
MLR	**Muntele Rosu**	**82.82**	**315**	LR	LR	12 52 54.8	
	comp=Z,40nm,19.6s,baz=65,slow=38						
DAG	**Danmarks Havn**	**83.67**	**352**	*i* P	**P**	**12 13 36.0**	**-2.1**
HFS	**Hagfors**	**84.60**	**332**	LR	LR	12 53 46.3	
	comp=Z,55nm,18.7s,baz=64,slow=37						
NC405	**NORSAR Array S**	**85.06**	**333**	P	**P**	**12 13 44.3**	**-1.1**
NB2	**NORSAR Subarra**	**85.31**	**333**	P	**P**	**12 13 45.9**	**-0.8**
	comp=Z,7.2nm,1.2s,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**85.31**	**333**	P	**P**	**12 13 45.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=64,slow=4.9,SNR=3.1						
NOA				LR	LR	12 55 21.3	
	comp=Z,64nm,18.3s,baz=65,slow=38						
RES	**Resolute Bay**	**85.44**	**9**	P	**P**	**12 13 46.7**	**-0.4**
RES				IAmb	IAmb	12 14 11.3	
	comp=Z,4.6nm,1.2s						
NEEM	**North Greenlan**	**85.67**	**359**	*i* P	**P**	**12 13 47.3**	**-1.3**
JMIC	**Jan Mayen**	**86.15**	**346**	LR	LR	12 57 00.5	
	comp=Z,22nm,18.4s,baz=253,slow=39						
VRAC	**Vranov**	**87.49**	**321**	LR	LR	12 57 34.1	
	comp=Z,37nm,18.1s,baz=360,slow=39						
YKA	**Yellowknife Ar**	**88.91**	**23**	P	**P**	**12 14 03.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=305,slow=4.3,SNR=8.4						
SUMG	**Summit**	**89.77**	**354**	P	**P**	**12 14 06.8**	**-1.7**
DAVOX	**Davos/Dischmat**	**92.64**	**321**	LR	LR	12 59 00.7	
	comp=Z,56nm,18.4s,baz=82,slow=38						
BORG	**Borgarnes**	**94.04**	**345**	LR	LR	12 59 58.0	
	comp=Z,31nm,19.0s,baz=314,slow=38						
EKA	**Eskdalemuir Ar**	**94.78**	**332**	LR	LR	13 01 26.4	
	comp=Z,66nm,20.0s,baz=9.0,slow=38						
VNDA	**Vanda**	**97.00**	**172**	P	**P**	**12 14 42.3**	**+1.4**
VNDA				IAmb	IAmb	12 14 51.0	
	comp=Z,4.6nm,1.2s						

IDC 06 12:07:44.1±2.8**, 6°.56S**×**129°.73E, h160**^{km}±41^{km}**, mb2.9**/1, **mb1 3.0**/5**, mb1mx2.7**/46**, mbtmp3.4**/5**, Error ellipse: s-maj=78.1km s-min=20.9km az=89.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**15**	P	Pn	12 09 09.1	0.0
	0.4nm,0.3s,baz=184,slow=14,SNR=15						
SIJI				S	Sn	12 10 11.7	-4.1
	1.2nm,0.3s,baz=246,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**12.14**	**199**	P	Pn	12 10 31.9	0.0
	0.1nm,0.3s,baz=31,slow=12,SNR=1.8						
FITZ				S	Sn	12 12 36.7	-10
	0.1nm,0.3s,baz=352,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**14.03**	**162**	P	Pn	12 10 56.6	+0.4
	0.2nm,0.3s,baz=331,slow=3.1,SNR=10						
WRA				S	Sn	12 13 18.7	-13
	0.2nm,0.3s,baz=347,slow=21,SNR=2.5						
ASAR	**Alice Springs**	**17.47**	**167**	P	P	12 11 36.7	-0.4
	0.1nm,0.3s,baz=346,slow=9.7,SNR=5.2						
ASAR				S	S	12 14 42.1	-8.7
	0.0nm,0.3s,baz=352,slow=26,SNR=1.3						
MKAR	**Makanchi Array**	**67.71**	**327**	P	P	12 18 24.3	+0.1
	0.2nm,0.7s,baz=134,slow=6.2,SNR=2.5						

*IDC **06** 12:15:21.6±1.0, 52°.21N×170°.90W, h0^{km}, mb3.6/9, mb1 3.9/11, mb1mx3.6/57, mbtmp3.7/11, ML3.1/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/75, Error ellipse: s-maj=35.5km s-min=16.5km az=1.0*

*AEIC **06** 12:15:26±1.1, 52°.2N±0°.4×170°.8W±0°.2, h68^{km}±9^{km}, Error ellipse: s-maj=61.0km s-min=6.5km az=161.0*

*NEIC **06** 12:15:28.5±0.8, 52°.3N±0°.5×170°.8W±0°.3, h46^{km}±49^{km}, ML3.7/6, ML3.4(AEIC), Error ellipse: s-maj=71.6km s-min=6.4km az=162.0*

ISC 06 12:15:28.4±0.9**, 52°.3N**±0°.2×**170°.84W**±0°.07**, h48**^{km}**, n36, σ0ˢ.89**/30**, mb3.4**/9**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.40**	**59**		**Pn**	**12 15 50.0**	**-1.5**
OKSP	**Okmok Steeple**	**1.83**	**57**		**Pn**	**12 15 56.8**	**-0.7**
OKSO	**Okmok South**	**1.96**	**55**		**Pn**	**12 15 58.6**	**-0.5**
KOFP	**Korovin Flat P**	**2.00**	**271**		**Pn**	**12 16 00.4**	**+0.7**
ATKA	**Atka Island**	**2.06**	**269**		**Pn**	**12 15 59.1**	**-1.4**
OKFG	**Magazine Ridge**	**2.11**	**56**		**Pn**	**12 16 01.3**	**0.0**
MSW	**Makushin Switc**	**2.95**	**55**		**Pn**	**12 16 13.2**	**+0.5**
UNV	**Unalaska Valle**	**3.05**	**57**		**Pn**	**12 16 14.1**	**-0.1**
GSTR	**Great Sitkin T**	**3.22**	**269**	Pn	**Pn**	**12 16 17.0**	**+0.6**
GSMY	**Great Sitkin M**	**3.22**	**268**		**Pn**	**12 16 16.8**	**+0.4**
GSTD	**Great Sitkin T**	**3.27**	**268**		**Pn**	**12 16 17.4**	**+0.2**
GSCK	**Great Sitkin C**	**3.29**	**268**		**Pn**	**12 16 18.0**	**+0.6**
AKBBA	**Akutan Broad B**	**3.47**	**56**		**Pn**	**12 16 19.8**	**-0.1**
AKUT	**Akutan**	**3.57**	**57**	Pn	**Pn**	**12 16 24.4**	**+3.2**
AKUT				IAML		12 18 06.8	
	comp=N,130nm,4.5s						
ADK	**Adak**	**3.63**	**266**		**Pn**	**12 16 22.2**	**+0.2**
ADK	**Adak**	**3.63**	**266**	IAML		12 17 19.7	
	comp=N,272nm,1.1s						
KIWB	**Kanaga Island**	**3.92**	**266**		**Pn**	**12 16 24.9**	**-1.1**
KIMD	**Kanaga Island**	**3.98**	**265**		**Pn**	**12 16 26.9**	**0.0**
TAPA	**Tanaga Point A**	**4.33**	**267**		**Pn**	**12 16 32.0**	**+0.3**
ISLZ	**Isanotski Laza**	**4.91**	**57**		**Pn**	**12 16 39.7**	**0.0**
KDAK	**Kodiak Island**	**11.82**	**55**	Pn	**Pn**	**12 18 14.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=194,slow=17,SNR=1.9						
PETK	**Petropavlovsk-**	**19.01**	**285**	P	**P**	**12 19 45.2**	**-0.8**
	comp=N,0.4nm,0.3s,baz=89,slow=12,SNR=4.9						
SEY	**Seymchan**	**22.07**	**313**	P	**P**	**12 20 18.8**	**-0.1**
	comp=N,0.9nm,0.6s,baz=6.6,slow=22,SNR=14						
YKA	**Yellowknife Ar**	**30.98**	**49**	P	**P**	**12 21 41.8**	**+1.1**
	comp=N,0.1nm,0.4s,baz=271,slow=7.3,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**38.02**	**216**	T	T	13 03 20.1	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.04**	**216**	T	T	13 03 18.5	
	baz=22,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.04**	**216**	T	T	13 03 19.0	
	baz=22						
MJAR	**Matsushiro Arr**	**38.79**	**267**	LR	LR	12 36 19.4	
	comp=N,25nm,21.5s,baz=136,slow=32						
PDAR	**Pinedale Array**	**41.31**	**78**	P	**P**	**12 23 09.8**	**+0.4**
	comp=N,0.5nm,0.6s,baz=297,slow=4.0,SNR=6.3						
KSRS	**Korea Array**	**44.52**	**276**	LR	LR	12 40 24.9	
	comp=N,11nm,21.3s,baz=155,slow=34						
SONM	**Songino Array**	**50.57**	**300**	P	**P**	**12 24 21.8**	**-0.2**
	comp=N,0.2nm,0.5s,baz=63,slow=5.2,SNR=1.8						
TXAR	**Lajitas Array**	**53.65**	**88**	P	**P**	**12 24 45.2**	**+0.1**
	comp=N,0.7nm,0.8s,baz=296,slow=5.5,SNR=11						
KURBB	**Kurchatov Arra**	**61.95**	**318**	P	**P**	**12 25 42.4**	**-0.4**
	comp=N,0.5nm,0.6s,baz=48,slow=6.7,SNR=6.2						
MKAR	**Makanchi Array**	**63.21**	**313**	P	**P**	**12 25 50.7**	**-0.7**
	comp=N,0.1nm,0.4s,baz=52,slow=7.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**75.75**	**282**	P	**P**	**12 27 09.3**	**+0.2**
	comp=N,1.2nm,0.3s,baz=26,slow=7.7,SNR=6.0						
ASAR	**Alice Springs**	**89.65**	**229**	P	**P**	**12 28 20.3**	**-0.6**
	comp=N,0.5nm,0.8s,baz=25,slow=5.1,SNR=10						

*GII **06** 12:29:33.1±0.0, 28°.86N×33°.21E, h6^{km}, Mm2.1/2*

*HLW **06** 12:29:34.9, 29°.05N×33°.35E, h10^{km}±1^{km}, Md2.8*

ISC 06 12:29:34.1±1.6**, 28°.98N**±0°.05×**33°.27E**±0°.05**, h8**^{km}±14^{km}**, n10, σ0ˢ.46**/17**, Egypt**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HRDS	**Abu Rudays**	**0.27**	**174**	P	**Pb**	**12 29 41.9**	**+0.7**
	baz=188						
HKAT	**Jabal Katrina**	**0.79**	**125**	P	**Pb**	**12 29 49.8**	**-0.4**
	baz=132						
HKAT				S	**Sb**	**12 30 00.6**	**-0.4**
	baz=132						
GRB	**Gharib**	**0.82**	**211**	P	**Pn**	**12 29 52.2**	**+0.2**
	baz=213						
SUZ	**Suez**	**0.94**	**336**	P	**Pg**	**12 29 52.0**	**-0.1**
	baz=331						
HHAG	**Hagoal**	**1.40**	**314**	P	**Pn**	**12 30 00.0**	**0.0**
	baz=310						
HHAG				S	**Sn**	**12 30 18.1**	**-0.7**
	baz=310						
EIL	**Elat**	**1.62**	**65**	Pn	**Pn**	**12 30 02.8**	**-0.2**
EIL				Sn	**Sg**	**12 30 26.1**	**-0.2**
MBRI	**Mt Berech**	**1.65**	**60**	Pn	**Pn**	**12 30 03.6**	**+0.1**
MBRI				Sn	**Sg**	**12 30 27.1**	**-0.1**
KRMI	**Paran Flat**	**1.70**	**48**	Pn	**Pn**	**12 30 04.2**	**+0.1**
KRMI				Sn	**Sb**	**12 30 27.9**	**+0.6**
HRFI	**Mount Harif**	**1.87**	**55**	Pn	**Pn**	**12 30 06.6**	**+0.2**
HRFI				Sn	**Sb**	**12 30 32.1**	**+0.1**
PRNI	**Paran**	**2.04**	**48**	Pn	**Pn**	**12 30 09.6**	**+0.8**
PRNI				Sn	**Sb**	**12 30 37.4**	**+0.5**

*TUL **06** 12:32:49±1.1, 36°.69N±0°.01×98°.26W±0°.01, h6^{km}±6^{km}, ML2.9, mb_Lg2.6/33(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=142.0*

NEIC 06 12:32:49.3±0.7**, 36°.68N**±0°.01×**98°.245W**±0°.006**, h8**^{km}±4^{km}**, Error ellipse: s-maj=1.8km s-min=0.7km az=172.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.68**	**244**	Pg	Pg	12 33 02.1	-0.4
U32A				Sg	Sg	12 33 10.9	-0.4
T35A	**Sooner Cattle**	**1.41**	**80**		Pn	12 33 15.4	+0.1
OKCFA	**Oklahoma City**	**1.42**	**153**	Pn	Pn	12 33 15.0	-0.4
OKCSW	**OKLAHOMA CITY**	**1.43**	**153**		Pn	12 33 14.7	-0.9
FNO	**Franklin**	**1.58**	**154**		Pn	12 33 17.6	0.0
R32A	**Long Quarter,**	**1.77**	**348**	Pn	Pn	12 33 20.6	+0.3
W35A	**Tecumseh**	**1.89**	**144**		Pb	12 33 23.1	-0.9
WMOK	**Wichita Mounta**	**1.99**	**193**	Pn	Pn	12 33 24.1	+0.9
X34A	**Smith Ranch, M**	**2.10**	**171**	Pn	Pb	12 33 26.5	-1.2
TUL1	**Leonard**	**2.13**	**111**		Pn	12 33 26.4	+1.3
CBKS	**Cedar Bluff**	**2.43**	**331**	Pn	Pn	12 33 30.5	+1.1
KSU1	**Kansas State U**	**2.74**	**28**	IAmb_Lg		12 34 18.4	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**3.14**	**131**	Pn	Pn	12 33 39.7	+0.7
AMTX	**Amarillo**	**3.32**	**238**	Pn	Pn	12 33 42.1	+0.4
AMTX				IAmb_Lg		12 34 34.1	
	comp=Z,15nm,0.9s						
HHAR	**Hobbs**	**3.49**	**95**	Pn	Pn	12 33 44.5	+0.6
W39A	**Magazine**	**3.91**	**111**	IAmb_Lg		12 35 02.4	
	comp=Z,10nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.17**	**305**	IAmb_Lg		12 35 08.6	
	comp=Z,15nm,1.1s						
Z38A	**Mt. Pleasant**	**4.34**	**141**	IAmb_Lg		12 35 10.8	
	comp=Z,8.7nm,0.8s						
U40A	**Yellville**	**4.36**	**93**		Pn	12 33 56.0	+0.3
U40A				IAmb_Lg		12 35 06.8	
	comp=Z,10nm,0.7s						
MIAR	**Mount Ida**	**4.36**	**118**	Pn	Pn	12 33 57.1	+1.3
P38A	**Dawn**	**4.73**	**50**	IAmb_Lg		12 35 20.1	
	comp=Z,13nm,0.7s						
MGMO	**Mountain Grove**	**4.81**	**83**	Pn	Pn	12 34 00.5	-1.5
MGMO				IAmb_Lg		12 35 28.0	
	comp=Z,8.6nm,0.8s						
T25A	**Trinidad**	**4.96**	**277**		Pn	12 34 05.8	+1.5
T25A				IAmb_Lg		12 35 25.8	
	comp=Z,8.9nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.01**	**97**	Pn	Pn	12 34 05.3	+0.6
R40A	**Maddies Statio**	**5.02**	**70**	IAmb_Lg		12 35 34.4	
	comp=Z,8.3nm,0.8s						
WHAR	**Wooly Hollow**	**5.03**	**104**	Pn	Pn	12 34 04.8	-0.2
WLAR	**White Oak Lake**	**5.16**	**124**	Pn	Pn	12 34 06.8	0.0
OGNE	**Ogallala**	**5.18**	**326**	IAmb_Lg		12 35 39.1	
	comp=Z,13nm,0.7s						
Z41A	**Richland Creek**	**5.62**	**126**	IAmb_Lg		12 35 58.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,9.7nm,0.7s						
CCM	Cathedral Cave	5.74	74	Pn	Pn	12 34 13.7	-1.0
CCM				IAmb_Lg		12 35 52.4	
	comp=Z,8.5nm,0.8s						
SDCO	Great Sand Dun	5.89	283	Pn	Pn	12 34 16.5	-0.6
435B	Jarrell	5.91	174	IAmb_Lg		12 36 10.4	
	comp=Z,7.5nm,0.9s						
PBMO	Poplar Bluff	6.28	87	Pn	Pn	12 34 21.7	-0.4
JCT	Junction City	6.32	192	IAmb_Lg		12 36 20.8	
	comp=Z,5.7nm,0.9s						
FVM	French Village	6.36	76	Pn	Pn	12 34 21.4	-1.9
ISCO	Idaho Springs	6.58	300	Pn	Pn	12 34 25.6	-1.0
PVMO	Portageville	6.88	90	Pn	Pn	12 34 27.9	-2.5
MET	Memphis--Engin	6.92	101	Pn	Pn	12 34 28.2	-2.7
ECSD	EROS Data Cent	7.15	10	Pn	Pn	12 34 33.8	-0.4
SIUC	Southern Illin	7.28	79	Pn	Pn	12 34 34.8	-1.1
SIUC				IAmb_Lg		12 36 38.4	
	comp=Z,8.0nm,0.9s						
T45A	Paducah	7.70	85	IAmb_Lg		12 36 52.1	
	comp=Z,7.5nm,0.7s						

NOU 06 12:33:52.2,18°.76S×169°.38E,h213km,MLv4.1/14, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.32	317	P	Pn	12 34 26.2	+0.6
DVP	Devils Point	1.53	312	P	Pn	12 34 27.6	+0.3
MARNC	Mare, Loyalty	2.99	205	P	Pn	12 34 40.5	-1.9
PINNC	Pines Island,	4.24	205	P	Pn	12 34 57.1	-0.3
DZM	Mont Dzumac	4.29	219	P	Pn	12 34 56.8	-1.4
OUENC	Ouen Island, N	4.35	213	P	Pn	12 35 00.2	+1.5
NOUC	Port Laguerre	4.40	220	P	Pn	12 34 59.8	+0.4
ONTNC	Ouen Toro	4.47	217	P	Pn	12 35 01.2	+1.0
KOUNC	Koumac, New Ca	5.12	249	P	Pn	12 35 08.4	0.0

SNET 06 12:39:19.2±1.3,15°.29N×86°.97W,h5km±222km,ML3.5
INET 06 12:39:21.9±2.7,15°.41N×87°.52W,h30km±34km,ML4.1
ISC 06 12:39:29.4±2.7,15°.0N±0°.2×87°.32W±0°.07,h35km,n14, σ2s.49/15,Honduras

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	0.91	177	eP	Pn	12 39 41.7	-4.1
TGUH				eS	Sn	12 39 59.7	+2.0
FAGO	Alcalda de S	1.48	211	eP	Pn	12 39 45.8	-7.7
FAGO				eS	Sn	12 40 11.4	-0.2
LLGN	La Laguna	1.76	243	eP	Pn	12 39 56.0	-1.5
LLGN				IAML		12 40 29.6	
	comp=Z,398nm,0.5s						
PQSS	Presa 15 de Se	1.79	222	eP	Pn	12 39 57.1	-0.8
SCLA	Alcaldia de Sa	1.85	228	eP	Pn	12 39 57.9	-0.8
RCON	San Juan de Ri	1.86	142	eP	Pn	12 39 57.9	-1.0
RCON				eS	Sn	12 40 25.1	+3.8
CSGN	Cosiguina Volc	1.99	187	eP	Pn	12 39 58.0	-2.6
MTO3	Montecristo	2.05	254	eP	Pn	12 40 00.2	-1.5
LFRS	El Faro	2.15	232	eP	Pn	12 40 02.8	-0.2
CRIN	San Cristobal	2.27	173	eP	Pn	12 40 04.0	-0.5
MATN	Matagalpa	2.44	146	eP	Pn	12 40 03.7	-3.2
MATN				eS	Sn	12 40 39.3	+3.8
MATN				IAML		12 40 41.4	
	comp=N,672nm,0.4s						
JAYA	Jayaque - finc	2.44	238	eP	Pn	12 40 06.8	-0.2
JAYA				IAML		12 40 48.9	
	comp=Z,106nm,0.3s						
BOAB	BOACO BROADBAN	2.98	147	eP	Pn	12 40 13.2	-0.9
ACON	Acoyapa	3.64	145	eP	Pn	12 40 23.1	-0.2
ACON				IAML		12 41 21.9	
	comp=N,190nm,0.8s						

TAP 06 12:41:49.8,24°.90N×122°.50E,h14km,ML2.9,D
JMA 06 12:41:50.9±0.2,24°.82N×122°.53E,h30km±4km,M2.3
ISC 06 12:41:49.2±1.2,24°.88N±0°.04×122°.53E±0°.02,h15km±9km, n61,σ0s.59/87,Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.51	284	i P	Pb	12 41 59.8	0.0
	baz=283						
TWB1				i S	Sb	12 42 07.0	0.0
	baz=283						
EGS		0.55	266	eP	Pb	12 42 00.9	+0.5
	baz=252						
EGS				S	Sb	12 42 08.6	+0.5
	baz=252						
JYNG	Yonagunijimaku	0.57	139	P	Pb	12 42 01.6	+0.7
JYNG				S	Sb	12 42 09.2	+0.4
YOJ	Yonaguni jima	0.61	134	P	Pb	12 42 01.9	+0.4
YOJ				S	Sb	12 42 10.5	+0.7
YOJ	Yonaguni jima	0.61	134	P	Pb	12 42 01.9	+0.4
	baz=133						
SXI1	Grass Mountain	0.63	290	P	Pb	12 42 02.4	+0.5
	baz=289						
NTC	Toucheng	0.64	268	eP	Pg	12 42 01.7	0.0
	baz=265						
NTC				eS	Sb	12 42 11.8	+1.1
	baz=265						
TIPB	Shuangxi	0.65	278	i P	Pb	12 42 02.8	+0.6
	baz=276						
TIPB				i S	Sg	12 42 09.6	-0.8
	baz=276						
TWC	Suao	0.68	246	i P	Pg	12 42 02.4	0.0
	baz=243						
TWC				S	Sg	12 42 10.9	-0.5
	baz=243						
NWF	Wu-fen Shan	0.70	286	i P	Pn	12 42 03.9	-0.8
	baz=284						
NWF				i S	Sn	12 42 14.7	-0.6
	baz=284						
WFSB	Wu-fen Shan	0.70	286	P	Pn	12 42 03.8	-0.8
	baz=285						
TNOU	National Taiwa	0.74	291	P	Pn	12 42 04.5	-0.6
	baz=291						
NDS	Dongshan	0.78	252	P	Pb	12 42 04.3	-0.1
	baz=249						
NDS				S	Sb	12 42 15.8	+0.9
	baz=249						
TWE	Neicheng	0.80	259	i P	Pb	12 42 05.1	+0.3
	baz=256						
TWE				i S	Sb	12 42 15.4	-0.1
	baz=256						
EWUT	Wuta	0.81	238	eP	Pb	12 42 05.1	+0.2
	baz=235						
EWUT				S	Sb	12 42 16.5	+0.8
	baz=235						
ENA	Nanau	0.85	238	i P	Pn	12 42 06.2	-0.4
	baz=235						
ENA				i S	Sb	12 42 17.6	+0.7
	baz=235						
PCYT	Pengchaiyu	0.85	331	eP	Pn	12 42 06.4	-0.2
	baz=332						
FUSB	Fushanzhiwuyua	0.87	262	P	Pb	12 42 06.2	+0.2
	baz=260						
FUSB				S	Sn	12 42 18.5	-0.8
	baz=260						
ENTT	Nioudou	0.91	255	i P	Pg	12 42 07.0	+0.2
	baz=252						
ENTT				i S	Sg	12 42 19.4	+0.7
	baz=252						
YM01	YM01	0.91	287	P	Pn	12 42 08.1	+0.6
	baz=286						
NHDH	Xindian Distri	0.92	275	eP	Pn	12 42 08.8	+1.3
	baz=274						
TWY	Chenhua	0.93	295	P	Pn	12 42 08.3	+0.6
	baz=295						
NWLT	Wulai	0.94	264	eP	Pn	12 42 08.1	+0.2
	baz=262						
NWLT				eS	Sg	12 42 20.0	+0.3
	baz=262						
NDT	Datong Townshi	0.97	253	P	Pn	12 42 08.6	+0.4
	baz=251						
NDT				i S	Sn	12 42 21.9	+0.2
	baz=251						
LATG	Datong	0.98	249	P	Pn	12 42 08.3	-0.1
	baz=247						
LATG				S	Sb	12 42 20.5	-0.1
	baz=247						
TWS1	Kuangyinshan	1.03	282	P	Pn	12 42 10.1	+1.0
	baz=282						
YHNB	Yeheng	1.07	259	P	Pn	12 42 09.6	-0.1
	baz=272						
YHNB				S	Sb	12 42 22.1	-1.3
	baz=272						
NSK	Sanguang	1.09	259	P	Pn	12 42 09.9	0.0
	baz=272						
NSK				S	Sb	12 42 23.2	-0.5
	baz=272						
ETL	Fush Village	1.10	229	P	Pn	12 42 10.0	0.0
	baz=227						
NACB	Ninganchiao	1.11	231	P	Pb	12 42 10.1	+0.1
	baz=229						
NNSB	Datong	1.14	247	P	Pg	12 42 11.0	-0.2
	baz=245						
NNSB				eS	Sn	12 42 26.8	+0.7
	baz=245						
NNS	Nan Shan	1.14	247	i P	Pg	12 42 11.3	0.0
	baz=245						
NNS				i S	Sn	12 42 26.7	+0.5
	baz=245						
TWD	Chiawan	1.17	227	P	Pg	12 42 12.0	+0.3
	baz=232						
TWD				S	Sg	12 42 27.2	+0.2
	baz=232						
ETLH	Xiulin Townshi	1.17	235	P	Pg	12 42 11.8	0.0
	baz=233						
IRIF	Iriomote-Funau	1.22	116	P	Pg	12 42 12.7	0.0
IRIF				eS	Sb	12 42 27.6	+0.1
NFF	Wufeng Townshi	1.31	259	eP	Pb	12 42 13.4	-0.1
	baz=258						
FUSS	Fushou	1.33	242	eP	Pg	12 42 14.9	0.0
	baz=240						
FUSS				eS	Sg	12 42 32.3	0.0
	baz=240						
WHF	Hehuan Shan	1.37	238	P	Pg	12 42 15.2	-0.3
	baz=236						
LIOB	Emei	1.40	261	eP	Pg	12 42 15.9	-0.2
	baz=260						
NSTT	Nanjuang	1.41	260	eP	Pg	12 42 16.5	+0.1
	baz=259						
HATJ	Hateruma jima	1.42	125	S	Sn	12 42 32.3	-0.6
ESL	Shilin	1.46	223	eP	Pb	12 42 15.6	-0.4
	baz=221						
CHGB	Renai	1.48	237	P	Pg	12 42 17.4	-0.3
	baz=235						
JKRS	Kuro-shima	1.49	115	P	Pn	12 42 15.4	0.0
JKRS				eS	Sn	12 42 34.0	-0.6
JIJ	Ishigaki jima	1.56	109	eS	Sn	12 42 35.2	-1.0
WHP	Taichung City	1.56	248	eP	Pg	12 42 18.8	-0.4
	baz=246						
WHP				eS	Sn	12 42 36.9	+0.4
	baz=246						
WUSB	Renai	1.56	236	P	Pg	12 42 18.8	-0.4
	baz=216						
WCS	Beigang Elemen	1.69	241	eP	Pg	12 42 21.1	-0.5
	baz=240						
VWDT	VWDT	1.69	229	eP	Pb	12 42 20.8	+0.7
	baz=211						
EHY	Hungye	1.76	219	eP	Pn	12 42 19.0	-0.2
	baz=217						
SSLB	Suanglung	1.81	233	eP	Pb	12 42 22.1	+0.1
	baz=215						
TYC	Yuchr	1.81	238	eP	Pb	12 42 22.2	+0.2
	baz=218						
YULB	Yu-li	1.86	217	eP	Pn	12 42 20.4	-0.2
	baz=216						
WJS	Zhushan	1.96	238	eP	Pb	12 42 25.2	+0.8
	baz=236						
ALS	Alishan	2.09	229	eP	Pb	12 42 25.9	-1.0
	baz=212						
CHN5	Tsauling	2.12	233	eP	Pb	12 42 26.9	-0.5
	baz=215						
ELDTW	Lidau	2.18	220	eP	Pn	12 42 25.8	+0.7
	baz=204						
CHN4	Tsaushan	2.34	230	eP	Pb	12 42 29.4	-1.7
	baz=212						
STYH	Taoyuan	2.34	224	eP	Pn	12 42 27.9	+0.8
	baz=207						
TPUB	Ta-pu	2.35	228	eP	Pb	12 42 30.0	-1.2
	baz=211						
WTP	Ta-pu	2.39	227	eP	Pb	12 42 31.0	-1.0
	baz=210						

ASRS 06 13:01:04.6±0.6,50°N±4°×10°0E±°,h10km,MLh3.6/4,2C, Error ellipse: s-maj=9.4km s-min=3.4km az=179.1, confirmed,Mongolia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	1.73	302	⇑Pg	Pg	13 01 39.9	+2.1
KNGR				Sg	Sg	13 02 04.4	+4.2
MOY	Mondy	2.10	20	⇑Pg	Pg	13 01 44.4	-0.3
MOY				Sg	Sg	13 02 14.4	+2.5
ZAK	Zakamensk	2.33	72	Pn	Pb	13 01 45.1	-1.6
ZAK				Pg	Pg	13 01 48.1	-1.1
ZAK				Sg	Sg	13 02 20.3	+0.9
ERNS	Erzin	3.06	282	Pg	Pg	13 02 03.8	+0.6
ERNS				Sg	Sg	13 02 43.6	+0.7
KZLR	Kyzyl	3.95	302	Pg	Pg	13 02 19.6	-0.7
KZLR				Sg	Sg	13 03 12.5	+1.1
ULN	Ulaanbaatar	5.13	108	Pg	Pg	13 02 40.4	-2.3
ULN				Sg	Sg	13 03 46.3	-2.8
MINR	Mina	6.24	329	Pg	Pg	13 03 06.0	+2.1
MINR				Sg	Sg	13 04 28.1	+3.6

ARE 06 13:06:13±3.1,14°.95S±0°.07×76°.23W±0°.10,h11km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=155.0
IDC 06 13:06:15.1±0.7,14°.77S×75°.83W,h0km,mb4.2/13, mb1 4.3/17,mb1mx4.2/32,mbtmp4.2/17,ML3.4/4,MS3.9/23, Ms1 3.9/23,ms1mx3.7/63,Error ellipse: s-maj=29.3km s-min=14.0km az=56.0
NEIC 06 13:06:17.8±1.4,14°.86S±0°.07×75°.94W±0°.09,h14km±4km, mb4.6/51,ML4.5(ARE),Error ellipse: s-maj=14.5km s-min=8.6km az=60.0
VAO 06 13:06:19.5±0.6,14°.85S×75°.64W,h10km,mb4.4
ISC 06 13:06:19.3±0.5,14°.85S±0°.06×75°.90W±0°.08,h29km,n147, σ0s.97/121,mb4.5/33,MS4.1/18,Near coast of Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.99	342	Pn	Pn	13 07 03.0	-1.8
	4.4nm,0.3s,baz=131,slow=12,SNR=18						
NNA				Sn	Sn	13 07 39.9	+0.2
	38nm,0.3s,baz=108,slow=2.9,SNR=7.5						
NNA				Lg	Lg	13 07 49.1	
	75nm,0.3s,baz=229,slow=18,SNR=7.2						
NNA				LR	LR	13 08 13.8	
	comp=Z,547nm,21.5s,baz=130,slow=40						
NNA	Nana	2.99	342		Pn	13 07 04.4	-0.4
LPAZ	La Paz	7.63	102	Pn	Pn	13 08 13.0	+4.0
	1.6nm,0.3s,baz=287,slow=9.5,SNR=67						
LPAZ				LR	LR	13 11 29.3	
	comp=Z,585nm,20.7s,baz=282,slow=42						
LPAZ	La Paz	7.63	102	Pn	Pn	13 08 12.7	+3.7
TA02	Huaiquique	7.71	135		Pn	13 08 09.6	+0.1
PB11	IPOC Station P	7.71	130		Pn	13 08 09.4	-0.4
CZSB	Cruzeiro do Su	7.74	24	eP	Pn	13 08 12.0	+1.9
GO01	Chusmiza	8.00	128		Pn	13 08 14.1	-0.1
ATAH	Atahualpa	8.05	342	Pn	Pn	13 08 14.9	+0.2
	0.2nm,0.3s,baz=183,slow=14,SNR=1.6						
ATAH				Sn	Sn	13 09 44.3	-0.6
	baz=136,slow=18,SNR=1.5						
PATCX	Punta Patache	8.08	138	Pn	Pn	13 08 14.8	+0.1
PB08	IPOC Station P	8.32	130		Pn	13 08 18.6	+0.2
PB02	IPOC Station P	8.60	139		Pn	13 08 21.6	-0.4
PB01	IPOC Station P	8.67	136		Pn	13 08 22.9	0.0
PB07	IPOC Station P	8.91	141		Pn	13 08 25.4	-0.9
PB04	IPOC Station P	9.23	145		Pn	13 08 29.6	-1.0
PB09	IPOC Station P	9.37	139		Pn	13 08 31.6	-0.9
PB06	IPOC Station P	9.85	143	Pn	Pn	13 08 38.9	-0.2
LVC	Limon Verde	10.17	140	Pn	Pn	13 08 44.2	+0.5
	1.2nm,0.3s,baz=309,slow=10,SNR=17						
LVC				Sn	Sn	13 10 34.5	-2.5
	1.3nm,0.3s,baz=100,slow=20,SNR=8.2						
LVC				Lg	Lg	13 11 35.6	
	baz=280,slow=21,SNR=7.9						
LVC				LR	LR	13 12 07.9	
	comp=Z,241nm,21.9s,baz=298,slow=35						
LVC	Limon Verde	10.17	140	Pn	Pn	13 08 44.1	+0.4
LVC	Limon Verde	10.17	140	eP	Pn	13 08 44.0	+0.2
PB15	IPOC Station P	10.30	145		Pn	13 08 44.5	-0.8
ETMB	Extrema	10.71	63	eP	Pn	13 08 51.4	+0.6
TBTG	Tabatinga, AM	12.13	30	eP	Pn	13 09 10.1	-0.2
AC01	Pan de Azucar	12.29	157	Pn	Pn	13 09 13.0	+0.7
AC02	Maricunga	13.50	153		Pn	13 09 29.7	+0.3
AC04	Llanos de Chal	14.03	162	P	P	13 09 43.2	-0.4
SIV	San Ignacio	14.35	96	Pn	Pn	13 09 38.1	-2.5
	0.2nm,0.3s,baz=279,slow=13,SNR=11						
SIV				LR	LR	13 15 42.5	
	comp=Z,895nm,19.2s,baz=286,slow=40						
OTAV	Otavalo	15.20	350	P	P	13 09 57.6	+0.4
OTAV	Otavalo	15.20	350	eP	P	13 09 56.1	-1.1
VILB	Vilhena	15.36	85	eP	Pn	13 09 52.8	-1.4
ROC1	El Roble	18.59	167	P	P	13 10 33.7	-0.7
H03N1	Juan Fernandez	18.71	188	T	T	13 29 49.8	
	baz=9.7,slow=74						
H03N2	Juan Fernandez	18.71	188	T	T	13 29 48.3	
	baz=9.7,slow=74						
H03N3	Juan Fernandez	18.73	188	T	T	13 29 47.7	
	baz=9.7,slow=74						
PDRB	Porto dos Gac	18.94	83	eP	Pn	13 10 38.6	-0.4
MACA	Manacapuru-AM	18.98	54	eP	Pn	13 10 38.9	-0.5
SALV	Santo Antonio	19.52	96	eP	Pn	13 10 45.0	-0.9
ROSC	El Rosal	19.62	5	LR	LR	13 20 02.5	
	comp=Z,504nm,19.8s,baz=244,slow=42						
CLDB	Colider	19.99	81	eP	P	13 10 50.1	+0.3
AQDB	Aquidauana	20.04	109	eP	Pn	13 10 51.4	-0.7
PP1B	Ponte de Pedra	20.37	101	eP	P	13 10 53.0	-0.8
CPUP	Villa Florida	20.77	126	P	P	13 10 57.6	-0.5
	10.0nm,1.1s,baz=300,slow=6.3,SNR=4.1						
CPUP				LR	LR	13 20 38.7	
	comp=Z,99nm,20.9s,baz=285,slow=42						
CPUP	Villa Florida	20.77	126	eP	P	13 10 58.6	+0.5
NPGB	Novo Progresso	21.60	71	eP	P	13 11 06.0	-1.1
ZARC	Zaragoza, Cauc	22.22	3	P	P	13 11 13.8	+0.1
ITTB	Itaituba	22.42	64	eP	P	13 11 15.1	-0.8
BOAV	Boa Vista	22.93	43	eP	P	13 11 20.6	-0.5
OCAC	Ocana	23.08	7	P	P	13 11 21.9	-1.1
ARAG	Araguaiana, MT	23.25	95	eP	P	13 11 23.5	-1.1
SNDB	Serra Nova Dou	24.10	86	eP	P	13 11 32.7	0.0
SDV	Santo Domingo	24.15	13	P	P	13 11 32.5	-0.8
	8.1nm,1.0s,baz=186,slow=8.1,SNR=6.8						
SDV				LR	LR	13 21 57.1	
	comp=Z,289nm,21.2s,baz=193,slow=39						
SDV	Santo Domingo	24.15	13	P	P	13 11 33.2	-0.1
SDV				IAmb	IAmb	13 11 41.5	
	comp=Z,17nm,1.1s						
SDV	Santo Domingo	24.15	13	eP	P	13 11 33.8	+0.5
LC01	Cunco	24.22	172	P	P	13 11 33.1	-0.4
LC01				IAmb	IAmb	13 11 39.7	
	comp=Z,20nm,1.2s						
PCMB	Pacaembu	24.33	110	eP	P	13 11 35.4	+0.6
PTGB	Pitanga	24.45	117	eP	P	13 11 37.1	+1.3
SJCC	San Jacinto, C	24.60	2	P	P	13 11 37.2	0.0
SJCC				IAmb	IAmb	13 12 05.2	
	comp=Z,19nm,0.9s						
ITRB	Iturama	24.85	105	eP	P	13 11 40.5	+1.0
MALB	Monte Alegre	24.96	61	eP	P	13 11 42.7	+2.2
CPSB	Cacapava Do Su	25.80	131	eP	P	13 11 49.3	+1.3
PLCA	Paso Flores	26.21	171	P	P	13 11 51.9	+0.2
	comp=Z,1.7nm,0.7s,baz=356,slow=11,SNR=6.3						
PLCA	Paso Flores	26.21	171	IAmb	IAmb	13 12 12.2	
	comp=Z,14nm,1.5s						
JTS	Las Juntas de	26.54	340	LR	LR	13 21 41.2	
	comp=Z,175nm,18.5s,baz=230,slow=35						
IPMB	Ipameri, GO	26.73	101	eP	P	13 11 56.6	0.0
BB19B	Bebedouro	26.74	107	eP	P	13 11 57.4	+0.7
BDFB	Brasilia	26.91	95	P	P	13 11 57.3	-1.0
	comp=Z,1.6nm,0.4s,baz=254,slow=10,SNR=4.4						
BDFB				LR	LR	13 23 42.1	
	comp=Z,623nm,18.4s,baz=300,slow=39						
PEXB	Peixe	26.97	88	eP	P	13 12 00.2	+1.4
SMTB	Santa Maria do	28.32	81	eP	P	13 12 11.3	+0.5
MDP	Montagnes des	30.41	51	LR	LR	13 25 23.5	
	comp=Z,475nm,18.3s,baz=210,slow=38						
DIAM	Diamantina, MG	31.06	101	eP	P	13 12 35.2	0.0
RPN	Rapa Nui	33.41	243	LR	LR	13 22 42.5	
	comp=Z,205nm,18.2s,baz=78,slow=30						
SJG	San Juan	34.13	17	LR	LR	13 28 22.7	
	comp=Z,135nm,20.2s,baz=218,slow=39						
NBPN	Ponto Novo - B	35.01	88	eP	P	13 13 09.8	+0.2
CMIG	Matias Romero	36.85	329	LR	LR	13 26 42.2	
	comp=Z,126nm,18.2s,baz=162,slow=33						
NBAN	Anadia - AL	39.03	87	eP	P	13 13 43.7	-0.1
RCBR	Riachuelo	40.30	81	LR	LR	13 31 45.4	
	comp=Z,341nm,18.1s,baz=24,slow=38						
TXAR	Lajitas Array	51.46	329	P	P	13 15 22.3	0.0
	comp=Z,1.1nm,0.8s,baz=147,slow=8.5,SNR=14						
TX31	Lajitas Ar. Si	51.46	329	P	P	13 15 22.2	-0.1
TX31				IAmb	IAmb	13 15 23.4	
	comp=Z,6.1nm,1.0s						
TX32	Lajitas Array	51.46	329	P	P	13 15 22.3	0.0
X37A	Clayton	52.53	340	P	P	13 15 30.4	+0.4
X37A				IAmb	IAmb	13 15 31.4	
	comp=Z,7.1nm,0.9s						
X34A	Smith Ranch, M	53.41	337	P	P	13 15 36.9	+0.4
X34A				IAmb	IAmb	13 15 38.2	
	comp=Z,9.0nm,0.9s						
WCI	Wyandotte Cave	53.69	350	P	P	13 15 36.6	-1.8
TUL1	Leonard	53.88	340	P	P	13 15 39.1	-0.8
TUL1				IAmb	IAmb	13 15 40.5	
	comp=Z,7.1nm,0.9s						
SDMD	Soldier's Deli	53.98	359	P	P	13 15 39.3	-1.3
SDMD				IAmb	IAmb	13 15 43.2	
	comp=Z,7.4nm,1.4s						
Q44A	Meyer Farm, Va	54.86	347	P	P	13 15 45.5	-1.4
O52A	Adamsville	54.96	354	P	P	13 15 46.3	-1.4
T35A	Sooner Cattle	55.03	340	P	P	13 15 46.9	-1.4
T35A				IAmb	IAmb	13 15 49.1	
	comp=Z,8.7nm,1.1s						
ANMO	Albuquerque	57.39	330	P	P	13 16 05.2	-0.2
LONY	Lake Ozonia	59.19	1	P	P	13 16 17.8	+0.2
SDCO	Great Sand Dun	59.25	333		P	13 16 19.3	+0.8
SDCO				IAmb	IAmb	13 16 19.7	
	comp=Z,3.6nm,0.9s						
SADO	Sadowa	59.40	357	LR	LR	13 45 35.7	
	comp=Z,54nm,18.4s,baz=162,slow=40						
FRNY	Flat Rock	59.43	2	P	P	13 16 20.2	+1.0
K31A	O'Neill	60.93	341	P	P	13 16 30.0	+0.4
ISCO	Idaho Springs	61.01	334	P	P	13 16 30.6	+0.1
SMCO	Snowmass	61.08	333	P	P	13 16 32.0	+0.9
SMCO				IAmb	IAmb	13 16 34.4	
	comp=Z,4.8nm,0.7s						
PV15	Paradox Valley	61.09	331	P	P	13 16 32.1	+1.1
G40A	Rib Lake	61.22	349	P	P	13 16 32.5	+1.0
G40A				IAmb	IAmb	13 16 33.8	
	comp=Z,5.8nm,1.1s						
O20A	White River Ci	62.43	332	P	P	13 16 40.5	+0.6
O20A				IAmb	IAmb	13 16 42.6	
	comp=Z,4.2nm,0.9s						
F36A	Milaca	62.49	346	P	P	13 16 39.8	-0.2
F36A				IAmb	IAmb	13 16 40.2	
	comp=Z,5.4nm,0.9s						
P17A	Butcher Ranch,	63.06	330	P	P	13 16 44.3	+0.2
P17A				IAmb	IAmb	13 16 46.1	
	comp=Z,3.2nm,0.9s						
K22A	Casper	63.77	335	P	P	13 16 49.4	+0.7
K22A				IAmb	IAmb	13 16 49.9	
	comp=Z,4.0nm,0.8s						
RSSD	Black Hills	64.06	338	P	P	13 16 50.4	-0.3
RSSD				IAmb	IAmb	13 16 51.9	
	comp=Z,5.6nm,1.2s						
DUG	Dugway, Tooele	64.62	329	P	P	13 16 54.8	+0.4
DUG				IAmb	IAmb	13 16 56.9	
	comp=Z,3.1nm,0.8s						
PDAR	Pinedale Array	65.14	333	P	P	13 16 57.6	-0.2
	comp=Z,0.4nm,0.5s,baz=150,slow=9.3,SNR=1.8						
BGU	Big Grassy Mou	65.29	330	P	P	13 16 59.6	+0.9
BGU				IAmb	IAmb	13 17 01.2	
	comp=Z,6.4nm,1.3s						
HVU	Hansel Valley	65.82	331	P	P	13 17 02.5	+0.3
HVU				IAmb	IAmb	13 17 04.7	
	comp=Z,5.1nm,1.2s						
ULM	Lac du Bonnet	67.16	346	P	P	13 17 09.5	-0.8
	comp=Z,2.6nm,0.8s,baz=114,slow=4.6,SNR=3.7						
ULM	Lac du Bonnet	67.16	346	IAmb	IAmb	13 17 17.6	
	comp=Z,6.4nm,1.1s						
MOD	Modoc Plateau	69.74	326	P	P	13 17 26.4	-0.4
MOD				IAmb	IAmb	13 17 35.3	
	comp=Z,8.1nm,1.4s						
SNAA	Sanae	70.69	161	P	P	13 17 33.2	+1.1
DBIC	Dimbokro	73.58	78	P	P	13 17 50.0	-0.3
	comp=Z,6.0nm,1.1s,baz=235,slow=7.4,SNR=3.6						
DBIC				LR	LR	13 48 33.6	
	comp=Z,188nm,19.4s,baz=256,slow=34						
DBIC	Dimbokro	73.58	78	P	P	13 17 50.5	+0.1
EDM	Edmonton	75.04	338	P	P	13 17 57.3	-0.7
QSPA	South Pole Qui	75.30	180	P	P	13 18 00.8	+1.2
QSPA				IAmb	IAmb	13 18 15.7	
	comp=Z,8.4nm,1.5s						
KOWA	Kowa	76.83	71	LR	LR	13 52 25.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,144nm,18.8s,baz=204,slow=36						
TORD	**Torodi Ar. Bea**	**81.68**	**74**	P	**P**	**13 18 36.1**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=264,slow=4.5,SNR=32						
TORD	**Torodi Ar. Bea**	**81.68**	**74**	P	**P**	**13 18 35.8**	**+0.2**
TORD				IAmb	IAmb	13 18 37.3	
	comp=Z,6.9nm,0.9s						
YKA	**Yellowknife Ar**	**82.83**	**343**	P	**P**	**13 18 39.9**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=136,slow=5.3,SNR=20						
YKA	**Yellowknife Ar**	**82.83**	**343**	P	**P**	**13 18 40.7**	**+0.3**
DLBC	**Dease Lake**	**85.33**	**335**	P	**P**	**13 18 54.3**	**+0.9**
	comp=Z,2.4nm,1.0s,baz=138,slow=5.4,SNR=4.3						
DLBC	**Dease Lake**	**85.33**	**335**	IAmb	IAmb	13 18 57.0	
	comp=Z,5.6nm,1.1s						
ESDC	**Sonseca Array**	**86.02**	**47**	LR	LR	13 54 58.0	
	comp=Z,74nm,19.1s,baz=302,slow=34						
SUR	**Sutherland**	**87.70**	**123**	LR	LR	13 56 54.6	
	comp=Z,76nm,18.5s,baz=182,slow=35						
TSUM	**Tsumeb**	**88.42**	**109**	LR	LR	13 57 43.1	
	comp=Z,97nm,18.8s,baz=157,slow=35						
M31M	**Drury Creek, Y**	**89.31**	**336**	P	**P**	**13 19 13.0**	**+0.5**
N31M	**Braeburn, Yuko**	**89.46**	**335**	P	**P**	**13 19 14.5**	**+1.3**
RES	**Resolute Bay**	**90.14**	**355**	P	**P**	**13 19 16.2**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=153,slow=9.0						
RES	**Resolute Bay**	**90.14**	**355**	IAmb	IAmb	13 19 17.9	
	comp=Z,2.7nm,1.1s						
BOSA	**Boshof**	**92.48**	**120**	LR	LR	13 58 57.9	
	comp=Z,49nm,18.1s,baz=190,slow=34						
INK	**Inuvik**	**92.52**	**342**	P	**P**	**13 19 27.4**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=94,slow=7.1,SNR=6.1						
INK				LR	LR	14 04 39.6	
	comp=Z,62nm,18.4s,baz=51,slow=38						
INK	**Inuvik**	**92.52**	**342**	IAmb	IAmb	13 19 28.3	
	comp=Z,2.4nm,1.0s						
A36M	**Sachs Harbour**	**92.64**	**346**	P	**P**	**13 19 27.1**	**-0.7**
LBTB	**Lobatse**	**93.89**	**117**	LR	LR	13 57 36.8	
	comp=Z,62nm,21.7s,baz=198,slow=33						
H11N3	**WAKE ISLAND Hy**	**120.11**	**284**	T	T	15 36 29.7	
	baz=97,slow=74						
H11N2	**WAKE ISLAND Hy**	**120.12**	**284**	T	T	15 36 30.0	
	baz=97,slow=74						
H11N1	**WAKE ISLAND Hy**	**120.13**	**284**	T	T	15 36 30.1	
	baz=97,slow=74						
H11S2	**WAKE ISLAND Hy**	**120.17**	**283**	T	T	15 36 30.7	
	baz=98,slow=75						
H11S1	**WAKE ISLAND Hy**	**120.17**	**283**	T	T	15 36 32.6	
	baz=98,slow=75						
H11S3	**WAKE ISLAND Hy**	**120.18**	**283**	T	T	15 36 34.2	
	baz=98,slow=75						
ASAR	**Alice Springs**	**131.89**	**218**	PKP	**PKPdf**	**13 25 30.9**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=132,slow=2.6,SNR=6.1						
WRA	**Warramunga Arr**	**134.39**	**222**	PKP	**PKPdf**	**13 25 35.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=135,slow=1.8,SNR=8.3						
ZALV	**Zalesovo Beam**	**138.16**	**17**	PKP	**PKPdf**	**13 25 42.2**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=318,slow=2.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**138.16**	**17**		**PKPdf**	**13 25 41.6**	**+0.2**
MKAR	**Makanchi Array**	**143.31**	**25**	PKhKP	PKPpre	13 25 48.2	
	comp=Z,0.6nm,0.9s,baz=350,slow=1.5,SNR=4.7						
KSH	**Kashi**	**145.20**	**40**	PKPbc	**PKPdf**	**13 25 55.8**	**+1.2**
SONM	**Songino Array**	**147.06**	**357**	PKPbc	**PKPbc**	**13 25 59.8**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=10,slow=0.9,SNR=10						
KSRS	**Korea Array**	**149.12**	**321**	PKPbc	**PKPbc**	**13 26 05.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=347,slow=1.8,SNR=5.8						

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*NEIC **06** 13:18:59.3±1.9, 24.°01N±0.°08×142.°3E±0.°1, h70km±5km, mb4.7/66, Error ellipse: s-maj=15.8km s-min=12.3km az=83.0*

*IDC **06** 13:19:02.4±3.3, 23.°96N×142.°05E, h102km±30km, mb3.9/24, mb1 4.0/26, mb1mx3.9/62, mbtmp4.2/26, MS3.6/46, Ms1 3.6/46, ms1mx3.4/84, Error ellipse: s-maj=16.7km s-min=10.3km az=79.0*

ISC 06 13:19:00.3±1.6**, 23.°97N**±0.°06×**142.°24E**±0.°08**, h85**km±15km**, n144, σ0.s96**/106**, mb4.6**/50**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.11**	**359**	Pn	**Pn**	**13 19 44.8**	**-2.4**
GUMO	**Guam**	**10.62**	**166**	LR	LR	13 25 05.1	
	comp=Z,190nm,21.1s,baz=49,slow=34						
JOW	**Kunigami**	**12.94**	**286**	LR	LR	13 26 23.3	
	comp=Z,174nm,21.3s,baz=124,slow=34						
MJAR	**Matsushiro Arr**	**13.00**	**345**	P	**Pn**	**13 22 04.5**	**+2.9**
	0.1nm,0.3s,baz=159,slow=10,SNR=5.6						
MJAR				LR	LR	13 27 11.1	
	comp=Z,266nm,18.1s,baz=143,slow=38						
JNU	**Nakatsue**	**13.51**	**315**	P	**Pn**	**13 22 10.0**	**+1.6**
	0.1nm,0.3s,baz=129,slow=6.5,SNR=1.6						
JNU				LR	LR	13 26 58.7	
	comp=Z,83nm,19.4s,baz=93,slow=36						
JHS	**Saijyo**	**13.55**	**326**	P	**P**	**13 22 16.2**	**+1.2**
JMM	**Marumori**	**13.90**	**355**	Pn	Pn	13 22 07.9	-5.6
JSD	**Sado**	**14.43**	**347**		**Pn**	**13 22 22.3**	**+2.1**
JTM	**Tenmabayashi**	**16.80**	**357**		**P**	**13 22 51.5**	**+0.7**
JTM				IAmb	IAmb	13 23 14.4	
	comp=Z,56nm,1.3s						
KSRS	**Korea Array**	**18.19**	**321**	P	**P**	**13 23 06.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=10,SNR=3.1						
KSRS				LR	LR	13 29 16.1	
	comp=Z,91nm,20.2s,baz=145,slow=34						
YHNB	**Yeheng**	**19.03**	**276**	P	**P**	**13 23 15.6**	**-0.1**
YHNB				IAmb	IAmb	13 23 39.3	
	comp=Z,42nm,1.3s						
YULB	**Yu-li**	**19.19**	**273**	P	**P**	**13 23 17.5**	**+0.1**
TPUB	**Ta-pu**	**19.81**	**272**	P	**P**	**13 23 24.5**	**+0.3**
ASAJ	**Asahikawa**	**20.10**	**1**	P	Pn	13 23 28.4	-1.2
	comp=Z,18nm,1.3s,baz=196,slow=19,SNR=1.7						
ASAJ				LR	LR	13 32 02.9	
	comp=Z,130nm,21.3s,baz=166,slow=39						
JKA	**Kamikawa-asahi**	**20.10**	**1**		Pn	13 23 28.4	-1.2
JKA	**Kamikawa-asahi**	**20.10**	**1**	IAmb	IAmb	13 23 45.6	
	comp=Z,41nm,1.4s						
USRK	**Ussuriysk Ar.**	**21.86**	**340**	P	**P**	**13 23 46.7**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=155,slow=11,SNR=5.2						
DAV	**Davao City (W)**	**23.20**	**226**	LR	LR	13 31 12.7	
	comp=Z,221nm,21.3s,baz=76,slow=32						
H11N1	**WAKE ISLAND Hy**	**23.26**	**96**	T	T	13 49 00.3	
	baz=283,slow=74						
H11N2	**WAKE ISLAND Hy**	**23.26**	**96**	T	T	13 48 42.1	
	baz=283,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.27**	**96**	T	T	13 48 47.3	
	baz=283,slow=74						
H11S3	**WAKE ISLAND Hy**	**23.41**	**99**	T	T	13 49 34.5	
	baz=288,slow=75						
H11S1	**WAKE ISLAND Hy**	**23.42**	**99**	T	T	13 49 36.0	
	baz=288,slow=75						
H11S2	**WAKE ISLAND Hy**	**23.43**	**99**	T	T	13 49 36.2	
	baz=288,slow=75						
JAY	**Jayapura**	**26.37**	**183**	LR	LR	13 32 38.4	
	comp=Z,74nm,19.1s,baz=3.5,slow=31						
KLR	**Kul'dur**	**26.53**	**344**	P	**P**	**13 24 29.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=179,slow=11,SNR=4.7						
KLR				LR	LR	13 34 56.0	
	comp=Z,146nm,20.1s,baz=148,slow=36						
SIJI	**Sorong**	**26.90**	**205**	LR	LR	13 32 45.3	
	comp=Z,136nm,19.4s,baz=95,slow=31						
PMG	**Port Moresby**	**33.52**	**171**	LR	LR	13 36 55.6	
	comp=Z,60nm,21.7s,baz=316,slow=32						
PMG	**Port Moresby**	**33.52**	**171**	P	**P**	**13 25 32.0**	**+0.2**
PMG				IAmb	IAmb	13 25 33.0	
	comp=Z,9.7nm,0.8s						
MA2	**Magadan**	**36.08**	**7**	LR	LR	13 41 59.9	
	comp=Z,36nm,19.3s,baz=167,slow=38						
KAPI	**Kappang**	**36.21**	**220**	LR	LR	13 41 57.0	
	comp=Z,27nm,19.8s,baz=35,slow=38						
ULN	**Ulaanbaatar**	**36.67**	**319**	P	**P**	**13 25 58.6**	**-0.3**
SONM	**Songino Array**	**37.05**	**319**	LR	LR	13 41 08.0	
	comp=Z,80nm,19.7s,baz=78,slow=36						
SHEM	**Shemya Is, Ala**	**37.51**	**32**	LR	LR	13 38 54.4	
	comp=Z,78nm,20.9s,baz=301,slow=32						
COEN	**Coen**	**37.71**	**179**	P	**P**	**13 26 07.6**	**-0.1**
COEN				IAmb	IAmb	13 26 09.5	
	comp=Z,14nm,1.4s						
BATI	**Baumata**	**38.52**	**210**	LR	LR	13 40 00.9	
	comp=Z,67nm,19.6s,baz=334,slow=33						
GTA	**Gaotai**	**38.87**	**304**	*e*PKPbc	P	13 26 11.8	-5.7
YAK	**Yakutsk**	**38.99**	**351**	LR	LR	13 41 45.2	
	comp=Z,119nm,21.9s,baz=84,slow=35						
SEY	**Seymchan**	**39.54**	**7**	LR	LR	13 44 39.1	
	comp=Z,34nm,18.9s,baz=130,slow=39						
CHTO	**Chiang Mai**	**40.53**	**271**	P	**P**	**13 26 31.6**	**+0.3**
CM31	**Chiang Mai Arr**	**40.62**	**271**	P	**P**	**13 26 32.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**40.62**	**271**	P	**P**	**13 26 32.8**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=60,slow=7.6,SNR=18						
CMAR				LR	LR	13 43 13.6	
	comp=Z,49nm,19.4s,baz=80,slow=36						
KNRA	**Kununurra**	**41.55**	**200**	P	**P**	**13 26 40.0**	**+0.4**
KNRA				IAmb	IAmb	13 27 02.3	
	comp=Z,24nm,1.5s						
GOMU	**GeErMu**	**42.43**	**298**	P	**P**	**13 26 46.5**	**-0.6**
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,72nm,3.6s						
CTA	**Charters Tower**	**43.97**	**175**	P	**P**	**13 26 59.2**	**0.0**
	comp=Z,3.4nm,0.8s,baz=1.7,slow=12,SNR=4.2						
CTA				LR	LR	13 42 28.0	
	comp=Z,79nm,21.0s,baz=312,slow=32						
KULM	**Kulim**	**44.09**	**252**	P	**P**	**13 27 01.9**	**+1.6**
KULM				IAmb	IAmb	13 27 29.3	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**44.14**	**191**	P	**P**	**13 26 60.0**	**-0.6**
WB0				IAmb	IAmb	13 27 01.4	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**44.31**	**190**	P	**P**	**13 27 01.2**	**-0.6**
WR0				IAmb	IAmb	13 27 03.3	
	comp=Z,7.4nm,0.9s						
WB2	**Warramunga Arr**	**44.32**	**191**	P	**P**	**13 27 01.8**	**-0.2**
WB2				IAmb	IAmb	13 27 03.0	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**191**	P	**P**	**13 27 01.8**	**-0.2**
	comp=Z,12nm,0.6s,baz=11,slow=8.6,SNR=103						
WRA				PcP	**PcP**	**13 28 45.7**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=4.5,slow=3.5,SNR=10						
WRA				LR	LR	13 43 35.2	
	comp=Z,106nm,21.8s,baz=2.5,slow=33						
WRA	**Warramunga Arr**	**44.32**	**191**	P	**P**	**13 27 01.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**44.84**	**203**	LR	LR	13 45 11.6	
	comp=Z,28nm,18.6s,baz=360,slow=35						
FITZ	**Fitzroy Crossi**	**44.84**	**203**	P	**P**	**13 27 06.1**	**0.0**
FITZ				IAmb	IAmb	13 27 08.0	
	comp=Z,12nm,0.9s						
SHL	**Shillong**	**45.53**	**283**	P	**P**	**13 27 12.2**	**+0.3**
SHL				IAmb	IAmb	13 27 13.1	
	comp=Z,10nm,0.7s						
SANVU	**Saraoutou**	**46.15**	**146**	P	**P**	**13 27 16.8**	**+0.3**
RPSI	**Rantau Prapat**	**46.87**	**250**	P	**P**	**13 27 21.8**	**-0.5**
RPSI				IAmb	IAmb	13 27 23.7	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**48.04**	**190**	P	**P**	**13 27 30.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=13,slow=9.0,SNR=48						
ASAR				PcP	**PcP**	**13 28 57.9**	**0.0**
	comp=Z,1.2nm,0.9s,baz=15,slow=3.8,SNR=4.8						
TIXI	**Tiksi**	**48.31**	**354**	LR	LR	13 48 35.7	
	comp=Z,60nm,20.4s,baz=183,slow=37						
EIDS	**Eidsvold**	**49.79**	**170**	P	**P**	**13 27 44.2**	**-0.2**
EIDS				IAmb	IAmb	13 28 02.6	
	comp=Z,19nm,1.3s						
LIFNC	**LIFOU**	**50.70**	**149**	P	**P**	**13 27 50.7**	**-0.7**
DZM	**Mont Dzumac**	**51.46**	**151**	P	**P**	**13 27 57.1**	**0.0**
	comp=Z,9.2nm,0.8s,baz=229,slow=1.2,SNR=5.6						
DZM	**Mont Dzumac**	**51.46**	**151**	IAmb	IAmb	13 27 58.9	
	comp=Z,15nm,0.9s						
ONTNC	**Ouen Toro**	**51.67**	**151**	P	**P**	**13 27 58.9**	**+0.2**
ZALV	**Zalesovo Beam**	**51.90**	**321**	P	**P**	**13 27 58.1**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=98,slow=9.0,SNR=4.9						
ZALV				PcP	**PcP**	**13 29 11.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=92,slow=6.5,SNR=1.8						
ZALV				LR	LR	13 50 45.3	
	comp=Z,40nm,19.0s,baz=106,slow=37						
PINNC	**Pines Island,**	**52.39**	**150**	P	**P**	**13 28 05.0**	**+1.1**
MK31	**Makanchi Array**	**52.54**	**311**	P	**P**	**13 28 03.9**	**-1.0**
MKAR	**Makanchi Array**	**52.54**	**311**	P	**P**	**13 28 03.9**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=86,slow=8.8,SNR=24						
MKAR				PcP	**PcP**	**13 29 14.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=87,slow=4.1,SNR=5.8						
MAKZ	**Makanchi**	**52.75**	**311**	P	**P**	**13 28 05.8**	**-0.6**
ARMA	**Armidale**	**54.83**	**170**	P	**P**	**13 28 21.8**	**+0.1**
ARMA				IAmb	IAmb	13 28 23.3	
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**55.23**	**316**	P	**P**	**13 28 22.6**	**-1.8**
KURK				IAmb	IAmb	13 28 39.0	
	comp=Z,10nm,1.4s						
KURBB	**Kurchatov Arra**	**55.28**	**316**	P	**P**	**13 28 23.4**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=93,slow=7.9,SNR=12						
STKA	**Stephens Creek**	**55.54**	**181**	P	**P**	**13 28 26.4**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=351,slow=7.6,SNR=14						
STKA				LR	LR	13 54 48.9	
	comp=Z,46nm,18.1s,baz=205,slow=39						
STKA	**Stephens Creek**	**55.54**	**181**	P	**P**	**13 28 26.2**	**-0.5**
NRIK	**Noril'sk**	**55.57**	**339**	LR	LR	13 54 50.2	
	comp=Z,70nm,19.0s,baz=102,slow=39						
FORT	**Forrest**	**56.11**	**195**	P	**P**	**13 28 31.0**	**+0.2**
BBOO	**Buckleboo**	**56.77**	**186**	P	**P**	**13 28 35.3**	**-0.2**
BBOO				IAmb	IAmb	13 28 36.1	
	comp=Z,11nm,0.9s						
KDAK	**Kodiak Island**	**56.84**	**36**	LR	LR	13 50 02.6	
	comp=Z,100nm,21.4s,baz=256,slow=33						
KHU	**Kahuku**	**57.57**	**82**	P	**P**	**13 28 40.2**	**-1.6**
BRLK	**Bradley Lake**	**57.97**	**33**	P	**P**	**13 28 44.7**	**+0.9**
AAK	**Ala-Archa**	**58.11**	**306**	P	**P**	**13 28 44.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=171,slow=6.2,SNR=5.1						
AAK				PcP	**PcP**	**13 29 36.6**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=123,slow=4.8,SNR=7.0						
AAK	**Ala-Archa**	**58.11**	**306**	P	**P**	**13 28 44.5**	**-0.7**
AAK				IAmb	IAmb	13 29 01.4	
	comp=Z,5.0nm,1.3s						
CAN	**Canberra**	**59.32**	**174**	P	**P**	**13 28 54.3**	**+1.1**
SCM	**Sheep Creek Mo**	**59.93**	**31**	P	**P**	**13 28 58.0**	**+0.7**
SCM				IAmb	IAmb	13 29 26.3	
	comp=Z,13nm,1.0s						
H24K	**Noodor Dome**	**60.15**	**26**	P	**P**	**13 29 00.5**	**+1.8**
H24K				IAmb	IAmb	13 29 12.8	
	comp=Z,6.0nm,1.1s						
BVAR	**Borovoye Array**	**60.39**	**319**	P	**P**	**13 28 59.6**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=111,slow=9.2,SNR=14						
ILAR	**Eielson Array**	**60.43**	**28**	P	**P**	**13 29 00.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=258,slow=5.6,SNR=5.2						
ILAR				LR	LR	13 54 00.7	
	comp=Z,37nm,19.8s,baz=189,slow=35						
KKAR	**Karatay Array**	**60.98**	**307**	P	**P**	**13 29 04.3**	**-0.4**
PALK	**Pallekele**	**61.10**	**265**	LR	LR	13 55 21.8	
	comp=Z,38nm,18.9s,baz=207,slow=36						
TOO	**Toolangi**	**61.29**	**177**	P	**P**	**13 29 07.4**	**+0.7**
TOO				IAmb	IAmb	13 29 12.4	
	comp=Z,13nm,1.3s						
SCRK	**Sand Creek**	**61.62**	**29**	P	**P**	**13 29 09.9**	**+1.2**
SCRK				IAmb	IAmb	13 29 26.4	
	comp=Z,6.7nm,1.1s						
CHGR	**Chuyangaron**	**62.63**	**302**	P	**P**	**13 29 15.7**	**-0.3**
CHGR				IAmb	IAmb	13 29 18.1	
	comp=Z,9.7nm,0.7s						
INK	**Inuvik**	**65.84**	**24**	P	**P**	**13 29 37.5**	**+1.3**
ABKAR	**Akbulak array**	**67.32**	**315**	P	**P**	**13 29 45.0**	**-1.1**
AKTO	**Aktyubinsk**	**68.32**	**317**	LR	LR	14 00 48.0	
	comp=Z,36nm,19.1s,baz=356,slow=37						
C36M	**Paulatuk**	**69.09**	**22**	P	**P**	**13 29 57.4**	**+0.7**
C36M				IAmb	IAmb	13 29 59.5	
	comp=Z,8.1nm,1.2s						
NNZ	**Nelson**	**71.01**	**156**	P	**P**	**13 30 08.8**	**+0.1**
THZ	**Tophouse**	**71.30**	**156**	P	**P**	**13 30 10.7**	**+0.1**
THZ				IAmb	IAmb	13 30 30.7	
	comp=Z,20nm,1.3s						
KIRV	**Kirov**	**71.31**	**326**	LR	LR	14 03 20.8	
	comp=Z,52nm,19.1s,baz=26,slow=37						
SNZO	**South Karori**	**71.59**	**155**	P	**P**	**13 30 11.6**	**-0.6**
KHZ	**Kahutara**	**72.10**	**156**	P	**P**	**13 30 14.4**	**-0.9**
YKA	**Yellowknife Ar**	**74.86**	**28**	P	**P**	**13 30 31.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=295,slow=5.7,SNR=6.1						
NLWA	**Neilton Lookou**	**75.27**	**45**	P	**P**	**13 30 34.3**	**+0.3**
B04A	**Port Angeles**	**75.28**	**44**	P	**P**	**13 30 34.2**	**+0.2**
ARCES	**ARCESS Array B**	**76.50**	**341**	P	**P**	**13 30 40.3**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=74,slow=9.5,SNR=3.0						
ARCES				LR	LR	14 08 35.7	
	comp=Z,75nm,19.9s,baz=88,slow=39						
ARCES	**ARCESS Array B**	**76.50**	**341**	IAmb	IAmb	13 30 41.0	
	comp=Z,5.0nm,0.9s						
YBH	**Yreka Blue Hor**	**78.01**	**50**	P	**P**	**13 30 50.9**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=243,slow=4.5,SNR=2.3						
YBH	**Yreka Blue Hor**	**78.01**	**50**	IAmb	IAmb	13 31 13.1	
	comp=Z,15nm,1.4s						
NEW	**Newport**	**79.17**	**42**	LR	LR	13 59 30.2	
	comp=Z,45nm,20.8s,baz=264,slow=31						
J08A	**Circle Bar Ran**	**80.28**	**47**		pP	13 31 20.1	-3.6
BEKR	**Beckworth**	**80.37**	**51**	P	**P**	**13 31 03.6**	**+1.0**
BMO	**Blue Mountains**	**80.45**	**45**	P	**P**	**13 31 04.5**	**+1.6**
FIA1	**FINESS Array S**	**80.76**	**334**	P	**P**	**13 31 04.5**	**+0.4**
FIA1				IAmb	IAmb	13 31 23.0	
	comp=Z,15nm,1.2s						
FINES	**FINESS Array B**	**80.76**	**334**	P	**P**	**13 31 04.2**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=56,slow=4.8,SNR=3.9						
FINES				LR	LR	14 10 30.4	
	comp=Z,36nm,18.8s,baz=18,slow=38						
SAO	**San Andreas Ge**	**80.79**	**54**	P	**P**	**13 31 03.4**	**-1.4**
NVAR	**Mina Array Bea**	**82.41**	**51**	P	**P**	**13 31 14.8**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=276,slow=6.7,SNR=6.0						
LRM	**Limekiln Ridge**	**83.11**	**43**	P	**P**	**13 31 18.7**	**+1.6**
ELK	**Elko**	**83.57**	**48**	P	**P**	**13 31 20.7**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=293,slow=6.7,SNR=4.1						
ELK				LR	LR	14 03 23.3	
	comp=Z,57nm,19.1s,baz=268,slow=32						
BOZ	**Bozeman (W)**	**83.72**	**43**	P	**P**	**13 31 21.2**	**+1.0**
FFC	**Flin Flon**	**84.36**	**32**	P	**P**	**13 31 23.5**	**+0.6**
GCMT	**Greycliff**	**84.84**	**42**	P	**P**	**13 31 26.6**	**+0.9**
TPAW	**Teton Pass**	**85.15**	**44**	P	**P**	**13 31 28.1**	**+0.6**
TPAW				IAmb	IAmb	13 31 34.1	
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**85.16**	**324**	P	**P**	**13 31 26.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=11,slow=5.9,SNR=1.0						
AKASG				LR	LR	14 10 25.4	
	comp=Z,70nm,20.6s,baz=276,slow=36						
RLMT	**Red Lodge**	**85.41**	**42**	P	**P**	**13 31 28.9**	**+0.2**
RLMT				PcP	**PcP**	**13 31 31.0**	**-0.6**
RLMT				IAmb	IAmb	13 31 32.5	
	comp=Z,5.7nm,0.8s						
DUG	**Dugway, Tooele**	**85.47**	**48**	PcP	**PcP**	**13 31 30.7**	**-1.2**
PFO	**Pinyon Flats O**	**85.81**	**55**	LR	LR	14 04 06.1	
	comp=Z,52nm,19.5s,baz=204,slow=32						
JLU	**Jordanelle**	**86.19**	**47**	P	**P**	**13 31 31.9**	**-0.9**
HFS	**Hagfors**	**86.30**	**337**	LR	LR	14 11 44.7	
	comp=Z,74nm,18.5s,baz=26,slow=37						
PDAR	**Pinedale Array**	**86.39**	**45**	LR	LR	14 02 52.9	
	comp=Z,56nm,19.8s,baz=296,slow=30						
PDAR	**Pinedale Array**	**86.39**	**45**	P	**P**	**13 31 34.0**	**+0.4**
RAYN	**Ar Rayn**	**86.46**	**294**	P	**P**	**13 31 34.4**	**+0.3**
RAYN				IAmb	IAmb	13 31 36.2	
	comp=Z,5.3nm,0.9s						
NB2	**NORSAR Subarra**	**86.52**	**338**	P	**P**	**13 31 32.4**	**-1.2**
	comp=Z,4.1nm,1.0s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**86.52**	**338**	P	**P**	**13 31 32.2**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=47,slow=4.7,SNR=5.4						
NOA				LR	LR	14 13 34.1	
	comp=Z,32nm,20.9s,baz=80,slow=38						
BR131	**Keskin Array S**	**88.16**	**313**	P	**P**	**13 31 41.1**	**-0.9**
BR131				IAmb	IAmb	13 31 42.4	
	comp=Z,5.2nm,0.8s						
BRTR	**Keskin Array B**	**88.16**	**313**	P	**P**	**13 31 40.6**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=89,slow=2.9,SNR=9.3						
SFJD	**Kangerlussuaq**	**88.80**	**5**	LR	LR	14 14 13.8	
	comp=Z,27nm,20.3s,baz=289,slow=37						
RSSD	**Black Hills**	**89.12**	**41**	P	**P**	**13 31 45.8**	**-0.9**
RSSD				IAmb	IAmb	13 31 46.4	
	comp=Z,5.5nm,0.7s						
ULM	**Lac du Bonnet**	**90.02**	**33**	LR	LR	14 13 49.7	
	comp=Z,18nm,18.5s,baz=265,slow=36						
EIL	**Elat**	**92.16**	**304**	LR	LR	14 18 32.2	
	comp=Z,70nm,20.4s,baz=60,slow=39						
ANMO	**Albuquerque**	**92.44**	**50**	P	**P**	**13 32 04.7**	**+2.6**
	baz=286,slow=2.8						
ANMO				LR	LR	14 09 58.9	
	comp=Z,30nm,19.4s,baz=306,slow=33						
VRAC	**Vranov**	**92.49**	**328**	LR	LR	14 16 40.3	
	comp=Z,55nm,18.6s,baz=10.0,slow=37						
SCHQ	**Schefferville**	**97.64**	**16**	LR	LR	14 24 58.5	
	comp=Z,43nm,18.6s,baz=82,slow=40						
TORD	**Torodi Ar. Bea**	**126.64**	**310**	PKP	**PKPdf**	**13 37 54.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=65,slow=1.0,SNR=5.4						
PLCA	**Paso Flores**	**147.88**	**129**	PKPbc	**PKPbc**	**13 38 35.5**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=231,slow=3.0,SNR=7.8						
LPAZ	**La Paz**	**150.52**	**81**	PKPbc	**PKiKP**	**13 38 44.6**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=0.1,slow=5.0,SNR=7.6						

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*MOS **06** 13:19:07.4±0.8, 56.°36N×162.°15W, h200km, mb5.0/67, Error ellipse: s-maj=7.0km s-min=4.7km az=91.6*

*NEIC **06** 13:19:09.4±2.2, 56.°29N±0.°06×162.°01W±0.°08, h205km±4km, mb4.7/337, ML4.9/22, Mww5.0, ML4.9(AEIC), Error ellipse: s-maj=8.2km s-min=6.2km az=168.0*

*AEIC **06** 13:19:10±3.3, 56.°02N±0.°07×161.°80W±0.°08, h220km±4km, Error ellipse: s-maj=10.1km s-min=6.1km az=165.0*

*GCMT **06** 13:19:10.4±0.3, 56.°30N±0.°02×162.°17W±0.°03, h236km±4km, MW5.0/84, Moment Tensor Solution. s24,c25; s84,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.17; $M_{\theta\theta}$-1.54±.19; $M_{\phi\phi}$2.04±.17; $M_{r\theta}$1.85±.17; $M_{\theta\phi}$-2.62±.11; $M_{\phi r}$1.72±.14; Best double couple: $M_0$4.00500×10^{16} NP1:ϕ_s293.00000°, δ59.00000°, λ-164.00000°. NP2:ϕ_s194.00000°, δ77.00000°, λ-32.00000°. Principal axes: T 3.5610, Plg12.0000°, Azm247.0000°; N 0.8930, Plg55.0000°, Azm354.0000°; P -4.4490, Plg32.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **06** 13:19:10.2±0.4, 56.°35N×162.°28W, h212km±2km, mb4.4/53, mb1 4.5/56, mb1mx4.4/71, mbtmp4.9/56 Error ellipse: s-maj=8.3km s-min=4.7km az=5.0*

*NEIC **06** 13:19:11, 56.°19N×162.°02W, h200km, Moment Tensor Solution. Duration: 4.s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.71; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$0.88; $M_{r\theta}$0.80; $M_{\theta\phi}$-3.35; $M_{\phi r}$1.33; Fault plane solution: $M_0$3.95000×10^{16} NP1: ϕ_s191.00000°, δ89.00000°, λ-21.00000°. NP2: ϕ_s281.00000°, δ68.00000°, λ-179.00000°. Principal axes: T 3.3888, Plg15.0000°, Azm238.0000°; N 0.9424, Plg68.0000°, Azm9.0000°; P -4.3312, Plg16.0000°, Azm144.0000°;*

ISC 06 13:19:09.5±0.3**, 56.°35N**±0.°04×**162.°08W**±0.°03**, h209**km±2km**, h209**km**:pP-P, n1021, σ1.s26**/1115**, mb4.7**/268**, 137C-77D, Fault plane solution: NP1:**ϕ_s353.65872°**,** δ73.12926°**,** λ-5.38719°. **NP2:**ϕ_s85.22640°**,** δ84.84531°**,** λ-163.05869°. **Principal axes:** T Plg8.1452°**,** Azm218.3296°**;** N Plg72.3139°**,** Azm101.6598°**;** P Plg15.5894°**,** Azm310.6182°**; Fault plane solution: NP1:**ϕ_s180.68401°**,** δ71.26085°**,** λ-23.15804°. **NP2:** ϕ_s278.50824°**,** δ68.13494°**,** λ-159.74727°. **Principal axes:** T Plg2.0732°**,** Azm230.1004°**;** N Plg60.5384°**,** Azm323.7747°**;** P Plg29.3739°**,** Azm138.9329°**; Bristol Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLHA	**Black Hill**	**0.65**	**179**		**Pn**	**13 19 37.8**	**-0.5**
PN6	**Pavlof North-6**	**0.90**	**174**		**Pn**	**13 19 39.3**	**-0.4**
PVV	**Pavlof Volcano**	**0.99**	**170**		**Pn**	**13 19 39.3**	**-0.8**
PS4A	**Pavlof South-4**	**1.01**	**173**		**Pn**	**13 19 39.3**	**-1.0**
HAG	**Hague Volcano**	**1.04**	**174**	P	**Pn**	**13 19 39.7**	**-0.8**
HAG	**Hague Volcano**	**1.04**	**174**		**Pn**	**13 19 39.7**	**-0.8**
BALA	**Baldy Mountain**	**1.22**	**199**		**Pn**	**13 19 41.5**	**-0.3**
SDPT	**Sand Point**	**1.35**	**137**		**Pn**	**13 19 41.0**	**-1.8**
SDPT				Sn	**S**	**13 20 05.2**	**-3.2**
SDPT				IAML		13 20 06.9	
	comp=E,14µm,0.6s						
SDPT	**Sand Point**	**1.35**	**137**	P	**Pn**	**13 19 41.1**	**-1.6**
	baz=312,SNR=123						
VNFG	**Fog Glacier, M**	**1.41**	**91**		**Pn**	**13 19 43.6**	**+0.2**
VNHG	**Veniaminof 1**	**1.63**	**93**		**Pn**	**13 19 44.9**	**-0.3**
FALS	**False Pass**	**1.68**	**207**		**Pn**	**13 19 44.3**	**-1.2**
FALS	**False Pass**	**1.68**	**207**		**S**	**13 20 12.1**	**-1.1**
FALS	**False Pass**	**1.68**	**207**	P	**Pn**	**13 19 44.4**	**-1.2**
	baz=38,SNR=40						
ISNN	**Isanotski Nort**	**1.80**	**213**		**Pn**	**13 19 46.3**	**-0.5**
ISLZ	**Isanotski Laza**	**1.87**	**210**		**Pn**	**13 19 46.2**	**-1.2**
ISLZ					**S**	**13 20 15.5**	**-1.1**
SSLN	**Shishaldin Nor**	**1.88**	**216**		**Pn**	**13 19 47.2**	**-0.4**
BRPK	**Brown Peak**	**1.95**	**210**		**Pn**	**13 19 47.0**	**-1.2**
SSLS	**Shishaldin Sou**	**1.97**	**214**		**Pn**	**13 19 47.7**	**-0.8**
SSLS					**S**	**13 20 17.3**	**-1.1**
CHGN	**Chignik**	**2.04**	**90**		**Pn**	**13 19 48.1**	**-0.9**
CHGN				IAML		13 20 20.8	
	comp=E,6µm,0.5s						
CHGN				IAML		13 20 21.0	
	comp=N,6µm,0.6s						
CHGN	**Chignik**	**2.04**	**90**	P	**Pn**	**13 19 48.3**	**-0.8**
	baz=263,SNR=424						
CHNA	**Chernabura Isl**	**2.08**	**136**	P	**Pn**	**13 19 47.1**	**-2.4**
	baz=314,SNR=145						
CNBA	**Chernabura Isl**	**2.09**	**136**	Pn	**Pn**	**13 19 47.0**	**-2.5**
CNBA				IAML		13 20 17.1	
	comp=N,10µm,0.6s						
CNBA				IAML		13 20 20.0	
	comp=E,9µm,0.5s						
AZAC	**Aniakchak**	**2.20**	**74**		**Pn**	**13 19 51.0**	**+0.2**
ANNW	**Aniakchak Nort**	**2.23**	**72**		**Pn**	**13 19 51.5**	**+0.5**
ANNE	**Aniakchak Nort**	**2.29**	**74**		**Pn**	**13 19 51.8**	**0.0**

WESE	West Dahl East	2.36	218		Pn	13 19 52.0	-0.5
WECS	Westdahl Cape	2.38	221		Pn	13 19 52.2	-0.5
WECS					S	13 20 25.7	-0.2
AKSA	Akutan Strait	3.03	225		Pn	13 19 59.6	-0.3
AKSA					S	13 20 38.4	-0.5
AKUT	Akutan	3.06	225		Pn	13 19 59.4	-0.9
AKUT	Akutan	3.06	225		S	13 20 38.8	-0.7
AKUT	Akutan	3.06	225	IAML		13 20 41.4	
	comp=N,2µm,0.5s						
AKUT				IAML		13 20 44.0	
	comp=E,2µm,0.7s						
AKGG	Akutan Green G	3.10	228		Pn	13 20 00.6	-0.2
AKBBA	Akutan Broad B	3.15	226		Pn	13 20 00.8	-0.6
AKBBA					S	13 20 41.4	-0.1
ZRO	Akutan Zero	3.18	226		Pn	13 20 01.1	-0.6
PLBL	Peulik Blue Cr	3.18	63		Pn	13 20 01.9	+0.3
AKRB	Akutan Reef Bi	3.19	227		Pn	13 20 01.3	-0.4
AKRB					S	13 20 42.2	0.0
PLK5	Peulik 5	3.28	58		Pn	13 20 03.5	+0.8
PLK1	Peulik 1	3.33	62		Pn	13 20 03.7	+0.3
PLK3	Peulik 3	3.45	65		Pn	13 20 05.3	+0.4
MTBL	Makushin Table	3.55	230		Pn	13 20 05.5	-0.7
UNV	Unalaska Valle	3.57	227		S	13 20 48.7	-1.7
UNV	Unalaska Valle	3.57	227		Pn	13 20 05.1	-1.2
UNV	Unalaska Valle	3.57	227	P	Pn	13 20 05.2	-1.2
	baz=49,SNR=138						
MSW	Makushin Switc	3.63	230		Pn	13 20 06.2	-1.0
MSW					S	13 20 51.2	-0.7
CHIR	Chirikof Islan	3.66	96		Pn	13 20 05.5	-1.9
CHIR	Chirikof Islan	3.66	96		S	13 20 48.6	-3.8
CHIR	Chirikof Islan	3.66	96	P	Pn	13 20 05.8	-1.6
	baz=276,SNR=106						
MREP	Makushin Rep't	3.69	228		Pn	13 20 07.1	-0.8
MGOD	Makushin Gods	3.76	229		Pn	13 20 08.0	-0.6
KJL	Kejulik	3.93	62		Pn	13 20 11.0	+0.2
KELA	Mount Kelaz	4.02	56		Pn	13 20 12.4	+0.6
ACHA	Angle Creek He	4.12	60		Pn	13 20 13.8	+0.7
SII	Sitkinak Islan	4.39	84		Pn	13 20 14.5	-1.9
SII	Sitkinak Islan	4.39	84		S	13 21 04.7	-4.0
SII	Sitkinak Islan	4.39	84	IAML		13 21 06.5	
	comp=N,7µm,0.8s						
SII				IAML		13 21 10.1	
	comp=E,7µm,0.6s						
SII	Sitkinak Islan	4.39	84	P	Pn	13 20 14.7	-1.7
	baz=266,SNR=56						
OKFG	Magazine Ridge	4.47	231		Pn	13 20 16.2	-1.2
SPIA	Saint Paul Isl	4.57	284		Pn	13 20 19.3	+0.8
SPIA	Saint Paul Isl	4.57	284	P	Pn	13 20 19.7	+1.2
	baz=100,SNR=8.1						
OKSO	Okmok South	4.62	232		Pn	13 20 18.4	-0.8
OKSP	Okmok Steeple	4.74	232		Pn	13 20 19.7	-1.2
P18K	Big Mountain,	4.76	47		Pn	13 20 21.7	+0.7
P18K	Big Mountain,	4.76	47	P	Pn	13 20 21.8	+0.7
	baz=229,SNR=504						
OHAK	Old Harbor	4.92	76	Pn	Pn	13 20 21.2	-1.7
OHAK				IAML		13 21 16.3	
	comp=E,1µm,0.8s						
OHAK				IAML		13 21 17.6	
	comp=N,1µm,0.5s						
OHAK	Old Harbor	4.92	76	P	Pn	13 20 21.3	-1.6
	baz=259,SNR=192						
O18K	Koktuh Hills	5.07	43		Pn	13 20 25.8	+0.9
O18K	Koktuh Hills	5.07	43	P	Pn	13 20 25.8	+0.9
	baz=225						
NIKH	Nikolski High	5.18	232	Pn	Pn	13 20 24.9	-1.5
NIKH	Nikolski High	5.18	232		S	13 21 23.5	-3.3
NIKH	Nikolski High	5.18	232	P	Pn	13 20 24.8	-1.5
	baz=51,SNR=94						
Q19K	Cape Douglas,	5.22	57		Pn	13 20 26.4	-0.4
Q19K				IAML		13 21 38.8	
	comp=N,989nm,0.8s						
Q19K	Cape Douglas,	5.22	57	P	Pn	13 20 26.8	0.0
	baz=240,SNR=116						
KDAK	Kodiak Island	5.38	71	P	Pn	13 20 27.8	-1.0
	comp=N,151nm,0.3s,baz=226,slow=4.0,SNR=2852						
KDAK				S	S	13 21 26.0	-5.3
	comp=N,36nm,0.3s,baz=66,slow=23,SNR=8.9						
KDAK	Kodiak Island	5.38	71	P	Pn	13 20 27.1	-1.7
KDAK	Kodiak Island	5.38	71	Pn	Pn	13 20 27.1	-1.7
KDAK				IAML		13 21 32.2	
	comp=N,658nm,0.8s						
KDAK				IAML		13 21 38.9	
	comp=N,771nm,0.6s						
KDAK	Kodiak Island	5.38	71	P	Pn	13 20 27.6	-1.2
	baz=254						
AUH	Augustine H	5.52	53		Pn	13 20 32.1	+1.5
AGU	Augustine-Summ	5.52	53		Pn	13 20 31.7	+1.0
AUQ	Augustine Qik'	5.52	53		Pn	13 20 31.8	+1.1
AUL	Augustine Lava	5.53	53		Pn	13 20 32.0	+1.3
O19K	Port Alsworth	5.63	44		Pn	13 20 32.3	+0.4
O19K	Port Alsworth	5.63	44	P	Pn	13 20 32.7	+0.8
	baz=227,SNR=132						
OPT	Oil Point	5.75	51		Pn	13 20 34.7	+1.1
P19K	Oil Pt	5.75	51		Pn	13 20 33.4	-0.2
P19K	Oil Pt	5.75	51	P	Pn	13 20 33.9	+0.2
	baz=235						
SVW2	Sparrevohn	5.84	33		Pn	13 20 35.5	+0.8
N19K	Bonanza Creek	5.99	38		Pn	13 20 37.8	+1.2
N19K	Bonanza Creek	5.99	38	P	Pn	13 20 38.0	+1.4
	baz=222,SNR=159						
IVE	Iliamna Volcan	6.04	49		Pn	13 20 37.9	+0.6
O20K	Slope Mountain	6.24	49		Pn	13 20 40.9	+1.0
O20K	Slope Mountain	6.24	49	P	Pn	13 20 40.4	+0.5
	baz=234,SNR=30						
RED	Redoubt Volcan	6.37	46		Pn	13 20 42.1	+0.5
RDWB	Redoubt West	6.39	46		Pn	13 20 42.8	+1.0
RSO	Redoubt South	6.41	46		Pn	13 20 42.2	+0.1
RDJH	Redoubt Jeurge	6.46	45		Pn	13 20 44.0	+1.2
HOM	Homer	6.46	55		Pn	13 20 42.5	-0.2
HOM	Homer	6.46	55	P	Pn	13 20 42.6	-0.1
	baz=240,SNR=25						
CNPM	China Poot	6.60	57		Pn	13 20 43.3	-1.2
RDT	Redoubt	6.61	46		Pn	13 20 45.4	+0.7
M19K	Big River Lodg	6.83	32		Pn	13 20 46.5	-1.0
M19K	Big River Lodg	6.83	32	P	Pn	13 20 49.2	+1.8
	baz=216						
BRLK	Bradley Lake	6.86	55		Pn	13 20 46.1	-1.7
BRSE	Bradley Lake S	6.91	56		Pn	13 20 47.5	-1.1
BRSE	Bradley Lake S	6.91	56	P	Pn	13 20 47.4	-1.1
	baz=242,SNR=69						
L19K	White Mountain	6.92	29		Pn	13 20 49.5	+0.8
L19K	White Mountain	6.92	29	P	Pn	13 20 49.8	+1.2
	baz=213,SNR=206						
SPBG	Spurr Blockage	7.05	42		Pn	13 20 52.1	+1.8
SPCN	Chakachatna No	7.09	42		Pn	13 20 52.6	+1.8
SPU	Mount Spurr	7.12	43		Pn	13 20 51.5	+0.4
SPCG	Spurr Capps Gl	7.20	42		Pn	13 20 53.8	+1.5
CAPN	Captain Cook N	7.23	48		Pn	13 20 54.4	+1.9
TTA	Tatalina	7.28	22	P	Pn	13 20 53.6	+0.3
TTA	Tatalina	7.28	22		Pn	13 20 53.6	+0.3
TTA	Tatalina	7.28	22	P	Pn	13 20 54.8	+1.5
	baz=206,SNR=138						
STLK	Strandline Lak	7.40	42		Pn	13 20 56.5	+1.7
L20K	Farewell, AK	7.43	31		Pn	13 20 57.1	+1.8
L20K	Farewell, AK	7.43	31	P	Pn	13 20 57.0	+1.8
	baz=216						
SLKM	Skilak Lake	7.49	51		Pn	13 20 55.9	-0.1
SEW	Seward	7.66	55		Pn	13 20 56.7	-1.4
SEW	Seward	7.66	55	P	Pn	13 20 56.9	-1.2
	baz=243,SNR=290						
O22K	Cooper Landing	7.70	52		Pn	13 20 57.6	-1.0
O22K	Cooper Landing	7.70	52	P	Pn	13 20 57.8	-0.8
	baz=240,SNR=342						
RC01	Rabbit Creek A	7.99	48		Pn	13 21 01.0	-1.4
RC01	Rabbit Creek A	7.99	48	P	Pn	13 21 01.2	-1.2
	baz=236,SNR=27						
K20K	Telida	8.10	26		Pn	13 21 05.4	+1.6
K20K	Telida	8.10	26	P	Pn	13 21 05.7	+1.9
	baz=211						
KOFP	Korovin Flat P	8.12	245		Pn	13 21 04.4	+0.2
M22K	Willow	8.20	44		Pn	13 21 04.2	-0.9
M22K	Willow	8.20	44	P	Pn	13 21 05.8	+0.7
	baz=232,SNR=15						
ATKA	Atka Island	8.21	245		Pn	13 21 04.5	-0.9
PPLA	Purkeypile	8.26	33		Pn	13 21 07.7	+1.7
PPLA	Purkeypile	8.26	33	P	Pn	13 21 08.2	+2.2
	baz=220,SNR=147						
ANM	Nome	8.40	350	P	Pn	13 21 08.7	+1.0
ANM	Nome	8.40	350		Pn	13 21 08.7	+1.0
ANM	Nome	8.40	350	P	Pn	13 21 09.0	+1.3
	baz=167,SNR=256						
PWL	Port Wells	8.48	52		Pn	13 21 06.8	-2.0
PWL	Port Wells	8.48	52	P	Pn	13 21 06.9	-1.8
	baz=241,SNR=139						
PMR	Palmer	8.50	46	P	Pn	13 21 07.4	-1.6
PMR	Palmer	8.50	46		Pn	13 21 07.4	-1.6
PMR	Palmer	8.50	46	P	Pn	13 21 08.9	-0.1
	baz=235,SNR=17						
CUT	Chulitna	8.55	40		Pn	13 21 08.3	-1.3
CUT	Chulitna	8.55	40	P	Pn	13 21 09.1	-0.5
	baz=228,SNR=23						
GHO	Glory Hole Cre	8.68	46		Pn	13 21 09.2	-2.3
CAST	Castle Rocks	8.68	31		Pn	13 21 12.6	+1.2
CAST	Castle Rocks	8.68	31	P	Pn	13 21 13.0	+1.7
	baz=218,SNR=188						
KNK	Knik Glacier	8.69	49		Pn	13 21 08.7	-2.7
KNK	Knik Glacier	8.69	49	P	Pn	13 21 09.2	-2.2
	baz=238,SNR=118						
J20K	Nowinta River	8.78	23		Pn	13 21 13.9	+1.3
J20K	Nowinta River	8.78	23	P	Pn	13 21 14.2	+1.6
	baz=208						
GCSA	Galena City Sc	8.80	15	P	Pn	13 21 14.5	+1.7
	baz=198,SNR=43						
GAMB	Gambell	8.86	331	Pn	Pn	13 21 14.0	+0.5
GAMB	Gambell	8.86	331	P	Pn	13 21 15.0	+1.5
	baz=143,SNR=61						
Q23K	Middleton Isla	8.93	63		Pn	13 21 12.5	-2.0
Q23K	Middleton Isla	8.93	63	P	Pn	13 21 12.7	-1.9
	baz=254,SNR=6.7						
MID	Middleton Isla	8.93	63	P	Pn	13 21 12.4	-2.2
MID	Middleton Isla	8.93	63		Pn	13 21 12.4	-2.2
SML	Sawmill	8.94	47		Pn	13 21 11.7	-3.1
SML	Sawmill	8.94	47	P	Pn	13 21 13.9	-0.8
	baz=236,SNR=29						
CHUM	Lake Minchumin	8.98	29		Pn	13 21 17.4	+2.2
CHUM	Lake Minchumin	8.98	29	P	Pn	13 21 17.2	+2.0
	baz=215,SNR=194						
GLI	Glacier Island	9.04	54		Pn	13 21 13.1	-2.9
GLI	Glacier Island	9.04	54	P	Pn	13 21 13.4	-2.5
	baz=244,SNR=46						
KTH	Kantishna Hill	9.13	33		Pn	13 21 18.1	+0.9
GSTR	Great Sitkin T	9.22	248		Pn	13 21 16.5	-2.0
GSMY	Great Sitkin M	9.25	248		Pn	13 21 18.6	-0.2
TRF	Thorofare Moun	9.25	35	Pn	Pn	13 21 18.4	-0.5
TRF	Thorofare Moun	9.25	35	P	Pn	13 21 19.2	+0.4
	baz=223,SNR=61						
FID	Port Fidalgo	9.27	55		Pn	13 21 16.1	-2.8
GSTD	Great Sitkin T	9.29	248		Pn	13 21 19.3	-0.1
GSCK	Great Sitkin C	9.32	248		Pn	13 21 19.6	-0.2
SCM	Sheep Creek Mo	9.36	48	P	Pn	13 21 18.0	-2.2
SCM	Sheep Creek Mo	9.36	48		Pn	13 21 18.0	-2.2
SCM	Sheep Creek Mo	9.36	48	P	Pn	13 21 18.1	-2.1
	baz=238,SNR=102						
BPAW	Bear Paw Mtn.	9.52	31		Pn	13 21 23.1	+0.9
BPAW	Bear Paw Mtn.	9.52	31	P	Pn	13 21 23.7	+1.5
	baz=218,SNR=56						
EYAK	Cordova Ski Ar	9.53	57		Pn	13 21 20.1	-2.2
EYAK	Cordova Ski Ar	9.53	57	P	Pn	13 21 20.4	-1.9
	baz=249,SNR=47						
WAT6	Susitna Watana	9.59	43	P	Pn	13 21 21.0	-2.3
	baz=234,SNR=101						
ADK	Adak	9.66	249	P	Pn	13 21 23.2	-0.9
ADK	Adak	9.66	249		Pn	13 21 23.2	-0.9
TNA	Tin City	9.66	345	Pn	Pn	13 21 23.8	-0.2
TNA	Tin City	9.66	345	P	Pn	13 21 25.5	+1.5
	baz=160,SNR=133						
RND	Reindeer	9.70	38	P	Pn	13 21 22.9	-1.6
RND	Reindeer	9.70	38	Pn	Pn	13 21 22.9	-1.6
DIV	Divide	9.73	54	Pn	Pn	13 21 22.7	-2.2
KLU	Klutina	9.81	52		Pn	13 21 24.1	-1.8
KLU	Klutina	9.81	52	P	Pn	13 21 24.3	-1.6
	baz=243,SNR=370						
MCK	McKinley	9.88	36	P	Pn	13 21 25.4	-1.5
MCK	McKinley	9.88	36	Pn	Pn	13 21 25.4	-1.5
MCK	McKinley	9.88	36	P	Pn	13 21 25.6	-1.3
	baz=226,SNR=50						
KICM	Kanaga Island	9.91	250		Pn	13 21 27.2	-0.1
KIKV	Kanaga Island	9.92	250		Pn	13 21 27.6	+0.2
KIWB	Kanaga Island	9.92	249		Pn	13 21 27.0	-0.4
M24K	Tolsona, Glenn	9.97	48	Pn	Pn	13 21 26.8	-1.3
M24K	Tolsona, Glenn	9.97	48	P	Pn	13 21 26.7	-1.3
	baz=240,SNR=112						
RAGM	Ragged Mountai	9.99	59		Pn	13 21 26.5	-1.8
KAIM	Kayak Island	10.00	62		Pn	13 21 27.0	-1.3
KAIM	Kayak Island	10.00	62	P	Pn	13 21 27.5	-0.8
	baz=254,SNR=22						
DHY	Denali Highway	10.02	42		Pn	13 21 26.7	-2.0
DHY	Denali Highway	10.02	42	P	Pn	13 21 26.6	-2.0
	baz=232,SNR=49						
KIMD	Kanaga Island	10.02	249		Pn	13 21 28.2	-0.4
BWN	Browne	10.02	33		Pn	13 21 28.5	-0.2
I21K	Tanana	10.13	25		Pn	13 21 30.7	+0.8
I21K	Tanana	10.13	25	P	Pn	13 21 31.4	+1.4
	baz=212,SNR=81						
HMT	Hamilton	10.18	60		Pn	13 21 29.1	-1.5
BMRM	Bremner River	10.20	56		Pn	13 21 29.1	-1.9
BMRM	Bremner River	10.20	56	P	Pn	13 21 29.3	-1.7
	baz=249,SNR=101						
MLY	Manley	10.31	28		Pn	13 21 32.9	+0.5
MLY	Manley	10.31	28	P	Pn	13 21 33.6	+1.2
	baz=216						
SUCK	Suckling Hills	10.35	61	Pn	Pn	13 21 32.5	-0.4
H21K	Melozitna Rive	10.35	22		Pn	13 21 34.1	+1.2
H21K	Melozitna Rive	10.35	22	P	Pn	13 21 34.5	+1.7
	baz=208						
N25K	Chitina, Valde	10.43	52		Pn	13 21 32.2	-1.8
N25K	Chitina, Valde	10.43	52	P	Pn	13 21 32.6	-1.4
	baz=245,SNR=188						
NEA2	Nenana	10.45	32		Pn	13 21 32.7	-1.3
NEA2	Nenana	10.45	32	P	Pn	13 21 33.8	-0.3
	baz=222,SNR=35						
BERG	Berg Lake	10.46	60		Pn	13 21 32.3	-1.9
IMAR	Indian Mountai	10.46	19	Pn	Pn	13 21 34.4	+0.2
HARP	HAARP	10.53	48	P	Pn	13 21 34.1	-1.1
	baz=240,SNR=77						
WRH	Wood River Hil	10.66	34	Pn	Pn	13 21 35.2	-1.6
PAX	Paxson	10.68	45	P	Pn	13 21 35.4	-1.8
PAX	Paxson	10.68	45		Pn	13 21 35.4	-1.8
PAX	Paxson	10.68	45	P	Pn	13 21 35.7	-1.5
	baz=237,SNR=138						
GLB	Gilahina Butte	10.72	54	Pn	Pn	13 21 35.8	-1.9
I23K	Minto, Yukon-K	10.78	30		Pn	13 21 37.2	-1.0
I23K	Minto, Yukon-K	10.78	30	P	Pn	13 21 38.3	0.0
	baz=219,SNR=125						
VRDI	Verde Repeater	10.82	55	Pn	Pn	13 21 37.5	-1.5
SNH	Sunshine Point	10.83	61	Pn	Pn	13 21 38.1	-0.9
CCB	Clear Creek Bu	10.87	34	Pn	Pn	13 21 36.9	-2.6
WAX	Waxell Ridge	10.88	60		Pn	13 21 38.5	-1.2
MDM	Murphy Dome	10.96	32		Pn	13 21 38.5	-2.2
HDA	Harding Lake	10.99	37		Pn	13 21 38.3	-2.7
HDA	Harding Lake	10.99	37	P	Pn	13 21 38.9	-2.1
	baz=228,SNR=52						
TCOL	CIGO, UAF Yank	11.01	33		Pn	13 21 38.3	-2.9
TCOL	CIGO, UAF Yank	11.01	33	P	Pn	13 21 39.5	-1.7
	baz=224,SNR=10						
COLA	College	11.02	33⇓	*e*P	Pn	13 21 38.6	-2.7
COLA				pmax	pmax		
	comp=Z,38nm,1.2s						
COLA	College	11.02	33		Pn	13 21 38.7	-2.6
MCARA	McCarthy VSAT	11.06	55		Pn	13 21 40.9	-1.1
MCARA	McCarthy VSAT	11.06	55	P	Pn	13 21 41.2	-0.8
	baz=249,SNR=289						
ISLE	Juniper Island	11.16	59		Pn	13 21 42.4	-1.0
IL31		11.25	35	Pn	Pn	13 21 41.5	-2.8
ILAR	Eielson Array	11.25	35	P	Pn	13 21 42.5	-1.8
	comp=Z,0.9nm,0.3s,baz=232,slow=7.8,SNR=108						
ILAR				ScP	ScP	13 30 31.2	-0.3
	comp=Z,0.1nm,0.3s,baz=266,slow=2.6,SNR=8.3						
ILAR	Eielson Array	11.25	35	P	Pn	13 21 41.5	-2.8
ILAR	Eielson Array	11.25	35		Pn	13 21 41.5	-2.8
POKR	Poker Plat Res	11.31	33		Pn	13 21 41.9	-3.3
POKR	Poker Plat Res	11.31	33	P	Pn	13 21 43.1	-2.0
	baz=224,SNR=14						
RIDG	Independent Ri	11.33	42		Pn	13 21 43.1	-2.3
RIDG	Independent Ri	11.33	42	P	Pn	13 21 43.5	-2.0
	baz=235,SNR=103						
MENT	Mentasta	11.37	47		Pn	13 21 44.2	-1.6
GRNC	Granite Creek	11.47	59		Pn	13 21 46.5	-0.9
L26K	Log Cabin Wild	11.56	47		Pn	13 21 47.4	-0.9
L26K	Log Cabin Wild	11.56	47	P	Pn	13 21 47.8	-0.5
	baz=241,SNR=114						
DOT	Dot Lake	11.58	43		Pn	13 21 46.6	-1.9
BARN	Barnard Glacie	11.60	58		Pn	13 21 48.1	-0.9
J25K	Salcha River,	11.65	38	Pn	Pn	13 21 46.7	-2.8
J25K	Salcha River,	11.65	38	P	Pn	13 21 47.0	-2.5
	baz=231,SNR=51						
H24K	Noodor Dome	11.70	30	P	Pn	13 21 48.7	-1.4
H24K	Noodor Dome	11.70	30	P	Pn	13 21 49.2	-0.9
	baz=221,SNR=87						
TABL	Table Mountain	11.71	61		Pn	13 21 50.0	-0.4
CTG	Chitna Glacier	11.73	58	P	Pn	13 21 50.3	-0.3
	baz=254,SNR=181						
CTGM	Chitina Glacie	11.73	58		Pn	13 21 50.0	-0.6
RDOG	Red Dog Mine	11.76	358	Pn	Pn	13 21 50.2	-0.5
RDOG	Red Dog Mine	11.76	358	P	P	13 21 53.7	-1.8
	baz=177,SNR=18						
SCRK	Sand Creek	11.78	42	Pn	Pn	13 21 48.6	-2.6
SCRK	Sand Creek	11.78	42	P	Pn	13 21 48.6	-2.6
	baz=236,SNR=49						
LOGN	Logan Glacier	11.86	59		Pn	13 21 51.4	-0.8
M27K	Edge Creek, AK	11.91	51		Pn	13 21 52.0	-0.9
M27K	Edge Creek, AK	11.91	51	P	Pn	13 21 52.4	-0.4
	baz=247						
PCA	Pinnacle	12.08	63	P	Pn	13 21 54.7	-0.3
PINM	Pinnacle	12.08	63	P	Pn	13 21 54.9	-0.1
	baz=260						
PRP	Porcupine Dome	12.18	34	Pn	Pn	13 21 53.0	-3.2
PRP	Porcupine Dome	12.18	34	P	P	13 21 59.9	-0.3
	baz=227,SNR=5.0						
L27K	Beaver Creek,	12.20	48		Pn	13 21 54.8	-1.6
L27K	Beaver Creek,	12.20	48	P	Pn	13 21 55.2	-1.2
	baz=244						
BCAR	Beaver Creek A	12.22	48	Pn	Pn	13 21 54.9	-1.8
J26L	Joseph Creek	12.22	41	P	Pn	13 21 54.5	-2.2
	baz=235						
COLD	Coldfoot	12.25	22	Pn	Pn	13 21 57.2	+0.3
COLD	Coldfoot	12.25	22	P	Pn	13 21 58.4	+1.6
	baz=211,SNR=67						
YUK3	Moose Creek	12.35	55	P	Pn	13 21 58.0	-0.5
	baz=252,SNR=194						
BVCY	Beaver Creek	12.37	52	P	Pn	13 21 58.4	-0.2
	baz=248,SNR=107						
BCPM	Bancas Point	12.37	64		Pn	13 21 57.2	-1.3
PNL	Peninsula	12.46	65	P	Pn	13 21 59.2	-0.5
	baz=263,SNR=80						
FYU	Fort Yukon	12.98	31	Pn	Pn	13 22 03.7	-2.3
YUK4	Talbot Arm	13.09	58	P	Pn	13 22 07.9	+0.3
	baz=256,SNR=113						
YUK6	Outpost Mounta	13.14	60	P	Pn	13 22 08.6	+0.2
	baz=258,SNR=170						
EGAK	Eagle	13.25	42		Pn	13 22 06.5	-2.9
EGAK	Eagle	13.25	42	P	Pn	13 22 07.5	-1.9
	baz=239						
HYT	Haines Junctio	13.54	61	Pn	Pn	13 22 13.1	-0.1
HYT	Haines Junctio	13.54	61	P	Pn	13 22 13.1	-0.1
	baz=260,SNR=249						
TOLK	Toolik Lake Re	13.58	20		P	13 22 15.6	-0.1
TOLK	Toolik Lake Re	13.58	20	P	P	13 22 15.9	+0.2
	baz=210,SNR=77						
DAWY	Dawson	13.61	46	Pn	Pn	13 22 12.6	-1.4
DAWY	Dawson	13.61	46	P	Pn	13 22 12.9	-1.0
	baz=244,SNR=542						
BMAR	Burnt Mountain	13.77	29	Pn	Pn	13 22 13.6	-2.3
M30M	Minto, Yukon	14.22	54	Pn	Pn	13 22 21.4	-0.2
M30M	Minto, Yukon	14.22	54	P	Pn	13 22 21.8	+0.2
	baz=254,SNR=76						
J29M	Klondike Camp	14.23	46	P	P	13 22 23.6	+0.5
	baz=245,SNR=7.2						
SHEM	Shemya Is, Ala	14.27	265	P	Pn	13 22 21.4	-0.7
	comp=Z,44nm,0.3s,baz=48,slow=4.1,SNR=21						
SMY	Shemya	14.27	265	P	Pn	13 22 21.7	-0.4
SMY	Shemya	14.27	265	Pn	Pn	13 22 21.7	-0.4
N31M	Braeburn, Yuko	14.47	58		Pn	13 22 24.5	0.0
N31M	Braeburn, Yuko	14.47	58	P	P	13 22 25.2	-0.4
	baz=259,SNR=367						
SKAG	Skagway	14.52	67	P	P	13 22 25.7	-0.4
SKAG	Skagway	14.52	67	P	P	13 22 25.6	-0.4
	baz=268,SNR=57						
I29M	Ogilvie Camp,	14.59	42	Pn	Pn	13 22 24.4	-1.6
I29M	Ogilvie Camp,	14.59	42	P	Pn	13 22 25.5	-0.5
	baz=242,SNR=81						
SIT	Sitka	14.68	76	P	P	13 22 27.7	-0.2
SIT	Sitka	14.68	76		P	13 22 27.7	-0.2
SIT	Sitka	14.68	76	P	P	13 22 28.2	+0.2
	baz=277,SNR=15						
BESE	Bessie Mountai	14.78	70		P	13 22 29.0	-0.1
WHY	Whitehorse	14.80	62	P	P	13 22 29.2	-0.2
WHY	Whitehorse	14.80	62	P	P	13 22 29.9	+0.5
	baz=264,SNR=184						
MAYO	Mayo, Yukon	14.90	50	P	P	13 22 30.8	+0.5
	baz=252,SNR=68						
JIS	Juneau Island	15.05	71	P	P	13 22 32.0	0.0
A21K	Barrow	15.21	7		Pn	13 22 33.6	+0.1
A21K	Barrow	15.21	7	P	P	13 22 35.6	+1.9
	baz=191,SNR=8.1						
M31M	Drury Creek, Y	15.24	56	P	P	13 22 34.8	+0.7
M31M	Drury Creek, Y	15.24	56	P	P	13 22 35.3	+1.2
	baz=258,SNR=278						
FARO	Faro, Yukon	15.72	56	P	Pn	13 22 41.1	+1.3
	baz=260,SNR=522						
P33M	Teslin, Yukon	15.80	64		Pn	13 22 41.9	+1.1
P33M	Teslin, Yukon	15.80	64	P	Pn	13 22 42.4	+1.6
	baz=267,SNR=98						
CRAG	Craig	16.21	81	P	Pn	13 22 47.2	+1.6
CRAG	Craig	16.21	81	P	Pn	13 22 47.8	+2.2
	baz=284,SNR=8.1						
WRAK	Wrangell Islan	16.41	77	P	Pn	13 22 49.6	+1.6
WRAK	Wrangell Islan	16.41	77	P	Pn	13 22 50.1	+2.1
	baz=281,SNR=12						
MMPY	Sheldon Lake,	16.74	55	P	Pn	13 22 52.0	+0.1
	baz=261,SNR=248						
DLBC	Dease Lake	17.32	70	P	Pn	13 22 59.4	+0.6
	comp=Z,1.9nm,0.3s,baz=284,slow=11,SNR=161						
DLBC				S	S	13 26 11.2	+5.2
	comp=Z,0.2nm,0.3s,baz=282,slow=20,SNR=2.1						
DLBC				ScP	ScP	13 30 42.2	-0.1
	comp=Z,0.1nm,0.3s,baz=291,slow=5.5,SNR=4.1						
DLBC	Dease Lake	17.32	70	Pn	Pn	13 22 59.3	+0.6
DLBC					ScP	13 30 43.0	+0.7
INK	Inuvik	17.65	36	P	P	13 22 59.8	-0.6
	comp=Z,1.8nm,0.3s,baz=225,slow=11,SNR=61						
INK				S	S	13 26 05.8	-6.5
	baz=90,slow=16,SNR=2.5						
INK	Inuvik	17.65	36	P	P	13 22 58.8	-1.6
INK				pmax	pmax		
	comp=Z,130nm,0.9s						
INK	Inuvik	17.65	36	P	P	13 22 58.8	-1.6
INK	Inuvik	17.65	36	P	P	13 22 59.2	-1.2
	baz=240,SNR=151						
WTLY	Watson Lake, Y	17.81	64	P	Pn	13 23 03.9	-0.6
	baz=271						
TGTN	Hyland Airport	18.05	59	P	Pn	13 23 06.5	-0.9
	baz=267,SNR=205						
RUBB	Prince Rupert	18.14	83	Pn	Pn	13 23 07.8	-0.5
HG4B	Hotspring	18.38	90	P	P	13 23 08.6	0.0
BILL	Bilibino	18.57	322*c*	*i*P	Pn	13 23 12.1	-1.1
BILL				pmax	pmax		
	comp=Z,57nm,1.1s						
BILL	Bilibino	18.57	322	P	P	13 23 11.7	+1.3
BBB	Bella Bella	20.14	88	P	P	13 23 29.6	+2.2
	comp=Z,19nm,1.0s,baz=274,slow=17,SNR=1.8						
C36M	Paulatuk	21.21	37	P	P	13 23 35.9	-2.6
C36M				IAmb	IAmb	13 23 39.8	
	comp=Z,47nm,1.2s						
C36M	Paulatuk	21.21	37	P	P	13 23 36.5	-1.9
	baz=250,SNR=33						
A36M	Sachs Harbour	21.86	30	P	P	13 23 44.3	-0.7
A36M	Sachs Harbour	21.86	30	P	P	13 23 44.6	-0.4
	baz=243,SNR=92						
PET	Petropavlovsk	22.72	278	*e*P	P	13 23 52.1	-1.1
PET				*e**SP	sP	13 24 54.4	-1.9
PET				*e*S	S	13 27 42.1	-3.3
PET						13 28 44.6	
PET				pmax	pmax		
	comp=Z,81nm,1.5s						
PET				pmax	pmax		
	comp=Z,100nm,10.5s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
PET	Petropavlovsk	22.72	278	P	P	13 23 51.9	-1.2
PEA0B	Petropavlovsk-	23.21	279*c*	*i*P	P	13 23 57.1	-0.6
PEA0B	Petropavlovsk-	23.21	279	P	P	13 23 57.0	-0.6
PETK	Petropavlovsk-	23.21	279	P	P	13 23 56.6	-1.0
	comp=Z,50nm,0.5s,baz=91,slow=9.1,SNR=128						
SEY	Seymchan	23.50	305	P	P	13 23 59.9	-0.2
	comp=Z,73nm,0.7s,baz=98,slow=8.3,SNR=361						
SEY				ScP	ScP	13 30 56.9	0.0
	comp=Z,1.9nm,0.7s,baz=126,slow=2.9,SNR=5.4						
CLRS	Cowichan Lake	24.00	92	P	P	13 24 04.0	-0.8
YKA	Yellowknife Ar	24.43	56	P	P	13 24 08.6	0.0
	comp=Z,12nm,0.6s,baz=277,slow=9.8,SNR=128						
YKA				pP	pP	13 24 50.0	+1.5

comp=Z,38nm,0.9s,baz=276,slow=10,SNR=9.8
YKA PcP **PcP** **13 27 41.6 +0.5**
comp=Z,0.9nm,0.6s,baz=295,slow=1.9,SNR=3.5
YKA ScP **ScP** **13 30 59.5 0.0**
comp=Z,3.9nm,0.7s,baz=285,slow=3.0,SNR=17
YKA **Yellowknife Ar** **24.43 56** *i* P **P** **13 24 08.6 0.0**
YKA pmax pmax
comp=Z,14nm,0.6s
YKA **Yellowknife Ar** **24.43 56** P **P** **13 24 08.5 -0.1**
MA2 **Magadan** **24.80 297** P **P** **13 24 12.1 +0.1**
comp=Z,55nm,0.6s,baz=78,slow=10,SNR=222
MA2 **Magadan** **24.80 297** *c i* P **P** **13 24 12.6 +0.7**
MA2 pmax pmax
comp=Z,51nm,0.6s
MA2 **Magadan** **24.80 297** P **P** **13 24 12.4 +0.4**
SKR **Severo-Kuril's** **25.18 275** *c i* P **P** **13 24 14.2 -1.2**
B05A **Bryant** **25.44 91** P **P** **13 24 20.0 +2.2**
baz=303
E04D **Cinebar** **26.16 95** P **P** **13 24 27.5 +3.3**
baz=306
H04D **Lebanon** **27.32 99** P **P** **13 24 37.0 +2.4**
baz=309
H04A **Detroit Lake** **27.52 98** P **P** **13 24 36.8 +0.3**
G05D **Wamic, OR** **27.65 96** P **P** **13 24 40.0 +2.4**
baz=308
EDM **Edmonton** **27.80 76** P **P** **13 24 39.6 +0.7**
EDM pmax pmax
comp=Z,12nm,0.8s
EDM **Edmonton** **27.80 76** P **P** **13 24 39.6 +0.7**
EDM IAmb IAmb 13 24 41.4
comp=Z,12nm,0.8s
D08A **Wollman Farm,** **27.89 91** P **P** **13 24 39.7 0.0**
D08A IAmb IAmb 13 24 42.2
comp=Z,9.7nm,1.0s
I04A **Tendick Farm,** **27.97 100** P **P** **13 24 43.0 +2.5**
baz=310
F07A **Phinny Hill Vi** **28.02 94** P **P** **13 24 40.7 -0.1**
NEW **Newport** **28.21 87** P **P** **13 24 44.4 +1.9**
comp=Z,7.8nm,0.7s,baz=305,slow=8.8,SNR=23
NEW ScP **ScP** **13 31 11.8 +0.8**
comp=Z,2.4nm,0.7s,baz=311,slow=3.3,SNR=5.3
NEW **Newport** **28.21 87** P **P** **13 24 43.0 +0.4**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW **Newport** **28.21 87** P **P** **13 24 43.0 +0.4**
NEW IAmb IAmb 13 24 46.2
comp=Z,7.9nm,0.8s
NEW **Newport** **28.21 87** P **P** **13 24 44.8 +2.2**
baz=303,SNR=7.5
I05D **Terrebonne, OR** **28.21 98** P **P** **13 24 45.4 +2.8**
baz=309,SNR=5.7
L02E **Cave Junction** **28.41 104** P **P** **13 24 43.6 -0.8**
J04D **Umpqua Nationa** **28.50 100** P **P** **13 24 48.5 +3.1**
baz=311,SNR=5.4
J05D **Fort Rock, OR** **28.95 99** P **P** **13 24 52.5 +3.2**
baz=311,SNR=14
L04D **Klamath Falls** **29.08 102** P **P** **13 24 53.2 +2.8**
baz=312
K04D **Chiloquin, OR** **29.10 101** P **P** **13 24 53.6 +3.0**
baz=312
YBH **Yreka Blue Hor** **29.19 103** P **P** **13 24 53.0 +1.7**
comp=Z,6.0nm,0.8s,baz=333,slow=7.6,SNR=10.0
M02C **Callahan** **29.35 104** P **P** **13 24 52.7 0.0**
M02C IAmb IAmb 13 24 56.4
comp=Z,13nm,0.9s
M02C **Callahan** **29.35 104** P **P** **13 24 55.8 +3.1**
baz=314
I07A **Izee** **29.39 96** P **P** **13 24 55.0 +1.9**
I07A IAmb IAmb 13 24 56.5
comp=Z,16nm,0.8s
WALA **Waterton Lakes** **29.55 84** P **P** **13 24 55.5 +1.0**
M04C **Macdoel** **29.63 102** P **P** **13 24 58.3 +3.0**
baz=313,SNR=10
N02D **Trinity Center** **29.72 104** P **P** **13 24 59.1 +3.1**
baz=314
JTMT **Jette** **30.07 86** P **P** **13 25 00.4 +1.3**
O02D **Mt. Diablo Mer** **30.24 106** P **P** **13 25 03.4 +2.8**
baz=315
MOD **Modoc Plateau** **30.39 100** P **P** **13 25 02.5 +0.6**
O03E **Paynes Creek** **30.69 104** P **P** **13 25 06.5 +2.0**
baz=315,SNR=6.0
PLID **Pearl Lake** **30.70 92** P **P** **13 25 06.3 +1.5**
PLID IAmb IAmb 13 25 10.6
comp=Z,7.1nm,0.8s
MSO **Missoula** **30.80 87** P **P** **13 25 06.9 +1.5**
MSO IAmb IAmb 13 25 14.5
comp=Z,5.6nm,0.7s
MSO **Missoula** **30.80 87** P **P** **13 25 07.1 +1.7**
baz=305,SNR=7.9
RES **Resolute Bay** **30.89 29** P **P** **13 25 05.0 -0.7**
comp=Z,2.3nm,0.5s,baz=257,slow=10,SNR=23
RES **Resolute Bay** **30.89 29** P **P** **13 25 05.7 0.0**
RES pmax pmax
comp=Z,4.0nm,1.0s
RES **Resolute Bay** **30.89 29** P **P** **13 25 05.7 0.0**
WVOR **Wild Horse Val** **30.94 98** P **P** **13 25 08.7 +1.9**
WVOR pmax pmax
comp=Z,29nm,0.8s
WVOR **Wild Horse Val** **30.94 98** P **P** **13 25 08.7 +1.9**
TIXI **Tiksi** **31.68 326** P **P** **13 25 13.1 +0.4**
comp=Z,12nm,0.8s,baz=269,slow=23,SNR=43
TIXI pP **pP** **13 25 56.4 +1.1**
comp=Z,9.7nm,0.9s,baz=270,slow=23,SNR=5.0
TIXI ScP **ScP** **13 31 21.1 -0.7**
comp=Z,0.4nm,0.3s,baz=270,slow=23,SNR=3.9
TIXI **Tiksi** **31.68 326** *d i* P **P** **13 25 13.8 +1.1**
TIXI pmax pmax
comp=Z,19nm,1.0s
TIXI **Tiksi** **31.68 326** P **P** **13 25 13.0 +0.2**
TIXI IAmb IAmb 13 25 15.1
comp=Z,18nm,1.0s
MFID **Camas Ranch** **31.85 94** P **P** **13 25 15.6 +0.9**
LRM **Limekiln Ridge** **32.23 88** P **P** **13 25 18.1 0.0**
EGMT **Eagleton** **32.42 82** P **P** **13 25 19.3 -0.3**
EGMT IAmb IAmb 13 25 24.0
comp=Z,9.9nm,0.7s
EGMT **Eagleton** **32.42 82** P **P** **13 25 21.1 +1.5**
baz=304
HLID **Hailey** **32.55 93** P **P** **13 25 22.9 +2.1**
baz=310,SNR=13
BCYI **Bear Canyon** **32.63 91** P **P** **13 25 22.6 +0.9**
BOZ **Bozeman (W)** **32.82 87** P **P** **13 25 25.1 +2.0**
baz=307,SNR=9.3
YERR **Yerington** **33.01 103** P **P** **13 25 23.9 -1.0**
FFC **Flin Flon** **33.11 67** P **P** **13 25 25.5 +0.1**
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC **Flin Flon** **33.11 67** P **P** **13 25 25.5 +0.1**
QLMT **Earthquake Lak** **33.40 88** P **P** **13 25 29.9 +1.6**
KVN **Kaiserville** **33.58 102** P **P** **13 25 31.0 +1.2**
KVN pmax pmax
comp=Z,15nm,0.7s
KVN **Kaiserville** **33.58 102** P **P** **13 25 31.0 +1.2**
KVN IAmb IAmb 13 25 32.5
comp=Z,15nm,0.7s
RYN **Ryan** **33.65 103** P **P** **13 25 31.6 +1.2**
RYN IAmb IAmb 13 25 33.6
comp=Z,28nm,1.0s
YHH **Holmes Hill** **33.75 88** P **P** **13 25 32.5 +1.2**
UGL **Uglegorsk** **33.76 282** *e* P **P** **13 25 31.6 +0.6**
UGL pmax pmax
comp=Z,80nm,1.1s
YMR **Madison River** **33.76 88** P **P** **13 25 32.6 +1.2**
YAK **Yakutsk** **33.91 308** P **P** **13 25 32.1 0.0**
comp=Z,110nm,0.6s,baz=137,slow=0.2,SNR=101
YAK **Yakutsk** **33.91 308** *c i* P **P** **13 25 32.1 0.0**
YAK *e* PP **pP** **13 26 13.3 -1.6**
YAK *e* 13 26 53.8
YAK *e* 13 28 05.0
YAK *e* S **S** **13 30 41.5 +0.9**
YAK *e* 13 35 28.8
YAK pmax pmax
comp=Z,164nm,0.7s
YAK pmax pmax
comp=N,17nm,0.8s
YAK pmax pmax
comp=E,28nm,0.8s
YAK pmax pmax
comp=Z,22nm,1.8s
YAK pmax pmax
comp=N,32nm,1.9s
YAK pmax pmax
comp=E,28nm,1.9s
YAK smax smax
comp=N,21nm,1.4s
YAK smax smax
comp=E,28nm,1.6s
YAK **Yakutsk** **33.91 308** P **P** **13 25 31.7 -0.4**
NVAR **Mina Array Bea** **33.91 103** P **P** **13 25 35.0 +2.2**
comp=E,16nm,0.6s,baz=308,slow=8.1,SNR=74
NVAR pP **pP** **13 26 17.8 +2.1**
comp=E,4.4nm,0.7s,baz=301,slow=8.0,SNR=2.6
NVAR ScP **ScP** **13 31 30.4 0.0**
comp=E,0.4nm,0.3s,baz=292,slow=4.8,SNR=3.9
LHV **Little Huntoon** **33.93 104** P **P** **13 25 34.4 +1.8**
ELK **Elko** **33.96 97** P **P** **13 25 35.6 +2.4**
comp=E,13nm,0.7s,baz=313,slow=8.7,SNR=59
ELK **Elko** **33.96 97** P **P** **13 25 34.4 +1.2**
ELK pmax pmax
comp=Z,18nm,0.9s
ELK **Elko** **33.96 97** P **P** **13 25 34.4 +1.2**
ELK IAmb IAmb 13 25 36.5
comp=Z,18nm,0.8s
NV11 **Mina Array Sit** **33.99 103** P **P** **13 25 34.7 +1.3**
NV11 IAmb IAmb 13 25 36.0
comp=Z,12nm,0.7s
OMMB **Old Mammoth Mi** **34.13 105** P **P** **13 25 36.0 +1.2**
H17A **Grant Village** **34.15 88** P **P** **13 25 36.7 +1.9**
H17A IAmb IAmb 13 25 38.8
comp=Z,12nm,0.6s
H17A **Grant Village** **34.15 88** P **P** **13 25 38.5 +3.7**
baz=309,SNR=17
MLAC **Mammoth, Mammo** **34.21 105** P **P** **13 25 38.8 +3.5**
baz=317
RLMT **Red Lodge** **34.42 86** P **P** **13 25 38.5 +1.5**
RLMT IAmb IAmb 13 25 40.5
comp=Z,8.1nm,0.7s
RLMT **Red Lodge** **34.42 86** P **P** **13 25 39.6 +2.5**
baz=308,SNR=16
TPAW **Teton Pass** **34.52 90** P **P** **13 25 38.9 +0.9**
YSS **Yuzh-Sakhalins** **34.61 278** *e* P **P** **13 25 38.1 -0.2**
TPH **Tonopah** **34.76 102** P **P** **13 25 40.7 +0.7**
TPH pmax pmax
comp=Z,158nm,0.8s
TPH **Tonopah** **34.76 102** P **P** **13 25 40.7 +0.7**
TIN **Tinemaha, Big** **34.96 105** P **P** **13 25 44.5 +3.0**
baz=312,SNR=5.7
BGU **Big Grassy Mou** **35.06 95** P **P** **13 25 43.2 +0.8**
LCH **Last Change Ra** **35.14 104** P **P** **13 25 44.4 +1.2**
LCH IAmb IAmb 13 25 47.4
comp=Z,17nm,0.8s
FCC **Fort Churchill** **35.15 57** P **P** **13 25 42.7 0.0**
FCC pmax pmax
comp=Z,18nm,1.3s
FCC **Fort Churchill** **35.15 57** P **P** **13 25 42.7 0.0**
FCC IAmb IAmb 13 25 43.9
comp=Z,18nm,1.3s
LAO **LASA Array** **35.15 82** P **P** **13 25 45.3 +2.2**
baz=306,SNR=6.1
SMMC **Simmler** **35.32 109** P **P** **13 25 47.4 +2.8**
baz=320
VES **Vestal, Richgr** **35.40 107** P **P** **13 25 47.3 +2.1**
baz=319,SNR=8.7
R11A **Troy Canyon, C** **35.45 100** P **P** **13 25 46.7 +0.8**
R11A **Troy Canyon, C** **35.45 100** P **P** **13 25 47.8 +2.0**
baz=316,SNR=15
CWC **Cottonwood Cre** **35.49 105** P **P** **13 25 48.7 +2.5**
baz=318
DUG **Dugway, Tooele** **35.68 96** P **P** **13 25 48.9 +1.1**
DUG pmax pmax
comp=Z,21nm,1.3s
DUG **Dugway, Tooele** **35.68 96** P **P** **13 25 48.9 +1.1**
DUG IAmb IAmb 13 25 50.8
comp=Z,21nm,1.2s
DUG **Dugway, Tooele** **35.68 96** P **P** **13 25 49.8 +2.0**
baz=313,SNR=10.0
BW06 **Boulder Array** **35.76 90** P **P** **13 25 49.8 +1.3**
BW06 IAmb IAmb 13 25 51.9
comp=Z,9.7nm,0.5s
BW06 **Boulder Array** **35.76 90** P **P** **13 25 50.3 +1.8**
baz=310,SNR=18
PD31 **Pinedale Array** **35.76 90** P **P** **13 25 50.0 +1.5**
PD31 IAmb IAmb 13 25 51.9
comp=Z,8.2nm,0.5s
PDAR **Pinedale Array** **35.76 90** P **P** **13 25 50.3 +1.8**
comp=Z,6.4nm,0.4s,baz=309,slow=3.1,SNR=54
PDAR pP **pP** **13 26 33.9 +1.7**
comp=Z,2.8nm,0.8s,baz=325,slow=7.2,SNR=2.3
PDAR ScP **ScP** **13 31 35.6 -1.4**
comp=Z,1.3nm,0.6s,baz=291,slow=1.3,SNR=7.8
PDAR **Pinedale Array** **35.76 90** P **P** **13 25 49.8 +1.3**
GRNR **Gornyy** **35.86 288** ⇑ *i* P **P** **13 25 48.5 -0.5**
GRNR pmax pmax
comp=E,90nm,0.7s
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR pmax pmax
comp=N,7.0nm,0.6s
GRNR MLR MLR
comp=E,140nm,10.0s
GRNR MLR MLR
comp=Z,110nm,13.0s
ISA **Isabella, Lake** **35.86 107** P **P** **13 25 50.4 +1.1**
ISA pmax pmax
comp=Z,32nm,1.1s
ISA **Isabella, Lake** **35.86 107** P **P** **13 25 50.4 +1.1**
ISA IAmb IAmb 13 25 51.8
comp=Z,32nm,1.1s
ISA **Isabella, Lake** **35.86 107** P **P** **13 25 51.1 +1.8**
baz=319,SNR=14
CTU **Camp Tracy** **35.93 94** P **P** **13 25 50.6 +0.7**
MPMC **Manual Prospec** **36.09 105** P **P** **13 25 53.6 +2.3**
baz=318,SNR=18
TPNV **Topopah Spring** **36.11 103** P **P** **13 25 52.7 +1.3**
TPNV pmax pmax
comp=Z,21nm,0.8s
TPNV **Topopah Spring** **36.11 103** P **P** **13 25 52.7 +1.3**
TPNV IAmb IAmb 13 25 54.6
comp=Z,21nm,0.8s
TPNV **Topopah Spring** **36.11 103** P **P** **13 25 53.8 +2.4**
baz=317,SNR=11
JLU **Jordanelle** **36.16 94** P **P** **13 25 51.8 -0.1**
JLU IAmb IAmb 13 25 54.6
comp=Z,14nm,0.7s
NLU **North Lily Min** **36.26 95** P **P** **13 25 53.4 +0.7**
NLU IAmb IAmb 13 25 55.3
comp=Z,8.1nm,0.7s
PSUT **Pine Spring** **36.27 99** P **P** **13 25 53.3 +0.5**
PSUT IAmb IAmb 13 25 55.8
comp=Z,26nm,1.3s
PRN **Pahroc Range** **36.42 101** P **P** **13 25 54.6 +0.5**
GWY **Greenwater Val** **36.44 104** P **P** **13 25 55.4 +1.2**
ASAJ **Asahikawa** **36.45 274** P **P** **13 25 53.1 -0.9**
comp=Z,20nm,0.8s,baz=92,slow=1.3,SNR=18
QSM **Queen of Sheba** **36.50 105** P **P** **13 25 55.8 +1.2**
OSI **Osito Audit: C** **36.53 108** P **P** **13 25 57.5 +2.7**
baz=320
HPAH **Hawaii Prepara** **36.58 170** P **P** **13 25 55.1 -0.3**
EDW2 **Edwards Air Fo** **36.71 107** P **P** **13 25 58.1 +1.6**
baz=319
TULEG **Thule** **36.86 23** P **P** **13 25 56.7 -0.4**
POHA **Pohakuloa** **36.86 170** P **P** **13 25 57.6 -0.4**
HMH **Humu'ula Sheep** **37.02 170** P **P** **13 26 00.1 +0.7**
SHPR **Sheep Range** **37.02 102** P **P** **13 26 00.6 +1.4**
GSC **Goldstone, Bar** **37.03 105** P **P** **13 26 00.9 +1.8**
GSC pmax pmax
comp=Z,51nm,1.4s
GSC **Goldstone, Bar** **37.03 105** P **P** **13 26 00.9 +1.8**
GSC **Goldstone, Bar** **37.03 105** P **P** **13 26 01.4 +2.2**
baz=319,SNR=10
MLH **Mauna Loa** **37.14 169** P **P** **13 26 01.1 +0.8**
TMUT **Trail Mountain** **37.20 95** P **P** **13 26 02.6 +1.8**
TMUT IAmb IAmb 13 26 03.9
comp=Z,21nm,0.9s
MSU **Marysvale** **37.21 97** P **P** **13 26 00.9 +0.1**
MSU **Marysvale** **37.21 97** P **P** **13 26 00.9 +0.1**
CCUT **Cedar City** **37.24 99** P **P** **13 26 02.6 +1.5**
CCUT IAmb IAmb 13 26 03.6
comp=Z,8.6nm,0.8s
AIN **Ainahou** **37.25 170** P **P** **13 26 01.9 +0.7**
PUH **Pauahi** **37.27 169** P **P** **13 26 02.3 +1.0**
P17A **Butcher Ranch,** **37.33 95** P **P** **13 26 03.3 +1.6**
P17A IAmb IAmb 13 26 04.1
comp=Z,8.4nm,0.7s
TUQ **Turquoise Moun** **37.40 104** P **P** **13 26 04.4 +2.1**
baz=318
Q16A **Castle Valley** **37.48 96** P **P** **13 26 04.9 +1.9**
Q16A IAmb IAmb 13 26 07.1
comp=Z,17nm,0.7s
P18A **Preston Nutter** **37.50 94** P **P** **13 26 05.3 +2.0**
P18A IAmb IAmb 13 26 07.2
comp=Z,14nm,0.9s
ERM **Erimo** **37.50 271** ⇓ *i* P **P** **13 26 02.8 -0.1**
ERM pmax pmax
comp=Z,99nm,1.5s
ERM **Erimo** **37.50 271** P **P** **13 26 01.6 -1.3**
K22A **Casper** **37.53 87** P **P** **13 26 04.4 +1.0**
K22A IAmb IAmb 13 26 05.7
comp=Z,17nm,1.3s
K22A **Casper** **37.53 87** P **P** **13 26 04.7 +1.3**
baz=311
HEC **Hector,Ludlow** **37.64 105** P **P** **13 26 06.4 +2.1**
baz=319,SNR=13
LCMT **Little Creek M** **37.70 100** P **P** **13 26 06.4 +1.6**
LCMT IAmb IAmb 13 26 07.9
comp=Z,13nm,0.8s
SRU **San Rafael Swe** **37.70 95** P **P** **13 26 06.6 +1.7**
SRU pmax pmax
comp=Z,46nm,0.8s
SRU **San Rafael Swe** **37.70 95** P **P** **13 26 06.5 +1.7**
RWWY **Rawlins** **37.78 89** P **P** **13 26 05.4 -0.2**
RWWY IAmb IAmb 13 26 12.2
comp=Z,8.7nm,0.7s
JEW **Eniwo** **37.91 274** P **P** **13 26 07.1 +0.9**
KNB **Kanab** **37.93 99** P **P** **13 26 08.3 +1.6**
KNB pmax pmax
comp=Z,12nm,0.7s
KNB **Kanab** **37.93 99** P **P** **13 26 08.3 +1.6**
KNB IAmb IAmb 13 26 09.5
comp=Z,12nm,0.7s
RSSD **Black Hills** **37.95 83** P **P** **13 26 08.3 +1.3**
RSSD pmax pmax
comp=Z,14nm,0.6s
RSSD **Black Hills** **37.95 83** P **P** **13 26 08.3 +1.3**
RSSD IAmb IAmb 13 26 09.8
comp=Z,14nm,0.6s
RSSD **Black Hills** **37.95 83** P **P** **13 26 08.6 +1.7**
baz=309
ELS **Elsinore Mount** **37.96 108** P **P** **13 26 08.1 +1.2**
ELS IAmb IAmb 13 26 08.9
comp=Z,9.9nm,0.8s
GMRC **Granite Mounta** **38.03 105** P **P** **13 26 09.6 +2.0**
baz=319,SNR=21
O20A **White River Ci** **38.26 92** P **P** **13 26 10.8 +1.2**
O20A **White River Ci** **38.26 92** P **P** **13 26 11.2 +1.7**
baz=313,SNR=40
BELC **Belle Mtn. Jos** **38.45 106** P **P** **13 26 12.7 +1.7**
baz=320,SNR=16
PFO **Pinyon Flats O** **38.50 107** P **P** **13 26 12.8 +1.3**
comp=Z,19nm,1.0s,baz=316,slow=7.3,SNR=13
PFO **Pinyon Flats O** **38.50 107** P **P** **13 26 12.6 +1.1**
PFO pmax pmax
comp=Z,50nm,1.3s
PFO **Pinyon Flats O** **38.50 107** P **P** **13 26 12.6 +1.1**
NEE2 **Needles Airpor** **38.61 104** P **P** **13 26 14.3 +2.1**
baz=319,SNR=8.2
ULM **Lac du Bonnet** **38.64 70** P **P** **13 26 12.8 +0.5**
comp=Z,4.1nm,0.3s,baz=312,slow=7.9,SNR=14
ULM pP **pP** **13 26 57.2 +1.2**
comp=Z,18nm,0.9s,baz=306,slow=8.8,SNR=9.0
ULM ScP **ScP** **13 31 47.0 -0.5**
comp=Z,1.8nm,0.5s,baz=319,slow=3.7,SNR=4.4
ULM **Lac du Bonnet** **38.64 70** P **P** **13 26 11.9 -0.4**
ULM 13 31 47.0
ULM pmax pmax
comp=Z,9.0nm,0.9s
ULM **Lac du Bonnet** **38.64 70** P **P** **13 26 11.9 -0.4**
U15A **North Rim** **38.65 100** P **P** **13 26 14.2 +1.3**
U15A IAmb IAmb 13 26 16.0
comp=Z,24nm,1.0s
109C **Camp Elliot, M** **38.71 108** P **P** **13 26 15.4 +2.3**
baz=321
W13A **Hualapai Mount** **38.76 102** P **P** **13 26 15.1 +1.4**
W13A IAmb IAmb 13 26 16.2
comp=Z,11nm,0.7s
IRM **Iron Mountain** **38.79 105** P **P** **13 26 15.8 +2.0**
baz=319,SNR=40
ZEA **Zeya** **38.95 297** *ce* P **P** **13 26 14.5 -0.3**
ZEA *e* 13 26 59.1
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,60nm,0.7s
BC3 **Big Chuckawall** **39.00 106** P **P** **13 26 17.2 +1.6**
baz=320,SNR=10
N23A **Red Feather La** **39.02 89** P **P** **13 26 17.5 +1.6**
N23A **Red Feather La** **39.02 89** P **P** **13 26 17.6 +1.6**
baz=312
BAR **Barrett** **39.10 108** P **P** **13 26 16.6 +0.2**
BAR IAmb IAmb 13 26 19.4
comp=Z,37nm,1.1s
PV11 **David Mesa, Pa** **39.19 94** P **P** **13 26 18.2 +1.0**
PV11 IAmb IAmb 13 26 19.8
comp=Z,37nm,1.3s
KLR **Kul'dur** **39.22 288** P **P** **13 26 16.1 -0.9**
comp=Z,9.3nm,0.7s,baz=61,slow=8.9,SNR=19
KLR **Kul'dur** **39.22 288** *c i* P **P** **13 26 16.2 -0.9**
KLR pmax pmax
comp=Z,28nm,1.4s
PDMCI **Parker Dam,Lak** **39.22 104** P **P** **13 26 19.1 +1.8**
baz=319,SNR=7.9
PV07 **Paradox Valley** **39.22 94** P **P** **13 26 18.5 +1.0**
PV07 IAmb IAmb 13 26 26.9
comp=Z,9.1nm,0.8s
PV13 **Radium Mtn., P** **39.32 94** P **P** **13 26 19.2 +0.9**
PV13 IAmb IAmb 13 26 20.7
comp=Z,24nm,0.7s
SWSC **Sam W. Stewart** **39.36 107** P **P** **13 26 20.4 +1.9**
baz=320
PV15 **Paradox Valley** **39.38 94** P **P** **13 26 20.0 +1.1**
PV15 IAmb IAmb 13 26 21.8
comp=Z,17nm,0.7s
CBX **Cerro Bola** **39.39 108** P **P** **13 26 20.9 +2.0**
CBX IAmb IAmb 13 26 21.9
comp=Z,14nm,0.7s
IKP **In-Ko-Pah, Jac** **39.43 107** P **P** **13 26 21.0 +1.9**
baz=321
BLYC **Blythe** **39.43 105** P **P** **13 26 20.6 +1.6**
YUH **Yuha Desert** **39.53 107** P **P** **13 26 20.6 +0.8**
YUH IAmb IAmb 13 26 22.6
comp=Z,13nm,0.8s
GLA **Glamis** **39.80 106** P **P** **13 26 23.5 +1.3**
GLA pmax pmax
comp=Z,38nm,1.1s
GLA **Glamis** **39.80 106** P **P** **13 26 23.4 +1.3**
GLA IAmb IAmb 13 26 25.0
comp=Z,38nm,1.1s
GLA **Glamis** **39.80 106** P **P** **13 26 24.2 +2.0**
baz=320,SNR=7.9
AGMN **Agassiz Nation** **39.80 73** P **P** **13 26 22.5 +0.6**
AGMN **Agassiz Nation** **39.80 73** P **P** **13 26 23.1 +1.2**
baz=307,SNR=5.9
WUAZ **Wupatki** **39.82 100** P **P** **13 26 24.3 +1.9**
WUAZ IAmb IAmb 13 26 25.5
comp=Z,25nm,1.2s
WUAZ **Wupatki** **39.82 100** P **P** **13 26 24.7 +2.3**
baz=317,SNR=5.4
NEEM **North Greenlan** **39.93 19** *i* P **P** **13 26 22.3 -0.6**
NEEM IAmb IAmb 13 26 24.3
comp=Z,6.3nm,0.7s
ISCO **Idaho Springs** **39.96 90** P **P** **13 26 25.7 +2.0**
baz=313
Y14A **Wickenburg** **40.11 103** P **P** **13 26 25.7 +1.0**
Y14A IAmb IAmb 13 26 27.4
comp=Z,16nm,0.7s
MVCO **Mesa Verde** **40.18 95** P **P** **13 26 26.2 +0.8**
MVCO **Mesa Verde** **40.18 95** P **P** **13 26 26.8 +1.4**
baz=316,SNR=9.9
113A **Mohawk Valley,** **40.59 105** P **P** **13 26 29.6 +1.1**
113A IAmb IAmb 13 26 31.2
comp=Z,45nm,1.5s
X16A **Lo Mia Camp, P** **40.60 101** P **P** **13 26 30.2 +1.3**
X16A IAmb IAmb 13 26 32.3
comp=Z,18nm,0.8s
S22A **4UR Ranch, Cre** **40.72 93** P **P** **13 26 32.7 +2.8**
baz=315
Q24A **Divide** **40.80 90** P **P** **13 26 31.5 +1.0**
Q24A **Divide** **40.80 90** P **P** **13 26 32.5 +2.0**
baz=314
B35A **Bob, Littlefor** **40.90 71** P **P** **13 26 30.9 +0.1**
B35A IAmb IAmb 13 26 32.2
comp=Z,12nm,0.8s
W18A **Petrified Fore** **41.02 99** P **P** **13 26 33.7 +1.5**
baz=318
OGNE **Ogallala** **41.16 86** P **P** **13 26 35.1 +1.9**
baz=312

X18A Snowflake 41.34 99 P P 13 26 35.5 +0.7
X18A IAmb IAmb 13 26 38.0
comp=Z,25nm,0.8s
SDCO Great Sand Dun 41.46 92 P P 13 26 36.9 +1.0
SDCO Great Sand Dun 41.46 92 P P 13 26 37.8 +1.8
baz=315,SNR=9.9
JMM Marumori 41.67 269 P P 13 26 36.1 -1.2
JMM IAmb IAmb 13 26 56.6
comp=Z,37nm,1.3s
214A Organ Pipe Nat 41.73 105 P P 13 26 39.2 +1.4
214A IAmb IAmb 13 26 40.7
comp=Z,21nm,0.7s
214A Organ Pipe Nat 41.73 105 P P 13 26 39.8 +2.0
baz=320,SNR=21
KSCO Kaye Shedlock' 42.17 88 P P 13 26 42.4 +1.0
KSCO Kaye Shedlock' 42.17 88 P P 13 26 43.5 +2.0
baz=314
USRK Ussuriysk Ar. 42.23 282 P P 13 26 39.9 -1.8
comp=Z,1.4nm,0.6s,baz=45,slow=11,SNR=1.9
USRK PcP **PcP 13 28 31.1 -0.3**
comp=Z,0.7nm,0.5s,baz=24,slow=1.3,SNR=4.8
ECSD EROS Data Cent 42.29 79 P P 13 26 42.4 +0.1
ECSD EROS Data Cent 42.29 79 P P 13 26 42.6 +0.4
baz=311
EYMN Ely 42.33 70 P P 13 26 42.9 +0.5
EYMN IAmb IAmb 13 26 44.4
comp=Z,13nm,0.8s
EYMN pP **pP 13 27 27.5 +0.6**
EYMN Ely 42.33 70 P P 13 26 43.5 +1.0
baz=308
T25A Trinidad 42.50 92 P P 13 26 45.1 +0.8
T25A Trinidad 42.50 92 P P 13 26 46.1 +1.9
baz=316,SNR=9.9
TUC Tucson 42.55 102 P P 13 26 45.7 +1.1
TUC pmax pmax
comp=Z,19nm,1.3s
TUC Tucson 42.55 102 P P 13 26 45.7 +1.1
TUC IAmb IAmb 13 26 47.7
comp=Z,19nm,1.3s
TUC Tucson 42.55 102 P P 13 26 46.7 +2.1
baz=320
F36A Milaca 42.57 74 P P 13 26 44.9 +0.4
BOD Bodaibo 42.83 308 *eP* **P 13 26 45.3 -1.1**
BOD *e* 13 32 53.5
BOD pmax pmax
comp=Z,53nm,0.7s
ANMO Albuquerque 42.95 96 P P 13 26 48.5 +0.6
comp=Z,2.7nm,0.6s,baz=321,slow=8.1,SNR=21
ANMO PcP **PcP 13 28 35.7 +1.4**
comp=Z,2.0nm,0.9s,baz=20,slow=2.3,SNR=3.6
ANMO Albuquerque 42.95 96*d* iP **P 13 26 48.0 +0.1**
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO Albuquerque 42.95 96 P P 13 26 48.7 +0.8
ANMO Albuquerque 42.95 96 P P 13 26 49.4 +1.5
baz=317
JSD Sado 42.96 271 P P 13 26 47.0 -0.7
E38A The Farm, Brul 43.14 72 P P 13 26 49.1 0.0
E38A IAmb IAmb 13 26 50.7
comp=Z,25nm,0.9s
JYT Yasato 43.18 267 P P 13 26 48.2 -1.3
FRB Frobisher Bay 43.22 40 P P 13 26 49.3 0.0
comp=Z,16nm,0.8s,baz=312,slow=8.4,SNR=30
FRB Frobisher Bay 43.22 40 P P 13 26 49.6 +0.3
FRB pmax pmax
comp=Z,21nm,0.9s
BNM Barren Site 43.45 97 P P 13 26 51.8 -0.2
BNX BinXian 43.69 287 ⇓P **P 13 26 52.9 -0.5**
BNX pmax pmax
comp=Z,32nm,1.0s
BNX pmax pmax
comp=Z,310nm,4.2s
MSHR Mys Shultsa 43.76 281⇑ *eP* **P 13 26 53.7 -0.2**
MSHR pmax pmax
comp=Z,13nm,0.8s
WAKE Wake Island 43.76 225 P P 13 26 54.2 0.0
CBKS Cedar Bluff 43.91 86 P P 13 26 55.9 +0.6
CBKS pmax pmax
comp=Z,21nm,0.7s
CBKS Cedar Bluff 43.91 86 P P 13 26 55.9 +0.6
CBKS IAmb IAmb 13 26 57.6
comp=Z,21nm,0.7s
121A Cookes Peak, D 44.02 99 P P 13 26 58.6 +2.1
baz=319
MAJO Matsushiro 44.06 269*c i* P **P 13 26 55.8 -0.7**
MAJO pmax pmax
comp=Z,46nm,1.5s
MAJO Matsushiro 44.06 269 P P 13 26 55.7 -0.7
MAJO IAmb IAmb 13 26 57.8
comp=Z,23nm,0.6s
MAT Matsushiro 44.06 269 P P 13 26 55.8 -0.7
MJAR Matsushiro Arr 44.06 269 P P 13 26 55.6 -0.9
comp=Z,13nm,0.6s,baz=26,slow=6.8,SNR=40
MJAR Matsushiro Arr 44.06 269 P P 13 26 55.6 -0.9
MJAR pmax pmax
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 44.06 269 P P 13 26 55.6 -0.9
MJB9 Matsu-Tunnel 44.06 269 P P 13 26 55.6 -0.8
319A Douglas 44.09 102 P P 13 26 56.6 -0.2
D41A Chassel 44.42 69 P P 13 27 00.1 +0.9
D41A IAmb IAmb 13 27 06.3
comp=Z,66nm,1.4s
G40A Rib Lake 44.73 72 P P 13 27 01.4 -0.3
N35A Tabor 44.75 81 P P 13 27 02.6 +0.7
NRIK Noril'sk 44.94 332 P P 13 27 02.8 -0.2
comp=Z,6.4nm,0.5s,baz=59,slow=8.0,SNR=11
NRIK pP **pP 13 27 48.8 +1.0**
comp=Z,22nm,0.9s,baz=57,slow=7.3,SNR=9.0
NRIK Noril'sk 44.94 332*ce* **P 13 27 03.9 +1.0**
NRIK pmax pmax
comp=Z,11nm,0.9s
NRIK Noril'sk 44.94 332 P P 13 27 03.0 0.0
NRIK pP **pP 13 27 49.1 +1.3**
DAG Danmarks Havn 45.14 11 P P 13 27 05.2 +0.8
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 45.14 11 *i* P **P 13 27 04.4 0.0**
DAG IAmb IAmb 13 27 06.6
comp=Z,5.4nm,0.6s
JGF Kuroka 45.22 269 P P 13 27 04.9 -0.7
JGF IAmb IAmb 13 27 06.6
comp=Z,24nm,0.7s
HIA Hailar 45.38 296 P P 13 27 05.8 -0.9
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 45.38 296 P P 13 27 05.8 -0.9
KSU1 Kansas State U 45.44 83 P P 13 27 07.8 +0.5
baz=314
INU Inuyama 45.59 269 P P 13 27 07.3 -1.2
SUMG Summit 45.64 21 P P 13 27 09.1 +0.2
SUMG Summit 45.64 21 *i* P **P 13 27 09.0 +0.2**
SUMG IAmb IAmb 13 27 11.1
comp=Z,6.5nm,1.1s
SUMG Summit 45.64 21 P P 13 27 09.1 +0.2
AMTX Amarillo 45.65 92 P P 13 27 09.6 +0.5
AMTX Amarillo 45.65 92 P P 13 27 10.2 +1.0
baz=317
SRIG Santa Rosalia 45.68 108 P P 13 27 10.1 +0.8
SRIG IAmb IAmb 13 27 12.4
comp=Z,35nm,1.4s
E43A Lone Tree Farm 45.69 69 P P 13 27 09.7 +0.6
E43A IAmb IAmb 13 27 28.3
comp=Z,25nm,1.2s
E43A pP **pP 13 27 53.8 -0.3**
JHJ Hachijo jima 2 45.70 265 P P 13 27 08.7 -0.7
comp=Z,109nm,0.8s,baz=49,slow=20,SNR=1.8
MSTX Muleshoe 45.72 93 P P 13 27 10.6 +0.9
MSTX Muleshoe 45.72 93 P P 13 27 11.0 +1.3
baz=318
SPITS Spitsbergen Ar 45.73 0 P P 13 27 08.6 -0.4
comp=Z,7.0nm,1.0s,baz=32,slow=8.5,SNR=5.8
MNTX Cornudas Mount 45.98 98 P P 13 27 12.1 +0.5
MNTX Cornudas Mount 45.98 98 P P 13 27 13.3 +1.7
baz=319,SNR=24
CN2 Changchun 46.02 286 *eP* **P 13 27 11.0 -0.8**
CN2 pmax pmax
comp=Z,30nm,1.0s
U32A Winter Ranch, 46.06 88 P 13 27 12.9 +0.7
JFWS Jewell Farm 46.28 75 P P 13 27 14.0 +0.1
JFWS pmax pmax
comp=Z,8.0nm,0.8s
JFWS Jewell Farm 46.28 75 P P 13 27 14.0 +0.1
I42A Draeger Farm, 46.34 73 P P 13 27 14.3 +0.1
L40A Anamosa 46.34 77 P P 13 27 14.0 -0.2
P38A Dawn 46.77 81 P P 13 27 17.2 -0.4
P38A IAmb IAmb 13 27 18.9
comp=Z,12nm,0.6s
SFJD Kangerlussuaq 46.86 30 P P 13 27 17.8 -0.1
comp=Z,8.0nm,0.7s,baz=319,slow=11,SNR=3.1
T35A Sooner Cattle 47.05 85 P P 13 27 19.6 -0.3
E46A Sault Ste Mari 47.09 68 P P 13 27 20.0 +0.1
E46A pP **pP 13 28 05.0 -0.3**
DBG Daneborg 47.15 13 *i* P **P 13 27 19.7 -0.3**
DBG IAmb IAmb 13 27 22.0
comp=Z,4.5nm,0.7s
WMOK Wichita Mounta 47.38 89 P P 13 27 23.4 +1.0
baz=317,SNR=10
P40A Paris 47.65 80 P P 13 27 24.1 -0.3
FNO Franklin 47.76 88 P 13 27 25.6 +0.3
FNO IAmb IAmb 13 27 27.0
comp=Z,18nm,0.6s
GLMI Grayling 47.97 69 P P 13 27 27.1 +0.3
GLMI IAmb IAmb 13 27 28.6
comp=Z,25nm,0.9s
JHS Saijyo 48.02 272 P P 13 27 26.7 -0.6
JHS IAmb IAmb 13 27 28.7
comp=Z,16nm,0.8s
ICESG Greenland Ices 48.08 24 *i* P **P 13 27 25.9 -1.8**
ICESG IAmb IAmb 13 27 28.1
comp=Z,6.7nm,1.0s
W35A Tecumseh 48.13 87 P 13 27 28.4 +0.2
W35A IAmb IAmb 13 27 29.1
comp=Z,10nm,0.5s
TUL1 Leonard 48.18 86 P P 13 27 28.6 0.0
TUL1 Leonard 48.18 86 P P 13 27 28.9 +0.4
baz=316,SNR=6.8
S39A Bolivar 48.26 82 P P 13 27 27.6 -1.5
R40A Maddies Statio 48.41 81 P P 13 27 29.3 -0.9
R40A IAmb IAmb 13 27 30.9
comp=Z,22nm,0.6s
HDIL Hopedale 48.43 77 pP 13 28 15.4 -0.5
ABTX Abilene, Hawle 48.47 92 P P 13 27 31.4 +0.6
ABTX IAmb IAmb 13 27 32.4
comp=Z,29nm,0.7s
ABTX Abilene, Hawle 48.47 92 P P 13 27 31.8 +1.0
baz=318,SNR=8.2
TX31 Lajitas Ar. Si 48.74 98 P P 13 27 33.4 +0.5
TX31 IAmb IAmb 13 27 35.3
comp=Z,48nm,1.1s
TX32 Lajitas Array 48.74 98 P P 13 27 33.4 +0.4
TXAR Lajitas Array 48.74 98 P P 13 27 34.0 +1.0
comp=Z,9.2nm,0.8s,baz=306,slow=5.7,SNR=97
TXAR pP **pP 13 28 20.2 +1.5**
comp=Z,3.5nm,0.7s,baz=324,slow=6.2,SNR=3.1
TXAR ScP **ScP 13 32 29.7 +0.6**
comp=Z,1.5nm,0.9s,baz=279,slow=4.8,SNR=6.0
TXAR Lajitas Array 48.74 98 P P 13 27 33.2 +0.2
TXAR Lajitas Array 48.74 98 P P 13 27 33.2 +0.2
HHAR Hobbs 48.94 84 P P 13 27 33.6 -0.7
P43A Skaggs, Pawnee 48.95 78 P P 13 27 34.0 -0.3
P43A IAmb IAmb 13 27 35.9
comp=Z,13nm,0.5s
P43A pP **pP 13 28 19.2 -0.8**
KS19 Wonju Array Si 49.11 279 P P 13 27 35.5 -0.1
KS19 IAmb IAmb 13 27 36.2
comp=Z,14nm,0.8s
KSRS Korea Array 49.11 278 P P 13 27 35.6 +0.1
comp=Z,8.1nm,0.6s,baz=44,slow=7.2,SNR=32
KSRS pP **pP 13 28 22.2 +1.1**
comp=Z,3.7nm,0.8s,baz=45,slow=6.8,SNR=4.4
KSRS PcP **PcP 13 28 55.5 -0.1**
comp=Z,1.6nm,0.6s,baz=45,slow=3.9,SNR=6.5
KSAR Wonju Array Be 49.14 278 P P 13 27 35.0 -0.8
KSAR Wonju Array Be 49.14 278 P 13 27 35.2 -0.6
KSAR Wonju Array Be 49.14 278 P P 13 27 35.0 -0.8
CCM Cathedral Cave 49.14 80 P P 13 27 35.2 -0.6
CCM Cathedral Cave 49.14 80 P P 13 27 35.2 -0.6
CCM Cathedral Cave 49.14 80 P P 13 27 35.4 -0.4
baz=316
MGMO Mountain Grove 49.23 82 P P 13 27 35.4 -1.1
VLDQ Val d'Or 49.35 62 P P 13 27 34.9 -2.3
VLDQ pP **pP 13 28 21.0 -1.9**
X37A Clayton 49.38 87 P 13 27 38.0 +0.3
X37A IAmb IAmb 13 27 39.0
comp=Z,15nm,0.6s
U40A Yellville 49.48 83 P P 13 27 37.7 -0.8
U40A Yellville 49.48 83 P P 13 27 37.9 -0.6
baz=316,SNR=5.8
SCHQ Schefferville 49.60 49 P P 13 27 39.5 +0.5
comp=Z,8.2nm,0.9s,baz=324,slow=7.3,SNR=13
SCHQ pP **pP 13 28 26.1 +1.3**
comp=Z,11nm,0.9s,baz=315,slow=7.9,SNR=5.4
SCHQ Schefferville 49.60 49 P P 13 27 38.9 -0.2
SCHQ **pP 13 28 24.2 -0.6**
FVM French Village 49.64 80 P P 13 27 39.3 -0.3
FVM pmax pmax
comp=Z,9.0nm,0.7s
FVM French Village 49.64 80 P P 13 27 39.2 -0.3
SFIN Lafayette 49.74 75 P P 13 27 40.7 +0.4
baz=315
W39A Magazine 49.82 85 P P 13 27 40.7 -0.2
W39A Magazine 49.82 85 P P 13 27 41.0 +0.1
baz=317,SNR=5.1
SLBS Sierra La Lagu 49.83 109 P P 13 27 42.1 +0.8
SLBS IAmb IAmb 13 27 43.8
comp=Z,29nm,1.3s
JCT Junction City 50.00 94 P P 13 27 42.6 +0.2
JCT pmax pmax
comp=Z,21nm,0.6s
JCT Junction City 50.00 94 P P 13 27 42.6 +0.2
JCT IAmb IAmb 13 27 43.8
comp=Z,21nm,0.6s
JCT Junction City 50.00 94 P P 13 27 43.1 +0.7
baz=320,SNR=15
N47A Urbana 50.14 74 P P 13 27 43.0 -0.3
N47A IAmb IAmb 13 27 47.6
comp=Z,15nm,1.0s
N47A pP **pP 13 28 28.8 -0.3**
WHTX Lake Whitney, 50.16 91 P P 13 27 43.9 +0.4
WHTX IAmb IAmb 13 27 45.2
comp=Z,15nm,0.7s
WHTX Lake Whitney, 50.16 91 P P 13 27 44.4 +0.9
baz=319
TJN Taejon 50.20 278⇓ *iP* **P 13 27 43.1 -0.7**
TJN Taejon 50.20 278 P P 13 27 43.3 -0.5
FCAR Ozark Folk Cen 50.23 83 P P 13 27 43.1 -0.9
FCAR IAmb IAmb 13 27 43.8
comp=Z,13nm,0.6s
SCO Scoresbysund 50.30 16 P P 13 27 45.0 +1.0
SCO pmax pmax
comp=Z,20nm,1.5s
SCO Scoresbysund 50.30 16 P P 13 27 45.0 +1.0
MIAR Mount Ida 50.41 85 P P 13 27 45.2 -0.2
MIAR pmax pmax
comp=Z,5.0nm,0.7s
MIAR Mount Ida 50.41 85 P P 13 27 45.2 -0.2
MIAR Mount Ida 50.41 85 P P 13 27 45.7 +0.3
baz=317,SNR=5.7
JTU Tsushima 50.43 275 P P 13 27 45.3 -0.2
S44A Carbondale 50.49 79 P P 13 27 45.1 -0.8
S44A pP **pP 13 28 32.2 +0.3**
SIUC Southern Illin 50.50 79 P P 13 27 45.7 -0.3
SIUC pP **pP 13 28 31.9 0.0**
PBMO Poplar Bluff 50.51 81 P P 13 27 45.2 -0.9
WHAR Wooly Hollow 50.58 84 P P 13 27 45.6 -1.0
LCAR Lake Charles 50.63 82 P P 13 27 46.3 -0.7
JNU Nakatsue 50.65 272 P P 13 27 46.0 -1.2
comp=Z,5.3nm,0.6s,baz=23,slow=5.7
JNU Nakatsue 50.65 272 P P 13 27 46.5 -0.8
JNU IAmb IAmb 13 28 12.7
comp=Z,23nm,1.3s
W41B Gary Mavity, V 50.68 84 P P 13 27 46.7 -0.7
W41B Gary Mavity, V 50.68 84 P P 13 27 46.7 -0.7
baz=317
SADO Sadowa 50.82 66 P P 13 27 48.0 -0.3
SADO pP **pP 13 28 34.2 -0.1**
X40A Basin Creek Fa 50.87 85 P P 13 27 48.4 -0.4
X40A Basin Creek Fa 50.87 85 P P 13 27 48.7 0.0
baz=318
XLT XiLinHaoTe 50.87 293⇑ *iP* **P 13 27 49.3 +0.5**
XLT pP pP 13 28 36.4 +1.6
XLT pmax pmax
comp=Z,51nm,0.7s
XLT pmax pmax
comp=Z,73nm,3.5s
P48A Milroy 51.30 75 P P 13 27 51.1 -0.9
P48A IAmb IAmb 13 27 54.5
comp=Z,12nm,0.8s
P48A **pP 13 28 38.0 -0.1**
WLAR White Oak Lake 51.30 86 P P 13 27 52.3 +0.3
WLAR IAmb IAmb 13 27 53.3
comp=Z,16nm,0.6s
WLAR pP **pP 13 28 36.7 -1.4**
DELO Deloro Mine 51.77 65 P P 13 27 55.3 -0.1
CCAR Cane Creek 51.88 84 P P 13 27 56.6 +0.4
833A Chaparral WMA, 51.88 95 P P 13 27 57.0 +0.6
833A IAmb IAmb 13 27 57.9
comp=Z,9.9nm,0.8s
833A Chaparral WMA, 51.88 95 P P 13 27 57.4 +1.0
baz=321
NATX Nacogdoches 51.89 89 P P 13 27 56.5 +0.1
NATX IAmb IAmb 13 27 57.9
comp=Z,17nm,0.6s
NATX Nacogdoches 51.89 89 P P 13 27 57.3 +0.9
baz=319
TRQ Mont Tremblant 52.08 62 P P 13 27 57.1 -0.6
TRQ IAmb IAmb 13 27 58.0
comp=Z,10nm,0.9s
TRQ pP **pP 13 28 42.9 -1.0**
J54A Appleton 52.13 67 P P 13 27 58.1 +0.1
J54A IAmb IAmb 13 27 59.5
comp=Z,18nm,0.6s
J54A **pP 13 28 44.6 +0.4**
M53A WI Miller and 52.39 70 P P 13 27 60.0 0.0
M53A WI Miller and 52.39 70 P P 13 28 00.2 +0.2
baz=316
WVT Waverly 52.41 80 P P 13 28 00.1 -0.1
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT Waverly 52.41 80 P P 13 28 00.1 -0.1
WVT Waverly 52.41 80 P P 13 28 00.7 +0.5
baz=317
ZAK Zakamensk 52.46 306 *eP* **P 13 27 59.6 -0.9**
ZAK *e* 13 28 46.8
ZAK *e* 13 30 02.1
ZAK pmax pmax
comp=Z,10.0nm,1.4s
PECO Prince Edward 52.50 65 P P 13 28 00.7 0.0
PECO IAmb IAmb 13 28 01.8
comp=Z,10nm,0.9s
PECO pP **pP 13 28 46.7 -0.2**
ULN Ulaanbaatar 52.52 302*c i* P **P 13 28 01.1 +0.1**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 52.52 302 P P 13 28 00.8 -0.2
ULN IAmb IAmb 13 28 02.0
comp=Z,20nm,1.1s
MOY Mondy 52.55 309 *eP* **P 13 28 01.8 +0.7**
J55A Hilton 52.56 66 P P 13 28 01.3 +0.1
J55A IAmb IAmb 13 28 02.8
comp=Z,24nm,0.8s
Q51A Peebles 52.73 74 P P 13 28 02.9 +0.4
Q51A IAmb IAmb 13 28 04.8
comp=Z,11nm,0.7s
Q51A pP **pP 13 28 47.5 -1.3**
R50A Paris 52.74 75 P P 13 28 02.8 +0.2
R50A **pP 13 28 48.9 0.0**
OXF Oxford 52.74 82 P P 13 28 02.6 0.0
OXF pmax pmax
comp=Z,38nm,0.6s
OXF Oxford 52.74 82 P P 13 28 02.6 0.0
OXF Oxford 52.74 82 P P 13 28 02.8 +0.2
baz=318,SNR=5.7
WVNY West Valley, N 52.77 68 P P 13 28 03.4 +0.6
WVNY IAmb IAmb 13 28 04.5
comp=Z,14nm,0.8s
SONM Songino Array 52.85 302 P P 13 28 03.9 +0.5
comp=Z,21nm,0.7s,baz=47,slow=6.6,SNR=81
SONM pP **pP 13 28 49.9 +0.1**
comp=Z,3.0nm,0.7s,baz=42,slow=6.6,SNR=2.5
SONM PP **PP 13 30 03.8 -0.9**
comp=Z,3.2nm,0.9s,baz=45,slow=6.3,SNR=4.3
SONM ScP **ScP 13 32 46.3 -0.2**
comp=Z,2.5nm,1.0s,baz=77,slow=2.0,SNR=6.9
SONM Songino Array 52.85 302 P **P 13 28 03.6 +0.2**
SONM *PP **pP 13 28 49.7 0.0**
SONM pmax pmax
comp=Z,22nm,0.7s
SONM Songino Array 52.85 302 P P 13 28 03.5 +0.2
SONM IAmb IAmb 13 28 04.9
comp=Z,22nm,0.7s
SONM pP **pP 13 28 49.7 0.0**
M54A Oil Creek Stat 52.87 69 P P 13 28 03.4 -0.1
M54A **pP 13 28 49.4 -0.5**
M54A Oil Creek Stat 52.87 69 P P 13 28 03.5 -0.1
baz=316
MMNY Mt. Morris Dam 52.90 67 P P 13 28 03.8 +0.1
MMNY IAmb IAmb 13 28 05.8
comp=Z,12nm,1.1s
J56A Wolcott 53.04 66 P P 13 28 04.3 -0.4
J56A IAmb IAmb 13 28 19.3
comp=Z,15nm,1.0s
N54A Moraine State 53.10 70 P P 13 28 04.9 -0.2
N54A IAmb IAmb 13 28 17.7
comp=Z,22nm,1.4s
LMQ La Malbaie 53.17 58 P P 13 28 04.9 -0.7
LMQ **pP 13 28 51.6 -0.3**
LONY Lake Ozonia 53.22 63 pP 13 28 52.0 -0.4
LONY Lake Ozonia 53.22 63 P P 13 28 05.2 -0.7
baz=316
U49A Red Boiling Sp 53.25 78 P P 13 28 06.1 -0.2
V48A Smith Brothers 53.25 79 pP 13 28 52.1 -0.7
CLTN Cedars of Leba 53.26 78 P P 13 28 06.6 +0.2
CLTN IAmb IAmb 13 28 10.1
comp=Z,14nm,0.8s
M55A Ridgway 53.37 68 P P 13 28 07.2 0.0
J57A Williamstown 53.38 65 P P 13 28 07.0 -0.1
J57A IAmb IAmb 13 28 08.7
comp=Z,18nm,1.1s
T50A Nancy 53.39 77 P P 13 28 07.4 +0.1
P53A Whipple 53.43 72 P P 13 28 07.0 -0.5
P53A IAmb IAmb 13 28 24.1
comp=Z,19nm,1.4s
O54A Avella 53.46 71 P P 13 28 07.4 -0.4
O54A IAmb IAmb 13 28 13.5
comp=Z,28nm,1.5s
L56A Greenwood 53.51 67 P P 13 28 08.4 +0.3
L56A IAmb IAmb 13 28 09.8
comp=Z,17nm,0.8s
L56A **pP 13 28 54.9 +0.3**
FRNY Flat Rock 53.55 62 pP 13 28 54.1 -0.7
BJI Beijing 53.58 289 P **P 13 28 08.5 -0.1**
BJI pmax pmax
comp=Z,9.0nm,0.6s
X48A Hartselle 54.09 80 pP pP 13 28 58.0 -0.9
D62A Allapoint, All 54.10 57 P P 13 28 12.1 -0.2
D62A IAmb IAmb 13 28 22.1
comp=Z,22nm,1.4s
D62A pP **pP 13 28 58.0 -0.9**
MCWV Mont Chateau 54.12 71 P P 13 28 12.3 -0.2
MCWV IAmb IAmb 13 28 29.6
comp=Z,27nm,1.5s
E62A Clayton Lake 54.22 58 P P 13 28 12.8 -0.4
E62A IAmb IAmb 13 28 40.5
comp=Z,23nm,1.4s
E62A **pP 13 28 58.6 -1.1**
BINY Binghamton 54.26 66 P P 13 28 13.8 +0.2
BINY IAmb IAmb 13 28 14.9
comp=Z,19nm,1.1s
BINY Binghamton 54.26 66 P P 13 28 14.4 +0.8
baz=316
ARCES ARCESS Array B 54.30 357 P P 13 28 14.3 +0.8
comp=Z,3.9nm,1.0s,baz=355,slow=7.2,SNR=1.9
M57A Sunshine Farm, 54.31 67 P P 13 28 13.5 -0.4
M57A pP **pP 13 29 00.5 0.0**
146A Union 54.34 83 P P 13 28 14.1 -0.2
O56A Blue Knob Stat 54.34 69 P P 13 28 14.0 -0.2
O56A **pP 13 28 58.6 -2.2**
O56A Blue Knob Stat 54.34 69 P P 13 28 14.3 0.0
baz=317
SSPA Standing Stone 54.43 69 P P 13 28 15.1 +0.3
SSPA IAmb IAmb 13 28 29.8
comp=Z,13nm,1.1s
SSPA Standing Stone 54.43 69 P P 13 28 15.5 +0.8
baz=317
TZTN Tazewell 54.44 76 P P 13 28 14.8 -0.1
TZTN IAmb IAmb 13 28 38.6
comp=Z,19nm,1.4s
TZTN pP **pP 13 29 01.8 +0.2**
Z47A Carrollton 54.46 82 P P 13 28 14.7 -0.4
Z47A IAmb IAmb 13 28 15.4
comp=Z,14nm,0.7s
Z47A **pP 13 29 00.6 -1.1**

ACCN Adirondack Com 54.56 63 pP 13 29 01.4 -1.0
L59A Walton 54.75 65 P **P** **13 28 16.6 -0.6**
L59A IAmb IAmb 13 28 18.9
comp=Z,28nm,1.0s
G62A West of Eustis 54.76 60 P **P** **13 28 16.5 -0.6**
G62A IAmb IAmb 13 28 24.0
comp=Z,26nm,1.4s
FPAL Fort Paine 54.81 79 P **P** **13 28 17.1 -0.6**
FPAL IAmb IAmb 13 28 17.8
comp=Z,7.6nm,0.6s
KSPA Keystone Colle 54.84 66 P **P** **13 28 17.9 +0.2**
H62A Milan 54.93 61 P **P** **13 28 17.7 -0.7**
H62A IAmb IAmb 13 28 34.0
comp=Z,28nm,1.4s
V52A Sevierville 54.93 77 P **P** **13 28 18.0 -0.5**
V52A **pP** **13 29 04.9 -0.2**
R55A Marlinton 54.99 72 P **P** **13 28 18.8 -0.2**
R55A IAmb IAmb 13 28 40.2
comp=Z,22nm,1.5s
F63A Nahmakanta, Br 55.09 59 P **P** **13 28 18.8 -0.7**
F63A IAmb IAmb 13 28 19.6
comp=Z,9.1nm,0.8s
LRAL Lakeview Retre 55.17 81 P **P** **13 28 19.6 -0.7**
N59A State Game Lan 55.31 67 P **P** **13 28 21.3 +0.2**
N59A **pP** **13 29 07.0 -0.9**
N59A State Game Lan 55.31 67 P **P** **13 28 21.3 +0.2**
baz=317
PKME Peaks-Kenny Pk 55.32 59 P **P** **13 28 20.1 -1.0**
PKME IAmb IAmb 13 28 46.4
comp=Z,33nm,1.5s
F64A Sherman 55.33 58 P **P** **13 28 20.0 -1.1**
F64A IAmb IAmb 13 28 23.6
comp=Z,26nm,1.4s
BATG Bathurst New B 55.35 55 P **P** **13 28 20.3 -1.0**
BATG IAmb IAmb 13 28 46.1
comp=Z,31nm,1.5s
HHC Hu-ho-hao-te 55.38 293 *e*P **P** **13 28 22.0 +0.3**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,100nm,5.4s
V53A Saluda 55.48 76 P **P** **13 28 22.1 -0.4**
ODNJ Ogdensburg 55.78 66 P **P** **13 28 24.5 +0.1**
ODNJ IAmb IAmb 13 28 26.4
comp=Z,13nm,1.1s
K62A Royalston 55.81 63 P **P** **13 28 24.3 -0.3**
K62A IAmb IAmb 13 28 26.4
comp=Z,18nm,1.2s
TIA Tai'an 55.90 285 ⇓P **P** **13 28 25.2 -0.2**
TIA pmax pmax
comp=Z,11nm,1.1s
HNS HongShan 56.30 288 ⇑*i*P **P** **13 28 28.4 +0.3**
HNS pmax pmax
comp=Z,40nm,0.9s
WSPT Westport, CT 56.37 65 pP 13 29 14.6 -0.9
EMMW East Machias 56.61 58 P **P** **13 28 29.3 -0.8**
EMMW IAmb IAmb 13 28 53.0
comp=Z,34nm,1.4s
HODGE Hodges 56.86 77 P **P** **13 28 31.4 -0.7**
HODGE IAmb IAmb 13 28 50.8
comp=Z,19nm,1.5s
LMN Caledonia Moun 56.99 56 P **P** **13 28 32.2 -0.7**
ZAA0 Zalesovo Array 57.25 320 P **P** **13 28 34.9 +0.3**
ZAA0 IAmb IAmb 13 28 36.7
comp=Z,7.2nm,0.7s
ZALV Zalesovo Beam 57.25 320 P **P** **13 28 35.0 +0.4**
comp=Z,6.1nm,0.5s,baz=23,slow=7.0,SNR=28
ZALV Zalesovo Beam 57.25 320 P **P** **13 28 35.0 +0.4**
T59A Double "B" Far 57.32 71 P **P** **13 28 35.1 -0.2**
W57A Gilead 57.39 74 P **P** **13 28 36.2 +0.4**
NJ2 Nanjing 58.10 281 *e*P **P** **13 28 41.9 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LYN LuoYang 59.64 288 ⇑*i*P **P** **13 28 51.1 -0.2**
LYN pmax pmax
comp=Z,20nm,0.8s
TLIG Tlapa 60.92 102 P **P** **13 29 00.8 +0.4**
TLIG IAmb IAmb 13 29 02.2
comp=Z,16nm,0.8s
KLMR Klimovskoe 61.90 348 *e*P **P** **13 29 03.6 -2.6**
KLMR *e**PP **pP** **13 29 54.7 +0.8**
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR Klimovskoe 61.90 348 *e*P **P** **13 29 03.6 -2.6**
KLMR AMP 13 29 08.9
comp=Z,14nm,1.2s
KLMR *e*pP **pP** **13 29 54.7 +0.8**
XAN Xi'an 61.90 290 P **P** **13 29 06.4 -0.3**
XAN pP pP 13 29 50.3 -4.2
XAN pmax pmax
comp=Z,22nm,1.0s
XAN LR LR
comp=N,170nm,22.0s
XAN LR LR
comp=E,160nm,19.9s
SVE Sverdlovsk 62.03 335 *e*P **P** **13 29 08.1 +1.0**
SVE pmax pmax
comp=Z,19nm,0.8s
KURK Kurchatov 62.09 321 *c i*P **P** **13 29 07.8 +0.2**
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 62.09 321 P **P** **13 29 07.7 +0.1**
KURBB Kurchatov Arra 62.20 321 P **P** **13 29 08.5 +0.2**
comp=Z,6.1nm,0.7s,baz=23,slow=6.5,SNR=25
KURBB pP **pP** **13 29 56.6 +0.4**
comp=Z,10nm,0.8s,baz=31,slow=7.0,SNR=12
GTA Gaotai 62.32 300 ⇑P **P** **13 29 08.9 -0.6**
GTA pP pP 13 29 57.6 +0.3
GTA sP sP 13 30 20.7 +0.6
GTA PP **PP** **13 31 29.6 +0.8**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,52nm,7.3s
GTA LR LR
comp=N,87nm,16.4s
GTA LR LR
comp=E,67nm,17.8s
GTA LR LR
comp=Z,71nm,19.3s
FIA1 FINESS Array S 62.37 356 P **P** **13 29 09.4 +0.2**
FIA1 IAmb IAmb 13 29 12.5
comp=Z,21nm,1.4s
FINES FINESS Array B 62.37 356 P **P** **13 29 09.1 -0.2**
comp=Z,5.1nm,0.7s,baz=18,slow=7.4,SNR=39
FINES pP **pP** **13 29 58.5 +1.4**
comp=Z,3.4nm,0.7s,baz=12,slow=9.8,SNR=3.9
FINES FINESS Array B 62.37 356 *i* P **P** **13 29 09.3 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 62.37 356 P **P** **13 29 09.2 -0.1**
NC204 NORSAR Array S 62.58 4 P **P** **13 29 10.8 0.0**
NC303 NORSAR Array S 62.66 4 P **P** **13 29 11.7 +0.6**
NC303 IAmb IAmb 13 29 15.9
comp=Z,19nm,1.4s
KIRV Kirov 62.68 342 P **P** **13 29 12.1 +0.8**
comp=Z,10nm,0.5s,baz=64,slow=5.2,SNR=5.1
KIRV pP **pP** **13 29 59.5 +0.3**
comp=Z,11nm,0.4s,baz=24,slow=3.0,SNR=3.0
NC405 NORSAR Array S 62.78 3 P **P** **13 29 12.5 +0.5**
BVAR Borovoye Array 62.80 327 P **P** **13 29 13.3 +1.1**
comp=Z,17nm,0.7s,baz=48,slow=20,SNR=55
BVAR pP **pP** **13 30 00.3 +0.2**
comp=Z,13nm,0.8s,baz=56,slow=18,SNR=7.9
BRVK Borovoye 62.80 327 *ce*P **P** **13 29 12.8 +0.6**
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK Borovoye 62.80 327 P **P** **13 29 13.0 +0.7**
NB201 NORSAR Array S 62.83 4 P **P** **13 29 13.1 +0.7**
NB2 NORSAR Subarra 62.84 4 P **P** **13 29 12.6 +0.2**
comp=Z,1.8nm,0.7s,baz=357,slow=6.9
NOA NORSAR Array B 62.84 4 P **P** **13 29 12.4 0.0**
comp=Z,2.5nm,0.7s,baz=356,slow=6.7,SNR=14
NOA pP **pP** **13 30 01.6 +1.2**
comp=Z,1.0nm,0.7s,baz=355,slow=6.8,SNR=3.1
ARU Arti 62.87 336 P **P** **13 29 13.3 +0.7**
comp=Z,5.1nm,0.5s,baz=24,slow=2.4,SNR=26
ARU pP **pP** **13 30 01.1 +0.5**
comp=Z,1.8nm,0.6s,baz=3.8,slow=5.6,SNR=3.2
ARU Arti 62.87 336 *c i*P **P** **13 29 13.1 +0.4**
ARU 13 29 48.8
ARU *PP **pP** **13 29 59.9 -0.7**
ARU S **S** **13 37 26.3 +1.5**
ARU pmax pmax
comp=Z,16nm,0.7s

ARU Arti 62.87 336 P **P** **13 29 13.0 +0.4**
LZH Lanzhou 62.93 295 *e*P **P** **13 29 13.6 0.0**
LZH pP pP 13 29 56.7 -4.8
LZH sP sP 13 30 11.5 -13
LZH pmax pmax
comp=Z,40nm,1.0s
LZH LR LR
comp=N,130nm,12.7s
LZH LR LR
comp=E,170nm,11.9s
LZH LR LR
comp=Z,120nm,13.0s
NC602 NORSAR Array S 63.15 4 P **P** **13 29 14.4 0.0**
NC602 IAmb IAmb 13 29 21.4
comp=Z,22nm,1.4s
NORES NORESS Array B 63.15 4 P **P** **13 29 14.8 +0.4**
SSLB Suanglung 63.37 273 P **P** **13 29 14.7 -1.7**
YULB Yu-li 63.49 273 P **P** **13 29 16.6 -0.6**
YULB IAmb IAmb 13 29 20.2
comp=Z,13nm,0.8s
MK31 Makanchi Array 64.02 316 P **P** **13 29 19.9 -0.4**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 64.02 316 P **P** **13 29 19.9 -0.4**
MK31 IAmb IAmb 13 29 20.9
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 64.02 316 P **P** **13 29 20.1 -0.3**
comp=Z,8.6nm,0.6s,baz=46,slow=5.9,SNR=49
MKAR pP **pP** **13 30 08.6 +0.1**
comp=Z,3.2nm,0.8s,baz=46,slow=6.9,SNR=3.2
MKAR Makanchi Array 64.02 316 P **P** **13 29 19.6 -0.8**
MKAR Makanchi Array 64.02 316 P **P** **13 29 19.6 -0.8**
MAKZ Makanchi 64.12 317 P **P** **13 29 20.7 -0.3**
MAKZ pmax pmax
comp=Z,13nm,0.7s
MAKZ Makanchi 64.12 317 P **P** **13 29 20.7 -0.3**
MAKZ IAmb IAmb 13 29 21.6
comp=Z,12nm,0.7s
WMQ Urumqi 64.29 311 ⇓P **P** **13 29 23.2 +1.0**
WMQ pP pP 13 30 11.5 +1.1
WMQ pmax pmax
comp=Z,29nm,0.7s
VSU Vasula 65.32 355 ⇓*i*P **P** **13 29 30.9 +2.4**
VSU pmax pmax
comp=Z,30nm,0.8s
SOR Soroa 65.33 86 P **P** **13 29 28.9 -0.3**
SOR pmax pmax
comp=Z,17nm,1.1s
SOR Soroa 65.33 86 P **P** **13 29 28.9 -0.3**
SOR IAmb IAmb 13 29 49.3
comp=Z,17nm,1.1s
OTUK Ortayu 66.34 324 P **P** **13 29 35.4 +0.2**
GOMU GeErMu 67.27 301 P **P** **13 29 41.5 -0.2**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,63nm,5.2s
OBN Obninsk 67.86 349 *e*P **P** **13 29 45.5 +0.9**
OBN *e* 13 30 09.6
OBN *e**PP **pP** **13 30 33.1 -0.1**
OBN *e**SP **sP** **13 30 53.7 -2.1**
OBN pmax pmax
comp=Z,4.0nm,1.0s
PDGK Podgornoye 68.00 316 P **P** **13 29 45.9 0.0**
PABE Paberze 68.40 356 P **P** **13 29 48.7 +0.8**
PABE IAmb IAmb 13 29 48.9
comp=Z,15nm,0.8s
AKTO Aktyubinsk 68.51 334 P **P** **13 29 49.2 +0.5**
comp=Z,19nm,0.7s,baz=32,slow=6.0,SNR=68
AKTO pP **pP** **13 30 38.2 +0.7**
comp=Z,7.5nm,0.9s,baz=32,slow=4.1,SNR=4.4
MTO3 Montecristo 68.56 96 P **P** **13 29 49.2 -0.6**
MTO3 IAmb IAmb 13 29 50.9
comp=Z,10.0nm,1.1s
GYA Guiyang 69.07 286 ⇓*i*P **P** **13 29 52.6 -0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
MDOK Medeo 69.07 318 P **P** **13 29 52.3 -0.2**
AB31 Akbulak array 69.11 332 *i* P **P** **13 29 52.9 +0.5**
ABKAR Akbulak array 69.11 332 P **P** **13 29 52.8 +0.4**
ABKAR IAmb IAmb 13 29 53.9
comp=Z,18nm,0.7s
MNK Minsk 69.21 354 *i* P **P** **13 29 52.1 -0.8**
MNK *i* 13 32 27.7
MNK *i* PPP PPP 13 34 10.4
MNK *i* S **S** **13 38 42.5 +1.3**
MNK *i* SS **SS** **13 43 11.0 +0.4**
MNK pmax pmax
comp=N,33nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=Z,43nm,13.0s
MNK MLR MLR
comp=N,241nm,15.0s
MNK MLR MLR
comp=E,39nm,16.0s
MNK Minsk 69.21 354 *i* P **P** **13 29 52.2 -0.8**
comp=E,3.0nm,1.0s
MNK *i* P **P** **13 29 52.2 -0.8**
comp=N,33nm,0.9s
MNK *i* P **P** **13 29 52.2 -0.8**
comp=Z,13nm,0.8s,baz=186
MNK *i* PP **PP** **13 32 27.7 -0.3**
MNK *i* PPP PPP 13 34 10.4
MNK *i* S **S** **13 38 42.5 +1.3**
MNK *i* SS **SS** **13 43 11.0 +0.4**
MNK *i* SSS SSS 13 46 30.1
MNK *i* LRM MLR 14 02 50.9
comp=Z,43nm,12.7s
MNK *i* LRM MLR 14 03 15.1
comp=N,241nm,15.3s
MNK *i* LRM MLR 14 03 36.7
comp=E,39nm,15.9s
KLNR Kaliningrad 69.39 359 ⇑*e*P **P** **13 29 54.3 +0.3**
KLNR pmax pmax
comp=Z,174nm,1.1s
TKM2 Tokmak 2 69.82 319 P **P** **13 29 58.0 +0.8**
SNR=10
TKM2 Tokmak 2 69.82 319 *i* P **P** **13 29 57.1 -0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
USP Ospenovka 69.92 320 P **P** **13 29 58.4 +0.8**
SNR=5.9
TARG Taragay, Kyrgy 70.02 316 P **P** **13 29 59.5 +0.9**
TARG pmax pmax
comp=Z,9.0nm,0.6s
TARG Taragay, Kyrgy 70.02 316 P **P** **13 29 59.5 +0.9**
TARG IAmb IAmb 13 30 01.1
comp=Z,9.5nm,0.6s
CHMS Chumysh 70.06 319 P **P** **13 29 59.4 +1.0**
SNR=10.0
KBK Karagaybulak 70.29 319 P **P** **13 30 01.0 +1.0**
SNR=8.0
AAK Ala-Archa 70.47 319 P **P** **13 30 01.6 +0.6**
comp=Z,12nm,0.6s,baz=121,slow=2.1,SNR=26
AAK pP **pP** **13 30 51.1 +1.0**
comp=Z,11nm,0.9s,baz=44,slow=2.1,SNR=5.7
AAK Ala-Archa 70.47 319 *c i*P **P** **13 30 01.7 +0.6**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 70.47 319 P **P** **13 30 01.6 +0.6**
AAK IAmb IAmb 13 30 02.7
comp=Z,14nm,0.8s
EKS2 Erkin-Say 70.71 320 P **P** **13 30 03.5 +1.0**
SNR=12
KKAR Karatay Array 71.46 322 P **P** **13 30 06.8 -0.1**
KKAR Karatay Array 71.46 322 P **P** **13 30 06.8 -0.1**
PZH PanZhiHua 71.64 290 P **P** **13 30 10.3 +2.0**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.9s
BOAB BOACO BROADBAND 72.20 94 P **P** **13 30 11.7 +0.1**
BOAB IAmb IAmb 13 30 13.1
comp=Z,14nm,0.6s
KSH Kashi 72.63 317 P **P** **13 30 17.4 +3.5**
KSH pP pP 13 31 07.6 +4.4
KSH SKS **SKSac** **13 39 59.0 +0.3**
KSH pmax pmax
comp=Z,30nm,0.8s
AKASG Malin Array Be 72.91 353 P **P** **13 30 15.0 -0.3**
comp=Z,13nm,0.6s,baz=9.0,slow=6.0,SNR=29

AKASG pP **pP** **13 31 04.3 -0.2**
comp=Z,1.3nm,0.5s,baz=11,slow=6.1,SNR=2.3
AKASG Malin Array Be 72.91 353 P **P** **13 30 14.9 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 72.91 353 P **P** **13 30 14.8 -0.3**
AKBB Malin Array Si 72.91 353 *d* P **P** **13 30 15.0 -0.2**
AKBB pmax pmax
comp=Z,11nm,0.6s
AKBB Malin Array Si 72.91 353 P **P** **13 30 14.8 -0.4**
AKBB IAmb IAmb 13 30 16.1
comp=Z,13nm,0.6s
BMRD Maredsous 73.16 9 *d*P **P** **13 30 17.9 +1.2**
QIZ Qiongzhong 73.33 279 P **P** **13 30 17.8 -0.4**
QIZ IAmb IAmb 13 30 19.1
comp=Z,11nm,0.9s
OSTC Ostas 73.45 1 *e*P **P** **13 30 18.8 +0.3**
DPC Dobruska-Polom 73.66 1 *e*P **P** **13 30 20.2 +0.5**
DPC Dobruska-Polom 73.66 1 *e*P **P** **13 30 20.2 +0.5**
NKC Novy Kostel 73.69 4 *e*P **P** **13 30 20.5 +0.7**
NKC Novy Kostel 73.69 4 *e*P **P** **13 30 20.5 +0.7**
MORC Moravsky Berou 74.24 0 ⇓P **P** **13 30 23.5 +0.4**
MORC Moravsky Berou 74.24 0 ⇓P **P** **13 30 23.5 +0.4**
MORC Moravsky Berou 74.24 0 *e*P **P** **13 30 22.9 -0.2**
KWP Kalwaria Pacla 74.31 357 P **P** **13 30 24.0 +0.6**
KWP pmax pmax
comp=Z,72nm,0.8s
KWP Kalwaria Pacla 74.31 357 P **P** **13 30 24.0 +0.6**
LSA Lhasa 74.35 300 P **P** **13 30 24.6 0.0**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 74.35 300 P **P** **13 30 24.6 0.0**
LSA IAmb IAmb 13 30 26.1
comp=Z,7.7nm,0.8s
JAY Jayapura 74.63 241 P **P** **13 30 25.7 0.0**
comp=Z,20nm,0.8s,baz=328,slow=3.3,SNR=5.4
VRAC Vranov 74.71 1 *e*P **P** **13 30 26.7 +1.0**
KHC Kasperske Hory 74.83 3 *e*P **P** **13 30 27.5 +1.0**
KHC *e* 13 31 17.0
KHC Kasperske Hory 74.83 3 *e*P **P** **13 30 27.5 +1.0**
KHC *ex* x 13 31 17.0
KHC Kasperske Hory 74.83 3 P **P** **13 30 27.4 +1.0**
SDDR Presa de Saban 74.86 79 P **P** **13 30 27.4 +0.4**
SDDR IAmb IAmb 13 30 28.5
comp=Z,6.8nm,0.6s
KRUC Moravsky 74.95 1 *e*P **P** **13 30 27.4 +0.3**
GERES GERESS Array B 75.12 3 P **P** **13 30 28.2 0.0**
comp=Z,1.1nm,0.7s,baz=3.1,slow=7.2,SNR=6.7
GERES pP **pP** **13 31 19.0 +1.2**
comp=Z,0.2nm,0.3s,baz=312,slow=21,SNR=1.9
CKRC Cesky Krumlov 75.16 2 *e*P **P** **13 30 28.8 +0.5**
JAVC Velka Javorina 75.16 0 *e*P **P** **13 30 29.9 +1.5**
GAR Garm 75.17 320 P **P** **13 30 28.6 -0.1**
BFO Black Forest 75.39 7 P **P** **13 30 30.1 +0.5**
BFO pmax pmax
comp=Z,7.0nm,1.5s
BFO Black Forest 75.39 7 P **P** **13 30 30.1 +0.5**
SORM Soroca 75.52 353 ⇑P **P** **13 30 30.1 -0.2**
SORM Soroca 75.52 353 ⇑P **P** **13 30 30.1 -0.2**
TRPA Tarpa 75.82 357 ⇓P **P** **13 30 33.1 +1.1**
CHGR Chuyangaron 75.88 321 P **P** **13 30 32.3 -0.4**
CHGR **pP** **13 31 22.6 +0.1**
DR12 Loma Pena Alta 76.05 77 P **P** **13 30 34.6 +0.7**
DR12 **pP** **13 31 23.4 -0.2**
CONA Conrad Observa 76.08 1 *e*P **P** **13 30 34.7 +1.0**
comp=Z,4.3nm,0.8s
BUR08 Bucovina Ar. S 76.20 355 P **P** **13 30 33.6 -0.8**
BUR01 Bucovina Ar. S 76.23 355 ⇓P **P** **13 30 35.1 +0.6**
BURAR Bucovina Array 76.23 355 P **P** **13 30 34.4 -0.1**
MOTA Moosalm 76.52 5 *e*P **P** **13 30 36.7 +0.5**
comp=Z,1.2nm,0.5s
WATA Walderalm 76.55 4 *e*P **P** **13 30 37.2 +0.8**
comp=Z,2.3nm,0.5s
WTTA Wattenberg 76.62 4 *i* P **P** **13 30 38.0 +1.1**
comp=Z,4.6nm,0.7s
ARSA Arzberg 76.75 2 *e*P **P** **13 30 38.4 +1.0**
comp=Z,2.9nm,0.8s
MESR Meseseni 76.79 356 ⇑P P 13 30 43.5 +6.0
KBA Koelnbreinsper 76.87 3 *i* P **P** **13 30 39.3 +1.1**
comp=Z,2.7nm,0.8s
TESR Tescani 77.25 354 ⇓P **P** **13 30 40.3 +0.2**
SOKA Soboth 77.32 2 *i* P **P** **13 30 41.3 +0.8**
comp=Z,2.1nm,0.5s
OBKA Obir 77.47 2 *i* P **P** **13 30 42.3 +0.9**
comp=Z,14nm,0.6s
PMG Port Moresby 77.72 231 P **P** **13 30 41.9 -1.1**
comp=Z,20nm,0.8s,baz=16,slow=4.2,SNR=8.6
PMG Port Moresby 77.72 231 *c i*P **P** **13 30 42.9 -0.1**
PMG pmax pmax
comp=Z,43nm,2.5s
PMG Port Moresby 77.72 231 P **P** **13 30 42.6 -0.4**
VRI Vrincioaia 77.89 354 ⇓P **P** **13 30 44.8 +1.1**
VRI Vrincioaia 77.89 354 ⇓P **P** **13 30 44.8 +1.1**
PLOR Plostina 77.91 354 ⇓P **P** **13 30 45.2 +1.4**
PLOR Plostina 77.91 354 ⇓P **P** **13 30 45.2 +1.4**
KIV Kislovodsk 77.91 342 ⇓P **P** **13 30 45.5 +1.6**
KIV Kislovodsk 77.91 342 *e*P **P** **13 30 44.9 +1.0**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,28nm,19.0s
SIJI Sorong 77.99 250 P **P** **13 30 43.9 -0.7**
comp=Z,38nm,0.7s,baz=30,slow=7.8,SNR=11
KBZ Khabaz 78.09 342 P **P** **13 30 45.3 +0.5**
comp=Z,8.7nm,0.9s,baz=354,slow=1.7,SNR=15
KBZ Khabaz 78.09 342 *c i*P **P** **13 30 46.0 +1.3**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
NCK Nalchik 78.19 341 ⇓*e*P **P** **13 30 47.0 +1.6**
NCK pmax pmax
comp=Z,17nm,0.4s
MLR Muntele Rosu 78.31 354 ⇑P **P** **13 30 48.3 +2.2**
MLR Muntele Rosu 78.31 354 ⇑P **P** **13 30 48.3 +2.2**
BZS Buzias 78.36 357 ⇑P **P** **13 30 47.1 +0.9**
BZS Buzias 78.36 357 ⇑P **P** **13 30 47.1 +0.9**
VOIR 78.41 355 ⇓P **P** **13 30 47.0 +0.4**
VOIR 78.41 355 ⇓P **P** **13 30 47.0 +0.4**
CFR Carcaliu 78.48 353 ⇑P **P** **13 30 47.6 +0.8**
CFR Carcaliu 78.48 353 ⇑P **P** **13 30 47.6 +0.8**
PDPR Patillas Dam, 78.50 75 P **P** **13 30 47.6 +0.3**
PDPR IAmb IAmb 13 31 14.5
comp=Z,11nm,1.1s
ARR Arges 78.50 355 ⇓P **P** **13 30 51.4 +4.3**
TEOL Teolo 78.53 4 P **P** **13 30 48.4 +1.2**
TEOL IAmb IAmb 13 30 49.5
comp=Z,11nm,0.7s
GZR Gura Zlata 78.55 357 ⇓P **P** **13 30 48.1 +0.8**
GZR Gura Zlata 78.55 357 ⇓P **P** **13 30 48.1 +0.8**
UBPT Khong Chiam 78.78 281 P **P** **13 30 48.5 -0.4**
STVI Saint Thomas 78.80 74 P **P** **13 30 49.5 +0.5**
STVI IAmb IAmb 13 31 09.1
comp=Z,15nm,0.9s
NIL Nilore 78.81 316 P **P** **13 30 49.3 +0.4**
NIL pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 78.81 316 P **P** **13 30 49.3 +0.4**
NIL IAmb IAmb 13 30 50.4
comp=Z,18nm,0.8s
ZEI Tsey 78.82 341 *e*P **P** **13 30 48.9 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
HARR Harsova 78.98 353 ⇑P **P** **13 30 50.2 +0.6**
HARR Harsova 78.98 353 ⇑P **P** **13 30 50.2 +0.6**
TIRR Tirgusor 79.18 352 P **P** **13 30 51.3 +0.6**
TIRR pmax pmax
comp=Z,40nm,1.2s
TIRR Tirgusor 79.18 352 P **P** **13 30 51.2 +0.6**
FAKI Fak Fak 79.22 248 P **P** **13 30 50.7 -0.6**
CHTO Chiang Mai 79.39 288 P **P** **13 30 51.4 -0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 79.39 288 P **P** **13 30 51.4 -0.9**
CHTO IAmb IAmb 13 30 51.8
comp=Z,6.2nm,0.7s
ZKTA Zakatala 79.41 339 P **P** **13 30 52.5 +0.5**
KBL Kabul 79.61 319 P **P** **13 30 52.4 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 79.61 319 P **P** **13 30 52.4 -1.1**
KBL IAmb IAmb 13 30 53.1
comp=Z,7.2nm,0.8s
CM31 Chiang Mai Arr 79.69 288 P **P** **13 30 52.6 -1.2**
CM31 IAmb IAmb 13 30 54.4
comp=Z,19nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	79.69	288	P	P	13 30 53.4	-0.4
	comp=Z,15nm,0.8s,baz=15,slow=5.6,SNR=106						
CMAR				pP	pP	13 31 45.0	+0.9
	comp=Z,6.0nm,0.8s,baz=15,slow=6.0,SNR=5.2						
CMAR	Chiang Mai Arr	79.69	288	i P	P	13 30 53.4	-0.4
CMAR				pmax	pmax		
	comp=Z,14nm,0.7s						
CMAR	Chiang Mai Arr	79.69	288	P	P	13 30 52.9	-1.0
SEKA	Sheki	79.70	338	P	P	13 30 53.9	+0.2
GEYT	Alibeck	80.08	329	P	P	13 30 56.2	+0.4
	comp=Z,7.4nm,0.8s,baz=243,slow=6.5,SNR=11						
GEYT				pP	pP	13 31 47.4	+1.4
	comp=Z,2.7nm,0.7s,baz=37,slow=15,SNR=2.7						
GEYT	Alibeck	80.08	329	P	P	13 30 56.0	+0.3
GEYT				IAmb	IAmb	13 30 57.6	
	comp=Z,7.0nm,0.8s						
GYA0B	ALIBECK ARRAY	80.08	329	P	P	13 30 56.3	+0.6
GYA0B				IAmb	IAmb	13 30 57.6	
	comp=Z,7.5nm,0.8s						
MNGR	Mingechevir, A	80.14	338	P	P	13 30 56.4	+0.5
GANJ	Ganja	80.42	338	P	P	13 30 57.7	+0.2
GNI	Garni	81.22	340	⇓eP	P	13 31 03.7	+1.8
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LKRN	Lenkeran, Azer	81.75	336	P	P	13 31 04.8	+0.4
NAX	Nakhchivan	82.01	339	P	P	13 31 06.3	+0.4
ZARC	Zaragoza, Cauc	82.28	88	P	P	13 31 07.4	-0.1
DZM	Mont Dzumac	82.52	209	P	P	13 31 09.5	+1.0
	comp=Z,10nm,0.9s,baz=142,slow=19,SNR=2.5						
ESDC	Sonseca Array	82.56	17	P	P	13 31 09.4	+0.7
	comp=Z,1.9nm,1.1s,baz=0.0,slow=4.7,SNR=6.4						
ESDC	Sonseca Array	82.56	17	P	P	13 31 09.8	+1.1
BR131	Keskin Array S	83.37	348	⇓iP	P	13 31 14.6	+1.6
BRTR	Keskin Array B	83.37	348	P	P	13 31 13.8	+0.8
	comp=Z,0.5nm,0.4s,baz=20,slow=4.1,SNR=6.1						
BRTR				PKKPbc	PKKPbc	13 49 29.1	+1.0
	comp=Z,0.4nm,0.5s,baz=171,slow=6.2,SNR=3.6						
COEN	Coen	83.52	233	P	P	13 31 13.2	-0.5
BNN	Bunyan	83.95	346	P	P	13 31 16.1	+0.1
MARD	Mardin	84.70	342	P	P	13 31 21.3	+1.6
MARD				IAmb	IAmb	13 31 21.9	
	comp=Z,12nm,0.7s						
ISP	Isparta	85.58	350	P	P	13 31 24.5	+0.4
ISP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ISP	Isparta	85.58	350	P	P	13 31 24.4	+0.4
ISP				IAmb	IAmb	13 31 27.2	
	comp=Z,7.9nm,0.8s						
KSM	Kuching	87.45	269	P	P	13 31 33.2	0.0
KSM				IAmb	IAmb	13 31 42.8	
	comp=Z,26nm,1.5s						
CTA	Charters Tower	87.65	228	P	P	13 31 34.0	+0.1
	comp=Z,24nm,0.8s,baz=27,slow=5.9,SNR=24						
KULM	Kulim	89.66	279	P	P	13 31 43.0	-0.6
KULM				IAmb	IAmb	13 31 43.9	
	comp=Z,8.1nm,0.8s						
BATI	Baumata	89.86	251	P	P	13 31 43.2	-1.3
	comp=Z,29nm,0.6s,baz=178,slow=1.8,SNR=6.3						
IPM	Ipoh	90.12	278	P	P	13 31 44.9	-1.0
WB0	Warramunga Arr	92.61	238	P	P	13 31 55.8	-1.3
WB0				IAmb	IAmb	13 31 58.2	
	comp=Z,8.5nm,1.0s						
PSI	Prapat	92.67	279	P	P	13 31 56.4	-1.3
PSI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WR0	Warramunga Arr	92.70	237	P	P	13 31 56.2	-1.3
RPSI	Rantau Prapat	92.76	279	P	P	13 31 56.4	-1.5
RPSI				IAmb	IAmb	13 31 59.2	
	comp=Z,7.1nm,0.7s						
WRAB	Tennant Creek	92.77	238	⇓iP	P	13 31 56.9	-0.9
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s						
WB2	Warramunga Arr	92.78	238	P	P	13 31 56.6	-1.3
WRA	Warramunga Arr	92.78	238	P	P	13 31 56.6	-1.3
	comp=Z,6.3nm,0.6s,baz=34,slow=5.9,SNR=53						
WRA				PKiKP	PKiKP	13 36 44.1	-0.5
	comp=Z,0.5nm,0.7s,baz=4.4,slow=1.6,SNR=4.6						
WRA	Warramunga Arr	92.78	238	i P	P	13 31 56.9	-1.0
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	Warramunga Arr	92.78	238	P	P	13 31 56.5	-1.4
FITZ	Fitzroy Crossi	95.47	246	P	P	13 32 09.4	-0.8
	comp=Z,3.5nm,0.5s,baz=13,slow=5.0,SNR=13						
FITZ	Fitzroy Crossi	95.47	246	P	P	13 32 09.2	-0.9
FITZ				IAmb	IAmb	13 32 10.9	
	comp=Z,4.9nm,0.8s						
ASAR	Alice Springs	96.19	236	P	P	13 32 12.6	-0.8
	comp=Z,3.8nm,0.7s,baz=23,slow=4.9,SNR=60						
ASAR	Alice Springs	96.19	236	P	P	13 32 12.2	-1.2
ASAR	Alice Springs	96.19	236	P	P	13 32 12.2	-1.2
TORD	Torodi Ar. Bea	109.45	17	PKKPbc	PKKPbc	13 48 17.7	+0.1
	comp=Z,1.2nm,0.6s,baz=153,slow=2.4,SNR=11						
VNDA	Vanda	135.47	191	SKPbc	SKPbc	13 41 13.4	-0.1
	comp=Z,3.6nm,0.8s,baz=339,slow=2.5,SNR=5.5						
VNDA	Vanda	135.47	191	PKPdf	PKiKP	13 38 04.2	0.0
BOSA	Boshof	151.79	346	PKPbc	PKPbc	13 38 38.6	-0.4
	comp=Z,2.0nm,0.5s,baz=21,slow=3.0,SNR=7.9						
BOSA	Boshof	151.79	346		PKPbc	13 38 38.3	-0.6
VNA2	Neumayer--Watz	161.80	153	P	PKPab	13 39 28.7	-1.9
	baz=256,slow=4.4						
SYO	Syowa Base	164.01	209	⇓iX	PKPdf	13 38 44.4	-1.3
SYO	Syowa Base	164.01	209	⇑eX	PKPab	13 39 46.4	+6.0

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*IDC **06** 13:35:02.4±1.9, 33°.09S×178°.35W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/40, mbtmp3.9/4, ML3.8/1 Error ellipse: s-maj=42.3km s-min=30.2km az=85.0*
*NEIC **06** 13:35:04.4±0.6, 33°.1S±0°.2×178°.3W±0°.3, h10km±2km, mb4.4/6, Error ellipse: s-maj=38.5km s-min=22.2km az=115.0*
ISC 06 13:35:06.6±1.4**, 33°.1S**±0°.1×**178°.3W**±0°.2**, h32**km**, n16, σ0s.50**/17**, mb4.3**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.82	5	Pn	Pn	13 36 02.7	-0.5
MXZ	Matakaoa Point	5.26	211	Pn	Pn	13 36 22.4	-0.6
URZ	Urewera	6.37	214	Pn	Pn	13 36 38.4	+0.2
	2.4nm,0.3s,baz=265,slow=5.1,SNR=28						
URZ				Sn	Sn	13 37 50.1	+0.3
	2.7nm,0.3s,baz=84,slow=23,SNR=8.8						
URZ	Urewera	6.37	214		Pn	13 36 37.0	-1.1
BKZ	Black Stump Fm	7.38	213	Pn	Pn	13 36 51.5	-0.7
BFZ	Birch Farm	8.75	208	Pn	Pn	13 37 10.8	-0.1
ASAR	Alice Springs	42.76	270	P	P	13 43 01.4	+0.2
	0.3nm,0.6s,baz=110,slow=7.9,SNR=9.1						
WR0	Warramunga Arr	43.81	275	P	P	13 43 09.5	-0.2
WR0				IAmb	IAmb	13 43 14.3	
	comp=Z,15nm,1.5s						
WB2	Warramunga Arr	43.98	275	P	P	13 43 11.3	+0.3
WB2				IAmb	IAmb	13 43 31.1	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	43.98	275	P	P	13 43 10.9	-0.1
WRA	Warramunga Arr	43.98	275	P	P	13 43 11.4	+0.3
	comp=Z,0.7nm,0.4s,baz=115,slow=7.7,SNR=14						
WRA	Warramunga Arr	43.98	275	P	P	13 43 11.4	+0.3
WB0	Warramunga Arr	44.02	275	P	P	13 43 11.9	+0.5
WB0				IAmb	IAmb	13 43 29.3	
	comp=Z,9.4nm,1.4s						
VNDA	Vanda	45.42	186	P	P	13 43 21.7	-0.1
	comp=Z,1.7nm,0.5s,baz=40,slow=7.9,SNR=13						
VNDA	Vanda	45.42	186	P	P	13 43 22.1	+0.3
VNDA				IAmb	IAmb	13 43 31.9	
	comp=Z,4.3nm,1.1s						
FINES	FINESS Array B	147.53	338	PKPbc	PKPbc	13 54 47.3	+0.6
	comp=Z,1.1nm,0.5s,baz=38,slow=3.7,SNR=10						

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*IDC **06** 13:41:50.9±2.3, 6°.90S×130°.22E, h91km±22km, mb3.7/3, mb1 4.0/8, mb1mx3.5/43, mbtmp4.2/8, MS3.4/2, Ms1 3.4/2, ms1mx2.5/67, Error ellipse: s-maj=24.9km s-min=19.0km az=96.0*
*DJA **06** 13:41:52.2±0.5, 7°S±3°×13°0E±°, h191km±11km, M4.2/10, mb4.2/7, mB4.8/3, MLv4.2/10, Mw(mB)4.0/3*
*NEIC **06** 13:41:53.7±2.8, 6°.92S±0°.08×130°.2E±0°.1, h122km±3km, mb4.2/6, Error ellipse: s-maj=16.0km s-min=11.0km az=81.0*
ISC 06 13:41:53.9±0.6**, 7°.10S**±0°.06×**130°.26E**±0°.07**, h150**km**, n40, σ2s.29**/37**, mb4.0**/5**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.36	131	Pn	Pn	13 42 23.2	+1.2
SAUI	Saumlaki	1.36	131	P	Pn	13 42 24.2	+2.2
MSAI	Masohi	3.95	340	P	Pn	13 42 52.6	-1.0
AAI	Ambon	3.96	329	P	Pn	13 42 51.6	-2.1
FAKI	Fak Fak	4.60	26	Pn	Pn	13 42 57.8	-4.3
FAKI	Fak Fak	4.60	26	P	Pn	13 42 58.3	-3.8
SIJI	Sorong	6.27	9	P	Pn	13 43 18.4	-5.9
	6.0nm,0.3s,baz=196,slow=22,SNR=44						
SIJI				S	Sn	13 44 22.3	-13
	5.6nm,0.3s,baz=247,slow=23,SNR=9.3						
SWI	Sorong	6.27	9	P	Pn	13 43 20.0	-4.3
LBMI	Labuha	6.98	337	P	Pn	13 43 31.8	-2.0
	0.1nm20nm,0.9s						
BATI	Baumata	7.22	244	P	Pn	13 43 36.0	-1.0
	7.4nm,0.3s,baz=115,slow=4.2,SNR=9.4						
BATI				S	Sn	13 44 55.2	-2.5
	9.7nm,0.3s,baz=146,slow=18,SNR=7.8						
BATI	Baumata	7.22	244	P	Pn	13 43 37.2	+0.3
	0.2nm25nm,0.8s						
KNRA	Kununurra	8.65	190		Pn	13 43 57.4	+1.3
WBSI	Waikabubak, Su	11.05	256	P	Pn	13 44 27.3	-0.6
	28nm,0.9s						
FITZ	Fitzroy Crossi	11.83	202	P	Pn	13 44 38.2	+0.3
	2.4nm,0.3s,baz=34,slow=12,SNR=34						
FITZ				S	Sn	13 46 40.4	-8.4
	1.8nm,0.3s,baz=102,slow=13,SNR=6.4						
PLAI	Plampang	12.48	261	P	Pn	13 44 45.3	-1.3
WB0	Warramunga Arr	13.22	163		Pn	13 44 56.6	+0.6
WRAB	Tennant Creek	13.36	163	Pn	Pn	13 44 57.4	-0.4
WRA	Warramunga Arr	13.37	163	P	Pn	13 44 58.0	+0.1
	1.1nm,0.3s,baz=348,slow=13,SNR=33						
WRA				S	Sn	13 47 21.4	-4.5
	1.3nm,0.3s,baz=335,slow=24,SNR=7.0						
WRA	Warramunga Arr	13.37	163	Pn	Pn	13 44 57.9	-0.1
WB2	Warramunga Arr	13.37	163		Pn	13 44 58.6	+0.6
WR0	Warramunga Arr	13.45	162		Pn	13 44 59.1	+0.2
COEN	Coen	14.41	119	P	P	13 45 15.0	+1.3
ASAR	Alice Springs	16.84	168	P	Pn	13 45 44.4	+3.3
	0.6nm,0.3s,baz=14,slow=13,SNR=37						
ASAR				S	S	13 48 44.5	-4.0
	0.4nm,0.3s,baz=323,slow=20,SNR=6.0						
PSA00	Pilbara Seismi	17.56	214	P	Pn	13 45 50.7	+1.1
PSA00				IAmb	IAmb	13 45 58.4	
	comp=Z,10nm,0.6s						
PSI	Prapat	32.78	286	LR	LR	14 03 38.7	
	comp=Z,86nm,18.6s,baz=189,slow=40						
CM31	Chiang Mai Arr	39.99	310	P	P	13 49 16.6	+2.4
CMAR	Chiang Mai Arr	39.99	310	P	P	13 49 15.7	+1.5
	comp=Z,0.6nm,0.3s,baz=144,slow=8.5,SNR=5.8						
MK31	Makanchi Array	68.45	327	P	P	13 52 41.1	+1.4
MKAR	Makanchi Array	68.45	327	P	P	13 52 41.9	+2.2
	comp=Z,1.6nm,0.5s,baz=122,slow=7.5,SNR=46						
MKAR	Makanchi Array	68.45	327	P	P	13 52 41.0	+1.3
MAKZ	Makanchi	68.63	327	P	P	13 52 42.2	+1.4
MAKZ				IAmb	IAmb	13 52 43.5	
	comp=Z,1.6nm,0.6s						
ZALV	Zalesovo Beam	71.78	334	LR	LR	14 25 24.1	
	comp=Z,22nm,21.1s,baz=261,slow=36						
KKAR	Karatay Array	73.58	319	P	P	13 53 13.6	+2.8
TIXI	Tiksi	78.59	360	P	P	13 53 40.5	+2.1
	comp=Z,0.5nm,0.4s,baz=306,slow=7.2,SNR=1.7						
TIXI	Tiksi	78.59	360	IAmb	IAmb	13 53 45.8	
	comp=Z,4.7nm,1.5s						
ABKAR	Akbulak array	82.74	322	P	P	13 54 02.1	+1.1
QSPA	South Pole Qui	82.88	180	P	P	13 54 05.7	+4.1
QSPA				IAmb	IAmb	13 54 33.4	
	comp=Z,5.3nm,1.3s						
TORD	Torodi Ar. Bea	129.08	281	PKP	PKiKP	14 00 48.6	+2.8
	comp=Z,0.5nm,0.7s,baz=79,slow=1.2,SNR=2.6						
LPAZ	La Paz	150.49	142	PKPbc	PKPab	14 01 34.5	-2.1
	comp=Z,0.7nm,0.4s,baz=167,slow=12,SNR=6.1						
LPAZ	La Paz	150.49	142		PKPab	14 01 32.8	-3.7

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*CNRM **06** 13:43:28.4, 35°.50N×3°.78W, h22km, ml2.5*
*MDD **06** 13:43:29.9±0.4, 35°.39N×3°.78W, h11km, mb_Lg2.8/7, Error ellipse: s-maj=3.7km s-min=3.0km az=170.0*
*SFS **06** 13:43:30.0, 35°.36N×3°.74W, h20km, ML2.8, ALHUCEMAS (MARRUECOS)*
ISC 06 13:43:28.2±1.2**, 35°.45N**±0°.02×**3°.77W**±0°.02**, h15**km±10km**, n25, σ1s.60**/51**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.27	212	P	Pb	13 43 34.9	+0.2
PALE				S	Sb	13 43 40.0	+0.9
GOG	Mont Gurugu	0.67	109	P	Pn	13 43 42.5	-0.6
GOG				S	Sn	13 43 52.0	-1.4
EMEL	Melilla	0.68	102	Pg	Pn	13 43 42.6	-0.6
EMEL				Sg	Sn	13 43 51.9	-1.6
EALB	Alboran	0.78	50	Pg	Pn	13 43 43.9	-0.7
EALB				i Vmb_Lg		13 43 54.7	
EALB				Sg	Sn	13 43 55.1	-0.8
TAF	Taforalt	1.28	119	P	Pb	13 43 51.7	-0.2
TAF				S	Sg	13 44 09.2	-0.2
CHEFC	Chefchaouen	1.33	256	P	Pb	13 43 52.8	-0.1
CHEFC				S	Sb	13 44 10.0	+0.2
SMIR	Smir Dam	1.34	281	P	Pn	13 43 50.6	-1.7
SMIR				S	Sb	13 44 10.0	+0.1
EMIJ	Mijas	1.38	324	Pn	Pg	13 43 55.4	+0.6
EMIJ				Sn	Sg	13 44 13.4	+0.6
EMIJ				i Vmb_Lg		13 44 17.0	
CEU	Ceuta	1.38	290	P	Pn	13 43 51.6	-1.3
CEU				S	Sn	13 44 07.6	-3.3
EMAL	Malaga-Limoner	1.42	338	P	Pg	13 43 55.7	+0.2
EMAL				S	Sb	13 44 12.4	+0.2
ELGU	Los Guajares,	1.42	5	Pn	Pb	13 43 54.0	-0.4
ELGU				Sn	Sb	13 44 13.1	+0.7
ELGU				i Vmb_Lg		13 44 15.4	
JBK	JBK	1.48	138	P	Pn	13 43 53.3	-1.2
JBK				S	Sn	13 44 12.2	-1.5
EGOR	Sierra Gorda,	1.68	351	Pn	Pb	13 43 58.2	-0.7
EGOR				i Vmb_Lg		13 44 17.8	
EGOR				Sn	Sb	13 44 20.3	+0.3
IFR	Ifrane	2.23	211	P	Pn	13 44 05.5	+0.8
IFR				S	Sn	13 44 32.2	+0.2
MD31	MD31	2.70	198	P	Pb	13 44 13.2	-3.0
MD31				S	Sn	13 44 45.4	+1.8
MDT	Midelt	2.71	195	P	Pn	13 44 12.9	+1.5
MDT				S	Sn	13 44 45.4	+1.4
ECAB	El Cabril	2.94	334	Pn	Pb	13 44 17.6	-2.6
ECAB				Sn	Sn	13 44 51.3	+1.8
ECAB				i Vmb_Lg		13 45 06.3	
ZHG	ZHG	3.10	231	P	Pn	13 44 17.3	+0.7
ZHG				S	Sb	13 44 58.6	-2.2
ETRV	Los Montesinos	3.53	42	Pn	Pn	13 44 24.5	+2.1
ETRV				Sn	Sn	13 45 03.8	+0.1
ETRV				Sg	Sg	13 45 20.7	-0.7
ETRV				i Vmb_Lg		13 45 34.0	
EGRO	El Granado	3.65	306	Pn	Pn	13 44 24.7	+0.7
EGRO				Sn	Sn	13 45 06.0	-0.7
ETOB	Tobarra	3.65	28	Pn	Pn	13 44 25.7	+1.4
ETOB				Sn	Sn	13 45 08.0	+0.9
PVAQ	Vaqueiros	3.74	303	P	Pn	13 44 24.9	-0.3
PVAQ				S	Sn	13 45 06.6	-2.4
PAB	San Pablo	4.12	354	Pn	Pn	13 44 33.8	+3.1
PAB				Sn	Sn	13 45 17.5	-1.1
ESDC	Sonseca Array	4.22	358	Pn	Pn	13 44 34.9	+2.9
ESDC				Sn	Sn	13 45 20.5	-0.7
OUZM	OUZ	5.17	210	P	Pn	13 44 48.1	+2.9
OUZM				S	Sn	13 45 48.6	+4.0

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*CNRM **06** 13:53:44.3, 35°.50N×3°.84W, h11km, ml2.5*
*MDD **06** 13:53:49.9±0.7, 35°.40N×3°.68W, h31km±12km, mb_Lg2.4/4, Error ellipse: s-maj=5.1km s-min=4.3km az=42.0*
*SFS **06** 13:53:49.0, 35°.40N×3°.73W, h25km, ML2.5, ALBORAN SUR*
ISC 06 13:53:45.9±0.9**, 35°.39N**±0°.03×**3°.81W**±0°.03**, h17**km±7km**, n13, σ1s.38**/25**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.20	213	P	Pg	13 53 50.6	-0.2
PALE				S	Sg	13 53 54.2	+0.2
GOG	Mont Gurugu	0.68	104	P	Pg	13 53 57.3	-2.0
GOG				S	Sn	13 54 10.9	-0.2
EMEL	Melilla	0.70	97	Pg	Pn	13 54 02.3	+1.3
EMEL				Sg	Sb	13 54 10.1	+1.1
EALB	Alboran	0.83	49	Pg	Pn	13 54 03.9	+1.0
EALB				Sg	Sg	13 54 13.0	-0.1
EALB				i Vmb_Lg		13 54 15.8	
TAF	Taforalt	1.28	116	P	Pn	13 54 06.9	-2.1
TAF				S	Sg	13 54 29.6	+2.5
CHEFC	Chefchaouen	1.29	258	P	Pn	13 54 09.3	+0.1
CHEFC				S	Sb	13 54 26.6	+0.6
SMIR	Smir Dam	1.32	283	P	Pn	13 54 08.9	-0.6
SMIR				S	Sb	13 54 26.6	-0.2
EMIJ	Mijas	1.41	326	Pn	Pg	13 54 13.7	+0.6
EMIJ				Sn	Sn	13 54 29.5	+0.4
EMIJ				i Vmb_Lg		13 54 36.9	
EMAL	Malaga-Limoner	1.46	340	P	Pn	13 54 09.4	-2.1
EMAL				S	Sn	13 54 27.8	-2.5
EGOR	Sierra Gorda,	1.74	352	Pn	Pb	13 54 17.8	+0.4
EGOR				Sn	Sn	13 54 37.9	+0.6
EGOR				i Vmb_Lg		13 55 29.9	
MD31	MD31	2.64	198	P	Pn	13 54 26.6	-1.1
MD31				S	Sn	13 55 01.3	+1.9
MDT	Midelt	2.65	195	P	Pn	13 54 28.3	+0.3
MDT				S	Sb	13 55 03.6	-1.7
ECAB	El Cabril	2.98	335	Sn	Sn	13 55 08.8	+1.1

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*SKHL **06** 13:57:18.2±0.6, 44°.60N×147°.30E, h141km±6km, mb4.5/6, msha5.1/4*
*JMA **06** 13:57:18.6±0.5, 44°.50N×147°.20E, h145km, M3.4*
*IDC **06** 13:57:20.0±2.5, 44°.96N×146°.93E, h167km±27km, mb3.1/9, mb1 3.3/11, mb1mx3.1/34, mbtmp3.5/11, Error ellipse: s-maj=45.5km s-min=22.5km az=172.0*
ISC 06 13:57:16.7±0.8**, 44°.56N**±0°.07×**147°.30E**±0°.07**, h151**km±6km**, n32, σ1s.04**/43**, mb3.4**/9**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.77	206	i P	Pn	13 57 40.4	+0.6
SHO				AMB	AMB	13 57 41.0	
	310nm,0.3s						
SHO				i S	Sn	13 57 57.0	-0.3
SHO				A	A	13 57 57.9	
	160nm,0.3s						
SHO				A	A	13 57 57.9	
	450nm,0.3s						
KUR	Kuril'sk	0.78	31	i P	Pn	13 57 40.3	+0.5
KUR				AMB	AMB	13 57 43.2	
	60nm,0.3s						
KUR				i S	Sn	13 57 56.2	-1.3
KUR				A	A	13 57 58.3	
	200nm,0.5s						
KUR				A	A	13 57 58.3	
	210nm,0.5s						
YUK	Yuzh-Kuril'sk	1.16	243	i P	Pn	13 57 43.8	+0.9
YUK				AMB	AMB	13 57 44.1	
	300nm,0.2s						
YUK				i S	Sn	13 58 03.3	+0.4
YUK				A	A	13 58 04.6	
	840nm,0.6s						
YUK				A	A	13 58 04.6	
	660nm,0.6s						
GLVR	Golovnino	1.52	238	i P	Pn	13 57 47.9	+1.4
GLVR				AMB	AMB	13 57 48.0	
	340nm,0.3s						
GLVR				eS	Sn	13 58 10.6	+1.2
GLVR				A	A	13 58 11.7	
	560nm,0.4s						
GLVR				A	A	13 58 11.7	
	220nm,0.4s						
NEM2	Nemuro 2	1.64	224	P	Pn	13 57 48.2	+0.4
NEM2				eS	Sn	13 58 10.5	-1.1
NMR	Nemuro--Hokkai	1.65	224	i P	Pn	13 57 48.3	+0.4
NMR				eS	Sn	13 58 10.7	-1.0
JRA	Rausu	1.69	249	P	Pn	13 57 48.9	+0.6
JNSB	Nemuroshibetsu	1.83	245	P	Pn	13 57 50.9	+1.0
JNK	Nakash	2.10	243	P	Pn	13 57 53.9	+0.8
JKHN	Kushirohamanak	2.14	227	P	Pn	13 57 54.1	+0.6
JKHN				eS	Sn	13 58 21.4	-0.4
AKK	Akkeshi	2.36	230	i P	Pn	13 57 56.6	+0.5
AKK				eS	Sn	13 58 26.1	-0.3
JAK	Akkeshi	2.45	231	P	Pn	13 57 57.7	+0.5
JAK				eS	Sn	13 58 28.1	-0.3
JTKR	Abashiri--Toko	2.51	258	P	Pn	13 57 58.5	+0.6
JAR	Ashorobuto	2.85	245	P	Pn	13 58 03.6	+1.4
JMP	Maruseppu	2.88	260	P	Pn	13 58 02.9	+0.3
JOB	Onbets	3.01	238	P	Pn	13 58 05.3	+1.1
JOB				eS	Sn	13 58 40.8	-0.1
JSE	Soyaes	3.38	278	P	Pn	13 58 09.0	+0.1
ASAJ	Asahikawa	3.40	264	P	Pn	13 58 10.4	+1.2
	1.4nm,0.3s,baz=354,slow=4.9,SNR=22						
JCH	Churui	3.46	237	P	Pn	13 58 10.4	+0.4
JCH				eS	Sn	13 58 49.9	-1.3
JFR	Furan	3.68	249	P	Pn	13 58 14.2	+1.4
YSS	Yuzh-Sakhalins	3.98	309	eP	Pn	13 58 18.4	+1.8
YSS				AMB	AMB	13 58 19.1	
JNBK	Urakawa-nobuka	4.02	237	P	Pn	13 58 17.0	-0.2
SEY	Seymchan	18.64	7	P	P	14 01 21.1	-1.3
	0.1nm,0.3s,baz=180,slow=10,SNR=4.0						
ILAR	Eielson Array	40.77	37	P	P	14 04 42.2	-0.3
	0.4nm,0.4s,baz=270,slow=6.7,SNR=8.3						
MKAR	Makanchi Array	44.31	297	P	P	14 05 10.9	-0.5
	0.1nm,0.4s,baz=81,slow=6.7,SNR=2.2						
INK	Inuvik	45.65	31	P	P	14 05 21.7	+0.1
	1.5nm,0.4s,baz=298,slow=3.9,SNR=24						
YKA	Yellowknife Ar	55.07	34	P	P	14 06 33.0	+0.6
	0.6nm,0.7s,baz=301,slow=6.8,SNR=8.9						
FINES	FINESS Array B	64.20	333	P	P	14 07 32.3	-2.5
	0.5nm,0.4s,baz=28,slow=6.3,SNR=7.1						
NVAR	Mina Array Bea	67.06	58	P	P	14 07 55.7	+1.8
	0.5nm,0.7s,baz=323,slow=7.3,SNR=2.8						
NOA	NORSAR Array B	68.88	339	P	P	14 08 03.0	-1.6
	0.4nm,0.6s,baz=30,slow=6.5,SNR=1.6						
PDAR	Pinedale Array	69.30	50	P	P	14 08 08.6	+0.8
	0.2nm,0.6s,baz=349,slow=8.3,SNR=1.7						
TXAR	Lajitas Array	82.11	56	P	P	14 09 21.9	+1.3
	0.3nm,1.0s,baz=318,slow=3.6,SNR=3.4						

IDC 06 14:22:18.4±3.3**, 4°.63N**×**126°.08E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/47**, mbtmp3.2**/3**, Error ellipse: s-maj=338.9km s-min=26.8km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.73	162	P	P	14 27 51.4	+0.7
	0.2nm,0.5s,baz=342,slow=10,SNR=8.6						
ASAR	Alice Springs	29.14	165	P	P	14 28 20.4	-1.0
	0.3nm,1.0s,baz=347,slow=10,SNR=1.6						
MKAR	Makanchi Array	56.45	325	P	P	14 32 02.0	-0.1
	0.2nm,0.5s,baz=114,slow=6.3,SNR=6.2						

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*IDC **06** 14:25:06.6±1.2, 22°.68N×120°.74E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/54, mbtmp3.5/5, MS3.0/3, Ms1 3.1/3, ms1mx2.6/64, Error ellipse: s-maj=46.4km s-min=24.3km az=82.0*
*IASPEI **06** 14:25:10.9±0.8, 22°.82N±0°.01×120°.68E±0°.02, h18km±2km, mb3.7/4, Error ellipse: s-maj=2.3km s-min=1.7km az=86.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*TAP **06** 14:25:10.3, 22°.82N×120°.68E, h20km, ML4.1, B*
*JMA **06** 14:25:10.7±0.6, 22°.82N×120°.91E, h0km, M4.1*
ISC 06 14:25:11.1±0.7**, 22°.81N**±0°.01×**120°.68E**±0°.02**, h24**km±3km**, n151, σ0s.98**/260**, mb3.7**/4**, 26C-27D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSD	Sandimen	0.08	214	⇑iP	Pb	14 25 14.6	-1.0
	baz=203						
SSD				i S	Sb	14 25 17.4	-1.1
	baz=203						
TSMG	Majia	0.11	197	⇑iP	Pb	14 25 14.8	-1.0
	baz=193						
TSMG				i S	Sb	14 25 17.8	-1.2
	baz=193						
SLGT	Liugui	0.18	350	i P	Pb	14 25 15.8	-0.8
	baz=351						
SLGT				S	Sb	14 25 19.7	-0.5
	baz=351						
SCST	Cishan	0.19	293	⇑iP	Pb	14 25 16.0	-0.6
	baz=291						
SCST				eS	Sb	14 25 21.5	+1.2
	baz=291						
SGLT	Jiouru	0.20	244	⇑iP	Pb	14 25 16.7	0.0
	baz=239						

SGLT	baz=239			eS	Sb	14 25 21.9	+1.5
MASBT	Mashibuluo baz=191	0.20	192	⇑iP	Pb	14 25 16.0	-0.8
MASBT	baz=191			iS	Sb	14 25 19.7	-0.9
TSPT	Pingtung City baz=230	0.22	232	⇑iP	Pb	14 25 17.0	+0.1
TSPT	baz=230			eS	Sb	14 25 23.6	+2.7
TWM1	Shoushan baz=270	0.24	273	⇑iP	Pb	14 25 17.3	+0.1
TWM1	baz=270			eS	Sn	14 25 24.4	+3.0
SGST	Jiashian baz=343	0.28	342	⇓iP	Pb	14 25 16.9	-1.0
SGST	baz=343			iS	Sb	14 25 22.6	+0.1
SNJT	Kaohsiung City baz=258	0.32	260	eP	Pb	14 25 19.2	+0.8
SNJT	baz=258			eS	Sn	14 25 26.8	+0.5
ECL	Taimali baz=130	0.33	130	⇓iP	Pb	14 25 18.2	-0.3
ECL	baz=130			iS	Sb	14 25 23.6	0.0
SSPT	Xinbi baz=196	0.34	198	⇑iP	Pb	14 25 18.6	-0.2
SSPT	baz=196			iS	Sb	14 25 24.9	+0.9
STYT	Tauyuan baz=14	0.36	11	P	Pb	14 25 18.8	-0.2
STYT	baz=14			eS	Sb	14 25 25.1	+0.7
TWG	Pinlang baz=91	0.36	89	⇓iP	Pb	14 25 19.1	0.0
TWG	baz=91			S	Sb	14 25 25.1	+0.6
STYH	Taoyuan baz=15	0.37	14	P	Pb	14 25 19.1	-0.1
STYH	baz=15			eS	Sb	14 25 25.4	+0.8
TWGBT	Beinan baz=91	0.37	89	⇓iP	Pb	14 25 19.1	-0.1
TWGBT	baz=91			S	Sb	14 25 25.1	+0.4
SHHT	Tainan City baz=303	0.37	304	⇓iP	Pb	14 25 20.0	+0.8
SHHT	baz=303			S	Sn	14 25 28.2	+0.8
CHN3	Shinhua baz=311	0.39	312	⇓P	Pb	14 25 20.5	+0.9
CHN3	baz=311			eS	Sn	14 25 29.0	+1.1
CHN1	Nanshi baz=340	0.40	339	⇓iP	Pb	14 25 19.6	-0.1
CHN1	baz=340			eS	Sn	14 25 27.3	-0.9
KAU	Kaohsiung baz=233	0.42	235	⇑P	Pn	14 25 21.7	+0.1
KAU	baz=233			eS	Sn	14 25 29.8	+1.1
WSSB	Gushan baz=245	0.42	246	eP	Pb	14 25 21.0	+1.0
WSSB	baz=245			eS	Sn	14 25 30.4	+1.7
LONT	Longtian baz=79	0.42	77	⇓P	Pb	14 25 20.0	-0.1
LONT	baz=79			eS	Sb	14 25 26.4	+0.2
TTN	Taitung baz=99	0.43	98	⇓eP	Pn	14 25 21.1	-0.8
WTP	Ta-pu baz=353	0.44	352	⇓iP	Pb	14 25 20.1	-0.2
WTP	baz=353			eS	Sb	14 25 27.8	+1.3
SNST	Tainan City baz=338	0.44	337	⇓P	Pb	14 25 20.4	0.0
SNST	baz=338			eS	Sb	14 25 28.0	+1.4
SCZT	Fangliau baz=185	0.44	187	⇓iP	Pb	14 25 19.9	-0.5
SCZT	baz=185			eS	Sb	14 25 26.2	-0.4
EAST	Anshuo baz=159	0.45	160	⇓iP	Pb	14 25 20.4	-0.2
EAST	baz=159			S	Sb	14 25 27.3	+0.3
TAI1	Yung-k'ang baz=298	0.47	299	eP	Pb	14 25 21.9	+1.0
TAI1	baz=298			eS	Sn	14 25 30.3	+0.4
TAI	Tainan baz=291	0.48	292	eP	Pb	14 25 21.8	+0.8
TAI	baz=291			eS	Sn	14 25 30.4	+0.3
SSHA	Shanhua baz=311	0.48	312	eP	Pb	14 25 22.0	+1.0
SSHA	baz=311			eS	Sn	14 25 31.1	+0.9
TWK	Hsinying baz=340	0.49	339	⇓iP	Pb	14 25 20.9	-0.3
TWK	baz=340			eS	Sn	14 25 30.4	+0.1
ELDTW	Lidau baz=42	0.49	40	⇑iP	Pb	14 25 20.9	-0.3
ELDTW	baz=42			eS	Sb	14 25 28.6	+0.6
TPUB	Ta-pu baz=355	0.49	355	⇓iP	Pb	14 25 20.7	-0.4
TPUB	baz=355			eS	Sb	14 25 29.2	+1.2
TAW	Tawu baz=156	0.49	156	⇓iP	Pb	14 25 21.0	-0.2
TAW	baz=156			eS	Sb	14 25 28.4	+0.3
TAWH	Dawu Township baz=158	0.51	158	⇓iP	Pb	14 25 21.1	-0.3
TAWH	baz=158			S	Sb	14 25 28.4	0.0
WLCH	Liuqiu baz=210	0.54	211	eP	Pn	14 25 24.1	+0.8
WLCH	baz=210			eS	Sn	14 25 34.9	+3.4
CHN4	Tsaushan baz=352	0.54	351	⇓P	Pb	14 25 21.7	-0.4
CHN4	baz=352			eS	Sn	14 25 31.2	-0.5
TWP	Hsiaoliuchiu baz=211	0.55	212	eP	Pn	14 25 23.8	+0.4
ECS	Chishang baz=62	0.57	60	⇑eP	Pb	14 25 22.7	+0.2
ECS	baz=62			eS	Sn	14 25 31.6	-0.8
SCLT	Jiali baz=309	0.58	309	⇑P	Pb	14 25 22.9	+0.3
SCLT	baz=309			eS	Sn	14 25 32.9	+0.5
EDH	Donghe baz=76	0.60	74	⇑P	Pb	14 25 23.0	0.0
EDH	baz=76			eS	Sn	14 25 32.1	-0.9
SLIU	Shizi baz=169	0.60	169	⇓iP	Pb	14 25 22.8	-0.2
SLIU	baz=169			S	Sb	14 25 31.6	+0.4
ICHU	Yijhu baz=326	0.66	326	⇓P	Pb	14 25 23.8	-0.2
ICHU	baz=326			eS	Sn	14 25 34.3	-0.2
FULB	Fuli baz=57	0.68	56	⇑P	Pn	14 25 24.8	-0.5
FULB	baz=57			eS	Sn	14 25 35.5	+0.3
CHN8	Yiju baz=321	0.69	321	⇓eP	Pb	14 25 24.3	-0.1
CHN8	baz=321			eS	Sn	14 25 35.6	+0.5
CHKT	Chengkung baz=67	0.69	66	eP	Pb	14 25 24.8	+0.2
ALS	Alishan baz=11	0.70	9	eP	Pb	14 25 24.6	-0.3
ALS	baz=11			eS	Sn	14 25 36.1	0.0
YUS	Yu-Shan baz=22	0.72	20	eP	Pb	14 25 25.1	-0.2
YUS	baz=22			eS	Sb	14 25 35.7	+0.7
CHY	Chiayi baz=342	0.72	341	⇓eP	Pb	14 25 25.1	0.0
CHY	baz=342			eS	Sn	14 25 36.1	0.0
CHN2	Minshiung baz=345	0.74	345	⇓eP	Pb	14 25 25.6	+0.3
CHN2	baz=345			eS	Sn	14 25 37.5	+1.0
LDUT	Ludao baz=101	0.74	101	eP	Pb	14 25 25.0	-0.4
LDUT	baz=101			eS	Sn	14 25 36.2	-0.4
CHN5	Tsauling	0.78	360	eP	Pb	14 25 26.1	-0.1
CHN5				eS	Sn	14 25 38.1	+0.4
TWF1	Yuli baz=48	0.78	46	⇑eP	Pb	14 25 25.9	-0.2
TWF1	baz=48			eS	Sn	14 25 37.0	-0.6
EYUL	Yuli baz=49	0.79	48	⇑eP	Pb	14 25 26.1	-0.2
EYUL	baz=49			eS	Sn	14 25 37.0	-0.9
SMST	Manzhou Townsh baz=169	0.80	170	eP	Pb	14 25 26.7	+0.3
SMST	baz=169			eS	Sn	14 25 38.1	+0.1
HEN	Hengchun baz=175	0.81	176	eP	Pb	14 25 27.0	+0.6
HEN	baz=175			eS	Sn	14 25 39.4	+1.2
YULB	Yu-li baz=45	0.81	44	⇑eP	Pb	14 25 26.2	-0.4
YULB	baz=45			eS	Sn	14 25 38.1	-0.2
WSL	Shuilin Townsh baz=329	0.82	330	eP	Pb	14 25 26.1	-0.6
WSL	baz=329			eS	Sb	14 25 38.2	+0.8
ECBN	Changbin baz=55	0.87	55	eP	Pn	14 25 28.0	+0.2
TWK1	Hengchun baz=172	0.87	172	⇑eP	Pb	14 25 27.8	+0.2
TWK1	baz=172			eS	Sn	14 25 41.3	+1.6
TWKBT	Hengchun baz=172	0.88	172	⇑eP	Pb	14 25 27.8	+0.1
TWKBT	baz=172			eS	Sn	14 25 41.3	+1.4
WGK	Gukeng baz=354	0.88	353	eP	Pb	14 25 27.6	-0.1
WGK	baz=354			eS	Sn	14 25 41.5	+1.5
WDLH	Douliu baz=352	0.88	352	eP	Pb	14 25 27.6	-0.2
WDLH	baz=352			eS	Sn	14 25 40.9	+0.8
EHY	Hungye baz=42	0.91	40	⇑eP	Pb	14 25 27.9	-0.3
EHY	baz=42			eS	Sn	14 25 40.5	-0.2
WTK	Tuku baz=343	0.91	343	eP	Pb	14 25 27.7	-0.6
WTK	baz=343			eS	Sb	14 25 40.7	+0.7
WSF	Szhu baz=333	0.92	333	eP	Pn	14 25 27.8	-0.8
WSF	baz=333			eS	Sn	14 25 41.7	+0.6
TSEB	Hengchuen, Pin baz=170	0.93	167	eP	Pb	14 25 29.4	+0.8
TSEB	baz=170			eS	Sn	14 25 42.8	+1.5
HGSD	Ruisui baz=46	0.96	45	eP	Pb	14 25 29.4	+0.2
HGSD	baz=46			eS	Sn	14 25 43.8	+1.8
SSLB	Suanglung baz=15	1.00	14	⇑eP	Pn	14 25 29.7	0.0
SSLB	baz=15			eS	Sn	14 25 43.5	+0.4
WJS	Zhushan baz=3.0	1.01	2	eP	Pn	14 25 29.8	0.0
WJS	baz=3.0			eS	Sn	14 25 43.7	+0.6
VWDT	VWDT baz=25	1.03	24	⇑eP	Pn	14 25 30.1	+0.1
VWDT	baz=25			eS	Sn	14 25 46.3	+2.6
WDGT	Dungji baz=295	1.04	296	⇓eP	Pn	14 25 28.8	-1.4
WDGT	baz=295			eS	Sb	14 25 42.2	-1.5
WNT	Mingjian baz=1.0	1.06	0	eP	Pn	14 25 30.5	0.0
WNT	baz=1.0			eS	Sn	14 25 45.6	+1.1
SMLT	Sun Moon Lake baz=11	1.08	11	⇑eP	Pb	14 25 31.4	+0.1
SMLT	baz=11			eS	Sn	14 25 47.0	+1.8
WNT1	Nantou City	1.09	360	eP	Pb	14 25 31.5	+0.2
WNT1				eS	Sb	14 25 46.6	+1.5
EGFH	Guangfu baz=39	1.09	39	eP	Pn	14 25 31.0	+0.1
EGFH	baz=39			eS	Sn	14 25 46.1	+0.7
TYC	Yuchr baz=9.0	1.10	8	eP	Pb	14 25 31.4	0.0
TYC	baz=9.0			eS	Sb	14 25 47.0	+1.6
WTCT	Ta-ch'eng baz=341	1.11	341	eP	Pn	14 25 30.8	-0.3
WTCT	baz=341			eS	Sb	14 25 46.3	+0.6
LAY	Lan-yu baz=134	1.11	134	eP	Pn	14 25 30.2	-1.1
LAY	baz=134			eS	Sb	14 25 46.1	+0.2
WRL	Guolierlin Hig baz=346	1.12	346	eP	Pn	14 25 30.7	-0.6
WRL	baz=346			eS	Sn	14 25 46.2	+0.3
WYL	Yuanlin Townsh baz=356	1.15	355	eP	Pn	14 25 32.0	+0.3
LYUB	Lan-yu baz=134	1.16	134	eP	Pn	14 25 30.1	-1.8
LYUB	baz=134			eS	Sn	14 25 44.9	-2.1
ESL	Shilin baz=36	1.21	35	eP	Pb	14 25 33.1	-0.3
ESL	baz=36			eS	Sb	14 25 50.1	+1.4
VCHM	Qimei baz=289	1.22	289	⇓eP	Pn	14 25 31.1	-1.5
VCHM	baz=289			eS	Sn	14 25 46.3	-2.0
WPL	Puli Township baz=12	1.22	12	eP	Pn	14 25 33.1	+0.4
WPL	baz=12			eS	Sb	14 25 49.8	+0.9
WWF	Wufeng baz=1.0	1.23	1	eP	Pn	14 25 33.1	+0.3
WWF	baz=1.0			eS	Sb	14 25 50.4	+1.4
PHUB	P'eng-hu baz=304	1.24	305	⇓eP	Pn	14 25 31.3	-1.5
PHUB	baz=304			eS	Sn	14 25 46.8	-2.0
DPDB	Guoxing baz=11	1.24	10	eP	Pn	14 25 33.4	+0.4
DPDB	baz=11			eS	Sb	14 25 50.0	+0.5
WUSB	Renai baz=19	1.24	19	⇑eP	Pn	14 25 33.5	+0.5
WUSB	baz=19			eS	Sb	14 25 50.3	+0.7
WCS	Beigang Elemen baz=10.0	1.26	10	eP	Pn	14 25 33.6	+0.4
WCS	baz=10.0			eS	Sb	14 25 50.3	+0.3
WCHH	Zhanghua baz=355	1.27	355	eP	Pn	14 25 33.5	+0.2
WCHH	baz=355			eS	Sb	14 25 50.7	+0.5
PNG	Penghu baz=306	1.28	306	⇓eP	Pn	14 25 32.0	-1.4
PNG	baz=306			eS	Sn	14 25 48.1	-1.8
CHGB	Renai baz=20	1.32	20	eP	Pn	14 25 34.8	+0.6
CHGB	baz=20			eS	Sb	14 25 52.8	+0.7
TCU	Taichung	1.33	360	⇑eP	Pn	14 25 34.7	+0.5
TCU				eS	Sb	14 25 52.4	+0.4
TEYL	Yanliau Villag baz=38	1.35	39	eP	Pb	14 25 35.7	0.0
ETM	Tongmen baz=33	1.37	33	eP	Pb	14 25 35.6	-0.5
ETM	baz=33			eS	Sb	14 25 54.2	+1.0
WHF	Hehuan Shan baz=23	1.43	22	eP	Pb	14 25 36.9	-0.5
WHF	baz=23			eS	Sb	14 25 55.5	+0.2
WHP	Taichung City baz=10.0	1.48	9	eP	Pn	14 25 36.9	+0.6
WHP	baz=10.0			eS	Sb	14 25 56.1	-0.4
TDCB	Techi baz=17	1.50	17	eP	Pb	14 25 37.6	-0.8
TDCB	baz=17			eS	Sb	14 25 57.1	+0.1
TWT	Tachien baz=17	1.50	17	eP	Pn	14 25 37.6	+0.9
TWT	baz=17			eS	Sb	14 25 57.3	0.0
TWD	Chiawan baz=34	1.52	33	eP	Pn	14 25 37.5	+0.8
TWD	baz=34			eS	Sb	14 25 56.6	-0.8
FUSS	Fushou baz=20	1.52	20	eP	Pn	14 25 37.8	+0.8
FUSS	baz=20			eS	Sb	14 25 57.8	0.0
WDJ	Dajia District baz=359	1.53	359	eP	Pn	14 25 38.0	+1.0
WDJ	baz=359			eS	Sb	14 25 58.2	+0.4
TWQ1	Liyutan baz=3.0	1.53	3	eP	Pn	14 25 37.7	+0.8
TWQ1	baz=3.0			eS	Sb	14 25 57.8	0.0
ETLH	Xiulin Townshi baz=28	1.57	28	⇑eP	Pn	14 25 38.6	+1.0
ETLH	baz=28			eS	Sb	14 25 58.9	-0.2
NACB	Ninganchiao baz=32	1.59	32	eP	Pn	14 25 38.3	+0.4
NACB	baz=32			eS	Sb	14 26 00.3	+0.6
ETL	Fush Village baz=33	1.60	33	eP	Pn	14 25 38.8	+0.9
NSY	Sanyi baz=3.0	1.60	3	eP	Pn	14 25 38.9	+1.0
NSY	baz=3.0			eS	Sb	14 26 00.7	+0.9
NMLH	Miaoli baz=4.0	1.72	3	eP	Pn	14 25 40.7	+1.1
NNSB	Datong baz=22	1.73	22	eP	Pn	14 25 41.1	+1.3
NNS	Nan Shan baz=22	1.74	21	eP	Pb	14 25 41.4	-1.1
NNS	baz=22			eS	Sb	14 26 03.2	-0.8
NSTT	Nanjuang baz=10.0	1.83	9	eP	Pn	14 25 41.4	+0.2
LIOB	Emei baz=10.0	1.85	9	eP	Pn	14 25 41.7	+0.3
LIOB	baz=10.0			eS	Sb	14 26 08.1	+1.1
NFF	Wufeng Townshi baz=13	1.85	12	eP	Pn	14 25 41.7	+0.2
NFF	baz=13			eS	Sb	14 26 06.5	-0.7
ENA	Nanau baz=32	1.88	31	eP	Pn	14 25 42.7	+1.0
LATG	Datong baz=25	1.88	24	eP	Pb	14 25 43.6	-1.3
LATG	baz=25			eS	Sb	14 26 08.1	0.0
EWUT	Wuta baz=32	1.91	32	eP	Pn	14 25 43.1	+1.0
NDT	Datong Townshi baz=23	1.94	23	eP	Pb	14 25 44.7	-1.1
YHNB	Yeheng baz=19	1.96	19	eP	Pn	14 25 44.0	+1.2
NSK	Sanguang baz=19	1.96	18	eP	Pn	14 25 44.1	+1.2
ENTT	Nioudou baz=24	1.99	24	eP	Pn	14 25 45.0	+1.7
NDS	Dongshan baz=28	2.05	27	eP	Pb	14 25 45.9	-1.7
TWC	Suao baz=31	2.08	31	eP	Pn	14 25 45.6	+1.1
NWLT	Wulai baz=21	2.10	21	eP	Pn	14 25 46.1	+1.3
TWE	Neicheng baz=26	2.10	25	eP	Pn	14 25 46.6	+1.8
TWE	baz=26			eS	Sb	14 26 13.6	-0.7
FUSB	Fushanzhiwuyua baz=23	2.11	23	eP	Pn	14 25 46.8	+1.9
SXI1	Grass Mountain baz=26	2.52	25	eP	Pn	14 25 52.3	+1.7
PTMZ	Houxiangcun baz=327	2.64	328	eP	Pn	14 25 49.2	-2.9
PTMZ	baz=327			eS	Sn	14 26 19.5	-3.9
JYNG	Yonagunijimaku	2.64	51	P	Pn	14 25 54.3	+2.1
JYNG				eS	Sn	14 26 26.1	+2.6
KNMB	Chin-men Tao baz=308	2.67	308	eP	Pn	14 25 51.9	-0.7
YOJ	Yonaguni jima	2.69	52	P	Pn	14 25 54.5	+1.6
YOJ				S	Sn	14 26 27.2	+2.4
YOJ	Yonaguni jima baz=52	2.69	52	eP	Pn	14 25 54.6	+1.7
HATJ	Hateruma jima	3.13	66	eS	Sn	14 26 36.1	+0.7
IRIF	Iriomote-Funau	3.18	61	P	Pn	14 26 00.7	+1.1
JKRS	Kuro-shima	3.37	64	P	Pn	14 26 03.2	+1.0
JKRS				eS	Sn	14 26 43.1	+1.7
MATB	Ma-tsu baz=348	3.39	349	eP	Pn	14 26 02.0	-0.5
JIJ	Ishigaki jima	3.53	63	P	Pn	14 26 04.6	+0.1
JIJ				eS	Sn	14 26 45.7	+0.2
JISG	Ishigakijimahi	3.77	61	S	Sn	14 26 51.8	+0.5
JTJ	Tarama	4.11	63	P	Pn	14 26 13.2	+0.8
JTJ				S	Sn	14 27 00.2	+0.5
JIRB	Irabujima	4.58	63	P	Pn	14 26 19.9	+1.1
JIRB				eS	Sn	14 27 11.9	+0.7
JMJ2	Miyako jima3	4.67	65	P	Pn	14 26 21.6	+1.5
JIKM	Ikemajima	4.68	62	P	Pn	14 26 21.6	+1.4
JIKM				eS	Sn	14 27 14.6	+0.8
JOGS	Gusukube	4.74	65	P	Pn	14 26 22.5	+1.4
KSRS	Korea Array comp=Z,37nm,21.3s,baz=210,slow=40	15.87	22	LR	LR	14 35 45.2	
MJAR	Matsushiro Arr 1.8nm,0.8s,baz=238,slow=8.9,SNR=4.9	20.43	44	P	P	14 29 47.2	+0.6
KLR	Kul'dur comp=Z,32nm,18.0s,baz=236,slow=38	27.78	16	LR	LR	14 42 36.9	
MKAR	Makanchi Array 0.2nm,0.7s,baz=106,slow=9.4,SNR=2.0	39.01	317	P	P	14 32 36.3	+0.6
WRA	Warramunga Arr 0.8nm,0.7s,baz=343,slow=8.7,SNR=4.1	44.54	162	P	P	14 33 18.5	-2.6
ASAR	Alice Springs 0.3nm,0.4s,baz=338,slow=7.2,SNR=23	47.95	164	P	P	14 33 46.5	-1.5
NOA	NORSAR Array B comp=Z,14nm,19.1s,baz=300,slow=39	79.22	332	LR	LR	15 16 11.6	
YKA	Yellowknife Ar 0.4nm,0.6s,baz=312,slow=4.6,SNR=8.3	84.41	23	P	P	14 37 40.3	-0.9

*CNRM **06** 14:35:53.8, 35°.59N×3°.82W, h18km, ml2.5*
*MDD **06** 14:35:56.2±1.1, 35°.41N×3°.73W, h7km±8km, mb_Lg2.4/6,*
Error ellipse: s-maj=6.9km s-min=4.8km az=118.0
ISC 06 14:35:54.8±1.1, **35°.50N**±0°.03×**3°.80W**±0°.03, **h13**km±10km, **n15**, σ1§10/25, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.30	202	P	Pb	14 36 02.2	+0.1
PALE				S	Sb	14 36 06.9	0.0
GOG	Mont Gurugu	0.71	112	P	Pg	14 36 08.2	-0.6
GOG				S	Sg	14 36 18.0	-0.2
EMEL	Melilla	0.72	106	Pg	Pg	14 36 08.3	-0.5
EMEL				Sg	Sg	14 36 17.2	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EALB	Alboran	0.77	55	Sg	Sb	14 36 21.1	+0.8
EALB				*i* Vmb_Lg		14 36 21.6	
SMIR	Smir Dam	1.30	279	P	Pn	14 36 16.2	-2.4
SMIR				S	Sb	14 36 34.2	-1.4
EMIJ	Mijas	1.32	324	Pn	Pg	14 36 21.7	+1.3
EMIJ				Sn	Sg	14 36 39.0	+1.5
TAF	Taforalt	1.33	121	P	Pn	14 36 19.3	+0.2
TAF				S	Sn	14 36 36.5	-0.1
ELGU	Los Guajares,	1.38	6	Sn	Sg	14 36 39.2	0.0
ELGU				*i* Vmb_Lg		14 36 40.8	
JBK	JBK	1.54	138	P	Pn	14 36 22.5	+0.4
JBK				S	Sb	14 36 43.0	+0.1
EGOR	Sierra Gorda,	1.63	351	Sn	Sg	14 36 48.2	+0.9
EGOR				*i* Vmb_Lg		14 36 53.8	
EQUE	Quentar	1.73	10	Pn	Pb	14 36 26.2	-0.3
EQUE				Sn	Sb	14 36 49.1	+1.0
ENIJ	Nijar	1.96	41	Sn	Sn	14 36 52.2	+0.1
ENIJ				*i* Vmb_Lg		14 36 55.2	
MD31	MD31	2.74	197	P	Pn	14 36 40.1	+1.5
MD31				S	Sn	14 37 11.6	0.0
MDT	Midelt	2.76	194	P	Pn	14 36 38.9	+0.1
MDT				S	Sn	14 37 13.1	+1.1
ECAB	El Cabril	2.88	334	Sn	Sb	14 37 18.8	-2.4
ECAB				*i* Vmb_Lg		14 37 28.0	

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*IDC **06** 14:43:09.3±1.2, 2°.39S×140°.17E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=28.3km s-min=9.1km az=11.0*
*DJA **06** 14:43:11.8±0.7, 2°S±5°×14°0E±°, h10km, M3.5/2, MLv3.5/2*
ISC 06 14:43:11.5±1.0**, 2°.41S**±0°.08×**140°.28E**±0°.04**, h24km, n12,** σ**0s.77**/14**, mb3.6**/3**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.21	211	P	Pn	14 43 18.0	-1.2
GENI				Pg	Pb	14 43 17.5	+0.3
GENI				S	Sb	14 43 21.4	+0.3
GENI				Sg	Sb	14 43 21.4	+0.3
JAY	Jayapura	0.44	104	Pg	Pb	14 43 20.6	-0.2
	532nm,0.3s,baz=245,slow=12,SNR=3148						
JAY				LR	LR	14 43 20.7	
	comp=Z,42nm,19.4s,baz=228,slow=21						
JAY				Lg	Lg	14 43 26.8	
	616nm,0.3s,baz=348,slow=23,SNR=29						
JAY	Jayapura	0.44	104	P	Pb	14 43 20.6	-0.2
JAY				Pg	Pb	14 43 20.6	-0.2
JAY				Sg	Sb	14 43 26.1	-1.0
SMPI	Sarmi	1.62	285	P	Pb	14 43 39.9	-0.8
WAMI	Wamena	2.14	227	P	Pb	14 43 49.1	-0.6
WRA	Warramunga Arr	18.37	198	P	Pn	14 47 25.0	+0.2
	0.4nm,0.3s,baz=21,slow=11,SNR=31						
ASAR	Alice Springs	22.01	196	P	P	14 48 04.8	+0.4
	1.1nm,0.5s,baz=24,slow=11,SNR=34						
H11N1	WAKE ISLAND Hy	34.15	49	T	T	15 26 04.9	
	baz=228						
H11N2	WAKE ISLAND Hy	34.17	49	T	T	15 26 04.5	
	baz=228						
H11N3	WAKE ISLAND Hy	34.17	49	T	T	15 26 04.9	
	baz=228						
CMAR	Chiang Mai Arr	45.66	299	P	P	14 51 30.5	-0.1
	0.2nm,0.3s,baz=116,slow=8.4,SNR=1.8						
MKAR	Makanchi Array	70.51	322	P	P	14 54 26.0	+1.6
	0.5nm,0.7s,baz=99,slow=7.5,SNR=5.7						

IDC 06 14:45:07.0±2.2**, 4°.21N×127°.30E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/32**, mbtmp3.5**/4**, Error ellipse: s-maj=165.1km s-min=28.4km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.98	164	P	P	14 50 32.4	-0.2
	1.6nm,0.8s,baz=343,slow=10,SNR=7.5						
ASAR	Alice Springs	28.45	167	P	P	14 51 05.6	+1.7
	0.2nm,0.5s,baz=343,slow=11,SNR=2.0						
STKA	Stephens Creek	38.38	160	P	P	14 52 28.6	-1.6
	0.4nm,0.2s,baz=326,slow=7.3,SNR=1.5						
MKAR	Makanchi Array	57.49	325	P	P	14 54 58.1	0.0
	0.2nm,0.6s,baz=108,slow=8.0,SNR=1.8						

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*IDC **06** 15:08:54.5±0.6, 23°.23N×123°.39E, h0km, mb4.3/25, mb1 4.4/28, mb1mx4.3/47, mbtmp4.3/28, ML4.3/4, MS3.8/52, Ms1 3.8/52, ms1mx3.7/86, Error ellipse: s-maj=15.6km s-min=12.2km az=91.0*
*BJI **06** 15:08:54.5±0.0, 23°.32N×123°.43E, h9km, mb4.4/69, mB4.6/38, ML4.4/2, Ms4.3/61, Ms7 4.0/57*
*MOS **06** 15:08:56.6±0.8, 23°.18N×123°.36E, h26km, mb4.8/43, Error ellipse: s-maj=8.6km s-min=5.1km az=96.5*
*NEIC **06** 15:08:56.0±1.4, 23°.20N±0°.06×123°.34E±0°.04, h7km±4km, mb4.7/101, Error ellipse: s-maj=8.8km s-min=3.4km az=204.0*
*NIED **06** 15:08:57.9, 23°.22N×123°.33E, h68km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.12; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-0.33; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.91; $M_{\phi r}$-0.16; Fault plane solution: $M_0$1.03000×10^{16} NP1:ϕ_s78.00000°, δ81.00000°, λ170.00000°. NP2:ϕ_s169.00000°, δ80.00000°, λ10.00000°.*
*JMA **06** 15:08:57.9±0.2, 23°.22N×123°.33E, h68km±5km, M4.6*
*TAP **06** 15:08:58.8, 23°.17N×123°.23E, h68km±1km, ML5.0, D*
ISC 06 15:08:56.3±1.5**, 23°.17N**±0°.03×**123°.31E**±0°.03**, h12km**±9km**, n463,** σ**1s.79**/535**, mb4.6**/102**, MS3.9**/62**, 40C-101D, Fault plane solution: NP1:**ϕ_s169.65225°**,** δ82.03789°**,** λ0.76702°. **NP2:**ϕ_s79.54601°**,** δ89.24037°**,** λ172.03719°. **Principal axes:** T Plg6.1609°**,** Azm34.3236°**;** N Plg82.0013°**,** Azm254.1317°**;** P Plg5.0815°**,** Azm124.8736°**; Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.00	27	P	Pb	15 09 15.7	+0.2
HATJ				S	Sb	15 09 28.5	-0.1
IRIF	Iriomote-Funau	1.23	18	P	Pn	15 09 18.9	-0.4
IRIF				*e*S	Sb	15 09 34.0	-1.2
JKRS	Kuro-shima	1.25	31	P	Pn	15 09 19.2	-0.3
JKRS				*e*S	Sb	15 09 34.6	-1.2
YOJ	Yonaguni jima	1.32	348	P	Pn	15 09 20.3	-0.3
YOJ	Yonaguni jima	1.32	348	P	Pn	15 09 20.3	-0.3
YOJ				*e*S	Sn	15 09 35.7	-2.4
YOJ	Yonaguni jima	1.32	348		Pn	15 09 20.2	-0.3
YOJ	Yonaguni jima	1.32	348	⇓*i*P	Pn	15 09 20.4	-0.1
	baz=344						
YOJ				*i* S	Sn	15 09 36.8	-1.3
	baz=344						
JYNG	Yonagunijimaku	1.32	346	P	Pn	15 09 20.2	-0.4
JYNG				S	Sn	15 09 36.5	-1.6
JIJ	Ishigaki jima	1.42	33	P	Pn	15 09 21.2	-0.7
JIJ				S	Sn	15 09 38.1	-2.4
JISG	Ishigakijimahi	1.69	33	P	Pn	15 09 24.8	-0.8
JISG				*e*S	Sn	15 09 44.8	-2.3
TEGC	Jichi Village	1.71	289	*e*P	Pn	15 09 25.0	-0.9
	baz=289						
TEGC				*e*S	Sn	15 09 44.6	-3.1
	baz=289						
ECBN	Changbin	1.71	275	⇓P	Pn	15 09 24.6	-1.4
	baz=268						
ECBN				*e*S	Sn	15 09 43.8	-4.1
	baz=268						
TEYL	Yanliau Villag	1.72	294	*e*P	Pn	15 09 25.1	-1.0
	baz=305						
TEYL				*e*S	Sn	15 09 45.5	-2.4
	baz=305						
HWA	Hwalien	1.76	298	*e*P	Pn	15 09 25.7	-0.9
	baz=299						
HWA				*e*S	Sn	15 09 46.1	-2.8
	baz=299						
HGSD	Ruisui	1.76	281	⇓P	Pn	15 09 25.0	-1.6
	baz=281						
HGSD				*e*S	Sn	15 09 44.7	-4.3
	baz=281						
LDUT	Ludao	1.77	254	⇑P	Pn	15 09 24.9	-1.8
	baz=260						
LDUT				*e*S	Sn	15 09 43.7	-5.4
	baz=260						
CHKT	Chengkung	1.79	268	⇓*i*P	Pn	15 09 25.1	-1.9
	baz=268						
CHKT				*e*S	Sn	15 09 43.9	-5.8
	baz=268						
EGFH	Guangfu	1.80	287	⇓P	Pn	15 09 25.8	-1.4
	baz=287						
EGFH				*e*S	Sn	15 09 45.4	-4.6
	baz=287						
TWD	Chiawan	1.81	300	⇓*i*P	Pn	15 09 26.2	-1.2
	baz=293						
TWD				*i* S	Sn	15 09 46.0	-4.3
	baz=293						
ETL	Fush Village	1.83	303	⇓*i*P	Pn	15 09 26.5	-1.2
	baz=295						
ETL				*e*S	Sn	15 09 46.3	-4.6
	baz=295						
ESL	Shilin	1.84	291	⇓*i*P	Pn	15 09 26.1	-1.6
	baz=284						
ESL				*e*S	Sn	15 09 46.7	-4.2
	baz=284						
EYUL	Yuli	1.84	276	P	Pn	15 09 26.4	-1.3
	baz=270						
EYUL				*e*S	Sn	15 09 47.0	-3.9
	baz=270						
FULB	Fuli	1.85	271	⇓P	Pn	15 09 26.1	-1.8
	baz=271						
FULB				S	Sn	15 09 46.1	-5.2
	baz=271						
EDH	Donghe	1.86	264	*e*P	Pn	15 09 26.4	-1.5
	baz=268						
EDH				*e*S	Sn	15 09 46.9	-4.4
	baz=268						
EHY	Hungye	1.86	281	⇓*i*P	Pn	15 09 26.7	-1.2
	baz=281						
EHY				*e*S	Sn	15 09 46.6	-4.8
	baz=281						
YULB	Yu-li	1.86	277		Pn	15 09 26.7	-1.3
YULB	Yu-li	1.86	277	⇓*i*P	Pn	15 09 26.8	-1.3
	baz=277						
YULB				*e*S	Sn	15 09 47.5	-4.0
	baz=277						
NACB	Ninganchiao	1.86	303		Pn	15 09 26.7	-1.3
NACB	Ninganchiao	1.86	303	⇓*i*P	Pn	15 09 26.9	-1.2
	baz=297						
NACB				*i* S	Sn	15 09 47.4	-4.2
	baz=297						
EWUT	Wuta	1.89	313	⇓P	Pn	15 09 28.4	-0.1
	baz=321						
ENA	Nanau	1.91	311	⇓*i*P	Pn	15 09 28.4	-0.3
	baz=321						
JTJ	Tarama	1.94	41	P	Pn	15 09 28.8	-0.4
JTJ				*e*S	Sn	15 09 52.2	-1.3
TWC	Suao	1.96	317	⇓*i*P	Pn	15 09 28.9	-0.5
	baz=319						
TWC				*e*S	Sn	15 09 49.6	-4.4
	baz=319						
ETLH	Xiulin Townshi	1.97	302	⇓*i*P	Pn	15 09 28.6	-1.0
	baz=298						
ETLH				S	Sn	15 09 51.7	-2.5
	baz=298						
LYUB	Lan-yu	1.97	234	⇑*i*P	Pn	15 09 28.0	-1.5
	baz=233						
LYUB				*e*S	Sn	15 09 48.9	-5.3
	baz=233						
LAY	Lan-yu	1.97	236	⇑*e*P	Pn	15 09 27.7	-1.9
	baz=242						
LONT	Longtian	2.02	263	*e*P	Pn	15 09 29.4	-0.8
	baz=265						
LONT				*e*S	Sn	15 09 52.0	-3.5
	baz=265						
TTN	Taitung	2.03	259	*e*P	Pn	15 09 29.5	-0.9
	baz=253						
TTN				*e*S	Sn	15 09 51.6	-4.1
	baz=253						
NDS	Dongshan	2.06	315	⇓P	Pn	15 09 30.9	+0.1
	baz=316						
NDS				*e*S	Sn	15 09 54.4	-2.1
	baz=316						
VWDT	VWDT	2.07	287	⇓*i*P	Pn	15 09 30.5	-0.5
	baz=287						
VWDT				*e*S	Sn	15 09 52.9	-3.8
	baz=287						
TWGBT	Beinan	2.08	261	*e*P	Pn	15 09 29.8	-1.3
	baz=260						
TWGBT				S	Sn	15 09 52.7	-4.3
	baz=260						
TWG	Pinlang	2.09	261		Pn	15 09 30.1	-1.1
TWG	Pinlang	2.09	261	*e*P	Pn	15 09 30.0	-1.1
	baz=260						
TWG				S	Sn	15 09 52.7	-4.4
	baz=260						
EGS		2.09	323	*e*P	Pn	15 09 31.1	0.0
	baz=325						
ELDTW	Lidau	2.11	271	⇓P	Pn	15 09 30.0	-1.5
	baz=271						
WHF	Hehuan Shan	2.11	298	⇓*i*P	Pn	15 09 30.8	-1.0
	baz=298						
WHF				*i* S	Sn	15 09 54.6	-3.7
	baz=298						
LATG	Datong	2.12	310	⇓P	Pn	15 09 31.6	-0.2
	baz=321						
LATG				S	Sn	15 09 55.8	-2.4
	baz=321						
ILA	Ilan	2.14	318	P	Pn	15 09 32.0	+0.2
	baz=320						
CHGB	Renai	2.15	295	⇓P	Pn	15 09 31.5	-0.7
	baz=295						
CHGB				S	Sn	15 09 55.7	-3.2
	baz=295						
NTC	Toucheng	2.16	321	⇓*e*P	Pn	15 09 32.2	+0.2
	baz=323						
TWE	Neicheng	2.16	316	⇓*i*P	Pn	15 09 32.4	+0.3
	baz=317						
NNSB	Datong	2.17	306	⇓*i*P	Pn	15 09 31.8	-0.5
	baz=299						
NNSB				S	Sn	15 09 55.8	-3.3
	baz=299						
ENTT	Nioudou	2.17	313	⇓*i*P	Pn	15 09 32.3	+0.1
	baz=314						
WUSB	Renai	2.17	293	⇓*i*P	Pn	15 09 32.0	-0.4
	baz=293						
WUSB				S	Sn	15 09 55.5	-3.9
	baz=293						
FUSS	Fushou	2.18	300	⇓*i*P	Pn	15 09 32.2	-0.4
	baz=301						
FUSS				S	Sn	15 09 56.8	-2.8
	baz=301						
NDT	Datong Townshi	2.18	311	⇓*i*P	Pn	15 09 32.4	0.0
	baz=312						
NNS	Nan Shan	2.18	306	⇓*i*P	Pn	15 09 32.1	-0.4
	baz=314						
NNS				S	Sn	15 09 56.8	-2.7
	baz=314						
YUS	Yu-Shan	2.19	279	⇓*i*P	Pn	15 09 32.5	-0.5
	baz=286						
YUS				S	Sn	15 09 56.9	-3.4
	baz=286						
TWB1	Santiao Chiao	2.19	327	P	Pn	15 09 32.7	+0.1
	baz=328						
TWB1				S	Sn	15 09 57.8	-1.9
	baz=328						
FUSB	Fushanzhiwuyua	2.23	316	⇓*i*P	Pn	15 09 33.8	+0.5
	baz=316						
FUSB				*e*S	Sn	15 09 56.8	-4.0
	baz=316						
TWT	Tachien	2.23	299	⇓*i*P	Pn	15 09 33.2	-0.2
	baz=300						
TWT				S	Sn	15 09 58.4	-2.6
	baz=300						
ECL	Taimali	2.24	256	⇑*i*P	Pn	15 09 32.0	-1.3
	baz=255						
ECL				*e*S	Sn	15 09 55.9	-5.0
	baz=255						
SSLB	Suanglung	2.25	286		Pn	15 09 32.5	-0.9
SSLB	Suanglung	2.25	286	⇓*i*P	Pn	15 09 32.8	-0.6
	baz=287						
TDCB	Techi	2.25	299	⇓*i*P	Pn	15 09 33.3	-0.2
	baz=300						
TDCB				S	Sn	15 09 57.2	-4.0
	baz=300						
TIPB	Shuangxi	2.25	323	⇓*i*P	Pn	15 09 33.6	+0.2
	baz=324						
TIPB				*e*S	Sn	15 09 58.7	-2.5
	baz=324						
NWLT	Wulai	2.30	315	⇓*e*P	Pn	15 09 34.5	+0.4
	baz=315						
YHNB	Yeheng	2.32	311		Pn	15 09 34.3	0.0
YHNB	Yeheng	2.32	311	⇓P	Pn	15 09 34.6	+0.2
	baz=320						
SMLT	Sun Moon Lake	2.32	288	⇓*i*P	Pn	15 09 34.1	-0.3
	baz=289						
SMLT				*e*S	Sn	15 10 02.1	-0.9
	baz=289						
SXI1	Grass Mountain	2.32	326	⇓*i*P	Pn	15 09 34.5	+0.1
	baz=327						
SXI1				S	Sn	15 10 00.1	-2.9
	baz=327						
ALS	Alishan	2.33	279	⇓*i*P	Pn	15 09 34.9	+0.2
	baz=285						
ALS				S	Sn	15 10 01.1	-2.3
	baz=285						
STYH	Taoyuan	2.33	271	*e*P	Pn	15 09 34.6	+0.1
	baz=270						
NSK	Sanguang	2.33	310	⇓*i*P	Pn	15 09 34.7	+0.1
	baz=320						
NWF	Wu-fen Shan	2.35	324	⇓*i*P	Pn	15 09 35.1	+0.2
	baz=325						
NWF				*e*S	Sn	15 10 02.2	-1.6
	baz=325						
TYC	Yuchr	2.37	289	⇓*i*P	Pn	15 09 34.9	-0.1
	baz=289						
TAW	Tawu	2.37	251	*e*P	Pn	15 09 33.9	-1.1
	baz=258						
TAW				*e*S	Sn	15 10 00.4	-3.6
	baz=258						
WCS	Beigang Elemen	2.37	292	⇓*e*P	Pn	15 09 35.2	+0.2
	baz=293						
JIRB	Irabujima	2.38	46	P	Pn	15 09 34.4	-0.7
JIRB				S	Sn	15 10 01.8	-2.4
TAWH	Dawu Township	2.38	250	⇑*e*P	Pn	15 09 34.3	-0.8
	baz=258						
TAWH				*e*S	Sn	15 10 00.7	-3.6
	baz=258						
TWA	Mucha	2.40	319	*e*P	Pn	15 09 35.8	+0.4
	baz=329						
EAST	Anshuo	2.40	252	⇑*i*P	Pn	15 09 34.6	-0.8
	baz=259						
EAST				S	Sn	15 10 01.2	-3.7
	baz=259						
NHDH	Xindian Distri	2.42	318	*e*P	Pn	15 09 36.5	+0.8
	baz=319						
NHDH				*e*S	Sn	15 10 04.5	-0.8
	baz=319						
JMJ2	Miyako jima3	2.42	49	P	Pn	15 09 35.0	-0.7
JMJ2				*e*S	Sn	15 10 03.3	-2.0
WHP	Taichung City	2.43	298	⇓P	Pn	15 09 36.2	+0.2
	baz=291						
TATO	Taipei	2.45	318		Pn	15 09 36.4	+0.2
CHN5	Tsauling	2.45	281	⇓*i*P	Pn	15 09 37.2	+0.9
	baz=287						
SLGT	Liugui	2.46	266	*e*P	Pn	15 09 34.5	-1.7
	baz=269						
WJS	Zhushan	2.46	286	⇓P	Pn	15 09 37.3	+1.1
	baz=286						
WJS				S	Sn	15 10 05.6	-0.6
	baz=286						
TPUB	Ta-pu	2.47	274	Pn	Pn	15 09 36.9	+0.5
TPUB	Ta-pu	2.47	274	⇓P	Pn	15 09 37.1	+0.7
	baz=271						
TPUB				*e*S	Sn	15 10 04.8	-1.7
	baz=271						
NFF	Wufeng Townshi	2.48	306	⇓*e*P	Pn	15 09 37.3	+0.7
	baz=301						
NFF				*e*S	Sn	15 10 07.6	+0.7
	baz=301						
WTP	Ta-pu	2.48	272	⇓*i*P	Pn	15 09 37.3	+0.7
	baz=269						
WTP				*e*S	Sn	15 10 06.1	-0.8
	baz=269						
TAP	Taipei	2.49	319	*e*P	Pn	15 09 37.4	+0.7
	baz=330						
TAP				*e*S	Sn	15 10 06.3	-0.6
	baz=330						
JOGS	Gusukube	2.49	50	P	Pn	15 09 36.1	-0.6
JOGS				*e*S	Sn	15 10 06.0	-1.0
JIKM	Ikemajima	2.49	45	P	Pn	15 09 36.0	-0.7
JIKM				*e*S	Sn	15 10 05.6	-1.4
TSMG	Majia	2.50	260	*e*P	Pn	15 09 36.5	-0.2
	baz=264						
SSD	Sandimen	2.50	261	⇑*i*P	Pn	15 09 36.3	-0.5
	baz=266						
SLIU	Shizi	2.50	248	⇑P	Pn	15 09 36.1	-0.8
	baz=247						
CHN4	Tsaushan	2.50	275	⇓*i*P	Pn	15 09 37.8	+0.9
	baz=272						
CHN4				*e*S	Sn	15 10 06.6	-0.8
	baz=272						
SGST	Jiashian	2.51	269	⇓P	Pn	15 09 36.8	-0.2
	baz=270						
SGST				*e*S	Sn	15 10 06.0	-1.5
	baz=270						
WNT	Mingjian	2.51	287	⇓*i*P	Pn	15 09 38.2	+1.3
	baz=295						
WNT				*e*S	Sn	15 10 07.2	-0.3
	baz=295						
MASBT	Mashibuluo	2.53	258	⇑P	Pn	15 09 36.7	-0.5
	baz=252						
YM01	YM01	2.53	321	*e*P	Pn	15 09 37.3	0.0
	baz=331						
SMST	Manzhou Townsh	2.55	244	*e*P	Pn	15 09 36.8	-0.7
	baz=243						
SMST				*e*S	Sn	15 10 04.9	-3.6
	baz=243						
CHN1	Nanshi	2.56	271	⇓*i*P	Pn	15 09 38.8	+1.1
	baz=271						
CHN1				*e*S	Sn	15 10 08.3	-0.4
	baz=271						
TSEB	Hengchuen, Pin	2.56	241	⇑*i*P	Pn	15 09 37.8	+0.2
	baz=240						
TSEB				*i* S	Sn	15 10 07.9	-0.8
	baz=240						
LIOB	Emei	2.56	306	*i* P	Pn	15 09 38.9	+1.2
	baz=306						
LIOB				*e*S	Sn	15 10 08.2	-0.7
	baz=306						
NSTT	Nanjuang	2.57	305	⇓*i*P	Pn	15 09 38.9	+1.2
	baz=306						
NSTT				*e*S	Sn	15 10 08.4	-0.4
	baz=306						
TWS1	Kuangyinshan	2.59	318	*e*P	Pn	15 09 38.0	0.0
	baz=329						
TWS1				*e*S	Sn	15 10 07.7	-1.6
	baz=329						
SNST	Tainan City	2.59	272	⇓P	Pn	15 09 39.2	+1.2
	baz=269						
SNST				*e*S	Sn	15 10 09.4	0.0
	baz=269						
ANP	Anpu	2.59	321	*e*P	Pn	15 09 38.2	+0.1
	baz=331						
TWK	Hsinying	2.60	273	⇓*i*P	Pn	15 09 39.2	+1.0
	baz=270						
TWK				*e*S	Sn	15 10 09.3	-0.4
	baz=270						
WDLH	Douliu	2.60	282	*e*P	Pn	15 09 39.9	+1.8
	baz=289						
WDLH				*e*S	Sn	15 10 10.8	+1.2
	baz=289						
TCU	Taichung	2.60	293	⇓P	Pn	15 09 39.8	+1.6
	baz=293						
TCU				*e*S	Sn	15 10 10.9	+1.1
	baz=293						
TWQ1	Liyutan	2.60	297	⇓*i*P	Pn	15 09 39.5	+1.3
	baz=291						
TWQ1				S	Sn	15 10 08.5	-1.4
	baz=291						
SCZT	Fangliau	2.60	253	⇑P	Pn	15 09 37.9	-0.4
	baz=256						
SCST	Cishan	2.61	264	*e*P	Pn	15 09 39.5	+1.2
	baz=265						
TWKBT	Hengchun	2.61	243	⇑*i*P	Pn	15 09 37.9	-0.4
	baz=242						
TWKBT				*e*S	Sn	15 10 05.8	-4.1
	baz=242						
TWK1	Hengchun	2.61	243	⇑*i*P	Pn	15 09 38.0	-0.4
	baz=241						
TWK1				*e*S	Sn	15 10 06.2	-3.9
	baz=241						
NTST	Danshui	2.62	320	*e*P	Pn	15 09 39.2	+0.8
	baz=330						
TWY	Chenhua	2.62	324	*e*P	Pn	15 09 39.1	+0.7
	baz=324						
SSPT	Xinbi	2.62	255	*e*P	Pn	15 09 39.0	+0.6
	baz=255						
CHN2	Minshiung	2.63	279	*e*P	Pn	15 09 40.2	+1.6
	baz=286						
CHN2				*e*S	Sn	15 10 10.2	-0.2
	baz=286						
SGLT	Jiouru	2.63	261	*e*P	Pn	15 09 40.7	+2.0
	baz=260						
SGLT				*e*S	Sn	15 10 12.5	+2.0
	baz=260						
HEN	Hengchun	2.64	245	*e*P	Pn	15 09 38.7	-0.1

baz=236
HEN S Sn 15 10 07.4 -3.3
baz=236
NCU National Centr 2.64 313 P Pn 15 09 39.8 +1.0
baz=314
NCUH Zhongli 2.64 313 *e*P Pn 15 09 39.5 +0.7
baz=314
NSY Sanyi 2.64 299 *e*P Pn 15 09 40.1 +1.3
baz=299
CHY Chiayi 2.67 278 *e*P Pn 15 09 40.4 +1.3
baz=285
CHY *e*S Sn 15 10 11.2 -0.3
baz=285
SBCB Hsinchu 2.67 308 ⇓P Pn 15 09 40.4 +1.2
baz=315
SBCB S Sn 15 10 10.9 -0.5
baz=315
NMLH Miaoli 2.68 301 *e*P Pn 15 09 40.7 +1.4
baz=290
TWM1 Shoushan 2.68 263 P Pn 15 09 41.7 +2.4
baz=263
TWM1 *e*S Sb 15 10 14.7 -2.4
baz=263
WCHH Zhanghua 2.68 290⇓*e*P Pn 15 09 40.8 +1.5
baz=298
WCHH *e*S Sn 15 10 12.2 +0.5
baz=298
HSN Hsinchu 2.69 308 P Pn 15 09 40.1 +0.7
baz=316
HSN S Sn 15 10 11.4 -0.5
baz=316
PCYT Pengchaiyu 2.70 336 *e*P Pn 15 09 39.5 -0.1
baz=328
CHN3 Shinhua 2.71 269 *e*P Pn 15 09 42.1 +2.4
baz=271
CHN3 *e*S Sb 15 10 15.2 -2.7
baz=271
WDJ Dajia District 2.71 296 *e*P Pn 15 09 40.9 +1.2
baz=296
WDJ *e*S Sn 15 10 12.6 +0.1
baz=296
SHHT Tainan City 2.73 268 ⇓P Pn 15 09 42.6 +2.6
baz=267
SHHT S Sn 15 10 15.2 +2.2
baz=267
WTK Tuku 2.73 282 *e*P Pn 15 09 42.0 +2.0
baz=288
SNJT Kaohsiung City 2.77 262⇓*e*P Pn 15 09 43.0 +2.5
baz=261
SSHA Shanhua 2.78 270 *e*P Pn 15 09 42.8 +2.1
baz=270
SSHA *e*S Sn 15 10 15.7 +1.6
baz=270
WRL Guolierlin Hig 2.79 286 *e*P Pn 15 09 42.1 +1.4
baz=286
ICHU Yijhu 2.79 275 *e*P Pn 15 09 42.1 +1.3
baz=274
ICHU S Sn 15 10 14.5 0.0
baz=274
WLCH Liuqiu 2.82 254⇑*e*P Pb 15 09 44.6 -2.0
baz=255
KAU Kaohsiung 2.83 258 *e*P Pn 15 09 42.8 +1.5
baz=258
TAI1 Yung-k'ang 2.84 268 *e*P Pb 15 09 44.4 -2.5
baz=267
WSL Shuilin Townsh 2.85 278⇓*e*P Pn 15 09 42.9 +1.2
baz=277
WSL *e*S Sn 15 10 15.7 -0.3
baz=277
CHN8 Yiju 2.85 274 *e*P Pn 15 09 42.6 +1.0
baz=283
CHN8 S Sn 15 10 16.0 0.0
baz=283
WTCT Ta-ch'eng 2.86 285 ⇓P Pn 15 09 43.1 +1.3
baz=284
WTCT S Sn 15 10 16.5 +0.3
baz=284
SCLT Jiali 2.87 271 P Pn 15 09 43.5 +1.6
baz=270
SCLT S Sn 15 10 16.7 +0.5
baz=270
WSF Szhu 2.87 280 *e*P Pn 15 09 42.8 +0.8
baz=280
WSF *e*S Sn 15 10 16.0 -0.5
baz=280
WDGT Dungji 3.36 272 P Pn 15 09 49.2 +0.6
baz=262
WDGT S Sn 15 10 25.2 -3.2
baz=262
PHUB P'eng-hu 3.45 276⇓*e*P Pn 15 09 50.2 +0.3
baz=266
PHUB S Sn 15 10 27.4 -3.3
baz=266
PNG Penghu 3.47 277 ⇓P Pn 15 09 50.7 +0.6
baz=266
PNG *i* S Sn 15 10 29.0 -2.2
baz=266
VCHM Qimei 3.57 271 *e*P Pn 15 09 52.1 +0.6
baz=271
VCHM *e*S Sn 15 10 31.2 -2.4
baz=271
PTMZ Houxiangcun 4.26 297⇓*e*P Pn 15 09 58.6 -2.4
baz=296
PTMZ *e*S Sn 15 10 44.1 -6.5
baz=296
MATB Ma-tsu 4.26 315 *e*P Pn 15 10 00.5 -0.6
baz=314
KNM Kinmen 4.63 287 ⇓P Pn 15 10 07.8 +1.6
baz=293
QZH Quanzhou 4.66 293⇓*i*Pn Pn 15 10 06.0 -0.5
QZH Sn Sn 15 10 55.8 -4.7
QZH LR LR
comp=N,1μm,14.2s
QZH LR LR
comp=E,1μm,11.8s
QZH LR LR
comp=Z,1μm,13.7s
LYJJ Jianjiangzhen 4.66 317 *e*P Pn 15 10 06.4 -0.1
baz=317
KNMB Chin-men Tao 4.69 287 Pn Pn 15 10 06.5 -0.3
KNMB Chin-men Tao 4.69 287⇓*e*P Pn 15 10 06.8 -0.1
baz=294
XPSS Dashiqiu 4.69 324 *e*P Pn 15 10 06.3 -0.6
baz=314
MHZQ Yeshan 4.87 308⇓*e*P Pn 15 10 08.7 -0.7
baz=307
ZPLA Ao Xicun 5.16 280 *e*P Pn 15 10 14.1 +0.8
baz=279
AXDP Jialang 5.18 291 ⇓P Pn 15 10 13.6 0.0
baz=289
AXDP *e*S Sn 15 11 08.7 -4.6
baz=289
JOW Kunigami 5.80 50 Pn Pn 15 10 19.5 -2.7
24nm,0.3s,baz=182,slow=13,SNR=61
JOW Sn Sn 15 11 23.6 -5.0
14nm,0.3s,baz=135,slow=20,SNR=1.9
SXFK Yanhouchang 6.07 303 *e*P Pn 15 10 25.4 -0.6
baz=302
SMPP San Manuel, Pa 7.41 200⇓*e*P Pn 15 10 44.0 -0.3
PCPH Palayan 7.85 196⇑*e*P Pn 15 10 53.2 +2.9
SSE Sheshan 8.12 347 P Pn 15 10 52.4 -1.6
SSE S Sn 15 12 24.7 -1.1
SSE pmax pmax
comp=Z,28nm,0.7s
SSE LR LR
comp=N,340nm,18.9s
SSE LR LR
comp=E,970nm,19.1s
HKPS Hong Kong Po S 8.51 266 Pn Pn 15 11 00.1 +0.7
LQP Lukban 9.16 191⇑*e*P Pn 15 11 09.4 +0.9
NJ2 Nanjing 9.69 337 ⇑P Pn 15 11 15.0 -0.6
NJ2 pP 15 11 18.0
NJ2 sP 15 11 20.7
NJ2 S Sn 15 13 02.0 -2.4
NJ2 pmax pmax
comp=Z,23nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,3.5s
NJ2 LR LR
comp=N,980nm,10.4s
NJ2 LR LR
comp=E,3μm,14.2s
NJ2 LR LR
comp=Z,570nm,10.0s
JSU Suzuyama 10.45 36 Pn Pn 15 11 23.8 -2.3
WHN Wuhan 10.86 314 ⇓P Pn 15 11 33.0 +1.5
WHN S Sn 15 13 32.9 -0.1
WHN pmax pmax
comp=Z,34nm,0.6s
WHN LR LR
comp=N,1μm,9.1s
WHN LR LR
comp=E,2μm,13.3s
JNU Nakatsue 11.95 32 Pn Pn 15 11 44.4 -2.2
1.7nm,0.3s,baz=228,slow=6.6,SNR=21
JNU Nakatsue 11.95 32 Pn Pn 15 11 44.0 -2.6
JTU Tsushima 12.51 24 Pn Pn 15 11 53.3 -0.9
QIZ Qiongzhong 13.22 254 P Pn 15 12 03.7 -0.3
QIZ S Sn 15 14 35.9 +4.8
QIZ pmax pmax
comp=Z,6.0nm,1.9s
QIZ pmax pmax
comp=Z,100nm,6.7s
QIZ LR LR
comp=N,790nm,23.9s
QIZ LR LR
comp=E,390nm,17.5s
QIZ LR LR
comp=Z,460nm,16.2s
INCN Inchon 14.55 11 P P 15 12 28.3 -0.4
JHS Saijyo 14.57 34 Pn Pn 15 12 21.3 -1.1
KSAR Wonju Array Be 14.76 14 P Pn 15 12 24.5 -0.4
KSAR Wonju Array Be 14.76 14 Pn Pn 15 12 24.5 -0.4
LYN LuoYang 14.78 323 *e*P Pn 15 12 27.6 +2.4
LYN S Sn 15 15 16.9 +8.0
LYN LR LR
comp=N,490nm,14.5s
LYN LR LR
comp=E,790nm,16.5s
LYN LR LR
comp=Z,440nm,17.3s
KSRS Korea Array 14.78 15 Pn Pn 15 12 25.5 +0.3
1.0nm,0.3s,baz=193,slow=11,SNR=43
KSRS LR LR 15 19 06.5
comp=Z,400nm,19.0s,baz=185,slow=42
KS19 Wonju Array Si 14.82 14 Pn Pn 15 12 26.0 +0.3
GYA Guiyang 15.46 286 ⇑P Pn 15 12 36.0 +1.5
GYA sP pP 15 12 42.4 +1.5
GYA S Sn 15 15 29.0 +3.1
GYA pmax pmax
comp=Z,14nm,1.1s
GYA LR LR
comp=N,1μm,12.1s
GYA LR LR
comp=E,540nm,14.6s
GYA LR LR
comp=Z,710nm,12.2s
HNS HongShan 16.00 334 ⇓P P 15 12 43.7 -1.0
HNS pmax pmax
comp=Z,7.0nm,1.3s
HNS LR LR
comp=N,880nm,15.2s
HNS LR LR
comp=E,2μm,14.5s
HNS LR LR
comp=Z,510nm,16.7s
DAV Davao City (W) 16.15 172 LR LR 15 18 57.8
comp=Z,243nm,19.6s,baz=334,slow=37
XAN Xi'an 16.62 314 P P 15 12 53.2 +1.5
XAN pP sP 15 12 57.2 +2.8
XAN S S 15 16 02.6 -2.7
XAN pmax pmax
comp=Z,36nm,1.3s
XAN pmax pmax
comp=Z,140nm,3.6s
XAN LR LR
comp=N,660nm,16.5s
XAN LR LR
comp=E,470nm,19.2s
XAN LR LR
comp=Z,760nm,16.5s
INU Inuyama 17.02 41 P P 15 12 55.8 -0.2
JGF Kuroka 17.39 41 P P 15 12 59.8 -0.5
BJT Baijiatuau 17.86 342 P Pn 15 13 04.4 -0.2
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuau 17.86 342 Pn 15 13 04.4 -0.2
BJI Beijing 17.87 342 P P 15 13 06.0 +0.6
BJI S Sn 15 16 25.1 +1.1
BJI pmax pmax
comp=Z,2.0nm,0.5s
BJI LR LR
comp=Z,260nm,15.2s
BJI LR LR
comp=Z,920nm,16.2s
BJI LR LR
comp=Z,310nm,18.7s
MAJO Matsushiro 18.53 41*c i*P Pn 15 13 13.3 +0.4
MAJO pmax pmax
comp=Z,58nm,0.8s
MAJO Matsushiro 18.53 41 P P 15 13 12.8 0.0
MAJO IAmb IAmb 15 13 14.5
comp=Z,54nm,0.8s
MAT Matsushiro 18.53 41 P P 15 13 12.9 +0.1
MJAR Matsushiro Arr 18.53 41 P P 15 13 12.6 -0.2
comp=Z,0.8nm,0.3s,baz=232,slow=8.9,SNR=168
MJAR Matsushiro Arr 18.53 41 P P 15 13 12.8 0.0
MJAR pmax pmax
comp=Z,63nm,0.8s
MJAR Matsushiro Arr 18.53 41 P P 15 13 12.8 0.0
MJAR IAmb IAmb 15 13 14.5
comp=Z,63nm,0.8s
MJB9 Matsu-Tunnel 18.53 41 P 15 13 12.7 0.0
MJB9 IAmb IAmb 15 13 14.5
comp=Z,54nm,0.8s
KMI Kunming 18.87 280 ⇑P Pn 15 13 23.6 +6.2
KMI pmax pmax
comp=Z,15nm,1.1s
KMI pmax pmax
comp=Z,180nm,6.3s
KMI LR LR
comp=Z,310nm,15.3s
KMI LR LR
comp=Z,510nm,15.3s
KMI LR LR
comp=Z,530nm,13.7s
JYT Yasato 19.57 45 P P 15 13 22.9 -1.3
JSD Sado 19.59 37 P P 15 13 22.9 -1.5
JSD IAmb IAmb 15 13 37.1
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 20.21 333 *e*P Pn 15 13 32.8 -0.3
HHC S S 15 17 13.8 -4.1
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.4s
HHC LR LR
comp=Z,750nm,15.9s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,590nm,15.9s
MSHR Mys Shultsa 20.43 17⇓*i*P P 15 13 33.1 -0.3
MSHR pmax pmax
comp=Z,26nm,1.0s
CN2 Changchun 20.66 4 *e*P P 15 13 36.0 +0.1
CN2 *e*S S 15 17 25.7 -0.8
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,6.2s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
JMM Marumori 20.96 42 P P 15 13 37.3 -1.9
LZH Lanzhou 21.21 312 *e*P P 15 13 44.4 +2.3
LZH sP pwP 15 13 50.5 -0.6
LZH PP PnPn 15 14 04.4 +2.8
LZH *e*S S 15 17 38.6 +0.7
LZH sS pS 15 17 47.5 +3.2
LZH SS SnSn 15 18 07.1 +7.2
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,90nm,4.1s
LZH LR LR
comp=Z,480nm,14.4s
LZH LR LR
comp=Z,260nm,13.3s
LZH LR LR
comp=Z,570nm,15.2s
XLT XiLinHaoTe 21.52 346 *e*P P 15 13 45.6 +0.3
XLT pP sP 15 13 50.2 +2.2
XLT sP pwP 15 13 51.9 -2.9
XLT PP PnPn 15 14 08.3 +2.6
XLT S S 15 17 43.8 0.0
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.3s
XLT LR LR
comp=Z,880nm,17.3s
XLT LR LR
comp=Z,360nm,16.9s
MDJ Mudanjiang 22.01 12 P P 15 13 48.5 -2.0
MDJ Mudanjiang 22.01 12 P P 15 13 50.5 +0.1
MDJ pmax pmax
comp=Z,10.0nm,0.5s
MDJ pmax pmax
comp=Z,62nm,4.9s
MDJ LR LR
comp=Z,680nm,16.4s
MDJ LR LR
comp=Z,1μm,14.2s
MDJ LR LR
comp=Z,690nm,12.8s
USRK Ussuriysk Ar. 22.16 17 P P 15 13 49.3 -2.7
comp=Z,4.3nm,0.8s,baz=198,slow=10,SNR=7.1
USRK LR LR 15 23 44.4
comp=Z,263nm,18.7s,baz=185,slow=40
USRK Ussuriysk Ar. 22.16 17 P P 15 13 47.9 -4.2
USRK Ussuriysk Ar. 22.16 17 P P 15 13 47.9 -4.2
GTOI Gorontalo 22.40 181 P P 15 14 10.1 +15
comp=Z,18nm,0.7s
GUMO Guam 22.54 111 LR LR 15 22 04.3
comp=Z,110nm,20.5s,baz=264,slow=35
MRSI Marisa 22.59 184 P P 15 14 12.5 +16
comp=Z,1μmcomp=Z,44nm,0.7s
BNX BinXian 22.76 7 ⇑P P 15 13 56.9 -1.6
BNX pmax pmax
comp=Z,72nm,0.9s
BNX pmax pmax
comp=Z,420nm,3.9s
JTM Tenmabayashi 23.07 36 P P 15 13 59.0 -2.6
CHTO Chiang Mai 23.15 264 P P 15 14 02.4 -0.3
CHTO pmax pmax
comp=Z,20nm,1.3s
CHTO Chiang Mai 23.15 264 P P 15 14 02.4 -0.3
SBUM Sibu 23.23 209 P P 15 14 02.5 -1.0
CMAR Chiang Mai Arr 23.24 263 P P 15 14 04.0 +0.3
comp=Z,1.2nm,0.9s,baz=62,slow=8.8,SNR=12
CMAR LR LR 15 24 39.9
comp=Z,168nm,18.0s,baz=90,slow=40
CMAR Chiang Mai Arr 23.24 263 P P 15 14 03.6 -0.1
CMAR Chiang Mai Arr 23.24 263 P P 15 14 03.6 -0.1
APSI Ampana 23.99 184 P P 15 14 18.3 +7.4
JEW Eniwo 24.73 33 P P 15 14 16.2 -1.3
ERM Erimo 25.05 37 P P 15 14 19.4 -1.0
ERM pmax pmax
comp=Z,74nm,1.0s
ERM Erimo 25.05 37 P P 15 14 19.4 -1.0
SIJI Sorong 25.11 161 LR LR 15 22 04.7
comp=Z,82nm,22.0s,baz=219,slow=31
MTKI Muara Teweh, K 25.32 200 P P 15 14 29.6 +6.5
GTA Gaotai 25.68 315 ⇓P P 15 14 25.6 -0.8
GTA pP sP 15 14 32.0 +2.8
GTA sP pwP 15 14 35.4 -0.3
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,69nm,6.2s
GTA LR LR
comp=Z,180nm,15.6s
GTA LR LR
comp=Z,200nm,16.0s
GTA LR LR
comp=Z,210nm,17.8s
HIA Hailar 26.20 355 P P 15 14 29.2 -1.6
HIA pmax pmax
comp=Z,7.0nm,1.0s
HIA Hailar 26.20 355 P P 15 14 29.2 -1.6
ASAJ Asahikawa 26.23 33 P P 15 14 30.0 -1.1
comp=Z,26nm,0.6s,baz=234,slow=9.7,SNR=40
ASAJ Asahikawa 26.23 33 P P 15 14 31.0 -0.1
ASAJ pmax pmax
comp=Z,32nm,0.8s
JKA Kamikawa-asahi 26.23 33 P P 15 14 31.0 -0.1
KLR Kul'dur 26.85 12 P P 15 14 35.0 -1.6
comp=Z,7.0nm,0.6s,baz=230,slow=9.2,SNR=20
KLR LR LR 15 26 50.8
comp=Z,240nm,18.3s,baz=196,slow=40
KLR Kul'dur 26.85 12⇑*i*P P 15 14 36.1 -0.6
KLR pmax pmax
comp=Z,7.0nm,0.7s
GOMU GeErMu 27.84 304 P P 15 14 47.4 +1.2
GOMU pP sP 15 14 52.7 +3.7
GOMU sP pwP 15 14 55.4 -0.1
GOMU S S 15 19 32.9 +3.4
GOMU sS sS 15 19 41.8 +9.2
GOMU pmax pmax
comp=Z,3.0nm,1.0s
GOMU pmax pmax
comp=Z,46nm,5.6s
GOMU LR LR
comp=Z,540nm,14.1s
GOMU LR LR
comp=Z,230nm,14.1s
GOMU LR LR
comp=Z,260nm,13.4s
ULN Ulaanbaatar 27.86 336*de*P P 15 14 45.3 -0.6
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 27.86 336 P P 15 14 44.7 -1.2
SONM Songino Array 28.08 335 P P 15 14 47.4 -0.4
comp=Z,5.9nm,0.6s,baz=152,slow=9.3,SNR=34
SONM LR LR 15 27 21.1
comp=Z,350nm,18.4s,baz=141,slow=39
SONM Songino Array 28.08 335 P P 15 14 47.0 -0.9
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM Songino Array 28.08 335 P P 15 14 47.0 -0.9
SONM IAmb IAmb 15 14 49.5
comp=Z,6.0nm,0.6s
KAPI Kappang 28.22 188 LR LR 15 25 39.8
comp=Z,38nm,20.8s,baz=354,slow=36
YSS Yuzh-Sakhalins 28.42 29 *e*P P 15 14 51.2 +0.5
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,3.2s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS Yuzh-Sakhalins 28.42 29 P P 15 14 50.6 -0.1
JAY Jayapura 30.65 144 LR LR 15 27 39.1
comp=Z,131nm,18.2s,baz=334,slow=37
ZEA Zeya 30.67 5 *e*P P 15 15 11.3 +0.7
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=N,200nm,12.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
PSI Prapat 31.11 233 LR LR 15 26 19.1
comp=Z,143nm,20.8s,baz=36,slow=33
TYV Tymovskoe 31.47 24 *e*P P 15 15 29.9 +12
TYV pmax pmax
comp=Z,9.0nm,1.1s
TYV pmax pmax
comp=Z,200nm,7.3s
BATI Baumata 33.17 179 LR LR 15 30 50.6
comp=Z,147nm,20.5s,baz=268,slow=40
LEM Lembang 33.53 209 LR LR 15 30 53.4
comp=Z,50nm,18.4s,baz=26,slow=39
WMQ Urumqi 35.76 314 *e*P P 15 15 56.6 +1.4
WMQ pP sP 15 16 01.7 +3.6
WMQ pmax pmax
comp=Z,12nm,0.9s
YAK Yakutsk 39.09 5 P P 15 16 21.9 -1.2
comp=Z,3.9nm,0.6s,baz=183,slow=1.6,SNR=8.6
YAK LR LR 15 33 09.0
comp=Z,143nm,20.4s,baz=216,slow=37
YAK Yakutsk 39.09 5 *e*P P 15 16 21.7 -1.3
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax

comp=E,2.0nm,1.2s
YAK Yakutsk 39.09 5 P P 15 16 21.7 -1.3
YAK IAmb IAmb 15 16 24.2
comp=Z,11nm,0.8s
PEA0B Petropavlovsk- 39.65 32⇑ eP P 15 16 28.5 +0.6
PEA0B Petropavlovsk- 39.65 32 P P 15 16 27.5 -0.4
PEA0B IAmb IAmb 15 16 28.7
comp=Z,11nm,0.9s
PETK Petropavlovsk- 39.65 32 P P 15 16 27.7 -0.2
comp=Z,4.9nm,0.7s,baz=143,slow=4.8,SNR=19
PETK LR LR 15 32 56.3
comp=Z,134nm,21.7s,baz=231,slow=36
PETK Petropavlovsk- 39.65 32 P P 15 16 27.8 -0.1
PETK Petropavlovsk- 39.65 32 P P 15 16 27.8 -0.1
PMG Port Moresby 39.91 142 LR LR 15 30 05.2
comp=Z,87nm,20.5s,baz=169,slow=32
PET Petropavlovsk 40.08 33⇓ iP P 15 16 31.8 +0.4
PET eS S 15 22 35.4 -1.7
PET eSS SS 15 25 27.2 -7.2
PET pmax pmax
comp=Z,77nm,0.9s
PET MLR MLR
comp=Z,400nm,17.0s
PET Petropavlovsk 40.08 33 P P 15 16 31.3 -0.1
MK31 Makanchi Array 40.42 316 P P 15 16 34.5 +0.1
MK31 pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 40.42 316 P P 15 16 34.5 +0.1
MKAR Makanchi Array 40.42 316 P P 15 16 35.0 +0.5
comp=Z,6.3nm,0.7s,baz=105,slow=10.0,SNR=76
MKAR LR LR 15 35 01.9
comp=Z,162nm,18.4s,baz=94,slow=39
MKAR Makanchi Array 40.42 316 P P 15 16 34.7 +0.2
MKAR Makanchi Array 40.42 316 P P 15 16 34.6 +0.2
H11N1 WAKE ISLAND Hy 40.60 86 T T 16 00 23.3
baz=282,slow=74,SNR=3.7
H11N2 WAKE ISLAND Hy 40.60 86 T T 16 00 22.8
baz=282
H11N3 WAKE ISLAND Hy 40.62 86 T T 16 00 21.6
baz=282,slow=74,SNR=1.9
MAKZ Makanchi 40.62 316 P P 15 16 36.3 +0.1
MAKZ pmax pmax
comp=Z,12nm,1.0s
MAKZ Makanchi 40.62 316 P P 15 16 36.2 +0.1
MAKZ IAmb IAmb 15 16 37.7
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 41.08 177 P P 15 16 40.3 +0.3
comp=Z,3.4nm,0.9s,baz=360,slow=16,SNR=2.5
FITZ LR LR 15 37 28.9
comp=Z,34nm,18.8s,baz=352,slow=42
MA2 Magadan 41.21 21 LR LR 15 34 22.0
comp=Z,129nm,19.5s,baz=210,slow=37
MA2 Magadan 41.21 21⇓ eP P 15 16 39.4 -1.3
MA2 pmax pmax
comp=Z,3.0nm,0.7s
MA2 Magadan 41.21 21 P P 15 16 40.4 -0.3
ZAA0 Zalesovo Array 42.16 327 P P 15 16 46.4 -2.1
ZALV Zalesovo Beam 42.16 327 P P 15 16 47.9 -0.6
comp=Z,3.0nm,0.5s,baz=118,slow=8.2,SNR=14
ZALV LR LR 15 35 50.2
comp=Z,186nm,18.2s,baz=116,slow=38
ZALV Zalesovo Beam 42.16 327 P P 15 16 46.8 -1.8
ZALV Zalesovo Beam 42.16 327 P P 15 16 46.8 -1.8
KSH Kashi 43.08 304 P P 15 17 00.4 +3.9
KSH pP pwP 15 17 05.1 -0.7
KSH PcP PcP **15 18 49.2 +2.8**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,240nm,15.5s
KSH LR LR
comp=Z,170nm,13.1s
KSH LR LR
comp=Z,200nm,14.1s
PALK Pallekele 43.85 256 LR LR 15 37 59.7
comp=Z,82nm,18.3s,baz=190,slow=40
WB0 Warramunga Arr 44.02 165 P P 15 17 03.3 -0.7
KURK Kurchatov 44.12 320 *d iP* **P 15 17 04.5 +0.1**
KURK pmax pmax
comp=Z,24nm,2.5s
KURK Kurchatov 44.12 320 P P 15 17 04.6 +0.1
KURK IAmb IAmb 15 17 05.7
comp=Z,7.3nm,0.8s
KURBB Kurchatov Arra 44.14 320 P P 15 17 04.9 +0.3
baz=104,slow=9.5
WRAB Tennant Creek 44.17 165⇓ iP P 15 17 04.7 -0.5
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WRA Warramunga Arr 44.18 165 P P 15 17 05.1 -0.1
comp=Z,3.5nm,0.8s,baz=348,slow=8.4,SNR=19
WRA Warramunga Arr 44.18 165 P P 15 17 04.8 -0.4
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 44.18 165 P P 15 17 04.8 -0.4
WB2 Warramunga Arr 44.18 165 P P 15 17 04.6 -0.7
WB2 IAmb IAmb 15 17 27.3
comp=Z,8.9nm,0.9s
WR0 Warramunga Arr 44.24 165 P P 15 17 05.2 -0.6
WR0 IAmb IAmb 15 17 26.2
comp=Z,8.8nm,0.9s
AAK Ala-Archa 44.67 308 LR LR 15 38 19.5
comp=Z,154nm,18.2s,baz=100,slow=40
AAK Ala-Archa 44.67 308⇓ eP P 15 17 10.4 +1.2
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 44.67 308 P P 15 17 09.6 +0.4
NIL Nilore 44.88 295 P P 15 17 11.1 +0.3
NIL pmax pmax
comp=Z,7.0nm,0.8s
NIL Nilore 44.88 295 P P 15 17 11.1 +0.3
NIL IAmb IAmb 15 17 14.5
comp=Z,6.6nm,0.8s
GAR Garm 47.40 302 P P 15 17 31.4 +0.6
KKAR Karatay Array 47.63 308 P P 15 17 32.7 +0.3
KKAR Karatay Array 47.63 308 P P 15 17 32.7 +0.3
ASAR Alice Springs 47.68 167 P P 15 17 33.2 +0.4
comp=Z,1.7nm,0.5s,baz=352,slow=7.6,SNR=47
ASAR Alice Springs 47.68 167 P P 15 17 32.3 -0.5
ASAR Alice Springs 47.68 167 P P 15 17 32.3 -0.5
CHGR Chuyangaron 48.29 302 P P 15 17 38.2 +0.5
CHGR pmax pmax
comp=Z,9.0nm,0.7s
CHGR Chuyangaron 48.29 302 P P 15 17 38.2 +0.5
CHGR IAmb IAmb 15 17 60.0
comp=Z,8.9nm,0.7s
KBL Kabul 48.36 296 P P 15 17 38.8 +0.4
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 48.36 296 P P 15 17 38.8 +0.4
KBL IAmb IAmb 15 17 40.5
comp=Z,6.9nm,0.9s
CTA Charters Tower 48.47 151 LR LR 15 38 24.2
comp=Z,45nm,18.6s,baz=317,slow=36
TIXI Tiksi 48.61 2 LR LR 15 39 32.0
comp=Z,182nm,21.3s,baz=181,slow=38
TIXI Tiksi 48.61 2⇓ iP P 15 17 39.0 -0.4
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 48.61 2 P P 15 17 38.4 -1.1
TIXI IAmb IAmb 15 17 53.3
comp=Z,7.3nm,1.1s
BRVK Borovoye 49.76 321 *d iP* **P 15 17 49.0 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 49.76 321 P P 15 17 48.5 0.0
BRVK IAmb IAmb 15 17 50.1
comp=Z,6.2nm,0.9s
NRIK Noril'sk 50.89 344 P P 15 17 57.1 +0.2
comp=Z,4.5nm,0.9s,baz=119,slow=7.3,SNR=6.6
NRIK LR LR 15 41 34.0
comp=Z,181nm,18.6s,baz=144,slow=38
NRIK Noril'sk 50.89 344⇓ eP P 15 17 57.2 +0.3
NRIK pmax pmax
comp=Z,5.0nm,0.9s
NRIK Noril'sk 50.89 344 P P 15 17 56.8 -0.1
BILL Bilibino 51.99 19 *d iP* **P 15 18 04.5 -0.6**
BILL *e* 15 20 03.5
BILL pmax pmax
comp=Z,16nm,2.5s
BILL Bilibino 51.99 19 P P 15 18 04.5 -0.6
ABKAR Akbulak array 55.54 315 P P 15 18 31.5 +0.1
SVE Sverdlovsk 56.01 324 eP P 15 18 35.7 +1.1
SVE pmax pmax
comp=Z,12nm,0.8s
AKTO Aktyubinsk 56.86 316 LR LR 15 44 25.6
comp=Z,100nm,19.1s,baz=88,slow=38
GEYT Alibeck 56.99 301 P P 15 18 42.9 +0.9
comp=Z,2.9nm,0.8s,baz=86,slow=4.6,SNR=4.9
GEYT LR LR 15 48 28.1
comp=Z,72nm,19.4s,baz=136,slow=42
GEYT Alibeck 56.99 301 P P 15 18 42.1 +0.1
ARU Arti 57.09 323 LR LR 15 44 05.1
comp=Z,91nm,18.8s,baz=114,slow=37
ARU Arti 57.09 323 *d iP* **P 15 18 42.1 -0.2**
ARU 15 19 34.5
ARU S S **15 26 39.5 +2.6**
ARU pmax pmax
comp=Z,14nm,1.4s
ARU Arti 57.09 323 P P 15 18 41.9 -0.4
ARU IAmb IAmb 15 18 43.3
comp=Z,6.3nm,0.7s
STKA Stephens Creek 57.46 162 P P 15 18 45.4 +0.2
comp=Z,3.8nm,0.8s,baz=338,slow=3.9,SNR=6.6
STKA LR LR 15 45 58.5
comp=Z,67nm,18.9s,baz=210,slow=39
STKA Stephens Creek 57.46 162 P P 15 18 45.1 -0.1
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 57.46 162 P P 15 18 45.1 -0.1
WSAR Wadi Sarin 58.97 284 LR LR 15 47 29.8
comp=Z,63nm,19.5s,baz=102,slow=39
ANM Nome 61.31 28 P P 15 19 12.0 +0.6
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 61.31 28 P P 15 19 12.0 +0.6
ANM IAmb IAmb 15 19 14.9
comp=Z,5.0nm,1.0s
DZM Mont Dzumac 61.52 134 LR LR 15 40 52.5
comp=Z,82nm,21.6s,baz=14,slow=31
DZM Mont Dzumac 61.52 134 *eS* **S 15 27 33.7 -1.6**
comp=Z,73nm,23.5s
DZM *e*LR LR 15 37 26.5
comp=Z,183nm,24.4s
KIRV Kirov 62.16 325 LR LR 15 47 20.7
comp=Z,173nm,20.9s,baz=91,slow=37
KIRV Kirov 62.16 325 *c iP* **P 15 19 17.5 +0.3**
PRGR Permogore 64.06 329 *eP* **P 15 19 29.5 -0.3**
PRGR pmax pmax
comp=Z,68nm,1.9s
TTA Tatalina 65.42 30 P P 15 19 39.7 +1.0
TTA pmax pmax
comp=Z,8.0nm,1.4s
TTA Tatalina 65.42 30 P P 15 19 39.7 +1.0
TTA IAmb IAmb 15 19 42.7
comp=Z,8.4nm,1.4s
SVW2 Sparrevohn 65.73 32 P P 15 19 42.0 +1.3
SVW2 IAmb IAmb 15 20 10.8
comp=Z,14nm,1.4s
L19K White Mountain 66.00 31 P P 15 19 43.8 +1.3
L19K IAmb IAmb 15 19 44.5
comp=Z,6.8nm,1.1s
J20K Nowinta River 66.17 28 P P 15 19 44.5 +1.0
J20K IAmb IAmb 15 19 59.1
comp=Z,6.1nm,0.7s
IMAR Indian Mountai 66.22 26 P P 15 19 44.4 +0.6
M19K Big River Lodg 66.24 31 P P 15 19 44.0 0.0
M19K IAmb IAmb 15 19 51.5
comp=Z,9.0nm,1.1s
K20K Telida 66.27 29 P P 15 19 44.9 +0.8
N19K Bonanza Creek 66.29 32 P P 15 19 44.9 +0.5
N19K IAmb IAmb 15 19 48.3
comp=Z,6.0nm,0.9s
SOCY Socotra 66.43 274 P P 15 19 45.3 -0.8
H21K Melozitna Rive 66.63 27 P P 15 19 46.8 +0.4
H21K IAmb IAmb 15 20 01.8
comp=Z,7.3nm,0.8s
GNI Garni 66.98 305 LR LR 15 53 22.2
comp=Z,71nm,18.8s,baz=87,slow=40
KLMR Klimovskoe 67.06 328 eP P 15 19 48.4 -0.8
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR Klimovskoe 67.06 328 eP P 15 19 48.4 -0.8
KLMR AMP 15 19 55.8
comp=Z,22nm,1.5s
CAST Castle Rocks 67.15 29 P P 15 19 48.1 -1.7
CAST IAmb IAmb 15 20 07.0
comp=Z,7.2nm,1.0s
PPLA Purkeypile 67.16 30 P P 15 19 48.5 -1.6
NCK Nalchik 67.18 309⇑ eP P 15 19 51.4 +1.1
NCK pmax pmax
comp=Z,8.0nm,0.2s
OHAK Old Harbor 67.31 36 P P 15 19 50.9 +0.1
KDAK Kodiak Island 67.61 35 LR LR 15 50 56.2
comp=Z,43nm,18.8s,baz=251,slow=37
KDAK Kodiak Island 67.61 35 P P 15 19 52.9 +0.2
KDAK pmax pmax
comp=Z,43nm,1.4s
KDAK Kodiak Island 67.61 35 P P 15 19 52.9 +0.2
TOLK Toolik Lake Re 67.61 23 P P 15 19 53.4 +0.8
TOLK IAmb IAmb 15 20 14.5
comp=Z,4.3nm,0.8s
KBZ Khabaz 67.63 309 P P 15 19 53.9 +0.8
comp=Z,2.7nm,0.8s,baz=100,slow=2.0,SNR=4.9
KBZ LR LR 15 53 20.9
comp=Z,71nm,18.6s,baz=85,slow=39
KBZ Khabaz 67.63 309⇓ eP P 15 19 55.4 +2.3
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 67.74 310 eP P 15 19 54.7 +0.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,35nm,17.0s
TRF Thorofare Moun 67.95 29 P P 15 19 56.2 +1.1
TRF IAmb IAmb 15 20 14.7
comp=Z,12nm,1.4s
CNPM China Poot 68.06 33 P P 15 19 56.6 +1.1
CUT Chulitna 68.11 30 P P 15 19 56.1 +0.3
NEA2 Nenana 68.32 28 P P 15 19 57.8 +0.6
NEA2 IAmb IAmb 15 20 12.3
comp=Z,6.8nm,0.7s
MCK McKinley 68.51 29 P P 15 19 58.1 -0.3
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 68.51 29 P P 15 19 58.0 -0.3
MCK IAmb IAmb 15 20 19.1
comp=Z,4.8nm,0.8s
RC01 Rabbit Creek A 68.55 31 P P 15 19 58.1 -0.5
VORR Voronezh 68.59 318 eP P 15 19 58.7 -0.3
VORR pmax pmax
comp=Z,30nm,0.4s
RND Reindeer 68.60 29 P P 15 19 58.9 -0.1
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 68.60 29 P P 15 19 58.9 -0.1
MDM Murphy Dome 68.62 27 P P 15 20 00.0 +1.0
MDM IAmb IAmb 15 20 14.3
comp=Z,7.2nm,0.8s
H24K Noodor Dome 68.63 26 P P 15 20 00.6 +1.4
H24K IAmb IAmb 15 20 28.6
comp=Z,5.8nm,1.1s
PMR Palmer 68.76 31 P P 15 19 59.5 -0.4
PMR pmax pmax
comp=Z,17nm,1.4s
PMR Palmer 68.76 31 P P 15 19 59.5 -0.4
COLA College 68.80 27⇑ eP P 15 20 02.0 +2.0
COLA pmax pmax
comp=Z,17nm,2.9s
CCB Clear Creek Bu 68.85 27 P P 15 19 59.7 -0.8
ILAR Eielson Array 69.22 27 P P 15 20 02.2 -0.5
comp=Z,0.9nm,0.7s,baz=240,slow=4.7,SNR=14
ILAR LR LR 15 53 30.9
comp=Z,34nm,18.2s,baz=282,slow=39
ILAR Eielson Array 69.22 27 P P 15 20 02.1 -0.6
ILAR Eielson Array 69.22 27 P P 15 20 02.1 -0.6
PWL Port Wells 69.27 32 P P 15 20 02.9 -0.2
DHY Denali Highway 69.31 29 P P 15 20 03.9 +0.3
DHY IAmb IAmb 15 20 25.7
comp=Z,4.9nm,1.0s
OBN Obninsk 69.50 322 eP P 15 20 06.0 +1.4
OBN *e* 15 20 28.1
OBN *e* 15 22 38.6
OBN *e*PPP PPP 15 24 19.6
OBN pmax pmax
comp=Z,9.0nm,0.4s
BMAR Burnt Mountain 69.65 24 P P 15 20 07.0 +1.6
RIDG Independent Ri 70.30 28 P P 15 20 09.7 +0.2
RIDG IAmb IAmb 15 20 25.6
comp=Z,6.1nm,0.8s
RAYN Ar Rayn 70.51 288 P P 15 20 11.2 -0.3
RAYN pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 70.51 288 P P 15 20 11.2 -0.3
RAYN IAmb IAmb 15 20 26.7
comp=Z,4.9nm,1.1s
SCRK Sand Creek 70.62 28 P P 15 20 12.0 +0.6
SCRK IAmb IAmb 15 20 36.8
comp=Z,4.2nm,0.8s
KEV Kevo 70.64 338 P P 15 20 11.3 0.0
KEV pmax pmax
comp=Z,33nm,1.4s
KEV Kevo 70.64 338 P P 15 20 11.2 0.0
SPITS Spitsbergen Ar 70.88 348 P P 15 20 13.2 +0.4
SPITS pmax pmax
comp=Z,24nm,1.2s
ARCES ARCESS Array B 71.20 338 P P 15 20 15.8 +1.0
comp=Z,2.3nm,0.9s,baz=79,slow=5.8,SNR=1.8
BERG Berg Lake 71.60 32 P P 15 20 16.9 -0.5
BCAR Beaver Creek A 71.80 29 P P 15 20 19.3 +0.7
M27K Edge Creek, AK 71.94 29 P P 15 20 19.5 -0.1
M27K IAmb IAmb 15 20 39.5
comp=Z,7.8nm,1.2s
DAWY Dawson 72.55 27 P P 15 20 23.9 +0.9
DAWY IAmb IAmb 15 20 40.0
comp=Z,7.6nm,1.1s
CTGM Chitina Glacie 72.57 31 P P 15 20 23.4 0.0
CTGM IAmb IAmb 15 20 25.4
comp=Z,9.5nm,1.0s
FIA1 FINESS Array S 73.30 330 P P 15 20 27.1 -0.3
FIA1 IAmb IAmb 15 20 46.3
comp=Z,8.2nm,0.8s
FINES FINESS Array B 73.30 330 P P 15 20 27.7 +0.3
comp=Z,3.7nm,0.7s,baz=53,slow=5.9,SNR=14
FINES LR LR 15 56 03.6
comp=Z,166nm,18.4s,baz=49,slow=39
FINES FINESS Array B 73.30 330 P P 15 20 27.1 -0.3
FINES FINESS Array B 73.30 330 P P 15 20 27.1 -0.3
INK Inuvik 73.43 22 P P 15 20 29.1 +1.0
comp=Z,2.9nm,0.7s,baz=297,slow=3.6,SNR=12
INK LR LR 15 56 24.0
comp=Z,56nm,18.1s,baz=233,slow=39
INK Inuvik 73.43 22 P P 15 20 29.0 +1.0
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 73.43 22 P P 15 20 29.0 +1.0
INK IAmb IAmb 15 20 49.3
comp=Z,5.0nm,0.9s
M30M Minto, Yukon 74.13 28 P P 15 20 32.7 +0.4
M30M IAmb IAmb 15 20 57.9
comp=Z,7.4nm,1.2s
HYT Haines Junctio 74.39 30 P P 15 20 34.1 +0.1
HYT IAmb IAmb 15 20 40.5
comp=Z,8.0nm,1.2s
A36M Sachs Harbour 74.51 17 P P 15 20 34.4 0.0
A36M IAmb IAmb 15 20 57.2
comp=Z,6.6nm,0.8s
AKASG Malin Array Be 74.92 319 P P 15 20 36.5 -0.5
comp=Z,1.4nm,0.6s,baz=59,slow=5.8,SNR=6.2
AKASG LR LR 15 56 48.0
comp=Z,49nm,20.5s,baz=2.0,slow=38
AKBB Malin Array Si 74.92 319 P P 15 20 36.9 -0.2
AKBB pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 74.92 319 P P 15 20 36.9 -0.2
NACGM Naroch 74.99 324 *i P* P 15 20 26.3 -11
BR131 Keskin Array S 75.34 307⇓ iP P 15 20 40.8 +0.8
BR131 Keskin Array S 75.34 307 P P 15 20 39.7 -0.3
BR131 IAmb IAmb 15 21 04.2
comp=Z,5.9nm,1.1s
BRTR Keskin Array B 75.34 307 P P 15 20 40.5 +0.5
comp=Z,1.2nm,0.7s,baz=96,slow=6.5,SNR=8.0
BRTR LR LR 15 57 35.5
comp=Z,56nm,21.2s,baz=72,slow=39
BRTR Keskin Array B 75.34 307 P P 15 20 39.9 -0.1
BRTR Keskin Array B 75.34 307 P P 15 20 39.9 -0.1
EUNU Eureka 75.74 5 P P 15 20 42.1 +0.6
MMAI Mount Meron Ar 76.09 300 LR LR 15 58 35.7
comp=Z,48nm,18.5s,baz=244,slow=39
C36M Paulatuk 76.11 20 P P 15 20 43.7 +0.1
C36M IAmb IAmb 15 20 58.4
comp=Z,5.6nm,0.8s
DAG Danmarks Havn 77.66 352 *i P* **P 15 20 51.9 -0.3**
BUR08 Bucovina Ar. S 78.44 317 P P 15 20 57.8 +0.5
BURAR Bucovina Array 78.44 317 P P 15 20 57.7 +0.5
BURAR pmax pmax
comp=Z,3.0nm,1.3s
BURAR Bucovina Array 78.44 317 P P 15 20 57.7 +0.5
MLR Muntele Rosu 78.75 315 LR LR 15 59 53.6
comp=Z,88nm,18.4s,baz=59,slow=39
MLR Muntele Rosu 78.75 315 P P 15 20 59.3 +0.3
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 78.75 315 P P 15 20 59.3 +0.3
RES Resolute Bay 79.34 10 LR LR 15 57 22.2
comp=Z,66nm,21.3s,baz=64,slow=37
RES Resolute Bay 79.34 10 P P 15 21 01.2 -0.3
RES pmax pmax
comp=Z,9.0nm,1.5s
RES Resolute Bay 79.34 10 P P 15 21 01.2 -0.3
RES IAmb IAmb 15 21 24.6
comp=Z,8.8nm,1.5s
HFS Hagfors 79.39 331 LR LR 15 59 42.2
comp=Z,125nm,19.0s,baz=59,slow=38
NEEM North Greenlan 79.55 359 *i P* **P 15 21 03.3 +0.3**
RPZ Rata Peaks 79.67 147 LR LR 15 53 23.1
comp=Z,43nm,20.6s,baz=220,slow=34
NC405 NORSAR Array S 79.78 333 P P 15 21 04.1 -0.1
DBG Daneborg 79.92 351 eP P 15 21 06.6 +1.9
NB2 NORSAR Subarra 80.02 333 P P 15 21 05.1 -0.4
comp=Z,4.4nm,0.9s,baz=59,slow=5.6
NOA NORSAR Array B 80.02 333 P P 15 21 04.6 -0.9
comp=Z,1.9nm,0.8s,baz=57,slow=5.5,SNR=7.3
NOA LR LR 16 00 17.0
comp=Z,81nm,18.8s,baz=70,slow=38
NC204 NORSAR Array S 80.09 333 P P 15 21 06.1 +0.1
NC204 IAmb IAmb 15 21 28.5
comp=Z,19nm,1.1s
NAO01 NORSAR Array S 80.26 333 P P 15 21 07.0 +0.2
OJC Ojcow 80.69 321 P P 15 21 09.5 +0.2
OJC Ojcow 80.69 321 P P 15 21 09.5 +0.2
OJC IAmb IAmb 15 21 10.5
comp=Z,4.2nm,0.7s
VRAC Vranov 82.96 321 LR LR 16 02 18.6
comp=Z,39nm,18.0s,baz=66,slow=39
YKA Yellowknife Ar 83.14 23 P P 15 21 22.2 +0.3
comp=Z,1.0nm,0.6s,baz=307,slow=5.1,SNR=24
YKA LR LR 16 01 00.8
comp=Z,54nm,19.2s,baz=306,slow=38
CLL Collm 84.03 324 *eP* **P 15 21 28.0 +1.3**
CLL Collm 84.03 324 *eP* **P 15 21 28.0 +1.3**
CLL LmV 16 03 00.0
comp=Z,100nm,19.1s
CKRC Cesky Krumlov 84.52 321 *eP* **P 15 21 29.7 +0.4**
KHC Kasperske Hory 84.78 322 *eP* **P 15 21 29.4 -1.3**
KHC *e* 15 21 38.7
KHC Kasperske Hory 84.78 322 *eP* **P 15 21 29.4 -1.3**
KHC *ex* x 15 21 38.7
GERES GERESS Array B 84.86 321 P P 15 21 31.0 -0.1
comp=Z,1.9nm,0.8s,baz=52,slow=6.9,SNR=9.7
GERES GERESS Array B 84.86 321 P P 15 21 31.6 +0.5
GERES GERESS Array B 84.86 321 P P 15 21 31.6 +0.5
BORG Borgarnes 88.20 346 LR LR 16 05 20.1
comp=Z,54nm,18.7s,baz=38,slow=38
EKA Eskdalemuir Ar 89.51 333 LR LR 16 09 05.8
comp=Z,61nm,18.3s,baz=56,slow=40
FRB Frobisher Bay 92.88 5 LR LR 16 07 51.9
comp=Z,57nm,19.3s,baz=346,slow=38
PDAR Pinedale Array 98.31 36 LR LR 16 11 18.2
comp=Z,19nm,18.7s,baz=306,slow=38

*ASRS **06** 15:20:39.4±0.2,54°N±1°×9°1E±°, h1km, MLh3.4/15, confirmed*
*NNC **06** 15:20:51.3±6.8,53°38N×90°07E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=48.9km s-min=34.4km az=63.0, Suspected Mining explosion.*
ISC 06 15:20:39.8±0.8,53°54N±0°03×90°93E±0°02, h10km, n21, σ1s22/37, 6C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABNR	**Abakan**	**0.35**	**59**	Pg	**Pg**			**15 20 46.7**	**0.0**
ABNR				Sg	**Sg**			**15 20 51.6**	**+0.2**
CERR	**Cheremushki**	**0.75**	**157**	Pg	**Pb**			**15 20 54.7**	**-0.2**
CERR				Sg	**Sg**			**15 21 03.7**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DJO	Djoy, Khakassi	0.78	167	⇓Pg	Pg	15 20 54.5	-0.3
DJO				Sg	Sg	15 21 04.2	-0.8
DJOS	Djoyskaya Sosn	0.80	159	⇓Pg	Pb	15 20 55.6	-0.2
DJOS				Sg	Sg	15 21 04.9	-0.7
SHRR	Shira	1.05	335	Pg	Pn	15 21 00.4	-0.2
SHRR				Sg	Sn	15 21 15.0	-0.4
LUZB	Luzhba, Kemero	1.22	276	⇓Pg	Pg	15 21 03.6	+0.4
LUZB				Sg	Sn	15 21 20.4	+1.0
TASR	Tashtagol	2.00	248	Pg	Pg	15 21 17.0	-1.1
TASR				Sg	Sg	15 21 44.3	+0.4
ERU	Erunakovo, Kuz	2.19	287	Sg	Sg	15 21 51.5	+1.6
MINR	Mina	2.35	53	Pn	Pn	15 21 19.8	+1.4
MINR				Pg	Pb	15 21 21.2	-1.0
MINR				Sg	Sb	15 21 51.3	+0.1
KOST	Kostenkovo, Ku	2.45	274	Pg	Pg	15 21 26.5	-0.2
KOST				Sg	Sg	15 21 59.5	+1.0
KOTO	Kotino, Kuzbas	2.46	287	Sg	Sg	15 22 00.3	+1.6
BRCR	Berchikul'	2.59	325	Pn	Pb	15 21 25.5	-0.9
BRCR				Pg	Pg	15 21 27.9	-1.6
BRCR				Sg	Sg	15 22 02.6	-0.4
VCHU	Verkh-Chumysh,	2.70	281	Sg	Sg	15 22 07.5	+1.1
POMOR	Pomortsevo, Ku	2.74	290	Sg	Sg	15 22 09.9	+2.1
ELT	Eltsovka	2.82	266	P	Pb	15 21 28.5	-1.8
ELT				S	Sn	15 22 00.3	+1.4
KZLR	Kyzyl	2.83	129	Pg	Pb	15 21 29.3	-1.0
KZLR				S	Sn	15 22 00.3	+1.1
ARTR	Artybash	2.83	233	Pn	Pn	15 21 24.4	-0.6
ARTR				Pg	Pb	15 21 31.2	+0.8
ARTR				Sg	Sg	15 22 09.1	-1.4
ZAA0	Zalesovo Array	3.65	279	⇑Pg	Pg	15 21 47.1	-2.6
	0.2nm,0.3s						
ZAA0				⇑Lg	Lg	15 22 33.9	
	1.1nm,0.5s						
KURK	Kurchatov	8.09	254	⇑Pn	Pn	15 22 44.2	+7.1
	0.3nm,0.5s						
KURK				⇓Sn	Sn	15 24 07.7	-0.9
	0.4nm,0.3s						
KURK				⇑Lg	Lg	15 24 54.7	
	3.4nm,0.8s						
KURBB	Kurchatov Arra	8.18	254	⇓Pn	Pn	15 22 45.1	+6.6
	0.6nm,0.5s						
KURBB				⇓Sn	Sn	15 24 11.7	+0.8
	2.7nm,0.5s						
KURBB				⇓Lg	Lg	15 24 58.4	
	5.4nm,0.7s						
MK31	Makanchi Array	8.74	223	Pn	Pn	15 22 58.0	+12
	0.3nm,0.6s,baz=32,slow=14,SNR=2.7						
MK31				⇑Sn	Sn	15 24 27.8	+3.2
	0.4nm,0.5s,baz=39,slow=26						
MK31				⇑Lg	Lg	15 25 11.5	
	0.2nm,0.5s,baz=35,slow=31						

*IDC **06** 15:38:23.1±8.2, 14°29S×76°11W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.7/26, mbtmp3.6/4, ML4.4/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=347.0km s-min=32.7km az=29.0*

*NEIC **06** 15:38:23.3±1.4, 14°71S±0°09×76°1W±0°1, h7km±6km, mb4.0/2, Error ellipse: s-maj=20.9km s-min=9.9km az=58.0*

ISC 06 15:38:21.8±1.1**, 15°0S**±0°1×**76°5W**±0°2**, h10**km**, n25, σ0^{s}66**/18**, mb3.2**/3**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	2.98	354	Pn	Pn	15 39 08.4	-0.9
PB11	IPOC Station P	8.10	127	Pn	Pn	15 40 18.9	-0.8
LPAZ	La Paz	8.19	100	Pn	Pn	15 40 22.3	+1.0
	2.2nm,0.3s,baz=280,slow=11,SNR=47						
LPAZ	La Paz	8.19	100		Pn	15 40 21.8	+0.5
PATCX	Punta Patache	8.40	135	Pn	Pn	15 40 23.6	-0.2
GO01	Chusmiza	8.41	125	Pn	Pn	15 40 24.3	0.0
PB08	IPOC Station P	8.71	127	Pn	Pn	15 40 28.3	+0.1
PB02	IPOC Station P	8.91	136	Pn	Pn	15 40 31.2	+0.3
PB01	IPOC Station P	9.01	133	Pn	Pn	15 40 31.9	-0.2
PB07	IPOC Station P	9.21	138	Pn	Pn	15 40 34.5	-0.4
PB09	IPOC Station P	9.68	136	Pn	Pn	15 40 42.1	+0.7
PB06	IPOC Station P	10.12	141	Pn	Pn	15 40 48.3	+0.9
LVC	Limon Verde	10.47	138	LR	LR	15 45 15.4	
	comp=Z,113nm,18.5s,baz=301,slow=38						
LVC	Limon Verde	10.47	138	Pn	Pn	15 40 52.8	+0.4
AC04	Llanos de Chal	14.10	160	P	P	15 41 57.4	+7.9
SIV	San Ignacio	14.93	96	LR	LR	15 48 13.7	
	comp=Z,173nm,20.4s,baz=276,slow=40						
OTAV	Otavalo	15.23	353	P	Pn	15 41 58.1	+0.6
OTAV				IAmb	IAmb	15 42 23.0	
	comp=Z,3.6nm,1.1s						
ROSC	El Rosal	19.80	6	LR	LR	15 51 26.1	
	comp=Z,87nm,18.9s,baz=280,slow=41						
BDFB	Brasilia	27.50	95	LR	LR	15 55 45.3	
	comp=Z,159nm,18.4s,baz=4.3,slow=38						
MDP	Montagnes des	30.95	52	LR	LR	15 57 29.3	
	comp=Z,85nm,19.7s,baz=203,slow=38						
TXAR	Lajitas Array	51.26	329	P	P	15 47 26.7	+0.6
	comp=Z,0.2nm,0.8s,baz=152,slow=8.1,SNR=2.1						
TORD	Torodi Ar. Bea	82.28	74	P	P	15 50 43.3	-0.9
	comp=Z,0.9nm,0.7s,baz=270,slow=4.1,SNR=5.2						
TORD	Torodi Ar. Bea	82.28	74	IAmb	IAmb	15 50 44.4	
	comp=Z,3.8nm,1.4s						
YKA	Yellowknife Ar	82.77	343	P	P	15 50 45.8	+0.1
	comp=Z,0.1nm,0.5s,baz=151,slow=4.9,SNR=2.5						
SONM	Songino Array	147.14	356	PKPbc	PKPbc	15 58 05.8	+0.4
	comp=Z,0.4nm,0.3s,baz=358,slow=3.3,SNR=4.5						

*SNET **06** 16:07:06.0±1.3, 14°96N×89°63W, h1km±8km, ML3.3*

*GCG **06** 16:07:06.0±1.6, 14°99N×89°64W, h0km±89km, MD3.8*

ISC 06 16:07:03.9±1.4**, 15°09N**±0°05×**89°50W**±0°05**, h14**km±13km**, n24, σ0^{s}62**/30**, 2C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.18	267	⇓iP	Pb	16 07 08.9	-0.3
ESQI	Esquipulas	0.55	164	⇑eP	Pb	16 07 15.4	0.0
ESQI				eS	Sg	16 07 22.6	+0.4
ESQI				IAML		16 07 23.4	
	comp=Z,2μm,0.4s						
MTO3	Montecristo	0.70	169	eP	Pb	16 07 18.7	+0.7
NBG	Las Nubes	0.96	239	eP	Pb	16 07 22.4	-0.2
NBG				eS	Sg	16 07 33.4	-1.8
SLOZ	Alcaldia de Sa	1.09	195	⇓eP	Pb	16 07 23.9	-0.8
SLOZ				IAML		16 07 42.9	
	comp=Z,439nm,0.5s						
TACO	Tacachico	1.12	173	eP	Pn	16 07 25.2	-0.1
RTR	El Retiro	1.20	187	eP	Pn	16 07 26.4	-0.1
SNJE	San Jose	1.22	185	eP	Pn	16 07 26.7	0.0
SBLS	San Blas	1.25	186	eP	Pn	16 07 27.2	0.0
PCG	Pacaya	1.28	237	e	Pb	16 07 28.2	+0.3
PCG				eP	Pb	16 07 28.2	+0.3
PCG				eS	Sb	16 07 44.5	+0.1
CEDA	San Andres	1.28	176	eP	Pg	16 07 28.7	0.0
BOQS	Boqueron	1.36	171	eP	Pg	16 07 30.8	+0.5
UEES	Universidad Ev	1.39	170	eP	Pg	16 07 30.9	+0.2
UEES				IAML		16 07 53.4	
	comp=Z,1μm,0.2s						
JAYA	Jayaque - finc	1.43	178	eP	Pb	16 07 30.4	-0.1
JAYA				IAML		16 07 50.1	
	comp=Z,942nm,0.2s						
FUG	Fuego 3	1.45	244	eP	Pb	16 07 31.1	+0.3
FUG				eS	Sg	16 07 52.5	+1.8
PAVA	Las Pavas	1.47	158	eP	Pg	16 07 32.3	0.0
LFRS	El Faro	1.52	164	eP	Pg	16 07 32.7	-0.5
LFRS				eS	Sg	16 07 53.4	+0.5
SJTE	Alcalda de S	1.54	162	eP	Pg	16 07 33.3	-0.3
SCLA	Alcaldia de Sa	1.57	152	eP	Pg	16 07 34.2	+0.1
PQSS	Presa 15 de Se	1.72	148	⇑eP	Pg	16 07 36.4	-0.6
COEB	Comit de Eme	1.84	149	eP	Pg	16 07 38.5	-0.8
PETF	Flores	1.85	349	eP	Pg	16 07 39.5	0.0
HUEH	Huehuetenango	1.95	277	eP	Pb	16 07 39.5	+0.1
STG3	Santiaguito 3,	2.04	260	eP	Pb	16 07 40.7	-0.2

YARS 06 16:07:54.4±0.0**, 57°56N**×**120°80E, h10**km**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHN	Khani	0.85	221	ePg	Pg	16 08 08.8	-1.8
	126nm,0.3s						
KHN				eSg	Sg	16 08 18.4	-3.3
	907nm,0.3s						
YKLR	Yuktali	1.08	154	ePg	Pg	16 08 14.8	-0.2
	9.2nm,0.3s						
YKLR				eSg	Sg	16 08 28.1	-1.0
	88nm,0.6s						
CLNS	Chul'man	2.34	106	ePg	Pb	16 08 36.6	-0.1
	6.1nm,0.6s						
CLNS				eSg	Sb	16 09 07.0	+1.4
	29nm,0.4s						
IENR	Iengra	2.60	119	ePg	Pb	16 08 41.7	+0.6
	3.5nm,0.3s						
IENR				eSg	Sg	16 09 15.4	-2.4
	71nm,0.3s						
IENR	Iengra	2.60	119	e	Sg	16 09 15.8	-2.0
OLMR	Olekminsk	2.83	357	ePg	Pb	16 08 46.1	+1.3
	2.8nm,0.4s						
OLMR				eSg	Sb	16 09 22.2	+2.7
	140nm,0.6s						
YAK	Yakutsk	6.33	41	i Pg	Pb	16 09 48.6	+4.0
	1.8nm,0.5s						
YAK				i Sg	Sg	16 11 12.3	-5.1
	27nm,1.1s						

*IDC **06** 16:08:23.1±0.8, 57°10N×120°45E, h0km, mb3.3/11, mb1 3.6/15, mb1mx3.4/57, mbtmp3.4/15, ML4.2/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/52, Error ellipse: s-maj=19.8km s-min=14.2km az=153.0*

*MOS **06** 16:08:24.5±1.4, 57°35N×120°63E, h17km, mb3.7/1, Error ellipse: s-maj=10.7km s-min=7.2km az=86.4*

*YARS **06** 16:08:25.8±0.0, 57°36N×120°69E, h16km*

*BYKL **06** 16:08:25.2±0.3, 57°36N×120°76E, h8km±8km*

ISC 06 16:08:24.6±1.0**, 57°35N**±0°02×**120°74E**±0°02**, h7**km±7km**, n76, σ2^{s}65**/150**, mb3.4**/9**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHNR	Khani	0.60	224	P	Pg	16 08 36.2	+0.2
KHNR						16 08 44.0	
KHNR	Khani	0.60	224	ePg	Pg	16 08 36.8	+0.8
KHNR				eSg	Sg	16 08 43.9	+0.1
KHN	Khani	0.67	231	ePg	Pg	16 08 36.2	-1.3
	1μm,0.2s						
KHN				eSg	Sg	16 08 44.0	-2.2
	18μm,0.2s						
KHN				eSg	Sg	16 08 44.0	-2.2
	21μm,0.6s						
YKLR	Yuktali	0.91	146	P	Pg	16 08 42.5	+0.5
YKLR						16 08 54.5	
YKLR	Yuktali	0.91	146	e	Pg	16 08 42.2	+0.2
YKLR				eSg	Sg	16 08 54.2	+0.4
YKLR	Yuktali	0.91	146	ePg	Pg	16 08 42.5	+0.5
	75nm,0.3s						
YKLR				eSg	Sg	16 08 54.5	+0.7
	325nm,0.3s						
YKLR				eSg	Sg	16 08 54.5	+0.7
	241nm,0.3s						
CRS	Chara	1.42	253	P	Pn	16 08 51.7	+0.8
CRS						16 09 09.2	
CRS	Chara	1.42	253	ePg	Pn	16 08 51.7	+0.8
CRS				Pmax		16 08 54.7	
	286nm,0.5s						
CRS				eSg	Sn	16 09 09.2	-0.7
CRS				Smax		16 09 14.7	
	1μm,1.5s						
CRS	Chara	1.42	253	ePg	Pn	16 08 51.7	+0.8
	281nm,0.5s						
CRS				eSg	Sn	16 09 09.2	-0.7
	712nm,0.5s						
CLNS	Chul'man	2.32	101	P	Pn	16 09 04.3	+1.0
CLNS						16 09 38.6	
CLNS	Chul'man	2.32	101	ePn	Pn	16 09 03.9	+0.6
CLNS				ePg	Pb	16 09 06.0	-0.8
CLNS				e		16 09 10.4	
CLNS				eSn	Sn	16 09 31.7	-0.4
CLNS				eSg	Sb	16 09 36.3	+0.6
CLNS	Chul'man	2.32	101	i Pn	Pn	16 09 04.3	+1.0
CLNS				i Pg	Pb	16 09 07.9	+1.1
	30nm,0.3s						
CLNS				i Sg	Sg	16 09 38.6	-0.5
	178nm,0.3s						
CLNS				i Sg	Sg	16 09 38.6	-0.5
	200nm,0.4s						
IENR	Iengra	2.53	115	P	Pn	16 09 07.3	+1.2
IENR						16 09 38.4	
IENR	Iengra	2.53	115	ePn	Pn	16 09 06.4	+0.3
IENR				e		16 09 20.0	
IENR				eSg	Sb	16 09 43.7	+2.0
IENR				e		16 09 53.7	
IENR				Pg			
IENR	Iengra	2.53	115	i Pn	Pn	16 09 07.3	+1.2
IENR				i Pg	Pb	16 09 12.1	+1.8
	94nm,0.3s						
IENR				i Sn	Sn	16 09 38.4	+1.2
IENR				i Sg	Sg	16 09 46.0	+0.3
	222nm,0.3s						
IENR				i Sg	Sg	16 09 46.0	+0.3
	162nm,0.4s						
ALDR	Aldan	2.79	61	P	Pn	16 09 10.8	+1.1
ALDR						16 09 44.5	
ALDR	Aldan	2.79	61	i Pn	Pn	16 09 10.8	+1.1
ALDR				i Pg	Pb	16 09 16.5	+1.8
	12nm,0.2s						
ALDR				i Sn	Sn	16 09 44.5	+0.9
	245nm,0.3s						
ALDR				i Sn	Sn	16 09 44.5	+0.9
	78nm,0.2s						
ALDR				i Sg	Sg	16 09 53.8	-0.3
	73nm,0.6s						
ALDR				i Sg	Sg	16 09 53.8	-0.3
	232nm,0.8s						
NLYR	Nelyaty	2.89	255	eP	Pn	16 09 12.5	+1.5
NLYR				e		16 09 53.1	
NLYR				pmax	pmax		
	comp=Z,112nm,1.1s						
NLYR				smax	smax		
	comp=N,521nm,1.2s						
NLYR	Nelyaty	2.89	255	ePn	Pn	16 09 12.6	+1.5
NLYR				ePg	Pb	16 09 17.4	+0.9
NLYR				e		16 09 19.9	
NLYR				max		16 09 30.5	
	comp=N,76nm,0.4s						
NLYR				eSn	Sn	16 09 45.9	-0.2
NLYR				eSg	Sb	16 09 54.1	+2.0
NLYR				Smax		16 10 07.4	
	comp=N,524nm,0.6s						
TUP	Tupik	2.96	189	P	Pn	16 09 13.8	+1.7
TUP						16 09 49.1	
TUP	Tupik	2.96	189	ePn	Pn	16 09 13.3	+1.2
TUP				ePg	Pb	16 09 18.8	+1.1
TUP				Pmax		16 09 22.0	
	comp=N,127nm,0.8s						
TUP				eSn	Sn	16 09 48.8	+0.9
TUP				eSg	Sb	16 09 57.2	+3.1
TUP				Smax		16 09 58.9	
	comp=N,930nm,0.7s						
TUP	Tupik	2.96	189	ePn	Pn	16 09 13.8	+1.7
TUP				ePg	Pb	16 09 19.5	+1.8
	comp=N,128nm,0.6s						
TUP				eSn	Sn	16 09 49.1	+1.2
TUP				eSg	Sb	16 09 57.3	+3.1
	comp=N,935nm,0.7s						
OLMR	Olekminsk	3.04	357	P	Pn	16 09 13.9	+0.9
OLMR						16 09 50.0	
OLMR	Olekminsk	3.04	357	i Pn	Pn	16 09 13.9	+0.9
OLMR				i Pg	Pb	16 09 20.6	+1.7
	comp=N,267nm,0.6s						
OLMR				i Sn	Sn	16 09 50.0	+0.4
OLMR				i Sg	Sg	16 10 00.9	-1.2
	comp=N,575nm,0.8s						
OLMR				i Sg	Sg	16 10 00.9	-1.2
	comp=N,397nm,0.5s						
TNDR	Tynda	3.13	133	P	Pn	16 09 15.5	+1.2
TNDR						16 09 52.9	
TNDR	Tynda	3.13	133	i Pn	Pn	16 09 15.5	+1.2
TNDR				i Pg	Pb	16 09 22.7	+2.2
	comp=N,11nm,0.3s						
TNDR				i Sn	Sn	16 09 52.9	+0.9
TNDR				i Sg	Sg	16 10 04.5	-0.6
	comp=N,247nm,0.7s						
TNDR				i Sg	Sg	16 10 04.5	-0.6
	comp=N,200nm,0.3s						
BOD	Bodaibo	3.66	280	eP	Pn	16 09 22.8	+1.3
BOD				pmax	pmax		
	comp=Z,25nm,0.3s						
BOD	Bodaibo	3.66	280	ePn	Pn	16 09 22.8	+1.3
BOD				ePg	Pb	16 09 30.4	+0.9
BOD				e		16 09 34.2	
BOD				max		16 09 36.2	
	comp=Z,26nm,0.6s						
BOD				eSn	Sn	16 10 03.3	-1.6
BOD				eSg	Sb	16 10 18.6	+4.6
BOD				Smax		16 10 23.2	
	comp=Z,382nm,1.0s						
SVKR	Severomuysk	4.14	256	eSg	Sg	16 10 34.4	-3.1
SVKR				Smax		16 10 52.2	
	comp=Z,381nm,0.4s						
UKT	Uakit	4.37	248	ePg	Pb	16 09 43.9	+2.2
UKT				e		16 09 47.1	
UKT				max		16 09 48.5	
	comp=Z,21nm,0.6s						
UKT				e		16 09 50.7	
UKT				eSn	Sn	16 10 21.5	-1.1
UKT				eSg	Sb	16 10 39.6	+5.0
UKT				Smax		16 10 48.2	
	comp=Z,143nm,0.9s						
VTMR	Vitim	4.79	299	P	Pn	16 09 37.9	+0.8
VTMR						16 10 32.3	
VTMR	Vitim	4.79	299	ePn	Pn	16 09 38.2	+1.1
VTMR				ePg	Pb	16 09 51.5	+2.7
VTMR				eSn	Sn	16 10 30.3	-2.5
VTMR				eSg	Sg	16 10 54.2	-4.1
VTMR	Vitim	4.79	299	i Pn	Pn	16 09 37.9	+0.8
	comp=Z,24nm,0.2s						
VTMR				i Pg	Pb	16 09 51.7	+2.9
VTMR				i Sn	Sn	16 10 32.3	-0.6
VTMR				i Sg	Sg	16 10 54.8	-3.4
	comp=Z,1μm,0.6s						
VTMR				i Sg	Sg	16 10 54.8	-3.4
	comp=Z,848nm,0.5s						
YOA	Uoyan	5.11	260	ePg	Pb	16 09 57.6	+3.3
YOA				Pmax		16 10 10.9	
	comp=Z,107nm,0.8s						
YOA				eSg	Sg	16 11 03.8	-4.7
YOA				Smax		16 11 17.4	
	comp=Z,973nm,0.9s						
ZEA	Zeya	5.17	132	P	Pn	16 09 46.5	+4.1
ZEA						16 10 42.3	
ZEA	Zeya	5.17	132	ePn	Pn	16 09 46.5	+4.1
ZEA				ePg	Pg	16 10 03.2	-0.3
	comp=Z,10.0nm,0.7s						
ZEA				eSn	Sn	16 10 42.3	+0.1
ZEA				eSg	Sg	16 11 08.0	-2.5
	comp=Z,200nm,1.6s						
CGD	Chagda	5.43	71	P	Pn	16 09 48.2	+2.3
CGD						16 10 49.3	
CGD	Chagda	5.43	71	i Pn	Pn	16 09 48.2	+2.3
CGD				i Pg	Pb	16 10 04.0	+4.4
	comp=Z,7.3nm,0.2s						
CGD				i Sn	Sn	16 10 49.3	+0.7
CGD				i Sg	Sg	16 11 16.4	-2.3
	comp=Z,96nm,0.3s						
CGD				i Sg	Sg	16 11 16.4	-2.3
	comp=Z,130nm,0.4s						
KMO	Kumora	5.47	258	ePn	Pn	16 09 48.1	+1.7
KMO				e		16 10 07.1	
KMO				max		16 10 12.4	
	comp=Z,16nm,0.5s						
KMO				eSn	Sn	16 10 46.4	-3.2
KMO				eSg	Sb	16 11 13.9	+7.8
KMO				Smax		16 11 23.0	
	comp=Z,185nm,1.4s						
BLSR	Buluus	5.84	43	i Pn	Pn	16 09 53.8	+2.3
BLSR				i Sg	Sg	16 11 28.7	-3.2
BLSR				i Sg	Sg	16 11 28.7	-3.2
YLYR	Ulyunkhan	5.90	249	ePn	Pn	16 09 54.2	+1.8
YLYR				ePg	Pb	16 10 11.3	+3.5
YLYR				e		16 10 15.3	
YLYR				max		16 10 18.4	
	comp=Z,11nm,0.8s						
YLYR				eSn	Sn	16 10 58.4	-1.9
YLYR				eSg	Sg	16 11 28.3	-5.6
YLYR				e		16 11 38.9	
YLYR				max		16 11 45.6	
	comp=Z,105nm,0.9s						
TBGR	Tabaga	6.36	41	i Pn	Pn	16 10 01.1	+2.4
TBGR				i Pg	Pb	16 10 19.1	+3.6
	comp=Z,62nm,0.3s						
TBGR				eSn	Sn	16 11 10.4	-1.0
TBGR				eSn	Sn	16 11 10.4	-1.0
TBGR				i Sg	Sg	16 11 45.0	-3.6
	comp=Z,421nm,0.7s						
TBGR				i Sg	Sg	16 11 45.2	-3.4
	comp=Z,646nm,0.9s						
NIZ	Nizh Angarsk	6.39	260	ePn	Pn	16 10 00.5	+1.4
NIZ				ePg	Pb	16 10 20.1	+4.1
NIZ				Pmax		16 10 23.4	
	comp=Z,13nm,1.5s						
NIZ				eSn	Sn	16 11 09.7	-2.5
NIZ				eSg	Sg	16 11 42.0	-7.5
NIZ				Smax		16 12 05.6	
	comp=Z,108nm,1.2s						
YAK	Yakutsk	6.52	40	Pn	Pn	16 10 03.8	+3.0
	comp=Z,0.1nm,0.3s,baz=211,slow=2.8,SNR=2.7						
YAK				Pg	Pb	16 10 17.9	-0.2
	comp=Z,0.1nm,0.3s,baz=239,slow=6.7,SNR=8.0						
YAK				Sn	Sn	16 11 10.8	-4.5
	comp=Z,0.1nm,0.3s,baz=236,slow=22,SNR=8.2						
YAK				Lg	Lg	16 11 43.2	
	comp=Z,0.2nm,0.3s,baz=305,slow=22,SNR=7.7						
YAK				LR	LR	16 12 39.6	
	comp=Z,35nm,19.5s,baz=240,slow=38						
YAK	Yakutsk	6.52	40	eP	Pb	16 10 09.9	-8.3
YAK				e		16 11 11.1	
YAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,7.0nm,0.9s						
YAK				smax	smax		
	comp=N,16nm,0.9s						
YAK				smax	smax		
	comp=E,16nm,0.9s						
YAK	Yakutsk	6.52	40	i Pn	Pn	16 10 03.0	+2.3
	comp=E,30nm,0.9s						
YAK				eSn	Sn	16 11 10.6	-4.7
	comp=E,84nm,0.7s						
YAK				eSn	Sn	16 11 10.6	-4.7
	comp=E,73nm,0.6s						
CIT	Chita	6.77	221	eSg	Sg	16 11 54.2	-7.5
CIT				Smax		16 12 04.3	
	comp=E,382nm,0.7s						
SYVR	Suvo	7.13	243	ePg	Pb	16 10 34.0	+5.3
SYVR				Pmax		16 10 39.2	
	comp=E,19nm,1.4s						
SYVR				eSn	Sn	16 11 38.9	+8.4
SYVR				eSg	Sg	16 12 07.1	-6.2
SYVR				Smax		16 12 25.7	
	comp=E,139nm,1.2s						
USMR	Ust'-Maya	7.78	61	P	Pn	16 10 19.9	+1.8
USMR						16 11 45.6	
MXMB	Maximikha	7.97	244	eSg	Sg	16 12 32.6	-7.6
OGRR	Ongureny	8.33	249	ePg	Pb	16 10 55.8	+6.7
OGRR				Pmax		16 11 04.7	
	comp=E,1.0nm,0.5s						
OGRR				e		16 12 18.6	
OGRR				eSg	Sg	16 12 42.8	-9.0
OGRR				Smax		16 13 03.4	
	comp=E,40nm,1.3s						
KELR	Kotokel	8.60	243	eSg	Sg	16 12 51.7	-8.4
KPC	Khapcheranga	9.13	217	eP	Pn	16 10 38.3	+1.6
KPC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KPC	Khapcheranga	9.13	217	ePn	Pn	16 10 38.0	+1.3
KPC				ePg		16 11 10.7	
KPC				Pmax		16 11 37.7	
	comp=Z,4.0nm,0.9s						
KPC				eSn	Sn	16 12 16.9	-2.8
KPC				eSg		16 13 07.6	
KPC				e		16 13 13.6	
KPC				e		16 13 30.3	
KPC				max		16 13 31.3	
	comp=Z,82nm,1.4s						
TRG	Tyrgan	9.45	247	eSg	Sn	16 13 18.9	+51
TRG				Smax		16 13 43.7	
	comp=Z,31nm,0.6s						
KAB	Kabansk	9.72	243	eSg	Sn	16 13 27.2	+53
KAB				Smax		16 13 38.0	
	comp=Z,250nm,0.9s						
KLR	Kul'dur	10.46	136	Pn	Pn	16 10 56.2	+1.5

	comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=4.2						
KLR				Sn	Sn	16 12 44.9	-7.2
	comp=Z,0.3nm,0.3s,baz=313,slow=19,SNR=6.3						
KLR				Lg	Lg	16 13 49.4	
	comp=Z,0.1nm,0.3s,baz=324,slow=8.7,SNR=2.0						
LSTR	Listvyanka	10.72	246	eSg	Sn	16 13 58.0	+59
LSTR				Smax		16 14 42.5	
	comp=Z,35nm,2.0s						
ARS	Arshan	11.91	251	eSg		16 14 33.2	
ARS				Smax		16 45 10.9	
	comp=Z,52nm,1.6s						
SONM	Songino Array	12.89	228	Lg	Lg	16 15 11.1	
	comp=Z,1.0nm,0.3s,baz=37,slow=25,SNR=14						
TIXI	Tiksi	14.75	10	Sn	Sn	16 14 22.1	-15
	comp=Z,0.5nm,0.3s,baz=299,slow=11,SNR=6.7						
TIXI				LR	LR	16 17 46.3	
	comp=Z,33nm,21.1s,baz=187,slow=38						
MA2	Magadan	15.80	69	Pn	Pn	16 12 08.1	+0.8
	comp=Z,0.3nm,0.3s,baz=330,slow=20,SNR=2.0						
MA2				Lg	Lg	16 16 32.5	
	comp=Z,0.2nm,0.3s,baz=153,slow=21,SNR=1.9						
SEY	Seymchan	16.59	57	Pn	P	16 12 19.3	-0.6
	comp=Z,0.0nm,0.3s,baz=169,slow=23,SNR=3.5						
SEY				Lg	Lg	16 17 00.3	
	comp=Z,0.0nm,0.3s,baz=348,slow=23,SNR=5.6						
NRIK	Noril'sk	18.80	323	P	P	16 12 43.6	-0.7
	comp=Z,0.4nm,0.3s,baz=105,slow=13,SNR=7.7						
ZALV	Zalesovo Beam	20.40	276	P	P	16 13 00.7	-1.0
	comp=Z,0.3nm,0.5s,baz=64,slow=13,SNR=1.3						
KSRS	Korea Array	20.47	163	P	P	16 13 01.5	-1.1
	comp=Z,0.9nm,0.8s,baz=348,slow=10,SNR=4.4						
KURK	Kurchatov	25.27	273	P	P	16 13 51.2	0.0
KURBB	Kurchatov Arra	25.37	273	P	P	16 13 51.2	-0.8
	comp=Z,0.4nm,0.7s,baz=60,slow=9.6,SNR=3.0						
MKAR	Makanchi Array	25.54	262	P	P	16 13 53.1	-0.6
	comp=Z,0.4nm,0.6s,baz=53,slow=8.1,SNR=6.1						
ILAR	Eielson Array	41.44	40	P	P	16 16 13.5	+2.2
	comp=Z,0.1nm,0.5s,baz=293,slow=5.1,SNR=4.3						
FINES	FINESS Array B	44.29	317	P	P	16 16 34.5	+0.1
	comp=Z,1.2nm,0.6s,baz=39,slow=7.3,SNR=4.5						
NOA	NORSAR Array B	49.77	323	P	P	16 17 16.8	-0.4
	comp=Z,0.7nm,0.9s,baz=40,slow=7.0,SNR=2.1						
AKASG	Malin Array Be	50.25	304	P	P	16 17 20.2	-0.8
	comp=Z,0.2nm,0.3s,baz=40,slow=8.6,SNR=2.2						
YKA	Yellowknife Ar	53.05	29	P	P	16 17 41.8	+0.1
	comp=Z,0.2nm,0.6s,baz=322,slow=7.0,SNR=2.8						
WRA	Warramunga Arr	77.83	167	P	P	16 20 19.8	-2.6
	comp=Z,0.5nm,1.1s,baz=350,slow=6.6,SNR=1.7						
ASAR	Alice Springs	81.46	168	P	P	16 20 39.3	-2.8
	comp=Z,0.3nm,0.9s,baz=353,slow=6.7,SNR=1.5						

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*NEIC **06** 16:21:03.4±1.1, 12°.47S±0°.04×167°.4E±0°.2, h242km±12km, mb4.2/25, Error ellipse: s-maj=32.4km s-min=6.6km az=89.0*

*IDC **06** 16:21:06.2±7.5, 12°.68S×167°.40E, h277km±80km, mb3.7/3, mb1 3.8/4, mb1mx3.1/39, mbtmp4.1/4, Error ellipse: s-maj=93.9km s-min=53.3km az=120.0*

ISC 06 16:21:03.5±0.8, **12°.58S**±0°.09×**167°.4E**±0°.2, **h250**km, **n36**, σ**1s.00**/37, **mb4.2**/16, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.86	183	Pn	Pn	16 21 54.5	0.0
MARNC	Mare, Loyalty	8.88	176	Pn	Pn	16 23 09.5	+1.6
DZM	Mont Dzumac	9.48	185	P	Pn	16 23 18.9	+3.2
	0.3nm,0.3s,baz=131,slow=16,SNR=7.4						
DZM				S	S	16 24 59.5	-3.2
	0.1nm,0.3s,baz=317,slow=22,SNR=1.4						
EIDS	Eidsvold	19.94	228	P	P	16 25 17.4	+0.4
WR0	Warramunga Arr	32.30	253	P	P	16 27 09.8	+0.2
CAST	Castle Rocks	81.93	17	P	P	16 32 54.9	-0.1
J20K	Nowinta River	81.94	16	P	P	16 32 55.5	+0.6
SCM	Sheep Creek Mo	82.22	20	P	P	16 32 56.8	+0.2
BERG	Berg Lake	82.49	22	P	P	16 32 58.5	+0.6
RND	Reindeer	82.88	18	P	P	16 33 00.0	+0.1
N25K	Chitina, Valde	83.00	21	P	P	16 33 00.8	+0.2
N25K				IAmb	IAmb	16 33 11.1	
	comp=Z,11nm,1.5s						
DHY	Denali Highway	83.10	19	P	P	16 33 01.5	+0.3
VRDI	Verde Repeater	83.15	22	P	P	16 33 01.8	+0.3
VRDI				IAmb	IAmb	16 33 13.8	
	comp=Z,9.3nm,1.3s						
IMAR	Indian Mountai	83.48	15	P	P	16 33 04.0	+1.2
TABL	Table Mountain	83.48	23	P	P	16 33 03.9	+0.7
CTGM	Chitina Glacie	83.75	23	P	P	16 33 05.0	+0.5
CTGM				IAmb	IAmb	16 33 26.3	
	comp=Z,6.4nm,1.2s						
LOGN	Logan Glacier	83.78	23	P	P	16 33 05.0	+0.3
LOGN				IAmb	IAmb	16 33 15.0	
	comp=Z,6.4nm,1.2s						
WRH	Wood River Hil	83.89	18	P	P	16 33 04.6	-0.3
WRH				IAmb	IAmb	16 33 05.3	
	comp=Z,4.7nm,1.2s						
CCB	Clear Creek Bu	84.10	18	P	P	16 33 05.1	-0.9
CCB				IAmb	IAmb	16 33 06.2	
	comp=Z,1.7nm,0.6s						
HDA	Harding Lake	84.19	18	P	P	16 33 06.5	+0.1
MDM	Murphy Dome	84.20	17	P	P	16 33 05.1	-1.5
MDM				IAmb	IAmb	16 33 13.7	
	comp=Z,3.4nm,1.2s						
RIDG	Independent Ri	84.38	19	P	P	16 33 08.2	+0.7
RIDG				IAmb	IAmb	16 33 33.6	
	comp=Z,3.8nm,1.1s						
M27K	Edge Creek, AK	84.46	21	P	P	16 33 08.8	+0.8
M27K				IAmb	IAmb	16 33 24.5	
	comp=Z,7.3nm,1.4s						
IL31		84.47	18	P	P	16 33 07.4	-0.4
IL31				IAmb	IAmb	16 33 08.5	
	comp=Z,2.5nm,0.8s						
ILAR	Eielson Array	84.47	18	P	P	16 33 07.5	-0.3
	comp=Z,1.9nm,0.6s,baz=240,slow=5.1,SNR=34						
POKR	Poker Plat Res	84.55	18	P	P	16 33 07.9	-0.4
POKR				IAmb	IAmb	16 33 08.6	
	comp=Z,3.7nm,0.7s						
DOT	Dot Lake	84.57	20	P	P	16 33 08.9	+0.4
J25K	Salcha River,	84.82	19	P	P	16 33 09.8	+0.1
SCRK	Sand Creek	84.82	19	P	P	16 33 09.6	-0.2
SCRK				IAmb	IAmb	16 33 10.9	
	comp=Z,1.5nm,0.6s						
BCAR	Beaver Creek A	84.95	21	P	P	16 33 10.7	+0.3
EGAK	Eagle	86.27	20	P	P	16 33 16.8	0.0
EGAK				IAmb	IAmb	16 33 37.8	
	comp=Z,5.2nm,1.4s						
YKA	Yellowknife Ar	95.61	27	P	P	16 33 59.5	-0.6
	comp=Z,0.2nm,0.4s,baz=265,slow=4.8,SNR=4.4						
MKAR	Makanchi Array	95.71	317	P	P	16 34 00.3	-0.7
	comp=Z,0.5nm,0.8s,baz=94,slow=6.3,SNR=4.9						
MKAR	Makanchi Array	95.71	317	P	P	16 33 59.9	-1.2
ARCES	ARCESS Array B	118.20	346	PKP	PKPdf	16 39 20.4	+0.1
	comp=Z,3.3nm,1.0s,baz=58,slow=1.6,SNR=15						
FINES	FINESS Array B	123.76	339	PKP	PKPdf	16 39 31.6	+0.4
	comp=Z,0.8nm,0.8s,baz=67,slow=3.5,SNR=4.8						

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*GUC **06** 16:23:07.9±0.8, 17°.94S×70°.22W, h112km±7km, ML4.3*

*VAO **06** 16:23:07.7±0.5, 17°.85S×70°.13W, h101km, mb4.3*

*NEIC **06** 16:23:07.4±1.3, 17°.90S±0°.06×70°.26W±0°.07, h91km±5km, Error ellipse: s-maj=9.9km s-min=7.4km az=57.0*

*IDC **06** 16:23:08.5±1.8, 18°.02S×69°.98W, h111km±17km, mb4.0/11, mb1 4.0/14, mb1mx3.9/30, mbtmp4.3/14, MS2.5/2, Ms1 2.5/2, ms1mx2.4/57, Error ellipse: s-maj=20.2km s-min=13.6km az=99.0*

*ARE **06** 16:23:08±1.7, 18°.08S±0°.06×70°.38W±0°.09, h99km±5km, ML4.3, mb4.7/86(NEIC), ML4.3(GUC), Error ellipse: s-maj=11.7km s-min=8.6km az=92.0*

ISC 06 16:23:07.4±0.4, **17°.96S**±0°.05×**70°.19W**±0°.07, **h102**km, **n197**, σ**0s.98**/191, **mb4.7**/53, **5C-4D**, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	IPOC Station P	1.86	164		Pn	16 23 38.7	+0.2
PB11	IPOC Station P	1.86	164	⇑iP	Pn	16 23 38.8	+0.4
PB11				iS	Sn	16 24 02.4	+0.3
PB11				IAML		16 24 07.4	
	comp=E,2µm,0.3s						
GO01	Chusmiza	1.95	151		Pn	16 23 41.4	+1.6
GO01	Chusmiza	1.95	151	⇓iP	Pn	16 23 41.6	+1.8
GO01				iS	Sn	16 24 07.5	+3.0
GO01				IAML		16 24 10.2	
	comp=N,2µm,0.2s						
TA02	Huaiquique	2.30	179		Pn	16 23 43.8	-0.2
TA02	Huaiquique	2.30	179	eP	Pn	16 23 43.9	-0.1
TA02				IAML		16 24 18.9	
	comp=N,2µm,0.3s						
HMBC	Humberstone	2.33	173	⇓iP	Pn	16 23 44.2	-0.2
HMBC				IAML		16 24 19.2	
	comp=N,2µm,0.5s						
PB08	IPOC Station P	2.38	156		Pn	16 23 46.6	+1.2
PB08	IPOC Station P	2.38	156	⇓iP	Pn	16 23 46.8	+1.4
PB08				iS	Sn	16 24 15.7	+1.2
PB08				IAML		16 24 17.0	
	comp=E,1µm,0.1s						
LPAZ	La Paz	2.58	50	P	Pn	16 23 50.2	+2.0
	comp=E,24nm,0.3s,baz=223,slow=2.7,SNR=223						
LPAZ				LR	LR	16 25 09.9	
	comp=E,57nm,21.9s,baz=230,slow=49						
LPAZ	La Paz	2.58	50	Pn	Pn	16 23 49.9	+1.8
LPAZ	La Paz	2.58	50	⇑iP	Pn	16 23 50.2	+2.0
PATCX	Punta Patache	2.85	179	Pn	Pn	16 23 50.7	-0.5
PATCX	Punta Patache	2.85	179	⇑iP	Pn	16 23 51.2	-0.1
PATCX				IAML		16 24 43.0	
	comp=N,643nm,0.6s						
PB01	IPOC Station P	3.14	168		Pn	16 23 55.0	-0.2
PB01	IPOC Station P	3.14	168	IAML		16 24 45.7	
	comp=E,610nm,0.3s						
PB02	IPOC Station P	3.36	175		Pn	16 23 57.9	-0.2
PB02	IPOC Station P	3.36	175	eP	Pn	16 23 58.1	+0.1
PB02				IAML		16 24 50.2	
	comp=E,907nm,0.7s						
PB07	IPOC Station P	3.76	176		Pn	16 24 03.4	-0.2
PB07	IPOC Station P	3.76	176	⇓iP	Pn	16 24 03.5	0.0
PB09	IPOC Station P	3.92	167		Pn	16 24 06.0	+0.3
PB09	IPOC Station P	3.92	167	eP	Pn	16 24 06.2	+0.4
PB04	IPOC Station P	4.36	180		Pn	16 24 10.6	-0.9
PB04	IPOC Station P	4.36	180	eP	Pn	16 24 10.8	-0.7
PB06	IPOC Station P	4.76	173		Pn	16 24 16.5	-0.5
PB06	IPOC Station P	4.76	173	eP	Pn	16 24 16.5	-0.5
LVC	Limon Verde	4.78	166	P	Pn	16 24 18.3	+0.9
	comp=E,6.6nm,0.3s,baz=340,slow=10,SNR=11						
LVC				S	Sn	16 25 09.6	-2.3
	comp=E,17nm,0.3s,baz=45,slow=20,SNR=14						
LVC	Limon Verde	4.78	166	Pn	Pn	16 24 17.7	+0.2
LVC	Limon Verde	4.78	166	⇑iP	Pn	16 24 18.4	+0.9
LVC	Limon Verde	4.78	166	eP	Pn	16 24 18.4	+0.9
PB15	IPOC Station P	5.27	173		Pn	16 24 23.2	-0.8
PB14	IPOC Station P	6.64	182		Pn	16 24 40.4	-2.3
AC01	Pan de Azucar	8.16	183	Pn	Pn	16 25 00.0	-3.0
NNA	Nana	8.75	312	Pn	Pn	16 25 06.3	-4.9
AC02	Maricunga	8.89	174	Pn	Pn	16 25 11.9	-1.5
SIV	San Ignacio	8.94	79	P	Pn	16 25 11.5	-2.2
	comp=E,12nm,0.3s,baz=272,slow=8.3,SNR=83						
SIV				LR	LR	16 29 04.6	
	comp=E,53nm,19.0s,baz=273,slow=41						
ETMB	Extrema	8.96	26	eP	Pn	16 25 12.6	-1.5
AC06	Mina Casimiro	9.36	181	Pn	Pn	16 25 18.2	-1.1
VILB	Vilhena	10.84	64	eP	Pn	16 25 37.7	-1.8
PTLB	Pontes e Lacer	10.88	78	eP	Pn	16 25 38.5	-1.5
CO03	El Pedregal	12.83	182		Pn	16 26 07.3	+1.2
CO02	Combarbal	13.21	183	Pn	Pn	16 26 11.1	0.0
AQDB	Aquidauana	13.91	103	Pn	P	16 26 24.8	-0.2
AQDB	Aquidauana	13.91	103	eP	Pn	16 26 20.9	+0.7
SALV	Santo Antonio	14.02	84	eP	Pn	16 26 22.1	+0.5
VA06	Catapilco	14.58	184		Pn	16 26 29.2	+0.7
VA03	San Esteban	14.75	181		Pn	16 26 32.0	+1.1
MT02	Curacav	15.26	183		Pn	16 26 37.7	+0.4
CLDB	Colider	15.61	65	eP	Pn	16 26 40.8	-1.0
MT09	Talagante	15.77	182		Pn	16 26 43.8	0.0
MT01	Popeta	15.87	183		Pn	16 26 45.5	+0.6
BO04	La Punta	15.97	181		Pn	16 26 46.8	+0.6
BO01	Tunca	16.39	183		P	16 26 52.2	-0.1
BO02	Sierra Bellavi	16.78	182		P	16 26 57.6	+0.9
TRCB	Terra Rica	17.14	109	eP	Pn	16 27 00.5	-0.2
H03N1	Juan Fernandez	17.29	205	T	T	16 44 40.7	
	baz=28,slow=73,SNR=61						
H03N2	Juan Fernandez	17.30	205	T	T	16 44 41.2	
	baz=28,slow=73,SNR=66						
H03N3	Juan Fernandez	17.31	205	T	T	16 44 41.3	
	baz=28,slow=73,SNR=92						
MACA	Manacapuru-AM	17.41	33	eP	Pn	16 27 04.2	+0.3
ARAG	Araguaiana, MT	17.73	85	eP	Pn	16 27 07.6	-0.3
NPGB	Novo Progresso	18.07	55	eP	P	16 27 10.6	-0.5
PTGB	Pitanga	18.16	115	eP	Pn	16 27 13.1	0.0
PCMB	Pacaembu	18.18	105	eP	P	16 27 12.3	+0.1
ITAB	Concordia	19.04	122	eP	P	16 27 22.3	+0.7
SNDB	Serra Nova Dou	19.19	75	eP	P	16 27 22.7	-0.6
ITTB	Itaituba	19.56	48	eP	P	16 27 26.1	-1.2
CPSB	Cacapava Do Su	19.64	132	eP	P	16 27 27.9	-0.2
PLTB	Pedras Altas	20.34	136	P	P	16 27 34.9	-0.8
PLTB	Pedras Altas	20.34	136	eP	P	16 27 35.2	-0.5
BB19B	Bebedouro	20.65	102	eP	P	16 27 39.0	0.0
IPMB	Ipameri, GO	20.91	93	eP	P	16 27 42.5	+0.7
BDFB	Brasilia	21.35	87	P	P	16 27 44.6	-2.1
	comp=E,2.8nm,0.4s,baz=262,slow=12,SNR=9.1						
BDFB	Brasilia	21.35	87	P	P	16 27 48.5	+1.8
PEXB	Peixe	21.92	78	eP	P	16 27 51.5	-1.2
VAO	Valinhos	22.32	107	eP	P	16 27 57.1	+0.3
BOAV	Boa Vista	22.36	26	eP	P	16 27 56.6	-0.6
MALB	Monte Alegre	22.37	46	eP	P	16 27 55.5	-1.9
PLCA	Paso Flores	22.70	181	P	P	16 28 01.6	+1.0
	comp=E,6.0nm,1.0s,baz=6.6,slow=12,SNR=7.7						
PLCA	Paso Flores	22.70	181	P	P	16 28 01.8	+1.2
PLCA	Paso Flores	22.70	181	eP	P	16 28 03.0	+2.4
SMTB	Santa Maria do	23.75	71	eP	P	16 28 09.5	-1.0
JANB	Januaria	24.97	87	eP	P	16 28 20.0	-1.8
MCPB	Macapa, AP	24.97	47	eP	P	16 28 20.9	-0.7
SDBA	SAO DESIDERIO	25.01	81	eP	P	16 28 21.4	-0.6
DIAM	Diamantina, MG	25.20	95	eP	P	16 28 23.2	-0.6
SDV	Santo Domingo	26.68	359	eP	P	16 28 36.2	-1.0
MDP	Montagnes des	28.72	39	P	P	16 28 53.9	-1.3
	comp=E,23nm,1.2s,baz=229,slow=7.2,SNR=1.3						
NBLA	Lagarto - SE	32.09	82	eP	P	16 29 23.9	-1.1
NBPB	Pedra_Branca-C	32.34	71	eP	P	16 29 27.5	+0.3
RCBR	Riachuelo	35.57	74	P	P	16 29 53.8	-1.5
	comp=E,6.3nm,0.9s,baz=156,slow=12,SNR=2.2						
RCBR	Riachuelo	35.57	74	IAmb	IAmb	16 29 54.8	
	comp=Z,8.3nm,1.0s						
DSPA	Despedida	35.96	178	P	P	16 29 58.2	+0.3
CELP	Cerrillos	35.98	6	P	P	16 29 58.0	-0.6
CELP				IAmb	IAmb	16 30 11.6	
	comp=Z,16nm,1.2s						
AOPR	Arecibo Observ	36.23	6	P	P	16 30 00.1	-0.7
AOPR				IAmb	IAmb	16 30 17.6	
	comp=Z,12nm,0.8s						
STVI	Saint Thomas	36.45	8	P	P	16 30 01.3	-1.2
250A	Grady	51.99	343	P	P	16 32 07.6	+1.4
250A				IAmb	IAmb	16 32 07.7	
	comp=Z,8.1nm,0.9s						
LRAL	Lakeview Retre	53.19	342	P	P	16 32 16.0	+0.9
Y49A	Blount Mountai	53.80	343	P	P	16 32 20.1	+0.5
Y49A				IAmb	IAmb	16 32 26.9	
	comp=Z,9.9nm,1.4s						
V55A	Taylorsville	54.52	349	P	P	16 32 25.9	+1.2
X48A	Hartselle	54.53	343	P	P	16 32 25.5	+0.7
W50A	Signal Mountai	54.78	345	P	P	16 32 27.3	+0.6
W50A				IAmb	IAmb	16 32 30.7	
	comp=Z,6.8nm,1.1s						
CPCT	Cooper Cave	54.83	346	P	P	16 32 27.5	+0.5
CPCT				IAmb	IAmb	16 32 51.1	
	comp=Z,8.1nm,1.2s						
TKL	Tuckaleechee C	54.85	346	P	P	16 32 27.7	+0.5
SWET	Sewanee	54.95	344	P	P	16 32 28.5	+0.6
SWET				IAmb	IAmb	16 32 28.7	
	comp=Z,5.8nm,0.7s						
V52A	Sevierville	54.99	347	P	P	16 32 28.7	+0.5
V52A				IAmb	IAmb	16 32 29.0	
	comp=Z,4.8nm,0.7s						
T59A	Double "B" Far	55.07	353	P	P	16 32 28.7	0.0
T59A				IAmb	IAmb	16 32 36.2	
	comp=Z,14nm,1.3s						
V48A	Smith Brothers	55.68	344	P	P	16 32 33.5	+0.5
V48A				IAmb	IAmb	16 32 34.5	
	comp=Z,5.7nm,0.8s						
CLTN	Cedars of Leba	55.88	344	P	P	16 32 34.6	+0.1
CLTN				IAmb	IAmb	16 32 36.2	
	comp=Z,4.7nm,0.7s						
U49A	Red Boiling Sp	56.14	345	P	P	16 32 36.4	0.0
WVT	Waverly	56.32	343	P	P	16 32 37.8	+0.1
WVT				IAmb	IAmb	16 32 38.5	
	comp=Z,5.3nm,0.6s						
T50A	Nancy	56.40	346	P	P	16 32 38.2	+0.1
T50A				IAmb	IAmb	16 32 57.6	
	comp=Z,12nm,1.5s						
S54A	Dingess, Beckl	56.44	349	P	P	16 32 39.0	+0.5
S54A				IAmb	IAmb	16 32 51.0	
	comp=Z,7.3nm,1.1s						
R55A	Marlinton	56.71	351	P	P	16 32 41.0	+0.5
R55A				IAmb	IAmb	16 32 57.4	
	comp=Z,14nm,1.3s						
T47A	Sharon Grove	56.93	344	P	P	16 32 43.0	+1.1
TXAR	Lajitas Array	57.05	325	P	P	16 32 42.6	-0.4
	comp=Z,0.1nm,0.5s,baz=147,slow=8.6,SNR=2.1						
R53A	Hurricane	57.07	349	P	P	16 32 43.6	+0.7
R53A				IAmb	IAmb	16 32 57.4	
	comp=Z,15nm,1.3s						
LCAR	Lake Charles	57.28	340	P	P	16 32 45.8	+1.4
Q54A	Coxs Mills	57.51	350	P	P	16 32 46.5	+0.5
Q54A				IAmb	IAmb	16 32 47.4	
	comp=Z,12nm,1.4s						
PBMO	Poplar Bluff	57.70	341	P	P	16 32 48.5	+1.2
WCI	Wyandotte Cave	57.90	345	P	P	16 32 49.0	+0.3
WCI				IAmb	IAmb	16 32 49.3	
	comp=Z,5.9nm,0.6s						
P53A	Whipple	58.09	350	P	P	16 32 50.7	+0.7
U40A	Yellville	58.12	339	P	P	16 32 51.8	+1.5
U40A				IAmb	IAmb	16 32 54.8	
	comp=Z,9.2nm,1.4s						
S44A	Carbondale	58.19	342	P	P	16 32 51.9	+1.1
SIUC	Southern Illin	58.20	342	P	P	16 32 51.9	+1.1
P52A	Corning	58.37	349	P	P	16 32 51.9	0.0
P52A				IAmb	IAmb	16 32 57.4	
	comp=Z,15nm,1.4s						
MGMO	Mountain Grove	58.64	339	P	P	16 32 55.4	+1.5
MGMO				IAmb	IAmb	16 32 56.4	
	comp=Z,3.4nm,0.5s						
SSPA	Standing Stone	58.73	353	P	P	16 32 54.8	+0.4
P49A	Miami Univ. Ec	58.78	347	P	P	16 32 54.3	-0.5
O52A	Adamsville	58.78	350	P	P	16 32 55.3	+0.5
FVM	French Village	58.81	341	P	P	16 32 55.5	+0.4
O53A	New Philadelph	58.81	350	P	P	16 32 55.5	+0.5
P48A	Milroy	58.87	346	P	P	16 32 55.0	-0.5
ACSO	Alum Creek Sta	59.10	349	P	P	16 32 57.2	+0.1
ACSO				IAmb	IAmb	16 32 58.6	
	comp=Z,11nm,1.2s						
CCM	Cathedral Cave	59.12	341	P	P	16 32 58.5	+1.3
Q44A	Meyer Farm, Va	59.25	343	P	P	16 32 58.4	+0.4
Q44A				IAmb	IAmb	16 32 59.4	
	comp=Z,10nm,1.1s						
N53A	Lisbon	59.29	351	P	P	16 32 59.2	+0.8
N54A	Moraine State	59.32	351	P	P	16 32 59.0	+0.5
O49A	Covington	59.33	347	P	P	16 32 58.6	0.0
O49A				IAmb	IAmb	16 33 24.5	
	comp=Z,5.8nm,1.0s						
M57A	Sunshine Farm,	59.34	354	P	P	16 32 59.4	+0.8
S39A	Bolivar	59.48	339	P	P	16 33 01.5	+1.8
BRYW	Bryant College	59.58	359	P	P	16 33 00.4	+0.1
BRYW				IAmb	IAmb	16 33 01.2	
	comp=Z,5.3nm,0.8s						
M55A	Ridgway	59.65	353	P	P	16 33 01.3	+0.5
N51A	Ashland	59.66	349	P	P	16 33 01.1	+0.3
R40A	Maddies Statio	59.67	340	P	P	16 33 01.9	+1.0
M54A	Oil Creek Stat	59.81	352	P	P	16 33 02.4	+0.5
M54A				IAmb	IAmb	16 33 03.0	
	comp=Z,2.9nm,0.5s						
M53A	WI Miller and	59.89	351	P	P	16 33 02.9	+0.5
N49A	Columbus Grove	60.00	348	P	P	16 33 03.3	+0.1
ALLY	Alegheny Colle	60.02	351	P	P	16 33 03.8	+0.5
ALLY				IAmb	IAmb	16 33 04.6	
	comp=Z,7.5nm,0.9s						
BINY	Binghamton	60.09	355	P	P	16 33 04.4	+0.6
L56A	Greenwood	60.18	354	P	P	16 33 04.5	+0.1
L56A				IAmb	IAmb	16 33 22.0	
	comp=Z,8.7nm,1.2s						
WVNY	West Valley, N	60.56	353	P	P	16 33 07.5	+0.5
WVNY				IAmb	IAmb	16 33 28.8	
	comp=Z,17nm,1.5s						
MMNY	Mt. Morris Dam	60.80	353	P	P	16 33 09.0	+0.4
L48A	N Adams	61.04	348	P	P	16 33 10.4	+0.1
J55A	Hilton	61.32	354	P	P	16 33 12.5	+0.4
J55A				IAmb	IAmb	16 33 19.7	
	comp=Z,7.0nm,0.9s						
NCB	Newcomb	61.73	357	P	P	16 33 15.3	+0.4
NCB				IAmb	IAmb	16 33 31.2	
	comp=Z,8.8nm,1.5s						
PECO	Prince Edward	61.90	354	P	P	16 33 16.2	+0.2
PECO				IAmb	IAmb	16 33 35.8	
	comp=Z,10nm,1.4s						
DELO	Deloro Mine	62.54	354	P	P	16 33 20.6	+0.3
GGN	Saint George	62.84	3	P	P	16 33 22.8	+0.6
G62A	West of Eustis	62.87	360	P	P	16 33 23.0	+0.6
G65A	Princeton	62.90	2	P	P	16 33 23.0	+0.5
PKME	Peaks-Kenny Pk	62.92	1	P	P	16 33 23.1	+0.4
PKME				IAmb	IAmb	16 33 24.5	
	comp=Z,18nm,1.4s						
SADO	Sadowa	62.95	353	P	P	16 33 23.2	+0.2
SADO				IAmb	IAmb	16 33 24.0	
	comp=Z,7.8nm,1.1s						
JFWS	Jewell Farm	63.32	344	P	P	16 33 25.9	+0.4
JFWS				IAmb	IAmb	16 33 26.6	
	comp=Z,16nm,1.2s						
F64A	Sherman	63.54	1	P	P	16 33 27.3	+0.6
F64A				IAmb	IAmb	16 33 43.4	
	comp=Z,14nm,1.4s						
I42A	Draeger Farm,	63.89	345	P	P	16 33 29.7	+0.5
I42A				IAmb	IAmb	16 33 58.1	
	comp=Z,12nm,1.1s						
D62A	Allapoint, All	64.74	1	P	P	16 33 35.3	+0.6
BATG	Bathurst New B	65.03	3	P	P	16 33 37.0	+0.5
E46A	Sault Ste Mari	65.28	349	P	P	16 33 38.1	0.0
E46A				IAmb	IAmb	16 33 41.1	
	comp=Z,15nm,1.1s						
E43A	Lone Tree Farm	65.81	347	P	P	16 33 42.9	+1.4
VLDQ	Val d'Or	66.09	355	P	P	16 33 44.2	+0.9
F36A	Milaca	66.95	342	P	P	16 33 51.0	+2.2
F36A				IAmb	IAmb	16 33 51.6	
	comp=Z,9.7nm,1.2s						
DRLN	Deer Lake	67.86	9	P	P	16 33 54.2	-0.2
DRLN				IAmb	IAmb	16 33 54.6	
	comp=Z,14nm,1.2s						
EYMN	Ely	68.32	345	P	P	16 33 58.5	+1.0
EYMN				IAmb	IAmb	16 34 13.3	
	comp=Z,13nm,1.2s						
DBIC	Dimbokro	68.95	75	P	P	16 34 01.6	-0.4
	comp=Z,7.8nm,0.9s,baz=267,slow=6.1,SNR=7.0						
DBIC	Dimbokro	68.95	75	P	P	16 34 01.5	-0.5
PDAR	Pinedale Array	70.45	330	P	P	16 34 12.4	+1.4
	comp=Z,0.3nm,0.8s,baz=119,slow=8.4,SNR=2.4						
ULM	Lac du Bonnet	71.59	343	P	P	16 34 17.9	+0.5
	comp=Z,3.1nm,0.3s,baz=148,slow=6.0,SNR=7.3						
ULM	Lac du Bonnet	71.59	343	P	P	16 34 18.1	+0.7
SCHQ	Schefferville	72.55	2	P	P	16 34 22.4	-0.6
	comp=Z,4.3nm,0.9s,baz=215,slow=5.5,SNR=5.5						
SCHQ	Schefferville	72.55	2	P	P	16 34 23.4	+0.4
TORD	Torodi Ar. Bea	77.35	72	P	P	16 34 50.7	-0.8
	comp=Z,3.0nm,0.6s,baz=258,slow=5.0,SNR=24						
FCC	Fort Churchill	78.93	348	P	P	16 34 58.9	-0.3
SYO	Syowa Base	80.23	160	⇑eP	P	16 35 05.0	-1.3
ESDC	Sonseca Array	84.19	45	P	P	16 35 26.8	-0.7
	comp=Z,0.7nm,0.9s,baz=247,slow=4.2,SNR=3.1						
YKA	Yellowknife Ar	87.46	341	P	P	16 35 44.6	+1.6
	comp=Z,0.6nm,0.4s,baz=135,slow=4.9,SNR=20						
YKA				pP	pP	16 36 10.3	-0.3
	comp=Z,0.6nm,0.5s,baz=137,slow=4.9,SNR=6.0						
YKA	Yellowknife Ar	87.46	341	P	P	16 35 45.3	+2.3
RUBB	Prince Rupert	88.29	329	P	P	16 35 48.4	+1.3
H11N3	WAKE ISLAND Hy	126.15	282	T	T	19 01 15.0	
	baz=100						
H11S2	WAKE ISLAND Hy	126.16	280	T	T	19 01 14.3	
	baz=100,SNR=29						
H11N2	WAKE ISLAND Hy	126.16	282	T	T	19 01 13.7	
	baz=100						
H11S1	WAKE ISLAND Hy	126.16	280	T	T	19 01 13.1	
	baz=100,slow=74,SNR=18						
H11N1	WAKE ISLAND Hy	126.17	282	T	T	19 01 08.2	
	baz=100						
H11S3	WAKE ISLAND Hy	126.17	280	T	T	19 01 13.2	
	baz=100,slow=74,SNR=22						
WRA	Warramunga Arr	135.30	214	PKP	PKiKP	16 42 17.0	-0.6
	comp=Z,0.2nm,0.6s,baz=137,slow=1.8,SNR=4.8						
WRA				pPKP	pPKPdf	16 42 43.9	-0.3
	comp=Z,0.6nm,1.1s,baz=141,slow=1.8,SNR=2.3						
ZALV	Zalesovo Beam	139.21	22	PKP	PKPdf	16 42 21.6	-0.5
	comp=Z,0.4nm,0.4s,baz=310,slow=2.1,SNR=2.7						
MKAR	Makanchi Array	143.38	32	PKP	PKPdf	16 42 29.2	-0.8
	comp=Z,0.2nm,0.5s,baz=326,slow=2.5,SNR=4.6						
SONM	Songino Array	150.07	5	PKPbc	PKiKP	16 42 46.8	-0.4
	comp=Z,0.4nm,0.4s,baz=298,slow=2.2,SNR=5.7						

IDC 06 16:40:10.8±4.4, **30°.53N**×**141°.45E**, **h0**km, **mb3.2**/3,

mb1 3.4/4,mb1mx3.2/38,mbtmp3.2/4,ML2.8/1,Error ellipse: s-maj=178.4km s-min=27.4km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.58	337	Pn	Pn	16 41 47.7	-1.1
	0.2nm,0.3s,baz=158,slow=10,SNR=18						
MKAR	Makanchi Array	47.84	307	P	P	16 48 50.7	+0.4
	0.1nm,0.6s,baz=90,slow=8.6,SNR=1.7						
WRA	Warramunga Arr	50.64	189	P	P	16 49 12.2	+0.4
	0.2nm,0.5s,baz=5.4,slow=7.5,SNR=5.2						
ASAR	Alice Springs	54.37	189	P	P	16 49 38.6	-0.9
	0.3nm,0.8s,baz=12,slow=7.4,SNR=2.5						

IDC 06 16:49:52.6±1.8,14°.90N×93°.72E,h0km,mb3.1/3, mb1 3.2/4,mb1mx2.9/50,mbtmp3.0/4,ML3.0/1,Error ellipse: s-maj=34.6km s-min=27.3km az=91.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.13	54	Pn	Pn	16 51 24.9	+0.4
	0.1nm,0.3s,baz=242,slow=15,SNR=2.5						
CMAR				Lg	Lg	16 53 06.6	
	0.3nm,0.3s,baz=243,slow=29,SNR=3.8						
MKAR	Makanchi Array	33.20	346	P	P	16 56 32.1	+0.9
	0.1nm,0.4s,baz=152,slow=8.2,SNR=1.9						
WRA	Warramunga Arr	52.86	130	P	P	16 59 10.2	-0.3
	0.2nm,0.6s,baz=312,slow=7.6,SNR=1.6						
ASAR	Alice Springs	54.88	134	P	P	16 59 24.7	-0.6
	0.1nm,0.5s,baz=308,slow=7.0,SNR=5.8						

*DJA **06** 16:56:27.2±1.3,7°S±7°×13°1E±1°1,h227km±21km,M4.0/7, mb3.6/6,mB4.5/2,MLv4.1/7,Mw(mB)3.7/2*
*IDC **06** 16:56:28.2±2.4,6°.92S×130°.32E,h94km±26km,mb3.5/1, mb1 3.4/6,mb1mx3.1/33,mbtmp3.7/6,Error ellipse: s-maj=29.2km s-min=20.7km az=110.0*
ISC 06 16:56:26.8±0.8,**6°.95S**±0°.06×**130°.47E**±0°.10,**h100km,n10, σ3s.23**/13,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.32	141	P	Pn	16 57 00.8	+10
FAKI	Fak Fak	4.38	24	P	Pn	16 57 33.3	+2.1
SIJI	Sorong	6.09	8	P	Pn	16 57 55.0	+0.6
	0.8nm,0.3s,baz=44,slow=22,SNR=23						
SIJI				S	Sn	16 58 56.2	-6.6
	3.7nm,0.3s,baz=257,slow=23,SNR=16						
SWI	Sorong	6.10	7	P	Pn	16 57 55.1	+0.6
	0.2nm12nm,1.3s						
BATI	Baumata	7.46	244	P	Pn	16 58 14.2	+1.2
	2.1nm,0.3s,baz=127,slow=5.2,SNR=2.8						
BATI				S	Sn	16 59 35.9	-0.3
	0.4nm,0.3s,baz=23,slow=7.7,SNR=1.4						
BATI	Baumata	7.46	244	P	Pn	16 58 18.4	+5.4
FITZ	Fitzroy Crossi	12.04	203	P	Pn	16 59 15.5	+0.5
	0.1nm,0.3s,baz=27,slow=10,SNR=14						
FITZ				S	Sn	17 01 22.6	-4.8
	0.8nm,0.3s,baz=0.0,slow=15,SNR=8.0						
WRA	Warramunga Arr	13.45	164	P	Pn	16 59 35.9	+2.3
	0.4nm,0.3s,baz=339,slow=13,SNR=33						
WRA				S	Sn	17 01 59.2	-2.5
	0.6nm,0.3s,baz=326,slow=23,SNR=10						
ASAR	Alice Springs	16.94	169	P	P	17 00 20.5	+2.4
	0.2nm,0.3s,baz=343,slow=8.6,SNR=20						
ASAR				S	Sn	17 03 22.8	-3.3
	0.1nm,0.3s,baz=352,slow=24,SNR=3.2						
MKAR	Makanchi Array	68.44	327	P	P	17 07 19.5	+1.5
	0.4nm,0.4s,baz=115,slow=7.4,SNR=15						

IDC 06 17:39:23.8±2.1,**4°.16N×126°.85E,h0km,mb3.3**/4, **mb1 3.5**/4,**mb1mx3.3**/33,**mbtmp3.3**/4,**MS2.6**/2,**Ms1 2.6**/2, **ms1mx2.2**/30,**Error ellipse: s-maj=110.7km s-min=28.0km az=69.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.15	336	LR	LR	17 40 53.7	
	comp=Z,23nm,21.6s,baz=122,slow=28						
FITZ	Fitzroy Crossi	22.15	183	P	P	17 44 21.8	+0.4
	1.6nm,0.9s,baz=15,slow=12,SNR=1.5						
WRA	Warramunga Arr	25.06	163	P	P	17 44 49.6	-0.5
	1.1nm,0.6s,baz=343,slow=11,SNR=9.5						
ASAR	Alice Springs	28.50	166	P	P	17 45 21.4	+0.3
	0.2nm,0.7s,baz=342,slow=8.6,SNR=2.5						
CTA	Charters Tower	30.73	142	LR	LR	17 58 02.1	
	comp=Z,47nm,19.6s,baz=166,slow=36						
MKAR	Makanchi Array	57.27	325	P	P	17 49 13.3	0.0
	0.2nm,0.6s,baz=120,slow=5.7,SNR=2.2						

IDC 06 17:46:58.0±6.8,**0°.68S×97°.51E,h0km,mb3.2**/3,**mb1 3.4**/3, **mb1mx3.1**/40,**mbtmp3.2**/3,**Error ellipse: s-maj=322.9km s-min=32.8km az=54.0,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	25.88	254	T	T	18 19 29.4	
	baz=74,slow=75,SNR=16						
H08S3	Diego Garcia H	25.88	254	T	T	18 19 29.0	
	baz=74,slow=75,SNR=23						
H08S1	Diego Carcia H	25.90	254	T	T	18 19 29.3	
	baz=74,slow=75,SNR=20						
WRA	Warramunga Arr	40.80	120	P	P	17 54 41.6	+0.1
	0.4nm,1.1s,baz=296,slow=9.6,SNR=4.6						
ASAR	Alice Springs	42.04	126	P	P	17 54 51.4	-0.3
	0.5nm,1.0s,baz=299,slow=8.4,SNR=2.5						
MKAR	Makanchi Array	49.13	346	P	P	17 55 47.3	-0.2
	0.2nm,0.7s,baz=156,slow=7.4,SNR=2.5						

*MAN **06** 17:53:44.5,9°.97N×126°.03E,h34km,mb4.8,ML3.7,MS3.7*
*IDC **06** 17:53:46.8±2.0,9°.94N×125°.92E,h100km±18km,mb3.6/15, mb1 3.7/16,mb1mx3.6/36,mbtmp3.9/16,MS3.1/3, Ms1 3.1/3,ms1mx2.6/63,Error ellipse: s-maj=26.5km s-min=12.1km az=75.0*
ISC 06 17:53:42.1±0.6,**10°.04N**±0°.05×**126°.12E**±0°.07,**h54km,n34, σ2s.08**/35,**mb3.9**/14,**7C-4D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLSP	General Luna,	0.25	179⇑	eP	Pn	17 53 53.3	+2.1
SCPH	Surigao	0.68	248⇑	eP	Pn	17 53 56.7	+1.0
SCPH				eS	Sn	17 54 06.5	+0.9
BESP	Borongan	1.69	337⇑	eP	Pn	17 54 12.7	+3.4
BIPH	Bislig	1.86	173⇑	eP	Pn	17 54 13.1	+1.5
BIPH				eS	Sn	17 54 34.7	+0.8
LLP	Lapu-Lapu	2.14	278⇓	iP	Pn	17 54 17.6	+2.2
LLP				iS	Sn	17 54 43.4	+2.5
TBP	Tagbilaran	2.25	261	eP	Pn	17 54 18.5	+1.5
DAV	Davao City (W)	3.00	190	P	Pn	17 54 31.4	+4.3
	41nm,0.3s,baz=37,slow=5.6,SNR=1.8						
DAV				S	Sn	17 55 05.4	+3.5
	41nm,0.3s,baz=5.6,slow=19,SNR=4.3						
DAV				LR	LR	17 56 03.7	
	comp=Z,173nm,21.0s,baz=354,slow=48						
DCPH	Dipolog City	3.09	242⇑	eP	Pn	17 54 29.3	+0.8
KCP	Kidapawan	3.18	199⇑	iP	Pn	17 54 32.4	+2.7
KCP				iS	Sn	17 54 54.6	-12
CTBH	Cotabato--PC H	3.36	214⇑	iP	Pn	17 54 33.6	+1.5
RCP	Roxas	3.65	295⇓	eP	Pn	17 54 38.8	+2.7
PVCP	Virac	4.03	332⇓	eP	Pn	17 54 45.9	+4.6
JAP	San Jose, Anti	4.17	280⇓	eP	Pn	17 54 48.8	+5.6
BATI	Baumata	20.26	187	P	P	17 58 14.7	+1.4
	12nm,0.9s,baz=35,slow=14,SNR=2.4						
KSRS	Korea Array	27.34	3	LR	LR	18 09 49.3	
	comp=Z,29nm,20.4s,baz=105,slow=35						
CMAR	Chiang Mai Arr	27.61	291	P	P	17 59 24.9	+0.2
	1.2nm,0.7s,baz=98,slow=7.7,SNR=12						
WRA	Warramunga Arr	30.87	165	P	P	17 59 52.3	-1.2
	0.4nm,0.6s,baz=342,slow=9.2,SNR=8.3						
WRA				PcP	PcP	18 02 48.3	-1.2
	0.3nm,0.8s,baz=352,slow=3.0,SNR=1.7						
WRA				ScP	ScP	18 06 22.7	-5.1
	0.2nm,0.8s,baz=345,slow=2.6,SNR=1.3						
ASAR	Alice Springs	34.35	167	P	P	18 00 23.4	-0.5
	0.7nm,0.4s,baz=352,slow=6.8,SNR=26						
ASAR				PcP	PcP	18 02 59.0	-0.1
	0.4nm,0.7s,baz=353,slow=3.4,SNR=3.4						
KLR	Kul'dur	39.35	6	P	P	18 01 07.6	+1.5
	0.7nm,0.6s,baz=102,slow=5.1,SNR=2.2						
H11N1	WAKE ISLAND Hy	40.47	71	T	T	18 44 42.7	
	baz=265,slow=74,SNR=18						
H11N2	WAKE ISLAND Hy	40.47	71	T	T	18 44 47.8	
	baz=265,slow=74,SNR=14						
H11N3	WAKE ISLAND Hy	40.48	71	T	T	18 44 51.0	
	baz=265,slow=74,SNR=21						
STKA	Stephens Creek	44.23	161	P	P	18 01 45.9	-0.3
	0.9nm,0.4s,baz=330,slow=16,SNR=2.6						
PETK	Petropavlovsk-	49.91	24	P	P	18 02 32.3	+2.1
	1.1nm,0.5s,baz=222,slow=2.0,SNR=7.5						
MKAR	Makanchi Array	52.12	323	P	P	18 02 46.3	-0.7
	1.4nm,0.6s,baz=120,slow=8.1,SNR=22						
MKAR				PcP	PcP	18 03 56.3	-1.9
	0.3nm,0.6s,baz=119,slow=3.1,SNR=2.1						
ZALV	Zalesovo Beam	54.76	331	P	P	18 03 04.8	-1.3
	0.9nm,0.7s,baz=111,slow=11,SNR=5.0						
ILAR	Eielson Array	79.71	26	P	P	18 05 45.0	+1.1
	0.3nm,0.8s,baz=242,slow=5.0,SNR=2.3						
ARCES	ARCESS Array B	84.36	340	P	P	18 06 08.2	0.0
	1.5nm,0.8s,baz=74,slow=7.0,SNR=1.5						
INK	Inuvik	84.55	22	LR	LR	18 49 55.6	
	comp=Z,27nm,18.3s,baz=186,slow=40						
BRTR	Keskin Array B	85.57	309	P	P	18 06 13.2	-1.8
	0.6nm,0.7s,baz=67,slow=6.9,SNR=4.8						
FINES	FINESS Array B	86.03	332	P	P	18 06 15.4	-1.2
	1.1nm,0.5s,baz=58,slow=7.2,SNR=10						
NOA	NORSAR Array B	92.90	334	P	P	18 06 46.9	-2.2
	0.5nm,0.8s,baz=66,slow=4.6,SNR=2.3						
YKA	Yellowknife Ar	94.03	24	P	P	18 06 53.0	-1.2
	0.1nm,0.6s,baz=301,slow=4.3,SNR=1.8						
PLCA	Paso Flores	146.05	157	PKPbc	PKPdf	18 13 15.2	-0.3
	1.2nm,0.8s,baz=169,slow=5.2,SNR=3.2						

TAP 06 18:12:41.5,23°.62N×121°.67E,h33km,ML1.9,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.15	305	P	Pb	18 12 48.3	+0.6
	baz=306						
TEGC				S	Sb	18 12 53.3	+1.5
	baz=306						
EGFH	Guangfu	0.23	281	P	Pb	18 12 49.1	+0.7
	baz=281						
EGFH				S	Sb	18 12 54.4	+1.3
	baz=281						
TEYL	Yanliau Villag	0.25	345	P	Pb	18 12 49.1	+0.4
	baz=347						
TEYL				S	Sb	18 12 55.9	+2.2
	baz=347						
HGSD	Ruisui	0.26	240	iP	Pb	18 12 49.1	+0.3
	baz=239						
HGSD				iS	Sb	18 12 54.8	+0.9
	baz=239						
ESL	Shilin	0.29	311	iP	Pn	18 12 49.4	+0.1
	baz=311						
ESL				iS	Sb	18 12 54.7	+0.3
	baz=311						
EHY	Hungye	0.34	250	iP	Pn	18 12 50.1	-0.1
	baz=249						
EHY				S	Sn	18 12 56.7	+1.0
	baz=249						
ETM	Tongmen	0.38	334	P	Pn	18 12 50.8	+0.1
	baz=334						
ETM				S	Sn	18 12 57.0	+0.3
	baz=334						
YULB	Yu-li	0.41	236	P	Pn	18 12 51.1	-0.2
	baz=236						
YULB				S	Sn	18 12 57.7	0.0
	baz=236						
EYUL	Yuli	0.42	230	P	Pn	18 12 51.3	0.0
	baz=229						
EYUL				S	Sn	18 12 59.2	+1.2
	baz=229						
TWF1	Yuli	0.44	232	P	Pb	18 12 51.3	+0.1
	baz=231						
TWF1				S	Sn	18 12 58.7	+0.4
	baz=231						
TWD	Chiawan	0.46	351	P	Pb	18 12 51.5	0.0
	baz=352						
TWD				S	Sn	18 12 59.3	+0.4
	baz=352						
VWDT	VWDT	0.50	285	P	Pn	18 12 52.8	+0.4
	baz=284						
VWDT				S	Sn	18 13 00.2	+0.3
	baz=284						
ETL	Fush Village	0.53	355	P	Pb	18 12 52.6	-0.1
	baz=355						
ETL				S	Sn	18 13 01.3	+0.6
	baz=355						
NACB	Ninganchiao	0.55	353	P	Pb	18 12 52.8	-0.2
	baz=352						
NACB				eS	Sb	18 13 00.7	-0.2
	baz=352						
ETLH	Xiulin Townshi	0.60	343	P	Pn	18 12 53.8	-0.1
	baz=343						
ETLH				S	Sb	18 13 02.2	-0.2
	baz=343						
WUSB	Renai	0.62	306	P	Pb	18 12 54.7	+0.5
	baz=305						
WUSB				S	Sn	18 13 03.5	+0.4
	baz=305						
CHGB	Renai	0.63	314	P	Pb	18 12 54.7	+0.3
	baz=313						
CHGB				S	Sn	18 13 03.5	+0.2
	baz=313						
WHF	Hehuan Shan	0.64	324	P	Pn	18 12 54.5	-0.1
	baz=324						
WHF				S	Sn	18 13 04.3	+0.4
	baz=324						
YUS	Yu-Shan	0.67	259	eS	Sn	18 13 05.1	+0.3
	baz=258						
SSLB	Suanglung	0.68	284	P	Pb	18 12 55.0	0.0
	baz=283						
SSLB				S	Sn	18 13 04.5	+0.3
	baz=283						
FUSS	Fushou	0.73	328	P	Pb	18 12 56.2	+0.1
	baz=327						
FUSS				S	Sb	18 13 06.4	+0.3
	baz=327						
ELDTW	Lidau	0.74	234	iP	Pn	18 12 55.3	-0.5
	baz=233						
SMLT	Sun Moon Lake	0.75	290	P	Pb	18 12 56.8	+0.4
	baz=290						
SMLT				S	Sb	18 13 06.5	+0.1
	baz=290						
WPL	Puli Township	0.76	301	P	Pb	18 12 56.2	-0.2
	baz=300						
WPL				S	Sb	18 13 06.7	+0.2
	baz=300						
TWT	Tachien	0.77	324	P	Pb	18 12 57.3	+0.6
	baz=323						
TWT				S	Sb	18 13 07.5	+0.4
	baz=323						
DPDB	Guoxing	0.79	301	P	Pb	18 12 57.4	+0.4
	baz=300						
DPDB				S	Sb	18 13 08.4	+0.8
	baz=300						
ALS	Alishan	0.80	262	eP	Pb	18 12 57.8	+0.5
	baz=261						
ALS				eS	Sb	18 13 09.3	+1.2
	baz=261						
ENA	Nanau	0.80	5	eP	Pb	18 12 57.1	-0.1
	baz=5.0						
ENA				S	Sn	18 13 07.4	+0.1
	baz=5.0						
ENA	Nanau	0.80	5	eS	Sn	18 13 07.5	+0.1
	baz=202						
WCS	Beigang Elemen	0.82	302	P	Pb	18 12 57.6	+0.2
	baz=301						
NNSB	Datong	0.84	342	P	Pn	18 12 57.5	+0.3
	baz=341						
NNSB				S	Sb	18 13 09.1	+0.1
	baz=341						
NNS	Nan Shan	0.86	342	P	Pb	18 12 58.2	0.0
	baz=341						
NNS				S	Sb	18 13 09.7	+0.3
	baz=341						
WJS	Zhushan	0.89	283	eS	Sb	18 13 10.1	0.0
	baz=282						
CHN5	Tsauling	0.91	269	eP	Pb	18 12 59.9	+1.0
	baz=268						
CHN5				eS	Sn	18 13 09.6	-0.5
	baz=268						
LATG	Datong	0.92	352	P	Pb	18 12 58.8	-0.3
	baz=351						
LATG				S	Sb	18 13 11.3	+0.2
	baz=351						
WHP	Taichung City	0.93	315	eP	Pb	18 12 59.9	+0.6
	baz=314						
WHP				S	Sb	18 13 11.9	+0.5
	baz=314						
STYH	Taoyuan	0.94	241	P	Pb	18 12 59.1	-0.3
	baz=241						
STYH				S	Sn	18 13 10.6	0.0
	baz=241						
YHNB	Yeheng	1.07	346	P	Pb	18 13 01.5	-0.2
	baz=345						
YOJ	Yonaguni jima	1.48	55	eP	Pn	18 13 05.2	-0.7
	baz=55						
LYUB	Lan-yu	1.62	183	eP	Pn	18 13 07.9	+0.2
	baz=182						

TAP 06 18:12:54.3,24°.76N×121°.90E,h15km±1km,ML1.6,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NTC	Toucheng	0.11	324	iP	Pb	18 12 58.1	-0.1
	baz=323						
NTC				iS	Sb	18 13 01.1	+0.3
	baz=323						
ILA	Ilan	0.14	271	P	Pb	18 12 58.7	0.0
	baz=270						
TWC	Suao	0.16	197	P	Pb	18 12 59.3	+0.3
	baz=194						
TWC				S	Sb	18 13 01.6	-0.6
	baz=194						
NDS	Dongshan	0.21	233	P	Pb	18 13 00.2	+0.3
	baz=232						
NDS				S	Sb	18 13 03.3	-0.4
	baz=232						
TIPB	Shuangxi	0.22	341	P	Pb	18 13 00.5	+0.4
	baz=341						
TIPB				S	Sb	18 13 03.5	-0.4
	baz=341						
TWE	Neicheng	0.22	259	P	Pb	18 13 00.3	+0.3
	baz=257						
TWE				S	Sb	18 13 03.9	0.0
	baz=257						
TWB1	Santiao Chiao	0.26	18	eP	Pg	18 13 00.2	+0.4
	baz=19						
TWB1				S	Sb	18 13 04.7	-0.2
	baz=19						
FUSB	Fushanzhiwuyua	0.29	269	iP	Pb	18 13 01.4	+0.2
	baz=269						
FUSB				S	Sb	18 13 05.5	-0.4
	baz=269						
NWF	Wu-fen Shan	0.33	340	iS	Sb	18 13 07.4	+0.4
	baz=340						
WFSB	Wu-fen Shan	0.33	340	P	Pg	18 13 01.4	+0.3
	baz=340						
WFSB				S	Sb	18 13 07.3	+0.3
	baz=340						
ENTT	Nioudou	0.33	248	iP	Pg	18 13 01.4	+0.3
	baz=247						
ENTT				iS	Sb	18 13 07.2	+0.1
	baz=247						
EWUT	Wuta	0.34	200	P	Pb	18 13 02.4	+0.3
	baz=199						
EWUT				S	Sb	18 13 06.8	-0.5
	baz=199						
NWLT	Wulai	0.36	272	P	Pb	18 13 03.0	+0.5
	baz=272						
NWLT				eS	Sg	18 13 07.3	+0.6
	baz=272						
ENA	Nanau	0.36	204	iP	Pb	18 13 02.9	+0.3
	baz=202						
YOJ	Yonaguni jima	1.05	106	eP	Pg	18 13 14.8	+0.1
	baz=106						

*TUL **06** 18:16:13.6±0.6,36°.69N±0°.02×98°.26W±0°.02,h6km±6km, ML2.8,mb_Lg2.5/19(NEIC),Error ellipse: s-maj=2.5km s-min=1.2km az=145.0*
NEIC 06 18:16:13.7±0.6,**36°.67N**±0°.02×**98°.24W**±0°.02,**h5km±2km, Error ellipse: s-maj=3.1km s-min=3.0km az=326.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.68	245		Pg	18 16 26.5	-0.2
OKCFA	Oklahoma City	1.40	153	Pn	Pn	18 16 39.8	-0.2
T35A	Sooner Cattle	1.41	79		Pn	18 16 39.9	-0.2
OKCSW	OKLAHOMA CITY	1.42	152	Pn	Pn	18 16 40.0	-0.1
FNO	Franklin	1.56	154	Pn	Pn	18 16 42.5	+0.3
R32A	Long Quarter,	1.79	348		Pn	18 16 46.0	+0.6
W35A	Tecumseh	1.87	143	Pn	Pn	18 16 47.0	+0.5
WMOK	Wichita Mounta	1.97	193	Pn	Pn	18 16 48.1	+0.2
X34A	Smith Ranch, M	2.09	171		Pn	18 16 50.7	+1.3
X34A				IAmb_Lg		18 17 22.4	
	comp=Z,27nm,0.8s						
TUL1	Leonard	2.12	110		Pn	18 16 50.9	+1.1
CBKS	Cedar Bluff	2.45	331	IAmb_Lg		18 17 34.6	
	comp=Z,19nm,0.9s						
HHAR	Hobbs	3.49	95	IAmb_Lg		18 18 05.4	
	comp=Z,19nm,1.2s						
S39A	Bolivar	4.06	74	Pn	Pn	18 17 16.8	+0.3
S39A				IAmb_Lg		18 18 22.4	
	comp=Z,7.5nm,0.8s						
KSCO	Kaye Shedlock'	4.19	305	IAmb_Lg		18 18 30.9	
	comp=Z,9.3nm,0.8s						
U40A	Yellville	4.35	92	Pn	Pn	18 17 21.1	+0.5
P38A	Dawn	4.74	50	IAmb_Lg		18 18 49.2	
	comp=Z,11nm,1.0s						
T25A	Trinidad	4.97	277	IAmb_Lg		18 18 59.7	
	comp=Z,6.5nm,0.8s						
P40A	Paris	5.66	58	IAmb_Lg		18 19 15.2	
	comp=Z,7.8nm,0.7s						
N38A	Joes South For	5.68	42	IAmb_Lg		18 19 20.5	
	comp=Z,19nm,0.8s						
P43A	Skaggs, Pawnee	7.48	64	IAmb_Lg		18 20 14.8	
	comp=Z,10nm,0.8s						

TAP 06 18:19:52.4,23°.09N×120°.83E,h5km±1km,ML1.1,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STYH	Taoyuan	0.10	329	iP	Pg	18 19 55.4	+0.9
	baz=333						
STYH				eS	Sg	18 19 56.8	+0.9
	baz=333						
STYT	Tauyuan	0.10	318	P	Pg	18 19 55.4	+0.8
	baz=320						
STYT				iS	Sg	18 19 56.8	+0.7
	baz=320						
SLGT	Liugui	0.19	241	P	Pg	18 19 57.7	+1.4
	baz=241						
SLGT				S	Sg	18 20 00.6	+1.8
	baz=241						
ELDTW	Lidau	0.20	59	P	Pg	18 19 57.8	+1.4
	baz=60						
ELDTW				S	Sg	18 20 00.9	+1.9
	baz=60						
SGST	Jiashian	0.23	269	iP	Pg	18 19 57.4	+0.5
	baz=268						
SGST				eS	Sg	18 20 01.2	+1.3
	baz=268						
WTP	Ta-pu	0.25	309	P	Pb	18 19 58.9	-0.6
	baz=309						
WTP				iS	Sb	18 20 02.8	-1.5
	baz=309						
TPUB	Ta-pu	0.28	319	P	Pb	18 19 59.4	-0.6
	baz=319						
TPUB				eS	Sg	18 20 03.3	+1.7
	baz=319						
CHN1	Nanshi	0.29	289	eP	Pb	18 19 60.0	-0.2
	baz=289						
CHN1				S	Sb	18 20 04.8	-0.5
	baz=289						
LONT	Longtian	0.33	123	iP	Pb	18 20 00.2	-0.5
	baz=123						
LONT				S	Sb	18 20 05.4	-0.9
	baz=123						
SSD	Sandimen	0.39	208	P	Pb	18 20 00.9	-0.8
	baz=207						
YUS	Yu-Shan	0.42	16	P	Pb	18 20 01.8	-0.8
	baz=16						
YUS				S	Sb	18 20 09.0	-0.3
	baz=16						
ALS	Alishan	0.42	357	P	Pg	18 20 01.5	+0.9
	baz=357						
ALS				eS	Sb	18 20 08.0	-1.3
	baz=357						

TAP 06 18:19:57.3, 22°.31N×120°.85E, h8km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAWH	**Dawu Township**	**0.05**	**52**	*i* P	Pg	18 19 59.7	+0.6
	baz=52						
TAWH				S	Sg	18 20 01.0	+0.6
	baz=52						
TAW	**Tawu**	**0.07**	**44**	*i* P	Pg	18 20 00.1	+0.8
	baz=49						
TAW				S	Sg	18 20 01.7	+1.0
	baz=49						
EAST	**Anshuo**	**0.07**	**2**	P	Pg	18 20 00.2	+0.8
	baz=8.0						
EAST				*i* S	Sg	18 20 01.7	+0.8
	baz=8.0						
SLIU	**Shizi**	**0.10**	**205**	P	Pg	18 20 00.7	+0.9
	baz=204						
SLIU				S	Sg	18 20 02.5	+1.0
	baz=204						
SCZT	**Fangliau**	**0.22**	**287**	*e*P	Pg	18 20 03.0	+1.3
	baz=286						
SCZT				S	Sg	18 20 06.4	+1.7
	baz=286						
ECL	**Taimali**	**0.30**	**19**	*e*P	Pg	18 20 04.1	+0.7
	baz=166						
ECL	**Taimali**	**0.30**	**19**	P	Pg	18 20 04.1	+0.8
	baz=20						
ECL				S	Sb	18 20 09.7	-0.4
	baz=20						
HEN	**Hengchun**	**0.32**	**198**	P	Pb	18 20 04.5	-0.7
	baz=196						
HEN				*e*S	Sb	18 20 11.3	+0.8
	baz=196						
MASBT	**Mashibuluo**	**0.36**	**327**	P	Pb	18 20 05.4	-0.5
	baz=326						
MASBT				*e*S	Sg	18 20 10.2	+1.0
	baz=326						
TWKBT	**Hengchun**	**0.37**	**185**	P	Pg	18 20 04.7	+0.1
	baz=184						
TWKBT				S	Sb	18 20 11.6	-0.4
	baz=184						
TSMG	**Majia**	**0.44**	**335**	P	Pb	18 20 06.9	-0.4
	baz=334						
TSMG				*e*S	Sg	18 20 12.4	+0.8
	baz=334						
TWG	**Pinlang**	**0.55**	**22**	P	Pb	18 20 08.7	-0.6
	baz=23						
TWG				S	Sb	18 20 17.9	+0.6
	baz=23						
TWGBT	**Beinan**	**0.55**	**23**	P	Pg	18 20 08.5	+0.5
	baz=23						
TWGBT				S	Sb	18 20 17.7	+0.4
	baz=23						

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*NEIC **06** 18:19:58.4±2.8, 55°.40N±0°.08×163°.3E±0°.2, h19km±5km, mb4.4/23, Error ellipse: s-maj=15.0km s-min=11.0km az=114.0*

*KRSC **06** 18:20:06.0±0.8, 55°.56N×162°.51E, h79km±14km, ML4.4*

*MOS **06** 18:20:07.4±0.9, 55°.60N×162°.42E, h84km, mb4.3/9, Error ellipse: s-maj=6.9km s-min=4.2km az=79.3*

*IDC **06** 18:20:10.8±2.1, 55°.63N×162°.16E, h89km±19km, mb3.6/21, mb1 3.8/25, mb1mx3.7/49, mbtmp3.9/25, MS2.8/5, Ms1 2.8/5, ms1mx2.5/93, Error ellipse: s-maj=15.5km s-min=10.8km az=144.0*

ISC 06 18:20:07.2±0.7**, 55°.55N**±0°.03×**162°.52E**±0°.03**, h69**km±6km**, n186, σ1s84**/247**, mb4.2**/41**, 5C-6D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.68**	**14**	PN	**Pn**	**18 20 22.6**	**+0.8**
KBTR				S	**Sn**	**18 20 33.8**	**+1.2**
KBTR	**Krutoberegovo**	**0.68**	**14**	*e*P	**Pn**	**18 20 22.6**	**+0.8**
KBTR				*e*S	**Sn**	**18 20 33.8**	**+1.2**
KBG	**Krutoberegovo**	**0.72**	**8**	PN	**Pn**	**18 20 22.9**	**+0.7**
KBG				S	**Sn**	**18 20 33.3**	**+0.1**
KBG	**Krutoberegovo**	**0.72**	**8**	*e*P	**Pn**	**18 20 22.9**	**+0.7**
KBG				*e*S	**Sn**	**18 20 33.3**	**+0.1**
ZLN	**Zelenaya**	**1.07**	**297**	PN	**Pn**	**18 20 27.4**	**+0.7**
ZLN	**Zelenaya**	**1.07**	**297**	*e*P	**Pn**	**18 20 27.4**	**+0.7**
MKZ	**Mys Kozlova**	**1.09**	**205**	PN	**Pn**	**18 20 27.3**	**+0.6**
MKZ				S	**Sn**	**18 20 42.2**	**+0.9**
MKZ	**Mys Kozlova**	**1.09**	**205**	*e*P	**Pn**	**18 20 27.3**	**+0.6**
MKZ				*e*S	**Sn**	**18 20 42.2**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.10**	**292**	PN	**Pn**	**18 20 27.7**	**+0.7**
BZGR				S	**Sn**	**18 20 43.0**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**1.10**	**292**	*e*P	**Pn**	**18 20 27.7**	**+0.7**
BZGR				*e*S	**Sn**	**18 20 43.0**	**+1.3**
CIRR	**Tsirk**	**1.15**	**300**	PN	**Pn**	**18 20 28.2**	**+0.6**
CIRR	**Tsirk**	**1.15**	**300**	*e*P	**Pn**	**18 20 28.2**	**+0.6**
LGNR	**Loginova**	**1.16**	**298**	PN	**Pn**	**18 20 28.8**	**+0.9**
LGNR				S	**Sn**	**18 20 43.6**	**+0.2**
LGNR	**Loginova**	**1.16**	**298**	*e*P	**Pn**	**18 20 28.8**	**+0.9**
LGNR				*e*S	**Sn**	**18 20 43.6**	**+0.2**
SMKR	**Semkarok**	**1.19**	**331**	PN	**Pn**	**18 20 28.7**	**+0.6**
SMKR				S	**Sn**	**18 20 45.0**	**+1.2**
SMKR	**Semkarok**	**1.19**	**331**	*e*P	**Pn**	**18 20 28.7**	**+0.6**
SMKR				*e*S	**Sn**	**18 20 45.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.22**	**291**	PN	**Pn**	**18 20 29.5**	**+1.0**
BZWR				S	**Sn**	**18 20 45.9**	**+1.5**
BZWR	**Bezymyannyi-We**	**1.22**	**291**	*e*P	**Pn**	**18 20 29.5**	**+1.0**
BZWR				*e*S	**Sn**	**18 20 45.9**	**+1.5**
TUMD	**Tumrok D**	**1.26**	**255**	*e*P	**Pn**	**18 20 29.7**	**+0.8**
TUMD				*e*S	**Sn**	**18 20 45.6**	**+0.4**
BDR	**Baidarnaya**	**1.26**	**325**	PN	**Pn**	**18 20 29.4**	**+0.4**
BDR				S	**Sn**	**18 20 46.0**	**+0.7**
BDR	**Baidarnaya**	**1.26**	**325**	*e*P	**Pn**	**18 20 29.4**	**+0.4**
BDR				*e*S	**Sn**	**18 20 46.0**	**+0.7**
KRSR	**Krestovskiy**	**1.29**	**302**	PN	**Pn**	**18 20 29.6**	**+0.2**
KRSR				S	**Sn**	**18 20 45.0**	**-1.0**
KRSR	**Krestovskiy**	**1.29**	**302**	*e*P	**Pn**	**18 20 29.6**	**+0.2**
KRSR				*e*S	**Sn**	**18 20 45.0**	**-1.0**
KIRR	**Kirishev**	**1.29**	**289**	PN	**Pn**	**18 20 30.4**	**+0.9**
KIRR				S	**Sn**	**18 20 48.2**	**+2.0**
KIRR	**Kirishev**	**1.29**	**289**	*e*P	**Pn**	**18 20 30.4**	**+0.9**
KIRR				*e*S	**Sn**	**18 20 48.2**	**+2.0**
KLY	**Klyuchi**	**1.30**	**307**	PN	**Pn**	**18 20 28.4**	**-1.0**
KLY				S	**Sn**	**18 20 44.7**	**-1.4**
KLY	**Klyuchi**	**1.30**	**307**	*e*P	**Pn**	**18 20 28.4**	**-1.0**
KLY				*e*S	**Sn**	**18 20 44.7**	**-1.4**
KMNR	**Kamenistaya**	**1.31**	**280**	PN	**Pn**	**18 20 30.5**	**+0.8**
KMNR				S	**Sn**	**18 20 47.8**	**+1.3**
KMNR	**Kamenistaya**	**1.31**	**280**	*e*P	**Pn**	**18 20 30.5**	**+0.8**
KMNR				*e*S	**Sn**	**18 20 47.8**	**+1.3**
SRKR	**Sorokina**	**1.34**	**326**	PN	**Pn**	**18 20 30.9**	**+0.8**
SRKR				S	**Sn**	**18 20 48.7**	**+1.5**
SRKR	**Sorokina**	**1.34**	**326**	*e*P	**Pn**	**18 20 30.9**	**+0.8**
SRKR				*e*S	**Sn**	**18 20 48.7**	**+1.5**
KPT	**Kopyto**	**1.36**	**289**	PN	**Pn**	**18 20 31.3**	**+0.9**
KPT				S	**Sn**	**18 20 49.3**	**+1.6**
KPT	**Kopyto**	**1.36**	**289**	*e*P	**Pn**	**18 20 31.3**	**+0.9**
KPT				*e*S	**Sn**	**18 20 49.3**	**+1.6**
TUMR	**Tumrok**	**1.38**	**260**	PN	**Pn**	**18 20 31.8**	**+1.2**
TUMR				S	**Sn**	**18 20 50.4**	**+2.3**
TUMR	**Tumrok**	**1.38**	**260**	*e*P	**Pn**	**18 20 31.8**	**+1.2**
TUMR				*e*S	**Sn**	**18 20 50.4**	**+2.3**
KOZ	**Kozyrevsk**	**1.58**	**290**	PN	**Pn**	**18 20 34.3**	**+1.2**
KOZ				S	**Sn**	**18 20 55.7**	**+3.0**
KOZ	**Kozyrevsk**	**1.58**	**290**	*e*P	**Pn**	**18 20 34.3**	**+1.2**
KOZ				*e*S	**Sn**	**18 20 55.7**	**+3.0**
BKI	**Bering**	**2.00**	**98**	PN	**Pn**	**18 20 40.7**	**+1.9**
BKI				S	**Sn**	**18 21 04.5**	**+1.7**
BKI	**Bering**	**2.00**	**98**	*e*P	**Pn**	**18 20 40.7**	**+1.9**
BKI				*e*S	**Sn**	**18 21 04.5**	**+1.7**
ESO	**Esso**	**2.19**	**282**	PN	**Pn**	**18 20 43.7**	**+2.3**
ESO				S	**Sn**	**18 21 10.2**	**+2.7**
ESO	**Esso**	**2.19**	**282**	*e*P	**Pn**	**18 20 43.7**	**+2.3**
ESO				*e*S	**Sn**	**18 21 10.2**	**+2.7**
KII	**Karymskiy**	**2.33**	**231**	PN	**Pn**	**18 20 44.9**	**+1.5**
KII				S	**Sn**	**18 21 12.7**	**+1.7**
KII	**Karymskiy**	**2.33**	**231**	*e*P	**Pn**	**18 20 44.9**	**+1.5**
KII				*e*S	**Sn**	**18 21 12.7**	**+1.7**
SPN	**Mys Shipunski**	**2.86**	**212**	PN	**Pn**	**18 20 50.4**	**0.0**
SPN				S	**Sn**	**18 21 21.7**	**-1.9**
SPN	**Mys Shipunski**	**2.86**	**212**	*e*P	**Pn**	**18 20 50.4**	**0.0**
SPN				*e*S	**Sn**	**18 21 21.7**	**-1.9**
NLC	**Nalytchevo**	**3.02**	**219**	PN	**Pn**	**18 20 54.5**	**+1.9**
NLC				S	**Sn**	**18 21 27.7**	**+0.2**
NLC	**Nalytchevo**	**3.02**	**219**	*e*P	**Pn**	**18 20 54.5**	**+1.9**
NLC				*e*S	**Sn**	**18 21 27.7**	**+0.2**
SDLR	**Sedlovina**	**3.11**	**225**	PN	**Pn**	**18 20 55.6**	**+1.6**
SDLR	**Sedlovina**	**3.11**	**225**	*e*P	**Pn**	**18 20 55.6**	**+1.6**
KRER	**Koryakskii**	**3.15**	**226**	PN	**Pn**	**18 20 56.6**	**+2.1**
KRER	**Koryakskii**	**3.15**	**226**	*e*P	**Pn**	**18 20 56.6**	**+2.1**
SMAR	**Somma**	**3.15**	**225**	PN	**Pn**	**18 20 56.3**	**+1.7**
SMAR	**Somma**	**3.15**	**225**	*e*P	**Pn**	**18 20 56.3**	**+1.7**
AVH	**Avacha**	**3.18**	**226**	PN	**Pn**	**18 20 56.9**	**+2.1**
AVH	**Avacha**	**3.18**	**226**	*e*P	**Pn**	**18 20 56.9**	**+2.1**
UGLR	**Uglovaya**	**3.19**	**224**	PN	**Pn**	**18 20 56.8**	**+1.8**
UGLR	**Uglovaya**	**3.19**	**224**	*e*P	**Pn**	**18 20 56.8**	**+1.8**
KOK	**Koryaka**	**3.20**	**227**	PN	**Pn**	**18 20 57.0**	**+1.8**
KOK	**Koryaka**	**3.20**	**227**	*e*P	**Pn**	**18 20 57.0**	**+1.8**
GNL	**Ganaly**	**3.24**	**237**	PN	**Pn**	**18 20 57.7**	**+2.0**
GNL	**Ganaly**	**3.24**	**237**	*e*P	**Pn**	**18 20 57.7**	**+2.0**
DALK	**Dalny**	**3.35**	**223**	PN	**Pn**	**18 20 58.6**	**+1.5**
DALK				S	**Sn**	**18 21 36.0**	**+0.4**
DALK	**Dalny**	**3.35**	**223**	*e*P	**Pn**	**18 20 58.6**	**+1.5**
DALK				*e*S	**Sn**	**18 21 36.0**	**+0.4**
PET	**Petropavlovsk**	**3.39**	**223**	*e*PN	**Pn**	**18 20 59.4**	**+1.8**
PET				*e*S	**Sn**	**18 21 37.9**	**+1.2**
PET				pmax	pmax		
	comp=Z,137nm,0.5s						
PET				smax	smax		
	comp=N,354nm,0.6s						
PET				smax	smax		
	comp=E,246nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**3.39**	**223**		**Pn**	**18 20 59.5**	**+1.8**
PET				Sn	**Sn**	**18 21 36.5**	**-0.2**
PET	**Petropavlovsk**	**3.39**	**223**	*e*P	**Pn**	**18 20 59.6**	**+1.9**
PET				*e*S	**Sn**	**18 21 37.5**	**+0.8**
OSSR	**Ossora**	**3.73**	**4**	PN	**Pn**	**18 21 03.0**	**+0.9**
OSSR				S	**Sn**	**18 21 44.1**	**-0.6**
OSSR	**Ossora**	**3.73**	**4**	*e*P	**Pn**	**18 21 03.0**	**+0.9**
OSSR				*e*S	**Sn**	**18 21 44.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**3.73**	**231**	⇑*e*PN	**Pn**	**18 21 04.4**	**+2.1**
PEA0B	**Petropavlovsk-**	**3.73**	**231**		**Pn**	**18 21 04.5**	**+2.1**
PETK	**Petropavlovsk-**	**3.73**	**231**	P	**Pn**	**18 21 04.1**	**+1.8**
	comp=Z,2.9nm,0.3s,baz=61,slow=17,SNR=89						
PETK				LR	LR	18 22 41.6	
	comp=Z,99nm,20.9s,baz=41,slow=42						
KRMR	**Karymshinskiy**	**3.75**	**225**	PN	**Pn**	**18 21 05.0**	**+2.5**
KRMR				S	**Sn**	**18 21 47.9**	**+2.5**
KRMR	**Karymshinskiy**	**3.75**	**225**	*e*P	**Pn**	**18 21 05.0**	**+2.5**
KRMR				*e*S	**Sn**	**18 21 47.9**	**+2.5**
PALN	**Palana**	**3.81**	**340**	PN	**Pn**	**18 21 04.9**	**+1.6**
PALN	**Palana**	**3.81**	**340**	*e*P	**Pn**	**18 21 04.9**	**+1.6**
RUS	**Russkaya**	**3.91**	**219**	PN	**Pn**	**18 21 06.3**	**+1.5**
RUS				S	**Sn**	**18 21 49.9**	**+0.5**
RUS	**Russkaya**	**3.91**	**219**	*e*P	**Pn**	**18 21 06.3**	**+1.5**
RUS				*e*S	**Sn**	**18 21 49.9**	**+0.5**
GRL	**Gorelyy**	**3.98**	**223**	PN	**Pn**	**18 21 08.6**	**+2.8**
GRL				S	**Sn**	**18 21 52.9**	**+1.6**
GRL	**Gorelyy**	**3.98**	**223**	*e*P	**Pn**	**18 21 08.6**	**+2.8**
GRL				*e*S	**Sn**	**18 21 52.9**	**+1.6**
MTVR	**Mutnovka**	**3.99**	**222**	PN	**Pn**	**18 21 08.7**	**+2.7**
MTVR				S	**Sn**	**18 21 52.9**	**+1.3**
MTVR	**Mutnovka**	**3.99**	**222**	*e*P	**Pn**	**18 21 08.7**	**+2.7**
MTVR				*e*S	**Sn**	**18 21 52.9**	**+1.3**
APC	**Apacha**	**4.10**	**232**	PN	**Pn**	**18 21 10.2**	**+2.9**
APC	**Apacha**	**4.10**	**232**	*e*P	**Pn**	**18 21 10.2**	**+2.9**
KDTR	**Khodutka, Kamc**	**4.58**	**217**	PN	**Pn**	**18 21 15.1**	**+1.2**
KDTR				S	**Sn**	**18 22 05.1**	**-0.6**
KDTR	**Khodutka, Kamc**	**4.58**	**217**	*e*P	**Pn**	**18 21 15.1**	**+1.2**
KDTR				*e*S	**Sn**	**18 22 05.1**	**-0.6**
MIPR	**Malaya Ipel'ka**	**4.72**	**228**	PN	**Pn**	**18 21 19.5**	**+3.6**
MIPR	**Malaya Ipel'ka**	**4.72**	**228**	*e*P	**Pn**	**18 21 19.5**	**+3.6**
TILK	**Tilichiki**	**5.28**	**20**	PN	**Pn**	**18 21 25.7**	**+2.4**
TILK	**Tilichiki**	**5.28**	**20**	*e*P	**Pn**	**18 21 25.7**	**+2.4**
SKR	**Severo-Kuril's**	**6.21**	**221**	*e*PN	**Pn**	**18 21 38.4**	**+2.3**
SKR				*e*S	**Sn**	**18 22 45.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,39nm,0.6s						
SKR				pmax	pmax		
	comp=Z,300nm,6.0s						
SKR				smax	smax		
	comp=N,59nm,0.7s						
SKR				smax	smax		
	comp=E,90nm,1.0s						
SKR	**Severo-Kuril's**	**6.21**	**221**	*e*P	**Pn**	**18 21 37.5**	**+1.4**
SHEM	**Shemya Is, Ala**	**7.37**	**108**	P	**Pn**	**18 21 51.2**	**-0.7**
	comp=E,4.2nm,0.3s,baz=300,slow=22,SNR=2.0						
SHEM				S	**Sn**	**18 23 12.2**	**-1.8**
	comp=E,3.1nm,0.3s,baz=347,slow=19,SNR=1.4						
MA2	**Magadan**	**7.49**	**307**	P	**Pn**	**18 21 55.3**	**+1.6**
	comp=E,0.3nm,0.3s,baz=123,slow=9.2,SNR=12						
MA2				S	**Sn**	**18 23 12.8**	**-4.3**
	comp=E,0.2nm,0.3s,baz=118,slow=22,SNR=1.5						
MA2				LR	LR	18 25 13.3	
	comp=E,38nm,19.0s,baz=112,slow=42						
MA2	**Magadan**	**7.49**	**307**	⇓*e*PN	**Pn**	**18 21 55.9**	**+2.2**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.7s						
MA2	**Magadan**	**7.49**	**307**		**Pn**	**18 21 53.1**	**-0.6**
SEY	**Seymchan**	**9.03**	**329**	P	**Pn**	**18 22 16.9**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=188,slow=23,SNR=2.3						
SEY	**Seymchan**	**9.03**	**329**	PN	**Pn**	**18 22 17.0**	**+2.3**
BILL	**Bilibino**	**12.66**	**6**	*e*PN	**P**	**18 23 08.2**	**-4.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SHO	**Shikotan**	**15.43**	**227**	*e*P	**Pn**	**18 23 37.8**	**-2.8**
SHO				S	**Sn**	**18 26 25.2**	**-5.2**
SHO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,3.0nm,0.2s						
NMR	**Nemuro--Hokkai**	**16.30**	**229**	*e*P	**Pn**	**18 23 47.9**	**-3.7**
ASAJ	**Asahikawa**	**17.13**	**236**	P	**P**	**18 24 03.6**	**+1.0**
	comp=E,1.0nm,0.3s,baz=57,slow=11,SNR=11						
ASAJ				LR	LR	18 29 59.4	
	comp=E,45nm,22.0s,baz=136,slow=35						
YAK	**Yakutsk**	**18.05**	**304**	LR	LR	18 32 31.1	
	comp=E,35nm,18.1s,baz=88,slow=42						
YAK	**Yakutsk**	**18.05**	**304**	*e*P	**P**	**18 24 11.5**	**-1.1**
YAK				*e*S	**S**	**18 27 36.5**	**+1.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax	smax		
	comp=N,33nm,2.3s						
YAK				smax	smax		
	comp=E,26nm,2.4s						
YAK	**Yakutsk**	**18.05**	**304**	P	**P**	**18 24 11.9**	**-0.7**
YAK				IAmb	IAmb	18 24 14.5	
	comp=Z,14nm,0.9s						
ERM	**Erimo**	**18.51**	**231**	⇑*e*P	**Pn**	**18 24 18.4**	**-0.3**
ERM	**Erimo**	**18.51**	**231**	P	**P**	**18 24 16.0**	**-1.8**
KLR	**Kul'dur**	**19.70**	**264**	P	**P**	**18 24 30.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=75,slow=15,SNR=2.6						
KLR				LR	LR	18 31 48.5	
	comp=Z,40nm,19.4s,baz=80,slow=36						
KLR	**Kul'dur**	**19.70**	**264**	⇓*e*P	**P**	**18 24 30.4**	**-0.3**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI	**Tiksi**	**21.52**	**331**	P	**P**	**18 24 50.7**	**+0.7**
	comp=Z,14nm,0.7s,baz=91,slow=23,SNR=51						
TIXI	**Tiksi**	**21.52**	**331**	⇓*i*P	**P**	**18 24 51.2**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,28nm,1.3s						
TIXI	**Tiksi**	**21.52**	**331**	P	**P**	**18 24 49.5**	**-0.6**
TIXI				IAmb	IAmb	18 24 53.4	
	comp=Z,18nm,0.9s						
IMAR	**Indian Mountai**	**23.25**	**46**	P	**P**	**18 25 02.1**	**-6.1**
OHAK	**Old Harbor**	**24.21**	**68**	P	**P**	**18 25 10.5**	**-6.4**
KDAK	**Kodiak Island**	**24.43**	**66**	P	**P**	**18 25 20.8**	**+1.8**
	comp=Z,7.7nm,0.8s,baz=339,slow=8.5,SNR=6.5						
COLD	**Coldfoot**	**24.77**	**43**	P	**P**	**18 25 16.0**	**-6.0**
MJB9	**Matsu-Tunnel**	**25.19**	**231**	P	**P**	**18 25 24.6**	**-1.5**
MJB9				IAmb	IAmb	18 25 28.0	
	comp=Z,8.1nm,0.9s						
MAJO	**Matsushiro**	**25.19**	**231**	P	**P**	**18 25 25.0**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAJO	**Matsushiro**	**25.19**	**231**	P	**P**	**18 25 25.0**	**-1.1**
MAJO				IAmb	IAmb	18 25 28.1	
	comp=Z,8.9nm,0.9s						
MAT	**Matsushiro**	**25.19**	**231**	P	**P**	**18 25 26.8**	**+0.7**
MJAR	**Matsushiro Arr**	**25.19**	**231**	P	**P**	**18 25 25.7**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=5.5,slow=9.1,SNR=8.8						
MJAR	**Matsushiro Arr**	**25.19**	**231**	P	**P**	**18 25 24.6**	**-1.5**
ILAR	**Eielson Array**	**26.10**	**49**	P	**P**	**18 25 35.7**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=270,slow=8.4,SNR=5.5						
DOT	**Dot Lake**	**27.44**	**51**	P	**P**	**18 25 40.0**	**-6.2**
DOT				IAmb	IAmb	18 25 43.9	
	comp=Z,6.3nm,1.1s						
ISLE	**Juniper Island**	**28.84**	**57**	P	P	18 25 52.3	-6.5
ISLE				IAmb	IAmb	18 25 54.6	
	comp=Z,18nm,1.4s						
KSRS	**Korea Array**	**29.48**	**247**	P	**P**	**18 26 04.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=30,slow=8.8,SNR=1.8						
SONM	**Songino Array**	**34.77**	**281**	P	**P**	**18 26 51.7**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=58,slow=6.5,SNR=7.5						
SONM				PcP	**PcP**	**18 29 23.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=28,slow=3.0,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**35.91**	**173**	T	T	19 05 47.2	
	baz=357,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**35.93**	**173**	T	T	19 05 50.6	
	baz=357,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**35.93**	**173**	T	T	19 05 51.8	
	baz=357,slow=76,SNR=24						
HHC	**Hu-ho-hao-te**	**36.13**	**268**	*e*P	**P**	**18 27 02.0**	**-0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,5.8s						
YKA	**Yellowknife Ar**	**40.41**	**45**	P	**P**	**18 27 40.4**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=300,slow=7.9,SNR=5.1						
YKA	**Yellowknife Ar**	**40.41**	**45**	*i* P	**P**	**18 27 41.7**	**+3.7**
WMQ	**Urumqi**	**47.51**	**289**	*e*P	**P**	**18 28 37.4**	**+2.2**
KURK	**Kurchatov**	**47.66**	**301**	*ce*P	**P**	**18 28 34.6**	**-1.6**
KURK				pmax	pmax		
	comp=Z,14nm,2.5s						
KURK	**Kurchatov**	**47.66**	**301**	P	**P**	**18 28 34.8**	**-1.4**
MK31	**Makanchi Array**	**48.38**	**295**	P	**P**	**18 28 40.1**	**-1.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**48.38**	**295**	P	**P**	**18 28 40.0**	**-1.8**
MKAR	**Makanchi Array**	**48.38**	**295**	P	**P**	**18 28 40.4**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=53,slow=6.7,SNR=46						
MKAR	**Makanchi Array**	**48.38**	**295**	P	**P**	**18 28 40.1**	**-1.7**
PINE	**Pine Mountain**	**48.46**	**70**	P	P	18 28 37.6	-5.0
MAKZ	**Makanchi**	**48.53**	**295**	P	**P**	**18 28 41.2**	**-1.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MAKZ	**Makanchi**	**48.53**	**295**	P	**P**	**18 28 41.2**	**-1.9**
GOMU	**GeErMu**	**48.83**	**276**	P	**P**	**18 28 47.2**	**+1.3**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,62nm,4.5s						
BRVK	**Borovoye**	**50.01**	**308**	*ce*P	**P**	**18 28 52.7**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BRVK	**Borovoye**	**50.01**	**308**	P	**P**	**18 28 53.0**	**-1.2**
ARCES	**ARCESS Array B**	**51.39**	**342**	P	**P**	**18 29 04.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=19,slow=7.5,SNR=6.1						
PZH	**PanZhiHua**	**52.13**	**262**	P	**P**	**18 29 11.3**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
ARU	**Arti**	**52.55**	**317**	*c i*P	**P**	**18 29 12.1**	**-1.0**
ARU						18 31 07.7	
ARU				S	**S**	**18 36 32.7**	**-1.7**
ARU				SS	**SS**	**18 40 09.0**	**-3.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NVAR	**Mina Array Bea**	**53.62**	**73**	P	**P**	**18 29 25.1**	**+3.6**
	comp=Z,1.5nm,0.8s,baz=305,slow=6.0,SNR=5.2						
KIRV	**Kirov**	**54.26**	**324**	⇓*e*P	**P**	**18 29 26.9**	**+1.4**
PDAR	**Pinedale Array**	**55.12**	**64**	P	**P**	**18 29 35.1**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=342,slow=3.4,SNR=4.7						
AAK	**Ala-Archa**	**55.26**	**296**	*de*P	**P**	**18 29 33.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**55.26**	**296**	P	**P**	**18 29 32.4**	**-0.9**
KSH	**Kashi**	**56.77**	**293**	P	P	18 29 49.3	+5.3
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**56.93**	**299**	P	**P**	**18 29 43.2**	**-1.8**
KKAR	**Karatay Array**	**56.93**	**299**	P	**P**	**18 29 43.2**	**-1.8**
ABKAR	**Akbulak array**	**57.28**	**311**	P	**P**	**18 29 45.9**	**-1.4**
ABKAR	**Akbulak array**	**57.28**	**311**	P	**P**	**18 29 45.6**	**-1.6**
ABKAR				IAmb	IAmb	18 29 47.9	
	comp=Z,2.6nm,0.5s						
U15A	**North Rim**	**58.34**	**71**	P	P	18 29 48.4	-6.9
U15A				IAmb	IAmb	18 29 49.6	
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**58.42**	**337**	P	**P**	**18 29 55.4**	**+0.4**
	comp=Z,5.9nm,0.5s,baz=38,slow=8.3,SNR=74						
FINES	**FINESS Array B**	**58.42**	**337**	P	**P**	**18 29 55.2**	**+0.2**
FINES	**FINESS Array B**	**58.42**	**337**	P	**P**	**18 29 55.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**60.06**	**259**	P	**P**	**18 30 07.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=18,slow=6.5,SNR=8.4						
CMAR				PcP	**PcP**	**18 30 53.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=12,slow=2.9,SNR=9.4						
CMAR	**Chiang Mai Arr**	**60.06**	**259**	*i* P	**P**	**18 30 07.9**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHGR	**Chuyangaron**	**60.93**	**297**	P	**P**	**18 30 11.5**	**-1.3**
CHGR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHGR	**Chuyangaron**	**60.93**	**297**	P	**P**	**18 30 11.5**	**-1.3**
CHGR				IAmb	IAmb	18 30 12.9	
	comp=Z,3.4nm,0.5s						
NB2	**NORSAR Subarra**	**61.56**	**345**	P	**P**	**18 30 16.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.56**	**345**	P	**P**	**18 30 16.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=18,slow=6.8,SNR=5.9						
SCHQ	**Schefferville**	**62.81**	**30**	P	**P**	**18 30 26.4**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=260,slow=10.0,SNR=3.5						
NACGM	**Naroch**	**64.11**	**333**	*i* P	**P**	**18 30 29.6**	**-4.0**
AKASG	**Malin Array Be**	**67.22**	**330**	P	**P**	**18 30 53.5**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=27,slow=6.7,SNR=18						
AKBB	**Malin Array Si**	**67.22**	**330**	⇓*e*P	**P**	**18 30 53.5**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKBB	**Malin Array Si**	**67.22**	**330**	P	**P**	**18 30 53.0**	**-0.6**
AKBB				IAmb	IAmb	18 30 54.2	
	comp=Z,4.2nm,1.0s						
TXAR	**Lajitas Array**	**68.41**	**70**	P	**P**	**18 31 04.5**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=293,slow=5.7,SNR=5.1						
BUR08	**Bucovina Ar. S**	**71.11**	**331**	P	**P**	**18 31 17.9**	**0.0**
BUR08				IAmb	IAmb	18 31 19.1	
	comp=Z,2.4nm,0.7s						
BURAR	**Bucovina Array**	**71.14**	**331**	P	**P**	**18 31 18.3**	**+0.2**
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BURAR	**Bucovina Array**	**71.14**	**331**	P	**P**	**18 31 18.4**	**+0.2**
BURAR				IAmb	IAmb	18 31 19.4	
	comp=Z,1.8nm,0.7s						
BR131	**Keskin Array S**	**75.60**	**322**	P	**P**	**18 31 44.8**	**+0.3**
BR131				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BR131	**Keskin Array S**	**75.60**	**322**	P	**P**	**18 31 44.8**	**+0.3**
BR131				IAmb	IAmb	18 31 46.1	
	comp=Z,2.1nm,0.8s						
BRTR	**Keskin Array B**	**75.60**	**322**	P	**P**	**18 31 44.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=56,slow=4.3,SNR=7.7						
BRTR	**Keskin Array B**	**75.60**	**322**	P	**P**	**18 31 44.6**	**+0.1**
WRA	**Warramunga Arr**	**78.91**	**207**	P	**P**	**18 32 04.1**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=18,slow=5.8,SNR=3.9						
FITZ	**Fitzroy Crossi**	**79.73**	**215**	P	**P**	**18 32 08.1**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=23,slow=7.7,SNR=2.0						
ASAR	**Alice Springs**	**82.59**	**206**	P	**P**	**18 32 24.4**	**+1.9**
	comp=Z,1.3nm,0.9s,baz=12,slow=5.2,SNR=8.9						
ASAR	**Alice Springs**	**82.59**	**206**	P	**P**	**18 32 20.3**	**-2.2**
ASAR	**Alice Springs**	**82.59**	**206**	P	**P**	**18 32 20.2**	**-2.2**

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*NEIC **06** 18:23:03.7±1.7, 23°.95S±0°.10×179°.7E±0°.2, h536km±16km, mb4.4/29, Error ellipse: s-maj=26.7km s-min=13.1km az=103.0*

*IDC **06** 18:23:04.4±1.4, 23°.98S×179°.48E, h522km±12km, mb3.5/10, mb1 3.7/12, mb1mx3.5/31, mbtmp4.4/12, Error ellipse: s-maj=24.4km s-min=14.6km az=152.0*

ISC 06 18:23:04.9±0.6**, 24°.07S**±0°.08×**179°.48E**±0°.10**, h537**km**, n68, σ1s40**/73**, mb4.4**/26**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.45**	**348**	P	**P**	**18 24 46.4**	**-0.9**
	1.4nm,0.3s,baz=200,slow=10,SNR=6.6						
MSVF	**Nonsavu**	**6.45**	**348**	P	**P**	**18 24 43.6**	**-3.7**

MARNC	Mare, Loyalty	10.87	281	P	P	18 25 31.8	+0.1
PINNC	Pines Island,	11.15	275	P	P	18 25 34.6	0.0
OUENC	Ouen Island, N	11.73	276	P	P	18 25 41.0	+0.3
DZM	Mont Dzumac	12.16	277	P	P	18 25 47.0	+1.8
OUZ	Omahuta	12.23	203	P	P	18 25 47.5	+1.9
URZ	Urewera	14.29	188	P	P	18 26 06.0	-0.9
	4.5nm,0.3s,baz=38,slow=1.7,SNR=30						
URZ				S	S	18 28 33.2	-3.8
	0.9nm,0.3s,baz=148,slow=23,SNR=2.3						
URZ	Urewera	14.29	188	P	P	18 26 06.8	-0.1
BKZ	Black Stump Fm	15.26	189	P	P	18 26 15.9	-1.3
BKZ				IAmb	IAmb	18 26 23.2	
	comp=Z,10nm,0.5s						
SNZO	South Karori	17.65	192	P	P	18 26 40.5	+0.6
MSWZ	Moikau Station	17.66	191	P	P	18 26 40.3	+0.3
QRZ	Quartz Range	17.70	198	P	P	18 26 42.2	+1.8
BHW	Baring Head	17.71	191	P	P	18 26 41.2	+0.7
PLWZ	Palliser	17.80	190	P	P	18 26 41.4	0.0
NNZ	Nelson	17.84	195	P	P	18 26 41.4	-0.3
TUWZ	Tuamarina	17.92	194	P	P	18 26 42.6	+0.2
BSWZ	Blackbirch Sta	18.21	194	P	P	18 26 46.1	+1.1
THZ	Tophouse	18.48	196	P	P	18 26 47.7	+0.1
KHZ	Kahutara	18.95	194	P	P	18 26 51.5	-0.3
LTZ	Lake Taylor	19.59	196	P	P	18 26 57.6	-0.1
LTZ				IAmb	IAmb	18 27 02.3	
	comp=Z,14nm,0.6s						
OXZ	Oxford	20.16	196	P	P	18 27 03.0	+0.2
MQZ	McQueen's Vall	20.37	194	P	P	18 27 04.9	+0.2
MQZ				IAmb	IAmb	18 27 07.4	
	comp=Z,27nm,1.2s						
ARMA	Armidale	25.52	250	P	P	18 27 53.1	+2.1
ARMA				IAmb	IAmb	18 27 53.7	
	comp=Z,15nm,1.1s						
EIDS	Eidsvold	25.81	261	P	P	18 27 54.3	+0.8
EIDS				IAmb	IAmb	18 27 56.4	
	comp=Z,12nm,1.1s						
CAN	Canberra	28.64	240	P	P	18 28 20.1	+1.8
CAN				IAmb	IAmb	18 28 21.3	
	comp=Z,7.9nm,0.8s						
CTA	Charters Tower	31.00	271	P	P	18 28 39.9	+1.0
	comp=Z,31nm,0.3s,baz=95,slow=10,SNR=270						
TOO	Toolangi	31.96	237	P	P	18 28 48.0	+1.2
TOO				IAmb	IAmb	18 28 58.6	
	comp=Z,9.5nm,1.1s						
TAU	Tasmania Unive	32.47	227	P	P	18 28 52.5	+1.5
TAU				IAmb	IAmb	18 28 55.1	
	comp=Z,6.2nm,0.8s						
PMG	Port Moresby	34.10	290	P	P	18 29 05.3	+0.2
	comp=Z,29nm,0.8s,baz=104,slow=6.3,SNR=19						
PMG	Port Moresby	34.10	290	P	P	18 29 05.4	+0.3
STKA	Stephens Creek	34.22	248	P	P	18 29 07.1	+1.1
	comp=Z,5.5nm,0.8s,baz=77,slow=9.0,SNR=10						
STKA	Stephens Creek	34.22	248	P	P	18 29 07.1	+1.1
COEN	Coen	35.67	280	P	P	18 29 19.0	+0.8
COEN				IAmb	IAmb	18 29 20.7	
	comp=Z,9.7nm,0.8s						
BBOO	Buckleboo	38.94	247	P	P	18 29 45.0	+0.2
ASAR	Alice Springs	41.54	261	P	P	18 30 06.1	+0.3
	comp=Z,11nm,0.9s,baz=92,slow=7.4,SNR=191						
ASAR				ScP	ScP	18 34 51.2	+1.6
	comp=Z,0.4nm,0.8s,baz=104,slow=4.0,SNR=2.9						
ASAR	Alice Springs	41.54	261	P	P	18 30 06.0	+0.2
WR0	Warramunga Arr	41.73	267	P	P	18 30 06.8	-0.5
WR0				IAmb	IAmb	18 30 08.3	
	comp=Z,9.9nm,1.1s						
WB2	Warramunga Arr	41.91	267	P	P	18 30 08.1	-0.6
WB2				IAmb	IAmb	18 30 10.1	
	comp=Z,16nm,1.0s						
WB0	Warramunga Arr	41.91	267	P	P	18 30 08.4	-0.3
WB0				IAmb	IAmb	18 30 09.5	
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	41.92	266	P	P	18 30 08.6	-0.2
	comp=Z,4.0nm,0.4s,baz=91,slow=8.4,SNR=236						
WRA				ScP	ScP	18 34 54.6	+3.5
	comp=Z,1.3nm,1.1s,baz=105,slow=3.8,SNR=5.2						
WRA				S	S	18 35 44.4	-4.2
	comp=Z,1.3nm,1.0s,baz=107,slow=14,SNR=6.2						
WRA	Warramunga Arr	41.92	266	P	P	18 30 08.2	-0.6
FORT	Forrest	45.80	250	P	P	18 30 37.1	-1.6
FORT				IAmb	IAmb	18 30 39.5	
	comp=Z,14nm,0.6s						
KNRA	Kununurra	48.21	270	P	P	18 30 57.1	+0.1
KNRA				IAmb	IAmb	18 31 10.1	
	comp=Z,9.6nm,1.1s						
FITZ	Fitzroy Crossi	50.34	266	P	P	18 31 13.3	+0.6
	comp=Z,1.4nm,0.4s,baz=96,slow=3.0,SNR=10						
FITZ	Fitzroy Crossi	50.34	266	P	P	18 31 10.5	-2.2
PSA00	Pilbara Seismi	54.66	260	P	P	18 31 43.4	-0.3
MORW	Morawa	56.37	250	P	P	18 31 55.4	0.0
MAJO	Matsushiro	71.77	326	P	P	18 33 33.1	+0.1
MAJO				IAmb	IAmb	18 33 36.3	
	comp=Z,8.1nm,1.1s						
MJB9	Matsu-Tunnel	71.78	326	P	P	18 33 33.1	+0.1
KSRS	Korea Array	78.07	320	P	P	18 34 09.2	+1.0
	comp=Z,0.4nm,0.5s,baz=131,slow=6.6,SNR=2.7						
PETK	Petropavlovsk-	79.16	347	P	P	18 34 12.2	-1.4
	comp=Z,3.7nm,1.0s,baz=153,slow=5.0,SNR=5.6						
NJ2	Nanjing	80.41	311	eP	P	18 34 22.1	+1.4
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NVAR	Mina Array Bea	85.21	44	P	P	18 34 46.2	+1.2
	comp=Z,0.5nm,0.5s,baz=216,slow=7.3,SNR=3.6						
HHC	Hu-ho-hao-te	90.20	315	eP	P	18 35 07.1	-1.1
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.8s						
PZH	PanZhiHua	90.35	299	P	P	18 35 09.7	+0.5
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
TXAR	Lajitas Array	90.93	58	P	P	18 35 13.4	+1.6
	comp=Z,0.8nm,0.8s,baz=218,slow=5.7,SNR=11						
PDAR	Pinedale Array	93.14	44	P	P	18 35 22.4	+0.5
	comp=Z,0.5nm,0.9s,baz=269,slow=4.5,SNR=2.8						
KURBB	Kurchatov Arra	115.04	316	PKP	PKPdf	18 40 44.6	0.0
	comp=Z,0.3nm,0.8s,baz=85,slow=2.1,SNR=4.9						
ARCES	ARCESS Array B	131.96	348	PKP	PKPdf	18 41 16.6	+0.1
	comp=Z,2.6nm,0.8s,baz=87,slow=3.6,SNR=7.1						
ARCES				SKPbc	SKPab	18 43 53.2	-0.9
	comp=Z,4.4nm,1.0s,baz=38,slow=4.6,SNR=3.8						
FINES	FINESS Array B	138.45	341	PKhKP	PKPpre	18 41 22.0	
	comp=Z,0.4nm,0.3s,baz=82,slow=4.0,SNR=4.5						
FINES				PKP	PKPdf	18 41 29.1	+0.3
	comp=Z,0.9nm,0.7s,baz=93,slow=3.1,SNR=4.4						
FINES				SKPbc	SKiKP	18 44 14.8	-1.4
	comp=Z,0.9nm,0.5s,baz=62,slow=3.3,SNR=6.8						
NB2	NORSAR Subarra	142.17	351	PKP	PKPdf	18 41 31.3	-4.3
	comp=Z,1.0nm,1.0s,baz=19,slow=3.8						
NOA	NORSAR Array B	142.17	351	PKhKP	PKPpre	18 41 31.6	
	comp=Z,1.3nm,0.9s,baz=22,slow=3.9,SNR=4.2						
AKASG	Malin Array Be	144.85	327	PKP	PKPbc	18 41 40.9	-0.1
	comp=Z,0.6nm,0.4s,baz=45,slow=4.1,SNR=6.3						
AKASG				SKPbc	SKiKP	18 44 30.8	+1.0
	comp=Z,0.2nm,0.4s,baz=63,slow=2.0,SNR=4.3						
BRTR	Keskin Array B	147.30	307	PKPbc	PKPbc	18 41 49.0	+0.5
	comp=Z,1.0nm,0.6s,baz=116,slow=2.9,SNR=5.0						
CLL	Collm	150.88	342	i PKPbc	PKiKP	18 41 57.3	+0.4
	comp=Z,8.0nm,0.8s						
GERES	GERESS Array B	152.85	339	PKPbc	PKiKP	18 42 01.3	0.0
	comp=Z,0.3nm,0.7s,baz=54,slow=5.0,SNR=4.2						
TORD	Torodi Ar. Bea	168.94	191	PKPab	PKPab	18 43 26.7	+1.0
	comp=Z,0.5nm,0.8s,baz=168,slow=3.9,SNR=3.7						

*MAN **06** 18:44:51.0, 8°.28N×126°.59E, h25km, mb4.5, ML3.4, MS3.2*
*IDC **06** 18:44:53.7±3.2, 8°.24N×126°.67E, h66km±24km, mb3.4/6, mb1 3.7/7, mb1mx3.3/51, mbtmp3.8/7, MS3.0/3, Ms1 3.0/3, ms1mx2.5/41, Error ellipse: s-maj=27.1km s-min=19.4km az=49.0*

ISC 06 18:44:51.8±0.8**, 8°.27N**±0°.05×**126°.70E**±0°.08**, h53km, n25, σ1s.90**/24**, mb3.4**/6**, 1C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.34	257	⇓ iP	Pn	18 44 58.5	-3.2
BIPH				i S	Sn	18 45 03.1	-5.5
MATI	Mati	1.38	199	⇓ eP	Pn	18 45 14.3	-0.5
GLSP	General Luna,	1.61	339	⇓ eP	Pn	18 45 17.3	-0.6
DAV	Davao City (W)	1.63	223	P	Pn	18 45 20.0	+1.9
	53nm,0.3s,baz=72,slow=10,SNR=4.0						
DAV				S	Sn	18 45 39.5	+1.5
	74nm,0.3s,baz=219,slow=18,SNR=6.5						
DAV				LR	LR	18 46 06.8	
	comp=Z,269nm,20.1s,baz=88,slow=46						
SCPH	Surigao	1.92	322	⇓ eP	Pn	18 45 22.7	+0.5
KCP	Kidapawan	2.03	232	⇓ iP	Pn	18 45 23.5	-0.1
KCP				i S	Sn	18 45 46.9	-0.9
CTBH	Cotabato--PC H	2.64	247	⇓ iP	Pn	18 45 31.2	-0.8
CTBH				i S	Sn	18 46 03.1	+0.2
TBP	Tagbilaran	3.14	297	⇓ eP	Pn	18 45 38.4	-0.4
TBP				i S	Sn	18 46 14.7	-0.4
LLP	Lapu-Lapu	3.38	307	⇑ eP	Pn	18 45 42.3	+0.1
LLP				i S	Sn	18 46 20.6	-0.5
JAP	San Jose, Anti	5.30	298	⇓ eP	Pn	18 45 57.3	-11
SIJI	Sorong	10.15	153	P	Pn	18 47 16.7	+1.7
	1.4nm,0.3s,baz=337,slow=15,SNR=9.9						
SIJI				S	Sn	18 49 03.1	-4.4
	0.7nm,0.3s,baz=19,slow=22,SNR=1.9						
SIJI				LR	LR	18 53 17.8	
	comp=Z,33nm,18.5s,baz=72,slow=50						
KAPI	Kappang	14.90	208	LR	LR	18 53 52.6	
	comp=Z,46nm,19.4s,baz=88,slow=36						
FITZ	Fitzroy Crossi	26.22	182	P	P	18 50 21.6	-0.2
	3.3nm,1.0s,baz=9.3,slow=9.4,SNR=8.1						
CMAR	Chiang Mai Arr	28.80	293	P	P	18 50 46.5	+1.4
	0.2nm,0.3s,baz=94,slow=9.1,SNR=1.5						
WRA	Warramunga Arr	29.02	165	P	P	18 50 47.1	+0.2
	0.3nm,0.5s,baz=331,slow=9.9,SNR=9.2						
ASAR	Alice Springs	32.51	168	P	P	18 51 18.3	+0.6
	0.4nm,0.4s,baz=344,slow=6.9,SNR=32						
ASAR				ScP	ScP	18 57 42.7	-0.6
	0.2nm,0.6s,baz=339,slow=2.8,SNR=4.6						
H11S3	WAKE ISLAND Hy	40.12	71	T	T	19 35 31.9	
	baz=262,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	40.14	71	T	T	19 35 34.2	
	baz=262,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	40.14	71	T	T	19 35 33.9	
	baz=262,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	40.52	69	T	T	19 36 04.5	
	baz=265,slow=74,SNR=15						
H11N2	WAKE ISLAND Hy	40.53	69	T	T	19 36 08.5	
	baz=265,slow=74,SNR=7.0						
H11N3	WAKE ISLAND Hy	40.54	69	T	T	19 36 12.5	
	baz=265,slow=74,SNR=14						
STKA	Stephens Creek	42.38	161	P	P	18 52 42.3	+1.2
	2.1nm,0.8s,baz=342,slow=8.8,SNR=4.8						
MKAR	Makanchi Array	53.88	323	P	P	18 54 09.5	-0.2
	0.1nm,0.4s,baz=133,slow=6.8,SNR=1.5						
AAK	Ala-Archa	57.05	316	LR	LR	19 20 08.0	
	comp=Z,41nm,19.7s,baz=202,slow=37						

*IDC **06** 18:47:17.2±4.2, 4°.92S×101°.96E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/48, mbtmp3.3/5, Error ellipse: s-maj=178.9km s-min=23.8km az=54.0*
*DJA **06** 18:47:27.0±1.1, 5°S±7°×10°3E±°, h23km±7km, M3.6/9, MLv3.6/9*

ISC 06 18:47:25.5±1.1**, 4°.68S**±0°.08×**102°.44E**±0°.07**, h35km, n14, σ2s.26**/17**, mb3.3**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.60	58	P	Pn	18 47 39.1	+1.5
MNAI				S	Sn	18 47 47.9	+1.7
KSI	Kapahiang	1.03	8	P	Pn	18 47 45.5	+1.9
MASI	Maura Aman, Be	1.54	352	P	Pn	18 47 53.4	+2.8
LWLI	Liwa	1.65	102	P	Pn	18 47 54.2	+2.1
LWLI				S	Sn	18 48 13.8	+1.7
KASI	Kota Agung	2.21	112	P	Pn	18 48 02.1	+2.3
KASI				S	Sn	18 48 26.6	+0.7
KLSI		2.28	90	P	Pn	18 48 02.9	+2.2
PPSI	Pulau Pagai	3.09	308	P	Pn	18 48 15.3	+3.5
CGJI	Cibinong	3.76	121	P	Pn	18 48 23.2	+2.1
SISI	Saibi	4.72	315	P	Pn	18 48 36.4	+2.1
CMAR	Chiang Mai Arr	23.25	352	P	P	18 52 27.9	-2.0
	0.3nm,0.5s,baz=175,slow=11,SNR=4.3						
WRA	Warramunga Arr	34.56	119	P	P	18 54 10.1	-1.1
	0.2nm,0.5s,baz=287,slow=7.6,SNR=1.5						
ASAR	Alice Springs	35.72	125	P	P	18 54 20.5	-0.6
	0.2nm,0.8s,baz=300,slow=8.2,SNR=1.7						
MKAR	Makanchi Array	54.27	343	P	P	18 56 46.1	-2.0
	0.2nm,0.4s,baz=161,slow=8.7,SNR=5.0						
ZALV	Zalesovo Beam	60.26	348	P	P	18 57 27.8	-2.4
	0.5nm,0.5s,baz=154,slow=6.7,SNR=3.9						

*IDC **06** 19:00:39.7±1.4, 32°.68N×138°.99E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.0/41, mbtmp3.0/3, ML2.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/23, Error ellipse: s-maj=25.9km s-min=16.3km az=119.0*
*JMA **06** 19:00:41.4±0.3, 33°.34N×140°.93E, h33km, M2.8*

ISC 06 19:00:41.0±1.5**, 33°.20N**±0°.08×**141°.0E**±0°.1**, h48km, n10, σ0s.83**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.97	265	P	Pn	19 00 58.7	+0.4
JHJ	Hachijo jima 2	1.00	266	Pn	Pn	19 00 58.9	+0.3
	47nm,0.3s,baz=250,slow=15,SNR=22						
JHJ				Sn	Sn	19 01 10.8	-0.9
	44nm,0.3s,baz=240,slow=22,SNR=13						
JMKN	Mikurajimanish	1.35	301	P	Pn	19 01 03.5	+0.1
BSO1	Boso 1	1.46	0	P	Pn	19 01 04.2	-0.2
BSO3	Boso 3	1.65	347	eS	Sn	19 01 26.2	-0.9
JOD2	Odawara 2	2.59	323	eS	Sn	19 01 49.7	-0.9
MJAR	Matsushiro Arr	4.04	327	Pn	Pn	19 01 41.9	+1.6
	0.1nm,0.3s,baz=157,slow=12,SNR=5.5						
MJAR				Sn	Sn	19 02 26.4	0.0
	0.1nm,0.3s,baz=28,slow=42,SNR=1.5						
GUMO	Guam	19.84	169	LR	LR	19 11 20.0	
	comp=Z,25nm,21.1s,baz=111,slow=32						
WRA	Warramunga Arr	53.22	188	P	P	19 09 54.8	+0.2
	0.2nm,0.5s,baz=1.8,slow=7.6,SNR=6.4						
ASAR	Alice Springs	56.94	188	P	P	19 10 21.2	-0.2
	0.1nm,0.6s,baz=2.1,slow=7.5,SNR=4.1						

*NEIC **06** 19:01:49.7±2.2, 43°.70N±0°.05×105°.29W±0°.07, h0km±2km, ML3.2/26, Error ellipse: s-maj=10.1km s-min=6.5km az=129.0*
*IDC **06** 19:01:49.6±1.4, 43°.74N×105°.58W, h0km, mb3.9/1, mb1 3.5/4, mb1mx3.3/39, mbtmp3.4/4, ML2.6/3, Error ellipse: s-maj=30.5km s-min=9.2km az=149.0*

ISC 06 19:01:48.4±0.8**, 43°.71N**±0°.04×**105°.36W**±0°.06**, h0km, n25, σ1s.78**/21**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.04	66		Pg	19 02 08.0	-0.4
K22A	Casper	1.36	219		Pg	19 02 14.1	-0.3
K22A				IAML		19 02 36.5	
	comp=E,363nm,1.1s						
K22A				IAML		19 02 37.1	
	comp=N,314nm,1.0s						
PHWY	Pilot Hill	2.41	182		Pb	19 02 30.6	-2.1
PHWY				IAML		19 03 08.5	
	comp=N,89nm,0.9s						
RWWY	Rawlins	2.44	215	Pn	Pb	19 02 31.1	-2.1
N23A	Red Feather La	2.84	189	Pn	Pn	19 02 37.1	+1.8
N23A				IAML		19 03 20.5	
	comp=N,89nm,0.7s						
LAO	LASA Array	3.04	349		Pb	19 02 41.0	-2.4
LAO				IAML		19 03 49.7	
	comp=N,97nm,1.1s						
RLMT	Red Lodge	3.13	298		Pn	19 02 39.7	+0.4
RLMT				IAML		19 03 42.6	
	comp=N,57nm,1.1s						
RLMT				IAML		19 04 16.7	
	comp=N,52nm,1.5s						
BW06	Boulder Array	3.21	254		Pn	19 02 42.6	+2.3
BW06				IAML		19 03 40.5	
	comp=N,38nm,1.4s						
PD31	Pinedale Array	3.21	254		Pn	19 02 41.6	+1.4
PDAR	Pinedale Array	3.21	254	Pn	Pn	19 02 42.7	+2.4
	comp=N,0.5nm,0.3s,baz=69,slow=15,SNR=25						
PDAR				Lg	Lg	19 03 25.8	
	comp=N,3.1nm,0.3s,baz=76,slow=32,SNR=13						
PDAR	Pinedale Array	3.21	254		Pn	19 02 41.7	+1.4
YMP	Mirror Lake Pl	3.60	288		Pn	19 02 47.8	+2.1
GCMT	Greycliff	3.71	306		Pn	19 02 48.5	+1.4
LKWY	Lake	3.73	285		Pn	19 02 50.3	+2.9
LKWY				IAML		19 04 00.2	
	comp=N,32nm,1.5s						
LKWY				IAML		19 04 25.0	
	comp=N,54nm,1.3s						
MOOW	Moose Ponds	3.90	272		Pn	19 02 50.9	+1.1
MOOW				IAML		19 04 00.1	
	comp=N,25nm,0.1s						
MOOW				IAML		19 04 00.2	
	comp=N,30nm,0.2s						
ISCO	Idaho Springs	3.91	183	Pn	Pn	19 02 52.0	+2.0
ISCO				IAML		19 03 58.8	
	comp=N,36nm,1.2s						
TPAW	Teton Pass	4.07	269		Pn	19 02 53.0	+0.9
TPAW				IAML		19 04 26.8	
	comp=N,35nm,1.3s						
O20A	White River Ci	4.17	212	Pn	Pn	19 02 54.0	+0.6
ANMO	Albuquerque	8.79	186	Lg	Lg	19 06 32.9	
	comp=N,0.1nm,0.3s,baz=289,slow=13,SNR=3.0						
I10CA	LAC DU BONNET	9.10	41	i		19 57 20.0	
	baz=223,slow=322,SNR=1.1						
ULM	Lac du Bonnet	9.21	41	Pn	Pn	19 04 03.8	+1.4
	comp=N,0.2nm,0.3s,baz=228,slow=9.7,SNR=3.7						
ULM				Pg		19 04 31.6	
	comp=N,0.1nm,0.3s,baz=225,slow=18,SNR=1.8						
ULM				Lg	Lg	19 06 35.3	
	comp=N,0.3nm,0.3s,baz=145,slow=19,SNR=2.4						
NEW	Newport	9.37	303	Lg	Lg	19 06 32.9	
	comp=N,0.1nm,0.3s,baz=251,slow=17,SNR=1.1						
TXAR	Lajitas Array	14.41	174	Pg	P	19 06 14.9	+54
	comp=N,0.0nm,0.3s,baz=354,slow=16,SNR=2.5						
TXAR				Lg	Lg	19 09 18.1	
	comp=N,0.0nm,0.3s,baz=349,slow=34,SNR=4.9						
YKA	Yellowknife Ar	19.58	347	P	P	19 06 17.7	0.0
	comp=N,0.0nm,0.3s,baz=154,slow=11,SNR=3.6						
MKAR	Makanchi Array	89.63	355	P	P	19 14 47.5	-0.4
	comp=N,0.5nm,0.8s,baz=25,slow=4.3,SNR=6.3						

*IPEC **06** 19:26:47.2±0.2, 51°.55N×16°.19E, h0km, ML2.2/3, Error ellipse: s-maj=1.7km s-min=1.1km az=26.0*
*PRU **06** 19:26:48.2±0.0, 51°.51N×16°.08E, h0km*
*VIE **06** 19:26:50.3±1.2, 51°.36N×15°.85E, h0km, mb2.4/3, ml2.6/2, Error ellipse: s-maj=14.0km s-min=7.5km az=32.0 82 km NE of Liberec Suspected Mining induced.*

ISC 06 19:26:47.8±1.2**, 51°.49N**±0°.05×**16°.09E**±0°.03**, h0km, n23, σ0s.69**/47**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	169	ePg	Pg	19 27 01.1	+0.6
KSP				eSg	Sb	19 27 10.5	-1.4
CHVC	Chvalec	0.90	181	ePG	Pb	19 27 05.8	-0.6
CHVC				eSG	Sb	19 27 18.0	-0.9
	comp=Z,36nm,0.4s						
OSTC	Ostas	0.94	175	ePG	Pb	19 27 06.5	-0.5
OSTC				eSG	Sb	19 27 19.0	-0.9
	comp=Z,26nm,0.4s						
UPC	Upice	0.98	183	ePG	Pg	19 27 07.0	+0.3
UPC				eSG	Sb	19 27 20.4	-0.9
	comp=Z,60nm,0.2s						
DPC	Dobruska-Polom	1.15	173	ePG	Pg	19 27 09.9	+0.1
DPC				eSG	Sg	19 27 24.8	+0.1
	comp=Z,21nm,0.6s						
PVCC	Panska Ves	1.36	226	ePG	Pg	19 27 13.6	-0.3
PVCC				eSG	Sn	19 27 33.0	+0.2
	comp=Z,90nm,0.6s						
KRLC	Kraliky	1.48	162	ePG	Pn	19 27 15.7	-0.1
KRLC				eSG	Sn	19 27 35.8	-0.1
	comp=Z,26nm,0.5s						
BRG	Berggiesshubel	1.48	246	Pg	Pg	19 27 16.5	+0.2
BRG				Sg	Sn	19 27 36.4	+0.5
BRG				Amp		19 27 37.3	
	comp=Z,47nm,0.9s						
PRU	Pruhonice	1.80	214	ePG	Pb	19 27 21.5	-0.1
PRU				eSG	Sg	19 27 45.2	-0.3
	comp=Z,20nm,0.3s						
CLL	Collm	1.94	266	ePn	Pn	19 27 20.0	-2.0
CLL				ePg	Pb	19 27 24.0	-0.1
CLL				ex	x	19 27 27.0	
CLL				eSg	Sg	19 27 50.0	-0.2
	comp=Z,14nm,0.6s						
MORC	Moravsky Berou	1.95	151	ePn	Pn	19 27 21.8	-0.4
	baz=335						
MORC				eSg	Sb	19 27 49.1	+0.1
	comp=Z,17nm,0.3s,baz=335						
OKC	Ostrava-Krasne	2.11	141	ePG	Pb	19 27 27.5	+0.6
OKC				eSG	Sg	19 27 55.1	-0.4
	comp=Z,15nm,0.6s						
VRAC	Vranov	2.21	171	ePn	Pn	19 27 25.9	+0.2
	baz=354						
VRAC				eSg	Sg	19 27 57.9	-0.8
	comp=Z,12nm,0.4s,baz=354						
PBCC	Pribram	2.25	217	eSG	Sg	19 27 59.7	-0.2
KRUC	Moravsky	2.44	175	ePn	Pn	19 27 29.0	+0.2
	baz=357						
KRUC				eSg	Sg	19 28 05.4	-0.7
	comp=Z,15nm,0.5s,baz=357						
KRUC	Moravsky	2.44	175	ePN	Pn	19 27 29.1	+0.2
KRUC				eSG	Sg	19 28 05.5	-0.7
NKC	Novy Kostel	2.63	243	ePN	Pn	19 27 32.7	+1.2
NKC				ePG	Pb	19 27 36.5	+0.7
NKC				eSG	Sg	19 28 12.9	+0.7
	comp=Z,33nm,0.3s						
OJC	Ojcow	2.67	117	ePg	Pg	19 27 39.0	0.0
OJC				eSg	Sg	19 28 14.2	+0.6
JAVC	Velka Javorina	2.82	158	ePn	Pn	19 27 34.1	-0.1
	baz=341						
KHC	Kasperske Hory	2.86	215	ePN	Pn	19 27 34.9	+0.2
KHC				ePG	Pb	19 27 40.1	+0.4
KHC				eSN	Sn	19 28 10.7	+0.9
KHC				eSG	Sg	19 28 19.2	-0.4
	comp=Z,7.0nm,0.3s						
CKRC	Cesky Krumlov	2.91	204	ePN	Pn	19 27 36.0	+0.7
CKRC				ePG	Pb	19 27 41.8	+1.3
CKRC				eSG	Sg	19 28 20.3	-0.9
CONA	Conrad Observa	3.57	182	i Pn	Pn	19 27 45.8	+1.3
	comp=Z,0.3nm,0.1s						
MOA	Molln	3.83	199	ePn	Pn	19 27 48.4	+0.3
	comp=Z,1.3nm,0.3s						

*IDC **06** 19:51:15.4±2.5, 28°.95N×143°.67E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/42, mbtmp3.8/8, ML3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/83, Error ellipse: s-maj=96.9km s-min=19.7km az=72.0*

ISC 06 19:51:22.8±1.9**, 29°.0N**±0°.2×**142°.9E**±0°.5**, h35km, n9, σ1s.84**/10**, mb3.8**/5**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	4.93	328	Pn	Pn	19 52 34.4	0.0
	7.3nm,0.3s,baz=54,slow=8.2,SNR=2.1						
JHJ				Sn	Sn	19 53 27.8	-2.3
	13nm,0.3s,baz=355,slow=2.6,SNR=3.7						
MJAR	Matsushiro Arr	8.52	334	Pn	Pn	19 53 24.0	+0.2
	0.1nm,0.3s,baz=155,slow=10,SNR=5.9						
MJAR				Sn	Sn	19 54 57.1	-1.6
	0.1nm,0.3s,baz=58,slow=10,SNR=4.5						
KSRS	Korea Array	15.11	308	Pn	P	19 54 57.7	-0.6
	0.1nm,0.3s,baz=118,slow=11,SNR=7.1						
GUMO	Guam	15.40	173	LR	LR	20 02 18.4	
	comp=Z,26nm,18.1s,baz=137,slow=43						
SONM	Songino Array	33.84	314	P	P	19 58 04.3	+2.4
	1.2nm,0.8s,baz=111,slow=9.6,SNR=7.4						
WRA	Warramunga Arr	49.31	191	P	P	20 00 07.2	-1.3
	1.8nm,0.6s,baz=12,slow=8.5,SNR=18						
MKAR	Makanchi Array	49.79	308	P	P	20 00 14.2	+2.1
	0.5nm,0.5s,baz=90,slow=9.5,SNR=8.0						
ASAR	Alice Springs	53.03	190	P	P	20 00 34.7	-1.7
	0.3nm,0.7s,baz=10,slow=7.5,SNR=7.0						
NOA	NORSAR Array B	82.11	338	P	P	20 03 39.1	-0.5
	0.5nm,0.6s,baz=45,slow=5.0,SNR=2.1						

*CNRM **06** 19:51:44.7, 35°.45N×3°.75W, h23km, ml2.8*
*MDD **06** 19:51:45.3±0.6, 35°.43N×3°.73W, h16km±5km, mb_Lg2.6/10, Error ellipse: s-maj=4.9km s-min=3.2km az=154.0*
*SFS **06** 19:51:47.3, 35°.49N×4°.21W, h8km, ML2.5, ALBORAN SUR*

ISC 06 19:51:44.3±1.1**, 35°.49N**±0°.02×**3°.73W**±0°.02**, h19km**±3km**, n27, σ1s.22**/52**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.32	212	P	Pg	19 51 50.8	-0.5
PALE				S	Sg	19 51 55.7	-0.2
GOG	Mont Gurugu	0.66	113	P	Pb	19 51 57.3	+0.2
GOG				S	Sg	19 52 06.5	+0.3
EMEL	Melilla	0.66	106	Pg	Pg	19 51 57.8	+0.4
EMEL				Sg	Sg	19 52 06.7	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EALB	Alboran	0.73	51	Pg	Pb	19 51 58.2	-0.1
EALB				Sg	Sn	19 52 09.4	-0.7
EALB				*i* Vmb_Lg		19 52 13.0	
TAF	Taforalt	1.27	121	P	Pb	19 52 07.8	+0.1
TAF				S	Sn	19 52 24.1	+0.4
SMIR	Smir Dam	1.36	279	S	Sn	19 52 25.3	-0.4
EMIJ	Mijas	1.37	322	Pn	Pn	19 52 09.0	+0.6
EMIJ				Sn	Sg	19 52 28.0	-0.6
EMIJ				*i* Vmb_Lg		19 52 31.5	
CHEFC	Chefchaouen	1.37	254	P	Pn	19 52 08.5	+0.1
CHEFC				S	Sn	19 52 26.0	0.0
ELGU	Los Guajares,	1.38	4	Pn	Pb	19 52 09.6	0.0
ELGU				Sn	Sb	19 52 27.2	+0.3
ELGU				*i* Vmb_Lg		19 52 30.7	
EMAL	Malaga-Limoner	1.39	336	P	Pb	19 52 10.7	+1.0
EMAL				S	Sn	19 52 26.6	0.0
CEU	Ceuta	1.40	288	P	Pn	19 52 06.5	-2.2
CEU				S	Sn	19 52 21.4	-5.2
JBK	JBK	1.50	140	P	Pn	19 52 09.5	-0.8
JBK				S	Sn	19 52 27.3	-2.1
EGOR	Sierra Gorda,	1.65	349	Pn	Pb	19 52 13.6	-0.6
EGOR				Sn	Sb	19 52 35.4	+0.8
EQUE	Quentar	1.73	8	Pn	Pn	19 52 14.2	+0.8
EQUE				Sn	Sb	19 52 36.9	-0.1
ENIJ	Nijar	1.93	39	Pn	Pn	19 52 14.9	-1.2
ENIJ				Sn	Sn	19 52 38.1	-1.8
ENIJ				*i* Vmb_Lg		19 52 42.1	
IFR	Ifrane	2.28	211	P	Pn	19 52 21.6	+0.5
IFR				S	Sn	19 52 47.6	-1.1
CZD	Col de Zad	2.68	204	P	Pn	19 52 27.7	+1.0
CZD				S	Sn	19 52 58.5	-0.2
MD31	MD31	2.75	198	P	Pn	19 52 28.3	+0.9
MD31				S	Sn	19 53 00.3	+0.1
MDT	Midelt	2.76	195	P	Pn	19 52 28.0	+0.3
MDT				S	Sn	19 52 59.9	-0.6
EZAR	Zarzadilla de	2.89	34	Pn	Pn	19 52 29.5	+0.1
EZAR				Sn	Sn	19 53 03.8	0.0
ECAB	El Cabril	2.92	333	Pn	Pn	19 52 30.4	+0.7
ECAB				Sn	Sn	19 53 05.4	+1.2
ECAB				*i* Vmb_Lg		19 53 20.3	
ZHG	ZHG	3.15	231	P	Pn	19 52 34.7	+1.8
ETOB	Tobarra	3.60	28	Pn	Pn	19 52 39.6	+0.4
ETOB				Sn	Sn	19 53 19.9	-1.4
ETOB				*i* Vmb_Lg		19 53 25.3	
EGRO	El Granado	3.65	305	Pn	Pn	19 52 41.0	+1.3
EGRO				Sn	Sn	19 53 21.0	-1.1
EGRO				*i* Vmb_Lg		19 53 25.4	
PVAQ	Vaqueiros	3.74	302	P	Pn	19 52 42.9	+1.9
PVAQ				S	Sn	19 53 23.9	-0.6
PAB	San Pablo	4.08	353	Pn	Pn	19 52 46.5	+0.7
PAB				Sn	Sn	19 53 33.1	+0.1
PAB				*i* Vmb_Lg		19 53 54.6	
EBAD	Badajoz	4.18	322	Pn	Pn	19 52 49.0	+1.9
EBAD				Sn	Sn	19 53 33.8	-1.6
EBAD				*i* Vmb_Lg		19 53 40.0	

*SGS **06** 20:05:24.6, 17.25N×40.22E, h6km, Ml3.4*
*IDC **06** 20:05:25.6±1.3, 17.70N×40.26E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.6/50, mbtmp3.8/13, ML3.7/2, MS3.7/48, Ms1 3.7/48, ms1mx3.5/83, Error ellipse: s-maj=27.4km s-min=21.5km az=164.0*
ISC 06 20:05:24.5±0.9**, 17.28N**±0.09×**40.34E**±0.07**, h10km, n57, σ1.17**/20**, mb3.7**/11**, MS3.8**/43**, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRSS2	Sair Farasan I	1.46	107	P	Pb	20 05 51.3	-0.4
FRSS2	Sair Farasan I	1.46	107	S	Sg	20 06 11.5	+0.1
FRSS	Farasan al Kab	1.78	107	S	Sb	20 06 18.9	-0.8
FRSS				P	Pn	20 05 55.9	+0.5
JAZS	Jizan	2.47	95	P	Pn	20 06 05.4	+0.5
DJNS	Zahran al Janu	3.09	82	P	Pn	20 06 13.7	+0.2
KNGHS	KNGHS	3.17	71	P	Pn	20 06 15.6	+1.0
ATD	Arta Tunnel	6.21	157	Pn	Pb	20 07 05.2	-7.7
	2.4nm,0.3s,baz=236,slow=20,SNR=2.7						
ATD				Sn	Sb	20 08 26.1	-1.2
	baz=250,slow=22,SNR=0.8						
ATD				LR	LR	20 09 17.9	
	comp=Z,367nm,20.2s,baz=26,slow=35						
EIL	Elat	13.28	339	LR	LR	20 12 36.7	
	comp=Z,298nm,19.5s,baz=114,slow=34						
MMAI	Mount Meron Ar	16.29	345	LR	LR	20 14 47.0	
	comp=Z,169nm,19.8s,baz=336,slow=35						
WSAR	Wadi Sarin	18.15	68	P	P	20 09 39.9	+2.8
	0.2nm,0.3s,baz=301,slow=11,SNR=4.5						
WSAR				LR	LR	20 17 12.5	
	comp=Z,264nm,21.5s,baz=274,slow=39						
KMBO	Kilima Mbogo	18.54	190	LR	LR	20 16 52.0	
	comp=Z,315nm,20.3s,baz=84,slow=36						
GNI	Garni	23.10	9	P	P	20 10 29.3	-1.4
	1.8nm,0.8s,baz=179,slow=22,SNR=1.8						
GNI				LR	LR	20 19 24.4	
	comp=Z,134nm,20.0s,baz=194,slow=37						
BRTR	Keskin Array B	23.11	347	P	P	20 10 29.3	-1.4
	1.0nm,0.9s,baz=160,slow=9.0,SNR=6.2						
BRTR				LR	LR	20 18 49.3	
	comp=Z,163nm,19.2s,baz=160,slow=35						
GEYT	Alibeck	25.82	34	P	P	20 10 55.5	-0.6
	0.9nm,0.5s,baz=129,slow=52,SNR=1.5						
GEYT				LR	LR	20 22 03.8	
	comp=Z,667nm,18.2s,baz=224,slow=39						
KBZ	Khabaz	26.45	4	LR	LR	20 22 04.4	
	comp=Z,158nm,19.0s,baz=199,slow=38						
KEST	Kesra	33.07	310	LR	LR	20 25 22.0	
	comp=Z,71nm,19.0s,baz=266,slow=36						
LSZ	Lusaka	34.50	201	LR	LR	20 26 39.7	
	comp=Z,530nm,18.3s,baz=12,slow=36						
AKASG	Malin Array Be	34.51	348	LR	LR	20 27 07.9	
	comp=Z,32nm,19.2s,baz=168,slow=38						
AKTO	Aktyubinsk	35.99	19	LR	LR	20 29 26.3	
	comp=Z,76nm,20.9s,baz=205,slow=40						
VRAC	Vranov	37.29	334	LR	LR	20 30 33.1	
	comp=Z,20nm,18.2s,baz=132,slow=41						
TORD	Torodi Ar. Bea	37.47	269	P	P	20 12 40.4	+1.8
	4.2nm,1.0s,baz=83,slow=7.7,SNR=14						
GERES	GERESS Array B	38.20	331	P	P	20 12 44.2	-0.3
	0.3nm,0.5s,baz=126,slow=6.8,SNR=5.7						
AAK	Ala-Archa	38.49	42	LR	LR	20 30 56.6	
	comp=Z,157nm,19.8s,baz=250,slow=40						
DAVOX	Davos/Dischmat	38.70	326	LR	LR	20 29 44.4	
	comp=Z,39nm,18.2s,baz=240,slow=38						
PALK	Pallekele	40.59	99	LR	LR	20 26 37.4	
	comp=Z,61nm,21.6s,baz=32,slow=31						
ARU	Arti	41.44	15	LR	LR	20 33 22.5	
	comp=Z,89nm,18.8s,baz=173,slow=41						
KIRV	Kirov	41.78	7	LR	LR	20 31 23.8	
	comp=Z,86nm,20.4s,baz=191,slow=38						
TSUM	Tsumeb	42.60	213	LR	LR	20 31 17.3	
	comp=Z,68nm,20.3s,baz=358,slow=36						
KOWA	Kowa	42.68	273	LR	LR	20 31 49.3	
	comp=Z,108nm,19.3s,baz=90,slow=37						
MDT	Midelt	43.23	300	LR	LR	20 34 08.3	
	comp=Z,68nm,20.3s,baz=141,slow=40						
ESDC	Sonseca Array	44.32	310	LR	LR	20 32 29.1	
	comp=Z,31nm,19.3s,baz=101,slow=37						
LBTB	Lobatse	44.43	199	LR	LR	20 32 04.1	
	comp=Z,130nm,19.4s,baz=38,slow=36						
KURBB	Kurchatov Arra	45.10	34	P	P	20 13 39.6	-1.2
	0.4nm,0.4s,baz=238,slow=8.2,SNR=2.6						
KURBB				LR	LR	20 34 49.7	
	comp=Z,163nm,18.0s,baz=226,slow=39						
FINES	FINESS Array B	45.26	350	P	P	20 13 41.5	-0.4
	1.4nm,0.8s,baz=193,slow=31,SNR=1.7						
DBIC	Dimbokro	45.34	262	LR	LR	20 32 22.6	
	comp=Z,136nm,20.3s,baz=86,slow=36						
MKAR	Makanchi Array	45.35	40	P	P	20 13 43.7	+0.8
	0.9nm,0.7s,baz=232,slow=7.6,SNR=8.8						
MKAR				LR	LR	20 35 03.6	
	comp=Z,208nm,18.4s,baz=234,slow=39						
HFS	Hagfors	46.92	342	LR	LR	20 35 14.6	
	comp=Z,33nm,21.7s,baz=139,slow=38						
BOSA	Boshof	47.90	198	LR	LR	20 34 01.4	
	comp=Z,121nm,18.6s,baz=32,slow=36						
NOA	NORSAR Array B	48.38	342	P	P	20 14 05.2	-1.2
	0.6nm,0.8s,baz=126,slow=7.5,SNR=1.6						
NOA				LR	LR	20 34 45.7	
	comp=Z,20nm,20.5s,baz=130,slow=37						
ZALV	Zalesovo Beam	50.12	33	P	P	20 14 20.6	+0.8
	1.9nm,0.6s,baz=246,slow=7.3,SNR=8.3						
ZALV				LR	LR	20 37 08.3	
	comp=Z,40nm,20.0s,baz=190,slow=38						
SUR	Sutherland	52.80	201	LR	LR	20 38 39.5	
	comp=Z,70nm,18.7s,baz=21,slow=38						
ARCES	ARCESS Array B	53.04	354	LR	LR	20 38 43.2	
	comp=Z,40nm,18.3s,baz=150,slow=38						
CMAR	Chiang Mai Arr	55.57	79	LR	LR	20 41 10.7	
	comp=Z,18nm,19.6s,baz=275,slow=39						
NRIK	Noril'sk	59.58	18	LR	LR	20 45 15.8	
	comp=Z,69nm,19.8s,baz=59,slow=40						
SONM	Songino Array	61.35	45	P	P	20 15 40.4	-0.3
	0.6nm,0.8s,baz=262,slow=7.1,SNR=3.0						
SONM				LR	LR	20 45 57.4	
	comp=Z,113nm,18.5s,baz=246,slow=40						
TIXI	Tiksi	73.27	19	LR	LR	20 53 59.4	
	comp=Z,59nm,19.1s,baz=252,slow=40						
YAK	Yakutsk	74.60	29	LR	LR	20 53 09.9	
	comp=Z,60nm,18.2s,baz=268,slow=39						
KSRS	Korea Array	77.83	54	LR	LR	20 56 10.7	
	comp=Z,29nm,18.7s,baz=270,slow=39						
KLR	Kul'dur	78.02	42	LR	LR	20 54 56.5	
	comp=Z,51nm,21.8s,baz=260,slow=38						
RCBR	Riachuelo	78.68	260	LR	LR	20 52 00.8	
	comp=Z,74nm,18.2s,baz=314,slow=36						
JNU	Nakatsue	81.20	58	LR	LR	20 58 01.1	
	comp=Z,68nm,21.3s,baz=274,slow=39						
SEY	Seymchan	84.35	25	LR	LR	20 59 56.9	
	comp=Z,47nm,19.3s,baz=202,slow=39						
MA2	Magadan	85.16	29	LR	LR	21 02 00.0	
	comp=Z,39nm,20.7s,baz=18,slow=40						
MJAR	Matsushiro Arr	86.00	53	LR	LR	21 00 36.9	
	comp=Z,87nm,18.6s,baz=182,slow=39						
ASAJ	Asahikawa	86.63	45	LR	LR	21 00 36.6	
	comp=Z,62nm,21.1s,baz=56,slow=38						
PETK	Petropavlovsk-	91.67	32	LR	LR	21 03 33.7	
	comp=Z,70nm,19.0s,baz=288,slow=38						
SNAA	Sanae	93.42	193	LR	LR	20 58 21.5	
	comp=Z,80nm,20.5s,baz=352,slow=34						

*JMA **06** 20:44:51.0±0.5, 22.78N×123.04E, h67km, M2.6*
*TAP **06** 20:44:52.8, 22.75N×122.75E, h105km±1km, ML2.7, D*
ISC 06 20:44:43.2±1.4**, 22.60N**±0.07×**123.06E**±0.03**, h6km**±11km**, n43, σ1.07**/74**, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LDUT	Ludao	1.47	273	*e*P	Pg	20 45 13.4	+2.1
	baz=271						
LDUT				*e*S	Sg	20 45 30.8	+0.4
	baz=271						
LYUB	Lan-yu	1.49	247	*e*S	Sg	20 45 32.3	+1.3
	baz=240						
LAY	Lan-yu	1.50	248	*e*P	Pg	20 45 14.7	+2.7
	baz=242						
HATJ	Hateruma jima	1.60	25	*e*S	Sn	20 45 33.3	+0.1
FULB	Fuli	1.73	290	P	Pg	20 45 17.2	+0.8
	baz=292						
FULB				S	Sb	20 45 37.2	-0.3
	baz=292						
HGSD	Ruisui	1.75	301	P	Pg	20 45 17.5	+0.8
	baz=301						
HGSD				*e*S	Sb	20 45 37.0	-0.9
	baz=301						
EYUL	Yuli	1.77	295	*e*P	Pg	20 45 17.9	+0.9
	baz=294						
EYUL				*e*S	Sb	20 45 38.1	-0.4
	baz=294						
TWF1	Yuli	1.79	295	*e*P	Pg	20 45 18.2	+0.7
	baz=294						
TWF1				*e*S	Sb	20 45 38.5	-0.6
	baz=294						
YULB	Yu-li	1.80	296	P	Pg	20 45 18.5	+0.7
	baz=293						
YULB				*e*S	Sb	20 45 40.0	+0.5
	baz=293						
LONT	Longtian	1.80	280	P	Pg	20 45 19.5	+1.7
	baz=275						
LONT				*e*S	Sg	20 45 40.9	-0.3
	baz=275						
EHY	Hungye	1.83	300	P	Pg	20 45 19.3	+0.9
	baz=301						
EHY				*e*S	Sb	20 45 40.7	+0.3
	baz=301						
IRIF	Iriomote-Funau	1.83	20	P	Pb	20 45 18.9	+1.7
IRIF				S	Sn	20 45 40.1	+1.2
EGFH	Guangfu	1.84	306	P	Pg	20 45 18.8	+0.4
	baz=309						
EGFH				*e*S	Sb	20 45 40.3	-0.2
	baz=309						
TWGBT	Beinan	1.84	277	P	Pg	20 45 20.0	+1.5
	baz=272						
TWGBT				S	Sg	20 45 40.5	-1.8
	baz=272						
TWG	Pinlang	1.84	277	P	Pg	20 45 20.1	+1.5
	baz=272						
TWG				S	Sb	20 45 40.1	-0.7
	baz=272						
JKRS	Kuro-shima	1.85	28	P	Pg	20 45 19.5	+0.8
JKRS				*e*S	Sn	20 45 39.7	+0.5
YOJ	Yonaguni jima	1.85	359	P	Pb	20 45 18.6	+1.1
YOJ				*e*S	Sn	20 45 39.8	+0.5
ESL	Shilin	1.92	309	*e*P	Pb	20 45 19.5	+0.8
	baz=314						
ESL				*e*S	Sn	20 45 40.5	-0.5
	baz=314						
ECL	Taimali	1.94	270	P	Pg	20 45 21.3	+0.8
	baz=265						
ECL				*e*S	Sb	20 45 42.7	-0.9
	baz=265						
ELDTW	Lidau	1.97	288	*i* P	Pg	20 45 21.1	+0.1
	baz=285						
ETM	Tongmen	1.98	314	P	Pb	20 45 20.8	+1.2
	baz=318						
ETM				*e*S	Sn	20 45 39.9	-2.5
	baz=318						
JIJ	Ishigaki jima	2.02	29	P	Pb	20 45 21.1	+0.8
JIJ				S	Sn	20 45 43.1	-0.3
EAST	Anshuo	2.05	264	*i* P	Pg	20 45 23.4	+0.8
	baz=258						
EAST				S	Sg	20 45 46.2	-3.0
	baz=258						
NACB	Ninganchiao	2.06	320	*e*P	Pb	20 45 21.5	+0.4
	baz=323						
NACB				*e*S	Sn	20 45 43.8	-0.8
	baz=323						
VWDT	VWDT	2.10	303	P	Pg	20 45 23.4	-0.1
	baz=301						
VWDT				*e*S	Sb	20 45 47.0	-1.2
	baz=301						
SLIU	Shizi	2.12	260	P	Pg	20 45 24.6	+0.7
	baz=253						
SLIU				*e*S	Sb	20 45 47.3	-1.5
	baz=253						
ETLH	Xiulin Townshi	2.16	318	*e*P	Pb	20 45 23.1	+0.4
	baz=321						
ETLH				*e*S	Sn	20 45 46.5	-0.5
	baz=321						
STYH	Taoyuan	2.18	286	P	Pg	20 45 24.8	-0.2
	baz=283						
ENA	Nanau	2.18	327	P	Pb	20 45 24.3	+1.1
	baz=327						
ENA				*i* S	Sn	20 45 48.4	+0.9
	baz=327						
HEN	Hengchun	2.23	255	*e*S	Sg	20 45 51.7	-3.1
	baz=248						
MASBT	Mashibuluo	2.24	271	*e*P	Pg	20 45 26.8	+0.7
	baz=266						
WHF	Hehuan Shan	2.25	313	*e*P	Pb	20 45 22.9	-1.7
	baz=323						
WHF				*e*S	Sn	20 45 50.6	+0.8
	baz=323						
WUSB	Renai	2.26	308	P	Pb	20 45 25.5	+1.0
	baz=315						
WUSB				*e*S	Sn	20 45 49.6	+0.1
	baz=315						
CHGB	Renai	2.26	310	P	Pb	20 45 25.6	+1.0
	baz=319						
CHGB				*e*S	Sn	20 45 50.5	+0.9
	baz=319						
ALS	Alishan	2.26	294	*e*P	Pg	20 45 26.4	-0.2
	baz=295						
ALS				*e*S	Sb	20 45 53.4	+0.4
	baz=295						
SSLB	Suanglung	2.27	302	P	Pg	20 45 25.8	-0.8
	baz=307						
JISG	Ishigakijimahi	2.29	30	P	Pb	20 45 24.8	-0.1
JISG				*e*S	Sn	20 45 50.5	+0.4
FUSS	Fushou	2.34	315	P	Pb	20 45 26.6	+0.7
	baz=324						
NNSB	Datong	2.38	320	P	Pb	20 45 27.2	+0.6
	baz=323						
NNSB				*e*S	Sn	20 45 53.0	+0.5
	baz=323						
LATG	Datong	2.38	324	P	Pb	20 45 26.8	+0.2
	baz=320						
NNS	Nan Shan	2.40	320	*i* P	Pb	20 45 28.0	+1.2
	baz=323						
NNS				*e*S	Sn	20 45 53.9	+1.0
	baz=323						
JTJ	Tarama	2.53	36	P	Pb	20 45 28.3	-0.8
JTJ				S	Sn	20 45 56.4	+0.4
JMJ	Miyako jima 2	3.01	42	*e*P	Pg	20 45 40.3	-0.6
	baz=48						

*THE **06** 20:52:15.6, 38.54N×20.53E, h16km±1km, ML2.7/2, Error ellipse: s-maj=2.2km s-min=0.4km az=113.0*
*ATH **06** 20:52:16.0, 38.53N×20.56E, h13km±2km, ML2.6/6, Error ellipse: s-maj=2.4km s-min=0.8km az=293.0*
ISC 06 20:52:15.5±0.8**, 38.54N**±0.02×**20.54E**±0.04**, h15km**±5km**, n34, σ0.48**/50**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FSK	Fiskardo	0.08	164	P	Pg	20 52 18.4	-0.1
FSK				S	Sg	20 52 19.9	-0.6
FSK				AML	AML	20 52 20.2	
	comp=N,18528μm,0.7s						
FSK				AML	AML	20 52 20.7	
	comp=E,16267μm,0.3s						
EVGI	Lefkada island	0.13	48	P	Pg	20 52 19.2	+0.1
EVGI				S	Sg	20 52 21.9	+0.3
EVGI	Lefkada island	0.13	48	P	Pg	20 52 19.1	0.0
EVGI				S	Sg	20 52 21.8	+0.3
DRAG	Dragano-Lefkad	0.15	12	P	Pg	20 52 19.5	0.0
DRAG				S	Sg	20 52 22.0	-0.1
DRAG	Dragano-Lefkad	0.15	12	P	Pg	20 52 19.5	0.0
DRAG				S	Sg	20 52 22.5	+0.4
NYDR	Nydri-Lefkada	0.22	36	P	Pg	20 52 20.6	+0.1
NYDR				S	Sb	20 52 24.7	-0.2
NYDR	Nydri-Lefkada	0.22	36	P	Pg	20 52 20.6	+0.1
NYDR				S	Sb	20 52 24.9	-0.1
LKD2	Lefkada island	0.27	21	P	Pg	20 52 21.6	+0.3
LKD2				S	Sb	20 52 26.2	-0.3
LKD2				AML	AML	20 52 28.2	
	comp=N,1619μm,0.2s						
LKD2				AML	AML	20 52 28.4	
	comp=E,1834μm,0.2s						
LKD2	Lefkada island	0.27	21	P	Pg	20 52 21.5	+0.2
KEF4	Livadi, Kephal	0.29	198	P	Pg	20 52 21.9	+0.3
KEF4				S	Sb	20 52 26.8	-0.2
DMLN	Damoulianata-K	0.32	203	P	Pg	20 52 22.5	+0.3
DMLN				S	Sb	20 52 27.9	0.0
DMLN	Damoulianata-K	0.32	203	P	Pg	20 52 22.3	+0.1
DMLN				S	Sb	20 52 27.9	0.0
	comp=E,1μm,0.4s						
VLS	Valsamata	0.36	173	P	Pg	20 52 22.9	+0.1
VLS				S	Sb	20 52 28.9	-0.1
VLS				AML	AML	20 52 29.2	
	comp=E,3409μm,0.3s						
VLS				AML	AML	20 52 29.2	
	comp=N,3600μm,0.4s						
VLS	Valsamata	0.36	173	P	Pg	20 52 23.0	+0.1
KEF3	Kipouria, Keph	0.36	204	P	Pg	20 52 22.5	-0.4
KEF3				S	Sg	20 52 28.6	+0.7
KEF3	Kipouria, Keph	0.36	204	P	Pg	20 52 22.5	-0.4
KEF3				S	Sg	20 52 28.5	+0.6
	comp=N,2μm,0.2s						
PSDA	Pessada-Kefalo	0.42	175	P	Pg	20 52 24.2	+0.2
PSDA				S	Sb	20 52 30.9	+0.2
RLS	Riolos of Patr	0.87	123	P	Pb	20 52 32.4	+0.1
IGT	Igoumenitsa	1.01	351	P	Pb	20 52 34.9	+0.3
EVR	Evrytania	1.07	69	P	Pb	20 52 36.0	+0.3
EFP	Efpalio	1.08	95	P	Pb	20 52 35.6	-0.3
EFP				AML	AML	20 52 59.1	
	comp=E,507μm,0.5s						
EFP				AML	AML	20 53 01.4	
	comp=N,330μm,0.5s						
DRO	Drossia	1.09	122	P	Pn	20 52 36.4	+0.2
DRO				AML	AML	20 52 56.1	
	comp=N,765μm,0.4s						
DRO				AML	AML	20 52 56.7	
	comp=E,1041μm,0.2s						
LAKA	Lakka	1.17	104	P	Pn	20 52 37.2	-0.2
MAKR	Makrakomi, Fth	1.34	69	P	Pg	20 52 41.3	+0.1
KLV	Kalavryta, Ach	1.36	111	P	Pn	20 52 40.3	+0.3
THL	Klokotos Trika	1.54	48	P	Pg	20 52 45.8	+0.6
THL				AML	AML	20 53 12.7	
	comp=E,214μm,0.7s						
THL				AML	AML	20 53 12.8	
	comp=N,241μm,0.7s						
STON	Ston	4.84	334	*e*Pn	Pn	20 53 27.6	-0.1
STON				Sn	Sn	20 54 21.3	-2.1
MAKA	Makarska	5.44	332	Sn	Sn	20 54 37.8	-0.5
HVAR	Hvar	5.58	328	*e*Pn	Pn	20 53 39.4	+1.6
RICI	Ricice	5.58	334	*e*Pn	Pn	20 53 37.9	-0.1
KIJV	Kijevo	6.29	332	*e*Pn	Pn	20 53 48.0	+0.3
ZIRJ	Zirje	6.31	326	*e*Pn	Pn	20 53 48.0	+0.1
MORI	Morici	6.45	327	*e*Pn	Pn	20 53 50.3	+0.5
DUGI	Dugi Otok	6.84	325	*e*Pn	Pn	20 53 55.2	+0.1

*JMA **06** 20:58:43.9, 35.84N×135.87E, h13km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs349.00000°, δ85.00000°, λ65.00000°. NP2: φs247.00000°, δ25.00000°, λ167.00000°. Principal axes: T Plg45.0000°, Azm234.0000°; N Plg25.0000°, Azm351.0000°; P Plg35.0000°, Azm100.0000°;*
JMA Felt II J1.
*NIED **06** 20:58:43.9, 35.84N×135.87E, h13km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.99; Mθθ-0.02; Mφφ-2.96; Mrθ-1.44; Mθφ-1.73; Mφr1.54; Fault plane solution: Mo4.02000×10^14 NP1: φs358.00000°, δ59.00000°, λ55.00000°. NP2: φs231.00000°, δ45.00000°, λ133.00000°.*
*IDC **06** 20:58:46.7±2.5, 35.83N×135.97E, h34km±24km, mb3.6/8, mb1 3.7/11, mb1mx3.4/55, mbtmp3.7/11, ML3.2/2 Error ellipse: s-maj=19.1km s-min=16.6km az=35.0*
ISC 06 20:58:43.8±1.1**, 35.83N**±0.05×**135.88E**±0.04**, h14km**±8km**, n18, σ1.11**/25**, mb3.9**/8**, 3C-2D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFM	Mihama	0.31	165	⇓P	Pg	20 58 50.4	+0.2
JFM				S	Sg	20 58 54.8	+0.3
JKG	Kaga	0.58	39	⇑P	Pb	20 58 55.2	-0.6
JKG				S	Sb	20 59 03.2	-0.6
JKY	Yasaka	0.66	253	⇑P	Pg	20 58 56.2	-0.6
JKY				S	Sg	20 59 05.0	-0.6
JWT	Wachi	0.67	216	⇑P	Pg	20 58 56.6	-0.3
JWT				S	Sg	20 59 05.5	-0.2
JYTA	Yamagatataniai	0.73	108	⇓P	Pb	20 58 57.8	-0.6
JYTA				S	Sb	20 59 07.4	-0.8
MJAR	Matsushiro Arr	2.01	69	Pn	Pb	20 59 18.9	-1.4
	3.5nm,0.3s,baz=241,slow=16,SNR=57						
MJAR				Pg	Pg	20 59 22.7	+0.2
	4.8nm,0.3s,baz=234,slow=16,SNR=47						
MJAR				Lg	Lg	20 59 50.0	
	3.3nm,0.3s,baz=114,slow=15,SNR=5.9						
JNU	Nakatsue	4.94	238	Pn	Pn	20 59 58.5	+0.9
	1.4nm,0.3s,baz=109,slow=5.1,SNR=37						
JNU				Lg	Lg	21 01 17.2	
	4.1nm,0.3s,baz=236,slow=14,SNR=11						
KSRS	Korea Array	6.60	287	Pn	Pn	21 00 21.2	+0.8
	0.3nm,0.3s,baz=100,slow=14,SNR=2.7						
KSRS				Sn	Sn	21 01 33.8	-1.7
	0.6nm,0.3s,baz=101,slow=24,SNR=6.2						
USRK	Ussuriysk Ar.	8.88	342	Pn	Pn	21 00 54.7	+3.1
	baz=161,slow=9.9,SNR=1.7						
KLR	Kul'dur	13.73	349	Pn	P	21 02 04.7	-2.0
	0.2nm,0.3s,baz=149,slow=11,SNR=14						
SONM	Songino Array	24.88	308	P	P	21 04 07.1	+1.0
	0.9nm,0.8s,baz=119,slow=10,SNR=6.3						
CMAR	Chiang Mai Arr	36.88	252	P	P	21 05 53.5	+1.4
	0.5nm,0.2s,baz=47,slow=7.4,SNR=9.1						
ZALV	Zalesovo Beam	39.47	314	P	P	21 06 13.3	-0.2
	0.5nm,0.5s,baz=109,slow=7.8,SNR=2.1						
MKAR	Makanchi Array	40.99	303	P	P	21 06 26.5	+0.2
	0.6nm,0.5s,baz=84,slow=10,SNR=12						
WRA	Warramunga Arr	55.48	182	P	P	21 08 17.7	-0.6
	0.8nm,0.5s,baz=358,slow=7.6,SNR=13						
ASAR	Alice Springs	59.20	182	P	P	21 08 44.5	+0.1
	0.9nm,0.7s,baz=6.0,slow=5.7,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FINES	FINESS Array B	67.74	331	P	P	21 09 40.1	-0.4
	2.2nm,0.9s,baz=67,slow=6.4,SNR=5.3						
AKASG	Malin Array Be	72.45	320	P	P	21 10 09.2	-0.4
	0.6nm,0.5s,baz=50,slow=6.5,SNR=4.5						

SGS ***06*** *21:02:41.9, 17.°68N×40.°45E, h8km, Ml3.8*
IDC ***06*** *21:02:41.1±0.6, 17.°50N×40.°29E, h0km, mb4.2/25, mb1 4.4/28, mb1mx4.3/40, mbtmp4.3/28, ML3.5/4, MS4.2/68, Ms1 4.2/68, ms1mx4.1/82, Error ellipse: s-maj=15.4km s-min=13.7km az=149.0*
NEIC ***06*** *21:02:42.3±1.9, 17.°53N±0.°08×40.°3E±0.°1, h14km±4km, mb4.8/64, Error ellipse: s-maj=15.2km s-min=11.4km az=112.0*
MOS ***06*** *21:02:42.5±1.7, 17.°62N×40.°23E, h10km, mb4.8/36, MS4.2/8, Error ellipse: s-maj=12.1km s-min=4.3km az=92.2*
GCMT ***06*** *21:02:43.3±0.2, 17.°56N±0.°02×40.°39E±0.°02, h12km, MW5.0/107, Moment Tensor Solution. s30,c37; s107,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.39±.07; $M_{\theta\theta}$1.75±.07; $M_{\phi\phi}$1.64±.09; $M_{r\theta}$-0.69±.29; $M_{\theta\phi}$-1.56±.06; $M_{\phi r}$-0.17±.29; Best double couple: $M_0$3.39400×10^{16} NP1:ϕ_s323.00000°,δ42.00000°, λ-76.00000°. NP2:ϕ_s125.00000°,δ49.00000°, λ-102.00000°. Principal axes: T 3.2780, Plg3.0000°, Azm223.0000°; N 0.2310, Plg9.0000°, Azm133.0000°; P -3.5100, Plg80.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN ***06*** *21:02:55.5±4.9, 17.°81N×40.°96E, h80km, mb5.0/11 Error ellipse: s-maj=103.8km s-min=23.1km az=1.0*
ISC 06 21:02:41.0±1.5, **17.°66N**±0.°04×**40.°28E**±0.°04, **h1**km±9km, **n372**, σ**2.05**/348, **mb4.6**/98, **MS4.2**/76, **20C-25D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMGES	AMGES	1.44	56	P	Pn	21 03 04.5	-3.8
AMGES	AMGES	1.44	56	S	Sn	21 03 21.5	-6.3
FRSS2	Sair Farasan I	1.66	119	P	Pn	21 03 07.2	-4.0
DRBS	Ad Darb	1.94	85	S	Sn	21 03 33.6	-6.5
DRBS	Ad Darb	1.94	85	P	Pn	21 03 11.4	-3.7
QNF01	Al Qunfudhah	1.97	29	P	Pn	21 03 13.0	-2.6
FRSS	Farasan al Kab	1.98	117	P	Pn	21 03 11.7	-4.0
AKWA	Algayed	2.34	99	P	Pn	21 03 16.8	-3.9
NAMS	An Nimas	2.37	50	P	Pn	21 03 19.4	-1.9
BESHS	BESHS	2.46	96	P	Pn	21 03 18.9	-3.5
JAZS	Jizan	2.59	103	P	Pn	21 03 20.5	-3.6
ENMS	ENMS	2.59	57	P	Pn	21 03 22.9	-1.4
YLMLM	YLMLM	3.11	354	P	Pn	21 03 30.1	-1.2
DJNS	Zahran al Janu	3.12	89	P	Pn	21 03 29.9	-1.7
KNGHS	KNGHS	3.13	78	P	Pn	21 03 30.4	-1.3
BAHS2	Abu Rakh	3.31	15	P	Pn	21 03 34.0	0.0
SHBS		3.37	351	P	Pn	21 03 33.4	-1.5
LBNS	Jabal Laban	3.39	354	P	Pn	21 03 34.1	-1.0
FRAS	Faraa	3.39	4	P	Pn	21 03 34.7	-0.6
TATS	Tathlith	3.56	58	P	Pn	21 03 37.2	-0.4
SHMS		3.81	352	P	Pn	21 03 39.8	-1.1
SHRS	SHRS	3.82	359	P	Pn	21 03 41.0	-0.1
JURS	JURS	4.21	354	P	Pn	21 03 45.9	-0.5
MQOL	MQOL	4.27	315	*i* P	Pn	21 03 46.7	-0.5
MQOL				IAML		21 04 02.5	
	comp=E,951nm,0.7s						
MDRAS	Madrakah	4.41	357	P	Pn	21 03 49.1	-0.2
KHLS	Khulais	4.46	348	P	Pn	21 03 49.5	-0.4
MDRK2	MDRK2	4.61	360	P	Pn	21 03 52.2	+0.1
KHLS2	Khulais	4.63	351	P	Pn	21 03 51.9	-0.3
GHASH	GHASH	5.03	359	P	Pn	21 03 57.7	-0.1
HAJR	Hajar	5.24	354	P	Pn	21 03 60.0	-0.7
ATD	Arta Tunnel	6.58	157	Pn	Pn	21 04 18.7	-0.3
	comp=E,1.0nm,0.3s,baz=323,slow=18,SNR=2.4						
ATD				Sn	Sn	21 05 40.4	+5.5
	baz=233,slow=19,SNR=1.1						
ATD	Arta Tunnel	6.58	157		Pn	21 04 16.0	-3.1
ATD				Sn	Sn	21 05 34.4	-0.4
ATD	Arta Tunnel	6.58	157	P	Pn	21 04 24.8	+5.8
	SNR=8.8						
RAYN	Ar Rayn	7.61	39		Pn	21 04 32.6	-0.6
RAYN	Ar Rayn	7.61	39	P	Pn	21 04 35.9	+2.7
JAWL	J.Aulia	7.85	253	*i* P	Pg	21 05 28.9	+17
JAWL				*i*		21 06 45.1	
	baz=343,slow=22						
MRWI	Hamdab	7.86	278	*i* P	Pb	21 04 56.0	-2.2
ABTO	Aybut	12.43	89	P	Pn	21 05 42.2	+3.0
WHFO	Wadi Hawf	12.86	87	S	Sn	21 08 12.0	+3.1
DOK	Doka	13.20	84	P	Pn	21 05 51.9	+2.1
DOK				S	Sn	21 08 18.2	+0.8
MZR	Muzera	13.47	65	P	Pn	21 05 55.4	+1.9
	SNR=16						
MZR	Muzera	13.47	65	*i* P	Pn	21 05 53.2	-0.3
	SNR=5.9						
DMTO	DMTO	13.98	88	P	P	21 06 04.2	-4.4
MZWR	Madinat Zayed	14.10	62	P	P	21 06 07.3	-2.6
ASF	Jabal al Asfar	14.77	349	Pn	P	21 06 15.1	-2.4
	comp=E,0.3nm,0.3s,baz=172,slow=1.6,SNR=3.7						
LODK	Lodwar	14.95	199	Pn	Pn	21 06 10.2	-3.5
AJN	Ajban	15.34	61	P	Pn	21 06 20.0	+1.2
ASUD	Al Ashush, Dub	15.65	61	P	P	21 06 27.5	+0.3
	SNR=5.9						
ASUD	Al Ashush, Dub	15.65	61	*i* P	P	21 06 25.5	-1.7
	SNR=9.9						
ALNE	Al Ain	15.79	64	P	P	21 06 26.5	-2.3
	SNR=37						
ALNE	Al Ain	15.79	64	*i* P	Pn	21 06 24.4	-0.4
	SNR=17						
MMAI	Mount Meron Ar	15.91	345	LR	LR	21 12 03.4	
	comp=E,800nm,19.7s,baz=324,slow=35						
FAQ	Al Faqa, Dubai	15.92	61	P	P	21 06 30.2	+0.1
	SNR=20						
FAQ	Al Faqa, Dubai	15.92	61	*i* P	P	21 06 28.3	-1.8
	SNR=19						
NAZ	Nazwa, Dubai	16.07	60	P	P	21 06 31.9	0.0
	SNR=12						
NAZ	Nazwa, Dubai	16.07	60	*i* P	Pn	21 06 27.3	-1.1
	SNR=12						
ARQ	Araqi	16.23	67	P	P	21 06 34.3	+0.7
	SNR=9.4						
ASHO	Ashiyiah	16.29	62	P	P	21 06 35.2	+0.9
	SNR=24						
ASHO	Ashiyiah	16.29	62	*i* P	Pn	21 06 30.7	-0.4
	SNR=21						
HATD	Hatta, Dubai	16.40	62	P	P	21 06 37.1	+1.5
	SNR=14						
HATD	Hatta, Dubai	16.40	62	*i* P	Pn	21 06 31.8	-0.8
	SNR=16						
UOSS	Minazif	16.51	61	Pn	Pn	21 06 33.2	-0.8
UOSS	Minazif	16.51	61	*i* P	P	21 06 34.5	-2.3
	SNR=22						
MSFE	Esma-Masafi	16.64	60	*i* P	Pn	21 06 35.6	0.0
	SNR=9.2						
MASF	Masafi	16.64	60	P	P	21 06 40.9	+2.7
	SNR=9.7						
BSY	Bisya	16.67	70	P	P	21 06 36.1	-2.4
	SNR=18						
SHME	Shamm	16.92	58	P	P	21 06 42.9	+1.7
	SNR=5.6						
SHME	Shamm	16.92	58	*i* P	P	21 06 39.1	-2.1
	SNR=9.6						
BANOM	Banah	16.99	58	*i* P	P	21 06 40.3	-1.8
	SNR=6.5						
HOQ	Hoqain	16.99	67	P	P	21 06 44.0	+1.8
	SNR=33						
MHTO	MHTO	17.02	76	P	Pn	21 06 40.2	-0.3
	SNR=19						
JMDO	Jabal Madar	17.39	71	P	P	21 06 46.0	-0.5
	SNR=21						
SMDO	Samad	17.50	69	P	P	21 06 50.0	+2.1
	SNR=23						
SMDO				P	P	21 06 50.0	+2.1
	SNR=28						
BIDO	Bidbid	17.69	68	P	P	21 06 53.0	+3.1
	SNR=18						
WSAR	Wadi Sarin	18.07	69	P	P	21 06 53.3	-0.7
	comp=E,0.2nm,0.3s,baz=275,slow=12,SNR=13						
WSAR				LR	LR	21 14 28.8	
	comp=E,1µm,21.9s,baz=272,slow=39						
WSAR	Wadi Sarin	18.07	69	P	P	21 06 55.2	+1.2
	SNR=14						
CSS	Mathiatis	18.31	342	P	P	21 06 57.0	+0.4
JLN	Jalan Bani Buh	18.53	73	P	Pn	21 07 02.0	+2.8
	SNR=18						
KMBO	Kilima Mbogo	18.90	189	P	Pn	21 07 02.8	-1.2
	comp=E,0.1nm,0.3s,baz=38,slow=24,SNR=1.6						
KMBO				LR	LR	21 14 08.1	
	comp=E,2µm,20.0s,baz=4.0,slow=37						
KMBO	Kilima Mbogo	18.90	189	⇓*e*P	Pn	21 07 07.9	+3.9
KMBO	Kilima Mbogo	18.90	189	P	P	21 07 00.7	-2.8
MARD	Mardin	19.59	1	P	Pn	21 07 12.2	+0.3
MBAR	Mbarara	20.43	208	P	P	21 07 19.4	-0.8
	comp=E,1.1nm,0.3s,baz=22,slow=10,SNR=6.8						
MBAR				LR	LR	21 15 56.6	
	comp=E,483nm,18.5s,baz=12,slow=39						
MBAR	Mbarara	20.43	208	⇓*e*P	Pn	21 07 23.3	+1.1
MBAR				pmax	pmax		
	comp=Z,13nm,1.4s						
MBAR	Mbarara	20.43	208	P	P	21 07 16.9	-3.3
AKAS	Kas	20.77	335	P	P	21 07 21.1	-2.5
AKAS				IAmb	IAmb	21 07 31.8	
	comp=Z,67nm,1.4s						
GURO	Guroymak-BITLI	20.87	4	P	Pn	21 07 24.9	-2.3
ELL	Elmali	21.10	336	P	P	21 07 28.5	+1.3
KARP	Karpathos	21.29	329	P	P	21 07 26.7	-2.4
BNN	Bunyan	21.47	351	P	P	21 07 32.7	+1.6
BNN				IAmb	IAmb	21 07 40.5	
	comp=Z,69nm,1.3s						
ISP	Isparta	21.84	339	⇑*e*P	P	21 07 38.4	+3.3
ISP				pmax	pmax		
	comp=Z,19nm,1.2s						
ISP	Isparta	21.84	339	P	P	21 07 37.0	+1.9
NAX	Nakhchivan	21.91	11	P	P	21 07 40.2	+4.4
LKRN	Lenkeran, Azer	22.25	18	P	P	21 07 43.9	+4.6
IDI	Anoyia	22.26	325	P	P	21 07 41.7	+2.0
	comp=Z,3.9nm,0.9s,baz=215,slow=22,SNR=1.4						
BR131	Keskin Array S	22.73	347	*d i*P	P	21 07 47.4	+2.7
BR131	Keskin Array S	22.73	347	P	P	21 07 44.6	-0.1
BR131				IAmb	IAmb	21 07 53.3	
	comp=Z,31nm,1.1s						
BR131	Keskin Array S	22.73	347	P	P	21 07 48.9	+4.2
	SNR=18						
BRTR	Keskin Array B	22.73	347	P	P	21 07 47.3	+2.6
	comp=Z,9.5nm,0.9s,baz=170,slow=9.5,SNR=20						
BRTR				PcP	PcP	21 11 37.4	+0.4
	comp=Z,0.9nm,0.8s,baz=158,slow=5.0,SNR=5.0						
BRTR				LR	LR	21 16 05.4	
	comp=Z,735nm,18.9s,baz=160,slow=35						
BRTR	Keskin Array B	22.73	347	*i* P	P	21 07 47.9	+3.2
BRTR				pmax	pmax		
	comp=Z,12nm,1.0s						
BRTR	Keskin Array B	22.73	347	P	P	21 07 44.9	+0.2
BRTR				PcP	PcP	21 11 33.5	-3.5
GNI	Garni	22.74	9	P	P	21 07 48.5	+3.7
	comp=Z,8.1nm,0.9s,baz=322,slow=8.1,SNR=9.1						
GNI				LR	LR	21 16 41.1	
	comp=Z,579nm,21.1s,baz=198,slow=37						
GNI	Garni	22.74	9	*c i*P	P	21 07 49.0	+4.2
GNI				pmax	pmax		
	comp=Z,56nm,2.0s						
GNI	Garni	22.74	9	P	P	21 07 45.0	+0.2
GNI				IAmb	IAmb	21 07 58.7	
	comp=Z,66nm,1.6s						
KARS	Kars	23.02	5	P	P	21 07 46.4	-1.2
ANTO	Ankara	23.06	345	P	P	21 07 48.7	+0.6
GANJ	Ganja	23.49	12	P	P	21 07 56.9	+4.5
MNGR	Mingechevir, A	23.77	13	P	P	21 07 59.4	+4.4
AKH	Akhalkalaki	23.83	6	⇓P	P	21 08 00.5	+4.6
AKH	Akhalkalaki	23.83	6	P	P	21 08 00.4	+4.6
ILGA	Ilgaz	23.99	348	P	P	21 07 58.6	+1.2
MDUB	Mudurnu	24.05	343	P	P	21 07 58.8	+1.0
SEKA	Sheki	24.21	13	P	P	21 08 03.8	+4.5
ZKTA	Zakatala	24.51	12	P	P	21 08 05.7	+3.7
ONI	Oni	25.00	6	P	P	21 08 06.2	-0.2
ONI				IAmb	IAmb	21 08 11.5	
	comp=Z,24nm,1.3s						
ZEI	Tsey	25.24	6	*e*P	P	21 08 11.2	+2.4
ZEI				pmax	pmax		
	comp=Z,26nm,1.8s						
GEYT	Alibeck	25.54	34	P	P	21 08 13.8	+2.4
	comp=Z,2.4nm,0.7s,baz=86,slow=21,SNR=3.6						
GEYT				LR	LR	21 19 19.9	
	comp=Z,3µm,18.0s,baz=238,slow=39						
GEYT	Alibeck	25.54	34	P	P	21 08 12.8	+1.4
NEY	Neytrino	25.59	4	⇓*e*P	P	21 08 16.3	+4.3
NEY				pmax	pmax		
	comp=Z,9.0nm,1.4s						
HRA	Herat	25.74	45	P	P	21 08 12.4	-1.1
HRA				IAmb	IAmb	21 08 24.1	
	comp=Z,27nm,1.4s						
SOC	Sochi	25.85	359	*e*P	P	21 08 10.2	-3.8
SOC				*e*PPP	PPP	21 08 59.0	
SOC				*e*S	S	21 12 39.9	-4.7
SOC				*e*SSS	SSS	21 13 54.3	
SOC				MLR	MLR		
	comp=Z,553nm,14.0s						
GROC	Groznyy	25.89	9	*e*P	P	21 08 17.2	+2.8
GROC				*e*		21 08 54.0	
GROC				*e*S	S	21 12 47.2	+2.0
GROC				pmax	pmax		
	comp=Z,25nm,0.9s						
GROC				MLR	MLR		
	comp=Z,215nm,9.0s						
NCK	Nalchik	25.91	6	⇓*e*P	P	21 08 17.7	+3.1
NCK				pmax	pmax		
	comp=Z,23nm,1.2s						
MAK	Makhachkala	25.96	12	*e*P	P	21 08 10.7	-4.3
MAK				*e*PPP	PPP	21 08 57.9	
MAK				*e*S	S	21 12 39.3	-7.0
MAK				*e*SSS	SSS	21 13 55.6	
MAK				pmax	pmax		
	comp=Z,240nm,1.6s						
MAK				MLR	MLR		
	comp=Z,904nm,13.0s						
KBZ	Khabaz	26.08	4	P	P	21 08 18.7	+2.6
	comp=Z,3.9nm,0.9s,baz=171,slow=6.5,SNR=7.6						
KBZ				PcP	PcP	21 11 44.5	+0.5
	comp=Z,1.4nm,0.8s,baz=248,slow=4.7,SNR=2.5						
KBZ				LR	LR	21 19 20.3	
	comp=Z,735nm,19.3s,baz=192,slow=38						
KBZ	Khabaz	26.08	4	*ce*P	P	21 08 19.2	+3.1
KBZ				pmax	pmax		
	comp=Z,11nm,1.2s						
KIV	Kislovodsk	26.29	4	*e*P	P	21 08 20.7	+2.5
KIV				*e*S	S	21 12 54.5	+2.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,511nm,15.0s						
GOF	Gofitskoye	27.41	4	⇑*e*P	P	21 08 29.3	+1.1
VTS	Vitosha	28.80	333	⇑P	P	21 08 43.0	+2.2
VTS	Vitosha	28.80	333	P	P	21 08 43.0	+2.2
CFR	Carcaliu	29.26	342	⇑P	P	21 08 47.0	+2.4
CFR	Carcaliu	29.26	342	P	P	21 08 46.9	+2.4
ISR	Istrita	29.69	340	⇓P	P	21 08 51.6	+3.1
ISR	Istrita	29.69	340	P	P	21 08 51.6	+3.1
MLR	Muntele Rosu	30.22	340	⇓P	P	21 08 56.2	+2.9
MLR	Muntele Rosu	30.22	340	LR	LR	21 23 11.0	
	comp=Z,153nm,18.2s,baz=162,slow=40						
MLR	Muntele Rosu	30.22	340	P	P	21 08 56.6	+3.3
MLR				pmax	pmax		
	comp=Z,10.0nm,1.8s						
MLR	Muntele Rosu	30.22	340	P	P	21 08 53.6	+0.4
MLR				IAmb	IAmb	21 08 59.5	
	comp=Z,11nm,1.1s						
VRI	Vrincioaia	30.30	341	⇓P	P	21 08 57.0	+3.1
VRI	Vrincioaia	30.30	341	P	P	21 08 56.8	+2.9
VRI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PLOR	Plostina	30.31	341	⇑P	P	21 08 56.9	+2.9
PLOR	Plostina	30.31	341	P	P	21 08 56.9	+2.9
COVR	Voineasa-Covas	30.45	340	⇓P	P	21 08 57.4	+2.2
VOIR		30.47	339	⇓P	P	21 08 58.1	+2.5
VOIR		30.47	339	P	P	21 08 58.0	+2.5
ARR	Arges	30.56	338	⇑P	P	21 08 58.5	+2.3
HERR	Herculane	30.99	335	⇑P	P	21 09 01.4	+1.4
GZR	Gura Zlata	31.27	336	⇓P	P	21 09 04.0	+1.4
GZR	Gura Zlata	31.27	336	P	P	21 09 03.9	+1.4
PRAR	RASCA	31.80	342	⇓P	P	21 09 09.0	+2.0
BZS	Buzias	31.92	335	⇑P	P	21 09 09.3	+1.2
BZS	Buzias	31.92	335	P	P	21 09 09.6	+1.5
BZS				pmax	pmax		
	comp=Z,8.0nm,2.2s						
BURAR	Bucovina Array	32.33	341	⇓P	P	21 09 14.4	+2.5
BURAR	Bucovina Array	32.33	341	P	P	21 09 14.3	+2.5
BURAR	Bucovina Array	32.33	341	P	P	21 09 12.4	+0.5
BUR08	Bucovina Ar. S	32.36	341	P	P	21 09 11.6	-0.6
DRGR		32.47	337	⇓P	P	21 09 16.0	+2.9
DRGR		32.47	337	P	P	21 09 15.9	+2.9
CHGR	Chuyangaron	32.73	44	P	P	21 09 14.5	-1.0
KEST	Kesra	32.78	309	P	P	21 09 16.4	+0.4
	comp=Z,5.7nm,0.8s,baz=263,slow=6.3,SNR=4.7						
KEST				LR	LR	21 24 15.6	
	comp=Z,187nm,19.3s,baz=20,slow=39						
KEST	Kesra	32.78	309	P	P	21 09 16.1	+0.1
KEST				IAmb	IAmb	21 09 31.7	
	comp=Z,18nm,1.1s						
VORD	Divnogorie	33.24	359	*e*P	P	21 09 19.9	+0.3
VORD				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VRH	Novokhopyorsk	33.49	2	*e*P	P	21 09 22.2	+0.5
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TRPA	Tarpa	33.67	338	⇓P	P	21 09 26.0	+2.6
GAR	Garm	33.68	45	P	P	21 09 24.8	+1.0
VORR	Voronezh	33.95	359	*e*P	P	21 09 22.1	-3.7
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
AKASG	Malin Array Be	34.13	347	P	P	21 09 28.4	+1.0
	comp=Z,2.9nm,0.9s,baz=162,slow=7.1,SNR=10						
AKASG				PcP	PcP	21 12 04.3	-0.3
	comp=Z,0.8nm,0.6s,baz=172,slow=2.6,SNR=3.1						
AKASG				LR	LR	21 24 33.9	
	comp=Z,123nm,18.4s,baz=158,slow=38						
AKASG	Malin Array Be	34.13	347	P	P	21 09 26.6	-0.7
AKBB	Malin Array Si	34.13	347	*c i*P	P	21 09 29.0	+1.6
AKBB				pmax	pmax		
	comp=Z,17nm,1.8s						
AKBB	Malin Array Si	34.13	347	P	P	21 09 27.6	+0.2
AKBB				IAmb	IAmb	21 09 30.6	
	comp=Z,33nm,1.8s						
UZH	Uzhgorod	34.18	339	*e*P	P	21 09 30.0	+2.1
UZH				*e*		21 09 35.0	
PSZ	Piszkesteto	34.48	336	⇓P	P	21 09 32.3	+1.6
PSZ	Piszkesteto	34.48	336	P	P	21 09 32.2	+1.6
PSZ	Piszkesteto	34.48	336	P	P	21 09 29.9	-0.7
PSZ				IAmb	IAmb	21 09 34.5	
	comp=Z,12nm,1.2s						
LVV	L'vov	34.65	341	*e*P	P	21 09 37.7	+5.8
LSZ	Lusaka	34.83	201	LR	LR	21 23 56.0	
	comp=Z,2µm,18.6s,baz=26,slow=37						
LPSR	Galich'ya Gora	34.88	359	*e*P	P	21 09 35.3	+1.4
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KWP	Kalwaria Pacla	34.90	340	P	P	21 09 39.7	+5.6
KWP	Kalwaria Pacla	34.90	340	P	P	21 09 33.1	-1.0
ABKAR	Akbulak array	35.31	22	P	P	21 09 36.2	-1.4
ABKAR	Akbulak array	35.31	22	P	P	21 09 36.3	-1.3
ABKAR				IAmb	IAmb	21 09 53.5	
	comp=Z,3.2nm,0.9s						
VYHS	Vyhne	35.37	335	*e*P	P	21 09 40.2	+2.1
VYHS				pmax	pmax		
	comp=Z,102nm,2.5s						
VYHS	Vyhne	35.37	335	*e*P	P	21 09 40.2	+2.1
AKTO	Aktyubinsk	35.65	20	LR	LR	21 26 52.6	
	comp=Z,389nm,19.5s,baz=195,slow=40						
ARSA	Arzberg	35.85	331	*e*P	P	21 09 43.8	+1.5
	comp=Z,6.7nm,1.1s						
KKAR	Karatay Array	36.04	39	P	P	21 09 44.6	+0.6
JAVC	Velka Javorina	36.13	334	*e*P	P	21 09 47.4	+2.7
CONA	Conrad Observa	36.19	332	*e*P	P	21 09 47.1	+1.8
	comp=Z,10nm,1.4s						
OJC	Ojcow	36.40	338	*e*P	P	21 09 47.8	+0.8
OJC	Ojcow	36.40	338	P	P	21 09 49.6	+2.6
OJC	Ojcow	36.40	338	P	P	21 09 46.7	-0.3
OJC				IAmb	IAmb	21 09 53.1	
	comp=Z,12nm,1.1s						
HYBB	Hyderabad (bro	36.45	84	*e*P	P	21 09 47.6	-0.3
OPO	Ambohidratompo	36.64	169	LR	LR	21 23 28.3	
	comp=Z,198nm,21.4s,baz=186,slow=34						
KRUC	Moravsky	36.82	334	*e*P	P	21 09 52.0	+1.5
MOA	Molln	36.87	331	*e*P	P	21 09 51.6	+0.6
	comp=Z,15nm,1.8s						
MORC	Moravsky Berou	36.90	335	⇑P	P	21 09 53.0	+1.6
MORC	Moravsky Berou	36.90	335	P	P	21 09 51.2	-0.1
MORC				IAmb	IAmb	21 09 56.7	
	comp=Z,17nm,1.5s						
MORC	Moravsky Berou	36.90	335	*e*P	P	21 09 52.2	+0.9
VRAC	Vranov	36.92	334	⇓P	P	21 09 52.7	+1.2
VRAC	Vranov	36.92	334	LR	LR	21 27 08.8	
	comp=Z,61nm,20.1s,baz=130,slow=40						
VRAC	Vranov	36.92	334	P	P	21 09 52.6	+1.2
VRAC	Vranov	36.92	334	*e*P	P	21 09 52.3	+0.8
BIOA	Bad Ischl, Aus	37.05	330	*e*P	P	21 09 52.3	-0.3
	comp=Z,3.1nm,0.7s						
TREC	Trest	37.38	333	*e*P	P	21 09 56.5	+1.1
TREC	Trest	37.38	333	*e*P	P	21 09 56.5	+1.1
TORD	Torodi Ar. Bea	37.42	269	P	P	21 09 56.8	+0.6
	comp=Z,13nm,0.9s,baz=82,slow=8.4,SNR=32						
TORD				PcP	PcP	21 12 14.2	-0.9
	comp=Z,0.6nm,0.7s,baz=55,slow=3.4,SNR=2.0						
KRLC	Kraliky	37.44	335	*e*P	P	21 09 56.5	+0.6
AML	Almayashu	37.49	42	*i* P	P	21 09 57.6	+0.8
	SNR=20						
OBN	Obninsk	37.49	356	LR	LR	21 27 02.6	
	comp=Z,44nm,18.0s,baz=175,slow=39						
OBN	Obninsk	37.49	356	*c i*P	P	21 09 58.3	+2.2
OBN				*e*		21 11 24.0	
OBN				*e*		21 12 15.8	
OBN				pmax	pmax		
	comp=Z,36nm,1.7s						
OBN				MLR	MLR		
	comp=Z,194nm,15.0s						
CKRC	Cesky Krumlov	37.55	332	*e*P	P	21 09 58.0	+1.2
KSH	Kashi	37.81	47	P	P	21 09 59.0	-0.3
KSH				PcP	PcP	21 12 16.4	+0.4
KSH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSH				LR	LR		
	comp=N,370nm,12.0s						
KSH				LR	LR		
	comp=E,680nm,19.0s						
KSH				LR	LR		
	comp=Z,1µm,20.8s						
DPC	Dobruska-Polom	37.84	335	*e*P	P	21 09 59.9	+0.6
DPC	Dobruska-Polom	37.84	335	*e*P	P	21 09 59.9	+0.6
GERES	GERESS Array B	37.85	331	P	P	21 10 00.7	+1.3
	comp=Z,2.0nm,0.7s,baz=124,slow=6.6,SNR=21						
GERES				PcP	PcP	21 12 15.9	0.0
	comp=Z,0.5nm,0.7s,baz=89,slow=4.3,SNR=3.4						
GERES	GERESS Array B	37.85	331	P	P	21 10 00.0	+0.6
MNK	Minsk	37.99	348	*i* P	P	21 10 00.0	-0.4
MNK				*i*		21 11 26.1	
MNK				*i* S	S	21 15 53.1	-0.2
MNK				*i* SS	SnSn	21 18 33.1	-1.7
MNK				pmax	pmax		
	comp=E,2.0nm,1.1s						
MNK				pmax	pmax		
	comp=N,4.0nm,0.6s						
MNK				pmax	pmax		
	comp=Z,12nm,1.1s						
MNK				MLR	MLR		
	comp=Z,248nm,25.0s						
MNK				MLR	MLR		
	comp=N,95nm,19.0s						
MNK				MLR	MLR		
	comp=E,19nm,20.0s						
MNK	Minsk	37.99	348	*i* P	P	21 10 00.1	-0.4
	comp=E,2.0nm,1.1s						
MNK				*i* P	P	21 10 00.1	-0.4
	comp=N,4.0nm,0.6s						
MNK				*i* P	P	21 10 00.1	-0.4
	comp=Z,12nm,1.1s,baz=160						
MNK				*i* PP	PP	21 11 26.1	-0.9
MNK				*i* PPP	PPP	21 11 45.4	
MNK				*i* S	S	21 15 53.1	-0.2
MNK				*i* SS	SnSn	21 18 33.1	-1.7
MNK				*i* SSS	SSS	21 18 51.9	
MNK				*i* LQ	LQ	21 22 28.9	
MNK				*i* LR	LR	21 25 14.3	
MNK				*i* LRM	MLR	21 27 18.7	
	comp=Z,248nm,25.4s						
MNK				*i* LRM	MLR	21 27 57.1	
	comp=N,95nm,19.1s						
MNK				*i* LRM	MLR	21 27 58.4	
	comp=E,19nm,20.4s						
OSTC	Ostas	38.04	335	*e*P	P	21 10 04.3	+3.3
FETA	Feichten	38.06	327	*e*P	P	21 10 03.2	+1.9
	comp=E,1.2nm,0.6s						
MOS	Moscow	38.06	358	*e*P	P	21 09 59.9	-1.1
MOS				pmax	pmax		
	comp=Z,48nm,1.7s						
MOTA	Moosalm	38.08	327	*e*P	P	21 10 02.3	+0.8
	comp=Z,8.2nm,1.3s						
UPC	Upice	38.09	335	*e*P	P	21 10 02.7	+1.4

UPC Upice 38.09 335 *e*P P 21 10 02.7 +1.4
KHC Kasperske Hory 38.11 331 *e*P P 21 10 01.7 +0.2
KHC Kasperske Hory 38.11 331 *e*P P 21 10 01.7 +0.2
KHC Kasperske Hory 38.11 331 P P 21 10 01.4 -0.1
CHVC Chvalec 38.13 335 *e*P P 21 10 03.4 +1.7
KSP Ksiaz 38.24 335 P P 21 10 07.0 +4.5
AAK Ala-Archa 38.25 42 LR LR 21 28 21.5
comp=Z,828nm,18.2s,baz=245,slow=40
AAK Ala-Archa 38.25 42 *c e*P P 21 10 06.3 +3.3
AAK pmax pmax
comp=Z,18nm,2.5s
AAK Ala-Archa 38.25 42 P P 21 10 03.5 +0.5
AAK IAmb IAmb 21 10 17.3
comp=Z,13nm,1.4s
AAK Ala-Archa 38.25 42 P P 21 10 03.5 +0.5
RETA Reutte 38.34 327 *e*P P 21 10 03.7 +0.1
comp=Z,6.3nm,1.1s
DAVOX Davos/Dischmat 38.35 326 LR LR 21 29 06.0
comp=Z,56nm,19.0s,baz=84,slow=41
NACGM Naroch 38.59 348 *i* P P 21 10 08.0 +2.6
SUW Suwalki 38.62 344 P P 21 10 05.9 +0.2
SUW IAmb IAmb 21 10 12.1
comp=Z,26nm,0.9s
DAVA Damuels 38.67 327 *e*P P 21 10 07.6 +1.1
comp=Z,8.1nm,0.7s
BRG Berggiesshubel 39.22 334 *e*P P 21 10 12.0 +1.2
BRG Amp 21 10 14.0
comp=Z,8.8nm,1.1s
BRG Berggiesshubel 39.22 334 *e*P P 21 10 12.0 +1.2
BRG pmax pmax
comp=Z,9.0nm,1.1s
NKC Novy Kostel 39.41 332 *e*P P 21 10 13.2 +0.8
NKC Novy Kostel 39.41 332 *e*P P 21 10 13.2 +0.8
SENIN Lac Senin/Sane 39.52 324 P P 21 10 12.7 -0.9
SENIN IAmb IAmb 21 10 32.4
comp=Z,64nm,1.9s
CLL Collm 39.95 333 *i* P P 21 10 17.4 +0.6
CLL *e*S S 21 16 22.0 -0.8
CLL pmax pmax
comp=Z,42nm,2.0s
CLL Collm 39.95 333 P P 21 10 16.2 -0.6
CLL Collm 39.95 333 *i* P P 21 10 17.4 +0.6
comp=Z,42nm,2.0s
CLL *e*x x 21 10 29.0
CLL *e*S S 21 16 22.0 -0.8
CLL *e*SS SS 21 19 18.0 -1.2
CLL *e*(SSSS) 21 20 30.0
TARG Taragay, Kyrgy 40.01 45 P P 21 10 16.3 -1.8
PYUN Piuthan 40.52 67 *e*P P 21 10 23.1 +0.9
comp=Z,17nm,0.8s
PALK Pallekele 40.71 100 LR LR 21 24 17.9
comp=Z,252nm,21.2s,baz=42,slow=32
KOLN Koldanda 41.03 68 *e*P P 21 10 27.0 +0.6
comp=Z,38nm,0.9s
ARU Arti 41.09 15 LR LR 21 30 48.1
comp=Z,461nm,18.4s,baz=187,slow=41
ARU Arti 41.09 15 *c i*P P 21 10 27.7 +1.5
ARU 21 12 24.5
ARU S S 21 16 43.3 +3.5
ARU SS SS 21 19 33.6 -8.4
ARU pmax pmax
comp=Z,16nm,1.1s
ARU MLR MLR
comp=Z,486nm,17.0s
ARU Arti 41.09 15 P P 21 10 26.3 +0.1
ARU IAmb IAmb 21 10 30.1
comp=Z,15nm,1.1s
DANN Dangsing 41.22 67 *e*P P 21 10 28.9 +0.8
comp=Z,58nm,0.8s
KIRV Kirov 41.42 7 LR LR 21 29 09.8
comp=Z,371nm,18.0s,baz=192,slow=38
KIRV Kirov 41.42 7 *d e*P P 21 10 29.8 +1.0
GKN Gorkha 41.96 68 *e*P P 21 10 33.9 -0.1
DMN Daman 42.35 68 *e*P P 21 10 37.7 +0.4
comp=Z,24nm,0.9s
BRVK Borovoye 42.37 27⇑ *i*P P 21 10 38.4 +1.6
BRVK pmax pmax
comp=Z,11nm,2.5s
PKIN Phulchoki 42.60 68 *e*P P 21 10 39.5 +0.1
comp=Z,21nm,1.0s
KOWA Kowa 42.61 272 LR LR 21 30 07.4
comp=Z,701nm,18.2s,baz=76,slow=39
PKI Pulchoki 42.61 68 *e*P P 21 10 39.6 +0.1
TSUM Tsumeb 42.88 212 LR LR 21 28 33.8
comp=Z,258nm,18.3s,baz=348,slow=36
MDT Midelt 42.99 299 LR LR 21 31 24.4
comp=Z,374nm,18.3s,baz=116,slow=40
GUN Gumba 43.05 68 *e*P P 21 10 43.4 +0.3
comp=Z,33nm,1.0s
KLMR Klimovskoe 43.15 359 *e*P P 21 10 42.7 -0.2
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 43.15 359 *e*P P 21 10 42.8 -0.2
KLMR AMP 21 10 45.9
comp=Z,29nm,1.4s
ESBB Sonseca Array 44.03 309 P P 21 10 49.9 -0.7
ESDC Sonseca Array 44.03 309 P P 21 10 51.9 +1.4
comp=Z,2.3nm,0.8s,baz=100,slow=6.3,SNR=10
ESDC LR LR 21 29 23.9
comp=Z,136nm,20.8s,baz=110,slow=36
ESDC Sonseca Array 44.03 309 P P 21 10 49.3 -1.2
ESDC IAmb IAmb 21 10 54.3
comp=Z,32nm,1.8s
PRGR Permogore 44.09 4 *e*P P 21 10 50.8 +0.3
PRGR pmax pmax
comp=Z,161nm,1.9s
TAPN Taplejung 44.65 69 *e*P P 21 10 55.7 -0.2
comp=Z,17nm,0.9s
LBTB Lobatse 44.76 199 LR LR 21 29 20.0
comp=Z,532nm,19.9s,baz=18,slow=36
KURBB Kurchatov Arra 44.82 34 LR LR 21 32 05.9
comp=Z,741nm,18.4s,baz=216,slow=39
FINES FINESS Array B 44.88 350 P P 21 10 57.5 +0.6
comp=Z,2.1nm,0.9s,baz=165,slow=9.5,SNR=4.6
FINES LR LR 21 30 30.7
comp=Z,90nm,19.2s,baz=192,slow=37
FINES FINESS Array B 44.88 350 *i* P P 21 10 59.5 +2.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 44.88 350 P P 21 10 56.5 -0.4
KURK Kurchatov 44.92 34 *d i*P P 21 10 58.7 +1.4
KURK pmax pmax
comp=Z,21nm,1.7s
KURK Kurchatov 44.92 34 P P 21 10 57.6 +0.3
KURK IAmb IAmb 21 11 04.4
comp=Z,13nm,1.1s
MAKZ Makanchi 44.92 40 P P 21 10 56.6 -0.8
MAKZ IAmb IAmb 21 11 04.2
comp=Z,11nm,1.0s
MK31 Makanchi Array 45.10 40 P P 21 10 58.8 -0.2
MK31 IAmb IAmb 21 11 05.5
comp=Z,7.6nm,1.1s
MKAR Makanchi Array 45.10 40 P P 21 11 00.4 +1.4
comp=Z,3.6nm,0.8s,baz=233,slow=6.7,SNR=26
MKAR PcP PcP 21 12 39.7 +0.1
comp=Z,1.1nm,1.0s,baz=280,slow=2.6,SNR=1.7
MKAR LR LR 21 32 19.4
comp=Z,1μm,18.3s,baz=234,slow=39
MKAR Makanchi Array 45.10 40 P P 21 10 59.0 +0.1
KIC Kosan Boka 45.33 261 *e*P P 21 11 02.2 +1.1
comp=Z,26nm,1.1s
DBIC Dimbokro 45.34 262 P P 21 11 02.0 +0.8
comp=Z,14nm,1.0s,baz=83,slow=10,SNR=9.2
DBIC LR LR 21 29 38.8
comp=Z,601nm,19.6s,baz=82,slow=36
DBIC Dimbokro 45.34 262 P P 21 10 59.7 -1.5
DBIC IAmb IAmb 21 11 05.3
comp=Z,17nm,1.1s
TIC Toumodi 45.50 262 *e*P P 21 11 05.2 +2.7
LIC Lamto 45.64 261 *e*P P 21 11 04.5 +0.9
comp=Z,38nm,0.9s
HFS Hagfors 46.54 342 LR LR 21 32 30.7
comp=Z,102nm,19.0s,baz=141,slow=38
LSA Lhasa 47.77 66 P P 21 11 19.2 -1.5
LSA Lhasa 47.77 66 P P 21 11 22.6 +1.9
LSA pmax pmax
comp=Z,10.0nm,2.1s
NAO01 NORSAR Array S 47.96 341 P P 21 11 19.3 -1.7
NB2 NORSAR Subarra 48.01 341 P P 21 11 21.1 -0.4
comp=Z,19nm,1.4s,baz=137,slow=7.9
NOA NORSAR Array B 48.01 341 P P 21 11 22.0 +0.4
comp=Z,3.6nm,1.0s,baz=138,slow=8.0,SNR=8.6
NOA LR LR 21 34 05.7
comp=Z,79nm,19.1s,baz=130,slow=39
BOSA Boshof 48.24 198 LR LR 21 31 17.4
comp=Z,516nm,19.2s,baz=30,slow=36

SHL Shillong 48.37 71 P P 21 11 23.8 -1.3
SHL IAmb IAmb 21 11 30.0
comp=Z,15nm,1.1s
SHL Shillong 48.37 71 P P 21 11 25.6 +0.5
SNR=7.9
ZAA0 Zalesovo Array 49.84 33 P P 21 11 34.1 -1.5
ZAA0 IAmb IAmb 21 11 42.2
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 49.84 33 P P 21 11 36.7 +1.1
comp=Z,15nm,0.9s,baz=244,slow=8.0,SNR=35
ZALV LR LR 21 36 01.0
comp=Z,225nm,18.1s,baz=240,slow=40
ZALV Zalesovo Beam 49.84 33 P P 21 11 36.0 +0.4
GOMU GeErMu 51.34 58 P P 21 11 49.9 +2.2
GOMU pP sP 21 11 56.1 +8.4
GOMU sP pP 21 11 58.2 +11
GOMU PcP PcP 21 13 06.5 +3.8
GOMU PP PP 21 13 48.3 +3.7
GOMU S S 21 19 09.2 +0.9
GOMU sS sS 21 19 15.1 +6.8
GOMU GeErMu 51.34 58 SS SS 21 22 52.6 +8.8
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU pmax pmax
comp=Z,120nm,3.7s
GOMU LR LR
comp=N,110nm,15.4s
GOMU LR LR
comp=E,290nm,19.2s
GOMU LR LR
comp=Z,310nm,19.8s
ARCES ARCESS Array B 52.66 354 LR LR 21 36 13.3
comp=Z,105nm,19.1s,baz=142,slow=38
CMAR Chiang Mai Arr 55.56 79 P P 21 12 18.3 -0.3
comp=Z,0.4nm,0.5s,baz=286,slow=6.7,SNR=14
CMAR PcP PcP 21 13 18.7 +0.2
comp=Z,0.7nm,0.7s,baz=288,slow=6.0,SNR=1.9
CMAR LR LR 21 37 12.8
comp=Z,77nm,20.5s,baz=285,slow=37
CMAR Chiang Mai Arr 55.56 79 *i* P P 21 12 21.5 +2.9
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 55.56 79 P P 21 12 17.3 -1.2
GTA Gaotai 55.59 54 ⇑P P 21 12 20.2 +1.6
GTA sP sP 21 12 30.6 +12
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,94nm,4.4s
GTA LR LR
comp=N,150nm,17.8s
GTA LR LR
comp=E,430nm,19.3s
GTA LR LR
comp=Z,520nm,18.9s
NRIK Noril'sk 59.24 18 P P 21 12 45.0 +1.4
comp=Z,2.3nm,0.8s,baz=229,slow=6.9,SNR=8.1
NRIK LR LR 21 43 01.6
comp=Z,404nm,19.0s,baz=232,slow=41
NRIK Noril'sk 59.24 18 *d e*P P 21 12 44.8 +1.1
NRIK pmax pmax
comp=Z,15nm,1.5s
NRIK Noril'sk 59.24 18 P P 21 12 43.5 -0.2
NRIK IAmb IAmb 21 12 49.1
comp=Z,16nm,1.4s
PSI Prapat 59.33 97 LR LR 21 35 21.7
comp=Z,158nm,19.7s,baz=274,slow=33
ZAK Zakamensk 59.42 41 *e*P P 21 12 45.8 +0.4
ZAK pmax pmax
comp=Z,7.0nm,1.7s
JMIC Jan Mayen 60.61 344 LR LR 21 42 03.7
comp=Z,51nm,18.0s,baz=108,slow=39
SONM Songino Array 61.13 45 P P 21 12 58.8 +1.6
comp=Z,4.9nm,0.9s,baz=263,slow=6.8,SNR=16
SONM LR LR 21 43 13.8
comp=Z,615nm,18.2s,baz=267,slow=40
SONM Songino Array 61.13 45 P P 21 12 56.0 -1.2
SONM IAmb IAmb 21 13 03.8
comp=Z,11nm,1.2s
ULN Ulaanbaatar 61.57 45⇑ *e*P P 21 13 02.5 +2.3
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 61.57 45 P P 21 12 58.8 -1.5
SPITS Spitsbergen Ar 61.66 355 LR LR 21 40 36.4
comp=Z,80nm,21.6s,baz=176,slow=37
KBS Kingsbay 62.74 354 *i* P P 21 13 07.8 +0.4
KBS IAmb IAmb 21 13 14.6
comp=Z,39nm,0.7s
KBS Kingsbay 62.74 354 P P 21 13 07.1 -0.2
XAN Xi'an 62.85 60 P P 21 13 08.9 0.0
XAN pP sP 21 13 23.3 +14
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN LR LR
comp=N,210nm,15.8s
XAN LR LR
comp=E,330nm,19.1s
XAN LR LR
comp=Z,350nm,18.6s
DBG Daneborg 65.30 345 *i* P P 21 13 24.5 +0.3
DAG Danmarks Havn 66.00 348 *i* P P 21 13 28.3 -0.4
DAG IAmb IAmb 21 13 30.5
comp=Z,1.0nm,0.6s
BOD Bodaibo 66.57 34 *e*P P 21 13 32.8 +0.1
BOD pmax pmax
comp=Z,20nm,2.0s
NOR Nord 68.00 352 *i* P P 21 13 40.5 -0.9
SUMG Summit 69.90 342 *i* P P 21 13 54.0 +0.2
SUMG IAmb IAmb 21 13 59.2
comp=Z,2.8nm,0.9s
LEM Lembang 70.78 104 LR LR 21 43 27.9
comp=Z,70nm,18.1s,baz=332,slow=35
TIXI Tiksi 72.94 19 LR LR 21 51 24.1
comp=Z,336nm,18.2s,baz=227,slow=40
TIXI Tiksi 72.94 19 ⇓ *i*P P 21 14 11.8 +0.1
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 72.94 19 P P 21 14 11.7 0.0
TIXI IAmb IAmb 21 14 15.3
comp=Z,6.1nm,0.9s
NEEM North Greenlan 73.18 347 *i* P P 21 14 12.4 -1.1
NEEM IAmb IAmb 21 14 17.4
comp=Z,2.8nm,0.9s
ZEA Zeya 74.19 38 *e*P P 21 14 21.2 +1.8
ZEA *e* 21 14 34.3
ZEA MLR MLR
comp=E,200nm,16.0s
YAK Yakutsk 74.30 29 LR LR 21 50 17.1
comp=E,180nm,20.2s,baz=268,slow=38
YAK Yakutsk 74.30 29 *e*P P 21 14 20.3 +0.5
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
CN2 Changchun 74.57 48 *e*P P 21 14 22.7 +0.9
CN2 *e*S SKiKP 21 23 48.9 -0.4
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,400nm,17.0s
CN2 LR LR
comp=Z,500nm,19.2s
KSRS Korea Array 77.66 54 P P 21 14 40.0 +0.5
comp=Z,0.8nm,0.7s,baz=266,slow=4.5,SNR=4.3
KSRS LR LR 21 53 17.9
comp=Z,185nm,18.5s,baz=275,slow=39
KLR Kul'dur 77.78 42 LR LR 21 52 12.8
comp=Z,288nm,21.2s,baz=272,slow=38
KLR Kul'dur 77.78 42 ⇓ *e*P P 21 14 41.6 +1.6
KLR pmax pmax
comp=Z,15nm,2.7s
EUNU Eureka 78.59 352 P P 21 14 42.3 -1.7
EUNU IAmb IAmb 21 14 50.9
comp=Z,22nm,1.6s
RCBR Riachuelo 78.69 260 LR LR 21 48 39.8
comp=Z,102nm,18.1s,baz=184,slow=35
USRK Ussuriysk Ar. 79.11 47 LR LR 21 53 52.1
comp=Z,305nm,21.1s,baz=262,slow=39
JOW Kunigami 80.49 65 LR LR 21 56 27.8
comp=Z,99nm,18.9s,baz=304,slow=40
KAPI Kappang 81.53 98 LR LR 21 51 32.6
comp=Z,42nm,18.1s,baz=284,slow=36

FRB Frobisher Bay 82.34 335 P P 21 15 03.9 -0.5
comp=Z,2.5nm,0.8s,baz=69,slow=8.5,SNR=6.8
FRB LR LR 21 55 05.7
comp=Z,48nm,18.6s,baz=79,slow=38
DAV Davao City (W) 83.43 85 LR LR 21 55 09.7
comp=Z,51nm,18.1s,baz=264,slow=38
RES Resolute Bay 83.63 349 LR LR 21 53 05.1
comp=Z,59nm,18.2s,baz=74,slow=36
SEY Seymchan 84.03 25 LR LR 21 59 33.7
comp=Z,198nm,18.2s,baz=222,slow=40
MA2 Magadan 84.86 29 LR LR 21 59 34.5
comp=Z,183nm,18.8s,baz=293,slow=40
MA2 Magadan 84.86 29 *c i*P P 21 15 17.7 +0.4
MA2 Magadan 84.86 29 P P 21 15 16.2 -1.2
MA2 IAmb IAmb 21 15 25.1
comp=Z,15nm,1.5s
YSS Yuzh-Sakhalins 85.50 42 ⇓ *e*P P 21 15 23.2 +2.4
MJAR Matsushiro Arr 85.83 53 P P 21 15 22.3 -0.4
comp=Z,2.7nm,1.0s,baz=289,slow=7.5,SNR=2.9
MJAR LR LR 21 58 23.3
comp=Z,203nm,19.1s,baz=317,slow=39
BILL Bilibino 86.07 18 *c e*P P 21 15 24.6 +1.4
BILL *e* 21 18 47.6
BILL *e*PPP PPP 21 20 40.8
BILL pmax pmax
comp=Z,16nm,1.8s
BILL MLR MLR
comp=Z,92nm,25.0s
ASAJ Asahikawa 86.41 45 LR LR 21 58 19.7
comp=Z,557nm,18.3s,baz=210,slow=39
SYO Syowa Base 86.43 180 ⇓ *e*PcP PcP 21 15 26.0 -1.2
MAW Mawson 86.63 172 LR LR 21 50 35.7
comp=Z,160nm,19.1s,baz=278,slow=33
A36M Sachs Harbour 90.04 356 P P 21 15 40.5 -1.6
A36M IAmb IAmb 21 15 47.2
comp=Z,9.8nm,1.0s
SIJI Sorong 91.20 91 LR LR 21 59 55.7
comp=Z,30nm,18.2s,baz=230,slow=38
MDP Montagnes des 91.25 276 LR LR 21 57 35.2
comp=Z,163nm,18.1s,baz=50,slow=36
PETK Petropavlovsk- 91.39 32 LR LR 22 00 50.0
comp=Z,286nm,18.8s,baz=290,slow=38
BDFB Brasilia 93.06 255 LR LR 21 53 25.3
comp=Z,84nm,21.2s,baz=137,slow=33
SNAA Sanae 93.77 193 LR LR 21 54 53.1
comp=Z,119nm,21.3s,baz=36,slow=34
INK Inuvik 94.16 358 P P 21 16 01.5 +0.3
comp=Z,1.8nm,0.3s,baz=96,slow=10,SNR=3.1
INK LR LR 22 03 36.9
comp=Z,36nm,18.8s,baz=358,slow=39
INK Inuvik 94.16 358 P P 21 15 60.0 -1.3
INK IAmb IAmb 21 16 17.5
comp=Z,8.3nm,1.6s
ILAR Eielson Array 97.64 3 P Pdif 21 16 17.2 -0.1
comp=Z,0.5nm,0.9s,baz=328,slow=3.2,SNR=3.0
ILAR LR LR 22 06 56.2
comp=Z,25nm,18.6s,baz=330,slow=39
YKA Yellowknife Ar 97.69 349 P Pdif 21 16 17.2 -0.2
comp=Z,0.2nm,0.6s,baz=25,slow=4.7,SNR=4.1
YKA LR LR 22 00 51.4
comp=Z,47nm,19.6s,baz=310,slow=36
YKA Yellowknife Ar 97.69 349 P Pdif 21 16 16.0 -1.4
SHEM Shemya Is, Ala 99.33 26 LR LR 22 06 30.0
comp=Z,168nm,19.4s,baz=304,slow=38
SJG San Juan 99.40 292 LR LR 21 58 14.5
comp=Z,49nm,21.7s,baz=88,slow=34
WRA Warramunga Arr 99.54 108 P **Pdif** **21 16 23.7 -2.9**
comp=Z,0.4nm,0.9s,baz=302,slow=4.3,SNR=2.1
NVAR Mina Array Bea 120.70 341 PKP **PKiKP** **21 21 36.0 +0.4**
comp=Z,0.3nm,0.3s,baz=72,slow=2.9,SNR=2.3
TXAR Lajitas Array 121.74 323 PKP **PKiKP** **21 21 38.1 +0.3**
comp=Z,0.4nm,0.9s,baz=116,slow=2.9,SNR=4.0

IDC 06 21:07:43.5±2.2,2.38N×127.12E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/23,mbtmp3.2/3,Error ellipse: s-maj=155.1km s-min=28.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**163**	P	P	21 12 51.7	-1.3
	0.4nm,0.4s,baz=342,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.72**	**166**	P	P	21 13 26.2	+1.4
	0.3nm,0.7s,baz=340,slow=8.1,SNR=1.8						
MKAR	**Makanchi Array**	**58.88**	**326**	P	P	21 17 44.3	+0.1
	0.1nm,0.4s,baz=119,slow=7.4,SNR=1.6						

ROM 06 21:15:59.9±0.1,38.19N×16.756E±0.003,h38km, Md2.4/10,Error ellipse: s-maj=0.3km s-min=0.0km az=270.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAC	**Placanica**	**0.36**	**316**	P	Pn	21 16 08.7	+0.1
PLAC				S	Sn	21 16 15.1	-0.3
PLAC				AML	AML		
	comp=E,168μm,0.4s						
PLAC				AML	AML		
	comp=N,359μm,0.3s						
PLAC				END			
SOI	**Samo**	**0.56**	**258**	P	Pn	21 16 12.6	+1.0
SOI				S	Sn	21 16 21.2	+1.5
SOI				END			
CEL	**Celeste**	**0.68**	**276**	P	Pn	21 16 13.8	+0.7
CEL				S	Sn	21 16 23.6	+1.0
GMB	**Gambarie**	**0.73**	**269**	P	Pn	21 16 14.4	+0.6
GMB				S	Sn	21 16 24.8	+1.0
GMB				AML	AML		
	comp=E,400μm,1.2s						
GMB				AML	AML		
	comp=N,278μm,1.0s						
GMB				END			
GMB				END			
MSCL	**Scilla**	**0.76**	**274**	P	Pn	21 16 14.8	+0.6
MSCL				END			
MSCL				END			
MTTG	**Motta San Giov**	**0.86**	**258**	P	Pn	21 16 16.6	+1.1
MTTG				S	Sn	21 16 28.1	+1.2
MTTG				END			
MSRU	**Castanea**	**0.98**	**275**	P	Pn	21 16 17.7	+0.5
TIP	**Timpagrande**	**0.99**	**0**	P	Pn	21 16 17.3	-0.1
TIP				END			
CAR1	**CAROLEI**	**1.15**	**338**	P	Pn	21 16 20.1	+0.7
CAR1				END			
AIO	**Antillo**	**1.22**	**260**	P	Pn	21 16 21.7	+1.2
AIO				END			
CELI	**Celico**	**1.23**	**351**	P	Pn	21 16 22.0	+1.3
CELI				END			
IST3	**Stromboli F**	**1.34**	**297**	P	Pn	21 16 21.7	-0.4
HAGA	**Augusta**	**1.56**	**235**	P	Pn	21 16 25.1	0.0
HAGA				S	Sn	21 16 42.5	-1.5
SSY	**Sortino**	**1.69**	**233**	P	Pn	21 16 27.1	+0.3
SSY				S	Sn	21 16 45.8	-1.5
HLNI	**Lentini**	**1.71**	**241**	P	Pn	21 16 27.2	+0.1
HLNI				S	Sn	21 16 46.3	-1.5
HLNI				END			
HAVL	**Avola**	**1.78**	**227**	P	Pn	21 16 28.8	+0.6
HAVL				S	Sn	21 16 48.6	-1.0
HPAC	**Pachino**	**1.98**	**222**	P	Pn	21 16 32.2	+1.3
NOCI	**Noci**	**2.61**	**5**	P	Pn	21 16 38.8	-0.7

ROM 06 21:17:28.3±0.1,42.930N±0.004×13.126E±0.005, h11km,ML1.5/6,3C-2D,Error ellipse: s-maj=0.4km s-min=0.3km az=52.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.06**	**300**	P	Pg	21 17 31.1	+0.4
FEMA				S	Sg	21 17 33.0	+0.5
NRCA	**Norcia**	**0.10**	**185**	⇑P	Pg	21 17 31.5	+0.5
NRCA	**Norcia**	**0.10**	**185**	P	Pg	21 17 31.5	+0.5
NRCA				S	Sg	21 17 33.6	+0.7
FDMO	**Fiordimonte**	**0.11**	**345**	P	Pg	21 17 31.5	+0.4
FDMO				S	Sg	21 17 33.7	+0.5
FDMO				AML	AML		
	comp=E,670μm,0.2s						
FDMO				AML	AML		
	comp=N,524μm,0.2s						
FDMO				AML	AML		
	comp=E,669μm,0.2s						
FDMO				AML	AML		
	comp=N,524μm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CSP1	**Cessapalombo**	**0.17**	**20**	P	Pg	21 17 32.5	+0.3
CSP1	**Cessapalombo**	**0.17**	**20**	P	Pg	21 17 32.5	+0.4
CSP1				S	Sg	21 17 35.6	+0.8
CESI	**CESI - Serrava**	**0.18**	**295**	⇓P	Pg	21 17 32.7	+0.5
CESI				S	Sg	21 17 35.9	+1.0
CESI				AML	AML		
	comp=E,250µm,0.2s						
CESI				AML	AML		
	comp=N,333µm,0.2s						
LNSS	**Leonessa**	**0.33**	**191**	P	Pg	21 17 34.6	-0.4
LNSS	**Leonessa**	**0.33**	**191**	P	Pg	21 17 35.2	+0.2
LNSS				AML	AML		
	comp=E,107µm,0.7s						
LNSS				AML	AML		
	comp=N,95µm,0.8s						
SMA1	**SAN MARTINO**	**0.34**	**153**	P	Pg	21 17 35.4	+0.3
SMA1				S	Sb	21 17 40.9	-1.0
SMA1				AML	AML		
	comp=E,99µm,1.0s						
SMA1				AML	AML		
	comp=N,110µm,0.3s						
SNTG	**Esanatoglia**	**0.35**	**337**	P	Pg	21 17 35.4	+0.1
SNTG				S	Sg	21 17 41.1	+1.1
SNTG				AML	AML		
	comp=E,73µm,0.6s						
SNTG				AML	AML		
	comp=N,63µm,1.4s						
ASSB	**Assisi San Ben**	**0.36**	**288**	⇓P	Pg	21 17 35.6	+0.1
ASSB	**Assisi San Ben**	**0.36**	**288**	P	Pg	21 17 35.6	+0.1
ASSB				S	Sg	21 17 41.2	+0.9
ASSB				AML	AML		
	comp=E,100µm,0.2s						
ASSB				AML	AML		
	comp=N,98µm,0.1s						
EL6	**Elcito**	**0.40**	**357**	⇑P	Pg	21 17 36.4	+0.1
OFFI	**Offida**	**0.41**	**89**	P	Pb	21 17 37.6	0.0
RM33	**Pellescritta (**	**0.43**	**171**	P	Pg	21 17 36.9	+0.2
RM33				S	Sb	21 17 44.0	-0.4
MOMA	**Monte Martano**	**0.43**	**253**	P	Pb	21 17 37.7	-0.3
MOMA				S	Sb	21 17 44.1	-0.4
ATCC	**AVT- Casa Cast**	**0.44**	**306**	P	Pg	21 17 37.1	+0.2
ATCC				S	Sb	21 17 44.0	-0.7
CAMP	**Campotosto**	**0.45**	**152**	P	Pg	21 17 37.1	0.0
CAMP				S	Sb	21 17 44.0	-1.0
CING	**Cingoli**	**0.45**	**7**	P	Pg	21 17 37.2	+0.1
TERO	**Teramo**	**0.47**	**131**	P	Pg	21 17 37.5	+0.1
TERO				S	Sb	21 17 44.7	-0.8
TERO				AML	AML		
	comp=E,40µm,1.1s						
TERO				AML	AML		
	comp=N,43µm,0.1s						
TERO				AML	AML		
	comp=E,40µm,1.1s						
CESX	**Cesi**	**0.51**	**232**	P	Pg	21 17 38.3	0.0
CESX				S	Sb	21 17 46.3	-0.6
SSFR	**Montelago di S**	**0.56**	**334**	P	Pg	21 17 39.3	0.0
SSFR				S	Sb	21 17 48.1	-0.3
SSFR				AML	AML		
	comp=N,122µm,0.1s						
SSFR				AML	AML		
	comp=E,93µm,0.2s						
GIGS	**Gran Sasso**	**0.58**	**146**	P	Pg	21 17 39.5	-0.1
GIGS				S	Sg	21 17 47.8	+0.6
ARVD	**Arcevia**	**0.58**	**347**	P	Pg	21 17 39.5	-0.1
ARVD				S	Sb	21 17 49.0	+0.1
GUMA	**Gualdo di Mace**	**0.61**	**77**	⇑P	Pg	21 17 33.4	-6.7
GUMA	**Gualdo di Mace**	**0.61**	**77**	P	Pg	21 17 33.4	-6.8
GUMA				S	Sg	21 17 37.2	-11
ATVO	**AVT- Monte Val**	**0.69**	**311**	P	Pb	21 17 42.3	-0.2
PTRJ	**Pietraroja**	**1.88**	**146**	P	Pg	21 18 04.8	+0.4
PAOL	**Paolisi**	**2.18**	**150**	S	Sg	21 18 37.0	-1.4

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*NEIC **06** 21:30:22.2±1.1, 25°.9N±0°.1×124°.31E±0°.07, h179km±8km, mb4.0/9, Error ellipse: s-maj=17.7km s-min=6.6km az=157.0*
*JMA **06** 21:30:23.1±0.2, 26°.00N×124°.21E, h168km, M4.1*
*IDC **06** 21:30:24.6±3.1, 26°.11N×124°.65E, h214km±37km, mb3.4/12, mb1 3.5/13, mb1mx3.2/43, mbtmp3.9/13, Error ellipse: s-maj=46.9km s-min=11.1km az=64.0*
ISC 06 21:30:22.2±0.7**, 25°.95N**±0°.08×**124°.29E**±0°.04**, h186**km±8km**, n55, σ1s.29**/83**, mb3.8**/16**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.34**	**139**	P	**Pn**	**21 30 54.1**	**+0.9**
JIKM				S	**Sn**	**21 31 16.8**	**-0.4**
JISG	**Ishigakijimahi**	**1.36**	**179**	P	**Pn**	**21 30 53.4**	**+0.1**
JISG				S	**Sn**	**21 31 16.0**	**-1.5**
JTJ	**Tarama**	**1.36**	**164**	P	**Pn**	**21 30 53.8**	**+0.5**
JTJ				S	**Sn**	**21 31 16.7**	**-0.8**
JIRB	**Irabujima**	**1.38**	**144**	P	**Pn**	**21 30 53.8**	**+0.3**
JIRB				S	**Sn**	**21 31 16.7**	**-1.0**
JMJ2	**Miyako jima3**	**1.53**	**142**	P	**Pn**	**21 30 55.9**	**+1.0**
JMJ2				S	**Sn**	**21 31 20.3**	**+0.1**
JOGS	**Gusukube**	**1.56**	**139**	P	**Pn**	**21 30 56.3**	**+1.1**
JOGS				S	**Sn**	**21 31 21.0**	**+0.3**
JIJ	**Ishigaki jima**	**1.59**	**185**	P	**Pn**	**21 30 55.1**	**-0.3**
JIJ				S	**Sn**	**21 31 18.9**	**-2.3**
IRIF	**Iriomote-Funau**	**1.69**	**197**	P	**Pn**	**21 30 56.1**	**-0.3**
IRIF				S	**Sn**	**21 31 22.1**	**-0.9**
JKRS	**Kuro-shima**	**1.72**	**188**	P	**Pn**	**21 30 56.8**	**0.0**
JKRS				S	**Sn**	**21 31 21.9**	**-1.8**
YOJ	**Yonaguni jima**	**1.88**	**218**	P	**Pn**	**21 30 58.9**	**+0.5**
YOJ				S	**Sn**	**21 31 25.8**	**-0.6**
YOJ	**Yonaguni jima**	**1.88**	**218**	Pn	**Pn**	**21 30 58.7**	**+0.3**
YOJ				Sn	**Sn**	**21 31 26.6**	**+0.2**
JYNG	**Yonagunijimaku**	**1.92**	**219**	P	**Pn**	**21 30 59.3**	**+0.5**
JYNG				S	**Sn**	**21 31 26.1**	**-1.2**
HATJ	**Hateruma jima**	**1.94**	**193**	P	**Pn**	**21 30 59.4**	**+0.4**
HATJ				S	**Sn**	**21 31 25.4**	**-2.1**
JKE	**Kume jima 2**	**2.28**	**80**	P	**Pn**	**21 31 03.7**	**+1.1**
JKE				S	**Sn**	**21 31 34.4**	**+0.3**
JAGN	**Aguni-jima**	**2.73**	**76**	P	**Pn**	**21 31 08.6**	**+0.8**
YHNB	**Yeheng**	**2.93**	**245**	Pn	**Pn**	**21 31 11.1**	**+0.8**
YHNB				Sn	**Sn**	**21 31 47.8**	**+0.1**
NACB	**Ninganchiao**	**3.01**	**235**	Pn	**Pn**	**21 31 10.5**	**-0.8**
NACB				Sn	**Sn**	**21 31 46.7**	**-2.8**
JJT3	**Tamagusuku3**	**3.15**	**86**	P	**Pn**	**21 31 13.9**	**+1.0**
JJT3				S	**Sn**	**21 31 52.1**	**-0.4**
JNTH	**Nagotoyohara**	**3.40**	**80**	P	**Pn**	**21 31 16.6**	**+0.6**
JNTH				S	**Sn**	**21 31 56.1**	**-1.9**
JIH	**Iheya**	**3.47**	**71**	P	**Pn**	**21 31 17.4**	**+0.6**
JIH				S	**Sn**	**21 31 57.9**	**-1.6**
JOW	**Kunigami**	**3.69**	**75**	P	**Pn**	**21 31 19.7**	**+0.2**
	29nm,0.3s,baz=153,slow=14,SNR=130						
JOW				S	**Sn**	**21 32 01.2**	**-3.1**
	11nm,0.3s,baz=248,slow=16,SNR=4.7						
JOW	**Kunigami**	**3.69**	**75**	P	**Pn**	**21 31 19.6**	**+0.1**
JOW				S	**Sn**	**21 32 01.1**	**-3.2**
JOW	**Kunigami**	**3.69**	**75**	Pn	**Pn**	**21 31 19.5**	**+0.1**
JOW				Sn	**Sn**	**21 32 00.9**	**-3.4**
SSLB	**Suanglung**	**3.71**	**235**	Pn	**Pn**	**21 31 19.3**	**-0.6**
SSLB				Sn	**Sn**	**21 32 03.2**	**-1.8**
YULB	**Yu-li**	**3.73**	**227**	Pn	**Pn**	**21 31 18.2**	**-1.8**
YULB				Sn	**Sn**	**21 32 01.3**	**-4.0**
JYRO	**Yoronjima**	**3.88**	**73**	P	**Pn**	**21 31 22.0**	**+0.1**
JYRO				S	**Sn**	**21 32 05.6**	**-3.2**
JOKE	**Okinoerabujima**	**4.08**	**69**	P	**Pn**	**21 31 24.5**	**0.0**
JOKE				S	**Sn**	**21 32 10.3**	**-3.1**
TPUB	**Ta-pu**	**4.25**	**232**	Pn	**Pn**	**21 31 26.4**	**-0.3**
TPUB				Sn	**Sn**	**21 32 16.9**	**-0.3**
KSRS	**Korea Array**	**11.88**	**14**	P	**P**	**21 33 10.0**	**-1.2**
	0.2nm,0.3s,baz=189,slow=11,SNR=3.2						
SONM	**Songino Array**	**25.99**	**332**	P	**P**	**21 35 39.2**	**+1.4**
	0.4nm,0.4s,baz=157,slow=9.8,SNR=5.1						
SONM	**Songino Array**	**25.99**	**332**	P	**P**	**21 35 38.6**	**+0.7**
MK31	**Makanchi Array**	**39.11**	**313**	P	**P**	**21 37 31.7**	**+0.3**
MKAR	**Makanchi Array**	**39.11**	**313**	P	**P**	**21 37 31.7**	**+0.3**
	1.6nm,0.6s,baz=96,slow=11,SNR=34						
MKAR				PcP	**PcP**	**21 39 35.9**	**-1.3**
	0.3nm,0.7s,baz=90,slow=2.9,SNR=3.5						
MKAR	**Makanchi Array**	**39.11**	**313**	P	**P**	**21 37 31.4**	**0.0**
MAKZ	**Makanchi**	**39.32**	**313**	P	**P**	**21 37 33.6**	**+0.5**
MAKZ				IAmb	IAmb	21 37 35.0	
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.37**	**325**	P	**P**	**21 37 41.4**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=117,slow=9.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**40.37**	**325**	P	**P**	**21 37 41.6**	**-0.1**
KURK	**Kurchatov**	**42.61**	**318**	P	**P**	**21 38 00.1**	**+0.2**
KURK				IAmb	IAmb	21 38 00.8	
	comp=Z,1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**42.64**	**318**	P	**P**	**21 37 60.0**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=111,slow=8.3,SNR=15						
FITZ	**Fitzroy Crossi**	**43.80**	**178**	P	**P**	**21 38 09.8**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=356,slow=9.7,SNR=2.2						
FITZ	**Fitzroy Crossi**	**43.80**	**178**	P	**P**	**21 38 09.9**	**+0.1**
FITZ				IAmb	IAmb	21 38 10.2	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**46.65**	**167**	P	**P**	**21 38 32.4**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=348,slow=8.8,SNR=30						
WRA	**Warramunga Arr**	**46.65**	**167**	P	**P**	**21 38 31.6**	**-0.5**
WB2	**Warramunga Arr**	**46.66**	**167**	P	**P**	**21 38 31.9**	**-0.2**
WB2				IAmb	IAmb	21 38 50.1	
	comp=Z,6.5nm,1.4s						
WR0	**Warramunga Arr**	**46.71**	**167**	P	**P**	**21 38 32.5**	**-0.1**
GAR	**Garm**	**46.73**	**300**	P	**P**	**21 38 34.0**	**+1.2**
GAR				IAmb	IAmb	21 38 34.4	
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**50.20**	**168**	P	**P**	**21 38 59.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=356,slow=14,SNR=8.8						
ASAR	**Alice Springs**	**50.20**	**168**	P	**P**	**21 38 59.1**	**-0.1**
ABKAR	**Akbulak array**	**54.25**	**313**	P	**P**	**21 39 29.2**	**+0.4**
GEYT	**Alibeck**	**56.35**	**300**	P	**P**	**21 39 45.7**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=244,slow=9.2,SNR=2.3						
KBZ	**Khabaz**	**66.58**	**309**	P	**P**	**21 40 53.4**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=121,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**21 41 21.2**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=48,slow=5.7,SNR=6.2						
BRTR	**Keskin Array B**	**74.38**	**307**	P	**P**	**21 41 40.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=96,slow=3.7,SNR=5.4						
BRTR	**Keskin Array B**	**74.38**	**307**	P	**P**	**21 41 40.1**	**+0.2**
NOA	**NORSAR Array B**	**77.97**	**333**	P	**P**	**21 41 58.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=52,slow=6.0,SNR=2.0						

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*MDD **06** 21:48:05.0±0.6, 35°.54N×3°.80W, h18km±7km, mb_Lg2.3/3, Error ellipse: s-maj=5.0km s-min=4.4km az=27.0*
*SFS **06** 21:48:04.0, 35°.54N×3°.79W, h18km, ML2.3, ALBORAN SUR*
*CNRM **06** 21:48:04.4, 35°.47N×3°.77W, h19km, ml2.5*
ISC 06 21:48:04.2±1.1**, 35°.51N**±0°.02×**3°.80W**±0°.03**, h20**km±6km**, n17, σ1s.28**/32**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.32**	**202**	P	**Pg**	**21 48 11.2**	**0.0**
PALE				S	**Sg**	**21 48 14.8**	**-1.1**
GOG	**Mont Gurugu**	**0.71**	**114**	P	**Pb**	**21 48 18.1**	**+0.1**
GOG				S	**Sb**	**21 48 26.8**	**-0.6**
EMEL	**Melilla**	**0.72**	**107**	Pg	**Pb**	**21 48 18.1**	**+0.1**
EMEL				Sg	**Sb**	**21 48 27.6**	**+0.2**
EALB	**Alboran**	**0.75**	**55**	Pg	**Pn**	**21 48 19.5**	**-0.2**
EALB				Sg	**Sg**	**21 48 29.5**	**+0.4**
EALB				*i* Vmb_Lg		21 48 32.5	
SMIR	**Smir Dam**	**1.30**	**278**	S	**Sg**	**21 48 45.7**	**-0.7**
EMIJ	**Mijas**	**1.31**	**323**	Pg	**Pg**	**21 48 29.1**	**-0.6**
EMIJ				Sg	**Sg**	**21 48 45.7**	**-1.2**
EMIJ				*i* Vmb_Lg		21 48 48.3	
TAF	**Taforalt**	**1.33**	**121**	P	**Pn**	**21 48 26.9**	**-0.8**
TAF				S	**Sb**	**21 48 46.1**	**+1.0**
CEU	**Ceuta**	**1.34**	**287**	P	**Pb**	**21 48 29.0**	**+0.4**
CEU				S	**Sn**	**21 48 41.3**	**-3.7**
EMAL	**Malaga-Limoner**	**1.35**	**338**	P	**Pg**	**21 48 32.0**	**+1.7**
EMAL				S	**Sb**	**21 48 45.4**	**-0.2**
ELGU	**Los Guajares,**	**1.36**	**6**	Pg	**Pn**	**21 48 28.1**	**0.0**
ELGU				Sg	**Sn**	**21 48 45.5**	**-0.2**
ELGU				*i* Vmb_Lg		21 48 48.9	
JBK	**JBK**	**1.55**	**139**	P	**Pn**	**21 48 29.8**	**-1.0**
JBK				S	**Sn**	**21 48 48.3**	**-2.2**
EGOR	**Sierra Gorda,**	**1.61**	**351**	Pg	**Pg**	**21 48 37.1**	**+1.8**
EGOR				Sg	**Sg**	**21 48 57.1**	**+0.7**
ENIJ	**Nijar**	**1.94**	**41**	Sn	**Sn**	**21 48 58.3**	**-1.6**
LCRM	**LCR**	**2.02**	**206**	P	**Pb**	**21 48 39.7**	**-0.7**
LCRM				S	**Sn**	**21 49 04.3**	**+2.2**
IFR	**Ifrane**	**2.27**	**209**	P	**Pn**	**21 48 41.4**	**+0.6**
IFR				S	**Sn**	**21 49 07.9**	**-0.4**
MD31	**MD31**	**2.76**	**197**	P	**Pn**	**21 48 48.4**	**+1.0**
MD31				S	**Sn**	**21 49 21.3**	**+1.1**
MDT	**Midelt**	**2.77**	**194**	P	**Pn**	**21 48 48.5**	**+0.9**
MDT				S	**Sn**	**21 49 21.9**	**+1.3**

TAP 06 21:48:09.0, 24°.26N×121°.70E, h9km±1km**, ML1.2, D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.12**	**213**	*e*P	Pg	21 48 12.7	+0.8
	baz=212						
ETL				*e*S	Sg	21 48 15.3	+1.4
	baz=212						
NACB	**Ninganchiao**	**0.13**	**226**	P	Pg	21 48 12.8	+0.9
	baz=226						
NACB				S	Sg	21 48 15.4	+1.5
	baz=226						
ENA	**Nanau**	**0.17**	**13**	P	Pg	21 48 13.6	+1.0
	baz=16						
ENA				S	Sg	21 48 16.3	+1.3
	baz=16						
EWUT	**Wuta**	**0.20**	**22**	*e*P	Pg	21 48 13.8	+0.8
	baz=22						
EWUT				*e*S	Sg	21 48 17.0	+1.2
	baz=22						
ETLH	**Xiulin Townshi**	**0.20**	**254**	P	Pg	21 48 14.3	+1.1
	baz=253						
ETLH				S	Sg	21 48 17.9	+1.8
	baz=253						
TWD	**Chiawan**	**0.21**	**207**	P	Pg	21 48 14.2	+1.0
	baz=204						
TWD				S	Sg	21 48 17.4	+1.3
	baz=204						
LATG	**Datong**	**0.31**	**330**	P	Pb	21 48 16.5	-0.3
	baz=329						
LATG				S	Sb	21 48 21.4	-0.6
	baz=329						
NNSB	**Datong**	**0.33**	**300**	P	Pb	21 48 16.8	-0.3
	baz=299						
NNSB				S	Sb	21 48 21.8	-0.8
	baz=299						
NNS	**Nan Shan**	**0.34**	**301**	*e*P	Pb	21 48 16.7	-0.7
	baz=300						
NNS				*e*S	Sb	21 48 22.1	-0.8
	baz=300						
NDS	**Dongshan**	**0.37**	**3**	*e*P	Pb	21 48 17.1	-0.6
	baz=2.0						
NDS				*e*S	Sb	21 48 23.0	-0.5
	baz=2.0						
ENTT	**Nioudou**	**0.39**	**342**	*e*P	Pb	21 48 17.9	-0.3
	baz=343						
ENTT				*e*S	Sb	21 48 23.9	-0.4
	baz=343						
WHF	**Hehuan Shan**	**0.41**	**253**	*e*P	Pg	21 48 17.9	+0.7
	baz=252						
WHF				*e*S	Sb	21 48 24.4	-0.8
	baz=252						
FUSS	**Fushou**	**0.41**	**268**	*e*P	Pb	21 48 18.3	-0.3
	baz=267						
FUSS				*e*S	Sb	21 48 24.8	-0.3
	baz=267						
YHNB	**Yeheng**	**0.50**	**324**	*e*P	Pb	21 48 19.7	-0.3
	baz=323						
YHNB				*e*S	Sb	21 48 27.7	+0.3
	baz=323						
FUSB	**Fushanzhiwuyua**	**0.50**	**348**	*e*S	Sb	21 48 27.2	-0.3
	baz=348						
NSK	**Sanguang**	**0.51**	**323**	*e*P	Pb	21 48 19.9	-0.4
	baz=323						
NSK				*e*S	Sb	21 48 27.9	0.0
	baz=323						
CHGB	**Renai**	**0.52**	**247**	*e*P	Pb	21 48 20.2	-0.2
	baz=246						
CHGB				*e*S	Sb	21 48 27.5	-0.6
	baz=246						
NWLT	**Wulai**	**0.54**	**341**	*e*S	Sb	21 48 28.7	+0.1
	baz=340						
WUSB	**Renai**	**0.60**	**243**	*e*P	Pb	21 48 21.5	-0.1
	baz=242						
WUSB				*e*S	Sb	21 48 30.4	+0.2
	baz=242						
TWB1	**Santiao Chiao**	**0.79**	**20**	*e*P	Pb	21 48 25.0	+0.2
	baz=20						
TWB1				*e*S	Sb	21 48 36.5	+0.9
	baz=20						

JMA 06 21:49:03.9±0.3**, 23°.26N**×**123°.30E, h64**km**, M2.3, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.92**	**30**	P	Pn	21 49 21.2	+0.1
HATJ				S	Sn	21 49 33.7	-0.1
IRIF	**Iriomote-Funau**	**1.14**	**20**	P	Pn	21 49 24.4	+0.5
IRIF				S	Sn	21 49 39.5	+0.7
JKRS	**Kuro-shima**	**1.17**	**34**	P	Pn	21 49 24.8	+0.5
JKRS				S	Sn	21 49 39.5	0.0
YOJ	**Yonaguni jima**	**1.23**	**348**	P	Pn	21 49 25.3	+0.3
YOJ				*e*S	Sn	21 49 41.0	+0.2
JYNG	**Yonagunijimaku**	**1.23**	**345**	P	Pn	21 49 25.6	+0.5
JYNG				S	Sn	21 49 41.3	+0.4
JIJ	**Ishigaki jima**	**1.34**	**35**	P	Pn	21 49 26.8	+0.2
JIJ				S	Sn	21 49 43.0	-0.6
JISG	**Ishigakijimahi**	**1.61**	**35**	P	Pn	21 49 30.8	+0.6
JISG				S	Sn	21 49 49.8	-0.3
JTJ	**Tarama**	**1.88**	**43**	P	Pn	21 49 34.2	+0.4
JTJ				S	Sn	21 49 56.8	+0.3

IDC 06 21:53:21.9±1.6**, 0°.24S**×**124°.47E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/34**, mbtmp3.6**/3**, Error ellipse: s-maj=178.8km s-min=23.7km az=63.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.84**	**154**	P	P	21 58 15.4	-0.8
	0.8nm,0.4s,baz=332,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.02**	**159**	P	P	21 58 48.4	+0.5
	1.1nm,0.4s,baz=340,slow=7.5,SNR=17						
MKAR	**Makanchi Array**	**59.59**	**328**	P	P	22 03 27.5	-0.1
	0.3nm,0.4s,baz=116,slow=7.9,SNR=11						

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*IDC **06** 21:55:34.8±1.7, 20°.77S×177°.83W, h483km±16km, mb3.5/12, mb1 3.7/14, mb1mx3.5/29, mbtmp4.3/14, Error ellipse: s-maj=19.7km s-min=12.5km az=125.0*
*NEIC **06** 21:55:37.6±1.7, 20°.2S±0°.2×177°.9W±0°.2, h507km±8km, mb4.3/20, Error ellipse: s-maj=35.7km s-min=22.7km az=166.0*
ISC 06 21:55:35.7±0.6**, 20°.6S**±0°.1×**177°.9W**±0°.1**, h500**km**, n62, σ0s.93**/65**, mb4.1**/21**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**306**	P	**P**	**21 57 00.6**	**-0.5**
	15nm,0.3s,baz=144,slow=7.1,SNR=67						
MSVF				S	**S**	**21 58 10.2**	**-0.4**
	baz=112,slow=22,SNR=1.0						
MSVF	**Nonsavu**	**4.80**	**306**	P	**P**	**21 57 00.3**	**-0.8**
MSVF					**S**	**21 58 08.1**	**-2.5**
AFI	**Afiamalu**	**8.88**	**42**	S	S	21 59 13.3	-11
	5.8nm,0.3s,baz=39,slow=19,SNR=2.2						
URZ	**Urewera**	**18.09**	**193**	P	**P**	**21 59 14.7**	**-2.0**
	1.1nm,0.3s,baz=343,slow=4.2,SNR=8.4						
URZ				S	**S**	**22 02 16.0**	**-1.1**
	0.4nm,0.3s,baz=256,slow=14,SNR=1.6						
CTA	**Charters Tower**	**33.58**	**265**	P	**P**	**22 01 34.6**	**+0.7**
	3.5nm,0.5s,baz=90,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**44.59**	**257**	P	**P**	**22 03 03.5**	**+0.5**
	3.2nm,0.7s,baz=98,slow=7.9,SNR=44						
ASAR				PcP	**PcP**	**22 04 36.1**	**+0.7**
	0.6nm,0.5s,baz=78,slow=5.1,SNR=5.3						
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**22 03 03.8**	**0.0**
	0.8nm,0.3s,baz=96,slow=7.7,SNR=76						
WRA				PcP	**PcP**	**22 04 37.0**	**+1.2**
	1.2nm,1.1s,baz=92,slow=3.5,SNR=3.1						
WRA	**Warramunga Arr**	**44.68**	**262**	P	**P**	**22 03 03.6**	**-0.2**
WRA					**PcP**	**22 04 37.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**53.11**	**262**	P	**P**	**22 04 07.2**	**+0.8**
	2.2nm,0.7s,baz=144,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**53.11**	**262**	P	**P**	**22 04 07.4**	**+1.0**
PETK	**Petropavlovsk-**	**76.42**	**345**	P	**P**	**22 06 34.0**	**+0.9**
	2.6nm,0.7s,baz=126,slow=7.5,SNR=7.2						
PETK	**Petropavlovsk-**	**76.42**	**345**	P	**P**	**22 06 31.7**	**-1.4**
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**22 07 00.1**	**+1.6**
	2.3nm,0.8s,baz=228,slow=9.8,SNR=9.8						
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**22 06 57.4**	**-1.0**
O19K	**Port Alsworth**	**82.80**	**12**	P	**P**	**22 07 04.9**	**-1.6**
TRF	**Thorofare Moun**	**86.56**	**12**	P	**P**	**22 07 23.4**	**-1.7**
TRF				IAmb	IAmb	22 07 26.2	
	comp=Z,6.7nm,0.8s						
MNTX	**Cornudas Mount**	**86.75**	**55**		**P**	**22 07 26.6**	**+0.1**
MNTX				IAmb	IAmb	22 07 29.1	
	comp=Z,3.6nm,0.9s						
RND	**Reindeer**	**86.81**	**13**	P	**P**	**22 07 26.3**	**+0.1**
TX31	**Lajitas Ar. Si**	**87.04**	**57**	P	**P**	**22 07 27.9**	**-0.2**
TX31				IAmb	IAmb	22 07 31.0	
	comp=Z,4.8nm,0.9s						
TX32	**Lajitas Array**	**87.04**	**57**	P	**P**	**22 07 27.4**	**-0.7**
TXAR	**Lajitas Array**	**87.04**	**57**	P	**P**	**22 07 30.2**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=214,slow=6.9,SNR=14						
MCK	**McKinley**	**87.08**	**12**	P	**P**	**22 07 26.9**	**-0.5**
MCK				IAmb	IAmb	22 07 28.4	
	comp=Z,9.0nm,1.2s						
ANMO	**Albuquerque**	**87.41**	**51**	P	**P**	**22 07 28.1**	**-1.7**
WRH	**Wood River Hil**	**87.91**	**12**	P	**P**	**22 07 31.2**	**+0.1**
WRH				IAmb	IAmb	22 07 32.1	
	comp=Z,5.9nm,0.8s						
HDA	**Harding Lake**	**88.09**	**13**	P	**P**	**22 07 32.4**	**+0.3**
H21K	**Melozitna Rive**	**88.12**	**10**	P	**P**	**22 07 32.6**	**+0.4**
H21K				IAmb	IAmb	22 07 33.7	
	comp=Z,2.7nm,0.8s						
CCB	**Clear Creek Bu**	**88.12**	**12**	P	**P**	**22 07 32.2**	**0.0**
MDM	**Murphy Dome**	**88.31**	**12**	P	**P**	**22 07 32.9**	**-0.2**
MDM				IAmb	IAmb	22 07 33.8	
	comp=Z,6.1nm,0.9s						
IL31		**88.42**	**13**	P	**P**	**22 07 33.6**	**+0.1**
ILAR	**Eielson Array**	**88.42**	**13**	P	**P**	**22 07 33.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=216,slow=5.8,SNR=17						
ILAR	**Eielson Array**	**88.42**	**13**	P	**P**	**22 07 33.8**	**+0.2**
REDW	**Red Top Meadow**	**88.46**	**42**	P	**P**	**22 07 34.3**	**-0.3**
REDW				IAmb	IAmb	22 07 37.5	
	comp=Z,3.8nm,1.1s						
PDAR	**Pinedale Array**	**88.99**	**43**	P	**P**	**22 07 37.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=226,slow=3.1,SNR=13						
EGAK	**Eagle**	**89.71**	**15**	P	**P**	**22 07 39.3**	**-0.2**
EGAK				IAmb	IAmb	22 07 41.1	
	comp=Z,3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.25**	**290**	P	**P**	**22 07 45.7**	**+2.5**
	comp=Z,2.2nm,0.7s,baz=118,slow=2.9,SNR=19						
CMAR	**Chiang Mai Arr**	**90.25**	**290**	P	**P**	**22 07 42.9**	**-0.3**
CHTO	**Chiang Mai**	**90.38**	**290**	P	**P**	**22 07 45.1**	**+1.4**
BMAR	**Burnt Mountain**	**91.20**	**12**	P	**P**	**22 07 46.3**	**-0.1**
SONM	**Songino Array**	**95.92**	**319**	P	**P**	**22 08 09.6**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=87,slow=3.2,SNR=2.0						
YKA	**Yellowknife Ar**	**96.59**	**25**	P	**P**	**22 08 10.0**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=241,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP	**PKiKP**	**22 13 12.4**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=77,slow=3.4,SNR=4.3						
ARCES	**ARCESS Array B**	**129.07**	**350**	PKP	**PKPdf**	**22 13 45.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=56,slow=3.1,SNR=5.9						
FINES	**FINESS Array B**	**135.93**	**344**	PKhKP	PKPpre	22 13 56.2	
	comp=Z,0.8nm,0.5s,baz=67,slow=4.7,SNR=6.1						
AKASG	**Malin Array Be**	**143.18**	**331**	PKhKP	PKPpre	22 14 10.1	
	comp=Z,6.9nm,0.5s,baz=42,slow=4.4,SNR=54						
AKBB	**Malin Array Si**	**143.18**	**331**		PKPbc	22 14 10.2	-0.2
LODK	**Lodwar**	**143.38**	**247**		**PKPdf**	**22 14 13.4**	**-0.5**
BRTR	**Keskin Array B**	**147.00**	**312**	PKPbc	**PKPbc**	**22 14 23.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=128,slow=5.1,SNR=15						
BRTR	**Keskin Array B**	**147.00**	**312**		**PKPbc**	**22 14 22.8**	**+0.5**
BUR08	**Bucovina Ar. S**	**147.21**	**331**		**PKiKP**	**22 14 23.4**	**-0.9**
BURAR	**Bucovina Array**	**147.23**	**331**		**PKPbc**	**22 14 23.2**	**+0.6**
OSTC	**Ostas**	**148.13**	**343**	*e*PKP	**PKiKP**	**22 14 25.7**	**-0.3**
OSTC				*e*x	x	22 14 30.6	
CHVC	**Chvalec**	**148.14**	**343**	*e*PKP	**PKiKP**	**22 14 25.5**	**-0.6**
CHVC				*e*x	x	22 14 30.5	
CLL	**Collm**	**148.21**	**347**	*i* PKPbc	**PKiKP**	**22 14 25.8**	**-0.3**
	comp=Z,7.0nm,0.8s						
DPC	**Dobruska-Polom**	**148.28**	**343**	*e*PKP	**PKiKP**	**22 14 26.3**	**-0.1**
DPC				*e*x	x	22 14 31.3	
MORC	**Moravsky Berou**	**148.43**	**341**	*e*PKP	**PKiKP**	**22 14 26.7**	**0.0**
PRU	**Pruhonice**	**149.09**	**344**	*e*PKP	**PKiKP**	**22 14 28.1**	**+0.1**
PRU				*e*x	x	22 14 32.1	
VRAC	**Vranov**	**149.14**	**341**	*e*PKP	**PKiKP**	**22 14 29.1**	**+1.0**
KRUC	**Moravsky**	**149.41**	**341**	*e*PKP	**PKiKP**	**22 14 28.9**	**+0.2**
KRUC				*e*		22 14 35.9	
KHC	**Kasperske Hory**	**150.12**	**345**	*e*PKP	**PKiKP**	**22 14 30.6**	**+0.4**
KHC				*e*x	x	22 14 38.8	
CKRC	**Cesky Krumlov**	**150.22**	**344**	*e*PKP	**PKiKP**	**22 14 30.7**	**+0.3**
CKRC				*e*x	x	22 14 38.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**150.35**	**344**	PKPbc	**PKiKP**	**22 14 31.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=25,slow=3.5,SNR=8.7						
TORD	**Torodi Ar. Bea**	**172.55**	**177**	PKP	**PKPdf**	**22 14 47.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=89,slow=0.9,SNR=4.0						
TORD				PKPab	**PKPab**	**22 16 16.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=202,slow=3.1,SNR=2.3						

*IDC **06** 22:02:50.7±2.9, 15°.69S×174°.48W, h144km±32km, mb3.9/3, mb1 3.9/4, mb1mx3.3/31, mbtmp4.3/4, Error ellipse: s-maj=38.1km s-min=29.1km az=115.0*

*NEIC **06** 22:02:52.7±1.1, 15°.6S±0°.1×174°.3W±0°.2, h168km±8km, mb4.5/7, Error ellipse: s-maj=23.7km s-min=17.8km az=99.0*

ISC 06 22:02:51.1±0.9**, 15°.74S**±0°.08×**174°.41W**±0°.09**, h150**km**, n13,** σ**1s29**/16**, mb4.2**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**55**	P	**Pn**	**22 03 41.8**	**+1.6**
	35nm,0.3s,baz=243,slow=9.0,SNR=21						
AFI				S	**Sn**	**22 04 17.9**	**-0.3**
	40nm,0.3s,baz=59,slow=23,SNR=9.1						
AFI	**Afiamalu**	**3.13**	**55**	Pn	**Pn**	**22 03 40.2**	**0.0**
AFI				Sn	**Sn**	**22 04 17.4**	**-0.7**
NIUE	**Niue**	**5.41**	**128**	Pn	**Pn**	**22 04 12.0**	**+2.0**
NIUE				Sn	**Sn**	**22 05 08.8**	**-2.9**
WR0	**Warramunga Arr**	**48.63**	**257**	P	**P**	**22 11 20.8**	**+0.7**
WB0	**Warramunga Arr**	**48.78**	**257**	P	**P**	**22 11 20.7**	**-0.6**
WB0				IAmb	IAmb	22 11 36.4	
	comp=Z,18nm,1.3s						
WB2	**Warramunga Arr**	**48.81**	**257**	P	**P**	**22 11 20.9**	**-0.6**
ASAR	**Alice Springs**	**49.08**	**252**	P	**P**	**22 11 22.9**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=87,slow=7.9,SNR=38						
ASAR	**Alice Springs**	**49.08**	**252**	P	**P**	**22 11 22.3**	**-1.2**
PETK	**Petropavlovsk-**	**72.66**	**343**	P	**P**	**22 14 01.7**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=195,slow=9.0,SNR=3.6						
PETK	**Petropavlovsk-**	**72.66**	**343**	P	**P**	**22 14 01.0**	**-1.1**
QSPA	**South Pole Qui**	**74.30**	**180**	P	**P**	**22 14 12.4**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=306,slow=4.9,SNR=6.6						
QSPA	**South Pole Qui**	**74.30**	**180**	P	**P**	**22 14 12.3**	**+0.5**
QSPA				IAmb	IAmb	22 14 13.3	
	comp=Z,3.4nm,0.8s						
BRTR	**Keskin Array B**	**145.80**	**320**	PKPbc	**PKPdf**	**22 22 13.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=46,slow=3.6,SNR=5.7						

*IDC **06** 22:06:13.5±1.8, 7°.02S×155°.88E, h109km±16km, mb4.2/16, mb1 4.2/20, mb1mx4.1/34, mbtmp4.5/20, MS3.4/12, Ms1 3.4/12, ms1mx3.1/58, Error ellipse: s-maj=13.4km s-min=11.0km az=22.0*

*NEIC **06** 22:06:14.3±1.2, 7°.05S±0°.08×155°.84E±0°.08, h112km±6km, mb4.5/23, Error ellipse: s-maj=15.2km s-min=7.4km az=223.0*

*DJA **06** 22:06:18.3±0.8, 7°S±9°×15°6E±°, h137km±10km, M4.3/11, mb4.8/11, mB5.5/1, MLv4.0/1, Mw(mB)5.0/1*

ISC 06 22:06:12.5±0.4**, 7°.02S**±0°.07×**155°.88E**±0°.06**, h100**km**, n86,** σ**1s02**/79**, mb4.5**/29**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.64**	**307**	Pn	**Pn**	**22 07 21.6**	**+1.2**
RABL				Sn	**Sn**	**22 08 15.5**	**+2.3**
KRVT	**Keravat (AS076**	**4.68**	**305**	P	Pn	22 07 27.3	+6.4
	baz=233,slow=20						
KRVT				S	**Sn**	**22 08 17.9**	**+3.7**
	baz=143,slow=20						
HNR	**Honiara**	**4.69**	**121**	P	**Pn**	**22 07 22.1**	**+1.0**
	28nm,0.3s,baz=238,slow=7.6,SNR=2.4						
HNR				S	**Sn**	**22 08 15.7**	**+1.3**
	37nm,0.3s,baz=270,slow=22,SNR=6.2						
HNR	**Honiara**	**4.69**	**121**		**Pn**	**22 07 22.4**	**+1.3**
HNR					**Sn**	**22 08 15.8**	**+1.4**
PMG	**Port Moresby**	**8.95**	**254**	P	**Pn**	**22 08 21.0**	**+2.0**
	5.7nm,0.3s,baz=54,slow=8.5,SNR=17						
PMG				S	**Sn**	**22 09 59.1**	**+1.1**
	0.5nm,0.3s,baz=252,slow=20,SNR=1.5						
PMG				LR	LR	22 11 33.6	
	comp=Z,229nm,21.3s,baz=66,slow=36						
PMG	**Port Moresby**	**8.95**	**254**	Pn	**Pn**	**22 08 18.2**	**-0.7**
CTA	**Charters Tower**	**16.00**	**215**	P	**Pn**	**22 09 53.3**	**+1.4**
	0.5nm,0.3s,baz=25,slow=14,SNR=5.5						
CTA				LR	LR	22 15 09.1	
	comp=Z,114nm,21.7s,baz=78,slow=34						
DZM	**Mont Dzumac**	**18.11**	**147**	P	**P**	**22 10 17.3**	**+0.4**
	1.4nm,0.3s,baz=286,slow=10,SNR=12						
DZM				LR	LR	22 15 40.6	
	comp=Z,141nm,21.4s,baz=271,slow=31						
DZM	**Mont Dzumac**	**18.11**	**147**	P	**P**	**22 10 17.0**	**+0.2**
MSVF	**Nonsavu**	**24.11**	**118**	P	**P**	**22 11 19.0**	**-0.2**
	6.6nm,0.5s,baz=255,slow=14,SNR=6.0						
MSVF	**Nonsavu**	**24.11**	**118**	P	**P**	**22 11 19.0**	**-0.2**
MSVF				IAmb	IAmb	22 11 21.0	
	comp=Z,29nm,1.2s						
WR0	**Warramunga Arr**	**24.37**	**236**	P	**P**	**22 11 21.4**	**-0.1**
WR0				IAmb	IAmb	22 11 23.2	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**24.40**	**237**	P	**P**	**22 11 21.3**	**-0.5**
WB0				IAmb	IAmb	22 11 43.3	
	comp=Z,21nm,1.2s						
WRAB	**Tennant Creek**	**24.52**	**236**	P	**P**	**22 11 22.6**	**-0.2**
WRAB				IAmb	IAmb	22 11 24.5	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**24.52**	**236**	P	**P**	**22 11 22.3**	**-0.5**
WB2	**Warramunga Arr**	**24.52**	**236**	P	**P**	**22 11 22.7**	**-0.2**
WB2				IAmb	IAmb	22 11 24.6	
	comp=Z,9.6nm,0.7s						
WRA	**Warramunga Arr**	**24.53**	**236**	P	**P**	**22 11 22.7**	**-0.2**
	comp=Z,8.4nm,0.6s,baz=63,slow=9.3,SNR=122						
WRA				PcP	**PcP**	**22 14 59.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=63,slow=2.7,SNR=10						
WRA				LR	LR	22 21 13.2	
	comp=Z,149nm,18.5s,baz=95,slow=37						
WRA	**Warramunga Arr**	**24.53**	**236**	P	**P**	**22 11 20.9**	**-2.1**
WRA				IAmb	IAmb	22 11 24.4	
	comp=Z,0.4nm,1.2s						
WRA	**Warramunga Arr**	**24.53**	**236**	P	**P**	**22 11 20.4**	**-2.5**
SIJI	**Sorong**	**25.29**	**283**	P	**P**	**22 11 29.7**	**-0.3**
	comp=Z,15nm,0.7s,baz=13,slow=15,SNR=4.8						
SIJI				LR	LR	22 22 22.0	
	comp=Z,65nm,21.6s,baz=200,slow=38						
ASAR	**Alice Springs**	**26.82**	**229**	P	**P**	**22 11 42.8**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=59,slow=9.7,SNR=28						
ASAR				PcP	**PcP**	**22 15 04.2**	**0.0**
	comp=Z,1.3nm,0.4s,baz=59,slow=2.6,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**27.50**	**23**	T	T	22 40 14.0	
	baz=202,slow=76,SNR=2610						
H11S2	**WAKE ISLAND Hy**	**27.50**	**23**	T	T	22 40 14.2	
	baz=202,slow=76,SNR=2612						
H11S1	**WAKE ISLAND Hy**	**27.52**	**23**	T	T	22 40 15.2	
	baz=202,slow=76,SNR=808						
STKA	**Stephens Creek**	**28.10**	**206**	P	**P**	**22 11 55.3**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=37,slow=16,SNR=5.6						
STKA				LR	LR	22 22 05.4	
	comp=Z,114nm,21.1s,baz=49,slow=34						
H11N1	**WAKE ISLAND Hy**	**28.69**	**22**	T	T	22 41 53.1	
	baz=203,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**28.70**	**22**	T	T	22 41 57.5	
	baz=203,slow=76,SNR=64						
H11N2	**WAKE ISLAND Hy**	**28.71**	**22**	T	T	22 41 58.4	
	baz=203,slow=76,SNR=36						
LBMI	**Labuha**	**29.00**	**281**	P	**P**	**22 12 04.7**	**+1.5**
	comp=Z,27nm,0.8s						
SANI	**Sanana**	**30.19**	**278**	P	**P**	**22 12 14.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**31.45**	**247**	LR	LR	22 25 06.2	
	comp=Z,65nm,18.1s,baz=90,slow=36						
FITZ	**Fitzroy Crossi**	**31.45**	**247**	P	**P**	**22 12 24.2**	**-0.5**
FITZ				IAmb	IAmb	22 12 24.6	
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**31.45**	**247**	P	**P**	**22 12 23.7**	**-1.0**
BATI	**Baumata**	**32.00**	**262**	LR	LR	22 27 38.4	
	comp=Z,98nm,18.6s,baz=277,slow=40						
GTOI	**Gorontalo**	**33.66**	**282**	P	**P**	**22 12 45.1**	**+1.0**
	comp=Z,15nm,0.8s						
BSSI	**Bau Bau, Buton**	**35.16**	**269**	P	P	22 13 10.1	+13
KAPI	**Kappang**	**35.97**	**271**	P	**P**	**22 13 03.7**	**-0.4**
PSA00	**Pilbara Seismi**	**37.67**	**244**	P	**P**	**22 13 17.7**	**-0.6**
PSA00	**Pilbara Seismi**	**37.67**	**244**	P	**P**	**22 13 17.2**	**-1.1**
PSA00				IAmb	IAmb	22 13 19.4	
	comp=Z,8.2nm,1.2s						
RPZ	**Rata Peaks**	**38.91**	**162**	P	**P**	**22 13 28.4**	**0.0**
	comp=Z,9.4nm,0.5s,baz=280,slow=2.0,SNR=5.7						
RPZ	**Rata Peaks**	**38.91**	**162**	P	**P**	**22 13 28.6**	**+0.2**
JOW	**Kunigami**	**42.98**	**323**	LR	LR	22 29 18.9	
	comp=Z,31nm,19.4s,baz=340,slow=32						
DLV	**T Lat**	**50.75**	**292**	P	**P**	**22 15 02.6**	**-0.4**
KSRS	**Korea Array**	**51.37**	**331**	P	**P**	**22 15 07.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=144,slow=8.0,SNR=9.4						
ASAJ	**Asahikawa**	**52.29**	**348**	LR	LR	22 35 01.5	
	comp=Z,25nm,20.5s,baz=132,slow=33						
USRK	**Ussuriysk Ar.**	**55.35**	**339**	P	**P**	**22 15 36.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=130,slow=5.7,SNR=3.1						
PETK	**Petropavlovsk-**	**59.91**	**1**	P	**P**	**22 16 07.8**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=162,slow=8.6,SNR=9.1						
PETK				LR	LR	22 38 55.5	
	comp=Z,19nm,21.0s,baz=142,slow=33						
CMAR	**Chiang Mai Arr**	**61.58**	**295**	P	**P**	**22 16 20.2**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=124,slow=5.3,SNR=13						
CMAR	**Chiang Mai Arr**	**61.58**	**295**	P	**P**	**22 16 18.1**	**-1.8**
ULN	**Ulaanbaatar**	**69.49**	**327**	P	**P**	**22 17 10.2**	**-0.2**
ULN				IAmb	IAmb	22 17 11.9	
	comp=Z,5.4nm,0.7s						
SONM	**Songino Array**	**69.83**	**327**	P	**P**	**22 17 13.2**	**+0.7**
	comp=Z,8.0nm,0.8s,baz=139,slow=6.7,SNR=53						
SONM	**Songino Array**	**69.83**	**327**	P	**P**	**22 17 12.5**	**0.0**
SONM				IAmb	IAmb	22 17 13.8	
	comp=Z,9.1nm,0.9s						
SHL	**Shillong**	**70.06**	**300**	P	**P**	**22 17 14.1**	**-0.3**
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**22 18 26.4**	**0.0**
	comp=Z,6.8nm,0.6s,baz=84,slow=2.4,SNR=37						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**22 18 26.4**	**0.0**
QSPA				IAmb	IAmb	22 18 27.3	
	comp=Z,7.3nm,0.6s						
ILAR	**Eielson Array**	**83.07**	**21**	P	**P**	**22 18 26.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=247,slow=5.2,SNR=13						
MK31	**Makanchi Array**	**84.00**	**318**	P	**P**	**22 18 31.8**	**-0.1**
MK31				IAmb	IAmb	22 18 34.1	
	comp=Z,4.8nm,0.7s						
MKAR	**Makanchi Array**	**84.00**	**318**	P	**P**	**22 18 32.1**	**+0.2**
	comp=Z,5.9nm,0.6s,baz=99,slow=6.2,SNR=92						
MAKZ	**Makanchi**	**84.21**	**318**	P	**P**	**22 18 33.1**	**+0.1**
MAKZ				IAmb	IAmb	22 18 35.1	
	comp=Z,5.1nm,0.8s						
ZAA0	**Zalesovo Array**	**84.69**	**326**	P	**P**	**22 18 34.3**	**-0.8**
ZAA0				IAmb	IAmb	22 18 36.5	
	comp=Z,4.0nm,0.6s						
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**22 18 34.3**	**-0.8**
	comp=Z,4.2nm,0.5s,baz=119,slow=5.5,SNR=21						
KSH	**Kashi**	**86.69**	**310**	P	**P**	**22 18 46.8**	**+1.2**
KSH				pP	pP	22 19 15.4	+3.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**87.39**	**322**	P	**P**	**22 18 47.8**	**-0.8**
KURK				IAmb	IAmb	22 18 48.0	
	comp=Z,2.5nm,0.5s						
NIL	**Nilore**	**87.74**	**304**	P	**P**	**22 18 49.7**	**-1.0**
NIL				IAmb	IAmb	22 18 50.7	
	comp=Z,6.3nm,1.0s						
AAK	**Ala-Archa**	**88.40**	**313**	P	**P**	**22 18 53.1**	**-0.7**
NEW	**Newport**	**93.19**	**42**	LR	LR	22 58 09.7	
	comp=Z,43nm,18.0s,baz=254,slow=33						
YKA	**Yellowknife Ar**	**95.94**	**28**	P	**P**	**22 19 27.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=264,slow=4.9,SNR=4.5						
ARCES	**ARCESS Array B**	**109.86**	**343**	PKiKP	**PKiKP**	**22 24 30.9**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=54,slow=1.6,SNR=6.4						
FINES	**FINESS Array B**	**114.31**	**336**	PKP	PKPdf	22 24 39.4	-0.8
	comp=Z,1.5nm,0.8s,baz=72,slow=4.5,SNR=2.1						
AKASG	**Malin Array Be**	**118.06**	**325**	PKP	**PKPdf**	**22 24 47.0**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=48,slow=2.2,SNR=8.5						
BRTR	**Keskin Array B**	**119.05**	**312**	PKP	**PKPdf**	**22 24 49.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=142,slow=2.5,SNR=4.5						
NOA	**NORSAR Array B**	**120.00**	**341**	PKP	**PKPdf**	**22 24 50.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=74,slow=1.8,SNR=1.9						
BOSA	**Boshof**	**120.69**	**231**	PKP	**PKPdf**	**22 24 53.7**	**0.0**
	comp=Z,3.6nm,0.7s,baz=125,slow=2.3,SNR=7.6						
CLL	**Collm**	**126.24**	**332**	*e*PKPdf	**PKPdf**	**22 25 03.0**	**-0.4**
CKRC	**Cesky Krumlov**	**127.22**	**329**	*e*PKP	**PKPdf**	**22 25 05.9**	**+0.5**
KHC	**Kasperske Hory**	**127.40**	**330**	*e*PKP	**PKPdf**	**22 25 05.9**	**+0.1**
GERES	**GERESS Array B**	**127.52**	**329**	PKP	**PKPdf**	**22 25 06.3**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=46,slow=3.9,SNR=12						
ESDC	**Sonseca Array**	**142.78**	**334**	PKP	**PKPdf**	**22 25 32.5**	**-2.2**
	comp=Z,0.8nm,0.9s,baz=18,slow=3.2,SNR=3.4						
BDFB	**Brasilia**	**147.34**	**134**	PKPbc	**PKPdf**	**22 25 45.0**	**+1.7**
	comp=Z,6.3nm,0.8s,baz=225,slow=2.9,SNR=9.9						
BDFB	**Brasilia**	**147.34**	**134**		**PKPdf**	**22 25 44.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**153.87**	**286**	PKPbc	**PKPbc**	**22 26 00.3**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=58,slow=1.6,SNR=15						
KIC	**Kosan Boka**	**160.74**	**269**	*e*PKP2	**PKPab**	**22 26 44.1**	**-0.4**
	comp=Z,22nm,0.5s						
DBIC	**Dimbokro**	**160.87**	**270**	PKPab	**PKPab**	**22 26 44.9**	**-0.1**
	comp=Z,7.7nm,0.5s,baz=100,slow=3.9,SNR=21						
DBIC	**Dimbokro**	**160.87**	**270**		**PKPab**	**22 26 44.4**	**-0.6**
LIC	**Lamto**	**161.01**	**269**	*e*PKP2	**PKPab**	**22 26 45.3**	**-0.3**
	comp=Z,22nm,0.6s						
TIC	**Toumodi**	**161.03**	**270**	*e*PKP2	**PKPab**	**22 26 45.3**	**-0.4**

*TAP **06** 22:08:15.0, 24°.00N×122°.96E, h43km, ML2.9, D*

*JMA **06** 22:08:15.3±0.1, 24°.01N×122°.84E, h38km±3km, M2.3*

ISC 06 22:08:15.3±1.1**, 23°.96N**±0°.03×**122°.92E**±0°.02**, h27**km±11km**, n67,** σ**0s93**/120**, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**3**	P	**Pb**	**22 08 25.0**	**-0.5**
JYNG				S	**Sb**	**22 08 31.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.51**	**10**	P	**Pb**	**22 08 25.6**	**-0.2**
YOJ				S	**Sn**	**22 08 32.9**	**-1.7**
YOJ	**Yonaguni jima**	**0.51**	**10**	P	**Pb**	**22 08 25.6**	**-0.2**
	baz=4.0						
YOJ				S	**Sn**	**22 08 33.5**	**-1.1**
	baz=4.0						
HATJ	**Hateruma jima**	**0.82**	**83**	P	**Pn**	**22 08 31.3**	**+0.3**
HATJ				*e*S	**Sb**	**22 08 43.1**	**+1.5**
IRIF	**Iriomote-Funau**	**0.83**	**63**	P	**Pn**	**22 08 31.1**	**-0.1**
IRIF				S	**Sn**	**22 08 42.0**	**-0.6**
JKRS	**Kuro-shima**	**1.04**	**74**	P	**Pn**	**22 08 34.7**	**+0.7**
JKRS				*e*S	**Sb**	**22 08 48.7**	**+0.9**
EWUT	**Wuta**	**1.15**	**295**	P	**Pn**	**22 08 36.0**	**+0.5**
	baz=290						
EWUT				*e*S	**Sb**	**22 08 51.1**	**+0.1**
	baz=290						
ENA	**Nanau**	**1.17**	**294**	P	**Pn**	**22 08 36.0**	**+0.2**
	baz=289						
ENA				S	**Sb**	**22 08 51.1**	**-0.5**
	baz=289						
TWC	**Suao**	**1.17**	**304**	⇑*i*P	**Pn**	**22 08 36.0**	**+0.2**
	baz=299						
TWC				*i* S	**Sn**	**22 08 50.6**	**-0.3**
	baz=299						
JIJ	**Ishigaki jima**	**1.19**	**70**	P	**Pn**	**22 08 36.8**	**+0.7**
JIJ				S	**Sb**	**22 08 53.3**	**+1.0**
ETL	**Fush Village**	**1.20**	**280**	*e*P	**Pb**	**22 08 37.4**	**0.0**
	baz=263						
ETL				*e*S	**Sb**	**22 08 52.9**	**+0.5**
	baz=263						
HWA	**Hwalien**	**1.20**	**271**	*e*S	**Sn**	**22 08 52.3**	**+0.7**
	baz=257						
NACB	**Ninganchiao**	**1.23**	**280**	P	**Pn**	**22 08 37.1**	**+0.6**
	baz=264						
NACB				*e*S	**Sn**	**22 08 51.2**	**-1.0**
	baz=264						
NDS	**Dongshan**	**1.29**	**302**	*e*P	**Pb**	**22 08 38.5**	**-0.4**
	baz=296						
NDS				S	**Sn**	**22 08 53.2**	**-0.5**
	baz=296						
ETLH	**Xiulin Townshi**	**1.33**	**281**	*e*P	**Pn**	**22 08 38.8**	**+0.7**
	baz=277						
NTC	**Toucheng**	**1.33**	**312**	*e*P	**Pn**	**22 08 38.6**	**+0.5**
	baz=319						
NTC				S	**Sn**	**22 08 54.3**	**-0.6**
	baz=319						
TWB1	**Santiao Chiao**	**1.35**	**321**	P	**Pn**	**22 08 38.6**	**+0.4**
	baz=327						
TWB1				*e*S	**Sn**	**22 08 54.8**	**-0.5**
	baz=327						
ESL	**Shilin**	**1.36**	**264**	P	**Pn**	**22 08 39.0**	**+0.5**
	baz=252						
TWE	**Neicheng**	**1.37**	**304**	P	**Pn**	**22 08 39.0**	**+0.4**
	baz=299						
TWE				*e*S	**Sn**	**22 08 55.5**	**-0.3**
	baz=299						
LATG	**Datong**	**1.39**	**295**	*e*P	**Pn**	**22 08 39.7**	**+0.7**
	baz=277						
LATG				*e*S	**Sn**	**22 08 57.0**	**+0.4**
	baz=277						
ENTT	**Nioudou**	**1.41**	**299**	P	**Pn**	**22 08 39.7**	**+0.6**
	baz=294						
ENTT				*e*S	**Sn**	**22 08 56.4**	**-0.4**
	baz=294						
TIPB	**Shuangxi**	**1.42**	**316**	*e*P	**Pn**	**22 08 39.0**	**-0.3**
	baz=310						
TIPB				S	**Sn**	**22 08 56.7**	**-0.4**
	baz=310						
JISG	**Ishigakijimahi**	**1.42**	**63**	P	**Pn**	**22 08 39.8**	**+0.5**
JISG				*e*S	**Sb**	**22 08 58.3**	**-0.5**
NDT	**Datong Townshi**	**1.43**	**297**	*e*P	**Pb**	**22 08 41.5**	**+0.2**
	baz=282						
HGSD	**Ruisui**	**1.44**	**252**	*e*P	**Pn**	**22 08 40.6**	**+1.1**
	baz=249						
HGSD				*e*S	**Sn**	**22 08 59.4**	**+1.8**
	baz=249						
FUSB	**Fushanzhiwuyua**	**1.45**	**304**	P	**Pn**	**22 08 40.6**	**+0.8**
	baz=298						
FUSB				S	**Sn**	**22 08 57.8**	**-0.2**
	baz=298						
NNSB	**Datong**	**1.48**	**289**	P	**Pn**	**22 08 39.8**	**-0.4**
	baz=284						
NNSB				*e*S	**Sn**	**22 08 59.0**	**+0.4**
	baz=284						
SXI1	**Grass Mountain**	**1.48**	**320**	P	**Pn**	**22 08 39.6**	**-0.5**
	baz=325						
SXI1				*e*S	**Sn**	**22 08 57.7**	**-0.9**
	baz=325						
NNS	**Nan Shan**	**1.49**	**289**	*i* P	**Pb**	**22 08 42.2**	**-0.1**
	baz=285						
NNS				*e*S	**Sn**	**22 08 59.5**	**+0.6**
	baz=285						
NWF	**Wu-fen Shan**	**1.52**	**317**	P	**Pn**	**22 08 40.7**	**0.0**
	baz=311						
NWF				S	**Sn**	**22 08 58.5**	**-1.1**
	baz=311						
WHF	**Hehuan Shan**	**1.52**	**277**	*e*P	**Pn**	**22 08 41.2**	**+0.2**
	baz=273						
WHF				*e*S	**Sn**	**22 08 59.9**	**-0.2**
	baz=273						
NWLT	**Wulai**	**1.53**	**303**	*e*P	**Pb**	**22 08 42.1**	**-0.8**
	baz=297						
NWLT				*e*S	**Sn**	**22 08 59.2**	**-0.5**
	baz=297						
EHY	**Hungye**	**1.53**	**253**	*i* P	**Pn**	**22 08 39.7**	**-1.1**
	baz=250						
EHY				*i* S	**Sn**	**22 08 58.4**	**-1.3**
	baz=250						
FUSS	**Fushou**	**1.56**	**281**	*e*P	**Pn**	**22 08 40.6**	**-0.7**
	baz=276						
FUSS				*e*S	**Sn**	**22 09 01.1**	**+0.4**
	baz=276						
YHNB	**Yeheng**	**1.57**	**297**	*e*P	**Pn**	**22 08 41.6**	**+0.1**
	baz=279						
YHNB				*e*S	**Sn**	**22 09 00.8**	**-0.2**
	baz=279						
EYUL	**Yuli**	**1.58**	**248**	*e*P	**Pn**	**22 08 40.6**	**-0.9**
	baz=237						
EYUL				*e*S	**Sn**	**22 09 00.2**	**-0.9**
	baz=237						
YULB	**Yu-li**	**1.59**	**250**	P	**Pn**	**22 08 40.7**	**-0.9**
	baz=239						
YULB				S	**Sn**	**22 09 00.1**	**-1.0**
	baz=239						
NSK	**Sanguang**	**1.59**	**297**	*e*P	**Pn**	**22 08 42.7**	**+1.0**
	baz=279						
NSK				S	**Sn**	**22 09 01.2**	**-0.2**
	baz=279						
CHGB	**Renai**	**1.60**	**274**	P	**Pn**	**22 08 41.3**	**-0.6**
	baz=270						
CHGB				S	**Sn**	**22 08 59.8**	**-1.9**
	baz=270						
TWT	**Tachien**	**1.62**	**281**	P	**Pn**	**22 08 42.5**	**+0.4**
	baz=276						
TWT				S	**Sn**	**22 09 02.1**	**-0.1**
	baz=276						
VWDT	**VWDT**	**1.64**	**263**	P	**Pn**	**22 08 41.5**	**-0.7**
	baz=260						
VWDT				*e*S	**Sn**	**22 09 00.8**	**-1.5**
	baz=260						
WUSB	**Renai**	**1.65**	**272**	P	**Pn**	**22 08 42.0**	**-0.5**
	baz=268						
WUSB				S	**Sn**	**22 09 02.7**	**-0.1**
	baz=268						
FULB	**Fuli**	**1.67**	**243**	*e*P	**Pn**	**22 08 41.2**	**-1.5**
	baz=234						
FULB				*e*S	**Sn**	**22 09 01.3**	**-1.9**
	baz=234						
TAP	**Taipei**	**1.68**	**310**	*e*S	**Sn**	**22 09 03.3**	**-0.1**
	baz=304						
YM01	**YM01**	**1.71**	**314**	*e*P	**Pn**	**22 08 44.0**	**+0.8**
	baz=310						
ANP	**Anpu**	**1.77**	**314**	*e*P	**Pn**	**22 08 43.8**	**-0.3**
	baz=297						
NFF	**Wufeng Townshi**	**1.77**	**293**	*e*P	**Pn**	**22 08 45.1**	**+1.0**
	baz=280						
EDH	**Donghe**	**1.77**	**237**	*e*S	**Sn**	**22 09 03.2**	**-2.5**
	baz=236						
SSLB	**Suanglung**	**1.80**	**265**	*e*P	**Pn**	**22 08 44.4**	**-0.2**
	baz=262						
WHP	**Taichung City**	**1.83**	**281**	*e*P	**Pn**	**22 08 46.5**	**+1.5**
	baz=276						
WHP				*e*S	**Sn**	**22 09 08.2**	**+1.0**
	baz=276						
WCS	**Beigang Elemen**	**1.83**	**274**	*e*P	**Pn**	**22 08 45.3**	**+0.3**
	baz=269						
WCS				*e*S	**Sn**	**22 09 08.0**	**+0.7**
	baz=269						
SMLT	**Sun Moon Lake**	**1.85**	**268**	*e*P	**Pn**	**22 08 45.5**	**+0.2**
	baz=264						
SMLT				*e*S	**Sn**	**22 09 08.0**	**+0.3**
	baz=264						
YUS	**Yu-Shan**	**1.86**	**256**	P	**Pn**	**22 08 45.2**	**-0.5**
	baz=253						
YUS				S	**Sn**	**22 09 07.1**	**-1.5**
	baz=253						
LIOB	**Emei**	**1.86**	**292**	*e*P	**Pn**	**22 08 46.5**	**+1.1**
	baz=288						
TYC	**Yuchr**	**1.88**	**269**	*e*P	**Pn**	**22 08 47.3**	**+1.7**
	baz=265						
TYC				*e*S	**Sn**	**22 09 09.0**	**+0.5**
	baz=265						
ALS	**Alishan**	**1.98**	**258**	*e*P	**Pn**	**22 08 47.6**	**+0.3**
	baz=254						
ALS				*e*S	**Sn**	**22 09 11.5**	**+0.1**
	baz=254						
TWGBT	**Beinan**	**2.03**	**236**	*e*P	**Pn**	**22 08 46.8**	**-0.8**
	baz=227						
TWGBT				*e*S	**Sn**	**22 09 10.4**	**-1.8**
	baz=227						
TWG	**Pinlang**	**2.04**	**237**	*e*P	**Pn**	**22 08 46.8**	**-0.9**
	baz=227						
TWG				*e*S	**Sn**	**22 09 10.2**	**-2.1**
	baz=227						
CHN5	**Tsauling**	**2.08**	**261**	*e*P	**Pn**	**22 08 49.1**	**+0.7**
	baz=250						
CHN5				*e*S	**Sn**	**22 09 15.2**	**+1.7**
	baz=250						
STYH	**Taoyuan**	**2.11**	**249**	*e*P	**Pn**	**22 08 49.5**	**+0.8**
	baz=240						
STYH				*e*S	**Sn**	**22 09 14.9**	**+0.8**
	baz=240						
TPUB	**Ta-pu**	**2.19**	**253**	*e*P	**Pn**	**22 08 50.9**	**+1.0**
	baz=245						
TPUB				*e*S	**Sn**	**22 09 17.8**	**+1.6**
	baz=245						
CHN4	**Tsaushan**	**2.21**	**255**	*e*P	**Pn**	**22 08 51.7**	**+1.5**
	baz=245						
CHN4				*e*S	**Sn**	**22 09 18.2**	**+1.6**
	baz=245						
WTP	**Ta-pu**	**2.23**	**252**	*e*P	**Pn**	**22 08 51.5**	**+1.1**
	baz=244						
WTP				*e*S	**Sn**	**22 09 18.5**	**+1.5**
	baz=244						
ECL	**Taimali**	**2.25**	**234**	*e*P	**Pn**	**22 08 49.7**	**-1.0**
	baz=239						
CHN1	**Nanshi**	**2.32**	**251**	*e*P	**Pn**	**22 08 52.7**	**+1.0**
	baz=241						
TWK	**Hsinying**	**2.33**	**253**	*e*P	**Pn**	**22 08 53.5**	**+1.7**
	baz=251						
TWK				*e*S	**Sn**	**22 09 21.1**	**+1.5**
	baz=251						
MASBT	**Mashibuluo**	**2.49**	**238**	*e*P	**Pn**	**22 08 54.5**	**+0.6**
	baz=232						

*JMA **06** 22:18:18.9±0.2, 24°.15N×122°.76E, h14km±4km, M2.2*

*TAP **06** 22:18:19.5, 24°.19N×122°.75E, h22km±1km, ML2.5, C*

ISC 06 22:18:18.8±1.0**, 24°.15N**±0°.03×**122°.76E**±0°.02**, h17**km±8km**, n63,** σ**0s65**/104**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.34	30	P	Pg	22 18 26.0	0.0
JYNG				S	Sg	22 18 30.6	-0.4
YOJ	Yonaguni jima	0.39	37	P	Pg	22 18 26.7	-0.1
YOJ				S	Sb	22 18 32.6	-0.3
YOJ	Yonaguni jima	0.39	37	P	Pg	22 18 26.9	+0.2
	baz=46						
YOJ				S	Sb	22 18 33.2	+0.4
	baz=46						
IRIF	Iriomote-Funau	0.91	78	P	Pb	22 18 35.8	-0.3
IRIF				eS	Sb	22 18 48.2	+0.3
EWUT	Wuta	0.94	288	P	Pb	22 18 36.7	+0.1
	baz=286						
EWUT				eS	Sg	22 18 49.4	0.0
	baz=286						
TWC	Suao	0.94	299	P	Pb	22 18 36.7	0.0
	baz=297						
TWC				S	Sb	22 18 48.9	0.0
	baz=297						
HATJ	Hateruma jima	0.96	95	eS	Sb	22 18 49.9	+0.4
ENA	Nanau	0.97	287	i P	Pb	22 18 36.8	-0.3
	baz=284						
ENA				i S	Sg	22 18 50.6	+0.3
	baz=284						
ETL	Fush Village	1.03	271	eP	Pg	22 18 39.1	+0.3
	baz=269						
NACB	Ninganchiao	1.06	271	P	Pb	22 18 39.0	+0.3
	baz=279						
NACB				S	Sb	22 18 52.9	+0.6
	baz=279						
NDS	Dongshan	1.06	297	eP	Pb	22 18 38.8	+0.1
	baz=304						
NDS				eS	Sb	22 18 52.8	+0.5
	baz=304						
NTC	Toucheng	1.10	310	eS	Sb	22 18 52.6	-0.7
	baz=308						
TWB1	Santiao Chiao	1.10	321	eP	Pb	22 18 38.0	-1.4
	baz=320						
TWE	Neicheng	1.14	300	i P	Pb	22 18 40.2	+0.2
	baz=305						
TWE				S	Sn	22 18 55.3	0.0
	baz=305						
JKRS	Kuro-shima	1.15	85	P	Pb	22 18 40.5	+0.3
JKRS				eS	Sn	22 18 55.8	+0.4
ETLH	Xiulin Townshi	1.17	273	P	Pb	22 18 41.2	+0.7
	baz=279						
ETLH				eS	Sg	22 18 57.6	+1.0
	baz=279						
TIPB	Shuangxi	1.18	314	eP	Pg	22 18 41.5	0.0
	baz=313						
TIPB				eS	Sb	22 18 55.5	-0.1
	baz=313						
LATG	Datong	1.19	289	P	Pn	22 18 40.9	+0.2
	baz=287						
LATG				S	Sn	22 18 56.7	+0.2
	baz=287						
ENTT	Nioudou	1.19	294	P	Pb	22 18 41.0	+0.1
	baz=293						
ENTT				S	Sn	22 18 56.5	0.0
	baz=293						
NDT	Datong Townshi	1.22	292	P	Pb	22 18 41.9	+0.5
	baz=290						
NDT				eS	Sg	22 18 57.9	-0.4
	baz=290						
FUSB	Fushanzhiwuyua	1.23	300	P	Pb	22 18 42.0	+0.5
	baz=309						
FUSB				S	Sn	22 18 57.9	+0.5
	baz=309						
SXI1	Grass Mountain	1.23	320	eP	Pn	22 18 41.2	-0.1
	baz=334						
SXI1				eS	Sb	22 18 56.8	-0.5
	baz=334						
ESL	Shilin	1.26	255	eP	Pn	22 18 41.6	+0.1
	baz=242						
ESL				eS	Sb	22 18 57.8	-0.1
	baz=242						
NWF	Wu-fen Shan	1.27	316	eP	Pn	22 18 41.8	-0.1
	baz=315						
NWF				S	Sb	22 18 57.7	-0.9
	baz=315						
JIJ	Ishigaki jima	1.28	80	P	Pn	22 18 42.0	+0.1
JIJ				S	Sb	22 18 58.8	+0.1
NNSB	Datong	1.28	283	P	Pb	22 18 43.2	+0.7
	baz=292						
NNSB				S	Sb	22 18 58.9	+0.1
	baz=292						
NNS	Nan Shan	1.29	283	i P	Pb	22 18 43.2	+0.4
	baz=292						
NNS				S	Sb	22 18 58.8	-0.3
	baz=292						
NWLT	Wulai	1.30	299	eP	Pb	22 18 43.6	+0.8
	baz=308						
NWLT				eS	Sn	22 18 58.8	-0.4
	baz=308						
YHNB	Yeheng	1.36	293	P	Pb	22 18 44.5	+0.7
	baz=297						
YHNB				eS	Sg	22 19 02.1	-0.7
	baz=297						
WHF	Hehuan Shan	1.36	270	eP	Pb	22 18 44.3	+0.2
	baz=269						
NSK	Sanguang	1.38	293	P	Pb	22 18 44.8	+0.6
	baz=291						
NSK				eS	Sb	22 19 02.3	+0.8
	baz=291						
FUSS	Fushou	1.38	274	eP	Pb	22 18 44.4	0.0
	baz=273						
HGSD	Ruisui	1.39	242	eP	Pn	22 18 43.8	+0.4
	baz=241						
HGSD				eS	Sn	22 19 00.4	-0.8
	baz=241						
TAP	Taipei	1.44	308	eS	Sn	22 19 01.5	-1.1
	baz=321						
TWT	Tachien	1.45	274	eP	Pg	22 18 46.4	-0.3
	baz=273						
CHGB	Renai	1.45	267	eP	Pn	22 18 45.2	+0.8
	baz=266						
CHGB				eS	Sn	22 19 03.2	+0.1
	baz=266						
EHY	Hungye	1.46	244	eS	Sn	22 19 03.0	-0.2
	baz=243						
TDCB	Techi	1.46	274	eP	Pb	22 18 46.4	+0.8
	baz=260						
JISG	Ishigakijimahi	1.48	73	P	Pn	22 18 44.3	-0.4
JISG				S	Sn	22 19 03.8	+0.2
WUSB	Renai	1.51	264	eP	Pn	22 18 45.6	+0.5
	baz=263						
WUSB				eS	Sn	22 19 03.8	-0.6
	baz=263						
VWDT	VWDT	1.53	255	eP	Pn	22 18 46.0	+0.7
	baz=254						
VWDT				eS	Sn	22 19 04.1	-0.7
	baz=254						
YULB	Yu-li	1.54	241	eP	Pn	22 18 45.1	-0.3
	baz=226						
YULB				eS	Sn	22 19 05.0	0.0
	baz=226						
EYUL	Yuli	1.54	239	eP	Pn	22 18 45.5	0.0
	baz=238						
EYUL				eS	Sn	22 19 04.0	-1.1
	baz=238						
NFF	Wufeng Townshi	1.57	288	eP	Pb	22 18 48.3	+0.9
	baz=275						
FULB	Fuli	1.64	235	eP	Pn	22 18 46.1	-0.7
	baz=221						
FULB				S	Sn	22 19 06.9	-0.7
	baz=221						
WHP	Taichung City	1.66	275	eP	Pb	22 18 48.7	-0.2
	baz=274						
WHP				eS	Sn	22 19 08.8	+0.7
	baz=274						
LIOB	Emei	1.66	288	eP	Pb	22 18 49.1	+0.1
	baz=287						
SSLB	Suanglung	1.69	258	eP	Pn	22 18 47.8	+0.2
	baz=257						
SSLB				eS	Sn	22 19 08.5	-0.2
	baz=257						
WCS	Beigang Elemen	1.69	267	eP	Pb	22 18 49.0	-0.4
	baz=266						
SMLT	Sun Moon Lake	1.72	261	eP	Pb	22 18 49.5	-0.5
	baz=261						
SMLT				eS	Sn	22 19 09.3	-0.3
	baz=261						
TYC	Yuchr	1.75	262	eP	Pn	22 18 49.7	+1.3
	baz=262						
TYC				eS	Sn	22 19 09.7	-0.7
	baz=262						
YUS	Yu-Shan	1.78	249	eP	Pn	22 18 49.8	+0.6
	baz=248						
YUS				eS	Sn	22 19 10.8	-0.8
	baz=248						
ELDTW	Lidau	1.86	239	eP	Pn	22 18 49.4	-0.6
	baz=238						
ELDTW				eS	Sn	22 19 11.6	-1.5
	baz=238						
LDUT	Ludao	1.89	219	eS	Sn	22 19 13.8	+0.2
	baz=218						
ALS	Alishan	1.90	251	eP	Pn	22 18 51.5	+0.8
	baz=250						
ALS				eS	Sn	22 19 14.3	0.0
	baz=250						
CHN5	Tsauling	1.98	254	eP	Pb	22 18 54.3	-0.2
	baz=242						
STYH	Taoyuan	2.06	242	eP	Pn	22 18 54.1	+1.5
	baz=230						
TPUB	Ta-pu	2.12	247	eP	Pb	22 18 55.8	-1.1
	baz=247						
CHN4	Tsaushan	2.14	249	eP	Pb	22 18 56.1	-1.0
	baz=248						
WTP	Ta-pu	2.16	246	eP	Pb	22 18 56.3	-1.2
	baz=245						
SLGT	Liugui	2.25	240	eP	Pn	22 18 57.2	+1.9
	baz=239						
CHN1	Nanshi	2.26	245	eP	Pb	22 18 58.1	-1.0
	baz=245						
TWK	Hsinying	2.26	247	eP	Pn	22 18 57.4	+2.0
	baz=247						

IDC ***06*** *22:28:52.8±1.1, 19°.52S×168°.05E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/25, mbtmp4.2/12, ML4.2/1, MS3.5/10, Ms1 3.5/10, ms1mx3.1/61, Error ellipse: s-maj=38.8km s-min=18.7km az=139.0*

NOU ***06*** *22:28:52.8, 19°.48S×167°.95E, h0km, MLv4.5/14, Vanuatu Islands Region*

NEIC ***06*** *22:28:57.5±1.5, 19°.65S±0°.08×167°.98E±0°.04, h27km±5km, mb4.4/9, Error ellipse: s-maj=11.3km s-min=5.3km az=177.0*

ISC 06 22:28:56.7±0.5**, 19°.55S**±0°.05×**168°.00E**±0°.08**, h26**km**, n63,** σ**1ˢ23**/62**, mb4.1**/13**, MS3.4**/8**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	1.42	210		Pn	22 29 18.1	-2.6
LIFNC				Sn	Sn	22 29 35.0	-3.5
LIFNC	LIFOU	1.42	210	P	Pn	22 29 18.1	-2.6
RTV	Rentapao	1.79	13	P	Pn	22 29 23.5	-2.4
DVP	Devils Point	1.82	6	P	Pn	22 29 23.8	-2.5
MARNC	Mare, Loyalty	1.93	179		Pn	22 29 26.7	-1.1
MARNC				Sn	Sn	22 29 49.1	-2.1
MARNC	Mare, Loyalty	1.93	179	P	Pn	22 29 26.7	-1.1
YATNC	Mamie plateau,	2.71	202	P	Pn	22 29 37.5	-1.0
DZM	Mont Dzumac	2.90	210	Pn	Pn	22 29 41.0	-0.4
	31nm,0.3s,baz=22,slow=19,SNR=220						
DZM				Sn	Sn	22 30 14.2	-1.2
	33nm,0.3s,baz=154,slow=23,SNR=5.2						
DZM				LR	LR	22 30 44.5	
	comp=Z,486nm,19.6s,baz=90,slow=38						
DZM	Mont Dzumac	2.90	210	ePn	Pn	22 29 40.9	-0.4
	150nm,0.3s						
DZM				eSn	Sn	22 30 12.9	-2.5
	219nm,0.3s						
DZM	Mont Dzumac	2.90	210	Pn	Pn	22 29 40.8	-0.5
DZM				Sn	Sn	22 30 13.8	-1.6
DZM	Mont Dzumac	2.90	210	P	Pn	22 29 41.0	-0.4
NOUC	Port Laguerre	3.00	212	P	Pn	22 29 43.1	+0.6
OUENC	Ouen Island, N	3.06	200		Pn	22 29 43.6	+0.3
OUENC	Ouen Island, N	3.06	200	P	Pn	22 29 43.6	+0.3
PINNC	Pines Island,	3.09	189		Pn	22 29 43.6	-0.3
PINNC	Pines Island,	3.09	189	P	Pn	22 29 43.5	-0.3
ONTNC	Ouen Toro	3.10	207		Pn	22 29 42.7	-1.3
KOUNC	Koumac, New Ca	3.63	253	P	Pn	22 29 50.8	-0.4
MSVF	Nonsavu	9.70	81	LR	LR	22 34 40.5	
	comp=Z,353nm,18.9s,baz=193,slow=36						
OUZ	Omahuta	16.38	164	Pn	Pn	22 32 44.4	-0.5
OUZ				IAmb	IAmb	22 32 52.2	
	comp=Z,18nm,0.8s						
AFI	Afiamalu	20.16	77	LR	LR	22 40 00.5	
	comp=Z,150nm,19.1s,baz=8.0,slow=33						
CTA	Charters Tower	20.46	265	P	Pn	22 33 34.1	-0.6
	comp=Z,6.8nm,0.8s,baz=105,slow=1.7,SNR=3.4						
CTA				LR	LR	22 39 52.9	
	comp=Z,141nm,19.6s,baz=85,slow=32						
RPZ	Rata Peaks	24.23	175	LR	LR	22 43 25.1	
	comp=Z,110nm,18.6s,baz=294,slow=36						
COEN	Coen	24.39	279	P	P	22 34 13.8	+0.6
COEN				IAmb	IAmb	22 34 15.6	
	comp=Z,8.6nm,0.8s						
STKA	Stephens Creek	26.69	237	P	P	22 34 35.0	+1.2
	comp=Z,4.8nm,0.9s,baz=65,slow=7.7,SNR=6.6						
STKA				LR	LR	22 43 56.5	
	comp=Z,86nm,19.4s,baz=195,slow=34						
STKA	Stephens Creek	26.69	237	P	P	22 34 33.6	-0.2
WRA	Warramunga Arr	31.65	264	P	P	22 35 17.3	-0.7
	comp=Z,1.3nm,0.4s,baz=89,slow=8.2,SNR=66						
WRA				PcP	PcP	22 38 10.2	+0.3
	comp=Z,0.3nm,0.7s,baz=102,slow=3.4,SNR=2.0						
WRA				LR	LR	22 46 14.9	
	comp=Z,86nm,19.2s,baz=164,slow=33						
WRA	Warramunga Arr	31.65	264	P	P	22 35 17.2	-0.9
ASAR	Alice Springs	31.91	256	P	P	22 35 20.4	+0.1
	comp=Z,5.1nm,0.5s,baz=86,slow=8.9,SNR=70						
ASAR				PcP	PcP	22 38 10.7	+0.1
	comp=Z,0.4nm,0.7s,baz=97,slow=4.8,SNR=2.5						
ASAR	Alice Springs	31.91	256	P	P	22 35 19.7	-0.7
FITZ	Fitzroy Crossi	40.04	265	LR	LR	22 50 57.6	
	comp=Z,61nm,19.3s,baz=127,slow=33						
KAPI	Kappang	49.11	281	LR	LR	22 58 25.0	
	comp=Z,56nm,19.1s,baz=238,slow=36						
LEM	Lembang	59.86	273	LR	LR	23 05 36.0	
	comp=Z,50nm,18.8s,baz=22,slow=37						
USRK	Ussuriysk Ar.	71.48	334	P	P	22 40 16.0	+1.1
	comp=Z,1.3nm,0.7s,baz=144,slow=4.7,SNR=5.4						
USRK	Ussuriysk Ar.	71.48	334	P	P	22 40 15.7	+0.8
PETK	Petropavlovsk-	72.90	354	P	P	22 40 23.6	+0.3
	comp=Z,1.3nm,0.6s,baz=133,slow=6.5,SNR=3.8						
PETK	Petropavlovsk-	72.90	354	P	P	22 40 24.5	+1.3
CMAR	Chiang Mai Arr	77.56	295	P	P	22 40 51.2	+0.4
	comp=Z,0.6nm,0.3s,baz=138,slow=4.1,SNR=6.3						
BELA	Belgrano 2	81.89	175	P	P	22 41 13.7	+0.3
BELA				IAmb	IAmb	22 41 14.6	
	comp=Z,7.1nm,0.8s						
ULN	Ulaanbaatar	86.41	324	P	P	22 41 35.4	-1.5
ULN				IAmb	IAmb	22 41 38.7	
	comp=Z,3.3nm,0.9s						
SONM	Songino Array	86.76	324	P	P	22 41 39.0	+0.4
	comp=Z,1.1nm,0.6s,baz=143,slow=4.7,SNR=9.6						
SONM	Songino Array	86.76	324	P	P	22 41 39.0	+0.4
SONM				IAmb	IAmb	22 41 39.7	
	comp=Z,1.3nm,0.8s						
TGL	Tana Glacier	89.25	22	P	P	22 41 52.1	+2.0
VNA3	Neumayer Olymp	89.44	181	P	P	22 41 50.4	-0.5
VNA2	Neumayer--Watz	89.71	182	P	P	22 41 52.1	-0.2
	baz=193,slow=5.5						
BARN	Barnard Glacie	89.88	22	P	P	22 41 52.9	-0.3
NVAR	Mina Array Bea	89.88	49	P	P	22 41 54.1	+0.3
	comp=Z,0.8nm,0.6s,baz=223,slow=8.7,SNR=4.9						
NVAR	Mina Array Bea	89.88	49	P	P	22 41 53.2	-0.6
ILAR	Eielson Array	90.88	18	P	P	22 41 56.1	-1.4
	comp=Z,0.8nm,0.8s,baz=233,slow=5.0,SNR=6.6						
ILAR	Eielson Array	90.88	18	P	P	22 41 57.2	-0.3
TXAR	Lajitas Array	97.94	62	P	P	22 42 31.4	+0.5
	comp=Z,0.2nm,0.7s,baz=236,slow=6.4,SNR=2.4						
TXAR	Lajitas Array	97.94	62	P	P	22 42 31.0	+0.1
MKAR	Makanchi Array	101.14	316	P	Pdif	22 42 44.9	+0.3
	comp=Z,0.2nm,0.6s,baz=103,slow=5.6,SNR=2.5						
YKA	Yellowknife Ar	101.48	28	P	Pdif	22 42 45.9	+0.2
	comp=Z,0.3nm,0.6s,baz=255,slow=4.8,SNR=6.7						
ARCES	ARCESS Array B	125.06	345	PKP	PKiKP	22 47 57.4	+3.0
	comp=Z,1.4nm,0.8s,baz=101,slow=1.8,SNR=10						
CLL	Collm	142.69	334	ePKPdf	PKPdf	22 48 28.0	+0.6
GERES	GERESS Array B	144.19	331	PKP	PKPbc	22 48 29.2	+0.7
	comp=Z,0.7nm,0.7s,baz=20,slow=4.3,SNR=5.2						
GERES	GERESS Array B	144.19	331		PKPdf	22 48 29.7	-0.6
MOA	Molln	144.63	329	eP	PKPdf	22 48 30.8	-0.2
	comp=Z,7.3nm,0.9s						
SOKA	Soboth	145.04	327	eP	PKPdf	22 48 31.9	+0.1
	comp=Z,7.9nm,1.4s						
KBA	Koelnbreinsper	145.62	329	eP	PKPbc	22 48 33.4	+0.3
	comp=Z,3.3nm,0.8s						
ABTA	Abfaltersbach	146.25	329	eP	PKPbc	22 48 35.5	+0.5
	comp=Z,2.0nm,0.7s						
FETA	Feichten	146.89	331	eP	PKPbc	22 48 37.8	+0.9
	comp=Z,9.4nm,1.9s						

IDC ***06*** *22:39:02.3±2.6, 24°.93S×179°.68E, h512km±25km, mb2.7/2, mb1 3.1/4, mb1mx2.9/23, mbtmp3.9/4, Error ellipse: s-maj=38.5km s-min=27.1km az=112.0*

ISC 06 22:39:02.2±1.6**, 24°.9S**±0°.1×**179°.6E**±0°.3**, h507**km**, n7,** σ**0ˢ57**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.32	348	P	P	22 40 52.4	+0.4
	1.2nm,0.3s,baz=176,slow=16,SNR=7.5						
URZ	Urewera	13.46	189	P	P	22 41 55.6	-0.3
	0.6nm,0.3s,baz=16,slow=4.1,SNR=3.1						
URZ				S	S	22 44 19.8	+0.7
	0.6nm,0.3s,baz=60,slow=22,SNR=6.5						
CTA	Charters Tower	31.17	272	P	P	22 44 39.5	+0.2
	baz=76,slow=4.2						
ASAR	Alice Springs	41.55	262	P	P	22 46 05.1	-0.2
	0.2nm,0.3s,baz=88,slow=7.5,SNR=2.3						
WRA	Warramunga Arr	42.02	267	P	P	22 46 08.8	-0.2
	0.5nm,0.3s,baz=102,slow=8.2,SNR=21						
AKASG	Malin Array Be	145.65	326	PKPbc	PKPdf	22 57 42.5	+0.3
	0.4nm,0.5s,baz=39,slow=3.8,SNR=4.4						
BRTR	Keskin Array B	147.93	306	PKPbc	PKPbc	22 57 49.5	-0.9
	0.4nm,0.5s,baz=75,slow=2.8,SNR=2.8						

ISK ***06*** *22:50:38.9, 35°.67N×31°.46E, h14km, ML3.2/26*

NIC ***06*** *22:50:38.1±0.0, 35°.71N×31°.39E, h21km±3km, Ml3.5/5*

DDA ***06*** *22:50:39.1±0.0, 35°.75N×31°.41E, h35km±1km, ML3.0*

HLW ***06*** *22:50:40.4, 35°.47N×31°.23E, h30km±20km, Md4.3, Ml3.8*

GII ***06*** *22:50:41.6±0.7, 35°.43N×31°.35E, h40km, MD3.1/1, Mm2.8/2*

ISC 06 22:50:38.5±1.2**, 35°.62N**±0°.02×**31°.38E**±0°.02**, h24**km±13km**, n112,** σ**1ˢ68**/146**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.98	51	PG	Pn	22 50 56.6	-0.1
GAZI	Gazipasa	0.98	51	P	Pn	22 50 55.8	-0.9
GAZI				S	Sb	22 51 04.2	-5.0
AKMS	Akamas	0.99	127	P	Pn	22 50 56.8	-0.1
AKMS				S	Sb	22 51 12.8	+3.2
AKMS				AML	AML	22 51 16.3	
	5.2nm,0.4s						
AKMS				AML	AML	22 51 16.3	
	5.2nm,0.4s						
AKMS				AML	AML	22 51 17.1	
	6.2nm,0.3s						
AKMS				AML	AML	22 51 17.1	
	6.2nm,0.3s						
AKUM	Antalya-Kumluc	1.09	310	P	Pb	22 50 59.7	+1.0
AKUM				S	Sb	22 51 13.0	+0.6
ALFC	Alefka	1.10	115	P	Pn	22 50 58.1	-0.4
ALFC				S	Sb	22 51 14.6	+1.7
ALFC				AML	AML	22 51 19.7	
	3.8nm,0.2s						
ALFC				AML	AML	22 51 19.7	
	3.8nm,0.2s						
ALFC				AML	AML	22 51 21.4	
	3.8nm,0.4s						
ALFC				AML	AML	22 51 21.4	
	3.8nm,0.4s						
KEMT	Kemer-ANTALYA	1.18	326	PN	Pb	22 51 01.3	+1.1
NATA	Nata	1.29	130	P	Pb	22 51 02.3	+0.2
NATA				AML	AML	22 51 29.5	
	7.6nm,1.1s						
NATA				AML	AML	22 51 31.1	
	11nm,0.8s						
AKDN	Akdeniz- Kıbrı	1.34	104	PN	Pb	22 51 03.1	+0.2
DEMR	Demre-Antalya	1.34	298	PN	Pb	22 51 04.5	+1.6
ANTB	Antalya	1.40	336	PN	Pb	22 51 03.3	-0.7
TEKE	Tekeli-Mersin	1.50	69	PN	Pn	22 51 04.4	+0.4
TEKE				SN	Sb	22 51 23.9	-0.5
SZAC	Souni	1.51	125	P	Pn	22 51 05.2	+1.2
SZAC				AML	AML	22 51 32.8	
	2.0nm,0.3s						
SZAC				AML	AML	22 51 32.8	
	2.3nm,0.7s						
KSL	Kastellorizon	1.55	290	S	Sb	22 51 24.6	-1.0
AKAS	Kas	1.56	293	PN	Pb	22 51 07.6	+0.8
KORT	Korkueli	1.60	329	PN	Pb	22 51 07.5	0.0
KORT	Korkueli	1.60	329	P	Pb	22 51 07.2	-0.3
KORT				S	Sb	22 51 33.0	+5.6
HDMB	Hadim	1.61	34	PN	Pb	22 51 06.8	-0.9
ELL	Elmali	1.63	314	PN	Pb	22 51 08.3	+0.3
ELL	Elmali	1.63	314	P	Pb	22 51 07.5	-0.5
ELL				S	Sn	22 51 25.6	-0.7
BERE	Bereket-Mersin	1.66	64	PN	Pn	22 51 07.2	+0.9
ATHAL	Athalassa	1.72	106	P	Pn	22 51 06.8	-0.1
ATHAL				S	Sn	22 51 29.7	+1.5
ATHAL				AML	AML	22 51 32.4	
	1.0nm,0.7s						
ATHAL				AML	AML	22 51 32.4	
	1.0nm,0.7s						
ATHAL				AML	AML	22 51 33.2	
	1.1nm,0.4s						
ATHAL				AML	AML	22 51 33.2	
	1.1nm,0.4s						
CSS	Mathiatis	1.73	112	PN	Pb	22 51 08.9	-0.7
CSS	Mathiatis	1.73	112	P	Pn	22 51 07.3	+0.2
ASGA	Asgata	1.75	118	P	Pn	22 51 09.0	+1.7
OREN	Orenkoy-Mersin	1.79	70	PN	Pn	22 51 09.2	+1.3
LFK	Lefkose	1.79	100	PN	Pn	22 51 09.5	+1.5
SEYD	Seydisehir-KON	1.82	12	PN	Pb	22 51 09.9	-1.2
BUCA	Burdur, Bucak-	1.82	339	P	Pn	22 51 08.8	+0.3
AKK1	Akkuyu-Mersin	1.83	73	PN	Pn	22 51 09.9	+1.4
AKK2	Akkuyu-Mersin	1.84	73	PN	Pn	22 51 09.9	+1.4
AKKU	Akkuyu-Mersin	1.84	73	PN	Pn	22 51 09.9	+1.2
GULN	MERSIN_Gulnar	1.85	72	P	Pn	22 51 10.0	+1.3
GULN				S	Sn	22 51 32.8	+1.6
SEDI	Konya, Seydise	1.85	9	P	Pb	22 51 10.6	-1.1
SEDI				S	Sn	22 51 32.2	+0.7
SEDI				i AML	AML	22 51 37.0	
	comp=E,171nm,0.6s						
TEPK	Tepekoy-MERSIN	1.86	71	PN	Pn	22 51 10.3	+1.4
TEVE	Tevekalti-Mers	1.86	64	PN	Pn	22 51 10.2	+1.2
SUTC	Sutluce-Ispart	1.87	351	PN	Pb	22 51 11.2	-0.9
BCK	Bucak	1.94	341	PN	Pb	22 51 12.2	-1.0
MVOU	Mavrovouni	1.94	108	P	Pn	22 51 09.8	-0.2
MVOU				S	Sn	22 51 34.3	+0.7
TISA	Tisan-Mersin	1.95	73	PN	Pn	22 51 11.5	+1.5
IKL	Isikli	1.97	71	PN	Pn	22 51 11.4	+1.0
KARG	Kargicak-Mersi	1.98	72	PN	Pn	22 51 11.4	+0.9
KKBE	Karaman, Kazim	2.03	38	P	Pb	22 51 14.2	-0.6
KKBE				S	Sb	22 51 39.0	-0.7
FETY	Fethiye	2.11	299	PN	Pb	22 51 14.1	-2.0
FETY	Fethiye	2.11	299	P	Pn	22 51 13.7	+1.4
FETY				S	Sn	22 51 37.6	-0.3
OSC1	CSNet OBS 1	2.12	182	P	Pn	22 51 13.0	+0.5
CAME	Cameli-Denizli	2.13	309	PN	Pb	22 51 15.6	-0.9
KRMN	Karaman	2.17	44	PN	Pn	22 51 14.6	+1.4
SILI	Silifke-Mersin	2.19	70	PN	Pn	22 51 15.1	+1.6
SLFK	Silifke-Mersin	2.22	69	PN	Pn	22 51 15.6	+1.8
CAEL	Denizli, Camel	2.23	313	P	Pb	22 51 18.4	+0.1
EREN	Erenkoy	2.28	92	PN	Pn	22 51 16.4	+1.8
EREN	Erenkoy	2.28	92	P	Pb	22 51 17.3	-1.6
EREN				S	Sn	22 51 42.2	+0.2
EREN				i AML	AML	22 51 48.0	
	comp=N,128nm,0.5s						
EREN				i AML	AML	22 51 51.0	
	comp=E,90nm,0.9s						
KMER	Konya-Meram	2.28	20	P	Pb	22 51 18.1	-1.0
KMER				S	Sb	22 51 47.7	+0.7
ISP	Isparta	2.30	343	PN	Pb	22 51 17.0	-2.4
BRDR	BURDUR-Merkez	2.32	333	P	Pb	22 51 18.5	-1.2
BAGO	Egridir - ISPA	2.41	349	P	Pb	22 51 19.3	-1.9
BAGO				S	Sn	22 51 46.4	+1.1
KONT	Konya--Tatoy	2.45	19	PN	Pn	22 51 18.9	+1.9
KONT	Konya--Tatoy	2.45	19	P	Pb	22 51 21.6	-0.3
DOGA	KONYA_Doganhis	2.49	5	P	Pb	22 51 20.4	-2.2
DOGA				S	Sn	22 51 47.8	+0.4
DOGA				i AML	AML	22 51 54.0	
	comp=N,89nm,0.8s						
BASM	Basmaki-Afyon	2.53	335	PN	Pb	22 51 20.9	-2.3
YVAC	Isparta, Yalva	2.64	358	P	Pn	22 51 21.2	+1.4
YVAC				S	Sn	22 51 53.2	+2.0
OSC2	CSNet OBS 4	2.65	164	P	Pn	22 51 21.3	+1.6
OSC2				S	Sn	22 51 53.6	+2.5
LADK	Ladik-KONYA	2.69	17	PN	Pn	22 51 22.4	+2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAVA	DENIZLI_Tavas	2.70	314	P	Pn	22 51 22.4	+1.8
TURN	Turunc	2.78	295	P	Pn	22 51 19.1	-2.4
KZIL	AFYON_Kizioren	2.81	340	P	Pn	22 51 23.3	+1.3
MERS	Mersin	2.83	63	PN	Pn	22 51 24.1	+1.8
KERG	Konya-Eregli	2.85	50	P	Pb	22 51 26.3	-2.4
KERG				S	Sn	22 51 57.6	+1.4
YESY	Yesilyurt	2.87	41	PN	Pn	22 51 24.8	+1.9
KDHN	Kadinhani	2.95	11	P	Pb	22 51 28.2	-2.3
KDHN				S	Sb	22 52 02.7	-3.4
MULA	Mugla, Merkez-	2.95	304	P	Pn	22 51 24.8	+0.8
MULA				S	Sn	22 51 55.0	-3.8
DED	Mersin	3.07	63	P	Pn	22 51 27.2	+1.6
DED				S	Sn	22 52 03.6	+2.0
PASA	Karahalli, USA	3.11	331	P	Pn	22 51 26.4	+0.2
CHBY	Cihanbeyli	3.19	22	PN	Pn	22 51 29.4	+2.1
KIZT	Kizilcal	3.27	7	PN	Pn	22 51 30.4	+2.0
KARA	Karaisali	3.39	60	PN	Pn	22 51 32.1	+2.2
CMRD	Camardi-Nigde	3.55	54	PN	Pn	22 51 34.3	+2.1
AKSY	AKSARAY - Alti	3.57	32	P	Pn	22 51 33.6	+1.1
USAK	Uak-Merkez	3.61	329	P	Pn	22 51 33.9	+0.8
ASUZ	Hatay-Arsuz	3.64	78	P	Pn	22 51 35.7	+2.4
YURE	YUREGIR	3.65	70	P	Pn	22 51 35.5	+2.0
KKUL	Konya-Kulu	3.75	19	P	Pn	22 51 37.7	+2.8
KKUL				S	Sn	22 52 21.4	+3.1
YAYL	Yayladag	3.87	83	P	Pn	22 51 38.5	+1.9
SGAZ	Eskisehir, Sey	3.92	354	P	Pn	22 51 40.1	+2.8
YAHY	KAYSERI_Yahyal	4.04	51	P	Pn	22 51 41.1	+2.1
KIRS	Kirsehir-Merke	4.04	29	P	Pn	22 51 42.7	+3.7
BBAL	Bala	4.15	19	P	Pn	22 51 41.9	+1.4
MMA0B	Mount Meron ar	4.23	127	Pn	Pn	22 51 42.0	+0.5
MMA0B				Sn	Sn	22 52 30.1	-0.1
OFRI	`Ofer	4.24	134	Pn	Pn	22 51 42.1	+0.5
GEM	Giv'at Ha'Em	4.28	123	Pn	Pn	22 51 43.4	+1.2
MMLI	Mount Malkishu	4.62	132	Pn	Pn	22 51 47.7	+0.8
MMLI				Sn	Sn	22 52 40.1	+0.2
ZEDA	zmir-Bergama	4.78	316	P	Pn	22 51 47.8	-1.3
HMDT	Nahal Hemdat	4.82	133	Pn	Pn	22 51 51.0	+1.5
HMDT				Sn	Sn	22 52 44.1	-0.5
AMAZ	Amatzia	5.04	143	Pn	Pn	22 51 53.4	+0.8
AMAZ				Sn	Sn	22 52 48.9	-1.2
DSI	Dead Sea	5.25	139	Pn	Pn	22 51 55.8	+0.4
DSI				Sn	Sn	22 52 54.3	-0.8
YTIR	Yattir	5.27	143	Pn	Pn	22 51 56.9	+1.0
YTIR				Sn	Sn	22 52 54.1	-1.9
KZIT	Kziot	5.34	151	Pn	Pn	22 51 57.5	+0.7
KZIT				Sn	Sn	22 52 57.1	-0.4
GHAJ	Ghor Haditha	5.55	140	Pn	Pn	22 52 00.8	+1.2
HMYD	Mayadein	5.83	185	P	Pn	22 52 04.5	+1.0
	baz=184						
SUZ	Suez	5.90	168	P	Pn	22 52 05.4	+1.0
	baz=166						
HSAF	As Saff	5.99	179	P	Pn	22 52 06.1	+0.4
	baz=177						
HSAF				S	Sn	22 53 06.7	-6.9
	baz=177						
GLL	Jalalah	6.04	177	P	Pn	22 52 07.0	+0.7
	baz=175						
PRNI	Paran	6.08	149	Pn	Pn	22 52 07.4	+0.5
PRNI				Sn	Sn	22 53 14.6	-1.1
KRMI	Paran Flat	6.17	152	Pn	Pn	22 52 08.5	+0.3
KRMI				Sn	Sn	22 53 15.7	-2.3
HRFI	Mount Harif	6.37	150	Pn	Pn	22 52 11.3	+0.4
MBRI	Mt Berech	6.53	152	Pn	Pn	22 52 13.8	+0.6
RYAN	Fayoum	6.59	188	P	Pn	22 52 14.2	+0.3
	baz=188						
SLUM	Salum	6.59	233	⇑P	Pn	22 52 13.1	-0.8
	baz=234						
SLUM				S	Sn	22 53 16.4	-12
	baz=234						
EIL	Elat	6.66	152	Pn	Pn	22 52 15.0	+0.2
HKAT	Jabal Katrina	7.42	162	⇑P	Pn	22 52 25.3	-0.2
	baz=160						
SWA2		8.09	220	P	Pn	22 52 34.5	0.0
	baz=220						
HFRF	Wahat Farafira	8.85	198	P	Pn	22 52 44.2	-0.7
	baz=198						

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*IDC **06** 22:58:46.9±1.7, 5°.26S×129°.38E, h218km±18km, mb3.3/4, mb1 3.9/9, mb1mx3.3/48, mbtmp4.3/9, Error ellipse: s-maj=22.1km s-min=13.9km az=85.0*
*DJA **06** 22:58:47.9±0.4, 5°S±5°×12°9E±°, h220km±7km, M4.5/7, mb4.4/5, mB4.7/1, MLv4.5/7, Mw(mB)3.9/1*
ISC 06 22:58:46.9±0.6**, 5°.22S**±0°.06×**129°.42E**±0°.07**, h250**km**, n34,** σ2.44s/39**, mb3.4**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.84	35	P	Pn	22 59 20.8	-0.4
MSAI	Masohi	1.93	345	P	Pn	22 59 27.1	-1.7
MSAI				S	S	22 59 56.3	-5.5
AAI	Ambon	1.95	321	P	Pn	22 59 28.3	-0.7
SAUI	Saumlaki	3.32	146	P	Pn	22 59 43.6	+0.6
SANI	Sanana	4.65	312	P	Pn	22 59 58.0	-0.6
SANI	Sanana	4.65	312	P	Pn	22 59 58.2	-0.4
SIJI	Sorong	4.70	23	P	Pn	22 59 58.6	-0.5
	13nm,0.3s,baz=209,slow=19,SNR=92						
SIJI				S	S	23 00 50.8	-5.9
	80nm,0.3s,baz=238,slow=23,SNR=48						
LBMI	Labuha	4.94	337	P	Pn	23 00 02.1	0.0
DRS	Darwin Rock St	7.31	169	P	Pn	23 00 30.3	-1.3
BATI	Baumata	7.56	229	P	Pn	23 00 35.0	+0.2
	10nm,0.3s,baz=296,slow=0.5,SNR=15						
BATI				S	S	23 01 58.1	-3.3
	4.5nm,0.3s,baz=325,slow=16,SNR=8.6						
BATI	Baumata	7.56	229	P	Pn	23 00 35.5	+0.8
	0.2nm54nm,0.7s						
KDU	Kakadu	8.01	158	P	Pn	23 00 39.2	-1.2
BKSI	Bulukumba	9.26	269	P	Pn	23 00 58.3	+2.0
	16nm,0.9s						
MRSI	Marisa	9.37	307	P	Pn	23 00 59.2	+1.5
	37nm,1.1s						
TTSI	Tana Toraja	9.82	282	P	P	23 01 08.5	-0.9
KNRA	Kununurra	10.41	184	P	Pn	23 01 09.3	-1.5
PLAI	Plampang	12.10	252	P	Pn	23 01 31.6	-0.3
FITZ	Fitzroy Crossi	13.32	196	P	Pn	23 01 46.8	-0.1
	0.6nm,0.3s,baz=24,slow=9.6,SNR=11						
FITZ				S	S	23 04 05.6	-9.3
	0.3nm,0.3s,baz=68,slow=19,SNR=3.8						
FITZ	Fitzroy Crossi	13.32	196	P	Pn	23 01 47.1	+0.2
WRA	Warramunga Arr	15.40	162	P	Pn	23 02 11.8	-0.2
	5.2nm,0.3s,baz=348,slow=12,SNR=164						
WRA				S	S	23 04 56.8	-4.3
	1.2nm,0.3s,baz=331,slow=23,SNR=5.6						
COEN	Coen	16.09	124	P	Pn	23 02 22.4	+2.1
QIS	Mount Isa	18.18	148	P	Pn	23 02 43.9	-0.8
PSA00	Pilbara Seismi	18.72	209	P	P	23 02 48.1	+0.7
ASAR	Alice Springs	18.84	167	P	Pn	23 02 51.0	-1.6
	4.1nm,0.3s,baz=350,slow=12,SNR=265						
ASAR				S	S	23 06 09.1	-0.5
	0.5nm,0.3s,baz=352,slow=23,SNR=14						
MTSU	Mount Surprise	19.41	133	P	Pn	23 02 57.7	-1.5
WRKA	Warakurna	19.73	183	P	P	23 03 00.0	+1.7
OOD	Oodnadatta	23.23	166	P	P	23 03 34.8	+2.6
MULG	Mulgathing	25.31	171	P	P	23 03 53.2	+2.2
RGRI	Rengat	27.48	279	P	P	23 04 04.8	-5.8
STKA	Stephens Creek	28.87	158	P	P	23 04 25.1	+2.5
	1.5nm,0.5s,baz=348,slow=12,SNR=3.1						
CMAR	Chiang Mai Arr	38.16	309	P	P	23 05 45.5	+2.7
	0.7nm,0.3s,baz=135,slow=6.1,SNR=4.5						
SONM	Songino Array	56.58	342	P	P	23 08 06.6	+2.7
	0.1nm,0.4s,baz=127,slow=6.2,SNR=2.0						
MKAR	Makanchi Array	66.43	327	P	P	23 09 12.8	+3.3
	0.3nm,0.4s,baz=115,slow=8.3,SNR=17						
KURBB	Kurchatov Arra	70.70	328	P	P	23 09 39.3	+3.6
	0.3nm,0.4s,baz=132,slow=5.1,SNR=3.3						

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*JMA **06** 23:02:58.8, 39°.76N×141°.85E, h58km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs21.00000°, δ67.00000°, λ100.00000°. NP2: φs177.00000°, δ25.00000°, λ68.00000°. Principal axes: T Plg67.0000°, Azm309.0000°; N Plg9.0000°, Azm197.0000°; P Plg21.0000°, Azm103.0000°;*
JMA Felt II J1.
*NIED **06** 23:02:58.9, 39°.76N×141°.85E, h58km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; Mrr2.00; Mθθ-0.28; Mφφ-1.72; Mrθ1.05; Mθφ-0.18; Mφr2.05; Fault plane solution: M0 2.96000×10^{14} NP1:φs22.00000°, δ71.00000°, λ98.00000°. NP2:φs179.00000°, δ21.00000°, λ68.00000°.*

*IDC **06** 23:03:04.2±2.1, 39°.66N×141°.70E, h112km±17km, mb3.5/9, mb1 3.4/12, mb1mx3.1/62, mbtmp3.7/12, MS3.5/3, Ms1 3.5/3, ms1mx2.5/65 Error ellipse: s-maj=30.6km s-min=14.5km az=109.0*
ISC 06 23:02:58.9±0.9**, 39°.76N**±0°.04×**141°.91E**±0°.08**, h60**km±6km**, n33,** σ1.20s/32**, mb3.7**/9**, MS3.5**/3**, 2C-8D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.18	350	⇑P	Pn	23 03 08.1	-0.2
JTH				S	Sn	23 03 14.6	-0.4
MIYJ	Miyakonagasawa	0.20	200	⇑P	Pn	23 03 08.1	-0.2
MIYJ				S	Sn	23 03 14.4	-0.7
JKEN	Kujiedanarisaw	0.47	341	⇓P	Pn	23 03 10.2	-0.3
JKEN				S	Sn	23 03 18.4	-0.6
JKZ	Kuzumaki	0.50	297	⇓P	Pn	23 03 10.4	-0.5
JKZ				S	Sn	23 03 18.5	-1.1
JOM	Ohasama	0.55	239	⇓P	Pn	23 03 10.8	-0.7
JOM				S	Sn	23 03 19.4	-1.2
JANG	Nango	0.68	334	⇓P	Pn	23 03 12.3	-0.7
JANG				S	Sn	23 03 22.4	-0.8
JMK	Ichinoseki	0.97	214	⇓P	Pn	23 03 15.9	-0.6
JMK				S	Sn	23 03 28.3	-1.2
JRG	Rokugo	1.05	250	P	Pn	23 03 16.8	-0.8
JAH	Hinai	1.06	294	⇓P	Pn	23 03 17.2	-0.6
JTM	Tenmabayashi	1.21	328	⇓P	Pn	23 03 19.2	-0.5
JTM				S	Sn	23 03 34.4	-0.8
JIO	Ouri	1.38	199	P	Pn	23 03 21.4	-0.5
JYK	Kaneyama	1.47	235	⇓P	Pn	23 03 22.5	-0.6
JYK				S	Sn	23 03 40.4	-0.9
MJAR	Matsushiro Arr	4.34	223	P	Pn	23 04 05.2	+2.8
	0.2nm,0.3s,baz=29,slow=13,SNR=7.0						
ASAJ	Asahikawa	4.38	7	P	Pn	23 04 09.8	+6.9
	1.3nm,0.3s,baz=226,slow=15,SNR=2.3						
ASAJ				S	Sn	23 05 02.4	+10
	1.4nm,0.3s,baz=354,slow=25,SNR=4.7						
KSRS	Korea Array	11.18	263	P	Pn	23 05 39.7	+3.8
	0.3nm,0.3s,baz=67,slow=16,SNR=2.2						
SEY	Seymchan	24.05	12	P	P	23 08 09.8	+1.7
	2.3nm,0.9s,baz=201,slow=8.0,SNR=7.8						
H11N2	WAKE ISLAND Hy	29.32	126	T	T	23 39 33.2	
	baz=318,slow=75,SNR=60						
H11N1	WAKE ISLAND Hy	29.33	126	T	T	23 39 35.1	
	baz=318,slow=75,SNR=100						
H11N3	WAKE ISLAND Hy	29.34	126	T	T	23 39 35.2	
	baz=318,slow=75,SNR=60						
H11S1	WAKE ISLAND Hy	30.11	128	T	T	23 40 36.2	
	baz=319,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	30.12	128	T	T	23 40 36.0	
	baz=319,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	30.13	128	T	T	23 40 38.2	
	baz=319,slow=76,SNR=26						
ZALV	Zalesovo Beam	40.41	310	P	P	23 10 30.5	-0.4
	1.9nm,0.6s,baz=94,slow=8.6,SNR=10						
MKAR	Makanchi Array	43.05	300	P	P	23 10 51.9	-0.7
	0.7nm,0.5s,baz=85,slow=9.2,SNR=11						
KURBB	Kurchatov Arra	44.67	306	P	P	23 11 04.8	-0.7
	1.7nm,0.5s,baz=81,slow=8.5,SNR=11						
ARU	Arti	54.60	317	LR	LR	23 36 37.5	
	comp=Z,35nm,18.5s,baz=127,slow=37						
AKTO	Aktyubinsk	57.16	311	LR	LR	23 41 07.9	
	comp=Z,28nm,20.2s,baz=190,slow=40						
WRA	Warramunga Arr	59.81	188	P	P	23 12 57.1	-0.9
	0.4nm,0.7s,baz=5.9,slow=6.7,SNR=4.5						
ARCES	ARCESS Array B	61.59	339	P	P	23 13 09.7	+0.2
	1.7nm,0.9s,baz=9.8,slow=7.9,SNR=3.9						
GEYT	Alibeck	62.88	298	LR	LR	23 43 06.0	
	comp=Z,45nm,18.2s,baz=336,slow=38						
FINES	FINESS Array B	66.59	332	P	P	23 13 42.0	-0.4
	1.4nm,0.8s,baz=95,slow=2.1,SNR=3.8						
NOA	NORSAR Array B	71.83	337	P	P	23 14 14.4	-0.5
	0.2nm,0.5s,baz=39,slow=6.3,SNR=1.7						
AKASG	Malin Array Be	72.38	322	P	P	23 14 17.1	-1.2
	0.2nm,0.3s,baz=44,slow=6.0,SNR=2.9						

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*STR **06** 23:12:09.7±0.9, 52°N±8°×°±°, h6km±5km, MLv2.8/6, preliminary*
*BGS **06** 23:12:09.5±1.0, 51°.72N×0°.94W, h4km±6km, ML2.3*
*LDG **06** 23:12:10.5±0.1, 51°.71N×0°.92W, h8km, Ml2.7/22, Error ellipse: s-maj=1.5km s-min=1.0km az=22.0*
ISC 06 23:12:09.7±1.1**, 51°.62N**±0°.03×**0°.85W**±0°.02**, h18**km±4km**, n69,** σ1.33s/95**, 1C-2D, United Kingdom**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WOL	Wolverton	0.39	217	eP	Pg	23 12 18.4	+0.7
WOL				eS	Sb	23 12 25.2	+1.6
WOL				IAML		23 12 26.2	
	comp=N,108nm,0.2s						
WOL				IAML		23 12 28.7	
	comp=E,105nm,0.6s						
SWN1	Swindon	0.60	260	⇑iP	Pb	23 12 21.4	-0.3
SWN1				eS	Sg	23 12 30.1	+0.4
SWN1				IAML		23 12 30.7	
	comp=E,139nm,0.2s						
SWN1				IAML		23 12 30.8	
	comp=N,221nm,0.2s						
SWN1	Swindon	0.60	260	Pg	Pb	23 12 21.4	-0.3
SWN1				Sg	Sg	23 12 30.4	+0.7
STRD	Stroud	0.83	281	eP	Pb	23 12 24.7	-0.9
STRD				eS	Sb	23 12 35.1	-1.4
STRD				IAML		23 12 35.9	
	comp=E,348nm,0.2s						
STRD				IAML		23 12 36.1	
	comp=N,155nm,0.2s						
OLDB	Oldbury-Upon-S	1.06	273	eP	Pb	23 12 28.9	-0.6
CWF	Charnwood Fore	1.16	346	⇓iP	Pn	23 12 28.7	-2.2
MONM	Monmouth	1.24	281	eP	Pn	23 12 31.4	-0.7
ELSH	Elham, Standar	1.33	110	eP	Pn	23 12 36.1	+2.8
ELSH	Elham, Standar	1.33	110	Pg	Pn	23 12 35.9	+2.5
ELSH	Elham, Standar	1.33	110	Sg	Sb	23 12 54.2	+3.4
MCH1	Michaelchurch	1.39	287	⇓iP	Pn	23 12 33.6	-0.5
MCH1	Michaelchurch	1.39	287	Sn	Sn	23 12 50.9	-1.0
MCH1	Michaelchurch	1.39	287	Pn	Pn	23 12 33.7	-0.4
WACR	West Acre	1.43	39	eP	Pn	23 12 34.6	-0.2
HLM1	Long Mynd	1.54	307	eP	Pn	23 12 35.9	-0.5
STNC	Stoke	1.69	331	eP	Pn	23 12 38.2	-0.2
LBWR	Ladybower, Pea	1.86	344	eP	Pn	23 12 40.2	-0.5
FOEL	Foel Wylfa	1.93	312	eP	Pn	23 12 41.6	0.0
SBD1	Bryn Du	1.96	312	eP	Pg	23 12 52.0	+4.5
DYA	Yadsworthy	2.28	240	Sn	Sn	23 13 14.6	+0.7
DYA	Yadsworthy	2.28	240	Pn	Pn	23 12 47.1	+0.7
HTL	Hartland	2.37	256	Pn	Pn	23 12 48.3	+0.7
RSBS	Rosebush, Pemb	2.44	279	eP	Pn	23 12 48.5	-0.1
JSA	Saint Aubin	2.58	200	Sn	Sn	23 13 22.5	+1.2
JSA	Saint Aubin	2.58	200	Pn	Pn	23 12 51.8	+1.3
FLN	La Foliniere	2.87	175	ePn	Pn	23 12 56.3	+1.8
FLN	La Foliniere	2.87	175	ePg	Pg	23 13 05.2	+0.5
FLN				eSn	Sn	23 13 29.3	+0.8
FLN				eSg	Sg	23 13 44.1	+2.2
	comp=N,8.7nm,0.2s						
LDF	La Druitiere	3.06	171	ePn	Pn	23 12 58.3	+1.1
LDF	La Druitiere	3.06	171	ePg	Pg	23 13 08.9	+0.5
LDF				eSn	Sn	23 13 34.4	+1.0
LDF				eSg	Sg	23 13 49.9	+1.8
	comp=N,9.6nm,0.4s						
CCA1	Carnmenellis	3.12	244	Sn	Sn	23 13 33.6	-1.1
CCA1	Carnmenellis	3.12	244	Pn	Pn	23 12 58.6	+0.6
GRR	Gorron	3.23	180	ePn	Pn	23 13 01.3	+1.8
GRR	Gorron	3.23	180	ePg	Pg	23 13 12.1	+0.4
GRR				eSn	Sn	23 13 38.1	+0.6
	comp=N,3.5nm,0.2s						
GRR				eSg	Sg	23 13 54.4	+0.8
	comp=N,6.8nm,0.2s						
SGMF	Saint Gilles	3.54	199	ePn	Pn	23 13 04.6	+0.8
SGMF	Saint Gilles	3.54	199	ePg	Pg	23 13 17.1	-0.5
SGMF				eSn	Sn	23 13 44.5	-0.7
SGMF				eSg	Sg	23 14 03.8	+0.3
	comp=N,3.7nm,0.3s						
BAIF	Baives	3.57	114	ePn	Pn	23 13 05.0	+0.9
BAIF				eSg	Sg	23 14 03.3	-0.9
	comp=N,4.9nm,0.4s						
ROSF	Rostrenen	3.64	206	ePn	Pn	23 13 05.8	+0.7
ROSF	Rostrenen	3.64	206	ePg	Pg	23 13 18.8	-0.6
ROSF				eSn	Sn	23 13 46.8	-0.7
ROSF				eSg	Sg	23 14 06.2	-0.3
	comp=N,6.2nm,0.3s						
ROSF	Rostrenen	3.64	206	Pn	Pn	23 13 06.0	+0.9
DOU	Dourbes	3.77	112	Pn	Pn	23 13 09.5	+2.6
GIVF	Givet	3.90	111	eP	Pn	23 13 13.6	+4.9
GIVF				eSg	Sg	23 14 14.6	-0.3
	comp=N,5.0nm,0.3s						
QUIF	Quistinic	4.00	203	ePn	Pn	23 13 10.6	+0.6
QUIF	Quistinic	4.00	203	ePg	Pg	23 13 25.8	-0.5
QUIF				eSn	Sn	23 13 56.4	0.0
QUIF				eSg	Sg	23 14 17.8	-0.2
	comp=N,2.8nm,0.3s						
SAVF	Savonnieres en	4.88	126	ePg	Pg	23 13 41.7	-1.4
SAVF				eSn	Sn	23 14 17.7	-0.4
HYF	Humbligny	4.91	151	ePn	Pn	23 13 24.1	+1.5
HYF				eSg	Sg	23 14 45.6	-1.7
MEZF	Maizieres J'vi	4.92	127	ePn	Pn	23 13 24.3	+1.7
MEZF	Maizieres J'vi	4.92	127	ePg	Pg	23 13 42.9	-0.9
MEZF				eSn	Sn	23 14 18.3	-0.7
MEZF				eSg	Sg	23 14 47.6	+0.1
	comp=N,1.7nm,0.3s						
MFF	Saint Martin d	5.04	174	ePn	Pn	23 13 26.1	+1.7
MFF	Saint Martin d	5.04	174	ePg	Pg	23 13 45.8	-0.4
MFF				eSn	Sn	23 14 21.9	-0.2
	comp=N,0.8nm,0.2s						
MFF				eSg	Sg	23 14 51.5	0.0
	comp=N,1.3nm,0.2s						
SFTF	Sexfontaines	5.11	130	ePn	Pn	23 13 26.4	+1.0
SFTF				eSn	Sn	23 14 23.4	-0.5
	comp=N,1.9nm,0.2s						
SFTF				eSg	Sg	23 14 53.6	-0.1
PAGF	Fort de Pagny	5.23	123	ePn	Pn	23 13 28.6	+1.7
PAGF	Fort de Pagny	5.23	123	ePg	Pg	23 13 48.7	-1.0
PAGF				eSn	Sn	23 14 26.7	0.0
LOR	Lormes	5.33	143	ePn	Pn	23 13 28.4	+0.1
LOR	Lormes	5.33	143	ePg	Pg	23 13 50.3	-1.4
LOR				eSn	Sn	23 14 28.2	-1.0
SSF	Saint Saulge	5.38	146	ePn	Pn	23 13 30.6	+1.6
SSF	Saint Saulge	5.38	146	ePg	Pg	23 13 50.8	-1.8
SSF				eSn	Sn	23 14 29.3	-1.1
SSF				eSg	Sg	23 15 02.4	+0.2
	comp=N,1.9nm,0.3s						
AVF	Avril sur Loir	5.56	149	ePn	Pn	23 13 33.8	+2.3
AVF				eSn	Sn	23 14 34.0	-0.9
	comp=N,0.5nm,0.2s						
AVF				eSg	Sg	23 15 08.6	+0.5
BGF	Bois d'Agland	5.62	153	ePn	Pn	23 13 34.0	+1.7
BGF				eSn	Sn	23 14 35.4	-0.9
BGF				eSg	Sg	23 15 09.9	0.0
	comp=N,7.8nm,0.4s						
TCF	Toulx Ste Croi	5.70	158	ePn	Pn	23 13 34.2	+0.7
TCF	Toulx Ste Croi	5.70	158	ePg	Pg	23 13 57.7	-1.1
TCF				eSn	Sn	23 14 37.0	-1.4
TCF				eSg	Sg	23 15 12.6	0.0
	comp=N,1.3nm,0.3s						
SMF	Signal de Mont	5.85	146	ePn	Pn	23 13 37.0	+1.5
SMF				eSn	Sn	23 14 41.1	-1.0
SMF				eSg	Sg	23 15 16.9	-0.5
	comp=N,0.7nm,0.2s						
HAU	Haudompre	5.90	125	ePn	Pn	23 13 37.4	+1.3
HAU				eSn	Sn	23 14 42.0	-1.2
	comp=N,1.3nm,0.3s						
HINF	Hinteralfeld	6.28	124	eSn	Sn	23 14 52.0	-0.6
HINF				eSg	Sg	23 15 31.0	-0.1
	comp=N,0.8nm,0.3s						
RJF	Les Rejaudoux	6.51	165	ePn	Pn	23 13 45.2	+0.6
RJF	Les Rejaudoux	6.51	165	ePg	Pg	23 14 12.4	-1.9
RJF				eSn	Sn	23 14 56.2	-2.1
	comp=N,1.6nm,0.3s						
LFF	La Frestale	6.77	170	ePn	Pn	23 13 47.1	-1.0
LFF	La Frestale	6.77	170	ePg	Pg	23 14 16.1	-3.1
LFF				eSn	Sn	23 15 02.1	-2.5
CABF	La Chapelle	6.77	135	ePn	Pn	23 13 48.9	+0.7
CAF	Calviac	6.97	163	ePn	Pn	23 13 51.8	+0.9
CAF				eSn	Sn	23 15 07.8	-1.9
	comp=N,0.6nm,0.2s						

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*AZER **06** 23:13:37.2±0.3, 36°.90N×48°.46E, h12km±12km, Error ellipse: s-maj=24.1km s-min=3.9km az=343.0*
*TEH **06** 23:13:39.0, 37°.08N×48°.10E, h6km, ML4.1*
*NEIC **06** 23:13:40.9±1.9, 37°.12N±0°.09×48°.24E±0°.09, h10km±2km, mb3.9/11, mb_Lg4.2(TEH), Error ellipse: s-maj=15.8km s-min=11.0km az=153.0*
*IDC **06** 23:13:43.9±3.0, 37°.14N×48°.64E, h0km, mb3.3/4, mb1 3.6/9, mb1mx3.4/46, mbtmp3.6/9, ML3.0/4, Error ellipse: s-maj=46.4km s-min=15.3km az=17.0*
ISC 06 23:13:39.3±1.3**, 37°.10N**±0°.03×**48°.11E**±0°.03**, h1**km±10km**, n135,** σ1.86s/166**, mb3.6**/6**, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZNJK	Zanjan	0.63	133	ePg	Pg	23 13 50.2	-1.2
ISRB	Sarab	0.80	334	ePg	Pg	23 13 54.8	+0.1
ISRB				eSg	Sb	23 14 07.3	-0.4
ISRB				e		23 14 08.4	
	comp=Z,100µm,0.2s						
CSN1	Caspian	0.91	59	ePg	Pg	23 13 57.0	+0.3
CSN1				e		23 14 14.5	
	comp=Z,51µm,0.2s						
IBST	Bostanabad	1.14	302	ePg	Pg	23 13 59.8	-1.3
IBST				e		23 14 21.6	
	comp=Z,63µm,0.3s						
RST1	Rasht - Gilan	1.22	83	ePg	Pg	23 14 02.4	-0.2
RST1				e		23 14 38.4	
	comp=Z,69µm,0.4s						
JIR1	Jirandeh	1.41	106	e		23 14 30.4	
	comp=Z,59µm,0.3s						
JIR1				ePg	Pn	23 14 04.7	-1.6
LRK	Lerik	1.55	7	P	Pb	23 14 09.0	+0.1
	SNR=50						
LRK				S	Sg	23 14 33.2	+4.2
ASTR	Astara	1.55	20	P	Pb	23 14 09.1	+0.2
	SNR=1026						
ASTR				S	Sg	23 14 32.9	+3.7
LHJ2	Lahijan - Gila	1.56	87	ePg	Pn	23 14 07.8	-0.4
LKRN	Lenkeran, Azer	1.69	18	P	Pb	23 14 11.2	0.0
	SNR=76						
LKRN				S	Sg	23 14 37.0	+3.4
TAB1	Tabriz	1.70	304	ePn	Pn	23 14 10.2	-0.1
TAB1				e		23 14 46.0	
	comp=Z,33µm,0.3s						
GRMI	Germi	1.71	354	ePn	Pb	23 14 11.7	0.0
QCNT	Qazvin	1.73	117	ePn	Pn	23 14 10.6	0.0
IAZR	Azarshahr	1.79	289	ePn	Pn	23 14 11.7	0.0
IAZR				e		23 14 15.3	
	comp=Z,45µm,0.4s						
TVRZ	Varzaqan	1.81	321	ePn	Pb	23 14 12.6	-0.7
TVRZ				e		23 14 43.3	
	comp=Z,30µm,0.3s						
YRD	Yardimli	1.81	3	P	Pb	23 14 13.4	0.0
	SNR=94						
YRD				S	Sg	23 14 41.1	+3.6
QABG	Abgarm-Qazvin	1.83	139	ePn	Pn	23 14 10.3	-1.8
QABG				e		23 14 36.7	
	comp=Z,20µm,0.4s						
IGZV	Ghazvin	1.84	112	ePn	Pn	23 14 12.2	0.0
ITBZ	Tabriz	1.93	306	ePn	Pn	23 14 13.1	-0.3
ITBZ				e		23 14 43.0	
	comp=Z,12µm,0.4s						
MAHB	Mahabad	1.96	261	ePn	Pn	23 14 13.6	-0.2
MAHB				e		23 14 42.8	
	comp=Z,18µm,0.4s						
SNGE	Sanandaj	2.10	197	ePn	Pn	23 14 13.6	-2.2
QALM	Alamut, Qazvin	2.14	107	ePn	Pn	23 14 16.2	-0.2
QALM				e		23 14 51.2	
	comp=Z,29µm,0.4s						
GLBA	Clilabad	2.15	6	P	Pb	23 14 18.7	-0.3
	SNR=180						
GLBA				S	Sg	23 14 50.5	+2.2
IALM	Almabolaq	2.24	179	ePn	Pn	23 14 18.6	+0.8
IRAZ	Razeghan	2.24	139	ePn	Pn	23 14 17.9	+0.1
IRAZ				e		23 14 52.0	
	comp=Z,16µm,0.6s						
ISHB	Shabestar	2.30	302	ePn	Pn	23 14 18.1	-0.6
ISHB				e		23 15 00.6	
	comp=Z,10µm,0.4s						
HAGD	Aghdareh	2.42	160	ePn	Pn	23 14 22.0	+1.7
QRD	Qoradiz	2.44	345	P	Pb	23 14 23.5	-0.5
	SNR=25						
QRD				S	Sg	23 14 57.7	+0.1
ORD	Ordubad	2.47	318	P	Pb	23 14 25.3	+0.6
	SNR=64						
ORD				S	Sg	23 15 00.3	+1.5
IMRD	Marand	2.49	311	ePn	Pn	23 14 22.4	+1.2
IMRD				e		23 15 07.8	
	comp=Z,20µm,0.4s						
IMHD	Mahdasht	2.50	124	ePn	Pn	23 14 21.1	-0.1
IMHD				e		23 14 59.8	
	comp=Z,12µm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
THKV	Tehran--Karaj	2.52	117	ePn	Pn	23 14 20.2	-1.4
IBZA	Bozab	2.63	185	ePn	Pn	23 14 24.6	+1.4
BLQ	Beylaqan	2.65	351	P	Pb	23 14 27.3	-0.3
	SNR=19						
BLQ				S	Sg	23 15 05.0	+0.6
CHTH	Charan	2.71	115	ePn	Pn	23 14 24.1	-0.1
SAAT	Saatly	2.77	5	P	Pb	23 14 29.0	-0.5
	SNR=17						
SAAT				S	Sg	23 15 06.8	-1.3
IDHR	Dehrash	2.78	211	ePn	Pn	23 14 26.5	+1.4
IDHR				e		23 14 30.9	
	comp=Z,5μm,0.4s						
KER	Kermanshah	2.83	197	ePn	Pn	23 14 26.6	+0.8
HSAM	Samen	2.91	172	ePn	Pn	23 14 27.8	+0.8
NAX	Nakhchivan	2.92	316	P	Pb	23 14 31.8	-0.4
	SNR=142						
NAX				S	Sg	23 15 13.3	+0.1
ALIB	Äli-Bayra	2.94	14	P	Pb	23 14 30.0	-2.4
	SNR=9.0						
KCHF	Cheshme Sefid,	2.95	198	ePn	Pn	23 14 28.9	+1.4
KCHF				e		23 14 33.5	
	comp=Z,4μm,0.4s						
ASAO	Ashtian	2.99	148	ePn	Pn	23 14 28.3	+0.3
IGHG	Ghaleghazi	3.04	205	ePn	Pn	23 14 30.0	+1.2
IGHG				e		23 14 37.2	
	comp=Z,9μm,0.6s						
IHSB	Hasanabad	3.05	122	e	Pb	23 14 35.8	+1.4
	comp=Z,4μm,0.2s						
SBZ	Shahbuz	3.05	319	P	Pb	23 14 33.7	-0.8
SBZ				S	Sg	23 15 17.0	-0.3
AGDM	Agdam	3.10	346	P	Pb	23 14 33.7	-1.6
	SNR=31						
AGDM				S	Sg	23 15 17.4	-1.6
ZRD	Zardab	3.19	354	P	Pb	23 14 34.3	-2.4
	SNR=20						
ZRD				S	Sg	23 15 18.9	-2.8
BRDA	Brd	3.24	347	P	Pb	23 14 34.9	-2.6
	SNR=39						
BRDA				S	Sb	23 15 20.1	+2.6
KDMR	Kurdemir	3.27	1	P	Pb	23 14 35.3	-2.8
	SNR=3.3						
KDMR				S	Sb	23 15 19.4	+0.9
IQOM	Qom	3.29	132	ePn	Pn	23 14 31.8	-0.5
IDOB	Doab	3.31	179	ePn	Pn	23 14 33.9	+1.4
DAMV	Damavand	3.44	114	ePn	Pn	23 14 35.0	+0.7
BMDN	Meydan	3.47	170	ePn	Pn	23 14 35.6	+0.9
GBS	Qobustan	3.49	10	P	Pn	23 14 38.0	+3.2
	SNR=8.7						
IPRN	Peran	3.50	103	ePn	Pn	23 14 35.9	+0.8
IDMV	Damavand	3.51	115	ePn	Pn	23 14 36.4	+1.1
MAKU	Maku	3.51	311	ePn	Pn	23 14 36.3	+1.1
IKFM	Kafar-mosalman	3.58	184	ePn	Pn	23 14 37.6	+1.7
IKFM				e		23 14 50.0	
	comp=Z,2μm,0.6s						
IVRN	Varamin	3.61	125	ePn	Pn	23 14 37.2	+0.8
IVRN				e		23 14 43.9	
	comp=Z,3μm,0.3s						
HYR	Heyderabad	3.66	317	P	Pb	23 14 41.8	-3.0
	SNR=38						
HYR				S	Sb	23 15 31.2	+1.5
KHMZ	Khomeyn	3.68	155	ePn	Pn	23 14 39.4	+1.8
GHVR	GHOM	3.68	134	ePn	Pn	23 14 37.2	-0.2
IML	Ismayilli	3.69	1	P	Pn	23 14 41.0	+3.5
	SNR=8.9						
IML				S	Sb	23 15 30.2	-0.2
PQL	Pirkuli	3.70	6	P	Pn	23 14 40.7	+2.9
	SNR=5.9						
PQL				S	Sb	23 15 30.2	-0.8
MNGR	Mingechevir, A	3.75	348	P	Pn	23 14 41.9	+3.6
	SNR=3.7						
MNGR				S	Sb	23 15 33.0	+0.7
GANJ	Ganja	3.80	339	P	Pn	23 14 42.9	+3.8
	SNR=15						
GANJ				S	Sb	23 15 36.1	+2.3
ATGJ	Altiaghaj	3.81	9	P	Pn	23 14 42.2	+3.0
	SNR=5.1						
ATGJ				S	Sb	23 15 32.5	-1.5
QBL	Gabala	3.84	357	P	Pn	23 14 43.1	+3.5
	SNR=7.8						
QBL				S	Sb	23 15 35.1	+0.1
SIZA	Siyzn	4.01	9	P	Pn	23 14 45.0	+2.9
	SNR=5.8						
SIZA				S	Sb	23 15 38.0	-2.0
IFIR	Firoozkooh	4.02	110	ePn	Pn	23 14 43.6	+1.3
GNI	Garni	4.03	320	Pn	Pb	23 14 52.8	+1.7
	comp=Z,8.5nm,0.3s,baz=138,slow=1.7,SNR=58						
GNI				Sn	Sg	23 15 44.3	-4.3
	baz=282,slow=20,SNR=2.1						
GNI	Garni	4.03	320		Pn	23 14 44.1	+1.8
GDB	GEDABAY	4.05	334	P	Pn	23 14 46.7	+4.0
	SNR=18						
GDB				S	Sb	23 15 41.8	+0.6
XNQ	Khinaliq	4.06	0	P	Pn	23 14 46.3	+3.4
	SNR=5.1						
XNQ				S	Sb	23 15 40.4	-1.1
SEKA	Sheki	4.16	350	P	Pn	23 14 47.3	+3.3
	SNR=10.0						
SEKA				S	Sb	23 15 44.1	0.0
GEVA	Gevas	4.19	288		Pn	23 14 46.0	+1.5
QUBA	Quba, Azerbaij	4.26	4	P	Pn	23 14 48.7	+3.4
	SNR=3.8						
QUBA				S	Sb	23 15 45.0	-1.9
ILAS	Lasjerd	4.28	112	ePn	Pn	23 14 46.8	+1.0
QAMS	Qamsar	4.30	140	ePn	Pn	23 14 46.6	+0.5
ISFB	Sefidab	4.34	128	ePn	Pn	23 14 46.6	+0.1
ISHM	Shahmirzad	4.37	106	ePn	Pn	23 14 47.9	+0.8
QSAR	Qusar	4.41	1	P	Pn	23 14 50.8	+3.4
QSAR				S	Sb	23 15 49.2	-2.1
QZX	Qazax, Azerbai	4.49	332	P	Pn	23 14 52.4	+3.9
	SNR=8.2						
QZX				S	Sb	23 15 53.1	-0.4
KRSH	Karshahi	4.53	132	ePn	Pn	23 14 49.2	0.0
IGLO	Ghaloghah	4.63	96	ePn	Pn	23 14 50.5	-0.1
ZKTA	Zakatala	4.67	346	P	Pn	23 14 54.5	+3.5
	SNR=5.2						
ZKTA				S	Sb	23 15 56.1	-2.7
IKLH	Kolahrood	4.72	142	ePn	Pn	23 14 53.4	+1.5
IANJ	Anjilo	4.96	107	ePn	Pn	23 14 56.5	+1.3
IPIR	Pirpir	4.96	152	ePn	Pn	23 14 56.0	+0.7
GURO	Guroymak-BITLI	5.03	289	Pn	Pn	23 14 57.4	+1.4
KARS	Kars	5.27	313	Pn	Pn	23 15 00.7	+1.3
IZEF	Zefreh	5.44	139	ePn	Pn	23 15 02.8	+1.0
NASN	Na'in	5.77	137	ePn	Pn	23 15 07.6	+1.2
IMND	Minoodasht	5.83	86	ePn	Pn	23 15 05.0	-1.8
MARD	Mardin	5.86	274		Pn	23 15 08.2	+0.8
ANAR	Anarak	6.03	129	ePn	Pn	23 15 10.8	+1.0
IRAM	Ramesheh	6.35	145	ePn	Pn	23 15 14.8	+0.5
MRVT	Maraveh tapeh	6.38	83	ePn	Pn	23 15 14.1	-0.4
SHRO	Shahrood	6.45	98	ePn	Pn	23 15 16.3	+0.7
ONI	Oni	6.55	328	Pn	Pn	23 15 16.8	0.0
YZKH	Yazd	7.11	130	ePn	Pn	23 15 25.1	+0.5
BJRD	Bojnurd	7.42	83	ePn	Pn	23 15 30.3	+1.4
SBZV	Sabzevar	7.66	92	ePn	Pn	23 15 33.4	+1.2
KBZ	Khabaz	7.72	331	Pn	Pb	23 15 43.8	-10
	comp=Z,0.0nm,0.3s,baz=137,slow=19,SNR=1.6						
ISFR	Sfrayin	7.90	87	ePn	Pn	23 15 37.2	+1.6
GEYT	Alibeck	7.99	81	Pn	Pn	23 15 37.1	+0.5
	comp=Z,0.8nm,0.3s,baz=292,slow=12,SNR=12						
GEYT				Sn	Sn	23 17 05.0	-2.7
	comp=Z,0.7nm,0.3s,baz=267,slow=24,SNR=2.2						
GEYT	Alibeck	7.99	81		Pn	23 15 35.4	-1.2
GYA0B	ALIBECK ARRAY	7.99	81	Pn	Pn	23 15 35.4	-1.2
TPRV	Parvadeh(Tabas	8.12	118	ePn	Pn	23 15 39.4	+1.0
TABS	Tabas	8.12	112	ePn	Pn	23 15 39.1	+0.6
TKDS	Koohdasht(Taba	8.14	113	ePn	Pn	23 15 39.6	+0.8
IPAY	Payeh	8.76	91	ePn	Pn	23 15 48.8	+1.5
IKRD	Kardeh	9.14	89	ePn	Pn	23 15 53.4	+0.9
BSRN	Basiran	10.43	116	ePn	Pn	23 16 10.8	+0.7
SHRT	Shahrakht	10.52	106	ePn	Pn	23 16 12.6	+1.2
ABKAR	Akbulak array	14.88	32		Pn	23 17 08.1	-2.6
ABKAR	Akbulak array	14.88	32		Pn	23 17 07.8	-2.9
AKTO	Aktyubinsk	15.11	25	Pn	Pn	23 17 12.1	-1.7
	comp=Z,1.6nm,0.3s,baz=211,slow=9.9,SNR=15						
CHGR	Chuyangaron	16.69	78	Pn	Pn	23 17 33.6	-0.9
CHGR				IAmb	IAmb	23 17 38.8	
	comp=Z,3.6nm,0.7s						
GAR	Garm	17.59	77		Pn	23 17 44.9	-0.9
KKAR	Karatay Array	18.13	64		Pn	23 17 50.8	-1.6
AKASG	Malin Array Be	19.16	321	P	Pn	23 18 11.5	+6.7
	comp=Z,0.2nm,0.3s,baz=126,slow=10,SNR=4.1						
BURAR	Bucovina Array	19.84	309	P	Pn	23 18 12.9	-0.2
ARU	Arti	20.57	17	P	Pn	23 18 22.0	+0.5
	comp=Z,1.4nm,0.6s,baz=201,slow=9.2,SNR=7.5						
ARU	Arti	20.57	17	P	P	23 18 19.3	-0.1
ARU				IAmb	IAmb	23 18 25.1	
	comp=Z,7.9nm,1.1s						
NIL	Nilore	20.77	92	P	P	23 18 17.9	-3.8
BVAR	Borovoye Array	22.24	37	P	P	23 18 39.2	+1.9
	comp=Z,0.8nm,0.5s,baz=255,slow=16,SNR=2.7						
KURBB	Kurchatov Arra	25.55	48	P	P	23 19 10.6	+1.1
	comp=Z,0.6nm,0.8s,baz=264,slow=8.7,SNR=3.9						
KURK	Kurchatov	25.64	48	P	P	23 19 09.5	-0.8
KURK				IAmb	IAmb	23 19 28.5	
	comp=Z,2.7nm,1.1s						
MAKZ	Makanchi	26.80	58	P	P	23 19 19.9	-1.0
MAKZ				IAmb	IAmb	23 19 42.3	
	comp=Z,2.4nm,1.1s						
MK31	Makanchi Array	27.02	58	P	P	23 19 20.6	-2.3
MK31				IAmb	IAmb	23 19 35.7	
	comp=Z,6.1nm,2.0s						
MKAR	Makanchi Array	27.02	58	P	P	23 19 24.0	+1.1
	comp=Z,0.2nm,0.7s,baz=261,slow=10,SNR=2.9						
MKAR	Makanchi Array	27.02	58	P	P	23 19 22.4	-0.5
CLL	Collm	28.58	311	esP	P	23 19 41.0	+4.2

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*NEIC **06** 23:16:12.5±2.0,24°07S±0°06×66°81W±0°09,h183km±9km, mb4.0/8,Error ellipse: s-maj=12.4km s-min=8.5km az=94.0*
*IDC **06** 23:16:13.3±1.8,23°91S×66°74W,h191km±23km,mb3.3/1, mb1 3.5/6,mb1mx3.2/30,mbtmp4.0/6,Error ellipse: s-maj=31.0km s-min=21.0km az=127.0*
*GUC **06** 23:16:14.0±0.7,23°94S×67°39W,h256km±9km,ML4.0*
*VAO **06** 23:16:23.5±0.7,23°85S×66°45W,h295km,mb3.8*
ISC 06 23:16:13.0±0.7**,24°01S**±0°04×**66°91W**±0°07**,h201**km±9km**, n78,**σ1°**33**/100**,11C,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.30	307	P	Pn	23 16 56.1	+1.0
	39nm,0.3s,baz=120,slow=7.0,SNR=826						
LVC				S	S	23 17 28.7	+1.4
	26nm,0.3s,baz=198,slow=22,SNR=33						
LVC	Limon Verde	2.30	307		Pn	23 16 55.8	+0.6
LVC				Sn	S	23 17 28.4	+1.1
LVC	Limon Verde	2.30	307⇑	iP	Pn	23 16 56.0	+0.9
LVC				i S	S	23 17 28.6	+1.4
PB15	IPOC Station P	2.48	288	Pn	Pn	23 16 57.4	+0.5
PB15				Sn	S	23 17 30.8	+0.4
PB15	IPOC Station P	2.48	288⇑	iP	Pn	23 16 57.7	+0.8
PB15				i S	S	23 17 30.6	+0.2
PB06	IPOC Station P	2.77	297	Pn	Pn	23 17 00.3	+0.2
PB06				Sn	S	23 17 36.3	+0.1
PB06	IPOC Station P	2.77	297⇑	iP	Pn	23 17 00.8	+0.7
PB06				i S	S	23 17 36.2	0.0
PB06				IAML		23 17 38.8	
	comp=N,324nm,0.1s						
PB09	IPOC Station P	3.08	315	Pn	Pn	23 17 04.4	+0.6
PB09				Sn	S	23 17 43.8	+1.1
PB09	IPOC Station P	3.08	315⇑	iP	Pn	23 17 04.6	+0.8
PB09				i S	S	23 17 42.8	+0.1
PB09				IAML		23 17 44.7	
	comp=N,209nm,0.5s						
PB14	IPOC Station P	3.25	258	Pn	Pn	23 17 05.7	-0.2
PB14				Sn	S	23 17 45.6	-0.9
PB14	IPOC Station P	3.25	258	eP	Pn	23 17 05.8	-0.1
PB14				i S	S	23 17 45.0	-1.6
PB04	IPOC Station P	3.41	299	Pn	Pn	23 17 07.9	+0.1
PB04	IPOC Station P	3.41	299⇑	iP	Pn	23 17 07.9	+0.1
PB04				i S	S	23 17 47.9	-2.1
AC02	Maricunga	3.46	215		Pn	23 17 09.0	+0.4
PB07	IPOC Station P	3.56	309		Pn	23 17 09.5	0.0
PB07	IPOC Station P	3.56	309⇑	iP	Pn	23 17 09.6	0.0
PB07				i S	S	23 17 51.5	-1.8
PB01	IPOC Station P	3.79	321	Pn	Pn	23 17 12.2	-0.1
PB01	IPOC Station P	3.79	321	eP	Pn	23 17 12.1	-0.2
PB01				i S	S	23 17 56.6	-1.6
PB02	IPOC Station P	3.84	314	Pn	Pn	23 17 12.7	-0.2
PB02	IPOC Station P	3.84	314⇑	iP	Pn	23 17 12.6	-0.4
PB02				i S	S	23 17 56.8	-2.6
AC01	Pan de Azucar	3.96	237	Pn	Pn	23 17 13.3	-1.1
AC01				Sn	S	23 17 58.9	-3.0
AC01	Pan de Azucar	3.96	237⇑	iP	Pn	23 17 13.3	-1.1
AC01				i S	S	23 17 59.4	-2.6
PATCX	Punta Patache	4.37	316	Pn	Pn	23 17 18.9	-0.6
PATCX	Punta Patache	4.37	316⇑	iP	Pn	23 17 18.4	-1.1
PATCX				i S	S	23 18 07.4	-3.8
PB08	IPOC Station P	4.37	331	Pn	Pn	23 17 20.6	+0.7
PB08				Sn	S	23 18 11.9	0.0
PB08	IPOC Station P	4.37	331⇑	iP	Pn	23 17 20.3	+0.5
PB08				i S	S	23 18 10.9	-0.9
AC06	Mina Casimiro	4.56	222	Pn	Pn	23 17 20.5	-1.3
HMBC	Humberstone	4.62	323⇑	iP	Pn	23 17 21.2	-1.6
HMBC				i S	S	23 18 14.3	-2.9
GO03	Copiap	4.66	219	Pn	Pn	23 17 22.1	-1.0
TA02	Huaiquique	4.77	321	Pn	Pn	23 17 24.0	-0.5
GO01	Chusmiza	4.81	333	Pn	Pn	23 17 25.5	0.0
GO01	Chusmiza	4.81	333	eP	Pn	23 17 25.6	0.0
GO01				i S	S	23 18 20.0	-2.0
PB11	IPOC Station P	4.93	328	Pn	Pn	23 17 25.8	-1.0
GO04	Tololo Observa	7.05	209	Pn	Pn	23 17 54.3	+0.2
CO03	El Pedregal	7.59	205	Pn	Pn	23 17 59.3	-1.6
LPAZ	La Paz	7.76	351	P	Pn	23 18 04.2	+0.4
	comp=N,0.5nm,0.3s,baz=163,slow=8.4,SNR=11						
LPAZ				S	S	23 19 30.0	-1.8
	comp=N,0.3nm,0.3s,baz=267,slow=24,SNR=6.4						
LPAZ	La Paz	7.76	351		Pn	23 18 04.6	+0.8
SIV	San Ignacio	9.68	36	P	Pn	23 18 26.3	-1.9
	comp=N,1.1nm,0.3s,baz=214,slow=12,SNR=13						
MT01	Popeta	10.53	200	Pn	Pn	23 18 38.2	-0.8
PTLB	Pontes e Lacer	11.22	42	eP	P	23 18 52.7	-1.2
VILB	Vilhena	12.70	31	eP	P	23 19 10.4	0.0
TRCB	Terra Rica	13.17	88	P	P	23 19 16.0	+0.4
TRCB	Terra Rica	13.17	88	eP	P	23 19 15.9	+0.4
SALV	Santo Antonio	13.27	55	eP	P	23 19 16.6	-0.1
PTGB	Pitanga	13.55	96	eP	P	23 19 20.9	+1.0
ITAB	Concordia	13.72	107	Pn	Pn	23 19 18.7	-0.6
PLTB	Pedras Altas	14.07	126	Pn	Pn	23 19 21.1	-2.6
PLTB	Pedras Altas	14.07	126	eP	P	23 19 25.9	+0.4
PCMB	Pacaembu	14.63	84	eP	P	23 19 32.7	+0.9
PDRB	Porto dos Gac	15.67	40	eP	P	23 19 42.6	-0.7
FRTB	Fartura	15.91	91	eP	Pn	23 19 47.0	+0.7
ITRB	Iturama	15.95	78	eP	Pn	23 19 46.4	-0.4
ARAG	Araguaiana, MT	16.42	63	eP	Pn	23 19 52.8	+0.4
CLDB	Colider	16.81	41	eP	P	23 19 55.2	-0.6
PLCA	Paso Flores	16.96	190	P	Pn	23 19 59.5	+0.8
	comp=N,0.2nm,0.3s,baz=9.6,slow=12,SNR=7.3						
PLCA	Paso Flores	16.96	190	P	Pn	23 19 58.0	-0.6
PLCA				IAmb	IAmb	23 19 58.7	
	comp=Z,3.6nm,1.1s						
PLCA	Paso Flores	16.96	190	eP	Pn	23 20 05.2	+6.6
LL04	Puerto Octay	17.47	194	P	P	23 20 03.1	+0.2
LL04				IAmb	IAmb	23 20 05.7	
	comp=Z,6.5nm,0.8s						
VAO	Valinhos	18.32	91	eP	P	23 20 11.4	-1.0
IPMB	Ipameri, GO	18.45	75	eP	P	23 20 13.7	-0.1
SNDB	Serra Nova Dou	19.05	54	eP	P	23 20 19.2	-1.1
PARB	Paraibuna	19.51	92	eP	P	23 20 25.0	-0.3
BDFB	Brasilia	19.61	68	P	P	23 20 25.8	-0.6
	comp=Z,0.9nm,0.3s,baz=239,slow=11,SNR=19						
BDFB	Brasilia	19.61	68	P	P	23 20 26.2	-0.2
AY01	Puyuhuapi	20.90	192	P	P	23 20 39.1	-0.6
AY01				IAmb	IAmb	23 20 43.0	
	comp=Z,6.0nm,0.9s						
PEXB	Peixe	21.26	59	eP	P	23 20 43.3	-0.5
ITTB	Itaituba	22.30	31	eP	P	23 20 53.6	-0.5
JANB	Januaria	23.06	71	eP	P	23 20 59.9	-1.1
SMTB	Santa Maria do	23.83	54	eP	P	23 21 08.1	+0.1
SDBA	SAO DESIDERIO	23.84	65	eP	P	23 21 07.0	-1.1
SJCC	San Jacinto, C	34.65	346	P	P	23 22 43.7	+0.2
SJCC				IAmb	IAmb	23 22 43.8	
	comp=Z,4.3nm,0.8s						
DR12	Loma Pena Alta	42.60	357	P	P	23 23 49.2	-0.3
QSPA	South Pole Qui	66.20	180	P	P	23 26 40.2	+1.2
KOWA	Kowa	72.37	65	P	P	23 27 17.6	+0.1
W13A	Hualapai Mount	73.73	321	P	P	23 27 28.5	+3.2
U15A	North Rim	73.81	323	P	P	23 27 30.7	+4.9
TORD	Torodi Ar. Bea	76.50	69	P	P	23 27 41.1	-0.2
	comp=Z,0.5nm,0.5s,baz=254,slow=4.4,SNR=8.4						
MKAR	Makanchi Array	146.48	40	PKPbc	PKPab	23 35 31.3	-0.5
	comp=Z,0.4nm,0.6s,baz=326,slow=2.7,SNR=4.9						

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*IDC **06** 23:18:14.3±0.6,35°30N×23°60E,h0km,mb4.1/20, mb1 4.1/31,mb1mx4.0/50,mbtmp4.0/31,ML3.8/10, MS3.3/10,Ms1 3.2/10,ms1mx2.8/92,Error ellipse: s-maj=14.0km s-min=8.4km az=6.0*
*MOS **06** 23:18:14.4±1.4,35°10N×23°55E,h14km,mb4.5/15,Error ellipse: s-maj=5.8km s-min=3.2km az=81.7*
*ATH **06** 23:18:15.7,35°40N×23°59E,h17km,Mw3.9,Moment Tensor Solution. s8 Moment tensor: Mrr-6.44; Mθθ-2.09; Mφφ8.53; Mrθ4.29; Mθφ-0.99; Mφr5.14; Fault plane solution: NP1:φs328.00000°,δ36.00000°, λ-139.00000°. NP2:φs202.00000°,δ67.00000°, λ-62.00000°.*
*ISK **06** 23:18:15.3,35°40N×23°57E,h7km,ML4.1/27*
*DDA **06** 23:18:15.6±0.0,35°57N×23°65E,h4km±4km,MW4.1*
*NEIC **06** 23:18:15.6±1.9,35°13N±0°08×23°50E±0°06,h10km±1km, mb4.2/49,Mwr3.9/12,ML4.3(THE),Error ellipse: s-maj=12.9km s-min=8.3km az=186.0*
*NEIC **06** 23:18:15.5,35°14N×23°52E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-0.26; Mθθ-0.66; Mφφ0.93; Mrθ0.40; Mθφ-0.22; Mφr0.41; Fault plane solution: Mo1.03000×10^15 NP1:φs212.45000°, δ78.66000°,λ-37.00000°. NP2:φs310.88000°,δ53.84000°, λ-165.90000°. Principal axes: T 1.0611, Plg16.0000°, Azm266.0000°; N -0.0586, Plg52.0000°, Azm18.0000°; P -1.0025, Plg34.0000°, Azm165.0000°;*
*THE **06** 23:18:16.0,35°40N×23°57E,h3km±2km,ML4.0/7 Error ellipse: s-maj=2.1km s-min=0.6km az=202.0*
ISC 06 23:18:15.8±0.7**,35°37N**±0°03×**23°52E**±0°03**,h10**km±4km**, n391,**σ2°**06**/405**,mb4.3**/50**,MS3.2**/7**,30C-14D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.19	136	PG	Pg	23 18 19.2	-0.6
KNDR				SG	Sg	23 18 22.2	-0.4
IMMV	Iera Moni Meta	0.39	76	P	Pg	23 18 22.6	-0.8
IMMV				S	Sg	23 18 27.4	-1.1
IMMV				AML	AML	23 18 29.2	
	comp=E,48238μm,0.5s						
IMMV				AML	AML	23 18 29.5	
	comp=N,58189μm,0.4s						
IMMV	Iera Moni Meta	0.39	76	P	Pg	23 18 22.7	-0.7
IMMV				S	Sg	23 18 28.4	-0.1
	comp=N,27μm,0.3s						
IMMV	Iera Moni Meta	0.39	76	PG	Pg	23 18 22.7	-0.7
IMMV				SG	Sg	23 18 28.2	-0.3
ANKY	Antikythira Is	0.53	340	P	Pb	23 18 26.3	-0.9
ANKY				S	Sb	23 18 33.9	-1.0
ANKY				AML	AML	23 18 35.3	
	comp=E,63590μm,0.5s						
ANKY				AML	AML	23 18 35.3	
	comp=N,74393μm,0.3s						
ANKY	Antikythira Is	0.53	340	P	Pg	23 18 26.1	0.0
ANKY				S	Sb	23 18 33.8	-1.0
	comp=N,35μm,0.4s						
VAM	Vamos	0.55	86	P	Pg	23 18 25.6	-1.0
VAM				S	Sg	23 18 33.4	-0.5
VAM				AML	AML	23 18 35.1	
	comp=E,35021μm,0.5s						
VAM				AML	AML	23 18 36.4	
	comp=N,44577μm,0.4s						
VAM	Vamos	0.55	86	P	Pg	23 18 25.4	-1.2
VAM				S	Sg	23 18 33.5	-0.5
	comp=N,20μm,0.5s						
VAM	Vamos	0.55	86	P	Pg	23 18 25.6	-1.0
VAM				S	Sg	23 18 33.4	-0.5
GVD	Gavdhos	0.70	139	P	Pg	23 18 28.8	-0.6
GVD				S	Sg	23 18 39.5	+0.8
GVD				AML	AML	23 18 44.3	
	comp=N,23842μm,0.5s						
GVD				AML	AML	23 18 49.1	
	comp=E,25322μm,0.5s						
GVD	Gavdhos	0.70	139	P	Pg	23 18 28.8	-0.6
GVD				S	Sg	23 18 39.8	+1.2
	comp=E,12μm,0.9s						
GVD	Gavdhos	0.70	139	PG	Pg	23 18 28.8	-0.6
GVD				SG	Sg	23 18 40.2	+1.6
KTHA	Kythira Island	0.96	337	P	Pb	23 18 34.0	-0.5
KTHA				AML	AML	23 18 50.2	
	comp=N,24139μm,0.3s						
KTHA				AML	AML	23 18 50.5	
	comp=E,60962μm,0.6s						
KTHA	Kythira Island	0.96	337	P	Pb	23 18 34.1	-0.5
KTHA				S	Sb	23 18 47.1	-0.3
	comp=E,21μm,0.4s						
IDI	Anoyia	1.12	94	Pg	Pg	23 18 35.4	-2.0
	comp=E,45nm,0.3s,baz=244,slow=12,SNR=392						
IDI				Lg	Lg	23 18 50.7	
	comp=E,267nm,0.3s,baz=9.0,slow=19,SNR=15						
IDI	Anoyia	1.12	94	P	Pg	23 18 35.1	-2.3
IDI				AML	AML	23 18 53.9	
	comp=N,10707μm,0.5s						
IDI				AML	AML	23 19 04.3	
	comp=E,7946μm,0.6s						
IDI	Anoyia	1.12	94	P	Pg	23 18 36.3	-1.1
IDI				S	Sg	23 18 51.2	-0.7
	comp=E,4μm,0.4s						
IDI	Anoyia	1.12	94	PN	Pg	23 18 35.8	-1.6
IDI	Anoyia	1.12	94	Pn	Pg	23 18 36.0	-1.4
IDI					Sg	23 18 51.3	-0.7
IACM	Heraklion	1.27	92	P	Pn	23 18 40.0	+0.4
IACM	Heraklion	1.27	92	P	Pn	23 18 39.8	+0.2
HRKL	Herakleio	1.29	92	PN	Pn	23 18 39.8	-0.1
MNVA	Monemvasia	1.37	343	P	Pn	23 18 41.1	0.0
MNVA				AML	AML	23 19 08.3	
	comp=N,4127μm,0.4s						
MNVA				AML	AML	23 19 08.5	
	comp=E,7170μm,0.7s						
VLI	Veliai	1.43	341	P	Pn	23 18 42.0	+0.3
VLI				AML	AML	23 19 05.5	
	comp=E,8165μm,0.4s						
VLI				AML	AML	23 19 09.5	
	comp=N,7497μm,0.8s						
VLI	Veliai	1.43	341	P	Pn	23 18 42.1	+0.3
VLI				S	Sn	23 19 01.2	+0.6
	comp=N,4μm,0.6s						
MHLO	Agia Marina, M	1.50	28	P	Pn	23 18 42.6	-0.2
MHLO				AML	AML	23 19 08.9	
	comp=N,37500μm,0.6s						
MHLO				AML	AML	23 19 09.4	
	comp=E,30968μm,0.4s						
MHLO	Agia Marina, M	1.50	28	P	Pn	23 18 42.9	+0.1
MHLO				S	Sn	23 19 01.6	-0.8
NPS	Neapolis	1.71	93	P	Pn	23 18 46.6	+0.8
NPS				AML	AML	23 19 19.8	
	comp=E,4949μm,0.7s						
NPS				AML	AML	23 19 27.1	
	comp=N,6349μm,0.9s						
NPS	Neapolis	1.71	93	P	Pn	23 18 46.7	+1.0
NPS				S	Sn	23 19 08.2	+0.5
NPS	Neapolis	1.71	93	P	Pn	23 18 46.5	+0.8
SAP3	Santorini-Thir	1.82	54	P	Pn	23 18 47.3	+0.1
CMBO	Columbo, Santo	1.88	54	P	Pn	23 18 48.1	+0.1
KRND	KRANIDI	2.03	352	P	Pn	23 18 50.4	+0.3
KRND				AML	AML	23 19 26.2	
	comp=E,3841μm,0.3s						
KRND				AML	AML	23 19 34.0	
	comp=N,3263μm,0.8s						
KRND	KRANIDI	2.03	352	P	Pn	23 18 51.4	+1.3
ITM	Ithomi	2.22	325	P	Pb	23 18 55.1	-1.0
ITM	Ithomi	2.22	325	PN	Pb	23 18 55.0	-1.0
ITM	Ithomi	2.22	325	Pn	Pb	23 18 55.0	-1.0
ZKR	Zakros	2.22	96	P	Pn	23 18 54.3	+1.6
ZKR				AML	AML	23 19 46.6	
	comp=E,3529μm,1.0s						
ZKR				AML	AML	23 19 49.3	
	comp=N,1384μm,0.8s						
ZKR	Zakros	2.22	96	P	Pn	23 18 55.2	+2.5
ZKR	Zakros	2.22	96	PN	Pn	23 18 53.0	+0.3
APE	Apeiranthos	2.35	43	deP	Pn	23 18 54.2	-0.3
APE	Apeiranthos	2.35	43	PN	Pn	23 18 54.6	+0.1
APE	Apeiranthos	2.35	43	P	Pn	23 18 53.0	-1.5
APE				S	Sn	23 19 25.6	+2.2
PTL	Penteli	2.69	6	P	Pn	23 19 00.0	+0.8
DION	Dionisos Attik	2.72	7	P	Pn	23 18 59.9	+0.2
KARP	Karpathos	2.98	86	P	Pn	23 19 03.6	+0.5
KARP	Karpathos	2.98	86	P	Pn	23 19 03.8	+0.7
KARP	Karpathos	2.98	86	PN	Pn	23 19 03.8	+0.7
KARP	Karpathos	2.98	86		Pn	23 19 03.9	+0.8
NIS1	Nisyros Isl.	3.21	66	PN	Pn	23 19 07.1	+0.8
LKR	Lokris	3.30	353	P	Pn	23 19 08.1	+0.5
BODT	Bodrum	3.50	60	PN	Pn	23 19 10.8	+0.5
BODT	Bodrum	3.50	60	P	Pn	23 19 10.8	+0.5

BDRM **Kayabasi** 3.59 61 P Pn 23 19 11.9 +0.3
CHOS **Chios island** 3.63 33 PN Pn 23 19 13.1 +0.9
DDIM **Aydin, Didim** 3.65 54 P Pn 23 19 13.8 +1.4
ZEYE **Izmir, Urla-Ze** 3.73 39 P Pn 23 19 14.7 +1.3
AGG **Agios Georgios** 3.77 346 P Pn 23 19 16.7 +2.7
AGG **Agios Georgios** 3.77 346 PN Pn 23 19 15.7 +1.7
AGG **Agios Georgios** 3.77 346 Pn Pn 23 19 16.7 +2.7
AGG **Agios Georgios** 3.77 346 P Pn 23 19 15.6 +1.6
GCAM **G?zelcaml?** 3.79 51 PN Pn 23 19 15.4 +1.2
GCAM **G?zelcaml?** 3.79 51 P Pn 23 19 14.7 +0.5
ARG **Arkhangelos** 3.84 76 P Pn 23 19 16.3 +1.3
ARG **Arkhangelos** 3.84 76 PN Pn 23 19 16.2 +1.3
URLA **Izmir** 3.87 39 PN Pn 23 19 15.7 +0.3
URLA **Izmir** 3.87 39 P Pn 23 19 14.7 -0.7
URLA S Sn 23 20 01.1 +0.2
URLA *i* AML AML 23 20 34.0
comp=N,273nm,1.3s
MLSB **Milas** 3.94 60 PN Pn 23 19 17.4 +1.1
TURN **Turunc** 4.07 68 PN Pn 23 19 19.3 +1.1
TURN **Turunc** 4.07 68 P Pn 23 19 20.6 +2.4
TURN S Sn 23 20 04.2 -1.7
TURN *i* AML AML 23 20 13.0
comp=N,72nm,0.7s
AYDN **Tasoluk** 4.19 56 P Pn 23 19 19.2 -0.6
YER **Yerkesik** 4.23 64 P Pn 23 19 24.9 +4.5
YER **Yerkesik** 4.23 64 PN Pn 23 19 21.9 +1.5
SIGR **SIGRI** 4.26 25 PN Pn 23 19 22.6 +1.8
MULA **Mugla, Merkez-** 4.31 63 P Pn 23 19 24.1 +2.6
DALY **Dalyan (Mula)** 4.40 69 PN Pn 23 19 23.7 +1.1
DKL **Dikili** 4.58 35 PN Pn 23 19 26.3 +1.2
ZEDA **zmir-Bergama** 4.58 37 P Pg 23 19 41.8 -1.7
KOCA **Canakkale, Ayv** 4.62 26 P Pb 23 19 31.8 -5.1
AYVA **Ayvalik** 4.67 32 P Pn 23 19 29.5 +3.1
FETY **Fethiye** 4.68 73 PN Pn 23 19 28.1 +1.5
FETY **Fethiye** 4.68 73 P Pn 23 19 27.4 +0.8
FETY S Sn 23 20 18.8 -2.2
FETY *i* AML AML 23 20 35.0
comp=N,56nm,0.9s
FETY *i* AML AML 23 20 35.0
comp=N,94nm,1.5s
LIT **Litokhoron** 4.79 350 P Pn 23 19 31.1 +3.0
LIT **Litokhoron** 4.79 350 Pn Pn 23 19 31.1 +3.0
LIT **Litokhoron** 4.79 350 P Pn 23 19 28.2 +0.1
LIT S Sn 23 20 26.4 +2.7
LIT *i* AML AML 23 20 32.0
comp=N,43nm,0.6s
TAVA **DENIZLI_Tavas** 4.82 63 P Pn 23 19 30.5 +1.9
EZN **Ezine** 4.97 26 P Pn 23 18 48.2 -42
BAYC **CANAKKALE_Bayr** 4.98 28 P Pn 23 19 30.8 +0.1
BUHA **Balikesir, Bur** 5.00 33 P Pn 23 19 29.5 -1.4
BUHA S Sn 23 20 34.2 +5.4
CAEL **Denizli, Camel** 5.00 68 P Pn 23 19 34.7 +3.6
AKAS **Kas** 5.02 78 PN Pn 23 19 32.9 +1.6
AKAS **Kas** 5.02 78 Pn Pn 23 19 31.7 +0.4
AKAS **Kas** 5.02 78 P Pn 23 19 32.3 +1.0
AKAS S Sn 23 20 25.7 -3.7
AKAS *i* AML AML 23 20 42.0
comp=N,170nm,0.6s
AKAS *i* AML AML 23 20 44.0
comp=N,134nm,0.8s
MANT **Manisa** 5.09 51 Pn 23 19 35.0 +2.5
MANT **Manisa** 5.09 51 P Pn 23 19 32.9 +0.5
KULA **Kula-Manisa** 5.17 51 PN Pn 23 19 34.8 +1.4
GOLH **Golhisar** 5.22 67 P Pn 23 19 38.0 +3.9
ELL **Elmali** 5.35 73 P Pn 23 19 38.3 +2.4
ELL **Elmali** 5.35 73 PN Pn 23 19 37.5 +1.6
ELL **Elmali** 5.35 73 Pn Pn 23 19 38.3 +2.4
SOH **Sokhos** 5.44 359 P Pb 23 19 44.3 -6.7
USAK **Uak-Merkez** 5.52 51 P Pn 23 19 39.3 +1.2
DEMI **Demirci** 5.53 47 P Pn 23 19 38.8 +0.5
AKUM **Antalya-Kumluc** 5.62 78 P Pn 23 19 41.8 +2.4
AKUM S Sn 23 20 40.2 -3.8
AKUM *i* AML AML 23 20 49.0
comp=N,24nm,0.5s
AKUM *i* AML AML 23 20 58.0
comp=N,68nm,0.9s
PASA **Karahalli, USA** 5.63 56 P Pn 23 19 38.0 -1.7
GRG **Griva** 5.65 351 P Pn 23 19 42.8 +3.0
FNA **Florina** 5.66 343 P Pn 23 19 44.5 +4.4
FNA **Florina** 5.66 343 Pn 23 19 44.5 +4.4
FNA **Florina** 5.66 343 P Pn 23 19 44.0 +3.9
KBN **Korca** 5.67 338 P Pn 23 19 43.7 +3.5
KBN **Korca** 5.67 338 Pn Pn 23 19 43.7 +3.5
SRS **Serrai** 5.74 1 P Pn 23 19 46.3 +5.2
BRDR **BURDUR-Merkez** 5.75 64 P Pn 23 19 42.1 +0.7
KORT **Korkueli** 5.76 72 PN Pn 23 19 43.3 +1.8
KORT **Korkueli** 5.76 72 P Pn 23 19 43.3 +1.8
KORT S Sn 23 20 48.1 +0.4
KORT *i* AML AML 23 21 05.0
comp=N,64nm,0.7s
DURS **Dursunbey** 5.77 42 P Pn 23 19 41.8 +0.2
ERIK **Erikli-Kesan** 5.79 23 P Pn 23 19 38.6 -3.2
KNT **Kendrikon** 5.80 355 P Pn 23 19 47.0 +5.0
KNL **Balıkesir** 5.83 32 P Pn 23 19 41.2 -1.0
BASM **Basmaki-Afyon** 5.83 62 PN Pn 23 19 44.2 +1.8
KRBG **Karabiga-Canak** 5.83 30 P Pn 23 19 40.8 -1.6
ALN **Alexandroupoli** 5.87 19 P Pn 23 19 45.6 +2.8
ALN **Alexandroupoli** 5.87 19 Pn Pn 23 19 45.6 +2.8
VAY **Valandovo** 5.99 353 *i* Pn Pn 23 19 47.6 +3.1
BUCA **Burdur, Bucak-** 6.00 69 P Pn 23 19 46.1 +1.3
KZIL **AFYON_Kizioren** 6.04 69 P Pn 23 19 45.3 0.0
RKY **Sarkoy-Tekirda** 6.04 27 P Pn 23 19 44.3 -1.0
SART **Tekirdag** 6.04 27 P Pn 23 19 45.2 -0.1
BCK **Bucak** 6.07 68 P Pn 23 19 48.5 +2.8
BCK **Bucak** 6.07 68 PN Pn 23 19 48.3 +2.6
ISP **Isparta** 6.14 64⇑ *e*P Pn 23 19 49.3 +2.6
ISP **Isparta** 6.14 64 Pn Pn 23 19 47.3 +0.7
SUTC **Sutluce-Ispart** 6.38 69 PN Pn 23 19 52.6 +2.5
STIP **Stip** 6.40 351 *i* Pn Pn 23 19 53.0 +2.8
SHUT **Suhut-Afyon** 6.46 58 PN Pn 23 19 53.3 +2.2
TIP **Timpagrande** 6.60 307 Pn Pn 23 19 53.9 +0.9
TIR **Tirane** 6.62 335 P Pn 23 19 55.9 +2.7
TIR **Tirane** 6.62 335 Pn Pn 23 19 55.9 +2.7
CEL **Celeste** 6.76 297 Pn Pn 23 19 55.0 -0.2
PLD **Plovdiv** 6.79 7 P Pn 23 19 59.9 +4.4
PLD pmax pmax
comp=Z,114nm,1.1s
YVAC **Isparta, Yalva** 6.83 63 P Pn 23 19 57.5 +1.2
YLV **Yalova** 6.95 40 P Pn 23 20 00.9 +3.2
VTS **Vitosha** 7.24 358 P Pn 23 20 05.1 +3.3
VTS **Vitosha** 7.24 358 Pn Pn 23 20 05.1 +3.3
RAFF **Raffo Rosso** 7.62 287 Pn Pn 23 20 07.4 +0.5
VAE **Valguarnera** 7.64 289 Pn Pn 23 20 10.0 +2.8
comp=Z,1.6nm,0.3s,baz=8.8,slow=20,SNR=5.5
VAE Sn Sn 23 21 34.0 +0.2
comp=Z,2.4nm,0.3s,baz=0.2,slow=5.0,SNR=6.2
PDG **Podgorica** 7.79 336 Pn Pn 23 20 11.9 +2.6
MDUB **Mudurnu** 7.92 48 Pn Pn 23 20 13.1 +2.0
CSS **Mathiatis** 8.04 90 Pn Pn 23 20 13.2 +0.5
CLTB **Caltabellotta** 8.59 288 Pn Pn 23 20 21.4 +1.0
BR231 **Keskin MP Arra** 8.59 56 Pn 23 20 23.6 +3.3
ANTO **Ankara** 8.62 56 P Pn 23 20 23.0 +2.4
ANTO **Ankara** 8.62 56 Pn 23 20 23.0 +2.4
STON **Ston** 8.75 331 *e*Pn Pn 23 20 20.6 -1.7
SGRT **San Giovanni R** 8.81 319 Pn Pn 23 20 22.4 -1.0
COPA **Copaceanca** 8.85 8 ||P Pn 23 20 28.4 +4.7
LSTV **Lastovo** 9.01 327 *e*Pn Pn 23 20 24.2 -1.7
LSTV Sn Sn 23 21 58.8 -8.5
PAOL **Paolisi** 9.03 311 Pn Pn 23 20 26.9 +0.6
DIVS **Divibare** 9.13 344 Pn Pn 23 20 30.1 +2.4
BR131 **Keskin Array S** 9.13 59*c* *i* P Pn 23 20 31.3 +3.5
BR131 **Keskin Array S** 9.13 59 Pn Pn 23 20 31.6 +3.8
BRTR **Keskin Array B** 9.13 59 Pn Pn 23 20 30.9 +3.1
comp=Z,0.4nm,0.3s,baz=233,slow=15,SNR=27
BRTR LR LR 23 23 56.4
comp=Z,100nm,19.4s,baz=252,slow=38
BRTR **Keskin Array B** 9.13 59 *i* P Pn 23 20 31.6 +3.8
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR **Keskin Array B** 9.13 59 Pn Pn 23 20 31.1 +3.3
RICI **Ricice** 9.50 331 *e*Pn Pn 23 20 31.2 -1.4
RICI Sn Sn 23 22 12.6 -6.8
HVAR **Hvar** 9.53 327 *e*Pn Pn 23 20 31.4 -1.7
HERR **Herculane** 9.54 355 ⇑P Pn 23 20 37.9 +4.7
MFTR **Murfatlar** 9.57 22 ⇑P Pn 23 20 41.4 +7.9
ISR **Istrita** 10.01 12 ⇑P Pn 23 20 45.1 +5.5
ISR **Istrita** 10.01 12 ⇑P Pn 23 20 45.1 +5.4
ARR **Arges** 10.02 5 ⇑P Pn 23 20 44.6 +4.7
GZR **Gura Zlata** 10.03 357 ⇑P Pn 23 20 43.8 +3.8
GZR **Gura Zlata** 10.03 357 ⇑P Pn 23 20 43.8 +3.8
LOT **Lotru** 10.07 1 ⇑P Pn 23 20 45.4 +4.9

MMAI **Mount Meron Ar** 10.12 100 Pn Pn 23 20 39.8 -1.4
comp=Z,1.7nm,0.3s,baz=267,slow=17,SNR=9.2
MMAI Sn Sn 23 22 32.5 -2.3
comp=Z,1.3nm,0.3s,baz=225,slow=20,SNR=2.1
VOIR 10.12 6 ⇑P Pn 23 20 45.9 +4.6
VOIR 10.12 6 ⇑P Pn 23 20 45.9 +4.6
FRGS **Fruska Gora** 10.18 345 ⇑P Pn 23 20 46.0 +4.1
KIJV **Kijevo** 10.21 330 *e*Pn Pn 23 20 41.5 -1.0
NEHR **Nehoiu** 10.27 11 ||P Pn 23 20 48.9 +5.7
ZIRJ **Zirje** 10.27 326 *e*Pn Pn 23 20 41.7 -1.4
MLR **Muntele Rosu** 10.28 10 ⇑P Pn 23 20 48.6 +5.2
MLR **Muntele Rosu** 10.28 10 Pn Pn 23 20 45.8 +2.4
comp=Z,0.3nm,0.3s,baz=160,slow=13,SNR=8.7
MLR **Muntele Rosu** 10.28 10 ⇑P Pn 23 20 48.6 +5.2
MLR **Muntele Rosu** 10.28 10 Pn Pn 23 20 47.4 +4.0
MORI **Morici** 10.40 327 *e*Pn Pn 23 20 44.1 -0.9
CFR **Carcaliu** 10.41 18 ⇑P Pn 23 20 52.0 +6.9
CFR **Carcaliu** 10.41 18 ⇑P Pn 23 20 52.0 +6.9
BISRR **Bisoca** 10.45 12 ||P Pn 23 20 51.0 +5.2
BZK **Bozkurt** 10.50 48 ⇑P Pn 23 20 58.5 +12
BZK **Bozkurt** 10.50 48 Pn Pn 23 20 48.5 +2.1
PLOR **Plostina** 10.73 12 ⇑P Pn 23 20 55.2 +5.6
PLOR **Plostina** 10.73 12 ⇑P Pn 23 20 55.2 +5.6
VRI **Vrincioaia** 10.76 12 ⇑P Pn 23 20 55.5 +5.6
VRI **Vrincioaia** 10.76 12 ⇑P Pn 23 20 55.6 +5.6
DUGI **Dugi Otok** 10.79 325 *e*Pn Pn 23 20 50.1 -0.3
UDBI **Udbina** 10.91 329 *e*Pn Pn 23 20 52.1 +0.1
NRCA **Norcia** 10.99 316 Pn Pn 23 20 54.7 +1.6
EIL **Elat** 11.19 117 Pn Pn 23 20 54.4 -1.5
comp=Z,1.3nm,0.3s,baz=228,slow=4.8,SNR=10.0
EIL Sn Sn 23 22 57.7 -3.4
comp=Z,0.9nm,0.3s,baz=295,slow=15,SNR=4.3
NVLJ **Novalja** 11.32 327 *e*Pn Pn 23 20 56.5 -1.0
RABC **Rab** 11.51 327 *e*Pn Pn 23 20 58.0 -2.1
KEST **Kesra** 11.56 276 LR LR 23 25 54.1
comp=Z,57nm,21.0s,baz=313,slow=40
ASF **Jabal al Asfar** 11.58 102 Pn Pn 23 20 59.7 -1.5
comp=Z,1.2nm,0.3s,baz=14,slow=11,SNR=2.7
BURAR **Bucovina Array** 12.30 5 ⇑P Pn 23 21 16.2 +5.1
BURAR **Bucovina Array** 12.30 5 ⇑P Pn 23 21 16.2 +5.1
BURAR **Bucovina Array** 12.30 5 Pn Pn 23 21 15.5 +4.4
BUR08 **Bucovina Ar. S** 12.33 5 Pn Pn 23 21 16.1 +4.7
PSZ **Piszkesteto** 12.83 349 ||P Pn 23 21 22.8 +4.6
PSZ **Piszkesteto** 12.83 349 ||P Pn 23 21 22.8 +4.6
SOKA **Soboth** 12.98 333 *e*Pn Pn 23 21 19.4 -1.0
comp=Z,1.2nm,0.5s
OBKA **Obir** 13.02 331 *e*Pn Pn 23 21 22.4 +1.5
comp=Z,1.5nm,0.7s
OBKA *e*Sn Sn 23 23 40.2 -5.6
comp=Z,2.5nm,0.5s
TEOL **Teolo** 13.45 321 Pn Pn 23 21 29.5 +2.9
CTI **Castel Tesino** 13.94 324 P Pn 23 21 34.4 +0.9
CTI **Castel Tesino** 13.94 324 Pn Pn 23 21 34.4 +0.9
KBA **Koelnbreinsper** 13.96 330 *e*P P 23 21 43.5 +1.4
comp=Z,1.6nm,0.5s
ABTA **Abfaltersbach** 14.06 327 *e*Pn Pn 23 21 37.0 +1.9
comp=Z,2.5nm,0.7s
SALO **Salr** 14.21 320 Pn Pn 23 21 41.0 +3.8
MOA **Molln** 14.25 334 Pn Pn 23 21 40.0 +2.4
comp=Z,0.7nm,0.3s
KWP **Kalwaria Pacla** 14.27 358 P P 23 21 44.1 -1.0
KWP **Kalwaria Pacla** 14.27 358 Pn P 23 21 44.1 -1.0
KRUC **Moravsky** 14.65 341 *e*PN P 23 21 49.9 +0.4
VRAC **Vranov** 14.83 342 Pn P 23 21 49.0 -2.4
comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=2.5
VRAC LR LR 23 29 18.3
comp=Z,189nm,18.5s,baz=166,slow=44
VRAC **Vranov** 14.83 342 *e*PN P 23 21 52.6 +1.2
WTTA **Wattenberg** 14.84 327 *e*Pn Pn 23 21 47.3 +1.4
comp=Z,1.5nm,0.5s
WATA **Walderalm** 14.92 327 *e*Pn Pn 23 21 47.9 +0.9
comp=Z,1.2nm,0.4s
MORC **Moravsky Berou** 15.05 345 P P 23 21 56.4 +2.5
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC **Moravsky Berou** 15.05 345 P P 23 21 56.4 +2.5
CKRC **Cesky Krumlov** 15.06 336 *e*P P 23 21 55.5 +1.5
CKRC *ex* x 23 21 58.9
FETA **Feichten** 15.08 324 *e*P P 23 21 54.8 +0.4
comp=Z,1.0nm,0.6s
TREC **Trest** 15.12 339 *e*P P 23 21 55.3 +0.7
TREC **Trest** 15.12 339 *e*P P 23 21 55.3 +0.7
TREC *e*pP pwP 23 21 58.6 -0.7
GERES **GERESS Array B** 15.29 335 Pn Pn 23 21 53.2 +1.4
comp=Z,0.2nm,0.3s,baz=146,slow=13,SNR=7.4
GERES Sn Sn 23 24 35.2 -6.0
comp=Z,0.0nm,0.3s,baz=159,slow=26,SNR=2.1
GERES **GERESS Array B** 15.29 335 P P 23 21 56.5 -0.2
GERES **GERESS Array B** 15.29 335 P P 23 21 56.5 -0.2
DAVOX **Davos/Dischmat** 15.33 322 Pn P 23 21 56.7 -0.5
comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=2.2
DAVOX Sn Sn 23 24 36.0 -6.2
comp=Z,0.3nm,0.3s,baz=348,slow=19,SNR=3.3
TUE **Stuetta** 15.39 320 Pn 23 21 54.8 +1.6
TUE IAmb IAmb 23 22 06.6
comp=Z,6.9nm,0.7s
KRLC **Kraliky** 15.50 344 *e*P P 23 22 02.4 +3.5
KRLC **Kraliky** 15.50 344 *e*P P 23 22 02.4 +3.5
KHC **Kasperske Hory** 15.58 335⇑ *e*P P 23 22 01.0 +1.2
KHC pmax pmax
comp=Z,12nm,0.6s
KHC **Kasperske Hory** 15.58 335 *e*P P 23 22 00.7 +0.9
KHC *e*pP pwP 23 22 04.3 -0.1
KHC **Kasperske Hory** 15.58 335 P 23 21 58.5 -1.2
KHC IAmb IAmb 23 22 06.6
comp=Z,5.5nm,0.6s
WET **Wettzell** 15.84 334 P P 23 22 06.6 +4.0
WET pmax pmax
comp=Z,8.0nm,1.0s
DPC **Dobruska-Polom** 15.86 343 *e*P P 23 22 03.5 +0.6
DPC **Dobruska-Polom** 15.86 343 *e*P P 23 22 03.5 +0.6
AKASG **Malin Array Be** 15.87 13 Pn Pn 23 21 59.0 -0.2
comp=Z,2.1nm,0.3s,baz=203,slow=9.3,SNR=16
AKASG **Malin Array Be** 15.87 13 *i* P Pn 23 22 00.9 +1.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 15.87 13 P 23 22 01.8 -1.2
AKBB **Malin Array Si** 15.87 13|| *e*P P 23 22 03.0 +0.1
AKBB pmax pmax
comp=Z,11nm,1.2s
AKBB **Malin Array Si** 15.87 13 P Pn 23 22 01.5 +2.3
AKBB IAmb IAmb 23 22 06.8
comp=Z,11nm,1.1s
GEVA **Gevas** 15.91 74 Pn Pn 23 21 59.6 -0.4
GEVA IAmb IAmb 23 22 14.1
comp=Z,7.4nm,0.9s
PRU **Pruhonice** 16.01 339 *e*P P 23 22 07.0 +2.5
PRU **Pruhonice** 16.01 339 *e*P P 23 22 07.0 +2.5
OSTC **Ostas** 16.08 343 *e*P P 23 22 06.1 +0.8
OSTC *ex* x 23 22 09.7
UPC **Upice** 16.08 342 *e*P P 23 22 09.8 +4.5
UPC **Upice** 16.08 342 *e*P P 23 22 09.8 +4.5
CHVC **Chvalec** 16.15 343 *e*P P 23 22 07.4 +1.3
KSP **Ksiaz** 16.33 344 P P 23 22 09.2 +1.2
KSP pmax pmax
comp=Z,10.0nm,0.9s
SENIN **Lac Senin/Sane** 16.43 317 Pn Pn 23 22 08.3 +1.6
GRFO **Grafenberg** 16.91 332 P P 23 22 14.3 -0.1
GRFO pmax pmax
comp=Z,18nm,1.2s
GRFO **Grafenberg** 16.91 332 Pn P 23 22 14.3 -0.1
GRFO IAmb IAmb 23 22 24.0
comp=Z,18nm,1.2s
BRG **Berggiesshubel** 16.98 339 P P 23 22 19.9 +4.7
BRG pmax pmax
comp=Z,6.0nm,1.7s
KIV **Kislovodsk** 17.04 54 *e*P P 23 22 16.7 +0.7
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,14.0s
KIV **Kislovodsk** 17.04 54 Pn Pn 23 22 15.3 +1.1
ONI **Oni** 17.07 59 P Pn 23 22 15.7 +1.1
ONI pmax pmax
comp=Z,4.0nm,1.0s
ONI **Oni** 17.07 59 Pn 23 22 15.7 +1.1
KBZ **Khabaz** 17.09 55 Pn P 23 22 17.0 +0.6
comp=Z,0.2nm,0.3s,baz=255,slow=1.3,SNR=11
KBZ LR LR 23 30 29.9
comp=Z,58nm,18.7s,baz=259,slow=43
KBZ **Khabaz** 17.09 55|| *e*P P 23 22 17.2 +0.8
KBZ pmax pmax
comp=Z,5.0nm,0.9s
BFO **Black Forest** 17.16 324 P P 23 22 17.2 -0.1
BFO pmax pmax
comp=Z,3.0nm,0.7s
BFO **Black Forest** 17.16 324 Pn P 23 22 17.2 -0.1
GNI **Garni** 17.43 68 Pn Pn 23 22 20.2 +1.0
comp=Z,0.2nm,0.3s,baz=116,slow=8.4,SNR=2.0
GNI LR LR 23 29 08.4
comp=Z,56nm,19.4s,baz=280,slow=38
GNI **Garni** 17.43 68 P P 23 22 21.2 +0.7
GNI pmax pmax
comp=Z,4.0nm,0.8s
GNI **Garni** 17.43 68 P 23 22 21.2 +0.7
ZEI **Tsey** 17.45 59 *e*P P 23 22 21.6 +0.9
ZEI pmax pmax
comp=Z,5.0nm,1.1s
NCK **Nalchik** 17.47 56⇑ *e*P Pn 23 22 19.7 +0.1
NCK pmax pmax
comp=Z,6.0nm,0.5s
CLL **Collm** 17.64 338 P P 23 22 24.1 +1.6
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL **Collm** 17.64 338 P P 23 22 24.1 +1.6
SUW **Suwalki** 18.64 359 P Pn 23 22 35.0 +1.2
SUW pmax pmax
comp=Z,28nm,1.1s
SUW **Suwalki** 18.64 359 P Pn 23 22 35.0 +1.2
SUW IAmb IAmb 23 22 39.3
comp=Z,28nm,1.1s
SUW **Suwalki** 18.64 359 *e*P Pn 23 22 36.1 +2.3
MNK **Minsk** 19.37 8 *i* P P 23 22 41.5 0.0
MNK *i* S S 23 26 22.6 +2.1
MNK pmax pmax
comp=N,18nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.4s
MNK pmax pmax
comp=Z,20nm,1.1s
MNK MLR MLR
comp=Z,62nm,15.0s
MNK MLR MLR
comp=N,84nm,14.0s
MNK MLR MLR
comp=E,13nm,13.0s
MNK **Minsk** 19.37 8 *i* P P 23 22 41.6 0.0
comp=E,3.0nm,1.4s
MNK *i* P P 23 22 41.6 0.0
comp=N,18nm,1.1s
MNK *i* P P 23 22 41.6 0.0
comp=Z,20nm,1.1s,baz=190
MNK *i* PP PnPn 23 22 55.9 +0.2
MNK *i* PPP PPP 23 23 03.6
MNK *i* S S 23 26 22.6 +2.1
MNK *i* SS SnSn 23 26 39.1 +5.1
MNK *i* SSS SSS 23 26 51.0
MNK *i* LQ LQ 23 28 34.5
MNK *i* LR LR 23 30 00.9
MNK *i* LRM MLR 23 31 18.2
comp=Z,62nm,14.5s
MNK *i* LRM MLR 23 31 31.4
comp=N,84nm,14.2s
MNK *i* LRM MLR 23 31 33.4
comp=E,13nm,13.2s
NACGM **Naroch** 19.66 6 *i* P P 23 22 41.6 -3.1
VORR **Voronezh** 19.80 30 *e*P P 23 22 40.4 -5.8
VORR pmax pmax
comp=Z,20nm,0.4s
IIGN **Ignalina** 20.07 4 *e*P P 23 22 49.5 +0.3
IDID **Didziasalis** 20.07 5 *e*P P 23 22 49.2 +0.1
PABE **Paberze** 20.14 1 P P 23 22 49.8 0.0
PABE IAmb IAmb 23 23 05.5
comp=Z,22nm,0.9s
PABE **Paberze** 20.14 1 *e*P P 23 22 50.6 +0.7
CLF **Chambon-Foret** 20.22 315 P P 23 22 51.3 +0.6
CLF IAmb IAmb 23 22 59.0
comp=Z,6.7nm,0.9s
ISAL **Salakas** 20.28 4 *e*P P 23 22 50.0 -1.4
BSEG **Bad Segeberg** 20.74 338 P Pn 23 22 58.9 +0.1
BSEG pmax pmax
comp=Z,17nm,1.1s
OBN **Obninsk** 21.71 21 *e*P P 23 23 06.3 -0.5
OBN *e*PPP PPP 23 23 36.6
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,22nm,15.0s
DEL **Delary** 22.10 346 *e*P P 23 23 11.3 +0.2
ESBB **Sonseca Array** 22.18 289 P P 23 23 12.8 +0.6
ESBB IAmb IAmb 23 23 17.1
comp=Z,4.4nm,1.1s
ESDC **Sonseca Array** 22.18 289 P P 23 23 13.2 +1.1
comp=Z,2.0nm,0.7s,baz=88,slow=9.9,SNR=12
ESDC **Sonseca Array** 22.18 289 P P 23 23 12.2 +0.1
VSU **Vasula** 23.20 4|| *e*P P 23 23 27.5 +4.9
VSU pmax pmax
comp=Z,77nm,1.4s
MDT **Midelt** 23.41 272 LR LR 23 34 36.3
comp=Z,79nm,18.4s,baz=115,slow=42
VIKU **Vikbolandet** 23.58 351 *e*P P 23 23 24.0 -2.4
AAL **Aland** 24.93 356 *e*P P 23 23 38.1 -0.8
MTE **Manteigas** 24.95 291 P P 23 23 39.8 +0.4
MTE IAmb IAmb 23 23 49.2
comp=Z,8.4nm,1.1s
PESTR **Estremoz** 24.99 287 P P 23 23 39.5 -0.2
HFS **Hagfors** 25.59 349 P P 23 23 45.2 +0.4
comp=Z,2.3nm,0.5s,baz=153,slow=13,SNR=2.9
HFS LR LR 23 35 22.5
comp=Z,71nm,19.8s,baz=174,slow=40
FINES **FINESS Array B** 26.14 3 P P 23 23 47.9 -2.0
comp=Z,0.9nm,0.4s,baz=156,slow=12,SNR=10
FINES **FINESS Array B** 26.14 3 P P 23 23 49.6 -0.3
FINES **FINESS Array B** 26.14 3 P P 23 23 49.6 -0.3
NC602 **NORSAR Array S** 26.53 347 P P 23 23 55.5 +2.1
NORES **NORESS Array B** 26.53 347 P P 23 23 57.8 +4.4
NAO01 **NORSAR Array S** 26.75 346 P P 23 23 57.3 +1.8
NAO01 IAmb IAmb 23 24 08.9
comp=Z,8.9nm,1.1s
NC405 **NORSAR Array S** 26.85 347 P P 23 23 58.2 +1.9
NC405 IAmb IAmb 23 24 05.5
comp=Z,5.6nm,0.9s
NB201 **NORSAR Array S** 26.86 347 P P 23 23 56.6 +0.2
NB201 IAmb IAmb 23 24 13.5
comp=Z,8.8nm,1.0s
NB2 **NORSAR Subarra** 26.87 347 P P 23 23 57.1 +0.6
comp=Z,0.5nm,0.5s,baz=156,slow=9.3
NOA **NORSAR Array B** 26.87 347 P P 23 23 57.8 +1.3
comp=Z,0.3nm,0.5s,baz=154,slow=9.4,SNR=8.0
NOA LR LR 23 35 56.4
comp=Z,54nm,21.9s,baz=170,slow=39
NBO00 **NORSAR Array S** 26.95 346 P P 23 23 57.1 -0.1
NBO00 IAmb IAmb 23 24 07.6
comp=Z,8.6nm,1.0s
NC303 **NORSAR Array S** 27.01 347 P P 23 23 59.5 +1.7
EKA **Eskdalemuir Ar** 27.10 326 P P 23 24 00.5 +1.9
comp=Z,1.9nm,0.5s,baz=129,slow=8.3,SNR=12
ESK **Eskdalemuir** 27.11 326 P P 23 24 00.5 +1.8
ESK pmax pmax
comp=Z,9.0nm,1.0s
ESK **Eskdalemuir** 27.11 326 P P 23 24 00.5 +1.8
ESK IAmb IAmb 23 24 18.5
comp=Z,8.6nm,1.0s
NC204 **NORSAR Array S** 27.17 346 P P 23 24 00.8 +1.5
KLMR **Klimovskoe** 27.49 17 *e*P P 23 23 59.0 -3.0
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR **Klimovskoe** 27.49 17 *e*P P 23 23 59.1 -3.0
KLMR AMP 23 24 08.7
comp=Z,10.0nm,1.2s
GEYT **Alibeck** 27.78 74 P P 23 24 04.9 0.0
comp=Z,1.2nm,0.5s,baz=255,slow=14,SNR=2.7
KIRV **Kirov** 28.84 28|| *e*P P 23 24 14.7 +0.7
AKTO **Aktyubinsk** 29.10 48 P P 23 24 17.0 +0.5
comp=Z,0.8nm,0.5s,baz=281,slow=5.4,SNR=4.2
AKTO **Aktyubinsk** 29.10 48 P P 23 24 17.0 +0.5
TORD **Torodi Ar. Bea** 29.62 227 P P 23 24 22.1 +0.6
comp=Z,1.9nm,0.6s,baz=32,slow=9.2,SNR=23
ABKAR **Akbulak array** 29.98 51 P P 23 24 25.0 +0.7
ABKAR **Akbulak array** 29.98 51 P P 23 24 24.6 +0.3
ABKAR IAmb IAmb 23 24 33.8
comp=Z,1.7nm,0.9s
ARU **Arti** 31.69 37 P P 23 24 39.2 -0.2
comp=Z,0.5nm,0.3s,baz=288,slow=22,SNR=4.7
ARU **Arti** 31.69 37 *d* *i* P P 23 24 39.1 -0.2
ARU 23 25 44.6
ARU 23 27 24.8
ARU S S 23 29 49.8 +1.2
ARU SS SnSn 23 31 36.7 +2.0

ARU				pmax	pmax		
	comp=Z,8.0nm,1.9s						
ARU	**Arti**	**31.69**	**37**	P	**P**	**23 24 38.6**	**-0.7**
ARU				IAmb	IAmb	23 24 42.1	
	comp=Z,3.3nm,1.0s						
WSAR	**Wadi Sarin**	**32.75**	**102**	LR	LR	23 41 16.2	
	comp=Z,44nm,18.2s,baz=212,slow=42						
ARCES	**ARCESS Array B**	**34.24**	**1**	P	**P**	**23 24 59.4**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=169,slow=7.2,SNR=11						
ARCES	**ARCESS Array B**	**34.24**	**1**	P	**P**	**23 24 59.5**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**34.24**	**1**	P	**P**	**23 24 59.5**	**-2.0**
SOCY	**Socotra**	**35.94**	**122**	P	P	23 25 12.6	-4.1
CHGR	**Chuyangaron**	**36.30**	**71**	P	**P**	**23 25 19.6**	**-0.1**
CHGR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHGR	**Chuyangaron**	**36.30**	**71**	P	**P**	**23 25 20.1**	**+0.4**
KKAR	**Karatay Array**	**36.81**	**63**	P	**P**	**23 25 23.5**	**-0.4**
KKAR	**Karatay Array**	**36.81**	**63**	P	**P**	**23 25 23.5**	**-0.4**
BRVK	**Borovoye**	**37.12**	**47**	⇓*i*P	**P**	**23 25 29.4**	**+3.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
DBIC	**Dimbokro**	**38.67**	**229**	P	**P**	**23 25 40.1**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=24,slow=8.2,SNR=6.1						
DBIC	**Dimbokro**	**38.67**	**229**	P	**P**	**23 25 39.7**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DBIC	**Dimbokro**	**38.67**	**229**	P	**P**	**23 25 39.7**	**-0.1**
DBIC				IAmb	IAmb	23 25 46.8	
	comp=Z,6.5nm,1.0s						
AAK	**Ala-Archa**	**39.77**	**64**	P	**P**	**23 25 48.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=211,slow=5.9,SNR=4.1						
AAK	**Ala-Archa**	**39.77**	**64**	⇑*e*P	**P**	**23 25 51.4**	**+2.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NIL	**Nilore**	**40.67**	**78**	P	**P**	**23 25 56.7**	**+0.3**
NIL				pmax	pmax		
	comp=Z,12nm,1.2s						
NIL	**Nilore**	**40.67**	**78**	P	**P**	**23 25 56.7**	**+0.3**
KURBB	**Kurchatov Arra**	**42.03**	**51**	P	**P**	**23 26 06.0**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=278,slow=8.6,SNR=16						
KURK	**Kurchatov**	**42.09**	**51**	⇑*e*P	**P**	**23 26 06.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
KURK	**Kurchatov**	**42.09**	**51**	P	**P**	**23 26 06.2**	**-1.5**
KURK				IAmb	IAmb	23 26 11.0	
	comp=Z,2.9nm,0.9s						
SCO	**Scoresbysund**	**42.66**	**339**	P	**P**	**23 26 12.6**	**+0.4**
SCO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SCO	**Scoresbysund**	**42.66**	**339**	P	**P**	**23 26 12.6**	**+0.4**
SPITS	**Spitsbergen Ar**	**43.02**	**358**	P	**P**	**23 26 16.2**	**+1.1**
SPITS				pmax	pmax		
	comp=Z,17nm,1.2s						
KBS	**Kingsbay**	**43.93**	**357**	P	**P**	**23 26 23.0**	**+0.7**
KBS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBS	**Kingsbay**	**43.93**	**357**	P	**P**	**23 26 23.0**	**+0.7**
KBS				IAmb	IAmb	23 26 35.3	
	comp=Z,5.7nm,1.1s						
MAKZ	**Makanchi**	**44.56**	**57**	P	**P**	**23 26 27.0**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**44.56**	**57**	P	**P**	**23 26 27.0**	**-0.9**
MAKZ				IAmb	IAmb	23 26 34.9	
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**44.78**	**57**	P	**P**	**23 26 28.7**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**44.78**	**57**	P	**P**	**23 26 28.7**	**-0.9**
MK31				IAmb	IAmb	23 26 31.8	
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**44.78**	**57**	P	**P**	**23 26 28.5**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=272,slow=7.9,SNR=45						
MKAR				PcP	**PcP**	**23 28 11.3**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=266,slow=3.4,SNR=1.9						
MKAR	**Makanchi Array**	**44.78**	**57**	P	**P**	**23 26 28.7**	**-0.9**
MKAR	**Makanchi Array**	**44.78**	**57**	P	**P**	**23 26 28.7**	**-0.9**
ZAA0	**Zalesovo Array**	**45.83**	**46**	P	**P**	**23 26 36.2**	**-1.5**
ZAA0				IAmb	IAmb	23 26 40.5	
	comp=Z,3.7nm,0.9s						
ZALV	**Zalesovo Beam**	**45.83**	**46**	P	**P**	**23 26 36.1**	**-1.7**
	comp=Z,2.0nm,0.4s,baz=268,slow=9.0,SNR=16						
SACV	**Santiago Islan**	**46.74**	**257**	P	**P**	**23 26 42.7**	**-2.8**
NRIK	**Noril'sk**	**48.26**	**25**	⇑*e*P	**P**	**23 26 57.1**	**+0.6**
NRIK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TSUM	**Tsumeb**	**54.56**	**187**	LR	LR	23 53 49.6	
	comp=Z,71nm,18.3s,baz=162,slow=39						
ASCN	**Ascension**	**55.95**	**227**	P	**P**	**23 27 51.8**	**-2.7**
GOMU	**GeErMu**	**56.57**	**67**	P	**P**	**23 28 03.6**	**+4.4**
GOMU				pP	sP	23 28 09.1	+5.8
GOMU				sP	pP	23 28 10.7	+8.5
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,55nm,4.3s						
GTA	**Gaotai**	**59.04**	**61**	*e*P	**P**	**23 28 19.3**	**+3.1**
GTA				pP	sP	23 28 26.8	+6.5
GTA				sP	pP	23 28 31.9	+13
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**60.38**	**50**	P	**P**	**23 28 24.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=286,slow=7.2,SNR=8.0						
SONM	**Songino Array**	**60.38**	**50**	IAmb	IAmb	23 28 29.0	
	comp=Z,0.9nm,0.8s						
ULN	**Ulaanbaatar**	**60.79**	**50**	⇓*e*P	**P**	**23 28 26.6**	**-1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SCHQ	**Schefferville**	**62.15**	**319**	P	**P**	**23 28 37.2**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=77,slow=5.2,SNR=4.4						
LZH	**Lanzhou**	**63.30**	**63**	*e*P	P	23 28 37.3	-7.9
LZH				pP	pP	23 28 46.0	-2.2
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
BOSA	**Boshof**	**63.66**	**178**	P	**P**	**23 28 47.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=0.0,slow=9.1,SNR=2.6						
CMAR	**Chiang Mai Arr**	**67.88**	**83**	P	**P**	**23 29 16.3**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=300,slow=7.2,SNR=1.6						
BILL	**Bilibino**	**73.19**	**14**	*e*P	**P**	**23 29 47.4**	**+1.0**
BILL				*e*		23 32 31.7	
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BILL				MLR	MLR		
	comp=Z,34nm,16.0s						
KLR	**Kul'dur**	**74.48**	**40**	⇓*e*P	**P**	**23 29 55.4**	**+1.1**
KLR				pmax	pmax		
	comp=Z,4.0nm,2.3s						
MA2	**Magadan**	**75.86**	**25**	⇑*e*P	**P**	**23 30 01.7**	**-0.3**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s						
YKA	**Yellowknife Ar**	**76.83**	**341**	P	**P**	**23 30 07.2**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=35,slow=5.4,SNR=8.0						
YKA	**Yellowknife Ar**	**76.83**	**341**	*i* P	**P**	**23 30 07.1**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
V61A	**Roper**	**77.35**	**305**	P	**P**	**23 30 10.2**	**-0.7**
KSRS	**Korea Array**	**79.21**	**52**	P	**P**	**23 30 20.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=298,slow=4.5,SNR=6.4						
ILAR	**Eielson Array**	**79.90**	**356**	P	**P**	**23 30 25.3**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=351,slow=5.7,SNR=4.9						
ILAR	**Eielson Array**	**79.90**	**356**	P	**P**	**23 30 25.7**	**+1.2**
ILAR	**Eielson Array**	**79.90**	**356**	P	**P**	**23 30 25.6**	**+1.2**
X58A	**Rowland**	**79.91**	**305**	P	**P**	**23 30 24.6**	**-0.4**
DHY	**Denali Highway**	**81.62**	**356**	P	**P**	**23 30 34.6**	**+0.7**
WRA	**Warramunga Arr**	**117.94**	**95**	PKP	**PKPdf**	**23 37 01.8**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.6,SNR=2.3						
ASAR	**Alice Springs**	**119.41**	**99**	PKP	**PKPdf**	**23 37 05.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=346,slow=1.9,SNR=2.5						

*DDA **06** 23:22:48.0±0.0, 35°.66N×23°.73E, h15^{km}, ML3.2*
*IDC **06** 23:22:48.3±1.4, 35°.36N×23°.56E, h0^{km}, mb3.7/6, mb1 3.6/8, mb1mx3.4/41, mbtmp3.6/8, ML3.0/2, Error ellipse: s-maj=26.5km s-min=12.1km az=11.0*
*ATH **06** 23:22:49.1, 35°.35N×23°.52E, h10^{km}±3^{km}, ML3.2/9, Error ellipse: s-maj=3.6km s-min=0.9km az=36.0*
*ISK **06** 23:22:50.1, 35°.36N×23°.64E, h7^{km}, ML3.4/18*
*THE **06** 23:22:50.0, 35°.40N×23°.58E, h4^{km}±2^{km}, ML3.1/12, Error ellipse: s-maj=2.5km s-min=0.5km az=127.0*
ISC 06 23:22:49.8±0.8**, 35°.38N**±0°.02×**23°.59E**±0°.03**, h12**^{km}±6^{km}**, n63,** σ1.56/86**, mb3.6**/6**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.17**	**153**	P	**Pg**	**23 22 53.0**	**-0.5**
KNDR				S	**Sg**	**23 22 55.6**	**-0.6**
	9µm,0.2s						
KNDR	**Palaiochora Ch**	**0.17**	**153**	PG	**Pg**	**23 22 53.0**	**-0.5**
KNDR				SG	**Sg**	**23 22 55.5**	**-0.6**
RODP	**Rodopos**	**0.22**	**37**	P	**Pg**	**23 22 55.4**	**+0.9**
RODP				S	**Sg**	**23 22 57.9**	**+0.1**
	4µm,0.4s						
IMMV	**Iera Moni Meta**	**0.33**	**76**	P	**Pb**	**23 22 56.7**	**-0.9**
IMMV				S	**Sb**	**23 23 02.8**	**0.0**
IMMV				AML	AML	23 23 03.1	
	comp=E,7645µm,0.2s						
IMMV				AML	AML	23 23 03.9	
	comp=N,8097µm,0.4s						
IMMV	**Iera Moni Meta**	**0.33**	**76**	P	**Pg**	**23 22 56.5**	**+0.1**
IMMV				S	**Sb**	**23 23 02.2**	**-0.6**
	comp=N,5µm,0.4s						
IMMV	**Iera Moni Meta**	**0.33**	**76**	PG	**Pg**	**23 22 56.5**	**+0.1**
VAM	**Vamos**	**0.50**	**87**	P	**Pg**	**23 22 59.6**	**+0.1**
VAM				S	**Sb**	**23 23 07.5**	**-0.2**
VAM				AML	AML	23 23 09.9	
	comp=E,9394µm,0.2s						
VAM				AML	AML	23 23 09.9	
	comp=N,10996µm,0.2s						
VAM	**Vamos**	**0.50**	**87**	P	**Pg**	**23 22 59.2**	**-0.3**
VAM				S	**Sb**	**23 23 07.2**	**-0.5**
	comp=N,5µm,0.5s						
ANKY	**Antikythira Is**	**0.54**	**334**	P	**Pg**	**23 22 59.5**	**-0.9**
ANKY				S	**Sg**	**23 23 07.7**	**+0.2**
ANKY				AML	AML	23 23 08.7	
	comp=N,6183µm,0.3s						
ANKY				AML	AML	23 23 09.1	
	comp=E,4814µm,0.5s						
ANKY	**Antikythira Is**	**0.54**	**334**	P	**Pg**	**23 23 00.2**	**-0.1**
ANKY				S	**Sg**	**23 23 07.6**	**+0.2**
	comp=E,3µm,0.4s						
GVDS	**Gavdos**	**0.68**	**143**	P	**Pb**	**23 23 03.5**	**0.0**
GVDS				S	**Sb**	**23 23 13.1**	**+0.3**
	comp=E,5µm,0.4s						
GVD	**Gavdhos**	**0.68**	**143**	P	**Pg**	**23 23 02.1**	**-0.7**
GVD				S	**Sb**	**23 23 12.3**	**-0.6**
GVD				AML	AML	23 23 14.3	
	comp=E,7330µm,0.6s						
GVD				AML	AML	23 23 16.4	
	comp=N,10603µm,0.5s						
GVD	**Gavdhos**	**0.68**	**143**	P	**Pb**	**23 23 03.9**	**+0.4**
GVD				S	**Sb**	**23 23 13.9**	**+1.0**
	comp=N,4µm,0.5s						
GVD	**Gavdhos**	**0.68**	**143**	PG	**Pb**	**23 23 02.7**	**-0.8**
GVD				SG	**Sb**	**23 23 12.1**	**-0.8**
PRNS	**Prines Rethymn**	**0.74**	**91**	P	**Pg**	**23 23 03.5**	**-0.7**
PRNS				S	**Sg**	**23 23 13.2**	**-0.7**
	comp=N,995nm,0.4s						
KTHA	**Kythira Island**	**0.97**	**334**	P	**Pg**	**23 23 08.1**	**-0.4**
KTHA				S	**Sg**	**23 23 20.9**	**-0.4**
KTHA				AML	AML	23 23 25.2	
	comp=N,1494µm,0.6s						
KTHA				AML	AML	23 23 26.4	
	comp=E,3732µm,0.4s						
KTHA	**Kythira Island**	**0.97**	**334**	P	**Pg**	**23 23 08.1**	**-0.4**
KTHA				S	**Sg**	**23 23 21.0**	**-0.3**
	comp=E,1µm,0.5s						
KTHR	**Kythira**	**1.00**	**332**	P	**Pg**	**23 23 08.2**	**-0.8**
KTHR				S	**Sb**	**23 23 22.2**	**0.0**
	comp=E,1µm,0.3s						
IDI	**Anoyia**	**1.06**	**95**	Pg	**Pb**	**23 23 10.0**	**-0.1**
	comp=E,13nm,0.3s,baz=268,slow=8.6,SNR=13						
IDI				Lg	Lg	23 23 24.1	
	comp=E,132nm,0.3s,baz=78,slow=23,SNR=15						
IDI	**Anoyia**	**1.06**	**95**	P	**Pb**	**23 23 10.1**	**-0.1**
IDI				AML	AML	23 23 27.8	
	comp=N,2298µm,0.5s						
IDI				AML	AML	23 23 28.8	
	comp=E,1390µm,0.4s						
IDI	**Anoyia**	**1.06**	**95**	P	**Pb**	**23 23 10.1**	**-0.1**
IDI				S	**Sn**	**23 23 25.1**	**-0.3**
	comp=E,925nm,0.4s						
IDI	**Anoyia**	**1.06**	**95**	PG	**Pb**	**23 23 10.2**	**-0.1**
IDI				SG	**Sb**	**23 23 24.8**	**+0.7**
HRKL	**Herakleio**	**1.24**	**93**	PN	**Pg**	**23 23 13.4**	**-0.1**
HRKL				SN	**Sn**	**23 23 30.3**	**+0.8**
VLI	**Veliai**	**1.44**	**338**	P	**Pb**	**23 23 16.1**	**-0.3**
VLI				AML	AML	23 23 43.4	
	comp=N,712µm,0.9s						
VLI				AML	AML	23 23 45.9	
	comp=E,681µm,0.5s						
VLI	**Veliai**	**1.44**	**338**	P	**Pb**	**23 23 16.2**	**-0.3**
VLI				S	**Sb**	**23 23 35.2**	**+0.5**
	comp=E,305nm,0.7s						
MHLO	**Agia Marina, M**	**1.46**	**26**	P	**Pb**	**23 23 16.7**	**-0.2**
MHLO				AML	AML	23 23 41.0	
	comp=E,3183µm,0.6s						
MHLO				AML	AML	23 23 45.8	
	comp=N,3032µm,0.5s						
NPS	**Neapolis**	**1.66**	**94**	P	**Pg**	**23 23 20.9**	**-0.7**
NPS				AML	AML	23 23 48.0	
	comp=E,833µm,0.4s						
NPS				AML	AML	23 23 49.4	
	comp=N,1098µm,0.8s						
ZKR	**Zakros**	**2.17**	**96**	P	**Pb**	**23 23 28.6**	**-0.4**
ZKR	**Zakros**	**2.17**	**96**	PN	**Pn**	**23 23 26.9**	**+1.2**
ITM	**Ithomi**	**2.24**	**324**	PN	**Pb**	**23 23 29.6**	**-0.7**
APE	**Apeiranthos**	**2.30**	**42**	PN	**Pn**	**23 23 29.4**	**+1.8**
KARP	**Karpathos**	**2.92**	**86**	PN	**Pn**	**23 23 37.6**	**+1.5**
BODT	**Bodrum**	**3.44**	**60**	PN	**Pn**	**23 23 44.6**	**+1.3**
BDRM	**Kayabasi**	**3.54**	**61**	P	**Pn**	**23 23 42.5**	**-2.0**
CHOS	**Chios island**	**3.59**	**33**	PN	**Pn**	**23 23 47.9**	**+2.5**
ARG	**Arkhangelos**	**3.78**	**76**	PN	**Pn**	**23 23 50.0**	**+2.1**
URLA	**Izmir**	**3.83**	**38**	PN	**Pn**	**23 23 51.3**	**+2.8**
URLA	**Izmir**	**3.83**	**38**	P	**Pn**	**23 23 46.6**	**-1.9**
URLA				*i* AML	AML	23 24 52.0	
	comp=N,49nm,1.3s						
MLSB	**Milas**	**3.88**	**59**	PN	**Pn**	**23 23 51.6**	**+2.3**
TURN	**Turunc**	**4.02**	**68**	PN	**Pn**	**23 23 53.6**	**+2.5**
TURN	**Turunc**	**4.02**	**68**	P	**Pn**	**23 23 52.3**	**+1.2**
TURN				S	**Sn**	**23 24 37.9**	**-0.2**
AYDN	**Tasoluk**	**4.13**	**55**	P	**Pn**	**23 23 51.5**	**-1.3**
YER	**Yerkesik**	**4.17**	**64**	PN	**Pn**	**23 23 55.8**	**+2.4**
DALY	**Dalyan (Mula)**	**4.34**	**69**	PN	**Pn**	**23 23 58.1**	**+2.5**
ZEDA	**zmir-Bergama**	**4.53**	**37**	P	**Pg**	**23 24 15.2**	**-1.4**
FETY	**Fethiye**	**4.62**	**73**	PN	**Pn**	**23 24 02.1**	**+2.6**
FETY	**Fethiye**	**4.62**	**73**	P	**Pn**	**23 24 01.3**	**+1.7**
FETY				S	**Sn**	**23 24 46.2**	**-6.9**
TAVA	**DENIZLI_Tavas**	**4.77**	**63**	P	**Pn**	**23 24 02.9**	**+1.3**
CAME	**Cameli-Denizli**	**4.88**	**70**	PN	**Pn**	**23 24 05.8**	**+2.7**
CAEL	**Denizli, Camel**	**4.94**	**68**	P	**Pn**	**23 24 08.2**	**+4.2**
AKAS	**Kas**	**4.96**	**78**	PN	**Pn**	**23 24 06.8**	**+2.6**
GOLH	**Golhisar**	**5.16**	**67**	P	**Pn**	**23 24 09.8**	**+2.7**
GOLH				*i* AML	AML	23 25 21.0	
	comp=N,20nm,1.5s						
USAK	**Uak-Merkez**	**5.47**	**51**	P	**Pn**	**23 24 11.5**	**+0.4**
USAK				*i* AML	AML	23 25 12.0	
	comp=N,36nm,1.2s						
USAK				*i* AML	AML	23 25 12.0	
	comp=N,20nm,5.9s						
PASA	**Karahalli, USA**	**5.58**	**56**	P	**Pn**	**23 24 15.3**	**+2.6**
BRDR	**BURDUR-Merkez**	**5.70**	**64**	P	**Pn**	**23 24 15.1**	**+0.7**
BRTR	**Keskin Array B**	**9.08**	**59**	Pn	**Pn**	**23 25 04.4**	**+3.6**
	comp=N,0.1nm,0.3s,baz=240,slow=13,SNR=4.1						
AKASG	**Malin Array Be**	**15.85**	**13**	Pn	**Pn**	**23 26 31.8**	**-0.8**
	comp=N,0.1nm,0.3s,baz=201,slow=9.9,SNR=1.4						
FINES	**FINESS Array B**	**26.13**	**3**	P	**P**	**23 28 24.2**	**+0.8**
	comp=N,0.9nm,0.7s,baz=172,slow=11,SNR=1.4						
EKA	**Eskdalemuir Ar**	**27.13**	**326**	P	**P**	**23 28 33.7**	**+1.2**
	comp=N,0.3nm,0.4s,baz=122,slow=9.4,SNR=1.5						
TORD	**Torodi Ar. Bea**	**29.67**	**227**	P	**P**	**23 28 55.6**	**0.0**
	comp=N,0.5nm,0.5s,baz=32,slow=7.9,SNR=4.3						
ARCES	**ARCESS Array B**	**34.23**	**1**	P	**P**	**23 29 34.8**	**-0.2**
	comp=N,1.7nm,0.8s,baz=180,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	**44.72**	**57**	P	**P**	**23 31 02.4**	**-0.4**
	comp=N,0.4nm,0.5s,baz=267,slow=8.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**45.78**	**46**	P	**P**	**23 31 11.5**	**+0.5**
	comp=N,0.5nm,0.4s,baz=264,slow=9.7,SNR=3.2						

*JMA **06** 23:59:49.3±0.1, 38°.08N×139°.30E, h175^{km}±1^{km}, M2.4*
*IDC **06** 23:59:50.7±4.1, 37°.97N×138°.98E, h189^{km}±22^{km}, mb2.9/2, mb1 3.1/2, mb1mx2.7/27, mbtmp3.4/2, Error ellipse: s-maj=81.0km s-min=28.8km az=61.0*
ISC 06 23:59:48.7±1.1**, 38°.10N**±0°.08×**139°.30E**±0°.09**, h179**^{km}±8^{km}**, n14,** σ0.41/21**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.35**	**354**	P	**Pn**	**00 00 13.1**	**+0.2**
JAW				*e*S	**Sn**	**00 00 31.0**	**-0.6**
JYA	**Atsumi**	**0.59**	**34**	P	**Pn**	**00 00 14.3**	**+0.5**
JYA				S	**Sn**	**00 00 33.2**	**0.0**
JYS	**Shirataka**	**0.62**	**79**	S	**Sn**	**00 00 33.6**	**+0.2**
JSD	**Sado**	**0.82**	**266**	P	**Pn**	**00 00 15.3**	**+0.2**
JSD				S	**Sn**	**00 00 34.8**	**-0.6**
JFT	**Otama**	**1.01**	**125**	P	**Pn**	**00 00 16.6**	**+0.2**
JYK	**Kaneyama**	**1.16**	**45**	P	**Pn**	**00 00 18.0**	**+0.4**
JAG	**Ashikaga**	**1.68**	**176**	P	**Pn**	**00 00 22.5**	**+0.1**
JMK	**Ichinoseki**	**1.73**	**60**	P	**Pn**	**00 00 23.0**	**+0.2**
MAT	**Matsushiro**	**1.78**	**209**	P	**Pn**	**00 00 23.9**	**+0.4**
MAT				S	**Sn**	**00 00 50.3**	**-0.1**
MAT	**Matsushiro**	**1.78**	**209**	P	**Pn**	**00 00 23.9**	**+0.4**
MAT				S	**Sn**	**00 00 50.3**	**-0.1**
MJAR	**Matsushiro Arr**	**1.78**	**209**	P	**Pn**	**00 00 23.9**	**+0.4**
	0.9nm,0.3s,baz=21,slow=11,SNR=18						
MJAR				S	**Sn**	**00 00 50.1**	**-0.2**
	0.0nm,0.3s,baz=19,slow=14,SNR=1.4						
JOM	**Ohasama**	**2.07**	**48**	P	**Pn**	**00 00 27.0**	**+0.5**
JOM				S	**Sn**	**00 00 55.1**	**-0.8**
SONM	**Songino Array**	**25.79**	**303**	P	**P**	**00 05 03.2**	**+0.1**
	0.5nm,0.6s,baz=110,slow=9.4,SNR=5.0						
WRA	**Warramunga Arr**	**57.92**	**186**	P	**P**	**00 09 21.9**	**-0.2**
	0.3nm,0.8s,baz=0.3,slow=7.4,SNR=1.9						

*THE **07** 00:01:49.3, 35°.39N×23°.57E, h8^{km}±1^{km}, ML2.6/5, Error ellipse: s-maj=1.4km s-min=0.3km az=248.0*
*ATH **07** 00:01:49.3, 35°.42N×23°.59E, h15^{km}±3^{km}, ML2.5/4, Error ellipse: s-maj=4.1km s-min=1.1km az=44.0*
ISC 07 00:01:49.0±1.1**, 35°.39N**±0°.03×**23°.57E**±0°.04**, h12**^{km}±8^{km}**, n17,** σ0.53/29**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**148**	P	**Pg**	**00 01 52.6**	**-0.5**
KNDR				S	**Sg**	**00 01 55.3**	**-0.6**
	2µm,0.2s						
RODP	**Rodopos**	**0.23**	**42**	P	**Pg**	**00 01 54.2**	**+0.2**
RODP				S	**Sg**	**00 01 57.8**	**+0.5**
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**00 01 55.9**	**-0.1**
IMMV				S	**Sg**	**00 02 01.5**	**+0.8**
IMMV				AML	AML	00 02 01.5	
	comp=N,2841µm,0.3s						
IMMV				AML	AML	00 02 01.9	
	comp=E,1943µm,0.5s						
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**00 01 56.0**	**0.0**
IMMV				S	**Sg**	**00 02 01.1**	**+0.5**
	comp=E,1µm,0.2s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**00 01 58.9**	**-0.2**
VAM				S	**Sg**	**00 02 06.2**	**+0.2**
VAM				AML	AML	00 02 07.8	
	comp=E,1490µm,0.3s						
VAM				AML	AML	00 02 08.0	
	comp=N,1876µm,0.3s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**00 01 59.2**	**+0.1**
VAM				S	**Sb**	**00 02 07.0**	**-0.4**
	comp=N,848nm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**336**	P	**Pg**	**00 01 59.3**	**0.0**
ANKY				S	**Sg**	**00 02 06.5**	**+0.2**
ANKY	**Antikythira Is**	**0.53**	**336**	P	**Pg**	**00 01 59.3**	**0.0**
ANKY				S	**Sb**	**00 02 07.2**	**-0.5**
GVDS	**Gavdos**	**0.69**	**142**	P	**Pg**	**00 02 02.1**	**-0.3**
GVDS				S	**Sg**	**00 02 12.4**	**+0.9**
	comp=N,752nm,0.2s						
GVD	**Gavdhos**	**0.69**	**142**	P	**Pg**	**00 02 02.8**	**+0.3**
GVD				S	**Sb**	**00 02 13.3**	**+0.8**
GVD				AML	AML	00 02 15.8	
	comp=N,1022µm,0.3s						
GVD				AML	AML	00 02 17.0	
	comp=E,1227µm,0.3s						
GVD	**Gavdhos**	**0.69**	**142**	P	**Pg**	**00 02 02.4**	**-0.1**
GVD				S	**Sb**	**00 02 12.8**	**+0.3**
	comp=E,565nm,0.3s						
PRNS	**Prines Rethymn**	**0.76**	**91**	P	**Pg**	**00 02 02.7**	**-1.1**
PRNS				S	**Sg**	**00 02 13.0**	**-0.8**
KTHA	**Kythira Island**	**0.96**	**335**	P	**Pg**	**00 02 07.1**	**-0.4**
IDI	**Anoyia**	**1.08**	**95**	P	**Pb**	**00 02 08.9**	**-0.8**
IDI				AML	AML	00 02 26.1	
	comp=N,198µm,0.5s						
IDI				AML	AML	00 02 34.4	
	comp=E,192µm,0.5s						
IDI	**Anoyia**	**1.08**	**95**	P	**Pb**	**00 02 09.5**	**-0.2**
VLI	**Veliai**	**1.42**	**339**	P	**Pb**	**00 02 15.5**	**+0.1**
NPS	**Neapolis**	**1.68**	**94**	P	**Pb**	**00 02 20.4**	**+0.7**

*ATH **07** 00:19:14.8, 35°.40N×23°.60E, h21^{km}±2^{km}, ML2.5/6, Error ellipse: s-maj=3.3km s-min=0.9km az=43.0*
*THE **07** 00:19:15.9, 35°.37N×23°.62E, h4^{km}±3^{km}, ML2.6/5, Error ellipse: s-maj=3.3km s-min=0.4km az=285.0*
ISC 07 00:19:15.1±1.0**, 35°.38N**±0°.03×**23°.59E**±0°.04**, h13**^{km}±7^{km}**, n17,** σ0.46/28**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.16**	**152**	P	**Pg**	**00 19 18.5**	**-0.4**
KNDR				S	**Sg**	**00 19 21.2**	**-0.4**
	3µm,0.2s						
RODP	**Rodopos**	**0.23**	**37**	P	**Pg**	**00 19 20.5**	**+0.5**
RODP				S	**Sg**	**00 19 23.5**	**+0.2**
IMMV	**Iera Moni Meta**	**0.33**	**75**	P	**Pg**	**00 19 21.7**	**0.0**
IMMV				S	**Sb**	**00 19 27.2**	**-0.8**
IMMV				AML	AML	00 19 28.6	
	comp=N,2198µm,0.3s						
IMMV				AML	AML	00 19 33.4	
	comp=E,2703µm,0.4s						
IMMV	**Iera Moni Meta**	**0.33**	**75**	P	**Pg**	**00 19 21.6**	**-0.2**
IMMV				S	**Sg**	**00 19 26.8**	**+0.5**
	comp=E,1µm,0.3s						
VAM	**Vamos**	**0.50**	**87**	P	**Pg**	**00 19 24.6**	**-0.2**
VAM				S	**Sb**	**00 19 32.2**	**-0.7**
VAM				AML	AML	00 19 34.0	
	comp=N,2444µm,0.2s						
VAM				AML	AML	00 19 36.3	
	comp=E,2110µm,0.3s						
VAM	**Vamos**	**0.50**	**87**	P	**Pg**	**00 19 24.9**	**0.0**
VAM				S	**Sg**	**00 19 32.0**	**+0.5**
	comp=E,1µm,0.2s						
ANKY	**Antikythira Is**	**0.54**	**334**	P	**Pg**	**00 19 25.5**	**-0.2**
ANKY				S	**Sg**	**00 19 33.1**	**+0.1**
ANKY				AML	AML	00 19 34.8	
	comp=N,978µm,0.5s						
ANKY				AML	AML	00 19 36.5	
	comp=E,638µm,0.5s						
GVDS	**Gavdos**	**0.67**	**142**	P	**Pg**	**00 19 28.3**	**+0.1**
GVDS				S	**Sb**	**00 19 37.7**	**-0.2**
	comp=E,2µm,0.3s						
GVD	**Gavdhos**	**0.67**	**143**	P	**Pg**	**00 19 28.0**	**-0.2**
GVD				S	**Sb**	**00 19 38.4**	**+0.5**
GVD				AML	AML	00 19 40.7	
	comp=N,2710µm,0.3s						
GVD				AML	AML	00 19 41.1	
	comp=E,1998µm,0.3s						
GVD	**Gavdhos**	**0.67**	**143**	P	**Pg**	**00 19 28.3**	**+0.1**
GVD				S	**Sb**	**00 19 38.2**	**+0.2**
	comp=E,1µm,0.3s						
PRNS	**Prines Rethymn**	**0.74**	**91**	P	**Pg**	**00 19 28.5**	**-1.0**
KTHA	**Kythira Island**	**0.98**	**334**	P	**Pb**	**00 19 33.4**	**-0.5**
KTHA				AML	AML	00 19 52.6	
	comp=N,280µm,0.4s						
KTHA				AML	AML	00 19 58.0	
	comp=E,576µm,0.6s						
TMBK	**Timbaki Herakl**	**1.01**	**107**	P	**Pb**	**00 19 34.5**	**+0.1**
TMBK				S	**Sn**	**00 19 48.7**	**-0.3**
IDI	**Anoyia**	**1.06**	**94**	P	**Pb**	**00 19 34.9**	**-0.6**
IDI				AML	AML	00 20 00.6	
	comp=N,396µm,0.5s						
IDI				AML	AML	00 20 00.7	
	comp=E,263µm,0.4s						
IDI	**Anoyia**	**1.06**	**94**	P	**Pb**	**00 19 35.5**	**+0.1**
VLI	**Veliai**	**1.44**	**339**	P	**Pn**	**00 19 41.6**	**+0.7**
NPS	**Neapolis**	**1.66**	**93**	P	**Pb**	**00 19 45.7**	**+0.2**

*IDC **07** 00:27:05.2±1.9, 35°.53N×23°.56E, h0^{km}, mb3.3/2, mb1 3.1/3, mb1mx2.9/56, mbtmp3.1/3, ML2.4/1, Error ellipse: s-maj=37.0km s-min=15.6km az=5.0*
*THE **07** 00:27:07.0, 35°.38N×23°.56E, h11^{km}, ML2.8/10, Error*

ellipse: s-maj=0.8km s-min=0.3km az=205.0
*ATH **07** 00:27:07.7,35.°42N×23.°59E,h14km±2km,ML2.9/6,Error ellipse: s-maj=3.4km s-min=1.1km az=39.0*
ISC 07 00:27:06.9±1.0,**35.°39N**±0.°03×**23.°56E**±0.°03,**h12**km±7km,**n23**,σ**0.s64**/39,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.19**	**147**	P	**Pg**	**00 27 10.5**	**-0.5**
KNDR				S	**Sg**	**00 27 13.0**	**-0.9**
	3µm,0.3s						
RODP	**Rodopos**	**0.23**	**43**	P	**Pg**	**00 27 12.1**	**+0.2**
RODP				S	**Sg**	**00 27 15.8**	**+0.5**
	2µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**78**	P	**Pg**	**00 27 13.8**	**-0.2**
IMMV				S	**Sg**	**00 27 19.5**	**+0.8**
IMMV				AML	AML	00 27 20.6	
	comp=N,5089µm,0.3s						
IMMV				AML	AML	00 27 21.3	
	comp=E,4098µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**78**	P	**Pg**	**00 27 13.8**	**-0.2**
IMMV				S	**Sg**	**00 27 19.5**	**+0.8**
	comp=E,2µm,0.3s						
ANKY	**Antikythira Is**	**0.52**	**336**	P	**Pg**	**00 27 17.2**	**+0.1**
ANKY				S	**Sb**	**00 27 24.6**	**-0.8**
ANKY				AML	AML	00 27 26.2	
	comp=N,3182µm,0.3s						
ANKY				AML	AML	00 27 26.6	
	comp=E,3038µm,0.5s						
ANKY	**Antikythira Is**	**0.52**	**336**	P	**Pb**	**00 27 17.4**	**-0.5**
ANKY				S	**Sb**	**00 27 24.7**	**-0.8**
	comp=E,2µm,0.4s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**00 27 16.6**	**-0.5**
VAM				S	**Sg**	**00 27 24.6**	**+0.6**
VAM				AML	AML	00 27 25.9	
	comp=E,3581µm,0.5s						
VAM				AML	AML	00 27 27.4	
	comp=N,4472µm,0.4s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**00 27 17.0**	**-0.1**
VAM				S	**Sg**	**00 27 24.7**	**+0.6**
	comp=N,2µm,0.4s						
GVDS	**Gavdos**	**0.70**	**141**	P	**Pg**	**00 27 20.0**	**-0.4**
GVDS				S	**Sg**	**00 27 30.1**	**+0.6**
GVD	**Gavdhos**	**0.70**	**142**	P	**Pb**	**00 27 21.4**	**+0.5**
GVD				AML	AML	00 27 33.9	
	comp=N,2808µm,0.4s						
GVD				AML	AML	00 27 35.7	
	comp=E,2420µm,0.5s						
GVD	**Gavdhos**	**0.70**	**142**	P	**Pg**	**00 27 20.0**	**-0.4**
GVD				S	**Sg**	**00 27 30.5**	**+0.9**
	comp=E,1µm,0.4s						
PRNS	**Prines Rethymn**	**0.77**	**92**	P	**Pg**	**00 27 20.4**	**-1.4**
PRNS				S	**Sg**	**00 27 31.0**	**-0.8**
	comp=E,420nm,0.4s						
KTHA	**Kythira Island**	**0.95**	**335**	P	**Pb**	**00 27 25.3**	**0.0**
KTHA				S	**Sb**	**00 27 38.0**	**0.0**
KTHA				AML	AML	00 27 41.5	
	comp=E,1932µm,0.2s						
KTHA				AML	AML	00 27 42.6	
	comp=N,986µm,0.3s						
KTHA	**Kythira Island**	**0.95**	**335**	P	**Pg**	**00 27 25.0**	**-0.3**
KTHA				S	**Sn**	**00 27 38.8**	**-0.8**
	comp=N,700nm,0.4s						
KTHR	**Kythira**	**0.98**	**333**	P	**Pg**	**00 27 25.3**	**-0.5**
KTHR				S	**Sb**	**00 27 39.2**	**+0.6**
	comp=N,650nm,0.3s						
IDI	**Anoyia**	**1.09**	**95**	Pg	**Pb**	**00 27 27.1**	**-0.6**
	comp=N,5.4nm,0.3s,baz=287,slow=17,SNR=43						
IDI				Lg	Lg	00 27 41.2	
	comp=N,46nm,0.3s,baz=251,slow=22,SNR=19						
IDI	**Anoyia**	**1.09**	**95**	P	**Pb**	**00 27 27.1**	**-0.6**
IDI				S	**Sg**	**00 27 41.2**	**-0.9**
IDI				AML	AML	00 27 45.2	
	comp=N,1088µm,0.6s						
IDI				AML	AML	00 27 46.3	
	comp=E,677µm,0.5s						
IDI	**Anoyia**	**1.09**	**95**	P	**Pb**	**00 27 27.0**	**-0.6**
IDI				S	**Sb**	**00 27 42.5**	**+0.6**
	comp=E,442nm,0.5s						
VLI	**Veliai**	**1.42**	**339**	P	**Pb**	**00 27 33.3**	**+0.1**
NPS	**Neapolis**	**1.68**	**94**	P	**Pb**	**00 27 38.2**	**+0.4**
BRTR	**Keskin Array B**	**9.10**	**59**	Pn	**Pn**	**00 29 18.6**	**+0.6**
	comp=E,0.0nm,0.3s,baz=245,slow=13,SNR=1.2						
TORD	**Torodi Ar. Bea**	**29.66**	**227**	P	**P**	**00 33 13.3**	**+0.9**
	comp=E,0.2nm,0.5s,baz=38,slow=7.5,SNR=2.1						
MKAR	**Makanchi Array**	**44.74**	**57**	P	**P**	**00 35 19.5**	**-0.4**
	comp=E,0.2nm,0.6s,baz=265,slow=9.1,SNR=4.3						

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*ATH **07** 00:33:22.6,35.°39N×23.°57E,h10km±3km,ML2.4/4,Error ellipse: s-maj=3.4km s-min=1.0km az=49.0*
*THE **07** 00:33:22.2,35.°39N×23.°55E,h7km±2km,ML2.6/4,Error ellipse: s-maj=2.0km s-min=0.3km az=177.0*
ISC 07 00:33:22.2±1.0,**35.°38N**±0.°03×**23.°57E**±0.°04,**h11**km±8km,**n16**,σ**0.s47**/27,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.17**	**147**	P	**Pg**	**00 33 25.5**	**-0.4**
KNDR				S	**Sg**	**00 33 28.3**	**-0.2**
RODP	**Rodopos**	**0.24**	**40**	P	**Pg**	**00 33 27.3**	**+0.1**
RODP				S	**Sg**	**00 33 31.0**	**+0.5**
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pg**	**00 33 29.1**	**0.0**
IMMV				S	**Sg**	**00 33 34.3**	**+0.5**
IMMV				AML	AML	00 33 37.6	
	comp=E,1880µm,0.3s						
IMMV				AML	AML	00 33 38.6	
	comp=N,2236µm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pg**	**00 33 29.4**	**+0.3**
IMMV				S	**Sb**	**00 33 34.9**	**-1.0**
	comp=N,1µm,0.3s						
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**00 33 32.2**	**0.0**
VAM				S	**Sg**	**00 33 39.6**	**+0.6**
VAM				AML	AML	00 33 41.0	
	comp=E,1098µm,0.6s						
VAM				AML	AML	00 33 42.9	
	comp=N,1667µm,0.4s						
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**00 33 32.4**	**+0.2**
VAM				S	**Sb**	**00 33 40.4**	**-0.3**
	comp=N,662nm,0.3s						
ANKY	**Antikythira Is**	**0.54**	**336**	P	**Pg**	**00 33 32.5**	**-0.2**
ANKY				S	**Sg**	**00 33 39.7**	**-0.1**
ANKY	**Antikythira Is**	**0.54**	**336**	P	**Pg**	**00 33 32.4**	**-0.2**
ANKY				S	**Sg**	**00 33 39.9**	**+0.1**
GVDS	**Gavdos**	**0.68**	**141**	P	**Pg**	**00 33 35.4**	**0.0**
GVDS				S	**Sb**	**00 33 45.8**	**+0.3**
	comp=N,935nm,0.2s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pb**	**00 33 36.0**	**-0.2**
GVD				S	**Sg**	**00 33 44.8**	**+0.4**
GVD				AML	AML	00 33 47.7	
	comp=N,988µm,0.4s						
GVD				AML	AML	00 33 50.0	
	comp=E,1345µm,0.3s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pg**	**00 33 35.5**	**+0.1**
GVD				S	**Sb**	**00 33 46.2**	**+0.6**
	comp=E,585nm,0.3s						
PRNS	**Prines Rethymn**	**0.76**	**91**	P	**Pg**	**00 33 35.7**	**-1.2**
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**00 33 40.7**	**-0.2**
IDI	**Anoyia**	**1.08**	**94**	P	**Pg**	**00 33 42.5**	**-0.5**
IDI				AML	AML	00 33 58.9	
	comp=N,250µm,0.4s						
IDI				AML	AML	00 33 59.2	
	comp=E,132µm,0.3s						
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**00 33 48.6**	**+0.4**
NPS	**Neapolis**	**1.67**	**93**	P	**Pb**	**00 33 52.8**	**-0.2**

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*IDC **07** 00:38:34.5±0.8,3.°31S×131.°15E,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.0/44,mbtmp4.1/12,ML3.9/2,MS3.0/3, Ms1 3.0/3,ms1mx2.6/65,Error ellipse: s-maj=25.2km s-min=16.3km az=78.0*
*DJA **07** 00:38:38.9±0.6,3°S±8°×13°1E±°,h10km,M3.6/6,MLv3.6/6*
*NEIC **07** 00:38:40.0±1.1,3.°34S±0.°03×131.°10E±0.°06,h36km±7km, mb4.4/19,Error ellipse: s-maj=9.9km s-min=3.0km az=114.0*
ISC 07 00:38:38.3±0.5,**3.°38S**±0.°06×**131.°08E**±0.°05,**h30**km,**n45**, σ**1.s18**/45,**mb4.1**/17,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.26**	**69**		**Pb**	**00 39 00.9**	**-0.6**
FAKI	**Fak Fak**	**1.26**	**69**	P	**Pb**	**00 39 01.4**	**0.0**
MSAI	**Masohi**	**2.15**	**271**	P	**Pb**	**00 39 15.5**	**-1.1**
SIJI	**Sorong**	**2.50**	**4**	Pn	**Pn**	**00 39 16.8**	**-0.3**
	6.1nm,0.3s,baz=118,slow=24,SNR=21						
SIJI				Sn	**Sn**	**00 39 45.4**	**-1.2**
	17nm,0.3s,baz=189,slow=22,SNR=10						
SIJI				LR	LR	00 40 44.3	
	comp=Z,198nm,19.1s,baz=182,slow=54						
SWI	**Sorong**	**2.51**	**4**	P	**Pn**	**00 39 16.5**	**-0.6**
BATI	**Baumata**	**10.01**	**227**	Pn	**Pn**	**00 41 01.1**	**+1.0**
	3.8nm,0.3s,baz=33,slow=17,SNR=1.7						
MMRI	**Maumere**	**10.22**	**239**	Pn	**Pn**	**00 41 04.3**	**+1.2**
TOLI2	**Tolitoli**	**11.22**	**293**	Pn	**Pn**	**00 41 17.2**	**+0.4**
KAPI	**Kappang**	**11.41**	**261**	Pn	**Pn**	**00 41 21.8**	**+2.4**
	baz=75,slow=14,SNR=1.1						
KAPI				LR	LR	00 46 46.6	
	comp=Z,87nm,20.7s,baz=93,slow=43						
KAPI	**Kappang**	**11.41**	**261**		**Pn**	**00 41 20.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.57**	**200**	Pn	**Pn**	**00 42 13.3**	**-2.4**
	0.2nm,0.3s,baz=24,slow=8.9,SNR=12						
FITZ				Sn	Sn	00 44 58.4	-9.0
	0.1nm,0.3s,baz=10,slow=18,SNR=1.6						
FITZ				LR	LR	00 49 16.4	
	comp=Z,76nm,18.7s,baz=34,slow=41						
WRA	**Warramunga Arr**	**16.77**	**169**	Pn	**Pn**	**00 42 27.9**	**-3.2**
	0.2nm,0.3s,baz=352,slow=12,SNR=11						
WRA				Sn	Sn	00 45 26.7	-10
	0.2nm,0.3s,baz=354,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**16.77**	**169**		**Pn**	**00 42 28.7**	**-2.4**
WB2	**Warramunga Arr**	**16.77**	**169**	Pn	**Pn**	**00 42 28.7**	**-2.4**
WB2				IAmb	IAmb	00 43 16.4	
	comp=Z,45nm,1.9s						
WR0	**Warramunga Arr**	**16.82**	**169**	Pn	**Pn**	**00 42 32.9**	**+1.1**
ASAR	**Alice Springs**	**20.35**	**173**	P	**P**	**00 43 13.8**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=351,slow=10,SNR=19						
ASAR				S	**S**	**00 46 57.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=348,slow=16,SNR=2.7						
ASAR	**Alice Springs**	**20.35**	**173**	P	**P**	**00 43 14.6**	**+2.1**
HNR	**Honiara**	**29.30**	**103**	P	**P**	**00 44 39.0**	**+0.6**
	comp=Z,45nm,0.3s,baz=134,slow=4.5,SNR=4.1						
STKA	**Stephens Creek**	**30.02**	**162**	P	**P**	**00 44 44.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=329,slow=5.9,SNR=1.8						
CMAR	**Chiang Mai Arr**	**38.38**	**306**	P	**P**	**00 45 58.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=127,slow=6.0,SNR=9.5						
CMAR	**Chiang Mai Arr**	**38.38**	**306**	P	**P**	**00 45 57.6**	**+0.4**
CHTO	**Chiang Mai**	**38.56**	**306**	P	**P**	**00 45 58.7**	**-0.1**
CHTO				IAmb	IAmb	00 46 00.4	
	comp=Z,3.2nm,0.8s						
KSRS	**Korea Array**	**40.73**	**356**	P	**P**	**00 46 16.6**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=177,slow=8.6,SNR=5.4						
MSVF	**Nonsavu**	**48.17**	**111**	P	**P**	**00 47 15.6**	**-0.9**
MSVF				IAmb	IAmb	00 48 31.2	
	comp=Z,58nm,1.7s						
KLR	**Kul'dur**	**52.40**	**1**	P	**P**	**00 47 48.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=192,slow=4.0,SNR=4.6						
SONM	**Songino Array**	**55.40**	**340**	P	**P**	**00 48 10.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=127,slow=3.9,SNR=4.6						
SONM	**Songino Array**	**55.40**	**340**	IAmb	IAmb	00 48 11.4	
	comp=Z,1.4nm,1.0s						
MK31	**Makanchi Array**	**65.84**	**325**	P	**P**	**00 49 21.1**	**0.0**
MK31				IAmb	IAmb	00 49 22.6	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**65.84**	**325**	P	**P**	**00 49 21.7**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=125,slow=8.0,SNR=22						
MAKZ	**Makanchi**	**66.02**	**325**	P	**P**	**00 49 22.2**	**0.0**
MAKZ				IAmb	IAmb	00 49 23.3	
	comp=Z,1.4nm,0.8s						
AAK	**Ala-Archa**	**68.52**	**319**	P	**P**	**00 49 38.4**	**0.0**
AAK				IAmb	IAmb	00 50 50.6	
	comp=Z,1.8nm,1.1s						
ZAA0	**Zalesovo Array**	**68.86**	**333**	P	**P**	**00 49 39.8**	**-0.1**
ZAA0				IAmb	IAmb	00 49 40.6	
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**68.86**	**333**	P	**P**	**00 49 40.1**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=108,slow=4.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**68.86**	**333**	P	**P**	**00 49 39.0**	**-0.9**
KURK	**Kurchatov**	**70.03**	**328**	P	**P**	**00 49 47.7**	**+0.4**
KURK				IAmb	IAmb	00 49 48.8	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**71.37**	**318**	P	**P**	**00 49 55.5**	**-0.2**
KHLH	**Kahului Airpor**	**74.93**	**67**	P	**P**	**00 50 17.5**	**+0.4**
HLK	**Haleakala**	**75.07**	**68**	P	**P**	**00 50 17.3**	**-0.9**
NIKH	**Nikolski High**	**75.25**	**33**	P	**P**	**00 50 19.0**	**+0.7**
KHU	**Kahuku**	**75.42**	**69**	P	**P**	**00 50 19.0**	**-1.2**
BRVK	**Borovoye**	**75.68**	**327**	P	**P**	**00 50 20.6**	**-0.1**
BRVK				IAmb	IAmb	00 50 22.4	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**80.37**	**321**	P	**P**	**00 50 46.0**	**-0.9**
INK	**Inuvik**	**95.12**	**22**	P	**P**	**00 51 59.2**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=300,slow=8.1,SNR=3.5						
INK	**Inuvik**	**95.12**	**22**	IAmb	IAmb	00 55 12.8	
	comp=Z,17nm,2.0s						
TORD	**Torodi Ar. Bea**	**129.07**	**284**	PKP	**PKPdf**	**00 57 45.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=68,slow=1.0,SNR=2.5						

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*IDC **07** 00:41:44.1±1.1,35.°44N×23.°55E,h0km,mb3.7/7, mb1 3.7/11,mb1mx3.5/65,mbtmp3.7/11,ML3.4/4,MS2.7/1, Ms1 2.7/1,ms1mx2.1/87,Error ellipse: s-maj=23.5km s-min=10.9km az=14.0*
*ISK **07** 00:41:45.1,35.°40N×23.°59E,h2km,ML3.6/15*
*THE **07** 00:41:46.4,35.°39N×23.°59E,h2km±2km,ML3.4/10,Error ellipse: s-maj=2.1km s-min=0.3km az=208.0*
*ATH **07** 00:41:46.2,35.°42N×23.°61E,h18km±2km,ML3.4/12,Error ellipse: s-maj=2.6km s-min=0.9km az=44.0*
*DDA **07** 00:41:54.0±0.0,35.°42N×24.°24E,h142km±66km,ML3.3*
ISC 07 00:41:46.0±0.9,**35.°39N**±0.°03×**23.°58E**±0.°03,**h13**km±5km, **n81**,σ**1.s67**/103,**mb3.7**/7,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**150**	P	**Pg**	**00 41 49.4**	**-0.6**
KNDR				S	**Sg**	**00 41 51.8**	**-1.0**
KNDR	**Palaiochora Ch**	**0.18**	**150**	PG	**Pg**	**00 41 49.2**	**-0.8**
RODP	**Rodopos**	**0.23**	**41**	P	**Pg**	**00 41 50.7**	**-0.2**
RODP				S	**Sg**	**00 41 54.2**	**-0.1**
IMMV	**Iera Moni Meta**	**0.34**	**77**	P	**Pg**	**00 41 52.8**	**0.0**
IMMV				S	**Sg**	**00 41 57.9**	**+0.5**
IMMV				AML	AML	00 41 59.4	
	comp=N,21306µm,0.3s						
IMMV				AML	AML	00 42 00.9	
	comp=E,18956µm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**77**	P	**Pg**	**00 41 53.0**	**+0.1**
IMMV				S	**Sg**	**00 41 57.6**	**+0.1**
	comp=E,10µm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**77**	PG	**Pg**	**00 41 52.2**	**-0.7**
IMMV				SG	**Sg**	**00 41 58.4**	**+0.9**
VAM	**Vamos**	**0.51**	**88**	P	**Pg**	**00 41 55.8**	**-0.2**
VAM				S	**Sg**	**00 42 03.1**	**+0.3**
VAM				AML	AML	00 42 04.8	
	comp=N,19856µm,0.3s						
VAM				AML	AML	00 42 07.3	
	comp=E,13518µm,0.2s						
VAM	**Vamos**	**0.51**	**88**	P	**Pg**	**00 41 55.9**	**-0.1**
VAM				S	**Sg**	**00 42 03.6**	**+0.8**
	comp=E,8µm,0.2s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pg**	**00 41 56.3**	**0.0**
ANKY				S	**Sg**	**00 42 03.9**	**+0.5**
ANKY				AML	AML	00 42 05.0	
	comp=N,8782µm,0.4s						
ANKY				AML	AML	00 42 05.2	
	comp=E,7780µm,0.5s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pb**	**00 41 56.9**	**-0.2**
ANKY				S	**Sb**	**00 42 04.6**	**-0.1**
	comp=E,4µm,0.4s						
GVD	**Gavdhos**	**0.69**	**142**	P	**Pg**	**00 42 00.4**	**+1.1**
GVD				S	**Sg**	**00 42 08.9**	**+0.5**
GVD				AML	AML	00 42 10.7	
	comp=E,9044µm,0.6s						
GVD				AML	AML	00 42 12.0	
	comp=N,11965µm,0.3s						
GVD	**Gavdhos**	**0.69**	**142**	P	**Pg**	**00 41 59.7**	**+0.4**
GVD				S	**Sg**	**00 42 09.7**	**+1.3**
	comp=N,5µm,0.3s						
GVD	**Gavdhos**	**0.69**	**142**	PG	**Pg**	**00 41 59.8**	**+0.4**
GVD				SG	**Sg**	**00 42 09.8**	**+1.3**
PRNS	**Prines Rethymn**	**0.76**	**91**	P	**Pg**	**00 41 59.4**	**-1.2**
PRNS				S	**Sg**	**00 42 09.5**	**-1.1**
	comp=N,2µm,0.3s						
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pg**	**00 42 04.1**	**-0.4**
KTHA				AML	AML	00 42 20.7	
	comp=E,5982µm,0.5s						
KTHA				AML	AML	00 42 24.9	
	comp=N,2909µm,0.4s						
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pg**	**00 42 04.2**	**-0.4**
KTHA				S	**Sb**	**00 42 18.8**	**+1.6**
	comp=N,2µm,0.4s						
KTHR	**Kythira**	**0.99**	**332**	P	**Pg**	**00 42 05.0**	**0.0**
KTHR				S	**Sb**	**00 42 19.5**	**+1.6**
	comp=N,2µm,0.4s						
TMBK	**Timbaki Herakl**	**1.02**	**108**	P	**Pg**	**00 42 05.3**	**-0.4**
TMBK				S	**Sb**	**00 42 20.2**	**+1.4**
	comp=N,2µm,0.4s						
IDI	**Anoyia**	**1.08**	**95**	Pg	**Pg**	**00 42 06.4**	**-0.4**
	comp=N,23nm,0.3s,baz=305,slow=16,SNR=20						
IDI				Lg	Lg	00 42 20.5	
	comp=N,200nm,0.3s,baz=190,slow=21,SNR=21						
IDI				LR	LR	00 42 42.9	
	comp=N,123nm,20.9s,baz=178,slow=53						
IDI	**Anoyia**	**1.08**	**95**	P	**Pg**	**00 42 06.4**	**-0.4**
IDI				AML	AML	00 42 24.1	
	comp=N,4016µm,0.5s						
IDI				AML	AML	00 42 25.4	
	comp=E,3255µm,0.3s						
IDI	**Anoyia**	**1.08**	**95**	P	**Pg**	**00 42 06.3**	**-0.4**
IDI				S	**Sb**	**00 42 22.2**	**+1.7**
	comp=E,2µm,0.4s						
IDI	**Anoyia**	**1.08**	**95**	PG	**Pg**	**00 42 06.3**	**-0.4**
IDI				SG	**Sb**	**00 42 21.5**	**+1.0**
IACM	**Heraklion**	**1.23**	**93**	P	**Pg**	**00 42 09.3**	**-0.2**
HRKL	**Herakleio**	**1.25**	**93**	P	**Pg**	**00 42 09.5**	**-0.5**
HRKL				S	**Sb**	**00 42 27.2**	**+1.8**
	comp=E,3µm,0.6s						
HRKL	**Herakleio**	**1.25**	**93**	PN	**Pg**	**00 42 09.9**	**-0.1**
MNVA	**Monemvasia**	**1.37**	**342**	P	**Pn**	**00 42 11.4**	**+0.6**
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**00 42 12.3**	**+0.7**
VLI				AML	AML	00 42 35.2	
	comp=E,847µm,0.4s						
VLI				AML	AML	00 42 44.3	
	comp=N,1012µm,0.6s						
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**00 42 12.2**	**+0.7**
MHLO	**Agia Marina, M**	**1.46**	**27**	P	**Pn**	**00 42 12.7**	**+0.6**
MHLO				AML	AML	00 42 39.4	
	comp=E,7489µm,0.4s						
MHLO				AML	AML	00 42 39.4	
	comp=N,8655µm,0.5s						
NPS	**Neapolis**	**1.67**	**94**	P	**Pn**	**00 42 16.5**	**+1.6**
NPS				AML	AML	00 42 44.6	
	comp=E,1684µm,0.4s						
NPS				AML	AML	00 42 49.9	
	comp=N,1268µm,0.4s						
SAP3	**Santorini-Thir**	**1.78**	**53**	P	**Pn**	**00 42 16.9**	**+0.6**
KRND	**KRANIDI**	**2.02**	**350**	P	**Pn**	**00 42 21.5**	**+1.7**
KRND				AML	AML	00 43 03.3	
	comp=E,568µm,0.7s						
KRND				AML	AML	00 43 07.1	
	comp=N,689µm,0.7s						
ZKR	**Zakros**	**2.18**	**96**	P	**Pn**	**00 42 24.5**	**+2.6**
ZKR				AML	AML	00 43 12.9	
	comp=E,714µm,0.9s						
ZKR				AML	AML	00 43 19.3	
	comp=N,265µm,0.8s						
ZKR	**Zakros**	**2.18**	**96**	PN	**Pn**	**00 42 23.8**	**+1.9**
ITM	**Ithomi**	**2.23**	**324**	PN	**Pn**	**00 42 24.4**	**+1.8**
APE	**Apeiranthos**	**2.31**	**43**	PN	**Pn**	**00 42 24.9**	**+1.2**
APE	**Apeiranthos**	**2.31**	**43**	P	**Pg**	**00 42 29.9**	**-0.3**
KARP	**Karpathos**	**2.93**	**86**	P	**Pn**	**00 42 33.8**	**+1.6**
KARP				AML	AML	00 43 20.7	
	comp=E,398µm,0.6s						
KARP				AML	AML	00 43 25.4	
	comp=N,554µm,1.0s						
KARP	**Karpathos**	**2.93**	**86**	PN	**Pn**	**00 42 34.0**	**+1.7**
NIS1	**Nisyros Isl.**	**3.16**	**66**	PN	**Pn**	**00 42 37.4**	**+2.0**
BODT	**Bodrum**	**3.45**	**60**	PN	**Pn**	**00 42 41.4**	**+2.0**
BODT	**Bodrum**	**3.45**	**60**	P	**Pn**	**00 42 40.0**	**+0.6**
BDRM	**Kayabasi**	**3.55**	**61**	P	**Pn**	**00 42 39.4**	**-1.3**
CHOS	**Chios island**	**3.59**	**33**	PN	**Pn**	**00 42 43.5**	**+2.1**
GCAM	**G?zelcaml?**	**3.74**	**51**	PN	**Pn**	**00 42 45.7**	**+2.3**
ARG	**Arkhangelos**	**3.79**	**76**	PN	**Pn**	**00 42 46.0**	**+2.0**
URLA	**Izmir**	**3.83**	**38**	PN	**Pn**	**00 42 46.7**	**+2.1**
TURN	**Turunc**	**4.03**	**69**	P	**Pn**	**00 42 50.4**	**+3.1**
AYDN	**Tasoluk**	**4.14**	**56**	P	**Pn**	**00 42 47.9**	**-1.0**
YER	**Yerkesik**	**4.18**	**64**	P	**Pn**	**00 42 52.6**	**+3.1**
FETY	**Fethiye**	**4.63**	**73**	P	**Pn**	**00 42 57.7**	**+2.0**
TAVA	**DENIZLI_Tavas**	**4.78**	**63**	P	**Pn**	**00 43 01.8**	**+4.1**
CAEL	**Denizli, Camel**	**4.95**	**68**	P	Pn	00 43 05.0	+4.9
AKAS	**Kas**	**4.97**	**78**	P	**Pn**	**00 43 02.4**	**+2.0**
AKAS				S	Sn	00 43 50.7	-7.2
AKAS				*i* AML	AML	00 44 12.0	
	comp=N,38nm,0.6s						
KULA	**Kula-Manisa**	**5.13**	**51**	P	**Pn**	**00 43 04.6**	**+2.1**
GOLH	**Golhisar**	**5.17**	**67**	P	**Pn**	**00 43 06.7**	**+3.5**
GOLH				S	**Sn**	**00 43 60.0**	**-2.8**
GOLH				*i* AML	AML	00 44 17.0	
	comp=N,28nm,1.3s						
ELL	**Elmali**	**5.31**	**73**	P	**Pn**	**00 43 05.7**	**+0.7**
ELL				S	**Sn**	**00 44 08.8**	**+2.7**
USAK	**Uak-Merkez**	**5.47**	**51**	P	**Pn**	**00 43 09.6**	**+2.3**
AKUM	**Antalya-Kumluc**	**5.58**	**78**	P	**Pn**	**00 43 10.8**	**+2.2**
PASA	**Karahalli, USA**	**5.58**	**56**	P	**Pn**	**00 43 11.2**	**+2.4**
BRDR	**BURDUR-Merkez**	**5.71**	**64**	P	**Pn**	**00 43 12.4**	**+1.9**
KORT	**Korkueli**	**5.71**	**72**	P	**Pn**	**00 43 09.9**	**-0.6**
BUCA	**Burdur, Bucak-**	**5.96**	**69**	P	**Pn**	**00 43 16.5**	**+2.5**
GDZ	**Gediz**	**5.99**	**50**	P	**Pn**	**00 43 14.5**	**+0.1**
KZIL	**AFYON_Kizioren**	**5.99**	**60**	P	**Pn**	**00 43 18.9**	**+4.5**
YVAC	**Isparta, Yalva**	**6.79**	**63**	P	**Pn**	**00 43 24.6**	**-0.7**
SEDI	**Konya, Seydise**	**6.91**	**70**	P	**Pn**	**00 43 29.5**	**+2.5**
KDHN	**Kadinhani**	**7.52**	**63**	P	**Pn**	**00 43 36.0**	**+0.7**
BRTR	**Keskin Array B**	**9.09**	**59**	Pn	**Pn**	**00 43 59.2**	**+2.3**
	comp=N,0.1nm,0.3s,baz=234,slow=14,SNR=8.3						
MMAI	**Mount Meron Ar**	**10.08**	**100**	Pn	**Pn**	**00 44 09.4**	**-1.1**
	comp=N,0.5nm,0.3s,baz=266,slow=15,SNR=1.7						
MMAI				Sn	**Sn**	**00 45 59.2**	**-4.2**
	comp=N,0.4nm,0.3s,baz=281,slow=37,SNR=1.5						
EIL	**Elat**	**11.16**	**118**	Pn	**Pn**	**00 44 24.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=38,slow=15,SNR=1.9						
EIL				Sn	**Sn**	**00 46 24.2**	**-5.7**
	comp=N,0.3nm,0.3s,baz=45,slow=20,SNR=1.5						
KHC	**Kasperske Hory**	**15.58**	**335**	*e*P	**P**	**00 45 30.0**	**+0.5**
AKASG	**Malin Array Be**	**15.85**	**13**	Pn	**Pn**	**00 45 28.1**	**-0.5**
	comp=N,0.7nm,0.3s,baz=207,slow=10,SNR=3.0						
GNI	**Garni**	**17.39**	**68**	LR	LR	00 53 10.0	
	comp=N,27nm,19.2s,baz=144,slow=40						
ESDC	**Sonseca Array**	**22.22**	**289**	P	**P**	**00 46 42.1**	**-0.1**
	comp=N,0.7nm,1.0s,baz=83,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**26.12**	**3**	P	**P**	**00 47 17.9**	**-1.4**
	comp=N,4.4nm,1.1s,baz=187,slow=9.8,SNR=2.3						
EKA	**Eskdalemuir Ar**	**27.11**	**326**	P	**P**	**00 47 29.2**	**+0.8**
	comp=N,0.6nm,0.6s,baz=121,slow=8.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**29.67**	**227**	P	**P**	**00 47 51.9**	**+0.4**
	comp=N,0.6nm,0.6s,baz=32,slow=7.8,SNR=5.4						
ARCES	**ARCESS Array B**	**34.22**	**1**	P	**P**	**00 48 30.5**	**-0.4**
	comp=N,1.9nm,1.0s,baz=186,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**44.73**	**57**	P	**P**	**00 49 58.4**	**-0.5**
	comp=N,0.5nm,0.5s,baz=268,slow=8.8,SNR=11						
MKAR				PcP	**PcP**	**00 51 41.3**	**+0.3**
	comp=N,0.2nm,0.4s,baz=264,slow=3.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**45.78**	**46**	P	**P**	**00 50 05.8**	**-1.2**
	comp=N,0.7nm,0.4s,baz=279,slow=7.5,SNR=4.7						

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*IDC **07** 00:43:35.4±0.7,36.°57N×98.°84W,h0km,mb3.7/4, mb1 4.0/12,mb1mx3.7/54,mbtmp3.8/12,ML3.5/7,MS2.7/2, Ms1 2.7/2,ms1mx2.4/83,Error ellipse: s-maj=12.3km s-min=9.7km az=132.0*
*ANF **07** 00:43:35.8±0.8,36.°50N×98.°74W,h2km±6km,ML4.9/16, Error ellipse: s-maj=2.5km s-min=2.0km az=8.0*
*TUL **07** 00:43:36.4±1.5,36.°47N±0.°03×98.°75W±0.°04,h6km±3km, ML4.0,mb_Lg4.0/108(NEIC),Mwr3.6/17(NEIC),Error ellipse: s-maj=5.1km s-min=3.0km az=127.0*
*NEIC **07** 00:43:36.7,36.°46N×98.°69W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-0.36; Mθθ3.21; Mφφ-2.85; Mrθ1.27; Mθφ-0.19; Mφr0.04; Fault plane solution: Mo3.30000×10^14 NP1:φs138.27000°, δ76.03000°,λ11.18000°. NP2:φs45.54000°,δ79.15000°, λ165.77000°. Principal axes: T 3.6196, Plg18.0000°, Azm2.0000°; N -0.7638, Plg72.0000°, Azm189.0000°; P -2.8558, Plg2.0000°, Azm92.0000°;*
*NEIC **07** 00:43:37.2±1.0,36.°46N±0.°02×98.°72W±0.°03,h1km±9km Error ellipse: s-maj=4.2km s-min=2.3km az=142.0*
ISC 07 00:43:36.4±0.6,**36.°53N**±0.°04×**98.°73W**±0.°04,**h10**km,**n207**, σ**1.s07**/200,**mb3.7**/4,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.27**	**235**	Pg	**Pg**	**00 43 41.0**	**-0.7**
U32A				Sg	**Sg**	**00 43 44.4**	**-1.0**
OK009	**Oakdale Elemen**	**1.42**	**131**		**Pn**	**00 44 01.6**	**-0.7**
OK001	**Jones High Sch**	**1.52**	**129**		**Pn**	**00 44 02.8**	**-0.8**

OK005	Luther M Schoo	1.52	125		Pn	00 44 03.8	+0.1
OKCFA	Oklahoma City	1.52	137		Pn	00 44 03.4	-0.3
OKCSW	OKLAHOMA CITY	1.54	137		Pn	00 44 03.7	-0.2
FNO	Franklin	1.67	139		Pn	00 44 05.8	+0.1
WMOK	Wichita Mounta	1.79	181		Pn	00 44 06.4	-0.9
WMOK	Wichita Mounta	1.79	181	P	Pn	00 44 06.5	-0.8
	baz=0.9,SNR=238						
WMOK				S	Sn	00 44 30.2	0.0
	baz=0.9						
T35A	Sooner Cattle	1.82	77		Pn	00 44 08.9	+1.1
T35A				IAmb_Lg		00 44 37.6	
	comp=Z,479nm,0.8s						
R32A	Long Quarter,	1.89	0		Pb	00 44 10.8	-0.1
W35A	Tecumseh	2.04	132		Pn	00 44 11.1	+0.3
X34A	Smith Ranch, M	2.06	159	Pn	Pn	00 44 11.9	+0.8
CBKS	Cedar Bluff	2.41	341	Pn	Pb	00 44 18.5	-1.4
CBKS				IAmb_Lg		00 45 01.3	
	comp=Z,408nm,0.7s						
CBKS	Cedar Bluff	2.41	341	P	Pn	00 44 17.6	+1.6
	baz=161,SNR=62						
TUL1	Leonard	2.46	104		Pn	00 44 17.2	+0.7
TUL1				IAmb_Lg		00 44 54.5	
	comp=Z,457nm,0.8s						
TUL1	Leonard	2.46	104	P	Pn	00 44 17.2	+0.7
	baz=284,SNR=135						
TUL1				S	Sn	00 44 48.5	+1.9
	baz=284						
AMTX	Amarillo	2.91	236	Pn	Pn	00 44 24.2	+1.3
AMTX				IAmb_Lg		00 45 11.5	
	comp=Z,745nm,0.8s						
AMTX	Amarillo	2.91	236	P	Pn	00 44 23.5	+0.7
	baz=56						
AMTX				Sb	Sb	00 45 05.3	+1.2
	baz=56						
KSU1	Kansas State U	3.06	33	Pn	Pn	00 44 26.9	+2.1
KSU1				IAmb_Lg		00 45 22.3	
	comp=Z,391nm,0.9s						
KSU1	Kansas State U	3.06	33	P	Pn	00 44 27.0	+2.1
	baz=213,SNR=52						
X37A	Clayton	3.36	124		Pn	00 44 29.2	+0.4
Z35A	Perchaven, San	3.42	159	Pn	Pn	00 44 29.8	+0.1
HHAR	Hobbs	3.87	92	Pg	Pb	00 44 45.7	+0.9
KSCO	Kaye Shedlock’	3.96	310		Pb	00 44 48.6	+2.4
KSCO				IAmb_Lg		00 45 51.7	
	comp=Z,435nm,0.8s						
KSCO	Kaye Shedlock’	3.96	310	P	Pn	00 44 38.3	+1.1
	baz=128						
KSCO				S	Sn	00 45 24.5	+0.8
	baz=128						
ABTX	Abilene, Hawle	3.97	191	Pn	Pn	00 44 36.7	-0.6
ABTX				Pg	Pb	00 44 47.7	+1.3
ABTX	Abilene, Hawle	3.97	191	P	Pn	00 44 37.0	-0.3
	baz=11,SNR=39						
MSTX	Muleshoe	4.18	233		Pn	00 44 40.8	+0.5
MSTX				IAmb_Lg		00 45 54.5	
	comp=Z,353nm,0.8s						
MSTX	Muleshoe	4.18	233	P	Pn	00 44 40.8	+0.5
	baz=52						
W39A	Magazine	4.23	107	Pn	Pn	00 44 41.9	+1.0
W39A				IAmb_Lg		00 45 58.9	
	comp=Z,440nm,0.9s						
W39A	Magazine	4.23	107	P	Pn	00 44 41.9	+1.0
	baz=289,SNR=9.5						
W39A				S	Sn	00 45 31.8	+1.4
	baz=289						
N33A	J Bar K, Exete	4.32	13		Pn	00 44 42.8	+0.7
N33A				IAmb_Lg		00 46 05.7	
	comp=Z,310nm,0.8s						
S39A	Bolivar	4.47	73	Pn	Pn	00 44 44.9	+0.6
Z38A	Mt. Pleasant	4.49	136	Pn	Pn	00 44 44.6	+0.2
Z38A				IAmb_Lg		00 45 59.5	
	comp=Z,363nm,0.9s						
T25A	Trinidad	4.60	279		Pn	00 44 46.8	+0.7
T25A				IAmb_Lg		00 46 05.1	
	comp=Z,326nm,0.9s						
T25A	Trinidad	4.60	279	P	Pn	00 44 46.9	+0.7
	baz=97,SNR=23						
MIAR	Mount Ida	4.65	114		Pn	00 44 47.1	+0.5
MIAR				IAmb_Lg		00 46 09.5	
	comp=Z,195nm,0.9s						
MIAR	Mount Ida	4.65	114	P	Pn	00 44 47.1	+0.5
	baz=296,SNR=13						
MIAR				S	Sn	00 45 40.9	+0.2
	baz=296						
WHTX	Lake Whitney,	4.65	167		Pn	00 44 46.5	-0.2
WHTX	Lake Whitney,	4.65	167	P	Pn	00 44 46.3	-0.4
	baz=347						
U40A	Yellville	4.74	90		Pn	00 44 48.0	+0.1
U40A				IAmb_Lg		00 46 17.1	
	comp=Z,250nm,0.7s						
U40A	Yellville	4.74	90	P	Pn	00 44 48.4	+0.5
	baz=273,SNR=31						
BGNE	Belgrade	4.89	5	Pn	Pn	00 44 51.1	+1.2
BGNE				IAmb_Lg		00 46 24.7	
	comp=Z,395nm,0.8s						
BGNE	Belgrade	4.89	5	P	Pn	00 44 51.1	+1.2
	baz=186,SNR=11						
N35A	Tabor	4.95	28	Pn	Pn	00 44 52.1	+1.3
OGNE	Ogallala	5.11	331	P	Pn	00 44 54.9	+1.9
	baz=149,SNR=14						
OGNE				S	Sn	00 45 54.6	+2.6
	baz=149						
237A	Washetta, Mont	5.13	151	Pn	Pn	00 44 54.0	+0.8
237A				IAmb_Lg		00 46 30.6	
	comp=Z,293nm,0.8s						
P38A	Dawn	5.13	51	Pn	Pn	00 44 54.4	+1.1
P38A				IAmb_Lg		00 46 35.0	
	comp=Z,206nm,0.8s						
MGMO	Mountain Grove	5.22	81		Pn	00 44 55.7	+1.1
X40A	Basin Creek Fa	5.22	111		Pn	00 44 55.2	+0.6
X40A				IAmb_Lg		00 46 28.9	
	comp=Z,268nm,0.8s						
X40A	Basin Creek Fa	5.22	111	P	Pn	00 44 55.6	+1.0
	baz=294,SNR=10						
WHAR	Wooly Hollow	5.37	101	Pn	Pn	00 44 57.3	+0.7
WHAR				IAmb_Lg		00 46 30.5	
	comp=Z,290nm,0.8s						
FCAR	Ozark Folk Cen	5.38	95	IAmb_Lg		00 46 40.9	
	comp=Z,201nm,0.8s						
WLAR	White Oak Lake	5.41	120	Pn	Pn	00 44 57.4	+0.3
WLAR				IAmb_Lg		00 46 38.0	
	comp=Z,302nm,0.9s						
R40A	Maddies Statio	5.44	69		Pn	00 44 58.1	+0.7
W41B	Gary Mavity, V	5.44	103		Pn	00 44 58.0	+0.6
W41B				IAmb_Lg		00 46 29.9	
	comp=Z,267nm,0.9s						
W41B	Gary Mavity, V	5.44	103	P	Pn	00 44 58.1	+0.6
	baz=286,SNR=25						
SDCO	Great Sand Dun	5.54	285	IAmb_Lg		00 46 42.1	
	comp=Z,200nm,1.1s						
SDCO	Great Sand Dun	5.54	285	P	Pn	00 45 00.4	+1.2
	baz=101,SNR=18						
Q24A	Divide	5.63	297		Pn	00 45 01.3	+0.8
Q24A				IAmb_Lg		00 46 42.7	
	comp=Z,211nm,0.8s						
Q24A	Divide	5.63	297	P	Pn	00 45 01.1	+0.6
	baz=114						
L34A	Svendsen Farm,	5.73	18	Pn	Pn	00 45 01.7	+0.3
435B	Jarrell	5.81	170	Pn	Pn	00 45 03.2	+0.6
435B				IAmb_Lg		00 46 48.0	
	comp=Z,260nm,0.8s						
435B	Jarrell	5.81	170	P	Pn	00 45 02.5	-0.1
	baz=351						
NATX	Nacogdoches	5.83	144	IAmb_Lg		00 46 55.0	
	comp=Z,167nm,0.9s						
Z41A	Richland Creek	5.87	122	IAmb_Lg		00 46 56.2	
	comp=Z,252nm,0.8s						
Z41A	Richland Creek	5.87	122	P	Pn	00 45 03.6	+0.3
	baz=305						
N38A	Joes South For	6.05	44		Pn	00 45 07.4	+1.5
P40A	Paris	6.06	58		Pn	00 45 07.2	+1.1
K31A	O'Neill	6.08	360	Pn	Pn	00 45 08.8	+2.5
JCT	Junction City	6.10	189	IAmb_Lg		00 47 04.6	
	comp=Z,220nm,0.8s						
JCT	Junction City	6.10	189	P	Pn	00 45 07.6	+0.9
	baz=8.1						
LCAR	Lake Charles	6.14	92		Pn	00 45 09.7	+2.7
T42A	Van Buren	6.15	83	Pn	Pn	00 45 08.8	+1.5
CCM	Cathedral Cave	6.16	73	Pn	Pn	00 45 09.0	+1.7
CCM				IAmb_Lg		00 46 54.3	
	comp=Z,320nm,1.0s						
CCM	Cathedral Cave	6.16	73	P	Pn	00 45 08.5	+1.1
	baz=257						
CCM				S	Sn	00 46 19.4	+1.5
	baz=257						
CCAR	Cane Creek	6.26	113	IAmb_Lg		00 47 07.5	
	comp=Z,227nm,0.8s						
ISCO	Idaho Springs	6.33	303		Pn	00 45 11.2	+1.2
ISCO	Idaho Springs	6.33	303	P	Pn	00 45 10.9	+1.0
	baz=120,SNR=9.5						
ANMO	Albuquerque	6.48	258	Pn	Pn	00 45 12.6	+0.6
	comp=Z,0.6nm,0.3s,baz=81,slow=13,SNR=17						
ANMO				Pg	Pb	00 45 30.9	+1.6
	comp=Z,1.6nm,0.3s,baz=76,slow=17,SNR=11						
ANMO				Lg	Lg	00 46 56.4	
	comp=Z,2.8nm,0.3s,baz=325,slow=22,SNR=1.8						
ANMO				LR	LR	00 47 41.1	
	comp=Z,25nm,19.6s,baz=33,slow=38						
ANMO	Albuquerque	6.48	258		Pn	00 45 13.2	+1.2
ANMO	Albuquerque	6.48	258	P	Pn	00 45 12.5	+0.5
	baz=74						
S22A	4UR Ranch, Cre	6.58	283	P	Pn	00 45 15.1	+1.6
	baz=99						
PBMO	Poplar Bluff	6.68	85		Pn	00 45 16.1	+1.6
PBMO				IAmb_Lg		00 47 07.7	
	comp=Z,170nm,0.7s						
FVM	French Village	6.78	75		Pn	00 45 16.7	+0.7
FVM				IAmb_Lg		00 47 11.7	
	comp=Z,190nm,0.8s						
SCIA	State Center	6.86	37	IAmb_Lg		00 47 24.4	
	comp=Z,265nm,0.8s						
BNM	Barren Site	6.88	252		Pn	00 45 18.0	+0.5
SLM	Saint Louis	7.07	70	IAmb_Lg		00 47 20.8	
	comp=Z,250nm,0.8s						
PHWY	Pilot Hill	7.08	314		Pn	00 45 21.7	+1.4
PHWY				IAmb_Lg		00 47 21.9	
	comp=Z,148nm,0.8s						
N23A	Red Feather La	7.12	310		Pn	00 45 22.6	+1.7
N23A	Red Feather La	7.12	310	P	Pn	00 45 22.2	+1.3
	baz=126						
Y22D	IRIS PASSCAL I	7.13	252	IAmb_Lg		00 47 32.0	
	comp=Z,192nm,0.8s						
143A	Socs Landing,	7.15	120	IAmb_Lg		00 47 32.5	
	comp=Z,139nm,0.8s						
MET	Memphis--Engin	7.28	99	IAmb_Lg		00 47 34.0	
	comp=Z,187nm,0.8s						
MNTX	Cornudas Mount	7.32	231	IAmb_Lg		00 47 25.4	
	comp=Z,116nm,0.8s						
MNTX	Cornudas Mount	7.32	231	P	Pn	00 45 23.1	-0.4
	baz=47,SNR=9.5						
ECSD	EROS Data Cent	7.37	12	Pn	Pn	00 45 23.8	-0.3
ECSD	EROS Data Cent	7.37	12	P	Pn	00 45 23.7	-0.3
	baz=193,SNR=24						
HALT	Halls	7.62	92	IAmb_Lg		00 47 51.3	
	comp=Z,221nm,1.0s						
S44A	Carbondale	7.66	78		Pn	00 45 28.3	+0.3
S44A				IAmb_Lg		00 47 55.8	
	comp=Z,152nm,0.7s						
SIUC	Southern Illin	7.69	78	Pn	Pn	00 45 28.6	+0.2
SIUC				IAmb_Lg		00 47 42.9	
	comp=Z,137nm,0.9s						
735A	Kenedy	7.70	174	IAmb_Lg		00 47 59.6	
	comp=Z,100nm,0.9s						
OXF	Oxford	7.86	102	Pn	Pn	00 45 30.6	-0.1
OXF				IAmb_Lg		00 47 58.7	
	comp=Z,122nm,0.8s						
OXF	Oxford	7.86	102	P	Pn	00 45 30.7	-0.1
	baz=287,SNR=8.4						
W45A	Hickory Valley	7.87	97		Pn	00 45 32.1	+1.2
W45A				IAmb_Lg		00 48 06.8	
	comp=Z,136nm,0.8s						
P43A	Skaggs, Pawnee	7.90	64	Pn	Pn	00 45 31.9	+0.7
SUSD	Miller	7.90	359	IAmb_Lg		00 47 53.6	
	comp=Z,128nm,0.7s						
Y45A	Yeager Farm, C	7.98	107	IAmb_Lg		00 47 58.4	
	comp=Z,156nm,1.1s						
L40A	Anamosa	8.02	44	Pn	Pn	00 45 33.1	+0.2
Q44A	Meyer Farm, Va	8.05	70	Pn	Pn	00 45 34.1	+0.8
833A	Chaparral WMA,	8.21	184	P	Pn	00 45 35.6	+0.1
	baz=3.7						
PV11	David Mesa, Pa	8.26	285	Pn	Pn	00 45 37.4	+1.0
TX31	Lajitas Ar. Si	8.29	211		Pn	00 45 36.0	-0.8
TX32	Lajitas Array	8.29	211		Pn	00 45 36.0	-0.7
TXAR	Lajitas Array	8.29	211	Pn	Pn	00 45 36.1	-0.7
	comp=Z,2.1nm,0.3s,baz=38,slow=11,SNR=66						
TXAR				Lg	Lg	00 47 50.1	
	comp=Z,2.2nm,0.3s,baz=101,slow=32,SNR=1.7						
TXAR	Lajitas Array	8.29	211	Pn	Pn	00 45 35.9	-0.8
O20A	White River Ci	8.29	299	Pn	Pn	00 45 38.6	+1.7
344A	Westbrook Farm	8.35	125	Pn	Pn	00 45 38.1	+0.6
RWWY	Rawlins	8.36	311	Pn	Pn	00 45 37.7	-0.1
RWWY				IAmb_Lg		00 48 20.0	
	comp=Z,94nm,0.9s						
PV14	Lion Creek, Pa	8.39	286	Pn	Pn	00 45 39.4	+1.2
PV23	Carpenter Ridg	8.39	286	Pn	Pn	00 45 37.8	-0.5
PV10	Paradox Valley	8.40	286	Pn	Pn	00 45 38.3	-0.1
HDIL	Hopedale	8.41	59		Pn	00 45 38.8	+0.5
HDIL	Hopedale	8.41	59	P	Pn	00 45 39.2	+0.9
	baz=244,SNR=24						
121A	Cookes Peak, D	8.47	245	Pn	Pn	00 45 38.5	-0.7
121A	Cookes Peak, D	8.47	245	P	Pn	00 45 38.1	-1.1
	baz=60						
I37A	Lemond, Waseca	8.51	27	Pn	Pn	00 45 41.9	+2.2
I37A				IAmb_Lg		00 48 29.8	
	comp=Z,148nm,0.9s						
K22A	Casper	8.57	318	Pn	Pn	00 45 42.5	+1.9
K22A				IAmb_Lg		00 48 22.7	
	comp=Z,147nm,0.8s						
K22A	Casper	8.57	318	P	Pn	00 45 42.2	+1.6
	baz=133						
RSSD	Black Hills	8.59	334	Pn	Pn	00 45 42.1	+1.2
RSSD				IAmb_Lg		00 48 16.9	
	comp=Z,126nm,0.9s						
RSSD	Black Hills	8.59	334	P	Pn	00 45 42.5	+1.5
	baz=150						
OLIL	Olney	8.72	72	Pn	Pn	00 45 42.3	-0.1
PLAL	Pickwick Lake	8.80	97		Pn	00 45 43.1	-0.5
WVT	Waverly	8.81	89	Pn	Pn	00 45 43.8	+0.1
WVT	Waverly	8.81	89	P	Pn	00 45 43.5	-0.2
	baz=275						
O44A	Mansfield	8.84	63	Pn	Pn	00 45 45.1	+1.0
146A	Union	8.87	113	Pn	Pn	00 45 45.0	+0.4
L42A	Oliver, Polo	8.90	49	Pn	Pn	00 45 46.6	+1.7
USIN	University of	8.94	77	Pn	Pn	00 45 47.1	+1.6
KVTX	Kingsville	8.99	175	Pn	Pn	00 45 45.8	-0.4
W18A	Petrified Fore	9.05	264	Pn	Pn	00 45 46.9	-0.3
JFWS	Jewell Farm	9.12	43	Pn	Pn	00 45 48.0	-0.1
JFWS				IAmb_Lg		00 48 37.8	
	comp=Z,148nm,0.8s						
JFWS	Jewell Farm	9.12	43	P	Pn	00 45 48.7	+0.6
	baz=228,SNR=6.5						
T47A	Sharon Grove	9.34	84	Pn	Pn	00 45 51.2	+0.2
X18A	Snowflake	9.36	261	Pn	Pn	00 45 51.0	-0.5
Z47A	Carrollton	9.37	108	Pn	Pn	00 45 51.9	+0.5
F33A	5 Mile Ranch,	9.48	10	Pn	Pn	00 45 52.5	-0.4
F33A				IAmb_Lg		00 48 47.0	
	comp=Z,79nm,0.9s						
P18A	Preston Nutter	9.59	292	Pn	Pn	00 45 54.6	-0.2
P46A	Rosedale	9.59	68	Pn	Pn	00 45 54.1	-0.4
I40A	Norwalk	9.62	38	Pn	Pn	00 45 55.8	+1.0
I40A				IAmb_Lg		00 48 47.8	
	comp=Z,89nm,1.0s						
M44A	Midewin, Midew	9.63	57	Pn	Pn	00 45 55.7	+0.8
V48A	Smith Brothers	9.67	91	Pn	Pn	00 45 57.3	+1.8
SRU	San Rafael Swe	9.68	289	Pn	Pn	00 45 55.0	-0.8
X48A	Hartselle	9.75	99	Pn	Pn	00 45 57.0	+0.3
SPMN	Marine on St.	9.77	25	Pn	Pn	00 45 57.5	+0.6
SPMN	Marine on St.	9.77	25	P	Pn	00 45 56.9	0.0
	baz=209,SNR=7.6						
SFIN	Lafayette	9.90	64	Pn	Pn	00 45 59.9	+1.2
SFIN	Lafayette	9.90	64	P	Pn	00 45 58.7	+0.1
	baz=250						
P17A	Butcher Ranch,	9.92	291	Pn	Pn	00 45 59.2	+0.1
BLO	Bloomington	10.01	71	Pn	Pn	00 46 01.6	+1.4
CLTN	Cedars of Leba	10.02	89		Pn	00 46 00.8	+0.4
WCI	Wyandotte Cave	10.04	77	Pn	Pn	00 46 01.1	+0.5
WCI	Wyandotte Cave	10.04	77	P	Pn	00 46 01.3	+0.6
	baz=264						
L44A	Lake County Fo	10.09	53	Pn	Pn	00 46 02.0	+0.6
L44A	Lake County Fo	10.09	53	P	Pn	00 46 02.0	+0.6
	baz=239						
F36A	Milaca	10.11	21	Pn	Pn	00 46 02.2	+0.7
Q16A	Castle Valley	10.14	287	Pn	Pn	00 46 04.1	+1.9
E28A	Huff	10.14	352	Pn	Pn	00 46 04.0	+2.0
319A	Douglas	10.16	243	Pn	Pn	00 46 01.9	-0.4
TMUT	Trail Mountain	10.24	289	Pn	Pn	00 46 04.1	+0.5
LRAL	Lakeview Retre	10.26	106	Pn	Pn	00 46 03.7	0.0
LRAL	Lakeview Retre	10.26	106	P	Pn	00 46 03.8	+0.2
	baz=293						
PD31	Pinedale Array	10.41	310	Pn	Pn	00 46 06.2	+0.3
PDAR	Pinedale Array	10.41	310	Pn	Pn	00 46 06.2	+0.3
	comp=Z,0.3nm,0.3s,baz=117,slow=15,SNR=8.7						
PDAR				Lg	Lg	00 49 02.0	
	comp=Z,3.0nm,0.3s,baz=120,slow=34,SNR=9.7						
PDAR	Pinedale Array	10.41	310	Pn	Pn	00 46 06.6	+0.7
BW06	Boulder Array	10.41	310	Pn	Pn	00 46 05.2	-0.7
BW06	Boulder Array	10.41	310	P	Pn	00 46 04.8	-1.1
	baz=124						
U49A	Red Boiling Sp	10.43	86		Pn	00 46 06.6	+0.7
SWET	Sewanee	10.47	93	Pn	Pn	00 46 06.9	+0.3
I42A	Draeger Farm,	10.50	43	Pn	Pn	00 46 07.1	+0.2
BRAL	Brewton	11.08	115	P	Pn	00 46 15.0	+0.1
	baz=302						
O48B	Farmland	11.28	67	P	Pn	00 46 16.6	-1.0
	baz=255						
P49A	Miami Univ. Ec	11.45	71	P	Pn	00 46 19.6	-0.4
	baz=259						
LAO	LASA Array	11.59	333	P	Pn	00 46 22.3	+0.5
	baz=149						
RLMT	Red Lodge	11.71	320	P	Pn	00 46 23.5	-0.1
	baz=134						
AGMN	Agassiz Nation	11.95	9	P	Pn	00 46 24.5	-2.1
	baz=191						
TKL	Tuckaleechee C	12.13	90	Pn	Pn	00 46 28.8	-0.4
	comp=Z,1.2nm,0.3s,baz=221,slow=7.7,SNR=18						
TKL				Lg	Lg	00 49 53.3	
	comp=Z,1.3nm,0.3s,baz=181,slow=23,SNR=5.1						
TZTN	Tazewell	12.21	85	P	Pn	00 46 30.9	+0.5
	baz=274						
DGMT	Dagmar	12.59	343	P	Pn	00 46 34.4	-1.1
	baz=160						
EYMN	Ely	12.59	23	P	Pn	00 46 32.7	-2.9
	baz=208						
ACSO	Alum Creek Sta	12.90	69	P	Pn	00 46 39.2	-0.5
	baz=258						
AAM	Ann Arbor	13.00	59	P	Pn	00 46 41.1	+0.1
	baz=248						
P52A	Corning	13.44	72	P	Pn	00 46 46.7	-0.3
	baz=262						
ULM	Lac du Bonnet	13.87	8	Pn	Pn	00 46 48.4	-4.4
	comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=3.5						
ULM				Sn	Sn	00 49 15.6	-11
	comp=Z,0.8nm,0.3s,baz=113,slow=19,SNR=3.1						
ULM				Lg	Lg	00 50 44.4	
	comp=Z,0.7nm,0.3s,baz=272,slow=17,SNR=3.3						
EGMT	Eagleton	14.07	328	P	Pn	00 46 52.9	-2.9
	baz=141						
KMSC	Kings Mountain	14.19	90	P	Pn	00 46 56.7	-0.6
	baz=280						
O53A	New Philadelph	14.23	70	P	Pn	00 46 56.3	-1.7
	baz=260						
PFO	Pinyon Flats O	14.81	264	LR	LR	00 53 33.1	
	comp=Z,80nm,21.1s,baz=185,slow=41						
M53A	WI Miller and	14.87	65	P	Pn	00 47 04.1	-2.5
	baz=256						
SADO	Sadowa	16.96	55	Pn	Pn	00 47 31.5	-2.2
	comp=Z,0.3nm,0.3s,baz=77,slow=13,SNR=2.7						
SADO				Lg	Lg	00 52 23.0	
	comp=Z,0.5nm,0.3s,baz=222,slow=3.9,SNR=3.6						
YBH	Yreka Blue Hor	19.29	293	P	P	00 48 00.0	-1.3
	comp=Z,0.1nm,0.3s,baz=113,slow=13,SNR=1.4						
CMIG	Matias Romero	19.66	169	P	P	00 48 05.8	+0.3
	comp=Z,0.1nm,0.3s,baz=10,slow=11,SNR=1.2						
YKA	Yellowknife Ar	27.79	344	P	P	00 49 26.2	+0.9
	comp=Z,0.3nm,0.6s,baz=148,slow=8.6,SNR=3.6						
ILAR	Eielson Array	40.02	330	P	P	00 51 10.1	-1.0
	comp=Z,0.2nm,0.7s,baz=93,slow=7.2,SNR=2.1						
ARCES	ARCESS Array B	66.70	18	P	P	00 54 25.9	-1.2
	comp=Z,1.8nm,0.8s,baz=310,slow=7.0,SNR=1.9						
FINES	FINESS Array B	72.61	24	P	P	00 55 06.0	+2.5
	comp=Z,1.3nm,0.8s,baz=263,slow=9.4,SNR=4.4						

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*IDC **07** 00:52:03.5±1.2, 3°.54S×101°.46E, h0km, mb4.1/11, mb1 4.1/13, mb1mx3.8/51, mbtmp4.0/13, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx2.7/82, Error ellipse: s-maj=43.4km s-min=14.6km az=53.0*

*NEIC **07** 00:52:09.6±1.8, 3°.59S±0°.07×101°.42E±0°.05, h39km±8km, mb4.6/25, Error ellipse: s-maj=11.1km s-min=3.6km az=212.0*

*DJA **07** 00:52:10.6±0.4, 3°S±4°×10°2E±°, h10km, M4.3/11, MLv4.3/11*

ISC 07 00:52:09.9±0.5**, 3°.58S**±0°.06×**101°.50E**±0°.06**, h50km, n65, σ1s.55/61, mb4.3**/21**, MS3.3**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.86	60	P	Pn	00 52 25.8	0.0
KSI	Kapahiang	1.09	94	P	Pn	00 52 30.0	+1.0
KRJI	Kerinci	1.47	359	P	Pn	00 52 35.3	+1.1
MNAI	Manna	1.65	118	Pn	Pn	00 52 37.2	+0.7
MNAI				Sn	Sn	00 52 57.4	+0.8
MNAI	Manna	1.65	118	P	Pn	00 52 37.5	+1.0
PPSI	Pulau Pagai	1.69	298	P	Pn	00 52 40.2	+3.2
LWLI	Liwa	2.93	119	P	Pn	00 52 59.6	+5.5
SISI	Saibi	3.28	313	P	Pn	00 53 00.8	+1.9
PPI	Padang Panjang	3.29	340	P	Pn	00 53 01.5	+2.6
RGRI	Rengat	3.31	15	P	Pn	00 53 01.5	+2.2
PMBI	Palembang	3.33	79	Pn	Pn	00 52 59.1	-0.4
KLSI		3.41	109	P	Pn	00 53 04.9	+4.3
KASI	Kota Agung	3.56	123	P	Pn	00 53 05.8	+3.1
BKNI	Bangkinang	3.90	353	Pn	Pn	00 53 07.5	+0.2
MYKOM	Kota Tinggi	5.83	24	Pn	Pn	00 53 34.4	+0.7
GSI	Gunungsitoli	6.23	321		Pn	00 53 38.8	-0.6
RPSI	Rantau Prapat	6.74	338		Pn	00 53 44.5	-1.9
RPSI	Rantau Prapat	6.74	338	Pn	Pn	00 53 46.2	-0.1
PSI	Prapat	6.84	338	Pn	Pn	00 53 44.5	-3.3
	0.5nm,0.3s,baz=164,slow=18,SNR=2.0						
PSI				Sn	Sn	00 54 42.7	-22
	1.0nm,0.3s,baz=137,slow=21,SNR=6.1						
XMIS	Christmas Isla	8.00	149	Pn	Pn	00 54 02.2	-1.5
XMIS				Sn	Sn	00 55 27.8	-5.1
KULM	Kulim	8.85	354	Pn	Pn	00 54 13.2	-2.0
COCO	West Island	9.72	208	Pn	Pn	00 54 25.9	-1.3
KAPI	Kappang	18.26	95	P	P	00 56 19.8	+0.3
	0.5nm,0.3s,baz=261,slow=13,SNR=3.8						
KAPI	Kappang	18.26	95	P	P	00 56 17.6	-1.8
TOLI2	Tolitoli	19.83	77	P	P	00 56 35.3	-1.4
CMAR	Chiang Mai Arr	22.04	354	P	P	00 57 00.1	-0.4
	0.6nm,0.3s,baz=182,slow=8.4,SNR=7.9						
CMAR				LR	LR	01 05 30.1	
	comp=Z,44nm,18.2s,baz=175,slow=37						
FITZ	Fitzroy Crossi	27.70	123	P	P	00 57 54.2	+0.5
	1.5nm,0.9s,baz=306,slow=8.7,SNR=1.2						
FITZ				LR	LR	01 09 20.5	
	comp=Z,43nm,18.3s,baz=249,slow=37						
H08S2	Diego Garcia H	29.14	261	T	T	01 27 56.4	
	baz=85,slow=75,SNR=53						
H08S3	Diego Garcia H	29.15	261	T	T	01 27 56.4	
	baz=85,slow=75,SNR=85						
H08S1	Diego Carcia H	29.16	261	T	T	01 27 56.4	
	baz=85,slow=75,SNR=21						
SAUI	Saumlaki	29.96	100	P	P	00 58 16.3	+2.5
HMDM	Hanimaadhoo	30.08	290	P	P	00 58 11.8	-3.0
WB0	Warramunga Arr	35.89	119	P	P	00 59 05.9	+0.3
WB0				IAmb	IAmb	00 59 59.2	
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	35.91	120	P	P	00 59 06.3	+0.6
	comp=Z,0.8nm,0.3s,baz=307,slow=8.6,SNR=35						
WRA	Warramunga Arr	35.91	120	P	P	00 59 06.2	+0.4
WRAB	Tennant Creek	35.92	120	P	P	00 59 06.5	+0.7
WB2	Warramunga Arr	35.92	120	P	P	00 59 06.7	+0.9
WB2				IAmb	IAmb	00 59 06.8	
	comp=Z,5.6nm,1.1s						
WR0	Warramunga Arr	36.10	119	P	P	00 59 08.0	+0.7
ASAR	Alice Springs	37.12	125	P	P	00 59 16.8	+0.8
	comp=Z,1.0nm,0.3s,baz=300,slow=7.8,SNR=8.2						
COEN	Coen	42.39	107	P	P	00 59 59.3	-0.5
BBOO	Buckleboo	43.48	136	P	P	01 00 09.7	+1.2
BBOO				IAmb	IAmb	01 00 43.1	
	comp=Z,40nm,1.6s						
NIL	Nilore	45.63	326	P	P	01 00 26.1	+0.4
NIL				IAmb	IAmb	01 00 27.1	
	comp=Z,9.1nm,0.9s						
STKA	Stephens Creek	46.99	131	P	P	01 00 37.2	+0.9
	comp=Z,0.6nm,0.4s,baz=347,slow=5.9,SNR=3.0						
STKA	Stephens Creek	46.99	131	P	P	01 00 37.2	+0.9
GAR	Garm	51.20	329	P	P	01 01 09.3	+0.8
GAR				IAmb	IAmb	01 01 11.3	
	comp=Z,26nm,1.9s						
SONM	Songino Array	51.38	4	P	P	01 01 10.4	+0.8
	comp=Z,2.0nm,0.7s,baz=189,slow=9.4,SNR=17						
SONM	Songino Array	51.38	4	P	P	01 01 09.8	+0.1
SONM				IAmb	IAmb	01 01 43.7	
	comp=Z,3.8nm,1.0s						
MK31	Makanchi Array	52.95	344	P	P	01 01 21.9	+0.7

MK31 IAmb IAmb 01 01 22.8
comp=Z,3.4nm,0.6s
MKAR Makanchi Array 52.95 344 P P 01 01 21.6 +0.3
comp=Z,2.9nm,0.4s,baz=157,slow=9.2,SNR=108
MKAR Makanchi Array 52.95 344 P P 01 01 22.1 +0.8
MAKZ Makanchi 53.05 343 P P 01 01 22.5 +0.5
MAKZ IAmb IAmb 01 01 23.5
comp=Z,3.4nm,0.9s
USRK Ussuriysk Ar. 54.86 27 P P 01 01 34.8 -0.5
comp=Z,2.2nm,0.7s,baz=208,slow=5.0,SNR=3.4
USRK Ussuriysk Ar. 54.86 27 P P 01 01 35.7 +0.5
KURK Kurchatov 57.54 343 P P 01 01 54.4 +0.3
KURK IAmb IAmb 01 01 55.9
comp=Z,2.4nm,0.8s
PATS Pohnpei 57.65 80 P P 01 01 55.0 -0.7
KLR Kul'dur 58.77 23 P P 01 02 02.6 -0.3
comp=Z,1.4nm,0.8s,baz=243,slow=9.0,SNR=4.9
ZAA0 Zalesovo Array 58.99 349 P P 01 02 04.3 0.0
ZAA0 IAmb IAmb 01 02 05.0
comp=Z,6.8nm,1.1s
ZALV Zalesovo Beam 58.99 349 P P 01 02 03.9 -0.4
comp=Z,1.6nm,0.3s,baz=160,slow=4.7,SNR=20
BRVK Borovoye 62.24 339 P P 01 02 26.1 -0.3
BRVK IAmb IAmb 01 02 27.6
comp=Z,7.1nm,1.6s
ABKAR Akbulak array 63.73 331 P P 01 02 36.2 -0.2
KMBO Kilima Mbogo 64.23 270 LR LR 01 28 09.0
comp=Z,31nm,18.4s,baz=97,slow=34
BRTR Keskin Array B 75.48 312 P P 01 03 49.8 +0.6
comp=Z,0.7nm,0.7s,baz=148,slow=8.0,SNR=8.0
BKZ Black Stump Fm 76.12 129 P P 01 03 53.5 +0.6
TSUM Tsumeb 83.09 251 LR LR 01 37 56.5
comp=Z,40nm,18.2s,baz=149,slow=33
TXAR Lajitas Array 144.98 40 PKP PKPab 01 11 42.3 +0.5
comp=Z,1.0nm,0.6s,baz=292,slow=1.1,SNR=19

MOS 07 00:56:11.5±0.7, 43°.98N×145°.44E, h164km, mb4.0/4, Error ellipse: s-maj=13.5km s-min=10.5km az=105.2
SKHL 07 00:56:12.0±0.4, 43°.90N×145°.50E, h152km±5km, mb4.7/6, msha5.4/4
JMA 07 00:56:12.8±0.2, 43°.91N×145°.47E, h157km±1km, M3.1
IDC 07 00:56:13.3±1.4, 44°.09N×145°.39E, h161km±10km, mb3.5/14, mb1 3.7/17, mb1mx3.5/38, mbtmp3.9/17, Error ellipse: s-maj=23.7km s-min=13.3km az=161.0
NEIC 07 00:56:14.1±1.6, 44°.01N±0°.09×145°.4E±0°.1, h168km±7km, mb4.4/50, Error ellipse: s-maj=13.6km s-min=11.5km az=128.0
ISC 07 00:56:12.2±0.6, 43°.90N±0°.04×145°.49E±0°.04, h160km±4km, n125, σ0s.96/148, mb4.3/46, 5C-1D, Hokkaido region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GLVR Golovnino 0.17 172⇑ iPN Pn 00 56 34.4 +0.9
GLVR iS Sn 00 56 51.1 +1.3
GLVR pmax pmax
comp=N,161nm,0.5s
GLVR pmax pmax
comp=E,231nm,0.5s
GLVR pmax pmax
comp=Z,2µm,0.5s
GLVR smax smax
comp=N,739nm,0.5s
GLVR smax smax
comp=E,3µm,0.4s
GLVR Golovnino 0.17 172 iP Pn 00 56 34.4 +0.9
GLVR AMB AMB 00 56 34.8
comp=E,2µm,0.5s
GLVR iS Sn 00 56 51.1 +1.3
GLVR A A 00 56 51.4
comp=E,740nm,0.5s
GLVR A A 00 56 51.4
comp=E,3µm,0.5s
RUSJ Misakicho 0.27 319⇑ iPN Pn 00 56 34.1 +0.4
RUSJ iS Sn 00 56 50.2 -0.1
JRA Rausu 0.27 278 P Pn 00 56 34.0 +0.3
YUK Yuzh-Kuril'sk 0.30 64c iPN Pn 00 56 34.5 +0.7
YUK iS Sn 00 56 51.3 +1.0
YUK pmax pmax
comp=Z,2µm,0.5s
YUK pmax pmax
comp=N,233nm,0.2s
YUK pmax pmax
comp=E,233nm,0.3s
YUK smax smax
comp=E,3µm,0.6s
YUK smax smax
comp=N,5µm,0.7s
YUK Yuzh-Kuril'sk 0.30 64 iP Pn 00 56 34.5 +0.7
YUK AMB AMB 00 56 35.0
comp=N,2µm,0.5s
YUK iS Sn 00 56 51.4 +1.1
YUK A A 00 56 52.2
comp=N,5µm,0.7s
YUK A A 00 56 52.2
comp=N,3µm,0.7s
JNSB Nemuroshibetsu 0.37 250 P Pn 00 56 34.5 +0.4
JNSB eS Sn 00 56 51.2 +0.5
NMR Nemuro--Hokkai 0.56 162⇑ iPN Pn 00 56 35.0 +0.1
NMR iS Sn 00 56 51.5 -0.7
NMR Nemuro--Hokkai 0.56 162 iP Pn 00 56 35.0 +0.1
NMR eS Sn 00 56 51.5 -0.7
NEM2 Nemuro 2 0.57 161 P Pn 00 56 35.0 +0.1
NEM2 eS Sn 00 56 51.6 -0.7
JNK Nakash 0.64 241 P Pn 00 56 35.7 +0.4
JNK eS Sn 00 56 52.9 -0.1
JKHN Kushirohamanak 0.85 196 P Pn 00 56 37.1 +0.4
JKHN eS Sn 00 56 55.1 -0.4
SHO Shikotan 0.97 91c iPN Pn 00 56 37.7 +0.1
SHO iS Sn 00 56 55.9 -1.1
SHO pmax pmax
comp=Z,160nm,0.2s
SHO pmax pmax
comp=N,34nm,0.1s
SHO smax smax
comp=N,674nm,0.2s
SHO smax smax
comp=E,2µm,0.4s
SHO Shikotan 0.97 91 iP Pn 00 56 37.5 -0.1
SHO AMB AMB 00 56 38.1
comp=E,140nm,0.2s
SHO iS Sn 00 56 56.1 -0.9
SHO A A 00 56 57.3
comp=E,670nm,0.4s
SHO A A 00 56 57.3
comp=E,2µm,0.4s
AKK Akkeshi 1.00 208 iP Pn 00 56 38.2 +0.3
AKK iS Sn 00 56 57.0 -0.5
JAK Akkeshi 1.07 213 P Pn 00 56 38.9 +0.5
JAK eS Sn 00 56 58.1 -0.4
JTKR Abashiri--Toko 1.14 274 P Pn 00 56 39.3 +0.3
JTKR eS Sn 00 56 58.9 -0.7
JAR Ashorobuto 1.39 245 P Pn 00 56 42.0 +0.7
JAR eS Sn 00 57 04.5 +0.8
JOB Onbets 1.56 231 P Pn 00 56 43.8 +0.7
JOB eS Sn 00 57 06.7 -0.2
JKK2 Kamakawa 2 1.98 270 P Pn 00 56 48.3 +0.7
JCH Churui 2.02 231 P Pn 00 56 48.4 +0.4
JCH eS Sn 00 57 14.5 -1.2
JKA Kamikawa-asahi 2.10 277 Pn 00 56 49.6 +0.8
JKA Kamikawa-asahi 2.10 277 eP Pn 00 56 49.7 +0.8
ASAJ Asahikawa 2.10 277 P Pn 00 56 49.6 +0.7
comp=E,9.6nm,0.3s,baz=98,slow=9.9,SNR=20
ASAJ S Sn 00 57 17.3 -0.1
comp=E,2.1nm,0.3s,baz=356,slow=32,SNR=8.1
ASAJ Asahikawa 2.10 277 P Pn 00 56 49.5 +0.6
KUR Kuril'sk 2.16 51d iPN Pn 00 56 50.5 +0.9
KUR eS Sn 00 57 19.8 +1.2
KUR pmax pmax
comp=Z,126nm,0.7s
KUR smax smax
comp=E,81nm,0.5s
KUR smax smax
comp=N,30nm,0.3s
KUR Kuril'sk 2.16 51 iP Pn 00 56 50.5 +0.9
KUR AMB AMB 00 56 51.2
comp=N,130nm,0.6s
KUR eS Sn 00 57 19.8 +1.2
KUR A A 00 57 22.0
comp=N,70nm,0.5s
KUR A A 00 57 22.0
comp=N,80nm,0.5s
JFR Furan 2.23 252 P Pn 00 56 51.6 +1.1
JFR eS Sn 00 57 20.5 +0.3
ERM Erimo 2.55 223 Pn Pn 00 56 56.0 +1.7
ERM Sn Sn 00 57 28.7 +1.9
JEW Eniwo 3.13 252 Pn Pn 00 57 02.7 +1.2
YSS Yuzh-Sakhalins 3.61 329 ePN Pn 00 57 06.7 -0.8
YSS eS Sn 00 57 49.6 -1.0
YSS smax smax
comp=N,30nm,1.2s
YSS smax smax
comp=E,30nm,1.1s
YSS Yuzh-Sakhalins 3.61 329 eP Pn 00 57 08.7 +1.2
YSS AMB AMB 00 57 10.5
comp=E,20nm,0.5s
YSS eS Sn 00 57 52.3 +1.7
YSS A A 00 58 08.5
comp=E,40nm,0.5s
YSS A A 00 58 08.5
comp=E,40nm,0.5s
JTM Tenmabayashi 4.52 228 Pn Pn 00 57 18.9 -0.5
JTM Sn Sn 00 58 09.1 -2.8
TYV Tymovskoe 7.22 346 eP Pn 00 57 56.9 +1.8
TYV AMB AMB 00 57 58.6
comp=E,10.0nm,0.4s
PETK Petropavlovsk- 12.25 37 P Pn 00 58 59.9 -1.3
comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=2.0
SEY Seymchan 19.48 9 P P 01 00 24.1 -2.3
comp=E,0.2nm,0.3s,baz=143,slow=8.1,SNR=4.9
SEY S S 01 03 52.9 -4.8
comp=E,0.1nm,0.3s,baz=67,slow=23,SNR=4.2
SONM Songino Array 27.30 292 P P 01 01 41.8 0.0
comp=E,3.2nm,0.8s,baz=82,slow=8.1,SNR=18
SONM Songino Array 27.30 292 P P 01 01 41.5 -0.3
H11N2 WAKE ISLAND Hy 30.02 137 T T 01 33 15.5
baz=329,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 30.03 137 T T 01 33 15.5
baz=329,slow=75,SNR=17
H11N3 WAKE ISLAND Hy 30.04 137 T T 01 33 16.1
baz=329,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 30.96 138 T T 01 34 23.6
baz=329,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 30.97 138 T T 01 34 23.6
baz=329,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 30.98 138 T T 01 34 23.6
baz=329,slow=76,SNR=15
J20K Nowinta River 38.95 37 P P 01 03 23.8 +1.7
J20K IAmb IAmb 01 03 42.2
comp=Z,22nm,2.0s
IMAR Indian Mountai 39.20 34 P P 01 03 25.2 +1.0
SII Sitkinak Islan 39.33 49 P P 01 03 23.2 -2.2
ZALV Zalesovo Beam 39.95 307 P P 01 03 30.1 -0.3
comp=Z,0.3nm,0.4s,baz=85,slow=8.0,SNR=1.6
ZALV PcP PcP 01 05 32.7 +0.2
comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=2.8
MLY Manley 40.42 36 P P 01 03 36.2 +1.9
CNPM China Poot 40.52 44 P P 01 03 36.1 +0.9
TRF Thorofare Moun 40.66 38 P P 01 03 36.9 +0.4
TRF IAmb IAmb 01 04 52.7
comp=Z,33nm,1.8s
TOLK Toolik Lake Re 40.96 30 P P 01 03 39.3 +0.6
TOLK IAmb IAmb 01 05 05.3
comp=Z,11nm,1.6s
RC01 Rabbit Creek A 41.09 42 P P 01 03 40.1 +0.3
MDM Murphy Dome 41.49 36 P P 01 03 44.3 +1.2
MDM IAmb IAmb 01 04 25.3
comp=Z,17nm,1.8s
WRH Wood River Hil 41.58 37 P P 01 03 45.0 +1.2
WRH IAmb IAmb 01 05 06.1
comp=Z,20nm,1.8s
CCB Clear Creek Bu 41.69 36 P P 01 03 45.2 +0.6
CCB IAmb IAmb 01 04 37.8
comp=Z,17nm,2.0s
SML Sawmill 41.69 41 P P 01 03 45.4 +0.6
SML pmax pmax
comp=Z,43nm,2.0s
SML Sawmill 41.69 41 P P 01 03 45.4 +0.6
DHY Denali Highway 42.00 39 P P 01 03 47.9 +0.5
DHY IAmb IAmb 01 04 28.0
comp=Z,14nm,1.6s
HDA Harding Lake 42.08 37 P P 01 03 48.3 +0.5
HDA IAmb IAmb 01 04 50.8
comp=Z,21nm,1.9s
IL31 42.08 36 P P 01 03 48.3 +0.6
ILAR Eielson Array 42.08 36 P P 01 03 48.1 +0.3
comp=Z,1.1nm,0.7s,baz=274,slow=7.2,SNR=14
J25K Salcha River, 42.74 36 P P 01 03 53.0 -0.2
J25K IAmb IAmb 01 04 30.2
comp=Z,18nm,2.0s
BMAR Burnt Mountain 42.84 32 P P 01 03 54.8 +0.8
SCRK Sand Creek 43.41 37 P P 01 03 59.0 +0.4
MK31 Makanchi Array 43.45 297 P P 01 03 59.1 0.0
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MK31 Makanchi Array 43.45 297 P P 01 03 59.1 0.0
MKAR Makanchi Array 43.45 297 P P 01 03 58.7 -0.4
comp=Z,1.2nm,0.6s,baz=81,slow=8.7,SNR=14
MKAR PcP PcP 01 05 44.7 +0.4
comp=Z,0.2nm,0.6s,baz=64,slow=3.4,SNR=2.5
MKAR Makanchi Array 43.45 297 P P 01 03 59.2 +0.1
MKAR Makanchi Array 43.45 297 P P 01 03 59.2 +0.1
MKAR Makanchi Array 43.45 297 eP P 01 03 59.2 +0.1
MAKZ Makanchi 43.64 297 P P 01 04 00.9 +0.2
MAKZ pmax pmax
comp=Z,8.0nm,1.9s
MAKZ Makanchi 43.64 297 P P 01 04 00.9 +0.2
KURK Kurchatov 44.45 303 P P 01 04 06.6 -0.3
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 44.45 303 P P 01 04 06.5 -0.3
KURK Kurchatov 44.45 303 eP P 01 04 06.6 -0.3
L27K Beaver Creek, 44.51 38 P P 01 04 09.0 +1.7
L27K IAmb IAmb 01 04 35.4
comp=Z,18nm,1.9s
EGAK Eagle 44.51 36 P P 01 04 07.9 +0.7
EGAK IAmb IAmb 01 05 42.0
comp=Z,23nm,2.0s
BCAR Beaver Creek A 44.52 38 P P 01 04 09.3 +1.9
M27K Edge Creek, AK 44.61 39 P P 01 04 09.3 +1.1
M27K IAmb IAmb 01 04 47.1
comp=Z,24nm,1.9s
ISLE Juniper Island 44.75 42 P P 01 04 10.6 +1.2
ISLE IAmb IAmb 01 05 37.1
comp=Z,38nm,1.8s
BARN Barnard Glacie 44.97 41 P P 01 04 12.8 +1.6
BARN IAmb IAmb 01 05 44.4
comp=Z,21nm,1.7s
CTGM Chitina Glacie 45.15 41 P P 01 04 13.6 +1.0
CTGM IAmb IAmb 01 05 53.0
comp=Z,23nm,1.6s
CM31 Chiang Mai Arr 46.42 252 pP 01 05 01.9 +3.3
INK Inuvik 46.88 30 P P 01 04 25.5 -0.2
comp=Z,1.8nm,0.4s,baz=319,slow=5.6,SNR=3.9
HYT Haines Junctio 47.00 41 P P 01 04 28.6 +1.6
HYT IAmb IAmb 01 04 42.7
comp=Z,17nm,1.8s
BRVK Borovoye 48.52 309 P P 01 04 38.7 +0.1
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BRVK Borovoye 48.52 309 P P 01 04 38.7 +0.1
BRVK Borovoye 48.52 309 eP P 01 04 38.7 +0.1
C36M Paulatuk 49.90 28 P P 01 04 48.8 0.0
C36M IAmb IAmb 01 05 10.8
comp=Z,8.6nm,1.6s
KKAR Karatay Array 52.58 297 P P 01 05 09.6 +0.4
KKAR Karatay Array 52.58 297 P P 01 05 09.6 +0.4
EUNU Eureka 52.92 10 P P 01 05 10.7 -0.5
EUNU IAmb IAmb 01 05 11.9
comp=Z,24nm,1.9s
ARU Arti 53.41 316 P P 01 05 14.3 -0.7
ARU IAmb IAmb 01 05 57.3
comp=Z,12nm,1.7s
GAR Garm 54.74 293 P P 01 05 25.1 -0.1
GAR IAmb IAmb 01 05 25.9
comp=Z,9.9nm,1.5s
RES Resolute Bay 55.16 16 P P 01 05 27.4 0.0
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 55.16 16 P P 01 05 27.4 0.0
ABKAR Akbulak array 56.03 308 P P 01 05 34.1 +0.1
YKA Yellowknife Ar 56.34 33 P P 01 05 36.5 +0.6
comp=Z,0.6nm,0.6s,baz=303,slow=6.9,SNR=11
TULEG Thule 57.87 9 P P 01 05 45.0 -1.5
TULEG IAmb IAmb 01 05 49.4
comp=Z,9.4nm,1.2s
FIA1 FINESS Array S 64.19 332 P P 01 06 29.0 -0.2
FINES FINESS Array B 64.19 332 P P 01 06 28.8 -0.4
comp=Z,6.1nm,0.5s,baz=47,slow=7.8,SNR=54
WR0 Warramunga Arr 64.33 191 P P 01 06 31.9 +1.2
WR0 IAmb IAmb 01 06 52.6
comp=Z,13nm,1.6s
WRA Warramunga Arr 64.35 192 P P 01 06 32.1 +1.3
comp=Z,1.0nm,1.1s,baz=8.1,slow=7.2,SNR=3.5
WRA Warramunga Arr 64.35 192 P P 01 06 32.1 +1.3
FCC Fort Churchill 66.48 29 P P 01 06 44.4 +0.4
FCC pmax pmax
comp=Z,6.0nm,1.4s
FCC Fort Churchill 66.48 29 P P 01 06 44.4 +0.4
FCC IAmb IAmb 01 06 45.2
comp=Z,5.5nm,1.4s
KBZ Khabaz 68.79 311 P P 01 06 59.6 +0.8
comp=Z,1.8nm,0.8s,baz=65,slow=4.2,SNR=4.6
NC303 NORSAR Array S 68.82 338 P P 01 06 58.3 -0.4
NC405 NORSAR Array S 68.82 338 P P 01 06 58.7 0.0
NC204 NORSAR Array S 68.94 338 P P 01 06 59.5 0.0
NB201 NORSAR Array S 68.99 338 P P 01 06 59.5 -0.3
NB2 NORSAR Subarra 69.02 338 P P 01 06 59.6 -0.3
comp=Z,1.2nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 69.02 338 P P 01 06 59.7 -0.3
comp=Z,2.4nm,0.7s,baz=36,slow=4.4,SNR=13
PDAR Pinedale Array 70.72 49 P P 01 07 11.3 +0.4
comp=Z,0.3nm,0.5s,baz=318,slow=2.0,SNR=3.9
AKASG Malin Array Be 70.74 323 P P 01 07 10.0 -0.6
comp=Z,0.9nm,0.4s,baz=44,slow=6.1,SNR=5.6
AKASG Malin Array Be 70.74 323 P P 01 07 10.0 -0.6
KWP Kalwaria Pacla 74.31 325 P P 01 07 32.8 +1.1
KWP Kalwaria Pacla 74.31 325 P P 01 07 32.8 +1.1
BUR08 Bucovina Ar. S 74.78 323 P P 01 07 35.0 +0.5
BUR08 IAmb IAmb 01 09 33.8
comp=Z,12nm,1.6s
BURAR Bucovina Array 74.79 323 P P 01 07 34.5 -0.2
BURAR pmax pmax
comp=Z,1.0nm,0.8s
BURAR Bucovina Array 74.79 323 P P 01 07 34.5 -0.2
EYMN Ely 75.72 36 P P 01 07 38.7 -1.1
EYMN IAmb IAmb 01 10 04.8
comp=Z,15nm,1.3s
BRTR Keskin Array B 76.56 313 P P 01 07 44.1 -0.8
comp=Z,0.1nm,0.3s,baz=79,slow=4.1,SNR=1.6
TXAR Lajitas Array 83.56 55 P P 01 08 23.8 +1.2
comp=Z,0.4nm,0.6s,baz=296,slow=4.1,SNR=6.3

PGC 07 00:56:19.0±6.1, 48°.89N×129°.32W, h10km, MLSn2.8/8, Mw3.4/8, 243km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KEMF NEPTUNE Canada 0.95 171 P Pg 00 56 35.6 -1.6
BPBC Brooks Peninsu 1.62 38 Pn Pn 00 56 45.5 -2.2
PACB Port Alice, BC 1.95 37 Pn Pn 00 56 50.8 -1.4
PACB Sn Sn 00 57 11.9 -4.8
MAYB Maynard 2.06 42 Pn Pn 00 56 52.3 -1.5
MAYB Sn Sn 00 57 14.9 -4.7
PHC Port Hardy 2.19 33 Pn Pn 00 56 54.5 -1.0
PHC Sn Sn 00 57 19.3 -3.4
WOSB Woss 2.20 53 Pn Pn 00 56 54.0 -1.7
BTB Buttle Lake 2.56 75 Pn Pn 00 56 59.2 -1.5
NCRB Newcastle Ridg 2.61 53 Pn Pn 00 56 59.1 -2.2
TXB Texada 3.30 74 Pn Pn 00 57 08.3 -2.4
BBB Bella Bella 3.39 13 Pn Pn 00 57 10.7 -1.3
BBB Sn Sn 00 57 48.1 -4.0

CNRM 07 01:10:29.1, 35°.46N×3°.67W, h10km, ml3.5
IDC 07 01:10:30.2±1.6, 35°.60N×3°.64W, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/43, mbtmp3.1/4, ML2.8/1, Error ellipse: s-maj=39.6km s-min=20.2km az=81.0
MDD 07 01:10:31.9±0.5, 35°.46N×3°.80W, h3km±3km, mb_Lg2.8/8, Error ellipse: s-maj=3.5km s-min=2.2km az=163.0
SFS 07 01:10:32.0, 35°.50N×3°.86W, ML3.5, ALBORAN SUR
LDG 07 01:10:33.5±0.7, 35°.43N×3°.70W, h10km, Ml2.9/3, Error ellipse: s-maj=15.9km s-min=5.6km az=167.0
ISC 07 01:10:30.1±1.2, 35°.46N±0°.03×3°.79W±0°.02, h5km±8km, n58, σ2s.01/90, mb3.2/3, Strait of Gibraltar

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
PALE Palemas 0.27 208 P Pg 01 10 33.0 -2.4
PALE S Sg 01 10 42.3 +3.3
GOG Mont Gurugu 0.69 110 P Pg 01 10 39.0 -4.3
GOG S Sg 01 10 48.7 -3.5
EMEL Melilla 0.70 103 Pg Pg 01 10 45.3 +1.9
EMEL Sg Sg 01 10 53.6 +1.1
EALB Alboran 0.78 52 Pg Pg 01 10 46.9 +1.9
EALB Sg Sg 01 10 56.7 +1.6
TAF Taforalt 1.29 119 P Pg 01 10 50.1 -4.8
TAF S Sg 01 11 09.5 -2.2
CHEFC Chefchaouen 1.32 255 P Pg 01 10 50.9 -4.5
CHEFC S Sb 01 11 14.6 +1.9
SMIR Smir Dam 1.32 280 P Pg 01 10 51.3 -4.1
EMIJ Mijas 1.36 324 Pg Pn 01 10 55.7 -0.1
EMIJ Sg Sg 01 11 12.5 -1.5
EMIJ i Vmb_Lg 01 11 16.2
CEU Ceuta 1.36 289 P Pn 01 10 53.4 -2.4
CEU S Sg 01 11 08.8 -5.2
EMAL Malaga-Limoner 1.40 338 P Pn 01 10 50.8 -5.5
EMAL S Sg 01 11 04.3 -11
ELGU Los Guajares, 1.41 5 Pn Pn 01 10 56.1 -0.5
ELGU Sn Sg 01 11 13.2 -2.3
JBK JBK 1.50 138 P Pn 01 10 51.6 -6.3
JBK S Sb 01 11 14.9 -3.2
EGOR Sierra Gorda, 1.67 351 Pn Pn 01 11 01.0 +0.8
EGOR Sn Sn 01 11 23.2 +1.1
EGOR i Vmb_Lg 01 11 29.1
CPS Cap Spartel 1.76 281 P Pn 01 11 03.7 +2.4
CPS S Sn 01 11 24.6 +0.5
EQUE Quentar 1.77 9 Pn Pn 01 11 02.3 +0.8
EQUE Sn Sn 01 11 24.6 +0.2
SICH Sidi Chahed 1.85 223 P Pn 01 11 02.9 +0.4
ENIJ Nijar 1.98 40 Pn Pn 01 11 03.7 -0.5
ENIJ Sn Sn 01 11 26.0 -3.5
LCRM LCR 1.98 207 P Pn 01 11 05.3 +0.9
LCRM S Sb 01 11 32.9 +1.2
IFR Ifrane 2.23 210 P Pn 01 11 08.9 +1.0
IFR S Sn 01 11 35.8 -0.2
CZD Col de Zad 2.63 204 P Pn 01 11 13.1 -0.5
CZD S Sn 01 11 46.1 0.0
MD31 MD31 2.71 198 P Pn 01 11 15.3 +0.9
MD31 S Sn 01 11 48.6 +1.0
MDT Midelt 2.73 195 P Pn 01 11 14.9 +0.3
TLOR Lorca, Murcia 2.77 37 Pn Pn 01 11 13.3 -1.8
TLOR Sn Sn 01 11 48.0 -1.0
ECAB El Cabril 2.92 334 Pn Pn 01 11 18.5 +1.2
ECAB Sn Sn 01 11 52.8 -0.1
EZAR Zarzadilla de 2.94 34 Pn Pn 01 11 18.6 +1.0
EZAR Sn Sn 01 11 51.8 -1.5
CART Cartagena 3.09 46 P Pn 01 11 19.4 -0.2
CART S Sn 01 11 50.5 -6.3
CART Cartagena 3.09 46 P Pn 01 11 19.0 -0.5
CART S Sn 01 11 53.7 -3.1
EGRO El Granado 3.63 306 Pn Pn 01 11 27.7 +0.8
EGRO Sn Sn 01 12 08.4 -1.8
ETOB Tobarra 3.65 29 Pn Pn 01 11 29.8 +2.5
ETOB Sn Sn 01 12 12.3 +1.5
AVE Averroes 3.69 235 P Pn 01 11 29.5 +1.6
AVE S Sn 01 12 13.5 +1.7
AVE Averroes 3.69 235 P Pn 01 11 29.0 +1.1
AVE S Sn 01 12 11.3 -0.5
PVAQ Vaqueiros 3.72 303 P Pn 01 11 29.3 +1.2
FIGM Figuig 3.93 147 S Sn 01 12 16.4 -1.4
PAB San Pablo 4.10 354 Pn Pn 01 11 34.9 +1.4
PAB i Vmb_Lg 01 11 36.7
PAB Sn Sn 01 12 22.4 +0.4
EBAD Badajoz 4.18 323 Pn Pn 01 11 35.6 +1.1
EBAD Sn Sn 01 12 21.7 -2.1
EBAD i Vmb_Lg 01 12 24.8
ESDC Sonseca Array 4.21 358 Pn Pn 01 11 31.7 -3.3
0.3nm,0.3s,baz=180,slow=13,SNR=11
ESDC Sn Sn 01 12 24.4 -0.2
0.6nm,0.3s,baz=180,slow=25,SNR=2.7
ESDC Lg Lg 01 12 39.6
1.3nm,0.3s,baz=170,slow=28,SNR=5.9
ESDC Sonseca Array 4.21 358 Pn Pn 01 11 36.5 +1.5
ESDC Sn Sn 01 12 24.4 -0.2
ESDC i Vmb_Lg 01 12 43.9
PFVI Vila Bisbo 4.40 294 P Pn 01 11 39.4 +1.8

PFVI				S	Sn	01 12 27.4	-1.8
PESTR	**Estremoz**	**4.56**	**319**	P	**Pn**	**01 11 40.7**	**+0.9**
EVO	**Evora**	**4.57**	**313**	P	**Pn**	**01 11 40.9**	**+1.0**
EVO				S	**Sn**	**01 12 29.8**	**-3.5**
ECHE	**Chera**	**4.69**	**28**	Pn	**Pn**	**01 11 43.2**	**+1.5**
ECHE				*i* Vmb_Lg		01 12 45.9	
UCM	**Universidad Co**	**4.86**	**5**	P	**Pn**	**01 11 46.0**	**+2.1**
UCM				S	**Sn**	**01 12 39.7**	**-0.9**
TZRR	**Tazzarine**	**4.89**	**198**	P	**Pn**	**01 11 46.3**	**+1.8**
TZRR				S	**Sn**	**01 12 42.2**	**+0.6**
EPLA	**Plasencia**	**4.94**	**339**	Pn	**Pn**	**01 11 46.6**	**+1.5**
EPLA				Sn	**Sn**	**01 12 40.6**	**-2.1**
EPLA				*i* Vmb_Lg		01 12 47.5	
OUZM	**OUZ**	**5.18**	**210**	P	**Pn**	**01 11 50.5**	**+2.2**
OUZM				S	**Sn**	**01 12 50.7**	**+2.2**
ETOR	**Torete**	**5.52**	**14**	Pn	**Pn**	**01 11 55.0**	**+1.9**
ETOR				*i* Vmb_Lg		01 13 20.6	
TTIG	**Tnine Tigouga,**	**6.27**	**220**	P	**Pn**	**01 12 02.5**	**-0.9**
TTIG				S	**Sn**	**01 13 09.8**	**-5.6**
ETSF	**Etsaut**	**7.84**	**18**	*e*Pn	**Pn**	**01 12 27.6**	**+2.7**
ETSF				*e*Sn	**Sn**	**01 13 50.1**	**-3.9**
	4.4nm,0.8s						
SJPF	**Ste Jean**	**7.90**	**14**	*e*Pn	**Pn**	**01 12 27.9**	**+2.3**
SJPF				*e*Sn	**Sn**	**01 13 51.9**	**-3.5**
	0.7nm,0.3s						
EPF	**Esparros**	**8.21**	**22**	*e*Pn	**Pn**	**01 12 31.5**	**+1.6**
EPF				*e*Sn	Sn	01 13 55.2	-7.9
	0.9nm,0.4s						
BGF	**Bois d'Agland**	**12.16**	**22**	*e*Pn	**Pn**	**01 13 24.6**	**+0.6**
QUIF	**Quistinic**	**12.46**	**2**	*e*Pn	**Pn**	**01 13 27.2**	**-0.8**
QUIF	**Quistinic**	**12.46**	**2**	*e*Pg	Pg	01 14 20.9	
SGMF	**Saint Gilles**	**12.82**	**4**	*e*Pn	**Pn**	**01 13 32.4**	**-0.5**
ROSF	**Rostrenen**	**12.87**	**2**	*e*Pn	**Pn**	**01 13 33.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**22.76**	**166**	P	**P**	**01 15 34.6**	**+1.2**
	0.4nm,0.8s,baz=335,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**62.74**	**50**	P	**P**	**01 20 57.2**	**+1.0**
	0.1nm,0.6s,baz=288,slow=5.0,SNR=1.9						
YKA	**Yellowknife Ar**	**67.86**	**332**	P	**P**	**01 21 29.5**	**+0.4**
	0.2nm,0.6s,baz=64,slow=6.6,SNR=3.1						

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*PLV **07** 01:24:40.4±1.6, 22°.64N×102°.07E, h10km±665km, ML4.7*
*IDC **07** 01:24:42.8±0.7, 22°.50N×102°.18E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.7/62, mbtmp3.8/15, ML4.0/2, MS3.5/28, Ms1 3.5/28, ms1mx3.3/91, Error ellipse: s-maj=20.8km s-min=13.6km az=89.0*
*BJI **07** 01:24:44.1±0.0, 22°.50N×102°.05E, h10km, mb4.0/17, mB4.4/9, ML4.2/6, Ms4.3/27, Ms7 3.9/25*
*NEIC **07** 01:24:44.7±1.7, 22°.52N±0°.08×102°.1E±0°.1, h10km±1km, mb4.3/17, Error ellipse: s-maj=16.2km s-min=13.2km az=105.0*
ISC 07 01:24:44.5±0.4**, 22°.52N**±0°.03×**102°.14E**±0°.04**, h10**km**, n81,** σ**2s.04**/83**, mb4.2**/22**, MS3.5**/27**, 2C-2D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**1.06**	**116**	*i* Pg	**Pg**	**01 25 03.0**	**-1.8**
MLAV				*i* Pg	**Pg**	**01 25 03.0**	**-1.8**
MLAV				*e*Sg	**Sg**	**01 25 19.6**	**+1.0**
MLAV				IAML		01 25 22.2	
	comp=N,17μm,0.9s						
MLAV				IAML		01 25 22.2	
	comp=N,17μm,0.9s						
MLAV				IAML		01 25 23.4	
	comp=E,11μm,0.7s						
MLAV				IAML		01 25 23.5	
	comp=E,11μm,0.7s						
DBV	**Dienbien**	**1.39**	**143**	*e*Pg	**Pn**	**01 25 10.2**	**+0.2**
DBV				*e*Sg	**Sg**	**01 25 30.9**	**+1.5**
DBV				IAML		01 25 31.6	
	comp=E,35μm,0.4s						
DBV				IAML		01 25 33.4	
	comp=N,21μm,0.6s						
TGV	**Tuan Giao**	**1.50**	**128**	*e*Pg	**Pn**	**01 25 11.2**	**-0.3**
TGV				*e*Sg	**Sg**	**01 25 33.4**	**+0.5**
TGV				IAML		01 25 37.0	
	comp=N,10μm,0.8s						
TGV				IAML		01 25 41.8	
	comp=E,10μm,1.0s						
KMI	**Kunming**	**2.65**	**12**	⇓Pg	**Pb**	**01 25 33.9**	**+1.6**
KMI				Sg	**Sg**	**01 26 09.8**	**-0.1**
KMI				smax	smax		
	comp=E,570nm,1.2s						
KMI				smax	smax		
	comp=E,900nm,1.3s						
HBVN	**Hoa-Binh**	**3.43**	**119**	*e*Pg	**Pg**	**01 25 49.0**	**-1.3**
HBVN				IAML		01 26 42.6	
	comp=N,1μm,0.4s						
HBVN				IAML		01 26 44.8	
	comp=E,1μm,1.0s						
PZH	**PanZhiHua**	**3.99**	**355**	Pn	**Pn**	**01 25 44.7**	**-1.1**
PZH				Pg	**Pb**	**01 25 57.8**	**+2.9**
PZH				Sn	**Sn**	**01 26 36.9**	**+4.2**
PZH				Sg	**Sg**	**01 26 55.6**	**+3.0**
PZH				smax	smax		
	comp=E,150nm,1.0s						
PZH				smax	smax		
	comp=E,220nm,0.9s						
PZH				LR	LR		
	comp=E,1μm,7.0s						
PZH				LR	LR		
	comp=E,3μm,6.7s						
PZH				LR	LR		
	comp=E,980nm,7.7s						
PLV	**Phu-Lien**	**4.51**	**111**	*e*Pg	**Pb**	**01 26 08.1**	**+4.2**
CHTO	**Chiang Mai**	**4.74**	**220**		**Pn**	**01 25 54.7**	**-1.5**
CM31	**Chiang Mai Arr**	**5.03**	**217**	Pn	**Pn**	**01 25 59.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**5.03**	**217**	Pn	**Pn**	**01 25 59.0**	**-1.1**
	comp=E,2.6nm,0.3s,baz=30,slow=13,SNR=22						
CMAR				Pg	**Pb**	**01 26 15.4**	**+2.8**
	comp=E,4.6nm,0.3s,baz=32,slow=17,SNR=18						
CMAR				Lg	Lg	01 27 21.4	
	comp=E,5.0nm,0.3s,baz=45,slow=30,SNR=8.5						
CMAR				LR	LR	01 28 13.0	
	comp=E,241nm,19.7s,baz=30,slow=42						
CMAR	**Chiang Mai Arr**	**5.03**	**217**		**Pn**	**01 25 60.0**	**0.0**
GYA	**Guiyang**	**5.69**	**46**	⇑Pn	**Pn**	**01 26 05.1**	**-4.2**
GYA				Pg	**Pg**	**01 26 30.7**	**-2.9**
GYA				Sn	**Sn**	**01 27 20.8**	**+6.0**
GYA				Sg	**Sg**	**01 27 41.5**	**-5.9**
GYA				smax	smax		
	comp=E,450nm,0.8s						
GYA				smax	smax		
	comp=E,310nm,1.2s						
GYA				LR	LR		
	comp=E,2μm,5.0s						
GYA				LR	LR		
	comp=E,1μm,4.4s						
GYA				LR	LR		
	comp=E,990nm,8.3s						
UBPT	**Khong Chiam**	**7.86**	**156**		**Pn**	**01 26 38.7**	**-0.2**
QIZ	**Qiongzhong**	**8.00**	**114**	P	**Pn**	**01 26 39.7**	**-1.2**
QIZ				S	**Sn**	**01 28 09.0**	**-2.5**
QIZ				LR	LR		
	comp=E,990nm,14.7s						
QIZ				LR	LR		
	comp=E,630nm,15.7s						
QIZ				LR	LR		
	comp=E,440nm,8.8s						
GULI	**GuiLin**	**8.02**	**68**	Pn	**Pn**	**01 26 39.3**	**-1.8**
GULI				Pg	Pg	01 27 13.6	-4.5
CD2	**Chengdu**	**8.48**	**9**	P	**Pn**	**01 26 48.8**	**+1.3**
CD2				S	**Sn**	**01 28 22.2**	**-1.2**
CD2				smax	smax		
	comp=E,10.0nm,2.0s						
CD2				smax	smax		
	comp=E,50nm,1.9s						
CD2				LR	LR		
	comp=E,2μm,9.0s						
CD2				LR	LR		
	comp=E,1μm,11.8s						
ENH	**Enshi**	**10.15**	**39**	Pn	**Pn**	**01 27 09.8**	**-0.6**
XAN	**Xi'an**	**12.94**	**26**	P	**Pn**	**01 27 48.8**	**+0.3**
XAN				S	**Sn**	**01 30 15.4**	**+2.8**
XAN				LR	LR		
	comp=E,1μm,12.4s						
XAN				LR	LR		
	comp=E,1μm,11.7s						
XAN				LR	LR		
	comp=E,760nm,8.4s						
WHN	**Wuhan**	**13.54**	**51**	⇓P	**Pn**	**01 27 56.0**	**-0.6**
WHN				*e*S	**Sn**	**01 30 28.9**	**+1.7**
WHN				LR	LR		
	comp=E,1μm,5.7s						
WHN				LR	LR		
	comp=E,490nm,5.0s						
PBA	**Port Blair**	**14.04**	**221**	Pn	**Pn**	**01 28 02.0**	**-1.6**
LYN	**LuoYang**	**15.03**	**35**	*e*P	**Pn**	**01 28 17.8**	**+0.8**
LYN				S	**Sn**	**01 31 07.8**	**+4.3**
LYN				pmax	pmax		
	comp=E,10.0nm,0.7s						
LYN				pmax	pmax		
	comp=E,90nm,5.0s						
LYN				LR	LR		
	comp=E,610nm,10.0s						
LYN				LR	LR		
	comp=E,700nm,12.6s						
LYN				LR	LR		
	comp=E,370nm,6.7s						
GOMU	**GeErMu**	**15.05**	**337**	P	**Pn**	**01 28 14.2**	**-3.4**
GOMU				pP	P	01 28 19.0	-4.0
GOMU				S	**Sn**	**01 30 57.8**	**-6.7**
GOMU				pmax	pmax		
	comp=E,2.0nm,1.2s						
GOMU				pmax	pmax		
	comp=E,74nm,5.6s						
GOMU				LR	LR		
	comp=E,210nm,10.4s						
GOMU				LR	LR		
	comp=E,390nm,12.4s						
GOMU				LR	LR		
	comp=E,110nm,10.4s						
GTA	**Gaotai**	**16.96**	**354**	*e*P	**Pn**	**01 28 41.8**	**-0.2**
GTA				pP	P	01 28 45.1	+1.2
GTA				sP	sP	01 28 48.5	0.0
GTA				S	**Sn**	**01 31 55.8**	**+5.2**
GTA				pmax	pmax		
	comp=E,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=E,65nm,4.7s						
GTA				LR	LR		
	comp=E,110nm,13.4s						
GTA				LR	LR		
	comp=E,240nm,13.8s						
GTA				LR	LR		
	comp=E,130nm,13.8s						
HNS	**HongShan**	**18.37**	**33**	⇑P	**P**	**01 29 01.8**	**+2.4**
HNS				LR	LR		
	comp=E,500nm,11.4s						
HNS				LR	LR		
	comp=E,440nm,15.3s						
PSI	**Prapat**	**19.84**	**189**	P	**Pn**	**01 29 17.9**	**+0.6**
	comp=E,0.2nm,0.3s,baz=37,slow=11,SNR=4.2						
PSI				LR	LR	01 37 52.0	
	comp=E,150nm,19.1s,baz=278,slow=40						
HHC	**Hu-ho-hao-te**	**19.94**	**21**	*e*P	**P**	**01 29 17.4**	**+0.7**
HHC				pmax	pmax		
	comp=E,15nm,1.0s						
HHC				pmax	pmax		
	comp=E,86nm,4.5s						
HHC				LR	LR		
	comp=E,340nm,12.8s						
HHC				LR	LR		
	comp=E,270nm,10.0s						
HHC				LR	LR		
	comp=E,440nm,10.6s						
RPSI	**Rantau Prapat**	**19.95**	**189**	P	**Pn**	**01 29 17.9**	**-0.5**
JOW	**Kunigami**	**24.12**	**74**	LR	LR	01 40 30.9	
	comp=E,104nm,21.9s,baz=96,slow=39						
WMQ	**Urumqi**	**24.38**	**334**	*e*P	**P**	**01 30 02.1**	**-0.8**
WMQ				LR	LR		
	comp=E,310nm,13.1s						
WMQ				LR	LR		
	comp=E,130nm,17.7s						
SONM	**Songino Array**	**25.49**	**7**	P	**P**	**01 30 13.2**	**+0.2**
	comp=E,4.1nm,1.1s,baz=186,slow=11,SNR=15						
SONM				LR	LR	01 41 29.5	
	comp=E,66nm,21.6s,baz=222,slow=40						
SONM	**Songino Array**	**25.49**	**7**	P	**P**	**01 30 13.3**	**+0.2**
ULN	**Ulaanbaatar**	**25.60**	**8**	P	**P**	**01 30 14.6**	**+0.6**
ULN				IAmb	IAmb	01 30 19.3	
	comp=Z,4.8nm,1.0s						
PALK	**Pallekele**	**25.61**	**237**	LR	LR	01 40 59.2	
	comp=Z,81nm,18.1s,baz=175,slow=38						
KSRS	**Korea Array**	**26.73**	**50**	LR	LR	01 42 16.4	
	comp=Z,175nm,19.2s,baz=235,slow=40						
JNU	**Nakatsue**	**27.45**	**61**	LR	LR	01 42 28.8	
	comp=Z,88nm,19.3s,baz=286,slow=39						
MK31	**Makanchi Array**	**29.05**	**331**	P	**P**	**01 30 44.5**	**-0.3**
MKAR	**Makanchi Array**	**29.05**	**331**	P	**P**	**01 30 44.8**	**0.0**
	comp=Z,0.8nm,0.6s,baz=138,slow=9.3,SNR=13						
MKAR				PcP	**PcP**	**01 33 52.8**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=96,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**29.05**	**331**	P	**P**	**01 30 44.4**	**-0.5**
MKAR					**PcP**	**01 33 51.6**	**-1.4**
AAK	**Ala-Archa**	**30.52**	**318**	LR	LR	01 44 09.5	
	comp=Z,46nm,18.1s,baz=134,slow=38						
USRK	**Ussuriysk Ar.**	**32.72**	**41**	LR	LR	01 45 51.3	
	comp=Z,72nm,21.9s,baz=214,slow=39						
ZAA0	**Zalesovo Array**	**34.01**	**342**	P	**P**	**01 31 27.5**	**-0.9**
ZAA0				IAmb	IAmb	01 31 31.2	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**34.01**	**342**	P	**P**	**01 31 28.1**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=147,slow=8.3,SNR=15						
ZALV				LR	LR	01 46 41.3	
	comp=Z,66nm,21.8s,baz=148,slow=39						
ZALV	**Zalesovo Beam**	**34.01**	**342**	P	**P**	**01 31 27.9**	**-0.4**
MJAR	**Matsushiro Arr**	**34.15**	**58**	LR	LR	01 47 03.4	
	comp=Z,75nm,18.1s,baz=202,slow=39						
KLR	**Kul'dur**	**35.46**	**34**	P	**P**	**01 31 40.7**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=9.5,SNR=2.9						
KLR				LR	LR	01 48 04.6	
	comp=Z,165nm,18.5s,baz=233,slow=40						
WSAR	**Wadi Sarin**	**39.98**	**280**	LR	LR	01 51 20.8	
	comp=Z,41nm,18.1s,baz=132,slow=40						
GEYT	**Alibeck**	**40.63**	**302**	P	**P**	**01 32 25.3**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=128,slow=11,SNR=5.6						
ABKAR	**Akbulak array**	**42.57**	**319**	P	**P**	**01 32 41.0**	**+0.5**
YAK	**Yakutsk**	**43.76**	**18**	LR	LR	01 53 10.1	
	comp=Z,64nm,19.5s,baz=265,slow=39						
AKTO	**Aktyubinsk**	**44.17**	**320**	LR	LR	01 52 50.9	
	comp=Z,39nm,18.1s,baz=122,slow=38						
FITZ	**Fitzroy Crossi**	**46.45**	**148**	LR	LR	01 57 03.6	
	comp=Z,38nm,19.2s,baz=250,slow=42						
PSA00	**Pilbara Seismi**	**47.10**	**157**	P	**P**	**01 33 16.2**	**-0.6**
MA2	**Magadan**	**50.30**	**30**	LR	LR	01 57 09.3	
	comp=Z,46nm,20.1s,baz=73,slow=39						
PETK	**Petropavlovsk-**	**51.76**	**39**	LR	LR	01 57 33.8	
	comp=Z,52nm,19.0s,baz=231,slow=38						
RAYN	**Ar Rayn**	**51.84**	**283**	P	**P**	**01 33 53.2**	**-0.1**
WB0	**Warramunga Arr**	**52.52**	**141**	P	**P**	**01 33 56.8**	**-1.4**
WB0				IAmb	IAmb	01 34 00.4	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**52.63**	**141**	P	**P**	**01 33 58.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=331,slow=8.0,SNR=8.5						
WRAB	**Tennant Creek**	**52.63**	**141**	P	**P**	**01 33 57.8**	**-1.1**
WB2	**Warramunga Arr**	**52.63**	**141**	P	**P**	**01 33 57.9**	**-1.2**
WR0	**Warramunga Arr**	**52.76**	**141**	P	**P**	**01 33 58.9**	**-1.0**
WR0				IAmb	IAmb	01 34 11.2	
	comp=Z,9.6nm,1.4s						
ASAR	**Alice Springs**	**55.33**	**144**	P	**P**	**01 34 18.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=325,slow=6.8,SNR=5.2						
AKASG	**Malin Array Be**	**62.19**	**317**	LR	LR	02 04 04.5	
	comp=Z,22nm,21.6s,baz=124,slow=38						
FINES	**FINESS Array B**	**63.84**	**329**	P	**P**	**01 35 18.4**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=242,slow=4.1,SNR=3.5						
FINES				LR	LR	02 05 07.7	
	comp=Z,43nm,18.7s,baz=64,slow=38						
ARCES	**ARCESS Array B**	**64.43**	**338**	LR	LR	02 06 23.4	
	comp=Z,49nm,18.1s,baz=326,slow=39						
STKA	**Stephens Creek**	**65.97**	**144**	P	**P**	**01 35 30.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=337,slow=7.7,SNR=1.2						
STKA				LR	LR	02 07 14.3	
	comp=Z,84nm,18.6s,baz=205,slow=39						
SPITS	**Spitsbergen Ar**	**67.25**	**347**	LR	LR	02 08 51.0	
	comp=Z,41nm,18.8s,baz=188,slow=39						
IDI	**Anoyia**	**67.30**	**300**	LR	LR	02 10 20.1	
	comp=Z,20nm,20.8s,baz=176,slow=41						
NOA	**NORSAR Array B**	**71.01**	**329**	P	**P**	**01 36 02.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=80,slow=6.2,SNR=2.0						
NOA				LR	LR	02 09 20.5	
	comp=Z,27nm,18.5s,baz=50,slow=38						
GERES	**GERESS Array B**	**72.39**	**316**	P	**P**	**01 36 10.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=52,slow=8.6,SNR=4.9						
GERES	**GERESS Array B**	**72.39**	**316**	P	**P**	**01 36 11.0**	**0.0**
H21K	**Melozitna Rive**	**75.70**	**24**	P	**P**	**01 36 30.7**	**+0.8**
H21K				IAmb	IAmb	01 36 57.3	
	comp=Z,3.0nm,1.3s						
PPLA	**Purkeypile**	**77.05**	**27**	P	**P**	**01 36 39.0**	**+1.3**
MCK	**McKinley**	**78.02**	**25**	P	**P**	**01 36 44.1**	**+1.0**
MCK				IAmb	IAmb	01 36 50.0	
	comp=Z,4.5nm,1.4s						
ILAR	**Eielson Array**	**78.34**	**24**	P	**P**	**01 36 44.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=265,slow=5.2,SNR=1.5						
A36M	**Sachs Harbour**	**80.38**	**13**	P	**P**	**01 36 56.5**	**+0.8**
A36M				IAmb	IAmb	01 37 14.6	
	comp=Z,3.7nm,0.9s						
INK	**Inuvik**	**80.82**	**18**	P	**P**	**01 36 58.1**	**0.0**
INK				IAmb	IAmb	01 37 01.1	
	comp=Z,2.8nm,0.9s						
BCAR	**Beaver Creek A**	**81.15**	**24**	P	**P**	**01 37 00.9**	**+0.8**
C36M	**Paulatuk**	**82.59**	**15**	P	**P**	**01 37 07.7**	**+0.3**
C36M				IAmb	IAmb	01 37 08.6	
	comp=Z,1.8nm,0.5s						
LBTB	**Lobatse**	**87.98**	**242**	LR	LR	02 15 05.2	
	comp=Z,35nm,19.5s,baz=175,slow=34						
YKA	**Yellowknife Ar**	**90.39**	**16**	P	**P**	**01 37 46.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=325,slow=4.3,SNR=2.6						
YKA				LR	LR	02 23 05.1	
	comp=Z,26nm,18.2s,baz=265,slow=39						
TSUM	**Tsumeb**	**92.38**	**250**	LR	LR	02 17 34.4	
	comp=Z,47nm,19.1s,baz=154,slow=34						

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*IDC **07** 01:27:24.1±1.2, 35°.29N×23°.56E, h0km, mb3.7/8, mb1 3.7/16, mb1mx3.5/50, mbtmp3.6/16, ML2.8/6, MS2.4/1, Ms1 2.5/1, ms1mx2.0/92, Error ellipse: s-maj=24.1km s-min=10.4km az=11.0*
*ISK **07** 01:27:26.9, 35°.37N×23°.60E, h7km, ML3.5/19*
*THE **07** 01:27:26.8, 35°.37N×23°.58E, h13km, ML3.4/12, Error ellipse: s-maj=0.5km s-min=0.3km az=221.0*
*ATH **07** 01:27:26.4, 35°.38N×23°.56E, h18km±1km, ML3.4/11, Error ellipse: s-maj=2.2km s-min=0.9km az=43.0*
*DDA **07** 01:27:32.0±0.0, 35°.41N×23°.69E, h35km, MW3.5*
*GII **07** 01:27:33.5±0.0, 35°.46N×24°.52E, h1km*
ISC 07 01:27:26.7±0.8**, 35°.35N**±0°.03×**23°.58E**±0°.03**, h17**km±5km**, n90,** σ**1s.93**/117**, mb3.8**/8**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.14**	**142**	P	**Pg**	**01 27 30.1**	**-0.6**
KNDR				S	**Sg**	**01 27 33.0**	**-0.4**
	21μm,0.2s						
KNDR	**Palaiochora Ch**	**0.14**	**142**	PG	**Pg**	**01 27 30.3**	**-0.4**
KNDR				SG	**Sg**	**01 27 32.9**	**-0.4**
RODP	**Rodopos**	**0.26**	**35**	P	**Pg**	**01 27 32.1**	**-0.3**
RODP				S	**Sb**	**01 27 36.0**	**-1.1**
	8μm,0.4s						
IMMV	**Iera Moni Meta**	**0.35**	**71**	P	**Pg**	**01 27 33.6**	**-0.4**
IMMV				S	**Sb**	**01 27 39.4**	**-0.3**
IMMV				AML	AML	01 27 41.9	
	comp=E,10973μm,0.3s						
IMMV				AML	AML	01 27 42.4	
	comp=N,15057μm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**71**	P	**Pg**	**01 27 33.6**	**-0.4**
IMMV				S	**Sb**	**01 27 39.3**	**-0.3**
	comp=N,7μm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**71**	PG	**Pg**	**01 27 33.7**	**-0.3**
IMMV				SG	**Sb**	**01 27 39.1**	**-0.6**
VAM	**Vamos**	**0.51**	**83**	P	**Pg**	**01 27 36.5**	**-0.3**
VAM				S	**Sb**	**01 27 44.7**	**+0.3**
VAM				AML	AML	01 27 45.9	
	comp=N,22491μm,0.3s						
VAM				AML	AML	01 27 46.1	
	comp=E,19398μm,0.7s						
VAM	**Vamos**	**0.51**	**83**	P	**Pg**	**01 27 36.6**	**-0.3**
VAM				S	**Sb**	**01 27 44.4**	**0.0**
	comp=E,10μm,0.4s						
ANKY	**Antikythira Is**	**0.56**	**337**	P	**Pg**	**01 27 37.0**	**-0.8**
ANKY				S	**Sg**	**01 27 44.7**	**-0.8**
ANKY				AML	AML	01 27 48.0	
	comp=N,10961μm,0.3s						
ANKY				AML	AML	01 27 48.8	
	comp=E,10977μm,0.5s						
ANKY	**Antikythira Is**	**0.56**	**337**	P	**Pg**	**01 27 37.2**	**-0.7**
ANKY				S	**Sg**	**01 27 45.5**	**0.0**
	comp=E,5μm,0.5s						
GVD	**Gavdhos**	**0.66**	**140**	P	**Pg**	**01 27 39.8**	**+0.2**
GVD				S	**Sb**	**01 27 49.5**	**+0.9**
GVD				AML	AML	01 27 51.6	
	comp=E,11471μm,0.5s						
GVD				AML	AML	01 27 53.6	
	comp=N,13752μm,0.4s						
GVD	**Gavdhos**	**0.66**	**140**	P	**Pg**	**01 27 40.0**	**+0.4**
GVD				S	**Sb**	**01 27 49.7**	**+1.1**
	comp=N,6μm,0.4s						
GVD	**Gavdhos**	**0.66**	**140**	PG	**Pb**	**01 27 40.3**	**+0.6**
GVD				SG	**Sb**	**01 27 49.9**	**+1.3**
PRNS	**Prines Rethymn**	**0.76**	**88**	P	**Pg**	**01 27 40.4**	**-1.0**
PRNS				S	**Sg**	**01 27 50.5**	**-1.0**
	comp=N,2μm,0.5s						
KTHA	**Kythira Island**	**1.00**	**335**	P	**Pb**	**01 27 44.9**	**-0.6**
KTHA				AML	AML	01 28 02.2	
	comp=E,9600μm,0.4s						
KTHA				AML	AML	01 28 02.2	
	comp=N,4540μm,0.3s						
KTHA	**Kythira Island**	**1.00**	**335**	P	**Pb**	**01 27 44.9**	**-0.6**
KTHA				S	**Sg**	**01 27 59.0**	**-0.2**
	comp=N,4μm,0.3s						
TMBK	**Timbaki Herakl**	**1.01**	**105**	P	**Pb**	**01 27 45.6**	**-0.1**
TMBK				S	**Sn**	**01 27 59.9**	**0.0**
	comp=N,2μm,0.5s						
KTHR	**Kythira**	**1.02**	**333**	P	**Pb**	**01 27 45.1**	**-0.8**
KTHR				S	**Sb**	**01 27 59.4**	**+0.3**
	comp=N,2μm,0.3s						
IDI	**Anoyia**	**1.07**	**93**	Pg	**Pb**	**01 27 46.0**	**-0.9**
	comp=N,20nm,0.3s,baz=270,slow=10,SNR=203						
IDI				Lg	Lg	01 28 00.7	
	comp=N,103nm,0.3s,baz=196,slow=23,SNR=13						
IDI				LR	LR	01 28 24.1	
	comp=N,195nm,21.2s,baz=178,slow=55						
IDI	**Anoyia**	**1.07**	**93**	P	**Pb**	**01 27 46.2**	**-0.6**
IDI				AML	AML	01 28 05.1	
	comp=N,5265μm,0.6s						
IDI				AML	AML	01 28 06.4	
	comp=E,2776μm,0.4s						
IDI	**Anoyia**	**1.07**	**93**	P	**Pb**	**01 27 46.5**	**-0.3**
IDI				S	**Sn**	**01 28 01.7**	**+0.1**
	comp=E,2μm,0.5s						
IDI	**Anoyia**	**1.07**	**93**	PG	**Pb**	**01 27 46.6**	**-0.3**
IDI				SG	**Sn**	**01 28 02.5**	**+0.9**
HRKL	**Herakleio**	**1.25**	**91**	P	**Pn**	**01 27 49.1**	**-0.2**
HRKL				S	**Sn**	**01 28 06.1**	**+0.4**
	comp=E,3μm,0.7s						
HRKL	**Herakleio**	**1.25**	**91**	PN	**Pg**	**01 27 50.8**	**+0.1**
MNVA	**Monemvasia**	**1.41**	**342**	P	**Pb**	**01 27 52.6**	**+0.2**
VLI	**Veliai**	**1.46**	**339**	P	**Pn**	**01 27 53.0**	**+0.7**
VLI				AML	AML	01 28 16.1	
	comp=E,1131μm,0.5s						
VLI				AML	AML	01 28 20.0	
	comp=N,1298μm,0.8s						
MHLO	**Agia Marina, M**	**1.50**	**26**	P	**Pb**	**01 27 54.0**	**0.0**
MHLO				AML	AML	01 28 20.1	
	comp=N,7282μm,0.5s						
MHLO				AML	AML	01 28 20.1	
	comp=E,8146μm,0.4s						
NPS	**Neapolis**	**1.67**	**92**	P	**Pb**	**01 27 57.7**	**+0.7**
NPS				AML	AML	01 28 25.3	
	comp=E,1922μm,0.6s						
NPS				AML	AML	01 28 26.7	
	comp=N,1655μm,0.7s						
SAP3	**Santorini-Thir**	**1.80**	**52**	P	**Pb**	**01 27 58.4**	**-0.8**
SNT5	**Nea Kammeni, S**	**1.81**	**54**	P	**Pb**	**01 27 58.6**	**-0.8**
CMBO	**Columbo, Santo**	**1.86**	**52**	P	**Pn**	**01 27 58.9**	**+1.2**
KRND	**KRANIDI**	**2.06**	**350**	P	**Pn**	**01 28 01.7**	**+1.2**
KRND				AML	AML	01 28 44.2	
	comp=E,713μm,1.1s						
KRND				AML	AML	01 28 48.0	
	comp=N,721μm,0.7s						
PYL	**PYLOS**	**2.14**	**317**	P	**Pn**	**01 28 03.4**	**+1.8**
ZKR	**Zakros**	**2.17**	**95**	P	**Pb**	**01 28 05.5**	**0.0**
ZKR				AML	AML	01 28 49.9	
	comp=E,811μm,0.7s						
ZKR				AML	AML	01 29 00.2	
	comp=N,334μm,0.9s						
ZKR	**Zakros**	**2.17**	**95**	PN	**Pb**	**01 28 04.7**	**-0.9**
ITM	**Ithomi**	**2.26**	**324**	PN	**Pb**	**01 28 05.7**	**-1.4**
APE	**Apeiranthos**	**2.33**	**42**	PN	**Pn**	**01 28 05.1**	**+0.8**
LTK	**Loutraki**	**2.71**	**350**	P	**Pn**	**01 28 11.3**	**+1.7**
KARP	**Karpathos**	**2.93**	**85**	PN	**Pn**	**01 28 14.7**	**+2.1**
BODT	**Bodrum**	**3.47**	**59**	PN	**Pn**	**01 28 22.3**	**+2.4**
BODT	**Bodrum**	**3.47**	**59**	P	**Pn**	**01 28 20.3**	**+0.4**
BDRM	**Kayabasi**	**3.57**	**60**	P	**Pn**	**01 28 19.2**	**-2.0**
CHOS	**Chios island**	**3.62**	**33**	PN	**Pn**	**01 28 24.9**	**+2.8**

ARG	Arkhangelos	3.80	76	PN	Pn	01 28 26.9	+2.5
AGG	Agios Georgios	3.80	345	PN	Pn	01 28 27.5	+3.0
URLA	Izmir	3.86	38	PN	Pn	01 28 28.2	+2.9
MLSB	Milas	3.91	59	PN	Pn	01 28 28.8	+2.8
TURN	Turunc	4.04	68	PN	Pn	01 28 30.7	+3.0
TURN	Turunc	4.04	68	P	Pn	01 28 30.2	+2.5
TURN				S	Sn	01 29 16.3	+1.7
TURN				*i* AML	AML	01 29 24.0	
	comp=N,19nm,1.1s						
TURN				*i* AML	AML	01 29 37.0	
	comp=N,16nm,0.7s						
AYDN	Tasoluk	4.16	55	P	Pn	01 28 32.8	+3.4
YER	Yerkesik	4.20	64	PN	Pn	01 28 32.7	+2.7
YER	Yerkesik	4.20	64	P	Pn	01 28 34.3	+4.3
MULA	Mugla, Merkez-	4.28	62	P	Pn	01 28 33.2	+2.1
DALY	Dalyan (Mula)	4.37	69	PN	Pn	01 28 35.1	+2.9
TAVA	DENIZLI_Tavas	4.79	62	P	Pn	01 28 40.0	+1.8
CAEL	Denizli, Camel	4.97	67	P	Pn	01 28 46.9	+6.3
AKAS	Kas	4.98	78	P	Pn	01 28 35.9	-4.9
KULA	Kula-Manisa	5.15	51	PN	Pn	01 28 46.7	+3.6
KULA	Kula-Manisa	5.15	51	P	Pn	01 28 43.7	+0.6
GOLH	Golhisar	5.19	67	P	Pn	01 28 47.2	+3.6
GOLH				*i* AML	AML	01 29 35.0	
	comp=N,14nm,1.1s						
GOLH				S	Sn	01 29 40.3	-2.8
GOLH				*i* AML	AML	01 29 58.0	
	comp=N,34nm,1.4s						
ELL	Elmali	5.32	73	P	Pn	01 28 47.5	+2.0
ELL				S	Sn	01 29 47.5	+1.2
ELL				*i* AML	AML	01 29 55.0	
	comp=N,12nm,0.8s						
ELL				*i* AML	AML	01 29 56.0	
	comp=N,13nm,1.2s						
USAK	Uak-Merkez	5.50	51	P	Pn	01 28 51.1	+3.3
PASA	Karahalli, USA	5.61	56	P	Pn	01 28 53.5	+4.2
BRDR	BURDUR-Merkez	5.72	64	P	Pn	01 28 54.5	+3.6
KZIL	AFYON_Kizioren	6.01	59	P	Pn	01 28 59.0	+4.0
VAE	Valguarnera	7.69	289	Pn	Pn	01 29 17.7	-0.2
	baz=109,slow=18,SNR=1.4						
VAE				Sn	Sn	01 30 40.9	-3.8
	comp=N,0.3nm,0.3s,baz=26,slow=21,SNR=1.5						
BRTR	Keskin Array B	9.11	58	Pn	Pn	01 29 37.7	+0.2
	comp=N,0.1nm,0.3s,baz=237,slow=15,SNR=1.3						
MMAI	Mount Meron Ar	10.07	100	Pn	Pn	01 29 49.2	-1.4
	comp=N,0.5nm,0.3s,baz=283,slow=14,SNR=1.0						
MMAI				Sn	Sn	01 31 40.2	-3.0
	comp=N,0.5nm,0.3s,baz=314,slow=23,SNR=1.2						
KZIT	Kziot	10.09	113	Pn	Pn	01 29 50.8	-0.1
KZIT				Sn	Sn	01 31 38.7	-5.0
AMAZ	Amatzia	10.21	109	Pn	Pn	01 29 52.9	+0.5
DSI	Dead Sea	10.55	108	Pn	Pn	01 29 57.3	+0.1
KRMI	Paran Flat	10.74	116	Pn	Pn	01 30 01.2	+1.5
KRMI				Sn	Sn	01 31 54.9	-4.6
PRNI	Paran	10.82	114	Pn	Pn	01 30 01.3	+0.4
PRNI				Sn	Sn	01 31 57.2	-4.4
HRFI	Mount Harif	11.01	116	Pn	Pn	01 30 04.0	+0.6
HRFI				Sn	Sn	01 32 02.4	-3.8
MBRI	Mt Berech	11.05	117	Pn	Pn	01 30 04.6	+0.6
EIL	Elat	11.14	117	Pn	Pn	01 30 02.9	-2.3
	comp=N,0.1nm,0.3s,baz=124,slow=11,SNR=2.0						
EIL				Sn	Sn	01 32 03.9	-5.5
	comp=N,0.3nm,0.3s,baz=59,slow=18,SNR=1.8						
GERES	GERESS Array B	15.33	335	Pn	Pn	01 31 03.1	+0.8
	comp=N,0.0nm,0.3s,baz=320,slow=47,SNR=1.4						
DAVOX	Davos/Dischmat	15.37	322	Pn	Pn	01 31 04.2	+1.3
	comp=N,0.0nm,0.3s,baz=47,slow=22,SNR=1.7						
KHC	Kasperske Hory	15.62	335	*e*P	P	01 31 13.5	+3.5
KHC				x	x	01 31 17.0	
AKASG	Malin Array Be	15.88	13	Pn	Pn	01 31 09.5	+0.3
	comp=N,0.7nm,0.3s,baz=207,slow=9.8,SNR=2.6						
KBZ	Khabaz	17.06	55	Pn	P	01 31 27.6	+1.5
	comp=N,0.0nm,0.3s,baz=228,slow=15,SNR=1.9						
HFS	Hagfors	25.62	349	P	P	01 32 56.1	+1.2
	comp=N,1.1nm,0.5s,baz=149,slow=12,SNR=5.2						
NOA	NORSAR Array B	26.90	347	LR	LR	01 46 21.0	
	comp=N,7.3nm,18.6s,baz=20,slow=42						
EKA	Eskdalemuir Ar	27.15	326	P	P	01 33 11.0	+2.2
	comp=N,1.9nm,0.8s,baz=128,slow=7.5,SNR=4.5						
TORD	Torodi Ar. Bea	29.64	227	P	P	01 33 31.6	+0.2
	comp=N,0.7nm,0.7s,baz=29,slow=7.9,SNR=4.4						
ARCES	ARCESS Array B	34.26	1	P	P	01 34 10.6	-0.8
	comp=N,1.4nm,0.8s,baz=181,slow=6.3,SNR=3.9						
MKAR	Makanchi Array	44.75	57	P	P	01 35 39.1	0.0
	comp=N,0.7nm,0.5s,baz=271,slow=7.4,SNR=8.9						
ZALV	Zalesovo Beam	45.81	46	P	P	01 35 46.8	-0.6
	comp=N,0.8nm,0.5s,baz=278,slow=10.0,SNR=2.4						
SONM	Songino Array	60.37	50	P	P	01 37 34.8	-0.1
	comp=N,0.2nm,0.4s,baz=263,slow=3.6,SNR=2.1						
YKA	Yellowknife Ar	76.86	341	P	P	01 39 16.8	-0.5
	comp=N,0.1nm,0.4s,baz=28,slow=5.1,SNR=1.7						

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*IDC **07** 01:32:47.0±5.8, 9°.42S×118°.52E, h72km±50km, mb3.2/3, mb1 3.6/7, mb1mx3.3/45, mbtmp3.8/7, ML3.6/4, Error ellipse: s-maj=89.1km s-min=20.3km az=64.0*

*DJA **07** 01:32:50.8±0.4, 9°S±3°×11°9E±°, h57km±7km, M4.2/12, mb4.2/1, MLv4.1/12*

ISC 07 01:32:48.5±0.8, **9°.38S**±0°.05×**118°.92E**±0°.05, **h100**km, **n27**, σ**2^{s}04**/33, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.53	119	P	Pn	01 33 03.7	-0.9
WBSI				S	Sn	01 33 14.7	-1.9
WBSI	Waikabubak, Su	0.53	119	P	Pn	01 33 03.7	-0.9
WBSI				S	Sn	01 33 12.4	-4.2
PLAI	Plampang	1.26	296	P	Pn	01 33 11.7	-0.2
PLAI				S	Sn	01 33 28.2	-1.3
PLAI	Plampang	1.26	296	P	Pn	01 33 11.6	-0.3
BASI	Baing, Sumba	1.83	117	P	Pn	01 33 21.4	+2.5
BASI	Baing, Sumba	1.83	117	P	Pn	01 33 20.8	+1.9
MMRI	Maumere	3.36	78	P	Pn	01 33 42.4	+3.3
MMRI	Maumere	3.36	78	P	Pn	01 33 41.9	+2.8
BSSI	Bau Bau, Buton	3.57	26	P	Pn	01 33 42.7	+0.7
BSSI				S	Sn	01 34 21.8	-1.5
BSSI	Bau Bau, Buton	3.57	26	P	Pn	01 33 42.4	+0.4
IGBI	Denpasar	3.77	278	P	Pn	01 33 46.0	+1.4
IGBI	Denpasar	3.77	278	P	Pn	01 33 46.7	+2.1
SRBI	Singaraja	3.89	289	P	Pn	01 33 47.4	+1.2
BKSI	Bulukumba	4.20	17	P	Pn	01 33 51.2	+0.8
BKSI	Bulukumba	4.20	17	P	Pn	01 33 51.3	+0.8
KAPI	Kappang	4.42	11	P	Pn	01 33 54.1	+0.7
	3.3nm,0.3s,baz=200,slow=12,SNR=9.3						
KAPI				S	Sn	01 34 40.5	-3.1
	12nm,0.3s,baz=101,slow=21,SNR=21						
BATI	Baumata	4.74	100	P	Pn	01 34 00.6	+2.7
	6.4nm,0.3s,baz=271,slow=14,SNR=1.8						
BATI				S	Sn	01 34 52.3	+0.6
	6.3nm,0.3s,baz=283,slow=21,SNR=1.4						
JAGI	Jajag, Banyuwa	4.80	280	P	Pn	01 33 58.4	-0.2
JAGI	Jajag, Banyuwa	4.80	280	P	Pn	01 33 58.3	-0.3
BNSI	Bone	5.08	13	P	Pn	01 34 06.2	+3.8
BNSI	Bone	5.08	13	P	Pn	01 34 03.8	+1.4
	0.2nm22nm,0.7s						
PCJI	Pacitan	7.75	278	P	Pn	01 34 39.7	+1.1
	0.2nm24nm,1.2s						
FITZ	Fitzroy Crossi	10.85	144	P	Pn	01 35 21.4	+0.7
	0.5nm,0.3s,baz=335,slow=13,SNR=3.6						
FITZ				S	Sn	01 37 16.2	-3.9
	1.4nm,0.3s,baz=181,slow=22,SNR=7.0						
WRA	Warramunga Arr	18.22	127	P	Pn	01 36 57.6	+2.5
	0.1nm,0.3s,baz=301,slow=12,SNR=2.3						
ASAR	Alice Springs	20.17	137	P	Pn	01 37 19.3	+1.4
	1.4nm,0.7s,baz=314,slow=10,SNR=20						
SONM	Songino Array	58.04	350	P	P	01 42 32.3	+1.2
	0.6nm,0.5s,baz=163,slow=9.0,SNR=7.2						
MKAR	Makanchi Array	64.76	333	P	P	01 43 16.6	+0.3
	0.2nm,0.5s,baz=145,slow=5.7,SNR=6.9						

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*IDC **07** 01:34:11.9±1.6, 7°.67S×128°.21E, h159km±22km, mb2.6/1, mb1 3.6/6, mb1mx3.1/42, mbtmp4.0/6, Error ellipse: s-maj=22.9km s-min=13.8km az=117.0*

ISC 07 01:34:11.4±0.9, **7°.77S**±0°.06×**128°.33E**±0°.09, **h150**km, **n6**, σ**1^{s}87**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.20	242	P	Pn	01 35 28.6	+0.9
	10nm,0.3s,baz=190,slow=4.9,SNR=5.6						
BATI				S	Sn	01 36 26.8	-0.3
	13nm,0.3s,baz=11,slow=14,SNR=4.6						
SIJI	Sorong	7.46	23	P	Pn	01 35 57.8	+0.1
	3.1nm,0.3s,baz=231,slow=23,SNR=12						
SIJI				S	Sn	01 37 20.8	-0.3
	0.7nm,0.3s,baz=183,slow=22,SNR=1.2						
FITZ	Fitzroy Crossi	10.59	194	P	Pn	01 36 39.5	+0.2
	1.8nm,0.3s,baz=21,slow=14,SNR=11						
FITZ				S	Sn	01 38 34.0	-2.5
	1.2nm,0.3s,baz=115,slow=23,SNR=1.8						
WRA	Warramunga Arr	13.43	155	P	Pn	01 37 17.8	+1.6
	1.2nm,0.3s,baz=336,slow=12,SNR=8.4						
WRA				S	Sn	01 39 42.1	-2.8
	1.6nm,0.3s,baz=325,slow=22,SNR=10						
ASAR	Alice Springs	16.68	162	P	Pn	01 37 58.9	+2.3
	0.5nm,0.3s,baz=342,slow=12,SNR=14						
ASAR				S	S	01 41 03.9	+1.7
	0.5nm,0.3s,baz=322,slow=16,SNR=6.2						
MKAR	Makanchi Array	67.98	328	P	P	01 44 52.9	-1.4
	0.1nm,0.3s,baz=119,slow=7.8,SNR=1.5						

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*IDC **07** 01:38:57.7±6.7, 20°.19S×176°.16W, h273km±54km, mb3.9/4, mb1 3.9/6, mb1mx3.3/36, mbtmp4.6/6, Error ellipse: s-maj=46.9km s-min=18.8km az=87.0*

ISC 07 01:38:50.4±2.3, **20°.2S**±0°.2×**175°.8W**±0°.3, **h222**km, **n7**, σ**0^{s}43**/9, **mb4.1**/4, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.66	260	P	Pn	01 42 31.9	+0.2
	1.5nm,0.3s,baz=80,slow=18,SNR=23						
URZ	Urewera	19.00	197	P	Pn	01 42 58.5	-0.5
	1.0nm,0.3s,baz=347,slow=14,SNR=2.4						
URZ				S	S	01 46 19.7	+0.5
	0.3nm,0.3s,baz=45,slow=17,SNR=1.1						
CTA	Charters Tower	35.56	263	P	P	01 45 26.6	-0.3
	3.4nm,0.3s,baz=88,slow=11,SNR=6.3						
ASAR	Alice Springs	46.58	256	P	P	01 46 56.9	+0.4
	2.8nm,0.6s,baz=87,slow=8.1,SNR=26						
ASAR				PcP	PcP	01 48 27.1	+0.2
	0.3nm,0.6s,baz=93,slow=3.9,SNR=2.3						
WRA	Warramunga Arr	46.67	261	P	P	01 46 56.8	-0.5
	0.8nm,0.3s,baz=96,slow=7.6,SNR=40						
SIJI	Sorong	55.16	284	P	P	01 48 00.7	+0.3
	19nm,0.8s,baz=105,slow=9.8,SNR=5.0						
BRTR	Keskin Array B	148.14	314	PKPbc	PKPbc	01 58 10.5	+0.1
	0.7nm,0.5s,baz=66,slow=3.6,SNR=7.0						

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*NEIC **07** 01:43:26.2±1.6, 18°.17S±0°.09×177°.9W±0°.1, h595km±6km, mb4.2/49, Error ellipse: s-maj=16.9km s-min=13.1km az=77.0*

*IDC **07** 01:43:27.8±1.0, 18°.24S×178°.08W, h612km±9km, mb3.5/16, mb1 3.7/17, mb1mx3.5/39, mbtmp4.5/17, Error ellipse: s-maj=20.7km s-min=10.4km az=151.0*

ISC 07 01:43:26.7±0.5, **18°.2S**±0°.1×**178°.02W**±0°.09, **h600**km, **n94**, σ**0^{s}86**/103, **mb4.2**/37, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.77	276	P	P	01 44 51.5	+0.8
	20nm,0.3s,baz=150,slow=3.7,SNR=108						
MSVF				S	S	01 46 01.8	+2.6
	baz=147,slow=21,SNR=6.5						
AFI	Afiamalu	7.34	56	P	P	01 45 18.9	-1.2
MARNC	Mare, Loyalty	13.54	254	P	P	01 46 20.3	-0.8
DZM	Mont Dzumac	15.10	252	P	P	01 46 35.5	-0.6
DZM				IAmb	IAmb	01 46 42.1	
	comp=Z,9.4nm,1.1s						
ONTNC	Ouen Toro	15.15	252	P	P	01 46 35.0	-1.3
OUZ	Omahuta	18.56	202	P	P	01 47 09.4	+2.2
OUZ				IAmb	IAmb	01 47 10.4	
	comp=Z,9.0nm,0.9s						
URZ	Urewera	20.48	191	P	P	01 47 22.8	-1.8
	comp=Z,7.7nm,0.5s,baz=29,slow=5.9,SNR=4.8						
URZ	Urewera	20.48	191	P	P	01 47 22.1	-2.5
BKZ	Black Stump Fm	21.47	192	P	P	01 47 33.5	-0.1
BKZ				IAmb	IAmb	01 47 53.9	
	comp=Z,9.8nm,1.1s						
KHZ	Kahutara	25.23	195	P	P	01 48 04.6	-2.1
KHZ				IAmb	IAmb	01 48 18.6	
	comp=Z,3.9nm,0.8s						
FOZ	Fox Glacier	27.31	200	P	P	01 48 24.0	-0.9
WKZ	Wanaka	28.72	199	P	P	01 48 35.5	-1.8
MLZ	Mavora Lakes	29.49	200	P	P	01 48 44.0	0.0
WHZ	Wether Hill Ro	30.01	200	P	P	01 48 49.3	+0.9
CTA	Charters Tower	33.77	261	P	P	01 49 20.4	-0.2
	comp=Z,4.1nm,0.6s,baz=108,slow=9.3,SNR=2.5						
PMG	Port Moresby	34.87	280	P	P	01 49 30.6	+0.9
	comp=Z,5.5nm,0.3s,baz=100,slow=8.9,SNR=4.4						
PMG	Port Moresby	34.87	280	P	P	01 49 30.0	+0.2
COEN	Coen	37.48	271	P	P	01 49 52.1	+0.9
STKA	Stephens Creek	38.84	242	P	P	01 50 02.8	+0.8
	comp=Z,1.5nm,0.5s,baz=115,slow=16,SNR=4.2						
STKA	Stephens Creek	38.84	242	P	P	01 50 02.9	+1.0
JAY	Jayapura	43.33	286	P	P	01 50 38.1	+0.4
	comp=Z,9.8nm,0.6s,baz=157,slow=2.7,SNR=4.8						
BBOO	Buckleboo	43.61	241	P	P	01 50 39.7	+0.1
BBOO				IAmb	IAmb	01 50 51.3	
	comp=Z,9.8nm,1.1s						
WR0	Warramunga Arr	44.76	260	P	P	01 50 48.5	-0.1
WR0				PcP	PcP	01 52 17.7	+0.1
WB0	Warramunga Arr	44.92	260	P	P	01 50 49.6	-0.2
WB0				IAmb	IAmb	01 50 49.9	
	comp=Z,4.9nm,0.6s						
WB2	Warramunga Arr	44.94	260	P	P	01 50 49.6	-0.4
WB2				IAmb	IAmb	01 50 50.2	
	comp=Z,6.4nm,0.7s						
WRA	Warramunga Arr	44.95	260	P	P	01 50 49.7	-0.4
	comp=Z,3.6nm,0.6s,baz=96,slow=7.0,SNR=82						
WRA				PcP	PcP	01 52 18.0	-0.2
	comp=Z,0.5nm,0.7s,baz=103,slow=2.9,SNR=1.8						
WRA				S	S	01 56 42.9	-3.1
	comp=Z,0.9nm,1.0s,baz=94,slow=13,SNR=4.7						
WRA	Warramunga Arr	44.95	260	P	P	01 50 49.7	-0.4
WRA				PcP	PcP	01 52 18.2	0.0
ASAR	Alice Springs	45.08	254	P	P	01 50 51.0	0.0
	comp=Z,9.7nm,0.8s,baz=86,slow=8.7,SNR=67						
ASAR				PcP	PcP	01 52 18.8	+0.1
	comp=Z,0.9nm,0.5s,baz=103,slow=4.0,SNR=6.0						
ASAR				S	S	01 56 46.8	-1.0
	comp=Z,1.1nm,0.8s,baz=86,slow=16,SNR=8.9						
ASAR	Alice Springs	45.08	254	P	P	01 50 50.6	-0.4
ASAR				PcP	PcP	01 52 18.7	+0.1
KNRA	Kununurra	50.83	264	P	P	01 51 33.7	-0.1
FITZ	Fitzroy Crossi	53.35	261	P	P	01 51 50.6	-1.1
PSA00	Pilbara Seismi	58.21	255	P	P	01 52 24.9	-0.3
MJAR	Matsushiro Arr	68.33	323	P	P	01 53 29.1	-0.3
	comp=Z,1.6nm,0.4s,baz=144,slow=5.8,SNR=4.7						
UGM	Wanagama	70.01	268	P	P	01 53 39.7	-0.3
QSPA	South Pole Qui	71.90	180	P	P	01 53 50.8	+0.6
QSPA				IAmb	IAmb	01 53 51.6	
	comp=Z,6.7nm,0.9s						
TPUB	Ta-pu	72.70	302	P	P	01 53 54.5	-0.9
TPUB				IAmb	IAmb	01 54 23.2	
	comp=Z,16nm,1.1s						
PEA0B	Petropavlovsk-	74.01	345	P	P	01 54 02.4	+0.3
PEA0B				IAmb	IAmb	01 54 05.4	
	comp=Z,8.7nm,1.0s						
PETK	Petropavlovsk-	74.01	345	P	P	01 54 02.1	0.0
	comp=Z,4.2nm,0.7s,baz=116,slow=7.2,SNR=9.4						
PETK	Petropavlovsk-	74.01	345	P	P	01 54 01.8	-0.3
OHAK	Old Harbor	77.88	13	P	P	01 54 23.3	+0.1
OHAK				IAmb	IAmb	01 54 33.5	
	comp=Z,10nm,1.1s						
NVAR	Mina Array Bea	79.34	44	P	P	01 54 32.7	+0.9
	comp=Z,1.3nm,0.7s,baz=225,slow=9.0,SNR=11						
NVAR	Mina Array Bea	79.34	44	P	P	01 54 32.9	+1.1
P18K	Big Mountain,	79.49	12	P	P	01 54 31.2	-0.6
P18K				IAmb	IAmb	01 54 32.9	
	comp=Z,16nm,1.1s						
SPU	Mount Spurr	81.76	12	P	P	01 54 42.5	-1.1
GAMB	Gambell	81.81	3	P	P	01 54 44.6	+1.0
GAMB				IAmb	IAmb	01 55 13.0	
	comp=Z,6.5nm,1.1s						
M19K	Big River Lodg	81.97	11	P	P	01 54 44.1	-0.4
L19K	White Mountain	82.15	11	P	P	01 54 45.9	+0.5
PWL	Port Wells	82.28	14	P	P	01 54 45.5	-0.6
PWL				IAmb	IAmb	01 54 58.4	
	comp=Z,7.2nm,1.2s						
GLI	Glacier Island	82.60	15	P	P	01 54 47.3	-0.4
PMR	Palmer	82.75	13	P	P	01 54 47.7	-0.7
GHO	Glory Hole Cre	82.96	13	P	P	01 54 49.2	-0.4
GHO				IAmb	IAmb	01 54 50.0	
	comp=Z,8.9nm,0.8s						
SML	Sawmill	83.12	14	P	P	01 54 49.9	-0.4
SML				IAmb	IAmb	01 54 53.7	
	comp=Z,8.0nm,1.2s						
BMRM	Bremner River	83.29	16	P	P	01 54 51.3	+0.1
SCM	Sheep Creek Mo	83.38	14	P	P	01 54 51.4	-0.2
SCM				IAmb	IAmb	01 54 52.4	
	comp=Z,10nm,1.0s						
ISLE	Juniper Island	83.59	17	P	P	01 54 52.7	-0.1
ISLE				IAmb	IAmb	01 55 00.8	
	comp=Z,5.6nm,1.0s						
TABL	Table Mountain	83.79	17	P	P	01 54 53.9	0.0
TABL				IAmb	IAmb	01 54 54.7	
	comp=Z,9.2nm,0.8s						
VRDI	Verde Repeater	83.81	16	P	P	01 54 53.4	-0.6
VRDI				IAmb	IAmb	01 54 54.6	
	comp=Z,4.1nm,0.8s						
N25K	Chitina, Valde	83.84	15	P	P	01 54 53.9	0.0
N25K				IAmb	IAmb	01 54 54.6	
	comp=Z,6.2nm,0.7s						
GLB	Gilahina Butte	83.90	16	P	P	01 54 54.1	-0.1
GLB				IAmb	IAmb	01 54 54.8	
	comp=Z,4.4nm,0.7s						
SEY	Seymchan	84.10	347	P	P	01 54 54.9	-0.2
	comp=Z,3.4nm,0.5s,baz=150,slow=7.3,SNR=4.6						
TRF	Thorofare Moun	84.17	12	P	P	01 54 54.7	-0.9
RND	Reindeer	84.43	13	P	P	01 54 57.0	+0.2
MCK	McKinley	84.70	13	P	P	01 54 57.2	-0.8
MCK				IAmb	IAmb	01 55 02.4	
	comp=Z,4.2nm,0.9s						
CCB	Clear Creek Bu	85.74	13	P	P	01 55 02.1	-0.8
TXAR	Lajitas Array	85.81	57	P	P	01 55 06.1	+1.8
	comp=Z,1.1nm,0.7s,baz=224,slow=6.1,SNR=16						
IL31		86.04	13	P	P	01 55 03.3	-1.0
IL31				IAmb	IAmb	01 55 04.4	
	comp=Z,4.0nm,1.1s						
ILAR	Eielson Array	86.04	13	P	P	01 55 03.6	-0.7
	comp=Z,1.0nm,0.4s,baz=220,slow=4.8,SNR=25						
PDAR	Pinedale Array	87.28	43	P	P	01 55 11.3	+0.3
	comp=Z,0.7nm,0.7s,baz=229,slow=3.2,SNR=7.5						
PDAR	Pinedale Array	87.28	43	P	P	01 55 10.7	-0.4
CMAR	Chiang Mai Arr	89.32	290	P	P	01 55 21.6	+0.8
	comp=Z,1.0nm,0.3s,baz=105,slow=2.0,SNR=6.6						
YKA	Yellowknife Ar	94.40	25	P	P	01 55 42.6	-0.4
	comp=Z,0.5nm,0.6s,baz=241,slow=4.4,SNR=9.0						
YKA	Yellowknife Ar	94.40	25	P	P	01 55 43.6	+0.6
MKAR	Makanchi Array	109.57	314	PKiKP	PKiKP	02 00 49.2	-0.9
	comp=Z,0.3nm,0.6s,baz=49,slow=0.3,SNR=5.2						
ARCES	ARCESS Array B	126.62	350	PKP	PKPdf	02 01 21.2	-0.9
	comp=Z,2.0nm,0.9s,baz=107,slow=0.9,SNR=6.2						
ARCES	ARCESS Array B	126.62	350		PKPdf	02 01 21.5	-0.7
EKA	Eskdalemuir Ar	142.68	5	PKhKP	PKPpre	02 01 47.3	
	comp=Z,0.8nm,0.6s,baz=343,slow=2.2,SNR=3.5						
BRTR	Keskin Array B	145.22	315	PKPbc	PKPbc	02 01 58.4	-0.3
	comp=Z,2.1nm,0.7s,baz=130,slow=3.9,SNR=15						
BRTR	Keskin Array B	145.22	315		PKPbc	02 01 58.5	-0.1
CLL	Collm	145.78	348	*i* PKPbc	PKPbc	02 01 59.7	+0.1
	comp=Z,10.0nm,0.8s						
VRAC	Vranov	146.76	342	PKPbc	PKPbc	02 02 01.5	-0.8
	comp=Z,1.9nm,0.6s,baz=256,slow=4.2,SNR=1.3						
VRAC	Vranov	146.76	342	*e*PKP	PKPbc	02 02 02.2	-0.2
VRAC				*e*	PKPab	02 02 05.7	+0.2
KRUC	Moravsky	147.04	342	*e*PKP	PKPbc	02 02 03.2	+0.1
KRUC				*e*	PKPab	02 02 06.9	+0.3
GERES	GERESS Array B	147.94	345	PKPbc	PKPbc	02 02 05.2	-0.4
	comp=Z,1.5nm,0.6s,baz=32,slow=5.2,SNR=17						
GERES	GERESS Array B	147.94	345	PKPbc	PKiKP	02 02 05.8	-1.1
CONA	Conrad Observa	148.21	342	*e*P	PKPbc	02 02 06.4	+0.1
	comp=Z,3.0nm,1.0s						
BIOA	Bad Ischl, Aus	149.03	345	*e*P	PKPab	02 02 15.4	+0.5
	comp=Z,1.0nm,0.4s						
SOKA	Soboth	149.58	342	*e*P	PKPbc	02 02 09.2	-0.4
	comp=Z,0.7nm,0.4s						
KBA	Koelnbreinsper	149.68	345	*e*P	PKiKP	02 02 09.9	-0.7
	comp=Z,2.0nm,0.5s,SNR=4.2						
WATA	Walderalm	149.85	347	*e*P	PKiKP	02 02 10.1	-0.8
	comp=Z,1.2nm,0.3s						
WTTA	Wattenberg	149.90	347	*e*P	PKiKP	02 02 10.6	-0.5
	comp=Z,3.6nm,0.6s						
MOTA	Moosalm	149.94	348	*e*P	PKPbc	02 02 10.3	-0.2
	comp=Z,0.8nm,0.5s						
ABTA	Abfaltersbach	150.19	345	*e*P	PKPbc	02 02 10.6	-0.5
	comp=Z,2.4nm,0.6s,SNR=6.1						
FETA	Feichten	150.32	348	*e*P	PKiKP	02 02 11.6	-0.3
	comp=Z,1.2nm,0.6s,SNR=4.4						
DAVOX	Davos/Dischmat	150.72	349	PKPbc	PKiKP	02 02 12.6	-0.2
	comp=Z,4.3nm,0.6s,baz=164,slow=14,SNR=7.6						

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*IDC **07** 01:52:46.9±8.3, 21°.87N×142°.81E, h274km±85km, mb3.2/10, mb1 3.3/10, mb1mx3.0/66, mbtmp3.8/10, Error ellipse: s-maj=43.4km s-min=14.7km az=83.0*

ISC 07 01:52:44.6±1.1, **21°.9N**±0°.1×**142°.8E**±0°.3, **h250**km, **n10**, σ**0^{s}49**/10, **mb3.4**/10, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	24.32	185	P	P	01 57 39.9	0.0
	4.6nm,0.5s,baz=54,slow=19,SNR=1.2						
KLR	Kul'dur	28.69	345	P	P	01 58 18.8	+0.4
	1.5nm,0.6s,baz=154,slow=5.3,SNR=6.4						
SONM	Songino Array	38.99	321	P	P	01 59 47.1	+0.1
	0.2nm,0.4s,baz=125,slow=6.6,SNR=2.0						
WRA	Warramunga Arr	42.37	192	P	P	02 00 14.9	+0.2
	0.3nm,0.3s,baz=11,slow=9.3,SNR=22						
FITZ	Fitzroy Crossi	43.13	204	P	P	02 00 20.9	+0.2
	1.8nm,1.0s,baz=22,slow=5.4,SNR=1.2						
ZALV	Zalesovo Beam	53.86	322	P	P	02 01 42.5	+0.5
	0.5nm,0.5s,baz=101,slow=7.5,SNR=2.4						
MKAR	Makanchi Array	54.33	313	P	P	02 01 44.8	-0.6
	0.2nm,0.8s,baz=86,slow=7.4,SNR=2.0						
YKA	Yellowknife Ar	76.47	28	P	P	02 04 06.4	-0.2
	0.4nm,0.4s,baz=291,slow=5.6,SNR=5.4						
ARCES	ARCESS Array B	78.65	341	P	P	02 04 18.8	+0.2
	0.8nm,0.7s,baz=28,slow=5.5,SNR=5.6						
FINES	FINESS Array B	82.88	334	P	P	02 04 40.2	-0.8
	0.4nm,0.3s,baz=43,slow=3.4,SNR=5.3						

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*IDC **07** 02:09:41.7±1.5, 10°.55S×119°.76E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.5/29, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=50.1km s-min=21.3km az=57.0*

*DJA **07** 02:09:48.2±0.8, 10°S±8°×12°0E±°, h10km, M3.7/8, mb4.0/1, MLv3.6/8*

ISC 07 02:09:45.9±0.8, **10°.60S**±0°.06×**120°.24E**±0°.05, **h30**km, **n18**, σ**2^{s}67**/21, **mb3.7**/3, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.51	41	Pg	Pb	02 09 56.2	-0.3
BASI				Sg	Sb	02 10 02.7	-1.0
WBSI	Waikabubak, Su	1.27	319	P	Pb	02 10 07.7	-1.5
WBSI				Pg	Pb	02 10 07.7	-1.5
MMRI	Maumere	2.78	45	P	Pn	02 10 29.9	+1.5
PLAI	Plampang	3.00	306	P	Pn	02 10 32.5	+1.1
BATI	Baumata	3.40	84	Pn	Pb	02 10 43.0	-2.4
	12nm,0.3s,baz=298,slow=10,SNR=3.1						
BATI				Sn	Sn	02 11 20.5	+4.3
	16nm,0.3s,baz=224,slow=22,SNR=5.6						
BATI	Baumata	3.40	84	P	Pb	02 10 42.1	-3.3
BSSI	Bau Bau, Buton	4.44	3	P	Pn	02 10 51.9	+0.7
BKSI	Bulukumba	5.25	359	P	Pn	02 11 03.9	+1.6
KAPI	Kappang	5.57	355	Pn	Pn	02 11 04.4	-2.4
	1.0nm,0.3s,baz=225,slow=11,SNR=4.1						
KAPI				Sn	Sn	02 12 11.9	+2.0
	0.3nm,0.3s,baz=108,slow=23,SNR=1.2						
FITZ	Fitzroy Crossi	9.11	146	Pn	Pn	02 11 58.4	+3.0
	0.4nm,0.3s,baz=328,slow=13,SNR=14						
FITZ				Sn	Sn	02 13 35.0	-1.9
	0.5nm,0.3s,baz=197,slow=21,SNR=7.0						
WRA	Warramunga Arr	16.46	126	Pn	Pn	02 13 35.5	+0.7
	0.1nm,0.3s,baz=301,slow=14,SNR=7.8						
WRA				Sn	Sn	02 16 30.4	-6.3
	0.1nm,0.3s,baz=292,slow=24,SNR=2.1						
ASAR	Alice Springs	18.40	137	P	Pn	02 14 02.5	+3.6
	0.2nm,0.3s,baz=315,slow=12,SNR=18						
H08S2	Diego Garcia H	47.20	269	T	T	03 08 36.7	
	baz=98,slow=74						
H08S3	Diego Garcia H	47.21	269	T	T	03 08 37.4	
	baz=98,slow=74						
H08S1	Diego Carcia H	47.21	269	T	T	03 08 38.9	
	baz=98						
SONM	Songino Array	59.47	349	P	P	02 19 44.2	-1.9
	0.5nm,0.7s,baz=181,slow=5.7,SNR=4.3						
MKAR	Makanchi Array	66.43	333	P	P	02 20 31.3	-1.0
	0.3nm,0.5s,baz=154,slow=6.9,SNR=6.9						
ZALV	Zalesovo Beam	70.97	339	P	P	02 21 00.7	+0.4
	0.5nm,0.5s,baz=144,slow=5.4,SNR=2.2						

*INET **07** 02:12:42.5±0.2, 13°.82N×88°.34W, h76km±4km, MW3.3*
*SNET **07** 02:12:42.2±0.9, 12°.98N×88°.84W, h48km±15km, ML3.1*
ISC 07 02:12:42.4±2.2, **13°.2N**±0°.1×**88°.69W**±0°.06, **h79**km±13km, **n20**, σ**1s.62**/31, **1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COEB	Comit de Eme	0.34	26⇓	eP	Pn	02 12 55.1	+0.2
COEB				eS	Sn	02 13 05.0	+0.8
COEB	Comit de Eme	0.34	26	eP	Pn	02 12 55.1	+0.2
TECO	Alcaldia de Te	0.35	345	eP	Pn	02 12 54.4	-0.6
TECO				eS	Sn	02 13 03.4	-0.9
LCY	Lacayo	0.44	59	eP	Pn	02 12 56.1	+0.4
LCY				eS	Sn	02 13 06.8	+1.2
PQSS	Presa 15 de Se	0.44	16	eP	Pn	02 12 56.8	+1.2
VSM	San Miguel	0.46	60	eP	Pn	02 12 56.6	+0.6
VSM				eS	Sn	02 13 08.0	+1.9
BLLM	Bellamira	0.50	60	eP	Pn	02 12 55.9	-0.2
SCLA	Alcaldia de Sa	0.51	355	eP	Pn	02 12 56.9	+0.8
SCLA				eS	Sn	02 13 08.2	+1.9
LFRS	El Faro	0.56	319	eP	Pn	02 12 55.5	-1.2
LFRS				eS	Sn	02 13 06.3	-1.1
PAVA	Las Pavas	0.57	335	eP	Pn	02 12 56.9	0.0
PAVA				eS	Sn	02 13 08.3	+0.8
PAVA				IAML		02 13 09.6	
	comp=Z,549nm,0.1s						
PAVA	Las Pavas	0.57	335	eP	Pn	02 12 57.0	+0.2
LFU	La Fuente	0.69	323	eP	Pn	02 12 58.1	+0.1
LFU				eS	Sn	02 13 09.2	-0.4
FAGO	Alcalda de S	0.75	48	eP	Pn	02 12 54.1	-4.4
FAGO				eS	Sn	02 13 08.2	-2.4
FAGO	Alcalda de S	0.75	48	eP	Pn	02 12 54.1	-4.4
JAYA	Jayaque - finc	0.87	302	eP	Pn	02 12 58.5	-1.5
JAYA				IAML		02 13 12.3	
	comp=Z,694nm,0.2s						
TACO	Tacachico	1.01	320	eP	Pn	02 13 01.6	+0.1
TACO				eS	Sn	02 13 16.4	+0.6
CEVE	Cerro Verde	1.11	305	eP	Pn	02 13 02.8	-0.1
CEVE				eS	Sn	02 13 17.9	-0.4
CSGN	Cosiguina Volc	1.12	101	eP	Pn	02 13 02.9	0.0
MTO3	Montecristo	1.36	331	eP	Pn	02 13 07.4	+1.3
TGUH	Tegucigalpa,Un	1.62	58	eP	Pn	02 13 11.6	+2.3

*CNRM **07** 02:18:54.5, 35°.57N×3°.69W, h15km, ml3.1*
*MDD **07** 02:18:56.0±0.4, 35°.43N×3°.77W, h0km, mb_Lg2.6/4, Error ellipse: s-maj=3.7km s-min=2.9km az=172.0*
*SFS **07** 02:18:59.0, 35°.46N×3°.79W, ML2.8, ALBORAN SUR*
ISC 07 02:18:56.2±1.0, **35°.46N**±0°.02×**3°.77W**±0°.03, **h18**km±8km, **n23**, σ**1s.39**/46, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.28	210	P	Pg	02 19 02.4	+0.1
PALE				S	Sg	02 19 07.0	+0.5
GOG	Mont Gurugu	0.67	110	P	Pb	02 19 08.9	-0.6
GOG				S	Sb	02 19 17.7	-0.8
EMEL	Melilla	0.68	103	Pg	Pb	02 19 09.1	-0.4
EMEL				Sg	Sb	02 19 18.9	+0.3
EALB	Alboran	0.76	51	Pg	Pg	02 19 10.7	-0.4
EALB				Sg	Sg	02 19 20.8	-0.5
EALB				i Vmb_Lg		02 19 21.8	
TAF	Taforalt	1.28	120	P	Pn	02 19 18.1	-1.2
TAF				S	Sb	02 19 33.6	-2.4
CHEFC	Chefchaouen	1.33	255	P	Pn	02 19 19.3	-0.7
CHEFC				S	Sg	02 19 40.8	+1.4
SMIR	Smir Dam	1.33	280	P	Pn	02 19 17.4	-2.6
SMIR				S	Sb	02 19 38.2	+0.7
EMIJ	Mijas	1.37	324	Pn	Pn	02 19 20.5	0.0
EMIJ				Sn	Sn	02 19 38.0	-0.3
EMIJ				i Vmb_Lg		02 19 41.5	
CEU	Ceuta	1.38	289	P	Pn	02 19 18.1	-2.4
CEU				S	Sn	02 19 34.3	-4.1
EMAL	Malaga-Limoner	1.41	338	P	Pg	02 19 23.2	0.0
EMAL				S	Sn	02 19 38.9	-0.2
ELGU	Los Guajares,	1.41	5	Pn	Pn	02 19 20.0	-1.1
ELGU				Sn	Sb	02 19 39.6	-0.1
ELGU				i Vmb_Lg		02 19 40.6	
SICH	Sidi Chahed	1.86	224	P	Pb	02 19 30.1	+0.4
SICH				S	Sb	02 19 54.3	+1.7
LCRM	LCR	1.99	207	P	Pn	02 19 30.4	+1.3
LCRM				S	Sg	02 19 59.1	-1.1
IFR	Ifrane	2.24	210	P	Pn	02 19 32.4	-0.2
IFR				S	Sn	02 19 59.5	-0.4
CZD	Col de Zad	2.64	204	P	Pn	02 19 39.5	+1.3
CZD				S	Sn	02 20 12.1	+2.1
MDT	Midelt	2.73	195	P	Pn	02 19 40.7	+1.5
MDT				S	Sb	02 20 16.0	-1.8
ECAB	El Cabril	2.93	334	Pn	Pn	02 19 44.0	+2.1
ECAB				Sn	Sn	02 20 17.8	+1.2
EZAR	Zarzadilla de	2.93	34	Pn	Pn	02 19 42.8	+0.8
EZAR				Sn	Sn	02 20 18.9	+2.1
ETOB	Tobarra	3.64	29	Pn	Pn	02 19 53.2	+1.4
ETOB				Sn	Sn	02 20 35.5	+1.2
PVAQ	Vaqueiros	3.73	302	P	Pn	02 19 51.9	-1.0
PVAQ				S	Sn	02 20 36.2	-0.2
PAB	San Pablo	4.11	354	Pn	Pn	02 19 57.1	-1.0
PAB				Sn	Sn	02 20 47.6	+1.8
EBAD	Badajoz	4.19	323	Pn	Pn	02 19 59.9	+0.7
EBAD				Sn	Sn	02 20 47.8	0.0
ESDC	Sonseca Array	4.21	358	Pn	Pn	02 19 59.7	+0.2
ESDC				Sn	Sn	02 20 49.2	+0.9

*CNRM **07** 02:25:56.9, 35°.49N×3°.82W, h14km, ml2.3*
*SFS **07** 02:25:57.0, 35°.41N×3°.81W, ML3.1, ALBORAN SUR*
*MDD **07** 02:25:57.8±0.6, 35°.42N×3°.77W, h6km±5km, mb_Lg2.0/7, Error ellipse: s-maj=4.9km s-min=3.1km az=155.0*
ISC 07 02:25:56.9±1.5, **35°.48N**±0°.02×**3°.80W**±0°.03, **h12**km±11km, **n27**, σ**1s.38**/49, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.29	204	P	Pb	02 26 03.9	-0.1
PALE				S	Sg	02 26 07.1	+0.4
GOG	Mont Gurugu	0.70	111	P	Pb	02 26 11.0	-0.2
GOG				S	Sb	02 26 20.2	-0.7
EMEL	Melilla	0.71	104	Pg	Pb	02 26 10.6	-0.6
EMEL				Sg	Sb	02 26 19.5	-1.4
EALB	Alboran	0.77	53	Pg	Pb	02 26 12.3	0.0
EALB				Sg	Sb	02 26 22.8	0.0
SMIR	Smir Dam	1.30	279	P	Pn	02 26 19.3	-1.7
CHEFC	Chefchaouen	1.31	254	P	Pn	02 26 21.8	+0.6
CHEFC				S	Sb	02 26 37.7	-0.8
TAF	Taforalt	1.31	120	P	Pn	02 26 19.4	-1.8
TAF				S	Sn	02 26 40.4	+1.6
EMIJ	Mijas	1.34	324	Pn	Pn	02 26 21.5	0.0
EMIJ				Sn	Sb	02 26 40.3	+1.2
EMIJ				i Vmb_Lg		02 26 45.7	
CEU	Ceuta	1.35	288	P	Pn	02 26 19.6	-1.9
CEU				S	Sb	02 26 35.4	-3.9
EMAL	Malaga-Limoner	1.38	338	P	Pn	02 26 22.0	+0.1
EMAL				S	Sb	02 26 38.0	-2.2
ELGU	Los Guajares,	1.39	6	Pn	Pn	02 26 21.6	-0.7
ELGU				Sn	Sb	02 26 39.0	-1.7
JBK	JBK	1.53	138	P	Pn	02 26 24.1	-0.1
JBK				S	Sg	02 26 45.6	-0.5
EQUE	Quentar	1.75	9	Pn	Pn	02 26 28.3	+1.1
EQUE				Sn	Sn	02 26 49.5	+0.1
ENIJ	Nijar	1.97	40	Pn	Pn	02 26 29.2	-0.9
ENIJ				Sn	Sn	02 26 52.2	-2.6
ENIJ				i Vmb_Lg		02 26 54.9	
LCRM	LCR	1.99	206	P	Pb	02 26 33.5	+0.3
LCRM				S	Sb	02 26 57.9	-0.1
IFR	Ifrane	2.25	210	P	Pn	02 26 35.1	+1.1
IFR				S	Sn	02 27 01.3	-0.6
MD31	MD31	2.73	197	P	Pn	02 26 41.0	+0.4
MD31				S	Sn	02 27 14.2	+0.7
MDT	Midelt	2.74	194	P	Pn	02 26 42.4	+1.6
MDT				S	Sn	02 27 14.2	+0.2
ECAB	El Cabril	2.90	334	Pn	Pn	02 26 44.6	+1.6
ECAB				Sn	Sn	02 27 19.7	+2.0
EGRO	El Granado	3.61	306	Pn	Pn	02 26 53.3	+0.7
EGRO				Sn	Sn	02 27 34.4	-0.8
EGRO				i Vmb_Lg		02 29 17.7	
ETOB	Tobarra	3.63	29	Pn	Pn	02 26 55.4	+2.3
ETOB				Sn	Sn	02 27 37.1	+1.1
ETOB				i Vmb_Lg		02 27 38.6	
PVAQ	Vaqueiros	3.70	302	P	Pn	02 26 53.4	-0.5
PVAQ				S	Sn	02 27 37.0	-0.3
PAB	San Pablo	4.08	354	Pn	Pn	02 27 01.5	+2.3
PAB				i Vmb_Lg		02 28 00.7	
EBAD	Badajoz	4.16	323	Pn	Pn	02 27 01.8	+1.6
EBAD				Sn	Sn	02 27 50.4	+1.6
ESDC	Sonseca Array	4.19	358	Pn	Pn	02 27 02.5	+1.8
ESDC				i Vmb_Lg		02 27 50.6	
PESTR	Estremoz	4.54	319	P	Pn	02 27 06.0	+0.5
OUZM	OUZ	5.19	209	P	Pn	02 27 16.2	+1.6

*ISK **07** 02:26:45.8, 36°.34N×22°.97E, h12km, ML2.4/4*
*ATH **07** 02:26:47.1, 36°.41N×23°.00E, h15km±1km, ML2.3/2, Error ellipse: s-maj=3.2km s-min=0.9km az=255.0*
*THE **07** 02:26:47.1, 36°.41N×22°.99E, h12km±1km, ML2.6/2, Error ellipse: s-maj=3.4km s-min=0.5km az=257.0*
ISC 07 02:26:46.9±0.9, **36°.40N**±0°.03×**23°.00E**±0°.06, **h16**km±6km, **n22**, σ**0s.47**/33, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTHR	Kythira	0.14	177	P	Pg	02 26 51.0	+0.2
KTHR				S	Sg	02 26 53.4	0.0
	3µm,0.3s						
KTHA	Kythira Island	0.16	160	P	Pg	02 26 51.4	+0.4
KTHA				S	Sg	02 26 54.0	+0.3
KTHA				AML	AML	02 26 54.6	
	comp=N,4473µm,0.2s						
KTHA				AML	AML	02 26 54.6	
	comp=E,6773µm,0.4s						
KTHA	Kythira Island	0.16	160	P	Pg	02 26 50.9	-0.1
KTHA				S	Sg	02 26 53.6	-0.1
	comp=E,3µm,0.3s						
MNVA	Monemvasia	0.28	7	P	Pg	02 26 53.3	+0.3
MNVA				S	Sg	02 26 57.0	-0.2
VLI	Veliai	0.32	351	P	Pg	02 26 53.5	-0.1
VLI				S	Sg	02 26 57.6	-0.6
VLI				AML	AML	02 26 59.0	
	comp=N,700µm,0.2s						
VLI				AML	AML	02 27 00.7	
	comp=E,612µm,0.2s						
VLI	Veliai	0.32	351	P	Pg	02 26 53.6	0.0
VLI				S	Sg	02 26 58.1	0.0
ANKY	Antikythira Is	0.59	155	P	Pb	02 26 59.1	+0.3
ANKY				S	Sg	02 27 06.6	+0.2
ANKY	Antikythira Is	0.59	155	P	Pg	02 26 58.7	+0.2
ANKY				S	Sb	02 27 07.4	+0.5
KRND	KRANIDI	0.98	7	P	Pb	02 27 05.3	-0.3
KRND				S	Sb	02 27 17.8	-0.5
RODP	Rodopos	1.04	144	P	Pb	02 27 06.0	-0.6
RODP	Rodopos	1.04	144	PG	Pb	02 27 05.5	-1.1
RODP				SG	Sb	02 27 19.9	-0.1
ITM	Ithomi	1.16	312	P	Pn	02 27 07.8	-0.7
ITM	Ithomi	1.16	312	PN	Pn	02 27 08.5	+0.1
ITM				SN	Sg	02 27 25.5	+1.2
MHLO	Agia Marina, M	1.17	75	P	Pn	02 27 08.5	0.0
EPID	Epidavros	1.21	5	P	Pb	02 27 09.7	+0.2
IMMV	Iera Moni Meta	1.23	139	P	Pn	02 27 08.8	-0.6
IMMV	Iera Moni Meta	1.23	139	PN	Pn	02 27 08.9	-0.6
VAM	Vamos	1.39	135	P	Pn	02 27 12.1	+0.4
ATHU	Athens Univers	1.68	22	P	Pb	02 27 17.3	-0.1
KLV	Kalavryta, Ach	1.77	338	P	Pb	02 27 19.0	0.0
IDI	Anoyia	1.90	125	PN	Pn	02 27 18.9	+0.2
APE	Apeiranthos	2.14	71	PN	Pn	02 27 22.8	+0.8

*IDC **07** 02:38:17.0±1.4, 35°.51N×4°.05W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/45, mbtmp3.5/4, ML3.4/2, MS2.3/1, Ms1 2.4/1, ms1mx2.1/89, Error ellipse: s-maj=41.9km s-min=12.8km az=92.0*
*SFS **07** 02:38:16.0, 35°.44N×3°.73W, ML3.7, ALBORAN SUR*
*CNRM **07** 02:38:18.5, 35°.50N×3°.70W, h20km, ml3.6*
*LDG **07** 02:38:19.9±0.7, 35°.36N×3°.63W, h10km, Ml2.7/4, Error ellipse: s-maj=15.3km s-min=5.9km az=167.0*
*IGIL **07** 02:38:19.4, 35°.45N×3°.73W, h10km, ML2.9*
*MDD **07** 02:38:20.4±0.5, 35°.42N×3°.73W, h19km±4km, mb_Lg3.4/16, Error ellipse: s-maj=4.1km s-min=2.4km az=156.0*
ISC 07 02:38:18.8±1.1, **35°.49N**±0°.03×**3°.71W**±0°.02, **h19**km±3km, **n59**, σ**1s.68**/95, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.33	215	P	Pg	02 38 25.5	-0.5
PALE				S	Sg	02 38 30.0	-0.9
EMEL	Melilla	0.64	107	Pg	Pn	02 38 32.6	-0.2
EMEL				Sg	Sn	02 38 42.2	-0.2
EALB	Alboran	0.71	50	Pg	Pg	02 38 33.5	+0.7
EALB				Sg	Sn	02 38 43.9	-0.2
EALB				i Vmb_Lg		02 38 45.8	
TAF	Taforalt	1.25	122	P	Pn	02 38 41.6	+0.2
TAF				S	Sb	02 38 56.7	-0.9
ELGU	Los Guajares,	1.38	3	Pn	Pn	02 38 42.5	-0.6
ELGU				Sn	Sn	02 39 00.3	-0.4
ELGU				i Vmb_Lg		02 39 03.8	
EMIJ	Mijas	1.38	321	Pn	Pn	02 38 43.0	0.0
EMIJ				Sn	Sn	02 38 59.9	-0.8
EMIJ				i Vmb_Lg		02 39 05.8	
SMIR	Smir Dam	1.38	279	P	Pn	02 38 40.5	-2.5
SMIR				S	Sb	02 39 02.1	+0.9
CHEFC	Chefchaouen	1.39	255	P	Pn	02 38 43.1	-0.1
CHEFC				S	Sb	02 39 02.5	+0.9
EMAL	Malaga-Limoner	1.40	335	P	Pg	02 38 46.1	+0.3
EMAL				S	Sb	02 39 02.4	+0.7
CEU	Ceuta	1.42	287	P	Pn	02 38 41.4	-2.1
CEU				S	Sn	02 38 57.3	-4.3
JBK	JBK	1.48	141	P	Pn	02 38 44.5	-0.1
JBK				S	Sn	02 39 03.6	+0.1
EGOR	Sierra Gorda,	1.65	349	Pn	Pb	02 38 48.2	-0.4
EGOR				Sn	Sb	02 39 08.9	-0.2
EGOR				i Vmb_Lg		02 39 22.7	
EJIF	Jimena Fronter	1.72	304	Pn	Pn	02 38 48.7	+1.0
EQUE	Quentar	1.73	7	Pn	Pn	02 38 48.7	+0.8
EQUE				Sn	Sn	02 39 09.4	0.0
EQUE				i Vmb_Lg		02 39 21.3	
RSA	Sarsar	1.83	251	P	Pb	02 38 51.2	-0.5
ENIJ	Nijar	1.91	39	Pn	Pn	02 38 50.3	0.0
ENIJ				Sn	Sn	02 39 12.8	-1.1
SICH	Sidi Chahed	1.92	224	P	Pn	02 38 51.4	+1.0
SICH				S	Sb	02 39 17.2	+0.6
LCRM	LCR	2.03	208	P	Pn	02 38 52.8	+0.7
LCRM				S	Sn	02 39 17.8	+0.7
IFR	Ifrane	2.29	211	P	Pn	02 38 56.0	+0.3
IFR				S	Sn	02 39 22.4	-1.0
CZD	Col de Zad	2.69	205	P	Pn	02 39 02.1	+0.9
CZD				S	Sn	02 39 33.2	-0.2
TLOR	Lorca, Murcia	2.71	36	Pn	Pn	02 39 02.8	+1.5
TLOR				Sn	Sn	02 39 32.2	-1.2
MD31	MD31	2.76	199	P	Pn	02 39 02.8	+0.7
MDT	Midelt	2.77	196	Pn	Pn	02 39 03.0	+0.8
	2.4nm,0.3s,baz=142,slow=18,SNR=85						
MDT				Sn	Sn	02 39 35.2	+0.1
	11nm,0.3s,baz=201,slow=23,SNR=8.4						
MDT				Lg	Lg	02 39 44.5	
	16nm,0.3s,baz=32,slow=6.2,SNR=7.3						
MDT	Midelt	2.77	196	P	Pn	02 39 04.4	+2.2
TDRA	Tendrara	2.81	150	P	Pn	02 39 04.0	+1.2
ECAB	El Cabril	2.92	332	Pn	Pn	02 39 06.7	+2.4
ECAB				Sn	Sn	02 39 40.5	+1.7
CART	Cartagena	3.02	45	P	Pn	02 39 04.6	-0.9
CART				S	Sn	02 39 39.8	-1.3
CART	Cartagena	3.02	45	P	Pn	02 39 04.8	-0.8
CART				S	Sn	02 39 40.2	-1.0
ETOB	Tobarra	3.59	28	Pn	Pn	02 39 16.5	+3.0
ETOB				Sn	Sn	02 39 57.8	+2.4
ETOB				i Vmb_Lg		02 40 02.5	
EGRO	El Granado	3.66	305	Pn	Pn	02 39 14.3	-0.1
EGRO				Sn	Sn	02 39 54.6	-2.4
EGRO				i Vmb_Lg		02 40 01.8	
PVAQ	Vaqueiros	3.76	302	P	Pn	02 39 19.2	+3.5
PVAQ				S	Sn	02 39 57.5	-1.8
AVE	Averroes	3.76	236	P	Pn	02 39 16.4	+0.6
AVE				S	Sn	02 39 58.9	-0.6
AVE	Averroes	3.76	236	P	Pn	02 39 16.8	+1.0
GOLM	Goulmima	3.92	196	P	Pn	02 39 18.4	+0.4
FIGM	Figuig	3.92	148	P	Pn	02 39 18.6	+0.6
PAB	San Pablo	4.08	353	Pn	Pn	02 39 22.2	+2.0
PAB				i Vmb_Lg		02 40 40.9	
ESDC	Sonseca Array	4.18	357	Pn	Pn	02 39 22.9	+1.3
	1.7nm,0.3s,baz=181,slow=12,SNR=23						
ESDC				Sn	Sn	02 40 10.1	+0.2
	0.5nm,0.3s,baz=185,slow=22,SNR=2.2						
ESDC				Lg	Lg	02 40 28.6	
	1.0nm,0.3s,baz=180,slow=28,SNR=5.5						
ESDC				LR	LR	02 40 32.5	
	comp=Z,33nm,19.4s,baz=109,slow=33						
ESDC	Sonseca Array	4.18	357	Pn	Pn	02 39 23.6	+2.0
ESDC				i Vmb_Lg		02 40 35.4	
EBAD	Badajoz	4.20	322	Pn	Pn	02 39 22.4	+0.7
EBAD				Sn	Sn	02 40 12.8	+2.6
EBAD				i Vmb_Lg		02 40 17.1	
MORF	Marmelete	4.38	296	eP	Pn	02 39 24.1	-0.2
MORF				eS	Sn	02 40 11.5	-3.3
MORF				IAML		02 40 21.3	
	comp=N,23nm,0.5s						
PFVI	Vila Bisbo	4.45	293	P	Pn	02 39 25.2	0.0
PESTR	Estremoz	4.58	319	P	Pn	02 39 27.8	+0.8
EVO	Evora	4.59	313	P	Pn	02 39 28.1	+1.0
EVO				S	Sn	02 40 18.1	-1.9
UCM	Universidad Co	4.83	4	P	Pn	02 39 31.7	+1.3
UCM				S	Sn	02 40 23.4	-2.3
TZRR	Tazzarine	4.94	199	P	Pn	02 39 33.6	+1.5
OUZM	OUZ	5.24	210	P	Pn	02 39 37.6	+1.5
ETOR	Torete	5.48	13	Pn	Pn	02 39 41.3	+1.9
ETOR				i Vmb_Lg		02 43 33.2	
OUK	Oukaimeden	5.51	220	P	Pn	02 39 40.2	+0.1
EAH	EAH	6.22	234	P	Pn	02 39 48.6	-0.9
TTIG	Tnine Tigouga,	6.33	220	P	Pn	02 39 49.5	-1.7
ELOB	Lobios	7.22	333	Pn	Pn	02 40 06.3	+3.0
ELOB				i Vmb_Lg		02 42 45.6	
ETSF	Etsaut	7.79	17	ePn	Pn	02 40 14.0	+2.8
ETSF				eSn	Sn	02 41 35.7	-3.1
	comp=N,0.4nm,0.2s						
SJPF	Ste Jean	7.85	13	ePn	Pn	02 40 13.0	+1.1
SJPF				eSn	Sn	02 41 38.0	-2.2
	comp=N,0.4nm,0.2s						
SJPF				eSg	Sb	02 42 23.9	+17
EARI	Arriondas	7.89	352	Pn	Pn	02 40 16.5	+4.0
EARI				i Vmb_Lg		02 44 47.6	
EPF	Esparros	8.16	21	ePn	Pn	02 40 17.8	+1.6
EPF				eSn	Sn	02 41 42.6	-5.2
	comp=N,0.4nm,0.2s						
MTLF	Montolieu	9.08	28	ePn	Pn	02 40 29.7	+0.9
MTLF				eSn	Sn	02 42 06.3	-4.1
	comp=N,0.2nm,0.2s						
LMR	La Mourre	11.12	42	ePn	Pn	02 40 57.3	+0.6
TORD	Torodi Ar. Bea	22.77	166	P	P	02 43 21.0	+0.9
	comp=N,1.9nm,0.8s,baz=344,slow=8.9,SNR=12						
YKA	Yellowknife Ar	67.87	332	P	P	02 49 16.0	+0.6
	comp=N,0.6nm,0.7s,baz=60,slow=6.4,SNR=4.1						

*IDC **07** 02:40:25.0±2.0, 30°.93N×140°.83E, h64km±17km, mb3.9/23, mb1 4.1/27, mb1mx4.0/41, mbtmp4.1/27, MS2.9/5, Ms1 2.9/5, ms1mx2.6/90, Error ellipse: s-maj=17.0km s-min=12.0km az=88.0*
*NEIC **07** 02:40:25.6±1.9, 31°.03N±0°.06×141°.0E±0°.1, h55km±6km, mb4.5/86, Error ellipse: s-maj=13.5km s-min=8.4km az=73.0*
*JMA **07** 02:40:27.0±0.1, 31°.34N×141°.08E, h96km±3km, M4.0*
*NIED **07** 02:40:27.1, 31°.34N×141°.08E, h96km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.64; $M_{\theta\theta}$2.61; $M_{\phi\phi}$-6.25; $M_{r\theta}$3.49; $M_{\theta\phi}$0.26; $M_{\phi r}$7.14; Fault plane solution: $M_0$9.58000×10^{14} NP1:ϕ_s24.00000°, δ77.00000°, λ111.00000°. NP2:ϕ_s145.00000°, δ25.00000°, λ33.00000°.*
ISC 07 02:40:24.1±0.4, **31°.01N**±0°.05×**141°.04E**±0°.07, **h50**km, **n165**, σ**1s.36**/164, **mb4.5**/67, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.81	323	P	Pn	02 40 54.4	+1.5
JAOM				eS	Sn	02 41 15.0	+0.3
JHCJ	Hachijojimakas	2.31	333	P	Pn	02 41 00.4	+0.7
JHCJ				eS	Sn	02 41 25.8	-1.1
JHJ2	Mitsune	2.34	334	P	Pn	02 41 00.8	+0.8
JHJ2				eS	Sn	02 41 26.5	-1.0
JHJ2	Mitsune	2.34	334	Pn	Pn	02 40 59.6	-0.4
JHJ	Hachijo jima 2	2.36	333	P	Pn	02 41 01.0	+0.7
	30nm,0.3s,baz=98,slow=22,SNR=10						
JHJ				S	Sn	02 41 26.3	-1.7
	91nm,0.3s,baz=251,slow=20,SNR=6.2						
BSO1	Boso 1	3.63	359	P	Pn	02 41 17.8	+0.5
JCJ	Chichijima	4.03	165	Pn	Pn	02 41 23.8	+0.5
TTO1	TONANKAI O.B.S	4.44	307	P	Pn	02 41 31.4	+2.7
JIE	Ise	4.97	314	P	Pn	02 41 38.2	+2.1
JHU	Hanno	5.04	344	P	Pn	02 41 37.1	-0.1
JYT	Yasato	5.25	352	Pn	Pn	02 41 39.4	-0.6
JTNC	Tanabenakahech	5.38	303	P	Pn	02 41 44.7	+3.0
INU	Inuyama	5.48	323		Pn	02 41 45.6	+2.4
JGF	Kuroka	5.52	327	Pn	Pn	02 41 47.0	+3.2
MJAR	Matsushiro Arr	6.00	338	P	Pn	02 41 51.9	+1.6
	0.7nm,0.3s,baz=163,slow=13,SNR=14						
MJAR				S	Sn	02 42 59.4	+1.8
	baz=147,slow=23,SNR=1.1						
MJAR				LR	LR	02 44 13.4	
	comp=Z,51nm,21.2s,baz=168,slow=38						
MJAR	Matsushiro Arr	6.00	338	Pn	Pn	02 41 51.5	+1.2
MAJO	Matsushiro	6.00	338	Pn	Pn	02 41 52.2	+1.9
MAT	Matsushiro	6.00	338	P	Pn	02 41 53.7	+3.4
MAT				eS	Sn	02 42 55.0	-2.6
MJB9	Matsu-Tunnel	6.00	338	Pn	Pn	02 41 52.2	+1.9
JMN	Monobe	6.64	296	Pn	Pn	02 42 01.4	+2.4
JMM	Marumori	6.84	358		Pn	02 42 01.8	0.0
JSD	Sado	7.37	343	Pn	Pn	02 42 09.2	+0.1
JNU	Nakatsue	8.88	286	P	Pn	02 42 29.2	-0.5
	0.2nm,0.3s,baz=82,slow=7.1,SNR=2.6						
JTM	Tenmabayashi	9.75	0	Pn	Pn	02 42 41.1	-0.5
JOW	Kunigami	11.93	253	LR	LR	02 47 43.1	
	comp=Z,44nm,18.6s,baz=103,slow=37						
KSRS	Korea Array	12.61	304	P	Pn	02 43 23.0	+2.4
	0.3nm,0.3s,baz=114,slow=13,SNR=1.7						
KSRS				LR	LR	02 47 53.0	
	comp=Z,31nm,21.0s,baz=145,slow=36						
ASAJ	Asahikawa	13.14	5	LR	LR	02 49 15.4	
	comp=Z,39nm,20.3s,baz=134,slow=40						
NJ2	Nanjing	18.94	279	eP	Pn	02 44 44.0	+2.0
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	Kul'dur	19.51	342	P	P	02 44 47.0	0.0
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=3.2						
TPUB	Ta-pu	19.70	252	P	Pn	02 44 51.6	+0.4
TPUB				IAmb	IAmb	02 45 08.6	
	comp=Z,40nm,1.4s						
HHC	Hu-ho-hao-te	25.70	301	eP	P	02 45 53.0	+3.3
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,74nm,4.3s						
H11N2	WAKE ISLAND Hy	25.86	110	T	T	03 13 41.7	
	baz=300,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	25.86	110	T	T	03 13 49.5	
	baz=300,slow=75,SNR=7.4						
H11N3	WAKE ISLAND Hy	25.88	110	T	T	03 14 05.0	
	baz=300,slow=75,SNR=10						
H11S3	WAKE ISLAND Hy	26.34	112	T	T	03 14 56.6	
	baz=304,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy	26.34	112	T	T	03 14 53.8	
	baz=304,slow=75,SNR=4.3						
H11S2	WAKE ISLAND Hy	26.36	112	T	T	03 14 52.4	
	baz=304,slow=75,SNR=4.0						
SONM	Songino Array	31.27	312	P	P	02 46 38.6	-0.6
	comp=Z,0.6nm,0.6s,baz=106,slow=9.0,SNR=3.7						
SONM				PcP	PcP	02 49 31.8	-0.8
	comp=Z,0.4nm,0.5s,baz=109,slow=2.2,SNR=4.9						
SEY	Seymchan	32.76	10	P	P	02 46 51.7	-0.2
	comp=Z,0.5nm,0.3s,baz=201,slow=14,SNR=6.6						
PZH	PanZhiHua	34.62	273	P	P	02 47 11.2	+2.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.3s						
GOMU	GeErMu	38.56	290	P	P	02 47 36.1	-6.4
GOMU				pP	pP	02 47 39.3	-16
GOMU				sP	pwP	02 47 41.9	-16
GOMU				PP	PP	02 48 56.4	-15
GOMU				PcP	PcP	02 49 40.2	-14
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,40nm,3.8s						
BILL	Bilibino	39.90	14	P	P	02 47 54.1	+1.3
CMAR	Chiang Mai Arr	40.00	262	P	P	02 47 53.3	-0.9

	comp=Z,2.2nm,0.3s,baz=70,slow=7.8,SNR=1.3						
TIXI	Tiksi	41.23	354	P	P	02 48 03.0	-0.6
WMQ	Urumqi	43.55	303	eP	P	02 48 25.7	+2.7
COEN	Coen	44.76	177	P	P	02 48 31.9	-0.9
COEN				IAmb	IAmb	02 48 35.7	
	comp=Z,11nm,1.4s						
ZALV	Zalesovo Beam	45.92	317	P	P	02 48 40.3	-1.3
	comp=Z,0.5nm,0.3s,baz=91,slow=7.9,SNR=2.1						
ZALV				PcP	PcP	02 50 16.6	-1.3
	comp=Z,1.5nm,0.4s,baz=99,slow=3.5,SNR=8.0						
ZALV	Zalesovo Beam	45.92	317	P	P	02 48 40.9	-0.7
ANM	Nome	46.96	28	P	P	02 48 51.1	+1.5
ANM				IAmb	IAmb	02 49 08.2	
	comp=Z,9.2nm,1.4s						
MK31	Makanchi Array	47.27	307	P	P	02 48 50.9	-1.5
MKAR	Makanchi Array	47.27	307	P	P	02 48 50.6	-1.8
	comp=Z,0.5nm,0.5s,baz=90,slow=9.3,SNR=6.6						
MKAR				ScP	ScP	02 54 09.4	-3.3
	comp=Z,0.1nm,0.4s,baz=90,slow=2.9,SNR=1.9						
MKAR	Makanchi Array	47.27	307	P	P	02 48 48.5	-3.9
NRIK	Noril'sk	48.65	338	P	P	02 49 02.0	-0.7
	comp=Z,1.3nm,0.3s,baz=84,slow=10,SNR=1.8						
KURK	Kurchatov	49.58	312	P	P	02 49 10.1	+0.1
P18K	Big Mountain,	50.59	36	P	P	02 49 18.5	+0.9
WB0	Warramunga Arr	50.89	188	P	P	02 49 17.7	-2.5
WB0				IAmb	IAmb	02 49 19.4	
	comp=Z,2.6nm,0.6s						
FITZ	Fitzroy Crossi	51.02	199	P	P	02 49 19.7	-1.4
FITZ				IAmb	IAmb	02 49 22.6	
	comp=Z,8.1nm,1.2s						
WR0	Warramunga Arr	51.06	188	P	P	02 49 18.9	-2.6
WR0				IAmb	IAmb	02 49 21.1	
	comp=Z,3.3nm,0.8s						
WB2	Warramunga Arr	51.07	188	P	P	02 49 19.2	-2.3
WB2				IAmb	IAmb	02 49 29.1	
	comp=Z,8.4nm,1.4s						
WRA	Warramunga Arr	51.07	188	P	P	02 49 19.1	-2.4
	comp=Z,2.0nm,0.3s,baz=5.3,slow=7.6,SNR=86						
WRA				PcP	PcP	02 50 37.1	+0.2
	comp=Z,0.9nm,0.5s,baz=0.9,slow=4.0,SNR=6.3						
WRA	Warramunga Arr	51.07	188	P	P	02 49 18.8	-2.7
K20K	Telida	51.55	31	P	P	02 49 26.5	+1.8
K20K				IAmb	IAmb	02 49 27.2	
	comp=Z,4.2nm,0.8s						
J20K	Nowinta River	51.62	30	P	P	02 49 26.6	+1.4
J20K				IAmb	IAmb	02 49 27.6	
	comp=Z,3.9nm,0.8s						
KDAK	Kodiak Island	51.89	39	P	P	02 49 27.8	+0.5
IMAR	Indian Mountai	52.04	28	P	P	02 49 29.3	+1.0
PPLA	Purkeypile	52.35	32	P	P	02 49 32.6	+1.8
PPLA				IAmb	IAmb	02 49 52.3	
	comp=Z,13nm,1.4s						
H21K	Melozitna Rive	52.38	29	P	P	02 49 32.0	+1.2
H21K				IAmb	IAmb	02 49 33.1	
	comp=Z,3.1nm,0.7s						
CNPM	China Poot	52.63	36	P	P	02 49 33.2	+0.4
KSH	Kashi	52.78	298	P	P	02 49 41.8	+7.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MLY	Manley	53.17	30	P	P	02 49 38.2	+1.5
MLY				IAmb	IAmb	02 49 49.1	
	comp=Z,5.3nm,1.4s						
H23K	Yukon River	53.74	29	P	P	02 49 42.7	+1.8
H23K				IAmb	IAmb	02 49 43.4	
	comp=Z,6.4nm,1.3s						
MCK	McKinley	53.87	31	P	P	02 49 42.0	+0.2
MCK				IAmb	IAmb	02 50 02.1	
	comp=Z,10nm,1.5s						
RND	Reindeer	53.89	32	P	P	02 49 42.5	+0.5
RND				IAmb	IAmb	02 49 42.9	
	comp=Z,2.5nm,0.7s						
TOLK	Toolik Lake Re	54.00	25	P	P	02 49 43.6	+0.9
TOLK				IAmb	IAmb	02 49 44.9	
	comp=Z,6.1nm,1.2s						
KNK	Knik Glacier	54.03	34	P	P	02 49 43.9	+0.9
MDM	Murphy Dome	54.23	30	P	P	02 49 45.6	+1.1
CCB	Clear Creek Bu	54.40	30	P	P	02 49 46.5	+0.8
CCB				IAmb	IAmb	02 49 48.1	
	comp=Z,4.9nm,1.4s						
H24K	Noodor Dome	54.42	29	P	P	02 49 47.1	+1.3
H24K				IAmb	IAmb	02 49 48.6	
	comp=Z,5.5nm,1.5s						
DHY	Denali Highway	54.55	32	P	P	02 49 47.6	+0.6
GLI	Glacier Island	54.70	35	P	P	02 49 49.0	+1.2
ASAR	Alice Springs	54.80	188	P	P	02 49 47.1	-1.9
	comp=Z,0.8nm,0.4s,baz=22,slow=11,SNR=19						
ASAR				PcP	PcP	02 50 51.7	+0.8
	comp=Z,0.5nm,0.9s,baz=12,slow=4.7,SNR=1.7						
ASAR	Alice Springs	54.80	188	P	P	02 49 47.6	-1.4
IL31		54.80	30	P	P	02 49 48.4	0.0
ILAR	Eielson Array	54.80	30	P	P	02 49 48.6	+0.1
	comp=Z,1.5nm,0.7s,baz=265,slow=6.3,SNR=18						
RIDG	Independent Ri	55.69	31	P	P	02 49 56.0	+0.9
RIDG				IAmb	IAmb	02 50 22.5	
	comp=Z,6.3nm,1.3s						
BMAR	Burnt Mountain	55.79	27	P	P	02 49 57.7	+2.0
KKAR	Karatay Array	56.04	304	P	P	02 49 56.2	-1.6
SCRK	Sand Creek	56.06	31	P	P	02 49 58.5	+0.8
SCRK				IAmb	IAmb	02 49 59.0	
	comp=Z,2.3nm,0.5s						
BERG	Berg Lake	56.39	35	P	P	02 50 02.3	+2.3
MCARA	McCarthy VSAT	56.65	34	P	P	02 50 03.3	+1.4
MCARA				IAmb	IAmb	02 50 08.2	
	comp=Z,8.4nm,1.0s						
TGL	Tana Glacier	56.79	35	P	P	02 50 05.6	+2.6
WAX	Waxell Ridge	56.81	35	P	P	02 50 04.2	+1.1
EIDS	Eidsvold	56.88	169	P	P	02 50 03.9	+0.1
ISLE	Juniper Island	57.05	35	P	P	02 50 05.7	+0.9
L27K	Beaver Creek,	57.08	32	P	P	02 50 05.8	+0.9
L27K				IAmb	IAmb	02 50 07.1	
	comp=Z,4.0nm,0.9s						
BCAR	Beaver Creek A	57.10	32	P	P	02 50 06.3	+1.3
M27K	Edge Creek, AK	57.11	33	P	P	02 50 06.4	+1.1
M27K				IAmb	IAmb	02 50 07.4	
	comp=Z,4.9nm,1.0s						
EGAK	Eagle	57.25	30	P	P	02 50 06.3	+0.3
GRNC	Granite Creek	57.32	35	P	P	02 50 07.8	+1.0
DAWY	Dawson	58.07	31	P	P	02 50 12.5	+0.6
DAWY				IAmb	IAmb	02 50 17.2	
	comp=Z,3.9nm,1.2s						
DZM	Mont Dzumac	58.14	152	P	P	02 50 14.8	+1.9
M30M	Minto, Yukon	59.43	32	P	P	02 50 22.7	+1.3
M30M				IAmb	IAmb	02 50 49.7	
	comp=Z,3.9nm,1.4s						
INK	Inuvik	59.91	25	P	P	02 50 24.8	+0.4
N31M	Braeburn, Yuko	60.08	33	P	P	02 50 27.4	+1.6
M31M	Drury Creek, Y	60.60	32	P	P	02 50 30.7	+1.4
M31M				IAmb	IAmb	02 50 31.3	
	comp=Z,4.0nm,0.8s						
WHY	Whitehorse	60.67	34	P	P	02 50 31.5	+1.5
WHY				IAmb	IAmb	02 50 59.1	
	comp=Z,9.9nm,1.4s						
ABKAR	Akbulak array	61.68	313	P	P	02 50 36.0	-0.9
ARMA	Armidale	61.92	170	P	P	02 50 39.1	+0.5
ARMA				IAmb	IAmb	02 51 02.5	
	comp=Z,7.1nm,1.1s						
A36M	Sachs Harbour	61.97	21	P	P	02 50 39.3	+0.9
A36M				IAmb	IAmb	02 50 39.9	
	comp=Z,4.4nm,0.9s						
STKA	Stephens Creek	62.55	179	P	P	02 50 40.9	-1.8
	comp=Z,3.0nm,1.0s,baz=6.9,slow=7.5,SNR=5.2						
STKA	Stephens Creek	62.55	179	P	P	02 50 42.1	-0.6
FORT	Forrest	62.68	193	P	P	02 50 43.6	+0.1
C36M	Paulatuk	63.04	23	P	P	02 50 45.5	0.0
C36M				IAmb	IAmb	02 50 46.6	
	comp=Z,7.8nm,1.2s						
BBOO	Buckleboo	63.65	185	P	P	02 50 49.4	-0.6
RES	Resolute Bay	68.50	14	P	P	02 51 20.6	0.0
YKA	Yellowknife Ar	69.19	29	P	P	02 51 25.1	-0.1
	comp=Z,1.8nm,0.5s,baz=298,slow=6.4,SNR=34						
YKA	Yellowknife Ar	69.19	29	P	P	02 51 24.6	-0.5
ARCES	ARCESS Array B	69.53	340	P	P	02 51 26.8	-0.4
	comp=Z,2.9nm,0.7s,baz=49,slow=7.0,SNR=10						
ARCES	ARCESS Array B	69.53	340	P	P	02 51 27.4	+0.3
ARCES				IAmb	IAmb	02 51 46.7	
	comp=Z,12nm,1.4s						
NLWA	Neilton Lookou	71.07	46	P	P	02 51 38.9	+1.9
H04A	Detroit Lake	73.32	48	P	P	02 51 51.6	+1.1
FIA1	FINESS Array S	74.01	333	P	P	02 51 53.5	-0.6
FINES	FINESS Array B	74.01	333	P	P	02 51 53.5	-0.6
	comp=Z,2.2nm,0.4s,baz=62,slow=5.2,SNR=39						
FINES	FINESS Array B	74.01	333	P	P	02 51 53.7	-0.4
KBZ	Khabaz	74.63	312	P	P	02 51 57.4	-0.6
	comp=Z,2.5nm,0.8s,baz=17,slow=2.6,SNR=6.4						
WALA	Waterton Lakes	76.14	41	P	P	02 52 08.0	+1.1
WALA				IAmb	IAmb	02 52 08.3	
	comp=Z,2.7nm,0.6s						
BMO	Blue Mountains	76.29	46	P	P	02 52 09.1	+1.4
JTMT	Jette	76.61	42	P	P	02 52 09.9	+0.4
JTMT				IAmb	IAmb	02 52 11.1	
	comp=Z,3.3nm,0.7s						
BEKR	Beckworth	76.79	51	P	P	02 52 11.6	+0.8
BEKR				IAmb	IAmb	02 52 31.6	
	comp=Z,4.8nm,1.2s						
BKZ	Black Stump Fm	77.22	152	P	P	02 52 13.3	+0.6
BKZ				IAmb	IAmb	02 52 14.5	
	comp=Z,10nm,1.2s						
YERR	Yerington	77.98	52	P	P	02 52 18.1	+0.7
YERR				IAmb	IAmb	02 52 19.4	
	comp=Z,8.4nm,1.1s						
LRM	Limekiln Ridge	78.70	43	P	P	02 52 22.4	+1.1
KVN	Kaiserville	78.71	51	P	P	02 52 22.4	+0.9
AKASG	Malin Array Be	78.89	323	P	P	02 52 20.9	-1.1
	comp=Z,1.3nm,0.4s,baz=51,slow=5.5,SNR=17						
AKBB	Malin Array Si	78.89	323	P	P	02 52 20.9	-1.0
AKBB				IAmb	IAmb	02 52 21.3	
	comp=Z,3.3nm,0.5s						
NVAR	Mina Array Bea	78.89	52	P	P	02 52 23.6	+1.1
	comp=Z,2.2nm,0.6s,baz=289,slow=5.4,SNR=17						
NVAR	Mina Array Bea	78.89	52	P	P	02 52 22.7	+0.2
FFC	Flin Flon	78.95	32	P	P	02 52 22.4	+0.2
NC405	NORSAR Array S	79.40	338	P	P	02 52 24.4	-0.1
NC405				IAmb	IAmb	02 52 29.1	
	comp=Z,7.9nm,0.9s						
HFS	Hagfors	79.45	336	P	P	02 52 23.9	-0.9
	comp=Z,3.0nm,0.6s,baz=107,slow=2.0,SNR=12						
NC204	NORSAR Array S	79.59	338	P	P	02 52 25.4	-0.2
NC204				IAmb	IAmb	02 52 26.2	
	comp=Z,12nm,0.9s						
NB2	NORSAR Subarra	79.62	338	P	P	02 52 25.2	-0.6
	comp=Z,1.7nm,0.5s,baz=41,slow=5.3						
NOA	NORSAR Array B	79.62	338	P	P	02 52 24.7	-1.1
	comp=Z,4.0nm,0.7s,baz=42,slow=5.3,SNR=20						
NBO00	NORSAR Array S	79.77	338	P	P	02 52 25.6	-1.0
HVU	Hansel Valley	80.72	47	P	P	02 52 34.1	+1.8
RLMT	Red Lodge	80.95	42	P	P	02 52 34.8	+1.2
TPNV	Topopah Spring	81.05	52	P	P	02 52 34.9	+0.8
GWY	Greenwater Val	81.17	53	P	P	02 52 35.6	+0.8
GWY				IAmb	IAmb	02 52 36.4	
	comp=Z,6.7nm,0.9s						
SHPR	Sheep Range	82.03	52	P	P	02 52 40.0	+0.7
PD31	Pinedale Array	82.14	45	P	P	02 52 40.1	+0.3
PDAR	Pinedale Array	82.14	45	P	P	02 52 40.0	+0.2
	comp=Z,0.9nm,0.7s,baz=273,slow=1.9,SNR=9.6						
PDAR	Pinedale Array	82.14	45	P	P	02 52 40.3	+0.5
BRTR	Keskin Array B	82.63	312	P	P	02 52 41.5	-0.9
	comp=Z,0.5nm,0.6s,baz=129,slow=4.6,SNR=5.9						
RAYN	Ar Rayn	82.68	293	P	P	02 52 42.5	-0.3
RAYN				IAmb	IAmb	02 52 43.1	
	comp=Z,4.7nm,0.7s						
KWP	Kalwaria Pacla	82.84	325	P	P	02 52 43.1	+0.1
BURAR	Bucovina Array	82.85	322	P	P	02 52 43.1	-0.1
P17A	Butcher Ranch,	83.29	48	P	P	02 52 47.1	+1.3
P17A				IAmb	IAmb	02 52 47.9	
	comp=Z,10nm,1.4s						
GERES	GERESS Array B	87.66	328	P	P	02 53 06.1	-1.1
	comp=Z,0.2nm,0.4s,baz=50,slow=7.8,SNR=2.1						
EKA	Eskdalemuir Ar	88.69	340	P	P	02 53 11.3	-0.6
	comp=Z,2.3nm,0.9s,baz=19,slow=3.5,SNR=3.5						
ANMO	Albuquerque	88.72	49	LR	LR	03 25 33.1	
	comp=Z,24nm,20.4s,baz=268,slow=30						
TXAR	Lajitas Array	94.04	52	P	P	02 53 38.6	+1.3
	comp=Z,3.0nm,0.8s,baz=297,slow=3.3,SNR=36						
TXAR	Lajitas Array	94.04	52	P	P	02 53 38.5	+1.2
TORD	Torodi Ar. Bea	121.24	312	PKP	PKPdf	02 59 10.5	-1.7
	comp=Z,0.5nm,0.7s,baz=31,slow=1.5,SNR=6.5						
LPAZ	La Paz	149.64	68	PKPbc	PKPbc	03 00 10.2	+0.7
	comp=Z,5.0nm,0.7s,baz=349,slow=5.2,SNR=20						
LPAZ	La Paz	149.64	68		PKPbc	03 00 10.1	+0.5

IDC 07 02:48:59.5±2.2, 6°.40S×129°.09E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/27, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=126.2km s-min=32.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.40	160	Pn	Pn	02 52 25.2	+0.4
	0.1nm,0.3s,baz=338,slow=13,SNR=1.7						
WRA				Sn	Sn	02 54 50.6	-15
	0.2nm,0.3s,baz=336,slow=22,SNR=6.9						
ASAR	Alice Springs	17.78	165	P	Pn	02 53 08.3	-0.4
	0.1nm,0.3s,baz=342,slow=11,SNR=4.3						
MKAR	Makanchi Array	67.23	327	P	P	02 59 55.8	+0.1
	0.8nm,1.0s,baz=119,slow=7.8,SNR=4.6						

CNRM 07 02:56:40.3, 35°.37N×3°.84W, h10km, ml2.1
MDD 07 02:56:41.9±0.6, 35°.45N×3°.76W, h5km±5km, mb_Lg2.4/10, Error ellipse: s-maj=4.6km s-min=3.2km az=156.0
SFS 07 02:56:41.0, 35°.46N×3°.83W, ML2.8, ALBORAN SUR
ISC 07 02:56:40.3±1.2, 35°.44N±0°.02×3°.81W±0°.03, h8km±10km, n22, σ1s.57/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	Melilla	0.71	101	Pg	Pg	02 56 54.1	+0.1
EMEL				Sg	Sb	02 57 05.2	+0.4
EALB	Alboran	0.81	51	Pg	Pg	02 56 57.0	+1.1
EALB				Sg	Sg	02 57 06.8	+0.3
EALB				*i* Vmb_Lg		02 57 07.7	
CHEFC	Chefchaouen	1.29	256	P	Pn	02 57 05.7	+1.0
CHEFC				S	Sg	02 57 20.4	-1.5
TAF	Taforalt	1.30	118	P	Pg	02 57 04.7	-0.6
TAF				S	Sg	02 57 20.6	-1.7
CEU	Ceuta	1.35	290	P	Pn	02 57 04.7	-0.8
CEU				S	Sb	02 57 19.1	-4.2
EMIJ	Mijas	1.37	326	Pn	Pn	02 57 06.1	+0.4
EMIJ				Sn	Sb	02 57 25.0	+1.2
EMIJ				*i* Vmb_Lg		02 57 28.6	
EMAL	Malaga-Limoner	1.42	340	P	Pb	02 57 08.8	+1.9
EMAL				S	Sb	02 57 24.3	-0.8
ELGU	Los Guajares,	1.44	6	Pg	Pn	02 57 05.4	-1.2
ELGU				Sg	Sb	02 57 23.4	-2.4
ELGU				Sn	Sg	02 57 24.2	-2.3
ELGU				*i* Vmb_Lg		02 57 26.5	
JBK	JBK	1.50	137	P	Pn	02 57 08.4	+0.7
JBK				S	Sb	02 57 24.0	-3.7
EJIF	Jimena Fronter	1.68	308	Pn	Pn	02 57 11.8	+1.8
EJIF				Sn	Sn	02 57 31.9	+0.2
EGOR	Sierra Gorda,	1.69	352	Pn	Pn	02 57 11.4	+1.2
EGOR				Sn	Sn	02 57 32.1	+0.1
EGOR				*i* Vmb_Lg		02 57 43.3	
LCRM	LCR	1.95	207	P	Pn	02 57 15.1	+1.4
LCRM				S	Sn	02 57 40.6	+2.2
IFR	Ifrane	2.20	210	P	Pn	02 57 18.1	+0.8
IFR				S	Sn	02 57 44.5	-0.2
MD31	MD31	2.68	197	P	Pn	02 57 24.7	+0.9
MD31				S	Sn	02 57 57.2	+0.8
MDT	Midelt	2.70	194	P	Pn	02 57 25.3	+1.3
MDT				S	Sn	02 57 55.6	-1.3
ECAB	El Cabril	2.93	334	Pn	Pn	02 57 28.7	+1.5
ECAB				Sn	Sn	02 58 02.7	+0.1
ECAB				*i* Vmb_Lg		02 58 37.1	
ETOB	Tobarra	3.68	29	Pn	Pn	02 57 39.1	+1.5
ETOB				Sn	Sn	02 58 20.1	-1.0
ETOB				*i* Vmb_Lg		02 58 48.8	
PVAQ	Vaqueiros	3.71	303	P	Pn	02 57 39.0	+1.1
PVAQ				S	Sn	02 58 20.3	-1.4
EBAD	Badajoz	4.19	323	Pn	Pn	02 57 44.8	+0.4
EBAD				Sn	Sn	02 58 32.5	-1.0
EBAD				*i* Vmb_Lg		02 59 02.4	
ESDC	Sonseca Array	4.23	358	Pn	Pn	02 57 45.9	+0.8
ESDC				Sn	Sn	02 58 32.8	-2.0
PESTR	Estremoz	4.56	320	P	Pn	02 57 52.0	+2.4
PESTR				S	Sn	02 58 42.8	0.0
OUZM	OUZ	5.15	210	P	Pn	02 57 59.8	+2.1
OUZM				S	Sn	02 58 56.7	-0.7

BJI 07 03:13:57.2±0.0, 20°.76N×94°.85E, h127km, mb4.6/50, mB4.5/27
NEIC 07 03:13:58.2±2.2, 20°.98N±0°.07×95°.02E±0°.07, h101km±4km, mb4.6/126, Error ellipse: s-maj=11.2km s-min=7.9km az=221.0
IDC 07 03:13:59.1±0.5, 20°.95N×94°.96E, h115km±4km, mb4.1/31, mb1 4.2/34, mb1mx4.1/42, mbtmp4.4/34, MS3.3/5, Ms1 3.3/5, ms1mx2.7/93, Error ellipse: s-maj=11.3km s-min=7.5km az=42.0
NDI 07 03:13:59.9±4.0, 20°.90N×94°.89E, h104km±30km, ML4.5, mb4.6(NEIC)
ISC 07 03:13:58.7±0.4, 20°.93N±0°.03×94°.84E±0°.04, h114km±3km, h114km:pP-P, n359, σ1s.57/452, mb4.5/105, 21C-11D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	3.44	301	P	Pn	03 14 53.8	+3.1
	1.0nm,0.3s,baz=360,slow=24,SNR=40						
BRDH				S	Sn	03 15 31.8	+1.0
	4.2nm,0.3s,baz=180,slow=24,SNR=65						
BELO	BELONIA	3.90	307	eP	Pn	03 14 59.7	+3.0
BELO				eS	Sn	03 15 42.8	+1.0
SILR	SILCHAR	4.27	334	eP	Pn	03 15 04.3	+2.6
CHTO	Chiang Mai	4.40	118	Pn	Pn	03 15 02.6	-1.0
AGT	Agartala	4.43	312	eP	Pn	03 15 06.4	+2.5
AGT				ex	Sn	03 15 54.8	+0.2
CM31	Chiang Mai Arr	4.58	122	Pn	Pn	03 15 05.0	-1.1
CMAR	Chiang Mai Arr	4.58	122	P	Pn	03 15 05.5	-0.5
	5.9nm,0.3s,baz=300,slow=14,SNR=182						
KOHI	KOHIMA	4.82	352	eP	Pn	03 15 12.5	+3.2
KOHI				ex	Sn	03 16 05.7	+1.5
SHL	Shillong	5.36	330	Pn	Pn	03 15 17.0	+0.4
SHL	Shillong	5.36	330	eP	Pn	03 15 17.3	+0.7
SHL				ex	Sn	03 16 12.9	-4.3
SHL				IAML		03 16 16.8	
	comp=E,3μm,0.3s						
SHL				IAML		03 16 17.2	
	comp=N,1μm,0.1s						
MOKO	MOKOCHONG	5.38	357	eP	Pn	03 15 19.8	+3.0
JORH	JORHAT	5.81	355	eP	Pn	03 15 24.1	+1.5
TEZP	TEZPUR	5.96	342	eP	Pn	03 15 24.2	-0.4
TEZP				eS	Sn	03 16 26.2	-5.3
TEZP				IAML		03 16 30.4	
	comp=E,920nm,0.1s						
GUWA	GUWAHATI	5.98	332	eP	Pn	03 15 24.1	-0.8
GUWA				eS	Sn	03 16 26.2	-5.9
GUWA				IAML		03 16 31.0	
	comp=E,927nm,0.1s						
TURI	Tura	6.19	319	eP	Pn	03 15 28.8	+1.1
TURI				eS	Sn	03 16 34.1	-3.0
ITAN	ITANAGAR	6.27	351	eP	Pn	03 15 30.0	+1.2
ITAN				eS	Sn	03 16 37.5	-1.6
DGPR	DIGLIPUR	7.92	194	eP	Pn	03 15 50.1	-1.1
KMI	Kunming	8.39	59	⇑P	Pn	03 16 01.4	+3.7
KMI				sP		03 16 27.7	
KMI				S	Sn	03 17 37.5	+6.6
KMI				pmax	pmax		
	comp=E,47nm,0.8s						
KMI				pmax	pmax		
	comp=E,64nm,3.5s						
KMI				LR	LR		
	comp=E,260nm,6.4s						
KMI				LR	LR		
	comp=E,160nm,6.4s						
KMI				LR	LR		
	comp=E,140nm,7.5s						
PZH	PanZhiHua	8.42	47	P	Pn	03 16 01.6	+3.6
PZH				sP		03 16 28.1	
PZH				S	Sn	03 17 30.1	-1.3
PZH				LR	LR		
	comp=E,260nm,6.9s						
PZH				LR	LR		
	comp=E,180nm,6.0s						
PZH				LR	LR		
	comp=E,180nm,9.4s						
BWNR	Bhubaneshwar	8.48	267	eP	Pn	03 15 59.6	+0.9
BOK	Bokaro	8.76	291	eP	Pn	03 16 05.3	+2.8
BOK				eS	Sn	03 17 33.8	-5.8
BOK				IAML		03 17 41.8	
	comp=E,78nm,0.2s						
BOK				IAML		03 17 44.5	
	comp=N,138nm,0.1s						
ODAN	Odare	9.01	312	ePn	Pn	03 16 06.2	0.0
ODAN				eSn	Sn	03 17 42.6	-3.4
	comp=N,597nm,0.5s						
TAPN	Taplejung	9.12	316	ePn	Pn	03 16 07.9	+0.2
TAPN				eSn	Sn	03 17 45.4	-3.3
	comp=N,642nm,0.4s						
LSA	Lhasa	9.35	340	Pn	Pn	03 16 11.7	+0.8
LSA	Lhasa	9.35	340	P	Pn	03 16 11.1	+0.2
LSA				smax	smax		
	comp=N,180nm,0.6s						
LSA				smax	smax		
	comp=N,110nm,0.4s						
PBA	Port Blair	9.44	193	Pn	Pn	03 16 10.7	-1.0
PBA	Port Blair	9.44	193	eP	Pn	03 16 11.1	-0.7
RAMN	Ramite	9.62	310	ePn	Pn	03 16 14.5	+0.1
RAMN				eSn	Sn	03 17 57.7	-3.2
	comp=N,386nm,0.3s						
JHSG	JHARSUGUGA	10.34	277	eP	Pn	03 16 26.9	+2.9
JIRN	Jiri	10.35	312	ePn	Pn	03 16 24.4	+0.1
JIRN				eSn	Sn	03 18 14.9	-3.6
	comp=N,317nm,0.4s						
GUN	Gumba	10.72	312	ePn	Pn	03 16 29.1	-0.2
GUN				eSn	Sn	03 18 23.5	-4.0
	comp=N,137nm,0.4s						
RAGD	RAYAGADA	10.82	263	eP	Pn	03 16 32.5	+2.0
PKI	Pulchoki	10.85	309	ePn	Pn	03 16 30.8	-0.2
PKI				eSn	Sn	03 18 26.7	-3.9
PKIN	Phulchoki	10.86	309	ePn	Pn	03 16 30.7	-0.5
PKIN				eSn	Sn	03 18 26.8	-4.0
	comp=N,185nm,0.3s						
KKN	Kakani	11.06	310	ePn	Pn	03 16 33.9	0.0
KKN				eSn	Sn	03 18 31.8	-4.0
	comp=N,87nm,0.3s						
DMN	Daman	11.09	309	ePn	Pn	03 16 34.1	-0.1
DMN				eSn	Sn	03 18 32.0	-4.4
UBPT	Khong Chiam	11.56	117	Pn	Pn	03 16 42.0	+1.6
GKN	Gorkha	11.65	309	ePn	Pn	03 16 41.4	-0.3
GKN				eSn	Sn	03 18 45.5	-4.4
	comp=N,222nm,0.3s						
BLSP	Bilaspur	11.88	278	eP	Pn	03 16 46.9	+2.3
KOLN	Koldanda	12.29	306	ePn	Pn	03 16 50.2	0.0
KOLN				eSn	Sn	03 19 00.5	-5.1
	comp=N,179nm,0.3s						
DANN	Dangsing	12.49	308	ePn	Pn	03 16 51.9	-0.9
DANN				eSn	Sn	03 19 05.0	-5.3
	comp=N,101nm,0.3s						
PYUN	Piuthan	12.93	306	ePn	Pn	03 16 58.6	+0.2
PYUN				eSn	Sn	03 19 15.5	-5.4
	comp=N,70nm,0.3s						
JBP	Jabalpur	13.95	282	ex	P	03 17 17.5	+1.6
JBP				ex	Sn	03 19 42.5	-2.9
GOMU	GeErMu	15.22	360	P	Pn	03 17 26.0	-1.9
GOMU				pmax	pmax		
	comp=N,8.0nm,0.9s						
GOMU				pmax	pmax		
	comp=N,50nm,4.2s						
JHNI	Jhansi	15.65	290	eP	P	03 17 36.0	+1.3
HYBB	Hyderabad (bro	15.77	260	eP	Pn	03 17 34.0	-0.7
HYBB				eS	Sn	03 20 32.7	+3.1
ENH	Enshi	16.15	52		Pn	03 17 38.4	-0.8
ENH				IAmb	IAmb	03 17 41.9	
	comp=Z,20nm,0.7s						
KULM	Kulim	16.54	159		Pn	03 17 43.8	-0.3
LZH	Lanzhou	17.04	26	eP	Pn	03 17 49.1	-1.1
LZH				pmax	pmax		
	comp=Z,14nm,1.4s						
IPM	Ipoh	17.42	159		P	03 17 53.3	-1.1
IPM				IAmb	IAmb	03 17 54.1	
	comp=Z,32nm,0.7s						
KCSI	Kotacane, Aceh	17.54	170	P	P	03 17 55.2	-0.5
	comp=Z,150μmcomp=Z,2μmcomp=Z,47nm,0.8s						
TSI	Tuntungan	17.70	168	P	P	03 17 56.9	-0.5
	comp=Z,243nm,0.9s						
XAN	Xi'an	18.05	41	P	P	03 18 00.9	-0.3
XAN				pP	pP	03 18 17.8	-4.2
XAN				S	S	03 21 18.1	-4.4
XAN				pmax	pmax		
	comp=Z,27nm,0.5s						
KUDL	Kundal	18.16	297	eP	Pn	03 18 03.9	+0.3
PSI	Prapat	18.45	167	P	Pn	03 18 07.4	+0.1
	comp=Z,3.6nm,0.3s,baz=335,slow=9.4,SNR=25						
RPSI	Rantau Prapat	18.55	167	P	P	03 18 07.4	+0.6
GTA	Gaotai	18.91	12	eP	Pn	03 18 12.7	+0.2
GTA				pP	pP	03 18 33.3	+1.8
GTA				sP	sP	03 18 46.0	+0.1

GTA S Sn 03 21 44.2 -0.6
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA pmax pmax
comp=Z,47nm,4.0s
GTA LR LR
comp=Z,62nm,16.4s
GTA LR LR
comp=Z,72nm,16.7s
GTA LR LR
comp=Z,76nm,16.7s
PALK Pallekele 19.27 227 P Pn 03 18 17.0 +0.2
comp=Z,1.2nm,0.3s,baz=136,slow=10,SNR=8.4
PALK S S 03 21 38.3 -8.6
comp=Z,1.3nm,0.3s,baz=266,slow=22,SNR=3.0
PALK LR LR 03 25 42.1
comp=Z,106nm,20.2s,baz=165,slow=36
PALK Pallekele 19.27 227 P Pn 03 18 17.1 +0.2
AJM Ajmer 19.29 291 eP Pn 03 18 18.1 +1.1
GSI Gunungsitoli 19.69 172 P P 03 18 18.1 -1.0
GSI IAmb IAmb 03 18 24.8
comp=Z,36nm,0.7s
GSI PcP PcP 03 22 35.3 +1.5
GSI Gunungsitoli 19.69 172 P P 03 18 17.6 -1.5
comp=Z,57nm,0.7s
WHN Wuhan 19.99 57 ⇑P P 03 18 22.9 +0.6
WHN pmax pmax
comp=Z,130nm,0.9s
DHRM DHARAMSHALA 20.01 308 eP Pn 03 18 25.3 -0.3
LYN LuoYang 20.64 45 eP P 03 18 30.2 +1.0
LYN S S 03 22 15.7 +2.1
LYN pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 23.59 347 eP P 03 19 01.2 +2.0
WMQ pP pP 03 19 22.6 +0.2
WMQ pmax pmax
comp=Z,22nm,0.9s
THW Thamme Wali 23.69 305 P P 03 19 01.3 +1.1
CEP Cherat 24.01 307 P P 03 19 04.6 +1.4
NJ2 Nanjing 24.13 58 ⇓iP P 03 19 04.0 -0.1
NJ2 pmax pmax
comp=Z,22nm,0.5s
HHC Hu-ho-hao-te 24.42 32 eP P 03 19 08.4 +1.6
HHC pmax pmax
comp=Z,6.0nm,1.0s
KSH Kashi 24.59 323 P P 03 19 09.1 +0.8
KSH pP pP 03 19 29.9 -3.0
KSH sP sP 03 19 47.3 +0.8
KSH PP PnPn 03 19 53.8 +6.7
KSH PcP PcP 03 22 44.2 +0.8
KSH S S 03 23 19.7 -1.6
KSH PcS PcS 03 26 21.6 -1.9
KSH pmax pmax
comp=Z,11nm,0.7s
TIA Tai'an 24.71 47 ⇑P P 03 19 08.8 -0.6
TIA pmax pmax
comp=Z,11nm,0.5s
KBL Kabul 26.46 306 P P 03 19 26.3 +0.8
KBL IAmb IAmb 03 19 31.0
comp=Z,14nm,0.8s
KBL PcP PcP 03 22 49.4 +1.5
AAK Ala-Archa 27.57 326 P P 03 19 36.6 +1.3
comp=Z,3.2nm,0.6s,baz=152,slow=7.7,SNR=11
AAK PcP PcP 03 22 51.9 +1.7
comp=Z,2.2nm,0.5s,baz=178,slow=3.7,SNR=5.4
AAK Ala-Archa 27.57 326 P P 03 19 36.5 +1.3
AAK PcP PcP 03 22 52.2 +1.9
GAR Garm 27.71 316 P P 03 19 37.3 +0.8
GAR IAmb IAmb 03 19 38.6
comp=Z,10nm,0.8s
GAR PcP PcP 03 22 51.4 +0.7
MK31 Makanchi Array 27.75 341 P P 03 19 36.9 +0.3
MK31 PcP PcP 03 22 50.8 +0.4
MKAR Makanchi Array 27.75 341 P P 03 19 37.5 +0.8
comp=Z,3.4nm,0.7s,baz=155,slow=8.8,SNR=43
MKAR pP pP 03 20 01.5 -0.1
comp=Z,2.9nm,0.5s,baz=150,slow=10,SNR=5.8
MKAR PcP PcP 03 22 50.9 +0.5
comp=Z,1.8nm,0.4s,baz=118,slow=1.4,SNR=11
MKAR ScP ScP 03 26 20.8 0.0
comp=Z,0.3nm,0.7s,baz=183,slow=3.5,SNR=4.3
MKAR Makanchi Array 27.75 341 P P 03 19 36.4 -0.3
MKAR PcP 03 22 50.3 -0.1
MAKZ Makanchi 27.86 341 P P 03 19 38.2 +0.6
MAKZ PcP 03 22 50.8 +0.1
CHGR Chuyangaron 28.29 314 P P 03 19 42.5 +0.8
CHGR IAmb IAmb 03 19 43.2
comp=Z,13nm,0.5s
SONM Songino Array 28.42 16 P P 03 19 42.7 0.0
comp=Z,0.4nm,0.3s,baz=200,slow=9.4,SNR=5.0
SONM PcP PcP 03 22 52.9 +0.7
comp=Z,0.3nm,0.4s,baz=203,slow=4.7,SNR=2.2
SONM ScP ScP 03 26 21.3 -1.7
comp=Z,1.1nm,0.8s,baz=207,slow=4.8,SNR=6.5
SONM Songino Array 28.42 16 P P 03 19 39.6 -3.1
SONM PcP 03 22 52.4 +0.2
KKAR Karatay Array 30.04 323 P P 03 19 58.0 +1.0
KKAR PcP 03 22 57.4 +1.1
JOW Kunigami 31.08 73 P P 03 20 06.1 -0.2
JOW IAmb IAmb 03 20 29.9
comp=Z,18nm,1.1s
KPJI Karang Pucung 31.31 152 P P 03 20 07.6 -0.8
HRA Herat 31.68 302 P P 03 20 12.9 +1.2
HRA IAmb IAmb 03 20 13.9
comp=Z,6.1nm,0.6s
KURK Kurchatov 32.35 341 P P 03 20 17.9 +0.7
KURK IAmb IAmb 03 20 18.6
comp=Z,10nm,0.8s
KURK PcP 03 23 02.8 +0.5
KSRS Korea Array 33.04 53 P P 03 20 22.7 -0.6
comp=Z,1.2nm,0.8s,baz=240,slow=9.4,SNR=2.2
KSRS LR LR 03 36 12.9
comp=Z,28nm,19.5s,baz=250,slow=40
WSAR Wadi Sarin 33.58 281 P P 03 20 29.5 +1.3
comp=Z,5.1nm,0.7s,baz=88,slow=10,SNR=4.2
WSAR LR LR 03 35 36.9
comp=Z,38nm,20.8s,baz=112,slow=38
ZAA0 Zalesovo Array 33.84 349 P P 03 20 31.0 +1.0
ZAA0 PcP PcP 03 23 05.9 -0.4
ZALV Zalesovo Beam 33.84 349 P P 03 20 30.8 +0.8
comp=Z,16nm,0.5s,baz=168,slow=8.4,SNR=63
ZALV PcP PcP 03 23 05.8 -0.6
comp=Z,1.5nm,0.5s,baz=184,slow=4.2,SNR=4.3
ZALV S S 03 25 45.7 0.0
comp=Z,1.4nm,0.7s,baz=167,slow=13,SNR=5.1
ZALV Zalesovo Beam 33.84 349 P P 03 20 31.1 +1.0
ZALV PcP PcP 03 23 05.6 -0.7
GEYT Alibeck 35.91 306 P P 03 20 50.9 +2.7
comp=Z,2.3nm,0.5s,baz=282,slow=41,SNR=3.8
GEYT PcP PcP 03 23 14.2 +1.3
comp=Z,3.5nm,0.4s,baz=116,slow=10,SNR=5.5
JHS Saijyo 36.37 59 P P 03 20 52.4 +0.3
BVAR Borovoye Array 37.15 336 P P 03 20 59.3 +0.9
comp=Z,1.4nm,0.6s,baz=331,slow=24,SNR=4.1
BVAR PcP PcP 03 23 16.9 +0.7
comp=Z,7.1nm,0.5s,baz=54,slow=15,SNR=18
BRVK Borovoye 37.22 336 P P 03 21 00.3 +1.3
BRVK PcP PcP 03 23 17.1 +0.7
USRK Ussuriysk Ar. 38.50 44 P P 03 21 08.9 -0.9
comp=Z,1.6nm,0.4s,baz=255,slow=7.5,SNR=12
USRK Ussuriysk Ar. 38.50 44 P P 03 21 10.1 +0.3
INU Inuyama 39.57 60 P P 03 21 18.5 -0.5
ABKAR Akbulak array 39.59 324 P P 03 21 19.9 +1.0
ABKAR PcP PcP 03 23 24.9 +1.1
KLR Kul'dur 40.70 37 P P 03 21 29.4 +1.3
comp=Z,0.5nm,0.5s,baz=266,slow=13,SNR=2.2
AKTO Aktyubinsk 41.27 324 LR LR 03 41 37.9
comp=Z,25nm,18.7s,baz=148,slow=40
FAKI Fak Fak 43.65 118 P P 03 21 51.3 -1.1
FAKI IAmb IAmb 03 21 54.4
comp=Z,8.3nm,0.9s
ARU Arti 44.44 332 P P 03 21 58.6 +0.5
RAYN Ar Rayn 45.56 283 P P 03 22 09.0 +1.3
GEVA Gevas 47.60 303 P P 03 22 26.5 +3.0
GEVA IAmb IAmb 03 22 39.0
comp=Z,7.9nm,1.0s
GURO Guroymak-BITLI 48.43 303 P P 03 22 32.8 +3.0
KBZ Khabaz 48.52 310 P P 03 22 31.1 +0.9
comp=Z,3.1nm,0.7s,baz=64,slow=4.3,SNR=8.2
NRIK Noril'sk 48.62 357 P P 03 22 30.4 -0.1
comp=Z,3.7nm,0.3s,baz=189,slow=2.8,SNR=7.4
NRIK Noril'sk 48.62 357 P P 03 22 31.1 +0.5
NRIK IAmb IAmb 03 22 31.6
comp=Z,7.3nm,1.0s
KIV Kislovodsk 48.71 311 ⇑P P 03 22 33.8 +2.1
KIV Kislovodsk 48.71 311 P P 03 22 33.6 +1.9
PSA00 Pilbara Seismi 48.80 148 P P 03 22 32.8 +0.3
PSA00 PcP 03 23 55.5 -0.3
MARD Mardin 49.32 302 P P 03 22 38.5 +1.8
KNRA Kununurra 49.32 135 P P 03 22 35.6 -1.0
KNRA IAmb IAmb 03 22 36.4
comp=Z,9.9nm,0.8s
TOKA Tokat 52.85 305 P P 03 23 04.7 +1.8
TOKA IAmb IAmb 03 23 06.2
comp=Z,9.5nm,1.0s
MORW Morawa 53.75 157 P P 03 23 10.0 +0.7
MORW IAmb IAmb 03 23 10.9
comp=Z,8.6nm,1.1s
TIXI Tiksi 54.39 13 P P 03 23 12.4 -1.1
BZK Bozkurt 54.80 307 ⇑P P 03 23 17.8 +0.8
BZK Bozkurt 54.80 307 P P 03 23 17.9 +0.8
ILGA Ilgaz 54.98 306 P P 03 23 19.7 +1.1
BR131 Keskin Array S 55.01 304 P P 03 23 19.5 +0.8
BR131 IAmb IAmb 03 23 20.2
comp=Z,7.9nm,1.1s
BRTR Keskin Array B 55.01 304 P P 03 23 19.3 +0.6
comp=Z,2.9nm,0.8s,baz=125,slow=7.6,SNR=20
BRTR Keskin Array B 55.01 304 P P 03 23 19.3 +0.6
BRTR PcP PcP 03 24 19.7 +0.7
KLMR Klimovskoe 55.25 331 eP P 03 23 18.7 -1.1
KLMR AMP 03 23 20.0
comp=Z,10.0nm,0.7s
KLMR ePcP PcP 03 24 17.6 -1.7
CSS Mathiatis 55.33 299 P P 03 23 21.2 +0.3
BR231 Keskin MP Arra 55.68 305 P P 03 23 23.5 +0.1
BR231 IAmb IAmb 03 23 25.6
comp=Z,9.8nm,0.8s
WB0 Warramunga Arr 55.99 134 P P 03 23 24.7 -1.0
WB0 IAmb IAmb 03 23 52.9
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 56.07 134 P P 03 23 25.4 -0.9
comp=Z,2.0nm,0.6s,baz=320,slow=7.6,SNR=53
WRA pP pP 03 23 52.4 -1.2
comp=Z,1.9nm,0.7s,baz=324,slow=7.4,SNR=4.2
WRA PcP PcP 03 24 22.4 -0.8
comp=Z,3.3nm,0.8s,baz=336,slow=3.9,SNR=12
WRA Warramunga Arr 56.07 134 P P 03 23 25.3 -1.0
WRA PcP PcP 03 24 22.3 -0.8
WRAB Tennant Creek 56.07 134 P P 03 23 25.7 -0.6
WRAB PcP PcP 03 24 22.7 -0.5
WB2 Warramunga Arr 56.08 134 P P 03 23 25.5 -0.9
WB2 IAmb IAmb 03 23 54.1
comp=Z,3.6nm,0.8s
WB2 PcP PcP 03 24 22.5 -0.7
WR0 Warramunga Arr 56.22 134 P P 03 23 26.3 -1.0
WR0 PcP PcP 03 24 23.0 -0.7
ISP Isparta 57.47 302 P P 03 23 37.2 +1.0
ISP IAmb IAmb 03 23 40.8
comp=Z,4.8nm,0.8s
ELL Elmali 58.01 301 P P 03 23 41.1 +1.1
AKAS Kas 58.29 300 P P 03 23 41.9 -0.1
ASAR Alice Springs 58.42 137 P P 03 23 42.2 -0.5
comp=Z,1.7nm,0.4s,baz=321,slow=7.2,SNR=27
ASAR PcP PcP 03 24 31.7 -0.7
comp=Z,3.9nm,0.6s,baz=320,slow=4.2,SNR=21
AKASG Malin Array Be 58.70 317 P P 03 23 43.8 -0.5
comp=Z,6.6nm,0.4s,baz=82,slow=5.7,SNR=67
AKASG pP pP 03 24 13.6 +1.7
comp=Z,1.4nm,0.4s,baz=82,slow=6.0,SNR=2.4
MILM Milestii Mici 58.74 313 ⇓P P 03 23 44.6 -0.1
COEN Coen 58.79 122 P P 03 23 44.8 -0.7
COEN IAmb IAmb 03 24 13.1
comp=Z,5.4nm,1.1s
COEN PcP PcP 03 24 33.8 -0.2
SORM Soroca 59.10 314 ⇓P P 03 23 46.3 -0.9
CFR Carcaliu 59.16 311 ⇓P P 03 23 48.2 +0.6
VLDR Vladesti 59.21 312 ⇑P P 03 23 48.8 +0.9
HARR Harsova 59.31 310 ⇓P P 03 23 49.4 +0.8
LVZ Lovozero 59.70 338 P P 03 23 50.7 -0.3
LVZ IAmb IAmb 03 23 51.4
comp=Z,8.4nm,0.9s
PANC Panciu 59.87 312 ⇑P P 03 23 53.9 +1.4
MNK Minsk 59.87 322 *i* P P 03 23 49.4 -2.9
comp=E,3.0nm,0.8s
MNK *i* P P 03 23 49.4 -2.9
comp=N,9.0nm,0.7s
MNK *i* P P 03 23 49.4 -2.9
comp=Z,8.0nm,0.7s,baz=277
MNK *i* pP pP 03 24 14.1 -5.9
MNK *i* PP PP 03 26 07.4 +1.9
MNK *i* PPP PPP 03 27 28.1
MNK *i* S S 03 31 53.7 -1.4
MNK *i* sS sS 03 32 37.1 -5.9
MNK *i* SS SS 03 35 53.5 +0.6
MNK *i* SSS SSS 03 38 38.9
MNK *i* LR LR 03 49 18.1
MNK *i* LRM MLR 03 51 56.2
comp=N,284nm,20.3s
MNK *i* LRM MLR 03 52 02.7
comp=E,41nm,20.4s
MNK *i* LRM MLR 03 52 07.3
comp=Z,37nm,18.4s
VRI Vrincioaia 60.16 312 ⇑P P 03 23 55.8 +1.2
PLOR Plostina 60.21 312 ⇓P P 03 23 56.2 +1.2
TESR Tescani 60.22 312 ⇑P P 03 23 55.3 +0.4
ISR Istrita 60.29 311 ⇑P P 03 23 57.2 +1.7
KMBO Kilima Mbogo 60.39 256 P P 03 23 57.7 +0.8
comp=Z,1.2nm,0.4s,baz=86,slow=5.4,SNR=5.3
KMBO pP pP 03 24 26.4 +1.9
comp=Z,0.7nm,0.3s,baz=62,slow=15,SNR=2.3
KMBO Kilima Mbogo 60.39 256 P P 03 23 57.6 +0.8
COVR Voineasa-Covas 60.52 312 ⇑P P 03 23 57.6 +0.5
NACGM Naroch 60.55 322 *i* P P 03 23 54.1 -2.9
IDID Didziasalis 60.61 323 *e*P P 03 23 57.7 +0.3
MLR Muntele Rosu 60.71 311 ⇑P P 03 23 59.6 +1.2
ALN Alexandroupoli 60.79 306 P P 03 23 59.4 +0.6
OZUR 60.81 312 ⇑P P 03 23 59.5 +0.6
IIGN Ignalina 60.91 323 *e*P P 03 24 00.2 +0.8
BURAR Bucovina Array 61.20 314 ⇑P P 03 24 02.3 +0.6
BURAR Bucovina Array 61.20 314 P P 03 24 02.2 +0.6
BURAR IAmb IAmb 03 24 02.8
comp=Z,4.3nm,0.6s
BURAR PcP PcP 03 24 45.2 +1.9
BUR08 Bucovina Ar. S 61.21 314 P P 03 24 02.2 +0.5
BUR08 IAmb IAmb 03 24 03.0
comp=Z,3.5nm,0.6s
BUR08 PcP PcP 03 24 45.5 +2.1
VOIR 61.34 311 ⇓P P 03 24 02.3 -0.3
ARR Arges 61.64 311 ⇑P P 03 24 05.0 +0.4
FIA1 FINESS Array S 61.69 329 P P 03 24 04.5 -0.1
FINES FINESS Array B 61.70 329 P P 03 24 04.4 -0.1
comp=Z,5.0nm,0.5s,baz=93,slow=5.6,SNR=39
FINES FINESS Array B 61.70 329 P P 03 24 04.6 +0.1
ARCR ARCALIA 61.79 313 ⇑P P 03 24 06.8 +1.3
IDI Anoyia 62.19 300 ⇑P P 03 24 08.8 +0.3
PABE Paberze 62.20 323 *e*P P 03 24 08.2 +0.1
CBBR Cluj-Babes-Bol 62.35 313 ⇓P P 03 24 10.6 +1.4
SUW Suwalki 62.59 321 *e*P P 03 24 10.2 -0.5
SUW Suwalki 62.59 321 P P 03 24 10.5 -0.1
SUW Suwalki 62.59 321 *e*P P 03 24 10.2 -0.5
VTS Vitosha 62.78 308 ⇓P P 03 24 12.9 +0.6
VTS Vitosha 62.78 308 P P 03 24 13.2 +0.8
VTS IAmb IAmb 03 24 13.5
comp=Z,4.6nm,0.6s
DEV Deva 62.83 312 ⇓P P 03 24 13.9 +1.4
KWP Kalwaria Pacla 62.85 316 *e*P P 03 24 13.0 +0.5
KWP Kalwaria Pacla 62.85 316 P P 03 24 12.9 +0.4
KEV Kevo 62.89 339 P P 03 24 12.7 +0.3
KEV PcP PcP 03 24 48.9 -0.7
TRPA Tarpa 62.99 314 ⇑P P 03 24 14.0 +0.6
BBAT Babati 63.05 254 *i* P P 03 24 13.8 -0.7
HERR Herculane 63.23 311 ⇓P P 03 24 16.4 +1.3
KOND Kondoa 63.33 253 *i* P P 03 24 13.0 -3.4
VOI Vohitsoka 63.34 231 P P 03 24 17.3 +1.1
VOI IAmb IAmb 03 24 44.8
comp=Z,9.4nm,1.0s
ARCES ARCESS Array B 63.35 338 P P 03 24 15.7 +0.2
comp=Z,4.1nm,0.5s,baz=92,slow=7.3,SNR=73
ARCES pP pP 03 24 43.1 -0.3
comp=Z,1.0nm,0.4s,baz=97,slow=7.6,SNR=1.8
ARCES PcP PcP 03 24 52.2 +0.7
comp=Z,3.6nm,0.4s,baz=104,slow=4.2,SNR=14
ARCES ARCESS Array B 63.35 338 P P 03 24 15.8 +0.2
ARCES IAmb IAmb 03 24 16.4
comp=Z,5.5nm,0.8s
ARCES PcP PcP 03 24 52.0 +0.5
LIT Litokhoron 63.56 305 P P 03 24 16.6 -0.8
BZS Buzias 63.74 311 ⇑P P 03 24 19.1 +0.7
AGG Agios Georgios 63.80 304 P P 03 24 18.1 -0.9
AGG IAmb IAmb 03 24 22.4
comp=Z,8.2nm,1.1s
KTK1 Kautokeino 64.05 338 *e*P P 03 24 20.1 +0.1
ITM Ithomi 64.33 302 P P 03 24 22.2 -0.4
NIE Niedzica 64.42 316 *e*P P 03 24 24.8 +1.9
OJC Ojcow 64.71 317 *e*P P 03 24 24.8 0.0
OJC Ojcow 64.71 317 P P 03 24 24.9 +0.2
OJC IAmb IAmb 03 24 26.3
comp=Z,4.5nm,0.5s
JETT Jettan, Norway 65.12 338 *e*P P 03 24 28.4 +1.3
TRO Tromso 65.65 338 *e*P P 03 24 30.1 -0.3
PDG Podgorica 65.73 308 P P 03 24 31.3 -0.1
PDG IAmb IAmb 03 24 38.9
comp=Z,8.5nm,0.9s
UPP Uppsala 65.73 327 *e*P P 03 24 31.0 0.0
MORC Moravsky Berou 66.19 316 ⇑P P 03 24 34.8 +0.4
MORC Moravsky Berou 66.19 316 P P 03 24 35.1 +0.8
MORC IAmb IAmb 03 24 35.4
comp=Z,3.6nm,0.6s
MORC Moravsky Berou 66.19 316 *e*P P 03 24 34.7 +0.4
VIKU Vikbolandet 66.23 326 *e*P P 03 24 34.2 0.0
BBOO Buckleboo 66.38 143 P P 03 24 35.1 -0.5
BBOO PcP pP 03 25 04.0 +0.3
KRLC Kraliky 66.66 317 *e*P P 03 24 37.9 +0.6
VRAC Vranov 66.85 316 *e*P P 03 24 39.1 +0.6
FAUS Fauske 66.86 336 *e*P P 03 24 37.8 -0.3
STEI Steigen 66.89 336 *e*P P 03 24 38.0 -0.3
KSP Ksiaz 66.90 318 *e*P P 03 24 39.4 +0.6
DPC Dobruska-Polom 66.92 317 *e*P P 03 24 39.8 +0.8
OSTC Ostas 66.97 317 *e*P P 03 24 40.0 +0.8
KRUC Moravsky 67.00 316 *e*P P 03 24 39.7 +0.3
CHVC Chvalec 67.07 317 *e*P P 03 24 40.7 +0.8
RICI Ricice 67.14 309 P P 03 24 40.0 -0.5
MOR8 Moi Rana 67.18 334 *e*P P 03 24 39.3 -0.9
HSPB Hornsund (broa 67.35 346 *e*P P 03 24 41.3 +0.3
CONA Conrad Observa 67.48 314 *e*P P 03 24 42.8 +0.3
comp=Z,1.0nm,0.4s
LOF Lofoten 67.53 336 *e*P P 03 24 41.6 -0.7
KLJV Kijevo 67.60 310 *i* P P 03 24 43.2 -0.1
HVAR Hvar 67.68 309 *i* P P 03 24 43.3 -0.5
KONS Konsvik 67.71 335 *e*P P 03 24 43.2 -0.2
UDBI Udbina 67.98 311 *i* P P 03 24 45.7 -0.1
TIP Timpagrande 68.07 305 P P 03 24 46.4 0.0
TIP IAmb IAmb 03 24 46.9
comp=Z,7.4nm,0.9s
PRU Pruhonice 68.10 317 *e*P P 03 24 47.3 +1.0
MORI Morici 68.11 310 *i* P P 03 24 46.2 -0.3
ZIRJ Zirje 68.19 310 *i* P P 03 24 46.4 -0.5
BRG Berggiesshubel 68.38 318 ⇑*i*P P 03 24 48.6 +0.6
BRG Amp 03 24 50.3
comp=Z,10.0nm,0.5s
CKRC Cesky Krumlov 68.40 315 *e*P P 03 24 49.0 +0.8
SGRT San Giovanni R 68.41 308 P P 03 24 48.3 -0.2
MOA Molln 68.55 314 *e*P P 03 24 49.4 +0.2
comp=Z,5.9nm,0.4s,SNR=11
DUGI Dugi Otok 68.56 310 *i* P P 03 24 48.7 -0.6
NC405 NORSAR Array S 68.60 329 P P 03 24 49.0 -0.3
NVLJ Novalja 68.61 311 *i* P P 03 24 49.1 -0.4
RABC Rab 68.64 311 *i* P P 03 24 49.4 -0.4
NC602 NORSAR Array S 68.72 328 P P 03 24 49.5 -0.4
NC602 NORSAR Array S 68.72 328 *e*P P 03 24 49.5 -0.4
GERES GERESS Array B 68.79 316 P P 03 24 51.3 +0.5
comp=Z,6.5nm,0.6s,baz=67,slow=7.5,SNR=74
GERES pP pP 03 25 21.2 +2.1
comp=Z,1.4nm,0.6s,baz=69,slow=7.4,SNR=3.1
KHC Kasperske Hory 68.83 316 *e*P P 03 24 51.5 +0.6
NB2 NORSAR Subarra 68.85 329 P P 03 24 50.4 -0.4
comp=Z,3.8nm,0.5s,baz=85,slow=6.5
NB2 NORSAR Subarra 68.85 329 P P 03 24 50.4 -0.4
baz=85,slow=6.5
NOA NORSAR Array B 68.85 329 P P 03 24 50.2 -0.6
comp=Z,4.6nm,0.6s,baz=86,slow=6.2,SNR=37
CLL Collm 68.91 318 *i* P P 03 24 51.4 +0.1
comp=Z,9.0nm,1.3s
BIOA Bad Ischl, Aus 68.99 314 *i* P P 03 24 52.0 0.0
comp=Z,2.4nm,0.3s
STKA Stephens Creek 69.01 138 P P 03 24 51.1 -1.0
comp=Z,1.5nm,0.5s,baz=330,slow=11,SNR=7.5
STKA Stephens Creek 69.01 138 P P 03 24 51.9 -0.2
NC204 NORSAR Array S 69.05 329 P P 03 24 52.0 0.0
OSL Oslo 69.20 328 *e*P P 03 24 53.3 +0.4
TRI Trieste 69.20 312 P P 03 24 53.4 +0.2
TRI IAmb IAmb 03 24 53.8
comp=Z,7.2nm,0.6s
KBA Koelnbreinsper 69.28 314 *e*P P 03 24 53.7 -0.2
comp=Z,3.6nm,0.5s,SNR=8.1
DOMB Dombas 69.78 330 *e*P P 03 24 56.3 -0.2
KONO Kongsberg 69.80 327 P P 03 24 56.4 -0.2
KONO IAmb IAmb 03 25 08.6
comp=Z,13nm,1.1s
ABTA Abfaltersbach 69.90 313 *e*P P 03 24 57.1 -0.5
comp=Z,2.5nm,0.7s
NRCA Norcia 70.15 309 P P 03 24 59.7 +0.5
NRCA IAmb IAmb 03 25 05.5
comp=Z,6.6nm,0.7s
GRFO Grafenberg 70.27 317 P P 03 24 59.1 -0.6
GRFO IAmb IAmb 03 25 02.5
comp=Z,6.6nm,0.8s
WTTA Wattenberg 70.40 314 *e*P P 03 25 00.4 -0.4
comp=Z,8.0nm,0.3s,SNR=14
MURB Monte Urbino 70.50 310 P P 03 25 02.2 +0.9
MURB IAmb IAmb 03 25 03.3
comp=Z,13nm,0.7s
CTI Castel Tesino 70.61 313 P P 03 25 02.1 +0.1
TEOL Teolo 70.72 312 P P 03 25 03.3 +0.8
TEOL IAmb IAmb 03 25 03.7
comp=Z,8.7nm,0.9s
MOTA Moosalm 70.75 314 *i* P P 03 25 02.3 -0.6
comp=Z,3.5nm,0.3s,SNR=12
RETA Reutte 70.95 314 *e*P P 03 25 03.9 -0.1
comp=Z,6.4nm,0.4s,SNR=14
FETA Feichten 71.06 314 *e*P P 03 25 04.5 -0.3
comp=Z,3.4nm,0.4s
ZCCA Zocca 71.39 311 P P 03 25 08.4 +1.7
ZCCA IAmb IAmb 03 25 15.3
comp=Z,8.3nm,0.8s
SALO Salr 71.46 313 P P 03 25 07.5 +0.5
DAVA Damuels 71.57 314 *e*P P 03 25 07.8 -0.1
comp=Z,2.8nm,0.4s,SNR=10
KMY Karmoy 72.06 327 *e*P P 03 25 11.0 +0.7
TUE Stuetta 72.09 314 P P 03 25 11.2 +0.1
TUE IAmb IAmb 03 25 18.2
comp=Z,7.3nm,0.7s
BFO Black Forest 72.39 316 P P 03 25 13.1 +0.5
MSSA Maissana 72.42 311 P P 03 25 12.7 -0.1
NOR Nord 72.49 352 *i* P P 03 25 11.0 -1.6
SENIN Lac Senin/Sane 73.50 314 P P 03 25 19.7 +0.3
SENIN IAmb IAmb 03 25 21.6
comp=Z,7.8nm,0.7s
BNI Bardonecchia 74.23 313 P P 03 25 23.2 -0.3
KEST Kesra 74.56 303 P P 03 25 26.4 +0.9
comp=Z,2.6nm,0.6s,baz=10,slow=12,SNR=7.0
KEST Kesra 74.56 303 IAmb IAmb 03 25 38.2
comp=Z,12nm,1.1s
DAG Danmarks Havn 74.94 347 *i* P P 03 25 25.3 -1.6
DAG IAmb IAmb 03 25 26.7
comp=Z,5.1nm,0.5s
TOO Toolangi 75.21 141 P P 03 25 29.0 0.0
TOO IAmb IAmb 03 25 30.6
comp=Z,6.1nm,0.8s
ANM Nome 75.43 26 P P 03 25 30.2 +0.4
SSB Saint Sauveur 75.64 313 P P 03 25 31.6 +0.1
SSB IAmb IAmb 03 25 32.6
comp=Z,7.9nm,0.9s
CLF Chambon-Foret 76.41 316 P P 03 25 36.6 +0.9
CLF IAmb IAmb 03 25 37.1
comp=Z,13nm,0.8s
DBG Daneborg 76.47 345 *i* P P 03 25 34.6 -1.0
DBG IAmb IAmb 03 25 35.8
comp=Z,2.3nm,0.8s
ESK Eskdalemuir 77.49 325 P P 03 25 41.8 +0.2
ESK IAmb IAmb 03 25 43.6
comp=Z,14nm,0.8s
EUNU Eureka 79.21 0 P P 03 25 51.1 +0.3
EUNU IAmb IAmb 03 25 51.9
comp=Z,6.8nm,0.7s
IMAR Indian Mountai 79.38 23 P P 03 25 51.3 -0.5
TOLK Toolik Lake Re 79.49 20 P P 03 25 52.2 -0.3
TOLK IAmb IAmb 03 25 53.2
comp=Z,7.3nm,1.1s
NEEM North Greenlan 79.80 353 *i* P P 03 25 53.5 -0.8
NEEM IAmb IAmb 03 25 55.1
comp=Z,20nm,0.8s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H21K	**Melozitna Rive**	**79.88**	**23**	P	**P**	**03 25 54.5**	**-0.1**
H21K				IAmb	IAmb	03 25 55.0	
	comp=Z,4.8nm,0.8s						
L19K	**White Mountain**	**80.71**	**26**	P	**P**	**03 25 58.6**	**-0.5**
CAST	**Castle Rocks**	**81.24**	**25**	P	**P**	**03 26 01.8**	**-0.1**
CAST				IAmb	IAmb	03 26 02.5	
	comp=Z,5.9nm,0.7s						
LBTB	**Lobatse**	**81.30**	**239**	P	**P**	**03 26 04.0**	**+1.1**
LBTB				IAmb	IAmb	03 26 04.6	
	comp=Z,6.0nm,0.7s						
BPAW	**Bear Paw Mtn.**	**81.32**	**24**	P	**P**	**03 26 02.6**	**+0.3**
BPAW				IAmb	IAmb	03 26 03.7	
	comp=Z,10nm,1.2s						
PPLA	**Purkeypile**	**81.46**	**25**	P	**P**	**03 26 02.3**	**-0.9**
SUMG	**Summit**	**81.63**	**347**	*i* P	**P**	**03 26 02.8**	**-1.4**
SUMG				IAmb	IAmb	03 26 04.2	
	comp=Z,8.0nm,0.6s						
SUMG	**Summit**	**81.63**	**347**	P	**P**	**03 26 03.8**	**-0.5**
SUMG				IAmb	IAmb	03 26 04.9	
	comp=Z,9.5nm,0.7s						
BMAR	**Burnt Mountain**	**81.72**	**20**	P	**P**	**03 26 05.1**	**+0.7**
MDM	**Murphy Dome**	**81.89**	**23**	P	**P**	**03 26 05.0**	**-0.3**
MDM				IAmb	IAmb	03 26 05.3	
	comp=Z,7.0nm,0.7s						
TRF	**Thorofare Moun**	**81.92**	**24**	P	**P**	**03 26 06.8**	**+1.2**
CART	**Cartagena**	**81.94**	**307**	P	**P**	**03 26 07.1**	**+1.1**
POKR	**Poker Plat Res**	**82.08**	**22**	P	**P**	**03 26 06.6**	**+0.3**
TULEG	**Thule**	**82.24**	**356**	P	**P**	**03 26 06.0**	**-0.8**
TULEG				IAmb	IAmb	03 26 06.9	
	comp=Z,11nm,0.7s						
MCK	**McKinley**	**82.29**	**24**	P	**P**	**03 26 06.9**	**-0.5**
IL31		**82.47**	**22**	P	**P**	**03 26 06.9**	**-1.3**
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**03 26 06.5**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=287,slow=5.1,SNR=19						
RND	**Reindeer**	**82.50**	**24**	P	**P**	**03 26 07.2**	**-1.4**
BOSA	**Boshof**	**83.25**	**236**	P	**P**	**03 26 13.6**	**+0.5**
	comp=Z,5.8nm,0.6s,baz=72,slow=3.3,SNR=23						
BOSA				pP	**pP**	**03 26 43.0**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=57,slow=3.7,SNR=3.7						
BOSA				LR	LR	03 58 55.4	
	comp=Z,32nm,19.4s,baz=178,slow=32						
BOSA	**Boshof**	**83.25**	**236**	P	**P**	**03 26 13.8**	**+0.8**
BOSA				IAmb	IAmb	03 26 14.7	
	comp=Z,5.6nm,0.8s						
ESDC	**Sonseca Array**	**83.37**	**310**	P	**P**	**03 26 14.1**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=51,slow=5.2,SNR=15						
ESDC	**Sonseca Array**	**83.37**	**310**	P	**P**	**03 26 13.7**	**+0.2**
A36M	**Sachs Harbour**	**83.40**	**12**	P	**P**	**03 26 12.3**	**-0.6**
PAB	**San Pablo**	**83.69**	**310**	P	**P**	**03 26 15.9**	**+0.7**
PAB				IAmb	IAmb	03 26 44.2	
	comp=Z,6.0nm,1.1s						
RIDG	**Independent Ri**	**83.79**	**23**	P	**P**	**03 26 14.0**	**-1.2**
RIDG				IAmb	IAmb	03 26 14.4	
	comp=Z,6.0nm,0.9s						
KDAK	**Kodiak Island**	**83.83**	**30**	P	**P**	**03 26 14.5**	**-0.8**
	comp=Z,8.5nm,1.0s,baz=120,slow=22,SNR=1.6						
KDAK	**Kodiak Island**	**83.83**	**30**	P	**P**	**03 26 14.5**	**-0.8**
SCRK	**Sand Creek**	**83.96**	**22**	P	**P**	**03 26 15.4**	**-0.8**
PWL	**Port Wells**	**84.08**	**26**	P	**P**	**03 26 15.7**	**-0.9**
PWL				IAmb	IAmb	03 26 31.4	
	comp=Z,6.4nm,1.1s						
INK	**Inuvik**	**84.33**	**16**	P	**P**	**03 26 16.8**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=323,slow=5.3,SNR=8.7						
INK	**Inuvik**	**84.33**	**16**	P	**P**	**03 26 17.0**	**-0.7**
RES	**Resolute Bay**	**84.41**	**3**	P	**P**	**03 26 17.8**	**-0.2**
RES				IAmb	IAmb	03 26 18.8	
	comp=Z,5.1nm,0.8s						
ICESG	**Greenland Ices**	**84.48**	**345**	*i* P	**P**	**03 26 17.8**	**-1.1**
ICESG				IAmb	IAmb	03 26 19.1	
	comp=Z,11nm,0.8s						
KLU	**Klutina**	**84.69**	**25**	P	**P**	**03 26 19.5**	**-0.3**
N25K	**Chitina, Valde**	**85.14**	**24**	P	**P**	**03 26 22.3**	**+0.2**
N25K				IAmb	IAmb	03 26 22.5	
	comp=Z,5.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**88.26**	**283**	P	**P**	**03 26 38.7**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=66,slow=4.3,SNR=38						
TORD				pP	**pP**	**03 27 09.0**	**+1.4**
	comp=Z,3.3nm,1.0s,baz=68,slow=4.9,SNR=6.6						
TORD				PP	**PP**	**03 30 07.0**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=65,slow=8.5,SNR=3.7						
YKA	**Yellowknife Ar**	**93.64**	**13**	P	**P**	**03 27 00.5**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=325,slow=4.1,SNR=9.1						
DBIC	**Dimbokro**	**96.62**	**280**	P	**P**	**03 27 16.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=62,slow=3.8,SNR=5.8						
Q44A	**Meyer Farm, Va**	**120.38**	**3**	PKPdf	**PKPdf**	**03 32 36.5**	**-0.5**
ANMO	**Albuquerque**	**120.87**	**20**	PKP	**PKiKP**	**03 32 38.6**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=338,slow=2.4,SNR=7.5						
ANMO	**Albuquerque**	**120.87**	**20**	PKPdf	**PKiKP**	**03 32 38.9**	**+0.5**
WCI	**Wyandotte Cave**	**121.15**	**1**	PKPdf	**PKPdf**	**03 32 37.6**	**-0.9**
S57A	**Dark Hollow, R**	**121.33**	**354**	PKPdf	**PKiKP**	**03 32 39.1**	**0.0**
MGMO	**Mountain Grove**	**121.84**	**7**	PKPdf	**PKPdf**	**03 32 39.3**	**-0.6**
PBMO	**Poplar Bluff**	**122.39**	**5**	PKPdf	**PKPdf**	**03 32 40.0**	**-0.9**
FCAR	**Ozark Folk Cen**	**123.11**	**7**	PKPdf	**PKPdf**	**03 32 41.5**	**-0.9**
Y49A	**Blount Mountai**	**125.51**	**1**	PKPdf	**PKPdf**	**03 32 46.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**126.94**	**20**	PKPdf	**PKiKP**	**03 32 50.3**	**-0.2**
TX32	**Lajitas Array**	**126.94**	**20**	PKPdf	**PKiKP**	**03 32 50.5**	**0.0**
TXAR	**Lajitas Array**	**126.94**	**20**	PKP	**PKPdf**	**03 32 50.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=123,slow=0.3,SNR=31						
OBIP	**Obispado Ponce**	**137.21**	**334**	PKPdf	**PKPdf**	**03 33 09.5**	**+0.1**
BDFB	**Brasilia**	**144.39**	**272**	PKP	**PKPdf**	**03 33 22.0**	**-0.5**
	comp=Z,8.6nm,0.7s,baz=89,slow=1.5,SNR=18						
BDFB	**Brasilia**	**144.39**	**272**	PKPdf	**PKPdf**	**03 33 22.3**	**-0.2**
MG03	**Isla Dawson**	**145.27**	**195**		**PKPab**	**03 33 23.4**	**+0.5**
MG02	**Cerro Sombrero**	**145.90**	**197**	PKPbc	**PKPab**	**03 33 25.8**	**+0.5**
ESPN	**Las Esperanzas**	**147.07**	**358**	PKPbc	**PKPbc**	**03 33 28.9**	**-0.3**
ACON	**Acoyapa**	**147.31**	**0**		**PKPdf**	**03 33 27.6**	**+0.2**
SJCC	**San Jacinto, C**	**147.83**	**341**	PKPbc	**PKPbc**	**03 33 32.2**	**+0.7**
MOTC	**Monteria, Cord**	**149.04**	**342**	PKPbc	**PKPbc**	**03 33 35.0**	**+0.6**
RIMA	**Rio Macho**	**149.47**	**357**	PKPbc	**PKPbc**	**03 33 34.8**	**-1.1**
BCIP	**Isla Barro Col**	**149.64**	**350**	PKPdf	**PKPdf**	**03 33 29.5**	**-1.8**
BCIP				PKPbc	**PKPbc**	**03 33 34.9**	**-1.0**
PLTB	**Pedras Altas**	**149.83**	**243**	PKPbc	**PKPbc**	**03 33 36.2**	**+0.2**
PLTB				PKPab	**PKPab**	**03 33 42.9**	**+1.1**
PEZE	**Perez Zeledon,**	**149.84**	**357**	PKPbc	**PKPbc**	**03 33 36.2**	**-0.4**
ZARC	**Zaragoza, Cauc**	**150.00**	**339**	PKPbc	**PKPbc**	**03 33 37.1**	**+0.3**
ZARC				PKPab	**PKPab**	**03 33 43.6**	**+0.8**
ROSC	**El Rosal**	**152.27**	**336**	PKP	**PKPdf**	**03 33 37.4**	**+1.5**
	comp=Z,6.5nm,0.5s,baz=78,slow=8.1,SNR=6.5						
ROSC				PKPbc	**PKiKP**	**03 33 44.0**	**+1.0**
	comp=Z,36nm,0.8s,baz=109,slow=6.7,SNR=24						
AQDB	**Aquidauana**	**152.45**	**266**	PKPbc	**PKPbc**	**03 33 42.3**	**0.0**
COYC	**Coyhaique**	**153.17**	**201**	PKPbc	**PKiKP**	**03 33 43.5**	**+0.2**
CPUP	**Villa Florida**	**153.97**	**253**	PKPbc	**PKPbc**	**03 33 45.2**	**-0.3**
	comp=Z,5.4nm,0.5s,baz=92,slow=1.7,SNR=15						
CPUP	**Villa Florida**	**153.97**	**253**	PKPbc	**PKPbc**	**03 33 44.9**	**-0.6**
CPUP				PKPab	**PKPab**	**03 34 00.2**	**+1.0**
BO04	**La Punta**	**161.69**	**222**	PKPab	**PKPab**	**03 34 30.7**	**-1.8**
MT09	**Talagante**	**162.07**	**222**	PKPab	**PKPab**	**03 34 33.9**	**-0.3**
LPAZ	**La Paz**	**163.21**	**283**	PKP	**PKPdf**	**03 33 49.6**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=8.9,slow=2.4,SNR=6.2						
LPAZ				PKPab	**PKPab**	**03 34 39.8**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=307,slow=4.9,SNR=4.5						
AC04	**Llanos de Chal**	**165.28**	**238**		**PKPdf**	**03 33 48.2**	**-2.0**

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*THE **07** 03:39:42.3, 35.°40N×23.°56E, h7km, ML3.2/10, Error ellipse: s-maj=0.9km s-min=0.3km az=222.0*

*ATH **07** 03:39:42.4, 35.°38N×23.°55E, h10km±3km, ML3.3/3, Error ellipse: s-maj=3.7km s-min=1.1km az=38.0*

*IDC **07** 03:39:46.8±2.0, 35.°25N×23.°78E, h51km±21km, mb3.3/7, mb1 3.3/10, mb1mx3.2/57, mbtmp3.5/10, ML3.7/3, MS2.6/1, Ms1 2.5/1, ms1mx2.0/44, Error ellipse: s-maj=28.1km s-min=20.9km az=164.0*

ISC 07 03:39:41.9±1.0**, 35.°39N**±0.°03×**23.°58E**±0.°03**, h11**km±6km**, n35, σ0.s86**/51**, mb3.6**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**151**	P	**Pg**	**03 39 45.5**	**-0.4**
KNDR				S	**Sg**	**03 39 48.2**	**-0.3**
	11μm,0.2s						
RODP	**Rodopos**	**0.22**	**41**	P	**Pb**	**03 39 47.1**	**-1.0**
RODP				S	**Sg**	**03 39 50.5**	**+0.7**
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**03 39 49.1**	**+0.3**
IMMV				S	**Sb**	**03 39 54.8**	**-0.6**
IMMV				AML	AML	03 39 55.7	
	comp=N,19129μm,0.3s						
IMMV				AML	AML	03 39 58.1	
	comp=E,14920μm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**03 39 49.0**	**+0.3**
IMMV				S	**Sb**	**03 39 54.5**	**-0.9**
	comp=E,9μm,0.2s						
VAM	**Vamos**	**0.51**	**88**	P	**Pg**	**03 39 51.8**	**-0.1**
VAM				S	**Sb**	**03 39 60.0**	**-0.4**
VAM				AML	AML	03 40 01.1	
	comp=N,25685μm,0.3s						
VAM				AML	AML	03 40 01.1	
	comp=E,15950μm,0.6s						
VAM	**Vamos**	**0.51**	**88**	P	**Pb**	**03 39 52.1**	**-0.8**
VAM				S	**Sb**	**03 39 59.9**	**-0.4**
ANKY	**Antikythira Is**	**0.52**	**335**	P	**Pg**	**03 39 52.2**	**0.0**
ANKY				S	**Sb**	**03 40 00.1**	**-0.7**
ANKY				AML	AML	03 40 01.6	
	comp=E,2746μm,0.4s						
ANKY				AML	AML	03 40 03.7	
	comp=N,3791μm,0.4s						
ANKY	**Antikythira Is**	**0.52**	**335**	P	**Pg**	**03 39 52.3**	**+0.1**
ANKY				S	**Sb**	**03 39 59.7**	**-1.1**
	comp=N,2μm,0.5s						
GVDS	**Gavdos**	**0.69**	**142**	P	**Pb**	**03 39 55.5**	**-0.5**
GVDS				S	**Sb**	**03 40 05.5**	**-0.1**
	comp=N,5μm,0.3s						
GVD	**Gavdhos**	**0.69**	**143**	P	**Pb**	**03 39 55.8**	**-0.2**
GVD	**Gavdhos**	**0.69**	**143**	P	**Pb**	**03 39 55.8**	**-0.2**
GVD				S	**Sb**	**03 40 06.3**	**+0.7**
	comp=N,4μm,0.4s						
PRNS	**Prines Rethymn**	**0.76**	**92**	P	**Pg**	**03 39 56.0**	**-0.5**
PRNS				S	**Sg**	**03 40 06.2**	**-0.2**
	comp=N,2μm,0.3s						
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pb**	**03 40 00.2**	**-0.5**
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pb**	**03 40 00.2**	**-0.5**
KTHA				S	**Sn**	**03 40 13.7**	**-1.4**
	comp=N,1μm,0.5s						
KTHR	**Kythira**	**0.98**	**332**	P	**Pb**	**03 40 00.6**	**-0.4**
KTHR				S	**Sn**	**03 40 14.6**	**-1.1**
	comp=N,755nm,0.4s						
TMBK	**Timbaki Herakl**	**1.02**	**108**	P	**Pn**	**03 40 01.7**	**-0.6**
TMBK				S	**Sn**	**03 40 16.6**	**0.0**
	comp=N,1μm,0.4s						
IDI	**Anoyia**	**1.08**	**95**	P	**Pn**	**03 40 02.9**	**-0.2**
	comp=N,16nm,0.3s,baz=265,slow=9.3,SNR=33						
IDI				S	**Sb**	**03 40 16.3**	**-0.5**
	comp=N,184nm,0.3s,baz=17,slow=19,SNR=26						
IDI				LR	LR	03 40 38.1	
	comp=N,122nm,18.4s,baz=208,slow=56						
IDI	**Anoyia**	**1.08**	**95**	P	**Pn**	**03 40 02.7**	**-0.4**
IDI	**Anoyia**	**1.08**	**95**	P	**Pn**	**03 40 02.6**	**-0.5**
IDI				S	**Sn**	**03 40 18.5**	**+0.4**
	comp=N,2μm,0.4s						
HRKL	**Herakleio**	**1.25**	**93**	P	**Pn**	**03 40 04.9**	**-0.5**
HRKL				S	**Sg**	**03 40 23.0**	**+0.8**
VLI	**Veliai**	**1.42**	**339**	P	**Pb**	**03 40 08.4**	**-0.1**
MHLO	**Agia Marina, M**	**1.46**	**27**	P	**Pb**	**03 40 08.9**	**-0.2**
NPS	**Neapolis**	**1.67**	**94**	P	**Pg**	**03 40 13.3**	**-0.7**
ZKR	**Zakros**	**2.18**	**97**	P	**Pb**	**03 40 21.3**	**-0.1**
BRTR	**Keskin Array B**	**9.08**	**59**	P	**Pn**	**03 41 56.3**	**+3.2**
	comp=N,0.1nm,0.3s,baz=239,slow=16,SNR=6.5						
GERES	**GERESS Array B**	**15.29**	**335**	P	**P**	**03 43 23.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=147,slow=15,SNR=2.0						
AKASG	**Malin Array Be**	**15.84**	**13**	P	**P**	**03 43 27.0**	**-1.6**
	comp=N,0.5nm,0.3s,baz=205,slow=10,SNR=3.8						
KBZ	**Khabaz**	**17.04**	**55**	LR	LR	03 51 34.0	
	comp=N,21nm,18.4s,baz=238,slow=42						
HFS	**Hagfors**	**25.57**	**349**	P	**P**	**03 45 12.6**	**+1.8**
	comp=N,1.6nm,0.7s,baz=149,slow=14,SNR=1.4						
EKA	**Eskdalemuir Ar**	**27.11**	**326**	P	**P**	**03 45 26.3**	**+1.6**
	comp=N,2.0nm,0.9s,baz=121,slow=8.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**29.67**	**227**	P	**P**	**03 45 48.5**	**+0.6**
	comp=N,0.4nm,0.7s,baz=32,slow=8.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**41.98**	**51**	P	**P**	**03 47 32.3**	**-0.6**
	comp=N,0.4nm,0.7s,baz=274,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**44.73**	**57**	P	**P**	**03 47 54.5**	**-0.7**
	comp=N,0.4nm,0.5s,baz=285,slow=7.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.78**	**46**	P	**P**	**03 48 02.3**	**-1.1**
	comp=N,0.4nm,0.4s,baz=292,slow=6.8,SNR=3.2						
YKA	**Yellowknife Ar**	**76.82**	**341**	P	**P**	**03 51 33.3**	**-0.1**
	comp=N,0.1nm,0.5s,baz=36,slow=5.2,SNR=2.7						

IDC 07 03:43:48.2±6.8**, 6.°85S**×**147.°68E, h102**km±62km**, mb3.2**/2**, mb1 3.2**/4**, mb1mx2.9**/42**, mbtmp3.3**/4**, Error ellipse: s-maj=94.3km s-min=56.9km az=121.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.59**	**191**	P	Pn	03 44 28.2	-0.4
	9.6nm,0.3s,baz=17,slow=6.6,SNR=7.7						
PMG				S	Sn	03 45 01.0	+1.2
	3.7nm,0.3s,baz=199,slow=24,SNR=1.9						
WRA	**Warramunga Arr**	**18.36**	**224**	P	P	03 47 53.5	-1.6
	0.1nm,0.3s,baz=50,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**21.33**	**217**	P	P	03 48 26.5	-0.7
	0.1nm,0.3s,baz=54,slow=8.6,SNR=1.9						
FITZ	**Fitzroy Crossi**	**24.22**	**240**	P	P	03 48 56.1	+0.5
	3.1nm,1.0s,baz=79,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**145.95**	**283**	PKPbc	PKPbc	04 03 16.8	-0.2
	0.2nm,0.5s,baz=56,slow=3.1,SNR=1.2						

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*MEX **07** 03:52:39.4±1.0, 14.°04N×93.°22W, h102km±149km, MD4.0*

*IDC **07** 03:52:45.7±7.5, 15.°22N×92.°67W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/43, mbtmp3.3/4, ML3.1/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/65, Error ellipse: s-maj=178.5km s-min=49.4km az=22.0*

ISC 07 03:52:39.3±1.8**, 14.°1N**±0.°1×**93.°23W**±0.°06**, h10**km**, n14, σ2.s44**/20**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.26**	**48**	*e*P	**Pn**	**03 53 01.9**	**-1.2**
THIG				*e*S	**Sb**	**03 53 19.7**	**+0.1**
PATR	**El Naranjo**	**1.43**	**42**	*e*P	**Pn**	**03 53 03.7**	**-1.9**
PATR				*e*S	**Sn**	**03 53 22.6**	**-2.0**
PAVE	**Pavencul**	**1.53**	**42**	*e*P	**Pn**	**03 53 05.5**	**-1.4**
PAVE				*e*S	**Sn**	**03 53 25.7**	**-1.2**
PCIG		**1.64**	**0**	*i* P	**Pn**	**03 53 06.6**	**-1.7**
PCIG				*i* S	**Sn**	**03 53 24.0**	**-5.4**
CCIG	**Comitan**	**2.46**	**25**	*e*P	**Pn**	**03 53 21.1**	**+1.5**
CCIG				*e*S	**Sn**	**03 53 51.2**	**+1.4**
TGIG		**2.71**	**2**	*e*P	**Pn**	**03 53 23.9**	**+0.9**
TGIG				*e*S	**Sn**	**03 53 57.4**	**+1.4**
HUIG	**Huatulco**	**3.26**	**302**	*e*P	**Pn**	**03 53 29.2**	**-1.4**
UXUV	**UXUV**	**3.36**	**345**	*e*P	**Pn**	**03 53 33.9**	**+1.9**
UXUV				*i* S	**Sn**	**03 54 14.3**	**+2.3**
CMIG	**Matias Romero**	**3.42**	**332**	Pn	**Pn**	**03 53 32.4**	**-0.2**
	1.7nm,0.3s,baz=147,slow=10,SNR=22						
CMIG				Sn	**Sn**	**03 54 07.8**	**-5.4**
	3.6nm,0.3s,baz=121,slow=12,SNR=5.5						
TXAR	**Lajitas Array**	**18.02**	**329**	P	**Pn**	**03 56 49.1**	**-1.0**
	0.0nm,0.3s,baz=136,slow=12,SNR=2.6						
SDV	**Santo Domingo**	**22.73**	**101**	LR	LR	04 07 14.7	
	comp=Z,42nm,18.5s,baz=252,slow=39						
TKL	**Tuckaleechee C**	**23.13**	**20**	LR	LR	04 08 35.6	
	comp=Z,35nm,18.1s,baz=182,slow=44						
NVAR	**Mina Array Bea**	**32.89**	**322**	P	**P**	**03 59 16.7**	**+2.8**
	0.2nm,0.4s,baz=135,slow=9.0,SNR=3.4						
YKA	**Yellowknife Ar**	**50.71**	**347**	P	**P**	**04 01 39.2**	**+0.3**
	1.4nm,0.7s,baz=153,slow=7.4,SNR=26						

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*BJI **07** 03:57:09.9±0.0, 38.°41N×73.°89E, h121km, mb4.5/19, mB4.6/13*

*MOS **07** 03:57:09.5±1.0, 38.°32N×73.°93E, h124km, mb4.3/27, Error ellipse: s-maj=8.3km s-min=5.4km az=92.4*

*NNC **07** 03:57:10.1±4.2, 38.°63N×73.°71E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=35.9km s-min=23.9km az=6.0*

*NEIC **07** 03:57:11.1±2.0, 38.°33N±0.°07×74.°0E±0.°1, h122km±6km, mb4.2/52, Error ellipse: s-maj=12.1km s-min=8.8km az=117.0*

*IDC **07** 03:57:12.5±0.6, 38.°27N×73.°99E, h142km±5km, mb3.7/22, mb1 3.8/26, mb1mx3.7/47, mbtmp4.2/26, MS3.1/8, Ms1 3.1/8, ms1mx2.7/91, Error ellipse: s-maj=11.5km s-min=10.2km az=178.0*

ISC 07 03:57:10.6±0.3**, 38.°25N**±0.°03×**73.°88E**±0.°04**, h124**km**, n232, σ1.s84**/254**, mb4.2**/68**, 8C-18D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.07**	**52**	P	**Pn**	**03 57 40.7**	**-4.5**
KSH				S	Sn	03 58 02.2	-9.4
KSH				smax	smax		
	comp=N,11μm,0.6s						
KSH				smax	smax		
	comp=E,7μm,0.7s						
GAR	**Garm**	**2.89**	**286**	Pn	**Pn**	**03 57 55.4**	**-0.2**
CHGR	**Chuyangaron**	**3.73**	**278**	PN	**Pn**	**03 58 06.3**	**-0.4**
CHGR	**Chuyangaron**	**3.73**	**278**		**Pn**	**03 58 06.3**	**-0.4**
AML	**Almayashu**	**3.88**	**358**	P	**Pn**	**03 58 08.7**	**-0.3**
	SNR=1271						
UCH	**Uchtor**	**4.00**	**7**	P	**Pn**	**03 58 10.6**	**-0.1**
	SNR=313						
ULHL	**Ulahol**	**4.38**	**24**	P	**Pn**	**03 58 15.3**	**-0.2**
	SNR=76						
EKS2	**Erkin-Say**	**4.41**	**359**	P	**Pn**	**03 58 15.9**	**+0.2**
	SNR=214						
AAK	**Ala-Archa**	**4.41**	**6**	P	**Pn**	**03 58 15.9**	**+0.1**
	26nm,0.3s,baz=157,slow=6.9,SNR=117						
AAK				S	**Sn**	**03 59 05.3**	**-1.1**
	18nm,0.3s,baz=109,slow=6.2,SNR=7.3						
AAK	**Ala-Archa**	**4.41**	**6**	P	**Pn**	**03 58 15.9**	**+0.1**
	SNR=93						
AAK	**Ala-Archa**	**4.41**	**6** *d*	*i*PN	**Pn**	**03 58 15.6**	**-0.1**
AAK	**Ala-Archa**	**4.41**	**6**	Pn	**Pn**	**03 58 15.7**	**-0.1**
CHCP	**Chirah Chowk**	**4.61**	**186**	⇓P	**Pn**	**03 58 22.3**	**+3.9**
TAS	**Tashkent**	**4.68**	**312**	PN	**Pn**	**03 58 18.6**	**-0.6**
TAS	**Tashkent**	**4.68**	**312**	Pn	**Pn**	**03 58 18.6**	**-0.6**
CEP	**Cherat**	**4.70**	**200**	P	**Pn**	**03 58 22.5**	**+2.8**
CEP				S	**Sn**	**03 59 15.0**	**+1.7**
CHMS	**Chumysh**	**4.79**	**8**	P	**Pn**	**03 58 20.8**	**+0.1**
	SNR=32						
TKM2	**Tokmak 2**	**4.84**	**15**	P	**Pn**	**03 58 21.7**	**0.0**
	SNR=77						
TKM2	**Tokmak 2**	**4.84**	**15**	PN	**Pn**	**03 58 21.6**	**0.0**
TKM2				S	**Sn**	**03 59 15.6**	**-1.3**
TKM2	**Tokmak 2**	**4.84**	**15**	⇓P	**Pn**	**03 58 21.6**	**0.0**
	66nm,0.5s						
TKM2				⇑S	**Sn**	**03 59 15.6**	**-1.3**
	154nm,0.7s						
USP	**Ospenovka**	**5.03**	**5**	P	**Pn**	**03 58 24.1**	**+0.1**
	SNR=34						
KBL	**Kabul**	**5.38**	**228**	PN	**Pn**	**03 58 31.2**	**+2.3**
KBL	**Kabul**	**5.38**	**228**	Pn	**Pn**	**03 58 31.2**	**+2.3**
MDOK	**Medeo**	**5.47**	**25**	PN	**Pn**	**03 58 29.9**	**0.0**
MDOK	**Medeo**	**5.47**	**25**	⇑P	**Pn**	**03 58 29.6**	**-0.4**
	28nm,0.6s						
MDOK				⇓S	Sn	03 59 48.4	+17
	288nm,1.2s						
KKAR	**Karatay Array**	**5.48**	**333**	PN	**Pn**	**03 58 29.2**	**-0.8**
KKAR	**Karatay Array**	**5.48**	**333**	Pn	**Pn**	**03 58 29.2**	**-0.8**
KK08	**Karatay Array**	**5.49**	**333**	⇓P	**Pn**	**03 58 29.6**	**-0.6**
	250nm,0.5s,baz=146,slow=14						
KK08				⇓S	**Sn**	**03 59 26.7**	**-5.5**
	199nm,0.7s,baz=149,slow=24						
JMU	**Jammu**	**5.58**	**171**	*e*P	**Pn**	**03 58 33.6**	**+2.2**
JMU				*e*S	**Sn**	**03 59 33.5**	**-0.9**
THW	**Thamme Wali**	**5.72**	**198**	⇓P	**Pn**	**03 58 35.1**	**+1.8**
THN	**Thein Dam**	**5.99**	**165**	*e*P	**Pn**	**03 58 38.7**	**+1.7**
THN				*e*S	**Sn**	**03 59 42.5**	**-1.8**
THN				*e*S	**Sn**	**03 59 44.1**	**-0.2**
DHRM	**DHARAMSHALA**	**6.30**	**161**	*e*P	**Pn**	**03 58 42.8**	**+1.4**
DHRM				*i* x	x	03 58 44.4	
DHRM				*e*S	**Sn**	**03 59 49.9**	**-2.3**
DHRM				IAML		03 59 58.7	
	comp=N,654nm,0.8s						
DHRM				IAML		03 59 58.8	
	comp=E,820nm,0.4s						
SARP	**Sargodha**	**6.39**	**189**	P	**Pn**	**03 58 43.2**	**+0.9**
PDGK	**Podgornoye**	**6.62**	**38**	PN	**Pn**	**03 58 44.5**	**-1.0**
PDGK	**Podgornoye**	**6.62**	**38**	⇑P	**Pn**	**03 58 44.5**	**-1.0**
	comp=E,80nm,1.1s						
PDGK				⇓S	Sn	04 00 21.0	+21
	comp=E,183nm,0.8s						
BHK	**Bhakra**	**7.13**	**162**	*e*P	**Pn**	**03 58 52.7**	**+0.4**
SMLA	**Simla**	**7.60**	**158**	*e*P	**Pn**	**03 58 59.3**	**+0.7**
SMLA				*e*S	**Sn**	**04 00 18.1**	**-5.2**
SMLA				IAML		04 00 27.5	
	comp=E,557nm,0.6s						
SMLA				IAML		04 00 27.8	
	comp=N,543nm,0.2s						
DDI	**Dehra Dun**	**8.63**	**155**	*e*P	**Pn**	**03 59 13.2**	**+0.7**
NDI	**New Delhi**	**9.94**	**163**	*e*P	**Pn**	**03 59 30.0**	**-0.2**
NDI				*e*P	**Pn**	**03 59 31.0**	**+0.8**
NDI				*e*S	Sn	04 01 09.8	-10
NDI				*e*x	x	04 01 13.0	
PTH	**Pithoragarh**	**10.15**	**147**	*e*P	**Pn**	**03 59 32.7**	**-0.5**
HRA	**Herat**	**10.15**	**251**	Pn	**Pn**	**03 59 33.8**	**+0.6**
LGTI	**Lohaghat**	**10.25**	**147**	*e*x	x	04 00 50.3	
MAKZ	**Makanchi**	**10.43**	**32**	P	**Pn**	**03 59 34.7**	**-1.9**
MAKZ	**Makanchi**	**10.43**	**32**	Pn	**Pn**	**03 59 34.7**	**-1.9**
MAKZ	**Makanchi**	**10.43**	**32**	⇓P	**Pn**	**03 59 34.7**	**-1.9**
	comp=N,28nm,1.1s						
MK31	**Makanchi Array**	**10.55**	**33**	*e*P	**Pn**	**03 59 36.8**	**-1.5**
MK31	**Makanchi Array**	**10.55**	**33**	Pn	**Pn**	**03 59 37.0**	**-1.3**
MK31	**Makanchi Array**	**10.55**	**33**	P	**Pn**	**03 59 36.9**	**-1.5**
	comp=N,24nm,0.8s,baz=212,slow=8.5,SNR=147						
MKAR	**Makanchi Array**	**10.55**	**33**	P	**Pn**	**03 59 37.0**	**-1.3**
	comp=N,1.2nm,0.3s,baz=208,slow=13,SNR=188						
MKAR	**Makanchi Array**	**10.55**	**33**	Pn	**Pn**	**03 59 36.5**	**-1.8**
AJM	**Ajmer**	**11.76**	**177**	*e*P	**Pn**	**03 59 53.3**	**-1.2**
AJM				*e*S	**Sn**	**04 01 56.0**	**-7.9**
WMQ	**Urumqi**	**11.82**	**58**	*e*P	**Pn**	**03 59 53.9**	**-1.3**
WMQ				S	**Sn**	**04 02 03.0**	**-2.3**
WMQ				pmax	pmax		
	comp=N,17nm,1.1s						
GEYT	**Alibeck**	**12.43**	**273**	P	**Pn**	**04 00 01.5**	**-1.7**
	comp=N,2.9nm,0.3s,baz=103,slow=12,SNR=9.4						
GEYT				S	**Sn**	**04 02 11.9**	**-8.1**
	comp=N,1.1nm,0.3s,baz=74,slow=22,SNR=4.5						
GEYT	**Alibeck**	**12.43**	**273**	Pn	**Pn**	**04 00 00.7**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**12.43**	**273**	Pn	**Pn**	**03 59 59.9**	**-3.3**
PYUN	**Piuthan**	**12.67**	**140**	*e*P	**Pn**	**04 00 03.9**	**-2.7**
	comp=N,234nm,0.4s						
KURBB	**Kurchatov Arra**	**12.80**	**13**	P	**Pn**	**04 00 04.5**	**-3.5**
	comp=N,0.3nm,0.3s,baz=202,slow=12,SNR=32						
KURBB				LR	LR	04 05 28.7	
	comp=N,54nm,19.6s,baz=152,slow=39						
DANN	**Dangsing**	**12.87**	**137**	*e*P	**Pn**	**04 00 06.1**	**-3.1**
	comp=N,156nm,0.4s						
KURK	**Kurchatov**	**12.91**	**14** *d*	*i*P	**Pn**	**04 00 05.8**	**-3.5**
KURK	**Kurchatov**	**12.91**	**14**	Pn	**Pn**	**04 00 05.5**	**-3.9**
KOLN	**Koldanda**	**13.25**	**139**	*e*P	**Pn**	**04 00 11.4**	**-2.7**
	comp=N,49nm,0.3s						
GKN	**Gorkha**	**13.61**	**135**	*e*P	**Pn**	**04 00 15.7**	**-3.1**
	comp=N,102nm,0.3s						
KKN	**Kakani**	**14.14**	**134**	*e*P	**Pn**	**04 00 22.6**	**-2.9**
DMN	**Daman**	**14.18**	**135**	*e*P	**Pn**	**04 00 23.6**	**-2.5**
	comp=N,34nm,0.3s						
PKIN	**Phulchoki**	**14.37**	**134**	*e*P	**Pn**	**04 00 26.2**	**-2.3**
	comp=N,61nm,0.4s						
PKI	**Pulchoki**	**14.38**	**134**	*e*P	**Pn**	**04 00 26.4**	**-2.3**
	comp=N,65nm,0.4s						
GUN	**Gumba**	**14.39**	**132**	*e*P	**Pn**	**04 00 25.5**	**-3.4**
	comp=N,57nm,0.4s						
JIRN	**Jiri**	**14.76**	**132**	*e*P	**Pn**	**04 00 30.8**	**-2.8**
	comp=N,79nm,0.4s						
ABKAR	**Akbulak array**	**14.89**	**322**	Pn	**Pn**	**04 00 31.2**	**-3.4**
BVAR	**Borovoye Array**	**14.97**	**352**	P	**Pn**	**04 00 33.4**	**-2.2**
	comp=N,1.2nm,0.3s,baz=94,slow=15,SNR=20						
BRVK	**Borovoye**	**15.02**	**352** *d*	*i*P	**Pn**	**04 00 33.4**	**-2.8**
BRVK	**Borovoye**	**15.02**	**352**	Pn	**Pn**	**04 00 33.2**	**-3.0**
BRVK	**Borovoye**	**15.02**	**352**	⇑P	**P**	**04 00 37.7**	**-0.9**
	comp=N,33nm,0.8s						
BHPL	**Bhopal**	**15.27**	**168**	*e*P	**Pn**	**04 00 40.4**	**+0.8**
BHPL				*e*S	**Sn**	**04 03 19.4**	**-9.3**
BHPL				IAML		04 03 23.5	
	comp=N,38nm,0.3s						
RAMN	**Ramite**	**15.53**	**133**	*e*P	**Pn**	**04 00 40.2**	**-2.9**
	comp=N,79nm,0.4s						
JBP	**Jabalpur**	**15.92**	**159**	⇓*e*P	**Pn**	**04 00 44.2**	**-3.4**
JBP				*e*x	x	04 03 31.3	
AKTO	**Aktyubinsk**	**16.60**	**322**	P	**Pn**	**04 00 54.3**	**-1.5**
	comp=N,1.9nm,0.3s,baz=125,slow=12,SNR=33						
AKTO				LR	LR	04 08 07.5	
	comp=N,56nm,18.2s,baz=166,slow=39						
AKTO	**Aktyubinsk**	**16.60**	**322**	⇑P	**P**	**04 00 56.3**	**+0.1**
	comp=N,16nm,0.6s						
GOMU	**GeErMu**	**16.80**	**91**	P	**P**	**04 01 01.3**	**+2.5**
GOMU				pmax	pmax		
	comp=N,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=N,21nm,3.5s						
ZAA0	**Zalesovo Array**	**17.40**	**22**		**P**	**04 01 03.5**	**-1.4**
ZALV	**Zalesovo Beam**	**17.40**	**22**	P	**P**	**04 01 03.8**	**-1.2**
	comp=N,5.0nm,0.3s,baz=218,slow=10,SNR=85						
ZALV				S	**Sn**	**04 04 15.6**	**-4.0**
	comp=N,0.1nm,0.3s,baz=210,slow=16,SNR=3.5						
ZALV				LR	LR	04 07 35.1	
	comp=N,36nm,20.8s,baz=280,slow=36						
ZALV	**Zalesovo Beam**	**17.40**	**22**	*i* P	**P**	**04 01 03.7**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZALV				pmax	pmax		
	comp=Z,12nm,0.4s						
ZALV	**Zalesovo Beam**	**17.40**	**22**	P	**P**	**04 01 03.4**	**-1.5**
BOK	**Bokaro**	**17.68**	**141**	*e*P	**P**	**04 01 08.6**	**+0.4**
SHL	**Shillong**	**19.79**	**124**	*e*x	x	04 01 33.5	
WSAR	**Wadi Sarin**	**19.85**	**225**	P	**Pn**	**04 01 33.5**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=50,slow=6.0,SNR=16						
UOSS	**Minazif**	**20.02**	**234**	P	**P**	**04 01 34.1**	**+0.5**
UOSS				IAmb	IAmb	04 01 46.2	
	comp=Z,6.9nm,0.8s						
GTA	**Gaotai**	**20.22**	**79**	*e*P	Pn	04 01 37.8	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,100nm,5.1s						
GTA				LR	LR		
	comp=Z,47nm,16.4s						
GTA				LR	LR		
	comp=Z,100nm,19.3s						
GTA				LR	LR		
	comp=Z,89nm,18.2s						
SVE	**Sverdlovsk**	**20.56**	**339**	*e*P	**P**	**04 01 39.0**	**-0.1**
SVE				*e*S	**S**	**04 05 20.7**	**-1.3**
SVE				pmax	pmax		
	comp=Z,18nm,1.3s						
ARU	**Arti**	**20.85**	**336**	P	**P**	**04 01 41.7**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=152,slow=5.8,SNR=14						
ARU	**Arti**	**20.85**	**336**	*d i*P	**P**	**04 01 41.4**	**-0.9**
ARU						04 02 09.6	
ARU				S	**S**	**04 05 26.8**	**-1.0**
ARU				pmax	pmax		
	comp=Z,31nm,1.4s						
ARU	**Arti**	**20.85**	**336**	P	**P**	**04 01 41.0**	**-1.3**
HYBB	**Hyderabad (bro**	**21.15**	**168**	*e*P	**P**	**04 01 47.5**	**+1.6**
HYBB				*e*S	**S**	**04 05 36.3**	**+2.0**
GNI	**Garni**	**22.62**	**284**	P	**P**	**04 02 02.4**	**+1.3**
	comp=Z,2.4nm,0.5s,baz=90,slow=17,SNR=5.6						
GNI	**Garni**	**22.62**	**284**	*c i*P	**P**	**04 02 04.1**	**+3.0**
GNI				pmax	pmax		
	comp=Z,22nm,1.5s						
GNI	**Garni**	**22.62**	**284**	P	**P**	**04 02 04.1**	**+3.0**
GNI				IAmb	IAmb	04 02 22.2	
	comp=Z,11nm,0.9s						
ZEI	**Tsey**	**23.17**	**291**	*e*P	**P**	**04 02 09.9**	**+3.5**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NCK	**Nalchik**	**23.42**	**293**	⇑*e*P	**P**	**04 02 10.0**	**+1.6**
NCK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ONI	**Oni**	**23.50**	**290**	P	**P**	**04 02 11.7**	**+2.4**
ONI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ONI	**Oni**	**23.50**	**290**	P	**P**	**04 02 11.7**	**+2.4**
ONI				IAmb	IAmb	04 02 12.8	
	comp=Z,8.4nm,1.0s						
LZH	**Lanzhou**	**23.93**	**86**	*e*P	**P**	**04 02 15.2**	**+1.9**
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
KBZ	**Khabaz**	**23.93**	**293**	P	**P**	**04 02 14.1**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=41,slow=9.3,SNR=2.7						
KBZ	**Khabaz**	**23.93**	**293**	⇓*e*P	**P**	**04 02 17.5**	**+4.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**24.10**	**294**	*e*P	**P**	**04 02 16.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAK	**Zakamensk**	**24.11**	**50**	*e*P	**P**	**04 02 15.7**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	**Songino Array**	**25.46**	**57**	P	**P**	**04 02 28.2**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=250,slow=11,SNR=11						
SONM				pP	**pP**	**04 02 57.5**	**+2.7**
	comp=Z,4.7nm,0.8s,baz=257,slow=10,SNR=10.0						
SONM				sP	**sP**	**04 03 13.9**	**+4.4**
	comp=Z,4.2nm,1.0s,baz=253,slow=9.9,SNR=4.4						
SONM				LR	LR	04 13 17.5	
	comp=Z,54nm,21.4s,baz=102,slow=38						
SONM	**Songino Array**	**25.46**	**57**	P	**P**	**04 02 28.5**	**+1.5**
KIRV	**Kirov**	**25.77**	**330**	⇓*e*P	**P**	**04 02 30.6**	**+1.1**
ULN	**Ulaanbaatar**	**25.90**	**58**	⇓*e*P	**P**	**04 02 30.5**	**-0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.0s						
MARD	**Mardin**	**26.11**	**278**	P	**P**	**04 02 35.1**	**+2.1**
MARD				IAmb	IAmb	04 02 55.7	
	comp=Z,4.7nm,1.0s						
PZH	**PanZhiHua**	**26.18**	**108**	P	**P**	**04 02 34.3**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
RAYN	**Ar Rayn**	**28.30**	**247**	P	**P**	**04 02 52.9**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RAYN	**Ar Rayn**	**28.30**	**247**	P	**P**	**04 02 52.9**	**+0.4**
HHC	**Hu-ho-hao-te**	**29.03**	**73**	*e*P	**P**	**04 02 59.7**	**+0.8**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,91nm,5.6s						
BR131	**Keskin Array S**	**31.13**	**286**	⇓*e*P	**P**	**04 03 19.1**	**+1.5**
BR131	**Keskin Array S**	**31.13**	**286**	P	**P**	**04 03 18.8**	**+1.2**
BRTR	**Keskin Array B**	**31.13**	**286**	P	**P**	**04 03 19.2**	**+1.7**
	comp=Z,3.9nm,1.1s,baz=98,slow=6.4,SNR=14						
BRTR	**Keskin Array B**	**31.13**	**286**	P	**P**	**04 03 18.7**	**+1.1**
KLMR	**Klimovskoe**	**31.16**	**328**	*e*P	**P**	**04 03 16.4**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLMR	**Klimovskoe**	**31.16**	**328**	*e*P	**P**	**04 03 16.5**	**-0.8**
KLMR				AMP		04 03 18.4	
	comp=Z,10.0nm,1.3s						
ANTO	**Ankara**	**31.75**	**286**	P	**P**	**04 03 24.2**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANTO	**Ankara**	**31.75**	**286**	P	**P**	**04 03 24.2**	**+1.3**
ANTO				IAmb	IAmb	04 03 26.1	
	comp=Z,6.4nm,0.9s						
AKASG	**Malin Array Be**	**33.70**	**306**	P	**P**	**04 03 39.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=7.5,SNR=8.8						
AKASG				pP	**pP**	**04 04 10.8**	**+2.6**
	comp=Z,0.9nm,0.6s,baz=81,slow=7.1,SNR=2.0						
AKASG				LR	LR	04 19 22.6	
	comp=Z,20nm,18.4s,baz=142,slow=39						
MLR	**Muntele Rosu**	**35.98**	**297**	P	**P**	**04 04 01.9**	**+2.5**
	comp=Z,5.7nm,1.0s,baz=109,slow=5.4,SNR=5.6						
MLR	**Muntele Rosu**	**35.98**	**297**	P	**P**	**04 04 01.9**	**+2.5**
MLR				IAmb	IAmb	04 04 02.3	
	comp=Z,5.1nm,1.0s						
FINES	**FINESS Array B**	**37.36**	**324**	P	**P**	**04 04 11.4**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=117,slow=9.3,SNR=29						
FINES				LR	LR	04 19 30.9	
	comp=Z,41nm,19.9s,baz=43,slow=36						
FINES	**FINESS Array B**	**37.36**	**324**	P	**P**	**04 04 11.2**	**+0.4**
ARCES	**ARCESS Array B**	**40.44**	**336**	P	**P**	**04 04 37.0**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=110,slow=8.1,SNR=34						
ARCES				pP	**pP**	**04 05 08.5**	**+3.1**
	comp=Z,1.1nm,0.4s,baz=106,slow=8.9,SNR=2.0						
ARCES				LR	LR	04 21 20.2	
	comp=Z,48nm,19.4s,baz=206,slow=36						
ARCES	**ARCESS Array B**	**40.44**	**336**	P	**P**	**04 04 36.6**	**+0.3**
ARCES				IAmb	IAmb	04 04 38.5	
	comp=Z,8.1nm,1.1s						
ITM	**Ithomi**	**40.66**	**285**	P	**P**	**04 04 38.9**	**+0.3**
CONA	**Conrad Observa**	**42.55**	**302**	*e*P	**P**	**04 04 55.0**	**+1.1**
	comp=Z,9.2nm,1.4s						
TIXI	**Tiksi**	**43.29**	**22**	⇑*e*P	**P**	**04 05 00.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
TIXI	**Tiksi**	**43.29**	**22**	P	**P**	**04 04 59.4**	**0.0**
TIXI				IAmb	IAmb	04 05 02.3	
	comp=Z,2.8nm,0.5s						
SOKA	**Soboth**	**43.32**	**301**	*e*P	**P**	**04 05 01.3**	**+1.1**
	comp=Z,12nm,1.6s						
BRG	**Berggiesshubel**	**43.37**	**307**	*e*P	**P**	**04 05 01.5**	**+1.0**
BRG				Amp		04 05 03.3	
	comp=Z,3.4nm,0.6s						
BRG	**Berggiesshubel**	**43.37**	**307**	*e*P	**P**	**04 05 01.4**	**+1.0**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBKA	**Obir**	**43.68**	**301**	*e*P	**P**	**04 05 04.7**	**+1.6**
	comp=Z,1.1nm,0.5s						
GERES	**GERESS Array B**	**43.82**	**304**	P	**P**	**04 05 05.7**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=64,slow=8.9,SNR=4.3						
KHC	**Kasperske Hory**	**43.85**	**305**	⇓*i*P	**P**	**04 05 05.9**	**+1.6**
KHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KHC	**Kasperske Hory**	**43.85**	**305**	*e*P	**P**	**04 05 05.0**	**+0.7**
NC405	**NORSAR Array S**	**44.15**	**322**	P	**P**	**04 05 06.2**	**-0.4**
NORES	**NORESS Array B**	**44.23**	**321**	P	**P**	**04 05 07.8**	**+0.7**
NC303	**NORSAR Array S**	**44.32**	**322**	P	**P**	**04 05 08.1**	**+0.2**
NC303				IAmb	IAmb	04 05 30.1	
	comp=Z,4.4nm,0.9s						
KBA	**Koelnbreinsper**	**44.38**	**302**	*e*P	**P**	**04 05 09.4**	**+0.7**
	comp=Z,1.4nm,0.8s						
TRI	**Trieste**	**44.38**	**300**	P	**P**	**04 05 08.7**	**+0.2**
TRI				pmax	pmax		
	comp=Z,12nm,1.1s						
TRI	**Trieste**	**44.38**	**300**	P	**P**	**04 05 08.7**	**+0.2**
NB2	**NORSAR Subarra**	**44.40**	**322**	P	**P**	**04 05 09.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**44.40**	**322**	P	**P**	**04 05 08.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=103,slow=7.1,SNR=11						
NOA				LR	LR	04 24 59.8	
	comp=Z,25nm,20.0s,baz=100,slow=38						
ABTA	**Abfaltersbach**	**45.00**	**301**	*e*P	**P**	**04 05 13.4**	**-0.2**
	comp=Z,1.9nm,0.6s						
KONO	**Kongsberg**	**45.20**	**320**	P	**P**	**04 05 14.7**	**-0.1**
KONO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KONO	**Kongsberg**	**45.20**	**320**	P	**P**	**04 05 14.7**	**-0.1**
MOTA	**Moosalm**	**45.82**	**303**	*e*P	**P**	**04 05 20.3**	**+0.2**
	comp=Z,1.0nm,0.4s						
MURB	**Monte Urbino**	**45.83**	**297**	P	**P**	**04 05 22.7**	**+2.6**
FETA	**Feichten**	**46.14**	**302**	*e*P	**P**	**04 05 22.5**	**-0.1**
	comp=Z,3.8nm,1.2s						
DAVA	**Damuels**	**46.64**	**303**	*e*P	**P**	**04 05 26.7**	**+0.2**
	comp=Z,3.7nm,0.4s						
TUE	**Stuetta**	**47.19**	**302**	P	**P**	**04 05 29.8**	**-1.1**
KBS	**Kingsbay**	**47.43**	**347**	P	**P**	**04 05 32.5**	**+0.5**
KBS				pmax	pmax		
	comp=Z,14nm,1.0s						
KBS	**Kingsbay**	**47.43**	**347**	P	**P**	**04 05 32.5**	**+0.5**
MSSA	**Maissana**	**47.64**	**299**	P	**P**	**04 05 34.8**	**+0.6**
SENIN	**Lac Senin/Sane**	**48.59**	**302**	P	**P**	**04 05 41.8**	**+0.2**
SENIN				IAmb	IAmb	04 05 55.5	
	comp=Z,5.1nm,1.1s						
BNI	**Bardonecchia**	**49.37**	**301**	P	**P**	**04 05 47.8**	**+0.3**
BNI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BNI	**Bardonecchia**	**49.37**	**301**	P	**P**	**04 05 47.8**	**+0.3**
BNI				IAmb	IAmb	04 05 57.7	
	comp=Z,5.2nm,0.9s						
MJAR	**Matsushiro Arr**	**50.20**	**71**	P	**P**	**04 05 53.9**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=300,slow=9.5,SNR=4.3						
KEST	**Kesra**	**50.66**	**288**	P	**P**	**04 05 58.7**	**+1.4**
EKA	**Eskdalemuir Ar**	**52.64**	**316**	P	**P**	**04 06 12.0**	**+0.4**
ESBB	**Sonseca Array**	**58.67**	**298**	P	**P**	**04 06 55.5**	**+0.5**
ESBB				IAmb	IAmb	04 07 08.4	
	comp=Z,2.3nm,0.9s						
ESDC	**Sonseca Array**	**58.67**	**298**	P	**P**	**04 06 55.4**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=56,slow=7.2,SNR=14						
ESDC	**Sonseca Array**	**58.67**	**298**	P	**P**	**04 06 55.0**	**0.0**
SUMG	**Summit**	**60.15**	**341**	P	**P**	**04 07 06.0**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SUMG	**Summit**	**60.15**	**341**	P	**P**	**04 07 06.0**	**+1.0**
SUMG				IAmb	IAmb	04 07 08.2	
	comp=Z,3.2nm,0.9s						
VOI	**Vohitsoka**	**65.02**	**208**	P	**P**	**04 07 37.7**	**+0.1**
RES	**Resolute Bay**	**67.10**	**357**	P	**P**	**04 07 49.7**	**-0.4**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RES	**Resolute Bay**	**67.10**	**357**	P	**P**	**04 07 49.7**	**-0.4**
ANM	**Nome**	**67.53**	**24**	P	**P**	**04 07 54.6**	**+1.7**
ANM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANM	**Nome**	**67.53**	**24**	P	**P**	**04 07 54.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**68.04**	**270**	P	**P**	**04 07 56.6**	**-0.2**
	comp=Z,7.6nm,0.4s,baz=48,slow=5.8,SNR=199						
TORD	**Torodi Ar. Bea**	**68.04**	**270**	P	**P**	**04 07 56.7**	**-0.2**
TORD				IAmb	IAmb	04 07 57.1	
	comp=Z,2.9nm,0.7s						
TOLK	**Toolik Lake Re**	**68.64**	**16**	P	**P**	**04 08 00.1**	**+0.2**
TOLK				IAmb	IAmb	04 08 00.9	
	comp=Z,2.9nm,0.6s						
A36M	**Sachs Harbour**	**69.24**	**6**	P	**P**	**04 08 03.6**	**+0.2**
A36M				IAmb	IAmb	04 08 04.7	
	comp=Z,2.7nm,0.9s						
IMAR	**Indian Mountai**	**69.80**	**19**	P	**P**	**04 08 06.5**	**-0.5**
BMAR	**Burnt Mountain**	**70.69**	**15**	P	**P**	**04 08 13.4**	**+1.0**
INK	**Inuvik**	**71.79**	**10**	P	**P**	**04 08 19.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=338,slow=8.0,SNR=10						
INK	**Inuvik**	**71.79**	**10**	P	**P**	**04 08 19.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**71.79**	**10**	P	**P**	**04 08 19.3**	**+0.3**
C36M	**Paulatuk**	**71.90**	**7**	P	**P**	**04 08 19.8**	**+0.2**
ILAR	**Eielson Array**	**72.45**	**17**	P	**P**	**04 08 22.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=321,slow=6.8,SNR=7.9						
ILAR	**Eielson Array**	**72.45**	**17**	P	**P**	**04 08 22.0**	**-1.0**
PPLA	**Purkeypile**	**72.67**	**20**	P	**P**	**04 08 24.7**	**+0.1**
PPLA				IAmb	IAmb	04 08 41.3	
	comp=Z,4.6nm,1.1s						
PSA00	**Pilbara Seismi**	**73.50**	**136**	P	**P**	**04 08 30.2**	**+0.4**
PSA00				IAmb	IAmb	04 08 31.0	
	comp=Z,2.6nm,0.8s						
SCRK	**Sand Creek**	**73.79**	**16**	P	**P**	**04 08 31.2**	**+0.2**
FRB	**Frobisher Bay**	**74.06**	**344**	P	**P**	**04 08 32.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=47,slow=9.0,SNR=4.8						
DAWY	**Dawson**	**74.68**	**14**	P	**P**	**04 08 36.0**	**-0.1**
RC01	**Rabbit Creek A**	**74.82**	**20**	P	**P**	**04 08 37.1**	**+0.2**
RC01				IAmb	IAmb	04 08 38.1	
	comp=Z,2.7nm,0.7s						
SCM	**Sheep Creek Mo**	**74.83**	**19**	P	**P**	**04 08 36.9**	**-0.2**
SCM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SCM	**Sheep Creek Mo**	**74.83**	**19**	P	**P**	**04 08 36.9**	**-0.2**
SCM				IAmb	IAmb	04 08 45.0	
	comp=Z,5.2nm,1.0s						
BCAR	**Beaver Creek A**	**75.07**	**16**	P	**P**	**04 08 38.8**	**+0.4**
CTGM	**Chitina Glacie**	**77.03**	**17**	P	**P**	**04 08 50.1**	**+0.4**
CTGM				IAmb	IAmb	04 09 08.1	
	comp=Z,5.8nm,1.1s						
DBIC	**Dimbokro**	**77.06**	**268**	P	**P**	**04 08 50.6**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=57,slow=6.0,SNR=12						
DBIC	**Dimbokro**	**77.06**	**268**	P	**P**	**04 08 50.8**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DBIC	**Dimbokro**	**77.06**	**268**	P	**P**	**04 08 50.8**	**+0.4**
DBIC				IAmb	IAmb	04 09 06.2	
	comp=Z,7.4nm,1.1s						
WAX	**Waxell Ridge**	**77.13**	**18**	P	**P**	**04 08 50.7**	**+0.5**
KIC	**Kosan Boka**	**77.16**	**268**	*e*P	**P**	**04 08 51.3**	**+0.3**
	comp=Z,11nm,0.5s						
TIC	**Toumodi**	**77.21**	**268**	*e*P	**P**	**04 08 51.4**	**+0.2**
LIC	**Lamto**	**77.47**	**268**	*e*P	**P**	**04 08 52.8**	**+0.1**
	comp=Z,37nm,1.3s						
LBTB	**Lobatse**	**77.52**	**224**	P	**P**	**04 08 52.8**	**0.0**
LBTB				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LBTB	**Lobatse**	**77.52**	**224**	P	**P**	**04 08 52.8**	**0.0**
HYT	**Haines Junctio**	**77.99**	**15**	P	**P**	**04 08 55.1**	**+0.2**
HYT				IAmb	IAmb	04 08 56.2	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	**79.37**	**4**	P	**P**	**04 09 02.5**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=347,slow=5.4,SNR=21						
YKA				pP	**pP**	**04 09 37.7**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=344,slow=5.4,SNR=4.5						
YKA	**Yellowknife Ar**	**79.37**	**4**	P	**P**	**04 09 02.6**	**+0.3**
YKA	**Yellowknife Ar**	**79.37**	**4**	P	**P**	**04 09 02.6**	**+0.3**
BOSA	**Boshof**	**80.57**	**222**	P	**P**	**04 09 08.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=24,slow=3.5,SNR=7.6						
BOSA	**Boshof**	**80.57**	**222**	P	**P**	**04 09 08.5**	**-0.8**
BOSA				IAmb	IAmb	04 09 30.8	
	comp=Z,6.3nm,1.1s						
WB0	**Warramunga Arr**	**80.93**	**124**	P	**P**	**04 09 11.0**	**-0.3**
WRA	**Warramunga Arr**	**81.02**	**124**	P	**P**	**04 09 11.4**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=324,slow=5.3,SNR=17						
WRA				pP	**pP**	**04 09 45.8**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=326,slow=5.1,SNR=5.6						
WRA	**Warramunga Arr**	**81.02**	**124**	P	**P**	**04 09 10.4**	**-1.4**
WRAB	**Tennant Creek**	**81.02**	**124**	P	**P**	**04 09 11.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**81.02**	**124**	P	**P**	**04 09 11.1**	**-0.6**
WRAB				IAmb	IAmb	04 09 11.9	
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**81.02**	**124**	P	**P**	**04 09 11.4**	**-0.4**
WB2				IAmb	IAmb	04 09 11.9	
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**83.42**	**127**	P	**P**	**04 09 23.4**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=319,slow=4.7,SNR=8.3						
ASAR				pP	**pP**	**04 09 58.8**	**+1.7**
	comp=Z,1.2nm,1.0s,baz=304,slow=4.3,SNR=4.2						
PB01	**IPOC Station P**	**144.12**	**288**	PKPdf	PKPbc	04 16 31.0	+0.6
PB07	**IPOC Station P**	**144.83**	**287**	PKPbc	**PKPdf**	**04 16 33.3**	**0.0**
PB14	**IPOC Station P**	**146.85**	**284**	PKPbc	**PKPbc**	**04 16 38.2**	**-0.7**
AC02	**Maricunga**	**147.01**	**279**	PKPbc	**PKPbc**	**04 16 38.7**	**-0.9**
AC01	**Pan de Azucar**	**147.80**	**281**	PKPbc	**PKPbc**	**04 16 41.5**	**+0.4**
ROC1	**El Roble**	**151.09**	**270**	PKPbc	**PKPbc**	**04 16 48.0**	**-1.4**
MT02	**Curacav**	**151.29**	**269**	PKPbc	**PKiKP**	**04 16 49.9**	**0.0**
BO02	**Sierra Bellavi**	**151.50**	**266**	PKPbc	**PKiKP**	**04 16 50.7**	**+0.3**
BO01	**Tunca**	**151.61**	**267**	PKPbc	**PKiKP**	**04 16 50.4**	**-0.1**
GO05	**Huala**	**152.46**	**266**	PKPbc	**PKiKP**	**04 16 53.2**	**+0.9**
PLCA	**Paso Flores**	**152.55**	**254**	PKPbc	**PKiKP**	**04 16 52.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=14,slow=2.2,SNR=7.2						
PLCA	**Paso Flores**	**152.55**	**254**	PKPbc	**PKiKP**	**04 16 53.4**	**+1.0**
LC01	**Cunco**	**153.31**	**258**	PKPbc	**PKiKP**	**04 16 53.9**	**0.0**

PRU ***07*** *04:08:02.5±0.0, 44.°23N×14.°53E, h0km*
RHSSO ***07*** *04:08:03.4±0.5, 44.°24N×14.°53E, h5km±4km, ML3.0/14*
LDG ***07*** *04:08:03.2±0.6, 44.°28N×14.°62E, h2km, Ml2.7/7, Error ellipse: s-maj=13.1km s-min=5.1km az=142.0*
VIE ***07*** *04:08:04.1±0.7, 44.°35N×14.°51E, h7km±2km, mb2.6/16, ml2.6/17, Error ellipse: s-maj=3.2km s-min=2.9km az=143.0 111 km S of Rijeka*
ISC 07 04:08:01.6±1.2**, 44.°22N**±0.°03×**14.°48E**±0.°03**, h6**km±9km**, n71, σ1§30**/109**, 5C, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.45**	**39**	*e*Pg	**Pg**	**04 08 09.2**	**-1.0**
NVLJ				Sg	**Sg**	**04 08 14.9**	**-1.1**
DUGI	**Dugi Otok**	**0.47**	**118**	*e*Pg	**Pg**	**04 08 10.4**	**-0.2**
DUGI				Sg	**Sg**	**04 08 17.6**	**+0.8**
RABC	**Rab**	**0.58**	**22**	*e*Pg	**Pg**	**04 08 11.7**	**-0.9**
RABC				Sg	**Sg**	**04 08 19.9**	**-0.2**
SMRN	**Sveta Marina**	**0.85**	**344**	*e*Pg	**Pg**	**04 08 18.5**	**+0.5**
BRJN	**Brijuni**	**0.87**	**323**	*e*Pg	**Pg**	**04 08 19.7**	**+1.5**
MORI	**Morici**	**0.95**	**111**	*e*Pg	**Pg**	**04 08 19.1**	**-0.8**
MORI				Sg	**Sg**	**04 08 33.4**	**+1.2**
UDBI	**Udbina**	**0.97**	**71**	*e*Pg	**Pg**	**04 08 20.7**	**+0.4**
UDBI				Sg	**Sg**	**04 08 32.7**	**-0.1**
ZIRJ	**Zirje**	**1.01**	**123**	*e*Pg	**Pg**	**04 08 19.9**	**-1.0**
ZIRJ				Sg	**Sg**	**04 08 34.5**	**+0.5**
PLIT	**Plitvice**	**1.05**	**50**	*e*Pg	**Pg**	**04 08 20.2**	**-1.5**
PLIT				Sg	**Sg**	**04 08 34.8**	**-0.6**
RIY	**Rijeka**	**1.11**	**360**	⇑*i*Pg	**Pg**	**04 08 22.8**	**-0.1**
RIY				*e*Sg	**Sg**	**04 08 37.5**	**+0.2**
RIY	**Rijeka**	**1.11**	**360**	*e*Pg	**Pg**	**04 08 22.5**	**-0.4**
RIY				Sg	**Sb**	**04 08 38.5**	**+0.6**
SKDS	**Skadanscina**	**1.37**	**346**	⇑*i*Pg	**Pn**	**04 08 27.4**	**+0.1**
SKDS				*e*Sg	**Sb**	**04 08 45.9**	**+0.4**
SKDS	**Skadanscina**	**1.37**	**346**	*i* Pn	**Pn**	**04 08 27.2**	**-0.1**
SKDS				*i*		04 08 28.1	
SKDS				IAML		04 08 51.1	
	comp=Z,50nm,0.3s						
BOJS	**Bojanci**	**1.40**	**23**	*i* Pn	**Pn**	**04 08 26.6**	**-1.1**
BOJS				*i*		04 08 46.0	
BOJS				IAML		04 08 49.8	
	comp=Z,52nm,0.4s						
KIJV	**Kijevo**	**1.40**	**98**	*e*Pg	**Pn**	**04 08 26.6**	**-1.1**
CEY	**Cerknica**	**1.52**	**359**	*e*Pg	**Pn**	**04 08 29.6**	**+0.2**
CEY				*e*Sg	**Sg**	**04 08 51.4**	**+0.8**
OZLJ	**Ozalj**	**1.56**	**26**	*e*Pn	**Pn**	**04 08 30.7**	**+0.8**
CRES	**Cresnjev**	**1.75**	**23**	⇑*i*Pn	**Pn**	**04 08 33.5**	**+0.9**
CRES				*e*Sn	**Sb**	**04 08 56.5**	**+0.1**
HVAR	**Hvar**	**1.76**	**125**	*e*Pn	**Pn**	**04 08 33.9**	**+1.2**
PRIJ	**Prijedor**	**1.77**	**64**	*e*Pn	**Pn**	**04 08 33.6**	**+0.9**
PRIJ				*e*Sn	**Sn**	**04 08 56.4**	**+0.9**
LJU	**Ljubljana**	**1.83**	**1**	*e*Pn	**Pn**	**04 08 34.8**	**+1.2**
LJU				*e*Sn	**Sn**	**04 08 57.9**	**+0.8**
MGRS	**Mrkonjic Grad**	**1.88**	**83**	⇑*i*Pn	**Pn**	**04 08 35.7**	**+1.4**
MGRS				*e*Sn	**Sn**	**04 08 59.3**	**+1.0**
MRAK	**Mrakovica**	**1.90**	**64**	*e*Pn	**Pn**	**04 08 35.4**	**+0.7**
MRAK				*e*Sn	**Sn**	**04 08 59.4**	**+0.4**
ZAG	**Zagreb**	**1.93**	**33**	*e*Pn	**Pn**	**04 08 36.4**	**+1.4**
ZAG				*e*Sn	**Sn**	**04 09 00.6**	**+1.0**
ZAG	**Zagreb**	**1.93**	**33**	*e*Pn	**Pn**	**04 08 36.7**	**+1.7**
PTJ	**Puntijarka**	**1.99**	**31**	*e*Pn	**Pn**	**04 08 36.2**	**+0.3**
BLY	**Banja Luka**	**2.00**	**74**	⇑*i*Pn	**Pn**	**04 08 37.2**	**+1.2**
BLY				*e*Sn	**Sn**	**04 09 01.6**	**+0.2**
RICI	**Ricice**	**2.05**	**110**	*e*Pn	**Pn**	**04 08 37.9**	**+1.3**
MAKA	**Makarska**	**2.06**	**116**	*e*Pn	**Pn**	**04 08 38.1**	**+1.4**
MOSL	**Moslavina**	**2.13**	**48**	*e*Pn	**Pn**	**04 08 37.8**	**-0.1**
LOBO	**Lobor**	**2.24**	**29**	*e*Pn	**Pn**	**04 08 39.5**	**+0.2**
LSTV	**Lastovo**	**2.27**	**129**	*e*Pn	**Pn**	**04 08 38.1**	**-1.5**
OBKA	**Obir**	**2.29**	**1**	Pn	**Pn**	**04 08 40.7**	**+0.6**
	comp=Z,1.0nm,0.2s,SNR=20						
OBKA				Sg	**Sg**	**04 09 15.2**	**0.0**
	comp=Z,10nm,0.3s						
MYKA	**Terra Mystica**	**2.49**	**347**	Pn	**Pn**	**04 08 44.7**	**+2.0**
	comp=Z,3.9nm,0.4s						
SOKA	**Soboth**	**2.49**	**9**	Pn	**Pn**	**04 08 42.7**	**-0.1**
	comp=Z,1.1nm,0.2s,SNR=4.5						
SOKA				Sg	**Sg**	**04 09 21.5**	**-0.1**
	comp=Z,6.5nm,0.5s						
STON	**Ston**	**2.70**	**119**	*e*Pn	**Pn**	**04 08 47.7**	**+2.2**
STON				*e*Sn	**Sn**	**04 09 19.6**	**+1.2**
STON	**Ston**	**2.70**	**119**	*e*Pn	**Pn**	**04 08 46.8**	**+1.3**
BEHE	**Becsehely**	**2.77**	**35**	*e*Pn	**Pn**	**04 08 48.2**	**+1.6**
BEHE				*e*Sn	**Sn**	**04 09 21.3**	**+0.9**
ABTA	**Abfaltersbach**	**2.89**	**332**	Pn	**Pn**	**04 08 49.3**	**+1.1**
	comp=Z,1.2nm,0.3s						
KBA	**Koelnbreinsper**	**2.97**	**345**	Pn	**Pn**	**04 08 50.1**	**+0.7**
	comp=Z,1.3nm,0.3s,SNR=4.7						
ARSA	**Arzberg**	**3.12**	**13**	Pn	**Pn**	**04 08 51.9**	**+0.5**
	comp=Z,0.7nm,0.2s						
TREB	**Trebinje**	**3.19**	**117**	*e*Pn	**Pn**	**04 08 54.4**	**+2.1**
TREB				*e*Sn	**Sn**	**04 09 31.5**	**+0.9**
BRY	**Bratogost**	**3.23**	**113**	*e*Pn	**Pn**	**04 08 54.4**	**+1.5**
BRY				*e*Sn	**Sn**	**04 09 32.4**	**+0.6**
BIOA	**Bad Ischl, Aus**	**3.53**	**351**	*e*Pn	**Pn**	**04 08 58.3**	**+1.3**
	comp=Z,1.6nm,0.3s						
MORH	**Mrgy, Hungar**	**3.56**	**54**	*e*Pn	**Pn**	**04 08 58.2**	**+0.9**
MORH				*e*Sn	**Sn**	**04 09 39.6**	**0.0**
MOA	**Molln**	**3.64**	**358**	*i* Pn	**Pn**	**04 08 59.7**	**+1.2**
	comp=Z,1.3nm,0.2s						
WTTA	**Wattenberg**	**3.64**	**328**	*e*Pn	**Pn**	**04 09 00.1**	**+1.4**
	comp=Z,2.0nm,0.3s						
WATA	**Walderalm**	**3.72**	**328**	*e*Pn	**Pn**	**04 09 01.9**	**+2.1**
	comp=Z,3.3nm,0.2s						
CONA	**Conrad Observa**	**3.83**	**14**	*e*Pn	**Pn**	**04 09 01.7**	**+0.4**
	comp=Z,0.7nm,0.2s						
CONA				*e*Sn	**Sn**	**04 09 48.8**	**+2.1**
	comp=Z,1.2nm,0.3s						
FETA	**Feichten**	**3.85**	**318**	*e*Pn	**Pn**	**04 09 02.9**	**+1.4**
	comp=Z,0.8nm,0.3s						
PDG	**Podgorica**	**3.91**	**115**	*e*Sn	**Sn**	**04 09 48.5**	**+0.1**
MOTA	**Moosalm**	**3.92**	**324**	*i* Pn	**Pn**	**04 09 04.9**	**+2.4**
	comp=Z,8.9nm,0.4s,SNR=12						
MOTA				*e*Sn	**Sn**	**04 09 52.8**	**+3.9**
	comp=Z,3.4nm,0.5s						
DAVA	**Damuels**	**4.45**	**315**	*e*Pn	**Pn**	**04 09 11.9**	**+2.2**
	comp=Z,1.8nm,0.3s						
CKRC	**Cesky Krumlov**	**4.61**	**359**	*e*SG	**Sg**	**04 10 27.4**	**-2.1**
	comp=Z,3.8nm,0.8s						
KHC	**Kasperske Hory**	**4.96**	**353**	*e*PN	**Pn**	**04 09 17.0**	**+0.4**
KHC				*e*SG	**Sg**	**04 10 40.2**	**-0.5**
	comp=Z,8.5nm,1.4s						
SBF	**Sospel**	**5.09**	**268**	*e*Pn	**Pn**	**04 09 19.2**	**+0.7**
SBF				*e*Sn	**Sn**	**04 10 17.9**	**+0.2**
	comp=Z,2.1nm,0.2s						
MBDF	**Montbardon**	**5.54**	**278**	*e*Pn	**Pn**	**04 09 24.4**	**-0.4**
MBDF				*e*Sn	**Sn**	**04 10 27.4**	**-1.5**
	comp=Z,0.6nm,0.2s						
LPG	**La Plagne**	**5.64**	**286**	*e*Pn	**Pn**	**04 09 27.6**	**+1.3**
LPG				*e*Sn	**Sn**	**04 10 29.0**	**-2.6**
	comp=Z,1.2nm,0.4s						
LPL	**La Plagne**	**5.66**	**286**	*e*Pn	**Pn**	**04 09 28.3**	**+1.8**
LPL				*e*Sn	**Sn**	**04 10 29.5**	**-2.4**
	comp=Z,2.2nm,0.4s						
FRF	**La Foret Royal**	**5.70**	**266**	*e*Pn	**Pn**	**04 09 28.3**	**+1.5**
FRF				*e*Sn	**Sn**	**04 10 31.2**	**-1.4**
LMR	**La Mourre**	**5.84**	**264**	*e*Pn	**Pn**	**04 09 30.0**	**+1.3**
ORIF	**Oris-en-Rattie**	**6.19**	**280**	*e*Pn	**Pn**	**04 09 34.0**	**+0.4**
ORIF				*e*Sn	**Sn**	**04 10 43.6**	**-1.0**
	comp=Z,0.5nm,0.3s						
CABF	**La Chapelle**	**6.38**	**295**	*e*Pn	**Pn**	**04 09 37.1**	**+0.9**
CABF				*e*Sn	**Sn**	**04 10 47.4**	**-1.9**
HINF	**Hinteralfeld**	**6.42**	**307**	*e*Pn	**Pn**	**04 09 38.3**	**+1.6**
HINF				*e*Sn	**Sn**	**04 10 47.7**	**-2.5**
	comp=Z,2.6nm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAU	**Haudompre**	**6.81**	**307**	*e*Pn	**Pn**	**04 09 42.0**	**0.0**
VIVF	**Saint-Julien-l**	**7.04**	**279**	*e*Pn	**Pn**	**04 09 45.4**	**+0.2**
PAGF	**Fort de Pagny**	**7.45**	**309**	*e*Pn	**Pn**	**04 09 50.0**	**-0.8**
LOR	**Lormes**	**8.03**	**296**	*e*Pn	**Pn**	**04 09 59.0**	**+0.2**
LOR				*e*Sn	**Sn**	**04 11 26.1**	**-3.9**
	comp=Z,1.4nm,0.4s						
SSF	**Saint Saulge**	**8.20**	**294**	*e*Pn	**Pn**	**04 10 01.1**	**0.0**
AVF	**Avril sur Loir**	**8.23**	**292**	*e*Pn	**Pn**	**04 10 01.6**	**+0.1**
AVF				*e*Sn	**Sn**	**04 11 32.1**	**-2.7**
BAIF	**Baives**	**9.12**	**313**	*e*Pn	**Pn**	**04 10 12.5**	**-1.1**

*DJA **07** 04:13:25.8±0.6, 7°S±4°×13°0E±°, h214km±13km, M4.2/8, mb4.3/6, mB4.6/4, MLv4.3/8, Mw(mB)3.9/4*
*IDC **07** 04:13:25.1±1.6, 6°.41S×129°.96E, h143km±19km, mb3.7/3, mb1 3.9/6, mb1mx3.3/43, mbtmp4.3/6, Error ellipse: s-maj=19.8km s-min=13.2km az=102.0*
*NEIC **07** 04:13:26.4±2.4, 6°.41S±0°.08×129°.8E±0°.1, h159km±11km, mb4.0/7, Error ellipse: s-maj=17.5km s-min=11.7km az=80.0*
ISC 07 04:13:25.8±0.6**, 6°.47S**±0°.06×**129°.92E**±0°.07**, h150**km**, n44, σ1s.68**/45**, mb4.1**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**138**	Pn	**Pn**	**04 14 04.1**	**+2.7**
SAUI	**Saumlaki**	**2.04**	**138**	P	**Pn**	**04 14 04.3**	**+2.9**
AAI	**Ambon**	**3.25**	**328**	P	Pn	04 14 20.9	+4.4
FAKI	**Fak Fak**	**4.22**	**33**		**Pn**	**04 14 29.2**	**+0.2**
FAKI	**Fak Fak**	**4.22**	**33**	P	**Pn**	**04 14 29.9**	**+0.8**
FAKI	**Fak Fak**	**4.22**	**33**	P	**Pn**	**04 14 29.7**	**+0.6**
SIJI	**Sorong**	**5.72**	**14**	P	**Pn**	**04 14 48.9**	**0.0**
	2.7nm,0.3s,baz=81,slow=23,SNR=19						
SIJI				S	**Sn**	**04 15 50.3**	**-3.6**
	20nm,0.3s,baz=237,slow=23,SNR=13						
DRS	**Darwin Rock St**	**6.00**	**171**	P	**Pn**	**04 14 53.1**	**+0.5**
KDU	**Kakadu**	**6.67**	**158**	P	**Pn**	**04 15 01.8**	**+0.2**
BATI	**Baumata**	**7.22**	**239**	P	**Pn**	**04 15 10.6**	**+1.7**
	19nm,0.3s,baz=75,slow=3.4,SNR=8.7						
BATI				S	**Sn**	**04 16 29.5**	**-0.3**
	18nm,0.3s,baz=153,slow=21,SNR=7.6						
BATI	**Baumata**	**7.22**	**239**	P	**Pn**	**04 15 10.8**	**+1.9**
	0.2nm868nm41nm,0.5s						
KNRA	**Kununurra**	**9.22**	**187**	Pn	**Pn**	**04 15 35.0**	**-0.5**
KNRA	**Kununurra**	**9.22**	**187**	P	**Pn**	**04 15 35.3**	**-0.3**
BASI	**Baing, Sumba**	**9.96**	**247**	P	**Pn**	**04 15 46.7**	**+1.2**
PLAI	**Plampang**	**12.26**	**258**	P	**Pn**	**04 16 14.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.29**	**199**	P	**Pn**	**04 16 13.7**	**-2.3**
	0.2nm,0.3s,baz=33,slow=9.9,SNR=25						
FITZ				S	Sn	04 18 21.7	-10
FITZ	**Fitzroy Crossi**	**12.29**	**199**		**Pn**	**04 16 14.7**	**-1.2**
WB0	**Warramunga Arr**	**13.92**	**162**	Pn	**Pn**	**04 16 34.5**	**-2.3**
BKB	**Balikpapan**	**13.98**	**291**	P	**Pn**	**04 16 38.3**	**+0.7**
WRAB	**Tennant Creek**	**14.06**	**163**	P	**Pn**	**04 16 41.7**	**+3.1**
WRA	**Warramunga Arr**	**14.07**	**163**	P	Pn	04 16 34.2	-4.5
	0.8nm,0.3s,baz=343,slow=12,SNR=21						
WRA				S	Sn	04 19 02.8	-12
	1.8nm,0.3s,baz=334,slow=22,SNR=11						
WRA	**Warramunga Arr**	**14.07**	**163**	Pn	**Pn**	**04 16 36.6**	**-2.1**
WB2	**Warramunga Arr**	**14.07**	**163**	Pn	**Pn**	**04 16 36.0**	**-2.7**
WR0	**Warramunga Arr**	**14.14**	**162**	Pn	**Pn**	**04 16 37.7**	**-1.9**
COEN	**Coen**	**15.01**	**121**	Pn	**Pn**	**04 16 51.0**	**+0.4**
COEN				IAmb	IAmb	04 16 54.1	
	comp=Z,10nm,0.6s						
COEN	**Coen**	**15.01**	**121**	P	**Pn**	**04 16 51.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**15.76**	**262**	P	**P**	**04 16 59.7**	**-0.9**
	comp=Z,20nm,1.4s						
QIS	**Mount Isa**	**16.86**	**147**	P	**P**	**04 17 13.7**	**+0.9**
ASAR	**Alice Springs**	**17.52**	**168**	P	**P**	**04 17 20.2**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=346,slow=9.7,SNR=78						
ASAR				S	**S**	**04 20 30.0**	**-4.8**
	comp=Z,0.4nm,0.3s,baz=348,slow=25,SNR=5.4						
ASAR	**Alice Springs**	**17.52**	**168**	P	**P**	**04 17 20.6**	**+0.6**
PSA00	**Pilbara Seismi**	**17.90**	**212**	P	**P**	**04 17 24.6**	**+0.5**
PSA00				IAmb	IAmb	04 17 27.8	
	comp=Z,8.5nm,0.9s						
PSA00	**Pilbara Seismi**	**17.90**	**212**	P	**P**	**04 17 24.8**	**+0.7**
PSA00				IAmb	IAmb	04 17 26.7	
	comp=Z,3.4nm,1.1s						
PSA00	**Pilbara Seismi**	**17.90**	**212**	P	**P**	**04 17 24.8**	**+0.7**
WRKA	**Warakurna**	**18.53**	**185**	P	**P**	**04 17 31.8**	**+0.8**
CTA	**Charters Tower**	**20.85**	**132**	P	**P**	**04 17 56.6**	**+0.5**
	comp=Z,5.8nm,0.7s,baz=319,slow=12,SNR=9.0						
MULG	**Mulgathing**	**24.01**	**171**	P	**P**	**04 18 27.2**	**+0.4**
LCRK	**Leigh Creek**	**25.10**	**163**	P	**P**	**04 18 36.5**	**-0.2**
BBOO	**Buckleboo**	**26.83**	**168**	P	**P**	**04 18 51.2**	**-1.1**
STKA	**Stephens Creek**	**27.53**	**158**	P	**P**	**04 18 58.0**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=342,slow=8.9,SNR=6.1						
STKA	**Stephens Creek**	**27.53**	**158**	P	**P**	**04 18 58.1**	**-0.5**
CAN	**Canberra**	**33.66**	**151**	P	**P**	**04 19 52.9**	**+0.4**
CAN				IAmb	IAmb	04 20 03.5	
	comp=Z,7.8nm,1.1s						
LZH	**Lanzhou**	**48.90**	**332**	*e*P	**P**	**04 22 00.2**	**+3.4**
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
MK31	**Makanchi Array**	**67.74**	**327**	P	**P**	**04 24 07.3**	**+0.1**
MK31				IAmb	IAmb	04 24 07.8	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**67.74**	**327**	P	**P**	**04 24 07.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=117,slow=8.2,SNR=21						

*IDC **07** 04:46:10.6±3.2, 35°.19S×179°.69W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/42, mbtmp3.9/3, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/56, Error ellipse: s-maj=71.9km s-min=36.3km az=121.0*
*WEL **07** 04:46:11.5±1.0, 35°S±10°×17°9W±1°9, h33km, M4.0/8, ML4.1/11, MLv4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2*
ISC 07 04:46:11.1±1.7**, 35°.3S**±0°.1×**179°.1W**±0°.2**, h35**km**, n19, σ0s.83**/27**, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**221**	P	**Pn**	**04 46 57.9**	**+0.1**
MXZ				S	**Sn**	**04 47 32.3**	**-1.5**
PKGZ	**Pakihiroa**	**3.48**	**220**	P	**Pn**	**04 47 03.3**	**+0.4**
PKGZ				S	**Sn**	**04 47 43.0**	**+0.1**
PUZ	**Puketiti**	**3.53**	**216**	P	**Pn**	**04 47 03.9**	**+0.4**
PUZ				S	**Sn**	**04 47 43.6**	**-0.4**
HAZ	**Te Kaha**	**3.55**	**224**	P	**Pn**	**04 47 04.2**	**+0.5**
HAZ				S	**Sn**	**04 47 45.6**	**+1.2**
TWGZ	**Tauwhareparae**	**3.75**	**218**	P	**Pn**	**04 47 07.5**	**+0.9**
TWGZ				S	**Sn**	**04 47 50.4**	**+0.9**
RUGZ	**Raukumara Rang**	**3.75**	**223**	P	**Pn**	**04 47 07.3**	**+0.6**
CNGZ	**Carnagh Statio**	**3.89**	**213**	P	**Pn**	**04 47 08.6**	**+0.3**
TKGZ	**Te Karaka**	**4.02**	**217**	P	**Pn**	**04 47 10.3**	**+0.1**
MWZ	**Matawai**	**4.10**	**220**	P	**Pn**	**04 47 11.4**	**+0.1**
RIGZ	**Rimuhau**	**4.27**	**215**	P	**Pn**	**04 47 14.2**	**+0.6**
RIGZ				S	**Sn**	**04 48 02.1**	**-0.2**
URZ	**Urewera**	**4.28**	**224**	Pn	**Pn**	**04 47 13.6**	**-0.2**
	5.2nm,0.3s,baz=276,slow=2.5,SNR=26						
URZ				Sn	**Sn**	**04 47 59.9**	**-2.5**
	6.1nm,0.3s,baz=136,slow=20,SNR=12						
URZ	**Urewera**	**4.28**	**224**	P	**Pn**	**04 47 14.0**	**+0.3**
URZ				S	**Sn**	**04 48 01.5**	**-0.9**
PRGZ	**Paritu Road**	**4.39**	**212**	P	**Pn**	**04 47 15.5**	**+0.1**
PRGZ				S	**Sn**	**04 48 04.6**	**-0.6**
TOZ	**Tahuroa Road**	**5.01**	**239**	P	**Pn**	**04 47 24.2**	**+0.5**
GLKZ	**Green Lake**	**6.05**	**10**	S	**Sn**	**04 48 45.4**	**-0.7**
ASAR	**Alice Springs**	**42.17**	**273**	P	**P**	**04 54 01.1**	**+0.6**
	1.1nm,0.6s,baz=120,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**43.60**	**278**	P	**P**	**04 54 12.6**	**+0.5**
	0.9nm,0.5s,baz=119,slow=7.5,SNR=18						
QSPA	**South Pole Qui**	**54.88**	**180**	LR	LR	05 15 49.3	
	comp=Z,118nm,19.1s,baz=34,slow=32						
FINES	**FINESS Array B**	**149.29**	**336**	PKPbc	**PKPab**	**05 05 59.1**	**-0.8**
	1.1nm,0.6s,baz=25,slow=4.6,SNR=4.9						

*IDC **07** 04:47:52.3±1.4, 35°.40N×135°.52E, h364km±12km, mb3.2/15, mb1 3.4/20, mb1mx3.2/64, mbtmp3.9/20, Error ellipse: s-maj=28.4km s-min=13.7km az=172.0*
*JMA **07** 04:47:52.4±0.1, 35°.47N×135°.53E, h358km±1km, M3.8*
*NIED **07** 04:47:52.5, 35°.47N×135°.53E, h358km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.22; $M_{\theta\theta}$1.35; $M_{\phi\phi}$2.87; $M_{r\theta}$-4.75; $M_{\theta\phi}$1.69; $M_{\phi r}$3.58; Fault plane solution: $M_0$6.41000×10^{14} NP1: ϕ_s143.00000°, δ78.00000°, λ-103.00000°. NP2: ϕ_s11.00000°, δ18.00000°, λ-43.00000°.*
ISC 07 04:47:52.4±0.7**, 35°.47N**±0°.08×**135°.43E**±0°.06**, h360**km±6km**, n38, σ1s.08**/44**, mb3.5**/15**, 11D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.19**	**188**	⇓P	**Pn**	**04 48 37.4**	**0.0**
JWT				S	**S**	**04 49 12.3**	**-1.2**
JYTA	**Yamagatataniai**	**1.07**	**83**	⇓P	**Pn**	**04 48 39.1**	**-0.3**
JKG	**Kaga**	**1.08**	**42**	P	**Pn**	**04 48 39.2**	**-0.2**
JWY	**Kouya**	**1.26**	**174**	⇓P	**Pn**	**04 48 40.4**	**-0.1**
JIE	**Ise**	**1.50**	**136**	⇓P	**Pn**	**04 48 41.3**	**-0.3**
JIE				S	**S**	**04 49 19.3**	**-1.8**
JTNC	**Tanabenakahech**	**1.66**	**175**	⇓P	**Pn**	**04 48 42.1**	**-0.4**
JTNC				S	**S**	**04 49 21.0**	**-1.8**
JAI	**Aioi**	**1.86**	**206**	⇓P	**Pn**	**04 48 43.8**	**0.0**
JHS	**Saijyo**	**1.96**	**257**	⇓P	**Pn**	**04 48 44.9**	**+0.6**
JHS				*e*S	**S**	**04 49 25.8**	**-0.3**
TTO1	**TONANKAI O.B.S**	**2.16**	**148**	P	**Pn**	**04 48 45.7**	**+0.3**
JMN	**Monobe**	**2.16**	**217**	⇓P	**Pn**	**04 48 46.3**	**+0.4**
JGT2	**ShimaneMisato**	**2.43**	**261**	⇓P	**Pn**	**04 48 48.2**	**+0.5**
MAT	**Matsushiro**	**2.49**	**64**	P	**Pn**	**04 48 48.4**	**+0.2**
MAT				*e*S	**S**	**04 49 34.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.49**	**64**	P	**Pn**	**04 48 47.5**	**-0.6**
	0.3nm,0.3s,baz=254,slow=8.7,SNR=3.4						
JHT	**Toyohira**	**2.60**	**253**	⇓P	**Pn**	**04 48 49.9**	**+0.8**
JRY	**Ryogami san**	**2.87**	**78**	P	**Pn**	**04 48 50.9**	**-0.5**
JTO	**Tosashimizu**	**3.40**	**221**	⇓P	**Pn**	**04 48 56.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.30**	**122**	P	**Pn**	**04 49 08.5**	**+3.5**
	5.5nm,0.3s,baz=232,slow=22,SNR=1.5						
JHJ				S	**S**	**04 50 06.6**	**+2.9**
	19nm,0.3s,baz=61,slow=18,SNR=2.2						
JNU	**Nakatsue**	**4.44**	**239**	P	**Pn**	**04 49 07.0**	**+0.5**
	6.3nm,0.3s,baz=325,slow=0.3,SNR=32						
KSRS	**Korea Array**	**6.37**	**290**	P	**Pn**	**04 49 29.6**	**+2.0**
	2.6nm,0.3s,baz=106,slow=13,SNR=54						
USRK	**Ussuriysk Ar.**	**9.11**	**344**	P	**Pn**	**04 50 00.8**	**+1.2**
	baz=161,slow=10,SNR=21						
KLR	**Kul'dur**	**14.01**	**350**	P	**P**	**04 50 56.5**	**+1.1**
	0.5nm,0.3s,baz=180,slow=9.7,SNR=6.2						
PETK	**Petropavlovsk-**	**23.61**	**35**	P	**P**	**04 52 31.8**	**-0.3**
	2.5nm,0.7s,baz=232,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**24.81**	**309**	P	**P**	**04 52 44.4**	**+1.3**
	1.0nm,0.5s,baz=115,slow=9.3,SNR=8.2						
SEY	**Seymchan**	**29.44**	**16**	P	**P**	**04 53 23.6**	**-0.1**
	0.9nm,0.8s,baz=206,slow=7.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**39.45**	**314**	PcP	**PcP**	**04 56 47.1**	**-1.3**
	1.2nm,0.5s,baz=99,slow=4.8,SNR=5.4						
MKAR	**Makanchi Array**	**40.87**	**303**	P	**P**	**04 55 00.9**	**+0.4**
	0.6nm,0.5s,baz=84,slow=10,SNR=12						
KDAK	**Kodiak Island**	**51.46**	**41**	P	**P**	**04 56 21.6**	**-0.1**
	9.3nm,0.9s,baz=297,slow=11,SNR=13						
ILAR	**Eielson Array**	**53.37**	**31**	P	**P**	**04 56 35.3**	**-0.3**
	1.4nm,0.9s,baz=260,slow=5.8,SNR=21						
INK	**Inuvik**	**57.94**	**26**	P	**P**	**04 57 07.5**	**-0.1**
	1.5nm,0.4s,baz=284,slow=7.9,SNR=19						
ARCES	**ARCESS Array B**	**63.71**	**338**	P	**P**	**04 57 46.0**	**-0.1**
	1.6nm,0.9s,baz=56,slow=6.0,SNR=5.0						
RES	**Resolute Bay**	**65.26**	**13**	P	**P**	**04 57 55.6**	**-0.3**
	1.6nm,0.6s,baz=309,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**67.52**	**28**	P	**P**	**04 58 09.7**	**-0.6**
	0.4nm,0.4s,baz=300,slow=6.1,SNR=9.5						
FINES	**FINESS Array B**	**67.87**	**331**	P	**P**	**04 58 12.2**	**-0.3**
	0.6nm,0.5s,baz=71,slow=8.3,SNR=4.4						
NOA	**NORSAR Array B**	**73.66**	**335**	P	**P**	**04 58 46.5**	**-0.6**
	0.5nm,0.6s,baz=47,slow=5.4,SNR=2.3						
NVAR	**Mina Array Bea**	**79.74**	**50**	P	**P**	**04 59 22.0**	**+0.5**
	0.5nm,0.6s,baz=281,slow=6.1,SNR=2.7						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P**	**04 59 33.6**	**-0.4**
	0.4nm,0.6s,baz=324,slow=1.4,SNR=5.7						
TXAR	**Lajitas Array**	**94.84**	**49**	P	**P**	**05 00 34.4**	**0.0**
	0.3nm,0.7s,baz=286,slow=2.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**114.78**	**309**	PKP	**PKiKP**	**05 05 49.4**	**-1.7**
	0.1nm,0.5s,baz=352,slow=0.5,SNR=1.5						

ATH 07 04:49:55.5, 35°.42N×23°.58E, h12km±3km**, ML2.4**/2**, Error ellipse: s-maj=4.3km s-min=1.3km az=45.0, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.33**	**82**	P	Pg	04 50 01.8	-0.4
IMMV				S	Sg	04 50 07.1	+0.5
IMMV				AML	AML	04 50 08.0	
	comp=E,1856μm,0.3s						
IMMV				AML	AML	04 50 09.3	
	comp=N,1693μm,0.3s						
ANKY	**Antikythira Is**	**0.50**	**333**	P	Pg	04 50 05.0	-0.4
ANKY				S	Sg	04 50 12.0	-0.1
ANKY				AML	AML	04 50 16.4	
	comp=E,1072μm,0.6s						
ANKY				AML	AML	04 50 16.4	
	comp=N,954μm,0.4s						
GVD	**Gavdhos**	**0.71**	**144**	P	Pg	04 50 09.1	-0.2
KTHA	**Kythira Island**	**0.94**	**333**	P	Pg	04 50 13.6	-0.1
IDI	**Anoyia**	**1.08**	**97**	P	Pb	04 50 15.1	-1.0
VLI	**Veliai**	**1.40**	**338**	P	Pn	04 50 21.1	+0.3

THE 07 04:50:34.5, 35°.38N×23°.57E, h9km±1km**, ML2.9**/5**, Error ellipse: s-maj=1.4km s-min=0.3km az=244.0, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.17**	**148**	P	Pg	04 50 37.6	-0.5
KNDR				S	Sg	04 50 40.4	-0.2
RODP	**Rodopos**	**0.23**	**40**	P	Pg	04 50 39.2	0.0
RODP				S	Sg	04 50 43.1	+0.7
IMMV	**Iera Moni Meta**	**0.34**	**77**	P	Pg	04 50 41.4	+0.1
IMMV				S	Sg	04 50 46.4	+0.6
	3μm,0.3s						
VAM	**Vamos**	**0.51**	**87**	P	Pg	04 50 44.3	-0.1
VAM				S	Sg	04 50 51.9	+0.7
	2μm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	Pg	04 50 44.7	-0.1
ANKY				S	Sg	04 50 52.6	+0.8
	792nm,0.3s						
GVDS	**Gavdos**	**0.69**	**142**	P	Pg	04 50 47.3	-0.4
GVDS				S	Sg	04 50 57.3	+0.6
	2μm,0.2s						
GVD	**Gavdhos**	**0.69**	**142**	P	Pg	04 50 47.7	-0.1
GVD				S	Sb	04 50 57.8	-0.5
	1μm,0.3s						
PRNS	**Prines Rethymn**	**0.76**	**91**	P	Pg	04 50 47.9	-1.2
PRNS				S	Sg	04 50 58.1	-0.9

IDC 07 04:53:13.1±19.0**, 4°.15S×129°.22E, h550**km±142km**, mb3.0**/1**, mb1 2.8**/4**, mb1mx2.5**/40**, mbtmp3.7**/4**, Error ellipse: s-maj=261.9km s-min=114.7km az=167.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.30**	**194**	P	P	04 56 15.5	+0.1
	0.1nm,0.3s,baz=8.7,slow=7.9,SNR=1.0						
WRA	**Warramunga Arr**	**16.47**	**163**	P	P	04 56 37.0	0.0
	0.3nm,0.3s,baz=340,slow=11,SNR=21						
ASAR	**Alice Springs**	**19.92**	**167**	P	P	04 57 09.3	+0.8
	0.2nm,0.3s,baz=353,slow=8.0,SNR=9.6						
STKA	**Stephens Creek**	**29.93**	**159**	P	P	04 58 35.4	-1.5
	0.8nm,0.3s,baz=344,slow=7.1,SNR=4.7						

*GCG **07** 04:56:22.9±0.9, 15°.13N×89°.43W, h13km±20km, MD3.4*
*SNET **07** 04:56:28.1±1.1, 14°.92N×89°.65W, h14km±7km, ML2.6*
ISC 07 04:56:25.8±1.2**, 14°.99N**±0°.05×**89°.59W**±0°.05**, h13**km±8km**, n16, σ1s.11**/29**, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.13**	**316**	*e*P	**Pg**	**04 56 29.0**	**-0.4**
MRL				*e*S	**Sb**	**04 56 34.4**	**+1.2**
NBG	**Las Nubes**	**0.83**	**242**	*e*P	**Pb**	**04 56 43.0**	**+0.8**
NBG				*e*S	**Sn**	**04 56 57.2**	**+1.5**
SLOZ	**Alcaldia de Sa**	**0.97**	**191**	*e*P	**Pb**	**04 56 43.9**	**-0.7**
SLOZ				*e*S	**Sb**	**04 56 57.2**	**-0.1**
UNIC	**Universidad Ca**	**1.00**	**178**	*e*P	**Pb**	**04 56 44.5**	**-0.5**
UNIC				*e*S	**Sb**	**04 56 58.7**	**+0.6**
LLGN	**La Laguna**	**1.03**	**143**	*e*P	**Pn**	**04 56 46.0**	**0.0**
LLGN				*e*S	**Sn**	**04 57 01.1**	**+0.7**
TACO	**Tacachico**	**1.04**	**167**	*e*P	**Pb**	**04 56 45.5**	**-0.1**
TACO				*e*S	**Sb**	**04 56 59.1**	**-0.1**
TACO				IAML		04 57 05.0	
	comp=Z,93nm,0.6s						
CEVE	**Cerro Verde**	**1.15**	**182**	*e*P	**Pn**	**04 56 47.7**	**-0.2**
CEVE				*e*S	**Sb**	**04 57 03.0**	**+0.3**
CEVE				IAML		04 57 14.1	
	comp=Z,240nm,0.5s						
CEDA	**San Andres**	**1.19**	**171**	*e*P	**Pn**	**04 56 48.3**	**+0.1**
CEDA				*e*S	**Sn**	**04 57 04.7**	**+0.4**
CEDA				IAML		04 57 10.0	
	comp=Z,344nm,0.4s						
PMON	**Piamonte**	**1.29**	**168**	*e*P	**Pg**	**04 56 50.8**	**+0.1**
PMON				*e*S	**Sg**	**04 57 07.8**	**+0.2**
FUG	**Fuego 3**	**1.32**	**246**	*e*P	**Pn**	**04 56 46.1**	**-4.0**
FUG				*e*S	**Sg**	**04 57 11.3**	**+2.7**
JAYA	**Jayaque - finc**	**1.33**	**174**	*e*P	**Pb**	**04 56 50.7**	**0.0**
JAYA				*e*S	**Sn**	**04 57 07.5**	**-0.4**
JAYA				IAML		04 57 10.2	
	comp=Z,94nm,0.3s						
PAVA	**Las Pavas**	**1.42**	**153**	*e*P	**Pg**	**04 56 52.8**	**-0.2**
PAVA				IAML		04 57 17.2	
	comp=Z,194nm,0.3s						
LFRS	**El Faro**	**1.45**	**159**	*e*P	**Pg**	**04 56 53.3**	**-0.3**
LFRS				*e*S	**Sg**	**04 57 12.6**	**+0.1**
SJTE	**Alcalda de S**	**1.48**	**157**	*e*P	**Pg**	**04 56 53.8**	**-0.4**
SJTE				IAML		04 57 19.4	
	comp=Z,24nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.53**	**147**	*e*P	**Pg**	**04 56 54.7**	**-0.5**
SCLA				*e*S	**Sg**	**04 57 15.3**	**+0.3**
SCLA				IAML		04 57 27.7	
	comp=Z,37nm,0.5s						
PQSS	**Presa 15 de Se**	**1.68**	**143**	*e*P	**Pb**	**04 56 56.9**	**+0.3**

*IDC **07** 05:07:21.7±5.9, 19°.13S×175°.85W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/24, mbtmp3.9/2, Error ellipse: s-maj=291.6km s-min=61.4km az=148.0*
*NEIC **07** 05:08:26.5±1.7, 19°.8S±0°.5×177°.4W±0°.2, h560km±36km, mb3.9/8, Error ellipse: s-maj=69.9km s-min=24.2km az=192.0*
ISC 07 05:08:26.1±0.9**, 20°.0S**±0°.3×**177°.5W**±0°.1**, h550**km**, n15, σ0s.93**/15**, mb3.8**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.78**	**297**	P	**P**	**05 09 55.4**	**+1.2**
NIUE	**Niue**	**7.18**	**84**	P	**P**	**05 10 15.4**	**-0.4**
CTAO	**Charters Tower**	**34.03**	**263**	P	**P**	**05 14 25.2**	**+0.2**
BBOO	**Buckleboo**	**43.22**	**243**	P	**P**	**05 15 37.9**	**-1.3**
WR0	**Warramunga Arr**	**44.97**	**261**	P	**P**	**05 15 53.1**	**+0.2**
ASAR	**Alice Springs**	**45.12**	**256**	P	**P**	**05 15 53.5**	**-0.5**
	1.4nm,0.5s,baz=96,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**45.12**	**256**	P	**P**	**05 15 53.3**	**-0.7**
WB0	**Warramunga Arr**	**45.14**	**262**	P	**P**	**05 15 53.4**	**-0.8**
WB0				IAmb	IAmb	05 16 07.4	
	comp=Z,3.9nm,1.2s						
WB2	**Warramunga Arr**	**45.15**	**261**	P	**P**	**05 15 53.8**	**-0.4**
WB2				IAmb	IAmb	05 16 08.1	
	comp=Z,9.3nm,1.5s						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**05 15 53.3**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**05 15 53.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**53.58**	**262**	P	**P**	**05 16 57.4**	**+1.0**
FITZ				IAmb	IAmb	05 17 17.3	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**	**05 18 44.6**	**+1.5**
QSPA				IAmb	IAmb	05 19 13.1	
	comp=Z,2.2nm,1.1s						
AKASG	**Malin Array Be**	**142.78**	**332**	PKP	**PKPdf**	**05 26 56.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=42,slow=3.7,SNR=2.8						
BRTR	**Keskin Array B**	**146.84**	**313**	PKPbc	**PKPbc**	**05 27 06.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=77,slow=3.3,SNR=1.3						

*NNC **07** 05:22:26.8±23.0, 37°.69N×71°.02E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=184.9km s-min=139.3km az=178.0*
*IDC **07** 05:22:32.5±8.5, 37°.55N×72°.25E, h164km±53km, mb3.4/3, mb1 3.4/7, mb1mx3.0/47, mbtmp3.8/7, MS3.5/2, Ms1 3.5/2, ms1mx2.5/61, Error ellipse: s-maj=76.9km s-min=41.7km az=179.0*
ISC 07 05:22:29.8±1.1**, 37°.38N**±0°.09×**72°.0E**±0°.1**, h150**km**, n19, σ1s.37**/21**, mb3.7**/3**, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.92**	**15**	P	**Pn**	**05 23 42.4**	**-0.1**
	SNR=100						
UCH	**Uchtor**	**5.21**	**21**	P	**Pn**	**05 23 46.3**	**-0.1**
	SNR=17						
EKS2	**Erkin-Say**	**5.45**	**14**	P	**Pn**	**05 23 50.4**	**+1.2**
	SNR=9.6						
AAK	**Ala-Archa**	**5.59**	**19**	P	**Pn**	**05 23 51.4**	**+0.3**
	3.1nm,0.3s,baz=193,slow=4.6,SNR=27						
AAK				S	**Sn**	**05 24 52.7**	**-1.9**
	0.7nm,0.3s,baz=193,slow=12,SNR=3.8						
AAK	**Ala-Archa**	**5.59**	**19**	P	**Pn**	**05 23 51.4**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**5.59**	**19**	P	**Pn**	**05 23 51.0**	**-0.1**
	6.4nm,0.5s						
AAK				⇓S	**Sn**	**05 24 53.9**	**-0.7**
	20nm,0.8s						
THN	**Thein Dam**	**5.81**	**147**	*e*P	**Pn**	**05 23 53.0**	**-0.9**
THN				*e*S	Sn	05 24 53.0	-6.7
KK09	**Karatay Array**	**5.84**	**349**	⇑P	**Pn**	**05 23 54.0**	**-0.3**
	9.2nm,0.3s,baz=185,slow=14						
KK09				⇑S	**Sn**	**05 24 56.7**	**-3.8**
	15nm,0.7s,baz=189,slow=27						
CHMS	**Chumysh**	**5.99**	**20**	P	**Pn**	**05 23 56.7**	**+0.4**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.18**	**25**	⇓P	**Pn**	**05 23 59.2**	**+0.2**
	2.1nm,0.8s						
TKM2				⇑S	**Sn**	**05 25 11.6**	**+2.7**
	5.1nm,1.1s						
MKAR	**Makanchi Array**	**12.11**	**36**	P	**Pn**	**05 25 16.4**	**-1.0**
	0.0nm,0.3s,baz=220,slow=14,SNR=2.1						
KURBB	**Kurchatov Arra**	**14.04**	**17**	P	**Pn**	**05 25 41.9**	**-0.1**
	0.1nm,0.3s,baz=210,slow=11,SNR=1.8						
AKTO	**Aktyubinsk**	**16.44**	**327**	P	**Pn**	**05 26 12.8**	**+1.1**
	0.3nm,0.3s,baz=121,slow=9.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**18.79**	**24**	P	**P**	**05 26 36.6**	**-0.7**
	0.1nm,0.3s,baz=214,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**37.20**	**325**	P	**P**	**05 29 26.9**	**+0.8**
	1.4nm,0.8s,baz=107,slow=7.7,SNR=1.2						
ARCES	**ARCESS Array B**	**40.64**	**337**	P	**P**	**05 29 55.8**	**+1.3**
	4.8nm,1.2s,baz=111,slow=6.8,SNR=3.6						
JNU	**Nakatsue**	**47.61**	**77**	LR	LR	05 55 37.6	
	comp=Z,80nm,20.5s,baz=310,slow=42						
ASAJ	**Asahikawa**	**52.42**	**59**	LR	LR	05 53 52.4	
	comp=Z,38nm,20.2s,baz=114,slow=36						
YKA	**Yellowknife Ar**	**80.33**	**3**	P	**P**	**05 34 23.8**	**+0.1**
	0.3nm,0.5s,baz=351,slow=5.1,SNR=6.8						

*NEIC **07** 05:32:54.9±0.9, 24°.1S±0°.2×179°.9W±0°.2, h506km±13km, mb4.2/13, Error ellipse: s-maj=33.9km s-min=21.3km az=222.0*
*IDC **07** 05:32:54.6±1.9, 24°.03S×179°.96W, h503km±17km, mb3.3/5, mb1 3.6/7, mb1mx3.3/32, mbtmp4.1/7, Error ellipse: s-maj=33.6km s-min=17.6km az=152.0*
ISC 07 05:32:54.5±0.8**, 24°.08S**±0°.09×**179°.9W**±0°.1**, h500**km**, n24, σ0s.76**/27**, mb4.0**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.59**	**343**	P	**P**	**05 34 37.2**	**+0.4**
	2.8nm,0.3s,baz=293,slow=24,SNR=8.3						
MSVF	**Nonsavu**	**6.59**	**343**	P	**P**	**05 34 38.0**	**+1.1**
URZ	**Urewera**	**14.36**	**189**	P	**P**	**05 35 59.0**	**+1.2**
	0.9nm,0.3s,baz=70,slow=9.5,SNR=2.7						
URZ				S	**S**	**05 38 29.3**	**+0.3**
	0.5nm,0.3s,baz=210,slow=20,SNR=2.0						
URZ	**Urewera**	**14.36**	**189**	P	**P**	**05 35 57.5**	**-0.3**
BKZ	**Black Stump Fm**	**15.35**	**191**	P	**P**	**05 36 08.0**	**-0.2**
BKZ				IAmb	IAmb	05 36 18.4	
	comp=Z,12nm,1.3s						
QRZ	**Quartz Range**	**17.86**	**199**	P	**P**	**05 36 33.9**	**+0.5**
THZ	**Tophouse**	**18.62**	**197**	P	**P**	**05 36 40.8**	**+0.4**
CTAO	**Charters Tower**	**31.56**	**271**	P	**P**	**05 38 36.1**	**+0.6**
CTAO				IAmb	IAmb	05 38 37.0	
	comp=Z,9.8nm,0.7s						
BBOO	**Buckleboo**	**39.45**	**247**	P	**P**	**05 39 40.5**	**-0.5**
BBOO				IAmb	IAmb	05 39 47.3	
	comp=Z,6.5nm,1.0s						
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**05 40 01.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=93,slow=8.6,SNR=18						
ASAR				ScP	**ScP**	**05 44 48.1**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=108,slow=3.0,SNR=6.6						
WR0	**Warramunga Arr**	**42.29**	**266**	P	**P**	**05 40 03.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WR0				IAmb	IAmb	05 40 15.2	
	comp=Z,6.2nm,1.3s						
WB2	Warramunga Arr	42.47	266	P	P	05 40 04.6	-0.6
WB2				IAmb	IAmb	05 40 05.4	
	comp=Z,6.2nm,0.8s						
WRAB	Tennant Creek	42.47	266	P	P	05 40 04.7	-0.6
WRAB				IAmb	IAmb	05 40 05.4	
	comp=Z,5.3nm,0.8s						
WB0	Warramunga Arr	42.47	267	P	P	05 40 04.5	-0.7
WB0				IAmb	IAmb	05 40 05.3	
	comp=Z,5.6nm,0.8s						
WRA	Warramunga Arr	42.48	266	P	P	05 40 04.6	-0.7
	comp=Z,3.3nm,0.6s,baz=97,slow=8.3,SNR=32						
WRA				ScP	ScP	05 44 50.0	+0.2
	comp=Z,1.1nm,1.0s,baz=95,slow=3.9,SNR=5.6						
WRA	Warramunga Arr	42.48	266	P	P	05 40 04.6	-0.7
KNRA	Kununurra	48.77	270	P	P	05 40 53.4	-0.1
FITZ	Fitzroy Crossi	50.90	266	P	P	05 41 08.3	-0.8
BELA	Belgrano 2	76.25	173	P	P	05 43 50.6	0.0
NVAR	Mina Array Bea	84.82	44	P	P	05 44 35.5	-0.6
	comp=Z,0.7nm,0.7s,baz=223,slow=8.0,SNR=5.6						
TXAR	Lajitas Array	90.45	58	P	P	05 45 03.5	+0.8
	comp=Z,1.3nm,0.7s,baz=217,slow=7.0,SNR=16						
PDAR	Pinedale Array	92.76	44	P	P	05 45 11.7	-1.5
	comp=Z,0.4nm,0.7s,baz=204,slow=2.0,SNR=4.3						
BRTR	Keskin Array B	147.75	307	PKPbc	PKPdf	05 51 40.4	+1.1
	comp=Z,0.2nm,0.5s,baz=97,slow=3.8,SNR=1.9						
CLL	Collm	151.05	343	ePKPbc	PKPbc	05 51 49.0	-1.3

IDC 07 05:38:51.8±1.3, 17°.89N×61°.23W, h0km, mb3.3/5, mb1 3.6/5, mb1mx3.4/36, mbtmp3.3/5, Error ellipse: s-maj=44.3km s-min=28.1km az=47.0
TRN 07 05:38:57.7, 17°.62N×61°.71W, h26km, MD3.9
ISC 07 05:38:54.6±1.9, 17°.79N±0°.06×61°.53W±0°.05, h15km±11km, n32, σ1.17/41, mb3.4/5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.28	244	eP	Pn	05 39 03.8	-0.3
ANWB				eS	Sb	05 39 08.0	+2.3
ANBD	Bethesda, Anti	0.77	197	eP	Pb	05 39 10.2	+0.6
ANBD				eS	Sb	05 39 19.9	0.0
NVDO	Nevis, Disaste	1.24	238	eP	Pn	05 39 18.0	+0.7
NVDO				eS	Sb	05 39 32.2	-1.2
SKI	Saint Kitts	1.24	249	eP	Pn	05 39 18.2	+0.8
SKI				eS	Sb	05 39 33.3	-0.4
SKOC	St. Kitts, UWI	1.25	247	eP	Pn	05 39 18.0	+0.5
SKOC				eS	Sb	05 39 32.9	-1.0
ABD	La Joyeuse, An	1.31	178	eP	Pg	05 39 20.1	+0.3
ABD				eS	Sg	05 39 36.0	-0.8
SEUS	St. Eustatius	1.42	258	eP	Pn	05 39 20.9	+1.0
SEUS				eS	Sn	05 39 37.8	-0.4
SMRT	St. Maarten	1.50	280	eP	Pn	05 39 21.9	+0.9
SMRT				eS	Sn	05 39 40.2	0.0
H05N1	Guadeloupe/Mar	1.53	163	Pn	Pb	05 39 21.9	-0.7
	SNR=280						
H05N1				T	T	05 40 54.0	
CBE	Ff, Capester	1.71	183	eP	Pb	05 39 25.3	-0.4
CBE				eS	Sb	05 39 46.3	-0.8
MAGL	Barre de l'ile	1.84	173	eP	Pb	05 39 27.1	-0.9
MAGL				eS	Sb	05 39 50.5	-0.4
TBG	Guadaloupe-3	1.93	183	eP	Pb	05 39 28.3	-1.2
TDBA	Terre de Bas,	1.93	183	eP	Pb	05 39 28.8	-0.6
TDBA				eS	Sn	05 39 49.1	-1.8
MDCT	Cottage Hill,	2.16	178	eP	Pb	05 39 32.2	-1.1
MDVC	Dominica, Viel	2.17	177	eP	Pb	05 39 32.5	-0.9
DSLB	Salisbury	2.34	178	eP	Pn	05 39 34.3	+1.8
DSLB				eS	Sn	05 40 01.4	+0.4
FDF	Fort de France	3.06	173	eP	Pn	05 39 44.8	+2.4
ILAM	Ilet Lapin Mar	3.06	168	eS	Sn	05 40 18.6	-0.2
BIM	Bigot	3.28	172	eP	Pn	05 39 47.3	+1.8
MPOM	Morne Pois Mar	3.39	169	eP	Pn	05 39 48.3	+1.4
MPOM				eS	Sn	05 40 26.9	+0.1
H05S1	Guadeloupe/Mar	3.41	169	Pn	Pn	05 39 48.8	+1.5
	SNR=30						
SLBI	Saint Lucia, B	3.78	172	eP	Pn	05 39 54.3	+2.0
SLBI				eS	Sn	05 40 36.3	-0.3
SIV	San Ignacio	33.57	179	P	P	05 45 34.5	+0.3
	0.7nm,0.5s,baz=331,slow=7.3,SNR=2.1						
TXAR	Lajitas Array	40.10	295	P	P	05 46 31.6	+1.6
	0.2nm,0.7s,baz=112,slow=8.9,SNR=2.0						
PDAR	Pinedale Array	47.58	312	P	P	05 47 30.0	0.0
	0.2nm,0.6s,baz=104,slow=7.5,SNR=2.1						
H10N3	ASCENSION HYDR	52.96	115	T	T	06 45 24.9	
	baz=299,slow=75,SNR=26						
H10N2	ASCENSION HYDR	52.97	115	T	T	06 45 23.5	
	baz=299,slow=75,SNR=30						
H10N1	ASCENSION HYDR	52.98	115	T	T	06 45 25.5	
	baz=299,slow=75,SNR=35						
H10S3	ASCENSION HYDR	53.37	116	T	T	06 45 56.4	
	baz=285,slow=74,SNR=25						
H10S2	ASCENSION HYDR	53.38	116	T	T	06 45 52.0	
	baz=295,slow=74,SNR=7.1						
YKA	Yellowknife Ar	57.68	334	P	P	05 48 44.2	0.0
	0.2nm,0.5s,baz=107,slow=7.6,SNR=5.3						
TORD	Torodi Ar. Bea	60.87	85	P	P	05 49 04.7	-2.3
	0.4nm,1.0s,baz=280,slow=7.6,SNR=2.1						

BGS 07 05:40:33.9±0.8, 61°.56N×3°.84E, h10km, ML2.9
NAO 07 05:40:33.9±2.5, 61°.25N×4°.00E, h1km±17km, ML3.0
DNK 07 05:40:34.8±2.4, 61°.46N×4°.12E, h0km±60km
BER 07 05:40:34.8±2.0, 61°.70N×3°.69E, h13km±5km, ML2.7, MW2.9, ML3.0(NAO), Confirmed Earthquake
IDC 07 05:40:37.6±3.5, 61°.81N×4°.49E, h0km, mb1 3.7/2, mb1mx3.1/39, mbtmp3.6/2, ML2.4/3, Error ellipse: s-maj=34.5km s-min=21.1km az=35.0
UPP 07 05:40:39.6±2.9, 61°.26N×4°.57E, h0km, ML2.0, Suspected explosion
ISC 07 05:40:32.7±0.8, 61°.65N±0°.04×3°.68E±0°.03, h10km, n63, σ1.93/107, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	Floro	0.66	94	Pg	Pg	05 40 46.2	+0.9
FOO				Lg	Lg	05 40 54.3	
FOO	Floro	0.66	94	eP	Pg	05 40 46.3	+0.9
FOO				eS	Sg	05 40 54.5	+0.6
FOO				IAML		05 40 56.7	
	comp=Z,338nm,0.0s						
SUE	Sulen	0.79	138	eP	Pg	05 40 49.7	+1.9
SUE				eS	Sg	05 40 59.9	+1.7
SUE				IAML		05 41 01.4	
	comp=Z,592nm,0.1s						
HYA	Hoyanger	1.30	111	eP	Pn	05 40 56.8	0.0
HYA				eS	Sb	05 41 14.5	+0.6
HYA				IAML		05 41 15.4	
	comp=Z,779nm,0.2s						
ASK	Askoy	1.38	147	eP	Pn	05 40 58.5	+0.6
ASK				ePg	Pb	05 41 00.2	+1.6
ASK				eSg	Sn	05 41 18.1	+1.9
ASK				IAML		05 41 20.7	
	comp=Z,356nm,0.2s						
BER	Bergen	1.50	147	eP	Pn	05 41 00.1	+0.5
BER				e		05 41 02.1	
BER				eSg	Sn	05 41 21.4	+2.2
BER				IAML		05 41 21.7	
	comp=Z,337nm,0.2s						
AKN	Aaknes	1.66	70	Pn	Pn	05 41 03.0	+1.2
AKN				Lg	Lg	05 41 24.1	
AKN	Aaknes	1.66	70	Pn	Pn	05 41 03.0	+1.2
AKN				Sg	Sn	05 41 24.1	+0.9
MOL	Molde	2.04	61	Pn	Pn	05 41 09.2	+2.1
MOL				Sn	Sb	05 41 35.5	+0.3
MOL	Molde	2.04	61	ePg	Pn	05 41 09.2	+2.1
MOL				eSg	Sn	05 41 35.0	+2.4
MOL				IAML		05 41 37.3	
	comp=Z,132nm,0.3s						
ODD1	Odda	2.26	139	eP	Pn	05 41 10.9	+0.8
ODD1				eSg	Sb	05 41 43.2	+1.6
ODD1				IAML		05 41 44.7	
	comp=Z,164nm,0.3s						
SKAR	Skarslia	2.44	111	eP	Pn	05 41 13.3	+0.7
SKAR				ePg	Pb	05 41 16.4	-0.2
SKAR				ePg	Pb	05 41 16.4	-0.2
SKAR				eS	Sn	05 41 41.5	-1.0
KMY	Karmoy	2.56	162	eP	Pn	05 41 14.7	+0.5
KMY				ePg	Pb	05 41 20.5	+1.8
DOMB	Dombas	2.58	79	eP	Pn	05 41 16.2	+1.7
DOMB				ePg	Pb	05 41 18.8	-0.3
DOMB				eSg	Sb	05 41 51.5	+0.6
BLS5	Blasjo	2.62	147	eP	Pn	05 41 15.8	+0.8
BLS5				eS	Sn	05 41 44.6	-2.2
LRW	Lerwick	2.82	240	eP	Pn	05 41 18.8	+1.2
LRW				eS	Sn	05 41 50.7	-0.9
LRW				IAML		05 41 53.2	
	comp=N,6.2nm,0.3s						
LRW				IAML		05 41 57.5	
	comp=E,7.7nm,0.5s						
LRW	Lerwick	2.82	240	eP	Pn	05 41 18.8	+1.2
LRW				eP	Pb	05 41 19.0	-4.0
LRW				eS	Sn	05 41 50.7	-0.9
LRW				IAML		05 41 53.2	
	comp=N,6.2nm,0.3s						
LRW				IAML		05 41 57.5	
	comp=E,7.7nm,0.5s						
KONO	Kongsberg	3.54	122	eP	Pn	05 41 27.6	0.0
NB2	NORSAR Subarra	3.68	96	Pn	Pn	05 41 30.1	+0.5
NB2				Pg	Pb	05 41 36.5	-1.3
NB2				Sn	Sn	05 42 11.4	-1.6
NB2				Lg	Lg	05 42 23.8	
NB2	NORSAR Subarra	3.68	96	Pn	Pn	05 41 30.1	+0.5
NB2				Pg	Pb	05 41 36.5	-1.3
NB2				Sn	Sn	05 42 11.4	-1.6
NB2				Sg	Sb	05 42 23.8	+1.3
NOA	NORSAR Array B	3.68	96	Pn	Pn	05 41 30.3	+0.7
	comp=E,0.1nm,0.3s,baz=284,slow=18,SNR=2.1						
NOA				Pg	Pb	05 41 35.9	-1.8
	comp=E,0.2nm,0.3s,baz=279,slow=18,SNR=41						
NOA				Sn	Sn	05 42 06.0	-7.0
	comp=E,0.3nm,0.3s,baz=2.3,slow=15,SNR=2.6						
NOA				Lg	Lg	05 42 21.7	
	comp=E,0.8nm,0.3s,baz=283,slow=17,SNR=3.3						
SNART	Snartemo	3.76	150	iP	Pn	05 41 31.1	+0.4
SNART	Snartemo	3.76	150	eP	Pn	05 41 31.3	+0.6
SNART				eSg	Sb	05 42 28.8	+4.1
SNART				IAML		05 42 33.0	
	comp=Z,81nm,0.4s						
NRA0	NORESS Array S	3.92	100	Pn	Pn	05 41 32.7	-0.1
	baz=293,slow=12						
NRA0				Pg	Pb	05 41 39.9	-1.8
	baz=286,slow=16						
NRA0				Sn	Sn	05 42 15.7	-3.1
	baz=286,slow=18						
NRA0				Lg	Lg	05 42 30.6	
	baz=287,slow=28						
NRA0	NORESS Array S	3.92	100	Pn	Pn	05 41 32.7	-0.1
	baz=293,slow=12						
NRA0				Pg	Pb	05 41 39.9	-1.8
	baz=286,slow=16						
NRA0				Sn	Sn	05 42 15.7	-3.1
	baz=286,slow=18						
NRA0				Sg	Sb	05 42 30.6	+1.5
	baz=287,slow=28						
HOMB	Homborsund	4.17	142	iP	Pn	05 41 36.4	+0.2
HOMB	Homborsund	4.17	142	eP	Pn	05 41 36.6	+0.4
STRU	Stroemstad	4.56	122	P	Pn	05 41 40.9	-0.7
STRU				eP	Pn	05 41 41.2	-0.3
STRU				S	Sn	05 42 29.1	-5.4
STRU	Stroemstad	4.56	122	eP	Pn	05 41 41.4	-0.2
STRU	Stroemstad	4.56	122	P	Pn	05 41 40.9	-0.7
STRU				S	Sn	05 42 29.1	-5.4
FINU	Finntorp	4.90	113	P	Pn	05 41 45.7	-0.5
FINU				S	Sn	05 42 38.1	-4.8
FINU	Finntorp	4.90	113	P	Pn	05 41 45.7	-0.5
FINU				S	Sn	05 42 38.1	-4.8
BIGH	Upper Bighouse	4.94	234	eP	Pn	05 41 47.6	+0.7
BIGH				eS	Sn	05 42 42.1	-1.9
BIGH				IAML		05 42 42.3	
	comp=E,15nm,0.2s						
BIGH				IAML		05 42 43.6	
	comp=N,14nm,0.5s						
BIGH	Upper Bighouse	4.94	234	eP	Pn	05 41 47.6	+0.7
BIGH				eP	Pn	05 41 47.8	+0.9
BIGH				eS	Sn	05 42 40.7	-3.3
BIGH				eS	Sn	05 42 42.1	-1.9
BIGH				IAML		05 42 42.3	
	comp=E,15nm,0.2s						
BIGH				IAML		05 42 43.6	
	comp=N,14nm,0.5s						
UDD	Uddeholm	5.10	103	P	Pn	05 41 50.0	+1.0
HFS	Hagfors	5.12	103	Pn	Pn	05 41 48.3	-1.1
HFS				Lg	Lg	05 43 08.7	
	baz=281,slow=37						
HFS	Hagfors	5.12	103	Pn	Pn	05 41 48.3	-1.1
HFS				Sg	Sb	05 43 08.7	+4.9
	baz=281,slow=37						
VANU	Vaenersborg	5.26	123	P	Pn	05 41 51.1	-0.1
VANU	Vaenersborg	5.26	123	P	Pn	05 41 51.1	-0.1
TJOU	Tjoern	5.40	129	iP	Pn	05 41 52.9	-0.3
TJOU				P	Pn	05 41 52.9	-0.3
TJOU				iS	Sn	05 42 48.3	-7.0
TJOU	Tjoern	5.40	129	P	Pn	05 41 52.9	-0.3
NASU	Vaermlandsnaes	5.46	116	P	Pn	05 41 53.6	-0.3
NASU	Vaermlandsnaes	5.46	116	P	Pn	05 41 53.6	-0.3
LINV	Loch Inver, As	5.68	236	eP	Pn	05 41 57.4	+0.4
LINV	Loch Inver, As	5.68	236	eP	Pn	05 41 57.4	+0.4
DRUM	Mains of Drumt	5.70	216	eS	Sn	05 42 59.4	-3.4
DRUM				IAML		05 43 03.9	
	comp=N,14nm,0.4s						
DRUM				IAML		05 43 05.0	
	comp=E,16nm,0.3s						
DRUM	Mains of Drumt	5.70	216	eS	Sn	05 42 59.4	-3.4
DRUM				IAML		05 43 03.9	
	comp=N,14nm,0.4s						
DRUM				IAML		05 43 05.0	
	comp=E,16nm,0.3s						
MUD	Monsted U'grnd	5.93	149	eP	Pn	05 41 57.3	-3.1
ONAU	Onsala	5.98	132	iP	Pn	05 42 00.5	-0.6
ONAU				P	Pn	05 42 00.7	-0.3
ONAU				eS	Sn	05 43 05.2	-4.3
ONAU	Onsala	5.98	132	P	Pn	05 42 00.7	-0.3
FALU	Falun	6.01	96	P	Pn	05 42 02.5	+1.0
FALU	Falun	6.01	96	P	Pn	05 42 02.5	+1.0
BORU	Boraas	6.12	127	iP	Pn	05 42 02.5	-0.5
BORU				eS	Sn	05 43 10.5	-2.4
KPL	Plockton	6.42	232	eP	Pn	05 42 07.3	+0.2
FABU	Falkenberg	6.56	131	iP	Pn	05 42 08.5	-0.6
FABU				eS	Sn	05 43 17.1	-6.7
LAWE	Loch Awe, Argy	7.15	225	eS	Sn	05 43 32.5	-5.8
LAWE	Loch Awe, Argy	7.15	225	eS	Sn	05 43 32.5	-5.8
EKA	Eskdalemuir Ar	7.27	213	Pn	Pn	05 42 18.8	-0.1
EKA				Sn	Sn	05 43 36.0	-5.3
EKA	Eskdalemuir Ar	7.27	213	Pn	Pn	05 42 18.8	-0.1
EKA				Sn	Sn	05 43 36.0	-5.3
FIA0	FINESS Array S	10.68	81	Pn	Pn	05 43 06.2	+0.8
	baz=280,slow=11						
FIA0	FINESS Array S	10.68	81	Pn	Pn	05 43 06.2	+0.8
	baz=280,slow=11						
FINES	FINESS Array B	10.68	81	Pn	Pn	05 43 06.2	+0.8
	comp=E,0.1nm,0.3s,baz=285,slow=11,SNR=5.4						
FINES				Sn	Sn	05 44 56.4	-8.4
	comp=E,0.1nm,0.3s,baz=279,slow=18,SNR=1.7						
FINES				Lg	Lg	05 45 58.4	
	comp=E,0.2nm,0.3s,baz=281,slow=25,SNR=1.8						
ARCES	ARCESS Array B	11.93	39	Pn	Pn	05 43 20.4	-2.0
	baz=236,slow=13,SNR=5.0						

SJA 07 06:01:17.7±0.8, 26°.97S×70°.98W, h59km±4km, ML4.6, MW4.3
NEIC 07 06:01:18.4±2.5, 26°.95S±0°.04×70°.99W±0°.08, h39km±7km, mb4.3/12, ML4.3(GUC), Error ellipse: s-maj=10.3km s-min=6.4km az=93.0
VAO 07 06:01:19.8±0.5, 26°.94S×70°.83W, h46km, mb4.2
IDC 07 06:01:20.4±0.7, 26°.97S×70°.46W, h65km±5km, mb3.5/7, mb1 3.9/10, mb1mx3.7/30, mbtmp3.9/10, MS3.1/7, Ms1 3.2/7, ms1mx3.0/27, Error ellipse: s-maj=21.2km s-min=15.7km az=111.0
GUC 07 06:01:20.6±0.5, 27°.08S×70°.75W, h74km±4km, ML4.4
ISC 07 06:01:18.9±0.5, 26°.97S±0°.03×70°.96W±0°.04, h53km±4km, n169, σ1.50/203, mb4.1/9, MS3.5/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	Mina Casimiro	0.66	126		Pn	06 01 33.1	+0.8
AC06				Sn	Sn	06 01 41.8	-0.3
AC06	Mina Casimiro	0.66	126	eP	Pn	06 01 33.3	+0.9
AC06				iS	Sn	06 01 42.0	-0.1
AC06				IAML		06 01 42.5	
	comp=E,46µm,0.3s						
AC01	Pan de Azucar	0.88	22		Pn	06 01 36.8	+1.6
AC01	Pan de Azucar	0.88	22	eP	Pn	06 01 37.2	+2.0
AC01				iS	Sn	06 01 49.1	+2.1
AC01				IAML		06 01 50.1	
	comp=N,18µm,0.6s						
AC01	Pan de Azucar	0.88	22	eP	Pn	06 01 35.0	-0.1
AC01				eS	Sn	06 01 49.1	+2.1
AC01				IAML		06 01 49.7	
	comp=Z,8µm,0.2s						
GO03	Copiap	0.90	134		Pn	06 01 36.1	+0.7
GO03				Sn	Sn	06 01 46.9	-0.6
GO03	Copiap	0.90	134	eP	Pn	06 01 36.0	+0.7
GO03				iS	Sn	06 01 47.0	-0.6
GO03				IAML		06 01 47.9	
	comp=N,15µm,0.4s						
GO03	Copiap	0.90	134	eP	Pn	06 01 35.0	-0.4
GO03				eP	Pn	06 01 36.1	+0.7
GO03				eS	Sn	06 01 46.9	-0.6
AC04	Llanos de Chal	1.23	185	Pn	Pn	06 01 41.1	+1.2
AC04	Llanos de Chal	1.23	185	eP	Pn	06 01 41.2	+1.2
AC04				iS	Sn	06 01 57.2	+1.7
AC04				IAML		06 01 58.3	
	comp=N,6µm,0.2s						
AC04	Llanos de Chal	1.23	185	eP	Pn	06 01 41.0	+1.2
AC04				eS	Sn	06 01 56.4	+0.9
AC02	Maricunga	1.64	86	Pn	Pn	06 01 46.1	+0.3
AC02	Maricunga	1.64	86	eP	Pn	06 01 46.2	+0.4
AC02				iS	Sn	06 02 05.0	-1.0
AC02				IAML		06 02 05.8	
	comp=E,9µm,0.3s						
AC02	Maricunga	1.64	86	eP	Pn	06 01 46.3	+0.4
AC02				eS	Sn	06 02 05.2	-0.9
AC02				IAML		06 02 05.4	
	comp=Z,5µm,0.5s						
AC02				eS		06 02 05.4	
LCO	Las Campanas	2.05	174		Pn	06 01 51.8	+0.6
LCO	Las Campanas	2.05	174	eP	Pn	06 01 52.0	+0.8
LCO				iS	Sn	06 02 16.2	+0.5
LCO	Las Campanas	2.05	174	eP	Pn	06 01 52.0	+0.8
PB14	IPOC Station P	2.39	12	Pn	Pn	06 01 56.5	+0.6
PB14	IPOC Station P	2.39	12	eP	Pn	06 01 56.7	+0.8
PB14	IPOC Station P	2.39	12	eP	Pn	06 01 56.0	+0.1
PB14				eS	Sn	06 02 24.8	+0.7
PB14				IAML		06 02 31.2	
	comp=Z,2µm,0.5s						
CO05	La Serena	2.95	185	Pn	Pn	06 02 03.6	+0.3
CO05	La Serena	2.95	185	eP	Pn	06 02 03.8	+0.5
CO05				iS	Sn	06 02 38.1	+0.6
CO05				IAML		06 02 56.3	
	comp=N,3µm,0.5s						
VCA	Vinchina	3.01	126	eP	Pn	06 02 07.0	+2.8
VCA				eS	Sn	06 02 26.6	-12
VCA				eS		06 02 56.5	
VCA				IAML		06 03 08.0	
	comp=Z,625nm,0.5s						
GO04	Tololo Observa	3.19	178	Pn	Pn	06 02 07.9	+1.0
GO04	Tololo Observa	3.19	178	eP	Pn	06 02 08.0	+1.1
GO04				iS	Sn	06 02 44.4	+0.6
GO04	Tololo Observa	3.19	178	eP	Pn	06 02 08.0	+1.1
GO04				eS	Sn	06 02 45.5	+1.6
AROD	Rodeo	3.44	158	eP	Pn	06 02 13.0	+2.6
AROD				eS	Sn	06 03 11.8	+22
ACDV	Cuesta del Vie	3.58	154	eP	Pn	06 02 15.0	+2.9
CO06	Fray Jorge	3.74	189	Pn	Pn	06 02 13.8	-0.3
CO06	Fray Jorge	3.74	189	eP	Pn	06 02 13.8	-0.3
CO03	El Pedregal	3.86	177		Pn	06 02 16.6	+0.7
CO03	El Pedregal	3.86	177	eP	Pn	06 02 16.7	+0.8
CO03	El Pedregal	3.86	177	eP	Pn	06 02 16.8	+0.8
CO03				eS	Sn	06 03 01.4	+1.3
CO03				IAML		06 03 27.0	
	comp=Z,438nm,1.0s						
ACCO	Cerro Coronel	3.97	156	eP	Pn	06 02 20.4	+2.9
PB15	IPOC Station P	3.98	20		Pn	06 02 18.5	+0.8
PB15	IPOC Station P	3.98	20	eP	Pn	06 02 18.4	+0.8
PB15	IPOC Station P	3.98	20	eP	Pn	06 02 18.0	+0.3
PB15				eS	Sn	06 03 04.3	+1.2
PB15				IAML		06 03 26.2	
	comp=Z,3µm,0.3s						
CO02	Combarbal	4.22	180	Pn	Pn	06 02 20.8	0.0
CO02	Combarbal	4.22	180	eP	Pn	06 02 21.1	+0.3
CO02				eS	Sn	06 03 10.7	+1.8
CO02				IAML		06 03 29.9	
	comp=Z,817nm,0.9s						
ACLC	CERRO LA CRUZ	4.30	126	eP	Pn	06 02 23.1	+1.1
PB06	IPOC Station P	4.43	17	Pn	Pn	06 02 23.3	-0.5
PB06	IPOC Station P	4.43	17	eP	Pn	06 02 23.5	-0.2
PB06				iS	Sn	06 03 18.1	+4.0
PB06	IPOC Station P	4.43	17	eP	Pn	06 02 23.6	-0.2
PB06				eS	Sn	06 03 13.2	-0.9
PB06				eS		06 03 23.6	
PB06				IAML		06 03 46.9	
	comp=Z,824nm,0.6s						
FSA	Cafayete	4.54	80	eP	Pn	06 02 28.0	+2.7
PB04	IPOC Station P	4.67	9	Pn	Pn	06 02 26.2	-0.9
PB04	IPOC Station P	4.67	9	eP	Pn	06 02 26.0	-1.1
PB04	IPOC Station P	4.67	9	eP	Pn	06 02 26.6	-0.5
PB04				eS	Sn	06 03 18.6	-1.5
PB04				IAML		06 03 50.0	
	comp=Z,593nm,0.5s						
LVC	Limon Verde	4.72	24	P	Pn	06 02 28.3	+0.3
	comp=Z,9.9nm,0.3s,baz=178,slow=9.4,SNR=319						
LVC				S	Sn	06 03 19.9	-1.8
	comp=Z,53nm,0.3s,baz=311,slow=22,SNR=6.3						
LVC				LR	LR	06 04 26.9	
	comp=Z,144nm,21.8s,baz=216,slow=41						
LVC	Limon Verde	4.72	24	eP	Pn	06 02 28.0	0.0
LVC	Limon Verde	4.72	24	eP	Pn	06 02 28.3	+0.3
LVC				eS	Sn	06 03 36.0	+14
LVC				IAML		06 03 55.5	
	comp=Z,458nm,0.8s						
RTLL	Cerro Villicun	4.86	154	eP	Pn	06 02 21.1	-8.4
RTLL				eP	Pn	06 02 31.2	+1.7
ZON	Zonda	4.98	157	Pn	Pn	06 02 32.5	+1.3
ZON	Zonda	4.98	157	eP	Pn	06 02 32.8	+1.7
ZON				eS	Sn	06 03 32.5	+5.1
RTLS	Leoncito	5.03	164	eP	Pn	06 02 34.0	+2.0
RTLS				eP	Pn	06 02 34.6	+2.6
RTLS				eS	Sn	06 03 47.5	+19
RTLS				IAML		06 03 59.6	
	comp=Z,299nm,0.6s						
AHML	Horco Molle	5.03	89	eP	Pn	06 02 33.5	+1.6
APLL	PUNTA DE LOS L	5.18	132	eP	Pn	06 02 34.0	+0.1
APLL				eP	Pn	06 02 34.6	+0.7
PB07	IPOC Station P	5.31	11		Pn	06 02 34.7	-1.1
PB07	IPOC Station P	5.31	11	eP	Pn	06 02 35.2	-0.6
PB07				eS	Sn	06 03 34.2	-1.6
PB07				eS	Sn	06 03 34.6	-1.2
PB07				eS		06 03 47.5	
PB07				IAML		06 04 08.5	
	comp=Z,452nm,0.5s						
RTCV	Cerro Valdivia	5.31	157	eP	Pn	06 02 37.7	+1.9
PB09	IPOC Station P	5.38	17		Pn	06 02 36.9	0.0
PB09	IPOC Station P	5.38	17	eP	Pn	06 02 36.9	0.0
PB09				eS	Sn	06 03 52.0	+14
PB09				IAML		06 04 25.2	
	comp=Z,615nm,0.7s						
AUSP	Uspallata	5.41	166	eP	Pn	06 02 39.4	+2.1
VA06	Catapilco	5.58	183	Pn	Pn	06 02 38.5	-0.8
PB02	IPOC Station P	5.71	10	Pn	Pn	06 02 39.8	-1.4
PB02	IPOC Station P	5.71	10	eP	Pn	06 02 40.5	-0.8
PB02				eS	Sn	06 03 42.6	-2.9
PB02				IAML		06 04 31.0	
	comp=Z,487nm,0.4s						
VA03	San Esteban	5.79	177		Pn	06 02 42.5	+0.2
VA03	San Esteban	5.79	177	eP	Pn	06 02 42.6	+0.4
VA03				eS	Sn	06 03 48.3	+0.9
VA03				IAML		06 04 25.0	
	comp=Z,206nm,0.6s						
ASAL	Salagasta	5.90	162	eP	Pn	06 02 45.6	+1.8
ASAL				eS	Sn	06 03 53.9	+3.7
ROC1	El Roble	5.99	180		Pn	06 02 42.5	-2.6
PB01	IPOC Station P	6.05	13	Pn	Pn	06 02 44.8	-1.2
PB01	IPOC Station P	6.05	13	eP	Pn	06 02 45.1	-0.9
PB01				eS	Sn	06 03 51.0	-2.9
PB01				IAML		06 04 33.4	
	comp=Z,151nm,0.5s						
VA01	Torpederas	6.06	185		Pn	06 02 44.4	-1.6
ARCO	CERRO ARCO	6.11	164	eP	Pn	06 02 48.0	+1.2
ARCO				IAML		06 04 26.6	
	comp=Z,140nm,1.1s						
PEL	Peldehue	6.16	178		Pn	06 02 47.3	-0.1
PEL	Peldehue	6.16	178	eP	Pn	06 02 47.5	+0.1
PATCX	Punta Patache	6.17	7	Pn	Pn	06 02 45.5	-2.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**6.17**	**7**	*e*P	**Pn**	**06 02 45.9**	**-1.7**
PATCX				*e*P	**Pn**	**06 02 45.9**	**-1.7**
PATCX				*e*P	**Pn**	**06 02 46.0**	**-1.5**
PATCX				*e*P	**Pn**	**06 02 46.1**	**-1.4**
PATCX				IAML		06 04 53.0	
	comp=Z,145nm,0.5s						
MT02	**Curacav**	**6.27**	**181**	Pn	**Pn**	**06 02 47.7**	**-1.1**
MT02	**Curacav**	**6.27**	**181**	*e*P	**Pn**	**06 02 47.8**	**-1.1**
MT02				*e*S	**Sn**	**06 03 56.0**	**-3.2**
MT02				IAML		06 04 36.6	
	comp=Z,71nm,0.9s						
AAGR	**Agrelo**	**6.37**	**164**	*e*P	**Pn**	**06 02 52.0**	**+1.7**
AAGR				*e*P	**Pn**	**06 02 52.0**	**+1.7**
AAGR				*e*S	**Sn**	**06 04 04.1**	**+2.4**
MT05	**Renca**	**6.40**	**178**		**Pn**	**06 02 50.4**	**-0.3**
MT05	**Renca**	**6.40**	**178**	*e*P	**Pn**	**06 02 50.5**	**-0.2**
MT05				*e*S	**Sn**	**06 04 00.9**	**-1.6**
MT05				IAML		06 04 49.3	
	comp=Z,121nm,0.6s						
MT03	**Universidad Ad**	**6.51**	**177**	Pn	**Pn**	**06 02 52.1**	**-0.1**
MT03	**Universidad Ad**	**6.51**	**177**	*e*P	**Pn**	**06 02 52.8**	**+0.5**
MT03				*e*S	**Sn**	**06 04 05.2**	**-0.1**
MT03				IAML		06 04 55.6	
	comp=Z,173nm,1.2s						
MT09	**Talagante**	**6.78**	**180**		**Pn**	**06 02 55.2**	**-0.8**
MT01	**Popeta**	**6.88**	**182**	Pn	**Pn**	**06 02 55.7**	**-1.4**
LMEL	**Las Melosas**	**6.89**	**175**	Pn	**Pn**	**06 02 57.7**	**+0.3**
PB08	**IPOC Station P**	**7.00**	**14**		**Pn**	**06 02 58.0**	**-1.2**
BO04	**La Punta**	**7.00**	**178**		**Pn**	**06 02 57.7**	**-1.2**
PB11	**IPOC Station P**	**7.28**	**10**		**Pn**	**06 03 00.4**	**-2.4**
BO01	**Tunca**	**7.40**	**181**		**Pn**	**06 03 02.7**	**-1.6**
GO01	**Chusmiza**	**7.45**	**13**	Pn	**Pn**	**06 03 03.8**	**-1.6**
GO01	**Chusmiza**	**7.45**	**13**	*e*P	**Pn**	**06 03 04.0**	**-1.4**
BO02	**Sierra Bellavi**	**7.80**	**179**	Pn	**Pn**	**06 03 08.2**	**-1.6**
GO05	**Huala**	**8.06**	**186**	Pn	**Pn**	**06 03 10.7**	**-2.7**
ML02	**Panimavida**	**8.78**	**182**	Pn	**Pn**	**06 03 20.5**	**-2.6**
H03N1	**Juan Fernandez**	**9.43**	**225**	T	T	06 13 27.8	
	baz=53						
H03N2	**Juan Fernandez**	**9.44**	**225**	T	T	06 13 31.8	
	baz=53,slow=74						
H03N3	**Juan Fernandez**	**9.44**	**225**	T	T	06 13 32.3	
	baz=53,slow=74						
LPAZ	**La Paz**	**10.95**	**14**	P	**Pn**	**06 03 53.0**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=198,slow=6.4,SNR=40						
LPAZ				LR	LR	06 08 46.8	
	comp=Z,45nm,18.3s,baz=193,slow=41						
LPAZ	**La Paz**	**10.95**	**14**	Pn	**Pn**	**06 03 53.1**	**-0.5**
LPAZ	**La Paz**	**10.95**	**14**	*e*P	**Pn**	**06 03 53.1**	**-0.4**
CPUP	**Villa Florida**	**12.21**	**90**	P	**Pn**	**06 04 05.8**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=6.8,SNR=2.7						
CPUP	**Villa Florida**	**12.21**	**90**	Pn	**Pn**	**06 04 08.2**	**-1.9**
CPUP	**Villa Florida**	**12.21**	**90**	*e*P	**Pn**	**06 04 08.4**	**-1.7**
ITQB	**Itaqui**	**12.91**	**105**	*e*P	**Pn**	**06 04 19.8**	**+0.1**
PLCA	**Paso Flores**	**13.73**	**179**	P	**Pn**	**06 04 28.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=1.5,slow=11,SNR=7.3						
PLCA				LR	LR	06 09 59.8	
	comp=Z,104nm,21.1s,baz=148,slow=38						
PLCA	**Paso Flores**	**13.73**	**179**	Pn	**Pn**	**06 04 28.1**	**-2.8**
PLCA	**Paso Flores**	**13.73**	**179**	*e*P	**Pn**	**06 04 31.8**	**+0.9**
SIV	**San Ignacio**	**14.27**	**42**	P	Pn	06 04 32.6	-5.6
	comp=Z,0.3nm,0.3s,baz=258,slow=8.2,SNR=7.2						
CPSB	**Cacapava Do Su**	**15.75**	**107**	*e*P	**Pn**	**06 04 58.1**	**+0.7**
PLTB	**Pedras Altas**	**15.86**	**112**	Pn	**Pn**	**06 04 54.6**	**-4.2**
PTLB	**Pontes e Lacer**	**15.89**	**46**	*e*P	**Pn**	**06 04 59.3**	**+0.1**
NNA	**Nana**	**15.90**	**339**	LR	LR	06 09 58.6	
	comp=Z,28nm,21.1s,baz=171,slow=32						
GO07	**Milladeo Hill,**	**16.26**	**187**	Pn	**Pn**	**06 05 04.0**	**+0.4**
ITAB	**Concordia**	**16.77**	**95**	Pn	**Pn**	**06 05 09.8**	**-0.4**
ITAB				IAmb	IAmb	06 05 22.5	
	comp=Z,24nm,1.2s						
ITAB	**Concordia**	**16.77**	**95**	*e*P	**P**	**06 05 10.8**	**-0.9**
TRCB	**Terra Rica**	**17.14**	**80**	Pn	**Pn**	**06 05 11.8**	**-3.1**
TRCB	**Terra Rica**	**17.14**	**80**	*e*P	**P**	**06 05 15.8**	**-0.1**
PTGB	**Pitanga**	**17.16**	**87**	*e*P	**Pn**	**06 05 14.8**	**-0.3**
VILB	**Vilhena**	**17.21**	**38**	*e*P	**Pn**	**06 05 16.0**	**+0.3**
ETMB	**Extrema**	**17.64**	**16**	*e*P	**Pn**	**06 05 20.1**	**-0.9**
SALV	**Santo Antonio**	**17.96**	**55**	*e*P	**Pn**	**06 05 25.4**	**+0.5**
COYC	**Coyhaique**	**18.59**	**182**	P	**Pn**	**06 05 33.6**	**+1.3**
COYC				IAmb	IAmb	06 05 34.5	
	comp=Z,16nm,1.0s						
PCMB	**Pacaembu**	**18.73**	**78**	*e*P	**P**	**06 05 32.8**	**-0.6**
CZSB	**Cruzeiro do Su**	**19.21**	**355**	*e*P	**Pn**	**06 05 41.0**	**+1.0**
ITRB	**Iturama**	**20.24**	**73**	*e*P	**P**	**06 05 49.1**	**-0.7**
PDRB	**Porto dos Gac**	**20.31**	**44**	*e*P	**P**	**06 05 49.9**	**-0.8**
ARAG	**Araguaiana, MT**	**21.03**	**62**	*e*P	**P**	**06 05 58.1**	**-0.3**
CLDB	**Colider**	**21.46**	**45**	*e*P	**P**	**06 06 02.9**	**-0.1**
RCLB	**Rio Claro- Sao**	**21.75**	**83**	*e*P	**P**	**06 06 05.8**	**-0.3**
BDFB	**Brasilia**	**24.12**	**67**	P	**P**	**06 06 26.3**	**-3.8**
	comp=Z,1.1nm,0.5s,baz=265,slow=9.6,SNR=4.6						
BDFB				pP	**pP**	**06 06 42.3**	**-1.4**
	comp=Z,9.4nm,0.8s,baz=230,slow=7.4,SNR=11						
BDFB	**Brasilia**	**24.12**	**67**	P	**P**	**06 06 28.1**	**-2.0**
BDFB				IAmb	IAmb	06 06 44.0	
	comp=Z,15nm,1.0s						
BSCB	**Bom Sucesso**	**24.63**	**82**	*e*P	**P**	**06 06 35.0**	**+0.4**
NPGB	**Novo Progresso**	**24.75**	**40**	*e*P	**P**	**06 06 36.6**	**+0.9**
MACA	**Manacapuru-AM**	**25.64**	**24**	*e*P	**P**	**06 06 45.4**	**+1.7**
PEXB	**Peixe**	**25.91**	**60**	*e*P	**P**	**06 06 46.8**	**+0.6**
ITTB	**Itaituba**	**26.77**	**36**	*e*P	**P**	**06 06 55.2**	**+1.3**
JANB	**Januaria**	**27.49**	**70**	*e*P	**P**	**06 07 00.2**	**-0.3**
SMTB	**Santa Maria do**	**28.52**	**55**	*e*P	**P**	**06 07 10.8**	**+1.1**
BOAV	**Boa Vista**	**30.88**	**21**	*e*P	**P**	**06 07 30.6**	**+0.1**
RPN	**Rapa Nui**	**34.09**	**261**	LR	LR	06 18 20.4	
	comp=Z,47nm,18.3s,baz=176,slow=30						
NBPB	**Pedra_Branca-C**	**36.70**	**60**	*e*P	**P**	**06 08 21.3**	**+0.2**
RCBR	**Riachuelo**	**39.44**	**64**	LR	LR	06 25 36.6	
	comp=Z,72nm,21.5s,baz=324,slow=37						
VNA3	**Neumayer Olymp**	**55.56**	**160**	sP	sP	06 11 08.0	-1.0
VNA2	**Neumayer--Watz**	**56.18**	**159**	sP	sP	06 11 14.4	+1.0
	baz=284,slow=7.7						
SNAA	**Sanae**	**57.78**	**160**	sP	sP	06 11 26.3	+1.5
SNAA	**Sanae**	**57.78**	**160**	P	**P**	**06 11 05.1**	**+0.8**
QSPA	**South Pole Qui**	**63.24**	**180**	P	**P**	**06 11 42.6**	**+0.9**
QSPA				IAmb	IAmb	06 12 11.6	
	comp=Z,1.7nm,1.1s						
TX31	**Lajitas Ar. Si**	**64.16**	**328**	P	**P**	**06 11 47.7**	**-0.4**
TX31				IAmb	IAmb	06 11 55.5	
	comp=Z,4.5nm,1.1s						
TXAR	**Lajitas Array**	**64.16**	**328**	P	**P**	**06 11 49.8**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=153,slow=8.0,SNR=5.1						
TXAR				pP	**sP**	**06 12 07.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=142,slow=6.3,SNR=3.9						
DBIC	**Dimbokro**	**72.12**	**73**	LR	LR	06 41 41.1	
	comp=Z,39nm,19.9s,baz=154,slow=34						
PDAR	**Pinedale Array**	**77.97**	**332**	P	**P**	**06 13 12.7**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=150,slow=6.3,SNR=4.3						
PDAR	**Pinedale Array**	**77.97**	**332**	P	**P**	**06 13 11.9**	**+0.3**
NVAR	**Mina Array Bea**	**78.71**	**324**	P	**P**	**06 13 18.4**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=151,slow=5.7,SNR=3.1						
ULM	**Lac du Bonnet**	**79.99**	**344**	P	**P**	**06 13 22.8**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=136,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**80.95**	**70**	P	**P**	**06 13 26.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=248,slow=3.5,SNR=1.9						
TORD				pP	**pP**	**06 13 43.0**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=266,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**95.72**	**341**	P	**P**	**06 14 37.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=140,slow=4.9,SNR=6.0						
ASAR	**Alice Springs**	**124.22**	**208**	PKP	**PKPdf**	**06 20 11.8**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=143,slow=1.8,SNR=5.1						
ASAR				pPKP	**sPKPdf**	**06 20 32.9**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=100,slow=1.6,SNR=2.4						
ASAR	**Alice Springs**	**124.22**	**208**	PKPdf	**PKPdf**	**06 20 12.2**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**126.53**	**274**	T	T	08 40 13.5	
	baz=108,slow=74,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**126.54**	**274**	T	T	08 39 58.9	
	baz=108,slow=74,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**126.55**	**274**	T	T	08 40 01.3	
	baz=108,slow=74,SNR=5.2						
WRA	**Warramunga Arr**	**127.31**	**210**	PKP	**PKiKP**	**06 20 18.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=153,slow=1.6,SNR=11						
WRA				pPKP	**pPKPdf**	**06 20 38.0**	**+3.9**
	comp=Z,0.3nm,0.7s,baz=154,slow=1.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**147.67**	**27**	PKPbc	**PKPbc**	**06 20 55.7**	**-1.4**
	comp=Z,4.3nm,0.8s,baz=205,slow=6.6,SNR=19						
ZALV				pPKPbc	**pPKPbc**	**06 21 14.2**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=328,slow=2.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**147.67**	**27**	PKPdf	**PKPdf**	**06 20 53.9**	**-0.5**
MKAR	**Makanchi Array**	**151.08**	**40**	PKPbc	**PKPbc**	**06 21 06.0**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=325,slow=2.3,SNR=33						
MKAR				pPKPbc	**sPKPdf**	**06 21 23.7**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=315,slow=1.9,SNR=7.2						
MKAR	**Makanchi Array**	**151.08**	**40**		**PKiKP**	**06 21 06.2**	**-0.3**
PZH	**PanZhiHua**	**173.46**	**92**	PKP	**PKPdf**	**06 21 22.1**	**-0.9**

IDC 07 06:09:55.8±3.2**, 33°.06S**×**178°.79W, h0**km**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.6**/21**, mbtmp3.6**/3**, ML3.5**/1**, Error ellipse: s-maj=71.9km s-min=36.7km az=112.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.17**	**212**	Pn	Pn	06 11 28.9	+0.8
	1.0nm,0.3s,baz=270,slow=4.2,SNR=10						
URZ				Sn	Sn	06 12 37.8	-1.5
	2.6nm,0.3s,baz=329,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**42.37**	**270**	P	P	06 17 51.5	-0.6
	0.6nm,0.7s,baz=107,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**43.60**	**275**	P	P	06 18 02.4	+0.5
	0.2nm,0.3s,baz=116,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**147.38**	**338**	PKPbc	PKPbc	06 29 39.6	-1.1
	2.1nm,0.9s,baz=60,slow=6.6,SNR=3.8						

*UCR **07** 06:42:08.3±1.5, 8°.63N×83°.77W, h5km, MW3.9*
*UPA **07** 06:42:09.3±1.8, 8°.62N×83°.72W, h17km±7km, MW4.4*
*INET **07** 06:42:09.2±0.2, 8°.84N×83°.35W, h17km±1km, MW2.9*
ISC 07 06:42:08.5±1.2**, 8°.62N**±0°.04×**83°.73W**±0°.04**, h18**km±2km**, n52,** σ1s.02/78**, 7C-15D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**0.23**	**70**	*e*P	**Pb**	**06 42 14.6**	**+0.8**
EDPN	**Palmar Norte**	**0.43**	**39**	⇓*i*P	**Pb**	**06 42 17.9**	**+0.3**
EDPN				*e*S	**Sb**	**06 42 25.6**	**+1.8**
PIRO	**Carate, Puerto**	**0.45**	**119**	⇑*i*P	**Pg**	**06 42 18.1**	**+0.5**
PIRO				*e*S	**Sb**	**06 42 26.1**	**+1.9**
PIRO	**Carate, Puerto**	**0.45**	**119**	⇑*i*P	**Pg**	**06 42 18.1**	**+0.5**
PIRO				*i* S	**Sb**	**06 42 26.5**	**+2.3**
PIRO	**Carate, Puerto**	**0.45**	**119**	*e*P	**Pg**	**06 42 18.0**	**+0.5**
PNPB	**Parque Naciona**	**0.50**	**83**	*e*P	**Pg**	**06 42 18.6**	**+0.1**
PNPB				*e*S	**Sb**	**06 42 26.5**	**+0.8**
EDDO	**Dominical**	**0.64**	**348**	⇑*i*P	**Pg**	**06 42 20.7**	**-0.4**
EDDO				*e*S	**Sb**	**06 42 30.5**	**+0.9**
EDBA	**Buenos Aires**	**0.70**	**40**	⇓*e*P	**Pg**	**06 42 22.0**	**-0.3**
SRBA	**San Rafael, Bu**	**0.71**	**31**	*e*P	**Pg**	**06 42 22.2**	**-0.3**
SRBA				*e*S	**Sb**	**06 42 33.2**	**+1.5**
PEZE	**Perez Zeledon,**	**0.76**	**4**	⇓*i*P	**Pb**	**06 42 23.0**	**-0.2**
PEZE				*e*S	**Sb**	**06 42 34.3**	**+1.1**
PEZE	**Perez Zeledon,**	**0.76**	**4**	*e*P	**Pb**	**06 42 22.9**	**-0.2**
EDSV	**San Vito**	**0.77**	**75**	⇓*i*P	**Pb**	**06 42 23.9**	**+0.4**
EDSV				*e*S	**Sn**	**06 42 36.4**	**+0.6**
DRK0	**Durika**	**0.80**	**37**	⇓*i*P	**Pb**	**06 42 23.8**	**-0.1**
DRK0				*i* S	**Sg**	**06 42 35.4**	**+0.6**
DRK0	**Durika**	**0.80**	**37**	*e*P	**Pb**	**06 42 23.8**	**-0.1**
CDITO	**Canoas**	**0.85**	**93**	⇓*i*P	**Pb**	**06 42 24.3**	**-0.4**
CDITO				*i* S	**Sb**	**06 42 34.1**	**-1.7**
MLIR3	**Monte Lirio, C**	**0.91**	**79**	⇓*i*P	**Pb**	**06 42 26.4**	**+0.6**
MLIR3				*e*S	**Sn**	**06 42 39.2**	**+0.1**
CDM	**Cerro de Muert**	**0.93**	**358**	⇑*e*P	**Pb**	**06 42 25.6**	**-0.6**
CDM				*e*S	**Sb**	**06 42 39.0**	**+0.7**
CDM	**Cerro de Muert**	**0.93**	**358**	*e*P	**Pb**	**06 42 25.6**	**-0.6**
CDM				*e*S	**Sb**	**06 42 38.7**	**+0.3**
PTPM	**Petroterminale**	**0.94**	**116**	⇑*i*P	**Pb**	**06 42 25.8**	**-0.4**
PTPM				*i* S	**Sn**	**06 42 40.2**	**+0.5**
BRU2	**Volcan**	**1.04**	**81**	⇓*i*P	**Pb**	**06 42 27.8**	**-0.2**
BRU2				*i* S	**Sb**	**06 42 42.1**	**+0.7**
LCR2	**La Lucha 2**	**1.14**	**346**	*e*P	**Pb**	**06 42 28.8**	**-1.0**
LCR2				*e*S	**Sb**	**06 42 44.9**	**+0.4**
RIMA	**Rio Macho**	**1.14**	**353**	*e*P	**Pb**	**06 42 29.0**	**-0.8**
RIMA				*e*S	**Sb**	**06 42 44.7**	**+0.3**
RIMA	**Rio Macho**	**1.14**	**353**	*e*P	**Pb**	**06 42 29.0**	**-0.8**
BCO2	**Palmira**	**1.19**	**85**	⇓*e*P	**Pn**	**06 42 30.2**	**-0.2**
BCO2				*e*S	**Sb**	**06 42 45.5**	**-0.3**
DVD	**David**	**1.28**	**98**	⇓*i*P	**Pn**	**06 42 31.0**	**-0.4**
DVD				*i* S	**Sb**	**06 42 48.0**	**-0.1**
LOMA3	**Las Lomas, Chi**	**1.34**	**98**	⇓*e*P	**Pn**	**06 42 32.2**	**-0.1**
LOMA3				*e*S	**Sn**	**06 42 47.7**	**-1.8**
JACO	**JACO, Garabito**	**1.38**	**318**	*e*P	**Pn**	**06 42 32.7**	**-0.1**
CHIR3	**Chiriqui UPA,**	**1.40**	**99**	⇓*i*P	**Pn**	**06 42 33.0**	**-0.1**
CHIR3				*i* S	**Sb**	**06 42 52.2**	**+0.5**
HDC	**Heredia**	**1.42**	**345**	*e*P	**Pn**	**06 42 34.7**	**+1.2**
HDC	**Heredia**	**1.42**	**345**	*e*P	**Pn**	**06 42 33.4**	**-0.1**
HDC				*e*S	**Sn**	**06 42 52.0**	**+0.2**
HDC3	**Heredia 3**	**1.42**	**345**	*e*P	**Pn**	**06 42 30.3**	**-3.3**
CNI2	**El Empalme, Bo**	**1.48**	**57**	⇑*i*P	**Pn**	**06 42 33.9**	**-0.3**
BATAN	**Batan**	**1.51**	**13**	⇑*e*P	**Pn**	**06 42 35.2**	**+0.7**
BATAN				*e*S	**Sn**	**06 42 54.1**	**+0.4**
CHGR2	**Aguacate**	**1.60**	**79**	⇓*e*P	**Pn**	**06 42 33.9**	**-1.9**
CHGR2				*e*S	**Sn**	**06 42 54.1**	**-1.9**
SRA1	**San Ramn**	**1.63**	**333**	*e*P	**Pn**	**06 42 36.7**	**+0.3**
SRA1				*e*S	**Sn**	**06 42 58.0**	**+1.0**
LAFE	**Finca La Fe, P**	**1.66**	**315**	*e*P	**Pn**	**06 42 38.0**	**+1.3**
CAO2	**Cobano, Puntar**	**1.72**	**308**	*e*P	**Pn**	**06 42 37.8**	**+0.2**
REME3	**Remedios, Chir**	**1.92**	**102**	*i* P	**Pn**	**06 42 40.1**	**-0.1**
JTS	**Las Juntas de**	**2.05**	**324**	*e*P	**Pn**	**06 42 42.6**	**+0.5**
JTS	**Las Juntas de**	**2.05**	**324**	*e*P	**Pn**	**06 42 42.8**	**+0.7**
COVE	**Coope Vega, Sa**	**2.19**	**342**	*e*P	**Pn**	**06 42 45.7**	**+1.8**
GMAL	**Guarumal, Vera**	**2.62**	**109**	⇓*e*P	**Pn**	**06 42 49.4**	**-0.4**
HZTE	**Horizontes, Gu**	**2.77**	**319**	*e*P	**Pn**	**06 42 52.6**	**+0.5**
MARI3	**Mariato, Verag**	**2.88**	**109**	*e*P	**Pn**	**06 42 53.9**	**+0.4**
CACAO	**El Cacao, Vera**	**3.11**	**114**	⇓*e*P	**Pn**	**06 42 55.4**	**-1.2**
CHIT3	**Chitre**	**3.34**	**101**	*e*P	**Pn**	**06 42 59.7**	**-0.1**
PNME	**Penonome**	**3.37**	**92**	*e*P	**Pn**	**06 43 01.3**	**+1.1**
PNME				*e*S	**Sb**	**06 43 47.5**	**-0.8**
AZU	**Azuero**	**3.52**	**103**	*e*P	**Pn**	**06 43 02.1**	**-0.1**
ZANG	**Zanguenga, Cho**	**3.83**	**85**	*e*P	**Pn**	**06 43 08.3**	**+1.7**
BCIP	**Isla Barro Col**	**3.88**	**82**	*e*P	**Pn**	**06 43 08.9**	**+1.7**
CHOR3	**La Chorrera**	**3.93**	**86**	*e*P	**Pn**	**06 43 08.4**	**+0.5**
UPA	**Univ. de Panam**	**4.16**	**85**	*e*P	**Pn**	**06 43 13.9**	**+2.8**

*GII **07** 06:42:14.5±0.0, 28°.92N×34°.83E, h1km, MD2.6/3, Mm2.6/3*
*HLW **07** 06:42:15.9, 29°.02N×34°.65E, h3km±8km, Md2.5*
ISC 07 06:42:14.9±1.7**, 28°.90N**±0°.07×**34°.76E**±0°.08**, h11**km±12km**, n15,** σ0s.86/22**, 1D, Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HKAT	**Jabal Katrina**	**0.77**	**241**	⇑P	**Pg**	**06 42 30.4**	**+0.6**
	baz=230						
HKAT				S	**Sg**	**06 42 41.0**	**+1.1**
	baz=230						
EIL	**Elat**	**0.78**	**13**	Pg	**Pb**	**06 42 30.0**	**-0.5**
EIL				Sg	**Sb**	**06 42 41.4**	**+0.2**
MBRI	**Mt Berech**	**0.90**	**9**	Pg	**Pb**	**06 42 32.0**	**-0.6**
MBRI				Sg	**Sn**	**06 42 45.9**	**-0.7**
HRFI	**Mount Harif**	**1.16**	**12**	Pg	**Pg**	**06 42 36.2**	**-0.9**
HRFI				Sg	**Sn**	**06 42 52.6**	**-0.3**
KRMI	**Paran Flat**	**1.21**	**359**	Pg	**Pg**	**06 42 37.2**	**-0.9**
KRMI				Sg	**Sn**	**06 42 54.6**	**+0.3**
HRDS	**Abu Rudays**	**1.29**	**262**	⇓P	**Pg**	**06 42 39.2**	**-0.5**
	baz=257						
PRNI	**Paran**	**1.46**	**8**	Pn	**Pn**	**06 42 41.6**	**+0.4**
PRNI				Sn	**Sn**	**06 43 01.7**	**+1.3**
ZFRI	**Zfri**	**1.69**	**12**	Pn	**Pn**	**06 42 45.0**	**+0.7**
RMNI	**Mount Ramon**	**1.69**	**0**	Pn	**Pn**	**06 42 45.2**	**+0.8**
GRB	**Gharib**	**1.84**	**250**	⇑P	**Pn**	**06 42 45.0**	**-1.5**
	baz=247						
SUZ	**Suez**	**1.92**	**300**	P	**Pb**	**06 42 50.2**	**+0.3**
	baz=298						
ZAF	**Zafarana**	**1.97**	**282**	⇑P	**Pn**	**06 42 47.7**	**-0.5**
	baz=279						
HHRG	**Al Ghardaqah**	**1.98**	**212**	⇑P	**Pn**	**06 42 48.2**	**-0.2**
	baz=206						
KZIT	**Kziot**	**2.02**	**351**	Pn	**Pn**	**06 42 49.6**	**+0.7**
KZIT				Sn	**Sb**	**06 43 16.5**	**-0.3**
YTIR	**Yattir**	**2.47**	**7**	Pn	**Pn**	**06 42 56.7**	**+1.5**

*DJA **07** 06:42:27.1±0.6, 3°S±4°×14°0E±°, h96km±7km, M4.0/5, mb4.2/3, MLv3.9/5*
*IDC **07** 06:42:27.7±2.0, 2°.79S×139°.67E, h104km±25km, mb3.3/4, mb1 3.5/5, mb1mx3.3/22, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=53.5km s-min=19.0km az=116.0*
ISC 07 06:42:27.0±0.9**, 2°.69S**±0°.07×**139°.61E**±0°.06**, h108**km±8km**, n15,** σ2s.21/20**, mb3.4**/3**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.57**	**80**	P	**Pn**	**06 42 43.7**	**-0.4**
GENI				S	**Sn**	**06 42 56.9**	**-0.1**
JAY	**Jayapura**	**1.11**	**81**	P	**Pn**	**06 42 49.4**	**+0.1**
	29nm,0.3s,baz=253,slow=19,SNR=84						
JAY				S	**Sn**	**06 43 05.6**	**-0.5**
	59nm,0.3s,baz=290,slow=23,SNR=8.1						
JAY	**Jayapura**	**1.11**	**81**	P	**Pn**	**06 42 49.0**	**-0.3**
JAY				S	**Sn**	**06 43 04.9**	**-1.2**
SMPI	**Sarmi**	**1.13**	**308**	P	**Pn**	**06 42 49.0**	**-0.5**
SMPI				S	**Sn**	**06 43 06.2**	**-0.2**
WAMI	**Wamena**	**1.49**	**217**	P	**Pn**	**06 42 54.5**	**+1.0**
WAMI				S	**Sn**	**06 43 15.2**	**+1.5**
SRPI	**Serui, Papua**	**3.46**	**284**	P	**Pn**	**06 43 19.2**	**+0.1**
BAKI	**Biak**	**3.80**	**293**	P	**Pn**	**06 43 22.0**	**-1.7**
FAKI	**Fak Fak**	**7.35**	**268**	P	**Pn**	**06 44 11.1**	**-0.7**
	0.1nm23nm,1.1s						
SWI	**Sorong**	**8.54**	**282**	P	**Pn**	**06 44 29.3**	**+1.5**
PMG	**Port Moresby**	**10.04**	**132**	LR	LR	06 49 59.7	
	comp=Z,76nm,21.0s,baz=144,slow=46						
WRA	**Warramunga Arr**	**17.90**	**196**	P	**P**	**06 46 27.8**	**-0.6**
	0.3nm,0.3s,baz=20,slow=12,SNR=13						
WRA				S	Sn	06 49 35.5	-14
	0.2nm,0.3s,baz=20,slow=22,SNR=5.4						
FITZ	**Fitzroy Crossi**	**20.54**	**221**	P	**P**	**06 46 56.5**	**-0.5**
	1.2nm,0.7s,baz=37,slow=12,SNR=1.4						
FITZ				S	**S**	**06 50 33.3**	**-7.8**
	2.1nm,0.8s,baz=26,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**21.57**	**194**	P	**P**	**06 47 09.2**	**+1.1**
	1.2nm,0.6s,baz=25,slow=10,SNR=19						
MKAR	**Makanchi Array**	**70.32**	**322**	P	**P**	**06 53 30.9**	**+1.9**
	0.4nm,0.7s,baz=112,slow=6.9,SNR=3.0						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**06 54 53.6**	**+1.3**
	1.1nm,0.8s,baz=266,slow=4.4,SNR=10						

*IDC **07** 06:52:58.1±3.0, 5°.97S×147°.05E, h91km±28km, mb4.0/4, mb1 4.1/7, mb1mx3.6/37, mbtmp4.3/7, Error ellipse: s-maj=42.2km s-min=15.9km az=115.0*
*NEIC **07** 06:52:58.5±1.7, 5°.92S±0°.09×146°.9E±0°.1, h79km±8km, mb4.5/18, Error ellipse: s-maj=19.3km s-min=11.3km az=109.0*
ISC 07 06:52:57.9±0.7**, 5°.91S**±0°.08×**146°.87E**±0°.10**, h78**km**, n40,** σ1s.24/42**, mb4.6**/11**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.48**	**175**	P	**Pn**	**06 53 51.0**	**+1.2**
	34nm,0.3s,baz=18,slow=4.5,SNR=32						
PMG				S	**Sn**	**06 54 28.9**	**-1.0**
	12nm,0.3s,baz=4.9,slow=13,SNR=5.6						
PMG	**Port Moresby**	**3.48**	**175**	P	**Pn**	**06 53 51.0**	**+1.2**
RABL	**Rabaul**	**5.55**	**72**	Pn	**Pn**	**06 54 17.8**	**-0.1**
COEN	**Coen**	**8.78**	**204**		**Pn**	**06 55 03.0**	**+0.9**
COEN	**Coen**	**8.78**	**204**	P	**Pn**	**06 55 03.9**	**+1.8**
CTA	**Charters Tower**	**14.11**	**182**	P	**Pn**	**06 56 14.3**	**+0.2**
	0.2nm,0.3s,baz=360,slow=15,SNR=1.9						
KDU	**Kakadu**	**15.71**	**244**	P	**Pn**	**06 56 35.2**	**+0.5**
QIS	**Mount Isa**	**16.18**	**205**	P	**Pn**	**06 56 41.4**	**+0.8**
WB0	**Warramunga Arr**	**18.35**	**220**	P	**P**	**06 57 06.1**	**-0.3**
WR0	**Warramunga Arr**	**18.40**	**220**	P	**P**	**06 57 06.1**	**-0.8**
WRAB	**Tennant Creek**	**18.50**	**220**	P	**P**	**06 57 07.7**	**-0.3**
WRAB				IAmb	IAmb	06 57 10.8	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**18.50**	**220**	P	**P**	**06 57 07.5**	**-0.5**
WB2	**Warramunga Arr**	**18.51**	**220**	P	**P**	**06 57 07.8**	**-0.2**
WB2				IAmb	IAmb	06 57 10.9	
	comp=Z,7.6nm,0.6s						
WRA	**Warramunga Arr**	**18.51**	**220**	P	**P**	**06 57 07.6**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=40,slow=11,SNR=44						
WRA				S	**S**	**07 00 29.3**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=46,slow=23,SNR=2.7						
WRA	**Warramunga Arr**	**18.51**	**220**	P	**P**	**06 57 08.3**	**+0.2**
KNRA	**Kununurra**	**20.24**	**240**	P	**P**	**06 57 26.9**	**0.0**
KNRA				IAmb	IAmb	06 57 31.8	
	comp=Z,13nm,0.7s						
KNRA	**Kununurra**	**20.24**	**240**	P	**P**	**06 57 26.5**	**-0.5**
ASAR	**Alice Springs**	**21.62**	**214**	P	**P**	**06 57 41.5**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=54,slow=8.8,SNR=46						
ASAR				S	**S**	**07 01 37.6**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=34,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**21.62**	**214**	P	**P**	**06 57 40.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.00**	**238**	P	**P**	**06 58 05.1**	**-0.4**
	comp=Z,38nm,0.6s,baz=59,slow=8.8,SNR=112						
FITZ	**Fitzroy Crossi**	**24.00**	**238**		**P**	**06 58 05.4**	**-0.1**
OOD	**Oodnadatta**	**24.22**	**205**	P	**P**	**06 58 07.3**	**-0.1**
LUWI	**Luwuk**	**24.52**	**280**	P	**P**	**06 58 11.6**	**+1.2**
LCRK	**Leigh Creek**	**25.73**	**197**	P	**P**	**06 58 21.2**	**+0.1**
WRKA	**Warakurna**	**26.05**	**221**	P	**P**	**06 58 23.6**	**-0.5**
STKA	**Stephens Creek**	**26.30**	**190**	P	**P**	**06 58 25.6**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=0.5,slow=8.8,SNR=6.7						
STKA	**Stephens Creek**	**26.30**	**190**	IAmb	IAmb	06 58 26.4	
	comp=Z,0.9nm,0.9s						
MULG	**Mulgathing**	**27.07**	**205**	P	**P**	**06 58 32.9**	**-0.3**
BBOO	**Buckleboo**	**28.59**	**199**	P	**P**	**06 58 49.4**	**+2.6**
BBOO				IAmb	IAmb	06 58 52.1	
	comp=Z,22nm,1.5s						
CAN	**Canberra**	**29.33**	**176**	P	**P**	**06 58 53.4**	**+0.1**
CAN				IAmb	IAmb	06 59 03.5	
	comp=Z,21nm,1.5s						
FORT	**Forrest**	**30.40**	**213**	P	**P**	**06 59 01.6**	**-1.1**
PSA00	**Pilbara Seismi**	**30.43**	**237**	P	**P**	**06 59 03.5**	**+0.4**
PSA00				IAmb	IAmb	06 59 03.9	
	comp=Z,9.9nm,0.8s						
PSA00	**Pilbara Seismi**	**30.43**	**237**	P	**P**	**06 59 02.5**	**-0.7**
TOO	**Toolangi**	**31.54**	**182**	P	**P**	**06 59 13.5**	**+0.7**
TOO				IAmb	IAmb	06 59 13.6	
	comp=Z,10.0nm,1.1s						
GIRL	**Giralia**	**35.60**	**239**	P	**P**	**06 59 48.0**	**-0.2**
MORW	**Morawa**	**37.13**	**228**	P	**P**	**07 00 01.4**	**+0.2**
MORW				IAmb	IAmb	07 00 11.0	
	comp=Z,16nm,1.1s						
INU	**Inuyama**	**42.08**	**348**	P	**P**	**07 00 42.8**	**+0.7**
INU				IAmb	IAmb	07 00 55.6	
	comp=Z,28nm,1.3s						
VNDA	**Vanda**	**72.01**	**177**	P	**P**	**07 04 13.5**	**+0.6**
VNDA				IAmb	IAmb	07 04 31.0	
	comp=Z,8.8nm,1.4s						
ILAR	**Eielson Array**	**85.45**	**23**	P	**P**	**07 05 24.8**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=248,slow=4.9,SNR=8.9						
TORD	**Torodi Ar. Bea**	**144.94**	**284**	PKPbc	**PKPbc**	**07 12 25.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=65,slow=4.0,SNR=6.5						

IDC 07 06:56:23.8±5.5**, 53°.96N**×**90°.90E, h0**km**, mb1 2.6**/1**, mb1mx2.5**/47**, mbtmp2.6**/1**, ML2.4**/1**, Error ellipse: s-maj=44.2km s-min=28.9km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**272**	*i*		07 18 50.0	
	baz=90,slow=333,SNR=4.7						
ZALV	**Zalesovo Beam**	**3.59**	**272**	Pg	Pb	06 57 28.6	+0.4
	0.5nm,0.3s,baz=92,slow=17,SNR=6.3						
ZALV				Lg	Lg	06 58 17.7	
	0.3nm,0.3s,baz=91,slow=24,SNR=3.4						
MKAR	**Makanchi Array**	**9.03**	**221**	Pn	Pn	06 58 35.9	+0.5
	0.0nm,0.3s,baz=35,slow=14,SNR=2.1						
MKAR				Sn	Sn	07 00 17.3	-0.5
	0.1nm,0.3s,baz=40,slow=21,SNR=1.2						
MKAR				Lg	Lg	07 01 04.4	
	baz=35,slow=29,SNR=3.0						

*IDC **07** 07:08:29.6±1.2, 31°.39S×177°.96W, h0km, mb4.4/4, mb1 4.6/6, mb1mx4.2/31, mbtmp4.4/6, ML4.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.0/62, Error ellipse: s-maj=36.1km s-min=21.6km az=127.0*
*NEIC **07** 07:08:36.5±1.0, 31°.14S±0°.07×178°.1W±0°.2, h35km±2km, mb4.7/8, Error ellipse: s-maj=28.4km s-min=11.1km az=83.0*
ISC 07 07:08:35.2±0.7**, 31°.28S**±0°.06×**178°.2W**±0°.1**, h35**km**, n65,** σ1s.63/72**, mb4.6**/8**, MS3.7**/5**, 1C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.03**	**7**	P	**Pn**	**07 09 07.8**	**+0.9**
GLKZ				S	**Sn**	**07 09 28.5**	**-2.5**
RAO	**Raoul Island**	**2.04**	**7**	Pn	**Pn**	**07 09 07.9**	**+0.9**
	191nm,0.3s,baz=123,slow=13,SNR=9.2						
RAO				Sn	**Sn**	**07 09 29.2**	**-2.1**
	741nm,0.3s,baz=93,slow=22,SNR=11						
RAO	**Raoul Island**	**2.04**	**7**		**Pn**	**07 09 05.2**	**-1.8**
RIZ	**Raoul Island**	**2.04**	**7**	P	**Pn**	**07 09 08.0**	**+0.9**
RIZ				S	**Sn**	**07 09 31.1**	**-0.2**
MXZ	**Matakaoa Point**	**6.90**	**204**	P	**Pn**	**07 10 13.8**	**0.0**
MXZ				S	**Sn**	**07 11 30.6**	**-0.4**
HAZ	**Te Kaha**	**7.26**	**206**	P	**Pn**	**07 10 18.8**	**0.0**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HAZ				S	Sn	07 11 42.2	+2.4
PKGZ	Pakihiroa	7.27	204	P	Pn	07 10 18.8	-0.2
PKGZ				S	Sn	07 11 40.7	+0.4
PUZ	Puketiti	7.37	202	P	Pn	07 10 19.8	-0.6
PUZ				S	Sn	07 11 37.7	-5.1
RUGZ	Raukumara Rang	7.48	206	P	Pn	07 10 22.0	+0.1
TWGZ	Tauwhareparae	7.56	204	P	Pn	07 10 24.3	+1.3
TWGZ				S	Sn	07 11 48.2	+0.7
CNGZ	Carnagh Statio	7.77	201	P	Pn	07 10 25.0	-0.7
CNGZ				S	Sn	07 11 54.0	+1.6
URZ	Urewera	7.96	208	Pn	Pn	07 10 27.0	-1.3
	1.3nm,0.3s,baz=260,slow=5.2,SNR=14						
URZ				Sn	Sn	07 11 57.2	+0.2
	4.8nm,0.3s,baz=209,slow=22,SNR=14						
RAGZ	Rawiri	8.05	205	P	Pn	07 10 31.0	+1.3
RAGZ				S	Sn	07 11 59.3	-0.1
RIGZ	Rimuhau	8.11	203	P	Pn	07 10 29.4	-1.1
RIGZ				S	Sn	07 12 01.0	0.0
PRGZ	Paritu Road	8.27	202	P	Pn	07 10 31.9	-0.8
MUGZ	Murupara	8.28	209	P	Pn	07 10 31.4	-1.3
MUGZ				S	Sn	07 12 03.7	-1.3
RTZ	Ruatahuna	8.31	207	P	Pn	07 10 31.8	-1.5
RTZ				S	Sn	07 12 04.1	-1.9
RAHZ	Arahi	8.54	206	P	Pn	07 10 36.4	+0.1
RAHZ				S	Sn	07 12 10.9	-0.6
MTHZ	Maungataniwha	8.57	207	P	Pn	07 10 38.0	+1.2
MTHZ				S	Sn	07 12 09.9	-2.5
NMHZ	Naumai	8.80	206	P	Pn	07 10 39.7	-0.3
NMHZ				S	Sn	07 12 16.1	-1.8
ARHZ	Aropaoanui	8.88	205	P	Pn	07 10 40.6	-0.3
ARHZ				S	Sn	07 12 18.6	-1.1
BKZ	Black Stump Fm	8.98	207	P	Pn	07 10 41.6	-0.9
BKZ				S	Sn	07 12 20.2	-2.1
MCHZ	McNeill Hill	9.15	206	P	Pn	07 10 45.2	+0.5
MCHZ				S	Sn	07 12 25.6	-0.7
KWHZ	Kaweka Forest	9.23	207	P	Pn	07 10 43.4	-2.5
KWHZ				S	Sn	07 12 26.0	-2.5
NTVZ	North Tongarir	9.27	211	P	Pn	07 10 47.8	+1.4
TMVZ	Te Maari	9.27	211	P	Pn	07 10 47.3	+0.8
ETVZ	East Tongariro	9.28	211	P	Pn	07 10 47.6	+1.0
BHHZ	Black Hill Sta	9.43	208	P	Pn	07 10 47.6	-1.0
PXZ	Pawanui	9.61	203	P	Pn	07 10 44.2	-6.7
PXZ				S	Sn	07 12 31.2	-6.4
BFZ	Birch Farm	10.40	204	P	Pn	07 10 58.4	-3.4
BFZ				S	Sn	07 12 48.5	-8.6
MRZ	Mangatainoka R	10.62	207	P	Pn	07 11 00.9	-4.0
MRZ				S	Sn	07 12 53.9	-8.7
CTZ	Chatham Island	12.49	175	P	Pn	07 11 31.5	+1.1
DZM	Mont Dzumac	16.49	300	LR	LR	07 17 41.1	
	comp=Z,49nm,20.4s,baz=3.5,slow=33						
RAR	Rarotonga	19.31	63	LR	LR	07 20 11.6	
	comp=Z,38nm,18.3s,baz=236,slow=37						
STKA	Stephens Creek	34.12	258	P	P	07 15 18.6	+1.9
	1.2nm,0.4s,baz=98,slow=13,SNR=4.4						
STKA	Stephens Creek	34.12	258	IAmb	IAmb	07 15 22.0	
	comp=Z,1.3nm,1.2s						
BBOO	Buckleboo	38.57	255	P	P	07 15 55.7	+1.0
BBOO				IAmb	IAmb	07 16 17.5	
	comp=Z,17nm,1.2s						
PMG	Port Moresby	38.84	297	LR	LR	07 28 39.5	
	comp=Z,72nm,20.6s,baz=250,slow=31						
AS31	Alice Springs	42.90	268	P	P	07 16 32.6	+2.0
ASAR	Alice Springs	42.90	268	P	P	07 16 31.6	+1.0
	comp=Z,6.1nm,0.6s,baz=105,slow=7.5,SNR=89						
ASAR	Alice Springs	42.90	268	P	P	07 16 30.3	-0.3
WR0	Warramunga Arr	43.79	273	P	P	07 16 39.1	+1.3
WR0				IAmb	IAmb	07 16 40.1	
	comp=Z,5.4nm,0.6s						
WB2	Warramunga Arr	43.95	273	P	P	07 16 40.4	+1.2
WRAB	Tennant Creek	43.96	273	P	P	07 16 40.1	+0.9
WRAB				IAmb	IAmb	07 16 41.5	
	comp=Z,9.1nm,0.7s						
WRA	Warramunga Arr	43.97	273	P	P	07 16 40.1	+0.9
	comp=Z,6.8nm,0.5s,baz=114,slow=7.5,SNR=94						
WRA				LR	LR	07 33 58.2	
	comp=Z,96nm,18.1s,baz=140,slow=35						
WRA	Warramunga Arr	43.97	273	P	P	07 16 40.1	+0.9
WB0	Warramunga Arr	43.99	273	P	P	07 16 40.6	+1.2
WB0				IAmb	IAmb	07 16 41.7	
	comp=Z,9.5nm,0.7s						
FITZ	Fitzroy Crossi	52.19	271	LR	LR	07 37 34.3	
	comp=Z,29nm,18.8s,baz=159,slow=33						
QSPA	South Pole Qui	58.83	180	P	P	07 18 32.4	+2.4
SYO	Syowa Base	76.22	193	⇑eP	P	07 20 18.4	-1.1
JOW	Kunigami	77.13	313	LR	LR	07 50 30.2	
	comp=Z,124nm,21.1s,baz=292,slow=33						
H03S2	Juan Fernandez	80.12	124	T	T	08 49 38.4	
	baz=238						
H03S1	Juan Fernandez	80.13	124	T	T	08 49 39.8	
	baz=238						
H03S3	Juan Fernandez	80.14	124	T	T	08 49 38.3	
	baz=238						
H03N3	Juan Fernandez	80.32	123	T	T	08 49 54.9	
	baz=241,slow=72,SNR=18						
H03N2	Juan Fernandez	80.32	123	T	T	08 49 46.6	
	baz=241,slow=72,SNR=10.0						
H03N1	Juan Fernandez	80.34	123	T	T	08 49 49.4	
	baz=241,slow=72,SNR=34						
NVAR	Mina Array Bea	89.00	43	P	P	07 21 26.3	-0.2
	comp=Z,0.3nm,0.7s,baz=212,slow=10,SNR=3.6						
CMAR	Chiang Mai Arr	93.53	289	LR	LR	08 07 21.1	
	comp=Z,25nm,18.1s,baz=80,slow=38						
ARCES	ARCESS Array B	139.41	347	PKP	PKPdf	07 27 57.0	-0.8
	comp=Z,0.7nm,0.8s,baz=104,slow=1.9,SNR=1.1						
FINES	FINESS Array B	145.91	339	PKPbc	PKPbc	07 28 09.7	-0.5
	comp=Z,1.7nm,0.4s,baz=43,slow=3.8,SNR=17						
NB2	NORSAR Subarra	149.59	351	PKP	PKPbc	07 28 19.8	-0.5
	comp=Z,0.5nm,0.5s,baz=13,slow=2.6						
NOA	NORSAR Array B	149.59	351	PKPbc	PKPbc	07 28 19.7	-0.6
	comp=Z,1.3nm,0.8s,baz=14,slow=4.1,SNR=4.3						
AKASG	Malin Array Be	151.89	322	PKPbc	PKPbc	07 28 25.5	-0.5
	comp=Z,0.6nm,0.5s,baz=48,slow=2.8,SNR=2.4						
TORD	Torodi Ar. Bea	161.95	180	PKPab	PKPab	07 29 19.5	+0.2
	comp=Z,0.5nm,0.5s,baz=188,slow=4.2,SNR=3.6						

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*NNC **07** 07:09:58.2±1.2, 49°.96N×78°.30E, h0km, mb3.3, mpv2.7, Error ellipse: s-maj=18.7km s-min=5.7km az=92.0, Suspected Mining explosion.*
*IDC **07** 07:10:00.7±1.1, 50°.05N×78°.72E, h0km, mb1 3.0/2, mb1mx2.9/32, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=16.5km s-min=6.0km az=68.0*
ISC 07 07:09:56.5±0.9, **50°.16N**±0°.04×**79°.46E**±0°.05, **h0**km, **n9, σ1§00**/15, **8C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.76	308	Pg	Pg	07 10 11.6	+0.5
	2.2nm,0.3s,baz=168,slow=17,SNR=125						
KURBB				Lg	Lg	07 10 20.9	
	4.2nm,0.3s,baz=166,slow=39,SNR=23						
KURBB	Kurchatov Arra	0.76	308	⇑P	Pb	07 10 11.9	-0.7
	9.3nm,0.2s						
KURBB				⇓S	Sg	07 10 20.9	0.0
	209nm,0.6s						
KURK	Kurchatov	0.78	316	⇑P	Pb	07 10 13.0	+0.1
	3.5nm,0.3s						
KURK				⇓S	Sb	07 10 23.1	-0.9
	67nm,0.8s						
MAKZ	Makanchi	3.74	153	⇑Pn	Pb	07 11 02.1	-1.3
	0.7nm,0.6s						
MAKZ				⇓Pg	Pg	07 11 09.1	+0.9
	1.0nm,0.3s						
MAKZ				⇑Lg	Lg	07 12 04.8	
	4.9nm,0.5s						
MK31	Makanchi Array	3.85	150	⇑Pn	Pb	07 11 04.0	-1.4
	0.1nm,0.1s,baz=235,slow=30,SNR=78						
MK31				⇑Pg	Pg	07 11 11.8	+1.4
	0.1nm,0.1s,baz=326,slow=16,SNR=34						
MK31				⇓Lg	Lg	07 12 08.9	
	4.6nm,0.6s,baz=325,slow=27,SNR=12						
MKAR	Makanchi Array	3.85	150	Pn	Pb	07 11 04.0	-1.3
	0.4nm,0.3s,baz=322,slow=10,SNR=67						
MKAR				Pg	Pg	07 11 11.2	+0.9
	0.7nm,0.3s,baz=327,slow=16,SNR=21						
MKAR				Sn	Sb	07 11 53.1	+0.5
	0.7nm,0.3s,baz=328,slow=20,SNR=8.1						
MKAR				Lg	Lg	07 12 05.5	
	2.2nm,0.3s,baz=326,slow=26,SNR=12						
I46RU	ZALESOVO INFRA	5.03	39	i		07 43 20.0	
	baz=222,slow=345,SNR=2.9						
ZALV	Zalesovo Beam	5.03	39	Pn	Pb	07 11 24.4	-1.0
	0.9nm,0.3s,baz=233,slow=14,SNR=17						
ZALV				Sn	Sb	07 12 26.9	+0.5
	0.1nm,0.3s,baz=227,slow=24,SNR=1.5						
ZALV				Lg	Lg	07 12 52.6	
	0.3nm,0.3s,baz=219,slow=28,SNR=4.2						
OTUK	Ortayu	5.05	250	⇑Pg	Pn	07 11 13.5	+0.1
	2.0nm,0.4s						
OTUK				⇑Lg	Lg	07 12 11.7	
	6.5nm,0.5s						

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*SOME **07** 07:25:23.4, 40°.87N×74°.95E, h10km*
*NNC **07** 07:25:24.8±1.6, 40°.91N×74°.89E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.8km s-min=9.0km az=158.0*
*KRNET **07** 07:25:24.5±0.1, 40°.99N×74°.90E, h15km, mb2.8*
ISC 07 07:25:22.8±1.6, **40°.84N**±0°.05×**74°.68E**±0°.03, **h4**km±12km, **n63, σ1§18**/96, **21C-14D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SALK	Salom-Alik	0.65	273	⇓eP	Pn	07 25 40.7	+1.7
	baz=63						
SALK				⇓eS	Sn	07 25 52.1	+2.2
	baz=63						
ARLS	Aral	1.05	345	⇑iP	Pb	07 25 42.8	-0.9
	baz=34						
ARLS				⇑iS	Sb	07 25 56.2	-1.7
	baz=34						
UCH	Uchtor	1.39	355	P	Pb	07 25 49.5	-0.1
	SNR=23						
UCH	Uchtor	1.39	355	⇑iP	Pb	07 25 48.6	-1.0
	baz=47						
UCH				⇑iS	Sn	07 26 06.6	-1.9
	baz=47						
AML	Almayashu	1.48	330	P	Pn	07 25 39.8	-11
	SNR=13						
ULHL	Ulahol	1.83	39	P	Pn	07 25 55.0	-0.2
	SNR=15						
ULHL	Ulahol	1.83	39	⇑iP	Pn	07 25 54.4	-0.8
	baz=38						
ULHL				⇑iS	Sn	07 26 16.5	-2.5
	baz=38						
BOOM	Boomskoye usch	1.90	29	⇑iP	Pn	07 25 56.2	0.0
	baz=27						
BOOM				⇑iS	Sn	07 26 19.2	-1.4
	baz=27						
EKS2	Erkin-Say	1.94	340	P	Pg	07 26 03.9	+3.9
	SNR=7.7						
EKS2	Erkin-Say	1.94	340	⇓iP	Pg	07 25 59.2	-0.7
	baz=34						
EKS2				⇓iS	Sg	07 26 24.6	-0.4
	baz=34						
CHMS	Chumysh	2.15	1	⇑iP	Pb	07 26 01.4	-1.0
	baz=57						
CHMS				⇑iS	Sb	07 26 28.4	-1.1
	baz=57						
TKM2	Tokmak 2	2.19	18	P	Pb	07 26 02.5	-0.5
	SNR=26						
TKM2	Tokmak 2	2.19	18	⇓iP	Pb	07 26 01.4	-1.7
	baz=15						
TKM2				⇓iS	Sn	07 26 28.4	+0.6
	baz=15						
TKM2	Tokmak 2	2.19	18	⇓Pn	Pb	07 26 02.0	-1.0
	4.3nm,0.2s						
TKM2				⇓Sn	Sb	07 26 30.1	-0.5
	19nm,0.4s						
MRKS	Merke	2.19	331	eP	Pg	07 26 05.6	+0.9
	3.0nm,0.1s						
MRKS				eS	Sg	07 26 35.8	+2.7
	65nm,0.2s						
ARK	Arkit	2.26	296	⇑iP	Pg	07 26 06.1	+0.1
	baz=91						
ARK				⇑iS	Sg	07 26 36.6	+1.3
	baz=91						
KDJ	Kajisay	2.28	55	⇑iP	Pn	07 26 02.2	+0.8
	baz=56						
KDJ				⇑iS	Sn	07 26 30.0	0.0
	baz=56						
USP	Ospenovka	2.42	357	P	Pb	07 26 07.7	+0.6
	SNR=17						
USP	Ospenovka	2.42	357	⇑iP	Pb	07 26 05.3	-1.7
	baz=53						
USP				⇑iS	Sb	07 26 35.3	-2.0
	baz=53						
TARG	Taragay, Kyrgy	2.52	68	⇓iP	Pn	07 26 05.8	+0.9
	baz=70						
TARG				⇓iS	Sn	07 26 36.0	-0.2
	baz=70						
DGS	Degeres	2.53	18	eP	Pb	07 26 08.8	-0.1
	19nm,0.4s						
DGS				eS	Sb	07 26 41.8	+1.3
	35nm,0.4s						
DGS	Degeres	2.53	18	Pg	Pb	07 26 08.8	-0.1
	19nm,0.4s						
DGS				Lg	Lg	07 26 41.8	
	35nm,0.4s						
SGDS	Sogindy	2.61	359	eP	Pb	07 26 10.9	+0.8
	15nm,0.5s						
SGDS				eS	Sg	07 26 45.5	-1.0
	21nm,0.6s						
SGDS	Sogindy	2.61	359	Pg	Pb	07 26 11.0	+0.8
	15nm,0.5s						
SGDS				Lg	Lg	07 26 45.5	
	21nm,0.6s						
IZV	Izvestkoviy	2.62	33	eP	Pb	07 26 09.9	-0.5
	3.5nm,0.1s						
IZV				eS	Sb	07 26 43.6	+0.5
	17nm,0.2s						
IZV	Izvestkoviy	2.62	33	Pg	Pb	07 26 10.0	-0.5
	3.4nm,0.4s						
IZV				Lg	Lg	07 26 43.6	
	17nm,0.2s						
MTBS	Maitube	2.63	29	eP	Pb	07 26 10.0	-0.6
	7.0nm,0.1s						
MTBS				eS	Sb	07 26 43.8	+0.5
	14nm,0.0s						
MTBS	Maitube	2.63	29	Pg	Pb	07 26 10.0	-0.6
	6.8nm,0.3s						
MTBS				Lg	Lg	07 26 43.8	
	23nm,0.3s						
TRKS	Terek-Say	2.76	286	⇑iP	Pg	07 26 13.1	-2.5
	baz=81						
TRKS				⇑iS	Sg	07 26 49.1	-2.2
	baz=81						
TNSS	Tian-Shan	2.77	37	eP	Pb	07 26 12.8	-0.3
	5.8nm,0.4s						
TNSS				eS	Sb	07 26 48.4	+0.9
	11nm,0.1s						
TNSS	Tian-Shan	2.77	37	Pg	Pb	07 26 12.8	-0.3
	5.8nm,0.4s						
TNSS				Lg	Lg	07 26 48.4	
	11nm,0.5s						
MDOK	Medeo	2.91	37	eP	Pb	07 26 14.9	-0.5
	12nm,0.0s						
MDOK				eS	Sb	07 26 52.1	+0.6
	14nm,0.2s						
MDOK	Medeo	2.91	37	⇑Pn	Pb	07 26 14.7	-0.8
	5.2nm,0.4s						
MDOK				Lg	Lg	07 26 52.5	
	13nm,0.8s						
MDOK	Medeo	2.91	37	Pg	Pb	07 26 14.9	-0.5
	12nm,0.6s						
MDOK				Lg	Lg	07 26 52.1	
	14nm,0.6s						
KRBS	Karabastau	2.94	14	eP	Pb	07 26 16.1	+0.2
	5.0nm,0.1s						
KRBS				eS	Sb	07 26 54.1	+1.8
	35nm,0.1s						
KRBS	Karabastau	2.94	14	Pg	Pb	07 26 16.1	+0.2
	5.0nm,0.4s						
KRBS				Lg	Lg	07 26 54.1	
	35nm,0.3s						
ANVS	Anan'yevo	2.96	48	⇓eP	Pn	07 26 11.5	+0.8
	baz=48						
ANVS				⇓iS	Sn	07 26 46.2	-0.6
	baz=48						
KOTS	Kotyrbulak	3.00	36	eP	Pb	07 26 16.5	-0.4
	9.7nm,0.0s						
KOTS				eS	Sb	07 26 54.5	+0.5
	52nm,0.1s						
KOTS	Kotyrbulak	3.00	36	Pg	Pb	07 26 16.5	-0.4
	9.7nm,0.4s						
KOTS				Lg	Lg	07 26 54.5	
	53nm,0.8s						
KTBS	Karatobe	3.23	27	eP	Pb	07 26 20.6	-0.1
	2.8nm,0.0s						
KTBS				eS	Sb	07 27 01.8	+1.4
	32nm,0.1s						
KTBS	Karatobe	3.23	27	Pg	Pb	07 26 20.6	-0.1
	2.8nm,0.2s						
KTBS				Lg	Lg	07 27 01.8	
	32nm,0.6s						
KUU	Kurty	3.29	21	eP	Pb	07 26 21.6	-0.1
	4.5nm,0.1s						
KUU				eS	Sb	07 27 03.5	+1.4
	50nm,0.6s						
KUU	Kurty	3.29	21	Pg	Pb	07 26 21.3	-0.4
	3.0nm,0.5s						
KUU				Lg	Lg	07 27 03.2	
	50nm,0.6s						
CHKK	Chushkaly	3.46	29	eP	Pb	07 26 24.6	-0.1
	1.9nm,0.4s						
CHKK				eS	Sb	07 27 08.7	+1.6
	19nm,0.3s						
CHKK	Chushkaly	3.46	29	Pg	Pb	07 26 24.6	-0.1
	1.9nm,0.4s						
CHKK				Lg	Lg	07 27 08.7	
	19nm,0.3s						
SATY	Saty	3.55	50	eP	Pb	07 26 25.6	-0.7
	2.2nm,0.0s						
SATY				eS	Sb	07 27 10.0	+0.2
	5.0nm,0.2s						
SATY	Saty	3.55	50	Pg	Pb	07 26 26.0	-0.3
	2.4nm,0.5s						
SATY				Lg	Lg	07 27 11.2	
	11nm,0.6s						
ZHN	Zhinishke	3.64	49	eP	Pb	07 26 27.1	-0.6
	2.9nm,0.3s						
ZHN				eS	Sb	07 27 13.2	+0.9
	11nm,0.1s						
ZHN	Zhinishke	3.64	49	Pg	Pb	07 26 27.1	-0.6
	2.9nm,0.2s						
ZHN				Lg	Lg	07 27 13.2	
	11nm,0.3s						
KK07	Karatay Array	3.84	307	⇑Pg	Pg	07 26 34.9	-1.4
	0.7nm,0.4s						
KK07				⇓Lg	Lg	07 27 26.4	
	2.5nm,0.5s,baz=127,slow=28						
KPKS	Kokpek	3.97	47	eP	Pb	07 26 32.7	-0.7
	1.5nm,0.2s						
KPKS				eS	Sb	07 27 22.2	+0.5
	9.0nm,0.5s						
UZB	Uzynbulak	3.97	53	eP	Pb	07 26 32.6	-0.9
	2.2nm,0.1s						
UZB				eS	Sb	07 27 22.1	+0.2
	5.5nm,0.1s						
UZB	Uzynbulak	3.97	53	Pg	Pb	07 26 32.6	-0.9
	2.2nm,0.2s						
UZB				Lg	Lg	07 27 22.2	
	5.1nm,0.4s						
ARXS	Arharly	4.09	34	eP	Pb	07 26 35.5	+0.1
	1.8nm,0.0s						
ARXS				eS	Sb	07 27 27.8	+2.5
	10.0nm,0.1s						
ARXS	Arharly	4.09	34	Pg	Pb	07 26 35.5	+0.1
	1.8nm,0.4s						
ARXS				Lg	Lg	07 27 27.8	
	10.0nm,0.8s						
BRLS	Boroldav	4.22	303	eP	Pg	07 26 43.5	-0.1
	2.2nm,0.3s						
BRLS				eS	Sg	07 27 40.9	+2.6
	4.6nm,0.6s						
BRLS	Boroldav	4.22	303	Pg	Pg	07 26 43.5	-0.1
	2.2nm,0.3s						
BTLS	Baital	4.22	354	eP	Pg	07 26 41.5	-2.1
	1.2nm,0.2s						
BTLS				eS	Sg	07 27 37.2	-1.1
	3.0nm,0.0s						
BTLS	Baital	4.22	354	Pg	Pb	07 26 39.0	+1.4
	0.5nm,0.4s						
BLB	Baldybastay	4.30	40	eP	Pb	07 26 39.3	+0.3
	2.2nm,0.3s						
BLB				eS	Sb	07 27 33.7	+2.4
	7.0nm,0.1s						
BLB	Baldybastay	4.30	40	Pg	Pb	07 26 39.3	+0.3
	2.2nm,0.4s						
BLB				Lg	Lg	07 27 33.7	
	4.3nm,0.4s						
PDGK	Podgornoye	4.36	54	Pg	Pb	07 26 39.5	-0.5
	0.6nm,0.7s						
PDGK				Lg	Lg	07 27 33.9	
	1.8nm,1.1s						
PDGK	Podgornoye	4.36	54	⇓Pg	Pb	07 26 40.7	+0.7
	1.3nm,0.6s						
PDGK				⇑Lg	Lg	07 27 40.1	
	4.7nm,0.7s						

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*BJI **07** 07:37:00.9±0.0, 40°.15N×142°.45E, h56km, mb4.9/67, mB4.8/34, Ms4.1/48, Ms7 4.0/50*
*NIED **07** 07:37:01.5, 40°.14N×142°.46E, h34km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.86; Mθθ0.07; Mφφ-0.93; Mrθ0.63; Mθφ-0.12; Mφr0.96; Fault plane solution: M0 1.46000×10^16 NP1:φs27.00000°, δ72.00000°, λ104.00000°. NP2:φs168.00000°, δ23.00000°, λ53.00000°.*
*JMA **07** 07:37:01.5±0.1, 40°.14N×142°.46E, h34km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs20.00000°, δ52.00000°, λ97.00000°. NP2:φs189.00000°, δ38.00000°, λ81.00000°. Principal axes: T Plg81.0000°, Azm321.0000°; N Plg5.0000°, Azm196.0000°; P Plg7.0000°, Azm105.0000°;*
JMA Felt III J1.
*BGR **07** 07:37:01.4±0.0, 40°.20N×143°.98E, h44km, mb5.0, Ms4.1*
*MOS **07** 07:37:01.2±0.9, 40°.25N×142°.38E, h45km, mb5.1/64, MS4.3/7, Error ellipse: s-maj=5.5km s-min=3.8km az=105.3*
*NEIC **07** 07:37:02±1.4, 40°.18N±0°.05×142°.39E±0°.09, h35km±1km, mb4.8/163, Error ellipse: s-maj=12.6km s-min=8.1km az=107.0*
*IDC **07** 07:37:02.8±1.6, 40°.17N×142°.50E, h53km±14km, mb4.3/26, mb1 4.4/34, mb1mx4.3/58, mbtmp4.5/34, ML3.8/8, MS3.9/61, Ms1 3.9/61, ms1mx3.8/95, Error ellipse: s-maj=14.2km s-min=9.3km az=110.0*
*GCMT **07** 07:37:05.0±0.5, 40°.32N±0°.03×142°.50E±0°.04, h39km±1km, MW4.8/60, Moment Tensor Solution. s32,c35; s60,c70; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.16±.15; Mθθ-0.38±.09; Mφφ-1.78±.09; Mrθ0.80±.07; Mθφ0.02±.09; Mφr0.98±.07; Best double couple: M0 2.31400×10^16 NP1:φs169.00000°, δ33.00000°, λ66.00000°. NP2: φs17.00000°, δ61.00000°, λ105.00000°. Principal axes: T 2.5980, Plg71.0000°, Azm320.0000°; N -0.5630, Plg13.0000°, Azm190.0000°; P -2.0310, Plg14.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 07:37:02.0±0.4, **40°.20N**±0°.03×**142°.43E**±0°.04, **h44**km±3km, **h44**km**:pP-P, n588, σ1§42**/599, **mb4.8**/197, **MS4.1**/83, **72C-24D, Fault plane solution: NP1:**φs206.52794°, δ86.05368°, λ-89.07659°. **NP2:**φs13.34697°, δ4.05275°, λ-103.14916°. **Principal axes:** T Plg41.0467°, Azm295.6622°; N Plg0.9212°, Azm26.4644°; P Plg48.9383°, Azm117.5220°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JTH	Tanohata	0.51	240	⇓P	Pn	07 37 12.1	-0.9
JTH				eS	Sn	07 37 19.6	-1.2
JKEN	Kujiedanarisaw	0.55	271	⇓P	Pn	07 37 12.9	-0.7
JKEN				eS	Sn	07 37 20.8	-1.1
JANG	Nango	0.72	285	⇓P	Pn	07 37 15.6	-0.3
JANG				S	Sn	07 37 25.4	-0.5
MIYJ	Miyakonagasawa	0.78	218	⇓P	Pn	07 37 15.3	-1.3
MIYJ				S	Sn	07 37 25.2	-1.9
JKZ	Kuzumaki	0.87	256	⇓P	Pn	07 37 17.9	0.0
JKZ				S	Sn	07 37 29.4	-0.1
JOM	Ohasama	1.14	231	⇓P	Pn	07 37 21.5	0.0
JOM				eS	Sn	07 37 36.0	+0.1
JARK	Aomorirokkasho	1.15	315	⇓P	Pn	07 37 22.1	+0.5
JARK				eS	Sn	07 37 37.4	+1.2
JTM	Tenmabayashi	1.20	300	⇓P	Pn	07 37 23.1	+0.8
JTM	Tenmabayashi	1.20	300		Pn	07 37 23.1	+0.8
OFUJ	Ofunato	1.26	208	⇓P	Pn	07 37 22.7	-0.5
OFUJ				eS	Sn	07 37 38.1	-0.8
JAH	Hinai	1.38	270	⇓P	Pn	07 37 25.7	+0.9
ERM	Erimo	1.90	17	ceP	Pn	07 37 32.2	+0.3
ERM				pmax	pmax		
	comp=Z,292nm,0.7s						

ERM Erimo 1.90 17 Pn **Pn 07 37 32.4 +0.5**
JMM Marumori 2.65 209 **Pn 07 37 41.7 -0.5**
JEW Eniwo 2.74 345 Pn **Pn 07 37 44.8 +1.2**
JSD Sado 3.90 238 Pn **Pn 07 38 00.3 +1.0**
JKA Kamikawa-asahi 3.92 2 Pn **Pn 07 38 01.5 +1.8**
JKA Kamikawa-asahi 3.92 2 **Sn 07 38 46.0 +1.6**
ASAJ Asahikawa 3.92 2 P **Pn 07 38 01.4 +1.7**
comp=Z,15nm,0.3s,baz=199,slow=12,SNR=26
ASAJ S **Sn 07 38 46.0 +1.6**
comp=Z,30nm,0.3s,baz=122,slow=22,SNR=4.2
ASAJ LR LR 07 40 00.7
comp=Z,2µm,21.8s,baz=190,slow=45
NMR Nemuro--Hokkai 4.02 37 *e*P **Pn 07 37 59.6 -1.4**
NMR *e*S **Sn 07 38 43.0 -3.7**
GLVR Golovnino 4.22 32 *e*P **Pn 07 38 03.1 -0.7**
GLVR *e*S **Sn 07 38 48.7 -3.1**
GLVR pmax pmax
comp=Z,772nm,0.4s
GLVR pmax pmax
comp=E,116nm,0.3s
GLVR pmax pmax
comp=N,212nm,0.4s
GLVR smax smax
comp=N,3µm,0.3s
GLVR smax smax
comp=E,2µm,0.4s
JYT Yasato 4.34 205 Pn **Pn 07 38 05.2 -0.1**
RUSJ Misakicho 4.43 27 *e*P **Pn 07 38 06.9 +0.2**
RUSJ *e*S **Sn 07 38 55.2 -1.7**
YUK Yuzh-Kuril'sk 4.61 32 *i* P **Pn 07 38 09.1 0.0**
MJAR Matsushiro Arr 4.93 224 P **Pn 07 38 16.0 +2.4**
comp=E,4.8nm,0.3s,baz=31,slow=13,SNR=216
MJAR S Sn 07 39 19.4 +10
baz=22,slow=24,SNR=1.6
MJAR LR LR 07 40 24.4
comp=E,1µm,20.6s,baz=42,slow=41
MJAR Matsushiro Arr 4.93 224 P **Pn 07 38 16.0 +2.4**
MJAR Matsushiro Arr 4.93 224 Pn **Pn 07 38 14.9 +1.3**
MJB9 Matsu-Tunnel 4.93 224 Pn **Pn 07 38 15.4 +1.8**
MAJO Matsushiro 4.93 224*c* *i*P **Pn 07 38 16.1 +2.5**
MAJO Matsushiro 4.93 224 Pn **Pn 07 38 15.4 +1.8**
MAT Matsushiro 4.93 224 P **Pn 07 38 16.0 +2.4**
MAT *e*S **Sn 07 39 14.3 +4.9**
JGF Kuroka 6.09 223 Pn **Pn 07 38 28.4 -1.2**
KUR Kuril'sk 6.43 37 *e*P **Pn 07 38 33.7 -0.4**
KUR *e*S **Sn 07 39 43.5 -2.6**
KUR pmax pmax
comp=N,66nm,0.4s
KUR pmax pmax
comp=E,98nm,0.4s
KUR pmax pmax
comp=Z,202nm,0.4s
KUR smax smax
comp=N,416nm,0.4s
KUR smax smax
comp=E,175nm,0.5s
INU Inuyama 6.46 223 Pn **Pn 07 38 31.9 -2.8**
TEY Ternei 6.47 320 *e*P **Pn 07 38 36.9 +2.3**
TEY MLR MLR
comp=Z,100nm,15.0s
YSS Yuzh-Sakhalins 6.76 2⇓ *i*P **Pn 07 38 40.0 +1.4**
YSS *e*S **Sn 07 39 51.3 -2.9**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS smax smax
comp=N,70nm,0.9s
YSS smax smax
comp=E,50nm,0.8s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=Z,800nm,16.0s
YSS Yuzh-Sakhalins 6.76 2 Pn **Pn 07 38 38.1 -0.5**
JHJ Hachijo jima 2 7.38 198 P **Pn 07 38 48.5 +1.4**
comp=Z,29nm,0.3s,baz=73,slow=19,SNR=2.2
JHJ S **Sn 07 40 02.3 -7.2**
comp=Z,14nm,0.3s,baz=225,slow=18,SNR=1.8
VLA Vladivostok 8.42 294 *i* P Pn 07 39 05.0 +3.6
VLA pmax pmax
comp=Z,61nm,0.9s
USA0B Ussuriysk Arra 8.72 301 P **Pn 07 39 05.7 +0.2**
USA0B Ussuriysk Arra 8.72 301 Pn **Pn 07 39 05.7 +0.2**
USRK Ussuriysk Ar. 8.72 301 P **Pn 07 39 08.9 +3.4**
baz=101,slow=18,SNR=34
USRK LR LR 07 42 25.4
comp=Z,1µm,18.7s,baz=129,slow=37
USRK Ussuriysk Ar. 8.72 301 Pn **Pn 07 39 05.9 +0.4**
MSHR Mys Shultsa 8.80 289*ce*P **Pn 07 39 09.6 +3.0**
MSHR pmax pmax
comp=Z,17nm,0.6s
JHS Saijyo 9.03 238 Pn **Pn 07 39 11.3 +1.5**
JMN Monobe 9.40 229 Pn **Pn 07 39 15.4 +0.4**
MDJ Mudanjiang 10.47 299 Pn **Pn 07 39 29.1 -0.3**
MDJ Mudanjiang 10.47 299 P Pn 07 39 33.2 +3.7
MDJ S **Sn 07 41 30.9 +5.6**
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,190nm,4.3s
MDJ LR LR
comp=Z,450nm,13.9s
MDJ LR LR
comp=Z,890nm,14.7s
MDJ LR LR
comp=Z,1µm,14.9s
KSRS Korea Array 11.64 261 P **Pn 07 39 47.0 +1.5**
comp=Z,0.1nm,0.3s,baz=71,slow=14,SNR=3.7
KSRS S Sn 07 42 02.3 +8.2
comp=Z,0.4nm,0.3s,baz=70,slow=24,SNR=5.0
KSRS LR LR 07 44 01.5
comp=Z,902nm,18.4s,baz=75,slow=36
KSRS Korea Array 11.64 261 P **Pn 07 39 47.0 +1.5**
JNU Nakatsue 11.65 236 P **Pn 07 39 46.4 +0.7**
comp=Z,0.6nm,0.3s,baz=87,slow=8.3,SNR=6.4
JNU LR LR 07 44 49.4
comp=Z,495nm,18.9s,baz=44,slow=40
JNU Nakatsue 11.65 236 **Pn 07 39 44.7 -1.0**
KS19 Wonju Array Si 11.67 261 **Pn 07 39 43.7 -2.2**
KSAR Wonju Array Be 11.68 261 P **Pn 07 39 43.3 -2.7**
KSAR Wonju Array Be 11.68 261 **Pn 07 39 43.3 -2.7**
KLR Kul'dur 11.79 324 P **Pn 07 39 48.5 +1.0**
comp=Z,0.3nm,0.3s,baz=134,slow=13,SNR=16
KLR LR LR 07 44 35.5
comp=Z,837nm,18.1s,baz=134,slow=38
KLR Kul'dur 11.79 324*ce*P **Pn 07 39 48.0 +0.5**
KLR pmax pmax
comp=Z,7.0nm,0.8s
BNX BinXian 12.32 302 ⇓P **Pn 07 39 55.7 +1.0**
BNX S **Sn 07 42 11.1 +0.6**
BNX pmax pmax
comp=Z,18nm,0.7s
BNX pmax pmax
comp=Z,170nm,3.5s
BNX LR LR
comp=Z,670nm,13.9s
BNX LR LR
comp=Z,990nm,14.7s
BNX LR LR
comp=Z,2µm,18.9s
TJN Taejon 12.44 257*ce*P **Pn 07 39 58.0 +1.6**
TJN Taejon 12.44 257 Pn **Pn 07 39 57.8 +1.5**
JSU Suzuyama 13.01 232 Pn **Pn 07 40 04.4 +0.1**
CN2 Changchun 13.14 291 *e*P **Pn 07 40 09.1 +3.2**
CN2 *e*S **Sn 07 42 32.5 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,600nm,21.0s
DL2 Dalian 16.10 272 P **P 07 40 46.1 -1.8**
DL2 pmax pmax
comp=Z,51nm,0.8s
DL2 LR LR
comp=Z,400nm,19.0s
DL2 LR LR
comp=Z,490nm,25.5s
PETK Petropavlovsk- 16.59 34 P **Pn 07 40 50.1 -1.2**
comp=Z,0.2nm,0.3s,baz=222,slow=8.8,SNR=3.0
PETK LR LR 07 47 44.0
comp=Z,122nm,18.7s,baz=219,slow=39

ZEA Zeya 17.00 328 *e*P **Pn 07 40 54.8 -1.6**
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=Z,300nm,14.0s
JOW Kunigami 17.77 226 **Pn 07 41 05.4 -0.7**
HIA Hailar 18.44 307 P **P 07 41 12.0 -1.7**
HIA pmax pmax
comp=Z,15nm,0.6s
HIA Hailar 18.44 307 P **P 07 41 12.0 -1.7**
XLT XiLinHaoTe 19.89 289⇓ *i*P **P 07 41 28.9 -0.8**
XLT pP pP 07 41 38.2 -2.0
XLT PP **PnPn 07 41 48.1 +1.8**
XLT S **S 07 45 07.4 -3.7**
XLT pmax pmax
comp=Z,41nm,1.2s
XLT pmax pmax
comp=Z,130nm,4.6s
XLT LR LR
comp=Z,740nm,19.6s
XLT LR LR
comp=Z,380nm,17.9s
BJI Beijing 20.06 278 P **P 07 41 30.1 -1.4**
BJI S **Sn 07 45 15.6 -2.7**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI LR LR
comp=Z,120nm,10.8s
BJI LR LR
comp=Z,260nm,16.2s
BJI LR LR
comp=Z,360nm,18.1s
BJT Baijiatuau 20.07 278 P **P 07 41 30.5 -1.1**
BJT pmax pmax
comp=Z,19nm,1.0s
BJT Baijiatuau 20.07 278 P **P 07 41 30.5 -1.1**
MA2 Magadan 20.10 12 P **P 07 41 30.3 -1.4**
comp=Z,7.3nm,0.5s,baz=187,slow=10,SNR=18
MA2 LR LR 07 50 39.1
comp=Z,199nm,18.8s,baz=208,slow=41
MA2 Magadan 20.10 12*ce*P **P 07 41 31.3 -0.5**
MA2 pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 20.10 12 P **P 07 41 31.2 -0.5**
TIA Tai'an 20.26 267 P **P 07 41 32.6 -1.1**
TIA pP **sP 07 41 48.4 -1.3**
TIA pmax pmax
comp=Z,6.0nm,0.5s
TIA pmax pmax
comp=Z,160nm,3.5s
TIA LR LR
comp=Z,170nm,12.8s
TIA LR LR
comp=Z,440nm,15.7s
TIA LR LR
comp=Z,550nm,16.4s
NJ2 Nanjing 20.67 254 ⇓P **P 07 41 38.4 +0.3**
NJ2 pmax pmax
comp=Z,95nm,0.8s
HNS HongShan 21.76 272 ⇑P **P 07 41 46.7 -3.0**
HNS S S 07 45 37.0 -11
HNS pmax pmax
comp=Z,7.0nm,0.7s
HNS LR LR
comp=Z,210nm,16.3s
HNS LR LR
comp=Z,340nm,17.3s
HNS LR LR
comp=Z,360nm,20.8s
YAK Yakutsk 23.20 345 P **P 07 42 02.2 -2.5**
comp=Z,37nm,0.7s,baz=356,slow=1.3,SNR=15
YAK LR LR 07 51 06.8
comp=Z,115nm,20.6s,baz=100,slow=36
YAK Yakutsk 23.20 345 *e*P **P 07 42 01.3 -3.4**
YAK *e**PP **pP 07 42 11.7 -3.7**
YAK *e*S **S 07 46 08.1 -4.9**
YAK *e**SS **sS 07 46 27.6 -4.3**
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax smax
comp=E,78nm,1.9s
YAK smax smax
comp=N,96nm,1.9s
YAK Yakutsk 23.20 345 P **P 07 42 02.6 -2.0**
HHC Hu-ho-hao-te 23.42 282 *e*P **P 07 42 08.4 +1.2**
HHC PP **PnPn 07 42 42.2 +7.5**
HHC SS Sn 07 47 00.5 +22
HHC pmax pmax
comp=N,14nm,0.9s
HHC pmax pmax
comp=N,98nm,5.2s
HHC LR LR
comp=N,170nm,16.3s
HHC LR LR
comp=N,510nm,17.8s
HHC LR LR
comp=N,730nm,17.5s
SEY Seymchan 23.54 11 P **P 07 42 07.1 -0.8**
comp=N,18nm,0.8s,baz=198,slow=8.4,SNR=40
SEY LR LR 07 52 49.9
comp=N,194nm,18.2s,baz=182,slow=40
WHN Wuhan 24.75 256 ⇑P **P 07 42 19.9 +0.4**
WHN pP **sP 07 42 33.5 -2.8**
WHN sP **pP 07 42 37.4 +6.4**
WHN pmax pmax
comp=N,50nm,0.6s
ULN Ulaanbaatar 26.39 299*ce*P **P 07 42 34.1 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.6s
ULN Ulaanbaatar 26.39 299 P **P 07 42 34.4 +0.1**
GUMO Guam 26.59 175 LR LR 07 51 58.6
SONM Songino Array 26.83 299 P **P 07 42 38.7 +0.5**
comp=Z,9.5nm,0.7s,baz=102,slow=8.5,SNR=29
SONM LR LR 07 53 51.1
comp=Z,532nm,18.9s,baz=68,slow=38
SONM Songino Array 26.83 299 P **P 07 42 38.3 +0.1**
XAN Xi'an 27.31 268 P **P 07 42 41.2 -1.4**
XAN pP pP 07 42 51.2 -3.0
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN LR LR
comp=Z,120nm,14.0s
XAN LR LR
comp=Z,390nm,15.8s
XAN LR LR
comp=Z,400nm,17.5s
ENH Enshi 28.53 260 P **P 07 42 53.4 -0.2**
ENH IAmb IAmb 07 42 55.0
comp=Z,16nm,0.7s
ZAK Zakamensk 29.06 304 *e*P **P 07 42 57.6 -0.5**
ZAK *e* 07 43 14.4
ZAK pmax pmax
comp=Z,26nm,1.4s
ZAK pmax pmax
comp=Z,13nm,1.4s
H11N2 WAKE ISLAND Hy 29.25 127 T T 08 13 45.4
baz=318,slow=75,SNR=2863
H11N1 WAKE ISLAND Hy 29.26 127 T T 08 13 54.1
baz=318,slow=75,SNR=3184
H11N3 WAKE ISLAND Hy 29.26 127 T T 08 13 56.4
baz=318,slow=75,SNR=2687
H11S1 WAKE ISLAND Hy 30.06 129 T T 08 14 53.8
baz=321,slow=76,SNR=185
H11S3 WAKE ISLAND Hy 30.07 129 T T 08 14 58.1
baz=321,slow=76,SNR=178
H11S2 WAKE ISLAND Hy 30.08 129 T T 08 14 58.2
baz=321,slow=76,SNR=202
LZH Lanzhou 30.46 275 *e*P **P 07 43 11.9 +1.2**
LZH pmax pmax
comp=Z,15nm,1.2s
LZH LR LR
comp=Z,210nm,14.4s
LZH LR LR
comp=Z,290nm,15.2s
LZH LR LR
comp=Z,300nm,15.5s
GULI GuiLin 30.60 251 ⇑P **P 07 43 11.3 -0.5**

MOY Mondy 30.62 306 *e*P **P 07 43 12.8 +0.9**
MOY pmax pmax
comp=Z,23nm,1.8s
BILL Bilibino 30.77 17*ce*P **P 07 43 13.6 +0.7**
BILL *e* 07 44 09.6
BILL pmax pmax
comp=Z,7.0nm,0.7s
BILL MLR MLR
comp=Z,130nm,17.0s
BILL Bilibino 30.77 17 P **P 07 43 13.3 +0.3**
TIXI Tiksi 32.26 352 LR LR 07 59 17.0
comp=Z,132nm,18.1s,baz=181,slow=41
TIXI Tiksi 32.26 352*ce*P **P 07 43 25.4 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 32.26 352 P **P 07 43 25.1 -0.8**
GTA Gaotai 32.52 283 *e*P **P 07 43 30.0 +1.2**
GTA pP pP 07 43 38.6 -1.9
GTA PcP **PcP 07 46 15.6 +0.9**
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,44nm,6.2s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,440nm,20.4s
GTA LR LR
comp=Z,560nm,20.0s
QIZ Qiongzhong 35.03 243 P **P 07 43 49.6 -0.9**
QIZ S **S 07 49 24.8 +5.0**
QIZ LR LR
comp=Z,140nm,14.7s
QIZ LR LR
comp=Z,110nm,13.7s
QIZ LR LR
comp=Z,140nm,14.2s
KRAR Krasnoyarsk 35.81 313 *i* P **P 07 43 58.3 +1.4**
PZH PanZhiHua 36.31 261 P **P 07 44 01.4 -0.3**
PZH S **S 07 49 34.5 -5.2**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,110nm,6.7s
PZH LR LR
comp=Z,290nm,15.3s
PZH LR LR
comp=Z,350nm,16.0s
PZH LR LR
comp=Z,410nm,19.8s
KMI Kunming 36.32 258 ⇑P **P 07 44 01.8 -0.1**
KMI pmax pmax
comp=Z,38nm,0.8s
KMI LR LR
comp=Z,330nm,16.3s
KMI LR LR
comp=Z,280nm,16.3s
KMI LR LR
comp=Z,380nm,15.9s
GOMU GeErMu 37.28 279 P **P 07 44 10.4 +0.2**
GOMU PcP **PcP 07 46 30.5 +1.6**
GOMU S **S 07 49 46.4 -8.4**
GOMU pmax pmax
comp=Z,25nm,0.9s
GOMU pmax pmax
comp=Z,81nm,5.7s
GOMU LR LR
comp=Z,100nm,13.6s
GOMU LR LR
comp=Z,130nm,17.0s
GOMU LR LR
comp=Z,130nm,18.9s
TNA Tin City 37.73 31 P **P 07 44 14.3 +1.3**
ANM Nome 38.50 33 P **P 07 44 21.6 +2.0**
ANM pmax pmax
comp=Z,9.0nm,1.0s
ANM Nome 38.50 33 P **P 07 44 21.6 +2.0**
WMQ Urumqi 40.21 294 *e*P **P 07 44 35.3 +1.1**
WMQ pP pP 07 44 45.0 -1.1
WMQ sP sP 07 44 54.0 +2.8
WMQ pmax pmax
comp=Z,38nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.5s
WMQ LR LR
comp=Z,140nm,20.5s
RDOG Red Dog Mine 40.34 28 P **P 07 44 36.6 +1.8**
ZAA0 Zalesovo Array 40.44 310 P **P 07 44 36.0 +0.1**
ZAA0 IAmb IAmb 07 44 37.2
comp=Z,18nm,0.7s
ZALV Zalesovo Beam 40.44 310 P **P 07 44 36.5 +0.6**
comp=Z,14nm,0.6s,baz=91,slow=7.8,SNR=65
ZALV PcP **PcP 07 46 37.9 -0.1**
comp=Z,3.8nm,0.6s,baz=85,slow=3.6,SNR=4.6
ZALV LR LR 08 02 12.9
comp=Z,365nm,18.8s,baz=116,slow=37
ZALV Zalesovo Beam 40.44 310 P **P 07 44 36.0 +0.1**
UBPT Khong Chiam 40.62 243 P **P 07 44 38.6 +0.9**
UBPT IAmb IAmb 07 44 40.1
comp=Z,22nm,1.1s
NRIK Noril'sk 40.76 334 P **P 07 44 38.7 +0.3**
comp=Z,4.3nm,0.4s,baz=114,slow=8.9,SNR=12
NRIK LR LR 08 02 46.6
comp=Z,432nm,18.4s,baz=114,slow=38
NRIK Noril'sk 40.76 334*ce*P **P 07 44 37.7 -0.7**
NRIK pmax pmax
comp=Z,20nm,1.6s
NRIK Noril'sk 40.76 334 P **P 07 44 37.6 -0.7**
NRIK IAmb IAmb 07 45 06.7
comp=Z,11nm,0.8s
MYLDM Lahad Datu 40.98 218 P **P 07 44 40.5 -0.1**
MYLDM IAmb IAmb 07 44 44.6
comp=Z,35nm,1.2s
ZSN Zaisan 41.33 300 *e*P **P 07 44 43.6 +0.3**
ZSN Zaisan 41.33 300 *e*P **P 07 44 43.7 +0.3**
baz=300
SIJI Sorong 42.12 197 LR LR 07 59 10.2
comp=Z,124nm,21.9s,baz=53,slow=32
LSA Lhasa 42.80 272 P **P 07 44 54.6 -1.5**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 42.80 272 P **P 07 44 54.6 -1.5**
LSA Lhasa 42.80 272 P **P 07 44 57.4 +1.3**
LSA pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 42.91 253 P **P 07 44 56.8 +0.3**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 42.91 253 P **P 07 44 56.8 +0.3**
CHTO IAmb IAmb 07 44 58.5
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 43.13 253 P **P 07 44 57.3 -1.0**
comp=Z,1.6nm,0.3s,baz=52,slow=6.4,SNR=17
CMAR PcP **PcP 07 46 47.7 +0.2**
comp=Z,1.6nm,0.4s,baz=60,slow=2.2,SNR=1.8
CMAR Chiang Mai Arr 43.13 253 *i* P **P 07 44 59.4 +1.1**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 43.13 253 P **P 07 44 58.5 +0.2**
MK31 Makanchi Array 43.19 299 *i* P **P 07 44 58.0 -0.5**
MK31 Makanchi Array 43.19 299 P **P 07 44 58.8 +0.3**
MK31 IAmb IAmb 07 45 01.6
comp=Z,13nm,0.7s
MKAR Makanchi Array 43.19 299 P **P 07 44 58.9 +0.4**
comp=Z,16nm,0.7s,baz=84,slow=9.6,SNR=78
MKAR LR LR 08 03 49.0
comp=Z,275nm,19.8s,baz=71,slow=37
MKAR Makanchi Array 43.19 299 P **P 07 44 58.6 +0.1**
J20K Nowinta River 43.28 35 P **P 07 45 00.6 +1.7**
K20K Telida 43.29 36 P **P 07 45 01.1 +2.1**
MAKZ Makanchi 43.39 300 P **P 07 45 00.0 -0.1**
MAKZ pmax pmax
comp=Z,20nm,0.8s
MAKZ Makanchi 43.39 300 P **P 07 45 00.0 -0.1**
MAKZ IAmb IAmb 07 45 04.5
comp=Z,20nm,0.8s
IMAR Indian Mountai 43.54 32 P **P 07 45 02.3 +1.3**
MRSI Marisa 43.71 210 P **P 07 45 03.9 +1.0**
comp=Z,23nm,1.0s
SEM Semipalatinsk 43.72 305 *e*P **P 07 45 01.8 -1.1**
SEM Semipalatinsk 43.72 305 *e*P **P 07 45 01.8 -1.1**
baz=305
RSO Redoubt South 43.95 40 P **P 07 45 05.5 +0.9**
PPLA Purkeypile 44.14 37 P **P 07 45 04.4 -1.6**
PPLA IAmb IAmb 07 45 16.8
comp=Z,17nm,1.3s

KDAK Kodiak Island 44.24 44 LR LR 08 03 12.1
comp=Z,139nm,19.4s,baz=256,slow=36
KDAK Kodiak Island 44.24 44 P **P** **07 45 07.7 +0.9**
KDAK pmax pmax
comp=Z,56nm,1.5s
KDAK Kodiak Island 44.24 44 P **P** **07 45 07.7 +0.9**
SHL Shillong 44.31 267 P **P** **07 45 07.9 0.0**
SHL pmax pmax
comp=Z,15nm,0.7s
SHL Shillong 44.31 267 P **P** **07 45 07.9 0.0**
SHL IAmb IAmb 07 45 15.2
comp=Z,15nm,0.7s
SANI Sanana 44.66 204 P **P** **07 45 10.0 -0.5**
comp=Z,29nm,0.7s
KURK Kurchatov 44.67 306 *ce*P **P** **07 45 10.4 +0.1**
KURK pmax pmax
comp=Z,62nm,0.7s
KURK Kurchatov 44.67 306 P **P** **07 45 10.7 +0.4**
KTH Kantishna Hill 44.70 36 P **P** **07 45 11.7 +1.2**
KTH IAmb IAmb 07 45 29.3
comp=Z,18nm,1.2s
KURBB Kurchatov Arra 44.75 306 LR LR 08 05 15.8
comp=Z,143nm,19.0s,baz=67,slow=38
KURBB Kurchatov Arra 44.75 306 P **P** **07 45 10.8 -0.1**
MLY Manley 44.76 34 P **P** **07 45 12.6 +1.7**
TRF Thorofare Moun 44.99 36 P **P** **07 45 14.5 +1.7**
COLD Coldfoot 45.02 31 P **P** **07 45 14.5 +1.7**
H23K Yukon River 45.26 33 P **P** **07 45 17.0 +2.2**
H23K IAmb IAmb 07 45 33.5
comp=Z,15nm,0.9s
TOLK Toolik Lake Re 45.31 29 P **P** **07 45 16.4 +1.2**
TOLK IAmb IAmb 07 45 32.8
comp=Z,14nm,1.4s
RC01 Rabbit Creek A 45.39 39 P **P** **07 45 16.4 +0.6**
RC01 IAmb IAmb 07 45 39.2
comp=Z,13nm,1.1s
O22K Cooper Landing 45.45 40 P **P** **07 45 16.7 +0.4**
NEA2 Nenana 45.49 34 P **P** **07 45 17.8 +1.3**
NEA2 IAmb IAmb 07 45 47.3
comp=Z,8.7nm,1.0s
MCK McKinley 45.58 35 P **P** **07 45 18.6 +1.3**
MCK pmax pmax
comp=Z,12nm,1.2s
MCK McKinley 45.58 35 P **P** **07 45 18.6 +1.3**
MCK IAmb IAmb 07 45 35.3
comp=Z,12nm,1.2s
RND Reindeer 45.63 36 P **P** **07 45 18.4 +0.5**
RND pmax pmax
comp=Z,21nm,1.4s
RND Reindeer 45.63 36 P **P** **07 45 18.4 +0.5**
RND IAmb IAmb 07 45 36.3
comp=Z,21nm,1.4s
PMR Palmer 45.64 38 P **P** **07 45 18.1 +0.4**
PMR pmax pmax
comp=Z,5.0nm,1.0s
PMR Palmer 45.64 38 P **P** **07 45 18.1 +0.4**
GHO Glory Hole Cre 45.72 38 P **P** **07 45 19.4 +0.9**
GHO IAmb IAmb 07 45 28.0
comp=Z,11nm,1.0s
PCI Palu 45.81 212 P **P** **07 45 20.9 +1.2**
comp=Z,77µmcomp=Z,1µm,2.7s
MDM Murphy Dome 45.83 34 P **P** **07 45 20.4 +1.1**
WRH Wood River Hil 45.91 34 P **P** **07 45 21.2 +1.3**
H24K Noodor Dome 45.95 32 P **P** **07 45 21.7 +1.5**
SML Sawmill 46.00 38 P **P** **07 45 21.1 +0.4**
SML pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 46.00 38 P **P** **07 45 21.1 +0.4**
SML IAmb IAmb 07 45 42.9
comp=Z,9.3nm,0.8s
COLA College 46.00 34 *i* P **P** **07 45 21.5 +1.0**
COLA pmax pmax
comp=Z,4.0nm,1.0s
COLA College 46.00 34 P **P** **07 45 19.8 -0.7**
COLA IAmb IAmb 07 45 43.9
comp=Z,9.6nm,0.7s
CCB Clear Creek Bu 46.03 34 P **P** **07 45 21.6 +0.8**
PDGK Podgornoye 46.07 296 P **P** **07 45 21.2 -0.4**
SHLS Shalkode 46.14 295 *eP* **P** **07 45 19.7 -2.5**
SHLS pmax pmax
comp=Z,5.0nm,0.7s
SHLS Shalkode 46.14 295 *eP* **P** **07 45 19.8 -2.5**
comp=Z,5.3nm,0.7s,baz=295
POKR Poker Plat Res 46.16 33 P **P** **07 45 23.4 +1.5**
POKR IAmb IAmb 07 45 24.6
comp=Z,9.1nm,0.8s
DHY Denali Highway 46.33 36 P **P** **07 45 23.8 +0.4**
DHY IAmb IAmb 07 45 46.4
comp=Z,12nm,1.1s
HDA Harding Lake 46.41 34 P **P** **07 45 24.1 +0.2**
HDA IAmb IAmb 07 45 53.1
comp=Z,8.6nm,1.1s
IL31 46.41 34 P **P** **07 45 24.6 +0.8**
IL31 IAmb IAmb 07 45 51.5
comp=Z,10nm,1.1s
ILAR Eielson Array 46.41 34 P **P** **07 45 23.8 -0.1**
comp=Z,3.4nm,0.7s,baz=266,slow=6.3,SNR=39
ILAR LR LR 08 05 28.2
comp=Z,67nm,20.6s,baz=250,slow=37
ILAR Eielson Array 46.41 34 P **P** **07 45 24.2 +0.3**
ILAR Eielson Array 46.41 34 P **P** **07 45 24.2 +0.3**
UZB Uzunbulak 46.45 295 *eP* **P** **07 45 24.4 -0.2**
UZB Uzunbulak 46.45 295 *eP* **P** **07 45 24.4 -0.2**
baz=295
SCM Sheep Creek Mo 46.47 38 P **P** **07 45 26.0 +1.6**
SCM pmax pmax
comp=Z,22nm,1.2s
SCM Sheep Creek Mo 46.47 38 P **P** **07 45 26.0 +1.6**
SCM IAmb IAmb 07 45 42.3
comp=Z,22nm,1.2s
KPKS Kokpek 46.58 296 *eP* **P** **07 45 25.2 -0.4**
KPKS Kokpek 46.58 296 *eP* **P** **07 45 25.2 -0.4**
baz=296
TAPN Taplejung 46.59 272 *eP* **P** **07 45 26.8 +0.7**
ZHN Zhinishke 46.85 296 *eP* **P** **07 45 27.3 -0.4**
ZHN Zhinishke 46.85 296 *eP* **P** **07 45 27.4 -0.4**
baz=296
SATY Saty 46.91 296 *i* P **P** **07 45 27.9 -0.3**
SATY Saty 46.91 296 *i* P **P** **07 45 27.9 -0.3**
baz=295
ODAN Odare 47.08 271 *eP* **P** **07 45 30.9 +1.0**
comp=Z,36nm,0.7s
KLU Klutina 47.17 38 P **P** **07 45 31.1 +1.2**
KLU IAmb IAmb 07 45 58.7
comp=Z,12nm,1.0s
BMAR Burnt Mountain 47.19 30 P **P** **07 45 30.5 +0.6**
PAX Paxson 47.20 36 P **P** **07 45 31.9 +1.7**
PAX pmax pmax
comp=Z,4.0nm,1.0s
PAX Paxson 47.20 36 P **P** **07 45 31.9 +1.7**
RIDG Independent Ri 47.39 35 P **P** **07 45 31.9 +0.3**
JIRN Jiri 47.59 273 *eP* **P** **07 45 34.6 +0.6**
CHKK Chushkaly 47.62 297 *eP* **P** **07 45 33.4 -0.1**
baz=297
RAMN Ramite 47.64 272 *eP* **P** **07 45 34.6 +0.4**
GUN Gumba 47.70 273 *eP* **P** **07 45 35.4 +0.6**
comp=Z,102nm,0.7s
SCRK Sand Creek 47.74 35 P **P** **07 45 34.7 +0.3**
SCRK IAmb IAmb 07 46 04.1
comp=Z,8.7nm,1.0s
DOT Dot Lake 47.75 35 P **P** **07 45 35.0 +0.7**
TARG Taragay, Kyrgy 47.78 294 P **P** **07 45 33.8 -1.5**
TARG IAmb IAmb 07 45 55.0
comp=Z,14nm,0.7s
MDOK Medeo 47.81 296 *eP* **P** **07 45 35.2 0.0**
MDOK Medeo 47.81 296 *eP* **P** **07 45 35.2 0.0**
baz=296
AAA Alma-Ata 47.88 296 *eP* **P** **07 45 35.8 +0.2**
AAA pmax pmax
comp=Z,9.0nm,0.5s
AAA Alma-Ata 47.88 296 *eP* **P** **07 45 35.9 +0.2**
comp=Z,9.1nm,0.5s,baz=296
TNSS Tian-Shan 47.92 296 *eP* **P** **07 45 37.0 +0.6**
baz=296
MENT Mentasta 48.00 36 P **P** **07 45 37.1 +0.8**
MENT IAmb IAmb 07 45 54.7
comp=Z,17nm,1.4s
KUU Kurty 48.04 297 *eP* **P** **07 45 36.1 -0.8**
KUU pmax pmax
comp=Z,11nm,0.7s
KUU Kurty 48.04 297 *eP* **P** **07 45 36.1 -0.8**
comp=Z,11nm,0.7s,baz=297
L26K Log Cabin Wild 48.16 36 P **P** **07 45 38.3 +0.8**
L26K IAmb IAmb 07 45 40.1
comp=Z,7.0nm,0.8s

KKN Kakani 48.22 274 *eP* **P** **07 45 39.2 +0.5**
comp=Z,71nm,0.5s
PKI Pulchoki 48.23 273 *eP* **P** **07 45 39.1 +0.2**
BERG Berg Lake 48.42 40 P **P** **07 45 40.6 +1.1**
DMN Daman 48.45 273 *eP* **P** **07 45 40.4 -0.1**
BRZS Berezniki 48.54 306 *eP* **P** **07 45 40.1 -0.5**
BRZS Berezniki 48.54 306 *eP* **P** **07 45 40.2 -0.5**
baz=306
MCARA McCarthy VSAT 48.57 38 P **P** **07 45 41.1 +0.4**
MCARA IAmb IAmb 07 46 04.0
comp=Z,14nm,1.0s
GKN Gorkha 48.61 274 *eP* **P** **07 45 42.0 +0.4**
ULHL Ulahol 48.69 295 P **P** **07 45 42.4 +0.3**
SNR=5.4
TGL Tana Glacier 48.77 39 P **P** **07 45 44.2 +1.8**
TGL IAmb IAmb 07 46 07.1
comp=Z,11nm,1.1s
WAX Waxell Ridge 48.82 39 P **P** **07 45 44.4 +1.7**
WAX IAmb IAmb 07 45 55.1
comp=Z,11nm,0.8s
L27K Beaver Creek, 48.83 36 P **P** **07 45 43.5 +0.8**
L27K IAmb IAmb 07 45 45.5
comp=Z,7.0nm,0.9s
BCAR Beaver Creek A 48.85 36 P **P** **07 45 44.0 +1.1**
EGAK Eagle 48.85 34 P **P** **07 45 44.3 +1.6**
EGAK IAmb IAmb 07 45 53.6
comp=Z,9.5nm,1.0s
TKM2 Tokmak 2 48.89 296 P **P** **07 45 44.8 +1.2**
SNR=31
TKM2 Tokmak 2 48.89 296 P **P** **07 45 44.2 +0.6**
M27K Edge Creek, AK 48.93 37 P **P** **07 45 45.2 +1.7**
M27K IAmb IAmb 07 46 11.8
comp=Z,13nm,1.1s
ISLE Juniper Island 49.04 39 P **P** **07 45 45.6 +1.1**
ISLE IAmb IAmb 07 45 52.5
comp=Z,11nm,0.9s
DANN Dangsing 49.10 275 *eP* **P** **07 45 46.5 +1.0**
comp=Z,268nm,0.7s
BRVK Borovoye 49.14 311 *ce*P **P** **07 45 45.6 +0.5**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 49.14 311 P **P** **07 45 45.5 +0.5**
BTLS Baital 49.20 299 *eP* **P** **07 45 45.0 -0.7**
BTLS Baital 49.20 299 *eP* **P** **07 45 45.0 -0.7**
baz=299
SGDS Sogindy 49.36 297 *eP* **P** **07 45 46.9 -0.2**
comp=Z,6.7nm,1.1s,baz=297
SRIT Nakonsritamara 49.38 242 P **P** **07 45 48.7 +1.2**
USP Ospenovka 49.52 297 P **P** **07 45 48.8 +0.6**
SNR=11
KOLN Koldanda 49.52 275 *eP* **P** **07 45 49.2 +0.6**
PMG Port Moresby 49.54 174 LR LR 08 08 42.9
comp=Z,48nm,18.0s,baz=307,slow=38
KAPI Kappang 49.59 210 LR LR 08 09 07.6
comp=Z,40nm,18.6s,baz=6.5,slow=39
KAPI Kappang 49.59 210 P **P** **07 45 49.0 +0.1**
KAPI pmax pmax
comp=Z,9.0nm,1.1s
KAPI Kappang 49.59 210 P **P** **07 45 49.0 +0.1**
KAPI IAmb IAmb 07 46 05.6
comp=Z,9.4nm,1.1s
DAWY Dawson 49.73 34 P **P** **07 45 51.6 +2.1**
AAK Ala-Archa 49.75 296 LR LR 08 07 55.1
comp=Z,222nm,21.9s,baz=84,slow=37
AAK Ala-Archa 49.75 296 P **P** **07 45 50.7 +0.6**
SNR=7.1
AAK Ala-Archa 49.75 296 *i* P **P** **07 45 50.1 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 49.75 296 P **P** **07 45 50.8 +0.6**
AAK IAmb IAmb 07 45 51.6
comp=Z,7.9nm,0.9s
AAK Ala-Archa 49.75 296 *i* P **P** **07 45 50.1 0.0**
SNR=8.5
PYUN Piuthan 49.82 275 *eP* **P** **07 45 51.4 +0.5**
UCH Uchtor 49.89 296 P **P** **07 45 52.7 +1.2**
SNR=8.8
KSH Kashi 49.91 292 P **P** **07 45 54.9 +3.6**
KSH pP sP 07 46 05.2 -3.3
KSH sP pP 07 46 11.0 +7.6
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH LR LR
comp=Z,410nm,21.6s
KSH LR LR
comp=Z,310nm,18.6s
KSH LR LR
comp=Z,390nm,14.1s
I29M Ogilvie Camp, 49.95 33 P **P** **07 45 51.9 +0.7**
I29M IAmb IAmb 07 45 53.6
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 50.23 297 P **P** **07 45 54.4 +0.7**
SNR=14
EPYK Eagle Plains 50.40 31 P **P** **07 45 56.2 +1.7**
EPYK IAmb IAmb 07 46 05.3
comp=Z,19nm,1.1s
AML Almayashu 50.49 296 P **P** **07 45 57.1 +1.1**
SNR=26
AML Almayashu 50.49 296 *i* P **P** **07 45 57.1 +1.1**
SNR=26
KULM Kulim 51.12 238 P **P** **07 46 01.6 +1.0**
KULM IAmb IAmb 07 46 02.3
comp=Z,17nm,0.8s
M30M Minto, Yukon 51.20 36 P **P** **07 46 02.8 +2.2**
INK Inuvik 51.22 28 LR LR 08 08 33.1
comp=Z,75nm,21.4s,baz=310,slow=37
INK Inuvik 51.22 28 P **P** **07 46 02.1 +1.5**
INK pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 51.22 28 P **P** **07 46 02.1 +1.5**
INK IAmb IAmb 07 46 02.8
comp=Z,7.2nm,0.7s
HYT Haines Junctio 51.30 38 P **P** **07 46 03.5 +2.0**
HYT IAmb IAmb 07 46 17.9
comp=Z,15nm,1.0s
DZA Taraz 51.81 298 *eP* **P** **07 46 05.6 +0.1**
DZA pmax pmax
comp=Z,15nm,0.7s
DZA Taraz 51.81 298 *eP* **P** **07 46 05.6 +0.1**
comp=Z,15nm,0.7s,baz=298
KKAR Karatay Array 52.28 298 P **P** **07 46 08.8 -0.1**
KKAR Karatay Array 52.28 298 P **P** **07 46 08.8 -0.1**
M31M Drury Creek, Y 52.37 36 P **P** **07 46 11.1 +1.7**
A36M Sachs Harbour 53.04 23 P **P** **07 46 16.2 +2.1**
A36M IAmb IAmb 07 46 17.5
comp=Z,13nm,0.9s
SVE Sverdlovsk 53.34 317 *de*P **P** **07 46 17.7 +1.2**
SVE pmax pmax
comp=Z,72nm,0.8s
P33M Teslin, Yukon 53.70 38 P **P** **07 46 20.6 +1.3**
P33M IAmb IAmb 07 46 39.6
comp=Z,9.4nm,1.1s
GAR Garm 54.11 294 P **P** **07 46 22.7 +0.1**
PSI Prapat 54.12 238 LR LR 08 10 59.3
comp=Z,123nm,18.1s,baz=70,slow=38
PSI Prapat 54.12 238 P **P** **07 46 22.8 -0.1**
PSI pmax pmax
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 54.20 238 P **P** **07 46 22.8 -0.5**
RPSI IAmb IAmb 07 46 23.9
comp=Z,9.8nm,0.9s
C36M Paulatuk 54.23 26 P **P** **07 46 23.8 +0.9**
C36M IAmb IAmb 07 46 32.0
comp=Z,10.0nm,1.1s
NIL Nilore 54.43 287 P **P** **07 46 26.3 +1.4**
NIL pmax pmax
comp=Z,31nm,0.8s
NIL Nilore 54.43 287 P **P** **07 46 26.3 +1.4**
ARU Arti 54.55 317 LR LR 08 12 15.1
comp=Z,348nm,18.8s,baz=72,slow=39
ARU Arti 54.55 317 *c i*P **P** **07 46 25.9 +0.6**
ARU *P **pP** **07 46 37.7 +0.1**
ARU 07 47 25.8
ARU 07 48 27.5
ARU S **S** **07 54 03.6 +2.3**
ARU SS **SS** **07 57 43.6 -0.1**
ARU pmax pmax
comp=Z,49nm,0.7s
ARU MLR MLR
comp=Z,397nm,16.0s
ARU Arti 54.55 317 P **P** **07 46 26.0 +0.6**
BKNI Bangkinang 54.67 234 P **P** **07 46 27.8 +1.0**
CHGR Chuyangaron 55.08 294 P **P** **07 46 29.9 +0.3**
CHGR pmax pmax
comp=Z,75nm,0.9s

CHGR Chuyangaron 55.08 294 P **P** **07 46 29.9 +0.3**
ABKAR Akbulak array 56.55 309 P **P** **07 46 40.1 +0.3**
MDSI Maura Dua 56.65 228 P **P** **07 46 40.6 -0.3**
comp=Z,6.4nm,1.8s
EUNU Eureka 56.95 9 P **P** **07 46 43.4 +1.1**
EUNU IAmb IAmb 07 46 58.1
comp=Z,8.8nm,0.8s
KBL Kabul 57.07 290 P **P** **07 46 43.9 -0.1**
KBL pmax pmax
comp=Z,66nm,0.9s
KBL Kabul 57.07 290 P **P** **07 46 43.9 -0.1**
AKTO Aktyubinsk 57.19 311 LR LR 08 12 47.6
comp=Z,175nm,18.4s,baz=62,slow=38
AKTO Aktyubinsk 57.19 311 P **P** **07 46 44.1 -0.2**
NOR Nord 57.95 356 *i* P **P** **07 46 48.5 -0.7**
NOR IAmb IAmb 07 46 49.8
comp=Z,3.2nm,0.7s
KIRV Kirov 58.23 322 LR LR 08 15 07.4
comp=Z,155nm,18.3s,baz=48,slow=39
KIRV Kirov 58.23 322 *ce*P **P** **07 46 52.2 +0.7**
PRGR Permogore 58.57 326 *eP* **P** **07 46 53.6 -0.2**
PRGR *e* 07 49 03.6
PRGR pmax pmax
comp=Z,94nm,1.1s
HYBB Hyderabad (bro 59.12 267 *eP* **P** **07 46 58.5 +0.1**
RES Resolute Bay 59.34 15 LR LR 08 16 32.5
comp=Z,65nm,18.7s,baz=112,slow=40
RES Resolute Bay 59.34 15 P **P** **07 46 59.5 +0.5**
RES pmax pmax
comp=Z,12nm,1.0s
RES Resolute Bay 59.34 15 P **P** **07 46 59.5 +0.5**
RES IAmb IAmb 07 47 14.8
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 60.07 198 P **P** **07 47 04.2 -0.4**
comp=Z,6.6nm,0.8s,baz=341,slow=1.3,SNR=7.9
CTA Charters Tower 60.08 176 LR LR 08 13 46.9
comp=Z,29nm,19.3s,baz=329,slow=37
WB0 Warramunga Arr 60.12 189 P **P** **07 47 03.8 -1.1**
WB0 IAmb IAmb 07 47 18.3
comp=Z,8.7nm,0.6s
WRAB Tennant Creek 60.29 189 *i* P **P** **07 47 07.7 +1.6**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WR0 Warramunga Arr 60.29 189 P **P** **07 47 05.3 -0.8**
WR0 IAmb IAmb 07 47 19.9
comp=Z,13nm,1.2s
WB2 Warramunga Arr 60.30 189 P **P** **07 47 05.5 -0.7**
WB2 IAmb IAmb 07 47 23.0
comp=Z,6.3nm,0.7s
WRA Warramunga Arr 60.30 189 P **P** **07 47 05.2 -1.0**
comp=Z,3.0nm,0.6s,baz=7.7,slow=7.1,SNR=23
WRA Warramunga Arr 60.30 189 P **P** **07 47 05.5 -0.7**
WRA Warramunga Arr 60.30 189 P **P** **07 47 05.5 -0.7**
YKA Yellowknife Ar 60.69 31 P **P** **07 47 08.5 +0.2**
comp=Z,1.3nm,0.7s,baz=300,slow=6.4,SNR=10
ARCES ARCESS Array B 61.33 339 P **P** **07 47 13.1 +0.4**
comp=Z,3.5nm,0.7s,baz=43,slow=7.8,SNR=12
ARCES LR LR 08 18 33.8
comp=Z,80nm,18.9s,baz=56,slow=41
ARCES ARCESS Array B 61.33 339 P **P** **07 47 13.6 +0.9**
ARCES pmax pmax
comp=Z,15nm,1.5s
ARCES ARCESS Array B 61.33 339 P **P** **07 47 13.6 +0.9**
ARCES IAmb IAmb 07 47 25.3
comp=Z,15nm,1.5s
KLMR Klimovskoe 61.53 327 *eP* **P** **07 47 12.0 -2.1**
KLMR *e* 07 49 27.9
KLMR pmax pmax
comp=Z,29nm,1.1s
KLMR Klimovskoe 61.53 327 *eP* **P** **07 47 12.0 -2.1**
KLMR AMP 07 47 15.6
comp=Z,29nm,1.1s
KLMR *ePP **PP** **07 49 28.0 -1.4**
TULEG Thule 61.87 8 *i* P **P** **07 47 15.4 -0.7**
TULEG IAmb IAmb 07 47 30.2
comp=Z,8.3nm,0.8s
TULEG Thule 61.87 8 P **P** **07 47 16.0 -0.1**
TULEG IAmb IAmb 07 47 31.3
comp=Z,14nm,0.9s
HRA Herat 62.01 293 P **P** **07 47 18.7 +0.6**
HRA IAmb IAmb 07 47 19.4
comp=Z,11nm,0.7s
KTK1 Kautokeino 62.28 339 *eP* **P** **07 47 19.9 +0.8**
NEEM North Greenlan 62.33 3 *i* P **P** **07 47 19.3 -0.3**
NEEM IAmb IAmb 07 47 34.8
comp=Z,15nm,0.8s
DAG Danmarks Havn 62.70 355 *i* P **P** **07 47 20.7 -1.0**
DAG IAmb IAmb 07 47 36.2
comp=Z,11nm,0.9s
TRO Tromso 62.99 341 *eP* **P** **07 47 23.9 +0.2**
GEYT Alibeck 63.03 298 P **P** **07 47 25.0 +0.4**
comp=Z,19nm,0.8s,baz=45,slow=2.3,SNR=18
GEYT LR LR 08 16 41.8
comp=Z,67nm,18.1s,baz=349,slow=38
GEYT Alibeck 63.03 298 P **P** **07 47 24.7 +0.1**
GYA0B ALIBECK ARRAY 63.03 298 P **P** **07 47 24.8 +0.2**
PALK Pallekele 63.85 257 LR LR 08 18 28.7
comp=Z,65nm,19.1s,baz=157,slow=39
ASAR Alice Springs 64.03 189 P **P** **07 47 30.6 -0.6**
comp=Z,2.0nm,0.7s,baz=0.9,slow=6.0,SNR=15
ASAR Alice Springs 64.03 189 P **P** **07 47 31.2 +0.1**
ASAR Alice Springs 64.03 189 P **P** **07 47 31.2 +0.1**
STEI Steigen 65.15 341 *eP* **P** **07 47 38.4 +0.5**
DBG Daneborg 65.19 355 *i* P **P** **07 47 37.4 -0.7**
DBG IAmb IAmb 07 48 11.7
comp=Z,2.4nm,0.7s
MOS Moscow 65.20 323 *eP* **P** **07 47 37.0 -1.4**
MOS *e* 07 47 47.4
MOS pmax pmax
comp=Z,50nm,1.0s
FAUS Fauske 65.55 340 *eP* **P** **07 47 39.9 -0.6**
VRH Novokhopyorsk 65.79 317 *eP* **P** **07 47 41.8 -0.5**
VRH pmax pmax
comp=Z,40nm,0.8s
DZM Mont Dzumac 65.87 156 LR LR 08 12 37.6
comp=Z,93nm,21.8s,baz=30,slow=32
DZM Mont Dzumac 65.87 156 *e*LR LR 08 07 33.6
comp=Z,186nm,23.1s
OBN Obninsk 66.06 323 *ce*P **P** **07 47 44.1 +0.2**
OBN *i* 07 50 10.2
OBN *e*S S 07 56 47.0 +18
OBN *e*SS **SS** **08 00 49.3 +5.7**
OBN pmax pmax
comp=Z,52nm,1.2s
OBN MLR MLR
comp=Z,197nm,16.0s
FIA1 FINESS Array S 66.40 332 P **P** **07 47 46.3 +0.3**
FINES FINESS Array B 66.40 332 P **P** **07 47 45.6 -0.4**
comp=Z,14nm,0.7s,baz=58,slow=7.2,SNR=34
FINES LR LR 08 19 04.9
comp=Z,201nm,19.1s,baz=34,slow=38
FINES FINESS Array B 66.40 332 *i* P **P** **07 47 46.5 +0.4**
FINES pmax pmax
comp=Z,14nm,0.7s
FINES FINESS Array B 66.40 332 P **P** **07 47 46.0 -0.1**
LPSR Galich'ya Gora 66.40 320 *eP* **P** **07 47 46.4 +0.2**
LPSR pmax pmax
comp=Z,50nm,0.8s
MSVF Nonsavu 66.49 143 LR LR 08 13 25.4
comp=Z,72nm,19.7s,baz=80,slow=33
MOR8 Moi Rana 66.68 340 *eP* **P** **07 47 47.0 -0.9**
VORR Voronezh 66.80 319 ⇓ *i*P **P** **07 47 49.8 +1.0**
VORR pmax pmax
comp=Z,22nm,1.3s
MAK Makhachkala 67.16 307 *eP* **P** **07 47 51.1 -0.1**
MAK *e* 07 50 19.9
MAK *e*PPP PPP 07 51 54.9
MAK *e*S **S** **07 56 42.9 +0.6**
MAK *e*SS **SS** **08 01 04.7 +3.4**
MAK pmax pmax
comp=Z,200nm,1.3s
MAK MLR MLR
comp=Z,115nm,17.0s
VORD Divnogorie 67.17 318 *eP* **P** **07 47 51.5 +0.3**
VORD pmax pmax
comp=Z,20nm,0.6s
JMIC Jan Mayen 67.18 350 LR LR 08 19 20.9
comp=Z,36nm,18.2s,baz=74,slow=38
SUMG Summit 67.53 0 P **P** **07 47 54.8 +1.2**
SUMG pmax pmax
comp=Z,32nm,1.1s
SUMG Summit 67.53 0 *i* P **P** **07 47 53.5 0.0**
SUMG IAmb IAmb 07 48 09.0
comp=Z,15nm,0.7s
SUMG Summit 67.53 0 P **P** **07 47 54.8 +1.2**

AFI Afiamalu 68.59 132 LR LR 08 11 32.0
comp=Z,113nm,20.9s,baz=342,slow=30

JTMT Jette 69.17 45 P **P** **07 48 05.1 +1.1**
JTMT IAmb IAmb 07 48 22.3
comp=Z,6.3nm,0.9s

ZEI Tsey 69.42 309 *eP* **P** **07 48 05.0 -0.7**
ZEI pmax pmax
comp=Z,13nm,0.9s

KIV Kislovodsk 69.45 311 ⇑P **P** **07 48 07.7 +2.0**
KIV Kislovodsk 69.45 311 *eP* **P** **07 48 06.7 +1.0**
KIV pmax pmax
comp=Z,52nm,1.0s

KIV MLR MLR
comp=Z,139nm,17.0s

KIV Kislovodsk 69.45 311 P **P** **07 48 06.9 +1.2**
KIV Kislovodsk 69.45 311 *i* P **P** **07 48 07.3 +1.6**
SNR=6.7

KBZ Khabaz 69.46 310 P **P** **07 48 06.7 +1.1**
comp=Z,20nm,0.9s,baz=41,slow=4.6,SNR=38
LR
KBZ LR 08 21 16.2
comp=Z,92nm,19.0s,baz=54,slow=38

KBZ Khabaz 69.46 310 *ceP* **P** **07 48 06.4 +0.8**
KBZ pmax pmax
comp=Z,19nm,0.9s

ONI Oni 69.81 309 P **P** **07 48 09.1 +1.2**
ONI pmax pmax
comp=Z,19nm,0.9s

ONI Oni 69.81 309 P **P** **07 48 09.1 +1.2**
IDID Didziasalis 70.27 327 *eP* **P** **07 48 11.0 +0.6**
MNK Minsk 70.33 326 *i* P **P** **07 48 10.0 -0.7**
MNK *i* *PP **pP** **07 48 24.2 +0.8**
MNK *i* 07 50 44.9
MNK *i* PPP PPP 07 52 26.9
MNK *i* S **S** **07 57 16.6 -2.9**
MNK *i* *SS **sS** **07 57 41.1 +0.4**
MNK *i* SS **SS** **08 01 47.3 -2.3**
MNK pmax pmax
comp=N,26nm,1.1s

MNK pmax pmax
comp=E,4.0nm,1.0s

MNK pmax pmax
comp=Z,37nm,1.0s

MNK MLR MLR
comp=E,22nm,21.0s

MNK MLR MLR
comp=N,50nm,17.0s

MNK MLR MLR
comp=Z,138nm,18.0s

MNK Minsk 70.33 326 *i* P **P** **07 48 10.1 -0.7**
comp=E,4.0nm,1.1s

MNK *i* P **P** **07 48 10.1 -0.7**
comp=N,26nm,1.1s

MNK *i* P **P** **07 48 10.1 -0.7**
comp=Z,37nm,1.1s,baz=228

MNK *i* pP **pP** **07 48 24.2 +0.8**
MNK *i* PP **PP** **07 50 44.9 -1.3**
MNK *i* PPP PPP 07 52 27.0
MNK *i* S **S** **07 57 16.6 -2.9**
MNK *i* sS **sS** **07 57 41.1 +0.4**
MNK *i* SS **SS** **08 01 47.4 -2.3**
MNK *i* SSS SSS 08 05 05.4
MNK *i* LQ LQ 08 12 54.0
MNK *i* LR LR 08 19 24.4
MNK *i* LRM MLR 08 21 31.0
comp=E,22nm,21.3s

MNK *i* LRM MLR 08 21 37.7
comp=N,50nm,16.8s

MNK *i* LRM MLR 08 21 40.2
comp=Z,138nm,18.1s

ISAL Salakas 70.35 327 *eP* **P** **07 48 11.6 +0.8**
IIGN Ignalina 70.46 327 *eP* **P** **07 48 12.1 +0.5**
GNI Garni 70.47 306 LR LR 08 22 07.2
comp=Z,130nm,19.7s,baz=84,slow=38

GNI Garni 70.47 306 *ceP* **P** **07 48 13.7 +1.6**
GNI pmax pmax
comp=Z,21nm,1.3s

AKH Akhalkalaki 70.48 308 ⇑P **P** **07 48 13.7 +1.5**
AKH Akhalkalaki 70.48 308 P **P** **07 48 13.7 +1.5**
NACGM Naroch 70.53 326 *i* P **P** **07 48 12.8 +0.8**
CHVG Ch'k'valeri 70.54 310 ⇑P **P** **07 48 13.9 +1.6**
FFC Flin Flon 70.63 34 P **P** **07 48 13.3 +0.7**
FFC pmax pmax
comp=Z,8.0nm,0.9s

FFC Flin Flon 70.63 34 P **P** **07 48 13.3 +0.7**
FFC IAmb IAmb 07 48 29.7
comp=Z,8.0nm,0.8s

FCC Fort Churchill 70.83 27 P **P** **07 48 14.0 +0.3**
FCC pmax pmax
comp=Z,12nm,1.2s

FCC Fort Churchill 70.83 27 P **P** **07 48 14.0 +0.3**
FCC IAmb IAmb 07 48 30.5
comp=Z,12nm,1.1s

WSAR Wadi Sarin 70.84 285 LR LR 08 23 06.1
comp=Z,57nm,18.5s,baz=107,slow=39

BANOM Banah 70.97 288 P **P** **07 48 15.6 +0.3**
SHME Shamm 71.01 288 *i* P **P** **07 48 15.0 -0.4**
SNR=7.9

ICESG Greenland Ices 71.02 1 *i* P **P** **07 48 15.0 -0.2**
ICESG IAmb IAmb 07 48 16.6
comp=Z,15nm,0.8s

HRY Holter Researc 71.12 44 P **P** **07 48 17.5 +1.5**
KARS Kars 71.20 308 P **P** **07 48 18.7 +2.2**
KARS pmax pmax
comp=Z,69nm,1.0s

KARS Kars 71.20 308 P **P** **07 48 18.7 +2.2**
PABE Paberze 71.28 328 P **P** **07 48 17.3 +0.8**
PABE Paberze 71.28 328 *eP* **P** **07 48 17.1 +0.7**
LRM Limekiln Ridge 71.35 45 P **P** **07 48 18.4 +1.0**
NC300 NORSAR Array S 71.35 337 P **P** **07 48 17.4 +0.6**
NC405 NORSAR Array S 71.38 337 P **P** **07 48 17.5 +0.4**
EGMT Eagleton 71.39 42 P **P** **07 48 18.2 +0.8**
EGMT IAmb IAmb 07 48 35.8
comp=Z,12nm,1.1s

NC303 NORSAR Array S 71.39 337 P **P** **07 48 17.4 +0.3**
NC303 IAmb IAmb 07 48 18.6
comp=Z,19nm,1.0s

DOMB Dombas 71.39 339 *eP* **P** **07 48 17.5 +0.4**
MSFE Esma-Masafi 71.41 288 P **P** **07 48 18.6 +0.8**
NC204 NORSAR Array S 71.53 338 P **P** **07 48 18.6 +0.6**
HFS Hagfors 71.54 336 LR LR 08 22 11.6
comp=Z,130nm,20.2s,baz=34,slow=38

NB201 NORSAR Array S 71.55 337 P **P** **07 48 18.4 +0.3**
NB201 NORSAR Array S 71.55 337 *eP* **P** **07 48 18.4 +0.3**
DLMT Dillon 71.55 46 P **P** **07 48 19.9 +1.4**
DLMT IAmb IAmb 07 48 36.8
comp=Z,6.9nm,0.8s

NB2 NORSAR Subarra 71.58 337 P **P** **07 48 18.3 0.0**
comp=Z,11nm,0.8s,baz=38,slow=6.2

NB2 NORSAR Subarra 71.58 337 P **P** **07 48 18.3 0.0**
baz=38,slow=6.2

NOA NORSAR Array B 71.58 337 P **P** **07 48 18.6 +0.3**
comp=Z,9.7nm,0.8s,baz=38,slow=6.0,SNR=39

NOA LR LR 08 22 29.3
comp=Z,128nm,22.0s,baz=35,slow=38

UOSS Minazif 71.62 287 P **P** **07 48 19.4 +0.3**
UOSS Minazif 71.62 287 *i* P **P** **07 48 19.4 +0.3**
SNR=6.2

STKA Stephens Creek 71.71 181 LR LR 08 19 13.0
comp=Z,35nm,21.7s,baz=20,slow=35

NBO00 NORSAR Array S 71.72 337 P **P** **07 48 19.8 +0.7**
NORES NORESS Array B 71.73 337 P **P** **07 48 19.2 +0.1**
HATD Hatta, Dubai 71.74 287 *i* P **P** **07 48 20.3 +0.5**
SNR=9.1

VIKU Vikbolandet 71.81 333 *eP* **P** **07 48 20.2 +0.6**
SOHO SOHO 71.86 286 *i* P **P** **07 48 20.5 0.0**
SNR=7.7

ASHO Ashiyiah 71.88 287 *i* P **P** **07 48 21.6 +0.9**
SNR=5.9

BOZ Bozeman (W) 71.94 45 P **P** **07 48 22.3 +1.4**
BOZ pmax pmax
comp=Z,6.0nm,0.8s

BOZ Bozeman (W) 71.94 45 P **P** **07 48 22.2 +1.4**
AKASG Malin Array Be 72.29 322 P **P** **07 48 22.9 +0.2**
comp=Z,11nm,0.8s,baz=45,slow=6.1,SNR=42

AKASG LR LR 08 23 43.0
comp=Z,80nm,18.0s,baz=56,slow=39

AKBB Malin Array Si 72.29 322 *ceP* **P** **07 48 23.0 +0.3**
AKBB Malin Array Si 72.29 322 P **P** **07 48 22.8 +0.1**
AKBB IAmb IAmb 07 48 23.9
comp=Z,20nm,0.9s

KIEV Kiev 72.30 322 P **P** **07 48 22.0 -0.7**
ASUD Al Ashush, Dub 72.45 288 P **P** **07 48 25.1 +1.1**
NVAR Mina Array Bea 72.48 54 P **P** **07 48 25.3 +0.9**
comp=Z,0.6nm,0.8s,baz=297,slow=6.0,SNR=3.6

SUW Suwalki 72.66 327 P **P** **07 48 25.4 +0.6**
SUW pmax pmax
comp=Z,26nm,1.1s

SUW Suwalki 72.66 327 P **P** **07 48 25.4 +0.6**
SFJD Kangerlussuaq 72.67 5 LR LR 08 21 38.5
comp=Z,131nm,21.2s,baz=342,slow=37

YHH Holmes Hill 72.87 46 P **P** **07 48 27.1 +0.5**
HYA Hoyanger 72.90 339 *eP* **P** **07 48 26.5 +0.4**
YUF Upper Falls 73.11 45 P **P** **07 48 31.5 +3.5**
GURO Guroymak-BITLI 73.11 306 P **P** **07 48 29.4 +1.5**
MORW Morawa 73.15 204 P **P** **07 48 28.2 +0.3**
MORW IAmb IAmb 07 48 30.4
comp=Z,9.9nm,1.2s

H17A Grant Village 73.28 46 P **P** **07 48 30.4 +1.4**
H17A IAmb IAmb 07 48 52.1
comp=Z,8.1nm,1.1s

SUE Sulen 73.37 340 *eP* **P** **07 48 28.5 -0.3**
RLMT Red Lodge 73.52 45 P **P** **07 48 30.8 +0.4**
FRB Frobisher Bay 73.52 14 LR LR 08 23 45.2
comp=Z,102nm,20.1s,baz=350,slow=38

HVU Hansel Valley 73.71 49 P **P** **07 48 32.3 +0.8**
HVU pmax pmax
comp=Z,4.0nm,1.1s

HVU Hansel Valley 73.71 49 P **P** **07 48 32.3 +0.8**
SORM Soroca 74.46 321 ⇑P **P** **07 48 36.2 +0.7**
SORM Soroca 74.46 321 P **P** **07 48 36.1 +0.7**
HORU Horodok 74.63 322 P **P** **07 48 36.8 +0.3**
MZR Muzera 74.77 287 P **P** **07 48 37.7 0.0**
GWY Greenwater Val 74.89 55 P **P** **07 48 39.2 +0.8**
PD31 Pinedale Array 74.90 46 P **P** **07 48 38.9 +0.5**
PDAR Pinedale Array 74.90 46 P **P** **07 48 38.2 -0.2**
comp=Z,0.6nm,0.6s,baz=347,slow=0.6,SNR=12

KMPD K-Podol'skiy 75.07 322 P **P** **07 48 39.0 0.0**
LVV L'vov 75.30 324 *eP* **P** **07 48 41.4 +1.1**
BZK Bozkurt 75.66 313 ⇑P **P** **07 48 43.3 +0.8**
MORS Morshin 75.86 323 P **P** **07 48 44.6 +1.1**
KSV Kosov 75.90 322 P **P** **07 48 44.0 +0.2**
BUR08 Bucovina Ar. S 76.31 322 P **P** **07 48 47.3 +1.0**
BUR08 IAmb IAmb 07 48 48.2
comp=Z,10nm,0.8s

BURAR Bucovina Array 76.33 322 ⇑P **P** **07 48 47.5 +1.1**
BURAR Bucovina Array 76.33 322 P **P** **07 48 47.3 +0.9**
BURAR pmax pmax
comp=Z,5.0nm,0.8s

BURAR Bucovina Array 76.33 322 P **P** **07 48 47.3 +0.9**
TESR Tescani 76.42 320 ⇑P **P** **07 48 47.5 +0.7**
ULM Lac du Bonnet 76.44 34 P **P** **07 48 47.0 +0.2**
comp=Z,1.6nm,0.7s,baz=313,slow=8.8,SNR=3.0

ULM Lac du Bonnet 76.44 34 P **P** **07 48 47.0 +0.2**
CFR Carcaliu 76.61 318 ⇑P **P** **07 48 48.3 +0.5**
PFO Pinyon Flats O 76.64 57 LR LR 08 15 19.6
comp=Z,88nm,20.4s,baz=264,slow=30

BNN Bunyan 76.65 310 P **P** **07 48 49.2 +0.8**
TPGR Topolog 76.69 318 ⇑P **P** **07 48 49.2 +0.9**
SRU San Rafael Swe 76.75 50 P **P** **07 48 50.0 +1.0**
SRU pmax pmax
comp=Z,5.0nm,0.9s

SRU San Rafael Swe 76.75 50 P **P** **07 48 50.0 +1.0**
VRI Vrincioaia 76.84 320 ⇑P **P** **07 48 50.3 +1.1**
OJC Ojcow 76.86 326 P **P** **07 48 50.2 +1.0**
OJC pmax pmax
comp=Z,17nm,0.9s

OJC Ojcow 76.86 326 P **P** **07 48 50.1 +1.0**
OJC IAmb IAmb 07 49 04.5
comp=Z,17nm,0.9s

TRSU Trosnyk 77.04 323 P **P** **07 48 51.5 +1.3**
OZUR 77.14 320 ⇑P **P** **07 48 52.6 +1.7**
TRPA Tarpa 77.20 323 ⇑P **P** **07 48 52.5 +1.4**
BR131 Keskin Array S 77.36 312 P **P** **07 48 52.8 +0.4**
BR131 pmax pmax
comp=Z,7.0nm,0.8s

BR131 Keskin Array S 77.36 312 P **P** **07 48 52.8 +0.4**
BR131 IAmb IAmb 07 48 53.6
comp=Z,7.3nm,0.8s

BRTR Keskin Array B 77.36 312 P **P** **07 48 52.9 +0.5**
comp=Z,3.5nm,0.7s,baz=82,slow=3.5,SNR=16

BRTR LR LR 08 27 52.7
comp=Z,73nm,20.1s,baz=60,slow=39

BRTR Keskin Array B 77.36 312 P **P** **07 48 53.1 +0.7**
BRTR Keskin Array B 77.36 312 P **P** **07 48 53.1 +0.7**
MLR Muntele Rosu 77.49 320 LR LR 08 26 32.9
comp=Z,180nm,18.5s,baz=57,slow=38

ICOR Ion Corvin 77.53 318 ⇑P **P** **07 48 54.6 +1.6**
VOIR 77.97 320 ⇑P **P** **07 48 57.3 +1.6**
VOIR 77.97 320 P **P** **07 48 57.2 +1.6**
OSTC Ostas 78.09 328 AMS AMS 08 26 10.0
comp=Z,200nm,13.5s

MORC Moravsky Berou 78.15 327 ⇑P **P** **07 48 57.5 +1.1**
MORC Moravsky Berou 78.15 327 P **P** **07 48 57.5 +1.1**
MORC pmax pmax
comp=Z,10.0nm,0.9s

MORC Moravsky Berou 78.15 327 P **P** **07 48 57.5 +1.1**
MORC IAmb IAmb 07 48 58.5
comp=Z,9.8nm,0.9s

MORC Moravsky Berou 78.15 327 *eP* **P** **07 48 57.4 +1.0**
DPC Dobruska-Polom 78.20 328 *eP* **P** **07 48 58.1 +1.3**
DPC *e*PP **pP** **07 49 10.5 +1.1**
DPC MLR MLR
comp=Z,200nm,20.3s

DPC Dobruska-Polom 78.20 328 *eP* **P** **07 48 58.1 +1.3**
DPC *ep*P **pP** **07 49 10.5 +1.1**
DPC AMS AMS 08 26 40.0
comp=Z,200nm,20.3s

UPC Upice 78.21 328 AMS AMS 08 26 10.0
comp=Z,300nm,18.4s

ARR Arges 78.22 320 ⇓P **P** **07 48 58.7 +1.7**
KRLC Kraliky 78.23 328 *eP* **P** **07 48 58.1 +1.2**
KRLC *e*PP **pP** **07 49 11.5 +1.9**
KRLC MLR MLR
comp=Z,100nm,14.6s

KRLC Kraliky 78.23 328 *eP* **P** **07 48 58.1 +1.2**
KRLC *ep*P **pP** **07 49 11.5 +1.9**
KRLC AMS AMS 08 25 40.0
comp=Z,100nm,14.6s

MDUB Mudurnu 78.23 313 P **P** **07 48 58.2 +1.1**
PSZ Piszkesteto 78.55 325 ⇑P **P** **07 49 00.3 +1.5**
BRG Berggiesshubel 78.74 330 *eP* **P** **07 49 00.7 +1.0**
BRG Amp 07 49 03.2
comp=Z,4.5nm,0.9s

BRG pP **pP** **07 49 13.0 +0.7**
BRG Amp 07 49 16.8
comp=Z,5.8nm,1.0s

BRG Berggiesshubel 78.74 330 *eP* **P** **07 49 00.6 +1.0**
BRG 07 49 13.0
BRG pmax pmax
comp=Z,5.0nm,0.9s

BRG pmax pmax
comp=Z,6.0nm,1.0s

CLL Collm 78.75 330 *i* P **P** **07 49 00.1 +0.4**
CLL *i* *PP **pP** **07 49 13.3 +0.9**
CLL pmax pmax
comp=Z,8.0nm,0.8s

CLL Collm 78.75 330 *i* P **P** **07 49 00.1 +0.4**
comp=Z,8.0nm,0.8s

CLL *i* pP **pP** **07 49 13.3 +0.9**
CLL Lm MLR 08 25 00.0
comp=Z,100nm,21.7s

PVCC Panska Ves 78.77 329 AMS AMS 08 26 30.0
comp=Z,200nm,17.5s

B35A Bob, Littlefor 78.78 34 P **P** **07 49 00.1 +0.2**
B35A IAmb IAmb 07 49 16.0
comp=Z,7.9nm,0.9s

NRS Narsarsuaq 78.80 4 P **P** **07 49 00.3 +0.6**
NRS pmax pmax
comp=Z,75nm,1.0s

NRS Narsarsuaq 78.80 4 P **P** **07 49 00.3 +0.6**
JAVC Velka Javorina 78.80 326 *eP* **P** **07 49 01.9 +1.8**
VRAC Vranov 78.90 327 LR LR 08 27 01.7
comp=Z,209nm,18.8s,baz=42,slow=38

VRAC Vranov 78.90 327 *eP* **P** **07 49 01.5 +0.9**
GZR Gura Zlata 79.10 321 ⇑P **P** **07 49 02.3 +0.5**
KRUC Moravsky 79.17 327 *eP* **P** **07 49 02.9 +0.8**
PRU Pruhonice 79.20 329 *eP* **P** **07 49 03.5 +1.3**
PRU *e*PP **pP** **07 49 16.4 +1.5**
PRU MLR MLR
comp=Z,300nm,17.0s

PRU Pruhonice 79.20 329 *eP* **P** **07 49 03.5 +1.3**
PRU *ep*P **pP** **07 49 16.4 +1.5**
PRU AMS AMS 08 27 00.0
comp=Z,300nm,17.0s

TREC Trest 79.37 328 AMS AMS 08 26 50.0
comp=Z,200nm,17.6s

F33A 5 Mile Ranch, 79.53 37 P **P** **07 49 03.7 -0.4**
HERR Herculane 79.65 321 ⇑P **P** **07 49 05.6 +0.9**
RAYN Ar Rayn 80.19 292 P **P** **07 49 08.0 -0.1**
RAYN pmax pmax
comp=Z,7.0nm,0.8s

RAYN Ar Rayn 80.19 292 P **P** **07 49 08.0 -0.1**
RAYN IAmb IAmb 07 49 08.7
comp=Z,7.0nm,0.8s

RAYN Ar Rayn 80.19 292 P **P** **07 49 08.3 +0.2**
CKRC Cesky Krumlov 80.22 328 AMS AMS 08 27 10.0
comp=Z,200nm,15.8s

KHC Kasperske Hory 80.27 329 *eP* **P** **07 49 09.2 +1.2**
KHC *e*PP **pP** **07 49 22.6 +1.9**
KHC MLR MLR
comp=Z,300nm,22.4s

KHC Kasperske Hory 80.27 329 *eP* **P** **07 49 09.2 +1.2**
KHC *ep*P **pP** **07 49 22.6 +1.9**
KHC AMS AMS 08 27 20.0
comp=Z,300nm,22.4s

KHC Kasperske Hory 80.27 329 P **P** **07 49 08.8 +0.8**
KHC IAmb IAmb 07 49 10.1
comp=Z,9.5nm,0.8s

CONA Conrad Observa 80.28 327 *eP* **P** **07 49 09.4 +1.2**
comp=Z,9.1nm,1.1s

EKA Eskdalemuir Ar 80.42 341 LR LR 08 29 41.1
comp=Z,106nm,18.1s,baz=30,slow=39

EKA Eskdalemuir Ar 80.42 341 P **P** **07 49 09.1 +0.5**
GERES GERESS Array B 80.44 328 P **P** **07 49 09.0 0.0**
comp=Z,2.4nm,0.7s,baz=35,slow=7.2,SNR=18

GRA1 Grafenberg Arr 80.73 330 P **P** **07 49 11.3 +0.8**
GRF Grafenberg Arr 80.73 330 P **P** **07 49 11.3 +0.8**
GRF pmax pmax
comp=Z,30nm,0.7s

GRF Grafenberg Arr 80.73 330 *eP* **P** **07 49 11.6 +1.1**
comp=Z,14nm,0.9s,baz=37,slow=4.5

GRF *ep*P **pP** **07 49 24.2 +1.0**
baz=35,slow=4.4

GRF *eL* L 08 27 56.8
comp=Z,88nm,18.5s

MMAI Mount Meron Ar 80.79 306 LR LR 08 28 58.3
comp=Z,140nm,19.7s,baz=222,slow=38

VTS Vitosha 80.92 319 ⇑P **P** **07 49 13.1 +1.3**
VTS Vitosha 80.92 319 P **P** **07 49 13.2 +1.4**
VTS pmax pmax
comp=Z,15nm,0.8s

VTS Vitosha 80.92 319 P **P** **07 49 13.2 +1.4**
VTS IAmb IAmb 07 49 14.1
comp=Z,15nm,0.8s

ARSA Arzberg 80.95 327 *i* P **P** **07 49 12.7 +0.9**
comp=Z,3.9nm,0.6s

MOA Molln 81.01 328 *eP* **P** **07 49 14.2 +2.2**
comp=Z,3.0nm,0.6s

BIOA Bad Ischl, Aus 81.39 328 *eP* **P** **07 49 14.9 +0.9**
comp=Z,5.8nm,0.5s

RAR Rarotonga 81.39 127 LR LR 08 18 27.5
comp=Z,116nm,21.7s,baz=288,slow=30

SOKA Soboth 81.61 326 *eP* **P** **07 49 15.8 +0.5**
comp=Z,6.3nm,0.6s,SNR=5.0

OBKA Obir 81.95 327 *eP* **P** **07 49 18.0 +0.9**
comp=Z,6.7nm,0.7s,SNR=4.5

ANMO Albuquerque 81.95 51 LR LR 08 23 54.9
comp=Z,14nm,20.5s,baz=322,slow=34

ANMO Albuquerque 81.95 51 *ceP* **P** **07 49 18.1 +0.6**
ANMO pmax pmax
comp=Z,5.0nm,2.5s

ANMO Albuquerque 81.95 51 P **P** **07 49 19.2 +1.7**
KBA Koelnbreinsper 82.00 328 *eP* **P** **07 49 18.5 +1.1**
comp=Z,6.6nm,0.9s

SCHQ Schefferville 82.08 17 P **P** **07 49 17.2 -0.3**
comp=Z,3.4nm,0.8s,baz=314,slow=5.1,SNR=7.4

SCHQ Schefferville 82.08 17 P **P** **07 49 18.2 +0.6**
SCHQ IAmb IAmb 07 49 33.9
comp=Z,8.9nm,0.9s

MYKA Terra Mystica 82.23 327 *eP* **P** **07 49 18.8 +0.2**
comp=Z,4.6nm,0.7s

WTTA Wattenberg 82.54 329 *eP* **P** **07 49 21.5 +1.2**
comp=Z,5.5nm,0.7s

MOTA Moosalm 82.69 329 *eP* **P** **07 49 22.2 +1.2**
comp=Z,2.9nm,0.4s

RETA Reutte 82.70 329 *eP* **P** **07 49 21.8 +0.8**
comp=Z,6.0nm,0.6s

BFO Black Forest 82.93 331 P **P** **07 49 22.5 +0.4**
BFO pmax pmax
comp=Z,8.0nm,0.9s

BFO Black Forest 82.93 331 P **P** **07 49 22.5 +0.4**
BFO IAmb IAmb 07 49 36.7
comp=Z,7.9nm,0.9s

FETA Feichten 83.10 329 *eP* **P** **07 49 23.8 +0.7**
comp=Z,4.2nm,0.7s,SNR=4.2

LIT Litokhoron 83.15 318 P **P** **07 49 23.0 -0.4**
LIT pmax pmax
comp=Z,23nm,1.1s

LIT Litokhoron 83.15 318 P **P** **07 49 23.0 -0.4**
DAVOX Davos/Dischmat 83.63 329 LR LR 08 31 44.8
comp=Z,138nm,18.3s,baz=74,slow=39

HINF Hinteralfeld 83.90 332 *eP* **P** **07 49 29.5 +2.4**
HINF pmax pmax
comp=Z,3.0nm,0.6s

HAU Haudompre 83.93 332 *eP* **P** **07 49 26.9 -0.3**
HAU pmax pmax
comp=Z,7.0nm,0.8s

TUE Stuetta 84.09 330 P **P** **07 49 28.7 +0.4**
TUE IAmb IAmb 07 49 32.0
comp=Z,9.9nm,0.9s

PMOR Pomariorio Ree 84.73 114 *eT* T 09 22 54.8
comp=Z,30nm,0.2s

VLDQ Val d'Or 85.22 26 P **P** **07 49 33.2 -0.5**
VLDQ IAmb IAmb 07 49 49.2
comp=Z,8.1nm,0.9s

PPT Papeete 85.36 117 LR LR 08 18 06.6
comp=Z,96nm,21.6s,baz=298,slow=29

PPT2 Papeete2 85.37 117 *eLR* LR 08 16 34.1
comp=Z,204nm,23.0s

PPT2 Papeete2 85.37 117 *eT* T 09 23 41.8
comp=Z,11nm,0.3s

LOR Lormes 85.43 333 *eP* **P** **07 49 34.7 -0.1**
LOR pmax pmax
comp=Z,11nm,0.8s

NRCA Norcia 85.50 325 P **P** **07 49 36.6 +1.3**
SSF Saint Saulge 85.73 333 *eP* **P** **07 49 36.4 +0.1**
SSF pmax pmax
comp=Z,14nm,1.0s

LPL La Plagne 85.89 331 *eP* **P** **07 49 37.5 +0.1**
LPL pmax pmax
comp=Z,15nm,0.8s

LPG La Plagne 85.90 330 *eP* **P** **07 49 37.7 +0.2**
LPG pmax pmax
comp=Z,13nm,0.7s

S39A Bolivar 87.17 41 P **P** **07 49 44.0 +0.5**
S39A IAmb IAmb 07 49 60.0
comp=Z,4.3nm,0.8s

VIVF Saint-Julien-l 87.22 331 *eP* **P** **07 49 43.8 +0.2**
VIVF pmax pmax
comp=Z,56nm,2.0s

MFF Saint Martin d 87.35 335 *eP* **P** **07 49 44.7 +0.5**
MFF pmax pmax
comp=Z,28nm,1.3s

RPZ Rata Peaks 87.43 160 LR LR 08 27 56.1
comp=Z,118nm,19.1s,baz=355,slow=35

TXAR Lajitas Array 87.57 53 P **P** **07 49 46.5 +0.8**
comp=Z,0.5nm,0.6s,baz=299,slow=3.6,SNR=12

CCM Cathedral Cave 87.91 40 P **P** **07 49 47.2 +0.1**
CCM pmax pmax
comp=Z,6.0nm,0.9s

CCM Cathedral Cave 87.91 40 P **P** **07 49 47.2 +0.1**
CCM IAmb IAmb 07 49 48.3
comp=Z,5.7nm,0.8s

RJF Les Rejaudoux 87.95 334 *eP* **P** **07 49 47.6 +0.5**
RJF pmax pmax
comp=Z,57nm,2.0s

CAF Calviac 88.09 333 *eP* **P** **07 49 48.6 +0.8**
CAF pmax pmax
comp=Z,6.0nm,0.8s

U40A Yellville 88.44 42 P **P** **07 49 49.8 +0.2**
U40A IAmb IAmb 07 49 50.7
comp=Z,6.1nm,0.8s

ATD Arta Tunnel 89.85 285 LR LR 08 35 11.9
comp=Z,22nm,18.6s,baz=52,slow=39

TKL Tuckaleechee C 93.36 36 LR LR 08 33 23.9
comp=Z,38nm,19.4s,baz=339,slow=36

ESDC Sonseca Array 94.80 335 P **P** **07 50 18.4 -0.7**
comp=Z,1.8nm,0.8s,baz=20,slow=4.1,SNR=5.9

ESDC LR LR 08 38 26.5
comp=Z,106nm,18.3s,baz=350,slow=39

TORD Torodi Ar. Bea 115.62 317 PKP **PKiKP** **07 55 38.7 -1.1**
comp=Z,0.4nm,0.6s,baz=21,slow=1.7,SNR=3.6

TORD PP **PP** **07 56 40.1 -1.6**
comp=Z,3.1nm,1.1s,baz=21,slow=6.5,SNR=5.3

SNAA Sanae 144.00 198 PKPdf PKPab 07 56 29.0 +0.1

VNA2	**Neumayer--Watz**	**145.57**	**197**	PKPdf	**PKPdf**	**07 56 33.6**	**-0.6**
	baz=82,slow=1.3						
BDFB	**Brasilia**	**153.90**	**23**	PKPbc	**PKPbc**	**07 56 54.7**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=162,slow=6.4,SNR=2.5						

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*NIED **07** 07:55:52.3, 31.°08N×128.°69E, h17km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.99; $M_{\theta\theta}$1.28; $M_{\phi\phi}$-0.29; $M_{r\theta}$-0.12; $M_{\theta\phi}$1.10; $M_{\phi r}$1.45; Fault plane solution: $M_0$2.15000×10^{14} NP1: ϕ_s206.00000°, δ69.00000°, λ-133.00000°. NP2: ϕ_s96.00000°, δ47.00000°, λ-29.00000°.*

JMA 07 07:55:52.3±0.2**, 31.°08N×128.°69E, h17**km±3km**, M3.5, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.06**	**56**	P	Pb	07 56 11.7	-0.5
JSJ				*e*S	Sb	07 56 25.2	-0.6
JKC	**Kuchinoerabu**	**1.44**	**115**	P	Pb	07 56 18.2	-0.4
JSU	**Suzuyama**	**1.57**	**74**	P	Pn	07 56 19.6	+0.2
JFU	**Fukue jima 2**	**1.57**	**2**	P	Pn	07 56 19.8	+0.4
JNN	**Nakanoshima**	**1.60**	**140**	P	Pn	07 56 19.7	-0.2
JTN	**Tanegashima 3**	**2.01**	**102**	P	Pn	07 56 25.8	+0.3
JMTN	**Minamitane**	**2.02**	**109**	P	Pn	07 56 26.1	+0.5
JMTN				*e*S	Sn	07 56 50.8	+0.3
JTZ	**Takazaki**	**2.21**	**68**	P	Pn	07 56 29.3	+1.1

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*AEIC **07** 07:58:00±1.7, 60.°17N±0.°02×141.°07W±0.°02, h6km±7km, ML3.3, ML3.5/112(NEIC), Error ellipse: s-maj=2.8km s-min=1.1km az=197.0*
*NEIC **07** 07:58:00.6±2.1, 60.°19N±0.°02×141.°03W±0.°03, h4km±8km, Error ellipse: s-maj=2.7km s-min=2.0km az=199.0*
*ANF **07** 07:58:00.2±0.3, 60.°15N×141.°04W, h2km±2km, ML3.8/33, Error ellipse: s-maj=2.3km s-min=1.4km az=175.0*
*PGC **07** 07:58:00.5±0.2, 60.°12N×141.°08W, h1km, ML2.7/10, 128km Wnw of Yakutat, Ak Southeastern Alaska*
ISC 07 07:58:00.5±0.9**, 60.°15N**±0.°02×**141.°04W**±0.°02**, h10**km±6km**, n210, σ1.°23**/238**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.13**	**97**		**Pg**	**07 58 03.3**	**-0.3**
SAMH					**Sg**	**07 58 05.9**	**+0.2**
TABL	**Table Mountain**	**0.30**	**350**		**Pg**	**07 58 06.3**	**-0.3**
TABL					**Sb**	**07 58 11.7**	**-1.5**
TABL	**Table Mountain**	**0.30**	**350**	IAML		07 58 12.6	
	comp=E,17μm,0.4s						
TABL				IAML		07 58 12.8	
	comp=N,13μm,0.4s						
TABL	**Table Mountain**	**0.30**	**350**	P	**Pg**	**07 58 06.3**	**-0.3**
TABL				S	**Sg**	**07 58 11.0**	**+0.3**
BAGL	**Bagley Icefiel**	**0.63**	**304**		**Pg**	**07 58 12.6**	**0.0**
LOGN	**Logan Glacier**	**0.68**	**1**		**Pg**	**07 58 12.9**	**-0.8**
LOGN					**Sg**	**07 58 22.9**	**+0.2**
LOGN	**Logan Glacier**	**0.68**	**1**	P	**Pg**	**07 58 12.9**	**-0.8**
LOGN				S	**Sg**	**07 58 22.8**	**+0.2**
GRNC	**Granite Creek**	**0.69**	**329**		**Pg**	**07 58 13.1**	**-0.7**
GRNC					**Sg**	**07 58 23.0**	**+0.2**
GRNC	**Granite Creek**	**0.69**	**329**	IAML		07 58 27.0	
	comp=N,2μm,0.7s						
GRNC	**Granite Creek**	**0.69**	**329**	P	**Pg**	**07 58 13.1**	**-0.7**
GRNC				S	**Sg**	**07 58 22.8**	**0.0**
CYK	**Cape Yakataga**	**0.73**	**266**		**Pg**	**07 58 14.6**	**+0.1**
CYK					**Sb**	**07 58 26.1**	**+0.9**
BCPM	**Bancas Point**	**0.73**	**105**		**Pg**	**07 58 13.7**	**-0.8**
BCPM				IAML		07 58 26.4	
	comp=N,3μm,0.7s						
BCPM	**Bancas Point**	**0.73**	**105**		**Sg**	**07 58 25.2**	**+1.2**
ISLE	**Juniper Island**	**0.79**	**306**		**Pg**	**07 58 15.2**	**-0.6**
CTG	**Chitna Glacier**	**0.83**	**350**	P	**Pg**	**07 58 15.7**	**-0.8**
	baz=170,SNR=298						
CTG				S	**Sg**	**07 58 27.2**	**-0.3**
	baz=170						
CTGM	**Chitina Glacie**	**0.83**	**350**		**Pg**	**07 58 15.7**	**-0.8**
CTGM					**Sg**	**07 58 27.4**	**-0.1**
CTGM	**Chitina Glacie**	**0.83**	**350**	IAML		07 58 28.3	
	comp=N,3μm,0.4s						
CTGM	**Chitina Glacie**	**0.83**	**350**	P	**Pg**	**07 58 15.8**	**-0.8**
CTGM				S	**Sg**	**07 58 27.3**	**-0.1**
SNH	**Sunshine Point**	**0.90**	**273**		**Pg**	**07 58 17.8**	**0.0**
SNH	**Sunshine Point**	**0.90**	**273**	IAML		07 58 36.7	
	comp=N,2μm,0.5s						
SNH				IAML		07 58 37.4	
	comp=E,1μm,0.8s						
YKU2	**Yakutat**	**0.94**	**132**		**Pg**	**07 58 18.5**	**0.0**
WAX	**Waxell Ridge**	**0.95**	**289**		**Pg**	**07 58 18.6**	**-0.2**
PNL	**Peninsula**	**0.95**	**119**		**Pg**	**07 58 17.9**	**-1.0**
PNL	**Peninsula**	**0.95**	**119**	P	**Pg**	**07 58 17.9**	**-1.0**
PNL				S	**Sg**	**07 58 29.4**	**-1.8**
PNL	**Peninsula**	**0.95**	**119**	P	**Pg**	**07 58 17.8**	**-1.0**
	baz=302,SNR=34						
PNL				S	**Sg**	**07 58 32.2**	**+1.0**
	baz=302						
BARN	**Barnard Glacie**	**0.97**	**342**		**Pg**	**07 58 17.8**	**-1.3**
BARN					**Sg**	**07 58 31.3**	**-0.4**
BARN	**Barnard Glacie**	**0.97**	**342**	IAML		07 58 32.3	
	comp=E,1μm,0.5s						
BARN				IAML		07 58 33.6	
	comp=N,1μm,0.4s						
KIAG	**Kiagna River**	**1.02**	**321**		**Pg**	**07 58 18.9**	**-1.1**
KIAG					**Sg**	**07 58 33.1**	**-0.2**
KIAG	**Kiagna River**	**1.02**	**321**	P	**Pg**	**07 58 18.9**	**-1.1**
KIAG				S	**Sg**	**07 58 32.9**	**-0.4**
TGL	**Tana Glacier**	**1.08**	**305**		**Pg**	**07 58 20.1**	**-1.1**
TGL	**Tana Glacier**	**1.08**	**305**	IAML		07 58 42.8	
	comp=N,1μm,0.9s						
BALM	**Baldy**	**1.10**	**325**		**Pg**	**07 58 20.1**	**-1.5**
BALM	**Baldy**	**1.10**	**325**	P	**Pg**	**07 58 20.2**	**-1.4**
BALM				S	**Sg**	**07 58 34.8**	**-1.1**
BGLC	**Bering Glacier**	**1.12**	**270**		**Pg**	**07 58 21.3**	**-0.8**
BGLC	**Bering Glacier**	**1.12**	**270**	P	**Pg**	**07 58 22.1**	**+0.1**
	baz=86						
KHIT	**Khitrov Hills**	**1.14**	**286**		**Pg**	**07 58 21.6**	**-0.8**
GRIN	**Grindle Hills**	**1.15**	**278**		**Pg**	**07 58 21.8**	**-0.7**
PTPK	**Patty Peak**	**1.26**	**327**		**Pg**	**07 58 22.9**	**-1.8**
PTPK	**Patty Peak**	**1.26**	**327**	P	**Pg**	**07 58 22.9**	**-1.8**
PTPK				S	**Sb**	**07 58 40.7**	**-0.1**
YUK8	**Steele Glacier**	**1.30**	**28**	P	**Pg**	**07 58 24.0**	**-1.4**
YUK8				S	**Sg**	**07 58 41.2**	**-1.1**
BERG	**Berg Lake**	**1.35**	**282**		**Pn**	**07 58 25.0**	**-0.4**
BERG	**Berg Lake**	**1.35**	**282**	IAML		07 58 50.1	
	comp=N,1μm,0.6s						
SUCK	**Suckling Hills**	**1.37**	**268**		**Pn**	**07 58 25.9**	**+0.2**
SUCK	**Suckling Hills**	**1.37**	**268**	IAML		07 58 47.4	
	comp=E,614nm,1.2s						
NICHA	**Nichawak Mount**	**1.47**	**275**		**Pn**	**07 58 27.2**	**+0.2**
YUK7	**Dusty Glacier**	**1.49**	**74**		**Pn**	**07 58 28.3**	**+0.8**
YUK7	**Dusty Glacier**	**1.49**	**74**	Pn	**Pn**	**07 58 28.0**	**+0.5**
YUK7				Sg	**Sb**	**07 58 48.1**	**+0.7**
YUK6	**Outpost Mounta**	**1.54**	**58**		**Pn**	**07 58 28.9**	**+0.6**
YUK6	**Outpost Mounta**	**1.54**	**58**	Pn	**Pn**	**07 58 28.9**	**+0.6**
YUK6				Sg	**Sg**	**07 58 49.9**	**-0.3**
YUK6	**Outpost Mounta**	**1.54**	**58**	P	**Pn**	**07 58 28.9**	**+0.6**
	baz=241,SNR=93						
YUK6				S	**Sg**	**07 58 50.3**	**+0.1**
	baz=241						
MCARA	**McCarthy VSAT**	**1.58**	**323**		**Pn**	**07 58 28.0**	**-0.5**
MCARA				IAML		07 58 56.0	
	comp=N,912nm,0.5s						
MCARA				IAML		07 59 03.2	
	comp=E,1μm,0.9s						
MCARA	**McCarthy VSAT**	**1.58**	**323**	P	**Pn**	**07 58 27.8**	**-0.7**
	baz=141,SNR=72						
MCARA				S	**Sg**	**07 58 50.8**	**-0.4**
	baz=141						
VRDI	**Verde Repeater**	**1.61**	**313**		**Pn**	**07 58 28.3**	**-0.9**
VRDI				IAML		07 58 52.8	
	comp=N,481nm,0.9s						
HMT	**Hamilton**	**1.62**	**278**		**Pn**	**07 58 29.2**	**+0.1**
YUK2	**White River**	**1.65**	**3**		**Pn**	**07 58 30.0**	**+0.4**
YUK2	**White River**	**1.65**	**3**	Pn	**Pn**	**07 58 30.2**	**+0.6**
YUK2				Sg	**Sg**	**07 58 52.5**	**-0.9**
YUK3	**Moose Creek**	**1.66**	**10**		**Pn**	**07 58 30.5**	**+0.7**
YUK3	**Moose Creek**	**1.66**	**10**	Pn	**Pn**	**07 58 30.6**	**+0.7**
YUK3				Sg	**Sg**	**07 58 53.0**	**-0.9**
YUK3	**Moose Creek**	**1.66**	**10**	P	**Pn**	**07 58 30.3**	**+0.5**
	baz=191,SNR=150						
YUK3				S	**Sg**	**07 58 52.9**	**-0.9**
	baz=191						
YUK4	**Talbot Arm**	**1.68**	**43**	Pn	**Pg**	**07 58 33.3**	**+0.6**
YUK4				Sg	**Sg**	**07 58 57.4**	**+2.9**
YUK4	**Talbot Arm**	**1.68**	**43**	P	**Pg**	**07 58 33.1**	**+0.4**
	baz=225,SNR=187						
YUK4				Sb	**Sg**	**07 58 57.7**	**+3.2**
	baz=225						
KAIM	**Kayak Island**	**1.71**	**264**		**Pn**	**07 58 30.5**	**+0.2**
KAIM	**Kayak Island**	**1.71**	**264**	P	**Pn**	**07 58 30.3**	**-0.1**
	baz=80						
KAIM				S	**Sb**	**07 58 54.3**	**+0.8**
	baz=80						
RAGM	**Ragged Mountai**	**1.83**	**279**		**Pn**	**07 58 32.1**	**+0.1**
YUK5	**Granite Creek**	**1.85**	**56**	Pn	**Pn**	**07 58 33.7**	**+1.3**
YUK5				Sg	**Sb**	**07 58 58.5**	**+0.7**
HYT	**Haines Junctio**	**1.88**	**67**		**Pn**	**07 58 33.7**	**+0.9**
HYT	**Haines Junctio**	**1.88**	**67**	Pn	**Pn**	**07 58 33.6**	**+0.9**
HYT				Sn	**Sg**	**07 59 00.1**	**-0.7**
HYT	**Haines Junctio**	**1.88**	**67**	P	**Pn**	**07 58 33.3**	**+0.6**
	baz=251,SNR=285						
HYT				Sb	**Sg**	**07 59 00.5**	**-0.2**
	baz=251						
GLB	**Gilahina Butte**	**1.88**	**315**		**Pn**	**07 58 32.5**	**-0.3**
GLB	**Gilahina Butte**	**1.88**	**315**	IAML		07 58 59.7	
	comp=N,562nm,0.8s						
GLB				IAML		07 59 05.7	
	comp=E,335nm,0.7s						
GOAT	**Goat Mountain**	**1.89**	**285**		**Pn**	**07 58 32.9**	**+0.1**
BMRM	**Bremner River**	**1.95**	**297**		**Pn**	**07 58 33.6**	**0.0**
BMRM	**Bremner River**	**1.95**	**297**	IAML		07 59 02.5	
	comp=E,684nm,0.6s						
BMRM	**Bremner River**	**1.95**	**297**	P	**Pn**	**07 58 33.7**	**+0.1**
	baz=113,SNR=123						
BMRM				S	**Sb**	**07 58 59.8**	**-0.6**
	baz=113						
M27K	**Edge Creek, AK**	**2.26**	**350**		**Pn**	**07 58 39.6**	**+1.7**
M27K				IAML		07 59 17.0	
	comp=N,321nm,0.8s						
M27K	**Edge Creek, AK**	**2.26**	**350**	P	**Pn**	**07 58 38.8**	**+0.9**
	baz=170						
M27K				Sb	**Sg**	**07 59 11.2**	**-1.8**
	baz=170						
N25K	**Chitina, Valde**	**2.28**	**312**		**Pn**	**07 58 39.1**	**+1.0**
N25K	**Chitina, Valde**	**2.28**	**312**	IAML		07 59 17.7	
	comp=N,218nm,0.6s						
N25K	**Chitina, Valde**	**2.28**	**312**	P	**Pn**	**07 58 38.7**	**+0.5**
	baz=128,SNR=71						
N25K				S	**Sn**	**07 59 08.2**	**+1.9**
	baz=128						
BVCY	**Beaver Creek**	**2.28**	**2**		**Pn**	**07 58 39.2**	**+1.1**
BVCY	**Beaver Creek**	**2.28**	**2**	Pn	**Pn**	**07 58 39.9**	**+1.7**
BVCY				Sn	**Sn**	**07 59 08.1**	**+1.8**
BVCY	**Beaver Creek**	**2.28**	**2**	P	**Pn**	**07 58 39.7**	**+1.5**
	baz=183,SNR=129						
BVCY				Sb	**Sg**	**07 59 11.9**	**-1.6**
	baz=183						
EYAK	**Cordova Ski Ar**	**2.38**	**282**		**Pn**	**07 58 39.4**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.38**	**282**	P	**Pn**	**07 58 39.4**	**-0.1**
	baz=97,SNR=9.0						
EYAK				Sb	**Sb**	**07 59 14.2**	**+1.5**
	baz=97						
DIV	**Divide**	**2.53**	**295**		**Pn**	**07 58 41.5**	**-0.1**
DIV	**Divide**	**2.53**	**295**	Pn	**Pn**	**07 58 41.6**	**-0.1**
DIV				Sn	**Sn**	**07 59 13.4**	**+0.8**
KLU	**Klutina**	**2.75**	**302**		**Pn**	**07 58 45.1**	**+0.5**
KLU	**Klutina**	**2.75**	**302**	P	**Pn**	**07 58 44.7**	**0.0**
	baz=117,SNR=157						
KLU				S	**Sn**	**07 59 19.5**	**+1.5**
	baz=117						
FID	**Port Fidalgo**	**2.76**	**285**		**Pn**	**07 58 45.3**	**+0.4**
FID				IAML		07 59 34.9	
	comp=N,160nm,0.7s						
FID				IAML		07 59 37.8	
	comp=E,191nm,0.9s						
JPK	**Jack Peak**	**2.89**	**291**		**Pn**	**07 58 46.7**	**+0.1**
PS11	**TAPS Pump St11**	**2.90**	**314**		**Pn**	**07 58 47.6**	**+0.9**
N31M	**Braeburn, Yuko**	**2.91**	**60**		**Pn**	**07 58 47.4**	**+0.6**
N31M	**Braeburn, Yuko**	**2.91**	**60**	IAML		07 59 48.6	
	comp=E,160nm,0.9s						
N31M				IAML		07 59 49.6	
	comp=N,123nm,0.9s						
N31M	**Braeburn, Yuko**	**2.91**	**60**	P	**Pn**	**07 58 47.6**	**+0.8**
	baz=245,SNR=15						
L27K	**Beaver Creek,**	**2.95**	**353**		**Pn**	**07 58 48.4**	**+1.0**
L27K	**Beaver Creek,**	**2.95**	**353**	P	**Pn**	**07 58 48.4**	**+1.0**
	baz=172,SNR=46						
L27K				S	**Sn**	**07 59 24.0**	**+1.2**
	baz=172						
BC03		**2.95**	**353**		**Pn**	**07 58 48.3**	**+1.0**
BCAR	**Beaver Creek A**	**2.95**	**353**	Pn	**Pn**	**07 58 48.6**	**+1.2**
SKAG	**Skagway**	**2.96**	**101**		**Pn**	**07 58 48.0**	**+0.5**
SKAG				IAML		07 59 35.2	
	comp=E,122nm,0.7s						
SKAG	**Skagway**	**2.96**	**101**	S	**Sn**	**07 59 25.3**	**+2.2**
	baz=286						
HARP	**HAARP**	**3.01**	**320**		**Pn**	**07 58 48.9**	**+0.7**
HARP	**HAARP**	**3.01**	**320**	P	**Pn**	**07 58 50.1**	**+1.9**
	baz=137						
MENT	**Mentasta**	**3.08**	**337**		**Pn**	**07 58 50.8**	**+1.6**
MENT				IAML		07 59 42.9	
	comp=N,130nm,1.0s						
MENT				IAML		07 59 54.4	
	comp=E,124nm,1.4s						
GLI	**Glacier Island**	**3.08**	**286**		**Pn**	**07 58 49.2**	**0.0**
GLI				IAML		07 59 36.2	
	comp=N,169nm,0.5s						
GLI				IAML		07 59 44.4	
	comp=E,147nm,0.7s						
GLI	**Glacier Island**	**3.08**	**286**	P	**Pn**	**07 58 49.2**	**0.0**
	baz=101						
L26K	**Log Cabin Wild**	**3.09**	**340**		**Pn**	**07 58 50.8**	**+1.4**
L26K	**Log Cabin Wild**	**3.09**	**340**	IAML		07 59 37.8	
	comp=E,152nm,0.4s						
L26K	**Log Cabin Wild**	**3.09**	**340**	P	**Pn**	**07 58 50.9**	**+1.6**
	baz=158,SNR=52						
WHY	**Whitehorse**	**3.10**	**78**		**Pn**	**07 58 50.0**	**+0.5**
WHY	**Whitehorse**	**3.10**	**78**	IAML		07 59 43.4	
	comp=N,150nm,0.8s						
WHY	**Whitehorse**	**3.10**	**78**	Pn	**Pn**	**07 58 50.1**	**+0.7**
WHY				Sn	**Sn**	**07 59 26.8**	**+0.1**
WHY	**Whitehorse**	**3.10**	**78**	P	**Pn**	**07 58 50.2**	**+0.7**
	baz=264,SNR=17						
M24K	**Tolsona, Glenn**	**3.17**	**311**		**Pn**	**07 58 51.7**	**+1.1**
M24K				IAML		07 59 43.1	
	comp=N,147nm,1.0s						
M24K				IAML		07 59 51.8	
	comp=E,207nm,1.3s						
M24K	**Tolsona, Glenn**	**3.17**	**311**	P	**Pn**	**07 58 51.2**	**+0.7**
	baz=126						
M30M	**Minto, Yukon**	**3.18**	**38**		**Pn**	**07 58 51.2**	**+0.7**
M30M	**Minto, Yukon**	**3.18**	**38**	P	**Pn**	**07 58 51.7**	**+1.1**
	baz=222,SNR=29						
SCM	**Sheep Creek Mo**	**3.50**	**302**		**Pn**	**07 58 55.1**	**+0.1**
SCM	**Sheep Creek Mo**	**3.50**	**302**	IAML		07 59 53.0	
	comp=E,167nm,0.7s						
SCM	**Sheep Creek Mo**	**3.50**	**302**	P	**Pn**	**07 58 55.5**	**+0.5**
	baz=116						
BESE	**Bessie Mountai**	**3.53**	**114**		**Pn**	**07 58 55.7**	**+0.3**
BESE	**Bessie Mountai**	**3.53**	**114**	Pn	**Pn**	**07 58 55.9**	**+0.5**
PAX	**Paxson**	**3.54**	**325**		**Pn**	**07 58 56.7**	**+1.1**
PWL	**Port Wells**	**3.68**	**284**		**Pn**	**07 58 57.5**	**+0.1**
PWL	**Port Wells**	**3.68**	**284**	IAML		07 59 59.6	
	comp=N,82nm,1.1s						
PWL				IAML		08 00 05.5	
	comp=E,64nm,1.4s						
PWL	**Port Wells**	**3.68**	**284**	P	**Pn**	**07 58 57.1**	**-0.3**
	baz=98						
DOT	**Dot Lake**	**3.79**	**339**		**Pn**	**07 59 00.4**	**+1.4**
DOT	**Dot Lake**	**3.79**	**339**	Pn	**Pn**	**07 59 00.4**	**+1.4**
DOT				Sn	**Sn**	**07 59 43.4**	**-0.2**
M31M	**Drury Creek, Y**	**3.82**	**54**		**Pn**	**07 59 00.6**	**+1.2**
M31M				IAML		08 00 08.9	
	comp=E,55nm,0.9s						
M31M	**Drury Creek, Y**	**3.82**	**54**	P	**Pn**	**07 59 00.5**	**+1.2**
	baz=241,SNR=12						
KNK	**Knik Glacier**	**3.85**	**292**		**Pn**	**07 59 00.7**	**+0.9**
KNK	**Knik Glacier**	**3.85**	**292**	IAML		08 00 09.8	
	comp=N,132nm,1.0s						
KNK	**Knik Glacier**	**3.85**	**292**	P	**Pn**	**07 59 00.5**	**+0.7**
	baz=106						
SML	**Sawmill**	**3.93**	**298**		**Pn**	**07 59 00.6**	**-0.2**
SML				IAML		08 00 07.7	
	comp=E,82nm,0.8s						
SML	**Sawmill**	**3.93**	**298**	P	**Pn**	**07 59 01.4**	**+0.6**
	baz=112						
DAWY	**Dawson**	**4.01**	**10**		**Pn**	**07 59 02.1**	**+0.1**
DAWY	**Dawson**	**4.01**	**10**	IAML		08 00 09.2	
	comp=N,72nm,0.8s						
DAWY				IAML		08 00 13.2	
	comp=E,65nm,0.8s						
DAWY	**Dawson**	**4.01**	**10**	Pn	**Pn**	**07 59 03.2**	**+1.3**
DAWY				Sn	**Sn**	**07 59 48.9**	**-0.1**
DAWY	**Dawson**	**4.01**	**10**	P	**Pn**	**07 59 03.2**	**+1.3**
	baz=192,SNR=13						
DAWY				S	**Sn**	**07 59 50.3**	**+1.3**
	baz=192						
RIDG	**Independent Ri**	**4.03**	**335**		**Pn**	**07 59 04.6**	**+2.3**
RIDG				IAML		08 00 18.3	
	comp=E,61nm,1.2s						
RIDG	**Independent Ri**	**4.03**	**335**	P	**Pn**	**07 59 03.6**	**+1.3**
	baz=152,SNR=7.6						
WAT6	**Susitna Watana**	**4.05**	**310**		**Pn**	**07 59 02.5**	**-0.1**
WAT6	**Susitna Watana**	**4.05**	**310**	P	**Pn**	**07 59 03.4**	**+0.8**
	baz=124						
SCRK	**Sand Creek**	**4.09**	**341**		**Pn**	**07 59 03.5**	**+0.4**
SCRK	**Sand Creek**	**4.09**	**341**	P	**Pn**	**07 59 04.0**	**+0.9**
	baz=159,SNR=20						
SCRK				S	**Sn**	**07 59 52.3**	**+1.3**
	baz=159						
P33M	**Teslin, Yukon**	**4.11**	**86**		**Pn**	**07 59 03.2**	**-0.1**
P33M	**Teslin, Yukon**	**4.11**	**86**	IAML		08 00 09.1	
	comp=N,47nm,0.7s						
P33M	**Teslin, Yukon**	**4.11**	**86**	P	**Pn**	**07 59 03.1**	**-0.3**
	baz=273						
GHO	**Glory Hole Cre**	**4.18**	**296**		**Pn**	**07 59 04.3**	**+0.1**
GHO				IAML		08 00 11.7	
	comp=E,94nm,0.8s						
SEW	**Seward**	**4.21**	**273**		**Pn**	**07 59 03.9**	**-0.7**
SEW	**Seward**	**4.21**	**273**	P	**Pn**	**07 59 04.1**	**-0.5**
	baz=85						
PMR	**Palmer**	**4.21**	**294**		**Pn**	**07 59 04.0**	**-0.6**
PMR				IAML		08 00 10.5	
	comp=E,59nm,0.8s						
PMR				IAML		08 00 18.1	
	comp=N,46nm,1.7s						
DHY	**Denali Highway**	**4.22**	**317**		**Pn**	**07 59 04.4**	**-0.5**
MAYO	**Mayo, Yukon**	**4.23**	**33**	P	**Pn**	**07 59 05.0**	**0.0**
	baz=218,SNR=11						
MAYO				S	**Sn**	**07 59 56.0**	**+1.6**
	baz=218						
FARO	**Faro, Yukon**	**4.27**	**57**	Pn	**Pn**	**07 59 06.8**	**+1.3**
O22K	**Cooper Landing**	**4.33**	**278**		**Pn**	**07 59 09.7**	**+3.4**
RC01	**Rabbit Creek A**	**4.39**	**286**		**Pn**	**07 59 07.1**	**0.0**
RC01	**Rabbit Creek A**	**4.39**	**286**	IAML		08 00 23.5	
	comp=N,82nm,0.8s						
RC01				IAML		08 00 33.1	
	comp=E,41nm,1.1s						
RC01	**Rabbit Creek A**	**4.39**	**286**	P	**Pn**	**07 59 07.0**	**-0.1**
	baz=98						
J26L	**Joseph Creek**	**4.53**	**346**	P	**Pn**	**07 59 10.3**	**+1.2**
	baz=164						
FIS	**Fire Island**	**4.63**	**286**	Pn	**Pn**	**07 59 08.7**	**-1.7**
EGAK	**Eagle**	**4.65**	**359**		**Pn**	**07 59 11.4**	**+0.7**
EGAK				IAML		08 00 34.2	
	comp=E,58nm,0.9s						
M22K	**Willow**	**4.71**	**294**	Pn	**Pn**	**07 59 12.1**	**+0.6**
J25K	**Salcha River,**	**4.92**	**338**		**Pn**	**07 59 15.2**	**+0.8**
J25K	**Salcha River,**	**4.92**	**338**	P	**Pn**	**07 59 15.1**	**+0.7**
	baz=154						
RND	**Reindeer**	**4.95**	**315**		**Pn**	**07 59 16.2**	**+1.4**
RND	**Reindeer**	**4.95**	**315**	IAML		08 00 38.3	
	comp=N,24nm,1.4s						
BRLK	**Bradley Lake**	**4.97**	**270**		**Pn**	**07 59 15.6**	**+0.6**
BRLK				IAML		08 02 35.4	
	comp=E,27nm,3.2s						
CUT	**Chulitna**	**5.00**	**301**	Pn	**Pn**	**07 59 16.2**	**+0.8**
HDA	**Harding Lake**	**5.09**	**330**		**Pn**	**07 59 15.8**	**-0.9**
HDA				IAML		08 00 07.0	
	comp=E,35nm,0.3s						
HDA				IAML		08 00 07.3	
	comp=N,27nm,0.3s						
CNPM	**China Poot**	**5.18**	**268**	Pn	**Pn**	**07 59 19.4**	**+1.4**
MMPY	**Sheldon Lake,**	**5.31**	**58**	Pn	**Pn**	**07 59 21.0**	**+1.1**
MMPY	**Sheldon Lake,**	**5.31**	**58**	P	**Pn**	**07 59 21.0**	**+1.1**
	baz=247,SNR=7.6						
IL31		**5.38**	**332**		**Pn**	**07 59 20.5**	**-0.1**
ILAR	**Eielson Array**	**5.38**	**332**	Pn	**Pn**	**07 59 20.9**	**+0.2**
I29M	**Ogilvie Camp,**	**5.38**	**12**		**Pn**	**07 59 21.6**	**+0.9**
I29M				IAML		08 00 49.3	
	comp=E,30nm,2.0s						
I29M				IAML		08 00 56.2	
	comp=N,29nm,0.9s						
WRH	**Wood River Hil**	**5.44**	**326**	Pn	**Pn**	**07 59 25.2**	**+3.7**
STLK	**Strandline Lak**	**5.46**	**289**		**Pn**	**07 59 21.9**	**+0.1**
TRF	**Thorofare Moun**	**5.50**	**311**		**Pn**	**07 59 23.0**	**+0.5**
CCB	**Clear Creek Bu**	**5.50**	**328**	Pn	**Pn**	**07 59 23.2**	**+0.8**
SPU	**Mount Spurr**	**5.52**	**286**	Pn	**Pn**	**07 59 23.9**	**+1.3**
COLA	**College**	**5.70**	**329**	Pn	**Pn**	**07 59 24.6**	**-0.4**
TCOL	**CIGO, UAF Yank**	**5.70**	**329**	Pn	**Pn**	**07 59 24.8**	**-0.3**
KTH	**Kantishna Hill**	**5.79**	**310**		**Pn**	**07 59 26.8**	**+0.3**
NEA2	**Nenana**	**5.82**	**324**	Pn	**Pn**	**07 59 27.1**	**+0.4**
DLBC	**Dease Lake**	**5.90**	**102**	Pn	**Pn**	**07 59 27.3**	**-0.5**
DLBC	**Dease Lake**	**5.90**	**102**	Pn	**Pn**	**07 59 26.8**	**-1.1**
DLBC				Sn	**Sn**	**08 00 33.1**	**-2.4**
PPLA	**Purkeypile**	**6.00**	**302**	Pn	**Pn**	**07 59 29.2**	**-0.3**
WTLY	**Watson Lake, Y**	**6.12**	**85**	Sg	**Sg**	**08 01 11.5**	**-5.2**
BPAW	**Bear Paw Mtn.**	**6.12**	**315**	Pn	**Pn**	**07 59 31.0**	**+0.1**
CAST	**Castle Rocks**	**6.18**	**307**	Pn	**Pn**	**07 59 33.4**	**+1.6**
I23K	**Minto, Yukon-K**	**6.31**	**326**	Pn	**Pn**	**07 59 33.6**	**+0.1**
TGTN	**Hyland Airport**	**6.39**	**72**	Sg	**Sg**	**08 01 20.3**	**-5.2**
KDAK	**Kodiak Island**	**6.42**	**253**	P	**Pn**	**07 59 35.2**	**+0.2**
	baz=63						
H24K	**Noodor Dome**	**6.50**	**334**		**Pn**	**07 59 38.1**	**+2.0**
Q19K	**Cape Douglas,**	**6.53**	**265**		**Pn**	**07 59 37.5**	**+1.0**
Q19K	**Cape Douglas,**	**6.53**	**265**	P	**Pn**	**07 59 37.3**	**+0.8**
	baz=74						
EPYK	**Eagle Plains**	**6.54**	**15**	Pn	**Pn**	**07 59 38.1**	**+1.4**
H23K	**Yukon River**	**6.89**	**329**	Pn	**Pn**	**07 59 44.5**	**+3.1**
K20K	**Telida**	**6.97**	**303**	Pn	**Pn**	**07 59 44.9**	**+2.3**
K20K	**Telida**	**6.97**	**303**	P	**Pn**	**07 59 43.3**	**+0.8**
	baz=112						
L19K	**White Mountain**	**6.99**	**293**	Pn	**Pn**	**07 59 44.9**	**+2.1**
L19K	**White Mountain**	**6.99**	**293**	P	**Pn**	**07 59 43.9**	**+1.1**
	baz=101						
BMAR	**Burnt Mountain**	**7.48**	**349**	Pn	**Pn**	**07 59 51.6**	**+2.1**
TTA	**Tatalina**	**7.68**	**298**	Pn	**Pn**	**07 59 56.0**	**+3.7**
INK	**Inuvik**	**8.81**	**18**	Pn	**Pn**	**08 00 10.1**	**+2.4**
INK				Sn	**Sn**	**08 01 42.0**	**-4.9**
TOLK	**Toolik Lake Re**	**9.28**	**340**	Pn	**Pn**	**08 00 15.6**	**+1.4**
TOLK	**Toolik Lake Re**	**9.28**	**340**	P	**Pn**	**08 00 15.9**	**+1.7**
	baz=153						
C36M	**Paulatuk**	**11.68**	**31**	Pn	**Pn**	**08 00 48.7**	**+1.8**
A36M	**Sachs Harbour**	**13.43**	**21**	Pn	**Pn**	**08 01 10.3**	**-0.5**
A36M	**Sachs Harbour**	**13.43**	**21**	P	**Pn**	**08 01 10.6**	**-0.2**
	baz=216,SNR=5.4						

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*IDC **07** 08:05:10.4±2.8, 29.°49N×81.°11E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/35, mbtmp3.6/7, ML4.1/2, Error ellipse: s-maj=85.2km s-min=22.4km az=70.0*
*NDI **07** 08:05:16.6±2.5, 29.°87N×82.°15E, h10km, ML3.7*
ISC 07 08:05:16.2±0.7**, 29.°77N**±0.°07×**82.°13E**±0.°05**, h10**km**, n17, σ2.°13**/22**, mb3.3**/5**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.67**	**260**	*e*P	**Pb**	**08 05 47.4**	**+0.3**
LGTI				*e*S	**Sg**	**08 06 13.9**	**+3.9**
PTH	**Pithoragarh**	**1.68**	**263**	*e*P	**Pn**	**08 05 47.0**	**+1.1**
PTH				*e*S	**Sb**	**08 06 10.7**	**+2.1**
SMLA	**Simla**	**4.50**	**289**	*e*x	**Pb**	**08 06 35.1**	**-0.1**
SMLA				*e*x	**Pb**	**08 06 35.5**	**+0.2**
KUDL	**Kundal**	**5.20**	**253**	*e*x	**Sn**	**08 07 33.1**	**-1.0**
JHNI	**Jhansi**	**5.34**	**217**	*e*P	**Pn**	**08 06 36.2**	**+0.2**
JHNI				*e*S	**Sn**	**08 07 37.0**	**-0.6**
DHRM	**DHARAMSHALA**	**5.58**	**298**	*e*P	**Pn**	**08 06 38.3**	**-1.3**
BOK	**Bokaro**	**6.83**	**150**	*e*P	**Pn**	**08 06 58.6**	**+2.0**
AJM	**Ajmer**	**7.38**	**245**	*e*S	**Sn**	**08 08 24.3**	**-3.5**
BHPL	**Bhopal**	**7.74**	**214**	*e*P	**Pn**	**08 07 08.8**	**-0.3**
BHPL				*e*S	**Sn**	**08 08 32.1**	**-4.8**
BHPL				IAML		08 08 38.9	
	comp=E,72nm,0.5s						
BHPL				IAML		08 08 39.6	
	comp=N,34nm,0.7s						
SHL	**Shillong**	**9.60**	**113**	*e*P	**Pn**	**08 07 35.5**	**+0.7**
MKAR	**Makanchi Array**	**17.00**	**0**	P	**Pn**	**08 09 14.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=183,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**19.01**	**123**	P	**Pn**	**08 09 41.7**	**+2.7**
	comp=N,0.7nm,0.3s,baz=315,slow=10,SNR=6.9						
KURBB	**Kurchatov Arra**	**21.01**	**354**	P	**P**	**08 09 57.5**	**-2.3**
	comp=N,3.8nm,0.8s,baz=178,slow=10,SNR=36						
ZALV	**Zalesovo Beam**	**24.24**	**4**	P	**P**	**08 10 32.3**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,0.4nm,0.4s,baz=191,slow=13,SNR=4.6						
SONM	Songino Array	25.96	39	P	P	08 10 51.2	+2.1
	comp=N,0.5nm,0.7s,baz=239,slow=11,SNR=4.1						
WRA	Warramunga Arr	70.50	128	P	P	08 16 30.0	-1.4
	comp=N,0.3nm,0.9s,baz=325,slow=5.9,SNR=1.7						
ASAR	Alice Springs	72.78	131	P	P	08 16 44.0	-1.1
	comp=N,0.2nm,0.7s,baz=313,slow=6.0,SNR=2.1						

IDC 07 08:45:19.6±4.3**, 5.°73S×129.°18E, h364**km±50km**, mb2.8**/1**, mb1 3.0**/3**, mb1mx2.8**/21**, mbtmp3.7**/3**, Error ellipse: s-maj=119.3km s-min=15.1km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.00	161	P	P	08 48 33.1	-0.4
	0.9nm,0.3s,baz=340,slow=11,SNR=56						
ASAR	Alice Springs	18.41	166	P	P	08 49 10.4	+0.2
	0.2nm,0.3s,baz=337,slow=9.1,SNR=15						
ASAR				S	S	08 52 22.0	+0.7
	0.2nm,0.3s,baz=344,slow=19,SNR=22						
MKAR	Makanchi Array	66.72	327	P	P	08 55 32.5	0.0
	0.2nm,0.4s,baz=123,slow=8.1,SNR=5.5						

*IPEC **07** 09:04:47.6±0.2, 51.°60N×16.°20E, h0km, ML2.2/3, Error ellipse: s-maj=2.8km s-min=1.4km az=59.0*
*PRU **07** 09:04:48.6±0.0, 51.°56N×16.°08E, h0km*
*VIE **07** 09:04:48.1±0.9, 51.°55N×16.°15E, h0km, mb2.5/3, ml2.7/2, Error ellipse: s-maj=20.2km s-min=4.4km az=91.0 79 km NW of Wroclaw Suspected Mining induced.*
ISC 07 09:04:47.7±1.9**, 51.°57N**±0.°08×**16.°13E**±0.°05**, h0**km**, n19, σ0.s52**/36**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	172	ePg	Pg	09 05 02.2	+0.5
KSP				eSg	Sg	09 05 11.9	+0.6
CHVC	Chvalec	0.98	183	ePG	Pg	09 05 07.0	+0.5
CHVC				eSG	Sg	09 05 19.9	+0.7
	comp=Z,30nm,0.5s						
OSTC	Ostas	1.01	177	ePG	Pb	09 05 07.7	-0.5
OSTC				eSG	Sb	09 05 21.6	-0.4
	comp=Z,35nm,0.3s						
UPC	Upice	1.06	184	ePG	Pg	09 05 08.2	+0.1
UPC				eSG	Sb	09 05 22.9	-0.6
	comp=Z,43nm,0.2s						
DPC	Dobruska-Polom	1.23	174	ePG	Pg	09 05 11.1	-0.1
DPC				eSG	Sg	09 05 27.3	+0.2
	comp=Z,23nm,0.3s						
PVCC	Panska Ves	1.43	224	ePG	Pg	09 05 15.2	+0.1
PVCC				eSG	Sb	09 05 34.0	0.0
	comp=Z,99nm,0.2s						
BRG	Berggiesshubel	1.54	244	Pg	Pb	09 05 17.2	+0.1
BRG				Sg	Sb	09 05 37.2	+0.1
BRG				Amp		09 05 37.9	
	comp=Z,3.6nm,0.6s						
KRLC	Kraliky	1.55	164	ePG	Pn	09 05 16.4	-0.2
KRLC				eSG	Sb	09 05 37.7	+0.2
	comp=Z,15nm,0.2s						
PRU	Pruhonice	1.87	213	ePN	Pn	09 05 20.9	-0.1
PRU				ePG	Pb	09 05 23.1	+0.3
PRU				eSG	Sb	09 05 46.8	0.0
	comp=Z,28nm,0.4s						
CLL	Collm	1.97	264	ePg	Pb	09 05 24.0	-0.5
CLL				ex	x	09 05 28.0	
CLL				eSg	Sb	09 05 50.0	+0.4
	comp=Z,18nm,0.8s						
MORC	Moravsky Berou	2.01	153	ePn	Pn	09 05 22.7	-0.2
	baz=335						
MORC				eSg	Sb	09 05 50.8	+0.2
	comp=Z,20nm,0.5s,baz=335						
VRAC	Vranov	2.28	172	ePn	Pn	09 05 26.9	+0.2
	baz=354						
VRAC				eSg	Sg	09 05 59.8	-1.2
	comp=Z,11nm,0.4s,baz=354						
KRUC	Moravsky	2.51	176	ePn	Pn	09 05 30.3	+0.5
	baz=357						
KRUC				eSg	Sg	09 06 07.3	-1.2
	comp=Z,9.8nm,0.5s,baz=357						
NKC	Novy Kostel	2.68	242	eSG	Sg	09 06 13.4	-0.5
	comp=Z,47nm,0.6s						
JAVC	Velka Javorina	2.89	159	ePn	Pn	09 05 35.0	0.0
	baz=342						
JAVC	Velka Javorina	2.89	159	ePN	Pn	09 05 35.1	0.0
KHC	Kasperske Hory	2.94	215	ePN	Pn	09 05 35.9	+0.2
KHC				ePG	Pb	09 05 41.6	+0.7
KHC				eSN	Sn	09 06 12.1	+0.5
KHC				eSG	Sg	09 06 20.6	-1.4
	comp=Z,8.3nm,0.5s						
CONA	Conrad Observa	3.65	183	ePn	Pn	09 05 45.1	-0.4
	comp=Z,0.5nm,0.2s						
MOA	Molln	3.91	199	ePn	Pn	09 05 49.3	+0.2
	comp=Z,1.8nm,0.2s						

*BJI **07** 09:09:30.0±0.0, 39.°00N×73.°60E, h10km, mb4.0/3, mB4.4/1, ML3.6/4, Ms3.8/1, Ms7 3.5/1*
*IDC **07** 09:09:32.2±0.9, 39.°07N×74.°06E, h0km, mb3.7/13, mb1 3.8/19, mb1mx3.7/58, mbtmp3.7/19, ML3.2/6, MS2.5/1, Ms1 2.5/1, ms1mx2.1/90, Error ellipse: s-maj=16.6km s-min=15.5km az=103.0*
*KRNET **07** 09:09:36.9±0.1, 39.°36N×74.°02E, h2km, mb4.3*
*NNC **07** 09:09:36.2±1.9, 39.°29N×74.°06E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=15.2km s-min=10.5km az=167.0*
*SOME **07** 09:09:37.3, 39.°48N×74.°00E, h10km*
*MOS **07** 09:09:39.7±0.8, 39.°29N×73.°95E, h60km, mb4.0/6, Error ellipse: s-maj=9.7km s-min=4.7km az=81.7*
ISC 07 09:09:36.3±1.1**, 39.°47N**±0.°03×**74.°00E**±0.°02**, h5**km±7km**, n142, σ2.s51**/192**, mb3.6**/16**, 30C-37D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	1.41	319	⇑iP	Pg	09 10 04.8	+1.6
	baz=21						
OHH				⇑iS	Sg	09 10 25.2	+3.8
	baz=21						
SALK	Salom-Alik	1.41	355	⇓eP	Pg	09 10 05.5	+2.1
	baz=54						
SALK				⇓eS	Sg	09 10 26.5	+4.8
	baz=54						
KSH	Kashi	1.53	88	Pn	Pn	09 09 55.6	-8.7
KSH				smax	smax		
	comp=N,920nm,0.6s						
KSH				smax	smax		
	comp=E,700nm,0.9s						
DRK	Karamyk	1.70	271	⇑iP	Pb	09 10 09.1	+0.9
	baz=75						
DRK				⇑iS	Sg	09 10 32.2	+1.2
	baz=75						
ARLS	Aral	2.40	6	iPN	Pb	09 10 20.1	+0.1
ARLS				iS	Sb	09 10 51.8	+1.8
ARLS	Aral	2.40	6	⇑iP	Pb	09 10 20.1	+0.1
	baz=5.0						
ARLS				⇑iS	Sb	09 10 51.8	+1.8
	baz=5.0						
BTK	Batken	2.52	284	⇓iPN	Pb	09 10 20.9	-1.1
BTK				iS	Sb	09 10 53.3	-0.1
BTK	Batken	2.52	284	⇓iP	Pb	09 10 20.9	-1.1
	baz=87						
BTK				⇓iS	Sb	09 10 53.3	-0.1
	baz=87						
AML	Almayashu	2.67	355	P	Pb	09 10 24.6	-0.2
	SNR=262						
AML	Almayashu	2.67	355	ePN	Pb	09 10 24.3	-0.4
AML				iS	Sb	09 10 58.9	+1.0
UCH	Uchtor	2.78	8	P	Pb	09 10 26.5	-0.2
	SNR=87						
UCH	Uchtor	2.78	8	⇓ePN	Pb	09 10 26.2	-0.5
UCH				iS	Sb	09 11 01.2	-0.1
UCH	Uchtor	2.78	8	⇓eP	Pb	09 10 25.7	-1.0
	baz=7.0						
UCH				⇓iS	Sb	09 11 00.7	-0.6
	baz=7.0						
ARK	Arkit	2.79	327	⇓iP	Pb	09 10 25.8	-0.9
	baz=28						
ARK				⇓iS	Sb	09 11 01.3	0.0
	baz=28						
GAR	Garm	2.90	262	⇓iPN	Pn	09 10 24.7	+1.5
GAR				iS	Sn	09 11 01.3	+2.9
GAR	Garm	2.90	262	⇓iP	Pn	09 10 25.8	+2.6
	baz=64						
GAR				⇓iS	Sn	09 11 01.3	+2.9
	baz=64						
TRKS	Terek-Say	3.00	314	⇓iPN	Pn	09 10 27.1	+2.5
TRKS				iS	Sb	09 11 04.7	-2.5
TRKS	Terek-Say	3.00	314	⇓iP	Pn	09 10 27.1	+2.5
	baz=15						
TRKS				⇓iS	Sb	09 11 04.7	-2.5
	baz=15						
AAK	Ala-Archa	3.19	7	Pn	Pb	09 10 32.3	-1.1
	10nm,0.3s,baz=177,slow=6.1,SNR=84						
AAK				Sn	Sb	09 11 14.6	+2.0
	baz=168,slow=23,SNR=1.2						
AAK				Lg	Lg	09 11 22.8	
	12nm,0.3s,baz=86,slow=17,SNR=10						
AAK				LR	LR	09 11 58.5	
	comp=Z,75nm,21.0s,baz=326,slow=41						
AAK	Ala-Archa	3.19	7c	iPN	Pb	09 10 32.1	-1.3
EKS2	Erkin-Say	3.19	357	P	Pb	09 10 32.1	-1.4
	SNR=35						
EKS2	Erkin-Say	3.19	357	ePN	Pb	09 10 31.6	-1.9
EKS2	Erkin-Say	3.19	357	⇓eP	Pb	09 10 31.6	-1.9
	baz=57						
EKS2				⇓iS	Sb	09 11 10.8	-1.9
	baz=57						
ULHL	Ulahol	3.25	31	P	Pb	09 10 32.5	-2.1
	SNR=49						
ULHL	Ulahol	3.25	31	iPN	Pb	09 10 32.0	-2.6
ULHL				iS	Sb	09 11 12.1	-2.5
ULHL	Ulahol	3.25	31	⇑iP	Pb	09 10 32.0	-2.6
	baz=30						
ULHL				⇑iS	Sb	09 11 12.1	-2.5
	baz=30						
MRKS	Merke	3.32	350	eP	Pg	09 10 41.4	+1.5
	61nm,0.3s						
MRKS				eS	Sg	09 11 27.4	+4.4
	150nm,0.6s						
MRKS	Merke	3.32	350	Pg	Pg	09 10 38.5	-1.4
	98nm,0.6s						
MRKS				Lg	Lg	09 11 26.2	
	67nm,0.5s						
BOOM	Boomskoye usch	3.35	25	ePN	Pn	09 10 32.9	+3.4
BOOM	Boomskoye usch	3.35	25	⇓iP	Pn	09 10 32.9	+3.4
	baz=24						
BOOM				⇓iS	Sb	09 11 14.5	-3.0
	baz=24						
FRU1	Bishkek	3.37	8	iPN	Pb	09 10 33.7	-2.8
FRU1				iS	Sb	09 11 15.6	-2.2
FRU1	Bishkek	3.37	8	⇑iP	Pb	09 10 33.7	-2.8
	baz=7.0						
FRU1				⇑iS	Sb	09 11 15.6	-2.2
	baz=7.0						
CHMS	Chumysh	3.57	9	P	Pb	09 10 38.3	-1.6
	SNR=18						
CHMS	Chumysh	3.57	9	⇓iPN	Pb	09 10 36.5	-3.4
CHMS				iS	Sb	09 11 20.0	-3.5
CHMS	Chumysh	3.57	9	⇓iP	Pb	09 10 36.5	-3.4
	baz=8.0						
CHMS				⇓iS	Sb	09 11 20.0	-3.5
	baz=8.0						
KDJ	Kajisay	3.59	41	iPN	Pn	09 10 36.7	+4.0
KDJ				eS	Sb	09 11 20.0	-4.2
KDJ	Kajisay	3.59	41	⇑iP	Pn	09 10 36.4	+3.7
	baz=40						
KDJ				⇑eS	Sn	09 11 19.7	+4.1
	baz=40						
TKM2	Tokmak 2	3.65	19	P	Pb	09 10 39.7	-1.7
	SNR=14						
TKM2	Tokmak 2	3.65	19	ePN	Pn	09 10 37.5	+3.9
TKM2	Tokmak 2	3.65	19	⇓iP	Pn	09 10 37.5	+3.9
	baz=18						
TKM2				⇓iS	Sb	09 11 22.3	-3.7
	baz=18						
TKM2	Tokmak 2	3.65	19	⇑Pn	Pn	09 10 36.7	+3.1
	13nm,0.8s						
TKM2				⇓Pg	Pg	09 10 51.3	+5.1
	43nm,0.6s						
TKM2				⇑Lg	Lg	09 11 36.3	
	48nm,0.7s						
TARG	Taragay, Kyrgy	3.67	51	iPN	Pn	09 10 37.4	+3.3
TARG				iS	Sn	09 11 21.9	+4.0
TARG	Taragay, Kyrgy	3.67	51	⇑iP	Pn	09 10 37.4	+3.3
	baz=49						
TARG				⇑iS	Sn	09 11 21.9	+4.0
	baz=49						
USP	Ospenovka	3.81	6	P	Pb	09 10 41.2	-2.8
	SNR=15						
USP	Ospenovka	3.81	6	iPN	Pn	09 10 40.0	+4.4
USP				iS	Sb	09 11 25.9	-4.5
USP	Ospenovka	3.81	6	⇑iP	Pn	09 10 40.0	+4.4
	baz=5.0						
USP				⇑iS	Sb	09 11 26.0	-4.5
	baz=5.0						
CHGR	Chuyangaron	3.85	259	⇓iPN	Pn	09 10 36.8	+0.5
CHGR				iS	Sn	09 11 23.6	+1.6
CHGR	Chuyangaron	3.85	259	⇓iP	Pn	09 10 38.6	+2.3
	baz=61						
CHGR				⇓iS	Sn	09 11 24.4	+2.4
	baz=61						
DGS	Degeres	4.00	19	eP	Pg	09 10 52.3	-0.6
	49nm,0.2s						
DGS				eS	Sg	09 11 45.6	+1.0
	56nm,0.2s						
DGS	Degeres	4.00	19	Pg	Pg	09 10 51.7	-1.1
	71nm,0.8s						
DGS				Lg	Lg	09 11 49.2	
	60nm,0.8s						
SGDS	Sogindy	4.01	7	eP	Pg	09 10 53.3	+0.3
	39nm,0.2s						
SGDS				eS	Sg	09 11 47.7	+2.8
	23nm,0.8s						
SGDS	Sogindy	4.01	7	Pg	Pg	09 10 51.5	-1.5
	38nm,0.5s						
SGDS				Lg	Lg	09 11 48.7	
	23nm,0.8s						
IZV	Izvestkoviy	4.07	28	eP	Pg	09 10 54.0	-0.3
	26nm,0.1s						
IZV				eS	Sg	09 11 49.5	+2.5
	65nm,0.2s						
IZV	Izvestkoviy	4.07	28	Pg	Pg	09 10 52.6	-1.6
	46nm,1.1s						
IZV				Lg	Lg	09 11 50.1	
	65nm,0.6s						
MTBS	Maitube	4.09	26	eP	Pg	09 10 54.8	+0.3
	35nm,0.5s						
MTBS				eS	Sg	09 11 49.8	+2.2
	56nm,0.9s						
MTBS	Maitube	4.09	26	Pg	Pg	09 10 53.5	-1.1
	80nm,0.8s						
MTBS				Lg	Lg	09 11 51.6	
	56nm,0.9s						
TNSS	Tian-Shan	4.20	31	eP	Pg	09 10 55.8	-0.9
	58nm,0.1s						
TNSS				eS	Sg	09 11 51.6	+0.5
	31nm,0.2s						
TNSS	Tian-Shan	4.20	31	Pg	Pg	09 10 56.2	-0.5
	76nm,0.6s						
TNSS				Lg	Lg	09 11 56.8	
	29nm,1.1s						
ANVS	Anan'yevo	4.32	39	iPN	Pn	09 10 46.2	+3.5
ANVS				iS	Sn	09 11 37.9	+4.4
ANVS	Anan'yevo	4.32	39	⇑iP	Pn	09 10 46.2	+3.5
	baz=38						
ANVS				⇑iS	Sn	09 11 37.9	+4.4
	baz=38						
MDOK	Medeo	4.34	31	PN	Pb	09 10 56.8	+3.6
MDOK	Medeo	4.34	31	eP	Pg	09 10 57.6	-1.9
	23nm,0.3s						
MDOK				eS	Sg	09 11 54.5	-1.2
	57nm,0.2s						
MDOK	Medeo	4.34	31	⇑Pn	Pb	09 10 49.4	-3.8
	54nm,0.8s						
MDOK				⇑Lg	Lg	09 12 00.8	
	136nm,1.2s						
MDOK	Medeo	4.34	31	Pg	Pg	09 10 57.8	-1.7
	31nm,0.7s						
MDOK				Lg	Lg	09 11 59.7	
	61nm,0.7s						
KRBS	Karabastau	4.40	16	eP	Pg	09 11 01.2	+0.6
	21nm,0.3s						
KRBS				eS	Sg	09 12 01.0	+3.3
	52nm,0.1s						
KRBS	Karabastau	4.40	16	Pg	Pg	09 10 58.7	-2.0
	16nm,0.2s						
KRBS				Lg	Lg	09 12 01.0	
	52nm,0.5s						
KOTS	Kotyrbulak	4.43	31	eP	Pg	09 11 01.2	+0.1
	34nm,0.8s						
KOTS				eS	Sg	09 12 00.8	+2.3
	239nm,0.1s						
KOTS	Kotyrbulak	4.43	31	Pg	Pb	09 10 58.5	+3.8
	25nm,4.1s						
KOTS				Lg	Lg	09 12 00.8	
	237nm,0.9s						
KK08	Karatay Array	4.49	325	⇓Pn	Pn	09 10 48.4	+3.5
	10nm,0.6s						
KK08				⇑Pg	Pg	09 10 59.6	-2.7
	46nm,0.8s						
KK08				⇓Lg	Lg	09 12 05.1	
	31nm,0.6s						
KTBS	Karatobe	4.69	25	eP	Pg	09 11 05.6	-0.5
	22nm,0.3s						
KTBS				eS	Sg	09 12 09.2	+2.4
	67nm,0.3s						
KTBS	Karatobe	4.69	25	Pg	Pg	09 11 04.3	-1.8
	31nm,0.9s						
KTBS				Lg	Lg	09 12 10.6	
	58nm,0.5s						
BRLS	Borolday	4.74	320	eP	Pg	09 11 04.5	-2.5
	22nm,0.1s						
BRLS				eS	Sg	09 12 06.8	-1.7
	37nm,0.3s						
BRLS	Borolday	4.74	320	Pg	Pb	09 11 02.1	+2.3
	23nm,0.7s						
BRLS				Lg	Lg	09 12 06.8	
	53nm,1.2s						
KUU	Kurty	4.75	21	eP	Pg	09 11 06.0	-1.3
	33nm,0.2s						
KUU				eS	Sg	09 12 10.3	+1.5
	29nm,0.2s						
KUU	Kurty	4.75	21	Pg	Pg	09 11 05.6	-1.7
	31nm,0.9s						
KUU				Lg	Lg	09 12 12.7	
	29nm,0.6s						
SATY	Saty	4.89	41	eP	Pg	09 11 09.1	-0.8
	21nm,0.7s						
SATY				eS	Sg	09 12 14.6	+1.4
	57nm,0.2s						
SATY	Saty	4.89	41	Pg	Pb	09 11 06.7	+4.3
	22nm,1.3s						
SATY				Lg	Lg	09 12 14.5	
	62nm,1.6s						
CHKK	Chushkaly	4.92	26	eP	Pg	09 11 09.2	-1.3
	24nm,0.3s						
CHKK				eS	Sg	09 12 14.9	+0.7
	20nm,0.9s						
CHKK	Chushkaly	4.92	26	Pg	Pb	09 11 06.6	+3.7
	24nm,1.1s						
CHKK				Lg	Lg	09 12 14.9	
	20nm,0.9s						
KURS	Kuram	5.09	37	eP	Pg	09 11 11.9	-1.8
	18nm,0.0s						
KURS				eS	Sg	09 12 19.3	-0.4
	36nm,0.3s						
KURS	Kuram	5.09	37	Pg	Pb	09 11 09.1	+3.3
	19nm,1.0s						
KURS				Lg	Lg	09 12 19.3	
	40nm,1.5s						
UZB	Uzynbulak	5.27	44	eP	Pg	09 11 15.7	-1.6
	11nm,0.5s						
UZB				eS	Sg	09 12 26.0	+0.4
	28nm,0.1s						
UZB	Uzynbulak	5.27	44	Pg	Pb	09 11 13.3	+4.3
	18nm,0.8s						
UZB				Lg	Lg	09 12 26.0	
	31nm,1.1s						
KPKS	Kokpek	5.32	40	eP	Pg	09 11 16.2	-2.0
	20nm,0.4s						
KPKS				eS	Sg	09 12 26.7	-0.4
	52nm,0.3s						
SHLS	Shalkode	5.52	46	eP	Pg	09 11 23.4	+1.4
	30nm,0.9s						
SHLS				eS	Sg	09 12 40.4	+6.9
	25nm,0.9s						
SHLS	Shalkode	5.52	46	Pg	Pg	09 11 22.0	0.0
	30nm,0.9s						
SHLS				Lg	Lg	09 12 40.4	
	25nm,0.9s						
ARXS	Arharly	5.53	30	eP	Pg	09 11 21.7	-0.6
	33nm,0.7s						
ARXS				eS	Sg	09 12 36.3	+2.4
	55nm,0.6s						
ARXS	Arharly	5.53	30	Pg	Pg	09 11 19.3	-3.0
	37nm,1.4s						
ARXS				Lg	Lg	09 12 36.3	
	55nm,0.6s						
BTLS	Baital	5.57	0	eP	Pg	09 11 21.5	-1.4
	15nm,0.2s						
BTLS				eS	Sg	09 12 37.0	+2.1
	15nm,0.5s						
BTLS	Baital	5.57	0	Pg	Pg	09 11 21.5	-1.4
	16nm,0.8s						
BTLS				Lg	Lg	09 12 40.1	
	13nm,0.9s						
PDGK	Podgornoye	5.65	45	PN	Pn	09 11 03.7	+2.8
PDGK	Podgornoye	5.65	45	Pg	Pb	09 11 18.0	+2.7
	6.9nm,1.0s						
PDGK				Lg	Lg	09 12 34.1	
	30nm,1.1s						
PDGK	Podgornoye	5.65	45	⇓Pn	Pn	09 11 03.8	+2.8
	4.2nm,0.7s						
PDGK				⇑Pg	Pg	09 11 22.5	-2.0
	18nm,0.8s						
PDGK				⇓Lg	Lg	09 12 40.4	
	89nm,0.9s						
BLB	Baldybastay	5.71	34	eP	Pg	09 11 24.2	-1.4
	31nm,0.1s						
BLB				eS	Sg	09 12 41.1	+1.6
	37nm,1.0s						
BLB	Baldybastay	5.71	34	Pg	Pg	09 11 22.1	-3.5
	31nm,1.0s						
BLB				Lg	Lg	09 12 41.1	
	37nm,1.0s						
CHCP	Chirah Chowk	5.83	186	P	Pn	09 11 03.0	-0.4
CEP	Cherat	5.88	197	P	Pn	09 11 04.0	-0.2
KTMS	Ketmen	6.21	48	eP	Pg	09 11 32.5	-2.7
	10.0nm,0.2s						
KTMS				eS	Sg	09 12 55.2	-0.3
	18nm,0.9s						
KTMS	Ketmen	6.21	48	Pg	Pb	09 11 29.8	+4.9
	10nm,1.1s						
KTMS				Lg	Lg	09 12 54.7	
	18nm,0.9s						
DJR	Jarkent	6.50	40	eP	Pg	09 11 37.2	-3.5
	5.3nm,0.7s						
DJR				eS	Sg	09 13 02.7	-2.2
	16nm,1.7s						
DJR	Jarkent	6.50	40	Pg	Pb	09 11 34.8	+5.0
	4.7nm,0.9s						
DJR				Lg	Lg	09 13 02.7	
	16nm,1.7s						
KAPS	Kapalarasan	7.03	33	eP	Pg	09 11 49.1	-1.8
	8.2nm,0.4s						
KAPS				eS	Sg	09 13 22.8	+0.8
	22nm,0.4s						
KAPS	Kapalarasan	7.03	33	Pg	Pg	09 11 46.8	-4.2
	8.2nm,1.2s						
KAPS				Lg	Lg	09 13 22.8	
	22nm,1.1s						
OTUK	Ortayu	8.85	353	P	Pn	09 11 47.5	+2.7
OTUK	Ortayu	8.85	353	⇑Pn	Pn	09 11 47.5	+2.7
	3.2nm,0.6s						
OTUK				⇓Lg	Lg	09 14 23.0	
	26nm,0.9s						
MAKZ	Makanchi	9.36	36	⇑Pn	Pn	09 11 56.3	+4.5
	3.9nm,1.4s						
MAKZ				⇓Lg	Lg	09 14 38.9	
	13nm,1.4s						
MK31	Makanchi Array	9.50	37	⇓Pn	Pn	09 11 57.7	+4.1
	2.0nm,0.6s,baz=214,slow=15,SNR=5.2						
MK31				⇑Lg	Lg	09 14 43.1	
	4.4nm,0.8s,baz=212,slow=30						
MKAR	Makanchi Array	9.50	37	Pn	Pn	09 11 55.2	+1.5
	0.1nm,0.3s,baz=228,slow=17,SNR=7.4						
MKAR				Lg	Lg	09 14 42.7	
	0.1nm,0.3s,baz=209,slow=29,SNR=2.7						
MKAR	Makanchi Array	9.50	37	iP	Pn	09 11 57.7	+4.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	Urumqi	11.13	63	eP	Pn	09 12 19.2	+3.1
KURBB	Kurchatov Arra	11.60	14	Pn	Pn	09 12 23.8	+1.5
	comp=Z,0.0nm,0.3s,baz=202,slow=12,SNR=2.9						
KURBB				Lg	Lg	09 15 46.4	
	comp=Z,0.0nm,0.3s,baz=203,slow=31,SNR=5.8						
KURBB	Kurchatov Arra	11.60	14	⇑Lg	Lg	09 15 49.9	
	comp=Z,16nm,0.8s						
KURK	Kurchatov	11.71	15	iP	Pn	09 12 29.4	+5.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	11.71	15	⇑Lg	Lg	09 15 54.1	
	comp=Z,26nm,1.4s						
BVAR	Borovoye Array	13.78	351	Pn	Pn	09 12 53.2	+1.0
	comp=Z,0.4nm,0.3s,baz=93,slow=16,SNR=7.8						
BRVK	Borovoye	13.83	351	iP	Pn	09 12 55.7	+2.9
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AKTO	Aktyubinsk	15.72	319	Pn	Pn	09 13 18.2	0.0
	comp=Z,0.2nm,0.3s,baz=120,slow=13,SNR=9.8						
AKTO				Sn	Sn	09 16 09.2	-3.4
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=2.6						
ZALV	Zalesovo Beam	16.24	23	Pn	Pn	09 13 25.9	+0.9
	comp=Z,0.3nm,0.3s,baz=212,slow=16,SNR=7.5						
ZALV				Lg	Lg	09 18 18.1	
	comp=Z,0.1nm,0.3s,baz=200,slow=29,SNR=1.3						
ZALV	Zalesovo Beam	16.24	23	iP	P	09 13 28.3	+0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GOMU	GeErMu	16.76	95	P	P	09 13 41.0	+6.6
GOMU				pP	sP	09 13 44.2	+6.0
GOMU				sP	pP	09 13 46.1	+9.1
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,41nm,7.0s						
ARU	Arti	19.79	334	P	Pn	09 14 08.3	-0.3
	comp=Z,1.5nm,0.2s,baz=141,slow=4.3,SNR=6.1						
ARU	Arti	19.79	334d	iP	Pn	09 14 09.5	+0.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAK	Zakamensk	23.28	52	eP	P	09 14 52.3	+7.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KBZ	Khabaz	23.57	291	P	P	09 14 46.5	-1.0
	comp=Z,0.4nm,0.4s,baz=76,slow=4.2,SNR=1.6						
KIV	Kislovodsk	23.72	291	eP	P	09 14 45.9	-3.3
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	Songino Array	24.74	60	P	P	09 14 57.9	-0.8
	comp=Z,0.1nm,0.3s,baz=278,slow=10.0,SNR=1.9						
FINES	FINESS Array B	36.44	323	P	P	09 16 40.9	-0.7
	comp=Z,2.5nm,0.9s,baz=110,slow=10,SNR=7.2						
FINES	FINESS Array B	36.44	323	eP	P	09 16 42.3	+0.7
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	ARCESS Array B	39.37	335	P	P	09 17 05.5	-0.7
	comp=Z,0.6nm,0.6s,baz=67,slow=9.3,SNR=4.2						
YAK	Yakutsk	40.17	37	iP	P	09 17 13.5	+0.5
YAK				pmax	pmax		
	comp=Z,12nm,0.5s						
TIXI	Tiksi	42.13	23	iP	P	09 17 29.5	+0.5
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	43.50	321	P	P	09 17 39.5	-0.8
	comp=Z,0.5nm,0.6s,baz=91,slow=8.0,SNR=2.4						
JNU	Nakatsue	45.63	79	LR	LR	09 39 45.2	
	comp=Z,707nm,20.9s,baz=132,slow=40						
TORD	Torodi Ar. Bea	68.14	269	P	P	09 20 34.4	-3.2
	comp=Z,0.9nm,0.5s,baz=46,slow=6.0,SNR=8.9						
INK	Inuvik	70.58	10	P	P	09 20 50.8	-1.0
	comp=Z,0.8nm,0.6s,baz=344,slow=6.1,SNR=4.3						
ILAR	Eielson Array	71.26	17	P	P	09 20 54.0	-2.1
	comp=Z,0.3nm,0.7s,baz=320,slow=4.1,SNR=2.7						
KOWA	Kowa	71.75	274	P	P	09 20 56.8	-3.0
	comp=Z,0.9nm,0.4s,baz=42,slow=7.3,SNR=1.2						
YKA	Yellowknife Ar	78.15	4	P	P	09 21 34.4	-1.6
	comp=Z,0.4nm,0.7s,baz=352,slow=5.6,SNR=8.6						
YKA	Yellowknife Ar	78.15	4	iP	P	09 21 35.2	-0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	81.62	124	P	P	09 21 52.0	-3.5
	comp=Z,0.2nm,0.6s,baz=325,slow=5.5,SNR=5.1						
WRA	Warramunga Arr	81.62	124	iP	P	09 21 53.4	-2.0
ASAR	Alice Springs	84.08	127	P	P	09 22 03.3	-4.8
	comp=Z,0.2nm,0.7s,baz=299,slow=3.8,SNR=4.2						

*IDC **07** 09:12:22.4±0.7, 45°.67N×154°.03E, h0km, mb3.9/21, mb1 4.0/27, mb1mx3.9/51, mbtmp3.9/27, ML3.2/6, MS2.6/3, Ms1 2.6/3, ms1mx2.3/93, Error ellipse: s-maj=17.4km s-min=14.6km az=140.0*
*SKHL **07** 09:12:26.7±0.4, 45°.50N×154°.00E, h54km±4km, mb5.3/3*
*NEIC **07** 09:12:26.3±1.6, 45°.71N±0°.07×154°.1E±0°.1, h24km±5km, mb4.1/13, Error ellipse: s-maj=15.6km s-min=5.7km az=121.0*
*JMA **07** 09:12:26.7±0.7, 46°.37N×153°.49E, h30km, M4.6*
*MOS **07** 09:12:26.5±1.6, 45°.79N×153°.91E, h36km, mb4.2/13, Error ellipse: s-maj=8.2km s-min=6.8km az=72.8*
ISC 07 09:12:25.0±0.7, **45°.55N**±0°.08×**153°.96E**±0°.07, **h19**km, **n115**, σ1s.87/115, **mb4.0**/30, **9C-1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.30	268c	iPN	Pn	09 13 31.1	+1.8
KUR	Kuril'sk	4.30	268	iP	Pn	09 13 31.1	+1.8
KUR				AMB	AMB	09 13 31.5	
	300nm,0.4s						
KUR				iS	Sn	09 14 18.9	0.0
KUR				A	A	09 14 22.8	
	350nm,0.5s						
KUR				A	A	09 14 22.8	
	420nm,0.5s						
SKR	Severo-Kuril's	5.34	15	iPN	Pn	09 13 41.8	-1.8
SKR	Severo-Kuril's	5.34	15	eP	Pn	09 13 45.3	+1.7
SKR				AMB	AMB	09 13 45.9	
	50nm,0.3s						
YUK	Yuzh-Kuril'sk	5.96	258	ePN	Pn	09 13 53.3	+1.3
YUK				pmax	pmax		
	comp=Z,125nm,0.2s						
YUK				pmax	pmax		
	comp=E,42nm,0.3s						
YUK				pmax	pmax		
	comp=N,42nm,0.2s						
YUK	Yuzh-Kuril'sk	5.96	258	eP	Pn	09 13 53.5	+1.5
YUK				AMB	AMB	09 13 54.2	
	comp=N,130nm,0.2s						
YUK				eS	Sn	09 14 58.2	-1.5
YUK				A	A	09 15 02.8	
	comp=N,170nm,0.5s						
YUK				A	A	09 15 02.8	
	comp=N,240nm,0.5s						
NEM2	Nemuro 2	6.27	253	P	Pn	09 13 55.6	-0.7
NEM2				eS	Sn	09 15 02.4	-5.0
NMR	Nemuro--Hokkai	6.28	253	ePN	Pn	09 13 55.7	-0.8
NMR	Nemuro--Hokkai	6.28	253	eP	Pn	09 13 57.0	+0.5
NMR				eS	Sn	09 15 04.7	-2.9
RUSJ	Misakicho	6.36	260	ePN	Pn	09 14 00.1	+2.5
JRA	Rausu	6.49	259	P	Pn	09 14 00.9	+1.5
JRA				eS	Sn	09 15 13.5	+0.6
JNK	Nakash	6.88	257	P	Pn	09 14 05.6	+0.8
JNK				eS	Sn	09 15 20.2	-2.4
AKK	Akkeshi	7.01	252	eP	Pn	09 14 07.2	+0.6
AKK				eS	Sn	09 15 22.9	-2.8
JAK	Akkeshi	7.12	252	P	Pn	09 14 07.8	-0.2
JAK				eS	Sn	09 15 23.4	-4.9
JTKR	Abashiri--Toko	7.33	261	P	Pn	09 14 12.1	+1.3
JAR	Ashorobuto	7.63	256	P	Pn	09 14 16.2	+1.1
JAR				eS	Sn	09 15 39.3	-1.7
JOB	Onbets	7.74	254	P	Pn	09 14 17.0	+0.5
JOB				eS	Sn	09 15 39.7	-3.8
YSS	Yuzh-Sakhalins	7.89	284	ePN	Pn	09 14 22.9	+4.3
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	Yuzh-Sakhalins	7.89	284	eP	Pn	09 14 20.9	+2.3
PEA0B	Petropavlovsk-	7.95	17	iPN	Pn	09 14 16.6	-2.9
PEA0B	Petropavlovsk-	7.95	17	Pn	Pn	09 14 16.9	-2.5
PETK	Petropavlovsk-	7.95	17	Pn	Pn	09 14 15.9	-3.5
	comp=Z,0.9nm,0.3s,baz=188,slow=9.7,SNR=24						
PETK				Sn	Sn	09 15 46.6	-2.2
	comp=Z,0.1nm,0.3s,baz=193,slow=25,SNR=1.0						
PETK				LR	LR	09 18 20.6	
	comp=Z,31nm,18.6s,baz=213,slow=46						
PET	Petropavlovsk	8.09	21	Pn	Pn	09 14 16.5	-4.7
PET	Petropavlovsk	8.09	21	eP	Pn	09 14 22.3	+1.0
PET				AMB	AMB	09 14 29.2	
	comp=Z,10.0nm,0.5s						
JKK2	Kamakawa 2	8.16	262	P	Pn	09 14 24.1	+1.8
JCH	Churui	8.17	253	P	Pn	09 14 22.8	+0.4
JCH				eS	Sn	09 15 50.3	-3.9
JKA	Kamikawa-asahi	8.20	264		Pn	09 14 24.6	+1.7
JKA					Sn	09 15 54.5	-0.4
JKA	Kamikawa-asahi	8.20	264	eP	Pn	09 14 24.6	+1.7
ASAJ	Asahikawa	8.20	264	Pn	Pn	09 14 24.6	+1.7
	comp=Z,1.0nm,0.3s,baz=106,slow=15,SNR=2.1						
ASAJ				Sn	Sn	09 15 54.5	-0.4
	comp=Z,0.4nm,0.3s,baz=356,slow=11,SNR=1.5						
ERM	Erimo	8.57	250	iPN	Pn	09 14 30.1	+2.2
ERM	Erimo	8.57	250	Pn	Pn	09 14 29.8	+1.8
JNBK	Urakawa-nobuka	8.72	252	P	Pn	09 14 30.0	0.0
JBT2	Biratori 2	8.78	256	P	Pn	09 14 30.8	0.0
JEW	Eniwo	9.38	258	Pn	Pn	09 14 41.0	+2.0
JNB	Noboribetsu	9.80	256	P	Pn	09 14 45.4	+0.6
JNB				eS	Sn	09 16 29.9	-4.4
JKB	Kayabe	10.04	253	P	Pn	09 14 47.6	-0.5
JANG	Nango	10.48	245	P	Pn	09 14 52.5	-1.6
JANG				eS	Sn	09 16 41.4	-9.5
JRG	Rokugo	11.59	243	eS	Sn	09 17 13.0	-5.2
JIO	Ouri	11.75	237	eS	Sn	09 17 12.5	-9.4
JMM	Marumori	12.46	237	Pn	Pn	09 15 18.9	-2.3
MA2	Magadan	14.18	353	Pn	Pn	09 15 43.2	-1.4
	comp=Z,0.5nm,0.3s,baz=152,slow=11,SNR=6.8						
MA2				LR	LR	09 22 11.9	
	comp=Z,22nm,19.3s,baz=350,slow=42						
MA2	Magadan	14.18	353	ceP	Pn	09 15 42.1	-2.5
MA2				pmax	pmax		
	comp=Z,8.0nm,2.5s						
MA2	Magadan	14.18	353	eP	Pn	09 15 42.1	-2.5
MJAR	Matsushiro Arr	14.88	238	Pn	Pn	09 15 57.0	+2.8
	comp=Z,0.0nm,0.3s,baz=35,slow=12,SNR=4.0						
MJAR	Matsushiro Arr	14.88	238	IAmb	IAmb	09 16 04.0	
	comp=Z,4.9nm,1.0s						
MAJO	Matsushiro	14.88	238	iP	P	09 15 59.8	-0.1
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	Kul'dur	15.47	292	Pn	Pn	09 16 02.5	+0.5
	comp=Z,0.1nm,0.3s,baz=106,slow=15,SNR=4.9						
KLR				LR	LR	09 22 15.1	
	comp=Z,27nm,20.1s,baz=100,slow=38						
KLR	Kul'dur	15.47	292	ceP	Pn	09 16 02.3	+0.3
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	Kul'dur	15.47	292	eP	Pn	09 16 02.3	+0.3
USA0B	Ussuriysk Arra	15.63	273	P	Pn	09 16 04.6	+0.6
USA0B				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USA0B	Ussuriysk Arra	15.63	273	Pn	Pn	09 16 04.6	+0.6
USA0B				IAmb	IAmb	09 16 06.5	
	comp=Z,7.4nm,0.8s						
USRK	Ussuriysk Ar.	15.63	273	Pn	Pn	09 16 04.2	+0.1
	baz=83,slow=14,SNR=3.7						
SEY	Seymchan	17.45	358	P	P	09 16 24.6	-3.5
	comp=Z,0.1nm,0.3s,baz=165,slow=16,SNR=2.4						
KSRS	Korea Array	21.04	257	P	P	09 17 09.2	+1.6
	comp=Z,0.9nm,0.7s,baz=62,slow=9.6,SNR=3.5						
YAK	Yakutsk	21.65	328	P	P	09 17 12.3	-1.7
	comp=Z,11nm,0.4s,baz=154,slow=1.6,SNR=2.0						
YAK	Yakutsk	21.65	328	ceP	P	09 17 11.5	-2.4
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	Yakutsk	21.65	328	IAmb	IAmb	09 17 14.1	
	comp=Z,20nm,0.5s						
TJN	Taejon	21.99	255	ceP	P	09 17 21.8	+4.0
BILL	Bilibino	23.44	12	⇓eP	P	09 17 32.5	-0.2
BILL				e		09 17 56.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,38nm,15.0s						
BILL	Bilibino	23.44	12	eP	P	09 17 33.5	+0.8
H11N2	WAKE ISLAND Hy	27.88	153	T	T	09 47 23.2	
	baz=341,slow=76,SNR=6.8						
H11N1	WAKE ISLAND Hy	27.89	153	T	T	09 47 24.2	
	baz=341,slow=76,SNR=7.1						
H11N3	WAKE ISLAND Hy	27.90	153	T	T	09 47 23.4	
	baz=341,slow=76,SNR=6.6						
TIXI	Tiksi	28.79	344	P	P	09 18 20.4	-0.8
	comp=Z,1.2nm,0.5s,baz=88,slow=23,SNR=3.9						
TIXI	Tiksi	28.79	344	ceP	P	09 18 20.3	-0.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	Tiksi	28.79	344	IAmb	IAmb	09 18 33.0	
	comp=Z,3.6nm,1.2s						
H11S1	WAKE ISLAND Hy	28.97	154	T	T	09 48 45.0	
	baz=342,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	28.98	154	T	T	09 48 44.8	
	baz=342,slow=76,SNR=10.0						
H11S2	WAKE ISLAND Hy	28.99	154	T	T	09 48 45.2	
	baz=342,slow=76,SNR=8.3						
ULN	Ulaanbaatar	31.87	291	ceP	P	09 18 48.6	-0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ULN	Ulaanbaatar	31.87	291	eP	P	09 18 48.6	-0.2
SONM	Songino Array	32.30	291	P	P	09 18 53.6	+0.9
	comp=Z,0.4nm,0.5s,baz=52,slow=9.3,SNR=2.5						
SML	Sawmill	36.45	43	P	P	09 19 28.4	+0.2
SML				IAmb	IAmb	09 19 46.3	
	comp=Z,6.8nm,1.0s						
ILAR	Eielson Array	37.14	38	P	P	09 19 34.7	+0.7
	comp=Z,0.3nm,0.8s,baz=257,slow=8.2,SNR=2.6						
NRIK	Noril'sk	40.09	330	P	P	09 19 59.4	+0.7
	comp=Z,0.8nm,0.4s,baz=142,slow=12,SNR=1.3						
NRIK	Noril'sk	40.09	330	IAmb	IAmb	09 20 24.0	
	comp=Z,5.2nm,1.5s						
INK	Inuvik	42.36	32	P	P	09 20 17.4	+0.1
	comp=Z,0.7nm,0.7s,baz=296,slow=7.4,SNR=3.8						
INK	Inuvik	42.36	32	IAmb	IAmb	09 20 17.6	
	comp=Z,3.2nm,1.4s						
ZALV	Zalesovo Beam	43.80	307	P	P	09 20 29.0	-0.1
	comp=Z,0.7nm,0.5s,baz=76,slow=6.1,SNR=2.0						
MK31	Makanchi Array	48.02	299	P	P	09 21 03.3	+0.6
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	Makanchi Array	48.02	299	P	P	09 21 03.3	+0.6
MK31				IAmb	IAmb	09 21 05.6	
	comp=Z,1.5nm,0.8s						
MKAR	Makanchi Array	48.02	299	P	P	09 21 02.3	-0.3
	comp=Z,1.5nm,0.7s,baz=69,slow=6.9,SNR=14						
MKAR	Makanchi Array	48.02	299	ceP	P	09 21 04.3	+1.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	48.02	299	P	P	09 21 02.6	0.0
MKAR	Makanchi Array	48.02	299	eP	P	09 21 04.3	+1.6
KURK	Kurchatov	48.53	305	iP	P	09 21 08.2	+1.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	48.53	305	eP	P	09 21 08.2	+1.8
KURBB	Kurchatov Arra	48.62	305	P	P	09 21 06.7	-0.4
	comp=Z,1.0nm,0.6s,baz=70,slow=8.6,SNR=7.2						
YKA	Yellowknife Ar	51.54	36	P	P	09 21 28.8	-0.3
	comp=Z,0.7nm,0.7s,baz=296,slow=7.3,SNR=7.1						
YKA	Yellowknife Ar	51.54	36	eP	P	09 21 30.9	+1.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	Borovoye Array	52.08	310	P	P	09 21 33.0	-0.3
	comp=Z,0.4nm,0.4s,baz=34,slow=2.7,SNR=4.3						
BVAR	Borovoye Array	52.08	310	P	P	09 21 33.0	-0.3
BRVK	Borovoye	52.12	311	iP	P	09 21 34.3	+0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	Borovoye	52.12	311	eP	P	09 21 34.3	+0.7
AAK	Ala-Archa	54.90	298	ceP	P	09 21 56.1	+1.7
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	Ala-Archa	54.90	298	eP	P	09 21 56.1	+1.7
ARU	Arti	56.30	318	eP	P	09 22 04.9	+0.9
ARCES	ARCESS Array B	59.18	341	P	P	09 22 23.6	-0.5
	comp=Z,2.2nm,0.8s,baz=32,slow=7.5,SNR=2.7						
ARCES	ARCESS Array B	59.18	341	IAmb	IAmb	09 22 29.9	
	comp=Z,11nm,1.4s						
GAR	Garm	59.56	296	P	P	09 22 29.8	+2.5
ABKAR	Akbulak array	59.65	311	P	P	09 22 29.1	+1.6
NVAR	Mina Array Bea	62.47	62	P	P	09 22 47.0	-0.2
	comp=Z,0.7nm,0.9s,baz=308,slow=10,SNR=2.9						
FINES	FINESS Array B	65.38	335	P	P	09 23 05.7	+0.1
	comp=Z,0.7nm,0.4s,baz=39,slow=9.0,SNR=6.5						
WRA	Warramunga Arr	67.57	200	P	P	09 23 20.8	+0.7
	comp=Z,2.0nm,0.9s,baz=17,slow=6.6,SNR=10						
NB2	NORSAR Subarra	69.56	342	P	P	09 23 33.5	+1.4
	comp=Z,0.5nm,0.6s,baz=29,slow=6.2						
NOA	NORSAR Array B	69.56	342	P	P	09 23 32.1	0.0
	comp=Z,0.8nm,0.7s,baz=29,slow=6.2,SNR=4.0						
NOA	NORSAR Array B	69.56	342	eP	P	09 23 33.5	+1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	71.26	199	P	P	09 23 44.8	+2.0
	comp=Z,1.7nm,0.8s,baz=16,slow=5.2,SNR=14						
KBZ	Khabaz	72.12	315	P	P	09 23 49.2	+1.3
	comp=Z,2.9nm,0.9s,baz=27,slow=4.5,SNR=3.7						
KBZ	Khabaz	72.12	315	iP	P	09 23 49.7	+1.8
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	72.88	327	P	P	09 23 52.2	-0.1
	comp=Z,1.0nm,0.5s,baz=35,slow=6.1,SNR=7.7						
AKASG	Malin Array Be	72.88	327	eP	P	09 23 54.2	+1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TX31	Lajitas Ar. Si	77.57	61	P	P	09 24 18.9	-0.9
TX31				IAmb	IAmb	09 24 32.9	
	comp=Z,4.5nm,1.1s						
TX32	Lajitas Array	77.57	61	P	P	09 24 18.9	-0.9
TX32				IAmb	IAmb	09 24 32.9	
	comp=Z,1.4nm,1.0s						
TXAR	Lajitas Array	77.57	61	P	P	09 24 19.2	-0.6
	comp=Z,0.9nm,0.7s,baz=302,slow=3.9,SNR=13						

IDC 07 10:01:47.6±3.7, **3°.80S**×**102°.71E**, **h0**km, **mb3.6**/5, **mb1 3.7**/5, **mb1mx3.5**/39, **mbtmp3.6**/5, **Error ellipse: s-maj=165.5km s-min=22.0km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.76	120	P	P	10 08 39.9	-0.1
	0.3nm,0.5s,baz=302,slow=8.9,SNR=11						
ASAR	Alice Springs	36.01	126	P	P	10 08 50.5	-0.2
	0.2nm,0.3s,baz=295,slow=7.7,SNR=7.2						
SONM	Songino Array	51.52	3	P	P	10 10 56.5	+1.3
	0.6nm,0.6s,baz=179,slow=8.7,SNR=2.5						
MKAR	Makanchi Array	53.51	343	P	P	10 11 09.5	-0.3
	0.2nm,0.4s,baz=142,slow=7.8,SNR=6.4						
ZALV	Zalesovo Beam	59.45	348	P	P	10 11 51.3	-0.7
	0.8nm,0.4s,baz=159,slow=6.8,SNR=4.2						

*SOME **07** 10:04:43.6, 39°.72N×70°.03E, h5km*
*KRNET **07** 10:04:50.9±0.1, 40°.06N×69°.72E, h30km, mb3.0*
*ISU **07** 10:04:50, 41°.60N×71°.10E, h5km*
*NNC **07** 10:04:58.3±3.6, 40°.13N×69°.67E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=28.7km s-min=18.9km az=31.0*
ISC 07 10:04:50.3±1.8, **40°.04N**±0°.03×**69°.72E**±0°.06, **h8**km±13km, **n14**, σ1s.58/23, **10C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	Batken	0.84	88	⇓iP	Pg	10 05 07.0	+0.4
	baz=90						
BTK				⇓iS	Sg	10 05 18.6	+1.0
	baz=90						
MINT	Mingtut	1.05	66	eP	Pn	10 05 13.0	+1.6
MINT				eS	Sn	10 05 29.0	+2.7
GAR	Garm	1.14	156	⇑eP	Pn	10 05 12.4	-0.3
	baz=56						
GAR				⇑eS	Sb	10 05 27.5	+0.1
	baz=56						
YBZ	Yangibazar	1.26	355	eP	Pn	10 05 13.0	-1.4
YBZ				eS	Sb	10 05 30.0	-0.9
TGS	TashGRES	1.39	354	eS	Sb	10 05 33.0	-1.5
CHGR	Chuyangaron	1.45	198	⇑iP	Pn	10 05 17.5	+0.5
	baz=97						
CHGR				⇑iS	Sn	10 05 36.6	+0.4
	baz=97						
TRKS	Terek-Say	1.84	36	⇓iP	Pn	10 05 21.6	-0.8
	baz=38						
TRKS				⇓iS	Sn	10 05 44.9	-1.1
	baz=38						
ARK	Arkit	2.44	43	⇑iP	Pn	10 05 31.6	+0.9
	baz=44						
ARK				⇑iS	Sn	10 06 00.0	-0.9
	baz=44						
BRLS	Borolday	2.99	2	eP	Pn	10 05 40.5	+2.4
	3.4nm,0.2s						
BRLS				eS	Sn	10 06 15.7	+1.5
	7.9nm,0.0s						
KK09	Karatay Array	3.13	11	⇓Pn	Pb	10 05 46.8	+0.5
	4.7nm,0.5s,baz=190,slow=17						
KK09				⇑Sn	Sb	10 06 26.6	+1.8
	17nm,0.6s,baz=193,slow=28						
MRKS	Merke	3.78	43	eP	Pb	10 05 56.0	-1.3
	1.6nm,0.1s						
MRKS				eS	Sb	10 06 42.9	-0.4
	17nm,0.0s						
AAK	Ala-Archa	4.43	53	⇑Pn	Pb	10 06 06.5	-2.1
	1.2nm,0.8s						
AAK				⇑Lg	Lg	10 07 16.3	
	1.5nm,0.5s						
TKM2	Tokmak 2	5.27	55	⇑Pn	Pb	10 06 19.7	-3.1
	2.8nm,0.8s						
TKM2				⇓Lg	Lg	10 07 42.5	
	5.3nm,0.8s						
BTLS	Baital	5.93	31	eP	Pb	10 06 37.0	+3.0
	0.3nm,0.1s						
BTLS				eS	Sb	10 07 51.5	+6.4
	2.1nm,0.1s						

*SOME **07** 11:06:02.5, 40°.80N×70°.30E, h10km*
*KRNET **07** 11:06:08.1±0.1, 40°.99N×70°.37E, h10km, mb2.5*
ISC 07 11:06:07.2±1.5, **41°.02N**±0°.03×**70°.28E**±0°.06, **h8**km±13km, **n9**, σ1s.81/17, **11C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.82	51	⇑iP	Pg	11 06 22.9	-0.2
	baz=52						
TRKS				⇑iS	Sg	11 06 33.5	-0.3
	baz=52						
BTK	Batken	1.04	157	⇑eP	Pg	11 06 27.1	-0.1
	baz=60						
BTK				⇑iS	Sb	11 06 40.8	-0.6
	baz=60						
ARK	Arkit	1.48	58	⇑iP	Pb	11 06 35.3	+0.2
	baz=56						
ARK				⇑iS	Sg	11 06 55.4	+0.5
	baz=56						
GAR	Garm	2.02	179	⇑iP	Pb	11 06 44.7	+0.5
	baz=81						
GAR				⇑iS	Sg	11 07 11.5	-0.5
	baz=81						
BRLS	Borolday	2.04	351	eP	Pn	11 06 40.6	-1.2
	3.2nm,0.3s						
BRLS				eS	Sn	11 07 06.8	-0.7
	15nm,0.3s						
KK09	Karatay Array	2.11	4	⇓Pn	Pb	11 06 45.6	-0.1
	5.4nm,0.7s,baz=181,slow=14						
KK09				Sn	Sb	11 07 15.0	+3.0
MRKS	Merke	2.79	51	eP	Pg	11 06 59.4	-1.4
	3.7nm,0.4s						
MRKS				eS	Sg	11 07 39.1	+2.2
	6.2nm,0.6s						
ARLS	Aral	3.15	73	⇑iP	Pn	11 07 00.1	+2.8
	baz=73						
ARLS				⇑iS	Sb	11 07 38.2	-4.0
	baz=73						
TKM2	Tokmak 2	4.39	63	⇑Pg	Pb	11 07 24.3	-0.4
	1.5nm,0.7s						
TKM2				⇓Lg	Lg	11 08 27.5	
	3.9nm,0.8s						

NEIC 07 11:27:11.0±0.6, **35°.670N**±0°.009×**97°.400W**±0°.009, **h8**km±2km, **mb_Lg2.0**/4, **Error ellipse: s-maj=1.5km s-min=0.6km az=143.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.09	192	Pg	Pg	11 27 12.8	-0.5
OK009				Sg	Sg	11 27 14.6	-0.2
OK005	Luther M Schoo	0.17	95	Pg	Pg	11 27 14.3	-0.2
OK005				Sg	Sg	11 27 17.1	+0.2
OKCFA	Oklahoma City	0.26	189	Pg	Pg	11 27 15.7	-0.5
OKCFA				Sg	Sg	11 27 19.7	+0.1
OKCSW	OKLAHOMA CITY	0.27	187	Pg	Pg	11 27 15.8	-0.5
OKCSW				Sg	Sg	11 27 20.0	+0.2
FNO	Franklin	0.41	180	Pg	Pg	11 27 18.6	-0.5
FNO				Sg	Sg	11 27 24.7	+0.2
W35A	Tecumseh	0.67	140	Pg	Pg	11 27 23.2	-0.8
W35A				Sg	Sg	11 27 32.4	-0.3
X34A	Smith Ranch, M	1.12	199		Pg	11 27 31.7	-0.9
TUL1	Leonard	1.33	79		Pn	11 27 34.0	-1.8
T35A	Sooner Cattle	1.44	30		Pn	11 27 36.5	-0.8
WMOK	Wichita Mounta	1.46	231		Pn	11 27 36.7	-1.0
X37A	Clayton	1.98	122	IAmb_Lg		11 28 15.0	
	comp=Z,8.5nm,1.0s						
HHAR	Hobbs	2.87	77	Pn	Pn	11 27 56.1	-1.0
W39A	Magazine	2.99	98	Pn	Pn	11 27 57.7	-1.0

MIAR	**Mount Ida**	**3.33**	**109**	Pn	Pn	11 28 01.8	-1.6
U40A	**Yellville**	**3.75**	**78**	Pn	Pn	11 28 08.1	-1.1
S39A	**Bolivar**	**3.85**	**57**	Pn	Pn	11 28 09.9	-0.6
X40A	**Basin Creek Fa**	**3.93**	**106**	Pn	Pn	11 28 11.3	-0.2
WHAR	**Wooly Hollow**	**4.19**	**94**	Pn	Pn	11 28 12.2	-2.9
W41B	**Gary Mavity, V**	**4.24**	**95**	Pn	Pn	11 28 16.1	+0.3
MGMO	**Mountain Grove**	**4.40**	**69**	Pn	Pn	11 28 17.8	-0.3
T25A	**Trinidad**	**5.84**	**287**	Pn	Pn	11 28 36.3	-1.8

*NEIC **07** 11:30:06.9±1.6, 15°25N±0°09×147°12E±0°09, h36km±8km, mb4.5/17, Error ellipse: s-maj=13.7km s-min=12.8km az=206.0*
*IDC **07** 11:30:06.2±1.6, 15°00N×145°66E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.3/44, mbtmp3.6/5, Error ellipse: s-maj=58.6km s-min=27.7km az=85.0*
ISC 07 11:30:05.9±0.6**, 15°21N**±0°08×**147°2E**±0°1**, h35**km**, n29,** σ**0s82**/28**, mb4.3**/14**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.74**	**234**	Pn	**Pn**	**11 30 47.8**	**+0.4**
PATS	**Pohnpei**	**13.74**	**126**	Pn	**Pn**	**11 33 17.7**	**-0.8**
ERM	**Erimo**	**26.93**	**353**	P	**P**	**11 35 43.8**	**-0.1**
KSRS	**Korea Array**	**27.96**	**326**	P	**P**	**11 35 54.9**	**+1.7**
	0.4nm,0.7s,baz=137,slow=11,SNR=1.9						
USA0B	**Ussuriysk Arra**	**31.65**	**339**	P	**P**	**11 36 25.5**	**-0.3**
USA0B				IAmb	IAmb	11 36 38.9	
	comp=Z,5.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**31.65**	**339**	P	**P**	**11 36 24.8**	**-1.0**
WB0	**Warramunga Arr**	**36.95**	**200**	P	**P**	**11 37 12.9**	**+0.9**
WB0				IAmb	IAmb	11 37 31.7	
	comp=Z,6.9nm,1.3s						
WR0	**Warramunga Arr**	**37.09**	**200**	P	**P**	**11 37 14.1**	**+1.1**
WR0				IAmb	IAmb	11 37 16.1	
	comp=Z,2.5nm,1.0s						
WRAB	**Tennant Creek**	**37.12**	**200**	P	**P**	**11 37 14.0**	**+0.6**
WRAB				IAmb	IAmb	11 37 36.3	
	comp=Z,6.4nm,1.3s						
WB2	**Warramunga Arr**	**37.13**	**200**	P	**P**	**11 37 14.6**	**+1.1**
WRA	**Warramunga Arr**	**37.14**	**200**	P	**P**	**11 37 13.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=24,slow=9.5,SNR=8.0						
WRA	**Warramunga Arr**	**37.14**	**200**	P	**P**	**11 37 14.6**	**+1.0**
PET	**Petropavlovsk**	**38.81**	**11**	P	**P**	**11 37 27.5**	**+0.3**
PET				IAmb	IAmb	11 37 38.5	
	comp=Z,27nm,1.2s						
FITZ	**Fitzroy Crossi**	**39.31**	**213**	P	**P**	**11 37 31.2**	**-0.6**
FITZ				IAmb	IAmb	11 37 55.0	
	comp=Z,9.9nm,1.5s						
AS31	**Alice Springs**	**40.75**	**199**	P	**P**	**11 37 43.6**	**-0.2**
ASAR	**Alice Springs**	**40.75**	**199**	P	**P**	**11 37 43.8**	**0.0**
ARMA	**Armidale**	**45.57**	**175**	P	**P**	**11 38 23.8**	**+1.1**
ARMA				IAmb	IAmb	11 38 30.9	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**47.12**	**186**	P	**P**	**11 38 35.4**	**+0.7**
XMIS	**Christmas Isla**	**48.40**	**241**	P	**P**	**11 38 45.1**	**+0.1**
BBOO	**Buckleboo**	**48.91**	**192**	P	**P**	**11 38 49.0**	**+0.4**
BBOO				IAmb	IAmb	11 39 16.2	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**49.28**	**202**	P	**P**	**11 38 50.8**	**-0.6**
GIRL	**Giralia**	**49.55**	**221**	P	**P**	**11 38 52.6**	**-1.0**
MKAR	**Makanchi Array**	**61.89**	**315**	P	**P**	**11 40 21.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=90,slow=8.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**64.84**	**319**	P	**P**	**11 40 40.5**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=98,slow=6.7,SNR=12						
DAWY	**Dawson**	**69.20**	**27**	P	**P**	**11 41 09.5**	**+0.6**
DAWY				IAmb	IAmb	11 41 29.9	
	comp=Z,3.1nm,1.2s						
KKAR	**Karatay Array**	**70.07**	**311**	P	**P**	**11 41 14.3**	**-0.4**
C36M	**Paulatuk**	**75.46**	**21**	P	**P**	**11 41 47.4**	**+1.4**
ABKAR	**Akbulak array**	**76.84**	**318**	P	**P**	**11 41 53.4**	**-0.9**
YKA	**Yellowknife Ar**	**80.41**	**28**	P	P	11 42 24.4	+11
	comp=Z,0.1nm,0.4s,baz=283,slow=5.3,SNR=1.5						

*NNC **07** 11:40:53.5±1.5, 50°00N×78°86E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=29.9km s-min=8.3km az=72.0, Suspected Mining explosion.*
*IDC **07** 11:40:54.6±1.1, 50°05N×78°72E, h0km, mb1 3.0/2, mb1mx2.9/43, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=18.9km s-min=6.2km az=68.0*
*ASRS **07** 11:41:02.5±0.7, 50°N±3°×7°9E±°, h5km, MLh3.2/4, Error ellipse: s-maj=7.1km s-min=5.9km az=61.2, confirmed*
ISC 07 11:40:54.6±0.9**, 50°02N**±0°04×**78°74E**±0°04**, h0**km**, n18,** σ**1s95**/32**, 10C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**348**	Pg	**Pg**	**11 41 05.4**	**-1.0**
	1.9nm,0.3s,baz=163,slow=19,SNR=123						
KURBB				Lg	Lg	11 41 15.0	
	2.5nm,0.3s,baz=160,slow=34,SNR=16						
KURBB	**Kurchatov Arra**	**0.62**	**348**	⇑P	**Pg**	**11 41 05.6**	**-0.9**
	21nm,0.3s						
KURBB				⇓S	**Sb**	**11 41 17.1**	**-0.5**
	82nm,0.6s						
KURK	**Kurchatov**	**0.70**	**354**	⇑P	**Pg**	**11 41 06.8**	**-1.2**
	14nm,0.7s						
KURK				⇑S	**Sg**	**11 41 17.3**	**+0.2**
	37nm,0.7s						
MAKZ	**Makanchi**	**3.87**	**145**	⇓Pn	**Pn**	**11 41 55.6**	**+0.3**
	0.4nm,0.5s						
MAKZ				⇑Pg	**Pb**	**11 42 04.5**	**+0.8**
	2.3nm,0.8s						
MAKZ				⇑Lg	Lg	11 42 55.4	
	7.3nm,0.7s						
UKR	**Ust'-Kan**	**3.96**	**74**	Pn	**Pn**	**11 41 57.8**	**+1.1**
UKR				Pg	**Pb**	**11 42 06.1**	**+0.7**
UKR				Sg	**Sb**	**11 42 56.6**	**+2.7**
MK31	**Makanchi Array**	**4.00**	**142**	⇑Pn	**Pn**	**11 41 57.6**	**+0.5**
	0.1nm,0.2s,baz=321,slow=10.0,SNR=49						
MK31				⇑Pg	**Pb**	**11 42 06.6**	**+0.6**
	0.6nm,0.3s,baz=323,slow=15,SNR=22						
MK31				Lg	Lg	11 43 00.5	
	10.0nm,0.6s,baz=327,slow=25,SNR=16						
MKAR	**Makanchi Array**	**4.00**	**142**	Pn	**Pn**	**11 41 57.4**	**+0.2**
	0.3nm,0.3s,baz=321,slow=10,SNR=69						
MKAR				Pg	**Pb**	**11 42 05.9**	**0.0**
	1.1nm,0.3s,baz=326,slow=15,SNR=21						
MKAR				Sn	**Sn**	**11 42 45.6**	**+0.8**
	0.4nm,0.3s,baz=325,slow=10,SNR=3.5						
MKAR				Lg	Lg	11 42 60.0	
	1.9nm,0.3s,baz=345,slow=27,SNR=10						
OTUK	**Ortayu**	**4.56**	**250**	⇑Pn	**Pn**	**11 42 05.1**	**+0.3**
	0.1nm,0.1s						
OTUK				⇑Pg	**Pb**	**11 42 15.2**	**-0.2**
	1.0nm,0.6s						
OTUK				⇑Lg	Lg	11 43 19.5	
	5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**5.44**	**41**	Pn	**Pn**	**11 42 17.9**	**+1.0**
	1.1nm,0.3s,baz=232,slow=14,SNR=15						
ZALV				Sn	**Sn**	**11 43 23.3**	**+3.2**
	0.3nm,0.3s,baz=231,slow=23,SNR=1.7						
ZALV				Lg	Lg	11 43 48.1	
	0.3nm,0.3s,baz=223,slow=28,SNR=4.0						
I46RU	**ZALESOVO INFRA**	**5.44**	**41**	*i*		12 14 40.0	
	baz=222,slow=342,SNR=2.1						
NVS	**Novosibirsk**	**5.56**	**28**	Sg	**Sg**	**11 43 49.0**	**-4.0**
NVSII	**Novosibirsk**	**5.56**	**28**	Sg	**Sg**	**11 43 54.4**	**+1.4**
CHBI	**Chibit, Altay**	**5.64**	**84**	Pn	**Pn**	**11 42 19.5**	**-0.3**
CHBI				Sg	**Sg**	**11 43 55.5**	**-0.2**
ELT	**Eltsovka**	**5.69**	**52**	Sg	**Sg**	**11 43 52.7**	**-4.5**
ARTR	**Artybash**	**5.69**	**68**	Pn	**Pn**	**11 42 21.4**	**+1.1**
ARTR				Sg	**Sg**	**11 43 52.4**	**-4.9**
AKAR	**Aktash**	**5.72**	**84**	Pn	**Pn**	**11 42 21.5**	**+0.7**
AKAR				Sg	**Sg**	**11 43 55.8**	**-2.3**
ULGR	**Ulagan, Altay**	**5.94**	**81**	Pn	**Pn**	**11 42 25.3**	**+1.4**
ULGR				Sg	**Sg**	**11 44 01.9**	**-3.4**
CUR	**Chagan-Uzun**	**6.19**	**86**	Pn	**Pn**	**11 42 27.5**	**+0.2**
CUR				Sg	**Sg**	**11 44 12.0**	**-1.4**

*BJI **07** 11:43:33.8±0.0, 1°96N×128°88E, h133km, mb5.1/73, mB5.2/50*
*DJA **07** 11:43:40.9±0.2, 2°N±2°×12°8E±°, h122km±2km, M4.9/64, mb4.9/64, mB5.4/49, MLv5.5/19, Mw(mB)4.9/49, MwMwp4.8/8, Mwp5.1/8*
*NEIC **07** 11:43:41.1±1.6, 2°41N±0°07×128°36E±0°08, h130km±5km, mb5.0/136, Error ellipse: s-maj=12.4km s-min=9.8km az=78.0*
*MOS **07** 11:43:41.2±0.9, 2°46N×128°31E, h152km, mb5.1/52, Error ellipse: s-maj=8.5km s-min=4.8km az=114.1*
*IDC **07** 11:43:41.2±0.5, 2°44N×128°39E, h141km±4km, mb4.4/34, mb1 4.4/40, mb1mx4.4/44, mbtmp4.8/40, MS3.7/37, Ms1 3.7/37, ms1mx3.5/75, Error ellipse: s-maj=10.4km s-min=6.1km az=69.0*
*GCMT **07** 11:43:43.1±0.2, 2°54N±0°01×128°32E±0°01, h136km±1km, MW5.2/127, Moment Tensor Solution. s79,c103; s127,c222; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr3.20±.14; Mθθ2.17±.14; Mφφ-5.36±.15; Mrθ3.27±.10; Mθφ1.68±.15; Mφr4.73±.12; Best double couple: M0 7.59500×10^16 NP1:φs135.00000°, δ35.00000°, λ26.00000°. NP2:φs23.00000°, δ75.00000°, λ122.00000°. Principal axes: T 7.7250, Plg49.0000°, Azm328.0000°; N -0.2510, Plg31.0000°, Azm194.0000°; P -7.4640, Plg24.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 11:43:41.3±0.3**, 2°43N**±0°03×**128°33E**±0°04**, h141**km±2km**, h141**km**:pP-P, n669,** σ**1s29**/709**, mb5.0**/157**, 89C-34D, Fault plane solution: NP1:**φs103.45986°, δ49.01513°, λ-16.66544°. **NP2:**φs204.56781°, δ77.49720°, λ-137.79456°. **Principal axes:** T Plg18.1004°, Azm328.0071°; N Plg46.3172°, Azm217.9935°; P Plg38.0859°, Azm72.8494°; **Fault plane solution: NP1:**φs85.90590°, δ21.51132°, λ5.48021°. **NP2:** φs350.80533°, δ87.99314°, λ111.42193°. **Principal axes:** T Plg43.0484°, Azm281.5009°; N Plg21.4081°, Azm170.0182°; P Plg39.2785°, Azm61.3158°; **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.91**	**210**	Pn	**Pn**	**11 44 14.2**	**-0.6**
TNTI	**Ternate**	**1.91**	**210**	P	**Pn**	**11 44 14.6**	**-0.2**
TNTI	**Ternate**	**1.91**	**210**	P	**Pn**	**11 44 14.7**	**-0.1**
SGSI	**Sangihe**	**3.07**	**294**	P	**Pn**	**11 44 28.3**	**-0.9**
LBMI	**Labuha**	**3.15**	**195**	P	**Pn**	**11 44 29.8**	**-0.5**
MNI	**Manado**	**3.62**	**254**	P	**Pn**	**11 44 35.5**	**-0.9**
SWI	**Sorong**	**4.38**	**138**	P	**Pn**	**11 44 47.0**	**+0.6**
SWI	**Sorong**	**4.38**	**138**	P	**Pn**	**11 44 46.6**	**+0.2**
SIJI	**Sorong**	**4.39**	**138**	P	**Pn**	**11 44 47.0**	**+0.4**
	65nm,0.3s,baz=221,slow=23,SNR=145						
SIJI				S	**Sn**	**11 45 36.5**	**-0.9**
	34nm,0.3s,baz=173,slow=22,SNR=9.4						
KMSI	**Cibinong**	**4.72**	**247**	P	**Pn**	**11 44 50.0**	**-0.9**
MATI	**Mati**	**4.95**	**335**	⇓*e*P	**Pn**	**11 44 55.3**	**+1.4**
MATI				*e*S	**Sn**	**11 45 50.0**	**-0.5**
GSPH	**General Santos**	**4.96**	**317**	⇑*e*P	**Pn**	**11 44 53.2**	**-1.1**
GSPH				*i* S	**Sn**	**11 45 45.3**	**-5.7**
SANI	**Sanana**	**5.03**	**208**	P	**Pn**	**11 44 53.5**	**-1.5**
	1.7nm6μm279nm,0.7s						
DAV	**Davao City (W)**	**5.37**	**329**	P	**Pn**	**11 45 00.6**	**+1.1**
	108nm,0.3s,baz=134,slow=1.7,SNR=14						
DAV				S	**Sn**	**11 46 03.1**	**+2.5**
	69nm,0.3s,baz=90,slow=23,SNR=3.7						
DAV				LR	LR	11 46 34.3	
	comp=Z,1μm,18.9s,baz=135,slow=32						
DAV	**Davao City (W)**	**5.37**	**329**	Pn	**Pn**	**11 45 00.9**	**+1.4**
DAV	**Davao City (W)**	**5.37**	**329**	P	**Pn**	**11 45 01.0**	**+1.4**
KCP	**Kidapawan**	**5.58**	**325**	⇑*i*P	**Pn**	**11 45 01.6**	**-0.9**
KCP				*i* S	**Sn**	**11 46 06.9**	**+1.1**
GTOI	**Gorontalo**	**5.61**	**252**	P	**Pn**	**11 45 02.8**	**+0.1**
	5.7nm3μm13μm1μm,0.7s						
MSAI	**Masohi**	**5.76**	**174**	P	**Pn**	**11 45 05.9**	**+1.1**
	0.4nm1μm105nm,0.9s						
BIPH	**Bislig**	**6.05**	**341**	⇑*e*P	**Pn**	**11 45 09.9**	**+1.3**
BIPH				*e*S	Sn	11 46 06.2	-11
AAI	**Ambon**	**6.07**	**181**	P	**Pn**	**11 45 10.6**	**+1.6**
AAI				pmax	pmax		
	comp=Z,332nm,0.8s						
AAI	**Ambon**	**6.07**	**181**	P	**Pn**	**11 45 08.4**	**-0.6**
	comp=Z,0.9nmcomp=Z,4μmcomp=Z,333nm,1.0s						
CTBH	**Cotabato--PC H**	**6.27**	**320**	⇑*i*P	**Pn**	**11 45 09.8**	**-1.8**
CTBH				*i* S	**Sn**	**11 46 19.8**	**-2.3**
LUWI	**Luwuk**	**6.54**	**238**	Pn	**Pn**	**11 45 13.5**	**-1.7**
LUWI	**Luwuk**	**6.54**	**238**	P	**Pn**	**11 45 15.0**	**-0.2**
	comp=Z,9.2nmcomp=Z,4μmcomp=Z,11μmcomp=Z,959nm,0.9s						
LUWI	**Luwuk**	**6.54**	**238**	P	**Pn**	**11 45 16.2**	**+1.0**
FAKI	**Fak Fak**	**6.60**	**144**	Pn	**Pn**	**11 45 16.9**	**+1.0**
FAKI	**Fak Fak**	**6.60**	**144**	P	**Pn**	**11 45 17.4**	**+1.4**
	comp=Z,2.0nmcomp=Z,7μmcomp=Z,667nm,1.1s						
FAKI	**Fak Fak**	**6.60**	**144**	P	**Pn**	**11 45 17.7**	**+1.7**
MRSI	**Marisa**	**6.68**	**253**	P	**Pn**	**11 45 16.4**	**-0.6**
	comp=Z,9.6nmcomp=Z,5μmcomp=Z,34μmcomp=Z,4μm,1.4s						
BNDI	**Bandanaira**	**7.08**	**167**	P	**Pn**	**11 45 26.1**	**+3.7**
PAGZ	**Pagadian**	**7.30**	**318**	⇓*e*P	**Pn**	**11 45 24.5**	**-1.0**
APSI	**Ampana**	**7.46**	**244**	P	**Pn**	**11 45 26.1**	**-1.4**
	comp=Z,2.6nmcomp=Z,3μmcomp=Z,6μmcomp=Z,516nm,0.8s						
GLSP	**General Luna,**	**7.63**	**343**	⇓*e*P	**Pn**	**11 45 27.4**	**-2.5**
TOLI2	**Tolitoli**	**7.66**	**260**	Pn	**Pn**	**11 45 28.4**	**-1.8**
TOLI2	**Tolitoli**	**7.66**	**260**	P	**Pn**	**11 45 29.5**	**-0.7**
ZCP	**Zamboanga City**	**7.68**	**306**	⇑*i*P	**Pn**	**11 45 29.5**	**-1.0**
ZCP				*i* S	**Sn**	**11 46 50.0**	**-6.0**
I39PW	**PALAU INFRASON**	**8.00**	**50**	*i*		12 33 00.0	
	baz=229,slow=306,SNR=1.3						
TBP	**Tagbilaran**	**8.48**	**329**	*e*P	**Pn**	**11 45 38.2**	**-2.9**
MPSI	**Mapaga**	**8.68**	**256**	P	**Pn**	**11 45 44.3**	**+0.3**
	comp=Z,4μmcomp=Z,3μmcomp=Z,256nm,0.8s						
SRPI	**Serui, Papua**	**8.98**	**118**	P	**Pn**	**11 45 48.9**	**+0.9**
	comp=Z,1μmcomp=Z,143nm,0.6s						
TTSI	**Tana Toraja**	**10.10**	**237**	P	**Pn**	**11 46 01.8**	**-1.1**
	comp=Z,2μmcomp=Z,7μmcomp=Z,729nm,0.8s						
RCP	**Roxas**	**10.63**	**329**	⇑*e*P	**Pn**	**11 46 10.1**	**+0.1**
BNSI	**Bone**	**10.66**	**230**	P	**Pn**	**11 46 09.2**	**-1.1**
	comp=Z,4μmcomp=Z,560nm,1.0s						
SPSI	**Sidrap Palu**	**10.66**	**233**	P	**Pn**	**11 46 10.5**	**+0.2**
	comp=Z,7μmcomp=Z,590nm,0.7s						
BKSI	**Bulukumba**	**11.25**	**227**	P	**Pn**	**11 46 18.1**	**0.0**
	comp=Z,3μmcomp=Z,288nm,0.6s						
KAPI	**Kappang**	**11.32**	**229**	P	**Pn**	**11 46 19.2**	**+0.2**
	comp=Z,38nm,0.3s,baz=354,slow=6.1,SNR=46						
KAPI				S	**Sn**	**11 48 19.4**	**-4.7**
	comp=Z,1.7nm,0.3s,baz=112,slow=22,SNR=8.6						
KAPI	**Kappang**	**11.32**	**229**	P	**Pn**	**11 46 18.5**	**-0.6**
KAPI	**Kappang**	**11.32**	**229**	Pn	**Pn**	**11 46 18.5**	**-0.6**
KAPI	**Kappang**	**11.32**	**229**	P	**Pn**	**11 46 21.4**	**+2.4**
BSSI	**Bau Bau, Buton**	**11.57**	**223**	P	**Pn**	**11 46 22.4**	**+0.1**
	comp=Z,1μmcomp=Z,99nm,0.9s						
KKM	**Kota Kinabalu**	**12.61**	**287**	Pn	**Pn**	**11 46 38.5**	**+2.6**
KKM	**Kota Kinabalu**	**12.61**	**287**	P	**Pn**	**11 46 36.6**	**+0.6**
GENI	**Genyem**	**12.84**	**113**	P	**Pn**	**11 46 39.3**	**+0.4**
	comp=Z,3μmcomp=Z,176nm,1.8s						
GENI	**Genyem**	**12.84**	**113**	P	**Pn**	**11 46 41.2**	**+2.3**
PGP	**Puerto Galera**	**13.21**	**327**	⇑*e*P	**Pn**	**11 46 43.4**	**-0.2**
JAY	**Jayapura**	**13.31**	**112**	P	**Pn**	**11 46 45.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=323,slow=17,SNR=1.9						
BATI	**Baumata**	**13.38**	**200**	P	**Pn**	**11 46 47.0**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=327,slow=23,SNR=2.3						
BATI				LR	LR	11 52 24.2	
	comp=Z,292nm,19.7s,baz=32,slow=39						
KBKI	**Kotabaru**	**13.43**	**245**	P	**Pn**	**11 46 46.6**	**+0.2**
	comp=Z,1μmcomp=Z,159nm,1.0s						
TGY	**Tagaytay City**	**13.71**	**328**	P	**Pn**	**11 46 50.1**	**0.0**
	comp=Z,22nm,0.3s,baz=298,slow=1.9,SNR=7.4						
MTKI	**Muara Teweh, K**	**13.84**	**256**	P	**Pn**	**11 46 52.2**	**+0.4**
WBSI	**Waikabubak, Su**	**14.93**	**216**	P	**Pn**	**11 47 06.1**	**+0.6**
	comp=Z,892nmcomp=Z,114nm,1.0s						
PLAI	**Plampang**	**15.35**	**223**	P	**P**	**11 47 12.6**	**+0.4**
	comp=Z,1μmcomp=Z,96nm,1.1s						
KDU	**Kakadu**	**15.57**	**165**	P	**Pn**	**11 47 12.3**	**-1.0**
	baz=16,SNR=9.1						
KDU	**Kakadu**	**15.57**	**165**	P	**P**	**11 47 14.8**	**+0.3**
SRBI	**Singaraja**	**16.74**	**231**	P	**Pn**	**11 47 29.6**	**+1.9**
	comp=Z,1μmcomp=Z,121nm,1.0s						
STKI	**Sintang**	**17.01**	**262**	P	**Pn**	**11 47 31.7**	**+0.7**
	comp=Z,29nm,0.7s						
KMMI	**Kalianget**	**17.15**	**237**	P	**Pn**	**11 47 34.8**	**+2.1**
	comp=Z,2μmcomp=Z,71nm,0.7s						
ABJI	**Asem Bagus**	**17.35**	**234**	P	**Pn**	**11 47 36.4**	**+1.4**
	comp=Z,89nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.81**	**232**		**Pn**	**11 47 42.0**	**+1.5**
JAGI				IAmb	IAmb	11 48 11.1	
	comp=Z,83nm,1.1s						
JAGI	**Jajag, Banyuwa**	**17.81**	**232**	P	**Pn**	**11 47 41.5**	**+1.0**
	comp=Z,2μmcomp=Z,62nm,0.8s						
BLJI	**Banyuglugur**	**17.84**	**235**	P	**Pn**	**11 47 41.8**	**+0.9**
	comp=Z,1μmcomp=Z,68nm,0.6s						
KNRA	**Kununurra**	**17.99**	**179**	P	**Pn**	**11 47 42.1**	**-0.5**
	baz=18,SNR=5.9						
KNRA	**Kununurra**	**17.99**	**179**	P	**P**	**11 47 41.6**	**+0.4**
KNRA				IAmb	IAmb	11 48 07.5	
	comp=Z,82nm,1.4s						
KNRA	**Kununurra**	**17.99**	**179**	P	**Pn**	**11 47 42.2**	**-0.5**
KSM	**Kuching**	**18.04**	**267**	P	**Pn**	**11 47 43.6**	**+0.3**
KSM				IAmb	IAmb	11 47 45.7	
	comp=Z,90nm,1.2s						
KSM	**Kuching**	**18.04**	**267**	P	**Pn**	**11 47 44.7**	**+1.4**
	comp=Z,68nm,1.5s						
GMJI	**Gumukmas**	**18.26**	**234**	P	**Pn**	**11 47 46.4**	**+0.5**
	comp=Z,2μmcomp=Z,101nm,1.1s						
MANU	**Manus Island**	**19.54**	**103**	P	**Pn**	**11 48 00.4**	**-0.5**
GUMO	**Guam**	**19.76**	**55**	LR	LR	11 54 06.7	
	comp=Z,273nm,21.3s,baz=241,slow=32						
PCJI	**Pacitan**	**20.10**	**238**	P	Pn	11 48 06.4	-1.1
	comp=Z,201nm,0.9s						
SMRI	**Semarang**	**20.19**	**242**	P	**P**	**11 48 05.7**	**+0.5**
SMRI				IAmb	IAmb	11 48 11.2	
	comp=Z,85nm,0.9s						
UGM	**Wanagama**	**20.52**	**240**	P	Pn	11 48 11.4	-1.1
UGM				IAmb	IAmb	11 48 14.0	
	comp=Z,80nm,0.9s						
UGM	**Wanagama**	**20.52**	**240**	P	Pn	11 48 10.9	-1.6
	comp=Z,111nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.57**	**187**	P	**P**	**11 48 08.2**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=6.4,slow=12,SNR=17						
FITZ				pP	**pP**	**11 48 35.0**	**+0.6**
	comp=Z,18nm,0.8s,baz=3.3,slow=12,SNR=11						
FITZ				LR	LR	11 56 05.4	
	comp=Z,192nm,21.1s,baz=7.5,slow=36						
FITZ	**Fitzroy Crossi**	**20.57**	**187**	P	**P**	**11 48 10.3**	**+1.1**
	baz=21,SNR=20						
TPI	**Tanjungpandan**	**21.30**	**256**	P	**P**	**11 48 18.3**	**+1.2**
	comp=Z,27nm,1.0s						
TWG	**Pinlang**	**21.46**	**341**	P	**P**	**11 48 17.3**	**-1.4**
TWG				IAmb	IAmb	11 48 26.2	
	comp=Z,43nm,0.5s						
KPJI	**Karang Pucung**	**21.65**	**243**	P	**P**	**11 48 22.3**	**+1.5**
	comp=Z,37nm,0.8s						
YULB	**Yu-li**	**21.93**	**342**	P	**P**	**11 48 22.9**	**-0.7**
COEN	**Coen**	**21.94**	**138**	P	**P**	**11 48 23.0**	**-0.8**
COEN	**Coen**	**21.94**	**138**	P	**P**	**11 48 25.9**	**+2.0**
TPUB	**Ta-pu**	**22.05**	**341**	P	**P**	**11 48 23.5**	**-1.5**
TPUB	**Ta-pu**	**22.05**	**341**	P	**P**	**11 48 24.5**	**-0.4**
PMG	**Port Moresby**	**22.14**	**122**	P	**P**	**11 48 25.5**	**-0.4**
	comp=Z,14nm,1.0s,baz=294,slow=13,SNR=2.4						
PMG	**Port Moresby**	**22.14**	**122**	*i* P	**P**	**11 48 25.9**	**+0.1**
PMG				pmax	pmax		
	comp=Z,19nm,1.1s						
PMG	**Port Moresby**	**22.14**	**122**	P	**P**	**11 48 24.9**	**-0.9**
SSLB	**Suanglung**	**22.41**	**342**	P	**P**	**11 48 27.2**	**-1.2**
SSLB				IAmb	IAmb	11 48 29.8	
	comp=Z,56nm,0.9s						
SSLB	**Suanglung**	**22.41**	**342**	P	**P**	**11 48 29.5**	**+1.1**
YOJ	**Yonaguni jima**	**22.50**	**347**	P	**P**	**11 48 29.0**	**-0.3**
YOJ				pmax	pmax		
	comp=Z,119nm,1.2s						
YOJ	**Yonaguni jima**	**22.50**	**347**	P	**P**	**11 48 29.0**	**-0.3**
YOJ				IAmb	IAmb	11 48 36.6	
	comp=Z,119nm,1.2s						
NACB	**Ninganchiao**	**22.58**	**344**	P	**P**	**11 48 30.3**	**+0.2**
LEM	**Lembang**	**22.63**	**246**	P	**P**	**11 48 30.7**	**-0.1**
	comp=Z,25nm,0.6s,baz=85,slow=7.6,SNR=15						
LEM				S	**S**	**11 52 28.4**	**0.0**
	comp=Z,12nm,0.4s,baz=144,slow=22,SNR=1.4						
LEM	**Lembang**	**22.63**	**246**	P	**P**	**11 48 33.2**	**+2.4**
LEM				pmax	pmax		
	comp=Z,62nm,1.7s						
WRAB	**Tennant Creek**	**22.99**	**165**	*i* P	**P**	**11 48 33.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**22.99**	**165**	P	**P**	**11 48 34.7**	**+0.7**
WRA	**Warramunga Arr**	**23.00**	**165**	P	**P**	**11 48 34.0**	**0.0**
	comp=Z,4.8nm,0.3s,baz=346,slow=11,SNR=141						
WRA				pP	**pP**	**11 49 01.2**	**+0.7**
	comp=Z,29nm,0.6s,baz=344,slow=10,SNR=6.5						
WRA				S	**S**	**11 52 33.9**	**0.0**
	comp=Z,2.0nm,0.9s,baz=2.9,slow=7.1,SNR=2.2						
WRA				ScP	**ScP**	**11 55 43.9**	**-0.6**
	comp=Z,6.4nm,0.8s,baz=343,slow=3.1,SNR=16						
WRA				LR	LR	11 58 40.9	
	comp=Z,172nm,18.0s,baz=349,slow=39						
WRA	**Warramunga Arr**	**23.00**	**165**	*i* P	**P**	**11 48 34.0**	**0.0**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WB2	**Warramunga Arr**	**23.00**	**165**	P	**P**	**11 48 33.8**	**-0.3**
	baz=23						
YHNB	**Yeheng**	**23.11**	**344**	P	**P**	**11 48 34.9**	**-0.2**
YHNB	**Yeheng**	**23.11**	**344**	P	**P**	**11 48 35.2**	**+0.1**
CNJI	**Cibinong**	**23.26**	**245**	P	**P**	**11 48 38.3**	**+1.8**
	comp=Z,1μmcomp=Z,111nm,1.0s						
KNMB	**Chin-men Tao**	**23.92**	**337**	P	**P**	**11 48 43.0**	**+0.6**
HKPS	**Hong Kong Po S**	**24.07**	**326**	P	**P**	**11 48 45.0**	**+1.2**
JOW	**Kunigami**	**24.27**	**360**	P	**P**	**11 48 44.9**	**-0.7**
	comp=Z,24nm,0.7s,baz=147,slow=20,SNR=7.7						
JOW				LR	LR	11 57 31.6	
	comp=Z,166nm,20.5s,baz=146,slow=34						
JOW	**Kunigami**	**24.27**	**360**	P	**P**	**11 48 46.1**	**+0.6**
JOW				IAmb	IAmb	11 48 46.4	
	comp=Z,34nm,0.9s						
JOW	**Kunigami**	**24.27**	**360**	P	**P**	**11 48 46.1**	**+0.6**
QZH	**Quanzhou**	**24.28**	**338**	⇑*i*P	**P**	**11 48 46.4**	**+0.8**
QZH				sP	**sP**	**11 49 27.1**	**-3.7**
QZH				S	**S**	**11 52 56.5**	**+2.1**
QZH				sS	**sS**	**11 53 42.9**	**-3.3**
QZH				pmax	pmax		
	comp=Z,69nm,1.1s						
QZH				pmax	pmax		
	comp=Z,550nm,5.8s						
CGJI	**Cibinong**	**24.32**	**248**	P	**P**	**11 48 47.6**	**+1.4**
	comp=Z,2μmcomp=Z,96nm,1.1s						
BLSI	**Bandar Lampung**	**24.33**	**251**	P	**P**	**11 48 48.5**	**+2.3**
	comp=Z,81nm,0.8s						
MYKOM	**Kota Tinggi**	**24.48**	**269**	P	**P**	**11 48 49.5**	**+1.9**
MYKOM				IAmb	IAmb	11 48 51.1	
	comp=Z,58nm,1.2s						
QIZ	**Qiongzhong**	**24.49**	**314**	P	**P**	**11 48 49.6**	**+1.9**
QIZ				IAmb	IAmb	11 48 50.5	
	comp=Z,71nm,1.0s						
QIZ	**Qiongzhong**	**24.49**	**314**	P	**P**	**11 48 48.8**	**+1.1**
QIZ				sP	**sP**	**11 49 32.4**	**0.0**
QIZ				S	**S**	**11 53 03.8**	**+5.8**
QIZ				pmax	pmax		
	comp=Z,64nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,550nm,3.3s						
QIZ				LR	LR		
	comp=Z,420nm,13.7s						
QIZ				LR	LR		
	comp=Z,320nm,19.6s						
QIZ				LR	LR		
	comp=Z,370nm,23.1s						
QIZ	**Qiongzhong**	**24.49**	**314**	P	**P**	**11 48 49.4**	**+1.7**
	comp=Z,82nm,1.3s						
MDSI	**Maura Dua**	**25.09**	**254**	P	**P**	**11 48 55.1**	**+1.9**
	comp=Z,556nmcomp=Z,21nm,1.4s						
PSA00	**Pilbara Seismi**	**25.25**	**199**	P	**P**	**11 48 54.4**	**-0.1**
QIS	**Mount Isa**	**25.37**	**155**	P	**P**	**11 48 56.0**	**+0.4**
	baz=26,SNR=54						
QIS	**Mount Isa**	**25.37**	**155**	P	**P**	**11 48 56.8**	**+1.1**
MTSU	**Mount Surprise**	**25.79**	**143**	P	**P**	**11 49 00.2**	**+0.7**
	baz=26,SNR=12						
MTSU	**Mount Surprise**	**25.79**	**143**	P	**P**	**11 49 03.1**	**+3.6**
XMIS	**Christmas Isla**	**25.96**	**240**	P	**P**	**11 49 00.8**	**-0.2**
XMIS				IAmb	IAmb	11 49 12.4	
	comp=Z,31nm,0.8s						
AS31	**Alice Springs**	**26.49**	**168**	P	**P**	**11 49 06.2**	**+0.5**
ASAR	**Alice Springs**	**26.50**	**168**	P	**P**	**11 49 05.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=347,slow=7.5,SNR=40						
ASAR				PcP	**PcP**	**11 52 27.9**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=342,slow=2.1,SNR=1.3						
ASAR				ScP	**ScP**	**11 55 53.9**	**-0.4**
	comp=Z,10nm,0.9s,baz=349,slow=2.4,SNR=25						
ASAR	**Alice Springs**	**26.50**	**168**	P	**P**	**11 49 05.9**	**+0.1**
ASAR	**Alice Springs**	**26.50**	**168**	P	**P**	**11 49 05.9**	**+0.1**
MASI	**Maura Aman, Be**	**26.66**	**258**	P	**P**	**11 49 09.0**	**+1.6**
	comp=Z,2μmcomp=Z,85nm,0.8s						
WRKA	**Warakurna**	**27.30**	**180**	P	**P**	**11 49 13.6**	**+0.7**
	baz=28,SNR=12						
IPM	**Ipoh**	**27.33**	**275**	P	**P**	**11 49 13.4**	**+0.1**
IPM				IAmb	IAmb	11 49 24.6	
	comp=Z,38nm,1.5s						
IPM	**Ipoh**	**27.33**	**275**	P	**P**	**11 49 15.8**	**+2.4**
	comp=Z,17nm,1.4s						
BKNI	**Bangkinang**	**27.36**	**266**	P	**P**	**11 49 14.3**	**+0.6**
KULM	**Kulim**	**27.76**	**277**	P	**P**	**11 49 17.9**	**+0.8**
KULM				IAmb	IAmb	11 49 19.9	
	comp=Z,31nm,1.4s						
CTA	**Charters Tower**	**28.46**	**143**	P	**P**	**11 49 24.2**	**+0.9**
	comp=Z,4.7nm,0.8s,baz=310,slow=11,SNR=3.1						

CTA LR LR 12 01 38.4
comp=Z,179nm,18.2s,baz=320,slow=38
SRIT Nakonsritamara 29.23 283 P **P** **11 49 31.0 +0.8**
SRIT IAmb IAmb 11 49 33.7
comp=Z,41nm,1.4s
PSI Prapat 29.38 271 P **P** **11 49 32.0 +0.3**
comp=Z,23nm,1.1s,baz=112,slow=4.5,SNR=15
PSI pP **pwP** **11 50 03.2 -1.0**
comp=Z,8.8nm,0.8s,baz=83,slow=7.2,SNR=2.7
PSI Prapat 29.38 271 P **P** **11 49 31.6 -0.1**
PSI pmax pmax
comp=Z,43nm,1.2s
RPSI Rantau Prapat 29.38 271 P **P** **11 49 31.6 +0.1**
RPSI IAmb IAmb 11 49 33.5
comp=Z,43nm,1.2s
JNU Nakatsue 30.63 4 P **P** **11 49 41.7 -0.7**
JNU Nakatsue 30.63 4 P **P** **11 49 42.9 +0.6**
GSI Gunungsitoli 30.76 268 P **P** **11 49 44.2 +0.5**
comp=Z,94nm,1.2s
GSI Gunungsitoli 30.76 268 P **P** **11 49 44.2 +0.5**
comp=Z,95nm,1.2s
NJ2 Nanjing 30.79 344 ⇑P **P** **11 49 44.3 +0.6**
NJ2 pmax pmax
comp=Z,16nm,0.8s
WHN Wuhan 30.94 336 ⇑P **P** **11 49 46.5 +1.4**
WHN S S 11 54 51.7 +13
WHN pmax pmax
comp=Z,780nm,3.9s
WHN LR LR
comp=Z,700nm,20.7s
QLP Quilpie 32.67 153 P **P** **11 50 00.0 -0.3**
baz=33,SNR=6.5
QLP Quilpie 32.67 153 P **P** **11 50 01.3 +1.0**
JHS Saijyo 32.71 7 P **P** **11 50 00.2 -0.3**
JHS IAmb IAmb 11 50 02.5
comp=Z,44nm,1.0s
CM31 Chiang Mai Arr 32.91 301 P **P** **11 50 04.1 +1.6**
CM31 IAmb IAmb 11 50 05.6
comp=Z,40nm,1.0s
CM31 Chiang Mai Arr 32.91 301 P **P** **11 50 04.7 +2.2**
SNR=21
CMAR Chiang Mai Arr 32.91 301 P **P** **11 50 03.9 +1.4**
comp=Z,11nm,0.8s,baz=120,slow=7.3,SNR=76
CMAR PcP **PcP** **11 52 45.0 +1.2**
comp=Z,1.5nm,0.3s,baz=157,slow=1.3,SNR=4.7
CMAR ScP **ScP** **11 56 16.0 +0.9**
comp=Z,5.6nm,0.8s,baz=145,slow=2.3,SNR=25
CMAR Chiang Mai Arr 32.91 301 P **P** **11 50 03.7 +1.2**
ENH Enshi 32.96 329 P **P** **11 50 03.2 +0.5**
FORT Forrest 33.02 180 P **P** **11 50 03.8 +0.5**
FORT IAmb IAmb 11 50 08.2
comp=Z,27nm,0.9s
CHTO Chiang Mai 33.06 302 P **P** **11 50 04.5 +0.7**
CHTO pmax pmax
comp=Z,43nm,0.9s
CHTO Chiang Mai 33.06 302 P **P** **11 50 04.5 +0.7**
CHTO Chiang Mai 33.06 302 P **P** **11 50 06.6 +2.8**
KMI Kunming 33.43 315 ⇑P **P** **11 50 09.0 +1.8**
KMI pmax pmax
comp=Z,67nm,1.4s
KMI pmax pmax
comp=Z,320nm,4.5s
KMI LR LR
comp=Z,330nm,21.6s
KMI LR LR
comp=Z,230nm,20.6s
KMI LR LR
comp=Z,210nm,19.6s
MORW Morawa 33.46 200 P **P** **11 50 06.7 -0.4**
baz=34,SNR=7.0
INU Inuyama 33.74 13 P **P** **11 50 08.9 -0.5**
INU IAmb IAmb 11 50 09.7
comp=Z,38nm,0.9s
INU Inuyama 33.74 13 P **P** **11 50 09.6 +0.2**
TJN Taejon 33.80 359 *ce*P **P** **11 50 08.6 -1.3**
TJN Taejon 33.80 359 P **P** **11 50 09.6 -0.3**
TJN Taejon 33.80 359 P **P** **11 50 10.1 +0.2**
comp=Z,198nm,2.9s
BLDU Ballidu 34.68 198 P **P** **11 50 17.0 -0.6**
baz=35,SNR=12
KSAR Wonju Array Be 34.85 359 P **P** **11 50 19.1 +0.1**
KSAR Wonju Array Be 34.85 359 P **P** **11 50 19.1 +0.1**
KSRS Korea Array 34.86 359 P **P** **11 50 18.9 -0.1**
comp=Z,14nm,0.7s,baz=177,slow=10,SNR=65
KSRS PcP **PcP** **11 52 49.7 +0.7**
comp=Z,1.7nm,0.7s,baz=180,slow=2.4,SNR=5.7
KSRS ScP **ScP** **11 56 21.1 -0.4**
comp=Z,1.5nm,0.7s,baz=173,slow=3.3,SNR=7.1
KSRS LR LR 12 05 35.1
comp=Z,43nm,18.9s,baz=200,slow=38
KS19 Wonju Array Si 34.91 359 P **P** **11 50 19.2 -0.3**
KS19 IAmb IAmb 11 50 20.1
comp=Z,32nm,1.1s
PZH PanZhiHua 34.99 316 P **P** **11 50 21.0 +0.5**
PZH pP **pP** **11 50 51.2 +1.1**
PZH sP **sP** **11 51 11.9 +6.1**
PZH PcP **PcP** **11 52 48.0 -1.8**
PZH S **S** **11 55 44.4 +2.1**
PZH ScP **ScP** **11 56 22.9 +0.5**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,270nm,4.7s
MJAR Matsushiro Arr 35.15 14 P **P** **11 50 19.9 -1.7**
comp=Z,24nm,0.7s,baz=186,slow=9.4,SNR=39
MJAR PcP **PcP** **11 52 49.3 -0.6**
comp=Z,1.2nm,0.4s,baz=122,slow=7.3,SNR=4.2
MJAR LR LR 12 02 35.3
comp=Z,127nm,20.4s,baz=201,slow=32
MJAR Matsushiro Arr 35.15 14 P **P** **11 50 20.4 -1.2**
MJAR pmax pmax
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 35.15 14 P **P** **11 50 20.4 -1.2**
MJAR IAmb IAmb 11 50 22.2
comp=Z,20nm,1.1s
MAJO Matsushiro 35.15 14 *i*P **P** **11 50 19.4 -2.2**
MAJO pmax pmax
comp=Z,104nm,1.7s
MAJO Matsushiro 35.15 14 P **P** **11 50 20.6 -1.0**
MAT Matsushiro 35.15 14 P **P** **11 50 19.7 -1.9**
MJB9 Matsu-Tunnel 35.16 14 P **P** **11 50 20.6 -1.0**
LYN LuoYang 35.22 337 ⇑P **P** **11 50 22.7 +0.5**
LYN sP sP 11 51 09.9 +2.3
LYN S **S** **11 55 46.4 +1.1**
LYN SS **SnSn** **11 58 14.3 -5.1**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,230nm,8.1s
KLBR Kellerberrin 35.29 196 P **P** **11 50 22.7 -0.2**
baz=36,SNR=9.7
BBOO Buckleboo 35.80 169 P **P** **11 50 27.5 +0.3**
baz=36,SNR=12
MUN Mundaring 36.10 198 P **P** **11 50 29.7 -0.1**
baz=36,SNR=4.1
XAN Xi'an 36.30 332 P **P** **11 50 31.7 +0.2**
XAN pP pP 11 51 00.6 -0.7
XAN PP **PnPn** **11 52 03.0 +4.6**
XAN S **S** **11 56 00.1 -1.9**
XAN sS sS 11 56 56.4 +1.0
XAN pmax pmax
comp=Z,67nm,1.2s
XAN pmax pmax
comp=Z,430nm,5.7s
XAN LR LR
comp=Z,180nm,19.9s
XAN LR LR
comp=Z,220nm,17.2s
XAN LR LR
comp=Z,220nm,19.9s
STKA Stephens Creek 36.37 161 P **P** **11 50 32.0 +0.1**
comp=Z,8.7nm,0.3s,baz=357,slow=6.8,SNR=77
STKA ScP **ScP** **11 56 27.0 -0.2**
comp=Z,4.1nm,0.8s,baz=345,slow=7.0,SNR=4.6
STKA LR LR 12 07 09.1
comp=Z,176nm,19.1s,baz=349,slow=39
STKA Stephens Creek 36.37 161 P **P** **11 50 32.1 +0.1**
baz=37,SNR=20
STKA Stephens Creek 36.37 161 P **P** **11 50 32.4 +0.4**
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA Stephens Creek 36.37 161 P **P** **11 50 32.4 +0.4**
STKA Stephens Creek 36.37 161 P **P** **11 50 32.6 +0.6**
JSD Sado 36.59 13 P **P** **11 50 32.7 -1.1**
CD2 Chengdu 36.64 323 P **P** **11 50 35.1 +0.7**
CD2 S **S** **11 56 08.0 +0.8**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,260nm,6.0s
DL2 Dalian 36.82 351 P **P** **11 50 36.0 +0.3**
DL2 pmax pmax
comp=Z,40nm,1.0s
HNS HongShan 36.99 342 ⇑*i*P **P** **11 50 37.2 0.0**
HNS pmax pmax
comp=Z,26nm,1.2s
HTT Hallett 37.04 165 P **P** **11 50 37.4 -0.3**
baz=37,SNR=4.9
JMM Marumori 37.08 16 P **P** **11 50 38.1 +0.1**
CMSA Cobar Meteorol 37.59 155 P **P** **11 50 45.6 +3.2**
TIY Taiyuan 38.03 339 *e*P **P** **11 50 45.5 -0.6**
BJT Baijiatuau 39.02 345 P **P** **11 50 54.3 +0.1**
BJT pmax pmax
comp=Z,34nm,1.0s
BJT Baijiatuau 39.02 345 P **P** **11 50 54.3 +0.1**
BJT IAmb IAmb 11 50 54.6
comp=Z,34nm,1.0s
BJI Beijing 39.03 345 P **P** **11 50 54.0 -0.3**
BJI pmax pmax
comp=Z,37nm,0.9s
ARMA Armidale 39.51 148 P **P** **11 50 59.2 +0.6**
baz=40,SNR=16
ARMA Armidale 39.51 148 P **P** **11 50 58.6 +0.1**
MSHR Mys Shultsa 40.06 3 *i*P **P** **11 51 03.8 +1.1**
MSHR pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 40.44 329 ⇑P **P** **11 51 07.8 +1.6**
LZH pP pP 11 51 35.3 -1.1
LZH sP sP 11 51 51.0 -1.0
LZH PP **PP** **11 52 43.9 +1.7**
LZH ScP **ScP** **11 56 44.3 +1.4**
LZH *e*S **S** **11 57 07.2 +2.8**
LZH sS sS 11 58 01.8 +3.3
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,590nm,4.3s
VLA Vladivostok 40.64 4 *i*P **P** **11 51 08.3 +0.8**
VLA pmax pmax
comp=Z,34nm,1.2s
H11S3 WAKE ISLAND Hy 40.82 64 T T 12 35 05.1
baz=251,slow=75,SNR=118
H11S2 WAKE ISLAND Hy 40.83 64 T T 12 34 59.6
baz=251,slow=75,SNR=74
H11S1 WAKE ISLAND Hy 40.83 64 T T 12 34 56.4
baz=251,slow=75,SNR=81
ARPS Mount Arapiles 40.97 163 P **P** **11 51 11.5 +1.1**
baz=41,SNR=9.2
HHC Hu-ho-hao-te 41.14 341 *e*P **P** **11 51 12.2 +0.4**
HHC sP sP 11 51 54.2 -3.6
HHC PP **PP** **11 52 50.4 +0.7**
HHC S **S** **11 57 20.7 +6.1**
HHC sS sS 11 58 11.2 +2.4
HHC pmax pmax
comp=Z,34nm,1.3s
HHC pmax pmax
comp=Z,190nm,9.5s
CN2 Changchun 41.28 357 *e*P **P** **11 51 11.9 -0.9**
CN2 *e*S **S** **11 57 17.6 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,13.0s
CN2 LR LR
comp=Z,100nm,13.0s
CN2 LR LR
comp=Z,100nm,16.0s
H11N1 WAKE ISLAND Hy 41.40 63 T T 12 35 32.6
baz=250,slow=75,SNR=111
H11N2 WAKE ISLAND Hy 41.41 63 T T 12 35 33.8
baz=250,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 41.41 63 T T 12 35 34.0
baz=250,slow=75,SNR=34
USRK Ussuriysk Ar. 41.73 4 P **P** **11 51 16.3 -0.1**
comp=Z,17nm,0.9s,baz=183,slow=7.0,SNR=25
USRK Ussuriysk Ar. 41.73 4 P **P** **11 51 17.2 +0.8**
USRK Ussuriysk Ar. 41.73 4 P **P** **11 51 17.2 +0.8**
SHL Shillong 41.93 307 P **P** **11 51 19.6 +1.0**
SHL pmax pmax
comp=Z,150nm,0.7s
SHL Shillong 41.93 307 P **P** **11 51 19.6 +1.0**
SHL Shillong 41.93 307 P **P** **11 51 19.6 +1.0**
SNR=53
MDJ Mudanjiang 42.03 1 P **P** **11 51 19.0 +0.2**
MDJ IAmb IAmb 11 51 20.5
comp=Z,66nm,1.3s
MDJ Mudanjiang 42.03 1 P **P** **11 51 19.0 +0.2**
MDJ pmax pmax
comp=Z,35nm,1.1s
MDJ pmax pmax
comp=Z,170nm,4.0s
MDJ Mudanjiang 42.03 1 P **P** **11 51 19.1 +0.2**
comp=Z,42nm,1.3s
XLT XiLinHaoTe 42.71 347 *e*P **P** **11 51 24.0 -0.5**
XLT pP pP 11 51 55.2 +0.3
XLT sP sP 11 52 14.5 +4.0
XLT S **S** **11 57 37.4 -0.1**
XLT sS sS 11 58 32.3 +0.3
XLT ScS **ScS** **12 01 07.4 -3.5**
XLT pmax pmax
comp=Z,38nm,1.0s
XLT pmax pmax
comp=Z,160nm,5.0s
XLT LR LR
comp=Z,180nm,17.6s
XLT LR LR
comp=Z,130nm,12.6s
TOO Toolangi 42.86 160 P **P** **11 51 26.2 +0.5**
TOO pmax pmax
comp=Z,17nm,1.4s
TOO Toolangi 42.86 160 P **P** **11 51 26.2 +0.5**
BNX BinXian 43.15 359 ⇓P **P** **11 51 27.1 -0.7**
BNX pmax pmax
comp=Z,24nm,1.1s
BNX pmax pmax
comp=Z,250nm,8.2s
ASAJ Asahikawa 43.40 15 LR LR 12 11 12.2
comp=Z,86nm,18.8s,baz=292,slow=38
ASAJ Asahikawa 43.40 15 P **P** **11 51 31.2 +1.3**
ASAJ pmax pmax
comp=Z,28nm,1.2s
JKA Kamikawa-asahi 43.40 15 P **P** **11 51 31.2 +1.3**
JKA IAmb IAmb 11 51 32.6
comp=Z,28nm,1.2s
DZM Mont Dzumac 44.48 125 *e*LR LR 12 04 19.0
comp=Z,269nm,28.2s
LSA Lhasa 44.50 311 P **P** **11 51 41.5 +2.0**
LSA pmax pmax
comp=Z,41nm,1.0s
LSA Lhasa 44.50 311 P **P** **11 51 41.5 +2.0**
LSA IAmb IAmb 11 51 42.2
comp=Z,41nm,1.0s
LSA Lhasa 44.50 311 P **P** **11 51 41.5 +2.0**
LSA Lhasa 44.50 311 P **P** **11 51 41.3 +1.8**
GTA Gaotai 45.03 328 ⇑P **P** **11 51 44.0 +0.8**
GTA PcP **PcP** **11 53 23.4 +1.6**
GTA PP **PP** **11 53 33.5 +2.2**
GTA ScP **ScP** **11 57 01.2 -0.1**
GTA pmax pmax
comp=Z,29nm,1.2s
GTA pmax pmax
comp=Z,280nm,6.9s
GTA LR LR
comp=Z,190nm,20.4s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,210nm,20.7s
GOMU GeErMu 45.70 321 P **P** **11 51 50.1 +1.4**
GOMU SS SS 12 01 46.2 -1.7
GOMU pmax pmax
comp=Z,17nm,1.0s
GOMU pmax pmax
comp=Z,91nm,5.6s
GOMU LR LR
comp=Z,99nm,18.4s
GOMU LR LR
comp=Z,100nm,14.9s
GOMU LR LR
comp=Z,160nm,15.8s
TAPN Taplejung 46.07 306 *e*P **P** **11 51 52.9 +1.1**
ODAN Odare 46.13 306 *e*P **P** **11 51 53.4 +1.3**
KLR Kul'dur 46.72 3 LR LR 12 13 19.7
comp=Z,20nm,18.2s,baz=194,slow=38
KLR Kul'dur 46.72 3 *ce*P **P** **11 51 54.7 -1.4**
KLR pmax pmax
comp=Z,7.0nm,1.0s
RAMN Ramite 46.80 305 *e*P **P** **11 51 58.9 +1.5**
comp=Z,90nm,0.4s
JIRN Jiri 47.43 306 *e*P **P** **11 52 03.6 +1.2**
PALK Pallekele 47.68 278 P **P** **11 52 04.9 +0.7**
PALK pmax pmax
comp=Z,65nm,1.4s
PALK Pallekele 47.68 278 P **P** **11 52 04.9 +0.7**
PALK Pallekele 47.68 278 P **P** **11 52 04.3 +0.2**
GUN Gumba 47.78 306 *e*P **P** **11 52 06.2 +1.1**
comp=Z,172nm,0.5s
PKI Pulchoki 48.02 306 *e*P **P** **11 52 07.5 +0.6**
PKIN Phulchoki 48.04 306 *e*P **P** **11 52 07.5 +0.5**
comp=Z,32nm,0.3s
KKN Kakani 48.22 306 *e*P **P** **11 52 09.1 +0.8**
DMN Daman 48.29 305 *e*P **P** **11 52 09.7 +0.8**
GRNR Gornyy 48.66 7 ⇑*i*P **P** **11 52 11.3 +0.3**
GRNR pmax pmax
comp=N,6.0nm,1.2s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,70nm,12.0s
GKN Gorkha 48.82 306 *e*P **P** **11 52 13.5 +0.6**
ULN Ulaanbaatar 48.85 341 *ce*P **P** **11 52 13.0 +0.3**
ULN pmax pmax
comp=Z,69nm,1.3s
ULN Ulaanbaatar 48.85 341 P **P** **11 52 13.3 +0.6**
SONM Songino Array 49.05 341 P **P** **11 52 14.4 +0.3**
comp=Z,10nm,0.5s,baz=152,slow=8.2,SNR=58
SONM ScP **ScP** **11 57 17.0 -1.0**
comp=Z,1.0nm,0.8s,baz=152,slow=6.7,SNR=3.9
SONM LR LR 12 13 39.2
comp=Z,86nm,21.2s,baz=168,slow=37
SONM Songino Array 49.05 341 P **P** **11 52 14.7 +0.5**
SONM pmax pmax
comp=Z,23nm,0.9s
SONM Songino Array 49.05 341 P **P** **11 52 14.7 +0.5**
SONM IAmb IAmb 11 52 15.1
comp=Z,23nm,0.9s
KOLN Koldanda 49.58 305 *e*P **P** **11 52 19.9 +1.2**
DANN Dangsing 49.67 306 *e*P **P** **11 52 20.4 +0.9**
comp=Z,240nm,0.7s
PYUN Piuthan 50.20 305 *e*P **P** **11 52 24.7 +1.3**
HYBB Hyderabad (bro 51.07 290 *e*P **P** **11 52 30.5 +0.7**
HYBB IVmB_BB 11 52 31.1
comp=Z,692nm,1.7s
HYBB *e* 11 52 51.4
HYBB *e* 11 53 02.2
HYBB *es*P **sP** **11 53 15.2 -1.0**
HYBB *e*S **S** **11 59 38.2 +1.3**
ZEA Zeya 51.15 359 *e*P **P** **11 52 28.9 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
ZAK Zakamensk 52.28 340 *e*P **P** **11 52 37.1 -1.3**
ZAK *e* 11 53 46.8
ZAK pmax pmax
comp=Z,15nm,1.5s
ZAK pmax pmax
comp=Z,12nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.2s
MSVF Nonsavu 52.92 114 LR LR 12 14 44.1
comp=Z,83nm,18.6s,baz=201,slow=35
IRK Irkutsk 53.55 342 *e*P **P** **11 52 47.2 -0.3**
IRK pmax pmax
comp=Z,63nm,0.7s
MOY Mondy 54.15 339 *e*P **P** **11 52 52.6 +0.6**
MOY pmax pmax
comp=Z,85nm,1.9s
WMQ Urumqi 54.70 325 ⇑P **P** **11 52 56.8 +0.7**
WMQ pP pwP 11 53 32.2 -0.2
WMQ PP **PP** **11 55 02.3 +2.1**
WMQ pmax pmax
comp=Z,76nm,0.9s
WMQ pmax pmax
comp=Z,350nm,4.5s
WMQ LR LR
comp=Z,500nm,18.9s
WMQ LR LR
comp=Z,240nm,17.9s
WMQ LR LR
comp=Z,130nm,19.9s
PETK Petropavlovsk- 56.05 21 P **P** **11 53 05.9 +0.5**
comp=Z,6.9nm,0.7s,baz=206,slow=13,SNR=5.3
PETK pP **pP** **11 53 36.8 -0.6**
comp=Z,9.2nm,0.8s,baz=205,slow=6.6,SNR=4.2
PETK LR LR 12 15 15.5
comp=Z,40nm,21.4s,baz=209,slow=34
PETK Petropavlovsk- 56.05 21 P **P** **11 53 06.0 +0.5**
PET Petropavlovsk 56.33 21 *i*P **P** **11 53 07.8 +0.4**
PET pmax pmax
comp=Z,15nm,1.1s
PET Petropavlovsk 56.33 21 P **P** **11 53 08.5 +1.2**
PET IAmb IAmb 11 53 20.0
comp=Z,21nm,1.2s
BOD Bodaibo 56.39 351 *e*P **P** **11 53 06.8 -0.9**
BOD pmax pmax
comp=Z,43nm,1.3s
DGAR Diego Garcia 56.60 260 *ce*P **P** **11 53 11.2 +1.1**
DGAR pmax pmax
comp=Z,141nm,2.5s
SHLS Shalkode 59.37 320 *c*P **P** **11 53 27.7 -1.3**
SHLS pmax pmax
comp=Z,11nm,0.7s
SHLS Shalkode 59.37 320 ⇑*i*P **P** **11 53 27.8 -1.3**
comp=Z,11nm,0.7s,baz=320
YAK Yakutsk 59.47 1 *e*P **P** **11 53 27.8 -1.3**
YAK *e**PP **pwP** **11 54 03.6 -1.3**
YAK *e* 11 54 12.2
YAK *e* 11 55 39.2
YAK *e*S **S** **12 01 25.5 -1.7**
YAK *e* 12 02 57.1
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,50nm,3.3s
YAK pmax pmax
comp=N,30nm,3.1s
YAK pmax pmax
comp=E,64nm,3.3s
YAK smax smax
comp=E,61nm,2.0s
YAK smax smax
comp=N,35nm,1.8s
YAK Yakutsk 59.47 1 P **P** **11 53 29.5 +0.4**
MK31 Makanchi Array 59.53 325 *i*P **P** **11 53 29.8 -0.2**
MK31 pmax pmax
comp=Z,23nm,0.7s
MK31 Makanchi Array 59.53 325 P **P** **11 53 30.9 +0.9**
MKAR Makanchi Array 59.53 325 P **P** **11 53 30.4 +0.4**
comp=Z,16nm,0.5s,baz=121,slow=8.3,SNR=253
MKAR pP **pP** **11 54 03.6 +1.3**
comp=Z,10nm,0.6s,baz=112,slow=7.8,SNR=4.5
MKAR ScP **ScP** **11 58 03.4 -0.3**
comp=Z,2.1nm,0.7s,baz=118,slow=4.5,SNR=5.1
MKAR LR LR 12 20 26.6
comp=Z,119nm,18.9s,baz=105,slow=37
MA2 Magadan 59.59 13 LR LR 12 19 54.8
comp=Z,26nm,19.4s,baz=131,slow=36
MA2 Magadan 59.59 13 *ce*P **P** **11 53 30.6 +0.6**
MA2 pmax pmax
comp=Z,47nm,1.7s
MA2 Magadan 59.59 13 P **P** **11 53 30.7 +0.7**
MA2 IAmb IAmb 11 53 31.9
comp=Z,25nm,1.0s
UZB Uzynbulak 59.64 320 *c*P **P** **11 53 31.5 +0.6**
UZB pmax pmax
comp=Z,18nm,0.8s
UZB Uzynbulak 59.64 320 ⇑*i*P **P** **11 53 31.5 +0.6**
comp=Z,18nm,0.8s,baz=320
MAKZ Makanchi 59.72 325 P **P** **11 53 31.3 +0.1**
MAKZ pmax pmax
comp=Z,106nm,1.5s

MAKZ **Makanchi** 59.72 325 P P 11 53 31.3 +0.1
RPZ **Rata Peaks** 59.78 145 LR LR 12 20 02.1
comp=Z,122nm,18.1s,baz=285,slow=36
NIL **Nilore** 59.98 308 P P 11 53 34.1 +0.8
NIL pmax pmax
comp=Z,28nm,1.1s
NIL **Nilore** 59.98 308 P P 11 53 34.1 +0.8
NIL IAmb IAmb 11 53 34.4
comp=Z,28nm,1.1s
SATY **Saty** 60.00 320*c* *i*P P 11 53 34.1 +0.8
SATY pmax pmax
comp=Z,25nm,0.8s
SATY **Saty** 60.00 320⇑ *i*P P 11 53 34.1 +0.8
comp=Z,25nm,0.8s,baz=320
KPKS **Kokpek** 60.01 320*c* *i*P P 11 53 33.8 +0.5
KPKS pmax pmax
comp=Z,18nm,0.7s
KPKS **Kokpek** 60.01 320⇑ *i*P P 11 53 33.9 +0.5
comp=Z,18nm,0.7s,baz=320
ZHN **Zhinishke** 60.03 320 *e*P P 11 53 33.9 +0.4
ZHN **Zhinishke** 60.03 320 *e*P P 11 53 33.9 +0.4
baz=320
KSH **Kashi** 60.09 315 P P 11 53 35.5 +1.5
KSH pP pwP 11 54 08.6 -2.4
KSH sP sP 11 54 23.4 +2.2
KSH pmax pmax
comp=Z,32nm,1.3s
URZ **Urewera** 60.50 137 LR LR 12 20 14.4
comp=Z,146nm,18.9s,baz=211,slow=36
MDOK **Medeo** 60.93 319 *i*P P 11 53 40.4 +0.8
MDOK **Medeo** 60.93 319 *i*P P 11 53 40.5 +0.8
baz=319
TNSS **Tian-Shan** 60.94 319 *i*P P 11 53 41.0 +1.0
baz=319
AAA **Alma-Ata** 61.04 319 *e*P P 11 53 40.9 +0.6
AAA **Alma-Ata** 61.04 319 *e*P P 11 53 41.0 +0.6
baz=319
ULHL **Ulahol** 61.06 318 P P 11 53 41.3 +0.7
SNR=11
CHKK **Chushkaly** 61.28 320⇑ *i*P P 11 53 42.1 +0.2
baz=320
AFI **Afiamalu** 61.53 107 LR LR 12 15 55.1
comp=Z,70nm,21.0s,baz=104,slow=32
KUU **Kurty** 61.72 320*c* *i*P P 11 53 45.1 +0.3
KUU **Kurty** 61.72 320⇑ *i*P P 11 53 45.1 +0.3
baz=320
TKM2 **Tokmak 2** 61.78 318 P P 11 53 45.8 +0.3
SNR=21
TKM2 **Tokmak 2** 61.78 318 *i*P P 11 53 45.3 -0.2
TKM2 pmax pmax
comp=Z,24nm,1.0s
UCH **Uchtor** 62.21 317 P P 11 53 49.8 +1.1
SNR=38
CHMS **Chumysh** 62.37 318 P P 11 53 49.1 -0.1
SNR=5.3
AAK **Ala-Archa** 62.39 318 LR LR 12 24 24.1
comp=Z,61nm,19.2s,baz=99,slow=39
AAK **Ala-Archa** 62.39 318*ce*P P 11 53 50.5 +1.0
AAK pmax pmax
comp=Z,28nm,1.7s
AAK **Ala-Archa** 62.39 318 P P 11 53 50.3 +0.8
AAK IAmb IAmb 11 53 51.8
comp=Z,16nm,1.1s
AAK **Ala-Archa** 62.39 318 *i*P P 11 53 50.1 +0.6
SNR=5.9
ZAA0 **Zalesovo Array** 62.47 333 P P 11 53 49.2 -0.3
ZALV **Zalesovo Beam** 62.47 333 P P 11 53 48.7 -0.9
comp=Z,4.3nm,0.3s,baz=114,slow=6.6,SNR=53
ZALV LR LR 12 23 57.4
comp=Z,36nm,18.9s,baz=124,slow=39
ZALV **Zalesovo Beam** 62.47 333 P P 11 53 49.2 -0.4
ZALV **Zalesovo Beam** 62.47 333 P P 11 53 49.2 -0.4
SGDS **Sogindy** 62.64 319 *e*P P 11 53 50.9 -0.1
baz=319
USP **Ospenovka** 62.65 318 P P 11 53 51.6 +0.5
SNR=29
AML **Almayashu** 62.73 317 P P 11 53 52.6 +0.6
SNR=38
AML **Almayashu** 62.73 317 P P 11 53 52.9 +0.9
AML **Almayashu** 62.73 317 *i*P P 11 53 52.7 +0.6
SNR=7.0
SHEM **Shemya Is, Ala** 62.79 29 LR LR 12 15 41.1
comp=Z,55nm,21.4s,baz=29,slow=31
EKS2 **Erkin-Say** 62.89 318 P P 11 53 53.6 +0.9
SNR=14
SEY **Seymchan** 62.95 12 LR LR 12 20 37.1
comp=Z,39nm,20.5s,baz=138,slow=35
KBL **Kabul** 63.58 308 P P 11 53 57.8 +0.2
KBL pmax pmax
comp=Z,20nm,0.9s
KBL **Kabul** 63.58 308 P P 11 53 57.8 +0.2
KBL IAmb IAmb 11 53 58.3
comp=Z,20nm,0.9s
KURBB **Kurchatov Arra** 63.70 327 P P 11 53 57.0 -0.7
KURK **Kurchatov** 63.70 327*ce*P P 11 53 57.6 -0.1
KURK pmax pmax
comp=Z,97nm,1.3s
KURK **Kurchatov** 63.70 327 P P 11 53 57.8 +0.1
BTLS **Baital** 63.70 320*c* *i*P P 11 53 57.8 -0.1
BTLS **Baital** 63.70 320⇑ *i*P P 11 53 57.8 -0.1
baz=320
GAR **Garm** 63.98 313 P P 11 54 00.3 +0.3
DZA **Taraz** 64.64 317 *i*P P 11 54 04.0 -0.1
DZA **Taraz** 64.64 317 *i*P P 11 54 04.0 -0.1
baz=317
CHGR **Chuyangaron** 64.72 312 P P 11 54 05.2 +0.4
CHGR pmax pmax
comp=Z,32nm,1.0s
CHGR **Chuyangaron** 64.72 312 P P 11 54 05.2 +0.4
CHGR IAmb IAmb 11 54 05.5
comp=Z,32nm,1.0s
KKAR **Karatay Array** 65.27 317 P P 11 54 08.3 +0.1
KKAR **Karatay Array** 65.27 317 P P 11 54 08.3 +0.1
BRLS **Boroldaу** 65.71 317 *e*P P 11 54 11.2 +0.2
BRLS **Boroldaу** 65.71 317 *e*P P 11 54 11.2 +0.2
baz=316
BRZS **Berezniki** 66.67 325 *e*P P 11 54 16.9 -0.1
BRZS pmax pmax
comp=Z,24nm,1.0s
BRZS **Berezniki** 66.67 325 *e*P P 11 54 16.9 -0.1
comp=Z,24nm,1.0s,baz=324
HRA **Herat** 68.99 306 P P 11 54 31.9 -0.2
HRA IAmb IAmb 11 54 32.6
comp=Z,16nm,0.9s
TIXI **Tiksi** 69.13 0 LR LR 12 27 38.6
comp=Z,26nm,18.1s,baz=182,slow=38
TIXI **Tiksi** 69.13 0*ce*P P 11 54 30.8 -1.1
TIXI pmax pmax
comp=Z,39nm,1.3s
TIXI **Tiksi** 69.13 0 P P 11 54 31.4 -0.5
BRVK **Borovoye** 69.35 327*ce*P P 11 54 33.4 -0.2
BRVK pmax pmax
comp=Z,72nm,1.3s
BRVK **Borovoye** 69.35 327 P P 11 54 33.6 0.0
JLN **Jalan Bani Buh** 69.58 293 P P 11 54 35.5 -0.1
JLN P P 11 54 35.6 -0.1
BILL **Bilibino** 70.41 14*de*P P 11 54 39.8 0.0
BILL *e*PP pwP 11 55 18.8 +2.3
BILL *e* 11 57 20.4
BILL pmax pmax
comp=Z,13nm,2.5s
WSAR **Wadi Sarin** 70.41 294 P P 11 54 41.0 +0.2
JMDO **Jabal Madar** 70.81 293 P P 11 54 43.5 +0.3
MHTO **MHTO** 70.81 291 P P 11 54 43.3 +0.2
SNR=8.2
BIDO **Bidbid** 70.90 294 P P 11 54 44.3 +0.6
SMDO **Samad** 70.92 293 P P 11 54 44.2 +0.2
DQM **DQM** 71.13 290 P P 11 54 45.5 +0.4
HOQ **Hoqain** 71.65 294 P P 11 54 48.9 +0.7
BSY **Bisya** 71.67 293 P P 11 54 48.4 +0.1
NIKH **Nikolski High** 71.97 34 P P 11 54 50.1 +0.7
baz=249
NRIK **Noril'sk** 72.07 346 P P 11 54 49.1 -0.6
comp=Z,16nm,0.9s,baz=133,slow=6.5,SNR=24
NRIK **Noril'sk** 72.07 346*ce*P P 11 54 49.4 -0.4
NRIK pmax pmax
comp=Z,18nm,1.0s
NRIK **Noril'sk** 72.07 346 P P 11 54 49.6 -0.1
NRIK IAmb IAmb 11 54 50.2
comp=Z,23nm,1.0s
ARQ **Araqi** 72.35 294 P P 11 54 52.7 +0.3
SNR=5.3
UOSS **Minazif** 72.78 295 P P 11 54 54.6 -0.4
UOSS IAmb IAmb 11 54 56.6
comp=Z,15nm,0.8s
UOSS **Minazif** 72.78 295 P P 11 54 54.6 -0.4
UOSS **Minazif** 72.78 295 P P 11 54 54.2 -0.7
BANOM **Banah** 72.79 296 P P 11 54 55.3 +0.4
BANOM **Banah** 72.79 296 P P 11 54 55.4 +0.4
SHAO **Shalim** 72.81 288 P P 11 54 55.7 +0.6
SHAO **Shalim** 72.81 288 P P 11 54 54.8 -0.4
HATD **Hatta, Dubai** 72.84 295 P P 11 54 55.8 +0.5
HATD **Hatta, Dubai** 72.84 295 *i*P P 11 54 55.2 0.0
SNR=5.9
MSFE **Esma-Masafi** 72.86 296 *i*P P 11 54 56.0 +0.5
SNR=6.7
MASF **Masafi** 72.87 296 P P 11 54 56.7 +1.3
ASHO **Ashiyiah** 72.89 295 P P 11 54 55.9 +0.3
ASHO **Ashiyiah** 72.89 295 *i*P P 11 54 55.4 -0.2
SNR=9.0
SHME **Shamm** 72.95 296 P P 11 54 57.2 +1.3
SHME **Shamm** 72.95 296 P P 11 54 56.1 +0.2
GEYT **Alibeck** 72.95 309 P P 11 54 56.5 +0.8
comp=Z,14nm,0.7s,baz=132,slow=6.6,SNR=17
GEYT pP pP 11 55 30.0 +0.9
comp=Z,7.4nm,0.7s,baz=54,slow=7.5,SNR=2.8
GEYT LR LR 12 31 12.6
comp=Z,51nm,19.4s,baz=84,slow=39
GEYT **Alibeck** 72.95 309 P P 11 54 56.1 +0.3
GEYT IAmb IAmb 11 54 57.2
comp=Z,22nm,0.9s
GYA0B **ALIBECK ARRAY** 72.95 309 P P 11 54 56.4 +0.7
GYA0B IAmb IAmb 11 54 57.1
comp=Z,27nm,1.0s
ALNE **Al Ain** 73.12 294 P P 11 54 57.6 +0.7
SNR=19
ALNE **Al Ain** 73.12 294 *i*P P 11 54 57.0 +0.1
SNR=18
NAZ **Nazwa, Dubai** 73.28 295 P P 11 54 58.3 +0.5
SNR=5.5
NAZ **Nazwa, Dubai** 73.28 295 P P 11 54 57.6 -0.2
FAQ **Al Faqa, Dubai** 73.32 295 P P 11 54 58.6 +0.5
SNR=5.1
DMTO **DMTO** 73.44 288 P P 11 54 59.2 +0.4
ASUD **Al Ashush, Dub** 73.55 295 P P 11 55 00.0 +0.6
ASUD **Al Ashush, Dub** 73.55 295 *i*P P 11 54 59.9 +0.5
SNR=7.8
UMZA **Um Al Zommool** 73.55 293 P P 11 54 59.6 +0.2
UNV **Unalaska Valle** 73.59 34 P P 11 54 59.1 +0.1
baz=251
AJN **Ajban** 73.85 295 P P 11 55 01.7 +0.6
AJN **Ajban** 73.85 295 P P 11 55 00.9 -0.3
ABKAR **Akbulak array** 74.17 321 P P 11 55 02.3 -0.2
SOCY **Socotra** 74.19 282 P P 11 55 03.1 -0.3
SOCY IAmb IAmb 11 55 03.6
comp=Z,41nm,0.9s
SOCY **Socotra** 74.19 282 P P 11 55 02.6 -0.8
SNR=5.0
DOK **Doka** 74.26 289 P P 11 55 03.1 -0.5
WHFO **Wadi Hawf** 74.57 288 P P 11 55 04.8 -0.7
RER **Riviere de l'E** 74.69 247 P P 11 55 04.8 -1.4
GAMB **Gambell** 74.94 23 P P 11 55 08.0 +1.4
GAMB **Gambell** 74.94 23 P P 11 55 07.4 +0.8
baz=244
MZR **Muzera** 75.11 293 P P 11 55 08.9 +0.3
MZR **Muzera** 75.11 293 P P 11 55 08.4 -0.1
FALS **False Pass** 75.62 34 P P 11 55 11.3 +0.7
FALS **False Pass** 75.62 34 P P 11 55 11.0 +0.3
baz=253
AKTO **Aktyubinsk** 75.67 322 LR LR 12 30 22.6
comp=Z,40nm,20.1s,baz=112,slow=37
GHWR **Ruwais** 75.73 294 P P 11 55 12.3 +0.3
SVE **Sverdlovsk** 75.90 328*de*P P 11 55 12.0 -0.3
SVE pmax pmax
comp=Z,47nm,0.9s
SLWR **Sila** 76.82 294 P P 11 55 18.7 +0.6
ARU **Arti** 76.89 328*c* *i*P P 11 55 16.9 -0.9
ARU 11 55 29.0
ARU *PP pP 11 55 52.0 +0.4
ARU 11 58 09.4
ARU S S 12 04 53.6 -0.4
ARU pmax pmax
comp=Z,74nm,1.8s
ARU **Arti** 76.89 328 P P 11 55 17.9 +0.1
ARU IAmb IAmb 11 55 18.2
comp=Z,30nm,0.8s
TNA **Tin City** 77.17 22 P P 11 55 19.8 +0.6
baz=247
TRNA **Turayna** 77.29 295 P P 11 55 21.1 +0.3
SDPT **Sand Point** 77.38 34 P P 11 55 21.2 +0.7
SDPT **Sand Point** 77.38 34 P P 11 55 20.8 +0.2
baz=256
SHMA **Al-Shehemyia** 77.58 296 P P 11 55 22.6 +0.3
CHNA **Chernabura Isl** 77.75 34 P P 11 55 22.9 +0.2
baz=256
ANM **Nome** 77.80 24 P P 11 55 23.8 +1.1
ANM pmax pmax
comp=Z,6.0nm,1.0s
ANM **Nome** 77.80 24 P P 11 55 23.8 +1.1
ANM **Nome** 77.80 24 P P 11 55 23.3 +0.6
baz=249
SAKB **Bahrain** 77.97 296 P P 11 55 24.8 +0.3
CHGN **Chignik** 78.73 33 P P 11 55 28.7 +0.7
baz=257
RDOG **Red Dog Mine** 79.92 21 P P 11 55 35.2 +0.9
baz=251
LKRN **Lenkeran, Azer** 80.33 309 P P 11 55 37.9 +0.8
P18K **Big Mountain,** 81.03 30 P P 11 55 41.3 +0.9
baz=260
SII **Sitkinak Islan** 81.09 33 P P 11 55 41.5 +0.7
baz=261
O18K **Koktuh Hills** 81.12 30 P P 11 55 42.4 +1.5
TTA **Tatalina** 81.34 27 P P 11 55 43.0 +1.0
TTA pmax pmax
comp=Z,6.0nm,0.8s
TTA **Tatalina** 81.34 27 P P 11 55 43.0 +1.0
TTA **Tatalina** 81.34 27 P P 11 55 42.7 +0.7
baz=258
GCSA **Galena City Sc** 81.35 25 P P 11 55 43.0 +1.1
baz=257
O19K **Port Alsworth** 81.62 30 P P 11 55 44.6 +1.2
baz=260
N19K **Bonanza Creek** 81.65 29 P P 11 55 44.4 +0.6
N19K **Bonanza Creek** 81.65 29 P P 11 55 45.2 +1.5
baz=260
OHAK **Old Harbor** 81.68 33 P P 11 55 44.6 +0.8
baz=262
L19K **White Mountain** 81.72 27 P P 11 55 45.6 +1.7
L19K **White Mountain** 81.72 27 P P 11 55 45.3 +1.3
baz=259
SEKA **Sheki** 81.73 311 P P 11 55 45.0 +0.4
MNGR **Mingechevir, A** 81.79 311 P P 11 55 45.4 +0.6
M19K **Big River Lodg** 81.88 28 P P 11 55 46.7 +1.9
M19K **Big River Lodg** 81.88 28 P P 11 55 46.0 +1.2
baz=260
VNDA **Vanda** 81.94 173 P P 11 55 44.5 -0.2
comp=Z,1.1nm,0.4s,baz=314,slow=7.2,SNR=9.0
VNDA LR LR 12 30 48.8
comp=Z,87nm,20.4s,baz=318,slow=34
VNDA **Vanda** 81.94 173 P P 11 55 45.4 +0.6
VNDA pmax pmax
comp=Z,18nm,1.5s
VNDA **Vanda** 81.94 173 P P 11 55 45.4 +0.6
KDAK **Kodiak Island** 82.13 32 LR LR 12 26 25.1
comp=Z,81nm,21.8s,baz=257,slow=31
KDAK **Kodiak Island** 82.13 32 P P 11 55 46.9 +0.7
KDAK pmax pmax
comp=Z,26nm,0.8s
KDAK **Kodiak Island** 82.13 32 P P 11 55 46.9 +0.7
KDAK IAmb IAmb 11 55 49.0
comp=Z,26nm,0.8s
KDAK **Kodiak Island** 82.13 32 P P 11 55 47.3 +1.1
baz=262
KIRV **Kirov** 82.16 329 P P 11 55 46.2 -0.1
comp=Z,44nm,0.9s,baz=139,slow=2.8,SNR=22
ZKTA **Zakatala** 82.20 312 P P 11 55 47.8 +0.9
L20K **Farewell, AK** 82.22 27 P P 11 55 47.8 +1.2
baz=260
K20K **Telida** 82.28 26 P P 11 55 48.5 +1.6
K20K **Telida** 82.28 26 P P 11 55 48.1 +1.2
baz=260
GANJ **Ganja** 82.36 311 P P 11 55 48.4 +0.6
OPO **Ambohidratompo** 82.38 251 P P 11 55 49.0 +0.5
comp=Z,2.7nm,0.8s,baz=140,slow=1.7,SNR=2.9
J20K **Nowinta River** 82.39 26 P P 11 55 49.0 +1.5
J20K IAmb IAmb 11 55 49.6
comp=Z,19nm,0.9s
J20K **Nowinta River** 82.39 26 P P 11 55 48.9 +1.5
baz=260
RSO **Redoubt South** 82.43 29 P P 11 55 48.5 +0.5
RAYN **Ar Rayn** 82.46 293 P P 11 55 48.5 -0.2
RAYN pmax pmax
comp=Z,22nm,0.9s
RAYN **Ar Rayn** 82.46 293 P P 11 55 48.5 -0.2
RAYN IAmb IAmb 11 55 49.8
comp=Z,22nm,0.9s
RAYN **Ar Rayn** 82.46 293 *i*P P 11 55 48.6 -0.1
SNR=17
IMAR **Indian Mountai** 82.88 24 P P 11 55 50.2 +0.3
NAX **Nakhchivan** 82.92 309 P P 11 55 51.4 +0.6
PPLA **Purkeypile** 83.05 27 P P 11 55 51.8 +0.8
PPLA **Purkeypile** 83.05 27 P P 11 55 51.6 +0.5
baz=262,SNR=6.2
VOI **Vohitsoka** 83.06 248 P P 11 55 51.9 0.0
CHUM **Lake Minchumin** 83.14 26 P P 11 55 52.1 +0.8
baz=261,SNR=12
CAST **Castle Rocks** 83.18 26 P P 11 55 52.3 +0.8
CAST IAmb IAmb 11 55 54.5
comp=Z,12nm,0.7s
CAST **Castle Rocks** 83.18 26 P P 11 55 52.3 +0.8
baz=262,SNR=13
PPT **Papeete** 83.19 108 LR LR 12 32 55.4
comp=Z,108nm,18.3s,baz=226,slow=36
PPT2 **Papeete2** 83.19 108 *e*S S 12 06 02.0 +0.3
comp=Z,83nm,25.2s
PPT2 **Papeete2** 83.19 108 *e*LR LR 12 22 07.3
comp=Z,189nm,30.0s
H21K **Melozitna Rive** 83.21 24 P P 11 55 52.9 +1.3
H21K IAmb IAmb 11 55 54.3
comp=Z,23nm,1.1s
H21K **Melozitna Rive** 83.21 24 P P 11 55 52.7 +1.1
baz=261
CAPN **Captain Cook N** 83.25 29 P P 11 55 53.1 +1.2
baz=263
BRSE **Bradley Lake S** 83.34 30 P P 11 55 52.7 +0.3
baz=263
I21K **Tanana** 83.48 25 P P 11 55 54.3 +1.3
I21K **Tanana** 83.48 25 P P 11 55 53.1 +0.1
baz=262,SNR=6.9
GNI **Garni** 83.54 310 P P 11 55 54.2 +0.2
comp=Z,11nm,0.4s,baz=242,slow=5.0,SNR=6.3
GNI LR LR 12 38 58.2
comp=Z,25nm,20.1s,baz=100,slow=40
GNI **Garni** 83.54 310 *i*P P 11 55 54.7 +0.6
GNI pmax pmax
comp=Z,42nm,1.7s
KTH **Kantishna Hill** 83.71 26 P P 11 55 55.1 +0.8
KTH IAmb IAmb 11 55 55.9
comp=Z,20nm,1.2s
BPAW **Bear Paw Mtn.** 83.75 26 P P 11 55 55.0 +0.6
baz=263
M22K **Willow** 83.87 28 P P 11 55 55.0 0.0
M22K **Willow** 83.87 28 P P 11 55 54.5 -0.5
baz=264,SNR=10
CUT **Chulitna** 83.87 28 P P 11 55 55.2 +0.2
CUT IAmb IAmb 11 55 59.5
comp=Z,31nm,1.3s
CUT **Chulitna** 83.87 28 P P 11 55 54.8 -0.2
baz=263
O22K **Cooper Landing** 83.92 30 P P 11 55 55.6 +0.3
baz=264
MLY **Manley** 83.98 25 P P 11 55 56.2 +0.6
MLY **Manley** 83.98 25 P P 11 55 56.3 +0.6
baz=263
RC01 **Rabbit Creek A** 83.98 29 P P 11 55 55.6 0.0
baz=264
TRF **Thorofare Moun** 83.98 27 P P 11 55 55.6 -0.2
baz=263,SNR=5.4
SEW **Seward** 84.02 30 P P 11 55 56.6 +0.8
SEW IAmb IAmb 11 55 56.8
comp=Z,23nm,1.0s
SEW **Seward** 84.02 30 P P 11 55 56.2 +0.4
baz=264
ZEI **Tsey** 84.27 313 *e*P P 11 55 56.2 -1.6
ZEI pmax pmax
comp=Z,25nm,1.4s
PMR **Palmer** 84.32 28 P P 11 55 57.8 +0.5
PMR pmax pmax
comp=Z,28nm,1.0s
PMR **Palmer** 84.32 28 P P 11 55 57.8 +0.5
PMR IAmb IAmb 11 55 58.5
comp=Z,28nm,1.0s
PMR **Palmer** 84.32 28 P P 11 55 57.2 -0.1
baz=264,SNR=13
PRGR **Permogore** 84.41 332 *e*P P 11 55 55.6 -2.1
GHO **Glory Hole Cre** 84.44 28 P P 11 55 58.7 +0.7
GHO IAmb IAmb 11 56 01.2
comp=Z,15nm,1.0s
COLD **Coldfoot** 84.47 23 P P 11 55 59.8 +1.8
COLD **Coldfoot** 84.47 23 P P 11 55 58.6 +0.6
baz=263,SNR=8.8
H23K **Yukon River** 84.57 24 P P 11 55 59.9 +1.3
I23K **Minto, Yukon-K** 84.57 25 P P 11 55 59.8 +1.3
I23K IAmb IAmb 11 56 00.0
comp=Z,18nm,1.3s
I23K **Minto, Yukon-K** 84.57 25 P P 11 55 58.9 +0.4
baz=264,SNR=5.7
ONI **Oni** 84.60 312 P P 11 55 59.9 +0.7
ONI pmax pmax
comp=Z,34nm,1.4s
ONI **Oni** 84.60 312 P P 11 55 59.9 +0.7
ONI IAmb IAmb 11 56 02.5
comp=Z,34nm,1.4s
MCK **McKinley** 84.61 26 P P 11 55 58.9 +0.1
MCK pmax pmax
comp=Z,23nm,1.1s
MCK **McKinley** 84.61 26 P P 11 55 58.9 +0.1
MCK IAmb IAmb 11 56 01.0
comp=Z,23nm,1.1s
MCK **McKinley** 84.61 26 P P 11 55 58.3 -0.5
baz=264,SNR=11
RND **Reindeer** 84.62 27 P P 11 55 59.1 +0.2
RND pmax pmax
comp=Z,17nm,1.1s
RND **Reindeer** 84.62 27 P P 11 55 59.1 +0.2
RND IAmb IAmb 11 55 59.8
comp=Z,17nm,1.1s
KNK **Knik Glacier** 84.62 29 P P 11 55 58.8 -0.1
baz=265,SNR=10
NEA2 **Nenana** 84.64 25 P P 11 55 59.1 +0.2
baz=264
PWL **Port Wells** 84.64 29 P P 11 55 59.5 +0.5
PWL IAmb IAmb 11 56 00.7
comp=Z,33nm,1.0s
PWL **Port Wells** 84.64 29 P P 11 55 59.3 +0.4
baz=265,SNR=10
SML **Sawmill** 84.72 28 P P 11 56 00.1 +0.7
SML **Sawmill** 84.72 28 P P 11 56 00.1 +0.7
SML **Sawmill** 84.72 28 P P 11 55 59.3 -0.1
baz=265,SNR=10
GEVA **Gevas** 84.80 308 P P 11 56 01.3 +0.9
TOLK **Toolik Lake Re** 84.87 21 P P 11 56 01.4 +1.4
TOLK IAmb IAmb 11 56 02.6
comp=Z,14nm,1.0s
TOLK **Toolik Lake Re** 84.87 21 P P 11 56 00.3 +0.3
baz=264,SNR=9.9
KBZ **Khabaz** 85.03 314 P P 11 56 00.9 -0.4
comp=Z,5.0nm,0.8s,baz=90,slow=3.8,SNR=16
KBZ LR LR 12 37 54.8
comp=Z,35nm,21.0s,baz=110,slow=38
KBZ **Khabaz** 85.03 314*ce*P P 11 56 01.2 -0.1
KBZ pmax pmax
comp=Z,17nm,1.4s
WAT6 **Susitna Watana** 85.06 28 P P 11 56 00.5 -0.7
baz=266,SNR=14
ATD **Arta Tunnel** 85.10 281 P P 11 56 01.4 -0.9
comp=Z,4.6nm,0.3s,baz=281,slow=2.3,SNR=4.7
CCB **Clear Creek Bu** 85.19 25 P P 11 56 01.9 +0.3
KIV **Kislovodsk** 85.19 314 *e*P P 11 56 02.2 0.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
SCM **Sheep Creek Mo** 85.19 28 P P 11 56 02.6 +0.7
baz=266,SNR=9.6
GLI **Glacier Island** 85.25 29 P P 11 56 02.5 +0.5
baz=266
H24K **Noodor Dome** 85.25 24 P P 11 56 03.7 +1.7
H24K **Noodor Dome** 85.25 24 P P 11 56 02.7 +0.7
baz=265
DHY **Denali Highway** 85.26 27 P P 11 56 03.6 +1.4
DHY **Denali Highway** 85.26 27 P P 11 56 02.5 +0.3
baz=266
POKR **Poker Plat Res** 85.38 25 P P 11 56 03.2 +0.7
baz=266
HDA **Harding Lake** 85.54 26 P P 11 56 03.9 +0.5
baz=266
ILAR **Eielson Array** 85.59 25 P P 11 56 02.0 -1.6

comp=Z,0.9nm,0.8s,baz=253,slow=4.6,SNR=12
ILAR Eielson Array 85.59 25 P **P** **11 56 02.3 -1.3**
ILAR Eielson Array 85.59 25 P **P** **11 56 02.3 -1.3**
GURO Guroymak-BITLI 85.61 308 P **P** **11 56 05.7 +1.2**
M24K Tolsona, Glenn 85.75 28 P **P** **11 56 05.7 +1.1**
M24K IAmb IAmb 11 56 07.0
comp=Z,30nm,0.9s
M24K Tolsona, Glenn 85.75 28 P **P** **11 56 05.3 +0.7**
baz=267,SNR=6.3
KLU Klutina 85.84 29 P **P** **11 56 05.9 +0.8**
baz=267
EYAK Cordova Ski Ar 85.89 30 P **P** **11 56 05.7 +0.6**
baz=268
DIV Divide 85.90 29 P **P** **11 56 05.8 +0.5**
DIV IAmb IAmb 11 56 07.7
comp=Z,31nm,0.9s
PAX Paxson 86.12 27 P **P** **11 56 07.6 +1.2**
baz=268
HARP HAARP 86.24 28 P **P** **11 56 08.1 +1.2**
baz=268
FYU Fort Yukon 86.37 24 P **P** **11 56 08.5 +1.1**
RIDG Independent Ri 86.43 26 P **P** **11 56 08.3 +0.4**
baz=268
BMRM Bremner River 86.46 29 P **P** **11 56 08.8 +0.7**
BMRM IAmb IAmb 11 56 10.2
comp=Z,15nm,1.0s
BMRM Bremner River 86.46 29 P **P** **11 56 08.8 +0.7**
baz=269
N25K Chitina, Valde 86.48 29 P **P** **11 56 09.3 +1.1**
baz=268
MARD Mardin 86.60 307 P **P** **11 56 09.2 -0.2**
MARD IAmb IAmb 11 56 10.3
comp=Z,35nm,1.2s
BMAR Burnt Mountain 86.65 23 P **P** **11 56 10.1 +1.3**
GLB Gilahina Butte 86.86 29 P **P** **11 56 11.3 +1.3**
GLB IAmb IAmb 11 56 12.3
comp=Z,13nm,1.1s
MENT Mentasta 86.92 27 P **P** **11 56 11.8 +1.6**
J26L Joseph Creek 87.01 26 P **P** **11 56 10.4 -0.3**
baz=269
L26K Log Cabin Wild 87.09 27 P **P** **11 56 11.8 +0.7**
baz=270
MCARA McCarthy VSAT 87.23 29 P **P** **11 56 12.6 +0.8**
baz=270
KLMR Klimovskoe 87.32 331 *e*P **P** **11 56 08.1 -4.0**
KLMR *e* 11 59 34.3
KLMR pmax pmax
comp=Z,26nm,1.0s
KLMR Klimovskoe 87.32 331 *e*P **P** **11 56 08.2 -3.9**
KLMR AMP 11 56 12.8
comp=Z,26nm,1.0s
KLMR *e*pP **pP** **11 56 41.7 -5.1**
KLMR *e*PP **PP** **11 59 34.4 -3.7**
VORR Voronezh 87.57 321 *e*P **P** **11 56 12.6 -0.9**
VORR pmax pmax
comp=Z,70nm,0.4s
M27K Edge Creek, AK 87.77 28 P **P** **11 56 15.0 +0.5**
baz=271
L27K Beaver Creek, 87.78 27 P **P** **11 56 15.5 +1.1**
baz=271
GRNC Granite Creek 87.86 29 P **P** **11 56 16.5 +1.5**
CTG Chitna Glacier 88.06 29 P **P** **11 56 17.8 +2.0**
baz=271
MOS Moscow 88.41 326 *e*P **P** **11 56 15.1 -2.3**
MOS pmax pmax
comp=Z,52nm,1.3s
YUK3 Moose Creek 88.45 28 P **P** **11 56 19.1 +1.4**
baz=272
DAWY Dawson 88.84 26 P **P** **11 56 19.6 +0.3**
DAWY Dawson 88.84 26 P **P** **11 56 19.7 +0.4**
baz=273
ANN Anapa 88.95 315 *e*P **P** **11 56 18.5 -1.6**
ANN *e*S **SKSac** **12 06 34.9 -1.9**
ANN pmax pmax
comp=Z,43nm,1.0s
OBN Obninsk 89.04 325 P **P** **11 56 18.5 -1.8**
comp=Z,5.1nm,0.4s,baz=55,slow=4.6,SNR=8.1
OBN Obninsk 89.04 325 *c i*P **P** **11 56 19.0 -1.3**
OBN *e**PP **pwP** **11 57 01.2 +1.8**
OBN *e* 11 59 57.7
OBN *e*S **S** **12 06 48.3 -8.5**
OBN pmax pmax
comp=Z,70nm,1.7s
I29M Ogilvie Camp, 89.22 25 P **P** **11 56 21.5 +0.4**
I29M Ogilvie Camp, 89.22 25 P **P** **11 56 21.3 +0.3**
baz=274
EPYK Eagle Plains 89.79 24 P **P** **11 56 23.6 -0.1**
EPYK Eagle Plains 89.79 24 P **P** **11 56 23.7 0.0**
baz=276
HYT Haines Junctio 89.94 29 P **P** **11 56 25.1 +0.5**
baz=275
KIBK Kibwezi 90.38 268 P **P** **11 56 28.0 +0.3**
KIBK IAmb IAmb 11 56 29.7
comp=Z,18nm,1.5s
INK Inuvik 90.78 22 P **P** **11 56 27.6 -0.6**
baz=278
KMBO Kilima Mbogo 91.13 269 P **P** **11 56 30.7 -0.6**
comp=Z,1.3nm,0.4s,baz=80,slow=4.5,SNR=7.9
KMBO Kilima Mbogo 91.13 269 P **P** **11 56 31.7 +0.4**
KMBO pmax pmax
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 91.13 269 P **P** **11 56 31.7 +0.4**
KMBO IAmb IAmb 11 56 33.3
comp=Z,15nm,1.4s
WHY Whitehorse 91.24 29 P **P** **11 56 32.0 +1.4**
baz=277
FARO Faro, Yukon 91.75 28 P **P** **11 56 33.8 +0.9**
baz=278
SYO Syowa Base 91.79 201⇑ *e*P **P** **11 56 34.0 +1.2**
BRTR Keskin Array B 92.08 310 P **P** **11 56 34.1 -0.9**
comp=Z,1.3nm,0.9s,baz=103,slow=24,SNR=5.0
ARCES ARCESS Array B 92.22 340 P **P** **11 56 33.3 -1.5**
comp=Z,14nm,0.7s,baz=75,slow=5.4,SNR=30
ARCES LR LR 12 43 56.1
comp=Z,35nm,18.6s,baz=106,slow=39
ARCES ARCESS Array B 92.22 340 P **P** **11 56 33.7 -1.1**
ARCES pmax pmax
comp=Z,20nm,0.9s
ARCES ARCESS Array B 92.22 340 P **P** **11 56 33.7 -1.1**
P33M Teslin, Yukon 92.31 30 P **P** **11 56 36.3 +0.8**
baz=279
QSPA South Pole Qui 92.34 180 P **P** **11 56 34.9 -0.7**
comp=Z,1.8nm,0.6s,baz=46,slow=5.2,SNR=2.8
QSPA South Pole Qui 92.34 180 P **P** **11 56 36.1 +0.5**
MMPY Sheldon Lake, 92.64 27 P **P** **11 56 37.4 +0.4**
baz=280
A36M Sachs Harbour 92.75 17 P **P** **11 56 37.7 +0.5**
baz=286
FINES FINESS Array B 93.73 332 P **P** **11 56 40.2 -1.7**
comp=Z,2.9nm,0.6s,baz=51,slow=5.4,SNR=11
FINES LR LR 12 41 25.1
comp=Z,58nm,18.8s,baz=59,slow=37
C36M Paulatuk 93.89 20 P **P** **11 56 42.3 -0.2**
baz=287
AKASG Malin Array Be 93.91 321 P **P** **11 56 41.4 -1.6**
comp=Z,1.0nm,0.5s,baz=68,slow=4.2,SNR=14
AKASG LR LR 12 43 08.0
comp=Z,35nm,19.0s,baz=46,slow=38
TGTN Hyland Airport 94.25 28 P **P** **11 56 45.2 +0.7**
baz=283
NOR Nord 94.52 355 *i* P **P** **11 56 43.2 -2.0**
NACGM Naroch 94.66 325 *i* P **P** **11 56 45.8 -0.6**
MLR Muntele Rosu 96.94 316 LR LR 12 45 20.1
comp=Z,56nm,20.8s,baz=76,slow=38
BURAR Bucovina Array 97.03 318 P **P** **11 56 56.9 -0.6**
BURAR pmax pmax
comp=Z,4.0nm,1.0s
BURAR Bucovina Array 97.03 318 P **P** **11 56 56.9 -0.6**
BURAR IAmb IAmb 11 56 58.4
comp=Z,4.2nm,1.1s
BUR08 Bucovina Ar. S 97.04 318 P **P** **11 56 56.6 -0.9**
BUR08 IAmb IAmb 11 56 59.6
comp=Z,3.6nm,0.8s
DAG Danmarks Havn 98.75 353 *i* P **P** **11 57 02.0 -2.3**
CRVS Cervenica-Dubn 99.19 320 *i* P **Pdif** **11 57 07.7 +0.7**
CRVS Cervenica-Dubn 99.19 320 *e*PDIFF **Pdif** **11 57 07.7 +0.7**
HFS Hagfors 99.91 332 LR LR 12 45 40.8
comp=Z,42nm,19.0s,baz=76,slow=37
YKA Yellowknife Ar 100.01 25 P **Pdif** **11 57 09.9 -0.4**
comp=Z,0.9nm,0.7s,baz=290,slow=4.1,SNR=9.9
NEEM North Greenlan 100.23 360 *i* P **Pdif** **11 57 10.7 -0.7**
NB2 NORSAR Subarra 100.66 334 P **Pdif** **11 57 11.9 -1.4**
comp=Z,9.3nm,1.1s,baz=66,slow=4.6
NB2 NORSAR Subarra 100.66 334 P **Pdif** **11 57 11.9 -1.4**
baz=66,slow=4.6
NOA NORSAR Array B 100.66 334 P **Pdif** **11 57 11.8 -1.4**
comp=Z,1.9nm,0.8s,baz=64,slow=4.6,SNR=5.8
DBG Daneborg 101.04 352 *i* P **Pdif** **11 57 13.1 -1.6**
TUC Tucson 114.32 53 P **PKiKP** **12 02 06.2 +1.1**
baz=290
ISCO Idaho Springs 115.23 44 P **PKPdf** **12 02 07.6 +0.7**
baz=297
S22A 4UR Ranch, Cre 115.27 46 P **PKPdf** **12 02 08.1 +1.1**
baz=295
121A Cookes Peak, D 116.62 52 P **PKiKP** **12 02 09.9 +0.3**
baz=292
ANMO Albuquerque 116.70 49 *i* PKiKP **PKiKP** **12 02 09.9 +0.1**
ANMO Albuquerque 116.70 49 P **PKiKP** **12 02 10.9 +1.1**
baz=294
T25A Trinidad 117.26 46 P **PKiKP** **12 02 12.0 +1.1**
baz=297
MNTX Cornudas Mount 118.82 52 P **PKiKP** **12 02 14.7 +0.9**
baz=293
MSTX Muleshoe 119.87 48 P **PKiKP** **12 02 16.0 +0.1**
baz=296
TXAR Lajitas Array 121.11 53 PKP **PKiKP** **12 02 18.9 +0.5**
comp=Z,0.7nm,0.7s,baz=227,slow=0.6,SNR=9.6
TXAR PKKPbc **PKKPbc** **12 12 21.4 -0.3**
comp=Z,0.2nm,0.6s,baz=116,slow=5.7,SNR=5.0
TXAR Lajitas Array 121.11 53 PKiKP **PKiKP** **12 02 18.5 +0.1**
TXAR Lajitas Array 121.11 53 **PKiKP** **12 02 18.5 +0.1**
SCHQ Schefferville 121.58 10 PKP **PKiKP** **12 02 18.8 +0.3**
comp=Z,0.9nm,0.3s,baz=327,slow=3.1,SNR=9.2
SCHQ Schefferville 121.58 10 **PKPdf** **12 02 17.9 -0.4**
KSU1 Kansas State U 121.59 40 P **PKiKP** **12 02 19.4 +0.4**
baz=304
JCT Junction City 123.67 51 P **PKiKP** **12 02 23.9 +0.6**
baz=297
S39A Bolivar 124.51 40 PKPdf **PKiKP** **12 02 25.0 +0.2**
R40A Maddies Statio 124.82 39 **PKPdf** **12 02 24.7 -0.3**
TORD Torodi Ar. Bea 124.84 288 PKP **PKPdf** **12 02 25.6 0.0**
comp=Z,3.9nm,0.6s,baz=51,slow=2.1,SNR=30
TORD PP **PP** **12 04 17.9 +2.5**
comp=Z,2.1nm,1.1s,baz=50,slow=3.3,SNR=4.5
TORD Torodi Ar. Bea 124.84 288 **PKPdf** **12 02 21.9 -3.7**
833A Chaparral WMA, 124.94 53 P **PKiKP** **12 02 26.2 +0.4**
baz=296
CCM Cathedral Cave 125.60 38 P **PKPdf** **12 02 26.3 -0.2**
baz=309
U40A Yellville 125.60 41 P **PKPdf** **12 02 26.7 +0.2**
baz=306
W39A Magazine 125.65 43 P **PKiKP** **12 02 27.1 0.0**
baz=304
MIAR Mount Ida 126.16 43 P **PKiKP** **12 02 28.6 +0.5**
baz=304
X40A Basin Creek Fa 126.70 43 P **PKiKP** **12 02 29.6 +0.5**
baz=305
P49A Miami Univ. Ec 128.39 33 P **PKiKP** **12 02 32.9 +0.5**
baz=316
WVT Waverly 128.93 38 P **PKPdf** **12 02 33.3 +0.4**
baz=311
LRAL Lakeview Retre 131.44 40 P **PKiKP** **12 02 39.1 +0.4**
baz=310
PAL Palisades 132.25 23 P **PKiKP** **12 02 41.0 +0.9**
baz=329
KIC Kosan Boka 132.34 281 *e*PKP1 **PKPdf** **12 02 40.6 +0.6**
comp=Z,4.7nm,0.7s
DBIC Dimbokro 132.41 281 SKPbc **SKPbc** **12 05 54.1 0.0**
comp=Z,5.0nm,0.8s,baz=68,slow=2.6,SNR=5.8
TIC Toumodi 132.57 281 *e*PKP1 **PKPdf** **12 02 41.0 +0.6**
LIC Lamto 132.65 281 *e*PKP1 **PKPdf** **12 02 40.1 -0.4**
comp=Z,42nm,1.6s
CMIG Matias Romero 133.16 64 SKPbc **SKPbc** **12 05 56.1 -0.5**
comp=Z,2.8nm,0.8s,baz=50,slow=4.2,SNR=4.2
GOGA Godfrey 133.41 37 P **PKPdf** **12 02 41.7 +0.2**
baz=314
PLCA Paso Flores 138.22 158 PKP **PKPdf** **12 02 50.8 +0.4**
comp=Z,2.1nm,1.0s,baz=190,slow=9.9,SNR=2.9
PLCA SKPbc **SKPbc** **12 06 12.2 +0.4**
comp=Z,2.9nm,0.9s,baz=197,slow=6.0,SNR=5.1
MT01 Popeta 143.76 152 PKPbc 12 02 59.1 +0.8
ROC1 El Roble 144.60 151 **PKPab** **12 03 00.6 -0.4**
ITQB Itaqui 152.58 171 *e*P **PKPdf** **12 03 09.8 -4.9**
LVC Limon Verde 153.87 142 *e*P **PKPdf** **12 03 12.7 -4.6**
LPAZ La Paz 158.73 131 PKPab **PKPab** **12 03 57.1 -3.1**
comp=Z,1.0nm,0.6s,baz=328,slow=4.2,SNR=2.4
NBAN Anadia - AL 163.09 244 *e*P **PKPdf** **12 03 26.5 -1.6**
NBPN Ponto Novo - B 165.87 233 *e*P **PKPdf** **12 03 28.0 -2.6**
VILB Vilhena 166.56 142 *e*P **PKPdf** **12 03 27.2 -3.9**

MAN 07 11:45:38.2, 16.49N×121.11E, h10km, mb4.3, ML3.2, MS2.9, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.53**	**231**⇓	*e*P	Pg	11 45 48.8	+0.3
SMPP				*e*S	Sb	11 45 57.7	+0.3
PCPH	**Palayan**	**0.92**	**181**⇑	*e*P	Pg	11 45 55.9	-0.1
PCPH				*e*S	Sn	11 46 13.8	+3.4
LQP	**Lukban**	**2.40**	**170**	*e*P	Pn	11 46 15.7	-2.0
LQP				*i* S	Sn	11 46 48.8	+1.5
LUBP	**Lubang**	**2.86**	**197**⇓	*e*P	Pb	11 46 28.5	-0.9
LUBP				*e*S	Sn	11 46 51.8	-6.6

NEIC ***07*** *12:21:05.7±1.8, 17.4S±0.1×178.9W±0.1, h552km±10km, mb4.1/19, Error ellipse: s-maj=22.2km s-min=16.9km az=148.0*
IDC ***07*** *12:21:05.0±1.5, 17.67S×178.79W, h554km±15km, mb3.0/9, mb1 3.4/12, mb1mx3.2/33, mbtmp4.0/12, Error ellipse: s-maj=66.7km s-min=13.3km az=153.0*
ISC 07 12:21:05.3±0.6, 17.4S±0.1×178.9W±0.1, h550km, n40, σ1§14/40, mb4.0/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**12 22 22.3**	**+2.1**
	16nm,0.3s,baz=120,slow=22,SNR=82						
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**12 22 23.2**	**+3.0**
AFI	**Afiamalu**	**7.66**	**64**	P	**P**	**12 22 58.3**	**-1.4**
	6.2nm,0.3s,baz=299,slow=1.6,SNR=10.0						
MARNC	**Mare, Loyalty**	**13.01**	**250**	P	**P**	**12 23 53.9**	**-0.4**
PINNC	**Pines Island,**	**13.87**	**246**	P	**P**	**12 24 02.9**	**-0.2**
DZM	**Mont Dzumac**	**14.59**	**249**	P	**P**	**12 24 08.4**	**-2.3**
	0.9nm,0.3s,baz=83,slow=20,SNR=7.8						
DZM	**Mont Dzumac**	**14.59**	**249**	P	**P**	**12 24 09.8**	**-0.9**
MLZ	**Mavora Lakes**	**29.91**	**199**	P	**P**	**12 26 29.5**	**+0.8**
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**12 26 55.8**	**-0.7**
	3.1nm,1.0s,baz=63,slow=6.8,SNR=1.5						
CAN	**Canberra**	**33.66**	**232**	P	**P**	**12 27 01.5**	**+0.6**
CAN				IAmb	IAmb	12 27 04.4	
	comp=Z,13nm,1.2s						
COEN	**Coen**	**36.69**	**270**	P	**P**	**12 27 26.3**	**+0.1**
COEN				IAmb	IAmb	12 27 26.9	
	comp=Z,2.8nm,0.8s						
TOO	**Toolangi**	**37.15**	**230**	P	**P**	**12 27 31.2**	**+1.5**
TOO				IAmb	IAmb	12 27 31.4	
	comp=Z,5.6nm,0.8s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**12 27 39.8**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=96,slow=10.0,SNR=6.1						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**12 27 40.9**	**+0.1**
BBOO	**Buckleboo**	**43.27**	**240**	P	**P**	**12 28 18.2**	**-0.5**
BBOO				IAmb	IAmb	12 28 19.2	
	comp=Z,9.3nm,0.9s						
WR0	**Warramunga Arr**	**44.12**	**259**	P	**P**	**12 28 24.3**	**-1.2**
WR0				IAmb	IAmb	12 28 28.1	
	comp=Z,4.7nm,1.1s						
WB0	**Warramunga Arr**	**44.27**	**259**	P	**P**	**12 28 25.3**	**-1.4**
WB0				IAmb	IAmb	12 28 28.9	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**44.30**	**259**	P	**P**	**12 28 25.9**	**-1.0**
WB2				IAmb	IAmb	12 28 26.4	
	comp=Z,2.3nm,0.6s						
WRAB	**Tennant Creek**	**44.30**	**259**	P	**P**	**12 28 26.1**	**-0.8**
WRAB				IAmb	IAmb	12 28 50.4	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**12 28 25.6**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=96,slow=7.1,SNR=41						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**12 28 24.9**	**-2.1**
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**12 28 27.9**	**-0.7**
	comp=Z,17nm,0.6s,baz=88,slow=8.0,SNR=401						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**12 28 27.7**	**-0.9**
FORT	**Forrest**	**49.83**	**244**	P	**P**	**12 29 07.3**	**-1.1**
KNRA	**Kununurra**	**50.12**	**264**	P	**P**	**12 29 10.0**	**-0.7**
KNRA				IAmb	IAmb	12 29 20.7	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.69**	**260**	P	**P**	**12 29 28.7**	**-0.5**
PSA00	**Pilbara Seismi**	**57.62**	**255**	P	**P**	**12 30 03.6**	**+0.1**
MORW	**Morawa**	**60.29**	**246**	P	**P**	**12 30 20.9**	**-0.4**
MORW				IAmb	IAmb	12 30 36.0	
comp=Z,18nm,1.5s
QSPA South Pole Qui 72.62 180 P **P** **12 31 37.5 +0.6**
NVAR Mina Array Bea 79.38 44 P **P** **12 32 15.6 +0.7**
comp=Z,0.7nm,0.6s,baz=219,slow=7.5,SNR=5.6
VRDI Verde Repeater 83.34 16 P **P** **12 32 35.9 +1.3**
VRDI IAmb IAmb 12 32 52.0
comp=Z,9.4nm,1.4s
TMUT Trail Mountain 84.61 46 P **P** **12 32 42.0 +0.6**
ILAR Eielson Array 85.52 13 P **P** **12 32 43.8 -1.1**
comp=Z,0.2nm,0.5s,baz=218,slow=5.7,SNR=1.9
TXAR Lajitas Array 86.10 58 P **P** **12 32 48.8 +0.2**
comp=Z,0.5nm,0.8s,baz=219,slow=6.1,SNR=6.0
TXAR Lajitas Array 86.10 58 P **P** **12 32 49.1 +0.5**
PDAR Pinedale Array 87.30 44 P **P** **12 32 54.4 +0.2**
comp=Z,0.4nm,0.6s,baz=231,slow=3.0,SNR=6.2
PDAR Pinedale Array 87.30 44 P **P** **12 32 53.8 -0.3**
SNAA Sanae 91.08 179 P **P** **12 33 10.2 -0.8**
SONM Songino Array 92.92 319 P **P** **12 33 21.2 +1.3**
comp=Z,0.2nm,0.5s,baz=49,slow=4.5,SNR=3.7
YKA Yellowknife Ar 94.08 25 P **P** **12 33 24.0 -0.6**
comp=Z,0.2nm,0.6s,baz=245,slow=4.6,SNR=3.8

NDI ***07*** *12:22:59.7±1.6, 22.82N×93.82E, h13km±17km, mb4.4, ML3.7, mb4.5(NEIC)*
BJI ***07*** *12:23:00.4±0.0, 22.77N×93.85E, h65km, mb4.1/32, mB4.5/13, ML3.7/1, Ms3.5/6, Ms7 3.3/5*
IDC ***07*** *12:23:00.4±2.4, 22.84N×94.07E, h44km±24km, mb3.8/15, mb1 4.0/16, mb1mx3.7/53, mbtmp4.0/16, ML3.2/2, MS3.3/14, Ms1 3.3/14, ms1mx3.0/94, Error ellipse: s-maj=26.2km s-min=14.0km az=52.0*
NEIC ***07*** *12:23:01.7±1.0, 22.76N±0.09×93.9E±0.1, h50km±7km, mb4.5/44, Error ellipse: s-maj=20.2km s-min=8.9km az=55.0*
ISC 07 12:23:01.8±0.4, 22.75N±0.05×93.80E±0.05, h58km, n120, σ1§91/126, mb4.3/36, MS3.4/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**1.99**	**268**	P	**Pn**	**12 23 34.8**	**+1.7**
	0.9nm,0.3s,baz=360,slow=24,SNR=5.8						
BRDH				S	**Sn**	**12 24 02.8**	**+5.8**
	0.5nm,0.3s,baz=180,slow=24,SNR=16						
SILR	**SILCHAR**	**2.22**	**336**	IAML		12 24 57.1	
	comp=N,1μm,1.5s						
SILR				IAML		12 25 04.0	
	comp=E,972nm,1.0s						
KOHI	**KOHIMA**	**2.97**	**5**	*e*P	**Pn**	**12 23 46.5**	**-0.1**
SHL	**Shillong**	**3.30**	**328**	Pn	**Pn**	**12 23 51.7**	**+0.4**
SHL	**Shillong**	**3.30**	**328**	*e*P	**Pn**	**12 23 51.4**	**+0.1**
GUWA	**GUWAHATI**	**3.93**	**331**	*e*P	**Pn**	**12 23 58.4**	**-1.2**
GUWA				*e*S	**Sn**	**12 24 42.7**	**-1.8**
TEZP	**TEZPUR**	**3.95**	**347**	*e*P	**Pn**	**12 23 58.8**	**-1.2**
TURI	**Tura**	**4.22**	**312**	*e*P	**Pn**	**12 24 03.5**	**0.0**
TURI				*e*S	**Sn**	**12 24 50.8**	**-0.8**
DHUB	**DHUBRI**	**4.75**	**314**	*e*P	**Pn**	**12 24 09.3**	**-1.6**
DHUB				*e*S	**Sn**	**12 25 02.0**	**-2.7**
DHUB				IAML		12 25 07.2	
	comp=E,116nm,0.3s						
DHUB				IAML		12 25 07.2	
	comp=N,149nm,0.2s						
CHTO	**Chiang Mai**	**6.21**	**128**	Pn	**Pn**	**12 24 29.2**	**-1.7**
CM31	**Chiang Mai Arr**	**6.44**	**131**	Pn	**Pn**	**12 24 32.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**6.44**	**131**	P	**Pn**	**12 24 30.3**	**-3.8**
	comp=N,0.6nm,0.3s,baz=311,slow=13,SNR=16						
CMAR				LR	LR	12 27 27.9	
	comp=N,113nm,21.0s,baz=305,slow=42						
CMAR	**Chiang Mai Arr**	**6.44**	**131**		**Pn**	**12 24 32.8**	**-1.3**
GTK	**Tadong**	**6.55**	**315**	*e*P	**Pn**	**12 24 36.2**	**+0.5**
GTK				*ex*	**Sn**	**12 25 49.6**	**+0.6**
GTK				IAML		12 25 53.0	
	comp=N,70nm,1.2s						
GTK				IAML		12 25 58.0	
	comp=E,46nm,0.3s						
ODAN	**Odare**	**7.12**	**306**	*e*Pn	**Pn**	**12 24 42.9**	**-0.6**
ODAN				*e*Sn	**Sn**	**12 26 01.5**	**-1.6**
TAPN	**Taplejung**	**7.17**	**311**	*e*Pn	**Pn**	**12 24 44.0**	**-0.3**
TAPN				*e*Sn	**Sn**	**12 26 03.9**	**-0.7**
LSA	**Lhasa**	**7.32**	**342**	Pn	**Pn**	**12 24 46.8**	**+0.3**
LSA	**Lhasa**	**7.32**	**342**	P	**Pn**	**12 24 46.9**	**+0.4**
LSA				S	**Sn**	**12 26 04.6**	**-3.8**
LSA				smax	smax		
	comp=E,31nm,0.6s						
LSA				smax	smax		
	comp=E,25nm,0.6s						
BOK	**Bokaro**	**7.35**	**280**	*e*P	**Pn**	**12 24 46.9**	**+0.4**
RAMN	**Ramite**	**7.76**	**304**	*e*Pn	**Pn**	**12 24 51.8**	**-0.6**
RAMN				*e*Sn	**Sn**	**12 26 16.1**	**-2.8**
	comp=E,31nm,0.4s						
PZH	**PanZhiHua**	**8.13**	**61**	P	**Pn**	**12 25 00.1**	**+2.7**
PZH				S	**Sn**	**12 26 31.2**	**+3.2**
PZH				pmax	pmax		
	comp=E,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=E,80nm,4.7s						
PZH				LR	LR		
	comp=E,100nm,5.5s						
PZH				LR	LR		
	comp=E,120nm,5.7s						
PZH				LR	LR		
	comp=E,170nm,9.3s						
JIRN	**Jiri**	**8.45**	**307**	*e*Pn	**Pn**	**12 25 00.4**	**-1.5**
JIRN				*e*Sn	**Sn**	**12 26 33.2**	**-2.7**
	comp=E,58nm,0.4s						
GUN	**Gumba**	**8.81**	**307**	*e*Pn	**Pn**	**12 25 05.6**	**-1.3**
GUN				*e*Sn	**Sn**	**12 26 41.1**	**-3.8**
	comp=E,25nm,0.4s						
PKI	**Pulchoki**	**8.99**	**304**	*e*Pn	**Pn**	**12 25 07.7**	**-1.5**
PKI				*e*Sn	**Sn**	**12 26 45.1**	**-4.0**
	comp=E,14nm,0.4s						
PKIN	**Phulchoki**	**9.00**	**304**	*e*Pn	**Pn**	**12 25 07.7**	**-1.6**
PKIN				*e*Sn	**Sn**	**12 26 45.2**	**-4.2**
	comp=E,18nm,0.4s						
KKN	**Kakani**	**9.20**	**305**	*e*Pn	**Pn**	**12 25 11.2**	**-0.8**
KKN				*e*Sn	**Sn**	**12 26 50.6**	**-3.5**
DMN	**Daman**	**9.24**	**303**	*e*Pn	**Pn**	**12 25 11.6**	**-1.0**
DMN				*e*Sn	**Sn**	**12 26 51.3**	**-3.9**
	comp=E,50nm,0.6s						
DGPR	**DIGLIPUR**	**9.56**	**185**	*e*P	**Pn**	**12 25 16.9**	**+0.2**
GKN	**Gorkha**	**9.79**	**304**	*e*Pn	**Pn**	**12 25 18.1**	**-2.0**
GKN				*e*Sn	**Sn**	**12 27 03.7**	**-5.0**
	comp=E,24nm,0.4s						
KOLN	**Koldanda**	**10.49**	**301**	*e*Pn	**Pn**	**12 25 27.5**	**-2.2**
KOLN				*e*Sn	**Sn**	**12 27 19.8**	**-6.1**
	comp=E,28nm,0.4s						
DANN	**Dangsing**	**10.64**	**304**	*e*Pn	**Pn**	**12 25 29.5**	**-2.3**
DANN				*e*Sn	**Sn**	**12 27 25.3**	**-4.2**
	comp=E,28nm,0.4s						
PYUN	**Piuthan**	**11.12**	**301**	*e*Pn	**Pn**	**12 25 36.3**	**-2.0**
PYUN				*e*Sn	**Sn**	**12 27 36.3**	**-5.0**
	comp=E,35nm,0.5s						
GOMU	**GeErMu**	**13.43**	**4**	P	**Pn**	**12 26 07.0**	**-2.9**
GOMU				pmax	pmax		
	comp=E,5.0nm,0.5s						
GOMU				pmax	pmax		
	comp=E,83nm,4.3s						
GOMU				LR	LR		
	comp=E,58nm,6.6s						
GOMU				LR	LR		
	comp=E,51nm,5.8s						
GOMU				LR	LR		
	comp=E,58nm,5.8s						
LZH	**Lanzhou**	**15.89**	**31**	*e*P	**Pn**	**12 26 42.3**	**+0.3**
LZH				pmax	pmax		
	comp=E,8.0nm,1.1s						
XAN	**Xi'an**	**17.40**	**46**	P	**Pn**	**12 26 56.7**	**-3.9**
XAN				pmax	pmax		
	comp=E,5.0nm,1.2s						
XAN				LR	LR		
	comp=E,120nm,11.7s						
XAN				LR	LR		
	comp=E,180nm,13.1s						
XAN				LR	LR		
	comp=E,270nm,17.9s						
DHRM	**DHARAMSHALA**	**18.16**	**305**	*e*P	**Pn**	**12 27 12.8**	**+2.6**
DHRM				IAmb	IAmb	12 27 13.8	
	comp=Z,16nm,0.5s						
PALK	**Pallekele**	**19.89**	**221**	LR	LR	12 35 08.5	
	comp=Z,57nm,21.5s,baz=175,slow=36						
RPSI	**Rantau Prapat**	**20.55**	**165**	P	**P**	**12 27 34.2**	**-1.5**
NIL	**Nilore**	**21.07**	**305**	P	**P**	**12 27 41.2**	**-0.2**
NIL				IAmb	IAmb	12 27 46.4	
	comp=Z,9.1nm,0.8s						

WMQ Urumqi 21.61 348 *e*P P 12 27 49.5 +2.5
KSH Kashi 22.56 322 P P 12 27 52.7 -4.6
KSH pP pP 12 28 08.1 -2.4
KSH sP sP 12 28 14.8 -3.2
KSH pmax pmax
comp=Z,3.0nm,0.6s
HHC Hu-ho-hao-te 23.45 36 *e*P P 12 28 05.5 -0.6
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.2s
NJ2 Nanjing 24.05 62 *e*P P 12 28 11.7 +0.1
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 24.63 304 P P 12 28 19.2 +2.0
MK31 Makanchi Array 25.73 342 P P 12 28 27.1 +0.4
MKAR Makanchi Array 25.73 342 P P 12 28 27.2 +0.5
comp=Z,4.3nm,0.7s,baz=152,slow=9.9,SNR=66
GAR Garm 25.74 314 P P 12 28 28.1 +1.0
GAR IAmb IAmb 12 28 44.9
comp=Z,10nm,0.7s
MAKZ Makanchi 25.83 341 P P 12 28 28.2 +0.5
SONM Songino Array 26.98 19 P P 12 28 37.6 -0.6
comp=Z,1.4nm,0.7s,baz=198,slow=8.7,SNR=8.3
SONM LR LR 12 41 22.9
comp=Z,79nm,19.3s,baz=152,slow=41
SONM Songino Array 26.98 19 P P 12 28 39.0 +0.8
KKAR Karatay Array 28.01 322 P P 12 28 48.6 +1.3
KURK Kurchatov 30.32 341 P P 12 29 07.8 +0.1
JOW Kunigami 31.50 75 LR LR 12 43 33.3
comp=Z,55nm,18.1s,baz=258,slow=40
ZAA0 Zalesovo Array 31.88 350 P P 12 29 21.6 +0.3
ZALV Zalesovo Beam 31.88 350 P P 12 29 20.9 -0.5
comp=Z,2.0nm,0.5s,baz=166,slow=8.1,SNR=13
ZALV Zalesovo Beam 31.88 350 P P 12 29 21.2 -0.2
WSAR Wadi Sarin 32.33 278 LR LR 12 43 48.7
comp=Z,76nm,20.3s,baz=104,slow=38
KSRS Korea Array 32.76 56 LR LR 12 45 01.6
comp=Z,36nm,19.1s,baz=250,slow=41
BRVK Borovoye 35.17 335 P P 12 29 51.9 +2.0
KAPI Kappang 37.49 134 LR LR 12 48 29.4
comp=Z,67nm,18.3s,baz=164,slow=41
ABKAR Akbulak array 37.55 323 P P 12 30 12.4 +2.1
AKTO Aktyubinsk 39.24 324 LR LR 12 50 25.1
comp=Z,30nm,19.5s,baz=142,slow=42
MJAR Matsushiro Arr 40.62 60 LR LR 12 49 18.9
comp=Z,60nm,18.4s,baz=223,slow=39
ARU Arti 42.39 332 P P 12 30 50.7 +0.4
ARU IAmb IAmb 12 31 04.0
comp=Z,7.7nm,1.5s
NRIK Noril'sk 46.75 357 P P 12 31 25.0 +0.1
comp=Z,1.6nm,0.5s,baz=130,slow=4.9,SNR=3.9
NRIK Noril'sk 46.75 357 P P 12 31 24.2 -0.7
NRIK IAmb IAmb 12 31 25.9
comp=Z,2.4nm,0.8s
ATD Arta Tunnel 49.73 266 LR LR 12 52 03.2
comp=Z,40nm,19.7s,baz=43,slow=35
PSA00 Pilbara Seismi 50.85 148 P P 12 31 56.1 -0.7
PSA00 IAmb IAmb 12 31 56.9
comp=Z,5.9nm,0.8s
FITZ Fitzroy Crossi 51.16 140 P P 12 31 58.8 -0.5
KNRA Kununurra 51.28 135 P P 12 31 59.3 -0.9
TIXI Tiksi 52.84 13 P P 12 32 10.4 -0.7
TIXI IAmb IAmb 12 32 12.9
comp=Z,7.9nm,1.3s
MA2 Magadan 54.05 32 LR LR 12 58 22.9
comp=Z,33nm,18.8s,baz=2.5,slow=39
AKASG Malin Array Be 56.72 317 P P 12 32 39.5 +0.1
comp=Z,1.3nm,0.4s,baz=81,slow=6.8,SNR=7.5
AKASG Malin Array Be 56.72 317 P P 12 32 40.0 +0.6
AKBB Malin Array Si 56.72 317 P P 12 32 39.6 +0.1
AKBB IAmb IAmb 12 32 59.1
comp=Z,6.4nm,1.4s
MNK Minsk 57.85 321 *i* P P 12 32 58.2 +11
comp=E,1.0nm,0.8s
MNK *i* P P 12 32 58.2 +11
comp=N,8.0nm,0.7s
MNK *i* P P 12 32 58.2 +11
comp=Z,5.0nm,0.7s,baz=275
MNK *i* pP sP 12 33 12.1 +2.0
MNK *i* PcP PcP 12 33 49.7 +10
MNK *i* PP PP 12 35 07.1 +11
MNK *i* PPP PPP 12 36 25.3
MNK *i* S S 12 40 54.7 +12
MNK *i* sS sS 12 41 19.2 +10
MNK *i* SS SS 12 44 48.4 +15
MNK *i* SSS SSS 12 47 21.8
MNK *i* LR LR 12 58 17.4
MNK *i* LRM MLR 13 00 05.2
comp=Z,104nm,20.3s
MNK *i* LRM MLR 13 00 17.5
comp=E,24nm,26.1s
MNK *i* LRM MLR 13 00 31.1
comp=N,130nm,25.3s
WB0 Warramunga Arr 57.94 134 P P 12 32 47.7 -0.8
WB0 IAmb IAmb 12 33 10.6
comp=Z,8.6nm,1.4s
WRA Warramunga Arr 58.02 134 P P 12 32 48.2 -0.9
comp=Z,2.1nm,0.7s,baz=320,slow=7.5,SNR=25
WRA Warramunga Arr 58.02 134 P P 12 32 48.5 -0.5
WRAB Tennant Creek 58.02 134 P P 12 32 48.8 -0.2
WRAB IAmb IAmb 12 32 57.8
comp=Z,7.2nm,1.3s
WB2 Warramunga Arr 58.03 134 P P 12 32 48.8 -0.3
WB2 IAmb IAmb 12 32 50.2
comp=Z,2.3nm,0.7s
WR0 Warramunga Arr 58.17 134 P P 12 32 49.5 -0.5
WR0 IAmb IAmb 12 32 50.8
comp=Z,2.9nm,0.7s
FINES FINESS Array B 59.64 329 P P 12 32 59.8 +0.1
KMBO Kilima Mbogo 59.92 255 LR LR 13 00 18.6
comp=Z,41nm,18.9s,baz=90,slow=37
ASAR Alice Springs 60.40 137 P P 12 33 05.3 -0.2
comp=Z,2.0nm,0.7s,baz=319,slow=6.7,SNR=30
ASAR Alice Springs 60.40 137 P P 12 33 07.1 +1.6
ARCES ARCESS Array B 61.31 338 P P 12 33 11.5 +0.5
comp=Z,1.4nm,0.8s,baz=98,slow=8.7,SNR=4.2
ARCES ARCESS Array B 61.31 338 P P 12 33 11.8 +0.8
ARCES IAmb IAmb 12 33 25.6
comp=Z,6.6nm,1.3s
PSZ Piszkesteto 62.83 313 P P 12 33 23.5 +1.9
VOI Vohitsoka 63.77 229 P P 12 33 29.5 +1.3
HFS Hagfors 65.65 327 P P 12 33 40.6 +0.9
comp=Z,1.7nm,0.7s,baz=126,slow=7.3,SNR=2.0
NOA NORSAR Array B 66.80 328 P P 12 33 47.7 +0.5
comp=Z,0.6nm,0.7s,baz=85,slow=5.8,SNR=2.2
GEC2 GERESS Array S 66.82 315 P P 12 33 48.4 +0.8
GEC2 IAmb IAmb 12 33 59.1
comp=Z,3.2nm,1.0s
GERES GERESS Array B 66.82 315 P P 12 33 48.5 +0.9
comp=Z,0.9nm,0.4s,baz=69,slow=6.3,SNR=9.0
GERES GERESS Array B 66.82 315 P P 12 33 48.4 +0.8
BBOO Buckleboo 68.41 142 P P 12 33 57.0 -0.6
LSZ Lusaka 74.50 246 LR LR 13 07 07.5
comp=Z,25nm,19.6s,baz=162,slow=35
MATP Matopo 76.80 241 LR LR 13 07 44.5
comp=Z,15nm,20.3s,baz=110,slow=35
TOO Toolangi 77.22 140 P P 12 34 48.6 -1.1
EUNU Eureka 77.40 0 P P 12 34 50.8 +0.6
EUNU IAmb IAmb 12 35 01.2
comp=Z,3.6nm,1.1s
IMAR Indian Mountai 78.08 23 P P 12 34 54.2 +0.1
TOLK Toolik Lake Re 78.10 20 P P 12 34 54.9 +0.6
TOLK IAmb IAmb 12 34 55.1
comp=Z,8.9nm,1.3s
K20K Telida 79.25 25 P P 12 35 01.7 +1.1
K20K IAmb IAmb 12 35 07.2
comp=Z,6.7nm,1.4s
MLY Manley 79.65 23 P P 12 35 02.7 -0.1
MLY IAmb IAmb 12 35 05.2
comp=Z,5.0nm,0.8s
CAST Castle Rocks 79.99 25 P P 12 35 05.1 +0.4
CAST IAmb IAmb 12 35 06.9
comp=Z,3.9nm,0.7s
BMAR Burnt Mountain 80.33 19 P P 12 35 07.5 +1.0
N19K Bonanza Creek 80.34 28 P P 12 35 06.8 +0.1
N19K IAmb IAmb 12 35 17.3
comp=Z,10nm,1.3s
MDM Murphy Dome 80.58 22 P P 12 35 07.8 0.0
ILAR Eielson Array 81.16 22 P P 12 35 08.8 -2.0
comp=Z,1.0nm,0.8s,baz=304,slow=4.6,SNR=12
ILAR Eielson Array 81.16 22 P P 12 35 09.8 -1.1
A36M Sachs Harbour 81.81 11 P P 12 35 15.0 +0.9
A36M IAmb IAmb 12 35 15.7
comp=Z,6.3nm,0.8s
RIDG Independent Ri 82.49 23 P P 12 35 18.1 +0.1
KDAK Kodiak Island 82.73 30 P P 12 35 18.5 -0.7
INK Inuvik 82.86 16 P P 12 35 18.8 -0.9
comp=Z,1.6nm,0.5s,baz=327,slow=5.7,SNR=11
INK Inuvik 82.86 16 P P 12 35 20.4 +0.8
INK IAmb IAmb 12 35 24.9
comp=Z,3.2nm,1.0s
BMRM Bremner River 84.27 25 P P 12 35 28.0 +0.8
TORD Torodi Ar. Bea 86.91 283 P P 12 35 42.9 +1.9
comp=Z,0.8nm,0.9s,baz=54,slow=5.7,SNR=4.3
YKA Yellowknife Ar 92.09 13 P P 12 36 03.9 -0.6
comp=Z,0.4nm,0.8s,baz=328,slow=4.2,SNR=8.2
TXAR Lajitas Array 125.55 19 PKP PKPdf 12 41 57.5 +0.2
comp=Z,0.2nm,0.7s,baz=216,slow=1.8,SNR=3.7
TXAR Lajitas Array 125.55 19 PKiKP 12 41 58.0 +0.3

IDC ***07*** *12:33:17.8±1.9, 35°23N×4°68W, h72km±24km, mb3.3/5, mb1 3.5/7, mb1mx3.2/43, mbtmp3.6/7, Error ellipse: s-maj=50.9km s-min=15.2km az=90.0*
CNRM ***07*** *12:33:17.4, 35°24N×4°89W, h68km, ml3.9*
SFS ***07*** *12:33:18.0, 35°32N×4°99W, ML3.9, BOU AHMED (MARRUECOS)*
MDD ***07*** *12:33:18.1±0.4, 35°33N×4°99W, h55km±18km, Mb4.5/18, M_mb3.9/18, Error ellipse: s-maj=3.6km s-min=2.7km az=10.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
IGIL ***07*** *12:33:18.8, 35°33N×4°99W, h55km, ML4.1*
LDG ***07*** *12:33:18.5±0.3, 35°52N×4°76W, h30km, Ml3.2/4, Error ellipse: s-maj=8.0km s-min=3.2km az=3.0*
INMG ***07*** *12:33:20.5±2.2, 35°57N×5°01W, h27km±9km, ML3.8, Error ellipse: s-maj=5.8km s-min=4.0km az=153.0*
ISC 07 12:33:17.3±0.7**, 35°38N**±0°03×**4°95W**±0°03**, h78**km±7km**, n119,** σ**2.28**/182**, mb3.3**/5**, 21C, Strait of Gibraltar**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CHEFC Chefchaouen 0.42 230 P Pn 12 33 30.4 +0.1
CHEFC S Sn 12 33 38.6 -1.2
SMIR Smir Dam 0.47 311 P Pn 12 33 31.4 +0.8
SMIR S Sn 12 33 41.0 +0.6
CEU Ceuta 0.63 327 P Pn 12 33 32.1 0.0
CEU S Sn 12 33 43.5 +0.6
PALE Palemas 0.84 101 P Pn 12 33 33.5 -0.9
PALE S Sn 12 33 44.6 -2.6
CPS Cap Spartel 0.88 298 P Pn 12 33 36.6 +1.8
EMIJ Mijas 1.20 7 Pg Pn 12 33 37.4 -1.3
EMIJ ⇑*i*Vmb_V 12 33 40.7
2µm,SNR=20
EMIJ Sg Sn 12 33 52.0 -2.8
EMAL Malaga-Limoner 1.45 17 P Pn 12 33 41.2 -0.7
EMAL S Sn 12 33 57.8 -2.6
GOG Mont Gurugu 1.61 95 P Pn 12 33 42.9 -1.1
GOG S Sn 12 34 02.0 -2.3
EMEL Melilla 1.63 92 Pg Pn 12 33 43.6 -0.7
EMEL ⇑*i*Vmb_V 12 33 43.8
23µm,SNR=7.4
EMEL Sg Sn 12 34 03.2 -1.5
EALB Alboran 1.66 70 Pg Pn 12 33 44.5 -0.1
EALB ⇑*i*Vmb_V 12 33 51.2
3µm,SNR=1.2
EALB Sg Sn 12 34 03.5 -1.8
LCRM LCR 1.69 177 P Pn 12 33 44.1 -1.0
LCRM S Sn 12 34 03.3 -3.0
ELGU Los Guajares, 1.83 35 Pn Pn 12 33 46.0 -1.1
ELGU ⇑*i*Vmb_V 12 33 49.1
2µm,SNR=12
ELGU Sn Sn 12 34 07.3 -2.3
IFR Ifrane 1.86 185 P Pn 12 33 46.6 -0.9
IFR S Sn 12 34 07.0 -3.3
TAF Taforalt 2.15 104 P Pn 12 33 51.1 -0.2
TAF S Sn 12 34 15.3 -1.9
EQUE Quentar 2.20 33 Pn Pn 12 33 53.5 +1.6
EQUE ⇑*i*Vmb_V 12 33 57.6
620nm,SNR=5.2
EQUE Sn Sn 12 34 19.5 +1.3
CZD Col de Zad 2.34 182 P Pn 12 33 53.7 -0.3
CZD S Sn 12 34 18.9 -3.1
ZHG ZHG 2.38 216 P Pn 12 33 53.6 -0.8
MD31 MD31 2.51 176 P Pn 12 33 55.7 -0.4
MD31 S Sn 12 34 22.9 -2.9
MDT Midelt 2.57 174 P Pn 12 33 56.4 -0.5
20nm,0.3s,baz=342,slow=20,SNR=1260
MDT S Sn 12 34 24.4 -2.9
240nm,0.3s,baz=9.3,slow=15,SNR=67
MDT Midelt 2.57 174 P Pn 12 33 56.4 -0.5
MDT S Sn 12 34 24.5 -2.8
ECAB El Cabril 2.72 352 Pn Pn 12 33 58.9 0.0
ECAB ⇑*i*Vmb_V 12 34 02.6
594nm,SNR=4.8
ECAB Sn Sn 12 34 28.4 -2.4
ENIJ Nijar 2.73 54 Pn Pn 12 33 58.8 -0.2
ENIJ ⇑*i*Vmb_V 12 34 02.7
370nm,SNR=1.4
ENIJ Sn Sn 12 34 28.6 -2.5
PTAV Tavira 2.80 309 *e*Sn Sn 12 34 31.0 -1.6
AVE Averroes 2.91 225 P Pn 12 34 01.1 -0.2
AVE S Sn 12 34 32.3 -3.0
AVE Averroes 2.91 225 P Pn 12 34 01.8 +0.4
PFARO Faro 2.91 305 *e*Sn Sn 12 34 34.0 -1.4
EGRO El Granado 2.97 317 Pn Pn 12 34 02.4 +0.2
EGRO ⇑*i*Vmb_V 12 34 05.1
3µm,SNR=16
EGRO Sn Sn 12 34 34.3 -2.5
PVAQ Vaqueiros 3.01 313 ⇑*e*Pn Pn 12 34 03.0 +0.2
PVAQ *e*Sn Sn 12 34 35.8 -2.1
PVAQ A A 12 34 37.4
341nm,0.2s
PVAQ Vaqueiros 3.01 313 P Pn 12 34 03.0 +0.2
PBDV Barranco-do-Ve 3.04 309 ⇑*i*Pn Pn 12 34 03.5 +0.2
PBDV *e*Sn Sn 12 34 36.3 -2.4
PBDV A A 12 34 37.9
233nm,0.2s
PALBU Albufeira 3.17 304 *e*Pn Pn 12 34 05.0 +0.1
PALBU *e*Sn Sn 12 34 39.7 -1.9
PALBU A A 12 34 42.5
431nm,0.3s
PBAR Barrancos 3.26 330 *e*Pn Pn 12 34 06.3 +0.2
PBAR *e*Sn Sn 12 34 41.6 -2.2
PBAR A A 12 34 42.7
445nm,0.2s
PCVE Castro Verde 3.36 313 ⇑*e*Pn Pn 12 34 07.6 +0.1
PCVE *e*Sn Sn 12 34 43.5 -2.7
PCVE A A 12 34 45.9
160nm,0.1s
PPOR Portimao 3.39 302 *e*Sn Sn 12 34 44.2 -2.7
PLAGO Lagos 3.48 301 *e*Pn Pn 12 34 10.0 +0.9
PLAGO *e*Sn Sn 12 34 46.6 -2.5
PBEJ Beja 3.53 319 *e*Pn Pn 12 34 11.1 +1.2
PBEJ *e*Sn Sn 12 34 48.0 -2.5
PBEJ A A 12 34 50.8
154nm,0.2s
MORF Marmelete 3.56 304 *e*P Pn 12 34 10.1 -0.1
MORF *e*S Sn 12 34 47.8 -3.3
MORF IAML 12 34 51.9
comp=N,647nm,0.3s
MORF Marmelete 3.56 304 *e*Pn Pn 12 34 10.1 -0.1
MORF *e*Sn Sn 12 34 48.8 -2.3
MORF A A 12 34 52.0
comp=N,308nm,0.2s
PFVI Vila Bisbo 3.59 300 *e*Pn Pn 12 34 10.4 -0.2
PFVI *e*Sn Sn 12 34 49.0 -2.9
PFVI A A 12 34 51.2
comp=N,152nm,0.2s
PFVI Vila Bisbo 3.59 300 P Pn 12 34 10.3 -0.3
EZAR Zarzadilla de 3.62 45 Pn Pn 12 34 12.3 +1.2
EZAR Sn Sn 12 34 52.1 -0.6
GOLM Goulmima 3.66 180 P Pn 12 34 11.4 -0.4
PALJ Aljezur 3.66 303 *e*Pn Pn 12 34 12.8 +1.2
PALJ *e*Sn Sn 12 34 51.4 -2.2
PSVI Cabo S. Vicent 3.66 298 *e*Sn Sn 12 34 50.4 -3.2
PTEO Sao Teotonio 3.73 307 ⇑*e*Pn Pn 12 34 12.9 +0.3
PTEO *e*Sn Sn 12 34 53.3 -2.1
PTEO A A 12 34 55.4
comp=N,211nm,0.3s
CART Cartagena 3.87 54 P Pn 12 34 14.7 +0.2
PNCL Nicolau / Gran 3.96 315 *e*Pn Pn 12 34 16.0 +0.3
PNCL *e*Sn Sn 12 34 57.9 -3.1
PNCL A A 12 34 59.6
comp=N,192nm,0.1s
EVO Evora 3.99 323 P Pn 12 34 16.8 +0.7
EVO S Sn 12 34 59.0 -2.7
EVO Evora 3.99 323 *e*Pn Pn 12 34 16.8 +0.7
EVO *e*Sn Sn 12 34 58.9 -2.8
EVO A A 12 35 00.5
comp=N,280nm,0.3s
PESTR Estremoz 4.07 330 *e*Pn Pn 12 34 17.9 +0.7
PESTR *e*Sn Sn 12 35 00.7 -3.0
PESTR A A 12 35 03.2
comp=N,106nm,0.5s
PESTR Estremoz 4.07 330 P Pn 12 34 17.8 +0.5
PAB San Pablo 4.19 6 Pn Pn 12 34 19.4 +0.5
PAB ⇑*i*Vmb_V 12 34 21.1
comp=N,530nm,SNR=5.1
PAB Sn Sn 12 35 03.7 -3.0
ETOB Tobarra 4.25 39 Pn Pn 12 34 21.0 +1.3
ETOB ⇑*i*Vmb_V 12 34 22.9
comp=N,328nm,SNR=1.9
ETOB Sn Sn 12 35 07.3 -0.8
ESDC Sonseca Array 4.36 10 P Pn 12 34 21.9 +0.6
comp=N,3.9nm,0.3s,baz=194,slow=12,SNR=82
ESDC S Sn 12 35 07.9 -2.9
comp=N,2.8nm,0.3s,baz=190,slow=23,SNR=7.9
ESDC Sonseca Array 4.36 10 Pn Pn 12 34 21.8 +0.6
ESDC ⇑*i*Vmb_V 12 34 22.9
comp=N,429nm,SNR=4.0
ESDC Sn Sn 12 35 08.4 -2.4
PMRV Marv??o 4.49 335 *e*Pn Pn 12 34 23.8 +0.9
PMRV *e*Sn Sn 12 35 10.8 -3.0
PMRV A A 12 35 13.0
comp=N,79nm,0.3s
PMTG Montargil 4.52 326 *e*Pn Pn 12 34 23.7 +0.4
PMTG *e*Sn Sn 12 35 12.0 -2.5
PMTG A A 12 35 14.5
comp=N,148nm,0.5s
TZRR Tazzarine 4.61 187 P Pn 12 34 25.1 +0.5
OUZM OUZ 4.71 199 P Pn 12 34 26.1 +0.1
LIS Lisbon 4.73 316 *e*S Sn 12 35 15.1 -4.7
LIS IAML 12 35 19.1
comp=N,281nm,0.3s
LIS Lisbon 4.73 316 *e*Sn Sn 12 35 18.9 -0.8
LIS A A 12 35 19.9
comp=N,155nm,0.3s
EPLA Plasencia 4.77 350 Pn Pn 12 34 27.0 +0.3
EPLA ⇑*i*Vmb_V 12 34 27.6
comp=N,1µm,SNR=6.4
EPLA Sn Sn 12 35 18.0 -2.6
PMST Lisbon--Monsan 4.77 316 *e*Pn Pn 12 34 28.1 +1.5
PMST *e*Sn Sn 12 35 18.3 -2.3
PMST A A 12 35 20.2
comp=N,101nm,0.2s
OUK Oukaimeden 4.82 211 P Pn 12 34 27.0 -0.8
PCBR Castelo Branco 4.89 337 *e*Pn Pn 12 34 29.4 +1.1
PCBR *e*Sn Sn 12 35 20.4 -3.1
PCBR A A 12 35 20.6
comp=N,89nm,0.3s
PMAFR Mafra 4.97 317 *e*Pn Pn 12 34 30.5 +1.0
PMAFR *e*Sn Sn 12 35 22.2 -3.5
PMAFR A A 12 35 27.1
comp=N,94nm,0.6s
UCM Universidad Co 5.11 15 P Pn 12 34 32.3 +1.0
PSBE So Bento 5.14 325 *e*Pn Pn 12 34 32.7 +0.9
PSBE *e*Sn Sn 12 35 26.9 -2.9
PSBE A A 12 35 30.0
comp=N,60nm,0.7s
ZGR Zagora 5.27 186 P Pn 12 34 34.1 +0.3
GUD Guadarrama 5.30 7 Pn Pn 12 34 34.9 +0.8
GUD ⇑*i*Vmb_V 12 34 35.5
comp=N,260nm,SNR=2.5
GUD Sn Sn 12 35 29.9 -3.9
MTE Manteigas 5.42 339 *e*Pn Pn 12 34 36.5 +0.9
MTE *e*Sn Sn 12 35 34.5 -2.1
MTE A A 12 35 36.0
comp=N,77nm,0.4s
PCAS Casmilo, Conde 5.45 330 *e*Pn Pn 12 34 36.8 +0.8
PCAS *e*Sn Sn 12 35 33.1 -4.2
PCAS A A 12 35 36.3
comp=N,68nm,0.4s
COI Coimbra 5.55 331 *e*Pn Pn 12 34 38.5 +1.2
COI *e*Sn Sn 12 35 35.7 -4.0
COI A A 12 35 38.3
comp=N,263nm,0.3s
PVIS Viseu 5.81 337 *e*Pn Pn 12 34 41.5 +0.5
PVIS *e*Sn Sn 12 35 42.0 -4.3
PVIS A A 12 35 45.4
comp=N,70nm,0.8s
MVO Moncorvo 6.01 345 *e*Pn Pn 12 34 44.5 +0.9
MVO *e*Sn Sn 12 35 46.6 -4.4
MVO A A 12 35 49.6
comp=N,37nm,0.2s
PVRL Vila Real 6.28 341 *e*Pn Pn 12 34 48.2 +0.9
PVRL *e*Sn Sn 12 35 54.1 -3.5
PVRL A A 12 35 56.5
comp=N,137nm,0.2s
POLO Lamas de Olo 6.39 340 *e*Pn Pn 12 34 49.9 +1.0
POLO *e*Sn Sn 12 35 56.5 -4.0
POLO A A 12 35 59.5
comp=N,15nm,0.5s
PTO Porto 6.43 335 *e*Pn Pn 12 34 50.4 +1.1
PTO *e*Sn Sn 12 35 57.3 -3.9
PBRG Braganca 6.57 348 *e*Pn Pn 12 34 52.2 +0.9
PBRG *e*Sn Sn 12 36 01.2 -3.6
PBRG A A 12 36 04.2
comp=N,13nm,0.4s
PCAB Cabril 6.77 340 *e*Pn Pn 12 34 54.8 +0.8
PCAB *e*Sn Sn 12 36 05.3 -4.3
PCAB A A 12 36 07.3
comp=N,44nm,0.3s
ELOB Lobios 6.92 340 Pn Pn 12 34 57.0 +0.9
ELOB ⇑*i*Vmb_V 12 34 59.3
comp=N,701nm,SNR=2.5
ELOB Sn Sn 12 36 09.9 -3.6
PGAV Gavieira, Arco 7.07 339 *e*Pn Pn 12 34 59.3 +1.1
PGAV *e*Sn Sn 12 36 12.4 -4.7
PGAV A A 12 36 14.4
comp=N,33nm,0.4s
EZAM Zamans 7.37 338 Pn Pn 12 35 02.9 +0.7
EZAM ⇑*i*Vmb_V 12 35 04.0
comp=N,648nm,SNR=1.6
EZAM Sn Sn 12 36 19.2 -5.0
EARI Arriondas 7.92 359 Pn Pn 12 35 11.2 +1.5
EARI Sn Sn 12 36 32.4 -5.3
ELAN Lanestosa 7.93 8 Pn Pn 12 35 11.0 +1.1
ELAN Sn Sn 12 36 36.0 -2.1
EORO Oroz-Betelu 8.02 20 Pn Pn 12 35 13.3 +2.1
EORO ⇑*i*Vmb_V 12 35 14.3
comp=N,352nm,SNR=1.5
SJPF Ste Jean 8.25 19 *e*Pn Pn 12 35 10.6 -3.6
SJPF Ste Jean 8.25 19 *e*P Pn 12 35 16.4 +2.2
SJPF *e*Sn Sn 12 36 36.5 -9.2
comp=N,0.5nm,0.2s
ETSF Etsaut 8.25 23 *e*Pn Pn 12 35 12.0 -2.3
ETSF Etsaut 8.25 23 *e*P Pn 12 35 16.8 +2.5
EALK Alkurruntz 8.28 18 Pn Pn 12 35 16.6 +2.0
EALK ⇑*i*Vmb_V 12 35 17.7
comp=N,2µm,SNR=1.7
EALK Sn Sn 12 36 42.4 -4.1
EPF Esparros 8.68 27 *e*Pn Pn 12 35 12.6 -7.5
EPF Esparros 8.68 27 *e*P Pn 12 35 22.7 +2.6
EPF *e*Sn Sn 12 36 46.7 -10
comp=N,3.0nm,0.3s
MTLF Montolieu 9.70 33 *e*Pn Pn 12 35 32.1 -1.8
MTLF Montolieu 9.70 33 *e*P Pn 12 35 37.6 +3.7
MTLF *e*Sn Sn 12 37 08.9 -12
comp=N,1.4nm,0.4s
PMPST Porto Santo, M 9.70 260 *e*S Sn 12 37 14.2 -7.1
PMAR Madeira 10.27 258 *e*S Sn 12 37 22.1 -13
LFF La Frestale 10.49 23 *e*P Pn 12 35 46.8 +2.0
CAF Calviac 10.94 27 *e*Pn Pn 12 35 47.5 -3.4
CAF *e*Sn Sn 12 37 39.2 -12
comp=N,0.9nm,0.3s
RJF Les Rejaudoux 11.07 24 *e*Pn Pn 12 35 49.0 -3.7
RJF Les Rejaudoux 11.07 24 *e*P Pn 12 35 55.2 +2.5
MFF Saint Martin d 11.79 16 *e*Pn Pn 12 35 59.1 -3.2
SMRF Simiane la Rot 11.80 40 *e*Pn Pn 12 35 58.8 -3.9
FRF La Foret Royal 12.12 44 *e*Pn Pn 12 36 02.6 -4.3
FRF La Foret Royal 12.12 44 *e*P Pn 12 36 10.1 +3.2
QUIF Quistinic 12.60 6 *e*P Pn 12 36 13.9 +0.5
SGMF Saint Gilles 12.99 7 *e*P Pn 12 36 19.7 +1.0
PGF Pioggiola 13.00 52 *e*Pn Pn 12 36 16.6 -2.3
ROSF Rostrenen 13.01 5 *e*Pn Pn 12 36 18.3 -0.6
SSF Saint Saulge 13.29 26 *e*Pn Pn 12 36 17.2 -5.4
SSF Saint Saulge 13.29 26 *e*P Pn 12 36 24.6 +2.0
GRR Gorron 13.35 12 *e*P Pn 12 36 24.7 +1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LDF	**La Druitiere**	**13.68**	**14**	*e*P	**Pn**	**12 36 30.1**	**+2.3**
TORD	**Torodi Ar. Bea**	**22.93**	**163**	P	**P**	**12 38 12.2**	**-2.9**
	comp=N,1.0nm,0.8s,baz=345,slow=9.0,SNR=3.9						
HFS	**Hagfors**	**27.56**	**20**	P	**P**	**12 38 58.1**	**+1.4**
	comp=N,0.6nm,0.3s,baz=212,slow=10,SNR=5.4						
NACGM	**Naroch**	**29.32**	**38**	*i* P	P	12 39 20.2	+7.9
ARCES	**ARCESS Array B**	**38.07**	**17**	P	**P**	**12 40 29.8**	**+1.9**
	comp=N,3.3nm,1.1s,baz=210,slow=8.4,SNR=6.7						
MKAR	**Makanchi Array**	**63.53**	**50**	P	**P**	**12 43 40.3**	**+0.8**
	comp=N,0.2nm,0.6s,baz=290,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**67.49**	**332**	P	**P**	**12 44 07.8**	**+3.1**
	comp=N,0.1nm,0.4s,baz=68,slow=6.7,SNR=2.5						

*IDC **07** 12:53:01.9±1.3, 12°.31N×120°.97E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/35, mbtmp3.3/3, MS3.3/2, Ms1 3.3/2, ms1mx2.5/34, Error ellipse: s-maj=82.5km s-min=18.6km az=77.0*
*MAN **07** 12:53:02.7, 12°.32N×120°.93E, h8km, mb4.5, ML3.4, MS3.2*
ISC 07 12:53:02.9±1.7**, 12°.36N**±0°.05×**120°.91E**±0°.09**, h9**km±11km**, n12, σ0.84**/16**, mb3.4**/3**, 2C-4D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.14**	**2**⇓	*e*P	**Pg**	**12 53 24.3**	**-0.5**
PGP				*i* S	**Sg**	**12 53 38.7**	**-0.9**
LUBP	**Lubang**	**1.51**	**335**⇓	*e*P	**Pn**	**12 53 29.8**	**-0.4**
LUBP				*e*S	**Sn**	**12 53 48.8**	**-1.3**
TGY	**Tagaytay City**	**1.73**	**1**	Pn	**Pn**	**12 53 33.9**	**+0.5**
	148nm,0.3s,baz=196,slow=5.4,SNR=13						
TGY				Sn	**Sg**	**12 53 59.6**	**+1.0**
	25nm,0.3s,baz=179,slow=22,SNR=4.8						
TGY	**Tagaytay City**	**1.73**	**1**⇓	*e*P	**Pn**	**12 53 34.6**	**+1.2**
TGY				*e*S	**Sn**	**12 53 56.2**	**+0.6**
LQP	**Lukban**	**1.85**	**19**⇑	*e*P	**Pn**	**12 53 35.0**	**0.0**
LQP				*i* S	**Sb**	**12 54 00.9**	**+0.5**
JAP	**San Jose, Anti**	**1.90**	**147**⇓	*e*P	**Pg**	**12 53 39.8**	**+0.5**
RCP	**Roxas**	**1.97**	**114**⇑	*e*P	**Pg**	**12 53 40.3**	**-0.3**
RCP				*e*S	**Sn**	**12 54 00.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**33.13**	**15**	LR	LR	13 12 08.9	
	comp=Z,38nm,21.0s,baz=156,slow=35						
PMG	**Port Moresby**	**33.88**	**128**	LR	LR	13 16 53.5	
	comp=Z,62nm,18.0s,baz=254,slow=42						
WRA	**Warramunga Arr**	**34.72**	**157**	P	**P**	**12 59 52.9**	**-0.6**
	0.5nm,0.9s,baz=346,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**37.99**	**160**	P	**P**	**13 00 21.4**	**-0.1**
	0.3nm,0.7s,baz=336,slow=7.1,SNR=9.8						
MKAR	**Makanchi Array**	**47.23**	**324**	P	**P**	**13 01 37.0**	**+0.6**
	0.3nm,0.8s,baz=132,slow=6.7,SNR=4.3						

*TUL **07** 13:21:49.7±1.1, 35°.67N±0°.01×97°.40W±0°.01, h7km±3km, ML2.6, mb_Lg2.5/16(NEIC), Error ellipse: s-maj=2.0km s-min=0.8km az=141.0*
NEIC 07 13:21:49.6±0.6**, 35°.67N**±0°.01×**97°.39W**±0°.02**, h11**km±1km**, Error ellipse: s-maj=2.2km s-min=1.2km az=130.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**196**	Pg	Pg	13 21 52.1	-0.1
OK009				Sg	Sg	13 21 53.7	-0.3
OK005	**Luther M Schoo**	**0.16**	**96**	Pg	Pg	13 21 53.6	+0.4
OKCFA	**Oklahoma City**	**0.26**	**191**	Pg	Pg	13 21 54.9	-0.1
OKCFA				Sg	Sg	13 21 58.7	+0.2
OKCSW	**OKLAHOMA CITY**	**0.27**	**188**	Pg	Pg	13 21 54.8	-0.3
FNO	**Franklin**	**0.41**	**181**	Pg	Pg	13 21 57.8	+0.1
FNO				Sg	Sg	13 22 03.5	+0.2
W35A	**Tecumseh**	**0.67**	**141**	Pg	Pg	13 22 02.4	-0.2
W35A				Sg	Sg	13 22 11.0	-0.3
X34A	**Smith Ranch, M**	**1.13**	**199**	Pg	Pb	13 22 11.0	-0.1
TUL1	**Leonard**	**1.32**	**79**	Pn	Pn	13 22 13.5	-0.5
T35A	**Sooner Cattle**	**1.43**	**30**	Pn	Pn	13 22 15.7	+0.2
WMOK	**Wichita Mounta**	**1.47**	**231**	Pn	Pn	13 22 16.2	+0.1
U32A	**Winter Ranch,**	**1.48**	**299**	Pn	Pn	13 22 16.6	+0.3
Z38A	**Mt. Pleasant**	**3.12**	**140**	Pn	Pn	13 22 38.8	+0.1
U40A	**Yellville**	**3.74**	**78**	IAmb_Lg		13 23 47.1	
	comp=Z,12nm,1.3s						
X40A	**Basin Creek Fa**	**3.92**	**106**	IAmb_Lg		13 23 60.0	
	comp=Z,16nm,1.2s						
W41B	**Gary Mavity, V**	**4.23**	**95**	IAmb_Lg		13 24 13.6	
	comp=Z,9.4nm,1.1s						
P40A	**Paris**	**5.73**	**46**	IAmb_Lg		13 24 53.8	
	comp=Z,5.9nm,0.7s						
143A	**Socs Landing,**	**5.78**	**119**	IAmb_Lg		13 25 00.2	
	comp=Z,6.1nm,0.8s						
T25A	**Trinidad**	**5.85**	**287**	IAmb_Lg		13 25 00.8	
	comp=Z,5.7nm,0.9s						

*IDC **07** 13:32:05.9±3.5, 14°.54N×91°.23W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.7/36, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=75.2km s-min=35.5km az=12.0*
*SNET **07** 13:32:08.1±1.4, 13°.66N×91°.46W, h127km±74km, ML3.5*
*UCR **07** 13:32:08.2±1.6, 13°.67N×91°.46W, h125km±85km, ML3.4, mb4.5(NEIC)*
*NEIC **07** 13:32:08.1±2.4, 13°.83N±0°.08×91°.77W±0°.07, h34km±7km, mb4.5/7, Error ellipse: s-maj=13.0km s-min=8.5km az=205.0*
*GCG **07** 13:32:16.1±0.8, 14°.37N×91°.37W, h13km±11km, MD3.7*
ISC 07 13:32:08.4±1.0**, 13°.83N**±0°.09×**91°.67W**±0°.06**, h50**km**, n51, σ1.38**/57**, mb4.3**/10**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.69**	**358**	Pn	**Pn**	**13 32 21.6**	**-0.4**
STG3	**Santiaguito 3,**	**0.88**	**6**	*e*P	**Pn**	**13 32 24.5**	**-0.2**
FUG	**Fuego 3**	**1.01**	**53**	*e*P	**Pn**	**13 32 27.2**	**+0.7**
PCG	**Pacaya**	**1.17**	**62**	*e*P	**Pn**	**13 32 30.1**	**+1.3**
PCG				*e*S	**Sn**	**13 32 41.6**	**-2.2**
HUEH	**Huehuetenango**	**1.49**	**6**	Pn	**Pn**	**13 32 33.5**	**+0.6**
NBG	**Las Nubes**	**1.49**	**60**	*e*P	**Pn**	**13 32 35.2**	**+2.2**
NBG				*e*S	**Sn**	**13 32 47.9**	**-3.6**
SLOZ	**Alcaldia de Sa**	**1.84**	**84**	*e*P	**Pn**	**13 32 39.0**	**+1.4**
SLOZ				IAML		13 33 06.5	
	comp=Z,308nm,0.5s						
RTR	**El Retiro**	**1.97**	**88**	IAML		13 33 09.7	
	comp=Z,221nm,0.2s						
RTR	**El Retiro**	**1.97**	**88**	IAML		13 33 09.7	
	comp=Z,221nm,0.2s						
CEVE	**Cerro Verde**	**1.99**	**90**	*e*P	**Pn**	**13 32 39.7**	**-0.2**
CEVE				IAML		13 33 12.7	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.99**	**90**	*e*P	**Pn**	**13 32 39.7**	**-0.2**
CEVE				IAML		13 33 12.7	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.99**	**90**	*e*P	**Pn**	**13 32 39.9**	**0.0**
SBLS				IAML		13 33 15.0	
	comp=Z,373nm,0.3s						
SBLS	**San Blas**	**1.99**	**90**	*e*P	**Pn**	**13 32 39.9**	**0.0**
SBLS				IAML		13 33 15.0	
	comp=Z,373nm,0.3s						
SNJE	**San Jose**	**2.01**	**89**	*e*P	**Pn**	**13 32 41.6**	**+1.5**
SNJE				IAML		13 33 17.1	
	comp=Z,227nm,0.6s						
SNJE	**San Jose**	**2.01**	**89**	*e*P	**Pn**	**13 32 41.6**	**+1.5**
SNJE				IAML		13 33 17.1	
	comp=Z,227nm,0.6s						
JAYA	**Jayaque - finc**	**2.17**	**94**	*e*P	**Pn**	**13 32 41.1**	**-1.1**
JAYA				*e*S	**Sn**	**13 33 07.8**	**-0.2**
JAYA				*e*S	**Sn**	**13 33 07.8**	**-0.2**
JAYA				IAML		13 33 13.0	
	comp=Z,881nm,0.3s						
JAYA	**Jayaque - finc**	**2.17**	**94**	*e*P	**Pn**	**13 32 41.1**	**-1.1**
JAYA				*e*S	**Sn**	**13 33 07.8**	**-0.2**
JAYA				*e*S	**Sn**	**13 33 07.8**	**-0.2**
JAYA				IAML		13 33 13.0	
	comp=Z,881nm,0.3s						
TACO	**Tacachico**	**2.25**	**86**	*e*P	**Pn**	**13 32 43.2**	**-0.1**
TACO				IAML		13 33 18.6	
	comp=Z,113nm,0.5s						
TACO	**Tacachico**	**2.25**	**86**	*e*P	**Pn**	**13 32 43.2**	**-0.1**
TACO				IAML		13 33 18.6	
	comp=Z,113nm,0.5s						
MRL	**Marmol**	**2.29**	**57**	*e*P	**Pn**	**13 32 47.0**	**+3.0**
PMON	**Piamonte**	**2.29**	**93**	*e*P	**Pn**	**13 32 44.0**	**0.0**
PMON	**Piamonte**	**2.29**	**93**	*e*P	**Pn**	**13 32 44.0**	**0.0**
MTO3	**Montecristo**	**2.31**	**76**	Pn	**Pn**	**13 32 44.5**	**+0.2**
MTO3	**Montecristo**	**2.31**	**76**	*e*P	**Pn**	**13 32 44.8**	**+0.5**
MTO3				*e*S	**Sn**	**13 33 13.9**	**+2.3**
MTO3				IAML		13 33 22.0	
	comp=Z,66nm,0.6s						
MTO3	**Montecristo**	**2.31**	**76**	*e*P	**Pn**	**13 32 44.8**	**+0.5**
MTO3				*e*S	**Sn**	**13 33 13.9**	**+2.3**
MTO3				IAML		13 33 22.0	
	comp=Z,66nm,0.6s						
ESQI	**Esquipulas**	**2.37**	**72**	Pn	**Pn**	**13 32 45.8**	**+0.7**
ESQI	**Esquipulas**	**2.37**	**72**	IAML		13 33 25.1	
	comp=Z,145nm,0.5s						
PCIG		**2.39**	**321**		**Pn**	**13 32 43.1**	**-2.0**
CCIG	**Comitan**	**2.48**	**350**	Pn	**Pn**	**13 32 49.6**	**+3.1**
LFRS	**El Faro**	**2.54**	**94**	*e*P	**Pn**	**13 32 47.2**	**-0.1**
LFRS				IAML		13 33 26.5	
	comp=Z,881nm,0.4s						
LFRS	**El Faro**	**2.54**	**94**	*e*P	**Pn**	**13 32 47.2**	**-0.1**
LFRS				IAML		13 33 26.5	
	comp=Z,881nm,0.4s						
CMIG	**Matias Romero**	**4.48**	**317**	Pn	**Pn**	**13 33 12.7**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=146,slow=10,SNR=11						
CMIG				Sn	**Sn**	**13 34 04.8**	**0.0**
	comp=Z,3.4nm,0.3s,baz=141,slow=9.4,SNR=4.2						
ORTG	**Ortega, Santa**	**6.99**	**119**		**Pn**	**13 33 49.3**	**+0.9**
TXAR	**Lajitas Array**	**19.01**	**326**	P	**Pn**	**13 36 27.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=10						
NCB	**Newcomb**	**33.55**	**23**	P	**P**	**13 38 43.0**	**-0.5**
NCB				IAmb	IAmb	13 39 04.5	
	comp=Z,9.7nm,1.3s						
NVAR	**Mina Array Bea**	**34.00**	**321**	P	**P**	**13 38 50.4**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=130,slow=9.7,SNR=4.8						
NVAR	**Mina Array Bea**	**34.00**	**321**	P	**P**	**13 38 49.3**	**+1.5**
ULM	**Lac du Bonnet**	**36.48**	**355**	P	**P**	**13 39 05.7**	**-2.9**
	comp=Z,17nm,0.9s,baz=262,slow=22,SNR=17						
SCHQ	**Schefferville**	**45.27**	**20**	P	**P**	**13 40 19.6**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=187,slow=5.0,SNR=5.6						
SCHQ	**Schefferville**	**45.27**	**20**	P	**P**	**13 40 20.2**	**-0.7**
YKA	**Yellowknife Ar**	**51.26**	**347**	P	**P**	**13 41 07.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=147,slow=7.7,SNR=6.8						
CTGM	**Chitina Glacie**	**59.06**	**334**	P	**P**	**13 42 03.2**	**-0.2**
BCAR	**Beaver Creek A**	**60.32**	**336**	P	**P**	**13 42 13.0**	**+1.0**
PWL	**Port Wells**	**62.07**	**332**	P	**P**	**13 42 23.5**	**-0.3**
PWL				IAmb	IAmb	13 42 24.5	
	comp=Z,7.5nm,1.1s						
IL31		**63.12**	**337**	P	**P**	**13 42 31.0**	**+0.4**
IL31				IAmb	IAmb	13 42 33.5	
	comp=Z,1.9nm,1.1s						
ILAR	**Eielson Array**	**63.12**	**337**	P	**P**	**13 42 30.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=94,slow=5.1,SNR=5.3						
RND	**Reindeer**	**63.31**	**335**	P	**P**	**13 42 34.1**	**+2.1**
RND				IAmb	IAmb	13 42 44.9	
	comp=Z,6.7nm,1.4s						
BMAR	**Burnt Mountain**	**63.56**	**340**	P	**P**	**13 42 35.4**	**+1.8**
MLY	**Manley**	**64.72**	**336**	P	**P**	**13 42 42.9**	**+1.7**
MLY				IAmb	IAmb	13 42 57.8	
	comp=Z,5.6nm,1.5s						
CMAR	**Chiang Mai Arr**	**146.25**	**342**	PKPbc	**PKiKP**	**13 51 46.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=343,slow=3.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**146.25**	**342**		**PKPab**	**13 51 44.8**	**-0.3**

*NIED **07** 13:41:27.2, 28°.03N×127°.96E, h15km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.30; $M_{\theta\theta}$1.28; $M_{\phi\phi}$-0.97; $M_{r\theta}$-0.71; $M_{\theta\phi}$0.43; $M_{\phi r}$0.62; Fault plane solution: $M_0$1.56000×10^{15} NP1: ϕ_s121.00000°, δ81.00000°, λ-39.00000°. NP2: ϕ_s218.00000°, δ51.00000°, λ-169.00000°.*
*JMA **07** 13:41:27.2±0.2, 28°.03N×127°.96E, h15km±2km, M3.6*
*IDC **07** 13:41:27.0±0.9, 27°.85N×127°.87E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.6/46, mbtmp3.6/9, ML3.0/3, MS3.2/13, Ms1 3.2/13, ms1mx2.9/71, Error ellipse: s-maj=33.0km s-min=13.4km az=77.0*
ISC 07 13:41:27.7±1.7**, 27°.91N**±0°.04×**127°.99E**±0°.06**, h4**km±12km**, n29, σ1.19**/25**, mb3.5**/6**, MS3.2**/10**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.75**	**136**	P	**Pb**	**13 41 43.4**	**+0.1**
JOKE				*e*S	**Sb**	**13 41 54.2**	**+0.3**
JTK	**Tokunoshima**	**0.86**	**98**	P	**Pg**	**13 41 44.1**	**-0.1**
JTK				*e*S	**Sg**	**13 41 56.2**	**+0.8**
JIH	**Iheya**	**0.87**	**181**	P	**Pb**	**13 41 45.5**	**+0.2**
JIH				S	**Sn**	**13 41 59.0**	**-0.7**
JYRO	**Yoronjima**	**0.97**	**155**	P	**Pb**	**13 41 47.3**	**+0.3**
JYRO				S	**Sn**	**13 42 01.8**	**-0.4**
JOW	**Kunigami**	**1.10**	**166**	Pn	**Pg**	**13 41 48.9**	**+0.1**
	80nm,0.3s,baz=350,slow=15,SNR=164						
JOW				Sn	**Sb**	**13 42 04.5**	**+0.5**
	232nm,0.3s,baz=99,slow=29,SNR=19						
JOW	**Kunigami**	**1.10**	**166**	P	**Pn**	**13 41 49.5**	**-0.4**
JOW				*e*S	**Sn**	**13 42 05.6**	**+0.1**
JAMN	**Amaminishikomi**	**1.10**	**72**	P	**Pg**	**13 41 47.1**	**-1.7**
JNTH	**Nagotoyohara**	**1.38**	**179**	P	**Pb**	**13 41 54.0**	**-0.1**
JAGN	**Aguni-jima**	**1.47**	**207**	P	**Pb**	**13 41 54.8**	**-0.8**
JAM	**Amami Oshima**	**1.52**	**70**	P	**Pn**	**13 41 54.0**	**-1.5**
JNU	**Nakatsue**	**5.76**	**25**	Pn	**Pn**	**13 42 56.4**	**+2.4**
	1.0nm,0.3s,baz=194,slow=6.0,SNR=21						
KSRS	**Korea Array**	**9.52**	**360**	Pn	**Pn**	**13 43 47.4**	**+1.9**
	0.1nm,0.3s,baz=179,slow=14,SNR=1.6						
KSRS				LR	LR	13 47 34.8	
	comp=Z,167nm,18.4s,baz=195,slow=38						
MJAR	**Matsushiro Arr**	**12.20**	**43**	Pn	**Pn**	**13 44 24.8**	**+2.6**
	0.0nm,0.3s,baz=225,slow=12,SNR=2.1						
MJAR				LR	LR	13 49 32.0	
	comp=Z,39nm,19.8s,baz=237,slow=39						
USRK	**Ussuriysk Ar.**	**16.57**	**10**	LR	LR	13 52 32.2	
	comp=Z,42nm,18.3s,baz=167,slow=40						
DAV	**Davao City (W)**	**20.85**	**187**	LR	LR	13 54 34.1	
	comp=Z,53nm,19.8s,baz=30,slow=38						
KLR	**Kul'dur**	**21.49**	**7**	P	**P**	**13 46 18.9**	**+1.6**
	0.8nm,0.8s,baz=198,slow=1.7,SNR=3.5						
KLR				LR	LR	13 54 21.1	
	comp=Z,44nm,21.8s,baz=186,slow=36						
SONM	**Songino Array**	**26.04**	**326**	P	**P**	**13 47 01.9**	**-0.2**
	3.1nm,1.1s,baz=139,slow=13,SNR=3.6						
CMAR	**Chiang Mai Arr**	**28.25**	**257**	LR	LR	13 59 34.1	
	comp=Z,25nm,18.6s,baz=185,slow=39						
YAK	**Yakutsk**	**34.14**	**1**	LR	LR	14 01 51.9	
	comp=Z,31nm,20.5s,baz=286,slow=36						
MA2	**Magadan**	**35.31**	**20**	LR	LR	14 03 24.7	
	comp=Z,29nm,18.8s,baz=91,slow=37						
MKAR	**Makanchi Array**	**40.27**	**310**	P	**P**	**13 49 05.0**	**-0.8**
	1.0nm,0.6s,baz=96,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**40.79**	**322**	LR	LR	14 07 55.6	
	comp=Z,51nm,18.6s,baz=124,slow=39						
NRIK	**Noril'sk**	**47.60**	**342**	LR	LR	14 11 48.1	
	comp=Z,58nm,20.8s,baz=343,slow=38						
WRA	**Warramunga Arr**	**47.96**	**172**	P	**P**	**13 50 07.8**	**+0.2**
	0.6nm,0.8s,baz=353,slow=8.0,SNR=4.5						
ASAR	**Alice Springs**	**51.59**	**173**	P	**P**	**13 50 36.1**	**+0.9**
	0.5nm,0.9s,baz=13,slow=8.6,SNR=4.2						
ARU	**Arti**	**55.95**	**321**	LR	LR	14 15 47.9	
	comp=Z,41nm,19.4s,baz=94,slow=37						
YKA	**Yellowknife Ar**	**77.10**	**25**	P	**P**	**13 53 20.6**	**-1.3**
	0.2nm,0.8s,baz=300,slow=5.2,SNR=3.8						
HFS	**Hagfors**	**77.24**	**332**	LR	LR	14 30 58.7	
	comp=Z,28nm,20.4s,baz=79,slow=38						
NOA	**NORSAR Array B**	**77.72**	**334**	LR	LR	14 30 41.7	
	comp=Z,19nm,18.5s,baz=90,slow=38						

WEL 07 13:45:52.6±0.8**, 32°S**±5°×**17°8E**±1°0**, h33**km**, M4.2**/7**, mB4.7**/5**, ML4.5**/14**, MLv4.3**/7**, Mw(mB)3.9**/5**, Error ellipse: s-maj=0.0km s-min=0.0km az=114.2, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.98**	**53**	P	Pn	13 46 52.2	+0.9
GLKZ				S	Sn	13 47 36.0	-0.8
OUZ	**Omahuta**	**5.35**	**228**	P	Pn	13 47 09.5	-0.5
MXZ	**Matakaoa Point**	**5.83**	**181**	P	Pn	13 47 18.5	+1.8
MXZ				S	Sn	13 48 23.4	+1.0
HAZ	**Te Kaha**	**6.05**	**185**	P	Pn	13 47 21.7	+2.0
HAZ				S	Sn	13 48 30.7	+3.0
PKGZ	**Pakihiroa**	**6.16**	**183**	P	Pn	13 47 22.4	+1.0
RUGZ	**Raukumara Rang**	**6.26**	**186**	P	Pn	13 47 24.0	+1.2
RUGZ				S	Sn	13 48 35.7	+2.5
PUZ	**Puketiti**	**6.34**	**181**	P	Pn	13 47 24.3	+0.6
PUZ				S	Sn	13 48 35.3	+0.3
URZ	**Urewera**	**6.62**	**189**	P	Pn	13 47 28.2	+0.7
URZ				S	Sn	13 48 44.4	+2.7
MWZ	**Matawai**	**6.64**	**186**	P	Pn	13 47 28.8	+0.9
MWZ				S	Sn	13 48 43.5	+1.1
TKGZ	**Te Karaka**	**6.72**	**184**	P	Pn	13 47 29.4	+0.5
TKGZ				S	Sn	13 48 45.0	+0.7
CNGZ	**Carnagh Statio**	**6.75**	**182**	P	Pn	13 47 29.1	-0.2
RAGZ	**Rawiri**	**6.81**	**187**	P	Pn	13 47 30.0	-0.3
MUGZ	**Murupara**	**6.88**	**191**	P	Pn	13 47 31.7	+0.6
MUGZ				S	Sn	13 48 49.2	+0.9
RIGZ	**Rimuhau**	**6.99**	**184**	P	Pn	13 47 32.6	-0.1
RIGZ				S	Sn	13 48 52.4	+1.3
MTHZ	**Maungataniwha**	**7.24**	**190**	P	Pn	13 47 36.7	+0.6
MTHZ				S	Sn	13 48 57.7	+0.6
BKZ	**Black Stump Fm**	**7.60**	**192**	P	Pn	13 47 40.0	-1.1
BKZ				S	Sn	13 49 05.0	-1.0
ARHZ	**Aropaoanui**	**7.62**	**188**	P	Pn	13 47 40.0	-1.2
ARHZ				S	Sn	13 49 04.8	-1.6
KAHZ	**Kahuranaki**	**8.16**	**189**	P	Pn	13 47 46.2	-2.5
KAHZ				S	Sn	13 49 16.2	-3.5

IDC 07 13:51:46.7±1.6**, 7°.58S**×**126°.62E, h0**km**, mb3.7**/2**, mb1 4.0**/4**, mb1mx3.6**/32**, mbtmp3.8**/4**, ML3.9**/2**, Error ellipse: s-maj=214.0km s-min=26.0km az=61.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.39**	**149**	Pn	Pn	13 55 10.5	-1.4
	0.6nm,0.3s,baz=323,slow=14,SNR=20						
WRA				Sn	Sn	13 57 36.1	-16
	1.1nm,0.3s,baz=328,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.46**	**157**	P	Pn	13 55 52.2	+0.4
	0.4nm,0.3s,baz=329,slow=10,SNR=50						
ASAR				S	Sn	13 58 55.0	-12
	0.3nm,0.3s,baz=312,slow=18,SNR=8.0						
STKA	**Stephens Creek**	**27.92**	**152**	P	P	13 57 38.9	+0.3
	1.5nm,0.8s,baz=341,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**66.92**	**329**	P	P	14 02 40.9	0.0
	0.2nm,0.4s,baz=131,slow=5.9,SNR=6.2						

*THE **07** 14:25:14.5, 35°.37N×23°.58E, h0km±1km, ML3.6/11, Error ellipse: s-maj=1.6km s-min=0.5km az=240.0*
*ISK **07** 14:25:14.8, 35°.38N×23°.62E, h5km, ML4.0/14*
*ATH **07** 14:25:15.2, 35°.42N×23°.61E, h15km±3km, ML3.7/5, Error ellipse: s-maj=3.8km s-min=1.0km az=45.0*
*NEIC **07** 14:25:15.2±2.5, 35°.22N±0°.09×23°.86E±0°.06, h10km±1km, mb4.4/30, Error ellipse: s-maj=15.9km s-min=7.4km az=193.0*
*MOS **07** 14:25:15.0±1.8, 35°.20N×23°.64E, h17km, mb4.4/16, Error ellipse: s-maj=8.1km s-min=4.7km az=70.4*
*IDC **07** 14:25:19.6±1.2, 35°.26N×23°.75E, h49km±12km, mb3.7/17, mb1 3.9/24, mb1mx3.7/49, mbtmp3.9/24, ML3.9/7, MS3.1/6, Ms1 3.1/6, ms1mx2.6/93, Error ellipse: s-maj=15.2km s-min=12.6km az=178.0*
*DDA **07** 14:25:20.0±0.0, 36°.08N×24°.12E, h226km±22km, MW3.8*
ISC 07 14:25:15.2±0.8**, 35°.38N**±0°.02×**23°.61E**±0°.02**, h10**km±5km**, n174, σ2.07**/201**, mb4.2**/37**, MS3.1**/6**, 6C-1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.15**	**156**	P	**Pg**	**14 25 17.9**	**-0.7**
KNDR				S	**Sg**	**14 25 20.4**	**-0.5**
	39μm,0.2s						
KNDR	**Palaiochora Ch**	**0.15**	**156**	PG	**Pg**	**14 25 17.9**	**-0.7**
KNDR				SG	**Sg**	**14 25 20.6**	**-0.3**
RODP	**Rodopos**	**0.22**	**34**	P	**Pg**	**14 25 19.9**	**+0.1**
RODP				S	**Sg**	**14 25 23.7**	**+0.8**
	8μm,0.4s						
IMMV	**Iera Moni Meta**	**0.32**	**74**	P	**Pg**	**14 25 21.7**	**+0.2**
IMMV				S	**Sg**	**14 25 26.9**	**+1.1**
IMMV				AML	AML	14 25 29.5	
	comp=N,32105μm,0.3s						
IMMV				AML	AML	14 25 30.5	
	comp=E,34658μm,0.4s						
IMMV	**Iera Moni Meta**	**0.32**	**74**	P	**Pg**	**14 25 21.4**	**-0.1**
IMMV				S	**Sb**	**14 25 27.5**	**-0.7**
	comp=E,16μm,0.2s						
IMMV	**Iera Moni Meta**	**0.32**	**74**	PG	**Pg**	**14 25 21.3**	**-0.2**
VAM	**Vamos**	**0.48**	**86**	P	**Pg**	**14 25 24.7**	**0.0**
VAM				S	**Sg**	**14 25 31.9**	**+0.8**
VAM				AML	AML	14 25 33.9	
	comp=N,37124μm,0.4s						
VAM				AML	AML	14 25 35.9	
	comp=E,29058μm,0.3s						
VAM	**Vamos**	**0.48**	**86**	P	**Pg**	**14 25 24.5**	**-0.1**
VAM				S	**Sb**	**14 25 32.0**	**-1.0**
	comp=E,18μm,0.2s						
VAM	**Vamos**	**0.48**	**86**	P	**Pg**	**14 25 24.5**	**-0.1**
VAM				S	**Sb**	**14 25 32.0**	**-1.0**
ANKY	**Antikythira Is**	**0.55**	**333**	P	**Pg**	**14 25 25.3**	**-0.6**
ANKY				S	**Sg**	**14 25 32.8**	**-0.3**
ANKY				AML	AML	14 25 33.5	
	comp=E,9706μm,0.4s						
ANKY				AML	AML	14 25 35.5	
	comp=N,14769μm,0.3s						
ANKY	**Antikythira Is**	**0.55**	**333**	P	**Pg**	**14 25 25.2**	**-0.7**
ANKY				S	**Sg**	**14 25 32.8**	**-0.3**
	comp=N,6μm,0.3s						
GVDS	**Gavdos**	**0.66**	**143**	P	**Pg**	**14 25 27.4**	**-0.6**
GVDS				S	**Sb**	**14 25 37.6**	**-0.5**
	comp=N,19μm,0.3s						
GVD	**Gavdhos**	**0.66**	**144**	P	**Pb**	**14 25 29.1**	**+0.2**
GVD				S	**Sb**	**14 25 38.3**	**+0.2**
GVD	**Gavdhos**	**0.66**	**144**	P	**Pg**	**14 25 27.5**	**-0.5**
GVD				S	**Sb**	**14 25 37.6**	**-0.6**
	comp=N,19μm,0.3s						
GVD	**Gavdhos**	**0.66**	**144**	PG	**Pg**	**14 25 28.3**	**+0.3**
GVD				SG	**Sb**	**14 25 37.9**	**-0.3**
PRNS	**Prines Rethymn**	**0.73**	**91**	P	**Pg**	**14 25 27.7**	**-1.6**
PRNS				S	**Sg**	**14 25 38.3**	**-0.5**
	comp=N,4μm,0.4s						
KTHA	**Kythira Island**	**0.98**	**333**	P	**Pb**	**14 25 33.3**	**-1.0**
KTHA	**Kythira Island**	**0.98**	**333**	P	**Pb**	**14 25 33.2**	**-1.2**
KTHA				S	**Sg**	**14 25 48.2**	**+1.2**
	comp=N,5μm,0.3s						
KTHR	**Kythira**	**1.01**	**331**	P	**Pb**	**14 25 33.1**	**-1.7**
KTHR				S	**Sb**	**14 25 47.4**	**-0.8**
	comp=N,3μm,0.3s						
SIVA	**Sivas**	**1.05**	**110**	P	**Pb**	**14 25 34.5**	**-0.9**
SIVA				S	**Sn**	**14 25 50.0**	**-0.6**
SIVA				AML	AML	14 25 56.6	
	comp=N,9290μm,0.4s						
SIVA				AML	AML	14 26 01.0	
	comp=E,17193μm,0.5s						
IDI	**Anoyia**	**1.05**	**94**	P	**Pb**	**14 25 34.6**	**-0.9**
	comp=E,74nm,0.3s,baz=271,slow=11,SNR=312						
IDI				S	**Sn**	**14 25 49.6**	**-1.2**
	comp=E,392nm,0.3s,baz=346,slow=20,SNR=17						
IDI	**Anoyia**	**1.05**	**94**	P	**Pb**	**14 25 34.6**	**-0.9**
IDI				S	**Sg**	**14 25 49.5**	**+0.4**
IDI				AML	AML	14 25 52.1	
	comp=N,6652μm,0.4s						
IDI				AML	AML	14 25 56.4	
	comp=E,4523μm,0.2s						
IDI	**Anoyia**	**1.05**	**94**	P	**Pb**	**14 25 33.9**	**-1.6**
IDI				S	**Sn**	**14 25 50.8**	**-0.1**
	comp=E,3μm,0.4s						
IDI	**Anoyia**	**1.05**	**94**	PG	**Pb**	**14 25 34.9**	**-0.6**
IDI				SG	**Sn**	**14 25 49.8**	**-1.1**
IDI	**Anoyia**	**1.05**	**94**		**Pb**	**14 25 34.1**	**-1.5**
IDI				Sn	**Sb**	**14 25 44.2**	**-5.2**
HRKL	**Herakleio**	**1.22**	**93**	PN	**Pb**	**14 25 38.6**	**+0.2**
HRKL				SN	**Sg**	**14 25 55.8**	**+1.2**
VLI	**Veliai**	**1.45**	**338**	P	**Pn**	**14 25 41.4**	**0.0**
VLI	**Veliai**	**1.45**	**338**	P	**Pn**	**14 25 41.3**	**-0.1**
MHLO	**Agia Marina, M**	**1.46**	**26**	P	**Pn**	**14 25 42.0**	**+0.4**
MHLO	**Agia Marina, M**	**1.46**	**26**	P	**Pn**	**14 25 41.8**	**+0.1**
NPS	**Neapolis**	**1.64**	**93**	P	**Pb**	**14 25 46.1**	**+0.6**
NPS	**Neapolis**	**1.64**	**93**	P	**Pb**	**14 25 45.7**	**+0.1**
ZKR	**Zakros**	**2.15**	**96**	PN	**Pb**	**14 25 52.5**	**-1.8**
ITM	**Ithomi**	**2.25**	**323**	PN	**Pn**	**14 25 54.1**	**+1.5**
ITM	**Ithomi**	**2.25**	**323**	Pn	**Pb**	**14 25 56.9**	**+0.8**
APE	**Apeiranthos**	**2.30**	**42**	*i* P	**Pn**	**14 25 53.3**	**+0.1**
APE	**Apeiranthos**	**2.30**	**42**	PN	**Pn**	**14 25 53.9**	**+0.7**
APE	**Apeiranthos**	**2.30**	**42**	P	**Pb**	**14 25 57.4**	**+0.7**
APE				S	**Sb**	**14 26 27.1**	**+1.9**
KARP	**Karpathos**	**2.91**	**86**	PN	**Pn**	**14 26 02.6**	**+1.0**
KARP	**Karpathos**	**2.91**	**86**		**Pn**	**14 26 02.3**	**+0.7**
BDRM	**Kayabasi**	**3.53**	**60**	P	**Pn**	**14 26 11.4**	**+1.2**
DIDI	**Didim-Aydin**	**3.55**	**55**	PN	**Pn**	**14 26 11.8**	**+1.5**
CHOS	**Chios island**	**3.59**	**32**	PN	**Pn**	**14 26 12.6**	**+1.6**
DDIM	**Aydin, Didim**	**3.59**	**54**	P	**Pn**	**14 26 12.9**	**+2.0**
ARG	**Arkhangelos**	**3.77**	**76**	P	**Pn**	**14 26 15.4**	**+2.0**
ARG	**Arkhangelos**	**3.77**	**76**	PN	**Pn**	**14 26 15.0**	**+1.6**
AGG	**Agios Georgios**	**3.78**	**345**	P	**Pn**	**14 26 17.3**	**+3.7**
AGG	**Agios Georgios**	**3.78**	**345**	PN	**Pn**	**14 26 15.8**	**+2.2**

AGG	Agios Georgios	3.78	345	Pn	Pn	14 26 17.3	+3.7
AGG	Agios Georgios	3.78	345	P	Pn	14 26 17.4	+3.9
URLA	Izmir	3.82	38	P	Pn	14 26 12.5	-1.6
TURN	Turunc	4.01	68	P	Pn	14 26 18.8	+2.2
YER	Yerkesik	4.17	64	P	Pn	14 26 23.0	+4.1
SIGR	SIGRI	4.23	24	PN	Pn	14 26 21.8	+2.1
LIT	Litokhoron	4.80	350	P	Pn	14 26 33.7	+6.1
LIT	Litokhoron	4.80	350	Pn	Pn	14 26 33.7	+6.1
CAME	Cameli-Denizli	4.87	70	PN	Pn	14 26 30.7	+2.1
IGT	Igoumenitsa	4.90	329	P	Pn	14 26 31.9	+3.0
AKAS	Kas	4.95	78	Pn	Pn	14 26 30.5	+0.8
AKAS	Kas	4.95	78	P	Pn	14 26 31.0	+1.3
AKAS				*i* AML	AML	14 27 46.0	
	comp=E,81nm,0.6s						
ELL	Elmali	5.29	73	P	Pn	14 26 37.4	+3.0
ELL	Elmali	5.29	73	Pn	Pn	14 26 37.4	+3.0
AKUM	Antalya-Kumluc	5.55	78	P	Pn	14 26 39.6	+1.7
AKUM				S	Sn	14 27 41.3	-0.5
FNA	Florina	5.68	343	P	Pn	14 26 43.1	+3.4
FNA	Florina	5.68	343	Pn	Pn	14 26 43.1	+3.4
ALN	Alexandroupoli	5.84	18	P	Pn	14 26 46.2	+4.4
ALN	Alexandroupoli	5.84	18	Pn	Pn	14 26 46.2	+4.4
ISP	Isparta	6.08	64	*i* P	Pn	14 26 47.4	+2.2
VTS	Vitosha	7.24	358	P	Pn	14 27 06.2	+5.0
VTS	Vitosha	7.24	358	Pn	Pn	14 27 06.2	+5.1
CSS	Mathiatis	7.97	90	Pn	Pn	14 27 11.0	-0.2
STON	Ston	8.78	330	*e*Pn	Pn	14 27 20.2	-1.9
STON				Sn	Sn	14 28 52.9	-8.2
SGRT	San Giovanni R	8.86	318	Pn	Pn	14 27 27.2	+3.9
LSTV	Lastovo	9.04	327	*e*Pn	Pn	14 27 24.3	-1.4
LSTV				Sn	Sn	14 28 57.2	-10
BR131	Keskin Array S	9.07	58	*i* P	Pn	14 27 30.2	+3.9
BRTR	Keskin Array B	9.07	58	P	Pn	14 27 27.6	+1.2
	comp=E,0.1nm,0.3s,baz=240,slow=14,SNR=11						
BRTR	Keskin Array B	9.07	58	*ce*P	Pn	14 27 30.6	+4.3
BRTR				pmax	pmax		
	comp=Z,15nm,1.0s						
BRTR	Keskin Array B	9.07	58	Pn	Pn	14 27 29.2	+2.9
RICI	Ricice	9.53	330	*e*Pn	Pn	14 27 29.1	-3.3
RICI				Sn	Sn	14 29 10.1	-9.5
HVAR	Hvar	9.56	327	*e*Pn	Pn	14 27 31.4	-1.5
KIJV	Kijevo	10.25	329	*e*Pn	Pn	14 27 38.8	-3.4
KIJV				Sn	Sn	14 29 28.0	-9.2
MLR	Muntele Rosu	10.26	9	P	Pn	14 27 45.6	+3.1
	comp=Z,0.2nm,0.3s,baz=215,slow=7.5,SNR=2.5						
ZIRJ	Zirje	10.30	326	*e*Pn	Pn	14 27 40.9	-2.1
ZIRJ				Sn	Sn	14 29 27.3	-11
DUGI	Dugi Otok	10.83	325	*e*Pn	Pn	14 27 48.6	-1.6
UDBI	Udbina	10.94	329	*e*Pn	Pn	14 27 50.6	-1.2
EIL	Elat	11.13	118	P	Pn	14 27 53.0	-1.5
	comp=Z,0.6nm,0.3s,baz=248,slow=11,SNR=2.5						
VRAC	Vranov	14.85	342	P	P	14 28 48.4	-2.6
	comp=Z,0.3nm,0.3s,baz=170,slow=11,SNR=2.3						
GERES	GERESS Array B	15.32	335	P	P	14 28 56.0	-0.3
	comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=6.9						
GERES	GERESS Array B	15.32	335	P	P	14 28 56.0	-0.3
KHC	Kasperske Hory	15.60	335	*i* P	P	14 29 00.5	+1.1
KHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KHC	Kasperske Hory	15.60	335	Pn	P	14 28 59.6	+0.2
AKASG	Malin Array Be	15.85	13	P	Pn	14 28 59.5	+1.2
	comp=Z,0.9nm,0.3s,baz=201,slow=9.1,SNR=2.7						
AKASG	Malin Array Be	15.85	13	P	P	14 29 01.2	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	Malin Array Be	15.85	13	Pn	P	14 29 01.1	-0.9
KIV	Kislovodsk	16.98	54	*e*P	P	14 29 16.4	+1.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	Khabaz	17.03	55	P	Pn	14 29 13.8	+0.5
	comp=Z,0.1nm,0.3s,baz=257,slow=10,SNR=8.3						
KBZ				LR	LR	14 37 22.2	
	comp=Z,43nm,18.3s,baz=236,slow=42						
GNI	Garni	17.37	68	LR	LR	14 37 04.6	
	comp=Z,42nm,19.9s,baz=259,slow=41						
ZEI	Tsey	17.38	59	*e*P	P	14 29 21.5	+2.1
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	Collm	17.66	338	*e*P	P	14 29 24.0	+1.9
MNK	Minsk	19.36	8	*i* P	P	14 29 37.9	-2.8
MNK				*i* S	Sn	14 33 15.9	-2.8
MNK				pmax	pmax		
	comp=Z,12nm,0.8s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,13nm,0.7s						
MNK				MLR	MLR		
	comp=N,174nm,20.0s						
MNK				MLR	MLR		
	comp=Z,87nm,21.0s						
MNK				MLR	MLR		
	comp=E,40nm,22.0s						
MNK	Minsk	19.36	8	*i* P	P	14 29 38.0	-2.8
	comp=E,1.0nm,0.9s						
MNK				*i* P	P	14 29 38.0	-2.8
	comp=N,13nm,0.7s						
MNK				*i* P	P	14 29 38.0	-2.8
	comp=Z,12nm,0.8s,baz=10						
MNK				*i* PP	PnPn	14 29 52.3	-2.6
MNK				*i* PPP	PPP	14 30 00.1	
MNK				*i* S	Sn	14 33 16.0	-2.8
MNK				*i* SS	SnSn	14 33 33.5	+0.6
MNK				*i* SSS	SSS	14 33 46.5	
MNK				*i* LQ	LQ	14 35 28.5	
MNK				*i* LR	LR	14 36 23.2	
MNK				*i* LRM	MLR	14 38 20.9	
	comp=N,174nm,20.0s						
MNK				*i* LRM	MLR	14 38 45.0	
	comp=Z,87nm,21.3s						
MNK				*i* LRM	MLR	14 38 59.8	
	comp=E,40nm,21.9s						
VORR	Voronezh	19.76	30	*e*P	P	14 29 40.6	-4.6
VORR				pmax	pmax		
	comp=Z,50nm,0.4s						
PABE	Paberze	20.13	1	P	P	14 29 49.8	+0.6
PABE				IAmb	IAmb	14 29 55.0	
	comp=Z,13nm,0.8s						
LPSR	Galich'ya Gora	20.37	28	*e*P	P	14 29 51.3	-0.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VRH	Novokhopyorsk	20.50	34	*e*P	P	14 29 53.0	-0.3
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	Obninsk	21.68	20	*e*P	P	14 30 09.8	+4.0
OBN				*e*		14 30 32.0	
OBN				*e*S	S	14 33 58.0	-7.6
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,25nm,15.0s						
ESDC	Sonseca Array	22.25	289	P	P	14 30 13.9	+1.7
	comp=Z,1.1nm,0.7s,baz=87,slow=9.4,SNR=5.1						
HFS	Hagfors	25.59	348	P	P	14 30 45.5	+1.1
	comp=Z,1.9nm,0.5s,baz=128,slow=9.6,SNR=8.1						
FINES	FINESS Array B	26.14	3	P	P	14 30 50.7	+1.5
	comp=Z,1.3nm,0.8s,baz=160,slow=10,SNR=5.8						
FINES	FINESS Array B	26.14	3	*ce*P	P	14 30 54.2	+5.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	26.88	347	P	P	14 30 58.1	+2.1
	comp=Z,1.0nm,1.0s,baz=152,slow=8.6,SNR=2.8						
NOA				LR	LR	14 42 55.9	
	comp=Z,32nm,19.6s,baz=100,slow=39						
EKA	Eskdalemuir Ar	27.14	326	P	P	14 30 59.2	+0.9
	comp=Z,2.9nm,0.7s,baz=125,slow=10,SNR=5.5						
KLMR	Klimovskoe	27.47	17	*e*P	P	14 30 56.4	-4.7
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KLMR	Klimovskoe	27.47	17	*e*P	P	14 30 56.5	-4.7
KLMR				AMP		14 31 15.0	
AKTO	Aktyubinsk	29.04	48	P	P	14 31 14.8	-0.6
	comp=Z,0.9nm,0.6s,baz=9.6,slow=17,SNR=3.5						
AKTO				LR	LR	14 46 18.6	
	comp=Z,19nm,18.6s,baz=209,slow=43						
TORD	Torodi Ar. Bea	29.68	227	P	P	14 31 20.9	-0.4
	comp=Z,2.0nm,0.5s,baz=32,slow=9.2,SNR=14						
TORD	Torodi Ar. Bea	29.68	227	P	P	14 31 21.3	0.0
ARU	Arti	31.64	37	*d i*P	P	14 31 42.8	+4.5
ARU						14 32 42.8	
ARU				S	S	14 36 52.6	+5.3
ARU				SS	SnSn	14 38 32.0	-1.0
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	ARCESS Array B	34.23	1	P	P	14 32 00.3	-0.4
	comp=Z,2.0nm,0.7s,baz=178,slow=8.5,SNR=7.0						
ARCES	ARCESS Array B	34.23	1	P	P	14 32 00.5	-0.3
ARCES				pmax	pmax		
	comp=Z,11nm,1.4s						
ARCES	ARCESS Array B	34.23	1	P	P	14 32 00.5	-0.3
ARCES				IAmb	IAmb	14 32 09.4	
	comp=Z,11nm,1.4s						
KEV	Kevo	34.49	2	P	P	14 32 03.5	+0.6
KEV				pmax	pmax		
	comp=Z,35nm,1.4s						
KEV	Kevo	34.49	2	P	P	14 32 03.5	+0.6
DBIC	Dimbokro	38.73	229	P	P	14 32 39.7	0.0
	comp=Z,4.9nm,0.5s,baz=42,slow=9.4,SNR=13						
DBIC	Dimbokro	38.73	229	P	P	14 32 40.7	+1.0
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DBIC	Dimbokro	38.73	229	P	P	14 32 40.7	+1.0
DBIC				IAmb	IAmb	14 32 43.2	
	comp=Z,6.3nm,0.6s						
KURK	Kurchatov	42.03	51	*ce*P	P	14 33 08.4	+1.7
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	Kurchatov	42.03	51	P	P	14 33 06.0	-0.7
KBS	Kingsbay	43.93	357	P	P	14 33 23.5	+1.8
KBS				pmax	pmax		
	comp=Z,48nm,1.5s						
KBS	Kingsbay	43.93	357	P	P	14 33 23.4	+1.8
MAKZ	Makanchi	44.50	57	P	P	14 33 25.7	-1.0
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAKZ	Makanchi	44.50	57	P	P	14 33 25.7	-1.0
MK31	Makanchi Array	44.72	57	P	P	14 33 27.3	-1.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	Makanchi Array	44.72	57	P	P	14 33 27.3	-1.2
MK31				IAmb	IAmb	14 33 31.0	
	comp=Z,2.2nm,0.7s						
MKAR	Makanchi Array	44.72	57	P	P	14 33 27.5	-0.9
	comp=Z,2.2nm,0.6s,baz=270,slow=7.8,SNR=22						
MKAR	Makanchi Array	44.72	57	P	P	14 33 27.4	-1.1
ZAA0	Zalesovo Array	45.77	46	P	P	14 33 34.9	-1.8
ZAA0				IAmb	IAmb	14 33 38.5	
	comp=Z,7.6nm,1.5s						
ZALV	Zalesovo Beam	45.77	46	P	P	14 33 35.1	-1.5
	comp=Z,1.6nm,0.5s,baz=270,slow=8.9,SNR=6.6						
ZALV	Zalesovo Beam	45.77	46	*i* P	P	14 33 37.9	+1.2
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	Zalesovo Beam	45.77	46	P	P	14 33 34.7	-2.0
NRIK	Noril'sk	48.23	25	*i* P	P	14 33 57.5	+1.9
NRIK				pmax	pmax		
	comp=Z,14nm,3.9s						
SFJD	Kangerlussuaq	51.88	331	P	P	14 34 25.9	+2.5
SFJD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SFJD	Kangerlussuaq	51.88	331	P	P	14 34 25.9	+2.5
SFJD				IAmb	IAmb	14 34 43.8	
	comp=Z,8.1nm,1.1s						
ZAK	Zakamensk	57.55	48	*e*P	P	14 35 03.4	-1.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
FRB	Frobisher Bay	59.83	329	LR	LR	15 03 28.3	
	comp=Z,40nm,18.6s,baz=211,slow=38						
SONM	Songino Array	60.33	50	P	P	14 35 23.4	-0.9
	comp=Z,0.7nm,0.7s,baz=278,slow=7.6,SNR=4.6						
SONM	Songino Array	60.33	50	IAmb	IAmb	14 35 24.1	
	comp=Z,1.5nm,1.3s						
SCHQ	Schefferville	62.20	319	P	P	14 35 37.2	+0.5
	comp=Z,3.4nm,0.9s,baz=220,slow=6.9,SNR=3.9						
SCHQ	Schefferville	62.20	319	P	P	14 35 38.1	+1.5
SCHQ				IAmb	IAmb	14 36 05.7	
	comp=Z,3.4nm,1.4s						
BATG	Bathurst New B	64.83	311	P	P	14 35 56.6	+2.4
CMAR	Chiang Mai Arr	67.81	83	P	P	14 36 12.7	-1.0
	comp=Z,0.6nm,0.7s,baz=303,slow=8.6,SNR=5.5						
CMAR	Chiang Mai Arr	67.81	83	*ce*P	P	14 36 16.6	+2.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
C36M	Paulatuk	72.91	349	P	P	14 36 45.3	+1.2
C36M				IAmb	IAmb	14 37 05.2	
	comp=Z,4.2nm,1.4s						
BILL	Bilibino	73.17	14	⇑*e*P	P	14 36 50.0	+4.4
BILL				*e*		14 37 08.2	
BILL				*e*		14 39 34.1	
BILL				pmax	pmax		
	comp=Z,8.0nm,2.2s						
BILL				MLR	MLR		
	comp=Z,29nm,14.0s						
GSI	Gunungsitoli	76.19	98	P	P	14 37 00.9	-3.1
YKA	Yellowknife Ar	76.85	341	P	P	14 37 05.9	-1.1
	comp=Z,0.7nm,0.6s,baz=32,slow=5.3,SNR=11						
YKA	Yellowknife Ar	76.85	341	*ce*P	P	14 37 13.3	+6.3
EPYK	Eagle Plains	77.45	352	P	P	14 37 11.5	+1.1
IMAR	Indian Mountai	78.94	359	P	P	14 37 19.3	+0.7
KSRS	Korea Array	79.15	52	P	P	14 37 18.2	-2.0
	comp=Z,0.9nm,0.6s,baz=310,slow=5.3,SNR=4.5						
KSRS				LR	LR	15 15 04.9	
	comp=Z,11nm,18.1s,baz=340,slow=38						
MDM	Murphy Dome	79.79	356	P	P	14 37 23.4	+0.1
MDM				IAmb	IAmb	14 37 44.2	
	comp=Z,3.1nm,1.2s						
ILAR	Eielson Array	79.90	356	P	P	14 37 23.2	-0.6
	comp=Z,0.5nm,0.9s,baz=12,slow=2.3,SNR=4.1						
WRH	Wood River Hil	80.27	356	P	P	14 37 25.9	+0.1
WRH				IAmb	IAmb	14 37 30.8	
	comp=Z,2.6nm,1.0s						
DOT	Dot Lake	80.82	354	P	P	14 37 28.0	-0.8
DOT				IAmb	IAmb	14 37 33.7	
	comp=Z,2.9nm,0.8s						
BCAR	Beaver Creek A	81.20	353	P	P	14 37 31.6	+0.6
L27K	Beaver Creek,	81.21	353	P	P	14 37 31.2	+0.3
L27K				IAmb	IAmb	14 37 42.9	
	comp=Z,5.5nm,1.4s						
TRF	Thorofare Moun	81.39	357	P	P	14 37 31.8	-0.2
TRF				IAmb	IAmb	14 37 42.3	
	comp=Z,6.0nm,1.4s						
DHY	Denali Highway	81.62	356	P	P	14 37 32.9	-0.4
DHY				IAmb	IAmb	14 37 38.8	
	comp=Z,3.0nm,0.9s						
PPLA	Purkeypile	82.01	358	P	P	14 37 34.5	-0.8
N31M	Braeburn, Yuko	82.03	350	P	P	14 37 36.4	+1.1
CUT	Chulitna	82.43	357	P	P	14 37 39.1	+1.8
ECSD	EROS Data Cent	84.33	321	P	P	14 37 49.5	+2.0
ECSD				IAmb	IAmb	14 38 08.1	
	comp=Z,3.0nm,1.2s						
ASAR	Alice Springs	119.34	99	PKP	PKPdf	14 44 04.0	-1.2
	comp=Z,0.3nm,0.7s,baz=304,slow=1.1,SNR=5.0						
ASAR	Alice Springs	119.34	99	PKIKP	PKPdf	14 44 04.0	-1.2

IDC ***07*** *14:33:00.5±4.7, 9.74S×160.05E, h21km±30km, mb3.7/8, mb1 3.8/8, mb1mx3.7/40, mbtmp3.8/8, MS3.5/2, Ms1 3.5/2, ms1mx2.6/56, Error ellipse: s-maj=28.7km s-min=11.4km az=88.0*

NEIC ***07*** *14:33:01.4±1.1, 9.77S±0.08×160.2E±0.2, h28km±6km, mb4.3/15, Error ellipse: s-maj=25.8km s-min=6.9km az=69.0*

ISC 07 14:33:01.8±0.8**, 9.79S**±0.09×**160.1E**±0.2**, h32km, n30, σ0.53**/26**, mb4.0**/17**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	0.38	339	Pn	Pb	14 33 10.0	-0.6
	789nm,0.3s,baz=183,slow=6.7,SNR=267						
HNR				Sn	Sb	14 33 16.5	-0.1
	3μm,0.3s,baz=163,slow=9.0,SNR=36						
PMG	Port Moresby	12.75	271	LR	LR	14 40 15.1	
	comp=Z,136nm,19.8s,baz=86,slow=34						
ARMA	Armidale	21.99	200	P	P	14 37 53.2	-0.1
ARMA				IAmb	IAmb	14 38 18.9	
	comp=Z,8.5nm,1.2s						
WR0	Warramunga Arr	26.64	245	P	P	14 38 37.5	-0.3
WB0	Warramunga Arr	26.71	245	P	P	14 38 37.9	-0.6
WB0				IAmb	IAmb	14 38 44.3	
	comp=Z,3.1nm,0.7s						
WRAB	Tennant Creek	26.80	245	P	P	14 38 38.8	-0.5
WRAB				IAmb	IAmb	14 38 45.5	
	comp=Z,5.6nm,1.1s						
WB2	Warramunga Arr	26.80	245	P	P	14 38 39.7	+0.4
WB2				IAmb	IAmb	14 38 45.6	
	comp=Z,5.1nm,1.1s						
WRA	Warramunga Arr	26.81	245	P	P	14 38 39.7	+0.3
	comp=Z,0.4nm,0.7s,baz=74,slow=9.5,SNR=8.4						
WRA	Warramunga Arr	26.81	245	P	P	14 38 38.7	-0.7
ASAR	Alice Springs	28.55	238	P	P	14 38 54.0	-1.0
	comp=Z,0.3nm,0.5s,baz=62,slow=10,SNR=8.1						
H11N1	WAKE ISLAND Hy	30.08	13	T	T	15 09 14.9	
	baz=193,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	30.08	13	T	T	15 09 12.3	
	baz=193,slow=76,SNR=13						
H11N2	WAKE ISLAND Hy	30.09	13	T	T	15 09 15.9	
	baz=193,slow=76,SNR=21						
TUWZ	Tuamarina	33.80	161	P	P	14 39 40.2	-0.7
FITZ	Fitzroy Crossi	34.38	252	P	P	14 39 46.7	+0.4
	comp=Z,1.9nm,1.1s,baz=45,slow=7.1,SNR=1.6						
FITZ	Fitzroy Crossi	34.38	252	P	P	14 39 46.3	0.0
SONM	Songino Array	74.43	326	P	P	14 44 37.2	+0.2
	comp=Z,0.7nm,1.0s,baz=134,slow=6.2,SNR=4.0						
QSPA	South Pole Qui	80.20	180	P	P	14 45 09.8	+0.8
	comp=Z,1.6nm,0.9s,baz=174,slow=2.4,SNR=2.6						
TRF	Thorofare Moun	82.19	20	P	P	14 45 19.8	+0.3
TRF				IAmb	IAmb	14 45 25.7	
	comp=Z,3.6nm,1.0s						
RND	Reindeer	82.65	21	P	P	14 45 21.5	-0.3
IMAR	Indian Mountai	82.81	17	P	P	14 45 22.9	+0.4
MCK	McKinley	82.83	20	P	P	14 45 22.8	+0.1
DHY	Denali Highway	82.97	21	P	P	14 45 22.8	-0.7
DHY				IAmb	IAmb	14 45 25.4	
	comp=Z,2.4nm,1.1s						
CCB	Clear Creek Bu	83.79	20	P	P	14 45 27.0	-0.6
CCB				IAmb	IAmb	14 45 30.9	
	comp=Z,4.7nm,1.4s						
MDM	Murphy Dome	83.85	20	P	P	14 45 27.7	-0.2
MDM				IAmb	IAmb	14 45 33.9	
	comp=Z,5.2nm,1.2s						
IL31		84.18	20	P	P	14 45 29.2	-0.3
IL31				IAmb	IAmb	14 45 51.4	
	comp=Z,4.7nm,1.4s						
ILAR	Eielson Array	84.18	20	P	P	14 45 29.3	-0.3
	comp=Z,0.8nm,0.4s,baz=246,slow=4.9,SNR=21						
MKAR	Makanchi Array	88.83	318	P	P	14 45 53.7	+0.9
	comp=Z,0.4nm,0.7s,baz=105,slow=4.6,SNR=5.5						
YKA	Yellowknife Ar	96.44	28	P	P	14 46 27.6	+0.1
	comp=Z,0.1nm,0.4s,baz=260,slow=4.8,SNR=2.4						
PDAR	Pinedale Array	96.83	48	LR	LR	15 27 22.4	
	comp=Z,29nm,18.5s,baz=296,slow=34						

WEL ***07*** *14:43:08.5±0.4, 42°S±3°×17°4E±°, h26km±4km, M3.2/25, ML3.4/24, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7*

NOU ***07*** *14:43:09.1, 42.28S×173.71E, h33km, MLv3.9/7, South Island, New Zealand*

ISC 07 14:43:09.1±1.0**, 42.21S**±0.03×**173.69E**±0.04**, h32km**±9km**, n76, σ1.38**/85**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHZ	Kahutara	0.23	209	P	Pn	14 43 16.8	+0.5
KHZ				S	Sb	14 43 22.1	+1.5
KHZ	Kahutara	0.23	209	P	Pn	14 43 16.8	+0.5
BSWZ	Blackbirch Sta	0.52	15	P	Pb	14 43 19.4	-0.4
BSWZ				S	Sb	14 43 27.8	+0.6
CMWZ	Cape Campbell	0.60	40	P	Pn	14 43 21.7	+0.3
CMWZ				S	Sn	14 43 33.3	+3.2
THZ	Tophouse	0.74	307	P	Pb	14 43 21.7	-1.9
THZ				S	Sb	14 43 31.4	-2.0
TUWZ	Tuamarina	0.81	14	P	Pn	14 43 23.7	-0.4
TUWZ				S	Sb	14 43 34.8	-0.4
GVZ	Greta Valley S	0.90	213	P	Pb	14 43 26.5	+0.3
GVZ				S	Sn	14 43 39.3	+1.9
NNZ	Nelson	1.02	347	P	Pn	14 43 26.1	-1.0
MRNZ	Matariki Terra	1.07	319	P	Pn	14 43 27.2	-0.6
TCW	Tory Channel	1.09	24	P	Pn	14 43 27.9	-0.2
TCW				S	Sn	14 43 42.2	0.0
SNZO	South Karori	1.18	40	P	Pn	14 43 29.6	+0.3
BHW	Baring Head	1.19	48	P	Pn	14 43 29.5	0.0
LTZ	Lake Taylor	1.20	241	P	Pn	14 43 30.1	+0.5
LTZ				S	Sn	14 43 45.0	+0.3
WEL	Wellington	1.23	41	P	Pn	14 43 30.2	+0.2
AMCZ	Amberley	1.23	218	P	Pn	14 43 30.5	+0.4
TKNZ	Takaka Hill	1.30	335	P	Pn	14 43 30.7	-0.4
TKNZ				S	Sn	14 43 47.4	+0.1
PLWZ	Palliser	1.33	62	P	Pn	14 43 31.2	-0.2
MSWZ	Moikau Station	1.41	56	P	Pn	14 43 32.3	-0.2
DUWZ	D'Urville Isla	1.42	7	P	Pn	14 43 32.5	-0.2
DSZ	Denniston Nort	1.48	288	P	Pn	14 43 34.0	+0.4
CAW	Cannon Point	1.51	43	P	Pn	14 43 33.8	-0.1
PAWZ	Paruwai Farm	1.54	58	P	Pn	14 43 33.8	-0.5
OKCZ	Okains Bay	1.58	197	P	Pn	14 43 35.2	+0.3
KIW	Kapiti Island	1.63	34	P	Pn	14 43 35.7	+0.1
QRZ	Quartz Range	1.64	327	P	Pn	14 43 36.0	+0.3
QRZ	Quartz Range	1.64	327	P	Pn	14 43 36.2	+0.5
OXZ	Oxford	1.65	227	P	Pn	14 43 35.3	-0.5
MQZ	McQueen's Vall	1.68	207	P	Pn	14 43 35.5	-0.7
TRWZ	Traveller	1.70	62	P	Pn	14 43 35.9	-0.6
MTW	Mount Morrison	1.72	53	P	Pn	14 43 36.1	-0.7
INZ	Inchbonnie	1.74	252	P	Pn	14 43 38.3	+1.3
AKCZ	Akaroa Harbour	1.75	199	P	Pn	14 43 37.0	-0.2
OGWZ	Otaki Gorge	1.78	39	P	Pn	14 43 37.4	-0.2
RACZ	Rakaia	1.89	216	P	Pn	14 43 38.6	-0.5
HOWZ	Holdsworth Sta	1.90	47	P	Pn	14 43 38.5	-0.7
TMWZ	Te Maipa	1.98	57	P	Pn	14 43 39.6	-0.9
MHCZ	Mount Hutt	2.04	229	P	Pn	14 43 40.6	-0.7
MRZ	Mangatainoka R	2.10	43	P	Pn	14 43 41.4	-0.7
WACZ	Wakanui South	2.20	218	P	Pn	14 43 42.9	-0.5
WVZ	Waitaha Valley	2.34	247	P	Pn	14 43 46.4	+1.1
RPZ	Rata Peaks	2.45	231	P	Pn	14 43 46.4	-0.4
RPZ	Rata Peaks	2.45	231	P	Pn	14 43 46.5	-0.4
BFZ	Birch Farm	2.46	52	P	Pn	14 43 47.0	+0.1
ARCZ	Arundel	2.53	226	P	Pn	14 43 47.7	-0.3
WAZ	Wanganui	2.64	22	P	Pn	14 43 51.5	+2.0
GCSZ	Gaunt Creek Bo	2.71	245	P	Pb	14 43 54.3	-2.6
TSZ	Takapari Road	2.75	39	P	Pn	14 43 50.0	-1.0
NMEZ	Namu Road	2.80	3	P	Pn	14 43 54.8	+3.2
LREZ	Lake Rotokare	2.80	11	P	Pb	14 43 55.5	-3.0
TMZ	Timaru	2.92	221	P	Pn	14 43 52.8	-0.6
KHEZ	Kahui Hut	2.93	5	P	Pn	14 43 55.7	+2.2
NBEZ	Newall Road No	2.94	3	P	Pn	14 43 56.1	+2.5
NEZ	North Egmont	2.96	6	P	Pn	14 43 56.8	+2.9
PKE	Pukeiti	3.02	4	P	Pn	14 43 57.6	+2.9
FOZ	Fox Glacier	3.14	244	P	Pn	14 43 57.6	+1.3
PKVZ	Pokaka	3.18	24	P	Pn	14 43 57.9	+1.0
VRZ	Vera Road	3.19	15	P	Pn	14 43 58.4	+1.4
WNVZ	Wahianoa	3.23	27	P	Pn	14 43 58.7	+1.0
TRVZ	Turoa	3.23	26	P	Pn	14 43 58.4	+0.6
LBZ	Lake Benmore	3.36	229	P	Pn	14 43 59.1	-0.2
NGZ	Ngauruhoe	3.36	26	P	Pn	14 44 02.3	+2.8
NNVZ	North Ngauruho	3.41	26	P	Pn	14 44 02.9	+2.8
TMVZ	Te Maari	3.45	27	P	Pn	14 44 01.2	+0.5
ODZ	Otahua Downs	3.59	217	P	Pn	14 44 01.6	-0.9
ODZ	Otahua Downs	3.59	217	P	Pn	14 44 01.9	-0.6
BKZ	Black Stump Fm	3.71	36	P	Pn	14 44 04.9	+0.6
HIZ	Hauiti	3.80	14	P	Pn	14 44 06.8	+1.5
HIZ	Hauiti	3.80	14	P	Pn	14 44 07.1	+1.7
JCZ	Jackson Bay	4.04	241	P	Pn	14 44 11.8	+3.0
TLZ	Tolley Road	4.13	21	P	Pn	14 44 13.7	+3.8
EAZ	Earnscleugh	4.38	225	P	Pn	14 44 12.5	-0.8
TOZ	Tahuroa Road	4.69	18	P	Pn	14 44 19.1	+1.6
TUZ	Tuapeka	4.75	217	P	Pn	14 44 17.9	-0.5
AWAZ	Awhitu Peninsu	5.19	8	P	Pn	14 44 25.7	+1.2
ETAZ	East Tamaki Re	5.34	11	P	Pn	14 44 27.9	+1.4
WIAZ	Waiheke Island	5.53	12	P	Pn	14 44 30.1	+1.0

TUL ***07*** *14:46:51.1±0.9, 36.67N±0.01×97.74W±0.02, h6km±7km, ML2.9, mb_Lg2.6/33(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=128.0*

NEIC 07 14:46:50.8±0.4**, 36.64N**±0.01×**97.73W**±0.02**, h1km**±7km**, Error ellipse: s-maj=2.2km s-min=1.7km az=124.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T35A	Sooner Cattle	1.01	74	Pg	Pg	14 47 10.2	-0.1
U32A	Winter Ranch,	1.06	256	Pg	Pg	14 47 10.8	-0.3
OKCFA	Oklahoma City	1.25	169		Pg	14 47 14.6	-0.2
OKCSW	OKLAHOMA CITY	1.26	169		Pg	14 47 14.7	-0.2
FNO	Franklin	1.41	169	Pn	Pn	14 47 17.4	-0.2
W35A	Tecumseh	1.64	155		Pn	14 47 20.8	0.0
TUL1	Leonard	1.73	114		Pn	14 47 22.1	+0.1
TUL1				IAmb_Lg		14 47 47.2	
	comp=Z,26nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
R32A	Long Quarter,	1.94	337		Pn	14 47 25.0	0.0
R32A				IAmb_Lg		14 47 52.8	
	comp=Z,23nm,0.8s						
X34A	Smith Ranch, M	2.04	182	Pn	Pn	14 47 26.2	-0.1
WMOK	Wichita Mounta	2.09	205	Pn	Pn	14 47 27.3	+0.3
WMOK	Wichita Mounta	2.09	205	IAmb_Lg		14 48 01.1	
	comp=Z,20nm,0.9s						
X37A	Clayton	2.81	136	IAmb_Lg		14 48 24.6	
	comp=Z,19nm,0.8s						
Z35A	Perchaven, San	3.33	173	Pn	Pn	14 47 44.0	-0.1
W39A	Magazine	3.51	113	Pn	Pn	14 47 47.2	+0.6
AMTX	Amarillo	3.66	242	IAmb_Lg		14 48 56.0	
	comp=Z,20nm,0.8s						
S39A	Bolivar	3.67	72	Pn	Pn	14 47 49.0	+0.3
S39A				IAmb_Lg		14 48 51.4	
	comp=Z,12nm,1.0s						
U40A	Yellville	3.94	93	Pn	Pn	14 47 52.2	-0.2
MIAR	Mount Ida	3.98	121	IAmb_Lg		14 49 00.2	
	comp=Z,13nm,0.7s						
MGMO	Mountain Grove	4.41	82	IAmb_Lg		14 49 14.8	
	comp=Z,10nm,1.0s						
P38A	Dawn	4.45	47	IAmb_Lg		14 49 16.6	
	comp=Z,15nm,0.8s						
X40A	Basin Creek Fa	4.53	117	IAmb_Lg		14 49 15.9	
	comp=Z,10nm,0.7s						
KSCO	Kaye Shedlock'	4.54	303	IAmb_Lg		14 49 21.3	
	comp=Z,11nm,0.7s						
WHAR	Wooly Hollow	4.62	105	IAmb_Lg		14 49 24.2	
	comp=Z,11nm,1.0s						
W41B	Gary Mavity, V	4.69	107	IAmb_Lg		14 49 18.8	
	comp=Z,10nm,0.7s						
WLAR	White Oak Lake	4.80	127	IAmb_Lg		14 49 31.0	
	comp=Z,10nm,0.7s						
LCAR	Lake Charles	5.34	94	IAmb_Lg		14 49 45.4	
	comp=Z,10nm,1.3s						
L34A	Svendsen Farm,	5.42	11	IAmb_Lg		14 49 56.1	
	comp=Z,12nm,0.8s						
N23A	Red Feather La	7.69	306	IAmb_Lg		14 51 12.8	
	comp=Z,7.6nm,0.8s						

*NEIC **07** 15:16:42.6±3.0, 17.°74S±0.°06×70.°2W±0.°1, h109^{km}±8^{km}, mb4.0/8, Error ellipse: s-maj=14.5km s-min=8.1km az=96.0*
*VAO **07** 15:16:43.8±0.9, 17.°71S×70.°21W, h139^{km}, mb4.2*
*GUC **07** 15:16:44.2±0.6, 17.°93S×70.°43W, h120^{km}±6^{km}, ML3.9*
*IDC **07** 15:16:46.2±1.7, 17.°92S×69.°76W, h144^{km}±12^{km}, mb3.7/5, mb1 3.8/8, mb1mx3.5/35, mbtmp4.1/8, Error ellipse: s-maj=29.6km s-min=10.3km az=105.0*
ISC 07 15:16:42.5±0.9**, 17.°83S**±0.°05×**70.°21W**±0.°08**, h124**^{km}±8^{km}**, n81, σ1.s63**/83**, mb4.0**/5**, 3D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB11	IPOC Station P	1.99	165		Pn	15 17 17.6	+1.4
PB11	IPOC Station P	1.99	165	⇓iP	Pn	15 17 18.0	+1.8
PB11				iS	Sn	15 17 43.8	+1.8
PB11				IAML		15 17 44.6	
	comp=N,680nm,0.4s						
GO01	Chusmiza	2.06	152		Pn	15 17 20.0	+2.5
GO01	Chusmiza	2.06	152	eP	Pn	15 17 20.0	+2.5
GO01				iS	Sn	15 17 46.8	+2.7
GO01				IAML		15 17 50.9	
	comp=N,1μm,0.1s						
TA02	Huaiquique	2.43	178		Pn	15 17 22.8	+1.3
TA02	Huaiquique	2.43	178	eP	Pn	15 17 22.6	+1.0
TA02				iS	Sn	15 17 50.2	-1.3
TA02				IAML		15 17 58.5	
	comp=N,905nm,0.1s						
HMBC	Humberstone	2.45	173	⇓iP	Pn	15 17 23.4	+1.4
HMBC				eS	Sn	15 17 49.9	-2.4
HMBC				IAML		15 17 56.1	
	comp=N,346nm,0.4s						
PB08	IPOC Station P	2.50	157	Pn	Pn	15 17 24.9	+2.0
PB08	IPOC Station P	2.50	157	⇓iP	Pn	15 17 25.4	+2.5
PB08				iS	Sn	15 17 56.2	+2.3
PB08				IAML		15 17 58.2	
	comp=N,469nm,0.3s						
LPAZ	La Paz	2.52	53	P	Pn	15 17 24.5	+1.3
	comp=N,10nm,0.3s,baz=238,slow=7.4,SNR=118						
LPAZ				S	Sn	15 17 54.9	+0.4
	comp=N,3.0nm,0.3s,baz=192,slow=5.3,SNR=6.2						
LPAZ	La Paz	2.52	53		Pn	15 17 24.3	+1.0
LPAZ	La Paz	2.52	53	eP	Pn	15 17 24.6	+1.3
PATCX	Punta Patache	2.97	179		Pn	15 17 30.2	+1.5
PATCX	Punta Patache	2.97	179	eP	Pn	15 17 30.2	+1.5
PATCX				eS	Sn	15 17 58.8	-5.5
PB01	IPOC Station P	3.27	168		Pn	15 17 33.7	+1.2
PB01	IPOC Station P	3.27	168	eP	Pn	15 17 33.7	+1.2
PB01				IAML		15 18 16.0	
	comp=E,250nm,0.4s						
PB02	IPOC Station P	3.48	175		Pn	15 17 36.8	+1.5
PB02	IPOC Station P	3.48	175	eP	Pn	15 17 36.9	+1.5
PB02				eS	Sn	15 18 14.7	-1.6
PB02				IAML		15 18 24.1	
	comp=E,316nm,0.3s						
PB07	IPOC Station P	3.89	176		Pn	15 17 42.4	+1.6
PB09	IPOC Station P	4.05	167	Pn	Pn	15 17 44.6	+1.7
PB04	IPOC Station P	4.48	179		Pn	15 17 49.6	+0.9
PB06	IPOC Station P	4.88	173		Pn	15 17 54.9	+0.8
LVC	Limon Verde	4.91	166	P	Pn	15 17 56.8	+2.2
	comp=E,4.5nm,0.3s,baz=2.3,slow=7.5,SNR=106						
LVC				S	Sn	15 18 50.2	-0.5
	comp=E,13nm,0.3s,baz=96,slow=20,SNR=19						
LVC	Limon Verde	4.91	166		Pn	15 17 56.5	+1.9
LVC	Limon Verde	4.91	166	eP	Pn	15 17 57.0	+2.3
PB15	IPOC Station P	5.39	173		Pn	15 18 01.9	+0.9
AC01	Pan de Azucar	8.28	182	Pn	Pn	15 18 38.9	-0.9
NNA	Nana	8.65	311	Pn	Pn	15 18 44.4	-0.4
ETMB	Extrema	8.86	26	eP	Pn	15 18 47.9	+0.2
SIV	San Ignacio	8.94	80	P	Pn	15 18 45.6	-3.2
	comp=E,5.5nm,0.3s,baz=272,slow=9.6,SNR=58						
AC02	Maricunga	9.02	174		Pn	15 18 50.1	-0.1
VILB	Vilhena	10.80	65	eP	Pn	15 19 12.8	-1.0
AQDB	Aquidauana	13.96	103	P	P	15 19 58.0	-1.1
AQDB	Aquidauana	13.96	103	eP	P	15 19 57.1	-2.0
SALV	Santo Antonio	14.03	84	eP	P	15 19 57.6	-2.3
PDRB	Porto dos Gac	14.43	66	eP	Pn	15 20 00.9	-0.2
CPUP	Villa Florida	14.62	128	eP	P	15 20 06.0	-0.4
VA06	Catapilco	14.70	184	P	P	15 20 07.0	-0.2
CLDB	Colider	15.58	66	eP	Pn	15 20 14.8	-0.8
MT01	Popeta	15.99	183	Pn	Pn	15 20 21.5	+1.1
MT01				IAmb	IAmb	15 20 28.2	
	comp=Z,8.1nm,0.9s						
H03N1	Juan Fernandez	17.39	205	T	T	15 38 33.3	
	baz=27,slow=73,SNR=57						
H03N2	Juan Fernandez	17.40	205	T	T	15 38 34.6	
	baz=27,slow=73,SNR=35						
H03N3	Juan Fernandez	17.41	205	T	T	15 38 32.2	
	baz=27,slow=73,SNR=58						
ARAG	Araguaiana, MT	17.75	86	eP	Pn	15 20 40.5	-1.5
NPGB	Novo Progresso	18.02	55	eP	P	15 20 42.5	-1.6
PCMB	Pacaembu	18.23	105	eP	Pn	15 20 48.2	+0.5
PTGB	Pitanga	18.24	115	eP	Pn	15 20 48.0	+0.2
ITAB	Concordia	19.12	122		Pn	15 20 56.5	-1.7
ITAB	Concordia	19.12	122	eP	Pn	15 20 57.1	-1.0
SNDB	Serra Nova Dou	19.18	75	eP	P	15 20 55.8	-0.9
ITTB	Itaituba	19.49	48	eP	P	15 20 58.9	-1.2
CPSB	Cacapava Do Su	19.74	132	eP	Pn	15 21 03.5	-1.9
FRTB	Fartura	20.09	109	eP	Pn	15 21 06.9	-2.5
PLTB	Pedras Altas	20.45	136	P	P	15 21 10.6	+0.3
PLTB				IAmb	IAmb	15 21 11.8	
	comp=Z,8.8nm,0.8s						
PLTB	Pedras Altas	20.45	136	eP	Pn	15 21 11.0	-2.6
BB19B	Bebedouro	20.70	102	eP	P	15 21 11.8	-1.3
IPMB	Ipameri, GO	20.94	94	eP	P	15 21 15.2	-0.4
BDFB	Brasilia	21.37	87	P	P	15 21 18.6	-1.8
	comp=Z,5.0nm,0.4s,baz=289,slow=10,SNR=9.2						
BDFB	Brasilia	21.37	87	IAmb	IAmb	15 21 22.3	
	comp=Z,12nm,1.3s						
PEXB	Peixe	21.91	78	eP	P	15 21 24.9	-1.1
VAO	Valinhos	22.38	107	eP	P	15 21 30.4	-0.4
PLCA	Paso Flores	22.82	181	P	P	15 21 38.0	+3.0
	comp=Z,1.2nm,0.8s,baz=347,slow=10,SNR=5.4						
PLCA	Paso Flores	22.82	181	IAmb	IAmb	15 21 44.1	
	comp=Z,1.6nm,1.0s						
PARB	Paraibuna	23.65	108	eP	P	15 21 42.5	-0.3
SMTB	Santa Maria do	23.73	71	eP	P	15 21 43.3	-0.2
MCPB	Macapa, AP	24.91	48	eP	P	15 21 54.4	+0.3
JANB	Januaria	24.99	87	eP	P	15 21 54.5	-0.5
SDBA	SAO DESIDERIO	25.01	81	eP	P	15 21 54.9	-0.3
MAN01	Angra dos Reis	25.10	106	eP	P	15 21 55.4	-0.6
DIAM	Diamantina, MG	25.23	95	eP	P	15 21 59.0	+1.7
NBPN	Ponto Novo - B	29.87	81	eP	P	15 22 38.5	-0.1
NBPS	Pedro II - PI	31.16	68	eP	P	15 22 50.0	0.0
NBPB	Pedra_Branca-C	32.32	72	eP	P	15 22 59.2	-0.9
DBIC	Dimbokro	68.94	75	P	P	15 27 34.4	-0.3
	comp=Z,3.2nm,0.9s,baz=281,slow=10,SNR=3.7						
DBIC	Dimbokro	68.94	75	IAmb	IAmb	15 27 37.1	
	comp=Z,5.3nm,1.1s						
QSPA	South Pole Qui	72.34	180	P	P	15 27 58.3	+3.7
TORD	Torodi Ar. Bea	77.33	72	P	P	15 28 22.8	-1.3
	comp=Z,0.9nm,0.5s,baz=257,slow=4.9,SNR=10						
TORD	Torodi Ar. Bea	77.33	72	P	P	15 28 23.4	-0.6
TORD				IAmb	IAmb	15 28 29.9	
	comp=Z,2.0nm,0.9s						
YKA	Yellowknife Ar	87.34	341	P	P	15 29 16.8	+1.8
	comp=Z,0.9nm,0.6s,baz=135,slow=4.8,SNR=14						
ASAR	Alice Springs	132.50	211	PKP	PKiKP	15 35 44.1	-0.2
	comp=Z,0.2nm,0.7s,baz=136,slow=1.7,SNR=4.3						
WRA	Warramunga Arr	135.39	214	PKP	PKiKP	15 35 50.6	+0.4
	comp=Z,0.3nm,0.6s,baz=132,slow=1.5,SNR=7.1						

*IDC **07** 15:18:55.6±1.1, 24.°10N×121.°87E, h0^{km}, mb3.5/5, mb1 3.6/7, mb1mx3.4/44, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=30.5km s-min=20.5km az=66.0*
*TAP **07** 15:18:58.5, 24.°18N×121.°70E, h12^{km}, ML4.0, B*
ISC 07 15:18:57.9±0.8**, 24.°15N**±0.°02×**121.°79E**±0.°03**, h12**^{km}±4^{km}**, n91, σ0.s69**/142**, mb3.5**/5**, 9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETL	Fush Village	0.16	275	⇓iP	Pg	15 19 01.3	-0.3
	baz=254						
ETL				iS	Sg	15 19 03.2	-1.0
	baz=254						
EHP	Heping Village	0.17	344	⇓iP	Pg	15 19 01.9	+0.1
	baz=20						
EHP				iS	Sg	15 19 04.7	+0.1
	baz=20						
NACB	Ninganchiao	0.18	279	⇓iP	Pg	15 19 01.5	-0.5
	baz=268						
NACB				iS	Sg	15 19 03.7	-1.2
	baz=268						
TWD	Chiawan	0.19	250	iP	Pg	15 19 01.9	-0.2
	baz=221						
TWD				iS	Sg	15 19 04.4	-0.6
	baz=221						
HWA	Hwalien	0.24	226	eP	Pb	15 19 04.0	-0.2
	baz=201						
HWA				eS	Sb	15 19 08.1	+1.7
	baz=201						
ENA	Nanau	0.28	350	iP	Pb	15 19 03.9	-1.1
	baz=11						
ENA				iS	Sg	15 19 08.0	+0.2
	baz=11						
ETLH	Xiulin Townshi	0.29	282	⇓iP	Pg	15 19 03.4	-0.5
	baz=278						
ETLH				iS	Sg	15 19 06.8	-1.1
	baz=278						
EWUT	Wuta	0.30	357	P	Pb	15 19 04.3	-1.0
	baz=16						
EWUT				S	Sg	15 19 08.3	+0.2
	baz=16						
ETM	Tongmen	0.33	237	iP	Pg	15 19 04.6	0.0
	baz=221						
ETM				eS	Sg	15 19 08.7	-0.3
	baz=221						
TEYL	Yanliau Villag	0.33	213	eP	Pb	15 19 06.2	+0.4
	baz=198						
TEYL				eS	Sb	15 19 12.3	+1.3
	baz=198						
LATG	Datong	0.46	328	⇓iP	Pg	15 19 06.9	-0.1
	baz=336						
LATG				eS	Sg	15 19 12.9	-0.2
	baz=336						
TWC	Suao	0.46	6	P	Pb	15 19 07.6	-0.5
	baz=19						
TWC				eS	Sg	15 19 12.5	-0.8
	baz=19						
ESL	Shilin	0.47	225	P	Pg	15 19 07.3	+0.2
	baz=213						
ESL				eS	Sb	15 19 15.2	+0.3
	baz=213						
NNSB	Datong	0.47	307	eP	Pg	15 19 06.8	-0.4
	baz=311						
NNSB				eS	Sg	15 19 12.7	-0.7
	baz=311						
NNS	Nan Shan	0.48	307	P	Pg	15 19 07.1	-0.3
	baz=312						
NNS				eS	Sg	15 19 13.2	-0.7
	baz=312						
WHF	Hehuan Shan	0.48	270	P	Pg	15 19 07.1	-0.5
	baz=265						
WHF				eS	Sg	15 19 13.0	-1.0
	baz=265						
NDS	Dongshan	0.49	352	P	Pb	15 19 07.9	-0.6
	baz=2.0						
NDS				eS	Sg	15 19 14.2	0.0
	baz=2.0						
TEGC	Jichi Village	0.49	208	eP	Pb	15 19 09.1	+0.6
	baz=196						
FUSS	Fushou	0.51	282	⇓P	Pg	15 19 07.8	-0.2
	baz=280						
FUSS				eS	Sg	15 19 14.0	-0.9
	baz=280						
NDT	Datong Townshi	0.52	331	iP	Pb	15 19 08.4	-0.7
	baz=338						
NDT				S	Sg	15 19 15.4	+0.3
	baz=338						
ENTT	Nioudou	0.53	337	eP	Pb	15 19 08.6	-0.6
	baz=346						
ENTT				eS	Sg	15 19 15.6	+0.1
	baz=346						
CHGB	Renai	0.57	262	eP	Pg	15 19 09.1	0.0
	baz=256						
CHGB				eS	Sg	15 19 15.4	-1.4
	baz=256						
TWT	Tachien	0.57	281	eP	Pg	15 19 09.3	+0.1
	baz=278						
TWT				eS	Sg	15 19 16.4	-0.4
	baz=278						
EGFH	Guangfu	0.58	215	eP	Pb	15 19 10.1	+0.1
	baz=206						
EGFH				eS	Sb	15 19 18.8	+0.5
	baz=206						
TWE	Neicheng	0.58	349	P	Pb	15 19 09.8	-0.3
	baz=359						
TWE				eS	Sg	15 19 17.4	+0.3
	baz=359						
TDCB	Techi	0.59	281	P	Pg	15 19 09.4	-0.1
	baz=279						
TDCB				S	Sg	15 19 16.4	-0.9
	baz=279						
ILA	Ilan	0.62	356	eP	Pb	15 19 10.6	-0.1
	baz=5.0						
ILA				eS	Sb	15 19 19.3	0.0
	baz=5.0						
WUSB	Renai	0.64	256	eP	Pg	15 19 10.6	+0.2
	baz=251						
WUSB				eS	Sg	15 19 17.4	-1.4
	baz=251						
FUSB	Fushanzhiwuyua	0.64	343	P	Pb	15 19 10.8	-0.3
	baz=350						
FUSB				eS	Sg	15 19 18.7	-0.1
	baz=350						
YHNB	Yeheng	0.65	324	⇓P	Pg	15 19 10.6	+0.1
	baz=329						
YHNB				eS	Sg	15 19 19.2	+0.1
	baz=329						
NSK	Sanguang	0.66	323	⇓P	Pg	15 19 10.8	0.0
	baz=329						
NSK				eS	Sg	15 19 19.1	-0.4
	baz=329						
NWLT	Wulai	0.68	337	⇓iP	Pb	15 19 11.5	-0.3
	baz=343						
NWLT				eS	Sg	15 19 19.9	-0.2
	baz=343						
NTC	Toucheng	0.71	3	eP	Pb	15 19 12.0	-0.1
	baz=10.0						
NTC				eS	Sg	15 19 19.8	-1.1
	baz=10.0						
VWDT	VWDT	0.71	237	eP	Pb	15 19 12.7	+0.5
	baz=230						
VWDT				eS	Sb	15 19 22.2	+0.2
	baz=230						
HGSD	Ruisui	0.73	208	eP	Pn	15 19 14.2	+0.1
	baz=200						
HGSD				eS	Sn	15 19 26.6	+1.4
	baz=200						
EHY	Hungye	0.77	214	eP	Pb	15 19 13.2	-0.1
	baz=207						
WPL	Puli Township	0.78	260	eP	Pg	15 19 13.1	+0.1
	baz=257						
WPL				eS	Sg	15 19 22.3	-0.8
	baz=257						
NFF	Wufeng Townshi	0.78	308	eP	Pg	15 19 13.0	-0.1
	baz=311						
NFF				eS	Sg	15 19 23.1	-0.3
	baz=311						
WHP	Taichung City	0.79	280	eP	Pg	15 19 13.2	0.0
	baz=278						
WHP				eS	Sg	15 19 23.5	0.0
	baz=278						
DPDB	Guoxing	0.80	262	eP	Pg	15 19 13.5	+0.1
	baz=258						
DPDB				eS	Sg	15 19 23.1	-0.8
	baz=258						
WCS	Beigang Elemen	0.81	264	eP	Pg	15 19 10.8	-2.8
	baz=260						
TIPB	Shuangxi	0.82	2	eP	Pb	15 19 14.3	+0.1
	baz=8.0						
TIPB				eS	Sb	15 19 24.5	-0.7
	baz=8.0						
SSLB	Suanglung	0.85	245	eP	Pg	15 19 14.0	-0.3
	baz=240						
SSLB				eS	Sg	15 19 23.4	-2.0
	baz=240						
NHDH	Xindian Distri	0.85	343	eP	Pb	15 19 14.8	+0.2
	baz=349						
TWA	Mucha	0.85	347	eP	Pn	15 19 15.1	-0.7
	baz=353						
SMLT	Sun Moon Lake	0.86	252	eP	Pb	15 19 14.7	-0.1
	baz=248						
SMLT				eS	Sg	15 19 25.1	-0.7
	baz=248						
LIOB	Emei	0.87	305	eP	Pb	15 19 15.3	+0.4
	baz=307						
LIOB				eS	Sg	15 19 25.4	-0.6
	baz=307						
NSTT	Nanjuang	0.87	304	eP	Pb	15 19 14.9	-0.1
	baz=306						
NSTT				eS	Sg	15 19 26.0	-0.1
	baz=306						
NJD	Zhudong	0.87	313	eP	Pn	15 19 15.8	-0.2
	baz=315						
TATO	Taipei	0.87	341	eP	Pb	15 19 15.2	+0.2
	baz=347						
TATO				eS	Sg	15 19 26.1	-0.1
	baz=347						
TWB1	Santiao Chiao	0.88	12	eP	Pb	15 19 14.9	-0.2
	baz=18						
TYC	Yuchr	0.89	254	eP	Pb	15 19 15.4	+0.2
	baz=250						
TYC				eS	Sg	15 19 25.3	-1.4
	baz=250						
BACT	New Taipei Cit	0.91	339	eP	Pn	15 19 16.5	+0.1
	baz=344						
BACT				eS	Sb	15 19 28.5	+0.9
	baz=344						
NWF	Wu-fen Shan	0.92	359	eP	Pn	15 19 16.6	-0.2
	baz=5.0						
WFSB	Wu-fen Shan	0.92	359	eP	Pn	15 19 16.4	-0.3
	baz=5.0						
HSN1	Hsinchu	0.95	312	eP	Pn	15 19 17.2	+0.2
	baz=314						
SXI1	Grass Mountain	0.95	4	eP	Pn	15 19 16.9	-0.3
	baz=10.0						
NTY	Taoyuan	0.96	332	eP	Pn	15 19 17.4	+0.2
	baz=336						
SBCB	Hsinchu	0.98	311	eP	Pn	15 19 17.8	+0.3
	baz=313						
NSY	Sanyi	0.98	286	eP	Pn	15 19 17.8	+0.3
	baz=286						
NSY				eS	Sn	15 19 32.7	+1.4
	baz=286						
NCU	National Centr	0.99	326	eP	Pn	15 19 17.5	-0.1
	baz=330						
NCU				eS	Sn	15 19 32.5	+1.0
	baz=330						
NCUH	Zhongli	0.99	326	eP	Pn	15 19 17.4	-0.2
	baz=329						
NCUH				eS	Sn	15 19 32.3	+0.8
	baz=329						
NMLH	Miaoli	0.99	293	eP	Pn	15 19 17.8	+0.1
	baz=293						
HSN	Hsinchu	0.99	311	eP	Pn	15 19 17.8	+0.1
	baz=316						
HSN				eS	Sn	15 19 32.8	+1.1
	baz=316						
TNOU	National Taiwa	1.00	359	eP	Pn	15 19 17.9	+0.2
	baz=4.0						
WWF	Wufeng	1.01	264	eP	Pn	15 19 18.9	+1.0
	baz=262						
TWS1	Kuangyinshan	1.01	340	eP	Pn	15 19 18.4	+0.5
	baz=345						
YUS	Yu-Shan	1.01	230	eP	Pg	15 19 16.3	-1.2
	baz=225						
YM01	YM01	1.02	348	eP	Pn	15 19 18.4	+0.4
	baz=353						
TCU	Taichung	1.02	270	eP	Pn	15 19 18.6	+0.6
	baz=268						
WJS	Zhushan	1.03	252	eP	Pn	15 19 18.6	+0.5
	baz=248						
WNT1	Nantou City	1.05	257	eP	Pn	15 19 19.2	+0.9
	baz=254						
WNT	Mingjian	1.05	256	eP	Pn	15 19 19.1	+0.6
	baz=252						
WNT				eS	Sn	15 19 33.7	+0.7
	baz=252						
YM08	YM08	1.05	350	eP	Pn	15 19 18.6	+0.1
	baz=354						
NTST	Danshui	1.06	343	eP	Pn	15 19 19.3	+0.7
	baz=347						
ANP	Anpu	1.07	347	eP	Pn	15 19 18.8	0.0
	baz=351						
WDJ	Dajia District	1.07	281	eP	Pn	15 19 19.3	+0.5
	baz=280						
NHW	Xinwu Township	1.09	322	eP	Pn	15 19 19.5	+0.5
	baz=324						
ALS	Alishan	1.10	235	eP	Pn	15 19 19.4	-0.1
	baz=231						
CHKT	Chengkung	1.11	201	eP	Pn	15 19 19.1	-0.2
	baz=195						
TWY	Chenhua	1.14	351	eP	Pn	15 19 20.3	+0.7
	baz=356						
YOJ	Yonaguni jima	1.15	74	eP	Pn	15 19 21.1	+1.2
	baz=76						
ELDTW	Lidau	1.19	217	eP	Pb	15 19 20.2	-0.3
	baz=212						
STYH	Taoyuan	1.35	224	eP	Pb	15 19 23.0	-0.1
	baz=220						
JOW	Kunigami	6.44	64	Pn	Pn	15 20 31.7	-0.9
	2.4nm,0.3s,baz=214,slow=11,SNR=7.2						
KSRS	Korea Array	14.27	20	Pn	Pn	15 22 20.4	+0.7
	0.1nm,0.3s,baz=200,slow=12,SNR=1.7						
CMAR	Chiang Mai Arr	22.02	259	P	P	15 23 53.0	+0.6
	0.2nm,0.2s,baz=58,slow=8.6,SNR=1.9						
SONM	Songino Array	26.62	336	P	P	15 24 35.4	-1.0
	0.6nm,0.6s,baz=156,slow=8.1,SNR=4.7						
MKAR	Makanchi Array	38.75	316	P	P	15 26 22.6	+0.5
	0.6nm,0.6s,baz=102,slow=11,SNR=10.0						
WRA	Warramunga Arr	45.49	163	P	P	15 27 15.8	-1.5
	0.5nm,0.6s,baz=345,slow=8.8,SNR=8.4						
ASAR	Alice Springs	48.96	165	P	P	15 27 43.6	-0.7
	0.4nm,0.6s,baz=341,slow=6.9,SNR=10						

*THE **07** 15:19:45.5, 35.°39N×23.°58E, h1^{km}±1^{km}, ML3.3/10, Error ellipse: s-maj=1.9km s-min=0.5km az=237.0*
*ATH **07** 15:19:45.6, 35.°40N×23.°57E, h16^{km}±4^{km}, ML3.4/6, Error ellipse: s-maj=4.4km s-min=1.1km az=49.0*
*ISK **07** 15:19:46.1, 35.°35N×23.°64E, h6^{km}, ML3.7/13*
*IDC **07** 15:19:47.3±2.4, 35.°37N×23.°60E, h45^{km}±28^{km}, mb3.7/6, mb1 3.6/8, mb1mx3.3/43, mbtmp3.7/8, ML3.9/2, MS3.6/2, Ms1 3.6/2, ms1mx2.4/90, Error ellipse: s-maj=27.5km s-min=19.0km az=146.0*
ISC 07 15:19:45.4±0.8**, 35.°37N**±0.°03×**23.°58E**±0.°03**, h13**^{km}±6^{km}**, n47, σ1.s42**/64**, mb3.8**/6**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.16	148	P	Pg	15 19 48.8	-0.5
KNDR				S	Sg	15 19 51.2	-0.6
	22μm,0.3s						
KNDR	Palaiochora Ch	0.16	148	PG	Pg	15 19 48.8	-0.5
KNDR				SG	Sg	15 19 51.3	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IMMV	Iera Moni Meta	0.34	75	P	Pg	15 19 52.1	-0.2
IMMV				S	Sb	15 19 58.2	-0.4
IMMV				AML	AML	15 19 59.7	
	comp=N,14162μm,0.4s						
IMMV				AML	AML	15 19 59.8	
	comp=E,15090μm,0.4s						
IMMV	Iera Moni Meta	0.34	75	P	Pg	15 19 52.1	-0.2
IMMV				S	Sb	15 19 58.1	-0.4
	comp=E,8μm,0.5s						
IMMV	Iera Moni Meta	0.34	75	PG	Pg	15 19 52.3	0.0
IMMV				SG	Sb	15 19 57.8	-0.8
VAM	Vamos	0.51	86	P	Pg	15 19 55.3	-0.1
VAM				S	Sb	15 20 03.4	0.0
VAM				AML	AML	15 20 04.3	
	comp=E,13306μm,0.4s						
VAM				AML	AML	15 20 05.3	
	comp=N,15836μm,0.4s						
VAM	Vamos	0.51	86	P	Pg	15 19 55.1	-0.3
VAM				S	Sb	15 20 02.9	-0.5
	comp=N,7μm,0.3s						
ANKY	Antikythira Is	0.55	335	P	Pg	15 19 55.9	-0.2
ANKY				AML	AML	15 20 04.8	
	comp=N,7110μm,0.3s						
ANKY				AML	AML	15 20 11.7	
	comp=E,4449μm,0.5s						
ANKY	Antikythira Is	0.55	335	P	Pg	15 19 55.8	-0.3
ANKY				S	Sg	15 20 03.5	+0.1
	comp=E,3μm,0.5s						
GVDS	Gavdos	0.67	141	P	Pg	15 19 58.2	-0.3
GVDS				S	Sb	15 20 08.6	+0.5
	comp=E,8μm,0.3s						
GVD	Gavdhos	0.67	142	P	Pg	15 19 58.3	-0.2
GVD				S	Sb	15 20 09.6	+1.4
GVD				AML	AML	15 20 09.7	
	comp=E,13144μm,0.6s						
GVD				AML	AML	15 20 11.3	
	comp=N,16077μm,0.3s						
GVD	Gavdhos	0.67	142	P	Pg	15 19 58.3	-0.2
GVD				S	Sb	15 20 09.6	+1.4
	comp=N,7μm,0.4s						
GVD	Gavdhos	0.67	142	PG	Pg	15 19 58.3	-0.2
GVD				SG	Sb	15 20 08.8	+0.6
PRNS	Prines Rethymn	0.75	90	P	Pg	15 19 58.4	-1.6
PRNS				S	Sg	15 20 08.9	-1.0
	comp=N,1μm,0.4s						
KTHA	Kythira Island	0.98	335	P	Pg	15 20 04.0	-0.3
KTHA				S	Sg	15 20 16.8	-0.3
KTHA				AML	AML	15 20 22.3	
	comp=E,3564μm,0.4s						
KTHA				AML	AML	15 20 27.2	
	comp=N,2155μm,0.7s						
KTHA	Kythira Island	0.98	335	P	Pg	15 20 03.8	-0.5
KTHA				S	Sg	15 20 17.3	+0.2
	comp=N,1μm,0.5s						
KTHR	Kythira	1.00	332	P	Pg	15 20 04.1	-0.7
KTHR				S	Sg	15 20 18.4	+0.5
	comp=N,1μm,0.2s						
SIVA	Sivas	1.07	109	P	Pg	15 20 05.4	-0.5
SIVA				S	Sb	15 20 21.4	+1.9
SIVA				AML	AML	15 20 25.3	
	comp=E,8297μm,0.7s						
SIVA				AML	AML	15 20 33.4	
	comp=N,4074μm,0.6s						
IDI	Anoyia	1.07	94	P	Pg	15 20 05.7	-0.4
	comp=N,21nm,0.3s,baz=277,slow=17,SNR=49						
IDI				S	Sg	15 20 19.6	-0.5
	comp=N,146nm,0.3s,baz=6.0,slow=22,SNR=18						
IDI				LR	LR	15 20 41.2	
	comp=N,202nm,19.2s,baz=262,slow=51						
IDI	Anoyia	1.07	94	P	Pg	15 20 05.6	-0.5
IDI	Anoyia	1.07	94	P	Pg	15 20 05.0	-1.1
IDI				S	Sb	15 20 20.4	+0.6
	comp=N,2μm,0.5s						
IDI	Anoyia	1.07	94	PG	Pb	15 20 06.3	+0.5
IDI				SG	Sb	15 20 20.3	+0.5
IACM	Heraklion	1.22	93	P	Pn	15 20 09.5	+1.4
HRKL	Herakleio	1.25	92	PN	Pb	15 20 09.3	+0.6
HRKL				SN	Sn	15 20 26.3	+1.3
VLI	Veliai	1.44	339	P	Pn	15 20 12.1	+1.0
VLI	Veliai	1.44	339	P	Pn	15 20 12.0	+0.8
NPS	Neapolis	1.67	93	P	Pb	15 20 16.6	+0.8
ZKR	Zakros	2.17	96	PN	Pn	15 20 23.3	+2.1
ITM	Ithomi	2.25	324	PN	Pn	15 20 26.0	+3.8
APE	Apeiranthos	2.31	42	PN	Pn	15 20 25.3	+2.1
KARP	Karpathos	2.93	86	PN	Pn	15 20 33.7	+2.1
BODT	Bodrum	3.46	60	PN	Pn	15 20 41.5	+2.6
CHOS	Chios island	3.60	33	PN	Pn	15 20 43.7	+2.7
ARG	Arkhangelos	3.79	76	PN	Pn	15 20 46.3	+2.9
URLA	Izmir	3.84	38	PN	Pn	15 20 47.3	+3.1
YER	Yerkesik	4.19	64	PN	Pn	15 20 52.1	+3.1
DALY	Dalyan (Mula)	4.35	69	PN	Pn	15 20 54.5	+3.3
GERES	GERESS Array B	15.31	335	P	Pn	15 23 21.8	+0.6
	comp=N,0.2nm,0.3s,baz=148,slow=11,SNR=2.7						
AKASG	Malin Array Be	15.86	13	P	Pn	15 23 28.7	+0.5
	comp=N,0.4nm,0.3s,baz=208,slow=10.0,SNR=3.8						
AKTO	Aktyubinsk	29.06	48	LR	LR	15 42 10.8	
	comp=N,17nm,19.0s,baz=324,slow=46						
TORD	Torodi Ar. Bea	29.66	227	P	P	15 25 47.5	-3.3
	comp=N,0.1nm,0.3s,baz=28,slow=8.9,SNR=1.8						
ARCES	ARCESS Array B	34.23	1	P	P	15 26 26.3	-4.1
	comp=N,1.4nm,0.8s,baz=160,slow=11,SNR=2.2						
DBIC	Dimbokro	38.71	229	P	P	15 27 08.0	-1.2
	comp=N,20nm,1.4s,baz=62,slow=10,SNR=4.9						
MKAR	Makanchi Array	44.74	57	P	P	15 27 56.2	-2.0
	comp=N,0.6nm,0.6s,baz=272,slow=7.3,SNR=9.9						
ZALV	Zalesovo Beam	45.79	46	P	P	15 28 04.4	-2.1
	comp=N,1.0nm,0.7s,baz=274,slow=8.0,SNR=2.9						
YKA	Yellowknife Ar	76.84	341	P	P	15 31 34.4	-2.1
	comp=N,0.2nm,0.4s,baz=19,slow=5.9,SNR=1.2						
PCRV	Puerto La Cruz	82.75	277	LR	LR	16 08 24.1	
	comp=N,232nm,18.8s,slow=35						

*VAO **07** 15:31:37.3±0.8, 18.°27S×69.°67W, h146km, mb4.1*
*NEIC **07** 15:31:37.6±1.6, 18.°42S±0.°06×69.°4W±0.°1, h127km±9km, mb4.1/5, Error ellipse: s-maj=20.0km s-min=7.9km az=106.0*
*GUC **07** 15:31:38.7±0.6, 18.°43S×69.°51W, h126km±4km, ML3.9*
*IDC **07** 15:31:38.2±1.4, 18.°43S×69.°17W, h128km±10km, mb3.6/5, mb1 3.7/8, mb1mx3.5/33, mbtmp4.0/8, Error ellipse: s-maj=30.1km s-min=9.1km az=101.0*
ISC 07 15:31:36.8±0.8**, 18.°40S**±0.°05×**69.°51W**±0.°10**, h128**km±7km**, n68,** σ**1.s23**/74**, mb3.9**/5**, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO01	Chusmiza	1.30	167		Pn	15 32 04.0	+1.0
GO01	Chusmiza	1.30	167	⇓*i*P	Pn	15 32 04.2	+1.1
GO01				*i* S	Sn	15 32 24.0	+1.1
GO01				IAML		15 32 34.6	
	comp=N,2μm,0.2s						
PB11	IPOC Station P	1.36	186		Pn	15 32 04.0	+0.7
PB11	IPOC Station P	1.36	186	⇑*i*P	Pn	15 32 04.1	+0.7
PB11				*i* S	Sn	15 32 23.9	+0.3
PB11				IAML		15 32 25.1	
	comp=N,2μm,0.3s						
PB08	IPOC Station P	1.76	169		Pn	15 32 09.3	+1.1
PB08	IPOC Station P	1.76	169	⇓*i*P	Pn	15 32 09.4	+1.1
PB08				*i* S	Sn	15 32 33.3	+1.2
PB08				IAML		15 32 35.4	
	comp=E,500nm,0.2s						
HMBC	Humberstone	1.90	191	*e*P	Pn	15 32 10.0	+0.4
HMBC				*i* S	Sn	15 32 34.7	0.0
HMBC				IAML		15 32 39.8	
	comp=N,743nm,0.3s						
TA02	Huaiquique	1.95	197		Pn	15 32 11.8	+1.7
TA02	Huaiquique	1.95	197	*e*P	Pn	15 32 10.5	+0.4
TA02				*i* S	Sn	15 32 34.9	-0.6
TA02				IAML		15 32 40.8	
	comp=N,1μm,0.1s						
LPAZ	La Paz	2.48	32	P	Pn	15 32 18.1	+0.7
	comp=N,17nm,0.3s,baz=263,slow=3.0,SNR=373						
LPAZ				S	Sn	15 32 47.0	-1.2
	comp=N,4.0nm,0.3s,baz=28,slow=14,SNR=6.0						
LPAZ	La Paz	2.48	32		Pn	15 32 17.9	+0.7
LPAZ	La Paz	2.48	32	*e*P	Pn	15 32 18.1	+0.7
PATCX	Punta Patache	2.48	194	Pn	Pn	15 32 17.4	+0.6
PATCX	Punta Patache	2.48	194	*e*P	Pn	15 32 17.7	+0.9
PATCX				*e*S	Sn	15 32 43.7	-3.8
PATCX				IAML		15 32 54.9	
	comp=E,278nm,0.4s						
PB01	IPOC Station P	2.63	180	Pn	Pn	15 32 19.2	+0.5
PB01	IPOC Station P	2.63	180	*e*P	Pn	15 32 19.2	+0.5
PB01				*e*S	Sn	15 32 50.3	-0.6
PB01				IAML		15 32 57.9	
	comp=E,263nm,0.3s						
PB02	IPOC Station P	2.93	187	Pn	Pn	15 32 23.1	+0.6
PB02	IPOC Station P	2.93	187	*e*P	Pn	15 32 23.2	+0.7
PB02				IAML		15 33 09.8	
	comp=E,320nm,0.6s						
PB07	IPOC Station P	3.33	186	Pn	Pn	15 32 28.6	+0.7
PB07	IPOC Station P	3.33	186	*e*P	Pn	15 32 28.4	+0.6
PB07				IAML		15 33 19.8	
	comp=E,178nm,0.6s						
PB09	IPOC Station P	3.39	176		Pn	15 32 29.5	+0.9
PB04	IPOC Station P	3.96	189		Pn	15 32 36.6	+0.4
PB04	IPOC Station P	3.96	189	*e*P	Pn	15 32 36.5	+0.4
PB04				IAML		15 33 26.1	
	comp=E,118nm,0.4s						
LVC	Limon Verde	4.22	172	P	Pn	15 32 41.5	+1.6
	comp=E,6.6nm,0.3s,baz=2.5,slow=8.2,SNR=89						
LVC				S	Sn	15 33 28.0	-0.8
	comp=E,8.3nm,0.3s,baz=321,slow=15,SNR=10						
LVC	Limon Verde	4.22	172	Pn	Pn	15 32 40.7	+0.8
LVC	Limon Verde	4.22	172	*e*P	Pn	15 32 41.2	+1.3
LVC	Limon Verde	4.22	172	*e*P	Pn	15 32 41.5	+1.6
PB06	IPOC Station P	4.28	181	Pn	Pn	15 32 40.6	+0.2
PB15	IPOC Station P	4.78	180	Pn	Pn	15 32 47.4	+0.2
AC01	Pan de Azucar	7.78	187	Pn	Pn	15 33 24.7	-2.6
AC02	Maricunga	8.40	178	Pn	Pn	15 33 35.1	-1.1
SIV	San Ignacio	8.41	75	P	Pn	15 33 32.5	-3.4
	comp=E,0.9nm,0.3s,baz=254,slow=11,SNR=14						
GO03	Copiap	9.17	184	Pn	Pn	15 33 43.9	-2.2
PTLB	Pontes e Lacer	10.35	75	*e*P	Pn	15 34 03.1	+1.1
GO04	Tololo Observa	11.78	185	Pn	Pn	15 34 19.8	-1.3
CO06	Fray Jorge	12.37	189	Pn	Pn	15 34 27.3	-1.3
CO02	Combarbal	12.82	186	Pn	Pn	15 34 34.8	+0.3
MT02	Curacav	14.87	185	Pn	Pn	15 35 01.2	+0.6
CLDB	Colider	15.23	62	*e*P	Pn	15 35 04.8	-0.4
ARAG	Araguaiana, MT	17.13	84	*e*P	Pn	15 35 29.5	+0.8
PTGB	Pitanga	17.39	114	*e*P	Pn	15 35 33.3	+1.5
MACA	Manacapuru-AM	17.44	31	*e*P	P	15 35 31.2	-0.5
NPGB	Novo Progresso	17.82	52	*e*P	P	15 35 35.0	-0.9
ITAB	Concordia	18.26	122	*e*P	Pn	15 35 42.1	0.0
SNDB	Serra Nova Dou	18.70	73	*e*P	P	15 35 44.7	-0.7
CPSB	Cacapava Do Su	18.87	132	*e*P	Pn	15 35 49.0	-0.2
ITTB	Itaituba	19.39	46	*e*P	P	15 35 51.5	-1.5
PLTB	Pedras Altas	19.58	136	*e*P	Pn	15 35 55.6	-1.9
BDFB	Brasilia	20.74	86	P	P	15 36 07.2	-0.4
	comp=E,4.4nm,0.5s,baz=250,slow=12,SNR=5.3						
BDFB	Brasilia	20.74	86	IAmb	IAmb	15 36 09.7	
	comp=Z,5.6nm,0.6s						
PEXB	Peixe	21.39	76	*e*P	P	15 36 14.9	+0.3
PLCA	Paso Flores	22.27	182	P	P	15 36 26.7	+3.1
	comp=Z,0.8nm,0.7s,baz=49,slow=13,SNR=2.9						
PLCA	Paso Flores	22.27	182	P	P	15 36 24.9	+1.3
PLCA				IAmb	IAmb	15 36 27.4	
	comp=Z,5.4nm,1.4s						
SMTB	Santa Maria do	23.29	69	*e*P	P	15 36 31.9	-1.6
JANB	Januaria	24.35	86	*e*P	P	15 36 43.0	-0.2
SDBA	SAO DESIDERIO	24.45	79	*e*P	P	15 36 44.4	+0.3
MCPB	Macapa, AP	24.81	46	*e*P	P	15 36 46.9	-0.3
DUB01	Friburgo-RJ	25.71	103	*e*P	P	15 36 56.7	+1.2
TMAB	Tom-Au,PA,Br	26.35	55	*e*P	P	15 36 59.9	-1.3
NBAN	Anadia - AL	33.34	79	*e*P	P	15 38 02.7	-0.4
DBIC	Dimbokro	68.44	75	P	P	15 42 24.9	-0.7
	comp=Z,2.7nm,0.7s,baz=257,slow=12,SNR=4.1						
KOWA	Kowa	72.34	68	P	P	15 42 49.5	+0.3
KOWA				IAmb	IAmb	15 42 50.0	
	comp=Z,3.6nm,0.5s						
TORD	Torodi Ar. Bea	76.88	71	P	P	15 43 14.6	-0.9
	comp=Z,1.1nm,0.5s,baz=254,slow=5.3,SNR=14						
TORD	Torodi Ar. Bea	76.88	71	P	P	15 43 14.6	-0.9
YKA	Yellowknife Ar	88.09	341	P	P	15 44 14.1	+1.6
	comp=Z,0.6nm,0.5s,baz=134,slow=4.8,SNR=16						
YKA				pP	pP	15 44 46.1	-0.5
	comp=Z,0.5nm,0.6s,baz=135,slow=5.0,SNR=9.0						
H11S2	WAKE ISLAND Hy	126.87	280	T	T	18 10 06.2	
	baz=101,slow=75,SNR=4.9						
H11S1	WAKE ISLAND Hy	126.88	280	T	T	18 10 02.3	
	baz=101,slow=75,SNR=3.9						
H11S3	WAKE ISLAND Hy	126.89	280	T	T	18 10 03.4	
	baz=101,slow=75,SNR=4.3						

*IDC **07** 15:49:38.5±1.7, 18.°26N×145.°45E, h431km±20km, mb2.8/6, mb1 3.1/7, mb1mx2.8/42, mbtmp3.6/7, Error ellipse: s-maj=37.2km s-min=17.1km az=105.0*
*NEIC **07** 15:49:39.6±1.0, 18.°3N±0.°1×145.°4E±0.°2, h439km±2km, mb3.8/16, Error ellipse: s-maj=31.5km s-min=17.7km az=97.0*
ISC 07 15:49:39.8±0.7**, 18.°15N**±0.°09×**145.°3E**±0.°2**, h450**km**, n26,** σ**0.s75**/27**, mb3.7**/14**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.56	186	P	P	15 50 59.8	-0.3
	7.6nm,0.3s,baz=308,slow=22,SNR=1.2						
GUMO				S	S	15 52 04.3	-1.1
	9.3nm,0.3s,baz=88,slow=20,SNR=1.7						
WB0	Warramunga Arr	39.18	196	P	P	15 56 28.3	+0.6
WB0				IAmb	IAmb	15 56 33.7	
	comp=Z,5.4nm,1.4s						
WR0	Warramunga Arr	39.33	196	P	P	15 56 29.3	+0.5
WR0				IAmb	IAmb	15 56 45.4	
	comp=Z,6.6nm,1.5s						
WRAB	Tennant Creek	39.35	196	P	P	15 56 29.9	+0.8
WB2	Warramunga Arr	39.36	196	P	P	15 56 30.0	+0.8
WB2				IAmb	IAmb	15 56 30.9	
	comp=Z,2.7nm,0.8s						
WRA	Warramunga Arr	39.36	196	P	P	15 56 30.3	+1.1
	comp=Z,0.6nm,0.4s,baz=12,slow=8.7,SNR=17						
FITZ	Fitzroy Crossi	40.90	209	P	P	15 56 42.6	+1.1
ASAR	Alice Springs	43.03	195	P	P	15 56 59.4	+0.9
	comp=Z,0.3nm,0.4s,baz=13,slow=7.0,SNR=29						
MKAR	Makanchi Array	58.59	314	P	P	15 58 52.6	+0.4
	comp=Z,0.2nm,0.4s,baz=86,slow=8.9,SNR=5.4						
MAKZ	Makanchi	58.81	314	P	P	15 58 54.0	+0.3
J20K	Nowinta River	61.10	26	P	P	15 59 09.3	+0.7
J20K				IAmb	IAmb	15 59 09.4	
	comp=Z,5.5nm,1.4s						
KURK	Kurchatov	61.45	318	P	P	15 59 10.9	-0.2
NRIK	Noril'sk	62.00	340	P	P	15 59 14.2	-0.2
NRIK				IAmb	IAmb	15 59 14.6	
	comp=Z,1.7nm,0.7s						
H21K	Melozitna Rive	62.12	24	P	P	15 59 15.8	+0.4
KTH	Kantishna Hill	62.28	27	P	P	15 59 16.4	-0.1
I21K	Tanana	62.30	25	P	P	15 59 17.1	+0.6
I21K				IAmb	IAmb	15 59 38.8	
	comp=Z,2.5nm,1.0s						
IL31		64.29	26	P	P	15 59 27.8	-1.5
IL31				IAmb	IAmb	15 59 36.2	
	comp=Z,3.6nm,1.4s						
ILAR	Eielson Array	64.29	26	P	P	15 59 28.1	-1.3
	comp=Z,0.2nm,0.5s,baz=238,slow=6.1,SNR=4.5						
J25K	Salcha River,	64.89	26	P	P	15 59 32.9	-0.4
J25K				IAmb	IAmb	15 59 56.7	
	comp=Z,3.7nm,1.4s						
BMAR	Burnt Mountain	65.75	23	P	P	15 59 39.7	+1.0
BCAR	Beaver Creek A	66.23	28	P	P	15 59 41.7	0.0
KKAR	Karatay Array	66.85	310	P	P	15 59 46.2	+0.2
ABKAR	Akbulak array	73.50	317	P	P	16 00 25.1	-0.4
YKA	Yellowknife Ar	78.63	28	P	P	16 00 53.4	-0.3
	comp=Z,0.3nm,0.5s,baz=287,slow=4.8,SNR=3.9						
ARCES	ARCESS Array B	82.91	342	P	P	16 01 15.4	-0.5
NVAR	Mina Array Bea	83.75	52	P	P	16 01 21.6	+0.5
	comp=Z,0.5nm,0.6s,baz=268,slow=5.9,SNR=4.1						

*JMA **07** 16:07:47.9±0.3, 44.°47N×140.°78E, h262km±3km, M3.3*
*IDC **07** 16:07:48.6±0.7, 44.°48N×140.°81E, h248km±7km, mb3.0/6, mb1 3.2/9, mb1mx3.0/45, mbtmp3.6/9, Error ellipse: s-maj=16.6km s-min=12.1km az=109.0*
ISC 07 16:07:48.9±0.8**, 44.°41N**±0.°06×**140.°84E**±0.°07**, h254**km±7km**, n29,** σ**0.s93**/40**, mb3.3**/6**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYG	Yagishiri	0.42	87	P	Pn	16 08 21.9	0.0
JSS	Shosan	0.73	90	P	Pn	16 08 23.6	+0.7
JRR	Rishiri	0.80	25	P	Pn	16 08 23.5	+0.3
JHR	Hokuryu	0.92	136	P	Pn	16 08 24.6	+0.7
JRBN	Rebuntou	1.03	9	P	Pn	16 08 23.7	-0.6
JWK2	Keihoku	1.18	39	P	Pn	16 08 25.2	0.0
JWK2				*e*S	S	16 08 53.7	-0.2
JISS	Ishikarishitsu	1.21	160	P	Pn	16 08 26.4	+0.9
JISS				*e*S	S	16 08 55.9	+1.5
ASAJ	Asahikawa	1.29	102	P	Pn	16 08 26.0	0.0
	21nm,0.3s,baz=260,slow=9.0,SNR=406						
ASAJ				S	S	16 08 54.5	-0.8
	1.0nm,0.3s,baz=163,slow=33,SNR=0.9						
JSE	Soyaes	1.36	66	P	Pn	16 08 26.0	-0.4
JSE				*e*S	S	16 08 55.0	-1.0
JKK2	Kamakawa 2	1.47	111	P	Pn	16 08 27.5	+0.1
JKK2				*e*S	S	16 08 57.8	+0.2
JFR	Furan	1.78	134	P	Pn	16 08 29.6	-0.2
JFR				*e*S	S	16 09 02.6	+0.6
JTKR	Abashiri--Toko	2.25	100	P	Pn	16 08 34.4	+0.5
JTKR				*e*S	S	16 09 10.5	+1.1
JAR	Ashorobuto	2.39	117	P	Pn	16 08 35.9	+0.6
JAR				*e*S	S	16 09 12.7	+0.7
JKB	Kayabe	2.52	177	P	Pn	16 08 36.9	+0.2
JKB				*e*S	S	16 09 13.5	-0.9
JOSM	Okushiri--Mats	2.53	204	P	Pn	16 08 36.6	-0.1
JNBK	Urakawa-nobuka	2.54	146	*e*S	S	16 09 15.0	+0.2
JCH	Churui	2.57	133	*e*S	S	16 09 12.1	-3.0
JOMM	Oshimamatsumae	2.95	192	P	Pn	16 08 40.9	-0.1
JOMM				*e*S	S	16 09 21.5	-0.8
JOT	Ohata	3.03	177	P	Pn	16 08 42.2	+0.3
JOT				*e*S	S	16 09 23.7	-0.2
JAK	Akkeshi	3.13	115	*e*S	S	16 09 23.3	-2.5
USRK	Ussuriysk Ar.	6.36	271	P	Pn	16 09 20.9	-0.5
	baz=84,slow=14,SNR=15						
MJAR	Matsushiro Arr	8.11	195	P	Pn	16 09 43.1	-0.5
	0.1nm,0.3s,baz=13,slow=13,SNR=5.9						
SEY	Seymchan	19.72	16	P	P	16 11 57.9	-1.4
	0.4nm,0.3s,baz=192,slow=8.4,SNR=17						
SONM	Songino Array	24.00	290	P	P	16 12 40.7	0.0
	1.0nm,0.6s,baz=82,slow=8.5,SNR=8.4						
MKAR	Makanchi Array	40.22	295	P	P	16 15 00.8	0.0
	0.2nm,0.5s,baz=86,slow=10,SNR=2.5						
ILAR	Eielson Array	43.65	36	P	P	16 15 28.1	-0.1
	0.7nm,0.7s,baz=280,slow=8.1,SNR=9.0						
YKA	Yellowknife Ar	57.72	32	P	P	16 17 13.4	+0.6
	0.1nm,0.5s,baz=304,slow=7.1,SNR=5.2						
WRA	Warramunga Arr	64.31	187	P	P	16 17 57.5	+0.1
	0.5nm,0.3s,baz=1.7,slow=6.9,SNR=19						
ASAR	Alice Springs	68.04	187	P	P	16 18 22.3	+1.3
	0.7nm,0.7s,baz=7.6,slow=8.0,SNR=16						

*IDC **07** 16:08:50.4±2.0, 17.°40N×145.°95E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/43, mbtmp3.5/5, Error ellipse: s-maj=72.4km s-min=32.4km az=172.0*
*NEIC **07** 16:09:18.8±1.2, 17.°8N±0.°2×145.°6E±0.°2, h220km±11km, mb4.0/9, Error ellipse: s-maj=31.2km s-min=25.6km az=178.0*
ISC 07 16:09:15.8±1.9**, 17.°8N**±0.°4×**145.°6E**±0.°2**, h200**km**, n19,** σ**0.s81**/19**, mb3.6**/10**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	44.23	278	P	P	16 17 05.0	-0.8
	0.5nm,0.6s,baz=79,slow=6.8,SNR=5.1						
MKAR	Makanchi Array	59.03	314	P	P	16 18 55.8	+1.0
	0.2nm,0.8s,baz=82,slow=10,SNR=1.8						
J20K	Nowinta River	61.35	26	P	P	16 19 10.8	+0.7
H21K	Melozitna Rive	62.38	24	P	P	16 19 17.5	+0.5
H21K				IAmb	IAmb	16 19 38.9	
	comp=Z,5.1nm,1.4s						
MDM	Murphy Dome	64.02	26	P	P	16 19 28.0	+0.2
MDM				IAmb	IAmb	16 19 37.7	
	comp=Z,4.5nm,1.4s						
IL31		64.53	26	P	P	16 19 29.9	-1.2
IL31				IAmb	IAmb	16 19 41.5	
	comp=Z,2.7nm,1.2s						
ILAR	Eielson Array	64.53	26	P	P	16 19 29.8	-1.4
	comp=Z,0.2nm,0.6s,baz=242,slow=5.8,SNR=1.7						
ILAR	Eielson Array	64.53	26	P	P	16 19 30.4	-0.8
BMAR	Burnt Mountain	66.02	23	P	P	16 19 41.0	+0.3
L27K	Beaver Creek,	66.44	28	P	P	16 19 43.7	+0.2
L27K				IAmb	IAmb	16 20 01.0	
	comp=Z,3.4nm,1.4s						
BCAR	Beaver Creek A	66.46	28	P	P	16 19 43.8	+0.3
YKA	Yellowknife Ar	78.87	28	P	P	16 20 55.9	-0.7
	comp=Z,0.5nm,0.7s,baz=288,slow=5.6,SNR=6.6						
PINE	Pine Mountain	80.38	47	P	P	16 21 06.1	+0.7
BEKR	Beckworth	81.86	51	P	P	16 21 13.1	-0.1
PLID	Pearl Lake	83.39	45	P	P	16 21 20.5	-0.6
NVAR	Mina Array Bea	83.81	52	P	P	16 21 23.0	-0.3
	comp=Z,0.4nm,0.5s,baz=278,slow=6.3,SNR=2.6						
NV11	Mina Array Sit	83.92	52	P	P	16 21 23.6	-0.1
NV11				IAmb	IAmb	16 21 47.9	
	comp=Z,3.2nm,1.4s						
LRM	Limekiln Ridge	85.50	43	P	P	16 21 30.6	-1.0
LPAZ	La Paz	147.76	93	PKPbc	PKPdf	16 28 36.7	+1.2
	comp=Z,0.8nm,0.7s,baz=225,slow=1.4,SNR=3.9						

*IDC **07** 16:12:24.8±0.7, 16.°98N×145.°96E, h0km, mb3.9/8, mb1 4.2/10, mb1mx3.8/45, mbtmp3.9/10, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/77, Error ellipse: s-maj=26.6km s-min=18.2km az=114.0*
*NEIC **07** 16:12:27.2±1.3, 16.°94N±0.°07×145.°8E±0.°2, h10km±1km, mb4.5/47, Error ellipse: s-maj=27.6km s-min=12.3km az=271.0*
ISC 07 16:12:26.8±0.6**, 16.°9N**±0.°1×**145.°8E**±0.°1**, h10**km**, n71,** σ**0.s73**/65**, mb4.5**/31**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	3.45	196	Pn	Pn	16 13 20.8	+0.1
	7.9nm,0.3s,baz=348,slow=15,SNR=3.7						
GUMO				LR	LR	16 14 25.9	
	comp=Z,139nm,18.5s,baz=342,slow=34						
JOW	Kunigami	19.03	304	P	Pn	16 16 49.2	-0.5
	0.5nm,0.3s,baz=119,slow=19,SNR=1.4						
JOW	Kunigami	19.03	304	IAmb	IAmb	16 16 57.4	
	comp=Z,23nm,0.8s						
H11S3	WAKE ISLAND Hy	19.92	82	T	T	16 37 27.5	
	baz=268,slow=75,SNR=86						
H11S1	WAKE ISLAND Hy	19.93	82	T	T	16 37 28.3	
	baz=268,slow=75,SNR=71						
H11S2	WAKE ISLAND Hy	19.93	82	T	T	16 37 28.6	
	baz=268,slow=75,SNR=84						
H11N1	WAKE ISLAND Hy	20.17	79	T	T	16 37 45.4	
	baz=265,slow=75,SNR=46						
H11N2	WAKE ISLAND Hy	20.18	79	T	T	16 37 46.0	
	baz=265,slow=75,SNR=72						
H11N3	WAKE ISLAND Hy	20.19	79	T	T	16 37 46.7	
	baz=265,slow=75,SNR=60						
WB0	Warramunga Arr	38.17	198	P	P	16 19 47.1	+0.5
WRAB	Tennant Creek	38.34	198	P	P	16 19 47.6	-0.4
WRA	Warramunga Arr	38.35	198	P	P	16 19 47.8	-0.4
	comp=Z,1.4nm,1.2s,baz=28,slow=9.2,SNR=4.5						
ASAR	Alice Springs	42.00	196	P	P	16 20 18.1	-0.4
	comp=Z,0.2nm,0.8s,baz=20,slow=12,SNR=4.5						
ASAR				PcP	PcP	16 22 12.2	-1.4
	comp=Z,0.3nm,0.7s,baz=17,slow=3.5,SNR=4.4						
CMAR	Chiang Mai Arr	44.61	279	P	P	16 20 41.0	+1.4
	comp=Z,1.5nm,0.9s,baz=74,slow=6.2,SNR=11						
MKAR	Makanchi Array	59.79	315	P	P	16 22 31.8	-0.4
	comp=Z,0.5nm,0.7s,baz=96,slow=9.6,SNR=6.9						
MAKZ	Makanchi	60.00	315	P	P	16 22 33.9	+0.2
SVW2	Sparrevohn	60.30	29	P	P	16 22 36.1	+0.7
SVW2				IAmb	IAmb	16 22 51.5	
	comp=Z,5.5nm,1.2s						
N19K	Bonanza Creek	60.71	29	P	P	16 22 39.4	+1.0
N19K				IAmb	IAmb	16 22 40.4	
	comp=Z,5.4nm,0.9s						
J20K	Nowinta River	61.98	25	P	P	16 22 47.6	+0.8
J20K				IAmb	IAmb	16 22 48.8	
	comp=Z,5.8nm,1.4s						
CAST	Castle Rocks	62.60	27	P	P	16 22 51.1	+0.2
CAST				IAmb	IAmb	16 22 52.1	
	comp=Z,3.0nm,0.7s						
IMAR	Indian Mountai	62.77	24	P	P	16 22 52.3	+0.3
H21K	Melozitna Rive	63.02	24	P	P	16 22 54.0	+0.2
TRF	Thorofare Moun	63.38	27	P	P	16 22 56.1	-0.3
GHO	Glory Hole Cre	63.56	29	P	P	16 22 57.9	+0.4
PWL	Port Wells	63.62	30	P	P	16 22 57.8	0.0
MLY	Manley	63.65	25	P	P	16 22 57.6	-0.3
MLY				IAmb	IAmb	16 23 07.4	
	comp=Z,6.0nm,1.4s						
KNK	Knik Glacier	63.69	29	P	P	16 22 57.6	-0.7
SCM	Sheep Creek Mo	64.31	29	P	P	16 23 02.3	0.0
H23K	Yukon River	64.36	24	P	P	16 23 01.5	-1.1
FID	Port Fidalgo	64.49	30	P	P	16 23 03.8	+0.3
WRH	Wood River Hil	64.59	26	P	P	16 23 03.4	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRH				IAmb	IAmb	16 23 14.6	
	comp=Z,5.1nm,1.4s						
MDM	Murphy Dome	64.65	25	P	P	16 23 05.3	+0.8
MDM				IAmb	IAmb	16 23 10.2	
	comp=Z,4.8nm,1.3s						
H24K	Noodor Dome	65.02	25	P	P	16 23 07.3	+0.4
H24K				IAmb	IAmb	16 23 18.2	
	comp=Z,2.6nm,1.1s						
ILAR	Eielson Array	65.16	26	P	P	16 23 06.3	-1.4
	comp=Z,0.8nm,0.8s,baz=259,slow=4.8,SNR=8.7						
ILAR	Eielson Array	65.16	26	P	P	16 23 06.5	-1.3
TOLK	Toolik Lake Re	65.18	21	P	P	16 23 08.3	+0.4
TOLK				IAmb	IAmb	16 23 09.1	
	comp=Z,2.9nm,1.1s						
PAX	Paxson	65.39	28	P	P	16 23 08.9	-0.5
PAX				IAmb	IAmb	16 23 09.8	
	comp=Z,1.9nm,0.8s						
N25K	Chitina, Valde	65.54	29	P	P	16 23 10.7	+0.3
N25K				IAmb	IAmb	16 23 12.7	
	comp=Z,2.8nm,0.8s						
J25K	Salcha River,	65.77	26	P	P	16 23 11.0	-0.8
VRDI	Verde Repeater	66.02	30	P	P	16 23 14.0	+0.4
DOT	Dot Lake	66.14	27	P	P	16 23 14.1	-0.1
DOT				IAmb	IAmb	16 23 19.3	
	comp=Z,6.5nm,1.2s						
WAX	Waxell Ridge	66.20	31	P	P	16 23 14.6	-0.1
BMAR	Burnt Mountain	66.67	23	P	P	16 23 18.4	+0.8
GRNC	Granite Creek	66.78	31	P	P	16 23 19.2	+0.7
M27K	Edge Creek, AK	66.92	29	P	P	16 23 19.4	+0.1
M27K				IAmb	IAmb	16 23 29.8	
	comp=Z,5.1nm,1.4s						
CTGM	Chitina Glacie	67.01	30	P	P	16 23 20.8	+0.9
CTGM				IAmb	IAmb	16 23 21.9	
	comp=Z,4.4nm,0.8s						
L27K	Beaver Creek,	67.04	28	P	P	16 23 19.8	-0.2
L27K				IAmb	IAmb	16 23 31.9	
	comp=Z,2.9nm,1.2s						
TABL	Table Mountain	67.05	31	P	P	16 23 20.2	0.0
BCAR	Beaver Creek A	67.06	28	P	P	16 23 20.3	+0.2
LOGN	Logan Glacier	67.16	31	P	P	16 23 20.4	-0.5
LOGN				IAmb	IAmb	16 23 38.2	
	comp=Z,6.4nm,1.0s						
EGAK	Eagle	67.58	26	P	P	16 23 23.8	+0.6
EGAK				IAmb	IAmb	16 23 44.1	
	comp=Z,2.8nm,1.2s						
KKAR	Karatay Array	68.00	310	P	P	16 23 25.5	-0.8
HYT	Haines Junctio	68.86	31	P	P	16 23 32.5	+0.9
HYT				IAmb	IAmb	16 23 33.5	
	comp=Z,5.8nm,0.9s						
EPYK	Eagle Plains	69.58	25	P	P	16 23 36.0	+0.2
N31M	Braeburn, Yuko	69.73	30	P	P	16 23 37.8	+1.0
M31M	Drury Creek, Y	70.40	29	P	P	16 23 40.9	0.0
INK	Inuvik	70.94	23	P	P	16 23 41.8	-2.2
	comp=Z,2.1nm,0.4s,baz=255,slow=4.0,SNR=5.5						
A36M	Sachs Harbour	73.69	19	P	P	16 23 59.7	-0.7
A36M				IAmb	IAmb	16 24 00.5	
	comp=Z,5.2nm,1.1s						
YKA	Yellowknife Ar	79.48	28	P	P	16 24 32.4	-0.9
	comp=Z,2.0nm,0.8s,baz=288,slow=5.7,SNR=23						
K05A	Summer Lake	81.05	48	P	P	16 24 42.9	+0.4
K05A				IAmb	IAmb	16 25 06.1	
	comp=Z,14nm,1.4s						
BEKR	Beckworth	82.18	51	P	P	16 24 49.7	+1.2
BEKR				IAmb	IAmb	16 24 50.0	
	comp=Z,3.0nm,0.8s						
PLID	Pearl Lake	83.79	45	P	P	16 24 56.0	-0.8
PLID				IAmb	IAmb	16 25 05.9	
	comp=Z,3.6nm,1.5s						
NVAR	Mina Array Bea	84.12	52	P	P	16 24 58.6	0.0
	comp=Z,0.9nm,0.6s,baz=273,slow=5.3,SNR=6.6						
BCYI	Bear Canyon	85.80	45	P	P	16 25 07.8	+0.8
LRM	Limekiln Ridge	85.92	43	P	P	16 25 08.3	+0.8
QSM	Queen of Sheba	85.94	54	P	P	16 25 08.3	+0.8
QSM				IAmb	IAmb	16 25 14.4	
	comp=Z,8.0nm,1.4s						
HRY	Holter Researc	86.02	42	P	P	16 25 08.4	+0.6
BOZ	Bozeman (W)	86.54	43	P	P	16 25 11.1	+0.6
PSUT	Pine Spring	87.40	51	P	P	16 25 14.7	-0.2
LPAZ	La Paz	147.46	94	PKPbc	PKPbc	16 32 13.5	+0.8
	comp=Z,2.4nm,0.8s,baz=322,slow=2.2,SNR=9.4						
LPAZ	La Paz	147.46	94		PKPbc	16 32 12.7	0.0

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*IDC **07** 16:48:52.4±7.4, 31°.82S×179°.24E, h504km±97km, mb2.5/2, mb1 2.9/3, mb1mx2.7/21, mbtmp3.6/3, Error ellipse: s-maj=118.1km s-min=35.2km az=6.0*

*WEL **07** 16:48:56.5±1.1, 32°S±6°×18°0E±1°7, h420km±17km, M4.0/10, mB4.1/4, MLv4.3/10, Mw(mB)3.1/4, Error ellipse: s-maj=0.0km s-min=0.0km az=106.0*

ISC 07 16:48:52.6±2.0**, 31°.8S**±0°.1×**179°.4E**±0°.2**, h500**km**, n23, σ2s.16**/32**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.40	43	P	P	16 50 00.3	-6.2
GLKZ				S	S	16 50 58.3	-8.2
KUZ	Kuaotunu	5.83	211	P	P	16 50 30.5	+3.3
MXZ	Matakaoa Point	5.85	189	P	P	16 50 29.7	+2.4
MXZ				S	S	16 51 45.8	+1.0
WCZ	Waipu Caves	5.92	224	P	P	16 50 30.5	+2.5
HAZ	Te Kaha	6.12	192	P	P	16 50 31.7	+1.8
HAZ				S	S	16 51 48.1	-1.5
WIAZ	Waiheke Island	6.13	214	P	P	16 50 33.4	+3.3
PKGZ	Pakihiroa	6.20	190	P	P	16 50 32.9	+2.1
PKGZ				S	S	16 51 49.9	-1.3
MBAZ	Motutapu North	6.23	216	P	P	16 50 34.2	+3.2
RUGZ	Raukumara Rang	6.34	193	P	P	16 50 34.0	+1.8
RUGZ				S	S	16 51 51.6	-2.3
PUZ	Puketiti	6.36	188	P	P	16 50 35.1	+2.8
PUZ				S	S	16 51 54.1	+0.2
ETAZ	East Tamaki Re	6.36	214	P	P	16 50 36.1	+3.7
TWGZ	Tauwhareparae	6.50	190	P	P	16 50 36.2	+2.5
TWGZ				S	S	16 51 56.9	+0.4
WTAZ	Waiatarua	6.52	217	P	P	16 50 37.2	+3.3
MWZ	Matawai	6.73	193	P	P	16 50 36.6	+0.7
MWZ				S	S	16 52 00.2	-0.5
URZ	Urewera	6.74	196	P	P	16 50 36.3	+0.3
	3.4nm,0.3s,baz=253,slow=4.3,SNR=31						
URZ				S	S	16 51 58.2	-2.6
	1.4nm,0.3s,baz=235,slow=23,SNR=12						
URZ	Urewera	6.74	196	P	P	16 50 36.1	0.0
URZ				S	S	16 51 58.0	-2.9
TOZ	Tahuroa Road	6.76	207	P	P	16 50 39.4	+3.1
CNGZ	Carnagh Statio	6.77	188	P	P	16 50 39.6	+3.3
CNGZ				S	S	16 52 01.1	-0.3
TKGZ	Te Karaka	6.78	190	P	P	16 50 36.1	-0.3
TKGZ				S	S	16 52 00.3	-1.1
MUGZ	Murupara	7.03	197	P	P	16 50 39.3	+0.3
ASAR	Alice Springs	40.85	270	P	P	16 55 49.1	-1.4
	0.3nm,0.5s,baz=106,slow=7.1,SNR=14						
WRA	Warramunga Arr	41.97	275	P	P	16 55 57.3	-2.1
	0.3nm,0.5s,baz=110,slow=8.0,SNR=13						
FINES	FINESS Array B	145.62	338	PKPbc	PKPdf	17 07 32.6	-0.2
	3.2nm,0.6s,baz=68,slow=4.7,SNR=22						

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*NEIC **07** 16:57:17.8±0.8, 15°.7S±0°.5×177°.5W±0°.3, h430km±14km, mb4.1/8, Error ellipse: s-maj=74.8km s-min=17.9km az=151.0*

*IDC **07** 16:57:20.0±2.6, 15°.47S×177°.81W, h444km±30km, mb3.1/4, mb1 3.4/5, mb1mx3.0/28, mbtmp3.8/5, Error ellipse: s-maj=112.7km s-min=25.6km az=152.0*

ISC 07 16:57:18.5±0.9**, 16°.0S**±0°.4×**177°.3W**±0°.2**, h450**km**, n16, σ1s.15**/16**, mb4.1**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.76	248	P	P	16 58 40.0	-0.6
	2.1nm,0.3s,baz=77,slow=13,SNR=13						
MSVF	Nonsavu	4.76	248	P	P	16 58 39.7	-1.0
AFI	Afiamalu	5.74	69	P	P	16 58 48.6	-1.8
MARNC	Mare, Loyalty	14.91	246	P	P	17 00 29.4	+0.7
STKA	Stephens Creek	40.48	239	P	P	17 04 17.4	+0.6
BBOO	Buckleboo	45.25	240	P	P	17 04 54.6	+0.2
WR0	Warramunga Arr	45.85	258	P	P	17 04 58.4	-0.8
WR0				IAmb	IAmb	17 05 02.7	
	comp=Z,24nm,2.0s						
WB0	Warramunga Arr	45.99	258	P	P	17 04 59.5	-0.9
WB0				IAmb	IAmb	17 05 20.6	
	comp=Z,17nm,1.7s						
WB2	Warramunga Arr	46.02	258	P	P	17 04 59.8	-0.8
WB2				IAmb	IAmb	17 05 45.3	
	comp=Z,14nm,1.6s						
WRAB	Tennant Creek	46.03	258	P	P	17 05 00.0	-0.5
WRAB				IAmb	IAmb	17 05 20.2	
	comp=Z,10nm,1.6s						
WRA	Warramunga Arr	46.04	258	P	P	17 04 59.3	-1.3
	comp=Z,0.7nm,0.4s,baz=91,slow=6.5,SNR=52						
ASAR	Alice Springs	46.34	252	P	P	17 05 03.0	+0.1
	comp=Z,4.9nm,0.5s,baz=85,slow=8.5,SNR=172						
ASAR	Alice Springs	46.34	252	P	P	17 05 02.4	-0.6
FORT	Forrest	51.78	243	P	P	17 05 43.3	0.0
ILAR	Eielson Array	83.82	13	P	P	17 08 59.0	0.0
	comp=Z,0.4nm,0.6s,baz=220,slow=6.9,SNR=4.2						
TXAR	Lajitas Array	84.10	57	P	P	17 09 04.0	+2.7
	comp=Z,0.2nm,0.6s,baz=229,slow=6.6,SNR=2.9						

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*IDC **07** 17:11:23.2±0.6, 14°.26N×146°.95E, h0km, mb4.3/22, mb1 4.4/23, mb1mx4.3/46, mbtmp4.3/23, ML4.2/1, MS3.2/6, Ms1 3.2/6, ms1mx2.7/77, Error ellipse: s-maj=18.0km s-min=12.3km az=102.0*

*BJI **07** 17:11:24.0±0.0, 14°.55N×147°.02E, h8km, mb4.3/32, mB4.8/19, Ms4.2/4, Ms7 3.9/4*

*NEIC **07** 17:11:25.1±1.7, 14°.22N±0°.07×146°.95E±0°.03, h10km±1km, mb4.6/28, Error ellipse: s-maj=12.6km s-min=3.8km az=161.0*

ISC 07 17:11:24.6±0.6**, 14°.22N**±0°.08×**146°.98E**±0°.08**, h10**km**, n89, σ1s.03**/82**, mb4.5**/45**, MS3.2**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.14	253	Pn	Pn	17 12 00.6	+0.2
	78nm,0.3s,baz=91,slow=4.4,SNR=31						
GUMO				Sn	Sn	17 12 27.1	0.0
	212nm,0.3s,baz=331,slow=22,SNR=4.8						
GUMO	Guam	2.14	253	Pn	Pn	17 12 00.8	+0.4
GUMO				Sn	Sn	17 12 26.8	-0.3
PATS	Pohnpei	13.33	122	Pn	Pn	17 14 29.5	-4.5
JOW	Kunigami	21.51	309	P	P	17 16 14.4	+0.6
	11nm,0.4s,baz=135,slow=15,SNR=9.7						
JOW	Kunigami	21.51	309	IAmb	IAmb	17 16 15.1	
	comp=Z,37nm,1.3s						
SIJI	Sorong	21.61	227	P	P	17 16 16.4	+1.4
	comp=Z,21nm,0.9s,baz=60,slow=7.1,SNR=7.7						
DAV	Davao City (W)	22.19	254	LR	LR	17 25 07.2	
	comp=Z,28nm,19.9s,baz=97,slow=37						
JSU	Suzuyama	22.93	321	P	P	17 16 29.4	+0.5
PMG	Port Moresby	23.47	180	P	P	17 16 33.9	-0.6
	comp=Z,12nm,0.7s,baz=0.2,slow=8.5,SNR=5.5						
PMG	Port Moresby	23.47	180	P	P	17 16 33.5	-1.0
PMG				IAmb	IAmb	17 16 50.8	
	comp=Z,15nm,0.9s						
MJAR	Matsushiro Arr	23.58	342	P	P	17 16 32.8	-2.6
	comp=Z,1.8nm,0.4s,baz=168,slow=9.5,SNR=6.8						
MJAR	Matsushiro Arr	23.58	342	IAmb	IAmb	17 16 35.9	
	comp=Z,3.1nm,1.1s						
MAT	Matsushiro	23.58	342	P	P	17 16 32.6	-2.9
JNU	Nakatsue	23.85	325	P	P	17 16 37.0	-1.2
	comp=Z,14nm,0.8s,baz=148,slow=1.6,SNR=17						
JNU	Nakatsue	23.85	325	P	P	17 16 37.7	-0.4
JNU				IAmb	IAmb	17 16 39.3	
	comp=Z,16nm,0.8s						
KSRS	Korea Array	28.69	327	P	P	17 17 20.7	-1.1
	comp=Z,1.4nm,0.5s,baz=144,slow=9.1,SNR=12						
JKA	Kamikawa-asahi	30.03	354	P	P	17 17 32.9	-0.7
JKA	Kamikawa-asahi	30.03	354	IAmb	IAmb	17 17 40.8	
	comp=Z,40nm,1.5s						
ASAJ	Asahikawa	30.03	354	P	P	17 17 32.9	-0.7
	comp=Z,4.8nm,0.8s,baz=235,slow=7.9,SNR=5.4						
ASAJ				LR	LR	17 29 12.5	
	comp=Z,34nm,21.3s,baz=186,slow=36						
NJ2	Nanjing	31.23	309	*e*P	P	17 17 45.3	+0.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WR0	Warramunga Arr	36.10	200	P	P	17 18 26.1	-0.7
WB2	Warramunga Arr	36.15	200	P	P	17 18 26.9	-0.4
WB2				IAmb	IAmb	17 18 27.8	
	comp=Z,9.2nm,0.9s						
WRA	Warramunga Arr	36.15	200	P	P	17 18 26.8	-0.5
	comp=Z,4.4nm,0.9s,baz=21,slow=9.3,SNR=22						
WRA	Warramunga Arr	36.15	200	P	P	17 18 26.2	-1.1
KLR	Kul'dur	37.09	343	P	P	17 18 34.0	-1.0
	comp=Z,2.4nm,0.6s,baz=170,slow=9.2,SNR=10						
BJI	Beijing	37.27	320	P	P	17 18 36.0	-0.6
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK	Petropavlovsk-	39.72	10	LR	LR	17 34 58.3	
	comp=Z,44nm,21.1s,baz=208,slow=36						
ASAR	Alice Springs	39.76	199	P	P	17 18 57.5	-0.3
	comp=Z,1.1nm,0.7s,baz=25,slow=9.2,SNR=20						
HHC	Hu-ho-hao-te	40.66	318	*e*P	P	17 19 05.4	+0.1
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,88nm,4.9s						
PZH	PanZhiHua	43.93	293	P	P	17 19 32.4	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
MA2	Magadan	45.37	3	P	P	17 19 43.5	+0.6
	comp=Z,2.4nm,0.6s,baz=179,slow=9.8,SNR=5.3						
MA2	Magadan	45.37	3	P	P	17 19 42.6	-0.3
CMAR	Chiang Mai Arr	46.19	282	P	P	17 19 50.5	+0.5
	comp=Z,1.4nm,0.6s,baz=83,slow=5.6,SNR=13						
CMAR				PcP	PcP	17 21 26.9	+1.0
	comp=Z,0.8nm,0.7s,baz=78,slow=2.2,SNR=6.1						
CMAR	Chiang Mai Arr	46.19	282	P	P	17 19 49.3	-0.8
SONM	Songino Array	47.43	323	P	P	17 19 59.7	+0.2
	comp=Z,3.2nm,1.0s,baz=140,slow=7.5,SNR=20						
GTA	Gaotai	48.31	310	*e*P	P	17 20 07.2	+0.7
GTA				pP	pwP	17 20 12.9	-3.8
GTA				sP	sP	17 20 15.7	+7.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	Seymchan	48.80	3	P	P	17 20 10.9	+1.3
	comp=Z,3.4nm,0.9s,baz=176,slow=6.7,SNR=17						
AFI	Afiamalu	49.47	123	LR	LR	17 38 05.5	
	comp=Z,36nm,18.1s,baz=80,slow=32						
GOMU	GeErMu	51.34	305	P	P	17 20 32.0	+2.1
GOMU				pP	pwP	17 20 37.7	-2.5
GOMU				sP	sP	17 20 40.0	+8.8
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,37nm,4.5s						
LSA	Lhasa	53.55	296	P	P	17 20 46.1	-0.4
LSA	Lhasa	53.55	296	P	P	17 20 47.4	+0.9
LSA				pmax	pmax		
	comp=Z,15nm,0.7s						
BILL	Bilibino	55.22	9	P	P	17 20 57.8	+0.4
BILL				IAmb	IAmb	17 20 59.1	
	comp=Z,7.2nm,1.1s						
JIRN	Jiri	57.83	294	*e*P	P	17 21 17.4	+0.2
	comp=Z,5.9nm,0.5s						
GUN	Gumba	58.10	294	*e*P	P	17 21 19.2	+0.1
	comp=Z,10nm,0.5s						
WMQ	Urumqi	58.20	313	*e*P	P	17 21 21.7	+2.6
PKI	Pulchoki	58.52	294	*e*P	P	17 21 21.0	-1.0
PKIN	Phulchoki	58.53	294	*e*P	P	17 21 21.4	-0.6
	comp=Z,4.0nm,0.4s						
KKN	Kakani	58.63	294	*e*P	P	17 21 22.4	-0.2
GKN	Gorkha	59.20	294	*e*P	P	17 21 26.4	-0.1
	comp=Z,8.8nm,0.4s						
ANM	Nome	59.85	22	P	P	17 21 31.3	+1.2
ANM				IAmb	IAmb	17 21 32.4	
	comp=Z,5.1nm,0.8s						
DANN	Dangsing	59.97	295	*e*P	P	17 21 31.7	-0.3
	comp=Z,26nm,0.7s						
KOLN	Koldanda	60.12	294	*e*P	P	17 21 32.5	-0.4
PYUN	Piuthan	60.66	294	*e*P	P	17 21 35.0	-1.6
ZAA0	Zalesovo Array	62.32	324	P	P	17 21 46.3	-0.7
ZAA0				IAmb	IAmb	17 21 49.0	
	comp=Z,3.2nm,0.8s						
ZALV	Zalesovo Beam	62.32	324	P	P	17 21 46.7	-0.3
	comp=Z,1.9nm,0.4s,baz=103,slow=7.6,SNR=14						
ZALV	Zalesovo Beam	62.32	324	P	P	17 21 46.0	-1.0
MK31	Makanchi Array	62.47	316	P	P	17 21 48.4	+0.1
MKAR	Makanchi Array	62.47	316	P	P	17 21 48.7	+0.4
	comp=Z,1.6nm,0.3s,baz=92,slow=8.4,SNR=73						
MKAR	Makanchi Array	62.47	316	P	P	17 21 48.5	+0.2
MAKZ	Makanchi	62.69	316	P	P	17 21 50.0	+0.3
MAKZ				IAmb	IAmb	17 21 51.1	
	comp=Z,5.6nm,1.1s						
CAST	Castle Rocks	64.54	26	P	P	17 22 02.6	+1.0
H21K	Melozitna Rive	65.05	23	P	P	17 22 06.3	+1.4
H21K				IAmb	IAmb	17 22 07.7	
	comp=Z,3.7nm,0.9s						
PWL	Port Wells	65.43	29	P	P	17 22 07.6	+0.2
NRIK	Noril'sk	66.22	340	P	P	17 22 11.3	-1.0
	comp=Z,1.2nm,0.4s,baz=38,slow=2.0,SNR=4.7						
NRIK	Noril'sk	66.22	340	IAmb	IAmb	17 22 12.5	
	comp=Z,4.3nm,1.2s						
KSH	Kashi	66.50	307	P	P	17 22 17.7	+2.8
KSH				sP	pwP	17 22 24.4	-0.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRH	Wood River Hil	66.55	25	P	P	17 22 14.6	+0.1
WRH				IAmb	IAmb	17 22 17.8	
	comp=Z,3.1nm,0.8s						
COLD	Coldfoot	66.59	22	P	P	17 22 16.1	+1.3
COLD				IAmb	IAmb	17 22 17.2	
	comp=Z,3.4nm,0.9s						
IL31		67.13	25	P	P	17 22 17.9	-0.3
IL31				IAmb	IAmb	17 22 32.7	
	comp=Z,3.2nm,0.6s						
ILAR	Eielson Array	67.13	25	P	P	17 22 17.7	-0.5
	comp=Z,2.2nm,0.6s,baz=253,slow=5.6,SNR=42						
PAX	Paxson	67.28	27	P	P	17 22 20.0	+0.6
J25K	Salcha River,	67.72	26	P	P	17 22 22.0	-0.1
ISLE	Juniper Island	68.25	30	P	P	17 22 26.9	+1.3
KKAR	Karatay Array	70.59	311	P	P	17 22 40.6	+0.3
C36M	Paulatuk	76.44	21	P	P	17 23 14.5	+0.4
C36M				IAmb	IAmb	17 23 14.8	
	comp=Z,2.8nm,0.7s						
ABKAR	Akbulak array	77.45	318	P	P	17 23 19.6	-0.6
AKTO	Aktyubinsk	78.53	319	LR	LR	18 00 05.3	
	comp=Z,25nm,19.5s,baz=68,slow=37						
YKA	Yellowknife Ar	81.36	28	P	P	17 23 41.5	+0.3
	comp=Z,1.3nm,0.6s,baz=282,slow=5.2,SNR=17						
NVAR	Mina Array Bea	84.92	52	P	P	17 24 01.6	+1.1
	comp=Z,1.2nm,0.7s,baz=258,slow=5.8,SNR=6.5						
KLMR	Klimovskoe	85.97	332	*e*P	P	17 24 02.7	-2.2
KLMR				AMP		17 24 05.2	
	comp=Z,6.0nm,1.1s						
ARCES	ARCESS Array B	87.11	343	P	P	17 24 09.8	-0.6
	comp=Z,1.6nm,0.6s,baz=46,slow=3.5,SNR=10						
FINES	FINESS Array B	91.45	336	P	P	17 24 29.4	-1.5
	comp=Z,3.2nm,0.5s,baz=61,slow=4.9,SNR=24						
NOA	NORSAR Array B	97.18	340	LR	LR	18 13 20.1	
	comp=Z,7.4nm,18.7s,baz=245,slow=38						
DBIC	Dimbokro	145.19	305	PKPbc	PKPbc	17 31 03.1	0.0
	comp=Z,6.5nm,0.7s,baz=72,slow=2.4,SNR=14						
DBIC	Dimbokro	145.19	305		PKPbc	17 31 00.8	-2.3
KIC	Kosan Boka	145.28	304	*e*PKP1	PKPbc	17 31 03.5	+0.1
	comp=Z,6.2nm,0.5s						
TIC	Toumodi	145.34	305	*e*PKP1	PKPbc	17 31 03.6	0.0
LIC	Lamto	145.59	304	*e*PKP1	PKPdf	17 31 04.2	-0.1
	comp=Z,24nm,0.7s						
LPAZ	La Paz	146.09	98	PKPbc	PKPbc	17 31 07.4	+0.8
	comp=Z,3.3nm,0.5s,baz=302,slow=2.0,SNR=11						

IDC 07 17:28:58.5±1.9**, 4°.53N×124°.54E, h0**km**, mb3.3**/4**, mb1 3.4**/4**, mb1mx3.0**/44**, mbtmp3.3**/4**, Error ellipse: s-maj=214.1km s-min=22.6km az=64.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.16	159	P	P	17 34 35.2	+0.4
	0.3nm,0.4s,baz=339,slow=9.6,SNR=5.0						
ASAR	Alice Springs	29.48	162	P	P	17 35 04.0	-0.5
	0.1nm,0.3s,baz=334,slow=7.0,SNR=5.9						
MKAR	Makanchi Array	55.66	326	P	P	17 38 36.8	+0.2
	0.2nm,0.3s,baz=124,slow=8.2,SNR=8.7						
KURBB	Kurchatov Arra	59.90	328	P	P	17 39 05.7	-0.5
	0.1nm,0.4s,baz=129,slow=7.3,SNR=1.4						

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*IDC **07** 17:45:00.8±0.9, 7°.51S×148°.06E, h56km±6km, mb3.5/10, mb1 3.8/13, mb1mx3.6/38, mbtmp3.9/13, MS3.3/5, Ms1 3.3/5, ms1mx2.8/39, Error ellipse: s-maj=27.2km s-min=7.6km az=105.0*

*DJA **07** 17:45:01.4±0.5, 8°S±5°×14°8E±°, h69km±9km, M4.6/8, mB5.3/3, mb4.3/8, MLv4.7/3, Mw(mB)4.7/3*

*NEIC **07** 17:45:02.7±2.0, 7°.59S±0°.09×148°.0E±0°.1, h65km±4km, mb4.0/14, Error ellipse: s-maj=21.6km s-min=9.9km az=112.0*

ISC 07 17:45:01.2±0.6**, 7°.53S**±0°.07×**147°.8E**±0°.1**, h50**km**, n34, σ1s.73**/39**, mb3.9**/12**, MS3.2**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.97	199	P	Pn	17 45 34.1	+2.0
	268nm,0.3s,baz=52,slow=5.7,SNR=932						
PMG				S	Sn	17 45 59.2	+3.5
	372nm,0.3s,baz=149,slow=22,SNR=13						
PMG	Port Moresby	1.97	199		Pn	17 45 33.3	+1.1
PMG				Sn	Sn	17 45 58.6	+2.9
RABL	Rabaul	5.46	53		Pn	17 46 20.1	-0.1
COEN	Coen	7.84	215		Pn	17 46 52.6	-0.1
JAY	Jayapura	8.65	305	LR	LR	17 50 35.9	
	comp=Z,107nm,18.6s,baz=156,slow=38						
CTA	Charters Tower	12.57	187	P	Pn	17 47 58.6	+1.1
	1.1nm,0.3s,baz=1.3,slow=12,SNR=12						
WB0	Warramunga Arr	17.81	226	P	Pn	17 49 05.6	0.0
WB0				IAmb	IAmb	17 49 09.4	
	comp=Z,8.7nm,1.2s						
WR0	Warramunga Arr	17.83	225	P	Pn	17 49 06.8	+0.9
WR0				IAmb	IAmb	17 49 09.7	
	comp=Z,8.1nm,0.7s						
WRAB	Tennant Creek	17.95	225	P	P	17 49 07.1	-0.3
WB2	Warramunga Arr	17.95	225	P	P	17 49 08.0	+0.5
WB2				IAmb	IAmb	17 49 29.2	
	comp=Z,7.7nm,1.1s						
WRA	Warramunga Arr	17.96	225	P	P	17 49 08.2	+0.7
	comp=Z,0.6nm,0.3s,baz=49,slow=12,SNR=26						
WRA				S	Sn	17 52 21.5	-5.6
	comp=Z,0.2nm,0.3s,baz=49,slow=24,SNR=5.9						
WRA	Warramunga Arr	17.96	225	P	P	17 49 07.0	-0.5
KNRA	Kununurra	20.32	245		P	17 49 34.0	+0.7
ASAR	Alice Springs	20.86	218	P	P	17 49 39.7	+0.5
	comp=Z,1.5nm,0.5s,baz=55,slow=9.4,SNR=52						
ASAR				S	S	17 53 27.9	-1.4
	comp=Z,1.6nm,0.9s,baz=32,slow=23,SNR=7.7						
FITZ	Fitzroy Crossi	24.00	242	P	P	17 50 12.9	+1.4
	comp=Z,1.4nm,0.4s,baz=50,slow=6.8,SNR=10						
FITZ				LR	LR	18 00 05.3	
	comp=Z,77nm,18.3s,baz=164,slow=37						
FITZ	Fitzroy Crossi	24.00	242	P	P	17 50 12.2	+0.7
FITZ				IAmb	IAmb	17 50 16.6	
	comp=Z,10.0nm,1.4s						
STKA	Stephens Creek	24.91	193	P	P	17 50 18.5	-1.1
	comp=Z,2.0nm,0.7s,baz=1.7,slow=9.6,SNR=8.3						
STKA				LR	LR	18 00 00.4	
	comp=Z,76nm,18.8s,baz=32,slow=36						
STKA	Stephens Creek	24.91	193	P	P	17 50 18.3	-1.3
CMAR	Chiang Mai Arr	54.68	299	P	P	17 54 25.0	-0.7
	comp=Z,0.4nm,0.7s,baz=122,slow=6.0,SNR=4.3						
CMAR				pP	pP	17 54 39.8	+0.6
	comp=Z,0.9nm,0.7s,baz=121,slow=5.6,SNR=5.5						
KLR	Kul'dur	58.24	348	P	P	17 54 50.8	+0.3
	comp=Z,0.5nm,0.5s,baz=177,slow=7.2,SNR=4.3						
KLR				LR	LR	18 18 57.4	
	comp=Z,31nm,18.8s,baz=166,slow=35						
PETK	Petropavlovsk-	60.99	7	LR	LR	18 17 41.3	
	comp=Z,20nm,21.9s,baz=97,slow=32						
SONM	Songino Array	66.12	331	P	P	17 55 44.4	+1.0
	comp=Z,0.2nm,0.5s,baz=145,slow=5.6,SNR=1.7						
SONM				pP	pP	17 55 59.9	+3.0
	comp=Z,0.5nm,0.9s,baz=129,slow=4.1,SNR=3.4						
SONM	Songino Array	66.12	331	IAmb	IAmb	17 56 02.7	
	comp=Z,3.2nm,1.4s						
VNDA	Vanda	70.35	177	P	P	17 56 07.5	-1.8
	comp=Z,1.4nm,0.7s,baz=344,slow=7.3,SNR=5.0						
CNBA	Chernabura Isl	75.98	28	P	P	17 56 41.8	-1.0
MK31	Makanchi Array	79.18	320	P	P	17 56 58.8	-2.1
MK31				IAmb	IAmb	17 57 17.9	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	79.18	320	P	P	17 57 00.7	-0.3
	comp=Z,1.6nm,1.0s,baz=99,slow=8.1,SNR=8.9						
MKAR				pP	pP	17 57 16.1	+1.6
	comp=Z,1.0nm,0.7s,baz=100,slow=6.8,SNR=7.7						
MAKZ	Makanchi	79.38	320	P	P	17 57 02.9	+0.8
MAKZ				IAmb	IAmb	17 57 18.9	
	comp=Z,1.9nm,0.9s						
ANM	Nome	79.89	19	P	P	17 57 05.7	+1.3
ANM				IAmb	IAmb	17 57 06.1	
	comp=Z,2.1nm,0.8s						
ZALV	Zalesovo Beam	80.72	328	P	P	17 57 08.0	-1.0
	comp=Z,0.4nm,0.4s,baz=109,slow=7.8,SNR=1.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ILAR	Eielson Array	86.57	23	P	P	17 57 37.4	-1.4
	comp=Z,0.5nm,0.6s,baz=263,slow=5.0,SNR=6.7						
ILAR				pP	pP	17 57 52.6	+0.4
	comp=Z,1.0nm,0.9s,baz=258,slow=4.6,SNR=3.9						
TORD	Torodi Ar. Bea	146.22	282	PKPbc	PKPdf	18 04 36.2	+0.1
	comp=Z,1.4nm,0.8s,baz=74,slow=1.9,SNR=8.3						
TORD	Torodi Ar. Bea	146.22	282		PKPdf	18 04 33.1	-3.0
BDFB	Brasilia	152.15	146	PKPbc	PKPbc	18 04 51.0	-1.4
	comp=Z,2.8nm,0.7s,baz=180,slow=2.0,SNR=4.6						

*CNRM **07** 17:47:54.3, 35°.45N×3°.76W, h25^{km}, ml2.9*
*MDD **07** 17:47:55.5±0.6, 35°.45N×3°.74W, h15^{km}±5^{km}, mb_Lg2.6/8, Error ellipse: s-maj=4.9km s-min=3.0km az=155.0*
*SFS **07** 17:47:55.0, 35°.44N×3°.72W, ML2.9, ALBORAN SUR*
ISC 07 17:47:54.0±1.2**, 35°.48N**±0°.02×**3°.74W**±0°.02**, h19**^{km}±3^{km}**, n30,** σ1s**34**/59**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.31	211	P	Pg	17 48 00.8	0.0
PALE				S	Sg	17 48 05.2	-0.1
GOG	Mont Gurugu	0.66	113	P	Pb	17 48 07.5	+0.5
GOG				S	Sb	17 48 15.6	-0.1
EMEL	Melilla	0.67	106	Pg	Pn	17 48 07.9	-0.5
EMEL				Sg	Sn	17 48 17.0	-1.3
EALB	Alboran	0.74	51	Pg	Pn	17 48 08.7	-0.6
EALB				Sg	Sn	17 48 19.4	-0.6
EALB				i Vmb_Lg		17 48 19.8	
TAF	Taforalt	1.28	121	P	Pb	17 48 17.5	+0.1
TAF				S	Sn	17 48 34.2	+0.7
SMIR	Smir Dam	1.35	279	P	Pn	17 48 16.0	-1.8
SMIR				S	Sb	17 48 36.3	+0.8
CHEFC	Chefchaouen	1.36	254	P	Pn	17 48 18.6	+0.6
CHEFC				S	Sb	17 48 36.8	+0.9
EMIJ	Mijas	1.36	323	Pn	Pb	17 48 18.6	-0.3
EMIJ				Sn	Sb	17 48 36.3	+0.3
ELGU	Los Guajares,	1.39	4	Pn	Pn	17 48 18.2	-0.2
ELGU				Sn	Sn	17 48 35.7	-0.5
ELGU				i Vmb_Lg		17 48 41.1	
CEU	Ceuta	1.39	288	P	Pn	17 48 16.3	-2.0
CEU				S	Sn	17 48 30.4	-5.7
EMAL	Malaga-Limoner	1.39	337	P	Pg	17 48 21.0	+0.1
EMAL				S	Sg	17 48 39.0	0.0
JBK	JBK	1.50	139	P	Pn	17 48 19.3	-0.7
JBK				S	Sn	17 48 36.8	-2.3
EGOR	Sierra Gorda,	1.65	350	Pn	Pg	17 48 24.8	-1.0
EGOR				Sn	Sb	17 48 44.3	-0.1
EQUE	Quentar	1.74	8	Pn	Pn	17 48 23.1	-0.1
EQUE				Sn	Sb	17 48 46.4	-0.4
EQUE				i Vmb_Lg		17 48 49.2	
ENIJ	Nijar	1.94	39	Pn	Pb	17 48 28.2	-0.5
ENIJ				Sn	Sn	17 48 49.9	+0.1
IFR	Ifrane	2.27	211	P	Pn	17 48 31.1	+0.5
IFR				S	Sn	17 48 57.4	-0.7
MD31	MD31	2.74	198	P	Pn	17 48 37.9	+0.9
MD31				S	Sn	17 49 08.2	-1.4
MDT	Midelt	2.76	195	P	Pn	17 48 38.3	+1.1
MDT				S	Sn	17 49 09.8	-0.2
EZAR	Zarzadilla de	2.90	34	Pn	Pn	17 48 39.6	+0.4
EZAR				Sn	Sn	17 49 13.8	+0.2
ECAB	El Cabril	2.92	333	Pn	Pn	17 48 41.8	+2.4
ECAB				Sn	Sn	17 49 15.1	+1.2
ZHG	ZHG	3.14	231	P	Pn	17 48 43.7	+1.2
ZHG				S	Sn	17 49 20.3	+0.8
ETOB	Tobarra	3.61	28	Pn	Pn	17 48 51.1	+2.2
ETOB				Sn	Sn	17 49 31.1	0.0
ETOB				i Vmb_Lg		17 49 35.6	
EGRO	El Granado	3.64	305	Pn	Pn	17 48 51.4	+2.1
EGRO				Sn	Sn	17 49 31.7	0.0
EGRO				i Vmb_Lg		17 49 32.6	
PVAQ	Vaqueiros	3.73	302	P	Pn	17 48 52.2	+1.7
PVAQ				S	Sn	17 49 33.0	-1.0
PAB	San Pablo	4.08	353	Pn	Pn	17 48 57.6	+2.1
PAB				Sn	Sn	17 49 42.5	-0.3
PAB				i Vmb_Lg		17 51 43.4	
EBAD	Badajoz	4.18	322	Pn	Pn	17 48 58.3	+1.5
EBAD				Sn	Sn	17 49 45.0	-0.1
EBAD				i Vmb_Lg		17 49 51.2	
ESDC	Sonseca Array	4.19	358	Pn	Pn	17 48 58.7	+1.8
ESDC				Sn	Sn	17 49 43.6	-1.7
ESDC				i Vmb_Lg		17 50 21.4	
PESTR	Estremoz	4.57	319	P	Pn	17 49 02.1	+0.1
PESTR				S	Sn	17 49 53.7	-0.8
OUZM	OUZ	5.21	210	P	Pn	17 49 12.1	+1.0
OUK	Oukaimeden	5.48	220	P	Pn	17 49 16.0	+1.1
OUK				S	Sn	17 50 16.4	-1.3

*HEL **07** 18:00:36.3, 67°.08N×20°.84E, h0^{km}, ML2.2, Explosion*
*UPP **07** 18:00:36.4±0.1, 67°.08N×20°.94E, h0^{km}, ML2.3, Explosion*
*IDC **07** 18:00:37.7±1.2, 67°.06N×21°.27E, h0^{km}, mb1 2.7/3, mb1mx2.6/39, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=19.9km s-min=9.1km az=99.0*
ISC 07 18:00:36.4±0.8**, 67°.08N**±0°.02×**20°.95E**±0°.02**, h0**^{km}**, n42,** σ0s**82**/55**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	287	P	Pg	18 00 39.6	+0.2
DUNU				S	Sg	18 00 41.7	+0.4
DUNU	Dundret	0.15	287	i P	Pg	18 00 39.6	+0.2
DUNU				i S	Sg	18 00 41.7	+0.4
MASU	Masugnsbyn	0.56	46	P	Pg	18 00 47.1	+0.1
MASU	Masugnsbyn	0.56	46	i P	Pg	18 00 47.1	+0.1
ERTU	Ertsjaerv	0.72	136	eP	Pg	18 00 49.8	-0.3
ERTU				eS	Sg	18 01 00.1	+0.6
PAJU	Pajala	0.85	93	P	Pg	18 00 52.4	-0.3
PAJU				S	Sg	18 01 04.7	+1.0
PAJU	Pajala	0.85	93	eP	Pg	18 00 52.2	-0.5
PAJU				eSB	Sg	18 01 04.4	+0.7
HARU	Harads	0.92	179	P	Pg	18 00 53.5	-0.4
HARU	Harads	0.92	179	eP	Pg	18 00 53.5	-0.4
SALU	Saltoluokta	1.00	289	P	Pg	18 00 55.0	-0.5
SALU	Saltoluokta	1.00	289	eP	Pg	18 00 55.0	-0.5
LANU	Lannavaara	1.06	22	P	Pg	18 00 55.7	-0.9
LANU	Lannavaara	1.06	22	eP	Pg	18 00 55.6	-0.9
NIKU	Nikkaluokta	1.08	318	P	Pg	18 00 56.4	-0.8
NIKU	Nikkaluokta	1.08	318	eP	Pg	18 00 56.4	-0.8
KLF	Kolari	1.19	81	eP	Pg	18 00 58.4	-0.8
KLF				eSN	Sn	18 01 16.8	-0.3
KOVU	Salmi	1.19	346	P	Pg	18 00 58.2	-1.0
KOVU	Salmi	1.19	346	eP	Pg	18 00 58.2	-1.0
KALU	Kalix	1.56	141	P	Pn	18 01 05.3	0.0
KALU	Kalix	1.56	141	eP	Pn	18 01 05.3	0.0
SJUU	Sjulsmark	1.60	170	P	Pn	18 01 05.7	-0.2
SJUU	Sjulsmark	1.60	170	eP	Pn	18 01 05.7	-0.2
TOF	Tornio	1.68	125	eP	Pn	18 01 07.2	+0.2
TOF				MSG		18 01 27.6	
	comp=Z,35nm,0.2s						
TOF				eSN	Sb	18 01 29.8	0.0
HEF	Hetta	1.69	36	eP	Pn	18 01 07.0	-0.1
HEF	Hetta	1.69	36	eP	Pn	18 01 06.8	-0.4
HEF				MSG		18 01 27.4	
	comp=Z,16nm,0.2s						
HEF				eSN	Sn	18 01 29.8	+0.3
KIF	Kilpisjarvi	1.94	358	eP	Pb	18 01 11.9	-0.6
KIF	Kilpisjarvi	1.94	358	ePB	Pb	18 01 11.8	-0.7
KIF				MSG		18 01 34.9	
	comp=Z,22nm,0.2s						
KIF				eSG	Sg	18 01 39.1	+0.6
RNF	Rovaniemi	2.06	101	ePB	Pn	18 01 13.1	+1.0
RNF				eSG	Sb	18 01 40.8	+0.1
I37NO	I37NO	2.19	337	i		18 14 06.3	
	baz=162,slow=324,SNR=4.9						
SGF	Sodankyl	2.20	78	ePB	Pn	18 01 15.1	+1.0
SGF				eSG	Sb	18 01 45.4	+0.7
OUL	Oulu	2.84	132	ePB	Pb	18 01 25.6	-2.2
	baz=313						
ARCES	ARCESS Array B	3.00	32	Pn	Pn	18 01 25.5	+0.5
	baz=210,slow=14,SNR=69						
ARCES				Sn	Sn	18 02 03.5	+1.9
	baz=212,slow=22,SNR=6.3						
OUF	Merijarvi	3.14	148	eP	Pn	18 01 28.7	+1.7
	baz=330						
OUF				MSG		18 02 09.1	
	comp=Z,2.6nm,0.2s						
UMAU	Umeaa	3.21	182	eP	Pn	18 01 28.9	+1.0
VRF	Varrio	3.41	75	eP	Pn	18 01 31.5	+0.7
	baz=265						
MSF	Maaselka	3.45	106	eP	Pn	18 01 32.8	+1.5
	baz=297						
KEV	Kevo	3.50	37	eP	Pn	18 01 32.1	+0.2
KU6	Riekki	3.73	102	eP	Pn	18 01 36.1	+1.0
HUSU	Husum	3.82	192	eP	Pn	18 01 37.9	+1.5
HUSU				eS	Sn	18 02 21.6	-0.3
VAF	Ylistaro	4.12	169	eP	Pn	18 01 41.7	+1.3
	baz=351						
FINES	FINESS Array B	6.08	156	Pn	Pn	18 02 08.1	+0.8
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=9.5						
FINES				Sn	Sn	18 03 16.9	-0.7
	comp=Z,0.2nm,0.3s,baz=344,slow=23,SNR=6.7						
FINES				Lg	Lg	18 03 47.5	
	comp=Z,0.2nm,0.3s,baz=344,slow=29,SNR=5.3						
NOA	NORSAR Array B	7.40	220	Pn	Pn	18 02 26.4	+0.8
	comp=Z,0.0nm,0.3s,baz=36,slow=7.7,SNR=4.6						

*IDC **07** 18:03:23.4±1.0, 34°.62N×73°.14E, h0^{km}, mb3.6/8, mb1 3.6/13, mb1mx3.5/39, mbtmp3.5/13, ML3.3/5, Error ellipse: s-maj=29.3km s-min=17.9km az=66.0*
ISC 07 18:03:27.1±0.9**, 34°.65N**±0°.08×**72°.9E**±0°.1**, h21**^{km}**, n14,** σ1s**77**/16**, mb3.5**/8**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	3.21	133	eP	Pb	18 04 25.0	+1.6
THN				eS	Sb	18 05 04.0	+2.0
AAK	Ala-Archa	8.07	8	Pn	Pn	18 05 26.4	+3.3
	0.3nm,0.3s,baz=156,slow=8.9,SNR=2.8						
AAK				Sn	Sn	18 06 56.1	+2.3
	0.4nm,0.3s,baz=139,slow=13,SNR=3.7						
MKAR	Makanchi Array	14.04	27	Pn	Pn	18 06 43.1	-1.6
	0.0nm,0.3s,baz=212,slow=13,SNR=2.3						
KURBB	Kurchatov Arra	16.48	13	Pn	Pn	18 07 14.7	-2.1
	0.0nm,0.3s,baz=203,slow=11,SNR=2.7						
BVAR	Borovoye Array	18.46	355	P	P	18 07 40.6	-0.6
	0.5nm,0.3s,baz=183,slow=10,SNR=7.2						
AKTO	Aktyubinsk	19.16	330	P	Pn	18 07 50.1	+0.1
	0.5nm,0.3s,baz=133,slow=11,SNR=12						
ZALV	Zalesovo Beam	21.03	20	P	P	18 08 07.7	-1.6
	2.2nm,0.5s,baz=216,slow=10,SNR=13						
ARU	Arti	23.89	340	P	P	18 08 39.4	+0.3
	0.7nm,0.5s,baz=173,slow=14,SNR=3.7						
CMAR	Chiang Mai Arr	28.19	118	P	P	18 09 16.2	-2.1
	0.5nm,1.0s,baz=300,slow=9.2,SNR=2.7						
ARCES	ARCESS Array B	43.45	338	P	P	18 11 27.3	-0.8
	2.0nm,0.8s,baz=108,slow=8.0,SNR=4.9						
TORD	Torodi Ar. Bea	67.28	271	P	P	18 14 21.6	+1.1
	0.5nm,0.5s,baz=42,slow=6.6,SNR=4.6						
WRA	Warramunga Arr	79.67	123	P	P	18 15 32.4	-0.9
	0.2nm,0.5s,baz=326,slow=5.1,SNR=8.1						
ASAR	Alice Springs	81.90	126	P	P	18 15 44.1	-1.1
	0.3nm,0.7s,baz=315,slow=5.4,SNR=4.5						
YKA	Yellowknife Ar	83.00	4	P	P	18 15 50.0	-0.3
	0.1nm,0.4s,baz=346,slow=5.1,SNR=4.5						

*NEIC **07** 18:12:54.5±1.1, 56°.4S±0°.1×26°.5W±0°.2, h35^{km}±2^{km}, mb4.5/7, Error ellipse: s-maj=26.2km s-min=18.3km az=140.0*
*IDC **07** 18:13:01.3±0.7, 56°.34S×26°.56W, h100^{km}±6^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.8/22, mbtmp4.3/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/45, Error ellipse: s-maj=33.8km s-min=23.0km az=91.0*
ISC 07 18:13:01.0±0.7**, 56°.5S**±0°.1×**26°.6W**±0°.2**, h100**^{km}**, n22,** σ1s**18**/19**, mb4.3**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.30	158	P	P	18 16 46.1	+1.4
VNA3	Neumayer Olymp	16.51	161	P	Pn	18 16 46.9	+0.7
VNA3				S	Sn	18 19 36.5	-12
VNA2	Neumayer--Watz	16.70	158	P	Pn	18 16 49.0	+0.5
	baz=327,slow=16						
SNAA	Sanae	18.25	156	P	P	18 17 05.9	-0.4
SNAA	Sanae	18.25	156	P	P	18 17 04.0	-2.2
SNAA				IAmb	IAmb	18 17 14.1	
	comp=Z,61nm,1.4s						
PMSA	Palmer Station	19.88	230	LR	LR	18 23 53.1	
	comp=Z,183nm,19.3s,baz=149,slow=33						
BELA	Belgrano 2	21.70	185	P	P	18 17 41.8	-1.5
BELA				IAmb	IAmb	18 17 45.0	
	comp=Z,10nm,0.7s						
QSPA	South Pole Qui	33.80	180	P	P	18 19 33.4	+0.2
VNDA	Vanda	46.19	183	P	P	18 21 16.4	+1.4
	comp=Z,3.5nm,0.7s,baz=188,slow=7.5,SNR=13						
VNDA	Vanda	46.19	183	P	P	18 21 15.9	+0.9
VNDA				IAmb	IAmb	18 21 18.6	
	comp=Z,5.7nm,0.8s						
H10S2	ASCENSION HYDR	48.30	16	T	T	19 14 14.6	
	baz=31,slow=74,SNR=6.7						
H10S3	ASCENSION HYDR	48.30	16	T	T	19 14 14.3	
	baz=189,slow=74,SNR=7.5						
H10N3	ASCENSION HYDR	49.42	16	T	T	19 15 39.7	
	baz=265,slow=74,SNR=4.3						
H10N2	ASCENSION HYDR	49.43	16	T	T	19 15 40.3	
	baz=189,slow=74,SNR=4.5						
LPAZ	La Paz	50.87	305	P	P	18 21 52.5	+0.3
	comp=Z,1.3nm,0.6s,baz=200,slow=3.5,SNR=5.6						
LPAZ	La Paz	50.87	305	IAmb	IAmb	18 21 54.0	
	comp=Z,3.1nm,1.1s						
LSZ	Lusaka	58.23	68	P	P	18 22 44.7	-0.3
LSZ				IAmb	IAmb	18 22 45.4	
	comp=Z,4.3nm,0.9s						
TORD	Torodi Ar. Bea	73.25	29	P	P	18 24 21.0	-0.2
	comp=Z,2.0nm,0.5s,baz=199,slow=6.2,SNR=21						
TORD				pP	pP	18 24 47.5	+2.0
	comp=Z,2.2nm,0.8s,baz=198,slow=6.5,SNR=5.8						
ASAR	Alice Springs	98.51	162	P	Pdif	18 26 29.9	+1.6
	comp=Z,0.4nm,0.5s,baz=183,slow=4.9,SNR=15						
YKA	Yellowknife Ar	136.68	317	PKP	PKPdf	18 32 09.3	-0.6
	comp=Z,0.3nm,0.6s,baz=128,slow=2.2,SNR=5.3						
YKA				pPKP	pPKPdf	18 32 35.2	-1.4
	comp=Z,0.4nm,0.6s,baz=127,slow=2.2,SNR=2.8						
SONM	Songino Array	150.44	87	PKPbc	PKPbc	18 32 38.4	-1.6
	comp=Z,1.4nm,0.8s,baz=221,slow=2.9,SNR=9.0						
SONM				pPKPbc	pPKPbc	18 33 06.5	+0.5
	comp=Z,0.9nm,0.6s,baz=234,slow=3.6,SNR=4.3						
ILAR	Eielson Array	150.62	311	PKPbc	PKPbc	18 32 39.1	-0.5
	comp=Z,1.0nm,0.8s,baz=133,slow=1.6,SNR=7.9						
ILAR				pPKPbc	pPKPbc	18 33 06.6	+0.5
	comp=Z,1.4nm,0.8s,baz=107,slow=1.0,SNR=4.7						

*UCR **07** 18:30:04.5±2.0, 8°.30N×82°.83W, h13^{km}±4^{km}, MW4.3*
*UPA **07** 18:30:04.6±0.8, 8°.33N×82°.82W, h24^{km}±4^{km}, MW4.2*
ISC 07 18:30:04.4±1.0**, 8°.30N**±0°.04×**82°.80W**±0°.02**, h31**^{km}±6^{km}**, n43,** σ1s**35**/66**, 11C-8D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.12	218	⇑iP	Pb	18 30 09.3	-0.8
PTPM				eS	Sb	18 30 13.9	0.0
CCOL	Caracol de Cor	0.20	301	⇑iP	Pb	18 30 09.8	-1.0
LIMO3	Limones	0.21	197	⇑iP	Pb	18 30 10.6	-0.3
LIMO3				eS	Sb	18 30 14.7	-0.5
CDITO	Canoas	0.28	345	eP	Pb	18 30 10.9	-0.8
CDITO				eS	Sb	18 30 15.9	-0.7
DVD	David	0.37	69	⇑iP	Pb	18 30 12.8	-0.1
DVD				eS	Sb	18 30 18.9	+0.1
LOMA3	Las Lomas, Chi	0.42	73	⇓iP	Pb	18 30 13.6	-0.1
LOMA3				eS	Sb	18 30 20.4	+0.2
CHIR3	Chiriqui UPA,	0.47	79	⇓iP	Pb	18 30 14.4	-0.1
MLIR3	Monte Lirio, C	0.49	357	eP	Pb	18 30 14.6	-0.2
MLIR3				eS	Sb	18 30 21.0	-0.9
BCO2	Palmira	0.49	33	⇓iP	Pb	18 30 14.8	-0.2
BCO2				eS	Sb	18 30 22.5	+0.4
BRU2	Volcan	0.50	13	⇓iP	Pb	18 30 14.6	-0.5
BRU2				eS	Sn	18 30 23.0	-0.3
BRU2	Volcan	0.50	13	⇓iP	Pb	18 30 14.7	-0.3
BRU2				eS	Sn	18 30 22.6	-0.7
PIRO	Carate, Puerto	0.54	281	⇓eP	Pb	18 30 14.1	-1.5
PIRO	Carate, Puerto	0.54	281	i P	Pb	18 30 14.3	-1.3
PIRO				eS	Sn	18 30 24.9	+0.8
EDSV	San Vito	0.54	342	eP	Pb	18 30 15.1	-0.6
POTG	Potrero Grande	0.81	337	⇑eP	Pb	18 30 19.4	-0.7
POTG				eS	Sn	18 30 31.1	+0.3
RIOS	Rincon, Osa	0.81	299	eP	Pb	18 30 18.3	-1.7
RIOS				eS	Sb	18 30 29.9	-0.8
CHGR2	Aguacate	0.91	46	⇑iP	Pb	18 30 18.5	-3.1
CHGR2				eS	Sb	18 30 30.8	-2.7
EDPN	Palmar Norte	0.92	315	⇑eP	Pb	18 30 21.0	-0.9
EDPN				eS	Sn	18 30 33.7	+0.2
PLAN	Los Planes de	0.94	293	⇓iP	Pb	18 30 20.5	-1.8
PLAN				eS	Sn	18 30 35.1	+1.0
REME3	Remedios, Chir	0.96	94	eP	Pb	18 30 21.6	-1.0
EDBA	Buenos Aires	0.97	331	eP	Pb	18 30 21.7	-1.2
DRK0	Durika	1.05	335	eP	Pb	18 30 22.7	-1.5
DRK0	Durika	1.05	335	⇓iP	Pb	18 30 23.0	-1.2
DRK0				eS	Sb	18 30 36.1	-1.5
SRBA	San Rafael, Bu	1.08	329	⇑eP	Pn	18 30 22.9	-0.6
SRBA				eS	Sb	18 30 37.4	-1.0
CNI2	El Empalme, Bo	1.16	16	⇑iP	Pn	18 30 24.9	+0.4
CNI2				eS	Sb	18 30 38.4	-2.2
RGM0	Gandoca	1.29	9	eP	Pb	18 30 28.9	+0.7
RGM0				eS	Sb	18 30 48.4	+4.0
PEZE	Perez Zeledon,	1.38	321	eP	Pn	18 30 27.9	+0.3
PEZE				eS	Sb	18 30 46.0	-0.9
EDDO	Dominical	1.41	312	eP	Pn	18 30 29.1	+1.1
EDDO				eS	Sb	18 30 48.6	+0.8
CDM	Cerro de Muert	1.56	323	eP	Pn	18 30 30.4	-0.1
GMAL	Guarumal, Vera	1.64	109	eP	Pn	18 30 31.0	-0.2
RIMA	Rio Macho	1.79	324	eP	Pn	18 30 33.7	+0.2
LCR2	La Lucha 2	1.86	320	eP	Pn	18 30 34.7	+0.3
LCR2				eS	Sb	18 30 59.7	-1.1
BATAN	Batan	1.87	342	eP	Pb	18 30 37.1	-0.9
CVTR	Volcan Turrial	1.95	331	⇑iP	Pn	18 30 37.1	+1.3
CVTR				eS	Sb	18 31 03.0	-0.7
OCM	Ochomogo	1.95	324	eP	Pn	18 30 36.8	+1.1
HDC3	Heredia 3	2.13	323	eP	Pn	18 30 40.0	+2.0
HDC	Heredia	2.13	323	eP	Pn	18 30 40.0	+1.9
JACO	JACO, Garabito	2.28	306	eP	Pn	18 30 40.4	+0.4
CRPO	Crater poas	2.35	323	eP	Pn	18 30 43.3	+2.1
GUAI	GUAI	3.31	306	⇑iP	Pn	18 30 56.4	+2.2
ORTG	Ortega, Santa	3.33	308	eP	Pn	18 30 56.7	+2.2
LAPC	Finca la Perla	3.57	314	eP	Pn	18 31 00.8	+3.1
ACON	Acoyapa	4.33	328	eP	Pn	18 31 10.4	+2.3

*IDC **07** 18:31:26.6±0.8, 12°.15N×86°.77W, h0^{km}, mb4.0/10, mb1 4.3/12, mb1mx4.0/38, mbtmp4.0/12, ML3.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/70, Error ellipse: s-maj=34.6km s-min=14.6km az=56.0*
*INET **07** 18:31:29.3±0.4, 11°.53N×87°.39W, h16^{km}, MW4.3*
*NEIC **07** 18:31:29.7±1.9, 11°.59N±0°.06×87°.35W±0°.07, h28^{km}±3^{km}, mb4.6/77, Error ellipse: s-maj=11.3km s-min=6.4km az=51.0*
ISC 07 18:31:29.9±0.6**, 11°.53N**±0°.05×**87°.40W**±0°.07**, h37**^{km}**, n124,** σ1s**32**/124**, mb4.5**/46**, MS3.6**/7**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEL3	Telica 3	1.17	28	eP	Pn	18 31 49.8	+0.1
CNGN	Cerro Negro	1.18	35	Pn	Pn	18 31 49.8	-0.2
CNGN	Cerro Negro	1.18	35	eP	Pn	18 31 49.9	-0.1
CRIN	San Cristobal	1.21	16		Pn	18 31 50.5	+0.2
CRIN	San Cristobal	1.21	16	eP	Pn	18 31 50.6	+0.2
MOMN	Momotombo	1.21	44	eP	Pn	18 31 50.2	-0.2
APYN	Apoyeque	1.24	56	eP	Pn	18 31 49.9	-0.9
MGAN	Managua	1.28	61	eP	Pn	18 31 51.1	-0.2
HUEN		1.44	56	eP	Pn	18 31 53.4	-0.1
HUEN				eS	Sn	18 32 16.1	+4.9
CSGN	Cosiguina Volc	1.45	354	eP	Pn	18 31 53.3	-0.3
BOAB	BOACO BROADBAN	1.93	62	Pn	Pn	18 31 59.3	-0.8
HZTE	Horizontes, Gu	1.95	114	Pn	Pn	18 31 58.1	-2.4
MATN	Matagalpa	2.00	46	Pn	Pn	18 32 00.6	-0.6
MATN	Matagalpa	2.00	46	eP	Pn	18 32 01.2	-0.1
ACON	Acoyapa	2.22	78	Pn	Pn	18 32 02.4	-1.8
ORTG	Ortega, Santa	2.23	121	Pn	Pn	18 32 04.0	-0.4
TGUH	Tegucigalpa,Un	2.52	3		Pn	18 32 07.8	-0.6
TGUH	Tegucigalpa,Un	2.52	3	eP	Pn	18 32 09.0	+0.6
JTS	Las Juntas de	2.70	117	Pn	Pn	18 32 10.7	-0.1
	baz=0.9,slow=20,SNR=0.5						
JTS				Sn	Sn	18 32 42.2	0.0
	54nm,0.3s,baz=326,slow=20,SNR=5.8						
JTS				LR	LR	18 33 26.8	
	comp=Z,272nm,19.1s,baz=352,slow=47						
JACO	JACO, Garabito	3.27	124	Pn	Pn	18 32 18.5	-0.2
MTO3	Montecristo	3.43	326	Pn	Pn	18 32 20.2	-0.8
RIMA	Rio Macho	3.89	116	Pn	Pn	18 32 27.8	+0.5
PEZE	Perez Zeledon,	4.24	120	Pn	Pn	18 32 32.0	0.0
SRBA	San Rafael, Bu	4.58	120	Pn	Pn	18 32 37.5	+0.7
DRK0	Durika	4.67	118	Pn	Pn	18 32 38.1	+0.1
RIOS	Rincon, Osa	4.75	126	Pn	Pn	18 32 39.7	+0.7
CMIG	Matias Romero	9.12	308	Pn	Pn	18 33 40.2	+1.2
	0.9nm,0.3s,baz=162,slow=10,SNR=8.8						
SDV	Santo Domingo	16.71	97		Pn	18 35 20.9	-0.6
344A	Westbrook Farm	20.07	352	P	P	18 35 59.0	-1.0
833A	Chaparral WMA,	20.13	328	P	P	18 36 00.9	+0.1
833A				IAmb	IAmb	18 36 02.4	
	comp=Z,35nm,0.9s						
342A	Flagon Creek P	20.27	348	P	Pn	18 36 03.3	-1.1
152A	Waverly Hall	21.18	6	P	P	18 36 09.6	-2.6
152A				IAmb	IAmb	18 36 16.3	
	comp=Z,21nm,0.8s						
LRAL	Lakeview Retre	21.41	1	P	P	18 36 14.4	-0.1
LRAL				IAmb	IAmb	18 36 18.8	
	comp=Z,14nm,0.7s						
SJG	San Juan	21.55	70	LR	LR	18 44 44.1	
	comp=Z,73nm,18.9s,baz=278,slow=38						
Z51A	Franklin	21.78	5	P	P	18 36 19.0	+0.5
Z51A				IAmb	IAmb	18 36 22.9	
	comp=Z,13nm,0.6s						
GOGA	Godfrey	22.08	9	P	P	18 36 23.1	+1.4
Y49A	Blount Mountai	22.24	2	P	P	18 36 24.4	+0.9
Y49A				IAmb	IAmb	18 36 25.1	
	comp=Z,18nm,0.8s						
Y52A	Lilburn	22.44	7	P	P	18 36 26.4	+0.8
Y52A				IAmb	IAmb	18 36 27.9	
	comp=Z,22nm,0.8s						
X48A	Hartselle	22.82	1	P	P	18 36 29.8	+0.1
TXAR	Lajitas Array	23.32	322	P	P	18 36 35.8	+0.9
	comp=Z,3.7nm,0.7s,baz=134,slow=10,SNR=44						
TXAR				PcP	PcP	18 40 24.8	+3.4
	comp=Z,0.5nm,0.8s,baz=113,slow=3.3,SNR=3.8						
TXAR	Lajitas Array	23.32	322	P	P	18 36 35.4	+0.5
TX31	Lajitas Ar. Si	23.32	322	P	P	18 36 35.5	+0.7
TX31				IAmb	IAmb	18 36 45.6	
	comp=Z,21nm,0.8s						
TX32	Lajitas Array	23.32	322	P	P	18 36 35.4	+0.5
MIAR	Mount Ida	23.59	347	P	P	18 36 36.7	-0.6
MIAR				IAmb	IAmb	18 36 39.1	
	comp=Z,12nm,0.7s						
SWET	Sewanee	23.62	3	P	P	18 36 38.1	+0.5
W50A	Signal Mountai	23.64	4	P	P	18 36 38.1	+0.3
W50A				IAmb	IAmb	18 36 39.3	
	comp=Z,17nm,0.9s						
W52A	Murphy	23.67	7	P	P	18 36 38.3	+0.2
W52A				IAmb	IAmb	18 36 40.1	
	comp=Z,14nm,0.7s						
BG3	Lake Jocassee	23.71	9	P	P	18 36 38.9	+0.5
BG3				IAmb	IAmb	18 36 40.1	
	comp=Z,12nm,0.7s						
PAULI	Pauline	23.74	11	P	P	18 36 38.6	0.0
PAULI				IAmb	IAmb	18 37 00.6	
	comp=Z,21nm,1.3s						
BIRD	Birdtown, Kers	23.86	14	P	P	18 36 40.6	+0.8
CPCT	Cooper Cave	23.96	6	P	P	18 36 40.7	-0.1
WHAR	Wooly Hollow	24.07	350	P	P	18 36 40.8	-1.0
X37A	Clayton	24.08	344	P	P	18 36 42.7	+0.8
X37A				IAmb	IAmb	18 36 44.5	
	comp=Z,24nm,0.8s						
V48A	Smith Brothers	24.11	1	P	P	18 36 42.0	-0.1
TKL	Tuckaleechee C	24.25	7	P	P	18 36 39.2	-4.2
	comp=Z,11nm,0.8s,baz=224,slow=4.3,SNR=9.0						
TKL				LR	LR	18 45 27.6	
	comp=Z,77nm,18.7s,baz=56,slow=36						
TKL	Tuckaleechee C	24.25	7	P	P	18 36 39.4	-4.0
TKL				IAmb	IAmb	18 36 43.4	
	comp=Z,9.9nm,0.7s						
W39A	Magazine	24.26	347	P	P	18 36 43.5	0.0
V51A	Loudon	24.32	6	P	P	18 36 44.3	+0.2
V51A				IAmb	IAmb	18 37 03.2	
	comp=Z,26nm,1.4s						
CLTN	Cedars of Leba	24.47	2	P	P	18 36 45.9	+0.4
FCAR	Ozark Folk Cen	24.63	351	P	P	18 36 46.1	-0.8
FCAR				IAmb	IAmb	18 36 47.2	
	comp=Z,12nm,0.6s						
LCAR	Lake Charles	24.67	353	P	P	18 36 46.2	-1.0
LCAR				IAmb	IAmb	18 36 47.1	
	comp=Z,10.0nm,0.6s						
X34A	Smith Ranch, M	24.86	339	P	P	18 36 49.9	+0.9
U49A	Red Boiling Sp	24.92	3	P	P	18 36 48.8	-0.7
U49A				IAmb	IAmb	18 36 51.5	
	comp=Z,10nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
W35A	Tecumseh	25.04	341	P	P	18 36 51.9	+1.2
W35A				IAmb	IAmb	18 36 53.3	
	comp=Z,9.2nm,0.7s						
U40A	Yellville	25.20	350	P	P	18 36 51.3	-0.9
U40A				IAmb	IAmb	18 36 52.7	
	comp=Z,11nm,0.7s						
FNO	Franklin	25.31	341	P	P	18 36 53.7	+0.6
HHAR	Hobbs	25.34	348	P	P	18 36 52.1	-1.3
T47A	Sharon Grove	25.35	1	P	P	18 36 52.7	-0.7
T47A				IAmb	IAmb	18 36 53.6	
	comp=Z,11nm,0.8s						
TUL1	Leonard	25.43	344	P	P	18 36 54.9	+0.7
MGMO	Mountain Grove	25.89	351	P	P	18 36 57.4	-1.0
MNTX	Cornudas Mount	26.05	323	P	P	18 36 57.9	-1.9
S51A	Beattyville	26.22	7	P	P	18 37 01.2	-0.1
S51A				IAmb	IAmb	18 37 02.7	
	comp=Z,12nm,0.7s						
MSTX	Muleshoe	26.39	330	P	P	18 37 02.7	-0.3
MSTX				IAmb	IAmb	18 37 14.1	
	comp=Z,12nm,0.8s						
S39A	Bolivar	26.59	349	P	P	18 37 03.5	-1.1
WCI	Wyandotte Cave	26.61	2	P	P	18 37 03.4	-1.4
WCI				IAmb	IAmb	18 37 04.9	
	comp=Z,9.6nm,0.8s						
CCM	Cathedral Cave	26.64	353	P	P	18 37 04.0	-1.0
R40A	Maddies Statio	27.00	352	P	P	18 37 06.7	-1.6
Q44A	Meyer Farm, Va	27.30	357	P	P	18 37 09.5	-1.5
Q44A				IAmb	IAmb	18 37 11.0	
	comp=Z,13nm,0.8s						
Q51A	Peebles	27.62	7	P	P	18 37 13.5	-0.4
P48A	Milroy	27.87	3	P	P	18 37 15.0	-1.2
P48A				IAmb	IAmb	18 37 16.1	
	comp=Z,6.7nm,0.7s						
Q54A	Coxs Mills	27.96	11	P	P	18 37 16.6	-0.3
P53A	Whipple	28.35	10	P	P	18 37 20.3	-0.1
P53A				IAmb	IAmb	18 37 21.7	
	comp=Z,8.8nm,0.7s						
P52A	Corning	28.38	9	P	P	18 37 20.0	-0.6
P38A	Dawn	28.50	350	P	P	18 37 20.4	-1.4
P38A				IAmb	IAmb	18 37 22.2	
	comp=Z,8.5nm,0.6s						
N59A	State Game Lan	31.01	17	P	P	18 37 45.0	+1.0
N59A				IAmb	IAmb	18 37 48.3	
	comp=Z,8.0nm,0.8s						
M57A	Sunshine Farm,	31.03	15	P	P	18 37 45.1	+1.0
M57A				IAmb	IAmb	18 37 45.5	
	comp=Z,7.4nm,0.7s						
L59A	Walton	32.40	17	P	P	18 37 56.0	-0.2
J56A	Wolcott	32.92	14	P	P	18 38 00.5	-0.2
ECSD	EROS Data Cent	33.06	348	P	P	18 38 00.9	-1.1
ECSD				IAmb	IAmb	18 38 01.0	
	comp=Z,7.0nm,1.1s						
J57A	Williamstown	33.27	15	P	P	18 38 03.3	-0.4
J58A	Remsen	33.41	16	P	P	18 38 04.9	0.0
SADO	Sadowa	33.87	11	LR	LR	18 51 00.0	
	comp=Z,40nm,18.3s,baz=164,slow=35						
SADO	Sadowa	33.87	11	P	P	18 38 08.4	-0.6
SADO				IAmb	IAmb	18 38 08.5	
	comp=Z,7.1nm,0.7s						
SPMN	Marine on St.	33.90	353	P	P	18 38 07.4	-1.8
SPMN				IAmb	IAmb	18 38 07.9	
	comp=Z,8.6nm,0.8s						
COWI	Conover	34.48	358	P	P	18 38 12.5	-1.8
COWI				IAmb	IAmb	18 38 13.0	
	comp=Z,9.7nm,0.8s						
F36A	Milaca	34.61	352	P	P	18 38 13.3	-2.0
F36A				IAmb	IAmb	18 38 14.1	
	comp=Z,5.7nm,0.8s						
E43A	Lone Tree Farm	34.73	0	P	P	18 38 15.0	-1.4
E43A				IAmb	IAmb	18 38 15.6	
	comp=Z,8.8nm,0.8s						
LONY	Lake Ozonia	34.77	16	P	P	18 38 15.5	-1.2
F33A	5 Mile Ranch,	35.02	349	P	P	18 38 16.9	-2.1
MNTQ	Montreal, Queb	35.84	17	P	P	18 38 25.1	-0.9
PDAR	Pinedale Array	36.60	332	P	P	18 38 32.8	0.0
	comp=Z,0.9nm,0.6s,baz=125,slow=9.4,SNR=4.6						
PDAR				PcP	PcP	18 40 56.9	+1.3
	comp=Z,0.6nm,0.8s,baz=121,slow=5.7,SNR=4.2						
AGMN	Agassiz Nation	37.33	351	P	P	18 38 36.9	-1.7
AGMN				IAmb	IAmb	18 38 38.8	
	comp=Z,4.3nm,0.7s						
MDND	Maddock	37.62	347	P	P	18 38 40.9	-0.2
REDW	Red Top Meadow	37.66	332	P	P	18 38 41.6	-0.2
REDW				IAmb	IAmb	18 38 53.3	
	comp=Z,7.7nm,0.8s						
TPAW	Teton Pass	37.81	332	P	P	18 38 43.1	0.0
MOOW	Moose Ponds	37.91	332	P	P	18 38 44.2	+0.3
NVAR	Mina Array Bea	38.43	320	P	P	18 38 50.7	+2.4
	comp=Z,0.5nm,0.6s,baz=118,slow=9.3,SNR=3.8						
NVAR				PcP	PcP	18 41 03.5	+2.3
	comp=Z,1.2nm,0.7s,baz=124,slow=4.5,SNR=7.8						
ULM	Lac du Bonnet	39.23	351	P	P	18 38 52.0	-2.6
	comp=Z,3.9nm,0.6s,baz=160,slow=7.1,SNR=7.3						
ULM	Lac du Bonnet	39.23	351	P	P	18 38 52.2	-2.4
MCMT	McKenzie Canyo	39.71	331	P	P	18 38 59.8	+0.9
SCHQ	Schefferville	46.14	16	P	P	18 39 47.8	-2.8
	comp=Z,2.2nm,0.4s,baz=219,slow=5.6,SNR=17						
SCHQ				LR	LR	18 59 28.3	
	comp=Z,76nm,19.0s,baz=120,slow=37						
BDFB	Brasilia	47.42	124	P	P	18 40 01.1	-0.2
	comp=Z,7.9nm,0.7s,baz=286,slow=7.9,SNR=11						
BDFB	Brasilia	47.42	124	P	P	18 40 01.2	0.0
PLCA	Paso Flores	54.29	164	P	P	18 40 58.8	+6.3
	comp=Z,1.3nm,0.9s,baz=355,slow=6.7,SNR=3.5						
YKA	Yellowknife Ar	54.51	345	P	P	18 40 52.4	-1.3
	comp=Z,0.9nm,0.7s,baz=142,slow=7.4,SNR=13						
YKA				PcP	PcP	18 41 56.8	+0.1
	comp=Z,0.3nm,0.5s,baz=146,slow=4.0,SNR=5.8						
SFJD	Kangerlussuaq	60.58	16	LR	LR	19 08 42.5	
	comp=Z,67nm,18.2s,baz=174,slow=37						
ILAR	Eielson Array	66.88	336	P	P	18 42 17.7	-0.2
	comp=Z,0.2nm,0.6s,baz=139,slow=4.6,SNR=2.7						
ILAR				LR	LR	19 16 14.5	
	comp=Z,32nm,18.2s,baz=182,slow=40						
VRAC	Vranov	90.28	39	LR	LR	19 20 19.6	
	comp=Z,31nm,18.6s,baz=266,slow=33						
MKAR	Makanchi Array	121.21	8	PKP	PKPdf	18 50 18.5	-0.6
	comp=Z,0.2nm,0.4s,baz=310,slow=2.9,SNR=9.5						
ASAR	Alice Springs	138.97	247	PKhKP	PKPpre	18 50 52.0	
	comp=Z,0.2nm,0.5s,baz=101,slow=3.4,SNR=2.6						
ASAR				PKP	PKiKP	18 50 58.8	+3.2
	comp=Z,0.6nm,0.8s,baz=109,slow=2.6,SNR=7.1						
WRA	Warramunga Arr	139.06	253	PKhKP	PKPpre	18 50 51.8	
	comp=Z,1.1nm,0.8s,baz=93,slow=2.4,SNR=6.2						
WRA				PKP	PKiKP	18 50 58.8	+3.0
	comp=Z,1.1nm,0.8s,baz=92,slow=2.2,SNR=6.0						
PZH	PanZhiHua	141.16	347	PKP	PKPdf	18 50 56.3	-1.1
CMAR	Chiang Mai Arr	149.55	348	PKPbc	PKiKP	18 51 17.4	-0.1
	comp=Z,3.5nm,0.7s,baz=343,slow=3.7,SNR=28						
CMAR	Chiang Mai Arr	149.55	348		PKiKP	18 51 16.7	-0.7

*IDC **07** 18:46:41.9±1.7, 34.°61N×24.°45E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.5/4, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.4/72, Error ellipse: s-maj=83.3km s-min=28.3km az=134.0*

*THE **07** 18:46:44.0, 35.°37N×23.°57E, h14km±1km, ML3.1/9, Error ellipse: s-maj=1.1km s-min=0.6km az=190.0*

*ATH **07** 18:46:44.2, 35.°38N×23.°58E, h14km±3km, ML3.2/5, Error ellipse: s-maj=3.7km s-min=0.9km az=43.0*

ISC 07 18:46:44.0±0.9**, 35.°37N**±0.°03×**23.°60E**±0.°03**, h13**km±6km**, n25, σ0.°71**/37**, mb3.4**/3**, MS2.9**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.15	154	P	Pg	18 46 47.3	-0.4
KNDR				S	Sg	18 46 50.0	-0.2
	9µm,0.3s						
RODP	Rodopos	0.23	34	P	Pg	18 46 49.5	+0.6
RODP				S	Sb	18 46 53.6	-0.5
	4µm,0.3s						
IMMV	Iera Moni Meta	0.32	74	P	Pg	18 46 50.9	+0.2
IMMV				S	Sb	18 46 56.6	-0.2
IMMV				AML	AML	18 46 57.2	
	comp=N,8203µm,0.2s						
IMMV				AML	AML	18 46 58.0	
	comp=E,12018µm,0.3s						
IMMV	Iera Moni Meta	0.32	74	P	Pg	18 46 50.8	+0.2
IMMV				S	Sb	18 46 56.6	-0.2
	comp=E,5µm,0.2s						
VAM	Vamos	0.49	86	P	Pg	18 46 53.7	+0.1
VAM				S	Sb	18 47 01.5	-0.1
VAM				AML	AML	18 47 04.1	
	comp=N,16674µm,0.2s						
VAM				AML	AML	18 47 04.6	
	comp=E,9467µm,0.2s						
VAM	Vamos	0.49	86	P	Pg	18 46 53.8	+0.1
VAM				S	Sb	18 47 01.5	-0.1
	comp=E,7µm,0.2s						
ANKY	Antikythira Is	0.55	334	P	Pg	18 46 54.8	-0.1
ANKY				S	Sg	18 47 02.3	+0.1
ANKY				AML	AML	18 47 03.7	
	comp=N,5792µm,0.3s						
ANKY				AML	AML	18 47 06.9	
	comp=E,3159µm,0.5s						
ANKY	Antikythira Is	0.55	334	P	Pg	18 46 55.0	+0.1
ANKY				S	Sg	18 47 02.3	+0.1
	comp=E,2µm,0.4s						
GVD	Gavdhos	0.66	143	P	Pg	18 46 57.1	+0.2
GVD				S	Sb	18 47 07.3	+0.7
GVD				AML	AML	18 47 09.8	
	comp=N,8173µm,0.3s						
GVD				AML	AML	18 47 10.0	
	comp=E,5312µm,0.3s						
GVD	Gavdhos	0.66	143	P	Pg	18 46 57.2	+0.2
GVD				S	Sb	18 47 07.6	+1.0
	comp=E,3µm,0.3s						
PRNS	Prines Rethymn	0.73	90	P	Pg	18 46 57.0	-1.3
PRNS				S	Sg	18 47 07.7	-0.2
	comp=E,772nm,0.3s						
KTHA	Kythira Island	0.99	334	P	Pb	18 47 02.6	-0.4
KTHA				S	Sb	18 47 15.4	-0.6
KTHR	Kythira	1.01	331	P	Pb	18 47 02.9	-0.6
KTHR				S	Sb	18 47 15.9	-0.8
	comp=E,968nm,0.4s						
IDI	Anoyia	1.05	94	LR	LR	18 47 01.1	
	comp=E,16nm,19.8s,baz=28,slow=25						
IDI	Anoyia	1.05	94	P	Pn	18 47 04.6	0.0
IDI				S	Sn	18 47 19.2	0.0
IDI				AML	AML	18 47 24.0	
	comp=E,1406µm,0.3s						
IDI				AML	AML	18 47 26.7	
	comp=N,1322µm,0.5s						
IDI	Anoyia	1.05	94	P	Pb	18 47 03.4	-0.8
IDI				S	Sg	18 47 18.8	+0.6
	comp=N,752nm,0.4s						
VLI	Veliai	1.45	338	P	Pb	18 47 11.0	+0.1
MHLO	Agia Marina, M	1.47	26	P	Pb	18 47 11.7	+0.5
NPS	Neapolis	1.65	93	P	Pg	18 47 15.3	-0.3
AKASG	Malin Array Be	15.86	13	Pn	P	18 50 33.3	+2.7
	comp=N,0.3nm,0.3s,baz=208,slow=9.7,SNR=2.2						
HFS	Hagfors	25.60	349	LR	LR	19 05 37.2	
	comp=N,34nm,19.8s,baz=282,slow=43						
TORD	Torodi Ar. Bea	29.67	227	P	P	18 52 49.6	-0.1
	comp=N,0.4nm,0.6s,baz=30,slow=7.7,SNR=2.7						
MKAR	Makanchi Array	44.72	57	P	P	18 54 55.8	-1.1
	comp=N,0.2nm,0.4s,baz=264,slow=8.4,SNR=5.1						
ZALV	Zalesovo Beam	45.78	46	P	P	18 55 04.4	-0.7
	comp=N,0.5nm,0.4s,baz=258,slow=7.2,SNR=2.2						
ZALV				LR	LR	19 17 29.2	
	comp=N,10nm,18.7s,baz=244,slow=40						
PETK	Petropavlovsk-	83.28	26	LR	LR	19 40 10.3	
	comp=N,36nm,18.1s,baz=61,slow=38						

*DJA **07** 18:51:00.2±0.3, 7°S±3°×12°6E±°, h503km±4km, M4.0/24, mB4.4/7, mb4.1/24, MLv4.3/20, Mw(mB)3.5/7*

*NEIC **07** 18:51:00.8±1.9, 7.°1S±0.°1×125.°6E±0.°2, h522km±11km, mb4.2/24, Error ellipse: s-maj=24.4km s-min=14.2km az=69.0*

*IDC **07** 18:51:00.6±1.0, 6.°97S×125.°72E, h517km±16km, mb3.3/9, mb1 3.5/15, mb1mx3.2/43, mbtmp4.3/15, Error ellipse: s-maj=23.1km s-min=12.2km az=66.0*

ISC 07 18:50:59.8±0.5**, 7.°03S**±0.°06×**125.°67E**±0.°08**, h511**km**, n70, σ1.°18**/74**, mb4.0**/19**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBSI	Bau Bau	3.44	296	P	P	18 52 16.2	+1.4
BATI	Baumata	3.73	212	P	P	18 52 17.9	+1.0
	30nm,0.3s,baz=31,slow=0.7,SNR=80						
BATI				S	S	18 53 16.9	-2.8
	37nm,0.3s,baz=8.9,slow=6.5,SNR=8.9						
BATI	Baumata	3.73	212	P	P	18 52 17.6	+0.6
BATI				S	S	18 53 17.7	-2.0
MMRI	Maumere	3.76	245	P	P	18 52 16.6	-0.6
MMRI	Maumere	3.76	245	P	P	18 52 15.5	-1.7
MMRI				S	S	18 53 19.6	-0.5
AAI	Ambon	4.16	37	P	P	18 52 21.1	+0.7
SANI	Sanana	4.96	4	P	P	18 52 26.9	-0.3
	0.1nm31nm,0.8s						
BSSI	Bau Bau, Buton	5.22	279	P	P	18 52 31.1	+1.6
	0.4nm1µm84nm,0.6s						
BKSI	Bulukumba	5.78	287	P	P	18 52 36.0	+1.4
	0.3nm848nm99nm,0.7s						
BASI	Baing, Sumba	5.95	237	P	P	18 52 36.2	0.0
	0.6nm858nm46nm,0.6s						
BNSI	Bone	6.12	295	P	P	18 52 40.0	+2.1
	0.2nm63nm,0.8s						
KAPI	Kappang	6.22	288	P	P	18 52 40.9	+2.1
	3.3nm,0.3s,baz=153,slow=5.6,SNR=26						
KAPI	Kappang	6.22	288	P	P	18 52 40.4	+1.6
LBMI	Labuha	6.61	16	P	P	18 52 44.2	+1.6
	0.1nm11nm,1.1s						
LUWI	Luwuk	6.62	334	P	P	18 52 44.1	+1.4
LUWI	Luwuk	6.62	334	P	P	18 52 44.1	+1.4
	0.2nm839nm62nm,0.9s						
SPSI	Sidrap Palu	6.62	297	P	P	18 52 43.7	+1.0
	0.1nm34nm,0.7s						
WBSI	Waikabubak, Su	6.74	247	P	P	18 52 42.0	-1.9
	0.6nm49nm,0.6s						
TTSI	Tana Toraja	7.05	304	P	P	18 52 49.5	+2.5
	0.2nm43nm,0.6s						
APSI	Ampana	7.29	326	P	P	18 52 50.9	+1.6
	0.2nm424nm41nm,0.8s						
KMSI	Cibinong	7.74	347	P	P	18 52 55.3	+1.3
	0.4nm94nm,0.6s						
TNTI	Ternate	7.93	12	P	P	18 52 54.5	-1.4
	21nm,1.0s						
PLAI	Plampang	8.02	257	P	P	18 52 55.2	-1.6
	10nm,0.7s						
GTOI	Gorontalo	8.07	341	P	P	18 52 59.8	+2.5
	21nm,0.9s						
SIJI	Sorong	8.28	43	P	P	18 53 00.3	+0.8
	1.9nm,0.3s,baz=334,slow=15,SNR=7.6						
MRSI	Marisa	8.34	333	P	P	18 53 01.1	+1.0
	689nm63nm,0.7s						
KNRA	Kununurra	9.11	161	P	P	18 53 09.1	+1.1
MPSI	Mapaga	9.32	322	P	P	18 53 11.0	+0.8
	13nm,0.9s						
TOLI2	Tolitoli	9.45	329	P	P	18 53 12.1	+0.5
FITZ	Fitzroy Crossi	11.00	180	P	P	18 53 28.8	+0.9
	1.6nm,0.3s,baz=12,slow=10.0,SNR=53						
FITZ				S	S	18 55 27.9	-1.8
	0.6nm,0.3s,baz=188,slow=16,SNR=13						
FITZ	Fitzroy Crossi	11.00	180	P	P	18 53 28.6	+0.8
WB0	Warramunga Arr	15.23	147	P	P	18 54 11.9	-0.4
WRAB	Tennant Creek	15.34	148	P	P	18 54 13.3	-0.2
WRAB				IAmb	IAmb	18 54 16.6	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	15.34	148	P	P	18 54 13.2	-0.4
	comp=Z,1.9nm,0.3s,baz=338,slow=8.7,SNR=71						
WRA	Warramunga Arr	15.34	148	P	P	18 54 12.3	-1.3
WB2	Warramunga Arr	15.35	148	P	P	18 54 13.1	-0.5
WR0	Warramunga Arr	15.46	147	P	P	18 54 14.7	-0.1
KSM	Kuching	17.51	298	P	P	18 54 33.6	-1.7
ASAR	Alice Springs	18.33	155	P	P	18 54 43.7	+0.9
	comp=Z,2.7nm,0.3s,baz=342,slow=13,SNR=176						
ASAR	Alice Springs	18.33	155		P	18 54 43.5	+0.7
COEN	Coen	18.52	113		P	18 54 45.2	+0.6
COEN				IAmb	IAmb	18 54 46.4	
	comp=Z,11nm,1.1s						
FORT	Forrest	23.73	175	P	P	18 55 32.1	+0.7
BBOO	Buckleboo	27.41	161	P	P	18 56 04.6	+0.7
BBOO				IAmb	IAmb	18 56 14.4	
	comp=Z,15nm,1.2s						
STKA	Stephens Creek	28.84	151	P	P	18 56 17.7	+1.3
	comp=Z,9.2nm,0.9s,baz=330,slow=9.1,SNR=22						
STKA	Stephens Creek	28.84	151	P	P	18 56 16.9	+0.4
TPUB	Ta-pu	30.55	351	P	P	18 56 30.2	-1.1
ARMA	Armidale	33.67	137	P	P	18 56 59.3	+1.2
ARMA				IAmb	IAmb	18 57 27.4	
	comp=Z,5.5nm,1.1s						
CAN	Canberra	35.38	146	P	P	18 57 13.8	+1.5
CAN				IAmb	IAmb	18 57 15.4	
	comp=Z,6.9nm,0.7s						
CMAR	Chiang Mai Arr	36.56	314	P	P	18 57 22.8	+0.5
	comp=Z,0.7nm,0.9s,baz=142,slow=6.1,SNR=5.2						
KSRS	Korea Array	44.30	3	P	P	18 58 24.6	+0.7
	comp=Z,0.9nm,0.7s,baz=169,slow=10,SNR=4.3						
MJAR	Matsushiro Arr	44.91	14	P	P	18 58 26.9	-1.6
	comp=Z,3.3nm,0.7s,baz=192,slow=7.9,SNR=6.0						
USRK	Ussuriysk Ar.	51.31	6	P	P	18 59 16.2	0.0
	comp=Z,2.8nm,0.6s,baz=187,slow=7.3,SNR=3.8						
ULN	Ulaanbaatar	57.08	345	P	P	18 59 57.7	+0.5
SONM	Songino Array	57.22	345	P	P	18 59 57.6	-0.5
	comp=Z,1.0nm,0.6s,baz=159,slow=8.6,SNR=6.5						
SONM	Songino Array	57.22	345	P	P	18 59 57.9	-0.1
PETK	Petropavlovsk-	65.78	21	P	P	19 00 53.7	-0.1
	comp=Z,6.7nm,1.0s,baz=225,slow=4.0,SNR=7.3						
MK31	Makanchi Array	65.97	329	P	P	19 00 55.2	+0.1
MKAR	Makanchi Array	65.97	329	P	P	19 00 55.4	+0.2
	comp=Z,1.2nm,0.5s,baz=123,slow=7.1,SNR=37						
MKAR	Makanchi Array	65.97	329	P	P	19 00 54.8	-0.3
MAKZ	Makanchi	66.14	329	P	P	19 00 55.4	-0.8
MAKZ				IAmb	IAmb	19 00 57.2	
	comp=Z,3.3nm,1.4s						
AAK	Ala-Archa	67.85	322	P	P	19 01 08.2	+1.2
YAK	Yakutsk	68.93	2	P	P	19 01 13.1	+0.2
YAK				IAmb	IAmb	19 01 13.7	
	comp=Z,8.4nm,0.8s						
MA2	Magadan	69.34	13	P	P	19 01 16.4	+0.9
MA2				IAmb	IAmb	19 01 21.4	
	comp=Z,5.2nm,1.1s						
ZAA0	Zalesovo Array	69.78	336		P	19 01 17.7	-0.5
ZAA0				IAmb	IAmb	19 01 18.1	
	comp=Z,4.1nm,0.5s						
ZALV	Zalesovo Beam	69.78	336	P	P	19 01 17.7	-0.5
	comp=Z,3.9nm,0.4s,baz=134,slow=5.5,SNR=18						
ZALV	Zalesovo Beam	69.78	336		P	19 01 17.3	-0.9
KURK	Kurchatov	70.36	330	P	P	19 01 22.0	+0.2
KURK				IAmb	IAmb	19 01 22.8	
	comp=Z,3.7nm,0.9s						
BRVK	Borovoye	75.92	329	P	P	19 01 53.9	+0.3
BRVK				IAmb	IAmb	19 01 55.1	
	comp=Z,6.6nm,1.4s						
TIXI	Tiksi	78.55	1		P	19 02 07.2	-0.3
TIXI				IAmb	IAmb	19 02 08.0	
	comp=Z,4.1nm,0.5s						
ABKAR	Akbulak array	79.90	323	P	P	19 02 14.7	-0.4

*IDC **07** 18:52:03.3±1.3, 8.°69S×113.°12E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.4/40, mbtmp3.8/6, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/72, Error ellipse: s-maj=69.8km s-min=20.1km az=44.0*

*DJA **07** 18:52:07.8±0.2, 9°S±2°×11°3E±°, h10km, M4.3/25, mB5.2/5, mb4.4/7, MLv4.1/25, Mw(mB)4.5/5*

ISC 07 18:52:06.5±3.4**, 9.°41S**±0.°07×**112.°51E**±0.°04**, h16**km±23km**, n33, σ1.°82**/43**, mb3.7**/5**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.46	39	P	Pn	18 52 33.1	+0.9
GMJI				S	Sb	18 52 50.5	-1.1
PWJI	Pagerwojo	1.54	333	P	Pn	18 52 34.1	+0.7
PWJI				S	Sn	18 52 52.4	-0.7
PCJI	Pacitan	1.79	312	P	Pn	18 52 37.3	+0.6
PCJI				S	Sn	18 52 58.5	-0.6
JAGI	Jajag, Banyuwa	1.87	60	P	Pn	18 52 38.6	+0.7
JAGI				S	Sn	18 53 00.5	-0.7
BLJI	Banyuglugur	1.97	33	P	Pb	18 52 41.7	-0.3
BLJI				S	Sn	18 53 04.6	+0.9
ABJI	Asem Bagus	2.34	47	P	Pb	18 52 47.7	-0.6
ABJI				S	Sb	18 53 16.0	-1.0
UGM	Wanagama	2.46	307	P	Pn	18 52 47.4	+1.3
UGM				S	Sn	18 53 16.6	+0.7
GRJI	Gresik	2.48	359	P	Pn	18 52 48.7	+2.5
GRJI				S	Sb	18 53 18.4	-2.6
TBJI	Tambak Boyo	2.66	346	P	Pn	18 52 50.9	+2.2
TBJI				S	Sn	18 53 22.4	+1.8
IGBI	Denpasar	2.67	78	P	Pn	18 52 51.6	+2.8
IGBI				S	Sn	18 53 22.2	+1.3
YOGI	Yogyakarta	2.70	306	P	Pn	18 52 50.9	+1.6
YOGI				S	Sn	18 53 22.2	+0.4
KMMI	Kalianget	2.75	32	P	Pn	18 52 51.2	+1.2
KMMI				S	Sn	18 53 23.8	+0.9
DNP	Denpasar	2.76	75	P	Pn	18 52 52.4	+2.2
DNP	Denpasar	2.76	75	P	Pn	18 52 51.4	+1.2
SRBI	Singaraja	2.98	64	P	Pn	18 52 55.3	+2.2
SRBI				S	Sn	18 53 30.1	+1.6
SMRI	Semarang	3.11	319	P	Pn	18 52 57.0	+2.0
UWJI	Ujung Watu	3.35	332	P	Pn	18 52 57.0	-1.2
BWJI	Bawean	3.54	2	P	Pn	18 53 03.2	+2.4
KPJI	Karang Pucung	4.10	300	P	Pn	18 53 09.8	+1.3
CMJI	Cimerak	4.33	292	P	Pn	18 53 12.7	+1.0
PLAI	Plampang	5.23	84	P	Pn	18 53 28.2	+4.0
	0.5nm432nm24nm,0.7s						
LEM	Lembang	5.48	298	Pn	Pn	18 53 31.5	+3.8
	4.4nm,0.3s,baz=78,slow=13,SNR=5.6						
LEM	Lembang	5.48	298	P	Pn	18 53 30.0	+2.3
	0.1nm19nm,0.8s						
CNJI	Cibinong	5.72	291	P	Pn	18 53 32.8	+2.0
	0.3nm2µm57nm,1.4s						
DBJI	Dramaga	6.37	296	P	Pn	18 53 39.5	-0.3
	0.2nm18nm,0.6s						
CGJI	Cibinong	7.30	292	P	Pn	18 53 54.9	+2.3
KSI	Kapahiang	11.39	299	P	Pn	18 54 51.2	+2.5
WRA	Warramunga Arr	23.54	119	P	P	18 57 14.6	-1.7
	1.7nm,0.8s,baz=294,slow=12,SNR=5.2						
ASAR	Alice Springs	24.88	127	P	P	18 57 27.6	-1.2
	0.6nm,0.5s,baz=302,slow=8.2,SNR=5.4						
STKA	Stephens Creek	35.02	134	P	P	18 58 57.8	-0.8
	1.6nm,0.6s,baz=305,slow=9.2,SNR=3.2						
KLR	Kul'dur	60.79	14	LR	LR	19 28 29.1	
	comp=Z,24nm,20.9s,baz=324,slow=36						
MKAR	Makanchi Array	62.11	337	P	P	19 02 23.1	-3.6
	0.2nm,0.4s,baz=144,slow=7.2,SNR=5.2						
ZALV	Zalesovo Beam	67.33	343	P	P	19 02 56.5	-4.0
	0.4nm,0.4s,baz=156,slow=7.6,SNR=2.5						

NOU 07 19:15:46.8, 15.°76S×167.°07E, h12km**, MLv4.4**/10**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.34	22	P	Pb	19 15 54.8	+0.1
KOUNC	Koumac, New Ca	5.45	209	P	Pn	19 17 07.4	-0.5
YATNC	Mamie plateau,	6.27	182	P	Pn	19 17 19.4	+0.2
DZM	Mont Dzumac	6.30	185	P	Pn	19 17 19.2	-0.5
NOUC	Port Laguerre	6.35	186	P	Pn	19 17 19.8	-0.5
OUENC	Ouen Island, N	6.63	182	P	Pn	19 17 25.2	+1.1

*IDC **07** 19:30:51.5±0.7, 55.°70S×26.°88W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/23, mbtmp4.2/6, ML3.6/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/46, Error ellipse: s-maj=34.3km s-min=19.6km az=75.0*

*NEIC **07** 19:30:57.3±2.1, 55.°82S±0.°08×27.°2W±0.°3, h37km±7km, mb4.6/10, Error ellipse: s-maj=23.3km s-min=3.1km az=60.0*

ISC 07 19:30:56.9±0.7**, 55.°7S**±0.°1×**27.°2W**±0.°1**, h35**km**, n39, σ1.°14**/24**, mb4.5**/7**, MS3.4**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.53	281	Pn	Pn	19 32 16.4	-0.3
VNA1	Neumayer--Stat	17.09	158	P	P	19 34 55.2	+1.1
VNA3	Neumayer Olymp	17.29	161	P	P	19 34 59.0	+2.7
VNA2	Neumayer--Watz	17.48	158	P	P	19 34 59.5	+1.0
	baz=322,slow=14						
SNAA	Sanae	19.03	156	P	Pn	19 35 15.8	-0.7
SNAA	Sanae	19.03	156	P	Pn	19 35 15.6	-0.9
	0.2nm,0.3s,baz=338,slow=18,SNR=1.7						
SNAA	Sanae	19.03	156	P	P	19 35 14.7	-0.8
PLCA	Paso Flores	31.93	280	LR	LR	19 48 09.8	
	comp=Z,53nm,20.7s,baz=162,slow=32						
QSPA	South Pole Qui	34.51	180	P	P	19 37 41.6	+0.2
	2.6nm,0.6s,baz=199,slow=2.9,SNR=19						
QSPA	South Pole Qui	34.51	180	IAmb	IAmb	19 37 49.5	
	comp=Z,11nm,1.4s						
CPUP	Villa Florida	36.60	311	P	P	19 37 59.8	+0.3
	comp=Z,1.8nm,0.5s,baz=137,slow=6.1,SNR=3.6						
CPUP				LR	LR	19 54 21.1	
	comp=Z,32nm,18.0s,baz=186,slow=38						
CPUP	Villa Florida	36.60	311	IAmb	IAmb	19 38 26.9	
	comp=Z,12nm,1.3s						
SUR	Sutherland	40.58	75	LR	LR	19 52 00.2	
	comp=Z,58nm,19.7s,baz=179,slow=31						
LVC	Limon Verde	45.13	300	LR	LR	19 57 37.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,39nm,19.9s,baz=236,slow=36						
BOSA	**Boshof**	**45.91**	**76**	LR	LR	19 54 04.0	
	comp=Z,72nm,20.4s,baz=188,slow=30						
PB01	**IPOC Station P**	**46.74**	**300**	P	**P**	**19 39 20.2**	**-2.4**
VNDA	**Vanda**	**46.88**	**183**	P	**P**	**19 39 21.9**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=80,slow=3.6,SNR=15						
VNDA	**Vanda**	**46.88**	**183**	IAmb	IAmb	19 39 34.0	
	comp=Z,10nm,1.4s						
PB08	**IPOC Station P**	**47.35**	**301**	P	**P**	**19 39 27.8**	**+0.1**
PB08				IAmb	IAmb	19 39 47.7	
	comp=Z,5.1nm,0.9s						
SIV	**San Ignacio**	**47.35**	**313**	LR	LR	19 59 56.1	
	comp=Z,37nm,18.6s,baz=110,slow=37						
H10S2	**ASCENSION HYDR**	**47.71**	**17**	T	T	20 30 55.1	
	baz=189,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**47.71**	**17**	T	T	20 30 55.3	
	baz=31,slow=74,SNR=17						
GO01	**Chusmiza**	**47.77**	**302**	P	**P**	**19 39 32.1**	**+1.0**
GO01				IAmb	IAmb	19 39 33.3	
	comp=Z,5.7nm,0.8s						
PB11	**IPOC Station P**	**47.91**	**301**	P	**P**	**19 39 33.2**	**+1.3**
H10N1	**ASCENSION HYDR**	**48.83**	**17**	T	T	20 32 19.3	
	baz=189,slow=75,SNR=7.8						
H10N3	**ASCENSION HYDR**	**48.83**	**17**	T	T	20 32 17.1	
	baz=189,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**48.84**	**17**	T	T	20 32 17.6	
	baz=189,slow=75,SNR=13						
LPAZ	**La Paz**	**50.19**	**305**	P	**P**	**19 39 50.9**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=147,slow=5.7,SNR=15						
LPAZ	**La Paz**	**50.19**	**305**	P	**P**	**19 39 49.9**	**+0.1**
LPAZ				IAmb	IAmb	19 40 01.4	
	comp=Z,4.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.80**	**30**	P	**P**	**19 42 20.1**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=203,slow=5.8,SNR=11						
TORD	**Torodi Ar. Bea**	**72.80**	**30**	P	**P**	**19 42 21.6**	**-0.1**
SDV	**Santo Domingo**	**73.78**	**315**	LR	LR	20 14 19.6	
	comp=Z,24nm,21.3s,baz=93,slow=35						
KMBO	**Kilima Mbogo**	**74.94**	**69**	LR	LR	20 12 40.4	
	comp=Z,43nm,21.6s,baz=91,slow=34						
FINES	**FINESS Array B**	**124.12**	**28**	PKP	**PKPdf**	**19 49 50.2**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=214,slow=2.1,SNR=4.0						
ARCES	**ARCESS Array B**	**130.66**	**22**	PKP	**PKPdf**	**19 50 02.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=343,slow=0.9,SNR=6.0						
YKA	**Yellowknife Ar**	**135.93**	**318**	PKP	**PKPdf**	**19 50 13.5**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=127,slow=2.2,SNR=4.4						
MKAR	**Makanchi Array**	**136.80**	**71**	PKP	**PKPdf**	**19 50 15.8**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=241,slow=3.0,SNR=1.8						
ILAR	**Eielson Array**	**149.90**	**312**	PKPbc	**PKPbc**	**19 50 41.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=131,slow=1.5,SNR=16						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	**PKPbc**	**19 50 44.3**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=222,slow=3.4,SNR=19						

*JMA **07** 19:36:04.8±0.1, 28.°00N×129.°47E, h33^{km}±2^{km}, M3.4*
JMA Felt I J1.
*IDC **07** 19:36:35.4±19.0, 36.°19N×132.°47E, h0^{km}, mb3.6/3, mb1 3.6/3, mb1mx3.2/35, mbtmp3.6/3, Error ellipse: s-maj=438.0km s-min=116.0km az=168.0*
ISC 07 19:36:03.6±1.1**, 27.°92N**±0.°04×**129.°56E**±0.°04**, h27**^{km}±9^{km}**, n23,** σ1^s**02**/31**, mb3.4**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.47**	**314**	P	**Pb**	**19 36 13.1**	**-0.3**
JAMN				*e*S	**Sb**	**19 36 18.8**	**-1.3**
JAM	**Amami Oshima**	**0.49**	**5**	P	**Pb**	**19 36 13.7**	**-0.1**
JAM				*e*S	**Sb**	**19 36 20.3**	**-0.4**
JZK	**Kikaishima**	**0.54**	**43**	P	**Pb**	**19 36 16.0**	**+1.5**
JTK	**Tokunoshima**	**0.56**	**256**	P	**Pb**	**19 36 15.0**	**+0.2**
JTK				*e*S	**Sb**	**19 36 22.3**	**-0.2**
JOKE	**Okinoerabujima**	**1.04**	**238**	P	**Pn**	**19 36 23.2**	**+0.8**
JTAJ	**Takarajima**	**1.27**	**346**	P	**Pn**	**19 36 24.9**	**-0.6**
JYRO	**Yoronjima**	**1.33**	**228**	P	**Pn**	**19 36 27.4**	**+1.1**
JYRO				*e*S	**Sn**	**19 36 44.5**	**+1.4**
JOW	**Kunigami**	**1.57**	**227**	P	**Pn**	**19 36 30.7**	**+1.0**
JIH	**Iheya**	**1.67**	**239**	P	**Pn**	**19 36 32.3**	**+1.3**
JNN	**Nakanoshima**	**1.94**	**8**	P	**Pn**	**19 36 35.2**	**+0.5**
JNTH	**Nagotoyohara**	**1.96**	**225**	P	**Pn**	**19 36 36.0**	**+1.1**
JJT3	**Tamagusuku3**	**2.37**	**222**	P	**Pn**	**19 36 42.1**	**+1.4**
JAGN	**Aguni-jima**	**2.45**	**238**	P	**Pn**	**19 36 42.8**	**+1.0**
JAGN				*e*S	**Sn**	**19 37 11.8**	**+0.9**
JYAK	**Yakushimahirau**	**2.46**	**20**	P	**Pn**	**19 36 42.8**	**+1.0**
JKDJ	**Kitadaitoujima**	**2.50**	**141**	P	**Pn**	**19 36 42.4**	**0.0**
JKDJ				*e*S	**Sn**	**19 37 12.1**	**+0.1**
JMZ	**Minamidaito 2**	**2.56**	**144**	P	**Pn**	**19 36 43.0**	**-0.3**
JMZ				*e*S	**Sn**	**19 37 12.8**	**-0.8**
JKC	**Kuchinoerabu**	**2.59**	**12**	P	**Pn**	**19 36 45.1**	**+1.4**
JKC				*e*S	**Sn**	**19 37 15.4**	**+1.0**
JMTN	**Minamitane**	**2.73**	**25**	P	**Pn**	**19 36 47.0**	**+1.3**
JKE	**Kume jima 2**	**2.94**	**238**	P	**Pn**	**19 36 49.1**	**+0.6**
JTN	**Tanegashima 3**	**3.00**	**24**	P	**Pn**	**19 36 50.6**	**+1.3**
JTN				*e*S	**Sn**	**19 37 25.3**	**+1.0**
MKAR	**Makanchi Array**	**41.33**	**310**	P	P	19 43 58.8	+12
	0.2nm,0.5s,baz=89,slow=9.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.65**	**321**	P	**P**	**19 43 48.2**	**-1.3**
	0.3nm,0.4s,baz=93,slow=12,SNR=1.7						
FINES	**FINESS Array B**	**71.98**	**331**	P	**P**	**19 47 23.6**	**-0.8**
	0.4nm,0.3s,baz=54,slow=5.5,SNR=5.6						

*THE **07** 19:47:12.9, 35.°37N×23.°55E, h16^{km}, ML2.7/7, Error ellipse: s-maj=1.1km s-min=0.7km az=236.0*
*ATH **07** 19:47:13.4, 35.°42N×23.°59E, h22^{km}±3^{km}, ML2.8/3, Error ellipse: s-maj=3.9km s-min=1.1km az=52.0*
ISC 07 19:47:13.1±1.3**, 35.°39N**±0.°04×**23.°57E**±0.°04**, h19**^{km}±2^{km}**, n14,** σ**0**^{s}**53**/27**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**149**	P	**Pb**	**19 47 16.9**	**-0.1**
KNDR				S	**Sb**	**19 47 19.7**	**+0.2**
	6μm,0.2s						
RODP	**Rodopos**	**0.23**	**43**	P	**Pg**	**19 47 18.9**	**+0.4**
RODP				S	**Sg**	**19 47 23.1**	**+0.8**
	1μm,0.4s						
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**19 47 20.1**	**-0.3**
IMMV				S	**Sb**	**19 47 25.9**	**0.0**
IMMV				AML	AML	19 47 26.9	
	comp=E,3904μm,0.3s						
IMMV				AML	AML	19 47 27.5	
	comp=N,3605μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**78**	P	**Pg**	**19 47 20.1**	**-0.3**
IMMV				S	**Sb**	**19 47 25.8**	**0.0**
	comp=N,2μm,0.5s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**19 47 23.4**	**-0.1**
VAM				S	**Sb**	**19 47 31.8**	**+1.2**
VAM				AML	AML	19 47 33.1	
	comp=N,3754μm,0.2s						
VAM				AML	AML	19 47 33.5	
	comp=E,2329μm,0.3s						
VAM	**Vamos**	**0.52**	**88**	P	**Pg**	**19 47 23.1**	**-0.4**
VAM				S	**Sb**	**19 47 31.2**	**+0.6**
	comp=E,2μm,0.3s						
ANKY	**Antikythira Is**	**0.52**	**335**	P	**Pb**	**19 47 23.7**	**+0.1**
ANKY				S	**Sg**	**19 47 30.7**	**0.0**
ANKY	**Antikythira Is**	**0.52**	**335**	P	**Pg**	**19 47 23.6**	**0.0**
ANKY				S	**Sb**	**19 47 30.9**	**+0.1**
	comp=E,672nm,0.3s						
GVD	**Gavdhos**	**0.70**	**142**	P	**Pn**	**19 47 27.6**	**-0.3**
GVD				S	**Sg**	**19 47 36.8**	**+0.7**
GVD				AML	AML	19 47 39.2	
	comp=N,2144μm,0.4s						
GVD				AML	AML	19 47 41.4	
	comp=E,2303μm,0.3s						
PRNS	**Prines Rethymn**	**0.76**	**92**	P	**Pb**	**19 47 26.4**	**-1.3**
PRNS				S	**Sb**	**19 47 37.6**	**-0.1**
	comp=E,282nm,0.2s						
KTHA	**Kythira Island**	**0.95**	**335**	P	**Pg**	**19 47 31.7**	**+0.1**
KTHA				S	**Sg**	**19 47 44.2**	**-0.1**
IDI	**Anoyia**	**1.09**	**95**	P	**Pn**	**19 47 33.8**	**+0.4**
IDI				S	**Sn**	**19 47 47.9**	**0.0**
IDI	**Anoyia**	**1.09**	**95**	P	**Pb**	**19 47 32.9**	**-0.4**
IDI				S	**Sb**	**19 47 47.5**	**+0.4**
	comp=E,202nm,0.4s						
VLI	**Veliai**	**1.42**	**339**	P	**Pg**	**19 47 39.8**	**-0.7**

*SKHL **07** 19:55:39.5±0.4, 42.°00N×142.°70E, h62^{km}±3^{km}, mb4.6/5*
*NIED **07** 19:55:41.4, 42.°25N×142.°74E, h44^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.82; $M_{\theta\theta}$1.19; $M_{\phi\phi}$-2.01; $M_{r\theta}$-1.93; $M_{\theta\phi}$2.94; $M_{\phi r}$-0.83; Fault plane solution: $M_0$4.00000×10^{14} NP1: ϕ_s289.00000°, δ71.00000°, λ26.00000°. NP2: ϕ_s190.00000°, δ65.00000°, λ159.00000°.*
*JMA **07** 19:55:41.3±0.1, 42.°25N×142.°74E, h44^{km}±1^{km}, M3.8*
JMA Felt I J1.
*MOS **07** 19:55:41.2±0.9, 42.°10N×142.°93E, h49^{km}, mb4.2/1, Error ellipse: s-maj=20.2km s-min=9.9km az=59.0*
*IDC **07** 19:55:42.9±4.3, 42.°15N×142.°87E, h73^{km}±42^{km}, mb3.1/6, mb1 3.3/8, mb1mx3.1/46, mbtmp3.4/8, ML3.2/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/18, Error ellipse: s-maj=31.2km s-min=29.0km az=69.0*
ISC 07 19:55:41.4±0.8**, 42.°14N**±0.°05×**142.°73E**±0.°03**, h49**^{km}±6^{km}**, n36,** σ**1**^{s}**41**/53**, mb3.3**/6**, 5C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.14**	**6**	⇑P	**Pn**	**19 55 48.1**	**-1.2**
JNBK				*e*S	**Sn**	**19 55 53.8**	**-1.1**
JSHD	**Hidakashinhida**	**0.33**	**324**	⇑P	**Pn**	**19 55 49.3**	**-1.5**
JEM	**Erimo**	**0.34**	**112**	P	**Pn**	**19 55 50.8**	**0.0**
JEM				*e*S	**Sn**	**19 55 58.3**	**+0.8**
JTHR	**Tokachihiroo**	**0.45**	**70**	⇓P	**Pn**	**19 55 51.3**	**-0.6**
JTHR				*e*S	**Sn**	**19 55 59.2**	**-0.3**
JCH	**Churui**	**0.66**	**44**	⇓P	**Pn**	**19 55 53.4**	**-1.2**
JCH				*e*S	**Sn**	**19 56 03.1**	**-1.1**
JBT2	**Biratori 2**	**0.69**	**337**	⇑P	**Pn**	**19 55 53.5**	**-1.5**
JBT2				S	**Sn**	**19 56 03.6**	**-1.3**
JIAM	**Iburiatsuma**	**0.77**	**309**	⇑P	**Pn**	**19 55 55.9**	**-0.1**
JFR	**Furan**	**1.03**	**354**	P	**Pn**	**19 55 57.9**	**-1.6**
JOB	**Onbets**	**1.11**	**47**	⇓P	**Pn**	**19 56 00.2**	**-0.4**
JEW	**Eniwo**	**1.18**	**307**	⇑P	**Pn**	**19 56 00.9**	**-0.6**
JEW				*e*S	**Sn**	**19 56 16.0**	**-0.5**
JKB	**Kayabe**	**1.29**	**259**	⇓P	**Pn**	**19 56 02.4**	**-0.7**
JKB				*e*S	**Sn**	**19 56 18.9**	**-0.3**
JNB	**Noboribetsu**	**1.30**	**285**	⇓P	**Pn**	**19 56 01.6**	**-1.6**
JNB				*e*S	**Sn**	**19 56 17.6**	**-1.8**
JAR	**Ashorobuto**	**1.38**	**33**	⇓P	**Pn**	**19 56 02.9**	**-1.4**
JAB	**Ashibetsu**	**1.41**	**345**	⇓P	**Pn**	**19 56 03.8**	**-0.9**
AKK	**Akkeshi**	**1.79**	**60**	*e*P	**Pn**	**19 56 08.8**	**-1.0**
AKK				*e*S	**Sn**	**19 56 29.9**	**-1.4**
ASAJ	**Asahikawa**	**1.98**	**357**	LR	LR	19 56 44.6	
	comp=Z,41nm,19.7s,baz=160,slow=31						
NMR	**Nemuro--Hokkai**	**2.52**	**60**	*e*PN	**Pn**	**19 56 18.1**	**-1.8**
NMR				*e*S	**Sn**	**19 56 47.1**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.52**	**60**	*e*P	**Pn**	**19 56 18.1**	**-1.8**
NMR				*e*S	**Sn**	**19 56 47.3**	**-2.1**
GLVR	**Golovnino**	**2.59**	**51**	*e*PN	**Pn**	**19 56 20.6**	**-0.2**
GLVR				*e*S	**Sn**	**19 56 51.0**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,312nm,0.1s						
GLVR				pmax	pmax		
	comp=E,115nm,0.2s						
GLVR				pmax	pmax		
	comp=N,118nm,0.1s						
GLVR				smax	smax		
	comp=N,977nm,0.2s						
GLVR				smax	smax		
	comp=E,701nm,0.2s						
GLVR	**Golovnino**	**2.59**	**51**	*e*P	**Pn**	**19 56 20.6**	**-0.2**
GLVR				AMB	AMB	19 56 23.5	
	comp=E,310nm,0.2s						
GLVR				*e*S	**Sn**	**19 56 51.0**	**-0.1**
GLVR				A	A	19 56 53.4	
	comp=E,980nm,0.2s						
GLVR				A	A	19 56 53.4	
	comp=E,700nm,0.2s						
RUSJ	**Misakicho**	**2.69**	**42**	*e*PN	**Pn**	**19 56 22.9**	**+0.7**
RUSJ				*e*S	**Sn**	**19 56 55.5**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**2.97**	**49**	*e*PN	**Pn**	**19 56 26.4**	**+0.4**
YUK				*e*S	**Sn**	**19 57 02.3**	**+1.9**
YUK				pmax	pmax		
	comp=N,73nm,0.1s						
YUK				pmax	pmax		
	comp=E,52nm,0.1s						
YUK				pmax	pmax		
	comp=Z,201nm,0.1s						
YUK				smax	smax		
	comp=N,403nm,0.4s						
YUK				smax	smax		
	comp=E,517nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.97**	**49**	*e*P	**Pn**	**19 56 26.2**	**+0.2**
YUK				AMB	AMB	19 56 28.0	
	comp=E,140nm,0.2s						
YUK				*e*S	**Sn**	**19 57 00.8**	**+0.4**
YUK				A	A	19 57 03.6	
	comp=E,420nm,0.4s						
YUK				A	A	19 57 03.6	
	comp=E,370nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.81**	**0**	*e*PN	**Pn**	**19 56 53.5**	**+2.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.81**	**0**	*e*P	**Pn**	**19 56 53.5**	**+2.2**
YSS				AMB	AMB	19 56 56.6	
	comp=Z,20nm,0.4s						
YSS				*e*S	**Sn**	**19 57 48.3**	**+2.6**
YSS				A	A	19 57 57.7	
	comp=Z,20nm,0.6s						
YSS				A	A	19 57 57.7	
	comp=Z,20nm,0.6s						
KUR	**Kuril'sk**	**4.84**	**49**	*e*PN	**Pn**	**19 56 53.1**	**+1.5**
KUR				*e*S	**Sn**	**19 57 47.5**	**+1.2**
KUR				pmax	pmax		
	comp=Z,54nm,0.2s						
KUR				pmax	pmax		
	comp=N,47nm,0.3s						
KUR				pmax	pmax		
	comp=E,17nm,0.2s						
KUR				smax	smax		
	comp=N,45nm,0.5s						
KUR	**Kuril'sk**	**4.84**	**49**	*e*P	**Pn**	**19 56 53.1**	**+1.5**
KUR				AMB	AMB	19 56 57.4	
	comp=N,30nm,0.3s						
KUR				*e*S	**Sn**	**19 57 47.5**	**+1.2**
KUR				A	A	19 57 54.8	
	comp=N,40nm,0.3s						
KUR				A	A	19 57 54.8	
	comp=N,40nm,0.3s						
MJAR	**Matsushiro Arr**	**6.60**	**214**	P	**Pn**	**19 57 18.2**	**+2.3**
	comp=N,0.2nm,0.3s,baz=24,slow=15,SNR=7.0						
KSRS	**Korea Array**	**12.31**	**253**	P	**Pn**	**19 58 36.9**	**+2.9**
	comp=N,0.5nm,0.3s,baz=63,slow=14,SNR=8.8						
PETK	**Petropavlovsk-**	**14.87**	**37**	LR	LR	20 04 31.7	
	comp=N,27nm,18.3s,baz=60,slow=36						
SONM	**Songino Array**	**26.15**	**295**	P	**P**	**20 01 11.0**	**0.0**
	comp=N,0.2nm,0.6s,baz=90,slow=8.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**39.40**	**308**	P	**P**	**20 03 06.8**	**+0.7**
	comp=N,0.3nm,0.4s,baz=67,slow=8.0,SNR=1.9						
MKAR	**Makanchi Array**	**42.46**	**298**	P	**P**	**20 03 30.9**	**-0.5**
	comp=N,0.2nm,0.4s,baz=83,slow=12,SNR=6.3						
ILAR	**Eielson Array**	**44.68**	**35**	P	**P**	**20 03 47.5**	**-1.5**
	comp=N,0.3nm,0.4s,baz=263,slow=5.6,SNR=6.5						
WRA	**Warramunga Arr**	**62.26**	**189**	P	**P**	**20 05 57.4**	**-0.8**
	comp=N,0.1nm,0.5s,baz=1.8,slow=6.8,SNR=1.3						
FINES	**FINESS Array B**	**64.79**	**332**	P	**P**	**20 06 12.9**	**-1.5**
	comp=N,0.3nm,0.4s,baz=34,slow=11,SNR=1.2						

*CNRM **07** 20:11:43.3, 35.°49N×3.°82W, h22^{km}, ml2.8*
*MDD **07** 20:11:44.1±0.8, 35.°43N×3.°78W, h5^{km}±6^{km}, mb_Lg2.5/6, Error ellipse: s-maj=5.3km s-min=3.9km az=139.0*
*SFS **07** 20:11:44.0, 35.°43N×3.°78W, ML2.6, ALBORAN SUR*
ISC 07 20:11:43.1±1.2**, 35.°43N**±0.°03×**3.°76W**±0.°03**, h18**^{km}±3^{km}**, n19,** σ**1**^{s}**46**/37**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**215**	P	**Pb**	**20 11 49.9**	**+0.9**
PALE				S	**Sg**	**20 11 54.9**	**+2.0**
GOG	**Mont Gurugu**	**0.66**	**108**	P	**Pn**	**20 11 57.0**	**-0.6**
GOG				S	**Sn**	**20 12 06.5**	**-1.0**
EMEL	**Melilla**	**0.67**	**101**	Pg	**Pn**	**20 11 57.1**	**-0.4**
EMEL				Sg	**Sn**	**20 12 06.4**	**-1.2**
EALB	**Alboran**	**0.78**	**49**	Pg	**Pn**	**20 11 58.6**	**-0.6**
EALB				Sg	**Sn**	**20 12 09.4**	**-1.0**
EALB				*i* Vmb_Lg		20 12 13.4	
TAF	**Taforalt**	**1.26**	**119**	P	**Pb**	**20 12 06.1**	**-0.3**
TAF				S	**Sg**	**20 12 25.0**	**+1.1**
CHEFC	**Chefchaouen**	**1.33**	**257**	P	**Pg**	**20 12 08.5**	**-0.3**
CHEFC				S	**Sb**	**20 12 24.6**	**+0.3**
SMIR	**Smir Dam**	**1.35**	**281**	P	**Pn**	**20 12 06.9**	**-0.1**
SMIR				S	**Sn**	**20 12 21.7**	**-2.6**
CEU	**Ceuta**	**1.40**	**290**	P	**Pn**	**20 12 07.2**	**-0.4**
CEU				S	**Sn**	**20 12 20.9**	**-4.6**
EMIJ	**Mijas**	**1.40**	**324**	Pn	**Pb**	**20 12 09.1**	**+0.3**
EMIJ				Sn	**Sb**	**20 12 27.3**	**+1.0**
EMIJ				*i* Vmb_Lg		20 12 30.4	
EMAL	**Malaga-Limoner**	**1.44**	**338**	P	**Pb**	**20 12 09.7**	**+0.3**
EMAL				S	**Sb**	**20 12 27.1**	**-0.2**
ELGU	**Los Guajares,**	**1.44**	**4**	Pn	**Pn**	**20 12 08.2**	**-0.2**
ELGU				Sn	**Sb**	**20 12 26.8**	**-0.7**
ELGU				*i* Vmb_Lg		20 12 29.7	
EGOR	**Sierra Gorda,**	**1.71**	**351**	Pn	**Pb**	**20 12 13.7**	**-0.2**
EGOR				Sn	**Sb**	**20 12 34.3**	**-0.8**
EGOR				*i* Vmb_Lg		20 12 35.2	
IFR	**Ifrane**	**2.21**	**211**	P	**Pn**	**20 12 18.0**	**-1.0**
IFR				S	**Sn**	**20 12 46.6**	**+0.6**
MD31	**MD31**	**2.68**	**198**	P	**Pb**	**20 12 27.9**	**-2.7**
MD31				S	**Sn**	**20 12 59.7**	**+2.3**
ZHG	**ZHG**	**3.09**	**231**	P	**Pn**	**20 12 31.2**	**+0.2**
ZHG				S	**Sn**	**20 13 09.7**	**+2.1**
EGRO	**El Granado**	**3.67**	**306**	Sn	**Sn**	**20 13 22.3**	**+0.8**
ETOB	**Tobarra**	**3.67**	**28**	Pn	**Pn**	**20 12 41.3**	**+2.4**
ETOB				Sn	**Sn**	**20 13 23.0**	**+1.3**
PVAQ	**Vaqueiros**	**3.75**	**303**	P	**Pn**	**20 12 39.5**	**-0.5**
PVAQ				S	**Sn**	**20 13 22.5**	**-1.3**
EBAD	**Badajoz**	**4.22**	**323**	Pn	**Pn**	**20 12 47.7**	**+1.2**
EBAD				Sn	**Sn**	**20 13 35.1**	**-0.1**
EBAD				*i* Vmb_Lg		20 13 39.7	

IDC 07 20:21:32.4±6.2**, 62.°18S**×**155.°27E, h0**^{km}**, mb3.5**/2**, mb1 3.9**/3**, mb1mx3.4**/19**, mbtmp3.6**/3**, ML3.4**/1**, MS3.5**/7**, Ms1 3.5**/7**, ms1mx3.2**/31**, Error ellipse: s-maj=391.5km s-min=41.6km az=76.0, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.56**	**175**	Pn	Pn	20 25 12.6	0.0
	0.2nm,0.3s,baz=344,slow=12,SNR=10						
VNDA				LR	LR	20 30 17.5	
	comp=Z,220nm,18.7s,baz=352,slow=34						
RPZ	**Rata Peaks**	**20.69**	**34**	LR	LR	20 32 48.2	
	comp=Z,118nm,19.7s,baz=210,slow=33						
URZ	**Urewera**	**27.45**	**39**	LR	LR	20 36 36.0	
	comp=Z,51nm,20.6s,baz=208,slow=33						
QSPA	**South Pole Qui**	**27.91**	**180**	LR	LR	20 38 04.7	
	comp=Z,81nm,20.6s,baz=350,slow=36						
DZM	**Mont Dzumac**	**40.81**	**16**	LR	LR	20 41 18.5	
	comp=Z,50nm,21.3s,baz=126,slow=29						
ASAR	**Alice Springs**	**41.14**	**329**	P	P	20 29 18.3	+0.2
	0.7nm,1.0s,baz=163,slow=9.9,SNR=4.3						
CTA	**Charters Tower**	**42.52**	**347**	LR	LR	20 43 49.3	
	comp=Z,85nm,18.0s,baz=178,slow=31						
WRA	**Warramunga Arr**	**44.63**	**331**	P	P	20 29 45.9	-0.4
	0.4nm,0.7s,baz=164,slow=7.2,SNR=5.0						
SNAA	**Sanae**	**45.57**	**190**	LR	LR	20 49 31.1	
	comp=Z,131nm,20.1s,baz=151,slow=37						
H03S2	**Juan Fernandez**	**74.87**	**136**	T	T	21 56 17.0	
	baz=203,SNR=7.9						
H03S1	**Juan Fernandez**	**74.87**	**136**	T	T	21 56 18.9	
	baz=203,SNR=10						
H03S3	**Juan Fernandez**	**74.88**	**136**	T	T	21 56 17.3	
	baz=203,SNR=9.5						

*PGC **07** 20:26:10.0±0.1, 60.°13N×141.°11W, h1^{km}, ML2.5, ML2.1/6, 129km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **07** 20:26:09.0±1.1, 60.°10N±0.°04×141.°14W±0.°09, h3^{km}±9^{km}, Error ellipse: s-maj=6.6km s-min=6.1km az=88.0*
*AEIC **07** 20:26:10±1.3, 60.°15N±0.°06×141.°11W±0.°08, h8^{km}±7^{km}, ML2.5, ML2.8/74(NEIC), Error ellipse: s-maj=9.0km s-min=5.4km az=200.0*
ISC 07 20:26:09.4±1.1**, 60.°13N**±0.°03×**141.°11W**±0.°02**, h6**^{km}±8^{km}**, n68,** σ**1**^{s}**04**/90**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.16**	**89**	P	**Pg**	**20 26 12.6**	**-0.2**
SAMH				S	**Sg**	**20 26 15.3**	**+0.2**
TABL	**Table Mountain**	**0.31**	**357**		**Pg**	**20 26 15.4**	**-0.2**
TABL				IAML		20 26 21.2	
	comp=E,1μm,0.6s						
TABL				IAML		20 26 21.8	
	comp=N,2μm,0.4s						
TABL	**Table Mountain**	**0.31**	**357**	P	**Pg**	**20 26 15.6**	**-0.1**
TABL				S	**Sg**	**20 26 20.6**	**+0.8**
PCA	**Pinnacle**	**0.43**	**94**		**Pg**	**20 26 18.4**	**+0.6**
PCA	**Pinnacle**	**0.43**	**94**	P	**Pg**	**20 26 18.5**	**+0.8**
PCA				S	**Sg**	**20 26 23.9**	**+0.5**
GRNC	**Granite Creek**	**0.69**	**332**		**Pg**	**20 26 22.4**	**-0.3**
GRNC	**Granite Creek**	**0.69**	**332**	P	**Pg**	**20 26 22.4**	**-0.3**
GRNC				S	**Sg**	**20 26 31.8**	**+0.2**
LOGN	**Logan Glacier**	**0.70**	**4**		**Pg**	**20 26 22.1**	**-0.8**
LOGN				IAML		20 26 32.6	
	comp=N,508nm,0.6s						
LOGN				IAML		20 26 33.1	
	comp=E,453nm,0.4s						
LOGN	**Logan Glacier**	**0.70**	**4**	P	**Pg**	**20 26 22.1**	**-0.8**
LOGN				S	**Sg**	**20 26 31.9**	**-0.2**
BCPM	**Bancas Point**	**0.76**	**103**		**Pg**	**20 26 23.7**	**-0.3**
BCPM				IAML		20 26 35.5	
	comp=N,413nm,0.6s						
BCPM				IAML		20 26 36.5	
	comp=E,510nm,0.3s						
ISLE	**Juniper Island**	**0.78**	**308**		**Pg**	**20 26 24.4**	**+0.1**
ISLE				IAML		20 26 38.5	
	comp=E,417nm,0.8s						
ISLE				IAML		20 26 38.6	
	comp=N,505nm,0.7s						
CTGM	**Chitina Glacie**	**0.85**	**353**		**Pg**	**20 26 24.9**	**-0.8**
CTGM				IAML		20 26 37.5	
	comp=N,312nm,0.4s						
CTGM	**Chitina Glacie**	**0.85**	**353**	P	**Pg**	**20 26 25.0**	**-0.7**
CTGM				S	**Sg**	**20 26 36.4**	**-0.3**
SNH	**Sunshine Point**	**0.87**	**274**		**Pb**	**20 26 27.2**	**+0.3**
SNH				IAML		20 26 52.9	
	comp=N,185nm,1.2s						
WAX	**Waxell Ridge**	**0.93**	**291**		**Pg**	**20 26 27.8**	**+0.6**
WAX				IAML		20 26 44.8	
	comp=E,380nm,0.4s						
BARN	**Barnard Glacie**	**0.97**	**344**		**Pg**	**20 26 27.0**	**-1.1**
BARN				IAML		20 26 43.2	
	comp=E,159nm,0.5s						
PNL	**Peninsula**	**0.98**	**117**	P	**Pg**	**20 26 27.1**	**-1.1**
PNL				S	**Sg**	**20 26 40.7**	**-0.1**
KIAG	**Kiagna River**	**1.01**	**323**	P	**Pg**	**20 26 28.2**	**-0.6**
KIAG				S	**Sg**	**20 26 41.7**	**-0.2**
TGL	**Tana Glacier**	**1.06**	**307**		**Pg**	**20 26 29.2**	**-0.6**
TGL				IAML		20 26 46.7	
	comp=N,179nm,0.8s						
BALM	**Baldy**	**1.10**	**327**	P	**Pg**	**20 26 29.4**	**-1.0**
BALM				S	**Sg**	**20 26 44.5**	**-0.2**
PTPK	**Patty Peak**	**1.26**	**328**	P	**Pg**	**20 26 32.3**	**-1.2**
PTPK				S	**Sg**	**20 26 49.5**	**-0.2**
BERG	**Berg Lake**	**1.32**	**283**		**Pn**	**20 26 34.4**	**0.0**
BERG				IAML		20 27 05.7	
	comp=N,175nm,0.7s						
YUK8	**Steele Glacier**	**1.34**	**29**	P	**Pg**	**20 26 33.4**	**-1.7**
YUK8				S	**Sg**	**20 26 51.1**	**-1.3**
YUK7	**Dusty Glacier**	**1.53**	**73**	Pn	**Pn**	**20 26 37.4**	**0.0**
YUK7				Sg	**Sn**	**20 26 57.6**	**-0.1**
MCARA	**McCarthy VSAT**	**1.57**	**324**		**Pn**	**20 26 37.3**	**-0.5**
MCARA				IAML		20 27 08.2	
	comp=N,129nm,0.5s						
MCARA				IAML		20 27 11.4	
	comp=E,118nm,0.9s						
YUK6	**Outpost Mounta**	**1.58**	**58**	Pn	**Pn**	**20 26 38.1**	**-0.1**
YUK6				Sg	**Sn**	**20 26 59.5**	**+0.4**
HMT	**Hamilton**	**1.59**	**279**		**Pn**	**20 26 38.5**	**+0.5**
VRDI	**Verde Repeater**	**1.60**	**315**		**Pn**	**20 26 37.5**	**-0.8**
YUK2	**White River**	**1.67**	**4**	Pn	**Pn**	**20 26 39.7**	**+0.4**
YUK2				Sg	**Sn**	**20 27 01.9**	**+0.9**
KAIM	**Kayak Island**	**1.67**	**265**	Pn	**Pn**	**20 26 39.2**	**0.0**
YUK3	**Moose Creek**	**1.68**	**11**	Pn	**Pn**	**20 26 39.9**	**+0.3**
YUK3				Sg	**Sn**	**20 27 02.1**	**+0.5**
YUK4	**Talbot Arm**	**1.72**	**44**	Pn	**Pb**	**20 26 42.5**	**+1.0**
YUK4				Sg	**Sg**	**20 27 06.8**	**+2.2**
RAGM	**Ragged Mountai**	**1.80**	**280**		**Pn**	**20 26 41.0**	**0.0**
GLB	**Gilahina Butte**	**1.87**	**316**		**Pn**	**20 26 41.7**	**-0.3**
GLB				IAML		20 27 08.9	
	comp=N,62nm,0.8s						
YUK5	**Granite Creek**	**1.89**	**56**	Pn	**Pn**	**20 26 43.0**	**+0.7**
YUK5				Sg	**Sn**	**20 27 08.0**	**+1.4**
HYT	**Haines Junctio**	**1.92**	**67**		**Pn**	**20 26 42.9**	**+0.2**
HYT	**Haines Junctio**	**1.92**	**67**	Pn	**Pn**	**20 26 43.2**	**+0.5**
HYT				Sn	**Sn**	**20 27 07.7**	**+0.5**
BMRM	**Bremner River**	**1.92**	**298**		**Pn**	**20 26 42.8**	**+0.1**
BMRM				IAML		20 27 19.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,78nm,0.8s						
BMRM				IAML		20 27 20.6	
	comp=N,100nm,0.7s						
N25K	Chitina, Valde	2.26	313		Pn	20 26 47.7	+0.3
N25K				IAML		20 27 24.6	
	comp=N,31nm,0.8s						
M27K	Edge Creek, AK	2.27	351		Pn	20 26 48.5	+1.0
M27K				IAML		20 27 27.8	
	comp=E,56nm,1.1s						
BVCY	Beaver Creek	2.30	3	Pn	Pn	20 26 49.2	+1.4
BVCY				Sg	Sb	20 27 21.0	+1.1
EYAK	Cordova Ski Ar	2.35	282	Pn	Pn	20 26 47.9	-0.5
DIV	Divide	2.51	296		Pn	20 26 50.2	-0.5
DIV	Divide	2.51	296	Sg	Sb	20 27 26.1	+0.1
KLU	Klutina	2.73	302		Pn	20 26 54.0	+0.2
KLU				IAML		20 27 40.4	
	comp=E,52nm,0.6s						
FID	Port Fidalgo	2.73	286	Pn	Pn	20 26 54.7	+0.9
FID				IAML		20 27 38.6	
	comp=E,46nm,0.7s						
FID				IAML		20 27 49.3	
	comp=N,31nm,2.0s						
L27K	Beaver Creek,	2.96	354		Pn	20 26 57.5	+0.5
BCAR	Beaver Creek A	2.97	354		Pn	20 26 57.4	+0.3
L26K	Log Cabin Wild	3.10	341		Pn	20 26 58.7	-0.1
L26K				IAML		20 27 44.0	
	comp=N,15nm,0.5s						
L26K				IAML		20 27 44.9	
	comp=E,16nm,0.5s						
WHY	Whitehorse	3.14	78	Pn	Pn	20 26 59.8	+0.3
WHY				IAML		20 27 50.9	
	comp=N,20nm,1.6s						
WHY	Whitehorse	3.14	78	Pn	Pn	20 26 59.7	+0.3
WHY				Sn	Sn	20 27 38.2	+1.0
M24K	Tolsona, Glenn	3.16	311		Pb	20 27 05.4	-0.6
M30M	Minto, Yukon	3.22	38		Pn	20 27 00.1	-0.4
M30M				IAML		20 27 56.3	
	comp=E,18nm,4.7s						
SCM	Sheep Creek Mo	3.48	302	Pn	Pn	20 27 04.0	-0.1
PWL	Port Wells	3.65	285	Pn	Pn	20 27 06.1	-0.3
PWL				IAML		20 28 13.5	
	comp=N,19nm,2.8s						
PWL				IAML		20 28 15.4	
	comp=E,22nm,2.4s						
DOT	Dot Lake	3.80	340	Pn	Pn	20 27 07.3	-1.1
DOT	Dot Lake	3.80	340	Sn	Sn	20 27 53.5	+0.1
KNK	Knik Glacier	3.83	293		Pn	20 27 09.0	+0.2
KNK				IAML		20 28 09.7	
	comp=E,17nm,1.6s						
KNK				IAML		20 28 16.7	
	comp=N,17nm,1.2s						
DAWY	Dawson	4.03	11		Pn	20 27 12.8	+1.2
DAWY				IAML		20 28 35.0	
	comp=E,9.7nm,4.7s						
DAWY				IAML		20 29 25.8	
	comp=N,9.1nm,4.7s						
DAWY	Dawson	4.03	11	Pn	Pn	20 27 12.7	+1.1
DAWY				Sn	Sn	20 27 59.5	+0.3
SCRK	Sand Creek	4.09	342	Pn	Pn	20 27 13.4	+0.8
SCRK				IAML		20 28 46.7	
	comp=E,7.6nm,4.4s						
P33M	Teslin, Yukon	4.14	85	Pn	Pn	20 27 13.0	-0.3
P33M				IAML		20 29 52.8	
	comp=E,16nm,4.8s						
RND	Reindeer	4.93	315	Pn	Pn	20 27 23.1	-0.9
CNPM	China Poot	5.15	268	Pn	Pn	20 27 27.4	+0.5
MMPY	Sheldon Lake,	5.35	58	Pn	Pn	20 27 30.3	+0.5
MMPY				Sn	Sn	20 28 30.3	-1.4
TRF	Thorofare Moun	5.48	311	Pn	Pn	20 27 31.2	-0.4
TGTN	Hyland Airport	6.43	72	Sg	Sg	20 29 29.0	-6.7
BMAR	Burnt Mountain	7.49	350	Pn	Pn	20 28 01.0	+2.0

*CNRM **07** 20:32:37.9, 35°.42N×3°.81W, h28km, ml3.3*
*MDD **07** 20:32:37.9±0.6, 35°.40N×3°.77W, h8km±4km, mb_Lg2.7/11, Error ellipse: s-maj=4.3km s-min=2.6km az=166.0*
*SFS **07** 20:32:38.0, 35°.42N×3°.76W, ML3.1, ALBORAN SUR*
ISC 07 20:32:37.3±1.7**, 35°.44N**±0°.02×**3°.79W**±0°.03**, h17**km±5km**, n33, σ1s45**/65**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.26	208	P	Pb	20 32 43.9	+0.4
PALE				S	Sb	20 32 49.0	+1.3
GOG	Mont Gurugu	0.69	108	P	Pb	20 32 50.2	-0.7
GOG				S	Sg	20 32 59.7	-0.3
EMEL	Melilla	0.70	102	Pg	Pb	20 32 51.0	0.0
EMEL				Sg	Sb	20 32 60.0	-0.3
EALB	Alboran	0.79	51	Pg	Pb	20 32 52.4	-0.2
EALB				Sg	Sb	20 33 03.0	-0.1
TAF	Taforalt	1.29	119	P	Pn	20 32 59.2	-1.5
TAF				S	Sn	20 33 17.5	-0.1
CHEFC	Chefchaouen	1.31	256	P	Pb	20 33 01.9	+0.3
CHEFC				S	Sn	20 33 17.8	-0.3
SMIR	Smir Dam	1.32	281	P	Pn	20 33 00.2	-0.8
SMIR				S	Sn	20 33 16.1	-2.0
CEU	Ceuta	1.37	290	P	Pn	20 32 59.7	-1.9
CEU				S	Sn	20 33 14.8	-4.5
EMIJ	Mijas	1.37	325	Pn	Pn	20 33 01.7	-0.1
EMIJ				Sn	Sn	20 33 19.0	-0.6
EMAL	Malaga-Limoner	1.42	339	P	Pn	20 33 03.2	+0.9
EMAL				S	Sn	20 33 18.8	-1.8
ELGU	Los Guajares,	1.43	5	Pn	Pn	20 33 01.4	-1.2
ELGU				Sn	Sn	20 33 21.4	+0.4
EGOR	Sierra Gorda,	1.68	351	Pn	Pn	20 33 07.0	+0.9
EGOR				Sn	Sb	20 33 30.8	+1.9
EGOR				*i* Vmb_Lg		20 33 35.8	
EQUE	Quentar	1.78	9	Pn	Pn	20 33 08.3	+0.8
EQUE				Sn	Sn	20 33 30.0	+0.3
EQUE				*i* Vmb_Lg		20 33 37.3	
ENIJ	Nijar	1.99	40	Pn	Pn	20 33 11.4	+1.1
ENIJ				Sn	Sn	20 33 33.3	-1.5
ENIJ				*i* Vmb_Lg		20 33 34.0	
IFR	Ifrane	2.21	210	P	Pn	20 33 14.3	+0.8
IFR				S	Sn	20 33 40.9	+0.3
CZD	Col de Zad	2.62	204	P	Pn	20 33 21.0	+1.9
CZD				S	Sn	20 33 51.0	+0.4
MD31	MD31	2.69	198	P	Pn	20 33 21.2	+1.3
MD31				S	Sn	20 33 53.5	+1.3
MDT	Midelt	2.71	195	P	Pn	20 33 20.5	+0.4
MDT				S	Sn	20 33 51.8	-0.8
TDRA	Tendrara	2.81	148	P	Pn	20 33 22.6	+1.0
TDRA				S	Sn	20 33 53.8	-1.3
ECAB	El Cabril	2.94	334	Pn	Pn	20 33 24.7	+1.5
ECAB				Sn	Sn	20 33 59.5	+1.4
ECAB				*i* Vmb_Lg		20 34 07.0	
ZHG	ZHG	3.08	231	P	Pn	20 33 26.0	+0.6
ZHG				S	Sn	20 34 02.6	+0.7
EGRO	El Granado	3.63	306	Pn	Pn	20 33 34.0	+1.2
EGRO				Sn	Sn	20 34 13.9	-1.4
EGRO				*i* Vmb_Lg		20 34 16.6	
ETOB	Tobarra	3.67	29	Pn	Pn	20 33 35.4	+2.1
ETOB				Sn	Sn	20 34 16.9	+0.7
ETOB				*i* Vmb_Lg		20 34 19.0	
PVAQ	Vaqueiros	3.72	303	P	Pn	20 33 34.8	+0.8
PVAQ				S	Sn	20 34 15.8	-1.6
PAB	San Pablo	4.12	354	Pn	Pn	20 33 40.8	+1.2
PAB				Sn	Sn	20 34 29.8	+2.4
EBAD	Badajoz	4.19	323	Pn	Pn	20 33 42.0	+1.6
EBAD				Sn	Sn	20 34 28.4	-0.6
EBAD				*i* Vmb_Lg		20 34 29.4	
ESDC	Sonseca Array	4.23	358	Pn	Pn	20 33 42.7	+1.7
ESDC				Sn	Sn	20 34 27.9	-2.1
ESDC				*i* Vmb_Lg		20 36 29.0	
PESTR	Estremoz	4.57	320	P	Pn	20 33 47.7	+2.0
PESTR				S	Sn	20 34 38.2	-0.2
ECHE	Chera	4.71	28	Pn	Pn	20 33 48.6	+0.9
EPLA	Plasencia	4.96	339	Pn	Pn	20 33 52.3	+1.3
EPLA				Sn	Sn	20 34 47.4	-0.6
EPLA				*i* Vmb_Lg		20 36 41.3	
OUZM	OUZ	5.16	210	P	Pn	20 33 55.0	+1.1
OUZM				S	Sn	20 34 55.4	+2.3
OUK	Oukaimeden	5.43	220	P	Pn	20 33 57.5	-0.3
OUK				S	Sn	20 34 57.9	-2.2
TTIG	Tnine Tigouga,	6.25	220	P	Pn	20 34 07.2	-1.7
TTIG				S	Sn	20 35 16.4	-3.7

*IDC **07** 20:36:22.2±2.0, 13°.50N×87°.21W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/35, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=64.6km s-min=28.8km az=54.0*
*INET **07** 20:36:26.5±0.9, 12°.53N×87°.71W, h68km±6km, MW3.9*
*NEIC **07** 20:36:26.8±1.1, 12°.62N±0°.06×87°.62W±0°.08, h80km±9km, mb3.8/3, Md3.8(SNET), Error ellipse: s-maj=13.1km s-min=6.5km az=60.0*
ISC 07 20:36:26.2±0.9**, 12°.59N**±0°.06×**87°.63W**±0°.05**, h81**km±7km**, n49, σ1s01**/59**, mb3.4**/6**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.39	11	*e*P	Pn	20 36 38.8	-0.4
CRIN	San Cristobal	0.58	79	Pn	Pn	20 36 41.4	+0.7
CRIN	San Cristobal	0.58	79	*e*P	Pn	20 36 41.6	+0.8
CRIN				*e*S	Sn	20 36 53.0	+1.5
TEL3	Telica 3	0.77	92	*e*P	Pn	20 36 43.0	+0.4
TELN	Telica	0.78	89	*e*P	Pn	20 36 43.0	+0.1
JUCU	Jucuar¡n	0.89	318	*e*P	Pn	20 36 43.6	-0.4
JUCU				*e*S	Sn	20 36 56.1	-1.2
JUCU				IAML		20 37 00.9	
	comp=Z,3µm,0.3s						
JUCU	Jucuar¡n	0.89	318	*e*P	Pn	20 36 43.6	-0.4
JUCU				*e*S	Sn	20 36 56.1	-1.2
JUCU				IAML		20 37 00.9	
	comp=Z,3µm,0.3s						
JUCU	Jucuar¡n	0.89	318	*e*P	Pn	20 36 43.7	-0.3
JUCU				*e*S	Sn	20 36 56.4	-0.9
CNGN	Cerro Negro	0.92	96	Pn	Pn	20 36 44.3	0.0
CNGN	Cerro Negro	0.92	96	*e*P	Pn	20 36 44.5	+0.2
MOMN	Momotombo	1.08	100	*e*P	Pn	20 36 46.7	+0.4
MOMN				*e*S	Sn	20 37 02.1	+0.8
COPN	Copaltepe	1.10	112	*e*P	Pn	20 36 46.5	+0.1
ALJI	Alcalda de J	1.17	309	*e*P	Pn	20 36 47.0	-0.3
ALJI				IAML		20 37 02.8	
	comp=Z,2µm,0.2s						
ALJI	Alcalda de J	1.17	309	*e*P	Pn	20 36 47.0	-0.3
ALJI				IAML		20 37 02.8	
	comp=Z,2µm,0.2s						
COEB	Comit de Eme	1.25	316	*e*P	Pn	20 36 48.9	+0.4
COEB				*e*S	Sn	20 37 05.2	-0.1
COEB				IAML		20 37 08.6	
	comp=Z,1µm,0.3s						
COEB	Comit de Eme	1.25	316	*e*P	Pn	20 36 48.9	+0.4
COEB				*e*S	Sn	20 37 05.2	-0.1
COEB				IAML		20 37 08.6	
	comp=Z,1µm,0.3s						
APYN	Apoyeque	1.30	106	*e*P	Pn	20 36 48.5	-0.5
APYN				*e*S	Sn	20 37 06.3	+0.1
TISN	Laguna Tiscapa	1.41	108	*e*P	Pn	20 36 50.0	-0.3
HUEN		1.45	100	*e*P	Pn	20 36 51.4	+0.6
TGUH	Tegucigalpa,Un	1.50	13		Pn	20 36 51.5	-0.1
TGUH				Sn	Sn	20 37 12.3	+1.5
TGUH	Tegucigalpa,Un	1.50	13	*e*P	Pn	20 36 53.3	+1.7
SCLA	Alcaldia de Sa	1.53	316	*e*P	Pn	20 36 52.8	+0.8
SCLA				*e*S	Sn	20 37 13.4	+1.8
SCLA	Alcaldia de Sa	1.53	316	*e*P	Pn	20 36 52.8	+0.8
SCLA				*e*S	Sn	20 37 13.4	+1.8
MATN	Matagalpa	1.70	78	Pn	Pn	20 36 54.9	+0.7
MATN	Matagalpa	1.70	78	*e*P	Pn	20 36 55.1	+0.9
BOAB	BOACO BROADBAN	1.93	94		Pn	20 36 57.5	+0.4
BOAB	BOACO BROADBAN	1.93	94	*e*P	Pn	20 36 57.7	+0.6
JAYA	Jayaque - finc	2.06	301	*e*P	Pn	20 36 59.5	+0.5
JAYA				IAML		20 37 28.4	
	comp=Z,786nm,0.2s						
JAYA	Jayaque - finc	2.06	301	*e*P	Pn	20 36 59.5	+0.5
JAYA				IAML		20 37 28.4	
	comp=Z,786nm,0.2s						
CEVE	Cerro Verde	2.29	303	*e*P	Pn	20 37 03.9	+1.7
CEVE				IAML		20 37 34.5	
	comp=Z,478nm,0.3s						
CEVE	Cerro Verde	2.29	303	*e*P	Pn	20 37 03.9	+1.7
CEVE				IAML		20 37 34.5	
	comp=Z,478nm,0.3s						
MTO3	Montecristo	2.46	317	Pn	Pn	20 37 04.8	+0.4
ACON	Acoyapa	2.48	104	Pn	Pn	20 37 04.9	+0.4
ESQI	Esquipulas	2.57	320	Pn	Pn	20 37 05.9	+0.1
HZTE	Horizontes, Gu	2.73	133	Pn	Pn	20 37 08.7	+0.8
ORTG	Ortega, Santa	3.08	136		Pn	20 37 14.0	+1.3
ESPN	Las Esperanzas	3.28	97	Pn	Pn	20 37 12.2	-3.1
JTS	Las Juntas de	3.48	131	Pn	Pn	20 37 23.3	+5.2
	comp=Z,13nm,0.3s,baz=19,slow=17,SNR=23						
JTS				Sn	Sn	20 37 58.8	+0.5
	comp=Z,2.3nm,0.3s,baz=10.0,slow=17,SNR=4.5						
JTS	Las Juntas de	3.48	131		Pn	20 37 17.5	-0.6
RIMA	Rio Macho	4.64	127		Pn	20 37 36.4	+2.3
SRBA	San Rafael, Bu	5.36	128	Pn	Pn	20 37 43.0	-0.8
TXAR	Lajitas Array	22.35	321	P	P	20 41 18.3	+0.6
	comp=Z,0.7nm,0.6s,baz=138,slow=9.6,SNR=10.0						
TXAR	Lajitas Array	22.35	321	P	P	20 41 17.6	-0.2
TX31	Lajitas Ar. Si	22.35	321	P	P	20 41 18.4	+0.7
TX31				IAmb	IAmb	20 41 47.0	
	comp=Z,4.7nm,1.1s						
TX32	Lajitas Array	22.35	321	P	P	20 41 18.7	+0.9
TX32				IAmb	IAmb	20 41 47.0	
	comp=Z,1.3nm,0.9s						
PDAR	Pinedale Array	35.56	332	P	P	20 43 16.7	+0.7
	comp=Z,0.2nm,0.3s,baz=127,slow=10,SNR=2.7						
SCHQ	Schefferville	45.19	17	P	P	20 44 33.5	-1.5
	comp=Z,2.0nm,0.5s,baz=223,slow=8.9,SNR=8.7						
SCHQ	Schefferville	45.19	17	IAmb	IAmb	20 44 57.5	
	comp=Z,7.2nm,1.1s						
YKA	Yellowknife Ar	53.43	345	P	P	20 45 36.4	-1.1
	comp=Z,0.1nm,0.3s,baz=136,slow=8.0,SNR=5.7						

*IDC **07** 20:45:09.8±2.2, 17°.25N×40°.31E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/35, mbtmp3.7/6, MS3.3/19, Ms1 3.3/19, ms1mx3.0/79, Error ellipse: s-maj=56.4km s-min=26.4km az=163.0*
*SGS **07** 20:45:10.7, 17°.61N×40°.22E, h10km, Ml3.0*
ISC 07 20:45:11.6±1.1**, 17°.5N**±0°.1×**40°.38E**±0°.10**, h10**km**, n32, σ1s89**/15**, mb3.6**/6**, MS3.3**/16**, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRSS2	Sair Farasan I	1.48	113	P	Pg	20 45 38.7	-1.3
FRSS2	Sair Farasan I	1.48	113	S	Sg	20 46 00.1	+0.9
AMGES	AMGES	1.50	47	P	Pn	20 45 34.0	-4.5
FRSS	Farasan al Kab	1.80	113	P	Pb	20 45 43.1	-1.6
FRSS	Farasan al Kab	1.80	113	S	Sg	20 46 07.2	-2.4
QNF01	Al Qunfudhah	2.12	24	P	Pn	20 45 43.6	-3.4
MKHL	Mahalah	2.20	92	P	Pn	20 45 47.4	-0.8
JAZS	Jizan	2.46	98	P	Pn	20 45 52.2	+0.5
DJNS	Zahran al Janu	3.03	85	P	Pn	20 46 00.9	+1.0
KNGHS	KNGHS	3.09	74	P	Pn	20 46 03.8	+3.2
MMAI	Mount Meron Ar	16.14	345	LR	LR	20 54 31.0	
	comp=Z,49nm,19.6s,baz=344,slow=34						
WSAR	Wadi Sarin	18.05	68	LR	LR	20 56 57.5	
	comp=Z,94nm,18.8s,baz=270,slow=39						
KMBO	Kilima Mbogo	18.71	190	LR	LR	20 56 38.1	
	comp=Z,118nm,18.6s,baz=88,slow=37						
GNI	Garni	22.94	9	LR	LR	20 58 39.9	
	comp=Z,40nm,20.1s,baz=186,slow=35						
BRTR	Keskin Array B	22.96	347	P	P	20 50 17.2	+1.0
	0.9nm,0.8s,baz=169,slow=7.6,SNR=3.9						
BRTR				LR	LR	20 58 22.2	
	comp=Z,41nm,20.5s,baz=145,slow=34						
GEYT	Alibeck	25.66	34	LR	LR	21 00 17.5	
	comp=Z,67nm,18.1s,baz=209,slow=35						
KBZ	Khabaz	26.29	4	LR	LR	21 01 56.9	
	comp=Z,49nm,19.1s,baz=178,slow=38						
LSZ	Lusaka	34.67	201	LR	LR	21 06 36.5	
	comp=Z,122nm,18.9s,baz=76,slow=37						
AKTO	Aktyubinsk	35.82	19	LR	LR	21 08 35.0	
	comp=Z,37nm,18.8s,baz=200,slow=39						
TORD	Torodi Ar. Bea	37.51	269	P	P	20 52 24.9	-1.2
	1.3nm,0.8s,baz=88,slow=7.0,SNR=6.4						
GERES	GERESS Array B	38.08	331	P	P	20 52 31.9	+1.4
	0.2nm,0.3s,baz=106,slow=2.9,SNR=5.1						
AAK	Ala-Archa	38.34	42	LR	LR	21 09 10.8	
	comp=Z,49nm,19.1s,baz=252,slow=37						
KIRV	Kirov	41.61	7	LR	LR	21 11 24.8	
	comp=Z,31nm,18.3s,baz=126,slow=38						
KOWA	Kowa	42.71	273	LR	LR	21 10 48.7	
	comp=Z,45nm,18.4s,baz=176,slow=36						
LBTB	Lobatse	44.59	199	LR	LR	21 10 37.6	
	comp=Z,32nm,18.6s,baz=190,slow=34						
MKAR	Makanchi Array	45.20	40	P	P	20 53 29.5	+0.7
	0.5nm,0.8s,baz=227,slow=7.6,SNR=6.6						
MKAR				LR	LR	21 14 39.7	
	comp=Z,72nm,18.8s,baz=218,slow=39						
DBIC	Dimbokro	45.40	262	LR	LR	21 12 07.1	
	comp=Z,37nm,18.8s,baz=124,slow=36						
NOA	NORSAR Array B	48.24	341	LR	LR	21 14 07.9	
	comp=Z,11nm,21.8s,baz=295,slow=36						
ZALV	Zalesovo Beam	49.97	33	P	P	20 54 07.0	+1.3
	1.8nm,0.8s,baz=240,slow=7.8,SNR=8.6						
SUR	Sutherland	52.97	201	LR	LR	21 17 42.3	
	comp=Z,80nm,18.9s,baz=144,slow=37						
SONM	Songino Array	61.21	45	P	P	20 55 28.3	+1.4
	0.8nm,0.8s,baz=256,slow=9.2,SNR=6.8						
SONM				LR	LR	21 24 50.8	
	comp=Z,39nm,19.6s,baz=152,slow=39						
KSRS	Korea Array	77.70	54	LR	LR	21 35 48.5	
	comp=Z,17nm,18.7s,baz=235,slow=39						

*IDC **07** 20:46:57.5±3.1, 8°.13S×157°.69E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/28, mbtmp3.6/6, Error ellipse: s-maj=104.4km s-min=29.7km az=124.0*
ISC 07 20:46:59.1±2.7**, 8°.1S**±0°.4×**157°.7E**±0°.5**, h10**km**, n9, σ0s35**/6**, mb3.6**/6**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.47	240	P	P	20 52 27.8	+0.2
	0.6nm,0.6s,baz=64,slow=9.8,SNR=6.8						
ASAR	Alice Springs	27.52	233	P	P	20 52 45.9	-0.3
	0.2nm,0.8s,baz=59,slow=9.9,SNR=2.3						
H11S3	WAKE ISLAND Hy	27.92	18	T	T	21 21 21.1	
	baz=202,slow=75,SNR=7.5						
H11S2	WAKE ISLAND Hy	27.92	19	T	T	21 21 16.4	
	baz=202,slow=75,SNR=6.1						
H11S1	WAKE ISLAND Hy	27.94	18	T	T	21 21 26.0	
	baz=202,slow=75,SNR=4.7						
SONM	Songino Array	71.75	326	P	P	20 58 21.5	-0.3
	0.6nm,0.8s,baz=147,slow=5.9,SNR=4.9						
ILAR	Eielson Array	83.47	21	P	P	20 59 26.7	+0.1
	0.2nm,0.8s,baz=218,slow=5.7,SNR=1.5						
MKAR	Makanchi Array	86.03	318	P	P	20 59 40.4	+0.4
	0.8nm,0.7s,baz=101,slow=6.1,SNR=8.7						
ZALV	Zalesovo Beam	86.63	326	P	P	20 59 42.6	-0.1
	0.7nm,0.5s,baz=142,slow=4.3,SNR=2.7						

*CNRM **07** 20:54:29.1, 35°.49N×3°.85W, h22km, ml2.4*
*MDD **07** 20:54:29.3±0.7, 35°.44N×3°.82W, h4km±5km, mb_Lg2.7/7, Error ellipse: s-maj=5.0km s-min=3.4km az=152.0*
ISC 07 20:54:29.0±1.1**, 35°.48N**±0°.03×**3°.83W**±0°.03**, h13**km±10km**, n18, σ0s89**/35**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.28	199	P	Pb	20 54 36.4	+0.5
PALE				S	Sb	20 54 40.5	+0.1
GOG	Mont Gurugu	0.73	111	P	Pg	20 54 42.9	-0.3
GOG				S	Sg	20 54 51.7	-1.1
EMEL	Melilla	0.73	104	Pg	Pg	20 54 43.1	-0.2
EMEL				Sg	Sg	20 54 52.3	-0.6
EMEL				*i* Vmb_Lg		20 54 55.3	
EALB	Alboran	0.79	54	Pg	Pg	20 54 44.5	+0.1
EALB				Sg	Sg	20 54 54.7	-0.1
EALB				*i* Vmb_Lg		20 54 59.6	
SMIR	Smir Dam	1.28	279	P	Pn	20 54 51.1	-1.5
SMIR				S	Sb	20 55 06.4	-2.9
CHEFC	Chefchaouen	1.29	254	P	Pg	20 54 54.1	+0.2
CHEFC				S	Sb	20 55 09.7	-0.1
EMIJ	Mijas	1.32	325	Pn	Pb	20 54 54.2	+0.5
EMIJ				Sn	Sg	20 55 12.9	+1.2
EMIJ				*i* Vmb_Lg		20 55 16.3	
TAF	Taforalt	1.34	119	P	Pn	20 54 52.9	-0.5
TAF				S	Sg	20 55 12.3	+0.2
ELGU	Los Guajares,	1.39	7	Pn	Pn	20 54 53.7	-0.6
ELGU				Sn	Sn	20 55 12.3	-0.2
ELGU				*i* Vmb_Lg		20 55 15.7	
EGOR	Sierra Gorda,	1.64	352	Pn	Pn	20 54 57.0	-0.7
EGOR				Sn	Sb	20 55 20.3	+0.4
EGOR				*i* Vmb_Lg		20 55 23.2	
EJIF	Jimena Fronter	1.65	307	Pn	Pb	20 54 59.5	+0.3
EJIF				Sn	Sb	20 55 20.2	+0.3
EQUE	Quentar	1.75	10	Sn	Sn	20 55 21.4	+0.1
EQUE				*i* Vmb_Lg		20 55 43.9	
MD31	MD31	2.72	197	P	Pn	20 55 13.2	+0.7
MD31				S	Sn	20 55 45.8	+0.6
ECAB	El Cabril	2.89	334	Pn	Pn	20 55 16.0	+1.2
ECAB				Sn	Sn	20 55 48.4	-0.9
ZHG	ZHG	3.09	230	P	Pn	20 55 18.2	+0.7
ZHG				S	Sn	20 55 54.1	-0.2
ETOB	Tobarra	3.65	29	Pn	Pn	20 55 25.9	+0.7
ETOB				Sn	Sn	20 56 09.2	+1.1
PVAQ	Vaqueiros	3.68	303	P	Pn	20 55 26.4	+0.9
PVAQ				S	Sn	20 56 07.3	-1.4
EBAD	Badajoz	4.14	323	Pn	Pn	20 55 31.6	-0.4
EBAD				Sn	Sn	20 56 19.7	-0.5

*IDC **07** 21:25:14.7±1.2, 38°.03N×15°.74E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.3/47, mbtmp3.6/7, ML2.9/2, Error ellipse: s-maj=29.6km s-min=11.5km az=149.0*
*LDG **07** 21:25:16.9±0.3, 37°.61N×15°.83E, h20km, Ml2.9/3, Error ellipse: s-maj=7.6km s-min=4.0km az=144.0*
*ROM **07** 21:25:17.0±0.1, 37°.620N±0°.005×15°.845E±0°.009, h30km, ML3.6/61, Error ellipse: s-maj=0.8km s-min=0.3km az=305.0*
ISC 07 21:25:17.5±1.3**, 37°.67N**±0°.03×**15°.81E**±0°.03**, h37**km±1km**, n129, σ1s61**/157**, mb3.6**/5**, 19C-8D, Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTTG	Motta San Giov	0.34	345	⇓P	Pn	21 25 26.5	+0.5
MTTG				S	Sn	21 25 32.8	-0.1
MTTG				AML	AML		
	comp=E,8050µm,0.5s						
MTTG				AML	AML		
	comp=N,11450µm,0.7s						
SOI	Samo	0.45	26	⇑P	Pn	21 25 27.9	+0.6
SOI				S	Sn	21 25 35.0	+0.6
SOI				AML	AML		
	comp=E,7495µm,0.8s						
SOI				AML	AML		
	comp=N,6895µm,0.6s						
SOI				AML	AML		
	comp=E,7500µm,0.8s						
SOI				AML	AML		
	comp=N,6900µm,0.6s						
GMB	Gambarie	0.50	2	P	Pn	21 25 28.6	+0.3
GMB				S	Sn	21 25 36.4	+0.7
GMB				AML	AML		
	comp=E,49350µm,0.3s						
GMB				AML	AML		
	comp=N,51300µm,0.2s						
AIO	Antillo	0.55	304	⇓P	Pn	21 25 29.4	+0.4
AIO				S	Sn	21 25 37.7	+0.8
AIO				AML	AML		
	comp=E,7430µm,1.1s						
AIO				AML	AML		
	comp=N,10790µm,0.7s						
AIO				AML	AML		
	comp=E,7425µm,1.1s						
MSCL	Scilla	0.56	358	P	Pn	21 25 29.5	+0.3
MSCL				S	Sn	21 25 38.1	+0.8
MSCL				AML	AML		
	comp=E,19900µm,1.6s						
MSCL				AML	AML		
	comp=N,16000µm,0.5s						
CEL	Celeste	0.59	6	P	Pn	21 25 30.0	+0.3
CEL				S	Sn	21 25 39.2	+1.2
CEL				AML	AML		
	comp=N,7465µm,0.4s						
CEL				AML	AML		
	comp=E,10670µm,1.0s						
CEL				AML	AML		
	comp=E,8805µm,1.2s						
CEL				AML	AML		
	comp=N,6145µm,1.2s						
MPNC	Port Mandanici	0.60	323	⇓P	Pn	21 25 30.1	+0.4
MPNC				S	Sn	21 25 39.3	+1.2
AGST	Augusta-Monte	0.62	228	⇑P	Pn	21 25 29.7	-0.2
AGST				S	Sn	21 25 38.1	-0.5
AGST				AML	AML		
	comp=N,33400µm,0.3s						
AGST				AML	AML		
	comp=E,18550µm,0.4s						
MSRU	Castanea	0.64	338	⇓P	Pn	21 25 30.7	+0.5
MSRU				S	Sn	21 25 40.7	+1.6
NOV	Novara	0.64	304	⇓P	Pn	21 25 30.7	+0.4
NOV				AML	AML		
	comp=E,10120µm,0.5s						
NOV				AML	AML		

comp=N,9800µm,0.6s
HAGA Augusta 0.65 234 ⇑P **Pn 21 25 30.0 -0.3**
HAGA S **Sn 21 25 39.0 -0.3**
HAGA AML AML
comp=N,7055µm,0.3s
HAGA AML AML
comp=E,5815µm,0.4s
ESLN Serra La Nave 0.66 272 ⇑P **Pn 21 25 30.6 -0.1**
ESLN S **Sn 21 25 40.5 +0.6**
ESLN AML AML
comp=E,5765µm,0.2s
ESLN AML AML
comp=N,4095µm,0.2s
EMSG Monte Spagnolo 0.70 283 P **Pn 21 25 31.9 +0.9**
EMSG AML AML
comp=N,9895µm,0.3s
EMSG AML AML
comp=E,7700µm,0.9s
ESML S. M. di Licod 0.74 266 ⇑P **Pn 21 25 31.9 +0.4**
ESML S **Sn 21 25 42.2 +0.7**
ESML AML AML
comp=E,10750µm,0.5s
ESML AML AML
comp=N,10065µm,0.1s
MILZ Milazzo 0.75 323 ⇓P **Pn 21 25 32.5 +0.8**
MILZ S **Sn 21 25 43.7 +1.9**
MILZ AML AML
comp=E,13000µm,0.5s
MILZ AML AML
comp=N,5475µm,0.9s
EPZF Pizzo Felice 0.77 282 P **Pn 21 25 33.0 +1.0**
EPZF S **Sn 21 25 44.8 +2.4**
EPZF AML AML
comp=N,12900µm,0.4s
EPZF AML AML
comp=E,4955µm,0.3s
SSY Sortino 0.78 229 ⇑P **Pn 21 25 32.0 0.0**
SSY S **Sn 21 25 42.0 -0.6**
SSY AML AML
comp=N,14200µm,0.2s
SSY AML AML
comp=E,7900µm,1.2s
HLNI Lentini 0.81 247 ⇑P **Pn 21 25 32.5 +0.1**
HLNI S **Sn 21 25 43.0 -0.2**
HLNI AML AML
comp=E,9785µm,0.1s
HLNI AML AML
comp=N,9560µm,0.2s
HAVL Avola 0.89 218 ⇑P **Pn 21 25 33.7 +0.1**
HAVL S **Sn 21 25 45.5 +0.1**
HAVL AML AML
comp=E,12200µm,0.2s
HAVL AML AML
comp=N,13850µm,0.2s
MEU Monte Lauro 0.90 231 ⇑P **Pn 21 25 34.6 +0.9**
MEU S **Sn 21 25 46.7 +1.1**
MEU AML AML
comp=E,7440µm,0.8s
MEU AML AML
comp=N,8065µm,0.2s
MNO Monte Soro 0.92 287 P **Pn 21 25 35.4 +1.2**
MNO AML AML
comp=N,6955µm,0.3s
MNO AML AML
comp=E,5650µm,0.6s
MNO AML AML
comp=N,6960µm,0.3s
PLAC Placanica 0.92 32 ⇑P **Pn 21 25 35.3 +1.3**
PLAC S **Sn 21 25 47.9 +1.8**
PLAC AML AML
comp=E,2455µm,0.7s
PLAC AML AML
comp=E,2500µm,1.2s
PLAC AML AML
comp=N,2435µm,1.2s
PLAC AML AML
comp=N,2535µm,0.7s
VPL Vulcano Piano 0.96 318 P **Pn 21 25 35.4 +0.9**
VPL S **Sn 21 25 49.3 +2.3**
VPL AML AML
comp=E,23950µm,0.5s
VPL AML AML
comp=N,32100µm,1.1s
GALF Gagliano Caste 0.99 273 ⇑P **Pn 21 25 36.4 +1.6**
HVZN Vizzini 1.00 241 ⇑P **Pn 21 25 35.5 +0.4**
HVZN S **Sn 21 25 48.5 +0.6**
MSFR San Fratello 1.03 291 P **Pn 21 25 36.8 +1.4**
MSFR S **Sn 21 25 51.1 +2.4**
MSFR AML AML
comp=N,3930µm,0.3s
MSFR AML AML
comp=N,3935µm,0.3s
MSFR AML AML
comp=E,3725µm,0.7s
CAGR Agira 1.04 268 ⇑P **Pn 21 25 37.8 +2.2**
CAGR AML AML
comp=N,6995µm,0.6s
CAGR AML AML
comp=E,5340µm,0.5s
HMDC Modica 1.08 229 ⇑P **Pn 21 25 36.6 +0.5**
HMDC S **Sn 21 25 50.6 +0.6**
HMDC AML AML
comp=N,5695µm,0.3s
HMDC AML AML
comp=E,5470µm,0.9s
HPAC Pachino 1.12 210 ⇑P **Pn 21 25 37.6 +1.0**
HPAC S **Sn 21 25 51.6 +0.9**
HPAC AML AML
comp=E,7925µm,1.5s
HPAC AML AML
comp=N,10985µm,0.7s
VAE Valguarnera 1.13 261 Pg **Pn 21 25 39.5 +2.8**
comp=N,34nm,0.3s,baz=22,slow=8.2,SNR=136
VAE Lg Lg 21 25 53.3
comp=N,30nm,0.3s,baz=185,slow=24,SNR=6.5
IST3 Stromboli F 1.22 338 P **Pn 21 25 38.3 +0.3**
IST3 AML AML
comp=E,2340µm,0.4s
IST3 AML AML
comp=N,2320µm,0.6s
GRI Girifalco 1.25 23 P **Pn 21 25 39.4 +1.0**
GRI S **Sn 21 25 56.8 +2.8**
GRI AML AML
comp=N,1305µm,0.4s
GRI AML AML
comp=E,1655µm,1.3s
IFIL Filicudi I Eol 1.33 313 ⇓P **Pn 21 25 40.0 +0.5**
IFIL AML AML
comp=N,6480µm,0.4s
IFIL AML AML
comp=E,15100µm,0.2s
PETRA Petralia Sopra 1.35 277 P **Pn 21 25 41.8 +1.8**
PETRA AML AML
comp=N,1890µm,0.6s
PETRA AML AML
comp=E,1450µm,0.6s
PLLN Pollina 1.36 284 P **Pn 21 25 41.9 +1.9**
PLLN AML AML
comp=E,3095µm,0.8s
PLLN AML AML
comp=E,3100µm,0.8s
PLLN AML AML
comp=N,3560µm,0.8s
RESU Resuttano 1.39 270 P **Pn 21 25 42.9 +2.5**
RESU AML AML
comp=N,1046µm,0.5s
RESU AML AML
comp=E,767µm,0.5s
CSLB Castelbuono 1.41 281 P **Pn 21 25 42.6 +1.9**
CSLB AML AML
comp=E,492µm,1.2s
CSLB AML AML
comp=N,578µm,1.0s
IACL Alicudi 1.43 307 ⇓P **Pn 21 25 41.6 +0.6**
IACL AML AML
comp=E,3935µm,0.5s
IACL AML AML
comp=N,3940µm,0.4s
GIB Gibilmanna 1.45 283 P **Pn 21 25 42.7 +1.5**
SERS Sersale 1.53 27 ⇑P **Pn 21 25 43.9 +1.4**
CLTA Licata 1.56 251 ⇑P **Pn 21 25 45.0 +2.3**
CLTA AML AML
comp=E,2505µm,0.5s
CLTA AML AML
comp=N,3425µm,1.1s
CMDO Montedoro 1.59 263 P **Pn 21 25 46.4 +3.3**

CAR1 CAROLEI 1.61 11 P **Pn 21 25 43.8 +0.3**
CAR1 AML AML
comp=E,1815µm,0.5s
CAR1 AML AML
comp=N,1225µm,0.5s
CAR1 AML AML
comp=E,1765µm,0.5s
CAR1 AML AML
comp=N,1135µm,0.5s
ALJA Alia 1.63 273 P **Pn 21 25 46.4 +2.7**
ALJA AML AML
comp=E,526µm,0.8s
ALJA AML AML
comp=N,474µm,1.5s
SPS2 Spezzano della 1.67 14 P **Pn 21 25 45.5 +1.2**
SPS2 AML AML
comp=E,440µm,0.5s
SPS2 AML AML
comp=N,486µm,0.4s
TIP Timpagrande 1.68 26 ⇑P **Pn 21 25 45.6 +1.2**
TIP AML AML
comp=E,311µm,0.9s
TIP AML AML
comp=E,352µm,0.9s
TIP AML AML
comp=N,325µm,0.8s
TIP AML AML
comp=N,270µm,0.8s
FAVR Favara 1.75 257 P **Pn 21 25 48.2 +2.9**
FAVR AML AML
comp=E,683µm,1.2s
FAVR AML AML
comp=N,580µm,0.9s
CELI Celico 1.81 17 P **Pn 21 25 47.6 +1.2**
SOLUN Solunto 1.85 284 P **Pn 21 25 48.3 +1.6**
SOLUN AML AML
comp=E,314µm,0.7s
SOLUN AML AML
comp=N,158µm,1.2s
LADO San Nicola del 1.85 29 P **Pn 21 25 47.8 +0.9**
CET2 Cetraro 1.86 3 P **Pn 21 25 47.3 +0.5**
CET2 AML AML
comp=N,1250µm,0.3s
CET2 AML AML
comp=E,1145µm,1.5s
PIPA Pietrapaola 1.98 23 P **Pn 21 25 49.8 +1.3**
PIPA AML AML
comp=N,342µm,1.5s
PIPA AML AML
comp=E,379µm,0.6s
MPG Monte Pellegri 2.00 285 P **Pn 21 25 50.4 +1.6**
TDS Terranova Siba 2.03 12 P **Pn 21 25 50.9 +1.7**
TDS AML AML
comp=E,172µm,1.1s
TDS AML AML
comp=N,168µm,0.9s
WDD Wied Dalam 2.10 210 P **Pn 21 25 51.0 +0.9**
WDD S **Sn 21 26 16.5 +1.6**
WDD AML AML
comp=E,1043µm,0.3s
WDD AML AML
comp=N,1391µm,0.6s
WDD AML AML
comp=E,1155µm,0.4s
WDD AML AML
comp=N,1400µm,0.6s
MMN Mormanno 2.22 4 P **Pn 21 25 53.7 +1.9**
MMN AML AML
comp=E,162µm,0.2s
MMN AML AML
comp=N,240µm,1.3s
SALB San Lorenzo Be 2.24 11 P **Pn 21 25 54.3 +2.1**
USI Ustica 2.32 297 P **Pn 21 25 53.4 +0.2**
BULG Bulgheria - Ca 2.43 352 P **Pn 21 25 55.7 +1.0**
MGR Morigerati 2.47 355 P **Pn 21 25 55.6 +0.4**
MGR AML AML
comp=N,180µm,1.1s
MGR AML AML
comp=E,229µm,1.0s
SIRI Monte Sirino - 2.51 1 P **Pn 21 25 56.6 +0.7**
SIRI AML AML
comp=E,343µm,0.3s
SIRI AML AML
comp=N,231µm,0.3s
MTSN Montesano sull 2.59 359 P **Pn 21 25 57.9 +0.8**
MCEL Monticello 2.65 360 P **Pn 21 25 59.0 +1.2**
MCEL AML AML
comp=E,183µm,1.5s
MCEL AML AML
comp=N,194µm,1.2s
AG11 Viggiano (PZ) 2.66 2 P **Pn 21 26 00.1 +2.2**
CMPR Campora 2.67 352 P **Pn 21 25 58.5 +0.4**
CMPR AML AML
comp=E,227µm,0.3s
CMPR AML AML
comp=N,159µm,1.1s
SLCN Sala Consilina 2.72 357 P **Pn 21 26 00.2 +1.4**
CRAC Craco 2.73 10 P **Pn 21 26 01.5 +2.6**
CDRU Civita di Ruta 2.84 352 P **Pn 21 26 01.3 +0.9**
MIGL Miglionico 2.97 9 P **Pn 21 26 03.6 +1.5**
MATE Matera 3.06 13 P **Pn 21 26 03.3 0.0**
MATE AML AML
comp=E,324µm,1.3s
MATE AML AML
comp=N,354µm,1.6s
MRLC Muro Lucano 3.09 355 P **Pn 21 26 07.0 +3.2**
ACER Acerenza 3.11 2 P **Pn 21 26 06.3 +2.1**
ACER AML AML
comp=E,210µm,0.3s
ACER AML AML
comp=N,219µm,0.3s
MCRV Calabrutti - M 3.15 351 P **Pn 21 26 06.9 +2.3**
SCTE Santa Cesarea 3.17 40 ⇑P **Pn 21 26 04.5 -0.4**
SCTE AML AML
comp=E,481µm,0.2s
SCTE AML AML
comp=N,480µm,1.5s
LIO3 Lioni 3.26 352 P **Pn 21 26 08.5 +2.4**
NOCI Noci 3.26 17 P **Pn 21 26 05.5 -0.6**
NOCI AML AML
comp=N,966µm,0.6s
NOCI AML AML
comp=E,668µm,1.4s
PALZ Palazzo San Ge 3.27 2 P **Pn 21 26 08.4 +2.2**
AMUR Altamura 3.29 11 P **Pn 21 26 06.7 +0.2**
AMUR AML AML
comp=E,331µm,0.9s
AMUR AML AML
comp=N,456µm,1.3s
MESG Mesagne 3.32 28 P **Pn 21 26 06.2 -0.6**
MESG AML AML
comp=N,574µm,0.5s
MESG AML AML
comp=E,506µm,1.4s
LPDG Lampedusa Capo 3.34 231 AML AML
comp=E,2015µm,0.4s
LPDG AML AML
comp=N,1745µm,0.3s
MRVN Minervino Murg 3.40 5 P **Pn 21 26 09.0 +1.0**
MRVN AML AML
comp=E,222µm,0.6s
MRVN AML AML
comp=N,191µm,0.8s
KEK Kerkira 3.73 56 P **Pn 21 26 11.3 -1.3**
KEK AML AML
comp=E,61µm,1.6s
KEK AML AML
comp=N,48µm,0.2s
VLS Valsamata 3.81 81 P **Pn 21 26 13.0 -0.7**
VLS AML AML
comp=E,68µm,0.7s
VLS AML AML
comp=N,56µm,0.3s
SRN Sarande 3.95 55 P **Pn 21 26 14.2 -1.3**
VLO Vlora 4.00 45 P **Pn 21 26 17.2 +0.9**
VLO AML AML
comp=N,520µm,1.4s
VLO AML AML
comp=E,460µm,1.3s
MSAG Monte S. Angel 4.04 1 P **Pn 21 26 17.7 +0.8**
APRC Apricena 4.09 357 P **Pn 21 26 19.7 +2.2**
APRC AML AML
comp=N,191µm,1.2s
APRC AML AML
comp=E,113µm,1.5s
TIR Tirane 4.83 39 P **Pn 21 26 28.2 +0.6**
TIR AML AML
comp=N,340µm,0.2s
TIR AML AML
comp=E,226µm,1.1s
KBN Korca 4.87 51 P **Pn 21 26 29.1 +0.8**
ITM Ithomi 4.89 94 P **Pn 21 26 28.9 +0.4**
LSTV Lastovo 5.16 9 *e*Pn **Pn 21 26 30.9 -1.2**
HCY Herceg Novi 5.20 23 *e*Pn **Pn 21 26 30.9 -1.8**
DRME Dracevica, Mon 5.20 29 *e*Pn **Pn 21 26 30.2 -2.6**
DBRK Dubrovnik 5.30 19 *e*Pn **Pn 21 26 32.8 -1.4**
STON Ston 5.39 15 *e*Pn **Pn 21 26 33.7 -1.6**
STON Ston 5.39 15 *e*Pn **Pn 21 26 33.8 -1.5**
STON Ston 5.39 15 P **Pn 21 26 34.1 -1.2**
TREB Trebinje 5.40 20 *e*Pn **Pn 21 26 32.2 -3.3**
PDG Podgorica 5.44 28 *e*Pn **Pn 21 26 34.1 -1.9**
HVAR Hvar 5.52 5 *e*Pn **Pn 21 26 36.3 -0.9**
KEST Kesra 5.54 252 Pn **Pn 21 26 40.4 +2.9**
comp=E,0.7nm,0.3s,baz=65,slow=14,SNR=14
KEST Sn **Sn 21 27 39.9 -0.1**
comp=E,0.1nm,0.3s,baz=223,slow=19,SNR=1.1
BRY Bratogost 5.63 21 *e*Pn **Pn 21 26 36.6 -2.1**
MAKA Makarska 5.69 9 *e*Pn **Pn 21 26 38.4 -1.0**
RICI Ricice 5.91 9 *e*Pn **Pn 21 26 41.4 -1.0**
ZIRJ Zirje 5.98 359 *e*Pn **Pn 21 26 44.4 +1.0**
ZIRJ Sn **Sn 21 27 47.5 -3.1**
MORI Morici 6.19 359 *e*Pn **Pn 21 26 48.1 +1.8**
KIJV Kijevo 6.34 4 *e*Pn **Pn 21 26 48.7 +0.3**
STIP Stip 6.35 49 *i* Pn **Pn 21 26 51.3 +2.7**
RUDO Rudo 6.53 23 *e*Pn **Pn 21 26 50.6 -0.4**
MGRS Mrkonjic Grad 6.81 8 *e*Pn **Pn 21 26 56.2 +1.4**
PGF Pioggiola 7.14 315 *e*P **Pn 21 27 02.6 +3.2**
PGF *e*Sn **Sn 21 28 16.8 -2.5**
comp=E,4.4nm,0.6s
BLY Banja Luka 7.15 8 *e*Pn **Pn 21 27 00.0 +0.5**
DIVS Divibare 7.16 25 *e*Pn **Pn 21 26 58.2 -1.5**
MRAK Mrakovica 7.38 6 *e*Pn **Pn 21 27 01.8 -0.9**
IDI Anoyia 7.69 105 Pn **Pn 21 27 08.3 +1.3**
comp=E,0.1nm,0.3s,baz=13,slow=15,SNR=1.9
FRGS Fruska Gora 8.06 21 *e*Pn Pn 21 27 08.5 -3.5
MORH Mrgy, Hungar 8.79 13 *e*Pn **Pn 21 27 19.0 -3.0**
LMR La Mourre 9.06 312 *e*Pn **Pn 21 27 25.8 +0.1**
LMR *e*Sn **Sn 21 29 01.4 -5.0**
comp=E,0.2nm,0.3s
FRF La Foret Royal 9.12 313 *e*P Pn 21 27 33.0 +6.6
MBDF Montbardon 9.80 319 *e*Pn **Pn 21 27 36.4 +0.5**
MBDF *e*Sn **Sn 21 29 18.8 -5.9**
comp=E,0.8nm,0.5s
SMRF Simiane la Rot 9.99 312 *e*Pn **Pn 21 27 38.3 -0.1**
LPG La Plagne 10.35 322 *e*Pn **Pn 21 27 43.3 -0.3**
LPL La Plagne 10.37 322 *e*Pn **Pn 21 27 43.8 0.0**
ORIF Oris-en-Rattie 10.40 317 *e*Pn **Pn 21 27 43.8 -0.3**
KBZ Knabaz 21.36 65 P **P 21 30 04.0 +2.5**
comp=E,3.3nm,0.8s,baz=332,slow=3.2,SNR=8.5
EKA Eskdalemuir Ar 21.84 330 P **P 21 30 05.5 -1.1**
comp=E,0.4nm,0.4s,baz=138,slow=10,SNR=6.3
HFS Hagfors 22.52 357 P **P 21 30 12.1 -1.8**
comp=E,0.7nm,0.6s,baz=180,slow=12,SNR=5.9
FINES FINESS Array B 24.65 12 P **P 21 30 32.5 -1.9**
comp=E,1.2nm,0.7s,baz=191,slow=9.0,SNR=6.7
MKAR Makanchi Array 48.72 57 P **P 21 33 59.7 +1.4**
comp=E,0.3nm,0.4s,baz=281,slow=6.9,SNR=12

FUNV ***07*** *21:31:18.0, 9.°06N×70.°28W, h5km, MW4.0*
ISC 07 21:31:15.9±1.3, 9.°05N±0.°03×70.°24W±0.°03, h6km±11km, n27, σ1s77/50, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.42**	**247**	⇑*e*P		**Pb**	**21 31 25.7**	**-0.1**
SDV				*e*S		**Sb**	**21 31 31.2**	**-1.2**
SOCV	**Socops**	**0.97**	**219**	*e*P		**Pb**	**21 31 35.4**	**+0.3**
SOCV	**Socops**	**0.97**	**219**	*e*P		**Pb**	**21 31 35.5**	**+0.3**
SOCV				*e*S		**Sb**	**21 31 49.2**	**+1.0**
CURV	**Curarigua**	**1.00**	**16**	*e*P		**Pn**	**21 31 37.0**	**+0.5**
CURV				*e*S		**Sn**	**21 31 50.4**	**-0.5**
SIQV	**Siquisique**	**1.65**	**15**	*e*P		**Pg**	**21 31 47.2**	**-0.3**
SIQV				*e*S		**Sg**	**21 32 08.3**	**-0.5**
DABV	**Dabajuro**	**1.90**	**348**	*e*P		**Pg**	**21 31 52.7**	**+0.4**
DABV				*e*S		**Sg**	**21 32 16.5**	**-0.6**
DABV	**Dabajuro**	**1.90**	**348**	*e*P		**Pb**	**21 31 50.8**	**-0.2**
DABV				*e*S		**Sb**	**21 32 14.3**	**-0.6**
MAPV	**Macapo**	**1.93**	**66**	*e*P		**Pb**	**21 31 51.5**	**0.0**
MAPV				*e*S		**Sb**	**21 32 15.9**	**+0.2**
ELOV	**Elorza**	**2.17**	**160**	*e*P		**Pb**	**21 31 55.0**	**-0.6**
ELOV				*e*S		**Sb**	**21 32 23.7**	**+1.0**
ELOV	**Elorza**	**2.17**	**160**	*e*P		**Pb**	**21 31 54.9**	**-0.7**
ELOV				*e*S		**Sn**	**21 32 22.1**	**+2.3**
CAPV	**Capacho**	**2.36**	**240**	*e*S		**Sn**	**21 32 25.1**	**+0.3**
JACV	**Jacura**	**2.46**	**34**	*e*S		**Sn**	**21 32 27.9**	**+1.0**
MCQV	**Machiques**	**2.47**	**294**	*e*P		**Pn**	**21 31 57.6**	**+0.9**
MCQV				*e*S		**Sn**	**21 32 26.9**	**-0.3**
TURV	**Turiamo**	**2.75**	**59**	*e*P		**Pn**	**21 32 02.6**	**+2.1**
TURV				*e*S		**Sn**	**21 32 35.3**	**+1.3**
BENV	**Beln**	**2.76**	**71**	*e*P		**Pn**	**21 32 02.3**	**+1.6**
BENV				*e*S		**Sn**	**21 32 35.0**	**+0.5**
PAMC	**Pamplona, Colo**	**2.97**	**235**	*e*P		**Pb**	**21 32 07.4**	**-2.1**
PAMC				*e*S		**Sb**	**21 32 46.8**	**+0.7**
PAMC				*i*			21 32 53.3	
comp=Z,138nm,0.4s								
OCAC	**Ocana**	**3.15**	**255**	*e*S		**Sg**	**21 32 55.6**	**-1.5**
OCAC				*i*			21 32 58.3	
comp=Z,729nm,0.6s								
CARV	**Caracas**	**3.57**	**66**	*e*P		**Pn**	**21 32 13.4**	**+1.4**
CARV				*e*S		**Sn**	**21 32 54.3**	**-0.2**
FUNV	**FUNVISIS**	**3.67**	**67**	*e*P		**Pn**	**21 32 14.7**	**+1.4**
FUNV				*e*S		**Sn**	**21 32 56.9**	**0.0**
MERV	**Las Mercedes**	**3.90**	**87**	*e*P		**Pn**	**21 32 17.5**	**+1.1**
MERV				*e*S		**Sn**	**21 33 02.9**	**+0.4**
CACV	**CAICARA DEL OR**	**3.95**	**112**	*e*P		**Pb**	**21 32 25.2**	**-0.7**
CACV				*e*S		**Sb**	**21 33 15.7**	**+1.7**
BIRV	**Birongo**	**4.17**	**70**	*e*P		**Pn**	**21 32 21.5**	**+1.5**
BIRV				*e*S		**Sn**	**21 33 07.9**	**-1.1**
PAYV	**Puerto Ayacuch**	**4.43**	**144**	*e*P		**Pn**	**21 32 24.8**	**+1.2**
PAYV				*e*S		**Sn**	**21 33 14.7**	**-0.8**
PRGV	**PARIAGUAN**	**5.54**	**93**	*e*P		**Pn**	**21 32 39.4**	**+0.5**
PRGV				*e*S		**Sn**	**21 33 40.8**	**-2.1**
PCRV	**Puerto La Cruz**	**5.64**	**78**	*e*P		**Pn**	**21 32 41.5**	**+1.1**
PCRV				*e*S		**Sn**	**21 33 43.8**	**-1.7**
HELC	**Santa Helena**	**5.96**	**242**	*e*P		**Pn**	**21 32 49.5**	**+4.5**
HELC				*e*S		**Sn**	**21 33 57.4**	**+3.6**
LUEV	**Luepa**	**9.27**	**109**	*e*P		**Pn**	**21 33 29.8**	**-0.5**
LUEV				*e*S		**Sn**	**21 35 07.5**	**-7.6**

UCR ***07*** *21:45:46.0±0.6, 11.°83N×88.°04W, h40km, mb4.2(NEIC)*
IDC ***07*** *21:45:59.8±1.2, 11.°88N×86.°25W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/36, mbtmp3.7/7, ML3.3/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/69, Error ellipse: s-maj=82.3km s-min=16.8km az=52.0*
INET ***07*** *21:46:02.4±0.7, 11.°16N×86.°92W, h15km±9km, MW3.5*
NEIC ***07*** *21:46:04.4±1.7, 11.°23N±0.°07×86.°79W±0.°08, h43km±15km, mb4.2/18, Error ellipse: s-maj=12.9km s-min=7.5km az=49.0*
ISC 07 21:46:03.0±0.7, 11.°19N±0.°05×86.°89W±0.°06, h35km, n67, σ1s09/66, mb4.1/16, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.03**	**16**	*e*P		**Pn**	**21 46 21.6**	**+0.6**
MASN	**Masaya**	**1.07**	**42**	*e*P		**Pn**	**21 46 24.5**	**+2.8**
TISN	**Laguna Tiscapa**	**1.13**	**33**	*e*P		**Pn**	**21 46 21.9**	**-0.5**
MGAN	**Managua**	**1.14**	**33**	*e*P		**Pn**	**21 46 23.1**	**+0.6**
APYN	**Apoyeque**	**1.17**	**27**	*e*P		**Pn**	**21 46 22.3**	**-0.6**
MOMN	**Momotombo**	**1.26**	**16**	*e*P		**Pn**	**21 46 24.5**	**+0.3**
MOMN				*e*S		**Sn**	**21 46 41.9**	**+1.9**
CNGN	**Cerro Negro**	**1.32**	**8**			**Pn**	**21 46 25.1**	**+0.1**
HUEN		**1.34**	**32**	*e*P		**Pn**	**21 46 25.8**	**+0.5**
HZTE	**Horizontes, Gu**	**1.35**	**110**			**Pn**	**21 46 25.5**	**0.0**
TEL3	**Telica 3**	**1.38**	**2**	*e*P		**Pn**	**21 46 26.1**	**+0.3**
BUEV	**Buena Vista**	**1.51**	**105**	*i* P		**Pn**	**21 46 27.7**	**+0.1**
GB1A	**Borinquen Arri**	**1.51**	**104**	*i* P		**Pn**	**21 46 28.1**	**+0.4**
CRIN	**San Cristobal**	**1.51**	**354**			**Pn**	**21 46 27.9**	**+0.2**
ORTG	**Ortega, Santa**	**1.63**	**120**	Pn		**Pn**	**21 46 28.4**	**-0.9**
BOAB	**BOACO BROADBAN**	**1.73**	**44**			**Pn**	**21 46 30.9**	**+0.2**
CUI	**Cuipilapa**	**1.77**	**107**	*i* P		**Pn**	**21 46 32.0**	**+0.7**
ACON	**Acoyapa**	**1.85**	**65**			**Pn**	**21 46 31.7**	**-0.6**
CSGN	**Cosiguina Volc**	**1.89**	**340**	*e*P		**Pn**	**21 46 32.8**	**-0.2**
ACAL	**Aguas Claras**	**1.90**	**107**	*i* P		**Pn**	**21 46 33.9**	**+0.8**
MATN	**Matagalpa**	**1.97**	**28**			**Pn**	**21 46 34.3**	**+0.3**
MATN	**Matagalpa**	**1.97**	**28**	*e*P		**Pn**	**21 46 34.4**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTS	Las Juntas de	2.10	115	Pn	Pn	21 46 35.7	-0.1
	10nm,0.3s,baz=3.5,slow=6.8,SNR=36						
JTS				Sn	Sn	21 47 02.7	+2.0
	8.5nm,0.3s,baz=334,slow=7.1,SNR=3.7						
JTS				LR	LR	21 47 08.2	
	comp=Z,109nm,18.0s,baz=1.5,slow=34						
JTS	Las Juntas de	2.10	115	Pn	Pn	21 46 36.2	+0.4
JTS	Las Juntas de	2.10	115	*e*P	Pn	21 46 36.0	+0.2
JACO	JACO, Garabito	2.67	124	Pn	Pn	21 46 44.0	+0.4
ESPN	Las Esperanzas	2.73	68	Pn	Pn	21 46 45.3	+0.9
TGUH	Tegucigalpa,Un	2.88	353	Pn	Pn	21 46 47.2	+0.6
TGUH	Tegucigalpa,Un	2.88	353	*e*P	Pn	21 46 47.4	+0.9
RIMA	Rio Macho	3.29	115	Pn	Pn	21 46 53.3	+0.9
SRBA	San Rafael, Bu	3.98	119	Pn	Pn	21 47 03.3	+1.6
MTO3	Montecristo	4.00	323	Pn	Pn	21 47 03.4	+1.4
DRK0	Durika	4.07	118	Pn	Pn	21 47 05.3	+2.4
RIOS	Rincon, Osa	4.14	126	Pn	Pn	21 47 04.1	+0.2
BRU2	Volcan	4.77	120	Pn	Pn	21 47 12.8	+0.2
MOIG	Morelia	16.15	303	Pn	Pn	21 49 49.7	+2.0
SDV	Santo Domingo	16.17	97	Pn	P	21 49 49.7	-1.1
	0.4nm,0.3s,baz=265,slow=14,SNR=4.3						
SDV				LR	LR	21 56 36.7	
	comp=Z,57nm,18.1s,baz=263,slow=41						
ATAH	Atahualpa	20.07	155	LR	LR	21 56 50.6	
	comp=Z,55nm,20.9s,baz=352,slow=32						
GOGA	Godfrey	22.34	8	P	P	21 50 59.6	+1.7
TXAR	Lajitas Array	23.89	322	P	P	21 51 13.3	-0.4
	1.3nm,0.7s,baz=134,slow=9.8,SNR=10.0						
TXAR	Lajitas Array	23.89	322	P	P	21 51 14.1	+0.4
TX31	Lajitas Ar. Si	23.90	322	P	P	21 51 14.4	+0.7
TX31				IAmb	IAmb	21 51 28.9	
	comp=Z,7.8nm,0.8s						
TX32	Lajitas Array	23.90	322	P	P	21 51 13.2	-0.6
W50A	Signal Mountai	23.95	3	P	P	21 51 13.5	-0.6
W50A				IAmb	IAmb	21 51 15.8	
	comp=Z,6.7nm,1.0s						
MIAR	Mount Ida	24.04	346	P	P	21 51 14.2	-0.6
MIAR				IAmb	IAmb	21 51 17.2	
	comp=Z,4.3nm,0.8s						
SKI	Saint Kitts	24.18	73	P	P	21 51 14.3	-2.0
CPCT	Cooper Cave	24.25	5	P	P	21 51 16.9	+0.1
CPCT				IAmb	IAmb	21 51 20.2	
	comp=Z,5.3nm,0.8s						
X37A	Clayton	24.55	343	P	P	21 51 19.7	+0.2
X37A				IAmb	IAmb	21 51 21.4	
	comp=Z,5.4nm,0.8s						
S39A	Bolivar	27.02	349	P	P	21 51 40.0	-1.9
S39A				IAmb	IAmb	21 51 41.6	
	comp=Z,6.6nm,0.8s						
AMTX	Amarillo	27.16	333	P	P	21 51 43.2	-0.2
AMTX				IAmb	IAmb	21 51 44.9	
	comp=Z,6.8nm,0.7s						
N59A	State Game Lan	31.19	16	P	P	21 52 19.5	+0.5
M57A	Sunshine Farm,	31.23	14	P	P	21 52 18.6	-0.7
PV03	Paradox Valley	33.35	328	P	P	21 52 39.3	+1.1
PV03				IAmb	IAmb	21 52 45.4	
	comp=Z,2.2nm,0.9s						
PV12	Saucer Basin,	33.37	328	P	P	21 52 39.2	+0.8
PV12				IAmb	IAmb	21 52 45.1	
	comp=Z,4.0nm,0.9s						
COWI	Conover	34.85	357	P	P	21 52 49.2	-1.6
SRU	San Rafael Swe	34.87	327	P	P	21 52 52.5	+1.2
SRU				IAmb	IAmb	21 53 00.1	
	comp=Z,3.2nm,0.9s						
PDAR	Pinedale Array	37.14	332	P	P	21 53 10.4	-0.4
	comp=Z,0.4nm,0.6s,baz=124,slow=11,SNR=2.8						
PDAR	Pinedale Array	37.14	332	P	P	21 53 09.9	-0.8
MOOW	Moose Ponds	38.45	332	P	P	21 53 22.0	+0.3
NVAR	Mina Array Bea	39.01	319	P	P	21 53 28.1	+1.5
	comp=Z,0.3nm,0.4s,baz=98,slow=6.7,SNR=14						
NVAR				PcP	PcP	21 55 38.2	+1.8
	comp=Z,0.4nm,0.6s,baz=134,slow=3.8,SNR=5.4						
ULM	Lac du Bonnet	39.65	351	P	P	21 53 29.3	-2.1
	comp=Z,1.5nm,0.6s,baz=175,slow=7.6,SNR=4.0						
MCMT	McKenzie Canyo	40.25	331	P	P	21 53 37.2	+0.3
H03N2	Juan Fernandez	45.02	171	T	T	22 43 21.2	
	baz=85,slow=73,SNR=13						
H03N1	Juan Fernandez	45.03	171	T	T	22 43 28.1	
	baz=85,slow=73,SNR=15						
H03N3	Juan Fernandez	45.04	171	T	T	22 43 18.0	
	baz=85,slow=73,SNR=13						
BDFB	Brasilia	46.82	124	P	P	21 54 30.2	+0.3
	comp=Z,0.9nm,0.3s,baz=115,slow=7.6,SNR=2.3						
YKA	Yellowknife Ar	54.97	345	P	P	21 55 28.0	-2.4
	comp=Z,0.4nm,0.7s,baz=137,slow=7.4,SNR=6.9						
CMAR	Chiang Mai Arr	149.99	349	PKPbc	PKPbc	22 05 51.4	+0.5
	comp=Z,1.1nm,0.3s,baz=342,slow=3.4,SNR=7.4						

*KRNET **07** 22:14:15.9±0.1, 39°.34N×76°.25E, mb3.4*
*SOME **07** 22:14:20.9, 39°.78N×76°.12E, h5km*
*NNC **07** 22:14:21.8±2.0, 39°.80N×76°.05E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=14.0km s-min=9.9km az=167.0*
ISC 07 22:14:24.7±1.5, **39°.91N**±0°.07×**75°.98E**±0°.03, **h10**km, **n62**, σ**2s.28**/93, **29C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARLS	Aral	2.32	328	⇑*i*P	Pb	22 15 05.5	-1.1
	baz=30						
ARLS				⇑*i*S	Sg	22 15 41.7	+2.6
	baz=30						
ULHL	Ulahol	2.34	5	P	Pb	22 15 07.2	+0.2
	SNR=26						
ULHL	Ulahol	2.34	5	⇑*i*P	Pb	22 15 05.6	-1.4
	baz=60						
ULHL				⇑*i*S	Sg	22 15 41.8	+2.0
	baz=60						
KDJ	Kajisay	2.39	22	⇑*e*P	Pb	22 15 05.4	-2.6
	baz=14						
KDJ				⇑*i*S	Sg	22 15 41.6	0.0
	baz=14						
UCH	Uchtor	2.56	335	P	Pb	22 15 08.7	-2.3
	SNR=36						
UCH	Uchtor	2.56	335	⇑*i*P	Pb	22 15 09.6	-1.4
	baz=36						
UCH				⇑*i*S	Sg	22 15 48.9	+1.8
	baz=36						
BOOM	Boomskoye usch	2.57	359	⇑*i*P	Pb	22 15 09.1	-1.9
	baz=56						
BOOM				⇑*i*S	Sg	22 15 48.1	+0.7
	baz=56						
AML	Almayashu	2.81	323	P	Pn	22 15 11.4	+1.4
	SNR=21						
AAK	Ala-Archa	2.94	338	P	Pb	22 15 14.2	-3.1
	SNR=6.7						
AAK	Ala-Archa	2.94	338	⇑*i*P	Pb	22 15 14.7	-2.6
	baz=39						
AAK				⇑*i*S	Sg	22 15 57.6	-1.6
	baz=39						
AAK	Ala-Archa	2.94	338	⇓Pg	Pb	22 15 14.1	-3.2
	4.4nm,0.6s						
AAK				⇑Lg	Lg	22 16 00.2	
	25nm,0.6s						
TKM2	Tokmak 2	3.02	355	P	Pb	22 15 15.8	-2.8
	SNR=11						
TKM2	Tokmak 2	3.02	355	⇑*i*P	Pb	22 15 15.5	-3.1
	baz=52						
TKM2				⇑*i*S	Sb	22 15 59.1	+3.5
	baz=52						
ANVS	Anan'yevo	3.13	23	⇑*e*P	Pn	22 15 15.6	+1.3
	baz=17						
ANVS				⇑*i*S	Sb	22 15 58.9	-0.1
	baz=17						
EKS2	Erkin-Say	3.21	330	⇑*e*P	Pb	22 15 18.1	-3.7
	baz=31						
EKS2				⇑*i*S	Sb	22 16 03.5	+2.5
	baz=31						
CHMS	Chumysh	3.22	344	P	Sg	22 16 09.6	+1.6
	SNR=7.4						
MTBS	Maitube	3.23	6	*e*P	Pb	22 15 23.0	+0.8
	5.5nm,0.2s						
MTBS				*e*S	Sg	22 16 07.5	-0.9
	12nm,0.2s						
MTBS	Maitube	3.23	6	Pg	Pg	22 15 24.3	-2.3
	5.9nm,0.4s						
MTBS				Lg	Lg	22 16 10.0	
	13nm,0.4s						
DGS	Degeres	3.33	357	*e*P	Pg	22 15 25.7	-2.8
	5.5nm,0.5s						
DGS				*e*S	Sg	22 16 12.9	+1.3
	20nm,0.4s						
DGS	Degeres	3.33	357	Pg	Pg	22 15 25.7	-2.8
	5.5nm,0.5s						
DGS				Lg	Lg	22 16 12.9	
	20nm,0.4s						
MDOK	Medeo	3.34	14	*e*P	Pb	22 15 24.7	+0.6
	5.6nm,0.2s						
MDOK				*e*S	Sg	22 16 11.5	-0.6
	29nm,0.2s						
MDOK	Medeo	3.34	14	Pg	Pb	22 15 19.5	-4.6
	5.4nm,0.6s						
MDOK				Lg	Lg	22 16 09.6	
	18nm,0.6s						
MDOK	Medeo	3.34	14	Pg	Pb	22 15 24.7	+0.6
	5.6nm,0.7s						
MDOK				Lg	Lg	22 16 11.5	
	29nm,0.7s						
KNDC	Almaty	3.38	12	⇑Pg	Pn	22 15 19.5	+1.9
	17nm,0.9s						
KNDC				⇑Lg	Lg	22 16 10.0	
	44nm,0.7s						
KOTS	Kotyrbulak	3.42	14	*e*P	Pb	22 15 26.5	+1.0
	6.3nm,0.2s						
KOTS				*e*S	Sg	22 16 13.4	-1.2
	86nm,0.2s						
KOTS	Kotyrbulak	3.42	14	Pg	Pg	22 15 27.3	-3.0
	6.3nm,0.4s						
KOTS				Lg	Lg	22 16 15.4	
	86nm,0.8s						
MRKS	Merke	3.51	325	*e*P	Pg	22 15 29.6	-2.3
	7.0nm,0.1s						
MRKS				*e*S	Sg	22 16 18.7	+1.3
	17nm,0.4s						
MRKS	Merke	3.51	325	Pg	Pg	22 15 30.2	-1.6
	7.1nm,0.5s						
MRKS				Lg	Lg	22 16 20.1	
	17nm,0.4s						
ARK	Arkit	3.58	303	⇑*i*P	Pn	22 15 22.5	+2.1
	baz=8.0						
ARK				⇑*i*S	Sb	22 16 10.7	-1.1
	baz=8.0						
SATY	Saty	3.63	29	*e*P	Pb	22 15 30.1	+1.0
	4.4nm,0.3s						
SATY				*e*S	Sg	22 16 19.5	-1.8
	11nm,0.5s						
SATY	Saty	3.63	29	Pg	Pg	22 15 30.5	-3.7
	4.4nm,0.3s						
SATY				Lg	Lg	22 16 20.5	
	11nm,0.5s						
SGDS	Sogindy	3.68	344	*e*P	Pg	22 15 32.5	-2.6
	2.3nm,0.3s						
SGDS				*e*S	Sg	22 16 23.7	+1.0
	13nm,0.3s						
SGDS	Sogindy	3.68	344	Pg	Pg	22 15 32.5	-2.6
SGDS				Lg	Lg	22 16 23.7	
ZHN	Zhinishke	3.74	29	*e*P	Pb	22 15 31.9	+1.0
	4.5nm,0.2s						
ZHN				*e*S	Sg	22 16 23.0	-1.7
	15nm,0.3s						
ZHN	Zhinishke	3.74	29	Pg	Pg	22 15 32.2	-4.0
	4.5nm,0.2s						
ZHN				Lg	Lg	22 16 23.3	
	15nm,0.3s						
KRBS	Karabastau	3.79	357	*e*P	Pb	22 15 33.6	+2.0
	5.7nm,0.3s						
KRBS				*e*S	Sg	22 16 26.6	+0.3
	12nm,0.2s						
KRBS	Karabastau	3.79	357	Pg	Pb	22 15 33.6	+2.0
	5.7nm,0.3s						
KRBS				Lg	Lg	22 16 26.6	
	12nm,0.6s						
KTBS	Karatobe	3.83	8	*e*P	Pb	22 15 33.7	+1.3
	3.4nm,0.1s						
KTBS				*e*S	Sg	22 16 26.2	-1.5
	46nm,0.2s						
KTBS	Karatobe	3.83	8	Pg	Pb	22 15 33.7	+1.3
	3.4nm,0.6s						
KTBS				Lg	Lg	22 16 26.2	
	46nm,0.4s						
KURS	Kuram	3.93	24	*e*P	Pb	22 15 35.6	+1.6
	8.2nm,0.8s						
KURS				*e*S	Sg	22 16 29.1	-1.7
	9.6nm,0.7s						
KURS	Kuram	3.93	24	Pg	Pb	22 15 35.6	+1.6
	8.2nm,0.8s						
KURS				Lg	Lg	22 16 29.1	
	9.6nm,0.7s						
UZB	Uzynbulak	3.96	34	*e*P	Pb	22 15 35.1	+0.5
	3.7nm,0.4s						
UZB				*e*S	Sg	22 16 28.4	-3.3
	7.0nm,0.7s						
UZB	Uzynbulak	3.96	34	Pg	Pb	22 15 35.1	+0.5
	3.7nm,0.4s						
UZB				Lg	Lg	22 16 28.4	
	7.0nm,0.7s						
BTK	Batken	3.97	274	⇑*e*P	Pn	22 15 24.3	-1.4
	baz=81						
BTK				⇑*i*S	Sn	22 16 14.2	+1.9
	baz=81						
KUU	Kurty	3.98	4	*e*P	Pg	22 15 37.4	-3.6
	2.8nm,0.3s						
KUU				*e*S	Sg	22 16 32.3	-0.3
	23nm,0.5s						
KUU	Kurty	3.98	4	Pg	Pg	22 15 37.4	-3.6
	2.8nm,0.3s						
KUU				Lg	Lg	22 16 32.3	
	23nm,0.5s						
CHKK	Chushkaly	4.01	10	*e*P	Pg	22 15 37.6	-3.9
	3.9nm,0.2s						
CHKK				*e*S	Sg	22 16 32.9	-0.4
	11nm,0.1s						
CHKK	Chushkaly	4.01	10	Pg	Pg	22 15 37.6	-3.9
	4.2nm,0.4s						
CHKK				Lg	Lg	22 16 32.9	
	12nm,0.4s						
TRKS	Terek-Say	4.02	295	⇑*e*P	Pn	22 15 26.5	+0.1
	baz=0.0						
TRKS				⇑*i*S	Sn	22 16 18.4	+4.8
	baz=0.0						
KPKS	Kokpek	4.08	29	*e*P	Pb	22 15 37.9	+1.1
	3.5nm,0.5s						
KPKS				*e*S	Sg	22 16 33.6	-2.2
	24nm,0.5s						
SHLS	Shalkode	4.16	38	*e*P	Pg	22 15 43.0	-1.4
	2.8nm,0.5s						
SHLS				*e*S	Sg	22 16 42.2	+3.9
	5.4nm,0.6s						
SHLS	Shalkode	4.16	38	Pg	Pg	22 15 43.5	-0.9
	2.8nm,0.5s						
SHLS				Lg	Lg	22 16 42.8	
	5.4nm,0.6s						
PDGK	Podgornoye	4.31	36	Pg	Pb	22 15 41.9	+1.3
	1.3nm,0.6s						
PDGK				Lg	Lg	22 16 39.9	
	6.7nm,0.6s						
PDGK	Podgornoye	4.31	36	⇑Pg	Pb	22 15 34.6	-6.0
	2.3nm,0.5s						
PDGK				⇓Lg	Lg	22 16 35.1	
	14nm,0.7s						
ARXS	Arharly	4.51	17	*e*P	Pb	22 15 45.8	+1.8
	2.9nm,0.5s						
ARXS				*e*S	Sg	22 16 47.1	-2.4
	9.2nm,0.2s						
ARXS	Arharly	4.51	17	Pg	Pb	22 15 45.8	+1.8
	2.9nm,0.5s						
ARXS				Lg	Lg	22 16 47.1	
	9.4nm,0.5s						
BLB	Baldybastay	4.57	23	*e*P	Pb	22 15 47.0	+1.9
	9.1nm,0.1s						
BLB				*e*S	Sg	22 16 48.9	-2.7
	12nm,0.4s						
BLB	Baldybastay	4.57	23	Pg	Pb	22 15 47.0	+1.9
	9.5nm,0.4s						
BLB				Lg	Lg	22 16 48.9	
	12nm,0.4s						
KK08	Karatay Array	5.21	309	⇑Pg	Pb	22 15 56.3	+0.3
	1.2nm,0.7s,baz=128,slow=16						
KK08				⇓Lg	Lg	22 17 11.9	
	2.2nm,0.5s,baz=124,slow=27						
DJR	Jarkent	5.24	31	*e*P	Pb	22 15 59.1	+2.6
	1.2nm,0.3s						
DJR				*e*S	Sg	22 17 09.4	-3.6
	4.1nm,0.4s						
DJR	Jarkent	5.24	31	Pg	Pb	22 15 59.1	+2.6
	1.2nm,0.3s						
DJR				Lg	Lg	22 17 09.4	
	4.1nm,0.4s						
BTLS	Baital	5.32	345	*e*P	Pg	22 16 02.4	-4.1
	1.0nm,0.3s						
BTLS				*e*S	Sg	22 17 15.0	-0.4
	7.5nm,0.1s						

*BJI **07** 22:43:20.5±0.0, 17°.47N×39°.72E, h26km, mb4.5/51, mB5.1/35, Ms4.7/39, Ms7 4.6/40*
*IDC **07** 22:43:21.4±0.9, 17°.53N×40°.20E, h0km, mb4.3/31, mb1 4.4/35, mb1mx4.3/52, mbtmp4.3/35, ML3.4/4, MS4.1/70, Ms1 4.1/70, ms1mx4.0/84, Error ellipse: s-maj=20.2km s-min=13.8km az=176.0*
*GCMT **07** 22:43:23.0±0.2, 17°.68N±0°.02×40°.28E±0°.03, h12km, MW4.9/105, Moment Tensor Solution. s21,c22; s105,c143; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.84±.07; $M_{\theta\theta}$1.27±.07; $M_{\phi\phi}$1.57±.08; $M_{r\theta}$-0.13±.30; $M_{\theta\phi}$-1.17±.05; $M_{\phi r}$-0.85±.30; Best double couple: $M_0$2.84300×10^{16} NP1:ϕ_s128.00000°,δ40.00000°, λ-107.00000°. NP2:ϕ_s330.00000°,δ52.00000°, λ-76.00000°. Principal axes: T 2.6580, Plg6.0000°, Azm50.0000°; N 0.3700, Plg11.0000°, Azm141.0000°; P -3.0280, Plg77.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SGS **07** 22:43:23.1, 17°.61N×40°.46E, h0km, Ml3.6*
*NEIC **07** 22:43:25.0±2.2, 17°.72N±0°.05×40°.34E±0°.09, h10km±1km, mb4.8/86, Error ellipse: s-maj=14.7km s-min=9.3km az=268.0*
*DSN **07** 22:43:31.0±2.7, 18°.17N×41°.10E, h10km, mb5.2/10, Error ellipse: s-maj=40.5km s-min=18.3km az=19.0*
ISC 07 22:43:23.9±0.4, **17°.69N**±0°.05×**40°.33E**±0°.05, **h10**km, **n327**, σ**1s.40**/300, **mb4.7**/113, **MS4.2**/80, **2C-7D, Red Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMGES	AMGES	1.38	56	P	Pn	22 43 45.4	-3.8
FRSS2	Sair Farasan I	1.63	121	P	Pn	22 43 49.6	-3.0
QNF02	Al Qunfudhah	1.75	39	P	Pg	22 43 57.6	+0.2
DRBS	Ad Darb	1.88	86	P	Pn	22 43 53.4	-2.7
DRBS	Ad Darb	1.88	86	S	Sn	22 44 16.4	-3.5
FRSS	Farasan al Kab	1.95	119	P	Pn	22 43 54.1	-2.9
NAMS	An Nimas	2.30	50	P	Pn	22 44 00.3	-1.9
ENMS	ENMS	2.53	57	P	Pn	22 44 03.9	-1.3
BAHS	BAHS	2.56	28	P	Pn	22 44 04.3	-1.4
ATD	Arta Tunnel	6.59	158		Pn	22 45 01.8	+0.9
RAYN	Ar Rayn	7.55	39		Pn	22 45 13.5	-0.7
RAYN	Ar Rayn	7.55	39	P	Pn	22 45 11.7	-2.5
FURI	Furi	8.89	191		Pn	22 45 33.7	+1.0
TRNA	Turayna	12.33	54	P	Pn	22 46 26.7	+7.2
SHMA	Al-Shehemyia	12.78	49	P	Pn	22 46 33.2	+7.5
EIL	Elat	12.90	339	Pn	Pn	22 46 28.4	+1.1
	0.1nm,0.3s,baz=117,slow=11,SNR=3.4						
EIL				Sn	Sn	22 49 06.0	+15
	0.2nm,0.3s,baz=68,slow=22,SNR=2.3						
EIL				LR	LR	22 50 30.0	
	comp=Z,1µm,19.2s,baz=162,slow=33						
DOK	Doka	13.15	84	P	P	22 46 37.4	-3.5
MZR	Muzera	13.41	65	P	P	22 46 45.9	+2.0
	SNR=8.0						
MZR	Muzera	13.41	65	*i* P	Pn	22 46 27.8	-6.6
	SNR=8.4						
MZWR	Madinat Zayed	14.03	62	P	P	22 46 51.8	+1.0
SHAO	Shalim	14.56	86	P	P	22 46 54.7	-2.0
ASF	Jabal al Asfar	14.75	348	Pn	Pn	22 46 54.1	+1.4
	0.2nm,0.3s,baz=174,slow=11,SNR=6.6						
ASF				Sn	S	22 49 51.8	-3.3
	0.2nm,0.3s,baz=133,slow=12,SNR=2.5						
UMZA	Um Al Zommool	14.79	68	P	P	22 46 58.0	-1.2
AJN	Ajban	15.28	61	P	P	22 47 04.2	-0.4
ASUD	Al Ashush, Dub	15.59	61	P	P	22 47 07.1	-0.9
ALNE	Al Ain	15.73	64	P	P	22 47 09.6	-0.1
	SNR=18						
ALNE	Al Ain	15.73	64	*i* P	Pn	22 47 02.7	-3.0
	SNR=16						
FAQ	Al Faqa, Dubai	15.86	61	P	P	22 47 12.1	+1.1
	SNR=9.1						
FAQ	Al Faqa, Dubai	15.86	61	*i* P	Pn	22 47 01.3	-6.0
	SNR=5.5						
MMAI	Mount Meron Ar	15.89	345	Pn	Pn	22 47 08.6	+0.8
	0.3nm,0.3s,baz=92,slow=11,SNR=3.1						
MMAI				Sn	S	22 50 19.6	+1.1
	baz=161,slow=10,SNR=1.9						
MMAI				LR	LR	22 52 41.1	
	comp=Z,745nm,19.1s,baz=325,slow=35						
NAZ	Nazwa, Dubai	16.01	60	*i* P	Pn	22 47 03.6	-5.7
	SNR=8.2						
ARQ	Araqi	16.17	67	P	P	22 47 15.6	+1.1
ASHO	Ashiyiah	16.22	62	P	P	22 47 16.1	+0.9
	SNR=13						
ASHO	Ashiyiah	16.22	62	*i* P	Pn	22 47 07.1	-5.0
	SNR=18						
HATD	Hatta, Dubai	16.34	62	P	P	22 47 17.5	+1.1
	SNR=10						
HATD	Hatta, Dubai	16.34	62	*i* P	Pn	22 47 07.0	-6.5
	SNR=15						
DQM	DQM	16.44	80	P	Pn	22 47 16.0	+1.1
UOSS	Minazif	16.45	61	P	P	22 47 17.3	-0.3
UOSS				IAmb	IAmb	22 47 25.1	
	comp=Z,81nm,1.3s						
UOSS	Minazif	16.45	61	P	Pn	22 47 17.0	+2.1
UOSS	Minazif	16.45	61	*i* P	Pn	22 47 13.1	-1.7
	SNR=10						
MSFE	Esma-Masafi	16.57	60	*i* P	Pn	22 47 13.9	-2.7
	SNR=5.6						
MASF	Masafi	16.58	60	P	Pn	22 47 17.8	+1.3
BSY	Bisya	16.61	70	P	Pn	22 47 17.0	0.0
SHME	Shamm	16.85	58	P	Pn	22 47 20.9	+0.9
BANOM	Banah	16.93	58	P	Pn	22 47 22.3	+1.3
BANOM	Banah	16.93	58	*i* P	Pn	22 47 17.0	-4.0
	SNR=6.4						
HOQ	Hoqain	16.93	67	P	P	22 47 24.1	+1.1
	SNR=12						
MHTO	MHTO	16.96	76	P	P	22 47 24.2	+0.9
	SNR=7.0						
JMDO	Jabal Madar	17.33	72	P	P	22 47 28.3	+0.8
	SNR=5.2						
SMDO	Samad	17.44	69	P	Pn	22 47 29.0	+1.4
	SNR=7.1						
BIDO	Bidbid	17.63	68	P	P	22 47 31.5	+0.8
WSAR	Wadi Sarin	18.00	69	P	Pn	22 47 35.2	+0.8
	comp=Z,0.2nm,0.3s,baz=269,slow=4.8,SNR=7.6						
WSAR				LR	LR	22 55 09.7	
	comp=Z,1µm,20.7s,baz=270,slow=39						
WSAR	Wadi Sarin	18.00	69	P	Pn	22 47 35.1	+0.8
JLN	Jalan Bani Buh	18.48	73	P	Pn	22 47 41.4	+1.3
KMBO	Kilima Mbogo	18.95	190	P	P	22 47 46.9	+1.3
	comp=Z,0.0nm,0.3s,baz=44,slow=11,SNR=5.8						
KMBO				LR	LR	22 54 50.6	
	comp=Z,1µm,20.3s,baz=86,slow=37						
KMBO	Kilima Mbogo	18.95	190	P	P	22 47 46.5	+1.0
KMBO	Kilima Mbogo	18.95	190	P	P	22 47 46.8	+1.3
MARD	Mardin	19.55	1	P	Pn	22 47 53.5	+0.3
MBAR	Mbarara	20.49	208	P	P	22 48 04.3	+2.1
	comp=Z,5.2nm,1.0s,baz=19,slow=10.0,SNR=7.0						
MBAR				LR	LR	22 56 37.9	
	comp=Z,507nm,18.3s,baz=12,slow=39						
MBAR	Mbarara	20.49	208	P	P	22 48 02.4	+0.1
MBAR	Mbarara	20.49	208	P	P	22 48 00.9	-1.4
GEVA	Gevas	20.68	6	P	P	22 48 05.2	+0.9
GURO	Guroymak-BITLI	20.84	4	P	P	22 48 07.3	+1.4
ELL	Elmali	21.10	336	P	P	22 48 10.8	+2.1
BNN	Bunyan	21.44	350	P	P	22 48 12.2	-0.2
BNN				IAmb	IAmb	22 48 35.8	
	comp=Z,63nm,1.3s						
ISP	Isparta	21.82	339	P	P	22 48 16.2	-0.2
ISP				IAmb	IAmb	22 48 21.9	
	comp=Z,29nm,0.9s						
IDI	Anoyia	22.27	325	P	P	22 48 20.6	-0.6
	comp=Z,12nm,0.4s,baz=282,slow=8.0,SNR=18						
IDI	Anoyia	22.27	325	P	P	22 48 20.7	-0.6
IDI	Anoyia	22.27	325	P	P	22 48 22.5	+1.2
GNI	Garni	22.70	9	P	P	22 48 28.5	+2.6
	comp=Z,17nm,1.1s,baz=327,slow=2.9,SNR=16						
GNI				LR	LR	22 57 19.3	
	comp=Z,472nm,20.9s,baz=199,slow=37						
GNI	Garni	22.70	9	P	P	22 48 28.2	+2.3
GNI				IAmb	IAmb	22 48 33.8	
	comp=Z,38nm,1.1s						
GNI	Garni	22.70	9	P	P	22 48 27.6	+1.7
BR131	Keskin Array S	22.71	347	P	P	22 48 26.9	+0.9
BR131				IAmb	IAmb	22 48 33.2	
	comp=Z,38nm,1.1s						
BR131	Keskin Array S	22.71	347	P	P	22 48 26.9	+0.9
	SNR=18						
BRTR	Keskin Array B	22.71	347	P	P	22 48 27.4	+1.5
	comp=Z,8.7nm,0.9s,baz=164,slow=11,SNR=34						
BRTR				PcP	PcP	22 52 17.6	-0.7
	comp=Z,0.9nm,0.8s,baz=150,slow=5.7,SNR=3.9						

BRTR LR LR 22 56 43.1
comp=Z,622nm,18.6s,baz=158,slow=35
BRTR Keskin Array B 22.71 347 P **P** **22 48 26.6 +0.6**
TOKA Tokat 22.80 352 P **P** **22 48 28.3 +1.5**
KARS Kars 22.98 5 P **P** **22 48 31.4 +2.6**
BR231 Keskin MP Arra 23.02 345 P **P** **22 48 30.9 +1.7**
BR231 IAmb IAmb 22 48 49.9
comp=Z,29nm,1.4s
ANTO Ankara 23.05 345 P **P** **22 48 30.6 +1.2**
ANTO IAmb IAmb 22 48 43.1
comp=Z,31nm,1.2s
MANT Manisa 23.14 336 P **P** **22 48 31.4 +0.9**
MANT IAmb IAmb 22 48 39.2
comp=Z,46nm,1.5s
BORA Eskisehir 23.71 341 P **P** **22 48 36.7 +0.6**
ILGA Ilgaz 23.97 348 P **P** **22 48 39.8 +1.1**
ONI Oni 24.96 5 P **P** **22 48 48.0 +0.4**
ONI IAmb IAmb 22 48 53.9
comp=Z,33nm,1.3s
GEYT Alibeck 25.48 34 P **P** **22 48 54.5 +2.1**
comp=Z,3.8nm,0.8s,baz=231,slow=29,SNR=6.8
GEYT Alibeck 25.48 34 P **P** **22 48 53.7 +1.4**
HRA Herat 25.68 45 P **P** **22 48 55.2 +0.9**
HRA IAmb IAmb 22 49 00.8
comp=Z,22nm,1.1s
KBZ Khabaz 26.05 4 P **P** **22 48 59.1 +1.9**
comp=Z,8.6nm,1.0s,baz=180,slow=5.6,SNR=14
KBZ LR LR 22 59 58.7
comp=Z,590nm,19.6s,baz=192,slow=38
KIV Kislovodsk 26.26 4 P **P** **22 48 59.5 +0.2**
KIV IAmb IAmb 22 49 12.8
comp=Z,22nm,1.2s
KIV Kislovodsk 26.26 4 P **P** **22 48 58.7 -0.7**
KIV Kislovodsk 26.26 4 *i* P **P** **22 49 00.4 +1.0**
SNR=8.4
AGG Agios Georgios 26.41 327 P **P** **22 49 00.4 -0.3**
AGG IAmb IAmb 22 49 04.3
comp=Z,35nm,1.3s
MSEY Mahe Island 26.78 145 P **P** **22 49 06.4 +2.1**
VAE Valguarnera 30.11 316 LR LR 23 01 34.1
comp=Z,134nm,18.6s,baz=157,slow=36
MLR Muntele Rosu 30.21 340 P **P** **22 49 35.6 +1.0**
comp=Z,5.0nm,0.9s,baz=158,slow=9.7,SNR=6.1
MLR LR LR 23 03 48.3
comp=Z,118nm,18.4s,baz=179,slow=40
MLR Muntele Rosu 30.21 340 P **P** **22 49 35.2 +0.6**
MLR IAmb IAmb 22 49 38.3
comp=Z,9.5nm,1.0s
KBL Kabul 30.61 51 P **P** **22 49 39.3 +0.8**
KBL IAmb IAmb 22 49 41.7
comp=Z,9.3nm,0.9s
KBL Kabul 30.61 51 P **P** **22 49 39.6 +1.1**
SNR=7.2
KBL P **P** **22 49 39.6 +1.1**
SNR=7.2
BURAR Bucovina Array 32.32 341 P **P** **22 49 53.9 +0.7**
BUR08 Bucovina Ar. S 32.35 341 P **P** **22 49 53.8 +0.3**
CHGR Chuyangaron 32.67 44 P **P** **22 49 57.3 +0.9**
KEST Kesra 32.80 309 P **P** **22 49 58.5 +0.9**
comp=Z,7.2nm,0.9s,baz=292,slow=2.5,SNR=5.6
KEST Kesra 32.80 309 P **P** **22 49 57.5 -0.1**
KEST IAmb IAmb 22 50 05.2
comp=Z,13nm,1.1s
KEST Kesra 32.80 309 P **P** **22 49 57.0 -0.6**
NIL Nilore 33.48 55 P **P** **22 50 04.3 +0.9**
NIL IAmb IAmb 22 50 07.1
comp=Z,13nm,1.1s
NIL Nilore 33.48 55 P **P** **22 50 02.9 -0.6**
GAR Garm 33.62 45 P **P** **22 50 06.0 +1.2**
TRPA Tarpa 33.66 338 P **P** **22 50 05.8 +1.0**
HMDM Hanimaadhoo 33.83 105 P **P** **22 50 09.8 +3.2**
AKASG Malin Array Be 34.11 347 P **P** **22 50 08.3 -0.4**
comp=Z,3.1nm,1.0s,baz=161,slow=7.2,SNR=13
AKASG PcP **PcP** **22 52 45.7 -0.2**
comp=Z,0.3nm,0.3s,baz=162,slow=2.3,SNR=5.6
AKASG LR LR 23 05 11.6
comp=Z,112nm,18.4s,baz=146,slow=38
AKASG Malin Array Be 34.11 347 P **P** **22 50 08.2 -0.4**
AKBB Malin Array Si 34.11 347 P **P** **22 50 08.3 -0.3**
AKBB IAmb IAmb 22 50 10.6
comp=Z,18nm,1.4s
PSZ Piszkesteto 34.47 335 P **P** **22 50 11.9 0.0**
PSZ IAmb IAmb 22 50 14.4
comp=Z,15nm,1.4s
CRVS Cervenica-Dubn 34.70 338 *eP* **P** **22 50 11.5 -2.3**
MPLH Magyarpolny 34.87 332 P **P** **22 50 16.8 +1.5**
LSZ Lusaka 34.88 201 LR LR 23 04 37.7
comp=Z,µm,19.0s,baz=28,slow=37
KWP Kalwaria Pacla 34.89 340 P **P** **22 50 15.4 -0.1**
AKTO Aktyubinsk 35.61 19 P **P** **22 50 22.9 +1.2**
comp=Z,2.6nm,0.9s,baz=194,slow=8.8,SNR=10
AKTO LR LR 23 07 31.3
comp=Z,323nm,19.0s,baz=194,slow=40
LANS Liptovska Anna 35.64 336 *eP* **P** **22 50 23.5 +1.5**
SOKA Soboth 35.66 330 *eP* **P** **22 50 22.8 +0.6**
comp=Z,12nm,1.7s
OBKA Obir 35.78 329 *eP* **P** **22 50 23.6 +0.3**
comp=Z,6.0nm,1.2s
ARSA Arzberg 35.84 331 *i* P **P** **22 50 24.5 +0.7**
comp=Z,9.6nm,1.0s
SMOL Smolenice 35.95 334 *eP* **P** **22 50 24.8 +0.2**
KKAR Karatay Array 35.98 39 P **P** **22 50 26.4 +1.4**
JAVC Velka Javorina 36.12 334 *eP* **P** **22 50 27.0 +0.9**
CONA Conrad Observa 36.19 332 *eP* **P** **22 50 27.2 +0.5**
comp=Z,14nm,1.8s
DZA Taraz 36.35 40 *eP* **P** **22 50 28.8 +0.7**
baz=40
KAAM Kaadhehdhoo 36.38 115 P **P** **22 50 29.0 +0.4**
OJC Ojcow 36.39 338 P **P** **22 50 27.6 -0.7**
OJC IAmb IAmb 22 50 29.0
comp=Z,13nm,1.1s
TEOL Teolo 36.49 325 P **P** **22 50 28.8 -0.5**
TEOL IAmb IAmb 22 50 33.2
comp=Z,23nm,1.3s
OPO Ambohidratompo 36.66 169 LR LR 23 04 23.9
comp=Z,164nm,21.4s,baz=186,slow=35
KBA Koelnbreinsper 36.77 329 *eP* **P** **22 50 31.5 -0.3**
comp=Z,10nm,1.4s
KRUC Moravsky 36.81 334 *eP* **P** **22 50 31.5 -0.4**
MOA Molln 36.87 330 *eP* **P** **22 50 32.8 +0.4**
comp=Z,9.1nm,1.3s
MORC Moravsky Berou 36.89 335 P **P** **22 50 31.5 -1.2**
MORC Moravsky Berou 36.89 335 *eP* **P** **22 50 32.3 -0.4**
VRAC Vranov 36.92 334 LR LR 23 08 20.9
comp=Z,52nm,18.4s,baz=129,slow=40
VRAC Vranov 36.92 334 *eP* **P** **22 50 32.8 0.0**
CTI Castel Tesino 36.95 326 P **P** **22 50 33.7 +0.5**
ABTA Abfaltersbach 36.96 328 *eP* **P** **22 50 33.7 +0.4**
comp=Z,15nm,1.5s
AML Almayashu 37.43 42 P **P** **22 50 38.8 +1.1**
AML Almayashu 37.43 42 P **P** **22 50 37.1 -0.7**
KRLC Kraliky 37.43 335 *eP* **P** **22 50 37.3 0.0**
OBN Obninsk 37.46 356 P **P** **22 50 37.2 -0.2**
comp=Z,1.4nm,0.4s,baz=6.6,slow=4.6,SNR=8.6
OBN LR LR 23 07 31.6
comp=Z,39nm,18.5s,baz=178,slow=39
OBN Obninsk 37.46 356 P **P** **22 50 36.2 -1.1**
OBN IAmb IAmb 22 50 39.7
comp=Z,18nm,0.9s
TORD Torodi Ar. Bea 37.48 269 P **P** **22 50 35.5 -2.5**
comp=Z,6.8nm,1.0s,baz=74,slow=5.3,SNR=29
TORD Torodi Ar. Bea 37.48 269 P **P** **22 50 36.7 -1.3**
CKRC Cesky Krumlov 37.55 332 *eP* **P** **22 50 37.9 -0.3**
KSH Kashi 37.75 47 P **P** **22 50 37.5 -2.7**
KSH sP sP 22 50 44.9 +0.9
KSH pmax pmax
comp=Z,6.0nm,1.5s
KSH LR LR
comp=Z,360nm,14.1s
KSH LR LR
comp=Z,510nm,16.5s
KSH LR LR
comp=Z,780nm,19.6s
WATA Walderalm 37.83 328 *eP* **P** **22 50 40.6 -0.1**
comp=Z,5.5nm,1.3s
DPC Dobruska-Polom 37.83 335 *eP* **P** **22 50 40.0 -0.7**
GEC2 GERESS Array S 37.84 331 P **P** **22 50 40.4 -0.4**
GERES GERESS Array B 37.84 331 P **P** **22 50 39.7 -1.1**
comp=Z,1.4nm,0.7s,baz=126,slow=6.8,SNR=17
GERES GERESS Array B 37.84 331 P **P** **22 50 40.4 -0.4**
MNK Minsk 37.97 348 *i* P **P** **22 50 40.1 -1.6**
comp=E,2.0nm,1.1s
MNK *i* P **P** **22 50 40.1 -1.6**
comp=N,14nm,0.9s
MNK *i* P **P** **22 50 40.1 -1.6**
comp=Z,6.0nm,0.8s,baz=341
MNK *i* PP **PP** **22 52 06.8 -1.6**
MNK *i* PPP PPP 22 52 24.7
MNK *i* S **S** **22 56 33.1 -0.5**
MNK *i* SS **SnSn** **22 59 15.6 +0.2**
MNK *i* SSS SSS 22 59 32.6
MNK *i* LQ LQ 23 03 28.1
MNK *i* LR LR 23 04 34.2
MNK *i* LRM MLR 23 06 48.2
comp=Z,166nm,16.6s
MNK *i* LRM MLR 23 07 11.1
comp=N,104nm,14.8s
MNK *i* LRM MLR 23 07 21.3
comp=E,15nm,15.3s
FETA Feichten 38.06 327 *eP* **P** **22 50 43.1 +0.3**
comp=E,6.2nm,1.2s
KHC Kasperske Hory 38.10 331 *eP* **P** **22 50 43.2 +0.2**
KHC Kasperske Hory 38.10 331 P **P** **22 50 42.0 -0.9**
CHVC Chvalec 38.13 335 *eP* **P** **22 50 43.1 0.0**
AAK Ala-Archa 38.19 42 LR LR 23 09 01.3
comp=E,725nm,18.0s,baz=242,slow=40
AAK Ala-Archa 38.19 42 P **P** **22 50 44.8 +0.8**
AAK Ala-Archa 38.19 42 P **P** **22 50 44.7 +0.8**
RETA Reutte 38.34 327 *eP* **P** **22 50 45.5 +0.5**
comp=E,13nm,2.0s
DAVOX Davos/Dischmat 38.35 326 LR LR 23 10 37.6
comp=E,44nm,18.8s,baz=110,slow=43
NACGM Naroch 38.57 347 *i* P **P** **22 50 44.2 -2.5**
SUW Suwalki 38.61 344 P **P** **22 50 46.2 -0.8**
SUW IAmb IAmb 22 50 48.1
comp=Z,28nm,0.9s
SUW Suwalki 38.61 344 *eP* **P** **22 50 45.8 -1.3**
DAVA Damuels 38.67 326 *eP* **P** **22 50 47.4 -0.5**
comp=Z,16nm,1.6s
SGDS Sogindy 38.69 41 *eP* **P** **22 50 48.4 +0.3**
baz=41
IDID Didziasalis 38.97 348 *eP* **P** **22 50 50.1 +0.1**
IIGN Ignalina 39.11 347 *eP* **P** **22 50 50.4 -0.8**
BTLS Baital 39.17 39 *eP* **P** **22 50 52.2 +0.3**
baz=38
BRG Berggiesshubel 39.22 334 *eP* **P** **22 50 51.3 -0.9**
BRG Amp 22 50 55.5
comp=Z,6.6nm,1.1s
NKC Novy Kostel 39.41 332 *eP* **P** **22 50 53.2 -0.6**
MATP Matopo 39.62 198 LR LR 23 06 44.2
comp=Z,160nm,19.8s,baz=36,slow=36
PABE Paberze 39.76 345 P **P** **22 50 56.0 -0.6**
PABE IAmb IAmb 22 50 58.5
comp=Z,23nm,1.0s
CLL Collm 39.94 333 P **P** **22 50 56.7 -1.5**
CLL Collm 39.94 333 ⇑*i* P **P** **22 50 56.8 -1.5**
comp=Z,63nm,2.3s
TNSS Tian-Shan 39.97 43 *eP* **P** **22 51 00.2 +1.2**
baz=43
KUU Kurty 39.98 41 *eP* **P** **22 50 59.3 +0.6**
comp=Z,38nm,2.1s,baz=41
AAA Alma-Ata 40.02 43 *eP* **P** **22 50 59.7 +0.5**
baz=43
CHKK Chushkaly 40.38 42 *eP* **P** **22 51 02.8 +0.8**
baz=42
PYUN Piuthan 40.46 67 *eP* **P** **22 51 03.9 +0.8**
comp=Z,26nm,1.0s
PALK Pallekele 40.67 100 LR LR 23 05 41.1
comp=Z,128nm,19.1s,baz=37,slow=33
SATY Saty 40.93 44 *eP* **P** **22 51 07.5 +0.8**
comp=Z,30nm,2.4s,baz=44
KOLN Koldanda 40.97 68 *eP* **P** **22 51 07.8 +0.5**
comp=Z,62nm,1.1s
ZHN Zhinishke 41.00 43 *eP* **P** **22 51 08.0 +0.7**
baz=44
ARU Arti 41.05 15 P **P** **22 51 08.2 +0.9**
comp=Z,3.5nm,0.8s,baz=188,slow=6.7,SNR=19
ARU LR LR 23 11 26.7
comp=Z,389nm,18.2s,baz=190,slow=41
ARU Arti 41.05 15 P **P** **22 51 08.0 +0.7**
ARU IAmb IAmb 22 51 10.4
comp=Z,19nm,1.1s
DANN Dangsing 41.16 67 *eP* **P** **22 51 09.5 +0.5**
comp=Z,73nm,1.0s
KPKS Kokpek 41.29 43 *eP* **P** **22 51 10.0 +0.4**
baz=43
BRZS Berezniki 41.36 32 *eP* **P** **22 51 10.4 +0.4**
comp=Z,22nm,1.6s,baz=32
UZB Uzynbulak 41.37 44 *eP* **P** **22 51 11.1 +0.7**
comp=Z,20nm,1.4s,baz=44
KIRV Kirov 41.38 7 P **P** **22 51 09.8 -0.2**
comp=Z,10nm,0.7s,baz=254,slow=2.1,SNR=8.1
KIRV LR LR 23 09 18.0
comp=Z,302nm,20.8s,baz=191,slow=38
GKN Gorkha 41.90 68 *eP* **P** **22 51 14.9 0.0**
DMN Daman 42.29 68 *eP* **P** **22 51 18.5 +0.3**
BRVK Borovoye 42.32 27 P **P** **22 51 18.1 +0.3**
BRVK IAmb IAmb 22 51 21.2
comp=Z,16nm,1.4s
BRVK Borovoye 42.32 27 P **P** **22 51 18.3 +0.5**
KKN Kakani 42.45 68 *eP* **P** **22 51 19.5 0.0**
PKIN Phulchoki 42.54 68 *eP* **P** **22 51 20.3 0.0**
PKI Pulchoki 42.55 68 *eP* **P** **22 51 20.3 -0.2**
KOWA Kowa 42.66 272 LR LR 23 08 50.2
comp=Z,438nm,19.6s,baz=78,slow=36
MTSE Matsula 42.73 347 *eP* **P** **22 51 20.3 -0.6**
RCHB Rochefort 42.87 327 *dP* **P** **22 51 22.4 +0.2**
comp=Z,5.3nm,1.2s
TSUM Tsumeb 42.94 212 LR LR 23 08 29.2
comp=Z,134nm,18.7s,baz=38,slow=35
BCLA Clavier 42.99 327 *dP* **P** **22 51 23.0 -0.2**
comp=Z,7.7nm,1.2s
GUN Gumba 42.99 68 *eP* **P** **22 51 24.2 +0.2**
comp=Z,49nm,0.9s
MDT Midelt 43.02 299 LR LR 23 12 02.5
comp=Z,304nm,21.1s,baz=154,slow=40
BGES Gesves 43.08 327 *dP* **P** **22 51 23.9 -0.1**
comp=Z,6.6nm,1.1s
KLMR Klimovskoe 43.11 359 *eP* **P** **22 51 23.1 -1.0**
KLMR AMP 22 51 28.4
comp=Z,25nm,1.5s
KLMR *e*PcP **PcP** **22 53 14.6 +0.8**
SNF Seneffe 43.56 327 *dP* **P** **22 51 28.0 +0.1**
comp=Z,11nm,0.8s
ESBB Sonseca Array 44.05 309 P **P** **22 51 32.9 +0.8**
ESBB IAmb IAmb 22 51 57.5
comp=Z,16nm,1.3s
ESDC Sonseca Array 44.05 309 P **P** **22 51 31.2 -0.9**
comp=Z,5.7nm,1.0s,baz=103,slow=7.3,SNR=17
ESDC LR LR 23 10 11.9
comp=Z,103nm,20.1s,baz=117,slow=37
ESDC Sonseca Array 44.05 309 P **P** **22 51 31.5 -0.6**
ODAN Odare 44.28 69 *eP* **P** **22 51 33.8 -0.5**
PAB San Pablo 44.30 309 P **P** **22 51 34.9 +0.8**
PAB IAmb IAmb 22 51 41.0
comp=Z,28nm,1.5s
KURBB Kurchatov Arra 44.76 34 LR LR 23 12 19.7
comp=Z,483nm,19.9s,baz=218,slow=39
LBTB Lobatse 44.81 199 LR LR 23 10 01.4
comp=Z,558nm,18.7s,baz=20,slow=36
FINES FINESS Array B 44.86 350 P **P** **22 51 37.5 -0.6**
comp=Z,1.9nm,0.7s,baz=102,slow=4.7,SNR=6.0
FINES LR LR 23 11 42.2
comp=Z,83nm,19.3s,baz=167,slow=38
FINES FINESS Array B 44.86 350 P **P** **22 51 39.7 +1.7**
KURK Kurchatov 44.86 34 P **P** **22 51 38.7 +0.4**
KURK IAmb IAmb 22 51 42.0
comp=Z,14nm,1.1s
KURK Kurchatov 44.86 34 P **P** **22 51 39.2 +0.9**
MAKZ Makanchi 44.86 40 P **P** **22 51 39.0 +0.6**
MAKZ IAmb IAmb 22 51 41.8
comp=Z,12nm,1.1s
MK31 Makanchi Array 45.05 40 P **P** **22 51 40.3 +0.4**
MK31 IAmb IAmb 22 51 43.3
comp=Z,10nm,1.1s
MKAR Makanchi Array 45.05 40 P **P** **22 51 40.7 +0.8**
comp=Z,3.7nm,0.8s,baz=237,slow=6.4,SNR=38
MKAR LR LR 23 12 59.0
comp=Z,915nm,18.4s,baz=236,slow=39
MKAR Makanchi Array 45.05 40 P **P** **22 51 40.3 +0.4**
KIC Kosan Boka 45.38 261 *eP* **P** **22 51 43.1 +0.1**
comp=Z,9.5nm,0.8s
DBIC Dimbokro 45.40 262 P **P** **22 51 42.0 -1.0**
comp=Z,7.1nm,0.8s,baz=77,slow=6.4,SNR=9.6
DBIC LR LR 23 10 17.7
comp=Z,572nm,19.0s,baz=82,slow=36
DBIC Dimbokro 45.40 262 P **P** **22 51 41.5 -1.5**
DBIC IAmb IAmb 22 51 47.6
comp=Z,13nm,1.1s
TIC Toumodi 45.56 262 *eP* **P** **22 51 44.3 -0.1**
SEM Semipalatinsk 45.58 35 *eP* **P** **22 51 44.7 +0.4**
baz=35
LIC Lamto 45.70 261 *e*P **P** **22 51 45.5 +0.1**
comp=Z,29nm,1.0s
PVAQ Vaqueiros 46.36 305 P **P** **22 51 49.2 -1.1**
HFS Hagfors 46.53 342 P **P** **22 51 50.0 -1.4**
comp=Z,3.8nm,0.9s,baz=170,slow=9.0,SNR=5.4
HFS LR LR 23 14 05.9
comp=Z,90nm,18.1s,baz=144,slow=40
ZSN Zaisan 46.92 41 *e*P **P** **22 51 54.9 +0.3**
comp=Z,21nm,2.2s,baz=41
WMQ Urumqi 47.48 46 *e*P **P** **22 52 00.9 +1.7**
WMQ sP sP 22 52 09.7 +6.7
WMQ PP **PP** **22 53 56.0 +5.5**
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,260nm,4.3s
WMQ LR LR
comp=Z,420nm,15.3s
WMQ LR LR
comp=Z,320nm,19.3s
WMQ LR LR
comp=Z,220nm,20.7s
NC602 NORSAR Array S 47.66 341 P **P** **22 51 58.5 -1.6**
LSA Lhasa 47.71 66 P **P** **22 52 02.8 +1.2**
LSA IAmb IAmb 22 52 24.7
comp=Z,5.9nm,1.1s
LSA Lhasa 47.71 66 P **P** **22 52 02.1 +0.5**
LSA pmax pmax
comp=Z,10.0nm,2.0s
LSA Lhasa 47.71 66 P **P** **22 52 02.8 +1.2**
NAO01 NORSAR Array S 47.94 341 P **P** **22 52 01.5 -0.9**
NB2 NORSAR Subarra 47.99 341 P **P** **22 52 01.6 -1.2**
comp=Z,22nm,1.4s,baz=139,slow=8.6
NOA NORSAR Array B 47.99 341 P **P** **22 52 01.5 -1.4**
comp=Z,3.2nm,0.9s,baz=138,slow=8.1,SNR=12
NOA LR LR 23 12 28.6
comp=Z,66nm,21.3s,baz=125,slow=36
BOSA Boshof 48.29 198 LR LR 23 11 58.7
comp=Z,430nm,18.5s,baz=30,slow=36
SHL Shillong 48.31 71 P **P** **22 52 05.5 -0.5**
ZAA0 Zalesovo Array 49.79 33 P **P** **22 52 15.8 -0.8**
ZALV Zalesovo Beam 49.79 33 P **P** **22 52 17.0 +0.4**
comp=Z,14nm,0.9s,baz=248,slow=7.8,SNR=40
ZALV LR LR 23 16 49.1
comp=Z,290nm,18.0s,baz=202,slow=40
ZALV Zalesovo Beam 49.79 33 P **P** **22 52 16.5 -0.1**
EKA Eskdalemuir Ar 49.98 329 P **P** **22 52 17.5 -0.6**
comp=Z,2.4nm,0.7s,baz=112,slow=7.0,SNR=7.2
EKA LR LR 23 13 22.9
comp=Z,38nm,20.0s,baz=126,slow=36
GOMU GeErMu 51.27 58 P **P** **22 52 30.5 +1.9**
GOMU pP sP 22 52 36.3 +3.8
GOMU sP pP 22 52 39.1 +7.6
GOMU S **S** **22 59 48.2 +0.2**
GOMU pmax pmax
comp=Z,8.0nm,1.6s
GOMU pmax pmax
comp=Z,130nm,4.5s
GOMU LR LR
comp=Z,150nm,16.5s
GOMU LR LR
comp=Z,120nm,16.8s
GOMU LR LR
comp=Z,110nm,14.6s
ARCES ARCESS Array B 52.64 353 P **P** **22 52 36.2 -1.6**
comp=Z,5.3nm,1.1s,baz=168,slow=8.7,SNR=4.7
ARCES LR LR 23 17 36.6
comp=Z,98nm,19.6s,baz=136,slow=39
SUR Sutherland 53.18 201 LR LR 23 13 51.4
comp=Z,152nm,20.1s,baz=32,slow=34
CM31 Chiang Mai Arr 55.50 79 P **P** **22 52 59.5 -0.1**
CM31 IAmb IAmb 22 53 02.3
comp=Z,15nm,1.4s
CMAR Chiang Mai Arr 55.50 79 P **P** **22 53 00.1 +0.5**
comp=Z,1.6nm,0.8s,baz=296,slow=6.6,SNR=14
CMAR LR LR 23 17 55.0
comp=Z,60nm,20.8s,baz=270,slow=37
CMAR Chiang Mai Arr 55.50 79 P **P** **22 52 59.3 -0.2**
GTA Gaotai 55.53 54 ⇓P **P** **22 53 00.2 +0.6**
GTA sP sP 22 53 08.2 +4.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.1s
GTA LR LR
comp=Z,170nm,17.4s
GTA LR LR
comp=Z,390nm,18.2s
GTA LR LR
comp=Z,440nm,18.9s
PZH PanZhiHua 57.12 70 P **P** **22 53 10.7 -0.4**
PZH S **S** **23 01 03.9 -2.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,6.2s
PZH LR LR
comp=Z,340nm,23.7s
PZH LR LR
comp=Z,340nm,22.0s
PZH LR LR
comp=Z,570nm,23.0s
KMI Kunming 58.14 71 ⇓P **P** **22 53 20.2 +1.7**
KMI pmax pmax
comp=Z,9.0nm,1.6s
KMI LR LR
comp=Z,140nm,19.4s
KMI LR LR
comp=Z,280nm,20.3s
KMI LR LR
comp=Z,270nm,19.4s
LZH Lanzhou 58.56 58 *e*P **P** **22 53 22.3 +1.1**
LZH pP sP 22 53 29.8 +4.7
LZH sP pP 22 53 33.6 +10
LZH pmax pmax
comp=Z,21nm,1.2s
LZH LR LR
comp=Z,260nm,13.6s
LZH LR LR
comp=Z,280nm,15.2s
LZH LR LR
comp=Z,530nm,17.6s
NRIK Noril'sk 59.19 18 P **P** **22 53 24.8 +0.1**
comp=Z,2.9nm,0.7s,baz=238,slow=6.8,SNR=7.0
NRIK LR LR 23 23 40.3
comp=Z,332nm,18.7s,baz=218,slow=41
NRIK Noril'sk 59.19 18 P **P** **22 53 25.1 +0.4**
NRIK IAmb IAmb 22 53 27.8
comp=Z,10nm,1.1s
PSI Prapat 59.28 97 LR LR 23 17 12.2
comp=Z,126nm,19.9s,baz=282,slow=34
KULM Kulim 60.15 94 P **P** **22 53 32.0 -0.3**
JMIC Jan Mayen 60.59 344 LR LR 23 22 52.3
comp=Z,74nm,18.8s,baz=84,slow=39
SONM Songino Array 61.07 45 P **P** **22 53 38.9 +0.8**
comp=Z,4.9nm,0.9s,baz=265,slow=7.0,SNR=34
SONM LR LR 23 23 24.4
comp=Z,537nm,20.5s,baz=264,slow=39
SONM Songino Array 61.07 45 P **P** **22 53 39.0 +0.8**
SONM IAmb IAmb 22 53 41.5
comp=Z,12nm,1.2s
ULN Ulaanbaatar 61.51 45 P **P** **22 53 41.0 -0.2**
ULN Ulaanbaatar 61.51 45 P **P** **22 53 41.7 +0.5**
GYA Guiyang 61.52 69 ⇑P **P** **22 53 41.7 +0.1**
GYA pmax pmax
comp=Z,14nm,2.0s
SPITS Spitsbergen Ar 61.63 355 P **P** **22 53 40.6 -0.7**
comp=Z,8.0nm,0.9s,baz=137,slow=9.9,SNR=4.2
SPITS LR LR 23 20 50.8
comp=Z,93nm,21.4s,baz=163,slow=36
BORG Borgarnes 62.16 335 LR LR 23 23 15.3
comp=Z,42nm,19.0s,baz=113,slow=38
UBPT Khong Chiam 62.23 82 P **P** **22 53 46.9 +0.6**
UBPT IAmb IAmb 22 53 54.5
comp=Z,13nm,1.5s
XAN Xi'an 62.79 60 P **P** **22 53 49.1 -0.8**
XAN pmax pmax
comp=Z,11nm,1.6s
XAN pmax pmax
comp=Z,160nm,4.9s
XAN LR LR
comp=Z,220nm,16.0s
XAN LR LR
comp=Z,240nm,21.3s
XAN LR LR
comp=Z,320nm,14.4s

HHC	**Hu-ho-hao-te**	**64.56**	**53**	*e*P	**P**	**22 54 04.1**	**+2.5**
HHC				sP	sP	22 54 15.6	+10
HHC				S	**S**	**23 02 43.8**	**+2.5**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
HHC				LR	LR		
	comp=Z,200nm,15.9s						
HHC				LR	LR		
	comp=Z,350nm,18.2s						
HHC				LR	LR		
	comp=Z,410nm,20.4s						
DBG	**Daneborg**	**65.28**	**345**	*i* P	**P**	**22 54 05.5**	**0.0**
DBG				IAmb	IAmb	22 54 06.9	
	comp=Z,2.2nm,0.9s						
QIZ	**Qiongzhong**	**65.57**	**77**	P	**P**	**22 54 08.8**	**+0.5**
QIZ				S	**S**	**23 02 52.4**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.7s						
QIZ				LR	LR		
	comp=Z,140nm,22.6s						
QIZ				LR	LR		
	comp=Z,140nm,22.3s						
QIZ				LR	LR		
	comp=Z,130nm,19.6s						
LYN	**LuoYang**	**65.67**	**60**	*e*P	**P**	**22 54 10.9**	**+2.1**
LYN				pmax	pmax		
	comp=Z,60nm,8.4s						
LYN				LR	LR		
	comp=Z,230nm,19.6s						
LYN				LR	LR		
	comp=Z,210nm,16.9s						
LYN				LR	LR		
	comp=Z,310nm,17.8s						
DAG	**Danmarks Havn**	**65.98**	**348**	*i* P	**P**	**22 54 07.6**	**-2.4**
DAG				IAmb	IAmb	22 54 09.4	
	comp=Z,1.0nm,0.8s						
KASI	**Kota Agung**	**67.38**	**104**	P	**P**	**22 54 21.0**	**+1.1**
	comp=Z,17nm,1.2s						
WHN	**Wuhan**	**67.72**	**64**	⇓P	**P**	**22 54 23.9**	**+2.1**
XLT	**XiLinHaoTe**	**67.77**	**49**	*e*P	**P**	**22 54 21.9**	**-0.2**
XLT				sP	sP	22 54 29.9	+3.9
XLT				PcS		22 58 49.4	
XLT				pmax	pmax		
	comp=Z,8.0nm,1.6s						
XLT				pmax	pmax		
	comp=Z,210nm,5.1s						
XLT				LR	LR		
	comp=Z,390nm,17.4s						
XLT				LR	LR		
	comp=Z,510nm,19.3s						
NOR	**Nord**	**67.97**	**352**	*i* P	**P**	**22 54 20.8**	**-1.8**
NOR				IAmb	IAmb	22 54 23.1	
	comp=Z,2.2nm,0.8s						
BJT	**Baijiatuau**	**68.12**	**53**	P	**P**	**22 54 26.0**	**+1.8**
BJT				IAmb	IAmb	22 54 26.9	
	comp=Z,7.1nm,1.0s						
SUMG	**Summit**	**69.89**	**342**	*i* P	**P**	**22 54 33.0**	**-2.1**
SUMG				IAmb	IAmb	22 54 36.2	
	comp=Z,3.2nm,0.8s						
HIA	**Hailar**	**69.94**	**43**	P	**P**	**22 54 36.5**	**+1.1**
HIA				IAmb	IAmb	22 54 38.5	
	comp=Z,11nm,1.1s						
KSM	**Kuching**	**70.49**	**95**	P	**P**	**22 54 39.8**	**+0.5**
KSM				IAmb	IAmb	22 54 44.0	
	comp=Z,10nm,1.0s						
LEM	**Lembang**	**70.74**	**104**	LR	LR	23 22 32.4	
	comp=Z,55nm,19.0s,baz=291,slow=33						
NJ2	**Nanjing**	**71.30**	**61**	*e*P	**P**	**22 54 45.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SBUM	**Sibu**	**72.00**	**93**	P	**P**	**22 54 49.4**	**+0.9**
SBUM				IAmb	IAmb	22 54 53.0	
	comp=Z,11nm,1.5s						
DY2G	**Dye2**	**72.58**	**335**	*i* P	**P**	**22 54 48.4**	**-3.0**
DY2G				IAmb	IAmb	22 54 52.1	
	comp=Z,2.5nm,0.8s						
TIXI	**Tiksi**	**72.89**	**19**	LR	LR	23 32 38.2	
	comp=Z,188nm,18.3s,baz=194,slow=40						
TIXI	**Tiksi**	**72.89**	**19**	P	**P**	**22 54 52.1**	**-0.6**
TIXI				IAmb	IAmb	22 54 54.5	
	comp=Z,6.8nm,1.0s						
NEEM	**North Greenlan**	**73.16**	**347**	*i* P	**P**	**22 54 53.5**	**-1.1**
NEEM				IAmb	IAmb	22 55 02.6	
	comp=Z,3.2nm,0.6s						
SFJD	**Kangerlussuaq**	**74.25**	**336**	LR	LR	23 32 59.4	
	comp=Z,79nm,18.1s,baz=100,slow=40						
YAK	**Yakutsk**	**74.25**	**29**	LR	LR	23 30 56.7	
	comp=Z,135nm,20.8s,baz=266,slow=38						
YAK	**Yakutsk**	**74.25**	**29**	P	**P**	**22 55 01.7**	**+0.8**
CN2	**Changchun**	**74.51**	**48**	*e*P	**P**	**22 55 02.3**	**-0.5**
CN2				*e*S	**SKiKP**	**23 04 28.9**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
JAGI	**Jajag, Banyuwa**	**77.37**	**103**	P	**P**	**22 55 18.2**	**-1.4**
JAGI	**Jajag, Banyuwa**	**77.37**	**103**	P	**P**	**22 55 16.9**	**-2.8**
KSAR	**Wonju Array Be**	**77.57**	**55**	P	**P**	**22 55 20.2**	**-0.2**
KSRS	**Korea Array**	**77.60**	**54**	P	**P**	**22 55 19.3**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=293,slow=6.4,SNR=4.6						
KSRS				LR	LR	23 33 58.3	
	comp=Z,195nm,18.7s,baz=285,slow=39						
KLR	**Kul'dur**	**77.72**	**42**	LR	LR	23 32 42.2	
	comp=Z,258nm,21.3s,baz=270,slow=38						
RCBR	**Riachuelo**	**78.74**	**260**	LR	LR	23 29 28.2	
	comp=Z,83nm,18.0s,baz=184,slow=35						
USRK	**Ussuriysk Ar.**	**79.05**	**47**	LR	LR	23 34 31.7	
	comp=Z,232nm,21.5s,baz=263,slow=39						
KAPI	**Kappang**	**81.48**	**98**	LR	LR	23 31 03.6	
	comp=Z,40nm,18.2s,baz=264,slow=35						
KAPI	**Kappang**	**81.48**	**98**	P	**P**	**22 55 40.6**	**-1.4**
KAPI				IAmb	IAmb	22 55 44.6	
	comp=Z,17nm,1.2s						
DAV	**Davao City (W)**	**83.38**	**85**	LR	LR	23 36 10.0	
	comp=Z,25nm,18.6s,baz=152,slow=38						
RES	**Resolute Bay**	**83.61**	**349**	LR	LR	23 32 52.8	
	comp=Z,60nm,18.4s,baz=90,slow=36						
SEY	**Seymchan**	**83.98**	**25**	LR	LR	23 37 51.7	
	comp=Z,172nm,20.7s,baz=252,slow=39						
MA2	**Magadan**	**84.80**	**29**	LR	LR	23 40 13.7	
	comp=Z,165nm,18.6s,baz=295,slow=40						
MA2	**Magadan**	**84.80**	**29**	P	**P**	**22 55 57.7**	**-0.7**
MJAR	**Matsushiro Arr**	**85.76**	**53**	P	**P**	**22 56 04.2**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=278,slow=5.5,SNR=5.4						
MJAR				LR	LR	23 39 02.1	
	comp=Z,149nm,18.4s,baz=300,slow=39						
BILL	**Bilibino**	**86.02**	**18**	P	**P**	**22 56 04.3**	**0.0**
ASAJ	**Asahikawa**	**86.35**	**45**	LR	LR	23 38 50.5	
	comp=Z,525nm,18.1s,baz=335,slow=38						
BATI	**Baumata**	**86.80**	**102**	LR	LR	23 34 18.8	
	comp=Z,135nm,18.2s,baz=248,slow=35						
JHJ	**Hachijo jima 2**	**88.11**	**56**	LR	LR	23 39 47.8	
	comp=Z,120nm,21.4s,baz=328,slow=38						
A36M	**Sachs Harbour**	**90.01**	**356**	P	**P**	**22 56 22.9**	**-0.4**
MDP	**Montagnes des**	**91.30**	**276**	LR	LR	23 38 13.5	
	comp=Z,148nm,18.4s,baz=39,slow=36						
PETK	**Petropavlovsk-**	**91.33**	**32**	LR	LR	23 41 39.0	
	comp=Z,224nm,18.8s,baz=288,slow=38						
C36M	**Paulatuk**	**92.48**	**355**	P	**P**	**22 56 33.5**	**-1.4**
C36M				IAmb	IAmb	22 56 40.9	
	comp=Z,8.2nm,1.4s						
BDFB	**Brasilia**	**93.12**	**255**	LR	LR	23 37 13.0	
	comp=Z,91nm,19.2s,baz=39,slow=35						
SNAA	**Sanae**	**93.82**	**193**	LR	LR	23 35 55.9	
	comp=Z,146nm,20.4s,baz=287,slow=34						
ILAR	**Eielson Array**	**97.61**	**3**	P	**P**	**22 56 58.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=311,slow=6.1,SNR=4.4						
ILAR				LR	LR	23 45 23.8	
	comp=Z,43nm,20.6s,baz=326,slow=38						
YKA	**Yellowknife Ar**	**97.67**	**349**	P	**P**	**22 56 58.3**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=28,slow=4.4,SNR=4.1						
SHEM	**Shemya Is, Ala**	**99.28**	**26**	LR	LR	23 46 58.7	
	comp=Z,136nm,19.7s,baz=340,slow=38						
GUMO	**Guam**	**99.33**	**73**	LR	LR	23 48 06.0	
	comp=Z,24nm,18.5s,baz=123,slow=39						
SJG	**San Juan**	**99.43**	**292**	LR	LR	23 39 04.8	
	comp=Z,40nm,21.5s,baz=92,slow=34						

*IDC **07** 22:47:30.0±3.0, 33°.58S×178°.51W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/27, mbtmp3.8/3, ML3.7/1, MS4.2/2, Ms1 4.2/2, ms1mx2.9/58, Error ellipse: s-maj=74.2km s-min=45.7km az=130.0*

*NEIC **07** 22:47:31.6±0.5, 33°.67S±0°.08×178°.4W±0°.2, h10km±2km, mb4.3/7, Error ellipse: s-maj=30.7km s-min=8.8km az=108.0*

ISC 07 22:47:31.1±1.3**, 33°.7S**±0°.1×**178°.5W**±0°.2**, h10**km**, n21,** σ**0s.77**/20**, mb4.1**/7**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.42**	**7**	Pn	**Pn**	**22 48 37.8**	**-0.5**
MXZ	**Matakaoa Point**	**4.67**	**212**	Pn	**Pn**	**22 48 42.1**	**+0.5**
URZ	**Urewera**	**5.79**	**216**	Pn	**Pn**	**22 48 57.9**	**+0.9**
	2.1nm,0.3s,baz=29,slow=2.2,SNR=3.6						
URZ				Sn	**Sn**	**22 50 02.2**	**-1.2**
	7.4nm,0.3s,baz=183,slow=21,SNR=9.4						
BKZ	**Black Stump Fm**	**6.80**	**215**	Pn	**Pn**	**22 49 10.2**	**-0.7**
BSWZ	**Blackbirch Sta**	**10.04**	**215**	Pn	**Pn**	**22 49 56.9**	**+1.6**
THZ	**Tophouse**	**10.55**	**217**	Pn	**Pn**	**22 50 01.3**	**-1.1**
ASAR	**Alice Springs**	**42.58**	**271**	P	**P**	**22 55 28.1**	**+0.6**
	0.5nm,0.5s,baz=111,slow=7.2,SNR=8.6						
WR0	**Warramunga Arr**	**43.69**	**276**	P	**P**	**22 55 36.6**	**+0.2**
WR0				IAmb	IAmb	22 55 52.7	
	comp=Z,2.0nm,1.1s						
WB2	**Warramunga Arr**	**43.85**	**276**	P	**P**	**22 55 38.2**	**+0.5**
WB2				IAmb	IAmb	22 56 07.8	
	comp=Z,3.6nm,1.1s						
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**22 55 38.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=117,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**43.86**	**276**	P	**P**	**22 55 38.3**	**+0.5**
WB0	**Warramunga Arr**	**43.90**	**276**	P	**P**	**22 55 38.6**	**+0.5**
WB0				IAmb	IAmb	22 55 44.4	
	comp=Z,8.9nm,1.4s						
KNRA	**Kununurra**	**50.57**	**277**	P	**P**	**22 56 30.5**	**+0.4**
KNRA				IAmb	IAmb	22 56 50.8	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.97**	**273**	P	**P**	**22 56 41.5**	**+0.8**
FITZ				IAmb	IAmb	22 56 44.1	
	comp=Z,8.0nm,1.3s						
MORW	**Morawa**	**55.22**	**256**	P	**P**	**22 57 04.7**	**+0.2**
QSPA	**South Pole Qui**	**56.46**	**180**	P	**P**	**22 57 13.2**	**+0.3**
RPN	**Rapa Nui**	**59.07**	**104**	LR	LR	23 16 01.4	
	comp=Z,261nm,19.7s,baz=115,slow=29						
CPUP	**Villa Florida**	**98.31**	**129**	LR	LR	23 39 22.5	
	comp=Z,76nm,21.5s,baz=73,slow=32						
HRA	**Herat**	**130.30**	**289**	PKPdf	**PKPdf**	**23 06 41.2**	**-0.8**
FINES	**FINESS Array B**	**148.01**	**338**	PKPbc	**PKPbc**	**23 07 15.7**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=45,slow=3.0,SNR=8.1						
FINES	**FINESS Array B**	**148.01**	**338**		**PKPbc**	**23 07 15.5**	**-0.4**

*THE **07** 22:47:59.8, 35°.38N×23°.56E, h15km±3km, ML2.4/5, Error ellipse: s-maj=3.1km s-min=0.8km az=186.0*

*ATH **07** 22:48:00.7, 35°.44N×23°.61E, h20km±3km, ML2.6/2, Error ellipse: s-maj=4.1km s-min=1.0km az=48.0*

ISC 07 22:47:59.6±1.0**, 35°.41N**±0°.05×**23°.59E**±0°.05**, h13**km±9km**, n12,** σ**0s.29**/20**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.19**	**155**	P	**Pg**	**22 48 03.8**	**-0.1**
KNDR				S	**Sg**	**22 48 06.6**	**-0.2**
	2µm,0.3s						
RODP	**Rodopos**	**0.21**	**41**	P	**Pb**	**22 48 05.4**	**+0.1**
RODP				S	**Sb**	**22 48 09.5**	**+0.5**
	535nm,0.3s						
IMMV	**Iera Moni Meta**	**0.32**	**80**	P	**Pb**	**22 48 07.2**	**0.0**
IMMV				S	**Sb**	**22 48 12.7**	**+0.3**
IMMV				AML	AML	22 48 12.8	
	comp=N,3527µm,0.3s						
IMMV				AML	AML	22 48 13.1	
	comp=E,2148µm,0.2s						
IMMV	**Iera Moni Meta**	**0.32**	**80**	P	**Pb**	**22 48 07.2**	**0.0**
IMMV				S	**Sb**	**22 48 12.5**	**+0.1**
	comp=E,1µm,0.2s						
VAM	**Vamos**	**0.50**	**90**	P	**Pb**	**22 48 10.3**	**0.0**
VAM				AML	AML	22 48 20.1	
	comp=N,1718µm,0.5s						
VAM				AML	AML	22 48 20.9	
	comp=E,1403µm,0.3s						
VAM	**Vamos**	**0.50**	**90**	P	**Pb**	**22 48 10.2**	**0.0**
VAM				S	**Sb**	**22 48 17.5**	**+0.1**
	comp=E,818nm,0.5s						
ANKY	**Antikythira Is**	**0.52**	**333**	P	**Pb**	**22 48 10.6**	**0.0**
ANKY				S	**Sb**	**22 48 17.8**	**-0.2**
ANKY	**Antikythira Is**	**0.52**	**333**	P	**Pb**	**22 48 10.5**	**0.0**
ANKY				S	**Sg**	**22 48 17.3**	**+0.6**
	comp=E,402nm,0.3s						
GVD	**Gavdhos**	**0.70**	**144**	P	**Pb**	**22 48 14.2**	**+0.6**
GVD				S	**Sn**	**22 48 25.4**	**-0.4**
KTHA	**Kythira Island**	**0.95**	**333**	P	**Pn**	**22 48 18.6**	**-0.1**
VLI	**Veliai**	**1.41**	**338**	P	**Pg**	**22 48 26.7**	**-0.1**
NPS	**Neapolis**	**1.66**	**94**	P	**Pg**	**22 48 31.3**	**-0.2**

*TAP **07** 22:50:29.5, 22°.28N×121°.63E, h13km, ML3.4, C*

*JMA **07** 22:50:30.0±0.4, 22°.37N×121°.73E, h46km, M3.7*

ISC 07 22:50:28.1±1.0**, 22°.26N**±0°.03×**121°.72E**±0°.03**, h23**km±10km**, n122,** σ**1s.22**/145**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.27**	**215**	P	**Pb**	**22 50 34.8**	**+0.2**
	baz=195						
LAY				*i* S	**Sb**	**22 50 38.8**	**-0.2**
	baz=195						
LYUB	**Lan-yu**	**0.29**	**206**	*i* P	**Pb**	**22 50 34.9**	**+0.1**
	baz=188						
LYUB				*e*S	**Sb**	**22 50 38.8**	**-0.6**
	baz=188						
LDUT	**Ludao**	**0.47**	**331**	*e*P	**Pb**	**22 50 37.9**	**+0.2**
	baz=339						
LDUT				S	**Sb**	**22 50 44.3**	**0.0**
	baz=339						
TTN	**Taitung**	**0.72**	**313**	*e*P	**Pb**	**22 50 42.8**	**+0.8**
	baz=331						
TAW	**Tawu**	**0.77**	**277**	P	**Pb**	**22 50 42.5**	**-0.3**
	baz=276						
TAW				*e*S	**Sb**	**22 50 51.6**	**-1.2**
	baz=276						
TAWH	**Dawu Township**	**0.77**	**276**	*e*P	**Pb**	**22 50 42.4**	**-0.5**
	baz=275						
TAWH				*e*S	**Sb**	**22 50 52.0**	**-0.9**
	baz=275						
ECL	**Taimali**	**0.78**	**295**	*e*P	**Pb**	**22 50 42.7**	**-0.3**
	baz=297						
EDH	**Donghe**	**0.80**	**332**	*e*P	**Pb**	**22 50 43.0**	**-0.5**
	baz=337						
EDH				*e*S	**Sb**	**22 50 53.5**	**-0.4**
	baz=337						
TWGBT	**Beinan**	**0.81**	**313**	*e*P	**Pb**	**22 50 43.6**	**+0.1**
	baz=329						
TWGBT				*e*S	**Sn**	**22 50 54.6**	**-0.8**
	baz=329						
EAST	**Anshuo**	**0.82**	**279**	*i* P	**Pn**	**22 50 43.1**	**-1.1**
	baz=278						
EAST				S	**Sb**	**22 50 53.3**	**-1.0**
	baz=278						
TWG	**Pinlang**	**0.82**	**313**	*e*P	**Pb**	**22 50 43.7**	**0.0**
	baz=329						
TWG				*e*S	**Sb**	**22 50 54.3**	**+0.1**
	baz=329						
LONT	**Longtian**	**0.84**	**320**	*e*P	**Pn**	**22 50 43.8**	**-0.7**
	baz=335						
LONT				*e*S	**Sn**	**22 50 55.8**	**-0.4**
	baz=335						
TSEB	**Hengchuen, Pin**	**0.84**	**245**	*i* P	**Pn**	**22 50 44.6**	**+0.2**
	baz=256						
SMST	**Manzhou Townsh**	**0.85**	**254**	*e*P	**Pn**	**22 50 43.8**	**-0.9**
	baz=250						
SLIU	**Shizi**	**0.85**	**267**	*e*P	**Pn**	**22 50 43.6**	**-1.1**
	baz=265						
CHKT	**Chengkung**	**0.89**	**339**	P	**Pn**	**22 50 44.2**	**-1.0**
	baz=344						
CHKT				*e*S	**Sb**	**22 50 55.4**	**-1.1**
	baz=344						
TWKBT	**Hengchun**	**0.90**	**249**	*i* P	**Pn**	**22 50 44.5**	**-0.8**
	baz=260						
TWK1	**Hengchun**	**0.91**	**250**	*e*P	**Pn**	**22 50 44.7**	**-0.7**
	baz=260						
HEN	**Hengchun**	**0.94**	**254**	*e*P	**Pn**	**22 50 45.6**	**-0.3**
	baz=251						
HEN				*e*S	**Sn**	**22 50 57.1**	**-1.6**
	baz=251						
ECS	**Chishang**	**0.95**	**331**	*e*P	**Pn**	**22 50 46.2**	**+0.2**
	baz=346						
ECS				*e*S	**Sn**	**22 50 59.1**	**+0.3**
	baz=346						
FULB	**Fuli**	**1.01**	**337**	*e*P	**Pn**	**22 50 45.9**	**-1.0**
	baz=342						
FULB				*e*S	**Sn**	**22 50 59.0**	**-1.3**
	baz=342						
SCZT	**Fangliau**	**1.02**	**276**	*e*P	**Pn**	**22 50 46.5**	**-0.5**
	baz=275						
MASBT	**Mashibuluo**	**1.06**	**289**	*e*P	**Pn**	**22 50 47.1**	**-0.4**
	baz=290						
ECBN	**Changbin**	**1.08**	**347**	*e*P	**Pb**	**22 50 49.3**	**+1.2**
	baz=351						
TSMG	**Majia**	**1.09**	**294**	*e*P	**Pb**	**22 50 48.7**	**+0.5**
	baz=295						
SSPT	**Xinbi**	**1.09**	**282**	*e*P	**Pb**	**22 50 49.8**	**+1.6**
	baz=292						
SSD	**Sandimen**	**1.11**	**296**	*e*P	**Pn**	**22 50 48.7**	**+0.4**
	baz=308						
ELDTW	**Lidau**	**1.13**	**325**	*e*P	**Pn**	**22 50 48.2**	**-0.4**
	baz=339						
EYUL	**Yuli**	**1.14**	**341**	*e*P	**Pn**	**22 50 48.3**	**-0.3**
	baz=357						
TWF1	**Yuli**	**1.15**	**340**	P	**Pn**	**22 50 48.4**	**-0.4**
	baz=356						
YULB	**Yu-li**	**1.19**	**341**	*e*P	**Pn**	**22 50 48.8**	**-0.5**
	baz=356						
SLGT	**Liugui**	**1.23**	**306**	*e*P	**Pb**	**22 50 50.7**	**+0.1**
	baz=308						
WLCH	**Liuqiu**	**1.24**	**274**	*e*P	**Pb**	**22 50 52.4**	**+1.5**
	baz=274						
HGSD	**Ruisui**	**1.25**	**348**	*e*P	**Pn**	**22 50 49.4**	**-0.8**
	baz=352						
STYH	**Taoyuan**	**1.25**	**316**	*e*P	**Pn**	**22 50 50.8**	**+0.6**
	baz=319						
TWP	**Hsiaoliuchiu**	**1.26**	**274**	*e*P	**Pb**	**22 50 53.1**	**+2.0**
	baz=274						
EHY	**Hungye**	**1.29**	**344**	P	**Pn**	**22 50 50.6**	**-0.1**
	baz=358						
SCST	**Cishan**	**1.29**	**299**	*e*P	**Pb**	**22 50 53.0**	**+1.3**
	baz=307						
TWM1	**Shoushan**	**1.32**	**295**	*e*P	**Pb**	**22 50 54.2**	**+1.9**
	baz=297						
SGST	**Jiashian**	**1.33**	**308**	*e*P	**Pb**	**22 50 52.7**	**+0.4**
	baz=310						
WTP	**Ta-pu**	**1.41**	**314**	*e*P	**Pb**	**22 50 54.0**	**+0.2**
	baz=317						
EGFH	**Guangfu**	**1.43**	**349**	*e*P	**Pb**	**22 50 54.5**	**+0.5**
	baz=2.0						
CHN1	**Nanshi**	**1.43**	**310**	*e*P	**Pb**	**22 50 54.8**	**+0.7**
	baz=322						
TPUB	**Ta-pu**	**1.44**	**316**	*e*P	**Pb**	**22 50 54.3**	**0.0**
	baz=328						
SHHT	**Tainan City**	**1.48**	**301**	*e*P	**Pb**	**22 50 57.2**	**+2.3**
	baz=303						
SNST	**Tainan City**	**1.48**	**310**	*e*P	**Pb**	**22 50 55.6**	**+0.7**
	baz=323						
ALS	**Alishan**	**1.50**	**326**	*i* P	**Pb**	**22 50 55.0**	**-0.5**
	baz=329						
CHN4	**Tsaushan**	**1.50**	**316**	*e*P	**Pb**	**22 50 55.6**	**+0.4**
	baz=328						
TWK	**Hsinying**	**1.51**	**312**	*e*P	**Pb**	**22 50 56.0**	**+0.5**
	baz=314						
ESL	**Shilin**	**1.57**	**350**	*e*P	**Pn**	**22 50 54.6**	**+0.1**
	baz=6.0						
VWDT	**VWDT**	**1.58**	**340**	*e*P	**Pn**	**22 50 55.4**	**+0.8**
	baz=355						
CHN5	**Tsauling**	**1.64**	**324**	P	**Pb**	**22 50 57.7**	**0.0**
	baz=327						
SSLB	**Suanglung**	**1.67**	**335**	*e*P	**Pn**	**22 50 57.2**	**+1.2**
	baz=350						
CHN2	**Minshiung**	**1.71**	**318**	*e*P	**Pb**	**22 50 59.5**	**+0.7**
	baz=321						
ETM	**Tongmen**	**1.71**	**353**	*e*P	**Pn**	**22 50 56.4**	**0.0**
	baz=7.0						
CHY	**Chiayi**	**1.71**	**316**	*e*P	**Pb**	**22 50 59.3**	**+0.4**
	baz=300						
ICHU	**Yijhu**	**1.72**	**310**	*e*P	**Pb**	**22 50 59.5**	**+0.5**
	baz=312						
SMLT	**Sun Moon Lake**	**1.78**	**335**	*e*P	**Pb**	**22 50 59.2**	**-0.9**
	baz=348						
WDLH	**Douliu**	**1.79**	**323**	*e*P	**Pb**	**22 51 00.6**	**+0.4**
	baz=326						
WJS	**Zhushan**	**1.80**	**330**	*e*P	**Pb**	**22 51 00.7**	**+0.3**
	baz=333						
WUSB	**Renai**	**1.81**	**342**	*e*P	**Pn**	**22 50 59.4**	**+1.4**
	baz=357						
TYC	**Yuchr**	**1.82**	**334**	*e*P	**Pb**	**22 51 00.3**	**-0.3**
	baz=345						
CHGB	**Renai**	**1.86**	**344**	*e*P	**Pn**	**22 51 00.1**	**+1.4**
	baz=359						
WSL	**Shuilin Townsh**	**1.86**	**313**	*e*P	**Pb**	**22 51 00.9**	**-0.5**
	baz=315						
WNT	**Mingjian**	**1.87**	**330**	*e*P	**Pb**	**22 51 01.6**	**0.0**
	baz=333						
WTK	**Tuku**	**1.88**	**319**	*e*P	**Pb**	**22 51 01.3**	**-0.4**
	baz=323						
WTK				*e*S	**Sb**	**22 51 24.5**	**-0.2**
	baz=323						
WPL	**Puli Township**	**1.88**	**338**	*e*P	**Pb**	**22 51 00.8**	**-0.9**
	baz=355						
NACB	**Ninganchiao**	**1.91**	**357**	*e*P	**Pn**	**22 50 59.2**	**+0.1**
	baz=360						
DPDB	**Guoxing**	**1.91**	**338**	*e*P	**Pb**	**22 51 01.5**	**-0.7**
	baz=354						
WHF	**Hehuan Shan**	**1.92**	**348**	*e*P	**Pn**	**22 51 00.2**	**+0.5**
	baz=351						
WCS	**Beigang Elemen**	**1.93**	**338**	*e*P	**Pb**	**22 51 01.8**	**-0.8**
	baz=353						
ETLH	**Xiulin Townshi**	**1.95**	**354**	*e*P	**Pn**	**22 50 59.7**	**-0.1**
	baz=8.0						
WWF	**Wufeng**	**2.00**	**332**	*e*P	**Pb**	**22 51 03.6**	**-0.3**
	baz=335						
FUSS	**Fushou**	**2.02**	**348**	*e*P	**Pn**	**22 51 02.3**	**+1.3**
	baz=1.0						
WRL	**Guolierlin Hig**	**2.05**	**323**	*e*P	**Pb**	**22 51 03.6**	**-0.9**
	baz=326						
WHP	**Taichung City**	**2.13**	**341**	*e*P	**Pb**	**22 51 05.1**	**-0.9**
	baz=351						
WDGT	**Dungji**	**2.14**	**298**	*e*P	**Pn**	**22 51 03.6**	**+1.1**
	baz=300						
ENA	**Nanau**	**2.15**	**1**	*e*P	**Pn**	**22 51 04.4**	**+1.8**
	baz=13						
EWUT	**Wuta**	**2.17**	**1**	*e*P	**Pb**	**22 51 05.5**	**-1.3**
	baz=14						
NNSB	**Datong**	**2.18**	**352**	*e*P	**Pn**	**22 51 04.2**	**+1.2**
	baz=6.0						
NNS	**Nan Shan**	**2.19**	**352**	*e*P	**Pb**	**22 51 06.2**	**-0.9**
	baz=5.0						
TWQ1	**Liyutan**	**2.25**	**337**	*e*P	**Pb**	**22 51 07.1**	**-0.9**
	baz=340						
LATG	**Datong**	**2.27**	**356**	*e*P	**Pn**	**22 51 05.3**	**+1.0**
	baz=358						
VCHM	**Qimei**	**2.31**	**294**	*e*P	**Pn**	**22 51 05.3**	**+0.5**
	baz=296						
NSY	**Sanyi**	**2.32**	**338**	*e*P	**Pb**	**22 51 08.1**	**-1.1**
	baz=341						
NDT	**Datong Townshi**	**2.34**	**355**	*e*P	**Pn**	**22 51 07.2**	**+2.1**
	baz=358						
PHUB	**P'eng-hu**	**2.34**	**303**	*e*P	**Pn**	**22 51 06.2**	**+1.1**
	baz=304						
TWC	**Suao**	**2.34**	**3**	*e*P	**Pn**	**22 51 07.1**	**+2.0**
	baz=6.0						
NDS	**Dongshan**	**2.36**	**360**	*e*P	**Pb**	**22 51 08.3**	**-1.6**
	baz=13						
ENTT	**Nioudou**	**2.37**	**357**	*e*P	**Pb**	**22 51 08.3**	**-1.8**
	baz=359						
PNG	**Penghu**	**2.38**	**303**	*e*P	**Pn**	**22 51 08.1**	**+2.5**
	baz=305						
YHNB	**Yeheng**	**2.42**	**353**	*e*P	**Pn**	**22 51 08.0**	**+1.7**
	baz=5.0						
NFF	**Wufeng Townshi**	**2.42**	**347**	*e*P	**Pb**	**22 51 09.2**	**-1.8**
	baz=349						
NSK	**Sanguang**	**2.42**	**352**	*e*P	**Pn**	**22 51 08.4**	**+2.1**
	baz=5.0						
NSTT	**Nanjuang**	**2.45**	**345**	*e*P	**Pb**	**22 51 10.0**	**-1.4**
	baz=347						
JYNG	**Yonagunijimaku**	**2.45**	**27**	P	**Pn**	**22 51 07.5**	**+0.8**
JYNG				*e*S	**Sn**	**22 51 34.6**	**-1.3**
LIOB	**Emei**	**2.46**	**345**	*e*P	**Pb**	**22 51 10.3**	**-1.3**
	baz=347						
FUSB	**Fushanzhiwuyua**	**2.49**	**357**	*e*P	**Pn**	**22 51 09.9**	**+2.6**
	baz=360						
YOJ	**Yonaguni jima**	**2.49**	**28**	P	**Pn**	**22 51 08.7**	**+1.5**
YOJ				*e*S	**Sn**	**22 51 36.9**	**+0.1**

YOJ	**Yonaguni jima**	**2.49**	**28**	*e*P	**Pn**	**22 51 09.3**	**+2.1**
	baz=31						
NWLT	**Wulai**	**2.51**	**355**	*e*P	**Pn**	**22 51 10.2**	**+2.7**
	baz=358						
HATJ	**Hateruma jima**	**2.62**	**47**	P	**Pn**	**22 51 10.0**	**+1.0**
HATJ				*e*S	**Sn**	**22 51 39.3**	**-0.8**
TIPB	**Shuangxi**	**2.70**	**2**	*e*P	**Pn**	**22 51 12.8**	**+2.7**
	baz=4.0						
IRIF	**Iriomote-Funau**	**2.77**	**41**	P	**Pn**	**22 51 12.3**	**+1.3**
IRIF				S	**Sn**	**22 51 43.2**	**-0.5**
NWF	**Wu-fen Shan**	**2.80**	**1**	*e*P	**Pn**	**22 51 14.3**	**+2.9**
	baz=353						
WFSB	**Wu-fen Shan**	**2.80**	**1**	*e*P	**Pn**	**22 51 14.0**	**+2.6**
	baz=353						
SXI1	**Grass Mountain**	**2.82**	**3**	*e*P	**Pn**	**22 51 13.8**	**+1.9**
	baz=19						
YM01	**YM01**	**2.87**	**357**	*e*P	**Pn**	**22 51 15.4**	**+2.8**
	baz=359						
JKRS	**Kuro-shima**	**2.88**	**47**	P	**Pn**	**22 51 13.9**	**+1.3**
JKRS				S	**Sn**	**22 51 45.7**	**-0.8**
JIJ	**Ishigaki jima**	**3.06**	**46**	P	**Pn**	**22 51 15.7**	**+0.7**
JIJ				S	**Sn**	**22 51 49.1**	**-1.7**
JISG	**Ishigakijimahi**	**3.32**	**45**	P	**Pn**	**22 51 19.2**	**+0.6**
JISG				*e*S	**Sn**	**22 51 56.5**	**-0.8**
JTJ	**Tarama**	**3.62**	**49**	P	**Pn**	**22 51 24.0**	**+1.3**
JTJ				S	**Sn**	**22 52 04.3**	**-0.4**
PTMZ	**Houxiangcun**	**3.65**	**320**	*e*P	**Pn**	**22 51 22.6**	**-0.5**
	baz=322						
KNM	**Kinmen**	**3.70**	**306**	*e*P	**Pn**	**22 51 27.4**	**+3.5**
	baz=307						
KNMB	**Chin-men Tao**	**3.76**	**306**	*e*P	**Pn**	**22 51 27.2**	**+2.5**
	baz=308						
ZPLA	**Ao Xicun**	**4.01**	**295**	*e*P	**Pn**	**22 51 29.2**	**+1.1**
	baz=297						
JIRB	**Irabujima**	**4.07**	**50**	*e*S	**Sn**	**22 52 15.0**	**-0.8**
JMJ2	**Miyako jima3**	**4.13**	**53**	*e*S	**Sn**	**22 52 18.0**	**+0.7**
JIKM	**Ikemajima**	**4.18**	**50**	S	**Sn**	**22 52 19.5**	**+0.9**
MATB	**Ma-tsu**	**4.20**	**338**	*e*P	**Pn**	**22 51 31.8**	**+1.2**
	baz=339						
AXDP	**Jialang**	**4.33**	**308**	*e*P	**Pn**	**22 51 34.4**	**+2.0**
	baz=310						
MHZQ	**Yeshan**	**4.54**	**328**	*e*P	**Pn**	**22 51 37.9**	**+2.6**
	baz=329						

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*ASRS **07** 22:59:12.1±0.3, 51˚N±1˚×8˚7E±˚, h10km, MLh3.5/12, Error ellipse: s-maj=3.5km s-min=2.4km az=72.5, confirmed*
*NNC **07** 22:59:15.9±2.4, 50˚59N×87˚12E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=23.1km s-min=11.8km az=103.0*
*SOME **07** 22:59:19.6, 50˚13N×85˚53E, h5km*
ISC 07 22:59:13.2±0.8**, 50˚53N**±0˚02×**87˚40E**±0˚03**, h10km, n20, σ1s73**/36**, 8C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.22**	**163**	⇑Pg	**Pg**	**22 59 17.7**	**-0.2**
CHBI				Sg	**Sg**	**22 59 20.1**	**-0.9**
AKAR	**Aktash**	**0.25**	**146**	⇑Pg	**Pg**	**22 59 17.3**	**-1.1**
AKAR				Sg	**Sg**	**22 59 20.2**	**-1.6**
ULGR	**Ulagan, Altay**	**0.37**	**75**	⇑Pg	**Pb**	**22 59 21.1**	**-0.9**
ULGR				Sg	**Sb**	**22 59 26.2**	**-1.7**
CUR	**Chagan-Uzun**	**0.74**	**125**	⇑Pg	**Pg**	**22 59 26.4**	**-1.2**
CUR				Sg	**Sg**	**22 59 36.8**	**-0.5**
ARTR	**Artybash**	**1.28**	**357**	Pg	**Pg**	**22 59 37.3**	**-0.4**
ARTR				Sg	**Sn**	**22 59 54.0**	**-0.3**
UKR	**Ust'-Kan**	**1.72**	**285**	Pg	**Pg**	**22 59 45.0**	**-1.2**
UKR				Sg	**Sg**	**23 00 09.2**	**+0.7**
TASR	**Tashtagol**	**2.26**	**7**	Pg	**Pg**	**22 59 55.2**	**-1.2**
TASR				Sg	**Sg**	**23 00 25.6**	**-0.1**
ELT	**Eltsovka**	**2.83**	**346**	Pg	**Pg**	**23 00 05.5**	**-2.0**
ELT				Sg	**Sg**	**23 00 43.1**	**-1.0**
LUZB	**Luzhba, Kemero**	**3.27**	**16**	Pg	**Pg**	**23 00 14.3**	**-1.6**
LUZB				Sg	**Sg**	**23 00 55.3**	**-3.0**
DJO	**Djoy, Khakassi**	**3.28**	**45**	Pg	**Pg**	**23 00 14.7**	**-1.3**
DJO				Sg	**Sg**	**23 00 58.2**	**-0.3**
DJOS	**Djoyskaya Sosn**	**3.37**	**46**	Pg	**Pg**	**23 00 19.2**	**+1.5**
DJOS				Sg	**Sg**	**23 01 01.2**	**-0.2**
CERR	**Cheremushki**	**3.42**	**45**	Pg	**Pg**	**23 00 19.1**	**+0.4**
CERR				Sg	**Sg**	**23 01 02.7**	**-0.2**
ZSN	**Zaisan**	**3.50**	**209**	*e*P	**Pb**	**23 00 12.8**	**-2.5**
	4.0nm,0.4s						
ZSN				*e*S	**Sb**	**23 00 55.8**	**-2.1**
	28nm,0.9s						
ZAA0	**Zalesovo Array**	**3.78**	**336**	⇓Pn	**Pn**	**23 00 13.5**	**+2.1**
	0.3nm,0.4s						
ZAA0				⇓Lg	Lg	23 01 09.5	
	3.1nm,0.7s						
SALR	**Pechorkino, Sa**	**4.03**	**346**	Sg	**Sg**	**23 01 23.4**	**+0.8**
SEM	**Semipalatinsk**	**4.57**	**271**	*e*P	**Pn**	**23 00 25.9**	**+3.3**
	7.8nm,0.2s						
SEM				*e*S	**Sn**	**23 01 19.6**	**+3.8**
	10nm,0.0s						
KZLR	**Kyzyl**	**4.60**	**72**	Pg	**Pg**	**23 00 43.3**	**+2.1**
KZLR				Sg	**Sg**	**23 01 42.6**	**+1.8**
MK31	**Makanchi Array**	**5.04**	**224**	Pn	Pn	23 00 33.0	+4.1
	3.0nm,0.6s,baz=50,slow=12,SNR=145						
MK31				⇓Sn	**Sn**	**23 01 30.1**	**+2.9**
	2.2nm,0.4s,baz=57,slow=28,SNR=5.7						
MK31				⇑Lg	Lg	23 01 53.4	
	6.2nm,0.6s,baz=47,slow=32,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.65**	**274**	⇑Pn	**Pn**	**23 00 39.3**	**+2.1**
	4.1nm,0.5s						
KURBB				⇑Sn	**Sn**	**23 01 43.7**	**+1.5**
	7.4nm,0.5s						
KURBB				⇑Lg	Lg	23 02 09.2	
	29nm,0.7s						
OTUK	**Ortayu**	**10.09**	**263**	⇓Pn	**Pn**	**23 01 38.7**	**+0.7**
	1.0nm,0.8s						
OTUK				⇓Lg	Lg	23 04 30.8	
	4.2nm,0.9s						

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*IDC **07** 23:24:01.2±2.0, 15˚71S×176˚81W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/41, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=107.2km s-min=26.3km az=153.0*
*NEIC **07** 23:24:04.3±2.9, 18˚38S±0˚10×174˚7W±0˚1, h108km±10km, mb3.9/6, Error ellipse: s-maj=15.7km s-min=13.6km az=62.0*
ISC 07 23:24:05.5±0.8**, 18˚28S**±0˚08×**174˚56W**±0˚09**, h130km, n16, σ1s43**/19**, mb3.7**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.46**	**101**	Pn	**Pn**	**23 25 12.9**	**+1.5**
NIUE				Sn	**Sn**	**23 26 00.0**	**-2.6**
AFI	**Afiamalu**	**5.10**	**32**	Pn	**Pn**	**23 25 21.4**	**+1.3**
	11nm,0.3s,baz=200,slow=4.5,SNR=9.6						
AFI				Sn	**Sn**	**23 26 16.2**	**-1.9**
	31nm,0.3s,baz=99,slow=23,SNR=9.4						
AFI	**Afiamalu**	**5.10**	**32**		**Pn**	**23 25 18.9**	**-1.2**
AFI					**Sn**	**23 26 17.1**	**-1.1**
BHW	**Baring Head**	**24.77**	**199**	P	**P**	**23 29 13.2**	**-1.8**
QRZ	**Quartz Range**	**25.06**	**204**	P	**P**	**23 29 17.8**	**0.0**
LBZ	**Lake Benmore**	**29.00**	**203**	P	**P**	**23 29 51.8**	**-1.2**
LBZ				IAmb	IAmb	23 29 55.1	
	comp=Z,9.2nm,0.9s						
WR0	**Warramunga Arr**	**47.97**	**259**	P	**P**	**23 32 31.8**	**+0.3**
WR0				IAmb	IAmb	23 32 34.2	
	comp=Z,1.8nm,1.1s						
WB0	**Warramunga Arr**	**48.13**	**260**	P	**P**	**23 32 32.4**	**-0.3**
WB0				IAmb	IAmb	23 32 40.9	
	comp=Z,1.4nm,0.9s						
WB2	**Warramunga Arr**	**48.15**	**259**	P	**P**	**23 32 32.5**	**-0.4**
WB2				IAmb	IAmb	23 32 49.2	
	comp=Z,1.8nm,1.1s						
WRA	**Warramunga Arr**	**48.16**	**259**	P	**P**	**23 32 31.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.5,SNR=27						
WRA	**Warramunga Arr**	**48.16**	**259**	P	**P**	**23 32 32.5**	**-0.5**
ASAR	**Alice Springs**	**48.22**	**254**	P	**P**	**23 32 33.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=84,slow=8.6,SNR=5.9						
ASAR	**Alice Springs**	**48.22**	**254**	P	**P**	**23 32 31.5**	**-1.8**
QSPA	**South Pole Qui**	**71.78**	**180**	P	**P**	**23 35 13.9**	**+0.3**
KVN	**Kaiserville**	**77.69**	**42**	P	**P**	**23 35 50.1**	**+2.0**
ILAR	**Eielson Array**	**85.47**	**12**	P	**P**	**23 36 29.4**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=229,slow=6.1,SNR=7.0						

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*IDC **07** 23:25:46.9±1.1, 41˚35N×117˚21W, h0km, mb2.7/1, mb1 2.9/4, mb1mx2.9/54, mbtmp2.6/4, ML2.8/3, Error ellipse: s-maj=11.0km s-min=7.1km az=177.0*
*NEIC **07** 23:25:48.9±2.4, 41˚26N±0˚04×117˚26W±0˚05, h0km±1km, ML2.7/100, ML2.4(REN), Error ellipse: s-maj=7.0km s-min=6.3km az=106.0*
ISC 07 23:25:48.6±0.9**, 41˚20N**±0˚03×**117˚26W**±0˚03**, h0km, n55, σ1s00**/64**, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.76**	**178**		**Pg**	**23 26 03.8**	**+0.6**
ELK	**Elko**	**1.60**	**106**	Pn	**Pn**	**23 26 16.6**	**-1.8**
	3.6nm,0.3s,baz=296,slow=17,SNR=47						
ELK				Lg	Lg	23 26 36.9	
	4.9nm,0.3s,baz=198,slow=20,SNR=15						
ELK	**Elko**	**1.60**	**106**		**Pn**	**23 26 16.3**	**-2.0**
WVOR	**Wild Horse Val**	**1.61**	**321**		**Pn**	**23 26 16.9**	**-1.6**
PAHR	**Pah Rah Range**	**2.20**	**228**	Pn	**Pn**	**23 26 26.1**	**-0.4**
KVN	**Kaiserville**	**2.24**	**197**	Pn	**Pn**	**23 26 27.1**	**0.0**
J08A	**Circle Bar Ran**	**2.34**	**338**		**Pn**	**23 26 29.4**	**+0.9**
Q09A	**Carvers**	**2.36**	**178**		**Pn**	**23 26 29.1**	**+0.3**
Q09A				IAML		23 27 17.3	
	comp=N,56nm,1.1s						
MOD	**Modoc Plateau**	**2.39**	**288**	Pn	**Pn**	**23 26 29.1**	**-0.1**
MOD				IAML		23 27 10.3	
	comp=E,29nm,1.0s						
MOD				IAML		23 27 17.6	
	comp=N,27nm,1.7s						
MFID	**Camas Ranch**	**2.46**	**25**	Pn	**Pn**	**23 26 29.6**	**-0.5**
MFID				IAML		23 27 10.6	
	comp=N,38nm,0.8s						
MFID				IAML		23 27 12.3	
	comp=N,31nm,0.8s						
PEAR	**Peavine Mounta**	**2.60**	**233**		**Pn**	**23 26 32.4**	**+0.2**
VCNR	**Virginia City**	**2.63**	**225**		**Pn**	**23 26 32.6**	**0.0**
VCNR				IAML		23 27 22.5	
	comp=N,24nm,1.4s						
VCNR				IAML		23 27 25.9	
	comp=E,32nm,0.7s						
YERR	**Yerington**	**2.68**	**215**		**Pn**	**23 26 33.6**	**+0.4**
YERR				IAML		23 27 23.0	
	comp=N,24nm,1.1s						
YERR				IAML		23 27 24.7	
	comp=E,26nm,1.1s						
BEKR	**Beckworth**	**2.71**	**242**		**Pn**	**23 26 33.6**	**0.0**
RYN	**Ryan**	**2.74**	**201**		**Pn**	**23 26 34.4**	**+0.4**
RYN				IAML		23 27 26.0	
	comp=N,19nm,1.0s						
RYN				IAML		23 27 36.5	
	comp=E,22nm,4.3s						
PNTR	**Pine Nut**	**2.76**	**221**	Pn	**Pn**	**23 26 35.0**	**+0.6**
PNTR				IAML		23 27 32.3	
	comp=E,34nm,3.2s						
PNTR				IAML		23 27 35.0	
	comp=N,28nm,2.3s						
MPK	**Martis Peak**	**2.84**	**229**	Pn	**Pn**	**23 26 35.0**	**-0.6**
MPK				IAML		23 27 26.6	
	comp=E,36nm,4.1s						
MPK				IAML		23 27 36.9	
	comp=N,26nm,1.1s						
NV11	**Mina Array Sit**	**2.84**	**194**		**Pn**	**23 26 35.6**	**+0.1**
NV11				Pg	**Pg**	**23 26 43.2**	**+0.1**
NVAR	**Mina Array Bea**	**2.88**	**197**	Pn	**Pn**	**23 26 36.0**	**+0.1**
	comp=N,0.4nm,0.3s,baz=14,slow=12,SNR=18						
NVAR				Lg	Lg	23 27 23.8	
	comp=N,2.6nm,0.3s,baz=339,slow=32,SNR=3.9						
NVAR	**Mina Array Bea**	**2.88**	**197**		**Pn**	**23 26 35.8**	**-0.1**
NVAR					**Pg**	**23 26 42.9**	**-0.9**
LHV	**Little Huntoon**	**3.09**	**198**	Pn	**Pn**	**23 26 39.2**	**+0.5**
LHV					**Pg**	**23 26 47.1**	**-0.8**
LHV				IAML		23 27 42.1	
	comp=N,28nm,3.7s						
EMB	**Emerald Bay**	**3.11**	**225**	Pn	**Pn**	**23 26 39.0**	**-0.1**
EMB				IAML		23 27 33.2	
	comp=N,23nm,4.1s						
EMB				IAML		23 27 55.3	
	comp=E,22nm,3.4s						
K05A	**Summer Lake**	**3.11**	**301**	Pn	**Pn**	**23 26 39.3**	**+0.2**
K05A					**Pg**	**23 26 48.3**	**+0.1**
K05A				IAML		23 28 27.4	
	comp=E,25nm,4.2s						
TPH	**Tonopah**	**3.12**	**179**	Pn	**Pn**	**23 26 39.1**	**-0.2**
TPH					**Pg**	**23 26 48.0**	**-0.4**
R11A	**Troy Canyon, C**	**3.12**	**155**		**Pn**	**23 26 39.4**	**+0.1**
HLID	**Hailey**	**3.17**	**41**	Pn	**Pn**	**23 26 38.6**	**-1.3**
BGU	**Big Grassy Mou**	**3.21**	**93**		**Pb**	**23 26 46.0**	**-0.6**
I07A	**Izee**	**3.33**	**331**	Pn	**Pn**	**23 26 43.1**	**+1.1**
I07A					**Pb**	**23 26 50.0**	**+1.4**
I07A				IAML		23 27 41.4	
	comp=E,19nm,3.1s						
I07A				IAML		23 27 47.8	
	comp=N,20nm,4.1s						
HVU	**Hansel Valley**	**3.42**	**79**		**Pn**	**23 26 42.1**	**-1.3**
HVU				IAML		23 27 37.6	
	comp=E,20nm,0.7s						
HVU				IAML		23 27 43.8	
	comp=N,16nm,0.8s						
M04C	**Macdoel**	**3.49**	**281**	Pn	**Pn**	**23 26 44.1**	**-0.2**
M04C					**Pg**	**23 26 54.9**	**-0.6**
DUG	**Dugway, Tooele**	**3.53**	**105**		**Pn**	**23 26 46.4**	**+1.6**
DUG				IAML		23 27 45.9	
	comp=N,14nm,1.2s						
DUG				IAML		23 27 48.5	
	comp=N,13nm,3.1s						
O03E	**Paynes Creek**	**3.56**	**257**	Pn	**Pn**	**23 26 45.3**	**0.0**
ORV	**Oroville**	**3.63**	**245**	Pn	**Pn**	**23 26 46.1**	**0.0**
ORV				IAML		23 27 58.6	
	comp=N,14nm,4.5s						
ORV				IAML		23 28 54.4	
	comp=E,15nm,4.1s						
BMO	**Blue Mountains**	**3.66**	**359**	Pn	**Pn**	**23 26 48.2**	**+1.7**
BMO				IAML		23 27 47.5	
	comp=E,11nm,2.7s						
BMO				IAML		23 27 59.0	
	comp=E,9.8nm,4.2s						
PSUT	**Pine Spring**	**3.73**	**134**	Pg	**Pg**	**23 27 00.2**	**0.0**
PSUT				IAML		23 27 55.9	
	comp=N,12nm,0.8s						
PSUT				IAML		23 28 07.3	
	comp=E,12nm,3.0s						
S11A	**Rachel**	**3.73**	**161**	Pn	**Pn**	**23 26 48.0**	**+0.3**
S11A					**Pg**	**23 27 03.1**	**+2.9**
PINE	**Pine Mountain**	**3.76**	**315**		**Pn**	**23 26 48.3**	**+0.3**
L04D	**Klamath Falls**	**3.91**	**287**	Pn	**Pn**	**23 26 49.7**	**-0.3**
LCH	**Last Change Ra**	**3.97**	**184**		**Pg**	**23 27 05.1**	**+0.4**
LCH				IAML		23 27 19.5	
	comp=N,7.0nm,4.5s						
LCH				IAML		23 28 06.3	
	comp=E,9.3nm,3.8s						
CMB	**Columbia Colle**	**3.97**	**218**	Pg	**Pg**	**23 27 04.1**	**-0.7**
CMB				IAML		23 27 20.8	
	comp=N,10nm,5.0s						
CMB				IAML		23 27 52.6	
	comp=E,9.5nm,4.0s						
PLID	**Pearl Lake**	**4.00**	**13**	Pn	**Pn**	**23 26 53.9**	**+2.5**
PLID				IAML		23 27 58.3	
	comp=E,7.9nm,5.0s						
YBH	**Yreka Blue Hor**	**4.13**	**279**	Pn	**Pn**	**23 26 51.9**	**-1.1**
	comp=E,0.2nm,0.3s,baz=128,slow=20,SNR=1.6						
NLU	**North Lily Min**	**4.14**	**106**		**Pn**	**23 26 53.7**	**+0.4**
NLU				IAML		23 27 48.2	
	comp=E,8.7nm,4.4s						
NLU				IAML		23 28 04.8	
	comp=N,8.8nm,3.9s						
PRN	**Pahroc Range**	**4.15**	**155**		**Pn**	**23 26 54.3**	**+0.9**
PRN				IAML		23 27 27.3	
	comp=N,13nm,4.2s						
PRN				IAML		23 28 12.6	
	comp=E,13nm,3.4s						
BCYI	**Bear Canyon**	**4.21**	**41**		**Pn**	**23 26 54.5**	**+0.1**
TPNV	**Topopah Spring**	**4.31**	**169**	Pn	**Pn**	**23 26 57.0**	**+1.3**
TPNV				IAML		23 28 46.4	
	comp=E,6.8nm,4.2s						
TPNV				IAML		23 29 15.7	
	comp=E,7.1nm,4.4s						
TCRU	**Three Creeks R**	**4.51**	**123**	Pn	**Pn**	**23 27 00.2**	**+1.8**
CCUT	**Cedar City**	**4.73**	**139**	Pn	**Pn**	**23 27 02.3**	**+0.9**
CCUT				Pg	**Pg**	**23 27 19.5**	**+0.2**
CCUT				IAML		23 27 45.6	
	comp=E,7.3nm,4.6s						
CCUT				IAML		23 28 10.9	
	comp=N,6.9nm,3.8s						
MSU	**Marysvale**	**4.74**	**123**	Pn	**Pn**	**23 27 02.6**	**+1.0**
F10A	**Beach Ranch, E**	**4.78**	**0**	Pn	**Pn**	**23 27 03.7**	**+1.8**
L02E	**Cave Junction**	**4.85**	**284**	Pn	**Pn**	**23 27 03.2**	**+0.4**
MCMT	**McKenzie Canyo**	**4.86**	**40**	Pn	**Pn**	**23 27 02.8**	**-0.5**
MCMT					**Pb**	**23 27 14.2**	**-0.6**
PDAR	**Pinedale Array**	**5.95**	**72**	Pn	**Pn**	**23 27 19.7**	**+1.5**
	comp=N,0.1nm,0.3s,baz=69,slow=29,SNR=1.7						
I56US	**NEWPORT INFRAS**	**7.07**	**1**	*i*		00 08 30.0	
	baz=180,slow=322,SNR=1.9						
YKA	**Yellowknife Ar**	**21.39**	**3**	P	**P**	**23 30 36.0**	**-1.5**
	comp=N,0.3nm,0.8s,baz=186,slow=10,SNR=6.4						

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*WEL **08** 00:02:49.4±0.9, 36˚S±6˚×17˚7E±˚, h5km, M3.9/16, ML4.0/16, MLv3.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=24.6*
*IDC **08** 00:02:55.5±2.1, 37˚00S×176˚65E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/30, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=62.0km s-min=20.4km az=58.0*
ISC 08 00:02:52.4±1.9**, 36˚54S**±0˚07×**177˚26E**±0˚04**, h17km**±11km**, n36, σ1s23**/47**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.98**	**184**	P	**Pb**	**00 03 10.1**	**-0.8**
WIZ	**White Island**	**0.98**	**183**	P	**Pb**	**00 03 09.9**	**-1.1**
MYRZ	**Mayor Island**	**1.10**	**228**	P	**Pg**	**00 03 13.8**	**+0.2**
KUZ	**Kuaotunu**	**1.25**	**260**	P	**Pn**	**00 03 14.7**	**-0.5**
KUZ				S	**Sb**	**00 03 29.3**	**-2.2**
MXZ	**Matakaoa Point**	**1.32**	**141**	P	**Pn**	**00 03 15.5**	**-0.5**
MXZ				S	**Sb**	**00 03 31.6**	**-1.7**
WHRZ	**Whale Island**	**1.33**	**190**	P	**Pg**	**00 03 19.1**	**+1.0**
WHRZ				S	**Sg**	**00 03 36.0**	**+0.6**
OPRZ	**Ohinepanea**	**1.42**	**203**	P	**Pg**	**00 03 19.7**	**0.0**
OPRZ				S	**Sg**	**00 03 40.6**	**+2.5**
PKGZ	**Pakihiroa**	**1.49**	**154**	P	**Pn**	**00 03 18.4**	**-0.1**
MARZ	**Manawahe**	**1.51**	**198**	P	**Pg**	**00 03 22.6**	**+1.1**
EDRZ	**Edgecumbe**	**1.61**	**195**	P	**Pb**	**00 03 21.6**	**-0.2**
LIRZ	**Lichensteins R**	**1.62**	**205**	S	**Sg**	**00 03 44.4**	**-0.1**
MKRZ	**Makatiti**	**1.71**	**201**	S	**Sg**	**00 03 48.3**	**+0.7**
OMRZ	**Omania**	**1.71**	**204**	P	**Pb**	**00 03 23.9**	**+0.5**
URZ	**Urewera**	**1.72**	**184**	Pn	**Pn**	**00 03 20.4**	**-1.1**
	19nm,0.3s,baz=122,slow=23,SNR=8.1						
URZ				Sn	**Sn**	**00 03 41.2**	**-1.8**
	41nm,0.3s,baz=294,slow=14,SNR=5.9						
URZ				LR	LR	00 03 58.5	
	comp=Z,276nm,19.9s,baz=32,slow=48						
URZ	**Urewera**	**1.72**	**184**	P	**Pn**	**00 03 21.4**	**-0.2**
PUZ	**Puketiti**	**1.72**	**153**	P	**Pn**	**00 03 21.6**	**0.0**
PUZ				S	**Sg**	**00 03 47.0**	**-0.8**
WIAZ	**Waiheke Island**	**1.73**	**261**	P	**Pn**	**00 03 19.5**	**-2.2**
WIAZ				S	**Sn**	**00 03 42.2**	**-1.1**
TWGZ	**Tauwhareparae**	**1.73**	**161**	P	**Pn**	**00 03 22.0**	**+0.2**
TWGZ				S	**Sg**	**00 03 46.4**	**-1.7**
MWZ	**Matawai**	**1.80**	**173**	P	**Pn**	**00 03 22.6**	**-0.1**
MBAZ	**Motutapu North**	**1.91**	**263**	P	**Pb**	**00 03 25.3**	**-1.5**
MBAZ				S	**Sb**	**00 03 49.3**	**-1.1**
ETAZ	**East Tamaki Re**	**1.92**	**257**	P	**Pn**	**00 03 23.9**	**-0.4**
ETAZ				S	**Sn**	**00 03 48.5**	**+0.5**
TKGZ	**Te Karaka**	**1.95**	**166**	P	**Pb**	**00 03 26.5**	**-0.9**
TKGZ				S	**Sb**	**00 03 50.2**	**-1.3**
RAGZ	**Rawiri**	**1.95**	**176**	P	**Pn**	**00 03 24.7**	**-0.2**
ABAZ	**Army Bay**	**1.96**	**268**	P	**Pb**	**00 03 26.4**	**-1.2**
ABAZ				S	**Sb**	**00 03 50.8**	**-0.9**
MUGZ	**Murupara**	**1.97**	**191**	P	**Pn**	**00 03 25.9**	**+0.9**
EPAZ	**Eden Park BICE**	**2.05**	**260**	S	**Sb**	**00 03 52.9**	**-1.5**
HBAZ	**Herne Bay Bore**	**2.06**	**261**	S	**Sb**	**00 03 53.5**	**-1.0**
CNGZ	**Carnagh Statio**	**2.08**	**159**	P	**Pb**	**00 03 28.4**	**-1.2**
RTZ	**Ruatahuna**	**2.08**	**186**	P	**Pn**	**00 03 27.3**	**+0.7**
AWAZ	**Awhitu Peninsu**	**2.16**	**255**	S	**Sb**	**00 03 56.8**	**-0.8**
MTHZ	**Maungataniwha**	**2.33**	**188**	P	**Pb**	**00 03 32.3**	**-1.7**
NMHZ	**Naumai**	**2.58**	**188**	P	**Pb**	**00 03 36.9**	**-1.3**
CTA	**Charters Tower**	**31.66**	**293**	LR	LR	00 20 17.9	
	comp=Z,46nm,19.7s,baz=79,slow=33						
ASAR	**Alice Springs**	**39.33**	**277**	P	**P**	**00 10 23.2**	**+2.3**
	0.4nm,0.6s,baz=124,slow=8.4,SNR=5.8						
WRA	**Warramunga Arr**	**40.91**	**282**	P	**P**	**00 10 35.8**	**+1.8**
	0.6nm,0.8s,baz=122,slow=7.6,SNR=7.9						
FINES	**FINESS Array B**	**149.20**	**333**	PKPbc	**PKPab**	**00 22 45.3**	**+1.8**
	0.6nm,0.5s,baz=64,slow=3.2,SNR=8.7						

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*THE **08** 00:04:51.9, 38˚56N×24˚42E, h9km±1km, ML2.5/6, Error ellipse: s-maj=1.5km s-min=1.0km az=43.0*
*ATH **08** 00:04:51.1, 38˚58N×24˚46E, h15km±1km, ML2.5/9, Error ellipse: s-maj=1.5km s-min=0.9km az=50.0*
*ISK **08** 00:04:52.3, 38˚63N×24˚41E, h30km, ML2.7/8*
ISC 08 00:04:50.5±1.0**, 38˚60N**±0˚02×**24˚48E**±0˚02**, h14km**±8km**, n37, σ0s48**/54**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.29**	**12**	P	**Pb**	**00 04 57.7**	**+0.3**
SKY				S	**Sb**	**00 05 01.9**	**-0.2**
SKY				AML	AML	00 05 04.1	
	comp=N,5455μm,0.2s						
SKY				AML	AML	00 05 04.1	
	comp=E,3399μm,0.1s						
KYMI	**Kymi, Euboea I**	**0.30**	**277**	P	**Pg**	**00 04 56.9**	**+0.3**
KYMI				S	**Sg**	**00 05 01.1**	**+0.2**
KYMI				AML	AML	00 05 01.8	
	comp=E,1618μm,0.1s						
KYMI				AML	AML	00 05 01.8	
	comp=N,2010μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.30**	**277**	P	**Pg**	**00 04 57.0**	**+0.3**
KYMI				S	**Sg**	**00 05 00.8**	**-0.1**
	comp=N,912nm,0.1s						
KARY	**Karystos**	**0.56**	**183**	P	**Pb**	**00 05 02.2**	**+0.1**
KARY	**Karystos**	**0.56**	**183**	P	**Pb**	**00 05 02.2**	**+0.1**
DION	**Dionisos Attik**	**0.67**	**220**	P	**Pg**	**00 05 03.6**	**0.0**
DION				S	**Sb**	**00 05 13.0**	**-0.1**
DION				AML	AML	00 05 16.2	
	comp=N,2920μm,0.3s						
DION				AML	AML	00 05 16.2	
	comp=E,2840μm,0.3s						
DION	**Dionisos Attik**	**0.67**	**220**	P	**Pg**	**00 05 03.6**	**0.0**
DION				S	**Sb**	**00 05 13.0**	**-0.1**
	comp=E,2μm,0.2s						
PTL	**Penteli**	**0.73**	**221**	P	**Pg**	**00 05 04.6**	**-0.1**
PTL				S	**Sg**	**00 05 14.4**	**+0.1**
PTL				AML	AML	00 05 17.1	
	comp=E,446μm,0.4s						
PTL				AML	AML	00 05 17.2	
	comp=N,864μm,0.3s						
PTL	**Penteli**	**0.73**	**221**	P	**Pg**	**00 05 04.6**	**-0.1**
PTL				S	**Sg**	**00 05 14.4**	**+0.1**
	comp=N,325nm,0.3s						
ATHU	**Athens Univers**	**0.83**	**221**	P	**Pg**	**00 05 06.2**	**-0.4**
ATHU				S	**Sg**	**00 05 17.4**	**-0.1**
VLY	**Voula,Athens**	**0.92**	**216**	P	**Pb**	**00 05 08.0**	**-0.1**
VLY				S	**Sb**	**00 05 20.2**	**0.0**
VLY				AML	AML	00 05 23.1	
	comp=N,786μm,0.2s						
VLY				AML	AML	00 05 23.8	
	comp=E,1084μm,0.3s						
VLY	**Voula,Athens**	**0.92**	**216**	P	**Pb**	**00 05 08.0**	**-0.1**
VLY				S	**Sb**	**00 05 20.1**	**0.0**
	comp=E,470nm,0.3s						
VILL	**Villia**	**1.01**	**245**	P	**Pb**	**00 05 09.4**	**-0.4**
VILL				S	**Sn**	**00 05 24.4**	**+0.1**
	comp=E,370nm,0.4s						
VIL2	**Platees**	**1.02**	**248**	P	**Pb**	**00 05 09.4**	**-0.5**
VIL2				AML	AML	00 05 25.1	
	comp=E,603μm,0.5s						
VIL2				AML	AML	00 05 25.2	
	comp=N,726μm,0.3s						
ATAL	**Atalanti**	**1.14**	**275**	P	**Pb**	**00 05 11.6**	**-0.4**
LKR	**Lokris**	**1.16**	**273**	P	**Pb**	**00 05 12.3**	**+0.1**
LKR				S	**Sn**	**00 05 27.8**	**0.0**
LKR				AML	AML	00 05 29.7	
	comp=N,156μm,0.2s						
LKR				AML	AML	00 05 32.3	
	comp=E,202μm,0.1s						
TNSA	**Tinos**	**1.19**	**153**	P	**Pb**	**00 05 12.7**	**-0.1**
NEO	**Neokhori**	**1.21**	**306**	P	**Pg**	**00 05 13.4**	**-0.4**
NEO				S	**Sg**	**00 05 29.3**	**-0.2**
NEO				AML	AML	00 05 32.1	
	comp=E,154μm,0.2s						
NEO				AML	AML	00 05 34.6	
	comp=N,176μm,0.2s						
SIGR	**SIGRI**	**1.24**	**60**	PN	**Pg**	**00 05 14.2**	**-0.2**
SIGR				SN	**Sg**	**00 05 30.1**	**-0.4**
CHOS	**Chios island**	**1.26**	**99**	PN	**Pg**	**00 05 14.4**	**-0.3**
XOR	**Xorichti**	**1.26**	**308**	P	**Pg**	**00 05 14.4**	**-0.3**
LTK	**Loutraki**	**1.32**	**245**	P	**Pb**	**00 05 14.9**	**0.0**
LTK				S	**Sb**	**00 05 31.2**	**-0.5**
LTK				AML	AML	00 05 36.3	
	comp=E,490μm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LTK				AML	AML	00 05 38.7	
	comp=N,325µm,0.4s						
LTK	Loutraki	1.32	245	P	Pb	00 05 15.0	0.0
LTK				S	Sn	00 05 32.3	+0.5
	comp=N,192nm,0.4s						
LIA	Limnos Island	1.41	23	P	Pb	00 05 16.4	-0.1
EPID	Epidavros	1.45	228	P	Pn	00 05 16.6	+0.3
EPID				S	Sn	00 05 34.9	-0.2
PAIG	Paliouri	1.47	335	P	Pb	00 05 17.2	-0.2
THAL	Thalero	1.53	249	P	Pb	00 05 18.8	+0.2
KRND	KRANIDI	1.60	221	P	Pn	00 05 18.5	+0.2
AGG	Agios Georgios	1.73	285	PN	Pn	00 05 19.8	-0.3
APE	Apeiranthos	1.74	151	P	Pb	00 05 21.3	-0.9
APE	Apeiranthos	1.74	151	PN	Pb	00 05 21.9	-0.3
KLV	Kalavryta, Ach	1.91	254	P	Pn	00 05 23.4	+0.8
GADA	Gvkgeada	1.94	34	PN	Pb	00 05 24.1	-1.4
LAKA	Lakka	1.99	260	P	Pb	00 05 25.3	-1.2
GELI	Tayfur-Gelibol	2.37	40	PN	Pn	00 05 30.1	+1.2
ERIK	Erikli-Kesan	2.60	37	PN	Pn	00 05 33.1	+1.1
RDO	Rodhopi	2.67	17	PN	Pn	00 05 34.2	+1.1

*NEIC **08** 00:17:33.8±1.6, 17.7S±0.2×178.6W±0.1, h607km±9km, mb4.0/51, Error ellipse: s-maj=23.8km s-min=17.2km az=146.0*

*IDC **08** 00:17:34.5±2.0, 17.54S×178.78W, h614km±18km, mb3.1/7, mb1 3.5/8, mb1mx3.2/27, mbtmp4.0/8, Error ellipse: s-maj=78.4km s-min=17.2km az=150.0*

ISC 08 00:17:33.0±0.6**, 17.7S**±0.1×**178.6W**±0.1**, h600**km**, n88, σ0.72**/90**, mb3.9**/35**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.19	269	P	P	00 18 55.1	+1.7
	10.0nm,0.3s,baz=136,slow=3.4,SNR=60						
MSVF	Nonsavu	3.19	269	P	P	00 18 54.9	+1.5
OUZ	Omahuta	18.78	200	P	P	00 21 15.7	+0.1
BFZ	Birch Farm	23.33	190		PcP	00 25 20.9	-0.1
WHZ	Wether Hill Ro	30.26	199	P	P	00 22 57.8	+1.0
COEN	Coen	36.92	270	P	P	00 23 53.6	+0.7
COEN				IAmb	IAmb	00 23 55.2	
	comp=Z,2.4nm,1.1s						
TOO	Toolangi	37.16	230	P	P	00 23 54.1	-0.5
TOO				IAmb	IAmb	00 23 57.0	
	comp=Z,3.0nm,1.1s						
BBOO	Buckleboo	43.34	241	P	P	00 24 43.1	-0.7
BBOO				IAmb	IAmb	00 24 56.6	
	comp=Z,5.4nm,0.9s						
WR0	Warramunga Arr	44.30	259	P	P	00 24 51.3	0.0
WB0	Warramunga Arr	44.45	260	P	P	00 24 52.2	-0.3
WB2	Warramunga Arr	44.48	259	P	P	00 24 52.4	-0.3
WRA	Warramunga Arr	44.49	259	P	P	00 24 52.3	-0.5
	comp=Z,0.2nm,0.3s,baz=96,slow=6.7,SNR=3.0						
WRA				PcP	PcP	00 26 22.2	-0.6
	comp=Z,0.2nm,0.3s,baz=92,slow=3.5,SNR=3.3						
AS31	Alice Springs	44.67	254	P	P	00 24 54.1	-0.1
ASAR	Alice Springs	44.67	254	P	P	00 24 53.8	-0.4
	comp=Z,1.7nm,0.6s,baz=88,slow=7.9,SNR=31						
ASAR				PcP	PcP	00 26 22.8	-0.7
	comp=Z,0.6nm,0.5s,baz=103,slow=3.7,SNR=7.1						
ASAR	Alice Springs	44.67	254	P	P	00 24 53.7	-0.5
FORT	Forrest	49.93	244	P	P	00 25 31.9	-1.4
KNRA	Kununurra	50.33	264	P	P	00 25 37.8	+1.5
KNRA				IAmb	IAmb	00 25 55.2	
	comp=Z,7.6nm,1.1s						
PSA00	Pilbara Seismi	57.78	255	P	P	00 26 27.9	-0.7
ERM	Erimo	69.12	330	P	P	00 27 40.7	+0.5
ADK	Adak	69.30	1	P	P	00 27 41.4	+0.3
SBUM	Sibu	70.99	279	P	P	00 27 52.4	+0.4
YULB	Yu-li	71.50	303	P	P	00 27 53.9	-0.8
YULB				IAmb	IAmb	00 28 09.0	
	comp=Z,6.5nm,1.0s						
SSLB	Suanglung	71.97	303	P	P	00 27 56.6	-0.8
SSLB				IAmb	IAmb	00 27 57.3	
	comp=Z,7.6nm,1.1s						
CHIR	Chirikof Islan	75.77	13	P	P	00 28 18.2	+0.1
O03E	Paynes Creek	78.19	41	P	P	00 28 31.7	-0.1
O03E				IAmb	IAmb	00 28 33.2	
	comp=Z,3.2nm,0.7s						
L02E	Cave Junction	78.20	38	P	P	00 28 32.3	+0.7
KDAK	Kodiak Island	78.24	14	P	P	00 28 30.9	-0.6
YBH	Yreka Blue Hor	78.48	39	P	P	00 28 34.1	+0.8
MPK	Martis Peak	78.75	42	P	P	00 28 35.6	+0.6
MPK				IAmb	IAmb	00 28 38.1	
	comp=Z,13nm,1.2s						
BEKR	Beckworth	78.86	42	P	P	00 28 35.7	+0.3
BEKR				IAmb	IAmb	00 28 36.5	
	comp=Z,4.1nm,1.1s						
PNTR	Pine Nut	78.91	43	P	P	00 28 36.7	+0.9
PNTR				IAmb	IAmb	00 28 36.9	
	comp=Z,7.9nm,1.0s						
L04D	Klamath Falls	79.01	39	P	P	00 28 36.7	+0.6
L04D				IAmb	IAmb	00 28 42.8	
	comp=Z,6.0nm,1.1s						
P18K	Big Mountain,	79.15	12	P	P	00 28 36.0	-0.3
P18K				IAmb	IAmb	00 28 36.6	
	comp=Z,5.0nm,0.8s						
LCH	Last Change Ra	79.20	45	P	P	00 28 37.1	-0.2
NVAR	Mina Array Bea	79.40	44	P	P	00 28 38.9	+0.5
	comp=Z,0.9nm,0.7s,baz=225,slow=9.3,SNR=7.9						
KVN	Kaiserville	79.87	44	P	P	00 28 40.6	-0.2
MOD	Modoc Plateau	80.04	40	P	P	00 28 42.2	+0.6
MOD				IAmb	IAmb	00 28 42.9	
	comp=Z,3.3nm,0.7s						
K05A	Summer Lake	80.16	39	P	P	00 28 43.2	+1.0
K05A				IAmb	IAmb	00 28 43.5	
	comp=Z,5.6nm,0.9s						
H04A	Detroit Lake	80.54	37	P	P	00 28 43.5	-0.4
SVW2	Sparrevohn	80.67	11	P	P	00 28 44.5	+0.4
SVW2				IAmb	IAmb	00 28 49.9	
	comp=Z,5.7nm,1.2s						
PINE	Pine Mountain	80.74	38	P	P	00 28 46.2	+1.0
PINE				IAmb	IAmb	00 28 47.0	
	comp=Z,3.6nm,0.9s						
PRN	Pahroc Range	81.06	46	P	P	00 28 47.6	+0.7
PRN				IAmb	IAmb	00 28 48.5	
	comp=Z,2.5nm,0.8s						
I07A	Izee	81.76	39	P	P	00 28 51.0	+0.7
I07A				IAmb	IAmb	00 28 51.8	
	comp=Z,3.9nm,0.9s						
L19K	White Mountain	81.81	11	P	P	00 28 51.0	+1.0
LCMT	Little Creek M	82.12	47	P	P	00 28 52.8	+0.5
U15A	North Rim	82.52	48	P	P	00 28 55.5	+1.0
U15A				IAmb	IAmb	00 28 56.2	
	comp=Z,3.4nm,0.9s						
GHO	Glory Hole Cre	82.65	14	P	P	00 28 54.1	-0.2
BMRM	Bremner River	83.01	16	P	P	00 28 56.2	+0.2
K20K	Telida	83.03	11	P	P	00 28 56.5	+0.4
K20K				IAmb	IAmb	00 28 56.9	
	comp=Z,4.3nm,0.9s						
WAX	Waxell Ridge	83.05	17	P	P	00 28 56.6	+0.3
SCM	Sheep Creek Mo	83.07	14	P	P	00 28 56.4	0.0
CAST	Castle Rocks	83.46	12	P	P	00 28 57.2	-1.1
CAST				IAmb	IAmb	00 28 57.6	
	comp=Z,2.6nm,0.8s						
N25K	Chitina, Valde	83.55	16	P	P	00 28 59.0	+0.1
N25K				IAmb	IAmb	00 29 04.3	
	comp=Z,4.1nm,0.9s						
M24K	Tolsona, Glenn	83.58	15	P	P	00 28 58.6	-0.3
M24K				IAmb	IAmb	00 29 09.1	
	comp=Z,4.9nm,0.9s						
GLB	Gilahina Butte	83.61	16	P	P	00 28 59.2	+0.1
GLB				IAmb	IAmb	00 29 11.1	
	comp=Z,6.1nm,1.2s						
J20K	Nowinta River	83.78	11	P	P	00 29 00.0	+0.3
KTH	Kantishna Hill	83.81	12	P	P	00 28 58.9	-1.1
KTH				IAmb	IAmb	00 29 06.1	
	comp=Z,4.9nm,1.0s						
TRF	Thorofare Moun	83.84	12	P	P	00 28 59.2	-1.1
TRF				IAmb	IAmb	00 29 00.9	
	comp=Z,6.0nm,0.9s						
RND	Reindeer	84.11	13	P	P	00 29 01.2	-0.3
PLID	Pearl Lake	84.41	39	P	P	00 29 03.7	+0.1
HLID	Hailey	84.59	41	P	P	00 29 05.5	+1.0
ILAR	Eielson Array	85.72	13	P	P	00 29 08.4	-0.8
	comp=Z,0.8nm,0.4s,baz=222,slow=5.0,SNR=17						
TX31	Lajitas Ar. Si	86.04	58	P	P	00 29 11.3	-0.3
TX32	Lajitas Array	86.04	58	P	P	00 29 11.3	-0.3
TX32				IAmb	IAmb	00 29 13.5	
	comp=Z,2.2nm,0.9s						
TXAR	Lajitas Array	86.04	58	P	P	00 29 12.5	+0.9
	comp=Z,1.5nm,0.7s,baz=222,slow=5.7,SNR=17						
PDAR	Pinedale Array	87.33	44	P	P	00 29 17.3	-0.3
	comp=Z,0.7nm,0.5s,baz=214,slow=3.1,SNR=11						
PDAR	Pinedale Array	87.33	44	P	P	00 29 16.9	-0.7
INK	Inuvik	91.73	15	P	P	00 29 37.2	+0.2
	comp=Z,2.8nm,0.3s,baz=216,slow=8.7,SNR=3.4						
YKA	Yellowknife Ar	94.22	25	P	P	00 29 48.0	-0.6
	comp=Z,0.2nm,0.4s,baz=239,slow=4.6,SNR=5.1						
MKAR	Makanchi Array	108.86	314	PKiKP	PKiKP	00 34 54.0	-1.1
	comp=Z,0.2nm,0.5s,baz=272,slow=0.7,SNR=6.7						
ARCES	ARCESS Array B	126.08	350	PKP	PKPdf	00 35 26.4	-1.0
	comp=Z,1.8nm,0.8s,baz=11,slow=0.5,SNR=2.4						
FINES	FINESS Array B	132.94	344	PKP	PKPdf	00 35 38.4	-2.2
	comp=Z,1.6nm,0.8s,baz=87,slow=5.7,SNR=4.5						
BRTR	Keskin Array B	144.50	315	PKP	PKPdf	00 36 02.6	+0.1
	comp=Z,0.7nm,0.4s,baz=76,slow=3.3,SNR=7.7						
OSTC	Ostas	145.14	343	*e*PKP	PKPbc	00 36 04.8	+0.7
CLL	Collm	145.22	347	⇑*i*PKPbc	PKPdf	00 36 04.0	+0.9
	comp=Z,5.0nm,0.8s						
DPC	Dobruska-Polom	145.29	343	*e*PKP	PKPdf	00 36 04.6	+1.2
KRLC	Kraliky	145.41	342	*e*PKP	PKPdf	00 36 04.8	+1.2
PRU	Pruhonice	146.09	345	*e*PKP	PKPbc	00 36 06.7	-0.1
KHC	Kasperske Hory	147.13	345	*e*PKP	PKPbc	00 36 09.5	-0.2
CKRC	Cesky Krumlov	147.23	344	*e*PKP	PKPbc	00 36 09.7	-0.2
GERES	GERESS Array B	147.36	345	PKPbc	PKPbc	00 36 10.1	-0.3
	comp=Z,1.4nm,0.6s,baz=30,slow=4.2,SNR=17						
CONA	Conrad Observa	147.60	342	*i* P	PKPbc	00 36 11.4	+0.3
	comp=Z,2.0nm,0.8s						
KBA	Koelnbreinsper	149.09	344	*e*P	PKPbc	00 36 14.2	-0.7
	comp=Z,1.5nm,0.6s						
WATA	Walderalm	149.28	346	*e*P	PKPbc	00 36 15.1	-0.2
	comp=Z,2.3nm,0.7s						
WTTA	Wattenberg	149.33	346	*i* P	PKPbc	00 36 15.2	-0.2
	comp=Z,5.1nm,0.7s						
MOTA	Moosalm	149.37	347	*i* P	PKPbc	00 36 15.2	-0.3
	comp=Z,7.3nm,1.4s						
ABTA	Abfaltersbach	149.61	345	*e*P	PKPbc	00 36 15.4	-0.6
	comp=Z,3.4nm,0.7s						
FETA	Feichten	149.76	347	*e*P	PKPbc	00 36 16.5	+0.1
	comp=Z,4.4nm,1.1s						

*IDC **08** 00:33:01.8±2.5, 6.57S×130.14E, h96km±27km, mb3.6/3, mb1 3.9/8, mb1mx3.5/33, mbtmp4.2/8, Error ellipse: s-maj=42.0km s-min=22.0km az=93.0*

*NEIC **08** 00:33:04.0±2.7, 6.38S±0.04×130.46E±0.10, h132km±6km, mb4.1/14, Error ellipse: s-maj=14.3km s-min=5.5km az=83.0*

ISC 08 00:33:04.5±0.5**, 6.44S**±0.05×**130.40E**±0.07**, h150**km**, n45, σ2.69**/46**, mb4.1**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.77	150	Pn	Pn	00 33 35.7	-1.4
SAUI				Sn	Sn	00 33 59.6	-2.5
FAKI	Fak Fak	3.95	28	Pn	Pn	00 34 02.8	-1.4
FAKI				Sn	Sn	00 34 45.9	-4.6
SIJI	Sorong	5.60	9	P	Pn	00 34 25.2	-0.7
	2.1nm,0.3s,baz=203,slow=21,SNR=1.9						
SIJI				S	Sn	00 35 22.8	-6.7
	6.8nm,0.3s,baz=238,slow=22,SNR=7.2						
DRS	Darwin Rock St	5.98	175	P	Pn	00 34 30.7	-0.2
KDU	Kakadu	6.54	162	P	Pn	00 34 38.1	-0.3
BATI	Baumata	7.65	240	P	Pn	00 34 46.8	-6.5
	15nm,0.3s,baz=83,slow=8.1,SNR=4.6						
BATI				S	Sn	00 36 13.9	-4.9
	3.8nm,0.3s,baz=205,slow=3.2,SNR=1.2						
MMRI	Maumere	8.38	254	Pn	Pn	00 35 03.3	+0.1
KNRA	Kununurra	9.32	190	Pn	Pn	00 35 13.9	-1.7
FITZ	Fitzroy Crossi	12.49	201	P	Pn	00 35 52.5	-4.7
	1.4nm,0.3s,baz=27,slow=11,SNR=31						
FITZ				S	Sn	00 38 03.1	-12
	1.6nm,0.3s,baz=80,slow=21,SNR=9.1						
FITZ	Fitzroy Crossi	12.49	201	Pn	Pn	00 35 55.0	-2.1
WB0	Warramunga Arr	13.80	164	Pn	Pn	00 36 13.0	-1.1
WRAB	Tennant Creek	13.95	164	Pn	Pn	00 36 15.0	-0.9
WRA	Warramunga Arr	13.96	164	P	Pn	00 36 13.7	-2.3
	2.0nm,0.3s,baz=348,slow=13,SNR=62						
WRA				S	Sn	00 38 41.5	-9.2
	2.6nm,0.3s,baz=340,slow=22,SNR=12						
WRA	Warramunga Arr	13.96	164		Pn	00 36 15.3	-0.7
WB2	Warramunga Arr	13.96	164	Pn	Pn	00 36 14.5	-1.5
WR0	Warramunga Arr	14.03	164		Pn	00 36 15.7	-1.2
COEN	Coen	14.62	122		Pn	00 36 24.0	-0.3
COEN	Coen	14.62	122	P	P	00 36 32.3	+5.7
	11nm,0.9s						
MYLDM	Lahad Datu	16.56	314		Pn	00 36 48.6	+0.3
MYLDM				IAmb	IAmb	00 36 51.3	
	comp=Z,6.7nm,0.8s						
QIS	Mount Isa	16.63	148	P	Pn	00 36 50.9	+1.8
AS31	Alice Springs	17.46	169	P	Pn	00 36 58.7	-0.3
AS31				IAmb	IAmb	00 37 04.0	
	comp=Z,3.8nm,0.3s						
ASAR	Alice Springs	17.46	169	P	Pn	00 36 59.9	+0.9
	comp=Z,1.6nm,0.3s,baz=343,slow=12,SNR=44						
ASAR				S	S	00 40 03.0	-9.1
	comp=Z,0.4nm,0.3s,baz=351,slow=26,SNR=6.5						
ASAR	Alice Springs	17.46	169		P	00 36 58.4	+0.4
PSA00	Pilbara Seismi	18.18	213	P	P	00 37 06.6	+0.7
PSA00				IAmb	IAmb	00 37 08.8	
	comp=Z,13nm,1.1s						
PSA00	Pilbara Seismi	18.18	213	P	P	00 37 06.0	+0.1
PSA00				IAmb	IAmb	00 37 18.1	
	comp=Z,2.8nm,1.1s						
WRKA	Warakurna	18.61	186	P	Pn	00 37 13.7	+1.2
OOD	Oodnadatta	21.82	167	P	P	00 37 48.2	+3.2
FORT	Forrest	24.32	185	P	P	00 38 10.2	+2.0
FORT				IAmb	IAmb	00 38 28.7	
	comp=Z,19nm,1.1s						
BBOO	Buckleboo	26.76	169	P	P	00 38 32.4	+2.0
BBOO				IAmb	IAmb	00 38 46.1	
	comp=Z,7.5nm,1.1s						
PZH	PanZhiHua	42.95	321	P	P	00 40 54.0	+5.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
HHC	Hu-ho-hao-te	50.14	341	*e*P	P	00 41 48.2	+3.5
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC				LR	LR		
	comp=N,350nm,14.6s						
HHC				LR	LR		
	comp=E,160nm,14.0s						
HHC				LR	LR		
	comp=Z,110nm,14.0s						
LTZ	Lake Taylor	51.67	141	P	P	00 41 55.3	-0.8
SONM	Songino Array	58.04	341	P	P	00 42 45.3	+3.4
	comp=Z,0.4nm,0.4s,baz=159,slow=7.1,SNR=4.8						
SONM	Songino Array	58.04	341	P	P	00 42 43.7	+1.9
NIUE	Niue	59.28	108	P	P	00 42 51.0	+0.1
WMQ	Urumqi	63.15	327	*e*P	P	00 43 20.6	+4.1
KSH	Kashi	67.88	317	P	P	00 43 47.0	-0.1
MK31	Makanchi Array	67.98	327	P	P	00 43 50.5	+3.0
MK31				IAmb	IAmb	00 43 51.2	
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	67.98	327	P	P	00 43 50.5	+3.1
	comp=Z,1.2nm,0.4s,baz=117,slow=7.6,SNR=31						
MAKZ	Makanchi	68.16	326	P	P	00 43 50.7	+2.2
MAKZ				IAmb	IAmb	00 43 51.7	
	comp=Z,1.3nm,0.6s						
ZALV	Zalesovo Beam	71.26	334	P	P	00 44 09.8	+2.5
	comp=Z,0.5nm,0.4s,baz=129,slow=6.0,SNR=2.3						
VNDA	Vanda	72.95	173	P	P	00 44 18.7	+1.6
KKAR	Karatay Array	73.19	319	P	P	00 44 20.4	+1.4
SBA	Scott Base	73.84	172	P	P	00 44 24.2	+2.0
SBA				IAmb	IAmb	00 44 43.4	
	comp=Z,5.8nm,1.0s						
MSEY	Mahe Island	74.54	267	P	P	00 44 28.0	+0.5

*IDC **08** 00:39:53.1±1.4, 3.40S×130.90E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.6/40, mbtmp3.7/7, ML3.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/61, Error ellipse: s-maj=75.0km s-min=21.1km az=83.0*

*DJA **08** 00:39:55.1±0.5, 3°S±4°×13°1E±°, h10km, M3.7/6, MLv3.7/6*

ISC 08 00:39:56.1±0.9**, 3.41S**±0.06×**130.89E**±0.06**, h35**km**, n13, σ2.44**/14**, mb4.0**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.44	70	P	Pn	00 40 19.7	0.0
FAKI				S	Sn	00 40 36.8	-0.6
MSAI	Masohi	1.96	272	P	Pn	00 40 27.5	+0.6
SIJI	Sorong	2.55	8	Pn	Pn	00 40 35.6	+0.6
	5.9nm,0.3s,baz=215,slow=22,SNR=27						
SIJI				Sn	Sn	00 41 03.5	-1.3
	25nm,0.3s,baz=231,slow=23,SNR=6.3						
SIJI				LR	LR	00 42 11.6	
	comp=Z,286nm,18.0s,baz=117,slow=54						
SWI	Sorong	2.55	8	P	Pn	00 40 34.5	-0.5
SWI				S	Sn	00 41 01.9	-3.0
LBMI	Labuha	4.36	309	P	Pn	00 40 59.4	-0.6
BATI	Baumata	9.85	226	LR	LR	00 46 20.8	
	comp=Z,204nm,19.1s,baz=92,slow=39						
FITZ	Fitzroy Crossi	15.48	199	Pn	Pn	00 43 32.3	+0.3
	0.1nm,0.3s,baz=355,slow=14,SNR=1.3						
FITZ				Sn	Sn	00 46 16.6	-5.8
	0.1nm,0.3s,baz=305,slow=6.7,SNR=2.9						
WRA	Warramunga Arr	16.78	169	Pn	Pn	00 43 47.7	-0.8
	0.1nm,0.3s,baz=350,slow=12,SNR=3.6						
WRA				Sn	Sn	00 46 44.4	-9.5
	0.1nm,0.3s,baz=353,slow=23,SNR=2.2						
ASAR	Alice Springs	20.35	172	P	Pn	00 44 32.4	+0.5
	1.9nm,0.5s,baz=351,slow=10,SNR=14						
ASAR				S	S	00 48 18.9	+2.9
	0.4nm,0.8s,baz=354,slow=27,SNR=3.1						
KSRS	Korea Array	40.74	356	LR	LR	01 05 17.2	
	comp=Z,16nm,18.8s,baz=90,slow=37						
SONM	Songino Array	55.36	340	P	P	00 49 29.5	+2.7
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.5						
MKAR	Makanchi Array	65.75	326	P	P	00 50 40.1	+2.6
	1.5nm,0.8s,baz=123,slow=8.2,SNR=18						
ZALV	Zalesovo Beam	68.79	333	P	P	00 50 58.5	+1.9
	0.9nm,0.6s,baz=98,slow=4.4,SNR=5.5						

*IDC **08** 00:49:00.5±26.0, 19.59S×172.86W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/31, mbtmp4.2/4, Error ellipse: s-maj=491.4km s-min=167.5km az=74.0*

*NEIC **08** 00:50:44.6±0.6, 21.6S±0.2×179.3W±0.2, h617km±19km, mb3.8/17, Error ellipse: s-maj=32.2km s-min=13.4km az=47.0*

ISC 08 00:50:44.0±0.9**, 21.7S**±0.1×**179.3W**±0.1**, h604**km**, n26, σ0.74**/26**, mb3.8**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.63	328		P	00 52 16.6	+2.1
NIUE	Niue	9.20	75	P	P	00 52 54.4	-0.7
EIDS	Eidsvold	27.34	256	P	P	00 55 42.8	+0.2
ARMA	Armidale	27.43	245	P	P	00 55 43.7	+0.2
CTA	Charters Tower	32.15	266	P	P	00 56 24.3	+0.3
	2.1nm,0.4s,baz=94,slow=9.6,SNR=5.7						
CTA	Charters Tower	32.15	266	P	P	00 56 24.3	+0.3
CTAO	Charters Tower	32.15	266	P	P	00 56 24.5	+0.6
CTAO				IAmb	IAmb	00 56 38.7	
	comp=Z,2.7nm,1.1s						
PATS	Pohnpei	35.83	320	P	P	00 56 53.6	-1.0
STKA	Stephens Creek	36.16	245	P	P	00 56 57.6	+0.5
	comp=Z,1.1nm,0.4s,baz=113,slow=13,SNR=1.7						
STKA	Stephens Creek	36.16	245	P	P	00 56 57.3	+0.1
COEN	Coen	36.43	276	P	P	00 57 00.3	+0.7
COEN				IAmb	IAmb	00 57 18.0	
	comp=Z,3.2nm,1.0s						
BBOO	Buckleboo	40.91	245	P	P	00 57 34.3	-1.1
BBOO				IAmb	IAmb	00 57 41.1	
	comp=Z,6.8nm,1.1s						
WR0	Warramunga Arr	43.02	264	P	P	00 57 51.8	-0.4
AS31	Alice Springs	43.04	258	P	P	00 57 52.8	+0.5
AS31				IAmb	IAmb	00 57 53.1	
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	43.04	258	P	P	00 57 52.2	-0.1
	comp=Z,2.6nm,0.8s,baz=93,slow=8.2,SNR=22						
ASAR	Alice Springs	43.04	258	P	P	00 57 52.1	-0.1
WB0	Warramunga Arr	43.20	264	P	P	00 57 53.3	-0.2
WB0				IAmb	IAmb	00 58 05.1	
	comp=Z,1.8nm,0.9s						
WB2	Warramunga Arr	43.20	264	P	P	00 57 53.1	-0.4
WB2				IAmb	IAmb	00 57 53.9	
	comp=Z,2.8nm,1.0s						
WRAB	Tennant Creek	43.20	264	P	P	00 57 52.9	-0.6
WRAB				IAmb	IAmb	00 57 53.8	
	comp=Z,2.7nm,0.9s						
WRA	Warramunga Arr	43.21	264	P	P	00 57 53.2	-0.5
	comp=Z,0.8nm,0.3s,baz=96,slow=8.1,SNR=79						
WRA	Warramunga Arr	43.21	264	P	P	00 57 53.0	-0.6
KNRA	Kununurra	49.35	268	P	P	00 58 39.5	-0.4
FITZ	Fitzroy Crossi	51.64	264	P	P	00 58 57.2	+0.7
FITZ				IAmb	IAmb	00 58 59.9	
	comp=Z,3.3nm,1.1s						
MBWA	Marble Bar	56.38	258	P	P	00 59 28.6	-1.1
MBWA				IAmb	IAmb	00 59 48.6	
	comp=Z,8.0nm,0.8s						
VNDA	Vanda	56.63	185	P	P	00 59 31.1	+0.6
QSPA	South Pole Qui	68.39	180	P	P	01 00 46.9	+0.6

*SFS **08** 00:54:28.0, 35.49N×3.77W, ML2.6, ALBORAN SUR*

*MDD **08** 00:54:28.3±0.4, 35.47N×3.78W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=4.0km s-min=2.9km az=6.0*

*CNRM **08** 00:54:28.1, 35.61N×3.74W, h60km, ml2.5*

ISC 08 00:54:27.3±1.3**, 35.46N**±0.03×**3.83W**±0.03**, h10**km±11km**, n18, σ1.70**/37**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMEL	Melilla	0.73	102	Pg	Pb	00 54 41.5	-0.6
EMEL				Sg	Sb	00 54 51.0	-1.1
EALB	Alboran	0.81	53	Pg	Pb	00 54 42.8	-0.5
EALB				Sg	Sg	00 54 52.2	-1.2
EALB				*i* Vmb_Lg		00 54 55.1	
CHEFC	Chefchaouen	1.28	255	P	Pg	00 54 52.4	+0.5
CHEFC				S	Sn	00 55 09.8	+1.2
TAF	Taforalt	1.33	119	P	Pn	00 54 50.5	-1.3
TAF				S	Sb	00 55 08.2	-1.1
CEU	Ceuta	1.33	290	P	Pn	00 54 52.0	+0.1
CEU				S	Sb	00 55 04.5	-4.8
EMIJ	Mijas	1.34	326	Pg	Pg	00 54 52.7	-0.3
EMIJ				Sg	Sb	00 55 10.1	+0.4
EMIJ				*i* Vmb_Lg		00 55 14.0	
EMAL	Malaga-Limoner	1.39	340	P	Pg	00 54 55.5	+1.6
EMAL				S	Sb	00 55 10.8	-0.3
ELGU	Los Guajares,	1.42	7	Pn	Pb	00 54 53.3	-0.5
ELGU				Sn	Sb	00 55 11.2	-0.7
ELGU				*i* Vmb_Lg		00 55 13.5	
IFR	Ifrane	2.21	209	P	Pn	00 55 05.6	+1.5
IFR				S	Sn	00 55 31.7	0.0
MD31	MD31	2.70	197	P	Pn	00 55 12.3	+1.6
MD31				S	Sn	00 55 44.5	+1.1
MDT	Midelt	2.71	194	P	Pn	00 55 11.7	+0.7
MDT				S	Sn	00 55 46.1	+2.2
ECAB	El Cabril	2.91	334	Pn	Pn	00 55 13.8	+0.3
ECAB				Pg	Pb	00 55 19.6	+0.4
ECAB				Sn	Sn	00 55 50.7	+2.1
ECAB				*i* Vmb_Lg		00 55 53.6	
EGRO	El Granado	3.60	306	Pn	Pn	00 55 24.9	+1.8
EGRO				Sn	Sn	00 56 05.4	-0.1
ETOB	Tobarra	3.67	29	Pn	Pn	00 55 25.6	+1.6
ETOB				Sn	Sn	00 56 07.9	+0.5
PVAQ	Vaqueiros	3.69	303	P	Pn	00 55 24.0	-0.3
PVAQ				S	Sn	00 56 02.8	-4.9
PAB	San Pablo	4.10	354	Pn	Pn	00 55 32.4	+2.3
PAB				Sn	Sn	00 56 17.8	-0.3
EBAD	Badajoz	4.16	323	Pn	Pn	00 55 32.4	+1.6
EBAD				Sn	Sn	00 56 19.0	-0.4
ESDC	Sonseca Array	4.21	359	Pn	Pn	00 55 33.7	+2.2
ESDC				Sn	Sn	00 56 19.8	-1.0

*TIR **08** 00:59:46.0, 42.02N×20.25E, h11km, Md2.9, Ml2.9*

*RHSSO **08** 00:59:46.1±0.7, 42.04N×20.32E, h5km±3km, ML2.9/12*

*BEO **08** 00:59:47.8±0.3, 42.05N×20.21E, h6km±3km, ML2.4/10*

ISC 08 00:59:46.9±1.1**, 42.03N**±0.02×**20.19E**±0.02**, h7**km±9km**, n72, σ1.19**/113**, 7C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.35	345	P	Pg	00 59 53.9	+0.3
	baz=339						
BCI				S	Sg	00 59 59.6	+1.3
	baz=339						
BCI				AMP			
	comp=E,8.6nm,0.4s,baz=339						
PHP	Peshkopia	0.39	151	P	Pg	00 59 53.6	-0.9
	baz=156						
PHP				S	Sg	00 59 59.7	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=156						
PHP				AMP			
	comp=N,4.9nm,0.2s,baz=156						
TIR	Tirane	0.72	200	P	Pg	01 00 00.5	-0.2
TIR	Tirane	0.72	200	⇓S	Sb	01 00 12.2	+0.2
TIR	Tirane	0.72	200	ePg	Pg	01 00 00.4	-0.4
TIR				eSg	Sb	01 00 12.0	0.0
TIR	Tirane	0.72	200	P	Pg	01 00 00.5	-0.2
	baz=204						
TIR				S	Sb	01 00 11.9	-0.1
	baz=204						
TIR				AMP			
	comp=N,0.7nm,0.3s,baz=204						
DRME	Dracevica, Mon	0.76	282	⇓iPg	Pg	01 00 00.9	-0.6
DRME				eSg	Sb	01 00 13.3	+0.2
PDG	Podgorica	0.80	300	⇑P	Pg	01 00 01.0	-1.2
PDG				⇓S	Sn	01 00 15.4	-1.4
PDG	Podgorica	0.80	300	ePg	Pg	01 00 01.3	-0.9
PDG				eSg	Sb	01 00 14.3	+0.1
PDG	Podgorica	0.80	300	⇑iPg	Pg	01 00 01.0	-1.2
PDG				eSg	Sb	01 00 14.4	+0.2
SKO	Skopje	0.93	93	i Pg	Pg	01 00 03.4	-1.4
SKO				i Sg	Sg	01 00 16.3	-0.6
SKO				eLg	Lg	01 00 18.1	
	comp=E,10nm,0.3s						
HCY	Herceg Novi	1.33	289	⇑iPg	Pn	01 00 11.0	-0.8
HCY				eSg	Sn	01 00 31.3	+1.5
SELS	Selova	1.37	30	ePg	Pn	01 00 11.8	-0.7
SELS				eSg	Sb	01 00 31.1	+0.4
BARS	Barje	1.44	56	ePg	Pb	01 00 14.1	+0.1
BARS				eSg	Sn	01 00 31.8	-0.8
KBN	Korca	1.48	162	P	Pn	01 00 13.9	-0.1
	baz=163						
KBN				S	Sg	01 00 35.1	+0.8
	baz=163						
KBN				AMP			
	comp=E,0.6nm,0.6s,baz=163						
PRVS	Prvonek	1.48	71	ePg	Pn	01 00 14.2	+0.2
PRVS				eSg	Sb	01 00 34.5	+0.7
BRY	Bratogost	1.50	306	⇓iPn	Pn	01 00 13.7	-0.7
BRY				eSn	Sg	01 00 35.5	+0.5
TREB	Trebinje	1.52	297	ePg	Pb	01 00 15.2	-0.3
TREB				eSg	Sg	01 00 38.1	+2.2
TREB	Trebinje	1.52	297	⇑iPn	Pb	01 00 15.2	-0.3
TREB				eSn	Sg	01 00 36.2	+0.3
STIP	Stip	1.53	102	i Pn	Pb	01 00 15.6	0.0
STIP				i Sn	Sg	01 00 38.9	+2.9
STIP				eLg	Lg	01 00 42.4	
	comp=N,21nm,0.3s						
FNA	Florina	1.53	144	P	Pn	01 00 13.8	-1.0
	baz=145						
IVAS	Ivanjica	1.54	359	ePg	Pn	01 00 13.9	-1.0
IVAS				eSg	Sb	01 00 36.0	+0.3
DBRK	Dubrovnik	1.64	294	ePn	Pb	01 00 16.9	-0.6
RUDO	Rudo	1.70	339	ePn	Pn	01 00 16.3	-0.7
RUDO				eSn	Sn	01 00 39.5	+0.5
BOSS	Bosilegrad	1.76	74	ePn	Pn	01 00 18.6	+0.7
BOSS				eSn	Sn	01 00 41.5	+0.9
GRUS	Gruza	1.90	12	ePn	Pn	01 00 19.7	0.0
LSK	Leskovik	1.91	170	P	Pg	01 00 23.0	-0.3
	baz=171						
LSK				S	Sg	01 00 48.4	+0.4
	baz=171						
STON	Ston	2.02	295	ePn	Pn	01 00 22.2	+0.8
STON				eSn	Sb	01 00 48.1	-1.3
STON	Ston	2.02	295	ePn	Pb	01 00 22.6	-1.4
STON				Sn	Sg	01 00 52.4	+0.5
DIVS	Divibare	2.07	356	ePn	Pn	01 00 21.5	-0.7
DIVS	Divibare	2.07	356	ePn	Pn	01 00 21.1	-1.1
DIVS				eSn	Sn	01 00 47.7	-0.6
SRN	Sarande	2.15	184	P	Pb	01 00 25.2	-1.0
	baz=186						
ZAPS	Zavoj	2.19	55	ePn	Pn	01 00 24.8	+1.0
ZAPS				eSn	Sn	01 00 52.4	+1.2
TRUS	Trudelj	2.20	4	ePn	Pn	01 00 24.1	+0.3
TRUS				eSn	Sn	01 00 51.6	+0.3
VTS	Vitosha	2.33	74	⇑P	Pn	01 00 25.4	-0.5
VTS				⇓S	Sn	01 00 52.8	-2.1
IGT	Igoumenitsa	2.50	177	P	Pn	01 00 29.4	+1.4
	baz=178						
LSTV	Lastovo	2.55	288	ePn	Pn	01 00 30.3	+1.7
RICI	Ricice	2.68	304	ePn	Pb	01 00 32.9	-2.3
HVAR	Hvar	2.99	294	ePn	Pn	01 00 35.9	+1.2
FRGS	Fruska Gora	3.14	355	⇑P	Pn	01 00 35.0	-1.7
FRGS				⇓S	Sn	01 01 14.9	+0.4
FRGS	Fruska Gora	3.14	355	ePn	Pn	01 00 36.7	-0.1
FRGS	Fruska Gora	3.14	355	eSn	Sn	01 01 13.2	-1.3
HERR	Herculane	3.28	29	⇓P	Pn	01 00 39.3	+0.6
HERR				⇑S	Sn	01 01 17.5	-0.4
MGRS	Mrkonjic Grad	3.29	317	ePn	Pn	01 00 38.8	-0.1
MGRS				eSn	Sn	01 01 18.4	+0.1
KIJV	Kijevo	3.41	307	ePn	Pn	01 00 42.6	+2.2
BLY	Banja Luka	3.49	322	ePn	Pn	01 00 41.9	+0.3
BLY				eSn	Sn	01 01 22.7	-0.4
ZIRJ	Zirje	3.71	297	ePn	Pn	01 00 45.2	+0.6
BZS	Buzias	3.73	16	⇓P	Pn	01 00 43.8	-1.1
MORI	Morici	3.77	301	i Pn	Pn	01 00 47.0	+1.6
MRAK	Mrakovica	3.82	322	ePn	Pn	01 00 46.5	+0.3
MRAK				eSn	Sn	01 01 31.1	-0.3
UDBI	Udbina	4.08	309	ePn	Pn	01 00 52.5	+2.7
DUGI	Dugi Otok	4.24	299	ePn	Pn	01 00 53.3	+1.4
MORH	Mrgy, Hungar	4.33	346	ePn	Pn	01 00 52.1	-1.0
MORH				eSn	Sn	01 01 42.0	-1.8
MOSL	Moslavina	4.36	326	ePn	Pn	01 00 54.7	+1.2
NVLJ	Novalja	4.63	305	ePn	Pn	01 00 58.2	+0.9
RABC	Rab	4.79	306	ePn	Pn	01 01 00.4	+1.1
KALN	Kalnik	4.90	328	ePn	Pn	01 01 01.6	+0.6
CRES	Cresnjev	5.11	320	ePn	Pn	01 01 03.6	-0.2
RIY	Rijeka	5.29	310	ePn	Pn	01 01 06.4	+0.1
RIY				eSn	Sn	01 02 06.1	-1.4
CEY	Cerknica	5.57	314	ePn	Pn	01 01 10.2	0.0
CEY				eSn	Sn	01 02 12.6	-2.0
SKDS	Skadanscina	5.69	310	ePn	Pn	01 01 11.6	-0.2
SKDS				eSn	Sn	01 02 15.0	-2.3
JAVS	Javornik	5.87	313	i Pn	Pn	01 01 16.0	+1.7
SOKA	Soboth	5.94	323	i Pn	Pn	01 01 17.2	+1.9
	comp=N,0.8nm,0.5s						
SOKA				eSn	Sn	01 02 24.5	+1.0
	comp=N,0.6nm,0.3s						
OBKA	Obir	6.04	320	ePn	Pn	01 01 18.2	+1.6
	comp=N,1.6nm,0.5s						
OBKA				i Sn	Sn	01 02 27.7	+1.7
	comp=N,2.9nm,0.6s						
VOJS	Vojsko	6.05	313	i Pn	Pn	01 01 18.8	+1.9
ARSA	Arzberg	6.19	329	i Pn	Pn	01 01 21.0	+2.3
	comp=N,1.7nm,0.3s						
ARSA				i Sn	Sn	01 02 31.1	+1.4
	comp=N,1.0nm,0.4s						
CADS	Cadrg	6.26	314	i Pn	Pn	01 01 22.0	+2.3
KBA	Koelnbreinsper	7.02	318	i Pn	Pn	01 01 31.8	+1.5
	comp=N,1.0nm,0.3s						
MOA	Molln	7.17	326	i Pn	Pn	01 01 33.3	+1.0
	comp=N,0.5nm,0.3s						
MOA				i Sn	Sn	01 02 55.9	+1.9
	comp=N,1.0nm,0.3s						
ABTA	Abfaltersbach	7.24	313	i Pn	Pn	01 01 34.8	+1.6
	comp=N,0.6nm,0.3s						
WTTA	Wattenberg	8.03	314	i Pn	Pn	01 01 46.0	+1.9
	comp=N,0.9nm,0.2s						
WATA	Walderalm	8.11	314	ePn	Pn	01 01 47.9	+2.7
	comp=N,0.5nm,0.2s						

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*SOME **08** 01:17:41.6, 41.̊67N×81.̊18E, h20^{km}*
*NNC **08** 01:17:43.7±1.2, 41.̊82N×81.̊13E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=9.3km s-min=6.4km az=161.0*
ISC 08 01:17:44.4±2.2**, 41.̊81N**±0.̊09×**81.̊02E**±0.̊07**, h10**^{km}**, n39, σ1**^{s}**44**/60**, 9C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	Shalkode	1.78	320	eP	Pn	01 18 14.6	-0.7
	37nm,0.3s						
SHLS				eS	Sn	01 18 38.7	+0.7
	55nm,0.3s						
PDGK	Podgornoye	1.90	324	Pg	Pb	01 18 19.5	+0.3
	36nm,0.3s						
PDGK				Lg	Lg	01 18 47.0	
	19nm,0.3s						
PDGK	Podgornoye	1.90	324	⇑Pn	Pb	01 18 18.9	-0.3
	29nm,0.3s						
PDGK				⇑Lg	Lg	01 18 47.0	
	30nm,0.5s						
UZB	Uzynbulak	2.00	313	eP	Pb	01 18 21.5	+0.6
	51nm,0.4s						
UZB				eS	Sg	01 18 50.7	+2.2
	53nm,0.3s						
UZB	Uzynbulak	2.00	313	Pg	Pb	01 18 21.5	+0.6
	51nm,0.4s						
UZB				Lg	Lg	01 18 50.7	
	53nm,0.3s						
SATY	Saty	2.31	304	eP	Pb	01 18 27.1	+0.9
	17nm,0.3s						
SATY				eS	Sg	01 18 59.9	+1.4
	52nm,0.3s						
SATY	Saty	2.31	304	Pg	Pb	01 18 27.1	+0.9
	17nm,0.3s						
SATY				Lg	Lg	01 18 59.9	
	52nm,0.3s						
ZHN	Zhinishke	2.35	306	eP	Pb	01 18 27.4	+0.6
	51nm,0.2s						
ZHN				eS	Sg	01 19 00.7	+0.9
	81nm,0.2s						
ZHN	Zhinishke	2.35	306	Pg	Pb	01 18 27.4	+0.6
	51nm,0.2s						
ZHN				Lg	Lg	01 19 00.7	
	81nm,0.2s						
KPKS	Kokpek	2.39	315	eP	Pb	01 18 28.8	+1.2
	13nm,0.3s						
KPKS				eS	Sg	01 19 02.9	+1.6
	84nm,0.5s						
DJR	Jarkent	2.68	341	eP	Pb	01 18 33.5	+0.9
	3.1nm,0.6s						
DJR				eS	Sg	01 19 10.7	+0.2
	35nm,0.6s						
DJR	Jarkent	2.68	341	Pg	Pb	01 18 33.5	+0.9
	3.1nm,0.6s						
DJR				Lg	Lg	01 19 10.7	
	35nm,0.6s						
KURS	Kuram	2.69	310	eP	Pb	01 18 33.4	+0.7
	5.2nm,0.7s						
KURS				eS	Sg	01 19 11.1	+0.2
	24nm,0.6s						
KURS	Kuram	2.69	310	Pg	Pb	01 18 33.4	+0.7
KURS				Lg	Lg	01 19 10.9	
BLB	Baldybastay	2.95	322	eP	Pb	01 18 38.9	+1.7
	18nm,0.3s						
BLB				eS	Sg	01 19 20.4	+1.1
	38nm,0.3s						
BLB	Baldybastay	2.95	322	Pg	Pb	01 18 38.9	+1.7
	18nm,0.3s						
BLB				Lg	Lg	01 19 20.3	
	38nm,0.3s						
KOTS	Kotyrbulak	3.22	298	eP	Pb	01 18 43.5	+1.7
	7.3nm,0.4s						
KOTS				eS	Sg	01 19 27.8	-0.1
	30nm,0.5s						
KOTS	Kotyrbulak	3.22	298	Pg	Pb	01 18 43.5	+1.7
	7.3nm,0.4s						
KOTS				Lg	Lg	01 19 27.8	
	30nm,0.5s						
MDOK	Medeo	3.24	296	eP	Pb	01 18 43.1	+1.1
	5.2nm,0.6s						
MDOK				eS	Sg	01 19 27.1	-1.3
	11nm,0.5s						
MDOK	Medeo	3.24	296	⇑Pn	Pn	01 18 36.1	+0.7
	1.4nm,0.4s						
MDOK				Pg	Pb	01 18 44.0	+2.0
	4.7nm,0.7s						
MDOK				⇑Lg	Lg	01 19 29.9	
	9.9nm,0.6s						
MDOK	Medeo	3.24	296	Pg	Pb	01 18 43.1	+1.1
	5.2nm,0.6s						
MDOK				Lg	Lg	01 19 27.1	
	11nm,0.5s						
TNSS	Tian-Shan	3.26	294	eP	Pb	01 18 43.1	+0.5
	4.1nm,0.4s						
TNSS				eS	Sg	01 19 27.4	-1.6
	9.1nm,0.3s						
TNSS	Tian-Shan	3.26	294	Pg	Pb	01 18 43.1	+0.5
	4.1nm,0.4s						
TNSS				Lg	Lg	01 19 27.4	
	9.1nm,0.3s						
CHKK	Chushkaly	3.60	306	eP	Pb	01 18 50.4	+2.2
	3.9nm,0.2s						
CHKK				eS	Sg	01 19 39.8	-0.3
	16nm,0.3s						
CHKK	Chushkaly	3.60	306	Pg	Pb	01 18 50.4	+2.2
	3.9nm,0.2s						
CHKK				Lg	Lg	01 19 39.8	
	16nm,0.3s						
MTBS	Maitube	3.65	293	eP	Pb	01 18 50.3	+1.3
	3.9nm,0.4s						
MTBS				eS	Sg	01 19 39.6	-1.9
	10nm,0.4s						
MTBS	Maitube	3.65	293	Pg	Pb	01 18 50.3	+1.3
	3.9nm,0.4s						
MTBS				Lg	Lg	01 19 39.6	
	10nm,0.4s						
KAPS	Kapalarasan	3.68	341	eP	Pb	01 18 50.6	+1.0
	2.2nm,0.3s						
KAPS				eS	Sg	01 19 39.7	-2.9
	11nm,0.5s						
KAPS	Kapalarasan	3.68	341	Pg	Pb	01 18 49.1	-0.5
	3.8nm,0.3s						
KAPS				Lg	Lg	01 19 37.5	
	8.2nm,0.7s						
KTBS	Karatobe	3.72	302	eP	Pb	01 18 52.3	+2.1
	4.6nm,0.4s						
KTBS				eS	Sg	01 19 42.8	-1.0
	22nm,0.4s						
KTBS	Karatobe	3.72	302	Pg	Pb	01 18 52.3	+2.1
	4.6nm,0.4s						
KTBS				Lg	Lg	01 19 42.8	
	22nm,0.4s						
KUU	Kurty	4.03	303	eP	Pb	01 18 57.0	+1.6
	3.4nm,0.3s						
KUU				eS	Sg	01 19 50.9	-2.7
	6.0nm,0.3s						
KUU	Kurty	4.03	303	Pg	Pb	01 18 57.0	+1.6
	3.4nm,0.3s						
KUU				Lg	Lg	01 19 50.9	
	6.0nm,0.3s						
TKM2	Tokmak 2	4.17	287	⇓Pn	Pn	01 18 49.6	+1.3
	1.3nm,0.3s						
TKM2				⇓Pg	Pg	01 19 02.8	-1.5
	1.8nm,0.5s						
TKM2				⇓Lg	Lg	01 19 57.6	
	4.8nm,0.6s						
KRBS	Karabastau	4.37	297	eP	Pb	01 19 03.2	+2.0
	6.4nm,0.4s						
KRBS				eS	Sg	01 20 01.6	-3.0
KRBS	Karabastau	4.37	297	Pg	Pb	01 19 03.2	+2.0
	6.4nm,0.4s						
KRBS				Lg	Lg	01 20 01.6	
AAK	Ala-Archa	4.92	282	⇑Pg	Pg	01 19 16.3	-2.3
	4.2nm,1.2s						
AAK				⇑Lg	Lg	01 20 22.6	
	3.3nm,0.7s						
MAKZ	Makanchi	5.05	7	⇑Pn	Pn	01 19 00.9	+0.7
	3.0nm,0.9s						
MAKZ				⇑Sn	Sn	01 19 59.4	+0.9
	1.1nm,0.5s						
MK31	Makanchi Array	5.07	10	⇑Pn	Pn	01 19 00.4	0.0
	1.3nm,0.7s,baz=195,slow=14,SNR=22						
MK31				⇓Sn	Sn	01 19 59.3	+0.3
	1.4nm,0.6s						
MK31				⇓Lg	Lg	01 20 22.0	
	1.5nm,0.5s,baz=196,slow=28						

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*GUC **08** 01:27:48.3±0.6, 31.̊77S×71.̊36W, h45^{km}±2^{km}, ML4.3*
*NEIC **08** 01:27:49.0±1.6, 31.̊78S±0.̊03×71.̊42W±0.̊09, h44^{km}±5^{km}, mb4.1/5, ML4.3(GUC), Error ellipse: s-maj=11.3km s-min=4.1km az=93.0*
*IDC **08** 01:27:48.1±1.1, 31.̊69S×71.̊55W, h51^{km}±6^{km}, mb3.8/1, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=61.3km s-min=24.9km az=105.0*
ISC 08 01:27:48.3±0.7**, 31.̊75S**±0.̊03×**71.̊38W**±0.̊06**, h45**^{km}±7^{km}**, n69, σ1**^{s}**10**/86**, 2C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CO02	Combarbal	0.64	31		Pn	01 28 01.6	+0.5
CO02				Sn	Sn	01 28 10.9	+0.6
CO02	Combarbal	0.64	31	eP	Pn	01 28 01.8	+0.6
CO02				eS	Sn	01 28 10.7	+0.3
CO02				IAML		01 28 13.0	
	comp=E,47µm,0.3s						
VA06	Catapilco	0.81	175		Pn	01 28 03.3	-0.1
VA06				Sn	Sn	01 28 14.0	-0.3
VA06	Catapilco	0.81	175	⇑iP	Pn	01 28 03.5	+0.2
VA06				eS	Sn	01 28 14.8	+0.4
VA06				IAML		01 28 20.0	
	comp=N,11µm,0.2s						
CO03	El Pedregal	1.08	33		Pn	01 28 08.0	+0.8
CO03				Sn	Sn	01 28 22.1	+1.1
CO03	El Pedregal	1.08	33	⇓iP	Pn	01 28 08.0	+0.8
CO03				eS	Sn	01 28 22.2	+1.1
CO06	Fray Jorge	1.09	349		Pn	01 28 07.8	+0.5
CO06				Sn	Sn	01 28 23.6	+2.5
CO06	Fray Jorge	1.09	349	⇑eP	Pn	01 28 07.7	+0.5
CO06				eS	Sn	01 28 23.4	+2.2
VA03	San Esteban	1.23	145		Pn	01 28 09.8	+0.6
VA03	San Esteban	1.23	145	⇓eP	Pn	01 28 09.8	+0.6
VA03				eS	Sn	01 28 25.5	+0.8
VA03				IAML		01 28 28.4	
	comp=E,12µm,0.2s						
ROCH	El Roble	1.26	166	eP	Pn	01 28 10.1	+0.5
ROCH				eS	Sn	01 28 27.1	+1.5
ROCH				IAML		01 28 28.9	
	comp=N,14µm,0.2s						
ROC1	El Roble	1.26	166		Pn	01 28 08.7	-1.1
VA01	Torpederas	1.29	190		Pn	01 28 10.3	+0.5
VA01	Torpederas	1.29	190	⇓eP	Pn	01 28 10.3	+0.5
VA01				eS	Sn	01 28 27.1	+1.2
PEL	Peldehue	1.51	157		Pn	01 28 13.7	+0.8
PEL	Peldehue	1.51	157	⇓eP	Pn	01 28 13.8	+0.8
PEL				eS	Sn	01 28 33.5	+2.1
PEL				IAML		01 28 35.4	
	comp=E,6µm,0.2s						
MT02	Curacav	1.52	172		Pn	01 28 13.4	+0.4
MT02	Curacav	1.52	172	⇓eP	Pn	01 28 13.6	+0.6
MT02				eS	Sn	01 28 33.5	+1.9
GO04	Tololo Observa	1.65	18		Pn	01 28 16.4	+1.4
GO04	Tololo Observa	1.65	18	eP	Pn	01 28 16.7	+1.6
GO04				eS	Sn	01 28 37.8	+2.6
GO04				IAML		01 28 43.0	
	comp=E,5µm,0.5s						
MT05	Renca	1.73	162		Pn	01 28 16.6	+0.7
MT05	Renca	1.73	162	eP	Pn	01 28 16.7	+0.8
MT05				eS	Sn	01 28 38.2	+1.4
MT05				IAML		01 28 41.7	
	comp=E,5µm,0.3s						
CO05	La Serena	1.83	4		Pn	01 28 18.5	+1.3
CO05	La Serena	1.83	4	eP	Pn	01 28 18.3	+1.0
MT03	Universidad Ad	1.89	157		Pn	01 28 18.9	+0.7
MT03	Universidad Ad	1.89	157	eP	Pn	01 28 19.3	+1.1
MT03				eS	Sn	01 28 42.8	+1.9
MT03				IAML		01 28 48.4	
	comp=E,3µm,0.2s						
MT09	Talagante	2.05	171		Pn	01 28 21.8	+1.4
MT09	Talagante	2.05	171	⇓eP	Pn	01 28 21.8	+1.4
MT09				eS	Sn	01 28 46.7	+1.9
MT09				IAML		01 28 48.9	
	comp=E,3µm,0.3s						
MT01	Popeta	2.11	177		Pn	01 28 22.0	+0.8
LMEL	Las Melosas	2.32	155		Pn	01 28 25.4	+1.3
BO04	La Punta	2.33	164		Pn	01 28 24.6	+0.4
BO04	La Punta	2.33	164	⇓eP	Pn	01 28 25.1	+1.0
BO04				eS	Sn	01 28 53.4	+1.9
BO04				IAML		01 28 59.5	
	comp=E,1µm,0.2s						
BO01	Tunca	2.65	175		Pn	01 28 29.3	+0.8
LCO	Las Campanas	2.79	12	Pn	Pn	01 28 32.5	+1.8
BO02	Sierra Bellavi	3.08	171		Pn	01 28 35.3	+0.9
GO05	Huala	3.28	188		Pn	01 28 36.9	-0.4
AC04	Llanos de Chal	3.54	4		Pn	01 28 41.6	+0.8
ML02	Panimavida	4.00	180		Pn	01 28 47.6	+0.5
GO03	Copiap	4.26	14		Pn	01 28 51.9	+1.2
AC06	Mina Casimiro	4.47	12		Pn	01 28 52.5	-1.1
BI05	Punta Hualpn	5.21	196	Pn	Pn	01 29 02.2	-1.4
AC02	Maricunga	5.28	22		Pn	01 29 06.1	+1.0
H03N1	Juan Fernandez	6.57	253	P	Pn	01 29 22.9	+0.7
	baz=313,slow=73,SNR=17						
H03N1				T	T	01 35 57.7	
	baz=84,slow=73,SNR=2114						
H03N3	Juan Fernandez	6.59	253	P	Pn	01 29 22.7	+0.4
	baz=313,slow=73,SNR=22						
H03N3				T	T	01 36 03.3	
	baz=84,slow=73,SNR=1570						
H03N2	Juan Fernandez	6.59	253	P	Pn	01 29 23.0	+0.6
	baz=313,slow=73,SNR=14						
H03N2				T	T	01 36 04.5	
	baz=84,slow=73,SNR=1812						
H03S3	Juan Fernandez	6.67	250	T	T	01 36 12.2	
	baz=69						
H03S1	Juan Fernandez	6.67	250	T	T	01 36 12.5	
	baz=69						
H03S2	Juan Fernandez	6.68	250	T	T	01 36 11.4	
	baz=69						
LC01	Cunco	7.14	183		Pn	01 29 29.3	-0.9
LR04	Corral	8.28	191	Pn	Pn	01 29 45.1	-0.6
PLCA	Paso Flores	8.99	176	P	Pn	01 29 55.8	+0.2
	comp=E,0.1nm,0.3s,baz=348,slow=12,SNR=7.7						
PLCA	Paso Flores	8.99	176		Pn	01 29 56.2	+0.7
LL04	Puerto Octay	9.18	185	Pn	Pn	01 29 58.2	+0.2
LVC	Limon Verde	9.37	14	P	Pn	01 29 59.5	-1.5
	comp=E,0.1nm,0.3s,baz=84,slow=9.2,SNR=2.0						
LVC	Limon Verde	9.37	14	Pn	Pn	01 29 59.6	-1.4
ITQB	Itaqui	12.87	85	Pn	Pn	01 30 47.1	-1.4
LPAZ	La Paz	15.68	12	P	Pn	01 31 26.5	-0.2
	comp=E,0.1nm,0.3s,baz=189,slow=8.4,SNR=5.9						
LPAZ	La Paz	15.68	12	P	Pn	01 31 28.0	+1.2
SIV	San Ignacio	18.28	33	P	P	01 31 57.8	-0.6
	comp=E,0.4nm,0.3s,baz=195,slow=8.6,SNR=15						
QSPA	South Pole Qui	58.48	180	P	P	01 37 40.1	+0.5
TORD	Torodi Ar. Bea	82.92	70	P	P	01 40 08.6	-0.2
	comp=E,1.3nm,0.8s,baz=254,slow=4.6,SNR=7.9						
TORD				pP	pP	01 40 23.4	+1.2
	comp=E,0.9nm,0.9s,baz=250,slow=4.6,SNR=3.2						
TORD	Torodi Ar. Bea	82.92	70	P	P	01 40 08.5	-0.2
TORD				IAmb	IAmb	01 40 09.1	
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	122.99	209	PKP	PKPdf	01 46 39.4	-0.9
	comp=Z,0.3nm,0.5s,baz=156,slow=1.8,SNR=9.6						
WRA				pPKP	pPKPdf	01 46 53.1	-1.3
	comp=Z,0.3nm,0.8s,baz=166,slow=1.6,SNR=2.2						
H11S2	WAKE ISLAND Hy	126.33	270	T	T	04 06 07.6	
	baz=118,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	126.34	270	T	T	04 05 52.8	
	baz=118,slow=75,SNR=42						
H11S3	WAKE ISLAND Hy	126.35	270	T	T	04 05 60.0	
	baz=118,slow=75,SNR=29						
ZALV	Zalesovo Beam	152.02	31	PKPbc	PKPbc	01 47 38.1	+0.1
	comp=Z,1.3nm,0.5s,baz=318,slow=1.9,SNR=6.6						
ZALV				PKPab	pPKPdf	01 47 44.8	-0.7
	comp=Z,1.8nm,0.6s,baz=228,slow=1.8,SNR=4.4						
ZALV				pPKPbc	pPKPbc	01 47 52.1	+0.1
	comp=Z,1.8nm,0.6s,baz=312,slow=2.3,SNR=5.8						
ZALV	Zalesovo Beam	152.02	31		PKPbc	01 47 38.0	-0.1
MKAR	Makanchi Array	154.84	46	PKPbc	PKPbc	01 47 43.0	-1.5
	comp=Z,0.2nm,0.7s,baz=345,slow=4.5,SNR=2.9						
MKAR				pPKPbc	PKPab	01 47 59.9	+0.1
	comp=Z,0.6nm,0.8s,baz=290,slow=4.0,SNR=5.6						

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*IDC **08** 02:02:47.2±0.9, 32.̊57N×136.̊49E, h0^{km}, mb3.4/5, mb1 3.7/9, mb1mx3.5/35, mbtmp3.5/9, ML3.1/4, Error ellipse: s-maj=27.7km s-min=20.4km az=104.0*
*NIED **08** 02:02:50.0, 32.̊65N×136.̊46E, h40^{km}, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.07; $M_{\theta\theta}$-4.42; $M_{\phi\phi}$1.35; $M_{r\theta}$0.38; $M_{\theta\phi}$0.04; $M_{\phi r}$-1.34; Fault plane solution: $M_0$4.12000×10^{14} NP1: ϕ_s116.00000°, δ54.00000°, λ126.00000°. NP2: ϕ_s245.00000°, δ49.00000°, λ51.00000°.*
*JMA **08** 02:02:49.9±0.3, 32.̊65N×136.̊46E, h40^{km}±2^{km}, M3.9*
ISC 08 02:02:51.6±0.9**, 32.̊67N**±0.̊07×**136.̊42E**±0.̊04**, h35**^{km}**, n23, σ1**^{s}**00**/33**, mb3.5**/5**, 12D, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWKM	Wakayamakushim	0.95	325	⇓P	Pn	02 03 07.6	-0.9
JWKM				S	Sn	02 03 19.8	-1.1
TTO1	TONANKAI O.B.S	1.00	18	⇓P	Pn	02 03 08.3	-0.6
TTO2	TONANKAI O.B.S	1.18	26	⇓P	Pn	02 03 10.8	-0.5
JMMH	Miemihama	1.19	344	⇓P	Pn	02 03 11.1	-0.7
JMMH				S	Sn	02 03 25.4	-1.3
JTNC	Tanabenakahech	1.33	330	⇓P	Pn	02 03 13.1	-0.6
JTNC				S	Sn	02 03 29.3	-0.9
TTO3	TONANKAI O.B.S	1.45	34	⇓P	Pn	02 03 14.2	-0.9
TTO3				S	Sn	02 03 31.9	-0.9

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TK01	Tokai 1	1.47	42	S	Sn	02 03 31.1	-2.1
JWM	Minabe	1.48	323	⇓P	Pn	02 03 15.3	-0.3
JWM				eS	Sn	02 03 32.9	-0.8
JKN2	Miekihoku	1.57	356	⇓P	Pn	02 03 16.5	-0.5
TTO4	TONANKAI O.B.S	1.63	35	⇓P	Pn	02 03 16.5	-1.1
TTO4				S	Sn	02 03 35.4	-1.9
JWY	Kouya	1.69	336	⇓P	Pn	02 03 18.8	+0.1
JWY				eS	Sn	02 03 39.1	-0.1
TK02	Tokai 2	1.70	41	⇓P	Pn	02 03 17.2	-1.3
JIE	Ise	1.73	8	⇓P	Pn	02 03 18.9	-0.3
JHJ	Hachijo jima 2	2.87	80	Pn	Pn	02 03 34.4	-0.4
	9.5nm,0.3s,baz=185,slow=17,SNR=1.7						
MAT	Matsushiro	4.14	20	P	Pn	02 03 52.6	+0.3
MAT				S	Sn	02 04 38.3	-1.1
MJAR	Matsushiro Arr	4.14	20	Pn	Pn	02 03 53.2	+0.9
	1.3nm,0.3s,baz=212,slow=14,SNR=17						
MJAR				Sn	Sn	02 04 39.0	-0.4
	1.1nm,0.3s,baz=174,slow=23,SNR=7.3						
JNU	Nakatsue	4.68	277	Pn	Pn	02 03 58.8	-0.9
	0.5nm,0.3s,baz=194,slow=17,SNR=1.7						
JNU				Sn	Sn	02 04 50.9	-2.0
	1.0nm,0.3s,baz=62,slow=1.4,SNR=3.5						
KLR	Kul'dur	16.91	349	P	P	02 06 48.0	+0.9
	0.2nm,0.3s,baz=145,slow=11,SNR=12						
MKAR	Makanchi Array	43.12	305	P	P	02 10 50.7	+2.3
	0.2nm,0.6s,baz=93,slow=11,SNR=2.6						
WRA	Warramunga Arr	52.35	182	P	P	02 12 00.3	+0.1
	2.4nm,1.4s,baz=357,slow=8.1,SNR=4.7						
WRA				PcP	PcP	02 13 11.5	+0.6
	0.3nm,0.8s,baz=358,slow=4.1,SNR=5.6						
ILAR	Eielson Array	55.35	30	P	P	02 12 22.9	+1.3
	0.2nm,0.4s,baz=295,slow=6.7,SNR=1.9						
ASAR	Alice Springs	56.07	183	P	P	02 12 27.4	+0.2
	0.3nm,0.7s,baz=14,slow=13,SNR=5.8						
YKA	Yellowknife Ar	69.61	28	P	P	02 13 56.8	0.0
	0.3nm,0.9s,baz=297,slow=5.5,SNR=2.5						

CNRM 08 02:12:07.0, 36.°64N×7.°92W, h44km, ml2.0
SFS 08 02:12:10.0, 36.°76N×7.°95W, h37km, ML2.6, GOLFO DE CADIZ
MDD 08 02:12:10.7±0.5, 36.°77N×7.°96W, h37km±4km, mb_Lg2.6/10, Error ellipse: s-maj=4.3km s-min=2.7km az=39.0
INMG 08 02:12:11.3±1.9, 36.°83N×7.°97W, h16km±4km, ML2.0, Error ellipse: s-maj=5.4km s-min=4.1km az=48.0
IGIL 08 02:12:11.4, 36.°80N×7.°97W, h18km, ML2.1
ISC 08 02:12:08.4±1.3, 36.°74N±0.°03×7.°91W±0.°03, h33km±4km, n48, σ1.s66/84, 1C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.50	358	⇓iPg	Pn	02 12 20.4	+1.1
PBDV				eSg	Sn	02 12 27.1	+0.2
PBDV				A	A	02 12 27.7	
	37nm,0.5s						
PVAQ	Vaqueiros	0.68	13	ePg	Pn	02 12 22.8	+1.1
PVAQ				eSg	Sb	02 12 31.3	+0.2
PVAQ				A	A	02 12 31.7	
	32nm,0.3s						
PVAQ	Vaqueiros	0.68	13	P	Pn	02 12 22.5	+0.8
PVAQ				S	Sn	02 12 31.7	+0.5
MORF	Marmelete	0.82	314	eP	Pn	02 12 24.7	+1.0
MORF				eS	Sb	02 12 34.3	-0.8
MORF				IAML		02 12 35.6	
	comp=N,62nm,0.1s						
MORF	Marmelete	0.82	314	⇓eP	Pn	02 12 24.7	+1.0
MORF				eS	Sb	02 12 34.7	-0.4
MORF				A	A	02 12 36.4	
	comp=N,46nm,0.1s						
PFVI	Vila Bisbo	0.83	298	eP	Pn	02 12 25.1	+1.3
PFVI				eS	Sb	02 12 35.2	-0.2
PFVI				A	A	02 12 39.3	
	comp=N,21nm,0.4s						
PFVI	Vila Bisbo	0.83	298	P	Pb	02 12 24.5	+0.1
PFVI				S	Sb	02 12 34.6	-0.7
EGRO	El Granado	0.86	23	Pg	Pn	02 12 25.4	+1.2
EGRO				Sg	Sb	02 12 36.1	-0.1
EGRO				i Vmb_Lg		02 12 36.7	
PCVE	Castro Verde	0.90	353	⇓iP	Pb	02 12 26.1	+0.6
PCVE				eS	Sb	02 12 36.9	-0.3
PCVE				A	A	02 12 37.6	
	comp=N,43nm,0.1s						
PTEO	Sao Teotonio	1.03	321	⇓eP	Pb	02 12 28.0	+0.2
PTEO				eS	Sn	02 12 40.2	+0.3
PTEO				A	A	02 12 42.2	
	comp=N,16nm,0.4s						
PBEJ	Beja	1.28	2	eP	Pb	02 12 32.4	+0.4
PBEJ				eS	Sn	02 12 46.1	0.0
PBEJ				A	A	02 12 48.0	
	comp=N,8.5nm,0.3s						
PNCL	Nicolau / Gran	1.45	340	⇑eP	Pn	02 12 33.6	+1.2
PNCL				eS	Sn	02 12 51.2	+0.9
PNCL				A	A	02 13 01.8	
	comp=N,14nm,0.2s						
PBAR	Barrancos	1.59	26	eP	Pb	02 12 37.0	-0.2
PBAR				A	A	02 13 02.3	
	comp=N,4.0nm,0.3s						
EVO	Evora	1.79	357	P	Pb	02 12 39.4	-1.2
EVO				S	Sn	02 12 57.2	-1.4
EVO	Evora	1.79	357	ePn	Pn	02 12 38.3	+1.3
EVO				eSn	Sn	02 12 57.6	-1.0
EVO				A	A	02 13 00.4	
	comp=N,8.5nm,0.3s						
EBAD	Badajoz	2.13	19	Pg	Pn	02 12 43.5	+1.7
EBAD				Sg	Sn	02 13 07.1	+0.1
EBAD				i Vmb_Lg		02 13 14.2	
PESTR	Estremoz	2.14	7	ePn	Pn	02 12 44.3	+2.5
PESTR				eSn	Sn	02 13 07.8	+0.6
PESTR				A	A	02 13 31.5	
	comp=N,4.5nm,0.5s						
PESTR	Estremoz	2.14	7	P	Pn	02 12 40.3	-1.5
PESTR				S	Sn	02 13 08.8	+1.6
PMTG	Montargil	2.34	354	ePn	Pn	02 12 45.8	+1.3
PMTG				eSn	Sn	02 13 11.6	-0.5
PMTG				A	A	02 13 14.4	
	comp=N,9.2nm,0.2s						
ECAB	El Cabril	2.39	55	Pn	Pn	02 12 46.1	+0.9
ECAB				Sg	Sn	02 13 11.4	-2.0
PMAFR	Mafra	2.46	334	ePn	Pn	02 12 48.0	+1.7
PMAFR				eSn	Sn	02 13 14.9	-0.3
PMAFR				A	A	02 13 17.5	
	comp=N,25nm,0.2s						
EMIJ	Mijas	2.53	93	Pn	Pn	02 12 49.0	+1.8
EMIJ				Sg	Sn	02 13 18.4	+1.5
EMIJ				i Vmb_Lg		02 13 22.2	
PMRV	Marv??o	2.71	9	ePn	Pn	02 12 50.8	+1.1
PMRV				eSn	Sn	02 13 21.1	-0.3
PMRV				A	A	02 13 23.1	
	comp=N,2.6nm,0.1s						
EMAL	Malaga-Limoner	2.80	89	P	Pn	02 12 53.7	+2.9
EMAL				S	Sn	02 13 24.4	+1.0
PSBE	So Bento	2.85	346	ePn	Pn	02 12 53.3	+1.6
PSBE				eSn	Sn	02 13 25.3	+0.4
PSBE				A	A	02 13 27.2	
	comp=N,7.8nm,0.6s						
PCBR	Castelo Branco	3.11	6	ePn	Pn	02 12 56.4	+1.2
PCBR				eSn	Sn	02 13 30.7	-0.5
PCBR				A	A	02 13 32.6	
	comp=N,3.2nm,0.5s						
PCAS	Casmilo, Conde	3.34	352	ePn	Pn	02 13 00.7	+2.4
PCAS				eSn	Sn	02 13 36.4	-0.4
PCAS				A	A	02 13 37.9	
	comp=N,4.9nm,0.6s						
ELGU	Los Guajares,	3.44	87	Pn	Pn	02 13 02.8	+3.0
ELGU				Sn	Sn	02 13 42.3	+2.8
ELGU				i Vmb_Lg		02 13 44.8	
EPLA	Plasencia	3.62	23	Sn	Sn	02 13 43.2	-0.5
MTE	Manteigas	3.67	4	ePn	Pn	02 13 04.5	+1.7
MTE				eSn	Sn	02 13 43.4	-1.5
MTE				A	A	02 13 44.3	
	comp=N,3.4nm,0.6s						
PAB	San Pablo	3.97	44	Pn	Pn	02 13 08.3	+1.3
PAB				Sn	Sn	02 13 48.5	-3.9
PVIS	Viseu	3.97	0	eSn	Sn	02 13 52.0	-0.4
ESDC	Sonseca Array	4.27	46	Sn	Sn	02 13 55.6	-4.3
MVO	Moncorvo	4.47	9	ePn	Pn	02 13 15.6	+1.7
MVO				eSn	Sn	02 14 03.9	-0.9
PVRL	Vila Real	4.53	2	ePn	Pb	02 13 26.1	-1.1
PVRL				eSn	Sn	02 14 05.1	-1.2
PVRL				A	A	02 14 06.0	
	comp=N,2.6nm,0.2s						
ENIJ	Nijar	4.58	85	Pn	Pn	02 13 18.0	+2.6
POLO	Lamas de Olo	4.63	1	eSn	Sn	02 14 07.3	-1.4
MD31	MD31	4.65	145	P	Pn	02 13 17.1	+0.6
MD31				S	Sn	02 14 04.6	-4.8
MDT	Midelt	4.77	144	P	Pn	02 13 18.9	+0.8
MDT				S	Sn	02 14 09.6	-2.6
ELOB	Lobios	5.12	359	Sn	Sn	02 14 19.3	-1.5
ELOB				i Vmb_Lg		02 14 20.4	
PBRG	Braganca	5.14	10	eSn	Sn	02 14 18.9	-2.3
PGAV	Gavieira, Arco	5.22	357	eSn	Sn	02 14 22.9	-0.5
PGAV				A	A	02 14 23.2	
	comp=N,2.9nm,0.1s						
ETOB	Tobarra	5.39	67	Pn	Pn	02 13 27.0	+0.5
ETOB				Sn	Sn	02 14 25.3	-2.2
ETOB				i Vmb_Lg		02 14 26.9	
OUK	Oukaimeden	5.52	180	P	Pn	02 13 23.3	-5.3
OUK				S	Sn	02 14 29.2	-1.9
OUZM	OUZ	5.89	170	P	Pn	02 13 29.8	-3.7
OUZM				S	Sn	02 14 37.2	-2.8
ETOR	Torete	6.12	47	Pn	Pn	02 13 38.2	+1.6
ETOR				i Vmb_Lg		02 14 09.8	
ETOR				Sn	Sn	02 14 43.1	-2.5
ECHE	Chera	6.17	60	Pn	Pn	02 13 38.7	+1.5
TTIG	Tnine Tigouga,	6.19	184	P	Pn	02 13 35.5	-2.2
TTIG				S	Sn	02 14 44.6	-2.8

IDC 08 02:56:21.7±2.8, 25.°78N×124.°78E, h128km±29km, mb3.4/10, mb1 3.5/12, mb1mx3.3/34, mbtmp3.8/12, Error ellipse: s-maj=27.4km s-min=14.5km az=69.0
JMA 08 02:56:22.4±0.2, 25.°82N×124.°79E, h120km, M3.8
ISC 08 02:56:22.2±0.7, 25.°72N±0.°08×124.°88E±0.°06, h137km±8km, n31, σ1.s19/51, mb3.4/10, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.86	157	P	Pn	02 56 44.8	+0.2
JIKM				S	Sn	02 57 01.2	-0.4
JIRB	Irabujima	0.93	163	P	Pn	02 56 45.0	-0.2
JIRB				S	Sn	02 57 01.7	-0.9
JMJ2	Miyako jima3	1.06	157	P	Pn	02 56 46.8	+0.4
JMJ2				S	Sn	02 57 04.4	-0.3
JOGS	Gusukube	1.07	154	P	Pn	02 56 47.0	+0.5
JOGS				S	Sn	02 57 05.0	+0.1
JTJ	Tarama	1.09	189	P	Pn	02 56 46.6	-0.1
JTJ				S	Sn	02 57 03.9	-1.3
JISG	Ishigakijimahi	1.25	205	P	Pn	02 56 47.9	-0.3
JISG				S	Sn	02 57 06.5	-1.4
JIJ	Ishigaki jima	1.51	206	P	Pn	02 56 50.3	-0.7
JIJ				S	Sn	02 57 10.4	-2.5
JKRS	Kuro-shima	1.68	208	P	Pn	02 56 52.5	-0.4
JKRS				S	Sn	02 57 14.8	-1.4
IRIF	Iriomote-Funau	1.73	217	P	Pn	02 56 53.0	-0.5
IRIF				S	Sn	02 57 15.9	-1.4
JKE	Kume jima 2	1.81	70	P	Pn	02 56 54.7	+0.3
JKE				eS	Sn	02 57 19.0	0.0
HATJ	Hateruma jima	1.93	211	P	Pn	02 56 55.5	-0.2
HATJ				S	Sn	02 57 20.4	-1.0
JYNG	Yonagunijimaku	2.17	235	P	Pn	02 56 59.2	+0.6
JYNG				eS	Sn	02 57 26.3	-0.2
JAGN	Aguni-jima	2.29	67	P	Pn	02 57 00.3	+0.2
JAGN				S	Sn	02 57 28.4	-0.8
JJT3	Tamagusuku3	2.65	80	P	Pn	02 57 05.2	+0.6
JJT3				S	Sn	02 57 37.2	0.0
JNTH	Nagotoyohara	2.93	74	P	Pn	02 57 08.3	+0.1
JNTH				S	Sn	02 57 41.0	-2.7
JIH	Iheya	3.06	64	P	Pn	02 57 09.9	0.0
JIH				eS	Sn	02 57 45.6	-1.0
JOW	Kunigami	3.24	69	P	Pn	02 57 11.8	-0.4
	15nm,0.3s,baz=144,slow=25,SNR=39						
JOW				S	Sn	02 57 47.7	-3.1
	32nm,0.3s,baz=136,slow=26,SNR=20						
JOW	Kunigami	3.24	69	P	Pn	02 57 11.8	-0.4
JOW				eS	Sn	02 57 48.1	-2.7
JYRO	Yoronjima	3.45	67	P	Pn	02 57 14.2	-0.8
JYRO				eS	Sn	02 57 53.0	-2.8
KSRS	Korea Array	11.98	12	P	Pn	02 59 11.2	+2.7
	0.2nm,0.3s,baz=189,slow=12,SNR=4.7						
MJAR	Matsushiro Arr	15.68	43	P	P	02 59 57.5	+0.6
	baz=242,slow=10,SNR=6.3						
CMAR	Chiang Mai Arr	25.07	258	P	P	03 01 34.0	-0.1
	1.3nm,0.3s,baz=54,slow=7.9,SNR=1.7						
SONM	Songino Array	26.44	331	P	P	03 01 46.1	-0.3
	0.6nm,0.8s,baz=154,slow=10,SNR=7.3						
MKAR	Makanchi Array	39.65	313	P	P	03 03 40.5	-0.2
	0.8nm,0.5s,baz=99,slow=10,SNR=16						
MKAR				PcP	PcP	03 05 45.3	+0.5
	0.4nm,0.7s,baz=64,slow=2.8,SNR=4.6						
ZALV	Zalesovo Beam	40.87	324	P	P	03 03 49.1	-1.3
	1.7nm,0.5s,baz=119,slow=8.5,SNR=7.7						
FITZ	Fitzroy Crossi	43.56	179	P	P	03 04 12.9	+0.3
	1.4nm,1.1s,baz=24,slow=12,SNR=1.2						
WRA	Warramunga Arr	46.31	168	P	P	03 04 34.8	+0.4
	0.5nm,0.8s,baz=350,slow=8.1,SNR=5.8						
ASAR	Alice Springs	49.87	169	P	P	03 05 03.1	+1.3
	0.3nm,0.6s,baz=356,slow=14,SNR=6.4						
FINES	FINESS Array B	71.81	330	P	P	03 07 29.0	-0.6
	1.6nm,1.0s,baz=53,slow=5.4,SNR=2.1						
AKASG	Malin Array Be	73.94	319	P	P	03 07 41.3	-1.0
	0.1nm,0.3s,baz=59,slow=6.3,SNR=4.3						
YKA	Yellowknife Ar	80.23	24	P	P	03 08 17.8	+0.5
	0.2nm,0.4s,baz=303,slow=5.2,SNR=4.5						

KRNET 08 03:08:46.6±0.1, 40.°86N×71.°12E, h12km, mb3.0
NNC 08 03:08:47.7±2.0, 40.°83N×71.°08E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=15.6km s-min=6.5km az=14.0
SOME 08 03:08:56.6, 41.°30N×71.°30E, h0km
ISU 08 03:09:47, 40.°82N×71.°23E, h30km
ISC 08 03:08:46.6±1.1, 40.°87N±0.°02×71.°19E±0.°02, h4km±11km, n48, σ2.s06/81, 20C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NAM	Namangan	0.38	71	eP	Pb	03 08 56.0	+0.1
NAM				eS	Sb	03 09 02.0	-0.2
MINT	Mingtut	0.43	202	eP	Pb	03 08 56.0	-0.9
MINT				eP	Pn	03 09 03.0	+3.3
TRKS	Terek-Say	0.66	357	⇑iP	Pg	03 08 57.9	-1.4
	baz=4.0						
TRKS				⇑iS	Sg	03 09 06.3	-1.6
	baz=4.0						
FRG	Fergana	0.67	137	eP	Pb	03 09 01.0	0.0
FRG				eS	Sn	03 09 18.0	+4.0
BTK	Batken	0.86	199	⇑iP	Pg	03 09 02.4	-0.7
	baz=96						
BTK				⇑iS	Sb	03 09 14.0	-2.0
	baz=96						
BTK	Batken	0.86	199	P	Pg	03 09 02.0	-1.1
BTK				S	Sb	03 09 14.0	-2.0
ARK	Arkit	1.10	32	⇑iP	Pb	03 09 08.3	+0.1
	baz=34						
ARK				⇑iS	Sn	03 09 23.8	-0.8
	baz=34						
CHMG	Chimgan	1.12	308	eP	Pn	03 09 10.0	+0.8
CHMG				eS	Sn	03 09 32.0	+6.9
CHRV	Charvak	1.21	310	i P	Pg	03 09 12.0	+2.2
CHRV				i S	Sn	03 09 25.0	-2.2
OHH	Osh	1.27	105	⇑iP	Pg	03 09 11.7	+0.8
	baz=4.0						
OHH				⇑iS	Sg	03 09 29.2	+1.9
	baz=4.0						
OHH	Osh	1.27	105	eP	Pn	03 09 10.0	-1.2
OHH				eS	Sb	03 09 27.0	-0.7
YBZ	Yangibazar	1.28	290	i P	Pg	03 09 11.0	-0.3
YBZ				i S	Sg	03 09 28.0	+0.1
TGS	TashGRES	1.37	294	eP	Pg	03 09 14.0	+1.0
TGS				eS	Sg	03 09 35.0	+4.2
DRK	Karamyk	1.47	161	⇑iP	Pb	03 09 14.2	-0.4
	baz=59						
DRK				⇑iS	Sg	03 09 34.5	+0.7
	baz=59						
TAS	Tashkent	1.50	288	⇑iP	Pb	03 09 13.9	-1.1
	baz=89						
TAS				⇑iS	Sg	03 09 34.0	-0.8
	baz=89						
CHM	Chimkent	1.87	321	eP	Pg	03 09 26.6	+4.1
	130nm,0.2s						
CHM				eS	Sg	03 09 48.1	+1.3
	720nm,0.5s						
GAR	Garm	1.98	200	⇑iP	Pb	03 09 22.5	-0.9
	baz=99						
GAR				⇑iS	Sg	03 09 49.1	-1.3
	baz=99						
SALK	Salom-Alik	2.00	89	⇑eP	Pb	03 09 24.3	+0.7
	baz=89						
SALK				⇑eS	Sg	03 09 51.2	+0.3
	baz=89						
DZA	Taraz	2.02	3	eP	Pg	03 09 28.7	+3.3
	34nm,0.1s						
DZA				eS	Sg	03 09 51.7	0.0
	232nm,0.3s						
KK09	Karatay Array	2.31	347	⇓Pn	Pb	03 09 26.5	-2.3
	12nm,0.5s,baz=174,slow=13						
KK09				⇑Sn	Sb	03 09 58.2	+0.5
	48nm,0.4s,baz=172,slow=27						
BRLS	Boroldey	2.38	335	eP	Pg	03 09 31.5	-0.8
	4.3nm,0.3s						
BRLS				eS	Sb	03 09 57.1	-2.7
	86nm,0.3s						
BRLS	Boroldey	2.38	335	Pg	Pb	03 09 29.1	-1.0
	1.8nm,0.2s						
BRLS				Lg	Lg	03 09 57.1	
	86nm,0.3s						
MRKS	Merke	2.42	38	eP	Pg	03 09 37.1	+4.2
	3.7nm,0.4s						
MRKS				eS	Sg	03 10 05.7	+1.4
	30nm,0.3s						
MRKS	Merke	2.42	38	Pg	Pg	03 09 33.9	+0.9
	5.4nm,0.5s						
MRKS				Lg	Lg	03 10 05.7	
	30nm,0.3s						
ARLS	Aral	2.56	66	⇑eP	Pb	03 09 31.7	-1.5
	baz=67						
ARLS				⇑eS	Sb	03 10 04.6	-0.5
	baz=67						
UCH	Uchtor	2.84	60	⇓eP	Pb	03 09 36.0	-2.2
	baz=61						
UCH				⇓iS	Sb	03 10 11.7	-1.8
	baz=61						
AAK	Ala-Archa	3.04	53	Pg	Pg	03 09 45.2	+0.3
	4.0nm,0.6s						
AAK				Lg	Lg	03 10 27.4	
	7.8nm,0.7s						
TKM2	Tokmak 2	3.88	57	⇑Pg	Pg	03 10 01.5	+0.5
	2.7nm,0.8s						
TKM2				⇓Lg	Lg	03 10 53.8	
	4.5nm,0.8s						
DGS	Degeres	4.16	54	eP	Pg	03 10 07.9	+1.6
	2.5nm,0.7s						
DGS				eS	Sg	03 10 59.0	-1.1
	8.1nm,0.7s						
DGS	Degeres	4.16	54	Pg	Pg	03 10 05.2	-1.1
	2.5nm,0.7s						
DGS				Lg	Lg	03 10 59.0	
	8.1nm,0.7s						
KRBS	Karabastau	4.37	48	eP	Pg	03 10 11.3	+1.0
	3.4nm,0.5s						
KRBS				eS	Sg	03 11 05.4	-1.5
	6.3nm,0.8s						
KRBS	Karabastau	4.37	48	Pg	Pg	03 10 08.6	-1.7
KRBS				Lg	Lg	03 11 04.6	
MTBS	Maitube	4.51	58	eP	Pg	03 10 16.7	+3.6
	1.3nm,0.5s						
MTBS				eS	Sg	03 11 14.8	+3.2
	3.8nm,0.7s						
MTBS	Maitube	4.51	58	Pg	Pg	03 10 10.4	-2.7
	2.1nm,0.7s						
MTBS				Lg	Lg	03 11 07.6	
	3.6nm,0.7s						
BTLS	Baital	4.67	26	eP	Pg	03 10 17.2	+1.1
	1.0nm,0.0s						
BTLS				eS	Sg	03 11 14.8	-1.7
	9.4nm,1.0s						
TNSS	Tian-Shan	4.81	61	eP	Pg	03 10 20.9	+2.0
	1.4nm,0.5s						
TNSS				eS	Sg	03 11 22.0	+0.8
	2.6nm,0.8s						
TNSS	Tian-Shan	4.81	61	Pg	Pg	03 10 17.6	-1.2
	1.7nm,0.6s						
TNSS				Lg	Lg	03 11 19.9	
	2.6nm,0.8s						
KUU	Kurty	4.87	50	eP	Pg	03 10 18.5	-1.4
	0.4nm,0.2s						
KUU				eS	Sb	03 11 17.8	+6.5
	4.6nm,0.7s						
MDOK	Medeo	4.93	60	eP	Pg	03 10 22.4	+1.3
	1.3nm,0.4s						
MDOK				eS	Sg	03 11 24.4	-0.6
	3.0nm,0.5s						
MDOK	Medeo	4.93	60	Pg	Pg	03 10 20.1	-1.0
	2.0nm,0.6s						
MDOK				Lg	Lg	03 11 24.2	
	2.6nm,0.6s						
KTBS	Karatobe	4.97	53	eP	Pg	03 10 23.9	+2.1
	1.3nm,0.6s						
KTBS				eS	Sg	03 11 26.9	+0.8
	7.2nm,0.5s						
KTBS	Karatobe	4.97	53	Pg	Pg	03 10 19.4	-2.4
	1.4nm,0.6s						
KTBS				Lg	Lg	03 11 23.5	
	7.2nm,0.5s						
KOTS	Kotyrbulak	5.00	60	eP	Pg	03 10 24.8	+2.3
	2.1nm,0.8s						
KOTS				eS	Sg	03 11 28.2	+0.8
	7.7nm,1.0s						
ARXS	Arharly	5.94	54	eP	Pg	03 10 39.7	-0.6
	1.0nm,0.7s						
ARXS				eS	Sg	03 11 53.7	-3.5
	4.0nm,0.9s						
ARXS	Arharly	5.94	54	Pg	Pg	03 10 37.0	-3.3
	1.6nm,0.6s						
ARXS				Lg	Lg	03 11 53.7	
	4.0nm,0.9s						
BLB	Baldybastay	6.28	57	eP	Pg	03 10 45.3	-1.6
	1.8nm,0.8s						
BLB				eS	Sg	03 12 03.5	-4.9
	2.7nm,0.5s						
BLB	Baldybastay	6.28	57	Pg	Pg	03 10 42.5	-4.5
	2.1nm,0.5s						
BLB				Lg	Lg	03 12 03.5	
	2.7nm,0.5s						
PDGK	Podgornoye	6.65	66	Pg	Pg	03 10 52.1	-1.8
	0.5nm,0.8s						
PDGK				Lg	Lg	03 12 19.0	
	0.9nm,1.0s						

IDC 08 03:14:01.2±1.1, 17.°86S×68.°97W, h148km±9km, mb3.6/3, mb1 3.5/5, mb1mx3.2/30, mbtmp3.9/5, Error ellipse: s-maj=24.4km s-min=10.7km az=100.0
ISC 08 03:14:01.3±0.9, 17.°85S±0.°08×69.°0W±0.°1, h150km, n7, σ0.s64/10, mb3.7/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	1.75	27	P	Pn	03 14 34.8	+0.6
	9.0nm,0.3s,baz=194,slow=12,SNR=224						
LPAZ				S	Sn	03 14 59.2	-0.1
	0.7nm,0.3s,baz=139,slow=2.8,SNR=5.1						
LVC	Limon Verde	4.73	179	P	Pn	03 15 12.1	+0.6
	1.4nm,0.3s,baz=1.1,slow=12,SNR=13						
LVC				S	Sn	03 16 05.5	-0.7
	1.2nm,0.3s,baz=240,slow=24,SNR=6.5						
SIV	San Ignacio	7.77	77	P	Pn	03 15 52.1	+0.4
	0.7nm,0.3s,baz=269,slow=12,SNR=17						
SIV				S	Sn	03 17 17.8	-0.7
	0.1nm,0.3s,baz=334,slow=19,SNR=2.8						
ULM	Lac du Bonnet	71.85	342	P	P	03 25 06.6	-0.9
	1.2nm,0.4s,baz=140,slow=7.0,SNR=2.4						
TORD	Torodi Ar. Bea	76.20	71	P	P	03 25 34.0	+0.4
	1.0nm,0.7s,baz=253,slow=5.6,SNR=12						
YKA	Yellowknife Ar	87.75	341	P	P	03 26 32.6	-0.1
	0.3nm,0.5s,baz=132,slow=4.7,SNR=8.6						
SONM	Songino Array	149.86	6	PKPbc	PKiKP	03 33 34.8	+0.1
	0.3nm,0.6s,baz=0.0,slow=2.9,SNR=2.5						

IDC 08 03:21:06.3±18.0, 16.°95N×40.°33E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/39, mbtmp3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/54, Error ellipse: s-maj=732.9km s-min=33.5km az=154.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GNI	Garni	23.43	9	LR	LR	03 35 24.5	
	comp=Z,20nm,18.3s,baz=208,slow=37						
TORD	Torodi Ar. Bea	37.46	270	P	P	03 28 21.8	-0.1
	0.7nm,0.9s,baz=76,slow=6.8,SNR=3.0						
MKAR	Makanchi Array	45.61	40	P	P	03 29 28.3	-0.1
	0.2nm,0.5s,baz=243,slow=8.0,SNR=4.1						
ZALV	Zalesovo Beam	50.41	33	P	P	03 30 05.3	-0.1

	0.7nm,0.5s,baz=238,slow=8.3,SNR=2.4						

*IDC **08** 03:32:27.0±2.6, 2°.10N×96°.44E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/66, mbtmp3.8/7, ML4.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/88, Error ellipse: s-maj=103.9km s-min=22.4km az=59.0*

*DJA **08** 03:32:30.5±1.7, 2°N±8°×9°6E±1°6, h10km, M3.4/4, MLv3.4/4*

ISC 08 03:32:31.1±1.1, **2°.15N**±0°.09×**96°.5E**±0°.1, **h28km, n18, σ0s.76**/11, **mb3.8**/6, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.28	334	P	Pb	03 32 37.7	-0.4
SNSI				S	Sb	03 32 42.9	0.0
GSI	Gunungsitoli	1.41	127	P	Pb	03 32 56.5	-0.2
KCSI	Kotacane, Aceh	1.90	44	P	Pb	03 33 04.8	-0.3
PSI	Prapat	2.56	75	LR	LR	03 34 31.9	
	comp=Z,122nm,18.2s,baz=2.5,slow=49						
CMAR	Chiang Mai Arr	16.39	8	Pn	Pn	03 36 18.7	-0.6
	0.7nm,0.3s,baz=200,slow=12,SNR=7.2						
H08S2	Diego Garcia H	25.80	248	T	T	04 04 32.7	
	baz=68,slow=75,SNR=38						
H08S3	Diego Garcia H	25.81	248	T	T	04 04 31.6	
	baz=68,slow=75,SNR=43						
H08S1	Diego Carcia H	25.82	248	T	T	04 04 28.7	
	baz=68,slow=75,SNR=26						
H01W3	Cape Leeuwin H	40.41	157	T	T	04 23 04.7	
	baz=333,slow=76,SNR=16						
H01W2	Cape Leeuwin H	40.42	157	T	T	04 23 05.8	
	baz=333,slow=76,SNR=15						
H01W1	Cape Leeuwin H	40.42	157	T	T	04 23 06.1	
	baz=333,slow=76,SNR=15						
WSAR	Wadi Sarin	42.20	303	LR	LR	03 56 15.7	
	comp=Z,34nm,19.2s,baz=220,slow=34						
WRA	Warramunga Arr	43.18	122	P	P	03 40 30.9	+1.1
	0.3nm,0.5s,baz=300,slow=9.4,SNR=1.6						
ASAR	Alice Springs	44.57	127	P	P	03 40 39.6	-1.4
	0.1nm,0.3s,baz=299,slow=8.4,SNR=1.4						
MKAR	Makanchi Array	46.14	347	P	P	03 40 53.5	+0.3
	1.8nm,0.7s,baz=161,slow=7.8,SNR=27						
SONM	Songino Array	46.31	9	P	P	03 40 54.9	+0.4
	0.4nm,0.4s,baz=190,slow=9.2,SNR=8.0						
KURBB	Kurchatov Arra	50.62	345	P	P	03 41 27.9	+0.4
	0.6nm,0.5s,baz=164,slow=7.0,SNR=8.4						
ZALV	Zalesovo Beam	52.51	351	P	P	03 41 42.2	+0.6
	3.1nm,0.5s,baz=184,slow=6.1,SNR=14						

*IDC **08** 03:36:33.2±5.1, 20°.15S×178°.42W, h570km±29km, mb3.7/4, mb1 3.8/6, mb1mx3.2/44, mbtmp4.6/6, Error ellipse: s-maj=108.1km s-min=36.9km az=133.0*

ISC 08 03:36:30.8±2.4, **20°.5S**±0°.3×**178°.2W**±0°.3, **h550km, n7, σ1s.05**/8, **mb4.3**/4, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.53	307	P	P	03 37 57.4	+0.4
	16nm,0.3s,baz=146,slow=5.5,SNR=77						
DZM	Mont Dzumac	14.44	261	P	P	03 39 35.1	+0.4
	1.0nm,0.3s,baz=81,slow=18,SNR=9.1						
STKA	Stephens Creek	37.65	244	P	P	03 42 59.8	+0.3
	2.8nm,0.6s,baz=89,slow=8.4,SNR=6.4						
ASAR	Alice Springs	44.38	257	P	P	03 43 53.0	0.0
	7.5nm,0.7s,baz=96,slow=7.6,SNR=85						
ASAR				PcP	PcP	03 45 24.1	-0.8
	0.8nm,0.8s,baz=95,slow=4.0,SNR=4.5						
WRA	Warramunga Arr	44.46	262	P	P	03 43 52.9	-0.8
	4.6nm,0.5s,baz=98,slow=8.5,SNR=68						
CMAR	Chiang Mai Arr	89.98	290	P	P	03 48 31.1	-1.2
	2.3nm,0.2s,baz=140,slow=4.7,SNR=4.1						
BRTR	Keskin Array B	146.74	312	PKPbc	PKPdf	03 55 10.5	+1.6
	0.4nm,0.6s,baz=116,slow=5.6,SNR=2.2						

*SNET **08** 03:46:40.6±1.1, 11°.95N×87°.88W, h21km±837km, ML3.2*

*INET **08** 03:46:40.9±0.8, 11°.98N×88°.13W, h15km±3km, MW3.3*

*IDC **08** 03:46:41.1±1.4, 12°.70N×87°.41W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/43, mbtmp3.6/7, ML2.8/2, Error ellipse: s-maj=57.4km s-min=14.6km az=48.0*

ISC 08 03:46:38.6±0.9, **11°.95N**±0°.07×**87°.97W**±0°.06, **h10km, n24, σ2s.19**/27, **mb3.5**/6, **1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	1.10	21	eP	Pb	03 47 01.5	+1.7
TEL3	Telica 3	1.26	60	eP	Pg	03 47 04.2	+1.3
TELN	Telica	1.29	59	eP	Pg	03 47 04.7	+1.3
MOMN	Momotombo	1.47	72	eP	Pg	03 47 07.6	+0.7
COEB	Comit de Eme	1.64	340	eP	Pn	03 47 08.8	+1.2
COEB				IAML		03 47 32.9	
	comp=Z,284nm,0.3s						
TISN	Laguna Tiscapa	1.67	83	eP	Pb	03 47 09.9	+0.4
MGAN	Managua	1.69	83	eP	Pg	03 47 11.1	0.0
FAGO	Alcalda de S	1.74	356	eP	Pn	03 47 04.2	-4.8
FAGO				eS	Sn	03 47 25.8	-5.5
TECO	Alcaldia de Te	1.77	333	eP	Pn	03 47 10.5	+1.1
HUEN		1.80	77	eP	Pb	03 47 12.0	+0.4
SCLA	Alcaldia de Sa	1.90	337⇑	eP	Pn	03 47 12.9	+1.7
SJTE	Alcalda de S	1.94	329	eP	Pn	03 47 13.0	+1.2
PAVA	Las Pavas	2.00	332	eP	Pn	03 47 14.2	+1.6
MATN	Matagalpa	2.22	64	eP	Pn	03 47 17.8	+2.1
JAYA	Jayaque - finc	2.23	320	eP	Pn	03 47 16.9	+1.0
TACO	Tacachico	2.42	326	eP	Pn	03 47 20.4	+2.0
JTS	Las Juntas de	3.38	119	Pn	Pn	03 47 35.6	+4.0
	comp=Z,0.6nm,0.3s,baz=170,slow=23,SNR=5.0						
JTS				Pg	Pg	03 47 41.8	-1.8
	comp=Z,3.1nm,0.3s,baz=4.9,slow=12,SNR=9.5						
JTS				Sn	Sn	03 48 11.7	-0.1
	comp=Z,2.6nm,0.3s,baz=230,slow=8.6,SNR=3.9						
JTS				Lg	Lg	03 48 30.4	
	comp=Z,1.9nm,0.3s,baz=81,slow=23,SNR=3.7						
CMIG	Matias Romero	8.43	308	Pn	Pn	03 48 43.9	+3.0
	comp=Z,0.2nm,0.3s,baz=153,slow=5.8,SNR=1.5						
CMIG				Sn	Sn	03 50 14.4	-1.8
	comp=Z,0.3nm,0.3s,baz=194,slow=20,SNR=1.9						
TXAR	Lajitas Array	22.65	322	P	P	03 51 42.7	+2.5
	comp=Z,1.2nm,0.8s,baz=134,slow=11,SNR=7.1						
PDAR	Pinedale Array	35.98	333	P	P	03 53 42.3	+2.3
	comp=Z,0.4nm,0.8s,baz=109,slow=7.2,SNR=2.7						
NVAR	Mina Array Bea	37.75	320	P	P	03 53 56.4	+1.3
	comp=Z,0.4nm,0.8s,baz=121,slow=8.7,SNR=2.3						
ULM	Lac du Bonnet	38.74	352	P	P	03 54 00.7	-2.4
	comp=Z,1.0nm,0.6s,baz=162,slow=6.4,SNR=3.2						
SCHQ	Schefferville	45.90	17	P	P	03 54 58.8	-2.6
	comp=Z,1.5nm,0.6s,baz=272,slow=15,SNR=2.5						
YKA	Yellowknife Ar	53.96	345	P	P	03 56 01.0	-1.4
	comp=Z,0.5nm,0.8s,baz=136,slow=8.2,SNR=8.9						

*SNET **08** 03:50:10.5±0.7, 13°.26N×90°.53W, h18km±4km, ML3.6*

*UCR **08** 03:50:10.8±0.7, 13°.28N×90°.52W, h21km±4km, ML3.5*

*GCG **08** 03:50:12.4±0.4, 13°.39N×90°.68W, h22km±4km, MD3.6*

ISC 08 03:50:10.3±2.4, **13°.2N**±0°.1×**90°.56W**±0°.08, **h24km, n39, σ0s.47**/42, **10D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEVE	Cerro Verde	1.08	57⇓	iP	Pn	03 50 29.8	-0.5
CEVE	Cerro Verde	1.08	57⇓	iP	Pn	03 50 29.8	-0.5
SBLS	San Blas	1.09	56⇓	iP	Pn	03 50 29.8	-0.5
SBLS	San Blas	1.09	56⇓	iP	Pn	03 50 29.8	-0.5
SLOZ	Alcaldia de Sa	1.09	43	eP	Pn	03 50 29.6	-0.6
RTR	El Retiro	1.11	53	eP	Pn	03 50 30.1	-0.4
RTR	El Retiro	1.11	53	eP	Pn	03 50 30.1	-0.4
SNJE	San Jose	1.12	55	eP	Pn	03 50 30.2	-0.5
SNJE	San Jose	1.12	55	eP	Pn	03 50 30.2	-0.5
PCG	Pacaya	1.16	358	eP	Pn	03 50 31.1	-0.1
JAYA	Jayaque - finc	1.16	68⇓	eP	Pn	03 50 30.5	-0.6
JAYA				eS	Sn	03 50 45.9	-0.4
JAYA				IAML		03 50 50.8	
	comp=Z,2µm,0.2s						
JAYA	Jayaque - finc	1.16	68⇓	eP	Pn	03 50 30.5	-0.6
JAYA				eS	Sn	03 50 45.9	-0.4
JAYA				IAML		03 50 50.8	
	comp=Z,2µm,0.2s						
FUG	Fuego 3	1.24	347	eP	Pn	03 50 32.1	-0.2
CEDA	San Andres	1.27	63	i P	Pn	03 50 32.4	-0.1
CEDA				IAML		03 50 59.2	
	comp=Z,1µm,0.3s						
CEDA	San Andres	1.27	63	i P	Pn	03 50 32.4	-0.1
CEDA				IAML		03 50 59.2	
	comp=Z,1µm,0.3s						
BOQS	Boqueron	1.34	68	eP	Pn	03 50 33.8	+0.1
BOQS	Boqueron	1.34	68	eP	Pn	03 50 33.8	+0.1
NBG	Las Nubes	1.36	9	eP	Pb	03 50 35.2	-0.1
NBG				eS	Sb	03 50 52.8	+0.3
SNET	Serv Nac Est T	1.37	70	eP	Pn	03 50 33.8	-0.2
SNET				IAML		03 50 55.7	
	comp=Z,594nm,0.4s						
SNET	Serv Nac Est T	1.37	70	eP	Pn	03 50 33.8	-0.2
SNET				IAML		03 50 55.7	
	comp=Z,594nm,0.4s						
UEES	Universidad Ev	1.37	69	eP	Pn	03 50 34.2	+0.2
UEES				IAML		03 50 56.8	
	comp=Z,702nm,0.2s						
UEES	Universidad Ev	1.37	69	eP	Pn	03 50 34.2	+0.2
UEES				IAML		03 50 56.8	
	comp=Z,702nm,0.2s						
TACO	Tacachico	1.38	58⇓	iP	Pn	03 50 33.9	-0.2
TACO	Tacachico	1.38	58⇓	iP	Pn	03 50 33.9	-0.2
LFRS	El Faro	1.51	75	eP	Pn	03 50 36.1	+0.3
LFRS	El Faro	1.51	75	eP	Pn	03 50 36.1	+0.3
SJTE	Alcalda de S	1.56	76	eP	Pn	03 50 36.4	-0.1
SJTE	Alcalda de S	1.56	76	eP	Pn	03 50 36.4	-0.1
MTO3	Montecristo	1.64	45⇓	iP	Pn	03 50 38.1	+0.2
MTO3	Montecristo	1.64	45⇓	iP	Pn	03 50 38.1	+0.2
PAVA	Las Pavas	1.65	73	eP	Pn	03 50 38.7	+0.9
PAVA	Las Pavas	1.65	73	eP	Pn	03 50 38.7	+0.9
STG3	Santiaguito 3,	1.77	326	eP	Pn	03 50 39.5	-0.1
ESQI	Esquipulas	1.77	42	eP	Pn	03 50 40.0	+0.5
SCLA	Alcaldia de Sa	1.84	75	eP	Pn	03 50 40.9	+0.5
SCLA	Alcaldia de Sa	1.84	75	eP	Pn	03 50 40.9	+0.5
COEB	Comit de Eme	1.99	82	eP	Pn	03 50 43.0	+0.4
COEB	Comit de Eme	1.99	82	eP	Pn	03 50 43.0	+0.4
MRL	Marmol	2.03	25	eP	Pn	03 50 44.6	+1.5

*TEH **08** 03:51:51.4, 28°.56N×52°.82E, h12km, ML3.5*

*DSN **08** 03:51:53.8±1.3, 28°.39N×52°.86E, h10km, ML3.3/6, Error ellipse: s-maj=18.3km s-min=6.4km az=14.0*

*IDC **08** 03:51:55.6±3.0, 28°.51N×52°.82E, h43km±29km, mb3.6/21, mb1 3.7/24, mb1mx3.6/53, mbtmp3.8/24, ML3.1/3, Error ellipse: s-maj=21.2km s-min=15.2km az=7.0*

ISC 08 03:51:51.5±0.5, **28°.56N**±0°.04×**52°.85E**±0°.04, **h10km, n89, σ1s.38**/94, **mb3.9**/26, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QIR1	Qir	0.19	115	ePg	Pg	03 51 54.7	-0.9
QIR1				e		03 52 05.3	
	comp=Z,21µm,0.5s						
JHRM	Jahrom	0.65	94	eSg	Sb	03 52 15.0	+0.9
JHRM				ePg	Pg	03 52 04.7	+0.6
JHRM				e		03 52 22.4	
	comp=Z,46µm,0.4s						
SHI	Shiraz	1.12	345	ePg	Pg	03 52 12.6	-0.5
SHI				e		03 52 18.5	
	comp=Z,10µm,0.2s						
LMD1	Lamerd	1.25	167	ePg	Pg	03 52 16.8	+1.4
LMD1				e		03 52 23.5	
	comp=Z,19µm,0.4s						
AHBU	AHRAM	1.40	283	ePg	Pg	03 52 18.5	+0.2
KAZ1	Kazerun	1.50	316	ePg	Pg	03 52 19.6	-0.7
KAZ1				eSg	Sg	03 52 42.4	+2.6
KAZ1				e		03 52 58.3	
	comp=Z,18µm,0.4s						
LAR1	LAR	1.61	123	ePg	Pb	03 52 22.2	+0.7
KLNJ	Kolanjah	2.67	336	ePn	Pn	03 52 35.8	+0.8
KLNJ				e		03 52 55.8	
	comp=Z,2µm,0.5s						
GENO	Geno	3.16	111	ePn	Pb	03 52 45.3	-2.6
IMEH	Mehriz	3.21	28	ePn	Pn	03 52 44.9	+2.6
IRAM	Ramesheh	3.27	353	ePn	Pn	03 52 44.0	+1.0
IRAM				e		03 53 04.9	
	comp=Z,608nm,0.5s						
NGRK	Negar Kerman	3.57	71	ePn	Pn	03 52 49.9	+2.6
NGRK				e		03 53 09.2	
	comp=Z,510nm,0.3s						
KHGB	Koh Gabri	3.65	59	ePn	Pn	03 52 50.2	+1.9
KHGB				e		03 53 56.3	
	comp=Z,673nm,0.8s						
KRBR	Kerman	3.70	67	ePn	Pn	03 52 51.4	+2.3
TVBK	TV Kerman	3.71	66	ePn	Pn	03 52 51.7	+2.5
TVBK				e		03 53 07.3	
	comp=Z,1µm,0.6s						
IBAF	Bafgh	3.83	37	ePn	Pn	03 52 52.7	+1.9
IBAF				e		03 53 07.4	
	comp=Z,591nm,0.4s						
SHME	Shamm	3.85	130	ePn	Pn	03 52 50.3	-0.6
SHME	Shamm	3.85	130	P	Pn	03 52 50.0	-0.8
ICHK	Chekchek	3.92	20	ePn	Pn	03 52 53.9	+2.0
ICHK				e		03 53 09.4	
	comp=Z,519nm,0.4s						
UMQ	Umm Al-Quwin	3.93	140	ePn	Pn	03 52 53.7	+1.8
BANOM	Banah	4.04	130	ePn	Pn	03 52 55.4	+1.9
BANOM	Banah	4.04	130	P	Pn	03 52 55.1	+1.6
BANOM				S	Sn	03 53 41.3	+0.4
YZKH	Yazd	4.11	21	ePn	Pn	03 52 56.7	+2.2
SHK1	Shahrekord	4.12	336	ePn	Pn	03 52 56.0	+1.2
NASN	Na'in	4.23	360	ePn	Pn	03 52 58.0	+1.7
CHMN	Cheshme madani	4.30	71	ePn	Pn	03 52 59.6	+2.2
CHMN				e		03 53 15.1	
	comp=Z,258nm,0.4s						
IZEF	Zefreh	4.35	354	ePn	Pn	03 52 58.4	+0.5
NAZ	Nazwa, Dubai	4.36	144	ePn	Pn	03 53 00.0	+2.2
NAZ	Nazwa, Dubai	4.36	144	P	Pn	03 52 59.0	+1.2
IPIR	Pirpir	4.45	338	ePn	Pn	03 53 00.6	+1.3
ASUD	Al Ashush, Dub	4.50	150	ePn	Pn	03 53 01.8	+2.0
ASUD	Al Ashush, Dub	4.50	150	P	Pn	03 53 00.3	+0.5
FAQ	Al Faqa, Dubai	4.52	146	ePn	Pn	03 53 00.5	+0.4
ANAR	Anarak	4.68	9	ePn	Pn	03 53 03.3	+0.9
UOSS	Minazif	4.69	139	ePn	Pn	03 53 03.7	+1.4
UOSS	Minazif	4.69	139	P	Pn	03 53 03.3	+1.0
HATD	Hatta, Dubai	4.74	141	ePn	Pn	03 53 03.3	+0.2
ASHO	Ashiyiah	4.81	143	ePn	Pn	03 53 04.2	+0.1
ASHO	Ashiyiah	4.81	143	P	Pn	03 53 04.3	+0.2
ASHO				S	Sn	03 53 59.4	-0.6
IKLH	Kolahrood	4.87	347	ePn	Pn	03 53 06.7	+1.6
QAMS	Qamsar	5.31	347	ePn	Pn	03 53 12.4	+1.3
KRSH	Karshahi	5.43	354	ePn	Pn	03 53 13.7	+1.0
TPRV	Parvadeh(Tabas	5.55	36	ePn	Pn	03 53 16.1	+1.8
MZR	Muzera	5.56	174	ePn	Pn	03 53 15.5	+1.1
MZR	Muzera	5.56	174	P	Pn	03 53 15.3	+0.9
ISFB	Sefidab	5.80	355	ePn	Pn	03 53 18.4	+0.7
GHVR	GHOM	6.05	348	ePn	Pn	03 53 23.0	+1.8
TKDS	Koohdasht(Taba	6.23	35	ePn	Pn	03 53 24.7	+1.0
TABS	Tabas	6.26	35	ePn	Pn	03 53 25.4	+1.3
TNSJ	Nastanj	6.28	30	ePn	Pn	03 53 26.0	+1.7
BSRN	Basiran	6.41	56	ePn	Pn	03 53 28.0	+1.9
ASAO	Ashtian	6.44	339	ePn	Pn	03 53 28.9	+2.3
IVRN	Varamin	6.49	352	ePn	Pn	03 53 27.9	+0.7
HSAM	Samen	6.70	328	ePn	Pn	03 53 31.2	+0.9
BIDO	Bidbid	6.91	135	ePn	Pn	03 53 33.5	+0.6
ZHSF	Zahedan	7.02	79	ePn	Pn	03 53 37.3	+2.8
DAMV	Damavand	7.09	354	ePn	Pn	03 53 36.6	+1.0
WSAR	Wadi Sarin	7.43	134	P	Pn	03 53 40.6	+0.6
	comp=Z,2.5nm,0.3s,baz=344,slow=13,SNR=11						
WSAR				S	Sn	03 55 00.3	-4.0
	comp=Z,0.8nm,0.3s,baz=270,slow=5.2,SNR=1.8						
IDHR	Dehrash	8.23	320	ePn	Pn	03 53 51.4	+0.2
RAYN	Ar Rayn	8.29	234	P	Pn	03 53 52.4	+0.5
GNI	Garni	13.35	332	P	Pn	03 55 03.2	+1.9
	comp=Z,0.8nm,0.3s,baz=80,slow=10,SNR=2.6						
BRTR	Keskin Array B	19.37	310	P	Pn	03 56 17.9	-0.7
	comp=Z,0.1nm,0.3s,baz=126,slow=10,SNR=7.6						
AKTO	Aktyubinsk	22.20	9	P	P	03 56 48.5	+0.7
	comp=Z,3.6nm,0.8s,baz=209,slow=14,SNR=12						
AAK	Ala-Archa	22.44	45	P	P	03 56 52.3	+1.5
	comp=Z,1.4nm,0.5s,baz=147,slow=3.7,SNR=4.5						
IDI	Anoyia	24.61	293	P	P	03 57 11.8	-0.3
	comp=Z,5.2nm,0.7s,baz=0.5,slow=18,SNR=1.2						
MKAR	Makanchi Array	29.32	44	P	P	03 57 55.0	+0.7
	comp=Z,0.6nm,0.6s,baz=240,slow=8.0,SNR=8.3						
KURBB	Kurchatov Arra	29.36	34	P	P	03 57 54.1	-0.4
	comp=Z,0.2nm,0.3s,baz=240,slow=7.3,SNR=3.3						
ZALV	Zalesovo Beam	34.44	34	P	P	03 58 39.1	0.0
	comp=Z,0.6nm,0.3s,baz=260,slow=8.9,SNR=4.5						
MOA	Molln	35.44	314	i P	P	03 58 49.1	+1.2
	comp=Z,7.9nm,1.6s						
KBA	Koelnbreinsper	35.80	312	i P	P	03 58 51.7	+0.5
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	36.13	315	P	P	03 58 53.3	-0.5
	comp=Z,0.2nm,0.5s,baz=159,slow=11,SNR=1.7						
MOTA	Moosalm	37.34	312	i P	P	03 59 04.6	+0.4
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	37.40	339	P	P	03 59 04.1	-0.2
	comp=Z,2.3nm,0.8s,baz=144,slow=13,SNR=4.1						
FETA	Feichten	37.51	311	eP	P	03 59 06.6	+0.9
	comp=Z,4.7nm,0.9s						
DAVOX	Davos/Dischmat	38.02	310	P	P	03 59 10.1	+0.1
	comp=Z,2.1nm,0.9s,baz=58,slow=9.2,SNR=2.4						
DAVA	Damuels	38.13	311	i P	P	03 59 10.8	-0.1
	comp=Z,6.5nm,0.8s						
HFS	Hagfors	41.14	331	P	P	03 59 35.3	-0.3
	comp=Z,1.0nm,0.4s,baz=146,slow=11,SNR=6.5						
NB2	NORSAR Subarra	42.66	331	P	P	03 59 47.0	-1.1
	comp=Z,0.7nm,0.6s,baz=122,slow=7.9						
NOA	NORSAR Array B	42.66	331	P	P	03 59 47.3	-0.8
	comp=Z,0.6nm,0.6s,baz=120,slow=8.2,SNR=3.1						
ARCES	ARCESS Array B	43.95	347	P	P	03 59 58.0	-0.4
	comp=Z,1.4nm,0.8s,baz=141,slow=7.8,SNR=5.6						
SONM	Songino Array	45.29	50	P	P	04 00 09.0	-0.5
	comp=Z,0.8nm,0.8s,baz=251,slow=8.7,SNR=2.1						
ESDC	Sonseca Array	47.62	299	P	P	04 00 27.8	0.0
	comp=Z,0.6nm,0.8s,baz=80,slow=6.9,SNR=2.2						
EKA	Eskdalemuir Ar	47.83	320	P	P	04 00 28.4	-0.8
	comp=Z,0.4nm,0.4s,baz=102,slow=8.4,SNR=4.3						
TORD	Torodi Ar. Bea	49.83	263	P	P	04 00 44.5	-0.6
	comp=Z,0.9nm,0.8s,baz=60,slow=8.8,SNR=8.8						
SPITS	Spitsbergen Ar	52.32	351	P	P	04 01 03.1	+0.2
	comp=Z,2.4nm,0.7s,baz=154,slow=4.3,SNR=7.5						
ILAR	Eielson Array	85.71	8	P	P	04 04 28.5	-1.9
	comp=Z,0.3nm,0.8s,baz=316,slow=3.8,SNR=3.0						
YKA	Yellowknife Ar	88.71	354	P	P	04 04 45.0	0.0
	comp=Z,0.4nm,0.7s,baz=7.6,slow=4.4,SNR=7.5						
WRA	Warramunga Arr	92.22	111	P	P	04 05 01.8	-0.3
	comp=Z,0.5nm,1.1s,baz=317,slow=3.8,SNR=2.5						
ASAR	Alice Springs	93.70	115	P	P	04 05 07.6	-1.1
	comp=Z,0.2nm,0.3s,baz=298,slow=4.1,SNR=2.0						

*DNK **08** 03:52:06.7±2.7, 51°.58N×16°.26E, h0km±74km, ML2.8*

*MCSM **08** 03:52:07.9±0.4, 52°N±3°×1°6E±°, h4km±2km, ML3.4, MLv3.5*

*IDC **08** 03:52:08.8±0.6, 51°.53N×16°.10E, h0km, mb3.3/2, mb1 3.4/10, mb1mx3.2/57, mbtmp3.2/10, ML2.7/6, Error ellipse: s-maj=10.1km s-min=5.7km az=111.0*

*IPEC **08** 03:52:08.0±0.4, 51°.55N×16°.20E, h2km±2km, ML3.2/3, Error ellipse: s-maj=3.5km s-min=1.6km az=48.0*

*PRU **08** 03:52:09.5±0.0, 51°.50N×16°.16E, h0km*

*BGR **08** 03:52:09.0±0.3, 51°.51N×16°.17E, h1km, ML3.5/14, Error ellipse: s-maj=3.3km s-min=2.2km az=19.0*

*UPP **08** 03:52:10.4±3.1, 51°.62N×15°.28E, h0km, ML2.6, Suspected explosion*

*LDG **08** 03:52:10.0±0.7, 51°.38N×16°.22E, h1km, Ml3.4/10, Error ellipse: s-maj=17.3km s-min=6.3km az=14.0, Suspected Mining induced.*

*VIE **08** 03:52:11.3±0.7, 51°.33N×15°.97E, h0km, mb2.9/13, ml3.1/11, ms3.6/3, Error ellipse: s-maj=5.7km s-min=4.2km az=57.0 77 km WNW of Wroclaw Suspected Mining induced.*

ISC 08 03:52:06.3±0.5, **51°.54N**±0°.02×**16°.16E**±0°.02, **h0km, n153, σ1s.92**/255, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	173	i Pg	Pb	03 52 21.9	+0.5
KSP				eSg	Sb	03 52 31.1	-0.6
KSP	Ksiaz	0.70	173	ePg	Pb	03 52 22.0	+0.5
KSP				eSg	Sg	03 52 30.8	+1.8
KSP	Ksiaz	0.70	173	Pg	Pb	03 52 21.5	0.0
KSP				Sg	Sb	03 52 30.9	-0.8
CHVC	Chvalec	0.96	184	ePG	Pb	03 52 26.7	+0.9
CHVC				eSG	Sb	03 52 38.7	-0.3
	comp=Z,367nm,0.5s						
CHVC	Chvalec	0.96	184	Pg	Pb	03 52 26.8	+0.9
CHVC				Sg	Sb	03 52 39.8	+0.8
OSTC	Ostas	0.99	178	ePG	Pb	03 52 27.2	+0.9
OSTC				eSG	Sb	03 52 40.2	+0.3
	comp=Z,255nm,0.4s						
OSTC	Ostas	0.99	178	Pg	Pb	03 52 27.3	+0.9
UPC	Upice	1.04	185	ePG	Pn	03 52 28.2	0.0
UPC				eSG	Sg	03 52 41.0	+1.3
	comp=Z,388nm,0.4s						
UPC	Upice	1.04	185	Pg	Pn	03 52 28.1	-0.1
DPC	Dobruska-Polom	1.20	175	ePG	Pn	03 52 30.7	+0.3
DPC				eSG	Sb	03 52 46.3	+0.3
	comp=Z,338nm,0.3s						
DPC	Dobruska-Polom	1.20	175	ePg	Pn	03 52 30.8	+0.4
DPC				eSg	Sb	03 52 46.7	+0.8
DPC	Dobruska-Polom	1.20	175	Pg	Pn	03 52 30.7	+0.3
PVCC	Panska Ves	1.43	225	ePG	Pb	03 52 35.1	+1.3
PVCC				eSG	Sn	03 52 54.2	+1.2
	comp=Z,607nm,0.6s						
KRLC	Kraliky	1.52	165	ePG	Pg	03 52 36.1	+0.6
KRLC				eSG	Sn	03 52 55.9	+0.6
	comp=Z,151nm,0.4s						
KRLC	Kraliky	1.52	165	Pn	Pg	03 52 36.0	+0.6
BRG	Berggiesshubel	1.55	245	Pn	Pb	03 52 36.0	+0.1
BRG				Pg	Pg	03 52 37.9	+1.9
BRG				Sg	Sn	03 52 52.5	-3.4
BRG				Amp		03 52 59.3	
	comp=Z,345nm,0.5s						
BRG	Berggiesshubel	1.55	245	ePn	Pb	03 52 36.0	+0.1
BRG				ePg	Pg	03 52 37.8	+1.8
BRG				eSg	Sg	03 52 58.7	+2.7
RUE	Ruedersdorf	1.75	303	eP	Pb	03 52 39.1	-0.1
RUE				eS	Sg	03 53 04.9	+2.6
RUE				IAML		03 53 08.3	
	comp=Z,98nm,0.4s						
RUE	Ruedersdorf	1.75	303	Pn	Pb	03 52 39.0	-0.2
GOPC	GO Pecny, Ondr	1.85	209	Pn	Pn	03 52 40.4	+1.1
GKP	Gorka Klasztor	1.85	20	eP	Pg	03 52 45.7	+3.9
PRU	Pruhonice	1.86	214	ePN	Pb	03 52 41.3	0.0
PRU				ePG	Pg	03 52 42.8	+0.8
PRU				eSG	Sg	03 53 06.8	+0.6
	comp=Z,180nm,0.6s						
PRU	Pruhonice	1.86	214	Pn	Pn	03 52 40.5	+1.0
FBE	Freiberg	1.87	252	ePn	Pb	03 52 40.8	-0.6
FBE				ePg	Pg	03 52 43.6	+1.4
FBE				eSg	Sg	03 53 08.4	+2.0
RAC	Raciborz	1.95	138	ePG	Pg	03 52 44.3	+0.6
RAC				eSG	Sg	03 53 10.1	+1.2
MORC	Moravsky Berou	1.98	153	ePn	Pn	03 52 42.1	+1.0
	baz=335						
MORC				eSg	Sg	03 53 09.7	0.0
	comp=Z,131nm,0.5s,baz=335						
MORC	Moravsky Berou	1.98	153	ePn	Pn	03 52 42.3	+1.2
MORC				ePg	Pg	03 52 45.9	+1.8
MORC				eSg	Sg	03 53 10.6	+0.8
MORC	Moravsky Berou	1.98	153	Pn	Pn	03 52 42.1	+1.0
CLL	Collm	1.99	264	i Pn	Pn	03 52 42.0	+0.8
CLL				i Pg	Pg	03 52 45.3	+0.8
CLL				i x	x	03 52 49.5	
CLL				i Sg	Sg	03 53 11.9	+1.7
	comp=Z,92nm,0.7s						
CLL	Collm	1.99	264	ePn	Pn	03 52 42.3	+1.0
CLL				ePg	Pg	03 52 45.8	+1.3
CLL				eSg	Sg	03 53 12.7	+2.5
OKC	Ostrava-Krasne	2.12	143	ePG	Pg	03 52 47.3	+0.3
OKC				eSG	Sg	03 53 15.5	+1.0
	comp=Z,136nm,0.6s						
OKC	Ostrava-Krasne	2.12	143	ePg	Pg	03 52 47.8	+0.8
OKC				eSg	Sg	03 53 14.8	+0.3
VRAC	Vranov	2.25	173	Pn	Pn	03 52 46.6	+1.8
	comp=Z,2.8nm,0.3s,baz=337,slow=14,SNR=34						
VRAC				Lg	Lg	03 53 17.9	
	comp=Z,16nm,0.3s,baz=266,slow=20,SNR=5.2						
VRAC	Vranov	2.25	173	ePn	Pn	03 52 46.6	+1.8
	baz=354						
VRAC				eSg	Sg	03 53 18.7	0.0
	comp=Z,127nm,0.7s,baz=354						
TREC	Trest	2.29	191	ePN	Pn	03 52 47.0	+1.6
TREC				ePG	Pg	03 52 50.7	+0.5
TREC				eSG	Sg	03 53 20.5	+0.6
	comp=Z,79nm,0.3s						
TREC	Trest	2.29	191	Pn	Pn	03 52 47.0	+1.6
PBCC	Pribram	2.31	217	ePG	Pg	03 52 51.4	+0.7
PBCC				eSG	Sg	03 53 21.7	+1.1
KRUC	Moravsky	2.49	176	ePn	Pn	03 52 49.6	+1.5
	baz=357						
KRUC				eSg	Sg	03 53 25.9	-0.3
	comp=Z,113nm,0.8s,baz=357						
TANN	Tannenbergstha	2.60	246	ePn	Pn	03 52 51.4	+1.8
TANN				ePg	Pg	03 52 57.3	+1.3
TANN				eSg	Sg	03 53 30.2	+0.5

OJC	Ojcow	2.66	118	ePn	Pn	03 52 49.9	-0.5
OJC				ePg	Pg	03 52 58.1	+0.9
OJC				eSg	Sg	03 53 33.5	+1.8
OJC	Ojcow	2.66	118	ePn	Pn	03 52 50.7	+0.2
OJC				ePg	Pg	03 52 58.6	+1.4
OJC				eSg	Sg	03 53 33.4	+1.8
WERD	Werda	2.67	247	ePn	Pn	03 52 52.3	+1.7
WERD				ePg	Pg	03 52 58.9	+1.4
WERD				eSg	Sg	03 53 33.3	+1.2
NKC	Novy Kostel	2.69	242	ePN	Pn	03 52 52.6	+1.7
NKC				eSG	Sg	03 53 34.5	+1.7
	comp=Z,297nm,0.4s						
JAVC	Velka Javorina	2.86	160	ePn	Pn	03 52 54.5	+1.4
	baz=341						
JAVC	Velka Javorina	2.86	160	ePN	Pn	03 52 54.6	+1.4
KHC	Kasperske Hory	2.93	215	ePN	Pn	03 52 55.6	+1.5
KHC				ePG	Pg	03 53 01.5	-0.9
KHC				eSN	Sn	03 53 31.1	+1.1
KHC				eSG	Sg	03 53 40.8	+0.5
	comp=Z,48nm,0.3s						
CKRC	Cesky Krumlov	2.97	204	ePN	Pn	03 52 56.9	+2.1
CKRC				ePG	Pg	03 53 02.3	-1.0
CKRC				eSG	Sg	03 53 41.6	-0.2
MOX	Moxa	3.00	254	ePn	Pn	03 52 56.6	+1.4
MOX				ePg	Pg	03 53 04.5	+0.7
MOX				eSg	Sg	03 53 44.9	+2.2
GEC2	GERESS Array S	3.13	211	eSg	Sg	03 53 46.8	0.0
GERES	GERESS Array B	3.13	211	Pn	Pn	03 52 58.4	+1.5
	comp=Z,1.4nm,0.3s,baz=28,slow=14,SNR=30						
GERES				Pg	Pg	03 53 05.8	-0.5
	comp=Z,4.7nm,0.3s,baz=30,slow=16,SNR=36						
GERES				Sn	Sn	03 53 37.9	+2.9
	comp=Z,6.3nm,0.3s,baz=40,slow=30,SNR=7.3						
GERES				Lg	Lg	03 53 45.9	
	comp=Z,15nm,0.3s,baz=38,slow=25,SNR=16						
SMOL	Smolenice	3.14	164	ePN	Pb	03 53 00.4	-2.6
SMOL				ePG	Pg	03 53 07.3	+0.8
SMOL				eSG	Sg	03 53 49.1	+1.9
WET	Wettzell	3.19	222	ePn	Pn	03 52 59.2	+1.4
WET				eSg	Sg	03 53 49.5	+0.7
LANS	Liptovska Anna	3.20	137	ePN	Pn	03 53 00.0	+2.1
LANS				ePG	Pg	03 53 08.7	+1.1
LANS				eSG	Sg	03 53 50.9	+1.9
KOLL	Kolacno	3.30	153	ePN	Pn	03 53 01.0	+1.8
KOLL				eSG	Sg	03 53 54.6	+2.3
NIE	Niedzica	3.39	127	ePn	Pb	03 53 05.4	-1.9
NIE				i		03 53 13.4	
NIE				eSg	Sg	03 53 58.8	+3.6
ZST	Bratislava	3.41	169	ePN	Pn	03 53 02.9	+2.2
ZST				ePG	Pg	03 53 12.1	+0.5
ZST				eSG	Sg	03 53 57.5	+1.8
VYHS	Vyhne	3.51	149	ePN	Pn	03 53 03.4	+1.3
VYHS				ePG	Pg	03 53 14.1	+0.6
VYHS				eSG	Sg	03 53 58.7	-0.2
CLZ	Clausthal	3.61	277	ePn	Pn	03 53 05.9	+2.3
CLZ				ePg	Pg	03 53 17.2	+1.6
CLZ				eSg	Sg	03 54 04.5	+2.1
CONA	Conrad Observa	3.62	183	i Pn	Pn	03 53 06.0	+2.3
	comp=Z,1.0nm,0.1s,SNR=7.9						
CONA				eSg	Sg	03 54 02.5	-0.2
	comp=Z,93nm,0.7s						
GRF	Grafenberg Arr	3.65	241	eSg	Sg	03 54 05.7	+2.2
BSD	Bornholm Skovb	3.66	349	i P	Pn	03 53 04.6	+0.5
BSD				i S	Sn	03 53 47.7	-0.2
BSD				IAML		03 53 54.0	
	comp=Z,11nm,0.6s						
BSD	Bornholm Skovb	3.66	349	eP	Pn	03 53 05.1	+1.1
SOP	Sopron	3.87	176	PG	Pg	03 53 20.5	0.0
STHS	Stebnicka Huta	3.88	121	ePN	Pn	03 53 08.8	+1.5
STHS				ePG	Pg	03 53 21.5	+0.8
MOA	Molln	3.90	199	i Pn	Pn	03 53 09.3	+1.9
	comp=Z,3.5nm,0.3s,SNR=13						
MOA				eSg	Sg	03 54 13.4	+2.0
	comp=Z,70nm,0.6s						
KECS	Kecovo	4.14	136	ePN	Pn	03 53 12.3	+1.5
KECS				ePG	Pg	03 53 27.1	+1.4
KECS				eSG	Sg	03 54 22.1	+2.8
CRVS	Cervenica-Dubn	4.31	126	ePN	Pn	03 53 15.1	+2.0
CRVS				ePG	Pg	03 53 29.2	+0.3
ARSA	Arzberg	4.32	186	i Pn	Pn	03 53 15.1	+1.8
	comp=Z,1.3nm,0.2s						
ARSA				eSg	Sg	03 54 25.1	+0.2
	comp=Z,32nm,0.5s						
PSZ	Piszkesteto	4.36	145	PG	Pg	03 53 29.7	-0.2
CSKK	Cskako	4.40	161	PN	Pn	03 53 16.9	+2.5
LUNU	Lund	4.41	340	P	Pn	03 53 14.4	0.0
LUNU				i P	Pn	03 53 14.7	+0.3
LUNU				S	Sn	03 54 04.3	-2.0
LUNU				i S	Sn	03 54 04.4	-2.0
LUNU	Lund	4.41	340	P	Pn	03 53 14.4	0.0
LUNU				S	Sn	03 54 04.3	-2.0
MPLH	Magyarpolny	4.47	168	PN	Pn	03 53 17.3	+2.0
BLEU	Blekinge	4.78	358	i P	Pn	03 53 20.0	+0.5
BLEU				i S	Sn	03 54 12.6	-2.9
KBA	Koelnbreinsper	4.83	203	ePn	Pn	03 53 22.7	+2.3
	comp=Z,2.3nm,0.3s,SNR=11						
KBA				eSg	Sg	03 54 42.8	+1.3
	comp=Z,21nm,0.4s						
SOKA	Soboth	4.92	189	i Pn	Pn	03 53 23.7	+2.1
	comp=Z,0.5nm,0.2s						
SOKA				eSg	Sg	03 54 45.4	+1.0
	comp=Z,12nm,0.5s						
DEL	Delary	5.12	346	i P	Pn	03 53 23.8	-0.4
DEL				P	Pn	03 53 24.5	+0.3
DEL				S	Sn	03 54 20.2	-3.6
DEL				i S	Sn	03 54 20.3	-3.6
DEL	Delary	5.12	346	eP	Pn	03 53 24.6	+0.3
DEL				eS	Sn	03 54 19.9	-4.0
DEL				IAML		03 54 23.5	
	comp=Z,4.8nm,0.3s						
DEL	Delary	5.12	346	P	Pn	03 53 24.5	+0.3
DEL				S	Sn	03 54 20.2	-3.6
WATA	Walderalm	5.16	217	ePn	Pn	03 53 27.4	+2.5
	comp=Z,1.7nm,0.3s,SNR=6.9						
WATA				Sg	Sg	03 54 54.8	+2.6
	comp=Z,14nm,0.3s						
WTTA	Wattenberg	5.20	216	ePn	Pn	03 53 28.4	+2.8
	comp=Z,2.5nm,0.4s,SNR=5.2						
WTTA				eSg	Sg	03 54 54.3	+1.0
	comp=Z,31nm,0.7s						
MOTA	Moosalm	5.34	220	i Pn	Pn	03 53 29.7	+2.3
	comp=Z,1.3nm,0.3s						
MOTA				Sg	Sg	03 54 59.1	+1.3
	comp=Z,15nm,0.5s						
ABTA	Abfaltersbach	5.36	208	i Pn	Pn	03 53 30.4	+2.7
	comp=Z,3.9nm,0.8s						
ABTA				eSg	Sg	03 54 59.4	+0.9
	comp=Z,36nm,0.7s						
RETA	Reutte	5.37	223	i Pn	Pn	03 53 29.2	+1.5
	comp=Z,0.8nm,0.2s,SNR=5.7						
KOVH	Kovagotottos	5.61	166	PN	Pn	03 53 32.1	+1.2
PBUR	Paburge	5.64	35	eP	Pn	03 53 33.8	+2.5
PBUR				eS	Sn	03 54 36.2	-0.6
FETA	Feichten	5.75	220	i Pn	Pn	03 53 36.1	+3.1
	comp=Z,0.8nm,0.3s						
FABU	Falkenberg	5.83	341	i P	Pn	03 53 33.5	-0.4
FABU				P	Pn	03 53 33.9	0.0
FABU	Falkenberg	5.83	341	P	Pn	03 53 33.9	0.0
DAVA	Damuels	5.91	226	i Pn	Pn	03 53 37.4	+2.2
	comp=Z,1.5nm,0.2s						
GNOU	Gnosjoe	5.93	347	P	Pn	03 53 36.0	+0.7
GNOU	Gnosjoe	5.93	347	P	Pn	03 53 36.0	+0.7
PABE	Paberze	6.12	46	eP	Pn	03 53 40.2	+2.3
PABE				eS	Sn	03 54 47.0	-1.5
PABE				IAML		03 55 39.9	
	comp=Z,11nm,0.5s						
DAVOX	Davos/Dischmat	6.30	223	Pn	Pn	03 53 42.0	+1.4
	baz=37,slow=10						
DAVOX				Sn	Sn	03 54 56.2	+3.0
	comp=Z,0.6nm,0.3s,baz=346,slow=23,SNR=1.6						
DAVOX				Lg	Lg	03 55 27.7	
	comp=Z,1.5nm,0.3s,baz=200,slow=21,SNR=3.4						
ONAU	Onsala	6.37	339	i P	Pn	03 53 43.2	+2.0
ONAU				i S	Sn	03 54 50.7	-3.9
BORU	Boraas	6.41	343	i P	Pn	03 53 43.0	+1.0
BORU				i S	Sn	03 54 53.7	-2.1
VIKU	Vikbolandet	6.98	2	eP	Pn	03 53 51.0	+1.3
VIKU				eS	Sn	03 55 07.8	-2.0
SLIT	Slitere, Latvi	7.06	28	eP	Pn	03 53 51.8	+1.0
HINF	Hinteralfeld	7.09	242	ePn	Pn	03 53 54.1	+2.7
HINF	Hinteralfeld	7.09	242	ePg	Pg	03 54 21.5	-0.7
HINF				eSn	Sn	03 55 09.1	-3.6
HINF				eSg	Sg	03 55 50.7	-3.4
	comp=Z,7.9nm,0.5s						
IIGN	Ignalina	7.12	54	eP	Pn	03 53 55.6	+4.0
IIGN				IAML		03 55 20.9	
	comp=Z,2.2nm,0.3s						
NACGM	Naroch	7.21	58	i P	Pn	03 53 58.4	+5.5
HAU	Haudompre	7.27	245	ePn	Pn	03 53 56.3	+2.5
HAU	Haudompre	7.27	245	eP	Pn	03 54 01.1	+7.3
HAU	Haudompre	7.27	245	ePg	Pg	03 54 26.0	+0.4
HAU				eSn	Sn	03 55 13.5	-3.5
HAU				eSg	Sg	03 55 56.1	-3.6
	comp=Z,21nm,0.8s						
GIVF	Givet	7.33	263	ePn	Pn	03 53 56.2	+1.7
GIVF	Givet	7.33	263	eP	Pn	03 54 00.1	+5.6
PAGF	Fort de Pagny	7.35	250	ePn	Pn	03 53 57.4	+2.5
	baz=58						
MI30	MI30,Zelenitsa	7.61	91	Pn	Pn	03 53 59.3	+0.9
MI30				pP	Pn	03 54 00.0	+1.6
BAIF	Baives	7.72	264	eSg	Sg	03 56 06.8	-7.3
	comp=Z,2.7nm,0.4s						
MEZF	Maizieres J'vi	7.78	251	ePn	Pn	03 54 02.1	+1.4
SFTF	Sexfontaines	7.92	249	ePn	Pn	03 54 04.8	+2.1
AK21	Malin Array Si	8.14	90	Pn	Pn	03 54 06.5	+0.9
AK22	Malin Array Si	8.16	90	Pn	Pn	03 54 07.2	+1.3
AK13	Malin Array Si	8.18	91	Pn	Pn	03 54 06.1	-0.1
AK23	Malin Array Si	8.19	90	Pn	Pn	03 54 06.7	+0.3
AK14	Malin Array Si	8.21	91	Pn	Pn	03 54 06.4	-0.2
AK14				sP	Pn	03 54 09.1	+2.5
AK12	Malin Array Si	8.23	91	Pn	Pn	03 54 07.1	+0.2
AK11	Malin Array Si	8.23	91	Pn	Pn	03 54 07.5	+0.6
AK11				pP	Pn	03 54 09.0	+2.1
CABF	La Chapelle	8.25	237	ePn	Pn	03 54 10.9	+3.6
CABF	La Chapelle	8.25	237	ePg	Pg	03 54 43.5	-0.7
CABF				eSg	Sg	03 56 27.2	-3.8
	comp=Z,9.2nm,0.6s						
AK02	Malin Array Si	8.26	91	Pn	Pn	03 54 08.0	+0.7
AKASG	Malin Array Be	8.27	91	Pn	Pn	03 54 06.9	-0.5
	comp=Z,2.2nm,0.3s,baz=279,slow=12,SNR=13						
AKASG				Pg	Pb	03 54 36.5	+6.3
	comp=Z,0.6nm,0.3s,baz=277,slow=14,SNR=1.8						
AKASG				Sn	Sn	03 55 37.5	-3.9
	comp=Z,1.3nm,0.3s,baz=274,slow=23,SNR=5.0						
AKASG				Lg	Lg	03 56 30.2	
	baz=286,slow=28,SNR=1.1						
AKBB	Malin Array Si	8.27	91	Pn	Pn	03 54 07.7	+0.3
AK08	Malin Array Si	8.30	91	Pn	Pn	03 54 08.3	+0.5
AK10	Malin Array Si	8.30	91	Pn	Pn	03 54 08.5	+0.6
AK09	Malin Array Si	8.32	91	Pn	Pn	03 54 08.6	+0.5
MTSE	Matsula	8.41	28	eP	Pn	03 54 10.8	+1.5
LPL	La Plagne	8.68	230	ePn	Pn	03 54 15.5	+2.1
LPG	La Plagne	8.69	230	ePn	Pn	03 54 17.1	+3.6
HFS	Hagfors	8.72	352	Pn	Pn	03 54 14.2	+0.6
	comp=Z,0.1nm,0.3s,baz=170,slow=17,SNR=1.5						
HFS				Sn	Sn	03 55 47.7	-4.8
	comp=Z,0.3nm,0.3s,baz=113,slow=13,SNR=1.7						
HFS				Lg	Lg	03 56 44.8	
	comp=Z,0.3nm,0.3s,baz=181,slow=30,SNR=2.0						
AAL	Aland	8.92	12	eP	Pn	03 54 17.9	+1.6
AAL				IAML		03 56 02.8	
	comp=Z,1.7nm,0.5s						
LOR	Lormes	9.09	247	ePn	Pn	03 54 21.0	+2.3
	baz=69						
LOR				eSg	Sg	03 56 52.4	
	comp=Z,2.7nm,0.5s						
VSU	Vasula	9.21	37	eP	Pn	03 54 22.7	+2.5
MBDF	Montbardon	9.26	226	ePn	Pn	03 54 26.0	+4.8
SSF	Saint Saulge	9.40	246	ePn	Pn	03 54 25.2	+2.2
SSF	Saint Saulge	9.40	246	ePg	Pg	03 55 05.0	
SSF				eSn	Sn	03 56 04.5	-4.8
SSF				eSg		03 57 02.7	
	comp=Z,17nm,1.0s						
SMF	Signal de Mont	9.45	244	ePn	Pn	03 54 26.1	+2.5
SMF				eSg	Sg	03 57 03.6	
	comp=Z,1.4nm,0.3s						
ORIF	Oris-en-Rattie	9.53	230	ePn	Pn	03 54 28.1	+3.2
AVF	Avril sur Loir	9.64	245	ePn	Pn	03 54 26.3	+0.1
AVF	Avril sur Loir	9.64	245	ePg	Pg	03 55 07.2	
AVF				eSg	Sg	03 57 11.1	
	comp=Z,0.4nm,0.3s						
SBF	Sospel	9.67	221	ePn	Pn	03 54 29.7	+3.0
NOA	NORSAR Array B	9.91	346	Pn	Pn	03 54 29.4	-0.4
	comp=Z,0.0nm,0.3s,baz=171,slow=17,SNR=3.8						
BGF	Bois d'Agland	10.06	245	eP	Pn	03 54 40.2	+8.2
BGF				eSg	Sg	03 57 21.9	
	comp=Z,5.7nm,0.6s						
FRF	La Foret Royal	10.24	222	ePn	Pn	03 54 37.3	+2.8
LMR	La Mourre	10.49	222	ePn	Pn	03 54 40.4	+2.6
LMR	La Mourre	10.49	222	eP	Pn	03 54 46.6	+8.8
FINES	FINESS Array B	11.32	25	Pn	Pn	03 54 48.1	-1.0
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=7.6						
FINES				Sn	Sn	03 56 49.3	-6.9
	comp=Z,0.4nm,0.3s,baz=221,slow=23,SNR=6.0						
FINES				Lg	Lg	03 58 04.0	
	comp=Z,0.1nm,0.3s,baz=219,slow=27,SNR=1.3						
MFF	Saint Martin d	11.77	252	ePn	Pn	03 54 58.3	+2.9
EKA	Eskdalemuir Ar	12.12	296	Pn	Pn	03 54 57.5	-2.6
	baz=104,slow=14,SNR=4.2						
EKA				Sn	Sn	03 57 06.2	-10
	baz=324,slow=12,SNR=1.4						
ARCES	ARCESS Array B	18.59	10	Pn	P	03 56 22.6	-2.1
	baz=194,slow=14,SNR=3.0						
YKA	Yellowknife Ar	59.84	336	P	P	04 02 14.9	+1.9
	comp=Z,0.2nm,0.6s,baz=28,slow=6.8,SNR=4.9						
PDAR	Pinedale Array	74.93	322	P	P	04 03 51.5	+2.3
	comp=Z,0.1nm,0.4s,baz=68,slow=7.9,SNR=2.0						

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*JMA **08** 04:04:50.6±0.3, 35.°16N×141.°78E, h57km±4km, M3.2*
*IDC **08** 04:04:51.2±1.9, 34.°95N×141.°44E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/53, mbtmp3.6/6, ML3.2/2, MS2.0/1, Ms1 2.0/1, ms1mx1.8/78, Error ellipse: s-maj=42.1km s-min=20.7km az=69.0*
ISC 08 04:04:52.9±1.3**, 35.°12N**±0.°06×**141.°7E**±0.°1**, h27**km**, n23, σ1.§41**/21**, mb3.8**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.74	232	P	Pb	04 05 06.3	-0.6
CHOJ	Chosi	0.89	311	P	Pn	04 05 08.0	-1.7
BSO3	Boso 3	1.01	252	P	Pn	04 05 10.6	-0.5
BSO4	Boso 4	1.11	264	P	Pn	04 05 12.2	-0.4
JKUC	kamogawauchiur	1.21	273	P	Pn	04 05 13.1	-1.0
JIM2	Oshima 3	1.89	259	P	Pn	04 05 21.9	-1.6
JMKN	Mikurajimanish	2.11	235	P	Pn	04 05 25.5	-1.0
JOD2	Odawara 2	2.13	275	P	Pn	04 05 25.2	-1.5
JOD2				eS	Sn	04 05 51.8	-0.5
JAG	Ashikaga	2.23	306	P	Pn	04 05 27.3	-0.9
JFK	Kawauchi	2.34	344	P	Pn	04 05 27.1	-2.6
JHJ	Hachijo jima 2	2.54	219	Pn	Pn	04 05 31.2	-1.1
	44nm,0.3s,baz=334,slow=14,SNR=31						
JHJ				Sn	Sn	04 06 00.0	-2.3
	32nm,0.3s,baz=246,slow=23,SNR=2.0						
MJAR	Matsushiro Arr	3.16	298	Pn	Pn	04 05 40.4	-0.5
	0.9nm,0.3s,baz=118,slow=10,SNR=10						
MJAR				Sn	Sn	04 06 17.9	+0.2
	0.3nm,0.3s,baz=101,slow=10,SNR=4.7						
MJAR				LR	LR	04 06 24.8	
	comp=Z,24nm,21.9s,baz=91,slow=30						
MAT	Matsushiro	3.16	298	P	Pn	04 05 40.5	-0.4
MAT				eS	Sn	04 06 16.8	-1.0
H11N2	WAKE ISLAND Hy	27.02	118	T	T	04 39 12.6	
	baz=314						
H11N1	WAKE ISLAND Hy	27.03	118	T	T	04 39 11.4	
	baz=314						
H11N3	WAKE ISLAND Hy	27.04	118	T	T	04 39 14.8	
	baz=314						
H11S3	WAKE ISLAND Hy	27.67	120	T	T	04 40 23.4	
	baz=311						
H11S1	WAKE ISLAND Hy	27.67	120	T	T	04 40 22.8	
	baz=311						
H11S2	WAKE ISLAND Hy	27.69	120	T	T	04 40 28.6	
	baz=311						
MKAR	Makanchi Array	45.34	304	P	P	04 13 10.7	+2.0
	0.2nm,0.7s,baz=81,slow=10,SNR=2.4						
KURBB	Kurchatov Arra	47.37	309	P	P	04 13 26.6	+2.2
	0.3nm,0.3s,baz=77,slow=7.2,SNR=4.6						
WRA	Warramunga Arr	55.20	188	P	P	04 14 24.2	+0.9
	0.9nm,0.5s,baz=1.8,slow=7.8,SNR=24						
ASAR	Alice Springs	58.92	188	P	P	04 14 50.2	+0.4
	0.4nm,0.4s,baz=7.5,slow=6.8,SNR=3.8						

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*SFS **08** 04:05:05.0, 37.°67N×1.°50W, ML3.2, TOTANA (MURCIA)*
*MDD **08** 04:05:05.7±0.3, 37.°67N×1.°51W, h0km, mb_Lg3.2/14, Error ellipse: s-maj=2.6km s-min=1.7km az=129.0*
*IGIL **08** 04:05:05.2, 37.°67N×1.°51W, h1km*
*INMG **08** 04:05:05.5±1.7, 37.°60N×1.°41W, h14km±4km, ML2.8, Error ellipse: s-maj=4.0km s-min=2.8km az=105.0*
*LDG **08** 04:05:06.4±0.2, 37.°64N×1.°43W, h10km, Ml2.7/5, Error ellipse: s-maj=5.1km s-min=2.7km az=143.0*
*CNRM **08** 04:05:10.5, 37.°48N×1.°69W, h33km, ml3.1*
ISC 08 04:05:04.5±1.0**, 37.°70N**±0.°02×**1.°45W**±0.°03**, h14**km±6km**, n64, σ1.§64**/132**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLOR	Lorca, Murcia	0.19	257	P	Pg	04 05 08.4	-0.5
TLOR				S	Sg	04 05 11.0	-0.9
EZAR	Zarzadilla de	0.26	312	Pg	Pg	04 05 10.3	+0.2
EZAR				Sg	Sg	04 05 14.0	+0.2
ETRV	Los Montesinos	0.63	60	Pg	Pb	04 05 17.9	+0.6
ETRV				Sg	Sb	04 05 27.8	+1.8
ETRV				i Vmb_Lg		04 05 31.0	
ENIJ	Nijar	0.94	220	Pg	Pg	04 05 22.4	-0.3
ENIJ				Sg	Sg	04 05 33.9	-1.2
ENIJ				i Vmb_Lg		04 05 37.9	
ETOB	Tobarra	0.94	355	Pg	Pn	04 05 24.0	+0.6
ETOB				Sg	Sn	04 05 38.6	+1.8
ETOB				i Vmb_Lg		04 05 40.3	
AFON	Font Roja	1.20	36	Pg	Pn	04 05 27.6	+0.6
AFON				i Vmb_Lg		04 05 54.0	
EQUE	Quentar	1.66	253	Pg	Pb	04 05 35.8	+0.9
EQUE				Sg	Sg	04 05 59.4	+1.6
EQUE				i Vmb_Lg		04 06 02.7	
ELGU	Los Guajares,	1.92	245	Pn	Pn	04 05 37.7	+0.8
ELGU				Pg	Pb	04 05 39.3	-0.1
ELGU				i Vmb_Lg		04 06 11.8	
ECHE	Chera	1.92	11	Pn	Pb	04 05 38.2	-1.2
ECHE				Pg	Pg	04 05 42.5	+1.1
ECHE				Sn	Sg	04 06 05.7	-0.6
EGOR	Sierra Gorda,	2.20	255	Pg	Pb	04 05 44.3	+0.3
EGOR				Sg	Sb	04 06 13.8	+2.6
EMAL	Malaga-Limoner	2.55	249	P	Pn	04 05 47.3	+1.8
EMAL				S	Sn	04 06 19.5	+3.2
ESDC	Sonseca Array	2.78	316	Pg	Pg	04 05 56.4	-1.4
ESDC				Sg	Sg	04 06 32.3	-1.5
ESDC				i Vmb_Lg		04 06 35.2	
EMIJ	Mijas	2.89	248	Pn	Pn	04 05 50.9	+0.9
PAB	San Pablo	2.92	310	Pn	Pn	04 05 51.8	+1.2
PAB				Sn	Sn	04 06 27.3	+1.7
PAB				Sg	Sg	04 06 37.3	-1.1
PAB				i Vmb_Lg		04 06 41.3	
UCM	Universidad Co	2.95	332	P	Pg	04 06 01.6	+0.5
UCM				S	Sg	04 06 39.3	0.0
TAF	Taforalt	2.98	195	P	Pn	04 05 53.0	+1.6
TAF				S	Sn	04 06 23.9	-3.2
ETOR	Torete	3.15	352	Pn	Pn	04 05 56.3	+2.5
ETOR				Pg	Pg	04 06 04.7	-0.1
ETOR				Sg	Sg	04 06 45.8	+0.2
ECAB	El Cabril	3.16	278	Pn	Pn	04 05 54.4	+0.5
ECAB				Sn	Sn	04 06 32.9	+1.5
PALE	Palemas	3.19	220	P	Pn	04 05 53.6	-0.6
PALE				S	Sn	04 06 27.0	-5.0
JBK	JBK	3.48	195	P	Pn	04 05 58.8	+0.4
JBK				S	Sn	04 06 38.9	-0.6
GUD	Guadarrama	3.61	325	Pg	Pg	04 06 13.3	-0.3
GUD				Sg	Sg	04 06 59.4	-1.1
CHEFC	Chefchaouen	4.07	232	P	Pn	04 06 07.7	+1.4
CHEFC				S	Sn	04 06 49.2	-4.6
EPOB	Poblet	4.14	27	Pn	Pn	04 06 09.2	+1.9
EPOB				Pg	Pg	04 06 23.2	-0.5
EPLA	Plasencia	4.31	305	Pn	Pn	04 06 10.5	+0.8
EPLA				Sn	Sn	04 07 00.6	+0.7
EPLA				Sg	Sg	04 07 20.7	-2.3
EPLA				i Vmb_Lg		04 07 26.7	
PBAR	Barrancos	4.44	278	ePn	Pn	04 06 12.0	+0.6
PBAR				eSn	Sn	04 07 00.9	-2.0
PBAR				eSg	Sg	04 07 28.2	+1.1
PBAR				A	A	04 07 33.7	
	12nm,0.6s						
EBAD	Badajoz	4.50	285	Pn	Pn	04 06 12.5	+0.3
EBAD				Sn	Sn	04 07 05.3	+0.9
EBAD				Sg	Sg	04 07 27.8	-1.3
EBAD				i Vmb_Lg		04 07 31.9	
EGRO	El Granado	4.79	270	Pn	Pn	04 06 16.4	+0.2
EGRO				Sn	Sn	04 07 11.2	-0.4
EGRO				i Vmb_Lg		04 08 40.1	
PMRV	Marv??o	4.96	292	ePn	Pn	04 06 20.0	+1.4
PMRV				eSn	Sn	04 07 15.7	-0.2
PMRV				eSg	Sg	04 07 38.6	-5.2
PMRV				A	A	04 07 47.6	
	13nm,0.3s						
PESTR	Estremoz	4.97	285	ePn	Pn	04 06 19.0	+0.3
PESTR				eSn	Sn	04 07 15.6	-0.3
PESTR				eSg	Sg	04 07 45.6	+1.7
PESTR				A	A	04 07 49.8	
	15nm,0.5s						
PESTR	Estremoz	4.97	285	P	Pn	04 06 19.8	+1.2
PESTR				S	Sn	04 07 16.9	+1.0
PVAQ	Vaqueiros	4.99	268	ePn	Pn	04 06 18.9	0.0
PVAQ				eSn	Sn	04 07 15.4	-1.0
PVAQ				A	A	04 07 50.7	
	5.5nm,0.5s						
PVAQ	Vaqueiros	4.99	268	P	Pn	04 06 19.3	+0.3
PVAQ				S	Sn	04 07 16.6	+0.2
PBEJ	Beja	5.09	276	ePn	Pn	04 06 21.2	+0.9
PBEJ				eSg	Sg	04 07 50.1	+2.4
PCBR	Castelo Branco	5.17	296	ePn	Pn	04 06 22.2	+0.8
PCBR				eSn	Sn	04 07 20.3	-0.6
PCBR				eSg	Sg	04 07 49.4	-1.0
PCBR				A	A	04 07 55.0	
	8.4nm,0.4s						
PBDV	Barranco-do-Ve	5.17	267	ePn	Pn	04 06 21.8	+0.3
PBDV				eSn	Sn	04 07 20.7	-0.3
PBDV				A	A	04 07 58.1	
	7.6nm,0.7s						
PCVE	Castro Verde	5.23	271	ePn	Pn	04 06 22.5	+0.3
PCVE				eSg	Sg	04 07 49.4	-2.8
ETSF	Etsaut	5.24	7	ePn	Pn	04 06 23.9	+1.5
ETSF	Etsaut	5.24	7	ePg	Pg	04 06 43.4	-1.3
ETSF				eSn	Sn	04 07 22.1	-0.5
ETSF				eSg	Sg	04 07 51.9	-0.6
	4.4nm,0.7s						
EVO	Evora	5.24	281	ePn	Pn	04 06 23.3	+0.9
EVO				eSg	Sg	04 07 51.9	-0.7
SJPF	Ste Jean	5.41	2	ePn	Pn	04 06 26.1	+1.4
SJPF				eSn	Sn	04 07 25.1	-1.7
SJPF				eSg	Sg	04 07 57.1	-0.9
	5.5nm,0.6s						
MTE	Manteigas	5.45	301	ePn	Pn	04 06 27.2	+1.8
MTE				eSg	Sg	04 07 56.5	-3.0
MTE				A	A	04 08 12.1	
	16nm,0.6s						
PMTG	Montargil	5.49	286	ePn	Pn	04 06 25.6	-0.3
PMTG				eSn	Sn	04 07 27.9	-1.0
EPF	Esparros	5.50	14	ePn	Pn	04 06 27.6	+1.6
EPF	Esparros	5.50	14	ePg	Pg	04 06 48.7	-1.0
EPF				eSn	Sn	04 07 27.7	-1.3
	3.1nm,0.3s						
EPF				eSg	Sg	04 08 00.1	-0.8
	1.6nm,0.3s						
EALK	Alkurruntz	5.51	360	Pn	Pn	04 06 29.3	+3.1
MDT	Midelt	5.52	209	P	Pn	04 06 27.9	+1.6
MDT				S	Sn	04 07 27.6	-2.0
MD31	MD31	5.53	210	P	Pn	04 06 27.6	+1.1
MD31				S	Sn	04 07 28.4	-1.5
MVO	Moncorvo	5.53	310	ePn	Pn	04 06 28.1	+1.6
MVO				eSn	Sn	04 07 30.3	+0.4
MVO				eSg	Sg	04 08 02.3	+0.3
MVO				A	A	04 08 07.5	
	13nm,0.5s						
PNCL	Nicolau / Gran	5.61	276	ePn	Pn	04 06 28.2	+0.7
PNCL				eSg	Sg	04 08 02.7	-1.8
PNCL				A	A	04 08 10.3	
	5.7nm,0.5s						
MORF	Marmelete	5.74	268	eP	Pn	04 06 28.6	-0.7
MORF	Marmelete	5.74	268	ePn	Pn	04 06 29.1	-0.2
PBRG	Braganca	5.78	317	ePn	Pn	04 06 31.1	+1.3
PBRG				eSn	Sn	04 07 32.4	-3.6
PBRG				eSg	Sg	04 08 07.2	-2.7
PBRG				A	A	04 08 17.8	
	9.8nm,0.8s						
PVIS	Viseu	5.84	303	ePn	Pn	04 06 32.1	+1.4
PVIS				eSn	Sn	04 07 36.0	-1.4
PVIS				eSg	Sg	04 08 08.4	-3.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVIS				A	A	04 08 13.5	
	8.1nm,0.6s						
PCAS	**Casmilo, Conde**	**5.98**	**295**	ePn	**Pn**	**04 06 33.6**	**+1.1**
PCAS				eSn	**Sn**	**04 07 39.9**	**-0.9**
PCAS				eSg	**Sg**	**04 08 17.2**	**+0.9**
PSBE	**So Bento**	**6.03**	**290**	ePn	**Pn**	**04 06 34.5**	**+1.2**
PSBE				eSn	**Sn**	**04 07 42.2**	**+0.1**
POLO	**Lamas de Olo**	**6.12**	**309**	eSn	**Sn**	**04 07 44.2**	**-0.3**
POLO				eSg	**Sg**	**04 08 18.9**	**-2.0**
POLO				A	A	04 08 34.6	
	3.9nm,0.7s						
EARI	**Arriondas**	**6.28**	**334**	Pn	**Pn**	**04 06 38.9**	**+2.2**
MTLF	**Montolieu**	**6.29**	**25**	eP	Pn	04 06 42.3	+5.5
ELOB	**Lobios**	**6.57**	**311**	Pn	**Pn**	**04 06 42.8**	**+2.1**
ELOB				Sn	**Sn**	**04 07 54.3**	**-1.3**
ELOB				i Vmb_Lg		04 08 54.7	
PGAV	**Gavieira, Arco**	**6.76**	**311**	ePn	**Pn**	**04 06 44.9**	**+1.6**
PGAV				eSn	**Sn**	**04 07 56.6**	**-3.5**
PGAV				eSg	**Sg**	**04 08 38.3**	**-2.9**
CAF	**Calviac**	**7.69**	**19**	ePn	**Pn**	**04 06 56.9**	**+0.9**
CAF	**Calviac**	**7.69**	**19**	ePg	**Pg**	**04 07 28.9**	**-2.6**
RJF	**Les Rejaudoux**	**7.92**	**15**	ePn	**Pn**	**04 07 00.2**	**+1.1**
RJF				eSn	**Sn**	**04 08 26.1**	**-2.4**
	0.6nm,0.3s						
PGF	**Pioggiola**	**9.35**	**56**	ePn	**Pn**	**04 07 19.8**	**+0.9**

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*IDC **08** 04:30:26.3±0.6, 8.°12S×128.°28E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.2/42, mbtmp4.3/19, ML2.6/1, MS3.5/18, Ms1 3.5/18, ms1mx3.2/66, Error ellipse: s-maj=22.2km s-min=15.7km az=60.0*

*NEIC **08** 04:30:32.2±1.3, 8.°62S±0.°06×128.°60E±0.°09, h61km±7km, mb4.4/19, Error ellipse: s-maj=12.8km s-min=7.9km az=104.0*

*DJA **08** 04:30:33.0±0.3, 9°S±2°×12°8E±°, h91km±21km, M4.5/16, mB4.9/11, mb4.8/16, MLv4.7/11, Mw(mB)4.2/11*

ISC 08 04:30:31.3±0.4**, 8.°47S**±0.°04×**128.°45E**±0.°05**, h35**km**, n121,** σ**2s32**/119**, mb4.4**/26**, MS3.4**/14**, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.76**	**357**	P	**Pn**	**04 31 41.7**	**+1.1**
BATI	**Baumata**	**5.03**	**250**	Pn	**Pn**	**04 31 43.0**	**-1.3**
	24nm,0.3s,baz=304,slow=0.8,SNR=10						
BATI				Sn	**Sn**	**04 32 42.8**	**+1.5**
	83nm,0.3s,baz=67,slow=21,SNR=16						
BATI	**Baumata**	**5.03**	**250**	P	**Pn**	**04 31 46.3**	**+2.0**
BATI				S	**Sn**	**04 32 43.3**	**+2.0**
KDU	**Kakadu**	**5.76**	**137**	P	**Pn**	**04 31 57.8**	**+3.5**
	baz=5.7,SNR=21						
MMRI	**Maumere**	**6.15**	**268**	Pn	**Pn**	**04 32 02.6**	**+2.9**
MMRI	**Maumere**	**6.15**	**268**	P	**Pn**	**04 32 01.2**	**+1.5**
	0.6nm135nm,1.1s						
MMRI				S	**Sn**	**04 33 08.1**	**-0.7**
	0.6nm135nm,1.1s						
BBSI	**Bau Bau**	**6.54**	**297**	P	**Pn**	**04 32 08.0**	**+2.8**
	0.1nm282nm33nm,0.9s						
FAKI	**Fak Fak**	**6.68**	**35**		**Pn**	**04 32 08.7**	**+1.7**
FAKI	**Fak Fak**	**6.68**	**35**	P	**Pn**	**04 32 09.4**	**+2.3**
	0.2nm79nm,0.7s						
FAKI				S	**Sn**	**04 33 23.6**	**+1.5**
	0.2nm79nm,0.7s						
SANI	**Sanana**	**6.83**	**339**	P	**Pn**	**04 32 12.2**	**+3.1**
	0.1nm37nm,0.7s						
KNRA	**Kununurra**	**7.17**	**178**	P	**Pn**	**04 32 16.0**	**+2.3**
	baz=7.1,SNR=90						
KNRA				S	**Sn**	**04 33 36.4**	**+2.4**
	baz=7.1						
BASI	**Baing, Sumba**	**7.96**	**257**	P	**Pn**	**04 32 26.1**	**+1.5**
	0.6nm1μm94nm,0.8s						
SIJI	**Sorong**	**8.05**	**21**	Pn	**Pn**	**04 32 27.4**	**+1.5**
	6.1nm,0.3s,baz=205,slow=6.8,SNR=12						
SIJI				Sn	Sn	04 33 44.5	-11
	0.8nm,0.3s,baz=268,slow=22,SNR=0.8						
SIJI				LR	LR	04 36 07.2	
	comp=Z,331nm,19.1s,baz=244,slow=44						
SWI	**Sorong**	**8.06**	**20**	P	**Pn**	**04 32 29.1**	**+3.2**
	101nm,0.7s						
BSSI	**Bau Bau, Buton**	**8.23**	**286**	P	**Pn**	**04 32 30.4**	**+2.1**
	48nm,0.8s						
BKSI	**Bulukumba**	**8.84**	**290**	P	**Pn**	**04 32 38.8**	**+2.1**
	691nm70nm,0.7s						
WBSI	**Waikabubak, Su**	**9.02**	**262**	P	**Pn**	**04 32 39.9**	**+0.7**
	1μm100nm,0.5s						
BNSI	**Bone**	**9.22**	**295**	P	**Pn**	**04 32 43.2**	**+1.3**
	694nm70nm,0.8s						
KAPI	**Kappang**	**9.29**	**291**	Pn	**Pn**	**04 32 45.0**	**+2.1**
	1.0nm,0.3s,baz=180,slow=10.0,SNR=3.1						
KAPI				LR	LR	04 36 26.1	
	comp=Z,264nm,18.3s,baz=112,slow=40						
KAPI	**Kappang**	**9.29**	**291**	Pn	**Pn**	**04 32 45.5**	**+2.6**
SPSI	**Sidrap Palu**	**9.72**	**297**	P	**Pn**	**04 32 50.0**	**+1.3**
	570nm44nm,1.0s						
FITZ	**Fitzroy Crossi**	**9.95**	**196**	Pn	**Pn**	**04 32 51.0**	**-0.9**
	4.7nm,0.3s,baz=30,slow=11,SNR=164						
FITZ				Sn	**Sn**	**04 34 35.4**	**-7.1**
	2.4nm,0.3s,baz=17,slow=16,SNR=3.3						
FITZ				LR	LR	04 37 06.8	
	comp=Z,239nm,21.7s,baz=20,slow=39						
FITZ	**Fitzroy Crossi**	**9.95**	**196**		**Pn**	**04 32 51.2**	**-0.7**
GTOI	**Gorontalo**	**10.54**	**329**	P	Pn	04 33 05.3	+5.2
	7.4nm,0.8s						
PLAI	**Plampang**	**10.56**	**267**	P	**Pn**	**04 33 01.0**	**+0.7**
	795nm51nm,0.5s						
PLAI	**Plampang**	**10.56**	**267**	P	**Pn**	**04 33 01.0**	**+0.7**
TOLI2	**Tolitoli**	**12.21**	**321**	Pn	**Pn**	**04 33 27.1**	**+4.3**
TOLI2	**Tolitoli**	**12.21**	**321**	P	Pn	04 33 29.9	+7.1
WB0	**Warramunga Arr**	**12.62**	**153**	Pn	**Pn**	**04 33 27.6**	**-0.9**
WRAB	**Tennant Creek**	**12.75**	**154**	Pn	**Pn**	**04 33 27.4**	**-2.8**
WRAB	**Tennant Creek**	**12.75**	**154**	P	**Pn**	**04 33 30.1**	**-0.1**
WRA	**Warramunga Arr**	**12.75**	**154**	Pn	**Pn**	**04 33 29.4**	**-0.9**
	3.5nm,0.3s,baz=323,slow=13,SNR=79						
WRA				Sn	**Sn**	**04 35 43.5**	**-7.6**
	3.1nm,0.3s,baz=328,slow=23,SNR=8.9						
WRA				LR	LR	04 39 17.2	
	comp=Z,179nm,19.8s,baz=311,slow=40						
WRA	**Warramunga Arr**	**12.75**	**154**	Pn	**Pn**	**04 33 27.3**	**-2.9**
WB2	**Warramunga Arr**	**12.76**	**154**	P	**Pn**	**04 33 29.9**	**-0.4**
	baz=13						
WB2				S	**Sn**	**04 35 50.0**	**-1.2**
	baz=13						
WB2	**Warramunga Arr**	**12.76**	**154**	Pn	**Pn**	**04 33 28.2**	**-2.1**
WR0	**Warramunga Arr**	**12.85**	**153**	Pn	**Pn**	**04 33 28.8**	**-2.9**
COEN	**Coen**	**15.44**	**112**	Pn	**Pn**	**04 34 02.9**	**-3.7**
COEN				IAmb	IAmb	04 34 23.9	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**15.44**	**212**	Pn	**Pn**	**04 34 04.6**	**-2.1**
PSA00				IAmb	IAmb	04 34 18.7	
	comp=Z,24nm,0.8s						
PSA00	**Pilbara Seismi**	**15.44**	**212**	P	**Pn**	**04 34 05.5**	**-1.1**
AS31	**Alice Springs**	**15.99**	**162**		**Pn**	**04 34 11.0**	**-2.7**
AS31				IAmb	IAmb	04 34 22.6	
	comp=Z,38nm,0.7s						
ASAR	**Alice Springs**	**15.99**	**162**	Pn	**Pn**	**04 34 13.2**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=336,slow=10.0,SNR=96						
ASAR				Sn	Sn	04 36 58.6	-11
	comp=Z,0.4nm,0.3s,baz=333,slow=17,SNR=2.3						
ASAR				ScP	**ScP**	**04 42 42.8**	**+0.9**
	baz=326,slow=2.4,SNR=4.5						
ASAR	**Alice Springs**	**15.99**	**162**	Pn	**Pn**	**04 34 10.9**	**-2.8**
ASAR					**ScP**	**04 42 42.7**	**+0.9**
ASPA	**Alice Springs**	**15.99**	**162**	P	**Pn**	**04 34 15.3**	**+1.6**
	baz=16						
QIS	**Mount Isa**	**16.14**	**139**	P	**Pn**	**04 34 15.2**	**-0.5**
	baz=16,SNR=11						
QIS	**Mount Isa**	**16.14**	**139**	P	**Pn**	**04 34 17.6**	**+1.9**
WRKA	**Warakurna**	**16.48**	**180**	P	**Pn**	**04 34 19.1**	**-0.8**
	baz=16,SNR=131						
WRKA	**Warakurna**	**16.48**	**180**	P	**Pn**	**04 34 19.8**	**-0.1**
MYLDM	**Lahad Datu**	**16.80**	**323**	P	**Pn**	**04 34 25.2**	**+1.2**
MYLDM				IAmb	IAmb	04 34 44.7	
	comp=Z,47nm,1.3s						
UGM	**Wanagama**	**17.75**	**270**	Pn	**P**	**04 34 38.1**	**+1.6**
UGM				IAmb	IAmb	04 34 55.1	
	comp=Z,27nm,0.8s						
MTSU	**Mount Surprise**	**18.17**	**124**	P	**Pn**	**04 34 40.9**	**-0.1**
	baz=18,SNR=5.4						
PMG	**Port Moresby**	**18.51**	**94**	P	**Pn**	**04 34 48.3**	**+3.3**
	comp=Z,0.6nm,0.3s,baz=145,slow=18,SNR=1.3						
PMG				LR	LR	04 42 48.5	
	comp=Z,163nm,19.1s,baz=302,slow=40						
SBUM	**Sibu**	**19.48**	**303**		**P**	**04 34 55.9**	**+0.5**
OOD	**Oodnadatta**	**20.40**	**161**	P	Pn	04 35 09.3	+1.7
KSM	**Kuching**	**20.61**	**298**	P	**P**	**04 35 06.7**	**-1.0**
KSM				IAmb	IAmb	04 35 08.3	
	comp=Z,12nm,0.9s						
LEM	**Lembang**	**20.71**	**273**	LR	LR	04 43 56.1	
	comp=Z,125nm,21.7s,baz=133,slow=40						
CTA	**Charters Tower**	**20.74**	**126**	P	**P**	**04 35 11.0**	**+1.9**
	comp=Z,5.9nm,0.8s,baz=291,slow=12,SNR=2.9						
CTA				LR	LR	04 44 01.5	
	comp=Z,172nm,21.2s,baz=268,slow=39						
FORT	**Forrest**	**22.20**	**181**	P	**P**	**04 35 28.1**	**+3.4**
	baz=22,SNR=16						
FORT	**Forrest**	**22.20**	**181**	P	**P**	**04 35 22.9**	**-1.8**
FORT	**Forrest**	**22.20**	**181**	P	**P**	**04 35 26.4**	**+1.7**
MULG	**Mulgathing**	**22.33**	**167**	P	**P**	**04 35 28.8**	**+2.7**
XMI	**Christmas Isla**	**22.54**	**263**	P	**P**	**04 35 32.5**	**+4.0**
	comp=Z,32nm,0.9s						
QLP	**Quilpie**	**23.43**	**142**	P	**P**	**04 35 41.9**	**+4.5**
	baz=23,SNR=6.0						
MORW	**Morawa**	**23.58**	**208**	P	**P**	**04 35 40.3**	**+1.4**
	baz=24,SNR=8.1						
MORW	**Morawa**	**23.58**	**208**	P	**P**	**04 35 37.4**	**-1.5**
MORW				IAmb	IAmb	04 36 06.7	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**23.58**	**208**	P	**P**	**04 35 40.3**	**+1.4**
BLDU	**Ballidu**	**24.61**	**205**	P	**P**	**04 35 51.2**	**+2.7**
	baz=25,SNR=8.0						
KLBR	**Kellerberrin**	**25.07**	**202**	P	**P**	**04 35 56.0**	**+3.4**
	baz=25,SNR=7.9						
BBOO	**Buckleboo**	**25.23**	**165**	P	**P**	**04 35 56.6**	**+2.6**
	baz=25,SNR=13						
BBOO	**Buckleboo**	**25.23**	**165**	P	**P**	**04 35 57.0**	**+3.0**
BBOO				IAmb	IAmb	04 36 13.4	
	comp=Z,24nm,0.9s						
STKA	**Stephens Creek**	**26.30**	**154**	P	**P**	**04 36 06.1**	**+2.3**
	comp=Z,6.9nm,0.6s,baz=322,slow=10,SNR=16						
STKA				LR	LR	04 47 24.1	
	comp=Z,138nm,21.6s,baz=343,slow=38						
STKA	**Stephens Creek**	**26.30**	**154**	P	**P**	**04 36 07.1**	**+3.3**
	baz=26,SNR=16						
STKA	**Stephens Creek**	**26.30**	**154**	P	**P**	**04 36 06.7**	**+3.0**
HTT	**Hallett**	**26.66**	**160**	P	**P**	**04 36 11.0**	**+4.0**
	baz=27,SNR=4.4						
CMSA	**Cobar Meteorol**	**28.01**	**147**	P	**P**	**04 36 22.8**	**+3.7**
	baz=28,SNR=12						
DZM	**Mont Dzumac**	**38.94**	**115**	LR	LR	04 54 46.2	
	comp=Z,88nm,18.6s,baz=210,slow=37						
CMAR	**Chiang Mai Arr**	**39.54**	**313**	P	**P**	**04 37 56.3**	**-2.9**
	comp=Z,1.7nm,0.3s,baz=145,slow=6.6,SNR=1.4						
CMAR				LR	LR	04 56 24.2	
	comp=Z,39nm,18.1s,baz=125,slow=40						
PZH	**PanZhiHua**	**43.37**	**324**	P	**P**	**04 38 32.7**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,5.0s						
KSRS	**Korea Array**	**45.68**	**359**	P	**P**	**04 38 47.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=217,slow=25,SNR=4.3						
KSRS				LR	LR	04 56 36.0	
	comp=Z,21nm,21.9s,baz=175,slow=35						
MJAR	**Matsushiro Arr**	**45.70**	**11**	P	**P**	**04 38 47.3**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=194,slow=10,SNR=2.0						
MJAR				LR	LR	04 58 54.7	
	comp=Z,20nm,18.0s,baz=175,slow=38						
XAN	**Xi'an**	**46.16**	**337**	P	**P**	**04 38 54.3**	**+1.6**
XAN				pP	sP	04 39 13.0	+6.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WHZ	**Wether Hill Ro**	**50.37**	**145**	P	P	04 39 20.8	-4.2
RPZ	**Rata Peaks**	**51.04**	**141**	LR	LR	05 01 53.7	
	comp=Z,209nm,18.5s,baz=270,slow=37						
HHC	**Hu-ho-hao-te**	**51.48**	**344**	eP	**P**	**04 39 33.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,4.5s						
ASAJ	**Asahikawa**	**53.88**	**13**	LR	LR	05 01 55.5	
	comp=Z,24nm,20.4s,baz=110,slow=35						
GTA	**Gaotai**	**54.54**	**333**	eP	**P**	**04 39 54.1**	**-2.0**
GTA				pP	pP	04 39 59.1	-7.0
GTA				sP	pwP	04 40 02.1	-6.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,64nm,4.4s						
GTA				LR	LR		
	comp=N,71nm,14.2s						
GTA				LR	LR		
	comp=E,140nm,16.7s						
GTA				LR	LR		
	comp=Z,76nm,15.3s						
SONM	**Songino Array**	**59.36**	**343**	P	**P**	**04 40 29.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=164,slow=8.5,SNR=7.1						
SONM	**Songino Array**	**59.36**	**343**	P	**P**	**04 40 30.2**	**+0.1**
WMQ	**Urumqi**	**63.80**	**328**	eP	**P**	**04 41 00.8**	**+0.7**
PETK	**Petropavlovsk-**	**66.19**	**19**	P	**P**	**04 41 13.7**	**-1.7**
	comp=Z,6.6nm,0.9s,baz=221,slow=3.3,SNR=2.7						
PETK	**Petropavlovsk-**	**66.19**	**19**	P	**P**	**04 41 13.8**	**-1.5**
KSH	**Kashi**	**68.08**	**319**	P	**P**	**04 41 25.1**	**-2.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MK31	**Makanchi Array**	**68.62**	**328**	P	**P**	**04 41 29.8**	**-1.1**
MKAR	**Makanchi Array**	**68.62**	**328**	P	**P**	**04 41 29.3**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=124,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**68.62**	**328**	P	**P**	**04 41 29.4**	**-1.5**
AAK	**Ala-Archa**	**70.68**	**321**	LR	LR	05 16 13.4	
	comp=Z,40nm,18.0s,baz=161,slow=39						
VNDA	**Vanda**	**71.19**	**173**	LR	LR	05 15 14.2	
	comp=Z,46nm,18.1s,baz=226,slow=38						
ZAA0	**Zalesovo Array**	**72.23**	**335**		**P**	**04 41 50.5**	**-2.2**
ZAA0				IAmb	IAmb	04 41 51.5	
	comp=Z,5.4nm,1.1s						
ZALV	**Zalesovo Beam**	**72.23**	**335**	P	**P**	**04 41 50.4**	**-2.3**
	comp=Z,3.4nm,0.7s,baz=126,slow=5.0,SNR=11						
ZALV	**Zalesovo Beam**	**72.23**	**335**	P	**P**	**04 41 50.0**	**-2.7**
SHEM	**Shemya Is, Ala**	**72.28**	**27**	LR	LR	05 07 12.4	
	comp=Z,12nm,21.8s,baz=280,slow=31						
KURBB	**Kurchatov Arra**	**72.97**	**329**	P	**P**	**04 41 55.5**	**-1.6**
	comp=Z,5.5nm,0.6s,baz=133,slow=5.0,SNR=40						
KURK	**Kurchatov**	**72.98**	**329**	P	**P**	**04 41 55.8**	**-1.5**
SEY	**Seymchan**	**73.53**	**11**	P	**P**	**04 41 59.0**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=213,slow=4.6,SNR=15						
BVAR	**Borovoye Array**	**78.49**	**328**	P	**P**	**04 42 26.7**	**-2.1**
	comp=Z,2.3nm,0.9s,baz=72,slow=14,SNR=8.1						
BRVK	**Borovoye**	**78.56**	**328**	P	**P**	**04 42 26.9**	**-2.2**
BRVK				IAmb	IAmb	04 42 28.1	
	comp=Z,4.2nm,0.9s						
TIXI	**Tiksi**	**79.95**	**0**	P	**P**	**04 42 33.4**	**-2.9**
	comp=Z,1.3nm,0.4s,baz=270,slow=23,SNR=10						
TIXI				LR	LR	05 21 28.4	
	comp=Z,16nm,18.0s,baz=186,slow=38						
TIXI	**Tiksi**	**79.95**	**0**	P	**P**	**04 42 34.6**	**-1.7**
TIXI				IAmb	IAmb	04 42 36.0	
	comp=Z,2.6nm,0.8s						
NRIK	**Noril'sk**	**82.61**	**346**	P	**P**	**04 42 48.3**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=180,slow=5.1,SNR=2.3						
AKTO	**Aktyubinsk**	**84.30**	**323**	P	**P**	**04 42 57.0**	**-2.5**
	comp=Z,3.0nm,0.8s,baz=110,slow=3.8,SNR=7.8						
ARU	**Arti**	**86.14**	**328**	P	P	04 43 05.6	-3.0
	comp=Z,0.3nm,0.3s,baz=126,slow=1.8,SNR=4.0						
ILAR	**Eielson Array**	**95.32**	**25**	P	**P**	**04 43 49.4**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=286,slow=3.4,SNR=4.1						
YKA	**Yellowknife Ar**	**109.74**	**26**	PKiKP	**PKiKP**	**04 48 58.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=295,slow=1.6,SNR=14						
PDAR	**Pinedale Array**	**119.01**	**46**	PKP	**PKPdf**	**04 49 18.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=318,slow=2.2,SNR=7.0						
PDAR	**Pinedale Array**	**119.01**	**46**		**PKPdf**	**04 49 13.6**	**-3.4**
ULM	**Lac du Bonnet**	**124.51**	**33**	PKP	**PKPdf**	**04 49 26.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=351,slow=2.2,SNR=2.4						
TXAR	**Lajitas Array**	**126.99**	**60**	PKP	**PKPdf**	**04 49 33.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=116,slow=2.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**127.57**	**280**	PKP	**PKPdf**	**04 49 34.2**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=73,slow=1.9,SNR=20						
DBIC	**Dimbokro**	**133.70**	**271**	PKP	**PKPdf**	**04 49 46.9**	**+1.4**
	comp=Z,2.1nm,0.5s,baz=100,slow=4.4,SNR=4.6						
CPUP	**Villa Florida**	**144.96**	**171**	PKPbc	**PKPdf**	**04 50 06.9**	**+1.3**
	comp=Z,5.6nm,1.1s,baz=138,slow=2.5,SNR=6.4						
LPAZ	**La Paz**	**150.43**	**146**	PKPbc	**PKiKP**	**04 50 23.4**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=135,slow=1.4,SNR=8.7						
LPAZ	**La Paz**	**150.43**	**146**	PKPab	**PKPbc**	**04 50 21.7**	**+0.8**

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*JMA **08** 04:32:45.3±0.1, 42.°13N×142.°91E, h20km±1km, M3.8*
JMA Felt III J1.

*NIED **08** 04:32:45.4, 42.°13N×142.°91E, h20km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr6.79; Mθθ-6.22; Mφφ-0.56; Mrθ-2.08; Mθφ-1.72; Mφr-0.35; Fault plane solution: M0 7.07000×10¹⁴ NP1: φs256.00000°, δ54.00000°, λ92.00000°. NP2: φs73.00000°, δ36.00000°, λ87.00000°.*

*IDC **08** 04:32:48.2±2.1, 42.°14N×142.°88E, h50km±16km, mb3.5/15, mb1 3.6/18, mb1mx3.4/56, mbtmp3.7/18, ML2.6/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/73 Error ellipse: s-maj=19.2km s-min=14.0km az=121.0*

ISC 08 04:32:45.0±0.6**, 42.°17N**±0.°05×**142.°91E**±0.°04**, h21**km±1km**, n37,** σ**1s08**/37**, mb3.8**/16**, 2C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.16**	**313**	⇓P	**Pb**	**04 32 50.3**	**-0.4**
JNBK				eS	**Sb**	**04 32 54.7**	**0.0**
JEM	**Erimo**	**0.24**	**130**	⇑P	**Pb**	**04 32 50.4**	**-0.5**
JEM				eS	**Sb**	**04 32 54.6**	**-0.4**
JTHR	**Tokachihiroo**	**0.31**	**67**	⇑P	**Pb**	**04 32 52.4**	**+0.6**
JTHR				eS	**Sb**	**04 32 58.0**	**+1.5**
JSHD	**Hidakashinhida**	**0.41**	**306**	⇓P	**Pb**	**04 32 54.3**	**+0.9**
JSHD				eS	**Sn**	**04 33 02.5**	**-0.2**
JCH	**Churui**	**0.56**	**37**	⇓P	**Pb**	**04 32 56.7**	**+0.6**
JCH				eS	**Sn**	**04 33 05.8**	**-0.6**
JBT2	**Biratori 2**	**0.73**	**327**	⇓P	**Pb**	**04 32 59.3**	**+0.3**
JIAM	**Iburiatsuma**	**0.86**	**302**	P	**Pn**	**04 33 03.0**	**+1.1**
JOB	**Onbets**	**1.00**	**43**	⇓P	**Pn**	**04 33 04.4**	**+0.6**
JOB				eS	**Sn**	**04 33 19.4**	**+2.1**
JFR	**Furan**	**1.02**	**347**	⇓P	**Pb**	**04 33 03.0**	**-1.0**
ASAJ	**Asahikawa**	**1.96**	**353**	P	**Pb**	**04 33 18.9**	**-1.1**
	30nm,0.3s,baz=207,slow=7.9,SNR=42						
ASAJ				S	**Sb**	**04 33 43.5**	**-0.4**
	16nm,0.3s,baz=355,slow=31,SNR=5.9						
ASAJ				LR	LR	04 34 01.4	
	comp=Z,109nm,18.1s,baz=133,slow=37						
MJAR	**Matsushiro Arr**	**6.70**	**214**	P	**Pn**	**04 34 25.2**	**+3.0**
	0.3nm,0.3s,baz=36,slow=11,SNR=6.5						
MJAR				LR	LR	04 37 17.5	
	comp=Z,80nm,19.7s,baz=53,slow=40						
USRK	**Ussuriysk Ar.**	**8.24**	**288**	P	**Pn**	**04 34 45.0**	**+1.8**
	baz=89,slow=14,SNR=4.1						
KLR	**Kul'dur**	**10.52**	**316**	P	**Pn**	**04 35 15.5**	**+1.1**
	0.1nm,0.3s,baz=88,slow=21,SNR=2.2						
KLR				LR	LR	04 39 49.2	
	comp=Z,63nm,18.9s,baz=277,slow=40						
KSRS	**Korea Array**	**12.45**	**253**	LR	LR	04 39 57.5	
	comp=Z,42nm,20.7s,baz=55,slow=34						
SEY	**Seymchan**	**21.54**	**12**	P	**P**	**04 37 30.2**	**-2.3**
	0.9nm,0.4s,baz=214,slow=16,SNR=5.4						
SONM	**Songino Array**	**26.26**	**295**	P	**P**	**04 38 18.5**	**-0.3**
	0.6nm,0.6s,baz=72,slow=8.9,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**30.20**	**130**	T	T	05 10 20.8	
	baz=323,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**30.21**	**130**	T	T	05 10 20.4	
	baz=323,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**30.22**	**130**	T	T	05 10 22.2	
	baz=323,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	05 11 23.7	
	baz=324,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	05 11 23.1	
	baz=324,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	05 11 21.0	
	baz=324,slow=76,SNR=39						
ZALV	**Zalesovo Beam**	**39.49**	**308**	P	**P**	**04 40 13.8**	**0.0**
	2.0nm,0.7s,baz=90,slow=8.5,SNR=8.8						
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**04 40 39.1**	**-0.1**
	0.6nm,0.6s,baz=80,slow=10,SNR=7.9						
KURBB	**Kurchatov Arra**	**43.92**	**304**	P	**P**	**04 40 49.9**	**-0.2**
	2.9nm,0.6s,baz=78,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**44.59**	**35**	P	**P**	**04 40 55.8**	**+0.6**
	0.8nm,0.8s,baz=278,slow=6.8,SNR=8.6						
BVAR	**Borovoye Array**	**48.10**	**309**	P	**P**	**04 41 23.3**	**+0.4**
	0.8nm,0.3s,baz=91,slow=5.0,SNR=9.4						
INK	**Inuvik**	**49.32**	**29**	P	**P**	**04 41 32.5**	**+0.4**
	0.6nm,0.6s,baz=292,slow=4.7,SNR=5.1						
INK				LR	LR	05 03 43.0	
	comp=Z,19nm,18.6s,baz=116,slow=38						
YKA	**Yellowknife Ar**	**58.82**	**32**	P	**P**	**04 42 41.7**	**+0.3**
	0.2nm,0.3s,baz=308,slow=6.8,SNR=4.0						
WRA	**Warramunga Arr**	**62.30**	**189**	P	**P**	**04 43 03.8**	**-1.9**
	0.7nm,0.6s,baz=4.0,slow=6.5,SNR=4.2						
FINES	**FINESS Array B**	**64.83**	**332**	P	**P**	**04 43 21.2**	**-0.7**
	0.8nm,0.5s,baz=42,slow=6.8,SNR=11						
HFS	**Hagfors**	**69.89**	**336**	P	**P**	**04 43 53.4**	**-0.6**
	0.9nm,0.5s,baz=62,slow=3.5,SNR=7.2						
NB2	**NORSAR Subarra**	**69.90**	**337**	P	**P**	**04 43 53.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=47,slow=6.2						
NOA	**NORSAR Array B**	**69.90**	**337**	P	**P**	**04 43 53.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=37,slow=6.4,SNR=2.3						
AKASG	**Malin Array Be**	**70.96**	**322**	P	**P**	**04 44 00.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=43,slow=5.8,SNR=2.3						
NVAR	**Mina Array Bea**	**71.05**	**55**	P	**P**	**04 44 01.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=303,slow=7.4,SNR=2.5						
PDAR	**Pinedale Array**	**73.28**	**47**	P	**P**	**04 44 14.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=318,slow=3.9,SNR=2.7						

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*DDA **08** 04:48:31.2±0.0, 34.°37N×33.°09E, h6km±4km, ML2.3*
*ISK **08** 04:48:32.7, 34.°58N×33.°14E, h10km, ML2.7/8*
*NIC **08** 04:48:32.7±0.0, 34.°55N×33.°25E, h16km±2km, Ml3.0/5*

ISC 08 04:48:32.9±1.4**, 34.°57N**±0.°04×**33.°10E**±0.°04**, h6**km±11km**, n27,** σ**1s17**/39**, 3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.25**	**29**	⇓iP	**Pg**	**04 48 38.3**	**+0.6**
ASGA				S	**Sg**	**04 48 42.2**	**+1.1**
ASGA				AML	AML	04 48 42.3	
	15nm,0.2s						
ASGA				AML	AML	04 48 42.3	
	15nm,0.2s						
SZAC	**Souni**	**0.26**	**316**	⇓eP	**Pb**	**04 48 40.4**	**+0.3**
SZAC				S	**Sb**	**04 48 45.9**	**+1.2**
SZAC				AML	AML	04 48 46.2	
	8.0nm,0.3s						
SZAC				AML	AML	04 48 46.2	
	8.0nm,0.3s						
SZAC				AML	AML	04 48 49.8	
	8.8nm,0.2s						
SZAC				AML	AML	04 48 49.8	
	8.8nm,0.2s						
CSS	**Mathiatis**	**0.44**	**25**	⇓eP	**Pg**	**04 48 40.7**	**-0.6**
CSS				S	**Sg**	**04 48 47.9**	**+0.8**
NATA	**Nata**	**0.49**	**296**	P	**Pn**	**04 48 45.8**	**-0.6**
AKIN	**Akıncılar- Kıb**	**0.54**	**34**	PG	**Pg**	**04 48 42.8**	**-0.5**
MVOU	**Mavrovouni**	**0.62**	**44**	P	**Pg**	**04 48 43.7**	**-1.2**
MVOU				S	**Sg**	**04 48 53.5**	**+0.4**
MVOU				AML	AML	04 48 56.1	
	1.0nm,0.5s						
MVOU				AML	AML	04 48 56.1	
	1.0nm,0.5s						
MVOU				AML	AML	04 48 57.1	
	1.1nm,0.3s						
MVOU				AML	AML	04 48 57.1	
	1.1nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**0.74**	**351**	PG	**Pg**	**04 48 47.2**	**+0.2**
AKMS	**Akamas**	**0.78**	**306**	P	**Pn**	**04 48 49.8**	**-0.6**
AKMS				S	**Sn**	**04 49 03.0**	**+0.7**
AKMS				AML	AML	04 49 04.5	
	0.5nm,0.2s						
AKMS				AML	AML	04 49 04.5	
	0.5nm,0.2s						
AKMS				AML	AML	04 49 05.6	
	0.5nm,0.2s						
AKMS				AML	AML	04 49 05.6	
	0.5nm,0.2s						
LFK	**Lefkose**	**0.79**	**26**	PG	**Pg**	**04 48 48.0**	**-0.1**
EREN	**Erenkoy**	**1.30**	**42**	PN	**Pb**	**04 48 57.2**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.57**	**0**	PN	**Pn**	**04 49 01.2**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.63**	**13**	PN	**Pn**	**04 49 02.0**	**-0.1**
IKL	**Isikli**	**1.73**	**16**	PN	**Pn**	**04 49 03.2**	**-0.3**
BERE	**Bereket-Mersin**	**1.78**	**3**	PN	**Pn**	**04 49 04.2**	**-0.1**
GAZI	**Gazipasa**	**1.78**	**339**	PN	**Pn**	**04 49 04.2**	**0.0**
GAZI	**Gazipasa**	**1.78**	**339**	P	**Pn**	**04 49 04.0**	**-0.3**
GAZI				S	**Sn**	**04 49 26.7**	**-0.5**
GAZI				i AML	AML	04 49 28.0	
	comp=N,44nm,0.5s						
OSC1	**CSNet OBS 1**	**1.85**	**235**	P	**Pn**	**04 49 05.2**	**+0.1**
OSC1				S	**Sb**	**04 49 30.3**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.89**	**8**	PN	**Pn**	**04 49 05.8**	**+0.1**
ERMK	**Ermenek**	**2.08**	**356**	P	**Pn**	**04 49 09.3**	**+0.9**
ERMK				S	**Sb**	**04 49 37.0**	**-0.2**
ERMK				i AML	AML	04 49 43.0	
	comp=E,19nm,0.4s						
ERMK				i AML	AML	04 49 56.0	
	comp=N,21nm,0.7s						
HDMB	**Hadim**	**2.44**	**348**	PN	**Pn**	**04 49 13.9**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEPZ	Antalya-Kepez	2.63	333	P	Pn	04 49 15.9	0.0
KEPZ				S	Sb	04 49 51.6	-1.3
KEPZ				i AML	AML	04 50 05.0	
	comp=E,9.5nm,0.9s						
KKBE	Karaman, Kazim	2.65	357	P	Pb	04 49 18.3	-2.5
KKBE				S	Sb	04 49 51.4	-2.2
MMLI	Mount Malkishu	2.88	137	PN	Pn	04 49 19.9	+0.6
KERG	Konya-Eregli	2.96	16	P	Pn	04 49 21.7	+1.2
KERG				S	Sn	04 49 58.7	+2.3
KERG				i AML	AML	04 50 01.0	
	comp=E,9.6nm,0.6s						
KERG				i AML	AML	04 50 02.0	
	comp=N,12nm,0.3s						
SEDI	Konya, Seydise	3.08	340	P	Pn	04 49 24.6	+2.5
SEDI				S	Sb	04 50 04.8	-1.1
SEDI				i AML	AML	04 50 09.0	
	comp=E,7.0nm,0.5s						
SEDI				i AML	AML	04 50 14.0	
	comp=N,9.1nm,0.5s						
FETY	Fethiye	3.87	303	P	Pn	04 49 32.7	-0.2
YVAC	Isparta, Yalva	3.99	338	P	Pn	04 49 38.1	+3.4

IDC 08 05:07:06.0±5.2**, 31°.15S×179°.11W, h0km, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.7**/25**, mbtmp3.7**/2**, Error ellipse: s-maj=241.8km s-min=45.7km az=160.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.12	268	P	P	05 14 59.5	-0.8
	0.4nm,0.4s,baz=104,slow=7.9,SNR=7.3						
WRA	Warramunga Arr	43.18	274	P	P	05 15 09.2	+0.3
	0.8nm,0.4s,baz=114,slow=7.6,SNR=25						
FINES	FINESS Array B	145.51	339	PKPbc	PKPdf	05 26 45.2	-0.1
	0.4nm,0.5s,baz=63,slow=6.4,SNR=4.3						
NOA	NORSAR Array B	149.34	350	PKPbc	PKPbc	05 26 55.1	-1.1
	0.3nm,0.5s,baz=14,slow=4.1,SNR=3.6						

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*IDC **08** 05:20:14.0±0.9, 3°.29S×131°.09E, h0km, mb4.0/9, mb1 4.2/11, mb1mx3.9/31, mbtmp4.0/11, ML3.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/71, Error ellipse: s-maj=32.6km s-min=18.4km az=70.0*

*DJA **08** 05:20:17.6±0.5, 3°S±7°×13°1E±°, h10km, M3.9/7, mb4.3/1, MLv3.7/7*

ISC 08 05:20:16.8±0.6**, 3°.50S**±0°.05×**131°.19E**±0°.06**, h30km, n33,** σ**2s93**/35**, mb4.0**/8**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.21	61	P	Pb	05 20 40.1	+1.0
FAKI	Fak Fak	1.21	61	P	Pb	05 20 40.6	+1.5
FAKI	Fak Fak	1.21	61	P	Pb	05 20 40.8	+1.7
BNDI	Bandanaira	1.63	232	P	Pb	05 20 47.9	+1.6
MSAI	Masohi	2.26	274	P	Pn	05 20 53.4	+1.2
MSAI	Masohi	2.26	274	P	Pn	05 20 50.2	-2.0
SIJI	Sorong	2.62	2	Pn	Pn	05 20 55.2	-1.9
	5.5nm,0.3s,baz=209,slow=23,SNR=15						
SIJI				Sn	Sn	05 21 23.6	-4.2
	11nm,0.3s,baz=155,slow=17,SNR=8.0						
SWI	Sorong	2.62	2	P	Pn	05 20 55.0	-2.1
SWI	Sorong	2.62	2	P	Pn	05 20 55.5	-1.6
AAI	Ambon	2.99	266	P	Pn	05 21 04.3	+2.0
AAI	Ambon	2.99	266	P	Pn	05 21 01.4	-0.9
SANI	Sanana	5.39	285	P	Pn	05 21 32.7	-2.5
SANI	Sanana	5.39	285	P	Pn	05 21 32.8	-2.5
BATI	Baumata	10.01	228	LR	LR	05 26 52.3	
	comp=Z,262nm,20.7s,baz=16,slow=40						
MMRI	Maumere	10.26	240	P	Pn	05 22 45.6	+3.5
	29nm,1.1s						
KAPI	Kappang	11.50	262	Pn	Pn	05 23 00.1	+0.9
	0.1nm,0.3s,baz=109,slow=18,SNR=1.9						
KAPI				LR	LR	05 28 25.3	
	comp=Z,146nm,21.0s,baz=71,slow=43						
KNRA	Kununurra	12.33	191	P	Pn	05 23 10.8	+0.3
FITZ	Fitzroy Crossi	15.49	200	Pn	Pn	05 23 52.6	-0.7
	baz=23,slow=11						
FITZ				Sn	Sn	05 26 35.9	-8.2
	0.1nm,0.3s,baz=272,slow=20,SNR=2.4						
FITZ				LR	LR	05 30 43.6	
	comp=Z,150nm,19.1s,baz=22,slow=40						
COEN	Coen	15.75	132	P	Pn	05 23 58.8	+2.2
WRAB	Tennant Creek	16.62	170	P	Pn	05 24 08.3	+0.5
WRA	Warramunga Arr	16.63	170	Pn	Pn	05 24 04.9	-3.0
	0.2nm,0.3s,baz=357,slow=13,SNR=9.8						
WRA				Sn	Sn	05 27 04.9	-6.8
	0.5nm,0.3s,baz=338,slow=25,SNR=6.2						
ASAR	Alice Springs	20.22	173	P	Pn	05 24 52.8	+1.2
	5.2nm,0.6s,baz=352,slow=11,SNR=51						
ASAR				S	S	05 28 28.5	-6.6
	0.8nm,0.9s,baz=352,slow=26,SNR=3.5						
WRKA	Warakurna	21.59	187	P	P	05 25 06.4	+2.0
CTA	Charters Tower	22.08	139	P	P	05 25 13.5	+3.8
	2.8nm,0.6s,baz=312,slow=14,SNR=3.6						
CMAR	Chiang Mai Arr	38.53	306	P	P	05 27 37.3	+0.3
	1.3nm,0.3s,baz=138,slow=8.6,SNR=7.0						
KSRS	Korea Array	40.86	356	P	P	05 27 55.9	-0.1
	1.4nm,0.7s,baz=181,slow=10.0,SNR=2.7						
USRK	Ussuriysk Ar.	47.49	1	P	P	05 28 50.0	+1.0
	1.7nm,0.6s,baz=183,slow=7.3,SNR=2.5						
SONM	Songino Array	55.55	340	P	P	05 29 49.6	+0.1
	0.4nm,0.5s,baz=143,slow=7.9,SNR=4.5						
MKAR	Makanchi Array	66.00	325	P	P	05 31 00.9	+0.4
	1.7nm,0.7s,baz=120,slow=8.3,SNR=15						
ZALV	Zalesovo Beam	69.01	333	P	P	05 31 18.6	-0.7
	1.5nm,0.7s,baz=102,slow=6.1,SNR=6.6						
ILAR	Eielson Array	89.70	25	P	P	05 33 13.1	+1.3
	0.3nm,0.6s,baz=248,slow=4.8,SNR=2.2						
TORD	Torodi Ar. Bea	129.21	284	PKP	PKiKP	05 39 24.5	+0.5
	0.4nm,0.8s,baz=71,slow=2.8,SNR=2.4						
LPAZ	La Paz	152.59	136	PKPbc	PKiKP	05 40 15.3	+2.8
	0.8nm,0.4s,baz=214,slow=3.6,SNR=5.7						

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*IDC **08** 05:36:22.6±0.4, 15°.17S×173°.66W, h0km, mb5.1/25, mb1 5.2/25, mb1mx5.2/29, mbtmp5.1/25, MS5.6/67, Ms1 5.6/67, ms1mx5.6/69, Error ellipse: s-maj=15.6km s-min=12.0km az=148.0*

*BJI **08** 05:36:26.1±0.0, 14°.69S×173°.09W, h24km, mb5.2/45, mB5.7/66, Ms5.7/84, Ms7 5.5/78*

*MOS **08** 05:36:27.1±1.4, 15°.20S×173°.62W, h35km, mb5.7/57, MS5.9/24, Error ellipse: s-maj=7.4km s-min=7.2km az=164.5*

*NEIC **08** 05:36:27.8, 15°.12S×173°.38W, h33km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.12; Mθθ-4.17; Mφφ3.04; Mrθ-8.74; Mθφ1.02; Mφr2.26; Fault plane solution: M0 9.82000×10¹⁷ NP1:φs286.84000°, δ81.97000°, λ96.59000°. NP2:φs67.27000°, δ10.37000°, λ50.88000°. Principal axes: T 7.9233, Plg53.0000°, Azm205.0000°; N 3.0655, Plg7.0000°, Azm106.0000°; P -10.9889, Plg37.0000°, Azm11.0000°;*

*NEIC **08** 05:36:28.4±2.8, 15°.11S±0°.07×173°.43W±0°.07, h33km±1km, mb5.8/435, Ms_20 6.0/455, Mwb5.9/98, Mwc6.0/29, Mww5.9 Error ellipse: s-maj=11.6km s-min=11.5km az=104.0*

*BGR **08** 05:36:28.9±0.0, 15°.83S×172°.49W, h41km±1km, Ms5.9*

*NOU **08** 05:36:30.5, 14°.97S×173°.06W, h89km, mb5.5/27, Samoa Islands Region*

*NEIC **08** 05:36:32, 15°.54S×172°.79W, h46km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁸Nm; Mrr-0.06; Mθθ0.17; Mφφ-0.11; Mrθ-0.91; Mθφ0.29; Mφr0.39; Fault plane solution: M0 1.04000×10¹⁸ NP1: φs110.00000°, δ90.00000°, λ-72.00000°. NP2: φs201.00000°, δ17.00000°, λ-178.00000°. Principal axes: T 0.9752, Plg42.0000°, Azm183.0000°; N 0.1276, Plg18.0000°, Azm290.0000°; P -1.1028, Plg43.0000°, Azm37.0000°;*

*GCMT **08** 05:36:34.4±0.1, 15°.16S×173°.37W, h55km, MW6.0/164, Moment Tensor Solution. s152,c333; s164,c475; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr-0.11±.01; Mθθ0.25±.01; Mφφ-0.13±.01; Mrθ-1.25±.01; Mθφ0.12±.01; Mφr0.26±.01; Best double couple: M0 1.29900×10¹⁸ NP1:φs214.00000°, δ9.00000°, λ-158.00000°. NP2:φs102.00000°, δ87.00000°, λ-82.00000°. Principal axes: T 1.3360, Plg41.0000°, Azm184.0000°; N -0.0740, Plg8.0000°, Azm282.0000°; P -1.2620, Plg48.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 05:36:47.1, 15°.31S×174°.22W, h54km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.14; Mθθ0.22; Mφφ-0.08; Mrθ-1.29; Mθφ0.15; Mφr0.26; Fault plane solution: M0 1.33000×10¹⁸ NP1:φs101.07000°, δ86.88000°, λ-81.53000°. NP2:φs211.14000°, δ9.02000°, λ-159.71000°. Principal axes: T 1.3417, Plg41.0000°, Azm183.0000°; N -0.0138, Plg8.0000°, Azm281.0000°; P -1.3279, Plg47.0000°, Azm20.0000°;*

ISC 08 05:36:28.1±0.3**, 15°.15S**±0°.04×**173°.38W**±0°.04**, h35km**±1km**, h36km:pP-P, n1331,** σ**1s85**/1070**, mb5.7**/277**, MS5.9**/335**, 72C-37D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.98	52	Pn	Pn	05 36 57.3	-2.0
	4µm,0.3s,baz=291,slow=0.5,SNR=1107						
AFI				Sn	Sn	05 37 18.6	-4.3
	10µm,0.3s,baz=52,slow=21,SNR=11						
AFI				LR	LR	05 37 42.9	
	comp=Z,173µm,19.5s,baz=180,slow=36						
AFI	Afiamalu	1.98	52	P	Pn	05 36 58.2	-1.0
AFI	Afiamalu	1.98	52	P	Pn	05 36 57.1	-2.1
NIUE	Niue	5.12	140	P	Pn	05 37 41.4	-0.8
	baz=5.1,SNR=341						
NIUE	Niue	5.12	140	Pn	Pn	05 37 41.8	-0.5
NIUE	Niue	5.12	140	P	Pn	05 37 42.6	+0.3
MSVF	Nonsavu	8.62	251	Pn	Pn	05 38 36.1	+5.7
	6.0nm,0.3s,baz=103,slow=14,SNR=45						
MSVF				LR	LR	05 41 30.1	
	comp=Z,102µm,20.2s,baz=87,slow=37						
MSVF	Nonsavu	8.62	251	i P	Pn	05 38 30.4	-0.1
MSVF	Nonsavu	8.62	251	Pn	Pn	05 38 33.9	+3.5
MSVF	Nonsavu	8.62	251	P	Pn	05 38 38.0	+7.5
MSVF	Nonsavu	8.62	251	P	Pn	05 38 37.5	+7.0
FUNA	Funafuti	9.80	311	Pn	Pn	05 38 46.3	-0.3
KNTN	Kanton	12.40	8		Pn	05 39 19.9	-2.4
KNTN	Kanton	12.40	8	P	Pn	05 39 20.3	-2.0
KNTN	Kanton	12.40	8	P	Pn	05 39 20.7	-1.6
RAR	Rarotonga	14.26	117	Pn	Pn	05 39 46.4	-1.2
	12nm,0.3s,baz=264,slow=5.3,SNR=15						
RAR				Sn	Sn	05 42 16.9	-7.8
	3.3nm,0.3s,baz=147,slow=20,SNR=1.6						
RAR				LR	LR	05 44 00.5	
	comp=Z,5µm,19.5s,baz=306,slow=32						
RAR	Rarotonga	14.26	117	P	Pn	05 39 49.7	+2.0
RAR				pmax	pmax		
	comp=Z,310nm,0.9s						
RAR	Rarotonga	14.26	117	Pn	Pn	05 39 47.1	-0.6
RAR	Rarotonga	14.26	117	P	Pn	05 39 46.7	-1.0
GLKZ	Green Lake	14.66	196	P	Pn	05 39 56.1	+3.2
MARNC	Mare, Loyalty	18.73	248	P	Pn	05 40 46.1	+1.5
SANVU	Saraoutou	18.73	267	P	Pn	05 40 46.6	+2.0
SANVU	Saraoutou	18.73	267	P	Pn	05 40 45.0	+0.4
LIFNC	LIFOU	19.26	250	P	P	05 40 49.3	-0.4
LIFNC				IAmb	IAmb	05 41 05.7	
	comp=Z,423nm,0.9s						
LIFNC	LIFOU	19.26	250	P	Pn	05 40 51.4	+0.4
PINNC	Pines Island,	19.59	245	P	P	05 40 54.2	+0.8
YATNC	Mamie plateau,	19.91	247	P	Pn	05 40 59.5	+0.8
OUENC	Ouen Island, N	20.06	246	P	P	05 40 58.9	+0.4
OUENC				IAmb	IAmb	05 41 28.5	
	comp=Z,382nm,1.1s						
OUENC	Ouen Island, N	20.06	246	P	Pn	05 41 00.0	-0.5
DZM	Mont Dzumac	20.31	247	P	P	05 41 00.5	-0.9
	comp=Z,94nm,1.2s,baz=74,slow=14,SNR=20						
DZM				LR	LR	05 47 45.0	
	comp=Z,32µm,20.2s,baz=82,slow=34						
DZM	Mont Dzumac	20.31	247	eP	Pn	05 41 03.1	-0.4
	comp=Z,960nm,1.4s						
DZM				eLQ	LQ	05 45 02.7	
	comp=Z,39µm,25.6s						
DZM				eLR	LR	05 45 50.8	
	comp=Z,79µm,26.1s						
DZM	Mont Dzumac	20.31	247	P	P	05 41 01.6	+0.3
DZM				IAmb	IAmb	05 41 23.6	
	comp=Z,970nm,1.5s						
DZM	Mont Dzumac	20.31	247	P	Pn	05 41 03.3	-0.2
DZM	Mont Dzumac	20.31	247	P	Pn	05 41 05.9	+2.4
DZM				pP	sP	05 41 18.4	+4.2
ONTNC	Ouen Toro	20.37	247	P	Pn	05 41 03.3	-0.8
NOUC	Port Laguerre	20.45	247	P	Pn	05 41 06.0	+1.0
NOUC	Port Laguerre	20.45	247	P	Pn	05 41 07.3	+2.4
NOUC				pP	sP	05 41 19.7	+4.2
TARA	Tarawa	21.27	319	P	P	05 41 13.0	+1.4
TARA	Tarawa	21.27	319	P	P	05 41 14.1	+2.4
PAE	Paea	22.96	100	eP	P	05 41 30.0	+0.3
	comp=Z,63nm,1.2s						
PAE	Paea	22.96	100	eT	T	06 05 19.5	
	comp=Z,29nm,0.3s						
PPT	Papeete	22.96	99	P	P	05 41 33.2	+3.4
	comp=Z,143nm,1.1s,baz=137,slow=3.7,SNR=4.3						
PPT				LR	LR	05 47 15.6	
	comp=Z,2µm,21.6s,baz=266,slow=28						
PPT2	Papeete2	22.96	99	eP	P	05 41 30.4	+0.6
	comp=Z,220nm,1.1s						
PPT2				eLR	LR	05 46 47.2	
	comp=Z,3µm,24.2s						
PPT2	Papeete2	22.96	99	eT	T	06 05 16.6	
	comp=Z,32nm,0.2s						
OUZ	Omahuta	23.16	208	P	P	05 41 31.5	0.0
OUZ				IAMs_20	IAMs_20	05 48 38.0	
	comp=Z,60µm,21.0s						
OUZ	Omahuta	23.16	208	P	P	05 41 31.8	+0.3
XMAS	Kiritimati	23.25	44	IAMs_20	IAMs_20	05 47 46.7	
	comp=Z,37µm,22.0s						
TVO	Taravao	23.28	100	eP	P	05 41 33.3	+0.3
	comp=Z,2.0nm,1.0s						
TVO	Taravao	23.28	100	eT	T	06 05 35.6	
	comp=Z,5.0nm,0.2s						
MXZ	Matakaoa Point	23.51	197	IAMs_20	IAMs_20	05 50 12.5	
	comp=Z,49µm,20.0s						
MXZ	Matakaoa Point	23.51	197	P	P	05 41 34.6	-0.3
HAZ	Te Kaha	23.84	198	P	P	05 41 36.5	-1.5
HAZ				S	S	05 45 52.0	+0.3
RUGZ	Raukumara Rang	24.07	198	P	P	05 41 40.0	-0.4
TWGZ	Tauwhareparae	24.18	197	P	P	05 41 45.4	+4.2
CNGZ	Carnagh Statio	24.40	196	P	P	05 41 44.3	+1.0
MWZ	Matawai	24.45	197	P	P	05 41 41.7	-2.0
URZ	Urewera	24.51	198	P	P	05 41 43.7	-0.5
	comp=Z,13nm,0.4s,baz=36,slow=2.1,SNR=10						
URZ				LR	LR	05 50 30.6	
	comp=Z,43µm,19.0s,baz=37,slow=35						
URZ	Urewera	24.51	198	P	P	05 41 43.9	-0.3
URZ				IAMs_20	IAMs_20	05 49 43.8	
	comp=Z,45µm,20.0s						
TOZ	Tahuroa Road	24.56	202	P	P	05 41 46.0	+1.4
PMOR	Pomariorio Ree	24.61	93	eP	P	05 41 45.8	+0.5
	comp=Z,780nm,1.2s						
PMOR	Pomariorio Ree	24.61	93	eT	T	06 07 14.8	
	comp=Z,29nm,0.3s						
RIGZ	Rimuhau	24.73	197	P	P	05 41 48.2	+1.9
MUGZ	Murupara	24.81	199	P	P	05 41 48.0	+1.0
RAHZ	Arahi	25.12	198	P	P	05 41 52.9	+3.1
MTHZ	Maungataniwha	25.14	198	P	P	05 41 51.6	+1.7
NMHZ	Naumai	25.37	198	P	P	05 41 53.8	+1.7
HIZ	Hauiti	25.48	202	P	P	05 41 55.5	+2.4
HIZ				IAmb	IAmb	05 42 18.6	
	comp=Z,443nm,1.3s						
HIZ				IAMs_20	IAMs_20	05 50 05.6	
	comp=Z,49µm,22.0s						
HIZ	Hauiti	25.48	202	P	P	05 41 53.4	+0.3
BKZ	Black Stump Fm	25.53	198	P	P	05 41 54.7	+1.1
BKZ				IAMs_20	IAMs_20	05 50 52.8	
	comp=Z,36µm,20.0s						
BKZ	Black Stump Fm	25.53	198	P	P	05 41 54.5	+1.0
HNR	Honiara	26.66	279	P	P	05 42 00.3	-3.7
	comp=Z,59nm,0.4s,baz=54,slow=17,SNR=2.2						
HNR				LR	LR	05 51 40.1	
	comp=Z,4µm,21.4s,baz=130,slow=35						
HNR	Honiara	26.66	279	IAmb	IAmb	05 42 48.3	
	comp=Z,191nm,1.0s						
BFZ	Birch Farm	27.00	198	IAMs_20	IAMs_20	05 51 38.7	
	comp=Z,41µm,21.0s						
BFZ	Birch Farm	27.00	198	P	P	05 42 05.7	-1.0
SNZO	South Karori	28.04	199	IAMs_20	IAMs_20	05 53 12.3	
	comp=Z,32µm,18.0s						
SNZO	South Karori	28.04	199	P	P	05 42 16.3	+0.2
BHW	Baring Head	28.08	199	P	P	05 42 15.5	-0.9
QRZ	Quartz Range	28.37	203	P	P	05 42 17.1	-2.0
QRZ				IAmb	IAmb	05 43 01.2	
	comp=Z,205nm,1.5s						
QRZ				IAMs_20	IAMs_20	05 51 56.0	
	comp=Z,35µm,21.0s						
QRZ	Quartz Range	28.37	203	P	P	05 42 17.4	-1.6
TUWZ	Tuamarina	28.40	200	P	P	05 42 17.5	-1.8
NNZ	Nelson	28.41	201	IAMs_20	IAMs_20	05 52 54.9	
	comp=Z,31µm,21.0s						
THZ	Tophouse	29.05	201	IAMs_20	IAMs_20	05 52 19.1	
	comp=Z,43µm,22.0s						
KHZ	Kahutara	29.42	200	IAMs_20	IAMs_20	05 53 06.7	
	comp=Z,26µm,21.0s						
KHZ	Kahutara	29.42	200	P	P	05 42 28.1	-0.2
LTZ	Lake Taylor	30.17	201	IAMs_20	IAMs_20	05 54 10.7	
	comp=Z,45µm,20.0s						
OXZ	Oxford	30.73	201	IAMs_20	IAMs_20	05 54 38.5	
	comp=Z,38µm,19.0s						
MQZ	McQueen's Vall	30.86	200	IAMs_20	IAMs_20	05 53 42.9	
	comp=Z,21µm,21.0s						
RPZ	Rata Peaks	31.42	202	P	P	05 42 44.0	-2.0
	comp=Z,8.1nm,0.4s,baz=15,slow=4.2,SNR=2.7						
RPZ				LR	LR	05 55 09.7	
	comp=Z,46µm,19.7s,baz=45,slow=36						
RPZ	Rata Peaks	31.42	202	P	P	05 42 46.8	+0.8
FOZ	Fox Glacier	31.73	204	IAMs_20	IAMs_20	05 54 20.8	
	comp=Z,25µm,21.0s						
JOHN	Johnston Islan	31.91	7	IAMs_20	IAMs_20	05 52 57.4	
	comp=Z,20µm,21.0s						
LBZ	Lake Benmore	32.32	202	IAMs_20	IAMs_20	05 55 15.4	
	comp=Z,41µm,20.0s						
ODZ	Otahua Downs	32.72	201	IAMs_20	IAMs_20	05 55 04.1	
	comp=Z,27µm,20.0s						
TAOE	Nuku Hiva Isla	33.07	83	eLR	LR	05 51 44.2	
	comp=Z,18µm,25.4s						
TAOE	Nuku Hiva Isla	33.07	83	eT	T	06 17 37.8	
	comp=Z,213nm,0.2s						
MLZ	Mavora Lakes	33.93	204	IAMs_20	IAMs_20	05 58 08.6	
	comp=Z,19µm,18.0s						
DCZ	Deep Cove	34.39	205	IAmb	IAmb	05 43 14.5	
	comp=Z,124nm,1.3s						
WHZ	Wether Hill Ro	34.43	203	IAmb	IAmb	05 43 12.8	
	comp=Z,220nm,1.3s						
EIDS	Eidsvold	34.76	247	P	P	05 43 13.5	-1.8
	baz=35,SNR=4.7						
PYZ	Puysegur Point	35.15	204	IAMs_20	IAMs_20	05 58 27.1	
	comp=Z,18µm,19.0s						
ARMA	Armidale	35.49	239	P	P	05 43 19.3	-2.5
	baz=35,SNR=9.6						
ARMA	Armidale	35.49	239	P	P	05 43 18.7	-3.1
ARMA	Armidale	35.49	239	P	P	05 43 20.6	-1.1
MGCD	Mangrove Creek	36.82	234	P	P	05 43 33.1	+0.2
	baz=37,SNR=4.2						
MGCD	Mangrove Creek	36.82	234	P	P	05 43 33.9	+1.0
	comp=Z,64nm,1.1s						
RMQ	Roma	37.02	246	P	P	05 43 33.7	-1.1
	baz=37,SNR=4.5						
CTA	Charters Tower	38.72	257	P	P	05 43 46.1	-3.1
	comp=Z,11nm,0.9s,baz=91,slow=9.6,SNR=8.3						
CTA				LR	LR	05 58 03.1	
	comp=Z,4µm,19.8s,baz=88,slow=34						
POHA	Pohakuloa	38.88	27	IAMs_20	IAMs_20	05 55 50.6	
	comp=Z,15µm,20.0s						
CNB	Canberra Magne	38.92	232	P	P	05 43 47.9	-2.8
	baz=39,SNR=7.9						
CNB	Canberra Magne	38.92	232	P	P	05 43 50.5	-0.3
	comp=Z,64nm,1.1s						
PMG	Port Moresby	38.94	274	P	P	05 43 49.1	-1.9
	comp=Z,13nm,0.9s,baz=75,slow=12,SNR=10.0						
PMG				LR	LR	05 57 47.1	
	comp=Z,5µm,18.8s,baz=70,slow=33						
PMG	Port Moresby	38.94	274	ceP	P	05 43 49.6	-1.4
PMG				pmax	pmax		
	comp=Z,58nm,1.7s						
PMG	Port Moresby	38.94	274	P	P	05 43 49.3	-1.7
HPAH	Hawaii Prepara	39.04	27	P	P	05 43 49.1	-2.7
CAN	Canberra	39.20	232	P	P	05 43 50.0	-3.1
CAN				pmax	pmax		
	comp=Z,92nm,1.3s						
CAN	Canberra	39.20	232	P	P	05 43 51.9	-1.2
	comp=Z,92nm,1.3s						
KIP	Kipapa	39.35	23	ceP	P	05 43 55.4	+1.1
KIP				pmax	pmax		
	comp=Z,174nm,1.0s						
KIP	Kipapa	39.35	23	P	P	05 43 54.1	-0.1
KIP	Kipapa	39.35	23	IAMs_20	IAMs_20	05 56 51.0	
	comp=Z,14µm,19.0s						
WAKE	Wake Island	39.46	329	P	P	05 43 57.3	+2.1
KHLH	Kahului Airpor	39.50	25	P	P	05 43 56.3	+0.8
H11N3	WAKE ISLAND Hy	39.70	330	T	T	06 26 24.9	
	baz=149,slow=76,SNR=12						
H11N1	WAKE ISLAND Hy	39.71	330	T	T	06 26 01.0	
	baz=149,slow=76,SNR=15						
H11N2	WAKE ISLAND Hy	39.72	330	T	T	06 26 26.3	
	baz=149,slow=76,SNR=13						
MTSU	Mount Surprise	40.58	260	P	P	05 44 01.8	-2.9
	baz=40,SNR=50						
CMSA	Cobar Meteorol	40.70	239	P	P	05 44 02.8	-2.7
	baz=41,SNR=10						
QLP	Quilpie	41.03	247	P	P	05 44 07.2	-1.1
	baz=41,SNR=3.5						
COEN	Coen	42.02	266	P	P	05 44 14.6	-1.9
COEN	Coen	42.02	266	P	P	05 44 16.5	0.0
TOO	Toolangi	42.64	230	P	P	05 44 19.1	-2.3
	baz=42,SNR=5.2						
TOO	Toolangi	42.64	230	P	P	05 44 18.2	-3.2
TOO				pmax	pmax		
	comp=Z,170nm,1.2s						
TOO	Toolangi	42.64	230	P	P	05 44 18.2	-3.2
TOO				IAmb	IAmb	05 44 41.0	
	comp=Z,170nm,1.2s						
TOO	Toolangi	42.64	230	P	P	05 44 20.8	-0.6
MIDW	Midway	43.28	355	IAMs_20	IAMs_20	05 58 37.1	
	comp=Z,14µm,20.0s						
TAU	Tasmania Unive	43.52	223	IAMs_20	IAMs_20	05 59 55.2	
	comp=Z,16µm,18.0s						
STKA	Stephens Creek	44.18	240	P	P	05 44 30.7	-3.1
	comp=Z,12nm,0.9s,baz=83,slow=8.5,SNR=15						
STKA				LR	LR	06 00 22.6	
	comp=Z,8µm,21.9s,baz=78,slow=33						
STKA	Stephens Creek	44.18	240	P	P	05 44 31.6	-2.2
	baz=44,SNR=6.9						
STKA	Stephens Creek	44.18	240	P	P	05 44 30.4	-3.5
QIS	Mount Isa	44.96	256	P	P	05 44 37.3	-2.9
	baz=45,SNR=4.2						
ARPS	Mount Arapiles	45.16	233	P	P	05 44 38.7	-2.8
	baz=45,SNR=4.8						
HTT	Hallett	46.69	238	P	P	05 44 51.2	-2.5
	baz=47,SNR=5.8						
JAY	Jayapura	46.96	281	LR	LR	06 02 42.5	
	comp=Z,6µm,21.2s,baz=96,slow=34						
JAY	Jayapura	46.96	281	P	P	05 44 56.4	+0.3
JAY				pmax	pmax		
	comp=Z,85nm,1.5s						
BBOO	Buckleboo	48.96	240	P	P	05 45 09.0	-2.3
	baz=49,SNR=9.5						
BBOO	Buckleboo	48.96	240	P	P	05 45 08.2	-3.1
WB0	Warramunga Arr	49.88	257	IAmb	IAmb	05 45 33.9	
	comp=Z,93nm,1.1s						
WC3	Warramunga Arr	49.89	257	P	P	05 45 16.2	-2.3
	baz=50						
WB2	Warramunga Arr	49.91	257	P	P	05 45 15.2	-3.5
WB2				IAmb	IAmb	05 45 34.7	
	comp=Z,74nm,1.0s						
WRAB	Tennant Creek	49.91	257	i P	P	05 45 18.2	-0.6
WRAB				pmax	pmax		
	comp=Z,69nm,1.0s						
WRAB	Tennant Creek	49.91	257	P	P	05 45 15.1	-3.7
WRAB				IAmb	IAmb	05 45 34.1	
	comp=Z,67nm,0.9s						
WRAB	Tennant Creek	49.91	257	P	P	05 45 16.0	-2.7
WRAB				pP	sP	05 45 42.6	+10
WRA	Warramunga Arr	49.92	257	P	P	05 45 14.9	-3.9
	comp=Z,12nm,0.6s,baz=90,slow=7.2,SNR=58						
WRA				LR	LR	06 06 26.4	
	comp=Z,6µm,18.8s,baz=91,slow=36						
AS31	Alice Springs	50.21	252	P	P	05 45 17.7	-3.3
ASAR	Alice Springs	50.21	252	P	P	05 45 17.4	-3.7
	comp=Z,66nm,0.6s,baz=84,slow=8.5,SNR=224						
ASAR				LR	LR	06 04 59.7	
	comp=Z,13µm,21.9s,baz=98,slow=34						
ASAR				PKPPKP	P'P'df	06 16 07.3	-7.3
	comp=Z,0.9nm,1.0s,baz=281,slow=1.5,SNR=4.2						
ASPA	Alice Springs	50.21	252	P	P	05 45 18.4	-2.6
	baz=50						
GUMO	Guam	50.22	303	LR	LR	06 03 12.7	
	comp=Z,2µm,20.2s,baz=117,slow=32						
KDU	Kakadu	52.51	265	P	P	05 45 37.2	-1.0
	baz=52,SNR=9.4						
WRKA	Warakurna	55.30	250	P	P	05 45 55.3	-3.3
	baz=55,SNR=37						
FORT	Forrest	55.55	243	P	P	05 45 57.2	-3.0

baz=55,SNR=12
FORT Forrest 55.55 243 P **P** **05 45 57.3 -3.0**
KNRA Kununurra 55.62 261 P **P** **05 45 58.0 -3.0**
KNRA IAmb IAmb 05 46 30.1
comp=Z,86nm,1.3s
SIJI Sorong 56.44 279 LR LR 06 08 30.4
comp=Z,3μm,21.8s,baz=78,slow=34
SWI Sorong 56.45 279 P **P** **05 46 02.6 -4.3**
SWI Sorong 56.45 279 P **P** **05 46 07.8 +0.9**
comp=Z,2μmcomp=Z,2μmcomp=Z,177nm,1.1s
FITZ Fitzroy Crossi 58.28 258 LR LR 06 09 34.7
comp=Z,5μm,20.7s,baz=100,slow=34
FITZ Fitzroy Crossi 58.28 258 P **P** **05 46 19.7 -0.1**
FITZ IAmb IAmb 05 46 38.9
comp=Z,131nm,1.8s
AAI Ambon 58.59 275 P **P** **05 46 19.1 -2.9**
DRV Dumont d'Urvil 59.84 200 P **P** **05 46 28.2 -1.6**
DRV pP **pwP** **05 46 41.6 -0.5**
RPN Rapa Nui 60.37 113 P **P** **05 46 36.1 +1.9**
comp=Z,11nm,0.4s,baz=284,slow=3.6,SNR=1.5
RPN LR LR 06 07 17.1
comp=Z,887nm,20.1s,baz=272,slow=31
PSA00 Pilbara Seismi 63.30 253 P **P** **05 46 50.5 -3.4**
SBA Scott Base 63.50 185 P **P** **05 46 54.5 +0.2**
SBA pmax pmax
comp=Z,75nm,1.2s
SBA Scott Base 63.50 185 P **P** **05 46 54.5 +0.2**
SBA IAmb IAmb 05 47 18.4
comp=Z,75nm,1.2s
VNDA Vanda 63.63 186 P **P** **05 46 55.4 +0.2**
comp=Z,15nm,0.9s,baz=3.5,slow=6.4,SNR=24
VNDA LR LR 06 09 32.9
comp=Z,2μm,21.9s,baz=22,slow=31
VNDA Vanda 63.63 186 P **P** **05 46 55.1 -0.1**
VNDA IAmb IAmb 05 47 18.4
comp=Z,78nm,1.4s
KLBR Kellerberrin 64.37 242 P **P** **05 46 58.7 -2.2**
baz=64,SNR=6.6
DAV Davao City (W) 64.39 286 LR LR 06 13 30.1
comp=Z,2μm,18.4s,baz=88,slow=35
RKGY Rocky Gully 64.92 239 P **P** **05 47 02.6 -1.8**
baz=65,SNR=6.3
BLDU Ballidu 65.32 243 P **P** **05 47 03.1 -4.0**
baz=65,SNR=6.6
JHJ Hachijo jima 2 65.59 318 LR LR 06 12 47.1
comp=Z,1μm,19.5s,baz=126,slow=33
MUN Mundaring 65.67 241 P **P** **05 47 10.2 +0.9**
baz=66,SNR=12
MORW Morawa 66.01 245 P **P** **05 47 10.2 -1.4**
baz=66,SNR=12
MORW Morawa 66.01 245 P **P** **05 47 09.6 -1.9**
MORW IAmb IAmb 05 47 27.6
comp=Z,69nm,1.1s
KAPI Kappang 66.39 271 LR LR 06 16 44.4
comp=Z,363nm,19.1s,baz=110,slow=37
KAPI Kappang 66.39 271 P **P** **05 47 13.9 -0.3**
KAPI pmax pmax
comp=Z,28nm,1.1s
KAPI Kappang 66.39 271 P **P** **05 47 13.9 -0.3**
KIWB Kanaga Island 66.80 357 P **P** **05 47 13.9 -2.0**
ADK Adak 66.81 358 P **P** **05 47 16.4 +0.4**
ADK pmax pmax
comp=Z,555nm,1.8s
ADK Adak 66.81 358 P **P** **05 47 16.4 +0.4**
ADK Adak 66.81 358 IAMs_20 IAMs_20 06 10 00.1
comp=Z,9μm,21.0s
TOLI2 Tolitoli 67.03 278 P **P** **05 47 16.2 -2.1**
JYT Yasato 67.33 321 P **P** **05 47 18.9 -0.8**
NIKH Nikolski High 67.95 3 P **P** **05 47 21.3 -1.9**
baz=185
JMM Marumori 68.05 322 P **P** **05 47 25.8 +1.6**
GIRL Giralia 68.32 251 P **P** **05 47 26.4 +0.1**
SHEM Shemya Is, Ala 68.46 352 P **P** **05 47 27.6 +1.3**
comp=Z,36nm,0.9s,baz=176,slow=17,SNR=3.9
SHEM LR LR 06 10 38.7
comp=Z,15μm,21.8s,baz=164,slow=30
JGF Kuroka 68.71 318 P **P** **05 47 27.5 -0.9**
CCD Concordia, Ant 68.72 194 P **P** **05 47 28.4 +0.1**
MJAR Matsushiro Arr 68.76 320 P **P** **05 47 28.0 -0.7**
comp=Z,15nm,1.1s,baz=162,slow=5.6,SNR=8.5
MJAR LR LR 06 12 10.5
comp=Z,7μm,21.7s,baz=116,slow=31
MJAR Matsushiro Arr 68.76 320 P **P** **05 47 28.2 -0.5**
MJAR pmax pmax
comp=Z,88nm,1.5s
MJAR Matsushiro Arr 68.76 320 P **P** **05 47 28.2 -0.5**
MJAR IAmb IAmb 05 47 43.1
comp=Z,88nm,1.5s
MAJO Matsushiro 68.76 320 *i* P **P** **05 47 28.4 -0.3**
MAJO pmax pmax
comp=Z,40nm,1.2s
MAJO Matsushiro 68.76 320 P **P** **05 47 28.8 +0.1**
MAJO IAmb IAmb 05 47 43.4
comp=Z,82nm,1.2s
MAJO Matsushiro 68.76 320 IAMs_20 IAMs_20 06 11 15.4
comp=Z,7μm,21.0s
MAT Matsushiro 68.76 320 P **P** **05 47 28.0 -0.7**
MAT S **S** **05 56 31.8 +1.9**
MJB9 Matsu-Tunnel 68.77 320 P **P** **05 47 28.1 -0.6**
MJB9 IAmb IAmb 05 47 43.3
comp=Z,81nm,1.2s
INU Inuyama 68.77 318 P **P** **05 47 29.5 +0.7**
UNV Unalaska Valle 68.97 4 P **P** **05 47 29.7 +0.2**
UNV Unalaska Valle 68.97 4 P **P** **05 47 26.9 -2.6**
baz=187
AKUT Akutan 69.31 5 P **P** **05 47 31.8 +0.1**
ERM Erimo 69.56 327 IAMs_20 IAMs_20 06 11 58.0
comp=Z,7μm,22.0s
KUR Kuril'sk 69.61 332 *e*P **P** **05 47 36.3 +2.6**
KUR *e*S **S** **05 56 42.7 +3.2**
KUR pmax pmax
comp=Z,227nm,2.8s
KUR pmax pmax
comp=Z,3μm,8.4s
KUR MLR MLR
comp=Z,4μm,17.0s
KUR MLR MLR
comp=N,3μm,16.0s
KUR MLR MLR
comp=E,2μm,18.0s
JMN Monobe 69.89 315 P **P** **05 47 37.2 +1.4**
JMN IAmb IAmb 05 48 09.0
comp=Z,168nm,1.5s
FALS False Pass 70.24 6 P **P** **05 47 37.5 +0.1**
FALS IAmb IAmb 05 47 59.3
comp=Z,183nm,1.4s
FALS False Pass 70.24 6 P **P** **05 47 35.5 -1.9**
baz=190
JOW Kunigami 70.35 306 LR LR 06 12 35.4
comp=Z,5μm,22.0s,baz=116,slow=31
JOW Kunigami 70.35 306 P **P** **05 47 37.7 -1.0**
JOW IAmb IAmb 05 47 57.4
comp=Z,102nm,1.3s
SNCC San Nicolas Is 70.39 46 P **P** **05 47 35.3 -3.5**
baz=236
MYLDM Lahad Datu 70.42 281 P **P** **05 47 40.1 +0.7**
MYLDM IAmb IAmb 05 48 10.5
comp=Z,115nm,1.2s
CASY Casey 70.64 205 IAMs_20 IAMs_20 06 14 38.9
comp=Z,7μm,21.0s
CNBA Chernabura Isl 70.67 8 P **P** **05 47 38.6 -1.4**
CNBA IAmb IAmb 05 48 01.4
comp=Z,110nm,1.3s
CNBA IAMs_20 IAMs_20 06 12 28.7
comp=Z,10μm,20.0s
CHNA Chernabura Isl 70.68 8 P **P** **05 47 37.9 -2.1**
baz=194
SKR Severo-Kuril's 70.79 340 *e*P **P** **05 47 45.5 +4.7**
SKR *e*S **S** **05 56 59.7 +6.6**
SKR pmax pmax
comp=Z,105nm,0.9s
SKR pmax pmax
comp=Z,900nm,4.0s
SKR pmax pmax
comp=Z,500nm,4.5s
SKR MLR MLR
comp=Z,2μm,15.0s
SKR MLR MLR
comp=Z,1μm,15.0s
SCI2 San Clemente I 70.92 47 P **P** **05 47 40.4 -1.6**
baz=237
SBC Santa Barbara 70.93 45 P **P** **05 47 38.1 -3.9**
baz=235
JAGI Jajag, Banyuwa 70.99 266 P **P** **05 47 40.2 -2.7**
JAGI IAmb IAmb 05 48 03.1
comp=Z,73nm,1.1s

MCCM Marconi Confer 71.06 40 IAMs_20 IAMs_20 06 12 35.6
comp=Z,8μm,20.0s
SDPT Sand Point 71.06 8 P **P** **05 47 40.7 -1.6**
baz=193
JSU Suzuyama 71.08 311 P **P** **05 47 43.3 +0.3**
SAO San Andreas Ge 71.13 42 P **P** **05 47 43.5 +0.2**
SAO pmax pmax
comp=Z,77nm,1.1s
SAO San Andreas Ge 71.13 42 P **P** **05 47 43.5 +0.2**
SAO IAmb IAmb 05 47 47.3
comp=Z,77nm,1.1s
SAO IAMs_20 IAMs_20 06 11 07.5
comp=Z,11μm,20.0s
TGY Tagaytay City 71.16 291 LR LR 06 13 43.2
comp=Z,5μm,21.9s,baz=90,slow=32
SMMC Simmler 71.24 44 P **P** **05 47 40.5 -3.4**
baz=235
CIS Catalina Islan 71.25 46 P **P** **05 47 41.9 -2.2**
baz=236
JKA Kamikawa-asahi 71.33 328 P **P** **05 47 42.7 -1.6**
JKA IAmb IAmb 05 48 04.4
comp=Z,111nm,1.3s
ASAJ Asahikawa 71.34 328 LR LR 06 13 09.7
comp=Z,3μm,21.8s,baz=152,slow=31
ASAJ Asahikawa 71.34 328 P **P** **05 47 42.7 -1.6**
ASAJ pmax pmax
comp=Z,111nm,1.3s
HOPS Hopland Field 71.46 39 P **P** **05 47 44.9 -0.3**
HOPS IAMs_20 IAMs_20 06 11 30.3
comp=Z,10μm,21.0s
FMP Fort Macarthur 71.50 46 P **P** **05 47 42.3 -3.2**
baz=236
KCPM Cahto Peak 71.59 38 P **P** **05 47 48.1 +2.0**
JNU Nakatsue 71.64 313 LR LR 06 12 56.1
comp=Z,3μm,21.7s,baz=113,slow=31
OSI Osito Audit: C 71.70 45 P **P** **05 47 43.8 -3.0**
baz=236
KMPM Mount Pierce 71.73 38 P **P** **05 47 47.9 +1.0**
KMPM IAmb IAmb 05 47 52.6
comp=Z,111nm,0.9s
DECC Green Verdugo 71.77 46 P **P** **05 47 45.3 -1.9**
baz=236
PASC Pasadena Art C 71.83 46 P **P** **05 47 48.5 +1.0**
PASC IAmb IAmb 05 48 14.1
comp=Z,102nm,1.4s
KMRM Mail Ridge 71.85 38 P **P** **05 47 49.2 +1.6**
109C Camp Elliot, M 71.89 47 IAMs_20 IAMs_20 06 12 19.9
comp=Z,10μm,20.0s
109C Camp Elliot, M 71.89 47 P **P** **05 47 46.8 -1.1**
baz=238
ARVC Arvin 71.92 45 P **P** **05 47 49.3 +1.2**
baz=236,SNR=6.5
JCC Jacoby Creek, 72.04 37 IAMs_20 IAMs_20 06 13 45.4
comp=Z,9μm,20.0s
PET Petropavlovsk 72.05 343 *e*P **P** **05 47 51.3 +3.0**
PET *i* S **S** **05 57 10.9 +3.4**
PET *e*PS **PnS** **05 57 34.9 -6.0**
PET *e*PPS PPS 05 57 53.8
PET *e*SS **SS** **06 01 50.5 +5.1**
PET pmax pmax
comp=Z,2μm,12.2s
PET pmax pmax
comp=Z,133nm,1.4s
PET pmax pmax
comp=Z,2μm,11.5s
PET MLR MLR
comp=Z,4μm,18.0s
PET Petropavlovsk 72.05 343 P **P** **05 47 47.4 -0.9**
PET IAmb IAmb 05 48 07.9
comp=Z,186nm,1.4s
ELS Elsinore Mount 72.07 47 P **P** **05 47 50.0 +0.9**
ELS IAmb IAmb 05 47 55.1
comp=Z,106nm,1.4s
SPIA Saint Paul Isl 72.10 2 P **P** **05 47 46.4 -2.1**
baz=183
VES Vestal, Richgr 72.15 44 P **P** **05 47 49.3 -0.1**
baz=235,SNR=16
MURC Murrieta 72.21 47 P **P** **05 47 48.6 -1.3**
baz=237,SNR=6.1
VOG Valley Oaks Go 72.22 43 P **P** **05 47 47.5 -2.3**
baz=235
BFSC Mount Baldy Ra 72.23 46 P **P** **05 47 48.3 -1.8**
baz=237
KHMM Horse Mountain 72.25 37 P **P** **05 47 51.9 +1.8**
KHMM IAmb IAmb 05 48 04.4
comp=Z,97nm,1.1s
CHIR Chirikof Islan 72.26 10 P **P** **05 47 49.0 -0.6**
baz=198
CHGN Chignik 72.28 9 P **P** **05 47 49.1 -0.5**
CHGN IAmb IAmb 05 48 14.7
comp=Z,186nm,1.2s
CHGN Chignik 72.28 9 P **P** **05 47 49.5 -0.1**
baz=195,SNR=8.5
EDW2 Edwards Air Fo 72.35 45 P **P** **05 47 50.4 -0.4**
baz=236,SNR=14
O02D Mt. Diablo Mer 72.37 38 P **P** **05 47 52.0 +1.2**
O02D IAmb IAmb 05 48 05.2
comp=Z,128nm,1.1s
O02D Mt. Diablo Mer 72.37 38 P **P** **05 47 50.5 -0.2**
baz=231,SNR=20
MONP2 Monument Peak 72.38 48 P **P** **05 47 49.4 -1.7**
baz=238,SNR=5.9
PEA0B Petropavlovsk- 72.40 342 *ce*P **P** **05 47 51.7 +1.2**
PEA0B Petropavlovsk- 72.40 342 P **P** **05 47 51.2 +0.8**
PETK Petropavlovsk- 72.40 342 P **P** **05 47 50.5 +0.1**
comp=Z,30nm,0.8s,baz=165,slow=6.0,SNR=21
PETK LR LR 06 12 30.9
comp=Z,2μm,22.0s,baz=154,slow=30
PETK Petropavlovsk- 72.40 342 P **P** **05 47 50.3 -0.2**
ISA Isabella, Lake 72.46 44 P **P** **05 47 52.3 +0.9**
ISA pmax pmax
comp=Z,59nm,1.2s
ISA Isabella, Lake 72.46 44 P **P** **05 47 52.3 +0.9**
ISA Isabella, Lake 72.46 44 P **P** **05 47 50.2 -1.1**
baz=236,SNR=12
IKP In-Ko-Pah, Jac 72.48 48 P **P** **05 47 51.6 0.0**
baz=238
CCAC Calif City Air 72.49 45 P **P** **05 47 52.3 +0.8**
CMB Columbia Colle 72.56 41 P **P** **05 47 51.7 -0.2**
CMB pmax pmax
comp=Z,63nm,1.1s
CMB Columbia Colle 72.56 41 P **P** **05 47 51.7 -0.2**
CMB IAMs_20 IAMs_20 06 12 44.4
comp=Z,8μm,20.0s
YUH Yuha Desert 72.61 48 P **P** **05 47 54.3 +2.1**
PFO Pinyon Flats O 72.73 47 P **P** **05 47 53.5 +0.4**
comp=Z,31nm,1.2s,baz=240,slow=3.4,SNR=6.5
PFO LR LR 06 13 36.3
comp=Z,12μm,19.3s,baz=276,slow=31
PFO Pinyon Flats O 72.73 47 P **P** **05 47 52.7 -0.4**
PFO Pinyon Flats O 72.73 47 P **P** **05 47 51.0 -2.1**
baz=238
TPFO Pinon Flats 72.74 47 P **P** **05 47 53.7 +0.6**
baz=238,SNR=5.7
BBRC Big Bear Solar 72.76 46 P **P** **05 47 54.1 +0.7**
baz=237
WDC Whiskeytown Da 72.77 38 P **P** **05 47 54.1 +1.1**
WDC pmax pmax
comp=Z,141nm,1.5s
WDC Whiskeytown Da 72.77 38 P **P** **05 47 54.1 +1.1**
WDC IAmb IAmb 05 48 07.0
comp=Z,141nm,1.4s
WDC IAMs_20 IAMs_20 06 13 12.8
comp=Z,9μm,20.0s
ORV Oroville 72.77 40 IAMs_20 IAMs_20 06 12 30.9
comp=Z,6μm,21.0s
SWSC Sam W. Stewart 72.86 48 P **P** **05 47 53.0 -0.6**
baz=238
LPIG La Paz 72.89 58 LR LR 06 11 36.3
comp=Z,5μm,21.1s,baz=244,slow=29
LRMC Laurel Mtn Rad 72.89 45 P **P** **05 47 50.9 -3.1**
baz=236
N02D Trinity Center 72.92 38 IAMb IAMb 05 48 07.6
comp=Z,79nm,1.0s
N02D IAMs_20 IAMs_20 06 12 16.7
comp=Z,10μm,21.0s
N02D Trinity Center 72.92 38 P **P** **05 47 54.0 0.0**
baz=231,SNR=16
SLBS Sierra La Lagu 73.01 59 P **P** **05 47 55.1 +0.2**
SLBS IAmb IAmb 05 48 01.2
comp=Z,134nm,1.6s
SLBS IAMs_20 IAMs_20 06 11 27.9
comp=Z,6μm,20.0s
RRX Edison Barstow 73.03 46 P **P** **05 47 53.9 -0.9**
baz=237
O03E Paynes Creek 73.04 39 IAmb IAmb 05 48 14.9
comp=Z,117nm,1.1s

O03E IAMs_20 IAMs_20 06 13 01.9
comp=Z,8μm,20.0s
O03E Paynes Creek 73.04 39 P **P** **05 47 54.7 0.0**
baz=232,SNR=20
M02C Callahan 73.09 37 IAmb IAmb 05 48 08.8
comp=Z,81nm,1.1s
M02C IAMs_20 IAMs_20 06 12 01.2
comp=Z,9μm,21.0s
M02C Callahan 73.09 37 P **P** **05 47 55.9 +0.9**
baz=231,SNR=8.0
L02E Cave Junction 73.14 36 IAmb IAmb 05 48 13.9
comp=Z,109nm,1.3s
L02E IAMs_20 IAMs_20 06 12 11.5
comp=Z,10μm,21.0s
L02E Cave Junction 73.14 36 P **P** **05 47 56.0 +0.8**
baz=230
CWC Cottonwood Cre 73.16 44 P **P** **05 47 56.5 +0.9**
baz=236
SII Sitkinak Islan 73.22 11 IAMs_20 IAMs_20 06 13 43.9
comp=Z,10μm,20.0s
SII Sitkinak Islan 73.22 11 P **P** **05 47 54.9 -0.4**
baz=199
BELC Belle Mtn. Jos 73.27 47 P **P** **05 47 56.9 +0.6**
baz=238,SNR=6.2
YSS Yuzh-Sakhalins 73.28 330 *e*P **P** **05 47 57.1 +1.3**
YSS *e* 05 48 05.9
YSS *e**SP **sP** **05 48 10.1 +0.2**
YSS *e*PPP PPP 05 52 30.4
YSS *e*S **S** **05 57 20.9 -0.9**
YSS *e*PS **PnS** **05 57 46.6 -11**
YSS *e* 05 58 07.9
YSS pmax pmax
comp=Z,700nm,3.6s
YSS pmax pmax
comp=N,100nm,2.1s
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=Z,600nm,5.0s
YSS pmax pmax
comp=E,200nm,5.2s
YSS smax smax
comp=E,2μm,9.7s
YSS Yuzh-Sakhalins 73.28 330 P **P** **05 47 56.2 +0.4**
YSS IAMs_20 IAMs_20 06 13 23.2
comp=Z,6μm,22.0s
YSS Yuzh-Sakhalins 73.28 330 P **P** **05 47 58.0 +2.2**
MLAC Mammoth, Mammo 73.33 42 P **P** **05 47 54.9 -1.8**
baz=235
MPMC Manual Prospec 73.34 44 P **P** **05 47 57.4 +0.6**
baz=236,SNR=26
YBH Yreka Blue Hor 73.39 37 LR LR 06 12 42.7
comp=Z,9μm,21.5s,baz=259,slow=30
YBH Yreka Blue Hor 73.39 37 IAmb IAmb 05 48 10.9
comp=Z,93nm,1.1s
YBH IAMs_20 IAMs_20 06 12 10.1
comp=Z,9μm,22.0s
GSC Goldstone, Bar 73.40 45 P **P** **05 47 57.2 +0.3**
baz=237,SNR=14
TIN Tinemaha, Big 73.40 43 P **P** **05 47 57.7 +0.7**
baz=236
K02D Willamette Mer 73.45 36 P **P** **05 47 56.4 -0.6**
baz=230,SNR=10
HEC Hector,Ludlow 73.47 46 P **P** **05 47 57.6 +0.3**
baz=238,SNR=19
BC3 Big Chuckawall 73.47 47 P **P** **05 47 57.8 +0.4**
baz=238,SNR=7.7
MPK Martis Peak 73.53 40 IAmb IAmb 05 48 01.7
comp=Z,120nm,1.1s
J01E Myrtle Point 73.60 35 IAMs_20 IAMs_20 06 12 14.6
comp=Z,9μm,22.0s
J01E Myrtle Point 73.60 35 P **P** **05 47 56.6 -1.2**
baz=230
GLA Glamis 73.61 48 P **P** **05 47 59.0 +0.8**
baz=239,SNR=12
PNTR Pine Nut 73.68 41 IAmb IAmb 05 48 28.2
comp=Z,91nm,0.9s
VCNR Virginia City 73.77 41 P **P** **05 47 59.4 +0.2**
HUMO Hull Mountain 73.79 36 IAmb IAmb 05 48 12.7
comp=Z,171nm,1.6s
HUMO IAMs_20 IAMs_20 06 12 41.8
comp=Z,8μm,21.0s
LHV Little Huntoon 73.90 42 IAmb IAmb 05 48 31.4
comp=Z,74nm,1.0s
GMRC Granite Mounta 73.92 46 P **P** **05 48 00.3 +0.3**
baz=238,SNR=15
L04D Klamath Falls 73.93 37 IAmb IAmb 05 48 13.9
comp=Z,155nm,1.1s
L04D IAMs_20 IAMs_20 06 15 16.1
comp=Z,7μm,19.0s
L04D Klamath Falls 73.93 37 P **P** **05 48 00.5 +0.5**
baz=231,SNR=20
M04C Macdoel 73.93 38 IAmb IAmb 05 48 14.1
comp=Z,140nm,1.1s
M04C IAMs_20 IAMs_20 06 14 02.4
comp=Z,9μm,20.0s
M04C Macdoel 73.93 38 P **P** **05 48 00.4 +0.4**
baz=232,SNR=34
GRAC Grapevine Rang 73.94 44 P **P** **05 48 00.9 +0.8**
baz=236,SNR=20
IRM Iron Mountain 73.95 47 P **P** **05 48 00.9 +0.7**
baz=239,SNR=18
DBO Dodson Butte 73.96 36 IAmb IAmb 05 48 14.1
comp=Z,163nm,1.4s
FURC Furnace Creek, 73.99 44 P **P** **05 48 00.6 +0.4**
baz=237,SNR=13
OHAK Old Harbor 74.01 11 P **P** **05 47 58.7 -1.2**
baz=200
TUQ Turquoise Moun 74.08 46 P **P** **05 48 01.2 +0.2**
baz=238,SNR=11
NVAR Mina Array Bea 74.13 42 P **P** **05 48 02.0 +0.7**
comp=Z,57nm,0.9s,baz=228,slow=8.4,SNR=66
NVAR LR LR 06 13 50.5
comp=Z,9μm,20.4s,baz=246,slow=30
PAHR Pah Rah Range 74.17 40 P **P** **05 48 01.7 +0.3**
PAHR IAmb IAmb 05 48 05.3
comp=Z,87nm,1.1s
NV11 Mina Array Sit 74.23 42 IAmb IAmb 05 48 05.7
comp=Z,87nm,1.1s
I02E Swisshome, OR 74.25 35 IAMs_20 IAMs_20 06 13 13.9
comp=Z,8μm,20.0s
I02E Swisshome, OR 74.25 35 P **P** **05 48 00.4 -1.2**
baz=230
I03D Drain, OR 74.27 35 P **P** **05 48 00.7 -1.0**
baz=230
K04D Chiloquin, OR 74.50 37 P **P** **05 48 01.8 -1.5**
baz=232,SNR=12
214A Organ Pipe Nat 74.54 50 P **P** **05 48 01.8 -1.9**
baz=241,SNR=12
KVN Kaiserville 74.61 42 P **P** **05 48 04.3 +0.2**
KVN pmax pmax
comp=Z,73nm,1.1s
KVN Kaiserville 74.61 42 P **P** **05 48 04.3 +0.2**
NEE2 Needles Airpor 74.64 47 P **P** **05 48 03.2 -0.9**
baz=239
TPNV Topopah Spring 74.67 44 IAMs_20 IAMs_20 06 13 12.2
comp=Z,7μm,21.0s
TPNV Topopah Spring 74.67 44 P **P** **05 48 04.7 +0.3**
baz=237,SNR=30
KDAK Kodiak Island 74.67 11 LR LR 06 13 48.4
comp=Z,9μm,21.8s,baz=234,slow=30
KDAK Kodiak Island 74.67 11 P **P** **05 48 03.9 +0.2**
KDAK pmax pmax
comp=Z,136nm,1.3s
KDAK Kodiak Island 74.67 11 P **P** **05 48 03.9 +0.2**
KDAK IAmb IAmb 05 48 08.0
comp=Z,136nm,1.2s
KDAK Kodiak Island 74.67 11 IAMs_20 IAMs_20 06 13 15.3
comp=Z,10μm,22.0s
KDAK Kodiak Island 74.67 11 P **P** **05 48 02.3 -1.4**
baz=201
J04D Umpqua Nationa 74.68 36 IAMs_20 IAMs_20 06 14 04.2
comp=Z,7μm,21.0s
J04D Umpqua Nationa 74.68 36 P **P** **05 48 04.8 +0.5**
baz=231,SNR=30
PDMCI Parker Dam,Lak 74.74 48 P **P** **05 48 03.0 -1.7**
baz=239,SNR=30
I04A Tendick Farm, 74.85 36 P **P** **05 48 03.6 -1.6**
baz=231,SNR=8.3
COR Corvallis 74.86 35 IAMs_20 IAMs_20 06 12 39.9
comp=Z,8μm,22.0s
QSPA South Pole Qui 74.89 180 LR LR 06 16 26.4
comp=Z,3μm,21.4s,baz=35,slow=32
QSPA South Pole Qui 74.89 180 P **P** **05 48 04.8 -0.5**
QSPA South Pole Qui 74.89 180 P **P** **05 48 05.1 -0.1**
MOD Modoc Plateau 74.91 38 IAmb IAmb 05 48 09.5
comp=Z,112nm,1.1s

MOD				IAMs_20	IAMs_20	06 14 14.5	
	comp=Z,8µm,20.0s						
Q09A	Carvers	75.08	42	IAmb	IAmb	05 48 31.6	
	comp=Z,148nm,1.2s						
TEY	Ternei	75.12	326	*e*P	P	05 48 08.0	+1.4
TEY				*e*		05 57 43.9	
UGL	Uglegorsk	75.12	331	*e*P	P	05 48 08.1	+1.6
UGL				*e*S	S	05 57 40.8	-1.6
UGL				pmax	pmax		
	comp=Z,1µm,4.2s						
UGL				smax	smax		
	comp=E,2µm,8.0s						
UGL				smax	smax		
	comp=N,800nm,12.0s						
H04D	Lebanon	75.13	35	IAmb	IAmb	05 48 20.7	
	comp=Z,135nm,1.2s						
H04D				IAMs_20	IAMs_20	06 12 50.2	
	comp=Z,8µm,22.0s						
H04D	Lebanon	75.13	35	P	P	05 48 06.5	-0.2
	baz=230						
J05D	Fort Rock, OR	75.20	37	P	P	05 48 07.6	+0.3
	baz=232,SNR=39						
G03D	McMinnville, O	75.28	34	P	P	05 48 05.8	-1.7
	baz=230						
S11A	Rachel	75.38	44	IAmb	IAmb	05 49 09.9	
	comp=Z,105nm,1.2s						
H04A	Detroit Lake	75.54	35	IAmb	IAmb	05 48 22.5	
	comp=Z,97nm,1.1s						
Q19K	Cape Douglas,	75.56	10	IAMs_20	IAMs_20	06 14 09.6	
	comp=Z,10µm,21.0s						
Q19K	Cape Douglas,	75.56	10	P	P	05 48 08.7	-0.2
	baz=200						
STKI	Sintang	75.68	274	P	P	05 48 12.5	+1.9
PRN	Pahroc Range	75.72	44	IAmb	IAmb	05 48 41.1	
	comp=Z,120nm,1.3s						
P18K	Big Mountain,	75.73	9	IAmb	IAmb	05 48 28.9	
	comp=Z,131nm,1.1s						
P18K				IAMs_20	IAMs_20	06 14 03.3	
	comp=Z,7µm,22.0s						
P18K	Big Mountain,	75.73	9	P	P	05 48 09.7	-0.2
	baz=198,SNR=13						
I05D	Terrebonne, OR	75.80	36	P	P	05 48 11.3	+0.6
	baz=232,SNR=12						
R11A	Troy Canyon, C	75.86	43	P	P	05 48 11.4	+0.1
	baz=237,SNR=33						
F04D	Rainier, OR	75.98	34	P	P	05 48 10.6	-0.9
	baz=230						
KSRS	Korea Array	75.99	316	P	P	05 48 12.3	+0.6
	comp=Z,4.9nm,1.0s,baz=118,slow=5.8,SNR=5.3						
KSRS				LR	LR	06 15 54.9	
	comp=Z,3µm,21.9s,baz=115,slow=31						
TYV	Tymovskoe	76.14	333	*e*P	P	05 48 13.8	+1.5
TYV				*e*S	S	05 57 57.6	+4.0
TYV				pmax	pmax		
	comp=Z,60nm,1.1s						
TYV				pmax	pmax		
	comp=Z,900nm,5.1s						
TYV				smax	smax		
	comp=N,200nm,7.5s						
TYV				smax	smax		
	comp=E,2µm,7.5s						
O18K	Koktuh Hills	76.18	9	IAMs_20	IAMs_20	06 14 17.0	
	comp=Z,6µm,22.0s						
O18K	Koktuh Hills	76.18	9	P	P	05 48 11.4	-1.0
	baz=198						
F04A	Amboy	76.20	34	IAmb	IAmb	05 48 26.4	
	comp=Z,89nm,1.1s						
TUC	Tucson	76.22	51	P	P	05 48 14.3	+1.0
TUC				pmax	pmax		
	comp=Z,83nm,1.2s						
TUC	Tucson	76.22	51	P	P	05 48 14.3	+1.0
TUC				IAmb	IAmb	05 48 17.5	
	comp=Z,83nm,1.2s						
TUC	Tucson	76.22	51	IAMs_20	IAMs_20	06 14 13.5	
	comp=Z,9µm,20.0s						
TUC	Tucson	76.22	51	P	P	05 48 10.3	-3.0
	baz=242						
TUC	Tucson	76.22	51	P	P	05 48 14.7	+1.4
TUC				pP	pP	05 48 22.9	-0.6
WVOR	Wild Horse Val	76.22	38	P	P	05 48 14.1	+0.9
WVOR				pmax	pmax		
	comp=Z,93nm,1.2s						
WVOR	Wild Horse Val	76.22	38	IAmb	IAmb	05 48 27.1	
	comp=Z,92nm,1.1s						
HOOD	Mount Hood Mea	76.23	35	IAmb	IAmb	05 48 26.7	
	comp=Z,162nm,1.2s						
G05D	Wamic, OR	76.37	35	P	P	05 48 14.1	+0.2
	baz=232,SNR=5.4						
NLWA	Neilton Lookou	76.38	32	IAMs_20	IAMs_20	06 15 13.1	
	comp=Z,6µm,20.0s						
E04D	Cinebar	76.52	33	IAMs_20	IAMs_20	06 14 19.8	
	comp=Z,5µm,21.0s						
E04D	Cinebar	76.52	33	P	P	05 48 15.2	+0.7
	baz=230						
CNPM	China Poot	76.56	11	IAmb	IAmb	05 48 37.9	
	comp=Z,169nm,1.3s						
HOM	Homer	76.60	11	IAMs_20	IAMs_20	06 14 29.3	
	comp=Z,9µm,22.0s						
HOM	Homer	76.60	11	P	P	05 48 13.0	-1.8
	baz=202						
O19K	Port Alsworth	76.64	10	IAMs_20	IAMs_20	06 15 04.3	
	comp=Z,7µm,21.0s						
O19K	Port Alsworth	76.64	10	P	P	05 48 15.0	+0.1
	baz=199,SNR=11						
I07A	Izee	76.69	37	IAmb	IAmb	05 48 29.8	
	comp=Z,94nm,1.1s						
F05D	White Salmon	76.69	34	IAmb	IAmb	05 48 30.5	
	comp=Z,107nm,1.2s						
F05D				IAMs_20	IAMs_20	06 13 49.4	
	comp=Z,5µm,20.0s						
F05D	White Salmon	76.69	34	P	P	05 48 15.9	+0.3
	baz=231,SNR=6.9						
D04E	Lakebay	76.81	33	P	P	05 48 16.1	-0.1
	baz=230						
O20K	Slope Mountain	76.82	11	P	P	05 48 16.3	+0.3
	baz=201						
BRLK	Bradley Lake	76.84	11	IAMs_20	IAMs_20	06 15 06.3	
	comp=Z,10µm,22.0s						
BRSE	Bradley Lake S	76.85	12	P	P	05 48 14.6	-1.5
	baz=202						
J08A	Circle Bar Ran	76.86	38	IAmb	IAmb	05 48 32.5	
	comp=Z,115nm,1.1s						
D03D	Eldon	76.87	32	P	P	05 48 15.4	-1.2
	baz=230						
INCN	Inchon	76.89	315	P	P	05 48 29.9	+13
319A	Douglas	76.92	52	IAmb	IAmb	05 48 35.2	
	comp=Z,82nm,0.9s						
KNB	Kanab	77.04	46	IAmb	IAmb	05 48 45.0	
	comp=Z,241nm,1.6s						
U15A	North Rim	77.11	46	IAmb	IAmb	05 48 42.8	
	comp=Z,116nm,1.2s						
KSM	Kuching	77.18	275	P	P	05 48 19.0	-0.1
USRK	Ussuriysk Ar.	77.19	323	P	P	05 48 19.4	+1.0
	comp=Z,8.4nm,1.0s,baz=108,slow=6.2,SNR=8.8						
USRK				LR	LR	06 15 49.2	
	comp=Z,7µm,21.9s,baz=114,slow=31						
N19K	Bonanza Creek	77.20	9	IAmb	IAmb	05 48 37.4	
	comp=Z,92nm,1.1s						
N19K				IAMs_20	IAMs_20	06 15 22.2	
	comp=Z,7µm,21.0s						
N19K	Bonanza Creek	77.20	9	P	P	05 48 17.7	-0.6
	baz=199						
WUAZ	Wupatki	77.31	48	IAMs_20	IAMs_20	06 15 20.5	
	comp=Z,7µm,20.0s						
WUAZ	Wupatki	77.31	48	P	P	05 48 19.8	+0.3
	baz=241,SNR=20						
QZH	Quanzhou	77.34	300⇑	*i*P	P	05 48 18.0	-1.7
QZH				sP	sP	05 48 34.2	+0.4
QZH				S	S	05 58 08.0	+0.2
QZH				pmax	pmax		
	comp=Z,1µm,5.6s						
QZH				LR	LR		
	comp=Z,380nm,18.0s						
QZH				LR	LR		
	comp=Z,1µm,20.8s						
QZH				LR	LR		
	comp=Z,860nm,18.9s						
ELK	Elko	77.38	41	LR	LR	06 14 58.2	
	comp=Z,7µm,21.9s,baz=228,slow=30						
ELK	Elko	77.38	41	IAMs_20	IAMs_20	06 15 49.0	
	comp=Z,6µm,20.0s						
SEW	Seward	77.44	12	IAmb	IAmb	05 48 41.8	
	comp=Z,68nm,1.0s						
SEW	Seward	77.44	12	P	P	05 48 17.9	-1.5
	baz=204						
Q23K	Middleton Isla	77.50	14	IAMs_20	IAMs_20	06 14 51.1	
	comp=Z,8µm,21.0s						

F07A	Phinny Hill Vi	77.54	35	P	P	05 48 20.2	-0.2
HHU	Hamhung	77.56	317	P	P	05 48 34.8	+14
HHU				sP	sP	05 48 44.7	+10
HHU				S	S	05 58 15.1	+5.5
HHU				AmB			
	comp=Z,365nm,2.2s						
HHU				AMS	AMS		
	comp=N,205nm,3.5s						
HHU				AMS	AMS		
	comp=E,1µm,19.2s						
HHU				AMS	AMS		
	comp=Z,201nm,3.5s						
BBB	Bella Bella	77.65	27	LR	LR	06 14 38.2	
	comp=Z,7µm,21.9s,baz=235,slow=30						
LEM	Lembang	77.67	266	LR	LR	06 23 10.8	
	comp=Z,2µm,20.7s,baz=109,slow=36						
G08A	Pilot Rock	77.72	36	IAmb	IAmb	05 48 37.1	
	comp=Z,116nm,1.2s						
O22K	Cooper Landing	77.73	12	IAMs_20	IAMs_20	06 15 22.2	
	comp=Z,7µm,21.0s						
O22K	Cooper Landing	77.73	12	P	P	05 48 20.6	-0.4
	baz=203						
HJU	Haeju	77.79	315	P	P	05 48 34.6	+13
HJU				sP	sP	05 48 44.5	+8.5
HJU				S	S	05 58 17.4	+5.3
HJU				AmB			
	comp=Z,508nm,1.9s						
HJU				AMS	AMS		
	comp=N,2µm,3.2s						
HJU				AMS	AMS		
	comp=E,2µm,3.8s						
HJU				AMS	AMS		
	comp=Z,2µm,4.9s						
SSE	Sheshan	77.82	307	P	P	05 48 26.0	+3.8
SSE				S	S	05 58 16.0	+3.2
SSE				pmax	pmax		
	comp=Z,26nm,0.7s						
SSE				pmax	pmax		
	comp=Z,450nm,9.6s						
SSE				LR	LR		
	comp=Z,640nm,24.4s						
A04D	Lummi Island	77.83	32	P	P	05 48 21.3	-0.6
	baz=230						
B05A	Bryant	77.85	32	P	P	05 48 21.1	-0.9
	baz=230						
LTY	Liberty	77.97	34	IAmb	IAmb	05 48 35.4	
	comp=Z,168nm,1.9s						
E07A	Sunnyside	77.98	35	IAmb	IAmb	05 48 37.8	
	comp=Z,72nm,1.0s						
MTPU	Mount Pierson	77.99	45	IAmb	IAmb	05 48 48.3	
	comp=Z,98nm,1.3s						
HAWA	Hanford	78.06	35	IAmb	IAmb	05 48 38.2	
	comp=Z,83nm,1.1s						
HAWA				IAMs_20	IAMs_20	06 14 53.6	
	comp=Z,7µm,22.0s						
FIS	Fire Island	78.25	11	IAMs_20	IAMs_20	06 16 15.9	
	comp=Z,6µm,21.0s						
M19K	Big River Lodg	78.25	9	IAMs_20	IAMs_20	06 15 20.9	
	comp=Z,6µm,22.0s						
M19K	Big River Lodg	78.25	9	P	P	05 48 22.9	-1.0
	baz=199						
C06D	Leavenworth	78.27	33	P	P	05 48 23.1	-1.3
	baz=231						
PYAG	Pyongyang	78.28	316	P	P	05 48 38.0	+13
PYAG				sP	sP	05 48 44.9	+6.2
PYAG				S	S	05 58 26.5	+9.2
PYAG				AmB			
	comp=Z,248nm,1.3s						
PYAG				AMS	AMS		
	comp=N,2µm,8.0s						
PYAG				AMS	AMS		
	comp=E,618nm,2.9s						
PYAG				AMS	AMS		
	comp=Z,711nm,3.4s						
RC01	Rabbit Creek A	78.29	11	P	P	05 48 25.2	+1.0
RC01				IAmb	IAmb	05 48 47.4	
	comp=Z,131nm,1.2s						
RC01				IAMs_20	IAMs_20	06 16 54.0	
	comp=Z,6µm,21.0s						
RC01	Rabbit Creek A	78.29	11	P	P	05 48 22.6	-1.6
	baz=203						
W18A	Petrified Fore	78.30	49	P	P	05 48 24.1	-1.0
	baz=242						
PWL	Port Wells	78.36	12	IAmb	IAmb	05 48 47.5	
	comp=Z,142nm,1.2s						
PWL				IAMs_20	IAMs_20	06 16 48.8	
	comp=Z,7µm,20.0s						
PWL	Port Wells	78.36	12	P	P	05 48 23.0	-1.6
	baz=205						
KAIM	Kayak Island	78.39	14	IAMs_20	IAMs_20	06 15 08.7	
	comp=Z,11µm,22.0s						
KAIM	Kayak Island	78.39	14	P	P	05 48 24.0	-0.8
	baz=208						
BMO	Blue Mountains	78.41	37	IAMs_20	IAMs_20	06 15 35.1	
	comp=Z,6µm,21.0s						
L19K	White Mountain	78.45	9	IAMs_20	IAMs_20	06 22 20.1	
	comp=Z,4µm,19.0s						
L19K	White Mountain	78.45	9	P	P	05 48 25.6	+0.6
	baz=198,SNR=7.3						
MFID	Camas Ranch	78.48	39	IAmb	IAmb	05 48 41.2	
	comp=Z,85nm,1.1s						
MFID				IAMs_20	IAMs_20	06 16 06.9	
	comp=Z,5µm,21.0s						
121A	Cookes Peak, D	78.58	52	IAmb	IAmb	05 48 53.8	
	comp=Z,112nm,1.1s						
121A	Cookes Peak, D	78.58	52	P	P	05 48 26.3	-0.4
	baz=244,SNR=32						
SIT	Sitka	78.58	20	P	P	05 48 25.5	-0.3
	baz=217						
NKL	Nikolayevsk	78.63	334	*e*P	P	05 48 24.4	-1.7
NKL				*e*		05 48 36.8	
NKL				*e*S	S	05 58 18.7	-1.8
NKL				pmax	pmax		
	comp=Z,123nm,5.2s						
NKL				pmax	pmax		
	comp=N,298nm,0.6s						
NKL				pmax	pmax		
	comp=Z,46nm,1.4s						
NKL				smax	smax		
	comp=E,2.0nm,0.7s						
NKL				smax	smax		
	comp=N,400nm,0.6s						
EYAK	Cordova Ski Ar	78.63	14	IAmb	IAmb	05 48 45.6	
	comp=Z,143nm,1.5s						
EYAK	Cordova Ski Ar	78.63	14	P	P	05 48 25.8	-0.2
	baz=207						
GLI	Glacier Island	78.64	13	IAmb	IAmb	05 48 49.0	
	comp=Z,130nm,1.2s						
GLI				IAMs_20	IAMs_20	06 16 15.1	
	comp=Z,10µm,21.0s						
GLI	Glacier Island	78.64	13	P	P	05 48 24.2	-1.8
	baz=206						
DUG	Dugway, Tooele	78.66	43	P	P	05 48 27.6	+0.7
DUG				pmax	pmax		
	comp=Z,67nm,1.1s						
DUG	Dugway, Tooele	78.66	43	IAMs_20	IAMs_20	06 15 19.0	
	comp=Z,10µm,22.0s						
DUG	Dugway, Tooele	78.66	43	P	P	05 48 26.6	-0.3
	baz=239,SNR=47						
GAMB	Gambell	78.68	1	IAmb	IAmb	05 48 46.5	
	comp=Z,147nm,1.4s						
GAMB				IAMs_20	IAMs_20	06 18 44.2	
	comp=Z,5µm,20.0s						
GAMB	Gambell	78.68	1	P	P	05 48 26.6	+0.3
	baz=182,SNR=25						
D08A	Wollman Farm,	78.80	35	IAmb	IAmb	05 48 41.1	
	comp=Z,133nm,1.5s						
M22K	Willow	78.83	11	P	P	05 48 26.6	-0.5
	baz=203,SNR=10						
MDJ	Mudanjiang	78.84	322	IAMs_20	IAMs_20	06 16 27.9	
	comp=Z,8µm,22.0s						
MDJ	Mudanjiang	78.84	322	P	P	05 48 28.5	+0.9
MDJ				pP	pP	05 48 38.2	+0.3
MDJ				sP	sP	05 48 42.5	+0.8
MDJ				PP	PP	05 51 29.8	+3.2
MDJ				S	S	05 58 29.1	+5.9
MDJ				pmax	pmax		
	comp=Z,2µm,5.9s						
MDJ				LR	LR		
	comp=Z,3µm,21.6s						
MDJ				LR	LR		
	comp=Z,5µm,22.5s						
MDJ				LR	LR		
	comp=Z,10µm,23.5s						
BGLC	Bering Glacier	78.84	15	P	P	05 48 26.4	-0.8
	baz=210						
KNK	Knik Glacier	78.84	12	IAmb	IAmb	05 48 50.4	

	comp=Z,141nm,1.2s						
KNK				IAMs_20	IAMs_20	06 16 57.4	
	comp=Z,6µm,20.0s						
KNK	Knik Glacier	78.84	12	P	P	05 48 27.2	-0.1
	baz=204,SNR=7.5						
PMR	Palmer	78.87	12	IAmb	IAmb	05 48 50.4	
	comp=Z,118nm,1.2s						
PMR	Palmer	78.87	12	P	P	05 48 27.1	-0.2
	baz=204,SNR=9.4						
ZAIG	Zacatecas	78.87	63	P	P	05 48 27.9	-0.7
L20K	Farewell, AK	78.88	9	P	P	05 48 27.2	-0.3
	baz=199,SNR=18						
GRNR	Gornyy	78.93	330⇑	*i*P	P	05 48 29.6	+1.6
GRNR				*e*SS	S	05 58 25.3	+1.3
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TTA	Tatalina	79.00	8	IAmb	IAmb	05 48 52.3	
	comp=Z,158nm,1.2s						
TTA	Tatalina	79.00	8	P	P	05 48 28.2	0.0
	baz=197,SNR=22						
GHO	Glory Hole Cre	79.08	12	IAmb	IAmb	05 48 48.0	
	comp=Z,95nm,1.0s						
GHO				IAMs_20	IAMs_20	06 16 35.6	
	comp=Z,5µm,21.0s						
WRAK	Wrangell Islan	79.11	22	IAMs_20	IAMs_20	06 18 14.9	
	comp=Z,6µm,19.0s						
WRAK	Wrangell Islan	79.11	22	P	P	05 48 28.6	-0.1
	baz=220						
Q16A	Castle Valley	79.12	45	IAmb	IAmb	05 48 53.1	
	comp=Z,141nm,1.6s						
DIV	Divide	79.15	13	IAmb	IAmb	05 48 52.0	
	comp=Z,127nm,1.1s						
EPT	El Paso	79.22	53	IAMs_20	IAMs_20	06 15 47.2	
	comp=Z,6µm,21.0s						
SML	Sawmill	79.22	12	IAMs_20	IAMs_20	06 16 38.6	
	comp=Z,7µm,22.0s						
SML	Sawmill	79.22	12	P	P	05 48 28.8	-0.6
	baz=205						
WAX	Waxell Ridge	79.23	15	IAmb	IAmb	05 48 53.3	
	comp=Z,232nm,1.5s						
BMRM	Bremner River	79.27	14	IAmb	IAmb	05 48 50.7	
	comp=Z,142nm,1.0s						
BMRM				IAMs_20	IAMs_20	06 15 38.8	
	comp=Z,10µm,22.0s						
BMRM	Bremner River	79.27	14	P	P	05 48 30.2	+0.6
	baz=208,SNR=12						
TMUT	Trail Mountain	79.28	44	IAmb	IAmb	05 48 45.1	
	comp=Z,110nm,0.9s						
PLID	Pearl Lake	79.31	37	P	P	05 48 29.9	-0.6
PLID				IAMs_20	IAMs_20	06 16 14.8	
	comp=Z,9µm,22.0s						
CUT	Chulitna	79.41	11	P	P	05 48 31.0	+0.7
	baz=203,SNR=10						
HLID	Hailey	79.42	39	IAmb	IAmb	05 48 46.9	
	comp=Z,98nm,1.0s						
HLID				IAMs_20	IAMs_20	06 16 34.9	
	comp=Z,6µm,21.0s						
HLID	Hailey	79.42	39	P	P	05 48 30.8	-0.3
	baz=237,SNR=59						
KLU	Klutina	79.44	13	IAMs_20	IAMs_20	06 16 19.4	
	comp=Z,10µm,21.0s						
KLU	Klutina	79.44	13	P	P	05 48 30.8	+0.2
	baz=207,SNR=6.7						
SCM	Sheep Creek Mo	79.45	12	IAmb	IAmb	05 48 50.1	
	comp=Z,79nm,0.9s						
SCM				IAMs_20	IAMs_20	06 15 49.6	
	comp=Z,7µm,22.0s						
SCM	Sheep Creek Mo	79.45	12	P	P	05 48 30.8	+0.2
	baz=206,SNR=7.4						
PNL	Peninsula	79.47	17	P	P	05 48 30.9	+0.1
	baz=213						
TGL	Tana Glacier	79.50	15	IAmb	IAmb	05 49 01.4	
	comp=Z,156nm,1.2s						
PPLA	Purkeypile	79.54	10	P	P	05 48 30.2	-1.0
	baz=201						
BCPM	Bancas Point	79.65	17	IAmb	IAmb	05 48 44.9	
	comp=Z,100nm,1.1s						
SUJ	Sinuiju	79.65	316	P	P	05 48 46.0	+14
SUJ				pP	sP	05 48 53.6	+7.4
SUJ				S	S	05 58 34.8	+2.9
SUJ				AmB			
	comp=Z,435nm,2.8s						
SUJ				AMS	AMS		
	comp=N,450nm,10.7s						
SUJ				AMS	AMS		
	comp=E,441nm,10.5s						
SUJ				AMS	AMS		
	comp=Z,83nm,2.0s						
SRU	San Rafael Swe	79.65	45	IAmb	IAmb	05 48 55.4	
	comp=Z,69nm,1.0s						
K20K	Telida	79.68	9	IAmb	IAmb	05 48 55.5	
	comp=Z,100nm,1.1s						
K20K				IAMs_20	IAMs_20	06 16 50.2	
	comp=Z,5µm,21.0s						
K20K	Telida	79.68	9	P	P	05 48 31.8	0.0
	baz=199						
P17A	Butcher Ranch,	79.68	44	IAmb	IAmb	05 48 48.9	
	comp=Z,120nm,1.4s						
ANM	Nome	79.70	4	P	P	05 48 32.6	+0.8
	baz=188,SNR=29						
GRNC	Granite Creek	79.75	15	IAmb	IAmb	05 49 03.0	
	comp=Z,145nm,1.3s						
VRDI	Verde Repeater	79.77	14	IAmb	IAmb	05 48 55.8	
	comp=Z,156nm,1.3s						
VRDI				IAMs_20	IAMs_20	06 15 31.0	
	comp=Z,8µm,22.0s						
N25K	Chitina, Valde	79.83	14	IAmb	IAmb	05 48 56.2	
	comp=Z,120nm,1.2s						
N25K	Chitina, Valde	79.83	14	P	P	05 48 32.5	-0.2
	baz=208,SNR=12						
GLB	Gilahina Butte	79.87	14	IAmb	IAmb	05 48 56.2	
	comp=Z,137nm,1.4s						
GLB				IAMs_20	IAMs_20	06 16 19.8	
	comp=Z,7µm,21.0s						
Y22D	IRIS PASSCAL I	79.90	51	IAMs_20	IAMs_20	06 16 22.1	
	comp=Z,7µm,21.0s						
MA2	Magadan	79.93	342	LR	LR	06 19 15.5	
	comp=Z,3µm,20.4s,baz=134,slow=32						
MA2	Magadan	79.93	342	*i* P	P	05 48 32.5	-0.7
MA2				pmax	pmax		
	comp=Z,38nm,1.5s						
MA2				MLR	MLR		
	comp=Z,2µm,19.0s						
MA2	Magadan	79.93	342	P	P	05 48 32.2	-1.0
MA2				IAmb	IAmb	05 48 52.0	
	comp=Z,146nm,1.4s						
MA2	Magadan	79.93	342	P	P	05 48 34.5	+1.3
M24K	Tolsona, Glenn	79.94	13	IAMs_20	IAMs_20	06 18 17.4	
	comp=Z,6µm,20.0s						
M24K	Tolsona, Glenn	79.94	13	P	P	05 48 31.3	-2.0
	baz=207,SNR=6.8						
MCARA	McCarthy VSAT	80.00	14	IAmb	IAmb	05 48 56.9	
	comp=Z,186nm,1.4s						
MCARA				IAMs_20	IAMs_20	06 16 12.3	
	comp=Z,7µm,21.0s						
MCARA	McCarthy VSAT	80.00	14	P	P	05 48 33.1	-0.4
	baz=210,SNR=6.5						
LOGN	Logan Glacier	80.02	15	IAmb	IAmb	05 49 04.5	
	comp=Z,147nm,1.3s						
NJ2	Nanjing	80.03	307	*e*P	P	05 48 33.0	-1.3
NJ2				sP	pwP	05 48 46.3	-1.5
NJ2				S	S	05 58 35.9	-0.4
NJ2				SKS	SKSac	05 58 41.6	-7.7
NJ2				sS	SKKSac	05 58 51.4	+0.2
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,520nm,4.3s						
NJ2				LR	LR		
	comp=Z,1µm,17.0s						
NJ2				LR	LR		
	comp=Z,2µm,21.8s						
NJ2				LR	LR		
	comp=Z,3µm,24.5s						
CAST	Castle Rocks	80.05	10	IAMs_20	IAMs_20	06 18 44.3	
	comp=Z,8µm,20.0s						
CAST	Castle Rocks	80.05	10	P	P	05 48 31.1	-2.7
	baz=201,SNR=18						
WAT6	Susitna Watana	80.05	12	P	P	05 48 33.2	-0.7
	baz=205,SNR=34						
BARN	Barnard Glacie	80.06	15	IAmb	IAmb	05 48 48.0	
	comp=Z,184nm,1.4s						
CTG	Chitna Glacier	80.06	15	P	P	05 48 32.2	-1.8
	baz=211,SNR=8.1						
CTGM	Chitina Glacie	80.06	15	IAmb	IAmb	05 48 57.6	
	comp=Z,159nm,1.4s						
MNTX	Cornudas Mount	80.06	53	P	P	05 48 34.1	-0.5
	baz=245,SNR=37						

MVCO	Mesa Verde	80.16	47	P	P	05 48 34.6	-0.6
	baz=242,SNR=6.7						
KLR	Kul'dur	80.32	327	LR	LR	06 18 48.0	
	comp=Z,4µm,21.6s,baz=132,slow=32						
KLR	Kul'dur	80.32	327	ceP	P	05 48 37.4	+1.9
KLR				pmax	pmax		
	comp=Z,147nm,4.0s						
KLR				MLR	MLR		
	comp=Z,1µm,18.0s						
PV10	Paradox Valley	80.32	46	P	P	05 48 35.7	-0.4
PV10				IAmb	IAmb	05 48 51.1	
	comp=Z,84nm,1.0s						
KTH	Kantishna Hill	80.36	10	IAmb	IAmb	05 48 55.1	
	comp=Z,103nm,1.1s						
KTH				IAMs_20	IAMs_20	06 16 51.6	
	comp=Z,9µm,22.0s						
TRF	Thorofare Moun	80.37	10	IAmb	IAmb	05 48 58.4	
	comp=Z,189nm,1.4s						
TRF	Thorofare Moun	80.37	10	P	P	05 48 34.4	-1.3
	baz=203,SNR=32						
PV23	Carpenter Ridg	80.38	46	IAmb	IAmb	05 48 51.8	
	comp=Z,115nm,1.1s						
PV11	David Mesa, Pa	80.40	46	IAmb	IAmb	05 48 51.8	
	comp=Z,119nm,1.1s						
HARP	HAARP	80.41	13	P	P	05 48 35.1	-0.7
	baz=208,SNR=7.7						
CHUM	Lake Minchumin	80.44	9	P	P	05 48 35.0	-0.8
	baz=201,SNR=28						
J20K	Nowinta River	80.45	8	IAMs_20	IAMs_20	06 16 50.0	
	comp=Z,5µm,22.0s						
J20K	Nowinta River	80.45	8	P	P	05 48 35.7	-0.1
	baz=199,SNR=57						
TX32	Lajitas Array	80.45	56	IAmb	IAmb	05 48 57.9	
	comp=Z,99nm,1.2s						
TXAR	Lajitas Array	80.46	56	P	P	05 48 38.0	+1.1
	comp=Z,15nm,1.0s,baz=230,slow=5.9,SNR=48						
TXAR				LR	LR	06 18 24.0	
	comp=Z,5µm,19.0s,baz=246,slow=31						
TXAR	Lajitas Array	80.46	56	P	P	05 48 38.0	+1.1
NEW	Newport	80.49	34	LR	LR	06 16 49.3	
	comp=Z,4µm,21.1s,baz=224,slow=30						
NEW	Newport	80.49	34	P	P	05 48 38.0	+1.5
NEW				pmax	pmax		
	comp=Z,19nm,2.3s						
NEW	Newport	80.49	34	IAMs_20	IAMs_20	06 16 47.9	
	comp=Z,4µm,20.0s						
SKAG	Skagway	80.50	19	IAmb	IAmb	05 48 50.3	
	comp=Z,84nm,1.2s						
SKAG	Skagway	80.50	19	P	P	05 48 36.3	+0.1
	baz=217,SNR=9.1						
DHY	Denali Highway	80.56	12	IAmb	IAmb	05 48 50.7	
	comp=Z,226nm,2.0s						
DHY	Denali Highway	80.56	12	P	P	05 48 36.2	-0.5
	baz=205,SNR=12						
TNA	Tin City	80.57	2	P	P	05 48 37.1	+0.6
	baz=185,SNR=41						
RND	Reindeer	80.59	11	IAmb	IAmb	05 48 57.0	
	comp=Z,155nm,1.2s						
ANMO	Albuquerque	80.62	50	LR	LR	06 16 25.0	
	comp=Z,8µm,21.7s,baz=228,slow=30						
ANMO	Albuquerque	80.62	50	ceP	P	05 48 38.1	+0.3
ANMO				pmax	pmax		
	comp=Z,118nm,2.5s						
ANMO	Albuquerque	80.62	50	P	P	05 48 37.5	-0.2
ANMO				IAmb	IAmb	05 48 44.2	
	comp=Z,99nm,1.4s						
ANMO	Albuquerque	80.62	50	IAMs_20	IAMs_20	06 16 14.2	
	comp=Z,8µm,21.0s						
ANMO	Albuquerque	80.62	50	P	P	05 48 35.9	-1.9
	baz=244						
ANMO	Albuquerque	80.62	50	P	P	05 48 38.5	+0.8
UNM	Universidad Na	80.63	67	IAMs_20	IAMs_20	06 15 59.9	
	comp=Z,5µm,20.0s						
GCSA	Galena City Sc	80.64	7	P	P	05 48 37.9	+1.1
	baz=196,SNR=6.8						
BNX	BinXian	80.75	322	⇓P	P	05 48 37.3	-0.6
BNX				pP	pP	05 48 47.6	-0.6
BNX				sP	sP	05 48 51.5	-0.5
BNX				S	S	05 58 39.7	-3.6
BNX				pmax	pmax		
	comp=Z,28nm,1.0s						
BNX				pmax	pmax		
	comp=Z,2µm,3.5s						
BNX				LR	LR		
	comp=Z,2µm,16.2s						
BNX				LR	LR		
	comp=Z,14µm,24.7s						
BNX				LR	LR		
	comp=Z,15µm,22.5s						
YUK6	Outpost Mounta	80.82	16	P	P	05 48 38.5	+0.2
	baz=214,SNR=11						
PAX	Paxson	80.86	13	P	P	05 48 37.9	-0.3
	baz=207,SNR=11						
BPAW	Bear Paw Mtn.	80.86	10	IAMs_20	IAMs_20	06 17 05.8	
	comp=Z,5µm,22.0s						
BPAW	Bear Paw Mtn.	80.86	10	P	P	05 48 35.9	-2.2
	baz=202						
MCK	McKinley	80.87	11	IAmb	IAmb	05 48 41.8	
	comp=Z,142nm,1.0s						
MCK	McKinley	80.87	11	P	P	05 48 37.6	-0.6
	baz=204,SNR=50						
CN2	Changchun	80.91	320	eP	P	05 48 37.5	-1.3
CN2				ePP	PP	05 51 44.6	+0.8
CN2				S	S	05 58 46.4	+1.4
CN2				SS	SS	06 04 03.5	+3.6
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2				pmax	pmax		
	comp=Z,340nm,6.5s						
CN2				LR	LR		
	comp=Z,1µm,25.0s						
CN2				LR	LR		
	comp=Z,3µm,25.0s						
CN2				LR	LR		
	comp=Z,5µm,26.0s						
HYT	Haines Junctio	80.97	17	IAmb	IAmb	05 48 53.8	
	comp=Z,115nm,1.3s						
HYT	Haines Junctio	80.97	17	P	P	05 48 38.9	0.0
	baz=215,SNR=18						
YUK3	Moose Creek	80.97	15	P	P	05 48 38.8	-0.2
	baz=212,SNR=16						
DL2	Dalian	81.02	314	P	P	05 48 41.6	+2.1
DL2				PP	PP	05 51 50.8	+6.0
DL2				S	S	05 58 50.9	+4.5
DL2				pmax	pmax		
	comp=Z,42nm,1.5s						
DL2				pmax	pmax		
	comp=Z,1µm,8.3s						
DL2				LR	LR		
	comp=Z,1µm,22.2s						
DL2				LR	LR		
	comp=Z,2µm,27.1s						
DL2				LR	LR		
	comp=Z,3µm,26.4s						
AHID	Auburn Hatcher	81.08	41	IAmb	IAmb	05 48 54.9	
	comp=Z,77nm,1.1s						
AHID				IAMs_20	IAMs_20	06 19 59.8	
	comp=Z,5µm,20.0s						
YUK4	Talbot Arm	81.08	16	P	P	05 48 40.4	+0.8
	baz=214,SNR=9.5						
GZH	Guangzhou	81.10	297	P	P	05 48 40.8	+0.5
GZH				S	S	05 58 48.1	+0.2
GZH				LR	LR		
	comp=Z,990nm,24.2s						
GZH				LR	LR		
	comp=Z,2µm,23.2s						
SNY	Shenyang	81.10	318	⇑P	P	05 48 53.0	+13
SNY				S	S	05 58 53.2	+6.1
SNY				pmax	pmax		
	comp=Z,76nm,2.5s						
SNY				pmax	pmax		
	comp=Z,2µm,5.5s						
SNY				LR	LR		
	comp=N,850nm,24.0s						
SNY				LR	LR		
	comp=E,2µm,27.5s						
SNY				LR	LR		
	comp=Z,4µm,28.6s						
M27K	Edge Creek, AK	81.12	14	IAmb	IAmb	05 48 55.3	
	comp=Z,185nm,1.3s						
M27K				IAMs_20	IAMs_20	06 18 10.9	
	comp=Z,7µm,21.0s						
M27K	Edge Creek, AK	81.12	14	P	P	05 48 39.2	-0.5
	baz=211						
L26K	Log Cabin Wild	81.36	13	IAmb	IAmb	05 48 55.5	
	comp=Z,119nm,1.5s						
L26K				IAMs_20	IAMs_20	06 16 37.2	
	comp=Z,9µm,22.0s						
L26K	Log Cabin Wild	81.36	13	P	P	05 48 40.6	-0.3
	baz=209,SNR=23						
BVCY	Beaver Creek	81.42	15	P	P	05 48 41.1	-0.1
	baz=212,SNR=26						
DLBC	Dease Lake	81.46	21	LR	LR	06 20 18.2	
	comp=Z,5µm,18.4s,baz=238,slow=32						
MSO	Missoula	81.47	37	IAmb	IAmb	05 48 56.0	
	comp=Z,115nm,1.2s						
MSO				IAMs_20	IAMs_20	06 17 08.9	
	comp=Z,8µm,22.0s						
MSO	Missoula	81.47	37	P	P	05 48 41.1	-0.7
	baz=237,SNR=30						
DLMT	Dillon	81.48	38	IAMs_20	IAMs_20	06 19 15.3	
	comp=Z,7µm,20.0s						
REDW	Red Top Meadow	81.53	41	IAmb	IAmb	05 49 14.2	
	comp=Z,177nm,1.4s						
REDW				IAMs_20	IAMs_20	06 19 19.8	
	comp=Z,4µm,19.0s						
TPAW	Teton Pass	81.53	41	IAmb	IAmb	05 48 56.6	
	comp=Z,98nm,1.1s						
TPAW				IAMs_20	IAMs_20	06 19 28.8	
	comp=Z,4µm,19.0s						
S22A	4UR Ranch, Cre	81.58	47	IAmb	IAmb	05 49 06.6	
	comp=Z,112nm,1.1s						
S22A	4UR Ranch, Cre	81.58	47	P	P	05 48 43.0	+0.1
	baz=244,SNR=55						
WHY	Whitehorse	81.59	18	P	P	05 48 42.4	+0.2
	baz=217,SNR=11						
NEA2	Nenana	81.64	10	IAmb	IAmb	05 48 57.3	
	comp=Z,85nm,1.2s						
NEA2	Nenana	81.64	10	P	P	05 48 41.4	-0.8
	baz=204,SNR=25						
SNOW	Snow King Moun	81.64	41	P	P	05 48 43.6	+0.5
SNOW				IAmb	IAmb	05 48 57.1	
	comp=Z,119nm,1.1s						
SNOW				IAMs_20	IAMs_20	06 19 23.7	
	comp=Z,5µm,19.0s						
RIDG	Independent Ri	81.67	12	IAmb	IAmb	05 48 57.5	
	comp=Z,81nm,1.1s						
RIDG	Independent Ri	81.67	12	P	P	05 48 42.1	-0.4
	baz=208,SNR=19						
O20A	White River Ci	81.69	45	IAmb	IAmb	05 48 59.5	
	comp=Z,188nm,1.8s						
O20A	White River Ci	81.69	45	P	P	05 48 42.7	-0.6
	baz=242,SNR=10						
I21K	Tanana	81.71	9	IAMs_20	IAMs_20	06 18 56.3	
	comp=Z,5µm,20.0s						
I21K	Tanana	81.71	9	P	P	05 48 42.0	-0.5
	baz=201						
L27K	Beaver Creek,	81.74	14	IAmb	IAmb	05 49 06.9	
	comp=Z,197nm,1.9s						
L27K				IAMs_20	IAMs_20	06 17 31.2	
	comp=Z,9µm,22.0s						
L27K	Beaver Creek,	81.74	14	P	P	05 48 42.7	-0.2
	baz=211						
DOT	Dot Lake	81.76	13	IAmb	IAmb	05 48 58.0	
	comp=Z,102nm,1.1s						
MLY	Manley	81.77	10	IAmb	IAmb	05 48 56.6	
	comp=Z,100nm,1.1s						
MLY	Manley	81.77	10	P	P	05 48 41.8	-1.2
	baz=202						
JTMT	Jette	81.77	36	IAmb	IAmb	05 48 58.5	
	comp=Z,125nm,1.9s						
LOHW	Long Hollow	81.81	41	IAMs_20	IAMs_20	06 19 37.2	
	comp=Z,5µm,20.0s						
HDA	Harding Lake	81.86	11	IAmb	IAmb	05 48 47.0	
	comp=Z,93nm,1.0s						
HDA				IAMs_20	IAMs_20	06 17 33.2	
	comp=Z,5µm,22.0s						
HDA	Harding Lake	81.86	11	P	P	05 48 42.7	-0.7
	baz=206,SNR=70						
P33M	Teslin, Yukon	81.88	19	P	P	05 48 43.9	+0.2
	baz=219,SNR=8.7						
CCB	Clear Creek Bu	81.91	11	IAmb	IAmb	05 48 47.1	
	comp=Z,111nm,0.9s						
FLWY	Flagg Ranch	81.99	40	P	P	05 48 45.2	+0.4
FLWY				IAmb	IAmb	05 48 59.7	
	comp=Z,149nm,1.1s						
FLWY				IAMs_20	IAMs_20	06 17 35.8	
	comp=Z,4µm,22.0s						
N31M	Braeburn, Yuko	81.99	17	IAmb	IAmb	05 48 58.4	
	comp=Z,94nm,1.1s						
N31M	Braeburn, Yuko	81.99	17	P	P	05 48 44.1	-0.1
	baz=216,SNR=10						
H21K	Melozitna Rive	82.04	8	IAmb	IAmb	05 48 59.3	
	comp=Z,108nm,1.1s						
H21K				IAMs_20	IAMs_20	06 17 51.1	
	comp=Z,6µm,22.0s						
H21K	Melozitna Rive	82.04	8	P	P	05 48 44.0	-0.3
	baz=200						
SCRK	Sand Creek	82.06	13	IAmb	IAmb	05 48 48.6	
	comp=Z,64nm,1.0s						
SCRK				IAMs_20	IAMs_20	06 17 31.6	
	comp=Z,9µm,22.0s						
SCRK	Sand Creek	82.06	13	P	P	05 48 44.4	-0.2
	baz=209,SNR=45						
BW06	Boulder Array	82.06	42	IAMs_20	IAMs_20	06 19 10.0	
	comp=Z,8µm,20.0s						
BW06	Boulder Array	82.06	42	P	P	05 48 44.1	-1.2
	baz=241,SNR=34						
PDAR	Pinedale Array	82.06	42	P	P	05 48 45.0	-0.2
	comp=Z,13nm,0.8s,baz=220,slow=3.9,SNR=38						
PDAR				LR	LR	06 20 10.0	
	comp=Z,7µm,19.2s,baz=244,slow=32						
I23K	Minto, Yukon-K	82.10	10	IAmb	IAmb	05 49 07.8	
	comp=Z,157nm,1.4s						
I23K	Minto, Yukon-K	82.10	10	P	P	05 48 44.1	-0.5
	baz=203,SNR=23						
TCOL	CIGO, UAF Yank	82.11	11	P	P	05 48 44.0	-0.6
	baz=205,SNR=24						
COLA	College	82.11	11	*di*P	P	05 48 44.0	-0.7
COLA				pmax	pmax		
	comp=Z,98nm,0.8s						
COLA	College	82.11	11	P	P	05 48 44.3	-0.3
COLA	College	82.11	11	P	P	05 48 44.3	-0.3
	baz=205						
COLA	College	82.11	11	P	P	05 48 44.0	-0.7
YMR	Madison River	82.12	40	IAmb	IAmb	05 49 00.7	
	comp=Z,182nm,1.3s						
MDM	Murphy Dome	82.12	11	IAmb	IAmb	05 48 58.8	
	comp=Z,130nm,1.1s						
SMCO	Snowmass	82.12	46	IAmb	IAmb	05 49 04.3	
	comp=Z,112nm,1.2s						
SMCO				IAMs_20	IAMs_20	06 19 06.7	
	comp=Z,8µm,20.0s						
BOZ	Bozeman (W)	82.18	39	IAmb	IAmb	05 49 00.9	
	comp=Z,103nm,1.4s						
BOZ				IAMs_20	IAMs_20	06 18 37.9	
	comp=Z,7µm,20.0s						
BOZ	Bozeman (W)	82.18	39	P	P	05 48 45.7	-0.1
	baz=239,SNR=29						
IL31		82.19	11	IAmb	IAmb	05 49 08.4	
	comp=Z,79nm,1.1s						
ILAR	Eielson Array	82.19	11	P	P	05 48 44.8	-0.3
	comp=Z,14nm,0.8s,baz=214,slow=5.8,SNR=43						
ILAR				LR	LR	06 18 29.8	
	comp=Z,4µm,21.9s,baz=216,slow=31						
H17A	Grant Village	82.22	40	P	P	05 48 46.5	+0.4
	baz=240,SNR=18						
YHH	Holmes Hill	82.25	40	IAmb	IAmb	05 49 02.9	
	comp=Z,148nm,1.4s						
SEY	Seymchan	82.28	345	LR	LR	06 20 15.6	
	comp=Z,5µm,20.8s,baz=148,slow=32						
YNR	Norris Junctio	82.32	40	IAmb	IAmb	05 49 12.8	
	comp=Z,118nm,1.3s						
J25K	Salcha River,	82.34	12	IAmb	IAmb	05 48 49.9	
	comp=Z,69nm,0.9s						
J25K				IAMs_20	IAMs_20	06 21 58.1	
	comp=Z,4µm,19.0s						
J25K	Salcha River,	82.34	12	P	P	05 48 46.2	+0.2
	baz=207,SNR=52						
POKR	Poker Plat Res	82.41	11	P	P	05 48 46.0	-0.2
	baz=205,SNR=32						
LKWY	Lake	82.41	40	IAmb	IAmb	05 49 03.5	
	comp=Z,102nm,1.1s						
LKWY				IAMs_20	IAMs_20	06 22 44.1	
	comp=Z,6µm,18.0s						
SDCO	Great Sand Dun	82.53	48	IAmb	IAmb	05 49 13.3	
	comp=Z,95nm,1.4s						
SDCO				IAMs_20	IAMs_20	06 18 57.6	
	comp=Z,7µm,20.0s						
SDCO	Great Sand Dun	82.53	48	P	P	05 48 47.9	0.0
	baz=244,SNR=36						
M30M	Minto, Yukon	82.60	16	IAmb	IAmb	05 48 51.3	
	comp=Z,202nm,1.9s						
M30M	Minto, Yukon	82.60	16	P	P	05 48 46.4	-0.9
	baz=216,SNR=21						
J26L	Joseph Creek	82.61	13	P	P	05 48 47.2	-0.3
	baz=209,SNR=56						
YMP	Mirror Lake Pl	82.65	40	IAmb	IAmb	05 49 15.7	
	comp=Z,132nm,1.3s						
H23K	Yukon River	82.69	10	IAMs_20	IAMs_20	06 18 03.4	
	comp=Z,7µm,22.0s						
H23K	Yukon River	82.69	10	P	P	05 48 46.5	-1.3
	baz=203,SNR=8.8						
WALA	Waterton Lakes	82.70	35	P	P	05 48 48.3	+0.1
QIZ	Qiongzhong	82.83	292	P	P	05 48 48.5	-1.0
QIZ				sP	pP	05 49 00.7	+1.1
QIZ				S	S	05 58 59.7	-6.1
QIZ				SS	SS	06 04 29.0	-0.5
QIZ				pmax	pmax		
	comp=Z,290nm,6.1s						
QIZ				LR	LR		
	comp=Z,760nm,23.4s						
QIZ				LR	LR		
	comp=Z,1µm,24.2s						
QIZ				LR	LR		
	comp=Z,3µm,29.4s						
M31M	Drury Creek, Y	82.96	17	P	P	05 48 50.1	+0.9
	baz=218,SNR=11						
WHN	Wuhan	82.97	304	⇓P	P	05 48 54.7	+4.8
WHN				S	S	05 59 07.8	+1.0
WHN				LR	LR		
	comp=Z,2µm,16.2s						
WHN				LR	LR		
	comp=Z,9µm,36.4s						
H24K	Noodor Dome	82.98	10	P	P	05 48 50.2	+0.9
	baz=205						
MSTX	Muleshoe	82.99	52	P	P	05 48 50.2	+0.1
	baz=246,SNR=32						
T25A	Trinidad	83.06	49	IAmb	IAmb	05 49 10.1	
	comp=Z,82nm,1.1s						
T25A	Trinidad	83.06	49	P	P	05 48 50.7	+0.2
	baz=245,SNR=18						
TIA	Tai'an	83.06	310	eP	P	05 48 50.5	+0.2
TIA				S	S	05 59 10.8	+3.2
TIA				SS	SS	06 04 33.8	+1.5
TIA				pmax	pmax		
	comp=Z,30nm,1.3s						
TIA				pmax	pmax		
	comp=Z,1µm,7.8s						
TIA				LR	LR		
	comp=Z,880nm,22.5s						
TIA				LR	LR		
	comp=Z,2µm,22.6s						
TIA				LR	LR		
	comp=Z,3µm,21.6s						
PRP	Porcupine Dome	83.12	11	P	P	05 48 50.1	0.0
	baz=207,SNR=66						
WTLY	Watson Lake, Y	83.13	21	P	P	05 48 50.1	0.0
	baz=223						
DAWY	Dawson	83.17	14	IAmb	IAmb	05 49 05.8	
	comp=Z,115nm,1.1s						
DAWY	Dawson	83.17	14	P	P	05 48 50.6	+0.3
	baz=213,SNR=41						
FARO	Faro, Yukon	83.29	18	P	P	05 48 52.7	+1.8
	baz=219,SNR=9.2						
Q24A	Divide	83.31	47	P	P	05 48 52.5	+0.6
	baz=244,SNR=25						
RDOG	Red Dog Mine	83.32	4	IAmb	IAmb	05 49 12.9	
	comp=Z,107nm,1.3s						
RDOG	Red Dog Mine	83.32	4	P	P	05 48 51.9	+1.0
	baz=190						
ISCO	Idaho Springs	83.34	46	P	P	05 48 53.3	+1.2
ISCO				pmax	pmax		
	comp=Z,56nm,1.9s						
ISCO	Idaho Springs	83.34	46	IAmb	IAmb	05 49 17.7	
	comp=Z,93nm,1.4s						
ISCO				IAMs_20	IAMs_20	06 19 57.9	
	comp=Z,7µm,20.0s						
ISCO	Idaho Springs	83.34	46	P	P	05 48 52.2	+0.2
	baz=244,SNR=30						
EGAK	Eagle	83.37	13	IAmb	IAmb	05 49 19.4	
	comp=Z,65nm,1.1s						
EGAK				IAMs_20	IAMs_20	06 18 13.3	
	comp=Z,9µm,22.0s						
EGAK	Eagle	83.37	13	P	P	05 48 51.6	+0.4
	baz=211,SNR=22						
RLMT	Red Lodge	83.39	40	IAmb	IAmb	05 49 06.8	
	comp=Z,88nm,1.1s						
RLMT	Red Lodge	83.39	40	P	P	05 48 52.8	+0.7
	baz=241,SNR=48						
833A	Chaparral WMA,	83.55	59	IAmb	IAmb	05 49 10.8	
	comp=Z,68nm,0.9s						
833A	Chaparral WMA,	83.55	59	P	P	05 48 53.2	+0.2
	baz=249,SNR=12						
N23A	Red Feather La	83.59	45	P	P	05 48 53.2	-0.1
	baz=244,SNR=50						
MAYO	Mayo, Yukon	83.67	16	P	P	05 48 53.5	+0.7
	baz=216,SNR=7.9						
CMIG	Matias Romero	83.78	71	LR	LR	06 17 45.6	
	comp=Z,3µm,20.4s,baz=252,slow=30						
J29M	Klondike Camp	83.78	15	P	P	05 48 54.2	+0.7
	baz=214,SNR=13						
COLD	Coldfoot	83.89	9	IAmb	IAmb	05 49 09.2	
	comp=Z,125nm,1.2s						
COLD	Coldfoot	83.89	9	P	P	05 48 54.6	+0.8
	baz=202,SNR=42						
K22A	Casper	83.99	43	P	P	05 48 55.2	+0.1
	baz=243,SNR=26						
JCT	Junction City	83.99	56	IAmb	IAmb	05 49 20.6	
	comp=Z,54nm,1.1s						
JCT				IAMs_20	IAMs_20	06 19 57.7	
	comp=Z,4µm,20.0s						
JCT	Junction City	83.99	56	P	P	05 48 54.9	-0.3
	baz=249,SNR=9.4						
PHWY	Pilot Hill	84.10	45	IAmb	IAmb	05 49 09.5	
	comp=Z,67nm,1.1s						
FYU	Fort Yukon	84.11	11	IAmb	IAmb	05 49 53.7	
	comp=Z,67nm,1.2s						
FYU				IAMs_20	IAMs_20	06 19 38.9	
	comp=Z,7µm,21.0s						
AMTX	Amarillo	84.18	52	IAMs_20	IAMs_20	06 18 57.9	
	comp=Z,7µm,20.0s						
AMTX	Amarillo	84.18	52	P	P	05 48 55.4	-0.8
	baz=247						
MMPY	Sheldon Lake,	84.21	18	P	P	05 48 56.2	+0.6
	baz=221,SNR=24						
BELA	Belgrano 2	84.24	172	IAmb	IAmb	05 49 16.0	
	comp=Z,82nm,1.1s						
BILL	Bilibino	84.26	352	⇓eP	P	05 48 55.9	+0.2
BILL				*i*		05 49 09.8	
BILL				*e*		05 52 11.1	
BILL				eS	S	05 59 19.0	+0.7
BILL				pmax	pmax		
	comp=Z,62nm,1.1s						
BILL				MLR	MLR		
	comp=Z,480nm,18.0s						
BILL	Bilibino	84.26	352	P	P	05 48 54.8	-0.9
BILL				IAmb	IAmb	05 49 15.9	
	comp=Z,76nm,1.2s						
BILL				IAMs_20	IAMs_20	06 21 50.5	
	comp=Z,7µm,20.0s						
BILL	Bilibino	84.26	352	P	P	05 48 56.9	+1.2
BILL				pP	pwP	05 49 07.9	+1.7
TGTN	Hyland Airport	84.33	20	P	P	05 48 56.8	+0.5
	baz=223,SNR=33						
PMSA	Palmer Station	84.40	156	LR	LR	06 17 54.5	
	comp=Z,4µm,22.0s,baz=237,slow=30						
PMSA	Palmer Station	84.40	156	IAMs_20	IAMs_20	06 17 32.5	
	comp=Z,5µm,19.0s						
GULI	GuiLin	84.41	298	⇑P	P	05 48 59.1	+1.7
GULI				S	SKSac	05 59 14.3	-4.7
GULI				SKS	S	05 59 19.8	-1.8
GULI				LR	LR		
	comp=Z,760nm,22.8s						
GULI				LR	LR		
	comp=Z,1µm,23.9s						
GULI				LR	LR		
	comp=Z,2µm,27.9s						
I29M	Ogilvie Camp,	84.52	14	IAmb	IAmb	05 49 12.3	
	comp=Z,87nm,1.2s						
I29M				IAMs_20	IAMs_20	06 20 39.6	
	comp=Z,7µm,20.0s						
I29M	Ogilvie Camp,	84.52	14	P	P	05 48 57.1	0.0
	baz=214,SNR=7.7						
EGMT	Eagleton	84.52	37	IAmb	IAmb	05 49 11.1	
	comp=Z,88nm,1.1s						
EGMT				IAMs_20	IAMs_20	06 19 05.6	
	comp=Z,8µm,22.0s						
EGMT	Eagleton	84.52	37	P	P	05 48 57.1	-0.4
	baz=240,SNR=18						
ABTX	Abilene, Hawle	84.90	54	P	P	05 48 59.9	+0.1
	baz=248,SNR=38						

KSCO	Kaye Shedlock'	85.11	48	P	P	05 48 59.6	-1.3
	baz=246						
ZEA	Zeya	85.22	329	eP	P	05 49 02.4	+1.6
ZEA				e		05 52 18.5	
ZEA				eS	SKSac	05 59 16.9	-6.0
ZEA				e		06 00 32.6	
ZEA				pmax	pmax		
	comp=E,200nm,8.4s						
ZEA				pmax	pmax		
	comp=N,400nm,6.8s						
ZEA				pmax	pmax		
	comp=Z,900nm,6.4s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.2s						
ZEA				pmax	pmax		
	comp=N,100nm,3.7s						
ZEA				pmax	pmax		
	comp=Z,200nm,6.3s						
ZEA				smax	smax		
	comp=Z,400nm,15.1s						
ZEA				smax	smax		
	comp=N,400nm,12.1s						
ZEA				smax	smax		
	comp=E,1µm,12.6s						
TOLK	Toolik Lake Re	85.29	9	IAMs_20	IAMs_20	06 24 42.0	
	comp=Z,4µm,20.0s						
TOLK	Toolik Lake Re	85.29	9	P	P	05 49 00.9	0.0
	baz=203,SNR=29						
BJI	Beijing	85.31	313	P	P	05 49 01.3	-0.3
BJI				sP	pP	05 49 12.0	0.0
BJI				PP	PP	05 52 16.6	-3.4
BJI				SKS	SKSac	05 59 20.3	-3.8
BJI				S	ScS	05 59 36.1	-3.8
BJI				SS	SS	06 05 10.1	+4.7
BJI				pmax	pmax		
	comp=Z,370nm,4.2s						
BJI				LR	LR		
	comp=Z,720nm,20.5s						
BJI				LR	LR		
	comp=Z,1µm,22.2s						
BJI				LR	LR		
	comp=Z,3µm,25.2s						
HNS	HongShan	85.31	311	⇑P	P	05 49 01.5	-0.2
HNS				PP	PP	05 52 21.0	+0.9
HNS				SKS	SKSac	05 59 22.8	-1.4
HNS				S	SKKSac	05 59 32.2	+1.4
HNS				SS	SS	06 05 03.3	-2.2
HNS				pmax	pmax		
	comp=Z,38nm,1.4s						
HNS				LR	LR		
	comp=Z,2µm,22.9s						
HNS				LR	LR		
	comp=Z,3µm,23.9s						
H03S2	Juan Fernandez	85.33	124	T	T	07 23 44.6	
	baz=253,SNR=49						
H03S1	Juan Fernandez	85.34	124	T	T	07 23 40.0	
	baz=253,SNR=61						
H03S3	Juan Fernandez	85.34	124	T	T	07 23 44.6	
	baz=253,SNR=56						
H03N2	Juan Fernandez	85.42	123	T	T	07 23 42.8	
	baz=260						
H03N3	Juan Fernandez	85.42	123	T	T	07 23 44.1	
	baz=260						
H03N1	Juan Fernandez	85.44	123	T	T	07 23 46.3	
	baz=260						
EPYK	Eagle Plains	85.72	14	IAMs_20	IAMs_20	06 19 35.4	
	comp=Z,6µm,22.0s						
EPYK	Eagle Plains	85.72	14	P	P	05 49 02.9	-0.2
	baz=215,SNR=16						
435B	Jarrell	85.89	57	IAmb	IAmb	05 49 22.0	
	comp=Z,94nm,1.1s						
435B				IAMs_20	IAMs_20	06 21 24.9	
	comp=Z,4µm,20.0s						
435B	Jarrell	85.89	57	P	P	05 49 04.1	-0.6
	baz=250						
LYN	LuoYang	85.92	307	eP	P	05 49 07.0	+2.2
LYN				PP	PP	05 52 27.1	+2.0
LYN				S	S	05 59 36.0	-0.2
LYN				SS	SS	06 05 17.2	+2.5
LYN				pmax	pmax		
	comp=Z,20nm,1.3s						
LYN				pmax	pmax		
	comp=Z,130nm,5.4s						
LYN				LR	LR		
	comp=Z,2µm,20.8s						
LYN				LR	LR		
	comp=Z,3µm,35.3s						
LAO	LASA Array	86.00	39	P	P	05 49 05.6	+0.6
	baz=243,SNR=11						
USHA	Ushuaia	86.12	146	LR	LR	06 17 56.6	
	comp=Z,6µm,21.9s,baz=250,slow=29						
RSSD	Black Hills	86.26	42	P	P	05 49 06.8	+0.2
RSSD				pmax	pmax		
	comp=Z,75nm,1.0s						
RSSD	Black Hills	86.26	42	P	P	05 49 06.8	+0.2
RSSD				IAmb	IAmb	05 49 20.3	
	comp=Z,74nm,1.0s						
RSSD	Black Hills	86.26	42	IAMs_20	IAMs_20	06 21 33.0	
	comp=Z,5µm,20.0s						
RSSD	Black Hills	86.26	42	P	P	05 49 06.1	-0.5
	baz=245						
RSSD	Black Hills	86.26	42	P	P	05 49 06.5	0.0
RSSD				pP	pwP	05 49 18.8	-1.0
OGNE	Ogallala	86.30	46	IAMs_20	IAMs_20	06 19 55.4	
	comp=Z,7µm,22.0s						
OGNE	Ogallala	86.30	46	P	P	05 49 06.0	-0.7
	baz=246						
WMOK	Wichita Mounta	86.33	53	P	P	05 49 07.4	+0.5
WMOK				pmax	pmax		
	comp=Z,35nm,1.9s						
WMOK	Wichita Mounta	86.33	53	IAMs_20	IAMs_20	06 19 21.5	
	comp=Z,5µm,22.0s						
WMOK	Wichita Mounta	86.33	53	P	P	05 49 06.6	-0.3
	baz=249						
WHTX	Lake Whitney,	86.41	56	P	P	05 49 06.4	-0.9
	baz=250						
XLT	XiLinHaoTe	86.95	317	eP	P	05 49 10.0	+0.2
XLT				pP	pP	05 49 20.7	+0.5
XLT				sP	sP	05 49 23.9	-0.1
XLT				PP	PP	05 52 29.4	-4.0
XLT				SKS	SKSac	05 59 35.9	+1.5
XLT				S	ScS	05 59 50.2	-3.4
XLT				SS	SS	06 05 33.4	+3.8
XLT				pmax	pmax		
	comp=Z,21nm,1.2s						
XLT				pmax	pmax		
	comp=Z,1µm,4.2s						
XLT				LR	LR		
	comp=Z,3µm,24.4s						
XLT				LR	LR		
	comp=Z,4µm,24.8s						
HIA	Hailar	87.01	323	IAMs_20	IAMs_20	06 21 54.1	
	comp=Z,6µm,22.0s						
HIA	Hailar	87.01	323	P	P	05 49 12.1	+2.3
A21K	Barrow	87.01	5	IAMs_20	IAMs_20	06 21 40.4	
	comp=Z,6µm,22.0s						
TIY	Taiyuan	87.10	310	P	P	05 49 14.7	+4.1
TIY				SKS	SKSac	05 59 38.6	+3.0
TIY				S	S	05 59 47.7	0.0
TIY				SS	SS	06 05 34.3	+2.3
TIY				pmax	pmax		
	comp=Z,11nm,0.5s						
TIY				pmax	pmax		
	comp=Z,760nm,4.5s						
TIY				LR	LR		
	comp=Z,680nm,24.0s						
TIY				LR	LR		
	comp=Z,2µm,24.7s						
TIY				LR	LR		
	comp=Z,2µm,23.5s						
CBKS	Cedar Bluff	87.11	49	IAmb	IAmb	05 49 28.6	
	comp=Z,62nm,1.0s						
CBKS				IAMs_20	IAMs_20	06 22 12.9	
	comp=Z,4µm,20.0s						
CBKS	Cedar Bluff	87.11	49	P	P	05 49 09.6	-1.0
	baz=248						
FNO	Franklin	87.58	53	IAmb	IAmb	05 49 31.8	
	comp=Z,55nm,1.0s						
GYA	Guiyang	87.94	298	⇑P	P	05 49 13.4	-1.6
GYA				sP	sP	05 49 29.0	-0.2
GYA				SKS	SKSac	05 59 37.7	-3.6
GYA				S	S	05 59 55.3	-1.0
GYA				SS	SS	06 05 46.6	+1.8
GYA				pmax	pmax		
	comp=Z,20nm,1.4s						
GYA				pmax	pmax		
	comp=Z,260nm,4.6s						
GYA				LR	LR		
	comp=Z,440nm,20.8s						
GYA				LR	LR		
	comp=Z,790nm,20.2s						
GYA				LR	LR		
	comp=Z,1µm,21.3s						
W35A	Tecumseh	87.95	53	IAmb	IAmb	05 49 32.1	
	comp=Z,61nm,1.0s						
DGMT	Dagmar	88.02	38	P	P	05 49 14.6	-0.1
	baz=244,SNR=17						
INK	Inuvik	88.02	14	LR	LR	06 21 29.3	
	comp=Z,5µm,21.9s,baz=214,slow=31						
INK	Inuvik	88.02	14	P	P	05 49 14.2	0.0
INK				pmax	pmax		
	comp=Z,70nm,1.2s						
INK	Inuvik	88.02	14	IAmb	IAmb	05 49 28.5	
	comp=Z,68nm,1.1s						
INK	Inuvik	88.02	14	P	P	05 49 13.4	-0.8
	baz=218,SNR=32						
MAW	Mawson	88.04	199	LR	LR	06 26 07.4	
	comp=Z,11µm,20.2s,baz=117,slow=34						
PSI	Prapat	88.50	273	LR	LR	06 31 05.8	
	comp=Z,712nm,19.9s,baz=123,slow=37						
XAN	Xi'an	88.50	306	P	P	05 49 18.0	+0.6
XAN				pP	sP	05 49 29.9	-1.7
XAN				PP	PP	05 52 49.4	+3.4
XAN				SKS	SKSac	05 59 40.8	-3.3
XAN				S	ScS	06 00 04.9	-1.9
XAN				pmax	pmax		
	comp=Z,27nm,1.4s						
XAN				pmax	pmax		
	comp=Z,1µm,6.9s						
XAN				LR	LR		
	comp=Z,1µm,21.0s						
XAN				LR	LR		
	comp=Z,1µm,20.4s						
XAN				LR	LR		
	comp=Z,2µm,22.6s						
XAN	Xi'an	88.50	306	P	P	05 49 17.9	+0.5
XAN				pP	sP	05 49 29.4	-2.2
NATX	Nacogdoches	88.57	57	IAMs_20	IAMs_20	06 22 51.0	
	comp=Z,5µm,20.0s						
NATX	Nacogdoches	88.57	57	P	P	05 49 17.5	-0.2
	baz=251						
T35A	Sooner Cattle	88.82	51	IAmb	IAmb	05 49 37.6	
	comp=Z,44nm,1.1s						
HHC	Hu-ho-hao-te	88.87	313	eP	P	05 49 23.2	+4.2
HHC				pP	sP	05 49 32.1	-1.1
HHC				sP	pwP	05 49 37.9	+5.3
HHC				PP	PP	05 52 52.0	+3.1
HHC				S	S	06 00 05.3	+0.8
HHC				SS	SS	06 05 52.8	-4.9
HHC				pmax	pmax		
	comp=Z,37nm,1.1s						
HHC				LR	LR		
	comp=Z,440nm,19.7s						
HHC				LR	LR		
	comp=Z,1µm,20.3s						
HHC				LR	LR		
	comp=Z,2µm,19.7s						
YAK	Yakutsk	88.89	337	LR	LR	06 22 29.1	
	comp=Z,2µm,21.5s,baz=115,slow=31						
YAK	Yakutsk	88.89	337	eP	P	05 49 19.4	+1.0
YAK				e		05 52 45.3	
YAK				eS	SKSac	05 59 48.7	+3.7
YAK				eSS	SS	06 05 50.3	-6.4
YAK				pmax	pmax		
	comp=Z,42nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,16nm,1.4s						
YAK				pmax	pmax		
	comp=Z,240nm,2.6s						
YAK				pmax	pmax		
	comp=N,116nm,2.4s						
YAK				pmax	pmax		
	comp=E,90nm,2.3s						
YAK				smax	smax		
	comp=E,916nm,8.3s						
YAK				smax	smax		
	comp=N,801nm,6.6s						
YAK	Yakutsk	88.89	337	P	P	05 49 17.5	-0.9
TUL1	Leonard	89.03	52	IAMs_20	IAMs_20	06 22 01.9	
	comp=Z,4µm,21.0s						
TUL1	Leonard	89.03	52	P	P	05 49 18.9	-0.8
	baz=251						
BGNE	Belgrade	89.19	47	P	P	05 49 19.7	-0.7
	baz=249						
LC01	Cunco	89.31	130	P	P	05 49 20.6	-0.5
LC01				IAmb	IAmb	05 49 48.5	
	comp=Z,72nm,1.2s						
E28A	Huff	89.41	41	IAmb	IAmb	05 49 45.2	
	comp=Z,60nm,1.3s						
KSU1	Kansas State U	89.49	49	P	P	05 49 21.6	-0.2
	baz=250						
PLCA	Paso Flores	89.67	132	P	P	05 49 25.6	+2.7
	comp=Z,2.7nm,1.0s,baz=351,slow=6.5,SNR=3.9						
PLCA				LR	LR	06 22 09.6	
	comp=Z,3µm,20.0s,baz=242,slow=31						
SUSD	Miller	89.74	44	P	P	05 49 22.6	-0.3
	baz=248						
YKA	Yellowknife Ar	89.86	23	P	P	05 49 22.7	-0.3
	comp=Z,16nm,0.8s,baz=238,slow=4.4,SNR=46						
YKA				LR	LR	06 22 50.2	
	comp=Z,7µm,21.0s,baz=291,slow=31						
BTO	Baotou	89.88	312	eP	P	05 49 27.6	+3.8
MIAR	Mount Ida	90.31	54	IAmb	IAmb	05 49 51.3	
	comp=Z,104nm,1.8s						
MIAR				IAMs_20	IAMs_20	06 25 03.9	
	comp=Z,4µm,20.0s						
MIAR	Mount Ida	90.31	54	P	P	05 49 25.1	-0.7
	baz=252						
W39A	Magazine	90.35	54	IAMs_20	IAMs_20	06 22 12.9	
	comp=Z,7µm,22.0s						
W39A	Magazine	90.35	54	P	P	05 49 24.5	-1.4
	baz=252						
Z41A	Richland Creek	90.53	56	IAmb	IAmb	05 49 41.7	
	comp=Z,48nm,0.9s						
Z41A	Richland Creek	90.53	56	P	P	05 49 27.7	+0.9
	baz=252						
MDND	Maddock	90.58	40	P	P	05 49 26.8	0.0
	baz=248						
N35A	Tabor	90.78	48	IAmb	IAmb	05 49 51.8	
	comp=Z,56nm,1.1s						
X40A	Basin Creek Fa	90.88	55	IAMs_20	IAMs_20	06 25 20.9	
	comp=Z,4µm,20.0s						
X40A	Basin Creek Fa	90.88	55	P	P	05 49 27.5	-0.9
	baz=252						
KMI	Kunming	90.94	296	⇑P	P	05 49 29.3	+0.1
KMI				sP	sP	05 49 44.7	+1.3
KMI				PP	PP	05 53 09.3	+3.5
KMI				SKS	SKSac	05 59 57.0	-2.1
KMI				S	S	06 00 25.6	+1.1
KMI				SS	SS	06 06 26.4	-2.1
KMI				pmax	pmax		
	comp=Z,230nm,7.1s						
KMI				LR	LR		
	comp=Z,570nm,23.4s						
KMI				LR	LR		
	comp=Z,1µm,25.3s						
KMI				LR	LR		
	comp=Z,2µm,25.3s						
BOAB	BOACO BROADBAN	91.03	77	IAMs_20	IAMs_20	06 20 03.8	
	comp=Z,5µm,21.0s						
ECSD	EROS Data Cent	91.07	45	IAmb	IAmb	05 49 52.9	
	comp=Z,63nm,1.5s						
ECSD	EROS Data Cent	91.07	45	P	P	05 49 28.8	-0.3
	baz=250,SNR=7.5						
C36M	Paulatuk	91.11	16	IAmb	IAmb	05 49 42.7	
	comp=Z,51nm,1.1s						
C36M	Paulatuk	91.11	16	P	P	05 49 28.8	+0.2
	baz=227,SNR=16						
JTS	Las Juntas de	91.15	80	LR	LR	06 20 37.6	
	comp=Z,3µm,21.1s,baz=323,slow=29						
JTS	Las Juntas de	91.15	80	P	P	05 49 31.0	+0.9
JTS				pmax	pmax		
	comp=Z,196nm,1.3s						
JTS	Las Juntas de	91.15	80	P	P	05 49 31.0	+0.9
JTS	Las Juntas de	91.15	80	P	P	05 49 32.3	+2.2
JTS				pP	sP	05 49 44.5	+0.1
BO01	Tunca	91.38	126	P	P	05 49 30.4	-0.5
U40A	Yellville	91.43	53	IAmb	IAmb	05 49 55.5	
	comp=Z,82nm,1.6s						
U40A	Yellville	91.43	53	P	P	05 49 29.8	-1.2
	baz=252						
S39A	Bolivar	91.48	51	IAmb	IAmb	05 49 56.7	
	comp=Z,49nm,1.4s						
W41B	Gary Mavity, V	91.54	54	IAmb	IAmb	05 49 47.7	
	comp=Z,79nm,1.3s						
W41B	Gary Mavity, V	91.54	54	P	P	05 49 31.9	+0.4
	baz=253						
CD2	Chengdu	91.70	301	P	P	05 49 31.7	-0.7
CD2				S	S	06 00 31.3	+0.5
CD2				pmax	pmax		
	comp=Z,560nm,8.1s						
CD2				LR	LR		
	comp=Z,2µm,24.6s						
CD2				LR	LR		
	comp=Z,2µm,30.3s						
FFC	Flin Flon	91.88	33	P	P	05 49 32.2	-0.4
FFC				pmax	pmax		
	comp=Z,52nm,1.6s						
FFC	Flin Flon	91.88	33	P	P	05 49 32.2	-0.4
FFC				IAmb	IAmb	05 49 56.5	
	comp=Z,52nm,1.6s						
FFC	Flin Flon	91.88	33	IAMs_20	IAMs_20	06 24 32.2	
	comp=Z,4µm,20.0s						
P38A	Dawn	91.92	50	IAmb	IAmb	05 49 57.2	
	comp=Z,54nm,1.4s						
F33A	5 Mile Ranch,	92.00	43	IAmb	IAmb	05 49 47.0	
	comp=Z,32nm,1.1s						
VBMS	Vicksburg	92.07	57	IAMs_20	IAMs_20	06 25 20.5	
	comp=Z,4µm,21.0s						
VBMS	Vicksburg	92.07	57	P	P	05 49 32.7	-1.3
	baz=253						
PEL	Peldehue	92.11	125	P	P	05 49 36.0	+1.7
PEL				pmax	pmax		
	comp=Z,38nm,1.1s						
PZH	PanZhiHua	92.18	297	P	P	05 49 34.2	-0.6
PZH				sP	sP	05 49 49.5	+0.5
PZH				SKS	SKSac	06 00 00.5	-5.4
PZH				S	S	06 00 33.2	-2.3
PZH				sS	sS	06 00 53.0	+0.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,260nm,7.4s						
PZH				LR	LR		
	comp=Z,950nm,22.0s						
PZH				LR	LR		
	comp=Z,1µm,21.0s						
PZH				LR	LR		
	comp=Z,2µm,22.1s						
LMEL	Las Melosas	92.25	126	IAmb	IAmb	05 50 10.8	
	comp=Z,39nm,1.1s						
CMAR	Chiang Mai Arr	92.55	288	P	P	05 49 35.1	-1.4
	comp=Z,1.5nm,0.3s,baz=103,slow=2.8,SNR=2.9						
CMAR				LR	LR	06 25 27.2	
	comp=Z,1µm,21.7s,baz=120,slow=32						
A36M	Sachs Harbour	92.65	13	IAMs_20	IAMs_20	06 26 19.6	
	comp=Z,6µm,20.0s						
A36M	Sachs Harbour	92.65	13	P	P	05 49 35.4	-0.3
	baz=226,SNR=42						
SCIA	State Center	92.85	47	P	P	05 49 36.1	-1.3
	baz=252						
SYO	Syowa Base	92.85	191	⇓esP	sP	05 49 50.0	-1.0
ATAH	Atahualpa	92.94	98	LR	LR	06 24 16.6	
	comp=Z,1µm,18.1s,baz=268,slow=31						
P40A	Paris	92.98	50	IAmb	IAmb	05 50 02.1	
	comp=Z,55nm,1.2s						
LZH	Lanzhou	93.09	306	⇑P	P	05 49 37.7	-1.1
LZH				pP	pwP	05 49 51.6	-0.8
LZH				sP	sP	05 49 56.4	+3.3
LZH				PP	PP	05 53 27.8	+5.3
LZH				SKS	SKSac	06 00 06.5	-4.2
LZH				S	ScS	06 00 46.7	+1.6
LZH				SS	SS	06 07 05.2	+6.2
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				pmax	pmax		
	comp=Z,610nm,9.3s						
LZH				LR	LR		
	comp=Z,920nm,16.8s						
LZH				LR	LR		
	comp=Z,1µm,17.4s						
LZH				LR	LR		
	comp=Z,4µm,19.5s						
AGMN	Agassiz Nation	93.09	41	IAmb	IAmb	05 50 01.8	
	comp=Z,94nm,1.6s						
AGMN	Agassiz Nation	93.09	41	P	P	05 49 36.5	-1.9
	baz=251						
NNA	Nana	93.09	103	LR	LR	06 22 36.0	
	comp=Z,622nm,21.8s,baz=258,slow=30						
VNA3	Neumayer Olymp	93.11	175	P	P	05 49 37.4	-0.7
SNAA	Sanae	93.16	177	P	P	05 49 37.3	-1.1
SNAA	Sanae	93.16	177	LR	LR	06 32 13.3	
	comp=Z,2µm,18.1s,baz=192,slow=36						
SNAA	Sanae	93.16	177	ceP	P	05 49 37.7	-0.7
SNAA				pmax	pmax		
	comp=Z,16nm,1.1s						
CCM	Cathedral Cave	93.16	52	P	P	05 49 38.2	-0.7
CCM				pmax	pmax		
	comp=Z,51nm,1.4s						
CCM	Cathedral Cave	93.16	52	P	P	05 49 38.2	-0.7
CCM				IAmb	IAmb	05 50 02.7	
	comp=Z,51nm,1.4s						
CCM	Cathedral Cave	93.16	52	IAMs_20	IAMs_20	06 23 59.1	
	comp=Z,6µm,21.0s						
CCM	Cathedral Cave	93.16	52	P	P	05 49 37.7	-1.1
	baz=253						
CCM	Cathedral Cave	93.16	52	P	P	05 49 39.7	+0.8
CCM				pP	pP	05 49 50.6	+1.3
I37A	Lemond, Waseca	93.36	45	IAmb	IAmb	05 50 03.9	
	comp=Z,66nm,1.2s						
PBMO	Poplar Bluff	93.42	53	IAmb	IAmb	05 50 04.6	
	comp=Z,72nm,1.4s						
LCO	Las Campanas	93.46	121	P	P	05 49 42.5	+1.6
LCO				pmax	pmax		
	comp=Z,59nm,1.0s						
LCO	Las Campanas	93.46	121	P	P	05 49 42.5	+1.6
OXF	Oxford	93.59	55	IAMs_20	IAMs_20	06 26 17.8	
	comp=Z,6µm,20.0s						
OXF	Oxford	93.59	55	P	P	05 49 39.7	-1.3
	baz=254						
VNA2	Neumayer--Watz	93.60	175	P	P	05 49 39.5	-0.9
	baz=186,slow=4.0						
BOD	Bodaibo	93.72	329	eP	P	05 49 40.0	-1.0
BOD				pmax	pmax		
	comp=Z,24nm,2.1s						
ULM	Lac du Bonnet	93.72	39	P	P	05 49 40.1	-1.0
	comp=Z,8.6nm,0.8s,baz=236,slow=4.4,SNR=12						
ULM				LR	LR	06 26 48.5	
	comp=Z,10µm,19.5s,baz=250,slow=32						
ULM	Lac du Bonnet	93.72	39	IAmb	IAmb	05 50 04.8	
	comp=Z,85nm,1.5s						
VNA1	Neumayer--Stat	93.80	175	P	P	05 49 40.2	-1.0
F36A	Milaca	93.83	44	IAmb	IAmb	05 50 06.1	
	comp=Z,45nm,1.3s						
SPMN	Marine on St.	94.13	44	P	P	05 49 42.0	-1.2
	baz=253						
NVL	N'lazarevskaya	94.23	182	⇓iP	P	05 49 28.0	-15
NVL				i PS	PS	06 02 08.1	-2.4
NVL				pmax	pmax		
	comp=Z,53nm,1.7s						
NVL				MLR	MLR		
	comp=Z,4µm,18.0s						
ULN	Ulaanbaatar	94.26	318	ceP	P	05 49 45.5	+1.6
ULN				pmax	pmax		
	comp=Z,11nm,1.2s						
B35A	Bob, Littlefor	94.46	41	IAmb	IAmb	05 49 57.5	
	comp=Z,32nm,1.0s						
S44A	Carbondale	94.57	52	IAmb	IAmb	05 50 10.3	
	comp=Z,58nm,1.2s						
BRAL	Brewton	94.63	59	P	P	05 49 44.1	-1.7
	baz=255						
SONM	Songino Array	94.67	318	P	P	05 49 47.9	+2.1
	comp=Z,1.4nm,0.8s,baz=121,slow=4.2,SNR=9.6						
SONM				PP	PP	05 53 33.9	-0.6
	comp=Z,1.9nm,1.2s,baz=118,slow=6.9,SNR=2.9						
SONM				LR	LR	06 27 27.3	
	comp=Z,2µm,21.9s,baz=101,slow=32						
TIXI	Tiksi	94.77	344	LR	LR	06 28 25.4	
	comp=Z,3µm,21.1s,baz=173,slow=33						
TIXI	Tiksi	94.77	344	ceP	P	05 49 45.8	+0.3
TIXI				pmax	pmax		
	comp=Z,15nm,1.5s						
TIXI				MLR	MLR		
	comp=Z,893nm,18.0s						
TIXI	Tiksi	94.77	344	P	P	05 49 45.0	-0.5

TIXI IAMs_20 IAMs_20 06 28 03.9
comp=Z,4μm,21.0s
TIXI Tiksi 94.77 344 P **P** **05 49 44.8 -0.7**
TIXI pP **pP** **05 49 56.6 +0.6**
JFWS Jewell Farm 95.24 47 P **P** **05 49 45.9 -2.4**
baz=254
WVT Waverly 95.27 54 P **P** **05 49 48.9 +0.3**
WVT pmax pmax
comp=Z,37nm,1.3s
WVT Waverly 95.27 54 P **P** **05 49 48.9 +0.3**
WVT IAmb IAmb 05 50 13.3
comp=Z,37nm,1.2s
WVT Waverly 95.27 54 IAMs_20 IAMs_20 06 26 14.0
comp=Z,5μm,20.0s
WVT Waverly 95.27 54 P **P** **05 49 46.5 -2.1**
baz=255
HDIL Hopedale 95.30 50 P **P** **05 49 45.9 -2.7**
baz=255
EYMN Ely 95.77 42 IAMs_20 IAMs_20 06 26 36.6
comp=Z,6μm,21.0s
EYMN Ely 95.77 42 P **P** **05 49 49.4 -1.2**
baz=254
G40A Rib Lake 95.90 45 IAmb IAmb 05 50 04.3
comp=Z,36nm,1.1s
I42A Draeger Farm, 96.44 46 IAmb IAmb 05 50 06.9
comp=Z,39nm,1.1s
SWET Sewanee 96.54 55 IAmb IAmb 05 50 18.7
comp=Z,25nm,1.0s
L44A Lake County Fo 96.72 48 P **P** **05 49 53.1 -2.0**
baz=256
SFIN Lafayette 96.88 50 P **P** **05 49 55.9 +0.1**
baz=256
U49A Red Boiling Sp 96.97 54 IAmb IAmb 05 50 10.4
comp=Z,29nm,0.9s
WCI Wyandotte Cave 96.97 52 IAMs_20 IAMs_20 06 27 20.0
comp=Z,7μm,21.0s
W50A Signal Mountai 97.03 56 IAmb IAmb 05 50 10.7
comp=Z,24nm,1.1s
GTA Gaotai 97.04 309 ⇑P **P** **05 50 00.1 +3.3**
GTA pP sP 05 50 11.8 +0.8
GTA SKS **SKSac** **06 00 27.4 -4.1**
GTA S **ScS** **06 01 19.2 +1.4**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,100nm,8.0s
GTA LR LR
comp=Z,1μm,22.2s
GTA LR LR
comp=Z,2μm,21.8s
GTA LR LR
comp=Z,3μm,22.2s
LVC Limon Verde 97.11 116 LR LR 06 24 56.4
comp=Z,1μm,21.5s,baz=250,slow=30
ZAK Zakamensk 97.34 320 *eP* Pdif 05 50 11.4 +13
ZAK pmax pmax
comp=Z,14nm,1.4s
TIGA Tifton 97.57 60 P **P** **05 49 58.7 -0.5**
baz=257
V51A Loudon 97.93 55 IAmb IAmb 05 50 14.6
comp=Z,30nm,1.1s
O48B Farmland 98.29 51 P **P** **05 50 01.2 -1.1**
baz=257
TKL Tuckaleechee C 98.35 55 LR LR 06 30 23.6
comp=Z,3μm,19.1s,baz=270,slow=33
P49A Miami Univ. Ec 98.47 51 P **P** **05 50 00.6 -2.4**
baz=257
TZTN Tazewell 98.72 55 IAMs_20 IAMs_20 06 28 31.6
comp=Z,5μm,21.0s
GLMI Grayling 99.65 46 IAMs_20 IAMs_20 06 31 12.5
comp=Z,5μm,19.0s
AAM Ann Arbor 99.83 49 IAMs_20 IAMs_20 06 29 30.4
comp=Z,3μm,21.0s
LPAZ La Paz 99.88 110 P **Pdif** **05 50 15.9 +5.2**
comp=Z,0.6nm,0.9s,baz=244,slow=3.8,SNR=2.8
ACSO Alum Creek Sta 99.92 51 IAMs_20 IAMs_20 06 29 01.9
comp=Z,6μm,21.0s
GOMU GeErMu 100.21 305 P **Pdif** **05 50 12.5 +1.1**
GOMU PP **PP** **05 54 20.1 +2.4**
GOMU SS SS 06 08 40.3 +0.2
GOMU LR LR
comp=Z,450nm,21.3s
GOMU LR LR
comp=Z,580nm,20.9s
GOMU LR LR
comp=Z,1μm,21.2s
O53A New Philadelph 101.25 51 IAMs_20 IAMs_20 06 29 43.2
comp=Z,7μm,22.0s
BLA Blacksburg 101.31 54 IAMs_20 IAMs_20 06 31 36.1
comp=Z,5μm,20.0s
BLA Blacksburg 101.31 54 P **Pdif** **05 50 13.4 -2.4**
baz=260
ERPA Erie 102.47 50 IAMs_20 IAMs_20 06 30 59.5
comp=Z,5μm,20.0s
CNNC Cliffs of the 102.99 57 IAMs_20 IAMs_20 06 31 30.7
comp=Z,6μm,21.0s
O56A Blue Knob Stat 103.25 52 IAMs_20 IAMs_20 06 31 38.2
comp=Z,6μm,20.0s
O56A Blue Knob Stat 103.25 52 P **Pdif** **05 50 22.8 -1.5**
baz=261
SSPA Standing Stone 103.81 51 P **Pdif** **05 50 26.4 -0.4**
baz=262
CBN Corbin Frederi 103.86 54 IAMs_20 IAMs_20 06 31 12.5
comp=Z,5μm,22.0s
BINY Binghamton 105.43 50 IAMs_20 IAMs_20 06 32 31.9
comp=Z,6μm,20.0s
SDDR Presa de Saban 105.98 74 IAMs_20 IAMs_20 06 29 13.9
comp=Z,4μm,22.0s
CRZF Crozet Islands 106.43 211 IAMs_20 IAMs_20 06 28 25.3
comp=Z,3μm,19.0s
WMQ Urumqi 106.72 312 Pdif **Pdif** **05 50 41.3 +1.6**
WMQ PP **PP** **05 55 09.8 +4.1**
WMQ S **Sdif** **06 02 38.8 +0.6**
WMQ AMB AMB
comp=Z,530nm,5.1s
WMQ LR LR
comp=Z,1μm,20.9s
WMQ LR LR
comp=Z,1μm,22.1s
WMQ LR LR
comp=Z,1μm,18.7s
TRY Troy 107.19 49 IAMs_20 IAMs_20 06 34 13.4
comp=Z,5μm,20.0s
YLE Yale 107.62 51 IAMs_20 IAMs_20 06 35 53.7
comp=Z,6μm,20.0s
ALE Alert 107.63 7 IAMs_20 IAMs_20 06 37 33.2
comp=Z,4μm,19.0s
ZSN Zaisan 108.92 315 *e*PP **PP** **05 55 18.2 -3.5**
baz=315
ZALV Zalesovo Beam 109.04 322 Pdiff **Pdif** **05 50 51.7 +2.0**
comp=Z,0.3nm,0.3s,baz=69,slow=7.9,SNR=1.6
ZALV PKiKP **PKiKP** **05 54 53.5 -0.4**
comp=Z,0.9nm,0.4s,baz=74,slow=2.1,SNR=1.8
PKME Peaks-Kenny Pk 110.48 47 IAMs_20 IAMs_20 06 38 43.1
comp=Z,4μm,19.0s
MKAR Makanchi Array 110.66 315 Pdiff **Pdif** **05 50 59.7 +2.6**
comp=Z,0.5nm,0.8s,baz=104,slow=3.7,SNR=4.7
MKAR PKiKP **PKiKP** **05 54 55.8 -1.4**
comp=Z,0.9nm,0.7s,baz=140,slow=0.3,SNR=9.9
DGAR Diego Garcia 111.03 256 IAMs_20 IAMs_20 06 37 49.4
comp=Z,3μm,20.0s
NEEM North Greenlan 111.49 11 *i* P **PKiK** **05 54 59.7 +1.4**
SEM Semipalatinsk 111.94 319 *i* PKiKP **PKiK** **05 54 58.2 -1.6**
SEM *e* 05 55 40.9
SEM Semipalatinsk 111.94 319 *e*PKiKP **PKiK** **05 54 58.2 -1.6**
baz=318
SEM *e*PP **PP** **05 55 41.0 -2.6**
baz=318
SHLS Shalkode 112.67 311 *i* PKIKP **PKiK** **05 54 58.8 -2.5**
SHLS Shalkode 112.67 311 *e*PKiKP **PKiK** **05 54 58.9 -2.5**
baz=311
KURK Kurchatov 112.96 319*c* *i*PKiKP **PKiK** **05 55 02.9 +1.5**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 112.96 319 IAMs_20 IAMs_20 06 40 25.9
comp=Z,3μm,21.0s
UZB Uzunbulak 112.99 311 *i* PKiKP **PKiK** **05 55 00.0 -1.9**
UZB Uzunbulak 112.99 311 *e*PKiKP **PKiK** **05 55 00.1 -1.9**
baz=311
SATY Saty 113.45 311 *i* PKIKP **PKiK** **05 55 00.9 -1.9**
SATY Saty 113.45 311 *e*PKiKP **PKiK** **05 55 01.0 -1.9**
baz=311
MDOK Medeo 114.44 311 *e*PKIKP PKPdf 05 55 02.8 -1.9
MDOK *e* 05 55 59.3
MDOK Medeo 114.44 311 *e*PKP PKPdf 05 55 02.8 -1.9
baz=311
MDOK *e*PP **PP** **05 55 59.4 -2.1**
baz=311
AAA Alma-Ata 114.53 311 *e*PKIKP PKPdf 05 55 02.8 -2.0
AAA Alma-Ata 114.53 311 *e*PKP PKPdf 05 55 02.8 -2.0
baz=311
KUU Kurty 114.92 312 *e*PKIKP PKPdf 05 55 03.4 -2.1
KUU *e* 05 56 01.7
KUU Kurty 114.92 312 *e*PKP PKPdf 05 55 03.5 -2.0
baz=312
KUU *e*PP **PP** **05 56 01.8 -3.0**
baz=312
KSH Kashi 115.34 307 PKP **PKPdf** **05 55 06.1 -0.4**
KSH sPKP 05 55 19.7
KSH PP **PP** **05 56 13.8 +5.9**
KSH SS SS 06 12 08.0 +3.9
KSH AMB AMB
comp=Z,480nm,7.9s
KSH LR LR
comp=Z,880nm,19.6s
KSH LR LR
comp=Z,1μm,20.3s
KSH LR LR
comp=Z,2μm,22.3s
SGDS Sogindy 116.19 311 *e*PKP **PKPdf** **05 55 05.1 -2.9**
baz=311
BTLS Baital 116.48 313 *e*PKIKP **PKPdf** **05 55 06.8 -1.6**
BTLS *e* 05 56 13.6
BTLS Baital 116.48 313 *e*PKP **PKPdf** **05 55 06.9 -1.6**
baz=313
BTLS *e*PP **PP** **05 56 13.6 -1.9**
baz=313
BRZS Berezniki 116.83 319 *e*PKIKP **PKPdf** **05 55 06.6 -2.3**
BRZS *e* 05 56 14.6
BRZS Berezniki 116.83 319 *e*PKP **PKPdf** **05 55 06.7 -2.3**
baz=319
BRZS *e*PP **PP** **05 56 14.7 -3.1**
baz=319
SUMG Summit 116.94 14 *i* P **PKiKP** **05 55 11.6 +2.6**
DAG Danmarks Havn 116.99 6 *i* P **PKPdf** **05 55 06.9 -1.6**
BRVK Borovoye 117.75 322*c* *i*PKIKP **PKPdf** **05 55 09.1 -1.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 117.75 322 PKPdf **PKPdf** **05 55 08.5 -2.1**
BRVK Borovoye 117.75 322 IAMs_20 IAMs_20 06 41 28.2
comp=Z,3μm,22.0s
DZA Taraz 118.64 311 *e*PKIKP **PKPdf** **05 55 10.4 -2.2**
DZA *e* 05 56 28.3
DZA Taraz 118.64 311 *e*PKP **PKPdf** **05 55 10.5 -2.2**
baz=311
DZA *e*PP **PP** **05 56 28.3 -2.3**
baz=311
ICESG Greenland Ices 118.82 17 *i* P **PKPdf** **05 55 13.0 +0.4**
DBG Daneborg 118.97 8 *i* P **PKPdf** **05 55 11.8 -0.5**
SVE Sverdlovsk 121.93 328 *i* PKIKP **PKPdf** **05 55 18.2 -0.3**
SVE pmax pmax
comp=Z,17nm,1.0s
SCO Scoresbysund 121.98 11 IAMs_20 IAMs_20 06 45 16.3
comp=Z,4μm,20.0s
ARU Arti 123.14 329 *i* PKIKP **PKPdf** **05 55 20.1 -0.7**
ARU 05 56 57.5
ARU 06 02 29.0
ARU SP SP 06 07 00.1 +7.9
ARU MLR MLR
comp=Z,3μm,21.0s
ARU Arti 123.14 329 PKPdf **PKPdf** **05 55 18.4 -2.4**
ARU IAMs_20 IAMs_20 06 47 34.8
comp=Z,3μm,21.0s
KEV Kevo 123.95 352 IAMs_20 IAMs_20 06 47 22.1
comp=Z,2μm,20.0s
LVZ Lovozero 124.26 348*c* *i*PKIKP **PKPdf** **05 55 23.1 +0.4**
LVZ pmax pmax
comp=Z,38nm,1.7s
LVZ Lovozero 124.26 348 IAMs_20 IAMs_20 06 50 07.3
comp=Z,3μm,21.0s
ARCES ARCESS Array B 124.36 352 PKP **PKPdf** **05 55 21.9 -0.9**
comp=Z,18nm,0.8s,baz=355,slow=1.3,SNR=20
APA Apatity 124.79 348 ‖ *i*PKIKP **pPKPdf** **05 55 35.4 +1.1**
APA *i* 05 57 19.0
APA *i* 06 07 18.0
APA *i* PPS PPS 06 08 38.0
APA *i* SS SS 06 14 06.0 +3.1
APA pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 125.91 338 *e*PKIKP **PKPdf** **05 55 23.9 -2.1**
KIRV Kirov 126.32 334*c* *i*PKIKP **PKPdf** **05 55 25.7 -1.1**
ABPO Ambohimpanom 127.56 231 IAMs_20 IAMs_20 06 45 29.6
comp=Z,4μm,19.0s
MSEY Mahe Island 127.75 252 IAMs_20 IAMs_20 06 44 42.4
comp=Z,3μm,21.0s
KLMR Klimovskoe 128.56 340 *e*PKIKP **PKPdf** **05 55 27.7 -3.4**
KLMR *e* 05 57 36.3
KLMR *e*SS SS 06 14 53.0 +2.8
KLMR pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe 128.56 340 *e*PKPdf **PKPdf** **05 55 27.7 -3.4**
KLMR AMP 05 55 46.3
comp=Z,36nm,1.2s
KLMR *e*PP **PP** **05 57 36.4 0.0**
KLMR *e*SKP 05 59 00.0
KLMR *e*PPP PPP 06 00 18.6
KLMR *e*SKKPbc SKKPbc 06 08 39.2 -4.5
KLMR *e*SS **SS** **06 14 53.0 +2.8**
KLMR *e*SS **SS** **06 14 53.0 +2.8**
KLMR SSS SSS 06 19 23.5
KLMR SSS SSS 06 19 23.5
KLMR LQ LQ 06 38 07.8
KLMR LQ LQ 06 38 07.8
KLMR LR LR 06 42 38.3
KLMR AMP 06 46 05.8
comp=Z,3μm,23.4s
GEYT Alibeck 129.37 307 PKP **PKPdf** **05 55 33.8 +0.4**
comp=Z,1.5nm,0.5s,baz=202,slow=40,SNR=1.9
FINES FINESS Array B 131.70 348 PKP **PKPdf** **05 55 36.9 -0.1**
comp=Z,5.1nm,0.9s,baz=29,slow=3.2,SNR=8.9
MOS Moscow 133.02 337 *i* PKIKP **pPKPdf** **05 55 49.6 -0.7**
MOS *e* 05 58 12.9
MOS pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 133.89 337*c* *i*PKIKP **PKPdf** **05 55 40.9 -0.4**
OBN *i* 05 55 54.3
OBN *e* 05 58 09.5
OBN *e* 06 02 47.5
OBN *e*PS **PS** **06 08 27.7 -3.3**
OBN *e*SS SS 06 15 53.4 -2.0
OBN pmax pmax
comp=Z,23nm,1.7s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 133.89 337 IAMs_20 IAMs_20 06 55 21.4
comp=Z,2μm,20.0s
SOCY Socotra 133.95 272 IAMs_20 IAMs_20 06 54 46.9
comp=Z,2μm,19.0s
NB2 NORSAR Subarra 134.05 357 PKPdf **PKPdf** **05 55 41.9 +0.4**
comp=Z,154nm,2.5s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 134.05 357 PKPdf **PKPdf** **05 55 41.9 +0.4**
baz=6.6,slow=1.8
NOA NORSAR Array B 134.05 357 PKP **PKPdf** **05 55 40.4 -1.1**
comp=Z,3.5nm,0.8s,baz=13,slow=4.0,SNR=16
VSU Vasula 134.23 345 *i* PKIKP **PKPdf** **05 55 41.8 0.0**
VSU Vasula 134.23 345 *eP* **PKPdf** **05 55 39.8 -2.0**
VRH Novokhopyorsk 134.34 330 *i* PKIKP **pPKPdf** **05 55 54.4 +1.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 134.72 333 *i* PKIKP **pPKPdf** **05 55 54.5 +0.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,2μm,22.0s
VORR Voronezh 135.22 332 *e*PKIKP **PKPdf** **05 55 44.2 +0.3**
VORR pmax pmax
comp=Z,40nm,0.3s
MAK Makhachkala 135.42 317 *eP* **Pdif** **05 52 45.4 -1.9**
MAK *i* 05 55 44.2
MAK *e* 05 58 18.0
MAK *e* 06 02 46.6
MAK pmax pmax
comp=Z,131nm,0.9s
KONO Kongsberg 135.51 358*c* *i*PKIKP **PKPdf** **05 55 43.8 -0.4**
KONO pmax pmax
comp=Z,33nm,2.5s
KONO Kongsberg 135.51 358 IAMs_20 IAMs_20 06 56 37.8
comp=Z,2μm,21.0s
GROC Groznyy 136.43 318 *e*PKHKP PKPpre 05 55 29.1
ISAL Salakas 136.95 344 *eP* **PKPdf** **05 55 45.2 -1.8**
IDID Didziasalis 137.00 343 *eP* **PKiKP** **05 55 49.3 +0.3**
baz=311
IIGN Ignalina 137.12 344 *eP* **PKPdf** **05 55 48.0 +0.7**
NACGM Naroch 137.35 343 *i* PKP PKPpre 05 55 41.4
MNK Minsk 137.38 342 *i* PKIKP **PKPdf** **05 55 49.0 +1.2**
MNK *i* 05 58 30.5
MNK *i* 06 02 57.2
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK MLR MLR
comp=Z,3μm,20.0s
MNK MLR MLR
comp=N,2μm,21.0s
MNK Minsk 137.38 342 *i* PKP **PKPdf** **05 55 49.1 +1.2**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf** **05 55 49.1 +1.2**
comp=N,16nm,0.9s
MNK *i* PKP **PKPdf** **05 55 49.1 +1.2**
comp=Z,12nm,0.9s,baz=36
MNK *i* PP **PP** **05 58 30.6 -2.1**
MNK *i* PPP PPP 06 01 28.6
MNK *i* SKS **SKSdf** **06 02 57.2 +1.3**
MNK *i* SKKS 06 06 27.1
MNK *i* PS PS 06 10 23.0 +82
MNK *i* SS SS 06 16 51.9 +15
MNK *i* SSS SSS 06 21 35.6
MNK *i* LR LR 06 47 54.0
MNK *i* LRM MLR 06 58 05.8
comp=Z,3μm,19.6s
MNK *i* LRM MLR 06 58 16.6
comp=N,2μm,20.6s
MNK *i* LRM MLR 06 58 48.4
comp=E,258nm,20.6s
PABE Paberze 137.56 345 PKPdf **PKPdf** **05 55 44.1 -4.0**
PABE IAMs_20 IAMs_20 06 53 29.9
comp=Z,4μm,22.0s
ZEI Tsey 137.85 318 *i* PKIKP **PKiKP** **05 55 52.5 +1.1**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 138.01 320 PKP **PKiKP** **05 55 51.1 -0.2**
comp=Z,1.0nm,0.8s,baz=47,slow=13,SNR=2.2
KBZ Khabaz 138.01 320 *i* PKIKP **PKPdf** **05 55 48.1 -1.2**
KIV Kislovodsk 138.02 321 *i* PKIKP **PKPdf** **05 55 48.7 -0.8**
KIV *e* 05 58 34.9
KIV *e*PS **PS** **06 08 59.6 -7.2**
KIV *e*SS SS 06 16 44.4 -1.7
KIV *e*SSS SSS 06 21 50.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,2μm,24.0s
KIV Kislovodsk 138.02 321 IAMs_20 IAMs_20 07 01 28.4
comp=Z,2μm,20.0s
DEL Delary 138.39 354 *eP* **PKiKP** **05 55 53.4 +1.6**
SUW Suwalki 139.11 345 *e*PKP **PKiKP** **05 55 58.5 +5.2**
SUW *e*PP PP 05 58 57.2 +14
SUW *e*L L 06 47 28.5
comp=Z,7μm,30.0s
SUW Suwalki 139.11 345 IAMs_20 IAMs_20 06 55 01.9
comp=Z,4μm,21.0s
SUW Suwalki 139.11 345 *eP* **PKPdf** **05 55 49.8 -1.2**
BSD Bornholm Skovb 139.60 353 *eP* **PKiKP** **05 55 55.9 +1.7**
SOC Sochi 140.02 322 *i* P **Pdif** **05 53 15.4 +7.7**
SOC *i* 05 55 53.1
SOC *e* 05 58 47.8
SOC *e*SS SS 06 17 06.7 -2.6
SOC *e*SSS SSS 06 22 20.3
SOC MLR MLR
comp=Z,4μm,21.0s
AKASG Malin Array Be 140.11 338 PKhKP PKPpre 05 55 44.4
comp=Z,1.4nm,0.7s,baz=38,slow=3.5,SNR=6.7
AKASG PKP **PKPdf** **05 55 53.5 +0.5**
comp=Z,2.8nm,0.7s,baz=20,slow=1.9,SNR=11
AKASG PP **PP** **05 58 47.6 -2.2**
comp=Z,0.2nm,0.2s,baz=31,slow=7.6,SNR=2.6
AKBB Malin Array Si 140.11 338*c* *i*PKIKP **PKPdf** **05 55 52.4 -0.6**
RGN Rugen 140.34 354 IAMs_20 IAMs_20 06 54 08.3
comp=Z,3μm,22.0s
ANN Anapa 140.61 325 *i* PKIKP **PKiKP** **05 55 59.2 +2.6**
ANN *e* 05 59 03.3
ANN pmax pmax
comp=Z,43nm,1.1s
ANN MLR MLR
comp=E,2μm,18.0s
ANN MLR MLR
comp=Z,1μm,20.0s
ANN MLR MLR
comp=N,3μm,20.0s
PCAN Candelaria 141.36 46 *e*PKP **PKiKP** **05 56 03.0 +4.6**
PICO Pico 141.38 46 *e*PKP **PKiKP** **05 56 03.0 +4.5**
SRBC Serra Branca 141.40 45 *e*PKP **PKPdf** **05 55 54.3 -1.4**
ROSA Rosais 141.41 46 *e*PKP **PKPdf** **05 55 57.0 +1.3**
PGRA Graciosa 141.44 45 *e*PKP pPKPdf 05 56 07.4 +1.0
PID Ribeirinha 141.62 46 *e*PKP **PKiKP** **05 56 04.0 +5.0**
BEL Belsk 141.69 346 *e*PKP **PKiKP** **05 55 59.4 +0.8**
BEL *e*L L 06 47 54.1
comp=N,6μm,31.4s
PAGU Agualva, Azore 142.11 45 *e*PKP **PKiKP** **05 56 03.3 +3.4**
RAYN Ar Rayn 142.47 289 ⇑ PKIKP **PKiKP** **05 56 07.1 +5.9**
SORM Soroca 142.53 336 ‖ P **PKPdf** **05 55 59.3 +1.9**
SORM Soroca 142.53 336 ‖ PKIKP **PKPdf** **05 55 59.3 +1.9**
LVV L'vov 142.63 341 *e*PKIKP **PKPdf** **05 55 53.5 -4.0**
LVV *e* 05 59 15.5
LVV *e* 06 02 25.4
LVV MLR MLR
comp=E,3μm,21.0s
LVV MLR MLR
comp=N,3μm,24.0s
LVV MLR MLR
comp=Z,4μm,22.0s
KWP Kalwaria Pacla 143.19 342 *e*PKP **PKPdf** **05 55 57.9 -0.7**
KWP *e*L L 06 51 01.5
comp=Z,6μm,28.6s
OJC Ojcow 143.42 346 *e*PKP PKPbc 05 55 57.9 +1.7
OJC *e*L L 06 56 08.1
comp=Z,6μm,23.0s
KSP Ksiaz 143.55 350 *e*PKP **PKPdf** **05 55 59.0 -0.1**
KSP *e*L L 06 55 46.0
comp=Z,4μm,23.9s
CLL Collm 143.57 353 *e*PKIKP PKPbc 05 55 58.0 +1.5
CLL *i* 05 56 10.9
CLL pmax pmax
comp=Z,15nm,1.0s
CLL MLR MLR
comp=Z,2μm,21.1s
CLL Collm 143.57 353 IAMs_20 IAMs_20 06 57 29.7
comp=Z,3μm,22.0s
CLL Collm 143.57 353 *e*PKPdf PKPbc 05 55 58.0 +1.5
comp=Z,15nm,1.0s
CLL *i* pPKPdf pPKPdf 05 56 10.9 +1.1
comp=Z,32nm,1.0s
CLL *e*PP **PP** **05 59 12.0 +1.6**
CLL *e*SKPdf **SKPdf** **05 59 31.0 -0.1**
CLL *e*PPP PPP 06 02 24.0
CLL *e*SKKSac **SKKSac** **06 05 59.0 -2.3**
CLL *ex* x 06 07 42.0
CLL *e*PSKS 06 09 28.0
CLL *e*PPS PPS 06 11 45.0
CLL *ex* x 06 15 23.0
CLL *e*SS **SS** **06 17 42.0 -7.0**
CLL *ex* x 06 19 42.0
CLL *ex* x 06 21 06.0
CLL *e*SSS SSS 06 23 22.0
CLL *ex* x 06 28 00.0
CLL *ex* x 06 33 18.0
CLL Lm MLR 07 00 00.0
comp=N,2μm,21.9s
CLL Lm MLR 07 00 00.0
comp=E,1μm,20.1s
CLL Lm MLR 07 00 00.0
comp=Z,2μm,21.1s
PSET Sete Cidades 143.58 46 *e*PKP **PKiKP** **05 56 05.0 +2.0**
CMLA Cha da Macela 143.74 45 *e*PKP **PKiKP** **05 56 03.0 -0.3**
CMLA Cha da Macela 143.74 45 IAMs_20 IAMs_20 06 54 14.7
comp=Z,3μm,20.0s
PCALD Caldeiras da R 143.75 45 *e*PKP **PKiKP** **05 56 07.6 +4.3**
CHVC Chvalec 143.84 350 *e*PKP PKPbc 05 55 58.8 +1.4
CHVC *ex* x 05 56 12.6
CHVC AMS AMS 06 55 10.0
comp=Z,4μm,22.9s
OSTC Ostas 143.84 350 *e*PKP PKPbc 05 55 58.2 +0.8
OSTC *ex* x 05 56 12.4

OSTC AMS AMS 06 55 20.0
comp=Z,5µm,24.6s
BRG Berggiesshubel 143.88 352 PKP **PKPdf 05 55 59.1 -0.6**
BRG Amp 05 56 01.3
comp=Z,11nm,1.0s
BRG *ex* x 05 56 09.6
BRG Amp 05 56 21.9
comp=Z,570nm,3.0s
BRG Berggiesshubel 143.88 352 PP PP 05 59 27.0 +15
BRG Berggiesshubel 143.88 352 PKIKP **PKPdf 05 55 59.1 -0.6**
BRG *e* 05 56 09.6
BRG *e* 06 11 49.0
BRG *e* 06 17 55.0
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,570nm,3.0s
UPC Upice 143.92 350 *e*PKIKP **PKPdf 05 55 59.2 -0.6**
UPC *e* 05 56 13.1
UPC MLR MLR
comp=Z,4µm,23.3s
UPC Upice 143.92 350 *e*PKP **PKPdf 05 55 59.2 -0.6**
UPC *ep*PP 05 56 13.1
UPC AMS AMS 06 55 20.0
comp=Z,4µm,23.3s
KASTN Kahler Asten 144.01 358 *e*PKPbc PKPbc 05 55 58.8 +0.9
baz=6.4,slow=3.3
KASTN *ep*PKPdf pPKPdf 05 56 11.0 +0.4
DPC Dobruska-Polom 144.02 349 *e*PKIKP PKPab 05 55 58.0 +0.6
DPC *e* 05 56 10.7
DPC MLR MLR
comp=Z,5µm,23.3s
DPC Dobruska-Polom 144.02 349 *e*PKP PKPab 05 55 58.0 +0.6
DPC *ep*PKP pPKPdf 05 56 10.7 0.0
DPC AMS AMS 06 55 40.0
comp=Z,5µm,23.3s
NIE Niedzica 144.04 345 *e*PKP **PKPdf 05 56 01.1 +1.1**
NIE *e*PP PP 05 59 26.6 +13
NIE *e*L L 06 49 54.3
comp=Z,3µm,30.3s
PVCC Panska Ves 144.13 351 *e*PKIKP **PKPdf 05 56 00.9 +0.7**
PVCC *e* 05 56 11.8
PVCC MLR MLR
comp=Z,5µm,21.3s
PVCC Panska Ves 144.13 351 *e*PKP **PKPdf 05 56 00.9 +0.7**
PVCC *ep*PKP **pPKPdf 05 56 11.8 +1.0**
PVCC AMS AMS 06 58 20.0
comp=Z,5µm,21.3s
BURAR Bucovina Array 144.14 338 ⇓P **PKPdf 05 56 00.1 -0.3**
BURAR Bucovina Array 144.14 338 ⇓PKIKP **PKPdf 05 56 00.1 -0.3**
OKC Ostrava-Krasne 144.15 347 *e*PKIKP **PKPdf 05 56 01.8 +1.6**
OKC *e* 05 56 12.8
OKC MLR MLR
comp=Z,5µm,24.4s
OKC Ostrava-Krasne 144.15 347 *e*PKP **PKPdf 05 56 01.8 +1.6**
OKC *ep*PKP **sPKPdf 05 56 12.8 -1.9**
OKC AMS AMS 06 54 50.0
comp=Z,5µm,24.4s
KRLC Kraliky 144.20 349 *e*PKIKP PKPbc 05 55 59.0 +0.5
KRLC *e* 05 56 11.2
KRLC MLR MLR
comp=Z,4µm,22.7s
KRLC Kraliky 144.20 349 *e*PKP PKPbc 05 55 59.0 +0.5
KRLC *ex* x 05 56 11.2
KRLC AMS AMS 06 56 10.0
comp=Z,4µm,22.7s
CRVS Cervenica-Dubn 144.20 343 *e*PKIKP PKPbc 05 55 59.7 +1.2
CRVS *e* 05 56 13.1
CRVS Cervenica-Dubn 144.20 343 *e*PKP PKPbc 05 55 59.7 +1.2
CRVS *e* 05 56 13.1
TSUM Tsumeb 144.20 198 **PKPab 05 55 57.9 -1.2**
TSUM Tsumeb 144.20 198 IAMs_20 IAMs_20 06 51 54.6
comp=Z,3µm,22.0s
UZH Uzhgorod 144.21 342 *e*PKIKP **PKPab 05 55 58.5 +0.4**
UZH *i* 05 56 05.1
UZH *e* 06 02 32.7
UZH *e*SS SS 06 17 56.3 -0.3
UBBA Unterbreizbach 144.31 356 *e*PKPbc PKPbc 05 55 59.5 +0.8
baz=6.4,slow=3.3
UBBA *ep*PKPdf pPKPdf 05 56 12.2 +1.2
MORC Moravsky Berou 144.33 348 ⇓P PKPbc 05 55 59.6 +0.7
MORC Moravsky Berou 144.33 348 ⇓PKIKP PKPbc 05 55 59.6 +0.6
MORC Moravsky Berou 144.33 348 *e*PKP **PKPab 05 55 58.7 +0.1**
MOX Moxa 144.36 355 *e*PKPbc PKPbc 05 55 59.9 +1.0
baz=6.4,slow=3.3
MOX *ep*PKPdf pPKPdf 05 56 12.3 +1.1
MOX *e*L L 06 56 15.7
comp=Z,2µm,21.9s
KIBK Kibwezi 144.37 243 **PKPab 05 55 58.8 -1.2**
KIBK IAMs_20 IAMs_20 06 54 30.3
comp=Z,2µm,21.0s
PSMA Santa Maria 144.40 46 *e*PKP **PKPdf 05 56 02.6 +1.6**
PSMN Pico do Norte, 144.44 46 *e*PKP **PKPdf 05 56 02.0 +0.9**
PLN Plauen 144.47 354 *e*PKPbc PKPbc 05 56 00.4 +1.1
baz=6.4,slow=3.3
PLN *ep*PKPdf pPKPdf 05 56 12.5 +1.1
WERD Werda 144.49 354 *e*PKPbc PKPbc 05 56 00.5 +1.0
baz=6.4,slow=3.3
WERD *ep*PKPdf pPKPdf 05 56 12.5 +1.1
LANS Liptovska Anna 144.49 345 *e*PKIKP **PKPdf 05 56 01.0 +0.1**
LANS Liptovska Anna 144.49 345 *e*PKP **PKPdf 05 56 01.0 +0.1**
TANN Tannenbergstha 144.51 354 *e*PKPbc PKPbc 05 56 00.4 +0.9
baz=6.4,slow=3.3
TANN *ep*PKPbc pPKPdf 05 56 13.1 +1.6
baz=5.9,slow=3.1
TESR Tescani 144.53 336 ⇑P **PKPdf 05 56 01.1 +0.1**
GUNZ Gunzen 144.57 354 *e*PKPbc **PKPdf 05 56 00.9 -0.1**
baz=6.4,slow=3.3
GUNZ *ep*PKPbc **pPKPdf 05 56 13.3 +1.7**
baz=5.9,slow=3.1
TRPA Tarpa 144.58 342 ⇓P **PKPdf 05 56 01.6 +0.6**
TRPA Tarpa 144.58 342 ⇑PKP **PKPab 05 55 59.2 -0.2**
MEM Membach 144.63 1 *d*PKPdf **PKPab 05 56 00.1 +0.5**
WERN Wernitzgruen 144.64 354 *e*PKPbc **PKPdf 05 56 01.1 0.0**
baz=6.4,slow=3.3
WERN *ep*PKPbc **sPKPdf 05 56 13.7 -1.9**
baz=5.9,slow=3.1
BSTI Sart Tilman 144.65 1 *d*PKPdf **PKPab 05 55 59.9 +0.2**
BTNL Ternell 144.65 1 *d*PKPdf **PKPab 05 56 00.1 +0.4**
PRU Pruhonice 144.66 351 *e*PKIKP **PKPdf 05 56 01.9 +0.8**
PRU *e* 05 56 12.1
PRU MLR MLR
comp=Z,6µm,21.6s
PRU Pruhonice 144.66 351 *e*PKP **PKPdf 05 56 01.9 +0.8**
PRU *ep*PKP **pPKPdf 05 56 12.1 +0.4**
PRU AMS AMS 06 58 40.0
comp=Z,6µm,21.6s
TLCR 144.68 332 ⇑P **PKPdf 05 56 02.2 +0.9**
TLCR 144.68 332 ⇑PKIKP **PKPdf 05 56 02.2 +0.9**
BMR Baia Mare 144.68 340 ⇓P **PKPdf 05 56 02.5 +1.3**
BMR Baia Mare 144.68 340 ⇓PKIKP **PKPdf 05 56 02.5 +1.3**
SNF Seneffe 144.68 3 *d*PKPdf **PKPdf 05 56 01.2 +0.1**
NKC Novy Kostel 144.69 354 *e*PKIKP **PKPdf 05 56 03.2 +2.0**
NKC *e* 05 56 12.6
NKC MLR MLR
comp=Z,3µm,21.7s
NKC Novy Kostel 144.69 354 *e*PKP **PKPdf 05 56 03.2 +2.0**
NKC *ex* x 05 56 12.6
NKC AMS AMS 06 57 10.0
comp=Z,3µm,21.7s
AHRW Bad Neuenahr-A 144.70 359 *e*PKPbc PKPbc 05 56 01.0 +1.0
baz=6.4,slow=3.3
AHRW *ep*PKPbc pPKPdf 05 56 13.4 +1.6
baz=5.9,slow=3.1
BCLA Clavier 144.80 1 *d*PKPdf **PKPab 05 56 00.4 +0.1**
BGES Gesves 144.83 2 *d*PKPdf **PKPab 05 56 00.6 +0.2**
KECS Kecovo 144.85 344 *e*PKIKP **PKPdf 05 56 03.1 +1.6**
KECS *e* 05 56 15.9
KECS Kecovo 144.85 344 *e*PKP **PKPdf 05 56 03.1 +1.6**
KECS *e* 05 56 15.9
BHOU Houvegnez 144.88 1 *d*PKPdf PKPbc 05 56 01.2 +0.5
ARCR ARCALIA 144.90 339 ⇓P **PKPdf 05 56 03.6 +2.0**
MANZ Manzenberg 144.97 354 *e*PKPbc **PKPdf 05 56 02.3 +0.6**
baz=6.4,slow=3.3
MANZ *ep*PKPbc **sPKPdf 05 56 14.6 -1.5**
baz=5.9,slow=3.1
VRAC Vranov 144.97 349 *e*PKP **PKPab 05 56 00.8 -0.1**
IZAB Izabela 144.97 345 *e*PKIKP **PKPdf 05 56 03.6 +1.9**
IZAB *e* 05 56 15.0
CFR Carcaliu 144.98 333 ⇑P **PKPab 05 56 01.3 +0.3**
CFR Carcaliu 144.98 333 ⇑PKIKP **PKPab 05 56 01.3 +0.3**
TNS Taunus Mts 144.99 358 *e*PKPbc **PKPdf 05 56 02.0 +0.2**
baz=6.4,slow=3.3
TNS *ep*PKPbc **sPKPdf 05 56 14.5 -1.7**
baz=5.9,slow=3.1
VRI Vrincioaia 145.03 335 ⇑P **PKPab 05 56 00.7 -0.6**
VRI Vrincioaia 145.03 335 ⇑PKIKP **PKPab 05 56 00.7 -0.6**
RCHB Rochefort 145.06 2 *d*PKPdf **PKPbc 05 56 01.0 -0.1**
PLOR Plostina 145.07 335 ⇑P **PKPbc 05 56 00.3 -1.1**
PLOR Plostina 145.07 335 ⇑PKP2 **PKPbc 05 56 00.3 -1.1**
DOU Dourbes 145.10 2 *d*PKPdf **PKPbc 05 56 01.6 +0.3**
TPGR Topolog 145.11 332 ⇑P **PKPab 05 56 02.1 +0.5**
BNN Bunyan 145.11 318 **PKPbc 05 56 01.6 -0.3**
ROTZ Rotzenmuhle 145.17 354 *e*PKPbc **PKPdf 05 56 03.0 +1.0**
baz=6.4,slow=3.3
ROTZ *ep*PKPbc sPKPab 05 56 15.3 -0.6
baz=5.9,slow=3.1
JAVC Velka Javorina 145.18 347 *e*PKP **PKPab 05 56 02.4 +0.6**
TREC Trest 145.18 350 *e*PKIKP **PKPdf 05 56 02.8 +0.7**
TREC *e* 05 56 11.4
TREC MLR MLR
comp=Z,4µm,22.2s
TREC Trest 145.18 350 *e*PKP **PKPdf 05 56 02.8 +0.7**
TREC *ep*PKP pPKPab 05 56 11.4 -0.9
TREC AMS AMS 06 58 00.0
comp=Z,4µm,22.2s
OZUR 145.21 336 ⇑P **PKPbc 05 56 01.6 -0.2**
KRUC Moravsky 145.24 349 *e*PKP **PKPbc 05 56 01.5 -0.3**
COVR Voineasa-Covas 145.25 336 ⇑P **PKPbc 05 56 02.0 0.0**
VYHS Vyhne 145.26 346 *e*PKIKP **PKPdf 05 56 02.6 +0.4**
VYHS *e* 05 56 15.4
VYHS Vyhne 145.26 346 *e*PKP **PKPdf 05 56 02.6 +0.4**
VYHS *e* 05 56 15.4
KOLL Kolacno 145.28 346 *e*PKP **PKPdf 05 56 02.8 +0.6**
MESR Meseseni 145.32 340 ⇑P **PKiKP 05 56 05.1 -1.2**
GRA1 Grafenberg Arr 145.34 355 IAMs_20 IAMs_20 07 02 09.7
comp=Z,3µm,20.0s
GRF Grafenberg Arr 145.34 355 *e*PKPbc **PKPdf 05 56 03.5 +1.2**
baz=6.4,slow=3.3
GRF *ep*PKPbc sPKPab 05 56 16.0 -0.6
baz=5.9,slow=3.1
GRF *e*L L 06 59 20.0
comp=Z,3µm,21.7s
GRFO Grafenberg 145.34 355 IAMs_20 IAMs_20 07 02 09.7
comp=Z,3µm,19.0s
TIRR Tirgusor 145.42 332 ⇑P **PKPbc 05 56 02.9 +0.4**
TIRR Tirgusor 145.42 332 ⇑PKIKP **PKPbc 05 56 02.9 +0.4**
LTVH Ltavrtes, Hu 145.44 342 ⇓P **PKiKP 05 56 05.5 -0.9**
LTVH Ltavrtes, Hu 145.44 342 PKPDF **PKPab 05 56 04.8 +2.1**
LTVH Ltavrtes, Hu 145.44 342 ⇑PKP **PKiKP 05 56 06.0 -0.5**
HARR Harsova 145.46 333 ⇑P **PKPbc 05 56 02.3 -0.3**
HARR Harsova 145.46 333 ⇑PKIKP **PKPbc 05 56 02.3 -0.3**
DOPR Dopca 145.47 337 ⇑P **PKPbc 05 56 02.9 +0.2**
CJR Cluj-Napoca 145.48 339 ⇑P **PKPbc 05 56 02.3 -0.4**
CJR Cluj-Napoca 145.48 339 ⇑PKIKP **PKPbc 05 56 02.3 -0.4**
PSZ Piszkesteto 145.53 344 ⇑P **PKPab 05 56 04.9 +1.8**
PSZ Piszkesteto 145.53 344 PKIKP **PKPdf 05 56 03.0 +0.2**
PSZ MLR MLR
comp=Z,2µm,22.0s
PSZ Piszkesteto 145.53 344 PKPdf **PKPdf 05 56 03.0 +0.2**
PSZ IAMs_20 IAMs_20 06 57 45.9
comp=Z,2µm,22.0s
PSZ Piszkesteto 145.53 344 PKPDF **PKPab 05 56 04.3 +1.1**
PSZ PKPDF **PKPab 05 56 04.2 +1.1**
SMOL Smolenice 145.56 347 *e*PKP2 **PKPab 05 56 04.6 +1.5**
SMOL Smolenice 145.56 347 *e*PKP **PKPab 05 56 04.6 +1.5**
SMOL *e* 05 56 16.8
NEHR Nehoiu 145.56 335 ⇑P **PKPab 05 56 04.4 +1.1**
WLF Walferdange 145.57 1 *e*PKPbc **PKPab 05 56 04.6 +1.5**
baz=6.4,slow=3.3
WLF *ep*PKPbc **sPKPdf 05 56 16.7 -0.4**
baz=5.9,slow=3.1
WLF Walferdange 145.57 1 *d*PKPdf **PKPab 05 56 03.6 +0.5**
KHC Kasperske Hory 145.63 352 *e*PKP2 **PKPab 05 56 04.3 +0.9**
KHC MLR MLR
comp=Z,5µm,23.5s
KHC Kasperske Hory 145.63 352 *e*PKP **PKPab 05 56 04.3 +0.9**
KHC *ep*PKP **sPKPdf 05 56 15.6 -1.7**
KHC AMS AMS 06 56 10.0
comp=Z,5µm,23.5s
MFTR Murfatlar 145.64 332 ⇑P **PKPdf 05 56 02.9 -0.1**
MLR Muntele Rosu 145.65 336 ⇑P **PKPdf 05 56 03.7 +0.6**
MLR Muntele Rosu 145.65 336 ⇑PKP2 **PKPdf 05 56 03.7 +0.6**
KMBO Kilima Mbogo 145.66 245 PKPbc **PKPdf 05 56 03.5 -0.7**
comp=Z,7.8nm,1.1s,baz=134,slow=4.5,SNR=17
KMBO Kilima Mbogo 145.66 245 **PKPdf 05 56 03.4 -0.8**
KMBO Kilima Mbogo 145.66 245 IAMs_20 IAMs_20 06 55 47.7
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 145.66 245 *e*P **PKPdf 05 56 03.5 -0.8**
KMBO Kilima Mbogo 145.66 245 *e*P **PKPdf 05 56 01.6 -2.7**
KMBO Kilima Mbogo 145.66 245 *e*P **PKPdf 05 56 04.2 0.0**
ISR Istrita 145.71 335 ⇓P **PKPdf 05 56 03.6 +0.5**
ISR Istrita 145.71 335 ⇓PKP2 **PKPdf 05 56 03.6 +0.5**
DRGR 145.71 340 ⇑P **PKPdf 05 56 03.6 +0.5**
DRGR 145.71 340 ⇑PKP2 **PKPdf 05 56 03.6 +0.5**
WET Wettzell 145.71 353 *e*PKPbc **PKPab 05 56 04.6 +0.9**
baz=6.4,slow=3.3
WET *ep*PKPbc **sPKPdf 05 56 17.1 -0.4**
baz=5.9,slow=3.1
CKRC Cesky Krumlov 145.83 351 *e*PKP **PKPab 05 56 04.8 +0.7**
CKRC *ex* x 05 56 12.0
MANR Mangalia 145.84 331 ⇓P **PKPab 05 56 05.1 +0.8**
GEC2 GERESS Array S 145.90 352 *e*PKPbc **PKPab 05 56 05.1 +0.6**
baz=6.4,slow=3.3
GEC2 *ep*PKPbc **sPKPdf 05 56 17.5 -0.3**
baz=5.9,slow=3.1
GERES GERESS Array B 145.90 352 PKPbc **PKPdf 05 56 03.5 +0.1**
comp=Z,20nm,0.8s,baz=35,slow=4.9,SNR=53
ZST Bratislava 145.93 347 *e*PKP2 **PKPab 05 56 06.4 +1.9**
ZST Bratislava 145.93 347 *e*PKP **PKPab 05 56 06.4 +1.9**
ZST *e* 05 56 18.3
BRTR Keskin Array B 145.97 321 PKPbc **PKPdf 05 56 03.6 -0.3**
comp=Z,36nm,0.8s,baz=108,slow=2.1,SNR=29
SRO Srobarova 146.02 346 *e*PKP2 **PKiKP 05 56 07.3 -0.3**
SRO Srobarova 146.02 346 *e*PKP **PKiKP 05 56 07.3 -0.3**
SRO *e* 05 56 18.5
VOIR 146.04 337 ⇓P **PKPbc 05 56 04.9 +0.3**
VOIR 146.04 337 ⇓PKP2 **PKPbc 05 56 04.9 +0.3**
PSN Preselentsi 146.13 331 P **PKiKP 05 56 09.7 +1.7**
BUD Budapest 146.15 345 PKPDF **PKPab 05 56 06.1 +0.7**
BUD PKIKP sPKPab 05 56 19.0 -0.7
ARR Arges 146.26 337 ⇑P **PKPdf 05 56 04.9 +0.9**
STU Stuttgart 146.40 357 IAMs_20 IAMs_20 06 58 11.7
comp=Z,3µm,21.0s
STU Stuttgart 146.40 357 *e*PKPbc **PKPab 05 56 07.0 +0.7**
baz=6.4,slow=3.3
STU *ep*PKPbc sPKPbc 05 56 18.9 -0.9
baz=5.9,slow=3.1
TEND Ethiopian Broa 146.42 269 *e*P **PKPbc 05 56 07.1 +0.6**
CONA Conrad Observa 146.43 349 *i* P **PKPdf 05 56 04.8 +0.5**
comp=Z,118nm,1.9s,SNR=39
CONA *i* P sPKPbc 05 56 19.7 -0.3
comp=Z,246nm,1.4s
DEV Deva 146.44 339 ⇑P **PKPbc 05 56 06.1 +0.5**
DEV Deva 146.44 339 ⇑PKP2 **PKPbc 05 56 06.1 +0.5**
SIRR Siria 146.51 341 ⇑P **PKPab 05 56 07.4 +0.6**
LOT Lotru 146.51 338 ⇓P **PKPdf 05 56 05.4 +0.8**
SOP Sopron 146.53 348 PKPDF **PKPab 05 56 08.0 +1.3**
EGYH Egyhazaskeszo 146.62 347 PKPDF **PKPab 05 56 08.5 +1.3**
AMBH Ambrzfalva 146.72 342 PKPDF **PKPbc 05 56 07.0 +0.6**
AMBH Ambrzfalva 146.72 342 ⇑PKP **PKiKP 05 56 10.5 +1.4**
MOA Molln 146.78 351 *e*P **PKPbc 05 56 06.3 -0.3**
comp=Z,41nm,1.0s,SNR=12
MOA *e*P sPKPbc 05 56 20.3 -0.7
comp=Z,237nm,1.7s
MPLH Magyarpolny 146.80 346 PKPDF **PKPbc 05 56 06.2 -0.4**
MPLH Magyarpolny 146.80 346 ⇑PKP **PKPbc 05 56 07.0 +0.4**
FUR Furstenfeldbru 146.85 354 *e*PKPbc **PKPab 05 56 08.4 +0.3**
baz=6.4,slow=3.3
FUR *ep*PKPbc sPKPbc 05 56 20.4 -0.8
baz=5.9,slow=3.1
PRD Provadia 146.86 332 P **PKiKP 05 56 10.2 +0.7**
BFO Black Forest 146.88 358 PKP2 **PKPdf 05 56 06.4 +1.4**
BFO Black Forest 146.88 358 **PKPdf 05 56 06.4 +1.4**
BFO IAMs_20 IAMs_20 06 57 02.3
comp=Z,3µm,22.0s
BFO Black Forest 146.88 358 *e*PKPbc **PKPab 05 56 08.1 -0.1**
baz=6.4,slow=3.3
BFO *ep*PKPbc sPKPbc 05 56 20.4 -0.8
baz=5.9,slow=3.1
GZR Gura Zlata 146.91 339 ⇑P **PKPdf 05 56 06.3 +1.1**
GZR Gura Zlata 146.91 339 ⇑PKIKP **PKPdf 05 56 06.3 +1.1**
COPA Copaceanca 147.06 335 ⇓P **PKPbc 05 56 08.0 +0.6**
BZS Buzias 147.10 340 ⇑P **PKPdf 05 56 06.9 +1.5**
BZS Buzias 147.10 340 ⇑PKP2 **PKPdf 05 56 06.9 +1.5**
ARSA Arzberg 147.15 349 *e*P **PKPbc 05 56 07.1 -0.6**
comp=Z,64nm,1.6s,SNR=12
ARSA *e*P **sPKPbc 05 56 20.7 -1.4**
comp=Z,158nm,1.5s
ANKE Ethiopia-Afar 147.21 264 *e*P **PKPbc 05 56 10.1 +0.8**
ANKE Ethiopia-Afar 147.21 264 *e*P **PKPdf 05 56 07.0 +0.1**
SRE Strehaia 147.39 338 ⇓P **PKPdf 05 56 07.6 +1.7**
SRE Strehaia 147.39 338 ⇓PKP2 **PKPdf 05 56 07.6 +1.7**
MORH Mrgy, Hungar 147.43 344 *e*P **PKPbc 05 56 09.7 +1.3**
UBR Ueberruh 147.43 356 *e*PKPbc **PKPbc 05 56 09.7 +1.2**
baz=6.4,slow=3.3
UBR *ep*PKPbc **sPKPbc 05 56 21.9 -1.0**
baz=5.9,slow=3.1
SZH Strazhica 147.46 333 P **PKPab 05 56 11.1 +0.5**
HERR Herculane 147.48 339 ⇑P **PKPbc 05 56 07.9 -0.7**
RETA Reutte 147.57 355 *e*P **PKPbc 05 56 08.3 -0.6**
comp=Z,181nm,1.1s,SNR=25
RETA *e*P **sPKPbc 05 56 22.6 -0.7**
comp=Z,246nm,1.2s
DESE Dese 147.62 267 *e*P **PKPab 05 56 17.8 +5.3**
DESE Dese 147.62 267 *e*P **PKPdf 05 56 05.7 -1.9**
BEHE Becsehely 147.63 347 *e*P **PKPbc 05 56 09.0 0.0**
BEHE Becsehely 147.63 347 PKPDF **PKPbc 05 56 08.3 -0.7**
BEHE Becsehely 147.63 347 ⇑PKP **PKPab 05 56 13.9 +2.8**
WATA Walderalm 147.64 354 *e*P **PKPdf 05 56 08.0 +1.6**
comp=Z,66nm,1.1s,SNR=8.6
WATA *e*P **sPKPbc 05 56 22.5 -1.1**
comp=Z,121nm,1.1s
KBA Koelnbreinsper 147.67 351 *e*P **PKPdf 05 56 08.4 +1.8**
comp=Z,34nm,1.2s,SNR=7.1
KBA *e*P **pPKPab 05 56 22.2 0.0**
comp=Z,128nm,1.2s
MOTA Moosalm 147.68 354 *e*P **PKPbc 05 56 10.0 +0.7**
comp=Z,88nm,1.2s,SNR=18
MOTA *e*P **pPKPab 05 56 22.4 +0.2**
comp=Z,193nm,1.1s
KOVH Kovagotottos 147.68 345 PKPDF **PKPbc 05 56 08.5 -0.6**
KOVH PKPDF **PKPbc 05 56 08.5 -0.6**
KOVH Kovagotottos 147.68 345 ⇑PKP **PKiKP 05 56 11.5 +0.4**
WTTA Wattenberg 147.71 354 *e*P **PKPbc 05 56 09.7 +0.3**
comp=Z,55nm,0.8s,SNR=16
WTTA *e*P **sPKPbc 05 56 22.8 -1.0**
comp=Z,109nm,0.8s
DILA Dilla 147.75 258 *e*P **PKPbc 05 56 09.7 -0.8**
DILA Dilla 147.75 258 *e*P **PKPdf 05 56 06.2 -1.5**
SOKA Soboth 147.79 349 *e*P **PKPbc 05 56 08.7 -0.8**
comp=Z,53nm,1.2s,SNR=18
SOKA *i* P **pPKPab 05 56 22.6 0.0**
comp=Z,122nm,1.1s
JMB Yambol 147.81 332 P **PKPbc 05 56 09.7 +0.1**
MDVR Moldovita 147.81 340 ⇑P **PKPdf 05 56 08.4 +1.7**
PERS Pernice 147.81 349 *e*PKPbc **PKPbc 05 56 08.7 -0.8**
PERS *i* 05 56 22.0
DAVA Damuels 147.84 356 *e*P **PKPbc 05 56 09.6 -0.1**
comp=Z,89nm,0.9s,SNR=24
DAVA *e*P **pPKPab 05 56 22.9 +0.1**
comp=Z,228nm,1.1s
AAE Adis Abeba 148.01 263 *e*P **PKPdf 05 56 06.4 -1.8**
AAE Adis Abeba 148.01 263 *e*P **PKPdf 05 56 07.2 -1.0**
AAE Adis Abeba 148.01 263 *e*P **PKPdf 05 56 05.7 -2.5**
OBKA Obir 148.04 350 *e*P **PKPbc 05 56 09.2 -1.0**
comp=Z,19nm,0.8s
OBKA *e*P **pPKPab 05 56 23.0 -0.6**
comp=Z,61nm,1.1s
FETA Feichten 148.04 355 *e*P **PKPbc 05 56 10.0 -0.3**
comp=Z,45nm,1.0s,SNR=9.0
FETA *e*P **sPKPdf 05 56 22.0 +0.4**
comp=Z,112nm,1.1s
FURI Furi 148.06 262 IAMs_20 IAMs_20 06 58 03.5
comp=Z,2µm,22.0s
FURI Furi 148.06 262 *e*P **PKPdf 05 56 09.1 +0.7**
FURI Furi 148.06 262 *e*P **PKPbc 05 56 11.8 +0.3**
FURI Furi 148.06 262 *e*P **PKPdf 05 56 05.7 -2.6**
MYKA Terra Mystica 148.07 351 *e*P **PKPdf 05 56 09.1 +2.0**
comp=Z,49nm,1.1s,SNR=12
MYKA *i* P **sPKPdf 05 56 22.1 +0.6**
comp=Z,93nm,1.0s
FRGS Fruska Gora 148.07 342 ⇑P **PKPbc 05 56 09.6 -0.6**
FRGS Fruska Gora 148.07 342 *e*P **PKPdf 05 56 08.8 +1.7**
ABTA Abfaltersbach 148.11 352 *e*P **PKPdf 05 56 08.9 +1.7**
comp=Z,74nm,0.9s,SNR=22
ABTA *e*P **pPKPab 05 56 23.4 -0.5**
comp=Z,189nm,1.0s
EDRB Edirne 148.22 331 P **PKPdf 05 56 09.2 +1.8**
MPEP Malo Peshtene 148.30 336 P **PKPbc 05 56 10.3 -0.6**
LJU Ljubljana 148.49 349 *e*P **PKPbc 05 56 10.5 -0.8**
LJU Ljubljana 148.49 349 *e*PKPbc **PKPbc 05 56 10.5 -0.8**
LJU *i* PKPab **PKiKP 05 56 14.0 +1.2**
LJU *e* 05 56 31.6
CRNS Crni Vrh 148.50 350 *i* PKPbc **PKPdf 05 56 09.8 +2.1**
CRNS *e* 05 56 23.7
CRES Cresnjev 148.53 348 *e*P **PKPbc 05 56 10.5 -0.9**
DIM Dimitrovgrad 148.62 332 P **PKPab 05 56 15.1 -0.1**
PGB Panagyurishte 148.80 335 P **PKiKP 05 56 14.9 +1.2**
CEY Cerknica 148.80 349 *e*P **PKPbc 05 56 10.9 -1.2**
SENIN Lac Senin/Sane 148.87 359 IAMs_20 IAMs_20 07 01 33.1
comp=Z,3µm,20.0s
CTI Castel Tesino 148.91 353 PKP2 **PKPbc 05 56 12.5 0.0**
CTI Castel Tesino 148.91 353 **PKPbc 05 56 12.5 0.0**
PLD Plovdiv 148.94 333 P **PKPbc 05 56 12.3 -0.2**
CSS Mathiatis 148.94 314 IAMs_20 IAMs_20 07 12 47.5
comp=Z,2µm,20.0s
DIVS Divibare 148.98 341 *e*P **PKPbc 05 56 12.1 -0.6**
MRAK Mrakovica 148.98 346 *e*P **PKPbc 05 56 12.4 -0.3**
KDZ Kurdzhali 148.99 332 P **PKPbc 05 56 12.0 -0.7**
ISP Isparta 149.06 321 IAMs_20 IAMs_20 07 09 36.4
comp=Z,2µm,22.0s
SKDS Skadanscina 149.06 350 *e*P **PKPdf 05 56 10.8 +2.1**
VTS Vitosha 149.12 336 ⇑P **PKPbc 05 56 12.4 -0.8**
VTS Vitosha 149.12 336 ⇑PKP2 **PKPbc 05 56 12.4 -0.8**
VTS Vitosha 149.12 336 P **PKPbc 05 56 13.3 +0.1**
BLY Banja Luka 149.16 345 *e*P **PKPbc 05 56 11.4 -1.6**
RIY Rijeka 149.19 349 *e*P **PKiKP 05 56 15.4 +1.1**
RZN Rozhen 149.27 333 P **PKPbc 05 56 12.9 -0.7**
ALN Alexandroupoli 149.29 330 P **PKPab 05 56 24.9 +6.9**
RDO Rodhopi 149.33 331 P **PKPdf 05 56 08.1 -1.1**
MGRS Mrkonjic Grad 149.50 345 *e*P **PKiKP 05 56 15.5 +0.5**
RUDO Rudo 149.60 342 *e*P **PKPbc 05 56 13.2 -1.0**
MMB Musomiste 149.78 334 P **PKPbc 05 56 13.8 -0.9**
KKB Krupnik 149.81 335 P **PKPbc 05 56 14.4 -0.3**
SSB Saint Sauveur 149.91 3 PKHKP PKPpre 05 56 13.1
SSB MLR MLR
comp=Z,6µm,20.0s
SSB Saint Sauveur 149.91 3 **PKPbc 05 56 13.1 -1.8**
NVR Nevrokopi 149.91 334 P **PKPbc 05 56 13.8 -1.2**
KOKK Kokkinochori, 150.29 333 P **PKPbc 05 56 14.3 -1.6**
STIP Stip 150.32 336 *i* P **PKPbc 05 56 14.6 -1.4**
PGAV Gavieira, Arco 150.34 23 *e*PKPab **PKiKP 05 56 19.0 +2.1**
PGAV *e*LQ LQ 05 56 39.7
PGAV Gavieira, Arco 150.34 23 *e*LR LR 06 46 29.4
comp=Z,5µm,20.0s
SKO Skopje 150.36 337 *i* P **PKPbc 05 56 16.0 -0.1**
BRY Bratogost 150.51 342 *e*P **PKPbc 05 56 14.8 -1.8**
PCAB Cabril 150.65 23 *e*PKPab **PKiKP 05 56 20.2 +2.7**
PCAB *e*LQ LQ 05 56 36.6
PDG Podgorica 150.72 341 ⇑P **PKPdf 05 56 14.2 +2.9**
PDG Podgorica 150.72 341 *e*P **PKiKP 05 56 17.7 +0.2**
SACV Santiago Islan 150.82 86 IAMs_20 IAMs_20 07 00 02.6
comp=Z,2µm,22.0s
PTO Porto 150.93 24 *e*LQ LQ 05 56 40.8
DRME Dracevica, Mon 150.96 341 *e*P **PKPab 05 56 22.1 -2.7**
PHP Peshkopia 150.98 338 P **PKPbc 05 56 16.4 -1.2**
PBRG Braganca 151.03 21 *e*PKPab **PKPab 05 56 27.5 +2.3**
PBRG *e*LQ LQ 05 56 40.7
POLO Lamas de Olo 151.03 23 *e*PKPab **PKPbc 05 56 25.1 -0.2**
POLO *e*LQ LQ 05 56 41.3
PVRL Vila Real 151.15 23 *e*PKPab **PKPab 05 56 24.8 -0.9**
PVRL *e*LQ LQ 05 56 41.7
FNA Florina 151.41 336 P **PKPbc 05 56 16.2 -2.4**
KTI Kastanea 151.45 335 P **PKPbc 05 56 17.2 -1.6**
MBAR Mbarara 151.48 239 *e*P **PKPdf 05 56 13.7 +0.1**
MBAR Mbarara 151.48 239 *e*P **PKPdf 05 56 13.9 +0.3**
MVO Moncorvo 151.50 22 *e*PKPbc **PKPbc 05 56 19.4 +0.6**
MVO *e*LQ LQ 05 56 42.4
MVO Moncorvo 151.50 22 *e*LR LR 06 47 03.9
comp=Z,3µm,22.0s
PVIS Viseu 151.56 24 *e*PKPab **PKPab 05 56 29.7 +2.2**
PVIS *e*LQ LQ 05 56 40.3
NEST Nestorio 151.85 336 P **PKPbc 05 56 19.1 -0.6**
PCAS Casmilo, Conde 151.89 25 *e*PKPab **PKPab 05 56 29.2 +0.4**
PCAS *e*LQ LQ 05 56 43.4
MTE Manteigas 151.97 23 *e*PKPab **PKPab 05 56 29.8 +0.6**
MTE *e*LQ LQ 05 56 42.9
MTE Manteigas 151.97 23 *e*LR LR 06 47 05.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,5µm,20.0s						
PMOZ	Porto Moniz, M	152.12	47	eLR	LR	06 48 05.9	
	comp=Z,2µm,22.0s						
PSBE	So Bento	152.22	26	ePKPbc	PKiKP	05 56 23.3	+2.5
PSBE				eLQ	LQ	05 56 43.1	
PMAR	Madeira	152.38	47	eLQ	LQ	05 56 45.4	
PCBR	Castelo Branco	152.48	24	ePKPbc	PKiKP	05 56 22.7	+1.5
PCBR				eLQ	LQ	05 56 44.2	
AGG	Agios Georgios	152.50	333	P	PKPbc	05 56 19.4	-1.7
PMPST	Porto Santo, M	152.58	45	eLQ	LQ	05 56 45.6	
KARP	Karpathos	152.59	322	IAMs_20	IAMs_20	07 08 30.9	
	comp=Z,2µm,22.0s						
PMPS	Porto Santo	152.59	45	eLQ	LQ	05 56 45.7	
LIS	Lisbon	152.72	28	ePKPdf	PKPdf	05 56 13.9	-0.6
LIS				ePP	PP	06 00 05.3	+1.0
LIS				IAMs_20	IAMs_20	06 58 26.5	
	comp=N,6µm,28.5s						
LIS	Lisbon	152.72	28	ePKIKP	PKPdf	05 56 13.8	-0.6
LIS				e		06 00 05.3	
PMTG	Montargil	152.83	26	ePKPab	PKPab	05 56 32.2	-0.5
PMTG				eLQ	LQ	05 56 45.1	
PMRV	Marv??o	152.87	24	ePKPbc	PKiKP	05 56 25.2	+3.1
PMRV	Marv??o	152.87	24	ePKPab	PKPab	05 56 35.7	+2.8
PMRV				eLQ	LQ	05 56 45.3	
PMRV	Marv??o	152.87	24	eLR	LR	06 47 43.0	
	comp=N,3µm,20.0s						
PESTR	Estremoz	153.26	25	ePKPab	PKPab	05 56 36.1	+1.5
PESTR				eLQ	LQ	05 56 45.2	
EVO	Evora	153.37	26	PKP	PKPab	05 56 30.0	-5.0
EVO	Evora	153.37	26	ePKPab	PKPab	05 56 36.6	+1.6
EVO				eLQ	LQ	05 56 47.9	
PNCL	Nicolau / Gran	153.49	28	ePKPab	PKPab	05 56 36.7	+1.2
PNCL				eLQ	LQ	05 56 46.7	
UCM	Universidad Co	153.49	17	PKP	PKPab	05 56 30.3	-5.2
PBEJ	Beja	153.86	27	ePKPab	PKPab	05 56 38.4	+1.3
PBEJ				eLQ	LQ	05 56 47.1	
PAB	San Pablo	153.86	20	PKPab	PKPab	05 56 35.2	-2.0
PAB	San Pablo	153.86	20	IAMs_20	IAMs_20	06 59 47.9	
	comp=Z,3µm,20.0s						
ESDC	Sonseca Array	153.86	19	PKP	PKPdf	05 56 18.0	+1.8
	comp=Z,1.0nm,1.0s,baz=352,slow=2.7,SNR=4.8						
ESDC				PKPbc	PKiKP	05 56 25.1	+0.9
	comp=Z,2.9nm,0.9s,baz=321,slow=3.0,SNR=10						
ESDC				PKPab	PKPab	05 56 37.5	+0.4
	comp=Z,4.4nm,0.7s,baz=308,slow=2.3,SNR=7.6						
PBAR	Barrancos	154.08	25	eLQ	LQ	05 56 47.8	
IDI	Anoyia	154.10	324	IAMs_20	IAMs_20	07 08 10.5	
	comp=Z,2µm,22.0s						
MORF	Marmelete	154.10	29	ePKPdf	PKPdf	05 56 15.7	-0.9
MORF				IAMs_20	IAMs_20	06 56 60.0	
	comp=N,5µm,29.5s						
MORF	Marmelete	154.10	29	eLQ	LQ	05 56 48.5	
MORF	Marmelete	154.10	29	ePKIKP	PKPdf	05 56 15.7	-0.9
PCVE	Castro Verde	154.11	27	eLQ	LQ	05 56 48.0	
PVAQ	Vaqueiros	154.44	27	eLR	LR	06 48 36.0	
	comp=N,4µm,20.0s						
TIP	Timpagrande	154.46	342		PKPbc	05 56 25.1	-0.4
TIP				IAMs_20	IAMs_20	07 11 13.4	
	comp=Z,2µm,19.0s						
ARNO	Arenosillo	155.12	26	PKP	PKPab	05 56 32.5	-10
CEL	Celeste	155.56	342	IAMs_20	IAMs_20	07 07 30.6	
	comp=Z,3µm,20.0s						
EMAL	Malaga-Limoner	156.33	23	PKP	PKPab	05 56 34.7	-13
CART	Cartagena	156.65	15	IAMs_20	IAMs_20	07 01 48.0	
	comp=Z,2µm,22.0s						
CEU	Ceuta	156.71	25	PKP	PKPdf	05 56 27.0	+7.0
MBO	M'Bour	157.19	89	IAMs_20	IAMs_20	07 15 30.0	
	comp=Z,2µm,19.0s						
AVE	Averroes	157.90	33	PKP	PKPdf	05 56 25.3	+3.7
IFR	Ifrane	158.84	28	PKP	PKPdf	05 56 26.5	+3.5
KEST	Kesra	159.36	354	PKP	PKPdf	05 56 23.1	-0.4
	comp=Z,7.2nm,1.1s,baz=133,slow=3.2,SNR=2.2						
KEST				PKPab	PKPab	05 57 00.8	-0.1
	comp=Z,12nm,0.8s,baz=196,slow=3.8,SNR=5.3						
MDT	Midelt	159.67	28	PKP	PKPdf	05 56 24.3	+0.4
	comp=Z,3.9nm,1.1s,baz=68,slow=16,SNR=2.5						
MDT				PKPab	PKPab	05 57 04.6	+2.2
	comp=Z,6.1nm,0.9s,baz=30,slow=5.4,SNR=3.9						
LIC	Lamto	165.53	127	ePKIKP	sPKPdf	05 56 43.4	-1.2
	comp=Z,101nm,1.2s						
TIC	Toumodi	165.79	125	ePKIKP	sPKPdf	05 56 43.8	-1.0
KIC	Kosan Boka	165.84	127	ePKIKP	sPKPdf	05 56 43.7	-1.1
	comp=Z,49nm,1.2s						
DBIC	Dimbokro	165.94	126	PKP	PKPdf	05 56 31.2	+0.8
	comp=Z,3.2nm,0.9s,baz=116,slow=23,SNR=2.3						
KOWA	Kowa	169.69	92	PKP	PKPdf	05 56 32.6	-0.4
	comp=Z,3.4nm,0.9s,baz=260,slow=10,SNR=3.8						
KOWA				PKPab	PKPab	05 57 47.7	+0.7
	comp=Z,5.8nm,0.8s,baz=272,slow=4.7,SNR=4.2						
TORD	Torodi Ar. Bea	174.83	112	PKP	PKPdf	05 56 33.0	-2.3
	comp=Z,3.6nm,1.1s,baz=238,slow=1.4,SNR=10.0						
TORD				PKPab	PKPab	05 58 09.9	+0.2
	comp=Z,4.4nm,1.1s,baz=237,slow=3.1,SNR=1.9						
TORD				PP	PP	06 02 04.0	+1.8
	comp=Z,2.6nm,1.1s,baz=267,slow=3.4,SNR=4.4						
TORD	Torodi Ar. Bea	174.83	112		PKPdf	05 56 32.6	-2.6

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*IDC **08** 06:03:44.3±3.7, 19°.98S×178°.17W, h540km±29km, mb3.1/7, mb1 3.5/8, mb1mx3.2/31, mbtmp4.0/8, Error ellipse: s-maj=93.9km s-min=16.5km az=150.0*

ISC 08 06:03:45.2±1.3**, 19°.8S**±0°.4×**178°.3W**±0°.2**, h550km, n13, σ0s.84**/15**, mb3.6**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.04	300	P	P	06 05 07.2	-0.3
	6.6nm,0.3s,baz=104,slow=24,SNR=25						
ASAR	Alice Springs	44.40	256	P	P	06 11 07.9	+0.3
	1.3nm,0.6s,baz=100,slow=7.5,SNR=18						
ASAR				PcP	PcP	06 12 40.0	+0.6
	0.6nm,0.5s,baz=107,slow=4.1,SNR=6.9						
WRA	Warramunga Arr	44.42	261	P	P	06 11 08.1	+0.4
	0.4nm,0.6s,baz=97,slow=7.5,SNR=12						
WRA				PcP	PcP	06 12 40.2	+0.8
	0.3nm,0.7s,baz=97,slow=3.7,SNR=2.3						
YBH	Yreka Blue Hor	79.94	39	P	P	06 14 57.9	+0.5
	1.2nm,0.6s,baz=139,slow=2.9,SNR=5.8						
NVAR	Mina Array Bea	80.73	44	P	P	06 15 02.4	+0.6
	0.7nm,0.6s,baz=231,slow=8.0,SNR=4.5						
TXAR	Lajitas Array	86.93	57	P	P	06 15 32.3	-0.1
	0.9nm,0.7s,baz=218,slow=6.1,SNR=9.4						
ILAR	Eielson Array	87.72	13	P	P	06 15 35.8	+0.7
	0.9nm,0.5s,baz=216,slow=5.8,SNR=13						
PDAR	Pinedale Array	88.67	43	P	P	06 15 40.4	0.0
	0.8nm,0.7s,baz=193,slow=2.0,SNR=6.5						
MKAR	Makanchi Array	110.53	314	PKiKP	PKiKP	06 21 15.2	-0.1
	0.2nm,0.5s,baz=198,slow=0.4,SNR=5.2						
ARCES	ARCESS Array B	128.21	350	PKP	PKiKP	06 21 49.1	-0.1
	0.4nm,0.5s,baz=46,slow=3.5,SNR=4.2						
FINES	FINESS Array B	135.05	344	PKP	PKPdf	06 22 00.6	-1.0
	0.4nm,0.5s,baz=64,slow=4.4,SNR=3.5						
AKASG	Malin Array Be	142.29	331	PKP	PKPdf	06 22 12.8	-2.3
	1.9nm,0.5s,baz=40,slow=4.4,SNR=15						
GERES	GERESS Array B	149.48	344	PKPbc	PKiKP	06 22 33.5	+0.2
	0.2nm,0.3s,baz=44,slow=4.1,SNR=7.6						

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*NORS **08** 06:08:28.7±0.0, 41°.66N×42°.61E, h8km, MPVA3.1*
*DDA **08** 06:08:29.5±0.0, 41°.46N×42°.58E, h7km±2km, ML1.4*

ISC 08 06:08:28.6±1.3**, 41°.6N**±0°.1×**42°.59E**±0°.10**, h14km**±12km**, n8, σ0s.80**/15**, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPOS	Posof	0.12	117	P	Pg	06 08 32.3	+0.2
EPOS				i AML	AML	06 08 35.0	
	comp=N,181nm,0.3s						
DAGI	Agillar	0.70	227	P	Pg	06 08 42.1	-0.1
DAGI				S	Sb	06 08 51.7	-0.4
DAGI				i AML	AML	06 08 53.0	
	comp=E,17nm,0.2s						
DBAD	Bademkaya	0.86	232	P	Pg	06 08 44.9	-0.4
DBAD				S	Sb	06 08 56.5	-0.2
DDEM	Demirkent	0.92	224	P	Pb	06 08 46.2	-0.1
DDEM				S	Sb	06 08 58.6	+0.3
ONI	Oni	1.22	32	i Pg	Pn	06 08 49.7	-1.5
ONI				eSg	Sb	06 09 05.7	-1.2
DIGR	Digorskoe uzhe	1.53	28	ePg	Pn	06 08 55.9	+0.3
DIGR				eSg	Sn	06 09 15.4	0.0
ZEI	Tsey	1.57	38	ePg	Pn	06 08 56.7	+0.5
ZEI				eSg	Sn	06 09 17.4	+1.1
NEY	Neytrino	1.69	3	ePg	Pn	06 08 58.6	+0.7
NEY				eSg	Sn	06 09 20.2	+0.8

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*SOME **08** 06:31:44.2, 49°.82N×90°.68E, h0km*
*NNC **08** 06:32:07.7±4.7, 46°.86N×89°.84E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=49.1km s-min=30.4km az=167.0*
*ASRS **08** 06:32:16.4±1.0, 47°N±5°×8°9E±°, h9km, MLh3.2/7, Error ellipse: s-maj=17.1km s-min=9.2km az=69.8, confirmed*

ISC 08 06:32:13.8±1.8**, 47°.16N**±0°.08×**89°.61E**±0°.07**, h10km, n14, σ1s.15**/21**, 5C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGZ	Jazzator, Alta	2.93	331	Pg	Pg	06 33 09.1	-0.8
DGZ				Sg	Sg	06 33 48.1	+0.3
CUR	Chagan-Uzun	3.06	345	Pg	Pg	06 33 11.7	-0.7
CUR				Sg	Sg	06 33 51.1	-0.9
ZSN	Zaisan	3.24	277	eP	Pg	06 33 15.1	-0.8
	2.6nm,0.4s						
ZSN				eS	Sg	06 33 58.9	+1.0
	18nm,0.4s						
AKAR	Aktash	3.43	338	Pg	Pg	06 33 18.9	-0.5
AKAR				Sg	Sg	06 34 05.8	+2.0
CHBI	Chibit, Altay	3.45	337	Pg	Pg	06 33 20.5	+0.6
CHBI				Sg	Sg	06 34 05.5	+0.9
ULGR	Ulagan, Altay	3.63	343	Pg	Pg	06 33 23.4	0.0
ULGR				Sg	Sg	06 34 12.1	+1.7
ERNS	Erzin	4.80	48	Pg	Pb	06 33 34.1	-4.0
ERNS				Sg	Sb	06 34 37.1	+1.1
ARTR	Artybash	4.88	343	Pg	Pg	06 33 46.5	-0.8
ARTR				Sg	Sg	06 34 50.6	+0.1
UKR	Ust'-Kan	4.94	322	Pg	Pg	06 33 46.7	-1.7
UKR				Sg	Sg	06 34 52.9	+0.5
MK31	Makanchi Array	5.03	268	⇑Pg	Pb	06 33 43.4	+1.6
	0.3nm,0.3s,baz=90,slow=17,SNR=6.6						
MK31				⇑Lg	Lg	06 34 51.3	
	2.3nm,0.5s,baz=93,slow=32,SNR=8.9						
MAKZ	Makanchi	5.24	269	⇑Lg	Lg	06 34 58.0	
	1.2nm,0.4s						
DJO	Djoy, Khakassi	5.72	10	Pg	Pg	06 34 03.0	-0.4
DJO				Sg	Sg	06 35 16.5	-0.9
KURK	Kurchatov	8.06	300	⇑Lg	Lg	06 36 34.0	
	3.1nm,0.9s						
KURBB	Kurchatov Arra	8.08	299	⇑Pn	Pn	06 34 09.3	-1.8
	0.9nm,0.5s						
KURBB				⇓Lg	Lg	06 36 33.5	
	6.7nm,0.7s						

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*CNRM **08** 06:41:46.0, 35°.60N×3°.77W, h10km, ml2.6*
*MDD **08** 06:41:47.6±0.5, 35°.51N×3°.80W, h0km, mb_Lg2.3/3, Error ellipse: s-maj=4.6km s-min=3.7km az=21.0*
*SFS **08** 06:41:47.0, 35°.51N×3°.80W, ML2.3, ALBORAN SUR*

ISC 08 06:41:46.7±1.1**, 35°.56N**±0°.03×**3°.78W**±0°.03**, h13km**±9km**, n13, σ1s.47**/26**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	201	P	Pg	06 41 53.1	-1.0
PALE				S	Sg	06 41 59.8	+0.9
EALB	Alboran	0.72	57	Pg	Pg	06 41 59.7	-1.0
EALB				Sg	Sn	06 42 12.7	-0.8
EMEL	Melilla	0.72	111	Pg	Pb	06 42 01.4	+0.3
EMEL				Sg	Sb	06 42 10.9	0.0
EMIJ	Mijas	1.29	322	Pg	Pg	06 42 11.7	+0.2
EMIJ				Sg	Sn	06 42 29.0	+1.3
EMIJ				i Vmb_Lg		06 42 43.2	
EMAL	Malaga-Limoner	1.31	337	P	Pn	06 42 10.1	-0.7
EMAL				S	Sn	06 42 29.8	+1.6
ELGU	Los Guajares,	1.31	5	Pg	Pg	06 42 12.0	-0.1
ELGU				Sg	Sn	06 42 30.3	+1.9
ELGU				i Vmb_Lg		06 42 37.2	
CEU	Ceuta	1.34	285	P	Pn	06 42 10.0	-1.2
CEU				S	Sb	06 42 25.4	-3.4
TAF	Taforalt	1.34	123	P	Pn	06 42 09.9	-1.4
TAF				S	Sg	06 42 31.1	+1.2
CHEFC	Chefchaouen	1.35	251	P	Pn	06 42 11.5	0.0
CHEFC				S	Sg	06 42 31.4	+1.1
IFR	Ifrane	2.32	209	P	Pn	06 42 25.0	+0.2
IFR				S	Sn	06 42 51.7	-1.5
MD31	MD31	2.80	197	P	Pn	06 42 31.4	0.0
MD31				S	Sn	06 43 06.9	+1.8
MDT	Midelt	2.82	194	P	Pn	06 42 32.7	+1.1
MDT				S	Sn	06 43 07.2	+1.6
PVAQ	Vaqueiros	3.67	301	P	Pn	06 42 45.4	+2.2
PVAQ				S	Sn	06 43 24.2	-2.1

IDC 08 06:50:37.6±9.4**, 7°.81S**×**102°.99E, h0km, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.4**/59**, mbtmp3.8**/4**, Error ellipse: s-maj=186.1km s-min=175.4km az=133.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	26.40	351	P	P	06 56 16.1	+0.1
	1.2nm,0.3s,baz=184,slow=9.0,SNR=11						
SONM	Songino Array	55.48	3	P	P	07 00 14.3	-0.1
	0.8nm,0.7s,baz=173,slow=5.8,SNR=6.2						
MKAR	Makanchi Array	57.40	343	P	P	07 00 27.7	-0.2
	0.5nm,0.7s,baz=146,slow=8.5,SNR=6.0						
ZALV	Zalesovo Beam	63.41	348	P	P	07 01 08.9	+0.1
	0.6nm,0.4s,baz=156,slow=5.9,SNR=3.9						

IDC 08 06:51:42.7±1.6**, 3°.39S**×**130°.75E, h0km, mb3.4**/2**, mb1 3.5**/4**, mb1mx3.2**/47**, mbtmp3.3**/4**, ML3.0**/2**, Error ellipse: s-maj=82.3km s-min=24.7km az=83.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.56	12	Pn	Pn	06 52 25.4	0.0
	1.7nm,0.3s,baz=258,slow=23,SNR=7.9						
SIJI				Sn	Sn	06 52 52.2	-5.1
	4.1nm,0.3s,baz=212,slow=23,SNR=8.1						
WRA	Warramunga Arr	16.82	168	Pn	Pn	06 55 40.7	+0.9
	0.1nm,0.3s,baz=349,slow=11,SNR=3.7						
WRA				Sn	Sn	06 58 34.5	-13
	0.1nm,0.3s,baz=338,slow=25,SNR=2.3						
ASAR	Alice Springs	20.39	172	P	P	06 56 20.9	-0.4
	0.9nm,0.6s,baz=351,slow=10,SNR=18						
MKAR	Makanchi Array	65.66	326	P	P	07 02 28.9	0.0
	0.4nm,0.7s,baz=123,slow=7.1,SNR=4.2						

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*IDC **08** 07:01:11.2±0.8, 9°.31N×127°.14E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/46, mbtmp3.8/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/80, Error ellipse: s-maj=75.3km s-min=17.6km az=74.0*
*MAN **08** 07:01:16.7, 9°.47N×126°.93E, h19km, mb4.4, ML3.2, MS3.0*
*NEIC **08** 07:01:17.8±2.4, 9°.31N±0°.07×127°.09E±0°.10, h41km±7km, mb4.4/25, Error ellipse: s-maj=16.3km s-min=3.0km az=123.0*

ISC 08 07:01:17.0±0.5**, 9°.39N**±0°.06×**127°.09E**±0°.08**, h41km, n50, σ1s.21**/54**, mb4.1**/21**, 2C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLSP	General Luna,	1.03	292	⇑eP	Pn	07 01 32.4	-2.5
BIPH	Bislig	1.40	211	⇓eP	Pn	07 01 40.5	+0.5
BIPH				eS	Sn	07 01 56.0	-1.3
BUKP	Musuan	2.51	233	⇓eP	Pn	07 01 57.1	+1.8
DAV	Davao City (W)	2.75	213	Pn	Pn	07 01 58.6	0.0
TBP	Tagbilaran	3.20	276	⇓eP	Pn	07 02 05.0	+0.2
TBP				i S	Sn	07 02 42.2	+0.6
RCP	Roxas	4.79	297	⇑eP	Pn	07 02 25.6	-1.0
JAY	Jayapura	18.00	130	LR	LR	07 12 19.5	
	comp=Z,221nm,19.4s,baz=335,slow=37						
KNRA	Kununurra	24.96	176	P	P	07 06 36.8	+0.1
KNRA				IAmb	IAmb	07 06 43.8	
	comp=Z,31nm,1.4s						
FITZ	Fitzroy Crossi	27.35	183	P	P	07 06 57.6	-0.7
	comp=Z,2.0nm,0.9s,baz=14,slow=12,SNR=5.0						
FITZ	Fitzroy Crossi	27.35	183	P	P	07 06 57.8	-0.5
KSAR	Wonju Array Be	27.94	1	P	P	07 07 02.9	-0.5
KS19	Wonju Array Si	28.00	1	P	P	07 07 03.7	-0.3
KS19				IAmb	IAmb	07 07 04.9	
	comp=Z,34nm,1.5s						
COEN	Coen	28.16	145	P	P	07 07 04.8	-0.8
COEN				IAmb	IAmb	07 07 09.1	
	comp=Z,6.3nm,1.4s						
WB0	Warramunga Arr	29.85	166	P	P	07 07 19.0	-1.7
WB0				IAmb	IAmb	07 07 43.8	
	comp=Z,8.1nm,1.5s						
WRA	Warramunga Arr	30.01	166	P	P	07 07 20.5	-1.5
	comp=Z,0.4nm,0.4s,baz=349,slow=9.5,SNR=7.2						
WRA				PcP	PcP	07 10 24.5	+0.8
	comp=Z,0.6nm,1.0s,baz=328,slow=3.0,SNR=3.0						
WRA	Warramunga Arr	30.01	166	P	P	07 07 20.6	-1.5
WB2	Warramunga Arr	30.01	166	P	P	07 07 20.6	-1.5
WB2				IAmb	IAmb	07 07 40.7	
	comp=Z,3.1nm,0.9s						
WR0	Warramunga Arr	30.07	166	P	P	07 07 21.6	-1.0
WR0				IAmb	IAmb	07 07 43.7	
	comp=Z,5.7nm,1.2s						
PSA00	Pilbara Seismi	31.58	193	P	P	07 07 34.3	-1.6
PSA00				IAmb	IAmb	07 07 37.0	
	comp=Z,5.8nm,1.3s						
AS31	Alice Springs	33.52	169	P	P	07 07 52.3	-0.6
ASAR	Alice Springs	33.52	169	P	P	07 07 51.6	-1.2
	comp=Z,0.5nm,0.6s,baz=17,slow=12,SNR=9.6						
ASAR				PcP	PcP	07 10 34.4	+1.2
	comp=Z,0.7nm,0.5s,baz=347,slow=2.2,SNR=12						
ASAR	Alice Springs	33.52	169	P	P	07 07 50.8	-2.1
GIRL	Giralia	34.24	201	P	P	07 07 58.4	-0.6
FORT	Forrest	39.95	179	P	P	07 08 47.2	-0.2
SONM	Songino Array	42.12	339	P	P	07 09 06.2	+0.9
	comp=Z,0.6nm,0.8s,baz=159,slow=8.5,SNR=3.0						
SONM	Songino Array	42.12	339	P	P	07 09 05.5	+0.2
BBOO	Buckleboo	42.83	169	P	P	07 09 10.4	-0.6
BBOO				IAmb	IAmb	07 09 30.7	
	comp=Z,24nm,1.5s						
STKA	Stephens Creek	43.32	162	P	P	07 09 13.8	-1.2
	comp=Z,0.7nm,0.4s,baz=333,slow=6.8,SNR=4.5						
STKA	Stephens Creek	43.32	162	P	P	07 09 14.6	-0.4
TOO	Toolangi	49.79	161	P	P	07 10 04.3	-1.4
TOO				IAmb	IAmb	07 10 12.0	
	comp=Z,10nm,1.2s						
MK31	Makanchi Array	53.21	323	P	P	07 10 33.5	+2.3
MKAR	Makanchi Array	53.21	323	P	P	07 10 31.6	+0.3
	comp=Z,0.4nm,0.6s,baz=123,slow=8.5,SNR=4.7						
MKAR				PcP	PcP	07 11 39.6	+0.8
	comp=Z,0.4nm,0.9s,baz=114,slow=4.8,SNR=3.9						
MKAR	Makanchi Array	53.21	323	P	P	07 10 30.7	-0.5
KAAM	Kaadhehdhoo	54.55	264	P	P	07 10 42.6	+1.2
KURK	Kurchatov	57.24	326	P	P	07 11 01.5	+1.3
KURK				IAmb	IAmb	07 11 24.9	
	comp=Z,2.2nm,1.2s						
WHZ	Wether Hill Ro	66.09	150	P	P	07 12 00.0	+0.2
ABKAR	Akbulak array	68.06	319	P	P	07 12 11.8	-0.6
NIUE	Niue	68.21	115	P	P	07 12 12.4	-1.4
SOCY	Socotra	71.67	280	P	P	07 12 34.1	-1.2
SOCY				IAmb	IAmb	07 12 37.0	
	comp=Z,9.5nm,1.1s						
IMAR	Indian Mountai	77.06	24	P	P	07 13 07.4	+1.8
BMAR	Burnt Mountain	80.76	23	P	P	07 13 27.9	+2.0
BCAR	Beaver Creek A	82.21	27	P	P	07 13 36.2	+2.6
EGAK	Eagle	82.33	26	P	P	07 13 35.8	+1.6
EGAK				IAmb	IAmb	07 13 47.7	
	comp=Z,6.1nm,1.5s						
FINES	FINESS Array B	87.04	332	P	P	07 13 58.8	+0.8
	comp=Z,0.5nm,0.5s,baz=79,slow=7.2,SNR=1.3						
FINES	FINESS Array B	87.04	332	P	P	07 13 57.4	-0.6
VNDA	Vanda	88.96	173	P	P	07 14 08.2	+1.5
VNDA				IAmb	IAmb	07 14 11.8	
	comp=Z,2.7nm,0.5s						
YKA	Yellowknife Ar	94.22	24	P	P	07 14 32.0	+0.5
	comp=Z,0.3nm,0.7s,baz=299,slow=4.8,SNR=5.7						
QSPA	South Pole Qui	99.26	180	P	Pdif	07 14 54.8	+0.5
PLCA	Paso Flores	145.08	156	PKP	PKPab	07 20 49.6	-0.3
	comp=Z,3.5nm,1.1s,baz=163,slow=2.0,SNR=4.6						
PLCA	Paso Flores	145.08	156		PKPdf	07 20 50.1	-0.3

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*IDC **08** 07:19:24.2±0.7, 68°.35N×158°.25W, h0km, mb3.8/18, mb1 4.1/21, mb1mx4.0/46, mbtmp3.9/21, ML4.1/3, Error ellipse: s-maj=22.8km s-min=11.9km az=26.0*
*NEIC **08** 07:19:25.8±1.9, 68°.13N±0°.04×158°.35W±0°.09, h10km±5km, Error ellipse: s-maj=6.5km s-min=5.2km az=179.0*
*NEIC **08** 07:19:26, 68°.04N×158°.21W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.44; $M_{\theta\theta}$0.57; $M_{\phi\phi}$-0.12; $M_{r\theta}$-0.59; $M_{\theta\phi}$-1.20; $M_{\phi r}$0.23; Fault plane solution: $M_0$1.45000×10^{15} NP1:ϕ_s353.28000°, δ64.43000°, λ-2.25000°. NP2:ϕ_s84.25000°, δ87.97000°, λ-154.42000°. Principal axes: T 1.6468, Plg16.0000°, Azm216.0000°; N -0.5599, Plg64.0000°, Azm88.0000°; P -1.0869, Plg19.0000°, Azm312.0000°;*
*ANF **08** 07:19:26.8±0.8, 68°.18N×158°.31W, h23km±8km, ML4.5/22 Error ellipse: s-maj=3.7km s-min=2.4km az=73.0*
*AEIC **08** 07:19:27.4±1.9, 68°.10N±0°.05×158°.22W±0°.08, h25km±5km, ML4.0/77, ML4.2/42(NEIC), Mwr4.0/18(NEIC), Error ellipse: s-maj=6.7km s-min=4.2km az=175.0*

ISC 08 07:19:24.9±0.5**, 68°.17N**±0°.04×**158°.25W**±0°.03**, h10km, n202, σ1s.53**/222**, mb3.9**/16**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	1.75	268		Pn	07 19 55.3	0.0
RDOG	Red Dog Mine	1.75	268		Sb	07 20 19.7	+0.6
RDOG	Red Dog Mine	1.75	268	IAML		07 20 20.7	
	comp=N,1µm,0.5s						
RDOG				IAML		07 20 21.7	
	comp=E,1µm,0.4s						
RDOG	Red Dog Mine	1.75	268	P	Pn	07 19 54.8	-0.6
	baz=86,SNR=202						
RDOG				S	Sn	07 20 18.7	+1.0
	baz=86						
IM03		2.81	139		Pn	07 20 10.2	+0.3
IMAR	Indian Mountai	2.81	139	Pn	Pn	07 20 10.3	+0.4
COLD	Coldfoot	3.21	103		Pn	07 20 17.1	+1.7
COLD	Coldfoot	3.21	103	P	Pn	07 20 16.8	+1.5
	baz=290,SNR=30						
COLD				Sb	Sb	07 21 04.3	+3.2
	baz=290						
A21K	Barrow	3.22	9		Pn	07 20 16.1	+0.7
A21K	Barrow	3.22	9		Sn	07 20 56.1	+2.4
A21K	Barrow	3.22	9	IAML		07 21 24.7	
	comp=N,796nm,0.7s						
A21K	Barrow	3.22	9	P	Pn	07 20 16.0	+0.6
	baz=190						
A21K				S	Sn	07 20 53.2	-0.5
	baz=190						
PS05	TAPS Pump Stn5	3.22	112		Pn	07 20 16.2	+0.7
TOLK	Toolik Lake Re	3.24	78	Pn	Pn	07 20 17.6	+1.8
TOLK	Toolik Lake Re	3.24	78		Sn	07 20 56.3	+1.8
TOLK	Toolik Lake Re	3.24	78	IAML		07 21 08.9	
	comp=N,684nm,0.5s						
TOLK				IAML		07 21 17.8	
	comp=E,602nm,0.7s						
TOLK	Toolik Lake Re	3.24	78	P	Pn	07 20 17.0	+1.2
	baz=264,SNR=62						
TOLK				S	Sn	07 20 56.6	+2.1
	baz=264						
H21K	Melozitna Rive	3.31	137		Pn	07 20 17.1	+0.3
H21K					Sn	07 20 57.2	+1.1
H21K	Melozitna Rive	3.31	137	P	Pn	07 20 17.1	+0.3
	baz=321						
H21K				S	Sn	07 20 57.2	+1.1
	baz=321						
GCSA	Galena City Sc	3.48	170		Pn	07 20 18.9	-0.2
GCSA					Sn	07 20 59.1	-1.1
GCSA	Galena City Sc	3.48	170	P	Pn	07 20 18.8	-0.2
	baz=352,SNR=35						
GCSA				S	Sn	07 20 59.2	-1.1
	baz=352						
I21K	Tanana	3.90	137		Pn	07 20 25.4	+0.6
I21K	Tanana	3.90	137	IAML		07 21 35.4	
	comp=N,428nm,1.2s						
I21K				IAML		07 21 35.7	
	comp=E,521nm,0.9s						
I21K	Tanana	3.90	137	P	Pn	07 20 25.4	+0.6
	baz=323						
I21K				Sb	Sb	07 21 25.4	+4.5
	baz=323						
PS01	TAPS Pump Stn	4.02	54		Pn	07 20 28.8	+2.3
PS06	TAPS Pump Stn6	4.07	121		Pn	07 20 27.6	+0.5
H23K	Yukon River	4.15	121		Pn	07 20 28.5	+0.3
H23K	Yukon River	4.15	121	IAML		07 21 38.2	
	comp=N,324nm,1.6s						
H23K				IAML		07 21 41.5	
	comp=E,339nm,1.1s						
H23K	Yukon River	4.15	121	P	Pn	07 20 28.4	+0.1
	baz=308						
H23K				Sb	Sg	07 21 33.9	-4.0
	baz=308						
J20K	Nowinta River	4.34	156		Pn	07 20 31.1	+0.3
J20K	Nowinta River	4.34	156	IAML		07 21 43.0	

	comp=N,398nm,1.1s						
J20K				IAML		07 21 47.4	
	comp=E,418nm,1.8s						
J20K	Nowinta River	4.34	156	P	Pn	07 20 30.8	-0.1
	baz=339						
J20K				Sb	Sb	07 21 37.3	+3.7
	baz=339						
MLY	Manley	4.35	133		Pn	07 20 30.9	-0.2
MLY	Manley	4.35	133	IAML		07 21 50.9	
	comp=E,175nm,1.7s						
MLY	Manley	4.35	133	P	Pn	07 20 31.2	+0.2
	baz=319						
MLY				Sb	Sb	07 21 39.3	+5.5
	baz=319						
ANM	Nome	4.62	222		Pn	07 20 34.2	-0.5
ANM	Nome	4.62	222	P	Pn	07 20 33.8	-0.9
	baz=36,SNR=39						
TNA	Tin City	4.63	240	Pn	Pn	07 20 34.0	-0.8
TNA	Tin City	4.63	240	S	Sn	07 21 29.6	+1.1
	baz=52						
I23K	Minto, Yukon-K	4.66	126	P	Pn	07 20 35.6	+0.5
	baz=314,SNR=24						
I23K				Sb	Sb	07 21 48.1	+5.5
	baz=314						
H24K	Noodor Dome	4.69	115		Pn	07 20 36.3	+0.6
H24K	Noodor Dome	4.69	115	IAML		07 22 01.9	
	comp=E,144nm,1.1s						
H24K				IAML		07 22 04.5	
	comp=N,143nm,1.4s						
H24K	Noodor Dome	4.69	115	P	Pn	07 20 36.2	+0.4
	baz=304						
CHUM	Lake Minchumin	4.94	148		Pn	07 20 39.6	+0.5
CHUM	Lake Minchumin	4.94	148	P	Pn	07 20 39.5	+0.4
	baz=333,SNR=27						
CHUM				S	Sn	07 21 36.9	+0.8
	baz=333						
BPAW	Bear Paw Mtn.	5.04	141	Pn	Pn	07 20 41.4	+0.9
BPAW				IAML		07 22 09.9	
	comp=E,138nm,1.3s						
BPAW	Bear Paw Mtn.	5.04	141	P	Pn	07 20 41.1	+0.6
	baz=327						
BPAW				S	Sn	07 21 40.0	+1.3
	baz=327						
K20K	Telida	5.13	158		Pn	07 20 41.9	+0.1
K20K	Telida	5.13	158	IAML		07 22 13.7	
	comp=N,98nm,2.5s						
K20K				IAML		07 22 19.3	
	comp=E,120nm,1.1s						
MDM	Murphy Dome	5.13	124		Pn	07 20 41.9	+0.1
MDM	Murphy Dome	5.13	124	IAML		07 22 19.7	
	comp=E,104nm,1.6s						
NEA2	Nenana	5.15	130		Pn	07 20 42.4	+0.4
NEA2	Nenana	5.15	130	P	Pn	07 20 42.3	+0.4
	baz=318,SNR=20						
NEA2				S	Sn	07 21 42.3	+1.0
	baz=318						
BM03	Burnt Mountain	5.23	92		Pn	07 20 44.4	+1.4
BMAR	Burnt Mountain	5.24	92		Pn	07 20 44.6	+1.4
FYU	Fort Yukon	5.28	102		Pn	07 20 44.8	+1.1
POKR	Poker Plat Res	5.28	120		Pn	07 20 44.2	+0.5
POKR				IAML		07 22 26.0	
	comp=E,92nm,1.4s						
POKR				IAML		07 22 28.4	
	comp=N,94nm,1.3s						
POKR	Poker Plat Res	5.28	120	P	Pn	07 20 44.0	+0.2
	baz=310						
POKR				Sb	Sb	07 22 04.8	+4.3
	baz=310						
TCOL	CIGO, UAF Yank	5.31	124		Pn	07 20 44.4	+0.3
TCOL	CIGO, UAF Yank	5.31	124	P	Pn	07 20 44.5	+0.4
	baz=313,SNR=7.3						
COLA	College	5.31	124		Pn	07 20 44.9	+0.8
COLA	College	5.31	124	P	Pn	07 20 44.7	+0.6
	baz=313						
TTA	Tatalina	5.34	169	Pn	Pn	07 20 44.9	+0.2
TTA				IAML		07 22 22.1	
	comp=E,84nm,1.0s						
TTA				IAML		07 22 22.8	
	comp=N,147nm,1.5s						
TTA	Tatalina	5.34	169	P	Pn	07 20 44.7	0.0
	baz=351,SNR=13						
TTA				S	Sn	07 21 44.9	-1.4
	baz=351						
BWN	Browne	5.36	134	Pn	Pn	07 20 46.0	+1.1
BWN				IAML		07 22 23.1	
	comp=E,187nm,1.7s						
CAST	Castle Rocks	5.40	149	Pn	Pn	07 20 46.2	+0.7
CAST				IAML		07 22 25.2	
	comp=E,80nm,1.7s						
CAST	Castle Rocks	5.40	149	P	Pn	07 20 46.1	+0.7
	baz=334,SNR=67						
CCB	Clear Creek Bu	5.48	125		Pn	07 20 46.3	-0.2
KTH	Kantishna Hill	5.52	144		Pn	07 20 47.6	+0.4
WRH	Wood River Hil	5.52	127		Pn	07 20 47.6	+0.5
PRP	Porcupine Dome	5.68	112		Pn	07 20 49.4	+0.1
PRP	Porcupine Dome	5.68	112	P	Pn	07 20 49.7	+0.3
	baz=303,SNR=44						
IL31		5.68	122		Pn	07 20 49.3	+0.1
ILAR	Eielson Array	5.68	122	Pn	Pn	07 20 49.2	-0.1
	comp=E,1.3nm,0.3s,baz=312,slow=14,SNR=66						
ILAR				Sn	Sn	07 21 54.8	+0.3
	comp=E,2.0nm,0.3s,baz=310,slow=20,SNR=6.0						
ILAR				Lg	Lg	07 22 21.2	
	comp=E,2.6nm,0.3s,baz=110,slow=14,SNR=4.5						
TRF	Thorofare Moun	5.75	142		Pn	07 20 51.5	+1.0
TRF	Thorofare Moun	5.75	142	P	Pn	07 20 51.1	+0.6
	baz=329,SNR=27						
MCK	McKinley	5.86	135	Pn	Pn	07 20 52.6	+0.9
MCK	McKinley	5.86	135	P	Pn	07 20 52.3	+0.6
	baz=323,SNR=20						
MCK				S	Sn	07 21 57.9	-0.9
	baz=323						
PPLA	Purkeypile	5.86	152	Pn	Pn	07 20 52.7	+0.9
PPLA	Purkeypile	5.86	152	P	Pn	07 20 52.5	+0.6
	baz=337,SNR=20						
PPLA				S	Sn	07 21 57.4	-1.7
	baz=337						
HDA	Harding Lake	5.91	124		Pn	07 20 52.5	0.0
HDA	Harding Lake	5.91	124	P	Pn	07 20 52.2	-0.3
	baz=314,SNR=17						
HDA				S	Sn	07 21 59.5	-0.6
	baz=314						
HDA				S	Sn	07 21 59.5	-0.6
	baz=314						
L20K	Farewell, AK	6.00	160	P	Pn	07 20 54.1	+0.4
	baz=344						
L20K				S	Sn	07 22 01.3	-1.1
	baz=344						
RND	Reindeer	6.14	137		Pn	07 20 56.7	+1.0
L19K	White Mountain	6.18	165		Pn	07 20 56.4	+0.3
L19K	White Mountain	6.18	165	P	Pn	07 20 56.1	-0.1
	baz=348,SNR=7.1						
L19K				S	Sn	07 22 03.9	-2.9
	baz=348						
J25K	Salcha River,	6.28	119		Pn	07 20 57.8	+0.2
J25K	Salcha River,	6.28	119	P	Pn	07 20 57.7	+0.2
	baz=310						
M19K	Big River Lodg	6.50	164	P	Pn	07 21 01.0	+0.5
	baz=347,SNR=10						
M19K				S	Sn	07 22 11.0	-3.7
	baz=347						
CUT	Chulitna	6.68	146		Pn	07 21 04.7	+1.7
CUT	Chulitna	6.68	146	P	Pn	07 21 04.2	+1.3
	baz=333						
DHY	Denali Highway	6.80	134		Pn	07 21 05.9	+1.1
DHY	Denali Highway	6.80	134	P	Pn	07 21 05.9	+1.1
	baz=323,SNR=16						
DHY				S	Sn	07 22 22.5	+0.2
	baz=323						
J26L	Joseph Creek	6.95	115	P	Pn	07 21 07.0	+0.2
	baz=308						
PS10	TAPS Pump St10	6.99	127		Pn	07 21 08.5	+1.2
GAMB	Gambell	7.04	238	Pn	Pn	07 21 06.3	-1.5
RIDG	Independent Ri	7.04	123	Pn	Pn	07 21 08.0	0.0
WAT6	Susitna Watana	7.12	137		Pn	07 21 09.6	+0.5
WAT6	Susitna Watana	7.12	137	P	Pn	07 21 09.2	+0.2
	baz=326						
SCRK	Sand Creek	7.15	119		Pn	07 21 10.3	+0.7
SCRK	Sand Creek	7.15	119	P	Pn	07 21 09.6	+0.1
	baz=312						
SVW2	Sparrevohn	7.19	170		Pn	07 21 10.4	+0.4
STLK	Strandline Lak	7.23	155		Pn	07 21 12.1	+1.5
DOT	Dot Lake	7.36	121		Pn	07 21 12.3	+0.1
SPBG	Spurr Blockage	7.38	157		Pn	07 21 13.8	+1.1
SPCG	Spurr Capps Gl	7.40	156		Pn	07 21 14.3	+1.4
PAX	Paxson	7.42	129		Pn	07 21 14.0	+0.8
PAX	Paxson	7.42	129	P	Pn	07 21 14.3	+1.0
	baz=320,SNR=21						
SPU	Mount Spurr	7.50	156		Pn	07 21 16.0	+1.8
GHO	Glory Hole Cre	7.53	144		Pn	07 21 16.0	+1.3
N19K	Bonanza Creek	7.56	166		Pn	07 21 15.7	+0.5
N19K	Bonanza Creek	7.56	166	P	Pn	07 21 15.4	+0.2
	baz=349						
EGAK	Eagle	7.62	108		Pn	07 21 17.2	+1.3
EGAK	Eagle	7.62	108	P	Pn	07 21 16.7	+0.8
	baz=304,SNR=7.8						
SML	Sawmill	7.64	142	Pn	Pn	07 21 17.2	+1.0
SML	Sawmill	7.64	142	P	Pn	07 21 17.1	+1.0
	baz=331						
PMR	Palmer	7.65	145		Pn	07 21 17.6	+1.4
PMR	Palmer	7.65	145	P	Pn	07 21 17.2	+1.0
	baz=333						
SCM	Sheep Creek Mo	7.85	139		Pn	07 21 20.8	+1.7
SCM	Sheep Creek Mo	7.85	139	P	Pn	07 21 20.3	+1.2
	baz=328						
M24K	Tolsona, Glenn	7.92	134		Pn	07 21 21.2	+1.2
KNK	Knik Glacier	7.96	144	Pn	Pn	07 21 22.7	+2.2
KNK	Knik Glacier	7.96	144	P	Pn	07 21 22.8	+2.3
	baz=332						
HARP	HAARP	7.96	130	P	Pn	07 21 23.4	+2.8
	baz=322						
MENT	Mentasta	7.97	124		Pn	07 21 22.5	+1.8
NCT	North Crescent	7.98	161		Pn	07 21 21.2	+0.3
RC01	Rabbit Creek A	7.98	149		Pn	07 21 22.2	+1.4
L26K	Log Cabin Wild	8.03	123		Pn	07 21 21.3	-0.1
L26K	Log Cabin Wild	8.03	123	P	Pn	07 21 23.2	+1.8
	baz=316						
RSO	Redoubt South	8.10	160	Pn	Pn	07 21 23.2	+0.6
O19K	Port Alsworth	8.19	166		Pn	07 21 24.6	+1.0
O19K	Port Alsworth	8.19	166	P	Pn	07 21 24.9	+1.3
	baz=350						
O18K	Koktuh Hills	8.46	170		Pn	07 21 27.4	+0.1
O18K	Koktuh Hills	8.46	170	P	Pn	07 21 27.1	-0.2
	baz=352						
PWL	Port Wells	8.48	145	Pn	Pn	07 21 28.8	+1.1
L27K	Beaver Creek,	8.49	119		Pn	07 21 27.5	-0.3
L27K	Beaver Creek,	8.49	119	P	Pn	07 21 27.4	-0.3
	baz=314						
KLU	Klutina	8.50	136		Pn	07 21 29.7	+1.8
KLU	Klutina	8.50	136	P	Pn	07 21 30.3	+2.4
	baz=327						
BCAR	Beaver Creek A	8.50	119		Pn	07 21 28.1	+0.1
EPYK	Eagle Plains	8.51	92	P	Pn	07 21 29.4	+1.3
	baz=292,SNR=48						
BC05	Beaver Creek A	8.51	119		Pn	07 21 28.2	+0.1
O22K	Cooper Landing	8.55	150	Pn	Pn	07 21 29.4	+0.8
DAWY	Dawson	8.66	109		Pn	07 21 31.0	+0.8
DAWY	Dawson	8.66	109	P	Pn	07 21 30.9	+0.7
	baz=306						
GLI	Glacier Island	8.74	141	Pn	Pn	07 21 32.9	+1.7
N25K	Chitina, Valde	8.76	132	Pn	Pn	07 21 33.2	+1.7
DIV	Divide	8.84	137	Pn	Pn	07 21 34.3	+1.6
P18K	Big Mountain,	8.91	170	Pn	Pn	07 21 33.8	+0.2
SEW	Seward	8.95	151	Pn	Pn	07 21 35.3	+1.3
FID	Port Fidalgo	9.00	140	Pn	Pn	07 21 36.6	+1.8
BRLK	Bradley Lake	9.03	156	Pn	Pn	07 21 36.7	+1.5
GLB	Gilahina Butte	9.11	131	Pn	Pn	07 21 37.4	+1.0
INK	Inuvik	9.16	78	Pn	Pn	07 21 35.9	-1.0
	comp=E,4.2nm,0.3s,baz=292,slow=12,SNR=227						
INK				Sn	Sn	07 23 16.2	-3.5
	comp=E,1.5nm,0.3s,baz=100,slow=19,SNR=2.5						
INK	Inuvik	9.16	78		Pn	07 21 37.1	+0.3
INK	Inuvik	9.16	78	P	Pn	07 21 36.8	-0.1
	baz=280,SNR=18						
CNPM	China Poot	9.21	157	Pn	Pn	07 21 39.1	+1.5
BMRM	Bremner River	9.29	135	Pn	Pn	07 21 40.0	+1.2
VRDI	Verde Repeater	9.39	131	Pn	Pn	07 21 42.0	+1.7
BARN	Barnard Glacie	10.04	127	Pn	Pn	07 21 51.1	+1.9
WAX	Waxell Ridge	10.20	132	Pn	Pn	07 21 49.9	-1.3
CTGM	Chitina Glacie	10.22	127	Pn	Pn	07 21 54.4	+2.9
GRNC	Granite Creek	10.28	129	Pn	Pn	07 21 54.5	+2.0
LOGN	Logan Glacier	10.43	127	Pn	Pn	07 21 57.0	+2.5
M30M	Minto, Yukon	10.52	112	Pn	Pn	07 21 56.6	+1.0
KDAK	Kodiak Island	10.73	164	Pn	Pn	07 21 59.5	+1.0
	comp=E,0.5nm,0.3s,baz=32,slow=8.1,SNR=6.8						
KDAK	Kodiak Island	10.73	164	Pn	Pn	07 21 60.0	+1.5
HYT	Haines Junctio	11.52	120	Pn	Pn	07 22 11.2	+1.8
A36M	Sachs Harbour	11.77	56		Pn	07 22 11.8	-0.6
A36M	Sachs Harbour	11.77	56	P	Pn	07 22 11.3	-1.1
	baz=267,SNR=65						
C36M	Paulatuk	12.35	69		Pn	07 22 19.0	-1.4
C36M	Paulatuk	12.35	69	P	Pn	07 22 17.7	-2.8
	baz=280,SNR=9.7						
MMPY	Sheldon Lake,	12.46	104	P	Pn	07 22 23.2	+1.1
	baz=308						
YKA	Yellowknife Ar	18.73	86	P	P	07 23 42.0	-1.3
	comp=E,0.6nm,0.3s,baz=307,slow=12,SNR=90						
YKA				S	Sn	07 27 03.3	-9.5
	comp=E,0.1nm,0.3s,baz=304,slow=23,SNR=4.4						
YKA	Yellowknife Ar	18.73	86	P	P	07 23 42.1	-1.2
RES	Resolute Bay	20.17	44	P	P	07 23 56.6	-2.4
	comp=E,0.3nm,0.4s,baz=277,slow=8.1,SNR=2.1						
RES				S	S	07 27 31.4	-13
	comp=E,1.2nm,0.6s,baz=314,slow=16,SNR=3.3						
RES	Resolute Bay	20.17	44	P	P	07 23 57.5	-1.4
SEY	Seymchan	20.59	279	P	P	07 24 04.7	+1.0
	comp=E,1.3nm,0.4s,baz=78,slow=8.3,SNR=9.2						
EUNU	Eureka	21.00	27	P	P	07 24 09.8	+1.8
MA2	Magadan	23.34	274	P	P	07 24 34.0	+1.1
	comp=E,1.0nm,0.4s,baz=84,slow=9.2,SNR=1.5						
NRIK	Noril'sk	35.65	326	P	P	07 26 22.6	+0.3
	comp=E,1.3nm,0.5s,baz=45,slow=11,SNR=3.9						
PDAR	Pinedale Array	35.98	110	P	P	07 26 27.1	+1.4
	comp=E,0.6nm,0.6s,baz=59,slow=35,SNR=6.6						
PDAR	Pinedale Array	35.98	110	P	P	07 26 25.7	-0.1
NVAR	Mina Array Bea	36.94	123	P	P	07 26 35.7	+1.7
	comp=E,1.0nm,0.6s,baz=322,slow=7.4,SNR=9.4						
ARCES	ARCESS Array B	42.53	358	P	P	07 27 19.3	-0.6
	comp=E,0.9nm,0.5s,baz=5.6,slow=7.9,SNR=13						
ARCES				PcP	PcP	07 29 11.5	-0.6
	comp=E,1.7nm,0.9s,baz=347,slow=3.7,SNR=7.5						
SONM	Songino Array	48.56	297	P	P	07 28 08.8	+0.7
	comp=E,0.7nm,0.5s,baz=30,slow=6.1,SNR=8.1						
SONM	Songino Array	48.56	297	P	P	07 28 09.2	+1.2
ZALV	Zalesovo Beam	49.62	316	P	P	07 28 15.0	-0.8
	comp=E,1.0nm,0.4s,baz=9.7,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	50.11	112	P	P	07 28 20.6	+0.6
	comp=E,0.9nm,0.6s,baz=338,slow=6.1,SNR=11						
TXAR	Lajitas Array	50.11	112	P	P	07 28 20.9	+0.9
KLMR	Klimovskoe	50.63	349	eP	P	07 28 22.9	-0.5
KLMR				AMP		07 28 34.9	
	comp=Z,6.0nm,1.1s						
FINES	FINESS Array B	50.64	357	P	P	07 28 23.3	-0.1
	comp=Z,1.6nm,0.4s,baz=17,slow=8.0,SNR=21						
FINES	FINESS Array B	50.64	357	P	P	07 28 23.8	+0.4
NB2	NORSAR Subarra	50.86	7	P	P	07 28 25.2	0.0
	comp=Z,0.5nm,0.6s,baz=353,slow=7.4						
NOA	NORSAR Array B	50.86	7	P	P	07 28 24.9	-0.4
	comp=Z,0.6nm,0.6s,baz=354,slow=7.6,SNR=4.7						
KURBB	Kurchatov Arra	54.24	319	P	P	07 28 49.6	-0.7
	comp=Z,0.4nm,0.4s,baz=29,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	56.81	314	P	P	07 29 07.7	-1.2
	comp=Z,0.7nm,0.4s,baz=31,slow=6.5,SNR=30						
AKASG	Malin Array Be	61.32	355	P	P	07 29 40.0	0.0
	comp=Z,1.6nm,0.4s,baz=7.2,slow=6.7,SNR=9.4						
AAK	Ala-Archa	62.69	319	P	P	07 29 50.0	+0.4
	comp=Z,0.8nm,0.5s,baz=270,slow=1.0,SNR=4.4						
GERES	GERESS Array B	63.15	6	P	P	07 29 52.7	+0.3
	comp=Z,0.2nm,0.4s,baz=4.3,slow=3.9,SNR=2.3						
KKAR	Karatay Array	63.20	322	P	P	07 29 53.0	+0.2
CMAR	Chiang Mai Arr	77.69	289	P	P	07 31 20.9	-0.7
	comp=Z,1.3nm,0.3s,baz=2.3,slow=7.2,SNR=4.6						

*UPA **08** 07:20:19.8±1.4, 8.̊71N×82.̊44W, h10km±5km, ML3.8, MW4.0*
*UCR **08** 07:20:19.2±1.9, 8.̊74N×82.̊49W, h0km±3km, MW3.9*
*INET **08** 07:20:19.4±0.8, 8.̊63N×82.̊42W, h15km±5km, MW2.9*
ISC 08 07:20:19.0±0.8**, 8.̊72N**±0.̊02×**82.̊41W**±0.̊02**, h17**km±5km**,**
n67, σ**1**§**15**/103**, 12C-20D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCO2	Palmira	0.12	269	⇓iP	Pg	07 20 23.3	+0.3
BCO2				eS	Sg	07 20 26.0	+0.3
DVD	David	0.29	189	⇓iP	Pg	07 20 26.1	+0.8
DVD				eS	Sg	07 20 31.2	+1.6
BRU2	Volcan	0.29	284	⇓iP	Pg	07 20 25.4	0.0
BRU2				AMP		07 20 25.7	
	comp=Z,16µm,0.1s						
BRU2				eS	Sg	07 20 29.9	+0.1
CHGR2	Aguacate	0.34	50	⇓iP	Pg	07 20 23.9	-2.2
CHGR2				eS	Sg	07 20 28.9	-2.1
CDITO	Canoas	0.48	252	⇓iP	Pb	07 20 29.0	0.0
CDITO				eS	Sb	07 20 36.8	+0.9
CDITO	Canoas	0.48	252	iP	Pb	07 20 29.1	0.0
CDITO				eS	Sn	07 20 37.2	-2.0
EDSV	San Vito	0.57	280	eP	Pg	07 20 31.0	+0.6
EDSV				eS	Sn	07 20 39.7	-1.7
CCOL	Caracol de Cor	0.64	241	⇓iP	Pg	07 20 31.5	-0.2
PTPM	Petroterminale	0.69	222	⇓iP	Pg	07 20 32.4	-0.3
PTPM				eS	Sn	07 20 43.0	-1.3
CNI2	El Empalme, Bo	0.70	355	⇑iP	Pb	07 20 32.4	-0.4
CNI2				eS	Sn	07 20 45.1	+0.6
POTG	Potrero Grande	0.78	295	⇑eP	Pb	07 20 33.2	-0.9
POTG				eS	Sb	07 20 43.8	-0.6
PNPB	Parque Naciona	0.81	268	eP	Pb	07 20 33.4	-1.2
PNPB				eS	Sb	07 20 44.8	-0.6
RGM0	Gandoca	0.89	347	⇑iP	Pb	07 20 36.4	+0.5
RGM0				eS	Sn	07 20 51.1	+2.0
RGM0	Gandoca	0.89	347	⇓iP	Pb	07 20 36.6	+0.7
PTJ1	Puerto Jimnez	0.91	258	⇓iP	Pb	07 20 35.2	-1.0
PTJ1				eS	Sg	07 20 48.3	-0.2
EDBA	Buenos Aires	0.96	297	⇑eP	Pb	07 20 37.4	+0.1
EDBA				eS	Sn	07 20 51.5	+0.4
PIRO	Carate, Puerto	0.97	251	⇓eP	Pb	07 20 36.4	-1.0
PIRO	Carate, Puerto	0.97	251	⇓iP	Pb	07 20 36.3	-1.1
PIRO	Carate, Puerto	0.97	251	eP	Pb	07 20 36.3	-1.1
DRK0	Durika	0.99	303	⇑eP	Pb	07 20 36.5	-1.3
DRK0				eS	Sb	07 20 50.2	-0.3
DRK0	Durika	0.99	303	⇑eP	Pb	07 20 36.4	-1.3
DRK0				eS	Sb	07 20 49.9	-0.7
EDPN	Palmar Norte	1.07	283	eP	Pb	07 20 38.0	-0.9
SRBA	San Rafael, Bu	1.07	298	eP	Pb	07 20 38.0	-1.1
PLAN	Los Planes de	1.26	268	eP	Pn	07 20 41.1	-0.7
PEZE	Perez Zeledon,	1.42	298	⇓iP	Pn	07 20 44.0	0.0
PEZE				eS	Sb	07 21 02.7	-0.1
PEZE	Perez Zeledon,	1.42	298	eP	Pn	07 20 43.8	-0.2
PEZE				eS	Sb	07 21 02.8	-0.1
MRVA	Moravia de Chi	1.50	317	eP	Pn	07 20 45.2	0.0
MRVA				eS	Sb	07 21 05.6	+0.4
GMAL	Guarumal, Vera	1.50	129	eP	Pn	07 20 44.6	-0.5
GMAL	Guarumal, Vera	1.50	129	eP	Pn	07 20 44.6	-0.5
GMAL				eS	Sn	07 21 04.1	-0.2
GMAL				i		07 21 07.5	
	comp=Z,840nm,0.2s						
GMAL	Guarumal, Vera	1.50	129	⇓eP	Pn	07 20 44.6	-0.5
GMAL				eS	Sn	07 21 04.4	+0.1
GMAL				iS	Sn	07 21 04.4	+0.1
EDDO	Dominical	1.54	290	eP	Pb	07 20 46.5	-0.5
CDM	Cerro de Muert	1.58	302	⇑eP	Pn	07 20 46.6	0.0
CDM	Cerro de Muert	1.58	302	eP	Pn	07 20 46.4	-0.1
BATAN	Batan	1.67	325	eP	Pn	07 20 47.3	-0.1
BATAN				eS	Sb	07 21 10.6	+0.6
BATAN	Batan	1.67	325	⇓eP	Pn	07 20 48.0	+0.6
RIMA	Rio Macho	1.77	306	iP	Pn	07 20 49.8	+0.7
RIMA				eS	Sb	07 21 13.3	+0.1
RIMA	Rio Macho	1.77	306	eP	Pn	07 20 49.5	+0.4
RIMA				eS	Sb	07 21 12.8	-0.4
VTCV	VTCV, Calle Va	1.81	314	eP	Pn	07 20 50.0	+0.5
RAFA	San Farael, Vo	1.85	312	⇑iP	Pb	07 20 52.6	+0.1
CVTR	Volcan Turrial	1.86	314	eP	Pn	07 20 50.7	+0.3
CVTR				eS	Sb	07 21 17.6	+1.8
LCR2	La Lucha 2	1.88	303	eP	Pn	07 20 50.8	+0.4
OCM	Ochomogo	1.93	307	eP	Pn	07 20 52.1	+0.9
SJS	Escuela Geolog	2.03	307	eP	Pn	07 20 54.0	+1.5
CACAO	El Cacao, Vera	2.05	132	⇑eP	Pb	07 20 54.8	-1.0
CACAO				eS	Sb	07 21 20.9	-0.1
PNME	Penonome	2.07	96	eP	Pb	07 20 55.5	-0.6
CHIT3	Chitre	2.11	111	⇑eP	Pb	07 20 55.5	-1.3
HDC3	Heredia 3	2.11	307	eP	Pn	07 20 55.2	+1.5
HDC3	Heredia 3	2.11	307	eP	Pn	07 20 55.3	+1.7
HDC3				eS	Sb	07 21 23.0	+0.2
HDC	Heredia	2.11	307	eP	Pb	07 20 55.5	-1.4
HDC				eS	Sb	07 21 23.4	+0.6
HDC	Heredia	2.11	307	⇓eP	Pb	07 20 55.6	-1.2
HDC				eS	Sb	07 21 22.3	-0.6
RIFO	Rio Frio, Sara	2.18	317	⇑iP	Pn	07 20 55.5	+1.1
AZU	Azuero	2.30	113	eP	Pb	07 20 58.9	-1.2
AZU	Azuero	2.30	113	eP	Pn	07 20 57.9	+1.8
AZU				eS	Sb	07 21 28.9	+0.6
AZU				i		07 21 29.7	
	comp=Z,196nm,0.4s						
AZU	Azuero	2.30	113	⇓eP	Pn	07 20 58.0	+1.9
AZU				eS	Sb	07 21 27.9	-0.3
JACO	JACO, Garabito	2.41	293	eP	Pn	07 20 58.3	+0.7
JACO				eS	Sn	07 21 28.5	+1.7
SRA1	San Ramn	2.46	304	eP	Pb	07 21 00.9	-1.8
ZANG	Zanguenga, Cho	2.52	84	eP	Pb	07 21 02.5	-1.2
MLIR	Monte Lirio	2.57	78	⇓eP	Pb	07 21 04.2	-0.5
BCIP	Isla Barro Col	2.58	80	eP	Pn	07 21 01.6	+1.8
BCIP				eS	Sn	07 21 31.8	+0.9
BCIP				i		07 21 42.0	
	comp=Z,42nm,0.7s						
BCIP	Isla Barro Col	2.58	80	⇑iP	Pn	07 21 01.9	+2.0
BCIP				eS	Sn	07 21 33.0	+2.2
CHOR3	La Chorrera	2.62	86	⇓eP	Pb	07 21 03.9	-1.5
GAMB1	Gamboa	2.69	81	eP	Pn	07 21 04.0	+2.5
FRIJ	El Hiral	2.69	79	⇓eP	Pn	07 21 03.6	+2.1
LAFE	Finca La Fe, P	2.70	294	eP	Pn	07 21 04.0	+2.4
UPA	Univ. de Panam	2.85	85	⇓eP	Pn	07 21 05.7	+2.1
JTS	Las Juntas de	2.96	302	eP	Pn	07 21 07.6	+2.4
PRVC	Isla de Provid	4.74	12	eP	Pn	07 21 30.0	+0.3
PRVC				eS	Sn	07 22 21.4	-2.9

*ISK **08** 07:31:23.8, 34.̊40N×33.̊12E, h5km, ML3.5/13*
*DDA **08** 07:31:24.8±0.0, 34.̊55N×32.̊94E, h4km±2km, MW3.8*
*NIC **08** 07:31:28.6±0.0, 34.̊58N×33.̊20E, h5km±31km, Ml3.3/9*
*GII **08** 07:31:29.3±0.0, 34.̊38N×33.̊46E, h1km, MD2.6/4, Mm2.8/3*
ISC 08 07:31:27.3±1.2**, 34.̊51N**±0.̊03×**33.̊23E**±0.̊03**, h7**km±9km**,**
n52, σ**1**§**15**/76**, 1C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	Asgata	0.27	4	⇓iP	Pg	07 31 32.5	-0.2
ASGA				AML	AML	07 31 36.3	
	26nm,0.2s						
ASGA				AML	AML	07 31 36.3	
	26nm,0.2s						
ASGA				S	Sg	07 31 36.6	+0.3
ASGA				AML	AML	07 31 37.5	
	50nm,0.3s						
ASGA				AML	AML	07 31 37.5	
	50nm,0.3s						
SZAC	Souni	0.37	310	⇓iP	Pg	07 31 35.0	+0.4
SZAC				S	Sb	07 31 40.9	-1.5
SZAC				AML	AML	07 31 42.8	
	52nm,0.4s						
SZAC				AML	AML	07 31 42.8	
	52nm,0.4s						
SZAC				AML	AML	07 31 43.4	
	28nm,0.3s						
SZAC				AML	AML	07 31 43.4	
	28nm,0.3s						
CSS	Mathiatis	0.46	11	⇓iP	Pg	07 31 34.9	-1.2
CSS				S	Sg	07 31 42.7	+0.5
CSS				AML	AML	07 31 44.1	
	2.5nm,0.3s						
CSS				AML	AML	07 31 44.1	
	2.5nm,0.3s						
CSS				AML	AML	07 31 44.4	
	2.5nm,0.6s						
CSS				AML	AML	07 31 44.4	
	2.5nm,0.6s						
AKIN	Akıncılar- Kıb	0.54	21	PG	Pg	07 31 37.3	-0.4
MVOU	Mavrovouni	0.60	34	P	Pg	07 31 38.3	-0.6
MVOU				S	Sb	07 31 49.2	+0.2
MVOU				AML	AML	07 31 51.9	
	1.9nm,0.3s						
MVOU				AML	AML	07 31 51.9	
	1.9nm,0.3s						
MVOU				AML	AML	07 31 53.4	
	2.1nm,0.4s						
MVOU				AML	AML	07 31 53.4	
	2.1nm,0.4s						
NATA	Nata	0.60	296	P	Pb	07 31 40.3	+0.1
NATA				AML	AML	07 31 54.1	
	14nm,0.4s						
ATHAL	Athalassa	0.64	13	P	Pg	07 31 39.6	-0.1
ATHAL				S	Sb	07 31 50.5	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATHAL				AML	AML	07 31 55.6	
	6.3nm,0.7s						
ATHAL				AML	AML	07 31 55.6	
	6.3nm,0.7s						
ATHAL				AML	AML	07 31 56.8	
	5.0nm,0.6s						
ATHAL				AML	AML	07 31 56.8	
	5.0nm,0.6s						
LFK	**Lefkose**	**0.80**	**18**	PG	**Pg**	**07 31 42.4**	**-0.4**
LFK				SG	**Sb**	**07 31 55.9**	**+1.1**
AKDN	**Akdeniz- Kıbrı**	**0.81**	**345**	PG	**Pg**	**07 31 41.4**	**-1.5**
AKDN				SG	**Sb**	**07 31 54.7**	**-0.2**
ALFC	**Alefka**	**0.82**	**321**	P	**Pg**	**07 31 42.6**	**-0.6**
ALFC				S	**Sb**	**07 31 55.8**	**+0.5**
ALFC				AML	AML	07 31 56.2	
	15nm,0.5s						
ALFC				AML	AML	07 31 56.2	
	15nm,0.5s						
ALFC				AML	AML	07 31 56.4	
	15nm,0.6s						
ALFC				AML	AML	07 31 56.4	
	15nm,0.6s						
PARAL	**Paralimni**	**0.82**	**54**	P	**Pb**	**07 31 44.7**	**+0.7**
PARAL				S	**Sb**	**07 31 57.1**	**+1.8**
PARAL				AML	AML	07 31 59.9	
	4.7nm,0.6s						
PARAL				AML	AML	07 31 59.9	
	4.7nm,0.6s						
PARAL				AML	AML	07 32 02.2	
	4.5nm,0.6s						
PARAL				AML	AML	07 32 02.2	
	4.5nm,0.6s						
AKMS	**Akamas**	**0.89**	**305**⇑	*e*P	**Pg**	**07 31 44.4**	**0.0**
AKMS				S	**Sb**	**07 31 57.8**	**+0.6**
AKMS				AML	AML	07 32 00.5	
	3.2nm,0.3s						
AKMS				AML	AML	07 32 00.5	
	3.2nm,0.3s						
EREN	**Erenkoy**	**1.28**	**37**	PN	**Pg**	**07 31 51.1**	**-0.7**
EREN				SN	**Sn**	**07 32 10.5**	**+1.5**
EREN	**Erenkoy**	**1.28**	**37**	P	**Pg**	**07 31 51.2**	**-0.6**
EREN				S	**Sn**	**07 32 11.8**	**+2.8**
EREN				*i* AML	AML	07 32 15.0	
	comp=E,225nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.63**	**357**	PN	**Pn**	**07 31 55.3**	**-1.1**
AKK2	**Akkuyu-Mersin**	**1.64**	**9**	PN	**Pn**	**07 31 55.9**	**-0.7**
OSC2	**CSNet OBS 4**	**1.64**	**209**	P	**Pn**	**07 31 58.8**	**+2.2**
AKK1	**Akkuyu-Mersin**	**1.65**	**9**	PN	**Pn**	**07 31 55.7**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.66**	**9**	PN	**Pn**	**07 31 55.8**	**-1.1**
GULN	**MERSIN_Gulnar**	**1.69**	**9**	P	**Pn**	**07 31 55.5**	**-1.8**
GULN				S	**Sn**	**07 32 18.2**	**-1.0**
GULN				*i* AML	AML	07 32 20.0	
	comp=N,126nm,0.5s						
GULN				*i* AML	AML	07 32 20.0	
	comp=E,120nm,0.3s						
OREN	**Orenkoy-Mersin**	**1.70**	**6**	PN	**Pn**	**07 31 56.5**	**-0.9**
TEPK	**Tepekoy-MERSIN**	**1.73**	**9**	PN	**Pn**	**07 31 56.9**	**-0.9**
KARG	**Kargicak-Mersi**	**1.73**	**13**	PN	**Pn**	**07 31 57.2**	**-0.7**
IKL	**Isikli**	**1.76**	**12**	PN	**Pn**	**07 31 57.6**	**-0.7**
BERE	**Bereket-Mersin**	**1.83**	**360**	PN	**Pn**	**07 31 58.4**	**-1.0**
GAZI	**Gazipasa**	**1.87**	**337**	PN	**Pn**	**07 31 58.3**	**-1.5**
GAZI	**Gazipasa**	**1.87**	**337**	P	**Pn**	**07 31 58.5**	**-1.3**
GAZI				S	**Sn**	**07 32 22.2**	**-1.5**
GAZI				*i* AML	AML	07 32 24.0	
	comp=E,156nm,0.9s						
TEVE	**Tevekalti-Mers**	**1.93**	**5**	PN	**Pn**	**07 32 00.0**	**-0.6**
SILI	**Silifke-Mersin**	**1.94**	**17**	PN	**Pn**	**07 31 59.9**	**-0.8**
SLFK	**Silifke-Mersin**	**1.96**	**17**	PN	**Pn**	**07 32 00.8**	**-0.3**
ERMK	**Ermenek**	**2.14**	**353**	P	**Pn**	**07 32 03.0**	**-0.7**
ERMK				S	**Sb**	**07 32 31.8**	**-1.6**
ERMK				*i* AML	AML	07 32 38.0	
	comp=E,114nm,0.5s						
HNTI	**Hanita**	**2.16**	**131**	Pn	**Pn**	**07 32 03.2**	**-0.6**
MMA0B	**Mount Meron ar**	**2.35**	**129**	Pn	**Pn**	**07 32 06.0**	**-0.4**
MMA0B				Sn	**Sn**	**07 32 33.9**	**-1.7**
OFRI	**`Ofer**	**2.39**	**142**	Pn	**Pn**	**07 32 06.3**	**-0.7**
OFRI				Sn	**Sn**	**07 32 34.2**	**-2.4**
GEM	**Giv'at Ha'Em**	**2.41**	**122**	Pn	**Pn**	**07 32 06.9**	**-0.3**
NATI	**Neve Ativ**	**2.43**	**120**	Pn	**Pn**	**07 32 07.2**	**-0.3**
HDMB	**Hadim**	**2.52**	**346**	PN	**Pn**	**07 32 08.1**	**-0.8**
MERS	**Mersin**	**2.58**	**24**	PN	**Pn**	**07 32 09.3**	**-0.2**
KKBE	**Karaman, Kazim**	**2.71**	**355**	P	**Pn**	**07 32 12.6**	**+1.1**
KKBE				S	**Sn**	**07 32 46.5**	**+1.9**
KKBE				*i* AML	AML	07 32 56.0	
	comp=E,42nm,0.5s						
SLTI	**Sal'it**	**2.73**	**146**	Pn	**Pn**	**07 32 11.6**	**0.0**
MMLI	**Mount Malkishu**	**2.77**	**138**	Pn	**Pn**	**07 32 12.0**	**-0.1**
HMDT	**Nahal Hemdat**	**2.96**	**139**	Pn	**Pn**	**07 32 14.6**	**-0.2**
KERG	**Konya-Eregli**	**2.98**	**14**	P	**Pn**	**07 32 16.2**	**+1.0**
KERG				S	**Sn**	**07 32 54.2**	**+2.8**
KERG				*i* AML	AML	07 32 56.0	
	comp=E,64nm,0.4s						
SEDI	**Konya, Seydise**	**3.17**	**338**	P	**Pn**	**07 32 20.1**	**+2.4**
SEDI				S	**Sb**	**07 32 59.6**	**-3.2**
SEDI				*i* AML	AML	07 33 13.0	
	comp=E,37nm,0.7s						
DSI	**Dead Sea**	**3.45**	**148**	Pn	**Pn**	**07 32 21.1**	**-0.4**
YTIR	**Yattir**	**3.52**	**153**	Pn	**Pn**	**07 32 22.2**	**-0.4**
YTIR				Sn	**Sn**	**07 33 04.1**	**-0.4**
KZIT	**Kziot**	**3.73**	**164**	Pn	**Pn**	**07 32 26.4**	**+1.0**
PRNI	**Paran**	**4.41**	**160**	Pn	**Pn**	**07 32 35.5**	**+0.7**
PRNI				Sn	**Sn**	**07 33 26.8**	**+0.3**
KRMI	**Paran Flat**	**4.56**	**163**	Pn	**Pn**	**07 32 36.9**	**+0.1**
KRMI				Sn	**Sn**	**07 33 29.4**	**-0.8**
HRFI	**Mount Harif**	**4.72**	**161**	Pn	**Pn**	**07 32 39.4**	**+0.4**
HRFI				Sn	**Sn**	**07 33 33.7**	**-0.3**
MBRI	**Mt Berech**	**4.92**	**163**	Pn	**Pn**	**07 32 42.3**	**+0.5**
EIL	**Elat**	**5.05**	**163**	Pn	**Pn**	**07 32 43.9**	**+0.4**

IDC 08 07:31:56.8±5.3**, 23°.29N**×**93°.98E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.1**/53**, mbtmp3.3**/3**, Error ellipse: s-maj=437.0km s-min=30.4km az=60.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.27**	**341**	P	P	07 37 24.8	0.0
	0.4nm,0.7s,baz=153,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**58.27**	**134**	P	P	07 41 53.4	-0.2
	0.2nm,0.5s,baz=323,slow=7.4,SNR=1.4						
ASAR	**Alice Springs**	**60.68**	**138**	P	P	07 42 10.2	0.0
	0.3nm,0.5s,baz=315,slow=6.7,SNR=7.8						

*IDC **08** 07:38:54.2±1.5, 3°.10S×130°.28E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.6/38, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=58.1km s-min=22.9km az=88.0*

*NEIC **08** 07:38:59.5±2.9, 3°.11S±0°.07×130°.45E±0°.09, h41km±6km, mb4.5/19, Error ellipse: s-maj=13.3km s-min=9.1km az=68.0*

ISC 08 07:38:58.5±0.6**, 3°.17S**±0°.05×**130°.45E**±0°.10**, h35**km**, n30,** σ**2s02**/34**, mb4.6**/10**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.81**	**82**	Pn	**Pn**	**07 39 28.3**	**+1.1**
SIJI	**Sorong**	**2.42**	**20**	Pn	**Pn**	**07 39 35.5**	**-0.1**
	3.0nm,0.3s,baz=230,slow=23,SNR=11						
SIJI				Sn	**Sn**	**07 40 02.9**	**-1.2**
	6.9nm,0.3s,baz=231,slow=23,SNR=13						
SAUI	**Saumlaki**	**4.86**	**170**	Pn	**Pn**	**07 40 09.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**15.57**	**197**	Pn	**Pn**	**07 42 36.4**	**+0.9**
	0.1nm,0.3s,baz=24,slow=9.1,SNR=1.5						
FITZ				Sn	**Sn**	**07 45 26.2**	**-0.7**
	0.1nm,0.3s,baz=242,slow=16,SNR=2.0						
FITZ	**Fitzroy Crossi**	**15.57**	**197**		**Pn**	**07 42 36.9**	**+1.4**
COEN	**Coen**	**16.52**	**131**		**Pn**	**07 42 48.3**	**+0.6**
WB0	**Warramunga Arr**	**16.94**	**167**	P	**Pn**	**07 42 54.3**	**+1.3**
WRA	**Warramunga Arr**	**17.10**	**167**	P	**Pn**	**07 42 54.5**	**-0.5**
	0.3nm,0.3s,baz=348,slow=11,SNR=11						
WRA				S	**Sn**	**07 45 56.8**	**-7.4**
	0.1nm,0.3s,baz=132,slow=27,SNR=4.2						
WB2	**Warramunga Arr**	**17.10**	**167**	P	**Pn**	**07 42 55.6**	**+0.6**
WB2				IAmb	IAmb	07 43 17.2	
	comp=Z,4.6nm,1.2s						
WR0	**Warramunga Arr**	**17.16**	**167**	P	**Pn**	**07 42 56.5**	**+0.8**
AS31	**Alice Springs**	**20.65**	**171**	P	**P**	**07 43 37.5**	**+2.1**
AS31				IAmb	IAmb	07 43 41.4	
	comp=Z,3.9nm,0.4s						
ASAR	**Alice Springs**	**20.65**	**171**	P	**P**	**07 43 37.2**	**+1.9**
	comp=Z,4.4nm,0.3s,baz=353,slow=10,SNR=123						
ASAR				S	**S**	**07 47 19.4**	**-5.0**
	comp=Z,0.2nm,0.7s,baz=351,slow=22,SNR=2.0						
ASAR	**Alice Springs**	**20.65**	**171**	P	**P**	**07 43 37.9**	**+2.6**
GIRL	**Giralia**	**24.94**	**218**	P	**P**	**07 44 19.5**	**+0.8**
XMIS	**Christmas Isla**	**25.66**	**252**	P	**P**	**07 44 24.3**	**-0.9**
XMIS				IAmb	IAmb	07 44 29.4	
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**27.56**	**184**	P	**P**	**07 44 42.4**	**+0.2**
FORT				IAmb	IAmb	07 44 51.4	
	comp=Z,34nm,1.4s						
EIDS	**Eidsvold**	**29.68**	**140**	P	**P**	**07 45 03.3**	**+2.1**
EIDS				IAmb	IAmb	07 45 32.6	
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**29.95**	**171**	P	**P**	**07 45 05.3**	**+1.8**
BBOO				IAmb	IAmb	07 45 21.5	
	comp=Z,27nm,1.5s						
ARMA	**Armidale**	**33.70**	**146**	P	**P**	**07 45 38.9**	**+2.2**
ARMA				IAmb	IAmb	07 46 01.7	
	comp=Z,17nm,1.4s						
TOO	**Toolangi**	**36.92**	**160**	P	**P**	**07 46 05.0**	**+0.9**
TOO				IAmb	IAmb	07 46 19.9	
	comp=Z,4.6nm,1.2s						
NIUE	**Niue**	**60.30**	**110**	P	**P**	**07 49 02.2**	**-2.0**
MKAR	**Makanchi Array**	**65.31**	**326**	P	**P**	**07 49 37.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=125,slow=8.4,SNR=5.2						
MKAR	**Makanchi Array**	**65.31**	**326**	P	**P**	**07 49 36.9**	**-0.2**
KURK	**Kurchatov**	**69.52**	**328**	P	**P**	**07 50 03.5**	**0.0**
KURK				IAmb	IAmb	07 50 07.0	
	comp=Z,1.7nm,0.8s						
RER	**Riviere de l'E**	**74.60**	**249**	P	**P**	**07 50 35.2**	**+0.5**
VNDA	**Vanda**	**76.18**	**173**	P	**P**	**07 50 43.1**	**+0.5**
VNDA				IAmb	IAmb	07 50 51.6	
	comp=Z,7.7nm,1.4s						
SOCY	**Socotra**	**77.47**	**283**	P	**P**	**07 50 49.6**	**-1.5**
MAW	**Mawson**	**78.66**	**201**	P	**P**	**07 50 55.9**	**-0.7**
MAW				IAmb	IAmb	07 51 10.0	
	comp=Z,18nm,1.3s						
ABKAR	**Akbulak array**	**79.81**	**321**	P	**P**	**07 51 02.7**	**-0.6**
QSPA	**South Pole Qui**	**86.78**	**180**	P	**P**	**07 51 38.7**	**-0.3**

*MDD **08** 07:47:05.5±0.3, 37°.05N×4°.40W, h21km, mb_Lg2.6/9, Error ellipse: s-maj=3.4km s-min=2.0km az=171.0*

*SFS **08** 07:47:05.0, 37°.05N×4°.40W, h21km, ML2.6, ARCHIDONA (MALAGA)*

*INMG **08** 07:47:05.4±2.0, 37°.13N×4°.33W, h24km±4km, ML2.4, Error ellipse: s-maj=3.9km s-min=3.7km az=178.0*

ISC 08 07:47:03.8±1.0**, 37°.14N**±0°.03×**4°.49W**±0°.02**, h6**km±9km**, n39,** σ**1s13**/88**, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.31**	**95**	Pg	**Pg**	**07 47 09.8**	**-0.1**
EGOR				Sg	**Sg**	**07 47 14.5**	**+0.5**
EMAL	**Malaga-Limoner**	**0.38**	**172**	P	**Pg**	**07 47 11.3**	**+0.3**
EMAL				S	**Sg**	**07 47 15.8**	**-0.3**
EMIJ	**Mijas**	**0.61**	**202**	Pg	**Pg**	**07 47 15.2**	**-0.3**
EMIJ				Sg	**Sg**	**07 47 21.3**	**-2.2**
EMIJ				*i* Vmb_Lg		07 47 28.1	
ELGU	**Los Guajares,**	**0.74**	**111**	Pg	**Pg**	**07 47 17.2**	**-0.9**
ELGU				Sg	**Sg**	**07 47 27.5**	**-0.3**
ELGU				*i* Vmb_Lg		07 47 29.6	
EQUE	**Quentar**	**0.84**	**85**	Pg	**Pb**	**07 47 21.8**	**+0.9**
EQUE				Sg	**Sb**	**07 47 33.4**	**+0.8**
EQUE				*i* Vmb_Lg		07 47 36.6	
ECAB	**El Cabril**	**1.19**	**322**	Pg	**Pn**	**07 47 26.7**	**-0.3**
ECAB				Sg	**Sn**	**07 47 44.4**	**+0.9**
ECAB				*i* Vmb_Lg		07 47 45.0	
PBAR	**Barrancos**	**2.27**	**298**	*e*Pn	**Pn**	**07 47 41.6**	**-0.2**
PBAR	**Barrancos**	**2.27**	**298**	*e*Pg	**Pg**	**07 47 48.3**	**+1.0**
PBAR				*e*Sn	**Sn**	**07 48 10.1**	**-0.1**
PBAR				*e*Sg	**Sg**	**07 48 17.4**	**+0.7**
PBAR				A	A	07 48 22.6	
	13nm,0.7s						
PAB	**San Pablo**	**2.41**	**3**	Pn	**Pn**	**07 47 45.2**	**+1.3**
PAB				Pg	**Pg**	**07 47 50.2**	**+0.2**
PAB				Sn	**Sn**	**07 48 13.3**	**-0.4**
PAB				Sg	**Sb**	**07 48 19.3**	**+1.7**
PAB				*i* Vmb_Lg		07 48 22.7	
EGRO	**El Granado**	**2.42**	**280**	Pn	**Pn**	**07 47 43.6**	**-0.3**
EGRO				Sn	**Sn**	**07 48 12.8**	**-0.9**
EGRO				Sg	**Sg**	**07 48 20.0**	**-1.4**
EGRO				*i* Vmb_Lg		07 48 25.5	
EBAD	**Badajoz**	**2.57**	**310**	Pn	**Pn**	**07 47 45.6**	**-0.3**
EBAD				Pg	**Pg**	**07 47 52.5**	**-0.5**
EBAD				Sn	**Sn**	**07 48 15.7**	**-1.7**
EBAD				Sg	**Sg**	**07 48 27.4**	**+1.2**
EBAD				*i* Vmb_Lg		07 48 31.3	
ESDC	**Sonseca Array**	**2.57**	**9**	Pn	**Pb**	**07 47 49.5**	**-0.8**
ESDC				Sg	**Sb**	**07 48 23.6**	**+1.5**
ESDC				*i* Vmb_Lg		07 48 30.1	
PVAQ	**Vaqueiros**	**2.58**	**277**	*e*Pn	**Pn**	**07 47 45.9**	**-0.3**
PVAQ	**Vaqueiros**	**2.58**	**277**	*e*Pg	**Pg**	**07 47 53.0**	**-0.3**
PVAQ				*e*Sn	**Sn**	**07 48 17.1**	**-0.8**
PVAQ				A	A	07 48 18.1	
	12nm,0.1s						
PVAQ				*e*Sg	**Sg**	**07 48 27.4**	**+0.6**
PBDV	**Barranco-do-Ve**	**2.75**	**273**	*e*Sn	**Sn**	**07 48 21.9**	**-0.1**
PBDV				*e*Sg	**Sg**	**07 48 33.3**	**+1.3**
PBDV				A	A	07 48 45.6	
	11nm,0.4s						
ETOB	**Tobarra**	**2.77**	**56**	Pn	**Pn**	**07 47 48.4**	**-0.5**
ETOB				Pg	**Pg**	**07 47 56.5**	**-0.5**
ETOB				Sg	**Sb**	**07 48 29.3**	**+1.2**
PBEJ	**Beja**	**2.82**	**289**	*e*Sn	**Sn**	**07 48 21.2**	**-2.6**
PBEJ				*e*Sg	**Sg**	**07 48 34.7**	**+0.2**
PCVE	**Castro Verde**	**2.87**	**281**	*e*Pn	**Pn**	**07 47 50.5**	**+0.5**
PCVE	**Castro Verde**	**2.87**	**281**	*e*Pg	**Pg**	**07 47 58.4**	**-0.3**
PCVE				*e*Sn	**Sn**	**07 48 23.9**	**-1.0**
PCVE				*e*Sg	**Sg**	**07 48 34.1**	**-1.8**
PCVE				A	A	07 48 42.1	
	8.2nm,0.4s						
PESTR	**Estremoz**	**3.00**	**306**	*e*Pg	**Pb**	**07 47 58.6**	**+1.0**
PESTR				*e*Sn	**Sn**	**07 48 29.9**	**+1.8**
PESTR				*e*Sg	**Sg**	**07 48 41.4**	**+1.4**
PESTR				A	A	07 48 50.0	
	9.9nm,0.6s						
EVO	**Evora**	**3.12**	**298**	*e*Pn	**Pn**	**07 47 53.5**	**0.0**
EVO	**Evora**	**3.12**	**298**	*e*Pg	**Pg**	**07 48 03.4**	**-0.1**
EVO				*e*Sn	**Sn**	**07 48 31.0**	**0.0**
EVO				*e*Sg	**Sg**	**07 48 45.2**	**+1.3**
EPLA	**Plasencia**	**3.18**	**337**	Pn	**Pn**	**07 47 55.4**	**+1.0**
EPLA				Pg	**Pg**	**07 48 04.6**	**-0.1**
EPLA				Sn	**Sn**	**07 48 30.2**	**-2.4**
EPLA				Sg	**Sg**	**07 48 45.9**	**0.0**
EPLA				*i* Vmb_Lg		07 49 25.7	
PMRV	**Marv??o**	**3.23**	**316**	*e*Pn	**Pn**	**07 47 56.1**	**+1.0**
PMRV	**Marv??o**	**3.23**	**316**	*e*Pg	**Pg**	**07 48 04.5**	**-1.2**
PMRV				*e*Sn	**Sn**	**07 48 33.1**	**-0.8**
PMRV				*e*Sg	**Sg**	**07 48 47.5**	**-0.1**
PMRV				A	A	07 48 50.5	
	7.0nm,0.4s						
MORF	**Marmelete**	**3.32**	**274**	*e*Pn	**Pn**	**07 47 58.1**	**+1.7**
MORF	**Marmelete**	**3.32**	**274**	*e*Pg	**Pg**	**07 48 07.7**	**+0.2**
MORF				*e*Sn	**Sn**	**07 48 36.3**	**+0.1**
MORF				A	A	07 48 37.5	
	6.5nm,0.6s						
MORF				*e*Sg	**Sg**	**07 48 50.0**	**-0.5**
PNCL	**Nicolau / Gran**	**3.35**	**288**	*e*Pn	**Pn**	**07 47 56.6**	**-0.1**
PNCL	**Nicolau / Gran**	**3.35**	**288**	*e*Pg	**Pg**	**07 48 07.2**	**-0.7**
PNCL				*e*Sn	**Sn**	**07 48 36.0**	**-0.7**
PNCL				*e*Sg	**Sg**	**07 48 49.5**	**-1.8**
PNCL				A	A	07 48 57.6	
	4.5nm,0.2s						
PTEO	**Sao Teotonio**	**3.40**	**278**	*e*Sn	**Sn**	**07 48 37.3**	**-0.6**
PFVI	**Vila Bisbo**	**3.46**	**271**	*e*Sn	**Sn**	**07 48 37.9**	**-1.7**
PMTG	**Montargil**	**3.52**	**304**	*e*Pn	**Pn**	**07 47 59.8**	**+0.8**
PMTG				*e*Sn	**Sn**	**07 48 39.7**	**-1.3**
PMTG				*e*Sg	**Sg**	**07 48 56.6**	**-0.2**
PMTG				A	A	07 49 04.5	
	6.6nm,0.3s						
PCBR	**Castelo Branco**	**3.57**	**320**	*e*Pn	**Pn**	**07 48 00.7**	**+0.9**
PCBR				*e*Sg	**Sg**	**07 48 57.5**	**-1.1**
PCBR				A	A	07 49 07.2	
	6.0nm,0.4s						
MTE	**Manteigas**	**4.04**	**325**	*e*Sg	**Sg**	**07 49 11.3**	**-2.2**
PSBE	**So Bento**	**4.13**	**306**	*e*Pn	**Pn**	**07 48 08.3**	**+0.8**
PSBE				*e*Sn	**Sn**	**07 48 54.9**	**-1.2**
PSBE				*e*Sg	**Sg**	**07 49 15.9**	**-0.6**
PSBE				A	A	07 49 24.1	
	8.7nm,0.5s						
PCAS	**Casmilo, Conde**	**4.28**	**314**	*e*Pn	**Pn**	**07 48 10.9**	**+1.4**
PCAS				*e*Sn	**Sn**	**07 48 58.2**	**-1.6**
PCAS				*e*Sg	**Sg**	**07 49 20.0**	**-1.3**
PCAS				A	A	07 49 24.8	
	7.2nm,0.6s						
PVIS	**Viseu**	**4.45**	**324**	*e*Pn	**Pn**	**07 48 12.7**	**+0.8**
PVIS				*e*Sg	**Sg**	**07 49 26.0**	**-0.7**
MVO	**Moncorvo**	**4.48**	**335**	*e*Pn	**Pn**	**07 48 12.9**	**+0.6**
MVO				*e*Sn	**Sn**	**07 49 02.3**	**-2.5**
MVO				*e*Sg	**Sg**	**07 49 25.3**	**-2.3**
MVO				A	A	07 49 27.9	
	6.4nm,0.6s						
PVRL	**Vila Real**	**4.83**	**330**	*e*Sn	**Sn**	**07 49 11.3**	**-2.1**
PVRL				*e*Sg	**Sg**	**07 49 37.3**	**-1.7**

*PRE **08** 07:51:19.2±1.0, 26°.42S×27°.55E, h2km, ML2.6*

*EAF **08** 07:51:23.7±0.8, 26°.36S×27°.29E, h10km, MD3.6*

*BUL **08** 07:51:23.7±0.8, 26°.36S×27°.29E, h10km, MD3.8*

ISC 08 07:51:20.0±1.3**, 26°.39S**±0°.03×**27°.48E**±0°.03**, h5**km±10km**, n22,** σ**2s04**/44**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**191**	*e*P	**Pg**	**07 51 29.4**	**-1.1**
PRYS				*e*S	**Sg**	**07 51 37.5**	**0.0**
PRYS				IAML		07 51 41.9	
	comp=Z,162nm,0.7s						
KSR	**Koster**	**0.75**	**316**	*e*P	**Pg**	**07 51 35.6**	**+1.2**
KSR				*e*S	**Sg**	**07 51 45.6**	**+1.5**
KSR				IAML		07 51 53.5	
	comp=Z,402nm,0.2s						
SLR	**Silverton**	**0.98**	**48**	*e*P	**Pg**	**07 51 37.2**	**-1.6**
SLR				*e*S	**Sg**	**07 51 50.1**	**-1.4**
SLR				IAML		07 51 55.1	
	comp=Z,77nm,0.5s						
SNKL	**Senekal, Frees**	**1.89**	**172**	*e*P	**Pn**	**07 51 53.3**	**+0.1**
SNKL				*e*S	**Sn**	**07 52 17.2**	**-0.4**
SNKL				IAML		07 52 19.1	
	comp=Z,151nm,0.6s						
SWZ	**Schweizer**	**2.07**	**247**	*e*P	**Pn**	**07 51 56.7**	**+1.1**
SWZ				*e*S	**Sb**	**07 52 23.4**	**-1.0**
SWZ				IAML		07 52 26.8	
	comp=Z,81nm,0.6s						
LBTB	**Lobatse**	**2.18**	**309**	*e*P	**Pn**	**07 51 58.6**	**+1.5**
LBTB				*e*S	**Sb**	**07 52 27.2**	**-0.2**
LBTB				IAML		07 52 31.0	
	comp=Z,77nm,0.3s						
LBTB	**Lobatse**	**2.18**	**309**	*i* P	**Pn**	**07 51 57.6**	**+0.5**
LBTB				*i* S	**Sn**	**07 52 23.0**	**-1.5**
LBTB	**Lobatse**	**2.18**	**309**	*i* P	**Pn**	**07 51 57.6**	**+0.5**
LBTB				*i* S	**Sn**	**07 52 23.0**	**-1.5**
NWCL	**Newcastle**	**2.54**	**122**	*e*P	**Pn**	**07 52 01.2**	**-0.8**
NWCL				*e*S	**Sn**	**07 52 32.5**	**-0.8**
NWCL				IAML		07 52 39.3	
	comp=Z,40nm,1.5s						
BOSA	**Boshof**	**2.96**	**221**	*e*P	**Pn**	**07 52 08.4**	**+0.5**
BOSA				*e*S	**Sn**	**07 52 44.0**	**+0.1**
BOSA				IAML		07 53 03.4	
	comp=Z,22nm,3.1s						
BOSA	**Boshof**	**2.96**	**221**	*i* P	**Pn**	**07 52 08.7**	**+0.9**
BOSA				*i* S	**Sn**	**07 52 43.5**	**-0.4**
BOSA	**Boshof**	**2.96**	**221**	*i* P	**Pn**	**07 52 08.7**	**+0.9**
BOSA				*i* S	**Sn**	**07 52 43.5**	**-0.4**
POGA	**Pongola**	**3.90**	**105**	*e*P	**Pn**	**07 52 19.6**	**-1.0**
POGA				*e*S	**Sn**	**07 53 04.8**	**-2.0**
POGA				IAML		07 53 18.3	
	comp=Z,20nm,0.4s						
CNG	**Changalane**	**4.23**	**90**	*e*P	**Pn**	**07 52 29.6**	**+4.5**
CNG				*e*S	**Sn**	**07 53 18.9**	**+4.0**
CNG	**Changalane**	**4.23**	**90**	*e*P	**Pn**	**07 52 29.6**	**+4.5**
CNG				*e*S	**Sn**	**07 53 18.9**	**+4.0**
MSNA	**Messina**	**4.65**	**30**	*e*P	**Pn**	**07 52 33.8**	**+2.8**
MSNA				*e*S	**Sn**	**07 53 25.9**	**+0.5**
MSNA	**Messina**	**4.65**	**30**	*e*P	**Pn**	**07 52 33.8**	**+2.8**
MSNA				*e*S	**Sn**	**07 53 25.9**	**+0.5**
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**07 52 49.9**	**+2.1**
UPI				*e*S	**Sn**	**07 53 54.1**	**-1.4**
UPI				IAML		07 53 55.9	
	comp=Z,7.6nm,3.0s						
MATP	**Matopo**	**6.01**	**9**	*e*P	**Pn**	**07 52 51.5**	**+1.7**
MATP				*e*S	**Sn**	**07 53 56.5**	**-2.7**
MATP	**Matopo**	**6.01**	**9**	*e*P	**Pn**	**07 52 51.5**	**+1.7**
MATP				*e*S	**Sn**	**07 53 56.5**	**-2.7**
BLWY	**Bulawayo**	**6.31**	**10**	*e*P	**Pn**	**07 52 55.7**	**+1.8**
BLWY				*e*S	**Sn**	**07 54 03.5**	**-3.0**
BLWY	**Bulawayo**	**6.31**	**10**	*e*P	**Pn**	**07 52 55.7**	**+1.8**
BLWY				*e*S	**Sn**	**07 54 03.5**	**-3.0**

*IDC **08** 08:18:24.9±2.4, 6°.49S×130°.49E, h110km±25km, mb3.6/2, mb1 4.0/7, mb1mx3.5/37, mbtmp4.3/7, Error ellipse: s-maj=43.1km s-min=20.3km az=93.0*

*NEIC **08** 08:18:27.3±1.7, 6°.38S±0°.06×130°.4E±0°.1, h140km±8km, mb4.4/18, Error ellipse: s-maj=14.7km s-min=8.7km az=99.0*

ISC 08 08:18:27.2±0.5**, 6°.40S**±0°.05×**130°.46E**±0°.09**, h150**km**, n36,** σ**2s16**/40**, mb4.4**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.78**	**152**	Pn	**Pn**	**08 18 58.9**	**-0.9**
SAUI				Sn	**Sn**	**08 19 24.6**	**-0.3**
FAKI	**Fak Fak**	**3.89**	**27**		**Pn**	**08 19 25.0**	**-1.1**
FAKI				Sn	**Sn**	**08 20 09.9**	**-2.0**
SIJI	**Sorong**	**5.55**	**8**	P	**Pn**	**08 19 46.1**	**-1.9**
	7.8nm,0.3s,baz=77,slow=3.7,SNR=35						
SIJI				S	**Sn**	**08 20 45.2**	**-6.0**
	6.1nm,0.3s,baz=146,slow=23,SNR=10						
BATI	**Baumata**	**7.71**	**240**	P	**Pn**	**08 20 15.7**	**-1.2**
	15nm,0.3s,baz=89,slow=7.1,SNR=5.0						
KNRA	**Kununurra**	**9.37**	**190**		**Pn**	**08 20 36.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**12.54**	**202**	P	**Pn**	**08 21 16.7**	**-3.9**
	2.8nm,0.3s,baz=31,slow=12,SNR=46						
FITZ				S	Sn	08 23 26.1	-13
	1.2nm,0.3s,baz=180,slow=16,SNR=3.8						
FITZ	**Fitzroy Crossi**	**12.54**	**202**		**Pn**	**08 21 17.7**	**-2.8**
WRA	**Warramunga Arr**	**13.98**	**165**	P	**Pn**	**08 21 36.4**	**-2.5**
	1.3nm,0.3s,baz=334,slow=13,SNR=28						
WRA				S	Sn	08 24 00.9	-13
	1.8nm,0.3s,baz=347,slow=22,SNR=8.2						
COEN	**Coen**	**14.59**	**122**	P	**P**	**08 21 49.7**	**+0.8**
AS31	**Alice Springs**	**17.48**	**169**	P	**Pn**	**08 22 22.0**	**0.0**
ASAR	**Alice Springs**	**17.48**	**169**	P	**P**	**08 22 21.8**	**+0.9**
	1.1nm,0.3s,baz=345,slow=9.8,SNR=81						
ASAR				S	**S**	**08 25 28.1**	**-7.2**
	0.6nm,0.3s,baz=356,slow=27,SNR=6.1						
ASAR	**Alice Springs**	**17.48**	**169**	P	**Pn**	**08 22 22.6**	**+0.6**
PSA00	**Pilbara Seismi**	**18.25**	**213**	P	**P**	**08 22 29.0**	**-0.2**
PSA00				IAmb	IAmb	08 22 36.9	
	comp=Z,24nm,1.5s						
FORT	**Forrest**	**24.36**	**185**	P	**P**	**08 23 31.6**	**+0.3**
FORT				IAmb	IAmb	08 23 58.6	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**26.79**	**169**	P	**P**	**08 23 54.8**	**+1.5**
BBOO				IAmb	IAmb	08 24 05.0	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**27.40**	**159**	P	**P**	**08 24 00.6**	**+1.9**
MNAI	**Manna**	**27.46**	**273**	P	**P**	**08 23 58.6**	**-0.9**
ARMA	**Armidale**	**31.09**	**143**	P	**P**	**08 24 31.8**	**+0.2**
ARMA				IAmb	IAmb	08 24 40.8	
	comp=Z,16nm,1.5s						
TOO	**Toolangi**	**33.91**	**158**	P	**P**	**08 24 56.2**	**+0.3**
TOO				IAmb	IAmb	08 25 00.3	
	comp=Z,36nm,1.5s						
LHI	**Lord Howe Isla**	**36.60**	**137**	P	**P**	**08 25 20.4**	**+1.3**
JHJ2	**Mitsune**	**40.29**	**12**	P	**P**	**08 25 50.2**	**+0.5**
KSAR	**Wonju Array Be**	**43.68**	**357**	P	**P**	**08 26 18.4**	**+1.3**
USA0B	**Ussuriysk Arra**	**50.38**	**1**	P	**P**	**08 27 10.9**	**+1.8**
USA0B				IAmb	IAmb	08 27 15.9	
	comp=Z,6.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.38**	**1**	P	**P**	**08 27 09.4**	**+0.4**
SONM	**Songino Array**	**58.02**	**341**	P	**P**	**08 28 07.1**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=164,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**58.02**	**341**	P	**P**	**08 28 05.0**	**+0.5**
SONM				IAmb	IAmb	08 28 14.5	
	comp=Z,2.1nm,1.5s						
MK31	**Makanchi Array**	**67.98**	**326**	P	**P**	**08 29 11.5**	**+1.4**
MK31				IAmb	IAmb	08 29 13.9	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**08 29 12.7**	**+2.6**
	comp=Z,2.0nm,0.7s,baz=123,slow=8.1,SNR=27						
MKAR	**Makanchi Array**	**67.98**	**326**	P	**P**	**08 29 11.9**	**+1.8**
ZALV	**Zalesovo Beam**	**71.25**	**333**	P	**P**	**08 29 30.2**	**+0.3**

KURK	Kurchatov	72.25	328	P	P	08 29 37.0	+1.1
VNDA	Vanda	72.98	173	P	P	08 29 40.6	+0.7
VNDA				IAmb	IAmb	08 30 08.0	
	comp=Z,5.5nm,1.4s						
ABKAR	Akbulak array	82.33	321	P	P	08 30 33.0	+0.9
QSPA	South Pole Qui	83.57	180	P	P	08 30 37.7	-0.8
KDAK	Kodiak Island	88.47	31	P	P	08 31 03.5	+1.1
KDAK				IAmb	IAmb	08 31 17.9	
	comp=Z,38nm,1.3s						
SNAA	Sanae	96.35	193	P	P	08 31 39.4	+0.8

*NEIC **08** 08:22:48.2±1.9, 4.88N±0.07×94.60E±0.08, h39km±7km, mb4.6/43, Error ellipse: s-maj=11.5km s-min=9.9km az=83.0*
*IDC **08** 08:22:49.0±0.7, 5.11N×94.88E, h51km±4km, mb3.9/14, mb1 4.1/16, mb1mx3.8/45, mbtmp4.2/16, MS3.7/18, Ms1 3.7/18, ms1mx3.4/88, Error ellipse: s-maj=22.3km s-min=12.0km az=51.0*
*DJA **08** 08:22:50.7±1.5, 5°N±5°×9°5E±1°3, h72km±35km, M4.6/8, mb4.7/4, mB4.7/2, MLv4.5/8, Mw(mB)4.0/2*
ISC 08 08:22:48.1±0.3, **4.86N**±0.05×**94.54E**±0.05, **h50km, h50km:pP-P, n117**, σ1§**48**/113, **mb4.5**/45, **MS3.7**/18, **1C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.42	81	Pn	Pn	08 23 24.7	-0.6
LHMI	Lhok Sumawe	2.42	81	P	Pn	08 23 24.5	-0.8
SNSI	Sinabang, Aceh	3.02	144	P	Pn	08 23 32.6	-0.8
SNSI				S	Sn	08 24 07.1	-1.3
KCSI	Kotacane, Aceh	3.48	112	P	Pn	08 23 38.5	-1.4
TSI	Tuntungan	4.23	108	P	Pn	08 23 49.4	-0.7
GSI	Gunungsitoli	4.65	139	Pn	Pn	08 23 55.6	-0.4
GSI	Gunungsitoli	4.65	139	P	Pn	08 23 55.5	-0.4
GSI				S	Sn	08 24 45.8	-2.9
PSI	Prapat	4.83	115	P	Pn	08 23 59.5	+1.1
	9.4nm,0.3s,baz=322,slow=16,SNR=24						
PSI				S	Sn	08 24 55.9	+2.8
	6.8nm,0.3s,baz=80,slow=20,SNR=5.6						
PSI				LR	LR	08 26 09.0	
	comp=Z,1μm,21.1s,baz=276,slow=43						
KULM	Kulim	6.10	86	Pn	Pn	08 24 15.1	-0.6
SRIT	Nakonsritamara	6.25	53	Pn	Pn	08 24 17.5	-0.2
IPM	Ipoh	6.47	93	Pn	Pn	08 24 20.1	-0.8
SISI	Saibi	7.64	143	P	Pn	08 24 36.7	-0.2
BKNI	Bangkinang	7.90	125	Pn	Pn	08 24 40.8	+0.3
DGPR	DIGLIPUR	8.42	349	*e*S	Sn	08 26 19.9	-1.3
PALK	Pallekele	13.97	281	P	Pn	08 26 07.4	+3.8
	0.7nm,0.3s,baz=203,slow=15,SNR=2.3						
PALK				S	Sn	08 28 30.0	-7.2
	2.8nm,0.3s,baz=320,slow=14,SNR=7.3						
PALK				LR	LR	08 31 27.5	
	comp=Z,231nm,19.1s,baz=201,slow=36						
PALK	Pallekele	13.97	281		Pn	08 26 01.2	-2.4
CM31	Chiang Mai Arr	14.18	17		P	08 26 11.5	-1.0
CMAR	Chiang Mai Arr	14.18	17	P	Pn	08 26 07.5	+1.1
	1.7nm,0.3s,baz=211,slow=11,SNR=13						
CMAR				LR	LR	08 31 21.4	
	comp=Z,89nm,21.2s,baz=205,slow=37						
CMAR	Chiang Mai Arr	14.18	17	P	P	08 26 11.3	-1.2
CHTO	Chiang Mai	14.52	17	P	P	08 26 15.1	-1.2
HYBB	Hyderabad (bro	20.02	310	*e*P	P	08 27 18.3	+1.3
HYBB				*e*pP	pP	08 27 27.5	-0.6
QIZ	Qiongzhong	20.52	45	P	Pn	08 27 24.1	-0.9
QIZ				S	Sn	08 31 15.4	-0.3
QIZ				LR	LR		
	comp=N,200nm,16.5s						
QIZ				LR	LR		
	comp=E,230nm,19.7s						
QIZ				LR	LR		
	comp=Z,250nm,22.0s						
PZH	PanZhiHua	22.59	17	P	P	08 27 44.0	-0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.1s						
GYA	Guiyang	24.40	27	⇓P	P	08 28 01.9	-0.2
GYA				pP	pP	08 28 14.6	+0.2
GYA				pmax	pmax		
	comp=Z,23nm,0.8s						
H08S2	Diego Garcia H	25.27	241	T	T	08 55 18.2	
	baz=61,slow=75						
H08S3	Diego Garcia H	25.27	241	T	T	08 55 18.8	
	baz=61,slow=75						
H08S1	Diego Carcia H	25.28	241	T	T	08 55 18.9	
	baz=61,slow=75						
TOLI2	Tolitoli	26.46	97	P	P	08 28 19.6	-1.2
TOLI2				IAmb	IAmb	08 28 26.9	
	comp=Z,9.4nm,0.7s						
KAPI	Kappang	27.02	111	LR	LR	08 39 27.9	
	comp=Z,104nm,19.1s,baz=284,slow=37						
DAV	Davao City (W)	30.94	84	LR	LR	08 42 46.0	
	comp=Z,103nm,20.4s,baz=302,slow=39						
XAN	Xi'an	31.96	23	P	P	08 29 07.4	-2.1
XAN				pP	pP	08 29 16.1	-5.5
XAN				pmax	pmax		
	comp=Z,25nm,0.8s						
LZH	Lanzhou	32.23	14	*e*P	P	08 29 15.7	+3.7
LZH				pP	pP	08 29 23.3	-0.9
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				LR	LR		
	comp=N,340nm,13.5s						
LZH				LR	LR		
	comp=E,250nm,14.0s						
LZH				LR	LR		
	comp=Z,150nm,16.3s						
GIRL	Giralia	33.44	146	P	P	08 29 22.2	-0.2
GTA	Gaotai	34.72	7	*e*P	P	08 29 32.2	-1.4
GTA				pP	pP	08 29 44.8	-1.0
GTA				sP	pwP	08 29 49.3	0.0
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,5.8s						
GTA				LR	LR		
	comp=N,120nm,17.5s						
GTA				LR	LR		
	comp=E,130nm,15.6s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
NJ2	Nanjing	35.35	37	*e*P	P	08 29 40.6	+1.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PSA00	Pilbara Seismi	36.12	138	P	P	08 29 45.6	-0.1
HNS	HongShan	37.27	27	⇑P	P	08 29 55.0	-0.2
HNS				pmax	pmax		
	comp=Z,26nm,1.0s						
FITZ	Fitzroy Crossi	38.23	127	LR	LR	08 48 44.8	
	comp=Z,102nm,18.1s,baz=293,slow=41						
FITZ	Fitzroy Crossi	38.23	127	P	P	08 30 03.6	+0.1
KSH	Kashi	38.37	337	P	P	08 30 03.9	-0.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FAKI	Fak Fak	38.45	101	P	P	08 30 04.1	-1.5
HHC	Hu-ho-hao-te	38.95	21	*e*P	P	08 30 11.7	+2.2
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,6.5s						
WMQ	Urumqi	39.27	352	*e*P	P	08 30 14.9	+2.9
KNRA	Kununurra	39.55	122	P	P	08 30 13.0	-1.7
KNRA				IAmb	IAmb	08 30 24.8	
	comp=Z,19nm,0.9s						
BJT	Baijiatuau	40.07	26	P	P	08 30 18.9	+0.2
BJT				IAmb	IAmb	08 30 19.2	
	comp=Z,9.1nm,1.1s						
BJI	Beijing	40.09	26	P	P	08 30 18.7	-0.1
BJI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	Ala-Archa	41.62	338	LR	LR	08 48 49.6	
	comp=Z,86nm,20.9s,baz=110,slow=38						
AAK	Ala-Archa	41.62	338	P	P	08 30 32.9	+1.3
MK31	Makanchi Array	43.10	348	P	P	08 30 43.8	+0.4
MKAR	Makanchi Array	43.10	348	P	P	08 30 43.2	-0.2
	comp=Z,2.2nm,0.6s,baz=163,slow=8.5,SNR=17						
MKAR				pP	pP	08 30 57.4	+1.5
	comp=Z,3.8nm,0.7s,baz=167,slow=7.3,SNR=6.4						
MKAR	Makanchi Array	43.10	348	P	P	08 30 43.5	+0.1
MAKZ	Makanchi	43.18	347	P	P	08 30 44.8	+0.8
MAKZ				IAmb	IAmb	08 31 09.1	
	comp=Z,7.4nm,0.8s						
KKAR	Karatay Array	43.63	334	P	P	08 30 48.9	+1.2
JNU	Nakatsue	43.99	46	LR	LR	08 51 54.1	
	comp=Z,128nm,18.6s,baz=281,slow=40						
SONM	Songino Array	44.01	11	P	P	08 30 49.0	-1.8
	comp=Z,2.5nm,0.8s,baz=189,slow=7.9,SNR=16						
SONM				pP	pP	08 31 02.1	-1.3
	comp=Z,1.3nm,0.7s,baz=190,slow=8.5,SNR=2.9						
SONM				PcP	PcP	08 32 35.4	-0.4
	comp=Z,0.9nm,0.8s,baz=183,slow=3.8,SNR=2.3						
SONM				ScP	ScP	08 36 23.0	-0.6
	comp=Z,0.4nm,0.6s,baz=185,slow=3.6,SNR=4.1						
SONM	Songino Array	44.01	11	P	P	08 30 49.9	-1.0
KSRS	Korea Array	44.51	39	P	P	08 30 52.4	-2.5
	comp=Z,2.4nm,0.7s,baz=221,slow=9.3,SNR=7.1						
KSRS				LR	LR	08 52 41.8	
	comp=Z,38nm,18.9s,baz=195,slow=41						
WB0	Warramunga Arr	46.20	123	P	P	08 31 08.2	-0.3
WB0				IAmb	IAmb	08 31 34.5	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	46.23	124	P	P	08 31 08.1	-0.7
	comp=Z,4.4nm,0.8s,baz=301,slow=9.1,SNR=17						
WRA				pP	pP	08 31 21.3	-0.2
	comp=Z,5.1nm,0.6s,baz=302,slow=9.1,SNR=8.6						
WRA	Warramunga Arr	46.23	124	P	P	08 31 08.7	-0.1
WRAB	Tennant Creek	46.24	123	P	P	08 31 09.0	+0.2
WRAB				IAmb	IAmb	08 31 09.7	
	comp=Z,10nm,1.0s						
WB2	Warramunga Arr	46.24	124	P	P	08 31 09.0	+0.2
WB2				IAmb	IAmb	08 31 12.7	
	comp=Z,7.4nm,0.9s						
WR0	Warramunga Arr	46.41	123	P	P	08 31 10.4	+0.2
WR0				IAmb	IAmb	08 31 11.0	
	comp=Z,6.9nm,0.9s						
JMN	Monobe	46.46	47	P	P	08 31 10.6	+0.2
GEYT	Alibeck	46.72	320	P	P	08 31 13.7	+1.3
	comp=Z,4.7nm,0.7s,baz=164,slow=9.0,SNR=6.4						
GEYT	Alibeck	46.72	320	P	P	08 31 14.3	+1.9
KURBB	Kurchatov Arra	47.55	346	LR	LR	08 53 48.2	
	comp=Z,81nm,20.2s,baz=84,slow=39						
KURK	Kurchatov	47.61	346	P	P	08 31 19.6	+0.6
KURK				IAmb	IAmb	08 31 20.8	
	comp=Z,6.7nm,1.1s						
AS31	Alice Springs	47.72	128	P	P	08 31 21.4	+1.1
ASAR	Alice Springs	47.72	128	P	P	08 31 20.1	-0.3
	comp=Z,2.7nm,0.5s,baz=301,slow=7.9,SNR=14						
ASAR				pP	pP	08 31 33.9	+0.9
	comp=Z,2.9nm,0.5s,baz=301,slow=7.9,SNR=7.0						
ASAR	Alice Springs	47.72	128	P	P	08 31 21.1	+0.8
FORT	Forrest	47.77	140	P	P	08 31 19.9	-0.7
ZAA0	Zalesovo Array	49.58	352	P	P	08 31 34.0	0.0
ZAA0				IAmb	IAmb	08 31 35.0	
	comp=Z,6.3nm,0.8s						
ZALV	Zalesovo Beam	49.58	352	P	P	08 31 32.7	-1.4
	comp=Z,2.7nm,0.4s,baz=181,slow=6.3,SNR=20						
ZALV				pP	pP	08 31 46.4	-0.4
	comp=Z,2.0nm,0.5s,baz=195,slow=6.7,SNR=5.1						
ZALV	Zalesovo Beam	49.58	352	P	P	08 31 34.4	+0.4
USRK	Ussuriysk Ar.	51.13	34	LR	LR	08 55 54.9	
	comp=Z,114nm,19.3s,baz=191,slow=39						
USRK	Ussuriysk Ar.	51.13	34	P	P	08 31 46.0	-0.1
COEN	Coen	51.74	112	P	P	08 31 53.2	+2.1
COEN				IAmb	IAmb	08 31 59.9	
	comp=Z,8.0nm,1.3s						
BRVK	Borovoye	52.02	342	P	P	08 31 53.2	+0.7
ABKAR	Akbulak array	53.06	332	P	P	08 32 01.4	+1.1
GNI	Garni	56.84	316	LR	LR	08 58 21.4	
	comp=Z,43nm,20.0s,baz=148,slow=38						
KMBO	Kilima Mbogo	57.54	266	LR	LR	08 52 57.4	
	comp=Z,55nm,21.6s,baz=93,slow=31						
ARU	Arti	58.81	338	P	P	08 32 40.5	-0.7
ARU				IAmb	IAmb	08 32 59.3	
	comp=Z,6.8nm,1.3s						
MMAI	Mount Meron Ar	61.64	305	LR	LR	09 02 53.7	
	comp=Z,61nm,18.2s,baz=266,slow=39						
TOO	Toolangi	63.40	136	P	P	08 33 12.4	-0.3
MBAR	Mbarara	63.96	267	LR	LR	08 56 58.5	
	comp=Z,71nm,21.1s,baz=112,slow=32						
NRIK	Noril'sk	64.55	357	P	P	08 33 18.5	-1.2
	comp=Z,2.4nm,0.5s,baz=151,slow=6.1,SNR=10.0						
NRIK	Noril'sk	64.55	357	P	P	08 33 19.7	0.0
NRIK				IAmb	IAmb	08 33 20.2	
	comp=Z,4.4nm,0.9s						
BRTR	Keskin Array B	64.71	312	P	P	08 33 21.8	+0.3
	comp=Z,1.1nm,0.6s,baz=126,slow=6.0,SNR=2.3						
ARMA	Armidale	64.83	127	P	P	08 33 23.1	+0.7
LSZ	Lusaka	68.67	252	LR	LR	09 00 01.1	
	comp=Z,100nm,20.9s,baz=142,slow=32						
TIXI	Tiksi	70.09	11	P	P	08 33 53.3	-1.4
TIXI				IAmb	IAmb	08 34 13.1	
	comp=Z,5.2nm,1.0s						
IDI	Anoyia	70.62	306	P	P	08 33 59.8	+1.1
AKASG	Malin Array Be	70.76	322	P	P	08 33 59.3	+0.2
	comp=Z,0.6nm,0.5s,baz=92,slow=5.1,SNR=4.0						
MLR	Muntele Rosu	71.60	316	P	P	08 34 06.4	+1.8
MLR				IAmb	IAmb	08 34 16.0	
	comp=Z,4.8nm,0.9s						
BURAR	Bucovina Array	72.54	318	P	P	08 34 11.4	+1.3
BUR08	Bucovina Ar. S	72.56	318	P	P	08 34 11.9	+1.7
LBTB	Lobatse	73.18	242	P	P	08 34 15.8	+1.5
LBTB				IAmb	IAmb	08 34 45.1	
	comp=Z,6.7nm,1.1s						
BOSA	Boshof	74.35	239	P	P	08 34 24.5	+3.4
	comp=Z,1.9nm,0.6s,baz=38,slow=3.6,SNR=5.8						
BOSA	Boshof	74.35	239	P	P	08 34 24.1	+3.0
BOSA				IAmb	IAmb	08 34 39.6	
	comp=Z,12nm,1.3s						
FIA1	FINESS Array S	75.55	333	P	P	08 34 28.9	+1.7
FIA1				IAmb	IAmb	08 34 43.7	
	comp=Z,6.8nm,1.1s						
FINES	FINESS Array B	75.55	333	P	P	08 34 26.9	-0.3
	comp=Z,1.0nm,0.6s,baz=116,slow=6.3,SNR=4.5						
FINES				pP	pP	08 34 40.9	+0.2
	comp=Z,0.8nm,0.4s,baz=113,slow=8.7,SNR=3.1						
FINES	FINESS Array B	75.55	333	P	P	08 34 28.0	+0.8
MAW	Mawson	75.69	192	P	P	08 34 28.9	+1.1
ARCES	ARCESS Array B	78.22	340	P	P	08 34 42.5	+0.4
	comp=Z,2.5nm,0.8s,baz=84,slow=6.2,SNR=9.8						
ARCES				pP	pP	08 34 56.8	+1.1
	comp=Z,0.5nm,0.5s,baz=214,slow=30,SNR=2.4						
ARCES	ARCESS Array B	78.22	340	P	P	08 34 43.2	+1.1
ARCES				IAmb	IAmb	08 35 10.3	
	comp=Z,13nm,1.4s						
SUR	Sutherland	78.97	236	P	P	08 34 46.8	-0.4
SUR				IAmb	IAmb	08 35 05.7	
	comp=Z,17nm,1.3s						
VAE	Valguarnera	79.23	307	LR	LR	09 15 44.1	
	comp=Z,135nm,18.8s,baz=131,slow=40						
GERES	GERESS Array B	80.33	319	P	P	08 34 55.8	+1.6
	comp=Z,1.4nm,0.6s,baz=79,slow=6.9,SNR=16						
GERES				pP	pwP	08 35 11.7	+0.4
	comp=Z,2.0nm,0.8s,baz=84,slow=5.5,SNR=4.2						
GERES	GERESS Array B	80.33	319	P	P	08 34 56.4	+2.2
HFS	Hagfors	81.25	330	LR	LR	09 11 53.4	
	comp=Z,67nm,20.6s,baz=283,slow=36						
NB2	NORSAR Subarra	82.54	331	P	P	08 35 21.4	+16
	comp=Z,1.7nm,0.8s,baz=92,slow=5.6						
BCLA	Clavier	85.81	320	*d*P	P	08 35 22.1	-0.2
VNDA	Vanda	89.92	168	P	P	08 35 40.2	-1.2
VNDA				IAmb	IAmb	08 35 49.0	
	comp=Z,4.6nm,1.4s						
TORD	Torodi Ar. Bea	91.67	283	P	P	08 35 50.9	0.0
TORD				IAmb	IAmb	08 36 18.3	
	comp=Z,3.9nm,1.5s						
QSPA	South Pole Qui	94.78	180	P	P	08 36 05.1	+0.8
QSPA				IAmb	IAmb	08 36 32.4	
	comp=Z,4.3nm,1.4s						
SNAA	Sanae	96.91	198	P	P	08 36 13.3	-0.5

*IDC **08** 08:25:03.0±2.4, 3.56S×130.71E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.3/38, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=122.5km s-min=18.6km az=75.0*
*DJA **08** 08:25:07.3±2.5, 3°S±16°×13°1E±1°3, h58km±96km, M3.6/5, MLv3.6/5*
ISC 08 08:25:06.8±1.1, **3.46S**±0.09×**131.1E**±0.1, **h30km, n5**, σ1§**81**/7, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.31	66	P	Pb	08 25 30.2	-0.6
FAKI				S	Sb	08 25 48.0	+0.7
SWI	Sorong	2.59	5	P	Pn	08 25 46.9	+0.3
WRA	Warramunga Arr	16.70	169	Pn	Pn	08 28 56.4	-2.3
	0.2nm,0.3s,baz=348,slow=11,SNR=4.8						
ASAR	Alice Springs	20.28	172	P	P	08 29 40.7	+0.5
	3.1nm,0.5s,baz=352,slow=11,SNR=23						
ASAR				S	S	08 33 28.8	+2.6
	1.1nm,1.1s,baz=356,slow=23,SNR=3.8						
MKAR	Makanchi Array	65.88	326	P	P	08 35 49.9	+0.1
	0.4nm,0.6s,baz=118,slow=9.0,SNR=4.7						

*IDC **08** 08:25:26.2±0.6, 19.49N×92.12W, h0km, mb4.4/24, mb1 4.5/29, mb1mx4.4/46, mbtmp4.4/29, ML3.9/5, MS3.9/24, Ms1 3.9/24, ms1mx3.6/72, Error ellipse: s-maj=20.4km s-min=11.4km az=58.0*
*GCG **08** 08:25:28.9±3.4, 19.54N×92.16W, h35km, MD5.1*
*MEX **08** 08:25:29.3±0.3, 19.66N×92.17W, h35km±95km, MD4.7*
*NEIC **08** 08:25:29.3±2.3, 19.55N±0.07×92.10W±0.08, h15km±4km, mb4.7/106, Error ellipse: s-maj=11.7km s-min=8.8km az=52.0*
ISC 08 08:25:27.5±0.3, **19.59N**±0.04×**92.08W**±0.04, **h10km, n409**, σ1§**68**/406, **mb4.5**/43, **MS3.9**/20, **1C, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCIG	Sabancuy	1.04	126	*e*P	Pg	08 25 47.2	-0.4
SCIG				*i* S	Sg	08 26 01.0	-0.1
TGIG		2.96	200	*e*P	Pn	08 26 13.3	-1.4
TGIG				*e*S	Sn	08 26 45.0	-5.4
UXUV	UXUV	2.99	221	*e*P	Pn	08 26 13.1	-1.9
UXUV				*e*S	Sn	08 26 46.8	-4.2
CCIG	Comitan	3.29	181		Pn	08 26 18.9	-0.3
PETF	Flores	3.38	141		Pn	08 26 19.8	-0.6
CMIG	Matias Romero	3.64	228	Pn	Pn	08 26 21.8	-2.2
	25nm,0.3s,baz=63,slow=8.5,SNR=132						
CMIG				Sn	Sn	08 27 01.2	-5.8
	60nm,0.3s,baz=296,slow=21,SNR=26						
CMIG	Matias Romero	3.64	228	*e*P	Pn	08 26 21.6	-2.3
CMIG				*e*S	Sn	08 27 01.1	-5.9
NEUV	Arroyo Zacate	3.99	243	*e*P	Pn	08 26 26.4	-2.3
NEUV				*e*S	Sn	08 27 09.0	-6.6
HUEH	Huehuetenango	4.28	173		Pn	08 26 32.3	-0.6
PAVE	Pavencul	4.37	181	*e*P	Pn	08 26 32.6	-1.6
PAVE				*e*S	Sn	08 27 21.2	-4.0
PATR	El Naranjo	4.45	182	*e*P	Pn	08 26 33.7	-1.5
PATR				*e*S	Sn	08 27 22.8	-4.5
CHUJ	Union Juarez	4.47	180	*e*P	Pn	08 26 35.0	-0.5
CHUJ				*e*S	Sn	08 27 25.0	-2.7
MRL	Marmol	5.03	153	*e*P	Pn	08 26 42.6	-0.7
MRL				*e*S	Sg	08 28 07.6	-1.4
RTAL	Retalhuleu	5.05	176		Pn	08 26 42.7	-0.6
NBG	Las Nubes	5.24	161	*e*P	Pn	08 26 46.6	+0.4
NBG				*e*S	Sn	08 27 44.4	-2.4
FUG	Fuego 3	5.25	167	*e*P	Pn	08 26 40.1	-6.0
FUG				*e*S	Sn	08 27 44.8	-2.0
ESQI	Esquipulas	5.64	152		Pn	08 26 51.4	-0.2
MTO3	Montecristo	5.78	153		Pn	08 26 53.1	-0.4
SNET	Serv Nac Est T	6.47	155		Pn	08 27 03.6	+0.7
TLIG	Tlapa	6.48	253		Pn	08 27 03.2	+0.1
TGUH	Tegucigalpa,Un	7.17	139		Pn	08 27 14.3	+1.8
CRIN	San Cristobal	8.38	144		Pn	08 27 29.7	+0.6
MATN	Matagalpa	8.87	137		Pn	08 27 37.9	+2.0
SOR	Soroa	9.04	68	*e*P	Pn	08 27 37.9	-0.2
SOR				*e*S	Sn	08 29 14.9	-5.1
SOR				IVmB_BB		08 30 42.3	
	comp=N,5μm,3.9s						
SOR				IVmB_BB		08 30 51.1	
	comp=E,3μm,1.9s						
BOAB	BOACO BROADBAN	9.40	138	Pn	Pn	08 27 44.9	+1.9
ACON	Acoyapa	10.07	138		Pn	08 27 53.5	+1.2
FSCY	Frank Sound, G	10.28	90	Pn	Pn	08 27 55.2	+0.1
ESPN	Las Esperanzas	10.48	133	Pn	Pn	08 27 58.5	+0.6
735A	Kenedy	10.60	332		Pn	08 28 00.8	+1.2
833A	Chaparral WMA,	10.97	324	Pn	Pn	08 28 04.6	0.0
833A	Chaparral WMA,	10.97	324	P	Pn	08 28 04.5	0.0
	baz=141,SNR=37						
833A				S	Sn	08 29 58.3	-9.1
	baz=141						
441A	DeRidder	11.16	355		Pn	08 28 09.3	+2.2
LCCY	Blossom Villag	11.30	88	Pn	Pn	08 28 11.2	+2.1
JTS	Las Juntas de	11.52	142	Pn	Pn	08 28 11.8	-0.3
	comp=E,0.2nm,0.3s,baz=19,slow=14,SNR=3.0						
JTS				LR	LR	08 33 08.6	
	comp=E,478nm,20.0s,baz=28,slow=40						
JTS	Las Juntas de	11.52	142		Pn	08 28 13.4	+1.2
MGV	Manicaragua	11.59	75	*e*P	Pn	08 28 14.1	+1.1
MGV				*e*S	Sn	08 30 16.5	-6.0
MGV				IVmB_BB		08 31 06.8	
	comp=E,354nm,1.5s						
MGV				IVmB_BB		08 31 12.3	
	comp=N,701nm,1.5s						
342A	Flagon Creek P	11.74	359		Pn	08 28 17.0	+1.9
344A	Westbrook Farm	11.88	6	Pn	Pn	08 28 18.6	+1.7
346A	Big Creek Wild	11.98	11		Pn	08 28 18.4	0.0
435B	Jarrell	12.21	337		Pn	08 28 22.7	+1.2
435B	Jarrell	12.21	337	P	Pn	08 28 21.7	+0.2
	baz=155						
435B				S	Sn	08 30 28.1	-10
	baz=155						
NATX	Nacogdoches	12.34	350	Pn	Pn	08 28 23.7	+0.4
NATX	Nacogdoches	12.34	350	P	Pn	08 28 23.4	+0.1
	baz=169,SNR=11						
NATX				S	Sn	08 30 32.2	-8.8
	baz=169						
BRAL	Brewton	12.39	20		Pn	08 28 25.3	+1.3
BRAL	Brewton	12.39	20	P	Pn	08 28 25.0	+1.0
	baz=203						
BRAL				S	Sn	08 30 34.5	-7.7
	baz=203						
VBMS	Vicksburg	12.66	6		Pn	08 28 30.1	+2.5
VBMS	Vicksburg	12.66	6	P	Pn	08 28 28.4	+0.8
	baz=187						
237A	Washetta, Mont	12.81	346		Pn	08 28 30.4	+0.7
JCT	Junction City	12.90	329	Pn	Pn	08 28 31.1	0.0
JCT	Junction City	12.90	329	P	Pn	08 28 30.1	-0.9
	baz=146,SNR=14						
JCT				S	Sn	08 30 45.6	-9.2
	baz=146						
DWPF	Disney Wildern	12.91	47		Pn	08 28 30.6	-0.5
DWPF	Disney Wildern	12.91	47	P	Pn	08 28 30.2	-0.9
	baz=231						
PEZE	Perez Zeledon,	12.99	140		Pn	08 28 33.5	+1.1
143A	Socs Landing,	13.08	3		Pn	08 28 33.7	+0.3
WHTX	Lake Whitney,	13.27	340	Pn	Pn	08 28 37.0	+1.1
WHTX	Lake Whitney,	13.27	340	P	Pn	08 28 36.2	+0.2
	baz=158,SNR=45						
WHTX				S	Sn	08 30 54.0	-10
	baz=158						
146A	Union	13.28	11		Pn	08 28 36.9	+0.8
DRK0	Durika	13.35	139		Pn	08 28 37.5	+0.2
250A	Grady	13.40	22		Pn	08 28 39.8	+2.1
352A	Blakely	13.48	27		Pn	08 28 39.7	+0.8
Z41A	Richland Creek	13.63	357		Pn	08 28 42.3	+1.4
Z41A	Richland Creek	13.63	357	P	Pn	08 28 41.8	+0.9
	baz=177,SNR=38						
Z38A	Mt. Pleasant	13.86	350	Pn	Pn	08 28 44.2	+0.2
Z47A	Carrollton	14.02	14	Pn	Pn	08 28 46.2	0.0
TIGA	Tifton	14.06	31		Pn	08 28 49.1	+2.3
TIGA	Tifton	14.06	31	P	Pn	08 28 46.8	0.0
	baz=215						
WLAR	White Oak Lake	14.07	356	Pn	Pn	08 28 49.4	+2.4
LRAL	Lakeview Retre	14.14	18		Pn	08 28 49.6	+1.7
LRAL	Lakeview Retre	14.14	18	P	Pn	08 28 48.0	+0.1
	baz=200,SNR=14						
LRAL				S	Sn	08 31 17.1	-7.8
	baz=200						
LMGC	Las Mercedes	14.19	86	*e*P	Pn	08 28 48.7	+0.1
LMGC				*e*S	Sn	08 31 19.1	-7.1
LMGC				IVmB_BB		08 31 29.1	
	comp=E,465nm,0.9s						
LMGC				IVmB_BB		08 31 37.0	
	comp=N,416nm,1.4s						
CCAR	Cane Creek	14.28	1		Pn	08 28 51.1	+1.4
TX31	Lajitas Ar. Si	14.33	315		Pn	08 28 52.4	+1.8
TX32	Lajitas Array	14.33	315		Pn	08 28 51.5	+1.0
TXAR	Lajitas Array	14.33	315	Pn	Pn	08 28 51.5	+0.9
	comp=N,0.4nm,0.3s,baz=133,slow=13,SNR=18						
TXAR				Sn	Sn	08 31 23.5	-6.1
	comp=N,0.3nm,0.3s,baz=154,slow=29,SNR=2.8						
TXAR				LR	LR	08 35 26.9	
	comp=N,273nm,20.4s,baz=118,slow=42						
TXAR	Lajitas Array	14.33	315	Pn	Pn	08 28 52.3	+1.8
Y45A	Yeager Farm, C	14.40	9		Pn	08 28 52.0	+0.6
Z35A	Perchaven, San	14.45	342	Pn	Pn	08 28 52.5	+0.4
152A	Waverly Hall	14.60	25		Pn	08 28 55.5	+1.3
ABTX	Abilene, Hawle	14.65	334	Pn	Pn	08 28 55.0	+0.1
ABTX	Abilene, Hawle	14.65	334	P	Pn	08 28 54.7	-0.1

baz=151,SNR=33
ABTX S Sn 08 31 26.5 -11
baz=151
X40A Basin Creek Fa 14.86 358 P Pn 08 28 57.1 -0.6
baz=177,SNR=15
MIAR Mount Ida 14.96 355 Pn 08 28 59.8 +0.7
MIAR Mount Ida 14.96 355 P Pn 08 28 59.1 +0.1
baz=175,SNR=28
Z51A Franklin 15.00 23 Pn 08 29 00.2 +0.6
255A Hazlehurst 15.01 33 Pn 08 29 01.4 +1.6
255A IAmb IAmb 08 29 26.7
comp=Z,46nm,1.1s
OXF Oxford 15.05 9 Pn 08 29 01.2 +0.9
OXF Oxford 15.05 9 P Pn 08 28 59.1 -1.1
baz=190,SNR=20
Y49A Blount Mountai 15.08 18 Pn 08 29 01.6 +0.9
Y49A IAmb IAmb 08 29 10.7
comp=Z,38nm,0.8s
HLGC Holguin 15.09 82 eP Pn 08 29 02.7 +1.9
X37A Clayton 15.23 350 Pn 08 29 04.1 +1.5
154A Montrose 15.26 30 Pn 08 29 04.2 +1.2
RCC Rio Carpintero 15.42 86 eP Pn 08 29 07.7 +2.4
X48A Hartselle 15.47 16 Pn Pn 08 29 06.1 +0.4
X48A IAmb IAmb 08 29 14.5
comp=Z,39nm,0.9s
W41B Gary Mavity, V 15.53 359 Pn 08 29 07.1 +0.5
W41B IAmb IAmb 08 29 08.6
comp=Z,56nm,1.5s
W41B Gary Mavity, V 15.53 359 P Pn 08 29 06.4 -0.1
baz=180,SNR=14
W39A Magazine 15.62 355 Pn 08 29 09.0 +1.3
W39A Magazine 15.62 355 P Pn 08 29 08.2 +0.4
baz=174,SNR=117
WHAR Wooly Hollow 15.64 359 Pn Pn 08 29 09.0 +1.0
WHAR IAmb IAmb 08 29 10.9
comp=Z,49nm,1.2s
W45A Hickory Valley 15.72 9 Pn 08 29 09.7 +0.6
W45A IAmb IAmb 08 29 39.0
comp=Z,61nm,0.8s
PLAL Pickwick Lake 15.74 12 Pn 08 29 10.5 +1.2
GOGA Godfrey 15.77 27 Pn 08 29 11.9 +2.3
GOGA IAmb IAmb 08 29 14.3
comp=Z,23nm,0.8s
GOGA Godfrey 15.77 27 P Pn 08 29 09.9 +0.3
baz=211,SNR=12
X34A Smith Ranch, M 15.80 342 Pn Pn 08 29 11.5 +1.4
Y52A Lilburn 15.91 25 Pn 08 29 13.5 +2.0
Y52A IAmb IAmb 08 29 19.4
comp=Z,47nm,1.0s
HBAR Harrisburg 15.96 4 Pn 08 29 12.0 -0.1
FPAL Fort Paine 15.96 20 Pn 08 29 14.3 +2.1
FPAL IAmb IAmb 08 29 20.1
comp=Z,38nm,1.0s
GTBY Guantanamo Bay 15.97 86 eP P 08 29 15.9 -0.1
W35A Tecumseh 16.08 346 Pn 08 29 14.6 +0.9
W35A IAmb IAmb 08 29 27.8
comp=Z,44nm,0.5s
WMOK Wichita Mounta 16.22 340 P P 08 29 19.9 +1.3
WMOK IAmb IAmb 08 29 29.1
comp=Z,35nm,0.6s
WMOK Wichita Mounta 16.22 340 P Pn 08 29 14.8 -0.8
baz=157,SNR=19
X51A Calhoun 16.24 22 P P 08 29 18.8 0.0
X51A IAmb IAmb 08 29 22.7
comp=Z,39nm,1.1s
FCAR Ozark Folk Cen 16.24 360 P Pn 08 29 17.4 +1.6
FNO Franklin 16.30 344 P 08 29 18.6 -1.0
FNO IAmb IAmb 08 29 26.1
comp=Z,34nm,0.8s
LCAR Lake Charles 16.44 3 P P 08 29 20.4 -0.7
LCAR IAmb IAmb 08 29 39.6
comp=Z,32nm,0.6s
SWET Sewanee 16.49 18 P P 08 29 21.5 -0.2
TUL1 Leonard 16.59 349 Pn 08 29 21.3 +1.1
TUL1 IAmb IAmb 08 29 26.6
comp=Z,90nm,0.9s
TUL1 Leonard 16.59 349 P Pn 08 29 19.8 -0.4
baz=168,SNR=42
W50A Signal Mountai 16.66 20 P Pn 08 29 22.8 +1.6
HHAR Hobbs 16.71 355 P P 08 29 24.0 -0.1
HHAR IAmb IAmb 08 29 29.1
comp=Z,113nm,1.3s
U40A Yellville 16.72 358 P 08 29 24.0 -0.2
U40A Yellville 16.72 358 P Pn 08 29 22.1 +0.3
baz=178,SNR=32
V48A Smith Brothers 16.75 15 P P 08 29 24.5 +0.1
V48A IAmb IAmb 08 29 28.5
comp=Z,41nm,0.8s
WVT Waverly 16.90 12 Pn 08 29 25.0 +0.9
WVT Waverly 16.90 12 P Pn 08 29 24.0 -0.1
baz=194
MNTX Cornudas Mount 16.99 318 P Pn 08 29 24.8 -0.6
baz=132,SNR=11
CPCT Cooper Cave 17.15 21 P 08 29 29.0 +0.1
NHSC New Hope 17.16 36 P 08 29 31.0 +2.0
NHSC IAmb IAmb 08 29 33.2
comp=Z,104nm,1.2s
NHSC New Hope 17.16 36 P Pn 08 29 27.6 +0.3
baz=221
PBMO Poplar Bluff 17.19 4 P P 08 29 29.0 -0.3
PBMO IAmb IAmb 08 29 49.7
comp=Z,42nm,0.9s
MSTX Muleshoe 17.20 329 P P 08 29 29.1 -0.5
MSTX IAmb IAmb 08 29 41.4
comp=Z,34nm,0.7s
MSTX Muleshoe 17.20 329 P Pn 08 29 27.8 -0.2
baz=144,SNR=22
CLTN Cedars of Leba 17.20 16 P P 08 29 29.4 -0.1
AMTX Amarillo 17.45 333 P Pn 08 29 30.9 -0.3
baz=149
UPD2 Meteti 17.49 127 eP P 08 29 33.9 +1.1
LPIG La Paz 17.51 288 LR LR 08 36 51.7
comp=Z,295nm,18.5s,baz=153,slow=39
V51A Loudon 17.53 21 P P 08 29 34.1 +1.0
TKL Tuckaleechee C 17.61 23 P P 08 29 34.3 +0.3
comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=13
TKL S Sn 08 32 42.6 -6.5
comp=Z,0.6nm,0.3s,baz=99,slow=6.7,SNR=4.9
TKL Tuckaleechee C 17.61 23 P P 08 29 34.5 +0.5
T45A Paducah 17.63 9 P P 08 29 34.4 +0.3
U49A Red Boiling Sp 17.75 17 P P 08 29 36.5 +1.0
U49A IAmb IAmb 08 29 39.5
comp=Z,34nm,0.9s
V52A Sevierville 17.83 23 P Pn 08 29 36.4 +0.6
KMSC Kings Mountain 18.18 29 P Pn 08 29 40.1 +0.1
KMSC Kings Mountain 18.18 29 P Pn 08 29 40.4 +0.4
baz=214
BIRD Birdtown, Kers 18.19 32 Pn 08 29 40.3 +0.1
SIUC Southern Illin 18.23 7 P P 08 29 41.6 +0.7
SIUC IAmb IAmb 08 29 45.2
comp=Z,65nm,0.8s
FVM French Village 18.39 4 P Pn 08 29 43.2 +0.7
CCM Cathedral Cave 18.42 2 Pn 08 29 45.1 +2.2
CCM Cathedral Cave 18.42 2 P P 08 29 42.8 -0.1
baz=182
TZTN Tazewell 18.48 22 P Pn 08 29 44.6 +1.0
TZTN IAmb IAmb 08 29 50.6
comp=Z,24nm,0.8s
TZTN Tazewell 18.48 22 P P 08 29 43.8 +0.2
baz=206
T50A Nancy 18.49 19 P Pn 08 29 45.7 +1.9
R40A Maddies Statio 18.64 360 P Pn 08 29 47.7 +2.1
R40A IAmb IAmb 08 29 51.7
comp=Z,30nm,0.9s
V55A Taylorsville 18.82 28 P Pn 08 29 48.9 +1.1
121A Cookes Peak, D 19.08 316 P P 08 29 50.4 0.0
baz=129,SNR=5.2
WCI Wyandotte Cave 19.25 14 P Pn 08 29 53.0 0.0
WCI IAmb IAmb 08 29 55.7
comp=Z,38nm,0.8s
WCI Wyandotte Cave 19.25 14 P P 08 29 52.5 +0.6
baz=197
Q44A Meyer Farm, Va 19.43 7 Pn 08 29 56.4 +1.3
Q44A IAmb IAmb 08 29 58.2
comp=Z,44nm,0.7s
U56A King 19.60 29 P Pn 08 29 57.5 +0.2
LENM Lemitar 19.65 321 P P 08 29 56.9 +0.3
KSU1 Kansas State U 19.84 350 P Pn 08 30 00.5 +0.4
baz=167,SNR=9.5
P40A Paris 19.88 0 P Pn 08 30 01.2 +0.8
P40A IAmb IAmb 08 30 02.8
comp=Z,29nm,0.8s
UREC San Jos de Ur 19.89 124 eP Pn 08 30 00.7 -0.2
ANMO Albuquerque 19.90 323 P Pn 08 30 01.2 +0.2
comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=29
ANMO LR LR 08 38 49.4
comp=Z,196nm,21.0s,baz=150,slow=40
ANMO Albuquerque 19.90 323 Pn 08 30 01.6 +0.6
ANMO Albuquerque 19.90 323 P P 08 30 00.3 +0.8
baz=137
P38A Dawn 20.01 357 Pn 08 30 01.7 -0.4
P38A IAmb IAmb 08 30 03.7
comp=Z,40nm,0.8s
CBKS Cedar Bluff 20.28 343 P Pn 08 30 05.0 -0.3
baz=159,SNR=5.8
BLA Blacksburg 20.30 28 P P 08 30 04.9 +1.3
BLA IAmb IAmb 08 30 09.8
comp=Z,39nm,0.8s
BLA Blacksburg 20.30 28 P Pn 08 30 05.2 -0.4
baz=213,SNR=12
T25A Trinidad 20.55 331 Pn 08 30 08.5 -0.1
T25A Trinidad 20.55 331 P Pn 08 30 09.0 +0.3
baz=145,SNR=61
ZARC Zaragoza, Cauc 20.58 123 P P 08 30 07.3 +0.5
ZARC Zaragoza, Cauc 20.58 123 eP P 08 30 06.4 -0.3
P48A Milroy 20.62 15 P Pn 08 30 09.2 -0.1
CBOC Ciudad Bolivar 20.74 129 eP Pn 08 30 11.2 +0.2
P49A Miami Univ. Ec 20.87 16 P P 08 30 10.7 +1.1
baz=200,SNR=15
TUC Tucson 21.02 311 P P 08 30 13.3 +1.9
TUC IAmb IAmb 08 30 15.6
comp=Z,24nm,0.9s
TUC Tucson 21.02 311 P P 08 30 13.2 +1.7
baz=123
HDIL Hopedale 21.04 6 P P 08 30 13.0 +1.6
baz=187,SNR=7.0
SFIN Lafayette 21.16 11 P P 08 30 14.6 +1.9
baz=193,SNR=17
PLMC San Jos del P 21.21 131 eP P 08 30 15.1 +1.5
KSCO Kaye Shedlock' 21.40 337 P P 08 30 16.5 +1.0
baz=152
O48B Farmland 21.44 15 P P 08 30 17.0 +1.2
baz=198,SNR=17
PTBC PUERTO BERRIO, 21.48 125 eP P 08 30 18.9 +2.4
SDCO Great Sand Dun 21.55 330 P P 08 30 19.3 +2.0
baz=144,SNR=17
GUY2C Guyana, Caldas 21.65 129 eP P 08 30 23.6 +4.9
P52A Corning 21.74 21 P P 08 30 20.9 +1.9
baz=206,SNR=7.5
NORC Norcasia 21.79 128 eP P 08 30 23.6 +3.8
YOTC Yotoco, Valle 21.82 133 eP P 08 30 22.7 +2.5
N47A Urbana 21.91 13 P P 08 30 22.8 +1.9
W18A Petrified Fore 21.98 318 P P 08 30 22.9 +1.0
baz=130
ACSO Alum Creek Sta 22.01 19 P P 08 30 23.5 +1.6
baz=203,SNR=8.8
S22A 4UR Ranch, Cre 22.20 328 P P 08 30 25.4 +1.1
baz=141,SNR=25
SCIA State Center 22.27 358 P P 08 30 25.6 +0.9
SCIA IAmb IAmb 08 30 32.0
comp=Z,29nm,0.8s
SCIA State Center 22.27 358 P P 08 30 26.8 +2.0
baz=177
214A Organ Pipe Nat 22.32 308 P P 08 30 25.5 +0.1
baz=119
SPBC San Pablo de B 22.34 126 eP P 08 30 12.2 -14
BGNE Belgrade 22.36 348 P P 08 30 26.7 +1.0
baz=165
Q24A Divide 22.38 332 P P 08 30 28.1 +1.8
baz=146
PAMC Pamplona, Colo 22.40 120 eP P 08 30 29.4 +2.5
CBN Corbin Frederi 22.52 31 P P 08 30 29.1 +1.6
baz=218
O53A New Philadelph 22.61 22 P P 08 30 30.8 +2.5
O53A New Philadelph 22.61 22 P P 08 30 29.8 +1.5
baz=207,SNR=16
MCWV Mont Chateau 22.61 25 P P 08 30 30.7 +2.3
baz=211
ORTC Ortega, Tolima 22.64 131 eP P 08 30 31.3 +2.4
POPC Popayan, Colom 22.66 136 eP P 08 30 29.4 0.0
ROSC El Rosal 22.68 128 P P 08 30 30.1 +0.4
comp=Z,3.4nm,0.4s,baz=319,slow=20,SNR=1.2
ROSC LR LR 08 39 39.5
comp=Z,328nm,18.6s,baz=326,slow=38
MVCO Mesa Verde 22.68 324 P P 08 30 30.3 +0.9
baz=136,SNR=9.3
L44A Lake County Fo 22.80 8 P P 08 30 32.3 +2.0
L44A Lake County Fo 22.80 8 P P 08 30 31.7 +1.4
baz=190,SNR=6.8
OGNE Ogallala 22.93 340 P P 08 30 33.3 +1.5
baz=155
RUSC La Rusia 22.95 124 eP P 08 30 34.2 +1.5
SOTA Rioblanco 23.02 137 eP P 08 30 23.6 -10
L48A N Adams 23.21 15 P P 08 30 36.4 +1.7
CHIC Chingaza 23.25 127 eP P 08 30 38.0 +2.3
WUAZ Wupatki 23.27 317 P P 08 30 37.8 +2.4
baz=128
ISCO Idaho Springs 23.27 333 P P 08 30 37.5 +1.9
baz=146,SNR=13
JFWS Jewell Farm 23.31 3 P P 08 30 36.7 +1.2
baz=184,SNR=13
SDV Santo Domingo 23.32 114 P P 08 30 37.3 +1.2
comp=Z,6.5nm,0.9s,baz=288,slow=1.9,SNR=6.5
SDV LR LR 08 41 14.0
comp=Z,375nm,18.6s,baz=284,slow=41
SDV Santo Domingo 23.32 114 P P 08 30 36.9 +0.8
SDV Santo Domingo 23.32 114 eP P 08 30 37.0 +0.9
SMCO Snowmass 23.38 330 P P 08 30 39.2 +2.4
SMCO IAmb IAmb 08 30 40.9
comp=Z,26nm,0.9s
113A Mohawk Valley, 23.42 308 P P 08 30 39.1 +2.3
113A IAmb IAmb 08 30 41.4
comp=Z,20nm,1.2s
PV15 Paradox Valley 23.50 326 P P 08 30 39.0 +1.2
VILC Villavicencio, 23.62 128 eP P 08 30 42.8 +3.7
O56A Blue Knob Stat 23.65 26 P P 08 30 41.0 +1.9
baz=213
N54A Moraine State 23.68 23 P P 08 30 41.4 +2.1
baz=209,SNR=9.2
AAM Ann Arbor 23.74 16 P P 08 30 41.4 +1.6
baz=200,SNR=8.1
M53A WI Miller and 23.85 22 P P 08 30 42.8 +1.9
baz=207,SNR=13
FLOC Florencia 24.05 136 eP P 08 30 56.2 +13
SSPA Standing Stone 24.24 27 P P 08 30 46.3 +1.7
SSPA IAmb IAmb 08 30 48.4
comp=Z,30nm,1.1s
SSPA Standing Stone 24.24 27 P P 08 30 46.6 +2.0
baz=214
M54A Oil Creek Stat 24.27 23 P P 08 30 46.5 +1.6
baz=209
N23A Red Feather La 24.32 334 P P 08 30 46.2 +0.5
baz=147
GLA Glamis 24.34 308 P P 08 30 46.9 +1.2
GLA IAmb IAmb 08 30 49.9
comp=Z,29nm,1.1s
GLA Glamis 24.34 308 P P 08 30 46.8 +1.2
baz=118,SNR=5.2
ECSD EROS Data Cent 24.38 352 P P 08 30 46.8 +1.0
ECSD EROS Data Cent 24.38 352 P P 08 30 47.0 +1.2
baz=170,SNR=35
PDMCI Parker Dam,Lak 24.46 311 P P 08 30 47.2 +0.6
baz=121
SJG San Juan 24.57 89 LR LR 08 40 13.7
comp=Z,252nm,19.2s,baz=262,slow=36
ERPA Erie 24.69 22 P P 08 30 50.2 +1.6
baz=208,SNR=8.2
O20A White River Ci 24.74 329 P P 08 30 51.7 +2.3
baz=141,SNR=33
BC3 Big Chuckawall 25.09 309 P P 08 30 53.2 +0.7
baz=118
IRM Iron Mountain 25.10 310 P P 08 30 53.5 +1.0
baz=120,SNR=7.9
MTPU Mount Pierson 25.37 321 P P 08 30 57.4 +2.1
MTPU IAmb IAmb 08 31 01.4
comp=Z,25nm,0.9s
N59A State Game Lan 25.42 30 P P 08 30 57.3 +2.0
baz=218,SNR=6.9
SUSD Miller 25.44 348 P P 08 30 56.6 +1.1
baz=165
SPMN Marine on St. 25.57 359 P P 08 30 58.0 +1.4
baz=178,SNR=28
PFO Pinyon Flats O 25.81 308 LR LR 08 42 10.3
comp=Z,285nm,19.4s,baz=131,slow=39
GLMI Grayling 25.92 12 P P 08 31 01.1 +1.3
baz=196,SNR=9.0
K22A Casper 26.03 335 P P 08 31 02.5 +1.5
baz=148,SNR=8.4
DUG Dugway, Tooele 27.17 324 P P 08 31 12.9 +1.6
baz=133,SNR=6.0
TPNV Topopah Spring 27.31 314 P P 08 31 13.1 +0.5
baz=123
SADO Sadowa 27.32 20 P P 08 31 13.7 +1.3
comp=Z,4.5nm,0.7s,baz=266,slow=6.8,SNR=5.5
SADO LR LR 08 44 40.5
comp=Z,197nm,18.0s,baz=190,slow=42
BW06 Boulder Array 27.42 331 P P 08 31 14.6 +1.0
BW06 Boulder Array 27.42 331 P P 08 31 14.3 +0.7
baz=142,SNR=7.3
PD31 Pinedale Array 27.42 331 P P 08 31 15.1 +1.6
PDAR Pinedale Array 27.42 331 P P 08 31 14.8 +1.3
comp=Z,6.6nm,0.9s,baz=133,slow=9.7,SNR=22
PDAR Pinedale Array 27.42 331 P P 08 31 15.2 +1.6
R11A Troy Canyon, C 27.66 318 P P 08 31 16.9 +1.1
baz=126
MPMC Manual Prospec 27.71 312 P P 08 31 17.8 +1.5
baz=120
GRAC Grapevine Rang 28.09 313 P P 08 31 20.9 +1.4
baz=121
REDW Red Top Meadow 28.47 331 P P 08 31 25.3 +2.2
REDW IAmb IAmb 08 31 26.3
comp=Z,14nm,0.9s
AGMN Agassiz Nation 28.80 355 P P 08 31 27.1 +1.4
baz=173
MDND Maddock 28.85 349 P P 08 31 27.2 +1.1
baz=165
LONY Lake Ozonia 28.90 26 P P 08 31 27.9 +1.4
baz=216
ELK Elko 28.92 322 P P 08 31 28.2 +1.1
comp=Z,1.0nm,0.7s,baz=109,slow=5.8,SNR=5.2
ELK LR LR 08 44 21.6
comp=Z,174nm,19.6s,baz=144,slow=39
H17A Grant Village 29.16 332 P P 08 31 30.4 +1.3
baz=142
RLMT Red Lodge 29.19 335 P P 08 31 29.9 +0.6
baz=145
NVAR Mina Array Bea 29.48 315 P P 08 31 33.0 +1.0
comp=Z,8.2nm,1.1s,baz=130,slow=9.0,SNR=27
NVAR PcP **PcP 08 34 39.1 +1.6**
comp=Z,0.3nm,0.5s,baz=103,slow=2.9,SNR=3.7
YMR Madison River 29.54 332 P P 08 31 33.7 +1.2
YMR IAmb IAmb 08 31 36.3
comp=Z,18nm,0.9s
ATAH Atahualpa 29.78 152 P P 08 31 35.0 +0.1
comp=Z,5.7nm,0.7s,baz=318,slow=14,SNR=2.5
ATAH LR LR 08 42 43.3
comp=Z,99nm,19.2s,baz=335,slow=35
HLID Hailey 30.37 327 P P 08 31 40.3 +0.5
baz=135,SNR=8.5
MCMT McKenzie Canyo 30.52 330 P P 08 31 42.1 +1.0
BOZ Bozeman (W) 30.56 332 P P 08 31 42.4 +1.0
baz=142,SNR=9.8
ULM Lac du Bonnet 30.75 355 P P 08 31 42.4 -0.4
comp=Z,7.6nm,0.8s,baz=177,slow=9.2,SNR=9.4
LRM Limekiln Ridge 31.10 332 P P 08 31 47.5 +1.2
EGMT Eagleton 31.79 337 P P 08 31 52.8 +0.7
EGMT Eagleton 31.79 337 P P 08 31 53.3 +1.2
baz=147,SNR=10
MSO Missoula 32.53 332 P P 08 31 59.6 +0.9
baz=139,SNR=6.5
YBH Yreka Blue Hor 34.09 317 LR LR 08 49 58.4
comp=Z,252nm,18.3s,baz=156,slow=43
NEW Newport 35.05 330 P P 08 32 21.4 +1.0
baz=136,SNR=7.8
C09A Chrisman Ranch 35.27 329 P P 08 32 24.4 +2.1
FFC Flin Flon 35.88 350 P P 08 32 28.8 +1.2
FFC IAmb IAmb 08 32 29.3
comp=Z,6.7nm,1.1s
B05A Bryant 37.49 327 P P 08 32 41.5 +0.2
baz=129
SCHQ Schefferville 40.08 23 P P 08 33 03.8 +0.9
comp=Z,7.8nm,0.9s,baz=221,slow=5.8,SNR=9.1
SCHQ PcP **PcP 08 35 07.6 +0.1**
comp=Z,3.0nm,0.8s,baz=267,slow=3.6,SNR=4.5
SCHQ LR LR 08 51 03.6
comp=Z,197nm,19.2s,baz=223,slow=38
SCHQ Schefferville 40.08 23 P P 08 33 03.7 +0.8
SCHQ IAmb IAmb 08 33 05.1
comp=Z,8.9nm,0.9s
MDP Montagnes des 40.99 105 LR LR 08 50 44.9
comp=Z,106nm,21.9s,baz=258,slow=37
LPAZ La Paz 42.72 145 P P 08 33 24.9 -0.9
comp=Z,1.8nm,0.6s,baz=309,slow=8.8,SNR=9.8
LPAZ LR LR 08 52 00.4
comp=Z,96nm,21.2s,baz=339,slow=37
LPAZ La Paz 42.72 145 P P 08 33 27.1 +1.4
YKA Yellowknife Ar 45.61 346 P P 08 33 48.6 +0.9
comp=Z,4.1nm,0.4s,baz=148,slow=7.9,SNR=96
YKA PcP **PcP 08 35 26.3 +0.4**
comp=Z,0.5nm,0.8s,baz=143,slow=3.4,SNR=4.0
SIV San Ignacio 46.68 137 LR LR 08 53 46.4
comp=Z,131nm,20.0s,baz=315,slow=36
DLBC Dease Lake 47.59 334 P P 08 34 05.4 +2.1
comp=Z,12nm,0.8s,baz=126,slow=5.4,SNR=9.4
TGTN Hyland Airport 48.92 338 P P 08 34 14.4 +0.8
baz=132,SNR=5.9
P33M Teslin, Yukon 49.80 335 P P 08 34 20.5 +0.1
baz=126,SNR=5.8
MMPY Sheldon Lake, 50.70 338 P P 08 34 27.8 +0.6
baz=130,SNR=14
WHY Whitehorse 50.90 334 P P 08 34 29.4 +0.7
baz=124
FARO Faro, Yukon 51.22 337 P P 08 34 32.2 +1.2
baz=127
M31M Drury Creek, Y 51.60 336 P P 08 34 34.8 +1.0
baz=126
N31M Braeburn, Yuko 51.73 335 P P 08 34 35.3 +0.5
baz=124,SNR=5.9
HYT Haines Junctio 52.07 334 P P 08 34 37.9 +0.5
baz=122
M30M Minto, Yukon 52.73 336 P P 08 34 43.1 +0.9
baz=124,SNR=8.0
YUK4 Talbot Arm 52.81 334 P P 08 34 44.0 +0.9
baz=121
MAYO Mayo, Yukon 52.97 337 P P 08 34 45.5 +1.5
baz=125
C36M Paulatuk 53.47 346 P P 08 34 48.5 +1.0
baz=142
CTG Chitna Glacier 53.77 333 P P 08 34 51.1 +1.0
baz=118
YUK3 Moose Creek 53.78 334 P P 08 34 49.7 -0.6
baz=119,SNR=5.1
SFJD Kangerlussuaq 54.26 19 LR LR 09 00 15.1
comp=Z,175nm,18.1s,baz=228,slow=38
BVCY Beaver Creek 54.26 334 P P 08 34 54.0 +0.5
baz=119
DAWY Dawson 54.52 337 P P 08 34 56.3 +0.9
baz=122
M27K Edge Creek, AK 54.65 334 P P 08 34 56.6 +0.2
baz=118
MCARA McCarthy VSAT 54.69 333 P P 08 34 57.2 +0.6
baz=116
I29M Ogilvie Camp, 54.83 338 P P 08 34 58.4 +0.8
baz=124
EPYK Eagle Plains 54.88 340 P P 08 34 58.1 +0.2
baz=126
BCAR Beaver Creek A 54.95 335 P P 08 34 60.0 +1.5
L27K Beaver Creek, 54.96 335 P P 08 35 00.1 +1.5
L27K IAmb IAmb 08 35 01.8
comp=Z,7.7nm,0.9s
L27K Beaver Creek, 54.96 335 P P 08 34 59.2 +0.6
baz=119
INK Inuvik 55.10 343 P P 08 35 00.2 +0.8
comp=Z,3.3nm,0.7s,baz=126,slow=6.7,SNR=18
INK Inuvik 55.10 343 P P 08 34 60.0 +0.6
baz=130,SNR=6.2
RES Resolute Bay 55.14 359 LR LR 09 00 23.3
comp=Z,71nm,19.2s,baz=78,slow=38
RES Resolute Bay 55.14 359 P P 08 35 00.6 +1.0
RES IAmb IAmb 08 35 02.0
comp=Z,8.8nm,0.7s
N25K Chitina, Valde 55.46 333 P P 08 35 03.7 +1.5
baz=115
EGAK Eagle 55.55 337 P P 08 35 03.4 +0.7
baz=120
L26K Log Cabin Wild 55.56 334 P P 08 35 04.1 +1.3
baz=117
BDFB Brasilia 55.70 126 LR LR 09 01 02.8
comp=Z,210nm,18.9s,baz=314,slow=38
A36M Sachs Harbour 55.79 348 P P 08 35 04.7 +0.4
baz=142
KLU Klutina 56.00 332 P P 08 35 07.3 +1.2
baz=113
HARP HAARP 56.04 333 P P 08 35 07.1 +0.8
baz=115
SCRK Sand Creek 56.25 335 P P 08 35 08.9 +1.1
baz=117
J26L Joseph Creek 56.32 336 P P 08 35 08.8 +0.5
baz=118

M24K	Tolsona, Glenn	56.35	333	P	P	08 35 08.7	+0.1
	baz=114						
PAX	Paxson	56.41	334	P	P	08 35 09.4	+0.4
	baz=115,SNR=9.6						
RIDG	Independent Ri	56.48	335	P	P	08 35 09.4	-0.1
	baz=116,SNR=5.2						
CPUP	Villa Florida	56.75	142	LR	LR	09 00 30.0	
	comp=Z,75nm,18.6s,baz=348,slow=37						
J25K	Salcha River,	57.07	336	P	P	08 35 13.8	+0.1
	baz=116,SNR=6.1						
WAT6	Susitna Watana	57.21	333	P	P	08 35 15.5	+0.7
	baz=112						
PRP	Porcupine Dome	57.53	337	P	P	08 35 16.8	-0.1
	baz=116,SNR=6.2						
HDA	Harding Lake	57.60	335	P	P	08 35 17.5	+0.2
	baz=114						
ILAR	Eielson Array	57.73	336	P	P	08 35 19.0	+0.8
	comp=Z,4.0nm,0.8s,baz=118,slow=5.7,SNR=39						
ILAR	Eielson Array	57.73	336	P	P	08 35 19.4	+1.2
RND	Reindeer	57.99	334	P	P	08 35 21.8	+1.6
BMAR	Burnt Mountain	58.07	339	P	P	08 35 22.0	+1.4
POKR	Poker Plat Res	58.08	336	P	P	08 35 21.1	+0.4
	baz=114						
MCK	McKinley	58.14	334	P	P	08 35 22.4	+1.2
	baz=112						
COLA	College	58.15	335	P	P	08 35 22.5	+1.4
COLA	College	58.15	335	P	P	08 35 21.6	+0.5
	baz=114						
TCOL	CIGO, UAF Yank	58.15	335	P	P	08 35 22.5	+1.4
TCOL	CIGO, UAF Yank	58.15	335	P	P	08 35 21.7	+0.6
	baz=114						
H24K	Noodor Dome	58.55	336	P	P	08 35 25.1	+1.1
H24K				IAmb	IAmb	08 35 26.3	
	comp=Z,6.9nm,0.8s						
H24K	Noodor Dome	58.55	336	P	P	08 35 24.8	+0.8
	baz=114						
TRF	Thorofare Moun	58.61	333	P	P	08 35 25.4	+0.8
	baz=110,SNR=11						
RSO	Redoubt South	58.79	330	P	P	08 35 26.7	+0.8
ICESG	Greenland Ices	58.84	19	*i* P	P	08 35 22.9	-3.5
ICESG				IAmb	IAmb	08 35 28.1	
	comp=Z,4.5nm,1.1s						
I23K	Minto, Yukon-K	58.84	335	P	P	08 35 27.0	+1.0
	baz=112,SNR=10						
BPAW	Bear Paw Mtn.	59.12	334	P	P	08 35 28.5	+0.5
	baz=110						
H23K	Yukon River	59.17	336	P	P	08 35 29.6	+1.3
	baz=112						
PPLA	Purkeypile	59.24	332	P	P	08 35 29.7	+0.7
	baz=108						
MLY	Manley	59.35	335	P	P	08 35 30.4	+0.9
	baz=111						
CAST	Castle Rocks	59.36	333	P	P	08 35 30.3	+0.6
	baz=108						
O19K	Port Alsworth	59.47	329	P	P	08 35 31.1	+0.7
	baz=104						
CHUM	Lake Minchumin	59.60	334	P	P	08 35 31.6	+0.4
	baz=108						
N19K	Bonanza Creek	59.70	330	P	P	08 35 32.9	+0.8
	baz=105						
P18K	Big Mountain,	59.72	328	P	P	08 35 33.0	+0.8
	baz=103						
O18K	Koktuh Hills	59.82	329	P	P	08 35 33.9	+1.1
	baz=103						
L20K	Farewell, AK	59.87	332	P	P	08 35 34.0	+0.9
	baz=106						
I21K	Tanana	59.89	335	P	P	08 35 34.3	+1.0
	baz=110						
M19K	Big River Lodg	59.94	331	P	P	08 35 34.8	+1.1
	baz=105						
COLD	Coldfoot	59.95	338	P	P	08 35 34.8	+1.2
	baz=112						
L19K	White Mountain	60.22	331	P	P	08 35 36.2	+0.6
	baz=105						
TOLK	Toolik Lake Re	60.29	339	P	P	08 35 37.3	+1.4
	baz=114						
H21K	Melozitna Rive	60.37	335	P	P	08 35 37.1	+0.6
	baz=109						
J20K	Nowinta River	60.46	334	P	P	08 35 37.7	+0.5
	baz=107						
RCBR	Riachuelo	60.75	109	LR	LR	09 03 58.2	
	comp=Z,99nm,18.5s,baz=92,slow=38						
CHGN	Chignik	60.82	324	P	P	08 35 40.9	+1.2
	baz=98						
SUMG	Summit	60.91	16	*i* P	P	08 35 39.2	-1.3
SUMG				IAmb	IAmb	08 35 43.3	
	comp=Z,3.6nm,0.9s						
TTA	Tatalina	60.93	332	P	P	08 35 41.5	+1.0
TTA	Tatalina	60.93	332	P	P	08 35 40.6	+0.1
	baz=104,SNR=9.8						
NEEM	North Greenlan	61.26	9	*i* P	P	08 35 42.3	-0.5
NEEM				IAmb	IAmb	08 35 45.1	
	comp=Z,6.3nm,0.8s						
PLCA	Paso Flores	63.26	162	P	P	08 35 56.0	-0.2
	comp=Z,2.0nm,0.8s,baz=334,slow=8.7,SNR=6.2						
PLCA	Paso Flores	63.26	162	P	P	08 35 56.1	-0.2
PLCA				IAmb	IAmb	08 36 22.5	
	comp=Z,9.3nm,1.4s						
ANM	Nome	65.32	333	P	P	08 36 09.9	+0.4
	baz=96,SNR=5.3						
DBG	Daneborg	66.39	16	*i* P	P	08 36 16.0	-0.2
DBG				IAmb	IAmb	08 36 17.9	
	comp=Z,2.3nm,0.7s						
TNA	Tin City	66.49	334	P	P	08 36 18.3	+1.3
	baz=94						
DAG	Danmarks Havn	67.28	14	*i* P	P	08 36 20.8	-1.0
DAG				IAmb	IAmb	08 36 22.9	
	comp=Z,5.1nm,0.7s						
GAMB	Gambell	68.04	332	P	P	08 36 28.9	+2.1
	baz=90						
NOR	Nord	68.62	9	*i* P	P	08 36 27.8	-2.4
NOR				IAmb	IAmb	08 36 31.9	
	comp=Z,1.4nm,0.7s						
BILL	Bilibino	76.28	338	P	P	08 37 17.6	+1.4
ESDC	Sonseca Array	76.36	53	P	P	08 37 18.2	+1.0
	comp=Z,2.5nm,0.8s,baz=293,slow=6.4,SNR=11						
ESDC				LR	LR	09 10 49.0	
	comp=Z,81nm,18.1s,baz=314,slow=36						
NOA	NORSAR Array B	79.30	29	P	P	08 37 34.4	+1.3
	comp=Z,1.2nm,0.9s,baz=293,slow=5.8,SNR=3.0						
ARCES	ARCESS Array B	80.89	18	P	P	08 37 42.8	+1.3
	comp=Z,5.9nm,0.9s,baz=329,slow=4.5,SNR=6.7						
ARCES	ARCESS Array B	80.89	18	P	P	08 37 42.2	+0.7
ARCES				IAmb	IAmb	08 37 44.1	
	comp=Z,5.9nm,0.9s						
KOWA	Kowa	83.46	77	LR	LR	09 10 44.3	
	comp=Z,120nm,21.1s,baz=267,slow=32						
SEY	Seymchan	83.66	335	P	P	08 37 56.8	+0.7
	comp=Z,3.2nm,0.8s,baz=93,slow=5.2,SNR=18						
DAVOX	Davos/Dischmat	83.81	43	LR	LR	09 15 12.2	
	comp=Z,74nm,18.4s,baz=259,slow=36						
TIXI	Tiksi	84.81	348	P	P	08 38 01.6	-0.2
	comp=Z,1.7nm,0.6s,baz=270,slow=23,SNR=11						
TIXI	Tiksi	84.81	348	P	P	08 38 01.9	+0.1
TIXI				IAmb	IAmb	08 38 05.6	
	comp=Z,3.2nm,0.8s						
GERES	GERESS Array B	85.36	40	P	P	08 38 05.8	+0.6
	comp=Z,0.7nm,0.6s,baz=294,slow=6.7,SNR=5.2						
GERES	GERESS Array B	85.36	40	P	P	08 38 05.4	+0.3
FINES	FINESS Array B	85.50	25	P	P	08 38 06.9	+1.5
	comp=Z,2.4nm,0.9s,baz=338,slow=4.5,SNR=4.2						
MA2	Magadan	86.11	333	P	P	08 38 07.4	-1.1
	comp=Z,2.8nm,0.4s,baz=36,slow=8.4,SNR=4.3						
TORD	Torodi Ar. Bea	89.14	76	P	P	08 38 23.3	-0.6
	comp=Z,0.5nm,0.6s,baz=296,slow=5.7,SNR=2.6						
TORD	Torodi Ar. Bea	89.14	76	P	P	08 38 23.6	-0.3
MKAR	Makanchi Array	113.74	4	PP	PP	08 44 58.3	+0.5
	comp=Z,0.5nm,0.8s,baz=35,slow=5.3,SNR=4.2						
LZH	Lanzhou	122.62	345	*e*PKP	PKPdf	08 44 27.6	+3.5
LZH				pPKP	sPKPdf	08 44 31.6	+2.9
PZH	PanZhiHua	132.26	343	PKP	PKPdf	08 44 43.0	+0.3
WRA	Warramunga Arr	136.43	261	PKP	PKPdf	08 44 50.7	+0.3
	comp=Z,0.6nm,0.8s,baz=83,slow=1.6,SNR=4.1						
WRA	Warramunga Arr	136.43	261		PKPdf	08 44 49.6	-0.8
ASAR	Alice Springs	137.20	256	PKhKP	PKPpre	08 44 45.1	
	comp=Z,0.2nm,0.4s,baz=112,slow=4.0,SNR=6.4						
ASAR	Alice Springs	137.20	256		PKPdf	08 44 50.4	-1.4

NEIC 08 08:43:53.5±1.0**, 36°.50N**±0°.02×**98°.49W**±0°.03**, h5km**±7km**,**
mb_Lg2.4/26**, Error ellipse: s-maj=3.2km s-min=2.1km**
az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.43	254	Pg	Pg	08 44 01.4	-0.5
U32A				Sg	Sg	08 44 07.5	0.0
OKCFA	Oklahoma City	1.37	142	Pg	Pn	08 44 17.9	-1.5
OKCSW	OKLAHOMA CITY	1.39	142		Pn	08 44 18.2	-1.3
FNO	Franklin	1.52	144		Pn	08 44 20.5	-0.9
T35A	Sooner Cattle	1.64	75	Pg	Pn	08 44 22.6	-0.5
WMOK	Wichita Mounta	1.78	188		Pn	08 44 24.3	-0.6
WMOK				IAmb_Lg		08 44 53.3	
	comp=Z,19nm,0.8s						
W35A	Tecumseh	1.88	135		Pn	08 44 25.6	-0.7
R32A	Long Quarter,	1.93	355		Pn	08 44 27.6	+0.6
X34A	Smith Ranch, M	1.97	164		Pn	08 44 28.4	+0.9
TUL1	Leonard	2.26	104	Pn	Pn	08 44 31.5	0.0
TUL1				IAmb_Lg		08 45 07.1	
	comp=Z,18nm,1.1s						
CBKS	Cedar Bluff	2.51	337	Pn	Pn	08 44 34.3	-0.8
KSU1	Kansas State U	2.99	29	IAmb_Lg		08 45 36.2	
	comp=Z,12nm,0.8s						
AMTX	Amarillo	3.06	239	Pn	Pn	08 44 41.8	-0.8
AMTX				IAmb_Lg		08 45 37.8	
	comp=Z,18nm,0.8s						
X37A	Clayton	3.18	126	Pn	Pn	08 44 44.1	0.0
X37A				IAmb_Lg		08 45 42.9	
	comp=Z,11nm,0.8s						
Z35A	Perchaven, San	3.32	162	Pn	Pn	08 44 46.7	+0.6
HHAR	Hobbs	3.67	92	Pn	Pn	08 44 50.6	-0.4
ABTX	Abilene, Hawle	3.98	194	Pn	Pn	08 44 53.9	-1.4
W39A	Magazine	4.04	107	Pn	Pn	08 44 54.9	-1.1
W39A				IAmb_Lg		08 46 11.5	
	comp=Z,7.7nm,0.8s						
KSCO	Kaye Shedlock'	4.13	309	Pn	Pn	08 44 57.1	-0.2
KSCO				IAmb_Lg		08 46 06.8	
	comp=Z,6.2nm,0.7s						
S39A	Bolivar	4.29	72	Pn	Pn	08 44 58.9	-0.6
S39A				IAmb_Lg		08 46 10.7	
	comp=Z,6.4nm,0.8s						
MSTX	Muleshoe	4.32	235	Pn	Pn	08 45 00.0	0.0
MIAR	Mount Ida	4.45	115	Pn	Pn	08 45 01.3	-0.4
U40A	Yellville	4.54	90	Pn	Pn	08 45 02.5	-0.4
U40A				IAmb_Lg		08 46 19.0	
	comp=Z,5.6nm,0.8s						
T25A	Trinidad	4.80	279	Pn	Pn	08 45 06.3	-0.3
T25A				IAmb_Lg		08 46 26.2	
	comp=Z,12nm,0.8s						
N35A	Tabor	4.89	26	Pn	Pn	08 45 07.4	-0.2
P38A	Dawn	5.00	50	Pn	Pn	08 45 09.6	+0.5
MGMO	Mountain Grove	5.03	81	Pn	Pn	08 45 09.0	-0.6
WHAR	Wooly Hollow	5.17	102	Pn	Pn	08 45 11.6	0.0
FCAR	Ozark Folk Cen	5.18	95	Pn	Pn	08 45 12.1	+0.5
W41B	Gary Mavity, V	5.24	103	Pn	Pn	08 45 13.6	+1.1
W41B				IAmb_Lg		08 46 49.0	
	comp=Z,4.9nm,0.8s						
R40A	Maddies Statio	5.26	68	IAmb_Lg		08 46 37.6	
	comp=Z,8.1nm,1.3s						
SDCO	Great Sand Dun	5.74	285	Pn	Pn	08 45 17.8	-1.9
Q24A	Divide	5.83	297	Pn	Pn	08 45 19.4	-1.5
Q24A				IAmb_Lg		08 46 57.6	
	comp=Z,4.7nm,0.7s						
P40A	Paris	5.91	57	Pn	Pn	08 45 20.3	-1.5
P40A				IAmb_Lg		08 47 00.5	
	comp=Z,7.7nm,0.8s						
N38A	Joes South For	5.94	42	Pn	Pn	08 45 21.9	-0.2
LCAR	Lake Charles	5.94	92	Pn	Pn	08 45 21.2	-0.8
CCM	Cathedral Cave	5.98	73	Pn	Pn	08 45 21.4	-1.3
JCT	Junction City	6.11	191	Pn	Pn	08 45 24.8	+0.3
PBMO	Poplar Bluff	6.48	85	Pn	Pn	08 45 27.7	-1.9
ISCO	Idaho Springs	6.51	303	Pn	Pn	08 45 28.1	-2.1
FVM	French Village	6.60	75	Pn	Pn	08 45 31.4	+0.2
ANMO	Albuquerque	6.67	259	Pn	Pn	08 45 32.4	+0.1
S22A	4UR Ranch, Cre	6.78	283	Pn	Pn	08 45 34.0	0.0
BNM	Barren Site	7.06	253	Pn	Pn	08 45 37.8	+0.1
PHWY	Pilot Hill	7.25	314	Pn	Pn	08 45 40.2	-0.1
N23A	Red Feather La	7.30	309	Pn	Pn	08 45 38.3	-2.7
MNTX	Cornudas Mount	7.46	232	Pn	Pn	08 45 42.2	-0.8

JMA 08 09:08:30.8, 37°.53N×141°.38E, h51km±1km, M3.5, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.43	248	⇓P	Pn	09 08 41.4	0.0
JFK				S	Sn	09 08 48.6	-0.4
JMST	Minamisoumatoc	0.44	297	⇓P	Pn	09 08 41.4	0.0
JMST				S	Sn	09 08 48.8	-0.2
JMM	Marumori	0.57	306	⇓P	Pn	09 08 43.2	+0.2
JMM				S	Sn	09 08 51.8	0.0
ONAJ	Iwakimizuishiy	0.63	228	⇓P	Pn	09 08 43.7	-0.1
ONAJ				S	Sn	09 08 52.4	-0.7
JIKH	Ishinomakikobu	0.78	5	⇓P	Pn	09 08 45.6	-0.1
JIKH				S	Sn	09 08 55.8	-0.7
JFT	Otama	0.83	270	⇓P	Pn	09 08 46.9	+0.6
JFT				S	Sn	09 08 58.2	+0.6
JIO	Ouri	0.92	358	⇓P	Pn	09 08 47.5	0.0
JIO				S	Sn	09 08 59.1	-0.7
JOU	Okura	1.01	326	⇓P	Pn	09 08 48.6	-0.1
JOU				*e*S	Sn	09 09 02.7	+0.8
JYS	Shirataka	1.25	304	P	Pn	09 08 52.5	+0.6
JFY	Yanaizu	1.34	265	P	Pn	09 08 53.6	+0.5
JMK	Ichinoseki	1.43	355	P	Pn	09 08 54.3	0.0
JMK				*e*S	Sn	09 09 11.5	-0.4
JYK	Kaneyama	1.60	330	⇓P	Pn	09 08 57.2	+0.5
MAT	Matsushiro	2.72	250	P	Pn	09 09 13.2	+1.1
MAT				*e*S	Sn	09 09 46.8	+3.0

IDC 08 09:26:53.3±7.6, 36°.57N×71°.30E, h171km±67km, mb2.9/2, mb1 3.0/7, mb1mx2.7/54, mbtmp3.5/7, Error ellipse: s-maj=62.7km s-min=40.5km az=42.0
ISC 08 09:26:54.2±1.6**, 36°.7N**±0°.1×**70°.9E**±0°.2**, h188km, n9, σ1°67**/12**, 3C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK09	Karatay Array	6.41	357	⇑Pn	Pn	09 28 26.8	+0.2
	6.1nm,0.6s,baz=181,slow=13						
KK09				⇓Sn	Sn	09 29 36.6	-3.1
	7.1nm,0.5s,baz=188,slow=23						
AAK	Ala-Archa	6.53	24	P	Pn	09 28 28.2	0.0
	0.6nm,0.3s,baz=326,slow=3.5,SNR=5.7						
AAK				S	Sn	09 29 40.7	-1.8
	1.1nm,0.3s,baz=2.9,slow=20,SNR=22						
TKM2	Tokmak 2	7.16	29	⇑Pn	Pn	09 28 36.8	+0.2
	2.8nm,0.6s						
TKM2				⇑Sn	Sn	09 29 59.7	+2.0
	5.7nm,1.2s						
MKAR	Makanchi Array	13.15	36	P	Pn	09 29 53.2	-0.7
	0.0nm,0.3s,baz=214,slow=11,SNR=2.3						
BVAR	Borovoye Array	16.32	359	P	Pn	09 30 33.7	+1.0
	0.2nm,0.3s,baz=96,slow=15,SNR=3.0						
AKTO	Aktyubinsk	16.57	330	P	Pn	09 30 37.7	+2.0
	0.3nm,0.3s,baz=130,slow=11,SNR=7.7						
ZALV	Zalesovo Beam	19.75	25	P	P	09 31 10.4	+1.0
	0.3nm,0.3s,baz=217,slow=10,SNR=4.8						
WRA	Warramunga Arr	82.15	122	P	P	09 38 52.9	-1.2
	0.1nm,0.5s,baz=317,slow=5.1,SNR=1.3						
ASAR	Alice Springs	84.42	125	P	P	09 39 05.1	-0.6
	0.2nm,0.7s,baz=304,slow=5.1,SNR=4.8						

ANF 08 09:28:41.3±0.6, 35°.92N×97°.33W, h2km±5km, ML4.2/16, Error ellipse: s-maj=3.1km s-min=2.1km az=1.0
NEIC 08 09:28:42.2±1.1, 35°.929N±0°.006×97°.35W±0°.02, h9km±7km, Error ellipse: s-maj=2.2km s-min=0.9km az=78.0
TUL 08 09:28:42±1.6, 35°.92N±0°.01×97°.339W±0°.007, h6km±7km, ML3.7, mb_Lg3.4/97(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=170.0
IDC 08 09:28:42.4±1.2, 36°.06N×97°.61W, h0km, mb1 3.7/4, mb1mx3.3/48, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=18.1km s-min=13.8km az=138.0
ISC 08 09:28:42.2±1.1**, 35°.93N**±0°.04×**97°.29W**±0°.03**, h11km**±8km**, n124, σ1°08**/119**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.29	164		Pg	09 28 48.2	+0.2
OK005				Sg	Sg	09 28 52.5	+0.6
OK009	Oakdale Elemen	0.36	197		Pg	09 28 49.2	-0.3
OK009				Sg	Sg	09 28 54.3	0.0
OK001	Jones High Sch	0.37	180	Pg	Pg	09 28 49.5	-0.1
OK001				Sg	Sg	09 28 54.7	+0.2
OKCFA	Oklahoma City	0.53	194		Pg	09 28 52.1	-0.4
OKCFA				Sg	Sg	09 28 59.5	-0.1
OKCSW	OKLAHOMA CITY	0.54	193		Pg	09 28 52.3	-0.3
OKCSW				Sg	Sg	09 28 59.8	0.0
FNO	Franklin	0.68	188		Pg	09 28 54.8	-0.5
FNO				Sg	Sg	09 29 04.2	0.0
W35A	Tecumseh	0.85	156	Pg	Pg	09 28 57.9	-0.6
W35A				Sg	Sb	09 29 09.8	-0.5
T35A	Sooner Cattle	1.17	32	Pg	Pb	09 29 04.3	-0.1
TUL1	Leonard	1.22	91	Pn	Pn	09 29 04.8	-0.3
TUL1	Leonard	1.22	91	P	Pn	09 29 04.8	-0.3
	baz=272,SNR=70						
TUL1				S	Sn	09 29 22.1	+0.5
	baz=272						
X34A	Smith Ranch, M	1.40	199		Pb	09 29 07.9	-0.4
U32A	Winter Ranch,	1.46	288	Pn	Pn	09 29 08.1	-0.3
WMOK	Wichita Mounta	1.70	226		Pn	09 29 11.8	-0.1
WMOK	Wichita Mounta	1.70	226	P	Pn	09 29 12.0	+0.2
	baz=44,SNR=330						
WMOK				S	Sb	09 29 34.4	-0.5
	baz=44						
X37A	Clayton	2.06	130		Pn	09 29 17.6	+0.9
X37A				IAmb_Lg		09 29 49.8	
	comp=Z,225nm,1.0s						
Z35A	Perchaven, San	2.59	179	Pn	Pn	09 29 25.4	+1.3
Z35A				IAmb_Lg		09 30 09.8	
	comp=Z,165nm,1.2s						
R32A	Long Quarter,	2.73	336	Pn	Pn	09 29 27.4	+1.4
HHAR	Hobbs	2.74	82		Pn	09 29 27.4	+1.4
W39A	Magazine	2.95	103		Pn	09 29 30.4	+1.5
W39A				IAmb_Lg		09 30 24.9	
	comp=Z,115nm,0.8s						
W39A	Magazine	2.95	103	P	Pn	09 29 30.2	+1.2
	baz=285,SNR=72						
W39A				S	Sn	09 30 07.3	+3.0
	baz=285						
KSU1	Kansas State U	3.21	10		Pn	09 29 32.2	-0.3
KSU1	Kansas State U	3.21	10	P	Pn	09 29 33.8	+1.2
	baz=191,SNR=11						
Z38A	Mt. Pleasant	3.27	144	Pn	Pn	09 29 34.3	+1.0
Z38A				IAmb_Lg		09 30 33.1	
	comp=Z,129nm,0.9s						
MIAR	Mount Ida	3.34	113		Pn	09 29 36.0	+1.7
MIAR				IAmb_Lg		09 30 37.3	
	comp=Z,76nm,1.1s						
MIAR	Mount Ida	3.34	113	P	Pn	09 29 35.9	+1.6
	baz=295,SNR=34						
MIAR				S	Sn	09 30 16.3	+2.4
	baz=295						
CBKS	Cedar Bluff	3.48	327	Pn	Pn	09 29 37.5	+1.2
CBKS				IAmb_Lg		09 30 34.1	
	comp=Z,64nm,0.7s						
CBKS	Cedar Bluff	3.48	327	P	Pn	09 29 37.1	+0.8
	baz=146						
CBKS				S	Sn	09 30 17.9	+0.5
	baz=146						
U40A	Yellville	3.62	82		Pn	09 29 39.1	+1.0
U40A	Yellville	3.62	82	P	Pn	09 29 39.0	+0.9
	baz=265,SNR=9.1						
U40A				S	Sn	09 30 22.5	+1.7
	baz=265						
S39A	Bolivar	3.64	60		Pn	09 29 40.0	+1.6
S39A				IAmb_Lg		09 30 46.2	
	comp=Z,77nm,0.8s						
AMTX	Amarillo	3.73	255	Pn	Pn	09 29 38.8	-1.1
AMTX				IAmb_Lg		09 30 46.7	
	comp=Z,121nm,0.8s						
AMTX	Amarillo	3.73	255	P	Pn	09 29 39.9	0.0
	baz=72						
AMTX				Sb	Sb	09 30 35.3	+1.8
	baz=72						
ABTX	Abilene, Hawle	3.83	211	Pn	Pn	09 29 42.7	+1.6
ABTX	Abilene, Hawle	3.83	211	P	Pn	09 29 40.9	-0.2
	baz=29,SNR=24						
X40A	Basin Creek Fa	3.92	110		Pn	09 29 43.4	+1.1
X40A	Basin Creek Fa	3.92	110	P	Pn	09 29 43.5	+1.1
	baz=293,SNR=7.6						
WHTX	Lake Whitney,	3.93	182	Pn	Pn	09 29 41.9	-0.6
WHTX	Lake Whitney,	3.93	182	P	Pn	09 29 42.7	+0.2
	baz=1.2						
WHTX				Sb	Sb	09 30 41.2	+2.2
	baz=1.2						
WLAR	White Oak Lake	4.10	122	Pn	Pn	09 29 45.7	+0.9
237A	Washetta, Mont	4.11	162	IAmb_Lg		09 30 55.9	
	comp=Z,63nm,0.9s						
WHAR	Wooly Hollow	4.12	97		Pn	09 29 46.3	+1.2
WHAR				IAmb_Lg		09 30 57.2	
	comp=Z,75nm,0.8s						
W41B	Gary Mavity, V	4.18	99		Pn	09 29 47.2	+1.3
W41B				IAmb_Lg		09 30 56.4	
	comp=Z,67nm,0.8s						
W41B	Gary Mavity, V	4.18	99	P	Pn	09 29 47.2	+1.3
	baz=282,SNR=7.5						
FCAR	Ozark Folk Cen	4.19	89	IAmb_Lg		09 31 01.8	
	comp=Z,108nm,0.9s						
MGMO	Mountain Grove	4.22	72	Pn	Pn	09 29 46.9	+0.4
MGMO				IAmb_Lg		09 30 59.4	
	comp=Z,130nm,0.7s						
Z41A	Richland Creek	4.56	124	Pn	Pn	09 29 49.8	-1.3
Z41A	Richland Creek	4.56	124	P	Pn	09 29 51.3	+0.2
	baz=307						
Z41A				S	Sn	09 30 45.0	+0.9
	baz=307						
R40A	Maddies Statio	4.65	58		Pn	09 29 52.5	+0.1
R40A				IAmb_Lg		09 31 11.8	
	comp=Z,108nm,0.7s						
P38A	Dawn	4.74	38	Pn	Pn	09 29 54.9	+1.4
N33A	J Bar K, Exete	4.80	359	Pn	Pn	09 29 54.2	-0.3
N33A				IAmb_Lg		09 31 20.1	
	comp=Z,52nm,0.7s						
MSTX	Muleshoe	4.91	248	Pn	Pn	09 29 52.4	-3.6
MSTX	Muleshoe	4.91	248	P	Pn	09 29 55.9	-0.1
	baz=65						
CCAR	Cane Creek	4.96	112	Pn	Pn	09 29 54.7	-1.9
LCAR	Lake Charles	4.98	87	IAmb_Lg		09 31 21.0	
	comp=Z,71nm,0.7s						
N35A	Tabor	5.09	14		Pn	09 29 58.7	+0.3
435B	Jarrell	5.14	183	IAmb_Lg		09 31 29.0	
	comp=Z,62nm,0.9s						
KSCO	Kaye Shedlock'	5.24	308	IAmb_Lg		09 31 38.9	
	comp=Z,48nm,0.8s						
KSCO	Kaye Shedlock'	5.24	308	P	Pn	09 30 00.4	-0.2
	baz=125						
CCM	Cathedral Cave	5.28	65	Pn	Pn	09 30 01.0	0.0
CCM				IAmb_Lg		09 31 39.0	
	comp=Z,63nm,0.8s						
CCM	Cathedral Cave	5.28	65	P	Pn	09 30 02.2	+1.1
	baz=248						
P40A	Paris	5.49	48		Pn	09 30 04.5	+0.6
P40A				IAmb_Lg		09 31 44.2	
	comp=Z,81nm,0.7s						
BGNE	Belgrade	5.51	353	Pn	Pn	09 30 03.8	-0.4
BGNE				IAmb_Lg		09 31 45.5	
	comp=Z,61nm,0.8s						
BGNE	Belgrade	5.51	353	P	Pn	09 30 04.5	+0.4
	baz=173						
PBMO	Poplar Bluff	5.60	79	Pn	Pn	09 30 06.8	+1.4
N38A	Joes South For	5.81	32	Pn	Pn	09 30 08.7	+0.5
N38A				IAmb_Lg		09 32 03.2	
	comp=Z,80nm,0.7s						
JCT	Junction City	5.83	202	Pn	Pn	09 30 08.0	-0.6
JCT				IAmb_Lg		09 31 52.7	
	comp=Z,85nm,1.1s						
JCT	Junction City	5.83	202	P	Pn	09 30 07.9	-0.6
	baz=20						
T25A	Trinidad	5.86	284		Pn	09 30 09.0	-0.2
T25A				IAmb_Lg		09 31 53.1	
	comp=Z,65nm,0.8s						
T25A	Trinidad	5.86	284	P	Pn	09 30 08.9	-0.2
	baz=100,SNR=9.4						
T25A				S	Sn	09 31 14.4	-2.0
	baz=100						
FVM	French Village	5.87	68	IAmb_Lg		09 31 47.4	
	comp=Z,70nm,0.8s						
MET	Memphis--Engin	6.05	96	IAmb_Lg		09 32 13.1	
	comp=Z,88nm,0.8s						
OGNE	Ogallala	6.24	325	Pn	Pn	09 30 13.9	-0.3
OGNE				IAmb_Lg		09 32 09.0	
	comp=Z,68nm,0.7s						
HALT	Halls	6.45	88	IAmb_Lg		09 32 13.8	
	comp=Z,101nm,0.8s						
OXF	Oxford	6.60	100		Pn	09 30 19.3	+0.1
OXF				IAmb_Lg		09 32 18.4	
	comp=Z,40nm,0.9s						
OXF	Oxford	6.60	100	P	Pn	09 30 19.0	-0.2
	baz=285						
W45A	Hickory Valley	6.65	94	IAmb_Lg		09 32 22.2	
	comp=Z,80nm,0.8s						
Y45A	Yeager Farm, C	6.69	106	Pn	Pn	09 30 20.8	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SCIA	State Center	6.76	27	Pn	Pn	09 30 21.3	0.0
SCIA				IAmb_Lg		09 32 31.7	
	comp=Z,45nm,0.8s						
SCIA	State Center	6.76	27	P	Pn	09 30 21.5	+0.2
	baz=210						
SDCO	Great Sand Dun	6.83	288		Pn	09 30 23.8	+1.2
SDCO	Great Sand Dun	6.83	288	P	Pn	09 30 23.2	+0.7
	baz=103						
Q24A	Divide	6.95	298	Pn	Pn	09 30 22.2	-1.9
Q24A	Divide	6.95	298	P	Pn	09 30 24.1	-0.1
	baz=114						
P43A	Skaggs, Pawnee	7.18	57	Pn	Pn	09 30 27.6	+0.5
ANMO	Albuquerque	7.55	265	Pg	Pb	09 30 56.0	+2.8
	comp=Z,0.4nm,0.3s,baz=80,slow=16,SNR=12						
ANMO				Lg	Lg	09 32 35.0	
	comp=Z,1.8nm,0.3s,baz=1.3,slow=19,SNR=6.4						
K38A	Parkersburg	7.57	26	IAmb_Lg		09 32 57.0	
	comp=Z,36nm,0.7s						
ISCO	Idaho Springs	7.63	303	Pn	Pn	09 30 35.4	+1.8
ISCO	Idaho Springs	7.63	303	P	Pn	09 30 33.0	-0.6
	baz=118,SNR=5.8						
WVT	Waverly	7.67	86	IAmb_Lg		09 32 48.8	
	comp=Z,32nm,1.0s						
L40A	Anamosa	7.73	36		Pn	09 30 34.7	0.0
L40A				IAmb_Lg		09 32 53.3	
	comp=Z,28nm,0.8s						
HDIL	Hopedale	7.80	51	Pn	Pn	09 30 35.4	-0.2
HDIL	Hopedale	7.80	51	P	Pn	09 30 35.7	+0.1
	baz=236						
ECSD	EROS Data Cent	7.81	4		Pn	09 30 35.2	-0.6
ECSD				IAmb_Lg		09 32 50.7	
	comp=Z,30nm,0.8s						
ECSD	EROS Data Cent	7.81	4	P	Pn	09 30 34.6	-1.1
	baz=184						
MNTX	Cornudas Mount	7.95	240	Pn	Pn	09 30 40.2	+2.6
MNTX				IAmb_Lg		09 33 04.0	
	comp=Z,41nm,1.2s						
MNTX	Cornudas Mount	7.95	240	P	Pn	09 30 37.8	+0.2
	baz=55						
USIN	University of	7.97	72	IAmb_Lg		09 33 10.7	
	comp=Z,58nm,0.9s						
O44A	Mansfield	8.14	56	IAmb_Lg		09 33 11.8	
	comp=Z,57nm,0.8s						
PHWY	Pilot Hill	8.34	312	Pn	Pn	09 30 43.1	-0.2
N23A	Red Feather La	8.41	309	Pn	Pn	09 30 45.3	+1.2
N23A				IAmb_Lg		09 33 27.1	
	comp=Z,32nm,0.8s						
N23A	Red Feather La	8.41	309	P	Pn	09 30 44.7	+0.5
	baz=124						
L42A	Oliver, Polo	8.48	42	Pn	Pn	09 30 44.5	-0.5
L42A				IAmb_Lg		09 33 20.9	
	comp=Z,36nm,0.8s						
TX31	Lajitas Ar. Si	8.49	221	Pn	Pn	09 30 44.2	-1.0
TXAR	Lajitas Array	8.49	221	Pn	Pn	09 30 43.6	-1.6
	comp=Z,0.1nm,0.3s,baz=45,slow=12,SNR=7.5						
TXAR				Pg	Pb	09 31 14.5	+5.2
	comp=Z,1.3nm,0.3s,baz=40,slow=14,SNR=11						
TXAR				Lg	Lg	09 33 07.2	
	comp=Z,1.5nm,0.3s,baz=42,slow=28,SNR=7.9						
TX32	Lajitas Array	8.49	221	Pn	Pn	09 30 43.9	-1.3
SUSD	Miller	8.60	352	IAmb_Lg		09 33 25.2	
	comp=Z,34nm,0.7s						
I37A	Lemond, Waseca	8.61	19	IAmb_Lg		09 33 34.8	
	comp=Z,29nm,0.9s						
JFWS	Jewell Farm	8.85	36	Pn	Pn	09 30 50.4	+0.4
JFWS				IAmb_Lg		09 33 49.3	
	comp=Z,29nm,0.8s						
JFWS	Jewell Farm	8.85	36	P	Pn	09 30 49.3	-0.7
	baz=220						
LRAL	Lakeview Retre	8.97	106	P	Pn	09 30 51.5	-0.2
	baz=292						
M44A	Midewin, Midew	9.05	50	IAmb_Lg		09 33 34.2	
	comp=Z,63nm,1.0s						
I40A	Norwalk	9.46	31		Pn	09 30 58.3	0.0
L44A	Lake County Fo	9.59	47	IAmb_Lg		09 33 45.4	
	comp=Z,39nm,0.8s						
K43A	Burlington	9.69	43	IAmb_Lg		09 33 52.2	
	comp=Z,47nm,1.0s						
K22A	Casper	9.81	316	IAmb_Lg		09 34 10.4	
	comp=Z,24nm,0.8s						
SPMN	Marine on St.	9.89	19	Pn	Pn	09 31 02.9	-1.3
F33A	5 Mile Ranch,	9.93	4	IAmb_Lg		09 33 55.2	
	comp=Z,23nm,1.0s						
TKL	Tuckaleechee C	10.98	87	Pn	Pn	09 31 24.1	+4.8
	comp=Z,0.1nm,0.3s,baz=284,slow=8.3,SNR=2.1						
TKL				Lg	Lg	09 34 21.5	
	comp=Z,0.5nm,0.3s,baz=342,slow=19,SNR=2.0						
H43A	Windswept, Lux	11.21	38	Pn	Pn	09 31 21.4	-0.9
L48A	N Adams	11.67	55	Pn	Pn	09 31 27.6	-1.0
PD31	Pinedale Array	11.69	309	Pn	Pn	09 31 28.4	-0.6
PDAR	Pinedale Array	11.69	309	Pn	Pn	09 31 28.0	-1.0
	comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=6.3						
PDAR				Pg		09 32 14.1	
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=1.7						
PDAR				Lg	Lg	09 34 45.5	
	comp=Z,0.2nm,0.3s,baz=96,slow=32,SNR=2.1						
BW06	Boulder Array	11.69	309	Pn	Pn	09 31 28.1	-0.9
ULM	Lac du Bonnet	14.35	4	Pn	Pn	09 31 60.0	-5.2
	comp=Z,0.3nm,0.3s,baz=186,slow=9.2,SNR=1.8						
ULM				Lg	Lg	09 36 08.1	
	comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=3.1						

*NDI **08** 09:55:10.4±0.9, 9.°38N×93.°03E, h15km, mb4.5, mb4.4(NEIC)*

*IDC **08** 09:55:33.4±1.3, 9.°50N×93.°21E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/55, mbtmp3.8/10, ML3.4/1, MS3.6/36, Ms1 3.6/36, ms1mx3.4/90, Error ellipse: s-maj=49.0km s-min=17.6km az=59.0*

*NEIC **08** 09:55:34.8±2.6, 9.°58N±0.°08×93.°4E±0.°1, h10km±1km, mb4.4/17, Error ellipse: s-maj=22.3km s-min=10.3km az=240.0*

ISC 08 09:55:33.6±0.7**, 9.°47N**±0.°08×**93.°2E**±0.°1**, h10**km**, n67, σ1.s41**/36**, mb4.1**/16**, MS3.6**/33**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	2.21	349	Pn	Pn	09 56 10.5	+0.1
PBA	Port Blair	2.21	349	eS	Pg	09 56 15.7	-0.3
PBA				eS	P	09 56 16.8	
DGPR	DIGLIPUR	3.69	356	eS	Pg	09 56 49.6	+5.3
LHMI	Lhok Sumawe	5.64	138	Pn	Pn	09 56 55.6	-2.0
SRIT	Nakonsritamara	6.41	97	Pn	Pn	09 57 03.9	-4.3
PSI	Prapat	8.75	139	Pn	Pn	09 57 42.4	+1.9
	0.4nm,0.3s,baz=344,slow=18,SNR=1.5						
PSI				LR	LR	10 01 26.0	
	comp=Z,470nm,20.3s,baz=299,slow=40						
RPSI	Rantau Prapat	8.83	139		Pn	09 57 42.4	+0.9
CMAR	Chiang Mai Arr	10.54	31	Pn	Pn	09 58 05.5	+0.7
	baz=222,slow=14,SNR=11						
CMAR				LR	LR	10 01 57.5	
	comp=Z,304nm,18.2s,baz=215,slow=37						
CHTO	Chiang Mai	10.84	30	Pn	Pn	09 58 07.0	-2.0
PALK	Pallekele	12.53	261	LR	LR	10 03 14.9	
	comp=Z,177nm,20.5s,baz=183,slow=37						
RAGD	RAYAGADA	13.52	317	ex	Sn	10 01 11.6	-4.5
KOHI	KOHIMA	16.18	3	ex	Pn	09 59 13.0	-8.4
GOA	Goa	19.80	290	ex	P	10 00 04.2	-0.2
LEM	Lembang	21.66	138	LR	LR	10 11 13.5	
	comp=Z,145nm,18.5s,baz=240,slow=43						
KAPI	Kappang	30.15	117	LR	LR	10 13 12.7	
	comp=Z,79nm,19.9s,baz=271,slow=35						
TARG	Taragay, Kyrgy	34.87	340	P	P	10 02 24.7	-0.9
TARG				IAmb	IAmb	10 02 43.7	
	comp=Z,4.9nm,0.8s						
WSAR	Wadi Sarin	35.74	297	LR	LR	10 17 21.2	
	comp=Z,84nm,18.7s,baz=132,slow=37						
GAR	Garm	35.82	329	P	P	10 02 34.0	+0.4
BATI	Baumata	36.10	122	LR	LR	10 18 10.4	
	comp=Z,157nm,20.4s,baz=323,slow=38						
CHGR	Chuyangaron	36.17	327	P	P	10 02 38.0	+1.5
AAK	Ala-Archa	36.87	337	LR	LR	10 19 26.5	
	comp=Z,62nm,20.8s,baz=149,slow=39						
AAK	Ala-Archa	36.87	337	P	P	10 02 42.4	-0.1
AAK				IAmb	IAmb	10 02 54.3	
	comp=Z,4.0nm,1.1s						
JOW	Kunigami	37.38	58	LR	LR	10 20 15.8	
	comp=Z,91nm,18.1s,baz=21,slow=40						
MK31	Makanchi Array	38.33	348	P	P	10 02 55.3	+0.7
MKAR	Makanchi Array	38.33	348	P	P	10 02 54.9	+0.2
	comp=Z,0.6nm,0.6s,baz=170,slow=8.6,SNR=8.3						
MKAR	Makanchi Array	38.33	348	P	P	10 02 55.5	+0.9
KKAR	Karatay Array	38.91	333	P	P	10 02 58.9	-0.7
SIJI	Sorong	39.30	103	LR	LR	10 21 11.4	
	comp=Z,56nm,18.4s,baz=78,slow=39						
SONM	Songino Array	39.84	14	P	P	10 03 08.7	+1.4
	comp=Z,0.9nm,0.4s,baz=192,slow=8.4,SNR=7.3						
SONM				PcP	PcP	10 05 15.3	+2.0
	comp=Z,0.4nm,0.7s,baz=211,slow=4.7,SNR=1.5						
SONM				LR	LR	10 21 14.8	
	comp=Z,169nm,18.1s,baz=204,slow=39						
SONM	Songino Array	39.84	14	P	P	10 03 06.2	-1.1
KSRS	Korea Array	41.92	43	LR	LR	10 22 04.8	
	comp=Z,77nm,18.6s,baz=220,slow=38						
FITZ	Fitzroy Crossi	42.17	130	LR	LR	10 22 21.1	
	comp=Z,42nm,19.7s,baz=302,slow=38						
GEYT	Alibeck	42.38	318	P	P	10 03 30.1	+1.7
	comp=Z,1.2nm,0.4s,baz=195,slow=15,SNR=2.1						
GEYT				LR	LR	10 22 19.2	
	comp=Z,59nm,21.6s,baz=143,slow=38						
GEYT	Alibeck	42.38	318	P	P	10 03 27.8	-0.5
GYA0B	ALIBECK ARRAY	42.38	318	P	P	10 03 28.8	+0.5
GYA0B				IAmb	IAmb	10 03 46.1	
	comp=Z,7.6nm,0.9s						
KURBB	Kurchatov Arra	42.77	346	P	P	10 03 32.0	+0.8
	comp=Z,0.3nm,0.4s,baz=164,slow=7.6,SNR=3.6						
KURK	Kurchatov	42.84	346	P	P	10 03 32.8	+1.0
ZAA0	Zalesovo Array	44.86	353	P	P	10 03 48.9	+0.9
ZAA0				IAmb	IAmb	10 03 58.1	
	comp=Z,2.9nm,0.7s						
ZALV	Zalesovo Beam	44.86	353	P	P	10 03 48.7	+0.8
	comp=Z,0.8nm,0.5s,baz=184,slow=9.0,SNR=3.9						
ZALV				LR	LR	10 25 58.8	
	comp=Z,55nm,19.7s,baz=216,slow=41						
USA0B	Ussuriysk Arra	48.21	37	P	P	10 04 12.1	-2.3
ABKAR	Akbulak array	48.38	331	P	P	10 04 15.3	-0.3
MJAR	Matsushiro Arr	48.83	49	LR	LR	10 25 54.8	
	comp=Z,50nm,19.1s,baz=254,slow=37						
WRA	Warramunga Arr	49.97	126	P	P	10 04 28.8	+0.5
	comp=Z,0.9nm,0.8s,baz=307,slow=8.2,SNR=17						
WRA				LR	LR	10 26 58.3	
	comp=Z,91nm,18.1s,baz=302,slow=38						
WRAB	Tennant Creek	49.97	126	P	P	10 04 28.7	+0.4
WRAB				IAmb	IAmb	10 04 37.1	
	comp=Z,10nm,1.3s						
WB2	Warramunga Arr	49.98	126	P	P	10 04 28.4	0.0
WB2				IAmb	IAmb	10 04 57.2	
	comp=Z,7.5nm,1.2s						
WR0	Warramunga Arr	50.14	126	P	P	10 04 29.0	-0.6
WR0				IAmb	IAmb	10 04 50.7	
	comp=Z,13nm,1.4s						
KLR	Kul'dur	51.02	32	LR	LR	10 29 16.4	
	comp=Z,52nm,18.3s,baz=224,slow=40						
ASAR	Alice Springs	51.67	130	P	P	10 04 42.8	+1.6
	comp=Z,0.6nm,0.6s,baz=302,slow=7.2,SNR=5.8						
ARU	Arti	54.05	337	LR	LR	10 30 29.6	
	comp=Z,71nm,19.0s,baz=130,slow=39						
KMBO	Kilima Mbogo	56.66	262	LR	LR	10 28 05.6	
	comp=Z,36nm,18.4s,baz=94,slow=34						
MMAI	Mount Meron Ar	57.94	303	LR	LR	10 32 53.0	
	comp=Z,55nm,20.9s,baz=248,slow=39						
YAK	Yakutsk	58.80	19	LR	LR	10 32 38.7	
	comp=Z,123nm,18.1s,baz=266,slow=38						
CTA	Charters Tower	59.93	120	LR	LR	10 36 25.7	
	comp=Z,64nm,19.9s,baz=273,slow=41						
STKA	Stephens Creek	61.90	134	P	P	10 05 51.8	-1.8
STKA				IAmb	IAmb	10 06 11.7	
	comp=Z,2.1nm,1.5s						
MBAR	Mbarara	62.95	264	LR	LR	10 32 45.6	
	comp=Z,40nm,18.3s,baz=116,slow=35						
MA2	Magadan	65.81	28	LR	LR	10 35 43.7	
	comp=Z,25nm,19.8s,baz=192,slow=37						
TIXI	Tiksi	65.87	12	LR	LR	10 37 36.6	
	comp=Z,54nm,18.6s,baz=184,slow=38						
IDI	Anoyia	66.88	304	LR	LR	10 39 03.5	
	comp=Z,8.0nm,20.8s,baz=186,slow=39						
PETK	Petropavlovsk-	67.28	36	LR	LR	10 40 08.3	
	comp=Z,35nm,19.5s,baz=103,slow=40						
SEY	Seymchan	67.89	25	LR	LR	10 40 01.0	
	comp=Z,61nm,18.7s,baz=184,slow=39						
ARCES	ARCESS Array B	73.45	340	P	P	10 07 07.3	+1.4
	comp=Z,1.5nm,0.8s,baz=104,slow=7.7,SNR=2.3						
ARCES				LR	LR	10 41 07.4	
	comp=Z,78nm,18.8s,baz=118,slow=37						
BOSA	Boshof	75.63	237	LR	LR	10 34 53.1	
	comp=Z,58nm,20.1s,baz=66,slow=31						
SPITS	Spitsbergen Ar	78.09	348	LR	LR	10 48 48.5	
	comp=Z,56nm,18.2s,baz=164,slow=41						
RPZ	Rata Peaks	87.85	135	LR	LR	10 47 53.8	
	comp=Z,50nm,19.3s,baz=248,slow=36						
ESDC	Sonseca Array	89.46	310	LR	LR	10 53 24.8	
	comp=Z,44nm,18.2s,baz=267,slow=39						
MDT	Midelt	91.39	303	LR	LR	10 56 43.5	
	comp=Z,13nm,19.4s,baz=140,slow=40						
SFJD	Kangerlussuaq	99.35	346	LR	LR	11 04 10.9	
	comp=Z,41nm,18.1s,baz=84,slow=42						

WEL 08 10:56:59.6±0.5**, 44°S**±2°×**17°3E**±°**, h5**km±2km**, M2.4**/6**, ML2.6**/13**, MLv2.4**/6**, Error ellipse: s-maj=0.0km s-min=0.0km az=110.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.18	217	P	Pg	10 57 03.5	+0.3
MQZ				S	Sg	10 57 06.5	+0.9
OKCZ	Okains Bay	0.25	131	P	Pg	10 57 05.0	+0.6
AKCZ	Akaroa Harbour	0.32	166	P	Pg	10 57 06.6	+0.7
AKCZ				S	Sg	10 57 11.4	+1.3
AMCZ	Amberley	0.40	344	P	Pg	10 57 07.9	+0.6
AMCZ				S	Sg	10 57 13.8	+1.3
RACZ	Rakaia	0.51	251	P	Pg	10 57 10.1	+0.6
RACZ				S	Sb	10 57 17.5	-1.3
OXZ	Oxford	0.60	293	P	Pg	10 57 11.2	-0.1
OXZ				S	Sb	10 57 20.6	-0.9
GVZ	Greta Valley S	0.62	16	P	Pg	10 57 12.0	+0.5
GVZ				S	Sb	10 57 21.5	-0.4
WACZ	Wakanui South	0.80	241	P	Pb	10 57 15.6	-0.4
WACZ				S	Sb	10 57 27.4	+0.3
LTZ	Lake Taylor	0.87	333	P	Pg	10 57 16.6	+0.3
LTZ				S	Sg	10 57 27.8	+0.2
MHCZ	Mount Hutt	0.90	271	P	Pg	10 57 17.1	+0.2
ARCZ	Arundel	1.24	251	P	Pg	10 57 22.4	-1.0
KHZ	Kahutara	1.26	25	P	Pg	10 57 22.2	-1.6
RPZ	Rata Peaks	1.28	262	P	Pg	10 57 22.9	-1.3
INZ	Inchbonnie	1.30	310	P	Pn	10 57 24.1	-0.4
TMZ	Timaru	1.54	237	P	Pn	10 57 27.2	-0.6
THZ	Tophouse	1.80	2	P	Pn	10 57 30.7	-0.6
DSZ	Denniston Nort	1.96	338	P	Pn	10 57 34.0	+0.5
ODZ	Otahua Downs	2.15	226	P	Pn	10 57 34.6	-1.5
KRHZ	Kereru	4.74	36	P	Pn	10 58 11.6	-0.2

WEL 08 11:28:37.6±0.3**, 41°S**±3°×**17°6E**±°**, h19**km±3km**, M3.1**/26**, ML3.5**/26**, MLv3.1**/26**, Error ellipse: s-maj=0.0km s-min=0.0km az=124.5, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIWZ	Tintock	0.11	164	P	Pg	11 28 42.8	+1.2
TIWZ				S	Sg	11 28 46.8	+2.5
PRWZ	Pori Road	0.15	39	P	Pg	11 28 43.2	+1.2
PRWZ				S	Sg	11 28 47.2	+2.3
MRZ	Mangatainoka R	0.20	273	P	Pg	11 28 43.7	+1.0
POWZ	Post Office Ro	0.28	348	P	Pb	11 28 44.8	+0.8
BFZ	Birch Farm	0.30	92	P	Pb	11 28 45.2	+0.8
BFZ				S	Sn	11 28 51.1	-1.9
HOWZ	Holdsworth Sta	0.34	228	P	Pb	11 28 45.9	+0.8
HOWZ				S	Sb	11 28 51.7	+1.5
CPWZ	Castlepoint	0.36	132	P	Pn	11 28 47.1	-0.6
CPWZ				S	Sn	11 28 55.5	+1.1
TMWZ	Te Maipa	0.44	176	P	Pn	11 28 47.9	-1.0
TMWZ				S	Sn	11 28 55.5	-0.8
DVHZ	Dannevirke	0.44	33	P	Pb	11 28 47.2	+0.3
DVHZ				S	Sb	11 28 54.1	+0.9
ANWZ	Angora Road	0.52	66	P	Pg	11 28 49.1	+0.9
ANWZ				S	Sn	11 28 57.8	-0.5
OGWZ	Otaki Gorge	0.53	254	P	Pg	11 28 49.2	+0.9
MTW	Mount Morrison	0.55	208	P	Pn	11 28 49.6	-0.9
OHWZ	Ohakea	0.62	319	P	Pn	11 28 51.1	-0.1
TSZ	Takapari Road	0.62	8	P	Pg	11 28 50.0	+0.1
PRHZ	Porangahau	0.72	56	P	Pg	11 28 51.8	0.0
CAW	Cannon Point	0.73	233	P	Pg	11 28 52.5	+0.4
KIW	Kapiti Island	0.74	255	P	Pg	11 28 52.0	-0.1
TRWZ	Traveller	0.74	189	P	Pg	11 28 52.2	+0.1
WPHZ	Waipukurau	0.76	37	P	Pn	11 28 52.8	-0.4
PAWZ	Paruwai Farm	0.78	204	P	Pg	11 28 52.9	+0.1
PNHZ	Pukenui	0.80	20	P	Pg	11 28 53.4	+0.1
MSWZ	Moikau Station	0.87	211	P	Pb	11 28 53.7	-0.4
PLWZ	Palliser	1.00	206	P	Pb	11 28 55.4	-1.0
PXZ	Pawanui	1.00	51	P	Pb	11 28 55.6	-0.8
WEL	Wellington	1.02	233	P	Pb	11 28 56.5	-0.1
BHW	Baring Head	1.04	225	P	Pb	11 28 56.3	-0.7
KRHZ	Kereru	1.10	22	P	Pn	11 28 57.5	-0.5
WAZ	Wanganui	1.13	324	P	Pg	11 28 59.8	+0.4
KAHZ	Kahuranaki	1.18	42	P	Pn	11 28 58.3	-0.8
BHHZ	Black Hill Sta	1.19	8	P	Pn	11 28 59.2	-0.1
MOVZ	Moawhango	1.26	357	P	Pn	11 29 00.5	+0.2
TCW	Tory Channel	1.31	245	P	Pn	11 29 00.2	-0.6
MTVZ	Mangateitei	1.32	347	P	Pb	11 29 02.0	+0.3
KWHZ	Kaweka Forest	1.32	20	P	Pn	11 29 00.7	-0.3
WNVZ	Wahianoa	1.35	352	P	Pb	11 29 02.4	0.0
MCHZ	McNeill Hill	1.39	28	P	Pn	11 29 01.5	-0.4
TRVZ	Turoa	1.39	350	P	Pb	11 29 02.7	-0.3
WHVZ	Whangaehu Hut	1.40	352	P	Pb	11 29 03.4	+0.1
TUVZ	Tukino	1.41	354	P	Pb	11 29 03.4	0.0
DRZ	Dome Shelter	1.41	351	P	Pb	11 29 03.7	+0.2
FWVZ	Far West T-bar	1.43	351	P	Pb	11 29 03.6	-0.2
PKVZ	Pokaka	1.43	344	P	Pb	11 29 03.7	0.0
DUWZ	D'Urville Isla	1.47	264	P	Pn	11 29 03.0	-0.1
SNVZ	South Ngauruho	1.49	354	P	Pb	11 29 04.4	-0.3
NGZ	Ngauruhoe	1.50	353	P	Pb	11 29 04.7	-0.3
OTVZ	Oturere	1.51	355	P	Pb	11 29 04.6	-0.5
ETVZ	East Tongariro	1.54	356	P	Pn	11 29 04.7	+0.7
NNVZ	North Ngauruho	1.55	353	P	Pb	11 29 05.0	-0.7
TMVZ	Te Maari	1.56	356	P	Pn	11 29 05.0	+0.6
WTVZ	West Tongariro	1.57	353	P	Pb	11 29 05.3	-0.7
NTVZ	North Tongarir	1.57	355	P	Pn	11 29 05.4	+0.8
KRVZ	Karewarewa	1.58	354	P	Pb	11 29 05.8	-0.5
BKZ	Black Stump Fm	1.58	18	P	Pn	11 29 04.1	-0.6
TUWZ	Tuamarina	1.63	242	P	Pn	11 29 04.4	-0.8
TWVZ	Taurewa	1.63	349	P	Pn	11 29 06.2	+0.9
LREZ	Lake Rotokare	1.64	317	P	Pb	11 29 07.8	+0.6
ARHZ	Aropaoanui	1.66	33	P	Pn	11 29 05.1	-0.5
RITZ	Rihia Road	1.69	0	P	Pn	11 29 06.7	+0.6
KATZ	Kakaramea	1.70	356	P	Pb	11 29 07.9	-0.4
NMHZ	Naumai	1.74	25	P	Pn	11 29 06.6	-0.2
VRZ	Vera Road	1.76	331	P	Pb	11 29 08.4	-0.8
RATZ	Rangitukua	1.80	358	P	Pn	11 29 08.0	+0.4
BSWZ	Blackbirch Sta	1.82	234	P	Pn	11 29 06.7	-1.1
NEZ	North Egmont	1.94	316	P	Pb	11 29 12.4	0.0
DREZ	Durham Road	1.95	319	P	Pb	11 29 12.3	-0.1
NNZ	Nelson	1.95	253	P	Pb	11 29 12.1	-0.3
WATZ	Wairara	1.96	357	P	Pn	11 29 09.9	0.0
NMEZ	Namu Road	1.96	309	P	Pb	11 29 12.8	+0.1
KHEZ	Kahui Hut	1.97	314	P	Pb	11 29 12.9	+0.1
RAHZ	Arahi	2.00	29	P	Pn	11 29 10.1	-0.2
NBEZ	Newall Road No	2.07	312	P	Pb	11 29 14.4	-0.1
ALRZ	Allen Road	2.14	10	P	Pg	11 29 18.2	-0.5
WPRZ	Whakapapatarin	2.16	7	P	Pn	11 29 12.4	-0.2
SNGZ	Shannon Statio	2.21	32	P	Pn	11 29 11.8	-1.4
RTZ	Ruatahuna	2.23	23	P	Pn	11 29 13.2	-0.4
HIZ	Hauiti	2.29	340	P	Pn	11 29 15.1	+0.8
MUGZ	Murupara	2.30	18	P	Pn	11 29 13.5	-1.0
PRGZ	Paritu Road	2.35	43	P	Pn	11 29 13.1	-2.0
TLZ	Tolley Road	2.35	354	P	Pn	11 29 16.7	+1.5
HSRZ	Hossack Road	2.38	8	P	Pn	11 29 15.3	-0.3
MRNZ	Matariki Terra	2.45	252	P	Pn	11 29 16.9	+0.4
RIGZ	Rimuhau	2.46	38	P	Pn	11 29 14.8	-1.9
THZ	Tophouse	2.47	243	P	Pn	11 29 15.9	-1.0
QRZ	Quartz Range	2.52	265	P	Pn	11 29 17.9	+0.3
URZ	Urewera	2.60	23	P	Pn	11 29 17.2	-1.4
MWZ	Matawai	2.67	30	P	Pn	11 29 17.5	-2.1
TKGZ	Te Karaka	2.71	35	P	Pn	11 29 18.0	-2.1
TOZ	Tahuroa Road	2.95	355	P	Pn	11 29 23.5	+0.1
RUGZ	Raukumara Rang	3.05	28	P	Pn	11 29 23.1	-1.8
LTZ	Lake Taylor	3.41	231	P	Pn	11 29 28.7	-1.1
OKCZ	Okains Bay	3.69	213	P	Pn	11 29 31.7	-1.8
TMZ	Timaru	5.15	222	P	Pn	11 29 53.1	-0.6

*WEL **08** 11:48:00, 37.°51S×177.°24E, h4km, ML3.9, Mw4.1, Moment Tensor Solution. s10 Moment tensor: Scale 10^{15}Nm; Mrr-1.63; Mθθ0.64; Mφφ0.98; Mrθ-0.44; Mθφ0.93; Mφr-0.28; Fault plane solution: M0 1.77000×10^{15} NP1: φs214.00000°, δ37.00000°, λ-99.00000°. NP2: φs45.00000°, δ53.00000°, λ-83.00000°. Principal axes: T 183.3900, Plg8.0000°, Azm130.0000°; N -12.1400, Plg5.0000°, Azm221.0000°; P -171.2500, Plg80.0000°, Azm344.0000°;*

*IDC **08** 11:48:47.5±1.8, 37.°55S×177.°54E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.7/26, mbtmp4.0/3, ML3.2/1, MS3.4/9, Ms1 3.4/9, ms1mx3.1/52 Error ellipse: s-maj=41.9km s-min=18.8km az=99.0*

*WEL **08** 11:48:49.5±0.8, 37°S±5°×17°7E±°, h6km±3km, M3.9/37, ML4.2/37, MLv3.9/37, Error ellipse: s-maj=0.0km s-min=0.0km az=22.0*

*NEIC **08** 11:48:49.3±2.5, 37.°43S±0.°04×177.°4E±0.°1, h10km±1km, mb4.3/8, Error ellipse: s-maj=13.6km s-min=7.1km az=83.0*

ISC 08 11:48:49.6±0.9**, 37.°43S**±0.°03×**177.°32E**±0.°03**, h13**km±5km**, n160, σ1.s06**/158**, mb4.2**/6**, MS3.4**/7**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.14	226	P	Pg	11 48 53.2	0.0
WIZ				S	Sg	11 48 55.7	-0.1
WSRZ	White Island S	0.14	231	P	Pg	11 48 53.4	+0.1
WSRZ				S	Sg	11 48 55.9	+0.1
WHRZ	Whale Island	0.51	212	P	Pb	11 49 00.8	+0.4
WHRZ				S	Sb	11 49 07.7	0.0
RUGZ	Raukumara Rang	0.61	152	P	Pb	11 49 01.4	-0.7
OPRZ	Ohinepanea	0.74	235	P	Pg	11 49 04.0	0.0
MARZ	Manawahe	0.76	222	P	Pb	11 49 04.6	-0.1
PKGZ	Pakihiroa	0.76	128	P	Pb	11 49 04.6	-0.1
MXZ	Matakaoa Point	0.80	100		Pb	11 49 04.6	-0.7
MXZ	Matakaoa Point	0.80	100	P	Pb	11 49 04.4	-0.9
EDRZ	Edgecumbe	0.82	214	P	Pb	11 49 05.9	+0.1
URZ	Urewera	0.85	191	Pn	Pg	11 49 05.6	-0.5
	315nm,0.3s,baz=0.9,slow=9.5,SNR=951						
URZ				Sn	Sb	11 49 17.3	-0.1
	416nm,0.3s,baz=207,slow=22,SNR=8.4						
URZ				LR	LR	11 49 27.4	
	comp=Z,729nm,19.0s,baz=304,slow=51						
URZ	Urewera	0.85	191	P	Pg	11 49 05.8	-0.3
MYRZ	Mayor Island	0.87	279	P	Pn	11 49 07.2	-0.3
TGRZ	Tauranga	0.89	250	P	Pg	11 49 06.6	-0.3
TWGZ	Tauwhareparae	0.91	145	P	Pn	11 49 08.0	-0.2
TWGZ				S	Sn	11 49 23.6	+2.4
MWZ	Matawai	0.92	170	P	Pb	11 49 07.0	-0.4
LIRZ	Lichensteins R	0.94	232	P	Pb	11 49 08.2	+0.4
MKRZ	Makatiti	0.98	223	P	Pn	11 49 09.1	0.0
PUZ	Puketiti	0.98	131	P	Pn	11 49 09.2	0.0
OMRZ	Omania	1.01	228	P	Pg	11 49 08.7	-0.4
TARZ	Mount Tarawera	1.03	218	P	Pb	11 49 09.7	+0.3
KARZ	Kaharoa	1.04	235	P	Pg	11 49 08.9	-0.7
RAGZ	Rawiri	1.07	176	P	Pb	11 49 09.8	-0.2
TKGZ	Te Karaka	1.09	158	P	Pn	11 49 11.1	+0.5
RRRZ	Republican Roa	1.11	215	P	Pg	11 49 10.6	-0.4
NGRZ	Ngongotaha	1.12	233	P	Pn	11 49 11.7	+0.7
HLRZ	Highlands Stat	1.12	223	P	Pn	11 49 13.0	+1.9
MUGZ	Murupara	1.14	202	P	Pb	11 49 10.1	-1.0
KMRZ	Kaimai	1.17	249	P	Pb	11 49 10.6	-1.1
RTZ	Ruatahuna	1.22	193	P	Pn	11 49 11.5	-0.8
HSRZ	Hossack Road	1.23	224	P	Pg	11 49 13.6	+0.4
HRRZ	Handcock Road	1.26	220	P	Pg	11 49 15.2	+1.2
CNGZ	Carnagh Statio	1.27	147	P	Pg	11 49 15.1	+1.0
PRRZ	Plateau Road	1.30	214	P	Pn	11 49 12.8	-0.6
RIGZ	Rimuhau	1.32	165	P	Pg	11 49 15.1	0.0
GRRZ	Galatos Road	1.33	226	P	Pg	11 49 15.6	+0.4
SNGZ	Shannon Statio	1.35	179	P	Pn	11 49 14.2	0.0
ALRZ	Allen Road	1.37	214	P	Pg	11 49 15.9	-0.1
WPRZ	Whakapapatarin	1.42	220	P	Pg	11 49 18.9	+1.9
KUZ	Kuaotunu	1.45	298	P	Pn	11 49 14.0	-1.5
MTHZ	Maungataniwha	1.47	195	P	Pn	11 49 15.6	-0.2
TOZ	Tahuroa Road	1.48	258	P	Pn	11 49 14.8	-1.0
RAHZ	Arahi	1.50	187	P	Pn	11 49 16.0	-0.2
PRGZ	Paritu Road	1.56	164	P	Pg	11 49 18.7	-0.9
MRHZ	Matea Rd	1.57	207	P	Pn	11 49 17.2	0.0
KUTZ	Kaahu Road	1.59	228	P	Pn	11 49 17.1	-0.3
KNZ	Kokohu	1.62	170	P	Pb	11 49 19.2	-0.1
WHHZ	Waihua	1.65	182	P	Pg	11 49 20.8	-0.5
TLZ	Tolley Road	1.67	237	P	Pg	11 49 21.8	+0.1
NMHZ	Naumai	1.72	193	P	Pn	11 49 19.8	+0.6
WATZ	Wairara	1.79	224	P	Pg	11 49 25.2	+1.2
ARHZ	Aropaoanui	1.85	188	P	Pb	11 49 22.7	-0.6
BKZ	Black Stump Fm	1.85	200		Pn	11 49 20.9	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BKZ	Black Stump Fm	1.85	200	P	Pn	11 49 20.7	-0.4
WIAZ	Waiheke Island	1.86	289	P	Pn	11 49 20.5	-0.6
RATZ	Rangitukua	1.89	220	P	Pg	11 49 26.5	+0.7
GRZ	Great Barrier	1.90	308	P	Pn	11 49 20.7	-1.0
RITZ	Rihia Road	1.93	216	P	Pb	11 49 25.4	+0.7
ETAZ	East Tamaki Re	1.97	283	P	Pn	11 49 22.8	+0.2
MBAZ	Motutapu North	2.04	288	P	Pn	11 49 23.2	-0.4
MCHZ	McNeill Hill	2.07	193	P	Pb	11 49 25.6	-1.4
NTVZ	North Tongarir	2.11	217	P	Pg	11 49 29.2	-0.9
TMVZ	Te Maari	2.11	217	P	Pb	11 49 27.2	-0.6
KWHZ	Kaweka Forest	2.12	199	P	Pn	11 49 25.1	+0.4
ETVZ	East Tongariro	2.12	216	P	Pb	11 49 28.4	+0.4
KRVZ	Karewarewa	2.12	218	P	Pg	11 49 29.7	-0.7
EPAZ	Eden Park BICE	2.13	284	P	Pn	11 49 25.2	+0.4
HBAZ	Herne Bay Bore	2.15	285	P	Pn	11 49 25.5	+0.5
ABAZ	Army Bay	2.15	292	P	Pn	11 49 25.1	0.0
AWAZ	Awhitu Peninsu	2.17	279	P	Pn	11 49 25.4	+0.1
NNVZ	North Ngauruho	2.17	218	P	Pb	11 49 28.5	-0.2
WTVZ	West Tongariro	2.17	218	P	Pg	11 49 30.2	-1.0
OTVZ	Oturere	2.17	216	P	Pb	11 49 29.3	+0.5
SNVZ	South Ngauruho	2.20	216	P	Pb	11 49 29.8	+0.5
NGZ	Ngauruhoe	2.21	217	P	Pb	11 49 29.3	-0.2
TWVZ	Taurewa	2.21	221	P	Pg	11 49 30.8	-1.2
HIZ	Hauiti	2.23	240		Pn	11 49 26.3	+0.1
HIZ	Hauiti	2.23	240	P	Pn	11 49 26.2	+0.1
CKHZ	Cape Kidnapper	2.24	185	P	Pb	11 49 28.9	-0.9
WTAZ	Waiatarua	2.25	282	P	Pn	11 49 27.1	+0.6
TUVZ	Tukino	2.26	215	P	Pb	11 49 29.2	-1.1
BHHZ	Black Hill Sta	2.28	205	P	Pn	11 49 27.1	+0.1
RVAZ	Riverhead Bore	2.29	286	P	Pn	11 49 26.9	0.0
FWVZ	Far West T-bar	2.29	217	P	Pb	11 49 31.1	+0.1
WHVZ	Whangaehu Hut	2.30	216	P	Pb	11 49 31.0	-0.1
DRZ	Dome Shelter	2.31	216	P	Pb	11 49 31.8	+0.6
MOVZ	Moawhango	2.33	211	P	Pn	11 49 28.6	+1.0
WNVZ	Wahianoa	2.33	215	P	Pb	11 49 30.0	-1.5
TRVZ	Turoa	2.33	216	P	Pb	11 49 31.4	-0.2
KRHZ	Kereru	2.33	198	P	Pn	11 49 28.6	+0.9
KAHZ	Kahuranaki	2.39	188	P	Pn	11 49 29.1	+0.6
PKVZ	Pokaka	2.42	219	P	Pb	11 49 32.9	-0.1
MTVZ	Mangateitei	2.44	216	P	Pb	11 49 33.0	-0.3
PXZ	Pawanui	2.62	188	P	Pn	11 49 31.1	-0.5
PNHZ	Pukenui	2.63	199	P	Pn	11 49 32.5	+0.7
VRZ	Vera Road	2.63	229	P	Pn	11 49 32.5	+0.8
WPHZ	Waipukurau	2.72	194	P	Pn	11 49 33.9	+0.9
WCZ	Waipu Caves	2.81	301	P	Pn	11 49 34.0	-0.2
TSZ	Takapari Road	2.83	202	P	Pn	11 49 35.0	+0.4
PRHZ	Porangahau	2.89	190	P	Pn	11 49 35.0	-0.3
WAZ	Wanganui	2.96	217	P	Pn	11 49 39.2	+2.9
DVHZ	Dannevirke	3.01	197	P	Pn	11 49 36.9	0.0
DREZ	Durham Road	3.02	233	P	Pb	11 49 43.2	+0.1
LREZ	Lake Rotokare	3.06	228	P	Pb	11 49 41.8	-2.1
ANWZ	Angora Road	3.10	192	P	Pn	11 49 38.3	+0.1
NEZ	North Egmont	3.13	233	P	Pn	11 49 41.0	+2.3
KHEZ	Kahui Hut	3.20	233	P	Pb	11 49 45.1	-1.2
POWZ	Post Office Ro	3.20	202	P	Pn	11 49 41.2	+1.6
NBEZ	Newall Road No	3.28	235	P	Pb	11 49 47.2	-0.4
PRWZ	Pori Road	3.30	198	P	Pn	11 49 42.0	+1.1
BFZ	Birch Farm	3.36	194	Pn	Pn	11 49 40.8	-0.9
BFZ	Birch Farm	3.36	194	P	Pn	11 49 40.7	-1.0
MRZ	Mangatainoka R	3.50	202	P	Pn	11 49 43.0	-0.8
OUZ	Omahuta	3.73	305		Pn	11 49 47.1	+0.3
OUZ	Omahuta	3.73	305	P	Pn	11 49 47.0	+0.3
HOWZ	Holdsworth Sta	3.74	201	P	Pn	11 49 45.7	-1.3
OGWZ	Otaki Gorge	3.77	206	P	Pn	11 49 47.1	-0.4
TMWZ	Te Maipa	3.84	196	P	Pn	11 49 46.8	-1.5
KIW	Kapiti Island	3.91	208	P	Pn	11 49 48.9	-0.4
MTW	Mount Morrison	3.98	200	P	Pn	11 49 50.2	-0.1
CAW	Cannon Point	4.07	205	P	Pn	11 49 51.3	-0.2
DUWZ	D'Urville Isla	4.28	217	P	Pn	11 49 56.9	+2.4
MSWZ	Moikau Station	4.29	201	Pn	Pn	11 49 54.4	-0.2
SNZO	South Karori	4.38	207	Pn	Pn	11 49 55.2	-0.5
PLWZ	Palliser	4.43	200	Pn	Pn	11 49 54.8	-1.8
TUWZ	Tuamarina	4.78	212	Pn	Pn	11 50 00.5	-0.7
TUWZ	Tuamarina	4.78	212	P	Pn	11 50 00.3	-0.9
TKNZ	Takaka Hill	4.94	222	P	Pn	11 50 09.0	+5.4
QRZ	Quartz Range	5.04	226	Pn	Pn	11 50 04.9	+0.1
BSWZ	Blackbirch Sta	5.04	211	Pn	Pn	11 50 04.3	-0.6
MRNZ	Matariki Terra	5.31	220	P	Pn	11 50 08.2	-0.4
THZ	Tophouse	5.51	217	Pn	Pn	11 50 11.4	+0.1
KHZ	Kahutara	5.77	209	Pn	Pn	11 50 12.1	-2.7
DSZ	Denniston Nort	6.06	223	P	Pn	11 50 22.8	+3.9
LTZ	Lake Taylor	6.60	214	Pn	Pn	11 50 24.3	-2.1
LTZ	Lake Taylor	6.60	214	P	Pn	11 50 25.4	-0.9
OXZ	Oxford	7.14	213	P	Pn	11 50 33.6	-0.1
MQZ	McQueen's Vall	7.21	208	Pn	Pn	11 50 33.4	-1.2
RPZ	Rata Peaks	7.88	215	Pn	Pn	11 50 45.4	+1.5
	0.3nm,0.3s,baz=56,slow=3.6,SNR=0.6						
RPZ				Sn	Sn	11 52 06.9	-6.0
	0.2nm,0.3s,baz=190,slow=19,SNR=1.5						
DZM	Mont Dzumac	17.96	325	LR	LR	11 58 44.4	
	comp=Z,185nm,18.4s,baz=210,slow=33						
MSVF	Nonsavu	19.63	2	LR	LR	12 00 23.5	
	comp=Z,87nm,18.5s,baz=132,slow=35						
STKA	Stephens Creek	29.79	270	LR	LR	12 08 00.0	
	comp=Z,77nm,18.2s,baz=155,slow=38						
CTA	Charters Tower	32.05	294	LR	LR	12 06 55.0	
	comp=Z,48nm,18.9s,baz=90,slow=34						
PMG	Port Moresby	38.97	308	LR	LR	12 11 17.3	
	comp=Z,43nm,18.0s,baz=151,slow=34						
ASAR	Alice Springs	39.49	278	P	P	11 56 21.6	+1.6
	2.2nm,0.9s,baz=119,slow=7.6,SNR=19						
ASAR				LR	LR	12 12 17.9	
	comp=Z,48nm,18.2s,baz=146,slow=36						
VNDA	Vanda	40.75	185	P	P	11 56 30.6	+0.9
WR0	Warramunga Arr	40.97	283	P	P	11 56 33.7	+1.5
WR0				IAmb	IAmb	11 56 46.9	
	comp=Z,12nm,1.5s						
WB2	Warramunga Arr	41.13	283	P	P	11 56 34.4	+0.9
WB2				IAmb	IAmb	11 56 35.9	
	comp=Z,7.1nm,0.9s						
WRA	Warramunga Arr	41.14	283	P	P	11 56 35.0	+1.4
	comp=Z,3.3nm,0.9s,baz=124,slow=7.5,SNR=15						
WRA				LR	LR	12 12 18.1	
	comp=Z,63nm,20.3s,baz=126,slow=34						
WRA	Warramunga Arr	41.14	283	P	P	11 56 34.3	+0.7
WB0	Warramunga Arr	41.20	283	P	P	11 56 34.8	+0.7
WB0				IAmb	IAmb	11 56 37.7	
	comp=Z,4.0nm,0.9s						
KNRA	Kununurra	47.93	283	P	P	11 57 29.6	+1.8
FITZ	Fitzroy Crossi	48.98	278	P	P	11 57 36.2	+0.3
QSPA	South Pole Qui	52.70	180	LR	LR	12 17 55.3	
	comp=Z,64nm,18.6s,baz=301,slow=33						
QSPA	South Pole Qui	52.70	180	P	P	11 58 03.2	-0.4
QSPA				IAmb	IAmb	11 58 16.3	
	comp=Z,4.1nm,1.1s						
KAPI	Kappang	61.45	287	LR	LR	12 26 04.6	
	comp=Z,28nm,19.7s,baz=172,slow=36						
ARCES	ARCESS Array B	144.42	343	PKP	PKPab	12 08 21.8	-0.8
	comp=Z,1.0nm,0.6s,baz=52,slow=3.5,SNR=6.9						
ARCES	ARCESS Array B	144.42	343		PKPab	12 08 22.4	-0.2
FINES	FINESS Array B	150.00	332	PKPbc	PKPbc	12 08 38.7	-0.1
	comp=Z,0.4nm,0.5s,baz=79,slow=3.0,SNR=5.2						
TORD	Torodi Ar. Bea	155.51	190	PKPab	PKPab	12 09 10.1	+1.1
	comp=Z,0.9nm,0.8s,baz=159,slow=4.2,SNR=4.3						

IDC 08 11:49:41.6±2.4**,7°.03S**×**129°.11E,h0km,mb3.2**/1**, mb1 3.5**/4**,mb1mx3.1**/32**,mbtmp3.3**/4**,ML3.1**/3**,Error ellipse: s-maj=92.5km s-min=30.5km az=75.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.51	197	Pn	Pn	11 52 26.9	-0.5
	0.1nm,0.3s,baz=22,slow=13,SNR=2.5						
FITZ				Sn	Sn	11 54 21.5	-15
	0.2nm,0.3s,baz=79,slow=18,SNR=5.8						
WRA	Warramunga Arr	13.80	159	Pn	Pn	11 52 58.7	-0.1
	0.1nm,0.3s,baz=342,slow=12,SNR=2.6						
WRA				Sn	Sn	11 55 19.8	-13
	0.2nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	Alice Springs	17.17	165	P	Pn	11 53 43.7	+0.5
	0.1nm,0.3s,baz=340,slow=11,SNR=9.4						
MKAR	Makanchi Array	67.77	327	P	P	12 00 41.3	0.0
	0.1nm,0.4s,baz=121,slow=7.0,SNR=2.2						

DJA 08 12:06:04.0±0.3**,9°S**±3°×**11°1E**±°**,h10km,M3.8**/15**,mb4.2**/2**, MLv3.6**/15**,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.78	340	P	Pb	12 06 19.6	0.0
PCJI				S	Sb	12 06 30.2	0.0
PWJI	Pagerwojo	0.97	22	P	Pb	12 06 23.1	+0.2
PWJI				S	Sg	12 06 35.5	+0.1
UGM	Wanagama	1.36	318	P	Pn	12 06 29.2	+0.1
UGM				S	Sb	12 06 46.4	-0.6
YOGI	Yogyakarta	1.58	314	P	Pn	12 06 31.9	-0.3
GMJI	Gumukmas	2.09	72	P	Pn	12 06 38.6	-0.5
SMRI	Semarang	2.12	332	P	Pn	12 06 40.4	+0.9
GRJI	Gresik	2.25	27	P	Pn	12 06 41.7	+0.4
BLJI	Banyuglugur	2.44	61	P	Pn	12 06 44.3	+0.4
UWJI	Ujung Watu	2.54	349	P	Pn	12 06 45.7	+0.4
JAGI	Jajag, Banyuwa	2.72	81	P	Pn	12 06 47.4	-0.4
KPJI	Karang Pucung	2.95	302	P	Pn	12 06 51.5	+0.6
ABJI	Asem Bagus	2.99	68	P	Pn	12 06 51.4	0.0
CMJI	Cimerak	3.17	291	P	Pn	12 06 53.4	-0.6
SRBI	Singaraja	3.83	78	P	Pn	12 07 03.9	+0.9
CNJI	Cibinong	4.56	290	P	Pn	12 07 13.5	+0.4
PLAI	Plampang	6.26	90	P	Pn	12 07 36.6	+0.1

IDC 08 12:23:25.7±3.1**,8°.87S**×**159°.69E,h0km,mb3.4**/4**, mb1 3.6**/4**,mb1mx3.2**/33**,mbtmp3.4**/4**,Error ellipse: s-maj=112.2km s-min=32.8km az=128.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.87	243	P	P	12 29 09.2	+0.8
	0.3nm,0.5s,baz=68,slow=9.0,SNR=2.8						
H11S2	WAKE ISLAND Hy	28.05	14	T	T	12 58 02.8	
	baz=194,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	28.05	14	T	T	12 58 03.4	
	baz=194,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	28.07	14	T	T	12 58 03.9	
	baz=194,slow=76,SNR=16						
ASAR	Alice Springs	28.72	236	P	P	12 29 24.2	-0.8
	0.2nm,0.7s,baz=61,slow=11,SNR=4.3						
H11N1	WAKE ISLAND Hy	29.27	14	T	T	12 59 34.9	
	baz=194,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	29.28	14	T	T	12 59 38.0	
	baz=194,slow=76,SNR=8.4						
H11N2	WAKE ISLAND Hy	29.29	14	T	T	12 59 42.8	
	baz=194,slow=76,SNR=10.0						
SONM	Songino Array	73.45	326	P	P	12 35 00.3	+0.2
	0.2nm,0.5s,baz=140,slow=5.4,SNR=3.9						
ILAR	Eielson Array	83.45	20	P	P	12 35 54.7	-0.1
	0.2nm,0.7s,baz=228,slow=3.5,SNR=1.5						

IDC 08 12:27:16.9±5.1,7°.55N×126°.43E,h97km±39km,mb3.3/4, mb1 3.5/4,mb1mx3.0/39,mbtmp3.6/4,Error ellipse: s-maj=92.8km s-min=21.7km az=66.0

MAN 08 12:27:17.9,7°.55N×126°.41E,h30km,mb4.5,ML3.3,MS3.2

ISC 08 12:27:17.0±1.1**,7°.54N**±0°.07×**126°.4E**±0°.1**,h100km,n8, σ0s.81**/15**,mb3.5**/4**,3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.90	239	LR	LR	12 27 35.6	
	comp=Z,50nm,19.8s,baz=124,slow=19						
DAV				P	Pn	12 27 37.6	+1.2
	53nm,0.3s,baz=0.0,slow=14,SNR=2.1						
DAV				S	Sn	12 27 52.1	+1.1
	142nm,0.3s,baz=72,slow=20,SNR=6.8						
KCP	Kidapawan	1.36	247⇓	eP	Pn	12 27 41.1	-0.6
KCP				iS	Sn	12 28 00.2	-0.1
GSPH	General Santos	2.01	224⇓	eP	Pn	12 27 49.3	-0.5
GSPH				iS	Sn	12 28 15.3	+0.5
TBP	Tagbilaran	3.27	311⇓	eP	Pn	12 28 07.1	+0.7
TBP				eS	Sn	12 28 44.2	-0.2
FITZ	Fitzroy Crossi	25.48	182	P	P	12 32 36.4	+0.3
	1.5nm,0.9s,baz=355,slow=9.8,SNR=2.0						
WRA	Warramunga Arr	28.42	164	P	P	12 33 02.6	+0.2
	0.5nm,1.0s,baz=349,slow=9.7,SNR=2.5						
WRA				PcP	PcP	12 36 12.8	+0.3
	0.3nm,0.5s,baz=338,slow=2.6,SNR=4.9						
ASAR	Alice Springs	31.88	167	P	P	12 33 32.6	-0.3
	0.3nm,0.3s,baz=339,slow=7.2,SNR=9.0						
ASAR				PcP	PcP	12 36 21.9	+0.3
	0.5nm,0.6s,baz=343,slow=2.4,SNR=11						
MKAR	Makanchi Array	54.26	324	P	P	12 36 32.9	+0.2
	0.5nm,0.4s,baz=120,slow=7.8,SNR=8.1						
MKAR				pP	pP	12 36 55.2	-1.8
	0.4nm,0.6s,baz=129,slow=8.0,SNR=2.6						

IDC 08 12:28:41.3±8.0,27°.94N×139°.44E,h499km±101km, mb2.7/8,mb1 2.9/8,mb1mx2.6/38,mbtmp3.5/8,Error ellipse: s-maj=34.2km s-min=16.5km az=84.0

ISC 08 12:28:41.9±1.0**,27°.9N**±0°.2×**139°.4E**±0°.2**,h507km,n8, σ0s.55**/8**,mb3.0**/8**,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	32.41	317	P	P	12 34 30.0	+0.5
	0.3nm,0.6s,baz=125,slow=8.5,SNR=2.2						
ZALV	Zalesovo Beam	47.24	319	P	P	12 36 27.9	-0.5
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.4						
WRA	Warramunga Arr	47.84	186	P	P	12 36 33.2	-0.1
	0.2nm,0.3s,baz=1.1,slow=7.6,SNR=8.9						
ASAR	Alice Springs	51.57	186	P	P	12 37 00.7	-0.1
	0.2nm,0.8s,baz=1.4,slow=7.7,SNR=4.5						
ILAR	Eielson Array	58.18	29	P	P	12 37 46.0	-0.6
	0.2nm,0.5s,baz=265,slow=6.5,SNR=6.7						
YKA	Yellowknife Ar	72.58	28	P	P	12 39 16.7	-0.2
	0.2nm,0.5s,baz=300,slow=6.0,SNR=5.9						
FINES	FINESS Array B	76.10	333	P	P	12 39 36.9	+0.1
	0.7nm,0.3s,baz=57,slow=5.1,SNR=9.2						
NVAR	Mina Array Bea	81.93	51	P	P	12 40 09.4	+0.8
	0.3nm,0.6s,baz=290,slow=5.4,SNR=2.4						

IDC 08 12:38:37.8±0.8,32°.74S×178°.91W,h0km,mb4.6/5, mb1 4.8/6,mb1mx4.3/32,mbtmp4.6/6,ML4.8/1,MS3.7/26, Ms1 3.7/26,ms1mx3.5/54,Error ellipse: s-maj=27.9km s-min=25.3km az=69.0

WEL 08 12:38:40.4±0.7,33°S±6°×17°8W±1°4,h33km,M4.6/43, mB5.2/33,ML5.2/46,MLv5.0/43,Mw(mB)4.5/33,Error ellipse: s-maj=0.0km s-min=0.0km az=111.5

NEIC 08 12:38:40.3±2.1,32°.86S±0°.06×178°.9W±0°.1,h10km±1km, mb4.6/17,Error ellipse: s-maj=22.8km s-min=3.1km az=115.0

NOU 08 12:38:41.0,33°.48S×177°.92W,h71km,mb4.8/25,South of Kermadec Islands

ISC 08 12:38:40.9±0.7**,33°.02S**±0°.05×**178°.4W**±0°.1**,h35km,n166, σ1s.74**/148**,mb4.7**/16**,MS3.7**/24**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.76	6	P	Pn	12 39 35.9	-0.5
GLKZ				S	Sn	12 40 16.1	-3.3
RAO	Raoul Island	3.77	6	Sn	Sn	12 40 20.4	+0.7
	145nm,0.3s,baz=99,slow=22,SNR=1.6						
RAO				LR	LR	12 40 56.5	
	comp=Z,394nm,21.4s,baz=167,slow=39						
RAO	Raoul Island	3.77	6	Pn	Pn	12 39 36.5	-0.1
MXZ	Matakaoa Point	5.29	210	Pn	Pn	12 39 57.3	-0.1
MXZ	Matakaoa Point	5.29	210	P	Pn	12 39 57.8	+0.3
MXZ				S	Sn	12 40 58.7	+1.5
PKGZ	Pakihiroa	5.66	210	P	Pn	12 40 02.4	-0.3
PKGZ				S	Sn	12 41 07.0	+0.6
HAZ	Te Kaha	5.68	213	P	Pn	12 40 03.4	+0.6
HAZ				S	Sn	12 41 09.7	+3.0
PUZ	Puketiti	5.75	208	P	Pn	12 40 03.8	+0.1
PUZ				S	Sn	12 41 08.7	+0.2
RUGZ	Raukumara Rang	5.90	212	P	Pn	12 40 05.7	-0.3
RUGZ				S	Sn	12 41 11.6	-0.8
TWGZ	Tauwhareparae	5.95	209	P	Pn	12 40 06.8	+0.3
TWGZ				S	Sn	12 41 15.3	+1.8
KUZ	Kuaotunu	6.12	231	P	Pn	12 40 10.9	+2.0
CNGZ	Carnagh Statio	6.13	206	P	Pn	12 40 09.2	+0.3
WHRZ	Whale Island	6.15	217	P	Pn	12 40 12.1	+2.9
WHRZ				S	Sn	12 41 20.2	+1.9
TKGZ	Te Karaka	6.23	209	P	Pn	12 40 09.3	-1.0
TKGZ				S	Sn	12 41 19.7	-0.5
MWZ	Matawai	6.27	211	P	Pn	12 40 09.8	-1.1
MWZ				S	Sn	12 41 19.1	-2.3
OPRZ	Ohinepanea	6.36	219	P	Pn	12 40 12.7	+0.7
OPRZ				S	Sn	12 41 24.2	+0.7
MARZ	Manawahe	6.40	218	P	Pn	12 40 14.5	+1.8
URZ	Urewera	6.40	214	Pn	Pn	12 40 11.4	-1.3
	19nm,0.3s,baz=124,slow=14,SNR=91						
URZ				Sn	Sn	12 41 22.6	-1.9
	22nm,0.3s,baz=74,slow=22,SNR=7.6						
URZ	Urewera	6.40	214	P	Pn	12 40 12.0	-0.7
URZ				S	Sn	12 41 23.0	-1.5
URZ	Urewera	6.40	214	P	Pn	12 40 12.0	-0.7
TGRZ	Tauranga	6.43	222	P	Pn	12 40 14.9	+1.8
RAGZ	Rawiri	6.46	211	P	Pn	12 40 13.1	-0.4
RAGZ				S	Sn	12 41 25.4	-0.6
RIGZ	Rimuhau	6.49	208	P	Pn	12 40 13.0	-1.0
RIGZ				S	Sn	12 41 27.3	+0.6
LIRZ	Lichensteins R	6.57	219	P	Pn	12 40 19.3	+4.3
PRGZ	Paritu Road	6.63	206	P	Pn	12 40 15.3	-0.6
PRGZ				S	Sn	12 41 28.0	-2.3
OMRZ	Omania	6.65	219	P	Pn	12 40 18.3	+2.2
KARZ	Kaharoa	6.65	220	P	Pn	12 40 18.2	+2.0
KMRZ	Kaimai	6.70	222	P	Pn	12 40 18.4	+1.7
SNGZ	Shannon Statio	6.73	210	P	Pn	12 40 16.6	-0.6
SNGZ				S	Sn	12 41 31.6	-1.0
RTZ	Ruatahuna	6.75	213	P	Pn	12 40 16.0	-1.5
RRRZ	Republican Roa	6.75	217	P	Pn	12 40 19.0	+1.5
HLRZ	Highlands Stat	6.77	218	P	Pn	12 40 19.8	+2.0
KNZ	Kokohu	6.80	207	P	Pn	12 40 18.2	0.0
KNZ				S	Sn	12 41 32.1	-2.1
HSRZ	Hossack Road	6.87	218	P	Pn	12 40 22.1	+3.0
PRRZ	Plateau Road	6.94	216	P	Pn	12 40 21.2	+1.2
RAHZ	Arahi	6.95	211	P	Pn	12 40 20.5	+0.3
RAHZ				S	Sn	12 41 37.0	-1.1
MTHZ	Maungataniwha	7.00	212	P	Pn	12 40 20.9	-0.1
MTHZ				S	Sn	12 41 38.5	-0.9
ALRZ	Allen Road	7.01	216	P	Pn	12 40 22.5	+1.4
WHHZ	Waihua	7.02	209	P	Pn	12 40 23.6	+2.4
OUZ	Omahuta	7.02	250	P	Pn	12 40 23.4	+2.2
MRHZ	Matea Rd	7.18	215	P	Pn	12 40 24.0	+0.5
NMHZ	Naumai	7.22	211	P	Pn	12 40 23.8	-0.2
KUTZ	Kaahu Road	7.22	219	P	Pn	12 40 26.3	+2.3
TLZ	Tolley Road	7.26	221	P	Pn	12 40 26.7	+2.2
ARHZ	Aropaoanui	7.28	210	P	Pn	12 40 24.8	+0.1
HATZ	Hinemaiaia	7.39	216	P	Pn	12 40 25.2	-1.0
BKZ	Black Stump Fm	7.42	213	P	Pn	12 40 24.8	-1.9
BKZ	Black Stump Fm	7.42	213	P	Pn	12 40 25.0	-1.7
WATZ	Wairara	7.43	218	P	Pn	12 40 28.0	+1.1
RATZ	Rangitukua	7.53	218	P	Pn	12 40 29.3	+1.0
MCHZ	McNeill Hill	7.55	210	P	Pn	12 40 27.6	-0.9
RITZ	Rihia Road	7.57	217	P	Pn	12 40 29.6	+0.9
CKHZ	Cape Kidnapper	7.58	208	P	Pn	12 40 30.0	+1.1
KWHZ	Kaweka Forest	7.66	212	P	Pn	12 40 29.8	-0.2
TMVZ	Te Maari	7.75	217	P	Pn	12 40 30.8	-0.5
NTVZ	North Tongarir	7.75	217	P	Pn	12 40 31.9	+0.5
ETVZ	East Tongariro	7.77	216	P	Pn	12 40 32.2	+0.7
HIZ	Hauiti	7.78	223	P	Pn	12 40 32.0	+0.5
KAHZ	Kahuranaki	7.78	208	P	Pn	12 40 29.7	-1.9
OTVZ	Oturere	7.81	217	P	Pn	12 40 32.6	+0.4
NNVZ	North Ngauruho	7.81	217	P	Pn	12 40 32.7	+0.5
WTVZ	West Tongariro	7.81	217	P	Pn	12 40 31.8	-0.3
SNVZ	South Ngauruho	7.84	217	P	Pn	12 40 33.0	+0.4
KRHZ	Kereru	7.86	211	P	Pn	12 40 31.2	-1.5
BHHZ	Black Hill Sta	7.87	213	P	Pn	12 40 32.1	-0.9
FWVZ	Far West T-bar	7.94	217	P	Pn	12 40 34.0	+0.1
MOVZ	Moawhango	7.95	215	P	Pn	12 40 33.6	-0.4
PNHZ	Pukenui	8.16	211	P	Pn	12 40 34.3	-2.5
BFZ	Birch Farm	8.79	208	P	Pn	12 40 43.2	-2.2
SNZO	South Karori	9.95	212	P	Pn	12 40 58.2	-3.2
QRZ	Quartz Range	10.67	220	P	Pn	12 41 07.9	-3.3
KHZ	Kahutara	11.36	212	P	Pn	12 41 16.4	-4.2
RPZ	Rata Peaks	13.52	215	Pn	Pn	12 41 43.5	-6.6
	0.9nm,0.3s,baz=64,slow=11,SNR=8.4						
RPZ				Sn	Sn	12 44 05.3	-14
	2.1nm,0.3s,baz=306,slow=24,SNR=9.6						
RPZ	Rata Peaks	13.52	215	P	Pn	12 41 46.7	-3.4
ODZ	Otahua Downs	14.72	212	P	Pn	12 42 01.9	-4.6
MSVF	Nonsavu	15.56	347	LR	LR	12 46 58.1	
	comp=Z,297nm,20.9s,baz=188,slow=33						
MSVF	Nonsavu	15.56	347	Pn	Pn	12 42 14.6	-3.2
MSVF				IAmb	IAmb	12 42 33.1	
	comp=Z,29nm,1.5s						
MARNC	Mare, Loyalty	16.67	310	Pn	Pn	12 42 28.6	-3.2
DZM	Mont Dzumac	17.31	305	LR	LR	12 47 30.3	
	comp=Z,472nm,21.4s,baz=212,slow=32						
DZM	Mont Dzumac	17.31	305	eLR	LR	12 46 07.6	
	comp=Z,782nm,25.0s						
DVP	Devils Point	19.45	318	P	Pn	12 43 08.2	+2.3
SANVU	Saraoutou	21.85	320	P	P	12 43 26.5	-4.0
SANVU	Saraoutou	21.85	320	P	P	12 43 34.7	+4.2
PAE	Paea	30.04	66	eT	T	13 16 32.4	
	comp=Z,8.5nm,0.3s						
PPT2	Papeete2	30.09	66	eLR	LR	12 52 34.5	
	comp=Z,215nm,25.8s						
PPT2	Papeete2	30.09	66	eT	T	13 16 36.2	
	comp=Z,11nm,0.3s						
TVO	Taravao	30.23	67	eT	T	13 16 46.4	
	comp=Z,1.5nm,0.3s						
CMSA	Cobar Meteorol	30.34	263	P	P	12 44 48.6	-0.7
STKA	Stephens Creek	33.67	261	LR	LR	12 57 16.9	
	comp=Z,170nm,19.5s,baz=35,slow=34						
STKA	Stephens Creek	33.67	261	P	P	12 45 17.1	-1.4
CTA	Charters Tower	34.01	283	LR	LR	12 56 49.5	
	comp=Z,93nm,20.3s,baz=100,slow=33						
CTA	Charters Tower	34.01	283	P	P	12 45 22.5	+0.9
HTT	Hallett	35.55	257	P	P	12 45 32.9	-2.0
LCRK	Leigh Creek	36.83	262	P	P	12 45 46.4	+0.7
BBOO	Buckleboo	38.03	257	P	P	12 45 54.7	-1.3
BBOO				IAmb	IAmb	12 46 10.4	
	comp=Z,9.0nm,1.1s						
BBOO	Buckleboo	38.03	257	P	P	12 45 54.6	-1.3
QIS	Mount Isa	39.28	278	P	P	12 46 06.1	-0.4
PMG	Port Moresby	39.52	299	P	P	12 46 07.6	-0.8
	comp=Z,3.2nm,0.6s,baz=90,slow=5.1,SNR=3.9						
PMG	Port Moresby	39.52	299	P	P	12 46 07.0	-1.5
PMG				IAmb	IAmb	12 46 08.9	
	comp=Z,6.9nm,0.7s						
OOD	Oodnadatta	39.73	265	P	P	12 46 09.9	-0.3
COEN	Coen	39.77	289	P	P	12 46 09.1	-1.4
COEN				IAmb	IAmb	12 46 11.3	
	comp=Z,9.3nm,0.8s						
COEN	Coen	39.77	289	P	P	12 46 11.0	+0.4
MULG	Mulgathing	40.33	261	P	P	12 46 13.2	-1.9
	comp=Z,12nm,2.2s						
AS31	Alice Springs	42.73	270	P	P	12 46 33.8	-1.2
ASAR	Alice Springs	42.73	270	P	P	12 46 33.6	-1.3
	comp=Z,6.1nm,0.5s,baz=108,slow=7.9,SNR=115						
ASAR				PcP	PcP	12 48 26.4	+0.3
	comp=Z,0.4nm,0.5s,baz=120,slow=4.1,SNR=1.3						
ASAR	Alice Springs	42.73	270	P	P	12 46 33.2	-1.7
WR0	Warramunga Arr	43.78	275	P	P	12 46 42.0	-1.4
WR0				IAmb	IAmb	12 46 43.0	
	comp=Z,19nm,1.4s						
WB2	Warramunga Arr	43.94	275	P	P	12 46 42.8	-1.9
WB2				IAmb	IAmb	12 46 44.1	
	comp=Z,14nm,0.9s						
WRAB	Tennant Creek	43.95	275	P	P	12 46 43.1	-1.6
WRAB				IAmb	IAmb	12 46 44.4	
	comp=Z,9.6nm,0.7s						
WRAB	Tennant Creek	43.95	275	P	P	12 46 44.1	-0.6
WRA	Warramunga Arr	43.95	275	P	P	12 46 43.1	-1.6
	comp=Z,8.3nm,0.3s,baz=114,slow=7.7,SNR=216						
WRA				PcP	PcP	12 48 30.1	-0.3
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=1.2						
WRA				LR	LR	13 03 40.8	
	comp=Z,87nm,18.6s,baz=94,slow=35						
WRA	Warramunga Arr	43.95	275	P	P	12 46 42.8	-2.0
WB0	Warramunga Arr	43.99	275	P	P	12 46 43.3	-1.8
WB0				IAmb	IAmb	12 46 44.4	
	comp=Z,16nm,0.8s						
FORT	Forrest	45.13	258	P	P	12 46 52.8	-1.2
WRKA	Warakurna	46.90	265	P	P	12 47 06.8	-1.3
JAY	Jayapura	48.87	300	LR	LR	13 05 31.0	
	comp=Z,77nm,20.7s,baz=147,slow=33						
KNRA	Kununurra	50.65	277	P	P	12 47 36.5	-0.4
FITZ	Fitzroy Crossi	52.10	272	P	P	12 47 46.9	-0.9
FITZ				IAmb	IAmb	12 47 47.3	
	comp=Z,5.8nm,0.9s						
WAKE	Wake Island	53.94	342	P	P	12 48 02.2	+1.1
PSA00	Pilbara Seismi	55.40	265	P	P	12 48 09.0	-2.9
QSPA	South Pole Qui	57.10	180	P	P	12 48 29.0	+5.4
	comp=Z,5.3nm,0.6s,baz=62,slow=6.2,SNR=22						
QSPA				LR	LR	13 10 39.9	
	comp=Z,63nm,20.2s,baz=7.0,slow=34						
QSPA	South Pole Qui	57.10	180	P	P	12 48 29.1	+5.5
BATI	Baumata	57.72	279	LR	LR	13 13 00.0	
	comp=Z,127nm,19.3s,baz=177,slow=36						
GUMO	Guam	58.14	317	LR	LR	13 11 25.9	
	comp=Z,22nm,19.8s,baz=161,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	59.07	104	LR	LR	13 11 38.3	
	comp=Z,27nm,18.4s,baz=266,slow=33						
KAPI	Kappang	63.80	282	LR	LR	13 16 31.9	
	comp=Z,52nm,18.7s,baz=158,slow=36						
SNAA	Sanae	75.56	179	P	P	12 50 25.3	+3.8
VNA3	Neumayer Olymp	75.72	176	P	P	12 50 26.0	+3.6
VNA2	Neumayer--Watz	76.15	177	P	P	12 50 28.8	+4.0
	baz=176,slow=5.0						
JHJ	Hachijo jima 2	76.69	325	LR	LR	13 16 57.5	
	comp=Z,38nm,21.9s,baz=60,slow=30						
H03S2	Juan Fernandez	79.28	123	T	T	14 19 20.3	
	baz=236						
H03S1	Juan Fernandez	79.30	123	T	T	14 19 21.5	
	baz=236						
H03S3	Juan Fernandez	79.30	123	T	T	14 19 18.8	
	baz=236						
H03N3	Juan Fernandez	79.49	123	T	T	14 19 24.6	
	baz=240,slow=72,SNR=25						
H03N2	Juan Fernandez	79.49	123	T	T	14 19 20.6	
	baz=240,slow=72,SNR=14						
H03N1	Juan Fernandez	79.51	123	T	T	14 19 21.6	
	baz=240,slow=72,SNR=43						
PLCA	Paso Flores	80.95	133	LR	LR	13 18 52.1	
	comp=Z,47nm,18.8s,baz=178,slow=30						
PSI	Prapat	85.41	276	LR	LR	13 30 24.1	
	comp=Z,82nm,18.1s,baz=142,slow=37						
SHEM	Shemya Is, Ala	85.64	355	LR	LR	13 24 28.8	
	comp=Z,65nm,19.1s,baz=202,slow=32						
LPIG	La Paz	86.17	58	LR	LR	13 23 07.2	
	comp=Z,54nm,18.1s,baz=198,slow=31						
NJ2	Nanjing	87.71	311	*e*P	P	12 51 25.2	-0.8
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PETK	Petropavlovsk-	88.26	346	LR	LR	13 24 04.3	
	comp=Z,31nm,21.9s,baz=99,slow=31						
NVAR	Mina Array Bea	90.36	43	P	P	12 51 43.3	+4.7
	comp=Z,0.6nm,0.9s,baz=225,slow=8.9,SNR=3.9						
LVC	Limon Verde	92.94	119	LR	LR	13 24 46.3	
	comp=Z,27nm,21.4s,baz=235,slow=30						
NNA	Nana	93.00	106	LR	LR	13 24 14.6	
	comp=Z,39nm,20.5s,baz=230,slow=29						
KDAK	Kodiak Island	93.02	13	LR	LR	13 30 26.0	
	comp=Z,29nm,18.4s,baz=209,slow=34						
KLR	Kul'dur	93.13	330	LR	LR	13 30 32.5	
	comp=Z,29nm,19.9s,baz=92,slow=34						
TXAR	Lajitas Array	94.05	58	LR	LR	13 28 12.0	
	comp=Z,29nm,18.8s,baz=272,slow=32						
ANMO	Albuquerque	95.44	52	LR	LR	13 28 22.3	
	comp=Z,28nm,19.1s,baz=228,slow=31						
BBB	Bella Bella	95.54	28	LR	LR	13 27 28.0	
	comp=Z,26nm,20.6s,baz=260,slow=31						
PZH	PanZhiHua	96.24	297	P	P	12 52 07.9	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,4.0s						
HHC	Hu-ho-hao-te	97.82	314	*e*P	P	12 52 11.4	-1.3
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,87nm,5.0s						
CPUP	Villa Florida	98.60	129	LR	LR	13 28 10.2	
	comp=Z,34nm,21.1s,baz=198,slow=30						
LZH	Lanzhou	100.03	306	*e*P	Pdif	12 52 21.6	-1.1
LZH				pP	pPdif	12 52 27.6	-4.6
LZH				sP	pP	12 52 30.2	-2.0
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
WMQ	Urumqi	114.58	307	*e*P	PKPdf	12 57 14.2	-3.0
MKAR	Makanchi Array	119.20	309	PKP	PKPdf	12 57 25.4	-0.5
	comp=Z,0.5nm,0.6s,baz=107,slow=1.0,SNR=6.7						
ZALV	Zalesovo Beam	119.76	317	PKP	PKiKP	12 57 26.6	-0.2
	comp=Z,0.3nm,0.3s,baz=139,slow=3.3,SNR=1.7						
ARCES	ARCESS Array B	141.07	347	PKhKP	PKPpre	12 58 01.6	
	comp=Z,2.1nm,0.8s,baz=48,slow=1.9,SNR=7.7						
KBZ	Khabaz	146.25	301	PKPbc	PKPab	12 58 18.1	-0.1
	comp=Z,1.3nm,0.9s,baz=101,slow=5.2,SNR=1.9						
FINES	FINESS Array B	147.47	338	PKPbc	PKPbc	12 58 20.9	+0.5
	comp=Z,7.6nm,0.8s,baz=57,slow=4.3,SNR=24						
NB2	NORSAR Subarra	151.28	350	PKP	PKiKP	12 58 31.1	+0.6
	comp=Z,3.0nm,0.6s,baz=16,slow=2.6						
NOA	NORSAR Array B	151.28	350	PKPbc	PKiKP	12 58 31.4	+1.0
	comp=Z,2.8nm,0.6s,baz=13,slow=4.1,SNR=24						
NACGM	Naroch	151.88	329	*i* PKP	PKPbc	12 58 31.4	-0.1
AKASG	Malin Array Be	153.13	319	PKPbc	PKiKP	12 58 34.5	0.0
	comp=Z,1.3nm,0.6s,baz=50,slow=2.2,SNR=6.0						
BRTR	Keskin Array B	153.47	294	PKPbc	PKiKP	12 58 36.8	+0.9
	comp=Z,1.1nm,0.5s,baz=134,slow=3.6,SNR=3.7						
TORD	Torodi Ar. Bea	160.22	180	PKP	PKPdf	12 58 41.6	+4.4
	comp=Z,0.2nm,0.4s,baz=175,slow=3.0,SNR=1.6						
TORD				PKPab	PKPab	12 59 20.1	+2.7
	comp=Z,1.3nm,0.5s,baz=173,slow=3.6,SNR=8.5						

*NEIC **08** 12:50:15.1±0.9, 3°.2N±0°.1×126°.3E±0°.1, h35km±2km, mb4.3/13, Error ellipse: s-maj=23.7km s-min=14.6km az=224.0*

*IDC **08** 12:50:25.9±8.4, 2°.83N×125°.35E, h146km±81km, mb3.7/8, mb1 3.8/8, mb1mx3.4/47, mbtmp4.1/8, Error ellipse: s-maj=42.8km s-min=20.6km az=60.0*

ISC 08 12:50:16.7±0.7**, 3°.16N**±0°.07×**126°.3E**±0°.1**, h63**km**, n25,** σ1s.06/25**, mb4.1**/14**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	2.59	156		Pn	12 50 54.8	-1.5
GSPH	General Santos	3.21	335	⇑*e*P	Pn	12 51 05.7	+0.7
GSPH				*i* S	Sn	12 51 40.5	-1.7
LUWI	Luwuk	5.48	220	Pn	Pn	12 51 34.2	-1.7
TOLI2	Tolitoli	5.90	250	Pn	Pn	12 51 42.8	+1.2
KNRA	Kununurra	18.87	173	P	P	12 54 32.4	+0.4
KNRA				IAmb	IAmb	12 54 34.0	
	comp=Z,30nm,1.4s						
FITZ	Fitzroy Crossi	21.13	182	P	P	12 54 57.0	+0.5
	comp=Z,2.4nm,0.5s,baz=9.6,slow=8.2,SNR=20						
WB0	Warramunga Arr	24.12	161	P	P	12 55 27.5	+0.6
WB0				IAmb	IAmb	12 55 27.8	
	comp=Z,5.3nm,0.3s						
PMG	Port Moresby	24.23	121	P	P	12 55 36.3	+8.4
	comp=Z,18nm,0.7s,baz=340,slow=6.8,SNR=9.1						
PMG	Port Moresby	24.23	121	P	P	12 55 28.7	+0.8
WRAB	Tennant Creek	24.27	161	P	P	12 55 28.9	+0.7
WRAB				IAmb	IAmb	12 55 29.7	
	comp=Z,8.4nm,1.2s						
WRA	Warramunga Arr	24.27	161	P	P	12 55 28.6	+0.4
	comp=Z,1.9nm,0.4s,baz=342,slow=9.4,SNR=38						
WRA	Warramunga Arr	24.27	161	P	P	12 55 28.3	+0.1
WB2	Warramunga Arr	24.27	161	P	P	12 55 29.0	+0.7
WB2				IAmb	IAmb	12 55 30.2	
	comp=Z,5.1nm,0.8s						
WR0	Warramunga Arr	24.35	161	P	P	12 55 29.6	+0.7
WR0				IAmb	IAmb	12 55 30.8	
	comp=Z,4.2nm,0.8s						
AS31	Alice Springs	27.67	165	P	P	12 55 59.3	+0.3
AS31				IAmb	IAmb	12 56 04.7	
	comp=Z,1.5nm,0.2s						
ASAR	Alice Springs	27.67	165	P	P	12 55 59.6	+0.7
	comp=Z,1.3nm,0.5s,baz=344,slow=8.2,SNR=66						
BBOO	Buckleboo	36.94	166	P	P	12 57 20.9	+1.0
STKA	Stephens Creek	37.75	159	P	P	12 57 28.1	+1.4
	comp=Z,2.2nm,0.3s,baz=347,slow=9.6,SNR=21						
STKA	Stephens Creek	37.75	159	IAmb	IAmb	12 57 29.1	
	comp=Z,0.9nm,0.8s						
ARMA	Armidale	41.22	146	P	P	12 57 57.8	+2.0
ARMA				IAmb	IAmb	12 58 14.9	
	comp=Z,18nm,1.4s						
SONM	Songino Array	47.71	342	P	P	12 58 47.4	+0.1
	comp=Z,0.2nm,0.5s,baz=146,slow=8.7,SNR=2.4						
MKAR	Makanchi Array	57.79	326	P	P	12 59 59.9	-1.7
	comp=Z,0.2nm,0.4s,baz=118,slow=7.9,SNR=3.9						
MKAR				PcP	PcP	13 00 53.1	-0.6
	comp=Z,0.5nm,0.6s,baz=124,slow=3.6,SNR=4.6						
ARCES	ARCESS Array B	90.84	340	P	P	13 03 12.2	-0.8
	comp=Z,2.9nm,0.9s,baz=81,slow=5.6,SNR=2.4						
ARCES	ARCESS Array B	90.84	340	P	P	13 03 12.8	-0.2
TXAR	Lajitas Array	122.27	52	PKP	PKPdf	13 09 05.4	-0.1
	comp=Z,0.4nm,0.9s,baz=291,slow=2.8,SNR=2.8						

*IDC **08** 12:53:32.6±1.5, 3°.74S×141°.82E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=35.9km s-min=20.8km az=81.0*

ISC 08 12:53:34.6±1.5**, 3°.90S**±0°.08×**141°.4E**±0°.2**, h10**km**, n6,** σ3s.47/8**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.53	334	Pg	Pg	12 54 03.8	-0.2
	28nm,0.3s,baz=171,slow=13,SNR=81						
JAY				Lg	Lg	12 54 21.6	
	102nm,0.3s,baz=36,slow=19,SNR=12						
JAY				LR	LR	12 54 43.5	
	comp=Z,107nm,21.8s,baz=139,slow=43						
WRA	Warramunga Arr	17.35	203	P	P	12 57 40.3	+1.8
	0.2nm,0.3s,baz=21,slow=12,SNR=4.4						
WRA				S	Sn	13 00 46.6	-3.8
	0.1nm,0.3s,baz=34,slow=25,SNR=1.9						
FITZ	Fitzroy Crossi	20.88	226	P	P	12 58 21.6	+4.4
	2.1nm,0.9s,baz=40,slow=12,SNR=2.8						
FITZ				S	S	13 02 06.5	-3.6
	1.7nm,0.8s,baz=188,slow=16,SNR=2.1						
ASAR	Alice Springs	20.93	199	P	P	12 58 19.9	+2.2
	0.6nm,0.7s,baz=28,slow=11,SNR=5.9						
MKAR	Makanchi Array	72.35	322	P	P	13 05 01.2	+0.3
	0.5nm,0.6s,baz=116,slow=6.6,SNR=6.4						
ILAR	Eielson Array	85.82	24	P	P	13 06 11.9	-2.2
	0.2nm,0.7s,baz=251,slow=4.8,SNR=5.9						

NOU 08 12:55:41.7, 15°.58S×167°.60E, h77km**, MLv4.4**/12**, Vanuatu Islands, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	Saraoutou	0.41	289	P	Pn	12 55 55.2	+0.8
DVP	Devils Point	2.21	165	P	Pn	12 56 16.2	-0.1
KOUNC	Koumac, New Ca	5.86	212	P	Pn	12 57 06.8	+0.8
MARNC	Mare, Loyalty	5.88	176	P	Pn	12 57 06.6	+0.3
	1.3nm,1.1s						
YATNC	Mamie plateau,	6.48	186	P	Pn	12 57 13.7	-0.8
DZM	Mont Dzumac	6.55	189	P	Pn	12 57 15.2	-0.3
ONTNC	Ouen Toro	6.78	189	P	Pn	12 57 19.2	+0.6
PINNC	Pines Island,	7.00	181	P	Pn	12 57 21.4	-0.1

*MDD **08** 13:07:46.6±0.5, 35°.43N×3°.55W, h69km, Mb2.6/5, Error ellipse: s-maj=5.2km s-min=4.9km az=57.0, mb_VC stands for mb(V-C)*

*CNRM **08** 13:07:46.1, 35°.43N×3°.76W, h16km, ml2.0*

ISC 08 13:07:45.5±1.1**, 35°.50N**±0°.03×**3°.72W**±0°.03**, h15**km±9km**, n12,** σ0s.88/24**, 4C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.33	213	P	Pg	13 07 51.6	-0.8
PALE				S	Sg	13 07 56.2	-0.8
GOG	Mont Gurugu	0.65	115	P	Pb	13 07 58.4	-0.3
GOG				S	Sb	13 08 08.0	+0.5
EMEL	Melilla	0.65	107	Pg	Pb	13 07 58.5	-0.1
EMEL				Sg	Sg	13 08 08.2	+1.2
EALB	Alboran	0.71	51	Pg	Pb	13 07 59.4	-0.2
EALB				⇑*i*Vmb_V		13 08 00.0	
	2µm,SNR=1.4						
EALB				Sg	Sg	13 08 10.2	+1.3
TAF	Taforalt	1.27	122	P	Pn	13 08 09.0	+0.3
TAF				S	Sg	13 08 27.6	+1.2
EMIJ	Mijas	1.37	322	Pn	Pn	13 08 10.4	+0.3
EMIJ				⇑*i*Vmb_V		13 08 11.2	
	102nm,SNR=1.0						
EMIJ				Sn	Sb	13 08 29.0	+0.9
SMIR	Smir Dam	1.37	278	P	Pb	13 08 11.4	+0.7
SMIR				S	Sn	13 08 27.6	-0.2
ELGU	Los Guajares,	1.37	3	Pn	Pn	13 08 09.6	-0.6
ELGU				⇑*i*Vmb_V		13 08 10.2	
	127nm,SNR=0.8						
ELGU				Sn	Sn	13 08 26.0	-2.2
CHEFC	Chefchaouen	1.38	254	P	Pb	13 08 11.4	+0.4
CHEFC				S	Sb	13 08 29.3	+0.8
MD31	MD31	2.76	198	P	Pn	13 08 29.3	0.0
MD31				S	Sn	13 09 01.0	-1.4
MDT	Midelt	2.77	196	P	Pn	13 08 29.8	+0.3
MDT				S	Sn	13 09 02.7	-0.1
ECAB	El Cabril	2.91	333	Pn	Pn	13 08 31.3	0.0
ECAB				⇑*i*Vmb_V		13 08 32.2	
	36nm,SNR=0.4						
ECAB				Sn	Sn	13 09 05.9	-0.2

*IDC **08** 13:42:15.7±1.6, 5°.58S×128°.50E, h400km±25km, mb2.4/1, mb1 2.6/5, mb1mx2.3/37, mbtmp3.4/5, Error ellipse: s-maj=36.4km s-min=20.8km az=88.0*

ISC 08 13:42:14.5±1.0**, 5°.5S**±0°.1×**128°.4E**±0°.2**, h400**km**, n6,** σ2s.91/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.44	31	P	Pn	13 43 42.8	+1.6
	0.8nm,0.3s,baz=181,slow=23,SNR=2.4						
SIJI				S	S	13 44 47.0	-4.7
	2.8nm,0.3s,baz=249,slow=23,SNR=11						
BATI	Baumata	6.62	225	P	Pn	13 43 54.9	+0.9
	16nm,0.3s,baz=87,slow=3.5,SNR=13						
BATI				S	S	13 45 11.4	-3.7
	3.7nm,0.3s,baz=101,slow=20,SNR=2.4						
FITZ	Fitzroy Crossi	12.77	192	P	Pn	13 45 05.0	+0.3
	0.1nm,0.3s,baz=19,slow=13,SNR=2.0						
WRA	Warramunga Arr	15.42	159	P	P	13 45 31.4	-0.2
	0.1nm,0.3s,baz=340,slow=11,SNR=7.0						
ASAR	Alice Springs	18.77	164	P	P	13 46 08.3	+1.0
	0.1nm,0.3s,baz=343,slow=11,SNR=11						
MKAR	Makanchi Array	66.16	327	P	P	13 52 22.2	+1.6
	0.1nm,0.3s,baz=114,slow=6.5,SNR=2.0						

*NIED **08** 14:32:48.6, 35°.91N×138°.07E, h10km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.01; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-0.86; $M_{r\theta}$-0.32; $M_{\theta\phi}$-0.76; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.20000×10^{14} NP1: ϕ_s337.00000°, δ81.00000°, λ15.00000°. NP2: ϕ_s245.00000°, δ75.00000°, λ171.00000°.*

JMA 08 14:32:48.5, 35°.91N×138°.07E, h10km**, M3.5, 3D Broadband fault plane solution: P waves. NP1:** ϕ_s333.00000°, δ87.00000°, λ32.00000°. **NP2:** ϕ_s242.00000°, δ58.00000°, λ177.00000°. **Principal axes:** T Plg24.0000°, Azm202.0000°; N Plg58.0000°, Azm337.0000°; P Plg20.0000°, Azm103.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNT	Takato	0.07	122	⇓P	Pg	14 32 50.6	-0.2
JNT				S	Sg	14 32 52.0	-0.5
JYN	Shimob	0.56	137	⇓P	Pg	14 32 59.5	0.0
JYN				S	Sg	14 33 07.3	+0.4
MAT	Matsushiro	0.64	10	P	Pg	14 33 00.4	-0.5
MAT				S	Sg	14 33 09.4	0.0
MAT	Matsushiro	0.64	10	P	Pg	14 33 00.4	-0.5
MAT				S	Sg	14 33 08.7	-0.7
JRY	Ryogami san	0.68	81	⇓P	Pg	14 33 01.2	-0.5
JRY				S	Sg	14 33 10.5	-0.2
SHZ3	Shizuoka 3	0.85	172	P	Pg	14 33 04.2	-0.7
SHZ3				S	Sg	14 33 15.5	-0.5

*IDC **08** 14:39:00.5±2.5, 34°.34N×132°.45E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.2/3, ML2.3/1 Error ellipse: s-maj=92.0km s-min=32.0km az=115.0*

*JMA **08** 14:39:21.4±0.2, 37°.06N×135°.37E, h385km, M3.6*

ISC 08 14:39:20.5±2.4**, 37°.1N**±0°.3×**135°.3E**±0°.2**, h400**km**, n10,** σ1s.38/10**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKY	Yasaka	1.52	187	P	Pn	14 40 12.5	-1.4
JWT	Wachi	1.85	178	P	Pn	14 40 14.8	-0.8
MAT	Matsushiro	2.38	104	P	Pn	14 40 18.7	-0.3
MJAR	Matsushiro Arr	2.38	104	Pn	Pn	14 40 19.8	+0.8
	0.1nm,0.3s,baz=261,slow=6.5,SNR=6.4						
JAG	Ashikaga	3.38	101	P	Pn	14 40 26.7	-0.2
JMM	Marumori	4.40	79	P	Pn	14 40 36.9	+0.6
JFK	Kawauchi	4.42	85	P	Pn	14 40 36.6	-0.1
JFK				S	S	14 41 35.9	-2.6
BSO1	Boso 1	5.20	117	P	Pn	14 40 44.3	+0.3
ILAR	Eielson Array	52.00	32	P	P	14 48 37.5	+47
	0.4nm,1.0s,baz=280,slow=5.4,SNR=4.2						
WRA	Warramunga Arr	56.78	181	P	P	14 48 26.4	+1.7
	0.1nm,0.4s,baz=355,slow=7.7,SNR=5.0						

*GUC **08** 14:49:16.0±0.7, 20°.08S×70°.73W, h44km±2km, ML3.7*

*IDC **08** 14:49:18.8±4.2, 19°.98S×70°.61W, h74km±33km, mb3.2/2, mb1 3.5/4, mb1mx3.3/32, mbtmp3.6/4, Error ellipse: s-maj=60.4km s-min=18.0km az=85.0*

ISC 08 14:49:15.1±1.8**, 20°.03S**±0°.06×**70°.9W**±0°.1**, h46**km±20km**, n28,** σ1s.03/37**, 2C-9D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TA02	Huaiquique	0.76	109	*e*P	Pn	14 49 29.6	+0.2
TA02				*e*S	Sn	14 49 40.0	+0.1
TA02				IAML		14 49 40.3	
	comp=E,14µm,0.5s						
HMBC	Humberstone	0.98	105	⇓*i*P	Pn	14 49 32.9	+0.3
HMBC				*i* S	Sn	14 49 45.1	-0.3
HMBC				IAML		14 49 46.2	
	comp=N,6µm,0.4s						
PATCX	Punta Patache	1.05	139	⇓*i*P	Pn	14 49 34.1	+0.6
PATCX				*i* S	Sn	14 49 46.5	-0.7
PB11	IPOC Station P	1.20	78	⇑*i*P	Pn	14 49 35.6	0.0
PB11				*e*S	Sn	14 49 50.5	-0.2
PB11				IAML		14 49 51.2	
	comp=N,5µm,0.3s						
PB02	IPOC Station P	1.59	144	⇓*i*P	Pn	14 49 41.7	+0.7
PB02				*i* S	Sn	14 49 60.0	-0.4
PB02				IAML		14 50 03.2	
	comp=E,1µm,0.3s						
GO01	Chusmiza	1.64	78	*e*P	Pn	14 49 42.1	+0.2
GO01				*e*S	Sn	14 50 02.4	+0.3
PB08	IPOC Station P	1.64	94	⇑*i*P	Pn	14 49 42.3	+0.5
PB08				*i* S	Sn	14 50 02.0	0.0
PB08				IAML		14 50 04.4	
	comp=N,1µm,0.3s						
PB01	IPOC Station P	1.66	128	⇓*i*P	Pn	14 49 42.7	+0.8
PB01				*i* S	Sn	14 50 02.5	+0.3
PB01				IAML		14 50 04.2	
	comp=E,4µm,0.3s						
PB07	IPOC Station P	1.94	151	⇓*i*P	Pn	14 49 46.4	+0.6
PB07				*e*S	Sn	14 50 08.8	-0.3
PB09	IPOC Station P	2.34	139	⇓*i*P	Pn	14 49 53.0	+1.7
PB09				*e*S	Sn	14 50 19.7	+0.7
PB09				IAML		14 50 25.5	
	comp=E,675nm,0.8s						
PB09				IAML		14 50 27.0	
	comp=N,369nm,0.6s						
PB04	IPOC Station P	2.40	163	⇓*i*P	Pn	14 49 52.4	+0.3
PB04				*e*S	Sn	14 50 18.5	-1.8
PB04				IAML		14 50 21.8	
	comp=E,539nm,0.1s						
PB06	IPOC Station P	2.94	155	⇓*i*P	Pn	14 49 59.8	+0.3
PB06				*e*S	Sn	14 50 33.9	+0.2
PB06				IAML		14 50 36.0	
	comp=E,243nm,0.2s						
LVC	Limon Verde	3.17	145	P	Pn	14 50 04.2	+1.4
	comp=E,36nm,0.3s,baz=333,slow=9.0,SNR=352						
LVC				S	Sn	14 50 41.8	+2.2
	comp=E,24nm,0.3s,baz=252,slow=20,SNR=10						
LVC	Limon Verde	3.17	145	*e*P	Pn	14 50 04.2	+1.4
LVC				*e*S	Sn	14 50 41.0	+1.4
PB15	IPOC Station P	3.43	158	⇓*i*P	Pn	14 50 06.5	+0.2
PB15				*i* S	Sn	14 50 46.9	+1.0
LPAZ	La Paz	4.55	36	P	Pn	14 50 24.6	+2.6
	comp=E,1.0nm,0.3s,baz=219,slow=6.5,SNR=19						
SIV	San Ignacio	10.17	68	P	Pn	14 51 36.6	-2.0
	comp=E,0.9nm,0.3s,baz=243,slow=11,SNR=13						
H03N1	Juan Fernandez	15.15	206	P	Pn	14 52 45.2	-0.6
	baz=111,slow=14,SNR=6.0						
H03N1				T	T	15 08 54.8	
	baz=33,slow=72,SNR=12						
H03N2	Juan Fernandez	15.16	207	P	Pn	14 52 45.4	-0.4
	baz=111,slow=14,SNR=3.5						
H03N2				T	T	15 08 34.4	
	baz=33,slow=72,SNR=11						
H03N3	Juan Fernandez	15.17	207	P	Pn	14 52 45.2	-0.8
	baz=111,slow=14,SNR=9.4						
H03N3				T	T	15 08 33.4	
	baz=33,slow=72,SNR=10						
TORD	Torodi Ar. Bea	78.63	71	P	P	15 01 12.0	-0.8
	comp=E,0.5nm,0.6s,baz=242,slow=6.3,SNR=2.6						
YKA	Yellowknife Ar	89.19	341	P	P	15 02 05.8	+0.3
	comp=E,0.1nm,0.5s,baz=144,slow=5.3,SNR=2.5						
H11S2	WAKE ISLAND Hy	125.83	279	T	T	17 27 37.3	
	baz=101,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	125.84	279	T	T	17 27 35.6	
	baz=101,slow=74,SNR=8.6						
H11S3	WAKE ISLAND Hy	125.85	279	T	T	17 27 35.2	
	baz=101,slow=74,SNR=8.3						
H11N3	WAKE ISLAND Hy	125.88	280	T	T	17 27 35.6	
	baz=101,slow=74,SNR=4.6						
H11N2	WAKE ISLAND Hy	125.90	280	T	T	17 27 35.9	
	baz=101,slow=74,SNR=4.2						
H11N1	WAKE ISLAND Hy	125.90	280	T	T	17 27 42.3	
	baz=101,slow=74,SNR=3.3						

*MOS **08** 14:53:03.7±1.0, 18°.11S×178°.41W, h627km, mb5.1/24, Error ellipse: s-maj=10.3km s-min=8.0km az=65.7*

*NEIC **08** 14:53:04.0±2.1, 18°.16S±0°.09×178°.4W±0°.1, h615km±5km, mb4.6/214, Error ellipse: s-maj=15.2km s-min=12.9km az=120.0*

*IDC **08** 14:53:04.5±0.6, 18°.17S×178°.38W, h628km±6km, mb3.9/28, mb1 4.1/30, mb1mx4.0/44, mbtmp4.9/30, Error ellipse: s-maj=11.5km s-min=7.5km az=144.0*

*NOU **08** 14:53:04.7, 18°.11S×178°.25W, h636km, mb5.1/81, Fiji Islands Region*

*BGR **08** 14:53:04.2±0.0, 17°.63S×177°.18W, h600km*

ISC 08 14:53:02.0±0.2**, 18°.25S**±0°.05×**178°.35W**±0°.05**, h600**km**, n892,** σ1s.52/927**, mb4.6**/188**, 75C-101D, Fault plane solution: NP1:**ϕ_s283.22577°, δ83.73582°, λ-99.43216°. **NP2:**ϕ_s159.92848°, δ11.30709°, λ-33.81459°. **Principal axes:** T Plg38.0412°, Azm21.6868°; N Plg9.3753°, Azm284.2642°; P Plg50.4021°, Azm182.7510°; **Fault plane solution: NP1:**ϕ_s331.51617°, δ87.87283°, λ-86.87681°. **NP2:**ϕ_s95.74201°, δ3.77819°, λ-145.71616°. **Principal axes:** T Plg42.7908°, Azm58.5069°; N Plg3.1210°, Azm151.4001°; P Plg47.0389°, Azm244.7568°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	57	P	P	14 54 59.9	+1.6
	22nm,0.3s,baz=162,slow=0.4,SNR=34						
AFI				S	S	14 56 35.3	+2.0
	3.0nm,0.3s,baz=221,slow=20,SNR=1.5						
AFI	Afiamalu	7.65	57	P	P	14 55 00.4	+2.1
NIUE	Niue	8.03	97	P	P	14 55 03.8	+2.2
	baz=8.0,SNR=10						
NIUE	Niue	8.03	97	P	P	14 55 05.3	+3.7
FUNA	Funafuti	9.96	346	P	P	14 55 21.1	+0.6
RAO	Raoul Island	10.96	178	S	S	14 57 27.9	-4.0
	358nm,0.3s,baz=61,slow=19,SNR=4.9						
DVP	Devils Point	12.82	270	P	P	14 55 53.7	+4.6
MARNC	Mare, Loyalty	13.21	254	P	P	14 55 54.4	+1.3
LIFNC	LIFOU	13.82	257	P	P	14 55 59.4	+0.2
PINNC	Pines Island,	14.00	250	P	P	14 56 02.8	+1.9
SANVU	Saraoutou	14.11	279	P	P	14 56 03.2	+1.1
DZM	Mont Dzumac	14.77	253	P	P	14 56 08.4	+0.1
	2.2nm,0.3s,baz=125,slow=16,SNR=21						
DZM	Mont Dzumac	14.77	253	*e*P	P	14 56 09.2	+0.9
	111nm,1.1s						
DZM	Mont Dzumac	14.77	253	P	P	14 56 10.0	+1.7
DZM	Mont Dzumac	14.77	253	P	P	14 56 11.3	+3.0
NOUC	Port Laguerre	14.91	253	P	P	14 56 12.0	+2.6
KOUNC	Koumac, New Ca	16.54	259	P	P	14 56 26.9	+2.5
KNTN	Kanton	16.70	24	P	P	14 56 26.1	+0.2
OUZ	Omahuta	18.35	201	P	P	14 56 44.2	+3.5
OUZ				IAmb	IAmb	14 56 47.5	
	comp=Z,20nm,1.0s						
URZ	Urewera	20.32	190	P	P	14 56 58.1	-0.4
	comp=Z,12nm,0.5s,baz=7.4,slow=2.5,SNR=3.8						
URZ				S	S	15 00 05.5	-3.9
	comp=Z,9.1nm,0.8s,baz=18,slow=20,SNR=3.5						
URZ	Urewera	20.32	190	P	P	14 56 58.0	-0.4
TARA	Tarawa	21.30	335	P	P	14 57 04.8	-2.8
TARA	Tarawa	21.30	335	P	P	14 57 07.8	+0.2
BKZ	Black Stump Fm	21.31	191	P	P	14 57 07.3	-0.2
BKZ				IAmb	IAmb	14 57 36.6	
	comp=Z,24nm,1.2s						
BFZ	Birch Farm	22.83	191	P	P	14 57 21.0	+0.1
BFZ				IAmb	IAmb	14 57 32.6	
	comp=Z,34nm,1.2s						

SNZO	South Karori	23.74	193	P	P	14 57 29.7	+0.8
QRZ	Quartz Range	23.82	197	P	P	14 57 31.8	+2.1
QRZ	Quartz Range	23.82	197	P	P	14 57 32.5	+2.8
PLWZ	Palliser	23.88	192	P	P	14 57 30.9	+0.7
NNZ	Nelson	23.96	196	P	P	14 57 32.6	+1.7
THZ	Tophouse	24.59	196	P	P	14 57 37.2	+0.6
THZ				IAmb	IAmb	14 57 43.8	
	comp=Z,18nm,0.9s						
KHZ	Kahutara	25.05	194	P	P	14 57 41.1	+0.6
KHZ	Kahutara	25.05	194	P	P	14 57 42.6	+2.1
OXZ	Oxford	26.28	196	P	P	14 57 52.3	+1.0
OXZ				IAmb	IAmb	14 57 54.0	
	comp=Z,23nm,0.8s						
RPZ	Rata Peaks	26.91	197	P	P	14 57 57.0	+0.1
	comp=Z,14nm,0.8s,baz=5.2,slow=11,SNR=7.3						
RPZ	Rata Peaks	26.91	197	P	P	14 57 59.1	+2.3
	comp=Z,159nm,1.4s						
ODZ	Otahua Downs	28.25	197	P	P	14 58 10.1	+1.6
WKZ	Wanaka	28.53	199	P	P	14 58 11.8	+0.9
EIDS	Eidsvold	29.20	251	P	P	14 58 20.1	+3.1
MLZ	Mavora Lakes	29.29	200	P	P	14 58 19.4	+1.8
RK1H	Rockhampton Ha	29.53	255	P	P	14 58 21.7	+1.8
ARMA	Armidale	29.82	240	P	P	14 58 25.1	+2.7
	baz=30,SNR=33						
ARMA	Armidale	29.82	240	P	P	14 58 24.9	+2.5
ARMA	Armidale	29.82	240	P	P	14 58 25.3	+2.9
KWAJ	Kwajalein Atol	30.25	332	P	P	14 58 26.3	+0.2
KWAJ				pmax	pmax		
	comp=Z,560nm,1.3s						
KWAJ	Kwajalein Atol	30.25	332	P	P	14 58 26.3	+0.2
MGCD	Mangrove Creek	31.14	235	P	P	14 58 36.5	+2.9
	baz=31,SNR=16						
MGCD	Mangrove Creek	31.14	235	P	P	14 58 36.6	+3.1
RMQ	Roma	31.43	249	P	P	14 58 38.3	+2.2
	baz=32,SNR=34						
RMQ	Roma	31.43	249	P	P	14 58 38.7	+2.6
SYDH	Sydney Hard Ro	31.63	235	P	P	14 58 40.9	+3.3
KRVT	Keravat (AS076	32.11	292	S	S	15 03 12.8	-0.9
	baz=107,slow=20						
CNB	Canberra Magne	33.26	233	P	P	14 58 54.2	+2.7
	baz=33,SNR=163						
CNB	Canberra Magne	33.26	233	P	P	14 58 54.5	+3.0
CTA	Charters Tower	33.45	261	P	P	14 58 54.7	+1.5
	comp=Z,44nm,0.6s,baz=91,slow=9.4,SNR=54						
CTA				PcP	PcP	15 01 15.4	-0.9
	comp=Z,8.2nm,0.9s,baz=62,slow=2.3,SNR=4.1						
CTA	Charters Tower	33.45	261	P	P	14 58 54.7	+1.5
	comp=Z,86nm,1.2s						
CAN	Canberra	33.54	233	P	P	14 58 55.7	+1.9
CAN				pmax	pmax		
	comp=Z,86nm,0.7s						
CAN	Canberra	33.54	233	P	P	14 58 55.7	+1.9
CAN	Canberra	33.54	233	P	P	14 58 56.5	+2.7
PMG	Port Moresby	34.57	280	P	P	14 59 04.1	+1.4
	comp=Z,72nm,0.9s,baz=80,slow=5.7,SNR=29						
PMG	Port Moresby	34.57	280	*d i*P	P	14 59 04.2	+1.6
PMG				pmax	pmax		
	comp=Z,104nm,1.0s						
PMG	Port Moresby	34.57	280	P	P	14 59 04.4	+1.7
PMG	Port Moresby	34.57	280	P	P	14 59 04.6	+2.0
PMG	Port Moresby	34.57	280	P	P	14 59 04.9	+2.3
CMSA	Cobar Meteorol	35.03	241	P	P	14 59 08.2	+2.0
	baz=35,SNR=152						
CMSA	Cobar Meteorol	35.03	241	P	P	14 59 08.6	+2.4
MTSU	Mount Surprise	35.43	264	P	P	14 59 11.0	+1.3
	baz=36,SNR=60						
MTSU	Mount Surprise	35.43	264	P	P	14 59 10.9	+1.2
	comp=Z,30nm,0.8s						
QLP	Quilpie	35.47	250	P	P	14 59 11.3	+1.5
	baz=36,SNR=71						
QLP	Quilpie	35.47	250	P	P	14 59 11.1	+1.2
	comp=Z,288nm,0.8s						
JOHN	Johnston Islan	35.84	15	P	P	14 59 12.9	0.0
GLAD	Gladstone	36.65	225	P	P	14 59 22.1	+2.8
	comp=Z,79nm,0.8s						
TOO	Toolangi	37.00	231	P	P	14 59 24.5	+2.2
	baz=37,SNR=26						
TOO	Toolangi	37.00	231	P	P	14 59 24.1	+1.8
TOO				pmax	pmax		
	comp=Z,110nm,1.0s						
TOO	Toolangi	37.00	231	P	P	14 59 24.1	+1.8
TOO	Toolangi	37.00	231	P	P	14 59 24.5	+2.2
	comp=Z,124nm,1.0s						
COEN	Coen	37.16	271	P	P	14 59 25.6	+1.6
COEN	Coen	37.16	271	P	P	14 59 25.5	+1.6
	comp=Z,186nm,0.9s						
CORO	Coronation Par	37.44	224	P	P	14 59 28.5	+2.7
MLBS	Spotswood, Mel	37.53	231	P	P	14 59 29.1	+2.5
MOO	Moorlands	37.88	223	P	P	14 59 31.8	+2.5
	baz=38,SNR=3.8						
TAU	Tasmania Unive	38.02	222	P	P	14 59 32.5	+2.0
TAU				pmax	pmax		
	comp=Z,72nm,1.5s						
TAU	Tasmania Unive	38.02	222	P	P	14 59 32.5	+2.0
GEXS	Deakin Univers	38.11	231	P	P	14 59 33.7	+2.4
BRAT	Ballarat	38.15	232	P	P	14 59 34.4	+2.8
	comp=Z,77nm,0.9s						
STKA	Stephens Creek	38.52	242	P	P	14 59 36.8	+2.1
	comp=Z,86nm,0.8s,baz=87,slow=9.6,SNR=209						
STKA				PcP	PcP	15 01 32.1	+0.6
	comp=Z,7.8nm,0.7s,baz=33,slow=3.7,SNR=3.4						
STKA				S	S	15 04 47.8	-1.0
	comp=Z,2.9nm,1.0s,baz=329,slow=12,SNR=6.8						
STKA	Stephens Creek	38.52	242	P	P	14 59 36.6	+1.9
	baz=39,SNR=165						
STKA	Stephens Creek	38.52	242	P	P	14 59 36.5	+1.8
STKA				IAmb	IAmb	14 59 37.9	
	comp=Z,25nm,0.9s						
STKA	Stephens Creek	38.52	242	P	P	14 59 36.6	+1.9
	comp=Z,29nm,1.3s						
INKA	Innaminka	38.67	248	P	P	14 59 38.2	+2.2
	comp=Z,310nm,0.9s						
ARPS	Mount Arapiles	39.49	234	P	P	14 59 44.3	+1.8
	baz=40,SNR=14						
ARPS	Mount Arapiles	39.49	234	P	P	14 59 44.2	+1.8
	comp=Z,69nm,0.9s						
QIS	Mount Isa	39.65	260	P	P	14 59 44.6	+0.7
	baz=40,SNR=19						
QIS	Mount Isa	39.65	260	P	P	14 59 44.4	+0.5
	comp=Z,16nm,0.6s						
HTT	Hallett	41.02	240	P	P	14 59 56.4	+1.8
	baz=41,SNR=40						
HTT	Hallett	41.02	240	P	P	14 59 56.5	+1.8
	comp=Z,110nm,1.1s						
LCRK	Leigh Creek	41.16	244	P	P	14 59 57.2	+1.5
	comp=Z,168nm,0.8s						
GHSS	Government Hou	41.58	238	P	P	15 00 01.1	+2.2
	comp=Z,102nm,0.9s						
NAPP	Napperby	41.61	240	P	P	15 00 01.5	+2.2
	comp=Z,106nm,1.1s						
TWOA	Tennyson Woods	41.62	238	P	P	15 00 01.8	+2.5
	comp=Z,50nm,0.9s						
WHYH	Whyalla	42.06	241	P	P	15 00 04.6	+1.8
	comp=Z,92nm,0.8s						
OOD	Oodnadatta	43.15	249	P	P	15 00 13.0	+1.7
	comp=Z,101nm,1.0s						
BBOO	Buckleboo	43.29	241	P	P	15 00 13.7	+1.3
	baz=43,SNR=87						
BBOO	Buckleboo	43.29	241	P	P	15 00 13.7	+1.3
BBOO	Buckleboo	43.29	241	P	P	15 00 13.6	+1.2
	comp=Z,134nm,0.9s						
GENI	Genyem	43.52	286	P	P	15 00 15.3	+0.9
HMH	Humu'ula Sheep	43.81	32	P	P	15 00 17.3	+0.5
POHA	Pohakuloa	43.91	32	P	P	15 00 17.9	+0.3
WR0	Warramunga Arr	44.44	260	P	P	15 00 21.6	+0.2
WB0	Warramunga Arr	44.59	260	P	P	15 00 22.9	+0.2
WB2	Warramunga Arr	44.62	260	P	P	15 00 22.9	+0.1
	baz=45						
WB2	Warramunga Arr	44.62	260	P	P	15 00 23.1	+0.3
WRAB	Tennant Creek	44.62	260	*d i*P	P	15 00 22.8	0.0
WRAB				pmax	pmax		
	comp=Z,59nm,1.0s						
WRAB	Tennant Creek	44.62	260	P	P	15 00 23.1	+0.2
WRAB	Tennant Creek	44.62	260	P	P	15 00 23.0	+0.2
	comp=Z,98nm,1.2s						
WRA	Warramunga Arr	44.63	260	P	P	15 00 22.9	0.0
	comp=Z,44nm,0.6s,baz=96,slow=7.0,SNR=568						
WRA				PcP	PcP	15 01 52.5	+0.1
	comp=Z,16nm,0.9s,baz=92,slow=3.7,SNR=11						
WRA				S	S	15 06 10.0	-6.7
	comp=Z,4.6nm,0.9s,baz=94,slow=13,SNR=10						
WRA				PKiKP	PKiKP	15 08 47.8	-1.8
	comp=Z,0.9nm,0.9s,baz=123,slow=0.6,SNR=5.0						
WRA	Warramunga Arr	44.63	260	P	P	15 00 22.9	0.0
MULG	Mulgathing	44.72	245	P	P	15 00 24.2	+0.8
	comp=Z,192nm,0.8s						

AS31	Alice Springs	44.75	255	P	P	15 00 24.8	+0.9
ASAR	Alice Springs	44.75	255	P	P	15 00 24.6	+0.8
	comp=Z,161nm,0.8s,baz=92,slow=7.7,SNR=1949						
ASAR				PcP	PcP	15 01 52.9	+0.1
	comp=Z,14nm,0.5s,baz=101,slow=3.8,SNR=12						
ASAR				S	S	15 06 15.9	-2.5
	comp=Z,7.2nm,0.9s,baz=88,slow=15,SNR=26						
ASAR				PKiKP	PKiKP	15 08 47.3	-2.4
	comp=Z,0.7nm,0.9s,baz=110,slow=1.7,SNR=3.3						
ASAR	Alice Springs	44.75	255	P	P	15 00 24.8	+0.9
ASPA	Alice Springs	44.76	255	P	P	15 00 24.9	+1.0
	baz=45						
KDU	Kakadu	47.61	269	P	P	15 00 45.8	+0.3
	baz=48,SNR=36						
KDU	Kakadu	47.61	269	P	P	15 00 45.7	+0.3
	comp=Z,84nm,0.8s						
DRS	Darwin Rock St	49.16	269	P	P	15 00 57.2	+0.3
	comp=Z,30nm,0.9s						
WRKA	Warakurna	49.79	252	P	P	15 01 02.1	+0.6
	baz=50,SNR=152						
WRKA	Warakurna	49.79	252	P	P	15 01 01.9	+0.4
	comp=Z,168nm,0.9s						
FORT	Forrest	49.91	245	P	P	15 01 02.4	+0.3
	baz=50,SNR=59						
FORT	Forrest	49.91	245	P	P	15 01 02.4	+0.3
FORT	Forrest	49.91	245	P	P	15 01 02.4	+0.3
	comp=Z,168nm,0.8s						
KNRA	Kununurra	50.51	264	P	P	15 01 07.1	+0.4
	baz=51,SNR=55						
KNRA	Kununurra	50.51	264	P	P	15 01 06.5	-0.2
KNRA	Kununurra	50.51	264	P	P	15 01 07.2	+0.5
	comp=Z,98nm,0.9s						
BNDI	Bandanaira	52.34	279	P	P	15 01 20.7	+0.8
SIJI	Sorong	52.37	283	P	P	15 01 20.9	+0.8
	comp=Z,185nm,1.0s,baz=85,slow=5.6,SNR=32						
FITZ	Fitzroy Crossi	53.03	261	P	P	15 01 25.4	+0.6
	baz=53,SNR=56						
FITZ	Fitzroy Crossi	53.03	261	P	P	15 01 24.8	+0.1
FITZ				IAmb	IAmb	15 01 25.9	
	comp=Z,12nm,0.7s						
FITZ	Fitzroy Crossi	53.03	261	P	P	15 01 25.5	+0.8
	comp=Z,24nm,1.7s						
TNTI	Ternate	56.60	283	P	P	15 01 49.5	-0.2
TNTI				IAmb	IAmb	15 01 51.0	
	comp=Z,60nm,0.9s						
TNTI	Ternate	56.60	283	P	P	15 01 50.7	+1.1
	comp=Z,77nm,0.9s						
SANI	Sanana	56.86	280	P	P	15 01 51.4	0.0
	comp=Z,79nm,1.1s						
PSA00	Pilbara Seismi	57.88	256	P	P	15 01 58.1	-0.1
PSA00				IAmb	IAmb	15 01 59.4	
	comp=Z,68nm,0.9s						
PSA00	Pilbara Seismi	57.88	256	P	P	15 01 57.7	-0.6
PSA00				IAmb	IAmb	15 01 59.5	
	comp=Z,34nm,0.9s						
PSA00	Pilbara Seismi	57.88	256	P	P	15 01 58.5	+0.2
	comp=Z,84nm,1.1s						
KLBR	Kellerberrin	58.73	244	P	P	15 02 04.3	+0.5
	baz=59,SNR=16						
KLBR	Kellerberrin	58.73	244	P	P	15 02 04.1	+0.3
	comp=Z,261nm,0.8s						
BLDU	Ballidu	59.69	245	P	P	15 02 10.3	+0.1
	baz=60,SNR=21						
MUN	Mundaring	60.02	243	P	P	15 02 13.1	+0.7
	baz=60,SNR=15						
MUN	Mundaring	60.02	243	P	P	15 02 13.1	+0.7
	comp=Z,66nm,0.9s						
SBA	Scott Base	60.08	184	P	P	15 02 14.1	+2.1
SBA				pmax	pmax		
	comp=Z,27nm,1.0s						
SBA	Scott Base	60.08	184	P	P	15 02 14.1	+2.1
SBA				IAmb	IAmb	15 02 16.3	
	comp=Z,27nm,0.9s						
VNDA	Vanda	60.11	185	P	P	15 02 14.3	+2.2
	comp=Z,4.6nm,0.8s,baz=353,slow=7.9,SNR=10						
VNDA	Vanda	60.11	185	P	P	15 02 14.1	+2.0
MORW	Morawa	60.40	246	P	P	15 02 15.0	+0.1
	baz=60,SNR=12						
MORW	Morawa	60.40	246	P	P	15 02 15.0	+0.1
MORW				IAmb	IAmb	15 02 15.6	
	comp=Z,22nm,0.8s						
MORW	Morawa	60.40	246	P	P	15 02 15.3	+0.4
	comp=Z,40nm,1.2s						
KAPI	Kappang	61.77	274	P	P	15 02 24.5	+0.3
	comp=Z,11nm,0.6s,baz=156,slow=5.0,SNR=8.7						
KAPI	Kappang	61.77	274	P	P	15 02 24.2	0.0
KAPI				IAmb	IAmb	15 02 25.4	
	comp=Z,48nm,1.4s						
PLAI	Plampang	62.55	269	P	P	15 02 29.2	+0.1
	comp=Z,124nm,1.1s						
TOLI2	Tolitoli	62.84	281	P	P	15 02 30.7	-0.3
TOLI2				IAmb	IAmb	15 02 32.0	
	comp=Z,24nm,0.8s						
GIRL	Giralia	62.85	253	P	P	15 02 32.7	+1.7
	baz=63,SNR=8.1						
GIRL	Giralia	62.85	253	P	P	15 02 32.4	+1.5
GIRL	Giralia	62.85	253	P	P	15 02 32.6	+1.7
JAGI	Jajag, Banyuwa	66.09	269	P	P	15 02 50.0	-1.5
JAGI	Jajag, Banyuwa	66.09	269	P	P	15 02 51.1	-0.4
MYLDM	Lahad Datu	66.45	284	P	P	15 02 54.1	+0.5
MYLDM				IAmb	IAmb	15 02 58.4	
	comp=Z,52nm,1.4s						
MJAR	Matsushiro Arr	68.22	323	P	P	15 03 03.5	-0.5
	comp=Z,0.7nm,0.4s,baz=167,slow=4.9,SNR=2.5						
KKM	Kota Kinabalu	68.88	284	P	P	15 03 08.3	-0.3
KKM				IAmb	IAmb	15 03 09.7	
	comp=Z,21nm,0.8s						
UGM	Wanagama	69.69	268	P	P	15 03 13.1	-0.2
UGM	Wanagama	69.69	268	P	P	15 03 13.6	+0.2
	comp=Z,158nm,0.8s						
ADK	Adak	69.85	1	P	P	15 03 12.3	-1.1
ADK				pmax	pmax		
	comp=Z,70nm,1.3s						
ADK	Adak	69.85	1	P	P	15 03 12.3	-1.1
JHS	Saijyo	70.19	319	P	P	15 03 16.4	+0.5
JHS				IAmb	IAmb	15 03 17.3	
	comp=Z,20nm,0.9s						
YOJ	Yonaguni jima	71.19	305	P	P	15 03 20.8	-1.0
YOJ				pmax	pmax		
	comp=Z,94nm,1.2s						
YOJ	Yonaguni jima	71.19	305	P	P	15 03 20.8	-1.0
SBUM	Sibu	71.32	279	P	P	15 03 23.1	+0.3
QSPA	South Pole Qui	71.80	180	P	P	15 03 26.4	+1.5
	comp=Z,41nm,0.8s,baz=26,slow=1.1,SNR=130						
QSPA	South Pole Qui	71.80	180	P	P	15 03 26.3	+1.5
YULB	Yu-li	72.00	303	P	P	15 03 25.4	-1.2
YULB				IAmb	IAmb	15 03 27.4	
	comp=Z,12nm,0.8s						
NACB	Ninganchiao	72.16	304	P	P	15 03 26.5	-1.0
SSLB	Suanglung	72.47	303	P	P	15 03 28.1	-1.3
TPUB	Ta-pu	72.49	303	P	P	15 03 28.3	-1.2
YHNB	Yeheng	72.58	304	P	P	15 03 29.8	-0.2
YHNB				IAmb	IAmb	15 03 30.6	
	comp=Z,16nm,0.8s						
KSM	Kuching	72.78	277	P	P	15 03 31.8	+0.5
KSM	Kuching	72.78	277	P	P	15 03 32.1	+0.7
	comp=Z,110nm,1.0s						
AKUT	Akutan	72.90	8	P	P	15 03 31.3	+0.3
XMIS	Christmas Isla	73.60	264	P	P	15 03 36.3	+0.3
XMIS				IAmb	IAmb	15 03 40.1	
	comp=Z,38nm,1.0s						
PETK	Petropavlovsk-	74.03	345	P	P	15 03 37.3	-0.2
	comp=Z,2.5nm,0.8s,baz=108,slow=7.8,SNR=5.6						
PETK				PP	PP	15 06 39.7	+5.3
	comp=Z,6.5nm,1.0s,baz=140,slow=9.7,SNR=3.5						
KSRS	Korea Array	75.00	318	P	P	15 03 43.6	+0.3
	comp=Z,1.3nm,0.7s,baz=126,slow=6.5,SNR=4.7						
CHGN	Chignik	76.14	11	P	P	15 03 48.4	-0.7
CHGN				IAmb	IAmb	15 04 01.2	
	comp=Z,16nm,1.1s						
CHIR	Chirikof Islan	76.25	13	P	P	15 03 49.0	-0.8
CHIR				IAmb	IAmb	15 04 11.7	
	comp=Z,32nm,1.3s						
SBC	Santa Barbara	76.50	47	P	P	15 03 52.2	+0.6
	baz=236						
KMRM	Mail Ridge	77.24	40	pP	pP	15 06 02.0	+2.5
ARVC	Arvin	77.48	46	P	P	15 03 57.3	+0.3
	baz=237						
VES	Vestal, Richgr	77.69	46	P	P	15 03 58.5	+0.5
	baz=237						
O02D	Mt. Diablo Mer	77.78	40	P	P	15 03 59.2	+0.6
	baz=233						
MURC	Murrieta	77.81	48	P	P	15 03 59.0	+0.2
	baz=238						
BFSC	Mount Baldy Ra	77.82	48	P	P	15 03 59.0	+0.1
	baz=238						

EDW2	Edwards Air Fo	77.92	47	P	P	15 04 00.3	+0.9
	baz=238						
MONP2	Monument Peak	78.00	49	P	P	15 04 00.1	0.0
	baz=239						
ISA	Isabella, Lake	78.01	46	P	P	15 04 00.3	+0.4
	baz=237,SNR=6.0						
OHAK	Old Harbor	78.05	14	P	P	15 03 58.8	-0.7
OHAK				IAmb	IAmb	15 04 04.5	
	comp=Z,20nm,1.3s						
IKP	In-Ko-Pah, Jac	78.10	50	P	P	15 04 01.2	+0.8
	baz=239						
NJ2	Nanjing	78.20	310	*e*P	P	15 04 02.6	+1.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
N02D	Trinity Center	78.31	40	P	P	15 04 02.4	+1.1
	baz=233						
PFO	Pinyon Flats O	78.34	49	P	P	15 04 02.0	+0.2
	baz=239						
TPFO	Pinon Flats	78.34	49	P	P	15 04 02.3	+0.5
	baz=239						
O03E	Paynes Creek	78.46	41	P	P	15 04 02.6	+0.4
	baz=234						
LRMC	Laurel Mtn Rad	78.46	47	P	P	15 04 02.9	+0.5
	baz=238						
M02C	Callahan	78.47	39	P	P	15 04 02.8	+0.6
	baz=233						
SWSC	Sam W. Stewart	78.47	50	P	P	15 04 03.6	+1.3
	baz=239						
MDJ	Mudanjiang	78.50	325	P	P	15 04 03.5	+1.3
MDJ				pmax	pmax		
	comp=Z,21nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.7s						
MDJ	Mudanjiang	78.50	325	P	P	15 04 01.6	-0.6
CWC	Cottonwood Cre	78.70	46	P	P	15 04 04.2	+0.5
	baz=237						
KDAK	Kodiak Island	78.72	14	P	P	15 04 03.2	+0.2
	comp=Z,8.0nm,1.0s,baz=243,slow=4.5,SNR=3.0						
KDAK	Kodiak Island	78.72	14	P	P	15 04 04.8	+1.8
	baz=205						
YBH	Yreka Blue Hor	78.76	39	P	P	15 04 05.0	+1.3
YBH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YBH	Yreka Blue Hor	78.76	39	P	P	15 04 05.0	+1.3
MLAC	Mammoth, Mammo	78.84	44	P	P	15 04 05.2	+0.7
	baz=236						
MPMC	Manual Prospec	78.90	46	P	P	15 04 05.3	+0.5
	baz=238						
J01E	Myrtle Point	78.91	37	P	P	15 04 05.9	+1.5
	baz=232						
GSC	Goldstone, Bar	78.97	47	P	P	15 04 05.3	+0.2
	baz=238						
MYKOM	Kota Tinggi	78.99	276	P	P	15 04 06.1	+0.7
MYKOM				IAmb	IAmb	15 04 07.0	
	comp=Z,22nm,1.0s						
MPK	Martis Peak	79.00	42	P	P	15 04 06.3	+1.0
MPK				IAmb	IAmb	15 04 07.1	
	comp=Z,26nm,1.2s						
HEC	Hector,Ludlow	79.06	48	P	P	15 04 05.5	+0.1
	baz=239						
BC3	Big Chuckawall	79.08	49	P	P	15 04 06.5	+0.8
	baz=239						
BEKR	Beckworth	79.11	42	P	P	15 04 06.5	+0.7
PNTR	Pine Nut	79.16	43	P	P	15 04 07.1	+1.0
PNTR				IAmb	IAmb	15 04 08.0	
	comp=Z,16nm,1.0s						
GLA	Glamis	79.23	50	P	P	15 04 06.4	0.0
	baz=240						
L04D	Klamath Falls	79.29	39	P	P	15 04 06.6	0.0
L04D				IAmb	IAmb	15 04 08.2	
	comp=Z,12nm,0.8s						
L04D	Klamath Falls	79.29	39	P	P	15 04 06.8	+0.2
	baz=233						
M04C	Macdoel	79.31	39	P	P	15 04 06.8	+0.1
	baz=234						
YERR	Yerington	79.33	43	P	P	15 04 07.7	+0.7
YERR				IAmb	IAmb	15 04 08.6	
	comp=Z,16nm,1.0s						
LHV	Little Huntoon	79.40	44	P	P	15 04 08.2	+1.1
LCH	Last Change Ra	79.42	45	P	P	15 04 08.1	+0.6
GRAC	Grapevine Rang	79.48	45	P	P	15 04 07.6	0.0
	baz=238						
GMRC	Granite Mounta	79.51	48	P	P	15 04 08.0	0.0
	baz=239						
Q19K	Cape Douglas,	79.54	13	P	P	15 04 07.1	-0.2
	baz=204						
FURC	Furnace Creek,	79.55	46	P	P	15 04 07.9	0.0
	baz=238						
IRM	Iron Mountain	79.56	49	P	P	15 04 07.4	-0.7
	baz=240						
NVAR	Mina Array Bea	79.63	44	P	P	15 04 08.9	+0.3
	comp=Z,4.7nm,0.7s,baz=224,slow=9.1,SNR=33						
NVAR				pP	pwP	15 06 19.7	+3.3
	comp=Z,0.3nm,0.6s,baz=225,slow=8.7,SNR=2.6						
NVAR	Mina Array Bea	79.63	44	P	P	15 04 09.6	+1.0
P18K	Big Mountain,	79.65	12	P	P	15 04 06.7	-1.2
P18K	Big Mountain,	79.65	12	P	P	15 04 07.9	0.0
	baz=202						
NV11	Mina Array Sit	79.73	44	P	P	15 04 10.0	+1.0
J04D	Umpqua Nationa	80.02	38	P	P	15 04 09.4	-1.1
	baz=233						
KVN	Kaiserville	80.11	43	P	P	15 04 11.8	+0.8
KVN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KVN	Kaiserville	80.11	43	P	P	15 04 11.8	+0.8
I04A	Tendick Farm,	80.17	38	P	P	15 04 11.4	+0.4
	baz=233						
214A	Organ Pipe Nat	80.18	52	P	P	15 04 12.0	+0.6
	baz=241						
TPNV	Topopah Spring	80.22	46	P	P	15 04 12.2	+0.6
TPNV	Topopah Spring	80.22	46	P	P	15 04 12.2	+0.6
TPNV	Topopah Spring	80.22	46	P	P	15 04 11.5	-0.1
	baz=238						
MOD	Modoc Plateau	80.31	40	P	P	15 04 12.1	+0.2
CN2	Changchun	80.33	322	*e*P	P	15 04 11.0	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PDMCI	Parker Dam,Lak	80.35	49	P	P	15 04 12.3	+0.2
	baz=240						
BNX	BinXian	80.41	325	⇑P	P	15 04 12.4	+0.2
BNX				pmax	pmax		
	comp=Z,41nm,1.0s						
BNX				pmax	pmax		
	comp=Z,410nm,4.0s						
K05A	Summer Lake	80.43	39	P	P	15 04 13.7	+1.1
K05A				IAmb	IAmb	15 04 14.7	
	comp=Z,22nm,1.0s						
KLR	Kul'dur	80.44	329	P	P	15 04 12.6	+0.3
	comp=Z,3.1nm,1.1s,baz=96,slow=2.3,SNR=5.3						
KLR	Kul'dur	80.44	329	⇑*e*P	P	15 04 12.8	+0.6
J05D	Fort Rock, OR	80.56	38	P	P	15 04 13.3	+0.1
	baz=234						
O19K	Port Alsworth	80.57	12	P	P	15 04 12.0	-0.6
O19K				IAmb	IAmb	15 04 12.8	
	comp=Z,11nm,0.8s						
O19K	Port Alsworth	80.57	12	P	P	15 04 11.2	-1.4
	baz=203,SNR=5.8						
CNPM	China Poot	80.60	14	P	P	15 04 12.9	0.0
CNPM				IAmb	IAmb	15 04 29.2	
	comp=Z,40nm,1.5s						
SMAI	San Martin Ant	80.81	159	P	P	15 04 14.6	+0.7
H04A	Detroit Lake	80.83	37	P	P	15 04 14.7	+0.2
H04A				IAmb	IAmb	15 04 15.6	
	comp=Z,18nm,1.3s						
BRLK	Bradley Lake	80.90	14	P	P	15 04 13.5	-0.9
BRLK				IAmb	IAmb	15 04 26.0	
	comp=Z,27nm,1.4s						
S11A	Rachel	80.92	46	P	P	15 04 16.2	+1.0
S11A				IAmb	IAmb	15 04 16.9	
	comp=Z,12nm,0.9s						
N19K	Bonanza Creek	81.11	12	P	P	15 04 13.4	-2.2
	baz=203						
I05D	Terrebonne, OR	81.11	38	P	P	15 04 13.6	-2.3
	baz=234						
SVW2	Sparrevohn	81.17	11	P	P	15 04 14.8	-1.0
PRN	Pahroc Range	81.27	46	P	P	15 04 17.3	+0.3
PRN				IAmb	IAmb	15 04 19.2	
	comp=Z,13nm,0.9s						
R11A	Troy Canyon, C	81.40	45	P	P	15 04 18.2	+0.6
R11A	Troy Canyon, C	81.40	45	P	P	15 04 16.9	-0.8
	baz=239,SNR=6.1						
BMN	Battle Mountai	81.42	43	P	P	15 04 18.2	+0.4
BMN				pmax	pmax		
	comp=Z,15nm,1.0s						
BMN	Battle Mountai	81.42	43	P	P	15 04 18.1	+0.4
BMN				IAmb	IAmb	15 04 19.4	

comp=Z,15nm,1.0s
HOOD Mount Hood Mea 81.52 37 P P 15 04 18.4 +0.3
HOOD IAmb IAmb 15 04 19.4
comp=Z,12nm,0.9s
MA2 Magadan 81.54 345 P P 15 04 16.2 -1.4
comp=Z,1.0nm,0.3s,baz=155,slow=4.7,SNR=9.5
MA2 Magadan 81.54 345 *de*P P 15 04 16.5 -1.2
MA2 Magadan 81.54 345 P P 15 04 16.8 -0.9
MA2 Magadan 81.54 345 P P 15 04 17.1 -0.6
comp=Z,5.7nm,0.9s
WVOR Wild Horse Val 81.63 40 P P 15 04 19.4 +0.7
WVOR pmax pmax
comp=Z,19nm,1.1s
G05D Wamic, OR 81.66 37 P P 15 04 18.2 -0.4
baz=234
E04D Cinebar 81.75 35 P P 15 04 18.6 -0.4
baz=232
BELA Belgrano 2 81.82 173 P P 15 04 19.0 +0.1
TUC Tucson 81.86 52 P P 15 04 20.8 +0.8
baz=242
GAMB Gambell 81.93 3 P P 15 04 19.4 -0.1
GAMB Gambell 81.93 3 P P 15 04 19.0 -0.5
baz=186
F05D White Salmon 81.96 36 P P 15 04 19.5 -0.7
baz=234
I07A Izee 82.04 39 P P 15 04 20.5 -0.2
I07A IAmb IAmb 15 04 22.5
comp=Z,14nm,0.9s
D03D Eldon 82.07 34 P P 15 04 18.7 -1.9
baz=232
UBPT Khong Chiam 82.09 289 P P 15 04 21.7 +0.2
UBPT IAmb IAmb 15 04 22.9
comp=Z,25nm,1.2s
M19K Big River Lodg 82.13 11 P P 15 04 19.9 -0.8
M19K Big River Lodg 82.13 11 P P 15 04 19.6 -1.1
baz=203
J08A Circle Bar Ran 82.25 40 P P 15 04 22.0 +0.2
J08A IAmb IAmb 15 04 23.5
comp=Z,22nm,1.2s
L19K White Mountain 82.31 11 P P 15 04 21.0 -0.5
L19K White Mountain 82.31 11 P P 15 04 20.5 -1.0
baz=202,SNR=7.2
LCMT Little Creek M 82.32 47 P P 15 04 22.8 +0.4
LCMT IAmb IAmb 15 04 24.2
comp=Z,10nm,0.9s
X16A Lo Mia Camp, P 82.36 50 P P 15 04 23.3 +0.6
X16A IAmb IAmb 15 04 25.0
comp=Z,14nm,1.1s
D05A Enumclaw 82.45 35 P P 15 04 23.2 +0.6
PWL Port Wells 82.46 14 P P 15 04 21.4 -0.9
baz=209
CCUT Cedar City 82.51 47 P P 15 04 24.1 +0.7
IPM Ipoh 82.52 277 P P 15 04 23.8 +0.1
IPM Ipoh 82.52 277 P P 15 04 24.4 +0.7
comp=Z,65nm,1.1s
319A Douglas 82.58 54 P P 15 04 24.3 +0.5
319A IAmb IAmb 15 04 26.5
comp=Z,19nm,0.9s
PSUT Pine Spring 82.66 46 P P 15 04 24.1 0.0
U15A North Rim 82.71 48 P P 15 04 24.9 +0.5
U15A IAmb IAmb 15 04 26.7
comp=Z,17nm,0.9s
SZCU Shurtz Canyon 82.72 47 P P 15 04 25.3 +0.9
L20K Farewell, AK 82.76 11 P P 15 04 22.4 -1.4
baz=203
GLI Glacier Island 82.77 15 P P 15 04 21.4 -2.4
baz=210
TTA Tatalina 82.80 10 P P 15 04 23.8 -0.3
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 82.80 10 P P 15 04 23.8 -0.3
TTA Tatalina 82.80 10 P P 15 04 22.3 -1.7
baz=201,SNR=7.1
M22K Willow 82.85 13 P P 15 04 22.5 -1.7
baz=207
ELK Elko 82.87 43 P P 15 04 24.6 -0.6
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 82.87 43 P P 15 04 24.6 -0.6
KNK Knik Glacier 82.92 14 P P 15 04 23.1 -1.5
KNK IAmb IAmb 15 04 24.8
comp=Z,18nm,1.1s
KNK Knik Glacier 82.92 14 P P 15 04 22.6 -2.0
baz=208
PMR Palmer 82.92 14 P P 15 04 23.1 -1.5
baz=208
WUAZ Wupatki 82.93 49 P P 15 04 26.2 +0.8
WUAZ IAmb IAmb 15 04 27.6
comp=Z,14nm,1.1s
WUAZ Wupatki 82.93 49 P P 15 04 25.8 +0.4
baz=242
HMT Hamilton 83.03 16 P P 15 04 24.8 -0.4
HMT IAmb IAmb 15 04 25.6
comp=Z,23nm,0.8s
B05A Bryant 83.04 34 P P 15 04 23.6 -1.9
baz=233
G08A Pilot Rock 83.05 38 P P 15 04 25.7 -0.1
G08A IAmb IAmb 15 04 27.3
comp=Z,14nm,1.1s
GHO Glory Hole Cre 83.13 14 P P 15 04 24.3 -1.4
GHO IAmb IAmb 15 04 25.9
comp=Z,16nm,0.8s
KULM Kulim 83.14 278 P P 15 04 26.7 -0.1
KULM IAmb IAmb 15 04 28.5
comp=Z,40nm,1.3s
ANM Nome 83.16 6 P P 15 04 25.7 0.0
ANM Nome 83.16 6 P P 15 04 25.7 0.0
ANM Nome 83.16 6 P P 15 04 24.8 -0.9
baz=192
LTY Liberty 83.22 35 P P 15 04 26.3 -0.2
LTY IAmb IAmb 15 04 27.1
comp=Z,13nm,1.2s
SML Sawmill 83.29 14 P P 15 04 25.8 -0.7
SML Sawmill 83.29 14 P P 15 04 25.8 -0.7
DIV Divide 83.31 15 P P 15 04 25.9 -0.7
DIV IAmb IAmb 15 04 26.9
comp=Z,9.8nm,0.9s
CUT Chulitna 83.40 13 P P 15 04 25.9 -1.0
CUT IAmb IAmb 15 04 26.8
comp=Z,23nm,0.9s
CUT Chulitna 83.40 13 P P 15 04 25.6 -1.3
baz=207
PPLA Purkeypile 83.46 12 P P 15 04 24.7 -2.7
baz=205
BMRM Bremner River 83.47 16 P P 15 04 26.8 -0.6
BMRM IAmb IAmb 15 04 35.7
comp=Z,21nm,1.4s
BMRM Bremner River 83.47 16 P P 15 04 25.5 -1.9
baz=212
WAX Waxell Ridge 83.50 17 P P 15 04 27.2 -0.4
SCM Sheep Creek Mo 83.55 14 P P 15 04 27.0 -0.8
SCM pmax pmax
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 83.55 14 P P 15 04 27.0 -0.8
SCM IAmb IAmb 15 04 28.0
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 83.55 14 P P 15 04 26.3 -1.5
baz=210
KLU Klutina 83.59 15 P P 15 04 27.0 -1.0
baz=211
BMO Blue Mountains 83.78 39 P P 15 04 29.3 -0.1
BMO Blue Mountains 83.78 39 P P 15 04 29.2 -0.1
MSU Marysvale 83.79 46 P P 15 04 30.2 +0.5
MSU Marysvale 83.79 46 P P 15 04 30.2 +0.5
MFID Camas Ranch 83.90 41 P P 15 04 30.2 +0.2
W18A Petrified Fore 83.93 50 P P 15 04 30.9 +0.4
baz=243
TNA Tin City 83.93 4 P P 15 04 29.0 -0.4
TNA Tin City 83.93 4 P P 15 04 28.7 -0.8
baz=190
CAST Castle Rocks 83.95 12 P P 15 04 27.7 -2.0
CAST IAmb IAmb 15 04 29.1
comp=Z,12nm,0.8s
CAST Castle Rocks 83.95 12 P P 15 04 28.2 -1.5
baz=205,SNR=12
TABL Table Mountain 83.98 18 P P 15 04 28.4 -1.7
TABL IAmb IAmb 15 04 30.7
comp=Z,19nm,0.9s
VRDI Verde Repeater 84.00 16 P P 15 04 29.4 -0.8
VRDI IAmb IAmb 15 04 30.1
comp=Z,15nm,1.3s
N25K Chitina, Valde 84.02 15 P P 15 04 29.6 -0.5
N25K IAmb IAmb 15 04 30.6
comp=Z,12nm,0.8s
N25K Chitina, Valde 84.02 15 P P 15 04 29.4 -0.7
baz=212

GRNC Granite Creek 84.04 17 P P 15 04 29.7 -0.7
GRNC IAmb IAmb 15 04 31.0
comp=Z,14nm,1.1s
M24K Tolsona, Glenn 84.06 15 P P 15 04 30.5 +0.2
M24K IAmb IAmb 15 04 31.2
comp=Z,33nm,1.1s
M24K Tolsona, Glenn 84.06 15 P P 15 04 29.5 -0.8
baz=211
BJI Beijing 84.07 315 P P 15 04 31.1 +0.4
BJI pmax pmax
comp=Z,8.0nm,1.2s
GLB Gilahina Butte 84.08 16 P P 15 04 29.8 -0.6
LYN LuoYang 84.09 309 ⇓P P 15 04 31.8 +0.8
LYN S S 15 14 06.9 +0.1
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,90nm,5.2s
WAT6 Susitna Watana 84.11 14 P P 15 04 29.1 -1.5
baz=209,SNR=5.7
SEY Seymchan 84.12 347 P P 15 04 29.6 -0.9
comp=Z,7.5nm,0.8s,baz=144,slow=5.7,SNR=40
SEY pP pwP 15 06 43.3 +2.6
comp=Z,1.2nm,0.9s,baz=146,slow=12,SNR=2.8
121A Cookes Peak, D 84.23 53 P P 15 04 30.8 -1.2
baz=244
MCARA McCarthy VSAT 84.24 16 P P 15 04 29.9 -1.2
MCARA IAmb IAmb 15 04 34.2
comp=Z,31nm,1.5s
MCARA McCarthy VSAT 84.24 16 P P 15 04 31.5 +0.4
baz=214
J20K Nowinta River 84.28 10 P P 15 04 29.8 -1.4
baz=203
KTH Kantishna Hill 84.30 12 P P 15 04 29.9 -1.5
KTH IAmb IAmb 15 04 31.8
comp=Z,8.2nm,0.9s
LOGN Logan Glacier 84.33 17 P P 15 04 31.2 -0.5
CHUM Lake Minchumin 84.33 11 P P 15 04 29.8 -1.6
baz=205
TRF Thorofare Moun 84.33 12 P P 15 04 30.4 -1.4
TRF IAmb IAmb 15 04 32.4
comp=Z,20nm,0.8s
TRF Thorofare Moun 84.33 12 P P 15 04 30.1 -1.6
baz=207,SNR=17
BARN Barnard Glacie 84.34 17 P P 15 04 31.5 -0.3
BARN IAmb IAmb 15 04 32.5
comp=Z,15nm,1.0s
CTG Chitna Glacier 84.35 17 P P 15 04 31.1 -0.7
baz=215
CTGM Chitina Glacie 84.35 17 P P 15 04 30.6 -1.3
CTGM IAmb IAmb 15 04 33.0
comp=Z,11nm,1.0s
F10A Beach Ranch, E 84.44 38 P P 15 04 32.5 0.0
F10A IAmb IAmb 15 04 33.5
comp=Z,16nm,0.9s
ENH Enshi 84.51 304 P P 15 04 32.8 -0.4
HARP HAARP 84.56 15 P P 15 04 30.8 -1.8
baz=212
B08A Colville Reser 84.59 35 P P 15 04 32.9 -0.2
B08A IAmb IAmb 15 04 33.8
comp=Z,9.2nm,0.8s
RND Reindeer 84.59 13 P P 15 04 31.8 -1.1
RND pmax pmax
comp=Z,20nm,1.0s
RND Reindeer 84.59 13 P P 15 04 31.8 -1.1
RND IAmb IAmb 15 04 32.9
comp=Z,20nm,1.0s
DHY Denali Highway 84.62 14 P P 15 04 32.2 -0.9
DHY IAmb IAmb 15 04 32.7
comp=Z,13nm,1.2s
DHY Denali Highway 84.62 14 P P 15 04 31.8 -1.3
baz=209
PLID Pearl Lake 84.68 39 P P 15 04 33.2 -0.7
GSI Gunungsitoli 84.78 273 P P 15 04 34.4 -0.4
GSI Gunungsitoli 84.78 273 P P 15 04 36.1 +1.2
comp=Z,83nm,0.9s
BPAW Bear Paw Mtn. 84.78 12 P P 15 04 32.0 -1.8
baz=206
TMUT Trail Mountain 84.83 46 P P 15 04 34.8 -0.1
HLID Hailey 84.85 41 P P 15 04 34.5 -0.3
HLID Hailey 84.85 41 P P 15 04 34.7 0.0
baz=239,SNR=14
MCK McKinley 84.86 13 P P 15 04 32.7 -1.4
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 84.86 13 P P 15 04 32.7 -1.4
MCK IAmb IAmb 15 04 34.0
comp=Z,17nm,1.2s
MCK McKinley 84.86 13 P P 15 04 32.4 -1.8
baz=208,SNR=5.2
PAX Paxson 84.97 14 P P 15 04 33.5 -1.3
PAX pmax pmax
comp=Z,8.0nm,1.2s
PAX Paxson 84.97 14 P P 15 04 33.5 -1.3
PAX Paxson 84.97 14 P P 15 04 33.4 -1.3
baz=211
HVU Hansel Valley 84.99 43 P P 15 04 35.4 0.0
HVU Hansel Valley 84.99 43 P P 15 04 35.4 0.0
BWN Browne 85.15 12 P P 15 04 34.1 -1.3
BWN IAmb IAmb 15 04 35.9
comp=Z,31nm,1.2s
SRIT Nakonsritamara 85.19 281 P P 15 04 37.6 +0.8
SRU San Rafael Swe 85.21 46 P P 15 04 36.3 -0.3
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 85.21 46 P P 15 04 36.3 -0.3
GYA Guiyang 85.26 300 ⇑P P 15 04 37.7 +0.7
GYA pmax pmax
comp=Z,10.0nm,0.6s
YUK3 Moose Creek 85.26 17 P P 15 04 35.0 -1.3
baz=216
M27K Edge Creek, AK 85.35 16 P P 15 04 36.5 -0.1
M27K IAmb IAmb 15 04 37.6
comp=Z,12nm,1.1s
M27K Edge Creek, AK 85.35 16 P P 15 04 34.4 -2.3
baz=214
HYT Haines Junctio 85.36 19 P P 15 04 35.4 -1.3
baz=219
MENT Mentasta 85.37 15 P P 15 04 35.9 -0.7
YUK4 Talbot Arm 85.43 18 P P 15 04 35.9 -1.2
baz=218
ZEA Zeya 85.52 331 *e*P P 15 04 37.1 -0.3
ZEA pmax pmax
comp=Z,10.0nm,1.0s
L26K Log Cabin Wild 85.53 15 P P 15 04 36.5 -0.8
L26K Log Cabin Wild 85.53 15 P P 15 04 35.8 -1.5
baz=213
LENM Lemitar 85.55 52 P P 15 04 37.4 -0.9
I21K Tanana 85.58 11 P P 15 04 36.2 -1.2
I21K IAmb IAmb 15 04 37.5
comp=Z,12nm,1.4s
I21K Tanana 85.58 11 P P 15 04 36.2 -1.2
baz=205
NEA2 Nenana 85.60 12 P P 15 04 34.8 -2.8
baz=208
BVCY Beaver Creek 85.67 17 P P 15 04 36.6 -1.5
baz=215
WRH Wood River Hil 85.69 13 P P 15 04 36.8 -1.2
WRH IAmb IAmb 15 04 37.9
comp=Z,19nm,1.2s
MNTX Cornudas Mount 85.73 55 P P 15 04 38.7 -0.4
MNTX Cornudas Mount 85.73 55 P P 15 04 37.5 -1.5
baz=246
NEW Newport 85.76 36 P P 15 04 38.7 -0.1
comp=Z,2.5nm,0.8s,baz=232,slow=4.9,SNR=3.8
NEW Newport 85.76 36 P P 15 04 38.4 -0.4
NEW Newport 85.76 36 P P 15 04 37.3 -1.5
baz=237
RIDG Independent Ri 85.78 14 P P 15 04 37.4 -1.1
RIDG Independent Ri 85.78 14 P P 15 04 36.5 -2.0
baz=212
BNM Barren Site 85.80 52 P P 15 04 39.9 +0.3
BCYI Bear Canyon 85.86 41 P P 15 04 40.0 +0.4
H21K Melozitna Rive 85.87 10 P P 15 04 36.9 -2.0
baz=204
HDA Harding Lake 85.88 13 P P 15 04 37.7 -1.2
HDA IAmb IAmb 15 04 38.7
comp=Z,6.7nm,0.7s
HDA Harding Lake 85.88 13 P P 15 04 37.1 -1.9
baz=210,SNR=6.7
DOT Dot Lake 85.88 15 P P 15 04 38.2 -0.8
CCB Clear Creek Bu 85.91 13 P P 15 04 37.5 -1.5
CCB IAmb IAmb 15 04 38.6
comp=Z,8.3nm,0.8s
L27K Beaver Creek, 85.95 16 P P 15 04 37.2 -2.1
baz=214

BCAR Beaver Creek A 85.96 16 P P 15 04 38.9 -0.5
IMAR Indian Mountai 86.01 10 P P 15 04 38.8 -0.7
I23K Minto, Yukon-K 86.04 12 P P 15 04 37.4 -2.2
baz=208
XLT XiLinHaoTe 86.05 319 *e*P P 15 04 40.7 +0.4
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,220nm,4.8s
WHY Whitehorse 86.06 20 P P 15 04 38.7 -1.3
baz=221
MDM Murphy Dome 86.09 12 P P 15 04 38.2 -1.7
MDM IAmb IAmb 15 04 39.5
comp=Z,9.1nm,1.0s
TCOL CIGO, UAF Yank 86.09 13 P P 15 04 38.4 -1.5
TCOL IAmb IAmb 15 04 39.5
comp=Z,11nm,0.8s
TCOL CIGO, UAF Yank 86.09 13 P P 15 04 38.5 -1.4
baz=209
COLA College 86.10 13 *ce*P P 15 04 38.5 -1.4
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 86.10 13 P P 15 04 38.4 -1.4
COLA IAmb IAmb 15 04 39.5
comp=Z,11nm,0.7s
COLA College 86.10 13 P P 15 04 38.5 -1.4
baz=209
TX31 Lajitas Ar. Si 86.13 58 P P 15 04 41.9 +0.8
TX32 Lajitas Array 86.13 58 P P 15 04 41.9 +0.8
TXAR Lajitas Array 86.13 58 P P 15 04 42.5 +1.4
comp=Z,18nm,1.0s,baz=222,slow=5.5,SNR=99
TXAR pP pwP 15 06 53.9 +2.1
comp=Z,0.4nm,1.0s,baz=253,slow=0.7,SNR=1.8
TXAR Lajitas Array 86.13 58 P P 15 04 42.1 +1.0
SCRK Sand Creek 86.18 14 P P 15 04 39.1 -1.5
SCRK Sand Creek 86.18 14 P P 15 04 39.0 -1.5
baz=212
IL31 86.21 13 P P 15 04 38.9 -1.6
IL31 IAmb IAmb 15 04 40.2
comp=Z,9.4nm,1.0s
ILAR Eielson Array 86.21 13 P P 15 04 39.1 -1.3
comp=Z,4.1nm,0.8s,baz=229,slow=5.8,SNR=34
ILAR pP pwP 15 06 53.9 +3.2
comp=Z,3.7nm,1.2s,baz=233,slow=5.8,SNR=6.4
ILAR PP PP 15 08 14.4 +1.3
comp=Z,1.2nm,0.9s,baz=222,slow=7.2,SNR=4.9
ILAR PKKP PKKPdf 15 22 29.2 -1.5
comp=Z,0.3nm,0.6s,baz=222,slow=1.2,SNR=3.1
ILAR Eielson Array 86.21 13 P P 15 04 38.9 -1.6
ANMO Albuquerque 86.27 51 *i*P P 15 04 42.2 +0.5
ANMO Albuquerque 86.27 51 P P 15 04 40.9 -0.8
ANMO IAmb IAmb 15 04 43.2
comp=Z,8.7nm,1.1s
ANMO Albuquerque 86.27 51 P P 15 04 38.9 -2.8
baz=245
POKR Poker Flat Res 86.40 13 P P 15 04 39.9 -1.4
POKR IAmb IAmb 15 04 40.8
comp=Z,5.8nm,0.8s
POKR Poker Flat Res 86.40 13 P P 15 04 40.4 -1.0
baz=209
J25K Salcha River, 86.40 14 P P 15 04 40.3 -1.2
J25K Salcha River, 86.40 14 P P 15 04 39.8 -1.7
baz=211,SNR=6.3
N31M Braeburn, Yuko 86.41 19 P P 15 04 40.5 -1.0
baz=220
P33M Teslin, Yukon 86.41 21 P P 15 04 40.8 -0.8
baz=223
MCMT McKenzie Canyo 86.46 40 P P 15 04 42.7 +0.2
XAN Xi'an 86.51 307 P P 15 04 43.6 +0.9
XAN pP pP 15 06 52.5 +1.1
XAN pmax pmax
comp=Z,37nm,1.4s
AHID Auburn Hatcher 86.56 43 P P 15 04 43.3 +0.4
AHID IAmb IAmb 15 04 44.6
comp=Z,15nm,1.4s
HIA Hailar 86.68 325 P P 15 04 43.0 -0.1
HIA pmax pmax
comp=Z,13nm,1.3s
HIA Hailar 86.68 325 P P 15 04 43.0 -0.1
HIA IAmb IAmb 15 04 44.1
comp=Z,13nm,1.3s
J26L Joseph Creek 86.72 14 P P 15 04 42.1 -0.9
baz=213,SNR=12
BILL Bilibino 86.78 354 ⇓*e*P P 15 04 42.3 -0.8
BILL pmax pmax
comp=Z,6.0nm,1.8s
MSO Missoula 86.82 38 P P 15 04 43.4 -0.5
MSO Missoula 86.82 38 P P 15 04 43.1 -0.8
baz=239
M30M Minto, Yukon 86.94 18 P P 15 04 43.8 -0.3
M30M IAmb IAmb 15 04 44.7
comp=Z,12nm,0.9s
M30M Minto, Yukon 86.94 18 P P 15 04 43.2 -0.9
baz=219,SNR=9.5
TPAW Teton Pass 87.00 42 P P 15 04 44.6 -0.5
TPAW IAmb IAmb 15 04 45.8
comp=Z,7.0nm,0.9s
PRP Porcupine Dome 87.15 13 P P 15 04 43.4 -1.6
baz=211
S22A 4UR Ranch, Cre 87.19 49 P P 15 04 46.5 +0.4
S22A 4UR Ranch, Cre 87.19 49 P P 15 04 45.6 -0.5
baz=244
LRM Limekiln Ridge 87.20 40 P P 15 04 45.4 -0.5
O20A White River Ci 87.25 46 P P 15 04 46.9 +0.7
baz=243
MOOW Moose Ponds 87.26 42 P P 15 04 46.0 -0.1
LOHW Long Hollow 87.28 42 P P 15 04 46.4 +0.1
QLMT Earthquake Lak 87.34 41 P P 15 04 47.4 +0.9
DAWY Dawson 87.40 16 P P 15 04 45.6 -0.6
DAWY Dawson 87.40 16 P P 15 04 45.0 -1.2
baz=217,SNR=5.6
FLWY Flagg Ranch 87.44 42 P P 15 04 47.4 +0.4
FLWY IAmb IAmb 15 04 49.1
comp=Z,17nm,1.1s
HHC Hu-ho-hao-te 87.55 314 *e*P P 15 04 48.4 +0.9
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,91nm,6.9s
YMR Madison River 87.56 41 P P 15 04 48.0 +0.4
YMR IAmb IAmb 15 04 49.9
comp=Z,12nm,1.0s
BW06 Boulder Array 87.56 43 P P 15 04 47.3 -0.4
BW06 IAmb IAmb 15 04 48.6
comp=Z,6.9nm,0.8s
BW06 Boulder Array 87.56 43 P P 15 04 47.1 -0.6
baz=242,SNR=11
PD31 Pinedale Array 87.56 43 P P 15 04 47.1 -0.5
PD31 IAmb IAmb 15 04 48.6
comp=Z,6.1nm,0.8s
PDAR Pinedale Array 87.56 43 P P 15 04 47.8 +0.1
comp=Z,4.3nm,0.7s,baz=215,slow=3.1,SNR=36
PDAR pP pwP 15 07 00.6 +1.4
comp=Z,0.1nm,0.4s,baz=275,slow=5.2,SNR=1.4
PDAR PKKP PKKPdf 15 22 24.5 -3.4
comp=Z,0.1nm,0.3s,baz=344,slow=1.3,SNR=2.4
PDAR PKKPbc PKKPbc 15 22 32.0 -1.8
comp=Z,0.3nm,0.6s,baz=69,slow=4.9,SNR=3.4
PDAR Pinedale Array 87.56 43 P P 15 04 47.3 -0.4
BOZ Bozeman (W) 87.59 40 P P 15 04 47.7 0.0
BOZ pmax pmax
comp=Z,9.0nm,1.2s
BOZ Bozeman (W) 87.59 40 P P 15 04 47.6 0.0
BOZ IAmb IAmb 15 04 49.5
comp=Z,9.0nm,1.2s
BOZ Bozeman (W) 87.59 40 P P 15 04 47.4 -0.3
baz=241,SNR=6.9
H17A Grant Village 87.67 42 P P 15 04 47.3 -0.9
baz=242,SNR=8.5
YHH Holmes Hill 87.69 41 P P 15 04 49.1 +0.8
FARO Faro, Yukon 87.73 19 P P 15 04 47.5 -0.2
baz=222
COLD Coldfoot 87.74 11 P P 15 04 47.3 -0.3
COLD IAmb IAmb 15 04 48.4
comp=Z,7.0nm,0.9s
COLD Coldfoot 87.74 11 P P 15 04 46.5 -1.1
baz=207
HRY Holter Researc 88.01 39 P P 15 04 49.5 0.0
KMI Kunming 88.04 297 ⇓P P 15 04 51.2 +0.9
KMI pmax pmax
comp=Z,18nm,1.2s
SDCO Great Sand Dun 88.14 49 P P 15 04 50.7 +0.1
SDCO Great Sand Dun 88.14 49 P P 15 04 49.9 -0.6
baz=245
RWWY Rawlins 88.64 45 P P 15 04 51.8 -0.9
RWWY IAmb IAmb 15 04 52.9

comp=Z,16nm,1.2s
MMPY Sheldon Lake, 88.68 20 P P 15 04 51.4 -0.7
baz=224,SNR=7.0
T25A Trinidad 88.69 50 P P 15 04 53.2 +0.2
baz=246
I29M Ogilvie Camp, 88.72 16 P P 15 04 50.6 -1.7
baz=218,SNR=7.3
RLMT Red Lodge 88.83 41 P P 15 04 53.8 +0.3
RLMT IAmb IAmb 15 04 55.4
comp=Z,9.8nm,1.1s
RLMT Red Lodge 88.83 41 P P 15 04 53.5 0.0
baz=243,SNR=9.1
GCMT Greycliff 88.89 41 P P 15 04 54.0 +0.3
Q24A Divide 88.90 48 P P 15 04 54.1 0.0
baz=246
TGTN Hyland Airport 88.91 22 P P 15 04 53.0 -0.2
baz=227
ISCO Idaho Springs 88.92 47 P P 15 04 53.6 -0.5
baz=245
BMAR Burnt Mountain 88.98 12 P P 15 04 53.3 -0.1
CMAR Chiang Mai Arr 89.05 290 P P 15 04 56.0 +1.1
comp=Z,13nm,0.9s,baz=111,slow=2.8,SNR=72
CMAR PKKP **PKKPbc** 15 22 29.1 +0.2
comp=Z,0.5nm,0.4s,baz=286,slow=4.2,SNR=6.2
CMAR Chiang Mai Arr 89.05 290 P P 15 04 56.0 +1.1
CMAR Chiang Mai Arr 89.05 290 P P 15 04 55.1 +0.3
TOLK Toolik Lake Re 89.11 10 P P 15 04 53.8 -0.3
baz=207
N23A Red Feather La 89.16 46 P P 15 04 55.3 +0.1
N23A IAmb IAmb 15 04 56.9
comp=Z,11nm,1.1s
N23A Red Feather La 89.16 46 P P 15 04 54.5 -0.6
baz=245
CHTO Chiang Mai 89.17 290 P P 15 04 55.6 +0.2
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 89.17 290 P P 15 04 55.6 +0.2
CHTO Chiang Mai 89.17 290 P P 15 04 56.0 +0.6
comp=Z,15nm,1.0s
833A Chaparral WMA, 89.22 60 P P 15 04 56.1 +0.7
833A IAmb IAmb 15 04 57.4
comp=Z,13nm,0.9s
833A Chaparral WMA, 89.22 60 P P 15 04 55.6 +0.2
baz=249
PZH PanZhiHua 89.37 298 P P 15 04 57.0 +0.7
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,90nm,4.4s
K22A Casper 89.51 45 P P 15 04 56.7 +0.1
K22A IAmb IAmb 15 04 58.0
comp=Z,16nm,1.4s
K22A Casper 89.51 45 P P 15 04 55.9 -0.7
baz=244
PHWY Pilot Hill 89.66 46 P P 15 04 57.7 +0.2
PHWY IAmb IAmb 15 04 58.7
comp=Z,5.0nm,0.8s
JCT Junction City 89.67 58 P P 15 04 57.6 +0.1
JCT pmax pmax
comp=Z,11nm,1.3s
JCT Junction City 89.67 58 P P 15 04 57.6 +0.1
JCT IAmb IAmb 15 05 00.5
comp=Z,11nm,1.2s
JCT Junction City 89.67 58 P P 15 04 57.6 +0.1
baz=249
AMTX Amarillo 89.83 53 P P 15 04 58.0 -0.2
AMTX IAmb IAmb 15 04 59.3
comp=Z,8.9nm,0.9s
AMTX Amarillo 89.83 53 P P 15 04 57.7 -0.5
baz=248
EGMT Eagleton 89.88 39 P P 15 04 57.3 -0.9
baz=242
YAK Yakutsk 89.92 338⇑ *e*P P 15 04 56.4 -1.4
YAK pmax pmax
comp=Z,3.0nm,0.3s
SNAA Sanae 90.25 179 P P 15 04 59.1 -0.4
SNAA Sanae 90.25 179 P P 15 04 58.7 -0.8
SNAA pmax pmax
comp=Z,27nm,1.2s
SNAA Sanae 90.25 179 P P 15 04 58.7 -0.8
VNA3 Neumayer Olymp 90.39 176 P P 15 05 00.6 +0.5
ABTX Abilene, Hawle 90.57 56 P P 15 05 01.7 +0.1
baz=249
VNA2 Neumayer--Watz 90.83 177 P P 15 05 02.6 +0.6
baz=184,slow=4.0
LC01 Cunco 90.89 132 P P 15 05 03.8 +0.8
LC01 IAmb IAmb 15 05 05.0
comp=Z,9.2nm,1.0s
NVL N'lazarevskaya 90.93 183 *e*P P 15 05 02.0 -0.5
NVL pmax pmax
comp=Z,45nm,1.2s
PLCA Paso Flores 91.05 134 P P 15 05 03.3 -0.5
comp=Z,4.0nm,1.0s,baz=236,slow=7.2,SNR=5.0
PLCA Paso Flores 91.05 134 IAmb IAmb 15 05 06.2
comp=Z,11nm,1.3s
VNA1 Neumayer--Stat 91.06 177 P P 15 05 03.7 +0.6
LZH Lanzhou 91.15 308 ⇑P P 15 05 05.5 +1.2
LZH pP pP 15 07 18.5 +4.6
LZH sP sP 15 08 18.3 +4.8
LZH pmax pmax
comp=Z,21nm,1.4s
LAO LASA Array 91.44 41 P P 15 05 05.8 +0.5
LAO LASA Array 91.44 41 P P 15 05 06.2 +0.9
baz=245
RSSD Black Hills 91.77 44 P P 15 05 06.6 -0.5
baz=246
WMOK Wichita Mounta 92.00 54 P P 15 05 07.2 -1.0
baz=249
INK Inuvik 92.20 15 P P 15 05 06.9 -1.3
comp=Z,5.7nm,1.0s,baz=210,slow=4.0,SNR=11
INK Inuvik 92.20 15 IAmb IAmb 15 05 08.0
comp=Z,6.4nm,0.9s
INK Inuvik 92.20 15 P P 15 05 07.5 -0.7
baz=222
R32A Long Quarter, 93.35 51 P P 15 05 14.4 +0.2
DGMT Dagmar 93.42 40 P P 15 05 14.1 -0.2
DGMT Dagmar 93.42 40 P P 15 05 14.1 -0.2
baz=246
ULN Ulaanbaatar 93.45 319 *de*P P 15 05 14.0 -0.7
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 93.45 319 P P 15 05 13.9 -0.7
ULN IAmb IAmb 15 05 15.2
comp=Z,5.4nm,1.1s
SONM Songino Array 93.85 319 P P 15 05 15.3 -1.1
comp=Z,0.7nm,0.6s,baz=127,slow=3.3,SNR=6.5
YKA Yellowknife Ar 94.62 25 P P 15 05 18.6 -0.7
comp=Z,1.3nm,0.7s,baz=242,slow=4.5,SNR=22
YKA pP **pwP** 15 07 33.4 +1.9
comp=Z,0.7nm,1.1s,baz=232,slow=4.4,SNR=3.4
YKA PKiKP **PKiKP** 15 09 56.3 -1.4
comp=Z,0.2nm,0.7s,baz=246,slow=1.5,SNR=4.7
YKA PKKPbc **PKKPdf** 15 22 14.3 -1.3
comp=Z,0.5nm,1.0s,baz=42,slow=3.6,SNR=4.5
YKA PKPPKP **P'P'df** 15 30 26.9 +2.6
comp=Z,0.5nm,0.9s,baz=48,slow=2.4,SNR=4.9
KSU1 Kansas State U 95.12 51 P P 15 05 23.2 +0.9
baz=251
GTA Gaotai 95.30 310 *e*P P 15 05 23.4 +0.2
GTA pmax pmax
comp=Z,5.0nm,1.2s
C36M Paulatuk 95.41 17 P P 15 05 21.5 -1.2
baz=231
TIXI Tiksi 96.50 345 P P 15 05 26.3 -1.3
comp=Z,0.5nm,0.5s,baz=89,slow=23,SNR=4.5
TIXI S **SKSac** 15 15 04.2 -2.3
comp=Z,0.2nm,0.3s,baz=49,slow=3.9,SNR=0.9
TIXI Tiksi 96.50 345⇑ *e*P P 15 05 26.1 -1.5
TIXI pmax pmax
comp=Z,6.0nm,2.5s
TIXI Tiksi 96.50 345 IAmb IAmb 15 05 27.0
comp=Z,1.1nm,0.8s
A36M Sachs Harbour 96.80 15 P P 15 05 28.4 -0.6
A36M IAmb IAmb 15 05 30.2
comp=Z,3.8nm,0.8s
A36M Sachs Harbour 96.80 15 P P 15 05 28.1 -0.9
baz=230
EYMN Ely 101.27 43 P **Pdif** 15 05 48.1 -1.4
baz=255
ZALV Zalesovo Beam 108.54 322 PKiKP **PKiKP** 15 10 20.9 -2.4
comp=Z,1.4nm,0.6s,baz=178,slow=1.9,SNR=7.7
MKAR Makanchi Array 109.42 314 Pdiff **Pdif** 15 06 25.9 +0.2
comp=Z,0.3nm,0.7s,baz=88,slow=5.9,SNR=2.8
MKAR PKiKP **PKiKP** 15 10 23.7 -1.5
comp=Z,1.9nm,0.5s,baz=167,slow=0.7,SNR=33
MKAR PP **PP** 15 11 04.0 -3.8
comp=Z,0.8nm,0.9s,baz=144,slow=4.5,SNR=3.8
MKAR PKKPbc **PKKPbc** 15 21 30.3 -2.8
comp=Z,0.7nm,0.7s,baz=265,slow=4.2,SNR=8.3
KURK Kurchatov 112.12 318 *d* PKiKP **PKiKP** 15 10 28.0 -2.1
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 112.17 318 PKiKP **PKiKP** 15 10 28.6 -1.6
comp=Z,3.5nm,0.8s,baz=95,slow=1.8,SNR=37
KSH Kashi 113.33 306 PKP **PKiKP** 15 10 32.8 -0.2
AAK Ala-Archa 114.64 309 ⇓ PKiKP PKPdf 15 10 34.1 -1.4
AAK pmax pmax
comp=Z,3.0nm,1.3s
AAK Ala-Archa 114.64 309 PKPdf 15 10 34.0 -1.4
NEEM North Greenlan 115.45 11 *i* P **PKPdf** 15 10 34.4 -1.9
BVAR Borovoye Array 117.15 321 PKP **PKPdf** 15 10 38.7 -1.0
comp=Z,2.1nm,0.4s,baz=48,slow=16,SNR=16
BRVK Borovoye 117.21 321 *c* PKiKP **PKPdf** 15 10 38.6 -1.2
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 117.21 321 **PKPdf** 15 10 38.3 -1.5
KKAR Karatay Array 117.58 310 PKiKP **PKPdf** 15 10 39.2 -1.7
KKAR Karatay Array 117.58 310 **PKPdf** 15 10 39.2 -1.7
GAR Garm 117.68 305 **PKPdf** 15 10 39.5 -1.8
KBL Kabul 118.51 300 PKiKP **PKPdf** 15 10 42.3 -0.9
KBL Kabul 118.51 300 **PKPdf** 15 10 42.3 -0.9
CHGR Chuyangaron 118.58 305 PKiKP **PKPdf** 15 10 42.0 -1.0
CHGR Chuyangaron 118.58 305 **PKPdf** 15 10 42.0 -1.0
SPITS Spitsbergen Ar 119.61 357 PKP **PKPdf** 15 10 42.9 -1.0
comp=Z,10nm,0.8s,baz=89,slow=3.7,SNR=11
DAG Danmarks Havn 120.55 5 *i* P **PKPdf** 15 10 42.3 -3.3
SVE Sverdlovsk 121.95 326 *e* PKiKP **PKPdf** 15 10 47.6 -1.2
SVE pmax pmax
comp=Z,12nm,0.9s
DBG Daneborg 122.66 7 *i* P **PKPdf** 15 10 47.8 -1.9
DY2G Dye2 122.74 21 *i* P **PKPdf** 15 10 48.2 -2.2
ICEGG Greenland Ices 123.15 16 *i* P **PKPdf** 15 10 48.0 -3.3
ARU Arti 123.17 326 *i* PKiKP **PKPdf** 15 10 50.2 -1.0
ARU 15 12 40.8
ARU Arti 123.17 326 **PKPdf** 15 10 49.9 -1.3
HRA Herat 124.12 300 **PKPdf** 15 10 52.1 -1.9
ABKAR Akbulak array 124.23 318 **PKPdf** 15 10 51.9 -1.5
SCO Scoresbysund 125.87 10 *i* P **PKPdf** 15 10 54.3 -1.6
ARCES ARCESS Array B 126.66 350 PKP **PKPdf** 15 10 56.3 -1.2
comp=Z,12nm,0.8s,baz=22,slow=1.3,SNR=44
KIRV Kirov 126.86 331 *d* PKiKP **PKPdf** 15 10 56.7 -1.4
PRGR Permogore 126.88 336 *e* PKiKP **PKPdf** 15 10 55.3 -2.8
GEYT Alibeck 127.28 304 PKP **PKPdf** 15 10 58.7 -1.0
comp=Z,7.4nm,0.9s,baz=56,slow=5.6,SNR=11
GEYT Alibeck 127.28 304 **PKPdf** 15 10 58.1 -1.6
BOSA Boshof 128.12 207 PKP **PKPdf** 15 11 02.2 +0.4
comp=Z,6.5nm,0.9s,baz=183,slow=3.9,SNR=7.1
KLMR Klimovskoe 129.70 337 *e* PKiKP **PKPdf** 15 11 00.3 -3.2
KLMR *e* 15 13 26.4
KLMR pmax pmax
comp=Z,18nm,1.2s
KLMR Klimovskoe 129.70 337 *e* PKPdf **PKPdf** 15 11 00.4 -3.1
KLMR AMP 15 11 04.0
comp=Z,18nm,1.2s
KLMR *e*PP **PP** 15 13 26.4 +2.7
FINES FINESS Array B 133.53 344 PKhKP PKPpre 15 11 02.2
comp=Z,5.4nm,0.9s,baz=64,slow=4.4,SNR=5.4
FINES PKP **PKPdf** 15 11 09.2 -1.5
comp=Z,5.2nm,0.7s,baz=71,slow=2.0,SNR=16
FINES SKPbc **SKPbc** 15 13 42.2 -1.7
comp=Z,6.5nm,0.9s,baz=62,slow=4.9,SNR=8.6
FINES FINESS Array B 133.53 344 *c* PKiKP **PKPdf** 15 11 10.3 -0.4
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 133.53 344 SKPbc **SKPbc** 15 13 42.0 -1.9
OBN Obninsk 134.63 332 ⇑ *i* PKiKP **PKPdf** 15 11 13.3 +0.4
OBN *e* 15 13 55.5
OBN pmax pmax
comp=Z,7.0nm,0.6s
VORR Voronezh 135.46 327 *e* PKiKP **PKPdf** 15 11 14.2 -0.4
VORR pmax pmax
comp=Z,30nm,0.4s
VSU Vasula 135.83 341 *d* PKiKP **PKPdf** 15 11 14.4 -0.7
NB2 NORSAR Subarra 136.72 353 PKP PKPpre 15 11 09.8
comp=Z,2.2nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 136.72 353 PKhKP PKPpre 15 11 03.7
comp=Z,0.2nm,0.3s,baz=53,slow=22,SNR=9.8
NOA PKP **PKPdf** 15 11 16.3 -0.4
comp=Z,1.9nm,0.6s,baz=14,slow=4.0,SNR=12
NOA SKPbc **SKPbc** 15 13 51.5 -2.4
comp=Z,0.9nm,0.8s,baz=6.3,slow=4.0,SNR=6.8
ZEI Tsey 136.76 314 *i* PKiKP **PKPdf** 15 11 14.3 -3.3
ZEI pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 137.04 310 *c* PKiKP **PKPdf** 15 11 19.9 +1.7
GNI pmax pmax
comp=Z,8.0nm,1.3s
KBZ Khabaz 137.09 315 PKP **PKPdf** 15 11 18.1 +0.2
comp=Z,2.5nm,0.8s,baz=78,slow=1.1,SNR=7.4
KBZ Khabaz 137.09 315 ⇓ PKiKP **PKPdf** 15 11 18.6 +0.7
KIV Kislovodsk 137.14 316 *e* PKiKP **PKPdf** 15 11 17.6 -0.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
ONI Oni 137.14 314 PKiKP **PKPdf** 15 11 17.4 -0.7
ONI Oni 137.14 314 **PKPdf** 15 11 17.4 -0.7
RAYN Ar Rayn 138.81 285 ⇑ PKHKP PKPpre 15 11 14.0
KMBO Kilima Mbogo 140.04 245 PKhKP PKPpre 15 11 17.1
comp=Z,1.8nm,0.5s,baz=59,slow=6.2,SNR=5.1
KMBO Kilima Mbogo 140.04 245 ⇑ *i* PKiKP **PKPdf** 15 11 24.8 +0.3
AKASG Malin Array Be 140.89 332 PKHKP PKPpre 15 11 18.0
comp=Z,3.7nm,0.4s,baz=43,slow=4.1,SNR=31
AKASG PKP **PKPdf** 15 11 25.7 +1.2
comp=Z,5.0nm,0.8s,baz=42,slow=3.3,SNR=6.7
AKASG SKPbc **SKPbc** 15 14 01.8 -3.7
comp=Z,1.9nm,0.8s,baz=41,slow=3.5,SNR=5.8
AKASG Malin Array Be 140.89 332 PKPpre 15 11 17.4
AKBB Malin Array Si 140.89 332 PKHKP PKPpre 15 11 17.6
AKBB Malin Array Si 140.89 332 PKPpre 15 11 17.6
SORM Soroca 143.12 330 ⇑ P PKPab 15 11 26.0 -0.6
SORM Soroca 143.12 330 ⇑ PKiKP PKPab 15 11 26.0 -0.6
BEL Belsk 143.25 340 *e* PKP PKPab 15 11 27.8 +0.8
BZK Bozkurt 143.72 318 PKPbc 15 11 28.4 -0.7
LVV Lvov 143.74 335 *e* PKiKP PKPbc 15 11 28.0 -0.9
BSEG Bad Segeberg 143.76 351 *e* PKPbc PKPbc 15 11 28.6 -0.2
baz=15,slow=2.7
LODK Lodwar 143.86 250 PKPbc 15 11 28.7 -1.7
BNN Bunyan 143.93 312 PKPbc 15 11 28.8 -1.2
ILGA Ilgaz 144.37 316 PKPbc 15 11 30.9 -0.5
KWP Kalwaria Pacla 144.41 336 *e* PKP PKPbc 15 11 30.6 -0.4
KWP Kalwaria Pacla 144.41 336 PKiKP PKPbc 15 11 30.4 -0.6
KWP Kalwaria Pacla 144.41 336 PKPbc 15 11 30.4 -0.6
RUE Ruedersdorf 144.54 347 *e* PKPbc **PKPdf** 15 11 31.1 +0.2
baz=15,slow=2.7
BUR08 Bucovina Ar. S 144.93 332 PKPdf **PKPdf** 15 11 31.6 -0.4
BURAR Bucovina Array 144.94 332 ⇑ P **PKPdf** 15 11 32.4 +0.4
BURAR Bucovina Array 144.94 332 ⇑ PKiKP **PKPdf** 15 11 32.4 +0.4
BURAR Bucovina Array 144.94 332 PKPdf **PKPdf** 15 11 31.6 -0.3
OJC Ojcow 144.96 340 *e* PKP **PKPdf** 15 11 32.3 +0.5
OJC Ojcow 144.96 340 PKiKP **PKPdf** 15 11 31.1 -0.7
OJC Ojcow 144.96 340 PKPdf **PKPdf** 15 11 31.1 -0.7
GHRR 145.03 328 ⇑ P **PKPdf** 15 11 33.8 +1.8
RETH Rethem/Aller, 145.06 352 *e* PKPbc **PKPdf** 15 11 32.8 +1.0
baz=15,slow=2.7
BR131 Keskin Array S 145.06 314 *de* PKiKP **PKPdf** 15 11 32.2 -0.3
BR131 Keskin Array S 145.06 314 PKPdf **PKPdf** 15 11 31.5 -0.9
BRTR Keskin Array B 145.06 314 PKP **PKPdf** 15 11 31.2 -1.3
comp=Z,18nm,0.9s,baz=144,slow=3.1,SNR=47
BRTR SKPbc **SKPbc** 15 14 14.3 -1.8
comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=3.0
BRTR Keskin Array B 145.06 314 PKiKP **PKPdf** 15 11 31.1 -1.4
BRTR Keskin Array B 145.06 314 **PKPdf** 15 11 31.1 -1.4
TESR Tescani 145.08 329 ⇑ P **PKPdf** 15 11 32.9 +0.8
JURR Jurilovca 145.13 325 ⇓ P **PKPdf** 15 11 33.4 +1.2
FLTG Flechtingen 145.17 350 *e* PKPbc **PKPdf** 15 11 32.7 +0.7
baz=15,slow=2.7
NRDL Niedersach Rie 145.19 351 *e* PKPbc **PKPdf** 15 11 33.1 +1.2
baz=15,slow=2.7
CFR Carcaliu 145.25 326 ⇑ P **PKPdf** 15 11 31.2 -1.1
CFR Carcaliu 145.25 326 ⇑ PKiKP **PKPdf** 15 11 31.2 -1.1
PANC Panciu 145.29 328 ⇑ P **PKPdf** 15 11 34.2 +1.7
TPGR Topolog 145.32 326 ⇑ P **PKPdf** 15 11 33.9 +1.4
UZH Uzhgorod 145.38 336 *e* PKiKP **PKPdf** 15 11 33.1 +0.6
KSP Ksiaz 145.46 344 *e* PKP **PKPdf** 15 11 34.1 +1.6
ASSE Asse, Remlinge 145.46 350 *e* PKPbc **PKPdf** 15 11 33.9 +1.5
baz=15,slow=2.7
NIE Niedzica 145.47 338 *e* PKP **PKPdf** 15 11 35.0 +2.4
CRVS Cervenica-Dubn 145.48 337 *e* PKP2 **PKPdf** 15 11 34.3 +1.6
CRVS Cervenica-Dubn 145.48 337 *e* PKP **PKPdf** 15 11 34.3 +1.6
VRI Vrincioaia 145.50 328 ⇑ P **PKPdf** 15 11 33.6 +0.8
VRI Vrincioaia 145.50 328 ⇑ PKiKP **PKPdf** 15 11 33.6 +0.8
ANTO Ankara 145.56 315 PKiKP **PKPdf** 15 11 33.4 +0.2
ANTO Ankara 145.56 315 **PKPdf** 15 11 33.4 +0.2
TIRR Tirgusor 145.58 325 ⇓ P **PKPdf** 15 11 33.1 +0.1
TIRR Tirgusor 145.58 325 ⇓ PKiKP **PKPdf** 15 11 33.1 +0.1
IBBN Ibbenburen 145.68 353 *e* PKPbc **PKPdf** 15 11 34.5 +1.7
baz=15,slow=2.7
TRPA Tarpa 145.68 335 ⇑ P **PKPdf** 15 11 34.6 +1.6
HARR Harsova 145.69 326 ⇑ P **PKPdf** 15 11 34.7 +1.6
HARR Harsova 145.69 326 ⇑ PKP2 **PKPdf** 15 11 34.7 +1.6
OSTC Ostas 145.74 343 *e* PKP **PKPdf** 15 11 33.8 +0.7
CHVC Chvalec 145.75 344 *e* PKP **PKPdf** 15 11 34.5 +1.4
CLZ Clausthal 145.78 350 *e* PKPdf **PKPdf** 15 11 33.2 0.0
baz=15,slow=1.6
CLZ *e*PKPbc **PKPbc** 15 11 35.1 +0.2
baz=15,slow=2.7
MBAR Mbarara 145.81 240 PKiKP **PKPdf** 15 11 32.9 -1.6
MBAR Mbarara 145.81 240 PKPdf **PKPdf** 15 11 32.9 -1.6
CLL Collm 145.81 347 PKiKP **PKPdf** 15 11 32.5 -0.7
CLL Collm 145.81 347 PKPdf **PKPdf** 15 11 32.5 -0.7
CLL Collm 145.81 347 *e* PKPdf **PKPdf** 15 11 33.0 -0.1
CLL ⇓ *e* PKPbc **PKPbc** 15 11 34.5 -0.5
comp=Z,91nm,0.8s
CLL *i* PKPab **PKPab** 15 11 36.5 -0.4
OKC Ostrava-Krasne 145.82 341 *e* PKP2 **PKPdf** 15 11 34.8 +1.6
OKC Ostrava-Krasne 145.82 341 *e* PKP **PKPdf** 15 11 34.8 +1.6
UPC Upice 145.84 344 *e* PKIKP **PKPdf** 15 11 32.9 -0.3
UPC *e* 15 11 35.2
UPC Upice 145.84 344 *e* PKP **PKPdf** 15 11 32.9 -0.3
UPC *ex* x 15 11 35.2
DPC Dobruska-Polom 145.89 343 *e* PKIKP **PKPdf** 15 11 33.2 -0.2
DPC *e* 15 11 35.6
DPC Dobruska-Polom 145.89 343 *e* PKP **PKPdf** 15 11 33.2 -0.2
DPC *ex* x 15 11 35.6
MANR Mangalia 145.90 324 ⇑ P **PKPdf** 15 11 35.6 +2.1
LANS Liptovska Anna 145.98 339 *e* PKP2 **PKPbc** 15 11 36.5 +0.9
LANS Liptovska Anna 145.98 339 *e* PKP **PKPbc** 15 11 36.5 +0.9
BRG Berggiesshubel 146.01 346 ⇓ *e* PKPf **PKPdf** 15 11 33.4 -0.2
BRG Amp 15 11 34.8
comp=Z,11nm,1.2s
BRG ⇑ PKP **PKPbc** 15 11 35.3 -0.3
BRG Amp 15 11 36.3
comp=Z,34nm,0.8s
BRG Berggiesshubel 146.01 346 *e* PKIKP **PKPdf** 15 11 33.3 -0.2
BRG pmax pmax
comp=Z,11nm,1.2s
BRG Berggiesshubel 146.01 346 *e* PKPdf **PKPdf** 15 11 33.4 -0.2
baz=15,slow=1.6
BRG *e*PKPbc **PKPbc** 15 11 35.7 +0.1
baz=15,slow=2.7
KRLC Kraliky 146.01 342 *e* PKIKP **PKPdf** 15 11 33.4 -0.2
KRLC *e* 15 11 35.4
KRLC Kraliky 146.01 342 *e* PKP **PKPdf** 15 11 33.4 -0.2
KRLC *ex* x 15 11 35.4
MORC Moravsky Berou 146.06 341 PKIKP **PKPdf** 15 11 32.9 -0.8
MORC Moravsky Berou 146.06 341 **PKPdf** 15 11 32.9 -0.8
MORC Moravsky Berou 146.06 341 *e* PKP **PKPdf** 15 11 32.8 -0.9
MORC *e* 15 11 35.6
DOPR Dopca 146.08 330 ⇓ P **PKPdf** 15 11 36.2 +2.4
FBE Freiberg 146.10 347 *e* PKPdf **PKPdf** 15 11 33.9 +0.2
baz=15,slow=1.6
FBE *e*PKPbc **PKPbc** 15 11 36.2 +0.4
baz=15,slow=2.7
ISR Istrita 146.12 328 ⇑ P **PKPdf** 15 11 36.0 +2.0
ISR Istrita 146.12 328 ⇑ PKP2 **PKPdf** 15 11 36.0 +2.0
GTTG Gottingen 146.14 351 *e* PKPbc **PKPdf** 15 11 36.0 +2.3
baz=15,slow=2.7
NEUB Neuenburg 146.15 349 *e* PKPdf **PKPdf** 15 11 33.7 0.0
baz=15,slow=1.6
NEUB *e*PKPbc **PKPbc** 15 11 35.9 0.0
baz=15,slow=2.7
MLR Muntele Rosu 146.16 329 ⇑ P **PKPdf** 15 11 35.2 +1.1
MLR Muntele Rosu 146.16 329 ⇑ PKiKP **PKPdf** 15 11 35.2 +1.1
MLR Muntele Rosu 146.16 329 PKPdf **PKPdf** 15 11 32.8 -1.3
PVCC Panska Ves 146.19 345 *e* PKP2 **PKPdf** 15 11 36.3 +2.5
PVCC Panska Ves 146.19 345 *e* PKP **PKPdf** 15 11 36.3 +2.5
MDUB Mudurnu 146.30 317 PKPdf **PKPdf** 15 11 33.2 -1.2
CJR Cluj-Napoca 146.35 332 ⇑ P **PKPdf** 15 11 36.9 +2.6
CJR Cluj-Napoca 146.35 332 ⇑ PKP2 **PKPdf** 15 11 36.9 +2.6
LTVH Ltavrtes, Hu 146.54 335 PKP **PKPbc** 15 11 37.7 +0.6
LTVH Ltavrtes, Hu 146.54 335 P **PKPdf** 15 11 37.5 +3.0
BUG Bochum--Univer 146.59 354 *e* PKPbc **PKPdf** 15 11 36.9 +2.5
baz=15,slow=2.7
VOIR 146.63 329 ⇑ P **PKPdf** 15 11 37.3 +2.4
VOIR 146.63 329 ⇑ PKP2 **PKPdf** 15 11 37.3 +2.4
DRGR 146.67 333 ⇑ P **PKPdf** 15 11 37.5 +2.6
DRGR 146.67 333 ⇑ PKP2 **PKPdf** 15 11 37.5 +2.6
KASTN Kahler Asten 146.69 352 *e* PKPdf **PKPdf** 15 11 34.5 -0.1
baz=15,slow=1.6
KASTN *e*PKPbc **PKPbc** 15 11 37.4 -0.1
baz=15,slow=2.7
PRU Pruhonice 146.69 345 *e* PKP2 **PKPdf** 15 11 37.4 +2.7
PRU Pruhonice 146.69 345 *e* PKP **PKPdf** 15 11 37.4 +2.7
MOX Moxa 146.72 348 *e* PKPdf **PKPdf** 15 11 34.7 0.0
baz=15,slow=1.6
MOX *e*PKPbc **PKPbc** 15 11 37.5 0.0
baz=15,slow=2.7
VRAC Vranov 146.75 342 ⇑ P **PKPdf** 15 11 37.6 +2.8
VRAC Vranov 146.75 342 ⇑ PKP2 **PKPdf** 15 11 37.6 +2.8
VRAC Vranov 146.75 342 *e* PKP **PKPdf** 15 11 34.3 -0.5
VRAC *e* 15 11 37.6
VYHS Vyhne 146.76 339 *e* PKP2 **PKPdf** 15 11 37.5 +2.6
VYHS Vyhne 146.76 339 *e* PKP **PKPdf** 15 11 37.5 +2.6
PLN Plauen 146.76 348 *e* PKPdf **PKPdf** 15 11 34.5 -0.3
baz=15,slow=1.6
PLN *e*PKPbc **PKPbc** 15 11 37.7 0.0
baz=15,slow=2.7
TANN Tannenbergstha 146.77 347 *e* PKPdf **PKPdf** 15 11 34.8 -0.1
baz=15,slow=1.6
TANN *e*PKPbc **PKPbc** 15 11 37.8 0.0
baz=15,slow=2.7
WERD Werda 146.77 348 *e* PKPdf **PKPdf** 15 11 34.6 -0.2
baz=15,slow=1.6
WERD *e*PKPbc **PKPbc** 15 11 37.7 0.0
baz=15,slow=2.7
JAVC Velka Javorina 146.82 341 *e* PKP **PKPdf** 15 11 35.7 +0.7
JAVC *e* 15 11 38.7
KOLL Kolacno 146.83 340 *e* PKP **PKPbc** 15 11 38.2 +0.3
UBBA Unterbreizbach 146.83 350 *e* PKPdf **PKPdf** 15 11 34.5 -0.2
baz=15,slow=1.6
GUNZ Gunzen 146.84 347 *e* PKPdf **PKPdf** 15 11 35.0 +0.1
baz=15,slow=1.6
GUNZ *e*PKPbc **PKPbc** 15 11 38.1 +0.2
baz=15,slow=2.7
PSZ Piszkesteto 146.88 337 ⇑ P **PKPdf** 15 11 38.1 +3.0
PSZ Piszkesteto 146.88 337 PKP2 **PKPdf** 15 11 37.3 +2.1
PSZ Piszkesteto 146.88 337 **PKPdf** 15 11 37.3 +2.1
PSZ Piszkesteto 146.88 337 P **PKPdf** 15 11 37.7 +2.6
PSZ Piszkesteto 146.88 337 PKP **PKPdf** 15 11 38.0 +2.8
ARR Arges 146.88 330 ⇑ P **PKPdf** 15 11 35.2 -0.1
WERN Wernitzgruen 146.91 347 *e* PKPdf **PKPdf** 15 11 35.1 0.0
baz=15,slow=1.6
WERN *e*PKPbc **PKPbc** 15 11 38.4 +0.3
baz=15,slow=2.7
NKC Novy Kostel 146.94 347 *e* PKIKP **PKPdf** 15 11 34.6 -0.5
NKC *e* 15 11 38.0
NKC Novy Kostel 146.94 347 *e* PKP **PKPdf** 15 11 34.6 -0.5
NKC *ex* x 15 11 38.0
KRUC Moravsky 147.03 342 *e* PKP **PKPdf** 15 11 34.7 -0.6
KRUC *e* 15 11 37.9
TREC Trest 147.08 343 *e* PKP2 **PKPdf** 15 11 38.3 +2.9
TREC Trest 147.08 343 *e* PKP **PKPdf** 15 11 38.3 +2.9
BORA Eskisehir 147.10 317 **PKPdf** 15 11 37.7 +1.9
PBCC Pribram 147.11 345 *e* PKP **PKPdf** 15 11 38.4 +3.0
PBCC *ex* x 15 11 42.0
SMOL Smolenice 147.21 340 *e* PKP2 **PKPbc** 15 11 39.4 +0.5
SMOL Smolenice 147.21 340 *e* PKP **PKPbc** 15 11 39.4 +0.5
MANZ Manzenberg 147.25 347 *e* PKPdf **PKPdf** 15 11 35.6 -0.1
baz=15,slow=1.6
MANZ *e*PKPbc **PKPbc** 15 11 39.2 +0.2
baz=15,slow=2.7
CSS Mathiatis 147.33 307 **PKPdf** 15 11 38.0 +1.8
ROTZ Rotzenmuhle 147.44 347 *e* PKPbc **PKPbc** 15 11 39.6 +0.2
baz=15,slow=2.7
SRO Srobarova 147.52 339 *e* PKP2 **PKPbc** 15 11 40.2 +0.5
SRO Srobarova 147.52 339 *e* PKP **PKPbc** 15 11 40.2 +0.5
SIRR Siria 147.53 334 ⇑ P **PKPbc** 15 11 39.9 +0.1
MEM Membach 147.53 355 *d* PKP **PKPdf** 15 11 39.1 +3.1
BTNL Ternell 147.54 355 *d* PKP **PKPdf** 15 11 38.8 +2.7
BUD Budapest 147.56 338 P **PKPdf** 15 11 39.0 +2.9
BUD Budapest 147.56 338 PKP **PKPbc** 15 11 40.1 +0.3
ZST Bratislava 147.59 341 *e* PKP2 **PKPbc** 15 11 40.0 +0.2
ZST Bratislava 147.59 341 *e* PKP **PKPbc** 15 11 40.0 +0.2
BSTI Sart Tilman 147.59 355 *d* PKP **PKPdf** 15 11 39.5 +3.4

TNS	Taunus Mts	147.65	352	ePKPbc	PKPbc	15 11 40.0	0.0
	baz=15,slow=2.7						
GRF	Grafenberg Arr	147.71	348	ePKPbc	PKPbc	15 11 40.4	+0.3
	baz=15,slow=2.7						
KHC	Kasperske Hory	147.72	345	⇑ePKIKP	PKPdf	15 11 36.1	-0.4
KHC	Kasperske Hory	147.72	345	ePKP	PKPdf	15 11 36.0	-0.4
KHC				ex	x	15 11 40.1	
KHC	Kasperske Hory	147.72	345		PKPdf	15 11 35.4	-1.1
GZR	Gura Zlata	147.73	332	⇑P	PKPdf	15 11 39.9	+3.3
GZR	Gura Zlata	147.73	332	⇑PKHKP	PKPdf	15 11 39.9	+3.3
SNF	Seneffe	147.75	357	dPKP	PKPdf	15 11 39.8	+3.4
BCLA	Clavier	147.78	356	dPKPbc	PKPdf	15 11 39.1	+2.6
BHOU	Houvegnez	147.79	355	dPKiKP	PKPbc	15 11 40.7	+0.4
CKRC	Cesky Krumlov	147.83	344	ePKP	PKPdf	15 11 36.0	-0.6
CKRC				ex	x	15 11 40.2	
WET	Wettzell	147.88	346	ePKPbc	PKPbc	15 11 40.6	0.0
	baz=15,slow=2.7						
CSKK	Cskako	147.93	339	P	PKPdf	15 11 39.4	+2.6
CSKK	Cskako	147.93	339	PKP	PKPdf	15 11 40.5	+3.7
GEC2	GERESS Array S	147.96	345		PKPdf	15 11 36.3	-0.6
GEC2	GERESS Array S	147.96	345	ePKPbc	PKPbc	15 11 40.9	0.0
	baz=15,slow=2.7						
GERES	GERESS Array B	147.96	345	PKPbc	PKPdf	15 11 40.3	+3.4
	comp=Z,15nm,0.8s,baz=119,slow=1.7,SNR=59						
GERES	GERESS Array B	147.96	345		PKPdf	15 11 35.8	-1.2
GERES				PKPbc	PKPdf	15 11 40.3	+3.4
RCHB	Rochefort	148.04	356	dPKP	PKPdf	15 11 40.2	+3.3
BZS	Buzias	148.07	333	⇑P	PKPdf	15 11 36.2	-0.9
BZS	Buzias	148.07	333	⇑PKHKP	PKPdf	15 11 36.2	-0.9
DOU	Dourbes	148.15	356	dPKiKP	PKPbc	15 11 41.0	-0.2
EGYH	Egyhazaskeszo	148.20	340	PKP	PKPbc	15 11 41.9	+0.5
EGYH	Egyhazaskeszo	148.20	340	P	PKPbc	15 11 41.5	+0.1
CONA	Conrad Observa	148.21	342	i P	PKPbc	15 11 41.2	-0.4
	comp=Z,39nm,1.1s,SNR=18						
SOP	Sopron	148.21	341	P	PKPdf	15 11 41.0	+3.8
SOP	Sopron	148.21	341	PKP	PKPbc	15 11 41.7	+0.3
HERR	Herculane	148.28	331	⇑P	PKPbc	15 11 41.3	-0.4
MPLH	Magyarpolny	148.34	339	PKP	PKPbc	15 11 41.4	-0.3
MPLH	Magyarpolny	148.34	339	P	PKPdf	15 11 41.3	+3.8
WLF	Walferdange	148.46	354	ePKPbc	PKPbc	15 11 42.6	+0.6
	baz=15,slow=2.7						
WLF	Walferdange	148.46	354	dPKiKP	PKPbc	15 11 42.3	+0.3
MDVR	Moldovita	148.68	332	⇑P	PKPdf	15 11 41.5	+3.3
MOA	Molln	148.73	344	i P	PKPdf	15 11 42.0	+3.9
	comp=Z,21nm,1.2s,SNR=5.2						
MORH	Mrgy, Hungar	148.77	337	⇓iP	PKPdf	15 11 41.6	+3.4
MORH	Mrgy, Hungar	148.77	337	P	PKPdf	15 11 36.9	-1.3
ARSA	Arzberg	148.92	342	eP	PKPdf	15 11 42.2	+3.8
	comp=Z,16nm,1.2s,SNR=7.4						
STU	Stuttgart	148.95	350	ePKPbc	PKPbc	15 11 43.3	+0.1
	baz=15,slow=2.7						
BIOA	Bad Ischl, Aus	149.04	344	i P	PKPdf	15 11 42.5	+3.9
	comp=Z,30nm,1.3s						
ELL	Elmali	149.07	312	PKHKP	PKPdf	15 11 43.1	+4.0
ELL	Elmali	149.07	312		PKPdf	15 11 43.1	+4.0
KOVH	Kovagotottos	149.08	337	P	PKPdf	15 11 38.4	-0.3
KOVH	Kovagotottos	149.08	337	PKP	PKPdf	15 11 42.8	+4.1
FUR	Furstenfeldbru	149.15	347	ePKPbc	PKPbc	15 11 43.7	0.0
	baz=15,slow=2.7						
FRGS	Fruska Gora	149.19	334	⇑P	PKPdf	15 11 42.7	+3.8
FRGS	Fruska Gora	149.19	334	⇓iP	PKPdf	15 11 41.9	+3.0
BEHE	Becsehely	149.21	339	⇓iP	PKPbc	15 11 43.3	-0.6
ALN	Alexandroupoli	149.22	322	PKHKP	PKPdf	15 11 42.7	+3.7
ALN	Alexandroupoli	149.22	322		PKPdf	15 11 42.7	+3.7
BFO	Black Forest	149.51	351	PKHKP	PKPbc	15 11 43.6	-1.0
BFO	Black Forest	149.51	351	PKPbc	PKPbc	15 11 43.6	-1.0
BFO	Black Forest	149.51	351	ePKPbc	PKPbc	15 11 44.5	-0.1
	baz=15,slow=2.7						
AKAS	Kas	149.53	312		PKPdf	15 11 43.9	+4.0
VTS	Vitosha	149.58	328	⇑P	PKPbc	15 11 45.0	-0.1
VTS	Vitosha	149.58	328	PKHKP	PKPbc	15 11 44.2	-0.9
VTS	Vitosha	149.58	328		PKPbc	15 11 44.2	-0.9
SOKA	Soboth	149.58	342	eP	PKPdf	15 11 43.8	+4.2
	comp=Z,22nm,0.9s,SNR=8.6						
KALN	Kalnik	149.62	339	i P	PKPbc	15 11 44.2	-0.7
KBA	Koelnbreinsper	149.69	344	eP	PKPdf	15 11 43.7	+3.9
	comp=Z,23nm,0.8s,SNR=8.0						
LOBO	Lobor	149.72	340	i P	PKPbc	15 11 44.5	-0.7
ECH	Echery	149.78	353	PKHKP	PKPbc	15 11 43.8	-1.4
ECH	Echery	149.78	353		PKPbc	15 11 43.8	-1.4
TEKS	Tekeris	149.81	334	⇓iP	PKPdf	15 11 43.8	+3.9
UBR	Ueberruh	149.84	349	ePKPbc	PKPbc	15 11 45.3	-0.2
	baz=15,slow=2.7						
WATA	Walderalm	149.87	346	i P	PKPbc	15 11 44.8	-0.8
	comp=Z,25nm,0.7s,SNR=6.4						
OBKA	Obir	149.88	342	eP	PKPdf	15 11 44.1	+4.1
	comp=Z,13nm,0.8s						
RETA	Reutte	149.90	348	eP	PKPbc	15 11 44.9	-0.7
	comp=Z,16nm,0.7s,SNR=5.9						
WTTA	Wattenberg	149.93	346	i P	PKPbc	15 11 45.1	-0.7
	comp=Z,44nm,0.6s,SNR=14						
MOSL	Moslavina	149.97	339	i P	PKPbc	15 11 45.2	-0.5
MOTA	Moosalm	149.97	347	eP	PKPdf	15 11 39.2	-1.0
	comp=Z,9.1nm,1.2s						
MOTA				i P	PKPbc	15 11 45.0	-0.9
	comp=Z,33nm,0.9s,SNR=9.5						
DIVS	Divibare	149.97	333		PKPbc	15 11 44.8	-1.1
DIVS	Divibare	149.97	333	⇓iP	PKPbc	15 11 44.8	-1.1
MYKA	Terra Mystica	150.02	343	i P	PKPdf	15 11 44.4	+4.2
	comp=Z,22nm,0.7s,SNR=6.1						
ABTA	Abfaltersbach	150.21	345	i P	PKPdf	15 11 39.0	-1.5
	comp=Z,12nm,1.4s						
ABTA				eP	PKPbc	15 11 45.0	-1.3
	comp=Z,41nm,0.7s,SNR=11						
CRES	Cresnjev	150.21	340	⇓iP	PKPbc	15 11 45.2	-1.1
DAVA	Damuels	150.27	349	eP	PKPbc	15 11 46.2	-0.4
	comp=Z,44nm,1.1s,SNR=9.8						
LJU	Ljubljana	150.30	342	⇓iP	PKPbc	15 11 45.8	-0.7
FETA	Feichten	150.35	347	eP	PKPdf	15 11 40.4	-0.5
	comp=Z,9.3nm,0.9s						
FETA				eP	PKPbc	15 11 46.2	-0.6
	comp=Z,29nm,0.8s,SNR=7.3						
BBLS	Lazići	150.41	333	⇓iP	PKPbc	15 11 45.8	-1.1
MRAK	Mrakovica	150.43	338	⇓iP	PKPbc	15 11 46.1	-0.8
BLY	Banja Luka	150.56	337	⇓iP	PKPbc	15 11 46.6	-0.5
CEY	Cerknica	150.61	342	⇓iP	PKPbc	15 11 46.3	-1.0
STAL	STALIGIAL	150.61	344		PKPdf	15 11 45.9	+4.8
RUDO	Rudo	150.63	333	⇓iP	PKPbc	15 11 46.3	-1.0
STIP	Stip	150.78	327	i P	PKPdf	15 11 46.2	+4.7
SKO	Skopje	150.95	329	i P	PKPbc	15 11 47.5	-0.7
CTI	Castel Tesino	151.07	346	PKIKP	PKPdf	15 11 46.6	+4.7
CTI	Castel Tesino	151.07	346		PKPdf	15 11 46.6	+4.7
TUE	Stuetta	151.15	349		PKPdf	15 11 41.1	-1.1
TUE				PKPbc	PKPbc	15 11 48.2	-0.5
UPM	Unac-Piva	151.16	333	eP	PKPbc	15 11 47.3	-1.5
UDBI	Udbina	151.26	339	i P	PKPbc	15 11 48.2	-0.6
SMRN	Sveta Marina	151.33	341	i P	PKPbc	15 11 47.5	-1.4
RABC	Rab	151.39	340	i P	PKPbc	15 11 48.1	-0.8
KIJV	Kijevo	151.48	337	i P	PKPdf	15 11 46.3	+3.9
NVLJ	Novalja	151.52	340	i P	PKPbc	15 11 48.3	-1.0
BRY	Bratogost	151.56	333	eP	PKPbc	15 11 48.0	-1.7
SENIN	Lac Senin/Sane	151.58	352		PKPbc	15 11 48.7	-1.0
PDG	Podgorica	151.63	332	⇑P	PKPbc	15 11 48.9	-0.7
PDG	Podgorica	151.63	332		PKPbc	15 11 48.5	-1.1
PDG	Podgorica	151.63	332	eP	PKPbc	15 11 48.5	-1.1
RICI	Ricice	151.64	336	i P	PKPbc	15 11 48.3	-1.3
LIT	Litokhoron	151.76	325	PKIKP	PKPbc	15 11 48.3	-1.7
LIT	Litokhoron	151.76	325		PKPbc	15 11 48.3	-1.7
TREB	Trebinje	151.79	333	eP	PKPdf	15 11 48.2	+5.2
DRME	Dracevica, Mon	151.85	332	eP	PKPbc	15 11 49.0	-1.1
FNA	Florina	151.87	327	PKIKP	PKPbc	15 11 48.8	-1.5
FNA	Florina	151.87	327	PKPbc	PKPbc	15 11 48.8	-1.5
STON	Ston	151.94	334	⇓iP	PKPdf	15 11 47.3	+4.2
ZIRJ	Zirje	152.06	338	i P	PKPbc	15 11 49.3	-1.2
IDI	Anoyia	153.30	314	⇓P	PKPbc	15 11 52.7	-0.9
ESDC	Sonseca Array	158.11	12	PKP	PKPdf	15 11 51.3	-0.3
	comp=Z,1.5nm,1.1s,baz=340,slow=2.9,SNR=4.5						
ESDC				PKPab	PKPab	15 12 28.6	-0.6
	comp=Z,0.4nm,0.4s,baz=327,slow=11,SNR=4.3						
LIC	Lamto	166.38	151	ePKIKP	PKPdf	15 11 59.3	-1.1
	comp=Z,53nm,1.4s						
KIC	Kosan Boka	166.63	151	ePKIKP	PKPdf	15 11 59.5	-1.1
	comp=Z,62nm,1.6s						
TIC	Toumodi	166.75	150	ePKIKP	PKPdf	15 11 59.7	-1.0
DBIC	Dimbokro	166.85	150	PKP	PKPdf	15 11 59.3	-1.4
	comp=Z,7.0nm,0.9s,baz=293,slow=1.7,SNR=5.1						
TORD	Torodi Ar. Bea	174.92	180	PKP	PKPdf	15 12 02.9	-1.9
	comp=Z,7.3nm,1.0s,baz=270,slow=2.6,SNR=26						
TORD				PKPab	PKPab	15 13 42.6	-1.2
	comp=Z,1.6nm,1.0s,baz=182,slow=3.7,SNR=6.3						
TORD				PP	PP	15 17 35.2	-0.1
	comp=Z,1.6nm,0.8s,baz=162,slow=4.2,SNR=6.2						
TORD	Torodi Ar. Bea	174.92	180		PKPdf	15 12 02.7	-2.0

IDC 08 15:11:12.6±8.6**,19°.66S**×**178°.28W,h471**km±221km**,** **mb3.0**/3**,mb1 3.3**/5**,mb1mx2.9**/35**,mbtmp4.1**/5 **Error ellipse: s-maj=126.4km s-min=33.9km az=82.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.45	48	P	P	15 13 14.8	+1.5
	3.3nm,0.3s,baz=219,slow=7.6,SNR=6.2						
AFI				S	S	15 14 51.2	-1.3
	4.1nm,0.3s,baz=150,slow=20,SNR=8.2						
URZ	Urewera	18.96	191	P	P	15 15 03.3	+0.1
	1.2nm,0.3s,baz=42,slow=15,SNR=9.9						
STKA	Stephens Creek	37.92	243	P	P	15 17 47.6	-1.1
	0.5nm,0.4s,baz=100,slow=6.1,SNR=3.7						
ASAR	Alice Springs	44.46	256	P	P	15 18 41.0	0.0
	1.6nm,0.5s,baz=90,slow=8.3,SNR=52						
WRA	Warramunga Arr	44.46	261	P	P	15 18 41.1	0.0
	0.6nm,0.4s,baz=98,slow=8.5,SNR=14						

*IDC **08** 15:13:41.3±1.5, 12°.74N×143°.56E, h110km±15km, mb3.5/11, mb1 3.7/11, mb1mx3.3/50, mbtmp3.8/11, MS2.9/2, Ms1 2.9/2, ms1mx2.5/38, Error ellipse: s-maj=21.8km s-min=14.6km az=93.0*

*NEIC **08** 15:13:43.4±0.9, 13°.0N±0°.1×143°.8E±0°.1, h125km±8km, mb4.3/6, Error ellipse: s-maj=20.7km s-min=16.0km az=113.0*

ISC 08 15:13:43.4±0.6**,12°.86N**±0°.10×**143°.8E**±0°.1**,h138**km**,n29,** σ**1°.27**/22**,mb3.8**/14**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.25	54	P	Pn	15 14 08.5	-1.0
	187nm,0.3s,baz=255,slow=5.9,SNR=142						
GUMO				S	Sn	15 14 29.1	-0.1
	164nm,0.3s,baz=173,slow=23,SNR=12						
GUMO	Guam	1.25	54	Pn	Pn	15 14 08.4	-1.0
GUMO				Sn	Sn	15 14 26.8	-2.4
JHJ	Hachijo jima 2	20.51	350	LR	LR	15 24 24.3	
	comp=Z,29nm,21.0s,baz=221,slow=31						
H11S3	WAKE ISLAND Hy	22.70	73	T	T	15 41 36.7	
	baz=253						
H11S1	WAKE ISLAND Hy	22.71	73	T	T	15 41 49.5	
	baz=253						
H11S2	WAKE ISLAND Hy	22.71	73	T	T	15 42 10.4	
	baz=253						
H11N1	WAKE ISLAND Hy	23.14	70	T	T	15 42 24.2	
	baz=255,slow=75,SNR=3.3						
H11N2	WAKE ISLAND Hy	23.15	70	T	T	15 42 25.0	
	baz=255,slow=75,SNR=3.3						
H11N3	WAKE ISLAND Hy	23.16	70	T	T	15 42 25.6	
	baz=255,slow=75,SNR=3.4						
WRA	Warramunga Arr	33.91	196	P	P	15 20 11.2	-2.2
	0.7nm,0.6s,baz=20,slow=9.7,SNR=5.7						
ASAR	Alice Springs	37.58	195	P	P	15 20 43.9	-0.8
	0.3nm,0.5s,baz=19,slow=13,SNR=11						
ASAR				PcP	PcP	15 23 01.3	+1.5
	0.2nm,0.6s,baz=35,slow=3.4,SNR=2.3						
KLR	Kul'dur	37.62	347	LR	LR	15 34 42.3	
	comp=Z,20nm,18.8s,baz=165,slow=34						
DZM	Mont Dzumac	41.19	147	P	P	15 21 16.7	+1.9
	9.2nm,0.6s,baz=316,slow=13,SNR=8.3						
DZM	Mont Dzumac	41.19	147	IAmb	IAmb	15 21 17.3	
	comp=Z,9.2nm,0.7s						
CMAR	Chiang Mai Arr	43.50	283	P	P	15 21 33.0	-0.5
	comp=Z,1.1nm,0.6s,baz=87,slow=6.4,SNR=9.8						
STKA	Stephens Creek	44.53	183	P	P	15 21 39.8	-1.6
	comp=Z,2.5nm,1.0s,baz=24,slow=6.8,SNR=5.9						
SONM	Songino Array	46.76	326	P	P	15 21 59.6	+0.7
	comp=Z,0.3nm,0.4s,baz=151,slow=8.3,SNR=2.4						
TOO	Toolangi	50.18	178	P	P	15 22 26.1	+1.0
MK31	Makanchi Array	61.32	316	P	P	15 23 44.6	+0.1
MK31				IAmb	IAmb	15 23 52.8	
	comp=Z,3.1nm,1.5s						
MKAR	Makanchi Array	61.32	316	P	P	15 23 44.7	+0.2
	comp=Z,0.2nm,0.6s,baz=100,slow=10.0,SNR=3.9						
MKAR	Makanchi Array	61.32	316	P	P	15 23 44.5	0.0
KURK	Kurchatov	64.49	320	P	P	15 24 05.3	0.0
KURK				IAmb	IAmb	15 24 06.2	
	comp=Z,2.1nm,0.8s						
KKAR	Karatay Array	69.17	311	P	P	15 24 35.3	+0.1
DIV	Divide	69.38	29	P	P	15 24 35.8	-0.3
DIV				IAmb	IAmb	15 24 42.2	
	comp=Z,15nm,1.4s						
ILAR	Eielson Array	69.66	25	P	P	15 24 38.9	+1.2
	comp=Z,0.4nm,0.7s,baz=253,slow=5.4,SNR=4.2						
ABKAR	Akbulak array	76.41	318	P	P	15 25 17.1	-0.5
YKA	Yellowknife Ar	83.97	27	P	P	15 26 00.1	+2.1
	comp=Z,0.2nm,0.4s,baz=286,slow=5.1,SNR=3.7						
NVAR	Mina Array Bea	88.16	51	P	P	15 26 22.8	+3.5
	comp=Z,0.7nm,0.7s,baz=257,slow=5.8,SNR=5.7						
FINES	FINESS Array B	91.39	335	P	P	15 26 32.7	-0.8
	comp=Z,0.5nm,0.6s,baz=70,slow=9.0,SNR=1.5						

*NEIC **08** 15:18:06.3±1.1, 18°.4S±0°.1×178°.3W±0°.2, h600km±2km, mb4.0/19, Error ellipse: s-maj=26.0km s-min=16.7km az=70.0*

*IDC **08** 15:18:09.6±4.2, 18°.55S×178°.32W, h653km±51km, mb3.0/8, mb1 3.2/8, mb1mx3.0/36, mbtmp4.0/8, Error ellipse: s-maj=37.9km s-min=24.5km az=0.0*

ISC 08 15:18:05.7±0.7**,18°.4S**±0°.1×**178°.3W**±0°.1**,h600**km**,n30,** σ**1°.09**/31**,mb4.0**/18**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.18	191	P	P	15 22 01.9	+1.1
	5.6nm,0.8s,baz=28,slow=15,SNR=1.5						
BKZ	Black Stump Fm	21.17	191	P	P	15 22 10.1	+0.3
KHZ	Kahutara	24.91	194	P	P	15 22 43.9	+1.0
LTZ	Lake Taylor	25.58	196	P	P	15 22 49.3	+0.5
CTA	Charters Tower	33.48	261	P	P	15 23 57.4	+0.2
	1.0nm,0.3s,baz=51,slow=6.5,SNR=1.1						
COEN	Coen	37.23	271	P	P	15 24 28.6	+0.6
COEN				IAmb	IAmb	15 24 29.2	
	comp=Z,8.9nm,1.2s						
STKA	Stephens Creek	38.49	242	P	P	15 24 38.8	+0.7
	comp=Z,2.4nm,0.7s,baz=101,slow=8.6,SNR=4.9						
BBOO	Buckleboo	43.27	241	P	P	15 25 16.7	+0.8
BBOO				IAmb	IAmb	15 25 38.2	
	comp=Z,14nm,1.4s						
WR0	Warramunga Arr	44.47	260	P	P	15 25 25.1	-0.1
WR0				IAmb	IAmb	15 25 48.8	
	comp=Z,6.0nm,1.3s						
WB0	Warramunga Arr	44.62	260	P	P	15 25 26.2	-0.3
WB0				IAmb	IAmb	15 25 48.5	
	comp=Z,2.5nm,1.1s						
WB2	Warramunga Arr	44.64	260	P	P	15 25 26.0	-0.6
WB2				IAmb	IAmb	15 25 50.5	
	comp=Z,8.4nm,1.5s						
WRAB	Tennant Creek	44.65	260	P	P	15 25 26.2	-0.4
WRAB				IAmb	IAmb	15 25 43.6	
	comp=Z,4.8nm,1.3s						
WRA	Warramunga Arr	44.66	260	P	P	15 25 26.5	-0.2
	comp=Z,0.9nm,0.4s,baz=96,slow=6.8,SNR=44						
WRA				PcP	PcP	15 26 55.4	-0.7
	comp=Z,0.3nm,0.4s,baz=91,slow=3.7,SNR=4.7						
WRA	Warramunga Arr	44.66	260	P	P	15 25 25.8	-0.9
AS31	Alice Springs	44.77	255	P	P	15 25 27.5	0.0
ASAR	Alice Springs	44.77	255	P	P	15 25 27.8	+0.2
	comp=Z,2.4nm,0.4s,baz=93,slow=7.5,SNR=104						
ASAR				PcP	PcP	15 26 55.7	-0.8
	comp=Z,0.7nm,0.5s,baz=104,slow=3.8,SNR=12						
ASAR	Alice Springs	44.77	255	P	P	15 25 27.2	-0.4
FORT	Forrest	49.90	245	P	P	15 26 05.4	-0.3
FORT				IAmb	IAmb	15 26 05.8	
	comp=Z,12nm,0.8s						
KNRA	Kununurra	50.55	265	P	P	15 26 10.8	+0.2
FITZ	Fitzroy Crossi	53.06	261	P	P	15 26 28.3	-0.3
	comp=Z,0.9nm,0.6s,baz=98,slow=7.1,SNR=1.6						
FITZ	Fitzroy Crossi	53.06	261	IAmb	IAmb	15 26 49.4	
	comp=Z,4.4nm,1.3s						
QSPA	South Pole Qui	71.64	180	P	P	15 28 29.3	+1.7
N19K	Bonanza Creek	81.25	12	P	P	15 29 22.9	+3.0
N19K				IAmb	IAmb	15 29 35.9	
	comp=Z,11nm,1.4s						
M19K	Big River Lodg	82.28	11	P	P	15 29 25.9	+0.9
M19K				IAmb	IAmb	15 29 33.7	
	comp=Z,5.3nm,1.3s						
MAW	Mawson	83.42	200	P	P	15 29 27.7	-3.0
	comp=Z,37nm,0.8s,baz=149,slow=5.9,SNR=2.2						
TXAR	Lajitas Array	86.17	58	P	P	15 29 45.1	+0.2
	comp=Z,0.5nm,0.7s,baz=236,slow=5.5,SNR=5.6						
MDM	Murphy Dome	86.24	12	P	P	15 29 44.1	-0.1
MDM				IAmb	IAmb	15 30 04.8	
	comp=Z,3.6nm,1.2s						
PDAR	Pinedale Array	87.64	43	P	P	15 29 51.0	-0.7
	comp=Z,0.2nm,0.5s,baz=257,slow=3.6,SNR=1.7						
ARCES	ARCESS Array B	126.83	350	PKP	PKPdf	15 35 59.6	-1.9
	comp=Z,1.1nm,0.8s,baz=51,slow=4.8,SNR=4.6						
FINES	FINESS Array B	133.70	344	PKP	PKPdf	15 36 14.2	-0.4
	comp=Z,0.3nm,0.4s,baz=12,slow=7.4,SNR=1.6						

IDC 08 15:23:58.0±2.1**,1°.19S**×**134°.41E,h0**km**,mb3.1**/2**,** **mb1 3.4**/4**,mb1mx3.3**/32**,mbtmp3.2**/4**,ML3.0**/2**,Error ellipse: s-maj=43.1km s-min=25.8km az=62.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.16	276	Pn	Pn	15 24 49.1	+0.1
	1.5nm,0.3s,baz=180,slow=20,SNR=9.8						
SIJI				Sn	Sn	15 25 27.5	0.0
	1.1nm,0.3s,baz=24,slow=18,SNR=1.3						
WRA	Warramunga Arr	18.64	180	P	P	15 28 17.2	-0.2
	0.1nm,0.3s,baz=0.1,slow=12,SNR=6.7						
ASAR	Alice Springs	22.35	181	P	P	15 28 57.6	-0.1
	0.5nm,0.7s,baz=5.9,slow=11,SNR=10						
SONM	Songino Array	54.59	337	P	P	15 33 28.5	+0.1
	0.1nm,0.3s,baz=151,slow=6.3,SNR=1.5						

*NOU **08** 15:30:31.4, 38°.91S×176°.37E, h124km, MLv4.1/7, North Island, New Zealand*

*WEL **08** 15:30:36.4±0.5, 39°S±3°×17°6E±°, h71km±5km, M2.9/55, ML3.1/58, MLv2.9/55, Error ellipse: s-maj=0.0km s-min=0.0km az=135.4*

ISC 08 15:30:32.9±1.5**,38°.83S**±0°.04×**176°.25E**±0°.04**,h107**km±7km**,** **n121,**σ**1°.47**/126**,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	Matea Rd	0.13	93	P	Pn	15 30 48.2	+0.4
MRHZ				S	Sn	15 30 57.1	-1.9
HATZ	Hinemaiaia	0.14	243	P	Pn	15 30 48.3	+0.5
ALRZ	Allen Road	0.28	15	P	Pn	15 30 48.6	+0.3
ALRZ				S	Sn	15 30 58.7	-1.0
WHTZ	Whakaora	0.28	305	P	Pn	15 30 49.3	+1.0
WPRZ	Whakapapatarin	0.32	347	P	Pn	15 30 48.8	+0.4
RITZ	Rihia Road	0.34	244	P	Pn	15 30 49.8	+1.3
PRRZ	Plateau Road	0.35	19	P	Pn	15 30 48.8	+0.3
PRRZ				S	Sn	15 30 59.1	-1.1
RATZ	Rangitukua	0.38	264	P	Pn	15 30 49.6	+0.9
BKZ	Black Stump Fm	0.39	151	P	Pn	15 30 49.6	+0.8
BKZ				S	Sn	15 31 00.0	-0.7
BKZ	Black Stump Fm	0.39	151	P	Pn	15 30 49.6	+0.8
WATZ	Wairara	0.42	286	P	Pn	15 30 49.8	+0.9
HRRZ	Handcock Road	0.44	3	P	Pn	15 30 49.4	+0.3
KATZ	Kakaramea	0.46	251	P	Pn	15 30 50.6	+1.3
MTHZ	Maungataniwha	0.46	93	P	Pn	15 30 50.1	+0.9
MTHZ				S	Sn	15 31 00.9	-0.6
KUTZ	Kaahu Road	0.48	315	P	Pn	15 30 50.2	+0.9
GRRZ	Galatos Road	0.49	347	P	Pn	15 30 50.3	+0.9
NMHZ	Naumai	0.51	122	P	Pn	15 30 51.3	+1.8
TMVZ	Te Maari	0.51	236	P	Pn	15 30 51.0	+1.4
HSRZ	Hossack Road	0.52	359	P	Pn	15 30 50.2	+0.7
ETVZ	East Tongariro	0.52	234	P	Pn	15 30 51.1	+1.4
NTVZ	North Tongarir	0.52	239	P	Pn	15 30 51.0	+1.3
RRRZ	Republican Roa	0.53	23	P	Pn	15 30 50.4	+0.7
MUGZ	Murupara	0.54	49	P	Pn	15 30 50.0	+0.4
OTVZ	Oturere	0.57	234	P	Pn	15 30 51.6	+1.6
NNVZ	North Ngauruho	0.58	238	P	Pn	15 30 51.7	+1.5
WTVZ	West Tongariro	0.59	241	P	Pn	15 30 51.5	+1.4
SNVZ	South Ngauruho	0.60	233	P	Pn	15 30 51.9	+1.6
RTZ	Ruatahuna	0.61	70	P	Pn	15 30 51.1	+0.8
KWHZ	Kaweka Forest	0.61	167	P	Pn	15 30 51.9	+1.6
NGZ	Ngauruhoe	0.61	235	P	Pn	15 30 51.9	+1.5
TARZ	Mount Tarawera	0.62	19	P	Pn	15 30 51.3	+0.8
TUVZ	Tukino	0.64	226	P	Pn	15 30 51.6	+1.0
UTU	Utuhina	0.65	356	P	Pn	15 30 51.7	+1.1
RAHZ	Arahi	0.66	98	P	Pn	15 30 52.2	+1.6
BHHZ	Black Hill Sta	0.68	192	P	Pn	15 30 52.3	+1.5
TWVZ	Taurewa	0.68	249	P	Pn	15 30 52.3	+1.4
WHVZ	Whangaehu Hut	0.69	228	P	Pn	15 30 52.7	+1.6
FWVZ	Far West T-bar	0.69	232	P	Pn	15 30 52.7	+1.6
MOVZ	Moawhango	0.70	214	P	Pn	15 30 52.3	+1.3
DRZ	Dome Shelter	0.70	230	P	Pn	15 30 52.8	+1.5
MCHZ	McNeill Hill	0.71	151	P	Pn	15 30 53.2	+2.2
WNVZ	Wahianoa	0.71	225	P	Pn	15 30 52.8	+1.5
TRVZ	Turoa	0.72	229	P	Pn	15 30 53.0	+1.6
ARHZ	Aropaoanui	0.72	127	P	Pn	15 30 52.9	+1.8
OMRZ	Omania	0.73	8	P	Pn	15 30 52.0	+0.8
TLZ	Tolley Road	0.75	311	P	Pn	15 30 52.8	+1.4
KARZ	Kaharoa	0.81	360	P	Pn	15 30 53.1	+1.1
WHHZ	Waihua	0.81	108	P	Pn	15 30 54.8	+2.9
EDRZ	Edgecumbe	0.82	28	P	Pn	15 30 52.4	+0.3
KRHZ	Kereru	0.82	174	P	Pn	15 30 53.7	+1.7
MTVZ	Mangateitei	0.82	227	P	Pn	15 30 54.0	+1.8
PKVZ	Pokaka	0.84	237	P	Pn	15 30 54.1	+1.8
SNGZ	Shannon Statio	0.85	87	P	Pn	15 30 53.8	+1.5
URZ	Urewera	0.88	50	P	Pn	15 30 53.2	+0.6
URZ	Urewera	0.88	50	P	Pn	15 30 53.2	+0.6
MARZ	Manawahe	0.91	22	P	Pn	15 30 53.7	+0.8
RAGZ	Rawiri	0.97	70	P	Pn	15 30 54.7	+1.2
OPRZ	Ohinepanea	1.01	14	P	Pn	15 30 54.7	+0.8
CKHZ	Cape Kidnapper	1.05	143	P	Pn	15 30 56.4	+2.1
KAHZ	Kahuranaki	1.08	154	P	Pn	15 30 56.8	+2.0
PNHZ	Pukenui	1.08	182	P	Pn	15 30 56.2	+1.4
TGRZ	Tauranga	1.10	0	P	Pn	15 30 56.2	+1.3
MWZ	Matawai	1.11	64	P	Pn	15 30 56.1	+1.0
WHRZ	Whale Island	1.12	31	P	Pn	15 30 57.1	+1.9
KNZ	Kokohu	1.13	100	P	Pn	15 30 56.7	+1.6
HIZ	Hauiti	1.14	286	P	Pn	15 30 57.3	+2.0
HIZ	Hauiti	1.14	286	P	Pn	15 30 56.2	+0.9
RIGZ	Rimuhau	1.19	85	P	Pn	15 30 57.6	+1.7
VRZ	Vera Road	1.20	255	P	Pn	15 30 58.2	+2.2
WPHZ	Waipukurau	1.24	173	P	Pn	15 30 58.1	+1.6
TSZ	Takapari Road	1.25	190	P	Pn	15 30 58.1	+1.5
PRGZ	Paritu Road	1.28	95	P	Pn	15 30 58.5	+1.6
PXZ	Pawanui	1.29	159	P	Pn	15 30 58.6	+1.6
TKGZ	Te Karaka	1.31	73	P	Pn	15 30 59.0	+1.8
WAZ	Wanganui	1.35	226	P	Pn	15 31 00.3	+2.5
RUGZ	Raukumara Rang	1.41	53	P	Pn	15 30 59.3	+0.7
PRHZ	Porangahau	1.47	168	P	Pn	15 31 00.7	+1.6
DVHZ	Dannevirke	1.47	183	P	Pn	15 31 00.3	+1.2
TWGZ	Tauwhareparae	1.50	65	P	Pn	15 31 01.3	+1.7
MHEZ	Mangahewa	1.52	260	P	Pn	15 31 03.1	+3.4
CNGZ	Carnagh Statio	1.57	78	P	Pn	15 31 02.2	+1.9
LREZ	Lake Rotokare	1.57	246	P	Pn	15 31 03.2	+2.8
HAZ	Te Kaha	1.61	49	P	Pn	15 31 01.5	+0.6
ANWZ	Angora Road	1.64	174	P	Pn	15 31 02.8	+1.6
PREZ	Palmer Road	1.71	252	P	Pn	15 31 05.7	+3.7
PKGZ	Pakihiroa	1.71	57	P	Pn	15 31 03.7	+1.5
NEZ	North Egmont	1.74	255	P	Pn	15 31 05.6	+3.2
PRWZ	Pori Road	1.74	187	P	Pn	15 31 04.0	+1.6
PUZ	Puketiti	1.75	65	P	Pn	15 31 03.7	+1.1
PKE	Pukeiti	1.80	258	P	Pn	15 31 06.1	+2.9
KHEZ	Kahui Hut	1.80	254	P	Pn	15 31 06.4	+3.1
BFZ	Birch Farm	1.85	180	P	Pn	15 31 04.9	+1.0
MRZ	Mangatainoka R	1.90	196	P	Pn	15 31 05.5	+1.0
NBEZ	Newall Road No	1.91	256	P	Pn	15 31 07.7	+3.2
TIWZ	Tintock	1.97	188	P	Pn	15 31 06.5	+1.2
MXZ	Matakaoa Point	2.05	53	P	Pn	15 31 08.0	+1.6
KUZ	Kuaotunu	2.12	348	P	Pn	15 31 07.4	+0.1
HOWZ	Holdsworth Sta	2.14	195	P	Pn	15 31 08.2	+0.7
OGWZ	Otaki Gorge	2.15	202	P	Pn	15 31 08.6	+1.0
KIW	Kapiti Island	2.28	207	P	Pn	15 31 10.1	+0.8
TMWZ	Te Maipa	2.29	187	P	Pn	15 31 10.2	+0.6
MTW	Mount Morrison	2.40	194	P	Pn	15 31 11.2	+0.4
CAW	Cannon Point	2.45	201	P	Pn	15 31 12.0	+0.4
TRWZ	Traveller	2.60	189	P	Pn	15 31 14.1	+0.6
PAWZ	Paruwai Farm	2.63	194	P	Pn	15 31 14.2	+0.3
DUWZ	D'Urville Isla	2.67	222	P	Pn	15 31 15.0	+0.6
TCW	Tory Channel	2.82	212	P	Pn	15 31 16.6	+0.2
PLWZ	Palliser	2.84	195	P	Pn	15 31 16.6	-0.1
TUWZ	Tuamarina	3.14	214	P	Pn	15 31 20.7	0.0
NNZ	Nelson	3.25	222	P	Pn	15 31 22.0	0.0
TKNZ	Takaka Hill	3.35	228	P	Pn	15 31 23.5	0.0
BSWZ	Blackbirch Sta	3.41	211	P	Pn	15 31 23.9	-0.2
QRZ	Quartz Range	3.49	234	P	Pn	15 31 25.5	+0.2
QRZ	Quartz Range	3.49	234	P	Pn	15 31 25.1	-0.2
MRNZ	Matariki Terra	3.71	225	P	Pn	15 31 28.2	0.0

THZ	**Tophouse**	**3.89**	**220**	P	**Pn**	**15 31 30.6**	**-0.1**
KHZ	**Kahutara**	**4.14**	**209**	P	**Pn**	**15 31 33.4**	**-0.5**
KHZ	**Kahutara**	**4.14**	**209**	P	**Pn**	**15 31 32.9**	**-1.0**
DSZ	**Denniston Nort**	**4.48**	**228**	P	**Pn**	**15 31 37.8**	**-0.8**
RPZ	**Rata Peaks**	**6.26**	**217**	P	**Pn**	**15 32 01.4**	**-1.2**
	141nm,1.5s						
ODZ	**Otahua Downs**	**7.49**	**212**	P	**Pn**	**15 32 16.7**	**-2.6**
	38nm,1.6s						

*NEIC **08** 15:41:58.6±1.4, 56.°56N±0.°05×151.°75W±0.°07, h7km±5km, Error ellipse: s-maj=6.7km s-min=5.6km az=161.0*
*AEIC **08** 15:42:02.4±1.2, 56.°51N±0.°05×151.°72W±0.°08, h5km±5km, ML3.1/70, ML3.3/48(NEIC), Error ellipse: s-maj=8.4km s-min=6.0km az=206.0*
*IDC **08** 15:42:06.5±3.0, 56.°90N×151.°69W, h56km±19km, mb3.4/7, mb1 3.5/10, mb1mx3.2/61, mbtmp3.6/10, ML3.1/3, Error ellipse: s-maj=31.9km s-min=18.8km az=9.0*
ISC 08 15:41:58.7±1.8**, 56.°58N**±0.°06×**151.°74W**±0.°05**, h7**km±10km**, n182, σ0.s98**/183**, mb3.8**/7**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.06**	**308**		**Pg**	**15 42 19.5**	**+0.4**
OHAK					**Sg**	**15 42 33.4**	**+0.6**
OHAK	**Old Harbor**	**1.06**	**308**	IAML		15 42 54.4	
	comp=N,485nm,0.8s						
OHAK	**Old Harbor**	**1.06**	**308**	P	**Pg**	**15 42 19.5**	**+0.4**
	baz=129						
OHAK				S	**Sg**	**15 42 33.4**	**+0.6**
	baz=129						
KDAK	**Kodiak Island**	**1.29**	**340**	P	**Pg**	**15 42 23.0**	**-0.4**
	comp=N,5.5nm,0.3s,baz=153,slow=6.6,SNR=281						
KDAK				S	**Sg**	**15 42 38.3**	**-1.8**
	comp=N,19nm,0.3s,baz=218,slow=9.0,SNR=14						
KDAK				LR	LR	15 42 57.1	
	comp=N,139nm,18.5s,baz=94,slow=50						
KDAK	**Kodiak Island**	**1.29**	**340**		**Pg**	**15 42 23.1**	**-0.3**
SII	**Sitkinak Islan**	**1.35**	**270**		**Pn**	**15 42 23.4**	**-0.6**
SII					**Sg**	**15 42 40.5**	**-1.6**
SII	**Sitkinak Islan**	**1.35**	**270**	IAML		15 43 06.2	
	comp=N,493nm,0.6s						
SII				IAML		15 43 12.5	
	comp=E,620nm,0.7s						
SII	**Sitkinak Islan**	**1.35**	**270**	P	**Pn**	**15 42 23.4**	**-0.6**
	baz=91						
SII				S	**Sg**	**15 42 40.5**	**-1.6**
	baz=91						
CHIR	**Chirikof Islan**	**2.30**	**252**		**Pn**	**15 42 36.1**	**-0.8**
CHIR					**Sn**	**15 43 02.8**	**-2.6**
CHIR	**Chirikof Islan**	**2.30**	**252**	P	**Pn**	**15 42 36.1**	**-0.8**
	baz=71						
CHIR				S	**Sn**	**15 43 02.8**	**-2.6**
	baz=71						
Q19K	**Cape Douglas,**	**2.56**	**337**		**Pn**	**15 42 42.0**	**+1.4**
Q19K	**Cape Douglas,**	**2.56**	**337**	IAML		15 43 50.7	
	comp=N,179nm,1.0s						
Q19K				IAML		15 44 04.4	
	comp=E,221nm,1.1s						
Q19K	**Cape Douglas,**	**2.56**	**337**	P	**Pn**	**15 42 42.0**	**+1.4**
	baz=156						
AUQ	**Augustine Qik'**	**2.92**	**343**		**Pn**	**15 42 46.0**	**+0.5**
CNPM	**China Poot**	**2.96**	**5**		**Pn**	**15 42 46.4**	**+0.3**
CNPM					**Sn**	**15 43 20.1**	**-1.8**
CNPM	**China Poot**	**2.96**	**5**	IAML		15 43 23.4	
	comp=N,51nm,0.6s						
CNPM				IAML		15 44 03.3	
	comp=E,59nm,2.4s						
HOM	**Homer**	**3.08**	**1**		**Pn**	**15 42 48.3**	**+0.5**
HOM	**Homer**	**3.08**	**1**	P	**Pn**	**15 42 48.3**	**+0.5**
	baz=181						
OPT	**Oil Point**	**3.18**	**346**		**Pn**	**15 42 50.7**	**+1.6**
OPT	**Oil Point**	**3.18**	**346**	P	**Pn**	**15 42 50.7**	**+1.6**
	baz=165						
BRSE	**Bradley Lake S**	**3.21**	**9**		**Pn**	**15 42 49.5**	**-0.1**
BRSE					**Sn**	**15 43 26.0**	**-2.1**
BRSE	**Bradley Lake S**	**3.21**	**9**	P	**Pn**	**15 42 49.5**	**-0.1**
	baz=190						
BRSE				S	**Sn**	**15 43 26.0**	**-2.1**
	baz=190						
BRLK	**Bradley Lake**	**3.22**	**8**		**Pn**	**15 42 49.5**	**-0.2**
P18K	**Big Mountain,**	**3.37**	**328**		**Pn**	**15 42 52.6**	**+0.8**
P18K	**Big Mountain,**	**3.37**	**328**	P	**Pn**	**15 42 52.6**	**+0.8**
	baz=146						
IVE	**Iliamna Volcan**	**3.51**	**349**		**Pn**	**15 42 54.0**	**+0.3**
O20K	**Slope Mountain**	**3.54**	**353**		**Pn**	**15 42 54.9**	**+0.8**
O20K	**Slope Mountain**	**3.54**	**353**	P	**Pn**	**15 42 54.9**	**+0.8**
	baz=172						
CHGN	**Chignik**	**3.71**	**268**		**Pn**	**15 42 55.8**	**-0.6**
CHGN	**Chignik**	**3.71**	**268**	IAML		15 43 40.4	
	comp=E,32nm,1.2s						
CHGN				IAML		15 43 40.7	
	comp=N,31nm,0.7s						
CHGN	**Chignik**	**3.71**	**268**	P	**Pn**	**15 42 55.8**	**-0.6**
	baz=84						
SEW	**Seward**	**3.73**	**18**		**Pn**	**15 42 55.8**	**-0.9**
SEW	**Seward**	**3.73**	**18**	P	**Pn**	**15 42 55.8**	**-0.9**
	baz=199						
O19K	**Port Alsworth**	**3.87**	**341**		**Pn**	**15 42 59.1**	**+0.6**
O19K	**Port Alsworth**	**3.87**	**341**	IAML		15 44 15.1	
	comp=N,46nm,0.5s						
O19K	**Port Alsworth**	**3.87**	**341**	P	**Pn**	**15 42 59.1**	**+0.6**
	baz=158						
RED	**Redoubt Volcan**	**3.88**	**352**		**Pn**	**15 42 59.6**	**+0.7**
RSO	**Redoubt South**	**3.93**	**353**		**Pn**	**15 43 00.4**	**+0.9**
RDWB	**Redoubt West**	**3.96**	**352**		**Pn**	**15 42 59.9**	**0.0**
SLKM	**Skilak Lake**	**4.02**	**11**		**Pn**	**15 42 59.8**	**-0.8**
O22K	**Cooper Landing**	**4.05**	**14**		**Pn**	**15 43 01.3**	**+0.3**
O22K	**Cooper Landing**	**4.05**	**14**	P	**Pn**	**15 43 01.3**	**+0.3**
	baz=196						
VNHG	**Veniaminof 1**	**4.14**	**268**		**Pn**	**15 43 02.2**	**-0.1**
CAPN	**Captain Cook N**	**4.21**	**4**		**Pn**	**15 43 04.2**	**+1.0**
CAPN	**Captain Cook N**	**4.21**	**4**	P	**Pn**	**15 43 04.2**	**+1.0**
	baz=184						
N19K	**Bonanza Creek**	**4.48**	**343**		**Pn**	**15 43 08.0**	**+1.0**
N19K	**Bonanza Creek**	**4.48**	**343**	P	**Pn**	**15 43 08.0**	**+1.0**
	baz=160						
SPU	**Mount Spurr**	**4.62**	**358**		**Pn**	**15 43 09.1**	**+0.2**
RC01	**Rabbit Creek A**	**4.64**	**12**		**Pn**	**15 43 08.6**	**-0.5**
RC01				IAML		15 44 03.8	
	comp=N,18nm,0.4s						
RC01				IAML		15 44 09.5	
	comp=E,18nm,1.5s						
RC01	**Rabbit Creek A**	**4.64**	**12**	P	**Pn**	**15 43 09.2**	**+0.1**
	baz=194						
PWL	**Port Wells**	**4.64**	**21**		**Pn**	**15 43 08.7**	**-0.5**
PWL	**Port Wells**	**4.64**	**21**	IAML		15 44 05.1	
	comp=N,37nm,1.5s						
PWL				IAML		15 44 06.7	
	comp=E,29nm,1.4s						
PWL	**Port Wells**	**4.64**	**21**	P	**Pn**	**15 43 08.7**	**-0.5**
	baz=204						
SPCN	**Chakachatna No**	**4.66**	**357**		**Pn**	**15 43 09.4**	**0.0**
STLK	**Strandline Lak**	**4.93**	**359**		**Pn**	**15 43 13.4**	**+0.2**
GLI	**Glacier Island**	**4.94**	**27**		**Pn**	**15 43 12.5**	**-0.8**
GLI	**Glacier Island**	**4.94**	**27**	IAML		15 44 26.9	
	comp=N,32nm,1.7s						
GLI				IAML		15 45 05.3	
	comp=E,28nm,2.7s						
GLI	**Glacier Island**	**4.94**	**27**	P	**Pn**	**15 43 12.5**	**-0.8**
	baz=211						
SVW2	**Sparrevohn**	**4.95**	**338**		**Pn**	**15 43 14.1**	**+0.8**
FID	**Port Fidalgo**	**5.00**	**31**		**Pn**	**15 43 13.0**	**-1.1**
FID	**Port Fidalgo**	**5.00**	**31**	IAML		15 44 11.1	
	comp=E,28nm,2.0s						
FID				IAML		15 44 11.3	
	comp=N,32nm,3.6s						
SDPT	**Sand Point**	**5.06**	**259**	Pn	**Pn**	**15 43 15.2**	**+0.3**
SDPT				IAML		15 44 16.1	
	comp=E,30nm,3.9s						
EYAK	**Cordova Ski Ar**	**5.06**	**36**		**Pn**	**15 43 14.4**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.06**	**36**	P	**Pn**	**15 43 14.1**	**-0.8**
	baz=220						
KNK	**Knik Glacier**	**5.13**	**18**		**Pn**	**15 43 15.0**	**-0.9**
KNK	**Knik Glacier**	**5.13**	**18**	IAML		15 44 24.9	
	comp=N,19nm,2.7s						
KNK				IAML		15 44 59.5	
	comp=E,18nm,3.7s						
KNK	**Knik Glacier**	**5.13**	**18**	P	**Pn**	**15 43 15.0**	**-0.9**
	baz=200						
PMR	**Palmer**	**5.20**	**14**		**Pn**	**15 43 15.9**	**-0.9**
PMR	**Palmer**	**5.20**	**14**	P	**Pn**	**15 43 15.9**	**-0.9**
	baz=196						
M22K	**Willow**	**5.25**	**8**		**Pn**	**15 43 16.9**	**-0.6**
M22K	**Willow**	**5.25**	**8**	P	**Pn**	**15 43 16.9**	**-0.6**
	baz=190						
RAGM	**Ragged Mountai**	**5.32**	**41**	Pn	**Pn**	**15 43 17.1**	**-1.4**
GHO	**Glory Hole Cre**	**5.40**	**14**		**Pn**	**15 43 18.7**	**-0.9**
GOAT	**Goat Mountain**	**5.43**	**40**		**Pn**	**15 43 19.2**	**-0.9**
SUCK	**Suckling Hills**	**5.46**	**47**	Pn	**Pn**	**15 43 20.1**	**-0.4**
M19K	**Big River Lodg**	**5.51**	**347**		**Pn**	**15 43 20.9**	**-0.1**
M19K	**Big River Lodg**	**5.51**	**347**	P	**Pn**	**15 43 20.9**	**-0.1**
	baz=165						
DIV	**Divide**	**5.51**	**32**		**Pn**	**15 43 20.5**	**-0.6**
SML	**Sawmill**	**5.53**	**17**		**Pn**	**15 43 21.2**	**-0.2**
SML	**Sawmill**	**5.53**	**17**	P	**Pn**	**15 43 21.0**	**-0.4**
	baz=200						
BERG	**Berg Lake**	**5.69**	**44**	Pn	**Pn**	**15 43 23.5**	**0.0**
SCM	**Sheep Creek Mo**	**5.73**	**21**		**Pn**	**15 43 24.5**	**+0.3**
SCM	**Sheep Creek Mo**	**5.73**	**21**	P	**Pn**	**15 43 24.5**	**+0.3**
	baz=205						
BMRM	**Bremner River**	**5.75**	**37**		**Pn**	**15 43 24.0**	**-0.4**
BMRM	**Bremner River**	**5.75**	**37**	P	**Pn**	**15 43 23.4**	**-1.0**
	baz=223						
GRIN	**Grindle Hills**	**5.77**	**47**		**Sn**	**15 44 27.5**	**-3.6**
L19K	**White Mountain**	**5.84**	**345**		**Pn**	**15 43 25.9**	**+0.3**
L19K	**White Mountain**	**5.84**	**345**	P	**Pn**	**15 43 25.9**	**+0.3**
	baz=163						
KHIT	**Khitrov Hills**	**5.90**	**45**		**Pn**	**15 43 25.4**	**-1.1**
SNH	**Sunshine Point**	**5.91**	**49**	Pn	**Pn**	**15 43 27.0**	**+0.4**
L20K	**Farewell, AK**	**6.01**	**350**		**Pn**	**15 43 28.1**	**0.0**
L20K	**Farewell, AK**	**6.01**	**350**	P	**Pn**	**15 43 28.1**	**0.0**
	baz=169						
WAX	**Waxell Ridge**	**6.06**	**47**		**Pn**	**15 43 28.0**	**-0.6**
M24K	**Tolsona, Glenn**	**6.23**	**25**	Pn	**Pn**	**15 43 32.3**	**+1.3**
N25K	**Chitina, Valde**	**6.24**	**33**		**Pn**	**15 43 31.1**	**0.0**
N25K	**Chitina, Valde**	**6.24**	**33**	P	**Pn**	**15 43 30.5**	**-0.6**
	baz=219						
TGL	**Tana Glacier**	**6.25**	**44**	Pn	**Pn**	**15 43 31.2**	**-0.2**
VRDI	**Verde Repeater**	**6.33**	**39**		**Pn**	**15 43 32.3**	**-0.2**
PPLA	**Purkeypile**	**6.34**	**358**	Pn	**Pn**	**15 43 32.9**	**+0.4**
ISLE	**Juniper Island**	**6.35**	**47**	Pn	**Pn**	**15 43 32.7**	**-0.1**
GLB	**Gilahina Butte**	**6.36**	**37**	Pn	**Pn**	**15 43 32.8**	**0.0**
BAGL	**Bagley Icefiel**	**6.39**	**48**		**Pn**	**15 43 32.1**	**-1.0**
MCARA	**McCarthy VSAT**	**6.59**	**39**	Pn	**Pn**	**15 43 36.0**	**+0.1**
MCARA					**Sn**	**15 44 48.9**	**-2.2**
BALM	**Baldy**	**6.61**	**44**		**Pn**	**15 43 35.2**	**-1.1**
GRNC	**Granite Creek**	**6.67**	**47**	Pn	**Pn**	**15 43 36.8**	**-0.3**
TT01	**Tatalina**	**6.70**	**343**		**Pn**	**15 43 36.4**	**-1.0**
TTA	**Tatalina**	**6.72**	**343**	Pn	**Pn**	**15 43 38.0**	**+0.2**
HARP	**HAARP**	**6.72**	**27**		**Pn**	**15 43 38.3**	**+0.5**
HARP	**HAARP**	**6.72**	**27**	P	**Pn**	**15 43 38.3**	**+0.5**
	baz=212						
TABL	**Table Mountain**	**6.76**	**51**	Pn	**Pn**	**15 43 38.8**	**+0.3**
CAST	**Castle Rocks**	**6.86**	**359**	Pn	**Pn**	**15 43 39.9**	**+0.3**
DHY	**Denali Highway**	**6.87**	**17**		**Pn**	**15 43 39.8**	**-0.1**
DHY	**Denali Highway**	**6.87**	**17**	P	**Pn**	**15 43 39.4**	**-0.6**
	baz=200						
BARN	**Barnard Glacie**	**6.89**	**45**	Pn	**Pn**	**15 43 40.0**	**-0.2**
K20K	**Telida**	**6.89**	**351**		**Pn**	**15 43 39.9**	**-0.2**
TRF	**Thorofare Moun**	**6.93**	**5**		**Pn**	**15 43 40.1**	**-0.6**
TRF	**Thorofare Moun**	**6.93**	**5**	P	**Pn**	**15 43 40.1**	**-0.6**
	baz=186						
CTGM	**Chitina Glacie**	**6.97**	**47**	Pn	**Pn**	**15 43 41.1**	**-0.1**
PCA	**Pinnacle**	**7.00**	**55**		**Pn**	**15 43 41.4**	**-0.2**
RND	**Reindeer**	**7.00**	**11**		**Pn**	**15 43 40.9**	**-0.6**
PINM	**Pinnacle**	**7.00**	**55**	P	**Pn**	**15 43 41.4**	**-0.2**
	baz=244						
KTH	**Kantishna Hill**	**7.00**	**3**	Pn	**Pn**	**15 43 41.9**	**+0.2**
LOGN	**Logan Glacier**	**7.02**	**48**		**Pn**	**15 43 41.4**	**-0.6**
PAX	**Paxson**	**7.14**	**24**	Pn	**Pn**	**15 43 43.7**	**+0.1**
BCPM	**Bancas Point**	**7.22**	**57**		**Pn**	**15 43 44.2**	**-0.4**
PNL	**Peninsula**	**7.23**	**60**		**Pn**	**15 43 44.5**	**-0.3**
PNL	**Peninsula**	**7.23**	**60**	P	**Pn**	**15 43 44.5**	**-0.3**
	baz=250						
MCK	**McKinley**	**7.31**	**10**	Pn	**Pn**	**15 43 45.8**	**0.0**
MENT	**Mentasta**	**7.55**	**29**	Pn	**Pn**	**15 43 49.9**	**+0.9**
BPAW	**Bear Paw Mtn.**	**7.55**	**3**	Pn	**Pn**	**15 43 49.6**	**+0.5**
YUK2	**White River**	**7.65**	**42**		**Pn**	**15 43 50.2**	**-0.3**
M27K	**Edge Creek, AK**	**7.66**	**37**	Pn	**Pn**	**15 43 51.1**	**+0.4**
BWN	**Browne**	**7.70**	**7**	Pn	**Pn**	**15 43 52.6**	**+1.6**
J20K	**Nowinta River**	**7.71**	**352**	Pn	**Pn**	**15 43 51.8**	**+0.6**
L26K	**Log Cabin Wild**	**7.72**	**30**	Pn	**Pn**	**15 43 52.7**	**+1.3**
RIDG	**Independent Ri**	**7.96**	**23**	Pn	**Pn**	**15 43 54.9**	**+0.3**
DOT	**Dot Lake**	**8.05**	**25**	Pn	**Pn**	**15 43 56.5**	**+0.6**
WRH	**Wood River Hil**	**8.12**	**11**	Pn	**Pn**	**15 43 56.6**	**-0.2**
YUK7	**Dusty Glacier**	**8.13**	**55**		**Pn**	**15 43 56.3**	**-1.0**
L27K	**Beaver Creek,**	**8.19**	**33**	Pn	**Pn**	**15 43 58.1**	**+0.3**
HDA	**Harding Lake**	**8.20**	**15**	Pn	**Pn**	**15 43 59.1**	**+1.2**
BC03		**8.20**	**33**		**Pn**	**15 43 57.5**	**-0.5**
BCAR	**Beaver Creek A**	**8.20**	**33**	Pn	**Pn**	**15 43 58.7**	**+0.6**
CCB	**Clear Creek Bu**	**8.32**	**12**	Pn	**Pn**	**15 44 00.2**	**+0.7**
SCRK	**Sand Creek**	**8.35**	**24**	Pn	**Pn**	**15 44 01.2**	**+1.1**
MLY	**Manley**	**8.49**	**3**	Pn	**Pn**	**15 44 02.9**	**+0.9**
HYT	**Haines Junctio**	**8.54**	**54**	Pn	**Pn**	**15 44 03.2**	**+0.5**
IL31		**8.55**	**14**		**Pn**	**15 44 03.3**	**+0.6**
ILAR	**Eielson Array**	**8.55**	**14**	P	**Pn**	**15 44 03.4**	**+0.6**
	comp=E,0.5nm,0.3s,baz=201,slow=13,SNR=29						
ILAR				S	**Sn**	**15 45 34.3**	**-5.0**
	comp=E,0.2nm,0.3s,baz=231,slow=52,SNR=3.7						
MDM	**Murphy Dome**	**8.58**	**10**	Pn	**Pn**	**15 44 03.7**	**+0.6**
I21K	**Tanana**	**8.63**	**359**	Pn	**Pn**	**15 44 04.5**	**+0.7**
J25K	**Salcha River,**	**8.64**	**19**	Pn	**Pn**	**15 44 04.3**	**+0.3**
I23K	**Minto, Yukon-K**	**8.67**	**7**	Pn	**Pn**	**15 44 04.4**	**0.0**
POKR	**Poker Plat Res**	**8.81**	**12**	Pn	**Pn**	**15 44 07.9**	**+1.5**
H21K	**Melozitna Rive**	**9.12**	**357**	Pn	**Pn**	**15 44 11.3**	**+0.7**
SKAG	**Skagway**	**9.17**	**65**	Pn	**Pn**	**15 44 12.4**	**+1.2**
H23K	**Yukon River**	**9.33**	**6**	Pn	**Pn**	**15 44 13.4**	**-0.1**
PRP	**Porcupine Dome**	**9.45**	**16**	Pn	**Pn**	**15 44 16.5**	**+1.3**
H24K	**Noodor Dome**	**9.47**	**10**	Pn	**Pn**	**15 44 16.7**	**+1.3**
IMAR	**Indian Mountai**	**9.48**	**355**	Pn	**Pn**	**15 44 15.2**	**-0.4**
N31M	**Braeburn, Yuko**	**9.57**	**53**	Pn	**Pn**	**15 44 17.9**	**+1.1**
M30M	**Minto, Yukon**	**9.66**	**45**	Pn	**Pn**	**15 44 18.1**	**+0.1**
DAWY	**Dawson**	**9.67**	**34**	Pn	**Pn**	**15 44 18.3**	**+0.2**
WHY	**Whitehorse**	**9.69**	**58**	Pn	**Pn**	**15 44 18.8**	**+0.3**
EGAK	**Eagle**	**9.71**	**28**	Pn	**Pn**	**15 44 19.0**	**+0.4**
M31M	**Drury Creek, Y**	**10.47**	**50**	Pn	**Pn**	**15 44 30.0**	**+0.9**
FYU	**Fort Yukon**	**10.48**	**14**	Pn	**Pn**	**15 44 29.8**	**+0.7**
P33M	**Teslin, Yukon**	**10.56**	**62**	Pn	**Pn**	**15 44 29.0**	**-1.4**
BMAR	**Burnt Mountain**	**11.38**	**14**	Pn	**Pn**	**15 44 41.6**	**+0.1**
TOLK	**Toolik Lake Re**	**12.14**	**4**	Pn	**Pn**	**15 44 52.2**	**+0.2**
INK	**Inuvik**	**14.38**	**28**	P	**Pn**	**15 45 23.2**	**+0.9**
	comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=2.1						
A36M	**Sachs Harbour**	**18.97**	**25**	P	**P**	**15 46 20.8**	**+0.7**
YKA	**Yellowknife Ar**	**19.52**	**57**	P	**P**	**15 46 27.2**	**+1.1**
	comp=E,0.1nm,0.3s,baz=269,slow=11,SNR=5.5						
PDAR	**Pinedale Array**	**30.06**	**99**	P	**P**	**15 48 11.3**	**+2.8**
	comp=E,0.1nm,0.6s,baz=299,slow=6.1,SNR=1.8						
KLR	**Kul'dur**	**44.47**	**294**	P	**P**	**15 50 10.4**	**+0.4**
	comp=E,0.7nm,0.5s,baz=37,slow=22,SNR=4.2						
SONM	**Songino Array**	**57.39**	**308**	P	**P**	**15 51 48.9**	**+1.4**
	comp=E,0.3nm,0.3s,baz=54,slow=6.6,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.55**	**325**	P	**P**	**15 52 07.1**	**-2.1**
	comp=E,0.5nm,0.4s,baz=48,slow=8.6,SNR=2.4						
NOA	**NORSAR Array B**	**61.95**	**9**	P	P	15 52 15.9	-2.7
	comp=E,0.2nm,0.6s,baz=360,slow=6.6,SNR=2.2						
FINES	**FINESS Array B**	**62.30**	**1**	P	**P**	**15 52 21.2**	**+0.4**
	comp=E,2.0nm,1.1s,baz=38,slow=7.2,SNR=1.9						
FINES	**FINESS Array B**	**62.30**	**1**	P	**P**	**15 52 22.0**	**+1.2**
MKAR	**Makanchi Array**	**67.54**	**323**	P	**P**	**15 52 55.6**	**+0.4**
	comp=E,0.4nm,0.6s,baz=41,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**67.54**	**323**	P	**P**	**15 52 56.2**	**+0.9**

*JMA **08** 15:43:36.5±0.1, 24.°27N×121.°94E, h42km±3km, M3.3*
*TAP **08** 15:43:37.2, 24.°40N×121.°96E, h19km, ML3.7, B*
ISC 08 15:43:36.6±0.9**, 24.°37N**±0.°02×**122.°01E**±0.°02**, h15**km±6km**, n148, σ0.s87**/223**, 14C-25D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.23**	**289**	⇓iP	**Pg**	**15 43 41.9**	**+0.3**
	baz=286						
EWUT				iS	**Sg**	**15 43 45.1**	**+0.1**
	baz=286						
ENA	**Nanau**	**0.25**	**283**	⇓iP	**Pg**	**15 43 42.3**	**+0.2**
	baz=279						
ENA				iS	**Sg**	**15 43 45.9**	**0.0**
	baz=279						
EHP	**Heping Village**	**0.26**	**256**	iP	**Pg**	**15 43 42.4**	**+0.2**
	baz=245						
EHP				S	**Sg**	**15 43 46.6**	**+0.7**
	baz=245						
TWC	**Suao**	**0.28**	**328**	⇓iP	**Pb**	**15 43 42.9**	**-0.4**
	baz=337						
TWC				iS	**Sg**	**15 43 46.3**	**-0.3**
	baz=337						
NDS	**Dongshan**	**0.38**	**314**	⇓iP	**Pb**	**15 43 44.5**	**-0.5**
	baz=317						
NDS				S	**Sg**	**15 43 49.0**	**-0.5**
	baz=317						
ETL	**Fush Village**	**0.41**	**239**	eP	**Pb**	**15 43 44.9**	**-0.8**
	baz=232						
ETL				eS	**Sb**	**15 43 52.1**	**+0.3**
	baz=232						
NACB	**Ninganchiao**	**0.43**	**243**	⇓iP	**Pb**	**15 43 45.0**	**-0.9**
	baz=236						
NACB				eS	**Sb**	**15 43 51.8**	**-0.4**
	baz=236						
ILA	**Ilan**	**0.46**	**328**	⇓P	**Pb**	**15 43 46.4**	**0.0**
	baz=333						
ILA				eS	**Sb**	**15 43 52.5**	**-0.6**
	baz=333						
TWE	**Neicheng**	**0.47**	**318**	⇓iP	**Pb**	**15 43 46.2**	**-0.4**
	baz=322						
TWE				eS	**Sg**	**15 43 51.7**	**-0.6**
	baz=322						
LATG	**Datong**	**0.47**	**290**	⇓iP	**Pb**	**15 43 46.1**	**-0.5**
	baz=289						
LATG				S	**Sg**	**15 43 52.1**	**-0.3**
	baz=289						
EGS		**0.48**	**351**	iP	**Pb**	**15 43 46.8**	**+0.1**
	baz=358						
EGS				eS	**Sb**	**15 43 52.8**	**-0.8**
	baz=358						
TWD	**Chiawan**	**0.48**	**233**	P	**Pb**	**15 43 46.3**	**-0.5**
	baz=226						
ENTT	**Nioudou**	**0.49**	**303**	⇓iP	**Pb**	**15 43 46.4**	**-0.5**
	baz=304						
ENTT				S	**Sb**	**15 43 52.6**	**-1.2**
	baz=304						
NTC	**Toucheng**	**0.51**	**341**	⇓iP	**Pb**	**15 43 47.1**	**-0.1**
	baz=346						
NTC				eS	**Sg**	**15 43 53.3**	**-0.2**
	baz=346						
NDT	**Datong Townshi**	**0.51**	**297**	⇓iP	**Pb**	**15 43 46.9**	**-0.4**
	baz=297						
NDT				eS	**Sg**	**15 43 53.1**	**-0.5**
	baz=297						
ETLH	**Xiulin Townshi**	**0.51**	**251**	⇓iP	**Pb**	**15 43 46.5**	**-0.8**
	baz=246						
ETLH				eS	**Sb**	**15 43 54.1**	**-0.6**
	baz=246						
HWA	**Hwalien**	**0.54**	**224**	eP	**Pn**	**15 43 48.8**	**-1.0**
	baz=217						
FUSB	**Fushanzhiwuyua**	**0.55**	**315**	⇓iP	**Pb**	**15 43 47.7**	**-0.2**
	baz=317						
FUSB				eS	**Sb**	**15 43 54.8**	**-0.8**
	baz=317						
NNSB	**Datong**	**0.58**	**276**	⇓iP	**Pb**	**15 43 48.0**	**-0.5**
	baz=273						
NNSB				eS	**Sb**	**15 43 55.3**	**-1.2**
	baz=273						
NNS	**Nan Shan**	**0.59**	**277**	⇓iP	**Pb**	**15 43 48.1**	**-0.6**
	baz=274						
NNS				eS	**Sg**	**15 43 55.2**	**-0.9**
	baz=274						
NWLT	**Wulai**	**0.61**	**311**	⇓iP	**Pb**	**15 43 48.7**	**-0.4**
	baz=312						
NWLT				S	**Sg**	**15 43 56.0**	**-0.9**
	baz=312						
TIPB	**Shuangxi**	**0.62**	**344**	⇑iP	**Pb**	**15 43 49.2**	**0.0**
	baz=348						
TIPB				S	**Sg**	**15 43 56.8**	**-0.3**
	baz=348						
ETM	**Tongmen**	**0.62**	**230**	eP	**Pb**	**15 43 48.9**	**-0.3**
	baz=225						
TEYL	**Yanliau Villag**	**0.63**	**217**	eP	**Pn**	**15 43 50.2**	**-0.8**
	baz=214						
TWB1	**Santiao Chiao**	**0.63**	**358**	⇑iP	**Pb**	**15 43 49.4**	**+0.1**
	baz=3.0						
TWB1				eS	**Sb**	**15 43 57.6**	**-0.5**
	baz=3.0						
YHNB	**Yeheng**	**0.65**	**297**	⇓iP	**Pb**	**15 43 49.4**	**-0.4**
	baz=297						
YHNB				iS	**Sg**	**15 43 57.4**	**-0.7**
	baz=297						
NSK	**Sanguang**	**0.67**	**297**	⇓iP	**Pb**	**15 43 49.6**	**-0.5**
	baz=297						
NSK				eS	**Sg**	**15 43 57.8**	**-0.8**
	baz=297						
FUSS	**Fushou**	**0.71**	**260**	⇓iP	**Pb**	**15 43 50.5**	**-0.4**
	baz=257						
FUSS				eS	**Sn**	**15 44 02.3**	**-0.9**
	baz=257						
TWA	**Mucha**	**0.72**	**327**	eP	**Pb**	**15 43 51.1**	**+0.2**
	baz=330						
TWA				eS	**Sb**	**15 44 00.1**	**-0.5**
	baz=330						
WHF	**Hehuan Shan**	**0.72**	**252**	⇓P	**Pb**	**15 43 50.5**	**-0.6**
	baz=248						
WHF				eS	**Sb**	**15 44 01.0**	**0.0**
	baz=248						
NWF	**Wu-fen Shan**	**0.73**	**343**	⇑eP	**Pb**	**15 43 51.3**	**+0.3**
	baz=346						
NWF				eS	**Sb**	**15 44 00.5**	**-0.3**
	baz=346						
WFSB	**Wu-fen Shan**	**0.73**	**343**	⇑P	**Pb**	**15 43 51.4**	**+0.4**
	baz=346						
WFSB				eS	**Sb**	**15 44 00.5**	**-0.2**
	baz=346						
SXI1	**Grass Mountain**	**0.73**	**350**	⇑iP	**Pb**	**15 43 51.3**	**+0.3**
	baz=354						
SXI1				S	**Sb**	**15 44 00.5**	**-0.4**
	baz=354						
NHDH	**Xindian Distri**	**0.74**	**323**	P	**Pb**	**15 43 51.3**	**+0.2**
	baz=325						
NHDH				eS	**Sb**	**15 44 00.5**	**-0.6**
	baz=325						
TATO	**Taipei**	**0.77**	**322**	⇓eP	**Pb**	**15 43 51.7**	**0.0**
	baz=324						
TATO				eS	**Sb**	**15 44 01.1**	**-0.8**
	baz=324						
ESL	**Shilin**	**0.77**	**224**	⇑P	**Pb**	**15 43 51.6**	**0.0**
	baz=219						
ESL				eS	**Sb**	**15 44 03.0**	**+1.1**
	baz=219						
TWT	**Tachien**	**0.77**	**261**	eP	**Pb**	**15 43 52.0**	**+0.1**
	baz=259						
TWT				eS	**Sn**	**15 44 03.4**	**-1.2**
	baz=259						
TDCB	**Techi**	**0.79**	**261**	⇓P	**Pb**	**15 43 52.0**	**-0.2**
	baz=259						
TDCB				eS	**Sn**	**15 44 04.3**	**-0.7**
	baz=259						
TEGC	**Jichi Village**	**0.79**	**213**	eP	**Pn**	**15 43 52.9**	**-0.3**
	baz=209						
TAP1	**Taipei**	**0.80**	**326**	eP	**Pn**	**15 43 53.3**	**0.0**
	baz=328						
TAP1				eS	**Sb**	**15 44 03.3**	**+0.5**
	baz=328						
TNOU	**National Taiwa**	**0.80**	**344**	eP	**Pn**	**15 43 52.7**	**-0.7**
	baz=347						
TNOU				eS	**Sb**	**15 44 02.4**	**-0.6**
	baz=347						
TAP	**Taipei**	**0.81**	**325**	eP	**Pb**	**15 43 52.5**	**+0.2**
	baz=328						
TAP				eS	**Sb**	**15 44 03.4**	**+0.3**
	baz=328						
BACT	**New Taipei Cit**	**0.81**	**320**	eP	**Pn**	**15 43 53.3**	**-0.2**
	baz=322						
BACT				eS	**Sb**	**15 44 03.7**	**+0.5**
	baz=322						
CHGB	**Renai**	**0.83**	**248**	⇓eP	**Pb**	**15 43 52.7**	**-0.1**
	baz=245						
CHGB				eS	**Sb**	**15 44 04.6**	**+0.7**
	baz=245						
JYNG	**Yonagunijimaku**	**0.85**	**85**	P	**Pb**	**15 43 53.4**	**+0.3**
JYNG				eS	**Sb**	**15 44 05.4**	**+1.0**
NFF	**Wufeng Townshi**	**0.86**	**288**	⇓eP	**Pb**	**15 43 53.0**	**-0.2**
	baz=287						
NFF				eS	**Sg**	**15 44 03.4**	**-1.1**
	baz=287						
YM01	**YM01**	**0.87**	**332**	eP	**Pn**	**15 43 54.2**	**-0.2**
	baz=335						
YM01				eS	**Sb**	**15 44 04.9**	**0.0**
	baz=335						
EGFH	**Guangfu**	**0.88**	**218**	eP	**Pb**	**15 43 53.5**	**-0.1**
	baz=214						
YM08	**YM08**	**0.90**	**335**	eP	**Pn**	**15 43 54.3**	**-0.5**
	baz=337						
YM08				eS	**Sb**	**15 44 05.5**	**-0.2**
	baz=337						
NTY	**Taoyuan**	**0.90**	**314**	eP	**Pn**	**15 43 55.2**	**+0.4**
	baz=315						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WUSB	**Renai**	**0.90**	**245**	⇓P	**Pb**	**15 43 54.0**	**0.0**
	baz=242						
WUSB				*e*S	**Sn**	**15 44 08.1**	**+0.4**
	baz=242						
TWS1	**Kuangyinshan**	**0.91**	**323**	*e*P	**Pn**	**15 43 54.8**	**0.0**
	baz=325						
TWS1				*e*S	**Sn**	**15 44 07.7**	**+0.1**
	baz=325						
YOJ	**Yonaguni jima**	**0.91**	**84**	P	**Pb**	**15 43 54.3**	**+0.2**
YOJ				S	**Sb**	**15 44 06.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.91**	**84**	⇑P	**Pb**	**15 43 54.3**	**+0.2**
	baz=86						
YOJ				*e*S	**Sb**	**15 44 06.8**	**+0.7**
	baz=86						
NJD	**Zhudong**	**0.92**	**293**	*e*P	**Pn**	**15 43 55.8**	**+0.9**
	baz=293						
ANP	**Anpu**	**0.93**	**331**	*e*P	**Pn**	**15 43 54.9**	**-0.2**
	baz=333						
NTST	**Danshui**	**0.94**	**327**	*e*P	**Pn**	**15 43 55.5**	**+0.3**
	baz=329						
LIOB	**Emei**	**0.95**	**287**	*e*P	**Pn**	**15 43 55.2**	**-0.2**
	baz=286						
NSTT	**Nanjuang**	**0.96**	**286**	*e*P	**Pn**	**15 43 55.3**	**-0.2**
	baz=285						
NSTT				*e*S	**Sb**	**15 44 07.1**	**-0.3**
	baz=285						
NCU	**National Centr**	**0.96**	**308**	*e*P	**Pn**	**15 43 56.2**	**+0.7**
	baz=309						
NCUH	**Zhongli**	**0.96**	**308**	*e*P	**Pn**	**15 43 56.0**	**+0.5**
	baz=309						
TWY	**Chenhua**	**0.97**	**337**	*e*P	**Pn**	**15 43 56.2**	**+0.4**
	baz=340						
TWY				*e*S	**Sb**	**15 44 08.2**	**+0.3**
	baz=340						
WHP	**Taichung City**	**0.98**	**265**	*e*P	**Pn**	**15 43 55.5**	**-0.4**
	baz=263						
WHP				*e*S	**Sn**	**15 44 09.7**	**+0.2**
	baz=263						
HSN1	**Hsinchu**	**0.99**	**294**	*e*P	**Pn**	**15 43 56.6**	**+0.6**
	baz=294						
VWDT	**VWDT**	**1.01**	**232**	⇑*e*P	**Pn**	**15 43 56.0**	**-0.1**
	baz=229						
VWDT				*e*S	**Sn**	**15 44 10.8**	**+0.7**
	baz=229						
SBCB	**Hsinchu**	**1.02**	**294**	*e*P	**Pn**	**15 43 57.6**	**+1.1**
	baz=294						
HGSD	**Ruisui**	**1.03**	**212**	*e*P	**Pb**	**15 43 56.0**	**-0.1**
	baz=209						
WPL	**Puli Township**	**1.03**	**250**	*e*P	**Pn**	**15 43 56.7**	**+0.2**
	baz=248						
HSN	**Hsinchu**	**1.04**	**294**	*e*P	**Pn**	**15 43 57.5**	**+0.8**
	baz=297						
DPDB	**Guoxing**	**1.05**	**251**	⇑*e*P	**Pn**	**15 43 57.1**	**+0.3**
	baz=249						
DPDB				*e*S	**Sn**	**15 44 12.5**	**+1.3**
	baz=249						
WCS	**Beigang Elemen**	**1.05**	**253**	*e*P	**Pn**	**15 43 57.2**	**+0.3**
	baz=250						
WCS				*e*S	**Sn**	**15 44 12.7**	**+1.5**
	baz=250						
EHY	**Hungye**	**1.07**	**216**	*e*P	**Pg**	**15 43 55.8**	**-1.5**
	baz=213						
NHW	**Xinwu Township**	**1.08**	**306**	*e*P	**Pn**	**15 43 57.8**	**+0.6**
	baz=306						
NMLH	**Miaoli**	**1.13**	**279**	*e*P	**Pn**	**15 43 58.9**	**+1.1**
	baz=277						
SMLT	**Sun Moon Lake**	**1.13**	**245**	*e*P	**Pn**	**15 43 58.3**	**+0.3**
	baz=242						
SMLT				*e*S	**Sn**	**15 44 15.5**	**+2.2**
	baz=242						
SSLB	**Suanglung**	**1.13**	**239**	⇑P	**Pn**	**15 43 57.8**	**-0.1**
	baz=237						
SSLB				*e*S	**Sn**	**15 44 14.2**	**+1.0**
	baz=237						
TWQ1	**Liyutan**	**1.13**	**269**	⇑*e*P	**Pn**	**15 43 59.1**	**+1.2**
	baz=267						
TWQ1				*e*S	**Sn**	**15 44 15.9**	**+2.7**
	baz=267						
NSY	**Sanyi**	**1.14**	**272**	*e*P	**Pn**	**15 44 00.0**	**+1.9**
	baz=271						
NSY				*e*S	**Sn**	**15 44 16.7**	**+3.2**
	baz=271						
TYC	**Yuchr**	**1.16**	**246**	*e*P	**Pn**	**15 43 58.5**	**+0.3**
	baz=244						
ECBN	**Changbin**	**1.17**	**206**	*e*P	**Pn**	**15 43 59.7**	**+1.2**
	baz=203						
YULB	**Yu-li**	**1.18**	**214**	*e*P	**Pb**	**15 43 57.4**	**-1.3**
	baz=211						
YULB				*e*S	**Sn**	**15 44 15.7**	**+1.4**
	baz=211						
EYUL	**Yuli**	**1.20**	**212**	*e*P	**Pn**	**15 43 58.9**	**0.0**
	baz=209						
TWF1	**Yuli**	**1.21**	**213**	*e*P	**Pb**	**15 43 57.9**	**-1.3**
	baz=210						
TWF1				*e*S	**Sn**	**15 44 16.1**	**+0.9**
	baz=210						
TCU	**Taichung**	**1.24**	**260**	*e*P	**Pg**	**15 44 01.1**	**+0.6**
	baz=258						
WWF	**Wufeng**	**1.25**	**255**	⇑*e*P	**Pg**	**15 44 01.5**	**+0.9**
	baz=253						
WWF				*e*S	**Sn**	**15 44 20.7**	**+4.7**
	baz=253						
WDJ	**Dajia District**	**1.25**	**269**	*e*P	**Pg**	**15 44 01.0**	**+0.3**
	baz=268						
WJS	**Zhushan**	**1.30**	**245**	⇑*e*P	**Pg**	**15 44 01.7**	**+0.1**
	baz=243						
WJS				*e*S	**Sg**	**15 44 21.6**	**+3.1**
	baz=243						
WNT1	**Nantou City**	**1.30**	**249**	*e*P	**Pg**	**15 44 02.9**	**+1.2**
	baz=247						
YUS	**Yu-Shan**	**1.31**	**228**	*e*P	**Pg**	**15 44 00.9**	**-1.0**
	baz=225						
WNT	**Mingjian**	**1.31**	**248**	*e*P	**Pg**	**15 44 02.3**	**+0.4**
	baz=246						
FULB	**Fuli**	**1.34**	**210**	*e*P	**Pn**	**15 44 00.3**	**-0.5**
	baz=207						
WCHH	**Zhanghua**	**1.36**	**258**	*e*P	**Pg**	**15 44 02.8**	**0.0**
	baz=256						
ALS	**Alishan**	**1.40**	**232**	*e*P	**Pg**	**15 44 02.6**	**-1.0**
	baz=230						
ALS				*e*S	**Sg**	**15 44 22.8**	**+0.9**
	baz=230						
CHKT	**Chengkung**	**1.40**	**205**	*e*P	**Pn**	**15 44 00.4**	**-1.2**
	baz=203						
CHN5	**Tsauling**	**1.45**	**238**	*e*P	**Pg**	**15 44 03.8**	**-0.6**
	baz=236						
ECS	**Chishang**	**1.47**	**210**	*e*P	**Pn**	**15 44 02.6**	**+0.1**
	baz=208						
ELDTW	**Lidau**	**1.49**	**218**	*e*P	**Pn**	**15 44 02.5**	**-0.5**
	baz=215						
WGK	**Gukeng**	**1.49**	**243**	*e*P	**Pg**	**15 44 05.1**	**-0.2**
	baz=241						
WDLH	**Douliu**	**1.51**	**244**	*e*P	**Pg**	**15 44 05.4**	**-0.3**
	baz=242						
WDLH				*e*S	**Sg**	**15 44 24.6**	**-0.7**
	baz=242						
EDH	**Donghe**	**1.54**	**205**	*e*P	**Pn**	**15 44 02.2**	**-1.3**
	baz=203						
IRIF	**Iriomote-Funau**	**1.57**	**91**	P	**Pn**	**15 44 03.5**	**-0.4**
IRIF				*e*S	**Sn**	**15 44 23.5**	**-0.4**
WRL	**Guolierlin Hig**	**1.57**	**253**	*e*P	**Pb**	**15 44 05.2**	**-0.1**
	baz=251						
WTK	**Tuku**	**1.64**	**246**	*e*P	**Pg**	**15 44 06.7**	**-1.4**
	baz=244						
WTK				*e*S	**Sg**	**15 44 29.5**	**+0.3**
	baz=244						
CHN2	**Minshiung**	**1.64**	**240**	*e*P	**Pg**	**15 44 07.7**	**-0.3**
	baz=238						
STYH	**Taoyuan**	**1.65**	**224**	*e*P	**Pb**	**15 44 05.9**	**-0.8**
	baz=222						
STYH				*e*S	**Sb**	**15 44 27.5**	**+0.2**
	baz=222						
CHN4	**Tsaushan**	**1.65**	**232**	*e*P	**Pg**	**15 44 07.2**	**-1.1**
	baz=230						
CHN4				*e*S	**Sg**	**15 44 31.3**	**+1.5**
	baz=230						
TPUB	**Ta-pu**	**1.66**	**230**	⇑*e*P	**Pb**	**15 44 06.7**	**-0.1**
	baz=228						
TPUB				*e*S	**Sg**	**15 44 29.5**	**-0.5**
	baz=228						
WTCT	**Ta-ch'eng**	**1.66**	**253**	*e*P	**Pg**	**15 44 07.4**	**-1.2**
	baz=251						
STYT	**Tauyuan**	**1.67**	**224**	*e*P	**Pb**	**15 44 06.6**	**-0.4**
	baz=222						
LONT	**Longtian**	**1.67**	**209**	*e*P	**Pn**	**15 44 04.9**	**-0.5**
	baz=207						
CHY	**Chiayi**	**1.69**	**239**	*e*P	**Pg**	**15 44 07.9**	**-1.2**
	baz=237						
WTP	**Ta-pu**	**1.70**	**229**	*e*P	**Pb**	**15 44 07.8**	**+0.2**
	baz=227						
TWGBT	**Beinan**	**1.77**	**209**	*e*P	**Pn**	**15 44 05.6**	**-1.1**
	baz=207						
TWG	**Pinlang**	**1.77**	**209**	*e*P	**Pn**	**15 44 05.6**	**-1.1**
	baz=207						
TWK	**Hsinying**	**1.78**	**232**	*e*P	**Pb**	**15 44 08.9**	**-0.1**
	baz=230						
WSF	**Szhu**	**1.79**	**246**	*e*P	**Pb**	**15 44 08.8**	**-0.3**
	baz=244						
SNST	**Tainan City**	**1.80**	**231**	*e*P	**Pb**	**15 44 09.4**	**+0.1**
	baz=229						
CHN1	**Nanshi**	**1.80**	**229**	*e*P	**Pb**	**15 44 09.0**	**-0.3**
	baz=227						
JKRS	**Kuro-shima**	**1.83**	**94**	P	**Pn**	**15 44 07.8**	**+0.4**
JKRS				S	**Sn**	**15 44 30.6**	**+0.3**
SGST	**Jiashian**	**1.84**	**226**	*e*P	**Pb**	**15 44 09.0**	**-0.9**
	baz=224						
WSL	**Shuilin Townsh**	**1.84**	**243**	*e*P	**Pb**	**15 44 09.6**	**-0.3**
	baz=241						
SLGT	**Liugui**	**1.86**	**223**	*e*P	**Pb**	**15 44 09.8**	**-0.5**
	baz=221						
ICHU	**Yijhu**	**1.88**	**238**	*e*P	**Pb**	**15 44 10.5**	**-0.1**
	baz=236						
CHN8	**Yiju**	**1.94**	**239**	*e*P	**Pb**	**15 44 11.4**	**-0.3**
	baz=237						
JIJ	**Ishigaki jima**	**1.94**	**90**	P	**Pn**	**15 44 08.8**	**-0.2**
JIJ				S	**Sn**	**15 44 31.5**	**-1.7**
ECL	**Taimali**	**2.02**	**209**	*e*P	**Pn**	**15 44 09.6**	**-0.5**
	baz=207						
SCST	**Cishan**	**2.03**	**224**	*e*P	**Pb**	**15 44 13.0**	**-0.2**
	baz=222						
SHHT	**Tainan City**	**2.04**	**229**	*e*P	**Pb**	**15 44 13.3**	**0.0**
	baz=227						
SSD	**Sandimen**	**2.06**	**218**	*e*P	**Pb**	**15 44 12.3**	**-1.3**
	baz=216						
TSMG	**Majia**	**2.08**	**217**	*e*P	**Pb**	**15 44 13.0**	**-1.1**
	baz=216						
JISG	**Ishigakijimahi**	**2.10**	**84**	P	**Pn**	**15 44 10.9**	**-0.4**
JISG				S	**Sn**	**15 44 36.6**	**-0.6**
MASBT	**Mashibuluo**	**2.16**	**216**	*e*P	**Pn**	**15 44 13.3**	**+1.2**
	baz=214						
EAST	**Anshuo**	**2.25**	**209**	*e*P	**Pn**	**15 44 13.7**	**+0.4**
	baz=207						
TAWH	**Dawu Township**	**2.27**	**207**	*e*P	**Pn**	**15 44 15.2**	**+1.6**
	baz=206						
LAY	**Lan-yu**	**2.36**	**190**	*e*P	**Pn**	**15 44 14.2**	**-0.6**
	baz=189						
SCZT	**Fangliau**	**2.37**	**213**	*e*P	**Pb**	**15 44 17.4**	**-1.5**
	baz=211						
PNG	**Penghu**	**2.39**	**251**	*e*P	**Pn**	**15 44 15.7**	**+0.5**
	baz=249						
PHUB	**P'eng-hu**	**2.39**	**250**	*e*P	**Pn**	**15 44 15.7**	**+0.5**
	baz=248						
VWUC	**VWUC**	**2.41**	**285**	*e*P	**Pn**	**15 44 15.4**	**-0.1**
	baz=285						
SLIU	**Shizi**	**2.42**	**208**	*e*P	**Pn**	**15 44 17.3**	**+1.7**
	baz=206						
JTJ	**Tarama**	**2.46**	**83**	P	**Pn**	**15 44 16.9**	**+0.7**
JTJ				S	**Sn**	**15 44 45.6**	**-0.5**
MATB	**Ma-tsu**	**2.58**	**314**	*e*P	**Pn**	**15 44 18.0**	**+0.2**
	baz=313						
VCHM	**Qimei**	**2.63**	**244**	*e*P	**Pn**	**15 44 19.6**	**+1.0**
	baz=243						
PTMZ	**Houxiangcun**	**2.71**	**285**	*e*P	**Pn**	**15 44 17.8**	**-1.9**
	baz=284						
PTMZ				*e*S	**Sn**	**15 44 50.2**	**-2.0**
	baz=284						
JIRB	**Irabujima**	**2.91**	**80**	P	**Pn**	**15 44 23.0**	**+0.6**
JIRB				S	**Sn**	**15 44 57.1**	**0.0**
JIKM	**Ikemajima**	**2.99**	**79**	*e*S	**Sn**	**15 44 59.6**	**+0.5**
JMJ2	**Miyako jima3**	**3.04**	**82**	P	**Pn**	**15 44 25.5**	**+1.3**
JMJ2				*e*S	**Sn**	**15 45 01.4**	**+1.1**
JOGS	**Gusukube**	**3.11**	**82**	S	**Sn**	**15 45 03.4**	**+1.3**

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*KRSC **08** 15:43:41.1±1.6, 51°.07N×157°.14E, h128km±13km, ML3.7*
*IDC **08** 15:43:44.5±2.6, 51°.64N×156°.42E, h139km±21km, mb3.0/5, mb1 3.4/5, mb1mx2.9/61, mbtmp3.4/5, Error ellipse: s-maj=47.8km s-min=26.2km az=157.0*
ISC 08 15:43:42.8±0.9**, 51°.21N**±0°.08**×156°.8E**±0°.1**, h125**km±6km**, n34,** σ**1ˢ.27**/40**, mb3.3**/5**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.26**	**359**	*e*P	**Pn**	**15 43 59.9**	**-0.2**
PAU				*e*S	**Sn**	**15 44 13.7**	**+0.4**
SKR	**Severo-Kuril's**	**0.69**	**221**	*e*P	**Pn**	**15 44 02.7**	**+0.2**
SKR				*e*S	**Sn**	**15 44 18.3**	**+1.0**
KDTR	**Khodutka, Kamc**	**0.99**	**52**	*e*P	**Pn**	**15 44 04.4**	**-0.6**
KDTR				*e*S	**Sn**	**15 44 20.9**	**-1.1**
MTVR	**Mutnovka**	**1.53**	**33**	*e*P	**Pn**	**15 44 10.9**	**-0.1**
MTVR				*e*S	**Sn**	**15 44 33.0**	**+0.5**
GRL	**Gorelyy**	**1.56**	**29**	*e*P	**Pn**	**15 44 11.3**	**+0.1**
RUS	**Russkaya**	**1.62**	**40**	*e*P	**Pn**	**15 44 11.1**	**-0.7**
RUS				*e*S	**Sn**	**15 44 32.8**	**-1.1**
APC	**Apacha**	**1.74**	**7**	*e*P	**Pn**	**15 44 12.4**	**-0.8**
KRMR	**Karymshinskiy**	**1.82**	**26**	*e*P	**Pn**	**15 44 14.0**	**-0.2**
PETK	**Petropavlovsk-**	**1.98**	**15**	P	**Pn**	**15 44 14.9**	**-1.3**
	1.0nm,0.3s,baz=165,slow=9.8,SNR=33						
PETK				S	**Sn**	**15 44 43.5**	**+1.6**
	1.1nm,0.3s,baz=143,slow=16,SNR=5.3						
PET	**Petropavlovsk**	**2.14**	**31**	*e*P	**Pn**	**15 44 18.9**	**+0.8**
PET				*e*S	**Sn**	**15 44 47.0**	**+1.7**
DALK	**Dalny**	**2.18**	**32**	*e*P	**Pn**	**15 44 18.7**	**+0.1**
DALK				*e*S	**Sn**	**15 44 46.9**	**+0.7**
UGLR	**Uglovaya**	**2.35**	**31**	*e*P	**Pn**	**15 44 21.8**	**+0.9**
UGLR				*e*S	**Sn**	**15 44 52.3**	**+2.0**
KOK	**Koryaka**	**2.37**	**27**	*e*P	**Pn**	**15 44 22.2**	**+1.1**
AVH	**Avacha**	**2.38**	**29**	*e*P	**Pn**	**15 44 22.3**	**+1.1**
AVH				*e*S	**Sn**	**15 44 53.6**	**+2.9**
SMAR	**Somma**	**2.39**	**30**	*e*P	**Pn**	**15 44 22.4**	**+0.9**
KRER	**Koryakskii**	**2.41**	**29**	*e*P	**Pn**	**15 44 22.4**	**+0.6**
KRER				*e*S	**Sn**	**15 44 53.6**	**+1.9**
SDLR	**Sedlovina**	**2.43**	**31**	*e*P	**Pn**	**15 44 22.2**	**+0.3**
SDLR				*e*S	**Sn**	**15 44 52.9**	**+0.8**
NLC	**Nalytchevo**	**2.51**	**37**	*e*S	**Sn**	**15 44 51.1**	**-2.4**
GNL	**Ganaly**	**2.59**	**15**	*e*P	**Pn**	**15 44 23.9**	**0.0**
SPN	**Mys Shipunski**	**2.74**	**45**	*e*P	**Pn**	**15 44 25.8**	**+0.1**
MKZ	**Mys Kozlova**	**4.48**	**40**	*e*P	**Pn**	**15 44 47.0**	**-1.7**
TUMD	**Tumrok D**	**4.55**	**27**	*e*P	**Pn**	**15 44 49.6**	**0.0**
TUMR	**Tumrok**	**4.55**	**25**	*e*P	**Pn**	**15 44 50.5**	**+0.8**
ILAR	**Eielson Array**	**31.58**	**43**	P	**P**	**15 49 52.1**	**-0.9**
	0.5nm,0.7s,baz=269,slow=5.6,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**32.40**	**162**	T	T	16 24 00.8	
	baz=348,slow=76,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**32.41**	**162**	T	T	16 24 00.5	
	baz=348,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**32.41**	**162**	T	T	16 24 02.3	
	baz=348,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**33.55**	**163**	T	T	16 25 23.5	
	baz=350,slow=76,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**33.56**	**163**	T	T	16 25 26.8	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**33.57**	**163**	T	T	16 25 25.9	
	baz=350,slow=76,SNR=4.6						
MKAR	**Makanchi Array**	**47.15**	**295**	P	**P**	**15 51 59.3**	**-2.9**
	0.1nm,0.4s,baz=41,slow=7.5,SNR=2.4						
NVAR	**Mina Array Bea**	**58.31**	**67**	P	**P**	**15 53 25.6**	**+0.9**
	0.3nm,0.4s,baz=316,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**73.26**	**64**	P	**P**	**15 55 00.6**	**+0.2**
	0.2nm,0.4s,baz=305,slow=5.6,SNR=4.3						
ASAR	**Alice Springs**	**77.23**	**201**	P	**P**	**15 55 24.8**	**+1.9**
	0.1nm,0.7s,baz=14,slow=5.1,SNR=1.2						

IDC 08 15:50:22.6±8.9**, 3°.70N**×**97°.99W, h0**km**, mb3.3**/4**, mb1 3.8**/4**, mb1mx3.5**/43**, mbtmp3.3**/4**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.8**/30**, Error ellipse: s-maj=196.6km s-min=170.9km az=36.0, Eastcentral Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**32.07**	**347**	LR	LR	16 09 12.4	
	comp=Z,65nm,18.8s,baz=134,slow=35						
NVAR	**Mina Array Bea**	**39.22**	**334**	P	P	15 57 52.2	-0.9
	0.1nm,0.3s,baz=140,slow=8.4,SNR=2.6						
PDAR	**Pinedale Array**	**40.25**	**347**	P	P	15 58 02.5	+1.0
	0.2nm,0.6s,baz=146,slow=6.6,SNR=2.3						
H03N2	**Juan Fernandez**	**41.10**	**155**	T	T	16 41 25.4	
	baz=327						
H03N1	**Juan Fernandez**	**41.11**	**155**	T	T	16 41 27.3	
	baz=327,slow=74						
H03N3	**Juan Fernandez**	**41.12**	**155**	T	T	16 41 28.4	
	baz=327,slow=74						
SADO	**Sadowa**	**44.14**	**19**	LR	LR	16 18 15.9	
	comp=Z,58nm,18.3s,baz=354,slow=38						
YKA	**Yellowknife Ar**	**59.95**	**351**	P	P	16 00 30.2	-0.2
	0.5nm,0.9s,baz=161,slow=6.6,SNR=4.9						
ILAR	**Eielson Array**	**70.18**	**340**	P	P	16 01 37.0	0.0
	0.5nm,0.7s,baz=150,slow=5.6,SNR=12						

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*IDC **08** 16:17:04.1±0.9, 50°.86N×29°.86W, h0km, mb3.8/22, mb1 4.0/23, mb1mx3.9/44, mbtmp3.8/23, ML4.1/1, MS3.7/52, Ms1 3.7/52, ms1mx3.5/98, Error ellipse: s-maj=26.0km s-min=12.8km az=6.0*
*NEIC **08** 16:17:06.4±1.1, 50°.9N±0°.1×29°.85W±0°.07, h10km±1km, mb4.5/35, Error ellipse: s-maj=23.1km s-min=6.5km az=191.0*
ISC 08 16:17:06.4±0.6**, 50°.9N**±0°.1×**29°.87W**±0°.07**, h14**km**, n102,** σ**0ˢ.56**/63**, mb4.2**/38**, MS3.7**/49**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**14.64**	**15**	LR	LR	16 24 24.2	
	comp=Z,139nm,20.2s,baz=196,slow=30						
EKA	**Eskdalemuir Ar**	**16.61**	**64**	Pn	**Pn**	**16 20 59.6**	**+1.0**
	baz=269,slow=12,SNR=7.4						
EKA				LR	LR	16 25 54.5	
	comp=Z,374nm,20.6s,baz=274,slow=32						
SFJD	**Kangerlussuaq**	**19.24**	**335**	LR	LR	16 27 24.1	
	comp=Z,152nm,18.1s,baz=119,slow=32						
CLF	**Chambon-Foret**	**20.99**	**85**	P	**P**	**16 21 48.6**	**-0.5**
ESDC	**Sonseca Array**	**21.27**	**112**	P	**P**	**16 21 52.8**	**+0.6**
	0.8nm,0.8s,baz=311,slow=9.8,SNR=3.3						
ESDC				LR	LR	16 28 14.5	
	comp=Z,184nm,19.8s,baz=328,slow=32						
SCHQ	**Schefferville**	**22.50**	**295**	P	**P**	**16 22 04.5**	**-0.8**
	3.9nm,0.9s,baz=78,slow=13,SNR=4.0						
SCHQ				LR	LR	16 29 30.4	
	comp=Z,105nm,18.3s,baz=92,slow=33						
SCHQ	**Schefferville**	**22.50**	**295**	IAmb	IAmb	16 22 07.5	
	comp=Z,9.9nm,1.2s						
LMN	**Caledonia Moun**	**23.60**	**271**	P	**P**	**16 22 15.9**	**-0.7**
FRB	**Frobisher Bay**	**24.11**	**317**	P	**P**	**16 22 20.6**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=52,slow=5.9,SNR=3.9						
NB2	**NORSAR Subarra**	**24.75**	**50**	P	**P**	**16 22 27.1**	**0.0**
	comp=Z,8.9nm,1.7s,baz=265,slow=10						
NOA	**NORSAR Array B**	**24.75**	**50**	P	**P**	**16 22 26.5**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=267,slow=9.9,SNR=5.7						
NOA				LR	LR	16 30 33.5	
	comp=Z,137nm,19.6s,baz=265,slow=33						
MDT	**Midelt**	**25.86**	**125**	LR	LR	16 29 24.5	
	comp=Z,46nm,21.0s,baz=342,slow=29						
HFS	**Hagfors**	**25.91**	**52**	P	**P**	**16 22 37.7**	**0.0**
	comp=Z,2.0nm,1.0s,baz=251,slow=9.2,SNR=2.1						
HFS				LR	LR	16 32 01.3	
	comp=Z,195nm,19.0s,baz=266,slow=35						
DAVOX	**Davos/Dischmat**	**26.26**	**83**	LR	LR	16 31 59.8	
	comp=Z,126nm,19.3s,baz=258,slow=34						
CLL	**Collm**	**26.66**	**72**	*e*P	**P**	**16 22 44.6**	**+0.1**
CLL				LmH		16 30 00.0	
	comp=N,100nm,18.8s						
CLL				LmH		16 30 00.0	
	comp=E,200nm,19.2s						
CLL				LmH		16 30 00.0	
	comp=Z,200nm,21.3s						
BRG	**Berggiesshubel**	**27.35**	**73**	*e*x	P	16 22 58.3	+7.6
BRG				Amp		16 22 59.0	
	comp=Z,11nm,1.7s						
GERES	**GERESS Array B**	**27.87**	**77**	LR	LR	16 33 54.9	
	comp=Z,152nm,18.2s,baz=333,slow=36						
VRAC	**Vranov**	**29.48**	**75**	LR	LR	16 34 38.9	
	comp=Z,243nm,18.5s,baz=302,slow=36						
ARCES	**ARCESS Array B**	**31.71**	**33**	P	**P**	**16 23 29.1**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=259,slow=9.1,SNR=3.9						
ARCES				LR	LR	16 32 48.0	
	comp=Z,52nm,21.8s,baz=268,slow=30						
ARCES	**ARCESS Array B**	**31.71**	**33**	IAmb	IAmb	16 23 53.5	
	comp=Z,7.4nm,1.3s						
FINES	**FINESS Array B**	**31.91**	**49**	P	**P**	**16 23 30.6**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=270,slow=15,SNR=5.3						
FINES				LR	LR	16 34 46.3	
	comp=Z,134nm,18.4s,baz=270,slow=33						
FINES	**FINESS Array B**	**31.91**	**49**	P	**P**	**16 23 29.8**	**-1.2**
SADO	**Sadowa**	**33.13**	**279**	LR	LR	16 36 15.2	
	comp=Z,146nm,18.4s,baz=78,slow=35						
RES	**Resolute Bay**	**35.24**	**335**	P	**P**	**16 23 59.5**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=112,slow=9.5,SNR=4.1						
BUR08	**Bucovina Ar. S**	**35.39**	**73**	P	**P**	**16 24 01.6**	**0.0**
BURAR	**Bucovina Array**	**35.41**	**73**	P	**P**	**16 24 02.0**	**+0.3**
AKASG	**Malin Array Be**	**36.49**	**67**	P	**P**	**16 24 09.8**	**-1.0**
	comp=Z,5.1nm,1.1s,baz=290,slow=8.6,SNR=7.9						
AKASG				LR	LR	16 39 05.5	
	comp=Z,160nm,19.8s,baz=328,slow=36						
AKBB	**Malin Array Si**	**36.49**	**67**	P	**P**	**16 24 10.2**	**-0.6**
MLR	**Muntele Rosu**	**36.84**	**76**	LR	LR	16 39 36.8	
	comp=Z,166nm,18.3s,baz=315,slow=37						
OBN	**Obninsk**	**38.87**	**57**	LR	LR	16 39 17.0	
	comp=Z,24nm,18.2s,baz=230,slow=34						
ULM	**Lac du Bonnet**	**40.67**	**296**	P	**P**	**16 24 46.3**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=130,slow=1.8,SNR=2.1						
ULM				LR	LR	16 39 45.8	
	comp=Z,90nm,18.7s,baz=88,slow=34						
TKL	**Tuckaleechee C**	**41.15**	**270**	LR	LR	16 40 35.4	
	comp=Z,100nm,21.4s,baz=50,slow=34						
KOWA	**Kowa**	**41.85**	**141**	LR	LR	16 39 16.0	
	comp=Z,42nm,18.1s,baz=166,slow=32						
IDI	**Anoyia**	**41.92**	**90**	LR	LR	16 44 30.2	
	comp=Z,58nm,18.0s,baz=312,slow=39						
SJG	**San Juan**	**43.53**	**235**	LR	LR	16 39 01.2	
	comp=Z,49nm,21.4s,baz=130,slow=30						
KIRV	**Kirov**	**43.90**	**48**	LR	LR	16 42 08.0	
	comp=Z,131nm,19.3s,baz=295,slow=34						
A36M	**Sachs Harbour**	**44.23**	**334**	P	**P**	**16 25 14.4**	**-0.2**
YKA	**Yellowknife Ar**	**44.60**	**319**	P	**P**	**16 25 17.2**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=63,slow=8.2,SNR=14						
YKA				PcP	**PcP**	**16 26 59.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=67,slow=3.7,SNR=5.5						
YKA				LR	LR	16 40 34.2	
	comp=Z,68nm,19.1s,baz=337,slow=32						
BRTR	**Keskin Array B**	**44.73**	**79**	LR	LR	16 45 22.2	
	comp=Z,73nm,18.1s,baz=302,slow=38						
TORD	**Torodi Ar. Bea**	**45.49**	**134**	P	**P**	**16 25 24.7**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=328,slow=7.5,SNR=4.3						
KBZ	**Khabaz**	**48.02**	**69**	P	**P**	**16 25 44.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=315,slow=4.3,SNR=3.5						
KBZ				LR	LR	16 46 02.8	
	comp=Z,94nm,18.9s,baz=323,slow=36						
INK	**Inuvik**	**48.52**	**331**	LR	LR	16 44 51.2	
	comp=Z,111nm,18.6s,baz=46,slow=34						
DBIC	**Dimbokro**	**48.71**	**146**	LR	LR	16 44 05.8	
	comp=Z,78nm,18.6s,baz=4.5,slow=33						
ARU	**Arti**	**49.25**	**47**	LR	LR	16 44 58.2	
	comp=Z,93nm,20.9s,baz=298,slow=34						
ARU	**Arti**	**49.25**	**47**	P	**P**	**16 25 54.1**	**0.0**
ARU				IAmb	IAmb	16 25 55.6	
	comp=Z,6.8nm,0.9s						
MMAI	**Mount Meron Ar**	**50.04**	**85**	LR	LR	16 47 29.3	
	comp=Z,41nm,18.6s,baz=54,slow=36						
WMOK	**Wichita Mounta**	**51.21**	**280**	P	**P**	**16 26 10.2**	**+1.0**
WMOK				IAmb	IAmb	16 26 11.7	
	comp=Z,4.7nm,1.0s						
GNI	**Garni**	**51.27**	**71**	LR	LR	16 49 09.8	
	comp=Z,45nm,18.7s,baz=319,slow=38						
N23A	**Red Feather La**	**51.68**	**290**	P	**P**	**16 26 13.7**	**+0.7**
N23A				IAmb	IAmb	16 26 21.5	
	comp=Z,6.8nm,1.0s						
NRIK	**Noril'sk**	**51.73**	**24**	P	**P**	**16 26 12.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=315,slow=7.1,SNR=2.5						
BMAR	**Burnt Mountain**	**52.33**	**334**	P	**P**	**16 26 17.1**	**0.0**
AKTO	**Aktyubinsk**	**52.44**	**54**	LR	LR	16 48 00.4	
	comp=Z,116nm,18.5s,baz=303,slow=35						
PD31	**Pinedale Array**	**52.64**	**294**	P	**P**	**16 26 19.4**	**-0.7**
PDAR	**Pinedale Array**	**52.64**	**294**	P	**P**	**16 26 19.4**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=66,slow=7.5,SNR=9.4						
PDAR				LR	LR	16 46 40.4	
	comp=Z,48nm,20.6s,baz=32,slow=34						
TOLK	**Toolik Lake Re**	**52.80**	**336**	P	**P**	**16 26 21.2**	**+0.6**
TOLK				IAmb	IAmb	16 26 22.2	
	comp=Z,7.5nm,1.4s						
DAWY	**Dawson**	**53.03**	**329**	P	**P**	**16 26 23.1**	**+0.7**
DAWY				IAmb	IAmb	16 26 31.6	
	comp=Z,9.7nm,1.4s						
DLBC	**Dease Lake**	**53.21**	**320**	LR	LR	16 46 31.6	
	comp=Z,59nm,20.6s,baz=118,slow=33						
NEW	**Newport**	**53.44**	**304**	LR	LR	16 46 22.1	
	comp=Z,73nm,18.3s,baz=44,slow=33						
SDV	**Santo Domingo**	**53.62**	**233**	LR	LR	16 47 31.7	

comp=Z,26nm,19.8s,baz=10.0,slow=34
ABKAR **Akbulak array** 54.15 54 P **P** 16 26 30.9 +0.1
BCAR **Beaver Creek A** 54.49 329 P **P** 16 26 34.0 +0.8
L27K **Beaver Creek,** 54.51 329 P **P** 16 26 34.0 +0.8
L27K IAmb IAmb 16 27 01.9
comp=Z,5.0nm,1.4s
J25K **Salcha River,** 54.54 331 P **P** 16 26 33.7 +0.3
J25K IAmb IAmb 16 26 34.6
comp=Z,6.4nm,1.2s
SCRK **Sand Creek** 54.56 330 P **P** 16 26 34.3 +0.6
SCRK IAmb IAmb 16 26 35.7
comp=Z,4.7nm,0.8s
H23K **Yukon River** 54.86 334 P **P** 16 26 36.7 +0.9
H23K IAmb IAmb 16 26 37.3
comp=Z,4.7nm,1.1s
IL31 54.88 332 P **P** 16 26 36.1 +0.4
IL31 IAmb IAmb 16 26 42.6
comp=Z,5.7nm,1.5s
ILAR **Eielson Array** 54.88 332 P **P** 16 26 36.4 +0.5
comp=Z,1.0nm,0.9s,baz=44,slow=6.2,SNR=11
ILAR LR LR 16 48 53.9
comp=Z,71nm,18.8s,baz=74,slow=35
PRVC **Isla de Provid** 55.81 247 P **P** 16 26 43.5 +0.4
ANMO **Albuquerque** 55.82 285 LR LR 16 50 48.0
comp=Z,84nm,18.2s,baz=76,slow=36
BARN **Barnard Glacie** 55.86 327 P **P** 16 26 43.5 +0.4
IMAR **Indian Mountai** 55.88 336 P **P** 16 26 43.7 +0.7
RDOG **Red Dog Mine** 56.36 341 P **P** 16 26 46.4 0.0
RDOG IAmb IAmb 16 26 47.7
comp=Z,8.9nm,1.4s
RND **Reindeer** 56.47 332 P **P** 16 26 47.6 +0.2
RND IAmb IAmb 16 27 14.2
comp=Z,7.3nm,1.4s
TGL **Tana Glacier** 56.48 327 P **P** 16 26 47.7 +0.2
BRVK **Borovoye** 56.69 45 P **P** 16 26 48.7 -0.3
BRVK IAmb IAmb 16 26 50.4
comp=Z,3.9nm,0.9s
TIXI **Tiksi** 56.88 8 P **P** 16 26 50.7 +0.7
TIXI IAmb IAmb 16 26 52.2
comp=Z,3.3nm,0.8s
MSU **Marysvale** 56.90 292 P **P** 16 26 51.3 +0.4
ELK **Elko** 57.20 296 LR LR 16 50 17.7
comp=Z,25nm,19.2s,baz=60,slow=35
CAST **Castle Rocks** 57.41 333 P **P** 16 26 53.3 -0.6
CAST IAmb IAmb 16 27 03.2
comp=Z,8.0nm,1.4s
TXAR **Lajitas Array** 57.90 278 P **P** 16 26 58.2 +0.3
comp=Z,0.3nm,0.8s,baz=55,slow=7.9,SNR=2.2
TXAR LR LR 16 51 02.4
comp=Z,122nm,19.2s,baz=34,slow=35
K20K **Telida** 58.02 334 P **P** 16 26 58.7 +0.5
K20K IAmb IAmb 16 26 59.9
comp=Z,4.0nm,1.0s
ROSC **El Rosal** 58.95 235 LR LR 16 48 39.3
comp=Z,69nm,21.5s,baz=50,slow=32
NVAR **Mina Array Bea** 60.51 296 P **P** 16 27 16.7 +0.6
comp=Z,0.2nm,0.6s,baz=70,slow=8.0,SNR=1.6
GEYT **Alibeck** 60.59 65 P **P** 16 27 16.6 +0.2
comp=Z,2.2nm,0.9s,baz=282,slow=14,SNR=3.7
GEYT LR LR 16 55 20.9
comp=Z,40nm,18.9s,baz=22,slow=38
GEYT **Alibeck** 60.59 65 IAmb IAmb 16 27 29.6
comp=Z,7.0nm,1.4s
YBH **Yreka Blue Hor** 60.70 301 LR LR 16 51 32.9
comp=Z,98nm,18.5s,baz=51,slow=34
PNTR **Pine Nut** 60.79 297 P **P** 16 27 18.0 0.0
RUBR **Rubicon Trail** 61.13 297 P **P** 16 27 20.8 +0.5
KDAK **Kodiak Island** 62.00 329 LR LR 16 54 47.0
comp=Z,56nm,18.2s,baz=84,slow=36
KURBB **Kurchatov Arra** 62.05 43 LR LR 16 54 25.9
ZALV **Zalesovo Beam** 62.14 37 P **P** 16 27 26.0 -0.6
comp=Z,0.4nm,0.5s,baz=305,slow=13,SNR=2.0
LPIG **La Paz** 65.78 279 LR LR 16 55 49.4
comp=Z,70nm,20.1s,baz=25,slow=35
AAK **Ala-Archa** 66.05 51 LR LR 16 54 48.8
comp=Z,87nm,19.6s,baz=316,slow=34
MKAR **Makanchi Array** 66.57 44 P **P** 16 27 55.6 -0.2
comp=Z,0.6nm,0.6s,baz=332,slow=5.5,SNR=8.8
MKAR LR LR 16 57 45.1
comp=Z,52nm,18.3s,baz=308,slow=37
GAR **Garm** 66.58 57 P **P** 16 27 56.6 +0.5
SIV **San Ignacio** 71.96 212 LR LR 16 55 41.4
comp=Z,61nm,19.6s,baz=126,slow=32
SONM **Songino Array** 74.76 29 P **P** 16 28 46.3 +0.6
comp=Z,0.2nm,0.3s,baz=318,slow=4.1,SNR=2.8
KMBO **Kilima Mbogo** 76.62 109 LR LR 17 03 18.8
comp=Z,71nm,18.1s,baz=92,slow=36
LVC **Limon Verde** 80.83 216 LR LR 17 01 17.8
comp=Z,43nm,19.4s,baz=310,slow=33
CMAR **Chiang Mai Arr** 97.59 48 LR LR 17 17 50.6
comp=Z,20nm,19.9s,baz=295,slow=37
WRA **Warramunga Arr** 146.73 28 PKPbc **PKPbc** 16 36 47.5 -0.3
comp=Z,0.8nm,0.7s,baz=335,slow=3.1,SNR=9.2
ASAR **Alice Springs** 150.09 31 PKPbc **PKPbc** 16 36 55.8 -0.7
comp=Z,1.1nm,0.8s,baz=356,slow=2.4,SNR=12

*JMA **08** 16:23:10.6,24.37N×121.86E,h36km,M2.4*
*TAP **08** 16:23:10.8,24.45N×121.90E,h22km,ML3.0,C*
ISC 08 16:23:10.5±0.9,24.42N±0.02×121.94E±0.02,h15km±7km, n108,σ0.60/175,1C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.15**	**278**	⇓*i*P	**Pb**	**16 23 15.2**	**+0.1**
	baz=268						
EWUT				S	**Sb**	**16 23 18.0**	**-0.1**
	baz=268						
ENA	**Nanau**	**0.18**	**271**	⇓*i*P	**Pb**	**16 23 15.5**	**-0.1**
	baz=261						
ENA				*e*S	**Sb**	**16 23 18.7**	**-0.3**
	baz=261						
TWC	**Suao**	**0.20**	**335**	P	**Pb**	**16 23 15.8**	**-0.1**
	baz=347						
TWC				S	**Sg**	**16 23 18.7**	**+0.3**
	baz=347						
EHP	**Heping Village**	**0.22**	**239**	P	**Pb**	**16 23 15.9**	**-0.3**
	baz=226						
EHP				*e*S	**Sb**	**16 23 20.2**	**+0.3**
	baz=226						
NDS	**Dongshan**	**0.29**	**315**	⇓*i*P	**Pb**	**16 23 17.2**	**-0.3**
	baz=318						
NDS				*e*S	**Sg**	**16 23 21.1**	**+0.1**
	baz=318						
ILA	**Ilan**	**0.38**	**332**	P	**Pb**	**16 23 18.9**	**-0.1**
	baz=333						
ILA				S	**Sb**	**16 23 24.3**	**-0.5**
	baz=333						
TWE	**Neicheng**	**0.39**	**320**	⇓*i*P	**Pg**	**16 23 18.7**	**+0.3**
	baz=324						
TWE				S	**Sg**	**16 23 23.6**	**-0.1**
	baz=324						
ETL	**Fush Village**	**0.39**	**228**	⇓P	**Pb**	**16 23 18.8**	**-0.4**
	baz=226						
ETL				*e*S	**Sb**	**16 23 25.0**	**0.0**
	baz=226						
LATG	**Datong**	**0.40**	**286**	⇓*i*P	**Pg**	**16 23 18.7**	**+0.1**
	baz=285						
LATG				S	**Sg**	**16 23 24.0**	**-0.1**
	baz=285						
NACB	**Ninganchiao**	**0.40**	**232**	⇓P	**Pb**	**16 23 18.8**	**-0.6**
	baz=227						
NACB				*e*S	**Sb**	**16 23 24.7**	**-0.6**
	baz=227						
ENTT	**Nioudou**	**0.41**	**302**	⇓*i*P	**Pg**	**16 23 18.9**	**+0.2**
	baz=303						
ENTT				S	**Sg**	**16 23 24.2**	**-0.1**
	baz=303						
EGS		**0.42**	**359**	*e*P	**Pb**	**16 23 19.6**	**0.0**
	baz=5.0						
EGS				*e*S	**Sg**	**16 23 24.6**	**-0.1**
	baz=5.0						
NDT	**Datong Townshi**	**0.43**	**294**	⇓*i*P	**Pb**	**16 23 19.5**	**-0.3**
	baz=294						
NDT				*e*S	**Sg**	**16 23 25.2**	**+0.2**
	baz=294						
NTC	**Toucheng**	**0.44**	**346**	*e*P	**Pg**	**16 23 19.8**	**+0.4**
	baz=350						
NTC				*e*S	**Sg**	**16 23 25.6**	**+0.2**
	baz=350						
FUSB	**Fushanzhiwuyua**	**0.47**	**316**	⇓*i*P	**Pg**	**16 23 20.0**	**+0.2**
	baz=317						
FUSB				S	**Sg**	**16 23 25.6**	**-0.5**
	baz=317						
TWD	**Chiawan**	**0.47**	**223**	*e*P	**Pb**	**16 23 20.1**	**-0.3**
	baz=218						
TWD				*e*S	**Sg**	**16 23 25.9**	**-0.1**
	baz=218						
ETLH	**Xiulin Townshi**	**0.47**	**243**	⇓P	**Pg**	**16 23 19.9**	**0.0**
	baz=238						
NNSB	**Datong**	**0.51**	**271**	⇓*i*P	**Pg**	**16 23 20.6**	**-0.1**
	baz=267						
NNS	**Nan Shan**	**0.52**	**272**	⇓P	**Pg**	**16 23 20.8**	**-0.1**
	baz=270						
NNS				*e*S	**Sg**	**16 23 27.5**	**-0.3**
	baz=270						
NWLT	**Wulai**	**0.53**	**311**	*e*P	**Pg**	**16 23 21.0**	**-0.1**
	baz=312						
NWLT				*e*S	**Sg**	**16 23 27.7**	**-0.5**
	baz=312						
HWA	**Hwalien**	**0.54**	**215**	*e*P	**Pb**	**16 23 22.5**	**+0.8**
	baz=218						
HWA				*e*S	**Sb**	**16 23 30.2**	**+0.9**
	baz=218						
TIPB	**Shuangxi**	**0.56**	**349**	*e*P	**Pg**	**16 23 21.6**	**+0.1**
	baz=357						
TIPB				*e*S	**Sg**	**16 23 28.3**	**-0.6**
	baz=357						
YHNB	**Yeheng**	**0.57**	**295**	⇓*i*P	**Pg**	**16 23 21.8**	**0.0**
	baz=295						
YHNB				S	**Sg**	**16 23 28.8**	**-0.7**
	baz=295						
TWB1	**Santiao Chiao**	**0.58**	**4**	⇑*i*P	**Pg**	**16 23 22.1**	**+0.1**
	baz=3.0						
TWB1				*e*S	**Sg**	**16 23 29.3**	**-0.5**
	baz=3.0						
NSK	**Sanguang**	**0.59**	**295**	⇓*i*P	**Pg**	**16 23 21.9**	**-0.2**
	baz=296						
NSK				*e*S	**Sg**	**16 23 29.1**	**-0.9**
	baz=296						
TWA	**Mucha**	**0.64**	**330**	*e*P	**Pb**	**16 23 23.7**	**+0.2**
	baz=323						
TWA				*e*S	**Sg**	**16 23 31.8**	**+0.1**
	baz=323						
NHDH	**Xindian Distri**	**0.66**	**325**	*e*P	**Pb**	**16 23 23.7**	**0.0**
	baz=319						
NHDH				*e*S	**Sg**	**16 23 31.3**	**-0.8**
	baz=319						
NWF	**Wu-fen Shan**	**0.66**	**347**	*e*P	**Pg**	**16 23 23.6**	**+0.1**
	baz=343						
NWF				*e*S	**Sg**	**16 23 31.3**	**-1.0**
	baz=343						
FUSS	**Fushou**	**0.66**	**255**	*e*P	**Pg**	**16 23 23.3**	**-0.2**
	baz=251						
SXI1	**Grass Mountain**	**0.67**	**355**	*e*P	**Pg**	**16 23 23.9**	**+0.2**
	baz=360						
SXI1				*e*S	**Sg**	**16 23 32.0**	**-0.5**
	baz=360						
WHF	**Hehuan Shan**	**0.68**	**246**	⇓*i*P	**Pg**	**16 23 23.6**	**-0.2**
	baz=247						
TAP	**Taipei**	**0.73**	**327**	*e*P	**Pn**	**16 23 26.2**	**-0.1**
	baz=323						
TAP				*e*S	**Sb**	**16 23 34.9**	**+0.2**
	baz=323						
TDCB	**Techi**	**0.74**	**257**	*e*P	**Pg**	**16 23 24.7**	**-0.2**
	baz=254						
ESL	**Shilin**	**0.77**	**218**	*e*P	**Pb**	**16 23 25.5**	**0.0**
	baz=218						
ESL				*e*S	**Sb**	**16 23 36.0**	**+0.3**
	baz=218						
NFF	**Wufeng Townshi**	**0.78**	**286**	P	**Pg**	**16 23 25.4**	**-0.3**
	baz=289						
NFF				*e*S	**Sg**	**16 23 34.5**	**-1.5**
	baz=289						
CHGB	**Renai**	**0.79**	**243**	*e*P	**Pb**	**16 23 25.9**	**-0.2**
	baz=247						
CHGB				*e*S	**Sn**	**16 23 38.5**	**-0.5**
	baz=247						
YM01	**YM01**	**0.80**	**335**	*e*P	**Pb**	**16 23 26.4**	**+0.3**
	baz=336						
YM01				*e*S	**Sg**	**16 23 35.6**	**-0.9**
	baz=336						
TWS1	**Kuangyinshan**	**0.83**	**325**	P	**Pn**	**16 23 27.4**	**-0.1**
	baz=321						
TWS1				*e*S	**Sb**	**16 23 38.1**	**+0.6**
	baz=321						
ANP	**Anpu**	**0.85**	**333**	*e*P	**Pg**	**16 23 26.7**	**-0.3**
	baz=335						
ANP				*e*S	**Sg**	**16 23 38.0**	**-0.2**
	baz=335						
NTST	**Danshui**	**0.86**	**329**	*e*P	**Pn**	**16 23 27.9**	**-0.2**
	baz=340						
NTST				*e*S	**Sg**	**16 23 39.4**	**+0.7**
	baz=340						
WUSB	**Renai**	**0.87**	**240**	P	**Pb**	**16 23 27.4**	**0.0**
	baz=244						
WUSB				*e*S	**Sn**	**16 23 40.4**	**-0.4**
	baz=244						
LIOB	**Emei**	**0.87**	**285**	*e*P	**Pg**	**16 23 27.6**	**+0.2**
	baz=284						
NCU	**National Centr**	**0.88**	**308**	*e*P	**Pn**	**16 23 29.1**	**+0.8**
	baz=309						
NCUH	**Zhongli**	**0.88**	**308**	*e*P	**Pn**	**16 23 28.1**	**-0.2**
	baz=314						
NCUH				*e*S	**Sg**	**16 23 39.3**	**+0.2**
	baz=314						
NSTT	**Nanjuang**	**0.88**	**284**	P	**Pg**	**16 23 27.6**	**0.0**
	baz=283						
NSTT				*e*S	**Sn**	**16 23 40.0**	**-0.9**
	baz=283						
EGFH	**Guangfu**	**0.89**	**212**	P	**Pb**	**16 23 27.5**	**-0.1**
	baz=223						
TWY	**Chenhua**	**0.90**	**340**	P	**Pg**	**16 23 28.1**	**+0.1**
	baz=342						
TWY				*e*S	**Sg**	**16 23 40.1**	**+0.2**
	baz=342						
JYNG	**Yonaguni jima**	**0.91**	**88**	P	**Pg**	**16 23 28.5**	**+0.3**
JYNG				S	**Sg**	**16 23 41.1**	**+0.9**
WHP	**Taichung City**	**0.92**	**261**	P	**Pn**	**16 23 28.8**	**-0.2**
	baz=260						
WHP				*e*S	**Sb**	**16 23 39.8**	**-0.5**
	baz=260						
SBCB	**Hsinchu**	**0.95**	**293**	*e*P	**Pn**	**16 23 29.7**	**+0.4**
	baz=293						
SBCB				*e*S	**Sn**	**16 23 43.8**	**+1.3**
	baz=293						
YOJ	**Yonaguni jima**	**0.97**	**88**	P	**Pb**	**16 23 29.1**	**0.0**
YOJ	**Yonaguni jima**	**0.97**	**88**	*e*P	**Pb**	**16 23 28.9**	**-0.1**
	baz=81						
VWDT	**VWDT**	**0.99**	**228**	*e*P	**Pg**	**16 23 29.4**	**-0.3**
	baz=226						
VWDT				*e*S	**Sg**	**16 23 42.6**	**-0.1**
	baz=226						
WCS	**Beigang Elemen**	**1.01**	**249**	P	**Pn**	**16 23 30.1**	**0.0**
	baz=253						
WCS				*e*S	**Sn**	**16 23 44.0**	**0.0**
	baz=253						
HGSD	**Ruisui**	**1.04**	**207**	P	**Pn**	**16 23 30.9**	**+0.3**
	baz=195						
NMLH	**Miaoli**	**1.06**	**276**	*e*P	**Pg**	**16 23 32.2**	**+1.3**
	baz=286						
NMLH				*e*S	**Sg**	**16 23 44.4**	**-0.3**
	baz=286						
TWQ1	**Liyutan**	**1.07**	**266**	P	**Pg**	**16 23 31.9**	**+0.7**
	baz=266						
TWQ1				*e*S	**Sn**	**16 23 47.1**	**+1.5**
	baz=266						
EHY	**Hungye**	**1.08**	**212**	P	**Pb**	**16 23 29.8**	**-1.0**
	baz=209						
NSY	**Sanyi**	**1.08**	**270**	*e*P	**Pg**	**16 23 32.5**	**+1.1**
	baz=274						
NSY				*e*S	**Sn**	**16 23 46.3**	**+0.5**
	baz=274						
SMLT	**Sun Moon Lake**	**1.09**	**241**	P	**Pg**	**16 23 31.7**	**0.0**
	baz=248						
SMLT				*e*S	**Sn**	**16 23 47.8**	**+1.5**
	baz=248						
SSLB	**Suanglung**	**1.10**	**235**	P	**Pn**	**16 23 31.4**	**0.0**
	baz=234						
SSLB				*e*S	**Sb**	**16 23 44.8**	**-0.7**
	baz=234						
TYC	**Yuchr**	**1.12**	**243**	P	**Pg**	**16 23 31.9**	**-0.3**
	baz=231						
YULB	**Yu-li**	**1.19**	**210**	*e*P	**Pn**	**16 23 31.2**	**-1.3**
	baz=208						
YULB				*e*S	**Sn**	**16 23 48.3**	**-0.1**
	baz=208						
TCU	**Taichung**	**1.19**	**257**	*e*P	**Pg**	**16 23 32.9**	**-0.5**
	baz=255						
WDJ	**Dajia District**	**1.19**	**267**	*e*P	**Pg**	**16 23 34.1**	**+0.6**
	baz=261						
WDJ				*e*S	**Sg**	**16 23 49.7**	**+0.7**
	baz=261						
PCYT	**Pengchaiyu**	**1.21**	**5**	*e*P	**Pn**	**16 23 32.0**	**-0.8**
	baz=8.0						
EYUL	**Yuli**	**1.22**	**208**	*e*P	**Pb**	**16 23 33.2**	**0.0**
	baz=218						
WJS	**Zhushan**	**1.26**	**242**	*e*P	**Pg**	**16 23 35.6**	**+0.8**
	baz=242						
WJS				*e*S	**Sg**	**16 23 52.6**	**+1.3**
	baz=242						
FULB	**Fuli**	**1.36**	**206**	P	**Pn**	**16 23 35.0**	**+0.1**
	baz=219						
FULB				*e*S	**Sg**	**16 23 53.4**	**-1.0**
	baz=219						
ALS	**Alishan**	**1.38**	**229**	P	**Pb**	**16 23 36.4**	**+0.2**
	baz=215						
ALS				*e*S	**Sg**	**16 23 56.3**	**+1.1**
	baz=215						
CHN5	**Tsauling**	**1.42**	**235**	P	**Pg**	**16 23 37.8**	**-0.1**
	baz=234						
CHN5				*e*S	**Sg**	**16 23 57.6**	**+1.3**
	baz=234						
WDLH	**Douliu**	**1.48**	**241**	P	**Pg**	**16 23 38.8**	**-0.2**
	baz=226						
WDLH				*e*S	**Sg**	**16 23 59.0**	**+0.9**
	baz=226						
ELDTW	**Lidau**	**1.49**	**215**	P	**Pn**	**16 23 36.7**	**-0.2**
	baz=199						
WRL	**Guolierlin Hig**	**1.52**	**250**	P	**Pb**	**16 23 38.1**	**-0.3**
	baz=262						
WRL				*e*S	**Sg**	**16 23 58.5**	**-1.1**
	baz=262						
EDH	**Donghe**	**1.56**	**202**	*e*P	**Pn**	**16 23 37.5**	**-0.1**
	baz=187						
WTK	**Tuku**	**1.60**	**243**	*e*P	**Pb**	**16 23 39.5**	**-0.3**
	baz=242						
WTK				*e*S	**Sg**	**16 24 03.0**	**+0.9**
	baz=242						
IRIF	**Iriomote-Funau**	**1.63**	**93**	P	**Pn**	**16 23 38.2**	**-0.5**
IRIF				S	**Sn**	**16 23 59.2**	**-0.2**
TPUB	**Ta-pu**	**1.64**	**227**	P	**Pb**	**16 23 40.3**	**-0.2**
	baz=227						
TPUB				*e*S	**Sg**	**16 24 03.4**	**0.0**
	baz=227						
STYH	**Taoyuan**	**1.64**	**221**	P	**Pb**	**16 23 39.5**	**-0.9**
	baz=220						
WTP	**Ta-pu**	**1.69**	**226**	P	**Pb**	**16 23 40.9**	**-0.4**
	baz=225						
WTP				*e*S	**Sg**	**16 24 05.6**	**+0.7**
	baz=225						
WSF	**Szhu**	**1.76**	**244**	P	**Pb**	**16 23 41.7**	**-0.8**
	baz=243						
WSF				*e*S	**Sg**	**16 24 07.0**	**-0.1**
	baz=243						
TWK	**Hsinying**	**1.76**	**229**	P	**Pb**	**16 23 42.8**	**+0.2**
	baz=229						
TWK				*e*S	**Sg**	**16 24 07.6**	**+0.3**
	baz=229						
TWG	**Pinlang**	**1.79**	**207**	*e*P	**Pn**	**16 23 40.6**	**-0.2**
	baz=191						
SNST	**Tainan City**	**1.79**	**228**	*e*P	**Pb**	**16 23 43.6**	**+0.7**
	baz=228						
CHN1	**Nanshi**	**1.79**	**227**	*e*P	**Pb**	**16 23 43.2**	**+0.2**
	baz=226						
CHN1				*e*S	**Sg**	**16 24 07.6**	**-0.6**
	baz=226						
LDUT	**Ludao**	**1.80**	**194**	*e*P	**Pb**	**16 23 42.4**	**-0.7**
	baz=181						
WSL	**Shuilin Townsh**	**1.81**	**241**	*e*P	**Pn**	**16 23 41.1**	**0.0**
	baz=257						
SGST	**Jiashian**	**1.83**	**223**	*e*P	**Pb**	**16 23 42.7**	**-1.0**
	baz=223						
SGST				*e*S	**Sg**	**16 24 07.7**	**-1.7**
	baz=223						
ICHU	**Yijhu**	**1.85**	**236**	*e*P	**Pb**	**16 23 44.2**	**+0.2**
	baz=235						
SLGT	**Liugui**	**1.85**	**220**	*e*P	**Pb**	**16 23 43.4**	**-0.7**
	baz=219						
JKRS	**Kuro-shima**	**1.89**	**95**	P	**Pn**	**16 23 42.9**	**+0.6**
JKRS				*e*S	**Sn**	**16 24 06.1**	**+0.2**
CHN8	**Yiju**	**1.92**	**236**	*e*P	**Pb**	**16 23 44.7**	**-0.4**
	baz=236						
JIJ	**Ishigaki jima**	**2.01**	**91**	P	**Pn**	**16 23 44.0**	**+0.2**
JIJ				*e*S	**Sn**	**16 24 07.7**	**-1.0**
SCST	**Cishan**	**2.03**	**221**	*e*P	**Pb**	**16 23 46.8**	**-0.2**
	baz=220						
ECL	**Taimali**	**2.03**	**207**	*e*P	**Pn**	**16 23 45.4**	**+1.2**
	baz=193						
SSD	**Sandimen**	**2.06**	**216**	*e*P	**Pb**	**16 23 46.5**	**-1.0**
	baz=226						
TSMG	**Majia**	**2.08**	**215**	*e*P	**Pb**	**16 23 46.9**	**-1.1**
	baz=225						
JISG	**Ishigakijimahi**	**2.16**	**85**	*e*S	**Sn**	**16 24 12.3**	**-0.2**
MASBT	**Mashibuluo**	**2.17**	**214**	*e*P	**Pn**	**16 23 47.4**	**+1.3**
	baz=197						
EAST	**Anshuo**	**2.27**	**207**	*e*P	**Pn**	**16 23 48.0**	**+0.5**
	baz=194						
TAWH	**Dawu Township**	**2.29**	**205**	*e*P	**Pn**	**16 23 47.4**	**-0.3**
	baz=193						
VWUC	**VWUC**	**2.34**	**285**	*e*P	**Pn**	**16 23 47.5**	**-0.9**
	baz=284						
PHUB	**P'eng-hu**	**2.35**	**248**	*e*P	**Pn**	**16 23 48.4**	**-0.2**
	baz=248						
SCZT	**Fangliau**	**2.38**	**211**	*e*P	**Pn**	**16 23 50.3**	**+1.4**
	baz=196						
WDGT	**Dungji**	**2.39**	**241**	*e*P	**Pn**	**16 23 49.0**	**-0.1**
	baz=241						
MATB	**Ma-tsu**	**2.50**	**314**	*e*P	**Pn**	**16 23 51.6**	**+1.1**
	baz=313						
VCHM	**Qimei**	**2.60**	**243**	*e*P	**Pn**	**16 23 52.4**	**+0.4**
	baz=243						
LYJJ	**Jianjiangzhen**	**2.89**	**317**	*e*P	**Pn**	**16 23 56.0**	**-0.1**
	baz=317						

*IDC **08** 16:30:42.7±2.7,39.30N×141.78E,h0km,mb3.2/2,*
mb1 3.4/3,mb1mx3.2/26,mbtmp3.2/3,ML2.4/1,Error
ellipse: s-maj=73.1km s-min=28.3km az=134.0
*JMA **08** 16:30:45.9±0.1,38.87N×142.04E,h46km±1km,M3.5*
JMA Felt I J1.
ISC 08 16:30:45.2±2.0,38.86N±0.05×142.1E±0.1,h32km±11km, n20,σ1.59/23,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.41**	**303**	P	**Pn**	**16 30 55.4**	**+0.5**
OFUJ				*i* S	**Sb**	**16 31 01.9**	**+1.4**
JKMT	**Kesennumamotoy**	**0.50**	**264**	⇓P	**Pn**	**16 30 56.2**	**+0.1**
JKMT				S	**Sb**	**16 31 03.3**	**+0.4**
JMK	**Ichinoseki**	**0.70**	**278**	⇓P	**Pb**	**16 30 58.8**	**-0.2**
JMK				S	**Sb**	**16 31 07.8**	**-0.6**
JIO	**Ouri**	**0.72**	**236**	⇓P	**Pn**	**16 30 59.0**	**-0.2**
JIO				S	**Sb**	**16 31 07.9**	**-1.0**
JOM	**Ohasama**	**0.88**	**314**	⇓P	**Pb**	**16 31 01.5**	**-0.5**
JOM				S	**Sb**	**16 31 12.6**	**-0.9**
JTH	**Tanohata**	**1.09**	**350**	P	**Pn**	**16 31 04.5**	**+0.2**
JOU	**Okura**	**1.23**	**247**	P	**Pn**	**16 31 06.1**	**-0.2**
JOU				S	**Sn**	**16 31 21.0**	**-0.9**
JRG	**Rokugo**	**1.26**	**295**	⇓P	**Pn**	**16 31 06.6**	**-0.1**
JYK	**Kaneyama**	**1.36**	**273**	⇓P	**Pn**	**16 31 07.9**	**-0.2**
JMM	**Marumori**	**1.43**	**226**	P	**Pn**	**16 31 08.5**	**-0.5**
JMM				S	**Sn**	**16 31 25.0**	**-1.7**
JANG	**Nango**	**1.58**	**343**	P	**Pn**	**16 31 11.5**	**+0.5**
JANG				*e*S	**Sn**	**16 31 31.1**	**+0.8**
MJAR	**Matsushiro Arr**	**3.86**	**234**	Pn	**Pn**	**16 31 44.3**	**+1.9**
	0.2nm,0.3s,baz=38,slow=13,SNR=12						
MJAR				Sn	**Sn**	**16 32 32.4**	**+5.7**
	0.0nm,0.3s,baz=84,slow=25,SNR=1.3						
H11N2	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	17 07 02.8	
	baz=317,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	17 07 12.0	
	baz=317,slow=76,SNR=49						
H11N3	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	17 07 00.9	
	baz=317,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	17 08 00.3	
	baz=318,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	17 08 08.2	
	baz=318,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	17 08 10.8	
	baz=318,slow=76,SNR=28						
MKAR	**Makanchi Array**	**43.64**	**301**	P	**P**	**16 38 45.1**	**-1.5**
	0.2nm,0.5s,baz=86,slow=7.8,SNR=4.7						
ILAR	**Eielson Array**	**47.66**	**33**	P	**P**	**16 39 18.5**	**+0.4**
	0.3nm,0.9s,baz=273,slow=6.7,SNR=1.7						

MAN 08 16:33:43.0,17.65N×120.46E,h6km,mb4.8,ML3.7,MS3.6, Luzon

*IDC **08** 16:54:37.1±0.8, 11°.66N×86°.49W, h0km, mb3.8/9, mb1 4.1/11, mb1mx3.9/37, mbtmp3.9/11, ML3.2/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/63, Error ellipse: s-maj=46.4km s-min=14.6km az=52.0*

*UCR **08** 16:54:39.9±2.7, 11°.13N×86°.98W, h35km±999km, ML3.7, MW4.5, mb4.5(NEIC)*

*INET **08** 16:54:40.7±1.2, 11°.19N×86°.95W, h15km±76km, MD3.7, ML4.4*

*SNET **08** 16:54:41.8±1.2, 11°.18N×87°.13W, h74km±129km, ML4.0*

*NEIC **08** 16:54:41.2±1.7, 11°.20N±0°.05×86°.80W±0°.07, h35km±2km, mb4.5/70, Error ellipse: s-maj=12.2km s-min=7.6km az=239.0*

ISC 08 16:54:39.8±0.5**, 11°.16N**±0°.05×**86°.92W**±0°.05**, h30km, n163,** σ1s.04/166**, mb4.4**/40**, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.06**	**18**	*e*P	**Pn**	**16 54 59.1**	**+0.4**
APYN	**Apoyeque**	**1.20**	**28**	IAML		16 55 34.4	
	comp=N,205µm,0.9s						
CNGN	**Cerro Negro**	**1.35**	**9**	Pn	**Pn**	**16 55 02.7**	**0.0**
HZTE	**Horizontes, Gu**	**1.37**	**109**		**Pn**	**16 55 02.5**	**-0.4**
HZTE	**Horizontes, Gu**	**1.37**	**109**	*e*P	**Pn**	**16 55 02.6**	**-0.4**
HUEN		**1.38**	**32**	*e*P	**Pn**	**16 55 03.7**	**+0.7**
GBS3	**Finca Las Img**	**1.49**	**105**	*e*P	**Pn**	**16 55 04.6**	**0.0**
BUEV	**Buena Vista**	**1.53**	**104**	*e*P	**Pn**	**16 55 05.2**	**0.0**
GB1A	**Borinquen Arri**	**1.53**	**103**	*e*P	**Pn**	**16 55 05.2**	**0.0**
CRIN	**San Cristobal**	**1.53**	**355**		**Pn**	**16 55 05.6**	**+0.3**
VRLE	**La Escondida,**	**1.57**	**104**	*e*P	**Pn**	**16 55 05.6**	**-0.1**
BUAI	**Buenos Aires**	**1.58**	**100**	*e*P	**Pn**	**16 55 05.7**	**-0.2**
SAJU	**San Juanillo,**	**1.61**	**132**	*e*P	**Pn**	**16 55 04.6**	**-1.7**
ORTG	**Ortega, Santa**	**1.64**	**119**	Pn	**Pn**	**16 55 06.0**	**-0.8**
ORTG	**Ortega, Santa**	**1.64**	**119**	*e*P	**Pn**	**16 55 06.6**	**-0.1**
GUAI	**GUAI**	**1.64**	**123**	*e*P	**Pn**	**16 55 05.8**	**-0.8**
LIM1	**Limonal**	**1.70**	**106**	*e*P	**Pn**	**16 55 08.1**	**+0.5**
PLVR	**Palo Verde**	**1.74**	**118**	*e*P	**Pn**	**16 55 07.8**	**-0.4**
COLC	**Colonia**	**1.75**	**106**	*e*P	**Pn**	**16 55 08.4**	**+0.2**
DUNO	**Dulce Nombre,**	**1.77**	**127**	Pn	**Pn**	**16 55 07.4**	**-0.9**
HORNC	**Hornillas**	**1.77**	**105**	*e*P	**Pn**	**16 55 08.6**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.77**	**44**	Pn	**Pn**	**16 55 08.7**	**+0.2**
CUI	**Cuipilapa**	**1.79**	**106**	*e*P	**Pn**	**16 55 08.9**	**+0.1**
VMAR	**Armenia, Volca**	**1.80**	**101**	*e*P	**Pn**	**16 55 08.8**	**-0.1**
ACON	**Acoyapa**	**1.89**	**65**		**Pn**	**16 55 09.5**	**-0.5**
CSGN	**Cosiguina Volc**	**1.91**	**341**	*e*P	**Pn**	**16 55 10.8**	**+0.4**
ACAL	**Aguas Claras**	**1.92**	**106**	*e*P	**Pn**	**16 55 11.5**	**+0.9**
PTEN	**Parque Tenorio**	**1.95**	**103**	*e*P	**Pn**	**16 55 12.4**	**+1.5**
MATN	**Matagalpa**	**2.01**	**29**		**Pn**	**16 55 12.0**	**+0.2**
MATN	**Matagalpa**	**2.01**	**29**	*e*P	**Pn**	**16 55 12.3**	**+0.5**
MATN				IAML		16 55 53.2	
	comp=E,363nm,0.7s						
JTS	**Las Juntas de**	**2.12**	**114**	Pn	**Pn**	**16 55 13.0**	**-0.2**
	comp=E,1.8nm,0.3s,baz=23,slow=5.7,SNR=26						
JTS				Sn	**Sn**	**16 55 38.7**	**+0.1**
	comp=E,21nm,0.3s,baz=323,slow=20,SNR=5.4						
JTS	**Las Juntas de**	**2.12**	**114**	Pn	**Pn**	**16 55 12.7**	**-0.5**
CAO2	**Cobano, Puntar**	**2.31**	**129**	Pn	**Pn**	**16 55 15.4**	**-0.4**
JUCU	**Jucuar¡n**	**2.45**	**328**	*e*S	**Sn**	**16 55 47.8**	**+0.8**
JUCU	**Jucuar¡n**	**2.45**	**328**	*e*S	**Sn**	**16 55 47.8**	**+0.8**
COVE	**Coope Vega, Sa**	**2.51**	**100**	Pn	**Pn**	**16 55 18.7**	**+0.1**
RANC	**El Ranchito**	**2.62**	**329**	*e*P	**Pn**	**16 55 20.7**	**+0.4**
RANC	**El Ranchito**	**2.62**	**329**	*e*P	**Pn**	**16 55 20.7**	**+0.4**
JACO	**JACO, Garabito**	**2.68**	**124**		**Pn**	**16 55 22.1**	**+1.2**
JACO	**JACO, Garabito**	**2.68**	**124**	*e*P	**Pn**	**16 55 22.7**	**+1.8**
ESPN	**Las Esperanzas**	**2.76**	**68**	Pn	**Pn**	**16 55 21.0**	**-1.1**
ESPN	**Las Esperanzas**	**2.76**	**68**	*e*P	**Pn**	**16 55 24.2**	**+2.1**
TGUH	**Tegucigalpa,Un**	**2.90**	**353**		**Pn**	**16 55 24.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.90**	**353**	*e*P	**Pn**	**16 55 25.3**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.90**	**353**	*e*P	**Pn**	**16 55 25.3**	**+1.2**
SCLA	**Alcaldia de Sa**	**3.08**	**325**	*e*P	**Pn**	**16 55 26.8**	**+0.3**
SCLA				*e*S	**Sn**	**16 56 03.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**3.08**	**325**	*e*P	**Pn**	**16 55 26.8**	**+0.3**
SCLA				*e*S	**Sn**	**16 56 03.1**	**+0.7**
SJTE	**Alcalda de S**	**3.18**	**320**	*e*S	**Sn**	**16 56 03.7**	**-1.2**
SJTE	**Alcalda de S**	**3.18**	**320**	*e*S	**Sn**	**16 56 03.7**	**-1.2**
LCR2	**La Lucha 2**	**3.19**	**116**	*e*P	**Pn**	**16 55 30.6**	**+2.4**
LFRS	**El Faro**	**3.22**	**320**	*e*P	**Pn**	**16 55 28.7**	**+0.2**
LFRS	**El Faro**	**3.22**	**320**	*e*P	**Pn**	**16 55 28.7**	**+0.2**
RIMA	**Rio Macho**	**3.31**	**115**	Pn	**Pn**	**16 55 29.9**	**+0.1**
RIMA	**Rio Macho**	**3.31**	**115**	*e*P	**Pn**	**16 55 32.1**	**+2.3**
CDM	**Cerro de Muert**	**3.49**	**117**	*e*P	**Pn**	**16 55 33.4**	**+0.8**
JAYA	**Jayaque - finc**	**3.50**	**315**	*e*P	**Pn**	**16 55 32.6**	**+0.2**
JAYA				*e*S	**Sn**	**16 56 10.6**	**-2.3**
JAYA				IAML		16 56 16.0	
	comp=Z,260nm,0.1s						
JAYA	**Jayaque - finc**	**3.50**	**315**	*e*P	**Pn**	**16 55 32.6**	**+0.2**
JAYA				*e*S	**Sn**	**16 56 10.6**	**-2.3**
JAYA				IAML		16 56 16.0	
	comp=Z,260nm,0.1s						
TACO	**Tacachico**	**3.67**	**320**	*e*P	**Pn**	**16 55 35.4**	**+0.8**
TACO				*e*S	**Sn**	**16 56 16.6**	**-0.2**
TACO	**Tacachico**	**3.67**	**320**	*e*P	**Pn**	**16 55 35.4**	**+0.8**
TACO				*e*S	**Sn**	**16 56 16.6**	**-0.2**
CEVE	**Cerro Verde**	**3.74**	**315**	*e*P	**Pn**	**16 55 36.7**	**+0.9**
CEVE				IAML		16 56 25.6	
	comp=Z,320nm,0.4s						
CEVE	**Cerro Verde**	**3.74**	**315**	*e*P	**Pn**	**16 55 36.7**	**+0.9**
CEVE				IAML		16 56 25.6	
	comp=Z,320nm,0.4s						
MTO3	**Montecristo**	**4.00**	**324**	Pn	**Pn**	**16 55 40.3**	**+0.9**
MTO3	**Montecristo**	**4.00**	**324**	*e*P	**Pn**	**16 55 40.3**	**+0.9**
MTO3	**Montecristo**	**4.00**	**324**	*e*P	**Pn**	**16 55 40.3**	**+0.9**
PLAN	**Los Planes de**	**4.04**	**128**	*e*P	**Pn**	**16 55 40.8**	**+1.2**
DRK0	**Durika**	**4.08**	**117**	Pn	**Pn**	**16 55 41.0**	**+0.7**
DRK0	**Durika**	**4.08**	**117**	*e*P	**Pn**	**16 55 41.8**	**+1.5**
RIOS	**Rincon, Osa**	**4.15**	**126**	Pn	**Pn**	**16 55 41.7**	**+0.5**
RIOS	**Rincon, Osa**	**4.15**	**126**	*e*P	**Pn**	**16 55 42.4**	**+1.2**
CMIG	**Matias Romero**	**9.71**	**308**	Pn	**Pn**	**16 56 59.0**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=101,slow=7.7,SNR=7.4						
TLIG	**Tlapa**	**12.95**	**301**		**Pn**	**16 57 45.0**	**+2.9**
SDV	**Santo Domingo**	**16.20**	**97**		**Pn**	**16 58 25.9**	**+0.4**
KVTX	**Kingsville**	**19.29**	**329**	P	**Pn**	**16 59 03.8**	**+0.4**
ATAH	**Atahualpa**	**20.06**	**155**	P	Pn	16 59 17.0	+3.9
	comp=Z,3.5nm,0.6s,baz=335,slow=17,SNR=2.4						
GOGA	**Godfrey**	**22.37**	**8**	P	**P**	**16 59 35.5**	**-0.1**
Y49A	**Blount Mountai**	**22.59**	**1**	P	**P**	**16 59 38.0**	**0.0**
Y49A				IAmb	IAmb	17 00 06.5	
	comp=Z,15nm,1.3s						
Y52A	**Lilburn**	**22.75**	**6**	P	**P**	**16 59 40.5**	**+0.8**
X51A	**Calhoun**	**23.37**	**4**	P	**P**	**16 59 46.4**	**+0.5**
X51A				IAmb	IAmb	16 59 47.9	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**23.74**	**358**	P	**P**	**16 59 49.7**	**+0.3**
PLAL				IAmb	IAmb	16 59 50.0	
	comp=Z,17nm,1.1s						
TXAR	**Lajitas Array**	**23.90**	**322**	P	**P**	**16 59 51.8**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=137,slow=9.9,SNR=30						
TXAR				PcP	**PcP**	**17 03 35.7**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=144,slow=4.7,SNR=6.4						
TX31	**Lajitas Ar. Si**	**23.90**	**322**	P	**P**	**16 59 51.8**	**+0.6**
TX31				IAmb	IAmb	17 00 07.4	
	comp=Z,9.8nm,0.8s						
TX32	**Lajitas Array**	**23.90**	**322**	P	**P**	**16 59 51.6**	**+0.4**
W50A	**Signal Mountai**	**23.97**	**3**	P	**P**	**16 59 51.3**	**-0.5**
W50A				IAmb	IAmb	16 59 53.5	
	comp=Z,10nm,0.8s						
BG3	**Lake Jocassee**	**24.00**	**8**	P	**P**	**16 59 52.4**	**+0.4**
MIAR	**Mount Ida**	**24.06**	**346**	P	**P**	**16 59 52.0**	**-0.5**
CPCT	**Cooper Cave**	**24.28**	**5**	P	**P**	**16 59 54.5**	**0.0**
CPCT				IAmb	IAmb	16 59 57.2	
	comp=Z,9.2nm,0.8s						
WHAR	**Wooly Hollow**	**24.51**	**349**	P	**P**	**16 59 56.1**	**-0.6**
TKL	**Tuckaleechee C**	**24.55**	**6**	P	**P**	**16 59 55.4**	**-1.6**
	comp=Z,4.8nm,0.7s,baz=186,slow=9.2,SNR=3.5						
TKL	**Tuckaleechee C**	**24.55**	**6**	P	**P**	**16 59 57.0**	**-0.1**
X37A	**Clayton**	**24.56**	**343**	P	**P**	**16 59 57.2**	**+0.1**
X37A				IAmb	IAmb	16 59 59.6	
	comp=Z,9.9nm,0.9s						
V51A	**Loudon**	**24.64**	**5**	P	**P**	**16 59 58.1**	**+0.3**
V53A	**Saluda**	**24.68**	**8**	P	**P**	**16 59 58.2**	**0.0**
CLTN	**Cedars of Leba**	**24.82**	**1**	P	**P**	**16 59 59.2**	**-0.3**
CLTN				IAmb	IAmb	17 00 01.4	
	comp=Z,8.2nm,0.7s						
LCAR	**Lake Charles**	**25.09**	**352**	P	**P**	**17 00 00.2**	**-1.6**
FDF	**Fort de France**	**25.36**	**79**	P	**P**	**17 00 00.9**	**-3.6**
U40A	**Yellville**	**25.65**	**349**	P	**P**	**17 00 05.5**	**-1.5**
T47A	**Sharon Grove**	**25.71**	**360**	P	**P**	**17 00 06.5**	**-1.0**
T47A				IAmb	IAmb	17 00 07.4	
	comp=Z,6.9nm,0.8s						
FNO	**Franklin**	**25.81**	**340**	P	**P**	**17 00 08.2**	**-0.3**
S39A	**Bolivar**	**27.03**	**349**	P	**P**	**17 00 18.1**	**-1.4**
S39A				IAmb	IAmb	17 00 19.4	
	comp=Z,7.2nm,0.8s						
CCM	**Cathedral Cave**	**27.06**	**352**	P	**P**	**17 00 18.0**	**-1.7**
R49A	**Shelbyville**	**27.06**	**3**	P	**P**	**17 00 18.5**	**-1.2**
R49A				IAmb	IAmb	17 00 21.4	
	comp=Z,12nm,1.3s						
Q51A	**Peebles**	**27.93**	**6**	P	**P**	**17 00 27.2**	**-0.3**
Q51A				IAmb	IAmb	17 00 28.0	
	comp=Z,12nm,1.0s						
Q56A	**Snyder Ridge,**	**28.61**	**13**	P	**P**	**17 00 34.2**	**+0.7**
Q56A				IAmb	IAmb	17 00 35.4	
	comp=Z,5.0nm,0.7s						
P53A	**Whipple**	**28.63**	**9**	P	**P**	**17 00 33.9**	**+0.1**
P53A				IAmb	IAmb	17 00 34.6	
	comp=Z,11nm,0.7s						
P52A	**Corning**	**28.67**	**8**	P	**P**	**17 00 33.5**	**-0.6**
P52A				IAmb	IAmb	17 00 34.8	
	comp=Z,12nm,0.8s						
O52A	**Adamsville**	**29.19**	**8**	P	**P**	**17 00 38.1**	**-0.5**
O52A				IAmb	IAmb	17 00 39.4	
	comp=Z,6.5nm,0.6s						
LENM	**Lemitar**	**29.32**	**325**	P	**P**	**17 00 41.4**	**+1.3**
O53A	**New Philadelph**	**29.41**	**9**	P	**P**	**17 00 40.0**	**-0.5**
N49A	**Columbus Grove**	**29.74**	**4**	P	**P**	**17 00 42.3**	**-1.2**
N53A	**Lisbon**	**30.01**	**9**	P	**P**	**17 00 45.5**	**-0.4**
SSPA	**Standing Stone**	**30.42**	**14**	P	**P**	**17 00 49.4**	**-0.1**
SSPA				IAmb	IAmb	17 00 50.6	
	comp=Z,6.9nm,0.8s						
M52A	**Chesterland**	**30.65**	**8**	P	**P**	**17 00 51.6**	**0.0**
M52A				IAmb	IAmb	17 00 54.3	
	comp=Z,9.4nm,0.7s						
M53A	**WI Miller and**	**30.65**	**9**	P	**P**	**17 00 51.2**	**-0.4**
M53A				IAmb	IAmb	17 00 51.9	
	comp=Z,11nm,0.8s						
L48A	**N Adams**	**30.74**	**4**	P	**P**	**17 00 51.2**	**-1.2**
M54A	**Oil Creek Stat**	**30.89**	**11**	P	**P**	**17 00 53.4**	**-0.4**
M54A				IAmb	IAmb	17 00 54.2	
	comp=Z,5.9nm,0.6s						
M57A	**Sunshine Farm,**	**31.27**	**14**	P	**P**	**17 00 57.0**	**0.0**
SDCO	**Great Sand Dun**	**31.28**	**331**	P	**P**	**17 00 58.6**	**+1.0**
BRNJ	**Basking Ridge**	**31.36**	**18**	P	**P**	**17 00 58.2**	**+0.4**
ERPA	**Erie**	**31.43**	**10**	P	**P**	**17 00 57.4**	**-1.0**
J47A	**Sunmer**	**32.01**	**3**	P	**P**	**17 01 02.3**	**-1.2**
BINY	**Binghamton**	**32.36**	**15**	P	**P**	**17 01 06.5**	**-0.1**
BINY				IAmb	IAmb	17 01 07.4	
	comp=Z,6.4nm,0.8s						
I42A	**Draeger Farm,**	**32.66**	**357**	P	**P**	**17 01 07.1**	**-2.1**
MEDO	**Medina**	**32.72**	**11**	P	**P**	**17 01 08.4**	**-1.4**
PV12	**Saucer Basin,**	**33.38**	**328**	P	**P**	**17 01 16.1**	**+0.3**
PV12				IAmb	IAmb	17 01 18.7	
	comp=Z,5.3nm,0.8s						
PV17	**East Wray Mesa**	**33.43**	**328**	P	**P**	**17 01 16.6**	**+0.3**
PV17				IAmb	IAmb	17 01 18.8	
	comp=Z,5.6nm,0.7s						
PV14	**Lion Creek, Pa**	**33.53**	**328**	P	**P**	**17 01 16.2**	**-1.0**
PV14				IAmb	IAmb	17 01 19.7	
	comp=Z,4.5nm,0.8s						
G45A	**Suttons Bay**	**33.78**	**2**	P	**P**	**17 01 16.9**	**-2.0**
SADO	**Sadowa**	**34.15**	**10**	P	**P**	**17 01 20.0**	**-2.2**
SADO				IAmb	IAmb	17 01 30.5	
	comp=Z,8.9nm,1.3s						
SUSD	**Miller**	**34.75**	**345**	P	**P**	**17 01 26.9**	**-0.5**
COWI	**Conover**	**34.87**	**357**	P	**P**	**17 01 26.5**	**-2.0**
F36A	**Milaca**	**35.04**	**352**	P	**P**	**17 01 27.7**	**-2.2**
F36A				IAmb	IAmb	17 01 28.4	
	comp=Z,4.7nm,0.8s						
P17A	**Butcher Ranch,**	**35.25**	**327**	P	**P**	**17 01 32.7**	**+0.7**
P17A				IAmb	IAmb	17 01 34.3	
	comp=Z,5.0nm,1.0s						
F33A	**5 Mile Ranch,**	**35.47**	**349**	P	**P**	**17 01 31.6**	**-2.0**
F33A				IAmb	IAmb	17 01 32.8	
	comp=Z,6.7nm,0.7s						
PD31	**Pinedale Array**	**37.15**	**332**	P	**P**	**17 01 48.0**	**-0.2**
PDAR	**Pinedale Array**	**37.15**	**332**	P	**P**	**17 01 47.3**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=122,slow=9.9,SNR=9.4						
PDAR				PcP	**PcP**	**17 04 09.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.6,SNR=3.7						
PDAR	**Pinedale Array**	**37.15**	**332**	P	**P**	**17 01 48.1**	**-0.2**
AGMN	**Agassiz Nation**	**37.77**	**350**	P	**P**	**17 01 51.2**	**-1.9**
AGMN				IAmb	IAmb	17 01 52.1	
	comp=Z,3.5nm,0.7s						
REDW	**Red Top Meadow**	**38.21**	**331**	P	**P**	**17 01 57.1**	**-0.1**
REDW				IAmb	IAmb	17 02 08.6	
	comp=Z,3.8nm,0.7s						
TPAW	**Teton Pass**	**38.35**	**331**	P	**P**	**17 01 57.7**	**-0.8**
NVAR	**Mina Array Bea**	**39.01**	**319**	P	**P**	**17 02 05.0**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=128,slow=10,SNR=4.2						
NVAR				PcP	**PcP**	**17 04 15.7**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=140,slow=3.8,SNR=9.6						
GCMT	**Greycliff**	**39.59**	**335**	P	**P**	**17 02 08.3**	**-0.4**
ULM	**Lac du Bonnet**	**39.66**	**351**	P	**P**	**17 02 07.2**	**-1.9**
	comp=Z,2.2nm,0.5s,baz=164,slow=9.1,SNR=4.9						
ULM	**Lac du Bonnet**	**39.66**	**351**	IAmb	IAmb	17 02 07.3	
	comp=Z,3.9nm,0.8s						
LRM	**Limekiln Ridge**	**40.83**	**333**	P	**P**	**17 02 19.0**	**0.0**
H03N2	**Juan Fernandez**	**45.00**	**171**	T	T	17 50 59.1	
	baz=352						
H03N1	**Juan Fernandez**	**45.01**	**171**	T	T	17 50 60.0	
	baz=352						
H03N3	**Juan Fernandez**	**45.02**	**171**	T	T	17 50 58.9	
	baz=352						
SCHQ	**Schefferville**	**46.36**	**16**	LR	LR	17 21 16.1	
	comp=Z,48nm,19.4s,baz=92,slow=35						
BDFB	**Brasilia**	**46.83**	**124**	P	**P**	**17 03 08.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=294,slow=10,SNR=3.5						
BDFB	**Brasilia**	**46.83**	**124**	IAmb	IAmb	17 03 28.6	
	comp=Z,8.8nm,1.5s						
YKA	**Yellowknife Ar**	**54.98**	**345**	P	**P**	**17 04 06.8**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=139,slow=7.4,SNR=7.5						
YKA				PcP	**PcP**	**17 05 09.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=146,slow=3.9,SNR=6.5						
VRDI	**Verde Repeater**	**64.52**	**333**	P	**P**	**17 05 13.0**	**-1.0**
VRDI				IAmb	IAmb	17 05 21.2	
	comp=Z,7.1nm,1.3s						
ILAR	**Eielson Array**	**67.40**	**336**	P	**P**	**17 05 32.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=137,slow=5.5,SNR=7.0						
ILAR				LR	LR	17 42 49.6	
	comp=Z,20nm,18.2s,baz=93,slow=43						
RDOG	**Red Dog Mine**	**74.48**	**338**	P	**P**	**17 06 14.7**	**-0.4**
RDOG				IAmb	IAmb	17 06 31.5	
	comp=Z,3.4nm,0.6s						
SONM	**Songino Array**	**120.08**	**350**	PKP	**PKiKP**	**17 13 28.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=344,slow=1.5,SNR=3.6						
KSH	**Kashi**	**127.13**	**17**	PKP	**PKiKP**	**17 13 43.1**	**+0.8**
ASAR	**Alice Springs**	**139.26**	**247**	PKhKP	PKPpre	17 13 59.8	
	comp=Z,0.2nm,0.8s,baz=145,slow=3.4,SNR=1.5						
ASAR				PKP	**PKPdf**	**17 14 06.2**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=103,slow=2.1,SNR=4.0						
ASAR	**Alice Springs**	**139.26**	**247**		**PKPdf**	**17 14 05.2**	**+0.4**
WRA	**Warramunga Arr**	**139.40**	**252**	PKhKP	PKPpre	17 14 04.6	
	comp=Z,0.3nm,0.7s,baz=92,slow=2.5,SNR=2.1						
WRA				PKP	**PKiKP**	**17 14 09.4**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=90,slow=2.1,SNR=5.0						
WRA	**Warramunga Arr**	**139.40**	**252**		**PKPdf**	**17 14 04.5**	**-0.7**
PZH	**PanZhiHua**	**141.62**	**347**	PKP	**PKPdf**	**17 14 07.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**150.00**	**349**	PKPbc	**PKiKP**	**17 14 29.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=344,slow=3.7,SNR=14						
CMAR	**Chiang Mai Arr**	**150.00**	**349**		**PKPbc**	**17 14 28.1**	**-0.2**

*CNRM **08** 17:11:08.0, 35°.72N×3°.60W, h33km, ml2.9*

*MDD **08** 17:11:08.6±0.3, 35°.65N×3°.57W, h12km, mb_Lg2.8/13, Error ellipse: s-maj=3.4km s-min=2.4km az=8.0*

*SFS **08** 17:11:09.0, 35°.63N×3°.54W, h21km, ML2.8, ALBORAN SUR*

ISC 08 17:11:07.2±1.5**, 35°.68N**±0°.02×**3°.62W**±0°.03**, h16km**±12km**, n31,** σ1s.55/61**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**209**	P	**Pn**	**17 11 20.1**	**-0.1**
PALE				S	**Sn**	**17 11 28.0**	**-0.8**
EALB	**Alboran**	**0.54**	**62**	Pg	**Pb**	**17 11 18.6**	**+0.3**
EALB				Sg	**Sg**	**17 11 26.4**	**+1.2**
EALB				*i* Vmb_Lg		17 11 27.3	
EMEL	**Melilla**	**0.66**	**125**	Pg	**Pb**	**17 11 20.3**	**0.0**
EMEL				Sg	**Sb**	**17 11 28.2**	**-1.1**
GOG	**Mont Gurugu**	**0.69**	**132**	P	**Pb**	**17 11 20.6**	**-0.2**
GOG				S	**Sb**	**17 11 29.6**	**-0.5**
ELGU	**Los Guajares,**	**1.18**	**360**	Pn	**Pn**	**17 11 29.1**	**0.0**
ELGU				Sg	**Sg**	**17 11 46.5**	**+1.0**
ELGU				*i* Vmb_Lg		17 11 48.4	
EMAL	**Malaga-Limoner**	**1.26**	**329**	P	**Pn**	**17 11 30.4**	**+0.3**
EMAL				S	**Sn**	**17 11 45.5**	**-1.1**
EMIJ	**Mijas**	**1.28**	**314**	Pn	**Pn**	**17 11 30.6**	**+0.1**
EMIJ				Sn	**Sn**	**17 11 47.1**	**-0.2**
EMIJ				*i* Vmb_Lg		17 11 48.2	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**17 11 30.7**	**-0.2**
SMIR	**Smir Dam**	**1.43**	**270**	P	**Pn**	**17 11 32.3**	**-0.2**
SMIR				S	**Sb**	**17 11 52.3**	**+0.7**
CEU	**Ceuta**	**1.44**	**279**	P	**Pn**	**17 11 31.2**	**-1.4**
CEU				S	**Sn**	**17 11 48.1**	**-3.0**
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pn**	**17 11 34.3**	**+1.1**
EGOR				Sn	**Sb**	**17 11 53.6**	**+0.7**
EGOR				*i* Vmb_Lg		17 11 58.4	
CHEFC	**Chefchaouen**	**1.52**	**248**	P	**Pb**	**17 11 35.6**	**+0.6**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pn	**Pn**	**17 11 37.3**	**+1.3**
EJIF				Sn	**Sb**	**17 11 58.5**	**-0.2**
ESPR	**Espera**	**2.16**	**304**	Pn	**Pn**	**17 11 44.7**	**+2.2**
ESPR				Sn	**Sn**	**17 12 10.6**	**+1.7**
ESPR				*i* Vmb_Lg		17 12 25.1	
LCRM	**LCR**	**2.24**	**207**	P	**Pb**	**17 11 47.2**	**-0.1**
LCRM				S	**Sb**	**17 12 14.7**	**-0.1**
IFR	**Ifrane**	**2.49**	**210**	P	**Pn**	**17 11 48.9**	**+1.6**
IFR				S	**Sn**	**17 12 19.0**	**+1.6**
EADA	**Adamuz**	**2.59**	**343**	Pn	**Pn**	**17 11 49.8**	**+1.3**
EADA				Sn	**Sn**	**17 12 22.8**	**+3.0**
ECAB	**El Cabril**	**2.79**	**329**	Pn	**Pn**	**17 11 52.9**	**+1.7**
ECAB				Sn	**Sn**	**17 12 25.7**	**+1.2**
ECAB				*i* Vmb_Lg		17 12 44.4	
CZD	**Col de Zad**	**2.89**	**204**	P	**Pn**	**17 11 53.7**	**+0.8**
CZD				S	**Sn**	**17 12 26.5**	**-1.0**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**17 11 55.8**	**+2.2**
MD31				S	**Sn**	**17 12 30.4**	**+1.5**
MDT	**Midelt**	**2.98**	**196**	P	**Pn**	**17 11 55.2**	**+1.4**
MDT				S	**Sb**	**17 12 33.0**	**-3.0**
EMIN	**Mina Concepcio**	**3.22**	**311**	Pn	**Pn**	**17 11 58.0**	**+1.0**
EMIN				Sn	**Sn**	**17 12 34.7**	**-0.2**
EMIN				*i* Vmb_Lg		17 12 37.8	
ZHG	**ZHG**	**3.35**	**229**	P	**Pn**	**17 12 00.5**	**+1.6**
ZHG				S	**Sn**	**17 12 38.1**	**-0.2**
ETOB	**Tobarra**	**3.39**	**29**	Pn	**Pn**	**17 12 01.0**	**+1.5**
ETOB				Sn	**Sn**	**17 12 37.0**	**-2.3**
ETOB				*i* Vmb_Lg		17 13 33.5	
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**17 12 03.4**	**+0.9**
EGRO				Sn	**Sn**	**17 12 45.0**	**+0.2**
EGRO				*i* Vmb_Lg		17 12 52.1	
PAB	**San Pablo**	**3.90**	**352**	Pn	**Pn**	**17 12 08.3**	**+1.9**
PAB				Sn	**Sn**	**17 12 52.1**	**+0.1**
PAB				Sg	**Sg**	**17 13 09.0**	**-3.4**
ESDC	**Sonseca Array**	**3.99**	**356**	Pn	**Pn**	**17 12 09.7**	**+1.9**
ESDC				Sn	**Sn**	**17 12 53.6**	**-0.6**
ESDC				Sg	**Sg**	**17 13 11.9**	**-3.5**
ESDC				*i* Vmb_Lg		17 13 25.0	
EBEN2	**Beniarda presa**	**4.05**	**41**	Sn	**Sn**	**17 12 54.6**	**-1.0**
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**17 12 10.5**	**+1.4**
EBAD				Sn	**Sn**	**17 12 57.1**	**+0.5**
EBAD				*i* Vmb_Lg		17 12 59.5	
PESTR	**Estremoz**	**4.49**	**316**	P	**Pn**	**17 12 13.9**	**-0.6**
PESTR				S	**Sn**	**17 13 03.0**	**-3.3**
OUZM	**OUZ**	**5.44**	**210**	P	**Pn**	**17 12 30.5**	**+2.8**
OUZM				S	**Sn**	**17 13 30.9**	**+0.9**

*NEIC **08** 17:12:48.7±2.1, 18°.17S±0°.08×178°.3W±0°.1, h614km±5km, mb4.5/103, Error ellipse: s-maj=16.8km s-min=10.4km az=114.0*

*IDC **08** 17:12:49.2±1.3, 18°.11S×178°.34W, h614km±17km, mb3.4/15, mb1 3.6/17, mb1mx3.5/28, mbtmp4.4/17, Error ellipse: s-maj=17.3km s-min=10.3km az=141.0*

*NOU **08** 17:12:50.1, 18°.37S×178°.26W, h610km, mb4.4/24, Fiji Islands Region*

ISC 08 17:12:49.1±0.8**, 18°.13S**±0°.07×**178°.35W**±0°.07**, h619km**±11km**, n168,** σ1s.12/175**, mb4.4**/64**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**57**	P	**P**	**17 14 46.2**	**+0.7**
	3.3nm,0.3s,baz=202,slow=17,SNR=4.3						
AFI				S	**S**	**17 16 19.6**	**-1.1**
	1.2nm,0.3s,baz=239,slow=22,SNR=2.7						
AFI	**Afiamalu**	**7.59**	**57**	P	**P**	**17 14 43.3**	**-2.2**
NIUE	**Niue**	**8.04**	**98**	P	**P**	**17 14 51.4**	**+1.8**
RAO	**Raoul Island**	**11.08**	**178**	S	**S**	**17 17 18.0**	**-3.6**
	279nm,0.3s,baz=216,slow=18,SNR=7.6						
SANVU	**Saraoutou**	**14.09**	**279**	P	**P**	**17 15 49.1**	**+0.8**
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**17 15 56.3**	**+1.3**
	0.5nm,0.3s,baz=97,slow=17,SNR=2.2						
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**17 15 54.4**	**-0.6**
OUZ	**Omahuta**	**18.46**	**201**	P	**P**	**17 16 25.6**	**-2.4**
OUZ				IAmb	IAmb	17 16 26.8	
	comp=Z,24nm,1.4s						
URZ	**Urewera**	**20.44**	**190**	P	**P**	**17 16 45.0**	**-0.8**
	comp=Z,8.6nm,0.8s,baz=309,slow=11,SNR=5.6						
URZ	**Urewera**	**20.44**	**190**	P	**P**	**17 16 41.3**	**-4.5**
URZ				IAmb	IAmb	17 16 51.3	
	comp=Z,19nm,1.2s						
URZ	**Urewera**	**20.44**	**190**	P	**P**	**17 16 45.3**	**-0.5**
HIZ	**Hauiti**	**21.16**	**195**	P	**P**	**17 16 53.4**	**+1.2**
BKZ	**Black Stump Fm**	**21.43**	**191**	P	**P**	**17 16 51.6**	**-3.1**
BKZ				IAmb	IAmb	17 17 14.7	
	comp=Z,28nm,1.4s						
BKZ	**Black Stump Fm**	**21.43**	**191**	P	**P**	**17 16 53.8**	**-0.9**
BFZ	**Birch Farm**	**22.95**	**191**	P	**P**	**17 17 06.4**	**-1.7**
BFZ				IAmb	IAmb	17 17 15.5	
	comp=Z,31nm,1.1s						
BFZ	**Birch Farm**	**22.95**	**191**	P	**P**	**17 17 08.2**	**+0.1**
MSWZ	**Moikau Station**	**23.85**	**192**	P	**P**	**17 17 15.4**	**-0.6**
SNZO	**South Karori**	**23.86**	**193**	P	**P**	**17 17 13.8**	**-2.3**
SNZO	**South Karori**	**23.86**	**193**	P	**P**	**17 17 16.2**	**+0.1**
QRZ	**Quartz Range**	**23.94**	**197**	P	**P**	**17 17 17.3**	**+0.4**
QRZ	**Quartz Range**	**23.94**	**197**	P	**P**	**17 17 16.9**	**0.0**
PLWZ	**Palliser**	**23.99**	**192**	P	**P**	**17 17 15.9**	**-1.5**
NNZ	**Nelson**	**24.08**	**195**	P	**P**	**17 17 17.4**	**-0.7**
TUWZ	**Tuamarina**	**24.14**	**194**	P	**P**	**17 17 17.2**	**-1.4**
BSWZ	**Blackbirch Sta**	**24.43**	**194**	P	**P**	**17 17 22.7**	**+1.5**
THZ	**Tophouse**	**24.71**	**196**	P	**P**	**17 17 23.3**	**-0.4**
KHZ	**Kahutara**	**25.17**	**194**	P	**P**	**17 17 26.4**	**-1.3**
KHZ				IAmb	IAmb	17 17 27.4	
	comp=Z,29nm,1.2s						
KHZ	**Kahutara**	**25.17**	**194**	P	**P**	**17 17 26.4**	**-1.3**
	comp=Z,24nm,2.5s						
LTZ	**Lake Taylor**	**25.83**	**196**	P	**P**	**17 17 32.2**	**-1.3**
OXZ	**Oxford**	**26.40**	**196**	P	**P**	**17 17 37.8**	**-0.7**
MQZ	**McQueen's Vall**	**26.60**	**195**	P	**P**	**17 17 39.2**	**-1.0**
RPZ	**Rata Peaks**	**27.03**	**197**	P	**P**	**17 17 44.0**	**+0.1**
	comp=Z,9.1nm,0.9s,baz=0.0,slow=3.0,SNR=11						
RPZ	**Rata Peaks**	**27.03**	**197**	P	**P**	**17 17 43.3**	**-0.6**
RPZ	**Rata Peaks**	**27.03**	**197**	P	**P**	**17 17 42.8**	**-1.2**
FOZ	**Fox Glacier**	**27.22**	**199**	P	**P**	**17 17 45.0**	**-0.7**
LBZ	**Lake Benmore**	**27.89**	**198**	P	**P**	**17 17 49.9**	**-1.6**
ODZ	**Otahua Downs**	**28.37**	**197**	P	**P**	**17 17 55.0**	**-0.6**
ODZ	**Otahua Downs**	**28.37**	**197**	P	**P**	**17 17 54.7**	**-0.9**
WKZ	**Wanaka**	**28.64**	**199**	P	**P**	**17 17 57.0**	**-1.0**
EIDS	**Eidsvold**	**29.24**	**250**	P	**P**	**17 18 04.4**	**+0.9**
EIDS				IAmb	IAmb	17 18 23.7	
	comp=Z,33nm,1.6s						
MLZ	**Mavora Lakes**	**29.41**	**200**	P	**P**	**17 18 03.8**	**-0.8**
DCZ	**Deep Cove**	**29.81**	**201**	P	**P**	**17 18 07.2**	**-0.7**
ARMA	**Armidale**	**29.88**	**240**	P	**P**	**17 18 09.0**	**0.0**
ARMA				IAmb	IAmb	17 18 32.4	
	comp=Z,32nm,1.5s						
WHZ	**Wether Hill Ro**	**29.93**	**199**	P	**P**	**17 18 09.0**	**0.0**
MGCD	**Mangrove Creek**	**31.21**	**235**	P	**P**	**17 18 21.3**	**+1.1**
RMQ	**Roma**	**31.47**	**249**	P	**P**	**17 18 24.0**	**+1.5**
CNB	**Canberra Magne**	**33.34**	**233**	P	**P**	**17 18 39.8**	**+1.7**
CTA	**Charters Tower**	**33.47**	**261**	P	**P**	**17 18 40.2**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=81,slow=12						
CTA	**Charters Tower**	**33.47**	**261**	P	**P**	**17 18 40.3**	**+0.9**
CAN	**Canberra**	**33.61**	**233**	P	**P**	**17 18 40.8**	**+0.4**
CAN	**Canberra**	**33.61**	**233**	P	**P**	**17 18 41.8**	**+1.4**
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**17 18 49.7**	**+1.3**
	comp=Z,5.7nm,0.7s,baz=80,slow=9.2,SNR=4.3						
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**17 18 49.8**	**+1.3**
PMG				IAmb	IAmb	17 18 51.8	
	comp=Z,7.8nm,0.8s						
CMSA	**Cobar Meteorol**	**35.09**	**241**	P	**P**	**17 18 53.8**	**+1.1**
MTSU	**Mount Surprise**	**35.44**	**264**	P	**P**	**17 18 56.8**	**+1.0**
QLP	**Quilpie**	**35.51**	**250**	P	**P**	**17 18 57.1**	**+0.9**
GLAD	**Gladstone**	**36.73**	**225**	P	**P**	**17 19 07.1**	**+1.1**
TOO	**Toolangi**	**37.07**	**231**	P	**P**	**17 19 10.4**	**+1.5**
TOO				IAmb	IAmb	17 19 11.3	
	comp=Z,19nm,1.2s						
TOO	**Toolangi**	**37.07**	**231**	P	**P**	**17 19 10.9**	**+2.0**

COEN	**Coen**	**37.16**	**271**	P	**P**	**17 19 11.1**	**+1.2**
COEN				IAmb	IAmb	17 19 12.1	
	comp=Z,9.8nm,0.7s						
COEN	**Coen**	**37.16**	**271**	P	**P**	**17 19 11.5**	**+1.6**
TAU	**Tasmania Unive**	**38.11**	**222**	P	**P**	**17 19 18.1**	**+1.0**
BRAT	**Ballarat**	**38.22**	**232**	P	**P**	**17 19 19.7**	**+1.6**
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**17 19 22.2**	**+1.2**
	comp=Z,4.7nm,0.4s,baz=95,slow=10,SNR=19						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**17 19 20.7**	**-0.3**
INKA	**Innaminka**	**38.71**	**248**	P	**P**	**17 19 24.3**	**+2.1**
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**17 19 59.3**	**+0.6**
BBOO				IAmb	IAmb	17 20 00.4	
	comp=Z,46nm,1.6s						
HMH	**Humu'ula Sheep**	**43.71**	**32**	P	**P**	**17 20 02.9**	**+1.1**
NPOC	**North of Pu'u**	**43.72**	**33**	P	**P**	**17 20 00.2**	**-1.5**
WR0	**Warramunga Arr**	**44.46**	**260**	P	**P**	**17 20 07.7**	**+0.3**
WR0				PcP	**PcP**	**17 21 34.6**	**-2.4**
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**17 20 08.1**	**-0.5**
WB0				PcP	**PcP**	**17 21 36.5**	**-1.1**
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**17 20 08.9**	**+0.2**
WB2				IAmb	IAmb	17 20 09.9	
	comp=Z,10nm,1.2s						
WB2				PcP	**PcP**	**17 21 37.5**	**-0.2**
WRAB	**Tennant Creek**	**44.64**	**260**	P	**P**	**17 20 08.8**	**0.0**
WRAB				IAmb	IAmb	17 20 09.2	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**17 20 09.0**	**+0.1**
	comp=Z,3.2nm,0.4s,baz=96,slow=7.0,SNR=171						
WRA				PcP	**PcP**	**17 21 38.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=95,slow=3.2,SNR=4.3						
WRA				S	**S**	**17 25 58.5**	**-3.3**
	comp=Z,0.8nm,0.9s,baz=99,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**17 20 08.1**	**-0.8**
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**17 20 10.4**	**+0.5**
AS31				IAmb	IAmb	17 20 12.1	
	comp=Z,4.0nm,0.5s						
AS31				PcP	**PcP**	**17 21 38.6**	**+0.4**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**17 20 10.3**	**+0.5**
	comp=Z,8.2nm,0.6s,baz=94,slow=7.5,SNR=281						
ASAR				PcP	**PcP**	**17 21 38.3**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=105,slow=3.7,SNR=12						
ASAR				S	**S**	**17 26 02.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=88,slow=15,SNR=8.5						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**17 20 09.9**	**0.0**
FORT	**Forrest**	**49.96**	**245**	P	**P**	**17 20 48.0**	**-0.2**
FORT				IAmb	IAmb	17 20 49.2	
	comp=Z,38nm,1.4s						
KNRA	**Kununurra**	**50.52**	**264**	P	**P**	**17 20 52.5**	**0.0**
KNRA				IAmb	IAmb	17 21 21.9	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**17 21 10.7**	**+0.1**
PSA00	**Pilbara Seismi**	**57.91**	**256**	P	**P**	**17 21 42.9**	**-1.2**
PSA00	**Pilbara Seismi**	**57.91**	**256**	P	**P**	**17 21 43.6**	**-0.5**
PSA00				IAmb	IAmb	17 21 59.2	
	comp=Z,12nm,1.1s						
LUWI	**Luwuk**	**60.20**	**279**	P	**P**	**17 22 01.0**	**+1.6**
LUWI				IAmb	IAmb	17 22 34.5	
	comp=Z,32nm,0.9s						
SBA	**Scott Base**	**60.20**	**184**	P	**P**	**17 22 00.2**	**+1.8**
SBA				IAmb	IAmb	17 22 02.0	
	comp=Z,38nm,1.3s						
VNDA	**Vanda**	**60.23**	**185**	P	**P**	**17 22 00.1**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=21,slow=8.5,SNR=2.2						
VNDA	**Vanda**	**60.23**	**185**	P	**P**	**17 21 59.1**	**+0.5**
MORW	**Morawa**	**60.44**	**246**	P	**P**	**17 21 59.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**66.09**	**269**	P	**P**	**17 22 35.9**	**-1.1**
JAGI				IAmb	IAmb	17 22 59.3	
	comp=Z,17nm,1.6s						
MJAR	**Matsushiro Arr**	**68.12**	**323**	P	**P**	**17 22 49.0**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=151,slow=5.7,SNR=4.9						
MJAR	**Matsushiro Arr**	**68.12**	**323**	IAmb	IAmb	17 22 50.2	
	comp=Z,7.8nm,1.5s						
MAJO	**Matsushiro**	**68.12**	**323**	P	**P**	**17 22 47.6**	**-1.4**
MAJO				IAmb	IAmb	17 22 59.4	
	comp=Z,26nm,1.5s						
MJB9	**Matsu-Tunnel**	**68.12**	**323**	P	**P**	**17 22 47.3**	**-1.7**
MJB9				IAmb	IAmb	17 22 59.4	
	comp=Z,30nm,1.6s						
UGM	**Wanagama**	**69.69**	**268**	P	**P**	**17 22 58.0**	**-0.9**
UGM				IAmb	IAmb	17 23 22.2	
	comp=Z,24nm,1.0s						
ADK	**Adak**	**69.73**	**1**	P	**P**	**17 22 58.1**	**-0.1**
JHS	**Saijyo**	**70.10**	**319**	P	**P**	**17 23 01.4**	**+0.6**
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**17 23 12.1**	**+1.0**
QSPA				IAmb	IAmb	17 23 13.7	
	comp=Z,10nm,1.1s						
SSLB	**Suanglung**	**72.40**	**303**	P	**P**	**17 23 14.0**	**-0.5**
SSLB				IAmb	IAmb	17 23 37.3	
	comp=Z,13nm,1.2s						
UNV	**Unalaska Valle**	**72.40**	**7**	P	**P**	**17 23 12.7**	**-1.0**
UNV				IAmb	IAmb	17 23 36.6	
	comp=Z,28nm,1.2s						
TPUB	**Ta-pu**	**72.42**	**302**	P	**P**	**17 23 13.4**	**-1.2**
TPUB				IAmb	IAmb	17 23 18.3	
	comp=Z,24nm,1.1s						
KSM	**Kuching**	**72.77**	**277**	P	**P**	**17 23 15.5**	**-1.3**
KSM				IAmb	IAmb	17 23 21.1	
	comp=Z,9.9nm,1.0s						
PEA0B	**Petropavlovsk-**	**73.91**	**345**	P	**P**	**17 23 22.6**	**+0.3**
PETK	**Petropavlovsk-**	**73.91**	**345**	P	**P**	**17 23 22.0**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=130,slow=6.3,SNR=13						
PETK	**Petropavlovsk-**	**73.91**	**345**	P	**P**	**17 23 21.9**	**-0.4**
SII	**Sitkinak Islan**	**77.13**	**13**	P	**P**	**17 23 40.3**	**+0.3**
SII				IAmb	IAmb	17 23 51.0	
	comp=Z,22nm,1.0s						
OHAK	**Old Harbor**	**77.94**	**14**	P	**P**	**17 23 44.0**	**-0.3**
OHAK				IAmb	IAmb	17 23 56.5	
	comp=Z,25nm,1.4s						
KDAK	**Kodiak Island**	**78.61**	**14**	P	**P**	**17 23 47.1**	**-0.7**
KDAK				IAmb	IAmb	17 24 02.1	
	comp=Z,36nm,1.4s						
SLBS	**Sierra La Lagu**	**78.62**	**60**	P	**P**	**17 23 46.7**	**-2.2**
SLBS				IAmb	IAmb	17 24 20.5	
	comp=Z,48nm,1.6s						
YBH	**Yreka Blue Hor**	**78.66**	**39**	P	**P**	**17 23 50.4**	**+1.7**
BEKR	**Beckworth**	**79.02**	**42**	P	**P**	**17 23 50.6**	**-0.2**
P18K	**Big Mountain,**	**79.53**	**12**	P	**P**	**17 23 52.6**	**-0.2**
P18K				IAmb	IAmb	17 23 54.1	
	comp=Z,17nm,1.2s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**17 23 54.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=225,slow=9.1,SNR=13						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**17 23 54.2**	**+0.6**
KVN	**Kaiserville**	**80.02**	**43**	P	**P**	**17 23 57.0**	**+1.0**
MOD	**Modoc Plateau**	**80.22**	**40**	P	**P**	**17 23 58.0**	**+1.0**
K05A	**Summer Lake**	**80.34**	**39**	P	**P**	**17 23 57.5**	**-0.1**
K05A				IAmb	IAmb	17 23 60.0	
	comp=Z,7.2nm,0.9s						
CNPM	**China Poot**	**80.49**	**14**	P	**P**	**17 23 58.1**	**+0.4**
BRLK	**Bradley Lake**	**80.78**	**14**	P	**P**	**17 23 59.0**	**-0.2**
N19K	**Bonanza Creek**	**80.99**	**12**	P	**P**	**17 23 60.0**	**-0.4**
N19K				IAmb	IAmb	17 24 12.2	
	comp=Z,19nm,1.6s						
RSO	**Redoubt South**	**81.01**	**13**	P	**P**	**17 24 00.4**	**-0.2**
SVW2	**Sparrevohn**	**81.05**	**11**	P	**P**	**17 24 00.5**	**-0.1**
SVW2				IAmb	IAmb	17 24 26.3	
	comp=Z,13nm,1.4s						
WISH	**Wishkah**	**81.35**	**34**		pP	17 26 09.9	-1.4
GAMB	**Gambell**	**81.81**	**3**	P	**P**	**17 24 05.0**	**+0.7**
GAMB				IAmb	IAmb	17 24 27.1	
	comp=Z,12nm,1.6s						
BELA	**Belgrano 2**	**81.94**	**173**	P	**P**	**17 24 04.9**	**-0.1**
BELA				IAmb	IAmb	17 24 05.4	
	comp=Z,6.0nm,0.6s						
I07A	**Izee**	**81.95**	**39**	P	**P**	**17 24 05.6**	**-0.1**
M19K	**Big River Lodg**	**82.01**	**11**	P	**P**	**17 24 05.5**	**0.0**
L19K	**White Mountain**	**82.19**	**11**	P	**P**	**17 24 05.8**	**-0.5**
PWL	**Port Wells**	**82.34**	**14**	P	**P**	**17 24 06.5**	**-0.6**
PWL				IAmb	IAmb	17 24 07.8	
	comp=Z,16nm,1.3s						
319A	**Douglas**	**82.51**	**54**	P	**P**	**17 24 09.9**	**+1.1**
319A				IAmb	IAmb	17 24 12.3	
	comp=Z,8.7nm,1.0s						
U15A	**North Rim**	**82.63**	**48**	P	**P**	**17 24 10.5**	**+1.0**
TTA	**Tatalina**	**82.68**	**10**	P	**P**	**17 24 09.6**	**+0.7**
GHO	**Glory Hole Cre**	**83.01**	**14**	P	**P**	**17 24 10.5**	**0.0**
GHO				IAmb	IAmb	17 24 11.3	
	comp=Z,8.2nm,0.7s						
SML	**Sawmill**	**83.17**	**14**	P	**P**	**17 24 11.0**	**-0.3**
SML				IAmb	IAmb	17 24 11.6	
	comp=Z,38nm,1.6s						
BMRM	**Bremner River**	**83.36**	**16**	P	**P**	**17 24 12.1**	**-0.2**
BMRM				IAmb	IAmb	17 24 13.2	
	comp=Z,14nm,1.3s						
K20K	**Telida**	**83.41**	**11**	P	**P**	**17 24 12.9**	**+0.5**
SCM	**Sheep Creek Mo**	**83.43**	**14**	P	**P**	**17 24 12.9**	**+0.3**
SCM				IAmb	IAmb	17 24 16.6	
	comp=Z,31nm,1.6s						
ISLE	**Juniper Island**	**83.66**	**17**	P	**P**	**17 24 13.2**	**-0.7**
ISLE				IAmb	IAmb	17 24 34.2	
	comp=Z,20nm,1.2s						
CAST	**Castle Rocks**	**83.83**	**12**	P	**P**	**17 24 13.4**	**-1.1**
N25K	**Chitina, Valde**	**83.90**	**15**	P	**P**	**17 24 15.3**	**+0.4**
N25K				IAmb	IAmb	17 24 21.6	
	comp=Z,21nm,1.6s						
M24K	**Tolsona, Glenn**	**83.94**	**15**	P	**P**	**17 24 16.2**	**+1.1**
M24K				IAmb	IAmb	17 24 17.2	
	comp=Z,24nm,1.2s						
GLB	**Gilahina Butte**	**83.96**	**16**	P	**P**	**17 24 15.5**	**+0.3**
GLB				IAmb	IAmb	17 24 29.4	
	comp=Z,30nm,1.7s						
J20K	**Nowinta River**	**84.16**	**10**	P	**P**	**17 24 16.2**	**+0.2**
J20K				IAmb	IAmb	17 24 42.8	
	comp=Z,7.9nm,1.5s						
TRF	**Thorofare Moun**	**84.22**	**12**	P	**P**	**17 24 16.1**	**-0.5**
TRF				IAmb	IAmb	17 24 17.1	
	comp=Z,7.4nm,0.8s						
RND	**Reindeer**	**84.47**	**13**	P	**P**	**17 24 17.8**	**+0.1**
RND				IAmb	IAmb	17 24 18.5	
	comp=Z,5.4nm,0.8s						
MCK	**McKinley**	**84.75**	**13**	P	**P**	**17 24 19.5**	**+0.5**
HLID	**Hailey**	**84.76**	**41**	P	**P**	**17 24 19.8**	**+0.1**
TX31	**Lajitas Ar. Si**	**86.07**	**58**	P	**P**	**17 24 25.8**	**-0.4**
TX31				IAmb	IAmb	17 24 29.5	
	comp=Z,12nm,1.0s						
TX32	**Lajitas Array**	**86.07**	**58**	P	**P**	**17 24 25.6**	**-0.5**
TX32				IAmb	IAmb	17 24 29.6	
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**17 24 27.9**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=216,slow=5.8,SNR=20						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**17 24 27.0**	**+0.8**
IL31		**86.09**	**13**	P	**P**	**17 24 24.4**	**-0.9**
IL31				IAmb	IAmb	17 24 30.0	
	comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**	**17 24 24.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=220,slow=5.0,SNR=18						
PD31	**Pinedale Array**	**87.47**	**43**	P	**P**	**17 24 32.6**	**0.0**
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**17 24 33.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=223,slow=3.1,SNR=11						
YKA	**Yellowknife Ar**	**94.51**	**25**	P	**P**	**17 25 04.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=245,slow=4.4,SNR=5.9						
MKAR	**Makanchi Array**	**109.33**	**314**	PKiKP	**PKiKP**	**17 30 09.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=195,slow=1.7,SNR=5.4						
ARCES	**ARCESS Array B**	**126.54**	**350**	PKP	**PKPdf**	**17 30 43.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=1.6,SNR=6.5						
FINES	**FINESS Array B**	**133.42**	**344**	PKP	**PKPdf**	**17 30 57.0**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=40,slow=2.4,SNR=2.0						
BRTR	**Keskin Array B**	**144.98**	**315**	PKP	**PKPdf**	**17 31 18.3**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=152,slow=4.3,SNR=2.0						
CLL	**Collm**	**145.69**	**347**	*i* PKPbc	**PKPbc**	**17 31 20.1**	**+0.2**
	comp=Z,6.0nm,0.7s						
DPC	**Dobruska-Polom**	**145.78**	**343**	*e*PKP	**PKPbc**	**17 31 20.9**	**+0.6**
KRLC	**Kraliky**	**145.90**	**343**	*e*PKP	**PKPbc**	**17 31 20.7**	**+0.1**
PRU	**Pruhonice**	**146.57**	**345**	*e*PKP	**PKPbc**	**17 31 23.1**	**+0.7**
NKC	**Novy Kostel**	**146.82**	**347**	*e*PKP	**PKPbc**	**17 31 23.9**	**+0.8**
KHC	**Kasperske Hory**	**147.60**	**345**	*e*PKP	**PKPbc**	**17 31 25.8**	**+0.6**
CKRC	**Cesky Krumlov**	**147.71**	**344**	*e*PKP	**PKPbc**	**17 31 26.1**	**+0.7**
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc	**PKPbc**	**17 31 26.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=35,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**147.84**	**345**		**PKPbc**	**17 31 25.9**	**0.0**

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*BUG **08** 17:36:53.0±0.0, 51°.61N×6°.81E, h3km±2km, MD3.0/10, ML3.3/6*
*BGR **08** 17:36:54.4±0.3, 51°.60N×6°.80E, h1km, ML2.8/8, Error ellipse: s-maj=4.4km s-min=2.2km az=107.0*
*PRU **08** 17:36:54.4±0.0, 51°.76N×6°.82E, h10km*
*BNS **08** 17:36:54.6±0.3, 51°.61N×6°.82E, h1km±7km, ML2.5*
*LDG **08** 17:36:54.3±0.1, 51°.63N×6°.80E, h1km, Md3.1/2, Ml3.1/28, Error ellipse: s-maj=2.5km s-min=2.2km az=172.0, Suspected Mining induced.*
ISC 08 17:36:51.8±0.8**, 51°.62N**±0°.02×**6°.69E**±0°.02**, h0**km**, n75,** σ**1**§**22**/138**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11**	**87**	Pg	**Pg**	**17 36 54.4**	**+0.4**
BZER				Sg	**Sg**	**17 36 55.7**	**+0.3**
BAVN	**Auguste-Victor**	**0.30**	**65**	Pg	**Pb**	**17 36 59.0**	**-1.0**
LAUG	**Laupendahl**	**0.31**	**149**	*e*Pg	**Pb**	**17 36 59.4**	**-0.9**
LAUG				*e*Sg	**Sg**	**17 37 03.6**	**+1.9**
	403nm,0.5s						
WTSB	**Winterswijk**	**0.36**	**11**	*e*Pg	**Pb**	**17 37 01.5**	**+0.4**
WTSB				*e*Sg	**Sb**	**17 37 06.8**	**-0.4**
BULI	**Ruhr-Universit**	**0.39**	**114**	Pg	**Pg**	**17 37 00.5**	**+1.2**
BKLB	**Ruhr-Universit**	**0.40**	**116**	Pg	**Pg**	**17 37 00.6**	**+1.1**
BUG	**Bochum--Univer**	**0.40**	**116**	Pg	**Pg**	**17 37 00.7**	**+1.2**
BUG				Sg	**Sg**	**17 37 05.1**	**+0.4**
BTEZ	**Ruhr-Universit**	**0.40**	**114**	Pg	**Pb**	**17 37 00.9**	**-0.9**
ENTS	**Ennepetalsperr**	**0.59**	**129**	*e*Pg	**Pg**	**17 37 04.2**	**+1.1**
ENTS				*e*Sg	**Sg**	**17 37 11.3**	**+0.7**
PLH	**Pulheim**	**0.62**	**172**	*e*Pg	**Pb**	**17 37 05.3**	**-0.2**
PLH				*e*Sg	**Sb**	**17 37 13.7**	**-1.0**
HMES	**Hamm, Michael-**	**0.65**	**86**	Sg	**Sg**	**17 37 13.3**	**+0.7**
HOBG	**Hohbusch**	**0.75**	**147**	*e*Pg	**Pb**	**17 37 08.0**	**+0.2**
SORT	**Sorpetalsperre**	**0.84**	**108**	*e*Pg	**Pg**	**17 37 08.6**	**+0.6**
SORT				*e*Sg	**Sg**	**17 37 19.3**	**+0.4**
	92nm,0.3s						
GSH	**Grosshau**	**0.90**	**193**	*e*Pg	**Pn**	**17 37 11.5**	**-0.2**
GSH				*e*Sg	**Sb**	**17 37 23.7**	**+0.8**
	132nm,0.4s						
IBBS	**Ibbenbueren So**	**0.94**	**44**	Pg	**Pn**	**17 37 13.0**	**+0.8**
IBBS				Sn	**Sn**	**17 37 26.4**	**0.0**
IBBN	**Ibbenburen**	**0.96**	**43**	Pg	**Pb**	**17 37 11.3**	**0.0**
IBBN				*e*Sg	**Sb**	**17 37 24.4**	**0.0**
IBBN				Sn	**Sn**	**17 37 26.1**	**-0.7**
IBBE	**Ibbenbueren Ea**	**0.97**	**44**	Pg	**Pb**	**17 37 11.7**	**+0.2**
HGN	**Heimansgroeve**	**0.98**	**210**	Pg	**Pn**	**17 37 12.7**	**-0.1**
HGN				Sn	**Sn**	**17 37 28.3**	**+1.0**
DREG	**Dreilaegerbach**	**1.00**	**197**	*e*Pg	**Pn**	**17 37 13.6**	**+0.6**
DREG				*e*Sg	**Sn**	**17 37 28.0**	**+0.2**
	181nm,0.4s						
KLL	**Kalltalsperre**	**1.00**	**194**	*e*Pg	**Pn**	**17 37 13.4**	**+0.3**
STB	**Steinbach**	**1.03**	**175**	*e*Pg	**Pn**	**17 37 13.6**	**+0.1**
TDN	**Todenfeld**	**1.05**	**171**	*e*Pg	**Pn**	**17 37 13.9**	**0.0**
TDN				*e*Sg	**Sb**	**17 37 27.4**	**+0.2**
	157nm,0.4s						
MEM	**Membach**	**1.10**	**203**	*e*Pg	**Pn**	**17 37 14.9**	**+0.5**
MEM				*e*Sg	**Sn**	**17 37 30.3**	**0.0**
AHRW	**Bad Neuenahr-A**	**1.10**	**167**	Pg	**Pn**	**17 37 14.7**	**+0.2**
AHRW				Sg	**Sn**	**17 37 30.3**	**-0.1**
OLFT	**Oleftalsperre**	**1.14**	**189**	*e*Pg	**Pn**	**17 37 15.5**	**+0.5**
OLFT				*e*Sg	**Sn**	**17 37 31.1**	**-0.2**
KASTN	**Kahler Asten**	**1.16**	**110**	Pg	**Pb**	**17 37 14.5**	**-0.2**
KASTN				Pn	**Pn**	**17 37 15.1**	**-0.2**
KASTN				Sg	**Sb**	**17 37 30.1**	**-0.2**
BHE	**Schloss Buerre**	**1.30**	**166**	*e*Pg	**Pn**	**17 37 17.9**	**+0.7**
BHE				*e*Sg	**Sb**	**17 37 34.7**	**+0.3**
	126nm,0.4s						
HILG	**Hillesheim**	**1.33**	**180**	*e*Pg	**Pn**	**17 37 18.7**	**+1.1**
KOE	**Koeppel**	**1.36**	**151**	*e*Pg	**Pb**	**17 37 18.7**	**+0.5**
LOH	**Wallersheim-Lo**	**1.44**	**184**	*e*Pg	**Pb**	**17 37 20.5**	**+1.0**
LOH				*e*Sg	**Sn**	**17 37 39.2**	**+0.4**
	92nm,0.4s						
BGG	**Burgeitz**	**1.47**	**164**	*e*Pg	**Pb**	**17 37 20.4**	**+0.4**
TNS	**Taunus Mts**	**1.78**	**141**	*e*Pn	**Pn**	**17 37 24.8**	**+0.8**
TNS				*e*Pg	**Pg**	**17 37 27.0**	**+1.0**
TNS				*e*Sg	**Sg**	**17 37 49.1**	**0.0**
GIVF	**Givet**	**1.92**	**219**	*e*Pn	**Pb**	**17 37 27.0**	**-0.7**
GIVF	**Givet**	**1.92**	**219**	*e*Pg	**Pg**	**17 37 30.3**	**+1.7**
GIVF				*e*Sg	**Sg**	**17 37 56.2**	**+2.7**
	186nm,0.8s						
WLF	**Walferdange**	**1.98**	**190**	*e*Pg	**Pg**	**17 37 31.1**	**+1.3**
WLF				*e*Sg	**Sg**	**17 37 55.3**	**-0.2**
BAIF	**Baives**	**2.21**	**226**	*e*Pn	**Pn**	**17 37 30.7**	**+0.9**
BAIF	**Baives**	**2.21**	**226**	*e*Pg	**Pg**	**17 37 35.3**	**+1.1**
BAIF				*e*Sg	**Sg**	**17 38 04.8**	**+1.9**
	61nm,0.6s						
CLZ	**Clausthal**	**2.30**	**83**	*e*Pn	**Pn**	**17 37 31.0**	**0.0**
CLZ				*e*Sg	**Sb**	**17 38 04.1**	**+0.8**
PAGF	**Fort de Pagny**	**3.13**	**192**	*e*Pn	**Pn**	**17 37 43.6**	**+1.3**
PAGF	**Fort de Pagny**	**3.13**	**192**	*e*Pg	**Pg**	**17 37 52.3**	**+0.6**
	baz=16						
PAGF				*e*Sn	**Sn**	**17 38 20.0**	**-0.4**
	25nm,0.5s						
PAGF				*e*Sg	**Sg**	**17 38 32.7**	**+0.5**
	baz=16						
SAVF	**Savonnieres en**	**3.17**	**199**	*e*Pg	**Pg**	**17 37 54.0**	**+1.5**
	baz=25						
SAVF				*e*Sn	**Sn**	**17 38 18.9**	**-2.5**
	baz=19						
SAVF				*e*Sg	**Sg**	**17 38 35.3**	**+1.7**
	19nm,0.4s,baz=25						
CDF	**Champ du Feu**	**3.23**	**173**	*e*Pn	**Pn**	**17 37 44.4**	**+0.6**
CDF				*e*Sn	**Sn**	**17 38 22.7**	**-0.3**
	8.6nm,0.5s						
CDF				*e*Sg	**Sg**	**17 38 36.4**	**+0.9**
	34nm,0.6s						
MEZF	**Maizieres J'vi**	**3.29**	**199**	*e*P	**Pb**	**17 37 48.5**	**-2.6**
MEZF				*e*Sn	**Sn**	**17 38 22.4**	**-2.0**
	baz=23						
MEZF				*e*Sg	**Sg**	**17 38 37.6**	**+0.1**
	14nm,0.4s,baz=24						
SFTF	**Sexfontaines**	**3.58**	**198**	*e*Pn	**Pn**	**17 37 50.3**	**+1.8**
	baz=20						
SFTF	**Sexfontaines**	**3.58**	**198**	*e*Pg	**Pg**	**17 38 01.4**	**+1.0**
	baz=18						
SFTF				*e*Sg	**Sg**	**17 38 47.8**	**+1.1**
	18nm,0.5s,baz=21						
HAU	**Haudompre**	**3.62**	**184**	*e*Pn	**Pn**	**17 37 51.1**	**+1.9**
HAU	**Haudompre**	**3.62**	**184**	*e*Pg	**Pg**	**17 38 02.5**	**+1.3**
HAU				*e*Sn	**Sn**	**17 38 31.6**	**-1.0**
HAU				*e*Sg	**Sg**	**17 38 49.6**	**+1.5**
	3.5nm,0.2s						
HINF	**Hinteralfeld**	**3.80**	**178**	*e*Pn	**Pn**	**17 37 52.8**	**+1.1**
HINF	**Hinteralfeld**	**3.80**	**178**	*e*Pg	**Pg**	**17 38 05.1**	**+0.4**
HINF				*e*Sn	**Sn**	**17 38 35.8**	**-1.3**
HINF				*e*Sg	**Sg**	**17 38 54.5**	**+0.5**
	41nm,1.1s						
NKC	**Novy Kostel**	**3.90**	**109**	*e*PN	**Pn**	**17 37 53.7**	**+0.7**
NKC				*e*SG	**Sg**	**17 38 57.1**	**+0.2**
	comp=Z,16nm,0.7s						
CLL	**Collm**	**3.96**	**92**	*e*Pn	Pn	17 37 46.0	-7.8
CLL				*e*Pg	**Pg**	**17 38 08.0**	**+0.3**
CLL				*e*Sn	Sn	17 38 27.0	-14
CLL				*e*Sg	**Sg**	**17 38 57.0**	**-2.0**
	comp=Z,8.0nm,0.5s						
BRG	**Berggiesshubel**	**4.62**	**96**	*ex*	**Pg**	**17 38 19.1**	**-1.2**
BRG	**Berggiesshubel**	**4.62**	**96**	Amp		17 38 19.1	
	comp=Z,2.0nm,0.6s						
LOR	**Lormes**	**4.73**	**204**	*e*Pn	**Pn**	**17 38 05.4**	**+1.0**
	baz=34						
LOR	**Lormes**	**4.73**	**204**	*e*Pg	**Pg**	**17 38 22.4**	**0.0**
	baz=31						
LOR				*e*Sn	**Sn**	**17 38 58.2**	**-1.7**
	comp=Z,1.3nm,0.1s						
LOR				*e*Sg	**Sg**	**17 39 22.7**	**-0.9**
	comp=Z,12nm,0.5s,baz=21						
SSF	**Saint Saulge**	**5.01**	**206**	*e*Pn	**Pn**	**17 38 08.8**	**+0.6**
SSF				*e*Sn	**Sn**	**17 39 04.4**	**-2.4**
SSF				*e*Sg	**Sg**	**17 39 31.8**	**-0.9**
	comp=Z,28nm,0.7s						
CABF	**La Chapelle**	**5.03**	**185**	*e*Pn	**Pn**	**17 38 09.7**	**+1.2**
CABF				*e*Sg	**Sg**	**17 39 32.5**	**-0.7**
	comp=Z,26nm,0.8s						
KHC	**Kasperske Hory**	**5.06**	**117**	*e*PN	**Pn**	**17 38 10.7**	**+1.7**
KHC				*e*SN	**Sn**	**17 39 08.0**	**-0.1**
KHC				*e*SG	**Sg**	**17 39 35.7**	**+1.4**
	comp=Z,4.1nm,0.7s						
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pn	**Pn**	**17 38 12.9**	**+0.7**
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pg	**Pg**	**17 38 33.8**	**+0.4**
AVF				*e*Sn	**Sn**	**17 39 11.9**	**-2.0**
AVF				*e*Sg	**Sg**	**17 39 40.5**	**-1.5**
	comp=Z,1.1nm,0.3s						
SMF	**Signal de Mont**	**5.31**	**202**	*e*Pn	**Pn**	**17 38 13.1**	**+0.7**
SMF				*e*Sn	**Sn**	**17 39 11.3**	**-3.0**
SMF				*e*Sg	**Sg**	**17 39 41.6**	**-0.8**
	comp=Z,14nm,0.6s						
LDF	**La Druitiere**	**5.33**	**238**	*e*Pn	**Pn**	**17 38 13.4**	**+0.9**
LDF				*e*Sn	**Sn**	**17 39 12.8**	**-1.8**
	comp=Z,7.4nm,0.5s						
FLN	**La Foliniere**	**5.42**	**241**	*e*Pn	**Pn**	**17 38 14.7**	**+0.9**
	baz=56						
FLN				*e*Sn	**Sn**	**17 39 14.7**	**-2.2**
	comp=Z,9.6nm,0.5s						
FLN				*e*Sg	**Sg**	**17 39 46.5**	**+0.7**
	comp=Z,2.5nm,0.2s						
CKRC	**Cesky Krumlov**	**5.63**	**117**	*e*SG	**Sg**	**17 39 52.4**	**-0.3**
BGF	**Bois d'Agland**	**5.66**	**208**	*e*Pn	**Pn**	**17 38 17.8**	**+0.7**
BGF				*e*Sn	**Sn**	**17 39 19.7**	**-3.0**
BGF				*e*Sg	**Sg**	**17 39 53.4**	**0.0**
	comp=Z,19nm,0.4s						
GRR	**Gorron**	**5.84**	**239**	*e*Pn	**Pn**	**17 38 20.7**	**+1.1**
GRR				*e*Sn	**Sn**	**17 39 23.7**	**-3.5**
	comp=Z,12nm,0.4s						
CHVC	**Chvalec**	**5.99**	**96**	*e*SG	**Sg**	**17 40 02.6**	**-1.5**
	comp=Z,9.6nm,1.1s						
TCF	**Toulx Ste Croi**	**6.09**	**211**	*e*Pn	**Pn**	**17 38 23.7**	**+0.6**
TCF				*e*Sn	**Sn**	**17 39 31.0**	**-2.5**
TCF				*e*Sg	**Sg**	**17 40 06.1**	**-1.3**
	comp=Z,2.0nm,0.3s						
DPC	**Dobruska-Polom**	**6.21**	**98**	*e*SG	**Sg**	**17 40 09.8**	**-1.5**
	comp=Z,5.1nm,1.1s						
ORIF	**Oris-en-Rattie**	**6.72**	**185**	*e*Pn	**Pn**	**17 38 32.6**	**+0.8**
MFF	**Saint Martin d**	**6.73**	**224**	*e*Pn	**Pn**	**17 38 32.3**	**+0.5**
MFF				*e*Sn	**Sn**	**17 39 44.9**	**-4.2**
	comp=Z,3.2nm,0.5s						
SGMF	**Saint Gilles**	**6.85**	**244**	*e*Pn	**Pn**	**17 38 33.8**	**+0.3**
SGMF	**Saint Gilles**	**6.85**	**244**	*e*Pg	**Pg**	**17 39 02.9**	**-0.1**
SGMF				*e*Sn	**Sn**	**17 39 50.4**	**-1.7**
	comp=Z,0.7nm,0.2s						
ROSF	**Rostrenen**	**7.21**	**247**	*e*Pn	**Pn**	**17 38 39.3**	**+0.8**
ROSF				*e*Sn	**Sn**	**17 39 58.8**	**-2.2**
	comp=Z,0.6nm,0.2s						
QUIF	**Quistinic**	**7.38**	**244**	*e*Pn	**Pn**	**17 38 40.8**	**+0.1**

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*MOS **08** 17:37:59.8±0.9, 29°.34N×142°.30E, h17km, mb4.5/11, Error ellipse: s-maj=16.6km s-min=7.3km az=115.6*
*IDC **08** 17:37:59.5±0.7, 29°.34N×142°.28E, h0km, mb3.8/18, mb1 4.0/20, mb1mx3.9/43, mbtmp3.9/20, ML3.5/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/88, Error ellipse: s-maj=22.3km s-min=14.5km az=89.0*
*NEIC **08** 17:38:01.3±2.1, 29°.45N±0°.05×142°.6E±0°.1, h20km±4km, mb4.6/35, Error ellipse: s-maj=15.8km s-min=6.8km az=85.0*
ISC 08 17:38:02.1±0.5**, 29°.45N**±0°.05×**142°.44E**±0°.08**, h24**km**, n101,** σ**1**§**73**/107**, mb4.2**/40**, MS3.4**/4**, 6C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.36**	**186**	Pn	**Pn**	**17 38 39.7**	**+0.4**
JCJ				Sn	**Sn**	**17 39 03.2**	**-4.4**
JHJ2	**Mitsune**	**4.28**	**329**	Pn	**Pn**	**17 39 06.8**	**+1.0**
JHJ2				Sn	**Sn**	**17 39 51.7**	**-3.3**
JHJ	**Hachijo jima 2**	**4.30**	**329**	Pn	**Pn**	**17 39 06.5**	**+0.4**
	8.0nm,0.3s,baz=71,slow=19,SNR=1.3						
JHJ				Sn	**Sn**	**17 39 53.7**	**-1.8**
	15nm,0.3s,baz=74,slow=21,SNR=2.7						
JYT	**Yasato**	**7.01**	**345**	Pn	**Pn**	**17 39 42.7**	**-0.6**
JYT				Sn	**Sn**	**17 40 59.4**	**-2.8**
INU	**Inuyama**	**7.45**	**323**	Pn	**Pn**	**17 39 50.3**	**+0.9**
JGF	**Kuroka**	**7.48**	**326**	Pn	**Pn**	**17 39 48.6**	**-1.1**
MJA0	**Matsu Arr-Jizo**	**7.90**	**335**	*e*P	**Pn**	**17 39 56.4**	**+0.9**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**7.91**	**334**	Pn	**Pn**	**17 39 56.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=162,slow=11,SNR=30						
MJAR				Sn	**Sn**	**17 41 22.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=159,slow=31,SNR=2.0						
MJAR	**Matsushiro Arr**	**7.91**	**334**	Pn	**Pn**	**17 39 54.2**	**-1.5**
MAJO	**Matsushiro**	**7.91**	**334***c*	*i*P	**Pn**	**17 39 56.3**	**+0.7**
MAJO	**Matsushiro**	**7.91**	**334**		**Pn**	**17 39 55.6**	**0.0**
MAT	**Matsushiro**	**7.91**	**334**	P	**Pn**	**17 39 56.1**	**+0.5**
MAT				S	**Sn**	**17 41 22.2**	**-2.2**
MJB9	**Matsu-Tunnel**	**7.92**	**334**		**Pn**	**17 39 55.8**	**+0.1**
JMM	**Marumori**	**8.50**	**351**	Pn	**Pn**	**17 40 02.6**	**-1.1**
JMM					**Sn**	**17 41 31.1**	**-7.7**
JSD	**Sado**	**9.24**	**339**	Pn	**Pn**	**17 40 13.5**	**-0.3**
JOW	**Kunigami**	**12.77**	**262**	LR	LR	17 45 08.7	
	comp=Z,59nm,20.2s,baz=231,slow=34						
KSRS	**Korea Array**	**14.50**	**307**	Pn	**P**	**17 41 31.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=113,slow=12,SNR=3.5						
KSRS				LR	LR	17 46 53.4	
	comp=Z,56nm,18.2s,baz=110,slow=37						
KS19	**Wonju Array Si**	**14.56**	**307**		**P**	**17 41 32.1**	**-0.8**
KS19					**S**	**17 44 23.4**	**-2.8**
USRK	**Ussuriysk Ar.**	**16.91**	**333**	LR	LR	17 47 55.1	
	comp=Z,60nm,20.9s,baz=137,slow=35						
NACB	**Ninganchiao**	**19.33**	**259**	P	**Pn**	**17 42 26.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YHNB	Yeheng	19.35	261	P	P	17 42 25.9	-0.1
YHNB				IAmb	IAmb	17 42 34.4	
	comp=Z,38nm,1.3s						
YULB	Yu-li	19.86	257	P	Pn	17 42 32.3	-1.0
YULB				IAmb	IAmb	17 42 43.7	
	comp=Z,58nm,1.7s						
SSLB	Suanglung	20.01	259	P	Pn	17 42 33.7	-1.3
SSLB				IAmb	IAmb	17 42 39.7	
	comp=Z,50nm,1.6s						
BNX	BinXian	20.10	328	⇑P	P	17 42 34.5	+0.5
BNX				pmax	pmax		
	comp=Z,32nm,0.8s						
BNX				pmax	pmax		
	comp=Z,210nm,5.0s						
TPUB	Ta-pu	20.47	258	P	P	17 42 37.9	-0.3
TPUB				IAmb	IAmb	17 43 09.4	
	comp=Z,29nm,1.3s						
KLR	Kul'dur	21.37	340	P	P	17 42 49.3	+1.7
	comp=Z,1.1nm,0.6s,baz=134,slow=12,SNR=7.0						
KLR	Kul'dur	21.37	340	⇑eP	P	17 42 51.3	+3.7
KLR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HIA	Hailar	26.27	325	⇓eP	P	17 43 37.0	+1.5
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	Hailar	26.27	325	P	P	17 43 35.7	+0.2
ZEA	Zeya	26.68	340	eP	P	17 43 40.4	+1.3
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DAV	Davao City (W)	27.35	219	LR	LR	17 55 58.1	
	comp=Z,28nm,19.3s,baz=44,slow=40						
ULN	Ulaanbaatar	32.81	314	ceP	P	17 44 35.3	+1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	Ulaanbaatar	32.81	314	P	P	17 44 34.8	+1.1
SONM	Songino Array	33.22	314	P	P	17 44 38.2	+1.0
	comp=Z,1.6nm,0.5s,baz=117,slow=8.2,SNR=17						
SONM	Songino Array	33.22	314	P	P	17 44 37.3	+0.1
SEY	Seymchan	34.10	8	P	P	17 44 46.5	+2.0
	comp=Z,0.6nm,0.5s,baz=128,slow=12,SNR=3.3						
ZAK	Zakamensk	36.03	317	eP	P	17 45 02.6	+1.2
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GOMU	GeErMu	40.26	292	P	P	17 45 32.6	-5.0
GOMU				pP	pP	17 45 37.6	-5.7
GOMU				sP	sP	17 45 41.1	-3.8
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,74nm,5.5s						
CHTO	Chiang Mai	40.88	265	P	P	17 45 41.2	-1.3
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHTO	Chiang Mai	40.88	265	P	P	17 45 41.2	-1.3
CMAR	Chiang Mai Arr	41.02	265	P	P	17 45 43.5	-0.2
	comp=Z,0.4nm,0.4s,baz=69,slow=5.0,SNR=7.5						
CMAR				LR	LR	18 03 31.9	
	comp=Z,33nm,19.4s,baz=115,slow=38						
FALS	False Pass	46.01	41		P	17 46 19.5	-3.8
KULM	Kulim	46.19	247	P	P	17 46 25.4	+0.1
KULM				IAmb	IAmb	17 46 43.3	
	comp=Z,9.7nm,1.2s						
KNRA	Kununurra	46.77	198	P	P	17 46 29.3	-0.4
ZALV	Zalesovo Beam	47.88	318	P	P	17 46 39.1	+1.1
	comp=Z,1.4nm,0.5s,baz=95,slow=7.4,SNR=7.9						
ZALV				PcP	PcP	17 48 06.3	0.0
	comp=Z,0.6nm,0.5s,baz=62,slow=6.7,SNR=2.5						
ZALV	Zalesovo Beam	47.88	318	eP	P	17 46 40.0	+2.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	47.88	318	P	P	17 46 39.9	+1.9
UGM	Wanagama	48.21	225	P	P	17 46 40.9	-0.1
MK31	Makanchi Array	49.18	308	P	P	17 46 47.6	-0.6
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	Makanchi Array	49.18	308	P	P	17 46 47.6	-0.6
MKAR	Makanchi Array	49.18	308	P	P	17 46 48.7	+0.5
	comp=Z,0.8nm,0.6s,baz=91,slow=9.9,SNR=16						
MKAR				PcP	PcP	17 48 12.5	+1.3
	comp=Z,0.2nm,0.5s,baz=69,slow=7.9,SNR=1.4						
MKAR				LR	LR	18 09 38.7	
	comp=Z,60nm,18.8s,baz=5.0,slow=39						
MKAR	Makanchi Array	49.18	308	eP	P	17 46 49.0	+0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	49.18	308	P	P	17 46 48.4	+0.2
MKAR				PcP	PcP	17 48 09.9	-1.3
WB0	Warramunga Arr	49.55	190	P	P	17 46 50.5	-0.6
WB0				IAmb	IAmb	17 46 56.2	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	49.71	190	P	P	17 46 51.7	-0.7
WR0				IAmb	IAmb	17 47 06.9	
	comp=Z,18nm,1.7s						
WRAB	Tennant Creek	49.72	190	P	P	17 46 51.2	-1.2
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRAB	Tennant Creek	49.72	190	P	P	17 46 51.2	-1.2
WRAB				IAmb	IAmb	17 47 06.0	
	comp=Z,3.9nm,0.9s						
WB2	Warramunga Arr	49.73	190	P	P	17 46 51.7	-0.8
WB2				IAmb	IAmb	17 47 06.1	
	comp=Z,3.3nm,0.8s						
WRA	Warramunga Arr	49.73	190	P	P	17 46 52.5	-0.1
	comp=Z,2.0nm,0.7s,baz=7.7,slow=7.8,SNR=30						
WRA				PcP	PcP	17 48 14.5	+1.1
	comp=Z,0.5nm,0.6s,baz=6.9,slow=3.8,SNR=2.1						
WRA	Warramunga Arr	49.73	190	P	P	17 46 51.3	-1.2
FITZ	Fitzroy Crossi	49.98	201	P	P	17 46 53.8	-0.6
	comp=Z,0.5nm,0.4s,baz=4.4,slow=13,SNR=2.0						
FITZ	Fitzroy Crossi	49.98	201	P	P	17 46 53.6	-0.8
FITZ				IAmb	IAmb	17 46 54.7	
	comp=Z,13nm,1.7s						
NRIK	Noril'sk	50.55	338	P	P	17 47 00.1	+1.9
	comp=Z,0.8nm,0.4s,baz=87,slow=7.7,SNR=2.0						
NRIK	Noril'sk	50.55	338	i P	P	17 46 59.6	+1.4
NRIK	Noril'sk	50.55	338	P	P	17 46 58.8	+0.6
NRIK				IAmb	IAmb	17 47 41.4	
	comp=Z,6.9nm,1.6s						
GSI	Gunungsitoli	51.02	245	P	P	17 47 02.0	-0.5
GSI				IAmb	IAmb	17 47 14.5	
	comp=Z,16nm,1.3s						
KURK	Kurchatov	51.52	313	ceP	P	17 47 06.5	+0.7
KURK				pmax	pmax		
	comp=Z,12nm,1.3s						
KURK	Kurchatov	51.52	313	P	P	17 47 06.7	+1.0
KURK				IAmb	IAmb	17 47 07.7	
	comp=Z,14nm,1.2s						
KDAK	Kodiak Island	52.36	38	P	P	17 47 14.4	+2.6
	comp=Z,3.1nm,0.9s,baz=312,slow=14,SNR=1.2						
CAST	Castle Rocks	53.14	31	P	P	17 47 13.6	-4.0
CAST				IAmb	IAmb	17 47 39.6	
	comp=Z,9.3nm,1.7s						
AS31	Alice Springs	53.45	190	P	P	17 47 19.9	-0.5
ASAR	Alice Springs	53.45	190	P	P	17 47 20.1	-0.2
	comp=Z,0.3nm,0.5s,baz=360,slow=5.0,SNR=18						
ASAR	Alice Springs	53.45	190	P	P	17 47 17.4	-2.9
KTH	Kantishna Hill	53.68	31	P	P	17 47 16.6	-5.1
KTH				IAmb	IAmb	17 47 24.2	
	comp=Z,20nm,1.6s						
KSH	Kashi	54.59	300	P	P	17 47 31.9	+3.1
TOLK	Toolik Lake Re	54.90	25	P	P	17 47 26.2	-4.2
TOLK				IAmb	IAmb	17 48 08.4	
	comp=Z,8.1nm,1.6s						
AAK	Ala-Archa	55.12	304	⇓eP	P	17 47 32.6	0.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	55.55	29	P	P	17 47 37.2	+2.1
	comp=Z,0.3nm,0.8s,baz=264,slow=5.3,SNR=2.2						
BRVK	Borovoye	56.54	316	deP	P	17 47 44.0	+1.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	Borovoye	56.54	316	P	P	17 47 42.7	+0.3
BRVK				IAmb	IAmb	17 47 45.0	
	comp=Z,2.9nm,0.8s						
KKAR	Karatay Array	57.91	305	P	P	17 47 52.9	+0.6
KKAR	Karatay Array	57.91	305	P	P	17 47 52.9	+0.6
CHGR	Chuyangaron	59.95	300	P	P	17 48 07.5	+0.9
CHGR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHGR	Chuyangaron	59.95	300	P	P	17 48 07.5	+0.9
CHGR				IAmb	IAmb	17 48 09.3	
	comp=Z,6.8nm,0.7s						
HYT	Haines Junctio	59.98	34	P	P	17 48 06.2	-0.3
HYT				IAmb	IAmb	17 48 20.1	
	comp=Z,17nm,1.6s						
FORT	Forrest	61.45	194	P	P	17 48 16.8	+0.3
PALK	Pallekele	61.89	262	LR	LR	18 16 36.7	
	comp=Z,31nm,18.7s,baz=236,slow=38						
ARU	Arti	62.71	322	ceP	P	17 48 25.6	+0.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	62.71	322	P	P	17 48 25.6	+0.8
ABKAR	Akbulak array	63.63	314	P	P	17 48 31.6	+0.5
YKA	Yellowknife Ar	69.97	29	P	P	17 49 12.2	+1.0
	comp=Z,0.4nm,0.7s,baz=291,slow=6.1,SNR=4.4						
ARCES	ARCESS Array B	71.40	341	P	P	17 49 20.8	+1.0
	comp=Z,1.1nm,0.7s,baz=42,slow=11,SNR=1.5						
FINES	FINESS Array B	75.94	334	P	P	17 49 47.5	+0.9
	comp=Z,0.6nm,0.4s,baz=76,slow=4.2,SNR=6.5						
FINES	FINESS Array B	75.94	334	P	P	17 49 47.6	+1.0
KBZ	Khabaz	76.58	313	P	P	17 49 52.1	+1.6
	comp=Z,1.8nm,0.8s,baz=90,slow=2.5,SNR=6.4						
KBZ	Khabaz	76.58	313	eP	P	17 49 53.0	+2.5
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GNI	Garni	77.02	309	⇓eP	P	17 49 54.1	+0.8
GNI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
NVAR	Mina Array Bea	78.89	52	P	P	17 50 07.8	+4.0
	comp=Z,0.3nm,0.7s,baz=282,slow=4.5,SNR=2.2						
RAYN	Ar Rayn	84.41	294	P	P	17 50 33.4	+0.4
RAYN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RAYN	Ar Rayn	84.41	294	P	P	17 50 33.4	+0.4
BRTR	Keskin Array B	84.57	313	P	P	17 50 35.4	+1.7
	comp=Z,1.0nm,0.7s,baz=69,slow=6.8,SNR=5.6						

*NOU **08** 17:48:56.3, 38°.42S×175°.37E, h136km, MLv3.8/6, North Island, New Zealand*
*WEL **08** 17:49:03.2, 39°S±2°×17°5E±°, h15km±2km, M3.1/33, ML3.4/33, MLv3.1/33, Error ellipse: s-maj=0.0km s-min=0.0km az=83.0*
ISC 08 17:49:03.5±0.9, **39°.10S**±0°.02×**175°.30E**±0°.02, **h15**km±6km, **n108**, σ**0s.70**/112, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.11	75	P	Pg	17 49 07.1	+0.1
TWVZ				S	Sg	17 49 09.5	+0.2
PKVZ	Pokaka	0.19	170	P	Pg	17 49 07.9	-0.2
PKVZ				S	Sg	17 49 11.2	0.0
WTVZ	West Tongariro	0.23	94	P	Pg	17 49 08.7	+0.1
NGZ	Ngauruhoe	0.24	108	P	Pg	17 49 09.0	+0.1
NNVZ	North Ngauruho	0.25	97	P	Pg	17 49 09.2	+0.2
FWVZ	Far West T-bar	0.25	128	P	Pg	17 49 09.0	0.0
FWVZ				S	Sg	17 49 12.9	0.0
KRVZ	Karewarewa	0.26	89	P	Pg	17 49 09.4	+0.1
DRZ	Dome Shelter	0.27	131	P	Pg	17 49 09.4	0.0
TRVZ	Turoa	0.28	136	P	Pg	17 49 09.4	-0.1
SNVZ	South Ngauruho	0.28	108	P	Pg	17 49 09.6	+0.1
WHVZ	Whangaehu Hut	0.29	129	P	Pg	17 49 09.5	-0.2
OTVZ	Oturere	0.29	103	P	Pb	17 49 09.9	-0.6
NTVZ	North Tongarir	0.29	90	P	Pg	17 49 09.8	+0.1
NTVZ				S	Sg	17 49 13.9	-0.1
MTVZ	Mangateitei	0.31	155	P	Pg	17 49 09.7	-0.4
TMVZ	Te Maari	0.31	93	P	Pg	17 49 10.3	+0.2
ETVZ	East Tongariro	0.32	97	P	Pg	17 49 10.4	+0.2
TUVZ	Tukino	0.32	122	P	Pb	17 49 10.4	-0.6
WNVZ	Wahianoa	0.32	135	P	Pg	17 49 10.2	-0.1
KATZ	Kakaramea	0.33	68	P	Pg	17 49 10.6	+0.2
VRZ	Vera Road	0.42	267	P	Pg	17 49 12.0	+0.1
RATZ	Rangitukua	0.43	58	P	Pg	17 49 12.4	+0.2
RITZ	Rihia Road	0.45	74	P	Pb	17 49 12.8	-0.3
MOVZ	Moawhango	0.47	131	P	Pg	17 49 12.5	-0.3
WATZ	Wairara	0.52	41	P	Pg	17 49 13.6	-0.1
HATZ	Hinemaiaia	0.65	72	P	Pg	17 49 16.1	-0.1
HIZ	Hauiti	0.68	329	P	Pg	17 49 16.5	-0.3
HIZ	Hauiti	0.68	329	P	Pg	17 49 16.6	-0.2
WAZ	Wanganui	0.70	200	P	Pg	17 49 16.5	-0.6
BHHZ	Black Hill Sta	0.71	124	P	Pg	17 49 16.9	-0.4
KUTZ	Kaahu Road	0.73	34	P	Pg	17 49 17.2	-0.5
MHEZ	Mangahewa	0.76	271	P	Pb	17 49 19.0	+0.6
LREZ	Lake Rotokare	0.79	242	P	Pg	17 49 18.5	-0.2
TLZ	Tolley Road	0.79	14	P	Pb	17 49 17.5	-1.4
DREZ	Durham Road	0.86	264	P	Pb	17 49 19.8	-0.2
WPRZ	Whakapapatarin	0.89	50	P	Pb	17 49 20.3	-0.2
MRHZ	Matea Rd	0.91	73	P	Pg	17 49 21.0	-0.1
PREZ	Palmer Road	0.92	254	P	Pb	17 49 21.2	+0.1
BKZ	Black Stump Fm	0.93	94	P	Pb	17 49 21.1	-0.2
BKZ	Black Stump Fm	0.93	94	P	Pb	17 49 21.1	-0.2
KWHZ	Kaweka Forest	0.93	111	P	Pg	17 49 21.5	0.0
NEZ	North Egmont	0.95	259	P	Pb	17 49 21.7	0.0
GRRZ	Galatos Road	0.98	40	P	Pb	17 49 21.7	-0.5
KRHZ	Kereru	0.99	124	P	Pn	17 49 22.5	-0.4
KHEZ	Kahui Hut	1.02	259	P	Pb	17 49 23.0	+0.2
PKE	Pukeiti	1.03	264	P	Pb	17 49 23.0	+0.1
HRRZ	Handcock Road	1.04	48	P	Pn	17 49 23.5	-0.1
PNHZ	Pukenui	1.07	140	P	Pb	17 49 23.5	-0.2
HSRZ	Hossack Road	1.08	43	P	Pg	17 49 24.3	0.0
TSZ	Takapari Road	1.08	152	P	Pb	17 49 23.5	-0.5
OHWZ	Ohakea	1.10	179	P	Pb	17 49 23.9	-0.3
NBEZ	Newall Road No	1.13	261	P	Pn	17 49 24.8	+0.1
MCHZ	McNeill Hill	1.14	108	P	Pg	17 49 26.4	+1.1
UTU	Utuhina	1.16	37	P	Pb	17 49 25.2	+0.1
NMHZ	Naumai	1.17	90	P	Pg	17 49 25.9	-0.1
HLRZ	Highlands Stat	1.18	44	P	Pg	17 49 26.5	+0.2
NGRZ	Ngongotaha	1.22	35	P	Pn	17 49 25.9	-0.1
MTHZ	Maungataniwha	1.23	79	P	Pg	17 49 26.9	-0.1
OMRZ	Omania	1.30	41	P	Pb	17 49 28.0	+0.4
WPHZ	Waipukurau	1.30	138	P	Pg	17 49 28.6	0.0
KARZ	Kaharoa	1.31	35	P	Pb	17 49 27.9	+0.2
POWZ	Post Office Ro	1.34	165	P	Pb	17 49 28.2	0.0
KMRZ	Kaimai	1.35	22	P	Pn	17 49 28.1	+0.3
DVHZ	Dannevirke	1.37	151	P	Pg	17 49 29.2	-0.7
TOZ	Tahuroa Road	1.38	7	P	Pn	17 49 27.3	-0.8
RTZ	Ruatahuna	1.40	70	P	Pn	17 49 28.1	-0.4
RAHZ	Arahi	1.40	83	P	Pg	17 49 30.7	+0.3
KAHZ	Kahuranaki	1.40	120	P	Pg	17 49 30.2	-0.3
PXZ	Pawanui	1.52	128	P	Pg	17 49 35.9	+3.1
PRHZ	Porangahau	1.55	139	P	Pb	17 49 31.9	0.0
TGRZ	Tauranga	1.56	29	P	Pb	17 49 32.0	0.0
MRZ	Mangatainoka R	1.57	172	P	Pb	17 49 31.4	-0.9
OPRZ	Ohinepanea	1.59	39	P	Pb	17 49 32.3	-0.2
URZ	Urewera	1.65	60	P	Pb	17 49 33.5	0.0
OGWZ	Otaki Gorge	1.72	183	P	Pn	17 49 33.2	+0.4
TIWZ	Tintock	1.73	165	P	Pb	17 49 34.9	-0.1
BFZ	Birch Farm	1.74	156	P	Pb	17 49 35.0	-0.1
BFZ	Birch Farm	1.74	156	P	Pb	17 49 35.5	+0.4
KIW	Kapiti Island	1.78	190	P	Pn	17 49 33.9	+0.2
HOWZ	Holdsworth Sta	1.80	175	P	Pb	17 49 35.4	-0.8
MWZ	Matawai	1.90	67	P	Pb	17 49 37.3	-0.6
DUWZ	D'Urville Isla	2.00	212	P	Pn	17 49 36.7	0.0
CAW	Cannon Point	2.01	185	P	Pb	17 49 38.3	-1.5
TMWZ	Te Maipa	2.06	167	P	Pb	17 49 40.2	-0.2
MTW	Mount Morrison	2.06	176	P	Pb	17 49 39.9	-0.7
AWAZ	Awhitu Peninsu	2.10	345	P	Pn	17 49 39.0	+1.0
ETAZ	East Tamaki Re	2.16	352	P	Pn	17 49 40.4	+1.5
RUGZ	Raukumara Rang	2.18	59	P	Pb	17 49 41.1	-1.6
WEL	Wellington	2.22	190	P	Pb	17 49 43.0	-0.2
WTAZ	Waiatarua	2.24	345	P	Pn	17 49 40.7	+0.7
TCW	Tory Channel	2.25	200	P	Pn	17 49 40.9	+0.8
SNZO	South Karori	2.25	191	P	Pb	17 49 41.9	-1.9
PAWZ	Paruwai Farm	2.28	178	P	Pb	17 49 43.9	-0.4
WIAZ	Waiheke Island	2.31	357	P	Pn	17 49 40.3	-0.6
MSWZ	Moikau Station	2.31	181	P	Pb	17 49 44.6	-0.3
TRWZ	Traveller	2.31	173	P	Pb	17 49 44.9	0.0
MBAZ	Motutapu North	2.35	352	P	Pn	17 49 40.6	-0.9
KUZ	Kuaotunu	2.37	8	P	Pn	17 49 43.2	+1.4
PLWZ	Palliser	2.47	181	P	Pn	17 49 44.0	+0.9
TUWZ	Tuamarina	2.55	204	P	Pn	17 49 45.2	+1.0
NNZ	Nelson	2.58	214	P	Pn	17 49 46.3	+1.7
TKNZ	Takaka Hill	2.64	222	P	Pn	17 49 46.4	+0.9
QRZ	Quartz Range	2.74	230	P	Pn	17 49 46.6	-0.3
QRZ	Quartz Range	2.74	230	P	Pn	17 49 46.9	0.0
BSWZ	Blackbirch Sta	2.83	202	P	Pb	17 49 51.5	-2.2
MRNZ	Matariki Terra	3.01	219	P	Pn	17 49 52.1	+1.5
THZ	Tophouse	3.23	214	P	Pn	17 49 55.3	+1.7
KHZ	Kahutara	3.57	201	P	Pn	17 49 58.4	+0.1
LTZ	Lake Taylor	4.33	211	P	Pn	17 50 08.6	-0.2

*ISK **08** 18:08:13.5, 38°.68N×25°.97E, h10km, ML2.5/15*
*ATH **08** 18:08:13.8, 38°.65N×26°.03E, h26km±2km, ML2.6/4, Error ellipse: s-maj=2.7km s-min=1.5km az=205.0*
*DDA **08** 18:08:13.5±0.0, 38°.66N×25°.98E, h7km±4km, ML2.0*
*THE **08** 18:08:14.4, 38°.66N×25°.98E, h15km±1km, ML2.3/7, Error ellipse: s-maj=2.7km s-min=0.9km az=86.0*
ISC 08 18:08:13.8±0.9, **38°.66N**±0°.02×**25°.97E**±0°.03, **h15**km±7km, **n46**, σ**0s.55**/72, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOS	Chios island	0.28	167	P	Pb	18 08 20.4	-0.2
CHOS				S	Sg	18 08 24.4	+0.4
CHOS	Chios island	0.28	167	P	Pg	18 08 19.9	0.0
CHOS				S	Sb	18 08 24.8	-0.4
	3μm,0.3s						
CHOS	Chios island	0.28	167	PG	Pb	18 08 20.4	-0.2
CHOS				SG	Sb	18 08 24.9	-0.3
PSRA	Psara	0.34	249	P	Pn	18 08 23.0	-1.2
PSRA				S	Sb	18 08 28.1	+1.3
PSRA				AML	AML	18 08 28.5	
	comp=N,2140μm,0.2s						
PSRA				AML	AML	18 08 28.7	
	comp=E,2924μm,0.3s						
SIGR	SIGRI	0.56	351	P	Pb	18 08 25.0	-0.3
SIGR				AML	AML	18 08 36.5	
	comp=E,1034μm,0.4s						
SIGR				AML	AML	18 08 36.6	
	comp=N,720μm,0.2s						
SIGR	SIGRI	0.56	351	P	Pg	18 08 24.5	-0.3
SIGR				S	Sg	18 08 32.5	+0.2
	comp=N,532nm,0.4s						
SIGR	SIGRI	0.56	351	PG	Pg	18 08 24.6	-0.3
SIGR				SG	Sg	18 08 32.0	-0.3
URLA	Izmir	0.57	122	PG	Pg	18 08 25.1	-0.1
URLA	Izmir	0.57	122	P	Pg	18 08 25.2	+0.1
URLA				i AML	AML	18 08 33.0	
	comp=N,178nm,0.4s						
URLA				S	Sb	18 08 33.1	-0.4
URLA				i AML	AML	18 08 34.0	
	comp=N,102nm,0.5s						
ZEYE	Izmir, Urla-Ze	0.59	135	P	Pg	18 08 25.3	-0.2
ZEYE				S	Sg	18 08 33.3	-0.1
ZEYE				i AML	AML	18 08 34.0	
	comp=N,187nm,0.2s						
ZEYE				i AML	AML	18 08 38.0	
	comp=N,186nm,0.4s						
FOCM	Foa	0.60	85	PG	Pg	18 08 25.2	-0.4
PRK	Paraskevi	0.63	22	P	Pb	18 08 27.1	+0.6
PRK				S	Sb	18 08 35.8	+0.7
PRK				AML	AML	18 08 39.1	
	comp=E,1164μm,0.4s						
PRK				AML	AML	18 08 39.6	
	comp=N,900μm,0.3s						
PRK	Paraskevi	0.63	22	P	Pb	18 08 26.9	+0.4
PRK				S	Sn	18 08 36.6	-1.3
	comp=N,518nm,0.3s						
CAND	Candarli	0.71	66	PG	Pb	18 08 28.5	+0.6
GPNR	Gulpinar-Canak	0.80	9	PG	Pg	18 08 29.3	-0.2
DKL	Dikili	0.83	60	PG	Pb	18 08 30.1	+0.1
KOCA	Canakkale, Ayv	0.85	9	P	Pg	18 08 29.7	-0.6
KOCA				S	Sn	18 08 43.5	+0.1
KOCA				i AML	AML	18 08 44.0	
	comp=N,109nm,0.4s						
KOCA				i AML	AML	18 08 46.0	
	comp=N,91nm,0.6s						
AYVA	Ayvalik	0.85	41	P	Pb	18 08 29.9	-0.4
AYVA				i AML	AML	18 08 44.0	
	comp=N,89nm,0.2s						
AYVA				S	Sn	18 08 44.1	+0.6
AYVA				i AML	AML	18 08 47.0	
	comp=N,47nm,0.3s						
ZEDA	zmir-Bergama	0.92	70	P	Pn	18 08 31.8	-0.3
ZEDA				S	Sn	18 08 44.7	-0.4
ZEDA				i AML	AML	18 08 46.0	
	comp=N,37nm,0.4s						
ZEDA				i AML	AML	18 08 46.0	
	comp=N,49nm,0.3s						
DGB	zmir	0.94	130	P	Pb	18 08 31.6	-0.2
DGB				S	Sg	18 08 44.1	-0.2
DGB				i AML	AML	18 08 45.0	
	comp=N,59nm,0.4s						
DGB				i AML	AML	18 08 45.0	
	comp=N,58nm,0.8s						
BAYC	CANAKKALE_Bayr	1.17	22	P	Pn	18 08 35.0	-0.6
BAYC				S	Sb	18 08 50.6	-0.1
BAYC				i AML	AML	18 08 52.0	
	comp=N,21nm,0.4s						
BAYC				i AML	AML	18 08 57.0	
	comp=N,32nm,0.2s						
SMG	Samos	1.17	144	P	Pn	18 08 35.6	-0.1
SMG				S	Sn	18 08 51.2	-0.1
SMG				AML	AML	18 08 54.6	
	comp=E,714μm,0.6s						
SMG				AML	AML	18 08 54.9	
	comp=N,355μm,0.3s						
SMG	Samos	1.17	144	P	Pn	18 08 35.6	-0.1
SMG				S	Sb	18 08 50.5	-0.2
	comp=N,270nm,0.4s						
BOZC	Bozcaada	1.18	3	PN	Pn	18 08 35.7	-0.1
BOZC	Bozcaada	1.18	3	P	Pb	18 08 35.8	-0.1
BOZC				S	Sg	18 08 52.0	0.0
BOZC				i AML	AML	18 08 54.0	
	comp=N,31nm,0.3s						
BOZC				i AML	AML	18 08 54.0	
	comp=N,26nm,0.2s						
EZN	Ezine	1.19	13	P	Pn	18 08 35.8	-0.2
EZN				S	Sb	18 08 51.4	0.0
	comp=N,75nm,0.5s						
EZN	Ezine	1.19	13	PN	Pn	18 08 35.6	-0.4
BUHA	Balikesir, Bur	1.20	45	P	Pn	18 08 35.4	-0.7
BUHA				S	Sg	18 08 52.6	0.0
BUHA				i AML	AML	18 08 57.0	
	comp=N,37nm,0.6s						
BUHA				i AML	AML	18 09 00.0	
	comp=N,39nm,0.6s						
TNSA	Tinos	1.29	210	P	Pg	18 08 38.7	0.0
KARY	Karystos	1.36	243	P	Pn	18 08 38.7	+0.4
LIA	Limnos Island	1.38	334	P	Pb	18 08 39.1	-0.2
LIA	Limnos Island	1.38	334	P	Pb	18 08 39.1	-0.2
LIA				S	Sn	18 08 55.7	-0.7
	comp=N,70nm,0.4s						
GCAM	G?zelcaml?	1.38	134	PN	Pb	18 08 39.5	+0.2
GCAM	G?zelcaml?	1.38	134	P	Pg	18 08 40.5	0.0
GCAM				S	Sg	18 08 58.9	+0.5
GCAM				i AML	AML	18 09 01.0	
	comp=N,39nm,0.3s						
GCAM				i AML	AML	18 09 02.0	
	comp=N,49nm,0.3s						
GADA	Gvkgeada	1.53	358	P	Pn	18 08 41.0	+0.5
GADA				S	Sn	18 09 00.4	+0.3
	comp=N,42nm,0.6s						
GADA	Gvkgeada	1.53	358	PN	Pn	18 08 41.1	+0.5
STEP	BALIKESIR_Sava	1.54	62	P	Pn	18 08 40.5	-0.2
STEP				S	Sg	18 09 03.3	-0.1
STEP				i AML	AML	18 09 07.0	
	comp=N,25nm,0.3s						
STEP				i AML	AML	18 09 07.0	
	comp=N,34nm,0.3s						
APE	Apeiranthos	1.63	193	P	Pn	18 08 42.1	+0.1
APE				S	Sn	18 09 02.8	+0.1
GELI	Tayfur-Gelibol	1.78	12	PN	Pb	18 08 45.2	-0.9
AYDN	Tasoluk	1.81	123	P	Pn	18 08 43.9	-0.5
AYDN				S	Sb	18 09 09.8	+0.8
BODT	Bodrum	1.92	146	PN	Pn	18 08 47.0	+1.1
ERIK	Erikli-Kesan	2.05	12	PN	Pn	18 08 48.4	+0.7
ENEZ	Enez	2.08	4	PN	Pn	18 08 49.5	+1.4
RKY	Sarkoy-Tekirda	2.23	24	PN	Pn	18 08 51.5	+1.3
ALN	Alexandroupoli	2.23	1	PN	Pn	18 08 50.7	+0.5
MAR6	Marsite Statio	2.27	26	PN	Pn	18 08 52.2	+1.4

IDC 08 18:11:28.9±3.5, **55°.23N**×**162°.84E**, **h0**km, **mb3.4**/2, **mb1 3.4**/3, **mb1mx3.1**/51, **mbtmp3.3**/3, **ML2.3**/1, **Error ellipse: s-maj=73.9km s-min=52.7km az=78.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	3.69	237	Pn	Pn	18 12 27.2	0.0
	1.1nm,0.3s,baz=55,slow=16,SNR=35						
PETK				Sn	Sn	18 13 04.0	-7.4
	0.3nm,0.3s,baz=334,slow=44,SNR=2.3						
MKAR	Makanchi Array	48.69	296	P	P	18 20 14.4	-0.2
	0.3nm,0.6s,baz=50,slow=6.8,SNR=4.2						
ASAR	Alice Springs	82.39	207	P	P	18 23 52.5	+0.1
	0.2nm,0.6s,baz=3.8,slow=5.6,SNR=1.8						

IDC **08** *18:12:59.9±0.7, 7°.31S×122°.30E, h607km±8km, mb3.0/6, mb1 3.2/12, mb1mx2.9/54, mbtmp4.0/12, Error ellipse: s-maj=27.3km s-min=9.2km az=63.0*
NEIC **08** *18:12:60.0±1.5, 7°.30S±0°.09×122°.1E±0°.1, h605km±4km, mb4.2/20, Error ellipse: s-maj=17.0km s-min=13.1km az=76.0*
DJA **08** *18:13:00.2±0.3, 7°S±3°×12°2E±°, h598km±4km, M3.8/18, mb3.9/9, mB4.0/3, MLv3.8/18, Mw(mB)3.1/3*
ISC 08 18:12:59.2±0.4**, 7°.30S**±0°.06×**122°.22E**±0°.07**, h600**km**, n83, σ1s.30**/95**, mb4.1**/12**, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	1.32	179	P	P	18 14 10.2	-1.1
MMRI	Maumere	1.32	179	P	P	18 14 12.4	+1.1
MMRI				S	S	18 15 11.4	+1.6
MMRI	Maumere	1.32	179	P	P	18 14 11.4	+0.1
BBSI	Bau Bau	1.84	11	P	P	18 14 15.1	+2.1
BSSI	Bau Bau, Buton	2.07	304	P	P	18 14 16.2	+2.3
BKSI	Bulukumba	2.87	313	P	P	18 14 20.0	+2.3
BKSI				S	S	18 15 23.3	+1.8
BATI	Baumata	3.22	154	P	P	18 14 21.4	+1.7
	51nm,0.3s,baz=360,slow=0.9,SNR=126						
BATI				S	S	18 15 25.6	+0.4
	4.4nm,0.3s,baz=270,slow=2.0,SNR=4.3						
BATI	Baumata	3.22	154	P	P	18 14 21.2	+1.5
BATI				S	S	18 15 25.8	+0.6
BASI	Baing, Sumba	3.32	209	P	P	18 14 21.6	+1.3
KAPI	Kappang	3.35	313	P	P	18 14 22.4	+1.9
	3.1nm,0.3s,baz=106,slow=6.2,SNR=7.7						
KAPI	Kappang	3.35	313	P	P	18 14 23.3	+2.8
BNSI	Bone	3.57	324	P	P	18 14 24.5	+2.6
WBSI	Waikabubak, Su	3.64	230	P	P	18 14 22.6	+0.2
WBSI				S	S	18 15 28.0	-2.1
SPSI	Sidrap Palu	4.12	324	P	P	18 14 27.8	+2.2
PLAI	Plampang	4.66	251	P	P	18 14 29.7	+0.2
PLAI	Plampang	4.66	251	P	P	18 14 30.5	+1.0
TTSI	Tana Toraja	4.86	330	P	P	18 14 33.4	+2.3
LUWI	Luwuk	6.24	5	P	P	18 14 42.9	+0.3
LUWI	Luwuk	6.24	5	P	P	18 14 44.2	+1.6
	0.1nm39nm,0.8s						
LUWI	Luwuk	6.24	5	P	P	18 14 44.6	+2.0
APSI	Ampana	6.38	355	P	P	18 14 45.3	+1.6
	0.1nm12nm,1.1s						
SANI	Sanana	6.43	36	P	P	18 14 44.8	+0.6
	0.2nm606nm39nm,0.6s						
SANI	Sanana	6.43	36	P	P	18 14 45.2	+1.0
IGBI	Denpasar	7.17	257	P	P	18 14 51.5	+0.7
	0.2nm33nm,0.7s						
GTOI	Gorontalo	7.93	6	P	P	18 14 59.5	+1.6
	4.1nm,0.6s						
JAGI	Jajag, Banyuwa	8.08	261	P	P	18 14 57.6	-1.8
JAGI	Jajag, Banyuwa	8.08	261	P	P	18 14 58.9	-0.5
	24nm,0.5s						
JAGI	Jajag, Banyuwa	8.08	261	P	P	18 14 59.1	-0.3
TOLI2	Tolitoli	8.48	350	P	P	18 15 03.8	+0.5
TOLI2	Tolitoli	8.48	350	P	P	18 15 04.1	+0.8
KNRA	Kununurra	10.50	143	P	P	18 15 23.6	+0.6
SIJI	Sorong	11.05	55	P	P	18 15 28.4	-0.2
	0.6nm,0.3s,baz=224,slow=23,SNR=7.6						
SIJI				S	S	18 17 31.1	-0.2
	0.4nm,0.3s,baz=49,slow=20,SNR=1.5						
FITZ	Fitzroy Crossi	11.23	163	P	P	18 15 30.7	+0.4
	0.3nm,0.3s,baz=329,slow=8.0,SNR=17						
FITZ				S	S	18 17 34.8	+0.5
	0.1nm,0.3s,baz=259,slow=4.0,SNR=5.2						
FITZ	Fitzroy Crossi	11.23	163	P	P	18 15 29.9	-0.4
PSA00	Pilbara Seismi	14.37	189	P	P	18 16 01.3	-0.3
PSA00	Pilbara Seismi	14.37	189	P	P	18 16 00.8	-0.8
PSA00	Pilbara Seismi	14.37	189	P	P	18 16 03.0	+1.4
KKM	Kota Kinabalu	14.55	336	P	P	18 16 00.6	-2.9
GIRL	Giralia	17.08	206	P	P	18 16 24.0	-2.5
WB0	Warramunga Arr	17.12	138	P	P	18 16 27.2	+0.3
WB0				IAmb	IAmb	18 16 29.0	
	comp=Z,5.4nm,1.1s						
WRA	Warramunga Arr	17.20	138	P	P	18 16 28.8	+1.1
	comp=Z,1.1nm,0.3s,baz=313,slow=10.0,SNR=75						
WRA				S	S	18 19 13.9	-3.3
	comp=Z,0.1nm,0.3s,baz=319,slow=16,SNR=2.3						
WRA				ScP	ScP	18 23 13.7	-1.4
	comp=Z,0.0nm,0.3s,baz=324,slow=2.0,SNR=2.0						
WRA	Warramunga Arr	17.20	138	P	P	18 16 28.2	+0.5
WRAB	Tennant Creek	17.20	138	P	P	18 16 28.3	+0.6
WRAB				IAmb	IAmb	18 16 30.0	
	comp=Z,7.4nm,0.9s						
WRAB	Tennant Creek	17.20	138	P	P	18 16 28.9	+1.2
WB2	Warramunga Arr	17.21	138	P	P	18 16 28.5	+0.7
WR0	Warramunga Arr	17.35	138	P	P	18 16 29.6	+0.6
WR0				IAmb	IAmb	18 16 30.5	
	comp=Z,6.6nm,0.6s						
WRKA	Warakurna	18.57	162	P	P	18 16 41.4	+1.3
MEEK	Meekatharra	19.53	190	P	P	18 16 49.8	+1.0
AS31	Alice Springs	19.76	147	P	P	18 16 51.7	+0.8
ASAR	Alice Springs	19.76	147	P	P	18 16 51.8	+0.8
	comp=Z,0.7nm,0.3s,baz=325,slow=8.8,SNR=98						
ASAR				S	S	18 19 56.1	-2.1
	comp=Z,0.0nm,0.3s,baz=87,slow=8.8,SNR=4.6						
ASAR				PcP	PcP	18 20 39.2	-1.2
	comp=Z,0.1nm,0.3s,baz=2.4,slow=1.2,SNR=5.8						
ASAR				ScP	ScP	18 23 20.0	-0.8
	comp=Z,0.0nm,0.3s,baz=337,slow=2.9,SNR=2.7						
ASAR	Alice Springs	19.76	147	P	P	18 16 51.5	+0.6
QIS	Mount Isa	21.37	130	P	P	18 17 06.4	+1.0
COEN	Coen	21.62	110	P	P	18 17 07.3	-0.4
COEN				IAmb	IAmb	18 17 07.6	
	comp=Z,14nm,1.4s						
MORW	Morawa	22.42	194	P	P	18 17 15.3	+0.7
MORW				IAmb	IAmb	18 17 20.2	
	comp=Z,8.9nm,1.1s						
MORW	Morawa	22.42	194	P	P	18 17 16.2	+1.6
	comp=Z,10nm,2.8s						
BKNI	Bangkinang	22.45	289	P	P	18 17 14.2	-0.9
BLDU	Ballidu	23.76	192	P	P	18 17 27.4	+0.9
FORT	Forrest	23.99	168	P	P	18 17 27.7	-0.8
FORT	Forrest	23.99	168	P	P	18 17 29.8	+1.3
OOD	Oodnadatta	24.04	150	P	P	18 17 30.0	+1.0
MULG	Mulgathing	25.42	156	P	P	18 17 42.3	+1.2
GSI	Gunungsitoli	26.03	288	P	P	18 17 49.3	+2.5
INKA	Innaminka	26.85	141	P	P	18 17 55.4	+1.7
LCRK	Leigh Creek	27.48	149	P	P	18 18 00.4	+1.2
BBOO	Buckleboo	28.45	155	P	P	18 18 08.4	+0.8
STKA	Stephens Creek	30.40	146	P	P	18 18 25.3	+1.0
	comp=Z,5.9nm,0.4s,baz=321,slow=8.6,SNR=12						
STKA	Stephens Creek	30.40	146	P	P	18 18 25.2	+0.8
STKA				IAmb	IAmb	18 18 25.9	
	comp=Z,1.5nm,0.4s						
CMAR	Chiang Mai Arr	34.39	318	P	P	18 18 58.1	-0.2
	comp=Z,0.3nm,0.5s,baz=144,slow=7.8,SNR=1.2						
ARMA	Armidale	35.89	134	P	P	18 19 11.7	+1.0
USRK	Ussuriysk Ar.	52.02	9	P	P	18 21 14.5	+0.2
	comp=Z,1.6nm,0.5s,baz=198,slow=7.5,SNR=5.3						
USRK	Ussuriysk Ar.	52.02	9	P	P	18 21 14.1	-0.2
SONM	Songino Array	56.65	347	P	P	18 21 47.0	+0.2
	comp=Z,0.6nm,0.5s,baz=166,slow=9.0,SNR=6.6						
SONM	Songino Array	56.65	347	P	P	18 21 46.2	-0.6
MKAR	Makanchi Array	64.48	331	P	P	18 22 38.8	+0.8
	comp=Z,0.7nm,0.5s,baz=136,slow=7.5,SNR=14						
MKAR	Makanchi Array	64.48	331	P	P	18 22 38.0	-0.1
KBL	Kabul	65.20	313	P	P	18 22 42.7	-0.3
KBL				IAmb	IAmb	18 22 47.3	
	comp=Z,4.5nm,0.5s						
ZALV	Zalesovo Beam	68.66	337	P	P	18 23 03.1	-0.4
	comp=Z,0.8nm,0.4s,baz=126,slow=6.5,SNR=5.1						
ZALV	Zalesovo Beam	68.66	337	P	P	18 23 03.3	-0.3
KURK	Kurchatov	68.95	332	P	P	18 23 06.0	+0.7
SOCY	Socotra	70.54	286	P	P	18 23 16.4	+0.7
SOCY				IAmb	IAmb	18 23 16.7	
	comp=Z,12nm,1.1s						
VNDA	Vanda	73.17	172	P	P	18 23 30.6	+1.0
VNDA				IAmb	IAmb	18 23 54.3	
	comp=Z,8.8nm,1.6s						
QSPA	South Pole Qui	82.68	180	P	P	18 24 21.5	+0.7
QSPA				IAmb	IAmb	18 24 32.6	
	comp=Z,13nm,1.6s						
NVAR	Mina Array Bea	117.48	50	PKP	PKPdf	18 30 38.1	-0.4
	comp=Z,0.2nm,0.5s,baz=266,slow=3.6,SNR=1.6						

BJI **08** *18:18:39.1±0.0, 60°.98N×166°.06E, h18km, mb4.7/55, mB5.0/37, Ms4.8/46, Ms7 4.5/47*
KRSC **08** *18:18:40.4±1.3, 60°.77N×165°.72E, h17km±16km, ML5.5*
IDC **08** *18:18:40.3±0.4, 60°.79N×165°.74E, h0km, mb4.7/46, mb1 4.8/51, mb1mx4.7/65, mbtmp4.7/51, ML5.6/3, MS3.8/56, Ms1 3.8/56, ms1mx3.7/88, Error ellipse: s-maj=11.4km s-min=7.1km az=165.0*
MOS **08** *18:18:40.8±0.8, 60°.86N×165°.72E, h14km, mb5.1/64, MS4.1/23, Error ellipse: s-maj=7.3km s-min=2.9km az=83.9*
GCMT **08** *18:18:43.1±0.4, 60°.81N±0°.04×165°.71E±0°.08, h20km±1km, MW4.8/65, Moment Tensor Solution. s17,c22; s65,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.78±.19; $M_{\theta\theta}$-1.27±.14; $M_{\phi\phi}$-0.50±.10; $M_{r\theta}$0.29±.24; $M_{\theta\phi}$0.96±.07; $M_{\phi r}$-0.86±.23; Best double couple: $M_0$2.06800×10^{16} NP1:ϕ_s289.00000°, δ36.00000°, λ64.00000°. NP2: ϕ_s140.00000°, δ58.00000°, λ108.00000°. Principal axes: T 2.0700, Plg71.0000°, Azm92.0000°; N 0.0010, Plg15.0000°, Azm310.0000°; P -2.0660, Plg11.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **08** *18:18:45.1±1.6, 60°.91N±0°.07×165°.62E±0°.08, h30km±4km, mb5.2/497 Error ellipse: s-maj=10.9km s-min=2.7km az=152.0*
ISC 08 18:18:42.4±0.6**, 60°.82N**±0°.03×**165°.67E**±0°.03**, h14**km±3km**, n1000, σ1s.34**/894**, mb5.1**/365**, MS4.0**/76**, 158C-89D, Fault plane solution: NP1:**ϕ_s296.54575°, δ46.53964°, λ55.36187°. **NP2:**ϕ_s161.66974°, δ53.33041°, λ120.95491°. **Principal axes:** T Plg65.3221°, Azm132.2594°; N Plg24.3662°, Azm321.9625°; P Plg3.6753°, Azm230.2954°; **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TILK	Tilichiki	0.44	148	PN	Pg	18 18 49.1	-2.0
TILK				S	Sg	18 18 55.2	-1.8
TILK	Tilichiki	0.44	148	eP	Pg	18 18 49.1	-2.0
TILK				eS	Sg	18 18 55.2	-1.8
KMSK	Kamenskaya	1.67	8	PN	Pn	18 19 11.5	+0.3
KMSK				S	Sb	18 19 34.3	+0.5
KMSK	Kamenskaya	1.67	8	eP	Pn	18 19 11.5	+0.3
KMSK				eS	Sb	18 19 34.3	+0.5
OSSR	Ossora	2.05	221	PN	Pn	18 19 15.0	-1.3
OSSR	Ossora	2.05	221	eP	Pn	18 19 15.0	-1.3
PALN	Palana	3.35	241	PN	Pn	18 19 33.4	-0.8
PALN	Palana	3.35	241	eP	Pn	18 19 33.4	-0.8
SMKR	Semkarok	4.78	209	PN	Pn	18 19 55.2	+1.3
SMKR	Semkarok	4.78	209	eP	Pn	18 19 55.2	+1.3
SRKR	Sorokina	4.79	211	PN	Pn	18 19 54.8	+0.7
SRKR	Sorokina	4.79	211	eP	Pn	18 19 54.8	+0.7
KBG	Krutoberegovo	4.83	200	PN	Pn	18 19 54.5	-0.1
KBG	Krutoberegovo	4.83	200	eP	Pn	18 19 54.5	-0.1
BDR	Baidarnaya	4.86	211	PN	Pn	18 19 55.8	+0.8
BDR	Baidarnaya	4.86	211	eP	Pn	18 19 55.8	+0.8
KBTR	Krutoberegovo	4.86	199	PN	Pn	18 19 55.1	+0.2
KBTR	Krutoberegovo	4.86	199	eP	Pn	18 19 55.1	+0.2
KLY	Klyuchi	5.23	212	PN	Pn	18 20 00.4	+0.4
KLY	Klyuchi	5.23	212	eP	Pn	18 20 00.4	+0.4
KRSR	Krestovskiy	5.33	212	PN	Pn	18 20 03.1	+1.5
KRSR	Krestovskiy	5.33	212	eP	Pn	18 20 03.1	+1.5
ZLN	Zelenaya	5.45	210	PN	Pn	18 20 05.6	+2.4
ZLN	Zelenaya	5.45	210	eP	Pn	18 20 05.6	+2.4
BZGR	Bezymyannyi-Gr	5.55	210	PN	Pn	18 20 06.0	+1.5
BZGR	Bezymyannyi-Gr	5.55	210	eP	Pn	18 20 06.0	+1.5
BZWR	Bezymyannyi-We	5.58	211	PN	Pn	18 20 07.1	+2.2
BZWR	Bezymyannyi-We	5.58	211	eP	Pn	18 20 07.1	+2.2
KIRR	Kirishev	5.63	212	PN	Pn	18 20 07.9	+2.3
KIRR	Kirishev	5.63	212	eP	Pn	18 20 07.9	+2.3
BKI	Bering	5.63	178	PN	Pn	18 20 05.0	-0.5
BKI	Bering	5.63	178	eP	Pn	18 20 05.0	-0.5
KPT	Kopyto	5.65	213	PN	Pn	18 20 07.7	+1.9
KPT	Kopyto	5.65	213	eP	Pn	18 20 07.7	+1.9
KMNR	Kamenistaya	5.83	212	PN	Pn	18 20 10.0	+1.7
KMNR	Kamenistaya	5.83	212	eP	Pn	18 20 10.0	+1.7
TUMR	Tumrok	6.28	210	PN	Pn	18 20 17.0	+2.5
TUMR	Tumrok	6.28	210	eP	Pn	18 20 17.8	+3.3
TUMD	Tumrok D	6.29	209	eP	Pn	18 20 17.0	+2.4
MKZ	Mys Kozlova	6.62	200	PN	Pn	18 20 19.8	+0.7
MKZ	Mys Kozlova	6.62	200	eP	Pn	18 20 19.8	+0.7
SEY	Seymchan	6.63	294	Pn	Pn	18 20 20.1	+0.8
	4.7nm,0.3s,baz=112,slow=11,SNR=89						
SEY				Lg	Lg	18 22 08.3	
	9.4nm,0.3s,baz=38,slow=24,SNR=3.0						
BILL	Bilibino	7.25	2	ePN	Pn	18 20 28.5	+0.7
BILL				pmax	pmax		
	comp=Z,32nm,1.0s						
BILL				MLR	MLR		
	comp=Z,2μm,9.0s						
BILL	Bilibino	7.25	2	Pn	Pn	18 20 28.2	+0.5
BILL				Sn	Sn	18 21 47.7	-2.1
MA2	Magadan	7.53	267	Pn	Pn	18 20 32.0	+0.4
	comp=Z,20nm,0.3s,baz=73,slow=13,SNR=309						
MA2				Sn	Sn	18 21 56.5	-0.1
	comp=Z,32nm,0.3s,baz=16,slow=4.1,SNR=9.5						
MA2				Lg	Lg	18 22 38.7	
	comp=Z,3.5nm,0.3s,baz=153,slow=15,SNR=1.9						
MA2	Magadan	7.53	267 d	iPN	Pn	18 20 31.8	+0.2
MA2				pmax	pmax		
	comp=Z,110nm,0.8s						
MA2				MLR	MLR		
	comp=Z,2μm,11.0s						
MA2	Magadan	7.53	267	Pn	Pn	18 20 31.7	+0.1
MA2				Sn	Sn	18 21 53.7	-3.0
KII	Karymskiy	7.58	209	PN	Pn	18 20 35.9	+3.5
KII	Karymskiy	7.58	209	eP	Pn	18 20 35.9	+3.5
GNL	Ganaly	8.28	214	PN	Pn	18 20 44.6	+2.7
GNL	Ganaly	8.28	214	eP	Pn	18 20 44.6	+2.7
SPN	Mys Shipunski	8.33	204	PN	Pn	18 20 43.8	+1.3
SPN	Mys Shipunski	8.33	204	eP	Pn	18 20 43.8	+1.3
SDLR	Sedlovina	8.41	209	PN	Pn	18 20 46.4	+2.6
SDLR	Sedlovina	8.41	209	eP	Pn	18 20 46.4	+2.6
SMAR	Somma	8.45	209	PN	Pn	18 20 47.8	+3.5
SMAR	Somma	8.45	209	eP	Pn	18 20 47.8	+3.5
AVH	Avacha	8.46	210	PN	Pn	18 20 48.6	+4.2
AVH	Avacha	8.46	210	eP	Pn	18 20 48.6	+4.2
UGLR	Uglovaya	8.49	209	PN	Pn	18 20 48.7	+3.9
UGLR	Uglovaya	8.49	209	eP	Pn	18 20 48.7	+3.9
DALK	Dalny	8.67	209	PN	Pn	18 20 49.7	+2.5
DALK	Dalny	8.67	209	eP	Pn	18 20 49.7	+2.5
PET	Petropavlovsk	8.70	209	ePN	Pn	18 20 50.2	+2.6
PET				pmax	pmax		
	comp=Z,72nm,0.8s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET	Petropavlovsk	8.70	209		Pn	18 20 49.8	+2.2
PEA0B	Petropavlovsk-	8.87	213 ⇑	ePN	Pn	18 20 52.4	+2.5
PEA0B	Petropavlovsk-	8.87	213	Pn	Pn	18 20 51.5	+1.6
PETK	Petropavlovsk-	8.87	213	Pn	Pn	18 20 51.5	+1.6
	comp=Z,0.4nm,0.3s,baz=50,slow=16,SNR=8.9						
PETK				LR	LR	18 24 27.2	
	comp=Z,468nm,19.2s,baz=36,slow=39						
PETK	Petropavlovsk-	8.87	213	PN	Pn	18 20 52.4	+2.5
PETK	Petropavlovsk-	8.87	213	Pn	Pn	18 20 52.4	+2.5
KRMR	Karymshinskiy	9.01	211	PN	Pn	18 20 55.1	+3.3
KRMR	Karymshinskiy	9.01	211	eP	Pn	18 20 55.1	+3.3
APC	Apacha	9.18	214	PN	Pn	18 20 57.6	+3.5
APC	Apacha	9.18	214	eP	Pn	18 20 57.6	+3.5
GRL	Gorelyy	9.28	210	PN	Pn	18 20 59.3	+3.7
GRL	Gorelyy	9.28	210	eP	Pn	18 20 59.3	+3.7
MTVR	Mutnovka	9.31	210	PN	Pn	18 20 58.6	+2.5
MTVR	Mutnovka	9.31	210	eP	Pn	18 20 58.6	+2.5
SHEM	Shemya Is, Ala	9.33	147	LR	LR	18 24 03.3	
	comp=Z,516nm,19.1s,baz=16,slow=35						
GAMB	Gambell	10.92	64	Pn	Pn	18 21 17.9	+0.1
GAMB	Gambell	10.92	64	P	Pn	18 21 16.6	-1.2
	baz=265						
SKR	Severo-Kuril's	11.48	212	ePN	Pn	18 21 27.7	+2.1
SKR				pmax	pmax		
	comp=Z,200nm,2.7s						
SKR				pmax	pmax		
	comp=Z,35nm,0.7s						
SKR				MLR	MLR		
	comp=Z,600nm,12.0s						
SKR				MLR	MLR		
	comp=Z,400nm,13.0s						
TNA	Tin City	12.77	57	Pn	Pn	18 21 42.7	-0.4
TNA	Tin City	12.77	57	P	Pn	18 21 42.4	-0.7
	baz=261						
ANM	Nome	13.74	62	P	Pn	18 21 57.1	+0.7
ANM	Nome	13.74	62	Pn	Pn	18 21 57.0	+0.7
ANM	Nome	13.74	62	P	Pn	18 21 55.6	-0.8
	baz=268,SNR=16						
OKH	Okha	14.26	249 d	eP	P	18 22 14.7	+3.9
OKH				MLR	MLR		
	comp=E,1μm,13.0s						
OKH				MLR	MLR		
	comp=Z,900nm,14.0s						
OKH				MLR	MLR		
	comp=N,900nm,13.0s						
RDOG	Red Dog Mine	15.21	48	P	Pn	18 22 17.9	+1.5
RDOG				IAmb	IAmb	18 22 23.9	
	comp=Z,274nm,2.0s						
RDOG	Red Dog Mine	15.21	48	P	P	18 22 19.1	-2.2
	baz=257,SNR=9.9						
NKL	Nikolayevsk	15.56	252	eP	Pn	18 22 20.2	-0.7
NKL				eS	Sn	18 25 07.8	-5.0
NKL				pmax	pmax		
	comp=E,3.0nm,0.6s						
NKL				pmax	pmax		
	comp=N,227nm,1.4s						
NKL				pmax	pmax		
	comp=Z,28nm,1.4s						
NKL				smax	smax		
	comp=E,3.0nm,2.5s						
NKL				smax	smax		
	comp=N,903nm,2.7s						
NKL				MLR	MLR		
	comp=E,182nm,23.0s						
NKL				MLR	MLR		
	comp=N,11μm,16.0s						
NKL				MLR	MLR		
	comp=Z,662nm,13.0s						
NIKH	Nikolski High	15.89	108	P	Pn	18 22 24.1	-1.2
	baz=310						
TYV	Tymovskoe	16.23	242	eP	P	18 22 35.1	+2.4
TYV				eS	S	18 25 39.6	-2.6
TYV				pmax	pmax		
	comp=Z,200nm,3.0s						
TYV				pmax	pmax		
	comp=Z,18nm,1.4s						
TYV				smax	smax		
	comp=N,400nm,6.3s						
TYV				smax	smax		
	comp=E,500nm,6.3s						
UNV	Unalaska Valle	16.46	103		P	18 22 34.6	-0.7
UNV	Unalaska Valle	16.46	103	P	Pn	18 22 31.5	-1.1
	baz=306						
YAK	Yakutsk	17.12	290	P	P	18 22 42.8	+0.3
	comp=E,0.3nm,0.3s,baz=99,slow=0.8,SNR=77						
YAK				LR	LR	18 29 08.4	
	comp=E,213nm,21.7s,baz=88,slow=37						
YAK	Yakutsk	17.12	290 c	iP	P	18 22 43.7	+1.2
YAK				eS	Sn	18 25 54.8	+4.0
YAK				pmax	pmax		
	comp=Z,104nm,0.9s						
YAK				pmax	pmax		
	comp=E,37nm,1.3s						
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				smax	smax		
	comp=N,146nm,3.8s						
YAK				smax	smax		
	comp=E,120nm,3.5s						
YAK				MLR	MLR		
	comp=Z,949nm,12.0s						
YAK				MLR	MLR		
	comp=E,658nm,14.0s						
YAK	Yakutsk	17.12	290		P	18 22 42.5	0.0
YAK				IAmb	IAmb	18 22 45.9	
	comp=Z,113nm,0.8s						
FALS	False Pass	17.39	96	P	Pn	18 22 44.3	+0.2
	baz=303						
GCSA	Galena City Sc	17.39	61	P	Pn	18 22 43.7	-0.4
	baz=275,SNR=6.2						
TIXI	Tiksi	18.00	322	P	P	18 22 53.4	+1.3
	comp=Z,1.0nm,0.3s,baz=91,slow=23,SNR=55						
TIXI				LR	LR	18 29 48.7	
	comp=Z,212nm,20.9s,baz=175,slow=37						
TIXI	Tiksi	18.00	322 ⇓	eP	P	18 22 54.7	+2.6
TIXI				pmax	pmax		
	comp=Z,13nm,0.7s						
TIXI	Tiksi	18.00	322	P	P	18 22 53.2	+1.1
TTA	Tatalina	18.01	67	P	P	18 22 54.4	+2.0
TTA				pmax	pmax		
	comp=Z,62nm,1.0s						
TTA	Tatalina	18.01	67	P	P	18 22 54.4	+2.0
TTA	Tatalina	18.01	67	P	P	18 22 54.3	+2.0
	baz=281,SNR=48						
A21K	Barrow	18.17	39	P	Pn	18 22 53.0	-0.8
	baz=254						
SDPT	Sand Point	18.56	92	P	Pn	18 22 59.5	+0.8
SDPT				IAmb	IAmb	18 23 01.4	
	comp=Z,273nm,1.8s						
SDPT	Sand Point	18.56	92	P	P	18 22 58.3	-0.1
	baz=301						
IMAR	Indian Mountai	18.62	57	P	Pn	18 23 00.2	+1.0
J20K	Nowinta River	18.63	62	P	P	18 22 58.3	-0.7
	baz=278						
SVW2	Sparrevohn	18.63	72	P	Pn	18 23 00.3	+0.8
L19K	White Mountain	18.69	69	P	Pn	18 23 01.7	+1.5
L19K				IAmb	IAmb	18 23 03.1	
	comp=Z,86nm,0.8s						
L19K	White Mountain	18.69	69	P	Pn	18 23 01.6	+1.5
	baz=284,SNR=59						
M19K	Big River Lodg	18.97	69	P	P	18 23 02.8	-0.1
	baz=285						
H21K	Melozitna Rive	19.03	57	P	P	18 23 03.8	+0.3
	baz=275						
L20K	Farewell, AK	19.06	67	P	P	18 23 04.2	+0.3
	baz=284						
CHGN	Chignik	19.10	88	P	Pn	18 23 05.0	-0.1
CHGN	Chignik	19.10	88	P	Pn	18 23 04.8	-0.3
	baz=299,SNR=23						
GRNR	Gornyy	19.11	251 ⇓	iP	Pn	18 23 07.0	+1.7
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GRNR				MLR	MLR		
	comp=N,500nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,490nm,11.0s						
YSS	Yuzh-Sakhalins	19.22	234	eP	Pn	18 23 25.0	+18
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
N19K	Bonanza Creek	19.23	72	P	P	18 23 04.5	-1.3
	baz=288						
CHNA	Chernabura Isl	19.27	93	P	P	18 23 05.5	-0.7
	baz=302						
CNBA	Chernabura Isl	19.27	93	P	P	18 23 06.4	+0.2
P18K	Big Mountain,	19.35	77	P	Pn	18 23 07.9	-0.2
P18K	Big Mountain,	19.35	77	P	Pn	18 23 07.9	-0.2
	baz=291,SNR=13						
I21K	Tanana	19.42	59	P	Pn	18 23 08.5	-0.4
I21K	Tanana	19.42	59	P	P	18 23 07.6	-0.1
	baz=277,SNR=32						
CHUM	Lake Minchumin	19.47	63	P	Pn	18 23 10.1	+0.5
	baz=280,SNR=19						
O19K	Port Alsworth	19.50	74	P	Pn	18 23 09.9	0.0
O19K	Port Alsworth	19.50	74	P	Pn	18 23 10.1	+0.2
	baz=290						
CAST	Castle Rocks	19.66	64	P	Pn	18 23 12.1	+0.2
CAST	Castle Rocks	19.66	64	P	Pn	18 23 12.1	+0.2
	baz=282,SNR=42						
PPLA	Purkeypile	19.73	66	P	Pn	18 23 12.6	-0.2
PPLA				IAmb	IAmb	18 23 16.0	
	comp=Z,218nm,1.8s						
PPLA	Purkeypile	19.73	66	P	Pn	18 23 12.3	-0.5
	baz=283,SNR=18						
COLD	Coldfoot	19.97	53	P	Pn	18 23 14.8	-0.7
COLD	Coldfoot	19.97	53	P	Pn	18 23 15.3	-0.1
	baz=273,SNR=62						
BPAW	Bear Paw Mtn.	20.01	62	P	P	18 23 14.9	+0.7
BPAW	Bear Paw Mtn.	20.01	62	P	Pn	18 23 16.0	0.0
	baz=281,SNR=48						
KTH	Kantishna Hill	20.14	63	P	P	18 23 16.6	+0.9
KTH				IAmb	IAmb	18 23 24.5	
	comp=Z,112nm,1.2s						
RSO	Redoubt South	20.15	73	P	P	18 23 16.9	+0.9
TOLK	Toolik Lake Re	20.19	48	P	P	18 23 15.5	-0.7
TOLK	Toolik Lake Re	20.19	48	P	Pn	18 23 17.6	-0.5
	baz=270,SNR=289						
SPU	Mount Spurr	20.24	70	P	Pn	18 23 18.8	0.0
Q19K	Cape Douglas,	20.28	77	P	Pn	18 23 19.6	+0.4
Q19K				IAmb	IAmb	18 23 23.7	

comp=Z,117nm,1.0s
Q19K Cape Douglas, 20.28 77 P **P** **18 23 17.8 +0.6**
baz=293
O20K Slope Mountain 20.34 74 P **P** **18 23 18.7 +0.8**
baz=291
TRF Thorofare Moun 20.44 63 P **P** **18 23 20.1 +1.1**
TRF IAmb IAmb 18 23 22.6
comp=Z,111nm,0.9s
TRF Thorofare Moun 20.44 63 P Pn 18 23 20.4 -0.9
baz=283,SNR=55
I23K Minto, Yukon-K 20.52 58 P **P** **18 23 20.7 +1.0**
I23K Minto, Yukon-K 20.52 58 P Pn 18 23 21.6 -0.3
baz=279,SNR=26
BWN Browne 20.65 61 P **P** **18 23 21.9 +0.8**
BWN IAmb IAmb 18 23 33.7
comp=Z,123nm,0.8s
CHIR Chirikof Islan 20.70 87 P **P** **18 23 20.9 -0.8**
CHIR Chirikof Islan 20.70 87 P **P** **18 23 21.3 -0.4**
baz=300
CUT Chulitna 20.71 66 P **P** **18 23 21.7 0.0**
CUT IAmb IAmb 18 23 24.4
comp=Z,122nm,1.2s
CUT Chulitna 20.71 66 P Pn 18 23 23.2 -0.9
baz=286,SNR=6.6
NEA2 Nenana 20.74 60 P Pn 18 23 23.8 -0.7
NEA2 IAmb IAmb 18 23 25.5
comp=Z,63nm,0.8s
NEA2 Nenana 20.74 60 P Pn 18 23 23.7 -0.8
baz=281,SNR=36
M22K Willow 20.96 68 P **P** **18 23 23.8 -0.6**
M22K IAmb IAmb 18 23 36.2
comp=Z,78nm,0.9s
M22K Willow 20.96 68 P **P** **18 23 25.2 +0.8**
baz=288
MCK McKinley 20.97 62 P **P** **18 23 23.4 -1.2**
MCK pmax pmax
comp=Z,184nm,1.0s
MCK McKinley 20.97 62 P **P** **18 23 23.4 -1.2**
MCK McKinley 20.97 62 P Pn 18 23 26.3 -1.0
baz=283,SNR=83
MDM Murphy Dome 21.02 59 P **P** **18 23 24.0 -1.2**
H24K Noodor Dome 21.03 56 P **P** **18 23 24.9 -0.4**
baz=278
SII Sitkinak Islan 21.04 84 P **P** **18 23 25.4 -0.1**
SII Sitkinak Islan 21.04 84 P **P** **18 23 25.4 -0.1**
baz=299,SNR=12
RND Reindeer 21.08 63 P **P** **18 23 25.9 0.0**
RND pmax pmax
comp=Z,61nm,0.8s
RND Reindeer 21.08 63 P **P** **18 23 25.9 0.0**
RND IAmb IAmb 18 23 28.7
comp=Z,60nm,0.8s
OHAK Old Harbor 21.17 81 P **P** **18 23 26.2 -0.6**
OHAK IAmb IAmb 18 23 30.4
comp=Z,171nm,1.7s
OHAK Old Harbor 21.17 81 P **P** **18 23 26.6 -0.1**
baz=297,SNR=15
WRH Wood River Hil 21.18 60 P **P** **18 23 26.9 +0.1**
WRH IAmb IAmb 18 23 36.3
comp=Z,126nm,1.0s
CNPM China Poot 21.19 74 P **P** **18 23 27.1 +0.1**
TCOL CIGO, UAF Yank 21.19 59 P **P** **18 23 27.6 +0.6**
TCOL CIGO, UAF Yank 21.19 59 P **P** **18 23 26.3 -0.6**
baz=281
COLA College 21.20 59 *d i* P **P** **18 23 28.9 +1.9**
COLA MLR MLR
comp=Z,247nm,14.0s
COLA College 21.20 59 P **P** **18 23 26.9 -0.1**
COLA College 21.20 59 P **P** **18 23 26.3 -0.7**
baz=281
KDAK Kodiak Island 21.26 80 P **P** **18 23 27.7 -0.1**
comp=Z,16nm,0.5s,baz=308,slow=7.0,SNR=30
KDAK LR LR 18 31 59.5
comp=Z,220nm,20.5s,baz=319,slow=38
KDAK Kodiak Island 21.26 80 P **P** **18 23 27.4 -0.3**
KDAK Kodiak Island 21.26 80 P **P** **18 23 27.5 -0.3**
baz=296
CCB Clear Creek Bu 21.26 59 P **P** **18 23 27.6 -0.1**
BRLK Bradley Lake 21.27 74 P **P** **18 23 28.1 +0.2**
POKR Poker Plat Res 21.33 58 P **P** **18 23 28.2 -0.3**
POKR Poker Plat Res 21.33 58 P **P** **18 23 30.3 +1.9**
baz=281,SNR=12
RC01 Rabbit Creek A 21.34 70 P **P** **18 23 29.9 +1.3**
RC01 Rabbit Creek A 21.34 70 P **P** **18 23 29.5 +0.9**
baz=289,SNR=5.3
BRSE Bradley Lake S 21.34 74 P **P** **18 23 28.6 0.0**
baz=292
PMR Palmer 21.46 68 P **P** **18 23 30.3 +0.5**
baz=288
O22K Cooper Landing 21.55 71 P **P** **18 23 30.9 0.0**
O22K IAmb IAmb 18 23 39.9
comp=Z,57nm,0.6s
O22K Cooper Landing 21.55 71 P **P** **18 23 30.9 0.0**
baz=291
ILAR Eielson Array 21.62 59 P **P** **18 23 32.6 +1.0**
comp=Z,25nm,0.7s,baz=273,slow=7.4,SNR=135
ILAR Eielson Array 21.62 59 P **P** **18 23 32.2 +0.6**
ILAR Eielson Array 21.62 59 P **P** **18 23 32.2 +0.6**
ASAJ Asahikawa 21.66 230 P **P** **18 23 32.6 +0.5**
comp=Z,7.4nm,0.9s,baz=322,slow=19,SNR=1.2
ASAJ LR LR 18 32 06.4
comp=Z,335nm,18.1s,baz=304,slow=37
HDA Harding Lake 21.67 60 IAmb IAmb 18 23 40.4
comp=Z,70nm,1.0s
HDA Harding Lake 21.67 60 P **P** **18 23 33.4 +1.3**
baz=283,SNR=40
ZEA Zeya 21.68 268 *e* P **P** **18 23 32.9 +0.6**
ZEA *e* S **S** **18 27 22.6 -9.0**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA smax smax
comp=E,200nm,12.0s
ZEA smax smax
comp=N,300nm,10.7s
ZEA MLR MLR
comp=E,400nm,11.0s
ZEA MLR MLR
comp=N,300nm,8.0s
ZEA MLR MLR
comp=Z,500nm,7.0s
SML Sawmill 21.75 67 P **P** **18 23 32.8 -0.3**
SML IAmb IAmb 18 23 38.6
comp=Z,48nm,0.7s
SML Sawmill 21.75 67 P **P** **18 23 33.3 +0.2**
baz=288,SNR=25
WAT6 Susitna Watana 21.79 65 P **P** **18 23 32.9 -0.6**
baz=287,SNR=15
DHY Denali Highway 21.81 64 P **P** **18 23 34.3 +0.5**
baz=286,SNR=20
SEW Seward 21.81 72 P **P** **18 23 33.5 -0.1**
SEW Seward 21.81 72 P **P** **18 23 33.7 +0.1**
baz=292,SNR=9.6
KNK Knik Glacier 21.82 68 P **P** **18 23 33.7 0.0**
baz=289,SNR=11
FYU Fort Yukon 21.99 54 P **P** **18 23 36.2 +0.7**
PRP Porcupine Dome 22.04 57 P **P** **18 23 36.3 0.0**
PRP IAmb IAmb 18 23 44.7
comp=Z,69nm,0.8s
PRP Porcupine Dome 22.04 57 P **P** **18 23 35.9 -0.3**
baz=281,SNR=84
PWL Port Wells 22.06 70 IAmb IAmb 18 23 39.6
comp=Z,140nm,1.0s
PWL Port Wells 22.06 70 P **P** **18 23 35.8 -0.6**
baz=290,SNR=28
SCM Sheep Creek Mo 22.20 67 P **P** **18 23 37.8 -0.1**
baz=289,SNR=39
J25K Salcha River, 22.29 59 P **P** **18 23 38.5 -0.3**
baz=283,SNR=50
KLR Kul'dur 22.36 254 P **P** **18 23 40.2 +0.7**
comp=Z,12nm,0.7s,baz=55,slow=9.3,SNR=24
KLR LR LR 18 33 11.3
comp=Z,299nm,18.3s,baz=44,slow=39
KLR Kul'dur 22.36 254 *de* P **P** **18 23 40.5 +0.9**
KLR pmax pmax
comp=Z,17nm,0.8s
KLR MLR MLR
comp=Z,542nm,15.0s
GLI Glacier Island 22.62 69 IAmb IAmb 18 23 44.6
comp=Z,65nm,0.7s
GLI Glacier Island 22.62 69 P **P** **18 23 42.3 -0.1**
baz=291,SNR=9.8
M24K Tolsona, Glenn 22.63 66 P **P** **18 23 41.6 -0.8**
M24K Tolsona, Glenn 22.63 66 P **P** **18 23 43.3 +0.9**
baz=289,SNR=18

PAX Paxson 22.68 63 P **P** **18 23 42.8 -0.2**
baz=287,SNR=29
RIDG Independent Ri 22.73 61 IAmb IAmb 18 23 50.1
comp=Z,96nm,1.0s
RIDG Independent Ri 22.73 61 P **P** **18 23 42.8 -0.8**
baz=286
KLU Klutina 22.94 67 P **P** **18 23 45.7 -0.1**
KLU IAmb IAmb 18 23 48.6
comp=Z,70nm,0.7s
KLU Klutina 22.94 67 P **P** **18 23 45.8 +0.1**
baz=290,SNR=29
FID Port Fidalgo 22.95 69 IAmb IAmb 18 23 48.0
comp=Z,76nm,0.9s
HARP HAARP 22.99 64 P **P** **18 23 45.6 -0.5**
baz=288,SNR=10
SCRK Sand Creek 23.04 60 IAmb IAmb 18 23 47.8
comp=Z,65nm,1.0s
SCRK Sand Creek 23.04 60 P **P** **18 23 46.0 -0.7**
baz=286
J26L Joseph Creek 23.08 59 P **P** **18 23 46.0 -1.1**
baz=285
DOT Dot Lake 23.09 61 IAmb IAmb 18 23 52.8
comp=Z,51nm,0.8s
DIV Divide 23.14 68 IAmb IAmb 18 23 54.0
comp=Z,152nm,1.7s
EYAK Cordova Ski Ar 23.36 69 IAmb IAmb 18 23 52.7
comp=Z,53nm,0.8s
EYAK Cordova Ski Ar 23.36 69 P **P** **18 23 50.1 +0.2**
baz=292,SNR=7.9
MENT Mentasta 23.45 63 IAmb IAmb 18 24 01.4
comp=Z,74nm,1.3s
N25K Chitina, Valde 23.50 66 P **P** **18 23 51.3 -0.1**
N25K Chitina, Valde 23.50 66 P **P** **18 23 51.6 +0.2**
baz=291,SNR=14
Q23K Middleton Isla 23.52 72 P **P** **18 23 50.8 -0.8**
baz=294
L26K Log Cabin Wild 23.58 62 P **P** **18 23 52.0 -0.2**
baz=288,SNR=18
BMRM Bremner River 23.72 68 IAmb IAmb 18 24 00.3
comp=Z,66nm,1.0s
BMRM Bremner River 23.72 68 P **P** **18 23 53.8 +0.2**
baz=292,SNR=14
RAGM Ragged Mountai 23.91 69 IAmb IAmb 18 24 01.4
comp=Z,75nm,0.8s
EGAK Eagle 24.01 57 P **P** **18 23 55.2 -1.0**
EGAK Eagle 24.01 57 P **P** **18 23 55.5 -0.6**
baz=286
VRDI Verde Repeater 24.15 67 P **P** **18 23 57.6 -0.2**
L27K Beaver Creek, 24.23 62 P **P** **18 23 58.4 +0.1**
baz=289
MCARA McCarthy VSAT 24.28 66 P **P** **18 23 59.8 +1.0**
baz=292,SNR=29
M27K Edge Creek, AK 24.44 63 P **P** **18 24 01.0 +0.6**
baz=290
BGLC Bering Glacier 24.66 69 P **P** **18 24 03.2 +1.1**
baz=294
BVCY Beaver Creek 24.87 63 P **P** **18 24 04.6 +0.5**
baz=291,SNR=28
ISLE Juniper Island 24.89 67 IAmb IAmb 18 24 10.8
comp=Z,63nm,0.9s
DAWY Dawson 24.95 59 P **P** **18 24 04.5 -0.3**
DAWY IAmb IAmb 18 24 08.0
comp=Z,124nm,1.6s
DAWY Dawson 24.95 59 P **P** **18 24 05.4 +0.6**
baz=288,SNR=42
I29M Ogilvie Camp, 25.01 55 IAmb IAmb 18 24 12.1
comp=Z,45nm,0.9s
I29M Ogilvie Camp, 25.01 55 P **P** **18 24 06.0 +0.7**
baz=286,SNR=22
CTG Chitna Glacier 25.20 66 P **P** **18 24 07.4 +0.2**
baz=293,SNR=73
YUK3 Moose Creek 25.28 64 P **P** **18 24 08.4 +0.4**
baz=292,SNR=24
J29M Klondike Camp 25.32 57 P **P** **18 24 09.3 +1.1**
baz=288
TABL Table Mountain 25.50 67 IAmb IAmb 18 24 14.4
comp=Z,53nm,0.8s
BOD Bodaibo 25.97 287 *e* P **P** **18 24 14.7 +0.6**
BOD pmax pmax
comp=Z,48nm,1.8s
USRK Ussuriysk Ar. 25.99 246 PP **PnPn** **18 24 48.4 -3.5**
comp=Z,7.0nm,0.8s,baz=49,slow=12,SNR=5.1
INK Inuvik 26.09 48 P **P** **18 24 15.0 0.0**
comp=Z,28nm,0.9s,baz=290,slow=10,SNR=12
INK LR LR 18 36 24.8
comp=Z,250nm,18.1s,baz=293,slow=41
INK Inuvik 26.09 48 P **P** **18 24 14.0 -1.0**
INK IAmb IAmb 18 24 19.6
comp=Z,62nm,1.3s
INK Inuvik 26.09 48 P **P** **18 24 15.5 +0.4**
baz=284,SNR=19
YUK4 Talbot Arm 26.24 64 P **P** **18 24 16.9 +0.2**
baz=294,SNR=7.4
YUK6 Outpost Mounta 26.53 65 P **P** **18 24 19.9 +0.5**
baz=295,SNR=8.2
M30M Minto, Yukon 26.57 61 P **P** **18 24 19.9 +0.4**
baz=293,SNR=9.5
PNL Peninsula 26.62 68 P **P** **18 24 20.4 +0.4**
baz=297
MDJ Mudanjiang 26.75 249 P **P** **18 24 24.4 +3.2**
MDJ pmax pmax
comp=Z,240nm,4.0s
MDJ LR LR
comp=Z,820nm,14.2s
MDJ LR LR
comp=Z,620nm,15.7s
MDJ LR LR
comp=Z,590nm,13.2s
BNX BinXian 26.91 253 ⇑P **P** **18 24 23.2 +0.5**
BNX pmax pmax
comp=Z,31nm,1.2s
BNX pmax pmax
comp=Z,280nm,3.9s
HYT Haines Junctio 26.96 65 P **P** **18 24 23.2 0.0**
baz=296,SNR=15
N31M Braeburn, Yuko 27.44 63 P **P** **18 24 28.2 +0.9**
baz=295
M31M Drury Creek, Y 27.74 61 P **P** **18 24 30.6 +0.6**
baz=295
A36M Sachs Harbour 28.01 38 P **P** **18 24 32.6 +0.3**
A36M Sachs Harbour 28.01 38 P **P** **18 24 32.5 +0.3**
baz=283
HIA Hailar 28.13 267 ⇓ *e* P **P** **18 24 33.9 +0.3**
HIA pmax pmax
comp=Z,5.0nm,0.9s
HIA MLR MLR
comp=Z,309nm,16.0s
FARO Faro, Yukon 28.17 60 P **P** **18 24 34.5 +0.6**
baz=295
WHY Whitehorse 28.20 64 P **P** **18 24 35.2 +1.0**
baz=297
SKAG Skagway 28.55 66 P **P** **18 24 37.8 +0.6**
baz=299
MMPY Sheldon Lake, 28.89 59 P **P** **18 24 40.6 +0.4**
baz=296,SNR=12
C36M Paulatuk 29.11 43 P **P** **18 24 42.3 +0.3**
baz=289
CN2 Changchun 29.29 253 *e* P **P** **18 24 43.6 -0.3**
CN2 PP **PnPn** **18 25 38.3 +1.3**
CN2 S **S** **18 29 33.8 -2.4**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,720nm,14.0s
CN2 LR LR
comp=Z,640nm,14.0s
CN2 LR LR
comp=Z,660nm,15.0s
P33M Teslin, Yukon 29.31 64 P **P** **18 24 44.7 +0.7**
baz=299
JIS Juuu Island 29.57 68 IAmb IAmb 18 24 49.1
comp=Z,35nm,1.2s
SIT Sitka 29.78 71 P **P** **18 24 49.6 +1.6**
baz=302
MAJO Matsushiro 29.89 228 ⇓ *e* P **P** **18 24 50.7 +1.4**
MAJO pmax pmax
comp=Z,15nm,1.2s
MAJO MLR MLR
comp=Z,108nm,15.0s
MAT Matsushiro 29.89 228 P **P** **18 24 49.1 -0.2**
MAT *e* S **S** **18 29 47.2 +1.3**
MJAR Matsushiro Arr 29.89 228 P **P** **18 24 48.9 -0.5**
comp=Z,13nm,1.2s,baz=12,slow=8.5,SNR=8.1
MJAR LR LR 18 38 52.8
comp=Z,117nm,18.8s,baz=33,slow=41

MJAR Matsushiro Arr 29.89 228 IAmb IAmb 18 24 54.3
comp=Z,10nm,1.4s
TGTN Hyland Airport 30.64 59 P **P** **18 24 56.8 +1.0**
baz=299,SNR=11
DLBC Dease Lake 31.44 65 P **P** **18 25 03.4 +0.5**
comp=Z,12nm,0.8s,baz=284,slow=11,SNR=12
DLBC LR LR 18 39 44.5
comp=Z,286nm,18.5s,baz=300,slow=40
CRAG Craig 31.68 72 P **P** **18 25 05.5 +0.7**
baz=305
NRIK Noril'sk 31.71 319 P **P** **18 25 06.0 +1.0**
comp=Z,8.5nm,0.8s,baz=87,slow=12,SNR=11
NRIK LR LR 18 39 10.6
comp=Z,82nm,22.0s,baz=122,slow=39
NRIK Noril'sk 31.71 319 ⇑ *e* P **P** **18 25 06.0 +1.0**
NRIK pmax pmax
comp=Z,16nm,1.1s
NRIK MLR MLR
comp=Z,213nm,16.5s
NRIK Noril'sk 31.71 319 P **P** **18 25 05.6 +0.7**
JHJ Hachijo jima 2 32.43 223 LR LR 18 39 02.9
comp=Z,50nm,20.1s,baz=340,slow=38
KSRS Korea Array 33.26 243 P **P** **18 25 18.6 -0.3**
comp=Z,1.9nm,0.7s,baz=25,slow=8.7,SNR=3.1
KSRS LR LR 18 40 04.3
comp=Z,115nm,18.2s,baz=55,slow=39
EUNU Eureka 33.67 17 P **P** **18 25 20.9 -1.3**
EUNU IAmb IAmb 18 25 30.3
comp=Z,38nm,1.9s
XLT XiLinHaoTe 33.70 263 ⇓ *i* P **P** **18 25 23.9 +1.1**
XLT pP sP 18 25 28.2 -0.9
XLT S **S** **18 30 41.3 -4.0**
XLT sS sS 18 30 56.4 +3.7
XLT SS **SnSn** **18 32 53.5 +4.4**
XLT pmax pmax
comp=Z,32nm,1.3s
XLT pmax pmax
comp=Z,140nm,3.6s
XLT LR LR
comp=Z,500nm,15.5s
XLT LR LR
comp=Z,600nm,13.2s
IRK Irkutsk 33.73 284 *e* P **P** **18 25 22.5 -0.4**
IRK pmax pmax
comp=Z,37nm,2.2s
RES Resolute Bay 35.01 27 P **P** **18 25 34.0 +0.3**
comp=Z,1.4nm,0.6s,baz=311,slow=9.5,SNR=9.3
RES PcP **PcP** **18 28 05.5 +0.2**
comp=Z,4.2nm,0.7s,baz=263,slow=2.2,SNR=9.4
RES LR LR 18 40 33.7
comp=Z,93nm,20.8s,baz=282,slow=38
RES Resolute Bay 35.01 27 P **P** **18 25 34.4 +0.7**
RES pmax pmax
comp=Z,15nm,1.7s
RES Resolute Bay 35.01 27 P **P** **18 25 34.4 +0.7**
ULN Ulaanbaatar 35.29 276 *ce* P **P** **18 25 37.3 +0.8**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN MLR MLR
comp=Z,248nm,13.0s
ULN Ulaanbaatar 35.29 276 P **P** **18 25 36.5 0.0**
ZAK Zakamensk 35.41 282 *e* P **P** **18 25 38.5 +1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 35.63 276 P **P** **18 25 40.5 +1.0**
comp=Z,6.7nm,0.8s,baz=56,slow=6.9,SNR=29
SONM PcP **PcP** **18 28 08.2 +0.5**
comp=Z,3.1nm,0.6s,baz=55,slow=1.4,SNR=10.0
SONM LR LR 18 41 12.4
comp=Z,213nm,20.7s,baz=39,slow=38
SONM Songino Array 35.63 276 P **P** **18 25 40.0 +0.6**
SONM pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 35.63 276 P **P** **18 25 40.0 +0.6**
YKA Yellowknife Ar 35.65 52 P **P** **18 25 39.8 +0.5**
comp=Z,6.0nm,0.5s,baz=306,slow=8.1,SNR=141
YKA PcP **PcP** **18 28 07.5 +0.2**
comp=Z,2.7nm,0.7s,baz=311,slow=3.4,SNR=12
YKA LR LR 18 42 43.3
comp=Z,171nm,20.0s,baz=312,slow=40
MOY Mondy 35.66 285 *e* P **P** **18 25 41.4 +1.8**
MOY pmax pmax
comp=Z,44nm,2.2s
BBB Bella Bella 36.04 73 LR LR 18 40 09.3
comp=Z,124nm,18.2s,baz=335,slow=36
BJI Beijing 36.59 258 P **P** **18 25 47.9 +0.3**
BJI pP **pP** **18 25 51.5 -0.5**
BJI pmax pmax
comp=Z,27nm,0.9s
BJI LR LR
comp=Z,310nm,13.8s
BJI LR LR
comp=Z,300nm,13.1s
BJI LR LR
comp=Z,310nm,10.6s
HHC Hu-ho-hao-te 38.20 264 *e* P **P** **18 26 02.4 +1.1**
HHC S **S** **18 31 53.7 -0.5**
HHC SS **SnSn** **18 34 30.4 -7.5**
HHC ScS **ScS** **18 36 10.0 -2.2**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.1s
HHC LR LR
comp=Z,460nm,12.7s
HHC LR LR
comp=Z,580nm,11.2s
HHC LR LR
comp=Z,750nm,12.7s
HNS HongShan 39.38 257 ⇑P **P** **18 26 13.8 +2.7**
HNS S **S** **18 32 15.2 +3.4**
HNS pmax pmax
comp=Z,8.0nm,1.1s
HNS LR LR
comp=Z,640nm,14.6s
HNS LR LR
comp=Z,380nm,12.5s
HNS LR LR
comp=Z,590nm,13.9s
SPITS Spitsbergen Ar 40.00 351 P **P** **18 26 16.6 +0.7**
comp=Z,13nm,0.6s,baz=54,slow=7.3,SNR=64
SPB2 Spitsbergen Ar 40.00 351 P **P** **18 26 16.1 +0.2**
SPB2 IAmb IAmb 18 26 27.5
comp=Z,31nm,1.0s
LLLB Lillooet 40.00 71 P **P** **18 26 16.1 -0.2**
ZAA0 Zalesovo Array 41.48 298 P **P** **18 26 28.4 0.0**
ZALV Zalesovo Beam 41.48 298 P **P** **18 26 28.9 +0.6**
comp=Z,3.0nm,0.5s,baz=43,slow=7.0,SNR=20
ZALV PP **PP** **18 28 04.4 +0.5**
comp=Z,1.5nm,0.8s,baz=46,slow=10,SNR=1.9
ZALV PcP **PcP** **18 28 26.2 +0.6**
comp=Z,2.5nm,0.8s,baz=25,slow=4.8,SNR=2.7
ZALV LR LR 18 45 30.1
comp=Z,383nm,18.5s,baz=36,slow=39
ZALV Zalesovo Beam 41.48 298 *i* P **P** **18 26 29.0 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
B05A Bryant 41.54 74 P **P** **18 26 29.8 +0.9**
baz=316
D03D Eldon 41.59 75 P **P** **18 26 30.1 +0.8**
baz=316
NJ2 Nanjing 41.83 248 *e* P **P** **18 26 33.1 +1.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
D04E Lakebay 42.00 75 P **P** **18 26 33.8 +1.2**
baz=316
E04D Cinebar 42.55 76 P **P** **18 26 38.5 +1.4**
baz=317
DAG Danmarks Havn 42.63 1 P **P** **18 26 37.1 -0.3**
DAG pmax pmax
comp=Z,16nm,3.0s
DAG Danmarks Havn 42.63 1 *i* P **P** **18 26 36.9 -0.6**
DAG IAmb IAmb 18 26 41.1
comp=Z,5.7nm,0.7s
LYN LuoYang 42.74 257 ⇑P **P** **18 26 39.5 +0.7**
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN LR LR
comp=Z,340nm,16.2s
LYN LR LR
comp=Z,340nm,15.8s
B08A Colville Reser 42.77 72 P **P** **18 26 39.1 +0.1**
G03D McMinnville, O 43.20 78 P **P** **18 26 43.2 +0.8**
baz=318
F05D White Salmon 43.56 76 P **P** **18 26 45.4 0.0**
baz=317

I02E Swisshome, OR 43.73 79 P **P** **18 26 47.4 +0.7**
baz=318
NEW Newport 43.86 70 P **P** **18 26 48.4 +0.6**
comp=Z,11nm,0.8s,baz=317,slow=8.5,SNR=18
NEW PcP **PcP** **18 28 33.8 0.0**
comp=Z,3.7nm,0.7s,baz=72,slow=3.2,SNR=2.7
NEW LR LR 18 45 51.0
comp=Z,91nm,21.2s,baz=305,slow=37
NEW Newport 43.86 70 P **P** **18 26 48.2 +0.4**
baz=317,SNR=8.1
HOOD Mount Hood Mea 43.88 76 P **P** **18 26 48.4 +0.3**
HOOD IAmb IAmb 18 26 50.4
comp=Z,36nm,0.8s
D08A Wollman Farm, 43.90 73 IAmb IAmb 18 26 50.0
comp=Z,21nm,0.7s
H04D Lebanon 43.96 78 P **P** **18 26 49.2 +0.6**
baz=318
H04A Detroit Lake 44.10 77 P **P** **18 26 50.6 +0.9**
H04A IAmb IAmb 18 26 52.7
comp=Z,36nm,1.4s
G05D Wamic, OR 44.10 76 P **P** **18 26 50.8 +1.0**
baz=318
I03D Drain, OR 44.28 79 P **P** **18 26 52.4 +1.3**
baz=319
J01E Myrtle Point 44.40 80 P **P** **18 26 53.4 +1.3**
baz=319
I04A Tendick Farm, 44.66 78 P **P** **18 26 55.3 +1.0**
baz=319
E09A Wood Farm, Sta 44.66 73 IAmb IAmb 18 26 56.0
comp=Z,22nm,0.8s
WALA Waterton Lakes 44.75 67 IAmb IAmb 18 26 57.2
comp=Z,62nm,1.3s
WALA PcP **PcP** **18 28 37.3 +0.4**
I05D Terrebonne, OR 44.76 77 P **P** **18 26 56.2 +1.1**
baz=318
XAN Xi'an 44.86 260 P **P** **18 26 55.8 -0.2**
XAN pP pP 18 27 00.3 -0.2
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN LR LR
comp=Z,680nm,15.2s
XAN LR LR
comp=Z,410nm,13.5s
XAN LR LR
comp=Z,400nm,12.9s
K02D Willamette Mer 44.88 80 P **P** **18 26 57.4 +1.4**
baz=319
GTA Gaotai 45.05 273 *eP* **P** **18 26 58.0 +0.5**
GTA PcP **PcP** **18 28 38.4 +0.3**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,73nm,5.1s
GTA LR LR
comp=Z,360nm,17.8s
GTA LR LR
comp=Z,390nm,18.9s
GTA LR LR
comp=Z,310nm,18.5s
DBG Daneborg 45.08 2 *i* P **P** **18 26 56.4 -0.7**
DBG IAmb IAmb 18 27 09.6
comp=Z,3.2nm,0.8s
G08A Pilot Rock 45.19 74 PcP **PcP** **18 28 38.9 +0.4**
J04D Umpqua Nationa 45.22 79 P **P** **18 26 59.5 +0.7**
J04D Umpqua Nationa 45.22 79 P **P** **18 27 00.4 +1.5**
baz=319
HUMO Hull Mountain 45.29 80 IAmb IAmb 18 28 20.4
comp=Z,41nm,1.7s
HUMO PcP **PcP** **18 28 41.0 +2.3**
PINE Pine Mountain 45.36 77 IAmb IAmb 18 27 02.6
comp=Z,32nm,0.8s
PINE PcP **PcP** **18 28 40.6 +1.4**
F10A Beach Ranch, E 45.49 72 IAmb IAmb 18 27 02.7
comp=Z,26nm,0.8s
F10A PcP **PcP** **18 28 40.3 +0.8**
JTMT Jette 45.54 69 IAmb IAmb 18 27 03.6
comp=Z,28nm,1.2s
JTMT PcP **PcP** **18 28 39.9 +0.2**
J05D Fort Rock, OR 45.60 78 P **P** **18 27 03.1 +1.2**
baz=319
LZH Lanzhou 45.69 266 *eP* **P** **18 27 03.5 +0.9**
LZH pP pP 18 27 06.6 -0.6
LZH sP sP 18 27 10.0 +1.0
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.8s
LZH LR LR
comp=Z,550nm,14.1s
LZH LR LR
comp=Z,630nm,13.6s
LZH LR LR
comp=Z,470nm,17.9s
FCC Fort Churchill 45.69 46 IAmb IAmb 18 27 06.1
comp=Z,22nm,0.9s
FCC PcP **PcP** **18 28 39.6 -0.2**
FFC Flin Flon 45.70 54 P **P** **18 27 03.0 +0.7**
FFC Flin Flon 45.70 54 P **P** **18 27 01.7 -0.6**
FFC **PcP** **18 28 38.1 -1.9**
SUMG Summit 45.86 10 P **P** **18 27 04.2 +0.4**
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 45.86 10 *i* P **P** **18 27 03.8 0.0**
SUMG IAmb IAmb 18 27 13.1
comp=Z,5.2nm,0.8s
SUMG Summit 45.86 10 P **P** **18 27 04.2 +0.4**
SUMG IAmb IAmb 18 27 10.7
comp=Z,22nm,1.1s
L04D Klamath Falls 45.90 80 P **P** **18 27 04.8 +0.6**
baz=320
SEM Semipalatinsk 45.98 298 *eP* **P** **18 27 04.5 -0.3**
SEM pmax pmax
comp=Z,8.0nm,0.7s
SEM Semipalatinsk 45.98 298 *eP* **P** **18 27 04.6 -0.3**
comp=Z,7.7nm,0.7s,baz=298
YBH Yreka Blue Hor 46.07 80 IAmb IAmb 18 27 08.1
comp=Z,18nm,0.8s
ZSN Zaisan 46.11 292 *c iP* **P** **18 27 05.9 +0.3**
ZSN pmax pmax
comp=Z,12nm,1.3s
ZSN Zaisan 46.11 292⇑ *iP* **P** **18 27 05.9 +0.3**
comp=Z,12nm,1.3s,baz=292
K05A Summer Lake 46.19 78 IAmb IAmb 18 27 09.2
comp=Z,46nm,1.3s
K05A PcP **PcP** **18 28 43.2 +1.1**
M02C Callahan 46.26 81 P **P** **18 27 07.5 +0.5**
M02C Callahan 46.26 81 P **P** **18 27 08.4 +1.4**
baz=320
BMO Blue Mountains 46.29 74 IAmb IAmb 18 27 09.3
comp=Z,18nm,0.8s
BMO PcP **PcP** **18 28 42.2 -0.1**
MSO Missoula 46.38 69 IAmb IAmb 18 27 09.9
comp=Z,34nm,1.2s
MSO Missoula 46.38 69 P **P** **18 27 08.2 +0.4**
baz=318,SNR=5.2
M04C Macdoel 46.45 80 IAmb IAmb 18 27 10.9
comp=Z,23nm,0.9s
M04C PcP **PcP** **18 28 43.0 +0.1**
M04C Macdoel 46.45 80 P **P** **18 27 09.9 +1.3**
baz=320
KURK Kurchatov 46.46 299 *c iP* **P** **18 27 08.8 +0.5**
KURK pmax pmax
comp=Z,32nm,0.6s
KURK Kurchatov 46.46 299 P **P** **18 27 08.9 +0.5**
KURK PcP **PcP** **18 28 42.7 +0.1**
N02D Trinity Center 46.66 81 P **P** **18 27 10.8 +0.7**
N02D IAmb IAmb 18 27 12.8
comp=Z,23nm,0.8s
N02D Trinity Center 46.66 81 P **P** **18 27 11.5 +1.4**
baz=320
PLID Pearl Lake 46.73 72 IAmb IAmb 18 27 12.5
comp=Z,13nm,0.6s
KMRM Mail Ridge 46.75 83 IAmb IAmb 18 27 13.7
comp=Z,30nm,0.8s
KMRM PcP **PcP** **18 28 43.8 -0.1**
LVZ Lovozero 46.75 337⇓ *eP* **P** **18 27 10.1 -0.4**
LVZ pmax pmax
comp=Z,66nm,2.8s
ARCES ARCESS Array B 46.87 342 P **P** **18 27 11.2 -0.2**
comp=Z,6.5nm,0.8s,baz=34,slow=8.2,SNR=36
ARCES PcP **PcP** **18 28 44.2 +0.4**
comp=Z,3.8nm,0.5s,baz=32,slow=4.5,SNR=13
ARCES LR LR 18 51 51.0
comp=Z,45nm,18.5s,baz=58,slow=42
ARCES ARCESS Array B 46.87 342 P **P** **18 27 11.2 -0.2**
ARCES PcP **PcP** **18 28 44.0 +0.2**
ARCES IAmb IAmb 18 28 45.1
comp=Z,26nm,1.3s
WDC Whiskeytown Da 47.04 81 P **P** **18 27 13.3 +0.4**
WDC pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 47.04 81 P **P** **18 27 13.3 +0.4**
WDC IAmb IAmb 18 27 19.1
comp=Z,16nm,0.9s
MOD Modoc Plateau 47.10 78 IAmb IAmb 18 27 15.8
comp=Z,18nm,0.7s
O02D Mt. Diablo Mer 47.23 82 IAmb IAmb 18 27 17.2
comp=Z,25nm,1.0s
O02D Mt. Diablo Mer 47.23 82 P **P** **18 27 15.8 +1.2**
baz=321
EGMT Eagleton 47.37 65 IAmb IAmb 18 27 17.3
comp=Z,23nm,0.8s
EGMT Eagleton 47.37 65 P **P** **18 27 16.0 +0.4**
baz=319,SNR=16
WVOR Wild Horse Val 47.49 77 P **P** **18 27 17.9 +1.2**
WVOR pmax pmax
comp=Z,19nm,1.3s
WVOR Wild Horse Val 47.49 77 P **P** **18 27 16.3 -0.4**
WVOR PcP **PcP** **18 28 46.6 0.0**
WMQ Urumqi 47.52 286 *eP* **P** **18 27 18.4 +1.6**
WMQ pP pP 18 27 21.4 +0.1
WMQ sP sP 18 27 31.4 +8.2
WMQ PcP **PcP** **18 28 49.4 +2.8**
WMQ pmax pmax
comp=Z,30nm,1.7s
WMQ pmax pmax
comp=Z,120nm,6.9s
WMQ LR LR
comp=Z,460nm,8.5s
WMQ LR LR
comp=Z,420nm,10.3s
WMQ LR LR
comp=Z,180nm,17.3s
O03E Paynes Creek 47.62 81 P **P** **18 27 18.2 +0.6**
baz=321
MK31 Makanchi Array 47.77 293 *i* P **P** **18 27 18.0 -0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 47.77 293 P **P** **18 27 17.6 -1.0**
MKAR Makanchi Array 47.77 293 P **P** **18 27 18.2 -0.4**
comp=Z,6.4nm,0.6s,baz=47,slow=7.3,SNR=82
MKAR PP **PP** **18 29 06.8 -3.3**
comp=Z,1.6nm,0.7s,baz=46,slow=6.5,SNR=3.6
MKAR LR LR 18 48 40.3
comp=Z,290nm,19.2s,baz=29,slow=38
MKAR Makanchi Array 47.77 293 P **P** **18 27 18.3 -0.3**
SSLB Suanglung 48.04 240 P **P** **18 27 21.2 +0.3**
SSLB IAmb IAmb 18 27 25.1
comp=Z,30nm,1.2s
MFID Camas Ranch 48.07 74 IAmb IAmb 18 27 23.0
comp=Z,21nm,0.8s
DLMT Dillon 48.09 70 IAmb IAmb 18 27 23.5
comp=Z,16nm,0.8s
BRVK Borovoye 48.15 306 *c iP* **P** **18 27 22.2 +0.8**
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 48.15 306 P **P** **18 27 22.2 +0.8**
BOZ Bozeman (W) 48.36 69 P **P** **18 27 24.5 +1.1**
baz=320,SNR=18
MCMT McKenzie Canyo 48.38 70 P **P** **18 27 23.9 +0.3**
MCMT PcP **PcP** **18 28 50.4 +0.4**
BCYI Bear Canyon 48.52 71 P **P** **18 27 24.6 -0.1**
HLID Hailey 48.62 73 P **P** **18 27 26.4 +0.9**
HLID IAmb IAmb 18 27 27.7
comp=Z,12nm,0.7s
HLID PcP **PcP** **18 28 51.1 +0.4**
HLID Hailey 48.62 73 P **P** **18 27 26.1 +0.6**
baz=320,SNR=28
BEKR Beckworth 48.65 80 P **P** **18 27 26.4 +0.7**
SVE Sverdlovsk 48.83 315 *de* P **P** **18 27 28.2 +1.6**
SVE pmax pmax
comp=Z,37nm,1.0s
SVE MLR MLR
comp=Z,365nm,13.0s
ICESG Greenland Ices 49.12 12 *i* P **P** **18 27 28.8 -0.3**
ICESG IAmb IAmb 18 27 32.7
comp=Z,6.7nm,0.9s
FRB Frobisher Bay 49.21 28 LR LR 18 51 18.9
comp=Z,161nm,18.3s,baz=23,slow=40
PAHR Pah Rah Range 49.24 80 P **P** **18 27 30.9 +0.7**
PAHR IAmb IAmb 18 27 32.1
comp=Z,19nm,1.1s
YHH Holmes Hill 49.33 69 IAmb IAmb 18 27 33.2
comp=Z,19nm,0.9s
YMR Madison River 49.37 69 IAmb IAmb 18 27 33.6
comp=Z,31nm,1.1s
EMB Emerald Bay 49.47 81 P **P** **18 27 32.5 +0.5**
EMB IAmb IAmb 18 27 33.9
comp=Z,22nm,1.1s
DGMT Dagmar 49.47 61 IAmb IAmb 18 27 33.0
comp=Z,15nm,0.8s
DGMT Dagmar 49.47 61 P **P** **18 27 32.3 +0.6**
baz=320
YNR Norris Junctio 49.47 69 IAmb IAmb 18 27 34.8
comp=Z,14nm,0.8s
BRZS Berezniki 49.52 302 *eP* **P** **18 27 32.2 +0.2**
BRZS pmax pmax
comp=Z,11nm,1.4s
BRZS Berezniki 49.52 302 *eP* **P** **18 27 32.2 +0.2**
comp=Z,11nm,1.4s,baz=302
GUMO Guam 49.54 207 LR LR 18 47 29.3
comp=Z,30nm,21.2s,baz=358,slow=35
YUF Upper Falls 49.55 69 IAmb IAmb 18 27 35.0
comp=Z,14nm,0.8s
MSF Maaselka 49.56 338 P **P** **18 27 35.7 +3.6**
MSF pmax pmax
comp=Z,19nm,0.9s
PNTR Pine Nut 49.62 80 P **P** **18 27 34.1 +0.9**
PNTR IAmb IAmb 18 27 40.7
comp=Z,20nm,0.8s
YMP Mirror Lake Pl 49.69 68 IAmb IAmb 18 27 36.4
comp=Z,22nm,0.8s
SFJD Kangerlussuaq 49.74 18 P **P** **18 27 33.2 -0.1**
comp=Z,4.2nm,0.5s,baz=316,slow=7.5,SNR=6.1
SFJD LR LR 18 50 48.6
comp=Z,97nm,18.5s,baz=2.0,slow=39
SFJD Kangerlussuaq 49.74 18 *i* P **P** **18 27 32.4 -1.0**
SFJD IAmb IAmb 18 27 33.8
comp=Z,3.4nm,0.9s
SFJD Kangerlussuaq 49.74 18 IAmb IAmb 18 28 46.7
comp=Z,46nm,1.4s
H17A Grant Village 49.76 69 IAmb IAmb 18 27 38.0
comp=Z,24nm,1.0s
H17A Grant Village 49.76 69 P **P** **18 27 36.2 +2.0**
baz=321
RLMT Red Lodge 49.80 67 P **P** **18 27 35.4 +1.0**
baz=320
ARU Arti 49.86 316 LR LR 18 53 35.5
comp=Z,136nm,18.3s,baz=359,slow=42
ARU Arti 49.86 316 *d iP* **P** **18 27 34.9 +0.4**
ARU 18 28 53.6
ARU 18 29 26.4
ARU S **S** **18 34 44.6 +1.2**
ARU SS **SS** **18 38 05.6 -10**
ARU pmax pmax
comp=Z,37nm,1.4s
ARU MLR MLR
comp=Z,142nm,10.0s
ARU Arti 49.86 316 P **P** **18 27 34.8 +0.4**
ARU IAmb IAmb 18 27 39.0
comp=Z,18nm,0.8s
ARU PcP **PcP** **18 28 54.4 -0.4**
YERR Yerington 49.87 80 IAmb IAmb 18 27 37.2
comp=Z,15nm,0.9s
CD2 Chengdu 49.92 262 P **P** **18 27 34.6 -0.7**
LAO LASA Array 49.95 64 IAmb IAmb 18 27 37.9
comp=Z,30nm,1.1s
LAO LASA Array 49.95 64 P **P** **18 27 36.5 +1.1**
baz=320,SNR=8.8
GOMU GeErMu 50.02 274 P **P** **18 27 36.4 0.0**
GOMU pP pP 18 27 39.8 -1.2
GOMU sP sP 18 27 43.6 +0.8
GOMU PcP **PcP** **18 28 57.0 +0.8**
GOMU PP **PP** **18 29 30.0 -1.1**
GOMU S **S** **18 34 48.3 +1.4**
GOMU SS **SS** **18 38 18.3 -1.1**
GOMU pmax pmax
comp=Z,16nm,0.9s
GOMU pmax pmax
comp=Z,74nm,7.0s
GOMU LR LR
comp=Z,370nm,9.9s
GOMU LR LR
comp=Z,230nm,8.8s
GOMU LR LR
comp=Z,490nm,10.0s
CMB Columbia Colle 50.07 82 P **P** **18 27 36.8 +0.4**
CMB pmax pmax
comp=Z,17nm,1.3s
CMB Columbia Colle 50.07 82 P **P** **18 27 36.8 +0.4**
TPAW Teton Pass 50.29 70 IAmb IAmb 18 27 39.9
comp=Z,21nm,0.8s
LOHW Long Hollow 50.35 70 IAmb IAmb 18 27 41.3
comp=Z,18nm,0.8s
SNOW Snow King Moun 50.40 70 P **P** **18 27 39.9 +0.8**
SNOW IAmb IAmb 18 27 41.4
comp=Z,12nm,0.6s
ELK Elko 50.41 75 LR LR 18 49 17.0
comp=Z,138nm,19.1s,baz=320,slow=36
REDW Red Top Meadow 50.43 70 IAmb IAmb 18 27 42.0
comp=Z,15nm,0.8s
NVAR Mina Array Bea 50.76 80 P **P** **18 27 42.6 +0.7**
comp=Z,10.0nm,0.8s,baz=302,slow=7.5,SNR=45
NVAR PcP **PcP** **18 28 59.4 +0.7**
comp=Z,1.5nm,0.7s,baz=298,slow=3.2,SNR=3.6
HVU Hansel Valley 50.77 73 IAmb IAmb 18 27 44.2
comp=Z,14nm,0.7s
LHV Little Huntoon 50.81 80 P **P** **18 27 43.4 +1.5**
LHV IAmb IAmb 18 27 44.8
comp=Z,28nm,1.2s
LHV PcP **PcP** **18 28 59.4 +0.8**
DY2G Dye2 50.84 16 *i* P **P** **18 27 40.9 -1.2**
DY2G IAmb IAmb 18 27 42.4
comp=Z,8.5nm,0.8s
OUL Oulu 50.87 339 P **P** **18 27 42.4 +0.4**
OUL pmax pmax
comp=Z,14nm,0.9s
Q09A Carvers 50.98 79 IAmb IAmb 18 27 46.0
comp=Z,25nm,0.8s
OTUK Ortayu 51.00 301 P **P** **18 27 43.7 +0.4**
KIRV Kirov 51.02 323 P **P** **18 27 42.8 -0.4**
comp=Z,17nm,0.9s,baz=45,slow=5.7,SNR=3.4
KIRV PcP **PcP** **18 28 58.1 -0.8**
comp=Z,15nm,0.6s,baz=303,slow=2.1,SNR=5.4
KIRV LR LR 18 52 42.3
comp=Z,167nm,19.0s,baz=22,slow=40
KIRV Kirov 51.02 323 *de* P **P** **18 27 44.6 +1.4**
MLAC Mammoth, Mammo 51.14 81 P **P** **18 27 44.8 +0.1**
baz=323
BW06 Boulder Array 51.49 70 P **P** **18 27 48.0 +0.7**
BW06 IAmb IAmb 18 27 49.2
comp=Z,26nm,0.8s
BW06 Boulder Array 51.49 70 P **P** **18 27 47.7 +0.4**
baz=322,SNR=43
PD31 Pinedale Array 51.49 70 IAmb IAmb 18 27 49.2
comp=Z,23nm,0.8s
PDAR Pinedale Array 51.49 70 P **P** **18 27 48.0 +0.7**
comp=Z,21nm,0.7s,baz=322,slow=3.2,SNR=191
PDAR Pinedale Array 51.49 70 P **P** **18 27 48.1 +0.8**
PDAR PcP **PcP** **18 29 01.1 -0.2**
ULM Lac du Bonnet 51.53 54 P **P** **18 27 47.0 -0.2**
comp=Z,7.8nm,0.6s,baz=317,slow=7.5,SNR=15
ULM PcP **PcP** **18 28 59.2 -1.8**
comp=Z,6.2nm,0.6s,baz=312,slow=2.3,SNR=5.6
ULM LR LR 18 52 17.1
comp=Z,129nm,18.7s,baz=300,slow=39
ULM Lac du Bonnet 51.53 54 IAmb IAmb 18 27 48.8
comp=Z,44nm,1.6s
PDGK Podgornoye 51.70 292 P **P** **18 27 48.9 +0.2**
KLMR Klimovskoe 51.79 330 *eP* **P** **18 27 48.9 0.0**
KLMR *e* 18 29 47.0
KLMR pmax pmax
comp=Z,25nm,0.8s
KLMR Klimovskoe 51.79 330 *eP* **P** **18 27 48.9 0.0**
KLMR AMP 18 27 53.3
comp=Z,25nm,0.8s
KLMR *e*PP **PP** **18 29 47.1 +0.9**
SHLS Shalkode 51.84 292 *eP* **P** **18 27 49.3 -0.5**
SHLS pmax pmax
comp=Z,13nm,0.9s
SHLS Shalkode 51.84 292 *eP* **P** **18 27 49.3 -0.5**
comp=Z,13nm,0.9s,baz=292
TIN Tinemaha, Big 51.89 81 P **P** **18 27 51.1 +1.0**
baz=323
MDND Maddock 51.90 59 P **P** **18 27 50.6 +0.7**
baz=322
KPKS Kokpek 51.96 293 *eP* **P** **18 27 51.2 +0.7**
KPKS Kokpek 51.96 293 *eP* **P** **18 27 51.3 +0.7**
baz=293
DUG Dugway, Tooele 51.99 74 P **P** **18 27 52.3 +1.4**
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 51.99 74 P **P** **18 27 51.2 +0.3**
baz=322,SNR=9.0
LCH Last Change Ra 52.03 80 IAmb IAmb 18 27 53.8
comp=Z,20nm,1.0s
UZB Uzynbulak 52.05 292 *eP* **P** **18 27 51.7 +0.4**
UZB pmax pmax
comp=Z,8.0nm,0.9s
UZB Uzynbulak 52.05 292 *eP* **P** **18 27 51.8 +0.4**
comp=Z,8.2nm,0.9s,baz=292
R11A Troy Canyon, C 52.13 78 P **P** **18 27 52.3 +0.2**
R11A **PcP** **18 29 03.9 +0.2**
R11A Troy Canyon, C 52.13 78 P **P** **18 27 52.3 +0.2**
baz=323
GYA Guiyang 52.23 256 ⇓P **P** **18 27 53.4 +0.6**
GYA pmax pmax
comp=Z,9.0nm,1.3s
ZHN Zhinishke 52.30 293 *eP* **P** **18 27 53.2 0.0**
ZHN Zhinishke 52.30 293 *eP* **P** **18 27 53.2 0.0**
baz=292
SATY Saty 52.40 292 *eP* **P** **18 27 54.5 +0.6**
SATY Saty 52.40 292 *eP* **P** **18 27 54.6 +0.6**
baz=292
CHKK Chushkaly 52.41 294 *eP* **P** **18 27 53.3 -0.6**
baz=294
SMMC Simmler 52.42 84 P **P** **18 27 54.3 +0.3**
baz=324,SNR=5.2
VES Vestal, Richgr 52.44 82 P **P** **18 27 55.0 +0.9**
baz=324
CWC Cottonwood Cre 52.45 81 P **P** **18 27 55.6 +1.2**
baz=323
NLU North Lily Min 52.53 74 P **P** **18 27 55.6 +0.6**
NLU IAmb IAmb 18 27 57.2
comp=Z,19nm,0.9s
S11A Rachel 52.61 78 IAmb IAmb 18 28 00.1
comp=Z,29nm,1.1s
KUU Kurty 52.67 295 *c iP* **P** **18 27 55.5 -0.3**
KUU pmax pmax
comp=Z,30nm,1.9s
KUU Kurty 52.67 295⇑ *iP* **P** **18 27 55.6 -0.3**
comp=Z,30nm,1.9s,baz=295
BTLS Baital 52.78 297 *c iP* **P** **18 27 56.8 +0.3**
BTLS pmax pmax
comp=Z,9.0nm,0.9s
BTLS Baital 52.78 297⇑ *iP* **P** **18 27 56.9 +0.3**
comp=Z,8.6nm,0.9s,baz=297
ISA Isabella, Lake 52.88 82 P **P** **18 27 57.5 +0.1**
baz=324
RSSD Black Hills 52.92 65 P **P** **18 27 59.0 +1.1**
RSSD pmax pmax
comp=Z,34nm,1.0s
RSSD Black Hills 52.92 65 P **P** **18 27 58.1 +0.2**
RSSD IAmb IAmb 18 27 59.8
comp=Z,30nm,1.1s
RSSD PcP **PcP** **18 29 05.4 -1.3**
RSSD Black Hills 52.92 65 P **P** **18 27 57.7 -0.2**
baz=322
TPNV Topopah Spring 52.93 79 P **P** **18 27 57.8 -0.1**
baz=323,SNR=7.0
MDOK Medeo 52.93 294 *i* P **P** **18 27 58.3 +0.4**
MDOK Medeo 52.93 294 *i* P **P** **18 27 58.4 +0.4**
baz=294
AAA Alma-Ata 52.96 294 *eP* **P** **18 27 58.4 +0.5**
AAA pmax pmax
comp=Z,17nm,0.8s
AAA Alma-Ata 52.96 294 *eP* **P** **18 27 58.4 +0.5**
comp=Z,17nm,0.8s,baz=294
K22A Casper 52.97 67 IAmb IAmb 18 27 59.9
comp=Z,30nm,0.9s
K22A Casper 52.97 67 P **P** **18 27 58.5 +0.4**
baz=322
FURC Furnace Creek, 53.02 80 P **P** **18 27 59.2 +0.8**
baz=323,SNR=7.1
MPMC Manual Prospec 53.04 81 P **P** **18 27 59.9 +1.1**
baz=324
TNSS Tian-Shan 53.08 294 *eP* **P** **18 28 00.0 +0.8**
baz=294

AGMN **Agassiz Nation** 53.08 56 P P 18 27 59.1 +0.4
baz=323
GWY **Greenwater Val** 53.33 80 P P 18 28 01.1 +0.1
GWY IAmb IAmb 18 28 03.3
comp=Z,23nm,1.2s
LRMC **Laurel Mtn Rad** 53.41 81 P P 18 28 02.5 +1.0
baz=324
RWWY **Rawlins** 53.41 69 IAmb IAmb 18 28 02.0
comp=Z,18nm,0.9s
QSM **Queen of Sheba** 53.41 80 IAmb IAmb 18 28 03.9
comp=Z,27nm,1.0s
P18A **Preston Nutter** 53.65 73 P P 18 28 03.8 +0.5
P18A PcP PcP 18 29 08.3 -1.3
EDW2 **Edwards Air Fo** 53.74 82 P P 18 28 04.6 +0.8
baz=324
TKM2 **Tokmak 2** 53.77 294 P P 18 28 04.6 +0.4
SNR=10
TKM2 **Tokmak 2** 53.77 294 *i* P P 18 28 04.4 +0.3
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
SGDS **Sogindy** 53.78 296⇑ *i*P P 18 28 04.9 +0.8
comp=Z,7.8nm,1.1s,baz=296
SZCU **Shurtz Canyon** 53.92 76 IAmb IAmb 18 28 07.7
comp=Z,41nm,1.8s
SRU **San Rafael Swe** 53.93 73 P P 18 28 06.0 +0.7
SRU 18 29 11.6
SRU pmax pmax
comp=Z,36nm,1.2s
SRU **San Rafael Swe** 53.93 73 P P 18 28 06.0 +0.7
SRU IAmb IAmb 18 28 07.7
comp=Z,36nm,1.2s
SRU PcP PcP 18 29 11.6 +1.0
GSC **Goldstone, Bar** 53.98 81 P P 18 28 06.6 +1.0
baz=324
USP **Ospenovka** 53.99 295 P P 18 28 06.6 +1.1
SNR=19
ULHL **Ulahol** 54.02 293 P P 18 28 07.1 +1.2
SNR=8.4
DECC **Green Verdugo** 54.08 83 P P 18 28 06.9 +0.6
baz=324
CHMS **Chumysh** 54.09 295 P P 18 28 07.3 +1.1
SNR=10.0
O20A **White River Ci** 54.17 71 P P 18 28 07.5 +0.5
baz=323
FIA1 **FINESS Array S** 54.19 337 P P 18 28 06.4 -0.2
FINES **FINESS Array B** 54.19 337 P P 18 28 06.5 -0.1
comp=Z,5.6nm,0.7s,baz=23,slow=7.7,SNR=28
FINES PcP PcP 18 29 10.5 -0.4
comp=Z,3.5nm,0.8s,baz=42,slow=4.3,SNR=4.0
FINES LR LR 18 57 08.5
comp=Z,109nm,18.3s,baz=22,slow=43
FINES **FINESS Array B** 54.19 337 P P 18 28 05.2 -1.3
PASC **Pasadena Art C** 54.22 83 IAmb IAmb 18 28 09.3
comp=Z,26nm,0.8s
TUQ **Turquoise Moun** 54.30 80 P P 18 28 09.0 +1.0
baz=324
BFSC **Mount Baldy Ra** 54.42 82 P P 18 28 09.5 +0.6
baz=324,SNR=6.6
AAK **Ala-Archa** 54.49 295 P P 18 28 10.3 +1.0
SNR=23
AAK **Ala-Archa** 54.49 295 *c* *i*P P 18 28 10.2 +0.9
AAK pmax pmax
comp=Z,18nm,0.9s
AAK MLR MLR
comp=Z,146nm,16.0s
AAK **Ala-Archa** 54.49 295 P P 18 28 09.1 -0.2
AAK IAmb IAmb 18 28 14.2
comp=Z,20nm,0.9s
KNB **Kanab** 54.51 76 IAmb IAmb 18 28 13.5
comp=Z,23nm,1.3s
PZH **PanZhiHua** 54.56 261 P P 18 28 09.3 -0.6
PZH S S 18 35 51.8 +3.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH LR LR
comp=Z,470nm,18.0s
PZH LR LR
comp=Z,850nm,17.0s
PZH LR LR
comp=Z,600nm,13.9s
HEC **Hector,Ludlow** 54.59 81 P P 18 28 11.0 +1.0
baz=324,SNR=5.7
N23A **Red Feather La** 54.62 68 IAmb IAmb 18 28 12.4
comp=Z,22nm,0.9s
N23A **Red Feather La** 54.62 68 P P 18 28 10.7 +0.3
baz=323
CIS **Catalina Islan** 54.73 84 P P 18 28 12.0 +1.0
baz=325
EKS2 **Erkin-Say** 54.79 296 P P 18 28 12.5 +1.1
SNR=20
UCH **Uchtor** 54.81 295 P P 18 28 12.9 +0.9
SNR=9.5
AKTO **Aktyubinsk** 54.90 312 P P 18 28 12.8 +0.9
comp=Z,6.1nm,0.7s,baz=34,slow=8.2,SNR=16
AKTO LR LR 18 54 33.5
comp=Z,230nm,19.5s,baz=22,slow=39
GMRC **Granite Mounta** 54.95 80 P P 18 28 13.8 +1.1
baz=324,SNR=24
EYMN **Ely** 55.10 53 P P 18 28 13.9 +0.4
baz=325
ABKAR **Akbulak array** 55.15 310 P P 18 28 14.0 +0.2
ABKAR PcP PcP 18 29 14.2 -0.6
PV23 **Carpenter Ridg** 55.16 72 P P 18 28 14.6 +0.2
PV23 IAmb IAmb 18 28 16.0
comp=Z,16nm,0.7s
MURC **Murrieta** 55.16 82 P P 18 28 14.3 +0.2
baz=325
PV10 **Paradox Valley** 55.21 73 IAmb IAmb 18 28 17.4
comp=Z,22nm,0.9s
KMI **Kunming** 55.24 259 ⇓P P 18 28 15.3 +0.3
KMI pP pP 18 28 18.1 -1.5
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI LR LR
comp=Z,250nm,13.2s
KMI LR LR
comp=Z,290nm,10.5s
KMI LR LR
comp=Z,310nm,11.3s
U15A **North Rim** 55.24 76 IAmb IAmb 18 28 17.7
comp=Z,29nm,1.2s
AML **Almayashu** 55.25 295 P P 18 28 16.6 +1.5
SNR=12
PV07 **Paradox Valley** 55.34 72 IAmb IAmb 18 28 17.7
comp=Z,19nm,0.9s
BELC **Belle Mtn. Jos** 55.42 81 P P 18 28 16.8 +0.7
baz=325,SNR=6.1
PV13 **Radium Mtn., P** 55.49 73 P P 18 28 17.3 +0.7
PV13 IAmb IAmb 18 28 18.9
comp=Z,28nm,0.9s
PV15 **Paradox Valley** 55.50 72 IAmb IAmb 18 28 18.9
comp=Z,30nm,0.9s
PFO **Pinyon Flats O** 55.51 82 LR LR 18 51 35.0
comp=Z,104nm,18.2s,baz=256,slow=36
PFO **Pinyon Flats O** 55.51 82 P P 18 28 17.1 +0.3
PFO pmax pmax
comp=Z,17nm,0.8s
PFO **Pinyon Flats O** 55.51 82 P P 18 28 17.1 +0.3
PFO IAmb IAmb 18 28 18.2
comp=Z,16nm,0.8s
PFO **Pinyon Flats O** 55.51 82 P P 18 28 17.6 +0.9
baz=325,SNR=5.6
TPFO **Pinon Flats** 55.52 82 P P 18 28 17.6 +0.8
baz=325
ISCO **Idaho Springs** 55.65 69 P P 18 28 19.0 +1.1
baz=324,SNR=9.8
DZA **Taraz** 55.68 297 *e*P P 18 28 18.1 +0.4
DZA **Taraz** 55.68 297 *e*P P 18 28 18.2 +0.5
baz=298
IRM **Iron Mountain** 55.70 80 P P 18 28 19.7 +1.7
baz=325
109C **Camp Elliot, M** 55.78 83 P P 18 28 19.7 +1.2
baz=325
BC3 **Big Chuckawall** 55.96 81 P P 18 28 20.9 +0.9
baz=325,SNR=7.9
PDMCI **Parker Dam,Lak** 56.07 79 P P 18 28 21.6 +1.0
baz=325,SNR=7.8
MONP2 **Monument Peak** 56.11 82 P P 18 28 21.4 +0.2
baz=325
E38A **The Farm, Brul** 56.17 54 P P 18 28 21.1 0.0
KSH **Kashi** 56.33 292 P P 18 28 26.0 +3.5
KSH pP sP 18 28 33.1 +4.1
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH LR LR
comp=Z,520nm,16.8s
KSH LR LR
comp=Z,990nm,18.1s
KSH LR LR
comp=Z,440nm,15.1s
OGNE **Ogallala** 56.34 65 P P 18 28 23.4 +0.8
baz=324
SWSC **Sam W. Stewart** 56.37 82 P P 18 28 23.6 +0.8
baz=325
MVCO **Mesa Verde** 56.40 73 P P 18 28 23.9 +0.7
baz=324
WUAZ **Wupatki** 56.41 76 IAmb IAmb 18 28 26.1
comp=Z,28nm,1.2s
WUAZ **Wupatki** 56.41 76 P P 18 28 25.0 +1.8
baz=324,SNR=7.3
ECSD **EROS Data Cent** 56.44 60 IAmb IAmb 18 28 24.9
comp=Z,24nm,1.0s
ECSD **EROS Data Cent** 56.44 60 P P 18 28 23.6 +0.4
baz=325,SNR=22
AAL **Aland** 56.45 340 *e*P P 18 28 22.9 0.0
IKP **In-Ko-Pah, Jac** 56.46 82 P P 18 28 24.7 +1.2
baz=325
RMX **La Rumorosa** 56.52 82 IAmb IAmb 18 28 26.8
comp=Z,31nm,1.2s
Q24A **Divide** 56.54 69 P P 18 28 25.4 +1.1
baz=324
NC303 **NORSAR Array S** 56.69 345 P P 18 28 24.2 -0.4
NC303 IAmb IAmb 18 29 09.8
comp=Z,44nm,1.8s
NC303 PcP PcP 18 29 20.3 -0.2
NC204 **NORSAR Array S** 56.71 346 IAmb IAmb 18 28 28.9
comp=Z,33nm,1.1s
S22A **4UR Ranch, Cre** 56.75 71 IAmb IAmb 18 28 28.7
comp=Z,15nm,0.9s
S22A **4UR Ranch, Cre** 56.75 71 P P 18 28 26.7 +1.0
baz=324
NC405 **NORSAR Array S** 56.76 345 IAmb IAmb 18 28 28.6
comp=Z,32nm,1.1s
GLA **Glamis** 56.76 81 P P 18 28 26.9 +1.3
baz=325,SNR=8.2
MOS **Moscow** 56.77 328 *e*P P 18 28 22.7 -2.5
SPMN **Marine on St.** 56.80 56 P P 18 28 26.3 +0.7
baz=325
VSU **Vasula** 56.82 336⇓ *e*P P 18 28 25.7 +0.2
VSU pmax pmax
comp=Z,29nm,0.9s
VSU **Vasula** 56.82 336 *e*P P 18 28 26.1 +0.6
NB201 **NORSAR Array S** 56.87 345 P P 18 28 25.6 -0.3
NB201 PcP PcP 18 29 21.3 0.0
NB2 **NORSAR Subarra** 56.89 345 P P 18 28 26.0 -0.1
comp=Z,2.2nm,0.4s,baz=15,slow=7.4
NOA **NORSAR Array B** 56.89 345 P P 18 28 26.3 +0.2
comp=Z,6.3nm,0.8s,baz=13,slow=6.7,SNR=26
NOA PcP PcP 18 29 21.9 +0.4
comp=Z,2.5nm,0.7s,baz=17,slow=2.9,SNR=5.8
NOA LR LR 18 57 17.8
comp=Z,42nm,18.4s,baz=355,slow=41
Y14A **Wickenburg** 56.91 79 IAmb IAmb 18 28 29.4
comp=Z,21nm,1.1s
LSA **Lhasa** 57.08 273 P P 18 28 28.4 0.0
LSA pmax pmax
comp=Z,12nm,0.8s
QIZ **Qiongzhong** 57.12 249 P P 18 28 29.8 +1.6
QIZ S S 18 36 26.9 +4.2
QIZ LR LR
comp=Z,220nm,19.6s
QIZ LR LR
comp=Z,260nm,14.4s
QIZ LR LR
comp=Z,170nm,17.7s
UPP **Uppsala** 57.13 341 *e*P P 18 28 27.9 +0.2
NORES **NORESS Array B** 57.14 345 P P 18 28 30.2 +2.4
MTSE **Matsula** 57.15 337 *e*P P 18 28 28.4 +0.5
SDCO **Great Sand Dun** 57.36 70 P P 18 28 31.1 +1.0
baz=325,SNR=19
SCHQ **Schefferville** 57.42 33 P P 18 28 29.8 -0.2
comp=Z,15nm,0.8s,baz=351,slow=8.2,SNR=22
SCHQ LR LR 18 58 06.1
comp=Z,82nm,18.2s,baz=86,slow=41
SCHQ **Schefferville** 57.42 33 P P 18 28 29.2 -0.7
SCHQ IAmb IAmb 18 28 33.6
comp=Z,14nm,0.8s
SCHQ PcP PcP 18 29 23.9 +0.3
HFS **Hagfors** 57.44 344 P P 18 28 29.8 -0.2
comp=Z,4.7nm,0.7s,baz=180,slow=0.1,SNR=12
HFS PcP PcP 18 29 23.6 +0.1
comp=Z,3.1nm,0.6s,baz=150,slow=6.2,SNR=3.8
HFS LR LR 18 55 39.6
comp=Z,127nm,18.1s,baz=284,slow=39
113A **Mohawk Valley,** 57.50 80 IAmb IAmb 18 28 33.2
comp=Z,18nm,1.0s
OBN **Obninsk** 57.60 328 LR LR 18 56 46.0
comp=Z,52nm,19.1s,baz=177,slow=40
OBN **Obninsk** 57.60 328⇓ *e*P P 18 28 31.4 +0.3
OBN *e* 18 30 41.5
OBN pmax pmax
comp=Z,49nm,2.5s
OBN MLR MLR
comp=Z,219nm,16.0s
KSCO **Kaye Shedlock'** 57.65 67 P P 18 28 33.1 +1.2
baz=325
BGNE **Belgrade** 57.68 62 P P 18 28 32.8 +0.8
baz=325
G40A **Rib Lake** 57.81 54 IAmb IAmb 18 30 19.1
comp=Z,17nm,0.8s
T25A **Trinidad** 58.36 70 P P 18 28 37.8 +0.8
baz=325
KONO **Kongsberg** 58.44 346⇑ *i*P P 18 28 37.2 +0.3
KONO pmax pmax
comp=Z,58nm,2.9s
KONO **Kongsberg** 58.44 346 P P 18 28 36.5 -0.4
KONO IAmb IAmb 18 28 43.8
comp=Z,16nm,0.9s
SLIT **Slitere, Latvi** 58.45 338 *e*P P 18 28 37.0 -0.1
VIKU **Vikbolandet** 58.58 342 *e*P P 18 28 38.6 +0.8
214A **Organ Pipe Nat** 58.63 80 IAmb IAmb 18 28 41.4
comp=Z,25nm,0.9s
214A **Organ Pipe Nat** 58.63 80 P P 18 28 40.0 +1.3
baz=325
I40A **Norwalk** 58.78 55 P P 18 28 39.9 +0.2
CBKS **Cedar Bluff** 59.10 65 P P 18 28 42.6 +0.7
baz=326
ANMO **Albuquerque** 59.20 73 LR LR 18 57 31.3
comp=Z,79nm,18.5s,baz=333,slow=39
ANMO **Albuquerque** 59.20 73⇑ *e*P P 18 28 43.7 +0.8
ANMO pmax pmax
comp=Z,15nm,1.7s
ANMO **Albuquerque** 59.20 73 P P 18 28 43.1 +0.3
ANMO PcP PcP 18 29 30.5 -0.6
ANMO **Albuquerque** 59.20 73 P P 18 28 43.8 +1.0
baz=326
LPSR **Galich'ya Gora** 59.21 325 *e*P P 18 28 41.7 -0.7
LPSR pmax pmax
comp=Z,20nm,0.8s
GAR **Garm** 59.29 296 P P 18 28 43.5 +0.1
TUC **Tucson** 59.31 78 P P 18 28 45.5 +2.0
TUC **Tucson** 59.31 78 P P 18 28 44.9 +1.3
baz=326
SCIA **State Center** 59.37 58 P P 18 28 43.7 +0.1
baz=326
ISAL **Salakas** 59.63 335 *e*P P 18 28 46.4 +1.2
VRH **Novokhopyorsk** 59.64 323 *e*P P 18 28 44.1 -1.3
VRH pmax pmax
comp=Z,20nm,0.6s
IDID **Didziasalis** 59.74 334 *e*P P 18 28 46.8 +0.9
JFWS **Jewell Farm** 59.75 56 P P 18 28 47.1 +0.9
baz=327
BNM **Barren Site** 59.77 74 P P 18 28 46.4 -0.5
BNM PcP PcP 18 29 33.5 0.0
IIGN **Ignalina** 59.81 335 *e*P P 18 28 46.8 +0.3
VORR **Voronezh** 59.96 325 *e*P P 18 28 51.3 +3.8
VORR pmax pmax
comp=Z,40nm,0.4s
L40A **Anamosa** 60.06 57 IAmb IAmb 18 28 52.2
comp=Z,15nm,1.1s
CHGR **Chuyangaron** 60.08 296 P P 18 28 48.4 -0.4
VLDQ **Val d'Or** 60.10 44 IAmb IAmb 18 28 47.9
comp=Z,18nm,0.8s
NACGM **Naroch** 60.11 334 *i* P P 18 28 48.6 +0.1
PABE **Paberze** 60.13 336 *e*P P 18 28 49.0 +0.4
KSU1 **Kansas State U** 60.24 63 P P 18 28 49.7 0.0
baz=326,SNR=7.9
MNK **Minsk** 60.24 333 *i* P P 18 28 50.2 +0.8
MNK *i* 18 29 35.4
MNK *i* 18 31 03.0
MNK *i* PPP PPP 18 32 25.8
MNK *i* S S 18 37 02.0 -0.5
MNK *i* 18 38 38.0
MNK *i* SS SS 18 41 00.6 +1.9
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=Z,138nm,17.0s
MNK MLR MLR
comp=N,243nm,17.0s
MNK MLR MLR
comp=E,13nm,16.0s
MNK **Minsk** 60.24 333 *i* P P 18 28 50.2 +0.8
comp=E,1.0nm,0.9s
MNK *i* P P 18 28 50.2 +0.8
comp=N,11nm,0.9s
MNK *i* P P 18 28 50.2 +0.8
comp=Z,16nm,0.9s,baz=22
MNK *i* PcP PcP 18 29 35.5 +0.8
MNK *i* PP PP 18 31 03.1 +1.4
MNK *i* PPP PPP 18 32 25.8
MNK *i* S S 18 37 02.0 -0.5
MNK *i* SS SS 18 41 00.7 +1.9
MNK *i* SSS SSS 18 43 51.8
MNK *i* LR LR 18 51 53.3
MNK *i* LRM MLR 18 54 23.5
comp=Z,138nm,17.1s
MNK *i* LRM MLR 18 54 30.7
comp=N,243nm,17.1s
MNK *i* LRM MLR 18 55 06.8
comp=E,13nm,16.4s
GLMI **Grayling** 60.34 50 P P 18 28 49.6 -0.7
baz=328
121A **Cookes Peak, D** 60.56 76 P P 18 28 53.9 +1.7
baz=326
TAPN **Taplejung** 60.71 274 *e*P P 18 28 52.6 -0.8
comp=E,18nm,0.7s
L42A **Oliver, Polo** 60.74 56 IAmb IAmb 18 28 53.3
comp=Z,16nm,0.7s
319A **Douglas** 60.80 77 P P 18 28 54.3 +0.5
P38A **Dawn** 61.13 60 IAmb IAmb 18 28 56.8
comp=Z,26nm,1.1s
GUN **Gumba** 61.14 276 *e*P P 18 28 55.9 -0.5
comp=Z,32nm,0.7s
JIRN **Jiri** 61.19 276 *e*P P 18 28 56.7 -0.1
ODAN **Odare** 61.27 274 *e*P P 18 28 56.1 -1.1
comp=Z,16nm,0.6s
L44A **Lake County Fo** 61.30 54 P P 18 28 56.5 -0.4
baz=328
AMTX **Amarillo** 61.47 69 P P 18 28 57.4 -0.8
AMTX IAmb IAmb 18 28 59.6
comp=Z,21nm,0.8s
AMTX **Amarillo** 61.47 69 P P 18 28 58.3 +0.1
baz=326
KKN **Kakani** 61.53 276 *e*P P 18 28 58.8 -0.1
comp=Z,13nm,0.7s
RAMN **Ramite** 61.58 275 *e*P P 18 28 58.0 -1.3
comp=Z,21nm,0.5s
PKI **Pulchoki** 61.65 276 *e*P P 18 28 59.0 -0.8
comp=Z,26nm,1.0s
PKIN **Phulchoki** 61.65 276 *e*P P 18 28 58.9 -0.9
GKN **Gorkha** 61.66 277 *e*P P 18 28 59.2 -0.5
comp=Z,41nm,1.1s
SUW **Suwalki** 61.69 336 *e*P P 18 28 58.9 -0.4
MSTX **Muleshoe** 61.72 71 IAmb IAmb 18 29 01.5
comp=Z,23nm,0.8s
MSTX **Muleshoe** 61.72 71 P P 18 29 00.6 +0.6
baz=326
DMN **Daman** 61.76 276 *e*P P 18 28 59.5 -1.0
I49A **Point Hope** 61.77 50 P P 18 28 59.0 -1.0
DANN **Dangsing** 61.80 278 *e*P P 18 29 00.7 -0.1
comp=Z,31nm,0.7s
HDIL **Hopedale** 62.11 56 P P 18 29 02.0 -0.4
baz=328
KOLN **Koldanda** 62.36 278 *e*P P 18 29 04.1 -0.4
PYUN **Piuthan** 62.38 279 *e*P P 18 29 04.2 -0.4
comp=Z,38nm,1.0s
MNTX **Cornudas Mount** 62.39 74 IAmb IAmb 18 29 07.0
comp=Z,23nm,1.2s
MNTX **Cornudas Mount** 62.39 74 P P 18 29 05.7 +1.3
baz=327
NIL **Nilore** 62.39 290 P P 18 29 03.2 -1.2
NIL pmax pmax
comp=Z,24nm,1.1s
NIL **Nilore** 62.39 290 P P 18 29 03.2 -1.2
NIL IAmb IAmb 18 29 09.6
comp=Z,24nm,1.1s
UBPT **Khong Chiam** 62.40 251 P P 18 29 04.7 +0.2
UBPT IAmb IAmb 18 29 06.2
comp=Z,22nm,1.1s
SADO **Sadowa** 62.40 47 LR LR 18 57 48.2
comp=Z,59nm,19.9s,baz=306,slow=38
CHTO **Chiang Mai** 62.43 259 P P 18 29 03.5 -1.3
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO **Chiang Mai** 62.43 259 P P 18 29 03.5 -1.3
TRQ **Mont Tremblant** 62.72 43 IAmb IAmb 18 29 06.8
comp=Z,12nm,0.7s
CMAR **Chiang Mai Arr** 62.74 259 P P 18 29 07.3 +0.5
comp=Z,1.4nm,0.6s,baz=0.7,slow=5.6,SNR=17
CMAR **Chiang Mai Arr** 62.74 259 P P 18 29 05.5 -1.3
R40A **Maddies Statio** 62.78 60 IAmb IAmb 18 29 10.3
comp=Z,20nm,0.8s
S39A **Bolivar** 62.84 61 IAmb IAmb 18 29 07.5
comp=Z,24nm,1.0s
LMQ **La Malbaie** 62.90 39 P P 18 29 06.7 -0.8
LMQ IAmb IAmb 18 29 08.3
comp=Z,20nm,0.9s
WMOK **Wichita Mounta** 62.91 67 P P 18 29 08.4 +0.6
baz=327
SFIN **Lafayette** 63.15 55 P P 18 29 08.7 -0.6
baz=329
DELO **Deloro Mine** 63.16 46 IAmb IAmb 18 29 09.2
comp=Z,13nm,0.6s
TUL1 **Leonard** 63.26 64 P P 18 29 09.4 -0.7
TUL1 IAmb IAmb 18 29 11.1
comp=Z,20nm,1.0s
TUL1 **Leonard** 63.26 64 P P 18 29 10.1 0.0
baz=327
CCM **Cathedral Cave** 63.41 59 P P 18 29 10.2 -0.9
CCM pmax pmax
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 63.41 59 P P 18 29 10.2 -0.9
CCM IAmb IAmb 18 29 15.1
comp=Z,14nm,0.8s
CCM **Cathedral Cave** 63.41 59 P P 18 29 10.6 -0.5
baz=328
AKASG **Malin Array Be** 63.46 331 P P 18 29 11.4 +0.3
comp=Z,5.2nm,0.5s,baz=27,slow=6.6,SNR=18
AKASG LR LR 18 57 46.7
comp=Z,90nm,18.2s,baz=352,slow=37
AKBB **Malin Array Si** 63.46 331 *de*P P 18 29 11.4 +0.3
AKBB **Malin Array Si** 63.46 331 IAmb IAmb 18 29 15.1
comp=Z,20nm,1.1s
D62A **Allapoint, All** 63.71 38 IAmb IAmb 18 29 13.8
comp=Z,12nm,0.7s
MGMO **Mountain Grove** 63.74 61 IAmb IAmb 18 29 13.8
comp=Z,26nm,0.9s
P46A **Rosedale** 63.76 55 IAmb IAmb 18 29 13.7
comp=Z,30nm,1.1s
EKA **Eskdalemuir Ar** 63.85 353 P P 18 29 14.0 +0.3
comp=Z,5.3nm,0.7s,baz=8.3,slow=6.1,SNR=8.8
EKA **Eskdalemuir Ar** 63.85 353 P P 18 29 14.0 +0.3
PECO **Prince Edward** 63.89 46 IAmb IAmb 18 29 16.9
comp=Z,15nm,0.8s
O48B **Farmland** 64.03 54 P P 18 29 14.3 -0.8
baz=329
LONY **Lake Ozonia** 64.12 44 P P 18 29 14.1 -1.5
LONY **Lake Ozonia** 64.12 44 P P 18 29 14.6 -1.1
baz=332
U40A **Yellville** 64.16 62 IAmb IAmb 18 29 16.6
comp=Z,15nm,0.7s
U40A **Yellville** 64.16 62 P P 18 29 15.3 -0.7
baz=328
FRNY **Flat Rock** 64.26 43 IAmb IAmb 18 29 16.6
comp=Z,11nm,0.7s
ABTX **Abilene, Hawle** 64.28 69 IAmb IAmb 18 29 18.3
comp=Z,24nm,0.8s
ABTX **Abilene, Hawle** 64.28 69 P P 18 29 17.2 +0.3
baz=327
M52A **Chesterland** 64.39 50 IAmb IAmb 18 29 17.8
comp=Z,20nm,0.8s
ERPA **Erie** 64.39 49 P P 18 29 16.8 -0.7
baz=330

O49A	Covington	64.41	53	IAmb	IAmb	18 29 20.9	
	comp=Z,17nm,0.7s						
BATG	Bathurst New B	64.42	36	P	P	18 29 17.3	-0.3
BATG				IAmb	IAmb	18 29 18.6	
	comp=Z,15nm,0.8s						
J56A	Wolcott	64.51	46	IAmb	IAmb	18 29 17.8	
	comp=Z,13nm,0.7s						
X37A	Clayton	64.55	64		P	18 29 17.8	-0.8
X37A				IAmb	IAmb	18 30 13.9	
	comp=Z,15nm,0.9s						
MMNY	Mt. Morris Dam	64.62	47	IAmb	IAmb	18 29 21.6	
	comp=Z,17nm,0.9s						
WVNY	West Valley, N	64.65	48	IAmb	IAmb	18 29 23.9	
	comp=Z,18nm,0.8s						
GOF	Gofitskoye	64.68	319	⇑eP	P	18 29 20.9	+1.6
GOF				pmax	pmax		
	comp=Z,65nm,0.9s						
J57A	Williamstown	64.70	45	IAmb	IAmb	18 29 19.3	
	comp=Z,14nm,0.8s						
M53A	WI Miller and	64.73	50	P	P	18 29 19.1	-0.6
	baz=330						
W39A	Magazine	64.74	63	P	P	18 29 19.7	-0.1
	baz=328						
NCB	Newcomb	64.81	44	P	P	18 29 18.9	-1.3
NCB				IAmb	IAmb	18 30 07.8	
	comp=Z,54nm,1.9s						
P49A	Miami Univ. Ec	64.82	54	P	P	18 29 19.2	-1.1
	baz=330						
PBMO	Poplar Bluff	64.84	59	IAmb	IAmb	18 29 21.2	
	comp=Z,19nm,0.9s						
FCAR	Ozark Folk Cen	64.87	61	IAmb	IAmb	18 29 21.7	
	comp=Z,17nm,0.8s						
ACSO	Alum Creek Sta	64.90	52	IAmb	IAmb	18 29 24.0	
	comp=Z,14nm,0.7s						
ACSO	Alum Creek Sta	64.90	52	P	P	18 29 19.9	-0.9
	baz=330						
F63A	Nahmakanta, Br	64.93	39	P	P	18 29 20.6	-0.3
F63A				IAmb	IAmb	18 29 21.6	
	comp=Z,12nm,0.8s						
J58A	Remsen	64.99	45	IAmb	IAmb	18 29 21.3	
	comp=Z,13nm,0.8s						
MAK	Makhachkala	65.03	314	eP	P	18 29 17.7	-3.9
MAK				e		18 31 41.4	
MAK				eS	S	18 37 54.7	-8.2
MAK				pmax	pmax		
	comp=Z,119nm,1.0s						
MAK				MLR	MLR		
	comp=Z,282nm,15.0s						
M54A	Oil Creek Stat	65.04	49	P	P	18 29 20.7	-1.1
	baz=331						
J59A	Piesco	65.16	44	IAmb	IAmb	18 29 25.4	
	comp=Z,20nm,1.2s						
TXAR	Lajitas Array	65.17	74	P	P	18 29 23.5	+0.7
	comp=Z,11nm,1.0s,baz=306,slow=4.2,SNR=37						
TXAR	Lajitas Array	65.17	74	P	P	18 29 22.9	+0.1
PKME	Peaks-Kenny Pk	65.26	40	P	P	18 29 22.7	-0.3
	baz=334						
WHAR	Wooly Hollow	65.31	62	IAmb	IAmb	18 29 24.3	
	comp=Z,19nm,0.7s						
WCI	Wyandotte Cave	65.31	56	P	P	18 29 23.3	-0.2
	baz=329						
LBNH	Lisbon	65.34	42	IAmb	IAmb	18 29 28.2	
	comp=Z,22nm,0.9s						
LBNH	Lisbon	65.34	42	P	P	18 29 23.4	-0.2
	baz=333,SNR=6.0						
GEYT	Alibeck	65.38	304	P	P	18 29 24.5	+0.5
	comp=Z,13nm,0.9s,baz=30,slow=2.1,SNR=15						
GEYT				LR	LR	19 03 31.0	
	comp=Z,92nm,18.1s,baz=32,slow=41						
GEYT	Alibeck	65.38	304	IAmb	IAmb	18 29 28.9	
	comp=Z,16nm,0.9s						
GYA0B	ALIBECK ARRAY	65.38	304	P	P	18 29 23.1	-0.8
GYA0B				IAmb	IAmb	18 29 28.9	
	comp=Z,20nm,0.9s						
MIAR	Mount Ida	65.38	63	IAmb	IAmb	18 29 25.5	
	comp=Z,14nm,0.9s						
MIAR	Mount Ida	65.38	63	P	P	18 29 24.4	+0.4
	baz=328						
N54A	Moraine State	65.40	49	P	P	18 29 23.5	-0.6
	baz=331						
GROC	Groznyy	65.41	316	eP	P	18 29 25.2	+1.1
GROC				e		18 29 56.9	
GROC				e		18 31 50.5	
GROC				pmax	pmax		
	comp=Z,24nm,1.1s						
W41B	Gary Mavity, V	65.42	62	P	P	18 29 24.1	-0.2
	baz=328						
P51A	Williamsport	65.51	52	IAmb	IAmb	18 29 24.7	
	comp=Z,19nm,0.7s						
O53A	New Philadelph	65.56	51	P	P	18 29 24.1	-0.9
O53A	New Philadelph	65.56	51	P	P	18 29 24.3	-0.8
	baz=330						
R49A	Shelbyville	65.71	55	IAmb	IAmb	18 29 31.0	
	comp=Z,11nm,0.7s						
P52A	Corning	65.74	52	IAmb	IAmb	18 29 28.8	
	comp=Z,11nm,0.7s						
P52A	Corning	65.74	52	P	P	18 29 25.7	-0.6
	baz=330						
X40A	Basin Creek Fa	65.75	63	IAmb	IAmb	18 29 27.5	
	comp=Z,22nm,1.0s						
X40A	Basin Creek Fa	65.75	63	P	P	18 29 26.2	-0.2
	baz=328						
BINY	Binghamton	65.76	46	IAmb	IAmb	18 29 29.2	
	comp=Z,14nm,0.8s						
BINY	Binghamton	65.76	46	P	P	18 29 25.5	-1.0
	baz=332						
KIV	Kislovodsk	65.78	318	⇓P	P	18 29 28.3	+1.7
KIV	Kislovodsk	65.78	318	eP	P	18 29 28.0	+1.4
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	Kislovodsk	65.78	318	P	P	18 29 25.8	-0.8
KIV				IAmb	IAmb	18 29 34.1	
	comp=Z,34nm,1.5s						
Q51A	Peebles	65.80	53	IAmb	IAmb	18 29 29.9	
	comp=Z,18nm,0.8s						
WHTX	Lake Whitney,	65.81	68	IAmb	IAmb	18 29 33.1	
	comp=Z,12nm,0.8s						
WHTX	Lake Whitney,	65.81	68	P	P	18 29 26.8	0.0
	baz=328						
KBZ	Khabaz	65.92	318	P	P	18 29 27.8	+0.6
	comp=Z,16nm,0.9s,baz=268,slow=2.0,SNR=21						
KBZ	Khabaz	65.92	318	ceP	P	18 29 28.8	+1.5
KBZ				pmax	pmax		
	comp=Z,21nm,1.0s						
KWP	Kalwaria Pacla	65.93	335	eP	P	18 29 28.8	+1.5
KWP	Kalwaria Pacla	65.93	335	P	P	18 29 27.0	-0.3
KWP	Kalwaria Pacla	65.93	335	P	P	18 29 27.0	-0.3
KSP	Ksiaz	66.00	339	P	P	18 29 31.2	+3.4
JCT	Junction City	66.01	70	P	P	18 29 28.4	+0.2
	baz=328,SNR=5.9						
T47A	Sharon Grove	66.04	57	IAmb	IAmb	18 29 31.8	
	comp=Z,17nm,0.9s						
R50A	Paris	66.05	54	IAmb	IAmb	18 29 28.6	
	comp=Z,20nm,0.7s						
SORM	Soroca	66.06	330	⇑P	P	18 29 28.4	+0.2
SORM	Soroca	66.06	330	P	P	18 29 28.3	+0.2
CLL	Collm	66.09	342	i P	P	18 29 28.4	+0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	Collm	66.09	342	P	P	18 29 27.7	-0.6
CLL	Collm	66.09	342	i P	P	18 29 28.4	+0.1
	comp=Z,7.0nm,1.2s						
L59A	Walton	66.10	45	IAmb	IAmb	18 29 28.6	
	comp=Z,22nm,0.8s						
Q52A	Bidwell	66.27	52	IAmb	IAmb	18 29 29.3	
	comp=Z,11nm,0.7s						
BRG	Berggiesshubel	66.36	341	eP	P	18 29 33.3	+3.2
BRG				Amp		18 29 35.7	
	comp=Z,5.1nm,1.0s						
BRG	Berggiesshubel	66.36	341	eP	P	18 29 33.3	+3.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LPIG	La Paz	66.38	83	LR	LR	18 57 21.0	
	comp=Z,47nm,18.5s,baz=58,slow=35						
KSPA	Keystone Colle	66.41	46	IAmb	IAmb	18 29 33.2	
	comp=Z,15nm,0.8s						
ZEI	Tsey	66.42	317	eP	P	18 29 31.0	+0.2
ZEI				pmax	pmax		
	comp=Z,18nm,1.1s						
SSPA	Standing Stone	66.46	48	P	P	18 29 29.5	-1.4
SSPA				IAmb	IAmb	18 29 30.8	
	comp=Z,15nm,0.7s						
SSPA	Standing Stone	66.46	48	P	P	18 29 30.1	-0.7
	baz=332						
LGD	Lagodekhi	66.47	315	P	P	18 29 31.9	+1.0
DPC	Dobruska-Polom	66.47	339	eP	P	18 29 31.3	+0.5
DPC	Dobruska-Polom	66.47	339	eP	P	18 29 31.3	+0.5
WVT	Waverly	66.48	58	P	P	18 29 30.7	-0.3
WVT				pmax	pmax		
	comp=Z,23nm,0.7s						
WVT	Waverly	66.48	58	P	P	18 29 30.7	-0.3
WVT	Waverly	66.48	58	P	P	18 29 30.8	-0.3
	baz=329						
ZKTA	Zakatala	66.51	314	P	P	18 29 32.2	+1.0
GUDG	Gudauri	66.52	316	P	P	18 29 29.2	-2.3
O56A	Blue Knob Stat	66.53	49	IAmb	IAmb	18 29 34.3	
	comp=Z,21nm,0.7s						
O56A	Blue Knob Stat	66.53	49	P	P	18 29 30.4	-1.0
	baz=331						
MCWV	Mont Chateau	66.59	50	P	P	18 29 31.6	-0.1
	baz=331						
KRLC	Kraliky	66.65	339	eP	P	18 29 32.1	+0.1
KRLC	Kraliky	66.65	339	eP	P	18 29 32.1	+0.1
ANN	Anapa	66.66	322	eP	P	18 29 23.2	-8.8
ANN				pmax	pmax		
	comp=Z,43nm,1.3s						
HRA	Herat	66.68	299	P	P	18 29 32.1	-0.5
SEKA	Sheki	66.69	314	P	P	18 29 32.9	+0.5
N58A	Sunbury	66.70	47	IAmb	IAmb	18 29 35.0	
	comp=Z,18nm,0.7s						
ONI	Oni	66.75	317	P	P	18 29 32.3	-0.5
ONI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ONI	Oni	66.75	317	P	P	18 29 32.2	-0.5
435B	Jarrell	66.77	68	P	P	18 29 32.8	-0.2
	baz=328						
Q54A	Coxs Mills	66.80	51	IAmb	IAmb	18 29 36.1	
	comp=Z,12nm,0.8s						
MORC	Moravsky Berou	66.80	338	P	P	18 29 33.4	+0.4
Z41A	Richland Creek	66.81	63	P	P	18 29 33.1	-0.1
	baz=329						
DDFL	Dedoflistskaro	66.86	315	P	P	18 29 36.4	+2.9
S51A	Beattyville	66.90	54	IAmb	IAmb	18 29 37.1	
	comp=Z,22nm,0.8s						
UZH	Uzhgorod	66.96	335	eP	P	18 29 34.1	+0.2
UZH				e		18 29 36.7	
UZH				e		18 29 38.3	
N59A	State Game Lan	66.97	46	P	P	18 29 33.2	-1.0
N59A				IAmb	IAmb	18 29 34.0	
	comp=Z,18nm,0.7s						
N59A	State Game Lan	66.97	46	P	P	18 29 33.1	-1.0
	baz=332						
U49A	Red Boiling Sp	66.99	56	IAmb	IAmb	18 29 39.0	
	comp=Z,15nm,1.1s						
HRV	Adam Dziewonsk	67.00	42	P	P	18 29 34.7	+0.4
HRV	Adam Dziewonsk	67.00	42	P	P	18 29 34.4	+0.1
	baz=334						
SOC	Sochi	67.06	320	eP	P	18 29 35.3	+0.7
SOC				e*PP	sP	18 29 40.3	-0.9
SOC				eS	S	18 38 24.9	-2.7
SOC				eSS	SS	18 42 42.3	-3.2
SOC				pmax	pmax		
	comp=Z,12nm,0.8s						
MILM	Milestii Mici	67.08	329	⇓P	P	18 29 35.1	+0.5
MILM	Milestii Mici	67.08	329	P	P	18 29 35.1	+0.5
MNGR	Mingechevir, A	67.11	314	P	P	18 29 36.0	+1.0
PRU	Pruhonice	67.12	340	eP	P	18 29 35.5	+0.6
PRU	Pruhonice	67.12	340	eP	P	18 29 35.5	+0.6
CLTN	Cedars of Leba	67.13	57	IAmb	IAmb	18 29 35.9	
	comp=Z,16nm,0.7s						
WES	Weston	67.19	42	IAmb	IAmb	18 29 36.5	
	comp=Z,18nm,0.7s						
OXF	Oxford	67.20	60	P	P	18 29 35.5	-0.2
	baz=329						
V48A	Smith Brothers	67.23	57	IAmb	IAmb	18 29 39.2	
	comp=Z,12nm,0.8s						
NATX	Nacogdoches	67.26	66	P	P	18 29 34.5	-1.6
	baz=329						
BURAR	Bucovina Array	67.28	332	⇑P	P	18 29 36.8	+0.6
BURAR	Bucovina Array	67.28	332	P	P	18 29 36.7	+0.6
BURAR	Bucovina Array	67.28	332	P	P	18 29 36.2	+0.1
PLAL	Pickwick Lake	67.36	59	IAmb	IAmb	18 29 40.0	
	comp=Z,13nm,0.8s						
Q56A	Snyder Ridge,	67.38	50	IAmb	IAmb	18 29 39.5	
	comp=Z,42nm,1.7s						
TRPA	Tarpa	67.39	334	⇑P	P	18 29 37.4	+0.8
TRPA	Tarpa	67.39	334	P	P	18 29 37.4	+0.8
LUPA	Lehigh Univers	67.39	46	IAmb	IAmb	18 29 36.6	
	comp=Z,17nm,0.8s						
VRAC	Vranov	67.43	339	P	P	18 29 36.6	-0.2
	comp=Z,4.3nm,0.6s,baz=29,slow=9.3,SNR=4.9						
VRAC				LR	LR	19 03 14.1	
	comp=Z,133nm,18.5s,baz=350,slow=40						
VRAC	Vranov	67.43	339	eP	P	18 29 37.6	+0.7
GANJ	Ganja	67.49	314	P	P	18 29 38.3	+0.8
BRYW	Bryant College	67.54	43	IAmb	IAmb	18 29 38.3	
	comp=Z,21nm,0.8s						
PAL	Palisades	67.55	45	IAmb	IAmb	18 29 37.7	
	comp=Z,17nm,0.8s						
PAL	Palisades	67.55	45	P	P	18 29 36.7	-1.0
	baz=333						
JAVC	Velka Javorina	67.66	338	eP	P	18 29 40.2	+1.8
R55A	Marlinton	67.69	51	P	P	18 29 38.5	-0.3
R55A				IAmb	IAmb	18 29 39.1	
	comp=Z,12nm,0.7s						
KRUC	Moravsky	67.70	339	eP	P	18 29 39.2	+0.6
MEM	Membach	67.72	346	dP	P	18 29 39.1	+0.4
	comp=Z,8.7nm,1.0s						
BTNL	Ternell	67.73	346	dP	P	18 29 38.8	0.0
	comp=Z,11nm,0.8s						
AKH	Akhalkalaki	67.79	317	⇓P	P	18 29 41.5	+1.9
AKH	Akhalkalaki	67.79	317	P	P	18 29 41.4	+1.9
TZTN	Tazewell	67.86	54	IAmb	IAmb	18 29 43.7	
	comp=Z,17nm,0.8s						
TZTN	Tazewell	67.86	54	P	P	18 29 38.8	-1.1
	baz=331						
BGD	Bogdanovka	67.88	316	P	P	18 29 43.0	+2.9
ARCR	ARCALIA	67.98	333	⇑P	P	18 29 41.9	+1.5
TESR	Tescani	67.98	331	⇑P	P	18 29 40.9	+0.5
BCLA	Clavier	67.99	347	dP	P	18 29 43.3	+2.9
	comp=Z,5.6nm,1.0s						
BCLA				dPcP	PcP	18 30 07.2	+0.6
833A	Chaparral WMA,	68.02	71	P	P	18 29 40.8	-0.1
	baz=328						
SWET	Sewanee	68.05	57	IAmb	IAmb	18 29 43.9	
	comp=Z,16nm,0.8s						
KHC	Kasperske Hory	68.11	341	⇓eP	P	18 29 41.5	+0.2
KHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KHC	Kasperske Hory	68.11	341	eP	P	18 29 44.6	+3.3
PSZ	Piszkesteto	68.14	336	⇓P	P	18 29 42.9	+1.5
PSZ	Piszkesteto	68.14	336	P	P	18 29 42.9	+1.5
PSZ	Piszkesteto	68.14	336	P	P	18 29 42.8	+1.3
V51A	Loudon	68.19	55	IAmb	IAmb	18 29 42.5	
	comp=Z,15nm,0.8s						
X48A	Hartselle	68.25	58	P	P	18 29 40.7	-1.6
X48A				IAmb	IAmb	18 29 42.5	
	comp=Z,31nm,1.6s						
VLDR	Vladesti	68.26	330	⇓P	P	18 29 43.6	+1.5
RCHB	Rochefort	68.26	347	dP	P	18 29 43.7	+1.6
CKRC	Cesky Krumlov	68.29	340	eP	P	18 29 45.2	+2.8
W50A	Signal Mountai	68.32	56	IAmb	IAmb	18 29 45.9	
	comp=Z,12nm,0.7s						
GIVF	Givet	68.36	347	eP	P	18 29 41.4	-1.3
GIVF				pmax	pmax		
	comp=Z,18nm,1.2s						
GERES	GERESS Array B	68.37	340	P	P	18 29 42.8	-0.2
	comp=Z,1.9nm,0.7s,baz=35,slow=7.2,SNR=12						
DOU	Dourbes	68.39	347	dP	P	18 29 41.9	-1.0
CPCT	Cooper Cave	68.42	56	IAmb	IAmb	18 29 46.6	
	comp=Z,9.9nm,0.7s						
BAIF	Baives	68.47	347	eP	P	18 29 43.5	+0.1
BAIF				pmax	pmax		
	comp=Z,27nm,1.5s						
GNI	Garni	68.48	315	P	P	18 29 45.4	+1.5
	comp=Z,11nm,0.8s,baz=350,slow=7.4,SNR=8.7						
GNI				LR	LR	19 04 39.5	
	comp=Z,158nm,18.9s,baz=23,slow=40						
GNI	Garni	68.48	315	deP	P	18 29 46.3	+2.4
GNI				pmax	pmax		
	comp=Z,14nm,1.0s						
GNI	Garni	68.48	315	P	P	18 29 44.1	+0.2
GNI				IAmb	IAmb	18 30 19.1	
	comp=Z,28nm,1.1s						
BLA	Blacksburg	68.51	52	IAmb	IAmb	18 29 47.2	
	comp=Z,22nm,0.8s						
BLA	Blacksburg	68.51	52	P	P	18 29 43.0	-0.9
	baz=331						
TKL	Tuckaleechee C	68.54	55	LR	LR	19 00 18.8	
	comp=Z,79nm,20.5s,baz=331,slow=36						
TKL	Tuckaleechee C	68.54	55	IAmb	IAmb	18 29 48.0	
	comp=Z,33nm,1.5s						
VRI	Vrincioaia	68.57	330	⇑P	P	18 29 44.9	+0.8
VRI	Vrincioaia	68.57	330	P	P	18 29 44.9	+0.8
S57A	Dark Hollow, R	68.59	50	IAmb	IAmb	18 29 47.8	
	comp=Z,20nm,0.7s						
PLOR	Plostina	68.60	331	⇓P	P	18 29 45.6	+1.2
PLOR	Plostina	68.60	331	P	P	18 29 45.6	+1.2
COVR	Voineasa-Covas	68.72	331	⇓P	P	18 29 46.5	+1.4
FPAL	Fort Paine	68.77	57	IAmb	IAmb	18 29 49.2	
	comp=Z,20nm,0.9s						
CBN	Corbin Frederi	68.78	49	P	P	18 29 44.9	-0.7
	baz=332						
DOPR	Dopca	68.79	331	⇑P	P	18 29 46.5	+1.0
R58B	Mineral	68.81	49	IAmb	IAmb	18 29 50.2	
	comp=Z,25nm,1.4s						
MRSI	Marisa	68.82	228	P	P	18 29 45.7	-0.3
	comp=Z,31nm,0.9s						
CFR	Carcaliu	68.87	329	⇑P	P	18 29 45.0	-1.0
CFR	Carcaliu	68.87	329	P	P	18 29 44.9	-1.0
CONA	Conrad Observa	68.89	339	eP	P	18 29 47.1	+0.9
	comp=Z,5.2nm,1.0s						
V53A	Saluda	68.92	54	P	P	18 29 46.1	-0.5
W52A	Murphy	68.97	55	IAmb	IAmb	18 30 39.4	
	comp=Z,24nm,1.1s						
Y49A	Blount Mountai	69.03	58	IAmb	IAmb	18 29 50.2	
	comp=Z,11nm,0.7s						
NAX	Nakhchivan	69.09	314	P	P	18 29 48.4	+0.8
TPGR	Topolog	69.10	329	⇓P	P	18 29 48.8	+1.4
MLR	Muntele Rosu	69.11	331	⇑P	P	18 29 49.1	+1.4
MLR	Muntele Rosu	69.11	331	P	P	18 29 48.1	+0.4
	comp=Z,9.7nm,0.7s,baz=174,slow=1.2,SNR=10						
MLR				LR	LR	19 02 57.7	
	comp=Z,127nm,18.2s,baz=0.0,slow=38						
MLR	Muntele Rosu	69.11	331	P	P	18 29 48.0	+0.4
MLR				pmax	pmax		
	comp=Z,14nm,0.9s						
MLR	Muntele Rosu	69.11	331	P	P	18 29 48.0	+0.4
MLR				IAmb	IAmb	18 29 53.8	
	comp=Z,14nm,0.9s						
T57A	Hurt	69.14	51	IAmb	IAmb	18 29 51.3	
	comp=Z,32nm,1.4s						
SIRR	Siria	69.34	334	⇑P	P	18 29 49.6	+0.7
VOIR		69.37	331	⇑P	P	18 29 50.7	+1.5
VOIR		69.37	331	P	P	18 29 50.7	+1.5
V55A	Taylorsville	69.39	53	IAmb	IAmb	18 29 52.9	
	comp=Z,14nm,0.8s						
KTUT	Trabzon	69.39	319	⇑P	P	18 29 50.5	+1.2
BG3	Lake Jocassee	69.46	55	IAmb	IAmb	18 30 25.6	
	comp=Z,17nm,1.0s						
TIRR	Tirgusor	69.47	329	⇑P	P	18 29 50.1	+0.4
TIRR	Tirgusor	69.47	329	P	P	18 29 50.1	+0.4
LRAL	Lakeview Retre	69.49	59	IAmb	IAmb	18 29 49.9	
	comp=Z,11nm,0.7s						
LRAL	Lakeview Retre	69.49	59	P	P	18 29 49.1	-0.9
	baz=330						
ARR	Arges	69.54	332	⇓P	P	18 29 51.8	+1.6
ARSA	Arzberg	69.60	339	eP	P	18 29 51.8	+1.2
	comp=Z,7.7nm,1.5s						
MPSI	Mapaga	69.70	230	P	P	18 29 51.1	-0.3
	comp=Z,13nm,1.4s						
CDF	Champ du Feu	69.73	345	eP	P	18 29 54.6	+3.2
CDF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GZR	Gura Zlata	69.93	333	⇓P	P	18 29 53.8	+1.1
KMSC	Kings Mountain	69.96	53	P	P	18 29 52.2	-0.7
KMSC				IAmb	IAmb	18 29 53.4	
	comp=Z,16nm,0.9s						
KMSC	Kings Mountain	69.96	53	P	P	18 29 52.5	-0.5
	baz=332						
BZS	Buzias	69.97	334	⇓P	P	18 29 52.7	-0.1
BZS	Buzias	69.97	334	P	P	18 29 52.7	-0.1
PAULI	Pauline	70.06	54	IAmb	IAmb	18 30 43.3	
	comp=Z,31nm,1.0s						
KBA	Koelnbreinsper	70.14	340	eP	P	18 29 55.8	+1.7
	comp=Z,7.7nm,1.1s						
FLN	La Foliniere	70.20	350	eP	P	18 29 53.8	-0.3
FLN				pmax	pmax		
	comp=Z,25nm,1.3s						
APSI	Ampana	70.21	228	P	P	18 29 53.2	-1.4
	comp=Z,13nm,1.2s						
KOVH	Kovagotottos	70.24	337	P	P	18 29 54.2	-0.3
SOKA	Soboth	70.24	339	eP	P	18 29 55.1	+0.6
	comp=Z,3.7nm,0.9s						
HAU	Haudompre	70.25	345	eP	P	18 29 54.2	-0.3
HAU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LDF	La Druitiere	70.34	350	eP	P	18 29 54.5	-0.5
LDF				pmax	pmax		
	comp=Z,51nm,1.8s						
KVT	Kavak	70.47	322	P	P	18 29 57.9	+1.9
W57A	Gilead	70.48	52	IAmb	IAmb	18 29 56.5	
	comp=Z,18nm,0.8s						
OBKA	Obir	70.49	339	eP	P	18 29 57.0	+0.9
	comp=Z,9.1nm,0.9s						
HERR	Herculane	70.50	333	⇑P	P	18 29 56.5	+0.5
ABTA	Abfaltersbach	70.60	341	eP	P	18 29 57.8	+1.0
	comp=Z,7.4nm,0.9s						
GRR	Gorron	70.60	351	eP	P	18 29 56.5	-0.1
GRR				pmax	pmax		
	comp=Z,20nm,1.0s						
FETA	Feichten	70.61	342	eP	P	18 29 57.1	+0.2
	comp=Z,4.8nm,0.9s						
GEVA	Gevas	70.71	315	P	P	18 29 58.1	+0.5
BIRD	Birdtown, Kers	70.74	53	IAmb	IAmb	18 30 01.4	
	comp=Z,17nm,1.1s						
ROSF	Rostrenen	70.83	352	eP	P	18 30 00.3	+2.3
ROSF				pmax	pmax		
	comp=Z,89nm,1.7s						
ZAIG	Zacatecas	71.24	77	P	P	18 30 01.6	+0.4
ZAIG				IAmb	IAmb	18 30 03.5	
	comp=Z,26nm,1.3s						
LOR	Lormes	71.26	347	eP	P	18 30 00.4	-0.3
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PMG	Port Moresby	71.52	199	P	P	18 30 02.3	-0.1
	comp=Z,12nm,0.9s,baz=15,slow=5.1,SNR=5.8						
PMG				LR	LR	18 57 49.7	
	comp=Z,32nm,21.2s,baz=60,slow=33						
PMG	Port Moresby	71.52	199	P	P	18 30 02.4	-0.1
PMG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PMG	Port Moresby	71.52	199	IAmb	IAmb	18 30 03.0	
	comp=Z,9.1nm,0.8s						
CABF	La Chapelle	71.65	345	eP	P	18 30 03.0	-0.1
CABF				pmax	pmax		
	comp=Z,73nm,2.2s						
AVF	Avril sur Loir	71.79	347	eP	P	18 30 03.7	-0.1
AVF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BGF	Bois d'Agland	72.07	348	eP	P	18 30 06.4	+0.9
BGF				pmax	pmax		
	comp=Z,30nm,1.5s						
MARD	Mardin	72.39	317	IAmb	IAmb	18 30 13.2	
	comp=Z,17nm,0.9s						
TCF	Toulx Ste Croi	72.41	348	eP	P	18 30 06.5	-1.1
TCF				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BR131	Keskin Array S	72.43	323	ceP	P	18 30 08.9	+0.9
BR131	Keskin Array S	72.43	323	IAmb	IAmb	18 30 13.2	
	comp=Z,23nm,1.4s						
BRTR	Keskin Array B	72.43	323	P	P	18 30 08.3	+0.3
	comp=Z,4.7nm,0.8s,baz=39,slow=3.6,SNR=21						
BRTR				LR	LR	19 05 18.1	
	comp=Z,64nm,18.1s,baz=330,slow=39						
BRTR	Keskin Array B	72.43	323	i P	P	18 30 09.1	+1.1
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VTS	Vitosha	72.46	332	⇓P	P	18 30 08.9	+0.7
VTS	Vitosha	72.46	332	P	P	18 30 08.8	+0.7
VTS	Vitosha	72.46	332	IAmb	IAmb	18 30 12.8	
	comp=Z,12nm,0.7s						
BORA	Eskisehir	73.20	326	IAmb	IAmb	18 30 17.4	
	comp=Z,24nm,1.3s						
ALN	Alexandroupoli	73.41	329	IAmb	IAmb	18 30 18.4	
	comp=Z,36nm,1.7s						
SPSI	Sidrap Palu	73.72	228	P	P	18 30 14.2	-1.4
	comp=Z,9.0nm,1.2s						
FRF	La Foret Royal	74.58	344	eP	P	18 30 22.4	+2.1
FRF				pmax	pmax		
	comp=Z,33nm,1.3s						
FNA	Florina	74.63	333	P	P	18 30 20.4	-0.4
FNA				pmax	pmax		
	comp=Z,12nm,0.9s						
FNA	Florina	74.63	333	P	P	18 30 20.4	-0.4
MTLF	Montolieu	75.32	348	eP	P	18 30 25.2	+0.5
MTLF				pmax	pmax		
	comp=Z,28nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ETSF	Etsaut	76.03	350	eP	P	18 30 31.3	+2.5
ETSF				pmax	pmax		
	comp=Z,17nm,1.2s						
AGG	Agios Georgios	76.09	331	IAmb	IAmb	18 30 35.8	
	comp=Z,43nm,1.8s						
AFI	Afiamalu	76.63	157	LR	LR	18 57 02.5	
	comp=Z,62nm,22.0s,baz=72,slow=30						
COEN	Coen	76.67	202	IAmb	IAmb	18 30 33.6	
	comp=Z,20nm,1.1s						
TIP	Timpagrande	77.16	336	P	P	18 30 35.2	0.0
TLIG	Tlapa	77.61	76	P	P	18 30 38.4	+0.2
MMAI	Mount Meron Ar	78.08	319	P	P	18 30 41.1	+0.6
	comp=Z,4.0nm,0.7s,baz=79,slow=10,SNR=5.7						
MMAI				LR	LR	19 11 22.2	
	comp=Z,61nm,19.1s,baz=220,slow=40						
IDI	Anoyia	79.01	328	P	P	18 30 43.9	-1.7
	baz=64,slow=7.8						
VAE	Valguarnera	79.26	337	LR	LR	19 12 55.9	
	comp=Z,49nm,20.1s,baz=123,slow=41						
ESDC	Sonseca Array	79.50	352	P	P	18 30 48.4	+0.2
	comp=Z,4.0nm,0.9s,baz=0.7,slow=5.9,SNR=21						
ESDC				LR	LR	19 06 48.4	
	comp=Z,37nm,18.1s,baz=344,slow=36						
EIL	Elat	81.31	318	LR	LR	19 11 22.8	
	comp=Z,61nm,18.0s,baz=56,slow=39						
CTA	Charters Tower	82.14	198	P	P	18 31 00.8	-1.4
	comp=Z,7.6nm,0.8s,baz=331,slow=5.9,SNR=6.3						
DZM	Mont Dzumac	82.59	179	LR	LR	19 05 04.0	
	comp=Z,39nm,19.8s,baz=9.5,slow=34						
RAYN	Ar Rayn	83.12	307	P	P	18 31 06.7	-0.9
RAYN				pmax	pmax		
	comp=Z,21nm,1.4s						
RAYN	Ar Rayn	83.12	307	P	P	18 31 06.7	-0.9
RAYN				IAmb	IAmb	18 31 11.4	
	comp=Z,21nm,1.4s						
WRAB	Tennant Creek	84.35	209	deP	P	18 31 13.6	0.0
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRAB	Tennant Creek	84.35	209	P	P	18 31 12.7	-0.9
WRAB				IAmb	IAmb	18 31 14.2	
	comp=Z,8.7nm,0.8s						
WB2	Warramunga Arr	84.36	209	P	P	18 31 12.6	-1.1
WB2				IAmb	IAmb	18 31 14.3	
	comp=Z,9.5nm,0.7s						
WRA	Warramunga Arr	84.36	209	P	P	18 31 13.3	-0.4
	comp=Z,5.5nm,0.7s,baz=14,slow=5.5,SNR=72						
MTO3	Montecristo	84.68	70	IAmb	IAmb	18 31 17.1	
	comp=Z,16nm,0.9s						
MDT	Midelt	86.37	352	P	P	18 31 24.2	+0.3
	comp=Z,1.8nm,0.8s,baz=128,slow=4.2,SNR=4.3						
MDT				LR	LR	19 09 42.3	
	comp=Z,31nm,20.1s,baz=348,slow=35						
AS31	Alice Springs	88.05	209	P	P	18 31 31.0	-0.8
ASAR	Alice Springs	88.05	209	P	P	18 31 31.6	-0.2
	comp=Z,2.2nm,0.6s,baz=12,slow=4.6,SNR=44						
ASAR	Alice Springs	88.05	209	P	P	18 31 30.9	-0.9
JTS	Las Juntas de	90.30	68	LR	LR	19 20 31.6	
	comp=Z,52nm,18.8s,baz=24,slow=41						
DRK0	Durika	91.98	67	P	P	18 31 48.8	-1.9
STKA	Stephens Creek	94.44	200	P	P	18 32 01.2	0.0
	comp=Z,1.0nm,0.6s,baz=309,slow=5.2,SNR=3.2						
STKA				LR	LR	19 09 34.9	
	comp=Z,34nm,20.5s,baz=52,slow=32						
SDV	Santo Domingo	97.75	56	LR	LR	19 19 52.4	
	comp=Z,88nm,19.3s,baz=49,slow=38						
SYO	Syowa Base	156.51	227	⇑ePKPdf	PKPdf	18 38 36.5	+1.7

IDC 08 18:25:01.3±1.0, 35°.47N×23°.56E, h0km, mb3.8/11, mb1 3.8/16, mb1mx3.7/48, mbtmp3.7/16, ML3.6/5, MS3.0/4, Ms1 3.1/4, ms1mx2.6/93 Error ellipse: s-maj=20.7km s-min=10.1km az=19.0

ISK 08 18:25:02.5, 35°.35N×23°.57E, h18km, ML3.8/19

ATH 08 18:25:03.1, 35°.37N×23°.56E, h14km±2km, ML3.7/9, Error ellipse: s-maj=2.8km s-min=0.8km az=40.0

THE 08 18:25:03.5, 35°.39N×23°.55E, h8km±1km, ML3.6/13, Error ellipse: s-maj=1.8km s-min=0.6km az=165.0

ISC 08 18:25:03.1±0.8**, 35°.38N**±0°.03×**23°.56E**±0°.03**, h15**km±5km**, n77, σ1§29**/103**, mb3.7**/11**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.18	144	P	Pg	18 25 06.8	-0.6
KNDR				S	Sg	18 25 09.5	-0.8
	9µm,0.6s						
KNDR	Palaiochora Ch	0.18	144	PG	Pg	18 25 06.5	-0.9
KNDR				SG	Sg	18 25 09.7	-0.6
RODP	Rodopos	0.24	42	P	Pg	18 25 08.7	+0.2
RODP				S	Sb	18 25 12.9	-0.4
	16µm,0.4s						
RODP	Rodopos	0.24	42	PG	Pg	18 25 08.7	+0.2
RODP				SG	Sb	18 25 12.9	-0.4
IMMV	Iera Moni Meta	0.35	77	P	Pg	18 25 10.1	-0.2
IMMV				S	Sg	18 25 15.5	+0.1
IMMV				AML	AML	18 25 17.1	
	comp=N,33054µm,0.4s						
IMMV				AML	AML	18 25 19.7	
	comp=E,26403µm,0.4s						
IMMV	Iera Moni Meta	0.35	77	P	Pg	18 25 10.1	-0.2
IMMV				S	Sb	18 25 16.3	-0.2
	comp=E,15µm,0.4s						
IMMV	Iera Moni Meta	0.35	77	PG	Pg	18 25 10.3	-0.1
IMMV				SG	Sb	18 25 16.1	-0.4
VAM	Vamos	0.53	87	P	Pg	18 25 13.5	0.0
VAM				S	Sb	18 25 21.0	-0.4
VAM				AML	AML	18 25 22.4	
	comp=E,24031µm,0.8s						
VAM				AML	AML	18 25 23.9	
	comp=N,27724µm,0.3s						
VAM	Vamos	0.53	87	P	Pg	18 25 13.2	-0.3
VAM				S	Sb	18 25 21.9	+0.6
	comp=N,13µm,0.6s						
ANKY	Antikythira Is	0.53	337	P	Pg	18 25 13.8	+0.1
ANKY				S	Sb	18 25 21.2	-0.3
ANKY				AML	AML	18 25 22.6	
	comp=N,27624µm,0.4s						
ANKY				AML	AML	18 25 23.0	
	comp=E,23879µm,0.4s						
ANKY	Antikythira Is	0.53	337	P	Pg	18 25 13.7	+0.1
ANKY				S	Sb	18 25 21.3	-0.2
	comp=E,13µm,0.4s						
GVDS	Gavdos	0.69	141	P	Pb	18 25 16.8	0.0
GVDS				S	Sb	18 25 27.5	+1.4
	comp=E,5µm,0.6s						
GVD	Gavdhos	0.69	141	P	Pg	18 25 16.2	-0.4
GVD				S	Sg	18 25 26.1	+0.3
GVD				AML	AML	18 25 30.4	
	comp=N,11032µm,0.5s						
GVD				AML	AML	18 25 32.2	
	comp=E,12189µm,0.8s						
GVD	Gavdhos	0.69	141	P	Pg	18 25 16.4	-0.2
GVD				S	Sb	18 25 27.2	+1.1
	comp=E,6µm,0.6s						
GVD	Gavdhos	0.69	141	PG	Pg	18 25 16.3	-0.3
PRNS	Prines Rethymn	0.77	91	P	Pg	18 25 16.6	-1.5
PRNS				S	Sg	18 25 27.3	-0.9
	comp=E,3µm,0.4s						
KTHA	Kythira Island	0.96	335	P	Pb	18 25 21.5	0.0
KTHA				S	Sg	18 25 34.8	+0.4
KTHA				AML	AML	18 25 38.2	
	comp=E,18860µm,0.4s						
KTHA				AML	AML	18 25 42.5	
	comp=N,6608µm,0.5s						
KTHA	Kythira Island	0.96	335	P	Pb	18 25 21.6	+0.1
KTHA				S	Sg	18 25 34.8	+0.4
	comp=N,7µm,0.4s						
KTHR	Kythira	0.99	333	P	Pb	18 25 21.9	0.0
KTHR				S	Sg	18 25 35.1	-0.1
	comp=N,5µm,0.3s						
TMBK	Timbaki Herakl	1.03	107	P	Pb	18 25 22.3	-0.3
TMBK				S	Sn	18 25 38.5	+1.3
	comp=N,2µm,0.7s						
SIVA	Sivas	1.09	109	P	Pb	18 25 23.6	0.0
SIVA				S	Sn	18 25 38.6	+0.1
SIVA				AML	AML	18 25 45.9	
	comp=E,16026µm,0.7s						
SIVA				AML	AML	18 25 46.3	
	comp=N,7268µm,0.5s						
SIVA	Sivas	1.09	109	P	Pb	18 25 23.1	-0.4
IDI	Anoyia	1.09	94	Pg	Pb	18 25 23.8	+0.1
	comp=N,14nm,0.3s,baz=271,slow=8.7,SNR=237						
IDI				LR	LR	18 25 30.8	
	comp=N,62nm,20.8s,baz=184,slow=27						
IDI				Lg	Lg	18 25 37.8	
	comp=N,170nm,0.3s,baz=17,slow=21,SNR=15						
IDI	Anoyia	1.09	94	P	Pb	18 25 23.7	+0.1
IDI				S	Sg	18 25 38.6	+0.1
IDI				AML	AML	18 25 41.2	
	comp=N,7971µm,0.5s						
IDI				AML	AML	18 25 51.9	
	comp=E,3946µm,0.5s						
IDI	Anoyia	1.09	94	PN	Pb	18 25 22.6	-1.1
IDI				SN	Sb	18 25 38.0	+0.2
IACM	Heraklion	1.24	93	P	Pn	18 25 26.0	+0.2
HRKL	Herakleio	1.26	93	PN	Pn	18 25 25.6	-0.5
VLI	Veliai	1.43	340	P	Pb	18 25 29.9	+0.5
VLI				AML	AML	18 25 56.6	
	comp=N,3068µm,0.6s						
VLI				AML	AML	18 25 58.2	
	comp=E,2810µm,0.5s						
VLI	Veliai	1.43	340	P	Pb	18 25 29.7	+0.3
VLI				S	Sb	18 25 47.6	+0.2
	comp=E,1µm,0.5s						
MHLO	Agia Marina, M	1.48	27	P	Pb	18 25 30.0	-0.2
MHLO				S	Sb	18 25 48.9	+0.2
	comp=E,9µm,0.5s						
NPS	Neapolis	1.68	93	P	Pb	18 25 34.3	+0.6
NPS				AML	AML	18 26 01.9	
	comp=E,3011µm,0.5s						
NPS				AML	AML	18 26 14.7	
	comp=N,2933µm,0.8s						
ZKR	Zakros	2.19	96	P	Pb	18 25 41.5	-0.9
ZKR	Zakros	2.19	96	PN	Pn	18 25 39.2	+0.3
APE	Apeiranthos	2.32	43	PN	Pn	18 25 41.6	+0.9
KARP	Karpathos	2.95	86	PN	Pn	18 25 49.8	+0.5
BODT	Bodrum	3.47	60	PN	Pn	18 25 57.3	+0.8
CHOS	Chios island	3.61	33	PN	Pn	18 25 59.3	+0.8
GCAM	G?zelcaml?	3.76	51	PN	Pn	18 26 01.8	+1.4
ARG	Arkhangelos	3.81	76	PN	Pn	18 26 02.3	+1.2
URLA	Izmir	3.84	38	PN	Pn	18 26 02.7	+1.0
MLSB	Milas	3.91	59	PN	Pn	18 26 03.5	+1.0
TURN	Turunc	4.04	68	PN	Pn	18 26 05.4	+1.1
SIGR	SIGRI	4.24	25	PN	Pn	18 26 08.2	+1.1
DALY	Dalyan (Mula)	4.37	69	PN	Pn	18 26 10.0	+1.2
FETY	Fethiye	4.65	73	PN	Pn	18 26 13.2	+0.4
CAME	Cameli-Denizli	4.90	70	PN	Pn	18 26 17.6	+1.3
AKAS	Kas	4.99	78	PN	Pn	18 26 19.0	+1.5
ELL	Elmali	5.32	73	PN	Pn	18 26 23.9	+1.8
STON	Ston	8.76	330	ePn	Pn	18 27 08.8	-0.3
LSTV	Lastovo	9.01	327	ePn	Pn	18 27 11.4	-1.2
LSTV				Sn	Sn	18 28 46.0	-7.8
BRTR	Keskin Array B	9.10	59	Pn	Pn	18 27 15.8	+1.8
	comp=N,0.3nm,0.3s,baz=241,slow=15,SNR=6.1						
BRTR				LR	LR	18 30 34.3	
	comp=N,97nm,18.3s,baz=272,slow=37						
MAKA	Makarska	9.38	329	ePn	Pn	18 27 18.5	+0.9
MAKA				Sn	Sn	18 28 57.1	-5.6
RICI	Ricice	9.50	330	ePn	Pn	18 27 18.9	-0.4
MMAI	Mount Meron Ar	10.09	100	Pn	Pn	18 27 26.1	-1.3
	comp=N,0.4nm,0.3s,baz=277,slow=24,SNR=1.9						
MMAI				LR	LR	18 33 09.1	
	comp=N,54nm,19.9s,baz=64,slow=48						
KIJV	Kijevo	10.22	330	ePn	Pn	18 27 29.8	+0.6
MLR	Muntele Rosu	10.26	9	Pn	Pn	18 27 29.5	-0.3
	comp=N,0.1nm,0.3s,baz=191,slow=7.1,SNR=1.8						
UDBI	Udbina	10.91	329	ePn	Pn	18 27 39.3	+0.6
EIL	Elat	11.17	117	Pn	Pn	18 27 40.8	-1.4
	comp=N,0.4nm,0.3s,baz=335,slow=19,SNR=2.4						
VRAC	Vranov	14.83	342	Pn	Pn	18 28 33.5	+1.4
	comp=N,0.1nm,0.3s,baz=41,slow=16,SNR=1.9						
VRAC				LR	LR	18 35 56.4	
	comp=N,102nm,19.2s,baz=328,slow=44						
GERES	GERESS Array B	15.30	335	Pn	P	18 28 42.1	-1.1
	comp=N,0.1nm,0.3s,baz=145,slow=10,SNR=2.3						
DAVOX	Davos/Dischmat	15.34	322	Pn	Pn	18 28 41.2	+2.2
	comp=N,0.2nm,0.3s,baz=144,slow=17,SNR=1.7						
AKASG	Malin Array Be	15.86	13	Pn	Pn	18 28 46.3	+0.7
	comp=N,1.3nm,0.3s,baz=210,slow=10,SNR=7.2						
KBZ	Khabaz	17.06	55	Pn	P	18 29 05.2	+2.6
	comp=N,0.1nm,0.3s,baz=225,slow=9.3,SNR=7.2						
NACGM	Naroch	19.65	6	iP	Pn	18 29 35.1	+2.6
ESDC	Sonseca Array	22.21	289	P	P	18 29 59.7	+0.8
	comp=N,0.3nm,0.3s,baz=93,slow=12,SNR=1.8						
HFS	Hagfors	25.58	349	P	P	18 30 31.2	-0.1
	comp=N,0.9nm,0.4s,baz=150,slow=12,SNR=1.5						
FINES	FINESS Array B	26.13	3	P	P	18 30 35.2	-1.0
	comp=N,0.6nm,0.5s,baz=145,slow=14,SNR=4.0						
NOA	NORSAR Array B	26.87	347	LR	LR	18 43 50.8	
	comp=N,38nm,20.9s,baz=355,slow=42						
EKA	Eskdalemuir Ar	27.11	326	P	P	18 30 46.4	+1.2
	comp=N,0.7nm,0.4s,baz=128,slow=8.5,SNR=6.1						
TORD	Torodi Ar. Bea	29.65	227	P	P	18 31 09.1	+1.0
	comp=N,0.8nm,0.6s,baz=31,slow=9.5,SNR=6.6						
ARCES	ARCESS Array B	34.23	1	P	P	18 31 46.6	-1.2
	comp=N,1.5nm,0.9s,baz=173,slow=8.2,SNR=6.8						
KURBB	Kurchatov Arra	42.00	51	P	P	18 32 53.3	-0.2
	comp=N,1.1nm,0.6s,baz=275,slow=8.5,SNR=3.8						
MKAR	Makanchi Array	44.75	57	P	P	18 33 15.9	+0.1
	comp=N,1.1nm,0.5s,baz=271,slow=8.0,SNR=18						
MKAR				PcP	PcP	18 34 58.7	+0.9
	comp=N,0.3nm,0.5s,baz=255,slow=3.2,SNR=2.6						
ZALV	Zalesovo Beam	45.80	46	P	P	18 33 22.9	-1.0
	comp=N,1.2nm,0.4s,baz=273,slow=8.2,SNR=9.5						
SONM	Songino Array	60.36	50	P	P	18 35 11.1	-0.4
	comp=N,0.3nm,0.3s,baz=287,slow=5.6,SNR=3.7						
YKA	Yellowknife Ar	76.83	341	P	P	18 36 54.3	+0.4
	comp=N,0.3nm,0.5s,baz=35,slow=5.7,SNR=5.0						
ASAR	Alice Springs	119.38	99	PKP	PKPdf	18 43 52.3	+0.1
	comp=N,0.3nm,0.7s,baz=270,slow=0.9,SNR=2.1						

BJI 08 18:31:21.0±0.0, 10°.10S×161°.30E, h73km, mb4.5/23, mB5.0/15, Ms4.6/5, Ms7 4.2/4

IDC 08 18:31:23.7±2.2, 10°.22S×161°.19E, h86km±15km, mb4.0/15, mb1 4.1/16, mb1mx3.9/42, mbtmp4.3/16, MS3.3/3, Ms1 3.3/3, ms1mx2.7/58, Error ellipse: s-maj=22.4km s-min=17.7km az=101.0

NEIC 08 18:31:23.1±1.1, 10°.1S±0°.1×161°.30E±0°.09, h78km±7km, mb4.8/45, Error ellipse: s-maj=16.6km s-min=10.5km az=209.0

ISC 08 18:31:24.8±0.5**, 10°.23S**±0°.08×**161°.21E**±0°.08**, h100**km**, n86, σ1§12**/82**, mb4.7**/45**, 1C-2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.47	302	P	Pn	18 31 48.0	-2.6
	203nm,0.3s,baz=169,slow=5.7,SNR=65						
HNR				S	Sn	18 32 07.5	-2.8
	933nm,0.3s,baz=177,slow=11,SNR=30						
HNR	Honiara	1.47	302		Pn	18 31 47.3	-3.4
SANVU	Saraoutou	7.82	132	Pn	Pn	18 33 13.1	-2.7
LIFNC	LIFOU	11.99	152	Pn	Pn	18 34 11.4	-1.0
DZM	Mont Dzumac	12.80	158	P	Pn	18 34 24.2	+1.0
	0.7nm,0.3s,baz=317,slow=22,SNR=10						
DZM	Mont Dzumac	12.80	158	Pn	Pn	18 34 22.6	-0.6
OUENC	Ouen Island, N	13.27	157	Pn	Pn	18 34 26.5	-2.7
PMG	Port Moresby	13.87	272	LR	LR	18 39 38.5	
	comp=Z,144nm,19.5s,baz=74,slow=36						
CTA	Charters Tower	17.43	234	LR	LR	18 41 18.5	
	comp=Z,78nm,18.2s,baz=83,slow=34						
COEN	Coen	18.01	256	Pn	Pn	18 35 30.4	+1.6
WR0	Warramunga Arr	27.46	246	P	P	18 37 02.5	+0.8
WB0	Warramunga Arr	27.54	247	P	P	18 37 03.1	+0.7
WB0				IAmb	IAmb	18 37 05.3	
	comp=Z,6.6nm,0.6s						
WRAB	Tennant Creek	27.63	246	P	P	18 37 03.6	+0.4
WB2	Warramunga Arr	27.63	246	P	P	18 37 03.5	+0.3
WRA	Warramunga Arr	27.64	246	P	P	18 37 03.6	+0.3
	comp=Z,4.2nm,0.5s,baz=73,slow=9.3,SNR=107						
WRA	Warramunga Arr	27.64	246	P	P	18 37 03.8	+0.4
STKA	Stephens Creek	28.17	217	P	P	18 37 09.5	+1.7
H11S2	WAKE ISLAND Hy	29.05	11	T	T	19 06 36.6	
	baz=194,slow=76,SNR=5.8						
H11S3	WAKE ISLAND Hy	29.05	11	T	T	19 06 30.7	
	baz=194,slow=76,SNR=6.4						
H11S1	WAKE ISLAND Hy	29.06	11	T	T	19 06 40.8	
	baz=194,slow=76,SNR=4.2						
ASAR	Alice Springs	29.26	239	P	P	18 37 18.0	+0.3
	comp=Z,1.6nm,0.5s,baz=71,slow=9.7,SNR=17						
ASAR				LR	LR	18 46 54.4	
	comp=Z,73nm,20.2s,baz=93,slow=32						
KNRA	Kununurra	32.05	257	P	P	18 37 42.7	+0.4
KNRA				IAmb	IAmb	18 37 44.5	
	comp=Z,22nm,1.2s						
BBOO	Buckleboo	32.27	222	P	P	18 37 44.8	+0.7
BBOO				IAmb	IAmb	18 38 26.9	
	comp=Z,27nm,1.6s						
FITZ	Fitzroy Crossi	35.31	253	P	P	18 38 10.7	+0.1
FITZ				IAmb	IAmb	18 38 11.8	
	comp=Z,5.4nm,0.8s						
LUWI	Luwuk	39.27	281	P	P	18 38 44.8	+0.6
PSA00	Pilbara Seismi	41.22	249	P	P	18 39 00.6	+0.4
PSA00	Pilbara Seismi	41.22	249	P	P	18 39 00.9	+0.7
PSA00				IAmb	IAmb	18 39 02.5	
	comp=Z,27nm,1.3s						
MORW	Morawa	46.15	239	P	P	18 39 40.4	+0.8
MORW				IAmb	IAmb	18 39 46.7	
	comp=Z,11nm,1.2s						
JMZ	Minamidaito 2	46.21	321	P	P	18 39 40.0	0.0
JAGI	Jajag, Banyuwa	46.43	268	P	P	18 39 41.0	-1.0
JAGI				IAmb	IAmb	18 39 42.5	
	comp=Z,16nm,0.6s						
KKM	Kota Kinabalu	47.63	288	P	P	18 39 50.5	-0.9
KKM				IAmb	IAmb	18 40 19.9	
	comp=Z,20nm,0.9s						
UGM	Wanagama	50.06	268	P	P	18 40 09.8	-0.1
JMN	Monobe	50.85	330	P	P	18 40 16.2	+0.6
MJAR	Matsushiro Arr	51.31	336	P	P	18 40 18.9	+0.1
	comp=Z,2.7nm,0.7s,baz=176,slow=7.4,SNR=6.1						
MJAR	Matsushiro Arr	51.31	336	P	P	18 40 18.3	-0.5
MJAR				IAmb	IAmb	18 40 23.4	
	comp=Z,5.5nm,1.1s						
MAJO	Matsushiro	51.31	336	P	P	18 40 18.0	-0.8
MAJO				IAmb	IAmb	18 40 37.2	
	comp=Z,13nm,1.2s						
MAT	Matsushiro	51.31	336	P	P	18 40 19.0	+0.1
MJB9	Matsu-Tunnel	51.31	336	P	P	18 40 18.0	-0.8
MJB9				IAmb	IAmb	18 40 37.2	
	comp=Z,14nm,1.2s						
YULB	Yu-li	51.38	311	P	P	18 40 20.1	+0.5
YULB				IAmb	IAmb	18 40 37.0	
	comp=Z,25nm,1.2s						
NACB	Ninganchiao	51.63	312	P	P	18 40 19.8	-1.6
TPUB	Ta-pu	51.83	310	P	P	18 40 22.6	-0.4
SSLB	Suanglung	51.87	311	P	P	18 40 22.9	-0.4
SSLB				IAmb	IAmb	18 40 27.8	
	comp=Z,23nm,1.2s						
JNU	Nakatsue	51.90	327	P	P	18 40 23.5	+0.2
YHNB	Yeheng	52.08	312	P	P	18 40 25.5	+0.6
JHS	Saijyo	52.25	331	P	P	18 40 25.7	-0.2
KSRS	Korea Array	56.77	329	P	P	18 40 58.6	+0.1
	comp=Z,4.2nm,1.1s,baz=121,slow=8.0,SNR=5.1						
NJ2	Nanjing	58.36	318	eP	P	18 41 12.3	+2.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	Ussuriysk Ar.	60.31	336	P	P	18 41 24.3	+1.3
	comp=Z,5.3nm,0.9s,baz=136,slow=5.1,SNR=4.2						
USRK	Ussuriysk Ar.	60.31	336	P	P	18 41 22.8	-0.2
MDJ	Mudanjiang	61.63	335	P	P	18 41 32.1	+0.2
MDJ				IAmb	IAmb	18 42 08.0	
	comp=Z,11nm,1.2s						
IPM	Ipoh	61.68	281	P	P	18 41 33.7	+0.8
IPM				IAmb	IAmb	18 41 34.4	
	comp=Z,13nm,1.5s						
CN2	Changchun	62.83	332	eP	P	18 41 39.6	-0.3
CN2				S	S	18 50 02.3	+0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	BinXian	63.45	334	⇑P	P	18 41 45.2	+1.2
BNX				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GSI	Gunungsitoli	64.33	276	P	P	18 41 50.2	-0.2
GSI				IAmb	IAmb	18 41 52.0	
	comp=Z,18nm,1.2s						
BJI	Beijing	65.10	323	P	P	18 41 56.1	+1.2
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
XAN	Xi'an	66.31	314	P	P	18 42 03.4	+0.5
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XLT	XiLinHaoTe	67.66	326	⇓iP	P	18 42 13.0	+1.8
XLT				pmax	pmax		
	comp=Z,17nm,0.7s						
XLT				pmax	pmax		
	comp=Z,180nm,6.5s						
CMAR	Chiang Mai Arr	67.71	295	P	P	18 42 12.2	+0.3
	comp=Z,1.4nm,0.3s,baz=130,slow=4.6,SNR=6.6						
MA2	Magadan	70.07	354	P	P	18 42 26.2	+0.4
	comp=Z,2.0nm,0.7s,baz=136,slow=5.1,SNR=8.5						
MA2	Magadan	70.07	354	P	P	18 42 25.9	+0.2
LZH	Lanzhou	70.94	314	eP	P	18 42 37.2	+5.4
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,7.5s						
LZH				LR	LR		
	comp=Z,290nm,15.6s						
LZH				LR	LR		
	comp=Z,150nm,16.0s						
LZH				LR	LR		
	comp=Z,140nm,18.5s						
SEY	Seymchan	73.26	356	P	P	18 42 45.6	+0.8
	comp=Z,1.2nm,0.6s,baz=168,slow=6.1,SNR=13						
ULN	Ulaanbaatar	75.06	326	P	P	18 42 56.7	+0.9
ULN				IAmb	IAmb	18 42 58.3	
	comp=Z,9.1nm,0.8s						
GTA	Gaotai	75.31	315	eP	P	18 42 59.0	+1.6
GTA				pP	pP	18 43 21.2	-1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,6.5s						
GTA				LR	LR		
	comp=Z,71nm,17.1s						
GTA				LR	LR		
	comp=Z,130nm,18.5s						
GTA				LR	LR		
	comp=Z,75nm,18.5s						
SONM	Songino Array	75.41	325	P	P	18 42 59.2	+1.4
	comp=Z,9.8nm,0.7s,baz=142,slow=5.8,SNR=72						
SONM	Songino Array	75.41	325	P	P	18 42 58.8	+1.0
SONM				IAmb	IAmb	18 43 00.0	
	comp=Z,9.8nm,0.6s						
YAK	Yakutsk	76.11	345	P	P	18 43 01.9	+0.6
YAK				IAmb	IAmb	18 43 03.1	
	comp=Z,13nm,0.6s						
KDAK	Kodiak Island	77.53	23	P	P	18 43 10.0	+0.7
	comp=Z,4.0nm,0.8s,baz=243,slow=6.8,SNR=2.2						
KDAK	Kodiak Island	77.53	23	P	P	18 43 10.4	+1.0
P18K	Big Mountain,	77.68	21	P	P	18 43 09.0	-1.2
P18K				IAmb	IAmb	18 43 29.4	
	comp=Z,33nm,1.8s						
Q19K	Cape Douglas,	77.92	22	P	P	18 43 11.6	+0.1
BILL	Bilibino	78.15	2	P	P	18 43 13.3	+0.7
M19K	Big River Lodg	79.77	20	P	P	18 43 23.5	+1.9
L19K	White Mountain	79.82	19	P	P	18 43 22.6	+0.7
L19K				IAmb	IAmb	18 43 52.9	
	comp=Z,22nm,1.8s						
PPLA	Purkeypile	81.20	20	P	P	18 43 28.7	-0.7
PPLA				IAmb	IAmb	18 43 32.4	
	comp=Z,16nm,1.4s						
CAST	Castle Rocks	81.60	19	P	P	18 43 30.9	-0.4
ILAR	Eielson Array	84.21	20	P	P	18 43 44.8	+0.1
	comp=Z,0.6nm,0.6s,baz=237,slow=4.6,SNR=3.3						
WMQ	Urumqi	85.38	316	eP	P	18 43 51.3	+0.1
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
TOLK	Toolik Lake Re	85.91	16	P	P	18 43 51.8	-1.4
TOLK				IAmb	IAmb	18 43 52.0	
	comp=Z,6.9nm,1.4s						
NVAR	Mina Array Bea	88.94	51	P	P	18 44 08.8	+0.2
	comp=Z,0.4nm,0.6s,baz=227,slow=9.5,SNR=3.9						
MKAR	Makanchi Array	89.89	318	P	P	18 44 12.6	-0.1
	comp=Z,0.4nm,0.5s,baz=85,slow=6.9,SNR=7.0						
SYO	Syowa Base	91.22	198	⇓eX	P	18 44 16.4	-2.0
KURBB	Kurchatov Arra	93.21	321	P	P	18 44 27.6	-0.3
	comp=Z,0.8nm,0.9s,baz=92,slow=4.6,SNR=2.8						
YKA	Yellowknife Ar	96.31	28	P	P	18 44 41.9	0.0
	comp=Z,0.1nm,0.4s,baz=258,slow=4.7,SNR=4.2						
ARCES	ARCESS Array B	114.39	344	PKP	PKiKP	18 49 52.4	0.0
	comp=Z,1.5nm,0.9s,baz=64,slow=4.1,SNR=1.7						
AKASG	Malin Array Be	123.70	325	PKP	PKiKP	18 50 10.2	-0.9
	comp=Z,0.2nm,0.4s,baz=66,slow=1.8,SNR=4.8						

IDC 08 18:34:59.5±3.2, 36°.78N×71°.82E, h103km±26km, mb3.4/13, mb1 3.6/18, mb1mx3.5/49, mbtmp3.9/18, Error ellipse: s-maj=24.8km s-min=16.2km az=2.0

BJI 08 18:35:02.8±0.0, 37°.49N×71°.58E, h125km, mb4.6/18, mB4.5/13

NNC 08 18:35:02.5±2.2, 37°.57N×71°.47E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=21.7km s-min=12.1km az=154.0

MOS ***08*** *18:35:03.7±1.1, 37.28N×71.65E, h135km, mb4.2/12, Error ellipse: s-maj=8.5km s-min=4.8km az=81.0*
NEIC ***08*** *18:35:05.2±1.9, 37.28N±0.01×71.63E±0.08, h140km±5km, mb4.2/41, Error ellipse: s-maj=8.8km s-min=1.7km az=94.0*
SOME ***08*** *18:35:14.1, 39.02N×71.97E, h0km*
ISC 08 18:35:05.2±0.4**, 37.19N**±0.04×**71.68E**±0.04**, h150km, n180, σ2.25**/202**, mb4.0**/40**, 15C-12D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.11	330	Pn	Pn	18 35 40.2	-1.5
GAR				Sn	Sn	18 36 06.0	-3.9
CHGR	Chuyangaron	2.48	307	PN	Pn	18 35 44.7	-1.4
CHGR	Chuyangaron	2.48	307		Pn	18 35 44.7	-1.4
CHGR				Sn	Sn	18 36 12.0	-5.7
CEP	Cherat	3.36	177	P	Pn	18 35 57.6	+0.2
CEP				S	Sn	18 36 37.0	-0.7
KBL	Kabul	3.40	220	PN	Pn	18 35 58.2	+0.3
KBL						18 36 39.6	
KBL	Kabul	3.40	220	Pn	Pn	18 35 58.2	+0.3
KBL				Sn	Sn	18 36 39.6	+0.9
CHCP	Chirah Chowk	3.75	159	P	Pn	18 36 03.4	+1.1
NIL	Nilore	3.75	160	PN	Pn	18 36 03.0	+0.7
NIL	Nilore	3.75	160	Pn	Pn	18 36 03.0	+0.7
NIL					Sn	18 36 44.7	-1.9
KSH	Kashi	4.10	54	P	Pn	18 36 00.7	-6.1
KSH				S	Sn	18 36 41.2	-14
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,1μm,0.7s						
THW	Thamme Wali	4.38	179	P	Pn	18 36 10.4	-0.1
TAS	Tashkent	4.53	337	PN	Pn	18 36 09.2	-3.2
TAS						18 37 02.0	
TAS	Tashkent	4.53	337		Pn	18 36 09.2	-3.2
TAS				Sn	Sn	18 37 02.0	-2.7
AML	Almayashu	5.18	17	P	Pn	18 36 20.3	-1.0
	SNR=429						
JMU	Jammu	5.18	148	eP	Pn	18 36 20.7	-0.3
JMU				eS	Sn	18 37 14.8	-5.4
UCH	Uchtor	5.49	23	P	Pn	18 36 24.5	-0.9
	SNR=105						
MRKS	Merke	5.68	12	eP	Pn	18 36 30.5	+2.8
	39nm,0.5s						
MRKS				eS	Sn	18 37 29.5	-2.6
	111nm,0.4s						
EKS2	Erkin-Say	5.70	16	P	Pn	18 36 27.3	-0.7
	SNR=60						
DZA	Taraz	5.71	357	eP	Pn	18 36 29.5	+1.5
	142nm,0.7s						
DZA				eS	Sn	18 37 28.0	-4.7
	229nm,0.3s						
THN	Thein Dam	5.79	144	eP	Pn	18 36 28.1	-1.0
THN				eS	Sn	18 37 29.7	-4.8
AAK	Ala-Archa	5.86	21	P	Pn	18 36 29.4	-0.7
	21nm,0.3s,baz=186,slow=6.2,SNR=418						
AAK				S	Sn	18 37 32.0	-4.5
	8.6nm,0.3s,baz=334,slow=23,SNR=18						
AAK	Ala-Archa	5.86	21	P	Pn	18 36 29.6	-0.5
	SNR=108						
AAK	Ala-Archa	5.86	21	Pn	Pn	18 36 28.9	-1.2
AAK				Sn	Sn	18 37 32.4	-4.2
AAK	Ala-Archa	5.86	21	⇓P	Pn	18 36 27.3	-2.8
	38nm,0.4s						
AAK				⇓S	Sn	18 37 32.8	-3.7
	70nm,0.5s						
KKAR	Karatay Array	5.98	352	PN	Pn	18 36 30.6	-1.0
KKAR	Karatay Array	5.98	352	Pn	Pn	18 36 30.6	-1.0
KK09	Karatay Array	6.00	352	⇓P	Pn	18 36 29.5	-2.3
	13nm,0.3s,baz=176,slow=13						
KK09				⇑S	Sn	18 37 33.6	-6.0
	34nm,0.5s,baz=174,slow=22						
BRLS	Borolday	6.01	347	eP	Pn	18 36 30.1	-1.8
	16nm,0.3s						
BRLS				eS	Sn	18 37 29.0	-11
	62nm,0.8s						
ULHL	Ulahol	6.15	33	P	Pn	18 36 32.6	-1.5
	SNR=13						
DHRM	DHARAMSHALA	6.22	141	eP	Pn	18 36 33.3	-1.8
DHRM				eS	Sn	18 37 39.1	-6.2
DHRM				IAML		18 37 42.6	
	comp=E,480nm,0.7s						
DHRM				IAML		18 37 43.4	
	comp=N,366nm,0.8s						
CHMS	Chumysh	6.26	21	P	Pn	18 36 34.3	-1.1
	SNR=49						
USP	Ospenovka	6.45	19	P	Pn	18 36 36.4	-1.4
	SNR=28						
TKM2	Tokmak 2	6.47	26	P	Pn	18 36 37.2	-1.1
	SNR=59						
TKM2	Tokmak 2	6.47	26	i PN	Pn	18 36 37.2	-1.1
TKM2				pmax	pmax		
	comp=Z,32nm,0.5s						
TKM2	Tokmak 2	6.47	26	⇑P	Pn	18 36 37.0	-1.2
	comp=Z,32nm,0.5s						
TKM2				⇑S	Sn	18 37 47.5	-3.6
	comp=Z,20nm,0.6s						
SGDS	Sogindy	6.65	19	ePN	Pn	18 36 38.9	-1.7
SGDS	Sogindy	6.65	19	eP	Pn	18 36 43.0	+2.4
	comp=Z,9.0nm,0.7s						
SGDS				eS	Sn	18 37 52.0	-3.3
	comp=Z,22nm,0.8s						
TNSS	Tian-Shan	7.10	33	eP	Pn	18 36 59.4	+13
	comp=Z,2.6nm,0.5s						
TNSS				eS	Sn	18 38 21.2	+15
	comp=Z,7.6nm,0.3s						
MDOK	Medeo	7.25	33	PN	Pn	18 36 48.8	+0.2
MDOK	Medeo	7.25	33	⇑P	Pn	18 36 48.1	-0.5
	comp=Z,6.9nm,0.5s						
MDOK				⇓S	Sn	18 38 05.9	-3.9
	comp=Z,25nm,1.0s						
SMLA	Simla	7.56	141	eP	Pn	18 36 50.7	-2.0
SMLA				eS	Sn	18 38 08.2	-8.9
SMLA				IAML		18 38 10.4	
	comp=E,204nm,0.5s						
SMLA				IAML		18 38 10.6	
	comp=N,107nm,0.1s						
BTLS	Baital	8.05	12	ePN	Pn	18 36 57.5	-1.6
HRA	Herat	8.16	253	Pn	Pn	18 37 00.6	-0.4
KPKS	Kokpek	8.24	38	ePN	Pn	18 37 00.2	-1.6
SHLS	Shalkode	8.43	43	ePN	Pn	18 37 06.4	+2.1
ARXS	Arharly	8.43	32	ePN	Pn	18 37 02.0	-2.3
PDGK	Podgornoye	8.56	42	PN	Pn	18 37 03.2	-2.9
PDGK				S	Sn	18 38 43.6	+2.4
PDGK	Podgornoye	8.56	42	⇑P	Pn	18 37 03.2	-2.9
	comp=N,3.2nm,0.6s						
PDGK				⇓S	Sn	18 38 43.6	+2.4
	comp=N,11nm,1.1s						
DDI	Dehra Dun	8.66	140	eP	Pn	18 37 07.5	+0.1
NDI	New Delhi	9.67	150	eS	Sn	18 38 59.4	-8.6
SONA	Sohna	10.00	151	eS	Sn	18 39 07.8	-8.2
PTH	Pithoragarh	10.43	134	eP	Pn	18 37 29.2	-1.9
PTH				eS	Sn	18 39 16.8	-10
GEYT	Alibeck	10.80	278	P	Pn	18 37 33.0	-2.7
	comp=N,3.7nm,0.3s,baz=101,slow=14,SNR=22						
GEYT				S	Sn	18 39 29.5	-5.6
	comp=N,2.4nm,0.3s,baz=99,slow=18,SNR=4.0						
GYA0	ALIBECK ARRAY	10.80	278	P	Pn	18 37 33.6	-2.2
GYA0				S	Sn	18 39 35.3	+0.1
GYA0B	ALIBECK ARRAY	10.80	278	Pn	Pn	18 37 33.1	-2.7
GYA0B	ALIBECK ARRAY	10.80	278	⇑P	Pn	18 37 33.6	-2.1
GYA0B				⇓S	Sn	18 39 35.3	+0.2
OTUK	Ortayu	11.06	2	P	Pn	18 37 36.6	-2.5
OTUK				S	Sn	18 39 37.3	-4.1
OTUK	Ortayu	11.06	2	⇑P	Pn	18 37 36.6	-2.5
	comp=N,3.6nm,0.9s						
OTUK				⇑S	Sn	18 39 37.3	-4.1
	comp=N,2.8nm,1.1s						
MAKZ	Makanchi	12.28	35	P	Pn	18 37 53.1	-1.9
MAKZ	Makanchi	12.28	35	Pn	Pn	18 37 53.1	-1.9
MK31	Makanchi Array	12.41	36	P	Pn	18 37 54.8	-1.9
MK31	Makanchi Array	12.41	36		Pn	18 37 54.8	-1.9
MK31	Makanchi Array	12.41	36	⇑P	Pn	18 37 55.9	-0.8
	comp=N,1.2nm,0.4s,baz=207,slow=9.6,SNR=61						
MKAR	Makanchi Array	12.41	36	P	Pn	18 37 55.2	-1.6
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=20						
MKAR	Makanchi Array	12.41	36	i P	Pn	18 37 56.0	-0.8
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	12.41	36	Pn	Pn	18 37 54.6	-2.1
PYUN	Piuthan	13.14	130	eP	Pn	18 38 02.1	-4.3
	comp=Z,38nm,0.4s						
DANN	Dangsing	13.44	127	eP	Pn	18 38 06.8	-3.5
	comp=Z,34nm,0.3s						
KOLN	Koldanda	13.75	130	eP	Pn	18 38 10.4	-3.7
	comp=Z,18nm,0.3s						
WMQ	Urumqi	13.86	56	eP	P	18 38 16.8	-1.9
WMQ				LR	LR		
	comp=Z,800nm,6.9s						
WMQ				LR	LR		
	comp=Z,370nm,8.3s						
WMQ				LR	LR		
	comp=Z,130nm,19.3s						
GKN	Gorkha	14.24	126	eP	Pn	18 38 17.2	-3.1
	comp=Z,36nm,0.3s						
KURBB	Kurchatov Arra	14.30	18	P	Pn	18 38 16.8	-3.9
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=12						
KURBB	Kurchatov Arra	14.30	18	P	P	18 38 23.0	-0.5
KURBB	Kurchatov Arra	14.30	18	⇓P	P	18 38 23.0	-0.5
	comp=Z,9.2nm,0.6s						
KURK	Kurchatov	14.41	18	⇓eP	Pn	18 38 17.7	-4.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KURK	Kurchatov	14.41	18	Pn	Pn	18 38 21.5	-0.5
KURK	Kurchatov	14.41	18	⇑P	P	18 38 24.5	-0.1
	comp=Z,11nm,0.9s						
ABKAR	Akbulak array	14.77	328	Pn	Pn	18 38 25.8	-0.8
KKN	Kakani	14.80	125	eP	Pn	18 38 23.8	-3.6
DMN	Daman	14.81	126	eP	Pn	18 38 24.6	-2.9
PKIN	Phulchoki	15.02	126	eP	Pn	18 38 27.0	-3.1
	comp=Z,27nm,0.5s						
PKI	Pulchoki	15.03	126	eP	Pn	18 38 27.2	-3.2
GUN	Gumba	15.11	124	eP	Pn	18 38 27.3	-4.1
	comp=Z,41nm,0.5s						
JIRN	Jiri	15.48	124	eP	Pn	18 38 32.6	-3.4
	comp=Z,64nm,0.4s						
BVAR	Borovoye Array	15.87	357	P	Pn	18 38 38.6	-1.5
	comp=Z,0.9nm,0.3s,baz=200,slow=14,SNR=12						
BRVK	Borovoye	15.90	357	deP	Pn	18 38 39.1	-1.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	Borovoye	15.90	357		Pn	18 38 39.3	-1.2
BRVK	Borovoye	15.90	357	⇑P	P	18 38 41.6	+0.4
	comp=Z,6.9nm,1.0s						
RAMN	Ramite	16.23	125	eP	Pn	18 38 42.1	-2.9
	comp=Z,26nm,0.4s						
AKTO	Aktyubinsk	16.48	328	P	P	18 38 48.5	+0.9
	comp=Z,0.6nm,0.3s,baz=140,slow=11,SNR=5.9						
AKTO				S	S	18 41 36.5	-14
	comp=Z,0.4nm,0.3s,baz=154,slow=20,SNR=4.5						
TAPN	Taplejung	16.71	121	eP	P	18 38 48.6	-2.0
	comp=Z,18nm,0.4s						
ODAN	Odare	16.81	123	eP	P	18 38 50.5	-1.2
UOSS	Minazif	17.99	232		P	18 39 04.5	+0.1
UOSS				IAmb	IAmb	18 39 17.3	
	comp=Z,30nm,1.4s						
GOMU	GeErMu	18.57	86	P	Pn	18 39 15.3	+2.2
GOMU				S	S	18 42 34.6	-0.5
GOMU				sS	Sn	18 42 42.6	+0.4
GOMU				pmax	pmax		
	comp=Z,84nm,10.0s						
GOMU				LR	LR		
	comp=Z,340nm,15.4s						
GOMU				LR	LR		
	comp=Z,500nm,14.6s						
GOMU				LR	LR		
	comp=Z,81nm,14.7s						
ZAA0	Zalesovo Array	19.07	24	P	P	18 39 15.7	-0.2
ZAA0				IAmb	IAmb	18 39 19.1	
	comp=Z,11nm,0.6s						
ZALV	Zalesovo Beam	19.07	24	P	Pn	18 39 16.2	-2.0
	comp=Z,2.8nm,0.3s,baz=223,slow=10,SNR=44						
ZALV	Zalesovo Beam	19.07	24	i P	Pn	18 39 16.2	-2.0
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZALV	Zalesovo Beam	19.07	24	P	P	18 39 15.9	+0.1
SHL	Shillong	20.73	118	P	P	18 39 34.6	+0.4
SHL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SHL	Shillong	20.73	118	P	P	18 39 34.5	+0.4
SHL				IAmb	IAmb	18 40 09.2	
	comp=Z,8.3nm,0.5s						
ARU	Arti	21.17	340	P	P	18 39 39.9	+1.5
	comp=Z,0.6nm,0.4s,baz=152,slow=8.3,SNR=6.2						
ARU	Arti	21.17	340c	iP	P	18 39 39.7	+1.3
ARU						18 40 13.6	
ARU				S	S	18 43 26.6	+1.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	Arti	21.17	340	P	P	18 39 36.8	-1.6
GNI	Garni	21.22	286	P	P	18 39 42.6	+3.4
	comp=Z,6.8nm,0.8s,baz=355,slow=11,SNR=4.5						
GNI	Garni	21.22	286	P	P	18 39 37.1	-2.1
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
GNI	Garni	21.22	286	P	P	18 39 37.1	-2.1
GNI				IAmb	IAmb	18 39 49.7	
	comp=Z,11nm,0.9s						
ZEI	Tsey	21.96	293	eP	P	18 39 52.0	+4.9
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA	Gaotai	22.16	76	⇑P	P	18 39 50.9	+1.9
GTA				pP	pP	18 40 19.3	+1.9
GTA				pmax	pmax		
	comp=Z,18nm,0.8s						
GTA				pmax	pmax		
	comp=Z,110nm,5.1s						
GTA				LR	LR		
	comp=Z,410nm,14.5s						
GTA				LR	LR		
	comp=Z,190nm,15.6s						
GTA				LR	LR		
	comp=Z,270nm,16.4s						
ONI	Oni	22.27	293	P	P	18 39 47.9	-2.1
ONI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ONI	Oni	22.27	293	P	P	18 39 47.9	-2.1
ONI				IAmb	IAmb	18 40 01.4	
	comp=Z,7.9nm,1.2s						
KBZ	Khabaz	22.79	296	P	P	18 39 57.3	+2.5
	comp=Z,1.1nm,0.8s,baz=139,slow=6.0,SNR=3.9						
KBZ	Khabaz	22.79	296	⇑eP	P	18 39 54.2	-0.6
KBZ				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KIV	Kislovodsk	22.97	296	eP	P	18 39 56.4	-0.2
KIV				eS	S	18 43 56.1	+0.7
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV	Kislovodsk	22.97	296	P	P	18 39 55.4	-1.2
KIV				IAmb	IAmb	18 40 19.8	
	comp=Z,6.4nm,0.8s						
MOY	Mondy	25.23	46	eP	P	18 40 20.2	+3.0
LZH	Lanzhou	25.77	83	eP	P	18 40 24.4	+2.2
LZH				pP	pP	18 40 55.2	+0.4
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
ZAK	Zakamensk	26.13	50	eP	P	18 40 24.5	-0.7
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	Songino Array	27.50	56	P	P	18 40 38.8	+1.3
	comp=Z,2.1nm,0.7s,baz=259,slow=9.3,SNR=20						
SONM	Songino Array	27.50	56	P	P	18 40 38.6	+1.1
PZH	PanZhiHua	27.56	104	P	P	18 40 45.0	+6.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
ULN	Ulaanbaatar	27.94	56	⇓eP	P	18 40 43.5	+2.0
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ULN	Ulaanbaatar	27.94	56	P	P	18 40 42.6	+1.1
ULN				IAmb	IAmb	18 40 44.0	
	comp=Z,3.1nm,0.8s						
CMAR	Chiang Mai Arr	30.32	121	P	P	18 41 02.7	+0.1
	comp=Z,0.4nm,0.3s,baz=304,slow=9.2,SNR=4.9						
CMAR	Chiang Mai Arr	30.32	121	i P	P	18 41 06.1	+3.5
HHC	Hu-ho-hao-te	31.01	71	eP	P	18 41 10.7	+2.0
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
AKASG	Malin Array Be	32.95	308	P	P	18 41 26.5	+1.2
	comp=Z,0.4nm,0.4s,baz=110,slow=7.9,SNR=6.5						
AKASG	Malin Array Be	32.95	308	P	P	18 41 26.0	+0.7
AKBB	Malin Array Si	32.95	308	P	P	18 41 25.3	0.0
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.5s						
AKBB	Malin Array Si	32.95	308	P	P	18 41 25.3	0.0
AKBB				IAmb	IAmb	18 41 27.0	
	comp=Z,7.7nm,1.5s						
NRIK	Noril'sk	33.35	10	P	P	18 41 30.2	+1.6
	comp=Z,3.2nm,0.6s,baz=202,slow=6.7,SNR=3.8						
NRIK	Noril'sk	33.35	10	⇓eP	P	18 41 30.8	+2.2
NRIK				i *PP	pP	18 41 58.5	-3.1
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NRIK	Noril'sk	33.35	10	P	P	18 41 30.1	+1.6
NRIK				IAmb	IAmb	18 41 31.5	
	comp=Z,4.3nm,0.7s						
BURAR	Bucovina Array	35.38	302	P	P	18 41 47.6	+1.1
BURAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BURAR	Bucovina Array	35.38	302	P	P	18 41 47.6	+1.1
FINES	FINESS Array B	37.23	325	P	P	18 42 03.9	+2.1
	comp=Z,1.4nm,0.8s,baz=122,slow=8.2,SNR=6.9						
ARCES	ARCESS Array B	40.72	337	P	P	18 42 33.0	+2.2
	comp=Z,1.2nm,0.5s,baz=122,slow=9.6,SNR=22						
ARCES	ARCESS Array B	40.72	337	P	P	18 42 33.0	+2.2
IPM	Ipoh	42.20	133	P	P	18 42 44.1	+0.7
IPM				IAmb	IAmb	18 43 18.0	
	comp=Z,14nm,1.4s						
GSI	Gunungsitoli	42.95	140	P	P	18 42 50.1	+0.6
YAK	Yakutsk	43.09	36	⇓eP	P	18 42 50.9	+0.9
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NC405	NORSAR Array S	43.93	323	P	P	18 42 55.9	-0.9
NC602	NORSAR Array S	43.98	322	P	P	18 42 57.3	+0.1
KSAR	Wonju Array Be	44.12	72	P	P	18 42 59.7	+1.1
KSAR	Wonju Array Be	44.12	72	P	P	18 42 59.7	+1.1
NB2	NORSAR Subarra	44.17	323	P	P	18 43 00.1	+1.4
	comp=Z,1.3nm,0.7s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.17	323	P	P	18 43 00.6	+1.9
	comp=Z,0.9nm,0.8s,baz=93,slow=7.6,SNR=3.3						
NBO00	NORSAR Array S	44.38	323	P	P	18 43 00.3	-0.1
NC204	NORSAR Array S	44.40	323	P	P	18 43 02.0	+1.4
TIXI	Tiksi	44.93	22c	eP	P	18 43 05.5	+0.9
TIXI				pmax	pmax		
	comp=Z,11nm,2.5s						
TIXI	Tiksi	44.93	22	P	P	18 43 05.5	+0.9
TIXI				IAmb	IAmb	18 43 06.1	
	comp=Z,2.9nm,0.5s						
SUMG	Summit	60.59	341	P	P	18 45 01.5	+1.6
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.6s						
SUMG	Summit	60.59	341	P	P	18 45 01.5	+1.6
SUMG				IAmb	IAmb	18 45 21.4	
	comp=Z,5.7nm,1.6s						
TORD	Torodi Ar. Bea	66.28	269	P	P	18 45 38.4	+0.7
	comp=Z,0.2nm,0.3s,baz=54,slow=6.1,SNR=1.8						
RES	Resolute Bay	68.05	356	P	P	18 45 49.6	+1.7
	comp=Z,0.5nm,0.7s,baz=9.5,slow=6.1,SNR=2.0						
RES	Resolute Bay	68.05	356	P	P	18 45 49.8	+1.9
RES				pmax	pmax		
	comp=Z,2.0nm,1.3s						
RES	Resolute Bay	68.05	356	P	P	18 45 49.8	+1.9
TOLK	Toolik Lake Re	70.12	15	P	P	18 46 02.6	+1.8
TOLK				IAmb	IAmb	18 46 02.9	
	comp=Z,2.2nm,0.6s						
COLD	Coldfoot	71.16	16	P	P	18 46 08.8	+1.7
COLD				IAmb	IAmb	18 46 51.0	
	comp=Z,3.9nm,1.4s						
IMAR	Indian Mountai	71.35	18	P	P	18 46 09.3	+1.1
H21K	Melozitna Rive	71.85	18	P	P	18 46 12.7	+1.5
H21K				IAmb	IAmb	18 46 16.4	
	comp=Z,8.3nm,1.6s						
BMAR	Burnt Mountain	72.15	14	P	P	18 46 15.0	+2.0
H24K	Noodor Dome	72.84	16	P	P	18 46 18.4	+1.2
C36M	Paulatuk	73.14	6	P	P	18 46 20.0	+1.3
CAST	Castle Rocks	73.86	19	P	P	18 46 24.9	+1.8
CAST				IAmb	IAmb	18 46 25.5	
	comp=Z,6.1nm,1.2s						
ILAR	Eielson Array	73.97	16	P	P	18 46 22.0	-1.7
	comp=Z,0.3nm,0.9s,baz=317,slow=4.9,SNR=4.5						
KTH	Kantishna Hill	74.04	18	P	P	18 46 25.1	+0.8
KTH				IAmb	IAmb	18 47 06.8	
	comp=Z,8.0nm,1.5s						
PPLA	Purkeypile	74.26	19	P	P	18 46 26.6	+1.0
RND	Reindeer	74.68	18	P	P	18 46 28.5	+0.6
RND				pmax	pmax		
	comp=Z,8.0nm,1.4s						
RND	Reindeer	74.68	18	P	P	18 46 28.5	+0.6
RND				IAmb	IAmb	18 46 36.0	
	comp=Z,7.7nm,1.4s						
SCRK	Sand Creek	75.29	15	P	P	18 46 32.2	+0.8
SCRK				IAmb	IAmb	18 46 33.7	
	comp=Z,9.9nm,1.6s						
DHY	Denali Highway	75.31	17	P	P	18 46 32.2	+0.5
DHY				IAmb	IAmb	18 46 36.5	
	comp=Z,5.7nm,1.4s						
SML	Sawmill	76.16	18	P	P	18 46 37.6	+1.2
SML	Sawmill	76.16	18	P	P	18 46 37.6	+1.2
SCM	Sheep Creek Mo	76.39	18	P	P	18 46 38.9	+1.2
SCM				pmax	pmax		
	comp=Z,36nm,1.4s						
SCM	Sheep Creek Mo	76.39	18	P	P	18 46 38.9	+1.2
YKA	Yellowknife Ar	80.53	3	P	P	18 47 01.8	+1.6
	comp=Z,1.0nm,0.4s,baz=350,slow=5.5,SNR=23						
YKA	Yellowknife Ar	80.53	3	i P	P	18 47 01.7	+1.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	81.89	122	P	P	18 47 06.1	-1.9
	comp=Z,0.3nm,0.8s,baz=328,slow=5.6,SNR=2.3						
WRA	Warramunga Arr	81.89	122	IAmb	IAmb	18 47 14.6	
	comp=Z,0.2nm,1.5s						
ASAR	Alice Springs	84.20	125	P	P	18 47 16.3	-3.6
	comp=Z,0.2nm,0.6s,baz=308,slow=4.6,SNR=2.1						

ISN ***08*** *19:07:27.2±1.4, 32.42N×47.96E, h21km±8km, ML3.1*
TEH ***08*** *19:07:27.3, 32.53N×47.96E, h8km, ML3.1*
ISC 08 19:07:29.2±1.0**, 32.51N**±0.04×**47.90E**±0.03**, h15km, n39, σ1.22**/45**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.01	358	ePg	Pb	19 07 46.8	-1.6
IKFM				eSg	Sb	19 08 00.8	-0.7
IKFM				e		19 08 12.0	
	comp=Z,10μm,0.6s						
IDOB	Doab	1.29	10	ePg	Pn	19 07 51.2	-1.7
IDOB				e		19 08 19.0	
	comp=Z,3μm,1.0s						
AHWZ	Ahwaz	1.34	152	ePg	Pn	19 07 53.7	+0.4
AMIS	Naft Sefid	1.45	125	ePg	Pn	19 07 54.4	-0.5
AMIS				eSg	Sg	19 08 14.8	-1.1
RAFI	Al-Rafai	1.71	243	ePg	Pn	19 07 59.0	+0.6
RAFI				eSg	Sn	19 08 20.0	+0.1
RAFI				AML	AML	19 08 26.1	
	comp=E,289nm,0.5s						
IBDR	Badra	1.76	290	ePg	Pn	19 08 00.0	+0.9
IBDR				eSg	Sb	19 08 24.0	+0.9
IBDR				AML	AML	19 08 29.8	
	comp=E,197nm,0.6s						
IBDR				AML	AML	19 08 31.8	
	comp=N,192nm,0.6s						
KCHF	Cheshme Sefid,	1.90	338	ePn	Pb	19 08 03.3	-0.4
KCHF				e		19 08 35.3	
	comp=Z,3μm,0.5s						
IBZA	Bozab	1.95	359	ePn	Pb	19 08 03.5	-1.1
IBZA				e		19 08 38.7	
	comp=Z,3μm,1.0s						
KER	Kermanshah	1.98	341	ePn	Pb	19 08 04.4	-0.5
KHMZ	Khomeyn	2.12	54	ePn	Pb	19 08 06.8	-0.6
IGHG	Ghaleghazi	2.13	329	ePn	Pn	19 08 04.7	+0.3
IGHG				e		19 08 54.0	
	comp=Z,3μm,0.7s						
IALM	Almabolaq	2.35	5	ePn	Pn	19 08 08.2	+0.6
IDHR	Dehrash	2.52	330	ePn	Pn	19 08 10.2	+0.4
IDHR				e		19 08 51.7	
	comp=Z,2μm,0.4s						
HAGD	Aghdareh	2.53	24	ePn	Pn	19 08 10.6	+0.7
HAGD				e		19 08 59.9	
	comp=Z,892nm,0.5s						
IPIR	Pirpir	2.53	85	ePn	Pn	19 08 11.3	+1.3
IPIR				e		19 09 02.4	
	comp=Z,793nm,0.8s						
SHK1	Shahrekord	2.53	93	ePn	Pn	19 08 10.1	+0.1
SHK1				e		19 09 00.8	
	comp=Z,483nm,0.8s						
SNGE	Sanandaj	2.62	350	ePn	Pn	19 08 11.1	0.0
ASAO	Ashtian	2.70	41	ePn	Pn	19 08 14.3	+2.0
BHD	Baghdad	3.06	285	ePn	Pn	19 08 17.0	+0.1
BHD				eSn	Sn	19 08 54.0	+0.8

QAMS	**Qamsar**	**3.18**	**66**	*e*Pn	**Pn**	**19 08 20.6**	**+1.7**
QAMS				*e*		19 09 17.4	
	comp=Z,234nm,0.4s						
IKLH	**Kolahrood**	**3.20**	**74**	*e*Pn	**Pn**	**19 08 20.5**	**+1.4**
IKLH				*e*		19 09 21.7	
	comp=Z,292nm,0.7s						
IRAZ	**Razeghan**	**3.34**	**30**	*e*Pn	**Pn**	**19 08 23.0**	**+1.9**
IRAZ				*e*		19 08 26.9	
	comp=Z,688nm,0.6s						
GHVR	**GHOM**	**3.45**	**54**	*e*Pn	**Pn**	**19 08 24.3**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.48**	**23**	*e*Pn	**Pn**	**19 08 22.9**	**-0.1**
KLNJ	**Kolanjah**	**3.48**	**114**	*e*Pn	**Pn**	**19 08 22.6**	**-0.6**
KLNJ				*e*		19 09 34.3	
	comp=Z,275nm,0.6s						
IGAR	**Gharneh**	**3.50**	**91**	*e*Pn	**Pn**	**19 08 24.1**	**+0.8**
IQOM	**Qom**	**3.52**	**48**	*e*Pn	**Pn**	**19 08 24.4**	**+0.8**
IQOM				*e*		19 09 35.3	
	comp=Z,237nm,1.0s						
IZEF	**Zefreh**	**3.75**	**83**	*e*Pn	**Pn**	**19 08 26.6**	**-0.2**
IZEF				*e*		19 09 32.8	
	comp=Z,199nm,0.8s						
KRSH	**Karshahi**	**3.84**	**67**	*e*Pn	**Pn**	**19 08 28.7**	**+0.9**
IRAM	**Ramesheh**	**3.87**	**99**	*e*Pn	**Pn**	**19 08 27.7**	**-0.6**
IRAM				*e*		19 09 47.7	
	comp=Z,266nm,1.0s						
IVRN	**Varamin**	**4.04**	**51**	*e*Pn	**Pn**	**19 08 31.5**	**+1.0**
IVRN				*e*		19 08 50.6	
	comp=Z,276nm,0.5s						
ISFB	**Sefidab**	**4.07**	**62**	*e*Pn	**Pn**	**19 08 32.1**	**+1.2**
IKRK	**Kirkuk**	**4.13**	**315**	*e*Pn	**Pn**	**19 08 32.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**19 09 21.0**	**+1.3**
NASN	**Na'in**	**4.15**	**85**	*e*Pn	**Pn**	**19 08 35.3**	**+3.0**
QALM	**Alamut, Qazvin**	**4.52**	**29**	*e*Pn	**Pn**	**19 08 37.0**	**-0.3**
QALM				*e*		19 10 16.8	
	comp=Z,178nm,0.8s						
DAMV	**Damavand**	**4.59**	**46**	*e*Pn	**Pn**	**19 08 39.3**	**+1.0**
ANAR	**Anarak**	**4.95**	**81**	*e*Pn	**Pn**	**19 08 43.3**	**+0.1**
ISHM	**Shahmirzad**	**5.55**	**52**	*e*Pn	**Pn**	**19 08 52.6**	**+1.1**
YZKH	**Yazd**	**5.66**	**89**	*e*Pn	**Pn**	**19 08 56.5**	**+3.7**

IDC 08 19:09:52.9±3.1**,31°.74S×177°.89W,h0km,mb3.4**/2**, mb1 3.7**/3**,mb1mx3.3**/30**,mbtmp3.5**/3**,ML3.3**/1**,Error ellipse: s-maj=74.9km s-min=46.2km az=119.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.69**	**211**	Pn	Pn	19 11 45.6	-0.6
	0.5nm,0.3s,baz=283,slow=4.8,SNR=8.6						
URZ				Sn	Sn	19 13 09.2	-4.8
	0.4nm,0.3s,baz=248,slow=21,SNR=1.6						
ASAR	**Alice Springs**	**43.15**	**268**	P	P	19 17 55.5	0.0
	0.3nm,0.7s,baz=110,slow=7.6,SNR=1.9						
WRA	**Warramunga Arr**	**44.26**	**273**	P	P	19 18 04.3	-0.1
	0.4nm,0.5s,baz=113,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**146.43**	**339**	PKPbc	PKPdf	19 29 34.4	+0.5
	1.6nm,0.9s,baz=64,slow=4.4,SNR=5.3						

*MAN **08** 19:42:29.6,6°.43N×125°.73E,h197km,mb5.3,ML4.3, MS4.5*
MAN INTENSITY II - GENERAL SANTOS.
*IDC **08** 19:42:32.6±0.3,6°.68N×125°.51E,h176km±2km,mb4.0/36, mb1 4.1/39,mb1mx4.0/59,mbtmp4.5/39,MS2.5/1, Ms1 2.5/1,ms1mx2.2/79,Error ellipse: s-maj=11.6km s-min=6.7km az=71.0*
*DJA **08** 19:42:32.3±0.3,7°N±3°×12°6E±°,h167km±3km,M4.7/83, mb4.9/83,mB5.2/33,MLv5.5/9,Mw(mB)4.6/33, MwMwp4.4/1,Mwp4.8/1*
*NEIC **08** 19:42:34.0±1.9,6°.66N±0°.06×125°.59E±0°.08,h181km±3km, mb4.7/158,Error ellipse: s-maj=10.9km s-min=8.3km az=83.0*
ISC 08 19:42:33.2±0.4**,6°.63N**±0°.03×**125°.61E**±0°.04**,h181**km±4km**, h182km:pP-P,n504,**σ**1**s**.18**/531**,mb4.7**/145**,25C-51D,Fault plane solution: NP1:**φs82.44169°**,**δ86.41070°**,** λ107.08935°. **NP2:**φs183.95163°**,**δ17.45120°**,**λ12.04940°. **Principal axes:** T Plg45.9578°**,** Azm9.8333°**;** N Plg17.0548°**,** Azm261.3391°**;** P Plg39.0717°**,** Azm156.9172°**; Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.44**	**356**	P	**Pn**	**19 42 57.1**	**-0.8**
	970nm,0.3s,baz=73,slow=1.0,SNR=226						
DAV				S	**Sn**	**19 43 15.9**	**-1.2**
	1μm,0.3s,baz=106,slow=21,SNR=8.7						
DAV	**Davao City (W)**	**0.44**	**356**	Pn	**Pn**	**19 42 57.7**	**-0.3**
DAV				Sn	**Sn**	**19 43 16.0**	**-1.2**
DAV	**Davao City (W)**	**0.44**	**356**	P	**Pn**	**19 42 57.8**	**-0.2**
MATI	**Mati**	**0.72**	**64**	⇓*e*P	**Pn**	**19 42 58.6**	**-0.6**
GSPH	**General Santos**	**0.85**	**231**	⇓*e*P	**Pn**	**19 42 59.2**	**-1.0**
GSPH				*i* S	**Sn**	**19 43 19.1**	**-1.9**
CTBH	**Cotabato--PC H**	**1.48**	**294**	⇓*i*P	**Pn**	**19 43 04.7**	**-0.4**
BIPH	**Bislig**	**1.72**	**26**	⇓*i*P	**Pn**	**19 43 09.3**	**+1.9**
BIPH				*i* S	**Sn**	**19 43 33.2**	**-0.8**
PAGZ	**Pagadian**	**2.52**	**299**	⇓*i*P	**Pn**	**19 43 16.9**	**+0.6**
SGSI	**Sangihe**	**2.92**	**182**	P	**Pn**	**19 43 20.7**	**-0.3**
DCPH	**Dipolog City**	**2.96**	**311**	⇓*e*P	**Pn**	**19 43 22.7**	**+1.2**
TBP	**Tagbilaran**	**3.50**	**331**	⇓*e*P	**Pn**	**19 43 28.6**	**+0.5**
TBP				*i* S	**Sn**	**19 44 11.1**	**0.0**
SNPH	**Sibulan**	**3.58**	**319**	⇓*e*P	**Pn**	**19 43 26.5**	**-2.7**
SNPH				*e*S	**Sn**	**19 44 16.9**	**+4.0**
LLP	**Lapu-Lapu**	**4.01**	**336**	⇓*e*P	**Pn**	**19 43 35.1**	**+0.6**
LLP				*e*S	**Sn**	**19 44 23.5**	**+0.9**
JAP	**San Jose, Anti**	**5.47**	**319**	⇑*e*P	**Pn**	**19 43 55.2**	**+1.9**
RCP	**Roxas**	**5.66**	**330**	⇓*e*P	**Pn**	**19 43 57.6**	**+1.8**
TNTI	**Ternate**	**6.08**	**163**	Pn	**Pn**	**19 44 00.2**	**-1.1**
TNTI				Sn	**Sn**	**19 45 06.7**	**-4.0**
TNTI	**Ternate**	**6.08**	**163**	P	**Pn**	**19 44 00.0**	**-1.3**
	4.1nm12μm1μm,0.8s						
TNTI	**Ternate**	**6.08**	**163**	P	**Pn**	**19 44 00.8**	**-0.5**
KMSI	**Cibinong**	**6.23**	**195**	P	**Pn**	**19 44 03.5**	**+0.2**
	1.3nm3μm405nm,0.9s						
GTOI	**Gorontalo**	**6.49**	**204**	P	**Pn**	**19 44 06.5**	**-0.2**
	2.8nm8μm792nm,0.8s						
MRSI	**Marisa**	**7.12**	**211**	P	**Pn**	**19 44 15.6**	**+0.6**
	1.2nm3μm225nm,0.5s						
MYLDM	**Lahad Datu**	**7.22**	**259**		**Pn**	**19 44 19.4**	**+3.1**
TOLI2	**Tolitoli**	**7.29**	**222**	Pn	**Pn**	**19 44 16.8**	**-0.5**
TOLI2				Sn	**Sn**	**19 45 37.4**	**-2.2**
TOLI2	**Tolitoli**	**7.29**	**222**	P	**Pn**	**19 44 17.3**	**0.0**
LBMI	**Labuha**	**7.46**	**165**	P	**Pn**	**19 44 18.4**	**-1.1**
	1.4nm4μm326nm,0.5s						
LUWI	**Luwuk**	**8.13**	**200**	Pn	**Pn**	**19 44 28.7**	**+0.4**
LUWI	**Luwuk**	**8.13**	**200**	P	**Pn**	**19 44 30.6**	**+2.3**
	3μm340nm,1.2s						
LUWI	**Luwuk**	**8.13**	**200**	P	**Pn**	**19 44 31.5**	**+3.2**
LQP	**Lukban**	**8.45**	**332**	⇓*e*P	**Pn**	**19 44 34.6**	**+2.0**
MPSI	**Mapaga**	**8.46**	**223**	P	**Pn**	**19 44 34.3**	**+1.7**
	25nm,1.0s						
APSI	**Ampana**	**8.47**	**208**	P	**Pn**	**19 44 34.9**	**+2.2**
	2μm143nm,0.7s						
SANI	**Sanana**	**8.63**	**177**	P	**Pn**	**19 44 30.7**	**-4.1**
	7μm434nm,0.6s						
SWI	**Sorong**	**9.34**	**143**	P	**Pn**	**19 44 44.5**	**+0.4**
	26nm,0.5s						
SIJI	**Sorong**	**9.34**	**143**	P	**Pn**	**19 44 44.6**	**+0.4**
	3.0nm,0.3s,baz=334,slow=15,SNR=19						
SIJI				LR	LR	19 48 43.2	
	comp=Z,28nm,21.4s,baz=71,slow=39						
KKM	**Kota Kinabalu**	**9.36**	**267**	Pn	**Pn**	**19 44 48.3**	**+3.8**
PCPH	**Palayan**	**9.92**	**334**	⇑*e*P	**Pn**	**19 44 50.9**	**-0.8**
MSAI	**Masohi**	**10.45**	**161**	P	**Pn**	**19 44 58.9**	**+0.2**
	330nm25nm,0.5s						
AAI	**Ambon**	**10.56**	**166**	P	**Pn**	**19 44 58.9**	**-1.3**
	5μm307nm,0.5s						
TTSI	**Tana Toraja**	**11.21**	**211**	P	**Pn**	**19 45 10.9**	**+2.3**
	739nm92nm,0.9s						
SPSI	**Sidrap Palu**	**12.03**	**209**	P	**Pn**	**19 45 20.9**	**+1.8**
	475nm43nm,0.9s						
BNSI	**Bone**	**12.26**	**207**	P	**P**	**19 45 25.4**	**-1.5**
	986nm126nm,0.9s						
BBSI	**Bau Bau**	**12.41**	**194**	P	**Pn**	**19 45 23.4**	**-0.6**
	6.1nm,1.0s						
KAPI	**Kappang**	**12.96**	**207**	P	**Pn**	**19 45 31.6**	**+0.7**
	1.2nm,0.3s,baz=19,slow=3.3,SNR=11						
KAPI	**Kappang**	**12.96**	**207**	P	**Pn**	**19 45 32.2**	**+1.2**
BKSI	**Bulukumba**	**13.07**	**205**	P	**Pn**	**19 45 33.6**	**+1.2**
	33nm,0.9s						
MTKI	**Muara Teweh, K**	**13.07**	**235**	P	**P**	**19 45 38.6**	**+2.5**
	2μm8.7nm,0.7s						
SBUM	**Sibu**	**13.98**	**253**		**P**	**19 45 46.2**	**+0.1**
MMRI	**Maumere**	**15.53**	**193**		**P**	**19 46 03.7**	**+0.4**
MMRI				IAmb	IAmb	19 46 17.7	
	comp=Z,88nm,1.3s						
MMRI	**Maumere**	**15.53**	**193**	P	**P**	**19 46 03.5**	**+0.2**
	comp=Z,57nm,0.8s						
MMRI	**Maumere**	**15.53**	**193**	P	**P**	**19 46 04.2**	**+0.9**
STKI	**Sintang**	**15.54**	**246**	P	**P**	**19 46 05.8**	**+2.4**
	comp=Z,3μmcomp=Z,20nm,0.8s						
SAUI	**Saumlaki**	**15.58**	**159**		**P**	**19 46 04.9**	**+1.0**
KSM	**Kuching**	**16.09**	**252**		**Pn**	**19 46 10.9**	**+1.2**
KSM	**Kuching**	**16.09**	**252**	P	**Pn**	**19 46 12.3**	**+2.6**
BATI	**Baumata**	**16.84**	**187**	P	**Pn**	**19 46 19.5**	**+0.9**
	comp=Z,20nm,0.3s,baz=74,slow=2.7,SNR=29						
BATI	**Baumata**	**16.84**	**187**	P	**Pn**	**19 46 20.0**	**+1.4**
	comp=Z,755nmcomp=Z,61nm,0.9s						
GENI	**Genyem**	**17.18**	**122**	P	**Pn**	**19 46 23.7**	**+1.0**
	comp=Z,138nm,0.8s						
YULB	**Yu-li**	**17.18**	**346**	P	**P**	**19 46 20.4**	**-1.0**
PLAI	**Plampang**	**17.22**	**207**	P	**Pn**	**19 46 25.0**	**+1.8**
	comp=Z,43nm,1.0s						
PLAI	**Plampang**	**17.22**	**207**	P	**Pn**	**19 46 23.4**	**+0.2**
TPUB	**Ta-pu**	**17.26**	**344**	P	**P**	**19 46 22.1**	**-0.2**
TPUB				IAmb	IAmb	19 46 28.2	
	comp=Z,27nm,0.9s						
TPUB	**Ta-pu**	**17.26**	**344**	P	**P**	**19 46 22.5**	**+0.2**
WBSI	**Waikabubak, Su**	**17.31**	**201**	P	**Pn**	**19 46 24.8**	**+0.5**
	comp=Z,590nmcomp=Z,47nm,0.8s						
SSLB	**Suanglung**	**17.64**	**346**	P	**P**	**19 46 26.0**	**-0.5**
SSLB				IAmb	IAmb	19 46 41.0	
	comp=Z,41nm,1.6s						
KMMI	**Kalianget**	**17.88**	**221**	P	**Pn**	**19 46 32.4**	**+1.5**
	comp=Z,95nm,0.7s						
BWJI	**Bawean**	**17.91**	**226**	P	**Pn**	**19 46 34.1**	**+2.8**
	comp=Z,61nm,1.3s						
SRBI	**Singaraja**	**17.92**	**216**	P	**Pn**	**19 46 32.3**	**+0.9**
	comp=Z,102nm,0.9s						
ABJI	**Asem Bagus**	**18.27**	**219**	P	**Pn**	**19 46 37.5**	**+1.9**
	comp=Z,36nm,0.7s						
YHNB	**Yeheng**	**18.39**	**348**	P	**P**	**19 46 34.7**	**0.0**
YHNB				IAmb	IAmb	19 47 15.0	
	comp=Z,62nm,1.6s						
JAGI	**Jajag, Banyuwa**	**18.85**	**217**		**Pn**	**19 46 41.6**	**-0.8**
JAGI				IAmb	IAmb	19 46 48.4	
	comp=Z,25nm,0.9s						
JAGI	**Jajag, Banyuwa**	**18.85**	**217**	P	**Pn**	**19 46 43.1**	**+0.7**
	comp=Z,32nm,0.7s						
JAGI	**Jajag, Banyuwa**	**18.85**	**217**	P	**Pn**	**19 46 43.3**	**+0.9**
DRS	**Darwin Rock St**	**19.65**	**164**	P	**P**	**19 46 49.9**	**+1.6**
QIZ	**Qiongzhong**	**19.68**	**310**	P	**P**	**19 46 47.6**	**-1.0**
QIZ				IAmb	IAmb	19 46 51.7	
	comp=Z,21nm,1.0s						
TPI	**Tanjungpandan**	**20.20**	**243**	P	**P**	**19 46 54.8**	**+0.5**
JOW	**Kunigami**	**20.25**	**7**	P	**P**	**19 46 55.2**	**+0.5**
	comp=Z,41nm,0.8s,baz=190,slow=9.0,SNR=7.5						
JOW	**Kunigami**	**20.25**	**7**	P	**P**	**19 46 55.2**	**+0.5**
KDU	**Kakadu**	**20.36**	**160**	P	**P**	**19 46 56.5**	**+0.5**
	baz=20,SNR=49						
KDU	**Kakadu**	**20.36**	**160**	P	**P**	**19 46 56.2**	**+0.3**
PCJI	**Pacitan**	**20.59**	**225**	P	Pn	19 47 02.6	-0.7
	comp=Z,42nm,1.2s						
UGM	**Wanagama**	**20.86**	**226**	P	**P**	**19 47 02.5**	**+1.2**
UGM				IAmb	IAmb	19 47 07.7	
	comp=Z,40nm,1.0s						
UGM	**Wanagama**	**20.86**	**226**	P	Pn	19 47 06.5	-0.3
	comp=Z,29nm,1.1s						
UGM	**Wanagama**	**20.86**	**226**	P	**P**	**19 47 02.6**	**+1.3**
PPBI	**Pangkal Pinang**	**21.31**	**246**	P	**P**	**19 47 06.7**	**+0.6**
KPJI	**Karang Pucung**	**21.66**	**230**	P	**P**	**19 47 11.4**	**+1.7**
	comp=Z,116nm,1.0s						
DSRI	**Dabo**	**22.14**	**252**	P	**P**	**19 47 16.1**	**+1.5**
	comp=Z,638nmcomp=Z,74nm,1.0s						
MYKOM	**Kota Tinggi**	**22.22**	**258**	P	**P**	**19 47 16.0**	**+0.7**
MYKOM				IAmb	IAmb	19 47 18.6	
	comp=Z,30nm,0.8s						
CMJI	**Cimerak**	**22.31**	**230**	P	**P**	**19 47 17.3**	**+1.2**
	comp=Z,536nmcomp=Z,49nm,0.9s						
KNRA	**Kununurra**	**22.38**	**172**	P	**P**	**19 47 17.0**	**+0.3**
	baz=22,SNR=66						
KNRA	**Kununurra**	**22.38**	**172**	P	**P**	**19 47 17.0**	**+0.3**
KNRA	**Kununurra**	**22.38**	**172**	P	**P**	**19 47 17.4**	**+0.7**
LEM	**Lembang**	**22.38**	**234**	P	**P**	**19 47 19.1**	**+2.2**
	comp=Z,69nm,0.8s,baz=11,slow=10,SNR=24						
LEM	**Lembang**	**22.38**	**234**	P	**P**	**19 47 18.9**	**+2.0**
	comp=Z,56nm,0.9s						
CBJI	**Citeko**	**22.77**	**236**	P	**P**	**19 47 23.5**	**+3.2**
	comp=Z,72nm,0.7s						
PMBI	**Palembang**	**22.87**	**246**	P	**P**	**19 47 20.6**	**-0.6**
PMBI	**Palembang**	**22.87**	**246**	P	**P**	**19 47 23.9**	**+2.7**
	comp=Z,142nm,0.6s						
CNJI	**Cibinong**	**23.05**	**233**	P	**P**	**19 47 24.3**	**+1.4**
	comp=Z,723nmcomp=Z,66nm,1.0s						
MANU	**Manus Island**	**23.36**	**111**	P	**P**	**19 47 26.9**	**+1.2**
MANU				IAmb	IAmb	19 47 28.8	
	comp=Z,21nm,0.8s						
JMBI	**JAMBI**	**23.41**	**250**	P	**P**	**19 47 28.9**	**+2.7**
	comp=Z,129nm,0.9s						
BLSI	**Bandar Lampung**	**23.56**	**240**	P	**P**	**19 47 30.4**	**+2.9**
	comp=Z,1μmcomp=Z,148nm,0.7s						
KLI	**Kotabumi**	**23.65**	**242**	P	**P**	**19 47 29.2**	**+0.9**
	comp=Z,180nm,0.9s						
KLSI		**23.68**	**242**	P	**P**	**19 47 29.5**	**+0.9**
	comp=Z,30nm,1.1s						
CGJI	**Cibinong**	**23.83**	**237**	P	**P**	**19 47 32.6**	**+2.6**
	comp=Z,479nmcomp=Z,45nm,0.9s						
KASI	**Kota Agung**	**24.29**	**241**	P	**P**	**19 47 35.9**	**+1.8**
	comp=Z,19nm,1.2s						
LWLI	**Liwa**	**24.43**	**242**	P	**P**	**19 47 36.8**	**+1.3**
	comp=Z,151nm,0.8s						
IPM	**Ipoh**	**24.56**	**266**	P	**P**	**19 47 37.5**	**+0.9**
IPM	**Ipoh**	**24.56**	**266**	P	**P**	**19 47 37.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.57**	**180**	P	**P**	**19 47 37.1**	**+0.5**
	comp=Z,22nm,0.4s,baz=4.4,slow=8.4,SNR=193						
FITZ				PcP	**PcP**	**19 51 10.0**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=184,slow=1.9,SNR=3.1						
KULM	**Kulim**	**24.86**	**268**	P	**P**	**19 47 39.7**	**+0.3**
KULM				IAmb	IAmb	19 47 41.5	
	comp=Z,37nm,0.9s						
MNAI	**Manna**	**25.11**	**245**	P	**P**	**19 47 41.7**	**+0.1**
MNAI	**Manna**	**25.11**	**245**	P	**P**	**19 47 42.4**	**+0.8**
MASI	**Maura Aman, Be**	**25.27**	**248**	P	**P**	**19 47 45.5**	**+2.4**
	comp=Z,130nm,0.8s						
BKNI	**Bangkinang**	**25.30**	**257**	P	**P**	**19 47 44.0**	**+0.7**
BKNI	**Bangkinang**	**25.30**	**257**	P	**P**	**19 47 44.3**	**+1.0**
	comp=Z,64nm,0.7s						
KRJI	**Kerinci**	**25.61**	**251**	P	**P**	**19 47 46.6**	**+0.3**
	comp=Z,4μmcomp=Z,48nm,0.5s						
JCJ	**Chichijima**	**25.74**	**36**	P	**P**	**19 47 47.6**	**+0.4**
SRIT	**Nakonsritamara**	**25.85**	**276**	P	**P**	**19 47 49.3**	**+1.0**
SRIT				IAmb	IAmb	19 47 51.0	
	comp=Z,21nm,1.0s						
NJ2	**Nanjing**	**26.07**	**347**	*e*P	**P**	**19 47 51.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PMG	**Port Moresby**	**26.73**	**126**	P	**P**	**19 47 56.8**	**+0.6**
	comp=Z,9.8nm,0.8s,baz=124,slow=0.8,SNR=6.2						
PMG	**Port Moresby**	**26.73**	**126**	P	**P**	**19 47 56.2**	**0.0**
PMG				IAmb	IAmb	19 47 57.7	
	comp=Z,18nm,1.1s						
PMG	**Port Moresby**	**26.73**	**126**	P	**P**	**19 47 56.8**	**+0.6**
PMG	**Port Moresby**	**26.73**	**126**	P	**P**	**19 47 56.9**	**+0.7**
PSI	**Prapat**	**26.86**	**263**	P	**P**	**19 47 58.1**	**+0.6**
	comp=Z,15nm,0.5s,baz=68,slow=3.4,SNR=15						
PSI				PcP	**PcP**	**19 51 14.8**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=174,slow=5.6,SNR=4.2						
COEN	**Coen**	**26.87**	**140**	P	**P**	**19 47 57.5**	**+0.1**
COEN				IAmb	IAmb	19 48 06.0	
	comp=Z,10nm,0.7s						
COEN	**Coen**	**26.87**	**140**	P	**P**	**19 47 57.8**	**+0.4**
TSI	**Tuntungan**	**27.11**	**265**	P	**P**	**19 48 00.9**	**+1.3**
	comp=Z,87nm,0.6s						
WB0	**Warramunga Arr**	**27.62**	**162**	P	**P**	**19 48 03.5**	**-0.4**
WB0				IAmb	IAmb	19 48 04.4	
	comp=Z,21nm,1.1s						
SISI	**Saibi**	**27.62**	**254**	P	**P**	**19 48 03.7**	**-0.4**
	comp=Z,79nm,0.6s						
WRAB	**Tennant Creek**	**27.76**	**162**	P	**P**	**19 48 05.2**	**0.0**
WRAB				IAmb	IAmb	19 48 05.8	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**27.76**	**162**	P	**P**	**19 48 05.2**	**0.0**
WRA	**Warramunga Arr**	**27.77**	**162**	P	**P**	**19 48 04.9**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=333,slow=11,SNR=90						
WRA				PcP	**PcP**	**19 51 17.4**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=335,slow=2.8,SNR=7.6						
WRA	**Warramunga Arr**	**27.77**	**162**	P	**P**	**19 48 04.4**	**-0.9**
WB2	**Warramunga Arr**	**27.77**	**162**	P	**P**	**19 48 04.9**	**-0.5**
WB2				IAmb	IAmb	19 48 05.9	
	comp=Z,17nm,0.8s						
WR0	**Warramunga Arr**	**27.84**	**162**	P	**P**	**19 48 05.5**	**-0.5**
WR0				IAmb	IAmb	19 48 06.6	
	comp=Z,14nm,1.1s						
KCSI	**Kotacane, Aceh**	**27.90**	**265**	P	**P**	**19 48 06.8**	**+0.2**
	comp=Z,1μmcomp=Z,101nm,0.7s						
GSI	**Gunungsitoli**	**28.45**	**260**	P	**P**	**19 48 11.2**	**-0.2**
GSI	**Gunungsitoli**	**28.45**	**260**	P	**P**	**19 48 10.9**	**-0.6**
	comp=Z,100nm,0.6s						
GSI	**Gunungsitoli**	**28.45**	**260**	P	**P**	**19 48 11.3**	**-0.2**
CM31	**Chiang Mai Arr**	**28.51**	**297**	P	**P**	**19 48 13.2**	**+1.2**
CM31				IAmb	IAmb	19 48 14.4	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.51**	**297**	P	**P**	**19 48 11.4**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=123,slow=7.2,SNR=24						
CMAR				PcP	**PcP**	**19 51 19.4**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=115,slow=1.0,SNR=10						
CMAR	**Chiang Mai Arr**	**28.51**	**297**	P	**P**	**19 48 11.5**	**-0.5**
LHMI	**Lhok Sumawe**	**28.54**	**269**	P	**P**	**19 48 14.0**	**+1.7**
LHMI	**Lhok Sumawe**	**28.54**	**269**	P	**P**	**19 48 14.6**	**+2.3**
	comp=Z,68nm,0.7s						
PSA00	**Pilbara Seismi**	**28.59**	**191**	P	**P**	**19 48 12.2**	**-0.3**
PSA00				IAmb	IAmb	19 48 13.1	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**28.59**	**191**	P	**P**	**19 48 12.5**	**-0.1**
RABL	**Rabaul**	**28.60**	**111**	P	**P**	**19 48 13.5**	**+0.6**
CHTO	**Chiang Mai**	**28.64**	**298**	P	**P**	**19 48 13.1**	**0.0**
CHTO	**Chiang Mai**	**28.64**	**298**	P	**P**	**19 48 14.3**	**+1.2**
PZH	**PanZhiHua**	**30.12**	**314**	P	**P**	**19 48 29.2**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
QIS	**Mount Isa**	**30.32**	**153**	P	**P**	**19 48 28.3**	**+0.4**
	baz=30,SNR=32						
QIS	**Mount Isa**	**30.32**	**153**	P	**P**	**19 48 28.5**	**+0.6**
KSRS	**Korea Array**	**30.76**	**4**	P	**P**	**19 48 30.6**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=192,slow=10,SNR=8.6						
MTSU	**Mount Surprise**	**30.76**	**143**	P	**P**	**19 48 32.8**	**+1.0**
	baz=31,SNR=6.5						
GIRL	**Giralia**	**31.15**	**201**	P	**P**	**19 48 35.9**	**+0.8**
AS31	**Alice Springs**	**31.18**	**165**	P	**P**	**19 48 35.3**	**-0.1**
AS31				IAmb	IAmb	19 48 37.1	
	comp=Z,6.7nm,0.4s						
ASAR	**Alice Springs**	**31.18**	**165**	P	**P**	**19 48 35.6**	**+0.2**
	comp=Z,12nm,0.5s,baz=345,slow=7.2,SNR=295						
ASAR				PcP	**PcP**	**19 51 26.1**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=350,slow=2.6,SNR=8.6						
ASAR				ScP	**ScP**	**19 54 51.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=341,slow=3.0,SNR=2.9						
XAN	**Xi'an**	**31.34**	**333**	P	**P**	**19 48 36.3**	**-0.5**
XAN				pP	pP	19 49 13.1	-1.4
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRKA	**Warakurna**	**31.58**	**175**	P	**P**	**19 48 39.3**	**+0.4**
	baz=32,SNR=14						
WRKA	**Warakurna**	**31.58**	**175**	P	**P**	**19 48 39.7**	**+0.8**
MJAR	**Matsushiro Arr**	**31.93**	**19**	P	**P**	**19 48 42.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=193,slow=9.1,SNR=4.3						
MJAR				PcP	**PcP**	**19 51 27.0**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=177,slow=2.6,SNR=5.5						
CTA	**Charters Tower**	**33.42**	**143**	P	**P**	**19 48 56.2**	**+1.2**
	comp=Z,6.7nm,0.5s,baz=326,slow=8.2,SNR=19						
CTA	**Charters Tower**	**33.42**	**143**	P	**P**	**19 48 56.6**	**+1.6**
MEEK	**Meekatharra**	**33.76**	**191**	P	**P**	**19 48 57.5**	**-0.3**
	baz=34,SNR=12						
MEEK	**Meekatharra**	**33.76**	**191**	P	**P**	**19 48 57.6**	**-0.3**
JMM	**Marumori**	**34.02**	**22**	P	**P**	**19 49 00.6**	**+0.7**
BJI	**Beijing**	**34.33**	**347**	P	**P**	**19 49 05.0**	**+2.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LZH	**Lanzhou**	**35.46**	**329**	⇓P	**P**	**19 49 12.4**	**-0.1**
LZH				pP	pP	19 49 50.2	-0.6
LZH				sP	sP	19 50 14.1	+2.5
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
OOD	**Oodnadatta**	**35.58**	**165**	P	**P**	**19 49 14.1**	**+0.7**
HHC	**Hu-ho-hao-te**	**36.32**	**342**	*e*P	**P**	**19 49 23.4**	**+3.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,73nm,6.4s						
MORW	**Morawa**	**36.66**	**194**	P	**P**	**19 49 22.5**	**-0.1**
	baz=37,SNR=20						
MORW	**Morawa**	**36.66**	**194**	P	**P**	**19 49 22.4**	**-0.1**
MORW				IAmb	IAmb	19 49 22.9	
	comp=Z,12nm,0.5s						
MORW	**Morawa**	**36.66**	**194**	P	**P**	**19 49 22.5**	**-0.1**
INKA	**Innaminka**	**37.17**	**157**	P	**P**	**19 49 28.1**	**+1.3**
FORT	**Forrest**	**37.27**	**177**	P	**P**	**19 49 28.3**	**+0.6**
	baz=37,SNR=30						
FORT	**Forrest**	**37.27**	**177**	P	**P**	**19 49 28.0**	**+0.3**
FORT	**Forrest**	**37.27**	**177**	P	**P**	**19 49 28.3**	**+0.6**
SHL	**Shillong**	**37.30**	**304**	P	**P**	**19 49 27.5**	**-0.8**
SHL				IAmb	IAmb	19 49 29.6	
	comp=Z,11nm,0.7s						
MULG	**Mulgathing**	**37.58**	**168**	P	**P**	**19 49 31.2**	**+0.9**
QLP	**Quilpie**	**37.63**	**152**	P	**P**	**19 49 30.8**	**+0.1**
	baz=38,SNR=7.1						
HNR	**Honiara**	**37.75**	**115**	P	**P**	**19 49 32.0**	**0.0**
USRK	**Ussuriysk Ar.**	**37.84**	**7**	P	**P**	**19 49 31.3**	**-1.0**
USA0B	**Ussuriysk Arra**	**37.84**	**7**	P	**P**	**19 49 31.9**	**-0.4**
USA0B				IAmb	IAmb	19 49 58.1	
	comp=Z,10nm,0.7s						
BLDU	**Ballidu**	**38.00**	**193**	P	**P**	**19 49 33.5**	**-0.2**
	baz=38,SNR=17						
BLDU	**Ballidu**	**38.00**	**193**	P	**P**	**19 49 33.6**	**-0.2**
MDJ	**Mudanjiang**	**38.00**	**5**	P	**P**	**19 49 34.5**	**+0.9**
MDJ				IAmb	IAmb	19 49 39.7	
	comp=Z,11nm,1.0s						
MDJ	**Mudanjiang**	**38.00**	**5**	P	**P**	**19 49 35.4**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.9s						
KLBR	**Kellerberrin**	**38.74**	**191**	P	**P**	**19 49 40.0**	**+0.1**
	baz=39,SNR=44						
KLBR	**Kellerberrin**	**38.74**	**191**	P	**P**	**19 49 40.3**	**+0.3**
LCRK	**Leigh Creek**	**38.80**	**162**	P	**P**	**19 49 41.6**	**+1.2**
BNX	**BinXian**	**38.99**	**2**	⇑P	**P**	**19 49 43.4**	**+1.5**
BNX				pmax	pmax		
	comp=Z,13nm,0.6s						
BNX				pmax	pmax		
	comp=Z,510nm,4.4s						
MUN	**Mundaring**	**39.42**	**193**	P	**P**	**19 49 45.8**	**+0.1**
	baz=39,SNR=12						
MUN	**Mundaring**	**39.42**	**193**	P	**P**	**19 49 45.8**	**+0.1**
GTA	**Gaotai**	**40.06**	**328**	*e*P	**P**	**19 49 51.3**	**+0.3**
GTA				pP	pP	19 50 31.0	+1.0
GTA				sP	sP	19 50 49.9	-0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,92nm,6.5s						
GTA				LR	LR		
	comp=Z,87nm,14.2s						
GTA				LR	LR		
	comp=Z,120nm,14.5s						
GTA				LR	LR		
	comp=Z,87nm,14.5s						
EIDS	**Eidsvold**	**40.31**	**143**	P	**P**	**19 49 53.5**	**+0.4**
EIDS				IAmb	IAmb	19 49 57.1	
	comp=Z,25nm,1.4s						
BBOO	**Buckleboo**	**40.46**	**166**	P	**P**	**19 49 55.1**	**+0.9**
	baz=40,SNR=169						
BBOO	**Buckleboo**	**40.46**	**166**	P	**P**	**19 49 55.0**	**+0.8**
BBOO	**Buckleboo**	**40.46**	**166**	P	**P**	**19 49 55.4**	**+1.2**
GOMU	**GeErMu**	**40.74**	**321**	P	**P**	**19 49 56.1**	**-0.8**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,96nm,6.1s						
WHYH	**Whyalla**	**41.05**	**165**	P	**P**	**19 50 00.6**	**+1.7**
STKA	**Stephens Creek**	**41.22**	**159**	P	**P**	**19 50 01.1**	**+0.7**
	comp=Z,33nm,0.6s,baz=335,slow=8.4,SNR=129						
STKA				PcP	**PcP**	**19 51 55.4**	**-0.5**
	comp=Z,7.8nm,0.6s,baz=338,slow=4.5,SNR=5.1						
STKA	**Stephens Creek**	**41.22**	**159**	P	**P**	**19 50 01.5**	**+1.1**
	baz=41,SNR=88						
STKA	**Stephens Creek**	**41.22**	**159**	P	**P**	**19 50 01.1**	**+0.7**
STKA	**Stephens Creek**	**41.22**	**159**	P	**P**	**19 50 01.5**	**+1.1**
NAPP	**Napperby**	**41.34**	**164**	P	**P**	**19 50 03.2**	**+1.8**
TAPN	**Taplejung**	**41.44**	**304**	*e*P	**P**	**19 50 03.3**	**+0.6**
HTT	**Hallett**	**41.79**	**163**	P	**P**	**19 50 06.5**	**+1.4**

baz=42,SNR=31
HTT Hallett 41.79 163 P P 19 50 06.6 +1.5
RKGY Rocky Gully 41.82 191 P P 19 50 06.7 +1.5
baz=42,SNR=12
RKGY Rocky Gully 41.82 191 P P 19 50 06.4 +1.2
RAMN Ramite 42.21 303 eP P 19 50 09.7 +0.8
comp=Z,11nm,0.5s
CMSA Cobar Meteorol 42.52 154 P P 19 50 12.1 +1.1
baz=42,SNR=23
CMSA Cobar Meteorol 42.52 154 P P 19 50 12.3 +1.3
KLR Kul'dur 42.77 6 P P 19 50 13.3 +0.6
comp=Z,1.8nm,0.7s,baz=188,slow=7.0,SNR=7.8
JIRN Jiri 42.81 304 eP P 19 50 14.3 +0.5
comp=Z,14nm,0.4s
GUN Gumba 43.16 304 eP P 19 50 16.9 +0.3
comp=Z,16nm,0.4s
TWOA Tennyson Woods 43.20 164 P P 19 50 18.4 +2.0
PKI Pulchoki 43.42 304 eP P 19 50 18.4 -0.3
comp=Z,6.6nm,0.7s
PKIN Phulchoki 43.43 304 eP P 19 50 18.2 -0.5
comp=Z,8.2nm,0.6s
KKN Kakani 43.61 304 eP P 19 50 20.0 -0.1
GKN Gorkha 44.21 304 eP P 19 50 24.5 -0.3
comp=Z,7.8nm,0.6s
SONM Songino Array 44.21 341 P P 19 50 23.3 -1.2
comp=Z,0.3nm,0.3s,baz=152,slow=8.8,SNR=6.7
SONM pP **pP 19 51 03.8 -0.4**
comp=Z,0.7nm,0.9s,baz=159,slow=6.7,SNR=2.8
SONM PcP **PcP 19 52 05.0 -0.9**
comp=Z,0.6nm,0.5s,baz=158,slow=4.0,SNR=3.1
ARMA Armidale 44.49 147 P P 19 50 28.6 +1.8
baz=44,SNR=7.8
ARMA Armidale 44.49 147 P P 19 50 28.3 +1.5
ARMA IAmb IAmb 19 50 29.0
comp=Z,14nm,0.8s
ARMA Armidale 44.49 147 P P 19 50 28.1 +1.3
comp=Z,20nm,0.9s
PALK Pallekele 44.57 274 P P 19 50 28.3 +0.6
comp=Z,4.7nm,0.6s,baz=175,slow=7.5,SNR=6.4
PALK Pallekele 44.57 274 P P 19 50 28.5 +0.8
KOLN Koldanda 44.99 303 eP P 19 50 31.1 +0.1
comp=Z,13nm,0.4s
DANN Dangsing 45.06 304 eP P 19 50 31.6 -0.1
comp=Z,17nm,0.7s
PYUN Piuthan 45.61 303 eP P 19 50 35.6 -0.3
comp=Z,16nm,0.6s
ARPS Mount Arapiles 45.77 162 P P 19 50 38.0 +1.4
baz=46,SNR=62
ARPS Mount Arapiles 45.77 162 P P 19 50 37.5 +0.8
comp=Z,96nm,0.6s
CAN Canberra 47.19 154 P P 19 50 49.2 +1.4
CAN IAmb IAmb 19 50 50.8
comp=Z,28nm,0.8s
CAN Canberra 47.19 154 P P 19 50 49.6 +1.8
comp=Z,62nm,0.9s
CNB Canberra Magne 47.34 153 P P 19 50 51.3 +2.2
baz=47,SNR=7.6
CNB Canberra Magne 47.34 153 P P 19 50 51.2 +2.2
comp=Z,32nm,1.1s
TOO Toolangi 47.73 159 P P 19 50 54.1 +2.2
baz=48,SNR=39
TOO Toolangi 47.73 159 P P 19 50 53.0 +1.1
TOO Toolangi 47.73 159 P P 19 50 53.6 +1.7
comp=Z,58nm,0.7s
MILA Mila 48.72 155 P P 19 51 01.6 +2.0
baz=49,SNR=3.1
LIFNC LIFOU 49.13 125 P P 19 51 02.9 +0.1
DZM Mont Dzumac 49.13 127 P P 19 51 03.9 +1.0
comp=Z,7.1nm,0.6s,baz=259,slow=12,SNR=9.1
DZM Mont Dzumac 49.13 127 P P 19 51 04.1 +1.1
DZM IAmb IAmb 19 51 04.2
comp=Z,40nm,1.5s
DZM Mont Dzumac 49.13 127 P P 19 51 04.1 +1.1
comp=Z,17nm,1.1s
WMQ Urumqi 49.73 324 eP P 19 51 09.4 +2.2
GLAD Gladstone 51.65 158 P P 19 51 22.8 +1.4
comp=Z,21nm,1.2s
PEA0B Petropavlovsk- 53.21 24 P P 19 51 34.3 +1.6
PETK Petropavlovsk- 53.21 24 P P 19 51 33.3 +0.5
comp=Z,4.8nm,0.6s,baz=199,slow=4.1,SNR=5.5
PETK Petropavlovsk- 53.21 24 P P 19 51 34.3 +1.6
MK31 Makanchi Array 54.56 325 P P 19 51 42.1 -0.6
MKAR Makanchi Array 54.56 325 P P 19 51 42.0 -0.6
comp=Z,2.3nm,0.5s,baz=120,slow=7.7,SNR=60
MKAR pP **pP 19 52 23.4 -0.5**
comp=Z,1.8nm,0.8s,baz=115,slow=8.6,SNR=3.0
MKAR PcP **PcP 19 52 41.9 -1.7**
comp=Z,2.3nm,0.6s,baz=123,slow=3.3,SNR=8.4
MKAR Makanchi Array 54.56 325 P P 19 51 42.1 -0.6
MKAR **PcP 19 52 42.3 -1.3**
KSH Kashi 55.23 314 P P 19 51 51.8 +4.1
KSH pmax pmax
comp=Z,3.0nm,1.0s
YAK Yakutsk 55.37 2 P P 19 51 48.5 +0.3
YAK IAmb IAmb 19 51 49.5
comp=Z,28nm,1.0s
MA2 Magadan 56.20 15 P P 19 51 55.4 +1.3
comp=Z,4.7nm,0.6s,baz=198,slow=6.6,SNR=24
MA2 PcP **PcP 19 52 50.3 +0.8**
comp=Z,3.8nm,0.6s,baz=173,slow=3.9,SNR=9.7
MA2 Magadan 56.20 15 P P 19 51 54.3 +0.2
MA2 IAmb IAmb 19 51 56.3
comp=Z,5.7nm,0.6s
MA2 **PcP 19 52 50.7 +1.1**
AAK Ala-Archa 57.48 317 P 19 52 03.6 -0.1
ZAA0 Zalesovo Array 57.52 333 P P 19 52 01.6 -1.8
ZAA0 pP **pP 19 52 45.3 +0.2**
ZALV Zalesovo Beam 57.52 333 P P 19 52 01.9 -1.6
comp=Z,1.0nm,0.5s,baz=129,slow=6.7,SNR=6.4
ZALV pP **pP 19 52 44.7 -0.4**
comp=Z,1.2nm,0.7s,baz=104,slow=11,SNR=3.1
ZALV Zalesovo Beam 57.52 333 P P 19 52 01.9 -1.6
ZALV pP **pP 19 52 45.4 +0.3**
MIDW Midway 57.92 61 P P 19 52 06.6 -0.1
KURK Kurchatov 58.72 327 P P 19 52 10.7 -1.1
KURK IAmb IAmb 19 52 12.4
comp=Z,5.3nm,0.6s
GAR Garm 59.16 312 P P 19 52 14.7 -0.6
GAR pP **pP 19 52 57.4 +0.3**
GAR IAmb IAmb 19 52 59.4
comp=Z,18nm,1.0s
SEY Seymchan 59.49 14 P P 19 52 17.4 +0.5
comp=Z,1.3nm,0.3s,baz=220,slow=9.0,SNR=6.0
CHGR Chuyangaron 59.92 311 P P 19 52 19.5 -1.0
CHGR **pP 19 53 02.9 +0.5**
CHGR IAmb IAmb 19 53 04.6
comp=Z,9.3nm,0.8s
KKAR Karatay Array 60.37 316 P P 19 52 22.6 -0.8
KKAR pP **pP 19 53 05.3 -0.1**
DCZ Deep Cove 63.78 149 P P 19 52 47.2 +1.3
QRZ Quartz Range 63.88 142 P P 19 52 48.7 +2.0
MLZ Mavora Lakes 64.22 148 P P 19 52 49.0 +0.2
BVAR Borovoye Array 64.30 327 P P 19 52 48.4 -0.8
comp=Z,1.0nm,0.6s,baz=97,slow=36,SNR=6.4
BVAR pP **pP 19 53 29.0 -2.8**
comp=Z,0.8nm,0.7s,baz=64,slow=22,SNR=2.0
BVAR Borovoye Array 64.30 327 pP 19 53 29.0 -2.8
BRVK Borovoye 64.37 327 P P 19 52 48.2 -1.5
THZ Tophouse 64.66 143 P P 19 52 52.4 +0.6
LBZ Lake Benmore 64.69 146 P P 19 52 53.0 +1.1
RPZ Rata Peaks 64.76 145 P P 19 52 52.8 +0.5
comp=Z,15nm,0.9s,baz=360,slow=6.7,SNR=5.0
LTZ Lake Taylor 64.89 144 P P 19 52 54.5 +1.2
TIXI Tiksi 64.98 1 P P 19 52 53.0 -0.2
TIXI IAmb IAmb 19 52 54.0
comp=Z,8.7nm,1.1s
OXZ Oxford 65.08 144 P P 19 52 55.0 +0.6
ODZ Otahua Downs 65.36 147 P P 19 52 57.8 +1.6
BKZ Black Stump Fm 65.47 138 P P 19 52 57.7 +0.6
SNZO South Karori 65.50 141 P P 19 52 55.8 -1.4
BILL Bilibino 67.07 15 P P 19 53 07.4 +0.8
NRIK Noril'sk 67.37 346 P P 19 53 06.7 -1.8
comp=Z,3.7nm,0.6s,baz=144,slow=6.3,SNR=7.6
NRIK Noril'sk 67.37 346 P P 19 53 08.0 -0.5
GEYT Alibeck 68.23 308 P P 19 53 13.3 -1.3
comp=Z,1.0nm,0.6s,baz=90,slow=5.8,SNR=2.2
GEYT Alibeck 68.23 308 P P 19 53 14.1 -0.5
NIUE Niue 68.42 113 P P 19 53 17.9 +1.9
baz=68,SNR=4.7
NIUE Niue 68.42 113 P P 19 53 14.2 -1.8
UOSS Minazif 68.58 294 P P 19 53 16.1 -0.8
UOSS IAmb IAmb 19 53 52.2
comp=Z,38nm,1.6s
ABKAR Akbulak array 69.22 320 P P 19 53 18.9 -1.5
AKTO Aktyubinsk 70.71 321 P P 19 53 28.4 -1.1
comp=Z,1.6nm,0.5s,baz=113,slow=8.9,SNR=5.9
SOCY Socotra 70.72 281 P P 19 53 28.1 -2.2
SOCY IAmb IAmb 19 53 30.0
comp=Z,22nm,0.8s
UNV Unalaska Valle 71.70 35 P P 19 53 35.7 +0.4
baz=256
ARU Arti 71.91 327 P P 19 53 34.1 -2.4
comp=Z,1.1nm,0.5s,baz=119,slow=5.0,SNR=9.4
ARU Arti 71.91 327 P P 19 53 35.1 -1.4
GAMB Gambell 72.23 24 P P 19 53 39.8 +1.6
baz=248
FALS False Pass 73.69 35 P P 19 53 47.5 +0.5
FALS False Pass 73.69 35 P P 19 53 47.4 +0.4
baz=258
ANM Nome 75.11 25 P P 19 53 55.6 +0.6
ANM Nome 75.11 25 P P 19 53 56.0 +1.0
baz=254
SDPT Sand Point 75.44 35 P P 19 53 57.4 +0.3
SDPT IAmb IAmb 19 53 58.6
comp=Z,31nm,1.1s
SDPT Sand Point 75.44 35 P P 19 53 57.7 +0.6
baz=260
CHNA Chernabura Isl 75.87 35 P P 19 54 00.3 +0.8
baz=261
CHGN Chignik 76.74 34 P P 19 54 04.7 +0.3
CHGN IAmb IAmb 19 54 36.6
comp=Z,40nm,1.5s
CHGN Chignik 76.74 34 P P 19 54 04.7 +0.3
baz=262
RDOG Red Dog Mine 77.01 21 P P 19 54 06.7 +1.0
baz=255
CHIR Chirikof Islan 78.24 34 P P 19 54 13.5 +0.7
RAYN Ar Rayn 78.34 293 P P 19 54 13.1 -0.9
RAYN IAmb IAmb 19 54 14.0
comp=Z,12nm,0.8s
P18K Big Mountain, 78.81 31 P P 19 54 17.0 +1.2
P18K IAmb IAmb 19 54 49.9
comp=Z,12nm,1.2s
P18K Big Mountain, 78.81 31 P P 19 54 16.1 +0.3
baz=264
SVW2 Sparrevohn 78.82 29 P P 19 54 17.7 +1.9
TTA Tatalina 78.84 27 P P 19 54 17.3 +1.3
TTA Tatalina 78.84 27 P P 19 54 17.2 +1.3
baz=263
L19K White Mountain 79.29 28 P P 19 54 19.5 +1.1
L19K White Mountain 79.29 28 P P 19 54 19.9 +1.5
baz=264
N19K Bonanza Creek 79.32 29 P P 19 54 19.4 +0.8
N19K IAmb IAmb 19 54 22.4
comp=Z,21nm,1.4s
N19K Bonanza Creek 79.32 29 P P 19 54 20.1 +1.4
baz=264
O19K Port Alsworth 79.34 30 P P 19 54 19.7 +1.0
baz=265
M19K Big River Lodg 79.47 28 P P 19 54 20.6 +1.3
baz=264
Q19K Cape Douglas, 79.58 31 P P 19 54 20.7 +0.7
baz=266
OHAK Old Harbor 79.64 33 P P 19 54 21.7 +1.4
OHAK IAmb IAmb 19 54 22.1
comp=Z,11nm,0.7s
OHAK Old Harbor 79.64 33 P P 19 54 21.3 +1.0
baz=266
K20K Telida 79.77 27 P P 19 54 22.5 +1.6
K20K Telida 79.77 27 P P 19 54 22.5 +1.6
baz=264
L20K Farewell, AK 79.77 28 P P 19 54 22.6 +1.7
baz=265
J20K Nowinta River 79.82 26 P P 19 54 22.6 +1.5
J20K Nowinta River 79.82 26 P P 19 54 22.6 +1.5
baz=264
A21K Barrow 79.84 19 P P 19 54 22.1 +1.0
baz=260
KDAK Kodiak Island 80.06 33 P P 19 54 23.8 +1.2
KDAK IAmb IAmb 19 54 24.7
comp=Z,13nm,0.8s
KDAK Kodiak Island 80.06 33 P P 19 54 23.0 +0.4
baz=267
RSO Redoubt South 80.14 30 P P 19 54 23.9 +0.7
IMAR Indian Mountai 80.17 24 P P 19 54 24.4 +1.4
H21K Melozitna Rive 80.53 25 P P 19 54 26.2 +1.3
H21K Melozitna Rive 80.53 25 P P 19 54 26.2 +1.3
baz=265
PPLA Purkeypile 80.58 27 P P 19 54 26.1 +0.7
PPLA Purkeypile 80.58 27 P P 19 54 25.4 -0.1
baz=266
CHUM Lake Minchumin 80.59 26 P P 19 54 26.8 +1.5
baz=266
CAST Castle Rocks 80.66 27 P P 19 54 27.3 +1.5
CAST IAmb IAmb 19 54 28.0
comp=Z,12nm,0.8s
CAST Castle Rocks 80.66 27 P P 19 54 26.8 +1.1
baz=266
I21K Tanana 80.83 25 P P 19 54 28.4 +1.8
I21K IAmb IAmb 19 54 29.4
comp=Z,15nm,1.1s
I21K Tanana 80.83 25 P P 19 54 28.3 +1.8
baz=266
CNPM China Poot 80.85 31 P P 19 54 27.6 +0.8
BRLK Bradley Lake 81.04 31 P P 19 54 28.1 +0.3
BRSE Bradley Lake S 81.11 31 P P 19 54 29.4 +1.3
baz=268
BPAW Bear Paw Mtn. 81.19 26 P P 19 54 30.0 +1.5
BPAW IAmb IAmb 19 54 30.9
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 81.19 26 P P 19 54 29.5 +1.0
baz=267,SNR=9.8
KTH Kantishna Hill 81.19 27 P P 19 54 30.0 +1.4
MLY Manley 81.35 25 P P 19 54 30.9 +1.5
MLY IAmb IAmb 19 54 32.2
comp=Z,9.0nm,0.6s
MLY Manley 81.35 25 P P 19 54 31.2 +1.9
baz=267
CUT Chulitna 81.44 28 P P 19 54 31.3 +1.5
baz=268
TRF Thorofare Moun 81.47 27 P P 19 54 31.0 +0.8
TRF IAmb IAmb 19 54 31.9
comp=Z,10nm,1.0s
TRF Thorofare Moun 81.47 27 P P 19 54 30.1 -0.1
baz=268
M22K Willow 81.49 29 P P 19 54 30.9 +0.9
M22K IAmb IAmb 19 54 31.4
comp=Z,27nm,0.8s
M22K Willow 81.49 29 P P 19 54 30.3 +0.3
baz=268
O22K Cooper Landing 81.64 30 P P 19 54 31.3 +0.4
O22K Cooper Landing 81.64 30 P P 19 54 31.3 +0.4
baz=269
RC01 Rabbit Creek A 81.65 29 P P 19 54 31.7 +0.8
RC01 IAmb IAmb 19 54 32.4
comp=Z,8.9nm,0.6s
RC01 Rabbit Creek A 81.65 29 P P 19 54 31.5 +0.5
baz=269
COLD Coldfoot 81.68 23 P P 19 54 32.5 +1.5
COLD Coldfoot 81.68 23 P P 19 54 31.9 +0.9
baz=267,SNR=9.5
SEW Seward 81.77 30 P P 19 54 32.2 +0.7
SEW Seward 81.77 30 P P 19 54 31.8 +0.3
baz=269
H23K Yukon River 81.88 24 P P 19 54 34.1 +2.0
baz=268
I23K Minto, Yukon-K 81.94 25 P P 19 54 32.1 -0.2
I23K IAmb IAmb 19 54 36.0
comp=Z,11nm,0.6s
I23K Minto, Yukon-K 81.94 25 P P 19 54 33.0 +0.7
baz=268,SNR=11
PMR Palmer 81.95 29 P P 19 54 32.6 +0.1
baz=269
TOLK Toolik Lake Re 81.98 22 P P 19 54 33.9 +1.3
TOLK Toolik Lake Re 81.98 22 P P 19 54 33.6 +1.0
baz=268,SNR=5.3
NEA2 Nenana 82.05 26 P P 19 54 33.2 +0.2
baz=269
GHO Glory Hole Cre 82.06 29 P P 19 54 32.8 -0.3
GHO IAmb IAmb 19 55 00.2
comp=Z,23nm,1.4s
MCK McKinley 82.08 27 P P 19 54 33.9 +0.7
MCK IAmb IAmb 19 54 34.5
comp=Z,10nm,0.7s
MCK McKinley 82.08 27 P P 19 54 33.7 +0.5
baz=269,SNR=8.2
RND Reindeer 82.12 27 P P 19 54 33.8 +0.4
RND IAmb IAmb 19 54 35.5
comp=Z,12nm,1.1s
VOI Vohitsoka 82.16 247 P P 19 54 33.5 -1.0
VOI IAmb IAmb 19 54 49.2
comp=Z,31nm,1.6s
KNK Knik Glacier 82.28 29 P P 19 54 35.6 +1.4
KNK Knik Glacier 82.28 29 P P 19 54 34.7 +0.5
baz=270
PWL Port Wells 82.33 30 P P 19 54 35.3 +0.8
PWL IAmb IAmb 19 54 36.6
comp=Z,26nm,1.0s
PWL Port Wells 82.33 30 P P 19 54 35.1 +0.6
baz=270,SNR=6.0
SML Sawmill 82.34 29 P P 19 54 35.6 +1.0
SML IAmb IAmb 19 54 37.2
comp=Z,22nm,1.0s
SML Sawmill 82.34 29 P P 19 54 35.2 +0.6
baz=270,SNR=5.4
KLMR Klimovskoe 82.35 330 eP P 19 54 32.4 -2.2
KLMR AMP 19 54 33.4
comp=Z,8.0nm,0.9s
MDM Murphy Dome 82.41 25 P P 19 54 36.0 +1.1
WRH Wood River Hil 82.47 26 P P 19 54 35.6 +0.5
WRH IAmb IAmb 19 54 37.3
comp=Z,11nm,0.8s
H24K Noodor Dome 82.57 24 P P 19 54 36.7 +1.0
H24K IAmb IAmb 19 54 39.8
comp=Z,9.5nm,0.8s
H24K Noodor Dome 82.57 24 P P 19 54 37.1 +1.4
baz=270
TCOL CIGO, UAF Yank 82.57 25 P P 19 54 36.0 +0.4
TCOL IAmb IAmb 19 54 37.8
comp=Z,7.4nm,0.8s
TCOL CIGO, UAF Yank 82.57 25 P P 19 54 36.4 +0.8
baz=270
COLA College 82.57 25 P P 19 54 36.1 +0.5
COLA IAmb IAmb 19 54 37.8
comp=Z,7.5nm,0.7s
COLA College 82.57 25 P P 19 54 36.2 +0.5
baz=270
CCB Clear Creek Bu 82.59 26 P P 19 54 35.5 -0.3
CCB IAmb IAmb 19 54 37.9
comp=Z,7.8nm,0.6s
WAT6 Susitna Watana 82.62 28 P P 19 54 36.4 +0.2
baz=270,SNR=9.2
DHY Denali Highway 82.78 27 P P 19 54 38.0 +1.0
DHY Denali Highway 82.78 27 P P 19 54 37.0 +0.1
baz=270
SCM Sheep Creek Mo 82.81 29 P P 19 54 37.1 0.0
SCM IAmb IAmb 19 54 39.9
comp=Z,15nm,1.0s
SCM Sheep Creek Mo 82.81 29 P P 19 54 37.1 0.0
baz=271
GLI Glacier Island 82.94 29 P P 19 54 38.8 +1.1
GLI IAmb IAmb 19 55 12.1
comp=Z,44nm,1.5s
GLI Glacier Island 82.94 29 P P 19 54 37.9 +0.2
baz=271
HDA Harding Lake 82.96 26 P P 19 54 37.5 -0.1
HDA IAmb IAmb 19 54 38.6
comp=Z,8.4nm,0.8s
HDA Harding Lake 82.96 26 P P 19 54 37.4 -0.3
baz=271,SNR=6.5
ILAR Eielson Array 82.98 26 P P 19 54 37.6 -0.2
comp=Z,4.4nm,0.7s,baz=234,slow=5.2,SNR=31
ILAR Eielson Array 82.98 26 P P 19 54 37.3 -0.5
FID Port Fidalgo 83.24 30 P P 19 54 40.1 +0.9
FID IAmb IAmb 19 54 41.4
comp=Z,24nm,1.0s
M24K Tolsona, Glenn 83.35 28 P P 19 54 40.7 +0.9
M24K IAmb IAmb 19 54 44.1
comp=Z,18nm,0.9s
M24K Tolsona, Glenn 83.35 28 P P 19 54 40.7 +0.9
baz=272
KLU Klutina 83.49 29 P P 19 54 41.4 +0.9
KLU Klutina 83.49 29 P P 19 54 41.0 +0.4
baz=272
PRP Porcupine Dome 83.55 25 P P 19 54 40.6 -0.3
PRP Porcupine Dome 83.55 25 P P 19 54 41.2 +0.3
baz=272
EYAK Cordova Ski Ar 83.61 30 P P 19 54 40.7 -0.3
baz=272
FYU Fort Yukon 83.63 24 P P 19 54 41.7 +0.6
FYU IAmb IAmb 19 54 45.7
comp=Z,14nm,1.0s
J25K Salcha River, 83.64 26 P P 19 54 40.9 -0.3
J25K Salcha River, 83.64 26 P P 19 54 41.0 -0.3
baz=272,SNR=7.1
PAX Paxson 83.65 27 P P 19 54 42.7 +1.4
PAX IAmb IAmb 19 54 43.7
comp=Z,13nm,1.2s
PAX Paxson 83.65 27 P P 19 54 42.0 +0.6
baz=272,SNR=6.1
HARP HAARP 83.82 28 P P 19 54 42.7 +0.5
baz=272
BMAR Burnt Mountain 83.86 23 P P 19 54 43.7 +1.5
RIDG Independent Ri 83.90 27 P P 19 54 42.5 0.0
RIDG IAmb IAmb 19 54 44.4
comp=Z,21nm,1.0s
RIDG Independent Ri 83.90 27 P P 19 54 43.2 +0.6
baz=273,SNR=13
N25K Chitina, Valde 84.12 29 P P 19 54 45.0 +1.2
N25K Chitina, Valde 84.12 29 P P 19 54 44.3 +0.6
baz=273
BMRM Bremner River 84.15 29 P P 19 54 44.5 +0.6
BMRM IAmb IAmb 19 54 46.3
comp=Z,19nm,1.1s
BMRM Bremner River 84.15 29 P P 19 54 44.0 +0.1
baz=273
DOT Dot Lake 84.26 27 P P 19 54 44.8 +0.4
SCRK Sand Creek 84.27 26 P P 19 54 44.8 +0.2
SCRK Sand Creek 84.27 26 P P 19 54 45.3 +0.8
baz=273
J26L Joseph Creek 84.42 26 P P 19 54 46.3 +1.0
baz=274
MENT Mentasta 84.45 27 P P 19 54 46.2 +0.9
GLB Gilahina Butte 84.51 29 P P 19 54 46.1 +0.4
GLB IAmb IAmb 19 55 10.9
comp=Z,24nm,1.6s
VRDI Verde Repeater 84.69 29 P P 19 54 46.6 -0.2
VRDI IAmb IAmb 19 54 47.3
comp=Z,33nm,1.7s
L27K Beaver Creek, 85.31 27 P P 19 54 50.9 +1.3
baz=275
BARN Barnard Glacie 85.58 29 P P 19 54 51.8 +0.7
BARN IAmb IAmb 19 54 54.5
comp=Z,14nm,1.2s
CTG Chitina Glacier 85.74 29 P P 19 54 51.8 -0.1
baz=276
CTGM Chitina Glacie 85.74 29 P P 19 54 52.5 +0.6
CTGM IAmb IAmb 19 54 55.8
comp=Z,14nm,1.0s
BVCY Beaver Creek 85.81 28 P P 19 54 52.2 +0.1
baz=276
YUK3 Moose Creek 86.07 28 P P 19 54 54.2 +0.6
baz=277
DAWY Dawson 86.28 26 P P 19 54 54.5 +0.2
baz=277
VNDA Vanda 86.42 173 P P 19 54 54.8 +0.1
comp=Z,2.1nm,0.7s,baz=342,slow=4.0,SNR=4.3
BRTR Keskin Array B 87.33 310 P P 19 54 59.5 -0.6
comp=Z,0.8nm,0.6s,baz=94,slow=9.1,SNR=2.0
ARCES ARCESS Array B 87.36 340 P P 19 54 58.1 -1.4
comp=Z,1.4nm,0.6s,baz=79,slow=6.4,SNR=4.6
ARCES PKiKP **PKiKP 20 00 02.0 -0.5**
comp=Z,3.0nm,1.1s,baz=93,slow=3.7,SNR=4.3
ARCES PKKPbc **PKKPbc 20 12 48.3 -3.3**
comp=Z,0.6nm,0.4s,baz=244,slow=3.5,SNR=6.2
HYT Haines Junctio 87.62 29 P P 19 55 00.9 0.0
HYT IAmb IAmb 19 55 03.8
comp=Z,8.3nm,1.1s
HYT Haines Junctio 87.62 29 P P 19 55 01.0 0.0
baz=279
M30M Minto, Yukon 87.66 27 P P 19 55 01.5 +0.5
baz=280
INK Inuvik 87.89 21 P P 19 55 01.3 -0.6
INK Inuvik 87.89 21 P P 19 55 02.1 +0.2
baz=282
N31M Braeburn, Yuko 88.33 28 P P 19 55 05.1 +1.0
baz=281
KMBO Kilima Mbogo 88.50 269 P P 19 55 05.2 -1.1
comp=Z,0.7nm,0.5s,baz=70,slow=8.3,SNR=5.2
KMBO Kilima Mbogo 88.50 269 IAmb IAmb 19 55 06.7
comp=Z,2.7nm,0.9s
FINES FINESS Array B 88.77 332 P P 19 55 04.6 -1.6
comp=Z,1.3nm,0.7s,baz=46,slow=8.2,SNR=8.7
M31M Drury Creek, Y 88.83 28 P P 19 55 06.5 0.0
baz=282
WHY Whitehorse 88.91 29 P P 19 55 06.9 -0.1
baz=282

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKASG	**Malin Array Be**	**88.96**	**321**	P	**P**	**19 55 05.0**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=66,slow=4.1,SNR=3.1						
FARO	**Faro, Yukon**	**89.30**	**27**	P	**P**	**19 55 09.3**	**+0.6**
	baz=283						
A36M	**Sachs Harbour**	**89.56**	**17**	P	**P**	**19 55 09.7**	**0.0**
MMPY	**Sheldon Lake,**	**90.15**	**27**	P	**P**	**19 55 13.3**	**+0.5**
	baz=285						
C36M	**Paulatuk**	**90.87**	**19**	P	**P**	**19 55 15.3**	**-0.5**
C36M	**Paulatuk**	**90.87**	**19**	P	**P**	**19 55 16.6**	**+0.8**
	baz=291						
TGTN	**Hyland Airport**	**91.81**	**27**	P	**P**	**19 55 20.7**	**+0.2**
	baz=287						
MLR	**Muntele Rosu**	**92.05**	**316**	P	**P**	**19 55 20.9**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=352,slow=3.8,SNR=4.6						
RES	**Resolute Bay**	**95.17**	**10**	P	**P**	**19 55 34.3**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=305,slow=5.4,SNR=8.3						
RES	**Resolute Bay**	**95.17**	**10**	IAmb	IAmb	19 55 44.7	
	comp=Z,5.2nm,1.6s						
YKA	**Yellowknife Ar**	**97.33**	**24**	P	Pdif	19 55 46.0	+0.4
	comp=Z,2.6nm,0.7s,baz=301,slow=4.7,SNR=39						
YKA				PKiKP	**PKiKP**	**20 00 20.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=298,slow=1.8,SNR=8.6						
YKA				PKKPbc	**PKKPbc**	**20 12 20.8**	**-5.0**
	comp=Z,0.7nm,0.4s,baz=126,slow=3.4,SNR=16						
RSSD	**Black Hills**	**112.56**	**36**	P	**PKiKP**	**20 00 48.8**	**+0.3**
	baz=305						
ULM	**Lac du Bonnet**	**112.94**	**28**	PKiKP	**PKiKP**	**20 00 48.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=323,slow=2.6,SNR=4.3						
ISCO	**Idaho Springs**	**113.97**	**41**	P	**PKiKP**	**20 00 51.7**	**+0.2**
	baz=302						
S22A	**4UR Ranch, Cre**	**114.22**	**44**	P	PKPdf	20 00 51.9	-0.1
	baz=300						
SDCO	**Great Sand Dun**	**115.12**	**43**	P	**PKiKP**	**20 00 53.6**	**-0.1**
	baz=302						
ECSD	**EROS Data Cent**	**117.02**	**33**	P	**PKPdf**	**20 00 56.6**	**-0.2**
	baz=312						
BGNE	**Belgrade**	**117.66**	**36**	P	**PKPdf**	**20 00 58.0**	**-0.2**
	baz=309						
SCHQ	**Schefferville**	**117.89**	**8**	PKP	**PKPdf**	**20 00 58.2**	**0.0**
	comp=Z,1.6nm,0.4s,baz=154,slow=1.1,SNR=5.4						
MNTX	**Cornudas Mount**	**118.23**	**49**	P	**PKPdf**	**20 00 59.2**	**-0.3**
	baz=299						
TXAR	**Lajitas Array**	**120.67**	**50**	PKP	**PKPdf**	**20 01 04.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=310,slow=1.7,SNR=7.8						
JFWS	**Jewell Farm**	**120.91**	**30**	P	**PKPdf**	**20 01 04.1**	**-0.3**
	baz=317						
TORD	**Torodi Ar. Bea**	**120.93**	**290**	PKP	**PKPdf**	**20 01 04.0**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=45,slow=2.0,SNR=14						
WMOK	**Wichita Mounta**	**121.30**	**42**	P	**PKPdf**	**20 01 04.9**	**-0.5**
	baz=306						
JCT	**Junction City**	**122.97**	**47**	P	**PKiKP**	**20 01 09.1**	**+0.2**
	baz=303						
HDIL	**Hopedale**	**123.13**	**31**	P	**PKiKP**	**20 01 08.9**	**0.0**
	baz=317						
CCM	**Cathedral Cave**	**123.86**	**35**	P	**PKPdf**	**20 01 10.3**	**+0.1**
	baz=314						
U40A	**Yellville**	**124.07**	**37**	P	**PKPdf**	**20 01 10.6**	**0.0**
	baz=312						
W39A	**Magazine**	**124.26**	**39**	P	**PKPdf**	**20 01 11.2**	**+0.2**
	baz=310						
833A	**Chaparral WMA,**	**124.41**	**49**	P	**PKiKP**	**20 01 12.6**	**+0.8**
	baz=302						
MIAR	**Mount Ida**	**124.81**	**39**	P	**PKiKP**	**20 01 12.7**	**+0.3**
	baz=310						
W41B	**Gary Mavity, V**	**125.23**	**38**	P	**PKPdf**	**20 01 12.2**	**-0.6**
	baz=312						
O48B	**Farmland**	**125.41**	**29**	P	**PKPdf**	**20 01 13.1**	**0.0**
	baz=322						
LONY	**Lake Ozonia**	**125.84**	**18**	P	**PKPdf**	**20 01 13.1**	**-0.6**
	baz=335						
NATX	**Nacogdoches**	**125.85**	**43**	P	**PKPdf**	**20 01 13.4**	**-0.7**
	baz=308						
ERPA	**Erie**	**126.15**	**23**	P	**PKPdf**	**20 01 14.4**	**0.0**
	baz=328						
P49A	**Miami Univ. Ec**	**126.19**	**29**	P	**PKPdf**	**20 01 14.4**	**-0.1**
	baz=322						
WCI	**Wyandotte Cave**	**126.41**	**31**	P	**PKPdf**	**20 01 14.9**	**-0.1**
	baz=319						
ACSO	**Alum Creek Sta**	**126.44**	**27**	P	**PKPdf**	**20 01 15.1**	**+0.1**
	baz=324						
M53A	**WI Miller and**	**126.45**	**24**	P	**PKPdf**	**20 01 15.2**	**+0.2**
	baz=327						
M54A	**Oil Creek Stat**	**126.80**	**24**	P	**PKiKP**	**20 01 16.4**	**+0.2**
	baz=328						
LBNH	**Lisbon**	**126.95**	**16**	P	**PKiKP**	**20 01 16.4**	**0.0**
	baz=338						
N54A	**Moraine State**	**127.13**	**24**	P	**PKiKP**	**20 01 16.8**	**-0.1**
	baz=328						
WVT	**Waverly**	**127.14**	**34**	P	**PKiKP**	**20 01 17.1**	**+0.1**
	baz=317						
O53A	**New Philadelph**	**127.21**	**26**	P	**PKPdf**	**20 01 16.8**	**+0.3**
	baz=326						
P52A	**Corning**	**127.31**	**27**	P	**PKiKP**	**20 01 17.3**	**+0.1**
	baz=325						
BINY	**Binghamton**	**127.56**	**20**	P	**PKiKP**	**20 01 17.6**	**-0.1**
	baz=333						
SSPA	**Standing Stone**	**128.24**	**23**	P	**PKiKP**	**20 01 18.8**	**-0.2**
	baz=330						
O56A	**Blue Knob Stat**	**128.29**	**24**	P	**PKPdf**	**20 01 18.5**	**-0.1**
	baz=329						
N59A	**State Game Lan**	**128.77**	**21**	P	**PKiKP**	**20 01 20.2**	**0.0**
	baz=332						
TZTN	**Tazewell**	**129.10**	**30**	P	**PKPdf**	**20 01 20.6**	**+0.4**
	baz=322						
PAL	**Palisades**	**129.32**	**19**	P	**PKPdf**	**20 01 20.4**	**0.0**
	baz=335						
KMSC	**Kings Mountain**	**131.31**	**30**	P	**PKPdf**	**20 01 24.6**	**+0.1**
	baz=323						
PLCA	**Paso Flores**	**143.09**	**159**	PKP	PKPbc	20 01 43.7	+0.3
	comp=Z,3.1nm,0.6s,baz=258,slow=1.5,SNR=18						
LPAZ	**La Paz**	**163.47**	**127**	PKP	**PKPdf**	**20 02 15.8**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=87,slow=3.6,SNR=7.3						

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*AZER **08** 19:48:00.3±1.5, 34.°92N×44.°41E, h5km Error ellipse: s-maj=42.8km s-min=8.5km az=94.0*
*ISN **08** 19:48:00.4±0.7, 35.°93N×44.°35E, h19km±5km, ML2.9*
ISC 08 19:48:03.1±1.1**, 35.°83N**±0.°05×**44.°5E**±0.°1**, h10**km**, n7,** σ**2.s39**/12**, Iraq**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.46**	**201**	*e*Pg	**Pg**	**19 48 11.0**	**-1.0**
IKRK				*e*Sg	**Sg**	**19 48 17.8**	**-0.2**
IKRK				AML	AML	19 48 21.9	
	comp=N,713nm,0.8s						
IKRK				AML	AML	19 48 25.1	
	comp=E,525nm,0.4s						
BHD	**Baghdad**	**2.55**	**183**	*e*Pn	**Pn**	**19 48 44.0**	**-0.5**
BHD				*e*Sn	**Sn**	**19 49 16.0**	**+0.4**
IBDR	**Badra**	**2.94**	**157**	*e*Pn	**Pn**	**19 48 50.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**19 49 27.0**	**+1.8**
ORD	**Ordubad**	**3.31**	**20**	P	**Pg**	**19 49 05.2**	**-1.2**
	SNR=3.1						
ORD				S	**Sg**	**19 49 54.3**	**+5.0**
NAX	**Nakhchivan**	**3.43**	**13**	P	**Pg**	**19 49 07.6**	**-1.1**
	SNR=3.4						
NAX				S	Sg	19 49 58.1	+4.9
SBZ	**Shahbuz**	**3.66**	**12**	P	**Pg**	**19 49 10.4**	**-2.7**
	SNR=6.8						
SBZ				S	Sg	19 50 05.0	+4.6
YRD	**Yardimli**	**4.27**	**43**	P	**Pb**	**19 49 19.3**	**+1.1**
	SNR=6.3						
YRD				S	**Sg**	**19 50 16.9**	**-3.2**

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*IDC **08** 19:52:30.4±2.0, 22.°46S×179.°50W, h550km±19km, mb3.3/8, mb1 3.5/10, mb1mx3.3/27, mbtmp4.3/10, Error ellipse: s-maj=25.6km s-min=19.4km az=158.0*
*NEIC **08** 19:52:31.3±1.9, 22.°6S±0.°1×179.°5W±0.°1, h560km±8km, mb4.4/26, Error ellipse: s-maj=20.5km s-min=18.9km az=181.0*
ISC 08 19:52:30.7±0.6**, 22.°6S**±0.°1×**179.°53W**±0.°09**, h550**km**, n50,** σ**1.s46**/48**, mb4.3**/21**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.64**	**70**	P	**P**	**19 54 45.9**	**+0.9**
MARNC	**Mare, Loyalty**	**11.59**	**273**	P	**P**	**19 55 06.7**	**+1.7**
PINNC	**Pines Island,**	**12.03**	**267**	P	**P**	**19 55 13.4**	**+3.9**
LIFNC	**LIFOU**	**12.44**	**276**	P	**P**	**19 55 13.1**	**-0.7**
DZM	**Mont Dzumac**	**12.99**	**270**	P	**P**	**19 55 19.7**	**+0.1**
	0.3nm,0.3s,baz=143,slow=20,SNR=1.6						
URZ	**Urewera**	**15.87**	**190**	P	**P**	**19 55 47.7**	**-1.0**
	0.7nm,0.3s,baz=268,slow=4.3,SNR=7.5						
URZ				S	**S**	**19 58 25.3**	**-5.2**
	0.6nm,0.3s,baz=202,slow=19,SNR=2.1						
URZ	**Urewera**	**15.87**	**190**	IAmb	IAmb	19 56 17.1	
	comp=Z,34nm,1.4s						
QRZ	**Quartz Range**	**19.36**	**198**	P	**P**	**19 56 22.9**	**+2.1**
NNZ	**Nelson**	**19.49**	**196**	P	**P**	**19 56 23.0**	**+1.1**
LTZ	**Lake Taylor**	**21.25**	**197**	P	**P**	**19 56 40.2**	**+2.3**
ARMA	**Armidale**	**26.90**	**247**	P	**P**	**19 57 29.2**	**+0.9**
ARMA				IAmb	IAmb	19 57 35.3	
	comp=Z,27nm,1.6s						
EIDS	**Eidsvold**	**26.97**	**258**	P	**P**	**19 57 29.4**	**+0.6**
CAN	**Canberra**	**30.18**	**238**	P	**P**	**19 57 57.6**	**+1.0**
CAN				IAmb	IAmb	19 57 58.4	
	comp=Z,7.7nm,0.6s						
CTA	**Charters Tower**	**31.93**	**268**	P	**P**	**19 58 12.3**	**+0.5**
	comp=Z,14nm,0.6s,baz=94,slow=11,SNR=25						
TOO	**Toolangi**	**33.52**	**236**	P	**P**	**19 58 25.6**	**+0.5**
TOO				IAmb	IAmb	19 58 28.5	
	comp=Z,14nm,1.2s						
PMG	**Port Moresby**	**34.51**	**287**	P	**P**	**19 58 33.1**	**-0.5**
	comp=Z,7.7nm,0.7s,baz=122,slow=8.5,SNR=4.5						
STKA	**Stephens Creek**	**35.62**	**246**	P	**P**	**19 58 43.4**	**+0.7**
	comp=Z,4.3nm,0.4s,baz=95,slow=11,SNR=37						
STKA	**Stephens Creek**	**35.62**	**246**	P	**P**	**19 58 42.4**	**-0.3**
COEN	**Coen**	**36.36**	**277**	P	**P**	**19 58 48.3**	**-0.7**
COEN				IAmb	IAmb	19 59 24.0	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**40.36**	**246**	P	**P**	**19 59 20.8**	**-0.4**
AS31	**Alice Springs**	**42.69**	**259**	P	**P**	**19 59 39.4**	**-0.3**
ASAR	**Alice Springs**	**42.69**	**259**	P	**P**	**19 59 39.5**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=92,slow=6.7,SNR=82						
ASAR				ScP	**ScP**	**20 04 18.0**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=102,slow=4.7,SNR=2.0						
ASAR	**Alice Springs**	**42.69**	**259**	P	**P**	**19 59 38.8**	**-1.0**
WR0	**Warramunga Arr**	**42.75**	**265**	P	**P**	**19 59 39.5**	**-0.8**
WR0				IAmb	IAmb	19 59 40.7	
	comp=Z,3.8nm,0.6s						
WB0	**Warramunga Arr**	**42.93**	**265**	P	**P**	**19 59 40.9**	**-0.7**
WB0				IAmb	IAmb	19 59 41.6	
	comp=Z,7.9nm,0.6s						
WB2	**Warramunga Arr**	**42.93**	**265**	P	**P**	**19 59 40.8**	**-0.9**
WB2				IAmb	IAmb	19 59 41.7	
	comp=Z,7.0nm,0.9s						
WRAB	**Tennant Creek**	**42.93**	**265**	P	**P**	**19 59 41.0**	**-0.7**
WRAB				IAmb	IAmb	19 59 41.7	
	comp=Z,8.4nm,1.2s						
WRA	**Warramunga Arr**	**42.94**	**265**	P	**P**	**19 59 41.0**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=96,slow=8.4,SNR=125						
WRA				ScP	**ScP**	**20 04 19.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=98,slow=4.6,SNR=4.8						
WRA	**Warramunga Arr**	**42.94**	**265**	P	**P**	**19 59 39.7**	**-2.1**
FORT	**Forrest**	**47.18**	**248**	P	**P**	**20 00 13.6**	**-0.4**
KNRA	**Kununurra**	**49.14**	**268**	P	**P**	**20 00 28.3**	**-0.5**
KNRA				IAmb	IAmb	20 00 30.4	
	comp=Z,11nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.37**	**264**	P	**P**	**20 00 45.2**	**+0.1**
FITZ				IAmb	IAmb	20 00 46.0	
	comp=Z,10nm,1.2s						
VNDA	**Vanda**	**55.70**	**185**	P	**P**	**20 01 16.2**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=343,slow=6.8,SNR=2.2						
VNDA	**Vanda**	**55.70**	**185**	IAmb	IAmb	20 01 25.1	
	comp=Z,11nm,1.6s						
PSA00	**Pilbara Seismi**	**55.83**	**259**	P	**P**	**20 01 18.5**	**+1.9**
MMRI	**Maumere**	**57.45**	**274**	P	**P**	**20 01 26.6**	**-1.2**
MMRI				IAmb	IAmb	20 01 27.4	
	comp=Z,21nm,1.0s						
TOLI2	**Tolitoli**	**62.68**	**284**	P	**P**	**20 02 01.3**	**-1.2**
QSPA	**South Pole Qui**	**67.47**	**180**	P	**P**	**20 02 31.7**	**-0.1**
QSPA				IAmb	IAmb	20 02 33.9	
	comp=Z,9.0nm,1.4s						
KKM	**Kota Kinabalu**	**68.95**	**286**	P	**P**	**20 02 41.3**	**-0.3**
KKM				IAmb	IAmb	20 03 03.1	
	comp=Z,17nm,1.0s						
NVAR	**Mina Array Bea**	**83.52**	**44**	P	**P**	**20 04 01.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=224,slow=7.5,SNR=3.6						
ILAR	**Eielson Array**	**90.68**	**13**	P	**P**	**20 04 34.6**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=226,slow=5.7,SNR=2.7						
KURK	**Kurchatov**	**114.56**	**317**		PKPdf	20 10 06.4	-1.8
KURBB	**Kurchatov Arra**	**114.61**	**317**	PKiKP	PKPdf	20 10 06.4	-1.9
	comp=Z,0.1nm,0.3s,baz=119,slow=2.0,SNR=4.1						
SPITS	**Spitsbergen Ar**	**123.86**	**356**	PKP	**PKPdf**	**20 10 24.3**	**-1.2**
	comp=Z,13nm,1.0s,baz=8.5,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**130.71**	**349**	PKP	**PKPdf**	**20 10 36.8**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=7.1,slow=3.6,SNR=3.6						
FINES	**FINESS Array B**	**137.36**	**342**	PKP	**PKPdf**	**20 10 50.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.0,SNR=1.7						
FINES				SKPbc	**SKPbc**	**20 13 30.8**	**-2.4**
	comp=Z,1.4nm,1.0s,baz=42,slow=4.3,SNR=4.0						
HFS	**Hagfors**	**141.36**	**349**	PKhKP	PKPpre	20 10 52.5	
	comp=Z,0.7nm,0.4s,baz=130,slow=4.6,SNR=9.5						
AKASG	**Malin Array Be**	**144.11**	**329**	PKP	PKPbc	20 11 01.7	-1.6
	comp=Z,1.1nm,0.4s,baz=45,slow=4.3,SNR=12						
EKA	**Eskdalemuir Ar**	**147.21**	**4**	PKPbc	**PKPdf**	**20 11 10.4**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=79,slow=4.3,SNR=9.6						
CLL	**Collm**	**149.74**	**344**	*i* PKPbc	**PKPbc**	**20 11 17.9**	**-0.5**
	comp=Z,4.0nm,0.5s						

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*UCR **08** 19:52:59.8±0.8, 12.°95N×88.°96W, h33km±1km, ML3.6*
*SNET **08** 19:52:59.6±0.8, 12.°95N×88.°96W, h33km±1km, ML3.6*
*INET **08** 19:52:59.8±0.2, 12.°95N×88.°95W, h50km±6km, MW3.5*
ISC 08 19:52:58.8±1.9**, 12.°89N**±0.°09×**88.°98W**±0.°04**, h32**km±12km**,** **n56,** σ**0.s30**/76**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.59**	**42**	IAML		19 53 21.8	
	comp=Z,2µm,0.2s						
ALJI	**Alcalda de J**	**0.59**	**42**	IAML		19 53 21.8	
	comp=Z,2µm,0.2s						
TECO	**Alcaldia de Te**	**0.68**	**17**	*e*P	**Pn**	**19 53 12.2**	**-0.1**
TECO				*e*S	**Sn**	**19 53 21.3**	**-0.4**
TECO	**Alcaldia de Te**	**0.68**	**17**	*e*P	**Pn**	**19 53 12.2**	**-0.1**
TECO				*e*S	**Sn**	**19 53 21.3**	**-0.4**
LALI	**Alcalda de L**	**0.68**	**331**	*e*P	**Pn**	**19 53 11.7**	**-0.6**
LALI				*e*S	**Sn**	**19 53 21.6**	**-0.2**
LALI	**Alcalda de L**	**0.68**	**331**	*e*P	**Pn**	**19 53 11.7**	**-0.6**
LALI				*e*S	**Sn**	**19 53 21.6**	**-0.2**
SJTE	**Alcalda de S**	**0.72**	**358**	*e*P	**Pn**	**19 53 13.0**	**0.0**
SJTE				*e*S	**Sn**	**19 53 23.1**	**+0.1**
SJTE	**Alcalda de S**	**0.72**	**358**	*e*P	**Pn**	**19 53 13.0**	**0.0**
SJTE				*e*S	**Sn**	**19 53 23.1**	**+0.1**
LFRS	**El Faro**	**0.74**	**354**	*e*P	**Pn**	**19 53 13.0**	**-0.1**
LFRS	**El Faro**	**0.74**	**354**	*e*P	**Pn**	**19 53 13.0**	**-0.1**
COEB	**Comit de Eme**	**0.75**	**36**	*e*P	**Pn**	**19 53 13.4**	**+0.1**
COEB				*e*S	**Sn**	**19 53 23.9**	**+0.2**
COEB				IAML		19 53 28.4	
	comp=Z,2µm,0.4s						
COEB	**Comit de Eme**	**0.75**	**36**	*e*P	**Pn**	**19 53 13.4**	**+0.1**
COEB				*e*S	**Sn**	**19 53 23.9**	**+0.2**
COEB				IAML		19 53 28.4	
	comp=Z,2µm,0.4s						
COEB	**Comit de Eme**	**0.75**	**36**	*e*P	**Pn**	**19 53 13.4**	**+0.1**
UESV	**Universidad de**	**0.77**	**14**	*e*P	**Pn**	**19 53 13.6**	**0.0**
UESV				*e*S	**Sb**	**19 53 24.2**	**+0.2**
UESV	**Universidad de**	**0.77**	**14**	*e*P	**Pn**	**19 53 13.6**	**0.0**
UESV				*e*S	**Sb**	**19 53 24.2**	**+0.2**
JUCU	**Jucuar¡n**	**0.80**	**63**	*e*P	**Pn**	**19 53 13.7**	**-0.3**
JUCU				IAML		19 53 27.4	
	comp=Z,2µm,0.2s						
JUCU	**Jucuar¡n**	**0.80**	**63**	*e*P	**Pn**	**19 53 13.7**	**-0.3**
JUCU				IAML		19 53 27.4	
	comp=Z,2µm,0.2s						
PAVA	**Las Pavas**	**0.82**	**3**	*e*P	**Pn**	**19 53 14.5**	**+0.2**
PAVA				*e*S	**Sb**	**19 53 25.8**	**+0.2**
PAVA				IAML		19 53 26.8	
	comp=Z,4µm,0.2s						
PAVA	**Las Pavas**	**0.82**	**3**	*e*P	**Pn**	**19 53 14.5**	**+0.2**
PAVA				*e*S	**Sb**	**19 53 25.8**	**+0.2**
PAVA				IAML		19 53 26.8	
	comp=Z,4µm,0.2s						
PAVA	**Las Pavas**	**0.82**	**3**	*e*P	**Pn**	**19 53 14.4**	**+0.1**
PQSS	**Presa 15 de Se**	**0.84**	**29**	*e*P	**Pn**	**19 53 14.7**	**+0.2**
PQSS				*e*S	**Sb**	**19 53 26.3**	**+0.3**
PQSS	**Presa 15 de Se**	**0.84**	**29**	*e*P	**Pn**	**19 53 14.7**	**+0.2**
PQSS				*e*S	**Sb**	**19 53 26.3**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.85**	**17**	*e*P	**Pb**	**19 53 14.9**	**-0.2**
SCLA				*e*S	**Sb**	**19 53 26.6**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.85**	**17**	*e*P	**Pb**	**19 53 14.9**	**-0.2**
SCLA				*e*S	**Sb**	**19 53 26.6**	**+0.3**
LBRS	**Las Brisas**	**0.85**	**356**	*e*P	**Pb**	**19 53 15.1**	**-0.1**
LBRS	**Las Brisas**	**0.85**	**356**	*e*P	**Pb**	**19 53 15.1**	**-0.1**
LCY	**Lacayo**	**0.85**	**51**	*e*P	**Pn**	**19 53 14.8**	**+0.1**
LCY	**Lacayo**	**0.85**	**51**	*e*P	**Pn**	**19 53 14.8**	**+0.1**
RANC	**El Ranchito**	**0.86**	**51**	*e*P	**Pn**	**19 53 14.9**	**0.0**
RANC	**El Ranchito**	**0.86**	**51**	*e*P	**Pn**	**19 53 14.9**	**0.0**
LFU	**La Fuente**	**0.87**	**351**	*e*P	**Pn**	**19 53 15.1**	**+0.1**
LFU	**La Fuente**	**0.87**	**351**	*e*P	**Pn**	**19 53 15.1**	**+0.1**
VSM	**San Miguel**	**0.87**	**52**	*e*P	**Pn**	**19 53 15.3**	**+0.2**
VSM	**San Miguel**	**0.87**	**52**	*e*P	**Pn**	**19 53 15.3**	**+0.2**
PMON	**Piamonte**	**0.88**	**338**	*e*P	**Pn**	**19 53 15.3**	**+0.1**
PMON				*e*S	**Sb**	**19 53 27.2**	**-0.1**
PMON	**Piamonte**	**0.88**	**338**	*e*P	**Pn**	**19 53 15.3**	**+0.1**
PMON				*e*S	**Sb**	**19 53 27.2**	**-0.1**
JAYA	**Jayaque - finc**	**0.89**	**329**	*e*P	**Pn**	**19 53 15.6**	**+0.3**
JAYA				*e*S	**Sn**	**19 53 26.9**	**-0.3**
JAYA				IAML		19 53 29.7	
	comp=Z,2µm,0.2s						
JAYA	**Jayaque - finc**	**0.89**	**329**	*e*P	**Pn**	**19 53 15.6**	**+0.3**
JAYA				*e*S	**Sn**	**19 53 26.9**	**-0.3**
JAYA				IAML		19 53 29.7	
	comp=Z,2µm,0.2s						
BOQS	**Boqueron**	**0.89**	**341**	*e*P	**Pn**	**19 53 15.6**	**+0.2**
BOQS	**Boqueron**	**0.89**	**341**	*e*P	**Pn**	**19 53 15.6**	**+0.2**
CEVE	**Cerro Verde**	**1.13**	**326**	*e*P	**Pb**	**19 53 19.7**	**-0.3**
CEVE				IAML		19 53 46.6	
	comp=Z,1µm,0.3s						
CEVE	**Cerro Verde**	**1.13**	**326**	*e*P	**Pb**	**19 53 19.7**	**-0.3**
CEVE				IAML		19 53 46.6	
	comp=Z,1µm,0.3s						
SBLS	**San Blas**	**1.14**	**327**	*e*P	**Pn**	**19 53 19.7**	**+0.9**
SBLS	**San Blas**	**1.14**	**327**	*e*P	**Pn**	**19 53 19.7**	**+0.9**
TACO	**Tacachico**	**1.14**	**341**	*e*P	**Pn**	**19 53 18.8**	**+0.2**
TACO	**Tacachico**	**1.14**	**341**	*e*P	**Pn**	**19 53 18.8**	**+0.2**
LCND	**La Caada**	**1.14**	**68**	*e*P	**Pn**	**19 53 18.8**	**+0.1**
LCND				*e*S	**Sn**	**19 53 33.3**	**+0.1**
LCND				IAML		19 53 35.3	
	comp=Z,1µm,0.3s						
LCND	**La Caada**	**1.14**	**68**	*e*P	**Pn**	**19 53 18.8**	**+0.1**
LCND				*e*S	**Sn**	**19 53 33.3**	**+0.1**
LCND				IAML		19 53 35.3	
	comp=Z,1µm,0.3s						
SNJE	**San Jose**	**1.15**	**328**	*e*P	**Pn**	**19 53 19.5**	**+0.5**
SNJE	**San Jose**	**1.15**	**328**	*e*P	**Pn**	**19 53 19.5**	**+0.5**
RTR	**El Retiro**	**1.20**	**327**	*e*P	**Pn**	**19 53 20.2**	**+0.7**
RTR	**El Retiro**	**1.20**	**327**	*e*P	**Pn**	**19 53 20.2**	**+0.7**
CSGN	**Cosiguina Volc**	**1.39**	**86**	*e*P	**Pn**	**19 53 22.2**	**+0.1**
MTO3	**Montecristo**	**1.55**	**346**	*e*P	**Pn**	**19 53 24.6**	**+0.1**
MTO3	**Montecristo**	**1.55**	**346**	*e*P	**Pn**	**19 53 24.6**	**+0.1**
TGUH	**Tegucigalpa,Un**	**2.03**	**55**	*e*P	**Pn**	**19 53 30.7**	**-0.2**

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*ATH **08** 20:00:25.4, 37.°50N×22.°66E, h71km±3km, ML2.5/4, Error ellipse: s-maj=3.2km s-min=1.4km az=106.0*
*THE **08** 20:00:28.0, 37.°47N×22.°67E, h60km±4km, ML2.2/5, Error ellipse: s-maj=4.1km s-min=1.2km az=69.0*
ISC 08 20:00:28.1±1.6**, 37.°48N**±0.°04×**22.°65E**±0.°04**, h60**km±11km**,** **n32,** σ**0.s40**/42**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EPID	**Epidavros**	**0.40**	**70**	P	**Pn**	**20 00 39.0**	**0.0**
EPID				S	**Sn**	**20 00 47.6**	**+0.6**
EPID	**Epidavros**	**0.40**	**70**	P	**Pn**	**20 00 39.1**	**0.0**
EPID				S	**Sn**	**20 00 47.4**	**+0.4**
	210nm,0.2s						
KRND	**KRANIDI**	**0.41**	**103**	P	**Pn**	**20 00 38.9**	**-0.3**
KRND				S	**Sn**	**20 00 47.9**	**+0.7**
KRND				AML	AML	20 00 48.2	
	comp=E,749µm,0.4s						
KRND				AML	AML	20 00 48.2	
	comp=N,698µm,0.3s						
KRND	**KRANIDI**	**0.41**	**103**	P	**Pn**	**20 00 39.1**	**0.0**
KRND				S	**Sn**	**20 00 47.2**	**+0.1**
	comp=N,365nm,0.3s						
THAL	**Thalero**	**0.56**	**1**	P	**Pn**	**20 00 40.5**	**-0.2**
THAL				S	**Sn**	**20 00 49.6**	**-0.2**
THAL				AML	AML	20 00 52.5	
	comp=N,825µm,0.3s						
THAL				AML	AML	20 00 53.1	
	comp=E,1117µm,0.4s						
THAL	**Thalero**	**0.56**	**1**	P	**Pn**	**20 00 40.5**	**-0.2**
THAL				S	**Sn**	**20 00 49.7**	**-0.2**
	comp=E,545nm,0.3s						
ITM	**Ithomi**	**0.65**	**243**	P	**Pn**	**20 00 41.9**	**+0.1**
ITM	**Ithomi**	**0.65**	**243**	P	**Pn**	**20 00 42.0**	**+0.2**
ITM				S	**Sn**	**20 00 52.7**	**+0.9**
KLV	**Kalavryta, Ach**	**0.69**	**325**	P	**Pn**	**20 00 41.6**	**-0.6**
KLV				AML	AML	20 00 53.5	
	comp=N,308µm,0.3s						
KLV				AML	AML	20 00 53.7	
	comp=E,378µm,0.5s						
KLV	**Kalavryta, Ach**	**0.69**	**325**	P	**Pn**	**20 00 41.8**	**-0.5**
KLV				S	**Sn**	**20 00 52.6**	**-0.1**
	comp=E,172nm,0.4s						
VLI	**Veliai**	**0.79**	**163**	P	**Pn**	**20 00 43.0**	**-0.4**
VLI	**Veliai**	**0.79**	**163**	P	**Pn**	**20 00 43.1**	**-0.4**
VLI				S	**Sn**	**20 00 53.7**	**-1.0**
	comp=E,78nm,0.4s						
MNVA	**Monemvasia**	**0.85**	**159**	P	**Pn**	**20 00 43.5**	**-0.6**
VIL2	**Platees**	**0.88**	**33**	P	**Pn**	**20 00 44.4**	**-0.2**
VIL2				S	**Sn**	**20 00 56.3**	**-0.5**
DRO	**Drossia**	**0.88**	**303**	P	**Pn**	**20 00 44.8**	**+0.2**
LAKA	**Lakka**	**0.93**	**325**	P	**Pn**	**20 00 44.8**	**-0.5**
PYL	**PYLOS**	**0.93**	**232**	P	**Pn**	**20 00 45.2**	**0.0**
VLY	**Voula,Athens**	**0.98**	**67**	P	**Pn**	**20 00 45.8**	**0.0**
TRIZ	**Trizonia**	**1.00**	**333**	P	**Pn**	**20 00 45.5**	**-0.6**
DLFA	**Delphi**	**1.01**	**353**	P	**Pn**	**20 00 45.9**	**-0.3**
ATHU	**Athens Univers**	**1.02**	**61**	P	**Pn**	**20 00 46.6**	**+0.2**
RLS	**Riolos of Patr**	**1.10**	**302**	P	**Pn**	**20 00 47.9**	**+0.4**
PTL	**Penteli**	**1.12**	**59**	P	**Pn**	**20 00 47.9**	**+0.2**
DION	**Dionisos Attik**	**1.18**	**59**	P	**Pn**	**20 00 48.6**	**+0.1**
LKR	**Lokris**	**1.20**	**13**	P	**Pn**	**20 00 48.8**	**0.0**
LKR				AML	AML	20 01 05.2	
	comp=E,403µm,0.2s						
LKR				AML	AML	20 01 05.9	
	comp=N,245µm,0.2s						
ATAL	**Atalanti**	**1.25**	**13**	P	**Pn**	**20 00 49.3**	**-0.1**
KTHA	**Kythira Island**	**1.26**	**165**	P	**Pn**	**20 00 49.6**	**0.0**
KARY	**Karystos**	**1.52**	**68**	P	**Pn**	**20 00 53.3**	**+0.3**
AGG	**Agios Georgios**	**1.56**	**351**	P	**Pn**	**20 00 53.6**	**-0.1**
EVR	**Evrytania**	**1.58**	**335**	P	**Pn**	**20 00 54.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.59**	**345**	P	**Pn**	**20 00 54.1**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.62**	**44**	P	**Pn**	**20 00 54.6**	**+0.2**

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*IDC **08** 20:50:56.7±2.1, 43.°34N×105.°17W, h0km, mb1 3.4/4, mb1mx3.2/60, mbtmp3.1/4, ML2.7/3, Error ellipse: s-maj=44.0km s-min=10.2km az=152.0*
*NEIC **08** 20:50:59.4±2.3, 43.°57N±0.°03×105.°18W±0.°05, h0km±2km, ML3.5/64, Error ellipse: s-maj=6.7km s-min=5.0km az=237.0*
ISC 08 20:50:58.5±1.0**, 43.°57N**±0.°05×**105.°22W**±0.°05**, h0**km**, n70,** σ**1.s57**/68**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**57**		**Pg**	**20 51 16.9**	**-1.2**
K22A	**Casper**	**1.32**	**227**		**Pg**	**20 51 22.8**	**-1.0**
PHWY	**Pilot Hill**	**2.27**	**184**		**Pn**	**20 51 37.1**	**-0.4**
RWWY	**Rawlins**	**2.38**	**219**		**Pn**	**20 51 39.8**	**+0.8**
RWWY				IAML		20 52 16.4	
	329nm,1.0s						
RWWY				IAML		20 52 20.3	
	254nm,0.9s						
N23A	**Red Feather La**	**2.72**	**192**		**Pn**	**20 51 44.6**	**+0.9**
N23A				IAML		20 52 28.2	
	comp=N,142nm,0.8s						
N23A				IAML		20 52 30.6	
	comp=E,184nm,0.8s						
LAO	**LASA Array**	**3.20**	**348**		**Pn**	**20 51 51.2**	**+1.1**
BW06	**Boulder Array**	**3.27**	**257**		**Pn**	**20 51 51.4**	**+0.2**
PD31	**Pinedale Array**	**3.27**	**257**		**Pn**	**20 51 51.6**	**+0.5**
PDAR	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**20 51 51.7**	**+0.5**
	comp=E,4.2nm,0.3s,baz=84,slow=15,SNR=68						
PDAR				Lg	Lg	20 52 39.4	
	comp=E,15nm,0.3s,baz=262,slow=28,SNR=12						
PDAR	**Pinedale Array**	**3.27**	**257**		**Pn**	**20 51 51.9**	**+0.6**
RLMT	**Red Lodge**	**3.29**	**300**		**Pn**	**20 51 51.9**	**+0.4**
RLMT				IAML		20 52 54.9	
	comp=E,86nm,0.7s						
OGNE	**Ogallala**	**3.53**	**137**		**Pn**	**20 51 55.8**	**+1.1**
YMP	**Mirror Lake Pl**	**3.74**	**290**		**Pn**	**20 51 57.1**	**-0.6**
ISCO	**Idaho Springs**	**3.77**	**185**		**Pn**	**20 51 59.5**	**+1.4**
ISCO				IAML		20 54 07.9	
	comp=E,45nm,3.7s						
LKWY	**Lake**	**3.86**	**287**		**Pn**	**20 52 00.8**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LKWY				IAML		20 53 24.2	
	comp=E,68nm,1.3s						
LKWY				IAML		20 53 25.2	
	comp=E,57nm,1.6s						
GCMT	**Greycliff**	**3.87**	**307**		**Pn**	**20 52 00.3**	**+0.9**
LOHW	**Long Hollow**	**3.91**	**273**		**Pn**	**20 52 01.8**	**+1.8**
LOHW				IAML		20 53 24.9	
	comp=E,42nm,1.1s						
LOHW				IAML		20 53 31.7	
	comp=E,40nm,1.3s						
H17A	**Grant Village**	**3.95**	**284**		**Pn**	**20 52 03.2**	**+2.6**
H17A				IAML		20 53 06.7	
	comp=N,68nm,1.2s						
H17A				IAML		20 53 13.2	
	comp=E,55nm,1.4s						
YUF	**Upper Falls**	**3.98**	**289**		**Pn**	**20 52 04.3**	**+3.4**
YUF				IAML		20 53 20.7	
	comp=N,43nm,1.9s						
FLWY	**Flagg Ranch**	**4.00**	**279**		**Pn**	**20 52 03.0**	**+1.9**
FLWY				IAML		20 53 15.2	
	comp=N,57nm,2.8s						
MOOW	**Moose Ponds**	**4.01**	**275**		**Pn**	**20 52 03.0**	**+1.6**
SNOW	**Snow King Moun**	**4.03**	**270**		**Pn**	**20 52 02.3**	**+0.7**
SNOW				IAML		20 53 25.6	
	comp=N,96nm,1.9s						
SNOW				IAML		20 53 32.1	
	comp=N,96nm,2.5s						
YNR	**Norris Junctio**	**4.09**	**288**		**Pn**	**20 52 05.1**	**+2.6**
O20A	**White River Ci**	**4.10**	**214**		**Pn**	**20 52 05.1**	**+2.5**
O20A				IAML		20 53 45.3	
	comp=E,71nm,2.2s						
O20A				IAML		20 53 46.2	
	comp=N,71nm,1.1s						
REDW	**Red Top Meadow**	**4.10**	**269**		**Pn**	**20 52 04.8**	**+2.2**
REDW				IAML		20 53 30.5	
	comp=N,87nm,0.9s						
TPAW	**Teton Pass**	**4.17**	**271**		**Pn**	**20 52 03.9**	**+0.3**
TPAW				IAML		20 53 29.2	
	comp=N,46nm,1.3s						
TPAW				IAML		20 53 33.3	
	comp=N,83nm,1.0s						
YHH	**Holmes Hill**	**4.23**	**289**		**Pn**	**20 52 05.9**	**+1.5**
YHH				IAML		20 53 35.2	
	comp=N,31nm,1.0s						
YMR	**Madison River**	**4.28**	**287**		**Pn**	**20 52 07.0**	**+1.9**
YMR				IAML		20 53 17.5	
	comp=E,54nm,1.0s						
YMR				IAML		20 53 36.4	
	comp=N,68nm,1.2s						
AHID	**Auburn Hatcher**	**4.37**	**261**		**Pn**	**20 52 06.0**	**-0.3**
AHID				IAML		20 53 21.7	
	comp=N,57nm,1.2s						
AHID				IAML		20 53 30.5	
	comp=N,42nm,1.2s						
ECR	**Eagle Creek**	**4.51**	**266**		**Pn**	**20 52 09.1**	**+0.8**
SMCO	**Snowmass**	**4.58**	**197**		**Pn**	**20 52 09.8**	**+0.4**
SMCO				IAML		20 53 37.2	
	comp=N,37nm,1.1s						
SMCO				IAML		20 53 46.0	
	comp=N,43nm,1.6s						
Q24A	**Divide**	**4.60**	**179**		**Pn**	**20 52 10.2**	**+0.7**
Q24A				IAML		20 53 30.7	
	comp=E,46nm,0.9s						
Q24A				IAML		20 54 40.2	
	comp=N,28nm,3.4s						
SUSD	**Miller**	**4.61**	**77**		**Pn**	**20 52 12.7**	**+3.4**
QLMT	**Earthquake Lak**	**4.64**	**288**		**Pn**	**20 52 13.8**	**+3.8**
K31A	**O'Neill**	**4.83**	**99**		**Pn**	**20 52 16.6**	**+4.1**
KSCO	**Kaye Shedlock'**	**4.95**	**156**		**Pn**	**20 52 16.1**	**+1.8**
DGMT	**Dagmar**	**4.96**	**8**		**Pn**	**20 52 14.4**	**+0.2**
BOZ	**Bozeman (W)**	**5.01**	**296**		**Pn**	**20 52 14.9**	**-0.1**
BOZ				IAML		20 53 40.2	
	comp=N,21nm,2.0s						
BOZ				IAML		20 55 25.1	
	comp=N,23nm,4.8s						
P18A	**Preston Nutter**	**5.45**	**225**		**Pn**	**20 52 21.4**	**+0.2**
EGMT	**Eagleton**	**5.47**	**326**	Pn	**Pn**	**20 52 22.2**	**+0.9**
JLU	**Jordanelle**	**5.50**	**240**		**Pn**	**20 52 22.9**	**+1.0**
DLMT	**Dillon**	**5.57**	**291**		**Pn**	**20 52 24.4**	**+1.6**
LRM	**Limekiln Ridge**	**5.62**	**296**		**Pn**	**20 52 23.2**	**-0.4**
MCMT	**McKenzie Canyo**	**5.63**	**286**		**Pn**	**20 52 25.1**	**+1.5**
HRY	**Holter Researc**	**5.63**	**306**		**Pn**	**20 52 23.1**	**-0.5**
CTU	**Camp Tracy**	**5.64**	**242**	Pn	**Pn**	**20 52 23.0**	**-0.7**
PV07	**Paradox Valley**	**5.74**	**208**		**Pn**	**20 52 25.2**	**+0.1**
PV15	**Paradox Valley**	**5.77**	**206**		**Pn**	**20 52 25.6**	**0.0**
MDND	**Maddock**	**5.82**	**41**		**Pn**	**20 52 26.6**	**+0.6**
SDCO	**Great Sand Dun**	**5.82**	**182**		**Pn**	**20 52 25.4**	**-0.9**
P17A	**Butcher Ranch,**	**5.82**	**227**		**Pn**	**20 52 26.0**	**-0.2**
HVU	**Hansel Valley**	**5.84**	**255**		**Pn**	**20 52 25.4**	**-1.1**
PV23	**Carpenter Ridg**	**5.86**	**211**		**Pn**	**20 52 26.0**	**-0.7**
PV10	**Paradox Valley**	**5.93**	**210**		**Pn**	**20 52 31.3**	**+3.5**
S22A	**4UR Ranch, Cre**	**5.94**	**192**		**Pn**	**20 52 28.6**	**+0.7**
PV11	**David Mesa, Pa**	**5.94**	**209**		**Pn**	**20 52 29.1**	**+1.2**
BCYI	**Bear Canyon**	**5.95**	**280**		**Pn**	**20 52 28.0**	**-0.1**
SRU	**San Rafael Swe**	**5.97**	**224**		**Pn**	**20 52 28.4**	**+0.1**
PV13	**Radium Mtn., P**	**6.05**	**208**		**Pn**	**20 52 32.7**	**+3.3**
TMUT	**Trail Mountain**	**6.20**	**229**		**Pn**	**20 52 33.2**	**+1.7**
CBKS	**Cedar Bluff**	**6.30**	**137**		**Pn**	**20 52 34.5**	**+1.9**
BGU	**Big Grassy Mou**	**6.37**	**248**		**Pn**	**20 52 34.3**	**+0.6**
T25A	**Trinidad**	**6.45**	**174**		**Pn**	**20 52 35.5**	**+0.6**
Q16A	**Castle Valley**	**6.45**	**226**		**Pn**	**20 52 36.3**	**+1.4**
MTPU	**Mount Pierson**	**7.63**	**226**		**Pn**	**20 52 51.5**	**+0.3**
ULM	**Lac du Bonnet**	**9.25**	**40**	Pn	**Pn**	**20 53 11.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=220,slow=15,SNR=2.2						
ULM				Pg		20 53 47.5	
	comp=N,0.4nm,0.3s,baz=234,slow=16,SNR=2.4						
ULM				Lg	Lg	20 55 46.3	
	comp=N,0.2nm,0.3s,baz=328,slow=17,SNR=2.7						
NEW	**Newport**	**9.53**	**304**	Lg	Lg	20 55 53.1	
	comp=N,0.1nm,0.3s,baz=16,slow=15,SNR=2.4						
I56US	**NEWPORT INFRAS**	**9.53**	**304**	*i*		21 49 10.0	
	baz=113,slow=315,SNR=1.4						
NVAR	**Mina Array Bea**	**11.13**	**247**	Pn	**Pn**	**20 53 40.0**	**+0.9**
	comp=N,0.0nm,0.3s,baz=71,slow=8.7,SNR=1.7						
YKA	**Yellowknife Ar**	**19.74**	**347**	P	**P**	**20 55 30.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=162,slow=9.8,SNR=3.5						
YKA				Lg	Lg	21 01 19.0	
	comp=N,0.1nm,0.3s,baz=155,slow=27,SNR=4.9						

MAN 08 20:58:13.5, 16°.27N×120°.95E, h10km, mb4.1, ML2.9, MS2.5, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.29**	**246**	⇓*e*P	Pg	20 58 19.5	+0.2
PCPH	**Palayan**	**0.72**	**169**	⇓*e*P	Pb	20 58 27.9	-0.2
PCPH				*e*S	Sn	20 58 39.5	-1.3
CAAP	**Casiguran, Aur**	**1.04**	**93**	⇑*e*P	Pg	20 58 32.4	-1.2
IBZP	**Iba, Zambales**	**1.24**	**226**	⇑*e*P	Pn	20 58 34.7	-2.3
RTBP	**Dona Remedios**	**1.29**	**175**	⇑*e*P	Pn	20 58 36.7	-1.0
LQP	**Lukban**	**2.22**	**165**	*e*S	Sg	20 59 25.5	+0.7

*IDC **08** 21:40:23.5±0.8, 51°.55N×174°.68E, h0km, mb3.5/13, mb1 3.8/17, mb1mx3.7/48, mbtmp3.6/17, ML3.2/3, Error ellipse: s-maj=19.6km s-min=15.0km az=21.0*

*NEIC **08** 21:40:30.1±2.1, 51°.70N±0°.09×174°.7E±0°.1, h36km±8km, mb4.0/20, Error ellipse: s-maj=14.6km s-min=7.5km az=214.0*

ISC 08 21:40:26.9±0.7**, 51°.61N**±0°.07×**174°.63E**±0°.06**, h19km, n47, σ0.95**/47**, mb3.7**/17**, Near Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.16**	**344**	Pn	**Pn**	**21 40 47.7**	**-0.4**
	90nm,0.3s,baz=157,slow=3.1,SNR=22						
SHEM				Sn	**Sg**	**21 41 04.7**	**0.0**
	82nm,0.3s,baz=253,slow=13,SNR=8.3						
SMY	**Shemya**	**1.16**	**344**		**Pn**	**21 40 47.7**	**-0.4**
SMY				Sn	**Sb**	**21 41 02.5**	**-0.6**
KIWB	**Kanaga Island**	**5.12**	**84**	Pn	**Pn**	**21 41 42.4**	**-0.1**
ADK	**Adak**	**5.40**	**84**	Pn	**Pn**	**21 41 46.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**10.46**	**285**	Pn	**Pn**	**21 42 57.6**	**+1.8**
PETK	**Petropavlovsk-**	**10.46**	**285**	Pn	**Pn**	**21 42 57.1**	**+1.3**
	0.1nm,0.3s,baz=108,slow=14,SNR=1.6						
PETK	**Petropavlovsk-**	**10.46**	**285**		**Pn**	**21 42 56.5**	**+0.7**
MA2	**Magadan**	**15.59**	**310**	Pn	**Pn**	**21 44 05.8**	**+0.4**
	0.6nm,0.3s,baz=128,slow=19,SNR=1.7						
SEY	**Seymchan**	**16.42**	**322**	Pn	**Pn**	**21 44 16.2**	**+0.2**
	0.1nm,0.3s,baz=108,slow=13,SNR=10						
P18K	**Big Mountain,**	**18.63**	**54**	P	**Pn**	**21 44 44.9**	**+1.4**
P18K				IAmb	IAmb	21 44 47.1	
	comp=Z,18nm,1.4s						
Q19K	**Cape Douglas,**	**19.35**	**55**	P	**Pn**	**21 44 53.4**	**+1.2**
L19K	**White Mountain**	**19.54**	**45**	P	**Pn**	**21 44 55.2**	**+0.9**
L19K				IAmb	IAmb	21 45 10.8	
	comp=Z,6.8nm,1.4s						
RDOG	**Red Dog Mine**	**19.77**	**25**	P	**Pn**	**21 44 56.3**	**-0.7**
RDOG				IAmb	IAmb	21 45 07.0	
	comp=Z,4.1nm,1.0s						
KDAK	**Kodiak Island**	**19.78**	**59**	P	**P**	**21 44 53.7**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=288,slow=5.9,SNR=8.5						
KDAK	**Kodiak Island**	**19.78**	**59**	P	**Pn**	**21 44 56.5**	**-0.8**
KDAK				IAmb	IAmb	21 45 23.3	
	comp=Z,29nm,1.3s						
K20K	**Telida**	**20.27**	**43**	P	Pn	21 45 03.1	0.0
J20K	**Nowinta River**	**20.55**	**40**	P	**P**	**21 45 04.2**	**+0.2**
BRLK	**Bradley Lake**	**20.87**	**54**	P	Pn	21 45 09.0	-1.1
BRLK				IAmb	IAmb	21 45 16.0	
	comp=Z,14nm,1.1s						
IMAR	**Indian Mountai**	**21.47**	**36**	P	**P**	**21 45 15.2**	**+1.3**
MLY	**Manley**	**22.23**	**40**	P	**P**	**21 45 24.2**	**+2.1**
DHY	**Denali Highway**	**23.10**	**46**	P	**P**	**21 45 32.1**	**+0.6**
DHY				IAmb	IAmb	21 45 43.8	
	comp=Z,10nm,1.4s						
FID	**Port Fidalgo**	**23.16**	**52**	P	**P**	**21 45 31.4**	**-0.5**
FID				IAmb	IAmb	21 45 32.2	
	comp=Z,14nm,1.2s						
H24K	**Noodor Dome**	**23.63**	**39**	P	**P**	**21 45 37.6**	**+1.1**
ILAR	**Eielson Array**	**23.72**	**42**	P	**P**	**21 45 35.6**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=262,slow=8.5,SNR=2.6						
TOLK	**Toolik Lake Re**	**24.11**	**32**	P	**P**	**21 45 41.1**	**-0.1**
TOLK				IAmb	IAmb	21 46 00.1	
	comp=Z,2.9nm,0.8s						
BMAR	**Burnt Mountain**	**25.39**	**36**	P	**P**	**21 45 52.8**	**+0.1**
EGAK	**Eagle**	**26.12**	**43**	P	**P**	**21 45 58.8**	**-0.4**
EGAK				IAmb	IAmb	21 46 23.9	
	comp=Z,3.2nm,1.1s						
YKA	**Yellowknife Ar**	**38.02**	**45**	P	**P**	**21 47 44.6**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=286,slow=7.6,SNR=3.3						
SONM	**Songino Array**	**42.82**	**293**	P	**P**	**21 48 22.2**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=81,slow=8.9,SNR=1.9						
SONM	**Songino Array**	**42.82**	**293**	P	**P**	**21 48 24.7**	**+1.3**
PNTR	**Pine Nut**	**46.36**	**79**	P	**P**	**21 48 52.7**	**+0.7**
NVAR	**Mina Array Bea**	**47.56**	**79**	P	**P**	**21 49 01.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=299,slow=8.3,SNR=3.7						
SPB2	**Spitsbergen Ar**	**49.79**	**354**	P	**P**	**21 49 17.3**	**-0.3**
PDAR	**Pinedale Array**	**50.10**	**69**	P	**P**	**21 49 19.2**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=318,slow=2.0,SNR=4.0						
PDAR	**Pinedale Array**	**50.10**	**69**	P	**P**	**21 49 19.4**	**-1.4**
MKAR	**Makanchi Array**	**56.59**	**305**	P	**P**	**21 50 08.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=60,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**56.59**	**305**	P	**P**	**21 50 07.3**	**-0.8**
TX31	**Lajitas Ar. Si**	**62.64**	**77**	P	**P**	**21 50 50.4**	**+0.2**
TXAR	**Lajitas Array**	**62.64**	**77**	P	**P**	**21 50 50.4**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=301,slow=4.2,SNR=18						
TXAR	**Lajitas Array**	**62.64**	**77**	P	**P**	**21 50 50.1**	**0.0**
FINES	**FINESS Array B**	**64.53**	**344**	P	**P**	**21 51 01.9**	**0.0**
	comp=Z,1.4nm,0.9s,baz=32,slow=14,SNR=1.8						
NB2	**NORSAR Subarra**	**66.91**	**351**	P	**P**	**21 51 17.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=11,slow=6.5						
NOA	**NORSAR Array B**	**66.91**	**351**	P	**P**	**21 51 18.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=24,slow=6.1,SNR=2.0						
AKASG	**Malin Array Be**	**73.92**	**338**	P	**P**	**21 51 60.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=19,slow=5.7,SNR=2.3						
WRA	**Warramunga Arr**	**79.49**	**218**	P	**P**	**21 52 31.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.0,SNR=5.3						
BRTR	**Keskin Array B**	**82.88**	**331**	P	**P**	**21 52 50.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=40,slow=2.5,SNR=1.5						
ASAR	**Alice Springs**	**83.04**	**217**	P	**P**	**21 52 49.3**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=26,slow=6.5,SNR=1.8						

*TUL **08** 22:22:57.1±0.6, 35°.60N±0°.02×97°.12W±0°.02, h6km±5km, ML3.0, mb_Lg2.8/61(NEIC), Error ellipse: s-maj=3.0km s-min=2.0km az=140.0*

NEIC 08 22:22:57.6±1.1**, 35°.62N**±0°.02×**97°.11W**±0°.02**, h8km**±3km**, Error ellipse: s-maj=3.3km s-min=2.2km az=149.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.07**	**299**		Pg	22 22 59.2	-0.5
OK001	**Jones High Sch**	**0.16**	**249**	Pg	Pg	22 23 00.3	-0.6
OK009	**Oakdale Elemen**	**0.26**	**262**		Pg	22 23 02.3	-0.4
OKCSW	**OKLAHOMA CITY**	**0.34**	**232**	Pg	Pg	22 23 03.7	-0.6
OKCSW				Sg	Sg	22 23 08.6	-0.2
OKCFA	**Oklahoma City**	**0.34**	**234**		Pg	22 23 03.8	-0.6
FNO	**Franklin**	**0.43**	**213**	Pg	Pg	22 23 05.5	-0.5
W35A	**Tecumseh**	**0.50**	**157**	Pg	Pg	22 23 06.9	-0.5
TUL1	**Leonard**	**1.11**	**74**		Pg	22 23 17.7	-1.3
X34A	**Smith Ranch, M**	**1.17**	**210**		Pg	22 23 19.4	-0.7
T35A	**Sooner Cattle**	**1.38**	**20**		Pn	22 23 22.8	-0.5
WMOK	**Wichita Mounta**	**1.62**	**238**		Pn	22 23 26.0	-0.5
U32A	**Winter Ranch,**	**1.71**	**297**		Pn	22 23 27.4	-0.3
X37A	**Clayton**	**1.76**	**125**		Pn	22 23 28.7	+0.3
Z35A	**Perchaven, San**	**2.29**	**183**		Pn	22 23 36.1	+0.5
Z35A				IAmb_Lg		22 24 09.5	
	comp=Z,32nm,1.1s						
HHAR	**Hobbs**	**2.66**	**75**		Pn	22 23 41.1	+0.3
W39A	**Magazine**	**2.75**	**98**		Pn	22 23 42.1	+0.1
W39A				IAmb_Lg		22 24 29.5	
	comp=Z,32nm,0.8s						
Z38A	**Mt. Pleasant**	**2.94**	**143**		Pn	22 23 44.7	+0.2
Z38A				IAmb_Lg		22 24 35.0	
	comp=Z,22nm,0.7s						
KSU1	**Kansas State U**	**3.50**	**6**	Pn	Pn	22 23 53.3	+1.0
KSU1				IAmb_Lg		22 24 53.5	
	comp=Z,29nm,0.8s						
U40A	**Yellville**	**3.53**	**77**		Pn	22 23 53.9	+1.1
ABTX	**Abilene, Hawle**	**3.65**	**216**	IAmb_Lg		22 24 54.6	
	comp=Z,19nm,0.8s						
S39A	**Bolivar**	**3.68**	**55**		Pn	22 23 55.1	+0.3
S39A				IAmb_Lg		22 24 59.1	
	comp=Z,18nm,0.7s						
X40A	**Basin Creek Fa**	**3.69**	**107**		Pn	22 23 56.2	+1.4
X40A				IAmb_Lg		22 24 59.8	
	comp=Z,36nm,0.8s						
AMTX	**Amarillo**	**3.81**	**260**	IAmb_Lg		22 24 59.9	
	comp=Z,19nm,0.7s						
WLAR	**White Oak Lake**	**3.82**	**119**	IAmb_Lg		22 25 05.4	
	comp=Z,27nm,0.8s						
WHAR	**Wooly Hollow**	**3.95**	**93**		Pn	22 23 58.3	-0.2
W41B	**Gary Mavity, V**	**4.00**	**95**		Pn	22 23 59.5	+0.3
W41B				IAmb_Lg		22 25 04.1	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**4.20**	**67**	IAmb_Lg		22 25 11.3	
	comp=Z,16nm,0.9s						
Z41A	**Richland Creek**	**4.27**	**122**	IAmb_Lg		22 25 12.5	
	comp=Z,20nm,0.8s						
R40A	**Maddies Statio**	**4.71**	**54**	Pn	Pn	22 24 08.9	0.0
R40A				IAmb_Lg		22 25 27.7	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**4.91**	**34**	IAmb_Lg		22 25 35.9	
	comp=Z,15nm,0.7s						
CCM	**Cathedral Cave**	**5.30**	**61**	IAmb_Lg		22 25 52.6	
	comp=Z,17nm,0.9s						
PBMO	**Poplar Bluff**	**5.53**	**76**	IAmb_Lg		22 25 58.3	
	comp=Z,18nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.55**	**309**	IAmb_Lg		22 26 09.2	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**5.60**	**205**	IAmb_Lg		22 25 58.6	
	comp=Z,17nm,0.7s						
P40A	**Paris**	**5.61**	**44**	IAmb_Lg		22 26 03.3	
	comp=Z,14nm,0.7s						
GNAR	**Gosnell**	**5.78**	**85**	IAmb_Lg		22 25 57.4	
	comp=Z,21nm,0.9s						
N38A	**Joes South For**	**6.00**	**29**	IAmb_Lg		22 26 14.6	
	comp=Z,19nm,0.8s						
T25A	**Trinidad**	**6.08**	**287**	IAmb_Lg		22 26 26.2	
	comp=Z,19nm,0.8s						
S44A	**Carbondale**	**6.65**	**70**	IAmb_Lg		22 26 29.6	
	comp=Z,16nm,0.8s						
SIUC	**Southern Illin**	**6.68**	**69**	IAmb_Lg		22 26 30.5	
	comp=Z,17nm,0.8s						
N23A	**Red Feather La**	**8.72**	**310**	IAmb_Lg		22 27 37.8	
	comp=Z,9.5nm,0.9s						

*IPEC **08** 22:26:17.4±0.3, 51°.56N×16°.23E, h0km, ML2.2/3, Error ellipse: s-maj=3.0km s-min=1.4km az=58.0*

*VIE **08** 22:26:17.8±0.5, 51°.53N×16°.21E, h0km, mb2.4/3, ml2.6/5, Error ellipse: s-maj=6.4km s-min=2.8km az=71.0 74 km NW of Wroclaw Suspected Mining induced.*

*PRU **08** 22:26:19.2±0.0, 51°.48N×16°.14E, h0km*

ISC 08 22:26:18.5±1.2**, 51°.46N**±0°.05×**16°.16E**±0°.03**, h0km, n30, σ0.59**/58**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pb**	**22 26 31.3**	**-0.9**
KSP				*e*Sg	**Sb**	**22 26 40.2**	**-1.2**
CHVC	**Chvalec**	**0.87**	**184**	*e*PG	**Pb**	**22 26 36.1**	**-0.4**
CHVC				*e*SG	**Sb**	**22 26 48.2**	**-0.5**
	comp=Z,36nm,0.6s						
OSTC	**Ostas**	**0.90**	**178**	*e*PG	**Pb**	**22 26 36.5**	**-0.5**
OSTC				*e*SG	**Sb**	**22 26 49.3**	**-0.3**
	comp=Z,31nm,0.4s						
UPC	**Upice**	**0.95**	**186**	*e*PG	**Pb**	**22 26 37.4**	**-0.5**
UPC				*e*SG	**Sb**	**22 26 50.9**	**-0.2**
	comp=Z,56nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG	**Pb**	**22 26 40.2**	**-0.4**
DPC				*e*SG	**Sb**	**22 26 54.9**	**-0.8**
	comp=Z,19nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	**Pg**	**22 26 44.2**	**-0.5**
PVCC				*e*SG	**Sg**	**22 27 02.7**	**+0.3**
	comp=Z,108nm,1.1s						
KRLC	**Kraliky**	**1.44**	**164**	*e*PG	**Pn**	**22 26 45.5**	**-0.4**
KRLC				*e*SG	**Sn**	**22 27 05.4**	**-0.1**
	comp=Z,25nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**248**	Pg	**Pb**	**22 26 47.4**	**0.0**
BRG				Sg	**Sn**	**22 27 07.6**	**+0.4**
BRG				Amp		22 27 08.1	
	comp=Z,33nm,0.3s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pn**	**22 26 51.4**	**+0.7**
PRU				*e*SG	**Sg**	**22 27 16.7**	**+0.6**
	comp=Z,28nm,0.5s						
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**22 26 51.8**	**-0.4**
	baz=336						
MORC				*e*Sg	**Sg**	**22 27 19.2**	**-0.3**
	comp=Z,16nm,0.4s,baz=336						
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pn**	**22 26 52.0**	**-1.3**
CLL				*e*Pg	**Pb**	**22 26 55.0**	**-0.4**
CLL				*e*x	x	22 26 58.0	
CLL				*e*Sg	**Sb**	**22 27 21.0**	**+0.3**
	comp=Z,18nm,0.6s						
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*PG	**Pb**	**22 26 56.7**	**0.0**
OKC				*e*SG	**Sg**	**22 27 24.3**	**-0.3**
	comp=Z,30nm,0.8s						
VRAC	**Vranov**	**2.17**	**172**	*e*Pn	**Pn**	**22 26 56.2**	**+0.4**
	baz=354						
VRAC				*e*Sg	**Sg**	**22 27 28.3**	**+0.2**
	comp=Z,15nm,0.6s,baz=354						
VRAC	**Vranov**	**2.17**	**172**	*e*PN	**Pn**	**22 26 56.3**	**+0.4**
VRAC				*e*SG	**Sg**	**22 27 28.4**	**+0.3**
TREC	**Trest**	**2.21**	**191**	*e*PN	**Pn**	**22 26 57.3**	**+0.9**
TREC				*e*PG	**Pb**	**22 26 59.3**	**0.0**
TREC				*e*SG	**Sg**	**22 27 29.5**	**+0.2**
	comp=Z,17nm,0.9s						
PBCC	**Pribram**	**2.25**	**219**	*e*PG	**Pb**	**22 27 00.1**	**+0.2**
PBCC				*e*SG	**Sg**	**22 27 30.5**	**-0.1**
KRUC	**Moravsky**	**2.40**	**176**	*e*Pn	**Pn**	**22 26 59.6**	**+0.5**
	baz=358						
KRUC				*e*Sg	**Sg**	**22 27 36.0**	**+0.4**
	comp=Z,11nm,0.7s,baz=358						
KRUC	**Moravsky**	**2.40**	**176**	*e*PN	**Pn**	**22 26 59.7**	**+0.6**
KRUC				*e*SG	**Sg**	**22 27 36.1**	**+0.4**
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**22 27 08.7**	**0.0**
OJC				*e*Sg	**Sg**	**22 27 43.5**	**+0.8**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**22 27 03.8**	**+1.3**
NKC				*e*SG	**Sg**	**22 27 43.5**	**-0.1**
	comp=Z,27nm,0.3s						
JAVC	**Velka Javorina**	**2.78**	**159**	*e*PN	**Pn**	**22 27 04.4**	**+0.1**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**22 27 05.0**	**-0.3**
KHC				*e*PG	**Pb**	**22 27 10.6**	**+0.2**
KHC				*e*SN	**Sn**	**22 27 40.8**	**+0.4**
KHC				*e*SG	**Sg**	**22 27 50.3**	**+0.1**
	comp=Z,7.9nm,0.5s						
CKRC	**Cesky Krumlov**	**2.89**	**205**	*e*PN	**Pn**	**22 27 05.9**	**0.0**
CKRC				*e*PG	**Pb**	**22 27 11.6**	**+0.6**
CKRC				*e*SG	**Sg**	**22 27 50.6**	**-0.8**
NIE	**Niedzica**	**3.34**	**126**	*e*P	**Pg**	**22 27 22.9**	**+0.3**
NIE				*e*S	**Sg**	**22 28 06.8**	**+0.9**
VYHS	**Vyhne**	**3.43**	**149**	*e*PN	**Pn**	**22 27 13.1**	**-0.2**
CONA	**Conrad Observa**	**3.54**	**183**	*e*Pn	**Pn**	**22 27 15.4**	**+0.6**
	comp=Z,0.6nm,0.3s						
MOA	**Molln**	**3.81**	**200**	*e*Pn	**Pn**	**22 27 19.0**	**+0.5**
	comp=Z,1.2nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.11**	**204**	*e*Pn	**Pn**	**22 27 23.7**	**+1.1**
	comp=Z,1.7nm,0.3s						
ARSA	**Arzberg**	**4.23**	**186**	*e*Pn	**Pn**	**22 27 25.6**	**+1.4**
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.75**	**204**	*e*Pn	**Pn**	**22 27 31.2**	**-0.3**
	comp=Z,1.2nm,0.4s						

*SOME **08** 22:41:45.1, 38°.70N×73°.67E, h5km*

*IDC **08** 22:41:46.4±4.3, 38°.14N×75°.61E, h113km±31km, mb3.6/10, mb1 3.5/16, mb1mx3.3/51, mbtmp3.8/16, Error ellipse: s-maj=33.0km s-min=18.9km az=172.0*

*NNC **08** 22:41:47.5±3.5, 38°.43N×75°.32E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=26.0km s-min=21.0km az=172.0*

*NEIC **08** 22:41:48.7±1.7, 38°.33N±0°.08×75°.57E±0°.10, h125km±9km, mb4.1/18, Error ellipse: s-maj=12.6km s-min=9.7km az=136.0*

ISC 08 22:41:45.7±0.5**, 38°.14N**±0°.04×**75°.55E**±0°.06**, h100km, n87, σ1.82**/91**, mb4.0**/16**, 4C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**3.98**	**25**		**Pn**	**22 42 46.4**	**+1.4**
ULHL	**Ulahol**	**4.13**	**7**	P	**Pn**	**22 42 48.8**	**+2.0**
	SNR=38						
UCH	**Uchtor**	**4.16**	**349**	P	**Pn**	**22 42 49.0**	**+1.7**
	SNR=110						
GAR	**Garm**	**4.19**	**283**		**Pn**	**22 42 49.5**	**+2.0**
AML	**Almayashu**	**4.23**	**341**	P	**Pn**	**22 42 50.1**	**+1.8**
	SNR=82						
AAK	**Ala-Archa**	**4.56**	**350**	P	**Pn**	**22 42 54.7**	**+2.2**
	5.3nm,0.3s,baz=158,slow=7.6,SNR=125						
AAK				S	**Sn**	**22 43 45.9**	**+1.4**
	3.4nm,0.3s,baz=52,slow=21,SNR=7.6						
AAK	**Ala-Archa**	**4.56**	**350**	P	**Pn**	**22 42 54.9**	**+2.3**
	SNR=13						
AAK	**Ala-Archa**	**4.56**	**350**	Pn	**Pn**	**22 42 54.9**	**+2.3**
AAK	**Ala-Archa**	**4.56**	**350**	⇓Pn	**Pn**	**22 42 54.8**	**+2.2**
	16nm,0.8s						
AAK				⇑Pg		22 43 06.6	
	16nm,0.6s						
AAK				⇓Sn	**Sn**	**22 43 45.5**	**+1.0**
	36nm,1.1s						
EKS2	**Erkin-Say**	**4.71**	**344**	P	**Pn**	**22 42 57.0**	**+2.4**
	SNR=46						
TKM2	**Tokmak 2**	**4.77**	**0**	P	**Pn**	**22 42 57.8**	**+2.3**
	SNR=69						
TKM2	**Tokmak 2**	**4.77**	**0**	⇑Pn	**Pn**	**22 42 57.5**	**+2.0**
	24nm,0.4s						
TKM2				⇓Sn	**Sn**	**22 43 50.1**	**+0.4**
	14nm,0.7s						
TKM2				⇑Lg	Lg	22 44 10.1	
	13nm,0.8s						
CHCP	**Chirah Chowk**	**4.84**	**203**	P	Pn	22 43 02.5	+6.2
NIL	**Nilore**	**4.86**	**203**	Pn	Pn	22 43 02.5	+6.0
CHMS	**Chumysh**	**4.89**	**353**	P	**Pn**	**22 42 59.1**	**+2.2**
	SNR=6.4						
MRKS	**Merke**	**4.93**	**340**	*e*P	**Pn**	**22 43 01.8**	**+4.3**
	22nm,0.4s						
MRKS				*e*S	**Sn**	**22 43 57.7**	**+4.5**
	19nm,0.5s						
CHGR	**Chuyangaron**	**5.05**	**278**		**Pn**	**22 43 00.4**	**+1.3**
MDOK	**Medeo**	**5.14**	**12**	⇓Pn	**Pn**	**22 43 01.2**	**+0.8**
	4.3nm,0.7s						
MDOK				Pg		22 43 17.1	
	13nm,0.6s						
MDOK				⇑Lg	Lg	22 44 26.3	
	10nm,0.6s						
USP	**Ospenovka**	**5.18**	**351**	P	**Pn**	**22 43 02.5**	**+1.6**
	SNR=7.8						
CEP	**Cherat**	**5.22**	**216**	P	Pn	22 43 07.0	+5.4
CEP				S	**Sn**	**22 44 02.0**	**+1.4**
SGDS	**Sogindy**	**5.35**	**353**	*e*P	Pn	22 43 16.5	+13
	14nm,0.6s						
SGDS				*e*S	Sn	22 44 22.5	+19
	5.8nm,0.4s						
JMU	**Jammu**	**5.44**	**186**	*e*P	Pn	22 43 09.5	+5.2
JMU				*e*S	**Sn**	**22 44 08.9**	**+3.3**
THN	**Thein Dam**	**5.70**	**179**	*e*P	Pn	22 43 12.7	+4.9
THN				*e*P	Pn	22 43 14.0	+6.2
THN				*e*S	**Sn**	**22 44 15.0**	**+3.1**
THN				*e*S	**Sn**	**22 44 15.2**	**+3.3**
DZA	**Taraz**	**5.73**	**327**	*e*P	**Pn**	**22 43 10.3**	**+2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DZA				*e*S	**Sn**	**22 44 12.2**	**-0.5**
DHRM	**DHARAMSHALA**	**5.91**	**174**	*e*P	Pn	22 43 14.9	+4.0
DHRM				*i* x	x	22 43 17.9	
DHRM				*e*S	**Sn**	**22 44 19.8**	**+2.4**
DHRM				IAML		22 44 24.6	
	comp=E,323nm,0.1s						
DHRM				IAML		22 44 24.8	
	comp=N,289nm,0.4s						
PDGK	**Podgornoye**	**5.98**	**29**	⇓Pn	**Pn**	**22 43 12.8**	**+1.0**
	comp=N,19nm,0.6s						
PDGK				⇓Sn	**Sn**	**22 44 26.0**	**+7.1**
	comp=N,15nm,1.1s						
THW	**Thamme Wali**	**6.17**	**211**	P	Pn	22 43 18.8	+4.4
KKAR	**Karatay Array**	**6.26**	**324**	Pn	**Pn**	**22 43 16.6**	**+1.1**
KK09	**Karatay Array**	**6.28**	**324**	⇓Pn	**Pn**	**22 43 16.7**	**+0.9**
	comp=N,5.0nm,0.4s,baz=133,slow=12						
KK09				⇓Sn	**Sn**	**22 44 25.5**	**-0.7**
	comp=N,8.8nm,0.4s,baz=137,slow=25						
KBL	**Kabul**	**6.36**	**238**	Pn	Pn	22 43 21.2	+4.1
BRLS	**Borolday**	**6.54**	**320**	*e*P	**Pn**	**22 43 18.8**	**-0.4**
	comp=N,8.5nm,0.2s						
BRLS				*e*S	**Sn**	**22 44 26.9**	**-5.4**
	comp=N,16nm,0.3s						
SMLA	**Simla**	**7.12**	**169**	*e*P	Pn	22 43 30.2	+3.0
SMLA				*e*S	**Sn**	**22 44 44.9**	**-1.7**
SMLA				IAML		22 44 51.3	
	comp=E,159nm,0.5s						
SMLA				IAML		22 44 51.8	
	comp=N,134nm,0.6s						
SONA	**Sohna**	**9.95**	**172**	*e*P	**Pn**	**22 44 07.2**	**+1.5**
SONA				*e*S	**Sn**	**22 45 52.9**	**-2.5**
MK31	**Makanchi Array**	**9.97**	**28**		**Pn**	**22 44 06.3**	**+0.4**
MKAR	**Makanchi Array**	**9.97**	**28**	P	**Pn**	**22 44 06.0**	**+0.1**
	comp=N,0.3nm,0.3s,baz=199,slow=14,SNR=22						
AJM	**Ajmer**	**11.65**	**184**	*e*x	x	22 44 00.7	
AJM				*e*x	x	22 46 35.8	
PYUN	**Piuthan**	**11.79**	**146**	*e*P	**Pn**	**22 44 29.6**	**-1.2**
	comp=N,24nm,0.4s						
DANN	**Dangsing**	**11.93**	**143**	*e*P	**Pn**	**22 44 31.2**	**-1.5**
	comp=N,15nm,0.3s						
KOLN	**Koldanda**	**12.35**	**145**	*e*P	**Pn**	**22 44 36.8**	**-1.4**
	comp=N,7.3nm,0.2s						
GKN	**Gorkha**	**12.65**	**140**	*e*P	**Pn**	**22 44 40.6**	**-1.5**
	comp=N,9.6nm,0.3s						
KURBB	**Kurchatov Arra**	**12.66**	**9**	P	**Pn**	**22 44 40.2**	**-1.7**
	comp=N,0.0nm,0.3s,baz=196,slow=12,SNR=5.3						
KURK	**Kurchatov**	**12.76**	**9**	Pn	**Pn**	**22 44 43.4**	**+0.3**
KKN	**Kakani**	**13.15**	**139**	*e*P	**Pn**	**22 44 47.4**	**-1.4**
DMN	**Daman**	**13.21**	**140**	*e*P	**Pn**	**22 44 47.7**	**-1.9**
	comp=N,8.7nm,0.5s						
GUN	**Gumba**	**13.38**	**137**	*e*P	**Pn**	**22 44 50.4**	**-1.4**
	comp=N,6.5nm,0.3s						
PKIN	**Phulchoki**	**13.39**	**139**	*e*P	**Pn**	**22 44 50.9**	**-1.0**
PKI	**Pulchoki**	**13.40**	**139**	*e*P	**Pn**	**22 44 51.0**	**-1.1**
	comp=N,4.1nm,0.2s						
JIRN	**Jiri**	**13.74**	**136**	*e*P	**Pn**	**22 44 55.5**	**-1.1**
	comp=N,16nm,0.4s						
RAMN	**Ramite**	**14.53**	**137**	*e*P	**Pn**	**22 45 04.6**	**-2.0**
TAPN	**Taplejung**	**14.83**	**133**	*e*P	**Pn**	**22 45 08.5**	**-2.1**
	comp=N,3.9nm,0.3s						
BHPL	**Bhopal**	**14.94**	**173**	*e*P	**P**	**22 45 15.9**	**+1.2**
BHPL				*e*x	x	22 47 51.8	
BVAR	**Borovoye Array**	**15.31**	**348**	P	**Pn**	**22 45 15.8**	**-0.2**
	comp=N,0.1nm,0.3s,baz=116,slow=13,SNR=3.3						
BRVK	**Borovoye**	**15.36**	**348**		**Pn**	**22 45 16.2**	**-0.5**
ABKAR	**Akbulak array**	**15.80**	**320**	Pn	**Pn**	**22 45 21.3**	**-0.9**
ABKAR	**Akbulak array**	**15.80**	**320**	P	**Pn**	**22 45 22.8**	**+0.5**
ABKAR				IAmb	IAmb	22 45 23.6	
	comp=Z,1.5nm,0.8s						
ZAA0	**Zalesovo Array**	**17.04**	**19**	P	**Pn**	**22 45 36.5**	**-1.0**
ZALV	**Zalesovo Beam**	**17.04**	**19**	P	**Pn**	**22 45 36.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=216,slow=11,SNR=6.6						
ZALV	**Zalesovo Beam**	**17.04**	**19**	P	**Pn**	**22 45 35.8**	**-1.7**
AKTO	**Aktyubinsk**	**17.51**	**320**	P	**P**	**22 45 43.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=113,slow=6.9,SNR=2.9						
ARU	**Arti**	**21.51**	**334**	P	**P**	**22 46 26.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=126,slow=17,SNR=3.4						
SONM	**Songino Array**	**24.41**	**57**	P	**P**	**22 46 55.0**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=253,slow=10.0,SNR=11						
SONM	**Songino Array**	**24.41**	**57**	P	**P**	**22 46 54.8**	**0.0**
FIA1	**FINESS Array S**	**38.22**	**324**	P	**P**	**22 48 55.5**	**+0.1**
FINES	**FINESS Array B**	**38.23**	**324**	P	**P**	**22 48 55.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=108,slow=9.1,SNR=23						
KWP	**Kalwaria Pacla**	**39.02**	**305**	P	**P**	**22 49 02.9**	**+0.6**
ARCES	**ARCESS Array B**	**41.08**	**336**	P	**P**	**22 49 19.3**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=104,slow=8.4,SNR=21						
ARCES	**ARCESS Array B**	**41.08**	**336**	P	**P**	**22 49 19.0**	**0.0**
ARCES				IAmb	IAmb	22 49 22.6	
	comp=Z,7.6nm,1.2s						
NC405	**NORSAR Array S**	**45.05**	**322**	P	**P**	**22 49 51.2**	**+0.1**
NB2	**NORSAR Subarra**	**45.29**	**322**	P	**P**	**22 49 52.6**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**45.29**	**322**	P	**P**	**22 49 52.8**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=90,slow=7.7,SNR=7.7						
ESDC	**Sonseca Array**	**59.88**	**299**	P	**P**	**22 51 40.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.8,SNR=9.1						
TOLK	**Toolik Lake Re**	**68.38**	**16**	P	**P**	**22 52 35.3**	**-0.7**
TOLK				IAmb	IAmb	22 52 36.2	
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.36**	**271**	P	**P**	**22 52 42.2**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=46,slow=5.4,SNR=45						
TORD	**Torodi Ar. Bea**	**69.36**	**271**	P	**P**	**22 52 42.1**	**-0.6**
TORD				IAmb	IAmb	22 52 57.0	
	comp=Z,3.5nm,1.4s						
IMAR	**Indian Mountai**	**69.47**	**19**	P	**P**	**22 52 41.6**	**-1.1**
BMAR	**Burnt Mountain**	**70.45**	**15**	P	**P**	**22 52 48.7**	**-0.1**
H24K	**Noodor Dome**	**71.05**	**17**	P	**P**	**22 52 51.9**	**-0.5**
H24K				IAmb	IAmb	22 53 20.2	
	comp=Z,2.2nm,1.2s						
K20K	**Telida**	**71.42**	**21**	P	**P**	**22 52 54.5**	**-0.2**
K20K				IAmb	IAmb	22 52 55.6	
	comp=Z,3.0nm,1.1s						
C36M	**Paulatuk**	**71.85**	**7**	P	**P**	**22 52 55.9**	**-1.1**
C36M				IAmb	IAmb	22 52 56.2	
	comp=Z,2.7nm,0.5s						
ILAR	**Eielson Array**	**72.16**	**18**	P	**P**	**22 52 57.3**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=311,slow=4.8,SNR=5.3						
PPLA	**Purkeypile**	**72.31**	**21**	P	**P**	**22 52 59.3**	**-0.8**
KOWA	**Kowa**	**73.06**	**275**	P	**P**	**22 53 05.3**	**+0.1**
KOWA				IAmb	IAmb	22 53 06.7	
	comp=Z,11nm,1.5s						
SCRK	**Sand Creek**	**73.52**	**17**	P	**P**	**22 53 06.3**	**-1.0**
SCRK				IAmb	IAmb	22 53 15.8	
	comp=Z,1.4nm,1.1s						
BCAR	**Beaver Creek A**	**74.81**	**17**	P	**P**	**22 53 13.8**	**-0.8**
DBIC	**Dimbokro**	**78.38**	**269**	P	**P**	**22 53 34.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=277,slow=16,SNR=1.5						
YKA	**Yellowknife Ar**	**79.37**	**5**	P	**P**	**22 53 39.2**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=346,slow=5.5,SNR=32						
YKA	**Yellowknife Ar**	**79.37**	**5**	P	**P**	**22 53 39.0**	**-1.1**

*NEIC **08** 22:52:11.4±2.8, 6°.39S±0°.08×154°.45E±0°.07, h10km±1km, mb4.4/22, Error ellipse: s-maj=16.7km s-min=5.6km az=41.0*

*IDC **08** 22:52:23.4±3.3, 6°.46S×154°.52E, h118km±26km, mb3.7/12, mb1 3.9/13, mb1mx3.7/40, mbtmp4.1/13, MS3.3/7, Ms1 3.3/7, ms1mx2.9/59, Error ellipse: s-maj=29.2km s-min=15.8km az=110.0*

ISC 08 22:52:10.9±0.5**, 6°.29S**±0°.06×**154°.54E**±0°.06**, h10**km**, n53, σ1s88**/48**, mb4.3**/23**, MS3.4**/5**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.15**	**311**	Pn	**Pn**	**22 53 01.9**	**+1.3**
KRVT	**Keravat (AS076**	**3.18**	**308**	P	**Pg**	**22 53 13.4**	**+1.5**
KRVT				S	**Sg**	**22 53 52.7**	**-0.4**
HNR	**Honiara**	**6.20**	**121**	S	**Sn**	**22 54 59.6**	**+5.9**
	11nm,0.3s,baz=161,slow=21,SNR=1.3						
HNR	**Honiara**	**6.20**	**121**	Pn	**Pn**	**22 53 43.4**	**+0.8**
PMG	**Port Moresby**	**7.94**	**247**	P	Pn	22 54 13.6	+7.2
	2.5nm,0.3s,baz=92,slow=6.4,SNR=4.6						
PMG				S	**Sn**	**22 55 44.1**	**+7.8**
	3.5nm,0.3s,baz=232,slow=22,SNR=13						
PMG				LR	LR	22 57 24.3	
	comp=Z,102nm,18.4s,baz=48,slow=38						
PMG	**Port Moresby**	**7.94**	**247**	Pn	**Pn**	**22 54 04.1**	**-2.3**
CTA	**Charters Tower**	**15.90**	**210**	LR	LR	23 00 35.4	
	comp=Z,96nm,20.7s,baz=80,slow=31						
EIDS	**Eidsvold**	**19.26**	**190**	P	**P**	**22 56 35.0**	**-0.7**
DZM	**Mont Dzumac**	**19.46**	**145**	P	**Pn**	**22 56 38.3**	**-0.9**
DZM				IAmb	IAmb	22 56 45.5	
	comp=Z,34nm,1.5s						
WR0	**Warramunga Arr**	**23.70**	**233**	P	**P**	**22 57 23.3**	**+0.2**
WR0				IAmb	IAmb	22 57 25.5	
	comp=Z,16nm,0.9s						
WB2	**Warramunga Arr**	**23.85**	**233**	P	**P**	**22 57 24.9**	**+0.4**
WB2				IAmb	IAmb	22 57 26.7	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**23.86**	**233**	P	**P**	**22 57 26.1**	**+1.5**
	comp=Z,8.6nm,0.9s,baz=57,slow=9.6,SNR=42						
WRA				LR	LR	23 06 32.2	
	comp=Z,59nm,19.7s,baz=44,slow=36						
WRA	**Warramunga Arr**	**23.86**	**233**	P	**P**	**22 57 24.4**	**-0.2**
ARMA	**Armidale**	**24.16**	**186**	P	**P**	**22 57 26.9**	**-0.6**
ARMA				IAmb	IAmb	22 57 29.2	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**26.31**	**227**	P	**P**	**22 57 47.0**	**0.0**
ASAR	**Alice Springs**	**26.31**	**227**	P	**P**	**22 57 46.9**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=62,slow=8.6,SNR=19						
H11S3	**WAKE ISLAND Hy**	**27.39**	**26**	T	T	23 26 10.8	
	baz=205,slow=74,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**27.39**	**26**	T	T	23 26 35.6	
	baz=205,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.40**	**26**	T	T	23 26 09.0	
	baz=205,slow=74,SNR=7.4						
STKA	**Stephens Creek**	**28.19**	**204**	P	**P**	**22 58 02.9**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=36,slow=9.4,SNR=3.5						
STKA				LR	LR	23 08 28.3	
	comp=Z,91nm,20.5s,baz=26,slow=34						
STKA	**Stephens Creek**	**28.19**	**204**	P	**P**	**22 58 02.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**30.53**	**245**	P	**P**	**22 58 24.5**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=73,slow=7.0,SNR=13						
FITZ				LR	LR	23 10 16.5	
	comp=Z,83nm,19.0s,baz=170,slow=35						
BFZ	**Birch Farm**	**39.38**	**154**	P	**P**	**22 59 41.5**	**+0.8**
MORW	**Morawa**	**42.80**	**233**	P	**P**	**23 00 08.8**	**-0.3**
MORW				IAmb	IAmb	23 00 10.5	
	comp=Z,6.1nm,1.0s						
TPUB	**Ta-pu**	**44.30**	**313**	P	**P**	**23 00 20.4**	**-0.8**
JNU	**Nakatsue**	**45.18**	**332**	P	**P**	**23 00 27.9**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.22**	**340**	P	**P**	**23 01 38.1**	**+1.4**
PETK	**Petropavlovsk-**	**59.23**	**2**	LR	LR	23 27 58.3	
	comp=Z,16nm,18.5s,baz=130,slow=36						
CMAR	**Chiang Mai Arr**	**60.07**	**295**	P	**P**	**23 02 19.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=116,slow=6.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**60.07**	**295**	P	**P**	**23 02 18.4**	**-0.3**
SONM	**Songino Array**	**68.50**	**327**	P	**P**	**23 03 15.9**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=156,slow=4.3,SNR=2.9						
SHL	**Shillong**	**68.55**	**300**	P	**P**	**23 03 13.2**	**-1.2**
LSA	**Lhasa**	**70.50**	**304**	P	**P**	**23 03 26.2**	**-0.6**
LSA				IAmb	IAmb	23 03 33.5	
	comp=Z,2.1nm,0.5s						
BILL	**Bilibino**	**74.62**	**5**	P	**P**	**23 03 50.3**	**+0.4**
BILL				IAmb	IAmb	23 03 51.5	
	comp=Z,3.3nm,0.8s						
L19K	**White Mountain**	**78.47**	**22**	P	**P**	**23 04 11.2**	**-0.7**
L19K				IAmb	IAmb	23 04 14.0	
	comp=Z,4.0nm,0.9s						
CAST	**Castle Rocks**	**80.23**	**21**	P	**P**	**23 04 21.9**	**+0.4**
CAST				IAmb	IAmb	23 04 29.5	
	comp=Z,7.1nm,1.4s						
IMAR	**Indian Mountai**	**81.21**	**19**	P	**P**	**23 04 25.3**	**-1.3**
H21K	**Melozitna Rive**	**81.32**	**19**	P	**P**	**23 04 26.6**	**-0.6**
H21K				IAmb	IAmb	23 04 39.9	
	comp=Z,6.4nm,1.4s						
MLY	**Manley**	**81.65**	**21**	P	**P**	**23 04 28.1**	**-1.0**
MLY				IAmb	IAmb	23 04 57.1	
	comp=Z,4.3nm,1.5s						
MK31	**Makanchi Array**	**82.58**	**319**	P	**P**	**23 04 32.7**	**-1.6**
MKAR	**Makanchi Array**	**82.58**	**319**	P	**P**	**23 04 33.6**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=100,slow=6.1,SNR=12						
MKAR	**Makanchi Array**	**82.58**	**319**	P	**P**	**23 04 33.4**	**-0.9**
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**23 04 35.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=243,slow=4.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**83.34**	**326**	P	**P**	**23 04 37.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=169,slow=8.5,SNR=3.9						
J25K	**Salcha River,**	**83.37**	**22**	P	**P**	**23 04 37.9**	**-0.1**
J25K				IAmb	IAmb	23 04 43.5	
	comp=Z,5.3nm,1.5s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**23 04 38.5**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=213,slow=1.3,SNR=20						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**23 04 38.2**	**-1.5**
YBH	**Yreka Blue Hor**	**88.76**	**48**	LR	LR	23 38 49.6	
	comp=Z,31nm,19.5s,baz=248,slow=31						
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**23 05 18.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=247,slow=8.3,SNR=4.7						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**23 05 37.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=265,slow=4.7,SNR=4.6						
GERES	**GERESS Array B**	**126.22**	**329**	PKP	**PKPdf**	**23 11 11.0**	**-3.0**
	comp=Z,0.5nm,0.7s,baz=38,slow=6.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**152.40**	**286**	PKPbc	**PKPbc**	**23 12 05.9**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=103,slow=1.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**152.40**	**286**		**PKPbc**	**23 12 05.5**	**-2.8**

IDC 08 22:59:60.0±3.4**, 27°.50S**×**66°.74E, h0**km**, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.4**/41**, mbtmp3.8**/3**, Error ellipse: s-maj=99.7km s-min=48.6km az=51.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**55.33**	**38**	P	P	23 09 34.8	-1.0
	1.4nm,0.3s,baz=212,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**60.03**	**103**	P	P	23 10 09.2	+0.2
	0.3nm,0.7s,baz=242,slow=5.9,SNR=4.1						
WRA	**Warramunga Arr**	**61.69**	**99**	P	P	23 10 20.4	+0.1
	0.7nm,0.8s,baz=248,slow=6.2,SNR=3.8						
YKA	**Yellowknife Ar**	**145.00**	**1**	PKPbc	PKPbc	23 19 37.6	-0.3
	0.5nm,0.8s,baz=339,slow=3.8,SNR=7.1						

*IDC **08** 23:17:08.4±1.8, 28°.59S×177°.86W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/33, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=48.9km s-min=31.9km az=47.0*

ISC 08 23:17:10.1±1.4**, 28°.7S**±0°.1×**178°.0W**±0°.3**, h10**km**, n7, σ1s50**/8**, mb3.7**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.35**	**202**	Pn	**Pn**	**23 19 39.3**	**+0.8**
	2.1nm,0.3s,baz=78,slow=13,SNR=7.4						
URZ				Sn	**Sn**	**23 21 32.9**	**-1.8**
	3.2nm,0.3s,baz=101,slow=22,SNR=11						
ASAR	**Alice Springs**	**43.26**	**265**	P	**P**	**23 25 12.5**	**+0.5**
	0.9nm,0.6s,baz=101,slow=6.9,SNR=16						
WRA	**Warramunga Arr**	**44.09**	**270**	P	**P**	**23 25 19.4**	**+0.7**
	0.7nm,0.7s,baz=111,slow=7.4,SNR=12						
QSPA	**South Pole Qui**	**61.37**	**180**	P	**P**	**23 27 27.6**	**+1.5**
	1.5nm,0.9s,baz=112,slow=2.0,SNR=8.4						
FINES	**FINESS Array B**	**143.59**	**341**	PKP	**PKPdf**	**23 36 43.0**	**-1.4**
	1.1nm,0.5s,baz=69,slow=5.1,SNR=13						
AKASG	**Malin Array Be**	**149.98**	**324**	PKPbc	**PKiKP**	**23 36 59.9**	**-1.4**
	0.1nm,0.3s,baz=47,slow=2.6,SNR=0.7						
TORD	**Torodi Ar. Bea**	**164.49**	**179**	PKPab	**PKPab**	**23 38 08.7**	**-0.5**
	0.5nm,0.6s,baz=167,slow=3.0,SNR=4.6						

*IDC **08** 23:23:33.9±4.8, 7°.33N×73°.31W, h144km±40km, mb3.1/2, mb1 3.5/3, mb1mx3.1/26, mbtmp3.6/3, Error ellipse: s-maj=90.5km s-min=39.1km az=88.0*

*RSNC **08** 23:23:33.3±1.2, 7°.32N×73°.25W, h126km±5km, ML3.3, Mw3.6*

ISC 08 23:23:32.5±0.9**, 7°.31N**±0°.03×**73°.25W**±0°.04**, h130**km±7km**, n29, σ1s47**/55**, 2C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.55**	**87**	*e*P	**Pn**	**23 23 53.1**	**+0.7**
PAMC				*e*S	**Sn**	**23 24 07.8**	**+0.5**
PAMC				*i*		23 24 08.6	
	comp=Z,344nm,0.3s						
BARC	**Barichara**	**0.72**	**174**	⇓*i*P	**Pn**	**23 23 53.2**	**-0.1**
BARC				*e*S	**Sn**	**23 24 08.0**	**-1.0**
BARC				*i*		23 24 09.8	
	comp=Z,662nm,0.2s						
OCAC	**Ocana**	**0.92**	**356**	⇑*e*P	**Pn**	**23 23 55.1**	**+0.2**
OCAC				*e*S	**Sn**	**23 24 11.2**	**-0.6**
OCAC				*i*		23 24 13.7	
	comp=Z,1μm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.42**	**237**	⇓*i*P	**Pn**	**23 23 58.4**	**-1.3**
PTBC				*e*S	**Sn**	**23 24 18.5**	**-1.9**
PTBC				*i*		23 24 20.8	
	comp=Z,390nm,0.3s						
RUSC	**La Rusia**	**1.42**	**173**	⇓*e*P	**Pn**	**23 23 59.6**	**-0.7**
RUSC				*e*S	**Sn**	**23 24 21.2**	**-0.1**
RUSC				*i*		23 24 22.4	
	comp=Z,124nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.60**	**277**	*e*P	**Pn**	**23 24 02.0**	**+0.3**
ZARC				*e*S	**Sn**	**23 24 24.1**	**+0.1**
ZARC				*i*		23 24 26.4	
	comp=Z,380nm,0.4s						
TAMC	**Tame, Arauca**	**1.69**	**121**	⇓*i*P	**Pn**	**23 24 03.8**	**+1.0**
TAMC				*e*S	**Sn**	**23 24 26.7**	**+0.7**
TAMC				*i*		23 24 27.4	
	comp=Z,133nm,0.4s						
SPBC	**San Pablo de B**	**1.84**	**206**	*e*P	**Pn**	**23 24 03.8**	**-0.8**
SPBC				*e*S	**Sn**	**23 24 29.7**	**+0.5**
SPBC				*i*		23 24 34.7	
	comp=Z,281nm,0.6s						
LL1C	**La Loma 1 Cana**	**2.23**	**352**	*e*P	**Pn**	**23 24 11.5**	**+2.2**
LL1C				*e*S	**Sn**	**23 24 42.1**	**+4.4**
UREC	**San Jos de Ur**	**2.30**	**281**	*e*P	**Pn**	**23 24 09.8**	**-0.4**
UREC				*e*S	**Sn**	**23 24 42.1**	**+2.9**
UREC				*i*		23 24 45.5	
	comp=Z,214nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.41**	**360**	*e*P	**Pn**	**23 24 11.5**	**-0.1**
LL6C				*e*S	**Sn**	**23 24 43.7**	**+2.1**
LL6C				*i*		23 24 52.1	
	comp=Z,79nm,0.5s						
HELC	**Santa Helena**	**2.52**	**244**	*e*P	**Pn**	**23 24 13.8**	**+0.5**
HELC				*e*S	**Sn**	**23 24 45.0**	**+0.4**
HELC				*i*		23 24 50.1	
	comp=Z,151nm,0.3s						
ROSC	**El Rosal**	**2.68**	**203**	P	**Pn**	**23 24 17.1**	**+1.8**
	comp=Z,18nm,0.3s,baz=282,slow=23,SNR=24						
ROSC				S	**Sn**	**23 24 51.1**	**+2.8**
	comp=Z,36nm,0.3s,baz=36,slow=19,SNR=11						
ROSC	**El Rosal**	**2.68**	**203**	*e*P	**Pn**	**23 24 16.6**	**+1.3**
ROSC				*e*S	**Sn**	**23 24 50.4**	**+2.2**
ROSC				*i*		23 24 59.1	
	comp=Z,154nm,0.3s						
CHIC	**Chingaza**	**2.71**	**190**	*e*P	**Pn**	**23 24 15.6**	**-0.2**
CHIC				*e*S	**Sn**	**23 24 49.4**	**+0.4**
CHIC				*i*		23 24 57.4	
	comp=Z,72nm,0.5s						
MOTC	**Monteria, Cord**	**2.80**	**302**	*e*P	**Pn**	**23 24 15.2**	**-1.2**
MOTC				*e*S	**Sn**	**23 24 49.0**	**-1.4**
MOTC				*i*		23 25 01.4	
	comp=Z,38nm,0.6s						
GUY2C	**Guyana, Caldas**	**2.95**	**225**	*e*P	**Pn**	**23 24 18.8**	**-0.2**
GUY2C				*e*S	**Sn**	**23 24 57.1**	**+2.4**
GUY2C				*i*		23 25 03.0	
	comp=Z,143nm,0.7s						
SDV	**Santo Domingo**	**3.03**	**59**	⇑*e*P	**Pn**	**23 24 20.8**	**+1.2**
SDV				*e*S	**Sn**	**23 24 55.1**	**-0.9**
SDV				*i*		23 24 59.8	
	comp=Z,48nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.10**	**242**	*e*P	**Pn**	**23 24 20.9**	**+0.4**
CBOC				*e*S	**Sn**	**23 24 58.7**	**+1.1**
CBOC				*i*		23 25 14.9	
	comp=Z,31nm,0.5s						
SJCC	**San Jacinto, C**	**3.20**	**324**	*e*P	**Pn**	**23 24 21.4**	**-0.3**
SJCC				*e*S	**Sn**	**23 24 57.7**	**-2.1**
SJCC				*i*		23 25 00.7	
	comp=Z,81nm,0.3s						
VILC	**Villavicencio,**	**3.21**	**188**	*e*P	**Pn**	**23 24 22.2**	**+0.2**
VILC				*e*S	**Sn**	**23 25 00.9**	**+0.7**
PTGC	**Puerto Gaitan,**	**3.29**	**160**	*e*P	**Pn**	**23 24 22.3**	**-0.5**
PTGC				*e*S	**Sn**	**23 24 59.1**	**-2.7**
PTGC				*i*		23 25 16.5	
	comp=Z,49nm,0.3s						
ANIL	**Santa Ana**	**3.53**	**217**	*e*P	**Pn**	**23 24 27.3**	**+1.0**
ANIL				*e*S	**Sn**	**23 25 11.8**	**+3.9**
ANIL				*i*		23 25 18.0	
	comp=Z,256nm,0.3s						
CRJC	**Cerrejon, Guaj**	**3.70**	**6**	*e*P	**Pn**	**23 24 27.9**	**-0.6**
CRJC				*e*S	**Sn**	**23 25 11.5**	**-0.3**
CRJC				*i*		23 25 16.5	
	comp=Z,106nm,0.6s						
PLMC	**San Jos del P**	**3.85**	**232**	*e*P	**Pn**	**23 24 30.3**	**0.0**
PLMC				*e*S	**Sn**	**23 25 14.8**	**-0.3**
PLMC				*i*		23 25 23.3	
	comp=Z,35nm,0.3s						
ORTC	**Ortega, Tolima**	**3.92**	**211**	⇓*e*P	**Pn**	**23 24 31.2**	**-0.1**
ORTC				*e*S	**Sn**	**23 25 17.6**	**+0.8**
ORTC				*i*		23 25 25.4	
	comp=Z,90nm,0.4s						
TXAR	**Lajitas Array**	**36.04**	**311**	P	**P**	**23 30 21.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=121,slow=8.5,SNR=2.1						
YKA	**Yellowknife Ar**	**62.76**	**340**	P	**P**	**23 33 43.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=131,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**150.45**	**242**	PKPbc	**PKPbc**	**23 43 09.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=105,slow=2.9,SNR=2.2						

*NOU **08** 23:25:18.1, 38°.55S×175°.79E, h173km, MLv3.7/7, North Island, New Zealand*

*WEL **08** 23:25:23.1±0.5, 39°S±4°×17°6E±°, h124km±4km, M2.9/60, ML2.7/30, MLv2.9/60, Error ellipse: s-maj=0.0km s-min=0.0km az=144.2*

ISC 08 23:25:18.1±1.7**, 38°.64S**±0°.06×**175°.80E**±0°.05**, h166**km±8km**, n134, σ1s50**/147**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.09**	**216**	P	**Pn**	**23 25 41.4**	**+1.2**
KUTZ	**Kaahu Road**	**0.15**	**7**	P	**Pn**	**23 25 41.2**	**+0.9**
RATZ	**Rangitukua**	**0.23**	**185**	P	**Pn**	**23 25 41.1**	**+0.7**
WPRZ	**Whakapapatarin**	**0.31**	**68**	P	**Pn**	**23 25 41.3**	**+0.7**
RITZ	**Rihia Road**	**0.34**	**172**	P	**Pn**	**23 25 41.9**	**+1.2**
KATZ	**Kakaramea**	**0.35**	**194**	P	**Pn**	**23 25 41.9**	**+1.1**
TLZ	**Tolley Road**	**0.37**	**326**	P	**Pn**	**23 25 41.9**	**+1.1**
ALRZ	**Allen Road**	**0.43**	**80**	P	**Pn**	**23 25 41.5**	**+0.5**
HRRZ	**Handcock Road**	**0.45**	**57**	P	**Pn**	**23 25 42.0**	**+0.9**
NTVZ	**North Tongarir**	**0.47**	**192**	P	**Pn**	**23 25 42.4**	**+1.1**
NTVZ				S	**Sn**	**23 25 58.6**	**-0.6**
KRVZ	**Karewarewa**	**0.47**	**195**	P	**Pn**	**23 25 42.5**	**+1.2**
HSRZ	**Hossack Road**	**0.48**	**47**	P	**Pn**	**23 25 42.1**	**+0.9**
PRRZ	**Plateau Road**	**0.48**	**74**	P	**Pn**	**23 25 41.8**	**+0.6**
TMVZ	**Te Maari**	**0.48**	**189**	P	**Pn**	**23 25 42.7**	**+1.4**
TMVZ				S	**Sn**	**23 25 57.8**	**-1.5**
ETVZ	**East Tongariro**	**0.50**	**188**	P	**Pn**	**23 25 42.7**	**+1.3**
ETVZ				S	**Sn**	**23 25 58.0**	**-1.4**
WTVZ	**West Tongariro**	**0.51**	**199**	P	**Pn**	**23 25 42.6**	**+1.2**
NNVZ	**North Ngauruho**	**0.52**	**196**	P	**Pn**	**23 25 42.7**	**+1.2**
TWVZ	**Taurewa**	**0.52**	**213**	P	**Pn**	**23 25 42.6**	**+1.2**
MRHZ	**Matea Rd**	**0.52**	**112**	P	**Pn**	**23 25 42.0**	**+0.6**
MRHZ				S	**Sn**	**23 25 56.4**	**-2.9**
OTVZ	**Oturere**	**0.54**	**191**	P	**Pn**	**23 25 42.8**	**+1.2**
OTVZ				S	**Sn**	**23 25 59.2**	**-0.6**
UTU	**Utuhina**	**0.55**	**34**	P	**Pn**	**23 25 42.7**	**+1.1**
NGZ	**Ngauruhoe**	**0.56**	**196**	P	**Pn**	**23 25 42.9**	**+1.1**
SNVZ	**South Ngauruho**	**0.56**	**193**	P	**Pn**	**23 25 42.9**	**+1.2**
SNVZ				S	**Sn**	**23 25 58.5**	**-1.6**
HLRZ	**Highlands Stat**	**0.58**	**49**	P	**Pn**	**23 25 43.4**	**+1.7**
RRRZ	**Republican Roa**	**0.63**	**62**	P	**Pn**	**23 25 42.7**	**+0.8**
TUVZ	**Tukino**	**0.64**	**190**	P	**Pn**	**23 25 43.5**	**+1.4**
TUVZ				S	**Sn**	**23 25 59.7**	**-1.0**
FWVZ	**Far West T-bar**	**0.65**	**197**	P	**Pn**	**23 25 43.4**	**+1.1**
DRZ	**Dome Shelter**	**0.66**	**196**	P	**Pn**	**23 25 44.7**	**+2.3**
WHVZ	**Whangaehu Hut**	**0.67**	**194**	P	**Pn**	**23 25 43.8**	**+1.4**
TARZ	**Mount Tarawera**	**0.68**	**54**	P	**Pn**	**23 25 43.3**	**+0.9**
TRVZ	**Turoa**	**0.69**	**196**	P	**Pn**	**23 25 43.8**	**+1.3**
TRVZ				S	**Sn**	**23 26 00.3**	**-1.1**
OMRZ	**Omania**	**0.69**	**40**	P	**Pn**	**23 25 43.2**	**+0.9**
KARZ	**Kaharoa**	**0.71**	**30**	P	**Pn**	**23 25 43.4**	**+1.0**
WNVZ	**Wahianoa**	**0.71**	**193**	P	**Pn**	**23 25 43.9**	**+1.4**
MKRZ	**Makatiti**	**0.72**	**47**	P	**Pn**	**23 25 43.9**	**+1.4**
PKVZ	**Pokaka**	**0.74**	**208**	P	**Pn**	**23 25 44.1**	**+1.4**
PKVZ				S	**Sn**	**23 26 01.4**	**-0.2**
HIZ	**Hauiti**	**0.75**	**279**	P	**Pn**	**23 25 44.1**	**+1.6**
HIZ	**Hauiti**	**0.75**	**279**	P	**Pn**	**23 25 44.2**	**+1.6**
BKZ	**Black Stump Fm**	**0.76**	**135**	P	**Pn**	**23 25 43.8**	**+1.1**
BKZ				S	**Sn**	**23 25 59.4**	**-2.3**
BKZ	**Black Stump Fm**	**0.76**	**135**	P	**Pn**	**23 25 43.8**	**+1.1**
MOVZ	**Moawhango**	**0.77**	**183**	P	**Pn**	**23 25 44.0**	**+1.2**
MOVZ				S	**Sn**	**23 25 59.7**	**-2.2**
MUGZ	**Murupara**	**0.78**	**78**	P	**Pn**	**23 25 43.3**	**+0.5**
MTVZ	**Mangateitei**	**0.79**	**199**	P	**Pn**	**23 25 44.5**	**+1.5**
MTVZ				S	**Sn**	**23 26 01.4**	**-0.8**
MTHZ	**Maungataniwha**	**0.84**	**105**	P	**Pn**	**23 25 44.4**	**+1.1**
MTHZ				S	**Sn**	**23 26 01.5**	**-1.1**
BHHZ	**Black Hill Sta**	**0.88**	**167**	P	**Pn**	**23 25 44.7**	**+1.2**
NMHZ	**Naumai**	**0.91**	**121**	P	**Pn**	**23 25 45.8**	**+2.0**
KWHZ	**Kaweka Forest**	**0.92**	**149**	P	**Pn**	**23 25 45.4**	**+1.6**
RTZ	**Ruatahuna**	**0.93**	**89**	P	**Pn**	**23 25 44.8**	**+0.9**
TOZ	**Tahuroa Road**	**0.93**	**345**	P	**Pn**	**23 25 45.5**	**+1.6**
MARZ	**Manawahe**	**0.95**	**47**	P	**Pn**	**23 25 44.8**	**+0.8**

VRZ	**Vera Road**	**0.95**	**239**	P	**Pn**	**23 25 45.9**	**+2.0**
OPRZ	**Ohinepanea**	**0.99**	**37**	P	**Pn**	**23 25 45.3**	**+1.0**
RAHZ	**Arahi**	**1.04**	**106**	P	**Pn**	**23 25 46.6**	**+1.8**
MCHZ	**McNeill Hill**	**1.07**	**139**	P	**Pn**	**23 25 47.4**	**+2.5**
URZ	**Urewera**	**1.10**	**70**	P	**Pn**	**23 25 45.8**	**+0.6**
URZ	**Urewera**	**1.10**	**70**	P	**Pn**	**23 25 45.8**	**+0.6**
KRHZ	**Kereru**	**1.10**	**156**	P	**Pn**	**23 25 47.0**	**+1.8**
ARHZ	**Aropaoanui**	**1.12**	**124**	P	**Pn**	**23 25 47.5**	**+2.1**
WHHZ	**Waihua**	**1.20**	**112**	P	**Pn**	**23 25 49.2**	**+3.1**
SNGZ	**Shannon Statio**	**1.21**	**97**	P	**Pn**	**23 25 48.0**	**+1.8**
RAGZ	**Rawiri**	**1.27**	**84**	P	**Pn**	**23 25 48.3**	**+1.5**
WAZ	**Wanganui**	**1.28**	**209**	P	**Pn**	**23 25 49.0**	**+2.2**
PNHZ	**Pukenui**	**1.31**	**166**	P	**Pn**	**23 25 48.8**	**+1.7**
LREZ	**Lake Rotokare**	**1.36**	**232**	P	**Pn**	**23 25 50.3**	**+2.8**
MWZ	**Matawai**	**1.39**	**78**	P	**Pn**	**23 25 49.0**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.42**	**136**	P	**Pn**	**23 25 50.4**	**+2.3**
TSZ	**Takapari Road**	**1.43**	**175**	P	**Pn**	**23 25 50.0**	**+1.8**
KAHZ	**Kahuranaki**	**1.43**	**144**	P	**Pn**	**23 25 50.4**	**+2.2**
NEZ	**North Egmont**	**1.47**	**244**	P	**Pn**	**23 25 51.5**	**+2.8**
WPHZ	**Waipukurau**	**1.51**	**161**	P	**Pn**	**23 25 50.9**	**+1.9**
KNZ	**Kokohu**	**1.51**	**105**	P	**Pn**	**23 25 50.8**	**+1.8**
PKE	**Pukeiti**	**1.52**	**248**	P	**Pn**	**23 25 51.7**	**+2.6**
RIGZ	**Rimuhau**	**1.54**	**93**	P	**Pn**	**23 25 51.2**	**+1.9**
KHEZ	**Kahui Hut**	**1.54**	**244**	P	**Pn**	**23 25 52.1**	**+2.8**
OHWZ	**Ohakea**	**1.61**	**193**	P	**Pn**	**23 25 52.5**	**+2.5**
PXZ	**Pawanui**	**1.62**	**150**	P	**Pn**	**23 25 52.0**	**+2.0**
TKGZ	**Te Karaka**	**1.62**	**84**	P	**Pn**	**23 25 52.1**	**+2.0**
RUGZ	**Raukumara Rang**	**1.62**	**66**	P	**Pn**	**23 25 50.8**	**+0.5**
NBEZ	**Newall Road No**	**1.63**	**247**	P	**Pn**	**23 25 53.0**	**+2.8**
PRGZ	**Paritu Road**	**1.65**	**101**	P	**Pn**	**23 25 52.2**	**+1.8**
DVHZ	**Dannevirke**	**1.68**	**170**	P	**Pn**	**23 25 52.4**	**+1.6**
NMEZ	**Namu Road**	**1.69**	**242**	P	**Pn**	**23 25 53.5**	**+2.8**
PRHZ	**Porangahau**	**1.75**	**159**	P	**Pn**	**23 25 53.4**	**+2.0**
POWZ	**Post Office Ro**	**1.75**	**181**	P	**Pn**	**23 25 53.1**	**+1.7**
TWGZ	**Tauwhareparae**	**1.77**	**76**	P	**Pn**	**23 25 53.9**	**+2.2**
HAZ	**Te Kaha**	**1.79**	**61**	P	**Pn**	**23 25 52.7**	**+0.8**
CNGZ	**Carnagh Statio**	**1.89**	**86**	P	**Pn**	**23 25 55.1**	**+2.1**
ANWZ	**Angora Road**	**1.89**	**164**	P	**Pn**	**23 25 55.0**	**+2.0**
PRWZ	**Pori Road**	**1.92**	**176**	P	**Pn**	**23 25 55.3**	**+2.0**
PKGZ	**Pakihiroa**	**1.94**	**68**	P	**Pn**	**23 25 55.2**	**+1.6**
PUZ	**Puketiti**	**2.01**	**74**	P	**Pn**	**23 25 56.0**	**+1.6**
MRZ	**Mangatainoka R**	**2.03**	**185**	P	**Pn**	**23 25 56.0**	**+1.5**
BFZ	**Birch Farm**	**2.07**	**171**	P	**Pn**	**23 25 56.6**	**+1.6**
BFZ	**Birch Farm**	**2.07**	**171**	P	**Pn**	**23 25 56.7**	**+1.7**
TIWZ	**Tintock**	**2.14**	**178**	P	**Pn**	**23 25 57.3**	**+1.5**
OGWZ	**Otaki Gorge**	**2.23**	**192**	P	**Pn**	**23 25 58.4**	**+1.6**
MXZ	**Matakaoa Point**	**2.25**	**62**	P	**Pn**	**23 25 59.0**	**+2.0**
HOWZ	**Holdsworth Sta**	**2.27**	**185**	P	**Pn**	**23 25 58.5**	**+1.3**
CPWZ	**Castlepoint**	**2.29**	**172**	P	**Pn**	**23 25 59.6**	**+2.1**
KIW	**Kapiti Island**	**2.33**	**197**	P	**Pn**	**23 25 59.1**	**+1.2**
TMWZ	**Te Maipa**	**2.47**	**178**	P	**Pn**	**23 26 00.9**	**+1.3**
MTW	**Mount Morrison**	**2.53**	**185**	P	**Pn**	**23 26 01.3**	**+1.0**
CAW	**Cannon Point**	**2.53**	**193**	P	**Pn**	**23 26 01.6**	**+1.3**
DUWZ	**D'Urville Isla**	**2.60**	**213**	P	**Pn**	**23 26 02.5**	**+1.2**
PAWZ	**Paruwai Farm**	**2.76**	**186**	P	**Pn**	**23 26 04.0**	**+0.9**
TRWZ	**Traveller**	**2.76**	**182**	P	**Pn**	**23 26 04.3**	**+1.2**
WEL	**Wellington**	**2.76**	**196**	P	**Pn**	**23 26 04.5**	**+1.4**
SNZO	**South Karori**	**2.80**	**197**	P	**Pn**	**23 26 04.8**	**+1.2**
MSWZ	**Moikau Station**	**2.81**	**188**	P	**Pn**	**23 26 04.6**	**+0.9**
TCW	**Tory Channel**	**2.83**	**204**	P	**Pn**	**23 26 05.0**	**+1.1**
BHW	**Baring Head**	**2.86**	**194**	P	**Pn**	**23 26 05.2**	**+0.9**
PLWZ	**Palliser**	**2.96**	**188**	P	**Pn**	**23 26 06.3**	**+0.7**
TUWZ	**Tuamarina**	**3.13**	**206**	P	**Pn**	**23 26 08.5**	**+0.8**
NNZ	**Nelson**	**3.18**	**215**	P	**Pn**	**23 26 09.4**	**+1.1**
TKNZ	**Takaka Hill**	**3.24**	**222**	P	**Pn**	**23 26 10.0**	**+0.9**
QRZ	**Quartz Range**	**3.34**	**228**	P	**Pn**	**23 26 11.2**	**+0.9**
QRZ	**Quartz Range**	**3.34**	**228**	P	**Pn**	**23 26 11.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**3.41**	**205**	P	**Pn**	**23 26 12.4**	**+1.2**
MRNZ	**Matariki Terra**	**3.62**	**219**	P	**Pn**	**23 26 14.8**	**+1.0**
THZ	**Tophouse**	**3.83**	**214**	P	**Pn**	**23 26 17.5**	**+0.9**
KHZ	**Kahutara**	**4.15**	**204**	P	**Pn**	**23 26 21.4**	**+0.8**
KHZ	**Kahutara**	**4.15**	**204**	P	**Pn**	**23 26 21.5**	**+0.9**
DSZ	**Denniston Nort**	**4.36**	**223**	P	**Pn**	**23 26 23.5**	**+0.1**
GVZ	**Greta Valley S**	**4.81**	**205**	P	**Pn**	**23 26 29.5**	**+0.3**
AMCZ	**Amberley**	**5.12**	**207**	P	**Pn**	**23 26 33.8**	**+0.5**
OXZ	**Oxford**	**5.48**	**210**	P	**Pn**	**23 26 37.6**	**-0.5**
OKCZ	**Okains Bay**	**5.49**	**201**	P	**Pn**	**23 26 38.1**	**0.0**
AKCZ	**Akaroa Harbour**	**5.67**	**202**	P	**Pn**	**23 26 40.2**	**-0.2**
RACZ	**Rakaia**	**5.79**	**207**	P	**Pn**	**23 26 41.6**	**-0.5**
MHCZ	**Mount Hutt**	**5.84**	**212**	P	**Pn**	**23 26 42.8**	**0.0**
WACZ	**Wakanui South**	**6.08**	**208**	P	**Pn**	**23 26 45.9**	**0.0**
ARCZ	**Arundel**	**6.34**	**212**	P	**Pn**	**23 26 49.8**	**+0.3**
TMZ	**Timaru**	**6.78**	**211**	P	**Pn**	**23 26 54.9**	**-0.2**
ODZ	**Otahua Downs**	**7.47**	**209**	P	**Pn**	**23 27 04.5**	**+0.2**

IDC 08 23:53:16.8±1.4**, 8°.83S**×**158°.52E, h0**km**, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.4**/26**, mbtmp3.5**/3**, Error ellipse: s-maj=50.2km s-min=20.8km az=22.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.54**	**113**	Pn	Pn	23 53 44.8	-0.7
	77nm,0.3s,baz=269,slow=6.2,SNR=14						
HNR				Sn	Sg	23 54 09.0	+2.8
	154nm,0.3s,baz=184,slow=18,SNR=13						
WRA	**Warramunga Arr**	**25.86**	**242**	P	P	23 58 50.7	+0.3
	0.5nm,0.9s,baz=70,slow=9.8,SNR=2.7						
SONM	**Songino Array**	**72.77**	**326**	P	P	00 04 48.3	+1.1
	0.5nm,0.7s,baz=115,slow=6.8,SNR=2.2						
MKAR	**Makanchi Array**	**87.08**	**318**	P	P	00 06 03.2	-1.4
	0.1nm,0.5s,baz=90,slow=5.8,SNR=1.5						

IDC 08 23:56:22.0±31.0**, 40°.90S**×**86°.15E, h0**km**, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.6**/32**, mbtmp3.8**/3**, MS3.7**/4**, Ms1 3.7**/4**, ms1mx3.0**/62**, Error ellipse: s-maj=737.1km s-min=56.6km az=40.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.83**	**84**	T	T	00 26 32.8	
	baz=244,slow=74,SNR=37						
H01W3	**Cape Leeuwin H**	**22.83**	**84**	T	T	00 26 33.5	
	baz=244,slow=74,SNR=37						
H01W1	**Cape Leeuwin H**	**22.84**	**84**	T	T	00 26 34.1	
	baz=244,slow=74,SNR=39						
H08S2	**Diego Garcia H**	**35.28**	**336**	T	T	00 41 02.1	
	baz=165,slow=76,SNR=57						
H08S1	**Diego Carcia H**	**35.28**	**336**	T	T	00 40 59.3	
	baz=165,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**35.30**	**336**	T	T	00 41 02.3	
	baz=165,slow=76,SNR=112						
FITZ	**Fitzroy Crossi**	**40.73**	**68**	LR	LR	00 19 60.0	
	comp=Z,70nm,18.4s,baz=187,slow=35						
ASAR	**Alice Springs**	**43.31**	**82**	P	P	00 04 24.8	-1.0
	0.4nm,0.9s,baz=235,slow=7.5,SNR=2.8						
WRA	**Warramunga Arr**	**45.85**	**78**	P	P	00 04 46.7	+0.6
	1.0nm,0.8s,baz=232,slow=7.9,SNR=6.2						
BOSA	**Boshof**	**50.59**	**264**	LR	LR	00 22 00.1	
	comp=Z,56nm,18.2s,baz=136,slow=30						
CMAR	**Chiang Mai Arr**	**60.23**	**14**	P	P	00 06 31.9	-0.1
	1.3nm,0.3s,baz=204,slow=6.5,SNR=2.5						
URZ	**Urewera**	**66.91**	**121**	LR	LR	00 30 00.5	
	comp=Z,100nm,21.6s,baz=132,slow=30						
AAK	**Ala-Archa**	**83.82**	**351**	LR	LR	00 43 07.6	
	comp=Z,31nm,18.3s,baz=239,slow=34						

*THE **09** 00:02:54.7, 35°.39N×23°.57E, h7km±4km, ML2.7/7, Error ellipse: s-maj=4.8km s-min=0.8km az=197.0*
*ATH **09** 00:02:54.8, 35°.41N×23°.59E, h12km±3km, ML2.6/5, Error ellipse: s-maj=3.8km s-min=1.1km az=54.0*
ISC 09 00:02:54.3±1.0**, 35°.37N**±0°.04×**23°.56E**±0°.04**, h11**km±9km**, n15, σ0s.48**/26**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.17**	**145**	P	**Pg**	**00 02 57.6**	**-0.5**
KNDR				S	**Sg**	**00 03 00.4**	**-0.3**
	5µm,0.3s						
RODP	**Rodopos**	**0.24**	**40**	P	**Pg**	**00 02 59.9**	**+0.5**
RODP				S	**Sg**	**00 03 03.6**	**+0.8**
	2µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**76**	P	**Pg**	**00 03 00.9**	**-0.4**
IMMV				S	**Sg**	**00 03 06.3**	**+0.3**
IMMV				AML	AML	00 03 06.5	
	comp=N,2738µm,0.5s						
IMMV				AML	AML	00 03 07.0	
	comp=E,2971µm,0.7s						
IMMV	**Iera Moni Meta**	**0.35**	**76**	P	**Pg**	**00 03 01.4**	**0.0**
IMMV				S	**Sg**	**00 03 06.4**	**+0.3**
	comp=E,1µm,0.4s						
VAM	**Vamos**	**0.52**	**86**	P	**Pg**	**00 03 03.8**	**-0.6**
VAM				S	**Sg**	**00 03 12.0**	**+0.6**
VAM				AML	AML	00 03 13.0	
	comp=N,2245µm,0.5s						
VAM				AML	AML	00 03 15.5	
	comp=E,1757µm,0.3s						
VAM	**Vamos**	**0.52**	**86**	P	**Pg**	**00 03 03.9**	**-0.6**
VAM				S	**Sg**	**00 03 11.5**	**+0.1**
	comp=E,1µm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**337**	P	**Pg**	**00 03 04.6**	**-0.2**
ANKY				S	**Sg**	**00 03 11.4**	**-0.5**
ANKY				AML	AML	00 03 12.6	
	comp=E,870µm,0.5s						
ANKY				AML	AML	00 03 13.9	
	comp=N,1390µm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**337**	P	**Pg**	**00 03 04.8**	**0.0**
ANKY				S	**Sg**	**00 03 12.0**	**+0.1**
	comp=N,568nm,0.4s						
GVDS	**Gavdos**	**0.68**	**141**	P	**Pg**	**00 03 08.2**	**+0.6**
GVDS				S	**Sb**	**00 03 17.8**	**+0.1**
	comp=N,1µm,0.2s						
GVD	**Gavdhos**	**0.69**	**141**	P	**Pb**	**00 03 08.4**	**+0.1**
GVD				S	**Sb**	**00 03 17.7**	**-0.1**
GVD				AML	AML	00 03 19.8	
	comp=N,2354µm,0.4s						
GVD				AML	AML	00 03 21.9	
	comp=E,2106µm,0.3s						
GVD	**Gavdhos**	**0.69**	**141**	P	**Pb**	**00 03 08.4**	**+0.1**
GVD				S	**Sb**	**00 03 18.2**	**+0.4**
	comp=E,1µm,0.3s						
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**00 03 12.5**	**-0.5**
IDI	**Anoyia**	**1.09**	**94**	P	**Pg**	**00 03 14.4**	**-0.9**
IDI				AML	AML	00 03 39.8	
	comp=N,368µm,0.5s						
IDI				AML	AML	00 03 42.9	
	comp=E,292µm,0.7s						
VLI	**Veliai**	**1.44**	**339**	P	**Pn**	**00 03 20.7**	**+0.3**
ZKR	**Zakros**	**2.19**	**96**	P	**Pb**	**00 03 33.3**	**-0.6**

*THE **09** 00:20:03.4, 35°.38N×23°.55E, h13km±1km, ML2.4/7, Error ellipse: s-maj=1.3km s-min=0.7km az=196.0*
*ATH **09** 00:20:03.9, 35°.41N×23°.57E, h13km±2km, ML2.5/5, Error ellipse: s-maj=3.5km s-min=1.0km az=56.0*
ISC 09 00:20:03.3±1.1**, 35°.38N**±0°.04×**23°.55E**±0°.04**, h13**km±10km**, n15, σ0s.48**/27**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**143**	P	**Pg**	**00 20 07.2**	**-0.2**
KNDR				S	**Sg**	**00 20 09.7**	**-0.6**
	3µm,0.2s						
RODP	**Rodopos**	**0.24**	**43**	P	**Pb**	**00 20 09.3**	**-0.3**
RODP				S	**Sb**	**00 20 12.9**	**-0.9**
	475nm,0.2s						
IMMV	**Iera Moni Meta**	**0.36**	**77**	P	**Pg**	**00 20 10.3**	**-0.2**
IMMV				S	**Sg**	**00 20 15.8**	**+0.4**
IMMV				AML	AML	00 20 16.1	
	comp=N,2474µm,0.2s						
IMMV				AML	AML	00 20 17.0	
	comp=E,2374µm,0.3s						
IMMV	**Iera Moni Meta**	**0.36**	**77**	P	**Pg**	**00 20 10.6**	**+0.1**
IMMV				S	**Sg**	**00 20 16.0**	**+0.6**
	comp=E,1µm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**337**	P	**Pg**	**00 20 13.8**	**+0.2**
ANKY				S	**Sg**	**00 20 20.5**	**-0.1**
ANKY				AML	AML	00 20 22.8	
	comp=E,1172µm,0.3s						
ANKY				AML	AML	00 20 23.6	
	comp=N,1310µm,0.4s						
ANKY	**Antikythira Is**	**0.53**	**337**	P	**Pg**	**00 20 13.8**	**+0.2**
ANKY				S	**Sg**	**00 20 21.0**	**+0.3**
	comp=N,618nm,0.4s						
VAM	**Vamos**	**0.53**	**87**	P	**Pg**	**00 20 13.3**	**-0.4**
VAM				AML	AML	00 20 21.4	
	comp=N,1602µm,0.4s						
VAM				S	**Sb**	**00 20 21.5**	**-0.4**
VAM				AML	AML	00 20 23.9	
	comp=E,1422µm,0.2s						
VAM	**Vamos**	**0.53**	**87**	P	**Pg**	**00 20 13.5**	**-0.2**
VAM				S	**Sg**	**00 20 21.0**	**+0.3**
	comp=E,760nm,0.3s						
GVD	**Gavdhos**	**0.70**	**141**	P	**Pg**	**00 20 17.0**	**+0.2**
GVD				S	**Sb**	**00 20 27.8**	**+1.0**
GVD				AML	AML	00 20 29.5	
	comp=N,801µm,0.4s						
GVD				AML	AML	00 20 30.3	
	comp=E,953µm,0.3s						
KTHA	**Kythira Island**	**0.96**	**336**	P	**Pg**	**00 20 21.8**	**-0.1**
KTHA				S	**Sg**	**00 20 34.1**	**-0.3**
KTHA				AML	AML	00 20 36.0	
	comp=N,356µm,0.3s						
KTHA				AML	AML	00 20 37.9	
	comp=E,819µm,0.3s						
KTHR	**Kythira**	**0.98**	**333**	P	**Pb**	**00 20 21.9**	**-0.3**
KTHR				S	**Sg**	**00 20 34.7**	**-0.5**
	comp=E,280nm,0.3s						
IDI	**Anoyia**	**1.10**	**94**	P	**Pb**	**00 20 23.3**	**-0.9**
IDI	**Anoyia**	**1.10**	**94**	P	**Pb**	**00 20 23.6**	**-0.5**
IDI				S	**Sg**	**00 20 39.0**	**+0.3**
	comp=E,105nm,0.3s						
VLI	**Veliai**	**1.43**	**340**	P	**Pb**	**00 20 29.8**	**+0.1**
NPS	**Neapolis**	**1.69**	**93**	P	**Pb**	**00 20 34.7**	**+0.5**

IDC 09 00:27:18.4±2.0**, 0°.30N**×**16°.82W, h0**km**, mb3.6**/2**, mb1 3.8**/4**, mb1mx3.5**/38**, mbtmp3.7**/4**, ML3.5**/2**, MS3.5**/7**, Ms1 3.5**/7**, ms1mx3.0**/68**, Error ellipse: s-maj=67.6km s-min=39.5km az=148.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.40**	**164**	T	T	00 38 39.4	
	baz=342,slow=74,SNR=18						
H10N3	**ASCENSION HYDR**	**8.41**	**164**	T	T	00 38 32.5	
	baz=342,slow=74,SNR=18						
H10N1	**ASCENSION HYDR**	**8.42**	**164**	T	T	00 38 20.6	
	baz=342,slow=74,SNR=110						
H10S3	**ASCENSION HYDR**	**9.44**	**167**	T	T	00 40 00.9	
	baz=235,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**9.45**	**167**	T	T	00 40 00.5	
	baz=345,slow=74,SNR=3.6						
DBIC	**Dimbokro**	**13.51**	**62**	Pn	Pn	00 30 31.8	+0.3
	0.3nm,0.3s,baz=269,slow=16,SNR=3.5						
DBIC				LR	LR	00 35 09.5	
	comp=Z,65nm,19.1s,baz=252,slow=35						
KOWA	**Kowa**	**18.95**	**41**	P	P	00 31 40.7	-0.6
	0.1nm,0.3s,baz=226,slow=10,SNR=4.2						
KOWA				LR	LR	00 38 42.7	
	comp=Z,93nm,18.4s,baz=202,slow=36						
TORD	**Torodi Ar. Bea**	**22.35**	**54**	P	P	00 32 18.5	+0.3
	0.9nm,0.7s,baz=231,slow=11,SNR=4.9						
IDI	**Anoyia**	**52.14**	**44**	LR	LR	00 59 43.0	
	comp=Z,38nm,19.5s,baz=336,slow=37						
LPAZ	**La Paz**	**53.21**	**249**	LR	LR	00 58 06.0	
	comp=Z,40nm,19.6s,baz=66,slow=35						
ROSC	**El Rosal**	**57.60**	**276**	LR	LR	00 59 11.0	
	comp=Z,62nm,18.9s,baz=81,slow=33						
BRTR	**Keskin Array B**	**60.37**	**43**	LR	LR	01 07 35.7	
	comp=Z,54nm,18.1s,baz=299,slow=40						
NNA	**Nana**	**60.80**	**256**	LR	LR	01 02 06.7	
	comp=Z,59nm,18.5s,baz=195,slow=34						
YKA	**Yellowknife Ar**	**93.34**	**333**	P	P	00 40 35.2	+0.1
	0.4nm,0.8s,baz=85,slow=4.9,SNR=5.3						
WRA	**Warramunga Arr**	**145.67**	**126**	PKPbc	PKPdf	00 46 59.2	-0.7
	1.1nm,0.9s,baz=260,slow=2.3,SNR=5.0						

*IDC **09** 00:27:45.0±3.0, 7°.66S×115°.92E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/30, mbtmp3.5/4, Error ellipse: s-maj=174.6km s-min=23.1km az=53.0*
*DJA **09** 00:28:18.3±0.4, 8°S±7°×11°7E±°, h295km±4km, M3.7/14, mb4.0/5, mB4.9/1, MLv3.6/14, Mw(mB)4.2/1*
ISC 09 00:28:17.1±0.8**, 7°.8S**±0°.1×**116°.76E**±0°.07**, h300**km**, n20, σ1s.33**/24**, mb3.2**/3**, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.45**	**136**	P	**Pn**	**00 29 01.0**	**+1.0**
PLAI				S	**S**	**00 29 34.5**	**+0.4**
SRBI	**Singaraja**	**1.56**	**259**	P	**Pn**	**00 29 01.8**	**+1.1**
SRBI				S	**S**	**00 29 36.7**	**+1.4**
DNP	**Denpasar**	**1.78**	**240**	P	**Pn**	**00 29 03.4**	**+1.2**
IGBI	**Denpasar**	**1.90**	**237**	P	**Pn**	**00 29 03.7**	**+0.6**
IGBI				S	**S**	**00 29 37.6**	**-2.1**
JAGI	**Jajag, Banyuwa**	**2.67**	**255**	P	**Pn**	**00 29 10.1**	**+0.4**
KMMI	**Kalianget**	**2.86**	**284**	P	**Pn**	**00 29 12.9**	**+1.4**
BLJI	**Banyuglugur**	**3.14**	**270**	P	**Pn**	**00 29 15.6**	**+1.4**
WBSI	**Waikabubak, Su**	**3.19**	**126**	P	**Pn**	**00 29 16.1**	**+1.2**
WBSI				S	**S**	**00 29 58.9**	**-2.1**
GMJI	**Gumukmas**	**3.32**	**261**	P	**Pn**	**00 29 16.9**	**+0.8**
BSSI	**Bau Bau, Buton**	**4.04**	**67**	P	**Pn**	**00 29 24.9**	**+1.1**
BKSI	**Bulukumba**	**4.13**	**54**	P	**Pn**	**00 29 26.3**	**+1.5**
BASI	**Baing, Sumba**	**4.49**	**123**	P	**Pn**	**00 29 29.9**	**+1.2**
UGM	**Wanagama**	**6.18**	**268**	P	**Pn**	**00 29 49.0**	**+0.4**
	0.3nm39nm,0.7s						
KPJI	**Karang Pucung**	**7.77**	**273**	P	**Pn**	**00 30 08.8**	**+0.8**
	0.1nm14nm,0.6s						
CGJI	**Cibinong**	**11.04**	**275**	P	**Pn**	**00 30 49.1**	**+1.0**
	966nm18nm,1.0s						
KLSI		**12.34**	**284**	P	**Pn**	**00 31 04.9**	**+1.0**
WRA	**Warramunga Arr**	**20.89**	**127**	P	**P**	**00 32 37.9**	**+0.8**
	0.5nm,0.3s,baz=301,slow=12,SNR=26						
ASAR	**Alice Springs**	**22.80**	**136**	P	**P**	**00 32 55.8**	**+1.2**
	0.3nm,0.4s,baz=314,slow=9.2,SNR=6.5						
SONM	**Songino Array**	**56.12**	**352**	P	**P**	**00 37 24.4**	**-1.5**
	0.4nm,0.4s,baz=171,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**62.38**	**334**	P	**P**	**00 38 06.5**	**-2.0**
	0.3nm,0.3s,baz=154,slow=6.7,SNR=5.7						

*NEIC **09** 00:39:27.6±1.8, 7°.20S±0°.05×125°.1E±0°.2, h514km±12km, mb4.0/15, Error ellipse: s-maj=22.8km s-min=2.9km az=72.0*
*IDC **09** 00:39:28.1±1.3, 7°.31S×125°.03E, h528km±19km, mb3.2/5, mb1 3.3/10, mb1mx3.0/32, mbtmp4.2/10, Error ellipse: s-maj=52.6km s-min=10.7km az=63.0*
*DJA **09** 00:39:28.0±1.0, 7°S±5°×12°5E±°, h500km±8km, M4.0/13, mb3.9/8, mB4.4/4, MLv4.1/13, Mw(mB)3.5/4*
ISC 09 00:39:26.9±0.6**, 7°.18S**±0°.06×**125°.24E**±0°.09**, h500**km**, n44, σ1s.42**/50**, mb3.7**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**3.15**	**302**	P	**P**	**00 40 41.2**	**+2.3**
MMRI	**Maumere**	**3.31**	**244**	P	**P**	**00 40 40.4**	**+0.3**
BATI	**Baumata**	**3.38**	**207**	P	**P**	**00 40 42.7**	**+2.1**
	50nm,0.3s,baz=42,slow=1.6,SNR=9.4						
BATI				S	**S**	**00 41 43.3**	**+2.7**
	7.8nm,0.3s,baz=310,slow=17,SNR=9.1						
BATI	**Baumata**	**3.38**	**207**	P	**P**	**00 40 42.5**	**+1.9**
BATI				S	**S**	**00 41 41.6**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.83**	**282**	P	**P**	**00 40 54.3**	**+1.9**
SANI	**Sanana**	**5.16**	**8**	P	**P**	**00 40 57.0**	**+1.7**
	0.1nm26nm,0.8s						
SANI				S	**S**	**00 42 08.9**	**+1.5**
	0.1nm26nm,0.8s						
BKSI	**Bulukumba**	**5.42**	**290**	P	**P**	**00 40 59.3**	**+1.6**
	0.2nm427nm45nm,0.7s						
BASI	**Baing, Sumba**	**5.51**	**236**	P	**P**	**00 40 59.0**	**+0.4**
	0.4nm57nm,1.1s						
BNSI	**Bone**	**5.81**	**298**	P	**P**	**00 41 04.0**	**+2.6**
	0.3nm695nm69nm,0.7s						
KAPI	**Kappang**	**5.87**	**291**	P	**P**	**00 41 03.6**	**+1.6**
	2.4nm,0.3s,baz=130,slow=9.0,SNR=10						
KAPI	**Kappang**	**5.87**	**291**	P	**P**	**00 41 04.0**	**+2.0**
SPSI	**Sidrap Palu**	**6.32**	**300**	P	**P**	**00 41 07.2**	**+0.8**
	0.1nm25nm,0.7s						
LUWI	**Luwuk**	**6.58**	**338**	P	**P**	**00 41 11.4**	**+2.5**
APSI	**Ampana**	**7.19**	**330**	P	**P**	**00 41 17.0**	**+1.9**
	0.1nm728nm29nm,1.1s						
PLAI	**Plampang**	**7.57**	**257**	P	**P**	**00 41 18.1**	**-0.8**
	0.1nm15nm,0.7s						
FAKI	**Fak Fak**	**8.16**	**59**	P	**P**	**00 41 25.8**	**+0.7**
KNRA	**Kununurra**	**9.12**	**158**	P	**P**	**00 41 36.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**10.86**	**178**	P	**P**	**00 41 54.0**	**+0.6**
	0.6nm,0.3s,baz=358,slow=7.6,SNR=32						
FITZ				S	**S**	**00 43 51.7**	**-2.2**
	0.4nm,0.3s,baz=178,slow=7.3,SNR=7.9						
JAGI	**Jajag, Banyuwa**	**11.06**	**263**	P	**P**	**00 41 54.4**	**-1.2**
WB0	**Warramunga Arr**	**15.34**	**146**	P	**P**	**00 42 39.8**	**-0.9**
WB0				IAmb	IAmb	00 42 42.5	
	comp=Z,8.5nm,1.1s						
WRAB	**Tennant Creek**	**15.45**	**146**	P	**P**	**00 42 42.0**	**+0.1**
WRAB				IAmb	IAmb	00 42 45.0	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**15.45**	**146**	P	**P**	**00 42 41.2**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=337,slow=8.6,SNR=78						
WRA	**Warramunga Arr**	**15.45**	**146**	P	**P**	**00 42 40.4**	**-1.5**
WB2	**Warramunga Arr**	**15.46**	**146**	P	**P**	**00 42 41.4**	**-0.5**
WB2				IAmb	IAmb	00 42 41.8	
	comp=Z,4.2nm,0.8s						
WR0	**Warramunga Arr**	**15.58**	**146**	P	**P**	**00 42 42.6**	**-0.5**
WR0				PcP	**PcP**	**00 47 09.4**	**-1.7**
AS31	**Alice Springs**	**18.38**	**154**	P	**P**	**00 43 11.1**	**+0.3**
AS31				IAmb	IAmb	00 43 12.8	
	comp=Z,2.5nm,0.4s						
ASAR	**Alice Springs**	**18.38**	**154**	P	**P**	**00 43 10.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=341,slow=14,SNR=48						
ASAR				S	**S**	**00 46 11.7**	**-1.6**
	baz=348,slow=25,SNR=4.8						
ASAR	**Alice Springs**	**18.38**	**154**	P	**P**	**00 43 11.7**	**+0.9**
COEN	**Coen**	**18.86**	**112**	P	**P**	**00 43 15.4**	**+0.2**
BBOO	**Buckleboo**	**27.41**	**160**	P	**P**	**00 44 31.6**	**0.0**
BBOO				IAmb	IAmb	00 44 37.1	
	comp=Z,5.7nm,1.0s						
STKA	**Stephens Creek**	**28.92**	**150**	P	**P**	**00 44 45.1**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=318,slow=9.9,SNR=9.9						
STKA	**Stephens Creek**	**28.92**	**150**	P	**P**	**00 44 45.2**	**+0.4**
TPUB	**Ta-pu**	**30.63**	**352**	P	**P**	**00 44 58.4**	**-1.4**
CAN	**Canberra**	**35.49**	**145**	P	**P**	**00 45 43.0**	**+2.1**
CAN				IAmb	IAmb	00 45 50.4	
	comp=Z,10.0nm,1.1s						
SONM	**Songino Array**	**57.26**	**345**	P	**P**	**00 48 25.0**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=148,slow=8.7,SNR=4.5						
MK31	**Makanchi Array**	**65.88**	**329**	P	**P**	**00 49 21.9**	**-0.7**
MK31				IAmb	IAmb	00 49 22.6	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**65.88**	**329**	P	**P**	**00 49 21.9**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=127,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**65.88**	**329**	P	**P**	**00 49 21.5**	**-1.0**
PETK	**Petropavlovsk-**	**66.07**	**21**	P	**P**	**00 49 23.7**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=256,slow=41,SNR=1.6						
BOOM	**Boomskoye usch**	**66.74**	**322**	P	**P**	**00 49 27.8**	**-0.4**
ZAA0	**Zalesovo Array**	**69.74**	**336**	P	**P**	**00 49 44.2**	**-1.7**
ZAA0				IAmb	IAmb	00 49 44.5	
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**69.74**	**336**	P	**P**	**00 49 44.4**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=137,slow=5.0,SNR=9.2						
KURK	**Kurchatov**	**70.29**	**331**	P	**P**	**00 49 48.3**	**-1.0**
KURK				IAmb	IAmb	00 49 49.1	
	comp=Z,2.0nm,0.9s						
ABKAR	**Akbulak array**	**79.76**	**323**	P	**P**	**00 50 41.0**	**-1.4**

*IDC **09** 00:54:08.4±1.7, 3°.73N×122°.31E, h615km±22km, mb3.1/9, mb1 3.2/9, mb1mx2.8/44, mbtmp4.1/9, Error ellipse: s-maj=58.3km s-min=9.9km az=67.0*
*DJA **09** 00:54:08.1±0.5, 4°N±7°×12°2E±°, h574km±7km, M4.2/11, mb4.2/6, mB4.5/4, MLv4.3/11, Mw(mB)3.7/4*
ISC 09 00:54:07.2±0.6**, 3°.75N**±0°.09×**122°.4E**±0°.1**, h602**km**, n23, σ1s.04**/29**, mb3.9**/14**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**3.15**	**169**	P	**P**	**00 55 26.6**	**-0.9**
GTOI				S	**S**	**00 56 29.7**	**-3.0**
MRSI	**Marisa**	**3.28**	**188**	P	**P**	**00 55 28.9**	**+0.6**
MRSI				S	**S**	**00 56 33.6**	**-0.6**
KMSI	**Cibinong**	**3.52**	**154**	P	**P**	**00 55 31.2**	**+1.4**
MPSI	**Mapaga**	**4.22**	**217**	P	**P**	**00 55 34.8**	**+0.4**
LUWI	**Luwuk**	**4.77**	**176**	P	**P**	**00 55 38.9**	**+0.3**
LBMI	**Labuha**	**6.70**	**130**	P	**P**	**00 55 55.0**	**+0.3**
	0.2nm995nm38nm,0.5s						
SANI	**Sanana**	**6.78**	**148**	P	**P**	**00 55 54.4**	**-1.0**
	0.2nm911nm26nm,0.6s						
WRA	**Warramunga Arr**	**26.30**	**154**	P	**P**	**00 58 57.2**	**+0.3**
	3.2nm,0.5s,baz=337,slow=9.5,SNR=99						
WRA				ScP	**ScP**	**01 04 45.6**	**-0.5**
	0.6nm,0.5s,baz=339,slow=3.0,SNR=5.4						
ASAR	**Alice Springs**	**29.46**	**158**	P	**P**	**00 59 25.6**	**+1.2**
	2.1nm,0.6s,baz=334,slow=7.0,SNR=36						
ASAR				S	**S**	**01 03 37.5**	**-0.4**
	0.7nm,0.6s,baz=326,slow=13,SNR=9.2						
STKA	**Stephens Creek**	**39.85**	**154**	P	**P**	**01 00 52.1**	**+1.7**
	1.2nm,0.5s,baz=311,slow=5.3,SNR=4.3						
TAPN	**Taplejung**	**40.59**	**309**	*e*P	**P**	**01 00 57.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.6nm,0.4s						
JIRN	Jiri	41.92	308	eP	P	01 01 07.4	+0.1
	9.4nm,0.5s						
GKN	Gorkha	43.30	308	eP	P	01 01 18.0	+0.2
	5.2nm,0.3s						
KOLN	Koldanda	44.02	307	eP	P	01 01 24.2	+0.8
DANN	Dangsing	44.15	308	eP	P	01 01 24.9	+0.4
	25nm,0.5s						
PYUN	Piuthan	44.65	307	eP	P	01 01 29.1	+0.9
	21nm,0.5s						
SONM	Songino Array	46.03	345	P	P	01 01 39.4	+1.1
	0.8nm,0.6s,baz=161,slow=7.0,SNR=4.4						
MKAR	Makanchi Array	55.15	327	P	P	01 02 44.6	+0.4
	1.3nm,0.4s,baz=126,slow=8.2,SNR=23						
MKAR				PcP	PcP	01 03 35.9	-0.2
	0.8nm,0.6s,baz=140,slow=3.9,SNR=7.2						
MKAR				ScP	ScP	01 06 37.3	-0.5
	0.3nm,0.5s,baz=124,slow=5.9,SNR=3.7						
ZALV	Zalesovo Beam	58.68	335	P	P	01 03 07.2	-0.9
	0.4nm,0.3s,baz=144,slow=2.8,SNR=4.2						
SEY	Seymchan	63.05	15	P	P	01 03 37.1	+0.6
	1.0nm,0.3s,baz=217,slow=20,SNR=2.9						
NRIK	Noril'sk	69.43	347	P	P	01 04 15.1	-0.7
	0.7nm,0.4s,baz=0.0,slow=20,SNR=2.1						
FINES	FINESS Array B	89.77	331	P	P	01 06 00.5	-1.9
	0.9nm,0.8s,baz=85,slow=6.3,SNR=3.4						
TORD	Torodi Ar. Bea	118.80	287	PKP	PKPdf	01 11 48.6	-0.6
	0.2nm,0.3s,baz=84,slow=1.5,SNR=7.0						

IDC 09 00:59:18.9±3.7**, 5°.75S×145°.75E, h66**km±46km**, mb3.7**/3**, mb1 4.0**/5**, mb1mx3.5**/28**, mbtmp4.1**/5**, ML4.4**/1**, Error ellipse: s-maj=50.2km s-min=25.7km az=76.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.89	159	P	Pn	01 00 16.3	0.0
	11nm,0.3s,baz=289,slow=17,SNR=12						
PMG				S	Sn	01 01 01.4	+0.7
	9.8nm,0.3s,baz=14,slow=19,SNR=8.3						
WRA	Warramunga Arr	17.95	217	P	Pn	01 03 25.1	+1.0
	1.4nm,0.3s,baz=47,slow=12,SNR=48						
ASAR	Alice Springs	21.15	211	P	P	01 03 57.8	-1.0
	3.3nm,0.7s,baz=49,slow=8.7,SNR=19						
ASAR				S	S	01 07 51.1	+0.6
	0.3nm,0.8s,baz=32,slow=24,SNR=4.3						
FITZ	Fitzroy Crossi	23.15	236	P	P	01 04 18.9	-1.0
	4.5nm,0.5s,baz=52,slow=8.9,SNR=13						
STKA	Stephens Creek	26.28	188	P	P	01 04 49.7	+1.5
	0.8nm,0.4s,baz=13,slow=14,SNR=3.9						

*ATH **09** 01:01:55.9, 35°.35N×23°.56E, h10km±3km, ML2.5/3, Error ellipse: s-maj=3.8km s-min=1.3km az=36.0*
*THE **09** 01:01:56.2, 35°.37N×23°.57E, h8km±2km, ML2.4/7, Error ellipse: s-maj=2.8km s-min=0.6km az=246.0*
ISC 09 01:01:56.0±1.1**, 35°.35N**±0°.03×**23°.56E**±0°.04**, h10**km±9km**, n16,** σ0.54s/29**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.15	139	P	Pg	01 01 59.0	-0.4
KNDR				S	Sg	01 02 01.5	-0.2
	2μm,0.2s						
RODP	Rodopos	0.26	37	P	Pg	01 02 01.6	+0.3
RODP				S	Sg	01 02 05.5	+0.6
	468nm,0.3s						
IMMV	Iera Moni Meta	0.36	72	P	Pg	01 02 02.5	-0.6
IMMV				S	Sg	01 02 08.4	+0.5
IMMV				AML	AML	01 02 08.9	
	comp=N,1292μm,0.2s						
IMMV				AML	AML	01 02 10.6	
	comp=E,1523μm,0.4s						
IMMV	Iera Moni Meta	0.36	72	P	Pg	01 02 02.8	-0.3
IMMV				S	Sg	01 02 08.3	+0.5
	comp=E,682nm,0.2s						
VAM	Vamos	0.52	84	P	Pg	01 02 05.5	-0.7
VAM				S	Sg	01 02 13.7	+0.6
VAM				AML	AML	01 02 15.9	
	comp=N,1942μm,0.3s						
VAM				AML	AML	01 02 16.2	
	comp=E,1805μm,0.3s						
VAM	Vamos	0.52	84	P	Pg	01 02 05.5	-0.7
VAM				S	Sg	01 02 13.6	+0.6
	comp=E,942nm,0.3s						
ANKY	Antikythira Is	0.56	338	P	Pg	01 02 06.7	-0.1
ANKY				S	Sg	01 02 13.5	-0.6
ANKY	Antikythira Is	0.56	338	P	Pg	01 02 06.7	-0.1
ANKY				S	Sg	01 02 14.2	0.0
	comp=E,290nm,0.5s						
GVDS	Gavdos	0.67	139	P	Pg	01 02 09.2	+0.4
GVDS				S	Sb	01 02 18.8	-0.2
	comp=E,805nm,0.2s						
GVD	Gavdhos	0.67	140	P	Pg	01 02 08.3	-0.5
GVD				S	Sg	01 02 18.2	+0.6
GVD				AML	AML	01 02 20.3	
	comp=E,932μm,0.3s						
GVD				AML	AML	01 02 21.5	
	comp=N,1361μm,0.3s						
GVD	Gavdhos	0.67	140	P	Pb	01 02 09.8	+0.1
GVD				S	Sb	01 02 19.3	+0.3
	comp=N,578nm,0.3s						
KTHA	Kythira Island	0.99	336	P	Pg	01 02 14.3	-0.7
IDI	Anoyia	1.09	93	P	Pg	01 02 15.6	-1.3
IDI				S	Sg	01 02 30.6	-0.4
IDI	Anoyia	1.09	93	P	Pg	01 02 16.2	-0.7
IDI				S	Sb	01 02 31.6	+0.4
VLI	Veliai	1.46	340	P	Pn	01 02 22.6	+0.2
NPS	Neapolis	1.68	92	P	Pb	01 02 26.9	-0.1

*IDC **09** 01:22:10.5±3.0, 36°.22N×70°.38E, h180km±27km, mb3.4/12, mb1 3.5/18, mb1mx3.2/42, mbtmp4.0/18, Error ellipse: s-maj=20.6km s-min=15.6km az=19.0*
*BJI **09** 01:22:18.9±0.0, 37°.11N×70°.70E, h212km, mb3.7/3*
*NNC **09** 01:22:19.7±2.1, 37°.06N×70°.18E, h210km±23km, mb3.2, mpv4.2, Error ellipse: s-maj=19.9km s-min=12.6km az=1.0*
*SOME **09** 01:22:21.4, 37°.25N×70°.47E, h10km*
ISC 09 01:22:13.6±0.5**, 36°.51N**±0°.05×**70°.43E**±0°.06**, h204**km**, n62,** σ2.06s/76**, mb3.5**/11**, 10C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.94	155	P	Pn	01 23 04.7	+1.8
CEP				S	S	01 23 42.0	+1.2
CHCP	Chirah Chowk	3.67	140	⇓P	Pn	01 23 13.8	+2.3
THW	Thamme Wali	3.86	163	P	Pn	01 23 15.1	+1.3
SARP	Sargodha	4.93	157	P	Pn	01 23 28.0	+0.7
JMU	Jammu	5.28	134	eS	S	01 24 29.3	-3.5
KSH	Kashi	5.31	54	P	Pn	01 23 28.8	-3.3
KSH				S	S	01 24 23.3	-10
KSH				smax	smax		
	comp=N,69nm,0.6s						
KSH				smax	smax		
	comp=E,54nm,0.7s						
THN	Thein Dam	5.96	131	eP	Pn	01 23 40.1	-0.3
THN				eS	S	01 24 48.7	-0.1
AML	Almayashu	6.16	23	P	Pn	01 23 44.3	+1.0
	SNR=71						
DHRM	DHARAMSHALA	6.45	129	eP	Pn	01 23 47.9	+1.0
DHRM				eS	S	01 24 59.3	-1.3
DHRM				IAML		01 25 00.7	
	comp=N,206nm,0.6s						
DHRM				IAML		01 25 02.6	
	comp=E,266nm,0.6s						
UCH	Uchtor	6.53	28	P	Pn	01 23 49.5	+1.3
	SNR=18						
BRLS	Borolday	6.53	356	eP	Pn	01 23 43.4	-4.3
	comp=E,6.0nm,0.2s						
BRLS				eS	S	01 24 49.9	-12
	comp=E,30nm,0.2s						
KK02	Karatay Array	6.59	1	⇑P	Pn	01 23 48.2	-0.3
	comp=E,4.9nm,0.3s						
KK02				⇓S	S	01 24 56.6	-7.0
	comp=E,21nm,0.7s						
MRKS	Merke	6.59	18	eP	Pn	01 23 49.2	+0.6
	comp=E,34nm,0.3s						
MRKS				eS	S	01 24 60.0	-3.8
	comp=E,54nm,0.6s						
EKS2	Erkin-Say	6.67	22	P	Pn	01 23 51.0	+1.4
	SNR=12						
AAK	Ala-Archa	6.88	26	P	Pn	01 23 53.1	+0.8
	comp=E,5.2nm,0.3s,baz=195,slow=6.1,SNR=68						
AAK				S	S	01 25 09.5	-1.2
	comp=E,2.6nm,0.3s,baz=122,slow=19,SNR=6.2						
AAK	Ala-Archa	6.88	26	P	Pn	01 23 53.8	+1.5
	SNR=26						
AAK	Ala-Archa	6.88	26	⇑P	Pn	01 23 53.5	+1.1
	comp=E,8.7nm,0.5s						
AAK				⇑S	S	01 25 08.7	-1.9
	comp=E,57nm,0.6s						
ULHL	Ulahol	7.29	36	P	Pn	01 23 59.2	+1.6
	SNR=18						
CHMS	Chumysh	7.29	26	P	Pn	01 23 59.2	+1.7
	SNR=7.3						
USP	Ospenovka	7.44	24	P	Pn	01 24 00.7	+1.2
	SNR=5.3						
TKM2	Tokmak 2	7.54	30	P	Pn	01 24 02.5	+1.5
	SNR=5.5						
TKM2	Tokmak 2	7.54	30	⇑P	Pn	01 24 01.8	+0.8
	comp=E,9.5nm,0.5s						
TKM2				⇑S	S	01 25 24.6	-1.8
	comp=E,18nm,0.8s						
SGDS	Sogindy	7.65	24	eP	Pn	01 24 04.0	+1.8
	comp=E,3.5nm,0.3s						
SGDS				eS	S	01 25 25.4	-3.4
	comp=E,12nm,0.3s						
SMLA	Simla	7.75	132	eP	Pn	01 24 03.0	-0.6
SMLA				eS	S	01 25 26.6	-4.7
SMLA				IAML		01 25 31.4	
	comp=N,89nm,0.2s						
SMLA				IAML		01 25 31.4	
	comp=E,74nm,0.6s						
DGS	Degeres	7.88	30	eP	Pn	01 24 06.2	+0.9
	comp=E,4.0nm,0.7s						
DGS				eS	S	01 25 29.1	-5.2
	comp=E,6.9nm,0.5s						
TNSS	Tian-Shan	8.23	36	eP	Pn	01 24 11.6	+1.5
MDOK	Medeo	8.37	35	P	Pn	01 24 13.1	+1.4
	comp=E,6.3nm,0.5s						
MDOK				⇑S	S	01 25 45.9	-0.2
	comp=E,5.1nm,0.6s						
KUDL	Kundal	9.78	147	eP	Pn	01 24 29.3	-0.7
KUDL				eS	S	01 26 09.4	-10
KUDL				eS	S	01 26 13.3	-6.3
GEYT	Alibeck	9.93	282	P	Pn	01 24 29.8	-2.0
	comp=E,0.2nm,0.3s,baz=102,slow=12,SNR=2.2						
OTUK	Ortayu	11.82	6	⇑P	Pn	01 24 56.1	+0.2
	comp=E,3.2nm,0.5s						
PYUN	Piuthan	13.52	125	eP	Pn	01 25 18.5	+0.8
	comp=E,20nm,0.6s						
MK31	Makanchi Array	13.56	37	P	Pn	01 25 18.5	+0.7
	comp=E,2.7nm,0.7s,baz=222,slow=11,SNR=26						
MKAR	Makanchi Array	13.56	37	P	Pn	01 25 18.8	+1.0
	comp=E,0.3nm,0.3s,baz=220,slow=16,SNR=19						
BHPL	Bhopal	14.54	154	eP	P	01 25 33.7	+2.5
BHPL				eS	S	01 28 05.0	-6.5
AB01	Akbulak array	14.86	332	⇓P	Pn	01 25 32.7	-1.0
	comp=E,6.5nm,0.7s						
KURBB	Kurchatov Arra	15.27	20	P	Pn	01 25 38.2	-0.5
	comp=E,0.2nm,0.3s,baz=210,slow=10,SNR=20						
KURBB	Kurchatov Arra	15.27	20	⇑P	Pn	01 25 38.1	-0.5
	comp=E,3.6nm,0.7s						
KURK	Kurchatov	15.38	20	⇑P	Pn	01 25 39.6	-0.4
	comp=E,3.8nm,0.9s						
PKIN	Phulchoki	15.48	121	eP	P	01 25 42.9	+1.0
PKI	Pulchoki	15.50	121	eP	P	01 25 43.9	+1.8
GUN	Gumba	15.62	119	eP	Pn	01 25 45.3	+1.8
	comp=E,30nm,0.5s						
JIRN	Jiri	15.99	119	eP	Pn	01 25 49.1	+1.1
	comp=E,64nm,0.6s						
BVAR	Borovoye Array	16.52	360	P	Pn	01 25 54.6	+0.9
	comp=E,1.5nm,0.3s,baz=200,slow=14,SNR=26						
AKTO	Aktyubinsk	16.55	331	P	Pn	01 25 54.6	+0.5
	comp=E,1.4nm,0.3s,baz=140,slow=10.0,SNR=44						
AKTO	Aktyubinsk	16.55	331	⇑P	P	01 25 52.9	-0.2
	comp=E,17nm,0.9s						
BRVK	Borovoye	16.55	360	⇓P	P	01 25 53.4	+0.4
	comp=E,9.7nm,0.9s						
RAMN	Ramite	16.71	120	eP	Pn	01 25 57.1	+0.6
	comp=E,29nm,0.5s						
TAPN	Taplejung	17.25	117	eP	Pn	01 26 04.1	+1.1
	comp=E,18nm,0.5s						
ODAN	Odare	17.32	119	eP	Pn	01 26 04.9	+1.2
	comp=E,16nm,0.5s						
ZALV	Zalesovo Beam	20.10	25	P	P	01 26 32.8	+1.3
	comp=E,5.2nm,0.3s,baz=216,slow=10,SNR=49						
ARU	Arti	21.48	342	P	P	01 26 47.6	+1.6
	comp=E,1.2nm,0.5s,baz=174,slow=8.3,SNR=7.1						
KIRV	Kirov	26.04	335	P	P	01 27 28.1	+0.4
	comp=E,3.6nm,0.4s,baz=119,slow=7.5,SNR=4.6						
AKASG	Malin Array Be	32.59	309	P	P	01 28 25.6	0.0
	comp=E,0.3nm,0.3s,baz=87,slow=7.5,SNR=4.7						
NRIK	Noril'sk	34.20	11	P	P	01 28 41.4	+2.1
	comp=E,2.3nm,0.5s,baz=200,slow=4.3,SNR=6.5						
FINES	FINESS Array B	37.23	326	P	P	01 29 06.1	+1.1
	comp=E,1.2nm,0.6s,baz=119,slow=9.8,SNR=12						
ARCES	ARCESS Array B	40.97	338	P	P	01 29 37.4	+1.4
	comp=E,1.3nm,0.4s,baz=109,slow=7.8,SNR=24						
NB2	NORSAR Subarra	44.10	323	P	P	01 30 01.9	+0.5
	comp=Z,0.3nm,0.4s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.10	323	P	P	01 30 01.8	+0.5
	comp=Z,0.4nm,0.5s,baz=97,slow=7.8,SNR=3.6						
TORD	Torodi Ar. Bea	65.26	268	P	P	01 32 32.8	-1.0
	comp=Z,0.3nm,0.5s,baz=48,slow=6.5,SNR=8.4						
YKA	Yellowknife Ar	81.26	2	P	P	01 34 07.3	+0.9
	comp=Z,0.2nm,0.6s,baz=350,slow=5.1,SNR=4.8						
YKA				pP	pP	01 34 58.9	+2.5
	comp=Z,0.3nm,0.5s,baz=352,slow=5.4,SNR=6.3						
WRA	Warramunga Arr	82.38	122	P	P	01 34 11.9	-1.0
	comp=Z,0.7nm,0.7s,baz=320,slow=4.9,SNR=11						
ASAR	Alice Springs	84.63	125	P	P	01 34 23.4	-1.0
	comp=Z,0.6nm,0.6s,baz=312,slow=6.0,SNR=7.4						

IDC 09 01:59:21.8±1.9**, 2°.80S×141°.66E, h0**km**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.3**/24**, mbtmp3.2**/3**, ML3.3**/1**, Error ellipse: s-maj=363.3km s-min=31.7km az=112.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.48	202	P	Pn	02 03 39.9	+0.4
	0.1nm,0.3s,baz=23,slow=12,SNR=11						
ASAR	Alice Springs	22.06	199	P	P	02 04 18.0	-0.4
	0.3nm,0.5s,baz=29,slow=10.0,SNR=1.9						
ILAR	Eielson Array	84.70	24	P	P	02 11 57.4	0.0
	0.3nm,0.5s,baz=268,slow=5.2,SNR=4.3						

*MDD **09** 02:09:32.2±0.4, 37°.15N×4°.38W, h11km±1km, mb_Lg2.2/9, Error ellipse: s-maj=3.4km s-min=2.8km az=176.0*
*SFS **09** 02:09:38.0, 37°.10N×4°.30W, h19km, ML2.2, ARCHIDONA (MALAGA)*
INMG 09 02:09:32.5±2.0**, 37°.09N×4°.35W, h22**km±4km**, ML2.0, Error ellipse: s-maj=4.9km s-min=4.4km az=96.0, Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGOR	Sierra Gorda,	0.20	84	Pg	Pb	02 09 37.0	-1.4
EGOR				Sg	Sb	02 09 42.0	-0.5
EGOR				i Vmb_Lg		02 09 43.0	
EMAL	Malaga-Limoner	0.33	191	P	Pb	02 09 38.4	-1.3
EMAL				S	Sb	02 09 43.6	-1.1
ELGU	Los Guajares,	0.62	111	Pg	Pb	02 09 44.2	-0.6
ELGU				Sg	Sb	02 09 54.2	+1.1
ELGU				i Vmb_Lg		02 09 58.3	
EMIJ	Mijas	0.62	213	Pg	Pb	02 09 42.7	-2.1
EMIJ				Sg	Sb	02 09 53.0	-0.2
EMIJ				i Vmb_Lg		02 09 55.2	
LIJA	Lijar	0.86	258	P	Pn	02 09 50.5	+1.1
LIJA				S	Sb	02 09 59.4	-0.6
EADA	Adamuz	1.09	351	Pg	Pn	02 09 51.6	-0.9
EADA				Sg	Sb	02 10 06.2	-0.3
EADA				i Vmb_Lg		02 10 08.5	
EJIF	Jimena Fronter	1.10	235	Pg	Pb	02 09 53.4	+0.6
EJIF				Sg	Sn	02 10 09.5	+2.4
ESPR	Espera	1.23	260	Pg	Pb	02 09 55.6	+0.7
ESPR				Sg	Sb	02 10 12.5	+2.2
ESPR				i Vmb_Lg		02 10 17.4	
ECAB	El Cabril	1.30	320	Pg	Pn	02 09 54.0	-1.3
ECAB				Sg	Sn	02 10 11.0	-1.1
ECAB				i Vmb_Lg		02 10 12.4	
EMIN	Mina Concepcio	1.97	291	Pn	Pn	02 10 02.7	-1.8
EMIN				Sn	Sn	02 10 26.6	-2.0
EMIN				i Vmb_Lg		02 10 34.7	
PBAR	Barrancos	2.39	298	ePn	Pn	02 10 08.9	-1.5
PBAR	Barrancos	2.39	298	ePg	Pb	02 10 15.4	+0.6
PBAR				eSn	Sn	02 10 37.2	-1.8
PBAR				eSg	Sb	02 10 46.7	+2.8
PBAR				A	A	02 10 49.5	
	3.3nm,0.3s						
EBAD	Badajoz	2.68	309	Pn	Pn	02 10 13.0	-1.3
EBAD				Sn	Sn	02 10 44.7	-1.5
EBAD				Sg	Sb	02 10 54.7	+2.5
EBAD				i Vmb_Lg		02 10 57.7	
PVAQ	Vaqueiros	2.70	278	ePn	Pn	02 10 13.1	-1.6
PVAQ				eSn	Sn	02 10 44.4	-2.3
PVAQ				A	A	02 10 45.2	
	3.9nm,0.1s						
PVAQ				eSg	Sb	02 10 53.9	+1.0
PBDV	Barranco-do-Ve	2.86	274	ePn	Pn	02 10 16.8	-0.1
PBDV				eSn	Sn	02 10 48.8	-1.9
PBDV				A	A	02 10 57.7	
	4.5nm,0.9s						
PBDV				eSg	Sb	02 10 58.2	+0.7
PESTR	Estremoz	3.11	306	ePg	Pb	02 10 26.8	-0.3
PESTR				eSg	Sb	02 11 07.5	+2.8
PESTR				A	A	02 11 19.7	
	3.7nm,0.5s						
EVO	Evora	3.24	297	ePn	Pn	02 10 17.7	-4.3
EVO	Evora	3.24	297	ePg	Pb	02 10 30.7	+1.5
EVO				eSn	Sn	02 10 57.5	-2.4
EVO				eSg	Sb	02 11 13.2	+5.0
EVO				A	A	02 11 17.6	
	2.8nm,0.1s						
PMRV	Marv??o	3.34	315	ePn	Pn	02 10 22.7	-0.8
PMRV	Marv??o	3.34	315	ePg	Pb	02 10 31.8	+0.8
PMRV				eSn	Sn	02 10 59.1	-3.4
PMRV				eSg	Sb	02 11 15.0	+3.7
PMRV				A	A	02 11 18.4	
	2.1nm,0.9s						
MORF	Marmelete	3.44	275	eSn	Sn	02 11 03.2	-1.7
MORF				A	A	02 11 18.8	
	3.8nm,0.5s						
PNCL	Nicolau / Gran	3.47	288	ePn	Pn	02 10 23.7	-1.5
PNCL	Nicolau / Gran	3.47	288	ePg	Pb	02 10 34.6	+1.4
PNCL				eSn	Sn	02 11 03.1	-2.5
PNCL				eSg	Sb	02 11 20.1	+5.2
PNCL				A	A	02 11 28.0	
	3.0nm,0.7s						
PTEO	Sao Teotonio	3.52	279	eSn	Sn	02 11 04.7	-2.0
PFVI	Vila Bisbo	3.58	272	eSn	Sn	02 11 05.7	-2.6
PMTG	Montargil	3.64	304	ePn	Pn	02 10 27.4	-0.1
PMTG	Montargil	3.64	304	ePg	Pb	02 10 38.5	+2.4
PMTG				eSn	Sn	02 11 07.3	-2.5
PMTG				eSg	Sb	02 11 24.8	+5.0
PMTG				A	A	02 11 27.4	
	2.4nm,0.6s						
PSBE	So Bento	4.25	306	ePn	Pn	02 10 35.7	-0.3
PSBE				eSn	Sn	02 11 22.6	-2.3

CNRM 09 02:09:37.0, 35°.48N×3°.72W, h0km**, ml1.3, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.32	214	P	Pg	02 09 44.1	+1.0
PALE				S	Sg	02 09 47.7	+0.5
JBK	JBK	1.48	140	P	Pb	02 10 08.0	+2.5
JBK				S	Sg	02 10 23.0	-1.6

*CNRM **09** 02:18:45.1, 35°.53N×3°.91W, h5km, ml3.2*
*MDD **09** 02:18:46.4±0.4, 35°.41N×3°.88W, h0km, mb_Lg2.8/13, Error ellipse: s-maj=3.5km s-min=2.4km az=171.0*
*SFS **09** 02:18:46.0, 35°.40N×3°.87W, ML2.6, ALBORAN SUR*
ISC 09 02:18:45.2±1.1**, 35°.50N**±0°.02×**3°.92W**±0°.02**, h3**km±10km**, n33,** σ1.63s/57**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.29	183	P	Pg	02 18 50.5	-0.2
PALE				S	Sg	02 18 55.5	+1.0
GOG	Mont Gurugu	0.81	110	P	Pb	02 19 01.4	-0.6
GOG				S	Sg	02 19 11.7	+0.5
EMEL	Melilla	0.82	104	Pg	Pg	02 18 59.4	-1.4
EMEL				Sg	Sg	02 19 10.9	-0.5
EMEL				i Vmb_Lg		02 19 14.2	
EALB	Alboran	0.84	59	Pg	Pb	02 19 01.9	-0.5
EALB				Sg	Sb	02 19 13.8	-0.4
EALB				i Vmb_Lg		02 19 15.8	
SMIR	Smir Dam	1.20	279	P	Pg	02 19 07.1	-1.1
CHEFC	Chefchaouen	1.22	252	P	Pn	02 19 10.0	+0.8
CEU	Ceuta	1.24	289	P	Pg	02 19 06.8	-2.3
CEU				S	Sg	02 19 21.2	-4.0
EMIJ	Mijas	1.26	327	Pn	Pn	02 19 10.4	+0.6
EMIJ				Sn	Sn	02 19 27.7	+0.5
EMIJ				i Vmb_Lg		02 19 31.7	
EMAL	Malaga-Limoner	1.32	342	P	Pg	02 19 11.2	+0.7
EMAL				S	Sn	02 19 28.2	-0.4
ELGU	Los Guajares,	1.38	10	Pn	Pg	02 19 11.8	+0.1
ELGU				Sn	Sn	02 19 31.1	+0.8
ELGU				i Vmb_Lg		02 19 35.1	
TAF	Taforalt	1.42	119	P	Pb	02 19 12.0	-0.3
EJIF	Jimena Fronter	1.57	307	Pn	Pg	02 19 15.3	0.0
EJIF				Pg	Pb	02 19 16.3	+1.5
EJIF				Sn	Sg	02 19 38.0	+2.3
EGOR	Sierra Gorda,	1.61	355	Pn	Pb	02 19 15.0	-0.7
EGOR				Sn	Sg	02 19 38.0	+1.1
EGOR				i Vmb_Lg		02 19 52.5	
JBK	JBK	1.61	136	P	Pn	02 19 13.6	-1.1
SICH	Sidi Chahed	1.81	220	P	Pg	02 19 22.2	+2.4
LCRM	LCR	1.97	203	P	Pg	02 19 25.0	+2.0
ESPR	Espera	2.07	312	Pn	Pg	02 19 23.9	-1.0
ESPR				Sn	Sb	02 19 49.9	+0.3
ESPR				i Vmb_Lg		02 20 04.3	
IFR	Ifrane	2.22	207	P	Pn	02 19 22.8	-0.2
IFR				S	Sn	02 19 48.8	-2.2
CZD	Col de Zad	2.63	201	P	Pn	02 19 29.6	+0.7
EADA	Adamuz	2.71	349	Pn	Pb	02 19 32.2	-2.1
EADA				Sn	Sn	02 20 04.0	+1.1
EADA				i Vmb_Lg		02 20 21.8	
MD31	MD31	2.72	195	P	Pn	02 19 31.1	+1.3
MDT	Midelt	2.74	192	P	Pn	02 19 31.4	+1.2
ECAB	El Cabril	2.83	335	Pn	Pb	02 19 34.4	-2.0
ECAB				Sn	Sb	02 20 09.1	-2.4
ECAB				i Vmb_Lg		02 20 25.3	
EZAR	Zarzadilla de	2.97	36	Pn	Pn	02 19 34.3	+1.0
EZAR				Sn	Sn	02 20 09.1	-0.3
EMIN	Mina Concepcio	3.16	316	Pn	Pn	02 19 36.9	+1.1
EMIN				Sn	Sn	02 20 14.8	+0.8
EMIN				i Vmb_Lg		02 20 22.6	
EGRO	El Granado	3.51	306	Pn	Pn	02 19 41.5	+0.9
EGRO				Sn	Sn	02 20 21.4	-1.2
EGRO				i Vmb_Lg		02 20 29.7	
ETOB	Tobarra	3.67	31	Pn	Pn	02 19 45.1	+2.2
ETOB				Sn	Sn	02 20 28.0	+1.4
PAB	San Pablo	4.05	355	Pn	Pn	02 19 50.1	+2.0
PAB				Sn	Sn	02 20 38.7	+2.6
EBAD	Badajoz	4.08	324	Pn	Pn	02 19 50.5	+2.1
EBAD				Sn	Sn	02 20 36.4	-0.3
EBAD				i Vmb_Lg		02 20 41.7	
ESDC	Sonseca Array	4.16	360	Pn	Pn	02 19 50.7	+1.1
ESDC				Sn	Sn	02 20 38.8	0.0
EVO	Evora	4.45	314	P	Pn	02 19 56.3	+2.7
EVO				S	Sn	02 20 44.3	-1.6
UCM	Universidad Co	4.83	6	P	Pn	02 20 01.8	+3.1
UCM				S	Sn	02 20 50.9	-4.2
OUZM	OUZ	5.16	208	P	Pn	02 20 04.4	+0.9

*CNRM **09** 02:56:22.2, 35°.49N×3°.84W, h24km, ml2.5*
*MDD **09** 02:56:25.0±0.9, 35°.46N×3°.74W, h23km±8km, mb_Lg2.1/5, Error ellipse: s-maj=7.2km s-min=4.5km az=120.0*
*SFS **09** 02:56:24.0, 35°.40N×3°.70W, h23km, ML2.1, ALBORAN SUR*
ISC 09 02:56:22.9±1.1**, 35°.45N**±0°.03×**3°.78W**±0°.03**, h21**km±3km**, n18,** σ1.08s/32**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.26	210	P	Pb	02 56 28.9	-0.2
PALE				S	Sb	02 56 33.3	-0.1
EMEL	Melilla	0.69	102	Pg	Pb	02 56 36.3	+0.1
EMEL				Sg	Sn	02 56 47.0	-0.4
EALB	Alboran	0.78	51	Pg	Pb	02 56 37.3	-0.4
EALB				Sg	Sb	02 56 48.2	+0.3
EALB				i Vmb_Lg		02 56 50.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TAF	Taforalt	1.28	119	P	Pn	02 56 45.2	-0.5
CHEFC	Chefchaouen	1.32	256	P	Pb	02 56 46.9	-0.1
SMIR	Smir Dam	1.33	281	P	Pn	02 56 45.4	-0.8
SMIR				S	Sn	02 57 00.7	-2.6
EMIJ	Mijas	1.38	324	Pn	Pb	02 56 47.9	0.0
EMIJ				Sn	Sb	02 57 04.8	-0.3
EMIJ				*i* Vmb_Lg		02 57 14.7	
EMAL	Malaga-Limoner	1.42	338	P	Pb	02 56 49.4	+0.9
EMAL				S	Sn	02 57 04.3	-1.2
ELGU	Los Guajares,	1.43	5	Pg	Pb	02 56 49.1	+0.3
ELGU				Sg	Sn	02 57 05.4	-0.4
ELGU				*i* Vmb_Lg		02 57 09.6	
JBK	JBK	1.49	138	P	Pb	02 56 49.4	-0.5
JBK				S	Sn	02 57 06.8	-0.8
LCRM	LCR	1.97	207	P	Pn	02 56 56.4	+1.2
LCRM				S	Sb	02 57 21.8	-0.4
ENIJ	Nijar	1.98	39	Pn	Pn	02 56 55.7	+0.5
ENIJ				Sn	Sn	02 57 18.3	-1.3
ENIJ				*i* Vmb_Lg		02 57 19.2	
IFR	Ifrane	2.22	210	P	Pn	02 56 59.6	+0.9
IFR				S	Sn	02 57 25.9	+0.2
CZD	Col de Zad	2.62	204	P	Pn	02 57 05.1	+0.8
CZD				S	Sn	02 57 37.1	+1.4
MD31	MD31	2.70	198	P	Pn	02 57 06.4	+1.2
MD31				S	Sn	02 57 38.8	+1.6
MDT	Midelt	2.71	195	P	Pn	02 57 05.5	+0.2
ECAB	El Cabril	2.94	334	Pn	Pn	02 57 10.0	+1.7
ECAB				Sn	Sn	02 57 42.7	-0.3
OUZM	OUZ	5.17	210	P	Pn	02 57 36.4	-2.7

IDC 09 03:00:38.7±2.3, 1°.91S×133°.40E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.6/36, mbtmp3.6/5, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/38, Error ellipse: s-maj=55.3km s-min=21.8km az=62.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.37	296	Pn	Pn	03 01 19.9	+1.0
	10.0nm,0.3s,baz=180,slow=20,SNR=46						
SIJI				Sn	Sn	03 01 48.6	0.0
	26nm,0.3s,baz=150,slow=8.5,SNR=12						
FITZ	Fitzroy Crossi	17.80	205	P	Pn	03 04 46.8	-1.2
	0.2nm,0.3s,baz=29,slow=14,SNR=7.5						
FITZ				S	Sn	03 07 54.9	-12
	0.1nm,0.3s,baz=245,slow=15,SNR=1.4						
WRA	Warramunga Arr	17.95	177	P	Pn	03 04 49.2	-0.6
	0.2nm,0.3s,baz=355,slow=12,SNR=15						
ASAR	Alice Springs	21.63	179	P	P	03 05 31.6	+0.9
	0.9nm,0.5s,baz=2.9,slow=12,SNR=16						
JOW	Kunigami	29.00	351	LR	LR	03 17 50.5	
	comp=Z,48nm,19.4s,baz=268,slow=36						
MKAR	Makanchi Array	65.98	324	P	P	03 11 26.6	-0.3
	0.3nm,0.6s,baz=110,slow=6.4,SNR=4.2						

ARE 09 03:04:40±4.4, 16°.80S±0°.04×70°.55W±0°.09, h14km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=180.0

NEIC 09 03:04:42.1±1.1, 16°.58S±0°.09×71°.1W±0°.1, h48km±7km, mb3.7/2, ML4.0(ARE), Error ellipse: s-maj=20.7km s-min=11.8km az=110.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.89	85	Pn	Pn	03 05 26.3	+0.1
LPAZ				Sn	Sn	03 05 58.6	-1.4
PB11	IPOC Station P	3.46	156	Pn	Pn	03 05 33.1	-0.5
PB11				Sn	Sn	03 06 13.7	+0.3
GO01	Chusmiza	3.58	149	Pn	Pn	03 05 35.1	-0.4
GO01				Sn	Sn	03 06 16.6	-0.2
TA02	Huaiquique	3.79	166	Pn	Pn	03 05 37.7	-0.3
PB08	IPOC Station P	4.01	152	Pn	Pn	03 05 41.7	+0.4
PATCX	Punta Patache	4.32	168	Pn	Pn	03 05 44.4	-1.0
PB01	IPOC Station P	4.70	161	Pn	Pn	03 05 51.3	+0.7
PB02	IPOC Station P	4.86	166	Pn	Pn	03 05 53.1	+0.4
PB07	IPOC Station P	5.25	167	Pn	Pn	03 05 56.9	-1.3
PB04	IPOC Station P	5.80	171	Pn	Pn	03 06 05.5	-0.3
PB06	IPOC Station P	6.27	167	Pn	Pn	03 06 12.0	-0.1
SDCO	Great Sand Dun	62.97	330	P	P	03 15 03.8	-0.5
SDCO				IAmb	IAmb	03 15 14.0	
	comp=Z,1.0nm,1.3s						
CCUT	Cedar City	66.91	324	P	P	03 15 29.0	-0.8
CCUT				IAmb	IAmb	03 15 37.1	
	comp=Z,0.8nm,1.1s						

FUNV 09 03:12:57.4, 9°.21N×70°.63W, h10km, MW3.5

ISC 09 03:12:55.0±1.5, 9°.23N±0°.03×70°.57W±0°.03, h3km±12km, n19, σ1s.43/37, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.35	190	*i* P	Pb	03 13 04.5	+0.4
SDV				*e*S	Sb	03 13 10.0	-0.1
CURV	Curarigua	0.98	38	*e*S	Sn	03 13 30.7	+0.5
SOCV	Socops	0.98	197	*e*P	Pg	03 13 14.6	+0.6
SOCV				*e*S	Sg	03 13 27.4	+0.7
SANV	Sanarito	1.05	75	*e*P	Pn	03 13 18.1	+1.2
SANV				*e*S	Sn	03 13 32.9	+0.7
SIQV	Siquisique	1.59	28	*e*P	Pb	03 13 25.8	+0.6
SIQV				*e*S	Sn	03 13 46.0	+0.6
DABV	Dabajuro	1.68	358	*e*P	Pn	03 13 26.1	+0.8
DABV				*e*S	Sb	03 13 48.4	+0.3
MCQV	Machiques	2.10	293	*e*P	Pn	03 13 31.8	+0.7
MCQV				*e*S	Sn	03 13 57.1	-0.7
MAPV	Macapo	2.17	74	*e*P	Pn	03 13 33.8	+1.7
MAPV				*e*S	Sn	03 14 00.5	+1.0
CAPV	Capacho	2.20	232	*e*P	Pn	03 13 32.7	+0.1
CAPV				*e*S	Sn	03 13 59.0	-1.4
ELOV	Elorza	2.47	154	*e*P	Pn	03 13 37.1	+1.0
ELOV				*e*S	Sn	03 14 06.0	-0.9
PAMC	Pamplona, Colo	2.83	228	*e*P	Pn	03 13 42.9	+1.3
PAMC				*e*S	Sn	03 14 16.2	-0.2
OCAC	Ocana	2.89	250	*e*P	Pg	03 13 48.8	-1.7
OCAC				*e*S	Sb	03 14 22.4	-0.9
OCAC				*i*		03 14 26.9	
	comp=Z,100nm,0.3s						
TURV	Turiamo	2.95	66	*e*P	Pn	03 13 43.7	+0.8
TURV				*e*S	Sn	03 14 19.5	+0.8
BENV	Beln	3.02	76	*e*P	Pn	03 13 45.1	+1.3
BENV				*e*S	Sn	03 14 19.8	-0.8
TAMC	Tame, Arauca	3.03	204	*e*P	Pn	03 13 46.9	+2.9
TAMC				*e*S	Sn	03 14 23.6	+2.8
RUSC	La Rusia	4.15	217	*e*P	Pn	03 14 01.8	+2.1
RUSC				*e*S	Sn	03 14 46.4	-2.7
MERV	Las Mercedes	4.22	89	*e*P	Pn	03 14 01.1	+0.8
MERV				*e*S	Sn	03 14 48.4	-1.7
CACV	CAICARA DEL OR	4.32	112	*e*P	Pb	03 14 09.6	-2.1
CACV				*e*S	Sb	03 15 02.4	-1.8
BIRV	Birongo	4.42	73	*e*P	Pn	03 14 04.1	+1.1
BIRV				*e*S	Sn	03 14 52.6	-2.3

UPA 09 03:21:13.5±4.2, 11°.57N×86°.51W, h0km±424km, MW4.5
UCR 09 03:21:30.3±1.5, 9°.69N×85°.85W, h10km±8km, MW4.6, mb4.2(NEIC)
NEIC 09 03:21:32.4±2.2, 9°.71N±0°.04×85°.77W±0°.05, h35km±12km, mb4.2/11, Error ellipse: s-maj=8.3km s-min=4.5km az=54.0
IDC 09 03:21:33.8±1.2, 11°.18N×84°.76W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/30, mbtmp3.8/8, ML3.3/1, MS3.6/17, Ms1 3.5/17, ms1mx3.3/69, Error ellipse: s-maj=40.7km s-min=9.3km az=95.0

ISC 09 03:21:30.9±1.3, 9°.79N±0°.04×85°.75W±0°.05, h19km±4km, n99, σ1s.25/94, mb4.0/14, MS3.6/15, 11C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	Punta indio, G	0.25	72	*e*P	Pn	03 21 38.8	-0.9
INDI				*e*S	Sn	03 21 45.0	0.0
SAJU	San Juanillo,	0.28	7	*e*P	Pn	03 21 39.1	-0.9
SAJU				*e*S	Sn	03 21 45.4	-0.3
DUNO	Dulce Nombre,	0.38	41	Pn	Pn	03 21 40.9	-0.5
DUNO				Sn	Sn	03 21 48.4	+0.1
DUNO	Dulce Nombre,	0.38	41	*e*P	Pn	03 21 41.0	-0.5
NICO	Nicoya	0.45	41	*e*P	Pb	03 21 41.5	+1.2
NICO				*e*S	Sn	03 21 51.6	+1.6
GUAI	GUAI	0.53	26	⇑*i*P	Pn	03 21 43.3	-0.2
GUAI				*i* S	Sn	03 21 52.9	+1.0
ORTG	Ortega, Santa	0.64	26	Pn	Pn	03 21 44.8	-0.2
ORTG				Sn	Sn	03 21 54.6	-0.1
CAO2	Cobano, Puntar	0.64	99	Pn	Pn	03 21 44.4	-0.6
CAO2				Sn	Sg	03 21 53.0	+0.9
PLVR	Palo Verde	0.68	35	*e*P	Pn	03 21 45.4	-0.2
LAFE	Finca La Fe, P	0.82	89	*e*P	Pb	03 21 46.8	+0.2
LAFE				*e*S	Sn	03 21 59.4	+0.2
JTS	Las Juntas de	0.93	57	Pg	Pg	03 21 49.5	+0.5
	178nm,0.3s,baz=190,slow=15,SNR=309						
JTS				Lg	Lg	03 22 05.9	
	162nm,0.3s,baz=273,slow=19,SNR=5.2						
JTS				LR	LR	03 22 17.3	
	comp=Z,2μm,19.3s,baz=204,slow=48						
JTS	Las Juntas de	0.93	57	Pn	Pg	03 21 49.2	+0.3
JTS				Sn	Sn	03 22 04.1	+2.3
JTS	Las Juntas de	0.93	57	*e*P	Pn	03 21 49.0	+0.1
JTS	Las Juntas de	0.93	57	*e*P	Pg	03 21 49.3	+0.3
JTS				*e*S	Sn	03 22 11.8	+10
HZTE	Horizontes, Gu	0.93	9		Pg	03 21 49.7	+0.7
HZTE				Sn	Sn	03 22 04.0	+2.2
HZTE	Horizontes, Gu	0.93	9	*e*P	Pg	03 21 49.7	+0.7
LAPC	Finca la Perla	1.02	18	⇑*i*P	Pg	03 21 50.8	+0.1
COLC	Colonia	1.02	31	⇑*i*P	Pg	03 21 50.9	+0.2
LIM1	Limonal	1.03	28	⇑*i*P	Pg	03 21 51.1	+0.3
GBS3	Finca Las Img	1.03	16	⇑*i*P	Pg	03 21 50.9	0.0
GPS2	Hotel Rincn d	1.03	22	⇑*i*P	Pg	03 21 51.1	+0.2
CUI	Cuipilapa	1.04	34	*e*P	Pg	03 21 51.1	+0.1
GUAB	Guayabo de Bag	1.04	29	*e*P	Pg	03 21 51.3	+0.1
BUEV	Buena Vista	1.06	18	⇑*i*P	Pg	03 21 51.6	+0.1
HORNC	Hornillas	1.07	31	⇑*i*P	Pg	03 21 51.8	0.0
JACO	JACO, Garabito	1.08	97	Pn	Pb	03 21 50.9	0.0
JACO	JACO, Garabito	1.08	97	*e*P	Pb	03 21 51.2	+0.3
GB1A	Borinquen Arri	1.08	18	⇑*i*P	Pg	03 21 52.0	+0.1
ACAL	Aguas Claras	1.09	40	*i* P	Pg	03 21 52.3	+0.2
BUAI	Buenos Aires	1.16	21	*i* P	Pb	03 21 53.1	+0.8
CASO	Castillo	1.18	57	*i* P	Pg	03 21 53.9	0.0
PTEN	Parque Tenorio	1.19	39	⇑*i*P	Pb	03 21 53.6	+0.8
VMAR	Armenia, Volca	1.19	31	*e*P	Pb	03 21 53.7	+0.8
ARE1	Arenal 1	1.21	56	*e*P	Pg	03 21 54.2	-0.1
CEDE	Laguna Cedeo	1.24	56	*e*P	Pg	03 21 54.8	-0.1
SRA1	San Ramn	1.28	77	*e*P	Pg	03 21 55.4	-0.3
COVE	Coope Vega, Sa	1.61	55	Pn	Pb	03 21 59.4	-0.7
COVE	Coope Vega, Sa	1.61	55	*e*P	Pb	03 21 59.9	-0.2
HDC	Heredia	1.62	82	Pn	Pb	03 22 00.1	-0.2
HDC	Heredia	1.62	82	*e*P	Pb	03 22 00.2	-0.2
HDC	Heredia	1.62	82	⇑*i*P	Pb	03 21 59.8	-0.5
HDC3	Heredia 3	1.62	82	*e*P	Pb	03 22 00.2	-0.1
LCR2	La Lucha 2	1.72	91	*e*P	Pn	03 22 00.9	+0.9
OCM	Ochomogo	1.76	86	*e*P	Pn	03 22 01.1	+0.5
RIMA	Rio Macho	1.85	91	Pn	Pn	03 22 02.1	+0.2
PEZE	Perez Zeledon,	2.08	101		Pn	03 22 05.2	+0.3
ACON	Acoyapa	2.24	14	Pn	Pn	03 22 08.3	+1.3
ACON	Acoyapa	2.24	14	*e*P	Pn	03 22 07.9	+0.9
BATAN	Batan	2.35	82	Pn	Pn	03 22 07.4	-1.1
RIOS	Rincon, Osa	2.45	116	Pn	Pn	03 22 09.9	-0.1
DRK0	Durika	2.52	102	*e*P	Pn	03 22 11.8	+0.8
BOAB	BOACO BROADBAN	2.65	2		Pn	03 22 13.4	+0.9
ESPN	Las Esperanzas	2.78	31	Pn	Pn	03 22 15.7	+1.3
ESPN	Las Esperanzas	2.78	31	*e*P	Pn	03 22 15.8	+1.3
CNGN	Cerro Negro	2.85	341	Pn	Pn	03 22 16.6	+1.1
CDITO	Canoas	3.08	113	Pn	Pn	03 22 19.9	+1.3
MATN	Matagalpa	3.13	357	Pn	Pn	03 22 20.9	+1.6
CRIN	San Cristobal	3.16	336	Pn	Pn	03 22 21.5	+1.7
BRU2	Volcan	3.17	108	*e*P	Pg	03 22 33.7	+1.9
BRU2				*e*S	Sg	03 23 22.6	+10
CNI2	El Empalme, Bo	3.25	96	*e*P	Pn	03 22 20.9	0.0
TGUH	Tegucigalpa,Un	4.50	341	Pn	Pn	03 22 37.1	-1.1
BCIP	Isla Barro Col	5.86	96	Pn	Pn	03 22 58.1	+1.3
CMIG	Matias Romero	11.47	310	Pn	Pn	03 24 19.7	+5.9
	0.2nm,0.3s,baz=39,slow=20,SNR=2.0						
ROSC	El Rosal	12.35	113	LR	LR	03 29 39.8	
	comp=Z,254nm,20.1s,baz=328,slow=40						
ATAH	Atahualpa	18.34	156	LR	LR	03 31 45.8	
	comp=Z,263nm,21.5s,baz=334,slow=32						
SJG	San Juan	20.72	64	LR	LR	03 32 26.7	
	comp=Z,76nm,21.6s,baz=250,slow=34						
GOGA	Godfrey	23.60	5	P	P	03 26 41.4	+0.7
GOGA				IAmb	IAmb	03 26 43.3	
	comp=Z,5.6nm,0.8s						
Y49A	Blount Mountai	23.96	359	P	P	03 26 45.5	+1.4
Y49A				IAmb	IAmb	03 26 46.5	
	comp=Z,6.5nm,0.7s						
TXAR	Lajitas Array	25.68	322	P	P	03 27 01.6	+1.6
	comp=Z,1.7nm,0.6s,baz=143,slow=9.0,SNR=15						
TXAR				LR	LR	03 38 19.7	
	comp=Z,40nm,21.9s,baz=116,slow=40						
TXAR	Lajitas Array	25.68	322	P	P	03 26 59.5	-0.5
TX31	Lajitas Ar. Si	25.68	322	P	P	03 26 59.4	-0.7
TX32	Lajitas Array	25.68	322	P	P	03 26 58.1	-1.9
TKL	Tuckaleechee C	25.81	4	P	P	03 26 55.4	-5.6
	comp=Z,2.2nm,0.8s,baz=183,slow=18,SNR=3.6						
TKL				LR	LR	03 35 36.8	
	comp=Z,57nm,22.0s,baz=86,slow=35						
MNTX	Cornudas Mount	28.40	323	P	P	03 27 23.0	-1.4
MDP	Montagnes des	33.14	96	LR	LR	03 42 06.7	
	comp=Z,76nm,20.4s,baz=320,slow=38						
SADO	Sadowa	35.32	8	LR	LR	03 43 16.1	
	comp=Z,64nm,18.0s,baz=216,slow=38						
SIV	San Ignacio	35.40	136	LR	LR	03 43 23.5	
	comp=Z,112nm,18.8s,baz=293,slow=37						
LVC	Limon Verde	36.18	153	LR	LR	03 42 46.3	
	comp=Z,66nm,18.9s,baz=310,slow=34						
PFO	Pinyon Flats O	36.85	315	LR	LR	03 44 14.2	
	comp=Z,103nm,19.9s,baz=148,slow=37						
PSUT	Pine Spring	38.13	323	P	P	03 28 47.4	-1.8
PSUT				IAmb	IAmb	03 29 00.7	
	comp=Z,3.4nm,0.7s						
PDAR	Pinedale Array	38.89	332	P	P	03 28 54.3	-1.3
	comp=Z,0.4nm,0.7s,baz=111,slow=8.4,SNR=3.6						
HWUT	Hardware Ranch	39.00	329	P	P	03 28 54.5	-1.9
HWUT				IAmb	IAmb	03 28 59.5	
	comp=Z,3.1nm,0.9s						
ELK	Elko	40.39	325	P	P	03 29 07.0	-1.1
ELK				IAmb	IAmb	03 29 13.7	
	comp=Z,3.5nm,1.1s						
NVAR	Mina Array Bea	40.80	320	P	P	03 29 14.0	+2.6
	comp=Z,2.5nm,0.8s,baz=131,slow=6.8,SNR=19						
NVAR				PcP	PcP	03 31 15.4	+2.9
	comp=Z,0.2nm,0.5s,baz=168,slow=4.6,SNR=2.2						
NVAR	Mina Array Bea	40.80	320	P	P	03 29 07.6	-3.9
LHV	Little Huntoon	40.82	319	P	P	03 29 10.6	-0.8
LHV				IAmb	IAmb	03 29 26.9	
	comp=Z,10nm,1.4s						
KVN	Kaiserville	41.03	321	P	P	03 29 12.8	-0.6
KVN				IAmb	IAmb	03 29 25.0	
	comp=Z,5.7nm,1.3s						
RPN	Rapa Nui	43.25	211	LR	LR	03 42 52.3	
	comp=Z,76nm,19.7s,baz=36,slow=28						
YBH	Yreka Blue Hor	45.45	321	LR	LR	03 50 09.8	
	comp=Z,86nm,19.2s,baz=151,slow=38						
SCHQ	Schefferville	47.37	15	P	P	03 29 57.4	-6.3
	comp=Z,1.8nm,0.9s,baz=273,slow=19,SNR=1.6						
SCHQ				LR	LR	03 48 50.1	
	comp=Z,50nm,18.7s,baz=86,slow=36						
SCHQ	Schefferville	47.37	15	P	P	03 30 02.6	-1.0
YKA	Yellowknife Ar	56.61	344	P	P	03 31 11.0	-1.3
	comp=Z,0.4nm,0.5s,baz=137,slow=7.2,SNR=13						
SFJD	Kangerlussuaq	61.83	15	LR	LR	03 59 33.7	
	comp=Z,65nm,18.4s,baz=216,slow=38						
ILAR	Eielson Array	69.11	336	P	P	03 32 36.5	+0.9
	comp=Z,0.9nm,0.7s,baz=115,slow=5.0,SNR=12						
ILAR	Eielson Array	69.11	336	P	P	03 32 34.9	-0.7
HFS	Hagfors	86.25	30	LR	LR	04 11 19.0	
	comp=Z,56nm,18.9s,baz=283,slow=35						
DAVOX	Davos/Dischmat	86.77	43	LR	LR	04 09 30.6	
	comp=Z,75nm,21.1s,baz=288,slow=34						
MA2	Magadan	97.55	335	LR	LR	04 23 30.1	
	comp=Z,32nm,19.1s,baz=88,slow=38						
CMAR	Chiang Mai Arr	151.55	351	PKPbc	PKiKP	03 41 27.6	+2.3
	comp=Z,1.0nm,0.3s,baz=349,slow=3.5,SNR=7.2						

TUL 09 03:23:03.4±0.9, 36°.487N±0°.007×96°.98W±0°.02, h8km±7km, ML2.9, mb_Lg2.6/24(NEIC), Error ellipse: s-maj=2.1km s-min=1.0km az=92.0

NEIC 09 03:23:03.4±0.8, 36°.49N±0°.01×96°.99W±0°.02, h6km±7km, Error ellipse: s-maj=2.4km s-min=1.6km az=66.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.58	42	Pg	Pg	03 23 14.6	+0.1
T35A				Sg	Sg	03 23 22.4	+0.3
TUL1	Leonard	1.13	120		Pg	03 23 24.4	-0.6
OKCFA	Oklahoma City	1.13	199		Pg	03 23 24.5	-0.6
OKCSW	OKLAHOMA CITY	1.14	199		Pg	03 23 24.8	-0.5
FNO	Franklin	1.27	195		Pn	03 23 26.6	-1.1
W35A	Tecumseh	1.34	176	Pn	Pn	03 23 27.3	-1.3
U32A	Winter Ranch,	1.62	267		Pn	03 23 33.1	+0.5
X34A	Smith Ranch, M	2.00	200	Pn	Pn	03 23 37.2	-0.6
WMOK	Wichita Mounta	2.27	220		Pn	03 23 41.8	+0.2
X37A	Clayton	2.31	145	Pn	Pn	03 23 42.2	+0.2
HHAR	Hobbs	2.47	94		Pn	03 23 45.0	+0.7
KSU1	Kansas State U	2.63	7	Pn	Pn	03 23 46.0	-0.4
W39A	Magazine	2.91	115		Pn	03 23 49.7	-0.6
S39A	Bolivar	3.17	67	Pn	Pn	03 23 54.8	+0.9
CBKS	Cedar Bluff	3.18	318	Pn	Pn	03 23 53.9	-0.2
U40A	Yellville	3.34	91	Pn	Pn	03 23 55.1	-1.1
Z38A	Mt. Pleasant	3.62	152	IAmb_Lg		03 25 07.3	
	comp=Z,14nm,0.8s						
X40A	Basin Creek Fa	3.94	119	Pn	Pn	03 24 04.6	+0.2
X40A				IAmb_Lg		03 25 10.4	
	comp=Z,11nm,1.0s						
WHAR	Wooly Hollow	4.00	106	Pn	Pn	03 24 05.5	+0.2
W41B	Gary Mavity, V	4.07	107	Pn	Pn	03 24 05.1	-1.2
W41B				IAmb_Lg		03 25 12.7	
	comp=Z,9.0nm,0.9s						
R40A	Maddies Statio	4.17	63	IAmb_Lg		03 25 17.5	
	comp=Z,13nm,0.8s						
N35A	Tabor	4.49	13	IAmb_Lg		03 25 27.4	
	comp=Z,9.2nm,0.8s						
CCM	Cathedral Cave	4.84	69	IAmb_Lg		03 25 35.4	
	comp=Z,18nm,0.9s						
P40A	Paris	4.95	51	IAmb_Lg		03 25 37.7	
	comp=Z,13nm,0.8s						
BGNE	Belgrade	5.00	350	IAmb_Lg		03 25 50.6	
	comp=Z,15nm,0.8s						
KSCO	Kaye Shedlock'	5.13	301	Pn	Pn	03 24 19.7	-1.1
PBMO	Poplar Bluff	5.29	85	IAmb_Lg		03 25 56.0	
	comp=Z,8.9nm,0.8s						
X43A	Marvell	5.36	110		Pn	03 24 22.5	-1.4
FVM	French Village	5.45	72	IAmb_Lg		03 26 00.6	
	comp=Z,9.0nm,0.8s						
P43A	Skaggs, Pawnee	6.68	60	IAmb_Lg		03 26 38.1	
	comp=Z,14nm,0.8s						

IDC 09 03:42:59.7±1.7, 16°.51S×178°.39W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/28, mbtmp4.0/5, Error ellipse: s-maj=148.6km s-min=26.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.33	240	P	P	03 50 30.9	0.0
	1.8nm,0.5s,baz=82,slow=9.0,SNR=7.3						
WRA	Warramunga Arr	44.92	258	P	P	03 51 16.6	-0.1
	0.7nm,0.4s,baz=92,slow=8.1,SNR=16						
ASAR	Alice Springs	45.20	253	P	P	03 51 18.6	-0.3
	8.8nm,0.6s,baz=88,slow=8.3,SNR=125						
TXAR	Lajitas Array	85.24	58	P	P	03 55 39.3	+0.6
	0.4nm,0.8s,baz=224,slow=5.0,SNR=2.9						
PDAR	Pinedale Array	86.33	43	P	P	03 55 43.4	-0.6
	0.1nm,0.4s,baz=236,slow=4.2,SNR=1.6						

NNC 09 03:44:40.2±16.0, 38°.71N×70°.51E, h1km±71km, mb4.2, mpv3.8, 2C, Error ellipse: s-maj=113.2km s-min=66.7km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	4.34	353	Pg	Pb	03 45 57.3	0.0
	2.4nm,0.1s						
BRLS				Lg	Lg	03 46 51.2	
	9.7nm,0.2s						
KK02	Karatay Array	4.39	0	⇑Pn	Pn	03 45 48.4	+0.5
	8.5nm,0.6s,baz=183,slow=13						
KK02				Pg	Pb	03 45 58.3	+0.3
KK02				⇑Lg	Lg	03 46 58.5	
	3.1nm,0.4s,baz=181,slow=21						
MRKS	Merke	4.53	26	Pg	Pb	03 45 55.6	-4.9
	13nm,0.4s						
MRKS				Lg	Lg	03 46 48.2	
	7.4nm,0.3s						
AAK	Ala-Archa	4.96	36	Pn	Pn	03 45 51.3	-4.6
	7.2nm,0.5s						
SGDS	Sogindy	5.67	32	P	Pn	03 46 08.5	+2.9
	6.0nm,0.4s						
DGS	Degeres	6.03	40	P	Pn	03 46 12.0	+1.4
	3.9nm,0.7s						
KRBS	Karabastau	6.32	36	Pg	Pn	03 46 16.2	+1.7
	1.4nm,0.4s						
KRBS				Lg	Lg	03 47 23.8	
	0.8nm,0.2s						

NEIC 09 03:45:48.1±0.6, 36°.27N±0°.01×97°.52W±0°.02, h6km±7km, Error ellipse: s-maj=2.8km s-min=1.6km az=59.0
TUL 09 03:45:48.2±0.6, 36°.28N±0°.01×97°.51W±0°.02, h7km±7km, ML3.3, mb_Lg3.1/77(NEIC), Error ellipse: s-maj=2.7km s-min=1.6km az=60.0
ANF 09 03:45:49.7±1.4, 36°.32N×97°.47W, h17km±11km, ML3.6/6, Error ellipse: s-maj=8.4km s-min=3.1km az=172.0

ISC 09 03:45:47.9±0.9, 36°.28N±0°.03×97°.52W±0°.04, h10km, n65, σ0s.95/44, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.86	176		Pg	03 46 04.6	0.0
OKCSW	OKLAHOMA CITY	0.88	176		Pg	03 46 04.8	0.0
FNO	Franklin	1.02	175		Pg	03 46 07.5	-0.1
T35A	Sooner Cattle	1.03	52	Pg	Pg	03 46 07.6	-0.1
U32A	Winter Ranch,	1.20	275		Pb	03 46 10.5	-0.2
W35A	Tecumseh	1.24	155	Pn	Pn	03 46 10.9	-0.4
TUL1	Leonard	1.45	104		Pn	03 46 14.2	+0.1
TUL1	Leonard	1.45	104	P	Pn	03 46 14.2	+0.1
	baz=285						
TUL1				S	Sn	03 46 33.7	+0.6
	baz=285						
X34A	Smith Ranch, M	1.69	189	Pn	Pn	03 46 18.2	+0.6
X34A				IAmb_Lg		03 46 45.6	
	comp=Z,62nm,0.9s						
WMOK	Wichita Mounta	1.85	214	Pn	Pn	03 46 20.5	+0.8
WMOK	Wichita Mounta	1.85	214	P	Pn	03 46 21.0	+1.3
	baz=34						
WMOK				S	Sb	03 46 46.1	+1.0
	baz=34						
R32A	Long Quarter,	2.34	336	Pn	Pn	03 46 27.2	+0.7
X37A	Clayton	2.43	133	Pn	Pn	03 46 28.4	+0.8
X37A				IAmb_Lg		03 47 05.8	
	comp=Z,38nm,0.8s						
HHAR	Hobbs	2.89	89	Pn	Pn	03 46 34.6	+0.6
KSU1	Kansas State U	2.91	14	Pn	Pn	03 46 34.9	+0.7
KSU1	Kansas State U	2.91	14	P	Pg	03 46 42.5	-1.1
	baz=195						
CBKS	Cedar Bluff	3.08	326	Pn	Pn	03 46 37.4	+0.7
W39A	Magazine	3.22	109		Pn	03 46 38.8	+0.3
W39A				IAmb_Lg		03 47 36.8	
	comp=Z,46nm,0.7s						
S39A	Bolivar	3.64	66		Pn	03 46 44.6	+0.3
AMTX	Amarillo	3.67	249	Pn	Pn	03 46 46.4	+1.6
AMTX				IAmb_Lg		03 47 49.1	
	comp=Z,30nm,0.8s						
AMTX	Amarillo	3.67	249	P	Pn	03 46 46.8	+2.0
	baz=66						
AMTX				Sb	Sg	03 47 43.0	-2.7
	baz=66						
U40A	Yellville	3.77	87	Pn	Pn	03 46 46.7	+0.6
U40A				IAmb_Lg		03 47 48.5	
	comp=Z,37nm,0.9s						
ABTX	Abilene, Hawle	4.05	206	Pn	Pn	03 46 50.5	+0.6
ABTX				IAmb_Lg		03 47 58.6	
	comp=Z,38nm,1.0s						
X40A	Basin Creek Fa	4.22	114	Pn	Pn	03 46 51.3	-1.0
X40A				IAmb_Lg		03 48 03.6	
	comp=Z,39nm,0.9s						
X40A	Basin Creek Fa	4.22	114	P	Pn	03 46 54.3	+2.0
	baz=296						
WHTX	Lake Whitney,	4.28	179	Pn	Pn	03 46 53.4	+0.3
WHTX	Lake Whitney,	4.28	179	P	Pn	03 46 54.7	+1.6
	baz=359						
MGMO	Mountain Grove	4.31	77	Pn	Pn	03 46 54.1	+0.6
MGMO				IAmb_Lg		03 48 03.3	
	comp=Z,37nm,0.7s						
WHAR	Wooly Hollow	4.36	102	Pn	Pn	03 46 54.9	+0.7
WHAR				IAmb_Lg		03 48 10.1	
	comp=Z,24nm,0.8s						
W41B	Gary Mavity, V	4.43	103	Pn	Pn	03 46 55.6	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLAR	White Oak Lake	4.45	124	IAmb_Lg		03 48 17.8	
	comp=Z,31nm,0.7s						
P38A	Dawn	4.59	42	Pn	Pn	03 46 58.2	+0.9
P38A				IAmb_Lg		03 48 16.0	
	comp=Z,36nm,0.7s						
R40A	Maddies Statio	4.64	63	Pn	Pn	03 46 59.0	+0.9
N35A	Tabor	4.80	17	Pn	Pn	03 47 01.1	+0.8
MSTX	Muleshoe	4.88	243	Pn	Pn	03 47 02.2	+0.7
KSCO	Kaye Shedlock'	4.89	305	Pn	Pn	03 47 02.1	+0.6
KSCO				IAmb_Lg		03 48 36.7	
	comp=Z,28nm,0.8s						
Z41A	Richland Creek	4.91	126	IAmb_Lg		03 48 32.5	
	comp=Z,38nm,0.7s						
BGNE	Belgrade	5.14	355	Pn	Pn	03 47 05.5	+0.5
BGNE				IAmb_Lg		03 48 45.8	
	comp=Z,32nm,0.9s						
CCAR	Cane Creek	5.27	115	IAmb_Lg		03 48 45.3	
	comp=Z,32nm,0.9s						
CCM	Cathedral Cave	5.31	69	Pn	Pn	03 47 07.8	+0.5
CCM				IAmb_Lg		03 48 45.0	
	comp=Z,28nm,0.8s						
P40A	Paris	5.41	51	IAmb_Lg		03 48 45.6	
	comp=Z,34nm,0.8s						
T25A	Trinidad	5.60	281	Pn	Pn	03 47 12.1	+0.6
T25A				IAmb_Lg		03 48 54.0	
	comp=Z,18nm,1.0s						
T25A	Trinidad	5.60	281	P	Pn	03 47 12.7	+1.2
	baz=97						
HBAR	Harrisburg	5.61	95	IAmb_Lg		03 48 47.0	
	comp=Z,39nm,0.8s						
PBMO	Poplar Bluff	5.73	83	IAmb_Lg		03 48 53.8	
	comp=Z,30nm,0.8s						
L34A	Svendsen Farm,	5.75	9	IAmb_Lg		03 49 06.0	
	comp=Z,23nm,0.7s						
OGNE	Ogallala	5.85	324	IAmb_Lg		03 49 00.3	
	comp=Z,30nm,0.8s						
FVM	French Village	5.92	71	Pn	Pn	03 47 16.3	+0.8
FVM				IAmb_Lg		03 48 57.4	
	comp=Z,29nm,0.9s						
SLM	Saint Louis	6.25	66	IAmb_Lg		03 49 06.1	
	comp=Z,36nm,0.8s						
K31A	O'Neill	6.41	352	IAmb_Lg		03 49 17.1	
	comp=Z,34nm,0.7s						
SCIA	State Center	6.54	29	IAmb_Lg		03 49 19.2	
	comp=Z,25nm,0.8s						
S44A	Carbondale	6.76	76	IAmb_Lg		03 49 22.1	
	comp=Z,28nm,0.8s						
SIUC	Southern Illin	6.79	75	IAmb_Lg		03 49 28.6	
	comp=Z,25nm,0.8s						
W45A	Hickory Valley	6.87	97	IAmb_Lg		03 49 26.2	
	comp=Z,27nm,1.1s						
ECSD	EROS Data Cent	7.48	5		Pn	03 47 36.8	-0.2
L40A	Anamosa	7.56	38	IAmb_Lg		03 49 58.8	
	comp=Z,13nm,0.7s						
PHWY	Pilot Hill	7.97	311	IAmb_Lg		03 50 12.4	
	comp=Z,15nm,0.9s						
N23A	Red Feather La	8.05	307	IAmb_Lg		03 50 17.1	
	comp=Z,19nm,1.0s						
USIN	University of	8.05	75	IAmb_Lg		03 50 10.7	
	comp=Z,25nm,1.0s						
O44A	Mansfield	8.10	59	IAmb_Lg		03 50 12.1	
	comp=Z,24nm,0.7s						
SUSD	Miller	8.23	353	IAmb_Lg		03 50 24.6	
	comp=Z,11nm,0.8s						
L42A	Oliver, Polo	8.36	44	IAmb_Lg		03 50 17.6	
	comp=Z,24nm,0.9s						
JFWS	Jewell Farm	8.68	38	IAmb_Lg		03 50 23.8	
	comp=Z,19nm,0.7s						
I40A	Norwalk	9.26	33	IAmb_Lg		03 50 40.7	
	comp=Z,10nm,0.9s						
RWWY	Rawlins	9.28	309	IAmb_Lg		03 50 52.3	
	comp=Z,11nm,1.0s						

KRSC 09 04:08:06.8±1.9, 48°.31N×156°.59E, h17km±56km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	3.16	2	P	Pn	04 08 57.6	+1.9
PAU				S	Sn	04 09 36.2	+3.2
KDTR	Khodutka, Kamc	3.63	15	S	Sb	04 09 50.2	-3.9
MTVR	Mutnovka	4.30	13	P	Pn	04 09 15.2	+3.7
MTVR				S	Sn	04 10 06.8	+5.6
RUS	Russkaya	4.30	16	P	Pn	04 09 14.6	+3.2
RUS				S	Sn	04 10 06.1	+5.0
GRL	Gorelyy	4.35	12	eP	Pn	04 09 16.3	+4.2
UGLR	Uglovaya	5.10	15	eP	Pn	04 09 27.5	+5.0
AVH	Avacha	5.14	15	eP	Pn	04 09 28.5	+5.5
SDLR	Sedlovina	5.18	15	P	Pn	04 09 27.6	+4.1
KBTR	Krutoberegovo	8.78	23	P	Pn	04 10 18.3	+5.6

IDC 09 04:47:12.8±1.6, 25°.79N×97°.18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/46, mbtmp3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/64, Error ellipse: s-maj=74.7km s-min=21.6km az=67.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.48	167	Pg	Pb	04 49 27.7	+4.2
	0.9nm,0.3s,baz=342,slow=14,SNR=4.9						
CMAR				Lg	Lg	04 51 08.8	
	0.3nm,0.3s,baz=348,slow=30,SNR=1.5						
MKAR	Makanchi Array	24.07	334	P	P	04 52 29.3	-0.5
	0.6nm,0.4s,baz=140,slow=9.3,SNR=12						
ZALV	Zalesovo Beam	29.59	345	LR	LR	05 06 36.3	
	comp=Z,49nm,18.1s,baz=26,slow=39						
WRA	Warramunga Arr	58.05	138	P	P	04 57 08.1	+0.2
	0.5nm,0.8s,baz=322,slow=7.7,SNR=3.2						
ASAR	Alice Springs	60.67	141	P	P	04 57 26.6	+0.5
	0.6nm,1.0s,baz=331,slow=6.8,SNR=2.8						
IDI	Anoyia	61.76	298	LR	LR	05 26 21.1	
	comp=Z,53nm,18.9s,baz=271,slow=38						

IDC 09 04:55:11.8±4.7, 55°.58N×86°.15E, h0km, mb1 2.5/1, mb1mx2.5/38, mbtmp2.5/1, ML2.3/1, Error ellipse: s-maj=34.3km s-min=30.0km az=3.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.81	206	i		05 05 15.0	
	baz=24,slow=341,SNR=24						
ZALV	Zalesovo Beam	1.81	206	Pg	Pb	04 55 45.5	-0.3
	3.6nm,0.3s,baz=25,slow=18,SNR=47						
ZALV				Lg	Lg	04 56 09.1	
	2.4nm,0.3s,baz=26,slow=25,SNR=9.1						
MKAR	Makanchi Array	9.12	197	Pn	Pn	04 57 24.3	-0.4
	0.0nm,0.3s,baz=19,slow=13,SNR=1.6						

NEIC 09 05:00:06.4±0.4, 36°.275N±0°.005×97°.51W±0°.01, h5km±1km, mb_Lg1.7/3, Error ellipse: s-maj=2.7km s-min=1.9km az=99.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.86	177	Pg	Pg	05 00 22.2	-0.8
FNO	Franklin	1.02	175	Pg	Pg	05 00 24.9	-1.1
FNO				Sg	Sg	05 00 39.2	0.0
T35A	Sooner Cattle	1.02	51	Pg	Pg	05 00 25.3	-0.8
U32A	Winter Ranch,	1.21	275	Pg	Pg	05 00 28.1	-1.5
TUL1	Leonard	1.44	104		Pn	05 00 31.7	-1.4
TUL1				IAmb_Lg		05 00 51.6	
	comp=Z,4.8nm,1.2s						
X34A	Smith Ranch, M	1.69	189	Pn	Pn	05 00 36.5	-0.2
WMOK	Wichita Mounta	1.85	214	Pn	Pn	05 00 39.0	+0.1
X37A	Clayton	2.42	133	Pn	Pn	05 00 47.0	+0.2
WHAR	Wooly Hollow	4.36	102	Pn	Pn	05 01 13.0	-0.3

*IDC **09** 05:23:56.0±0.7, 6°.81N×72°.98W, h159km±7km, mb3.6/8, mb1 3.9/11, mb1mx3.6/31, mbtmp4.2/11, MS2.1/1, Ms1 2.1/1, ms1mx2.0/53, Error ellipse: s-maj=16.2km s-min=7.5km az=129.0*
*NEIC **09** 05:23:56.3±2.7, 6°.86N±0°.06×73°.07W±0°.06, h145km±8km, mb4.5/34, Error ellipse: s-maj=9.0km s-min=7.8km az=225.0*
*VAO **09** 05:23:56.5±0.7, 6°.64N×72°.95W, h134km, mb4.0*
*RSNC **09** 05:23:56.9±0.9, 6°.83N×73°.16W, h150km±3km, ML4.2, Mw4.3, Fault plane solution: NP1:φs119.00000°, δ80.00000°, λ-144.00000°.*
ISC 09 05:23:55.8±0.6, 6°.85N±0°.03×73°.12W±0°.03, h154km±5km, n124, σ1.52/159, mb4.4/21, 9C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	194	iP	Pn	05 24 17.2	+0.2
BARC				eS	Sn	05 24 32.4	-0.8
BARC				i		05 24 33.4	
	comp=Z,4μm,0.3s						
PAMC	Pamplona, Colo	0.64	40⇑	eP	Pn	05 24 20.1	+1.1
PAMC				eS	Sn	05 24 37.1	+0.5
PAMC				i		05 24 40.3	
	comp=Z,3μm,0.4s						
RUSC	La Rusia	0.95	178⇓	iP	Pn	05 24 21.1	-0.1
RUSC				eS	Sn	05 24 39.9	-0.5
RUSC				i		05 24 41.3	
	comp=Z,2μm,0.3s						
PTBC	PUERTO BERRIO,	1.37	257	eP	Pn	05 24 23.6	-0.7
PTBC				eS	Sn	05 24 44.6	-1.5
PTBC				i		05 24 50.0	
	comp=Z,2μm,0.2s						
TAMC	Tame, Arauca	1.38	107⇑	iP	Pn	05 24 25.6	+1.2
TAMC				i		05 24 46.6	
	comp=Z,1μm,0.3s						
TAMC				eS	Sn	05 24 47.4	+1.0
OCAC	Ocana	1.40	352		Pn	05 24 25.3	+0.5
OCAC	Ocana	1.40	352⇑	iP	Pn	05 24 25.3	+0.5
OCAC				eS	Sn	05 24 47.6	+0.5
OCAC				i		05 24 52.8	
	comp=Z,4μm,0.2s						
SPBC	San Pablo de B	1.52	219	eP	Pn	05 24 26.0	0.0
SPBC				eS	Sn	05 24 48.0	-1.2
SPBC				i		05 24 53.1	
	comp=Z,3μm,0.3s						
ZARC	Zaragoza, Cauc	1.84	290		Pn	05 24 29.7	+0.3
ZARC	Zaragoza, Cauc	1.84	290	eP	Pn	05 24 29.4	0.0
ZARC				eS	Sn	05 24 55.4	+0.3
ZARC				i		05 25 04.2	
	comp=Z,2μm,0.2s						
NORC	Norcasia	2.16	234⇑	eP	Pn	05 24 33.0	-0.1
NORC				eS	Sn	05 25 00.8	-1.1
NORC				i		05 25 10.5	
	comp=Z,669nm,0.5s						
CHIC	Chingaza	2.29	196⇓	eP	Pn	05 24 35.0	0.0
CHIC				eS	Sn	05 25 04.7	-0.5
CHIC				i		05 25 09.8	
	comp=Z,964nm,0.4s						
ROSC	El Rosal	2.33	211	P	Pn	05 24 37.0	+1.6
	comp=Z,376nm,0.3s,baz=281,slow=22,SNR=1490						
ROSC				S	Sn	05 25 07.7	+1.8
	comp=Z,752nm,0.3s,baz=210,slow=22,SNR=7.3						
ROSC	El Rosal	2.33	211		Pn	05 24 36.7	+1.3
ROSC	El Rosal	2.33	211⇓	eP	Pn	05 24 36.8	+1.3
ROSC				eS	Sn	05 25 07.2	+1.3
ROSC				i		05 25 11.9	
	comp=Z,3μm,0.4s						
HELC	Santa Helena	2.48	255	eP	Pn	05 24 37.0	-0.3
HELC				eS	Sn	05 25 09.4	+0.2
HELC				i		05 25 15.9	
	comp=Z,986nm,0.4s						
UREC	San Jos de Ur	2.56	291	eP	Pn	05 24 36.9	-1.0
UREC				eS	Sn	05 25 07.8	-2.6
UREC				i		05 25 19.4	
	comp=Z,1μm,0.2s						
LL1C	La Loma 1 Cana	2.71	351	eP	Pn	05 24 42.4	+2.7
LL1C				eS	Sn	05 25 16.8	+3.1
GUY2C	Guyana, Caldas	2.76	234	eP	Pn	05 24 41.1	+0.4
GUY2C				eS	Sn	05 25 14.7	-0.8
GUY2C				i		05 25 23.6	
	comp=Z,1μm,0.7s						
VILC	Villavicencio,	2.78	192⇓	eP	Pn	05 24 40.5	-0.3
VILC				eS	Sn	05 25 15.0	-0.5
PTGC	Puerto Gaitan,	2.81	160⇓	iP	Pn	05 24 40.4	-0.6
PTGC				eS	Sn	05 25 13.7	-2.2
PTGC				i		05 25 18.7	
	comp=Z,680nm,0.3s						
LL6C	La Loma 6 Bece	2.87	357	eP	Pn	05 24 41.8	+0.1
LL6C				eS	Sn	05 25 17.2	-0.1
LL6C				i		05 25 30.9	
	comp=Z,458nm,0.5s						
CBOC	Ciudad Bolivar	3.04	251⇑	eP	Pn	05 24 44.4	+0.4
CBOC				eS	Sn	05 25 20.5	-0.8
CBOC				i		05 25 38.3	
	comp=Z,278nm,0.6s						
DBBC	Dabeiba	3.08	273⇑	eP	Pn	05 24 44.5	+0.1
DBBC				eS	Sn	05 25 16.9	-5.1
DBBC				i		05 25 56.0	
	comp=Z,609nm,0.6s						
MOTC	Monteria, Cord	3.17	307		Pn	05 24 44.6	-0.9
MOTC	Monteria, Cord	3.17	307	eP	Pn	05 24 44.4	-1.1
MOTC				eS	Sn	05 25 22.9	-1.1
MOTC				i		05 25 24.9	
	comp=Z,525nm,0.3s						
SDV	Santo Domingo	3.19	50	P	Pn	05 24 46.6	+0.8
	comp=Z,197nm,0.3s,baz=214,slow=6.6,SNR=3628						
SDV				S	Sn	05 25 23.4	-1.3
	comp=Z,74nm,0.3s,baz=245,slow=23,SNR=17						
SDV				LR	LR	05 25 35.2	
	comp=Z,28nm,19.7s,baz=287,slow=32						
SDV	Santo Domingo	3.19	50⇑	iP	Pn	05 24 46.6	+0.8
SDV				eS	Sn	05 25 23.8	-0.8
SDV				i		05 25 28.1	
	comp=Z,190nm,0.6s						
SDV	Santo Domingo	3.19	50	eP	Pn	05 24 46.6	+0.8
ANIL	Santa Ana	3.27	224	eP	Pn	05 24 48.0	+1.0
ANIL				eS	Sn	05 25 28.5	+1.9
ORTC	Ortega, Tolima	3.61	216	eP	Pn	05 24 51.5	+0.3
ORTC				eS	Sn	05 25 34.1	-0.1
ORTC				i		05 25 41.0	
	comp=Z,580nm,0.3s						
CVALL	Valledupar, Ce	3.64	358	eP	Pn	05 24 51.3	-0.3
CVALL				eS	Sn	05 25 32.3	-2.6
CVALL				i		05 25 40.2	
	comp=Z,448nm,0.5s						
SJCC	San Jacinto, C	3.65	326	Pn	Pn	05 24 50.9	-0.9
SJCC	San Jacinto, C	3.65	326	eP	Pn	05 24 50.8	-0.9
SJCC				eS	Sn	05 25 32.2	-3.0
SJCC				i		05 25 47.0	
	comp=Z,409nm,0.8s						
PLMC	San Jos del P	3.69	239⇑	eP	Pn	05 24 52.5	+0.2
PLMC				eS	Sn	05 25 33.9	-2.2
PLMC				i		05 25 38.8	
	comp=Z,270nm,0.5s						
LCBC	Los crdobas,	3.79	302	eP	Pn	05 24 53.5	+0.1
LCBC				eS	Sn	05 25 36.5	-1.7
LCBC				i		05 25 42.6	
	comp=Z,324nm,0.5s						
CRJC	Cerrejon, Guaj	4.15	3	eP	Pn	05 24 57.5	-0.8
CRJC				eS	Sn	05 25 44.4	-2.5
CRJC				i		05 25 55.9	
	comp=Z,375nm,0.3s						
YOTC	Yotoco, Valle	4.29	229	eP	Pn	05 24 59.6	-0.5
YOTC				eS	Sn	05 25 49.7	-0.5
GUVC	San Jose del G	4.30	173	eP	Pn	05 24 59.0	-1.2
GUVC				eS	Sn	05 25 48.1	-2.2
GUVC				i		05 25 55.0	
	comp=Z,460nm,0.2s						
SOLC	Bahia Solano	4.31	262	eP	Pn	05 25 00.6	+0.4
SOLC				eS	Sn	05 25 50.0	-0.3
SMRC	Santa Marta, M	4.42	346	eP	Pn	05 25 02.3	+0.5
SMRC				eS	Sn	05 25 50.2	-3.0
SMRC				i		05 25 52.8	
	comp=Z,241nm,0.4s						
PIZC	Pizarro, Choco	4.62	246	eP	Pn	05 25 05.7	+1.4
PTAC	Punta Ardita,	4.67	274	eP	Pn	05 25 04.1	-0.8
MACC	Macarena, Meta	4.73	189	eP	Pn	05 25 04.0	-1.7
MACC				eS	Sn	05 25 55.3	-5.1
MACC				i		05 26 01.4	
	comp=Z,287nm,0.8s						
BETC	Betania	4.74	209	eP	Pn	05 25 05.3	-0.7
BETC				eS	Sn	05 25 53.6	-7.1
BETC				i		05 26 09.0	
	comp=Z,153nm,0.5s						
MARP	Paez Belalcaza	4.88	216	eP	Pn	05 25 08.3	+0.3
MARP				eS	Sn	05 26 01.7	-2.7
URIC	Uribia, Colomb	4.95	13	Pn	Pn	05 25 07.5	-1.1
URIC	Uribia, Colomb	4.95	13	eP	Pn	05 25 07.7	-0.9
URIC				eS	Sn	05 26 01.7	-3.8
URIC				i		05 26 10.2	
	comp=Z,98nm,0.5s						
MALC	Bahia Malaga	5.06	236	eP	Pn	05 25 11.2	+1.1
MALC				eS	Sn	05 26 10.2	+2.2
MALC				i		05 26 22.9	
	comp=Z,78nm,0.5s						
GARC	Garzon, Huila	5.20	207	eP	Pn	05 25 11.3	-0.9
GARC				eS	Sn	05 26 07.7	-4.2
GARC				i		05 26 11.2	
	comp=Z,212nm,0.3s						
PCON	Cinco Dias	5.55	216	eP	Pn	05 25 17.8	+0.6
PCON				eS	Sn	05 26 18.1	-2.7
PCON				i		05 26 53.8	
	comp=Z,65nm,0.4s						
POPC	Popayan, Colom	5.56	220⇑	eP	Pn	05 25 16.7	-0.3
POPC				eS	Sn	05 26 16.9	-3.4
FLOC	Florencia	5.81	206	eP	Pn	05 25 19.6	-0.5
FLOC				eS	Sn	05 26 25.9	-0.2
FLOC				i		05 26 30.2	
	comp=Z,69nm,0.5s						
SOTA	Rioblanco	5.83	217	eP	Pn	05 25 21.9	+1.0
PTLC	Puerto Leguiza	6.84	194	eP	Pn	05 25 44.0	+10
GCUF	Volcan Galeras	7.00	217	eP	Pn	05 25 37.2	+0.9
GCUF				eS	Sn	05 26 53.5	-1.7
BCIP	Isla Barro Col	7.04	290	Pn	Pn	05 25 35.1	-1.4
BIRV	Birongo	7.67	61	Pn	Pn	05 25 43.1	-1.8
OTAV	Otavalo	8.45	219		Pn	05 25 55.2	-0.5
OTAV	Otavalo	8.45	219	eP	Pn	05 25 55.1	-0.7
PCRV	Puerto La Cruz	9.02	68	P	Pn	05 26 01.0	-1.8
	comp=Z,3.4nm,0.3s,baz=303,slow=5.2,SNR=18						
PLCV	Puerto La Cruz	9.05	68		Pn	05 26 01.0	-2.3
DRK0	Durika	10.31	284	Pn	Pn	05 26 21.0	+0.9
SRBA	San Rafael, Bu	10.42	284	Pn	Pn	05 26 22.4	+0.9
JAKH	Jacmel	11.34	3	Pn	Pn	05 26 34.5	+1.2
TBTG	Tabatinga, AM	11.42	164	eP	Pn	05 26 32.8	-1.7
LGNH	Logne	11.60	2	Pn	Pn	05 26 37.4	+0.6
MTDJ	Mount Denham	12.10	340	Pn	Pn	05 26 46.2	+2.8
GRGR	Grenville	12.46	64	Pn	Pn	05 26 49.1	+1.0
PDPR	Patillas Dam,	13.08	31	Pn	Pn	05 26 55.0	-1.0
HUMP	Col San Antoni	13.27	32	Pn	Pn	05 26 57.8	-0.6
BOAV	Boa Vista	13.31	109	eP	Pn	05 26 57.8	-1.1
FDF	Fort de France	14.12	55	Pn	Pn	05 27 07.8	-1.4
CZSB	Cruzeiro do Su	14.49	178	eP	Pn	05 27 14.2	+0.4
ETMB	Extrema	17.93	157	eP	P	05 27 53.3	-0.8
PAYG	Puerto Ayora	18.69	247	P	Pn	05 28 04.4	-0.3
PAYG				IAmb	IAmb	05 28 53.2	
	comp=Z,30nm,1.1s						
ITTB	Itaituba	20.62	122	eP	P	05 28 23.6	+0.3
MALB	Monte Alegre	20.71	114	eP	P	05 28 24.6	+0.4
MCPB	Macapa, AP	22.20	108	eP	P	05 28 40.5	+0.6
NPGB	Novo Progresso	22.46	128	eP	P	05 28 41.7	-0.7
VILB	Vilhena	23.49	147	eP	P	05 28 52.0	+0.1
LPAZ	La Paz	23.51	168	P	P	05 28 52.1	-0.6
	comp=Z,0.6nm,0.5s,baz=354,slow=6.0,SNR=3.5						
LPAZ				pP	pP	05 29 24.1	+1.4
	comp=Z,3.0nm,0.7s,baz=342,slow=14,SNR=12						
LPAZ	La Paz	23.51	168	P	P	05 28 53.4	+0.6
LPAZ	La Paz	23.51	168	eP	P	05 28 52.9	+0.2
PDRB	Porto dos Gac	24.54	138	eP	P	05 29 00.7	-0.8
CLDB	Colider	24.64	135	eP	P	05 29 01.3	-1.0
ROSB	Rosrio	30.52	108	eP	P	05 29 55.6	+0.8
PEXB	Peixe	31.04	127	eP	P	05 29 58.3	-1.1
V48A	Smith Brothers	31.39	338	IAmb	IAmb	05 30 04.9	
	comp=Z,10nm,0.8s						
WVT	Waverly	32.11	337	P	P	05 30 09.8	+1.3
WVT				IAmb	IAmb	05 30 10.4	
	comp=Z,8.5nm,1.1s						
T47A	Sharon Grove	32.60	339	IAmb	IAmb	05 30 15.5	
	comp=Z,16nm,1.3s						
BDFB	Brasilia	33.43	132	P	P	05 30 19.5	-0.9
	comp=Z,0.4nm,0.3s,baz=320,slow=11,SNR=3.6						
BDFB	Brasilia	33.43	132	IAmb	IAmb	05 30 45.8	
	comp=Z,13nm,1.6s						
PBMO	Poplar Bluff	33.72	335	IAmb	IAmb	05 30 24.6	
	comp=Z,9.3nm,0.7s						
FCAR	Ozark Folk Cen	33.75	332	IAmb	IAmb	05 30 23.8	
	comp=Z,4.4nm,0.5s						
SDBA	SAO DESIDERIO	33.95	124	eP	P	05 30 23.7	-1.2
W39A	Magazine	34.02	329	IAmb	IAmb	05 31 14.1	
	comp=Z,28nm,1.8s						
FVM	French Village	34.75	336	IAmb	IAmb	05 30 33.3	
	comp=Z,18nm,1.2s						
IPMB	Ipameri, GO	34.83	135	eP	P	05 30 33.4	+1.0
CCM	Cathedral Cave	35.15	335	P	P	05 30 35.9	+1.1
CCM				IAmb	IAmb	05 30 36.8	
	comp=Z,14nm,0.9s						
R40A	Maddies Statio	35.79	334	IAmb	IAmb	05 30 41.1	
	comp=Z,4.8nm,0.6s						
JANB	Januaria	35.90	127	eP	P	05 30 40.2	-1.4
TXAR	Lajitas Array	36.45	312	P	P	05 30 47.1	+1.0
	comp=Z,0.5nm,0.4s,baz=127,slow=9.1,SNR=15						
TXAR	Lajitas Array	36.45	312	P	P	05 30 46.8	+0.7
NBMA	Muriti-CE	37.06	112	eP	P	05 30 51.7	+0.3
P38A	Dawn	37.44	334	P	P	05 30 54.6	+0.4
P38A				IAmb	IAmb	05 30 55.3	
	comp=Z,10nm,1.0s						
MNTX	Cornudas Mount	38.95	314	P	P	05 31 07.9	+0.9
ECSD	EROS Data Cent	42.12	334	P	P	05 31 33.1	+0.2
ECSD				IAmb	IAmb	05 31 33.3	
	comp=Z,12nm,1.5s						
SDCO	Great Sand Dun	42.53	321	P	P	05 31 38.2	+1.6
MDND	Maddock	46.67	336	IAmb	IAmb	05 32 10.7	
	comp=Z,15nm,0.9s						
P17A	Butcher Ranch,	46.86	320	P	P	05 32 12.6	+1.9
ULM	Lac du Bonnet	47.26	340	P	P	05 32 13.2	-0.3
	comp=Z,4.8nm,0.5s,baz=150,slow=7.8,SNR=8.6						
ULM	Lac du Bonnet	47.26	340	P	P	05 32 13.4	0.0
ULM				IAmb	IAmb	05 32 14.0	
	comp=Z,7.9nm,1.1s						
PDAR	Pinedale Array	48.06	324	P	P	05 32 20.6	+0.6
	comp=Z,0.7nm,0.6s,baz=124,slow=9.4,SNR=11						
SCHQ	Schefferville	48.11	5	P	P	05 32 20.7	+0.8
	comp=Z,4.5nm,0.8s,baz=187,slow=7.7,SNR=6.4						
SCHQ	Schefferville	48.11	5	P	P	05 32 20.5	+0.5
BGU	Big Grassy Mou	49.13	320	P	P	05 32 28.8	+0.7
NVAR	Mina Array Bea	51.47	315	P	P	05 32 46.4	+0.5
	comp=Z,0.2nm,0.5s,baz=123,slow=5.5,SNR=3.7						
MFID	Camas Ranch	52.21	321	IAmb	IAmb	05 32 52.7	
	comp=Z,5.2nm,1.1s						
YKA	Yellowknife Ar	63.24	340	P	P	05 34 07.7	+0.1
	comp=Z,3.0nm,0.5s,baz=132,slow=6.6,SNR=77						
SUMG	Summit	68.96	11	iP	P	05 34 44.0	-0.4
M31M	Drury Creek, Y	70.83	334	P	P	05 34 56.5	+0.9
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	05 43 25.8	-1.1
	comp=Z,1.1nm,0.7s,baz=113,slow=3.9,SNR=12						
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	05 43 28.9	-1.1
	comp=Z,0.6nm,0.4s,baz=106,slow=2.8,SNR=17						

*IDC **09** 05:45:42.9±1.3, 2°.57S×139°.29E, h0km, mb3.8/5, mb1 4.2/7, mb1mx3.9/29, mbtmp4.0/7, ML4.5/2, Error ellipse: s-maj=45.9km s-min=21.9km az=100.0*
ISC 09 05:45:48.2±1.2, 2°.6S±0°.2×139°.2E±0°.3, h35km, n7, σ0.54/7, mb3.9/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	17.17	243	P	P	05 49 46.9	0.0
	4.3nm,0.3s,baz=124,slow=5.3,SNR=1.6						
WRA	Warramunga Arr	17.86	195	P	P	05 49 53.6	-0.9
	1.0nm,0.3s,baz=17,slow=12,SNR=36						
FITZ	Fitzroy Crossi	20.33	220	P	P	05 50 21.2	-0.3
	1.4nm,0.6s,baz=53,slow=14,SNR=8.9						
ASAR	Alice Springs	21.54	193	P	P	05 50 35.0	+0.4
	2.7nm,0.6s,baz=19,slow=10,SNR=43						
STKA	Stephens Creek	29.19	176	P	P	05 51 46.7	+0.3
	1.0nm,0.4s,baz=341,slow=11,SNR=4.5						
MKAR	Makanchi Array	70.02	322	P	P	05 56 56.6	+0.1
	0.4nm,0.7s,baz=105,slow=9.2,SNR=4.7						
ILAR	Eielson Array	85.55	24	P	P	05 58 22.3	-0.2
	0.6nm,0.7s,baz=263,slow=4.6,SNR=7.2						

*JMA **09** 05:56:23.0±0.1, 31°.06N×129°.04E, h8km±1km, M4.3*
JMA Felt I J1.
*NIED **09** 05:56:23.1, 31°.06N×129°.04E, h8km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.04; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-0.26; $M_{r\theta}$-0.27; $M_{\theta\phi}$1.42; $M_{\phi r}$0.06; Fault plane solution: $M_0$1.47000×10^{15} NP1:φs95.00000°, δ89.00000°, λ-11.00000°. NP2:φs185.00000°, δ79.00000°, λ-179.00000°.*
*IDC **09** 05:56:26.1±1.1, 31°.10N×128°.93E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/50, mbtmp3.5/8, ML3.1/3, MS3.0/10, Ms1 3.0/10, ms1mx2.9/70 Error ellipse: s-maj=48.0km s-min=16.7km az=82.0*
ISC 09 05:56:25.2±0.8, 31°.06N±0°.04×129°.15E±0°.05, h10km, n28, σ1.37/25, mb3.5/5, MS3.0/7, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.78**	**38**	P	**Pg**	**05 56 38.9**	**-1.4**
JSJ				S	**Sg**	**05 56 50.3**	**-0.3**
JKC	**Kuchinoerabu**	**1.08**	**123**	P	**Pb**	**05 56 44.8**	**-1.2**
JKC				S	**Sb**	**05 57 00.0**	**-0.2**
JSU	**Suzuyama**	**1.20**	**68**	P	**Pg**	**05 56 47.6**	**-0.7**
JSU				S	**Sb**	**05 57 04.1**	**+0.4**
JNN	**Nakanoshima**	**1.37**	**153**	P	**Pb**	**05 56 49.2**	**-1.7**
JNN				*e*S	**Sg**	**05 57 08.2**	**-1.1**
JYAK	**Yakushimahirau**	**1.43**	**125**	⇑P	**Pn**	**05 56 49.9**	**-1.3**
JYAK				S	**Sn**	**05 57 10.0**	**-0.1**
JFU	**Fukue jima 2**	**1.62**	**348**	P	**Pn**	**05 56 51.7**	**-2.2**
JFU				*e*S	**Sb**	**05 57 13.3**	**-2.6**
JTN	**Tanegashima 3**	**1.62**	**104**	P	**Pn**	**05 56 53.2**	**-0.7**
JTN				S	**Sb**	**05 57 15.8**	**-0.1**
JZO	**Okuchi**	**1.64**	**49**	P	**Pn**	**05 56 53.3**	**-0.8**
JZO				S	**Sb**	**05 57 17.1**	**+0.8**
JMTN	**Minamitane**	**1.65**	**113**	P	**Pn**	**05 56 53.7**	**-0.5**
JMTN				S	**Sb**	**05 57 16.3**	**-0.2**
JTZ	**Takazaki**	**1.85**	**63**	P	**Pn**	**05 56 56.8**	**-0.3**
JTZ				S	**Sb**	**05 57 21.7**	**-0.8**
JOW	**Kunigami**	**4.28**	**191**	Pn	Pn	05 57 33.6	+3.1
	2.1nm,0.3s,baz=290,slow=29,SNR=2.6						
KSRS	**Korea Array**	**6.46**	**351**	Pn	**Pn**	**05 58 00.3**	**0.0**
	0.5nm,0.3s,baz=168,slow=14,SNR=3.5						
KSRS				Lg	Lg	05 59 47.5	
	1.4nm,0.3s,baz=172,slow=29,SNR=6.5						
KSRS				LR	LR	06 00 47.6	
	comp=Z,47nm,20.7s,baz=190,slow=41						
MJAR	**Matsushiro Arr**	**9.31**	**52**	LR	LR	06 02 37.3	
	comp=Z,117nm,19.6s,baz=246,slow=39						
USRK	**Ussuriysk Ar.**	**13.31**	**9**	LR	LR	06 03 23.1	
	comp=Z,22nm,19.5s,baz=172,slow=31						
ASAJ	**Asahikawa**	**16.80**	**35**	LR	LR	06 06 15.1	
	comp=Z,53nm,18.5s,baz=59,slow=35						
KLR	**Kul'dur**	**18.25**	**5**	P	**P**	**06 00 42.1**	**+3.4**
	0.1nm,0.3s,baz=186,slow=7.4,SNR=9.1						
GUMO	**Guam**	**22.62**	**137**	LR	LR	06 08 51.9	
	comp=Z,12nm,21.8s,baz=96,slow=33						
SONM	**Songino Array**	**24.14**	**320**	P	**P**	**06 01 42.6**	**+1.2**
	1.1nm,0.7s,baz=134,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**30.06**	**252**	LR	LR	06 14 57.2	
	comp=Z,16nm,19.2s,baz=90,slow=37						
MA2	**Magadan**	**32.01**	**21**	LR	LR	06 16 26.4	
	comp=Z,28nm,18.1s,baz=100,slow=38						
KAPI	**Kappang**	**36.98**	**196**	LR	LR	06 17 35.0	
	comp=Z,28nm,20.1s,baz=258,slow=34						
MKAR	**Makanchi Array**	**39.09**	**307**	P	**P**	**06 03 53.4**	**+0.9**
	0.5nm,0.8s,baz=98,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**50.96**	**174**	P	**P**	**06 05 28.7**	**+1.7**
	0.5nm,0.7s,baz=355,slow=8.2,SNR=2.6						
ARU	**Arti**	**54.17**	**320**	LR	LR	06 32 56.0	
	comp=Z,70nm,18.7s,baz=348,slow=40						
ASAR	**Alice Springs**	**54.61**	**175**	P	P	06 05 57.0	+3.0
	0.6nm,0.8s,baz=11,slow=8.1,SNR=6.7						
AKTO	**Aktyubinsk**	**55.10**	**312**	LR	LR	06 30 51.9	
	comp=Z,108nm,19.4s,baz=72,slow=38						
YKA	**Yellowknife Ar**	**73.83**	**26**	P	P	06 08 02.6	+2.9
	0.2nm,0.5s,baz=306,slow=5.7,SNR=3.0						
GERES	**GERESS Array B**	**81.84**	**323**	LR	LR	06 50 22.8	
	comp=Z,112nm,18.1s,baz=342,slow=40						

DJA 09 06:06:13.0±2.7**, 9°S**±5°×**12°3E**±°**, h26**km±28km**, M3.7**/9**, mb4.1**/2**, mB4.7**/1**, MLv3.5**/9**, Mw(mB)3.9**/1**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.10**	**284**	P	Pn	06 06 32.8	0.0
MMRI				S	Sb	06 06 48.2	+0.7
BATI	**Baumata**	**1.33**	**165**	P	Pb	06 06 37.7	+0.3
BASI	**Baing, Sumba**	**3.00**	**244**	P	Pn	06 06 58.4	-0.5
BSSI	**Bau Bau, Buton**	**3.93**	**314**	P	Pn	06 07 12.0	+0.3
WBSI	**Waikabubak, Su**	**3.95**	**259**	P	Pn	06 07 11.1	-0.9
PLAI	**Plampang**	**5.48**	**270**	P	Pn	06 07 32.6	-0.4
	0.1nm20nm,0.5s						

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*TUL **09** 06:11:28.5±0.4, 36°.48N±0°.01×98°.73W±0°.01, h8km±1km, ML2.6, mb_Lg2.2/15(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=169.0*

NEIC 09 06:11:29.1±0.3**, 36°.48N**±0°.01×**98°.733W**±0°.006**, h6**km±1km**, Error ellipse: s-maj=1.6km s-min=0.5km az=170.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.24**	**246**	Pg	Pg	06 11 33.7	-0.1
X34A	**Smith Ranch, M**	**2.01**	**158**	IAmb_Lg		06 12 30.8	
	comp=Z,5.4nm,0.9s						
KSU1	**Kansas State U**	**3.11**	**32**	IAmb_Lg		06 13 14.0	
	comp=Z,5.8nm,0.8s						
KSU1	**Kansas State U**	**3.11**	**32**	IAmb_Lg		06 13 15.5	
	comp=Z,7.7nm,1.0s						
MSTX	**Muleshoe**	**4.15**	**234**	IAmb_Lg		06 13 43.3	
	comp=Z,7.0nm,1.1s						
P40A	**Paris**	**6.09**	**58**	IAmb_Lg		06 14 41.8	
	comp=Z,8.5nm,1.1s						

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*NNC **09** 06:15:09.8±1.1, 54°.14N×86°.60E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=6.3km s-min=4.5km az=72.0, Suspected Mining explosion.*

*IDC **09** 06:15:13.2±2.6, 54°.14N×86°.40E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=20.4km s-min=13.1km az=58.0*

ISC 09 06:15:10.8±4.9**, 54°.3N**±0°.3×**86°.4E**±0°.2**, h0**km**, n7, σ1s.18**/8**, 4C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**249**	*i*		06 20 45.4	
	baz=79,slow=337,SNR=28						
ZAA0	**Zalesovo Array**	**1.02**	**249**	⇑P	**Pg**	**06 15 30.0**	**-0.3**
	0.2nm,0.2s,baz=80,slow=17						
ZAA0				⇑S	**Sb**	**06 15 45.0**	**-0.2**
	3.9nm,1.1s,baz=79,slow=29						
ZALV	**Zalesovo Beam**	**1.02**	**249**	Pg	**Pg**	**06 15 30.2**	**-0.1**
	1.2nm,0.3s,baz=75,slow=16,SNR=17						
ZALV				Lg	Lg	06 15 45.0	
	1.8nm,0.3s,baz=80,slow=29,SNR=15						
KURK	**Kurchatov**	**5.98**	**236**	⇑Pn	**Pn**	**06 16 39.5**	**-1.0**
	3.0nm,1.2s						
KURK				⇓Sn	**Sn**	**06 17 49.9**	**+0.4**
	1.7nm,1.0s						
KURK				⇓Lg	Lg	06 18 19.6	
	2.8nm,0.9s						
KURBB	**Kurchatov Arra**	**6.08**	**236**	Pn	**Pn**	**06 16 43.3**	**+1.4**
	0.2nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	06 18 25.7	
	0.0nm,0.3s,baz=53,slow=36,SNR=5.4						
MK31	**Makanchi Array**	**7.98**	**201**	⇑Pn	**Pn**	**06 17 06.6**	**-1.4**
	0.3nm,0.5s,baz=29,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**7.98**	**201**	Pn	**Pn**	**06 17 09.4**	**+1.4**
	0.1nm,0.3s,baz=24,slow=13,SNR=4.5						

IDC 09 06:18:24.5±6.9**, 14°.03S×166°.92E, h0**km**, mb3.4**/2**, mb1 3.7**/2**, mb1mx3.5**/25**, mbtmp3.4**/2**, Error ellipse: s-maj=416.6km s-min=41.3km az=141.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.61**	**248**	P	P	06 24 58.4	+0.2
	0.2nm,0.6s,baz=70,slow=9.3,SNR=4.4						
ILAR	**Eielson Array**	**85.97**	**18**	P	P	06 31 06.9	+0.6
	0.3nm,0.8s,baz=235,slow=5.5,SNR=4.9						
ARCES	**ARCESS Array B**	**119.50**	**345**	PKP	PKPdf	06 37 14.5	-1.1
	1.5nm,0.8s,baz=42,slow=2.5,SNR=5.2						

IDC 09 06:23:03.8±3.6**, 16°.06S×174°.02W, h0**km**, mb4.0**/3**, mb1 4.2**/4**, mb1mx3.8**/28**, mbtmp4.0**/4**, ML4.0**/1**, Error ellipse: s-maj=211.7km s-min=29.0km az=144.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.04**	**46**	Pn	Pn	06 23 53.2	0.0
	17nm,0.3s,baz=198,slow=1.8,SNR=17						
AFI				Sn	Sn	06 24 16.2	-14
	41nm,0.3s,baz=33,slow=21,SNR=9.8						
STKA	**Stephens Creek**	**43.20**	**240**	P	P	06 31 06.7	0.0
	0.4nm,0.4s,baz=81,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**49.12**	**257**	P	P	06 31 53.2	-0.4
	0.3nm,0.7s,baz=94,slow=7.5,SNR=5.8						
ASAR	**Alice Springs**	**49.35**	**252**	P	P	06 31 55.4	0.0
	4.4nm,0.6s,baz=89,slow=8.3,SNR=76						

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*IDC **09** 06:27:16.5±0.4, 6°.77N×72°.97W, h154km±4km, mb4.1/16, mb1 4.3/21, mb1mx4.2/32, mbtmp4.7/21, MS3.2/7, Ms1 3.2/7, ms1mx2.9/67, Error ellipse: s-maj=9.8km s-min=6.7km az=126.0*

*VAO **09** 06:27:16.3±0.2, 6°.76N×73°.05W, h144km, mb4.4*

*RSNC **09** 06:27:17.6±0.9, 6°.84N×73°.15W, h148km±3km, ML4.8, Mw4.9, Fault plane solution: NP1:φs14.00000°, δ40.00000°, λ118.00000°.*

*NEIC **09** 06:27:17.1±2.7, 6°.83N±0°.05×73°.04W±0°.07, h149km±5km, mb5.0/518, Error ellipse: s-maj=9.9km s-min=7.6km az=94.0*

ISC 09 06:27:16.3±0.4**, 6°.85N**±0°.03×**73°.12W**±0°.03**, h152**km±3km**, h152**km**:pP-P, n711, σ1s.44**/554**, mb5.0**/250**, 222C-50D, Fault plane solution: NP1:**φs186.96497°**,** δ29.24629°**,** λ96.75243°. **NP2:**φs359.23721°**,** δ60.97601°**,** λ86.23322°. **Principal axes:** T Plg73.7483°**,** Azm259.6825°**;** N Plg3.2932°**,** Azm1.0668°**;** P Plg15.8964°**,** Azm92.0057°**;**
Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**193**	⇑*i*P	**Pn**	**06 27 38.0**	**+0.7**
BARC				*e*S	**Sn**	**06 27 53.2**	**-0.1**
BARC				*i*		06 27 54.1	
	comp=Z,7μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**41**	⇑*i*P	**Pn**	**06 27 40.7**	**+1.5**
PAMC				*e*S	**Sn**	**06 27 57.6**	**+0.9**
PAMC				*i*		06 28 00.6	
	comp=Z,15μm,0.6s						
RUSC	**La Rusia**	**0.95**	**178**	⇑*i*P	**Pn**	**06 27 41.9**	**+0.5**
RUSC				*e*S	**Sn**	**06 28 00.6**	**0.0**
RUSC				*i*		06 28 04.3	
	comp=Z,6μm,0.8s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	⇑*e*P	**Pn**	**06 27 44.5**	**-0.1**
PTBC				*e*S	**Sn**	**06 28 05.4**	**-0.8**
PTBC				*i*		06 28 11.6	
	comp=Z,8μm,0.5s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑*i*P	**Pn**	**06 27 46.4**	**+1.6**
TAMC				*e*S	**Sn**	**06 28 06.8**	**+0.1**
TAMC				*i*		06 28 08.7	
	comp=Z,8μm,0.3s						
OCAC	**Ocana**	**1.40**	**352**		**Pn**	**06 27 45.9**	**+0.8**
OCAC				Sn	**Sn**	**06 28 07.4**	**+0.2**
OCAC	**Ocana**	**1.40**	**352**	⇑*e*P	**Pn**	**06 27 46.0**	**+0.8**
OCAC				*e*S	**Sn**	**06 28 07.4**	**+0.2**
OCAC				*i*		06 28 12.7	
	comp=Z,9μm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**219**	⇑*e*P	**Pn**	**06 27 46.9**	**+0.6**
SPBC				*e*S	**Sn**	**06 28 09.0**	**-0.3**
SPBC				*i*		06 28 15.9	
	comp=Z,8μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**		**Pn**	**06 27 50.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	⇓*e*P	**Pn**	**06 27 50.2**	**+0.5**
ZARC				*e*S	**Sn**	**06 28 15.4**	**+0.1**
ZARC				*i*		06 28 21.8	
	comp=Z,16μm,0.5s						
NORC	**Norcasia**	**2.15**	**234**	⇑*e*P	**Pn**	**06 27 53.7**	**+0.3**
NORC				*e*S	**Sn**	**06 28 22.3**	**+0.3**
NORC				*i*		06 28 25.8	
	comp=Z,5μm,0.5s						
CHIC	**Chingaza**	**2.28**	**195**	⇑*i*P	**Pn**	**06 27 55.9**	**+0.6**
CHIC				*e*S	**Sn**	**06 28 25.6**	**+0.2**
CHIC				*i*		06 28 30.6	
	comp=Z,4μm,0.8s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**06 27 58.0**	**+2.3**
	comp=Z,712nm,0.3s,baz=247,slow=2.7,SNR=1505						
ROSC				LR	LR	06 28 22.5	
	comp=Z,131nm,20.0s,baz=214,slow=28						
ROSC				S	**Sn**	**06 28 26.4**	**+0.3**
	comp=Z,1μm,0.3s,baz=298,slow=18,SNR=10						
ROSC	**El Rosal**	**2.32**	**211**		**Pn**	**06 27 57.8**	**+2.0**
ROSC				Sn	**Sn**	**06 28 26.1**	**0.0**
ROSC	**El Rosal**	**2.32**	**211**	⇑*i*P	**Pn**	**06 27 57.9**	**+2.1**
ROSC				*e*S	**Sn**	**06 28 26.2**	**+0.1**
ROSC				*i*		06 28 31.9	
	comp=Z,8μm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**06 27 57.8**	**+0.2**
HELC				*e*S	**Sn**	**06 28 30.0**	**+0.6**
HELC				*i*		06 28 36.4	
	comp=Z,4μm,0.4s						
UREC	**San Jos de Ur**	**2.55**	**291**	⇓*e*P	**Pn**	**06 27 57.7**	**-0.5**
UREC				*e*S	**Sn**	**06 28 28.3**	**-2.2**
UREC				*i*		06 28 42.7	
	comp=Z,4μm,0.3s						
LL1C	**La Loma 1 Cana**	**2.71**	**351**	*e*P	**Pn**	**06 28 02.4**	**+2.2**
LL1C				*e*S	**Sn**	**06 28 37.0**	**+3.0**
LL1C				*i*		06 28 53.8	
	comp=Z,7μm,0.6s						
GUY2C	**Guyana, Caldas**	**2.75**	**234**	⇓*e*P	**Pn**	**06 28 02.1**	**+1.0**
GUY2C				*e*S	**Sn**	**06 28 36.4**	**+0.8**
GUY2C				*i*		06 28 48.9	
	comp=Z,6μm,0.6s						
VILC	**Villavicencio,**	**2.77**	**192**	⇑*e*P	**Pn**	**06 28 01.5**	**+0.4**
VILC				*e*S	**Sn**	**06 28 35.4**	**-0.3**
PTGC	**Puerto Gaitan,**	**2.81**	**159**	⇑*i*P	**Pn**	**06 28 01.3**	**-0.1**
PTGC				*e*S	**Sn**	**06 28 34.5**	**-1.8**
PTGC				*i*		06 28 37.0	
	comp=Z,3μm,0.5s						
CBOC	**Ciudad Bolivar**	**3.03**	**251**	⇓*i*P	**Pn**	**06 28 05.5**	**+1.2**
CBOC				*e*S	**Sn**	**06 28 44.3**	**+2.9**
CBOC				*i*		06 28 53.9	
	comp=Z,2μm,0.5s						
DBBC	**Dabeiba**	**3.07**	**273**	⇓*i*P	**Pn**	**06 28 05.6**	**+0.9**
DBBC				*e*S	**Sn**	**06 28 40.9**	**-1.2**
MOTC	**Monteria, Cord**	**3.17**	**307**		**Pn**	**06 28 05.1**	**-0.7**
MOTC	**Monteria, Cord**	**3.17**	**307**	⇓*i*P	**Pn**	**06 28 05.2**	**-0.7**
MOTC				*e*S	**Sn**	**06 28 43.8**	**-0.4**
MOTC				*i*		06 29 01.6	
	comp=Z,1μm,0.4s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**06 28 07.4**	**+1.0**
	comp=Z,928nm,0.3s,baz=181,slow=4.4,SNR=7075						
SDV				S	**Sn**	**06 28 44.1**	**-1.0**
	comp=Z,635nm,0.3s,baz=317,slow=14,SNR=7.7						
SDV	**Santo Domingo**	**3.19**	**50**	⇓*i*P	**Pn**	**06 28 07.4**	**+1.0**
SDV				*e*S	**Sn**	**06 28 44.5**	**-0.6**
SDV				*i*		06 28 49.9	
	comp=Z,2μm,0.6s						
SDV	**Santo Domingo**	**3.19**	**50**	*e*P	**Pn**	**06 28 07.3**	**+1.0**
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**06 28 08.7**	**+1.4**
ANIL				*e*S	**Sn**	**06 28 49.9**	**+3.1**
ANIL				*i*		06 28 56.8	
	comp=Z,7μm,0.4s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	⇓*e*P	**Pn**	**06 28 12.2**	**+0.6**
ORTC				*e*S	**Sn**	**06 28 55.6**	**+1.2**
ORTC				*i*		06 29 02.2	
	comp=Z,2μm,0.4s						
CVALL	**Valledupar, Ce**	**3.64**	**358**	*e*P	**Pn**	**06 28 12.0**	**0.0**
CVALL				*e*S	**Sn**	**06 28 52.9**	**-2.4**
CVALL				*i*		06 29 00.6	
	comp=Z,970nm,0.4s						
SJCC	**San Jacinto, C**	**3.65**	**326**	Pn	**Pn**	**06 28 11.8**	**-0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	⇓*e*P	**Pn**	**06 28 11.8**	**-0.3**
SJCC				*e*S	**Sn**	**06 28 53.0**	**-2.5**
SJCC				*i*		06 28 57.6	
	comp=Z,2μm,0.5s						
PLMC	**San Jos del P**	**3.69**	**239**	⇓*e*P	**Pn**	**06 28 13.8**	**+1.1**
PLMC				*e*S	**Sn**	**06 28 51.3**	**-5.0**
PLMC				*i*		06 29 04.5	
	comp=Z,947nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	⇓*e*P	**Pn**	**06 28 18.2**	**-0.5**
CRJC				*e*S	**Sn**	**06 29 04.7**	**-2.6**
CRJC				*i*		06 29 10.2	
	comp=Z,1μm,0.4s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇓*i*P	**Pn**	**06 28 20.5**	**+0.1**
YOTC				*e*S	**Sn**	**06 29 11.2**	**+0.8**
YOTC				*i*		06 29 23.7	
	comp=Z,372nm,0.5s						
GUVC	**San Jose del G**	**4.30**	**173**	*e*P	**Pn**	**06 28 20.0**	**-0.6**
GUVC				*e*S	**Sn**	**06 29 08.2**	**-2.5**
GUVC				*i*		06 29 14.3	
	comp=Z,2μm,0.3s						
SOLC	**Bahia Solano**	**4.30**	**262**	*e*P	**Pn**	**06 28 21.2**	**+0.7**
SOLC				*e*S	**Sn**	**06 29 07.2**	**-3.4**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**06 28 22.4**	**+0.2**
SMRC				*e*S	**Sn**	**06 29 11.3**	**-2.2**
SMRC				*i*		06 29 17.4	
	comp=Z,449nm,0.5s						
PIZC	**Pizarro, Choco**	**4.61**	**246**	*e*P	**Pn**	**06 28 26.2**	**+1.6**
PIZC				*e*S	**Sn**	**06 29 19.9**	**+2.0**
PIZC				*i*		06 29 29.2	
	comp=Z,655nm,0.6s						
PTAC	**Punta Ardita,**	**4.66**	**274**	*e*P	**Pn**	**06 28 25.1**	**-0.2**
PTAC				*i*		06 29 14.8	
	comp=Z,393nm,0.5s						
PTAC				*e*S	**Sn**	**06 29 18.6**	**-0.4**
MACC	**Macarena, Meta**	**4.72**	**189**	⇑*e*P	**Pn**	**06 28 25.2**	**-1.0**
MACC				*e*S	**Sn**	**06 29 17.4**	**-3.2**
MACC				*i*		06 29 24.3	
	comp=Z,912nm,0.4s						
BETC	**Betania**	**4.74**	**209**	*e*P	**Pn**	**06 28 26.3**	**-0.1**
BETC				*e*S	**Sn**	**06 29 20.1**	**-0.9**
BETC				*i*		06 29 23.0	
	comp=Z,607nm,0.5s						
MARP	**Paez Belalcaza**	**4.88**	**215**	*e*P	**Pn**	**06 28 28.5**	**+0.1**
URIC	**Uribia, Colomb**	**4.95**	**13**	Pn	**Pn**	**06 28 28.2**	**-0.8**
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**06 28 28.3**	**-0.8**
URIC				*e*S	**Sn**	**06 29 23.3**	**-2.7**
URIC				*i*		06 29 29.9	
	comp=Z,281nm,0.6s						
MALC	**Bahia Malaga**	**5.05**	**236**	*e*P	**Pn**	**06 28 32.2**	**+1.7**
MALC				*e*S	**Sn**	**06 29 26.0**	**-2.3**
MALC				*i*		06 29 44.6	
	comp=Z,440nm,0.5s						
GARC	**Garzon, Huila**	**5.20**	**207**	*e*P	**Pn**	**06 28 32.5**	**-0.1**
GARC				*e*S	**Sn**	**06 29 28.9**	**-3.3**
GARC				*i*		06 29 38.6	
	comp=Z,565nm,0.3s						
PCON	**Cinco Dias**	**5.55**	**216**	*e*P	**Pn**	**06 28 39.2**	**+1.6**
PCON				*i*		06 30 12.5	
	comp=Z,346nm,0.7s						
POPC	**Popayan, Colom**	**5.55**	**220**	⇓*i*P	**Pn**	**06 28 37.8**	**+0.4**
POPC				*e*S	**Sn**	**06 29 39.0**	**-1.6**
FLOC	**Florencia**	**5.80**	**206**	*e*P	**Pn**	**06 28 40.4**	**-0.1**
FLOC				*e*S	**Sn**	**06 29 41.1**	**-5.2**
FLOC				*i*		06 29 51.8	
	comp=Z,352nm,0.7s						
SOTA	**Rioblanco**	**5.83**	**217**	⇓*e*P	**Pn**	**06 28 42.4**	**+1.2**
SOTA				*i*		06 29 57.7	
	comp=Z,260nm,0.6s						
GR1C	**Gorgona, Isla**	**6.31**	**233**	*e*P	**Pn**	**06 28 46.3**	**-0.9**
GR1C				*e*S	**Sn**	**06 29 56.9**	**-1.5**
UPA	**Univ. de Panam**	**6.70**	**289**	*e*P	**Pn**	**06 28 50.8**	**-1.5**
UPA				*e*S	**Sn**	**06 30 03.3**	**-4.3**
HATO	**Hato, Curacao**	**6.71**	**37**		**Pn**	**06 28 51.4**	**-1.1**
PTLC	**Puerto Leguiza**	**6.84**	**194**	*e*P	**Pn**	**06 28 57.5**	**+3.3**
PTLC				*e*S	Sn	06 30 27.1	+16
PTLC				*i*		06 30 48.6	
	comp=Z,221nm,0.5s						
GCUF	**Volcan Galeras**	**6.99**	**217**	*e*P	**Pn**	**06 28 58.0**	**+1.3**
GCUF				*e*S	**Sn**	**06 30 12.4**	**-3.1**
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn	**Pn**	**06 28 56.4**	**-0.5**
BCIP	**Isla Barro Col**	**7.04**	**290**	*e*P	**Pn**	**06 28 55.5**	**-1.4**
BCIP				*e*S	**Sn**	**06 30 15.4**	**-0.4**
BCIP				*i*		06 30 30.2	
	comp=Z,82nm,0.6s						
TULM	**Tulcn-Chalpat**	**7.66**	**218**	*e*P	**Pn**	**06 29 07.7**	**+2.0**
TULM				*e*S	**Sn**	**06 30 30.0**	**-1.6**
BIRV	**Birongo**	**7.67**	**61**	Pn	**Pn**	**06 29 03.6**	**-1.8**
OTAV	**Otavalo**	**8.45**	**219**		**Pn**	**06 29 15.8**	**-0.3**
OTAV	**Otavalo**	**8.45**	**219**	*e*P	**Pn**	**06 29 15.8**	**-0.3**
PCRV	**Puerto La Cruz**	**9.02**	**68**	P	**Pn**	**06 29 21.8**	**-1.6**
	comp=Z,20nm,0.3s,baz=252,slow=4.0,SNR=44						
BRU2	**Volcan**	**9.68**	**282**		**Pn**	**06 29 33.8**	**+1.6**
CDITO	**Canoas**	**9.81**	**281**		**Pn**	**06 29 34.5**	**+0.7**
EDSV	**San Vito**	**9.95**	**282**	*e*P	**Pn**	**06 29 38.3**	**+2.4**
POTG	**Potrero Grande**	**10.14**	**283**	*e*P	**Pn**	**06 29 39.5**	**+1.2**
DRK0	**Durika**	**10.31**	**284**		**Pn**	**06 29 40.8**	**+0.3**
DRK0	**Durika**	**10.31**	**284**	*e*P	**Pn**	**06 29 41.2**	**+0.7**
RIOS	**Rincon, Osa**	**10.46**	**281**	*e*P	**Pn**	**06 29 44.5**	**+2.1**
BATAN	**Batan**	**10.64**	**288**		**Pn**	**06 29 46.6**	**+1.8**
PEZE	**Perez Zeledon,**	**10.75**	**284**		**Pn**	**06 29 48.3**	**+2.0**
PEZE	**Perez Zeledon,**	**10.75**	**284**	*e*P	**Pn**	**06 29 48.8**	**+2.5**
CDM	**Cerro de Muert**	**10.87**	**285**	*e*P	**Pn**	**06 29 49.9**	**+1.7**
RIMA	**Rio Macho**	**11.02**	**286**		**Pn**	**06 29 51.3**	**+1.4**
RIMA	**Rio Macho**	**11.02**	**286**	*e*P	**Pn**	**06 29 51.7**	**+1.7**
LCR2	**La Lucha 2**	**11.15**	**286**	*e*P	**Pn**	**06 29 53.5**	**+1.9**
HDC	**Heredia**	**11.31**	**287**	*e*P	**Pn**	**06 29 56.2**	**+2.4**
TBTG	**Tabatinga, AM**	**11.42**	**164**	*e*P	**Pn**	**06 29 55.4**	**+0.4**
TBTG	**Tabatinga, AM**	**11.42**	**164**	*e*P	**Pn**	**06 29 54.6**	**-0.4**
HOJ	**Hope**	**11.64**	**343**	*i* P	**P**	**06 30 03.7**	**-1.4**
SRA1	**San Ramn**	**11.69**	**287**	*e*P	**P**	**06 30 04.0**	**-1.7**
GWJ	**Greenwich**	**11.70**	**343**	*i* P	**P**	**06 30 04.2**	**-1.7**
STH	**Stony Hill**	**11.73**	**342**	*i* P	**P**	**06 30 04.5**	**-1.6**
MCJ	**Malvern**	**11.88**	**338**	⇓*i*P	**P**	**06 30 05.7**	**-2.2**
MTDJ	**Mount Denham**	**12.10**	**340**	Pn	**P**	**06 30 07.7**	**-2.6**
TRN	**Trinidad (W)**	**12.18**	**71**	*e*P	**Pn**	**06 30 04.2**	**-0.7**
TRN				*e*S	**P**	**06 30 12.0**	**+0.8**
JTS	**Las Juntas de**	**12.19**	**287**	P	**Pn**	**06 30 07.3**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=147,slow=7.0,SNR=16						
JTS				LR	LR	06 35 35.4	
	comp=Z,82nm,19.0s,baz=206,slow=40						
JTS	**Las Juntas de**	**12.19**	**287**	*e*P	**Pn**	**06 30 07.5**	**+2.5**
GRFF	**Grenada Fort F**	**12.36**	**64**	*e*P	**Pn**	**06 30 08.2**	**+0.9**
GRFF				*e*S	**P**	**06 30 13.9**	**+0.7**
GRGR	**Grenville**	**12.47**	**64**	Pn	**Pn**	**06 30 07.6**	**-1.1**
ICMP	**Isla Caja de M**	**12.72**	**30**	Pn	**Pn**	**06 30 09.8**	**-2.1**
OBIP	**Obispado Ponce**	**12.81**	**29**		**Pn**	**06 30 10.3**	**-2.8**
GCMP	**Grenada, Carri**	**12.82**	**63**	*e*P	**Pn**	**06 30 12.0**	**-1.2**
CELP	**Cerrillos**	**12.86**	**29**		**Pn**	**06 30 12.1**	**-1.5**
ACON	**Acoyapa**	**12.93**	**294**		**Pn**	**06 30 17.0**	**+2.4**
AGPR	**Aguadilla, PR**	**12.95**	**26**	Pn	**Pn**	**06 30 14.2**	**-0.7**
PDPR	**Patillas Dam,**	**13.09**	**31**	Pn	**Pn**	**06 30 16.0**	**-0.6**
SJG	**San Juan**	**13.10**	**31**	P	**Pn**	**06 30 16.0**	**-0.8**
	comp=Z,14nm,0.3s,baz=206,slow=15,SNR=28						
SJG	**San Juan**	**13.10**	**31**		**Pn**	**06 30 14.5**	**-2.2**
TOSP	**Speyside**	**13.19**	**69**	Pn	**Pn**	**06 30 17.1**	**-0.8**
GCPR	**Guaynabo City**	**13.30**	**30**		**Pn**	**06 30 17.9**	**-1.4**
SVB	**Belmont**	**13.31**	**60**	*e*P	**Pn**	**06 30 18.5**	**-1.1**
SVV	**Soufriere Volc**	**13.37**	**60**	*e*P	**Pn**	**06 30 21.0**	**+0.8**
SVV				*e*S	P	06 30 29.5	+5.1
MCLT	**Moule a Chique**	**13.79**	**59**		**P**	**06 30 27.6**	**-1.3**
MCLT	**Moule a Chique**	**13.79**	**59**	*e*P	**Pn**	**06 30 23.1**	**-2.4**
MCLT				*e*S	**P**	**06 30 30.9**	**+2.0**
SLBI	**Saint Lucia, B**	**13.91**	**58**	*e*P	**Pn**	**06 30 28.4**	**+1.3**
SLBI				*e*S	**P**	**06 30 34.8**	**+4.5**
BIM	**Bigot**	**14.08**	**56**	Pn	**Pn**	**06 30 26.9**	**-2.3**
MPOM	**Morne Pois Mar**	**14.22**	**57**	*e*P	**Pn**	**06 30 29.2**	**-1.7**
MPOM				*e*S	**P**	**06 30 37.3**	**+3.6**
DSLB	**Salisbury**	**14.30**	**52**	*e*P	**Pn**	**06 30 32.7**	**+0.7**
CZSB	**Cruzeiro do Su**	**14.48**	**178**	*e*P	**Pn**	**06 30 34.5**	**+0.1**
MAGL	**Barre de l'ile**	**14.71**	**51**	*e*P	**Pn**	**06 30 36.8**	**-0.3**
MAGL				*e*S	P	06 30 49.1	+10
ATAH	**Atahualpa**	**14.85**	**201**	P	**Pn**	**06 30 40.0**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=61,slow=6.6,SNR=7.2						
ANBD	**Bethesda, Anti**	**15.03**	**47**	*e*P	**P**	**06 30 42.4**	**-0.4**
ANBD				*e*S	P	06 30 53.6	+11
MACA	**Manacapuru-AM**	**15.91**	**128**	*e*P	**Pn**	**06 30 51.5**	**-0.4**
ESQI	**Esquipulas**	**17.67**	**297**	IAmb	IAmb	06 31 17.6	
	comp=Z,36nm,0.7s						
ETMB	**Extrema**	**17.93**	**157**	*e*P	**P**	**06 31 14.6**	**-0.1**
PAYG	**Puerto Ayora**	**18.68**	**247**	P	**Pn**	**06 31 25.4**	**+0.2**
PAYG				IAmb	IAmb	06 31 40.9	
	comp=Z,64nm,1.2s						
NNA	**Nana**	**19.07**	**191**	LR	LR	06 39 49.0	
	comp=Z,42nm,20.5s,baz=332,slow=40						
PETF	**Flores**	**19.18**	**303**	IAmb	IAmb	06 31 36.0	
	comp=Z,104nm,1.4s						
MDP	**Montagnes des**	**20.44**	**94**	P	**P**	**06 31 41.4**	**-0.6**
	comp=Z,25nm,0.7s,baz=271,slow=11,SNR=14						
ITTB	**Itaituba**	**20.62**	**122**	*e*P	**P**	**06 31 44.4**	**+0.4**
MALB	**Monte Alegre**	**20.71**	**114**	*e*P	**P**	**06 31 45.1**	**+0.3**
MCPB	**Macapa, AP**	**22.20**	**108**	*e*P	**P**	**06 32 01.0**	**+0.4**
NPGB	**Novo Progresso**	**22.46**	**128**	*e*P	**P**	**06 32 02.6**	**-0.5**
DWPF	**Disney Wildern**	**22.57**	**341**	P	**P**	**06 32 05.6**	**+1.7**
	baz=158						
VILB	**Vilhena**	**23.49**	**147**	*e*P	**P**	**06 32 12.7**	**+0.2**
LPAZ	**La Paz**	**23.51**	**168**	P	**P**	**06 32 13.3**	**0.0**
	comp=Z,2.3nm,0.4s,baz=38,slow=2.4,SNR=10						
LPAZ				LR	LR	06 41 08.8	
	comp=Z,58nm,20.2s,baz=94,slow=36						
CMIG	**Matias Romero**	**23.57**	**298**	P	**P**	**06 32 11.5**	**-1.8**
	comp=Z,2.9nm,0.5s,baz=131,slow=8.0,SNR=5.0						
PDRB	**Porto dos Gac**	**24.54**	**138**	*e*P	**P**	**06 32 21.2**	**-0.9**
CLDB	**Colider**	**24.64**	**135**	*e*P	**P**	**06 32 22.2**	**-0.8**
PTLB	**Pontes e Lacer**	**26.13**	**148**	*e*P	**P**	**06 32 35.5**	**-0.9**
TIGA	**Tifton**	**26.35**	**340**	P	**P**	**06 32 40.5**	**+2.3**
	baz=156						

TMAB **Tom-Au,PA,Br** 26.61 109 *eP* **P** 06 32 41.5 +0.8
PRPB **Parauapebas** 26.61 119 *eP* **P** 06 32 40.8 0.0
GO01 **Chusmiza** 26.63 172 pP 06 33 14.2 +0.2
PB11 **IPOC Station P** 26.66 173 P **P** 06 32 40.6 -0.6
PB11 pP **pP** 06 33 13.5 -0.4
NHSC **New Hope** 26.94 347 P **P** 06 32 46.0 +2.6
baz=164
TLIG **Tlapa** 27.01 296 P **P** 06 32 46.4 +1.9
154A **Montrose** 27.27 341 IAmb IAmb 06 32 50.0
comp=Z,38nm,0.8s
Y59A **Loris** 27.53 350 IAmb IAmb 06 32 51.6
comp=Z,39nm,0.8s
GOGA **Godfrey** 28.12 341 IAmb IAmb 06 32 57.3
comp=Z,19nm,0.8s
GOGA **Godfrey** 28.12 341 P **P** 06 32 56.3 +2.3
baz=158,SNR=8.9
JSC **Jenkinsville** 28.32 346 IAmb IAmb 06 32 58.7
comp=Z,20nm,0.7s
HODGE **Hodges** 28.53 344 IAmb IAmb 06 33 00.7
comp=Z,25nm,0.6s
SNDB **Serra Nova Dou** 28.65 131 *eP* **P** 06 32 58.9 0.0
PB09 **IPOC Station P** 28.72 172 pP 06 33 32.9 +0.4
Y52A **Lilburn** 28.73 341 IAmb IAmb 06 33 02.4
comp=Z,24nm,0.6s
PAULI **Pauline** 28.97 345 IAmb IAmb 06 33 04.6
comp=Z,20nm,0.8s
LRAL **Lakeview Retre** 29.07 336 IAmb IAmb 06 33 05.8
comp=Z,20nm,0.8s
LRAL **Lakeview Retre** 29.07 336 P **P** 06 33 04.8 +2.3
baz=151,SNR=14
KMSC **Kings Mountain** 29.16 346 P **P** 06 33 05.1 +1.9
baz=163,SNR=7.5
X51A **Calhoun** 29.64 340 IAmb IAmb 06 33 10.4
comp=Z,15nm,0.8s
146A **Union** 29.64 332 IAmb IAmb 06 33 11.2
comp=Z,56nm,1.2s
V55A **Taylorsville** 29.81 347 IAmb IAmb 06 33 12.3
comp=Z,15nm,0.8s
W52A **Murphy** 29.82 342 IAmb IAmb 06 33 12.6
comp=Z,41nm,0.8s
SMTB **Santa Maria do** 29.85 121 *eP* **P** 06 33 10.1 +0.4
FPAL **Fort Paine** 29.87 339 IAmb IAmb 06 33 12.2
comp=Z,19nm,0.6s
VBMS **Vicksburg** 30.00 330 P **P** 06 33 13.1 +2.4
baz=144
T59A **Double "B" Far** 30.26 353 IAmb IAmb 06 33 15.4
comp=Z,18nm,0.7s
T60A **Surry** 30.33 354 IAmb IAmb 06 33 16.1
comp=Z,24nm,0.7s
CPCT **Cooper Cave** 30.33 341 IAmb IAmb 06 33 17.0
comp=Z,22nm,0.8s
W50A **Signal Mountai** 30.36 340 IAmb IAmb 06 33 17.3
comp=Z,34nm,0.8s
ROSB **Rosrio** 30.52 108 *eP* **P** 06 33 16.3 +0.8
T57A **Hurt** 30.53 350 IAmb IAmb 06 33 17.9
comp=Z,21nm,0.8s
V51A **Loudon** 30.61 342 IAmb IAmb 06 33 19.3
comp=Z,40nm,0.8s
ARAG **Araguaiana, MT** 30.78 137 *eP* **P** 06 33 15.7 -2.0
BLA **Blacksburg** 30.95 349 IAmb IAmb 06 33 22.2
comp=Z,26nm,1.2s
BLA **Blacksburg** 30.95 349 P **P** 06 33 21.4 +2.3
baz=166
PEXB **Peixe** 31.04 127 *eP* **P** 06 33 19.9 -0.1
TZTN **Tazewell** 31.06 344 IAmb IAmb 06 33 23.2
comp=Z,36nm,1.2s
TZTN **Tazewell** 31.06 344 P **P** 06 33 22.1 +2.1
baz=160,SNR=6.4
PLAL **Pickwick Lake** 31.20 336 IAmb IAmb 06 33 24.3
comp=Z,40nm,0.8s
S57A **Dark Hollow, R** 31.23 351 IAmb IAmb 06 33 24.1
comp=Z,22nm,0.7s
OXF **Oxford** 31.37 334 P **P** 06 33 24.0 +1.4
baz=148
CBN **Corbin Frederi** 31.45 354 IAmb IAmb 06 33 26.1
comp=Z,22nm,0.5s
CBN **Corbin Frederi** 31.45 354 P **P** 06 33 25.3 +1.9
baz=172
CLTN **Cedars of Leba** 31.52 339 IAmb IAmb 06 33 26.8
comp=Z,23nm,0.6s
S54A **Dingess, Beckl** 31.70 348 IAmb IAmb 06 33 28.9
comp=Z,19nm,0.8s
U49A **Red Boiling Sp** 31.71 340 IAmb IAmb 06 33 28.2
comp=Z,13nm,0.7s
T50A **Nancy** 31.88 342 IAmb IAmb 06 33 30.5
comp=Z,23nm,1.0s
NATX **Nacogdoches** 31.92 324 P **P** 06 33 29.4 +1.9
baz=136,SNR=6.1
R55A **Marlinton** 31.93 350 IAmb IAmb 06 33 31.1
comp=Z,15nm,0.8s
Z41A **Richland Creek** 32.00 328 P **P** 06 33 29.7 +1.4
Z41A pP **pP** 06 33 55.8 -4.7
Z41A IAmb IAmb 06 33 57.2
comp=Z,25nm,0.8s
Z41A **Richland Creek** 32.00 328 P **P** 06 33 29.6 +1.4
baz=141
S51A **Beattyville** 32.10 344 IAmb IAmb 06 33 32.1
comp=Z,20nm,0.8s
AQDB **Aquidauana** 32.10 148 pP 06 34 02.1 -0.5
AQDB **Aquidauana** 32.10 148 *eP* **P** 06 33 28.2 -1.1
WVT **Waverly** 32.11 337 P **P** 06 33 30.8 +1.7
WVT **Waverly** 32.11 337 P **P** 06 33 30.8 +1.7
baz=152
R53A **Hurricane** 32.35 347 IAmb IAmb 06 33 34.4
comp=Z,17nm,1.0s
ZAIG **Zacatecas** 32.47 302 P **P** 06 33 33.6 +0.8
Q56A **Snyder Ridge,** 32.52 351 IAmb IAmb 06 33 36.5
comp=Z,27nm,1.2s
T47A **Sharon Grove** 32.60 339 P **P** 06 33 35.5 +2.0
Q54A **Coxs Mills** 32.74 349 IAmb IAmb 06 33 37.6
comp=Z,18nm,0.9s
833A **Chaparral WMA,** 32.77 314 IAmb IAmb 06 33 36.3
comp=Z,15nm,0.7s
833A **Chaparral WMA,** 32.77 314 P **P** 06 33 35.4 +0.4
baz=126,SNR=5.7
X40A **Basin Creek Fa** 32.98 329 IAmb IAmb 06 33 38.8
comp=Z,25nm,0.7s
X40A **Basin Creek Pa** 32.98 329 P **P** 06 33 37.9 +1.1
baz=142,SNR=26
435B **Jarrell** 33.05 319 P **P** 06 33 38.6 +1.1
baz=131
R49A **Shelbyville** 33.15 343 IAmb IAmb 06 33 41.0
comp=Z,18nm,0.6s
Z38A **Mt. Pleasant** 33.20 325 IAmb IAmb 06 33 41.1
comp=Z,34nm,0.8s
MCWV **Mont Chateau** 33.22 351 IAmb IAmb 06 33 42.5
comp=Z,18nm,0.8s
MCWV **Mont Chateau** 33.22 351 P **P** 06 33 41.4 +2.6
baz=168
W41B **Gary Mavity, V** 33.23 331 IAmb IAmb 06 33 40.8
comp=Z,13nm,0.6s
W41B **Gary Mavity, V** 33.23 331 P **P** 06 33 40.3 +1.4
baz=144,SNR=10
P53A **Whipple** 33.34 348 IAmb IAmb 06 33 42.6
comp=Z,15nm,0.7s
Q51A **Peebles** 33.34 345 IAmb IAmb 06 33 43.2
comp=Z,35nm,0.7s
WHAR **Wooly Hollow** 33.34 331 P **P** 06 33 41.2 +1.3
WHAR IAmb IAmb 06 33 42.0
comp=Z,34nm,0.9s
BDFB **Brasilia** 33.43 132 P **P** 06 33 41.5 +0.4
comp=Z,2.1nm,0.5s,baz=298,slow=7.8,SNR=4.4
BDFB LR LR 06 48 50.0
comp=Z,87nm,19.1s,baz=271,slow=39
BDFB **Brasilia** 33.43 132 IAmb IAmb 06 33 41.7
comp=Z,8.7nm,1.3s
WCI **Wyandotte Cave** 33.45 341 P **P** 06 33 42.6 +1.9
WCI **Wyandotte Cave** 33.45 341 P **P** 06 33 42.6 +1.9
baz=156
LCAR **Lake Charles** 33.45 333 IAmb IAmb 06 33 43.3
comp=Z,28nm,0.6s
NBPS **Pedro II - PI** 33.53 109 *eP* **P** 06 33 42.4 +0.5
O56A **Blue Knob Stat** 33.63 352 IAmb IAmb 06 33 46.1
comp=Z,18nm,0.8s
O56A **Blue Knob Stat** 33.63 352 P **P** 06 33 45.1 +2.7
baz=170,SNR=7.7
P52A **Corning** 33.64 347 P **P** 06 33 44.7 +2.3
baz=164,SNR=23
LUPA **Lehigh Univers** 33.67 357 IAmb IAmb 06 33 46.1
comp=Z,33nm,0.8s
BRNJ **Basking Ridge** 33.72 358 IAmb IAmb 06 33 47.0
comp=Z,20nm,0.7s
WHTX **Lake Whitney,** 33.77 321 P **P** 06 33 45.1 +1.4
baz=133
SSPA **Standing Stone** 33.91 353 P **P** 06 33 46.6 +1.8
SSPA IAmb IAmb 06 33 48.3
comp=Z,26nm,1.2s

SSPA **Standing Stone** 33.91 353 P **P** 06 33 47.1 +2.4
baz=171
SDBA **SAO DESIDERIO** 33.95 124 *eP* **P** 06 33 43.9 -1.6
N59A **State Game Lan** 34.01 356 IAmb IAmb 06 33 49.0
comp=Z,20nm,0.8s
N59A **State Game Lan** 34.01 356 P **P** 06 33 48.1 +2.4
baz=175,SNR=8.7
W39A **Magazine** 34.02 329 P **P** 06 33 47.2 +1.5
baz=141,SNR=31
PAL **Palisades** 34.02 359 IAmb IAmb 06 33 48.1
comp=Z,20nm,0.6s
PAL **Palisades** 34.02 359 P **P** 06 33 47.4 +1.7
baz=178,SNR=5.7
O52A **Adamsville** 34.04 348 IAmb IAmb 06 33 49.1
comp=Z,39nm,0.8s
O53A **New Philadelph** 34.04 349 IAmb IAmb 06 33 48.7
comp=Z,21nm,0.7s
O53A **New Philadelph** 34.04 349 P **P** 06 33 48.1 +2.2
baz=165,SNR=8.1
TRNY **Table Rock, Ra** 34.17 359 IAmb IAmb 06 33 49.9
comp=Z,27nm,1.2s
P49A **Miami Univ. Ec** 34.18 344 P **P** 06 33 48.5 +1.5
baz=159
JCT **Junction City** 34.34 317 P **P** 06 33 48.5 -0.2
JCT **Junction City** 34.34 317 P **P** 06 33 49.2 +0.6
baz=128,SNR=5.5
ACSO **Alum Creek Sta** 34.40 347 IAmb IAmb 06 33 52.2
comp=Z,27nm,0.8s
ACSO **Alum Creek Sta** 34.40 347 P **P** 06 33 51.2 +2.2
baz=162,SNR=9.3
X37A **Clayton** 34.40 326 IAmb IAmb 06 33 51.2
comp=Z,26nm,1.1s
M63A **Gales Ferry** 34.43 1 P **P** 06 33 50.8 +1.7
M63A IAmb IAmb 06 33 52.3
comp=Z,43nm,1.4s
U40A **Yellville** 34.47 331 P **P** 06 33 51.2 +1.5
baz=144,SNR=110
N54A **Moraine State** 34.52 351 IAmb IAmb 06 33 53.5
comp=Z,28nm,0.9s
N54A **Moraine State** 34.52 351 P **P** 06 33 52.5 +2.5
baz=168,SNR=11
NBMO **Morrinhos-CE** 34.53 106 *eP* **P** 06 33 50.3 -0.2
M57A **Sunshine Farm,** 34.53 355 IAmb IAmb 06 33 53.6
comp=Z,22nm,0.9s
KSPA **Keystone Colle** 34.65 357 IAmb IAmb 06 33 54.1
comp=Z,29nm,0.8s
KSCT **Kent School, K** 34.74 360 IAmb IAmb 06 33 54.5
comp=Z,27nm,1.4s
IPMB **Ipameri, GO** 34.84 135 *eP* **P** 06 33 52.8 -0.3
M55A **Ridgway** 34.84 353 IAmb IAmb 06 33 55.4
comp=Z,18nm,0.6s
MGMO **Mountain Grove** 34.85 333 IAmb IAmb 06 33 55.1
comp=Z,27nm,0.8s
HHAR **Hobbs** 34.94 330 IAmb IAmb 06 33 55.2
comp=Z,25nm,0.8s
O48B **Farmland** 34.97 344 P **P** 06 33 55.4 +1.5
baz=159,SNR=6.0
M54A **Oil Creek Stat** 35.00 351 IAmb IAmb 06 33 57.5
comp=Z,40nm,1.1s
M54A **Oil Creek Stat** 35.00 351 P **P** 06 33 56.5 +2.3
baz=168,SNR=8.8
M53A **WI Miller and** 35.10 350 P **P** 06 33 57.1 +2.1
baz=167
CCM **Cathedral Cave** 35.15 335 P **P** 06 33 56.8 +1.4
CCM **Cathedral Cave** 35.15 335 P **P** 06 33 56.7 +1.2
baz=148
BINY **Binghamton** 35.30 356 IAmb IAmb 06 33 59.9
comp=Z,21nm,0.8s
BINY **Binghamton** 35.30 356 P **P** 06 33 59.0 +2.4
baz=175,SNR=9.7
M52A **Chesterland** 35.32 349 IAmb IAmb 06 33 59.5
comp=Z,16nm,0.7s
N49A **Columbus Grove** 35.34 345 IAmb IAmb 06 33 59.6
comp=Z,48nm,1.4s
L56A **Greenwood** 35.36 354 IAmb IAmb 06 34 00.8
comp=Z,35nm,1.1s
PCMB **Pacaembu** 35.49 143 *eP* **P** 06 33 57.8 -0.8
HRV **Adam Dziewonsk** 35.54 2 P **P** 06 34 00.7 +2.0
baz=182
ABTX **Abilene, Hawle** 35.58 320 IAmb IAmb 06 34 01.4
comp=Z,33nm,0.8s
ABTX **Abilene, Hawle** 35.58 320 P **P** 06 34 00.5 +1.2
baz=130,SNR=17
TUL1 **Leonard** 35.61 328 IAmb IAmb 06 34 00.9
comp=Z,31nm,0.7s
TUL1 **Leonard** 35.61 328 P **P** 06 34 00.0 +0.6
baz=139,SNR=19
TRCB **Terra Rica** 35.63 146 *eP* **P** 06 33 59.4 -0.4
W35A **Tecumseh** 35.65 326 IAmb IAmb 06 34 01.4
comp=Z,16nm,0.8s
ERPA **Erie** 35.65 351 IAmb IAmb 06 34 02.6
comp=Z,17nm,0.8s
ERPA **Erie** 35.65 351 P **P** 06 34 01.7 +2.0
baz=168
SFIN **Lafayette** 35.66 342 P **P** 06 34 01.3 +1.6
baz=156,SNR=65
NBPB **Pedra_Branca-C** 35.66 109 *eP* **P** 06 34 00.1 -0.1
WVNY **West Valley, N** 35.74 353 IAmb IAmb 06 34 03.6
comp=Z,27nm,0.9s
S39A **Bolivar** 35.77 332 IAmb IAmb 06 34 03.1
comp=Z,27nm,0.7s
X34A **Smith Ranch, M** 35.80 324 IAmb IAmb 06 34 03.2
comp=Z,23nm,0.8s
K57A **Scipio Center** 35.86 356 IAmb IAmb 06 34 04.3
comp=Z,29nm,0.8s
O44A **Mansfield** 35.90 340 IAmb IAmb 06 34 03.1
comp=Z,20nm,0.6s
JANB **Januaria** 35.91 127 *eP* **P** 06 34 01.9 -0.3
L48A **N Adams** 36.37 346 IAmb IAmb 06 34 08.9
comp=Z,18nm,0.9s
CPUP **Villa Florida** 36.37 156 LR LR 06 50 01.7
comp=Z,31nm,18.5s,baz=226,slow=38
J58A **Remsen** 36.42 357 IAmb IAmb 06 34 09.1
comp=Z,15nm,0.8s
J56A **Wolcott** 36.43 355 IAmb IAmb 06 34 08.9
comp=Z,31nm,0.9s
TXAR **Lajitas Array** 36.44 312 P **P** 06 34 08.0 +1.2
comp=Z,12nm,0.6s,baz=124,slow=9.1,SNR=214
TXAR PcP **PcP** 06 36 29.4 +1.7
comp=Z,8.2nm,0.8s,baz=142,slow=5.0,SNR=18
TX32 **Lajitas Array** 36.44 312 IAmb IAmb 06 34 08.9
comp=Z,16nm,0.8s
WMOK **Wichita Mounta** 36.46 323 IAmb IAmb 06 34 07.9
comp=Z,21nm,0.7s
WMOK **Wichita Mounta** 36.46 323 P **P** 06 34 06.9 +0.2
baz=134,SNR=36
MEDO **Medina** 36.48 353 IAmb IAmb 06 34 09.4
comp=Z,37nm,1.0s
J57A **Williamstown** 36.51 356 IAmb IAmb 06 34 09.6
comp=Z,40nm,0.8s
J55A **Hilton** 36.51 354 IAmb IAmb 06 34 09.2
comp=Z,20nm,0.7s
AAM **Ann Arbor** 36.52 347 P **P** 06 34 09.9 +2.8
baz=162,SNR=8.2
HDIL **Hopedale** 36.55 339 P **P** 06 34 07.9 +0.6
baz=152,SNR=15
T35A **Sooner Cattle** 36.75 328 IAmb IAmb 06 34 10.5
comp=Z,40nm,1.0s
BB19B **Bebedouro** 36.78 140 *eP* **P** 06 34 08.6 -1.0
M44A **Midewin, Midew** 36.87 341 IAmb IAmb 06 34 11.6
comp=Z,29nm,1.1s
NBMA **Muriti-CE** 37.06 112 *eP* **P** 06 34 11.7 -0.4
PECO **Prince Edward** 37.10 355 IAmb IAmb 06 34 14.3
comp=Z,14nm,0.7s
NBPN **Ponto Novo - B** 37.19 118 *eP* **P** 06 34 12.4 -0.7
LBNH **Lisbon** 37.26 1 P **P** 06 34 15.3 +2.0
baz=182
PTGB **Pitanga** 37.49 148 *eP* **P** 06 34 16.3 +0.7
L44A **Lake County Fo** 37.55 342 IAmb IAmb 06 34 17.2
comp=Z,27nm,0.7s
L44A **Lake County Fo** 37.55 342 P **P** 06 34 16.5 +0.7
baz=155
LONY **Lake Ozonia** 37.65 358 P **P** 06 34 18.3 +1.8
baz=178
DELO **Deloro Mine** 37.73 355 IAmb IAmb 06 34 19.2
comp=Z,17nm,0.6s
G62A **West of Eustis** 38.29 3 P **P** 06 34 23.0 +1.1
G62A IAmb IAmb 06 34 25.7
comp=Z,12nm,0.6s
DIAM **Diamantina, MG** 38.32 131 *eP* **P** 06 34 22.1 -0.6
AMTX **Amarillo** 38.33 321 P **P** 06 34 23.6 +1.0
baz=130
PKME **Peaks-Kenny Pk** 38.42 4 P **P** 06 34 24.7 +1.7
baz=186
MSTX **Muleshoe** 38.46 319 P **P** 06 34 24.4 +0.7
baz=128,SNR=18
KSU1 **Kansas State U** 38.46 330 P **P** 06 34 23.6 +0.1
baz=140,SNR=20

MNTQ **Montreal, Queb** 38.51 359 IAmb IAmb 06 34 26.6
comp=Z,24nm,0.8s
L40A **Anamosa** 38.57 338 IAmb IAmb 06 34 25.4
comp=Z,33nm,0.8s
MNTX **Cornudas Mount** 38.95 314 IAmb IAmb 06 34 30.7
comp=Z,31nm,0.8s
MNTX **Cornudas Mount** 38.95 314 P **P** 06 34 29.0 +1.3
baz=123,SNR=67
JFWS **Jewell Farm** 38.97 340 P **P** 06 34 28.3 +0.7
baz=152,SNR=43
R32A **Long Quarter,** 39.04 327 IAmb IAmb 06 34 29.7
comp=Z,29nm,1.2s
GLMI **Grayling** 39.14 347 P **P** 06 34 33.0 +4.1
baz=162
VAO **Valinhos** 39.17 140 *eP* **P** 06 34 28.9 -0.8
SCIA **State Center** 39.20 336 P **P** 06 34 30.5 +0.9
baz=147,SNR=14
RCBR **Riachuelo** 39.22 108 *eP* **P** 06 34 30.2 +0.1
BSCB **Bom Sucesso** 39.25 135 *eP* **P** 06 34 29.9 -0.5
NBLA **Lagarto - SE** 39.38 116 *eP* **P** 06 34 30.2 -1.2
LMN **Caledonia Moun** 39.52 9 P **P** 06 34 33.5 +1.4
LMN IAmb IAmb 06 34 34.7
comp=Z,26nm,0.5s
K38A **Parkersburg** 39.66 337 IAmb IAmb 06 34 34.6
comp=Z,21nm,0.8s
NBIT **Itapeh - BA** 39.79 123 *eP* **P** 06 34 34.7 -0.1
CBKS **Cedar Bluff** 39.87 327 IAmb IAmb 06 34 36.6
comp=Z,78nm,1.5s
CBKS **Cedar Bluff** 39.87 327 P **P** 06 34 35.7 +0.4
baz=136,SNR=8.8
PET01 **Itanhaem-SP** 39.91 142 *eP* **P** 06 34 34.5 -1.2
CMC01 **Camacan, BA** 39.94 124 *eP* **P** 06 34 35.2 -0.8
I40A **Norwalk** 39.96 340 IAmb IAmb 06 34 37.3
comp=Z,47nm,0.9s
N33A **J Bar K, Exete** 40.14 331 IAmb IAmb 06 34 39.8
comp=Z,25nm,0.7s
NBAN **Anadia - AL** 40.21 114 *eP* **P** 06 34 37.7 -0.6
D62A **Allapoint, All** 40.24 4 P **P** 06 34 39.7 +1.6
D62A IAmb IAmb 06 34 41.4
comp=Z,14nm,0.6s
GUA01 **Guaratinga, BA** 40.35 126 *eP* **P** 06 34 38.8 -0.6
SJMB **Sao Joao De Ma** 40.45 129 *eP* **P** 06 34 40.5 +0.3
LMQ **La Malbaie** 40.63 3 P **P** 06 34 43.3 +2.1
LMQ IAmb IAmb 06 34 44.2
comp=Z,13nm,0.6s
BATG **Bathurst New B** 40.74 7 P **P** 06 34 43.7 +1.6
BATG IAmb IAmb 06 34 44.1
comp=Z,21nm,0.5s
F42A **Maple Grove Fa** 40.89 344 IAmb IAmb 06 34 45.2
comp=Z,35nm,0.6s
BGNE **Belgrade** 40.99 331 P **P** 06 34 44.5 +0.1
baz=140,SNR=17
G40A **Rib Lake** 41.05 342 IAmb IAmb 06 34 46.8
comp=Z,33nm,1.1s
I37A **Lemond, Waseca** 41.06 338 IAmb IAmb 06 34 46.1
comp=Z,17nm,0.5s
121A **Cookes Peak, D** 41.12 313 IAmb IAmb 06 34 49.2
comp=Z,28nm,1.1s
121A **Cookes Peak, D** 41.12 313 P **P** 06 34 48.2 +2.4
baz=121,SNR=9.8
E43A **Lone Tree Farm** 41.16 345 IAmb IAmb 06 34 47.0
comp=Z,17nm,0.7s
Y22D **IRIS PASSCAL I** 41.33 316 P **P** 06 34 49.5 +2.1
baz=123
RIB01 **Linhares ES** 41.41 129 *eP* **P** 06 34 47.5 -0.5
T25A **Trinidad** 41.47 321 IAmb IAmb 06 34 51.4
comp=Z,15nm,0.6s
T25A **Trinidad** 41.47 321 P **P** 06 34 50.9 +2.3
baz=129,SNR=12
COWI **Conover** 41.48 343 IAmb IAmb 06 34 51.0
comp=Z,34nm,0.9s
ANMO **Albuquerque** 41.49 317 P **P** 06 34 50.5 +1.7
ANMO **Albuquerque** 41.49 317 P **P** 06 34 50.4 +1.6
baz=125
KSCO **Kaye Shedlock'** 41.62 325 IAmb IAmb 06 34 51.9
comp=Z,25nm,0.6s
KSCO **Kaye Shedlock'** 41.62 325 P **P** 06 34 50.8 +1.1
baz=133,SNR=10
319A **Douglas** 41.66 311 IAmb IAmb 06 34 53.3
comp=Z,24nm,0.8s
SPMN **Marine on St.** 41.88 339 P **P** 06 34 51.7 +0.2
baz=150,SNR=15
CAM01 **Campos-RJ** 42.00 134 *eP* **P** 06 34 53.8 +1.1
ECSD **EROS Data Cent** 42.12 334 P **P** 06 34 53.6 +0.1
ECSD IAmb IAmb 06 34 54.6
comp=Z,32nm,1.0s
ECSD **EROS Data Cent** 42.12 334 P **P** 06 34 53.5 0.0
baz=144,SNR=36
SDCO **Great Sand Dun** 42.53 321 IAmb IAmb 06 35 00.2
comp=Z,19nm,0.7s
SDCO **Great Sand Dun** 42.53 321 P **P** 06 34 59.3 +2.0
baz=128,SNR=49
OGNE **Ogallala** 42.63 327 IAmb IAmb 06 35 00.1
comp=Z,20nm,0.6s
OGNE **Ogallala** 42.63 327 P **P** 06 34 58.5 +0.7
baz=135
E38A **The Farm, Brul** 42.67 341 IAmb IAmb 06 34 59.4
comp=Z,19nm,0.7s
F36A **Milaca** 42.69 339 P **P** 06 34 58.6 +0.6
F36A IAmb IAmb 06 35 00.5
comp=Z,32nm,1.4s
Q24A **Divide** 43.08 323 P **P** 06 35 03.1 +1.4
baz=130,SNR=9.3
TUC **Tucson** 43.23 311 P **P** 06 35 04.3 +1.6
TUC **Tucson** 43.23 311 P **P** 06 35 04.5 +1.8
baz=118
S22A **4UR Ranch, Cre** 43.36 320 IAmb IAmb 06 35 07.2
comp=Z,38nm,1.3s
S22A **4UR Ranch, Cre** 43.36 320 P **P** 06 35 06.0 +2.0
baz=127,SNR=31
F33A **5 Mile Ranch,** 43.71 337 IAmb IAmb 06 35 07.7
comp=Z,19nm,0.7s
SUSD **Miller** 43.71 333 P **P** 06 35 06.7 +0.4
baz=141,SNR=77
EYMN **Ely** 43.84 342 P **P** 06 35 08.0 +0.7
baz=153,SNR=29
W18A **Petrified Fore** 43.84 315 IAmb IAmb 06 35 11.0
comp=Z,44nm,0.9s
W18A **Petrified Fore** 43.84 315 P **P** 06 35 09.7 +2.0
baz=121,SNR=13
ISCO **Idaho Springs** 43.88 323 IAmb IAmb 06 35 11.1
comp=Z,24nm,0.9s
ISCO **Idaho Springs** 43.88 323 P **P** 06 35 10.0 +1.9
baz=130,SNR=45
MVCO **Mesa Verde** 44.13 318 IAmb IAmb 06 35 12.7
comp=Z,46nm,1.4s
MVCO **Mesa Verde** 44.13 318 P **P** 06 35 11.8 +1.7
baz=124,SNR=18
214A **Organ Pipe Nat** 44.61 309 P **P** 06 35 15.5 +1.8
baz=116,SNR=7.4
N23A **Red Feather La** 44.78 324 IAmb IAmb 06 35 18.8
comp=Z,26nm,0.9s
N23A **Red Feather La** 44.78 324 P **P** 06 35 17.0 +1.8
baz=130,SNR=20
PV13 **Radium Mtn., P** 44.88 319 IAmb IAmb 06 35 18.8
comp=Z,42nm,0.7s
B35A **Bob, Littlor** 44.92 341 IAmb IAmb 06 35 17.1
comp=Z,40nm,0.6s
PV07 **Paradox Valley** 44.93 320 IAmb IAmb 06 35 19.3
comp=Z,50nm,1.4s
PV11 **David Mesa, Pa** 45.00 319 IAmb IAmb 06 35 19.6
comp=Z,17nm,0.7s
PV23 **Carpenter Ridg** 45.17 320 IAmb IAmb 06 35 22.1
comp=Z,15nm,0.6s
WUAZ **Wupatki** 45.20 315 IAmb IAmb 06 35 22.1
comp=Z,56nm,0.9s
WUAZ **Wupatki** 45.20 315 P **P** 06 35 20.5 +2.1
baz=120,SNR=51
LC01 **Cunco** 45.52 179 pP 06 35 56.5 +0.8
AGMN **Agassiz Nation** 45.60 339 IAmb IAmb 06 35 22.6
comp=Z,39nm,0.6s
AGMN **Agassiz Nation** 45.60 339 P **P** 06 35 21.9 +0.8
baz=148,SNR=45
Y14A **Wickenburg** 45.63 312 IAmb IAmb 06 35 24.4
comp=Z,29nm,0.8s
O20A **White River Ci** 45.68 322 P **P** 06 35 24.1 +2.0
baz=127,SNR=14
RSSD **Black Hills** 45.92 329 P **P** 06 35 25.3 +1.3
RSSD **Black Hills** 45.92 329 P **P** 06 35 25.0 +1.0
baz=135
RWWY **Rawlins** 46.02 324 IAmb IAmb 06 35 26.7
comp=Z,26nm,0.8s
K22A **Casper** 46.25 326 P **P** 06 35 27.8 +1.3
baz=131,SNR=9.0
U15A **North Rim** 46.30 315 IAmb IAmb 06 35 30.4
comp=Z,34nm,1.0s
SRU **San Rafael Swe** 46.52 319 IAmb IAmb 06 35 31.4

GLA **Glamis** **46.62 310** IAmb IAmb 06 35 32.2
comp=Z,28nm,0.8s
GLA **Glamis** **46.62 310** P **P** **06 35 31.3 +1.8**
baz=115,SNR=7.8
P18A **Preston Nutter** **46.63 320** IAmb IAmb 06 35 32.6
comp=Z,40nm,1.4s
PDMCI **Parker Dam,Lak** **46.64 312** P **P** **06 35 30.9 +1.4**
baz=116
MDND **Maddock** **46.67 336** P **P** **06 35 30.5 +1.0**
baz=142,SNR=28
P17A **Butcher Ranch,** **46.86 320** IAmb IAmb 06 35 34.1
comp=Z,31nm,0.9s
KNB **Kanab** **46.96 316** IAmb IAmb 06 35 35.5
comp=Z,41nm,0.9s
LCMT **Little Creek M** **47.25 315** IAmb IAmb 06 35 38.0
comp=Z,34nm,0.9s
ULM **Lac du Bonnet** **47.26 340** P **P** **06 35 34.3 +0.3**
comp=Z,57nm,0.5s,baz=146,slow=7.3,SNR=94
ULM PcP **PcP** **06 37 02.7 -0.1**
comp=Z,7.3nm,0.6s,baz=333,slow=2.3,SNR=3.7
SWSC **Sam W. Stewart** **47.32 309** P **P** **06 35 36.3 +1.5**
baz=114
IRM **Iron Mountain** **47.32 311** P **P** **06 35 36.6 +1.7**
baz=115,SNR=7.0
BC3 **Big Chuckawall** **47.34 310** P **P** **06 35 36.6 +1.4**
baz=115,SNR=5.9
PLCA **Paso Flores** **47.40 177** P **P** **06 35 34.9 -0.5**
comp=Z,1.2nm,0.4s,baz=5.0,slow=11,SNR=7.1
PLCA pP **pP** **06 36 09.3 -1.4**
comp=Z,6.7nm,1.0s,baz=356,slow=10,SNR=5.0
PLCA ScP **ScP** **06 40 40.7 -2.8**
comp=Z,2.5nm,0.9s,baz=335,slow=6.0,SNR=5.4
PLCA **Paso Flores** **47.40 177** IAmb IAmb 06 35 37.3
comp=Z,4.0nm,1.1s
SZCU **Shurtz Canyon** **47.43 316** IAmb IAmb 06 35 37.9
comp=Z,17nm,0.6s
TCRU **Three Creeks R** **47.52 318** IAmb IAmb 06 35 39.5
comp=Z,48nm,0.9s
BELC **Belle Mtn. Jos** **47.90 310** P **P** **06 35 41.0 +1.5**
baz=114
GMRC **Granite Mounta** **47.97 311** P **P** **06 35 41.4 +1.4**
baz=115
NLU **North Lily Min** **47.99 319** IAmb IAmb 06 35 42.3
comp=Z,14nm,0.7s
BW06 **Boulder Array** **48.06 324** IAmb IAmb 06 35 42.5
comp=Z,28nm,1.2s
BW06 **Boulder Array** **48.06 324** P **P** **06 35 41.6 +1.0**
baz=128,SNR=26
PD31 **Pinedale Array** **48.06 324** IAmb IAmb 06 35 42.5
comp=Z,25nm,1.2s
PDAR **Pinedale Array** **48.06 324** P **P** **06 35 41.6 +0.9**
comp=Z,11nm,0.6s,baz=126,slow=8.8,SNR=87
PDAR PcP **PcP** **06 37 06.5 +0.3**
comp=Z,2.3nm,0.6s,baz=133,slow=5.6,SNR=5.0
PDAR ScP **ScP** **06 40 46.0 -0.5**
comp=Z,0.4nm,0.6s,baz=131,slow=6.4,SNR=3.4
TPFO **Pinon Flats** **48.09 310** P **P** **06 35 42.0 +1.2**
baz=114
PFO **Pinyon Flats O** **48.09 310** P **P** **06 35 42.4 +1.4**
baz=114
SCHQ **Schefferville** **48.12 5** P **P** **06 35 41.6 +1.0**
comp=Z,14nm,0.5s,baz=193,slow=6.7,SNR=102
SCHQ ScP **ScP** **06 40 45.4 -0.8**
comp=Z,4.1nm,0.8s,baz=180,slow=5.9,SNR=5.8
SCHQ **Schefferville** **48.12 5** IAmb IAmb 06 35 42.1
comp=Z,16nm,0.6s
109C **Camp Elliot, M** **48.30 309** P **P** **06 35 44.6 +2.1**
baz=113
PSUT **Pine Spring** **48.43 317** IAmb IAmb 06 35 49.8
comp=Z,15nm,0.7s
TUQ **Turquoise Moun** **48.45 312** P **P** **06 35 45.1 +1.5**
baz=116,SNR=13
HEC **Hector,Ludlow** **48.50 311** P **P** **06 35 45.7 +1.8**
baz=115
HWUT **Hardware Ranch** **48.58 322** IAmb IAmb 06 35 46.9
comp=Z,18nm,0.7s
DUG **Dugway, Tooele** **48.59 319** IAmb IAmb 06 35 47.4
comp=Z,16nm,0.8s
DUG **Dugway, Tooele** **48.59 319** P **P** **06 35 46.4 +1.7**
baz=122,SNR=25
MURC **Murrieta** **48.65 309** P **P** **06 35 46.4 +1.3**
baz=113
BBRC **Big Bear Solar** **48.70 310** P **P** **06 35 47.4 +1.7**
baz=114
LAO **LASA Array** **48.81 330** IAmb IAmb 06 35 47.5
comp=Z,17nm,0.6s
LAO **LASA Array** **48.81 330** P **P** **06 35 46.7 +0.5**
baz=134,SNR=12
AHID **Auburn Hatcher** **48.97 323** IAmb IAmb 06 35 49.4
comp=Z,25nm,0.9s
GSC **Goldstone, Bar** **49.04 312** IAmb IAmb 06 35 50.8
comp=Z,19nm,0.8s
GSC **Goldstone, Bar** **49.04 312** P **P** **06 35 49.9 +1.7**
baz=115,SNR=12
DGMT **Dagmar** **49.13 333** P **P** **06 35 50.2 +1.7**
baz=137,SNR=68
SNOW **Snow King Moun** **49.17 324** IAmb IAmb 06 35 52.2
comp=Z,30nm,0.9s
LOHW **Long Hollow** **49.18 324** IAmb IAmb 06 35 51.4
comp=Z,22nm,0.6s
BFSC **Mount Baldy Ra** **49.25 310** P **P** **06 35 51.4 +1.5**
baz=113
TPAW **Teton Pass** **49.31 324** IAmb IAmb 06 35 51.8
comp=Z,22nm,0.7s
S11A **Rachel** **49.31 315** IAmb IAmb 06 35 53.5
comp=Z,25nm,1.2s
MOOW **Moose Ponds** **49.34 324** IAmb IAmb 06 35 52.5
comp=Z,14nm,0.8s
TPNV **Topopah Spring** **49.35 314** P **P** **06 35 52.6 +2.0**
baz=117,SNR=22
RLMT **Red Lodge** **49.36 327** P **P** **06 35 51.6 +1.0**
baz=130,SNR=19
HVU **Hansel Valley** **49.43 321** IAmb IAmb 06 35 54.9
comp=Z,12nm,0.7s
R11A **Troy Canyon, C** **49.52 316** P **P** **06 35 53.6 +1.8**
baz=118,SNR=26
FURC **Furnace Creek,** **49.58 313** P **P** **06 35 54.0 +1.9**
baz=116,SNR=9.9
H17A **Grant Village** **49.63 325** P **P** **06 35 54.0 +1.4**
baz=128,SNR=6.2
EDW2 **Edwards Air Fo** **49.76 311** P **P** **06 35 54.9 +1.3**
baz=113,SNR=5.6
LRMC **Laurel Mtn Rad** **49.77 311** P **P** **06 35 55.1 +1.4**
baz=114,SNR=6.8
MPMC **Manual Prospec** **49.87 312** P **P** **06 35 55.7 +1.2**
baz=115
CCAC **Calif City Air** **49.89 311** IAmb IAmb 06 35 57.1
comp=Z,32nm,0.7s
YMR **Madison River** **50.02 325** IAmb IAmb 06 35 58.3
comp=Z,20nm,0.6s
GRAC **Grapevine Rang** **50.17 313** P **P** **06 35 58.7 +2.0**
baz=116,SNR=6.8
ISA **Isabella, Lake** **50.43 311** P **P** **06 36 00.6 +2.0**
ISA **Isabella, Lake** **50.43 311** P **P** **06 36 00.1 +1.5**
baz=114
CWC **Cottonwood Cre** **50.46 312** P **P** **06 36 00.5 +1.5**
baz=114
ARVC **Arvin** **50.49 310** P **P** **06 36 00.4 +1.4**
baz=113
TIN **Tinemaha, Big** **50.82 313** P **P** **06 36 03.3 +1.7**
baz=115
BOZ **Bozeman (W)** **50.96 326** IAmb IAmb 06 36 04.8
comp=Z,16nm,0.7s
BOZ **Bozeman (W)** **50.96 326** P **P** **06 36 03.9 +1.5**
baz=127,SNR=30
VES **Vestal, Richgr** **50.96 311** P **P** **06 36 04.4 +2.0**
baz=113,SNR=8.2
DLMT **Dillon** **51.37 325** IAmb IAmb 06 36 08.7
comp=Z,23nm,1.3s
HLID **Hailey** **51.41 322** IAmb IAmb 06 36 08.8
comp=Z,15nm,0.8s
HLID **Hailey** **51.41 322** P **P** **06 36 07.3 +1.3**
baz=123,SNR=29
SMMC **Simmler** **51.44 310** P **P** **06 36 07.9 +1.8**
baz=112,SNR=7.2
NVAR **Mina Array Bea** **51.46 315** P **P** **06 36 08.0 +1.5**
comp=Z,8.3nm,0.7s,baz=123,slow=7.2,SNR=62
NVAR PcP **PcP** **06 37 20.0 +1.2**
comp=Z,4.2nm,0.6s,baz=131,slow=4.9,SNR=15
NVAR LR LR 07 01 47.0
comp=Z,72nm,19.2s,baz=307,slow=40
EGMT **Eagleton** **51.49 329** IAmb IAmb 06 36 08.7
comp=Z,49nm,1.4s
EGMT **Eagleton** **51.49 329** P **P** **06 36 07.5 +1.2**
baz=131,SNR=15
LHV **Little Huntoon** **51.53 314** IAmb IAmb 06 36 09.8
comp=Z,32nm,1.4s

PAGB **Antelope Grade** **51.79 311** IAmb IAmb 06 36 11.1
comp=Z,21nm,0.8s
MFID **Camas Ranch** **52.21 321** IAmb IAmb 06 36 15.2
comp=Z,28nm,0.8s
YERR **Yerington** **52.36 315** IAmb IAmb 06 36 15.7
comp=Z,21nm,0.8s
PNTR **Pine Nut** **52.66 315** IAmb IAmb 06 36 18.0
comp=Z,21nm,0.8s
VCNR **Virginia City** **52.78 315** IAmb IAmb 06 36 19.0
comp=Z,25nm,1.1s
EMB **Emerald Bay** **52.97 314** IAmb IAmb 06 36 20.3
comp=Z,22nm,1.0s
MSO **Missoula** **52.98 326** P **P** **06 36 18.3 +1.0**
baz=126,SNR=12
RUBR **Rubicon Trail** **53.04 315** IAmb IAmb 06 36 23.9
comp=Z,32nm,0.9s
MPK **Martis Peak** **53.05 315** IAmb IAmb 06 36 22.6
comp=Z,31nm,0.9s
FFC **Flin Flon** **53.06 339** P **P** **06 36 18.4 +0.7**
PLID **Pearl Lake** **53.20 323** IAmb IAmb 06 36 20.7
comp=Z,19nm,0.8s
WVOR **Wild Horse Val** **53.51 319** IAmb IAmb 06 36 25.0
comp=Z,30nm,1.0s
JTMT **Jette** **53.71 327** IAmb IAmb 06 36 25.2
comp=Z,29nm,0.9s
J08A **Circle Bar Ran** **53.84 320** IAmb IAmb 06 36 26.1
comp=Z,20nm,1.1s
ORV **Oroville** **54.20 315** IAmb IAmb 06 36 28.7
comp=Z,13nm,0.8s
F10A **Beach Ranch, E** **54.40 323** IAmb IAmb 06 36 29.1
comp=Z,23nm,0.6s
O03E **Paynes Creek** **54.71 315** IAmb IAmb 06 36 31.3
comp=Z,16nm,0.9s
O03E **Paynes Creek** **54.71 315** P **P** **06 36 30.4 +0.4**
baz=114,SNR=5.9
I07A **Izee** **54.85 320** IAmb IAmb 06 36 33.2
comp=Z,19nm,0.8s
E09A **Wood Farm, Sta** **55.23 324** IAmb IAmb 06 36 35.3
comp=Z,20nm,0.9s
M04C **Macdoel** **55.35 317** P **P** **06 36 35.7 +1.0**
baz=115,SNR=6.8
O02D **Mt. Diablo Mer** **55.35 315** P **P** **06 36 33.9 -0.7**
baz=113
NEW **Newport** **55.57 326** IAmb IAmb 06 36 37.0
comp=Z,8.5nm,0.6s
NEW **Newport** **55.57 326** P **P** **06 36 36.5 +0.5**
baz=123,SNR=9.3
J05D **Fort Rock, OR** **55.59 319** P **P** **06 36 37.7 +1.3**
baz=116,SNR=14
K04D **Chiloquin, OR** **55.65 318** P **P** **06 36 38.0 +1.2**
baz=116,SNR=5.4
L04D **Klamath Falls** **55.84 317** P **P** **06 36 38.8 +0.6**
baz=115,SNR=5.5
M02C **Callahan** **55.88 316** IAmb IAmb 06 36 45.1
comp=Z,22nm,1.5s
M02C **Callahan** **55.88 316** P **P** **06 36 38.6 +0.2**
baz=114
D08A **Wollman Farm,** **55.96 324** IAmb IAmb 06 36 40.8
comp=Z,10.0nm,0.8s
F07A **Phinny Hill Vi** **55.98 322** IAmb IAmb 06 36 42.6
comp=Z,20nm,0.6s
HAWA **Hanford** **55.99 323** IAmb IAmb 06 36 41.9
comp=Z,16nm,1.4s
I05D **Tetebonne, OR** **56.13 320** P **P** **06 36 41.7 +1.6**
baz=117
J04D **Umpqua Nationa** **56.15 318** P **P** **06 36 41.7 +1.2**
baz=116,SNR=8.4
G05D **Wamic, OR** **56.53 321** P **P** **06 36 45.5 +2.6**
baz=118
I04A **Tendick Farm,** **56.59 319** P **P** **06 36 43.6 +0.3**
baz=116
L02E **Cave Junction** **56.70 317** P **P** **06 36 44.9 +0.8**
baz=114
B08A **Colville Reser** **56.87 325** IAmb IAmb 06 36 46.9
comp=Z,20nm,0.8s
F05D **White Salmon** **56.92 321** IAmb IAmb 06 36 48.2
comp=Z,12nm,0.9s
K02D **Willamette Mer** **56.96 317** P **P** **06 36 46.7 +0.7**
baz=114
LTY **Liberty** **57.10 323** IAmb IAmb 06 36 49.1
comp=Z,22nm,0.7s
I03D **Drain, OR** **57.16 318** P **P** **06 36 48.4 +1.2**
baz=115
J01E **Myrtle Point** **57.33 318** P **P** **06 36 49.9 +1.5**
baz=114
I02E **Swisshome, OR** **57.66 319** P **P** **06 36 52.3 +1.5**
baz=114
G03D **McMinnville, O** **57.75 320** P **P** **06 36 52.6 +1.3**
baz=116
D05A **Enumclaw** **57.85 323** IAmb IAmb 06 36 54.0
comp=Z,22nm,0.8s
E04D **Cinebar** **57.91 322** P **P** **06 36 53.3 +0.9**
baz=117
F04D **Rainier, OR** **57.97 321** P **P** **06 36 53.9 +1.0**
baz=116
D04E **Lakebay** **58.32 322** P **P** **06 36 56.4 +1.1**
baz=117
B05A **Bryant** **58.42 324** P **P** **06 36 56.5 +0.5**
baz=118
D03D **Eldon** **58.68 323** P **P** **06 36 58.3 +0.6**
baz=117
DY2G **Dye2** **62.35 12** *i* P **P** **06 37 21.8 -0.8**
DY2G IAmb IAmb 06 37 23.2
comp=Z,16nm,0.7s
YKA **Yellowknife Ar** **63.24 340** P **P** **06 37 28.8 +0.6**
comp=Z,42nm,0.6s,baz=132,slow=6.7,SNR=895
YKA pP **pP** **06 38 05.0 +0.6**
comp=Z,3.5nm,0.6s,baz=131,slow=6.3,SNR=1.8
ICESG **Greenland Ices** **65.93 13** *i* P **P** **06 37 45.1 -0.9**
ICESG IAmb IAmb 06 37 46.9
comp=Z,17nm,1.1s
DLBC **Dease Lake** **67.30 331** P **P** **06 37 56.4 +1.8**
DLBC IAmb IAmb 06 37 56.7
comp=Z,14nm,0.6s
WTLY **Watson Lake, Y** **67.48 333** P **P** **06 37 57.0 +1.3**
baz=117
TIC **Toumodi** **67.58 86** *e* P **P** **06 37 55.4 -1.7**
LIC **Lamto** **67.60 86** *e* P **P** **06 37 55.7 -1.5**
comp=Z,35nm,0.6s
DBIC **Dimbokro** **67.73 86** P **P** **06 37 56.9 -1.2**
comp=Z,8.2nm,0.6s,baz=276,slow=7.1,SNR=17
DBIC **Dimbokro** **67.73 86** IAmb IAmb 06 37 57.4
comp=Z,10nm,0.7s
KIC **Kosan Boka** **67.88 86** *e* P **P** **06 37 57.6 -1.4**
comp=Z,29nm,0.6s
TGTN **Hyland Airport** **67.92 335** P **P** **06 38 00.1 +1.7**
baz=118,SNR=13
SUMG **Summit** **68.96 11** *i* P **P** **06 38 04.5 -0.6**
SUMG IAmb IAmb 06 38 06.2
comp=Z,40nm,0.6s
SUMG **Summit** **68.96 11** P **P** **06 38 05.9 +0.8**
P33M **Teslin, Yukon** **69.34 333** IAmb IAmb 06 38 11.2
comp=Z,22nm,1.2s
P33M **Teslin, Yukon** **69.34 333** P **P** **06 38 08.8 +1.5**
baz=114,SNR=8.7
MMPY **Sheldon Lake,** **69.68 335** P **P** **06 38 10.7 +1.4**
baz=116
TULEG **Thule** **69.69 1** *i* P **P** **06 38 08.6 -0.4**
TULEG IAmb IAmb 06 38 09.7
comp=Z,8.2nm,0.6s
TULEG **Thule** **69.69 1** P **P** **06 38 09.7 +0.7**
TULEG IAmb IAmb 06 38 10.5
comp=Z,12nm,0.8s
SKAG **Skagway** **70.23 331** P **P** **06 38 14.2 +1.6**
baz=111
FARO **Faro, Yukon** **70.39 334** P **P** **06 38 15.0 +1.4**
baz=114,SNR=7.1
C36M **Paulatuk** **70.57 343** P **P** **06 38 13.5 -1.0**
baz=125,SNR=5.6
M31M **Drury Creek, Y** **70.83 334** IAmb IAmb 06 38 18.5
comp=Z,14nm,0.7s
M31M **Drury Creek, Y** **70.83 334** P **P** **06 38 17.8 +1.5**
baz=113,SNR=14
N31M **Braeburn, Yuko** **71.17 333** P **P** **06 38 20.0 +1.7**
baz=111,SNR=11
NEEM **North Greenlan** **71.53 5** *i* P **P** **06 38 20.0 -0.5**
NEEM IAmb IAmb 06 38 21.6
comp=Z,47nm,0.6s
HYT **Haines Junctio** **71.72 332** P **P** **06 38 23.9 +2.2**
HYT **Haines Junctio** **71.72 332** P **P** **06 38 23.8 +2.1**
baz=109
M30M **Minto, Yukon** **72.01 334** IAmb IAmb 06 38 25.5
comp=Z,35nm,0.8s
M30M **Minto, Yukon** **72.01 334** P **P** **06 38 24.7 +1.4**
baz=111,SNR=29
YUK6 **Outpost Mounta** **72.16 332** P **P** **06 38 26.4 +1.9**
baz=109
PNL **Peninsula** **72.25 331** P **P** **06 38 27.0 +2.2**
baz=107

A36M **Sachs Harbour** **72.41 345** P **P** **06 38 26.0 +0.6**
baz=125,SNR=90
YUK4 **Talbot Arm** **72.42 333** P **P** **06 38 27.7 +1.7**
baz=109
INK **Inuvik** **73.01 340** IAmb IAmb 06 38 30.7
comp=Z,16nm,0.7s
INK **Inuvik** **73.01 340** P **P** **06 38 29.9 +0.9**
baz=115,SNR=29
J29M **Klondike Camp** **73.26 336** P **P** **06 38 32.4 +1.7**
baz=110,SNR=9.2
YUK3 **Moose Creek** **73.38 333** P **P** **06 38 33.4 +1.7**
baz=107,SNR=18
CTGM **Chitina Glacie** **73.55 332** IAmb IAmb 06 38 35.2
comp=Z,18nm,0.6s
CTG **Chitna Glacier** **73.55 332** P **P** **06 38 34.7 +2.1**
baz=106,SNR=6.4
I29M **Ogilvie Camp,** **73.61 337** P **P** **06 38 33.5 +0.8**
baz=110
DAWY **Dawson** **73.62 335** P **P** **06 38 33.5 +0.7**
baz=109,SNR=6.1
BARN **Barnard Glacie** **73.73 332** IAmb IAmb 06 38 36.2
comp=Z,14nm,0.6s
TORD **Torodi Ar. Bea** **73.73 78** P **P** **06 38 31.9 -2.4**
comp=Z,0.7nm,0.3s,baz=285,slow=6.4,SNR=13
TORD pP **pP** **06 39 11.5 -1.0**
comp=Z,1.6nm,0.8s,baz=282,slow=5.6,SNR=4.1
BVCY **Beaver Creek** **73.74 333** P **P** **06 38 35.4 +1.8**
baz=107,SNR=13
M27K **Edge Creek, AK** **74.18 333** IAmb IAmb 06 38 39.1
comp=Z,41nm,1.1s
M27K **Edge Creek, AK** **74.18 333** P **P** **06 38 38.1 +1.9**
baz=106,SNR=15
MCARA **McCarthy VSAT** **74.45 332** IAmb IAmb 06 38 40.8
comp=Z,31nm,1.2s
MCARA **McCarthy VSAT** **74.45 332** P **P** **06 38 39.8 +2.2**
baz=104,SNR=5.4
EGAK **Eagle** **74.56 336** P **P** **06 38 39.8 +1.6**
baz=107
GLB **Gilahina Butte** **74.83 332** IAmb IAmb 06 38 42.6
comp=Z,26nm,1.3s
L26K **Log Cabin Wild** **75.01 334** IAmb IAmb 06 38 43.6
comp=Z,22nm,0.7s
L26K **Log Cabin Wild** **75.01 334** P **P** **06 38 42.6 +1.7**
baz=105,SNR=16
BMRM **Bremner River** **75.09 331** P **P** **06 38 43.2 +1.8**
baz=103,SNR=7.4
N25K **Chitina, Valde** **75.24 332** IAmb IAmb 06 38 44.9
comp=Z,21nm,1.1s
N25K **Chitina, Valde** **75.24 332** P **P** **06 38 43.8 +1.6**
baz=103
DOT **Dot Lake** **75.48 334** IAmb IAmb 06 38 46.0
comp=Z,32nm,0.6s
J26L **Joseph Creek** **75.48 335** P **P** **06 38 44.6 +1.0**
baz=105
SCRK **Sand Creek** **75.53 335** P **P** **06 38 45.3 +1.4**
baz=104,SNR=17
EYAK **Cordova Ski Ar** **75.55 331** P **P** **06 38 45.4 +1.5**
baz=102
DAG **Danmarks Havn** **75.63 11** *i* P **P** **06 38 43.0 -1.1**
DAG IAmb IAmb 06 38 44.4
comp=Z,9.8nm,0.6s
HARP **HAARP** **75.67 333** P **P** **06 38 45.8 +1.2**
baz=103
KLU **Klutina** **75.83 332** P **P** **06 38 47.0 +1.4**
baz=102
RIDG **Independent Ri** **75.84 334** IAmb IAmb 06 38 48.1
comp=Z,32nm,0.9s
RIDG **Independent Ri** **75.84 334** P **P** **06 38 47.1 +1.5**
baz=103,SNR=18
PAX **Paxson** **75.94 333** P **P** **06 38 47.2 +1.0**
baz=103,SNR=8.3
M24K **Tolsona, Glenn** **76.08 332** IAmb IAmb 06 38 49.5
comp=Z,35nm,1.1s
M24K **Tolsona, Glenn** **76.08 332** P **P** **06 38 48.7 +1.7**
baz=102
GLI **Glacier Island** **76.27 331** P **P** **06 38 49.2 +1.3**
baz=101
PRP **Porcupine Dome** **76.54 336** IAmb IAmb 06 38 51.4
comp=Z,18nm,0.7s
PRP **Porcupine Dome** **76.54 336** P **P** **06 38 50.3 +0.6**
baz=103,SNR=22
SCM **Sheep Creek Mo** **76.56 332** P **P** **06 38 51.0 +1.3**
baz=101
DHY **Denali Highway** **76.81 333** P **P** **06 38 52.0 +0.8**
baz=101,SNR=5.5
PWL **Port Wells** **76.86 331** IAmb IAmb 06 38 53.0
comp=Z,33nm,0.8s
PWL **Port Wells** **76.86 331** P **P** **06 38 52.2 +0.9**
baz=100,SNR=6.9
WAT6 **Susitna Watana** **76.89 333** P **P** **06 38 52.4 +0.8**
baz=100,SNR=11
HDA **Harding Lake** **76.89 335** IAmb IAmb 06 38 53.1
comp=Z,21nm,0.7s
HDA **Harding Lake** **76.89 335** P **P** **06 38 52.2 +0.8**
baz=102,SNR=16
ILAR **Eielson Array** **76.94 335** P **P** **06 38 52.3 +0.6**
comp=Z,7.2nm,0.8s,baz=106,slow=4.6,SNR=62
ILAR PP **PP** **06 41 48.7 +1.9**
comp=Z,1.1nm,1.0s,baz=125,slow=6.8,SNR=5.1
KNK **Knik Glacier** **77.01 331** IAmb IAmb 06 38 54.4
comp=Z,27nm,0.8s
KNK **Knik Glacier** **77.01 331** P **P** **06 38 53.3 +1.1**
baz=100,SNR=6.4
SML **Sawmill** **77.02 332** P **P** **06 38 53.3 +1.0**
baz=100,SNR=6.5
POKR **Poker Plat Res** **77.24 335** P **P** **06 38 54.4 +1.1**
baz=101
SEW **Seward** **77.29 330** P **P** **06 38 54.1 +0.4**
baz=98
PMR **Palmer** **77.36 332** IAmb IAmb 06 38 55.9
comp=Z,18nm,0.8s
PMR **Palmer** **77.36 332** P **P** **06 38 54.9 +0.8**
baz=99,SNR=7.8
COLA **College** **77.36 335** P **P** **06 38 55.2 +1.2**
COLA **College** **77.36 335** P **P** **06 38 54.8 +0.8**
baz=101
TCOL **CIGO, UAF Yank** **77.37 335** P **P** **06 38 54.6 +0.6**
baz=101
O22K **Cooper Landing** **77.48 330** IAmb IAmb 06 39 02.8
comp=Z,31nm,0.7s
O22K **Cooper Landing** **77.48 330** P **P** **06 38 55.4 +0.7**
baz=98
MDM **Murphy Dome** **77.54 335** IAmb IAmb 06 38 57.0
comp=Z,24nm,1.2s
H24K **Noodor Dome** **77.56 336** P **P** **06 38 56.2 +1.0**
baz=101,SNR=11
RC01 **Rabbit Creek A** **77.57 331** IAmb IAmb 06 38 57.1
comp=Z,19nm,1.0s
RC01 **Rabbit Creek A** **77.57 331** P **P** **06 38 56.1 +0.8**
baz=98,SNR=5.9
MCK **McKinley** **77.62 334** P **P** **06 38 56.5 +1.0**
baz=100,SNR=7.8
NEA2 **Nenana** **77.83 335** IAmb IAmb 06 38 58.5
comp=Z,25nm,1.1s
NEA2 **Nenana** **77.83 335** P **P** **06 38 57.2 +0.6**
baz=100,SNR=16
M22K **Willow** **77.85 332** P **P** **06 38 57.7 +0.9**
baz=98,SNR=9.2
BRSE **Bradley Lake S** **77.88 330** P **P** **06 38 57.8 +0.7**
baz=97
BWN **Browne** **77.93 334** IAmb IAmb 06 38 58.9
comp=Z,29nm,1.0s
BRLK **Bradley Lake** **77.96 330** IAmb IAmb 06 38 59.0
comp=Z,22nm,0.8s
CUT **Chulitna** **78.02 332** P **P** **06 38 58.7 +1.1**
baz=98
I23K **Minto, Yukon-K** **78.04 335** P **P** **06 38 58.9 +1.1**
baz=100,SNR=12
TRF **Thorofare Moun** **78.18 333** IAmb IAmb 06 39 00.3
comp=Z,15nm,0.7s
TRF **Thorofare Moun** **78.18 333** P **P** **06 38 59.8 +1.0**
baz=98,SNR=12
CAPN **Captain Cook N** **78.21 331** P **P** **06 39 00.6 +1.8**
baz=97
H23K **Yukon River** **78.23 336** P **P** **06 39 00.1 +1.2**
baz=100
KTH **Kantishna Hill** **78.47 333** IAmb IAmb 06 39 02.0
comp=Z,23nm,1.1s
BPAW **Bear Paw Mtn.** **78.58 334** P **P** **06 39 01.6 +0.8**
baz=98,SNR=17
NOR **Nord** **78.59 7** *i* P **P** **06 38 58.8 -1.7**
NOR IAmb IAmb 06 39 00.9
comp=Z,2.4nm,0.7s
MLY **Manley** **78.60 335** P **P** **06 39 01.8 +0.8**
baz=98
COLD **Coldfoot** **78.72 337** P **P** **06 39 03.2 +1.7**
baz=99,SNR=14

TOLK	Toolik Lake Re	78.73	339	P	P	06 39 02.4	+0.8
	baz=100						
O20K	Slope Mountain	78.86	330	P	P	06 39 03.6	+1.1
	baz=96						
OHAK	Old Harbor	78.95	327	P	P	06 39 03.3	+0.4
	baz=94						
PPLA	Purkeypile	78.96	333	P	P	06 39 03.8	+0.8
	baz=97,SNR=24						
CAST	Castle Rocks	78.97	333	IAmb	IAmb	06 39 04.4	
	comp=Z,21nm,0.7s						
CAST	Castle Rocks	78.97	333	P	P	06 39 03.5	+0.5
	baz=97,SNR=22						
CHUM	Lake Minchumin	79.13	334	P	P	06 39 04.5	+0.8
	baz=97,SNR=20						
I21K	Tanana	79.14	335	P	P	06 39 04.3	+0.5
	baz=97						
H21K	Melozitna Rive	79.54	336	P	P	06 39 06.6	+0.6
	baz=96						
L20K	Farewell, AK	79.69	332	P	P	06 39 07.3	+0.4
	baz=95,SNR=15						
O19K	Port Alsworth	79.72	330	IAmb	IAmb	06 39 07.8	
	comp=Z,20nm,0.7s						
O19K	Port Alsworth	79.72	330	P	P	06 39 07.0	0.0
	baz=94,SNR=7.3						
N19K	Bonanza Creek	79.84	331	P	P	06 39 07.9	0.0
	baz=94						
K20K	Telida	79.86	333	IAmb	IAmb	06 39 09.2	
	comp=Z,23nm,1.2s						
K20K	Telida	79.86	333	P	P	06 39 08.1	+0.4
	baz=95,SNR=13						
M19K	Big River Lodg	79.88	332	P	P	06 39 08.5	+0.6
	baz=94						
J20K	Nowinta River	79.96	334	IAmb	IAmb	06 39 09.8	
	comp=Z,23nm,0.6s						
J20K	Nowinta River	79.96	334	P	P	06 39 08.8	+0.5
	baz=95,SNR=29						
L19K	White Mountain	80.12	332	P	P	06 39 09.6	+0.4
	baz=94,SNR=8.1						
P18K	Big Mountain,	80.12	329	P	P	06 39 09.1	-0.2
	baz=93,SNR=5.1						
O18K	Koktuh Hills	80.14	330	IAmb	IAmb	06 39 10.5	
	comp=Z,27nm,0.8s						
O18K	Koktuh Hills	80.14	330	P	P	06 39 09.7	+0.3
	baz=93						
SVW2	Sparrevohn	80.40	331	IAmb	IAmb	06 39 11.6	
	comp=Z,20nm,0.7s						
TTA	Tatalina	80.70	333	P	P	06 39 12.5	+0.1
	baz=93,SNR=7.4						
GCSA	Galena City Sc	81.18	334	P	P	06 39 15.8	+1.1
	baz=93,SNR=8.1						
NB2	NORSAR Subarra	81.31	29	P	P	06 39 15.8	+0.2
	comp=Z,0.8nm,0.6s,baz=268,slow=5.6						
NOA	NORSAR Array B	81.31	29	P	P	06 39 15.5	-0.1
	comp=Z,0.9nm,0.6s,baz=267,slow=5.4,SNR=5.7						
CHGN	Chignik	81.73	326	P	P	06 39 17.7	0.0
	baz=90						
CHNA	Chernabura Isl	82.42	324	P	P	06 39 21.7	+0.3
	baz=89						
GERES	GERESS Array B	82.81	42	P	P	06 39 23.4	-0.3
	comp=Z,1.5nm,0.6s,baz=298,slow=2.9,SNR=13						
SDPT	Sand Point	82.91	325	P	P	06 39 24.3	+0.4
	baz=88						
RDOG	Red Dog Mine	83.62	338	P	P	06 39 28.1	+0.8
	baz=88						
FALS	False Pass	84.62	324	P	P	06 39 32.8	+0.2
	baz=86						
ANM	Nome	84.84	334	P	P	06 39 34.6	+1.0
	baz=85,SNR=6.2						
TNA	Tin City	85.81	335	P	P	06 39 39.6	+1.3
	baz=83						
UNV	Unalaska Valle	86.52	324	P	P	06 39 42.7	+0.7
	baz=83,SNR=5.8						
ARCES	ARCESS Array B	86.65	20	P	P	06 39 42.5	0.0
	comp=Z,2.1nm,0.5s,baz=264,slow=3.4,SNR=24						
ARCES	ARCESS Array B	86.65	20	IAmb	IAmb	06 39 42.9	
	comp=Z,4.8nm,0.8s						
GAMB	Gambell	87.69	334	IAmb	IAmb	06 39 50.0	
	comp=Z,13nm,0.8s						
GAMB	Gambell	87.69	334	P	P	06 39 49.0	+1.5
	baz=79,SNR=9.0						
VNA3	Neumayer Olymp	88.19	163	P	P	06 39 48.4	-1.3
VNA3	Neumayer Olymp	88.19	163	PP	PP	06 43 21.1	+2.1
FINES	FINESS Array B	88.42	28	P	P	06 39 50.6	-0.4
	comp=Z,0.4nm,0.4s,baz=250,slow=5.5,SNR=5.9						
VNA2	Neumayer--Watz	88.72	163	P	P	06 39 50.9	-1.2
	baz=305,slow=6.0						
VNA2	Neumayer--Watz	88.72	163	PP	PP	06 43 25.3	+2.2
SNAA	Sanae	90.36	163	P	P	06 39 58.6	-1.3
SNAA	Sanae	90.36	163	P	P	06 39 58.5	-1.4
	baz=249,slow=14						
QSPA	South Pole Qui	96.86	180	P	P	06 40 28.8	-1.0
	comp=Z,2.8nm,1.0s,baz=290,slow=1.5,SNR=8.0						
QSPA	South Pole Qui	96.86	180	IAmb	IAmb	06 40 34.3	
	comp=Z,5.2nm,1.3s						
ZALV	Zalesovo Beam	116.64	14	PKP	PKPdf	06 45 42.1	-0.2
	comp=Z,2.7nm,0.4s,baz=268,slow=1.9,SNR=15						
KURK	Kurchatov	117.69	20		PKiKP	06 45 44.6	+0.1
KURBB	Kurchatov Arra	117.73	20	PKP	PKPdf	06 45 44.6	0.0
	comp=Z,2.5nm,0.7s,baz=320,slow=2.2,SNR=15						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	06 45 53.1	-0.4
	comp=Z,2.5nm,0.4s,baz=296,slow=2.8,SNR=40						
AAK	Ala-Archa	122.61	28	PKP	PKiKP	06 45 54.8	+0.2
	comp=Z,1.0nm,0.3s,baz=159,slow=8.0,SNR=4.5						
SONM	Songino Array	125.55	0	PKP	PKiKP	06 46 00.2	0.0
	comp=Z,1.6nm,0.4s,baz=294,slow=1.0,SNR=13						
WMQ	Urumqi	126.66	17	*e*PKP	PKiKP	06 46 03.4	+0.9
HHC	Hu-ho-hao-te	132.34	355	*e*PKP	PKPdf	06 46 12.0	-1.0
GTA	Gaotai	133.51	8	*e*PKP	PKPdf	06 46 15.6	+0.3
GTA				LR	LR		
	comp=Z,110nm,16.0s						
GTA				LR	LR		
	comp=Z,140nm,16.4s						
GTA				LR	LR		
	comp=Z,120nm,16.4s						
LZH	Lanzhou	137.20	4	*e*PKP	PKiKP	06 46 37.8	+14
LZH				pPKP	pPKPdf	06 46 49.0	-14
LZH	Lanzhou	137.20	4	*e*PKP	PKiKP	06 46 23.7	-0.4
STKA	Stephens Creek	139.17	228	PKP	PKPdf	06 46 26.1	+0.4
	comp=Z,3.6nm,0.6s,baz=62,slow=3.8,SNR=6.4						
NJ2	Nanjing	139.67	344	*e*PKP	PKiKP	06 46 28.1	-0.9
CD2	Chengdu	142.34	4	PKP	PKPdf	06 46 31.4	-0.2
SHL	Shillong	144.64	24	PKPdf	PKPab	06 46 34.2	-0.6
PZH	PanZhiHua	146.48	8	PKPbc	PKPdf	06 46 39.4	+0.4
FORT	Forrest	149.00	217		PKPbc	06 46 46.4	-0.6
ASAR	Alice Springs	149.12	234	PKP	PKPdf	06 46 43.1	-0.2
	comp=Z,20nm,0.7s,baz=114,slow=3.8,SNR=142						
ASAR				PKPbc	PKPbc	06 46 46.8	-0.8
	comp=Z,23nm,0.7s,baz=116,slow=3.7,SNR=89						
ASAR				pPKPbc	pPKPbc	06 47 27.6	-0.3
	comp=Z,3.9nm,0.6s,baz=117,slow=3.5,SNR=2.5						
WRA	Warramunga Arr	150.35	241	PKP	PKPdf	06 46 44.2	-1.1
	comp=Z,2.7nm,0.7s,baz=107,slow=2.7,SNR=30						
WRA				PKPbc	PKPbc	06 46 50.1	-0.5
	comp=Z,18nm,0.4s,baz=109,slow=2.7,SNR=77						
WRA				pPKPbc	pPKPbc	06 47 31.1	+0.1
	comp=Z,6.2nm,0.6s,baz=108,slow=2.3,SNR=3.4						
WRA	Warramunga Arr	150.35	241		PKPdf	06 46 45.0	-0.3
CMAR	Chiang Mai Arr	153.67	17	PKP	PKPdf	06 46 49.1	-1.1
	comp=Z,2.1nm,0.6s,baz=312,slow=2.3,SNR=11						
CMAR				PKPbc	PKiKP	06 46 58.6	+0.4
	comp=Z,6.2nm,0.6s,baz=327,slow=3.6,SNR=17						
CMAR	Chiang Mai Arr	153.67	17	PKPdf	PKPdf	06 46 50.1	-0.2

*IDC **09** 06:27:29.0±0.9, 34°.80S×71°.76W, h42km±8km, mb3.8/9, mb1 4.0/11, mb1mx3.8/32, mbtmp4.0/11, ML4.1/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/51 Error ellipse: s-maj=31.4km s-min=17.1km az=78.0*

*SJA **09** 06:27:28.1±2.4, 34°.65S×71°.90W, h27km±8km, ML4.0, MW3.9*

*NEIC **09** 06:27:29.1±1.7, 34°.79S±0°.04×71°.89W±0°.09, h38km±7km, Error ellipse: s-maj=10.8km s-min=5.5km az=105.0*

*NEIC **09** 06:27:29, 34°.79S×71°.84W, h45km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.84; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.17; $M_{\theta\phi}$-0.15; $M_{\phi r}$-0.85; Fault plane solution: $M_0$1.26000×10^{15} NP1:ϕ_s23.70000°, δ25.53000°, λ117.23000°. NP2:ϕ_s174.00000°, δ67.46000°, λ77.67000°. Principal axes: T 1.2280, Plg65.0000°, Azm63.0000°; N 0.0655, Plg11.0000°, Azm179.0000°; P -1.2935, Plg22.0000°, Azm273.0000°;*

*GUC **09** 06:27:29.4±0.7, 34°.79S×71°.84W, h41km±1km, ML4.3*

ISC 09 06:27:28.9±0.6, **34°.78S**±0°.03×**71°.91W**±0°.05, **h41**km±5km, **n97, σ0^{s}97**/114, **mb4.4**/16, **5C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.23	184		Pn	06 27 36.8	+0.3
GO05					Sn	06 27 42.5	+0.6
GO05	Huala	0.23	184	⇓*e*P	Pn	06 27 36.5	-0.1
GO05				*e*S	Sn	06 27 42.6	+0.7
GO05	Huala	0.23	184	*i* P	Pn	06 27 36.0	-0.6
GO05				*e*S	Sn	06 27 43.3	+1.4
BO03	Pichilemu	0.29	352	*e*P	Pn	06 27 37.6	+0.4
BO03				*i* S	Sn	06 27 43.5	+0.7
BO03				IAML		06 27 43.8	
	comp=E,26μm,0.2s						
BO01	Tunca	0.79	60		Pn	06 27 43.1	-0.4
BO01				Sn	Sn	06 27 53.4	-0.8
BO01	Tunca	0.79	60	⇓*i*P	Pn	06 27 43.2	-0.4
BO01				*e*S	Sn	06 27 53.2	-0.9
BO01				IAML		06 27 53.7	
	comp=N,12μm,0.2s						
BO01	Tunca	0.79	60	*i* P	Pn	06 27 43.0	-0.5
BO01				*e*S	Sn	06 27 53.3	-0.8
BO01				IAML		06 27 53.6	
	comp=Z,21μm,0.2s						
BO02	Sierra Bellavi	0.93	91		Pn	06 27 45.0	-0.6
BO02					Sn	06 27 57.0	-0.8
BO02	Sierra Bellavi	0.93	91	⇓*i*P	Pn	06 27 45.2	-0.4
BO02				*e*S	Sn	06 27 56.8	-1.0
BO02				IAML		06 27 57.4	
	comp=E,27μm,0.1s						
BO02	Sierra Bellavi	0.93	91	*i* P	Pn	06 27 45.0	-0.6
BO02				IAML		06 27 57.9	
	comp=Z,29μm,0.1s						
ML02	Panimavida	1.06	158		Pn	06 27 47.2	0.0
ML02	Panimavida	1.06	158	⇓*i*P	Pn	06 27 47.2	0.0
ML02				*e*S	Sn	06 28 01.0	+0.2
ML02				IAML		06 28 02.6	
	comp=E,15μm,0.3s						
MT01	Popeta	1.07	31		Pn	06 27 47.5	+0.1
MT01	Popeta	1.07	31	⇓*i*P	Pn	06 27 47.5	+0.1
MT01				*e*S	Sn	06 28 01.4	+0.3
MT01				IAML		06 28 03.2	
	comp=E,8μm,0.3s						
MT01	Popeta	1.07	31	*i* P	Pn	06 27 47.0	-0.4
MT01				IAML		06 28 05.1	
	comp=Z,5μm,0.2s						
MT09	Talagante	1.26	38		Pn	06 27 50.9	+0.7
MT09	Talagante	1.26	38	⇓*i*P	Pn	06 27 50.9	+0.7
MT09				*e*S	Sn	06 28 07.4	+1.3
MT09				IAML		06 28 10.5	
	comp=N,17μm,0.1s						
BO04	La Punta	1.34	54	Pn	Pn	06 27 51.7	+0.6
BO04	La Punta	1.34	54	⇓*i*P	Pn	06 27 51.4	+0.3
BO04				*e*S	Sn	06 28 08.5	+0.8
BO04				IAML		06 28 10.6	
	comp=E,19μm,0.1s						
MT02	Curacav	1.65	23	Pn	Pn	06 27 56.0	+0.6
MT02	Curacav	1.65	23	⇑*i*P	Pn	06 27 55.8	+0.4
MT02				*e*S	Sn	06 28 16.7	+1.3
LMEL	Las Melosas	1.69	57		Pn	06 27 56.7	+0.6
MT05	Renca	1.70	35	Pn	Pn	06 27 56.8	+0.7
MT05	Renca	1.70	35	⇑*e*P	Pn	06 27 56.8	+0.7
MT05				*e*S	Sn	06 28 17.0	+0.4
MT05				IAML		06 28 22.2	
	comp=N,7μm,0.3s						
MT05	Renca	1.70	35	*i* P	Pn	06 27 57.0	+0.9
MT05				IAML		06 28 22.2	
	comp=Z,3μm,0.2s						
MT03	Universidad Ad	1.73	42	Pn	Pn	06 27 57.3	+0.6
MT03	Universidad Ad	1.73	42	⇑*i*P	Pn	06 27 57.2	+0.6
MT03				*e*S	Sn	06 28 19.1	+1.5
MT03				IAML		06 28 23.5	
	comp=N,9μm,0.4s						
MT03	Universidad Ad	1.73	42	*i* P	Pn	06 27 57.0	+0.4
MT03				IAML		06 28 21.8	
	comp=Z,5μm,0.3s						
VA01	Torpederas	1.77	7	Pn	Pn	06 27 57.5	+0.5
VA01	Torpederas	1.77	7	⇑*e*P	Pn	06 27 57.5	+0.5
VA01				*e*S	Sn	06 28 18.5	+0.2
VA01	Torpederas	1.77	7	*i* P	Pn	06 27 57.0	0.0
VA01				IAML		06 28 27.4	
	comp=Z,637nm,0.4s						
PEL	Peldehue	1.93	32		Pn	06 28 00.0	+0.8
PEL	Peldehue	1.93	32	*e*P	Pn	06 27 59.6	+0.4
PEL				*e*S	Sn	06 28 25.1	+2.9
PEL				IAML		06 28 28.9	
	comp=N,4μm,0.4s						
PEL	Peldehue	1.93	32	*i* P	Pn	06 28 00.0	+0.8
ROC1	El Roble	1.95	23		Pn	06 27 59.3	-0.4
ROC1	El Roble	1.95	23	*i* P	Pn	06 27 58.0	-1.7
ROCH	El Roble	1.96	23	⇑*i*P	Pn	06 28 00.6	+0.8
ROCH				*e*S	Sn	06 28 25.0	+1.7
ROCH				IAML		06 28 30.8	
	comp=N,7μm,0.4s						
BI05	Punta Hualpn	2.22	208	Pn	Pn	06 28 03.4	+0.3
VA06	Catapilco	2.28	13	Pn	Pn	06 28 04.5	+0.6
EDS3	Malargue	2.28	116	*i* P	Pn	06 28 07.0	+2.8
VA03	San Esteban	2.31	30		Pn	06 28 05.2	+0.7
VA03	San Esteban	2.31	30	*i* P	Pn	06 28 05.0	+0.4
VA03				IAML		06 28 39.8	
	comp=Z,1μm,0.8s						
RFA	San Rafael	2.84	91	*i* P	Pn	06 28 13.0	+1.3
RFA				IAML		06 29 06.1	
	comp=Z,152nm,0.8s						
AAGR	Agrelo	3.07	57	*i* P	Pn	06 28 18.0	+3.0
AAGR				IAML		06 29 23.6	
	comp=Z,162nm,1.5s						
ARCO	CERRO ARCO	3.15	53	*i* P	Pn	06 28 19.0	+2.9
ARCO				IAML		06 29 08.0	
	comp=Z,186nm,0.4s						
CANA	Caviahue	3.17	168	*i* P	Pn	06 28 22.0	+5.6
ASAL	Salagasta	3.37	50	*i* P	Pn	06 28 22.0	+2.9
ASAL				IAML		06 29 22.9	
	comp=Z,146nm,1.8s						
CO02	Combarbal	3.65	12	Pn	Pn	06 28 23.4	+0.4
CO03	El Pedregal	4.07	15		Pn	06 28 29.0	+0.3
CO06	Fray Jorge	4.11	3		Pn	06 28 28.4	-0.8
LC01	Cunco	4.11	180	Pn	Pn	06 28 29.7	+0.6
LC02	Puerto Saavedr	4.17	196	Pn	Pn	06 28 29.5	-0.5
ZON	Zonda	4.22	41	Pn	Pn	06 28 31.9	+1.2
GO04	Tololo Observa	4.69	12	Pn	Pn	06 28 37.5	0.0
LR03	Panguipulli	4.85	184	Pn	Pn	06 28 40.2	+0.8
CO05	La Serena	4.88	7	Pn	Pn	06 28 39.3	-0.5
LR04	Corral	5.23	193	Pn	Pn	06 28 43.8	-0.6
LCO	Las Campanas	5.85	10	Pn	Pn	06 28 52.8	-0.5
PLCA	Paso Flores	6.04	170	P	Pn	06 28 56.6	+1.0
	comp=Z,1.1nm,0.3s,baz=334,slow=11,SNR=56						
PLCA				LR	LR	06 31 22.3	
	comp=Z,75nm,21.6s,baz=347,slow=39						
PLCA	Paso Flores	6.04	170	Pn	Pn	06 28 57.3	+1.6
LL04	Puerto Octay	6.13	184	Pn	Pn	06 28 57.1	+0.2
AC04	Llanos de Chal	6.60	6	Pn	Pn	06 29 02.2	-1.2
LL05	Los Muermos	6.72	190	Pn	Pn	06 29 04.0	-1.0
GO03	Copiap	7.31	12	Pn	Pn	06 29 11.8	-1.4
AC06	Mina Casimiro	7.52	11		Pn	06 29 14.5	-1.6
AC02	Maricunga	8.28	18		Pn	06 29 25.4	-1.4
PB01	IPOC Station P	13.86	10	P	P	06 30 48.6	-1.7
CPUP	Villa Florida	15.11	60	LR	LR	06 37 21.5	
	comp=Z,133nm,18.2s,baz=220,slow=40						
GO01	Chusmiza	15.25	10		Pn	06 31 02.4	+0.6
LPAZ	La Paz	18.73	11	P	Pn	06 31 46.4	+0.9
	comp=Z,0.4nm,0.3s,baz=110,slow=10,SNR=10						
LPAZ	La Paz	18.73	11	P	Pn	06 31 46.2	+0.7
AQDB	Aquidauana	20.20	49	P	P	06 31 59.7	-0.4
SIV	San Ignacio	21.09	30	P	P	06 32 09.1	-0.8
	comp=Z,7.2nm,0.9s,baz=206,slow=9.1,SNR=25						
RCBR	Riachuelo	43.97	57	LR	LR	06 54 52.6	
	comp=Z,98nm,18.3s,baz=50,slow=38						
SNAA	Sanae	50.82	158	P	P	06 36 25.0	+0.1
QSPA	South Pole Qui	55.45	180	P	P	06 36 58.9	-0.2
	comp=Z,2.1nm,0.9s,baz=348,slow=2.0,SNR=8.5						
QSPA				pP	pP	06 37 11.2	+0.1
	comp=Z,1.5nm,0.6s,baz=24,slow=0.5,SNR=2.8						
QSPA	South Pole Qui	55.45	180	P	P	06 36 59.8	+0.7
QSPA				IAmb	IAmb	06 37 13.7	
	comp=Z,9.7nm,1.4s						
TX31	Lajitas Ar. Si	70.47	331	P	P	06 38 40.2	+1.1
TX31				IAmb	IAmb	06 39 04.4	
	comp=Z,7.6nm,1.4s						
TX32	Lajitas Array	70.47	331	P	P	06 38 39.8	+0.7
TXAR	Lajitas Array	70.47	331	P	P	06 38 40.0	+0.8
	comp=Z,0.3nm,0.5s,baz=158,slow=9.6,SNR=4.5						
TXAR				pP	pP	06 38 51.8	+0.3
	comp=Z,0.4nm,0.5s,baz=158,slow=8.0,SNR=3.4						
W50A	Signal Mountai	70.74	348	P	P	06 38 40.3	-0.3
W50A				IAmb	IAmb	06 38 42.9	
	comp=Z,5.4nm,1.1s						
SWET	Sewanee	70.86	348	P	P	06 38 41.7	+0.3
SWET				IAmb	IAmb	06 38 42.1	
	comp=Z,6.5nm,0.8s						
V48A	Smith Brothers	71.53	347	P	P	06 38 45.5	+0.2
WVT	Waverly	72.10	347	P	P	06 38 49.0	+0.3
LCAR	Lake Charles	72.74	344	P	P	06 38 52.3	-0.2
LCAR				IAmb	IAmb	06 38 53.1	
	comp=Z,3.4nm,0.6s						
CCM	Cathedral Cave	74.66	344	P	P	06 39 04.2	+0.5
CCM				IAmb	IAmb	06 39 05.0	
	comp=Z,5.1nm,0.9s						
R40A	Maddies Statio	75.12	344	P	P	06 39 06.9	+0.5
R40A				IAmb	IAmb	06 39 07.4	
	comp=Z,3.8nm,0.8s						
P40A	Paris	76.25	344	P	P	06 39 12.9	+0.1
P40A				IAmb	IAmb	06 39 13.7	
	comp=Z,6.3nm,0.7s						
BOSA	Boshof	79.61	118	P	P	06 39 31.3	-1.0
	comp=Z,1.4nm,0.4s,baz=243,slow=2.8,SNR=5.4						
BOSA	Boshof	79.61	118	IAmb	IAmb	06 39 37.7	
	comp=Z,8.9nm,1.1s						
K31A	O'Neill	80.86	340	P	P	06 39 38.7	+0.5
LBTB	Lobatse	81.88	115	P	P	06 39 43.8	-0.5
	comp=Z,1.2nm,0.5s,baz=254,slow=7.4,SNR=1.7						
TORD	Torodi Ar. Bea	84.38	70	P	P	06 39 56.3	-0.9
	comp=Z,0.9nm,0.7s,baz=234,slow=4.8,SNR=3.9						
TORD	Torodi Ar. Bea	84.38	70	IAmb	IAmb	06 39 57.4	
	comp=Z,2.3nm,1.1s						
PDAR	Pinedale Array	84.51	333	P	P	06 39 57.5	0.0
	comp=Z,0.4nm,0.7s,baz=122,slow=8.6,SNR=2.2						
NVAR	Mina Array Bea	84.58	325	P	P	06 39 57.7	-0.2
	comp=Z,0.3nm,0.7s,baz=119,slow=8.4,SNR=2.4						
MATP	Matopo	86.70	112	P	P	06 40 08.0	-1.0
	comp=Z,1.7nm,0.8s,baz=198,slow=4.5,SNR=2.5						
MATP				pP	pP	06 40 21.0	-0.5
	comp=Z,1.1nm,0.6s,baz=162,slow=3.2,SNR=2.1						

IDC 09 06:34:35.6±3.0, **53°.97N**×**86°.60E, h0**km, **mb1 2.8**/2, **mb1mx2.7**/45, **mbtmp2.8**/2, **ML2.5**/2, **Error ellipse: s-maj=23.5km s-min=14.7km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.05	270	*i*		06 40 30.8	
	baz=89,slow=340,SNR=4.3						
ZALV	Zalesovo Beam	1.05	270	Pg	Pg	06 34 54.8	-1.0
	0.6nm,0.3s,baz=84,slow=14,SNR=7.1						
ZALV				Lg	Lg	06 35 11.0	
	1.1nm,0.3s,baz=93,slow=24,SNR=8.4						
KURBB	Kurchatov Arra	5.98	239	Pn	Pn	06 36 06.0	+0.7
	0.1nm,0.3s,baz=57,slow=14,SNR=6.0						
KURBB				Lg	Lg	06 37 45.5	
	0.0nm,0.3s,baz=48,slow=32,SNR=2.7						
MKAR	Makanchi Array	7.69	203	Pn	Pn	06 36 29.8	+1.1
	0.1nm,0.3s,baz=25,slow=12,SNR=1.9						
MKAR				Lg	Lg	06 38 40.4	
	0.1nm,0.3s,baz=30,slow=26,SNR=5.9						

*NOU **09** 06:39:50.6, 35°.35S×179°.43W, h201km, MLv4.8/5, East of North Island, N.Z.*

*WEL **09** 06:40:06.9±0.9, 36°S±6°×17°9E±1°3, h33km, M3.9/19, ML4.0/23, MLv3.9/19, Error ellipse: s-maj=0.0km s-min=0.0km az=100.4*

ISC 09 06:40:04.4±3.5, **36°.0S**±0°.1×**179°.1E**±0°.2, **h198**km±16km, **n73, σ1^{s}40**/88, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	2.09	211	P	Pn	06 40 43.9	+0.3
HAZ				S	Sn	06 41 12.7	-1.7
PKGZ	Pakihiroa	2.10	203	P	Pn	06 40 44.5	+0.6
PKGZ				S	Sn	06 41 12.3	-2.5
PUZ	Puketiti	2.22	198	P	Pn	06 40 45.3	+0.2
PUZ				S	Sn	06 41 14.9	-2.1
RUGZ	Raukumara Rang	2.31	210	P	Pn	06 40 46.7	+0.5
RUGZ				S	Sn	06 41 16.7	-2.3
CNGZ	Carnagh Statio	2.62	196	P	Pn	06 40 50.9	+1.3
CNGZ				S	Sn	06 41 27.1	+2.2
TKGZ	Te Karaka	2.68	202	P	Pn	06 40 50.9	+0.8
TKGZ				S	Sn	06 41 25.1	-0.9
MWZ	Matawai	2.69	208	P	Pn	06 40 51.4	+1.1
MWZ				S	Sn	06 41 25.4	-1.0
URZ	Urewera	2.80	214	P	Pn	06 40 52.4	+0.8
URZ				S	Sn	06 41 26.6	-2.0
URZ	Urewera	2.80	214	P	Pn	06 40 52.6	+1.0
KUZ	Kuaotunu	2.86	253	P	Pn	06 40 51.9	-0.3
RAGZ	Rawiri	2.88	208	P	Pn	06 40 53.7	+1.1
RAGZ				S	Sn	06 41 30.2	-0.1
RIGZ	Rimuhau	2.95	201	P	Pn	06 40 54.2	+0.9
RIGZ				S	Sn	06 41 31.8	0.0
TARZ	Mount Tarawera	3.09	222	P	Pn	06 40 57.4	+2.3
PRGZ	Paritu Road	3.12	198	P	Pn	06 40 57.0	+1.7
PRGZ				S	Sn	06 41 34.8	-0.5
MUGZ	Murupara	3.14	216	P	Pn	06 40 56.7	+1.2
RTZ	Ruatahuna	3.15	212	P	Pn	06 40 56.7	+0.9
SNGZ	Shannon Statio	3.15	206	P	Pn	06 40 57.3	+1.6
SNGZ				S	Sn	06 41 36.6	+0.5
PRRZ	Plateau Road	3.34	220	P	Pn	06 40 59.2	+1.2
RAHZ	Arahi	3.37	208	P	Pn	06 40 59.9	+1.5
RAHZ				S	Sn	06 41 40.1	-0.6
MTHZ	Maungataniwha	3.41	212	P	Pn	06 41 00.3	+1.4
ALRZ	Allen Road	3.42	220	P	Pn	06 41 00.7	+1.8
WHHZ	Waihua	3.46	205	P	Pn	06 41 02.1	+2.7
WHHZ				S	Sn	06 41 45.0	+2.4
MRHZ	Matea Rd	3.59	216	P	Pn	06 41 02.3	+1.2
NMHZ	Naumai	3.63	210	P	Pn	06 41 03.1	+1.5
NMHZ				S	Sn	06 41 47.5	+0.9
ARHZ	Aropaoanui	3.71	206	P	Pn	06 41 03.5	+1.1
BKZ	Black Stump Fm	3.82	212	P	Pn	06 41 05.0	+1.0
BKZ	Black Stump Fm	3.82	212	P	Pn	06 41 05.0	+1.0
WATZ	Wairara	3.85	224	P	Pn	06 41 05.3	+1.0
MCHZ	McNeill Hill	3.98	208	P	Pn	06 41 07.1	+1.3
RITZ	Rihia Road	3.98	220	P	Pn	06 41 07.7	+1.9
KWHZ	Kaweka Forest	4.07	211	P	Pn	06 41 07.3	+0.3
TMVZ	Te Maari	4.16	220	P	Pn	06 41 09.7	+1.5
NTVZ	North Tongarir	4.16	220	P	Pn	06 41 10.1	+1.8
ETVZ	East Tongariro	4.17	220	P	Pn	06 41 09.8	+1.4
KRVZ	Karewarewa	4.18	220	P	Pn	06 41 10.5	+2.1
OTVZ	Oturere	4.21	220	P	Pn	06 41 10.4	+1.4
NNVZ	North Ngauruho	4.22	220	P	Pn	06 41 11.1	+2.1
WTVZ	West Tongariro	4.22	221	P	Pn	06 41 10.7	+1.8
KAHZ	Kahuranaki	4.22	204	P	Pn	06 41 10.3	+1.4
SNVZ	South Ngauruho	4.25	220	P	Pn	06 41 11.0	+1.7
HIZ	Hauiti	4.25	232	P	Pn	06 41 12.3	+3.0
HIZ	Hauiti	4.25	232	P	Pn	06 41 12.1	+2.8
NGZ	Ngauruhoe	4.26	220	P	Pn	06 41 11.3	+1.8
TWVZ	Taurewa	4.27	222	P	Pn	06 41 11.6	+2.0
KRHZ	Kereru	4.27	210	P	Pn	06 41 09.6	0.0
BHHZ	Black Hill Sta	4.28	214	P	Pn	06 41 10.5	+0.8
FWVZ	Far West T-bar	4.34	220	P	Pn	06 41 12.0	+1.4
MOVZ	Moawhango	4.36	217	P	Pn	06 41 11.5	+0.9
WNVZ	Wahianoa	4.37	219	P	Pn	06 41 11.9	+0.9
TRVZ	Turoa	4.38	219	P	Pn	06 41 12.7	+1.7
PXZ	Pawanui	4.44	203	P	Pn	06 41 12.2	+0.6
MTVZ	Mangateitei	4.48	219	P	Pn	06 41 09.9	-2.3
OUZ	Omahuta	4.56	278	P	Pn	06 41 14.0	+0.8
PNHZ	Pukenui	4.57	209	P	Pn	06 41 13.5	+0.1
PRHZ	Porangahau	4.73	204	P	Pn	06 41 15.5	+0.3
TSZ	Takapari Road	4.79	210	P	Pn	06 41 16.3	+0.2
ANWZ	Angora Road	4.95	204	P	Pn	06 41 18.8	+0.7
NEZ	North Egmont	5.18	229	P	Pn	06 41 20.0	-1.1
PRWZ	Pori Road	5.21	207	P	Pn	06 41 23.2	+1.8
BFZ	Birch Farm	5.23	205	P	Pn	06 41 21.8	+0.1
BFZ	Birch Farm	5.23	205	P	Pn	06 41 21.9	+0.3
KHEZ	Kahui Hut	5.25	229	P	Pn	06 41 20.7	-1.3
TIWZ	Tintock	5.44	207	P	Pn	06 41 24.7	+0.3
MRZ	Mangatainoka R	5.46	210	P	Pn	06 41 24.2	-0.4
HOWZ	Holdsworth Sta	5.69	209	P	Pn	06 41 26.7	-0.8
TMWZ	Te Maipa	5.73	205	P	Pn	06 41 28.2	+0.1
OGWZ	Otaki Gorge	5.76	211	P	Pn	06 41 28.2	-0.2
KIW	Kapiti Island	5.91	213	P	Pn	06 41 29.0	-1.4
MTW	Mount Morrison	5.92	208	P	Pn	06 41 29.8	-0.7
CAW	Cannon Point	6.04	211	P	Pn	06 41 31.6	-0.6
TRWZ	Traveller	6.06	205	P	Pn	06 41 31.3	-1.1
MSWZ	Moikau Station	6.23	208	P	Pn	06 41 33.7	-0.9
PLWZ	Palliser	6.36	207	P	Pn	06 41 35.5	-0.8

IDC 09 06:59:52.2±1.4, 26°.34N×143°.81E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/36, mbtmp3.7/5, Error ellipse: s-maj=49.0km s-min=29.0km az=87.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLR	Kul'dur	24.69	341	P	P	07 05 15.3	+0.5
	1.0nm,0.5s,baz=155,slow=6.7,SNR=6.5						
WRA	Warramunga Arr	46.92	192	P	P	07 08 24.6	0.0
	0.5nm,0.6s,baz=12,slow=8.6,SNR=4.9						
ZALV	Zalesovo Beam	51.00	319	P	P	07 08 55.5	-0.2
	0.6nm,0.4s,baz=79,slow=7.5,SNR=2.4						
MKAR	Makanchi Array	52.07	310	P	P	07 09 03.6	-0.3
	0.3nm,0.4s,baz=92,slow=8.8,SNR=3.5						
YKA	Yellowknife Ar	72.11	29	P	P	07 11 18.0	-0.1
	0.5nm,0.6s,baz=294,slow=6.1,SNR=6.8						

IDC 09 07:00:34.6±3.2, 54°.32N×86°.93E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=28.9km s-min=17.9km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.30	254	*i*		07 07 10.3	
	baz=71,slow=338,SNR=5.3						
ZALV	Zalesovo Beam	1.30	254	Pg	Pg	07 00 57.6	-1.8
	1.5nm,0.3s,baz=74,slow=17,SNR=18						
ZALV				Lg	Lg	07 01 16.4	
	1.7nm,0.3s,baz=75,slow=28,SNR=8.4						
KURBB	Kurchatov Arra	6.33	238	Pn	Pn	07 02 10.2	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=15						
MKAR	Makanchi Array	8.09	203	Pn	Pn	07 02 34.4	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=3.8						
MKAR				Lg	Lg	07 04 51.5	
	0.1nm,0.3s,baz=25,slow=24,SNR=6.4						

TUL 09 07:08:01.3±0.7, 35°.540N±0°.009×97°.31W±0°.02, h6km±2km, ML3.0, mb_Lg2.4/17(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=103.0

NEIC 09 07:08:02.0±0.7, 35°.545N±0°.008×97°.30W±0°.01, h3km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK001	Jones High Sch	0.02	36	Pg	Pg	07 08 02.7	0.0
OK001				Sg	Sg	07 08 03.8	+0.5
OK009	Oakdale Elemen	0.10	290	Pg	Pg	07 08 03.9	-0.3
OK005	Luther M Schoo	0.14	40	Pg	Pg	07 08 04.9	0.0
OK005				Sg	Sg	07 08 07.6	+0.8
OKCFA	Oklahoma City	0.18	223		Pg	07 08 05.2	-0.3
OKCFA				Sg	Sg	07 08 08.0	+0.2
OKCSW	OKLAHOMA CITY	0.18	218	Pg	Pg	07 08 05.1	-0.4
OKCSW				Sg	Sg	07 08 08.0	+0.2
FNO	Franklin	0.30	195		Pg	07 08 07.4	-0.4
FNO				Sg	Sg	07 08 11.9	+0.3
W35A	Tecumseh	0.53	138	Pg	Pg	07 08 11.7	-0.5
W35A				Sg	Sg	07 08 19.0	+0.1
X34A	Smith Ranch, M	1.04	205	Pg	Pg	07 08 21.3	-0.7
X34A				Sg	Sg	07 08 35.8	+0.4
TUL1	Leonard	1.28	73		Pg	07 08 24.5	-2.2
WMOK	Wichita Mounta	1.45	237		Pn	07 08 27.6	-1.6
T35A	Sooner Cattle	1.51	25		Pn	07 08 28.6	-1.4
U32A	Winter Ranch,	1.61	302		Pn	07 08 30.4	-0.9
X37A	Clayton	1.85	120	Pn	Pn	07 08 34.2	-0.5
X37A				IAmb_Lg		07 09 01.7	
	comp=Z,25nm,0.7s						
Z35A	Perchaven, San	2.21	179	Pn	Pn	07 08 39.5	-0.1
W39A	Magazine	2.90	96	Pn	Pn	07 08 48.7	-0.3
KSU1	Kansas State U	3.59	9	IAmb_Lg		07 10 01.7	
	comp=Z,9.7nm,1.0s						
AMTX	Amarillo	3.64	261	IAmb_Lg		07 09 56.1	
	comp=Z,7.1nm,0.9s						
U40A	Yellville	3.70	76	Pn	Pn	07 08 59.2	-0.9
X40A	Basin Creek Fa	3.82	105	Pn	Pn	07 09 01.0	-0.7
X40A				IAmb_Lg		07 10 06.6	
	comp=Z,7.8nm,0.8s						
WHAR	Wooly Hollow	4.10	92	Pn	Pn	07 09 05.0	-0.6
W41B	Gary Mavity, V	4.15	94	Pn	Pn	07 09 05.5	-0.7
W41B				IAmb_Lg		07 10 14.4	
	comp=Z,5.3nm,0.8s						
FCAR	Ozark Folk Cen	4.23	84	IAmb_Lg		07 10 26.8	
	comp=Z,6.1nm,0.8s						
R40A	Maddies Statio	4.88	54	IAmb_Lg		07 10 35.2	
	comp=Z,7.5nm,0.9s						
N35A	Tabor	5.47	13	IAmb_Lg		07 10 57.8	
	comp=Z,7.7nm,0.8s						

NNC 09 07:57:43.1±1.6, 54°.32N×87°.09E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=10.7km s-min=9.2km az=23.0, Suspected Mining explosion.
IDC 09 07:57:45.0±3.1, 54°.35N×86°.96E, h0km, mb1 2.9/2, mb1mx2.8/50, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.1km s-min=19.6km az=55.0

ISC 09 07:57:45.8±4.8, 54°.4N±0°.2×86°.8E±0°.2, h0km, n7, σ1s.27/8, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.22	251	*i*		08 04 45.6	
	baz=72,slow=339,SNR=22						
ZAA0	Zalesovo Array	1.22	251	⇑P	Pg	07 58 08.6	-0.6
	0.4nm,0.4s,baz=73,slow=17						
ZAA0				⇓S	Sn	07 58 27.8	+0.4
	5.0nm,0.8s						
ZALV	Zalesovo Beam	1.22	251	Pg	Pb	07 58 08.8	-0.9
	1.9nm,0.3s,baz=72,slow=17,SNR=15						
ZALV				Lg	Lg	07 58 27.9	
	1.7nm,0.3s,baz=65,slow=25,SNR=6.6						
KURBB	Kurchatov Arra	6.28	237	Pn	Pn	07 59 20.4	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=15						
KURBB				Lg	Lg	08 01 06.1	
	0.0nm,0.3s,baz=54,slow=31,SNR=2.0						
KURBB	Kurchatov Arra	6.28	237	⇓Pn	Pn	07 59 19.8	+0.3
	1.8nm,0.6s,baz=55,slow=13						
KURBB				⇑Sn	Sn	08 00 33.6	+1.8
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	08 01 06.7	
	3.5nm,0.6s						
MK31	Makanchi Array	8.10	202	Sn	Sn	08 01 15.7	-1.2
	0.3nm,0.4s						
MK31				Lg	Lg	08 02 01.0	
	0.8nm,0.7s						
MKAR	Makanchi Array	8.10	202	Pn	Pn	07 59 45.7	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=2.5						
MKAR				Lg	Lg	08 02 03.7	
	0.0nm,0.3s,baz=29,slow=30,SNR=5.7						

IDC 09 08:02:02.3±3.0, 53°.75N×86°.73E, h0km, mb1 2.7/2, mb1mx2.6/52, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=13.1km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.15	281	*i*		08 08 53.2	
	baz=99,slow=342,SNR=1.2						
ZALV	Zalesovo Beam	1.15	281	Pg	Pb	08 02 25.1	0.0
	1.3nm,0.3s,baz=106,slow=11,SNR=16						
ZALV				Lg	Lg	08 02 39.4	
	0.6nm,0.3s,baz=96,slow=28,SNR=4.4						
KURBB	Kurchatov Arra	5.93	241	Pn	Pn	08 03 31.6	+0.3
	0.1nm,0.3s,baz=57,slow=13,SNR=4.5						
MKAR	Makanchi Array	7.52	204	Pn	Pn	08 03 54.6	+1.4
	0.1nm,0.3s,baz=25,slow=12,SNR=4.0						
MKAR				Sn	Sn	08 05 18.3	-0.7
	0.1nm,0.3s,baz=22,slow=25,SNR=2.0						
MKAR				Lg	Lg	08 06 01.3	
	0.1nm,0.3s,baz=29,slow=27,SNR=2.5						

ATH 09 08:04:07.4, 35°.38N×23°.57E, h19km±2km, ML3.8/6, Error ellipse: s-maj=2.7km s-min=0.9km az=44.0
THE 09 08:04:08.1, 35°.39N×23°.57E, h1km±1km, ML3.8/13, Error ellipse: s-maj=1.2km s-min=0.4km az=229.0
ISK 09 08:04:08.0, 35°.37N×23°.60E, h7km, ML4.0/11
DDA 09 08:04:09.0±0.0, 35°.72N×23°.32E, h59km, MW4.2
IDC 09 08:04:12.3±1.5, 35°.18N×23°.91E, h49km±16km, mb3.6/13, mb1 3.7/16, mb1mx3.5/60, mbtmp3.9/16, ML4.0/3, MS3.1/3, Ms1 3.0/3, ms1mx2.6/87, Error ellipse: s-maj=18.2km s-min=16.9km az=150.0

ISC 09 08:04:08.1±1.0, 35°.37N±0°.02×23°.55E±0°.02, h6km±7km, n88, σ1s.83/122, mb3.8/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.18	140	P	Pg	08 04 11.3	-0.4
KNDR				S	Sg	08 04 14.1	0.0
	79μm,0.2s						
KNDR	Palaiochora Ch	0.18	140	PG	Pg	08 04 11.2	-0.4
KNDR				SG	Sg	08 04 13.8	-0.3
RODP	Rodopos	0.26	43	P	Pg	08 04 13.3	+0.2
RODP				S	Sg	08 04 17.0	+0.5
	13μm,0.4s						
RODP	Rodopos	0.26	43	PG	Pg	08 04 13.0	-0.1
RODP				SG	Sg	08 04 17.2	+0.7
IMMV	Iera Moni Meta	0.37	76	P	Pg	08 04 14.6	-0.7
IMMV				S	Sg	08 04 20.4	+0.3
IMMV				AML	AML	08 04 21.5	
	comp=N,54567μm,0.3s						
IMMV				AML	AML	08 04 22.3	
	comp=E,38741μm,0.4s						
IMMV	Iera Moni Meta	0.37	76	P	Pg	08 04 14.8	-0.5
IMMV				S	Sg	08 04 20.5	+0.5
	comp=E,23μm,0.3s						
IMMV	Iera Moni Meta	0.37	76	PG	Pg	08 04 14.7	-0.5
IMMV				SG	Sg	08 04 20.6	+0.5
ANKY	Antikythira Is	0.53	338	P	Pg	08 04 17.9	-0.5
ANKY				S	Sg	08 04 25.7	+0.4
ANKY				AML	AML	08 04 27.3	
	comp=E,9689μm,0.5s						
ANKY				AML	AML	08 04 29.5	
	comp=N,11135μm,0.4s						
ANKY	Antikythira Is	0.53	338	P	Pg	08 04 18.0	-0.3
ANKY				S	Sg	08 04 25.7	+0.4
	comp=N,5μm,0.5s						
VAM	Vamos	0.54	86	P	Pg	08 04 17.6	-0.8
VAM				S	Sg	08 04 25.1	-0.2
VAM				AML	AML	08 04 26.9	
	comp=E,59048μm,0.6s						
VAM				AML	AML	08 04 26.9	
	comp=N,83821μm,0.3s						
VAM	Vamos	0.54	86	P	Pg	08 04 17.8	-0.6
VAM				S	Sg	08 04 25.7	+0.3
	comp=N,36μm,0.4s						
GVDS	Gavdos	0.69	140	P	Pg	08 04 20.9	-0.5
GVDS				S	Sg	08 04 31.3	+0.9
	comp=N,21μm,0.5s						
GVD	Gavdhos	0.69	140	P	Pg	08 04 21.0	-0.4
GVD				S	Sg	08 04 30.5	+0.1
GVD				AML	AML	08 04 32.6	
	comp=E,38127μm,0.4s						
GVD				AML	AML	08 04 34.1	
	comp=N,41660μm,0.4s						
GVD	Gavdhos	0.69	140	P	Pg	08 04 21.6	+0.2
GVD				S	Sb	08 04 32.1	-0.3
	comp=N,20μm,0.4s						
GVD	Gavdhos	0.69	140	PG	Pg	08 04 21.6	+0.2
GVD				SG	Sg	08 04 31.2	+0.8
PRNS	Prines Rethymn	0.78	90	P	Pg	08 04 21.1	-2.0
PRNS				S	Sg	08 04 31.7	-1.5
	comp=N,6μm,0.3s						
KTHA	Kythira Island	0.96	336	P	Pg	08 04 25.8	-0.8
KTHA				AML	AML	08 04 42.8	
	comp=N,5676μm,0.3s						
KTHA				AML	AML	08 04 44.3	
	comp=E,9237μm,0.3s						
KTHA	Kythira Island	0.96	336	P	Pg	08 04 26.1	-0.5
KTHA				S	Sb	08 04 40.0	-0.3
	comp=E,4μm,0.3s						
KTHR	Kythira	0.99	334	P	Pg	08 04 26.3	-0.8
KTHR				S	Sb	08 04 41.5	+0.6
	comp=E,2μm,0.5s						
TMBK	Timbaki Herakl	1.04	106	P	Pg	08 04 26.9	-1.2
TMBK				S	Sb	08 04 43.2	+0.8
	comp=E,5μm,0.4s						
IDI	Anoyia	1.10	94	P	Pg	08 04 27.5	-1.7
	comp=E,41nm,0.3s,baz=267,slow=9.9,SNR=342						
IDI				S	Sg	08 04 43.5	-0.1
	comp=E,578nm,0.3s,baz=12,slow=22,SNR=29						
IDI				LR	LR	08 05 04.0	
	comp=E,536nm,18.7s,baz=188,slow=64						
IDI	Anoyia	1.10	94	P	Pg	08 04 27.9	-1.3
IDI				AML	AML	08 04 46.3	
	comp=N,13461μm,0.6s						
IDI				AML	AML	08 04 47.6	
	comp=E,6283μm,0.3s						
IDI	Anoyia	1.10	94	P	Pg	08 04 27.7	-1.5
IDI	Anoyia	1.10	94	PG	Pg	08 04 27.2	-2.0
IDI				SG	Sg	08 04 43.6	0.0
IACM	Heraklion	1.25	93	P	Pg	08 04 30.9	-1.1
IACM	Heraklion	1.25	93	P	Pg	08 04 31.8	-0.2
IACM				S	Sb	08 04 48.3	-0.1
KSTL	Kastelli Herak	1.25	93	P	Pn	08 04 35.0	+3.0
KSTL				S	Sn	08 04 55.6	+6.4
HRKL	Herakleio	1.27	92	P	Pg	08 04 31.1	-1.4
HRKL				S	Sn	08 04 50.0	+0.2
HRKL	Herakleio	1.27	92	PN	Pg	08 04 31.9	-0.6
HRKL				SN	Sb	08 04 49.3	+0.2
MNVA	Monemvasia	1.38	343	P	Pg	08 04 33.6	-0.9
VLI	Veliai	1.43	340	P	Pn	08 04 34.2	-0.4
VLI	Veliai	1.43	340	P	Pn	08 04 34.1	-0.5
VLI				S	Sg	08 04 53.9	-0.2
MHLO	Agia Marina, M	1.49	28	P	Pn	08 04 34.6	-0.7
MHLO				S	Sg	08 04 54.5	-1.4
NPS	Neapolis	1.69	93	P	Pn	08 04 38.0	-0.2
NPS	Neapolis	1.69	93	P	Pn	08 04 38.0	-0.2
NPS				S	Sn	08 04 59.4	-0.8
	comp=E,2μm,0.6s						
THR9	Santorini-Faro	1.77	56	P	Pn	08 04 38.5	-0.7
THR5	Thira Island,	1.80	54	P	Pn	08 04 39.4	-0.2
THR6	Thira Island,	1.80	56	P	Pn	08 04 39.5	-0.1
SAP3	Santorini-Thir	1.81	54	P	Pn	08 04 39.2	-0.5
SAP3				S	Sn	08 05 03.3	+0.4
	comp=E,8μm,0.5s						
SNT5	Nea Kammeni, S	1.82	55	P	Pn	08 04 39.6	-0.3
THR3	Thira Island,	1.83	55	P	Pn	08 04 39.7	-0.3
THR8	Santorini-Mono	1.88	56	P	Pn	08 04 40.1	-0.6
KRND	KRANIDI	2.03	351	P	Pn	08 04 43.1	+0.3
KRND				S	Sn	08 05 09.6	+1.1
ZKR	Zakros	2.20	96	PN	Pn	08 04 45.4	+0.2
ITM	Ithomi	2.23	325	PN	Pn	08 04 46.9	+1.3
APE	Apeiranthos	2.33	43	PN	Pn	08 04 47.3	+0.3
KARP	Karpathos	2.96	86	PN	Pn	08 04 56.2	+0.6
BODT	Bodrum	3.48	60	PN	Pn	08 05 03.8	+1.0
BDRM	Kayabasi	3.58	61	P	Pn	08 05 04.7	+0.7
DDIM	Aydin, Didim	3.63	54	P	Pn	08 05 04.4	-0.4
ZEYE	Izmir, Urla-Ze	3.72	39	P	Pn	08 05 04.3	-1.6
GCAM	G?zelcaml?	3.77	51	P	Pg	08 05 18.5	-1.8
DGB	zmir	3.79	44	P	Pg	08 05 18.3	-2.4
DGB				S	Sg	08 06 06.9	-2.8
URLA	Izmir	3.86	38	P	Pn	08 05 06.4	-1.6
TURN	Turunc	4.05	68	P	Pn	08 05 11.5	+0.8
TURN				S	Sn	08 06 02.9	+4.5
AYDN	Tasoluk	4.17	56	P	Pn	08 05 12.5	+0.2
AYDN				S	Sg	08 06 28.9	+6.8
MULA	Mugla, Merkez-	4.29	63	P	Pn	08 05 18.4	+4.4
FETY	Fethiye	4.66	73	P	Pn	08 05 20.8	+1.7
FETY				S	Sn	08 06 15.6	+2.1
TAVA	DENIZLI_Tavas	4.81	63	P	Pn	08 05 23.2	+2.2
CAEL	Denizli, Camel	4.98	68	P	Pn	08 05 27.9	+4.4
AKAS	Kas	5.00	78	P	Pn	08 05 24.4	+0.7
MANT	Manisa	5.08	51	P	Pn	08 05 26.9	+1.9
GOLH	Golhisar	5.20	67	P	Pn	08 05 28.5	+2.0
GOLH				S	Sn	08 06 29.0	+2.1
AKUM	Antalya-Kumluc	5.60	78	P	Pn	08 05 33.4	+1.5
AKUM				S	Sn	08 06 36.2	-0.4
PASA	Karahalli, USA	5.61	56	P	Pn	08 05 35.5	+3.3
KORT	Korkueli	5.74	72	P	Pn	08 05 35.6	+1.6
BRTR	Keskin Array B	9.12	59	P	Pn	08 06 22.9	+2.7
	comp=E,0.4nm,0.3s,baz=252,slow=16,SNR=7.7						
MLR	Muntele Rosu	10.27	10	P	Pn	08 06 41.1	+5.0
	comp=E,0.4nm,0.3s,baz=90,slow=24,SNR=3.6						
EIL	Elat	11.18	117	P	Pn	08 06 44.4	-4.0
	comp=E,0.7nm,0.3s,baz=275,slow=11,SNR=2.7						
EIL				S	Sn	08 08 49.1	-4.6
	comp=E,1.0nm,0.3s,baz=212,slow=22,SNR=3.6						
ASF	Jabal al Asfar	11.56	102	LR	LR	08 12 05.0	
	comp=E,2μm,21.5s,baz=107,slow=42						
VRAC	Vranov	14.83	342	LR	LR	08 14 47.4	
	comp=E,116nm,18.9s,baz=138,slow=42						
GERES	GERESS Array B	15.30	335	P	P	08 07 49.4	-0.1
	comp=E,0.2nm,0.3s,baz=154,slow=12,SNR=5.8						
KHC	Kasperske Hory	15.58	335	*e*P	P	08 07 58.5	+5.9
AKASG	Malin Array Be	15.87	13	P	Pn	08 07 50.5	-1.3
	comp=E,0.6nm,0.3s,baz=202,slow=11,SNR=5.2						
KBZ	Khabaz	17.07	55	P	P	08 08 10.3	+1.3
	comp=E,0.1nm,0.3s,baz=265,slow=9.4,SNR=5.7						
KBZ				LR	LR	08 16 23.0	
	comp=E,29nm,20.2s,baz=312,slow=43						
HFS	Hagfors	25.59	349	P	P	08 09 37.8	+0.1
	comp=E,0.8nm,0.4s,baz=160,slow=15,SNR=5.5						
FINES	FINESS Array B	26.14	3	P	P	08 09 42.5	-0.2
	comp=E,1.1nm,0.8s,baz=169,slow=7.8,SNR=4.5						
NOA	NORSAR Array B	26.87	347	P	P	08 09 52.4	+3.1
	comp=E,0.5nm,0.7s,baz=161,slow=9.6,SNR=2.3						
NOA				LR	LR	08 22 33.1	
	comp=E,40nm,20.3s,baz=285,slow=41						
EKA	Eskdalemuir Ar	27.11	326	P	P	08 09 54.4	+2.9
	comp=E,1.0nm,0.5s,baz=124,slow=9.5,SNR=4.9						
TORD	Torodi Ar. Bea	29.64	227	P	P	08 10 13.9	-0.6
	comp=E,1.3nm,0.6s,baz=31,slow=10,SNR=8.8						
ARCES	ARCESS Array B	34.23	1	P	P	08 10 53.4	-0.9
	comp=E,1.8nm,0.9s,baz=180,slow=9.0,SNR=7.1						
DBIC	Dimbokro	38.69	229	P	P	08 11 31.8	-1.0
	comp=E,3.2nm,0.7s,baz=30,slow=12,SNR=2.1						
AAK	Ala-Archa	39.75	64	P	P	08 11 39.4	-2.2
	comp=E,0.7nm,0.6s,baz=200,slow=12,SNR=1.7						
KURBB	Kurchatov Arra	42.02	51	P	P	08 11 57.2	-2.8
	comp=E,1.3nm,0.7s,baz=278,slow=8.5,SNR=10						
MKAR	Makanchi Array	44.76	57	P	P	08 12 20.1	-2.2
	comp=E,1.2nm,0.5s,baz=280,slow=6.4,SNR=12						
ZALV	Zalesovo Beam	45.81	46	P	P	08 12 28.0	-2.5
	comp=E,0.9nm,0.3s,baz=270,slow=8.9,SNR=6.2						
SCHQ	Schefferville	62.16	319	P	P	08 14 32.5	+2.6
	comp=E,1.5nm,0.7s,baz=81,slow=13,SNR=1.6						
YKA	Yellowknife Ar	76.83	341	P	P	08 15 58.6	-1.8
	comp=E,0.2nm,0.5s,baz=32,slow=5.5,SNR=3.7						

IDC 09 08:06:42.3±2.5, 54°.29N×85°.94E, h0km, mb1 2.8/2, mb1mx2.8/44, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=18.6km s-min=11.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.74	243	*i*		08 11 20.0	
	baz=61,slow=340,SNR=7.9						
ZALV	Zalesovo Beam	0.74	243	Pg	Pg	08 06 55.2	-1.4
	0.7nm,0.3s,baz=61,slow=18,SNR=8.3						
ZALV				Lg	Lg	08 07 07.6	
	7.3nm,0.3s,baz=62,slow=31,SNR=74						
KURBB	Kurchatov Arra	5.83	234	Pn	Pn	08 08 11.1	+1.2
	0.1nm,0.3s,baz=50,slow=13,SNR=7.4						
MKAR	Makanchi Array	7.86	199	Pn	Pn	08 08 38.8	+0.9
	0.1nm,0.3s,baz=22,slow=13,SNR=6.1						
MKAR				Lg	Lg	08 10 48.0	
	0.0nm,0.3s,baz=23,slow=27,SNR=2.1						

IDC 09 08:12:54.9±3.2, 54°.30N×87°.34E, h0km, mb1 2.7/2, mb1mx2.6/45, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=26.2km s-min=17.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	258	*i*		08 20 26.1	
	baz=76,slow=340,SNR=10						
ZALV	Zalesovo Beam	1.52	258	Pg	Pn	08 13 21.9	-1.5
	0.5nm,0.3s,baz=75,slow=17,SNR=9.6						
ZALV				Lg	Lg	08 13 44.1	
	0.9nm,0.3s,baz=74,slow=24,SNR=9.2						
KURBB	Kurchatov Arra	6.52	239	Pn	Pn	08 14 31.7	-0.3
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
KURBB				Lg	Lg	08 16 22.4	
	0.0nm,0.3s,baz=59,slow=30,SNR=2.7						
MKAR	Makanchi Array	8.17	205	Pn	Pn	08 14 57.6	+2.9
	0.1nm,0.3s,baz=25,slow=18,SNR=1.7						
MKAR				Sn	Sn	08 16 25.5	-2.3
	0.0nm,0.3s,baz=27,slow=30,SNR=1.7						
MKAR				Lg	Lg	08 17 17.2	
	0.1nm,0.3s,baz=28,slow=28,SNR=2.2						

INET 09 08:13:18.9±1.6, 12°.60N×90°.34W, h18km±16km, ML3.9
IDC 09 08:13:21.8±1.9, 13°.61N×89°.55W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/38, mbtmp3.7/7, ML3.2/3, Error ellipse: s-maj=58.8km s-min=20.6km az=33.0

ISC 09 08:13:21.9±1.1, 12°.74N±0°.08×90°.16W±0°.06, h32km, n68, σ0s.97/71, mb3.6/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.11	48	*e*P	Pn	08 13 35.4	-5.8
LALI				IAML		08 14 02.5	
	comp=Z,561nm,0.5s						
LALI	Alcalda de L	1.11	48	*e*P	Pn	08 13 35.4	-5.8
LALI				IAML		08 14 02.5	
	comp=Z,561nm,0.5s						
JAYA	Jayaque - finc	1.14	37	*e*P	Pn	08 13 41.3	-0.5
JAYA				IAML		08 14 01.6	
	comp=Z,2μm,0.3s						
JAYA	Jayaque - finc	1.14	37	*e*P	Pn	08 13 41.3	-0.5
JAYA				IAML		08 14 01.6	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde	1.20	26	*e*P	Pn	08 13 42.5	-0.1
CEVE				IAML		08 14 04.9	
	comp=Z,4μm,0.3s						
CEVE	Cerro Verde	1.20	26	*e*P	Pn	08 13 42.5	-0.1
CEVE				IAML		08 14 04.9	
	comp=Z,4μm,0.3s						
SBLS	San Blas	1.21	26	*e*P	Pn	08 13 42.4	-0.4
SBLS	San Blas	1.21	26	*e*P	Pn	08 13 42.4	-0.4
SNJE	San Jose	1.24	26	*e*P	Pn	08 13 42.9	-0.3
SNJE	San Jose	1.24	26	*e*P	Pn	08 13 42.9	-0.3
RTR	El Retiro	1.25	24	*e*P	Pn	08 13 43.4	0.0
RTR				IAML		08 14 12.2	
	comp=Z,731nm,0.3s						
RTR	El Retiro	1.25	24	*e*P	Pn	08 13 43.4	0.0
RTR				IAML		08 14 12.2	
	comp=Z,731nm,0.3s						
CEDA	San Andres	1.29	35	*e*P	Pn	08 13 43.7	-0.1
CEDA				IAML		08 14 10.1	
	comp=Z,2μm,0.3s						
CEDA	San Andres	1.29	35	*e*P	Pn	08 13 43.7	-0.1
CEDA				IAML		08 14 10.1	
	comp=Z,2μm,0.3s						
SNET	Serv Nac Est T	1.30	44	*e*P	Pn	08 13 43.1	-0.9
SNET	Serv Nac Est T	1.30	44	*e*P	Pn	08 13 43.1	-0.9
SNET	Serv Nac Est T	1.30	44	*e*P	Pn	08 13 43.4	-0.6
BOQS	Boqueron	1.31	41	*e*P	Pn	08 13 43.8	-0.4
BOQS				IAML		08 14 10.7	
	comp=Z,976nm,0.5s						
BOQS	Boqueron	1.31	41	*e*P	Pn	08 13 43.8	-0.4
BOQS				IAML		08 14 10.7	
	comp=Z,976nm,0.5s						
UEES	Universidad Ev	1.32	43	*e*P	Pn	08 13 43.3	-0.9
UEES	Universidad Ev	1.32	43	*e*P	Pn	08 13 43.3	-0.9
SLOZ	Alcaldia de Sa	1.33	16	*e*P	Pn	08 13 44.2	-0.1
SLOZ				IAML		08 14 10.6	
	comp=Z,670nm,0.5s						
OPAM	Oficina de Pla	1.35	44	*e*P	Pn	08 13 44.4	-0.2
OPAM				IAML		08 14 11.3	
	comp=Z,1μm,0.3s						
OPAM	Oficina de Pla	1.35	44	*e*P	Pn	08 13 44.4	-0.2
OPAM				IAML		08 14 11.3	
	comp=Z,1μm,0.3s						
LFRS	El Faro	1.39	51	*e*P	Pn	08 13 44.7	-0.3
LFRS	El Faro	1.39	51	*e*P	Pn	08 13 44.7	-0.3
SJTE	Alcalda de S	1.42	52	*e*P	Pn	08 13 45.3	-0.3
SJTE				IAML		08 14 08.4	
	comp=Z,587nm,0.3s						
SJTE	Alcalda de S	1.42	52	*e*P	Pn	08 13 45.3	-0.3
SJTE				IAML		08 14 08.4	
	comp=Z,587nm,0.3s						
LFU	La Fuente	1.43	45	*e*P	Pn	08 13 45.7	+0.1
LFU	La Fuente	1.43	45	*e*P	Pn	08 13 45.7	+0.1
TACO	Tacachico	1.45	33	*e*P	Pn	08 13 45.9	-0.1
TACO				IAML		08 14 12.5	
	comp=Z,724nm,0.6s						
TACO	Tacachico	1.45	33	*e*P	Pn	08 13 45.9	-0.1
TACO				IAML		08 14 12.5	
	comp=Z,724nm,0.6s						
LBRS	Las Brisas	1.47	48	*e*P	Pn	08 13 46.4	+0.1

LBRS	Las Brisas	1.47	48	eP	Pn	08 13 46.4	+0.1
PAVA	Las Pavas	1.54	51	eP	Pn	08 13 47.4	+0.2
PAVA				IAML		08 14 09.4	
	comp=Z,2µm,0.4s						
PAVA	Las Pavas	1.54	51	eP	Pn	08 13 47.4	+0.2
PAVA				IAML		08 14 09.4	
	comp=Z,2µm,0.4s						
PAVA	Las Pavas	1.54	51	eP	Pn	08 13 47.3	+0.2
TECO	Alcaldia de Te	1.56	59	eP	Pn	08 13 46.8	-0.7
TECO	Alcaldia de Te	1.56	59	eP	Pn	08 13 46.8	-0.7
ALJI	Alcalda de J	1.66	69	eP	Pn	08 13 48.0	-0.7
ALJI	Alcalda de J	1.66	69	eP	Pn	08 13 48.0	-0.7
SCLA	Alcaldia de Sa	1.69	56	eP	Pn	08 13 49.4	+0.2
SCLA	Alcaldia de Sa	1.69	56	eP	Pn	08 13 49.4	+0.2
COEB	Comit de Eme	1.76	65	eP	Pn	08 13 49.7	-0.6
COEB				IAML		08 14 19.6	
	comp=Z,620nm,0.4s						
COEB	Comit de Eme	1.76	65	eP	Pn	08 13 49.7	-0.6
COEB				IAML		08 14 19.6	
	comp=Z,620nm,0.4s						
COEB	Comit de Eme	1.76	65	eP	Pn	08 13 49.7	-0.6
COEB				eS	Sb	08 14 16.3	+1.0
COEB				IAML		08 14 24.1	
	comp=E,536nm,0.6s						
PQSS	Presa 15 de Se	1.79	61	eP	Pn	08 13 50.1	-0.4
PQSS				IAML		08 14 20.8	
	comp=Z,230nm,0.3s						
PQSS	Presa 15 de Se	1.79	61	eP	Pn	08 13 50.1	-0.4
PQSS				IAML		08 14 20.8	
	comp=Z,230nm,0.3s						
MTO3	Montecristo	1.82	25	eP	Pn	08 13 51.6	+0.4
MTO3				IAML		08 13 55.9	
	comp=Z,148nm,0.3s						
MTO3	Montecristo	1.82	25	eP	Pn	08 13 51.6	+0.4
MTO3				IAML		08 13 55.9	
	comp=Z,148nm,0.3s						
MTO3	Montecristo	1.82	25	eP	Pn	08 13 51.5	+0.4
MTO3				eS	Sb	08 14 16.6	-0.7
MTO3				IAML		08 14 20.0	
	comp=N,410nm,0.5s						
LCY	Lacayo	1.94	69	eP	Pn	08 13 53.5	+0.7
LCY	Lacayo	1.94	69	eP	Pn	08 13 53.5	+0.7
ESQI	Esquipulas	1.98	24	IAML		08 14 30.0	
	comp=Z,311nm,0.7s						
LCND	La Caada	2.29	75	eP	Pn	08 13 57.3	-0.1
LCND				IAML		08 13 58.4	
	comp=Z,430nm,0.3s						
LCND				eS	Sn	08 14 26.3	+1.9
LCND	La Caada	2.29	75	eP	Pn	08 13 57.3	-0.1
LCND				IAML		08 13 58.4	
	comp=Z,430nm,0.3s						
LCND				eS	Sn	08 14 26.3	+1.9
CSGN	Cosiguina Volc	2.55	84	eP	Pn	08 14 01.1	0.0
CRIN	San Cristobal	3.04	90	eP	Pn	08 14 08.0	+0.2
CRIN				eS	Sn	08 14 46.1	+3.0
CRIN				IAML		08 14 48.3	
	comp=E,717nm,0.5s						
TGUH	Tegucigalpa,Un	3.10	65	eP	Pn	08 14 08.7	-0.1
TEL3	Telica 3	3.24	93	eP	Pn	08 14 10.4	-0.1
JTS	Las Juntas de	5.66	115	Pn	Pn	08 14 45.6	+1.8
	comp=E,3.2nm,0.3s,baz=176,slow=23,SNR=17						
JTS				Sn	Sn	08 15 47.4	-0.3
	comp=E,1.1nm,0.3s,baz=357,slow=20,SNR=1.3						
JTS				Lg	Lg	08 16 24.7	
	baz=186,slow=23,SNR=2.3						
CMIG	Matias Romero	6.29	314	Pn	Pn	08 14 54.7	+2.3
	comp=E,0.3nm,0.3s,baz=122,slow=10,SNR=2.2						
CMIG				Sn	Sn	08 16 05.2	+2.0
	comp=E,0.3nm,0.3s,baz=179,slow=23,SNR=3.6						
SDV	Santo Domingo	19.56	99	P	Pn	08 17 48.2	-0.6
	comp=E,0.4nm,0.3s,baz=305,slow=12,SNR=4.3						
TXAR	Lajitas Array	20.74	325	P	Pn	08 18 01.8	-0.7
	comp=E,1.4nm,0.8s,baz=140,slow=11,SNR=13						
NVAR	Mina Array Bea	35.77	321	P	P	08 20 21.3	+3.0
	comp=E,0.4nm,0.5s,baz=138,slow=8.3,SNR=5.6						
SCHQ	Schefferville	45.80	19	P	P	08 21 37.1	-3.5
	comp=E,1.2nm,0.3s,baz=226,slow=6.7,SNR=14						
YKA	Yellowknife Ar	52.66	346	P	P	08 22 31.8	-1.1
	comp=E,0.2nm,0.4s,baz=146,slow=8.2,SNR=7.1						
CMAR	Chiang Mai Arr	147.72	344	PKPbc	PKPab	08 33 05.8	-0.7
	comp=E,1.8nm,0.3s,baz=342,slow=4.7,SNR=4.9						

WEL 09 08:25:26.2±1.1, 32°S±11°×17°8E±1°9, h393km±26km, M4.2/8, mB4.6/2, ML4.4/13, MLv4.2/8, Mw(mB)3.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=80.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	Waipu Caves	4.97	223	P	Pn	08 26 44.3	-3.2
OUZ	Omahuta	4.99	234	P	Pn	08 26 50.6	+2.9
HAZ	Te Kaha	5.44	186	P	Pn	08 26 52.0	-0.2
HAZ				S	S	08 28 03.0	+0.6
PKGZ	Pakihiroa	5.55	183	P	Pn	08 26 52.9	-0.6
PKGZ				S	S	08 28 03.0	-1.7
RUGZ	Raukumara Rang	5.65	187	P	Pn	08 26 54.2	-0.5
RUGZ				S	S	08 28 06.9	-0.1
TWGZ	Tauwhareparae	5.84	184	P	Pn	08 26 58.2	+1.5
TWGZ				S	S	08 28 12.1	+1.6
URZ	Urewera	6.01	190	P	Pn	08 26 56.7	-1.9
URZ				S	S	08 28 14.1	+0.2
MWZ	Matawai	6.03	187	P	Pn	08 26 59.1	+0.3
MWZ				S	S	08 28 15.5	+1.2
CNGZ	Carnagh Statio	6.13	182	P	Pn	08 27 00.6	+0.7
RAGZ	Rawiri	6.21	188	P	Pn	08 27 00.9	+0.1
MUGZ	Murupara	6.28	192	P	Pn	08 27 01.5	0.0
RIGZ	Rimuhau	6.38	185	P	Pn	08 27 02.9	+0.3
RIGZ				S	S	08 28 21.6	+0.2
MTHZ	Maungataniwha	6.64	191	P	P	08 27 06.3	+0.1
MTHZ				S	S	08 28 26.0	-0.6
RAHZ	Arahi	6.66	190	P	Pn	08 27 05.7	-0.1
RAHZ				S	S	08 28 27.9	+0.9
NMHZ	Naumai	6.88	191	P	Pn	08 27 08.2	-0.1
NMHZ				S	S	08 28 31.9	+0.2
BKZ	Black Stump Fm	7.00	193	P	Pn	08 27 08.8	-0.8
OTVZ	Oturere	7.19	198	P	P	08 27 12.3	-0.2
KWHZ	Kaweka Forest	7.27	193	P	Pn	08 27 12.0	-0.6
KWHZ				S	S	08 28 39.8	+0.1
KAHZ	Kahuranaki	7.55	190	P	Pn	08 27 15.5	-0.4

IDC 09 08:55:16.3±2.4, 8°.48S×123°.55E, h195km±22km, mb2.8/1, mb1 2.8/4, mb1mx2.5/40, mbtmp3.3/4, Error ellipse: s-maj=89.0km s-min=17.0km az=61.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.72	176	P	Pn	08 55 52.1	+0.4
	20nm,0.3s,baz=18,slow=3.2,SNR=2.4						
BATI				S	Sn	08 56 19.7	+0.4
	9.0nm,0.3s,baz=331,slow=9.6,SNR=1.6						
FITZ	Fitzroy Crossi	9.78	168	P	Pn	08 57 31.5	-1.2
	0.1nm,0.3s,baz=348,slow=10,SNR=6.4						
FITZ				S	Sn	08 59 18.1	-3.9
	0.5nm,0.3s,baz=152,slow=6.3,SNR=9.0						
WRA	Warramunga Arr	15.46	139	P	Pn	08 58 43.0	-1.3
	0.2nm,0.3s,baz=319,slow=12,SNR=7.0						
WRA				S	S	09 01 22.9	-13
	0.1nm,0.3s,baz=315,slow=24,SNR=3.0						
ASAR	Alice Springs	18.07	148	P	P	08 59 14.3	+1.1
	0.1nm,0.3s,baz=332,slow=12,SNR=8.3						
ASAR				S	S	09 02 31.8	+1.5
	0.1nm,0.3s,baz=312,slow=20,SNR=2.7						
MKAR	Makanchi Array	66.14	330	P	P	09 05 42.5	-0.2
	0.1nm,0.4s,baz=137,slow=8.8,SNR=2.6						

IDC 09 09:05:20.8±4.1, 24°.56N×95°.85E, h53km±42km, mb3.4/8, mb1 3.5/9, mb1mx3.3/51, mbtmp3.7/9, MS3.1/5, Ms1 3.1/5, ms1mx2.8/65, Error ellipse: s-maj=54.0km s-min=16.0km az=60.0

ISC 09 09:05:19.3±1.0, 24°.6N±0°.2×95°.9E±0°.3, h35km, n13, σ1s.22/9, mb3.8/8, MS3.1/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.76	154	P	Pn	09 06 56.7	+0.6
	baz=334,slow=13,SNR=10						
CMAR				LR	LR	09 10 03.8	
	comp=Z,108nm,21.9s,baz=345,slow=42						
PSI	Prapat	21.88	172	LR	LR	09 20 18.5	
	comp=Z,72nm,20.2s,baz=12,slow=41						
PALK	Pallekele	22.53	223	LR	LR	09 21 35.2	
	comp=Z,61nm,18.6s,baz=219,slow=43						
SONM	Songino Array	24.65	17	P	P	09 10 36.0	-0.6
	0.4nm,0.6s,baz=207,slow=9.3,SNR=2.6						
MKAR	Makanchi Array	24.66	337	P	P	09 10 36.6	-0.1
	2.6nm,0.8s,baz=151,slow=9.1,SNR=25						
AAK	Ala-Archa	25.18	321	P	P	09 10 42.6	+1.1
	1.2nm,0.5s,baz=154,slow=8.9,SNR=5.4						
KURBB	Kurchatov Arra	29.23	337	P	P	09 11 16.6	-0.9
	0.4nm,0.5s,baz=148,slow=8.9,SNR=5.8						
ZALV	Zalesovo Beam	30.45	347	P	P	09 11 30.3	+2.0
	1.1nm,0.6s,baz=171,slow=8.8,SNR=5.7						
DAV	Davao City (W)	33.37	117	LR	LR	09 25 23.5	
	comp=Z,20nm,20.1s,baz=316,slow=36						
GUMO	Guam	47.38	94	LR	LR	09 32 54.2	
	comp=Z,27nm,19.8s,baz=95,slow=35						
AKASG	Malin Array Be	56.69	316	P	P	09 14 57.9	-1.2
	0.4nm,0.4s,baz=80,slow=6.1,SNR=4.0						
WRA	Warramunga Arr	58.00	136	P	P	09 15 08.2	-0.6
	0.4nm,0.6s,baz=329,slow=7.3,SNR=3.4						
ASAR	Alice Springs	60.53	140	P	P	09 15 25.7	-0.5
	0.5nm,0.8s,baz=334,slow=7.4,SNR=7.2						

NNC 09 09:11:47.1±3.7, 53°.57N×87°.87E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=52.1km s-min=28.8km az=26.0, Suspected Mining explosion.

IDC 09 09:11:48.1±3.1, 53°.55N×87°.74E, h0km, mb1 2.8/2, mb1mx2.8/43, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.2km s-min=15.3km az=62.0

ISC 09 09:11:49.9±4.0, 53°.6N±0°.1×87°.5E±0°.2, h0km, n7, σ0s.74/8, 2C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.65	285	i		09 22 07.1	
	baz=98,slow=338,SNR=2.4						
ZAA0	Zalesovo Array	1.65	285	⇑Pn	Pn	09 12 19.8	-0.2
	0.2nm,0.3s						
ZAA0				⇑Lg	Lg	09 12 45.8	
	1.2nm,0.6s						
ZALV	Zalesovo Beam	1.65	285	Pg	Pn	09 12 20.1	0.0
	1.3nm,0.3s,baz=99,slow=16,SNR=15						
ZALV				Lg	Lg	09 12 45.1	
	2.4nm,0.3s,baz=110,slow=23,SNR=14						
KURBB	Kurchatov Arra	6.26	246	Pn	Pn	09 13 24.3	+0.9
	0.1nm,0.3s,baz=61,slow=14,SNR=7.4						
KURBB				Sn	Sn	09 14 35.5	-0.1
	0.0nm,0.3s,baz=146,slow=19,SNR=1.3						
KURBB				Lg	Lg	09 15 10.0	
	0.0nm,0.3s,baz=62,slow=32,SNR=3.6						
KURBB	Kurchatov Arra	6.26	246	⇓Pn	Pn	09 13 23.8	+0.4
	1.2nm,0.5s						
KUR17	Kurchatov Arra	6.29	246	⇓Pn	Pn	09 13 24.5	+0.7
	0.4nm,0.5s,baz=63,slow=14						
KUR17				⇓Lg	Lg	09 15 11.8	
	0.9nm,0.8s						
MKAR	Makanchi Array	7.55	208	Pn	Pn	09 13 41.5	+0.3
	0.1nm,0.3s,baz=21,slow=11,SNR=2.3						
MKAR				Sn	Sn	09 15 06.3	-1.1
	0.0nm,0.3s,baz=22,slow=28,SNR=3.2						
MKAR				Lg	Lg	09 15 47.8	
	0.1nm,0.3s,baz=29,slow=33,SNR=3.6						

NNC 09 09:22:25.2±4.7, 36°.34N×70°.69E, h128km±114km, mb3.3, mpv4.0, 1C-4D, Error ellipse: s-maj=44.4km s-min=41.9km az=55.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	6.69	16	Pg	Pn	09 24 01.9	+0.8
	5.8nm,0.3s						
MRKS				Lg	Lg	09 25 15.3	
	7.7nm,0.3s						
BRLS	Borolday	6.71	355	Pg	Pn	09 23 57.9	-3.4
	9.7nm,0.4s						
BRLS				Lg	Lg	09 25 08.1	
	5.9nm,0.2s						
KK02	Karatay Array	6.75	359	⇓P	Pn	09 24 01.5	-0.3
	2.6nm,0.3s,baz=175,slow=12						
KK02				⇓S	Sn	09 25 17.1	-0.3
	0.8nm,0.2s						
AAK	Ala-Archa	6.94	24	P	Pn	09 24 04.7	+0.2
	3.3nm,0.4s						
AAK				⇓S	Sn	09 25 23.1	+1.0
	4.8nm,0.9s						
TKM2	Tokmak 2	7.58	28	⇑P	Pn	09 24 13.0	-0.2
	2.7nm,0.5s						
DGS	Degeres	7.92	28	P	Pn	09 24 17.9	+0.2
	2.4nm,0.4s						
AB31	Akbulak array	15.10	332	⇓P	Pn	09 25 51.7	0.0
	1.2nm,0.5s,baz=159,slow=12,SNR=46						

IDC 09 09:36:11.5±2.7, 53°.64N×86°.85E, h0km, mb1 3.0/2, mb1mx2.9/45, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.7km s-min=13.8km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.24	285	i		09 43 00.0	
	baz=104,slow=334,SNR=1.3						
ZALV	Zalesovo Beam	1.24	285	Pg	Pg	09 36 34.2	-1.0
	2.1nm,0.3s,baz=98,slow=18,SNR=13						
ZALV				Lg	Lg	09 36 52.1	
	2.6nm,0.3s,baz=107,slow=30,SNR=7.7						
KURBB	Kurchatov Arra	5.95	243	Pn	Pn	09 37 41.6	+0.9
	0.1nm,0.3s,baz=58,slow=13,SNR=5.3						
KURBB				Lg	Lg	09 39 20.3	
	0.2nm,0.3s,baz=61,slow=27,SNR=5.8						
MKAR	Makanchi Array	7.45	205	Pn	Pn	09 38 02.7	+1.3
	0.2nm,0.3s,baz=28,slow=15,SNR=4.3						
MKAR				Sn	Sn	09 39 26.1	-0.3
	baz=24,slow=26,SNR=2.0						
MKAR				Lg	Lg	09 40 03.0	
	baz=26,slow=30,SNR=3.1						

IDC 09 09:40:39.7±1.0, 31°.00S×71°.39W, h0km, mb4.0/6, mb1 4.2/10, mb1mx4.1/24, mbtmp4.0/10, ML3.8/4, MS3.3/9, Ms1 3.3/9, ms1mx3.1/55, Error ellipse: s-maj=33.8km s-min=24.3km az=178.0

SJA 09 09:40:40.9±0.7, 30°.68S×71°.76W, h10km±10km, ML4.3, MW4.0

GUC 09 09:40:45.6±0.6, 30°.72S×71°.40W, h42km±1km, ML4.4

NEIC 09 09:40:47.8±1.1, 30°.72S±0°.02×71°.39W±0°.08, h41km±7km, mb4.2/7, ML4.4(GUC), Error ellipse: s-maj=10.4km s-min=1.6km az=73.0

ISC 09 09:40:46.7±0.7, 30°.69S±0°.03×71°.46W±0°.04, h42km±6km, n103, σ1s.57/115, mb4.0/6, MS3.7/4, 3C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.15	275		Pn	09 40 55.1	+1.2
CO06	Fray Jorge	0.15	275	⇑iP	Pn	09 40 55.1	+1.2
CO06				eS	Sn	09 40 59.6	+0.7
CO06				IAML		09 41 02.2	
	comp=N,23µm,0.2s						
CO02	Combarbal	0.65	143		Pn	09 40 59.7	0.0
CO02				Sn	Sn	09 41 08.6	-0.2
CO02	Combarbal	0.65	143	eP	Pn	09 40 59.7	0.0
CO02				i S	Sn	09 41 08.7	-0.2
CO02				IAML		09 41 09.1	
	comp=N,121µm,0.3s						
CO03	El Pedregal	0.68	103		Pn	09 40 60.0	-0.1
CO03				Sn	Sn	09 41 09.2	-0.4
CO03	El Pedregal	0.68	103	⇓iP	Pn	09 40 60.0	-0.1
CO03				eS	Sn	09 41 09.1	-0.5
CO03				IAML		09 41 09.7	
	comp=E,22µm,0.3s						
GO04	Tololo Observa	0.77	48		Pn	09 41 01.9	+0.6
GO04				Sn	Sn	09 41 12.9	+1.1
GO04	Tololo Observa	0.77	48	⇓iP	Pn	09 41 01.9	+0.6
GO04				eS	Sn	09 41 12.7	+0.8
GO04				IAML		09 41 15.3	
	comp=N,33µm,0.3s						
GO04	Tololo Observa	0.77	48	eP	Sn	09 41 13.0	+1.1
GO04				eS	Sn	09 41 13.7	+1.8
CO05	La Serena	0.79	14		Pn	09 41 02.4	+1.0
CO05				Sn	Sn	09 41 13.7	+1.6
CO05	La Serena	0.79	14	⇓iP	Pn	09 41 02.4	+1.0
CO05				eS	Sn	09 41 13.8	+1.6
AROD	Rodeo	1.79	74	eP	Pn	09 41 18.4	+2.9
AROD				eS	Sn	09 41 36.2	-1.0
LCO	Las Campanas	1.79	22		Pn	09 41 16.7	+1.2
LCO	Las Campanas	1.79	22	⇓iP	Pn	09 41 16.7	+1.2
LCO				eS	Sn	09 41 39.0	+1.8
VA06	Catapilco	1.87	176		Pn	09 41 17.0	+0.7
VA06	Catapilco	1.87	176	eP	Pn	09 41 17.0	+0.7
VA06				eS	Sn	09 41 40.9	+2.2
VA06				IAML		09 41 55.2	
	comp=E,4µm,0.5s						
ACCO	Cerro Coronel	2.06	88	eP	Pn	09 41 22.2	+2.9
ACDV	Cuesta del Vie	2.08	76	eP	Pn	09 41 22.3	+2.9
ACDV				eS	Sn	09 41 55.7	+11
VA03	San Esteban	2.21	160		Pn	09 41 22.3	+1.3
VA03	San Esteban	2.21	160	⇓eP	Pn	09 41 22.0	+1.0
VA03				eS	Sn	09 41 48.9	+1.7
VA03				IAML		09 41 52.9	
	comp=E,4µm,0.1s						
ROCH	El Roble	2.31	171	eP	Pn	09 41 23.5	+1.0
ROCH				eS	Sn	09 41 51.7	+1.9
ROCH				IAML		09 41 57.1	
	comp=N,2µm,0.4s						
ROC1	El Roble	2.31	171		Pn	09 41 23.5	+0.9
ROC1	El Roble	2.31	171	eP	Pn	09 41 24.3	+1.7
ROC1				eS	Sn	09 41 53.2	+3.2
VA01	Torpederas	2.33	184		Pn	09 41 22.6	0.0
VA01	Torpederas	2.33	184	⇓eP	Pn	09 41 22.4	-0.2
VA01				eS	Sn	09 41 52.4	+2.3
VA01				IAML		09 41 58.6	
	comp=N,859nm,0.3s						
AC04	Llanos de Chal	2.50	8	Pn	Pn	09 41 26.6	+1.8
AC04	Llanos de Chal	2.50	8	⇓eP	Pn	09 41 26.5	+1.6
AC04				eS	Sn	09 41 55.9	+1.8
AC04				IAML		09 42 07.7	
	comp=E,1µm,0.2s						
ZON	Zonda	2.53	110		Pn	09 41 28.2	+2.8
PEL	Peldehue	2.54	165		Pn	09 41 26.5	+1.1
PEL	Peldehue	2.54	165	⇑eP	Pn	09 41 26.7	+1.2
PEL				eS	Sn	09 41 57.9	+2.7
PEL				IAML		09 42 06.2	
	comp=N,1µm,0.3s						
MT02	Curacav	2.58	174		Pn	09 41 27.1	+1.1
MT02	Curacav	2.58	174	⇓eP	Pn	09 41 26.6	+0.6
MT02				eS	Sn	09 41 58.3	+2.1
MT02				IAML		09 42 03.6	
	comp=N,565nm,0.3s						
SJA	San Juan	2.62	109	eP	Pn	09 41 29.1	+2.4
SJA				eS	Sn	09 42 15.2	+18
RTLL	Cerro Villicun	2.64	105	eP	Pn	09 41 29.3	+2.4
RTLL				eS	Sn	09 42 06.0	+8.2
RTCV	Cerro Valdivia	2.76	116	eP	Pn	09 41 31.5	+2.9
RTCV				eS	Sn	09 42 10.8	+10
MT05	Renca	2.77	167		Pn	09 41 30.0	+1.3
MT05	Renca	2.77	167	eP	Pn	09 41 29.9	+1.3
MT05				eS	Sn	09 42 03.5	+2.7
MT05				IAML		09 42 16.0	
	comp=E,3µm,0.4s						
MT03	Universidad Ad	2.91	164		Pn	09 41 32.6	+2.0
MT03	Universidad Ad	2.91	164	⇑eP	Pn	09 41 32.4	+1.7
MT03				eS	Sn	09 42 07.0	+2.6
MT03				IAML		09 42 23.5	
	comp=N,2µm,0.3s						
ARCO	CERRO ARCO	3.04	136	eP	Pn	09 41 35.7	+3.2
ARCO				eS	Sn	09 42 21.8	+14
ARCO				IAML		09 42 29.7	
	comp=Z,698nm,0.9s						
MT09	Talagante	3.10	173		Pn	09 41 34.7	+1.3
MT09	Talagante	3.10	173	eP	Pn	09 41 34.3	+1.0
MT09				eS	Sn	09 42 10.5	+1.2
MT09				IAML		09 42 22.6	
	comp=E,1µm,0.4s						
MT01	Popeta	3.17	177	Pn	Pn	09 41 34.9	+0.7
MT01	Popeta	3.17	177	eP	Pn	09 41 34.7	+0.5
MT01				eS	Sn	09 42 13.6	+2.8
MT01				IAML		09 42 27.8	
	comp=E,685nm,0.5s						
GO03	Copiap	3.26	19		Pn	09 41 37.4	+1.9
LMEL	Las Melosas	3.33	162		Pn	09 41 38.9	+2.5
LMEL	Las Melosas	3.33	162	eP	Pn	09 41 38.5	+2.1
LMEL				eS	Sn	09 42 18.6	+3.9
LMEL				IAML		09 42 22.8	
	comp=N,938nm,0.3s						
BO04	La Punta	3.37	168		Pn	09 41 38.4	+1.5
BO04	La Punta	3.37	168	eP	Pn	09 41 37.9	+1.0
BO04				i S	Sn	09 42 17.6	+2.0
BO04				IAML		09 42 35.7	
	comp=E,848nm,0.5s						
AC06	Mina Casimiro	3.46	17		Pn	09 41 40.0	+1.9
AC06	Mina Casimiro	3.46	17	eP	Pn	09 41 39.4	+1.3
AC06				eS	Sn	09 42 21.0	+3.2
AC06				IAML		09 42 33.6	
	comp=N,647nm,0.3s						
BO01	Tunca	3.71	175		Pn	09 41 42.2	+0.7
BO01	Tunca	3.71	175	eP	Pn	09 41 41.9	+0.4
BO01				eS	Sn	09 42 25.7	+1.8
BO02	Sierra Bellavi	4.13	172	Pn	Pn	09 41 49.0	+1.5
BO02	Sierra Bellavi	4.13	172	eP	Pn	09 41 48.4	+1.0
BO02				eS	Sn	09 42 35.1	+0.6
GO05	Huala	4.33	185		Pn	09 41 49.4	-0.7
AC02	Maricunga	4.35	29		Pn	09 41 53.2	+2.4
AC01	Pan de Azucar	4.59	10		Pn	09 41 53.4	-0.2
H03N1	Juan Fernandez	6.90	245	T	T	09 49 15.5	
	baz=73,slow=72,SNR=2251						
H03N3	Juan Fernandez	6.91	245	T	T	09 49 14.7	
	baz=73,slow=72,SNR=2679						
H03N2	Juan Fernandez	6.91	245	T	T	09 49 16.3	
	baz=73,slow=72,SNR=2714						
H03S3	Juan Fernandez	7.04	242	T	T	09 49 42.6	
	baz=74						
H03S1	Juan Fernandez	7.05	242	T	T	09 49 44.3	
	baz=74						
H03S2	Juan Fernandez	7.06	242	T	T	09 49 32.5	
	baz=74						
PB15	IPOC Station P	7.66	14		Pn	09 42 36.7	+0.7
LC01	Cunco	8.20	182	Pn	Pn	09 42 42.7	-0.5
LVC	Limon Verde	8.36	16	Pn	Pn	09 42 45.0	-0.8
	comp=N,0.8nm,0.3s,baz=196,slow=6.6,SNR=11						
LVC				Sn	Sn	09 44 15.4	-3.7
	comp=N,1.6nm,0.3s,baz=203,slow=17,SNR=1.3						
LVC				LR	LR	09 45 51.2	
	comp=N,126nm,21.0s,baz=212,slow=36						
LVC	Limon Verde	8.36	16	Pn	Pn	09 42 44.6	-1.2
PLCA	Paso Flores	10.05	176	Pn	Pn	09 43 08.0	-0.6
	comp=N,0.1nm,0.3s,baz=338,slow=11,SNR=6.4						
PLCA				LR	LR	09 47 32.3	
	comp=N,98nm,18.4s,baz=322,slow=42						
PLCA	Paso Flores	10.05	176		Pn	09 43 08.6	+0.1
LL04	Puerto Octay	10.23	184	Pn	Pn	09 43 10.4	-0.6
ITQB	Itaqui	12.88	89	Pn	Pn	09 43 46.8	-0.3
CPUP	Villa Florida	13.16	74	Pn	Pn	09 43 49.2	-1.9
	comp=N,0.2nm,0.3s,baz=259,slow=18,SNR=2.1						
CPUP				Sn	Sn	09 46 17.0	+1.0
	comp=N,0.3nm,0.3s,baz=249,slow=12,SNR=3.1						
CPUP				LR	LR	09 48 48.5	
	comp=N,107nm,21.1s,baz=202,slow=37						
CPUP	Villa Florida	13.16	74		Pn	09 43 50.0	-1.0
LPAZ	La Paz	14.65	13	Pn	Pn	09 44 13.6	+1.7
	comp=N,0.1nm,0.3s,baz=192,slow=8.1,SNR=9.8						
LPAZ	La Paz	14.65	13	Pn	Pn	09 44 12.6	+0.7
SIV	San Ignacio	17.45	35	P	P	09 44 47.6	-0.3
	comp=N,0.3nm,0.3s,baz=221,slow=11,SNR=19						
SIV				LR	LR	09 52 13.6	
	comp=N,66nm,19.3s,baz=142,slow=39						
NNA	Nana	19.27	344	LR	LR	09 50 21.6	
	comp=N,38nm,18.4s,baz=154,slow=30						
BDFB	Brasilia	26.17	60	P	P	09 46 16.5	-1.0
	comp=N,5.8nm,0.7s,baz=237,slow=6.8,SNR=8.8						
BDFB	Brasilia	26.17	60	P	P	09 46 17.2	-0.3
BDFB				IAmb	IAmb	09 46 17.5	
	comp=Z,6.1nm,0.8s						
RPN	Rapa Nui	33.24	267	LR	LR	09 56 44.7	
	comp=Z,49nm,19.8s,baz=358,slow=29						
PMSA	Palmer Station	34.42	174	LR	LR	10 00 37.0	
	comp=Z,94nm,19.0s,baz=90,slow=35						
TXAR	Lajitas Array	67.11	330	P	P	09 51 37.1	+0.9
	comp=Z,0.5nm,0.6s,baz=156,slow=8.7,SNR=8.9						
DBIC	Dimbokro	73.67	72	P	P	09 52 16.1	-0.4
	comp=Z,4.8nm,0.6s,baz=238,slow=5.6,SNR=6.4						
DBIC				LR	LR	10 23 02.5	
	comp=Z,58nm,18.4s,baz=21,slow=34						
DBIC	Dimbokro	73.67	72	IAmb	IAmb	09 52 16.9	
	comp=Z,8.8nm,1.1s						
TSUM	Tsumeb	79.65	106	LR	LR	10 23 56.9	
	comp=Z,43nm,19.4s,baz=148,slow=33						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	81.05	333	P	P	09 52 58.5	+1.1
	comp=Z,0.4nm,0.9s,baz=145,slow=2.2,SNR=2.1						
NVAR	Mina Array Bea	81.46	325	P	P	09 53 00.9	+1.2
	comp=Z,0.3nm,0.7s,baz=141,slow=5.8,SNR=3.6						
TORD	Torodi Ar. Bea	82.62	70	P	P	09 53 05.8	-0.3
	comp=Z,1.0nm,0.4s,baz=279,slow=6.2,SNR=17						
TORD	Torodi Ar. Bea	82.62	70	IAmb	IAmb	09 53 06.0	
	comp=Z,2.4nm,1.0s						
WRA	Warramunga Arr	123.88	210	PKP	PKPdf	09 59 39.0	-1.9
	comp=Z,0.3nm,0.9s,baz=148,slow=1.7,SNR=1.8						
H11S2	WAKE ISLAND Hy	126.25	271	T	T	12 18 30.5	
	baz=115,slow=75,SNR=55						
H11S1	WAKE ISLAND Hy	126.26	271	T	T	12 18 31.0	
	baz=115,slow=75,SNR=43						
H11S3	WAKE ISLAND Hy	126.27	271	T	T	12 18 31.8	
	baz=115,slow=75,SNR=37						
H11N3	WAKE ISLAND Hy	126.58	273	T	T	12 19 04.9	
	baz=116,slow=74,SNR=7.2						
H11N1	WAKE ISLAND Hy	126.59	273	T	T	12 18 59.2	
	baz=116						
H11N2	WAKE ISLAND Hy	126.60	273	T	T	12 18 59.9	
	baz=116,slow=74,SNR=8.4						
BVAR	Borovoye Array	144.48	40	PKP	PKPdf	10 00 17.1	-1.0
	comp=Z,0.6nm,0.4s,baz=41,slow=14,SNR=5.8						
KURBB	Kurchatov Arra	150.07	40	PKPbc	PKiKP	10 00 32.3	-1.0
	comp=Z,1.6nm,0.8s,baz=296,slow=3.2,SNR=9.2						
KURK	Kurchatov	150.07	39		PKiKP	10 00 32.3	-1.0
AAK	Ala-Archa	150.39	57	PKPbc	PKiKP	10 00 33.7	-0.8
	comp=Z,0.7nm,0.4s,baz=215,slow=3.3,SNR=4.3						
ZALV	Zalesovo Beam	151.14	30	PKPbc	PKiKP	10 00 34.4	-1.0
	comp=Z,6.1nm,0.7s,baz=304,slow=3.8,SNR=21						
MKAR	Makanchi Array	154.13	44	PKPbc	PKPbc	10 00 40.6	-1.2
	comp=Z,0.2nm,0.5s,baz=243,slow=4.7,SNR=4.9						
MKAR				PKPab	PKPab	10 00 55.8	+0.2
	comp=Z,0.3nm,0.5s,baz=296,slow=3.6,SNR=3.9						

*NNC **09** 09:49:44.8±1.9, 53°.66N×86°.96E, h0^{km}, mb2.9, mpv2.7, Error ellipse: s-maj=19.1km s-min=7.7km az=39.0, Suspected Mining explosion.*
*IDC **09** 09:49:45.8±2.5, 53°.62N×86°.92E, h0^{km}, mb1 2.9/2, mb1mx2.8/40, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.2km s-min=13.0km az=77.0*
ISC 09 09:49:43.9±5.3**, 53°.7N**±0°.2×**87°.0E**±0°.3**, h0^{km}, n7,** σ**1^{s}47**/8**, 2C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.32	282	*i*		09 58 30.0	
	baz=103,slow=335,SNR=1.5						
ZAA0	Zalesovo Array	1.32	282	⇓P	Pg	09 50 09.0	-0.2
	0.2nm,0.2s						
ZAA0				⇓S	Sn	09 50 27.1	-0.8
	6.4nm,0.9s						
ZALV	Zalesovo Beam	1.32	282	Pg	Pb	09 50 08.7	-0.8
	1.4nm,0.3s,baz=103,slow=16,SNR=22						
ZALV				Lg	Lg	09 50 27.2	
	0.9nm,0.3s,baz=107,slow=29,SNR=4.7						
KURBB	Kurchatov Arra	6.06	243	Pn	Pn	09 51 16.6	+1.9
	0.0nm,0.3s,baz=58,slow=13,SNR=5.8						
KURBB				Lg	Lg	09 52 55.6	
	0.1nm,0.3s,baz=57,slow=34,SNR=5.1						
KURBB	Kurchatov Arra	6.06	243	⇓Pn	Pn	09 51 16.6	+1.9
	2.9nm,0.9s						
MK31	Makanchi Array	7.55	205	⇓Pn	Pn	09 51 35.4	+0.1
	0.6nm,0.6s,baz=29,slow=14,SNR=7.1						
MK31				⇑Sn	Sn	09 53 01.8	+0.3
	0.6nm,0.7s						
MK31				⇑Lg	Lg	09 53 41.5	
	3.8nm,1.0s,baz=33,slow=25,SNR=7.3						
MKAR	Makanchi Array	7.55	205	Pn	Pn	09 51 37.5	+2.3
	0.2nm,0.3s,baz=26,slow=12,SNR=8.0						
MKAR				Sn	Sn	09 52 59.9	-1.5
	0.1nm,0.3s,baz=23,slow=27,SNR=4.3						
MKAR				Lg	Lg	09 53 40.2	
	0.1nm,0.3s,baz=28,slow=31,SNR=10						

IDC 09 09:52:33.1±2.1**, 54°.26N×86°.05E, h0^{km}, mb1 3.3**/3**, mb1mx3.0**/48**, mbtmp3.3**/3**, ML3.2**/3**, Error ellipse: s-maj=17.0km s-min=10.3km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.79	247	*i*		09 57 15.3	
	baz=65,slow=339,SNR=4.6						
ZALV	Zalesovo Beam	0.79	247	Pg	Pg	09 52 46.6	-1.6
	2.0nm,0.3s,baz=60,slow=16,SNR=26						
ZALV				Lg	Lg	09 52 59.5	
	11nm,0.3s,baz=70,slow=32,SNR=22						
KURBB	Kurchatov Arra	5.87	235	Pn	Pn	09 54 02.0	+0.8
	0.2nm,0.3s,baz=51,slow=13,SNR=9.6						
KURBB				Lg	Lg	09 55 40.6	
	0.1nm,0.3s,baz=49,slow=34,SNR=2.1						
MKAR	Makanchi Array	7.85	199	Pn	Pn	09 54 28.9	+0.5
	0.5nm,0.3s,baz=24,slow=13,SNR=13						
MKAR				Sn	Sn	09 55 59.6	+1.7
	0.2nm,0.3s,baz=25,slow=26,SNR=3.2						
MKAR				Lg	Lg	09 56 41.2	
	0.1nm,0.3s,baz=20,slow=30,SNR=2.3						
BVAR	Borovoye Array	9.39	269	Pn	Pn	09 54 49.3	-0.2
	0.4nm,0.3s,baz=79,slow=12,SNR=4.2						

*HEL **09** 10:00:49.3±0.3, 64°.58N×30°.94E, h0^{km}, ML2.0, Explosion*
*KOLA **09** 10:00:51.0, 64°.46N×30°.70E, h0^{km}, ML2.1*
*BER **09** 10:00:52.0±2.9, 64°.59N×30°.63E, h0^{km}, ML1.7, ML2.0(HEL), Suspected explosion*
*UPP **09** 10:00:55.7±2.7, 64°.54N×30°.09E, h0^{km}, ML1.6, Suspected explosion*
*IDC **09** 10:00:55.2±1.9, 64°.69N×30°.57E, h0^{km}, mb1 3.0/4, mb1mx2.8/51, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=26.6km s-min=9.6km az=104.0*
ISC 09 10:00:53.0±1.1**, 64°.74N**±0°.03×**30°.38E**±0°.05**, h0^{km}, n55,** σ**1^{s}52**/77**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSF	Maaselka	1.31	335	PG	Pg	10 01 17.6	-0.4
	baz=146						
MSF	Maaselka	1.31	335	PG	Pg	10 01 17.6	-0.4
	baz=146						
KU6	Riekki	1.31	351	PN	Pg	10 01 17.1	-0.9
KU6				MSG		10 01 34.9	
	comp=Z,8.3nm,0.2s						
KU6				SN	Sn	10 01 36.7	0.0
KU6	Riekki	1.31	351	PN	Pg	10 01 17.1	-0.9
KU6				MSG		10 01 34.9	
	comp=Z,8.3nm,0.2s						
KU6				SN	Sn	10 01 36.7	0.0
OUL	Oulu	1.94	282	PG	Pb	10 01 29.3	+0.1
OUL				SB	Sg	10 01 56.0	+0.7
OUL	Oulu	1.94	282	PG	Pb	10 01 29.3	+0.1
OUL				SB	Sg	10 01 56.0	+0.7
OUF	Merijarvi	2.47	264	PG	Pb	10 01 36.9	-1.3
OUF				MSG		10 02 08.8	
	comp=Z,18nm,0.2s						
OUF				SG	Sg	10 02 11.3	-0.9
OUF	Merijarvi	2.47	264	PG	Pb	10 01 36.9	-1.3
OUF				MSG		10 02 08.8	
	comp=Z,18nm,0.2s						
OUF				SG	Sg	10 02 11.3	-0.9
RNF	Rovaniemi	2.61	318	PG	Pb	10 01 41.0	+0.5
	baz=136						
RNF				SG	Sg	10 02 17.8	+1.1
RNF	Rovaniemi	2.61	318	PG	Pb	10 01 41.0	+0.5
	baz=136						
RNF				SG	Sg	10 02 17.8	+1.1
OBF0	Syolatti, Pyha	2.66	268	PG	Pb	10 01 41.0	-0.4
OBF0				SG	Sg	10 02 17.7	-0.6
OBF0	Syolatti, Pyha	2.66	268	PG	Pb	10 01 41.0	-0.4
OBF0				SG	Sg	10 02 17.7	-0.6
SUF	Sumiainen	2.76	225	PG	Pn	10 01 41.0	+2.5
SUF				MSG		10 02 12.7	
	comp=Z,3.2nm,0.2s						
SUF	Sumiainen	2.76	225	PG	Pn	10 01 41.0	+2.5
SUF				MSG		10 02 12.7	
	comp=Z,3.2nm,0.2s						
TOF	Tornio	2.87	301	MSG		10 02 21.8	
	comp=Z,5.8nm,0.2s						
TOF				SG	Sg	10 02 24.6	-0.4
TOF	Tornio	2.87	301	MSG		10 02 21.8	
	comp=Z,5.8nm,0.2s						
TOF				SG	Sg	10 02 24.6	-0.4
VRF	Varrio	3.04	354	MSG		10 02 24.1	
	comp=Z,2.7nm,0.2s						
VRF				SG	Sg	10 02 29.4	-1.1
VRF	Varrio	3.04	354	PG	Pb	10 01 45.3	-2.6
VRF				MSG		10 02 24.1	
	comp=Z,2.7nm,0.2s						
VRF				SG	Sg	10 02 29.4	-1.1
APA0	Apatity Array	3.07	19	P	Pn	10 01 43.4	+0.7
APA0				S	Sn	10 02 21.8	+1.7
SGF	Sodankyl	3.14	332	PG	Pb	10 01 50.6	+1.0
	baz=147						
KALU	Kalix	3.16	294	P	Pn	10 01 45.7	+1.9
KALU				S	Sn	10 02 24.4	+2.2
KALU	Kalix	3.16	294	PG	Pg	10 01 53.4	0.0
KAF	Kangasniemi	3.21	217	PG	Pn	10 01 47.4	+2.8
KAF	Kangasniemi	3.21	217	PG	Pn	10 01 47.4	+2.8
KEF	Keuruu	3.57	226	PG	Pb	10 01 54.5	-2.5
KEF	Keuruu	3.57	226	PG	Pb	10 01 54.5	-2.5
KLF	Kolari	3.63	317	PG	Pg	10 02 01.8	-0.6
	baz=129						
KLF	Kolari	3.63	317	PG	Pg	10 02 01.8	-0.6
	baz=129						
PAJU	Pajala	3.76	311	PB	Pb	10 01 58.3	-1.9
PAJU	Pajala	3.76	311	PB	Pb	10 01 58.3	-1.9
FIA0	FINESS Array S	3.84	213	PB	Pn	10 01 54.8	+1.6
FIA0	FINESS Array S	3.84	213	PB	Pn	10 01 54.8	+1.6
FINES	FINESS Array B	3.84	213	Pn	Pn	10 01 53.4	+0.2
	comp=Z,0.2nm,0.3s,baz=34,slow=15,SNR=6.1						
FINES				Pg	Pb	10 02 02.5	+1.0
	comp=Z,0.7nm,0.3s,baz=33,slow=16,SNR=14						
FINES				Lg	Lg	10 02 50.4	
	comp=Z,0.8nm,0.3s,baz=35,slow=28,SNR=10						
ERTU	Ertsjaerv	3.85	302	PB	Pn	10 01 57.1	+3.7
	baz=116						
ERTU	Ertsjaerv	3.85	302	P	Pn	10 01 56.2	+2.8
ERTU				S	Sn	10 02 40.8	+1.4
ERTU	Ertsjaerv	3.85	302	PB	Pn	10 01 57.1	+3.7
	baz=116						
HARU	Harads	4.18	294	P	Pn	10 02 00.1	+2.2
ODEU	Stanfors	4.18	270	P	Pn	10 01 58.4	+0.5
UMAU	Umeaa	4.31	263	SG	Sg	10 03 11.4	+0.1
UMAU	Umeaa	4.31	263	P	Pn	10 01 59.8	+0.1
UMAU	Umeaa	4.31	263	SG	Sg	10 03 11.4	+0.1
LILU	Lilltraesk	4.50	282	P	Pn	10 02 04.2	+1.9
HEF	Hetta	4.56	327	*e*P	Pn	10 02 02.2	-0.9
SVAU	Svanoeiden	4.66	272	P	Pn	10 02 05.2	+0.7
DUNU	Dundret	4.68	305	P	Pn	10 02 06.9	+2.1
PRVG	Vayda Guba	5.08	7	P	Pn	10 02 10.7	+0.4
PRVG				S	Sn	10 03 10.3	+0.8
KTK1	Kautokeino	5.13	330	*e*P	Pn	10 02 12.4	+1.4
KTK1				*e*S	Sn	10 03 10.3	-0.5
KTK1				IAML		10 03 27.5	
	comp=Z,1.5nm,1.1s						
ARA0	ARCESS Array S	5.18	341	*e*P	Pn	10 02 11.5	-0.1
ARA0				*e*S	Sn	10 03 09.9	-2.1
ARA0				IAML		10 03 19.8	
	comp=Z,1.6nm,0.9s						
ARCES	ARCESS Array B	5.18	341	Pn	Pn	10 02 11.8	+0.2
	baz=154,slow=14,SNR=36						
ARCES				Sn	Sn	10 03 10.9	-1.1
	baz=10,slow=7.4,SNR=1.8						
ARCES				Lg	Lg	10 03 32.2	
	baz=154,slow=23,SNR=3.1						
ARCES	ARCESS Array B	5.18	341	P	Pn	10 02 11.9	+0.3
ARCES				S	Sn	10 03 13.9	+1.9
KEV	Kevo	5.21	347	*e*P	Pn	10 02 11.3	-0.7
KEV				*e*S	Sn	10 03 10.0	-2.7
JETT	Jettan, Norway	6.20	326	*e*P	Pn	10 02 26.2	+0.6
JETT				IAML		10 03 40.0	
	comp=Z,2.5nm,0.6s						
I37NO	I37NO	6.35	318	*i*		10 38 50.4	
	baz=132,slow=329,SNR=1.7						
HFS	Hagfors	8.99	247	Pn	Pn	10 03 04.8	+0.9
	comp=Z,0.3nm,0.3s,baz=62,slow=13,SNR=4.9						
HFS				Sn	Sn	10 04 42.9	-2.9
	comp=Z,0.2nm,0.3s,baz=30,slow=35,SNR=1.5						
HFS				Lg	Lg	10 05 32.4	
	comp=Z,0.3nm,0.3s,baz=77,slow=23,SNR=3.1						
NOA	NORSAR Array B	9.49	256	Pn	Pn	10 03 10.4	-0.3
	comp=Z,0.0nm,0.3s,baz=64,slow=14,SNR=6.9						
NOA				Sn	Sn	10 04 57.4	-0.5
	comp=Z,0.0nm,0.3s,baz=316,slow=20,SNR=1.6						
NOA				Lg	Lg	10 05 50.9	
	comp=Z,0.0nm,0.3s,baz=216,slow=23,SNR=2.3						

IDC 09 10:10:31.5±2.9**, 53°.55N×87°.68E, h0^{km}, mb1 3.2**/2**, mb1mx3.0**/44**, mbtmp3.2**/2**, ML2.9**/2**, 3C-1D, Error ellipse: s-maj=23.4km s-min=14.5km az=65.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.74	285	*i*		10 20 00.0	
	baz=101,slow=339,SNR=4.9						
ZAA0	Zalesovo Array	1.74	285	⇑Pg	Pb	10 11 04.0	-0.4
	1.1nm,0.8s,baz=111,slow=15						
ZAA0				⇑Lg	Lg	10 11 25.7	
	6.9nm,1.1s,baz=111,slow=26						
ZALV	Zalesovo Beam	1.74	285	Pg	Pn	10 11 02.9	-0.1
	2.1nm,0.3s,baz=102,slow=16,SNR=19						
ZALV				Lg	Lg	10 11 27.3	
	2.3nm,0.3s,baz=104,slow=29,SNR=6.0						
KURK	Kurchatov	6.25	247	⇓Pn	Pn	10 12 05.0	+0.1
	3.3nm,0.8s						
KURK				⇑Lg	Lg	10 13 44.2	
	17nm,1.1s						
KURBB	Kurchatov Arra	6.35	246	Pn	Pn	10 12 06.3	0.0
	0.1nm,0.3s,baz=61,slow=13,SNR=4.6						
KURBB				Sn	Sn	10 13 19.8	+0.3
	0.1nm,0.3s,baz=130,slow=47,SNR=1.6						
KURBB				Lg	Lg	10 13 51.2	
	0.1nm,0.3s,baz=63,slow=32,SNR=7.4						
MKAR	Makanchi Array	7.59	209	Pn	Pn	10 12 24.9	+1.6
	0.4nm,0.3s,baz=29,slow=14,SNR=5.7						
MKAR				Sn	Sn	10 13 50.1	+0.1
	0.1nm,0.3s,baz=27,slow=24,SNR=3.6						
MKAR				Lg	Lg	10 14 30.2	
	0.1nm,0.3s,baz=28,slow=28,SNR=8.4						

*IDC **09** 10:20:34.7±2.6, 43°.46N×143°.69E, h0^{km}, mb3.2/3, mb1 3.5/3, mb1mx3.2/31, mbtmp3.2/3, Error ellipse: s-maj=71.4km s-min=14.6km az=28.0*
*SKHL **09** 10:20:36.7±0.1, 43°.00N×142°.50E, h53^{km}±7^{km}, mb4.0/2*
*JMA **09** 10:20:39.9, 43°.36N×143°.08E, h6^{km}±1^{km}, M3.2*
Broadband fault plane solution: P waves. NP1: ϕ_s100.00000°, δ78.00000°, λ-161.00000°. NP2: ϕ_s6.00000°, δ72.00000°, λ-13.00000°. Principal axes: T Plg4.0000°, Azm232.0000°; N Plg68.0000°, Azm132.0000°; P Plg22.0000°, Azm324.0000°;
JMA Felt I J1.
ISC 09 10:20:37.1±1.6**, 43°.36N**±0°.04×**143°.08E**±0°.04**, h12^{km}**±11^{km}**, n17,** σ**1^{s}64**/24**, mb3.0**/3**, 5C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFR	Furan	0.40	242	⇑P	Pn	10 20 47.8	-0.9
JAR	Ashorobuto	0.51	97	⇑P	Pn	10 20 49.6	-0.5
JAR				*e*S	Sb	10 20 56.8	+1.6
JKK2	Kamakawa 2	0.57	335	P	Pn	10 20 51.6	+0.6
JAB	Ashibetsu	0.64	284	P	Pn	10 20 52.9	+0.9
JMP	Maruseppu	0.68	17	⇑P	Pn	10 20 52.8	+0.2
JMP				S	Sb	10 21 01.7	+1.4
JOB	Onbets	0.71	129	⇓P	Pn	10 20 54.2	+1.2
JOB				S	Sn	10 21 05.5	+1.7
JCH	Churui	0.77	164	⇓P	Pn	10 20 54.9	+1.2
JCH				S	Sn	10 21 05.7	+0.5
JBT2	Biratori 2	0.78	222	⇑P	Pn	10 20 55.0	+1.1
ASAJ	Asahikawa	0.84	335	Pg	Pn	10 20 56.0	+1.3
	26nm,0.3s,baz=168,slow=10,SNR=52						
ASAJ				Lg	Lg	10 21 07.2	
	31nm,0.3s,baz=337,slow=32,SNR=7.2						
ASAJ	Asahikawa	0.84	335	P	Pn	10 20 56.5	+1.8
JTKR	Abashiri--Toko	0.86	44	⇑P	Pn	10 20 55.7	+0.7
AKK	Akkeshi	1.33	104	*e*P	Pg	10 21 03.4	+0.7
AKK				AMB	AMB	10 21 05.3	
	40nm,0.3s						
AKK				*e*S	Sn	10 21 21.5	+2.4
AKK				A	A	10 21 23.4	
	350nm,0.5s						
AKK				A	A	10 21 23.4	
	140nm,0.5s						
NMR	Nemuro--Hokkai	1.93	89	*e*P	Pg	10 21 13.0	-1.2
NMR				*e*S	Sg	10 21 37.7	-1.5
YUK	Yuzh-Kuril'sk	2.13	70	*e*P	Pg	10 21 17.0	-0.9
YUK				AMB	AMB	10 21 19.9	
	20nm,0.3s						
YUK				*i* S	Sg	10 21 47.2	+1.7
YUK				A	A	10 21 52.7	
	70nm,0.6s						
YUK				A	A	10 21 52.7	
	330nm,0.6s						
MKAR	Makanchi Array	42.13	297	P	P	10 28 31.3	+2.2
	0.1nm,0.5s,baz=87,slow=9.2,SNR=2.3						
YKA	Yellowknife Ar	57.75	32	P	P	10 30 25.4	-1.9
	0.1nm,0.7s,baz=305,slow=6.9,SNR=1.2						
TXAR	Lajitas Array	85.30	54	P	P	10 33 10.5	-3.6
	0.6nm,1.1s,baz=316,slow=5.0,SNR=3.9						

*FUNV **09** 10:53:06.6, 11°.17N×61°.43W, h19^{km}, MW3.0*
*TRN **09** 10:53:07.0, 11°.15N×61°.37W, h17^{km}, MD3.0*
ISC 09 10:53:07.5±1.0**, 11°.08N**±0°.04×**61°.42W**±0°.05**, h34^{km}, n15,** σ**0^{s}82**/26**, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.43	178	*e*P	Pb	10 53 17.3	+0.1
TRN				*e*S	Sb	10 53 24.5	+0.7
TOSP	Speyside	0.89	76	*e*P	Pn	10 53 23.2	-0.4
TOSP				*e*S	Sn	10 53 35.2	-0.1
GRFF	Grenada Fort F	1.01	342	*e*P	Pn	10 53 25.6	+0.3
GRFF				*e*S	Sb	10 53 39.5	-0.2
GRGR	Grenville	1.07	347	*e*P	Pn	10 53 26.0	-0.1
GRGR				*e*S	Sb	10 53 41.3	0.0
GRHS	Sauteurs	1.16	349	*e*P	Pn	10 53 28.3	+1.0
GRHS				*e*S	Sb	10 53 43.0	-0.7
GCMP	Grenada, Carri	1.39	360	*e*P	Pn	10 53 30.1	-0.4
GCMP				*e*S	Sn	10 53 48.5	+0.7
CRUV	Carupano	1.83	257	*e*P	Pn	10 53 36.1	-0.5
CRUV				*e*S	Sn	10 53 58.5	-0.1
SVB	Belmont	2.18	4	*e*P	Pn	10 53 41.8	+0.4
SVB				*e*S	Sn	10 54 07.5	+0.2
SVV	Soufriere Volc	2.23	5	*e*P	Pn	10 53 43.5	+1.4
SVV				*e*S	Sn	10 54 09.4	+0.9
MCLT	Moule a Chique	2.65	10	*e*P	Pn	10 53 48.6	+0.7
MCLT				*e*S	Sn	10 54 19.2	+0.3
SLCP	Castries, St.	2.94	8	*e*S	Sn	10 54 25.9	-0.1
SLBI	Saint Lucia, B	2.95	8	*e*P	Pn	10 53 52.8	+0.8
SLBI				*e*S	Sn	10 54 26.5	+0.2
MPOM	Morne Pois Mar	3.38	9	*e*S	Sn	10 54 36.3	-0.7
BIM	Bigot	3.43	6	*e*	Pn	10 53 56.6	-2.0
BIM	Bigot	3.43	6	*e*	Pn	10 53 56.8	-1.8

NEIC 09 11:03:13.7±0.4**, 36°.53N**±0°.02×**98°.96W**±0°.03**, h3^{km}**±5^{km}**, mb_Lg1.6**/4**, Error ellipse: s-maj=3.8km s-min=2.1km az=85.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.15	194	Pg	Pg	11 03 16.3	-0.3
FNO	Franklin	1.79	135	Pn	Pn	11 03 45.0	-0.4
WMOK	Wichita Mounta	1.79	175		Pn	11 03 44.5	-1.0
R32A	Long Quarter,	1.91	6	Pn	Pn	11 03 47.0	-0.1
T35A	Sooner Cattle	2.00	78	Pn	Pn	11 03 48.1	-0.3
W35A	Tecumseh	2.18	128	Pn	Pn	11 03 50.1	-0.7
CBKS	Cedar Bluff	2.37	345	IAmb_Lg		11 04 28.5	
	comp=Z,3.7nm,0.9s						
X37A	Clayton	3.50	122	Pn	Pn	11 04 08.5	-0.5

*IDC **09** 11:29:00.5±1.4, 36°.37N×70°.56E, h0^{km}, mb3.6/8, mb1 3.8/12, mb1mx3.6/49, mbtmp3.6/12, ML3.6/3, Error ellipse: s-maj=31.0km s-min=21.3km az=67.0*
*NNC **09** 11:29:17.1±4.9, 37°.08N×70°.60E, h134^{km}±76^{km}, mb3.3, mpv4.1, Error ellipse: s-maj=43.5km s-min=31.2km az=20.0*
ISC 09 11:29:15.0±1.2**, 36°.9N**±0°.1×**70°.6E**±0°.1**, h100^{km}, n27,** σ**1^{s}66**/29**, mb3.3**/7**, 2C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.72	24	P	Pn	11 30 38.2	+0.4
	SNR=40						
UCH	Uchtor	6.10	29	P	Pn	11 30 43.5	+0.6
	SNR=25						
KK02	Karatay Array	6.16	360	⇑P	Pn	11 30 44.0	+0.5
	3.1nm,0.3s,baz=176,slow=13						
KK02				⇑S	Sn	11 31 51.2	-1.2
	6.8nm,0.4s						
EKS2	Erkin-Say	6.23	22	P	Pn	11 30 45.7	+1.3
	SNR=12						
AAK	Ala-Archa	6.44	27	Pn	Pn	11 30 48.2	+0.9
	3.2nm,0.3s,baz=194,slow=6.3,SNR=37						
AAK				Sn	Sn	11 31 59.9	+0.4
	0.4nm,0.3s,baz=287,slow=14,SNR=1.3						
AAK				Lg	Lg	11 32 35.1	
	baz=189,slow=16,SNR=1.1						
AAK	Ala-Archa	6.44	27	P	Pn	11 30 48.3	+0.9
	SNR=18						
AAK	Ala-Archa	6.44	27	⇓P	Pn	11 30 48.0	+0.6
	8.6nm,0.5s						
AAK				⇓S	Sn	11 32 00.5	+1.0
	6.4nm,0.5s						
KBK	Karagaybulak	6.63	29	P	Pn	11 30 51.0	+1.1
	SNR=8.4						
CHMS	Chumysh	6.85	27	P	Pn	11 30 53.5	+0.7
	SNR=14						
USP	Ospenovka	7.00	24	P	Pn	11 30 55.0	+0.1
	SNR=10						
TKM2	Tokmak 2	7.11	31	P	Pn	11 30 56.9	+0.4
	SNR=17						
TKM2	Tokmak 2	7.11	31	⇓P	Pn	11 30 56.7	+0.1
	12nm,0.6s						
GEYT	Alibeck	9.96	279	Sn	Sn	11 33 16.8	-8.3
	1.2nm,0.3s,baz=80,slow=41,SNR=2.7						
MK31	Makanchi Array	13.15	38	P	Pn	11 32 15.7	-2.0
	0.4nm,0.4s,baz=208,slow=10,SNR=6.6						
MKAR	Makanchi Array	13.15	38	Pn	Pn	11 32 15.8	-1.9
	0.2nm,0.3s,baz=222,slow=16,SNR=9.2						
AB31	Akbulak array	14.54	331	P	Pn	11 32 34.7	-1.0
	0.7nm,0.3s,baz=154,slow=12,SNR=62						
KURBB	Kurchatov Arra	14.82	20	Pn	Pn	11 32 36.8	-2.5
	baz=206,slow=12,SNR=1.5						
AKTO	Aktyubinsk	16.24	330	Pn	Pn	11 32 52.0	-5.0
	0.1nm,0.3s,baz=135,slow=13,SNR=1.6						
AKTO				Sn	Sn	11 35 54.5	-2.3
	0.1nm,0.3s,baz=347,slow=19,SNR=1.9						
AKTO	Aktyubinsk	16.24	330	⇓P	Pn	11 32 57.5	+0.5
	3.7nm,0.6s						
ZALV	Zalesovo Beam	19.66	26	P	P	11 33 36.3	+0.5
	3.1nm,0.4s,baz=215,slow=11,SNR=22						
SONM	Songino Array	28.37	56	P	P	11 34 58.5	-1.2
	0.4nm,0.5s,baz=148,slow=36,SNR=3.6						
ARCES	ARCESS Array B	40.61	338	P	P	11 36 47.3	+2.7
	1.3nm,0.8s,baz=118,slow=9.3,SNR=1.7						
INK	Inuvik	73.53	9	P	P	11 40 37.9	+1.5
	0.5nm,0.5s,baz=355,slow=6.9,SNR=6.5						
ILAR	Eielson Array	74.45	16	P	P	11 40 41.7	-0.2
	0.4nm,0.8s,baz=316,slow=6.3,SNR=3.0						
YKA	Yellowknife Ar	80.83	2	P	P	11 41 19.2	+1.9
	0.3nm,0.5s,baz=350,slow=5.4,SNR=9.0						
WRA	Warramunga Arr	82.51	122	P	P	11 41 23.3	-3.5
	0.3nm,0.9s,baz=328,slow=4.6,SNR=1.5						
ASAR	Alice Springs	84.78	125	P	P	11 41 36.7	-1.6
	0.1nm,0.6s,baz=324,slow=4.6,SNR=1.5						

DJA 09 11:35:07.9±0.3**, 9°S**±4°×**11°0E**±°**, h10^{km}, M3.8**/12**, mb4.0**/5**, mB5.0**/1**, MLv3.7**/12**, Mw(mB)4.3**/1**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	Wanagama	1.18	16	P	Pb	11 35 28.8	-1.5
YOGI	Yogyakarta	1.23	4	P	Pn	11 35 29.5	-1.7
PCJI	Pacitan	1.29	49	P	Pn	11 35 30.1	-1.8
PWJI	Pagerwojo	1.89	57	P	Pn	11 35 39.3	-0.9
SMRI	Semarang	2.00	7	P	Pn	11 35 41.9	+0.1
KPJI	Karang Pucung	2.12	324	P	Pn	11 35 44.6	+1.2
CMJI	Cimerak	2.14	306	P	Pn	11 35 42.8	-0.9
CNJI	Cibinong	3.50	299	P	Pn	11 36 03.2	+0.8
JAGI	Jajag, Banyuwa	3.95	82	P	Pn	11 36 09.5	+0.9
SRBI	Singaraja	5.05	79	P	Pn	11 36 24.4	+0.7
	0.1nm10.0nm,1.2s						
CGJI	Cibinong	5.08	298	P	Pn	11 36 24.9	+0.8
	0.1nm1μm9.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLAI	Plampang	7.49	89	P	Pn	11 36 58.3	+1.0
	0.1nm13nm,1.0s						

KRSC ***09*** *11:44:41.4±1.1, 53°.78N×159°.04E, h168km±10km, ML3.7*
IDC ***09*** *11:44:42.9±0.9, 53°.27N×158°.41E, h180km±8km, mb2.9/2, mb1 3.2/2, mb1mx2.7/36, mbtmp3.4/2, Error ellipse: s-maj=42.6km s-min=25.4km az=24.0*
ISC 09 11:44:42.5±1.0**, 53°.80N**±0°.06×**158°.93E**±0°.07**, h165**km±7km**, n30, σ0ˢ.85**/36**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.39	52	eP	Pn	11 45 05.4	+0.2
KRER	Koryakskii	0.50	192	eP	Pn	11 45 06.4	+0.5
SDLR	Sedlovina	0.52	183	eP	Pn	11 45 06.2	+0.4
KOK	Koryaka	0.53	199	eP	Pn	11 45 06.4	+0.5
SMAR	Somma	0.54	188	eP	Pn	11 45 06.5	+0.5
AVH	Avacha	0.54	192	eP	Pn	11 45 06.5	+0.6
UGLR	Uglovaya	0.59	186	eP	Pn	11 45 06.7	+0.5
GNL	Ganaly	0.59	261	eP	Pn	11 45 06.1	0.0
GNL				eS	Sn	11 45 24.2	0.0
NLC	Nalytchevo	0.67	158	eP	Pn	11 45 06.8	+0.4
NLC				eS	Sn	11 45 25.6	+0.9
DALK	Dalny	0.77	188	eP	Pn	11 45 07.4	+0.4
PET	Petropavlovsk	0.79	192	eP	Pn	11 45 07.5	+0.3
PET				eS	Sn	11 45 27.1	+1.1
SPN	Mys Shipunski	0.96	136	eP	Pn	11 45 07.9	-0.5
SPN				eS	Sn	11 45 27.3	-0.9
PETK	Petropavlovsk-	1.00	227	P	Pn	11 45 08.0	-0.8
	2.7nm,0.3s,baz=69,slow=13,SNR=72						
PETK				S	Sn	11 45 27.3	-1.5
	1.3nm,0.3s,baz=234,slow=25,SNR=4.1						
KRMR	Karymshinskiy	1.08	207	eP	Pn	11 45 09.7	+0.4
GRL	Gorelyy	1.35	203	eP	Pn	11 45 12.9	+1.0
RUS	Russkaya	1.39	190	eP	Pn	11 45 12.2	+0.1
RUS				eS	Sn	11 45 34.8	0.0
MTVR	Mutnovka	1.39	199	eP	Pn	11 45 13.3	+1.0
TUMD	Tumrok D	1.65	31	eP	Pn	11 45 15.0	+0.2
TUMR	Tumrok	1.65	25	eP	Pn	11 45 15.4	+0.5
MKZ	Mys Kozlova	1.82	64	eP	Pn	11 45 16.2	-0.2
MKZ				eS	Sn	11 45 40.8	-1.9
KDTR	Khodutka, Kamc	2.06	195	eP	Pn	11 45 18.8	-0.3
KMNR	Kamenistaya	2.11	21	eP	Pn	11 45 20.3	+0.5
ESO	Esso	2.14	357	eP	Pn	11 45 21.3	+1.2
KPT	Kopyto	2.30	18	eP	Pn	11 45 22.0	0.0
KRSR	Krestovskiy	2.60	21	eP	Pn	11 45 25.7	0.0
KBG	Krutoberegovo	3.29	40	eP	Pn	11 45 35.0	+1.0
KBTR	Krutoberegovo	3.30	41	eP	Pn	11 45 34.2	+0.1
BKI	Bering	4.34	68	eS	Sn	11 46 33.9	-4.3
MKAR	Makanchi Array	47.22	294	P	P	11 52 56.8	-1.7
	0.6nm,0.5s,baz=58,slow=7.4,SNR=12						
TXAR	Lajitas Array	71.00	66	P	P	11 55 44.0	+1.7
	0.1nm,0.4s,baz=294,slow=5.1,SNR=5.5						

TRN 09 12:00:47.3, 16°.02N×60°.98W, h32km, MD3.8, 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	Barre de l'ile	0.30	256	⇓eP	Pn	12 00 56.7	+1.2
CBE	Ff, Capester	0.60	275	⇓eP	Pn	12 01 01.1	+1.3
TDBA	Terre de Bas,	0.65	255	⇓eP	Pn	12 01 01.4	+1.0
TBG	Guadaloupe-3	0.66	255	eP	Pn	12 01 01.5	+1.0
ABD	La Joyeuse, An	0.66	313	eP	Pn	12 01 01.2	+0.7
DSLB	Salisbury	0.72	216	eP	Pb	12 01 02.5	+1.1
DSLB				eS	Sn	12 01 12.4	+1.2
DLPL	La Plaine	0.73	201	eP	Pb	12 01 02.5	+0.8
DLPL				eS	Sn	12 01 12.3	+0.7
MDN	Morne-Daniel	0.80	210	eP	Pb	12 01 03.7	+0.9
MDN				eS	Sb	12 01 14.6	+1.2
SVN	Savane Anatole	1.19	189	eP	Pb	12 01 09.1	-0.2
BAMF	Morne Balai	1.21	188	eP	Pb	12 01 09.4	-0.2
CXM	Morne La Croix	1.22	189	eP	Pb	12 01 09.7	-0.2
PCM	Pelee Case Pet	1.22	191	eP	Pb	12 01 09.5	-0.3
PCM	Pelee Case Pet	1.22	191	eP	Pb	12 01 10.4	+0.6
GBMF	Grand Be	1.23	188	eP	Pb	12 01 09.6	-0.5
ILAM	Ilet Lapin Mar	1.24	175	eP	Pb	12 01 10.1	-0.1
PML	Morne Lenard	1.25	189	eP	Pb	12 01 10.2	-0.1
ANBD	Bethesda, Anti	1.27	324	eP	Pb	12 01 10.0	-0.6
ANBD				eS	Sb	12 01 26.9	+0.3
FDF	Fort de France	1.29	187	eP	Pn	12 01 09.9	+0.8
FDF				eS	Sn	12 01 25.6	+0.2
LPMF	Morne Lapointe	1.44	179	eP	Pb	12 01 12.5	-1.0
ZAM	Aeronautique	1.44	182	eP	Pb	12 01 12.5	-1.0
MVM	Montagne Vaucl	1.46	177	eP	Pb	12 01 13.4	-0.5
TRMF	Trois Ilets	1.48	183	eP	Pb	12 01 13.3	-0.9
BIM	Bigot	1.50	183	eP	Pb	12 01 13.8	-0.7
MPOM	Morne Pois Mar	1.57	176	eP	Pb	12 01 14.9	-0.9
ANWB	Willy Bob	1.81	335	eP	Pn	12 01 17.7	+1.4
ANWB				eS	Sn	12 01 40.1	+1.9
SLBI	Saint Lucia, B	1.98	180	eP	Pn	12 01 20.7	+2.0
SLBI				eS	Sn	12 01 44.0	+1.5
SKI	Saint Kitts	2.13	308	eP	Pn	12 01 23.0	+2.2
SKI				eS	Sn	12 01 48.6	+2.4
MCLT	Moule a Chique	2.30	179	eP	Pn	12 01 25.3	+2.3
MCLT				eS	Sn	12 01 52.7	+2.5
SEUS	St. Eustatius	2.41	308	eS	Sn	12 01 55.4	+2.4
SVV	Soufriere Volc	2.70	185	eP	Pn	12 01 30.0	+1.5
SVV				eS	Sn	12 02 01.5	+1.4
SVB	Belmont	2.75	186	eP	Pn	12 01 31.1	+2.0
SVB				eS	Sn	12 02 04.5	+3.2
SMRT	St. Maarten	2.84	316	eP	Pn	12 01 32.3	+1.7
SMRT				eS	Sn	12 02 04.6	+0.8
GCMP	Grenada, Carri	3.54	187	eP	Pn	12 01 42.3	+2.2
GCMP				eS	Sn	12 02 21.0	+0.1
GRGR	Grenville	3.92	190	eP	Pn	12 01 48.3	+2.9
GRGR				eS	Sn	12 02 31.1	+0.8
TOSP	Speyside	4.71	175	eP	Pn	12 01 59.7	+3.5
TOSP	Speyside	4.71	175	eS	Sn	12 02 50.4	+0.6

IDC ***09*** *12:03:58.0±0.6, 11°.69N×144°.71E, h0km, mb4.7/26, mb1 4.7/28, mb1mx4.6/43, mbtmp4.7/28, ML4.8/2, MS4.0/41, Ms1 4.0/41, ms1mx3.9/69, Error ellipse: s-maj=17.1km s-min=11.8km az=93.0*
BJI ***09*** *12:03:58.1±0.0, 11°.92N×144°.83E, h7km, mb5.0/62, mB5.0/38, Ms4.5/17, Ms7 4.1/18*
MOS ***09*** *12:03:59.7±0.8, 11°.70N×144°.68E, h23km, mb5.2/33, MS4.1/5, Error ellipse: s-maj=10.6km s-min=5.4km az=113.7*
NEIC ***09*** *12:04:00.3±1.0, 11°.66N±0°.06×144°.7E±0°.1, h10km±1km, mb5.1/136, Error ellipse: s-maj=17.3km s-min=10.8km az=88.0*
DJA ***09*** *12:04:02.9±1.0, 12°N±3°×14°5E±°, h34km±9km, M5.1/48, mB5.5/13, mb5.0/48, MLv5.3/1, Mw(mB)5.0/13*
GCMT ***09*** *12:04:06.3±0.2, 11°.66N±0°.01×144°.45E±0°.02, h34km±1km, MW5.0/91, Moment Tensor Solution. s52,c58; s91,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.90±.17; $M_{\theta\theta}$2.99±.13; $M_{\phi\phi}$-2.10±.13; $M_{r\theta}$1.50±.19; $M_{\theta\phi}$3.16±.10; $M_{\phi r}$-0.86±.21; Best double couple: $M_0$4.46200×10^{16} NP1:ϕ_s21.00000°, δ66.00000°, λ-170.00000°. NP2: ϕ_s287.00000°, δ81.00000°, λ-25.00000°. Principal axes: T 4.6820, Plg10.0000°, Azm336.0000°; N -0.4480, Plg64.0000°, Azm88.0000°; P -4.2430, Plg24.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 12:04:00.3±0.6**, 11°.67N**±0°.04×**144°.62E**±0°.05**, h11**km±3km**, h12**km**:pP-P, n474, σ1ˢ.10**/413**, mb5.1**/171**, MS4.1**/51**, 13C-9D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.93	7	Pn	Pb	12 04 34.6	-0.9
	793nm,0.3s,baz=123,slow=1.2,SNR=384						
GUMO				Sn	Sn	12 04 57.0	-0.2
	2μm,0.3s,baz=350,slow=21,SNR=17						
GUMO				LR	LR	12 05 13.5	
	comp=Z,2μm,18.3s,baz=242,slow=40						
GUMO	Guam	1.93	7	Pn	Pn	12 04 32.9	-0.1
GUMO				Sn	Sn	12 04 57.1	-0.1
GUMO	Guam	1.93	7	P	Pb	12 04 35.1	-0.3
PATS	Pohnpei	14.34	108	Pn	Pn	12 07 22.0	-1.4
PATS	Pohnpei	14.34	108	P	Pn	12 07 23.7	+0.3
GENI	Genyem	14.84	198	P	Pn	12 07 30.1	-0.1
	119nm,1.3s						
JCJ	Chichijima	15.52	352	Pn	Pn	12 07 38.9	-0.3
JCJ	Chichijima	15.52	352	P	Pn	12 07 40.9	+1.8
RABL	Rabaul	17.45	154	P	Pn	12 08 04.3	+0.5
RABL				IAmb	IAmb	12 08 16.6	
	comp=Z,127nm,0.9s						
SIJI	Sorong	18.20	228	P	P	12 08 13.9	+0.6
	comp=Z,0.6nm,0.3s,baz=298,slow=24,SNR=2.2						
SIJI				LR	LR	12 13 25.0	
	comp=Z,530nm,21.8s,baz=46,slow=31						
SWI	Sorong	18.20	228	P	Pn	12 08 12.5	-0.5
	comp=Z,45nm,1.3s						
DAV	Davao City (W)	19.33	258	P	P	12 08 26.0	+0.3
	comp=Z,18nm,0.3s,baz=264,slow=13,SNR=1.1						
DAV	Davao City (W)	19.33	258	P	P	12 08 25.5	-0.2
SGSI	Sangihe	20.50	249	P	P	12 08 39.0	+0.5
	comp=Z,780nm,0.4s						
LBMI	Labuha	20.94	235	P	P	12 08 43.9	+0.6
	comp=Z,954nmcomp=Z,70nm,1.5s						
PMG	Port Moresby	21.09	173	P	P	12 08 44.2	-0.6
	comp=Z,19nm,0.8s,baz=349,slow=8.3,SNR=19						
PMG	Port Moresby	21.09	173	ceP	P	12 08 45.0	+0.2
PMG				pmax	pmax		
	comp=Z,85nm,1.3s						
PMG	Port Moresby	21.09	173	P	P	12 08 44.4	-0.4
PMG				IAmb	IAmb	12 08 46.1	
	comp=Z,122nm,1.4s						
JOW	Kunigami	21.54	317	P	P	12 08 49.8	+0.1
	comp=Z,68nm,0.5s,baz=133,slow=10,SNR=9.3						
JOW	Kunigami	21.54	317	P	P	12 08 49.5	-0.1
JOW	Kunigami	21.54	317	P	P	12 08 51.0	+1.3
MSAI	Masohi	21.58	227	P	P	12 08 49.3	-0.9
	comp=Z,4.4nm,0.5s						
AAI	Ambon	22.35	228	P	P	12 08 58.5	+0.1
AAI				pmax	pmax		
	comp=Z,128nm,1.0s						
AAI	Ambon	22.35	228	P	P	12 08 58.3	-0.1
	comp=Z,1μmcomp=Z,127nm,1.0s						
H11S3	WAKE ISLAND Hy	22.35	70	T	T	12 32 10.5	
	baz=251,slow=74						
H11S1	WAKE ISLAND Hy	22.37	70	T	T	12 32 14.0	
	baz=251						
H11S2	WAKE ISLAND Hy	22.37	70	T	T	12 32 09.6	
	baz=251,slow=74						
SANI	Sanana	22.99	235	P	P	12 09 04.0	-1.2
	comp=Z,22nm,1.1s						
TGY	Tagaytay City	23.21	279	P	P	12 09 08.1	+0.6
	comp=Z,107nm,0.3s						
KMSI	Cibinong	23.26	243	P	P	12 09 07.0	-1.0
	comp=Z,140nm,1.0s						
JSU	Suzuyama	23.68	329	P	P	12 09 11.5	-0.6
GTOI	Gorontalo	24.09	244	P	P	12 09 16.1	+0.1
	comp=Z,17nm,0.9s						
INU	Inuyama	24.57	345	P	P	12 09 19.8	-0.5
INU				IAmb	IAmb	12 09 22.4	
	comp=Z,61nm,1.0s						
JYT	Yasato	24.78	351	P	P	12 09 22.1	0.0
JYT				IAmb	IAmb	12 09 24.1	
	comp=Z,95nm,1.3s						
JNU	Nakatsue	24.79	332	P	P	12 09 22.1	-0.3
JNU	Nakatsue	24.79	332	P	P	12 09 21.8	-0.6
YULB	Yu-li	25.07	301	P	P	12 09 24.3	-0.6
YULB				IAmb	IAmb	12 09 27.3	
	comp=Z,35nm,0.8s						
MRSI	Marisa	25.11	245	P	P	12 09 24.7	-0.6
	comp=Z,1μmcomp=Z,74nm,0.8s						
LUWI	Luwuk	25.11	241	P	P	12 09 24.4	-1.0
LUWI	Luwuk	25.11	241	P	P	12 09 24.7	-0.7
	comp=Z,3μmcomp=Z,240nm,1.3s						
LUWI	Luwuk	25.11	241	P	P	12 09 25.0	-0.4
MJAR	Matsushiro Arr	25.43	348	P	P	12 09 26.6	-1.5
	comp=Z,21nm,0.8s,baz=176,slow=8.7,SNR=27						
MJAR				LR	LR	12 19 31.9	
	comp=Z,454nm,18.4s,baz=154,slow=37						
MJAR	Matsushiro Arr	25.43	348	P	P	12 09 26.5	-1.6
MAJO	Matsushiro	25.43	348	iP	P	12 09 27.9	-0.2
MAJO	Matsushiro	25.43	348	P	P	12 09 27.3	-0.8
MAJO				IAmb	IAmb	12 09 29.1	
	comp=Z,40nm,0.8s						
MAJO	Matsushiro	25.43	348	P	P	12 09 28.3	+0.2
MJB9	Matsu-Tunnel	25.44	348	P	P	12 09 27.2	-0.9
MJB9				IAmb	IAmb	12 09 29.0	
	comp=Z,39nm,0.8s						
COEN	Coen	25.50	183	P	P	12 09 28.6	-0.2
COEN	Coen	25.50	183	P	P	12 09 28.9	+0.1
SSLB	Suanglung	25.51	301	P	P	12 09 28.7	-0.3
SSLB	Suanglung	25.51	301	P	P	12 09 29.7	+0.7
YHNB	Yeheng	25.54	304	P	P	12 09 29.7	+0.5
TPUB	Ta-pu	25.59	300	P	P	12 09 29.2	-0.5
HNR	Honiara	25.91	143	P	P	12 09 30.9	-1.7
	comp=Z,23nm,0.3s,baz=207,slow=15,SNR=1.7						
HNR	Honiara	25.91	143	P	P	12 09 33.8	+1.2
HNR				pmax	pmax		
	comp=Z,53nm,0.9s						
HNR	Honiara	25.91	143	P	P	12 09 33.8	+1.2
HNR				IAmb	IAmb	12 09 37.0	
	comp=Z,53nm,0.9s						
APSI	Ampana	26.02	243	P	P	12 09 33.5	-0.1
	comp=Z,579nmcomp=Z,46nm,1.1s						
JMM	Marumori	26.31	353	P	P	12 09 35.2	-0.8
JMM				IAmb	IAmb	12 09 37.0	
	comp=Z,75nm,1.4s						
MYLDM	Lahad Datu	26.61	258	P	P	12 09 38.7	-0.3
MYLDM				IAmb	IAmb	12 10 05.4	
	comp=Z,39nm,1.1s						
JSD	Sado	26.87	349	P	P	12 09 40.4	-0.6
MPSI	Mapaga	27.00	247	P	P	12 09 41.6	-0.9
	comp=Z,18nm,1.4s						
BNSI	Bone	29.14	238	P	P	12 10 00.9	-0.7
	comp=Z,20nm,1.3s						
JTM	Tenmabayashi	29.17	354	P	P	12 10 01.8	+0.2
SPSI	Sidrap Palu	29.19	239	P	P	12 10 01.1	-0.9
	comp=Z,1μmcomp=Z,10nm,1.6s						
KSRS	Korea Array	29.73	333	P	P	12 10 05.3	-1.2
	comp=Z,4.9nm,0.5s,baz=140,slow=9.7,SNR=24						
KSRS				LR	LR	12 21 23.4	
	comp=Z,136nm,20.1s,baz=145,slow=35						
KSAR	Wonju Array Be	29.74	332	P	P	12 10 06.9	+0.3
KSAR	Wonju Array Be	29.74	332	P	P	12 10 06.9	+0.3
KAPI	Kappang	29.77	238	P	P	12 10 06.5	-0.7
	comp=Z,3.8nm,0.5s,baz=35,slow=4.2,SNR=5.2						
KAPI	Kappang	29.77	238	P	P	12 10 06.3	-0.9
BSSI	Bau Bau, Buton	29.82	235	P	P	12 10 07.2	-0.4
	comp=Z,11nm,1.2s						
NJ2	Nanjing	31.21	315	eP	P	12 10 21.0	+1.3
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KNRA	Kununurra	31.38	210	P	P	12 10 21.0	-0.3
CTA	Charters Tower	31.60	177	LR	LR	12 23 18.3	
	comp=Z,152nm,18.4s,baz=5.5,slow=37						
ASAJ	Asahikawa	32.38	357	P	P	12 10 28.4	-1.5
	comp=Z,16nm,1.1s,baz=232,slow=14,SNR=3.2						
QIS	Mount Isa	32.40	189	P	P	12 10 30.4	+0.1
WB0	Warramunga Arr	32.82	198	P	P	12 10 33.6	-0.3
WR0	Warramunga Arr	32.96	198	P	P	12 10 34.8	-0.3
WRAB	Tennant Creek	32.99	198	ceP	P	12 10 35.1	-0.3
WRAB				pmax	pmax		
	comp=Z,23nm,2.5s						
WRAB	Tennant Creek	32.99	198	P	P	12 10 34.9	-0.5
WRAB	Tennant Creek	32.99	198	P	P	12 10 35.1	-0.3
WB2	Warramunga Arr	33.00	198	P	P	12 10 35.2	-0.3
WRA	Warramunga Arr	33.00	198	P	P	12 10 34.9	-0.7
	comp=Z,7.5nm,0.6s,baz=21,slow=9.8,SNR=131						
WRA	Warramunga Arr	33.00	198	iP	P	12 10 35.2	-0.4
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WHN	Wuhan	33.74	308	⇓P	P	12 10 43.0	+1.0
WHN				pmax	pmax		
	comp=Z,66nm,1.1s						
USRK	Ussuriysk Ar.	34.20	344	P	P	12 10 45.2	-0.5
	comp=Z,2.4nm,0.6s,baz=139,slow=6.8,SNR=2.6						
QIZ	Qiongzhong	34.28	287	P	P	12 10 46.7	-0.1
QIZ				S	S	12 16 11.5	-2.5
QIZ				LR	LR		
	comp=Z,350nm,21.5s						
QIZ				LR	LR		
	comp=Z,280nm,18.3s						
QIZ				LR	LR		
	comp=Z,220nm,21.5s						
FITZ	Fitzroy Crossi	35.01	213	LR	LR	12 26 12.4	
	comp=Z,98nm,19.8s,baz=28,slow=38						
GULI	GuiLin	35.08	298	eP	P	12 10 54.9	+1.3
YSS	Yuzh-Sakhalins	35.21	358	eP	P	12 10 53.3	-1.1
YSS				e		12 19 06.4	
KSM	Kuching	35.51	256	P	P	12 10 57.2	-0.3
IGBI	Denpasar	35.68	236	P	P	12 10 58.2	-0.7
	comp=Z,36nm,1.0s						
KMMI	Kalianget	35.71	240	P	P	12 10 59.5	+0.3
	comp=Z,2μmcomp=Z,16nm,1.1s						
AS31	Alice Springs	36.65	197	P	P	12 11 07.1	+0.1
ASAR	Alice Springs	36.65	197	P	P	12 11 06.8	-0.2
	comp=Z,3.5nm,0.5s,baz=22,slow=10,SNR=91						
ASAR				LR	LR	12 26 38.6	
	comp=Z,292nm,20.2s,baz=22,slow=37						
BNX	BinXian	36.99	340	⇑P	P	12 11 09.9	+0.2
BNX				pmax	pmax		
	comp=Z,55nm,1.2s						
BNX				pmax	pmax		
	comp=Z,290nm,4.2s						
LYN	LuoYang	37.06	313	⇑iP	P	12 11 10.9	+0.4
LYN				sP	pwP	12 11 16.7	-3.6
LYN				pmax	pmax		
	comp=Z,30nm,1.1s						
LYN				pmax	pmax		
	comp=Z,150nm,6.1s						
LYN				LR	LR		
	comp=Z,450nm,14.5s						
LYN				LR	LR		
	comp=Z,290nm,15.7s						
HNS	HongShan	37.08	319	⇑P	P	12 11 10.6	0.0
HNS				pmax	pmax		
	comp=Z,67nm,1.1s						
ENH	Enshi	37.45	305	IAmb	IAmb	12 11 15.7	
	comp=Z,41nm,0.9s						
BJI	Beijing	37.81	323	P	P	12 11 16.5	-0.2
BJI				pP	sP	12 11 22.3	+3.0
BJI				sP	pwP	12 11 26.2	+0.4
BJI				pmax	pmax		
	comp=Z,22nm,0.8s						
BJI				pmax	pmax		
	comp=Z,160nm,5.1s						
BJI				LR	LR		
	comp=Z,210nm,22.5s						
BJI				LR	LR		
	comp=Z,230nm,22.1s						
BJI				LR	LR		
	comp=Z,190nm,25.5s						
GYA	Guiyang	38.60	298	⇓P	P	12 11 25.6	+1.8
GYA				sP	pwP	12 11 30.7	-2.9
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
PCJI	Pacitan	38.67	241	P	P	12 11 22.5	-1.8
	comp=Z,70nm,1.4s						
TIY	Taiyuan	38.75	318	P	P	12 11 25.5	+0.7
TIY				S	S	12 17 22.4	+0.4
TIY				pmax	pmax		
	comp=Z,22nm,0.6s						
TIY				pmax	pmax		
	comp=Z,190nm,4.3s						
TIY				LR	LR		
	comp=Z,200nm,12.4s						
TIY				LR	LR		
	comp=Z,210nm,10.0s						
TIY				LR	LR		
	comp=Z,130nm,17.9s						
KLR	Kul'dur	38.94	347	P	P	12 11 25.4	-0.8
	comp=Z,2.8nm,0.4s,baz=168,slow=8.4,SNR=22						
KLR	Kul'dur	38.94	347	ceP	P	12 11 25.6	-0.6
KLR				pmax	pmax		
	comp=Z,25nm,2.2s						
UGM	Wanagama	39.09	242	P	P	12 11 26.7	-1.2
UGM	Wanagama	39.09	242	P	P	12 11 26.9	-1.0
	comp=Z,85nm,1.2s						
XAN	Xi'an	39.41	310	P	P	12 11 30.6	+0.2
XAN				pP	sP	12 11 35.1	+2.2
XAN				pmax	pmax		
	comp=Z,19nm,0.9s						
XAN				LR	LR		
	comp=Z,370nm,16.5s						
XAN				LR	LR		
	comp=Z,340nm,17.2s						
XAN				LR	LR		
	comp=Z,350nm,17.1s						
TPI	Tanjungpandan	39.45	251	P	P	12 11 30.5	-0.3
	comp=Z,26nm,1.1s						
GRNR	Gornyy	39.56	352	⇓iP	P	12 11 30.9	-0.4
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,90nm,16.0s						
DZM	Mont Dzumac	39.78	147	LR	LR	12 23 59.3	
	comp=E,161nm,20.2s,baz=358,slow=30						
WRKA	Warakurna	39.80	203	P	P	12 11 33.3	-0.4
OOD	Oodnadatta	40.17	192	P	P	12 11 36.2	-0.4
KPJI	Karang Pucung	40.20	244	P	P	12 11 35.6	-1.5
	comp=E,18nm,0.7s						
XLT	XiLinHaoTe	40.45	328	eP	P	12 11 38.3	-0.6
XLT				pP	sP	12 11 43.4	+1.9
XLT				sP	pwP	12 11 45.2	-2.8
XLT				pmax	pmax		
	comp=E,29nm,0.8s						
XLT				pmax	pmax		
	comp=E,190nm,4.4s						
PSA00	Pilbara Seismi	41.02	216	P	P	12 11 43.6	-0.2
HHC	Hu-ho-hao-te	41.08	321	eP	P	12 11 46.2	+2.0
HHC				S	S	12 17 58.2	+1.2
HHC				pmax	pmax		
	comp=E,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=E,120nm,5.2s						
HHC				LR	LR		
	comp=E,230nm,17.3s						
HHC				LR	LR		
	comp=E,260nm,16.7s						
HHC				LR	LR		
	comp=E,310nm,16.2s						
KMI	Kunming	41.75	295	⇓P	P	12 11 52.4	+2.3
KMI				pmax	pmax		
	comp=E,11nm,0.6s						
BTO	Baotou	41.91	320	eP	P	12 11 44.7	-6.3
CD2	Chengdu	42.31	303	P	P	12 11 53.9	-0.5
CD2				pmax	pmax		
	comp=E,100nm,0.7s						
LCRK	Leigh Creek	42.32	188	P	P	12 11 54.1	-0.1
PETK	Petropavlovsk-	42.65	12	LR	LR	12 27 06.3	
	comp=E,110nm,21.8s,baz=188,slow=33						
CGJI	Cibinong	42.77	247	P	P	12 11 56.3	-1.9
	comp=E,66nm,1.1s						
KLSI		42.87	250	P	P	12 11 58.2	-0.9
	comp=E,9.3nm,1.8s						
PZH	PanZhiHua	42.91	296	P	P	12 11 59.8	+0.5
PZH				pmax	pmax		
	comp=E,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,140nm,5.8s						
MULG	Mulgathing	42.93	193	P	P	12 11 58.9	-0.3
MDSI	Maura Dua	43.30	251	P	P	12 12 01.2	-1.3
	comp=E,14nm,1.0s						
STKA	Stephens Creek	43.39	184	P	P	12 12 07.0	+4.1
	comp=E,3.5nm,1.0s,baz=45,slow=9.3,SNR=3.9						
STKA				LR	LR	12 30 52.5	
	comp=E,244nm,18.1s,baz=12,slow=37						
STKA	Stephens Creek	43.39	184	P	P	12 12 01.5	-1.4
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	Stephens Creek	43.39	184	P	P	12 12 01.5	-1.4
KASI	Kota Agung	43.41	249	P	P	12 12 02.0	-1.4
	comp=Z,41nm,1.1s						
IPM	Ipoh	43.70	264	P	P	12 12 05.2	-0.6
LZH	Lanzhou	44.05	310	eP	P	12 12 09.8	+1.3
LZH				pP	sP	12 12 13.1	+2.1
LZH				sP	pwP	12 12 15.7	-2.7
LZH				PP	PP	12 13 50.0	-1.1
LZH				pmax	pmax		
	comp=Z,36nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,4.9s						
LZH				LR	LR		
	comp=Z,340nm,15.4s						
LZH				LR	LR		
	comp=Z,240nm,15.7s						
LZH				LR	LR		
	comp=Z,230nm,17.4s						
MSVF	Nonsavu	44.08	131	P	P	12 12 13.3	+4.5
	comp=Z,1.1nm,0.3s,baz=258,slow=23,SNR=1.1						
MSVF				LR	LR	12 29 12.1	
	comp=Z,73nm,20.9s,baz=194,slow=34						
ZEA	Zeya	44.19	345	eP	P	12 12 08.2	-0.9
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SRIT	Nakonsritamara	44.38	270	IAmb	IAmb	12 12 14.1	
	comp=Z,37nm,0.8s						

CMAR Chiang Mai Arr 44.53 284 P **P** **12 12 13.4 +1.1**
comp=Z,8.4nm,0.8s,baz=85,slow=6.0,SNR=47
CMAR LR LR 12 30 37.4
comp=Z,84nm,20.0s,baz=85,slow=36
CMAR Chiang Mai Arr 44.53 284 *i* P **P** **12 12 14.0 +1.6**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 44.53 284 P **P** **12 12 11.3 -1.1**
CHTO Chiang Mai 44.54 285 P **P** **12 12 11.9 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,1.2s
CHTO Chiang Mai 44.54 285 P **P** **12 12 11.9 -0.5**
MASI Maura Aman, Be 44.63 253 P **P** **12 12 13.0 -0.3**
comp=Z,106nm,1.1s
BKNI Bangkinang 44.70 259 P **P** **12 12 13.3 -0.4**
BBOO Buckleboo 44.98 190 P **P** **12 12 15.3 -0.4**
BBOO IAmb IAmb 12 12 32.5
comp=Z,15nm,0.9s
FORT Forrest 45.10 200 P **P** **12 12 16.7 +0.1**
KCSI Kotacane, Aceh 47.08 264 P **P** **12 12 32.1 -0.5**
comp=Z,747nmcomp=Z,30nm,1.1s
SHEM Shemya Is, Ala 47.30 24 LR LR 12 32 47.7
comp=Z,54nm,19.0s,baz=268,slow=37
GSI Gunungsitoli 47.78 261 P **P** **12 12 36.5 -1.5**
GSI Gunungsitoli 47.78 261 P **P** **12 12 36.7 -1.4**
comp=Z,4µmcomp=Z,30nm,0.9s
ULN Ulaanbaatar 47.83 326 *ce*P **P** **12 12 38.6 +0.5**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 47.83 326 P **P** **12 12 38.3 +0.2**
ULN IAmb IAmb 12 12 39.5
comp=Z,18nm,0.9s
MA2 Magadan 48.04 4 P **P** **12 12 38.7 -0.7**
comp=Z,8.3nm,0.7s,baz=179,slow=6.1,SNR=20
MA2 Magadan 48.04 4 *ce*P **P** **12 12 38.4 -0.9**
MA2 pmax pmax
comp=Z,11nm,0.9s
MA2 Magadan 48.04 4 P **P** **12 12 38.4 -0.9**
MA2 IAmb IAmb 12 12 47.3
comp=Z,16nm,0.8s
SONM Songino Array 48.17 326 P **P** **12 12 41.1 +0.4**
comp=Z,10.0nm,0.7s,baz=147,slow=7.8,SNR=43
SONM LR LR 12 32 42.4
comp=Z,174nm,20.9s,baz=124,slow=36
SONM Songino Array 48.17 326 P **P** **12 12 40.8 +0.1**
SONM IAmb IAmb 12 12 43.6
comp=Z,10nm,0.6s
GTA Gaotai 48.28 313 *e*P **P** **12 12 42.1 +0.4**
GTA pP pwP 12 12 48.9 -2.0
GTA sP sP 12 12 54.1 +10
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,90nm,5.5s
GTA LR LR
comp=Z,190nm,18.5s
GTA LR LR
comp=Z,160nm,19.3s
GTA LR LR
comp=Z,190nm,18.5s
MORW Morawa 49.01 214 P **P** **12 12 46.8 -0.4**
MORW IAmb IAmb 12 12 47.6
comp=Z,16nm,0.7s
BLDU Ballidu 49.87 212 P **P** **12 12 53.3 -0.5**
AFI Afiamalu 50.15 119 LR LR 12 31 10.8
comp=Z,99nm,19.2s,baz=298,slow=33
ADK Adak 50.84 30 P **P** **12 13 01.8 +1.0**
comp=Z,29nm,1.4s
GOMU GeErMu 50.98 307 P **P** **12 13 03.5 +0.8**
GOMU pP sP 12 13 07.0 +1.8
GOMU sP pP 12 13 08.0 +3.7
GOMU PcP **PcP** **12 14 15.8 -3.1**
GOMU PP **PP** **12 15 03.7 +4.5**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU pmax pmax
comp=Z,110nm,5.6s
ZAK Zakamensk 51.30 327 *e*P **P** **12 13 04.1 -0.4**
ZAK pmax pmax
comp=Z,27nm,1.3s
ZAK pmax pmax
comp=Z,17nm,1.2s
YAK Yakutsk 51.43 351 LR LR 12 35 12.3
comp=Z,171nm,18.1s,baz=117,slow=36
YAK Yakutsk 51.43 351 ‖ *i*P **P** **12 13 05.0 -0.1**
YAK *e**PP **pwP** **12 13 11.8 -2.4**
YAK *e* 12 14 19.2
YAK *e* 12 15 01.1
YAK *e*PPP PPP 12 16 01.4
YAK *e*S **S** **12 20 25.1 +0.5**
YAK *e**SS sS 12 20 41.0 +13
YAK *e* 12 22 47.7
YAK *e*SS **SS** **12 24 01.8 +1.4**
YAK *e*SSS SSS 12 25 37.4
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,257nm,4.9s
YAK pmax pmax
comp=N,91nm,3.8s
YAK pmax pmax
comp=E,97nm,4.3s
YAK smax smax
comp=E,125nm,4.7s
YAK smax smax
comp=N,70nm,4.1s
YAK MLR MLR
comp=Z,208nm,21.0s
YAK Yakutsk 51.43 351 P **P** **12 13 04.5 -0.6**
SEY Seymchan 51.49 5 P **P** **12 13 05.0 -0.5**
comp=Z,7.4nm,0.8s,baz=186,slow=6.7,SNR=31
SEY Seymchan 51.49 5 *i* P **P** **12 13 04.8 -0.7**
SHL Shillong 51.54 293 P **P** **12 13 07.0 +0.2**
SHL pmax pmax
comp=Z,34nm,0.8s
SHL Shillong 51.54 293 P **P** **12 13 07.0 +0.2**
BOD Bodaibo 51.62 340 *e*P **P** **12 13 05.0 -1.6**
BOD pmax pmax
comp=Z,9.0nm,1.7s
IRK Irkutsk 51.87 330 *e*P **P** **12 13 07.1 -1.5**
IRK pmax pmax
comp=Z,41nm,0.7s
LSA Lhasa 52.67 298 IAmb IAmb 12 13 24.7
comp=Z,27nm,0.8s
LSA Lhasa 52.67 298 P **P** **12 13 16.9 +1.4**
LSA pP **pwP** **12 13 24.0 -1.5**
MOY Mondy 53.21 328 *e*P **P** **12 13 19.0 +0.3**
MOY pmax pmax
comp=Z,29nm,1.7s
RAO Raoul Island 54.42 139 LR LR 12 34 25.5
comp=Z,177nm,20.2s,baz=182,slow=34
TAPN Taplejung 55.42 295 *e*P **P** **12 13 35.4 0.0**
JIRN Jiri 56.79 295 *e*P **P** **12 13 45.8 +0.5**
UNV Unalaska Valle 57.07 32 P **P** **12 13 46.3 0.0**
baz=242
GUN Gumba 57.08 296 *e*P **P** **12 13 48.0 +0.6**
comp=Z,216nm,1.0s
PKI Pulchoki 57.48 295 *e*P **P** **12 13 50.1 0.0**
comp=Z,89nm,1.1s
PKIN Phulchoki 57.49 295 *e*P **P** **12 13 49.6 -0.5**
DMN Daman 57.75 295 *e*P **P** **12 13 52.4 +0.5**
comp=Z,104nm,1.0s
BILL Bilibino 58.09 9 *ce*P **P** **12 13 53.0 -0.3**
BILL *i* 12 13 57.5
BILL *i* 12 14 44.0
BILL *i* 12 16 05.4
BILL pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 58.09 9 P **P** **12 13 52.8 -0.5**
BILL IAmb IAmb 12 13 55.1
comp=Z,14nm,1.0s
GKN Gorkha 58.18 296 *e*P **P** **12 13 54.9 0.0**
URZ Urewera 58.23 150 LR LR 12 37 01.7
comp=Z,182nm,19.2s,baz=27,slow=34
WMQ Urumqi 58.29 315 *e*P **P** **12 13 56.5 +1.2**
WMQ pP pwP 12 14 02.9 -1.6
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,100nm,4.1s
WMQ LR LR
comp=Z,120nm,22.1s
DANN Dangsing 58.98 296 *e*P **P** **12 14 00.7 +0.1**
comp=Z,127nm,0.8s
KOLN Koldanda 59.09 295 *e*P **P** **12 14 01.3 0.0**
comp=Z,102nm,1.0s
RPZ Rata Peaks 60.15 158 LR LR 12 37 39.9
comp=Z,247nm,20.0s,baz=313,slow=34
GAMB Gambell 60.35 21 P **P** **12 14 09.0 0.0**
GAMB Gambell 60.35 21 P **P** **12 14 08.6 -0.4**
baz=231
TIXI Tiksi 60.71 354 *ce*P **P** **12 14 09.7 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 60.71 354 P **P** **12 14 10.5 -0.9**
CHNA Chernabura Isl 61.15 33 P **P** **12 14 14.5 -0.1**
baz=248
ZSN Zaisan 61.15 318 *de*P **P** **12 14 15.4 +0.6**
ZSN Zaisan 61.15 318 *e*P **P** **12 14 15.5 +0.6**
baz=318
MK31 Makanchi Array 62.70 317 *i* P **P** **12 14 25.5 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MK31 Makanchi Array 62.70 317 P **P** **12 14 25.8 +0.5**
MKAR Makanchi Array 62.70 317 P **P** **12 14 25.9 +0.5**
comp=Z,12nm,0.6s,baz=93,slow=8.7,SNR=144
TNA Tin City 62.73 20 P **P** **12 14 24.5 -0.5**
baz=234
MAKZ Makanchi 62.92 317 P **P** **12 14 27.1 +0.4**
MAKZ pmax pmax
comp=Z,39nm,0.8s
MAKZ Makanchi 62.92 317 P **P** **12 14 27.1 +0.4**
ZAA0 Zalesovo Array 63.04 325 P **P** **12 14 26.9 -0.5**
ZAA0 IAmb IAmb 12 14 28.0
comp=Z,17nm,1.0s
ZALV Zalesovo Beam 63.04 325 P **P** **12 14 27.1 -0.3**
comp=Z,12nm,0.6s,baz=106,slow=6.1,SNR=46
ZALV LR LR 12 41 33.2
comp=Z,154nm,21.0s,baz=87,slow=36
ANM Nome 63.06 22 P **P** **12 14 27.4 +0.1**
baz=237
PALK Pallekele 63.09 272 LR LR 12 46 40.4
comp=Z,24nm,18.1s,baz=186,slow=41
RAR Rarotonga 63.64 121 LR LR 12 36 12.5
comp=Z,140nm,20.6s,baz=274,slow=30
HYBB Hyderabad (bro 63.95 284 *e*P **P** **12 14 33.5 -0.5**
HYBB *e* 12 14 41.2
SHLS Shalkode 64.02 312 *e*P **P** **12 14 32.2 -2.0**
SHLS pmax pmax
comp=Z,13nm,2.5s
SHLS Shalkode 64.02 312 *e*P **P** **12 14 32.2 -2.0**
comp=Z,13nm,2.5s,baz=312
PDGK Podgornoye 64.02 313 P **P** **12 14 34.4 +0.2**
UZB Uzynbulak 64.33 312 *e*P **P** **12 14 36.6 +0.3**
UZB Uzynbulak 64.33 312 *e*P **P** **12 14 36.6 +0.3**
baz=312
SII Sitkinak Islan 64.62 32 P **P** **12 14 37.8 0.0**
baz=252
KPKS Kokpek 64.62 313 *e*P **P** **12 14 37.7 -0.4**
KPKS Kokpek 64.62 313 *e*P **P** **12 14 37.7 -0.4**
baz=313
ZHN Zhinishke 64.76 312 *e*P **P** **12 14 39.2 +0.2**
ZHN Zhinishke 64.76 312 *e*P **P** **12 14 39.3 +0.2**
baz=312
SATY Saty 64.77 312 *e*P **P** **12 14 39.1 0.0**
SATY Saty 64.77 312 *e*P **P** **12 14 39.1 0.0**
baz=312
SEM Semipalatinsk 64.81 320 *e*P **P** **12 14 37.7 -1.7**
SEM pmax pmax
comp=Z,4.0nm,0.7s
SEM Semipalatinsk 64.81 320 *e*P **P** **12 14 37.7 -1.7**
comp=Z,4.4nm,0.7s,baz=320
P18K Big Mountain, 65.03 29 P **P** **12 14 40.2 -0.2**
baz=250
Q19K Cape Douglas, 65.65 30 P **P** **12 14 44.2 -0.2**
baz=251
MDOK Medeo 65.77 312 *e*P **P** **12 14 46.2 +0.6**
MDOK Medeo 65.77 312 *e*P **P** **12 14 46.2 +0.6**
baz=312
KDAK Kodiak Island 65.82 31 LR LR 12 38 16.3
comp=Z,104nm,20.9s,baz=264,slow=31
TNSS Tian-Shan 65.83 312 *e*P **P** **12 14 46.8 +0.4**
baz=312
AAA Alma-Ata 65.87 312 *e*P **P** **12 14 46.8 +0.6**
AAA Alma-Ata 65.87 312 *e*P **P** **12 14 46.8 +0.6**
baz=312
N19K Bonanza Creek 65.88 28 P **P** **12 14 45.8 -0.2**
baz=250
CHKK Chushkaly 65.89 313 *e*P **P** **12 14 46.2 -0.1**
baz=313
KURK Kurchatov 65.89 320 *i* P **P** **12 14 45.6 -0.5**
KURK pmax pmax
comp=Z,56nm,0.8s
KURK Kurchatov 65.89 320 P **P** **12 14 46.2 +0.1**
KURBB Kurchatov Arra 65.93 320 LR LR 12 44 56.1
comp=Z,121nm,19.5s,baz=83,slow=37
TTA Tatalina 65.98 26 P **P** **12 14 46.7 +0.2**
baz=247
L19K White Mountain 66.20 27 P **P** **12 14 47.4 -0.5**
L19K IAmb IAmb 12 14 58.0
comp=Z,14nm,0.9s
L19K White Mountain 66.20 27 P **P** **12 14 48.1 +0.2**
baz=249
KSH Kashi 66.22 308 P **P** **12 14 51.7 +3.1**
KSH sP pwP 12 14 58.6 +0.8
KSH PcP **PcP** **12 15 17.4 -1.3**
KSH pmax pmax
comp=Z,6.0nm,0.8s
ULHL Ulahol 66.26 311 P P 12 14 56.8 +7.9
SNR=7.1
M19K Big River Lodg 66.31 27 P **P** **12 14 48.4 -0.1**
baz=249
GCSA Galena City Sc 66.36 24 P **P** **12 14 48.6 -0.2**
baz=246
BOOM Boomskoye usch 66.50 311 IAmb IAmb 12 14 59.2
comp=Z,14nm,0.9s
L20K Farewell, AK 66.73 26 P **P** **12 14 52.1 +0.8**
baz=250
TKM2 Tokmak 2 66.80 312 P P 12 15 00.1 +7.8
SNR=9.0
TKM2 Tokmak 2 66.80 312 *i* P **P** **12 14 52.5 +0.2**
TKM2 pmax pmax
comp=Z,22nm,1.0s
HOM Homer 66.85 30 P **P** **12 14 51.7 -0.3**
baz=253
K20K Telida 66.96 25 IAmb IAmb 12 15 02.7
comp=Z,11nm,0.8s
K20K Telida 66.96 25 P **P** **12 14 52.7 0.0**
baz=249
J20K Nowinta River 67.23 25 IAmb IAmb 12 15 04.4
comp=Z,12nm,0.8s
J20K Nowinta River 67.23 25 P **P** **12 14 54.3 -0.1**
baz=249
KBK Karagaybulak 67.25 311 P P 12 15 03.4 +8.2
SNR=5.8
CHMS Chumysh 67.42 312 P P 12 15 04.1 +8.0
SNR=7.2
UCH Uchtor 67.53 311 P **P** **12 14 58.3 +1.0**
SNR=5.9
SGDS Sogindy 67.55 312 *e*P **P** **12 14 56.5 -0.4**
baz=312
AAK Ala-Archa 67.58 311 LR LR 12 47 13.0
comp=Z,129nm,19.1s,baz=94,slow=38
AAK Ala-Archa 67.58 311 *ce*P **P** **12 14 57.8 +0.5**
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 67.58 311 P **P** **12 14 57.1 -0.2**
AAK IAmb IAmb 12 15 05.9
comp=Z,13nm,1.0s
PPLA Purkeypile 67.61 26 P **P** **12 14 56.8 -0.2**
baz=251
USP Ospenovka 67.63 312 P P 12 15 05.0 +7.5
SNR=7.9
CAST Castle Rocks 67.82 26 P **P** **12 14 58.6 +0.4**
CAST Castle Rocks 67.82 26 P **P** **12 14 57.9 -0.3**
baz=251,SNR=7.1
NRIK Noril'sk 67.86 341 P **P** **12 14 57.6 -0.6**
comp=Z,21nm,0.9s,baz=112,slow=7.5,SNR=32
NRIK LR LR 12 43 23.6
comp=Z,110nm,21.2s,baz=118,slow=35
NRIK Noril'sk 67.86 341 *ce*P **P** **12 14 57.5 -0.8**
NRIK pmax pmax
comp=Z,19nm,0.9s
NRIK Noril'sk 67.86 341 P **P** **12 14 57.8 -0.5**
CHUM Lake Minchumin 67.88 25 P **P** **12 14 58.6 +0.2**
baz=250
O22K Cooper Landing 68.01 29 P **P** **12 14 59.3 0.0**
baz=254
SEW Seward 68.03 30 P **P** **12 14 58.7 -0.8**
baz=255
EKS2 Erkin-Say 68.11 311 P P 12 15 08.9 +8.3
SNR=5.6
BTLS Baital 68.12 314 *e*P **P** **12 15 00.4 0.0**
BTLS Baital 68.12 314 *e*P **P** **12 15 00.4 0.0**
baz=314
AML Almayashu 68.13 311 P P 12 15 09.7 +8.6
SNR=11
NIL Nilore 68.17 302 P **P** **12 15 01.4 +0.5**
NIL pmax pmax
comp=Z,73nm,1.0s
NIL Nilore 68.17 302 P **P** **12 15 01.4 +0.5**
RC01 Rabbit Creek A 68.17 28 P **P** **12 15 00.4 +0.1**
baz=254
M22K Willow 68.18 28 P **P** **12 15 00.1 -0.2**
baz=253,SNR=5.2
H21K Melozitna Rive 68.29 23 P **P** **12 15 00.9 -0.2**
baz=249
KTH Kantishna Hill 68.36 26 IAmb IAmb 12 15 10.9
comp=Z,20nm,0.9s
I21K Tanana 68.45 24 IAmb IAmb 12 15 12.2
comp=Z,13nm,0.9s
I21K Tanana 68.45 24 P **P** **12 15 02.2 +0.2**
baz=250
BPAW Bear Paw Mtn. 68.50 25 P **P** **12 15 02.4 0.0**
baz=252
PMR Palmer 68.58 28 P **P** **12 15 02.8 -0.1**
baz=254,SNR=5.8
TRF Thorofare Moun 68.60 26 IAmb IAmb 12 15 12.1
comp=Z,15nm,1.0s
TRF Thorofare Moun 68.60 26 P **P** **12 15 02.8 -0.5**
baz=253
PWL Port Wells 68.77 29 P **P** **12 15 03.6 -0.6**
baz=255,SNR=7.0
KNK Knik Glacier 68.85 28 P **P** **12 15 04.2 -0.4**
baz=255
MLY Manley 68.90 24 IAmb IAmb 12 15 14.7
comp=Z,20nm,0.9s
MLY Manley 68.90 24 P **P** **12 15 04.4 -0.5**
baz=252,SNR=5.5
SML Sawmill 69.01 28 P **P** **12 15 05.4 -0.3**
baz=255,SNR=6.9
BWN Browne 69.16 25 P **P** **12 15 07.0 +0.4**
RND Reindeer 69.21 26 P **P** **12 15 06.5 -0.4**
RND pmax pmax
comp=Z,14nm,1.1s
RND Reindeer 69.21 26 P **P** **12 15 06.5 -0.4**
RND IAmb IAmb 12 15 16.3
comp=Z,14nm,1.1s
MCK McKinley 69.26 26 P **P** **12 15 07.1 -0.1**
baz=254
NEA2 Nenana 69.45 25 P **P** **12 15 08.5 +0.2**
baz=253
WAT6 Susitna Watana 69.48 27 P **P** **12 15 08.8 +0.1**
baz=255,SNR=7.1
SCM Sheep Creek Mo 69.48 28 P **P** **12 15 09.0 +0.4**
baz=256,SNR=8.4
I23K Minto, Yukon-K 69.49 24 IAmb IAmb 12 15 18.0
comp=Z,10nm,0.8s
I23K Minto, Yukon-K 69.49 24 P **P** **12 15 08.8 +0.3**
baz=253,SNR=5.3
BRZS Berezniki 69.54 319 *e*P **P** **12 15 08.9 -0.2**
BRZS pmax pmax
comp=Z,5.0nm,0.8s
BRZS Berezniki 69.54 319 *e*P **P** **12 15 09.0 -0.2**
comp=Z,4.5nm,0.8s,baz=319
OTUK Ortayu 69.59 317 P **P** **12 15 09.3 -0.2**
H23K Yukon River 69.62 24 IAmb IAmb 12 15 19.0
comp=Z,10nm,0.8s
H23K Yukon River 69.62 24 P **P** **12 15 09.7 +0.3**
baz=252
DHY Denali Highway 69.76 27 P **P** **12 15 10.3 -0.1**
baz=256
COLD Coldfoot 69.81 22 IAmb IAmb 12 15 21.1
comp=Z,17nm,0.9s
COLD Coldfoot 69.81 22 P **P** **12 15 11.3 +0.8**
baz=251
WRH Wood River Hil 69.82 25 IAmb IAmb 12 15 19.3
comp=Z,18nm,0.9s
MDM Murphy Dome 69.90 25 IAmb IAmb 12 15 21.0
comp=Z,14nm,0.9s
DZA Taraz 69.92 311 *i* P **P** **12 15 09.6 -2.1**
baz=312
TCOL CIGO, UAF Yank 70.03 25 P **P** **12 15 12.4 +0.6**
baz=254
COLA College 70.03 25 *i* P **P** **12 15 11.4 -0.4**
COLA pmax pmax
comp=Z,3.0nm,1.0s
KLU Klutina 70.05 29 IAmb IAmb 12 15 22.3
comp=Z,20nm,1.0s
KLU Klutina 70.05 29 P **P** **12 15 12.1 -0.1**
baz=257,SNR=5.2
M24K Tolsona, Glenn 70.07 28 P **P** **12 15 12.2 -0.1**
baz=257
BTK Batken 70.21 308 IAmb IAmb 12 15 22.3
comp=Z,34nm,1.4s
H24K Noodor Dome 70.28 24 IAmb IAmb 12 15 23.5
comp=Z,15nm,0.9s
H24K Noodor Dome 70.28 24 P **P** **12 15 13.8 +0.4**
baz=254
HDA Harding Lake 70.28 25 IAmb IAmb 12 15 22.3
comp=Z,14nm,0.9s
HDA Harding Lake 70.28 25 P **P** **12 15 13.2 -0.3**
baz=255,SNR=6.7
ILAR Eielson Array 70.40 25 P **P** **12 15 12.8 -1.3**
comp=Z,2.6nm,0.9s,baz=254,slow=5.0,SNR=21
TOLK Toolik Lake Re 70.49 21 P **P** **12 15 14.9 +0.2**
baz=251,SNR=7.3
KKAR Karatay Array 70.53 312 P **P** **12 15 15.3 -0.1**
KKAR Karatay Array 70.53 312 P **P** **12 15 15.3 -0.1**
BMRM Bremner River 70.57 29 P **P** **12 15 15.2 -0.1**
baz=259
PAX Paxson 70.58 27 P **P** **12 15 15.7 +0.3**
PAX pmax pmax
comp=Z,11nm,0.8s
PAX Paxson 70.58 27 P **P** **12 15 15.7 +0.3**
PAX IAmb IAmb 12 15 24.6
comp=Z,11nm,0.8s
PAX Paxson 70.58 27 P **P** **12 15 15.2 -0.2**
baz=257,SNR=7.1
HARP HAARP 70.60 28 P **P** **12 15 15.4 0.0**
baz=258,SNR=7.6
RIDG Independent Ri 71.03 26 IAmb IAmb 12 15 28.1
comp=Z,15nm,1.0s
RIDG Independent Ri 71.03 26 P **P** **12 15 18.0 0.0**
baz=258,SNR=5.2
PRP Porcupine Dome 71.14 24 P **P** **12 15 18.8 0.0**
baz=256
BRVK Borovoye 71.35 322 *i* P **P** **12 15 19.9 -0.2**
BRVK pmax pmax
comp=Z,48nm,0.8s
BRVK Borovoye 71.35 322 P **P** **12 15 20.5 +0.4**
DOT Dot Lake 71.35 26 IAmb IAmb 12 15 29.4
comp=Z,21nm,0.8s
MCARA McCarthy VSAT 71.40 29 P **P** **12 15 20.0 -0.3**
baz=260
SCRK Sand Creek 71.45 26 P **P** **12 15 20.6 -0.1**
SCRK Sand Creek 71.45 26 P **P** **12 15 20.5 -0.1**
baz=258,SNR=5.5
FYU Fort Yukon 71.51 23 IAmb IAmb 12 15 31.2
comp=Z,23nm,0.9s
L26K Log Cabin Wild 71.54 27 IAmb IAmb 12 15 31.1
comp=Z,14nm,0.9s
L26K Log Cabin Wild 71.54 27 P **P** **12 15 21.1 0.0**
baz=259,SNR=8.3
J26L Joseph Creek 71.73 26 P **P** **12 15 22.2 -0.2**
baz=258,SNR=9.4
CTG Chitna Glacier 72.14 30 P **P** **12 15 24.5 -0.3**
baz=262,SNR=5.1
BVCY Beaver Creek 72.57 28 P **P** **12 15 27.2 -0.1**
baz=262,SNR=5.1
YUK3 Moose Creek 72.67 29 P **P** **12 15 27.8 -0.3**
baz=262,SNR=6.1
EGAK Eagle 72.80 26 P **P** **12 15 28.9 +0.3**
baz=261
DAWY Dawson 73.46 26 P **P** **12 15 32.4 -0.2**
baz=262,SNR=11
YUK4 Talbot Arm 73.48 29 P **P** **12 15 33.2 +0.2**
baz=264
HYT Haines Junctio 73.98 30 IAmb IAmb 12 15 46.9
comp=Z,16nm,0.9s
HYT Haines Junctio 73.98 30 P **P** **12 15 35.7 -0.2**
baz=265
J29M Klondike Camp 74.02 26 P **P** **12 15 36.1 +0.2**
baz=264
I29M Ogilvie Camp, 74.08 25 P **P** **12 15 36.4 +0.2**
baz=263,SNR=9.1

M30M	Minto, Yukon	74.47	28	P	P	12 15 38.9	+0.4
	baz=265						
EPYK	Eagle Plains	74.84	24	IAmb	IAmb	12 15 50.2	
	comp=Z,11nm,0.8s						
EPYK	Eagle Plains	74.84	24	P	P	12 15 40.6	0.0
	baz=264,SNR=6.2						
N31M	Braeburn, Yuko	74.86	29	P	P	12 15 41.0	+0.2
	baz=266						
SIT	Sitka	74.89	34	P	P	12 15 40.9	0.0
	baz=268						
WHY	Whitehorse	75.26	30	P	P	12 15 43.5	+0.3
	baz=268						
M31M	Drury Creek, Y	75.56	29	P	P	12 15 45.6	+0.8
	baz=268						
FARO	Faro, Yukon	76.05	29	P	P	12 15 48.2	+0.6
	baz=268						
INK	Inuvik	76.23	22	P	P	12 15 48.3	-0.1
INK				pmax	pmax		
	comp=Z,14nm,1.0s						
INK	Inuvik	76.23	22	P	P	12 15 48.3	-0.1
INK				IAmb	IAmb	12 15 58.0	
	comp=Z,14nm,0.9s						
INK	Inuvik	76.23	22	P	P	12 15 48.7	+0.3
	baz=267,SNR=5.2						
P33M	Teslin, Yukon	76.27	31	P	P	12 15 49.4	+0.4
	baz=269						
MMPY	Sheldon Lake,	77.02	28	P	P	12 15 52.9	-0.2
	baz=270						
SVE	Sverdlovsk	77.04	326	eP	P	12 15 53.8	+0.6
SVE				pmax	pmax		
	comp=Z,29nm,1.1s						
AB31	Akbulak array	77.80	318	iP	P	12 15 57.0	-0.7
ABKAR	Akbulak array	77.80	318	P	P	12 15 57.8	+0.1
ABKAR	Akbulak array	77.80	318	IAmb	IAmb	12 16 05.9	
	comp=Z,23nm,0.8s						
ARU	Arti	78.20	326	LR	LR	12 53 32.1	
	comp=Z,63nm,18.0s,baz=64,slow=38						
ARU	Arti	78.20	326c	iP	P	12 16 00.4	+0.7
ARU						12 16 07.0	
ARU				*PP	pwP	12 16 09.3	+0.3
ARU						12 18 53.1	
ARU				S	S	12 25 55.8	+1.5
ARU				SS	SS	12 30 57.1	+1.2
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU	Arti	78.20	326	P	P	12 15 59.8	+0.1
TGTN	Hyland Airport	78.46	29	P	P	12 16 01.6	+0.4
	baz=273						
AKTO	Aktyubinsk	78.95	319	LR	LR	12 52 14.6	
	comp=Z,102nm,19.6s,baz=83,slow=37						
AKTO	Aktyubinsk	78.95	319	P	P	12 16 03.8	-0.2
A36M	Sachs Harbour	79.03	18	P	P	12 16 04.0	0.0
	baz=274,SNR=6.4						
C36M	Paulatuk	79.64	21	IAmb	IAmb	12 16 16.9	
	comp=Z,22nm,1.1s						
C36M	Paulatuk	79.64	21	P	P	12 16 07.4	+0.1
	baz=275						
GEYT	Alibeck	80.20	307	P	P	12 16 12.6	+1.5
	comp=Z,2.2nm,0.5s,baz=357,slow=2.9,SNR=2.5						
GEYT	Alibeck	80.20	307	P	P	12 16 11.3	+0.1
GEYT				IAmb	IAmb	12 16 20.7	
	comp=Z,16nm,0.9s						
WSAR	Wadi Sarin	81.84	292	LR	LR	12 52 54.7	
	comp=Z,26nm,21.5s,baz=64,slow=36						
L02E	Cave Junction	83.58	48	P	P	12 16 29.1	+0.2
	baz=280						
H04D	Lebanon	83.80	46	P	P	12 16 29.9	0.0
	baz=280						
PRGR	Permogore	84.06	332	eP	P	12 16 30.3	-0.5
YBH	Yreka Blue Hor	84.31	49	LR	LR	12 47 49.9	
	comp=Z,139nm,19.6s,baz=332,slow=31						
L04D	Klamath Falls	84.52	48	P	P	12 16 33.3	-0.5
	baz=281						
O02D	Mt. Diablo Mer	84.54	50	P	P	12 16 33.7	-0.2
	baz=281						
YKA	Yellowknife Ar	84.67	27	P	P	12 16 33.9	0.0
	comp=Z,1.5nm,0.7s,baz=287,slow=5.3,SNR=25						
YKA				LR	LR	12 53 52.6	
	comp=Z,134nm,19.4s,baz=276,slow=35						
K04D	Chiloquin, OR	84.85	48	P	P	12 16 35.3	-0.1
	baz=281						
M04C	Macdoel	84.95	49	P	P	12 16 35.6	-0.3
	baz=281						
J05D	Fort Rock, OR	85.09	47	P	P	12 16 36.5	-0.2
	baz=281						
PINE	Pine Mountain	85.20	46	P	P	12 16 39.3	+2.0
PINE				IAmb	IAmb	12 17 02.1	
	comp=Z,12nm,0.8s						
B08A	Colville Reser	85.36	42	P	P	12 16 36.9	-0.9
B08A				IAmb	IAmb	12 16 51.9	
	comp=Z,16nm,1.2s						
K05A	Summer Lake	85.45	47	P	P	12 16 38.1	-0.4
K05A				IAmb	IAmb	12 17 05.4	
	comp=Z,22nm,1.5s						
RES	Resolute Bay	86.47	13	IAmb	IAmb	12 16 52.7	
	comp=Z,19nm,0.9s						
NEW	Newport	86.82	41	LR	LR	12 51 41.7	
	comp=Z,81nm,19.4s,baz=291,slow=33						
NEW	Newport	86.82	41	IAmb	IAmb	12 16 57.5	
	comp=Z,8.3nm,0.8s						
NEW	Newport	86.82	41	P	P	12 16 45.2	+0.2
	baz=284						
KLMR	Klimovskoe	87.12	332	eP	P	12 16 44.3	-1.7
KLMR				pmax	pmax		
	comp=Z,23nm,0.9s						
KLMR	Klimovskoe	87.12	332	eP	P	12 16 44.4	-1.6
KLMR				AMP		12 16 53.6	
	comp=Z,23nm,0.9s						
APA	Apatity	87.16	339⇓	iP	P	12 16 50.5	+4.4
APA				pmax	pmax		
	comp=Z,13nm,0.9s						
SMMC	Simmler	87.68	55	P	P	12 16 49.9	+0.5
	baz=283						
NVAR	Mina Array Bea	88.31	51	P	P	12 16 53.6	+1.0
	comp=Z,1.5nm,0.7s,baz=270,slow=5.4,SNR=16						
NVAR				LR	LR	12 49 41.5	
	comp=Z,72nm,20.0s,baz=332,slow=31						
KVN	Kaiserville	88.32	51	IAmb	IAmb	12 17 03.2	
	comp=Z,19nm,1.5s						
PLID	Pearl Lake	88.36	44	P	P	12 16 52.0	-0.6
PLID				IAmb	IAmb	12 17 16.8	
	comp=Z,11nm,1.2s						
SNCC	San Nicolas Is	88.52	57	P	P	12 16 53.2	-0.2
	baz=283						
ARCES	ARCESS Array B	88.83	342	P	P	12 16 53.4	-0.7
	comp=Z,2.7nm,0.7s,baz=82,slow=8.7,SNR=10						
ARCES	ARCESS Array B	88.83	342	P	P	12 16 53.1	-1.0
MFID	Camas Ranch	88.91	46	IAmb	IAmb	12 17 20.4	
	comp=Z,12nm,1.1s						
VRH	Novokhopyorsk	88.93	322	eP	P	12 17 00.9	+6.0
VRH				pmax	pmax		
	comp=Z,30nm,1.0s						
CWC	Cottonwood Cre	88.94	53	P	P	12 16 54.0	-1.6
	baz=284						
LRMC	Laurel Mtn Rad	89.49	54	P	P	12 16 57.6	-0.5
	baz=284						
MPMC	Manual Prospec	89.50	53	P	P	12 16 58.1	-0.1
	baz=284						
MOS	Moscow	89.78	327	eP	P	12 17 05.0	+6.2
MOS				pmax	pmax		
	comp=Z,49nm,1.1s						
HLID	Hailey	89.86	46	P	P	12 16 59.7	0.0
	baz=286						
FURC	Furnace Creek,	89.89	53	P	P	12 17 00.3	+0.6
	baz=284						
ELK	Elko	90.03	48	LR	LR	12 51 36.4	
	comp=Z,84nm,20.3s,baz=276,slow=32						
ELK	Elko	90.03	48	IAmb	IAmb	12 17 14.2	
	comp=Z,13nm,1.3s						
LPSR	Galich'ya Gora	90.14	324	eP	P	12 17 07.1	+6.6
LPSR				pmax	pmax		
	comp=Z,30nm,1.1s						
GSC	Goldstone, Bar	90.22	54	P	P	12 17 01.6	+0.1
	baz=284						
TPNV	Topopah Spring	90.25	52	P	P	12 17 01.7	0.0
	baz=285						
VORR	Voronezh	90.28	323	eP	P	12 17 05.6	+4.4
VORR				pmax	pmax		
	comp=Z,80nm,0.4s						
KBZ	Khabaz	90.34	315	LR	LR	13 01 26.4	
	comp=Z,64nm,20.2s,baz=57,slow=38						
R11A	Troy Canyon, C	90.40	51	P	P	12 17 02.6	+0.2
	baz=285						
KIV	Kislovodsk	90.42	315	eP	P	12 17 00.7	-1.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VORD	Divnogorie	90.46	322	eP	P	12 17 07.5	+5.4
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	Obninsk	90.57	327	iP	P	12 17 02.0	-0.4
OBN				i		12 17 07.2	
OBN				i		12 20 37.6	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,176nm,18.0s						
HEC	Hector,Ludlow	90.72	54	P	P	12 17 04.3	+0.6
	baz=285						
MONP2	Monument Peak	91.13	56	P	P	12 17 06.0	+0.1
	baz=285						
BOZ	Bozeman (W)	91.17	43	P	P	12 17 05.6	-0.1
	baz=288						
DAG	Danmarks Havn	91.18	356	iP	P	12 17 02.7	-2.2
DAG	Danmarks Havn	91.18	356	iP	P	12 17 02.6	-2.3
SHPR	Sheep Range	91.21	52	P	P	12 17 08.8	+2.7
SHPR				IAmb	IAmb	12 17 17.4	
	comp=Z,13nm,1.3s						
GMRC	Granite Mounta	91.26	54	P	P	12 17 06.8	+0.5
	baz=285						
EGMT	Eagleton	91.62	40	P	P	12 17 08.3	+0.7
	baz=289						
PSUT	Pine Spring	91.66	50	IAmb	IAmb	12 17 18.2	
	comp=Z,9.9nm,1.3s						
YHH	Holmes Hill	91.95	44	IAmb	IAmb	12 17 29.2	
	comp=Z,9.0nm,1.4s						
DUG	Dugway, Tooele	91.96	48	P	P	12 17 10.0	+0.5
	baz=287						
H17A	Grant Village	92.26	44	P	P	12 17 12.7	+1.8
	baz=289						
FLWY	Flagg Ranch	92.27	44	IAmb	IAmb	12 17 36.7	
	comp=Z,8.2nm,1.0s						
FINES	FINESS Array B	92.79	335	P	P	12 17 11.0	-1.6
	comp=Z,0.7nm,0.3s,baz=69,slow=7.6,SNR=6.6						
FINES	FINESS Array B	92.79	335	P	P	12 17 11.5	-1.1
FINES	FINESS Array B	92.79	335	P	P	12 17 11.5	-1.1
KNB	Kanab	92.87	51	IAmb	IAmb	12 17 25.1	
	comp=Z,15nm,1.3s						
RLMT	Red Lodge	92.90	43	IAmb	IAmb	12 17 37.8	
	comp=Z,6.4nm,1.1s						
RLMT	Red Lodge	92.90	43	P	P	12 17 14.5	+0.7
	baz=290						
PDAR	Pinedale Array	93.48	45	P	P	12 17 15.8	-0.7
	comp=Z,0.2nm,0.9s,baz=217,slow=4.4,SNR=1.4						
PDAR				LR	LR	12 53 43.7	
	comp=Z,63nm,20.0s,baz=320,slow=32						
LAO	LASA Array	94.33	41	P	P	12 17 20.5	+0.3
	baz=292						
WUAZ	Wupatki	94.43	53	P	P	12 17 21.4	+0.4
	baz=288						
AKASG	Malin Array Be	96.44	325	LR	LR	13 02 50.8	
	comp=Z,108nm,18.6s,baz=347,slow=37						
N23A	Red Feather La	96.67	46	P	P	12 17 30.4	-0.8
	baz=292						
MAW	Mawson	97.57	202	LR	LR	12 55 49.5	
	comp=Z,137nm,21.1s,baz=68,slow=32						
SDCO	Great Sand Dun	98.14	49	P	P	12 17 37.5	-0.5
	baz=292						
BRTR	Keskin Array B	98.20	313	P	P	12 17 35.9	-2.1
	comp=Z,0.7nm,0.4s,baz=273,slow=14,SNR=2.0						
ANMO	Albuquerque	98.42	52	LR	LR	12 56 37.0	
	comp=Z,76nm,19.8s,baz=311,slow=32						
HFS	Hagfors	98.47	338	LR	LR	13 05 15.7	
	comp=Z,119nm,18.1s,baz=356,slow=37						
NOA	NORSAR Array B	98.75	339	P	P	12 17 38.1	-1.7
	comp=Z,0.7nm,0.8s,baz=50,slow=4.8,SNR=2.0						
NOA				LR	LR	13 05 21.8	
	comp=Z,68nm,18.4s,baz=290,slow=37						
ULM	Lac du Bonnet	98.96	34	LR	LR	12 59 20.8	
	comp=Z,106nm,21.4s,baz=304,slow=34						
MNTX	Cornudas Mount	100.40	55	P	Pdif	12 17 47.9	+0.1
	baz=291						
UZH	Uzhgorod	101.37	325	eP	Pdif	12 17 49.4	-2.3
CRVS	Cervenica-Dubn	101.69	326	iP	Pdif	12 18 01.0	+7.8
SYO	Syowa Base	106.20	201⇓	iPdiff	Pdif	12 18 13.6	+1.0
SYO	Syowa Base	106.20	201⇓	eX	PKiKP	12 22 20.6	-3.6
ESDC	Sonseca Array	121.16	332	PP	PP	12 24 26.2	+3.5
	comp=Z,2.2nm,1.2s,baz=32,slow=7.5,SNR=4.1						
TORD	Torodi Ar. Bea	135.72	303	PKP	PKPdf	12 23 22.8	+0.9
	comp=Z,0.7nm,0.8s,baz=37,slow=2.9,SNR=3.3						
TORD				PP	PP	12 26 02.0	+2.6
	comp=Z,1.3nm,1.0s,baz=38,slow=5.0,SNR=3.8						
DBIC	Dimbokro	144.59	299	PKP	PKPab	12 23 36.4	-0.1
	comp=Z,3.6nm,0.5s,baz=75,slow=3.2,SNR=7.2						
DBIC	Dimbokro	144.59	299	PKIKP	PKPab	12 23 36.3	-0.2
KIC	Kosan Boka	144.65	299	ePKIKP	PKPab	12 23 36.6	-0.1
	comp=Z,5.4nm,0.4s						
KIC	Kosan Boka	144.65	299	ePKIKP	PKiKP	12 23 45.7	+3.8
	comp=Z,18nm,0.7s						
TIC	Toumodi	144.74	300	ePKIKP	PKPab	12 23 36.8	-0.3
TIC	Toumodi	144.74	300	ePKIKP	PKiKP	12 23 45.9	+3.8
LIC	Lamto	144.96	299	ePKIKP	PKPab	12 23 36.3	-1.6
	comp=Z,24nm,0.9s						
LIC	Lamto	144.96	299	ePKIKP	PKiKP	12 23 45.8	+3.3
	comp=Z,82nm,0.8s						
LPAZ	La Paz	147.91	102	PKPbc	PKPbc	12 23 46.9	-0.4
	comp=Z,0.9nm,0.5s,baz=3.5,slow=9.9,SNR=2.1						

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*NSSP **09** 12:12:58.5, 41°.10N×44°.37E, h10km, Ms3.0*
*NORS **09** 12:12:58.9±0.0, 41°.22N×44°.31E, h6km, MPVA4.5*
*TIF **09** 12:12:58.5, 41°.14N×44°.41E, h11km*
*DDA **09** 12:12:59.3±0.0, 41°.16N×44°.37E, h11km±1km, MW3.6*
*MOS **09** 12:13:01.0±0.0, 41°.30N×44°.46E, h8km, MPVA4.2*
*ISK **09** 12:13:01.8, 40°.91N×44°.27E, h5km, ML3.0/4*
*AZER **09** 12:13:02.4±0.4, 41°.08N×44°.65E, h4km±1km, Error ellipse: s-maj=4.5km s-min=2.8km az=313.0*

ISC 09 12:12:59.0±0.9**, 41°.13N**±0°.01×**44°.43E**±0°.01**, h8**km±7km**,**
n137, σ1°**45**/239**, 1C-6D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STE	Stepanavan	0.14	197	iP	Pg	12 13 02.5	+0.5
STE				iS	Sg	12 13 04.6	+0.5
STE	Stepanavan	0.14	197⇓	iPG	Pg	12 13 02.3	+0.3
KZRT	Kazreti	0.26	356	P	Pg	12 13 04.3	+0.2
KZRT				S	Sg	12 13 07.8	+0.2
KZRT	Kazreti	0.26	356	ePG	Pg	12 13 04.3	+0.2
KZRT	Kazreti	0.26	356	P	Pg	12 13 04.3	+0.2
KZRT				S	Sg	12 13 07.7	+0.2
DMNI	Dmanisi	0.27	318	P	Pb	12 13 04.5	-1.7
DMNI				S	Sg	12 13 08.1	+0.3
DMNI	Dmanisi	0.27	318	ePG	Pb	12 13 04.4	-1.7
TRLG	Trialeti	0.47	329	P	Pg	12 13 08.1	-0.1
TRLG				S	Sg	12 13 14.7	+0.2
TRLG	Trialeti	0.47	329	ePG	Pg	12 13 08.1	-0.1
TRLG				eS	Sg	12 13 14.6	+0.2
BTNK	Botanikuri	0.62	27	P	Pg	12 13 07.8	-3.1
BTNK				S	Sg	12 13 16.6	-2.4
BTNK	Botanikuri	0.62	27	ePG	Pg	12 13 07.8	-3.1
BGD	Bogdanovka	0.64	282	P	Pb	12 13 11.5	-1.0
BGD				S	Sb	12 13 20.3	-1.4
BGD	Bogdanovka	0.64	282	ePG	Pb	12 13 11.5	-1.0
BGD				eS	Sb	12 13 20.3	-1.4
BRNG	Burnasheti	0.67	318	P	Pb	12 13 12.4	-0.6
BRNG				S	Sb	12 13 21.8	-0.7
SEAG	Tbilisi Sea	0.69	24	P	Pb	12 13 12.6	-0.8
SEAG				S	Sb	12 13 22.4	-0.8
SEAG	Tbilisi Sea	0.69	24	ePG	Pb	12 13 12.5	-0.8
SEAG				eS	Sb	12 13 22.3	-0.8
QZX	Qazax, Azerbai	0.72	96	P	Pb	12 13 13.1	-0.6
	SNR=100						
QZX				S	Sb	12 13 23.0	-0.8
AKH	Akhalkalaki	0.76	292	P	Pb	12 13 13.3	-1.3
AKH				S	Sb	12 13 23.4	-1.6
AKH	Akhalkalaki	0.76	292	ePG	Pb	12 13 13.2	-1.3
AKH				eS	Sb	12 13 23.4	-1.6
EAK	Akyaka	0.76	235	P	Pb	12 13 13.3	-1.3
EAK				S	Sb	12 13 23.8	-1.4
EAK				iAML	AML	12 13 28.0	
	comp=N,1μm,0.5s						
KAPZ	Kaputan	0.83	165	iP	Pb	12 13 15.2	-0.6
KAPZ				iS	Sb	12 13 26.2	-1.1
KAPZ	Kaputan	0.83	165⇓	iPG	Pb	12 13 15.2	-0.6
GNI	Garni	1.01	166	iP	Pb	12 13 18.7	-0.1
GNI				iS	Sb	12 13 32.9	+0.6
GNI	Garni	1.01	166	iPG	Pb	12 13 18.7	-0.1
GNI	Garni	1.01	166	PG	Pn	12 13 18.8	-0.8
GNI				SG	Sb	12 13 31.6	-0.7
METS	Metsamor	1.01	195	iP	Pb	12 13 18.5	-0.3
METS				iS	Sb	12 13 32.1	-0.3
DIGO	Kars	1.07	228	P	Pb	12 13 18.9	-1.0
DIGO				S	Sb	12 13 33.5	-0.7
DIGO				iAML	AML	12 13 35.0	
	comp=E,2μm,0.4s						
GDB	GEDABAY	1.09	112	P	Pg	12 13 18.8	-1.0
	SNR=140						
GDB				S	Sg	12 13 32.9	-1.1
VNNZ	Vanand	1.12	204	iP	Pn	12 13 20.4	-0.8
VNNZ				iS	Sn	12 13 36.3	-0.5
VNNZ	Vanand	1.12	204⇓	iPG	Pn	12 13 20.3	-0.8
KARS	Kars	1.14	244	PG	Pb	12 13 20.4	-0.6
KARS				S	Sb	12 13 35.3	-0.7
KARS	Kars	1.14	244	PG	Pn	12 13 20.6	-0.8
KARS				SG	Sb	12 13 35.1	-0.9
NRKZ	NAREK	1.14	171	iP	Pn	12 13 22.2	+0.8
NRKZ				iS	Sn	12 13 38.1	+0.8
TASB	TASBURUN-IGDIR	1.16	187	PG	Pb	12 13 20.7	-0.5
TASB				SG	Sg	12 13 34.5	-1.6
IGDI	IGDIR	1.29	192	P	Pg	12 13 22.5	-1.1
IGDI				S	Sb	12 13 39.9	-0.4
IGDI				iAML	AML	12 13 42.0	
	comp=E,411nm,0.4s						
DDFL	Dedoflistskaro	1.31	76	P	Pb	12 13 25.4	+1.4
DDFL	Dedoflistskaro	1.31	76	ePG	Pb	12 13 25.3	+1.4
DDFL	Dedoflistskaro	1.31	76	P	Pb	12 13 25.2	+1.3
DDFL				S	Sn	12 13 46.0	+4.4
DDFL				iAML	AML	12 13 49.0	
	comp=N,866nm,0.5s						
EPOS	Posof	1.33	287	P	Pb	12 13 23.7	-0.6
EPOS				S	Sn	12 13 41.5	-0.6
EPOS				iAML	AML	12 13 43.0	
	comp=N,507nm,0.6s						
GUDG	Gudauri	1.33	2	P	Pg	12 13 23.8	-0.7
GUDG	Gudauri	1.33	2	ePG	Pg	12 13 23.8	-0.7
ABS	Abastumani	1.36	298	P	Pb	12 13 24.2	-0.6
ABS				S	Sn	12 13 43.1	+0.2
ABS	Abastumani	1.36	298	ePG	Pb	12 13 24.2	-0.6
ABS				eS	Sn	12 13 43.0	+0.2
HYR	Heyderabad	1.45	167	P	Pg	12 13 27.2	+0.5
	SNR=7.1						
HYR				S	Sn	12 13 45.9	+1.1
PNSH	Pansheti	1.51	5	P	Pb	12 13 27.0	-0.4
PNSH				S	Sg	12 13 47.1	-0.4
PNSH	Pansheti	1.51	5	ePG	Pb	12 13 27.0	-0.4
PNSH				eS	Sg	12 13 47.1	-0.4
GANJ	Ganja	1.52	108	PG	Pn	12 13 25.9	-0.5
GANJ	Ganja	1.52	108	P	Pn	12 13 26.0	-0.5
	SNR=72						
GANJ				S	Sn	12 13 46.2	-0.3
LGD	Lagodekhi	1.54	62	P	Pb	12 13 27.2	-0.5
LGD				S	Sg	12 13 48.8	+0.4
LGD	Lagodekhi	1.54	62	ePG	Pb	12 13 27.2	-0.5
LGD				eS	Sg	12 13 48.7	+0.4
KOTA	Agri, Merkez-K	1.62	215	P	Pg	12 13 30.7	+0.6
KOTA				S	Sg	12 13 54.0	+2.9
TKB	Tkibuli	1.62	319	P	Pb	12 13 28.6	-0.6
TKB				S	Sg	12 13 50.4	-0.7
TKB	Tkibuli	1.62	319	ePG	Pb	12 13 28.6	-0.6
TKB				eS	Sg	12 13 50.4	-0.7
ONI	Oni	1.63	334	P	Pb	12 13 28.6	-0.7
ONI				S	Sg	12 13 50.5	-0.8
ONI	Oni	1.63	334	ePN	Pb	12 13 28.6	-0.7
ONI				eS	Sg	12 13 50.8	-0.5
ONI	Oni	1.63	334	ePg	Pb	12 13 28.6	-0.7
ONI				eSg	Sg	12 13 50.8	-0.5
DYDN	Diyadin	1.68	200	P	Pg	12 13 30.3	-0.9
DYDN				S	Sg	12 13 55.7	+2.7
DYDN				iAML	AML	12 13 57.0	
	comp=E,160nm,0.9s						
LACR	Lac	1.70	357	ePN	Pb	12 13 30.3	-0.2
LACR				eS	Sg	12 13 54.0	+0.5
LACR	Lac	1.70	357	ePg	Pg	12 13 31.2	-0.3
LACR				eSg	Sg	12 13 53.5	-0.1
ZEI	Tsey	1.70	347	ePN	Pg	12 13 31.1	-0.5
ZEI				eS	Sg	12 13 53.5	-0.2
ZEI	Tsey	1.70	347	ePg	Pg	12 13 31.1	-0.5
ZEI				eSg	Sg	12 13 53.5	-0.2
ZKTA	Zakatala	1.73	72	PN	Pb	12 13 30.3	-0.7
ZKTA	Zakatala	1.73	72	Pn	Pb	12 13 30.4	-0.7
	SNR=27						
ZKTA				Sn	Sg	12 13 54.0	-0.5
DIGR	Digorskoe uzhe	1.88	341	ePN	Pg	12 13 33.8	-1.1
DIGR				eS	Sg	12 13 59.2	0.0
DIGR	Digorskoe uzhe	1.88	341	ePg	Pg	12 13 34.5	-0.4
DIGR				eSg	Sg	12 13 59.3	0.0
DAGI	Agillar	1.90	269	P	Pb	12 13 33.6	-0.3
DAGI				S	Sg	12 13 58.9	-1.0
VLKR	Vladikavkaz	1.92	6	ePN	Pg	12 13 34.9	-0.9
VLKR	Vladikavkaz	1.92	6	ePg	Pg	12 13 34.9	-0.9
VLKR				eSg	Sg	12 14 00.3	-0.4
SBZ	Shahbuz	1.94	153	Pg	Pg	12 13 34.8	-1.3
	SNR=54						
SBZ				Sn	Sg	12 14 00.9	-0.2
EATA	Eleskirt	1.94	230	P	Pg	12 13 35.1	-1.2
EATA				S	Sg	12 14 02.1	+0.7
KMGR	Komgaron	1.95	10	ePN	Pg	12 13 35.5	-0.9
KMGR	Komgaron	1.95	10	ePg	Pg	12 13 35.5	-0.9
KMGR				eSg	Sg	12 14 01.6	-0.1
KORR	Kora	1.97	352	ePN	Pg	12 13 35.9	-0.8
KORR				pmax	pmax		
	comp=Z,158nm,0.5s						
KORR	Kora	1.97	352	ePg	Pg	12 13 35.7	-1.1
KORR				eSg	Sg	12 14 02.2	-0.1
CLDR	Caldiran	2.02	191	PN	Pb	12 13 35.1	-1.0
CLDR				SN	Sn	12 13 59.2	0.0
BTLR	Botlikh	2.04	41	ePN	Pg	12 13 37.2	-0.8
BTLR				pmax	pmax		
	comp=Z,53nm,0.4s						
BTLR	Botlikh	2.04	41	ePg	Pb	12 13 35.5	-0.7
BTLR				eSg	Sb	12 14 02.0	+0.2
DDEM	Demirkent	2.04	264	P	Pb	12 13 35.4	-0.9
DDEM				S	Sg	12 14 03.6	-0.9
DDEM				iAML	AML	12 14 14.0	
	comp=Z,166nm,0.8s						
MNGR	Mingechevir, A	2.05	99	PN	Pb	12 13 36.4	+0.1
MNGR	Mingechevir, A	2.05	99	Pg	Pb	12 13 36.5	+0.1
	SNR=7.2						
MNGR				Sg	Sg	12 14 03.7	-1.0
ARNR	Ardon	2.05	357	ePN	Pg	12 13 37.4	-0.9
ARNR				eS	Sg	12 14 05.1	+0.3
ARNR	Ardon	2.05	357	ePg	Pg	12 13 37.6	-0.7
ARNR				eSg	Sg	12 14 04.0	-0.8
DBAD	Bademkaya	2.07	268	P	Pb	12 13 36.0	-0.8
DBAD				S	Sg	12 14 04.2	-1.2
DBAD				iAML	AML	12 14 10.0	
	comp=Z,115nm,0.9s						
DBOC	Borcka	2.09	277	P	Pb	12 13 36.1	-1.1
DBOC				S	Sg	12 14 04.0	-2.1
SEKA	Sheki	2.10	87	PN	Pb	12 13 36.0	-1.2
SEKA	Sheki	2.10	87	Pn	Pb	12 13 36.1	-1.2
	SNR=85						
SEKA				Sn	Sg	12 14 04.9	-1.4
BATM	Batumi	2.11	284	P	Pb	12 13 37.5	0.0
BATM				S	Sg	12 14 04.8	-2.0
BATM	Batumi	2.11	284	ePN	Pb	12 13 37.4	0.0
BATM				eS	Sg	12 14 04.7	-2.0
NAX	Nakhchivan	2.12	157	PN	Pg	12 13 38.5	-1.1
NAX	Nakhchivan	2.12	157	Pg	Pg	12 13 38.6	-1.1
	SNR=7.8						
NAX				Sg	Sg	12 14 07.4	+0.4
LSNR	Lesken	2.19	348	ePN	Pg	12 13 39.7	-1.2
LSNR				pmax	pmax		
	comp=Z,67nm,0.3s						
LSNR	Lesken	2.19	348	ePg	Pg	12 13 39.9	-1.1
LSNR				eSg	Sg	12 14 08.6	-0.7
HOMI	Horasan	2.20	241	P	Pb	12 13 37.7	-1.5
HOMI				S	Sg	12 14 15.0	+5.2
XNZR	Khunzakh	2.21	50	ePg	Pb	12 13 39.4	+0.1
XNZR				eSg	Sg	12 14 08.8	-1.2
KMKR	Kumukh	2.24	63⇓	iPN	Pb	12 13 38.6	-1.2
KMKR				i		12 14 08.7	
KMKR				pmax	pmax		
	comp=Z,54nm,0.5s						
KMKR				smax	smax		
	comp=N,371nm,0.3s						
STDR	Stavd-Durt	2.25	353	ePN	Pb	12 13 40.2	+0.3
STDR				eS	Sb	12 14 08.9	+1.0
STDR	Stavd-Durt	2.25	353	ePg	Pb	12 13 40.2	+0.3
STDR				eSg	Sb	12 14 08.9	+1.0
KOPR	Koprukoy-ERZUR	2.27	241	PN	Pb	12 13 39.0	-1.2
BRDA	Brd	2.27	112	Pg	Pg	12 13 41.2	-1.2
	SNR=8.3						

BRDA					Sg	**Sg**	12 14 11.2	-0.5
GNBR	**Gunib**	**2.28**	**56**	*e*PN	**Pb**	12 13 40.8	+0.4
GNBR				*e*S	**Sg**	12 14 10.4	-1.7
GNBR	**Gunib**	**2.28**	**56**	*e*Pg	**Pb**	12 13 40.8	+0.4
GNBR				*e*Sg	**Sg**	12 14 10.4	-1.7
AGDM	**Agdam** SNR=11	**2.28**	**116**	Pg	**Pb**	12 13 40.4	-0.1
AGDM				Sg	**Sb**	12 14 08.7	-0.1
GROC	**Groznyy**	**2.31**	**26**	*e*PN	**Pg**	12 13 42.7	-0.5
GROC				*e*		12 14 14.8	
GROC	comp=Z,95nm,0.5s			pmax	pmax		
GROC	comp=E,659nm,0.6s			smax	smax		
GROC	comp=E,659nm,0.6s			smax	smax		
GROC	comp=N,362nm,0.6s			smax	smax		
GROC	comp=Z,51nm,2.0s			MLR	MLR		
UNCR	**Uncukul**	**2.37**	**47** ⇓	*i*PN	**Pb**	12 13 41.7	-0.3
UNCR				*i*		12 14 12.6	
UNCR	comp=Z,55nm,0.4s			pmax	pmax		
UNCR	comp=N,237nm,0.6s			smax	smax		
UNCR	comp=E,260nm,0.5s			smax	smax		
ARKR	**Arakani**	**2.42**	**52** ⇑	*i*PN	**Pb**	12 13 43.5	+0.7
ARKR				*i*		12 14 15.6	
ARKR	comp=Z,34nm,0.5s			pmax	pmax		
ARKR	comp=N,79nm,0.7s			smax	smax		
ARKR	comp=E,84nm,0.5s			smax	smax		
NCK	**Nalchik**	**2.44**	**346**	*i* PN	**Pb**	12 13 41.7	-1.4
NEY	**Neytrino**	**2.46**	**330**	*e*PN	**Pb**	12 13 43.1	-0.5
NEY				*e*S	**Sb**	12 14 14.4	+0.1
NEY	**Neytrino**	**2.46**	**330**	*e*Pn	**Pb**	12 13 43.1	-0.5
NEY				*e*Sn	**Sb**	12 14 14.4	+0.1
KRNR	**Karanay**	**2.51**	**47** ⇓	*i*PN	**Pb**	12 13 43.7	-0.6
KRNR				*i*		12 14 16.7	
KRNR	comp=Z,19nm,0.4s			pmax	pmax		
KRNR	comp=N,59nm,0.7s			smax	smax		
ORD	**Ordubad** SNR=21	**2.51**	**151**	Pg	**Pb**	12 13 44.8	+0.4
ORD				Sg	**Sg**	12 14 18.3	-1.2
AKT	**Akhty**	**2.51**	**81**	*e*PN	**Pb**	12 13 44.3	-0.2
AKT				*e*S	**Sb**	12 14 17.1	+1.5
AKT	**Akhty**	**2.51**	**81**	*e*Pn	**Pb**	12 13 44.3	-0.2
AKT				*e*Sn	**Sb**	12 14 17.1	+1.5
QBL	**Gabala** SNR=14	**2.59**	**93**	Pg	**Pb**	12 13 44.9	-0.8
QBL				Sg	**Sb**	12 14 18.4	+0.7
ZRD	**Zardab** SNR=6.0	**2.62**	**108**	Pg	**Pb**	12 13 45.4	-0.7
ZRD				Sg	**Sb**	12 14 18.8	+0.3
ERZM	**Erzurum**	**2.63**	**243**	PN	**Pb**	12 13 44.4	-2.2
EJDE	**Erzurum, Palan**	**2.71**	**242**	PN	**Pb**	12 13 45.6	-2.3
QRD	**Qoradiz** SNR=4.2	**2.77**	**126**	Pn	**Pb**	12 13 48.4	-0.4
QRD				Sg	**Sg**	12 14 25.2	-2.8
BLQ	**Beylaqan** SNR=11	**2.78**	**119**	Pg	**Pb**	12 13 49.2	+0.4
BLQ				Sg	**Sg**	12 14 25.4	-2.8
XNQ	**Khinaliq** SNR=45	**2.81**	**88**	Pn	**Pb**	12 13 47.9	-1.6
XNQ				Sg	**Sb**	12 14 25.0	+0.9
KBZ	**Khabaz**	**2.83**	**337**	*i* PN	**Pb**	12 13 46.7	-3.0
KBZ	**Khabaz**	**2.83**	**337**	*e*Pn	**Pb**	12 13 47.7	-2.0
KBZ				*e*Sn	**Sb**	12 14 22.4	-2.2
IML	**Ismayilli** SNR=50	**2.87**	**96**	Pn	**Pb**	12 13 49.2	-1.1
IML				Sg	**Sb**	12 14 27.4	+1.8
QSAR	**Qusar** SNR=4.8	**2.92**	**81**	Pn	**Pb**	12 13 50.3	-1.0
QSAR				Sg	**Sg**	12 14 30.4	-2.2
KDMR	**Kurdemir**	**2.95**	**104**	Sg	**Sg**	12 14 32.8	-1.0
DRN	**Derbent**	**3.06**	**72**	*e*PN	**Pb**	12 13 52.7	-1.0
DRN				*i* S	**Sb**	12 14 29.4	-1.8
DRN	**Derbent**	**3.06**	**72**	*e*Pn	**Pb**	12 13 52.7	-1.0
DRN				*i* Sn	**Sb**	12 14 29.4	-1.8
QUBA	**Quba, Azerbaij** SNR=5.9	**3.08**	**85**	Pg	**Pb**	12 13 54.8	+0.9
QUBA				Sg	**Sg**	12 14 34.9	-2.8
PYA1	**Pyatigorsk**	**3.09**	**342**	*i* PN	**Pn**	12 13 49.5	+1.4
PQL	**Pirkuli** SNR=84	**3.17**	**95**	Pn	**Pn**	12 13 52.2	+2.9
PQL				Sg	**Sg**	12 14 38.6	-2.4
ARXR	**Arkhyz**	**3.37**	**317**	*i* PN	**Pn**	12 13 53.6	+1.6
SIZA	**Siyzn** SNR=16	**3.38**	**89**	Pn	**Pb**	12 13 55.9	-3.3
SIZA				Sg	**Sg**	12 14 44.1	-3.4
ATGJ	**Altiaghaj** SNR=10	**3.43**	**93**	Pn	**Pb**	12 13 56.2	-3.8
ATGJ				Sg	**Sg**	12 14 46.6	-2.4
GLBA	**Clilabad** SNR=3.9	**3.58**	**121**	Pn	**Pb**	12 13 59.2	-3.3
GLBA				Sg	**Sg**	12 14 50.0	-3.9
YRD	**Yardimli** SNR=7.7	**3.67**	**126**	Pn	**Pn**	12 13 59.8	+3.6
YRD				Sg	**Sg**	12 14 53.8	-3.1
LRK	**Lerik** SNR=6.5	**3.91**	**128**	Pn	**Pb**	12 14 03.5	-4.7
LRK				Sg	**Sg**	12 14 60.0	-4.4
ASTR	**Astara**	**4.23**	**126**	Pn	**Pn**	12 14 07.2	+3.5
ASTR				Sg	**Sb**	12 15 09.4	+4.6
ARU	**Arti**	**17.86**	**26**	*i* P	**P**	12 17 12.0	+3.7
ARU	comp=Z,4.0nm,1.0s			pmax	pmax		

*IDC **09** 12:49:35.6±2.3, 24°.32S×178°.83E, h535km±23km, mb2.9/4, mb1 3.2/6, mb1mx3.0/22, mbtmp3.9/6, Error ellipse: s-maj=39.5km s-min=22.0km az=145.0*

ISC 09 12:49:35.7±1.0, 24°.4S±0°.1×178°.9E±0°.2, h549km, n8, σ1§32/9, mb3.4/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 1.1nm,0.3s,baz=193,slow=13,SNR=5.2	**6.71**	**353**	P	**P**		**12 51 19.5**	**-1.6**
URZ	**Urewera** 1.0nm,0.3s,baz=293,slow=4.4,SNR=7.5	**13.87**	**186**	P	**P**		**12 52 33.7**	**+0.4**
URZ	0.3nm,0.3s,baz=11,slow=14,SNR=1.5			S	**S**		**12 54 57.6**	**-2.0**
STKA	**Stephens Creek** 0.7nm,0.3s,baz=84,slow=9.2,SNR=7.9	**33.60**	**249**	P	**P**		**12 55 32.1**	**+1.3**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=90,slow=7.3,SNR=15	**40.97**	**261**	P	**P**		**12 56 31.4**	**+0.2**
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=96,slow=8.4,SNR=18	**41.38**	**267**	P	**P**		**12 56 33.9**	**-0.6**
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=232,slow=4.4,SNR=2.5	**91.55**	**58**	P	**P**		**13 01 45.5**	**+1.1**
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=40,slow=3.4,SNR=7.0	**144.87**	**326**	PKP	**PKPdf**		**13 08 10.1**	**0.0**
BRTR	**Keskin Array B** 2.2nm,0.3s,baz=74,slow=2.9,SNR=13	**147.10**	**306**	PKPbc	**PKPbc**		**13 08 18.1**	**+0.5**

IDC 09 13:05:56.9±4.0, 17°.19S×179°.15W, h587km±19km, mb3.3/4, mb1 3.4/5, mb1mx2.7/46, mbtmp4.3/5, Error ellipse: s-maj=101.2km s-min=70.3km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 1.6nm,0.3s,baz=226,slow=19,SNR=9.3	**2.73**	**258**	P	P		13 07 13.7	+0.1
CTA	**Charters Tower** 3.8nm,0.8s,baz=84,slow=9.2,SNR=1.7	**32.88**	**259**	P	P		13 11 42.4	-1.6
STKA	**Stephens Creek** 2.1nm,0.5s,baz=83,slow=7.5,SNR=9.1	**38.37**	**240**	P	P		13 12 28.8	-0.3
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=93,slow=7.3,SNR=37	**44.07**	**259**	P	P		13 13 14.3	0.0
ASAR	**Alice Springs** 9.6nm,0.6s,baz=88,slow=8.3,SNR=262	**44.31**	**254**	P	P		13 13 16.6	+0.5
ASAR	0.4nm,0.5s,baz=104,slow=3.7,SNR=4.1			PcP	PcP		13 14 46.7	-0.6

*UCR **09** 13:20:33.1±1.0, 13°.02N×88°.68W, h59km±7km, ML3.9*

SNET 09 13:20:33.0±1.0, 13°.02N×88°.69W, h58km±7km, ML3.9, 2C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.32**	**21** ⇓	*e*P	P		13 20 43.5	+0.3
ALJI				*e*S	Sn		13 20 51.5	+1.1
ALJI	comp=Z,13μm,0.3s			IAML			13 20 53.6	
ALJI	**Alcalda de J**	**0.32**	**21** ⇓	*e*P	P		13 20 43.5	+0.3
ALJI				*e*S	Sn		13 20 51.5	+1.1
ALJI	comp=Z,13μm,0.3s			IAML			13 20 53.6	
TECO	**Alcaldia de Te**	**0.52**	**350**	*e*P	P		13 20 45.2	+0.1
TECO				*e*S	Sn		13 20 54.6	+0.7
TECO	**Alcaldia de Te**	**0.52**	**350**	*e*Pn	P		13 20 45.2	+0.1
TECO				*e*S	Sn		13 20 54.6	+0.7
LCY	**Lacayo**	**0.55**	**44**	*e*P	P		13 20 45.8	+0.3
LCY				*e*S	Sn		13 20 55.5	+0.8
LCY	**Lacayo**	**0.55**	**44**	*e*Pn	P		13 20 45.8	+0.3
LCY				*e*S	Sn		13 20 55.5	+0.8
SNVI	**San Vicente**	**0.60**	**346**	*e*P	P		13 20 46.0	-0.2
SNVI				*e*S	Sn		13 20 56.8	+1.0
SNVI	**San Vicente**	**0.60**	**346**	*e*Pn	P		13 20 46.0	-0.2
SNVI				*e*S	Sn		13 20 56.8	+1.0
PQSS	**Presa 15 de Se**	**0.61**	**12** ⇑	*e*P	P		13 20 46.5	+0.4
PQSS				*e*S	Sn		13 20 56.3	+0.7
PQSS	**Presa 15 de Se**	**0.61**	**12** ⇑	*e*Pn	P		13 20 46.5	+0.4
PQSS				*e*S	Sn		13 20 56.3	+0.7
SJTE	**Alcalda de S**	**0.67**	**332**	*e*P	P		13 20 46.9	0.0
SJTE				*e*S	Sn		13 20 57.3	+0.4
SJTE	**Alcalda de S**	**0.67**	**332**	*e*Pn	P		13 20 46.9	0.0
SJTE				*e*S	Sn		13 20 57.3	+0.4
SCLA	**Alcaldia de Sa**	**0.68**	**357** ⇓	*e*P	P		13 20 47.8	+0.8
SCLA				*e*S	Sn		13 20 59.2	+2.1
SCLA	**Alcaldia de Sa**	**0.68**	**357** ⇓	*e*P	P		13 20 47.8	+0.8
SCLA				*e*S	Sn		13 20 59.2	+2.1
LFRS	**El Faro**	**0.70**	**329**	*e*P	P		13 20 47.3	0.0
LFRS				*e*S	Sn		13 20 59.1	+1.4
LFRS	**El Faro**	**0.70**	**329**	*e*P	P		13 20 47.3	0.0
LFRS				*e*S	Sn		13 20 59.1	+1.4
PAVA	**Las Pavas**	**0.73**	**341**	*e*P	P		13 20 48.0	+0.3
PAVA				*e*S	Sn		13 21 00.2	+1.8
PAVA	**Las Pavas**	**0.73**	**341**	*e*P	P		13 20 48.0	+0.3
PAVA				*e*S	Sn		13 21 00.2	+1.8
LBRS	**Las Brisas**	**0.79**	**334**	*e*P	P		13 20 49.4	+1.0
LBRS				*e*S	Sn		13 21 00.8	+1.1
LBRS	**Las Brisas**	**0.79**	**334**	*e*P	P		13 20 49.4	+1.0
LBRS				*e*S	Sn		13 21 00.8	+1.1
LCND	**La Caada**	**0.83**	**70** ⇓	*e*P	P		13 20 48.6	-0.1
LCND				*e*S	Sn		13 21 00.4	0.0
LCND	comp=Z,4μm,0.4s			IAML			13 21 06.0	
LCND	**La Caada**	**0.83**	**70** ⇓	*e*P	P		13 20 48.6	-0.1
LCND				*e*S	Sn		13 21 00.4	0.0
LCND	comp=Z,4μm,0.4s			IAML			13 21 06.0	
LFU	**La Fuente**	**0.83**	**330**	*e*P	P		13 20 49.5	+0.6
LFU				*e*S	Sn		13 21 01.6	+1.0
LFU	**La Fuente**	**0.83**	**330**	*e*P	P		13 20 49.5	+0.6
LFU				*e*S	Sn		13 21 01.6	+1.0
SNET	**Serv Nac Est T**	**0.85**	**321**	*e*P	P		13 20 49.5	+0.4
SNET	comp=Z,2μm,0.3s			IAML			13 21 03.3	
SNET	**Serv Nac Est T**	**0.85**	**321**	*e*P	P		13 20 49.5	+0.4
SNET	comp=Z,2μm,0.3s			IAML			13 21 03.3	
BQQS	**Boqueron**	**0.91**	**321**	*e*P	P		13 20 50.4	+0.3
BQQS				*e*S	Sn		13 21 04.3	+1.6
BQQS	**Boqueron**	**0.91**	**321**	*e*P	P		13 20 50.4	+0.3
BQQS				*e*S	Sn		13 21 04.3	+1.6
TACO	**Tacachico**	**1.14**	**326**	*e*P	P		13 20 53.2	+0.3
TACO	**Tacachico**	**1.14**	**326**	*e*Pn	P		13 20 53.2	+0.3
CEVE	**Cerro Verde**	**1.21**	**311**	*e*P	P		13 20 54.6	+0.6
CEVE	**Cerro Verde**	**1.21**	**311**	*e*Pn	P		13 20 54.6	+0.6
SBLS	**San Blas**	**1.22**	**312**	*e*P	P		13 20 54.6	+0.5
SBLS				*e*S	Sn		13 21 11.2	+1.3
SBLS	**San Blas**	**1.22**	**312**	*e*P	P		13 20 54.6	+0.5
SBLS				*e*S	Sn		13 21 11.2	+1.3
SNJE	**San Jose**	**1.23**	**313**	*e*P	P		13 20 54.9	+0.7
SNJE				*e*S	Sn		13 21 11.6	+1.6
SNJE	**San Jose**	**1.23**	**313**	*e*P	Pn		13 20 54.9	+0.7
SNJE				*e*S	Sn		13 21 11.6	+1.6
RTR	**El Retiro**	**1.27**	**313**	*e*P	P		13 20 55.6	+0.7
RTR	**El Retiro**	**1.27**	**313**	*e*Pn	P		13 20 55.6	+0.7
MTO3	**Montecristo**	**1.52**	**335**	*e*P	P		13 20 58.5	+0.4
MTO3	**Montecristo**	**1.52**	**335**	*e*Pn	P		13 20 58.5	+0.4
TGUH	**Tegucigalpa,Un**	**1.72**	**53**	*e*P	Pn		13 21 01.0	+0.3
TGUH	**Tegucigalpa,Un**	**1.72**	**53**	*e*P	Pn		13 21 01.0	+0.3

NEIC 09 13:23:40.5±0.6, 36°.46N±0°.03×98°.74W±0°.04, h6km±2km, mb_Lg2.7/47, Error ellipse: s-maj=5.6km s-min=3.4km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**250**	Pg	Pg		13 23 44.9	-0.1
FNO	**Franklin**	**1.62**	**138**		Pn		13 24 10.0	+0.4
T35A	**Sooner Cattle** comp=Z,34nm,0.9s	**1.84**	**75**	IAmb_Lg			13 24 39.5	
X34A	**Smith Ranch, M** comp=Z,52nm,0.7s	**2.00**	**158**	IAmb_Lg			13 24 47.6	
W35A	**Tecumseh**	**2.00**	**130**		Pn		13 24 15.3	+0.5
TUL1	**Leonard** comp=Z,30nm,0.9s	**2.44**	**102**	IAmb_Lg			13 25 01.3	
CBKS	**Cedar Bluff**	**2.48**	**342**		Pn		13 24 22.9	+1.4
KSU1	**Kansas State U** comp=Z,16nm,0.8s	**3.13**	**32**	IAmb_Lg			13 25 27.9	
X37A	**Clayton** comp=Z,39nm,0.9s	**3.32**	**123**	IAmb_Lg			13 25 33.2	
HHAR	**Hobbs** comp=Z,12nm,0.8s	**3.87**	**91**	IAmb_Lg			13 25 50.3	
ABTX	**Abilene, Hawle** comp=Z,25nm,1.3s	**3.90**	**191**	IAmb_Lg			13 25 52.3	
MSTX	**Muleshoe** comp=Z,23nm,0.8s	**4.13**	**234**	IAmb_Lg			13 25 56.9	
W39A	**Magazine** comp=Z,15nm,0.8s	**4.22**	**106**	IAmb_Lg			13 25 57.1	
S39A	**Bolivar** comp=Z,12nm,0.8s	**4.50**	**73**	IAmb_Lg			13 26 04.0	
U40A	**Yellville** comp=Z,16nm,0.8s	**4.75**	**90**	IAmb_Lg			13 26 21.9	
BGNE	**Belgrade** comp=Z,14nm,0.8s	**4.96**	**5**	IAmb_Lg			13 26 28.9	
OGNE	**Ogallala** comp=Z,22nm,0.7s	**5.17**	**331**	IAmb_Lg			13 26 27.5	
P38A	**Dawn** comp=Z,12nm,0.8s	**5.18**	**51**	IAmb_Lg			13 26 32.7	
X40A	**Basin Creek Fa** comp=Z,19nm,1.1s	**5.20**	**110**	IAmb_Lg			13 26 33.2	
WHAR	**Wooly Hollow** comp=Z,13nm,0.8s	**5.36**	**101**	IAmb_Lg			13 26 41.6	
FCAR	**Ozark Folk Cen** comp=Z,12nm,0.8s	**5.38**	**94**	IAmb_Lg			13 26 31.5	
W41B	**Gary Mavity, V** comp=Z,13nm,0.8s	**5.42**	**102**	IAmb_Lg			13 26 35.3	
R40A	**Maddies Statio** comp=Z,15nm,1.1s	**5.46**	**69**	IAmb_Lg			13 26 33.3	
Q24A	**Divide** comp=Z,8.9nm,0.8s	**5.67**	**298**	IAmb_Lg			13 26 47.4	
P40A	**Paris** comp=Z,16nm,0.8s	**6.11**	**58**	IAmb_Lg			13 26 58.8	
K31A	**O'Neill** comp=Z,15nm,0.8s	**6.16**	**360**	IAmb_Lg			13 27 10.8	
ISCO	**Idaho Springs** comp=Z,9.9nm,1.1s	**6.37**	**304**	IAmb_Lg			13 27 06.4	
PBMO	**Poplar Bluff** comp=Z,11nm,0.8s	**6.69**	**85**	IAmb_Lg			13 27 12.6	
FVM	**French Village** comp=Z,8.1nm,0.8s	**6.80**	**75**	IAmb_Lg			13 27 15.5	

*IDC **09** 13:25:27.8±1.6, 35°.65N×141°.29E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.4/38, mbtmp3.6/7, ML2.9/3, MS3.1/4, Ms1 3.2/4, ms1mx2.7/84, Error ellipse: s-maj=42.4km s-min=20.2km az=85.0*

*JMA **09** 13:25:33.5±0.2, 35°.74N×141°.09E, h38km±1km, M3.1*

ISC 09 13:25:32.0±1.0, 35°.73N±0°.04×141°.23E±0°.08, h33km, n29, σ1§20/21, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**264**	P	P		**13 25 40.3**	**+0.2**
CHOJ				S	**Sb**		**13 25 45.1**	**+0.1**
JIHU	**Itakohorinouch**	**0.62**	**292**	P	**Pb**		**13 25 44.8**	**+0.3**
JSMT	**Sammumatsuo**	**0.64**	**262**	P	**Pb**		**13 25 44.9**	**0.0**
JHYU	**Hitachinakayam**	**0.80**	**320**	P	**Pb**		**13 25 47.6**	**+0.1**
JCN	**Nagara**	**0.89**	**250**	P	**Pb**		**13 25 49.3**	**+0.2**
JYT	**Yasato**	**0.97**	**301**	P	**Pn**		**13 25 49.0**	**-0.3**
JYT				*e*S	**Sn**		**13 26 00.3**	**-1.7**
JHO	**Hitachi**	**1.03**	**329**	P	**Pn**		**13 25 50.9**	**+0.8**
BSO4	**Boso 4**	**1.04**	**225**	P	**Pb**		**13 25 50.9**	**-0.5**
BSO1	**Boso 1**	**1.10**	**191**	P	**Pb**		**13 25 52.0**	**-0.1**
BSO3	**Boso 3**	**1.10**	**212**	P	**Pb**		**13 25 51.8**	**-0.5**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=95,slow=12,SNR=35	**2.57**	**289**	Pn	**Pn**		**13 26 12.5**	**+1.1**
MJAR	comp=Z,64nm,19.5s,baz=200,slow=42			LR	LR		13 27 18.3	
JHJ	**Hachijo jima 2** 7.9nm,0.3s,baz=96,slow=18,SNR=2.0	**2.87**	**205**	Pn	**Pn**		**13 26 14.9**	**-0.5**
JHJ	18nm,0.3s,baz=250,slow=24,SNR=1.3			Sn	**Sn**		**13 26 49.0**	**+0.2**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=208,slow=17,SNR=1.0	**8.44**	**7**	Pn	**Pn**		**13 27 33.7**	**+1.8**
ASAJ	0.1nm,0.3s,baz=332,slow=31,SNR=1.8			Sn	**Sn**		**13 29 02.0**	**-4.0**
KSRS	**Korea Array** comp=Z,29nm,19.7s,baz=110,slow=35	**10.84**	**283**	LR	LR		13 31 52.1	
H11N2	**WAKE ISLAND Hy 27.64** baz=311,slow=75,SNR=36	**118**		T	T		14 00 17.0	
H11N1	**WAKE ISLAND Hy 27.64** baz=311,slow=75,SNR=22	**118**		T	T		14 00 17.9	
H11N3	**WAKE ISLAND Hy 27.66** baz=311,slow=75,SNR=35	**118**		T	T		14 00 18.4	
H11S1	**WAKE ISLAND Hy 28.30** baz=312,slow=75,SNR=32	**121**		T	T		14 01 15.6	
H11S3	**WAKE ISLAND Hy 28.30** baz=312,slow=75,SNR=26	**121**		T	T		14 01 13.2	
H11S2	**WAKE ISLAND Hy 28.32** baz=312,slow=75,SNR=23	**121**		T	T		14 01 16.7	
NRIK	**Noril'sk** 1.1nm,0.4s,baz=90,slow=8.1,SNR=3.6	**44.39**	**336**	P	**P**		**13 33 39.8**	**+0.9**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=95,slow=9.8,SNR=6.7	**44.69**	**303**	P	**P**		**13 33 42.5**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=3.1,slow=7.6,SNR=3.2	**55.75**	**188**	P	**P**		**13 35 05.8**	**+0.2**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=354,slow=5.7,SNR=2.6	**59.48**	**188**	P	**P**		**13 35 32.0**	**+0.1**
NOA	**NORSAR Array B** comp=Z,48nm,18.2s,baz=240,slow=38	**75.33**	**337**	LR	LR		14 13 30.7	
SCHQ	**Schefferville** comp=Z,45nm,18.6s,baz=144,slow=39	**86.63**	**16**	LR	LR		14 21 25.9	
H03N2	**Juan Fernandez** baz=289,slow=76,SNR=9.2	**147.02**	**98**	T	T		16 29 37.5	
H03N3	**Juan Fernandez** baz=289,slow=76,SNR=13	**147.03**	**98**	T	T		16 29 38.0	
H03N1	**Juan Fernandez** baz=289,slow=76,SNR=12	**147.03**	**98**	T	T		16 29 38.2	

*BJI **09** 13:28:10.1±0.0, 30°.30S×70°.66W, h40km, mB5.0/1, Ms5.0/1, Ms7 4.8/1*

*NEIC **09** 13:28:11, 30°.44S×71°.31W, h54km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.44; Mθθ-0.09; Mθφ-1.35; Mrθ 0.18; Mφφ 0.20; Mφr-0.86; Fault plane solution: M₀1.66000×10¹⁶ NP1:φs352.31000°, δ29.13000°, λ92.27000°. NP2:φs169.71000°, δ60.90000°, λ88.73000°. Principal axes: T 1.6874, Plg74.0000°, Azm76.0000°; N -0.0554, Plg1.0000°, Azm170.0000°; P -1.6320, Plg16.0000°, Azm261.0000°;*

*NEIC **09** 13:28:11.9±1.1, 30°.44S±0°.05×71°.35W±0°.09, h50km±4km, mb5.0/83, Mwr4.7/59, Mww4.8, Mwr4.9(GUC) Error ellipse: s-maj=11.8km s-min=6.7km az=90.0*

*GUC **09** 13:28:11.3±0.7, 30°.44S×71°.31W, h55km±1km, ML5.1, MW4.9*

*IDC **09** 13:28:12.6±2.5, 30°.44S×71°.22W, h58km±21km, mb4.6/20, mb1 4.6/25, mb1mx4.6/31, mbtmp4.8/25, ML4.5/5, MS4.0/31, Ms1 4.0/31, ms1mx3.8/55, Error ellipse: s-maj=18.2km s-min=12.6km az=83.0*

*VAO **09** 13:28:12.0±0.4, 30°.46S×71°.24W, h49km, mb5.0*

*NEIC **09** 13:28:13, 30°.57S×71°.75W, h50km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10¹⁶Nm; Mrr2.08; Mθθ-0.18; Mφφ-1.90; Mrθ 0.04; Mφθ 0.41; Mφr-0.06; Fault plane solution: M₀2.04000×10¹⁶ NP1: φs167.00000°, δ46.00000°, λ89.00000°. NP2: φs348.00000°, δ44.00000°, λ91.00000°. Principal axes: T 2.0843, Plg89.0000°, Azm47.0000°; N -0.0872, Plg1.0000°, Azm167.0000°; P -1.9971, Plg1.0000°, Azm257.0000°;*

*GCMT **09** 13:28:14.9±0.4, 30°.45S±0°.03×71°.53W±0°.04, h46km±1km, MW4.9/57, Moment Tensor Solution. s34,c38; s57,c71; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.76±.18; Mθθ-0.36±.12; Mφφ-2.39±.14; Mrθ 0.62±.07; Mφθ 0.14±.07; Mφr-1.39±.11; Best double couple: M₀2.98900×10¹⁶ NP1:φs3.00000°, δ31.00000°, λ104.00000°. NP2: φs167.00000°, δ60.00000°, λ82.00000°. Principal axes: T 3.2010, Plg74.0000°, Azm56.0000°; N -0.4180, Plg7.0000°, Azm171.0000°; P -2.7770, Plg15.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 13:28:11.2±0.7, 30°.43S±0°.03×71°.33W±0°.04, h47km±6km, n301, σ1§01/289, mb5.0/53, MS4.0/31, 21C-14D, Fault plane solution: NP1:φs7.34392°, δ40.96461°, λ93.82928°. NP2:φs182.27847°, δ49.14635°, λ86.68160°. Principal axes: T Plg85.1952°, Azm63.0262°; N Plg2.5094°, Azm184.4505°; P Plg4.0948°, Azm274.6303°; Fault plane solution: NP1:φs321.08164°, δ41.79126°, λ87.90088°. NP2:φs143.89606°, δ48.24310°, λ91.87517°. Principal axes: T Plg86.4824°, Azm76.0513°; N Plg1.3987°, Azm322.6470°; P Plg3.2269°, Azm232.5681°;

Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.36**	**228**			**Pn**	**13 28 20.9**	**+0.3**
CO06	**Fray Jorge**	**0.36**	**228** ⇑	*i*P		**Pn**	**13 28 20.9**	**+0.3**
CO06				*e*S		**Sn**	**13 28 28.5**	**+1.2**

CO05	**La Serena**	**0.52**	**9**		**Pn**	**13 28 23.4**	**+0.9**
CO05	**La Serena**	**0.52**	**9**	*e*P	**Pn**	**13 28 23.1**	**+0.6**
CO05				*e*S	**Sn**	**13 28 31.8**	**+1.3**
CO05				IAML		13 28 34.6	
	comp=E,103µm,0.5s						
GO04	**Tololo Observa**	**0.53**	**61**		**Pn**	**13 28 23.8**	**+0.9**
GO04	**Tololo Observa**	**0.53**	**61**	⇓*i*P	**Pn**	**13 28 23.7**	**+0.9**
GO04				*e*S	**Sn**	**13 28 32.3**	**+1.2**
CO03	**El Pedregal**	**0.69**	**126**		**Pn**	**13 28 25.2**	**+0.5**
CO03	**El Pedregal**	**0.69**	**126**	⇓*i*P	**Pn**	**13 28 25.1**	**+0.4**
CO03				*i* S	**Sn**	**13 28 35.0**	**+0.5**
CO03				IAML		13 28 37.1	
	comp=E,78µm,0.3s						
CO02	**Combarbal**	**0.82**	**160**		**Pn**	**13 28 26.9**	**+0.4**
CO02	**Combarbal**	**0.82**	**160**	⇑*i*P	**Pn**	**13 28 26.9**	**+0.4**
CO02				*i* S	**Sn**	**13 28 38.1**	**+0.4**
CO02				IAML		13 28 39.1	
	comp=E,284µm,0.4s						
LCO	**Las Campanas**	**1.52**	**21**		**Pn**	**13 28 37.0**	**+0.8**
LCO	**Las Campanas**	**1.52**	**21**	*e*P	**Pn**	**13 28 36.6**	**+0.5**
LCO				*e*S	**Sn**	**13 28 56.3**	**+1.4**
VA06	**Catapilco**	**2.12**	**179**		**Pn**	**13 28 45.1**	**+0.9**
VA06	**Catapilco**	**2.12**	**179**	*e*P	**Pn**	**13 28 45.1**	**+0.9**
VA06				*e*S	**Sn**	**13 29 09.3**	**-0.1**
VA06				IAML		13 29 24.7	
	comp=E,13µm,0.5s						
AC04	**Llanos de Chal**	**2.23**	**6**	Pn	**Pn**	**13 28 47.0**	**+1.3**
AC04	**Llanos de Chal**	**2.23**	**6**	*e*P	**Pn**	**13 28 46.8**	**+1.1**
AC04				*e*S	**Sn**	**13 29 13.8**	**+1.7**
AC04				IAML		13 29 24.8	
	comp=E,9µm,0.4s						
VA03	**San Esteban**	**2.42**	**164**		**Pn**	**13 28 49.8**	**+1.5**
VA03	**San Esteban**	**2.42**	**164**	*i* P	**Pn**	**13 28 49.6**	**+1.3**
VA03				*e*S	**Sn**	**13 29 17.9**	**+1.1**
VA03				IAML		13 29 25.6	
	comp=E,20µm,0.3s						
ZON	**Zonda**	**2.53**	**117**		**Pn**	**13 28 52.8**	**+2.9**
ROCH	**El Roble**	**2.55**	**174**	*e*P	**Pn**	**13 28 51.3**	**+1.0**
ROCH				IAML		13 29 31.2	
	comp=N,12µm,0.2s						
ROC1	**El Roble**	**2.55**	**174**		**Pn**	**13 28 49.7**	**-0.6**
VA01	**Torpederas**	**2.60**	**186**	Pn	**Pn**	**13 28 50.1**	**-0.5**
VA01	**Torpederas**	**2.60**	**186**	*e*P	**Pn**	**13 28 50.7**	**0.0**
VA01				IAML		13 29 36.6	
	comp=E,4µm,0.7s						
PEL	**Peldehue**	**2.76**	**169**		**Pn**	**13 28 54.4**	**+1.4**
PEL	**Peldehue**	**2.76**	**169**	*e*P	**Pn**	**13 28 53.2**	**+0.2**
PEL				IAML		13 29 40.0	
	comp=E,6µm,0.5s						
MT02	**Curacav**	**2.82**	**177**		**Pn**	**13 28 54.5**	**+0.7**
MT02	**Curacav**	**2.82**	**177**	⇑*e*P	**Pn**	**13 28 54.2**	**+0.4**
MT02				*e*S	**Sn**	**13 29 27.1**	**+0.5**
MT02				IAML		13 29 42.0	
	comp=E,4µm,0.4s						
MT05	**Renca**	**2.99**	**170**	Pn	**Pn**	**13 28 58.1**	**+1.9**
MT05	**Renca**	**2.99**	**170**	*e*P	**Pn**	**13 28 57.0**	**+0.8**
MT05				*e*S	**Sn**	**13 29 33.5**	**+2.7**
MT05				IAML		13 29 44.2	
	comp=E,13µm,0.4s						
MT03	**Universidad Ad**	**3.13**	**167**		**Pn**	**13 29 00.0**	**+1.9**
MT03	**Universidad Ad**	**3.13**	**167**	*e*P	**Pn**	**13 28 59.9**	**+1.7**
MT03				*e*S	**Sn**	**13 29 37.4**	**+3.1**
AC06	**Mina Casimiro**	**3.18**	**16**		**Pn**	**13 28 59.6**	**+0.9**
AC06	**Mina Casimiro**	**3.18**	**16**	*e*P	**Pn**	**13 29 00.1**	**+1.3**
AC06				*e*S	**Sn**	**13 29 36.5**	**+1.1**
AC06				IAML		13 29 49.9	
	comp=E,6µm,0.7s						
MT09	**Talagante**	**3.35**	**175**		**Pn**	**13 29 01.7**	**+0.6**
MT09	**Talagante**	**3.35**	**175**	*e*P	**Pn**	**13 29 02.3**	**+1.2**
MT09				*e*S	**Sn**	**13 29 40.4**	**+0.7**
MT09				IAML		13 29 58.4	
	comp=N,5µm,0.4s						
MT01	**Popeta**	**3.42**	**179**	Pn	**Pn**	**13 29 02.5**	**+0.5**
MT01	**Popeta**	**3.42**	**179**	*e*P	**Pn**	**13 29 02.6**	**+0.5**
MT01				*e*S	**Sn**	**13 29 42.0**	**+0.6**
MT01				IAML		13 29 57.5	
	comp=E,4µm,0.6s						
LMEL	**Las Melosas**	**3.54**	**165**		**Pn**	**13 29 06.1**	**+2.4**
LMEL	**Las Melosas**	**3.54**	**165**	*e*P	**Pn**	**13 29 06.2**	**+2.4**
LMEL				*e*S	**Sn**	**13 29 46.4**	**+2.0**
BO04	**La Punta**	**3.60**	**170**		**Pn**	**13 29 05.8**	**+1.3**
BO04	**La Punta**	**3.60**	**170**	*e*P	**Pn**	**13 29 05.8**	**+1.3**
BO04				*e*S	**Sn**	**13 29 46.0**	**+0.2**
BO04				IAML		13 30 07.9	
	comp=E,4µm,0.7s						
BO01	**Tunca**	**3.95**	**177**		**Pn**	**13 29 10.2**	**+0.8**
BO01	**Tunca**	**3.95**	**177**	*e*P	**Pn**	**13 29 09.8**	**+0.5**
BO01				IAML		13 30 11.4	
	comp=E,1µm,0.3s						
AC02	**Maricunga**	**4.07**	**29**		**Pn**	**13 29 13.2**	**+1.8**
AC01	**Pan de Azucar**	**4.32**	**9**	Pn	**Pn**	**13 29 13.7**	**-0.6**
BO02	**Sierra Bellavi**	**4.37**	**174**	Pn	**Pn**	**13 29 15.7**	**+0.5**
GO05	**Huala**	**4.59**	**186**		**Pn**	**13 29 16.6**	**-1.5**
BI05	**Punta Hualpn**	**6.49**	**193**	Pn	**Pn**	**13 29 43.5**	**-0.6**
H03N1	**Juan Fernandez**	**7.11**	**243**	T	T	13 36 43.1	
	baz=73,slow=72,SNR=1914						
H03N3	**Juan Fernandez**	**7.12**	**243**	T	T	13 36 42.7	
	baz=73,slow=72,SNR=1862						
H03N2	**Juan Fernandez**	**7.12**	**243**	T	T	13 36 53.4	
	baz=73,slow=72,SNR=2240						
PB15	**IPOC Station P**	**7.38**	**13**		**Pn**	**13 29 56.4**	**-0.2**
LVC	**Limon Verde**	**8.09**	**16**	P	**Pn**	**13 30 05.5**	**-0.9**
	comp=E,3.9nm,0.3s,baz=194,slow=6.6,SNR=9.9						
LVC				S	**Sn**	**13 31 34.7**	**-2.0**
	comp=E,17nm,0.3s,baz=7.5,slow=23,SNR=3.2						
LVC	**Limon Verde**	**8.09**	**16**		**Pn**	**13 30 06.5**	**+0.1**
LC01	**Cunco**	**8.46**	**183**	Pn	**Pn**	**13 30 10.2**	**-0.9**
PB09	**IPOC Station P**	**8.80**	**13**		**Pn**	**13 30 15.5**	**-0.5**
PLCA	**Paso Flores**	**10.30**	**177**	P	**Pn**	**13 30 36.6**	**+0.3**
	comp=E,0.4nm,0.3s,baz=344,slow=9.3,SNR=6.9						
PLCA				LR	LR	13 35 05.3	
	comp=E,581nm,19.5s,baz=342,slow=40						
PLCA	**Paso Flores**	**10.30**	**177**	*e*P	**Pn**	**13 30 36.5**	**+0.1**
ITQB	**Itaqui**	**12.76**	**90**		**Pn**	**13 31 08.8**	**-1.2**
ITQB	**Itaqui**	**12.76**	**90**	*e*P	**Pn**	**13 31 08.6**	**-1.4**
CPUP	**Villa Florida**	**12.98**	**75**	P	**Pn**	**13 31 12.8**	**-0.2**
	comp=E,1.2nm,0.3s,baz=239,slow=12,SNR=12						
CPUP				S	**Sn**	**13 33 32.3**	**-3.8**
	comp=E,1.9nm,0.3s,baz=237,slow=13,SNR=1.5						
CPUP	**Villa Florida**	**12.98**	**75**		**Pn**	**13 31 13.1**	**0.0**
CPUP	**Villa Florida**	**12.98**	**75**	*e*P	**Pn**	**13 31 12.3**	**-0.7**
LPAZ	**La Paz**	**14.38**	**12**	P	**Pn**	**13 31 34.8**	**+2.2**
	comp=E,3.6nm,0.3s,baz=189,slow=7.5,SNR=110						
LPAZ	**La Paz**	**14.38**	**12**		**Pn**	**13 31 33.8**	**+1.1**
LPAZ	**La Paz**	**14.38**	**12**	*e*P	**Pn**	**13 31 34.4**	**+1.8**
ITAB	**Concordia**	**17.12**	**84**	P	**P**	**13 32 09.3**	**+1.0**
ITAB				IAmb	IAmb	13 32 28.1	
	comp=Z,137nm,1.0s						
ITAB	**Concordia**	**17.12**	**84**	*e*P	**P**	**13 32 07.5**	**-0.8**
SIV	**San Ignacio**	**17.17**	**35**	P	**Pn**	**13 32 08.5**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=221,slow=12,SNR=22						
SIV				LR	LR	13 39 55.4	
	comp=Z,454nm,22.0s,baz=224,slow=41						
AQDB	**Aquidauana**	**17.23**	**59**	*e*P	**Pn**	**13 32 07.5**	**-1.1**
PTGB	**Pitanga**	**18.00**	**76**	*e*P	**P**	**13 32 18.9**	**+0.8**
PTLB	**Pontes e Lacer**	**18.64**	**40**	*e*P	**Pn**	**13 32 25.7**	**-0.1**
NNA	**Nana**	**19.05**	**343**	LR	LR	13 38 24.7	
	comp=Z,164nm,19.9s,baz=168,slow=32						
TER01	**Tubaro-SC**	**19.42**	**90**	*e*P	**Pn**	**13 32 34.4**	**-0.7**
PP1B	**Ponte de Pedra**	**19.69**	**53**	*e*P	**P**	**13 32 37.3**	**+0.7**
PCMB	**Pacaembu**	**20.04**	**69**	*e*P	**P**	**13 32 40.8**	**+0.4**
VILB	**Vilhena**	**20.21**	**33**	*e*P	**P**	**13 32 42.7**	**+0.4**
SALV	**Santo Antonio**	**20.36**	**48**	*e*P	**P**	**13 32 44.5**	**+0.6**
FRTB	**Fartura**	**20.64**	**75**	*e*P	**P**	**13 32 47.0**	**+0.1**
ETMB	**Extrema**	**21.06**	**14**	*e*P	**P**	**13 32 52.2**	**+0.8**
ITRB	**Iturama**	**21.75**	**65**	*e*P	**P**	**13 32 59.0**	**+0.1**
PET01	**Itanhaem-SP**	**22.20**	**80**	*e*P	**P**	**13 33 03.9**	**+0.3**
CZSB	**Cruzeiro do Su**	**22.62**	**356**	*e*P	**P**	**13 33 09.3**	**+1.1**
VAO	**Valinhos**	**22.96**	**77**	*e*P	**P**	**13 33 11.6**	**-0.2**
PDRB	**Porto dos Gac**	**23.11**	**39**	*e*P	**P**	**13 33 13.5**	**+0.2**
ARAG	**Araguaiana, MT**	**23.12**	**55**	*e*P	**P**	**13 33 13.9**	**+0.5**
PARB	**Paraibuna**	**23.96**	**79**	*e*P	**P**	**13 33 21.3**	**-0.1**
ATAH	**Atahualpa**	**24.11**	**343**	LR	LR	13 41 02.4	
	comp=Z,193nm,20.6s,baz=199,slow=32						
CLDB	**Colider**	**24.23**	**40**	*e*P	**P**	**13 33 22.7**	**-1.1**
IPMB	**Ipameri, GO**	**24.40**	**65**	*e*P	**P**	**13 33 24.8**	**-0.6**
MAN01	**Angra dos Reis**	**25.55**	**79**	*e*P	**P**	**13 33 36.5**	**+0.7**
BSCB	**Bom Sucesso**	**25.65**	**75**	*e*P	**P**	**13 33 36.7**	**-0.1**
BDFB	**Brasilia**	**25.94**	**61**	P	**P**	**13 33 39.4**	**-0.1**
	comp=Z,31nm,0.6s,baz=231,slow=8.7,SNR=46						
BDFB				LR	LR	13 45 09.2	
	comp=Z,452nm,18.5s,baz=275,slow=39						
BDFB	**Brasilia**	**25.94**	**61**	P	**P**	**13 33 39.4**	**-0.1**
BDFB				IAmb	IAmb	13 33 40.5	
	comp=Z,30nm,0.8s						
SNDB	**Serra Nova Dou**	**26.11**	**50**	*e*P	**P**	**13 33 40.7**	**-0.2**
TBTG	**Tabatinga, AM**	**26.14**	**3**	*e*P	**P**	**13 33 42.1**	**+1.0**
VAS01	**Vassouras-RJ**	**26.22**	**79**	*e*P	**P**	**13 33 42.5**	**+0.6**
DUB01	**Friburgo-RJ**	**27.21**	**79**	*e*P	**P**	**13 33 50.9**	**+0.1**
NPGB	**Novo Progresso**	**27.68**	**36**	*e*P	**P**	**13 33 54.1**	**-0.8**
DIAM	**Diamantina, MG**	**27.86**	**71**	*e*P	**P**	**13 33 57.0**	**+0.2**
CAM01	**Campos-RJ**	**27.92**	**79**	*e*P	**P**	**13 33 57.3**	**+0.2**
PEXB	**Peixe**	**28.06**	**54**	*e*P	**P**	**13 33 58.8**	**+0.4**
MACA	**Manacapuru-AM**	**28.93**	**22**	*e*P	**P**	**13 34 06.5**	**+0.4**
JANB	**Januaria**	**29.13**	**64**	*e*P	**P**	**13 34 07.6**	**-0.4**
ALF01	**Guarapari-ES**	**29.21**	**78**	*e*P	**P**	**13 34 08.7**	**+0.1**
SJMB	**Sao Joao De Ma**	**29.70**	**74**	*e*P	**P**	**13 34 12.7**	**-0.3**
ITTB	**Itaituba**	**29.81**	**33**	*e*P	**P**	**13 34 13.3**	**-0.7**
RIB01	**Linhares ES**	**30.08**	**76**	*e*P	**P**	**13 34 16.2**	**-0.1**
SMTB	**Santa Maria do**	**30.86**	**51**	*e*P	**P**	**13 34 23.3**	**+0.1**
OTAV	**Otavalo**	**31.24**	**346**	*e*P	**P**	**13 34 28.6**	**+1.5**
PRPB	**Parauapebas**	**31.49**	**44**	*e*P	**P**	**13 34 28.9**	**+0.2**
GUA01	**Guaratinga, BA**	**31.90**	**72**	*e*P	**P**	**13 34 32.1**	**-0.2**
MALB	**Monte Alegre**	**32.71**	**33**	*e*P	**P**	**13 34 38.8**	**-0.6**
CMC01	**Camacan, BA**	**32.78**	**70**	*e*P	**P**	**13 34 39.9**	**-0.2**
PCON	**Cinco Dias**	**32.93**	**351**	*e*P	P	13 34 47.4	+5.4
NBIT	**Itapeh - BA**	**33.08**	**69**	*e*P	**P**	**13 34 43.1**	**+0.4**
RPN	**Rapa Nui**	**33.37**	**266**	LR	LR	13 44 40.0	
	comp=Z,268nm,20.4s,baz=104,slow=30						
GDU01	**Guandu, BA**	**33.64**	**67**	*e*P	**P**	**13 34 47.1**	**-0.4**
GR1C	**Gorgona, Isla**	**33.88**	**348**	*e*P	**P**	**13 34 52.2**	**+2.6**
BOAV	**Boa Vista**	**34.23**	**19**	*e*P	**P**	**13 34 53.0**	**+0.3**
ORTC	**Ortega, Tolima**	**34.35**	**353**	*e*P	**P**	**13 34 55.1**	**+1.3**
VILC	**Villavicencio,**	**34.42**	**356**	*e*P	**P**	**13 34 56.9**	**+2.4**
YOTC	**Yotoco, Valle**	**34.56**	**351**	*e*P	**P**	**13 34 58.1**	**+2.5**
PMSA	**Palmer Station**	**34.66**	**175**	P	**P**	**13 34 57.7**	**+1.8**
	comp=Z,29nm,1.0s,baz=325,slow=3.1,SNR=5.1						
PMSA				LR	LR	13 49 03.6	
	comp=Z,368nm,18.3s,baz=334,slow=36						
NBPN	**Ponto Novo - B**	**34.86**	**63**	*e*P	**P**	**13 34 58.1**	**-0.1**
CHIC	**Chingaza**	**34.94**	**356**	*e*P	**P**	**13 35 00.9**	**+1.6**
MCPB	**Macapa, AP**	**35.07**	**35**	*e*P	**P**	**13 35 00.2**	**+0.3**
ROSC	**El Rosal**	**35.19**	**355**	P	**P**	**13 35 02.5**	**+1.2**
	comp=Z,8.4nm,0.4s,baz=130,slow=8.2,SNR=1.7						
ROSC	**El Rosal**	**35.19**	**355**	IAmb	IAmb	13 35 08.2	
	comp=Z,16nm,0.8s						
ROSC	**El Rosal**	**35.19**	**355**	*e*P	**P**	**13 35 02.7**	**+1.4**
GUY2C	**Guyana, Caldas**	**35.66**	**353**	*e*P	**P**	**13 35 07.1**	**+1.6**
NORC	**Norcasia**	**35.95**	**354**	*e*P	**P**	**13 35 08.4**	**+0.9**
RUSC	**La Rusia**	**36.16**	**357**	*e*P	**P**	**13 35 11.3**	**+1.6**
CBOC	**Ciudad Bolivar**	**36.37**	**352**	*e*P	**P**	**13 35 13.6**	**+2.4**
HELC	**Santa Helena**	**36.64**	**353**	*e*P	**P**	**13 35 16.7**	**+3.0**
NBLA	**Lagarto - SE**	**36.65**	**65**	*e*P	**P**	**13 35 12.9**	**-0.6**
BARC	**Barichara**	**36.86**	**357**	*e*P	**P**	**13 35 15.0**	**-0.4**
PTBC	**PUERTO BERRIO,**	**36.88**	**355**	*e*P	**P**	**13 35 14.9**	**-0.5**
PAMC	**Pamplona, Colo**	**37.58**	**358**	*e*P	**P**	**13 35 22.2**	**+0.3**
ROSB	**Rosrio**	**37.58**	**48**	*e*P	**P**	**13 35 22.1**	**+0.8**
ZARC	**Zaragoza, Cauc**	**37.86**	**354**	P	**P**	**13 35 23.8**	**+0.1**
NBMA	**Muriti-CE**	**38.17**	**60**	*e*P	**P**	**13 35 26.4**	**0.0**
NBPS	**Pedro II - PI**	**38.27**	**53**	*e*P	**P**	**13 35 27.2**	**-0.1**
NBAN	**Anadia - AL**	**38.63**	**65**	*e*P	**P**	**13 35 28.9**	**-1.3**
NBPB	**Pedra_Branca-C**	**38.79**	**57**	*e*P	**P**	**13 35 31.1**	**-0.5**
SDV	**Santo Domingo**	**39.10**	**1**	P	**P**	**13 35 34.0**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=252,slow=3.4,SNR=8.7						
SDV				LR	LR	13 53 29.7	
	comp=Z,87nm,19.5s,baz=196,slow=39						
SDV	**Santo Domingo**	**39.10**	**1**	P	**P**	**13 35 33.4**	**-0.9**
SDV	**Santo Domingo**	**39.10**	**1**	*e*P	**P**	**13 35 34.2**	**0.0**
SDV	**Santo Domingo**	**39.10**	**1**	*e*P	**P**	**13 35 34.4**	**0.0**
MOTC	**Monteria, Cord**	**39.21**	**353**	*e*P	**P**	**13 35 36.3**	**+1.4**
NBLV	**Livramento - P**	**39.56**	**62**	*e*P	**P**	**13 35 37.6**	**-0.5**
MDP	**Montagnes des**	**39.60**	**30**	P	**P**	**13 35 37.6**	**-0.7**
	comp=Z,11nm,0.6s,baz=201,slow=9.9,SNR=6.7						
MDP				LR	LR	13 54 17.7	
	comp=Z,176nm,18.7s,baz=204,slow=40						
NBMO	**Morrinhos-CE**	**40.02**	**54**	*e*P	**P**	**13 35 40.9**	**-0.9**
SJCC	**San Jacinto, C**	**40.27**	**354**	*e*P	**P**	**13 35 44.6**	**+0.8**
PCRV	**Puerto La Cruz**	**40.88**	**10**	P	**P**	**13 35 49.4**	**+0.5**
	comp=Z,8.2nm,0.7s,baz=352,slow=8.4,SNR=1.8						
BIRV	**Birongo**	**40.96**	**8**	P	**P**	**13 35 49.1**	**-0.4**
BIRV				IAmb	IAmb	13 36 12.2	
	comp=Z,20nm,1.0s						
RCBR	**Riachuelo**	**41.32**	**61**	P	**P**	**13 35 51.6**	**-1.0**
	comp=Z,8.9nm,1.1s,baz=236,slow=13,SNR=1.9						
RCBR				LR	LR	13 54 40.2	
	comp=Z,269nm,19.8s,baz=345,slow=38						
NBPV	**Pedro Velho**	**41.40**	**62**	*e*P	**P**	**13 35 54.1**	**+0.9**
TOSP	**Speyside**	**42.77**	**16**	P	**P**	**13 36 04.3**	**0.0**
TOSP				IAmb	IAmb	13 37 20.0	
	comp=Z,42nm,1.1s						
GRGR	**Grenville**	**43.33**	**14**	P	**P**	**13 36 08.3**	**-0.5**
MPOM	**Morne Pois Mar**	**45.74**	**14**	P	**P**	**13 36 26.4**	**-1.6**
FDF	**Fort de France**	**45.96**	**14**	P	**P**	**13 36 29.0**	**-0.8**
MLPR	**Magueyes Islan**	**48.30**	**5**	P	**P**	**13 36 47.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.33**	**5**	P	**P**	**13 36 47.7**	**-0.4**
OBIP	**Obispado Ponce**	**48.41**	**6**	P	**P**	**13 36 47.8**	**-1.0**
CELP	**Cerrillos**	**48.44**	**6**	P	**P**	**13 36 48.8**	**-0.3**
SJG	**San Juan**	**48.52**	**7**	P	**P**	**13 36 49.7**	**+0.1**
	comp=Z,16nm,0.3s,baz=93,slow=2.9,SNR=4.9						
CMIG	**Matias Romero**	**52.41**	**331**	LR	LR	13 54 43.6	
	comp=Z,80nm,19.4s,baz=180,slow=30						
VNA3	**Neumayer Olymp**	**52.45**	**159**	P	**P**	**13 37 18.8**	**+0.1**
VNA3	**Neumayer Olymp**	**52.45**	**159**	pP	pP	13 37 31.8	0.0
VNA2	**Neumayer--Watz**	**53.08**	**158**	P	**P**	**13 37 23.4**	**0.0**
	baz=284,slow=8.5						
SNAA	**Sanae**	**54.67**	**159**	P	**P**	**13 37 35.0**	**-0.1**
SNAA	**Sanae**	**54.67**	**159**	LR	LR	13 58 12.6	
	comp=Z,125nm,21.9s,baz=352,slow=33						
SNAA	**Sanae**	**54.67**	**159**	P	**P**	**13 37 35.3**	**+0.2**
QSPA	**South Pole Qui**	**59.79**	**180**	P	**P**	**13 38 11.6**	**+0.1**
255A	**Hazlehurst**	**62.91**	**349**	P	**P**	**13 38 32.5**	**-0.1**
833A	**Chaparral WMA,**	**64.28**	**333**	P	**P**	**13 38 41.5**	**-0.2**
435B	**Jarrell**	**65.80**	**335**	P	**P**	**13 38 52.2**	**+0.7**
435B				IAmb	IAmb	13 39 07.6	
	comp=Z,10nm,0.8s						
HPIG		**65.82**	**326**	P	**P**	**13 38 51.9**	**-0.1**
X48A	**Hartselle**	**66.22**	**346**	P	**P**	**13 38 54.7**	**+0.6**
X48A				IAmb	IAmb	13 39 15.1	
	comp=Z,18nm,0.9s						
JCT	**Junction City**	**66.35**	**333**	P	**P**	**13 38 56.0**	**+0.8**
JCT				IAmb	IAmb	13 39 17.2	
	comp=Z,9.9nm,0.7s						
CPCT	**Cooper Cave**	**66.70**	**348**	P	**P**	**13 38 56.6**	**-0.5**
CPCT				IAmb	IAmb	13 39 12.4	
	comp=Z,9.0nm,1.0s						
U59A	**Littleton**	**66.71**	**354**	P	**P**	**13 38 57.5**	**+0.3**
U59A				IAmb	IAmb	13 39 00.2	
	comp=Z,10nm,0.9s						
SWET	**Sewanee**	**66.73**	**347**	P	**P**	**13 38 57.5**	**+0.1**
SWET				IAmb	IAmb	13 39 18.3	
	comp=Z,11nm,0.7s						
TXAR	**Lajitas Array**	**66.95**	**329**	P	**P**	**13 39 00.2**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=151,slow=7.9,SNR=38						
TXAR				LR	LR	14 03 33.9	
	comp=Z,87nm,18.9s,baz=29,slow=32						
TXAR	**Lajitas Array**	**66.95**	**329**	P	**P**	**13 38 59.3**	**+0.3**
TX31	**Lajitas Ar. Si**	**66.95**	**329**	P	**P**	**13 38 59.6**	**+0.6**
TX31				IAmb	IAmb	13 39 20.7	
	comp=Z,15nm,1.0s						
TX32	**Lajitas Array**	**66.95**	**329**	P	**P**	**13 38 59.5**	**+0.4**
U54A	**Nelsons Funny**	**67.33**	**351**	P	**P**	**13 39 01.2**	**0.0**
U54A				IAmb	IAmb	13 39 16.3	
	comp=Z,11nm,0.9s						
TAOE	**Nuku Hiva Isla**	**67.33**	**273**	*e*LR	LR	13 59 31.9	
	comp=Z,226nm,24.8s						
VNDA	**Vanda**	**67.71**	**191**	P	**P**	**13 39 03.6**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=145,slow=10,SNR=4.0						
JSRW	**J. Sargeant Re**	**68.05**	**354**	P	**P**	**13 39 06.1**	**+0.4**
S57A	**Dark Hollow, R**	**68.21**	**353**	P	**P**	**13 39 07.2**	**+0.5**
T47A	**Sharon Grove**	**68.68**	**346**	P	**P**	**13 39 09.5**	**-0.1**
T47A				IAmb	IAmb	13 39 24.7	
	comp=Z,12nm,0.9s						
LCAR	**Lake Charles**	**68.72**	**343**	P	**P**	**13 39 09.6**	**-0.3**
LCAR				IAmb	IAmb	13 39 30.9	
	comp=Z,13nm,0.9s						
SYO	**Syowa Base**	**68.96**	**159**	⇓*e*P	**P**	**13 39 07.4**	**-3.7**
MNTX	**Cornudas Mount**	**69.73**	**329**	P	**P**	**13 39 16.1**	**-0.2**
S44A	**Carbondale**	**69.82**	**345**	P	**P**	**13 39 16.1**	**-0.5**
S44A				IAmb	IAmb	13 39 31.8	
	comp=Z,14nm,0.8s						
P57A	**Homestead Farm**	**69.84**	**354**	P	**P**	**13 39 17.5**	**+0.7**
P57A				IAmb	IAmb	13 39 19.7	
	comp=Z,12nm,0.8s						
SSPA	**Standing Stone**	**70.97**	**355**	P	**P**	**13 39 24.0**	**+0.3**
R40A	**Maddies Statio**	**71.11**	**343**	P	**P**	**13 39 24.6**	**0.0**
R40A				IAmb	IAmb	13 39 26.3	
	comp=Z,15nm,0.7s						
ACSO	**Alum Creek Sta**	**71.13**	**351**	P	**P**	**13 39 24.6**	**0.0**
ACSO				IAmb	IAmb	13 39 26.2	
	comp=Z,18nm,0.8s						
P46A	**Rosedale**	**71.24**	**347**	P	**P**	**13 39 25.1**	**-0.2**
P46A				IAmb	IAmb	13 39 45.6	
	comp=Z,18nm,0.8s						
O49A	**Covington**	**71.29**	**350**	P	**P**	**13 39 25.7**	**+0.1**
O49A				IAmb	IAmb	13 39 27.0	
	comp=Z,15nm,0.9s						
PPT2	**Papeete2**	**71.39**	**260**	*e*LR	LR	14 01 12.7	
	comp=Z,177nm,25.8s						
PPT	**Papeete**	**71.40**	**260**	LR	LR	14 01 12.9	
	comp=Z,22nm,19.4s,baz=104,slow=28						
P43A	**Skaggs, Pawnee**	**71.74**	**345**	P	**P**	**13 39 28.8**	**+0.5**
P43A				IAmb	IAmb	13 39 30.3	
	comp=Z,10nm,0.8s						
M55A	**Ridgway**	**71.87**	**354**	P	**P**	**13 39 29.2**	**+0.2**
M55A				IAmb	IAmb	13 39 31.7	
	comp=Z,17nm,0.9s						
N49A	**Columbus Grove**	**71.99**	**350**	P	**P**	**13 39 29.6**	**-0.1**
N49A				IAmb	IAmb	13 39 31.3	
	comp=Z,19nm,0.8s						
P40A	**Paris**	**72.22**	**343**	P	**P**	**13 39 31.2**	**0.0**
P40A				IAmb	IAmb	13 39 52.6	
	comp=Z,20nm,0.9s						
L59A	**Walton**	**72.34**	**357**	P	**P**	**13 39 32.8**	**+0.9**
L59A				IAmb	IAmb	13 39 34.6	
	comp=Z,18nm,0.8s						
P38A	**Dawn**	**72.69**	**342**	P	**P**	**13 39 34.0**	**0.0**
ANMO	**Albuquerque**	**72.97**	**330**	LR	LR	14 07 33.3	
	comp=Z,87nm,19.4s,baz=144,slow=32						
LIC	**Lamto**	**73.09**	**72**	*e*PKP2	**P**	**13 39 37.2**	**+0.2**
	comp=Z,52nm,1.2s						
TIC	**Toumodi**	**73.33**	**72**	*e*PKP2	**P**	**13 39 38.7**	**+0.3**
KIC	**Kosan Boka**	**73.40**	**72**	*e*PKP2	**P**	**13 39 38.2**	**-0.6**
	comp=Z,22nm,0.8s						
DBIC	**Dimbokro**	**73.48**	**72**	P	**P**	**13 39 39.3**	**0.0**
	comp=Z,10nm,0.5s,baz=243,slow=5.7,SNR=25						
DBIC				LR	LR	14 10 07.1	
	comp=Z,98nm,19.9s,baz=228,slow=34						
DBIC	**Dimbokro**	**73.48**	**72**	P	**P**	**13 39 38.8**	**-0.5**
DBIC				IAmb	IAmb	13 39 40.5	
	comp=Z,11nm,0.7s						
J57A	**Williamstown**	**73.61**	**356**	P	**P**	**13 39 39.8**	**+0.6**
J57A				IAmb	IAmb	13 39 41.4	
	comp=Z,12nm,0.8s						
CBKS	**Cedar Bluff**	**73.81**	**337**	P	**P**	**13 39 40.3**	**-0.4**
CBKS				IAmb	IAmb	13 39 56.8	
	comp=Z,16nm,0.8s						
L40A	**Anamosa**	**74.43**	**345**	P	**P**	**13 39 44.6**	**+0.5**
L40A				IAmb	IAmb	13 40 05.2	
	comp=Z,22nm,0.9s						
SDCO	**Great Sand Dun**	**74.97**	**333**	P	**P**	**13 39 47.6**	**-0.2**
SADO	**Sadowa**	**75.18**	**354**	LR	LR	14 17 29.0	
	comp=Z,65nm,18.7s,baz=222,slow=39						
SADO	**Sadowa**	**75.18**	**354**	P	**P**	**13 39 48.0**	**-0.4**
SADO				IAmb	IAmb	13 39 50.1	
	comp=Z,19nm,1.2s						
MVCO	**Mesa Verde**	**75.76**	**330**	P	**P**	**13 39 52.2**	**0.0**
SUR	**Sutherland**	**76.04**	**119**	LR	LR	14 08 48.0	
	comp=Z,80nm,18.6s,baz=206,slow=32						
TRQ	**Mont Tremblant**	**76.35**	**358**	P	**P**	**13 39 55.2**	**+0.1**
TRQ				IAmb	IAmb	13 39 57.0	
	comp=Z,17nm,0.9s						
MAW	**Mawson**	**76.42**	**164**	P	**P**	**13 39 55.2**	**-0.1**
	comp=Z,78nm,1.2s,baz=255,slow=12,SNR=3.4						
MAW				LR	LR	14 14 31.5	
	comp=Z,210nm,18.4s,baz=75,slow=36						
PFO	**Pinyon Flats O**	**76.66**	**323**	P	**P**	**13 39 57.1**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=147,slow=6.3,SNR=2.7						
U15A	**North Rim**	**76.82**	**327**	P	**P**	**13 39 59.3**	**+1.0**
K31A	**O'Neill**	**76.95**	**340**	P	**P**	**13 39 58.6**	**0.0**
D62A	**Allapoint, All**	**77.18**	**2**	P	**P**	**13 40 00.3**	**+0.6**
PHWY	**Pilot Hill**	**78.04**	**334**	P	**P**	**13 40 04.5**	**-0.6**
MTPU	**Mount Pierson**	**78.08**	**328**	P	**P**	**13 40 06.5**	**+1.1**
RAR	**Rarotonga**	**78.28**	**252**	LR	LR	14 06 06.3	
	comp=Z,201nm,21.0s,baz=131,slow=29						
VLDQ	**Val d'Or**	**78.38**	**356**	P	**P**	**13 40 06.2**	**-0.1**
VLDQ				IAmb	IAmb	13 40 08.9	
	comp=Z,12nm,1.0s						
P18A	**Preston Nutter**	**78.53**	**330**	P	**P**	**13 40 07.6**	**-0.2**
KOWA	**Kowa**	**78.62**	**66**	LR	LR	14 14 19.8	
	comp=Z,114nm,18.4s,baz=207,slow=35						
PRN	**Pahroc Range**	**78.92**	**326**	P	**P**	**13 40 10.4**	**+0.6**
F33A	**5 Mile Ranch,**	**79.22**	**343**	P	**P**	**13 40 10.8**	**-0.2**
ISA	**Isabella, Lake**	**79.29**	**323**	P	**P**	**13 40 11.6**	**-0.2**
K22A	**Casper**	**79.60**	**334**	P	**P**	**13 40 13.7**	**+0.2**
TSUM	**Tsumeb**	**79.61**	**106**	LR	LR	14 12 27.9	
	comp=Z,68nm,18.4s,baz=162,slow=33						
TSUM	**Tsumeb**	**79.61**	**106**	P	**P**	**13 40 14.3**	**+0.1**
TSUM				IAmb	IAmb	13 40 16.7	
	comp=Z,18nm,0.9s						
DUG	**Dugway, Tooele**	**80.12**	**329**	P	**P**	**13 40 16.2**	**0.0**
PDAR	**Pinedale Array**	**80.87**	**333**	P	**P**	**13 40 20.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=284,slow=0.6,SNR=5.9						
PDAR				LR	LR	14 11 49.0	
	comp=Z,42nm,21.7s,baz=320,slow=32						
BOSA	**Boshof**	**81.20**	**118**	P	**P**	**13 40 22.6**	**+0.1**
	comp=Z,15nm,0.7s,baz=253,slow=3.9,SNR=35						
BOSA				LR	LR	14 15 04.7	
	comp=Z,64nm,18.1s,baz=194,slow=35						
NVAR	**Mina Array Bea**	**81.32**	**324**	P	**P**	**13 40 24.2**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=159,slow=6.7,SNR=25						
AGMN	**Agassiz Nation**	**81.40**	**344**	P	**P**	**13 40 22.7**	**-0.1**
AGMN				IAmb	IAmb	13 40 24.4	
	comp=Z,9.0nm,0.8s						
KVN	**Kaiserville**	**81.70**	**325**	P	**P**	**13 40 25.2**	**+0.4**
MDND	**Maddock**	**81.96**	**341**	P	**P**	**13 40 25.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.43**	**70**	P	**P**	**13 40 28.8**	**-0.1**
	comp=Z,11nm,0.7s,baz=276,slow=5.4,SNR=116						
TORD	**Torodi Ar. Bea**	**82.43**	**70**	P	**P**	**13 40 27.9**	**-1.0**
TORD				IAmb	IAmb	13 40 30.8	
	comp=Z,16nm,1.1s						
ULM	**Lac du Bonnet**	**83.23**	**344**	P	**P**	**13 40 32.0**	**-0.2**
	comp=Z,10nm,0.7s,baz=165,slow=4.8,SNR=20						
LBTB	**Lobatse**	**83.26**	**115**	LR	LR	14 13 15.7	
	comp=Z,106nm,19.1s,baz=206,slow=32						
LBTB	**Lobatse**	**83.26**	**115**	P	**P**	**13 40 32.9**	**-0.4**
SCHQ	**Schefferville**	**85.00**	**3**	P	**P**	**13 40 41.0**	**-0.1**
	comp=Z,8.1nm,1.0s,baz=149,slow=5.2,SNR=7.0						
URZ	**Urewera**	**86.51**	**227**	LR	LR	14 12 26.9	
	comp=Z,54nm,18.3s,baz=202,slow=31						
NEW	**Newport**	**88.43**	**331**	LR	LR	14 18 05.9	
	comp=Z,118nm,18.4s,baz=274,slow=34						
MDT	**Midelt**	**89.11**	**51**	LR	LR	14 20 54.3	
	comp=Z,55nm,18.1s,baz=346,slow=36						
LSZ	**Lusaka**	**90.34**	**108**	LR	LR	14 19 26.1	
	comp=Z,75nm,18.0s,baz=223,slow=34						
AFI	**Afiamalu**	**91.82**	**253**	LR	LR	14 11 57.6	
	comp=Z,67nm,21.6s,baz=107,slow=29						
ESDC	**Sonseca Array**	**93.67**	**46**	LR	LR	14 22 54.7	
	comp=Z,88nm,18.2s,baz=252,slow=35						
YKA	**Yellowknife Ar**	**98.88**	**341**	P	**P**	**13 41 45.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=143,slow=4.6,SNR=26						
DZM	**Mont Dzumac**	**103.83**	**234**	*e*LR	LR	14 16 31.8	
	comp=Z,193nm,23.9s						
NACGM	**Naroch**	**118.81**	**41**	*i* PKP	PKiKP	13 47 03.7	+10
AKASG	**Malin Array Be**	**119.31**	**46**	PKP	**PKPdf**	**13 46 53.5**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=262,slow=2.6,SNR=13						
ARCES	**ARCESS Array B**	**120.53**	**24**	PKP	**PKPdf**	**13 46 55.1**	**-1.6**
	comp=Z,6.3nm,1.1s,baz=347,slow=3.7,SNR=4.3						
ASAR	**Alice Springs**	**121.01**	**207**	PKP	**PKPdf**	**13 46 57.5**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=137,slow=1.8,SNR=12						
WRA	**Warramunga Arr**	**124.16**	**210**	PKP	**PKPdf**	**13 47 03.6**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=161,slow=1.6,SNR=35						
KLMR	**Klimovskoe**	**126.15**	**35**	*e*PKPdf	**PKPdf**	**13 47 05.6**	**-2.1**
KLMR				AMP		13 47 06.6	
	comp=Z,6.0nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**126.36**	**271**	T	T	16 06 01.3	
	baz=114,slow=74,SNR=91						
H11S1	**WAKE ISLAND Hy**	**126.37**	**271**	T	T	16 06 04.7	
	baz=114,slow=74,SNR=88						
H11S3	**WAKE ISLAND Hy**	**126.38**	**271**	T	T	16 06 03.2	
	baz=114,slow=74,SNR=69						
H11N3	**WAKE ISLAND Hy**	**126.68**	**273**	T	T	16 06 25.6	
	baz=113,slow=74						
H11N1	**WAKE ISLAND Hy**	**126.69**	**273**	T	T	16 06 29.7	
	baz=113						
H11N2	**WAKE ISLAND Hy**	**126.70**	**273**	T	T	16 06 26.0	
	baz=113,slow=74						
KBZ	**Khabaz**	**127.16**	**56**	PKP	**PKPdf**	**13 47 08.3**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=39,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**129.06**	**201**	PKP	**PKPdf**	**13 47 13.5**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=181,slow=7.2,SNR=6.2						
EKS2	**Erkin-Say**	**149.64**	**57**	P	**PKPbc**	**13 47 56.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=12						
AML	Almayashu	149.69	58	P	PKPbc	13 47 57.0	+0.8
	SNR=11						
USP	Ospenovka	150.02	55	P	PKPbc	13 47 57.0	+0.5
	SNR=12						
AAK	Ala-Archa	150.16	56	P	PKiKP	13 47 58.0	+0.1
	SNR=15						
CHMS	Chumysh	150.26	56	P	PKiKP	13 47 57.9	0.0
	SNR=5.5						
UCH	Uchtor	150.26	57	P	PKiKP	13 47 58.6	+0.1
	SNR=17						
KBK	Karagaybulak	150.48	56	P	PKiKP	13 47 58.8	+0.2
	SNR=6.6						
ZALV	Zalesovo Beam	150.86	29	PKP	PKPdf	13 47 52.8	+0.4
	comp=Z,1.5nm,0.5s,baz=298,slow=3.0,SNR=9.2						
ZALV				PKPbc	PKPbc	13 47 58.2	+0.1
	comp=Z,45nm,0.5s,baz=305,slow=3.4,SNR=189						
TKM2	Tokmak 2	150.88	55	P	PKPbc	13 47 59.1	+0.3
	SNR=12						
ULHL	Ulahol	151.51	57	P	PKiKP	13 48 01.1	+0.3
	SNR=8.6						
KSH	Kashi	151.84	62	PKPbc	PKPdf	13 47 56.9	+2.3
KSH				pPKP	pPKPdf	13 48 07.4	-1.7
KSH				sPKP		13 48 09.4	
KSH				SKKS		13 58 28.2	
MKAR	Makanchi Array	153.87	44	PKP	PKPdf	13 47 57.0	-0.1
	comp=Z,0.5nm,0.7s,baz=320,slow=1.4,SNR=5.9						
MKAR				PKPbc	PKPbc	13 48 04.9	-0.2
	comp=Z,2.8nm,0.6s,baz=317,slow=2.0,SNR=31						
MJAR	Matsushiro Arr	154.68	292	PKPab	PKPab	13 48 22.6	+0.4
	comp=Z,3.4nm,0.6s,baz=113,slow=1.8,SNR=7.5						
WMQ	Urumqi	158.67	45	ePKP	PKPdf	13 48 03.9	+0.3
SONM	Songino Array	162.53	5	PKP	PKPdf	13 48 07.4	-0.4
	comp=Z,0.3nm,0.4s,baz=318,slow=1.9,SNR=2.7						
SONM				PKPab	PKPab	13 48 56.4	+0.6
	comp=Z,1.5nm,0.7s,baz=327,slow=3.4,SNR=7.8						
XLT	XiLinHaoTe	165.33	338	ePKP	PKPdf	13 48 11.5	+1.1
XLT				pPKP	pPKPdf	13 48 17.6	-7.2
GOMU	GeErMu	167.07	60	PKP	PKPdf	13 48 14.2	+1.8
GOMU				AMB	AMB		
	comp=Z,92nm,5.6s						
GTA	Gaotai	168.47	37	ePKP	PKPdf	13 48 14.4	+1.4
GTA				PKPab	PKPab	13 49 22.9	+0.5
GTA				LR	LR		
	comp=Z,100nm,17.8s						
GTA				LR	LR		
	comp=Z,99nm,19.6s						
GTA				LR	LR		
	comp=Z,120nm,17.8s						
HHC	Hu-ho-hao-te	169.34	348	ePKP	PKPdf	13 48 14.5	+1.1
NJ2	Nanjing	171.13	283	ePKP	PKPdf	13 48 15.4	+0.9
PZH	PanZhiHua	172.75	121	PKP	PKPdf	13 48 14.3	-1.3
LZH	Lanzhou	173.06	34	ePKP	PKPdf	13 48 12.1	-3.4
LZH				pPKP	pPKPdf	13 48 23.0	-7.1

*IDC **09** 13:37:35.5±5.5, 4°.73S×153°.41E, h43km±40km, mb3.2/3, mb1 3.4/4, mb1mx3.1/30, mbtmp3.5/4, ML1.6/1 Error ellipse: s-maj=42.1km s-min=23.3km az=71.0*

ISC 09 13:37:35.8±2.1**, 4°.7S**±0°.1×**153°.4E**±0°.2**, h50**km**, n6,** σ**0s.92**/8**, mb3.4**/3**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.42	284	P	Pn	13 37 59.4	0.0
	baz=253,slow=20						
KRVT				S	Sn	13 38 16.9	-0.1
	baz=233,slow=20						
PMG	Port Moresby	7.79	232	P	Pn	13 39 27.4	+0.8
	0.5nm,0.3s,baz=32,slow=9.5,SNR=1.4						
PMG				S	Sn	13 40 52.9	-0.6
	1.7nm,0.3s,baz=190,slow=15,SNR=5.6						
WRA	Warramunga Arr	23.99	229	P	P	13 42 45.4	-0.6
	0.6nm,0.5s,baz=52,slow=9.7,SNR=7.0						
ASAR	Alice Springs	26.66	223	P	P	13 43 08.9	-1.3
	0.1nm,0.6s,baz=53,slow=9.4,SNR=5.3						
FITZ	Fitzroy Crossi	30.25	242	P	P	13 43 43.4	+1.1
	0.4nm,0.3s,baz=54,slow=12						
TORD	Torodi Ar. Bea	150.84	289	PKPbc	PKPbc	13 57 23.8	-0.1
	0.2nm,0.5s,baz=83,slow=2.1,SNR=1.6						

*IDC **09** 13:45:10.4±1.2, 3°.78S×136°.34E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.9/25, mbtmp3.9/9, ML4.3/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/59, Error ellipse: s-maj=33.7km s-min=19.2km az=66.0*

*DJA **09** 13:45:13.0±1.7, 4°S±4°×13°6E±°, h14km±14km, M4.2/7, mb4.6/7, mB4.7/3, MLv4.1/6, Mw(mB)3.9/3*

ISC 09 13:45:13.4±0.7**, 3°.99S**±0°.06×**136°.29E**±0°.06**, h27**km**, n21,** σ**2s.56**/25**, mb3.7**/5**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	2.11	359	P	Pn	13 45 43.8	-3.2
SRPI				S	Sn	13 46 08.9	-3.5
BAKI	Biak	2.79	356	P	Pn	13 45 54.0	-2.4
SMPI	Sarmi	3.13	51	P	Pn	13 45 59.1	-2.0
SMPI				S	Sn	13 46 36.5	-1.1
GENI	Genyem	4.12	70	P	Pn	13 46 15.3	+0.7
SIJI	Sorong	5.90	302	Pn	Pn	13 46 40.0	+0.8
	11nm,0.3s,baz=306,slow=23,SNR=24						
SIJI				Sn	Sn	13 47 45.5	-0.4
	1.2nm,0.3s,baz=143,slow=20,SNR=2.9						
SIJI				LR	LR	13 49 47.1	
	comp=Z,62nm,18.4s,baz=79,slow=47						
SWI	Sorong	5.91	302	P	Pn	13 46 40.2	+1.0
	0.4nm1µm84nm,0.6s						
MSAI	Masohi	7.37	275	P	Pn	13 47 01.2	+1.8
	0.0nm238nm4.1nm,0.6s						
LBMI	Labuha	9.39	291	P	Pn	13 47 27.2	+0.1
	34nm,1.0s						
SANI	Sanana	10.46	280	P	Pn	13 47 42.0	+0.2
	22nm,0.9s						
PMG	Port Moresby	12.06	117	Pn	Pn	13 48 05.3	+1.7
	0.4nm,0.3s,baz=309,slow=6.5,SNR=2.5						
BATI	Baumata	13.96	243	Pn	Pn	13 48 31.1	+1.5
	baz=240,slow=13						
WRA	Warramunga Arr	15.96	187	Pn	Pn	13 48 56.2	-0.2
	0.3nm,0.3s,baz=5.3,slow=13,SNR=7.7						
WRA				Sn	Sn	13 51 45.9	-6.8
	0.3nm,0.3s,baz=8.1,slow=23,SNR=4.6						
FITZ	Fitzroy Crossi	17.47	216	P	P	13 49 17.6	+1.3
	0.6nm,0.3s,baz=40,slow=7.9,SNR=20						
FITZ				S	Sn	13 52 23.4	-5.7
	0.3nm,0.3s,baz=175,slow=12,SNR=2.8						
ASAR	Alice Springs	19.69	186	P	Pn	13 49 44.0	+1.6
	0.6nm,0.3s,baz=11,slow=12,SNR=56						
ASAR				S	S	13 53 18.8	-2.8
	0.1nm,0.3s,baz=8.3,slow=29,SNR=4.3						
STKA	Stephens Creek	28.18	170	P	P	13 51 06.6	+2.8
	1.2nm,0.8s,baz=339,slow=9.5,SNR=2.0						
PSI	Prapat	37.94	280	LR	LR	14 09 13.9	
	comp=Z,78nm,19.6s,baz=188,slow=38						
CMAR	Chiang Mai Arr	43.03	302	P	P	13 53 12.4	+1.3
	0.7nm,0.5s,baz=119,slow=7.3,SNR=2.3						
SONM	Songino Array	57.89	337	P	P	13 55 02.8	-0.3
	0.2nm,0.6s,baz=141,slow=7.1,SNR=2.0						
MKAR	Makanchi Array	69.35	324	P	P	13 56 18.7	0.0
	0.4nm,0.6s,baz=112,slow=7.4,SNR=9.3						
ZALV	Zalesovo Beam	71.85	331	P	P	13 56 33.7	0.0
	0.7nm,0.7s,baz=116,slow=6.6,SNR=2.2						
KIRV	Kirov	91.74	328	LR	LR	14 44 43.8	
	comp=Z,76nm,18.0s,baz=310,slow=39						

NNC 09 13:57:39.1±7.4**, 36°.71N**×**70°.64E, h126**km±166km**, mb3.0, mpv3.5, 2C-1D, Error ellipse: s-maj=69.9km s-min=64.1km az=52.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK02	Karatay Array	6.38	359	⇓P	Pn	13 59 11.1	+0.5
	1.3nm,0.2s						
KK02				⇑S	Sn	14 00 22.6	+0.4
	4.0nm,0.9s						
AAK	Ala-Archa	6.62	26	P	Pn	13 59 13.6	-0.5
	1.5nm,0.4s						
AAK				⇑S	Sn	14 00 28.9	+0.7
	2.6nm,0.5s						
AB31	Akbulak array	14.76	331	P	Pn	14 01 01.4	0.0
	1.0nm,0.6s,baz=152,slow=12,SNR=38						

*TEH **09** 14:07:49.6, 29°.64N×51°.90E, h8km, ML3.5*

*OMAN **09** 14:07:56.1±1.4, 29°.48N×52°.05E, h30km, Error ellipse: s-maj=25.6km s-min=12.9km az=326.0*

ISC 09 14:07:51.2±1.4**, 29°.59N**±0°.04×**51°.90E**±0°.06**, h8**km±11km**, n44,** σ**1s.37**/50**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	0.23	278	ePg	Pg	14 07 54.4	-1.4
KAZ1				eSg	Sg	14 07 59.1	+0.2
KAZ1				e		14 08 11.9	
	comp=Z,48µm,0.6s						
SHI	Shiraz	0.54	85	ePg	Pg	14 08 00.0	-1.8
SHI				e		14 08 14.2	
	comp=Z,33µm,0.8s						
AHBU	AHRAM	0.90	216	ePg	Pg	14 08 08.3	-0.2
KLNJ	Kolanjah	1.44	350	ePg	Pn	14 08 17.0	-0.9
KLNJ				e		14 08 47.1	
	comp=Z,9µm,0.6s						
QIR1	Qir	1.50	138	ePg	Pn	14 08 19.4	+0.9
QIR1				e		14 08 55.5	
	comp=Z,22µm,0.6s						
ABEH	Behbahan	1.74	306	ePn	Pb	14 08 23.2	-0.2
ABEH				eSg	Sg	14 08 49.7	+2.5
JHRM	Jahrom	1.83	126	ePn	Pn	14 08 23.8	+0.8
IRAM	Ramesheh	2.25	11	ePn	Pn	14 08 29.9	+1.0
IRAM				e		14 09 11.0	
	comp=Z,4µm,1.0s						
IBRJ	Brojen	2.37	347	ePn	Pn	14 08 31.5	+0.8
IBRJ				e		14 09 23.0	
	comp=Z,2µm,1.1s						
LMD1	Lamerd	2.51	153	ePn	Pn	14 08 33.9	+1.6
LMD1				e		14 09 38.2	
	comp=Z,7µm,0.7s						
IGAR	Gharneh	2.81	3	ePn	Pn	14 08 37.5	+0.9
SHK1	Shahrekord	2.86	343	ePn	Pn	14 08 37.7	+0.3
SHK1				e		14 09 33.7	
	comp=Z,1µm,1.2s						
IMEH	Mehriz	2.95	52	ePn	Pn	14 08 40.1	+1.5
IMEH				e		14 09 41.4	
	comp=Z,2µm,1.0s						
AMIS	Naft Sefid	3.05	313	ePn	Pn	14 08 40.6	+0.8
IPIR	Pirpir	3.20	345	ePn	Pn	14 08 42.7	+0.6
IPIR				e		14 09 50.0	
	comp=Z,795nm,0.8s						
NASN	Na'in	3.29	14	ePn	Pn	14 08 44.9	+1.5
IZEF	Zefreh	3.31	6	ePn	Pn	14 08 44.7	+1.1
IZEF				e		14 09 01.8	
	comp=Z,444nm,0.6s						
YZKH	Yazd	3.62	39	ePn	Pn	14 08 49.1	+1.4
ANAR	Anarak	3.91	23	ePn	Pn	14 08 53.0	+1.3
KHGB	Koh Gabri	4.05	78	ePn	Pn	14 08 54.7	+1.0
QAMS	Qamsar	4.15	354	ePn	Pn	14 08 56.0	+0.9
NGRK	Negar Kerman	4.21	88	ePn	Pn	14 08 57.1	+1.0
NGRK				e		14 09 53.1	
	comp=Z,484nm,0.4s						
KRBR	Kerman	4.25	84	ePn	Pn	14 08 57.9	+1.4
TVBK	TV Kerman	4.25	84	ePn	Pn	14 08 57.6	+1.1
TVBK				e		14 10 21.5	
	comp=Z,800nm,0.9s						
KRSH	Karshahi	4.37	3	ePn	Pn	14 08 58.0	0.0
KHMZ	Khomeyn	4.45	339	ePn	Pn	14 09 01.0	+1.8
ISFB	Sefidab	4.75	3	ePn	Pn	14 09 04.0	+0.7
TRNA	Turayna	4.88	187	P	Pn	14 09 05.9	+1.1
TRNA				S	Sn	14 10 01.2	-0.3
CHMN	Cheshme madani	4.92	85	ePn	Pn	14 09 06.4	+0.7
SMRA	Abu-Samra	4.92	191	P	Pn	14 09 07.8	+2.3
SMRA				S	Sn	14 10 03.3	+0.7
ASAO	Ashtian	5.19	343	ePn	Pn	14 09 11.1	+1.7
IQOM	Qom	5.28	353	ePn	Pn	14 09 10.8	+0.2
HSAM	Samen	5.39	330	ePn	Pn	14 09 12.9	+0.8
IVRN	Varamin	5.39	359	ePn	Pn	14 09 12.0	0.0
NAZ	Nazwa, Dubai	5.68	143	P	Pn	14 09 15.9	0.0
NAZ				S	Sn	14 10 20.7	-0.6
KBAM	BAM	5.74	93	ePn	Pn	14 09 18.1	+1.3
TNSJ	Nastanj	5.92	41	ePn	Pn	14 09 20.7	+1.4
UOSS	Minazif	6.01	139	P	Pn	14 09 22.0	+1.5
UOSS				S	Sn	14 10 25.9	-3.6
TABS	Tabas	6.02	46	ePn	Pn	14 09 22.1	+1.5
DAMV	Damavand	6.02	1	ePn	Pn	14 09 20.6	-0.2
ASHO	Ashiyiah	6.14	142	P	Pn	14 09 22.5	+0.2
	SNR=11						
ASHO				S	Sn	14 10 29.7	-3.0
BSRN	Basiran	6.66	67	ePn	Pn	14 09 31.0	+1.6
SNGE	Sanandaj	6.70	326	ePn	Pn	14 09 28.4	-1.7
SHRO	Shahrood	7.26	27	ePn	Pn	14 09 39.8	+2.1

IDC 09 14:22:24.9±2.6**, 31°.47S**×**178°.07W, h0**km**, mb4.1**/2**, mb1 4.3**/4**, mb1mx3.9**/34**, mbtmp4.1**/4**, ML3.7**/2**, Error ellipse: s-maj=57.8km s-min=29.9km az=121.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.21	4	Pn	Pn	14 23 02.7	-0.2
	63nm,0.3s,baz=185,slow=23,SNR=1.4						
RAO				Sn	Sn	14 23 27.8	-3.1
	99nm,0.3s,baz=54,slow=21,SNR=1.9						
URZ	Urewera	7.84	209	Pn	Pn	14 24 19.6	-0.7
	0.3nm,0.3s,baz=297,slow=23,SNR=2.1						
URZ				Sn	Sn	14 25 47.1	-2.7
	0.9nm,0.3s,baz=138,slow=21,SNR=9.7						
ASAR	Alice Springs	43.00	268	P	P	14 30 26.4	0.0
	1.0nm,0.5s,baz=107,slow=7.8,SNR=33						
WRA	Warramunga Arr	44.09	273	P	P	14 30 35.0	0.0
	2.0nm,0.5s,baz=111,slow=8.1,SNR=46						
FINES	FINESS Array B	146.12	339	PKPbc	PKPdf	14 42 05.2	-0.1
	0.8nm,0.7s,baz=33,slow=3.3,SNR=2.2						

*IDC **09** 14:27:38.1±3.8, 2°.33N×128°.30E, h149km±36km, mb3.0/5, mb1 3.1/6, mb1mx3.0/34, mbtmp3.5/6, Error ellipse: s-maj=67.4km s-min=24.9km az=72.0*

ISC 09 14:27:38.0±1.4**, 2°.4N**±0°.2×**128°.4E**±0°.3**, h150**km**, n6,** σ**0s.55**/7**, mb3.3**/4**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.34	138	P	Pn	14 28 43.0	+0.3
	2.0nm,0.3s,baz=256,slow=23,SNR=8.2						
FITZ	Fitzroy Crossi	20.54	187	P	P	14 32 05.2	+0.5
	0.5nm,0.5s,baz=355,slow=11,SNR=1.6						
WRA	Warramunga Arr	22.95	165	P	P	14 32 29.0	-0.5
	0.8nm,0.4s,baz=344,slow=10,SNR=25						
ASAR	Alice Springs	26.45	169	P	P	14 33 00.5	-0.7
	0.3nm,0.6s,baz=349,slow=7.4,SNR=8.4						
ASAR				PcP	PcP	14 36 23.1	+0.4
	0.1nm,0.4s,baz=353,slow=2.0,SNR=5.2						
STKA	Stephens Creek	36.31	161	P	P	14 34 27.1	-0.2
	0.4nm,0.3s,baz=326,slow=11,SNR=4.8						
MKAR	Makanchi Array	59.59	325	P	P	14 37 26.0	0.0
	0.1nm,0.4s,baz=115,slow=7.9,SNR=2.0						

NEIC 09 14:36:57.3±0.5**, 36°.26N**±0°.01×**97°.34W**±0°.01**, h4**km±3km**, mb_Lg2.6**/31**, Error ellipse: s-maj=1.6km s-min=1.5km az=190.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	0.94	45		Pg	14 37 14.2	-1.0
T35A				Sg	Sg	14 37 26.4	-1.0
FNO	Franklin	1.00	183	Pg	Pg	14 37 15.3	-1.2
FNO				Sg	Sg	14 37 29.4	-0.1
W35A	Tecumseh	1.17	161		Pg	14 37 17.9	-1.8
TUL1	Leonard	1.30	105	Pg	Pn	14 37 20.4	-1.9
U32A	Winter Ranch,	1.34	276	Pg	Pn	14 37 21.6	-1.3
X34A	Smith Ranch, M	1.70	194		Pn	14 37 27.8	0.0
WMOK	Wichita Mounta	1.92	218	Pn	Pn	14 37 30.5	-0.3
WMOK				IAmb_Lg		14 37 57.2	
	comp=Z,22nm,0.7s						
X37A	Clayton	2.32	135	Pn	Pn	14 37 36.4	+0.2
X37A				IAmb_Lg		14 38 13.8	
	comp=Z,26nm,0.7s						
R32A	Long Quarter,	2.42	334	IAmb_Lg		14 38 15.4	
	comp=Z,14nm,0.8s						
KSU1	Kansas State U	2.89	11	IAmb_Lg		14 38 34.1	
	comp=Z,16nm,0.8s						
W39A	Magazine	3.08	109	IAmb_Lg		14 38 35.5	
	comp=Z,13nm,0.8s						
MIAR	Mount Ida	3.52	118	Pn	Pn	14 37 52.4	-0.4
MIAR				IAmb_Lg		14 38 49.5	
	comp=Z,11nm,0.8s						
S39A	Bolivar	3.52	65	Pn	Pn	14 37 53.2	+0.4
U40A	Yellville	3.63	87	Pn	Pn	14 37 54.6	+0.4
X40A	Basin Creek Fa	4.09	114	Pn	Pn	14 38 00.7	+0.2
MGMO	Mountain Grove	4.17	76	IAmb_Lg		14 39 08.8	
	comp=Z,8.1nm,0.7s						
WHAR	Wooly Hollow	4.22	102	IAmb_Lg		14 39 20.2	
	comp=Z,18nm,0.8s						
FCAR	Ozark Folk Cen	4.24	93	IAmb_Lg		14 39 19.6	
	comp=Z,13nm,0.7s						
W41B	Gary Mavity, V	4.29	103	IAmb_Lg		14 39 19.4	
	comp=Z,19nm,1.1s						
WLAR	White Oak Lake	4.32	125	IAmb_Lg		14 39 17.1	
	comp=Z,15nm,0.8s						
P38A	Dawn	4.51	41	IAmb_Lg		14 39 19.0	
	comp=Z,9.2nm,0.8s						
R40A	Maddies Statio	4.53	62	Pn	Pn	14 38 06.0	-0.6
Z41A	Richland Creek	4.79	127	Pn	Pn	14 38 09.7	-0.5
BGNE	Belgrade	5.18	353	IAmb_Lg		14 39 45.2	
	comp=Z,17nm,0.8s						
P40A	Paris	5.31	50	IAmb_Lg		14 39 45.5	
	comp=Z,8.8nm,0.8s						
PBMO	Poplar Bluff	5.59	83	IAmb_Lg		14 40 00.3	
	comp=Z,14nm,0.8s						
T25A	Trinidad	5.75	281	IAmb_Lg		14 40 08.4	
	comp=Z,7.3nm,0.9s						
FVM	French Village	5.79	71	Pn	Pn	14 38 24.4	+0.4

*IDC **09** 14:58:38.8±5.2, 6°.70S×146°.92E, h63km±51km, mb3.1/3, mb1 3.4/5, mb1mx3.2/31, mbtmp3.5/5, ML2.6/2, Error ellipse: s-maj=48.7km s-min=29.4km az=129.0*

ISC 09 14:58:37.1±1.5**, 6°.6S**±0°.1×**146°.8E**±0°.1**, h49**km**, n7,** σ**0s.80**/8**, mb3.5**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.83	173	P	Pn	14 59 20.6	+0.8
	9.6nm,0.3s,baz=328,slow=6.9,SNR=34						
PMG				S	Sn	14 59 52.0	-0.7
	6.1nm,0.3s,baz=330,slow=16,SNR=5.1						
HNR	Honiara	13.29	103	P	Pn	15 01 43.1	-0.1
	13nm,0.3s,baz=267,slow=17,SNR=1.6						
WRA	Warramunga Arr	17.99	221	P	Pn	15 02 43.6	-0.2
	0.1nm,0.3s,baz=48,slow=12,SNR=7.4						
ASAR	Alice Springs	21.05	215	P	P	15 03 18.2	+1.1
	0.3nm,0.5s,baz=51,slow=8.8,SNR=19						
FITZ	Fitzroy Crossi	23.63	239	P	P	15 03 43.1	-0.9
	1.1nm,0.7s,baz=52,slow=8.5,SNR=2.3						
STKA	Stephens Creek	25.64	190	P	P	15 04 01.8	-0.4
	0.9nm,0.6s,baz=5.2,slow=11,SNR=1.5						
TORD	Torodi Ar. Bea	145.07	283	PKPbc	PKPbc	15 18 09.7	+0.1
	0.7nm,0.8s,baz=80,slow=4.5,SNR=3.2						

*DNK **09** 15:10:40.4±0.5, 58°.27N×15°.05E, h0km, ML1.6(UPP), Explosion*

UPP 09 15:10:39.8±0.1**, 58°.27N**×**15°.07E, h0**km**, ML1.6, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNKU	Linkoeping	0.23	101	P	Pg	15 10 44.4	+0.2
LNKU				S	Sg	15 10 48.4	+1.1
LNKU	Linkoeping	0.23	101	P	Pg	15 10 44.4	+0.2
LNKU				S	Sg	15 10 48.4	+1.1
ASKU	Askersund	0.64	349	P	Pg	15 10 51.9	-0.2
ASKU				S	Sg	15 11 00.7	+0.3
ASKU	Askersund	0.64	349	P	Pg	15 10 51.9	-0.2
ASKU				S	Sg	15 11 00.7	+0.3
EKSU	Eksjoe	0.71	170	P	Pg	15 10 53.1	-0.2
EKSU				S	Sg	15 11 03.1	+0.7
EKSU	Eksjoe	0.71	170	P	Pg	15 10 53.1	-0.2
EKSU				S	Sg	15 11 03.1	+0.7
FKPU	Falk	0.72	262	P	Pg	15 10 53.5	-0.1
FKPU	Falk	0.72	262	P	Pg	15 10 53.5	-0.1
VIKU	Vikbolandet	0.89	74	P	Pg	15 10 56.8	-0.1
VIKU	Vikbolandet	0.89	74	P	Pg	15 10 56.8	-0.1
VSTU	Vaestervik	0.99	127	P	Pg	15 10 58.5	-0.3
VSTU	Vaestervik	0.99	127	P	Pg	15 10 58.5	-0.3
ESKU	Eskilstuna	1.19	35	P	Pg	15 11 02.5	-0.1
ESKU	Eskilstuna	1.19	35	P	Pg	15 11 02.5	-0.1
NASU	Vaermlandsnaes	1.19	305	P	Pg	15 11 02.0	-0.5
NASU	Vaermlandsnaes	1.19	305	P	Pg	15 11 02.0	-0.5
NRAU	Nora	1.31	359	P	Pg	15 11 03.9	-0.9
NRAU	Nora	1.31	359	P	Pg	15 11 03.9	-0.9
VXJU	Vaexsjoe	1.35	183	P	Pg	15 11 05.1	-0.6
VXJU	Vaexsjoe	1.35	183	P	Pg	15 11 05.1	-0.6

BER 09 15:11:16.8±0.3**, 61°.78N**×**5°.12E, h0**km**, ML1.3, Suspected explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FOO	Floro	0.18	192	eP	Pg	15 11 20.0	-0.3
SUE	Sulen	0.74	194	eP	Pg	15 11 30.2	-0.8
HYA	Hoyanger	0.80	140	eP	Pg	15 11 31.0	-1.1
HYA				eS	Sg	15 11 41.7	-0.7
HYA				IAML		15 11 43.2	
	comp=Z,10nm,0.5s						
AKN	Aaknes	0.97	65	eP	Pg	15 11 34.2	-1.2
AKN				IAML		15 11 52.3	
	comp=Z,14nm,0.8s						

*IDC **09** 15:13:39.8±2.3, 21°.65N×143°.08E, h322km±24km, mb3.6/22, mb1 3.7/24, mb1mx3.6/38, mbtmp4.3/24, Error ellipse: s-maj=15.7km s-min=8.9km az=85.0*

*NEIC **09** 15:13:40.4±1.6, 21°.74N±0°.08×143°.1E±0°.1, h318km±7km, mb4.0/65, Error ellipse: s-maj=17.3km s-min=10.8km az=80.0*

ISC 09 15:13:38.9±0.4**, 21°.68N**±0°.06×**143°.06E**±0°.09**, h311**km**, n116,** σ**0s.80**/118**, mb3.9**/53**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.45	352		Pn	15 15 01.5	-0.5
GUMO	Guam	8.23	168	P	Pn	15 15 36.7	+1.2
	4.3nm,0.3s,baz=330,slow=18,SNR=1.4						
GUMO	Guam	8.23	168	Pn	P	15 15 38.5	-1.8
JHJ	Hachijo jima 2	11.76	346	S	S	15 18 18.9	-10
	165nm,0.3s,baz=215,slow=20,SNR=9.5						
JMN	Monobe	14.48	328	Pn	Pn	15 16 52.2	+1.3
JSU	Suzuyama	14.91	314	P	Pn	15 16 55.7	-0.2
MJAR	Matsushiro Arr	15.40	345	P	P	15 16 59.4	-0.3
	0.2nm,0.3s,baz=79,slow=13,SNR=11						
MJAR				S	S	15 19 42.3	-4.0
	0.1nm,0.3s,baz=260,slow=15,SNR=4.5						
MJAR	Matsushiro Arr	15.40	345	P	P	15 16 59.9	+0.2
MAJO	Matsushiro	15.40	345	P	P	15 17 00.2	+0.5
MAJO				IAmb	IAmb	15 17 03.8	
	comp=Z,5.0nm,0.6s						
MJB9	Matsu-Tunnel	15.40	345	P	P	15 17 00.2	+0.4
MJB9				IAmb	IAmb	15 17 03.8	
	comp=Z,4.9nm,0.7s						
JNU	Nakatsue	15.69	319	P	Pn	15 17 05.3	+0.3
JHS	Saijyo	15.88	329	P	Pn	15 17 06.9	-0.3
JMM	Marumori	16.25	354	P	Pn	15 17 10.8	-0.6
JSD	Sado	16.82	347	P	P	15 17 15.5	+0.4
YHNB	Yeheng	20.15	283	P	P	15 17 48.7	-2.2
ERM	Erimo	20.27	0	P	P	15 17 53.6	+1.8
KSRS	Korea Array	20.46	324	P	P	15 17 53.2	-0.4
	comp=Z,7.2nm,0.6s,baz=148,slow=8.7,SNR=37						
KSAR	Wonju Array Be	20.47	323	P	P	15 17 54.3	+0.5
SSLB	Suanglung	20.49	280	P	P	15 17 54.6	+0.4
KS19	Wonju Array Si	20.52	324	P	P	15 17 54.1	-0.3
KS19				IAmb	IAmb	15 18 06.1	
	comp=Z,10nm,1.0s						
ASAJ	Asahikawa	22.38	359	P	P	15 18 12.1	+0.8
	comp=Z,3.8nm,0.6s,baz=170,slow=11,SNR=1.9						
USRK	Ussuriysk Ar.	24.25	340	P	P	15 18 28.8	+0.4
	comp=Z,3.0nm,0.6s,baz=134,slow=7.5,SNR=3.5						
MYLDM	Lahad Datu	28.90	239	P	P	15 19 10.8	+0.8
MYLDM				IAmb	IAmb	15 19 18.7	
	comp=Z,6.7nm,1.0s						
KLR	Kul'dur	28.92	345	P	P	15 19 10.2	+0.4
	comp=Z,16nm,0.7s,baz=161,slow=8.1,SNR=70						
COEN	Coen	35.42	180	P	P	15 20 06.3	-0.1
COEN				IAmb	IAmb	15 20 07.7	
	comp=Z,7.2nm,1.1s						
SONM	Songino Array	39.27	321	P	P	15 20 38.9	+0.5
	comp=Z,1.4nm,0.5s,baz=134,slow=7.6,SNR=10						
SONM	Songino Array	39.27	321	P	P	15 20 39.1	+0.7
KNRA	Kununurra	39.69	202	P	P	15 20 41.7	-0.2
KNRA				IAmb	IAmb	15 20 52.5	
	comp=Z,7.6nm,1.1s						
CMAR	Chiang Mai Arr	41.46	274	P	P	15 20 56.9	+0.5

comp=Z,0.7nm,0.4s,baz=81,slow=6.3,SNR=6.3
CMAR Chiang Mai Arr 41.46 274 P P 15 20 57.2 +0.8
SEY Seymchan 41.71 6 P P 15 20 58.1 +0.4
comp=Z,1.3nm,0.7s,baz=201,slow=6.0,SNR=12
WB0 Warramunga Arr 42.06 192 P P 15 21 00.4 -0.7
WR0 Warramunga Arr 42.22 192 P P 15 21 01.9 -0.5
WRAB Tennant Creek 42.23 192 P P 15 21 02.1 -0.4
WRAB IAmb IAmb 15 21 02.3
comp=Z,4.0nm,0.6s
WB2 Warramunga Arr 42.24 192 P P 15 21 02.2 -0.3
WB2 IAmb IAmb 15 21 02.4
comp=Z,3.7nm,0.6s
WRA Warramunga Arr 42.24 192 P P 15 21 02.0 -0.5
comp=Z,1.3nm,0.3s,baz=15,slow=9.4,SNR=82
WRA Warramunga Arr 42.24 192 P P 15 21 01.9 -0.7
FITZ Fitzroy Crossi 43.06 205 P P 15 21 09.1 0.0
AS31 Alice Springs 45.95 192 P P 15 21 31.7 -0.1
ASAR Alice Springs 45.95 192 P P 15 21 30.9 -0.8
comp=Z,0.7nm,0.3s,baz=16,slow=9.7,SNR=31
BILL Bilibino 48.56 11 P P 15 21 51.9 +0.8
BILL IAmb IAmb 15 21 52.3
comp=Z,4.8nm,0.7s
AKUT Akutan 50.20 37 P P 15 22 03.9 +0.3
TAPN Taplejung 50.34 288 eP P 15 22 05.8 +0.3
TIXI Tiksi 50.65 354 P P 15 22 06.5 -0.2
ODAN Odare 50.68 288 eP P 15 22 07.3 -0.7
JIRN Jiri 51.64 289 eP P 15 22 15.6 +0.4
GUN Gumba 51.89 289 eP P 15 22 17.5 +0.5
comp=Z,3.7nm,0.3s
KKN Kakani 52.43 289 eP P 15 22 21.1 +0.3
STKA Stephens Creek 53.27 182 P P 15 22 25.7 -0.8
comp=Z,1.1nm,0.3s,baz=2.1,slow=7.3,SNR=7.8
STKA Stephens Creek 53.27 182 P P 15 22 25.9 -0.5
DANN Dangsing 53.70 290 eP P 15 22 30.7 +0.6
comp=Z,39nm,0.3s
KOLN Koldanda 53.91 289 eP P 15 22 31.8 +0.3
comp=Z,4.4nm,0.2s
ZAA0 Zalesovo Array 54.15 322 P P 15 22 32.4 -0.1
ZAA0 IAmb IAmb 15 22 33.1
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 54.15 322 P P 15 22 32.5 -0.1
comp=Z,3.3nm,0.7s,baz=102,slow=7.4,SNR=13
ZALV Zalesovo Beam 54.15 322 P P 15 22 32.6 +0.1
PYUN Piuthan 54.40 290 eP P 15 22 35.0 0.0
comp=Z,2.7nm,0.3s
ANM Nome 54.48 25 P P 15 22 36.0 +1.3
BBOO Buckleboo 54.60 187 P P 15 22 35.9 0.0
BBOO IAmb IAmb 15 22 38.5
comp=Z,8.4nm,1.1s
MK31 Makanchi Array 54.62 313 P P 15 22 36.5 +0.5
MK31 PcP **PcP** 15 23 34.9 +0.1
MKAR Makanchi Array 54.62 313 P P 15 22 36.5 +0.5
comp=Z,2.1nm,0.5s,baz=90,slow=9.4,SNR=38
MKAR Makanchi Array 54.62 313 P P 15 22 36.7 +0.6
MKAR PcP **PcP** 15 23 34.9 +0.1
CHGN Chignik 54.86 36 P P 15 22 37.2 -0.2
KURK Kurchatov 57.41 317 P P 15 22 55.4 -0.1
KURK IAmb IAmb 15 22 56.4
comp=Z,5.4nm,0.8s
SVW2 Sparrevohn 57.48 30 P P 15 22 57.1 +1.2
SVW2 IAmb IAmb 15 23 06.8
comp=Z,5.7nm,1.1s
NRIK Noril'sk 57.97 340 P P 15 22 59.0 -0.2
comp=Z,1.6nm,0.4s,baz=113,slow=9.5,SNR=4.0
K20K Telida 58.73 28 P P 15 23 05.8 +1.3
BOOM Boomskoye usch 59.02 307 P P 15 23 08.6 +1.6
BOOM IAmb IAmb 15 23 08.7
comp=Z,3.9nm,0.6s
PPLA Purkeypile 59.45 29 P P 15 23 10.1 +0.6
PPLA IAmb IAmb 15 23 19.7
comp=Z,4.1nm,1.0s
BRLK Bradley Lake 59.48 32 P P 15 23 08.8 -0.9
BRLK IAmb IAmb 15 23 16.3
comp=Z,10nm,0.9s
IMAR Indian Mountai 59.55 25 P P 15 23 10.8 +0.8
CAST Castle Rocks 59.61 28 P P 15 23 11.2 +0.7
CAST IAmb IAmb 15 23 12.4
comp=Z,2.9nm,0.8s
AAK Ala-Archa 60.08 308 P P 15 23 14.7 +0.5
AAK IAmb IAmb 15 23 15.2
comp=Z,1.5nm,0.6s
BPAW Bear Paw Mtn. 60.23 28 P P 15 23 15.3 +0.7
BPAW IAmb IAmb 15 23 16.0
comp=Z,2.9nm,0.6s
TRF Thorofare Moun 60.41 28 P P 15 23 16.1 +0.1
TRF IAmb IAmb 15 23 16.8
comp=Z,4.1nm,1.0s
PWL Port Wells 60.90 31 P P 15 23 19.4 +0.2
PWL PcP **PcP** 15 23 59.3 -0.1
KNK Knik Glacier 60.91 31 P P 15 23 19.4 +0.1
KNK IAmb IAmb 15 23 32.7
comp=Z,6.3nm,1.1s
SCM Sheep Creek Mo 61.51 30 P P 15 23 23.8 +0.5
SCM IAmb IAmb 15 23 32.6
comp=Z,8.8nm,1.1s
DHY Denali Highway 61.65 29 P P 15 23 24.4 +0.1
TOLK Toolik Lake Re 61.78 23 P P 15 23 26.3 +1.4
H24K Noodor Dome 61.86 26 P P 15 23 26.5 +0.9
H24K IAmb IAmb 15 23 26.8
comp=Z,1.6nm,0.5s
ILAR Eielson Array 62.10 27 P P 15 23 26.1 -1.0
comp=Z,1.8nm,0.7s,baz=261,slow=5.3,SNR=26
KLU Klutina 62.13 31 P P 15 23 28.0 +0.6
KLU IAmb IAmb 15 23 28.4
comp=Z,3.4nm,0.5s
PAX Paxson 62.50 29 P P 15 23 30.3 +0.5
PAX IAmb IAmb 15 23 39.2
comp=Z,3.1nm,1.2s
BRVK Borovoye 62.67 320 P P 15 23 31.4 +0.4
RIDG Independent Ri 62.86 28 P P 15 23 31.9 -0.2
RIDG IAmb IAmb 15 23 52.1
comp=Z,4.6nm,1.2s
KKAR Karatay Array 62.97 308 P P 15 23 34.1 +0.9
DOT Dot Lake 63.20 29 P P 15 23 34.2 -0.1
SCRK Sand Creek 63.26 28 P P 15 23 35.1 +0.2
SCRK IAmb IAmb 15 23 35.6
comp=Z,2.7nm,0.6s
BMAR Burnt Mountain 63.41 24 P P 15 23 37.1 +1.5
BCAR Beaver Creek A 64.18 29 P P 15 23 41.5 +0.7
CHGR Chuyangaron 64.50 304 P P 15 23 43.7 +0.4
M30M Minto, Yukon 66.47 30 P P 15 23 55.8 +0.5
M30M IAmb IAmb 15 23 56.0
comp=Z,3.1nm,1.1s
INK Inuvik 67.63 24 P P 15 24 02.4 +0.1
comp=Z,1.1nm,0.6s,baz=294,slow=10.0,SNR=6.6
INK Inuvik 67.63 24 P P 15 24 01.9 -0.5
INK IAmb IAmb 15 24 03.1
comp=Z,1.6nm,0.8s
ARU Arti 69.21 324 P P 15 24 12.2 -0.1
ARU IAmb IAmb 15 24 13.0
comp=Z,5.5nm,1.0s
ABKAR Akbulak array 69.48 316 P P 15 24 14.2 +0.1
C36M Paulatuk 70.92 22 P P 15 24 22.1 -0.3
C36M IAmb IAmb 15 24 22.9
comp=Z,3.2nm,0.6s
EUNU Eureka 75.13 8 P P 15 24 46.9 +0.1
YKA Yellowknife Ar 76.52 28 P P 15 24 54.8 -0.1
comp=Z,2.0nm,0.4s,baz=291,slow=5.9,SNR=36
YKA Yellowknife Ar 76.52 28 P P 15 24 54.3 -0.6
RES Resolute Bay 77.12 13 P P 15 24 58.1 +0.2
RES IAmb IAmb 15 24 59.2
comp=Z,1.4nm,0.8s
KLMR Klimovskoe 77.66 331 eP P 15 24 52.6 -8.6
KLMR AMP 15 24 54.3
comp=Z,8.0nm,1.2s
KEV Kevo 78.33 341 P P 15 25 04.7 0.0
ARCES ARCESS Array B 78.90 341 P P 15 25 08.1 +0.3
comp=Z,4.5nm,0.5s,baz=74,slow=8.5,SNR=55
ARCES ARCESS Array B 78.90 341 P P 15 25 08.2 +0.3
KBZ Khabaz 82.29 314 P P 15 25 26.8 +0.6
comp=Z,4.8nm,0.8s,baz=97,slow=2.0,SNR=15
FIA1 FINESS Array S 83.14 334 P P 15 25 29.4 -0.8
FINES FINESS Array B 83.14 334 P P 15 25 29.3 -0.9
comp=Z,4.0nm,0.4s,baz=64,slow=4.7,SNR=50
NVAR Mina Array Bea 83.24 51 P P 15 25 32.1 +0.6
comp=Z,1.0nm,0.7s,baz=285,slow=6.3,SNR=9.1
NVAR Mina Array Bea 83.24 51 P P 15 25 31.7 +0.2
HRY Holter Researc 84.28 42 P P 15 25 36.8 +0.3
AKASG Malin Array Be 87.45 324 P P 15 25 49.7 -1.8
comp=Z,0.3nm,0.4s,baz=50,slow=5.2,SNR=4.9
NOA NORSAR Array B 88.92 339 P P 15 25 56.6 -1.7
comp=Z,0.6nm,0.6s,baz=45,slow=4.5,SNR=2.8
TORD Torodi Ar. Bea 128.66 309 PKP **PKPdf 15 32 09.1 -1.0**
comp=Z,0.3nm,0.5s,baz=77,slow=0.9,SNR=2.4
PLCA Paso Flores 145.84 131 PKPbc **PKPdf 15 32 41.7 +0.7**
comp=Z,1.2nm,0.7s,baz=155,slow=3.0,SNR=3.6
PLCA Paso Flores 145.84 131 PKPdf 15 32 41.5 +0.5

DJA 09 15:15:08.7±0.9, 0°S±2°×9°9E±°, h38km±22km, M3.7/11, mb3.8/1, MLv3.7/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.08**	**108**	P	Pn	15 15 28.0	+0.8
PPI				S	Sn	15 15 41.8	+0.8
SISI	**Saibi**	**1.22**	**193**	P	Pn	15 15 29.0	-0.2
SISI				S	Sn	15 15 45.6	+1.1
BKNI	**Bangkinang**	**1.73**	**75**	P	Pn	15 15 36.7	+0.5
BKNI				S	Sn	15 15 58.1	+1.0
GSI	**Gunungsitoli**	**2.29**	**308**	P	Pn	15 15 44.0	0.0
PPSI	**Pulau Pagai**	**2.69**	**166**	P	Pn	15 15 49.7	+0.2
KRJI	**Kerinci**	**2.86**	**133**	P	Pn	15 15 51.4	-0.5
KRJI				S	Sn	15 16 25.5	+0.4
TSI	**Tuntungan**	**3.69**	**347**	P	Pn	15 16 03.0	-0.3
KCSI	**Kotacane, Aceh**	**3.96**	**336**	P	Pn	15 16 07.3	+0.3

IDC 09 15:26:42.4±1.8, 2°.82N×122°.59E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/42, mbtmp3.2/3, Error ellipse: s-maj=198.2km s-min=28.5km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.40**	**153**	P	Pn	15 32 11.2	-0.5
	0.4nm,0.3s,baz=330,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.54**	**158**	P	Pn	15 32 40.7	+0.6
	0.1nm,0.5s,baz=343,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**56.02**	**328**	P	Pn	15 36 23.0	0.0
	0.2nm,0.5s,baz=119,slow=7.5,SNR=2.3						

TAP 09 15:44:13.0, 21°.61N×121°.75E, h142km, ML3.9, 1C, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.42**	**338**	*i* P	Pn	15 44 32.8	-0.3
	baz=338						
LYUB				S	Sn	15 44 47.6	-0.8
	baz=338						
LAY	**Lan-yu**	**0.47**	**337**	P	Pn	15 44 32.5	-0.8
	baz=337						
LAY				*i* S	Sn	15 44 47.7	-1.1
	baz=337						
TSEB	**Hengchuen, Pin**	**0.84**	**290**	*i* P	Pn	15 44 36.7	+1.0
	baz=285						
TSEB				S	Sn	15 44 53.8	+0.8
	baz=285						
TWKBT	**Hengchun**	**0.94**	**291**	*i* P	Pn	15 44 37.0	+0.6
	baz=289						
TWKBT				S	Sn	15 44 54.2	-0.1
	baz=289						
TWK1	**Hengchun**	**0.94**	**291**	*i* P	Pn	15 44 37.2	+0.7
	baz=289						
TWK1				*e*S	Sn	15 44 54.3	-0.1
	baz=289						
SMST	**Manzhou Townsh**	**0.94**	**296**	*i* P	Pn	15 44 36.9	+0.4
	baz=296						
SMST				S	Sn	15 44 54.8	+0.3
	baz=296						
HEN	**Hengchun**	**1.02**	**293**	*i* P	Pn	15 44 37.9	+0.7
	baz=293						
HEN				S	Sn	15 44 55.7	+0.1
	baz=293						
SLIU	**Shizi**	**1.07**	**305**	P	Pn	15 44 37.9	+0.2
	baz=311						
SLIU				S	Sn	15 44 56.6	+0.1
	baz=311						
TAWH	**Dawu Township**	**1.08**	**312**	P	Pn	15 44 37.6	-0.1
	baz=306						
TAWH				S	Sn	15 44 55.8	-0.8
	baz=306						
TAW	**Tawu**	**1.09**	**313**	*i* P	Pn	15 44 37.9	+0.1
	baz=308						
TAW				S	Sn	15 44 56.3	-0.4
	baz=308						
EAST	**Anshuo**	**1.14**	**313**	*i* P	Pn	15 44 38.6	+0.2
	baz=309						
EAST				S	Sn	15 44 56.9	-0.8
	baz=309						
ECL	**Taimali**	**1.23**	**323**	P	Pn	15 44 38.9	-0.3
	baz=320						
ECL				*e*S	Sn	15 44 57.6	-1.6
	baz=320						
SCZT	**Fangliau**	**1.30**	**306**	P	Pn	15 44 40.4	+0.5
	baz=306						
SCZT				S	Sn	15 44 59.3	-1.1
	baz=306						
TWGBT	**Beinan**	**1.36**	**333**	P	Pn	15 44 40.2	-0.2
	baz=327						
TWGBT				S	Sn	15 45 00.4	-1.1
	baz=327						
TWG	**Pinlang**	**1.36**	**333**	*i* P	Pn	15 44 40.4	-0.1
	baz=327						
TWG				*e*S	Sn	15 45 00.4	-1.2
	baz=327						
LONT	**Longtian**	**1.42**	**336**	P	Pn	15 44 40.9	-0.2
	baz=330						
LONT				S	Sn	15 45 02.0	-0.6
	baz=330						
EDH	**Donghe**	**1.42**	**343**	P	Pn	15 44 41.2	+0.1
	baz=337						
EDH				S	Sn	15 45 02.9	+0.2
	baz=337						
MASBT	**Mashibuluo**	**1.44**	**314**	P	Pn	15 44 41.6	+0.3
	baz=319						
MASBT				S	Sn	15 45 02.0	-1.0
	baz=319						
WLCH	**Liuqiu**	**1.47**	**300**	*e*P	Pn	15 44 43.5	+1.9
	baz=293						
TWP	**Hsiaoliuchiu**	**1.48**	**300**	P	Pn	15 44 43.4	+1.6
	baz=300						
TWP				*e*S	Sn	15 45 06.7	+2.9
	baz=300						
TSMG	**Majia**	**1.50**	**317**	P	Pn	15 44 42.9	+0.9
	baz=317						
TSMG				S	Sn	15 45 03.9	-0.3
	baz=317						
CHKT	**Chengkung**	**1.53**	**347**	P	Pn	15 44 42.6	+0.3
	baz=349						
CHKT				S	Sn	15 45 04.0	-0.7
	baz=349						
SSD	**Sandimen**	**1.54**	**318**	*i* P	Pn	15 44 42.8	+0.5
	baz=318						
SSD				S	Sn	15 45 04.5	-0.4
	baz=318						
ECS	**Chishang**	**1.56**	**342**	P	Pn	15 44 42.9	+0.2
	baz=336						
ECS				S	Sn	15 45 05.3	-0.1
	baz=336						
FULB	**Fuli**	**1.64**	**345**	P	Pn	15 44 44.2	+0.6
	baz=341						
FULB				*e*S	Sn	15 45 07.5	+0.6
	baz=341						
ELDTW	**Lidau**	**1.72**	**337**	*i* P	Pn	15 44 45.1	+0.6
	baz=340						
SLGT	**Liugui**	**1.72**	**324**	P	Pn	15 44 45.0	+0.6
	baz=324						
SLGT				S	Sn	15 45 08.0	-0.5
	baz=324						
SCST	**Cishan**	**1.73**	**318**	P	Pn	15 44 45.4	+1.0
	baz=325						
SCST				S	Sn	15 45 08.7	+0.1
	baz=325						
TWM1	**Shoushan**	**1.73**	**315**	*e*P	Pn	15 44 46.2	+1.7
	baz=321						
TWM1				*e*S	Sn	15 45 08.1	-0.6
	baz=321						
SNJT	**Kaohsiung City**	**1.74**	**311**	P	Pn	15 44 46.1	+1.5
	baz=303						
SNJT				*e*S	Sn	15 45 08.7	-0.1
	baz=303						
EYUL	**Yuli**	**1.78**	**347**	P	Pn	15 44 45.6	+0.5
	baz=337						
EYUL				*e*S	Sn	15 45 09.4	-0.3
	baz=337						
TWF1	**Yuli**	**1.79**	**346**	P	Pn	15 44 45.4	+0.3
	baz=338						
TWF1				*e*S	Sn	15 45 08.6	-1.3
	baz=338						
STYH	**Taoyuan**	**1.80**	**330**	*i* P	Pn	15 44 46.3	+1.0
	baz=323						
STYH				*e*S	Sn	15 45 11.0	+1.0
	baz=323						
STYT	**Tauyuan**	**1.80**	**329**	*i* P	Pn	15 44 46.1	+0.7
	baz=323						
STYT				S	Sn	15 45 10.5	+0.2
	baz=323						
SGST	**Jiashian**	**1.82**	**324**	*e*P	Pn	15 44 45.4	-0.2
	baz=324						
SGST				S	Sn	15 45 10.0	-0.6
	baz=324						
YULB	**Yu-li**	**1.83**	**347**	P	Pn	15 44 45.4	-0.2
	baz=339						
YULB				*e*S	Sn	15 45 09.4	-1.3
	baz=339						
HGSD	**Ruisui**	**1.90**	**351**	P	Pn	15 44 46.4	-0.1
	baz=352						
HGSD				*e*S	Sn	15 45 10.7	-1.5
	baz=352						
SHHT	**Tainan City**	**1.92**	**318**	P	Pn	15 44 48.1	+1.4
	baz=324						
SHHT				*e*S	Sn	15 45 10.8	-1.7
	baz=324						
EHY	**Hungye**	**1.93**	**348**	P	Pn	15 44 47.0	+0.1
	baz=341						
EHY				*e*S	Sn	15 45 11.3	-1.6
	baz=341						
CHN1	**Nanshi**	**1.94**	**324**	*i* P	Pn	15 44 47.6	+0.7
	baz=324						
CHN1				S	Sn	15 45 12.9	-0.1
	baz=324						
WTP	**Ta-pu**	**1.94**	**327**	*i* P	Pn	15 44 47.6	+0.6
	baz=321						
WTP				S	Sn	15 45 12.9	-0.3
	baz=321						
TPUB	**Ta-pu**	**1.98**	**329**	P	Pn	15 44 47.9	+0.4
	baz=322						
TPUB				S	Sn	15 45 13.2	-0.7
	baz=322						
TWK	**Hsinying**	**2.02**	**325**	P	Pn	15 44 48.3	+0.3
	baz=325						
TWK				S	Sn	15 45 14.1	-0.8
	baz=325						
EGFH	**Guangfu**	**2.08**	**352**	P	Pn	15 44 48.6	0.0
	baz=344						
EGFH				S	Sn	15 45 14.8	-1.0
	baz=344						
ALS	**Alishan**	**2.09**	**335**	P	Pn	15 44 49.5	+0.5
	baz=328						
ALS				*e*S	Sn	15 45 15.7	-1.0
	baz=328						
VWDT	**VWDT**	**2.21**	**345**	P	Pn	15 44 51.4	+1.2
	baz=349						
VWDT				S	Sn	15 45 18.4	-0.4
	baz=349						
ICHU	**Yijhu**	**2.21**	**322**	P	Pn	15 44 50.3	+0.1
	baz=322						
ICHU				S	Sn	15 45 18.3	-0.6
	baz=322						
CHN5	**Tsauling**	**2.22**	**334**	*i* P	Pn	15 44 50.7	+0.3
	baz=333						
CHN5				S	Sn	15 45 19.0	-0.1
	baz=333						
ESL	**Shilin**	**2.22**	**352**	*i* P	Pn	15 44 50.4	+0.2
	baz=347						
ESL				S	Sn	15 45 18.2	-0.8
	baz=347						
SSLB	**Suanglung**	**2.29**	**341**	P	Pn	15 44 51.4	+0.2
	baz=333						
SSLB				S	Sn	15 45 20.6	-0.1
	baz=333						
WSL	**Shuilin Townsh**	**2.37**	**324**	P	Pn	15 44 52.1	0.0
	baz=324						
WSL				S	Sn	15 45 21.1	-1.1
	baz=324						
WTK	**Tuku**	**2.42**	**329**	P	Pn	15 44 52.6	-0.1
	baz=325						
WTK				S	Sn	15 45 23.0	-0.5
	baz=325						
NACB	**Ninganchiao**	**2.56**	**357**	P	Pn	15 44 54.6	+0.2
	baz=3.0						
NACB				S	Sn	15 45 24.9	-1.6
	baz=3.0						
TCU	**Taichung**	**2.72**	**339**	P	Pn	15 44 57.2	+0.8
	baz=332						
WHP	**Taichung City**	**2.76**	**345**	P	Pn	15 44 58.0	+0.9
	baz=337						
PHUB	**P'eng-hu**	**2.77**	**314**	*e*P	Pn	15 44 56.8	-0.2
	baz=319						
PHUB				*e*S	Sn	15 45 29.1	-2.0
	baz=319						
PNG	**Penghu**	**2.82**	**314**	*e*P	Pn	15 44 57.8	+0.1
	baz=314						
CVP	**Callao Caves**	**3.88**	**179**	*e*P	Pn	15 45 10.1	-1.4
VWUC	**VWUC**	**3.98**	**328**	*e*P	Pn	15 45 12.5	-0.2
	baz=328						
VWUC				S	Sn	15 45 57.2	-2.0
	baz=328						
PTMZ	**Houxiangcun**	**4.19**	**325**	*e*P	Pn	15 45 13.4	-2.1
	baz=325						
PTMZ				*e*S	Sn	15 45 59.7	-4.3
	baz=325						
MHZQ	**Yeshan**	**5.12**	**331**	P	Pn	15 45 27.7	-0.1
	baz=331						
MHZQ				*e*S	Sn	15 46 24.6	-1.6
	baz=331						

KRSC 09 15:47:22.0±0.7, 55°.36N×162°.48E, h39km±17km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.87**	**13**	*e*P	Pn	15 47 38.9	+1.2
KBG	**Krutoberegovo**	**0.90**	**8**	*e*P	Pn	15 47 39.3	+1.2
KBG				*e*S	Sn	15 47 51.8	+1.8
MKZ	**Mys Kozlova**	**0.92**	**208**	*e*P	Pn	15 47 39.3	+1.0
MKZ				*e*S	Sn	15 47 51.4	+1.2
ZLN	**Zelenaya**	**1.15**	**305**	*e*P	Pn	15 47 42.8	+1.1
ZLN				*e*S	Sn	15 47 57.2	+1.0
BZGR	**Bezymyannyi-Gr**	**1.16**	**301**	*e*P	Pn	15 47 42.9	+1.1
TUMD	**Tumrok D**	**1.20**	**263**	*e*P	Pn	15 47 43.9	+1.7
TUMD				*e*S	Sn	15 47 58.7	+1.4
CIRR	**Tsirk**	**1.23**	**308**	*e*P	Pn	15 47 44.8	+2.0
LGNR	**Loginova**	**1.24**	**306**	*e*P	Pn	15 47 44.4	+1.3
BZWR	**Bezymyannyi-We**	**1.27**	**299**	*e*P	Pn	15 47 44.7	+1.3
KMNR	**Kamenistaya**	**1.33**	**288**	*e*P	Pn	15 47 46.0	+1.9
KMNR				*e*S	Sn	15 48 02.4	+1.8
TUMR	**Tumrok**	**1.33**	**267**	*e*P	Pn	15 47 45.9	+1.7
KIRR	**Kirishev**	**1.35**	**297**	*e*P	Pn	15 47 46.0	+1.6
KIRR				*e*S	Sn	15 48 02.5	+1.4
SMKR	**Semkarok**	**1.35**	**336**	*e*P	Pn	15 47 45.7	+1.4
SMKR				*e*S	Sn	15 48 01.9	+0.9
KRSR	**Krestovskiy**	**1.38**	**309**	*e*P	Pn	15 47 45.4	+0.6
KLY	**Klyuchi**	**1.40**	**314**	*e*P	Pn	15 47 44.8	-0.2
BDR	**Baidarnaya**	**1.40**	**330**	*e*P	Pn	15 47 46.8	+1.7
KPT	**Kopyto**	**1.41**	**296**	*e*P	Pn	15 47 47.2	+2.0
SRKR	**Sorokina**	**1.49**	**331**	*e*P	Pn	15 47 47.9	+1.7
BKI	**Bering**	**2.01**	**93**	*e*P	Pn	15 47 55.9	+2.6
BKI				*e*S	Sn	15 48 20.1	+3.0
KII	**Karymskiy**	**2.20**	**234**	*e*P	Pn	15 47 59.6	+3.5
ESO	**Esso**	**2.21**	**286**	*e*P	Pn	15 47 59.3	+3.1
SPN	**Mys Shipunski**	**2.69**	**213**	*e*P	Pn	15 48 04.5	+1.9
SPN				*e*S	Sn	15 48 34.3	+0.4
NLC	**Nalytchevo**	**2.86**	**221**	*e*P	Pn	15 48 09.3	+4.3
SDLR	**Sedlovina**	**2.96**	**227**	*e*P	Pn	15 48 09.8	+3.2
KRER	**Koryakskii**	**3.00**	**228**	*e*P	Pn	15 48 11.4	+4.2
SMAR	**Somma**	**3.01**	**227**	*e*P	Pn	15 48 09.7	+2.4
AVH	**Avacha**	**3.04**	**228**	*e*P	Pn	15 48 12.1	+4.6
UGLR	**Uglovaya**	**3.04**	**226**	*e*P	Pn	15 48 10.6	+3.0
KOK	**Koryaka**	**3.06**	**229**	*e*P	Pn	15 48 13.0	+5.1
GNL	**Ganaly**	**3.13**	**240**	*e*P	Pn	15 48 11.7	+2.9
DALK	**Dalny**	**3.20**	**225**	*e*P	Pn	15 48 12.4	+2.7
PET	**Petropavlovsk**	**3.25**	**225**	*e*P	Pn	15 48 14.6	+4.3
KRMR	**Karymshinskiy**	**3.60**	**227**	*e*P	Pn	15 48 21.0	+5.8
RUS	**Russkaya**	**3.76**	**220**	*e*P	Pn	15 48 20.0	+2.7
GRL	**Gorelyy**	**3.83**	**225**	*e*P	Pn	15 48 23.0	+4.5
MTVR	**Mutnovka**	**3.84**	**223**	*e*P	Pn	15 48 23.7	+5.0
APC	**Apacha**	**3.97**	**234**	*e*P	Pn	15 48 26.1	+5.9

*IDC **09** 15:49:48.6±3.5, 54°.88S×39°.46W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.7/27, mbtmp4.1/5, MS4.5/2, Ms1 4.5/2, ms1mx4.3/7, Error ellipse: s-maj=99.8km s-min=35.1km az=6.0*
*NEIC **09** 15:49:50.7±1.2, 54°.9S±0°.1×39°.4W±0°.1, h10km±2km,*

mb4.4/8, Error ellipse: s-maj=25.8km s-min=8.1km az=158.0

ISC 09 15:49:50.4±1.0**, 54.°9S**±0.°1×**39.°5W**±0.°1**, h10**km**, n23, σ0.s63**/16**, mb4.2**/7**, South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	1.85	72	Pn	Pn	15 50 21.9	-0.2
ORCD	Orcadas	6.50	203	Pn	Pn	15 51 25.8	-0.2
PLCA	Paso Flores	24.95	292	P	P	15 55 13.9	+0.1
	4.5nm,1.1s,baz=134,slow=12,SNR=3.4						
PLCA	Paso Flores	24.95	292	P	P	15 55 14.4	+0.6
PLCA				IAmb	IAmb	15 55 16.4	
	comp=Z,10.0nm,1.3s						
PLTB	Pedras Altas	25.19	331	P	P	15 55 15.8	-0.2
PLTB				IAmb	IAmb	15 55 16.9	
	comp=Z,7.0nm,0.9s						
MT02	Curacav	30.95	301	P	P	15 56 06.7	-0.7
CO03	El Pedregal	32.71	304	P	P	15 56 22.4	-0.6
LVC	Limon Verde	39.01	314	P	P	15 57 17.7	+0.4
	comp=Z,3.9nm,0.7s,baz=149,slow=8.2,SNR=4.9						
LVC	Limon Verde	39.01	314	P	P	15 57 18.1	+0.8
LVC				IAmb	IAmb	15 57 18.6	
	comp=Z,5.7nm,0.8s						
SIV	San Ignacio	42.25	328	P	P	15 57 42.6	-1.2
	comp=Z,1.1nm,0.5s,baz=174,slow=9.2,SNR=6.0						
LPAZ	La Paz	44.40	319	P	P	15 58 01.6	-0.2
	comp=Z,0.8nm,0.5s,baz=131,slow=11,SNR=3.5						
LPAZ	La Paz	44.40	319	P	P	15 58 02.4	+0.6
H10N3	ASCENSION HYDR	50.99	33	T	T	16 53 02.5	
	baz=197,slow=75,SNR=55						
H10N1	ASCENSION HYDR	50.99	33	T	T	16 52 56.6	
	baz=197,slow=75,SNR=19						
H10N2	ASCENSION HYDR	51.01	33	T	T	16 52 58.7	
	baz=197,slow=75,SNR=11						
ATAH	Atahualpa	56.84	312	LR	LR	16 24 41.4	
	comp=Z,435nm,19.7s,baz=154,slow=37						
SDV	Santo Domingo	68.69	327	P	P	16 00 55.2	+1.0
SDV				IAmb	IAmb	16 01 11.2	
	comp=Z,9.8nm,1.4s						
ZARC	Zaragoza, Cauc	68.81	322	eP	P	16 01 04.6	+10
TORD	Torodi Ar. Bea	76.17	41	P	P	16 01 38.6	+0.2
	comp=Z,1.2nm,0.6s,baz=202,slow=5.9,SNR=7.1						
TORD	Torodi Ar. Bea	76.17	41	P	P	16 01 38.7	+0.2
RPZ	Rata Peaks	78.39	202	LR	LR	16 31 47.5	
	comp=Z,335nm,20.8s,baz=130,slow=32						
ILAR	Eielson Array	144.24	316	PKP	PKPbc	16 09 23.1	-0.2
	comp=Z,0.5nm,0.8s,baz=133,slow=1.6,SNR=5.6						
ILAR	Eielson Array	144.24	316		PKPab	16 09 22.9	0.0

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*BJI **09** 15:50:24.9±0.0, 54.°60S×39.°70W, h20km, mB5.4/6, Ms5.5/11, Ms7 5.1/12*

*MOS **09** 15:50:24.3±1.4, 54.°57S×39.°66W, h22km, mb5.5/17, Error ellipse: s-maj=18.8km s-min=11.5km az=119.7*

*NEIC **09** 15:50:25.8±2.4, 54.°63S±0.°08×39.°7W±0.°1, h19km±3km, mb5.4/83, Error ellipse: s-maj=11.4km s-min=8.8km az=166.0*

*GCMT **09** 15:50:27.8±0.1, 54.°73S±0.°01×39.°62W±0.°01, h15km, MW5.4/137, Moment Tensor Solution. s92,c133; s137,c228; Duration: 1.s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.19±.02; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$0.02±.02; $M_{r\theta}$0.62±.06; $M_{\theta\phi}$1.24±.02; $M_{\phi r}$0.05±.05; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s356.00000°, δ63.00000°, λ174.00000°. NP2:ϕ_s89.00000°, δ85.00000°, λ27.00000°. Principal axes: T 1.3420, Plg23.0000°, Azm316.0000°; N 0.1160, Plg62.0000°, Azm98.0000°; P -1.4580, Plg15.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **09** 15:50:30.1±1.8, 54.°52S×39.°43W, h51km±15km, mb4.9/22, mb1 4.9/24, mb1mx4.7/31, mbtmp5.1/24, ML4.3/2, MS4.6/2, Ms1 4.6/2, ms1mx4.4/6 Error ellipse: s-maj=13.2km s-min=10.2km az=49.0*

ISC 09 15:50:23.7±0.2**, 54.°59S**±0.°05×**39.°59W**±0.°05**, h10**km**, n434, σ1.s30**/420**, mb5.5**/75**, MS4.9**/9**, 2D, South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	1.84	82	P	Pn	15 50 55.3	0.0
HOPE	Hope Point	1.84	82	Pn	Pn	15 50 55.3	0.0
ORCD	Orcadas	6.75	202	Pn	Pn	15 51 58.7	-4.0
EFI	East Falkland	11.47	277	i P	Pn	15 53 06.5	-0.9
EFI	East Falkland	11.47	277		Pn	15 53 06.8	-0.6
ESPZ	Base Esperanza	12.54	218		Pn	15 53 17.7	-4.2
PMSA	Palmer Station	15.89	220	P	P	15 54 13.4	+2.5
	1.2nm,0.3s,baz=57,slow=8.8,SNR=9.7						
PMSA				LR	LR	15 59 10.5	
	comp=Z,4μm,21.7s,baz=42,slow=32						
PMSA	Palmer Station	15.89	220		Pn	15 54 08.0	+0.8
PMSA				IAmb	IAmb	15 54 23.8	
	comp=Z,435nm,1.1s						
PMSA	Palmer Station	15.89	220	eP	P	15 54 12.6	+1.8
USHA	Ushuaia	16.62	257	P	P	15 54 22.0	+3.0
	comp=Z,1.0nm,0.3s,baz=59,slow=13,SNR=6.0						
USHA	Ushuaia	16.62	257	P	P	15 54 22.0	+3.0
DSPA	Despedida	16.71	260	Pn	Pn	15 54 16.1	-1.6
MG02	Cerro Sombrero	17.59	264	Pn	Pn	15 54 28.5	-0.2
MG02				IAmb	IAmb	15 54 53.6	
	comp=Z,243nm,0.8s						
MG03	Isla Dawson	18.00	260		P	15 54 34.9	+0.6
MG03				IAmb	IAmb	15 54 46.5	
	comp=Z,277nm,1.4s						
SMAI	San Martin Ant	18.67	213	P	Pn	15 54 42.5	+0.6
SMAI				IAmb	IAmb	15 55 10.0	
	comp=Z,232nm,1.3s						
VNA3	Neumayer Olymp	21.15	153	P	P	15 55 10.0	+1.6
VNA1	Neumayer--Stat	21.19	151	P	P	15 55 10.6	+1.8
VNA2	Neumayer--Watz	21.58	152	P	P	15 55 14.5	+1.4
	baz=303,slow=13						
COYC	Coyhaique	22.54	280	P	P	15 55 25.5	+1.9
COYC				IAmb	IAmb	15 55 50.3	
	comp=Z,250nm,1.3s						
SNAA	Sanae	23.22	151	P	P	15 55 31.7	+1.2
SNAA	Sanae	23.22	151	P	P	15 55 31.3	+0.7
	comp=Z,12nm,0.8s,baz=296,slow=8.9,SNR=6.5						
SNAA	Sanae	23.22	151	i P	P	15 55 33.0	+2.4
SNAA				pmax	pmax		
	comp=Z,29nm,1.0s						
SNAA	Sanae	23.22	151	P	P	15 55 31.5	+0.9
BELA	Belgrano 2	23.45	177	P	P	15 55 34.5	+1.8
AY01	Puyuhuapi	23.55	282	P	P	15 55 35.8	+1.9
LL01	San Ignacio de	24.70	286	P	P	15 55 44.5	-0.3
PLCA	Paso Flores	24.79	291	P	P	15 55 46.5	+0.8
	comp=Z,84nm,1.1s,baz=137,slow=9.6,SNR=46						
PLCA	Paso Flores	24.79	291	P	P	15 55 46.3	+0.6
PLCA				pmax	pmax		
	comp=Z,136nm,1.1s						
PLCA	Paso Flores	24.79	291	P	P	15 55 46.3	+0.6
PLCA				IAmb	IAmb	15 56 00.9	
	comp=Z,136nm,1.1s						
PLCA	Paso Flores	24.79	291	eP	P	15 55 46.3	+0.6
PLTB	Pedras Altas	24.91	331	P	P	15 55 47.2	+0.4
PLTB				IAmb	IAmb	15 55 51.1	
	comp=Z,120nm,0.8s						
PLTB	Pedras Altas	24.91	331	eP	P	15 55 47.5	+0.7
LL03	Petrohue	25.53	288	P	P	15 55 52.1	-0.1
LL03				IAmb	IAmb	15 56 11.0	
	comp=Z,117nm,0.9s						
LL04	Puerto Octay	25.69	289	P	P	15 55 53.6	-0.1
CPSB	Cacapava Do Su	26.14	332	eP	P	15 55 58.7	+0.8
LC01	Cunco	26.81	292	P	P	15 56 03.0	-0.9
TER01	Tubaro-SC	26.95	341	eP	P	15 56 04.7	-0.5
ITQB	Itaqui	27.77	327	P	P	15 56 11.8	-0.8
ITQB				IAmb	IAmb	15 56 19.0	
	comp=Z,91nm,1.0s						
ITQB	Itaqui	27.77	327	eP	P	15 56 13.8	+1.2
ITAB	Concordia	28.84	336	P	P	15 56 21.5	-0.5
MRA	San Martin	28.86	310	i P	P	15 56 22.9	+0.6
MRA				i P	pP	15 56 23.1	-1.7
MRA				i P	pP	15 56 23.1	-1.7
TCA	Tanti	29.29	312	i P	P	15 56 27.3	+1.1
GO05	Huala	29.77	298	P	P	15 56 29.3	-1.0
BO04	La Punta	29.90	301	P	P	15 56 29.6	-1.9
ASAL	Salagasta	30.16	305	i P	P	15 56 34.8	+0.9
MT09	Talagante	30.26	301	P	P	15 56 33.6	-1.2
MT01	Popeta	30.32	300	P	P	15 56 34.8	-0.3
PEL	Peldehue	30.61	302	P	P	15 56 37.7	-0.1
PEL				pmax	pmax		
	comp=Z,33nm,1.0s						
PEL	Peldehue	30.61	302	P	P	15 56 37.7	-0.1
AUSP	Uspallata	30.73	304	i P	P	15 56 39.5	+0.4
MT02	Curacav	30.75	301	P	P	15 56 37.0	-2.0
PET01	Itanhaem-SP	30.80	346	eP	P	15 56 40.4	+0.9
ROC1	El Roble	30.91	301	P	P	15 56 40.4	-0.3
ROC1				IAmb	IAmb	15 56 56.0	
	comp=Z,39nm,0.7s						
ZON	Zonda	30.95	306	P	P	15 56 40.5	-0.4
ZON				pmax	pmax		
	comp=Z,39nm,1.3s						
ZON	Zonda	30.95	306	P	P	15 56 40.5	-0.4
CPUP	Villa Florida	31.11	328	P	P	15 56 42.9	+0.8
	comp=Z,34nm,0.8s,baz=167,slow=7.9,SNR=28						
CPUP	Villa Florida	31.11	328	P	P	15 56 42.8	+0.7
CPUP				pmax	pmax		
	comp=Z,83nm,1.1s						
CPUP	Villa Florida	31.11	328	P	P	15 56 42.8	+0.7
CPUP				IAmb	IAmb	15 56 55.8	
	comp=Z,83nm,1.1s						
CPUP	Villa Florida	31.11	328	eP	P	15 56 43.0	+0.8
AVFE	Valle Fertil	31.13	309	i P	P	15 56 42.7	+0.2
PTGB	Pitanga	31.25	338	eP	P	15 56 44.2	+0.7
VA06	Catapilco	31.39	302	P	P	15 56 44.5	-0.1
VA06				IAmb	IAmb	15 57 00.2	
	comp=Z,61nm,1.0s						
PARB	Paraibuna	31.54	349	eP	P	15 56 47.1	+1.1
MAN01	Angra dos Reis	31.85	352	eP	P	15 56 49.9	+1.1
ACCO	Cerro Coronel	31.93	307	i P	P	15 56 51.4	+1.6
VAO	Valinhos	32.03	347	eP	P	15 56 51.5	+1.1
CO02	Combarbal	32.35	303	P	P	15 56 53.5	+0.4
CO02				IAmb	IAmb	15 57 19.7	
	comp=Z,62nm,1.1s						
VAS01	Vassouras-RJ	32.40	353	eP	P	15 56 54.6	+1.1
CO03	El Pedregal	32.50	304	P	P	15 56 55.5	+1.1
CO03				IAmb	IAmb	15 57 13.8	
	comp=Z,37nm,0.8s						
DUB01	Friburgo-RJ	32.53	355	eP	P	15 56 55.8	+1.0
CAM01	Campos-RJ	32.76	356	eP	P	15 56 58.0	+1.4
CO06	Fray Jorge	33.09	303	P	P	15 57 00.6	+1.0
VCA	Vinchina	33.11	310	i P	P	15 57 02.0	+2.1
TRCB	Terra Rica	33.23	338	P	P	15 56 59.6	-1.3
TRCB	Terra Rica	33.23	338	eP	P	15 57 01.9	+1.0
BSCB	Bom Sucesso	33.77	351	eP	P	15 57 06.5	+0.9
ALF01	Guarapari-ES	33.93	358	eP	P	15 57 08.5	+1.6
LCO	Las Campanas	34.02	306	P	P	15 57 08.3	+0.3
LCO				pmax	pmax		
	comp=Z,18nm,0.8s						
LCO	Las Campanas	34.02	306	P	P	15 57 08.3	+0.3
PCMB	Pacaembu	34.10	340	eP	P	15 57 08.8	+0.4
BB19B	Bebedouro	34.15	345	eP	P	15 57 09.5	+0.6
RIB01	Linhares ES	35.22	359	eP	P	15 57 19.3	+1.2
QSPA	South Pole Qui	35.66	180	P	P	15 57 23.6	+1.9
	comp=Z,20nm,0.8s,baz=180,slow=3.5,SNR=59						
QSPA	South Pole Qui	35.66	180	P	P	15 57 23.1	+1.4
ITRB	Iturama	35.79	342	eP	P	15 57 23.4	+0.4
SJMB	Sao Joao De Ma	35.85	357	eP	P	15 57 24.7	+1.3
AQDB	Aquidauana	36.20	334	P	P	15 57 25.6	-0.8
AQDB				IAmb	IAmb	15 57 36.8	
	comp=Z,36nm,0.9s						
AQDB	Aquidauana	36.20	334	eP	P	15 57 26.1	-0.3
DIAM	Diamantina, MG	36.37	353	eP	P	15 57 29.3	+1.2
AC01	Pan de Azucar	36.41	309	IAmb	IAmb	15 57 30.4	
	comp=Z,64nm,1.4s						
SYO	Syowa Base	37.06	144⇓	epP	pP	15 57 35.4	-0.2
SYO	Syowa Base	37.06	144⇓	esP	sP	15 57 38.6	+2.1
IPMB	Ipameri, GO	37.14	346	eP	P	15 57 34.8	+0.3
GUA01	Guaratinga, BA	37.93	360	eP	P	15 57 42.4	+1.2
PB15	IPOC Station P	38.47	313	P	P	15 57 47.1	+1.1
PP1B	Ponte de Pedra	38.76	336	eP	P	15 57 48.9	+0.7
LVC	Limon Verde	38.76	314	P	P	15 57 50.6	+2.0
	comp=Z,85nm,0.7s,baz=164,slow=4.4,SNR=55						
LVC	Limon Verde	38.76	314	P	P	15 57 49.5	+0.9
LVC				pmax	pmax		
	comp=Z,337nm,1.5s						
LVC	Limon Verde	38.76	314	P	P	15 57 49.5	+0.9
LVC	Limon Verde	38.76	314	eP	P	15 57 50.4	+1.8
PB06	IPOC Station P	38.96	313	IAmb	IAmb	15 57 53.1	
	comp=Z,135nm,1.3s						
CMC01	Camacan, BA	39.15	0	eP	P	15 57 51.7	+0.2
BDFB	Brasilia	39.42	347	P	P	15 57 54.4	+0.6
	comp=Z,21nm,0.9s,baz=154,slow=5.2,SNR=19						
NBIT	Itapeh - BA	39.58	0	eP	P	15 57 56.4	+1.4
JANB	Januaria	39.62	353	eP	P	15 57 55.4	-0.1
ARAG	Araguaiana, MT	39.95	341	eP	P	15 57 58.3	+0.2
SALV	Santo Antonio	40.59	336	eP	P	15 58 03.6	+0.2
GDU01	Guandu, BA	40.78	0	eP	P	15 58 06.0	+1.1
PATCX	Punta Patache	40.88	313	P	P	15 58 07.1	+1.2
PB08	IPOC Station P	41.06	315	P	P	15 58 09.6	+1.8
PTLB	Pontes e Lacer	41.92	331	eP	P	15 58 14.7	+0.4
SIV	San Ignacio	41.97	328	P	P	15 58 15.3	+0.5
	comp=Z,33nm,0.7s,baz=155,slow=7.7,SNR=57						
SDBA	SAO DESIDERIO	42.29	352	eP	P	15 58 18.0	+0.6
PEXB	Peixe	42.94	347	eP	P	15 58 23.2	+0.5
SNDB	Serra Nova Dou	43.51	343	eP	P	15 58 27.9	+0.7
NBLA	Lagarto - SE	43.52	3	eP	P	15 58 28.2	+0.9
NBPN	Ponto Novo - B	43.64	359	eP	P	15 58 28.2	-0.1
LPAZ	La Paz	44.14	319	P	P	15 58 34.7	+1.7
	comp=Z,20nm,0.7s,baz=149,slow=7.1,SNR=30						
LPAZ	La Paz	44.14	319	P	P	15 58 34.1	+1.0
LPAZ				pmax	pmax		
	comp=Z,41nm,0.8s						
LPAZ	La Paz	44.14	319	P	P	15 58 34.1	+1.0
LPAZ				IAmb	IAmb	15 58 49.0	
	comp=Z,41nm,0.8s						
LPAZ	La Paz	44.14	319	eP	P	15 58 33.0	0.0
VILB	Vilhena	44.59	331	eP	P	15 58 36.3	+0.3
NBAN	Anadia - AL	44.88	5	eP	P	15 58 38.8	+0.5
PDRB	Porto dos Gac	44.97	336	eP	P	15 58 38.5	-0.5
ELIM	Elim	45.21	89	eP	P	15 58 40.6	-0.2
ELIM				IAmb	IAmb	15 58 43.4	
	comp=Z,155nm,1.3s						
MAW	Mawson	45.33	148	P	P	15 58 43.5	+2.2
	comp=Z,23nm,0.9s,baz=273,slow=14,SNR=1.7						
CLDB	Colider	45.47	337	eP	P	15 58 42.5	-0.4
NBRF	Rio Formoso -	45.93	6	eP	P	15 58 47.2	+0.6
SMTB	Santa Maria do	46.06	349	eP	P	15 58 48.0	+0.4
NBMA	Muriti-CE	47.10	1	eP	P	15 58 56.6	+0.8
NBLV	Livramento - P	47.15	4	eP	P	15 58 56.9	+0.7
SUR	Sutherland	47.42	88	P	P	15 58 59.7	+1.3
	comp=Z,70nm,0.8s,baz=212,slow=6.8,SNR=37						
SUR	Sutherland	47.42	88	P	P	15 58 60.0	+1.6
CVNA	Calvinia	47.46	86	eP	P	15 58 58.9	+0.2
CVNA				IAmb	IAmb	15 59 09.9	
	comp=Z,101nm,1.2s						
VNDA	Vanda	47.48	186	P	P	15 59 00.5	+2.4
	comp=Z,3.8nm,1.2s,baz=120,slow=9.7,SNR=4.0						
VNDA	Vanda	47.48	186	P	P	15 58 59.5	+1.5
VNDA				pmax	pmax		
	comp=Z,26nm,1.2s						
VNDA	Vanda	47.48	186	P	P	15 58 59.5	+1.5
NBPV	Pedro Velho	48.16	6	eP	P	15 59 04.7	+0.7
GRAN	Grantham	48.27	89	eP	P	15 59 06.5	+1.6
GRAN				IAmb	IAmb	15 59 07.7	
	comp=Z,44nm,0.8s						
KROM	Kromhout	48.37	92	eP	P	15 59 06.0	+0.6
KROM				IAmb	IAmb	15 59 16.3	
	comp=Z,122nm,1.1s						
RCBR	Riachuelo	48.72	5	P	P	15 59 08.1	-0.2
	comp=Z,18nm,1.0s,baz=320,slow=8.6,SNR=4.9						
RCBR	Riachuelo	48.72	5	P	P	15 59 09.5	+1.2
RCBR				pmax	pmax		
	comp=Z,27nm,1.1s						
RCBR	Riachuelo	48.72	5	P	P	15 59 09.5	+1.2
RCBR				IAmb	IAmb	15 59 33.0	
	comp=Z,27nm,1.1s						
RCBR	Riachuelo	48.72	5	eP	P	15 59 09.1	+0.8
NBPB	Pedra_Branca-C	48.91	0	eP	P	15 59 09.9	+0.2
PRPB	Parauapebas	48.98	346	eP	P	15 59 10.5	+0.2
NPGB	Novo Progresso	49.08	339	eP	P	15 59 10.8	-0.3
ETMB	Extrema	49.42	324	eP	P	15 59 14.1	+0.4
AUGR	Augrabies	49.94	84	eP	P	15 59 18.5	+0.9
AUGR				IAmb	IAmb	15 59 28.4	
	comp=Z,95nm,1.3s						
NBPS	Pedro II - PI	50.07	358	eP	P	15 59 19.3	+0.6
KEIM	Keimoes	50.22	85	eP	P	15 59 20.5	+0.7
KEIM				IAmb	IAmb	15 59 30.4	
	comp=Z,40nm,1.0s						
NBCL	Cascavel-CE	50.23	2	eP	P	15 59 20.6	+0.8
UPI	Upington	50.64	84	eP	P	15 59 23.7	+0.7
UPI				IAmb	IAmb	15 59 33.5	
	comp=Z,29nm,1.1s						
H10N3	ASCENSION HYDR	50.77	33	T	T	16 54 28.1	
	baz=199,slow=75,SNR=2540						
H10N1	ASCENSION HYDR	50.77	33	T	T	16 54 28.2	
	baz=199,slow=75,SNR=1547						
H10N2	ASCENSION HYDR	50.79	33	T	T	16 54 29.3	
	baz=199,slow=75,SNR=2338						
NBMO	Morrinhos-CE	51.12	359	eP	P	15 59 27.2	+0.6
HVD	Gariep Dam	51.44	90	eP	P	15 59 28.5	-0.6
HVD				IAmb	IAmb	15 59 40.2	
	comp=Z,100nm,1.1s						
NNA	Nana	51.60	311	P	P	15 59 31.4	+1.1
NNA				pmax	pmax		
	comp=Z,62nm,1.0s						
NNA	Nana	51.60	311	P	P	15 59 31.4	+1.1
NNA				IAmb	IAmb	15 59 32.9	
	comp=Z,62nm,1.0s						
ROSB	Rosrio	51.67	354	eP	P	15 59 31.2	+0.6
ITTB	Itaituba	51.76	339	eP	P	15 59 31.1	-0.3
TMAB	Tom-Au,PA,Br	52.52	349	eP	P	15 59 37.8	+0.9
BOSA	Boshof	52.78	88	P	P	15 59 38.9	0.0
	comp=Z,41nm,0.9s,baz=211,slow=7.0,SNR=40						
BOSA	Boshof	52.78	88	eP	P	15 59 39.0	0.0
BOSA				IAmb	IAmb	15 59 49.0	
	comp=Z,153nm,1.2s						
BOSA	Boshof	52.78	88	P	P	15 59 39.2	+0.2
BOSA				pmax	pmax		
	comp=Z,129nm,1.1s						
BOSA	Boshof	52.78	88	P	P	15 59 39.2	+0.2
CZSB	Cruzeiro do Su	53.72	318	eP	P	15 59 46.8	+0.9
SWZ	Schweizer	53.90	87	eP	P	15 59 46.7	-0.5
SWZ				IAmb	IAmb	15 59 57.0	
	comp=Z,174nm,1.3s						
MALB	Monte Alegre	53.93	342	eP	P	15 59 47.8	+0.4
MACA	Manacapuru-AM	54.08	334	eP	P	15 59 48.4	0.0
SNKL	Senekal, Frees	54.49	90	eP	P	15 59 51.2	-0.4
SNKL				IAmb	IAmb	16 00 01.9	
	comp=Z,190nm,1.2s						
MCPB	Macapa, AP	55.02	345	eP	P	15 59 55.8	+0.5
PRYS	Parys	55.27	88	eP	P	15 59 56.7	-0.5
PRYS				IAmb	IAmb	16 00 06.9	
	comp=Z,108nm,1.1s						
TSUM	Tsumeb	55.67	74	P	P	16 00 00.6	+0.4
	comp=Z,13nm,0.9s,baz=211,slow=6.6,SNR=12						
TSUM	Tsumeb	55.67	74	eP	P	15 59 59.3	-0.9
TSUM	Tsumeb	55.67	74	P	P	16 00 00.8	+0.7
TSUM				IAmb	IAmb	16 00 10.7	
	comp=Z,56nm,1.1s						
WDLM	Western Deep L	55.69	88	eP	P	15 59 59.6	-0.7
WDLM				IAmb	IAmb	16 00 10.1	
	comp=Z,62nm,1.1s						
LBTB	Lobatse	55.70	85	P	P	16 00 00.0	-0.3
	comp=Z,35nm,0.9s,baz=216,slow=8.3,SNR=33						
LBTB	Lobatse	55.70	85	eP	P	16 00 00.0	-0.3
LBTB				IAmb	IAmb	16 00 10.3	
	comp=Z,186nm,1.4s						
LBTB	Lobatse	55.70	85	P	P	16 00 00.5	+0.2
LBTB				pmax	pmax		
	comp=Z,184nm,1.4s						
LBTB	Lobatse	55.70	85	P	P	16 00 00.5	+0.2
LBTB	Lobatse	55.70	85	i P	P	16 00 03.6	+3.3
LBTB	Lobatse	55.70	85	i P	P	16 00 03.6	+3.3
KSR	Koster	55.81	87	eP	P	16 00 01.1	-0.1
KSR				IAmb	IAmb	16 00 11.8	
	comp=Z,55nm,0.9s						
TBTG	Tabatinga, AM	55.94	323	eP	P	16 00 02.8	+0.9
NWCL	Newcastle	56.13	91	eP	P	16 00 04.0	+0.6
NWCL				IAmb	IAmb	16 00 13.4	
	comp=Z,28nm,1.1s						
SLR	Silverton	56.71	88	eP	P	16 00 06.8	-0.7
SLR				IAmb	IAmb	16 00 17.8	
	comp=Z,80nm,1.2s						
POGA	Pongola	57.48	92	eP	P	16 00 13.4	+0.6
POGA				IAmb	IAmb	16 00 22.7	
	comp=Z,34nm,1.0s						
CRLN	Carolina, Mapu	57.52	90	i P	P	16 00 11.2	-2.2
CRLN				eP	pP	16 00 12.7	-2.8
BOAV	Boa Vista	59.38	335	eP	P	16 00 25.3	-0.8
MOPA	Mopani	60.22	89	eP	P	16 00 31.6	-0.3
MOPA				IAmb	IAmb	16 00 42.0	
	comp=Z,40nm,1.1s						
MOPA	Mopani	60.22	89	i P	P	16 00 32.9	+1.0
MOPA	Mopani	60.22	89	i P	P	16 00 32.9	+1.0
MSNA	Messina	60.33	87	eP	P	16 00 33.0	+0.4
MSNA				IAmb	IAmb	16 00 42.6	
	comp=Z,137nm,1.4s						
MSNA	Messina	60.33	87	i P	P	16 00 33.9	+1.2
MSNA	Messina	60.33	87	i P	P	16 00 33.9	+1.2
MATP	Matopo	60.94	85	P	P	16 00 37.6	+0.6
	comp=Z,31nm,1.0s,baz=216,slow=7.5,SNR=4.5						
MATP	Matopo	60.94	85	i P	P	16 00 38.0	+1.1
MATP	Matopo	60.94	85	i P	P	16 00 38.0	+1.1
BLWY	Bulawayo	61.22	84	i Pg	P	16 00 38.7	-0.2
BLWY				IAmb	IAmb	16 00 49.1	
	comp=Z,425nm,1.1s						
BLWY	Bulawayo	61.22	84	i P	P	16 00 40.0	+1.1
BLWY	Bulawayo	61.22	84	i P	P	16 00 40.0	+1.1
OTAV	Otavalo	63.27	315	P	P	16 00 54.7	+1.7
OTAV				pmax	pmax		
	comp=Z,66nm,1.2s						
OTAV	Otavalo	63.27	315	P	P	16 00 54.6	+1.7
OTAV	Otavalo	63.27	315	eP	P	16 00 53.9	+0.9
FLOC	Florencia	63.39	319	eP	P	16 00 52.7	-0.6
GCUF	Volcan Galeras	63.72	317	eP	P	16 01 06.2	+10
GARC	Garzon, Huila	63.88	319	eP	P	16 00 54.6	-2.2
SOTA	Rioblanco	64.26	318	eP	P	16 01 01.5	+1.9
PCON	Cinco Dias	64.36	318	eP	P	16 01 02.4	+2.1
POPC	Popayan, Colom	64.66	318	eP	P	16 01 02.6	+0.7
LSZ	Lusaka	64.83	81	P	P	16 01 03.6	+0.6
	comp=Z,15nm,0.7s,baz=213,slow=7.2,SNR=2.8						
ORTC	Ortega, Tolima	65.37	320	eP	P	16 01 06.8	+0.5
YOTC	Yotoco, Valle	65.86	319	eP	P	16 01 10.2	+0.7
ROSC	El Rosal	65.89	322	P	P	16 01 10.7	+0.7
	comp=Z,13nm,0.4s,baz=140,slow=7.9,SNR=3.7						
ROSC	El Rosal	65.89	322	IAmb	IAmb	16 01 28.9	
	comp=Z,26nm,0.6s						
RUSC	La Rusia	66.43	323	eP	P	16 01 12.4	-1.2
GUY2C	Guyana, Caldas	66.63	321	eP	P	16 01 13.9	-0.9
PLMC	San Jos del P	66.68	320	eP	P	16 01 13.9	-0.8
NORC	Norcasia	66.76	321	eP	P	16 01 13.0	-2.2
LIC	Lamto	67.12	38	eP	P	16 01 17.5	+0.1
	comp=Z,186nm,0.8s						
TETE	Tete	67.25	86	eP	P	16 01 20.3	+2.0
TETE				IAmb	IAmb	16 01 29.4	
	comp=Z,97nm,1.2s						
KIC	Kosan Boka	67.34	38	eP	P	16 01 18.7	-0.1
	comp=Z,36nm,0.7s						
CBOC	Ciudad Bolivar	67.46	320	eP	P	16 01 19.3	-0.5
TIC	Toumodi	67.51	38	eP	P	16 01 20.0	+0.1
PTBC	PUERTO BERRIO,	67.52	322	eP	P	16 01 18.0	-2.0
DBIC	Dimbokro	67.59	38	P	P	16 01 20.1	-0.3
	comp=Z,32nm,0.8s,baz=205,slow=5.8,SNR=32						
DBIC	Dimbokro	67.59	38	eP	P	16 01 19.2	-1.1
DBIC	Dimbokro	67.59	38	P	P	16 01 20.5	+0.1
DBIC				pmax	pmax		
	comp=Z,32nm,0.9s						
DBIC	Dimbokro	67.59	38	P	P	16 01 20.5	+0.1
DBIC				IAmb	IAmb	16 01 23.2	
	comp=Z,32nm,0.8s						
SDV	Santo Domingo	68.41	327	P	P	16 01 25.5	-0.3
SDV	Santo Domingo	68.41	327	eP	P	16 01 23.6	-2.2
SDV	Santo Domingo	68.41	327	eP	P	16 01 26.2	+0.4
ZARC	Zaragoza, Cauc	68.54	322	P	P	16 01 25.0	-1.4
ZARC				IAmb	IAmb	16 01 43.0	
	comp=Z,20nm,0.7s						
DBBC	Dabeiba	68.60	321	eP	P	16 01 25.0	-1.8
OCAC	Ocana	68.70	324	P	P	16 01 25.7	-1.8
OCAC				IAmb	IAmb	16 01 40.0	
	comp=Z,13nm,0.7s						
MOTC	Monteria, Cord	70.02	322	P	P	16 01 35.4	-0.2
MOTC				IAmb	IAmb	16 01 52.6	
	comp=Z,58nm,1.2s						
MOTC	Monteria, Cord	70.02	322	eP	P	16 01 30.4	-5.2
SJCC	San Jacinto, C	70.89	323	P	P	16 01 39.7	-1.2
SJCC				IAmb	IAmb	16 01 55.8	
	comp=Z,29nm,0.9s						
BRU2	Volcan	72.75	315	P	P	16 01 53.6	+1.4
RIOS	Rincon, Osa	73.01	314	P	P	16 01 54.7	+1.2
RIOS				IAmb	IAmb	16 01 56.4	
	comp=Z,52nm,1.0s						
RIMA	Rio Macho	74.12	314	P	P	16 02 00.8	+0.5
RIMA				IAmb	IAmb	16 02 27.6	
	comp=Z,41nm,1.4s						
JTS	Las Juntas de	75.05	314	P	P	16 02 05.9	+0.4
JTS				pmax	pmax		
	comp=Z,29nm,0.9s						
JTS	Las Juntas de	75.05	314	P	P	16 02 05.9	+0.4

JTS IAmb IAmb 16 02 23.8
comp=Z,29nm,0.9s
ORTG Ortega, Santa 75.32 313 P **P 16 02 08.6 +1.5**
ORTG IAmb IAmb 16 02 09.9
comp=Z,36nm,1.2s
TORD Torodi Ar. Bea 75.98 41 P **P 16 02 11.5 +0.7**
comp=Z,54nm,0.8s,baz=208,slow=5.1,SNR=115
TORD Torodi Ar. Bea 75.98 41 P **P 16 02 11.2 +0.4**
ESPN Las Esperanzas 76.49 315 IAmb IAmb 16 02 33.4
comp=Z,30nm,0.5s
ACON Acoyapa 76.64 314 IAmb IAmb 16 02 26.2
comp=Z,49nm,1.1s
BOAB BOACO BROADBAN77.28 314 P **P 16 02 17.6 -0.6**
MATN Matagalpa 77.82 314 IAmb IAmb 16 02 44.2
comp=Z,29nm,0.9s
MBAR Mbarara 78.21 74 *i* P **P 16 02 24.2 +0.6**
MBAR Mbarara 78.21 74 P **P 16 02 23.8 +0.1**
RPZ Rata Peaks 78.64 202 P **P 16 02 26.7 +1.2**
comp=Z,6.7nm,0.7s,baz=198,slow=9.6
RPZ Rata Peaks 78.64 202 P **P 16 02 26.2 +0.7**
RPZ IAmb IAmb 16 02 48.2
comp=Z,27nm,1.0s
TGUH Tegucigalpa,Un 79.40 313 P **P 16 02 31.2 +1.2**
TGUH IAmb IAmb 16 02 52.0
comp=Z,40nm,1.1s
KIBK Kibwezi 80.94 81 P **P 16 02 39.4 +1.0**
KIBK IAmb IAmb 16 02 53.1
comp=Z,48nm,1.4s
QRZ Quartz Range 81.05 204 P **P 16 02 38.6 0.0**
QRZ IAmb IAmb 16 02 55.1
comp=Z,57nm,1.3s
KMBO Kilima Mbogo 81.47 80 *e*P P 16 02 47.4 +5.9
KMBO IAmb IAmb 16 02 55.1
comp=Z,56nm,1.4s
KMBO Kilima Mbogo 81.47 80 *i* P **P 16 02 41.4 0.0**
HIZ Hauiti 82.66 207 P **P 16 02 48.4 +1.3**
PAE Paea 86.81 244 *e*T T 17 39 04.2
comp=Z,6.9nm,0.3s
PPT2 Papeete2 86.87 244 *e*LR LR 16 30 42.9
comp=Z,854nm,32.2s
PPT2 Papeete2 86.87 244 *e*T T 17 38 47.1
comp=Z,10nm,0.3s
PPT Papeete 86.89 244 LR LR 16 33 25.7
comp=Z,158nm,21.0s,baz=140,slow=30
TAOE Nuku Hiva Isla 88.91 256 *e*LR LR 16 31 40.4
comp=Z,332nm,29.0s
STKA Stephens Creek 93.88 181 P **P 16 03 43.6 +2.3**
comp=Z,0.3nm,0.3s,baz=185,slow=10,SNR=1.4
ESDC Sonseca Array 98.75 27 P Pdif 16 04 03.6 +0.7
comp=Z,1.1nm,0.8s,baz=262,slow=7.0,SNR=2.3
TXAR Lajitas Array 100.03 307 P **Pdif 16 04 10.7 +1.7**
comp=Z,0.3nm,0.7s,baz=145,slow=8.9,SNR=4.2
TXAR Lajitas Array 100.03 307 P **Pdif 16 04 09.6 +0.7**
TXAR Lajitas Array 100.03 307 **Pdif 16 04 09.6 +0.7**
DZM Mont Dzumac 100.44 204 *e*LR LR 16 37 25.7
comp=Z,950nm,31.9s
ASAR Alice Springs 101.86 174 P **Pdif 16 04 17.6 +0.2**
comp=Z,0.5nm,0.8s,baz=166,slow=4.3,SNR=7.6
ASAR PP **PP 16 08 23.1 -4.1**
comp=Z,0.5nm,0.7s,baz=178,slow=6.4,SNR=4.9
ASAR Alice Springs 101.86 174 P **Pdif 16 04 17.1 -0.3**
ASAR Alice Springs 101.86 174 **Pdif 16 04 17.1 -0.3**
WMOK Wichita Mounta 102.46 314 P **Pdif 16 04 20.7 +1.2**
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 105.59 174 Pdiff **Pdif 16 04 34.2 +0.3**
comp=Z,0.6nm,1.2s,baz=193,slow=4.2,SNR=1.6
WRA PKiKP **PKiKP 16 08 48.2 +1.1**
comp=Z,0.6nm,0.6s,baz=203,slow=1.4,SNR=7.8
BRTR Keskin Array B 112.84 53 PP **PP 16 09 49.3 +0.3**
comp=Z,0.6nm,0.5s,baz=197,slow=6.3,SNR=1.7
NVAR Mina Array Bea 114.45 302 PKiKP **PKiKP 16 09 04.3 +0.9**
comp=Z,0.6nm,0.7s,baz=115,slow=3.5,SNR=5.2
UZH Uzhgorod 115.25 40 *e*PKIKP **PKiKP 16 09 07.5 +3.2**
UZH *e* 16 09 11.3
UZH *e* 16 09 16.6
AKASG Malin Array Be 119.60 43 PKP **PKPdf 16 09 11.4 -1.1**
comp=Z,0.4nm,0.5s,baz=251,slow=1.6,SNR=4.3
AKASG Malin Array Be 119.60 43 PKIKP **PKPdf 16 09 11.1 -1.4**
AKASG Malin Array Be 119.60 43 **PKPdf 16 09 11.1 -1.4**
KIV Kislovodsk 120.40 56 *i* PKIKP **PKiKP 16 09 16.1 +1.5**
KIV pmax pmax
comp=Z,3.0nm,1.1s
NACGM Naroch 121.95 39 *i* PKP **PKPdf 16 09 15.9 -1.0**
MNK Minsk 122.04 39 *i* PKIKP **PKiKP 16 09 17.5 +0.3**
MNK *i* 16 10 52.1
MNK *i* PPP PPP 16 13 27.5
MNK *i* 16 16 29.5
MNK *i* SS SS 16 27 32.3 +1.5
MNK *i* SSS SSS 16 32 02.6
MNK MLR MLR
comp=Z,269nm,18.0s
MNK MLR MLR
comp=N,238nm,24.0s
MNK MLR MLR
comp=E,53nm,19.0s
MNK Minsk 122.04 39 *i* PKP **PKiKP 16 09 17.6 +0.3**
MNK *i* PKP **PKiKP 16 09 17.6 +0.3**
MNK *i* PKP **PKiKP 16 09 17.6 +0.3**
baz=220
MNK *i* PP **PP 16 10 52.2 -0.4**
MNK *i* PPP PPP 16 13 27.6
MNK *i* SKS **SKSdf 16 16 29.6 +1.1**
MNK *i* SKKS **SKKSdf 16 27 01.8 -0.4**
MNK *i* SS **SS 16 27 32.3 +1.5**
MNK *i* SSS SSS 16 32 02.7
MNK *i* LR LR 16 58 28.6
MNK *i* LRM MLR 17 01 38.5
comp=E,53nm,19.2s
MNK *i* LRM MLR 17 01 38.5
comp=N,238nm,24.4s
MNK *i* LRM MLR 17 01 38.5
comp=Z,269nm,17.8s
MAK Makhachkala 122.04 60 *e*P **Pdif 16 05 43.3 -3.0**
MAK *i* 16 09 14.3
MAK *e*PS **PS 16 20 40.7 -5.2**
MAK *e*SS SS 16 27 23.9 -7.3
MAK *e*SSS SSS 16 31 55.8
MAK pmax pmax
comp=Z,18nm,0.3s
NB2 NORSAR Subarra122.10 26 PKPdf **PKiKP 16 09 17.8 +0.5**
comp=Z,24nm,2.0s,baz=202,slow=1.9
NB2 NORSAR Subarra122.10 26 PKPdf **PKiKP 16 09 17.8 +0.5**
baz=202,slow=1.9
NOA NORSAR Array B 122.10 26 PKP **PKPdf 16 09 16.7 -0.4**
comp=Z,0.6nm,0.7s,baz=203,slow=2.3,SNR=4.6
B05A Bryant 123.66 307 P **PKiKP 16 09 22.2 +1.5**
baz=136
SIJI Sorong 124.21 169 PKP **PKPdf 16 09 22.9 +0.2**
comp=Z,6.8nm,0.7s,baz=0.6,slow=10.0,SNR=2.3
LPSR Galich'ya Gora 125.02 47 *e*PKIKP **PKiKP 16 09 25.6 +2.4**
LPSR pmax pmax
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 125.23 50 *e*PKIKP **PKiKP 16 09 27.5 +3.8**
VRH pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 125.85 43 *i* PKIKP **PKPdf 16 09 24.5 +0.1**
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 126.72 33 PKP **PKPdf 16 09 25.4 -0.5**
comp=Z,3.2nm,0.7s,baz=174,slow=3.8,SNR=8.8
FIA1 FINESS Array S 126.73 33 **PKPdf 16 09 25.2 -0.7**
SUMG Summit 126.88 0 PKIKP **PKPdf 16 09 26.7 +0.3**
SUMG Summit 126.88 0 *i* P **PKPdf 16 09 26.0 -0.4**
SUMG Summit 126.88 0 **PKPdf 16 09 26.7 +0.3**
MYLDM Lahad Datu 127.64 152 **PKPdf 16 09 29.5 +0.3**
DBG Daneborg 129.28 7 *i* P **PKPdf 16 09 29.9 -0.6**
NIL Nilore 129.57 86 PKIKP **PKPdf 16 09 31.8 -0.5**
NIL Nilore 129.57 86 **PKPdf 16 09 31.8 -0.5**
YKA Yellowknife Ar 130.57 324 PKP **PKPdf 16 09 32.5 -0.7**
comp=Z,2.8nm,0.8s,baz=134,slow=2.2,SNR=21
YKA PP **PP 16 11 49.2 +0.1**
comp=Z,1.1nm,0.9s,baz=125,slow=6.7,SNR=4.0
YKA SKPbc **SKPbc 16 12 52.1 -4.4**
comp=Z,2.6nm,1.0s,baz=122,slow=4.2,SNR=4.3
YKA Yellowknife Ar 130.57 324 PKIKP **PKPdf 16 09 32.2 -1.0**
YKA Yellowknife Ar 130.57 324 **PKPdf 16 09 32.2 -1.0**
CHGR Chuyangaron 130.72 78 **PKPdf 16 09 34.1 -0.3**
KLMR Klimovskoe 130.94 40 *e*PKIKP **PKPdf 16 09 32.3 -1.6**
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR Klimovskoe 130.94 40 *e*PKPdf **PKPdf 16 09 32.4 -1.5**
KLMR AMP 16 09 47.8
comp=Z,27nm,1.2s
KLMR *e*PP **PP 16 11 46.6 -4.9**

KLMR *e*SKP 16 13 06.2
DAG Danmarks Havn 131.77 6 *i* P **PKPdf 16 09 34.0 -1.2**
CMAR Chiang Mai Arr 132.06 122 PKP **PKPdf 16 09 37.4 0.0**
comp=Z,1.6nm,0.6s,baz=230,slow=3.9,SNR=8.3
CMAR PP **PP 16 11 57.9 -0.9**
comp=Z,0.8nm,0.8s,baz=228,slow=7.0,SNR=5.2
CMAR SKPbc **SKPbc 16 12 58.8 -4.6**
comp=Z,1.1nm,0.3s,baz=256,slow=3.6,SNR=6.9
CMAR Chiang Mai Arr 132.06 122 PKIKP **PKPdf 16 09 35.1 -2.3**
CMAR Chiang Mai Arr 132.06 122 **PKPdf 16 09 35.1 -2.3**
ARCES ARCESS Array B 132.46 26 PKP **PKPdf 16 09 35.5 -1.2**
comp=Z,3.8nm,0.7s,baz=212,slow=1.1,SNR=8.0
PRGR Permogore 133.74 41 *e*PKIKP **PKPdf 16 09 36.7 -2.5**
KSH Kashi 135.21 82 PKP **PKPdf 16 09 41.8 -1.1**
ARU Arti 136.22 53 *i* PKIKP **PKPdf 16 09 44.1 +0.1**
ARU Arti 136.22 53 **PKPdf 16 09 44.1 +0.1**
AAK Ala-Archa 136.39 78 *i* PKIKP **PKPdf 16 09 44.8 -0.2**
NOR Nord 136.51 5 *i* P **PKPdf 16 09 43.1 -0.8**
MMPY Sheldon Lake, 136.80 318 P **PKiKP 16 09 46.5 -0.2**
baz=122
WHY Whitehorse 137.24 314 P **PKPdf 16 09 46.8 +0.8**
baz=122
SVE Sverdlovsk 137.40 53 *e*PKIKP **PKPdf 16 09 44.0 -2.2**
FARO Faro, Yukon 137.42 316 P **PKiKP 16 09 47.5 -0.5**
baz=121
M31M Drury Creek, Y 137.83 316 **PKPdf 16 09 47.1 +0.3**
M31M Drury Creek, Y 137.83 316 P **PKiKP 16 09 48.1 -0.7**
baz=120
N31M Braeburn, Yuko 138.04 314 P **PKiKP 16 09 48.5 -0.8**
baz=120
HYT Haines Junctio 138.43 313 P **PKiKP 16 09 50.1 -0.2**
baz=120
M30M Minto, Yukon 138.99 316 **PKPdf 16 09 48.5 -0.5**
M30M Minto, Yukon 138.99 316 P **PKiKP 16 09 50.5 -0.7**
baz=118
A36M Sachs Harbour 139.39 332 PKPdf **PKPdf 16 09 48.7 -0.7**
BRVK Borovoye 140.16 62 *i* PKIKP **PKiKP 16 09 53.9 +0.1**
BRVK Borovoye 140.16 62 **PKPdf 16 09 50.5 -0.8**
PZH PanZhiHua 140.19 119 PKP **PKPdf 16 09 50.2 -2.3**
BVAR Borovoye Array 140.19 62 PKhKP PKPpre 16 09 45.0
comp=Z,0.5nm,0.7s,baz=215,slow=1.8,SNR=1.1
BVAR Borovoye Array 140.19 62 PKHKP PKPpre 16 09 45.0
BVAR Borovoye Array 140.19 62 PKPpre 16 09 45.0
INK Inuvik 140.33 324 PKhKP PKPpre 16 09 42.8
comp=Z,1.9nm,0.6s,baz=112,slow=9.7,SNR=6.1
INK PKP **PKPdf 16 09 49.0 -2.2**
comp=Z,3.4nm,0.8s,baz=5.5,slow=5.1,SNR=7.2
BVCY Beaver Creek 140.59 314 P **PKiKP 16 09 53.4 -1.1**
baz=116
DAWY Dawson 140.71 317 P **PKiKP 16 09 53.9 -0.9**
baz=115
GYA Guiyang 142.58 125 *e*PKP **PKPdf 16 09 54.1 -2.7**
PAX Paxson 142.76 313 PKIKP **PKPdf 16 09 51.9 -4.0**
PAX Paxson 142.76 313 PKPpre 16 09 51.9
KURBB Kurchatov Arra 143.28 70 PKhKP PKPpre 16 09 53.9
comp=Z,2.5nm,0.8s,baz=237,slow=3.7,SNR=18
MKAR Makanchi Array 143.33 78 PKhKP PKPpre 16 09 53.7
comp=Z,0.5nm,0.5s,baz=248,slow=5.8,SNR=9.2
KURK Kurchatov 143.38 70 *i* PKIKP PKPbc 16 09 54.6 +0.2
KURK *i* 16 10 02.6
KURK Kurchatov 143.38 70 PKPpre 16 09 53.8
GOMU GeErMu 143.86 102 PKP PKPab 16 09 56.0 -0.1
GOMU AMB AMB
comp=Z,70nm,5.5s
ILAR Eielson Array 143.99 316 PKP PKPbc 16 09 55.9 +0.1
comp=Z,7.4nm,0.8s,baz=115,slow=1.9,SNR=53
CCB Clear Creek Bu 144.32 315 PKPdf PKPbc 16 09 57.0 +0.1
MCK McKinley 144.49 314 P PKPbc 16 09 57.9 +0.4
baz=109,SNR=6.3
CUT Chulitna 144.62 311 P PKPbc 16 09 58.5 +0.6
baz=110
WMQ Urumqi 144.72 86 PKP PKPbc 16 09 59.2 +0.3
WMQ pPKP PKiKP 16 10 09.2 +5.6
WMQ LR LR
comp=Z,140nm,16.1s
H24K Noodor Dome 144.72 317 P **PKPab 16 09 57.9 -0.1**
baz=107,SNR=19
CD2 Chengdu 144.78 117 PKP **PKPab 16 09 58.8 -0.5**
NEA2 Nenana 144.82 315 P **PKPab 16 09 58.3 -0.2**
baz=108,SNR=17
O20K Slope Mountain 144.87 307 P PKPbc 16 09 59.3 +0.5
baz=112
Q19K Cape Douglas, 144.92 305 P **PKPdf 16 09 59.4 -0.2**
baz=112
TRF Thorofare Moun 144.98 313 **PKPab 16 09 59.6 +0.4**
TRF Thorofare Moun 144.98 313 P **PKPab 16 09 59.4 +0.1**
baz=109,SNR=11
SPCR Spurr Chakacha 145.07 309 P **PKPbc 16 09 59.5 +0.1**
baz=110,SNR=7.2
I23K Minto, Yukon-K 145.11 316 P **PKPbc 16 09 58.9 -0.4**
baz=107,SNR=31
H23K Yukon River 145.37 317 P **PKPbc 16 10 00.1 -0.1**
baz=106,SNR=8.5
TPUB Ta-pu 145.42 147 **PKPbc 16 10 01.6 0.0**
BPAW Bear Paw Mtn. 145.47 314 P **PKPdf 16 10 00.6 +0.1**
baz=107,SNR=36
PPLA Purkeypile 145.62 312 P **PKPbc 16 10 01.2 -0.1**
baz=108,SNR=16
MLY Manley 145.63 315 P **PKPdf 16 10 00.5 -0.2**
baz=106,SNR=34
O19K Port Alsworth 145.70 306 P **PKPbc 16 10 01.3 0.0**
baz=110
YULB Yu-li 145.72 148 **PKPdf 16 10 01.7 -0.5**
CAST Castle Rocks 145.74 312 **PKPbc 16 10 01.3 -0.1**
CAST Castle Rocks 145.74 312 P **PKPdf 16 10 01.1 +0.1**
baz=107,SNR=24
P18K Big Mountain, 145.85 305 P **PKPdf 16 10 01.3 +0.1**
baz=111,SNR=8.3
CHUM Lake Minchumin 145.97 313 P **PKPbc 16 10 02.1 0.0**
baz=107,SNR=12
COLD Coldfoot 145.98 319 P **PKPab 16 10 03.0 +0.3**
baz=103
SSLB Suanglung 145.98 147 **PKPbc 16 10 03.3 -0.1**
TOLK Toolik Lake Re 146.05 322 **PKPbc 16 10 02.0 -0.3**
TOLK Toolik Lake Re 146.05 322 P **PKPbc 16 10 02.3 0.0**
baz=102
I21K Tanana 146.18 315 **PKPbc 16 10 02.4 -0.3**
I21K Tanana 146.18 315 P **PKPbc 16 10 02.3 -0.4**
baz=105
L20K Farewell, AK 146.24 310 P **PKPbc 16 10 02.5 -0.5**
baz=108
CHGN Chignik 146.26 298 P **PKPab 16 10 04.3 +0.3**
baz=114
L19K White Mountain 146.58 310 **PKPbc 16 10 03.8 -0.3**
L19K White Mountain 146.58 310 P **PKPbc 16 10 03.7 -0.3**
baz=107
J20K Nowinta River 146.82 313 P **PKPbc 16 10 04.1 -0.5**
baz=105
SDPT Sand Point 146.94 296 P **PKPbc 16 10 05.6 +0.4**
baz=114
TTA Tatalina 147.31 311 PKP2 **PKPbc 16 10 06.4 +0.3**
TTA Tatalina 147.31 311 **PKPbc 16 10 06.4 +0.3**
TTA Tatalina 147.31 311 P **PKPbc 16 10 06.9 +0.8**
baz=105
GCSA Galena City Sc 148.11 314 P **PKiKP 16 10 09.2 -0.6**
baz=102
ZAA0 Zalesovo Array 148.25 68 **PKPdf 16 10 06.7 +1.3**
ZALV Zalesovo Beam 148.25 68 PKPbc **PKPbc 16 10 08.1 -0.7**
comp=Z,5.7nm,0.7s,baz=240,slow=3.6,SNR=20
ZALV PP **PP 16 13 38.0 -0.4**
comp=Z,2.8nm,1.1s,baz=251,slow=4.4,SNR=2.1
ZALV Zalesovo Beam 148.25 68 PKIKP **PKPdf 16 10 06.3 +0.9**
ZALV Zalesovo Beam 148.25 68 PKPdf **PKPdf 16 10 06.3 +0.9**
A21K Barrow 148.77 326 P **PKiKP 16 10 10.7 -0.3**
baz=91
LZH Lanzhou 148.81 111 *e*PKPbc **PKPbc 16 10 11.3 +0.2**
LZH pPKP PKPab 16 10 15.5 +0.5
LZH sPKP 16 10 16.9
LZH LR LR
comp=Z,310nm,17.3s
LZH LR LR
comp=Z,290nm,18.0s
LZH LR LR
comp=Z,310nm,20.7s
GTA Gaotai 148.93 102 *e*PKPbc **PKPdf 16 10 07.2 0.0**
GTA pPKP PKPbc 16 10 11.0 -0.2
GTA sPKP 16 10 14.7
GTA LR LR
comp=Z,160nm,18.5s
GTA LR LR
comp=Z,170nm,18.5s
GTA LR LR
comp=Z,150nm,20.0s
WHN Wuhan 149.57 132 PKPbc **PKPbc 16 10 12.7 -0.2**
XAN Xi'an 149.91 120 PKPbc **PKPbc 16 10 13.9 +0.2**

XAN pPKP PKPab 16 10 18.9 -0.4
XAN LR LR
comp=Z,270nm,17.9s
XAN LR LR
comp=Z,290nm,18.6s
XAN LR LR
comp=Z,310nm,22.0s
JOW Kunigami 150.87 157 PKPbc **PKPbc 16 10 15.2 -0.9**
comp=Z,18nm,0.5s,baz=159,slow=8.6,SNR=2.1
RDOG Red Dog Mine 150.90 320 P **PKPbc 16 10 15.1 +0.2**
baz=91
ANM Nome 151.69 312 PKIKP **PKPbc 16 10 17.1 +0.3**
ANM Nome 151.69 312 **PKPbc 16 10 17.1 +0.3**
ANM Nome 151.69 312 P **PKPbc 16 10 16.9 +0.1**
baz=96
LYN LuoYang 152.06 124 *e*PKPbc **PKPbc 16 10 17.6 -1.0**
NRIK Noril'sk 152.25 37 PKPbc **PKPbc 16 10 17.4 -0.6**
comp=Z,0.8nm,0.3s,baz=281,slow=5.2,SNR=1.9
NRIK PKPab **PKPab 16 10 28.2 +0.2**
comp=Z,12nm,0.9s,baz=298,slow=1.9,SNR=14
NRIK Noril'sk 152.25 37 **PKPab 16 10 29.0 +1.0**
NJ2 Nanjing 152.76 137 *e*PKPbc **PKPdf 16 10 13.9 +0.8**
TNA Tin City 152.83 314 P **PKiKP 16 10 19.8 +0.2**
baz=91
GAMB Gambell 154.41 310 **PKiKP 16 10 23.0 +0.2**
GAMB Gambell 154.41 310 P **PKiKP 16 10 23.4 +0.6**
baz=92
HHC Hu-ho-hao-te 156.43 114 *e*PKP **PKPdf 16 10 15.0 -3.1**
SONM Songino Array 157.81 94 PKP **PKPdf 16 10 20.0 +0.3**
comp=Z,0.6nm,0.7s,baz=159,slow=2.1,SNR=3.9
KSAR Wonju Array Be 160.82 148 PKP2 **PKPab 16 11 06.0 +0.4**
KSAR Wonju Array Be 160.82 148 **PKPab 16 11 06.0 +0.4**
KSRS Korea Array 160.84 148 PKPab **PKPab 16 11 05.7 0.0**
comp=Z,5.4nm,0.9s,baz=213,slow=3.8,SNR=8.9
XLT XiLinHaoTe 160.95 114 *e*PKP **PKPdf 16 10 18.1 -5.3**
BILL Bilibino 161.89 328 *i* PKIKP **PKPdf 16 10 18.9 -4.6**
BILL *i* 16 11 09.0
BILL pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 162.17 12 PKP2 **PKPab 16 11 10.7 +0.1**
TIXI Tiksi 162.17 12 **PKPab 16 11 10.7 +0.1**
BOD Bodaibo 165.00 67 *e*PKIKP **PKPdf 16 10 23.5 -3.2**
BOD pmax pmax
comp=Z,14nm,1.6s
CN2 Changchun 165.47 132 *e*PKP **PKPdf 16 10 25.9 -1.6**
CN2 *e*PP **PP 16 15 14.6 +1.5**
CN2 SKKS 16 22 00.6
HIA Hailar 166.20 104 PKP2 **PKPab 16 11 29.4 +0.3**
HIA Hailar 166.20 104 **PKPab 16 11 29.4 +0.3**
USRK Ussuriysk Ar. 168.25 149 PKPab **PKPab 16 11 36.2 -1.9**
comp=Z,1.7nm,0.5s,baz=193,slow=2.5,SNR=4.4
SEY Seymchan 169.60 328 PKP **PKPdf 16 10 29.1 -0.8**
comp=Z,0.3nm,0.3s,baz=211,slow=3.1,SNR=4.1
SEY PKPab **PKPab 16 11 44.5 +0.9**
comp=Z,7.5nm,0.8s,baz=86,slow=2.1,SNR=15
YAK Yakutsk 170.66 33 PKPab **PKPab 16 11 48.4 0.0**
comp=Z,2.1nm,0.3s,baz=142,slow=1.6,SNR=6.4
YAK Yakutsk 170.66 33 *e*PKIKP **PKPdf 16 10 26.1 -4.4**
YAK pmax pmax
comp=Z,9.0nm,1.6s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 170.66 33 **PKPab 16 11 48.8 +0.5**
KLR Kul'dur 172.42 132 PKP **PKPdf 16 10 30.6 -1.2**
comp=E,1.3nm,0.8s,baz=270,slow=2.7,SNR=4.0
KLR PKPab **PKPab 16 11 55.8 -0.7**
comp=E,2.2nm,0.8s,baz=295,slow=4.5,SNR=4.2
MA2 Magadan 172.47 316 PKPab **PKPab 16 11 56.7 +0.2**
comp=E,2.2nm,0.5s,baz=60,slow=7.0,SNR=5.8
MA2 Magadan 172.47 316 **PKPab 16 11 56.6 0.0**

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*IDC **09** 16:00:27.6±1.5, 54°.54S×39°.23W, h0km, mb4.3/5, mb1 4.4/6, mb1mx3.9/27, mbtmp4.4/6, ML4.4/1, Error ellipse: s-maj=53.0km s-min=28.0km az=120.0*
*NEIC **09** 16:00:29.2±1.7, 54°.60S±0°.10×39°.4W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=17.4km s-min=16.3km az=295.0*
ISC 09 16:00:29.1±0.7**, 54°.6S**±0°.1×**39°.4W**±0°.1**, h10km, n24, σ0s.68**/18**, mb4.4**/8**, South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**1.71**	**80**	Pn	**Pn**	**16 00 59.2**	**+0.4**
ORCD	**Orcadas**	**6.79**	**203**	Pn	Pn	16 02 03.7	-5.0
PMSA	**Palmer Station**	**15.98**	**221**	Pn	**P**	**16 04 16.1**	**-1.0**
	1.5nm,0.3s,baz=59,slow=12,SNR=4.1						
PMSA	**Palmer Station**	**15.98**	**221**	P	**P**	**16 04 16.4**	**-0.8**
SNAA	**Sanae**	**23.15**	**151**		**P**	**16 05 35.1**	**-0.2**
SNAA				IAmb	IAmb	16 06 00.8	
	comp=Z,28nm,1.4s						
BELA	**Belgrano 2**	**23.44**	**177**	P	**P**	**16 05 38.9**	**+0.9**
PLTB	**Pedras Altas**	**24.98**	**330**	P	**P**	**16 05 53.2**	**+0.5**
PLTB				IAmb	IAmb	16 06 02.8	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**35.66**	**180**	P	**P**	**16 07 27.3**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=260,slow=6.1,SNR=3.6						
QSPA	**South Pole Qui**	**35.66**	**180**	P	**P**	**16 07 27.6**	**+0.6**
QSPA				IAmb	IAmb	16 07 52.0	
	comp=Z,8.0nm,1.4s						
GO01	**Chusmiza**	**41.60**	**315**	P	**P**	**16 08 18.2**	**+0.5**
GO01				IAmb	IAmb	16 08 27.0	
	comp=Z,9.6nm,1.4s						
H10S2	**ASCENSION HYDR**	**49.61**	**33**	T	T	17 02 18.2	
	baz=199,slow=74,SNR=2.8						
H10S3	**ASCENSION HYDR**	**49.61**	**33**	T	T	17 02 22.4	
	baz=21,slow=74,SNR=3.0						
H10N3	**ASCENSION HYDR**	**50.70**	**33**	T	T	17 03 44.9	
	baz=198						
H10N1	**ASCENSION HYDR**	**50.71**	**33**	T	T	17 03 46.6	
	baz=198						
H10N2	**ASCENSION HYDR**	**50.72**	**33**	T	T	17 03 47.1	
	baz=198						
BOSA	**Boshof**	**52.64**	**88**	P	**P**	**16 09 42.5**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=212,slow=6.8,SNR=5.7						
BOSA	**Boshof**	**52.64**	**88**	P	**P**	**16 09 43.0**	**-0.4**
BOSA				IAmb	IAmb	16 09 53.9	
	comp=Z,13nm,1.5s						
LBTB	**Lobatse**	**55.56**	**85**	P	**P**	**16 10 04.2**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=228,slow=5.6,SNR=4.7						
LBTB	**Lobatse**	**55.56**	**85**	P	**P**	**16 10 04.4**	**-0.3**
LBTB				IAmb	IAmb	16 10 13.2	
	comp=Z,8.3nm,1.2s						
DBIC	**Dimbokro**	**67.51**	**38**	P	**P**	**16 11 24.4**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=198,slow=3.2,SNR=3.4						
DBIC	**Dimbokro**	**67.51**	**38**	P	**P**	**16 11 24.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.90**	**41**	P	**P**	**16 12 16.0**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=207,slow=5.4,SNR=13						
TORD	**Torodi Ar. Bea**	**75.90**	**41**	P	**P**	**16 12 16.4**	**+0.7**
TORD				IAmb	IAmb	16 12 16.9	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**144.09**	**316**	PKP	**PKPab**	**16 20 00.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=144,slow=2.0,SNR=1.3						

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*DJA **09** 16:06:30.0±0.3, 5°S±4°×15°1E±°, h10km, M5.4/12, mB4.8/2, mb4.9/12, MLv5.6/1, Mw(mB)4.1/2*
*BJI **09** 16:06:32.3±0.0, 5°.09S×151°.84E, h59km, mb4.6/33, mB5.1/20, Ms4.5/6, Ms7 4.2/6*
*IDC **09** 16:06:34.1±1.0, 5°.51S×151°.63E, h66km±8km, mb4.0/27, mb1 4.1/28, mb1mx4.0/48, mbtmp4.3/28, MS3.9/11, Ms1 3.9/11, ms1mx3.5/60, Error ellipse: s-maj=14.6km s-min=8.3km az=115.0*
*NEIC **09** 16:06:34.2±1.4, 5°.50S±0°.09×151°.7E±0°.1, h58km±5km, mb4.8/71, Error ellipse: s-maj=18.5km s-min=8.8km az=123.0*
ISC 09 16:06:33.4±0.3**, 5°.53S**±0°.05×**151°.64E**±0°.07**, h57km, n186, σ1s.06**/189**, mb4.6**/71**, MS3.8**/13**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.28**	**18**	P	**Pn**	**16 06 55.5**	**+0.5**
	baz=270,slow=20						
KRVT				S	**Sn**	**16 07 12.2**	**+1.0**
	baz=197,slow=19						
RABL	**Rabaul**	**1.43**	**21**		**Pn**	**16 06 56.5**	**-0.6**
RABL	**Rabaul**	**1.43**	**21**	P	**Pn**	**16 06 56.9**	**-0.3**
PMG	**Port Moresby**	**5.88**	**229**	P	**Pn**	**16 07 58.9**	**+0.9**
	8.9nm,0.3s,baz=45,slow=8.9,SNR=62						
PMG				S	**Sn**	**16 09 02.2**	**-1.9**
	5.8nm,0.3s,baz=56,slow=21,SNR=1.8						
PMG	**Port Moresby**	**5.88**	**229**		**Pn**	**16 07 59.0**	**+1.1**

PMG	Port Moresby	5.88	229	P	Pn	16 07 59.3	+1.3
PMG	Port Moresby	5.88	229	P	Pn	16 07 59.1	+1.1
COEN	Coen	11.81	224	Pn	Pn	16 09 18.2	-1.1
PATS	Pohnpei	13.97	29	Pn	Pn	16 09 50.2	+1.6
MTSU	Mount Surprise	14.43	209	P	Pn	16 09 55.4	+0.7
CTA	Charters Tower	15.39	199	P	P	16 10 11.6	+0.9
	0.3nm,0.3s,baz=26,slow=9.3,SNR=7.2						
CTA				LR	LR	16 15 43.0	
	comp=Z,336nm,19.3s,baz=32,slow=36						
SRPI	Serui, Papua	15.79	283	P	Pn	16 10 05.2	-7.1
	16nm,0.4s						
QIS	Mount Isa	18.97	217	P	Pn	16 10 52.7	+1.3
GUMO	Guam	20.15	341	LR	LR	16 17 51.5	
	comp=Z,24nm,19.9s,baz=144,slow=34						
KDU	Kakadu	20.21	248	P	P	16 11 04.8	+1.0
SIJI	Sorong	20.86	282	P	P	16 11 12.2	+1.3
	5.4nm,0.4s,baz=345,slow=18,SNR=3.0						
RMQ	Roma	21.02	187	P	P	16 11 16.2	+3.7
DZM	Mont Dzumac	21.80	140	P	P	16 11 21.2	+0.1
	5.1nm,0.8s,baz=124,slow=16,SNR=1.3						
DZM				LR	LR	16 19 06.3	
	comp=Z,371nm,18.6s,baz=263,slow=34						
DZM	Mont Dzumac	21.80	140	*e*S	S	16 15 20.3	+1.1
	207nm,25.4s						
DZM				*e*LR	LR	16 16 42.6	
	comp=Z,590nm,23.6s						
WB0	Warramunga Arr	21.95	228	P	P	16 11 22.8	+0.3
WB0				IAmb	IAmb	16 11 29.6	
	comp=Z,18nm,0.8s						
WR0	Warramunga Arr	21.96	228	P	P	16 11 22.9	+0.3
WR0				IAmb	IAmb	16 11 25.2	
	comp=Z,16nm,0.7s						
WRAB	Tennant Creek	22.09	228	P	P	16 11 23.9	-0.1
WRAB				IAmb	IAmb	16 11 30.9	
	comp=Z,20nm,0.8s						
WRAB	Tennant Creek	22.09	228	P	P	16 11 26.3	+2.3
WB2	Warramunga Arr	22.09	228	P	P	16 11 23.7	-0.3
WB2				IAmb	IAmb	16 11 27.6	
	comp=Z,23nm,0.6s						
QLP	Quilpie	22.09	198	P	P	16 11 25.6	+1.6
WRA	Warramunga Arr	22.10	228	P	P	16 11 24.1	-0.1
	comp=Z,14nm,0.5s,baz=53,slow=9.9,SNR=130						
WRA				PcP	PcP	16 15 19.9	-0.1
	comp=Z,0.6nm,0.5s,baz=44,slow=1.5,SNR=1.1						
WRA				S	S	16 15 23.6	-1.0
	comp=Z,3.3nm,1.0s,baz=53,slow=17,SNR=5.9						
WRA				ScP	ScP	16 18 52.7	-0.1
	comp=Z,2.0nm,0.9s,baz=48,slow=2.8,SNR=7.3						
WRA	Warramunga Arr	22.10	228	P	P	16 11 24.0	-0.1
INKA	Innaminka	24.40	204	P	P	16 11 49.2	+2.7
KNRA	Kununurra	24.61	244	P	P	16 11 49.0	+0.3
KNRA	Kununurra	24.61	244	P	P	16 11 50.8	+2.1
ARMA	Armidale	24.76	180	P	P	16 11 50.0	0.0
AS31	Alice Springs	24.83	222	P	P	16 11 51.1	+0.4
ASAR	Alice Springs	24.84	222	P	P	16 11 50.9	+0.2
	comp=Z,15nm,0.8s,baz=59,slow=8.3,SNR=110						
ASAR				PcP	PcP	16 15 25.7	-0.1
	comp=Z,0.6nm,0.6s,baz=27,slow=2.9,SNR=2.3						
ASAR				S	S	16 16 09.3	-0.4
	comp=Z,0.9nm,0.9s,baz=60,slow=15,SNR=4.9						
ASAR				ScP	ScP	16 19 00.8	+0.7
	comp=Z,0.9nm,0.8s,baz=28,slow=2.8,SNR=6.8						
ASAR				LR	LR	16 21 56.6	
	comp=Z,148nm,18.6s,baz=86,slow=37						
CMSA	Cobar Meteorol	26.47	191	P	P	16 12 07.6	+2.3
OOD	Oodnadatta	26.84	213	P	P	16 12 09.8	+1.1
LCRK	Leigh Creek	27.82	205	P	P	16 12 18.7	+1.2
STKA	Stephens Creek	27.85	199	P	P	16 12 17.6	0.0
	comp=Z,2.5nm,0.7s,baz=18,slow=12,SNR=4.3						
STKA				LR	LR	16 23 36.6	
	comp=Z,173nm,20.2s,baz=186,slow=37						
STKA	Stephens Creek	27.85	199	P	P	16 12 17.0	-0.7
STKA	Stephens Creek	27.85	199	P	P	16 12 19.9	+2.2
FITZ	Fitzroy Crossi	28.30	242	P	P	16 12 21.6	-0.2
	comp=Z,35nm,0.7s,baz=58,slow=6.8,SNR=78						
FITZ				LR	LR	16 24 04.1	
	comp=Z,116nm,18.8s,baz=88,slow=37						
FITZ	Fitzroy Crossi	28.30	242	P	P	16 12 21.3	-0.5
FITZ				IAmb	IAmb	16 12 25.6	
	comp=Z,44nm,1.0s						
DAV	Davao City (W)	28.86	295	LR	LR	16 23 44.7	
	comp=Z,167nm,19.3s,baz=142,slow=36						
WRKA	Warakurna	29.62	227	P	P	16 12 33.9	+0.3
	comp=Z,18nm,0.7s						
BBOO	Buckleboo	30.79	206	P	P	16 12 43.5	-0.3
BBOO				IAmb	IAmb	16 13 00.2	
	comp=Z,8.4nm,0.9s						
TOLI2	Tolitoli	31.52	281	P	P	16 12 50.7	+0.3
TOLI2				IAmb	IAmb	16 13 17.2	
	comp=Z,8.7nm,0.9s						
FORT	Forrest	33.50	219	P	P	16 13 07.0	-0.5
FORT				IAmb	IAmb	16 13 11.7	
	comp=Z,17nm,0.7s						
PSA00	Pilbara Seismi	34.66	240	P	P	16 13 17.5	-0.3
PSA00	Pilbara Seismi	34.66	240	P	P	16 13 19.9	+2.1
JAGI	Jajag, Banyuwa	37.31	263	P	P	16 13 38.9	-1.7
JAGI				IAmb	IAmb	16 13 39.6	
	comp=Z,15nm,0.9s						
GIRL	Giralia	39.90	241	P	P	16 14 02.4	+0.2
URZ	Urewera	39.96	148	P	P	16 14 02.6	+0.2
	comp=Z,2.1nm,0.5s,baz=160,slow=13,SNR=1.2						
TPUB	Ta-pu	41.69	315	P	P	16 14 16.8	-0.1
SSLB	Suanglung	41.78	315	P	P	16 14 19.1	+1.6
SSLB				IAmb	IAmb	16 14 22.9	
	comp=Z,55nm,1.5s						
YHNB	Yeheng	42.06	317	P	P	16 14 20.7	+0.7
MJAR	Matsushiro Arr	43.70	344	P	P	16 14 33.9	+0.9
	comp=Z,1.0nm,0.5s,baz=131,slow=27,SNR=1.8						
MJAR				LR	LR	16 31 20.8	
	comp=Z,100nm,18.9s,baz=150,slow=34						
LEM	Lembang	43.77	266	P	P	16 14 34.3	+0.2
	comp=Z,11nm,0.5s,baz=158,slow=20,SNR=4.3						
QIZ	Qiongzhong	47.86	302	P	P	16 15 06.8	+0.8
QIZ				S	S	16 21 50.0	-9.3
QIZ				LR	LR		
	comp=Z,350nm,10.8s						
QIZ				LR	LR		
	comp=Z,260nm,12.8s						
QIZ				LR	LR		
	comp=Z,290nm,39.8s						
KSRS	Korea Array	48.14	335	P	P	16 15 07.3	-0.6
	comp=Z,0.9nm,0.7s,baz=332,slow=41,SNR=2.1						
NJ2	Nanjing	48.70	322	*e*P	P	16 15 12.4	+0.2
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ASAJ	Asahikawa	50.09	352	P	P	16 15 22.5	-0.1
	comp=Z,4.9nm,0.9s,baz=245,slow=31,SNR=2.0						
USRK	Ussuriysk Ar.	52.58	342	P	P	16 15 41.4	+0.1
	comp=Z,1.5nm,0.6s,baz=142,slow=41,SNR=3.3						
XAN	Xi'an	56.36	317	P	P	16 16 09.0	0.0
XAN				sP	sP	16 16 31.4	+0.1
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CM31	Chiang Mai Arr	57.15	296	P	P	16 16 15.4	+0.5
CMAR	Chiang Mai Arr	57.15	296	P	P	16 16 15.5	+0.6
	comp=Z,1.2nm,0.6s,baz=122,slow=5.6,SNR=12						
CMAR	Chiang Mai Arr	57.15	296	P	P	16 16 13.2	-1.6
KLR	Kul'dur	57.23	345	P	P	16 16 13.8	-0.9
	comp=Z,1.5nm,0.6s,baz=202,slow=2.5,SNR=6.4						
PZH	PanZhiHua	57.85	306	P	P	16 16 21.7	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,160nm,5.2s						
PETK	Petropavlovsk-	58.64	4	P	P	16 16 23.8	-0.9
	comp=Z,2.4nm,0.9s,baz=202,slow=9.3,SNR=1.7						
PETK				LR	LR	16 37 59.9	
	comp=Z,75nm,19.9s,baz=222,slow=32						
XLT	XiLinHaoTe	58.72	331	*e*P	P	16 16 25.6	+0.1
XLT				pP	pP	16 16 39.0	-2.2
XLT				sP	sP	16 16 48.2	+0.4
XLT				PcP	PcP	16 17 15.1	+0.3
XLT				ScP	ScP	16 21 08.9	-1.7
XLT				PcS	PcS	16 21 17.4	+0.8
XLT				pmax	pmax		
	comp=Z,14nm,1.0s						
XLT				pmax	pmax		
	comp=Z,140nm,5.6s						
HHC	Hu-ho-hao-te	58.98	325	*e*P	P	16 16 28.7	+1.4
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,6.8s						
LZH	Lanzhou	60.96	317	*e*P	P	16 16 45.4	+4.3
LZH				pP	pP	16 16 56.8	-0.1

LZH				sP	sP	16 17 07.3	+3.8
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	Gaotai	65.41	318	*e*P	P	16 17 11.2	+0.7
GTA				pP	pP	16 17 21.2	-5.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,77nm,4.7s						
GTA				LR	LR		
	comp=Z,130nm,16.7s						
GTA				LR	LR		
	comp=Z,120nm,16.7s						
GTA				LR	LR		
	comp=Z,99nm,18.2s						
SHL	Shillong	65.69	301	P	P	16 17 11.3	-1.3
SHL				IAmb	IAmb	16 17 14.1	
	comp=Z,17nm,1.2s						
ULN	Ulaanbaatar	66.01	329	P	P	16 17 14.1	-0.1
SONM	Songino Array	66.33	329	P	P	16 17 16.6	+0.4
	comp=Z,3.0nm,0.6s,baz=144,slow=5.6,SNR=21						
SONM	Songino Array	66.33	329	P	P	16 17 16.3	0.0
GOMU	GeErMu	67.40	313	P	P	16 17 24.8	+1.2
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GOMU				pmax	pmax		
	comp=Z,78nm,4.8s						
VNDA	Vanda	72.15	178	P	P	16 17 51.8	+0.2
	comp=Z,1.7nm,0.8s,baz=172,slow=2.8,SNR=2.7						
BILL	Bilibino	74.12	6	P	P	16 18 02.2	-1.1
WMQ	Urumqi	75.50	318	*e*P	P	16 18 13.0	+1.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
ANM	Nome	76.82	18	P	P	16 18 18.4	-0.4
ANM				IAmb	IAmb	16 18 34.2	
	comp=Z,6.9nm,1.3s						
SVW2	Sparrevohn	77.95	23	P	P	16 18 25.1	-0.2
SVW2				IAmb	IAmb	16 18 25.5	
	comp=Z,16nm,1.4s						
TIXI	Tiksi	78.47	353	P	P	16 18 26.6	-1.3
	comp=Z,0.7nm,0.3s,baz=91,slow=22,SNR=3.1						
TIXI	Tiksi	78.47	353	P	P	16 18 26.9	-1.0
L19K	White Mountain	78.86	23	P	P	16 18 30.2	-0.1
CNPM	China Poot	78.87	26	P	P	16 18 30.6	+0.2
BRLK	Bradley Lake	79.15	26	P	P	16 18 31.6	-0.3
K20K	Telida	79.84	22	P	P	16 18 36.0	+0.5
K20K				IAmb	IAmb	16 18 36.6	
	comp=Z,7.9nm,1.4s						
RDOG	Red Dog Mine	79.99	16	P	P	16 18 36.2	-0.1
RDOG				IAmb	IAmb	16 18 38.7	
	comp=Z,3.8nm,0.6s						
MK31	Makanchi Array	80.12	319	P	P	16 18 36.6	-0.8
MKAR	Makanchi Array	80.12	319	P	P	16 18 36.8	-0.6
	comp=Z,2.5nm,0.7s,baz=98,slow=7.4,SNR=24						
MKAR	Makanchi Array	80.12	319	P	P	16 18 36.6	-0.8
CAST	Castle Rocks	80.61	22	P	P	16 18 38.6	-1.2
ZAA0	Zalesovo Array	81.12	327	P	P	16 18 41.1	-1.5
ZALV	Zalesovo Beam	81.12	327	P	P	16 18 41.0	-1.6
	comp=Z,3.6nm,0.5s,baz=115,slow=6.1,SNR=17						
ZALV	Zalesovo Beam	81.12	327	P	P	16 18 41.1	-1.5
SML	Sawmill	81.26	25	P	P	16 18 43.8	+0.5
SML				IAmb	IAmb	16 18 56.2	
	comp=Z,20nm,1.2s						
IMAR	Indian Mountai	81.46	20	P	P	16 18 43.6	-0.5
I21K	Tanana	81.61	21	P	P	16 18 45.5	+0.5
I21K				IAmb	IAmb	16 18 52.1	
	comp=Z,10nm,1.5s						
SCM	Sheep Creek Mo	81.69	25	P	P	16 18 46.5	+1.0
SCM				IAmb	IAmb	16 19 06.9	
	comp=Z,24nm,1.3s						
MLY	Manley	81.98	21	P	P	16 18 46.4	-0.6
M24K	Tolsona, Glenn	82.30	25	P	P	16 18 49.8	+1.0
KSH	Kashi	82.53	311	P	P	16 18 51.6	+1.1
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
N25K	Chitina, Valde	82.75	26	P	P	16 18 51.9	+0.8
N25K				IAmb	IAmb	16 19 03.1	
	comp=Z,11nm,1.4s						
GLB	Gilahina Butte	83.02	26	P	P	16 18 53.0	+0.5
GLB				IAmb	IAmb	16 19 09.4	
	comp=Z,15nm,1.4s						
ILAR	Eielson Array	83.27	22	P	P	16 18 51.6	-2.0
	comp=Z,1.7nm,0.7s,baz=247,slow=5.2,SNR=17						
ILAR	Eielson Array	83.27	22	P	P	16 18 51.8	-1.8
ISLE	Juniper Island	83.32	27	P	P	16 18 54.5	+0.3
MCARA	McCarthy VSAT	83.34	26	P	P	16 18 54.7	+0.7
MCARA				IAmb	IAmb	16 19 06.5	
	comp=Z,19nm,1.2s						
H24K	Noodor Dome	83.42	21	P	P	16 18 54.0	-0.5
RIDG	Independent Ri	83.58	24	P	P	16 18 54.9	-0.4
RIDG				IAmb	IAmb	16 18 57.6	
	comp=Z,8.6nm,1.4s						
KURK	Kurchatov	83.63	322	P	P	16 18 54.9	-0.9
KURK				IAmb	IAmb	16 18 56.1	
	comp=Z,9.6nm,1.1s						
KURBB	Kurchatov Arra	83.66	322	P	P	16 18 54.9	-1.0
	comp=Z,2.3nm,0.7s,baz=111,slow=4.3,SNR=18						
TABL	Table Mountain	83.80	27	P	P	16 18 57.0	+0.2
UCH	Uchtor	84.23	313	P	P	16 19 00.7	+1.1
	SNR=6.5						
TOLK	Toolik Lake Re	84.27	18	P	P	16 18 58.6	-0.1
AAK	Ala-Archa	84.33	314	P	P	16 18 59.2	-0.5
	comp=Z,3.1nm,0.7s,baz=144,slow=7.2,SNR=15						
AAK	Ala-Archa	84.33	314	P	P	16 19 00.3	+0.5
	SNR=6.0						
AAK	Ala-Archa	84.33	314	P	P	16 18 59.8	+0.1
AAK				IAmb	IAmb	16 19 00.9	
	comp=Z,4.2nm,0.9s						
QSPA	South Pole Qui	84.43	180	P	P	16 18 59.4	-0.4
	comp=Z,4.3nm,1.0s,baz=307,slow=1.4,SNR=9.7						
QSPA	South Pole Qui	84.43	180	P	P	16 18 59.2	-0.6
QSPA				IAmb	IAmb	16 19 10.8	
	comp=Z,10nm,1.3s						
USP	Ospenovka	84.47	314	P	P	16 19 00.2	0.0
	SNR=9.9						
BCAR	Beaver Creek A	84.55	25	P	P	16 19 00.8	+0.5
AML	Almayashu	84.80	313	P	P	16 19 03.3	+0.9
	SNR=19						
EKS2	Erkin-Say	84.85	314	P	P	16 19 03.1	+0.8
	SNR=8.7						
NRIK	Noril'sk	86.28	341	P	P	16 19 06.8	-1.9
	comp=Z,2.6nm,0.7s,baz=111,slow=6.2,SNR=5.7						
NRIK	Noril'sk	86.28	341	P	P	16 19 08.6	-0.1
BVAR	Borovoye Array	89.13	323	P	P	16 19 21.2	-1.5
	comp=Z,2.5nm,0.7s,baz=62,slow=19,SNR=15						
BRVK	Borovoye	89.20	323	P	P	16 19 23.4	+0.4
BRVK				IAmb	IAmb	16 19 23.6	
	comp=Z,2.2nm,0.8s						
INK	Inuvik	89.55	21	P	P	16 19 23.4	-0.9
	comp=Z,0.9nm,0.3s,baz=273,slow=4.6,SNR=4.6						
INK	Inuvik	89.55	21	P	P	16 19 24.6	+0.3
INK				IAmb	IAmb	16 19 50.7	
	comp=Z,9.2nm,1.4s						
HUMO	Hull Mountain	90.33	47		P	16 19 30.3	+1.8
YBH	Yreka Blue Hor	90.40	48	LR	LR	16 53 43.0	
	comp=Z,72nm,20.2s,baz=135,slow=31						
K05A	Summer Lake	91.85	47		P	16 19 37.1	+1.3
BEKR	Beckworth	91.97	50	P	P	16 19 36.7	+0.2
BEKR				IAmb	IAmb	16 19 37.4	
	comp=Z,4.2nm,0.9s						
SYO	Syowa Base	92.60	200⇑	*e*PcP	PcP	16 19 40.4	+1.3
I07A	Izee	92.98	46	P	P	16 19 41.6	+0.7
A36M	Sachs Harbour	93.09	18	P	P	16 19 40.7	+0.1
A36M				IAmb	IAmb	16 19 45.0	
	comp=Z,3.3nm,0.7s						
LHV	Little Huntoon	93.27	52	P	P	16 19 42.3	+0.1
RYN	Ryan	93.28	52	P	P	16 19 41.7	-0.8
RYN				IAmb	IAmb	16 19 44.2	
	comp=Z,5.7nm,0.9s						
NVAR	Mina Array Bea	93.44	52	P	P	16 19 43.9	+0.6
	comp=Z,5.8nm,0.8s,baz=254,slow=6.8,SNR=22						
NVAR	Mina Array Bea	93.44	52	P	P	16 19 44.5	+1.2
G08A	Pilot Rock	93.47	45	P	P	16 19 43.2	+0.1
WVOR	Wild Horse Val	93.49	48	P	P	16 19 42.3	-1.0
WVOR				IAmb	IAmb	16 19 45.4	
	comp=Z,5.3nm,0.9s						
NV11	Mina Array Sit	93.56	52	P	P	16 19 43.8	0.0
NV11				IAmb	IAmb	16 19 46.0	
	comp=Z,8.4nm,1.1s						
KVN	Kaiserville	93.65	51		P	16 19 43.4	-0.9
KVN				IAmb	IAmb	16 19 45.8	
	comp=Z,6.1nm,0.9s						
J08A	Circle Bar Ran	93.67	47	P	P	16 19 44.1	0.0
TPH	Tonopah	94.27	52	P	P	16 19 46.5	-0.6
BMO	Blue Mountains	94.61	46	P	P	16 19 48.3	0.0

BMO				IAmb	IAmb	16 19 49.6	
	comp=Z,9.6nm,1.4s						
TPNV	Topopah Spring	94.97	53		P	16 19 50.3	0.0
TPNV				IAmb	IAmb	16 19 52.1	
	comp=Z,3.1nm,0.8s						
PRN	Pahroc Range	95.95	53	P	P	16 19 53.8	-0.9
PRN				IAmb	IAmb	16 19 56.8	
	comp=Z,6.9nm,1.0s						
ARU	Arti	96.28	326	LR	LR	17 04 07.8	
	comp=Z,100nm,21.4s,baz=214,slow=36						
AKTO	Aktyubinsk	96.54	320	LR	LR	17 05 07.3	
	comp=Z,171nm,20.1s,baz=205,slow=36						
YKA	Yellowknife Ar	96.61	28	P	P	16 19 56.2	-0.7
	comp=Z,0.4nm,0.6s,baz=271,slow=4.7,SNR=7.9						
YKA	Yellowknife Ar	96.61	28	P	P	16 19 57.2	+0.3
PDAR	Pinedale Array	100.19	48	P	Pdif	16 20 13.3	-0.4
	comp=Z,2.6nm,0.9s,baz=244,slow=2.6,SNR=10.0						
PDAR	Pinedale Array	100.19	48		Pdif	16 20 13.7	-0.1
TXAR	Lajitas Array	105.49	61	Pdiff	Pdif	16 20 32.5	-5.0
	comp=Z,0.2nm,0.7s,baz=224,slow=1.7,SNR=3.9						
ARCES	ARCESS Array B	107.22	343	PKiKP	PKiKP	16 24 52.4	-0.5
	comp=Z,2.4nm,0.9s,baz=54,slow=2.3,SNR=6.4						
ARCES	ARCESS Array B	107.22	343		PKiKP	16 24 51.6	-1.2
FINES	FINESS Array B	111.23	335	PKiKP	PKiKP	16 24 59.9	-0.7
	comp=Z,1.4nm,0.7s,baz=135,slow=0.5,SNR=5.1						
FINES	FINESS Array B	111.23	335	PKiKP	PKiKP	16 25 00.5	-0.1
AKASG	Malin Array Be	114.41	324	PKiKP	PKPdf	16 25 05.8	-1.1
	comp=Z,0.6nm,0.4s,baz=60,slow=2.0,SNR=5.3						
AKASG	Malin Array Be	114.41	324	PKiKP	PKPdf	16 25 06.0	-0.9
BRTR	Keskin Array B	114.92	311	PKP	PKiKP	16 25 07.6	-0.9
	comp=Z,0.9nm,0.5s,baz=198,slow=2.9,SNR=2.4						
BRTR	Keskin Array B	114.92	311	PKiKP	PKiKP	16 25 07.2	-1.3
NB2	NORSAR Subarra	117.20	340	PKPdf	PKPdf	16 25 10.8	-1.3
	comp=Z,0.7nm,0.8s,baz=44,slow=1.9						
NOA	NORSAR Array B	117.20	340	PKP	PKPdf	16 25 10.8	-1.3
	comp=Z,0.8nm,0.7s,baz=47,slow=1.9,SNR=5.7						
VTS	Vitosha	121.40	317	PKPdf	PKPdf	16 25 20.6	-0.3
KRLC	Kraliky	121.71	328	*e*PKPDF	PKPdf	16 25 21.2	+0.1
CLL	Collm	122.92	330	*i* PKiKP	PKPdf	16 25 23.1	-0.2
	comp=Z,5.0nm,0.6s						
CKRC	Cesky Krumlov	123.75	327	*e*PKPDF	PKPdf	16 25 25.3	+0.3
KHC	Kasperske Hory	123.96	328	*e*PKPDF	PKPdf	16 25 25.6	+0.2
GERES	GERESS Array B	124.06	328	PKP	PKPdf	16 25 25.4	-0.3
	comp=Z,2.8nm,0.6s,baz=54,slow=2.2,SNR=26						
GERES	GERESS Array B	124.06	328		PKPdf	16 25 25.2	-0.5
WATA	Walderalm	126.11	327	*e*P	PKPdf	16 25 29.4	-0.3
	comp=Z,1.5nm,0.3s						
WTTA	Wattenberg	126.12	327	*e*P	PKPdf	16 25 30.0	+0.2
	comp=Z,3.5nm,0.3s						
MOTA	Moosalm	126.36	328	*i* P	PKPdf	16 25 30.2	0.0
	comp=Z,4.5nm,0.5s						
SQTA	Sankt Quirin	126.38	327	*e*P	PKPdf	16 25 30.4	+0.2
	comp=Z,3.0nm,0.5s						
FETA	Feichten	126.76	327	*e*P	PKPdf	16 25 31.4	+0.4
	comp=Z,4.4nm,0.9s						
DAVA	Damuels	127.04	328	*e*P	PKPdf	16 25 32.0	+0.5
	comp=Z,1.1nm,0.3s						
LPAZ	La Paz	135.08	120	PKP	PKPdf	16 25 48.1	-0.1
	comp=Z,0.8nm,0.8s,baz=20,slow=5.3,SNR=3.7						
TORD	Torodi Ar. Bea	149.42	286	PKPbc	PKPbc	16 26 17.0	-0.2
	comp=Z,7.3nm,0.4s,baz=65,slow=2.3,SNR=52						
TORD	Torodi Ar. Bea	149.42	286	PKPbc	PKPbc	16 26 17.0	-0.2
BDFB	Brasilia	151.34	137	PKPbc	PKPbc	16 26 21.1	-0.9
	comp=Z,5.5nm,0.9s,baz=166,slow=6.6,SNR=6.8						
DBIC	Dimbokro	156.60	274	PKPab	PKPab	16 26 51.5	-1.0
	comp=Z,4.2nm,0.7s,baz=122,slow=5.9,SNR=3.8						

*IDC **09** 16:37:13.6±0.4, 5.°65S×110.°13E, h533km±4km, mb3.8/38, mb1 3.8/42, mb1mx3.7/50, mbtmp4.6/42, Error ellipse: s-maj=8.5km s-min=6.2km az=55.0*

*DJA **09** 16:37:14.8±0.1, 6°S±2°×11°0E±°, h525km±2km, M4.3/45, mB4.9/25, mb4.5/45, MLv4.9/39, Mw(mB)4.2/25*

*NEIC **09** 16:37:14.6±2.2, 5.°63S±0.°08×110.°14E±0.°08, h534km±3km, mb4.4/86, Error ellipse: s-maj=13.4km s-min=9.6km az=56.0*

ISC 09 16:37:14.0±0.3**, 5.°68S**±0.°04×**110.°17E**±0.°05**, h536**km±3km**, h538**km**:pP-P, n402,** σ1**§17**/425**, mb4.4**/104**, 1C, Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UWJI	Ujung Watu	1.07	133	P	P	16 38 19.4	+0.3
SMRI	Semarang	1.39	169		P	16 38 20.5	+0.4
SMRI	Semarang	1.39	169	P	P	16 38 20.7	+0.6
SMRI				S	S	16 39 14.4	+0.7
SMRI	Semarang	1.39	169	P	P	16 38 20.5	+0.4
TBJI	Tambak Boyo	2.02	124	P	P	16 38 23.5	+1.0
JCJI	Jatiwangi	2.05	247	P	P	16 38 23.3	+0.6
JCJI				S	S	16 39 19.1	+0.7
KPJI	Karang Pucung	2.05	217	P	P	16 38 22.8	+0.1
KPJI				S	S	16 39 18.0	-0.5
YOGI	Yogyakarta	2.13	177	P	P	16 38 22.4	-0.7
YOGI				S	S	16 39 17.1	-2.1
UGM	Wanagama	2.25	171		P	16 38 23.0	-0.7
UGM	Wanagama	2.25	171	P	P	16 38 23.0	-0.7
UGM				S	S	16 39 18.4	-1.9
UGM	Wanagama	2.25	171	P	P	16 38 23.2	-0.5
BWJI	Bawean	2.49	94	P	P	16 38 24.4	-0.5
GRJI	Gresik	2.61	118	P	P	16 38 26.4	+0.8
PCJI	Pacitan	2.69	158	P	P	16 38 25.0	-1.1
CMJI	Cimerak	2.70	219	P	P	16 38 24.4	-1.7
LEM	Lembang	2.78	246	P	P	16 38 27.2	+0.4
	46nm,0.3s,baz=36,slow=6.7,SNR=238						
LEM				S	S	16 39 23.2	-2.7
	28nm,0.3s,baz=168,slow=23,SNR=13						
LEM	Lembang	2.78	246	P	P	16 38 27.0	+0.2
PWJI	Pagerwojo	2.84	145	P	P	16 38 26.3	-0.6
PBKI	Pangkalan Bun	3.31	27	P	P	16 38 30.5	+0.5
CBJI	Citeko	3.38	257	P	P	16 38 30.1	-0.3
CNJI	Cibinong	3.42	242	P	P	16 38 29.4	-1.3
DBJI	Dramaga	3.51	255	P	P	16 38 31.1	-0.2
TNG	Tangerang	3.54	262	P	P	16 38 32.2	+0.7
TNG				P	P	16 38 30.5	-1.0
SKJI	Sukabumi	3.82	250	P	P	16 38 33.7	+0.1
BLJI	Banyuglugur	3.98	121	P	P	16 38 35.4	+0.7
KMMI	Kalianget	4.02	110	P	P	16 38 34.9	-0.1
GMJI	Gumukmas	4.15	129	P	P	16 38 35.5	-0.6
CGJI	Cibinong	4.54	258	P	P	16 38 38.2	-1.0
ABJI	Asem Bagus	4.56	118	P	P	16 38 40.3	+1.0
JAGI	Jajag, Banyuwa	4.83	125		P	16 38 40.8	-0.8
JAGI	Jajag, Banyuwa	4.83	125	P	P	16 38 40.8	-0.8
JAGI	Jajag, Banyuwa	4.83	125	P	P	16 38 41.3	-0.3
BLSI	Bandar Lampung	4.91	273	P	P	16 38 41.7	-0.6
PPBI	Pangkal Pinang	5.32	311	P	P	16 38 47.0	+1.1
	0.8nm4µm53nm,0.4s						
KLI	Kotabumi	5.35	278	P	P	16 38 46.1	0.0
	0.7nm87nm,0.8s						
KLSI		5.50	280	P	P	16 38 47.7	+0.2
	0.1nm9.6nm,0.9s						
SRBI	Singaraja	5.55	116	P	P	16 38 48.9	+1.0
	2.2nm8µm755nm,0.9s						
KASI	Kota Agung	5.64	271	P	P	16 38 48.0	-0.7
	1.9nm3µm186nm,0.9s						
DNP	Denpasar	5.83	121	P	P	16 38 50.3	-0.1
	12nm16µm709nm,0.8s						
IGBI	Denpasar	5.84	123	P	P	16 38 49.5	-1.0
	2.5nm5µm105nm,0.8s						
STKI	Sintang	5.85	13	P	P	16 38 51.8	+1.1
	0.6nm4µm188nm,1.0s						
PMBI	Palembang	6.03	297	P	P	16 38 52.8	+0.5
	0.9nm142nm,0.5s						
MDSI	Maura Dua	6.08	281	P	P	16 38 53.1	+0.4
	0.1nm24nm,1.1s						
LWLI	Liwa	6.12	276	P	P	16 38 54.0	+0.8
	2.7nm102nm,0.7s						
XMI	Christmas Isla	6.49	223	P	P	16 38 57.3	+0.7
XMIS	Christmas Isla	6.54	223	P	P	16 38 56.9	-0.2
XMIS	Christmas Isla	6.54	223	P	P	16 38 57.4	+0.3
MTKI	Muara Teweh, K	6.67	45	P	P	16 38 59.4	+1.1
	0.7nm2µm198nm,1.2s						
KSM	Kuching	7.11	1		P	16 39 02.9	+0.3
KSM	Kuching	7.11	1	P	P	16 39 03.4	+0.8
MNAI	Manna	7.30	280	P	P	16 39 03.8	-0.6
MNAI	Manna	7.30	280	P	P	16 39 03.9	-0.6
	2.4nm8µm377nm,0.8s						
MNAI	Manna	7.30	280	P	P	16 39 05.4	+0.9
JMBI	JAMBI	7.65	301	P	P	16 39 10.7	+2.8
	0.4nm39nm,0.5s						
PLAI	Plampang	8.17	113	P	P	16 39 12.0	-1.2
	2µm78nm,0.6s						
PLAI	Plampang	8.17	113	P	P	16 39 11.9	-1.2
MASI	Maura Aman, Be	8.29	287	P	P	16 39 14.5	+0.1
	2µm201nm,0.8s						
SBUM	Sibu	8.33	14		P	16 39 15.2	+0.5

TPRI Tanjung Pinang 8.64 319 P P 16 39 18.1 +0.2
41nm,1.2s
SMKI Samarinda 8.74 54 P P 16 39 21.6 +2.7
1.3nm7µm314nm,1.1s
KRJI Kerinci 9.38 292 P P 16 39 25.2 -0.4
2µm105nm,0.9s
KAPI Kappang 9.57 87 P P 16 39 27.5 +0.1
12nm,0.3s,baz=255,slow=3.8,SNR=41
KAPI S S 16 41 13.8 -3.1
0.6nm,0.3s,baz=83,slow=9.8,SNR=1.0
KAPI Kappang 9.57 87 P 16 39 26.9 -0.5
KAPI Kappang 9.57 87 P P 16 39 27.5 +0.1
SPSI Sidrap Palu 9.72 80 P P 16 39 29.1 +0.2
20nm,1.2s
MYKOM Kota Tinggi 9.74 319 P P 16 39 29.9 +0.8
BKSI Bulukumba 9.92 88 P P 16 39 31.8 +0.8
16nm,0.8s
WBSI Waikabubak, Su 9.96 114 P P 16 39 32.4 +1.0
3µm84nm,0.6s
TTSI Tana Toraja 9.97 75 P P 16 39 33.8 +2.2
38nm,0.9s
BNSI Bone 9.98 83 P P 16 39 32.7 +1.0
44nm,0.6s
BSSI Bau Bau, Buton 10.28 93 P P 16 39 35.4 +0.7
474nm36nm,0.7s
BKNI Bangkinang 10.89 303 P P 16 39 42.4 +1.3
78nm,0.8s
BASI Baing, Sumba 11.26 114 P P 16 39 44.8 0.0
78nm,0.5s
MPSI Mapaga 11.41 59 P P 16 39 47.6 +1.2
896nm107nm,1.4s
TOLI2 Tolitoli 12.56 58 P P 16 39 59.1 +0.6
TOLI2 Tolitoli 12.56 58 P P 16 39 59.3 +0.8
KKM Kota Kinabalu 13.12 28 P P 16 40 03.5 -0.8
KKM Kota Kinabalu 13.12 28 P P 16 40 04.1 -0.2
MRSI Marisa 13.25 63 P P 16 40 08.2 +2.6
664nm31nm,1.1s
IPM Ipoh 13.61 318 P P 16 40 10.0 +0.7
IPM Ipoh 13.61 318 P P 16 40 12.0 +2.7
MYLDM Lahad Datu 13.62 38 P P 16 40 11.2 +1.7
PSI Prapat 14.04 307 P P 16 40 13.1 -0.9
4.0nm,0.3s,baz=153,slow=9.5,SNR=11
PSI S S 16 42 43.2 +1.1
0.1nm,0.3s,baz=344,slow=23,SNR=6.2
GTOI Gorontalo 14.28 64 P P 16 40 14.1 -2.2
GSI Gunungsitoli 14.36 299 P P 16 40 17.6 +0.4
GSI PcP PcP 16 44 54.3 +1.4
GSI Gunungsitoli 14.36 299 P P 16 40 20.0 +2.8
14nm,0.5s
GSI Gunungsitoli 14.36 299 P P 16 40 20.2 +3.0
17nm,0.6s
KULM Kulim 14.46 319 P P 16 40 17.6 -0.5
TSI Tuntungan 14.74 308 P P 16 40 23.8 +2.7
2µm224nm,0.9s
KCSI Kotacane, Aceh 15.39 306 P P 16 40 28.4 +0.5
70nm,0.7s
SANI Sanana 16.19 78 P P 16 40 35.9 0.0
599nm41nm,1.0s
SANI Sanana 16.19 78 P P 16 40 36.2 +0.3
LHMI Lhok Sumawe 17.07 309 P P 16 40 44.6 +0.4
LHMI Lhok Sumawe 17.07 309 P P 16 40 45.5 +1.3
4µm397nm,0.8s
LHMI Lhok Sumawe 17.07 309 P P 16 40 46.4 +2.2
GIRL Giralia 17.32 167 P P 16 40 48.1 +1.8
GIRL Giralia 17.32 167 P P 16 40 47.6 +1.3
DLV T Lat 17.59 355 P P 16 40 50.5 +1.4
SRIT Nakonsritamara 17.66 323 P P 16 40 50.6 +1.0
LBMI Labuha 18.01 74 P P 16 40 55.9 +3.1
633nm48nm,1.0s
TNTI Ternate 18.33 70 P P 16 40 55.5 -0.3
TNTI Ternate 18.33 70 P P 16 40 58.7 +3.0
1µm73nm,1.2s
TNTI Ternate 18.33 70 P P 16 40 56.9 +1.2
PSA00 Pilbara Seismi 18.37 150 P P 16 40 56.6 +0.6
PSA00 PcP PcP 16 44 59.2 +0.2
PSA00 Pilbara Seismi 18.37 150 P P 16 40 57.1 +1.1
FITZ Fitzroy Crossi 19.51 131 P P 16 41 06.9 +0.5
2.0nm,0.3s,baz=336,slow=8.2,SNR=56
FITZ S S 16 44 17.1 +1.9
0.1nm,0.3s,baz=344,slow=21,SNR=1.2
FITZ Fitzroy Crossi 19.51 131 P P 16 41 06.7 +0.2
FITZ IAmb IAmb 16 41 09.1
comp=Z,8.3nm,0.7s
KNRA Kununurra 20.78 120 P P 16 41 17.6 -0.3
KNRA IAmb IAmb 16 41 18.6
comp=Z,7.8nm,0.9s
KNRA Kununurra 20.78 120 P P 16 41 17.9 0.0
DRS Darwin Rock St 21.54 110 P P 16 41 25.2 +0.4
comp=Z,4.6nm,0.5s
SIJI Sorong 21.59 78 P P 16 41 25.9 +0.5
comp=Z,3.6nm,0.6s,baz=206,slow=23,SNR=1.9
MEEK Meekatharra 22.35 160 P P 16 41 33.0 +1.0
MORW Morawa 23.92 167 P P 16 41 46.7 +0.9
MORW Morawa 23.92 167 P P 16 41 46.8 +0.9
comp=Z,36nm,0.9s
PBA Port Blair 24.43 315 P P 16 41 50.3 -0.3
PBA IAmb IAmb 16 41 56.4
comp=Z,18nm,0.9s
BLDU Ballidu 25.56 167 P P 16 42 01.6 +1.2
WRKA Warakurna 25.94 140 P P 16 42 04.2 +0.3
CM31 Chiang Mai Arr 26.41 335 P P 16 42 09.1 +1.1
CM31 IAmb IAmb 16 42 10.5
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 26.41 335 P P 16 42 09.3 +1.3
comp=Z,11nm,0.8s,baz=172,slow=8.0,SNR=110
CMAR PcP PcP 16 45 15.7 -0.1
comp=Z,3.3nm,0.9s,baz=196,slow=2.9,SNR=12
CMAR ScP ScP 16 48 04.1 -1.1
comp=Z,0.2nm,0.3s,baz=186,slow=3.4,SNR=1.4
CMAR Chiang Mai Arr 26.41 335 P P 16 42 09.1 +1.1
CMAR PcP PcP 16 45 17.6 +1.8
CHTO Chiang Mai 26.73 336 P P 16 42 12.0 +1.2
CHTO IAmb IAmb 16 42 13.1
comp=Z,5.7nm,0.8s
CHTO PcP PcP 16 45 17.0 +0.4
KLBR Kellerberrin 26.74 165 P P 16 42 13.3 +2.5
MUN Mundaring 26.77 169 P P 16 42 12.1 +1.1
comp=Z,38nm,0.9s
WB0 Warramunga Arr 27.41 123 P P 16 42 17.1 +0.2
WRA Warramunga Arr 27.45 123 P P 16 42 17.5 +0.2
comp=Z,2.5nm,0.5s,baz=305,slow=8.9,SNR=24
WRA PcP PcP 16 45 17.8 -0.6
comp=Z,2.9nm,0.8s,baz=310,slow=1.9,SNR=7.7
WRA S S 16 46 15.4 -4.9
comp=Z,2.8nm,1.1s,baz=288,slow=18,SNR=4.9
WRA ScP ScP 16 48 08.2 -0.2
comp=Z,1.5nm,1.1s,baz=314,slow=3.7,SNR=4.0
WRA Warramunga Arr 27.45 123 P P 16 42 17.1 -0.1
WRA PcP PcP 16 45 19.2 +0.8
WRAB Tennant Creek 27.45 123 P P 16 42 17.9 +0.6
WRAB PcP PcP 16 45 19.4 +1.0
WB2 Warramunga Arr 27.46 123 P P 16 42 17.5 +0.2
WB2 IAmb IAmb 16 42 18.4
comp=Z,4.0nm,0.5s
WB2 PcP PcP 16 45 18.9 +0.5
WR0 Warramunga Arr 27.62 123 P P 16 42 19.1 +0.4
WR0 IAmb IAmb 16 42 20.0
comp=Z,6.0nm,0.5s
AS31 Alice Springs 29.02 130 P P 16 42 31.1 +0.2
ASAR Alice Springs 29.02 130 P P 16 42 30.8 -0.1
comp=Z,0.9nm,0.6s,baz=32,slow=12,SNR=5.0
ASAR PcP PcP 16 45 21.9 -0.4
comp=Z,3.4nm,0.8s,baz=320,slow=2.8,SNR=14
ASAR S S 16 46 41.5 -3.2
comp=Z,1.6nm,0.8s,baz=296,slow=15,SNR=7.1
ASAR ScP ScP 16 48 13.0 -0.3
comp=Z,2.2nm,0.9s,baz=301,slow=2.3,SNR=8.9
ASAR Alice Springs 29.02 130 P P 16 42 32.6 +1.7
ASAR PcP 16 45 23.0 +0.7
RKGY Rocky Gully 29.47 169 P P 16 42 35.8 +1.2
FORT Forrest 30.11 148 P P 16 42 41.4 +1.2
FORT Forrest 30.11 148 P P 16 42 41.1 +1.0
comp=Z,38nm,0.9s
SSLB Suanglung 31.12 19 P P 16 42 50.2 +1.3
SSLB IAmb IAmb 16 42 51.3
comp=Z,24nm,0.9s
SSLB Suanglung 31.12 19 P P 16 42 49.8 +0.8
comp=Z,34nm,1.4s
YHNB Yeheng 32.08 19 P P 16 42 57.6 +0.4
YHNB IAmb IAmb 16 43 21.2
comp=Z,11nm,0.9s
YHNB Yeheng 32.08 19 P P 16 42 58.2 +1.0
comp=Z,81nm,2.5s
PALK Pallekele 32.09 293 P P 16 42 57.4 0.0
comp=Z,5.7nm,0.7s,baz=216,slow=9.2,SNR=4.3
PALK Pallekele 32.09 293 P P 16 42 57.8 +0.4
PALK IAmb IAmb 16 43 19.4
comp=Z,10.0nm,1.1s
QIS Mount Isa 32.17 120 P P 16 42 58.2 +0.1
comp=Z,6.0nm,1.5s
OOD Oodnadatta 32.74 135 P P 16 43 04.0 +1.3
PZH PanZhiHua 33.02 346 P P 16 43 06.8 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,60nm,3.7s
MULG Mulgathing 33.24 140 P P 16 43 07.3 +0.4
comp=Z,13nm,0.6s
COEN Coen 33.51 107 P P 16 43 09.6 +0.1
COEN PcP PcP 16 45 36.4 +1.6
COEN Coen 33.51 107 P P 16 43 09.3 -0.2
comp=Z,6.3nm,1.0s
SHL Shillong 35.78 331 P P 16 43 29.0 +0.6
LCRK Leigh Creek 36.10 136 P P 16 43 31.4 +0.6
comp=Z,12nm,1.4s
BBOO Buckleboo 36.20 141 P P 16 43 31.8 +0.2
BBOO IAmb IAmb 16 43 33.1
comp=Z,7.6nm,0.5s
BBOO PcP PcP 16 45 42.6 +0.2
BBOO Buckleboo 36.20 141 P P 16 43 31.6 -0.1
comp=Z,15nm,0.5s
INKA Innaminka 36.40 131 P P 16 43 34.3 +1.0
comp=Z,20nm,0.6s
PMG Port Moresby 36.85 98 P P 16 43 37.2 0.0
comp=Z,5.2nm,0.8s,baz=324,slow=19,SNR=2.7
KAAM Kaadhehdhoo 37.62 278 P P 16 43 44.2 +0.7
NAPP Napperby 37.77 140 P P 16 43 45.1 +0.6
CTA Charters Tower 37.87 116 P P 16 43 45.9 +0.4
comp=Z,6.2nm,0.9s,baz=251,slow=11,SNR=2.2
HTT Hallett 38.42 140 P P 16 43 50.6 +0.7
comp=Z,15nm,1.5s
NJ2 Nanjing 38.42 12 eP P 16 43 51.7 +2.0
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
QLP Quilpie 38.56 126 P P 16 43 53.0 +2.0
comp=Z,11nm,0.9s
HYBB Hyderabad (bro 38.75 307 eP P 16 43 53.1 +0.3
HYBB epP pP 16 45 25.7 -1.1
HYBB ePP PP 16 45 39.9 +1.3
HYBB esP sP 16 46 26.5 -1.3
HYBB eScP ScP 16 48 46.6 -1.4
HYBB eS S 16 49 09.9 -2.0
ODAN Odare 39.15 327 eP P 16 43 56.4 +0.4
comp=Z,88nm,0.6s
TWOA Tennyson Woods 39.24 142 P P 16 43 57.4 +1.0
comp=Z,6.7nm,0.6s
STKA Stephens Creek 39.28 136 P P 16 43 57.3 +0.6
comp=Z,18nm,0.4s,baz=322,slow=7.0,SNR=79
STKA PcP PcP 16 45 51.8 -0.3
comp=Z,1.8nm,0.4s,baz=292,slow=5.4,SNR=2.9
STKA S S 16 49 17.6 -1.6
comp=Z,4.1nm,1.0s,baz=124,slow=19,SNR=4.5
STKA Stephens Creek 39.28 136 P P 16 43 57.7 +0.9
STKA IAmb IAmb 16 43 58.4
comp=Z,3.4nm,0.4s
STKA Stephens Creek 39.28 136 P P 16 43 57.1 +0.3
comp=Z,3.5nm,0.5s
TAPN Taplejung 39.36 328 eP P 16 43 58.6 +0.8
comp=Z,86nm,0.7s
XAN Xi'an 39.52 358 P P 16 43 59.2 +0.6
XAN pP pP 16 45 29.6 -3.6
XAN sP sP 16 46 32.0 -2.1
XAN S S 16 49 22.1 -0.5
XAN PcS PcS 16 49 50.5 +6.6
XAN pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 39.63 334 P P 16 44 01.6 +1.4
LSA Lhasa 39.63 334 P P 16 44 01.5 +1.4
LSA pmax pmax
comp=Z,38nm,0.9s
RAMN Ramite 39.65 326 eP P 16 44 00.8 +0.7
comp=Z,15nm,0.4s
JIRN Jiri 40.43 326 eP P 16 44 07.0 +0.5
comp=Z,73nm,0.5s
GUN Gumba 40.80 326 eP P 16 44 09.8 +0.4
comp=Z,91nm,0.6s
PKI Pulchoki 40.80 325 eP P 16 44 09.2 -0.2
PKIN Phulchoki 40.81 325 eP P 16 44 09.2 -0.2
DMN Daman 41.00 325 eP P 16 44 10.8 -0.1
KKN Kakani 41.04 325 eP P 16 44 11.1 -0.1
GKN Gorkha 41.57 325 eP P 16 44 15.2 -0.1
comp=Z,44nm,0.3s
LZH Lanzhou 41.97 352 ⇑P P 16 44 20.0 +1.8
LZH pP pP 16 45 48.7 -5.6
LZH sP sP 16 46 48.0 -6.8
LZH pmax pmax
comp=Z,26nm,1.3s
LZH LR LR
comp=E,200nm,17.8s
KOLN Koldanda 42.00 324 eP P 16 44 18.7 0.0
CMSA Cobar Meteorol 42.04 132 P P 16 44 19.7 +1.0
comp=E,17nm,1.3s
RMQ Roma 42.21 124 P P 16 44 22.0 +1.8
DANN Dangsing 42.34 324 eP P 16 44 21.3 -0.2
comp=E,92nm,0.6s
ARPS Mount Arapiles 42.38 141 P P 16 44 22.2 +0.8
comp=E,12nm,1.2s
PYUN Piuthan 42.60 323 eP P 16 44 23.1 -0.4
comp=E,34nm,0.6s
EIDS Eidsvold 43.76 121 P P 16 44 33.4 +1.1
EIDS IAmb IAmb 16 44 34.5
comp=Z,9.1nm,1.1s
EIDS Eidsvold 43.76 121 P P 16 44 33.5 +1.1
comp=Z,16nm,2.0s
GOMU GeErMu 44.07 342 P P 16 44 33.0 -2.0
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,76nm,8.4s
TOO Toolangi 45.19 140 P P 16 44 45.5 +2.3
TOO Toolangi 45.19 140 P P 16 44 44.9 +1.7
GTA Gaotai 45.87 349 eP P 16 44 49.8 +1.4
GTA PcP PcP 16 46 15.7 +1.2
GTA sP sP 16 47 11.2 -15
GTA S S 16 50 55.1 +1.6
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,70nm,5.1s
GTA LR LR
comp=N,160nm,18.2s
GTA LR LR
comp=E,170nm,17.8s
GTA LR LR
comp=Z,150nm,19.6s
KSRS Korea Array 46.00 20 P P 16 44 48.9 -0.3
comp=Z,0.7nm,0.5s,baz=197,slow=7.7,SNR=2.3
ARMA Armidale 46.08 127 P P 16 44 52.2 +2.0
ARMA Armidale 46.08 127 P P 16 44 51.6 +1.4
HHC Hu-ho-hao-te 46.32 1 eP P 16 44 53.5 +1.8
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.5s
CAN Canberra 46.33 135 P P 16 44 53.2 +1.3
CAN Canberra 46.33 135 P P 16 44 53.7 +1.8
JHJ Hachijo jima 2 47.73 34 P P 16 45 03.6 +1.2
comp=Z,515nm,0.7s,baz=184,slow=21,SNR=3.9
CORO Coronation Par 48.52 143 P P 16 45 09.2 +1.1
comp=Z,21nm,1.7s
MAJO Matsushiro 49.53 30 P P 16 45 17.5 +1.8
MJAR Matsushiro Arr 49.53 30 P P 16 45 14.8 -0.9
comp=Z,1.1nm,0.5s,baz=195,slow=7.3,SNR=2.2
MJAR PcP PcP 16 46 27.2 -0.5
comp=Z,2.1nm,0.7s,baz=210,slow=4.2,SNR=4.3
XLT XiLinHaoTe 49.64 6 eP P 16 45 16.6 +0.2
XLT PcP PcP 16 46 24.2 -3.8
XLT pP pP 16 47 03.2 +5.9
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,190nm,4.7s
WMQ Urumqi 53.29 340 eP P 16 45 44.0 +1.2
WMQ pmax pmax
comp=Z,25nm,0.7s
ULN Ulaanbaatar 53.38 357 P P 16 45 43.7 +0.2
SONM Songino Array 53.39 357 P P 16 45 43.8 +0.3
comp=Z,3.6nm,0.6s,baz=176,slow=8.2,SNR=49
SONM PcP PcP 16 46 41.7 -0.5
comp=Z,2.6nm,0.7s,baz=166,slow=3.9,SNR=12
SONM Songino Array 53.39 357 P P 16 45 43.8 +0.3
SONM PcP PcP 16 46 42.4 +0.2
USA0B Ussuriysk Arra 53.40 19 P P 16 45 43.4 -0.2
USRK Ussuriysk Ar. 53.40 19 P P 16 45 42.7 -0.8
comp=Z,1.3nm,0.5s,baz=197,slow=6.8,SNR=9.4
USRK Ussuriysk Ar. 53.40 19 P P 16 45 43.3 -0.2
KSH Kashi 54.94 328 P P 16 45 53.2 -1.4
KSH pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 55.71 319 P P 16 45 59.5 -0.7
KBL IAmb IAmb 16 45 60.0
comp=Z,14nm,0.9s
ULHL Ulahol 56.82 330 P P 16 46 07.8 +0.1
SNR=8.4
ASAJ Asahikawa 57.53 27 P P 16 46 11.6 -0.7
comp=Z,6.7nm,1.0s,baz=2.5,slow=11,SNR=2.1
JKA Kamikawa-asahi 57.53 27 P P 16 46 11.7 -0.6
TKM2 Tokmak 2 57.64 330 P P 16 46 13.5 +0.2
SNR=24
UCH Uchtor 57.67 329 P P 16 46 14.5 +0.7
SNR=13
KBK Karagaybulak 57.76 330 P P 16 46 14.8 +0.7
SNR=33
MK31 Makanchi Array 57.79 338 P P 16 46 14.2 +0.1
MK31 IAmb IAmb 16 46 15.1
comp=Z,12nm,0.7s
MKAR Makanchi Array 57.79 338 P P 16 46 14.1 +0.1
comp=Z,15nm,0.4s,baz=152,slow=7.3,SNR=357
MKAR PcP PcP 16 46 59.5 +0.2
comp=Z,2.0nm,0.8s,baz=155,slow=6.7,SNR=3.8
MKAR S S 16 53 30.4 -1.9
comp=Z,0.2nm,0.8s,baz=56,slow=40,SNR=2.9
KLR Kul'dur 57.83 17 P P 16 46 13.4 -0.7
comp=Z,4.9nm,0.5s,baz=209,slow=5.7,SNR=33
WSAR Wadi Sarin 57.94 302 P P 16 46 15.3 -0.2
comp=Z,15nm,0.9s,baz=246,slow=4.8,SNR=6.5
AAK Ala-Archa 57.98 330 P P 16 46 15.4 -0.1
comp=Z,7.3nm,0.8s,baz=151,slow=5.6,SNR=37
AAK PcP PcP 16 47 00.6 +0.2
comp=Z,4.8nm,0.9s,baz=83,slow=1.6,SNR=5.2
AAK Ala-Archa 57.98 330 P P 16 46 16.0 +0.4
SNR=18
AAK Ala-Archa 57.98 330 P P 16 46 16.4 +0.8
AAK IAmb IAmb 16 46 17.0
comp=Z,11nm,0.8s
AAK PcP PcP 16 47 02.2 +1.8
AML Almayashu 58.02 329 P P 16 46 16.3 +0.2
SNR=32
CHGR Chuyangaron 58.21 323 P P 16 46 15.2 -1.9
CHGR IAmb IAmb 16 46 16.1
comp=Z,27nm,1.0s
CHGR PcP PcP 16 47 01.6 +0.3
EKS2 Erkin-Say 58.36 329 P P 16 46 18.6 +0.6
SNR=23
USP Ospenovka 58.44 330 P P 16 46 18.9 +0.4
SNR=13
SOCY Socotra 58.60 288 P P 16 46 19.9 -0.3
KKAR Karatay Array 60.38 327 P P 16 46 30.6 -0.8
KKAR PcP PcP 16 47 10.8 +0.9
UOSS Minazif 60.64 303 P P 16 46 33.0 -0.5
UOSS IAmb IAmb 16 46 52.0
comp=Z,20nm,1.1s
KURBB Kurchatov Arra 62.36 338 P P 16 46 43.6 -0.5
comp=Z,4.5nm,0.4s,baz=153,slow=5.3,SNR=24
KURBB PcP PcP 16 47 17.3 -0.4
comp=Z,2.0nm,0.4s,baz=156,slow=3.1,SNR=9.3
ABPO Ambohimpanom 62.60 252 P P 16 46 47.1 +0.5
OPO Ambohidratompo 62.61 252 P P 16 46 47.1 +0.4
comp=Z,13nm,0.9s,baz=96,slow=3.0,SNR=9.1
ZAA0 Zalesovo Array 63.11 344 P P 16 46 48.4 -0.6
ZAA0 IAmb IAmb 16 46 49.4
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 63.11 344 P P 16 46 48.4 -0.6
comp=Z,8.8nm,0.3s,baz=155,slow=6.1,SNR=58
ZALV PcP PcP 16 47 19.7 -1.0
comp=Z,1.8nm,0.6s,baz=172,slow=3.0,SNR=4.4
ZALV pP pP 16 48 37.0 +0.2
comp=Z,0.9nm,0.6s,baz=152,slow=6.7,SNR=3.2
ZALV Zalesovo Beam 63.11 344 P P 16 46 48.5 -0.4
ZALV PcP PcP 16 47 20.5 -0.2
VOI Vohitsoka 63.21 248 P P 16 46 51.5 +1.1
VOI IAmb IAmb 16 46 52.0
comp=Z,13nm,0.8s
GEYT Alibeck 64.92 316 P P 16 47 00.8 -0.2
comp=Z,5.0nm,0.5s,baz=88,slow=12,SNR=8.7
NNZ Nelson 66.24 133 P P 16 47 10.2 +1.1
NNZ IAmb IAmb 16 47 24.7
comp=Z,32nm,1.2s
MQZ McQueen's Vall 66.36 135 P P 16 47 11.8 +2.1
MQZ IAmb IAmb 16 47 22.6
comp=Z,22nm,1.1s
BVAR Borovoye Array 67.44 335 P P 16 47 15.2 -1.0
comp=Z,7.2nm,0.8s,baz=73,slow=16,SNR=38
BVAR PcP PcP 16 47 39.2 +0.4
comp=Z,2.4nm,0.7s,baz=70,slow=13,SNR=6.1
BVAR pP pP 16 49 06.2 +0.1
comp=Z,1.0nm,0.7s,baz=95,slow=15,SNR=2.2
BRVK Borovoye 67.51 335 P P 16 47 16.7 +0.1
BRVK IAmb IAmb 16 47 17.2
comp=Z,7.8nm,0.9s
BKZ Black Stump Fm 68.13 130 P P 16 47 21.0 +0.2
YAK Yakutsk 69.17 10 P P 16 47 25.8 -0.6
comp=Z,5.7nm,0.5s,baz=239,slow=1.6,SNR=9.5
YAK Yakutsk 69.17 10 P P 16 47 26.0 -0.4
YAK IAmb IAmb 16 47 26.8
comp=Z,22nm,0.8s
RAYN Ar Rayn 69.40 298 P P 16 47 28.4 -0.3
RAYN IAmb IAmb 16 47 29.0
comp=Z,12nm,1.1s
MAW Mawson 69.55 197 P P 16 47 26.8 -1.8
comp=Z,26nm,0.9s,baz=40,slow=17,SNR=1.6
ABKAR Akbulak array 69.94 328 P P 16 47 31.3 -0.1
PETK Petropavlovsk- 70.93 28 P P 16 47 36.1 -1.0
comp=Z,1.2nm,0.5s,baz=193,slow=1.4,SNR=10
PETK Petropavlovsk- 70.93 28 P P 16 47 37.6 +0.4
PET Petropavlovsk 71.33 29 P P 16 47 39.7 +0.3
PET IAmb IAmb 16 47 58.7
comp=Z,8.1nm,1.0s
KIBK Kibwezi 71.98 269 P P 16 47 45.1 +0.9
KIBK IAmb IAmb 16 47 45.8
comp=Z,9.9nm,0.6s
KMBO Kilima Mbogo 72.89 271 P P 16 47 49.7 +0.1
comp=Z,4.5nm,0.7s,baz=62,slow=8.2,SNR=14
KMBO Kilima Mbogo 72.89 271 P P 16 47 49.1 -0.5
ARU Arti 74.83 333 P P 16 47 58.9 -0.5
ARU IAmb IAmb 16 48 00.0
comp=Z,13nm,1.1s
LODK Lodwar 75.25 275 P P 16 48 02.8 0.0
GNI Garni 75.28 314 P P 16 48 02.2 -0.3
comp=Z,6.3nm,0.7s,baz=174,slow=1.5,SNR=5.7
GNI Garni 75.28 314 P P 16 48 02.2 -0.3
GEVA Gevas 75.89 312 P P 16 48 05.1 -0.9
GEVA IAmb IAmb 16 48 07.0
comp=Z,10.0nm,0.9s
NRIK Noril'sk 76.46 352 P P 16 48 06.6 -1.6
comp=Z,3.5nm,0.9s,baz=145,slow=4.3,SNR=7.9
NRIK Noril'sk 76.46 352 P P 16 48 07.0 -1.1
KARS Kars 76.64 314 P P 16 48 10.2 +0.2
VNDA Vanda 76.69 170 P P 16 48 08.8 -0.7
comp=Z,1.5nm,0.4s,baz=313,slow=6.6,SNR=13
GURO Guroymak-BITLI 76.72 312 P P 16 48 10.9 +0.4
GURO IAmb IAmb 16 48 11.9
comp=Z,11nm,0.8s
ONI Oni 77.04 316 P P 16 48 12.2 +0.2
MARD Mardin 77.29 310 P P 16 48 13.2 -0.4
MARD IAmb IAmb 16 48 14.0
comp=Z,8.4nm,0.8s
KBZ Khabaz 77.81 317 P P 16 48 15.7 -0.4
comp=Z,11nm,0.9s,baz=119,slow=5.0,SNR=30
KIV Kislovodsk 78.03 317 P P 16 48 17.1 -0.4
TIXI Tiksi 78.15 6 P P 16 48 16.6 -0.7
TIXI IAmb IAmb 16 48 17.4
comp=Z,12nm,0.9s
MBAR Mbarara 79.42 270 P P 16 48 25.6 0.0
MBAR IAmb IAmb 16 48 27.3
comp=Z,21nm,0.7s
MATP Matopo 80.25 250 P P 16 48 29.6 -0.1
comp=Z,11nm,0.8s,baz=95,slow=6.0,SNR=25
TOKA Tokat 81.35 312 P P 16 48 35.6 +0.7
TOKA IAmb IAmb 16 48 37.3
comp=Z,22nm,0.8s
BNN Bunyan 81.45 311 P P 16 48 35.3 -0.3
CSS Mathiatis 82.53 306 P P 16 48 40.8 -0.2
BOSA Boshof 82.85 242 P P 16 48 42.6 -0.3
comp=Z,3.4nm,0.6s,baz=90,slow=4.4,SNR=8.4
BOSA Boshof 82.85 242 P P 16 48 43.1 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BR131	**Keskin Array S**	**83.32**	**311**	P	**P**	**16 48 44.7**	**-0.3**
BR131				IAmb	IAmb	16 48 45.9	
	comp=Z,27nm,0.9s						
BRTR	**Keskin Array B**	**83.32**	**311**	P	**P**	**16 48 44.4**	**-0.6**
	comp=Z,11nm,0.8s,baz=120,slow=7.3,SNR=38						
BRTR	**Keskin Array B**	**83.32**	**311**	P	**P**	**16 48 44.7**	**-0.3**
ILGA	**Ilgaz**	**83.57**	**312**	P	**P**	**16 48 46.4**	**+0.1**
ANTO	**Ankara**	**83.99**	**311**	P	**P**	**16 48 48.7**	**+0.5**
ANTO				IAmb	IAmb	16 48 49.6	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**84.30**	**180**	P	**P**	**16 48 49.8**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=237,slow=0.3,SNR=26						
QSPA				pP	**pP**	**16 50 47.1**	**+1.4**
	comp=Z,3.4nm,1.0s,baz=28,slow=1.8,SNR=4.6						
QSPA	**South Pole Qui**	**84.30**	**180**	P	**P**	**16 48 50.0**	**+0.8**
QSPA				IAmb	IAmb	16 48 51.1	
	comp=Z,5.4nm,0.7s						
MDUB	**Mudurnu**	**85.31**	**311**	P	**P**	**16 48 54.5**	**-0.2**
KLMR	**Klimovskoe**	**85.66**	**332**	*e*P	**P**	**16 48 53.8**	**-1.9**
KLMR				AMP		16 48 56.6	
	comp=Z,33nm,1.4s						
KLMR				*e*pP	**pP**	**16 50 50.6**	**-2.1**
BORA	**Eskisehir**	**85.76**	**311**	P	**P**	**16 48 56.9**	**+0.1**
MANT	**Manisa**	**86.96**	**309**	P	**P**	**16 49 03.1**	**+0.4**
AKASG	**Malin Array Be**	**88.64**	**321**	P	**P**	**16 49 08.6**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=84,slow=4.4,SNR=22						
AKASG				pP	**pP**	**16 51 07.3**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=82,slow=4.1,SNR=4.7						
AKASG	**Malin Array Be**	**88.64**	**321**	P	**P**	**16 49 08.5**	**-1.5**
AKBB	**Malin Array Si**	**88.64**	**321**	P	**P**	**16 49 09.2**	**-0.8**
AKBB				IAmb	IAmb	16 49 09.9	
	comp=Z,7.0nm,0.8s						
MLR	**Muntele Rosu**	**89.96**	**316**	P	**P**	**16 49 15.8**	**-0.7**
MLR				IAmb	IAmb	16 49 17.2	
	comp=Z,7.5nm,1.0s						
BURAR	**Bucovina Array**	**90.75**	**318**	P	**P**	**16 49 19.2**	**-0.8**
BURAR				IAmb	IAmb	16 49 21.4	
	comp=Z,3.9nm,0.8s						
BUR08	**Bucovina Ar. S**	**90.76**	**318**	P	**P**	**16 49 19.0**	**-1.0**
BUR08				IAmb	IAmb	16 49 21.7	
	comp=Z,4.5nm,0.9s						
FINES	**FINESS Array B**	**92.12**	**331**	P	**P**	**16 49 25.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=108,slow=6.1,SNR=7.6						
FINES	**FINESS Array B**	**92.12**	**331**	P	**P**	**16 49 24.9**	**-0.9**
ARCES	**ARCESS Array B**	**93.41**	**339**	P	**P**	**16 49 29.9**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=100,slow=4.6,SNR=6.1						
NOA	**NORSAR Array B**	**99.28**	**331**	P	**Pdif**	**16 49 56.0**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=130,slow=4.1,SNR=2.4						
M31M	**Drury Creek, Y**	**106.69**	**26**	P	**PKiKP**	**16 54 39.6**	**+1.6**
	baz=290						
TORD	**Torodi Ar. Bea**	**109.23**	**282**	PKiKP	**PKiKP**	**16 54 43.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=66,slow=1.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**109.23**	**282**		**PKiKP**	**16 54 43.5**	**-0.7**
RES	**Resolute Bay**	**109.53**	**7**	PKiKP	**PKiKP**	**16 54 42.8**	**-0.2**
	baz=70,slow=12						
YKA	**Yellowknife Ar**	**114.52**	**21**	PKiKP	PKPdf	16 54 52.0	-0.8
	comp=Z,1.6nm,0.8s,baz=316,slow=1.8,SNR=16						
YKA	**Yellowknife Ar**	**114.52**	**21**		PKPdf	16 54 52.6	-0.2
G05D	**Wamic, OR**	**120.49**	**40**	P	**PKiKP**	**16 55 06.1**	**+1.0**
	baz=296						
M02C	**Callahan**	**121.01**	**45**	P	**PKiKP**	**16 55 06.5**	**+0.3**
	baz=292						
L04D	**Klamath Falls**	**121.07**	**43**	P	**PKiKP**	**16 55 06.8**	**+0.4**
	baz=293						
O02D	**Mt. Diablo Mer**	**121.50**	**46**	P	**PKiKP**	**16 55 07.3**	**+0.1**
	baz=292						
NEW	**Newport**	**121.61**	**35**	P	**PKiKP**	**16 55 08.2**	**+1.0**
	baz=301						
MSO	**Missoula**	**124.20**	**35**	P	**PKiKP**	**16 55 13.0**	**+0.5**
	baz=303						
NVAR	**Mina Array Bea**	**125.38**	**46**	PKP	**PKiKP**	**16 55 15.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=256,slow=2.0,SNR=6.0						
NVAR	**Mina Array Bea**	**125.38**	**46**		**PKiKP**	**16 55 16.3**	**+1.1**
LRM	**Limekiln Ridge**	**125.62**	**36**		**PKPdf**	**16 55 12.4**	**-2.6**
HLID	**Hailey**	**125.64**	**39**	P	**PKPdf**	**16 55 15.3**	**+0.2**
	baz=301						
CWC	**Cottonwood Cre**	**126.34**	**48**	P	**PKPdf**	**16 55 16.6**	**+0.1**
	baz=293						
ELK	**Elko**	**126.50**	**42**	PKPdf	**PKPdf**	**16 55 16.1**	**-0.7**
MPMC	**Manual Prospec**	**126.92**	**49**	P	**PKiKP**	**16 55 18.9**	**+0.6**
	baz=293						
R11A	**Troy Canyon, C**	**127.35**	**45**	P	**PKPdf**	**16 55 18.8**	**+0.3**
	baz=296						
TPNV	**Topopah Spring**	**127.48**	**47**	P	**PKiKP**	**16 55 19.4**	**0.0**
	baz=295						
GSC	**Goldstone, Bar**	**127.73**	**49**	P	**PKiKP**	**16 55 20.5**	**+0.7**
	baz=293						
TUQ	**Turquoise Moun**	**128.34**	**49**	P	**PKiKP**	**16 55 21.3**	**+0.3**
	baz=294						
DUG	**Dugway, Tooele**	**128.38**	**42**	P	**PKiKP**	**16 55 22.3**	**+1.2**
	baz=300						
PFO	**Pinyon Flats O**	**128.65**	**51**	P	**PKiKP**	**16 55 21.9**	**+0.2**
	baz=292						
TPFO	**Pinon Flats**	**128.65**	**51**	P	**PKiKP**	**16 55 21.5**	**-0.3**
	baz=292						
GMRC	**Granite Mounta**	**128.80**	**49**	P	**PKiKP**	**16 55 22.3**	**+0.3**
	baz=294						
PDAR	**Pinedale Array**	**129.06**	**37**	SKPbc	SKPbc	16 57 53.2	+0.3
	comp=Z,1.6nm,0.8s,baz=253,slow=1.5,SNR=5.9						
IKP	**In-Ko-Pah, Jac**	**129.28**	**52**	P	**PKiKP**	**16 55 23.5**	**+0.5**
	baz=292						
PDMCI	**Parker Dam,Lak**	**130.14**	**49**	P	**PKiKP**	**16 55 26.1**	**+1.6**
	baz=295						
ULM	**Lac du Bonnet**	**130.49**	**22**	PKP	**PKPdf**	**16 55 22.1**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=299,slow=2.4,SNR=3.7						
ULM				SKPbc	**SKPbc**	**16 57 57.1**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=311,slow=5.5,SNR=6.4						
SCHQ	**Schefferville**	**130.93**	**358**	PKP	**PKPdf**	**16 55 24.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=1.1,slow=5.6,SNR=4.6						
SCHQ				SKPbc	**SKPbc**	**16 57 58.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=23,slow=5.4,SNR=8.4						
SCHQ	**Schefferville**	**130.93**	**358**	PKPdf	**PKiKP**	**16 55 25.4**	**-0.2**
O20A	**White River Ci**	**131.37**	**39**	P	**PKiKP**	**16 55 27.4**	**+0.3**
	baz=305						
WUAZ	**Wupatki**	**131.64**	**46**	P	**PKiKP**	**16 55 27.9**	**+0.1**
	baz=298						
SDCO	**Great Sand Dun**	**134.49**	**40**	P	**PKiKP**	**16 55 33.1**	**-0.5**
	baz=306						
ECSD	**EROS Data Cent**	**135.37**	**28**	P	**PKiKP**	**16 55 34.5**	**-0.4**
	baz=320						
ANMO	**Albuquerque**	**135.41**	**44**	P	**PKiKP**	**16 55 35.0**	**-0.5**
	baz=302						
T25A	**Trinidad**	**135.55**	**40**	P	**PKiKP**	**16 55 35.3**	**-0.4**
	baz=306						
121A	**Cookes Peak, D**	**135.68**	**48**	P	**PKiKP**	**16 55 35.8**	**-0.3**
	baz=299						
TXAR	**Lajitas Array**	**140.33**	**50**	PKhKP	PKPpre	16 55 38.5	
	comp=Z,0.7nm,0.7s,baz=282,slow=1.5,SNR=7.0						
TXAR				SKPbc	**SKPbc**	**16 58 28.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=343,slow=0.8,SNR=4.4						
S39A	**Bolivar**	**141.62**	**31**	PKPdf	**PKPdf**	**16 55 42.7**	**-2.1**
CCM	**Cathedral Cave**	**142.34**	**28**	PKPdf	**PKPdf**	**16 55 41.9**	**-4.2**
HHAR	**Hobbs**	**142.36**	**33**	PKPdf	**PKPdf**	**16 55 42.2**	**-4.0**
JCT	**Junction City**	**142.55**	**45**	PKPdf	**PKPdf**	**16 55 43.5**	**-3.2**
MGMO	**Mountain Grove**	**142.56**	**30**	PKPdf	**PKPdf**	**16 55 42.7**	**-3.8**
U40A	**Yellville**	**142.88**	**32**	PKPdf	**PKPdf**	**16 55 44.4**	**-2.7**
ZON	**Zonda**	**142.97**	**182**	PKPdf	**PKPdf**	**16 55 45.5**	**-2.0**
L56A	**Greenwood**	**143.05**	**10**	PKPdf	PKPab	16 55 44.1	-0.6
M53A	**WI Miller and**	**143.10**	**14**	PKPdf	PKPab	16 55 45.0	+0.1
OLIL	**Olney**	**143.16**	**24**	PKPdf	PKPab	16 55 45.2	+0.1
BINY	**Binghamton**	**143.22**	**8**	PKPdf	PKPab	16 55 45.4	0.0
WHTX	**Lake Whitney,**	**143.23**	**41**	P	**PKPdf**	**16 55 47.7**	**-0.1**
	baz=310						
M54A	**Oil Creek Stat**	**143.26**	**12**		PKPab	16 55 45.3	-0.2
L59A	**Walton**	**143.35**	**6**	PKPdf	PKPab	16 55 45.7	-0.1
M55A	**Ridgway**	**143.48**	**11**	PKPdf	PKPab	16 55 46.1	-0.3
QUA2	**Belchertown**	**143.48**	**3**	PKPdf	PKPab	16 55 45.5	-0.7
P48A	**Milroy**	**143.54**	**20**	PKPdf	PKPab	16 55 46.5	-0.2
SIUC	**Southern Illin**	**143.55**	**26**	PKPdf	PKPbc	16 55 47.0	+0.2
S44A	**Carbondale**	**143.55**	**26**	PKPdf	PKPbc	16 55 47.1	+0.3
FCAR	**Ozark Folk Cen**	**143.62**	**31**		PKPab	16 55 46.9	-0.1
ACSO	**Alum Creek Sta**	**143.62**	**17**	PKPbc	PKPab	16 55 46.3	-0.6
ACSO	**Alum Creek Sta**	**143.62**	**17**	P	PKPab	16 55 46.7	-0.2
	baz=338						
N53A	**Lisbon**	**143.66**	**14**	PKPbc	PKPab	16 55 46.5	-0.5
N54A	**Moraine State**	**143.71**	**13**	P	PKPab	16 55 46.8	-0.4
	baz=343,SNR=7.8						
P49A	**Miami Univ. Ec**	**143.72**	**20**	P	PKPab	16 55 46.9	-0.4
	baz=335,SNR=9.8						
M57A	**Sunshine Farm,**	**143.90**	**9**	PKPbc	PKPab	16 55 48.3	+0.4
435B	**Jarrell**	**143.90**	**43**	P	PKPbc	16 55 47.5	-0.7
	baz=308						
KSCT	**Kent School, K**	**143.96**	**5**	PKPbc	PKPbc	16 55 47.4	-0.6
WHAR	**Wooly Hollow**	**143.99**	**32**		PKPbc	16 55 46.5	-1.8
833A	**Chaparral WMA,**	**144.05**	**48**	P	PKPbc	16 55 48.0	-0.7
	baz=304						
O53A	**New Philadelph**	**144.09**	**15**	P	PKPbc	16 55 48.3	-0.2
	baz=341						
W41B	**Gary Mavity, V**	**144.10**	**32**	P	PKPbc	16 55 48.2	-0.4
	baz=320						
X40A	**Basin Creek Fa**	**144.30**	**34**	P	PKPbc	16 55 49.1	-0.2
	baz=318						
WCI	**Wyandotte Cave**	**144.31**	**22**	P	**PKPdf**	**16 55 49.4**	**-0.1**
	baz=331						
P52A	**Corning**	**144.42**	**16**	P	PKPbc	16 55 49.3	-0.3
	baz=339,SNR=7.8						
N58A	**Sunbury**	**144.45**	**9**	PKPbc	PKPbc	16 55 49.3	-0.2
SSPA	**Standing Stone**	**144.45**	**11**	P	PKPbc	16 55 49.6	0.0
	baz=346						
N59A	**State Game Lan**	**144.51**	**8**		**PKPdf**	**16 55 49.8**	**0.0**
N59A	**State Game Lan**	**144.51**	**8**	P	PKPbc	16 55 50.0	+0.2
	baz=350						
Q51A	**Peebles**	**144.62**	**18**		**PKPdf**	**16 55 49.5**	**-0.5**
PAL	**Palisades**	**144.64**	**5**	P	PKPbc	16 55 50.1	0.0
	baz=353						
O56A	**Blue Knob Stat**	**144.68**	**12**	PKPbc	PKPbc	16 55 50.5	+0.1
O56A	**Blue Knob Stat**	**144.68**	**12**	P	PKPbc	16 55 50.5	+0.1
	baz=345						
MCWV	**Mont Chateau**	**144.99**	**14**	P	PKPbc	16 55 51.3	0.0
	baz=343						
Q52A	**Bidwell**	**145.00**	**17**	PKPbc	**PKPdf**	**16 55 50.5**	**-0.2**
WVT	**Waverly**	**145.48**	**26**	P	**PKPbc**	**16 55 53.0**	**+0.1**
	baz=327						
R53A	**Hurricane**	**145.68**	**17**		**PKPbc**	**16 55 53.0**	**-0.4**
CPUP	**Villa Florida**	**145.95**	**200**	PKPbc	**PKPbc**	**16 55 54.3**	**-0.2**
	comp=Z,7.2nm,0.6s,baz=136,slow=1.7,SNR=11						
CPUP	**Villa Florida**	**145.95**	**200**		**PKPbc**	**16 55 55.2**	**+0.7**
OXF	**Oxford**	**146.07**	**30**	PKPbc	**PKPbc**	**16 55 54.2**	**-0.3**
OXF	**Oxford**	**146.07**	**30**	P	**PKPbc**	**16 55 54.1**	**-0.5**
	baz=324						
TZTN	**Tazewell**	**146.81**	**20**	P	**PKPbc**	**16 55 55.3**	**-1.3**
	baz=335						
AC06	**Mina Casimiro**	**147.16**	**179**	PKPbc	**PKPbc**	**16 55 58.0**	**+0.2**
CPCT	**Cooper Cave**	**147.43**	**23**	PKPbc	**PKPbc**	**16 55 57.7**	**-0.5**
AC02	**Maricunga**	**147.67**	**181**	PKPbc	**PKiKP**	**16 56 01.0**	**-0.3**
LRAL	**Lakeview Retre**	**148.43**	**28**	P	**PKPbc**	**16 56 01.0**	**+0.2**
	baz=326						
KMSC	**Kings Mountain**	**148.82**	**18**	P	**PKPbc**	**16 56 02.0**	**+0.4**
	baz=338						
GOGA	**Godfrey**	**149.63**	**23**	P	**PKiKP**	**16 56 04.1**	**-0.3**
	baz=333						
JSC	**Jenkinsville**	**149.63**	**19**	PKPbc	**PKPbc**	**16 56 03.6**	**-0.1**
BDFB	**Brasilia**	**149.74**	**225**	PKPbc	**PKPbc**	**16 56 04.4**	**-0.2**
	comp=Z,13nm,0.7s,baz=152,slow=4.0,SNR=16						
BDFB	**Brasilia**	**149.74**	**225**		**PKiKP**	**16 56 05.9**	**+0.6**
BRAL	**Brewton**	**149.93**	**30**	P	**PKiKP**	**16 56 05.3**	**+0.2**
	baz=324						
TIGA	**Tifton**	**151.31**	**25**	P	**PKPbc**	**16 56 07.2**	**-0.4**
	baz=331						
LPAZ	**La Paz**	**158.11**	**184**	PKPab	**PKPab**	**16 56 48.7**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=82,slow=7.1,SNR=2.8						

IDC ***09*** *16:37:21.4±19.0, 4°.73S×145°.16E, h185km±192km,*
mb3.4/7, mb1 3.5/8, mb1mx3.2/40, mbtmp3.9/8, ML4.2/1,
Error ellipse: s-maj=87.8km s-min=62.1km az=83.0
ISC 09 16:37:18.1±1.4**, 4°.6S**±0°.1×**145°.2E**±0°.3**, h150**km**, n9,**
σ**0s.26**/9**, mb3.6**/7**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.13**	**157**	S	**Sn**	**16 39 32.0**	**0.0**
	6.4nm,0.3s,baz=311,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**18.50**	**214**	P	**P**	**16 41 23.0**	**+0.1**
	0.8nm,0.3s,baz=34,slow=11,SNR=77						
ASAR	**Alice Springs**	**21.80**	**209**	P	**P**	**16 41 58.6**	**+0.2**
	0.8nm,0.5s,baz=38,slow=7.4,SNR=71						
FITZ	**Fitzroy Crossi**	**23.30**	**233**	P	**P**	**16 42 12.3**	**-0.5**
	3.7nm,0.4s,baz=58,slow=9.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**50.99**	**298**	P	**P**	**16 46 05.2**	**+0.3**
	0.6nm,0.5s,baz=120,slow=5.3,SNR=4.6						
SONM	**Songino Array**	**62.34**	**332**	P	**P**	**16 47 24.7**	**0.0**
	0.4nm,0.5s,baz=153,slow=6.0,SNR=1.5						
MKAR	**Makanchi Array**	**75.29**	**321**	P	**P**	**16 48 44.8**	**+0.1**
	0.3nm,0.3s,baz=106,slow=7.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**76.90**	**328**	P	**P**	**16 48 53.4**	**-0.2**
	1.1nm,0.5s,baz=116,slow=6.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**79.05**	**323**	P	**P**	**16 49 05.4**	**-0.2**
	0.5nm,0.6s,baz=117,slow=4.3,SNR=1.8						

JMA ***09*** *17:17:31.2±0.1, 23°.97N×121°.81E, h54km±1km*
TAP ***09*** *17:17:31.4, 24°.00N×121°.80E, h48km, ML2.9, D*
ISC 09 17:17:31.9±1.2**, 24°.00N**±0°.02×**121°.81E**±0°.02**, h48**km±5km**,**
n99, σ**0s.67**/183**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.19**	**263**	*e*P	**Pn**	**17 17 40.2**	**+0.3**
	baz=260						
HWA				*e*S	**Sn**	**17 17 47.4**	**+1.7**
	baz=260						
TWD	**Chiawan**	**0.21**	**292**	P	**Pn**	**17 17 40.0**	**-0.1**
	baz=293						
TWD				S	**Sn**	**17 17 46.0**	**0.0**
	baz=293						
ETL	**Fush Village**	**0.23**	**312**	P	**Pn**	**17 17 40.3**	**-0.1**
	baz=313						
ETL				S	**Sn**	**17 17 46.7**	**+0.4**
	baz=313						
NACB	**Ninganchiao**	**0.26**	**311**	P	**Pn**	**17 17 40.4**	**-0.2**
	baz=311						
NACB				S	**Sn**	**17 17 47.0**	**+0.3**
	baz=311						
ETLH	**Xiulin Townshi**	**0.37**	**304**	P	**Pn**	**17 17 41.4**	**-0.2**
	baz=304						
ETLH				S	**Sn**	**17 17 48.5**	**-0.1**
	baz=304						
ESL	**Shilin**	**0.40**	**242**	P	**Pn**	**17 17 41.3**	**-0.5**
	baz=239						
ESL				*e*S	**Sn**	**17 17 49.1**	**+0.1**
	baz=239						
ENA	**Nanau**	**0.43**	**351**	P	**Pn**	**17 17 42.1**	**-0.1**
	baz=353						
ENA				S	**Sn**	**17 17 49.9**	**+0.3**
	baz=353						
EWUT	**Wuta**	**0.44**	**356**	P	**Pn**	**17 17 42.3**	**-0.1**
	baz=357						
EWUT				S	**Sn**	**17 17 50.1**	**+0.2**
	baz=357						
EGFH	**Guangfu**	**0.48**	**227**	*e*P	**Pn**	**17 17 42.1**	**-0.7**
	baz=225						
EGFH				*e*S	**Sn**	**17 17 50.4**	**-0.3**
	baz=225						
WHF	**Hehuan Shan**	**0.52**	**286**	P	**Pn**	**17 17 43.4**	**-0.3**
	baz=285						
WHF				S	**Sn**	**17 17 51.9**	**-0.3**
	baz=285						
FUSS	**Fushou**	**0.58**	**295**	*e*P	**Pn**	**17 17 44.0**	**-0.2**
	baz=295						
FUSS				*e*S	**Sn**	**17 17 53.0**	**-0.1**
	baz=295						
NNSB	**Datong**	**0.58**	**317**	P	**Pn**	**17 17 43.9**	**-0.2**
	baz=317						
NNSB				S	**Sn**	**17 17 52.9**	**-0.1**
	baz=317						
OWD	**Renai**	**0.59**	**266**	P	**Pn**	**17 17 44.0**	**-0.2**
	baz=265						
OWD				S	**Sn**	**17 17 52.2**	**-0.9**
	baz=265						
CHGB	**Renai**	**0.59**	**276**	P	**Pn**	**17 17 44.2**	**-0.1**
	baz=275						
CHGB				S	**Sn**	**17 17 53.3**	**0.0**
	baz=275						
LATG	**Datong**	**0.59**	**334**	P	**Pn**	**17 17 44.0**	**-0.3**
	baz=334						
LATG				*e*S	**Sn**	**17 17 53.4**	**+0.1**
	baz=334						
NNS	**Nan Shan**	**0.59**	**317**	P	**Pn**	**17 17 44.2**	**-0.2**
	baz=318						
NNS				S	**Sn**	**17 17 53.3**	**0.0**
	baz=318						
TWC	**Suao**	**0.61**	**3**	P	**Pn**	**17 17 44.5**	**+0.2**
	baz=4.0						
TWC				S	**Sn**	**17 17 54.1**	**+0.7**
	baz=4.0						
HGSD	**Ruisui**	**0.62**	**215**	P	**Pn**	**17 17 44.3**	**-0.2**
	baz=214						
HGSD				S	**Sn**	**17 17 54.2**	**+0.6**
	baz=214						
NDS	**Dongshan**	**0.64**	**352**	*e*P	**Pn**	**17 17 44.8**	**0.0**
	baz=352						
NDS				*e*S	**Sn**	**17 17 54.4**	**+0.4**
	baz=352						
WUSB	**Renai**	**0.64**	**269**	P	**Pn**	**17 17 44.9**	**0.0**
	baz=268						
WUSB				S	**Sn**	**17 17 54.2**	**0.0**
	baz=268						
TDCB	**Techi**	**0.65**	**293**	P	**Pn**	**17 17 45.1**	**0.0**
	baz=292						
TDCB				S	**Sn**	**17 17 54.3**	**-0.2**
	baz=292						
NDT	**Datong Townshi**	**0.66**	**335**	P	**Pn**	**17 17 45.0**	**-0.1**
	baz=336						
NDT				S	**Sn**	**17 17 53.8**	**-0.8**
	baz=336						
VWDT	**VWDT**	**0.66**	**248**	P	**Pn**	**17 17 45.1**	**0.0**
	baz=247						
VWDT				*e*S	**Sn**	**17 17 55.1**	**+0.5**
	baz=247						
EHY	**Hungye**	**0.67**	**223**	P	**Pn**	**17 17 44.1**	**-1.1**
	baz=221						
EHY				*e*S	**Sn**	**17 17 53.8**	**-1.0**
	baz=221						
ENTT	**Nioudou**	**0.68**	**340**	P	**Pn**	**17 17 45.3**	**0.0**
	baz=341						
ENTT				S	**Sn**	**17 17 54.8**	**-0.2**
	baz=341						
TWE	**Neicheng**	**0.73**	**349**	P	**Pn**	**17 17 46.2**	**+0.2**
	baz=351						
TWE				S	**Sn**	**17 17 56.8**	**+0.6**
	baz=351						
YULB	**Yu-li**	**0.77**	**218**	*e*P	**Pn**	**17 17 45.3**	**-1.2**
	baz=217						
YULB				*e*S	**Sn**	**17 17 55.8**	**-1.3**
	baz=217						
YHNB	**Yeheng**	**0.78**	**329**	P	**Pn**	**17 17 46.6**	**-0.1**
	baz=329						
YHNB				S	**Sn**	**17 17 57.2**	**-0.2**
	baz=329						
FUSB	**Fushanzhiwuyua**	**0.78**	**345**	P	**Pn**	**17 17 46.7**	**0.0**
	baz=345						
FUSB				*e*S	**Sn**	**17 17 57.8**	**+0.2**
	baz=345						
NSK	**Sanguang**	**0.79**	**328**	P	**Pn**	**17 17 46.8**	**0.0**
	baz=329						
NSK				S	**Sn**	**17 17 57.6**	**-0.1**
	baz=329						
EYUL	**Yuli**	**0.79**	**215**	*e*P	**Pn**	**17 17 46.3**	**-0.5**
	baz=214						
EYUL				*e*S	**Sn**	**17 17 57.7**	**+0.1**
	baz=214						
SSLB	**Suanglung**	**0.82**	**255**	*e*P	**Pn**	**17 17 46.7**	**-0.4**
	baz=254						
SSLB				*e*S	**Sn**	**17 17 58.5**	**+0.3**
	baz=254						
NWLT	**Wulai**	**0.82**	**340**	*e*P	**Pn**	**17 17 47.2**	**0.0**
	baz=340						
NWLT				*e*S	**Sn**	**17 17 58.7**	**+0.2**
	baz=340						
WCS	**Beigang Elemen**	**0.83**	**274**	P	**Pn**	**17 17 47.5**	**+0.3**
	baz=273						
WCS				S	**Sn**	**17 17 58.8**	**+0.3**
	baz=273						
WHP	**Taichung City**	**0.84**	**289**	P	**Pn**	**17 17 48.1**	**+0.6**
	baz=289						
WHP				S	**Sn**	**17 17 59.3**	**+0.4**
	baz=289						
SMLT	**Sun Moon Lake**	**0.84**	**262**	P	**Pn**	**17 17 47.5**	**-0.1**
	baz=261						
SMLT				*e*S	**Sn**	**17 17 59.1**	**+0.1**
	baz=261						
TYC	**Yuchr**	**0.88**	**264**	P	**Pn**	**17 17 47.9**	**-0.1**
	baz=263						
TYC				*e*S	**Sn**	**17 18 00.0**	**+0.3**
	baz=263						
NFF	**Wufeng Townshi**	**0.89**	**315**	*e*P	**Pn**	**17 17 48.5**	**+0.3**
	baz=315						
NFF				*e*S	**Sn**	**17 18 00.3**	**+0.2**
	baz=315						
FULB	**Fuli**	**0.93**	**211**	*e*P	**Pn**	**17 17 48.7**	**+0.1**
	baz=210						
FULB				*e*S	**Sn**	**17 18 01.3**	**+0.3**
	baz=210						
TIPB	**Shuangxi**	**0.97**	**1**	*e*P	**Pn**	**17 17 49.2**	**0.0**
	baz=1.0						
TIPB				*e*S	**Sn**	**17 18 02.0**	**+0.2**
	baz=1.0						
LIOB	**Emei**	**0.97**	**312**	P	**Pn**	**17 17 50.2**	**+1.1**
	baz=311						
LIOB				*e*S	**Sn**	**17 18 03.3**	**+1.3**
	baz=311						
NSTT	**Nanjuang**	**0.97**	**310**	*e*P	**Pn**	**17 17 50.0**	**+0.8**
	baz=310						
NSTT				*e*S	**Sn**	**17 18 03.0**	**+1.1**
	baz=310						
CHKT	**Chengkung**	**0.99**	**205**	*e*P	**Pn**	**17 17 49.5**	**+0.1**
	baz=203						
CHKT				*e*S	**Sn**	**17 18 02.7**	**+0.5**
	baz=203						
NHDH	**Xindian Distri**	**0.99**	**345**	*e*S	**Sn**	**17 18 02.5**	**+0.1**
	baz=345						
TWA	**Mucha**	**1.00**	**348**	*e*P	**Pn**	**17 17 49.1**	**-0.5**
	baz=348						
TWA				*e*S	**Sn**	**17 18 02.6**	**0.0**
	baz=348						
WJS	**Zhushan**	**1.01**	**260**	*e*P	**Pn**	**17 17 50.9**	**+1.2**
	baz=259						
WJS				*e*S	**Sn**	**17 18 04.8**	**+2.0**
	baz=259						
TWQ1	**Liyutan**	**1.01**	**290**	*e*P	**Pn**	**17 17 49.7**	**0.0**
	baz=289						
TWQ1				*e*S	**Sn**	**17 18 02.9**	**0.0**
	baz=289						
WNT	**Mingjian**	**1.04**	**263**	*e*P	**Pn**	**17 17 51.2**	**+1.1**
	baz=262						
WNT				*e*S	**Sn**	**17 18 05.2**	**+1.6**
	baz=262						
ALS	**Alishan**	**1.05**	**242**	P	**Pn**	**17 17 50.6**	**+0.2**
	baz=241						
ALS				*e*S	**Sn**	**17 18 04.8**	**+0.7**
	baz=241						
NSY	**Sanyi**	**1.05**	**293**	*e*P	**Pn**	**17 17 49.9**	**-0.3**
	baz=293						
NSY				*e*S	**Sn**	**17 18 04.1**	**+0.3**
	baz=293						
TCU	**Taichung**	**1.05**	**278**	*e*P	**Pn**	**17 17 51.3**	**+1.1**
	baz=277						
TCU				*e*S	**Sn**	**17 18 04.7**	**+0.9**
	baz=277						
NWF	**Wu-fen Shan**	**1.07**	**358**	*e*P	**Pn**	**17 17 51.5**	**+1.0**
	baz=358						
NWF				*e*S	**Sn**	**17 18 04.5**	**+0.1**
	baz=358						
NMLH	**Miaoli**	**1.08**	**300**	*e*P	**Pn**	**17 17 50.7**	**+0.1**
	baz=299						
NMLH				*e*S	**Sn**	**17 18 04.4**	**0.0**
	baz=299						
ELDTW	**Lidau**	**1.09**	**222**	P	**Pn**	**17 17 49.9**	**-1.0**
	baz=221						
ELDTW				*e*S	**Sn**	**17 18 04.1**	**-0.9**
	baz=221						
CHN5	**Tsauling**	**1.12**	**249**	*e*P	**Pn**	**17 17 52.1**	**+0.9**
	baz=248						
CHN5				*e*S	**Sn**	**17 18 07.0**	**+1.4**
	baz=248						
EDH	**Donghe**	**1.13**	**205**	*e*P	**Pn**	**17 17 51.0**	**-0.3**
	baz=204						
EDH				*e*S	**Sn**	**17 18 05.5**	**-0.2**
	baz=204						
WDJ	**Dajia District**	**1.13**	**288**	*e*S	**Sn**	**17 18 05.7**	**0.0**
	baz=287						
WCHH	**Zhanghua**	**1.15**	**274**	*e*P	**Pn**	**17 17 51.4**	**-0.2**
	baz=273						
WCHH				*e*S	**Sn**	**17 18 06.2**	**-0.1**
	baz=273						
YOJ	**Yonaguni jima**	**1.19**	**67**	P	**Pn**	**17 17 52.0**	**-0.1**
YOJ				*e*S	**Sn**	**17 18 07.4**	**+0.3**
WDLH	**Douliu**	**1.21**	**255**	*e*P	**Pn**	**17 17 52.8**	**+0.4**
	baz=254						
WDLH				*e*S	**Sn**	**17 18 08.3**	**+0.7**
	baz=254						
STYH	**Taoyuan**	**1.26**	**229**	*e*P	**Pn**	**17 17 53.2**	**+0.1**
	baz=228						
STYH				*e*S	**Sn**	**17 18 09.5**	**+0.6**
	baz=228						
TPUB	**Ta-pu**	**1.29**	**238**	*e*P	**Pn**	**17 17 54.4**	**+0.8**
	baz=236						
TPUB				*e*S	**Sn**	**17 18 10.0**	**+0.3**
	baz=236						
CHN4	**Tsaushan**	**1.29**	**240**	*e*P	**Pn**	**17 17 54.6**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=239						
CHN4				eS	Sn	17 18 11.9	+2.2
	baz=239						
CHN2	Minshiung	1.31	249	eS	Sn	17 18 10.8	+0.7
	baz=248						
WRL	Guolierlin Hig	1.32	266	eP	Pn	17 17 54.0	+0.1
	baz=265						
WRL				eS	Sn	17 18 10.9	+0.6
	baz=265						
WTP	Ta-pu	1.33	236	eP	Pn	17 17 55.0	+0.9
	baz=235						
WTP				eS	Sn	17 18 12.6	+1.9
	baz=235						
WTK	Tuku	1.34	257	eP	Pn	17 17 54.6	+0.5
	baz=256						
WTK				eS	Sn	17 18 11.3	+0.4
	baz=256						
TWGBT	Beinan	1.36	210	eP	Pn	17 17 53.9	-0.6
	baz=209						
TWGBT				eS	Sn	17 18 11.1	-0.2
	baz=209						
TWG	Pinlang	1.36	210	eP	Pn	17 17 54.5	+0.1
	baz=209						
TWG				eS	Sn	17 18 11.4	+0.1
	baz=209						
CHY	Chiayi	1.37	249	eP	Pn	17 17 54.4	-0.2
	baz=248						
CHY				eS	Sn	17 18 11.9	+0.4
	baz=248						
WTCT	Ta-ch'eng	1.41	265	eS	Sn	17 18 12.5	0.0
	baz=264						
TWK	Hsinying	1.42	239	eP	Pn	17 17 56.4	+1.1
	baz=238						
TWK				eS	Sn	17 18 12.6	-0.3
	baz=238						
CHN1	Nanshi	1.43	236	eP	Pn	17 17 55.4	0.0
	baz=235						
CHN1				eS	Sn	17 18 14.0	+0.8
	baz=235						
SNST	Tainan City	1.44	237	eS	Sn	17 18 13.6	+0.4
	baz=236						
SGST	Jiashian	1.45	231	eP	Pn	17 17 55.9	+0.2
	baz=230						
SGST				eS	Sn	17 18 13.6	-0.1
	baz=230						
SLGT	Liugui	1.47	227	eP	Pn	17 17 56.3	+0.4
	baz=226						
SLGT				eS	Sn	17 18 13.8	-0.2
	baz=226						
WSF	Szhu	1.50	256	eS	Sn	17 18 14.1	-0.7
	baz=255						
WSL	Shuilin Townsh	1.53	252	eP	Pn	17 17 56.5	-0.2
	baz=251						
WSL				eS	Sn	17 18 16.2	+0.7
	baz=251						
ICHU	Yijhu	1.54	246	eP	Pn	17 17 57.7	+0.8
	baz=245						
ICHU				eS	Sn	17 18 16.7	+0.8
	baz=245						
ECL	Taimali	1.61	210	eP	Pn	17 17 57.8	0.0
	baz=208						
ECL				eS	Sn	17 18 17.8	+0.4
	baz=208						
CHN8	Yiju	1.61	246	eS	Sn	17 18 17.0	-0.4
	baz=245						
SCST	Cishan	1.64	228	eP	Pn	17 17 58.7	+0.4
	baz=227						
SCST				eS	Sn	17 18 18.6	+0.3
	baz=227						
SSD	Sandimen	1.66	221	eP	Pn	17 17 58.8	+0.3
	baz=220						
SSD				eS	Sn	17 18 18.8	+0.2
	baz=220						
TSMG	Majia	1.68	220	eP	Pn	17 17 59.3	+0.5
	baz=219						
TSMG				eS	Sn	17 18 19.6	+0.4
	baz=219						
MASBT	Mashibuluo	1.76	218	eP	Pn	17 18 00.4	+0.5
	baz=217						
MASBT				eS	Sn	17 18 21.5	+0.3
	baz=217						
IRIF	Iriomote-Funau	1.78	79	P	Pn	17 18 00.2	0.0
IRIF				S	Sn	17 18 21.6	-0.1
HATJ	Hateruma jima	1.82	88	eS	Sn	17 18 23.3	+0.7
EAST	Anshuo	1.84	209	eP	Pn	17 18 01.1	0.0
	baz=208						
EAST				eS	Sn	17 18 22.9	-0.3
	baz=208						
SCZT	Fangliau	1.96	214	eP	Pn	17 18 03.0	+0.3
	baz=213						
SCZT				eS	Sn	17 18 25.5	-0.5
	baz=213						
JKRS	Kuro-shima	2.02	83	P	Pn	17 18 04.3	+0.8
JKRS				S	Sn	17 18 28.0	+0.5
PHUB	P'eng-hu	2.11	257	eS	Sn	17 18 28.9	-0.9
	baz=256						
PNG	Penghu	2.11	259	eS	Sn	17 18 29.2	-0.6
	baz=257						
JIJ	Ishigaki jima	2.16	80	P	Pn	17 18 05.5	+0.2
JIJ				S	Sn	17 18 29.7	-1.2
JISG	Ishigakijimahi	2.35	75	P	Pn	17 18 08.2	+0.2
JISG				S	Sn	17 18 34.7	-1.0
PTMZ	Houxiangcun	2.66	293	eS	Sn	17 18 42.9	-0.4
	baz=292						
KNMB	Chin-men Tao	3.16	279	eS	Sn	17 18 53.5	-2.1
	baz=278						
MHZQ	Yeshan	3.28	310	eS	Sn	17 18 56.7	-1.8
	baz=309						
AXDP	Jialang	3.62	285	eS	Sn	17 19 05.4	-1.4
	baz=284						
SXFK	Yanhouchang	4.47	303	eS	Sn	17 19 25.3	-2.5
	baz=302						

*NNC **09** 17:40:53.4±11.0, 33.°32N×68.°64E, h0km, mb4.1, Error ellipse: s-maj=162.3km s-min=106.3km az=127.0*
*IDC **09** 17:41:29.5±0.9, 36.°24N×68.°94E, h0km, mb3.6/13, mb1 3.7/19, mb1mx3.6/49, mbtmp3.6/19, ML3.5/6, Error ellipse: s-maj=16.3km s-min=15.4km az=117.0*
ISC 09 17:41:31.3±0.6, **36.°35N**±0.°06×**68.°80E**±0.°06, **h10**km, **n40**, σ**2.s53**/47, **mb3.6**/12, **2C-4D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	Jammu	6.20	124	eP	Pn	17 43 03.5	+0.6
JMU				eS	Sn	17 44 15.0	+1.1
KK02	Karatay Array	6.87	11	⇑P	Pn	17 43 14.4	+2.3
	5.2nm,0.5s,baz=196,slow=15						
KK02				⇓S	Sg	17 45 10.4	-1.3
	25nm,0.6s						
AML	Almayashu	6.91	32	P	Pn	17 43 05.9	-7.0
	SNR=14						
THN	Thein Dam	6.93	122	eP	Pn	17 43 10.9	-1.9
THN				eS	Sn	17 44 35.3	+3.7
UCH	Uchtor	7.35	35	P	Pn	17 43 12.5	-6.6
	SNR=7.8						
DHRM	DHARAMSHALA	7.43	121	eP	Pn	17 43 20.9	+0.9
DHRM				eS	Sn	17 44 46.1	+1.6
DHRM				IAML		17 44 54.5	
	comp=N,130nm,0.4s						
DHRM				IAML		17 44 54.6	
	comp=E,114nm,0.3s						
AAK	Ala-Archa	7.67	33	Pn	Pn	17 43 25.2	+2.1
	comp=E,3.8nm,0.3s,baz=213,slow=9.1,SNR=29						
AAK				Sn	Sn	17 44 51.6	+1.5
	baz=287,slow=19,SNR=0.7						
AAK				Lg	Lg	17 45 34.9	
	baz=169,slow=20,SNR=1.7						
AAK	Ala-Archa	7.67	33	⇓P	Pn	17 43 24.5	+1.4
	comp=E,9.8nm,0.5s						
GEYT	Alibeck	8.68	284	Pn	Pn	17 43 37.0	+0.1
	comp=E,0.4nm,0.3s,baz=108,slow=14,SNR=1.9						
GEYT				Sn	Sn	17 45 16.4	+1.7
	comp=E,2.1nm,0.3s,baz=88,slow=25,SNR=5.1						
SMLA	Simla	8.70	124	eP	Pn	17 43 38.7	+1.6
SMLA				eS	Sn	17 45 14.5	-0.8
SMLA				IAML		17 45 16.3	
	comp=E,22nm,0.2s						
SMLA				IAML		17 45 18.8	
	comp=N,61nm,0.4s						
SMLA				IAML		17 45 21.0	
	comp=N,34nm,0.2s						
SMLA				IAML		17 45 22.5	
	comp=E,32nm,0.1s						
KUDL	Kundal	10.45	139	eP	Pn	17 44 01.0	-0.2
KUDL				eS	Sn	17 45 52.0	-6.3
AB31	Akbulak array	14.43	336	⇑P	Pn	17 44 54.2	-1.2
	comp=E,1.4nm,0.5s						
MKAR	Makanchi Array	14.50	40	Pn	Pn	17 44 56.1	-0.4
	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=13						
PYUN	Piuthan	14.55	120	eP	Pn	17 44 55.8	-1.6
	comp=E,14nm,0.5s						
DANN	Dangsing	14.94	118	eP	Pn	17 45 00.8	-2.0
	comp=E,16nm,0.5s						
GKN	Gorkha	15.77	117	eP	Pn	17 45 12.0	-1.6
	comp=E,20nm,0.5s						
KURBB	Kurchatov Arra	15.89	23	Pn	Pn	17 45 09.4	-5.5
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=8.0						
AKTO	Aktyubinsk	16.08	334	Pn	Pn	17 45 17.2	-0.1
	comp=E,0.2nm,0.3s,baz=130,slow=14,SNR=4.3						
AKTO				Sn	Sn	17 48 06.0	-10
	comp=E,0.1nm,0.3s,baz=153,slow=24,SNR=1.4						
AKTO	Aktyubinsk	16.08	334	⇓P	Pn	17 45 17.3	-0.1
	comp=E,1.9nm,0.8s						
KKN	Kakani	16.36	117	eP	Pn	17 45 19.3	-1.9
	comp=E,13nm,0.5s						
PKIN	Phulchoki	16.56	117	eP	Pn	17 45 22.5	-1.4
PKI	Pulchoki	16.58	117	eP	Pn	17 45 22.5	-1.6
BVAR	Borovoye Array	16.71	3	Pn	Pn	17 45 20.3	-5.0
	comp=E,0.2nm,0.3s,baz=192,slow=10,SNR=3.6						
GUN	Gumba	16.72	115	eP	Pn	17 45 25.2	-0.8
	comp=E,35nm,0.5s						
BRVK	Borovoye	16.74	3	⇓P	Pn	17 45 23.6	-2.1
	comp=E,2.1nm,0.5s						
JIRN	Jiri	17.09	116	eP	Pn	17 45 29.5	-1.2
	comp=E,23nm,0.5s						
ODAN	Odare	18.42	116	eP	Pn	17 45 47.7	+0.7
	comp=E,33nm,0.7s						
ZALV	Zalesovo Beam	20.82	27	P	P	17 46 12.4	-0.3
	comp=E,2.8nm,0.5s,baz=217,slow=11,SNR=3.6						
ARU	Arti	21.24	344	P	P	17 46 19.3	+2.1
	comp=E,0.8nm,0.5s,baz=144,slow=10,SNR=4.1						
SONM	Songino Array	29.88	56	P	P	17 47 39.7	+0.6
	comp=E,0.3nm,0.7s,baz=269,slow=10,SNR=2.9						
AKASG	Malin Array Be	31.66	309	P	P	17 47 56.4	+1.9
	comp=E,0.3nm,0.4s,baz=87,slow=7.1,SNR=4.9						
CMAR	Chiang Mai Arr	31.97	116	P	P	17 47 57.7	+0.2
	comp=E,0.3nm,0.5s,baz=296,slow=8.7,SNR=4.3						
NRIK	Noril'sk	34.61	12	P	P	17 48 21.6	+1.6
	comp=E,0.7nm,0.4s,baz=202,slow=5.4,SNR=1.6						
FINES	FINESS Array B	36.63	327	P	P	17 48 38.0	+0.6
	comp=E,1.4nm,1.0s,baz=119,slow=11,SNR=1.8						
ARCES	ARCESS Array B	40.61	338	P	P	17 49 10.7	-0.2
	comp=E,0.9nm,0.7s,baz=112,slow=6.9,SNR=1.3						
NOA	NORSAR Array B	43.43	323	P	P	17 49 36.0	+2.0
	comp=E,0.3nm,0.6s,baz=102,slow=7.8,SNR=1.7						
TORD	Torodi Ar. Bea	63.94	267	P	P	17 52 05.7	+0.8
	comp=E,0.3nm,0.4s,baz=37,slow=5.7,SNR=2.7						
YKA	Yellowknife Ar	81.46	2	P	P	17 53 48.1	-0.1
	comp=E,0.2nm,0.6s,baz=349,slow=4.5,SNR=1.6						
WRA	Warramunga Arr	83.43	120	P	P	17 53 57.1	-2.0
	comp=E,0.2nm,0.4s,baz=324,slow=5.0,SNR=8.6						
ASAR	Alice Springs	85.64	123	P	P	17 54 08.7	-1.6
	comp=E,0.2nm,0.5s,baz=314,slow=4.9,SNR=10						

*KRNET **09** 17:43:01.5±0.1, 42.°85N×77.°88E, h18km, mb3.7*
*NNC **09** 17:43:01.0±0.4, 42.°88N×77.°90E, h0km, mb3.3, mpv3.7, Error ellipse: s-maj=3.7km s-min=1.1km az=179.0*
*SOME **09** 17:43:01.7, 42.°85N×77.°88E, h10km*
ISC 09 17:43:01.9±0.9, **42.°87N**±0.°02×**77.°84E**±0.°01, **h15**km±8km, **n81**, σ**1.s59**/146, **34C-13D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	Anan'yevo	0.16	237	i P	Pb	17 43 05.8	-0.9
	baz=47						
ANVS				i S	Sb	17 43 08.9	-0.9
	baz=47						
SATY	Saty	0.46	65	⇑eP	Pg	17 43 10.0	-1.1
	baz=62						
SATY				⇑eS	Sg	17 43 16.1	-1.1
	baz=62						
SATY	Saty	0.46	65	⇑eP	Pg	17 43 10.0	-1.1
	258nm,0.2s						
SATY				eS	Sg	17 43 16.2	-1.1
	1μm,0.2s						
SATY	Saty	0.46	65	P	Pg	17 43 10.0	-1.1
	258nm,0.2s						
SATY				S	Sg	17 43 16.3	-1.0
	1μm,0.2s						
KOTS	Kotyrbulak	0.65	304	⇓eP	Pb	17 43 14.6	-0.4
	baz=4.0						
KOTS				⇓eS	Sb	17 43 23.8	-0.2
	baz=4.0						
KOTS	Kotyrbulak	0.65	304	⇓eP	Pb	17 43 14.6	-0.4
	118nm,0.2s						
KOTS				eS	Sb	17 43 23.8	-0.2
	356nm,0.3s						
KOTS	Kotyrbulak	0.65	304	P	Pb	17 43 14.7	-0.4
	118nm,0.2s						
KOTS				S	Sb	17 43 23.8	-0.2
	356nm,0.3s						
MDOK	Medeo	0.65	297	⇑eP	Pb	17 43 14.6	-0.6
	baz=97						
MDOK				⇑eS	Sb	17 43 23.8	-0.4
	baz=97						
MDOK	Medeo	0.65	297	⇑eP	Pb	17 43 14.6	-0.6
	46nm,0.2s						
MDOK				eS	Sb	17 43 23.7	-0.4
	326nm,0.4s						
MDOK	Medeo	0.65	297	⇓P	Pb	17 43 14.4	-0.7
	14nm,0.3s						
MDOK				⇓S	Sb	17 43 23.6	-0.6
	268nm,0.6s						
MDOK	Medeo	0.65	297	Pg	Pb	17 43 14.4	-0.7
	46nm,0.2s						
MDOK				Lg	Lg	17 43 23.7	
	326nm,0.4s						
KURS	Kuram	0.66	21	eP	Pb	17 43 14.4	-0.9
	baz=18						
KURS				eS	Sb	17 43 23.3	-1.0
	baz=18						
KURS	Kuram	0.66	21	eP	Pb	17 43 14.3	-0.9
	6.5nm,0.1s						
KURS				eS	Sb	17 43 23.3	-1.0
	51nm,0.3s						
KURS	Kuram	0.66	21	P	Pb	17 43 14.4	-0.9
	6.5nm,0.1s						
KURS				S	Sb	17 43 23.3	-1.0
	51nm,0.3s						
TNSS	Tian-Shan	0.68	285	⇑eP	Pg	17 43 15.0	-0.3
	baz=86						
TNSS				⇑eS	Sg	17 43 24.6	+0.2
	baz=86						
TNSS	Tian-Shan	0.68	285	⇑eP	Pg	17 43 15.0	-0.3
	11nm,0.1s						
TNSS				eS	Sg	17 43 24.6	+0.2
	123nm,0.3s						
TNSS	Tian-Shan	0.68	285	P	Pg	17 43 15.0	-0.3
	11nm,0.1s						
TNSS				S	Sg	17 43 24.6	+0.2
	123nm,0.3s						
KNDC	Almaty	0.73	299	⇑P	Pb	17 43 15.8	-0.7
	16nm,0.3s						
KNDC				⇓S	Sg	17 43 26.7	+0.9
	280nm,0.4s						
AAA	Alma-Ata	0.76	297	eP	Pg	17 43 17.0	+0.2
	baz=97						
AAA				eS	Sg	17 43 28.0	+1.2
	baz=97						
AAA	Alma-Ata	0.76	297	eP	Pg	17 43 17.0	+0.2
	107nm,0.2s						
AAA				eS	Sg	17 43 28.0	+1.2
	37nm,0.1s						
AAA	Alma-Ata	0.76	297	P	Pg	17 43 17.0	+0.2
	107nm,0.2s						
AAA				S	Sg	17 43 28.0	+1.2
	37nm,0.1s						
KPKS	Kokpek	0.86	46	eP	Pb	17 43 17.4	-1.2
	baz=43						
KPKS				eS	Sb	17 43 28.7	-1.2
	baz=43						
KPKS	Kokpek	0.86	46	eP	Pb	17 43 17.4	-1.2
	196nm,0.1s						
KPKS				eS	Sb	17 43 28.7	-1.2
	568nm,0.2s						
KDJ	Kajisay	0.89	214	⇑iP	Pb	17 43 18.3	-0.8
	baz=15						
KDJ				⇑iS	Sb	17 43 30.1	-0.7
	baz=15						
UZB	Uzynbulak	0.91	72	⇑eP	Pb	17 43 17.9	-1.6
	baz=70						
UZB				⇑eS	Sb	17 43 29.4	-2.0
	baz=70						
UZB	Uzynbulak	0.91	72	⇑eP	Pb	17 43 17.9	-1.6
	59nm,0.1s						
UZB				eS	Sb	17 43 29.4	-2.0
	210nm,0.2s						
UZB	Uzynbulak	0.91	72	P	Pb	17 43 17.9	-1.6
	59nm,0.1s						
UZB				S	Sb	17 43 29.7	-1.8
	210nm,0.2s						
MTBS	Maitube	1.07	285	eP	Pb	17 43 22.1	-0.1
	baz=85						
MTBS				eS	Sn	17 43 36.6	-0.5
	baz=85						
MTBS	Maitube	1.07	285	eP	Pb	17 43 22.1	-0.1
	42nm,0.2s						
MTBS				eS	Sn	17 43 36.6	-0.5
	376nm,0.3s						
MTBS	Maitube	1.07	285	P	Pb	17 43 22.1	-0.1
	42nm,0.2s						
MTBS				S	Sn	17 43 36.6	-0.5
	376nm,0.3s						
TARG	Taragay, Kyrgy	1.14	181	⇓iP	Pb	17 43 22.6	-1.0
	baz=83						
TARG				⇓iS	Sb	17 43 37.2	-1.1
	baz=83						
CHKK	Chushkaly	1.17	328	eP	Pb	17 43 23.8	0.0
	baz=28						
CHKK				eS	Sg	17 43 39.7	+0.1
	baz=28						
CHKK	Chushkaly	1.17	328	eP	Pb	17 43 23.8	0.0
	42nm,0.1s						
CHKK				eS	Sg	17 43 39.7	+0.1
	233nm,0.3s						
CHKK	Chushkaly	1.17	328	P	Pb	17 43 23.8	0.0
	42nm,0.1s						
CHKK				S	Sg	17 43 39.7	+0.1
	233nm,0.3s						
KTBS	Karatobe	1.20	315	eP	Pb	17 43 24.4	+0.1
	baz=15						
KTBS				eS	Sn	17 43 40.5	+0.3
	baz=15						
KTBS	Karatobe	1.20	315	eP	Pb	17 43 24.4	+0.1
	9.1nm,0.2s						
KTBS				eS	Sn	17 43 40.5	+0.3
	76nm,0.3s						
KTBS	Karatobe	1.20	315	P	Pb	17 43 24.4	+0.1
	9.1nm,0.2s						
KTBS				S	Sn	17 43 40.4	+0.3
	76nm,0.3s						
SHLS	Shalkode	1.22	76	eP	Pg	17 43 29.3	+3.8
	baz=78						
SHLS				eS	Sg	17 43 49.3	+7.8
	baz=78						
SHLS	Shalkode	1.22	76	eP	Pg	17 43 29.3	+3.8
	10nm,0.2s						
SHLS				eS	Sg	17 43 49.3	+7.8
	100nm,0.3s						
SHLS	Shalkode	1.22	76	P	Pg	17 43 29.3	+3.8
	10nm,0.2s						
SHLS				S	Sg	17 43 49.3	+7.8
	100nm,0.3s						
PDGK	Podgornoye	1.29	69	P	Pn	17 43 24.5	-1.0
	12nm,0.4s						
PDGK				S	Sb	17 43 41.0	-1.4
	41nm,0.3s						
PDGK	Podgornoye	1.29	69	⇑P	Pn	17 43 24.6	-1.0
	11nm,0.4s						
PDGK				⇓S	Sb	17 43 40.4	-2.0
	53nm,0.6s						
BLB	Baldybastay	1.31	20	eP	Pb	17 43 26.0	-0.3
	13nm,0.1s						
BLB				eS	Sg	17 43 43.3	-1.0
	128nm,0.2s						
BLB	Baldybastay	1.31	20	P	Pb	17 43 26.0	-0.3
	13nm,0.1s						
BLB				S	Sg	17 43 43.3	-1.0
	128nm,0.2s						
ULHL	Ulahol	1.34	243	P	Pb	17 43 26.6	-0.2
	SNR=219						
ULHL	Ulahol	1.34	243	⇑iP	Pb	17 43 26.4	-0.4
	baz=44						
ULHL				⇑iS	Sb	17 43 44.3	+0.4
	baz=44						
ARXS	Arharly	1.34	359	eP	Pb	17 43 26.8	-0.1
	26nm,0.3s						
ARXS				eS	Sg	17 43 44.9	-0.5
	100nm,0.2s						
ARXS	Arharly	1.34	359	P	Pb	17 43 26.8	-0.1
	26nm,0.3s						
ARXS				S	Sg	17 43 44.9	-0.5
	100nm,0.2s						
BOOM	Boomskoye usch	1.45	256	⇑iP	Pb	17 43 28.7	-0.1
	baz=57						
BOOM				⇑iS	Sb	17 43 48.0	+0.8
	baz=57						
KUU	Kurty	1.50	314	eP	Pb	17 43 29.9	+0.4
	baz=13						
KUU				eS	Sg	17 43 50.2	-0.1
	baz=13						
KUU	Kurty	1.50	314	eP	Pb	17 43 29.9	+0.4
	4.7nm,0.1s						
KUU				eS	Sg	17 43 50.2	-0.1
	450nm,0.2s						
KUU	Kurty	1.50	314	P	Pb	17 43 29.9	+0.4
	4.7nm,0.1s						
KUU				S	Sg	17 43 50.2	-0.1
	450nm,0.2s						
DGS	Degeres	1.56	284	eP	Pb	17 43 30.8	+0.2
	baz=85						
DGS				eS	Sg	17 43 51.8	-0.5
	baz=85						
DGS	Degeres	1.56	284	eP	Pb	17 43 30.8	+0.2
	18nm,0.1s						
DGS				eS	Sg	17 43 51.8	-0.5
	90nm,0.3s						
DGS	Degeres	1.56	284	P	Pb	17 43 30.8	+0.2
	18nm,0.1s						
DGS				S	Sg	17 43 51.8	-0.5
	90nm,0.3s						
TKM2	Tokmak 2	1.65	273	P	Pb	17 43 32.7	+0.5
	SNR=20						
TKM2	Tokmak 2	1.65	273	⇑iP	Pb	17 43 32.4	+0.2
	baz=73						
TKM2				⇑iS	Sg	17 43 54.8	-0.4
	baz=73						
TKM2	Tokmak 2	1.65	273	⇑P	Pb	17 43 32.5	+0.3
	11nm,0.5s						
TKM2				⇑S	Sg	17 43 55.0	-0.2
	73nm,0.5s						
KRBS	Karabastau	1.79	298	eP	Pb	17 43 34.7	+0.3
	baz=98						
KRBS				eS	Sb	17 43 58.3	+1.6
	baz=98						
KRBS	Karabastau	1.79	298	eP	Pb	17 43 34.7	+0.3
	31nm,0.3s						
KRBS				eS	Sb	17 43 58.2	+1.6
	196nm,0.4s						
KRBS	Karabastau	1.79	298	P	Pb	17 43 34.7	+0.3
	31nm,0.3s						
KRBS				S	Sb	17 43 58.3	+1.6
	196nm,0.4s						
KTMS	Ketmen	1.92	72	eP	Pb	17 43 36.2	-0.6
	baz=71						
KTMS				eS	Sg	17 44 01.1	-2.8
	baz=71						
KTMS	Ketmen	1.92	72	eP	Pb	17 43 36.2	-0.6
	9.1nm,0.1s						
KTMS				eS	Sg	17 44 01.1	-2.8
	73nm,0.1s						
KTMS	Ketmen	1.92	72	P	Pb	17 43 36.2	-0.6
	9.1nm,0.1s						
KTMS				S	Sg	17 44 01.1	-2.8
	73nm,0.1s						
DJR	Jarkent	2.03	43	eP	Pb	17 43 37.8	-0.9
	4.4nm,0.2s						
DJR				eS	Sb	17 44 03.6	-0.2
	70nm,0.3s						
DJR	Jarkent	2.03	43	Pg	Pb	17 43 37.8	-0.9
	4.4nm,0.2s						
DJR				Lg	Lg	17 44 03.6	
	70nm,0.3s						
KBK	Karagaybulak	2.14	265	P	Pb	17 43 41.0	+0.5
	SNR=14						
KBK	Karagaybulak	2.14	265	⇑iP	Pb	17 43 39.5	-1.1
	baz=66						
KBK				⇑iS	Sb	17 44 06.8	-0.2
	baz=66						
CHMS	Chumysh	2.27	274	P	Pb	17 43 43.2	+0.5
	SNR=7.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMS	Chumysh	2.27	274	⇑iP	Pb	17 43 41.2	-1.5
	baz=75						
CHMS				⇑iS	Sb	17 44 09.8	-0.9
	baz=75						
AAK	Ala-Archa	2.48	266	P	Pb	17 43 46.8	+0.6
	SNR=8.0						
AAK	Ala-Archa	2.48	266	⇓eP	Pb	17 43 44.2	-2.0
	baz=66						
AAK				⇓iS	Sb	17 44 14.9	-1.7
	baz=66						
AAK	Ala-Archa	2.48	266	⇓Pg	Pb	17 43 47.2	+1.0
	34nm,0.7s						
AAK				⇑Lg	Lg	17 44 20.9	
	26nm,0.5s						
USP	Ospenovka	2.48	280	P	Pb	17 43 45.7	-0.6
	SNR=8.2						
USP	Ospenovka	2.48	280	⇑iP	Pb	17 43 44.2	-2.1
	baz=81						
USP				⇑iS	Sb	17 44 14.9	-1.7
	baz=81						
KAPS	Kapalarasan	2.65	24	eP	Pb	17 43 49.2	+0.1
	2.4nm,0.3s						
KAPS				eS	Sb	17 44 23.7	+2.2
	39nm,0.3s						
KAPS	Kapalarasan	2.65	24	Pg	Pb	17 43 49.2	+0.1
	2.4nm,0.3s						
KAPS				Lg	Lg	17 44 23.7	
	39nm,0.3s						
EKS2	Erkin-Say	3.00	267	P	Pb	17 43 56.8	+1.6
	SNR=7.7						
MK31	Makanchi Array	5.04	37	⇑Pn	Pn	17 44 18.0	+1.0
	0.2nm,0.2s,baz=215,slow=15,SNR=10						
MK31				⇓Lg	Lg	17 45 38.9	
	1.9nm,0.6s,baz=214,slow=26,SNR=6.4						
OTUK	Ortayu	6.62	326	⇑Lg	Lg	17 46 32.0	
	5.8nm,0.6s						
KURBB	Kurchatov Arra	7.77	3	⇑Lg	Lg	17 47 07.9	
	4.6nm,0.7s						

*UPP **09** 18:01:04.0±0.1, 67°.06N×20°.93E, h0^{km}, ML1.9, Explosion*
*IDC **09** 18:01:04.8±1.3, 67°.07N×21°.01E, h0^{km}, mb1 2.8/3, mb1mx2.7/38, mbtmp2.6/3, ML1.8/3, Error ellipse: s-maj=21.6km s-min=9.7km az=100.0*
*HEL **09** 18:01:04.8±0.1, 67°.06N×20°.93E, h0^{km}, ML1.9, ML1.9(UPP), Explosion*
ISC 09 18:01:04.1±0.8, **67°.06N**±0°.02×**20°.95E**±0°.03, **h0^{km}**, **n37**, σ**1^{s}03**/54, **Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.57	45	P	Pg	18 01 15.0	0.0
MASU				S	Sg	18 01 23.3	+1.0
MASU	Masugnsbyn	0.57	45	i P	Pg	18 01 15.0	0.0
MASU				i S	Sg	18 01 23.3	+1.0
ERTU	Ertsjaerv	0.71	135	P	Pg	18 01 17.4	-0.2
ERTU				S	Sg	18 01 27.9	+1.2
ERTU	Ertsjaerv	0.71	135	eP	Pg	18 01 17.4	-0.2
ERTU				eS	Sb	18 01 28.2	-1.3
PAJU	Pajala	0.85	91	P	Pg	18 01 19.8	-0.5
PAJU	Pajala	0.85	91	eP	Pg	18 01 19.8	-0.5
PAJU				eSB	Sg	18 01 32.1	+0.8
HARU	Harads	0.90	179	P	Pg	18 01 21.0	-0.3
HARU	Harads	0.90	179	eP	Pg	18 01 21.0	-0.3
SALU	Saltoluokta	1.00	290	P	Pg	18 01 22.6	-0.6
SALU	Saltoluokta	1.00	290	eP	Pg	18 01 22.6	-0.6
LANU	Lannavaara	1.07	21	P	Pg	18 01 23.9	-0.7
LANU	Lannavaara	1.07	21	eP	Pg	18 01 23.5	-1.0
NIKU	Nikkaluokta	1.10	319	P	Pg	18 01 24.1	-0.9
NIKU	Nikkaluokta	1.10	319	eP	Pg	18 01 24.1	-0.9
KLF	Kolari	1.19	80	eP	Pg	18 01 26.0	-0.8
KLF				eSB	Sg	18 01 42.5	+0.3
KOVU	Salmi	1.21	346	P	Pg	18 01 26.5	-0.7
KOVU				S	Sb	18 01 43.4	-0.5
KOVU	Salmi	1.21	346	eP	Pg	18 01 26.5	-0.7
KOVU				eS	Sb	18 01 43.4	-0.5
KALU	Kalix	1.55	140	P	Pn	18 01 32.9	+0.1
KALU	Kalix	1.55	140	ePN	Pb	18 01 33.2	-0.3
KALU				eSN	Sg	18 01 55.0	+1.4
SJUU	Sjulsmark	1.58	170	P	Pn	18 01 33.1	-0.2
SJUU	Sjulsmark	1.58	170	eP	Pn	18 01 33.1	-0.2
TOF	Tornio	1.67	125	ePG	Pb	18 01 35.1	-0.5
TOF				MSG		18 01 55.1	
	comp=Z,10nm,0.2s						
TOF				eSN	Sg	18 01 57.7	+0.1
HEF	Hetta	1.70	36	eP	Pn	18 01 34.6	-0.4
HEF	Hetta	1.70	36	eP	Pn	18 01 34.7	-0.4
	baz=223						
HEF				MSG		18 01 54.9	
	comp=Z,5.7nm,0.2s						
HEF				eSG	Sn	18 01 57.2	-0.2
KIF	Kilpisjarvi	1.95	358	eP	Pb	18 01 40.4	0.0
KIF	Kilpisjarvi	1.95	358	ePB	Pb	18 01 40.1	-0.4
KIF				MSG		18 02 03.2	
	comp=Z,9.4nm,0.2s						
KIF				eSG	Sg	18 02 07.4	+0.6
RNF	Rovaniemi	2.05	100	ePB	Pn	18 01 40.7	+1.0
RNF				eSG	Sb	18 02 08.4	+0.2
SGF	Sodankyl	2.20	77	ePB	Pb	18 01 43.3	-1.4
SGF				eSG	Sg	18 02 14.0	-0.7
OUL	Oulu	2.83	132	ePB	Pb	18 01 53.7	-1.6
ARCES	ARCESS Array B	3.01	32	Pn	Pn	18 01 53.2	+0.3
	baz=212,slow=14,SNR=18						
ARCES				Sn	Sn	18 02 31.1	+1.5
	baz=215,slow=22,SNR=8.7						
UMAU	Umeaa	3.19	182	eP	Pn	18 01 57.2	+1.8
VRF	Varrio	3.41	74	eSG	Sb	18 02 49.1	+1.8
KEV	Kevo	3.51	37	eP	Pn	18 02 00.6	+0.8
KEV				eS	Sn	18 02 43.1	+1.2
KU6	Riekki	3.72	102	ePB	Pb	18 02 06.8	-3.8
VAF	Ylistaro	4.10	169	eP	Pn	18 02 09.8	+1.9
VAF				e		18 03 14.9	
FINES	FINESS Array B	6.06	156	Pn	Pn	18 02 36.8	+1.9
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=2.5						
FINES				Sn	Sn	18 03 45.0	+0.1
	comp=Z,0.1nm,0.3s,baz=345,slow=21,SNR=2.0						
FINES				Lg	Lg	18 04 14.4	
	comp=Z,0.3nm,0.3s,baz=342,slow=31,SNR=1.9						
NOA	NORSAR Array B	7.39	220	Pn	Pn	18 02 52.6	-0.5
	comp=Z,0.0nm,0.3s,baz=28,slow=12,SNR=1.1						

IDC 09 18:04:53.9±10.0, **47°.42S**×**104°.12E**, **h0^{km}**, **mb3.5**/2, **mb1 3.7**/2, **mb1mx3.5**/31, **mbtmp3.5**/2, **MS3.5**/4, **Ms1 3.6**/4, **ms1mx3.1**/32, **Error ellipse: s-maj=643.8km s-min=66.1km az=129.0**, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	14.59	35	T	T	18 24 28.0	
	baz=209,slow=74,SNR=20						
H01W1	Cape Leeuwin H	14.60	35	T	T	18 24 30.8	
	baz=209,slow=74,SNR=24						
H01W3	Cape Leeuwin H	14.60	35	T	T	18 24 23.4	
	baz=209,slow=74,SNR=21						
ASAR	Alice Springs	33.55	55	P	P	18 11 35.5	+0.1
	0.5nm,0.9s,baz=213,slow=6.6,SNR=7.7						
WRA	Warramunga Arr	36.78	52	P	P	18 12 03.1	-0.2
	0.5nm,0.7s,baz=215,slow=9.9,SNR=6.4						
VNDA	Vanda	37.31	162	LR	LR	18 25 11.8	
	comp=Z,78nm,19.9s,baz=274,slow=33						
LEM	Lembang	40.56	5	LR	LR	18 25 54.0	
	comp=Z,59nm,20.0s,baz=342,slow=31						
QSPA	South Pole Qui	42.72	180	LR	LR	18 28 27.2	
	comp=Z,153nm,18.6s,baz=290,slow=33						
KAPI	Kappang	44.34	23	LR	LR	18 31 15.5	
	comp=Z,31nm,20.7s,baz=209,slow=36						
NVAR	Mina Array Bea	148.00	91	PKPbc	PKPbc	18 24 40.4	-0.7
	0.7nm,0.6s,baz=223,slow=4.9,SNR=5.9						

*MDD **09** 18:08:46.0±0.5, 35°.45N×3°.84W, h0^{km}, mb_Lg2.6/5, Error ellipse: s-maj=4.2km s-min=3.5km az=14.0*
*CNRM **09** 18:08:47.3, 35°.50N×3°.74W, h20^{km}, ml2.7*
ISC 09 18:08:46.4±1.0, **35°.54N**±0°.02×**3°.69W**±0°.03, **h14^{km}**±9^{km}, **n19**, σ**1^{s}29**/38, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.38	212	P	Pg	18 08 54.0	-0.1
PALE				S	Sg	18 08 58.4	-1.0
EMEL	Melilla	0.64	112	Pg	Pb	18 09 00.4	+1.0
EMEL				Sg	Sn	18 09 10.5	-0.5
GOG	Mont Gurugu	0.65	119	P	Pn	18 09 01.0	-0.3
GOG				S	Sb	18 09 10.5	+2.0
EALB	Alboran	0.66	53	Pg	Pg	18 08 57.9	-1.4
EALB				Sg	Sn	18 09 12.6	+1.0
EALB				i Vmb_Lg		18 09 12.7	
TAF	Taforalt	1.27	124	P	Pn	18 09 09.5	-0.3
TAF				S	Sb	18 09 26.4	+0.1
ELGU	Los Guajares,	1.32	2	Pg	Pg	18 09 11.8	-0.1
ELGU				Sg	Sg	18 09 29.6	+0.5
ELGU				i Vmb_Lg		18 09 36.8	
EMIJ	Mijas	1.35	320	Pg	Pb	18 09 11.6	+0.2
EMIJ				Sg	Sg	18 09 29.7	-0.1
EMIJ				i Vmb_Lg		18 09 38.9	
EMAL	Malaga-Limoner	1.36	334	P	Pg	18 09 14.4	+1.9
EMAL				S	Sg	18 09 30.2	+0.1
SMIR	Smir Dam	1.39	276	P	Pn	18 09 10.7	-0.6
SMIR				S	Sn	18 09 28.2	-1.2
CHEFC	Chefchaouen	1.42	253	P	Pb	18 09 12.8	+0.1
CHEFC				S	Sn	18 09 29.8	-0.6
JBK	JBK	1.52	142	P	Pn	18 09 13.1	-0.2
JBK				S	Sn	18 09 31.1	-1.8
LCRM	LCR	2.09	208	P	Pb	18 09 23.4	-0.8
LCRM				S	Sb	18 09 51.4	+1.4
IFR	Ifrane	2.34	211	P	Pb	18 09 29.6	+1.1
IFR				S	Sn	18 09 50.1	-3.2
EADA	Adamuz	2.72	345	Pg	Pb	18 09 35.3	+0.5
EADA				Sn	Sb	18 10 06.8	-1.1
EADA				i Vmb_Lg		18 10 38.6	
CZD	Col de Zad	2.74	205	P	Pn	18 09 31.1	+0.8
CZD				S	Sn	18 10 01.4	-1.9
MD31	MD31	2.81	199	P	Pn	18 09 31.3	+0.3
MD31				S	Sn	18 10 04.3	-0.5
MDT	Midelt	2.83	196	P	Pn	18 09 31.3	+0.1
MDT				S	Sn	18 10 05.3	+0.2
ECAB	El Cabril	2.88	332	Pg	Pb	18 09 39.0	+1.4
ECAB				Sn	Sb	18 10 09.8	-3.0
ECAB				i Vmb_Lg		18 10 46.9	
ZHG	ZHG	3.21	230	P	Pn	18 09 38.0	+1.5
ZHG				S	Sn	18 10 16.6	+2.0

TAP 09 18:12:43.9, 24°.92N×122°.05E, h17^{km}, ML1.9, C, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.11	328	P	Pg	18 12 47.7	+0.1
	baz=322						
TWB1				S	Sg	18 12 50.1	+0.1
	baz=322						
NTC	Toucheng	0.21	253	eP	Pg	18 12 48.4	-0.5
	baz=248						
TIPB	Shuangxi	0.21	285	P	Pb	18 12 49.2	-0.1
	baz=286						
TIPB				S	Sg	18 12 52.5	+0.1
	baz=286						
SXI1	Grass Mountain	0.24	318	P	Pb	18 12 50.3	+0.5
	baz=318						
SXI1				eS	Sb	18 12 54.2	+0.5
	baz=318						
NWF	Wu-fen Shan	0.29	302	eP	Pb	18 12 51.0	+0.3
	baz=302						
NWF				eS	Sb	18 12 55.5	+0.3
	baz=302						
WFSB	Wu-fen Shan	0.29	302	P	Pb	18 12 51.0	+0.3
	baz=302						
WFSB				eS	Sb	18 12 55.8	+0.7
	baz=302						
TWC	Suao	0.36	211	eS	Sg	18 12 56.1	-0.3
	baz=219						
NDS	Dongshan	0.41	227	eP	Pb	18 12 53.1	+0.3
	baz=230						
NDS				eS	Sb	18 12 58.6	-0.2
	baz=230						
EWUT	Wuta	0.53	208	eP	Pg	18 12 54.1	-0.4
	baz=214						
EWUT				eS	Sg	18 13 00.4	-1.2
	baz=214						
NDT	Datong Townshi	0.58	237	eP	Pg	18 12 54.4	-1.0
	baz=233						
LATG	Datong	0.61	232	eP	Pg	18 12 55.7	-0.3
	baz=237						
NSK	Sanguang	0.67	249	eP	Pg	18 12 56.0	-1.2
	baz=249						
NACB	Ninganchiao	0.85	209	eP	Pb	18 12 59.6	-0.6
	baz=212						
NACB				eS	Sb	18 13 09.6	-1.6
	baz=212						
ETLH	Xiulin Townshi	0.88	216	eP	Pb	18 13 00.1	-0.6
	baz=217						

TAP 09 18:12:49.0, 24°.82N×121°.69E, h10^{km}±1^{km}, ML0.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILA	Ilan	0.08	137	eP	Pg	18 12 51.6	+0.3
	baz=133						
ILA				eS	Sg	18 12 54.0	+1.1
	baz=133						
FUSB	Fushanzhiwuyua	0.11	237	P	Pg	18 12 52.5	+0.7
	baz=237						
FUSB				S	Sg	18 12 54.9	+1.0
	baz=237						
NWLT	Wulai	0.18	255	eP	Pg	18 12 53.8	+0.9
	baz=255						
NWLT	Wulai	0.18	255	eP	Pg	18 12 53.8	+0.9
	baz=255						
NWLT				eS	Sg	18 12 56.1	+0.7
	baz=255						
NDS	Dongshan	0.19	173	P	Pg	18 12 53.6	+0.6
	baz=173						
ENTT	Nioudou	0.21	212	eP	Pg	18 12 53.8	+0.3
	baz=238						
ENTT	Nioudou	0.21	212	eP	Pg	18 12 53.8	+0.3
	baz=211						
YHNB	Yeheng	0.32	242	eP	Pg	18 12 56.1	+0.5
	baz=249						
YHNB	Yeheng	0.32	242	eP	Pg	18 12 56.0	+0.5
	baz=243						
ETLH	Xiulin Townshi	0.64	197	eP	Pg	18 13 01.5	0.0
	baz=212						

*CNRM **09** 18:20:43.2, 35°.53N×3°.74W, h14^{km}, ml2.2*
*MDD **09** 18:20:44.4±0.6, 35°.59N×3°.84W, h0^{km}, mb_Lg2.5/7, Error ellipse: s-maj=5.6km s-min=3.9km az=32.0*
ISC 09 18:20:42.9±1.0, **35°.55N**±0°.03×**3°.78W**±0°.03, **h12^{km}**±9^{km}, **n16**, σ**1^{s}08**/31, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.36	201	P	Pg	18 20 49.7	-0.4
PALE				S	Sg	18 20 55.4	+0.5
EMEL	Melilla	0.72	110	Sg	Sg	18 21 07.2	+1.0
EALB	Alboran	0.72	57	Pg	Pn	18 20 59.8	+0.9
EALB				Sg	Sb	18 21 09.4	+2.1
EALB				i Vmb_Lg		18 21 09.7	
GOG	Mont Gurugu	0.72	117	P	Pg	18 20 56.2	-0.7
GOG				S	Sg	18 21 06.7	+0.4
EMIJ	Mijas	1.29	322	Pg	Pb	18 21 07.0	-0.2
EMIJ				Sg	Sg	18 21 24.1	-0.4
EMIJ				i Vmb_Lg		18 21 25.8	
SMIR	Smir Dam	1.31	276	P	Pg	18 21 08.2	+0.1
SMIR				S	Sg	18 21 26.7	+1.7
ELGU	Los Guajares,	1.32	5	Pg	Pg	18 21 08.7	+0.5
ELGU				Sg	Sg	18 21 25.9	+0.5
ELGU				i Vmb_Lg		18 21 29.6	
TAF	Taforalt	1.34	123	P	Pn	18 21 07.3	-0.2
TAF				S	Sn	18 21 23.8	-1.5
CHEFC	Chefchaouen	1.35	251	P	Pg	18 21 08.2	-0.6
CHEFC				S	Sg	18 21 26.1	-0.2
JBK	JBK	1.57	140	P	Pn	18 21 11.3	+0.5
JBK				S	Sn	18 21 30.1	-1.1
EGOR	Sierra Gorda,	1.58	350	Pg	Pn	18 21 09.5	-1.4
EGOR				Sg	Sn	18 21 29.6	-1.7
EGOR				i Vmb_Lg		18 22 19.9	
EADA	Adamuz	2.69	347	Pn	Pb	18 21 29.2	-1.8
EADA				Sn	Sn	18 22 00.4	+1.9
EADA				i Vmb_Lg		18 22 23.4	
MD31	MD31	2.80	197	P	Pn	18 21 27.2	-0.3
MD31				S	Sn	18 22 02.0	+0.7
MDT	Midelt	2.81	194	P	Pn	18 21 28.4	+0.5
MDT				S	Sn	18 22 03.1	+1.4
ECAB	El Cabril	2.84	333	Pn	Pn	18 21 28.2	+0.1
ECAB				i Vmb_Lg		18 21 53.7	
ECAB				Sn	Sn	18 22 02.5	+0.2
EMIN	Mina Concepcio	3.21	314	Pn	Pn	18 21 33.8	+0.7
EMIN				i Vmb_Lg		18 21 42.1	
EMIN				Sn	Sn	18 22 09.9	-1.4

*IDC **09** 18:29:25.0±3.5, 42°.41N×144°.22E, h0^{km}, mb3.2/2, mb1 3.5/3, mb1mx3.2/43, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=86.4km s-min=41.7km az=70.0*
*JMA **09** 18:29:35.1±0.2, 41°.74N×144°.23E, h36^{km}±2^{km}, M3.1*
ISC 09 18:29:35.9±1.3, **41°.76N**±0°.07×**144°.23E**±0°.07, **h50^{km}**, **n18**, σ**0^{s}47**/15, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.84	288	P	Pn	18 29 51.1	-0.4
JTHR	Tokachihiroo	0.87	308	P	Pn	18 29 51.4	-0.5
JTHR				eS	Sn	18 30 03.3	-0.3
JCH	Churui	1.07	323	P	Pn	18 29 54.1	-0.5
JCH				eS	Sn	18 30 08.3	-0.1
JOB	Onbets	1.18	346	P	Pn	18 29 56.2	+0.1
JNBK	Urakawa-nobuka	1.22	296	P	Pn	18 29 56.9	+0.4
JAK	Akkeshi	1.28	16	P	Pn	18 29 57.1	-0.4
JSHD	Hidakashinhida	1.46	297	P	Pn	18 30 00.9	+1.0
JKHN	Kushirohamanak	1.49	27	P	Pn	18 30 00.2	-0.1
JKHN				eS	Sn	18 30 19.1	+0.5
JAR	Ashorobuto	1.57	348	P	Pn	18 30 01.0	-0.4
JAR				eS	Sn	18 30 20.6	0.0
MJAR	Matsushiro Arr	7.00	224	Pn	Pn	18 31 15.4	-0.4
	0.1nm,0.3s,baz=50,slow=5.0,SNR=5.5						
H11N2	WAKE ISLAND Hy	29.19	132	T	T	19 06 11.0	
	baz=324,slow=75,SNR=8.3						
H11N1	WAKE ISLAND Hy	29.20	132	T	T	19 06 21.9	
	baz=324,slow=75,SNR=6.7						
H11N3	WAKE ISLAND Hy	29.21	132	T	T	19 06 23.2	
	baz=324,slow=75,SNR=7.9						
H11S1	WAKE ISLAND Hy	30.07	134	T	T	19 07 29.4	
	baz=326,slow=75,SNR=5.6						
H11S3	WAKE ISLAND Hy	30.07	134	T	T	19 07 33.4	
	baz=326,slow=75,SNR=4.6						
H11S2	WAKE ISLAND Hy	30.09	134	T	T	19 07 27.5	
	baz=326,slow=75,SNR=6.6						
MKAR	Makanchi Array	43.62	298	P	P	18 37 28.3	-6.9
	0.2nm,0.6s,baz=88,slow=7.4,SNR=2.3						
WRA	Warramunga Arr	62.07	191	P	P	18 39 51.6	+0.2
	0.3nm,0.7s,baz=6.3,slow=6.8,SNR=4.7						

*NEIC **09** 18:38:52.1±1.8, 21°.65N±0°.10×143°.4E±0°.1, h260^{km}±6^{km}, mb4.2/52, Error ellipse: s-maj=16.3km s-min=13.8km az=78.0*
*IDC **09** 18:38:52.5±3.4, 21°.64N×143°.33E, h273^{km}±32^{km}, mb3.5/21, mb1 3.8/22, mb1mx3.5/52, mbtmp4.2/22, Error ellipse: s-maj=17.5km s-min=9.1km az=88.0*
ISC 09 18:38:50.3±0.5, **21°.66N**±0°.07×**143°.4E**±0°.1, **h250^{km}**, **n89**, σ**1^{s}17**/94, **mb4.1**/42, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.52	349	Pn	Pn	18 40 15.4	+3.0
JCJ					S	18 41 11.8	-6.2
JMN	Monobe	14.66	327	P	P	18 42 07.5	+1.1
INU	Inuyama	14.73	339	P	P	18 42 08.3	+1.2
MJAR	Matsushiro Arr	15.50	344	P	P	18 42 16.6	+1.1
	0.6nm,0.3s,baz=171,slow=9.7,SNR=23						
MJAR	Matsushiro Arr	15.50	344	P	P	18 42 16.9	+1.4
MJAR				IAmb	IAmb	18 42 33.6	
	comp=Z,10nm,1.4s						
MAJO	Matsushiro	15.50	344	P	P	18 42 17.2	+1.6
MJB9	Matsu-Tunnel	15.50	344	P	P	18 42 17.0	+1.4
JNU	Nakatsue	15.91	318	P	P	18 42 21.8	+1.7
JHS	Saijyo	16.06	328	P	P	18 42 21.5	-0.2
JSD	Sado	16.91	346	P	P	18 42 32.5	+1.5
KSRS	Korea Array	20.66	323	P	P	18 43 12.8	+1.5
	comp=Z,3.7nm,0.6s,baz=144,slow=9.2,SNR=15						
KLR	Kul'dur	29.03	344	P	P	18 44 27.4	+0.3
	comp=Z,1.8nm,0.6s,baz=167,slow=9.1,SNR=12						
SBUM	Sibu	35.83	242	P	P	18 45 27.4	+1.0
SONM	Songino Array	39.49	320	P	P	18 45 57.5	+0.7
	comp=Z,0.8nm,0.5s,baz=130,slow=7.3,SNR=3.0						
KNRA	Kununurra	39.78	202	P	P	18 45 58.6	-0.7
KNRA				IAmb	IAmb	18 45 59.5	
	comp=Z,10nm,0.6s						
WB0	Warramunga Arr	42.10	193	P	P	18 46 17.8	-0.5
WR0	Warramunga Arr	42.26	192	P	P	18 46 18.9	-0.6
WRAB	Tennant Creek	42.28	193	P	P	18 46 19.1	-0.5
WRAB				IAmb	IAmb	18 46 20.0	
	comp=Z,14nm,1.3s						
WB2	Warramunga Arr	42.28	193	P	P	18 46 19.4	-0.3
WB2				IAmb	IAmb	18 46 20.0	
	comp=Z,6.9nm,0.9s						
WRA	Warramunga Arr	42.29	193	P	P	18 46 19.4	-0.3
	comp=Z,1.8nm,0.3s,baz=15,slow=9.5,SNR=54						
WRA				PcP	PcP	18 48 08.1	-0.5
	comp=Z,0.9nm,0.8s,baz=9.8,slow=3.1,SNR=2.5						
FITZ	Fitzroy Crossi	43.17	205	P	P	18 46 26.3	-0.5
	comp=Z,4.8nm,0.6s,baz=16,slow=7.5,SNR=6.8						
FITZ	Fitzroy Crossi	43.17	205	P	P	18 46 26.4	-0.4
FITZ				IAmb	IAmb	18 46 27.1	
	comp=Z,5.6nm,0.7s						
KULM	Kulim	44.44	255	P	P	18 46 38.1	+1.1
KULM				IAmb	IAmb	18 47 00.3	
	comp=Z,12nm,1.4s						
AS31	Alice Springs	45.99	192	P	P	18 46 48.2	-0.8
ASAR	Alice Springs	45.99	192	P	P	18 46 48.2	-0.8
	comp=Z,0.7nm,0.4s,baz=11,slow=7.8,SNR=29						
ASAR				PcP	PcP	18 48 21.0	-0.2
	comp=Z,0.7nm,0.6s,baz=24,slow=3.3,SNR=8.4						
PSI	Prapat	47.09	253	P	P	18 46 58.1	+0.3
	comp=Z,3.4nm,0.4s,baz=211,slow=1.0,SNR=4.9						
RPSI	Rantau Prapat	47.13	253	P	P	18 46 58.1	+0.1
GSI	Gunungsitoli	48.97	252	P	P	18 47 12.2	+0.1
GSI				IAmb	IAmb	18 47 12.6	
	comp=Z,9.4nm,0.8s						
STKA	Stephens Creek	53.26	182	P	P	18 47 42.9	-0.6
	comp=Z,1.1nm,0.5s,baz=359,slow=9.2,SNR=6.3						
STKA	Stephens Creek	53.26	182	P	P	18 47 42.9	-0.6
FORT	Forrest	54.18	196	P	P	18 47 49.6	-0.5
ZALV	Zalesovo Beam	54.36	322	P	P	18 47 51.1	-0.1
	comp=Z,1.0nm,0.6s,baz=107,slow=9.1,SNR=5.5						
ZALV				PcP	PcP	18 48 50.4	-1.3
	comp=Z,1.0nm,0.4s,baz=115,slow=2.6,SNR=6.0						
MKAR	Makanchi Array	54.86	313	P	P	18 47 55.2	+0.2
	comp=Z,0.3nm,0.5s,baz=76,slow=10,SNR=5.4						
MKAR				PcP	PcP	18 48 53.2	-0.6
	comp=Z,0.7nm,0.5s,baz=94,slow=4.6,SNR=7.6						
MKAR	Makanchi Array	54.86	313	P	P	18 47 55.6	+0.7
KURK	Kurchatov	57.63	317	P	P	18 48 14.3	0.0
J20K	Nowinta River	58.78	27	P	P	18 48 23.8	+1.7
J20K				IAmb	IAmb	18 48 24.7	
	comp=Z,8.1nm,1.5s						
BRLK	Bradley Lake	59.33	32	P	P	18 48 25.8	-0.2
IMAR	Indian Mountai	59.43	25	P	P	18 48 27.9	+1.4
CAST	Castle Rocks	59.48	28	P	P	18 48 28.3	+1.4
CAST				IAmb	IAmb	18 48 29.3	
	comp=Z,6.1nm,1.0s						
H21K	Melozitna Rive	59.72	26	P	P	18 48 30.1	+1.6
H21K				IAmb	IAmb	18 48 31.0	
	comp=Z,3.0nm,0.7s						
I21K	Tanana	59.94	26	P	P	18 48 31.5	+1.5
I21K				IAmb	IAmb	18 48 32.5	
	comp=Z,4.0nm,0.7s						
BPAW	Bear Paw Mtn.	60.11	27	P	P	18 48 32.6	+1.4
BPAW				IAmb	IAmb	18 48 33.0	
	comp=Z,5.1nm,0.6s						
TRF	Thorofare Moun	60.28	28	P	P	18 48 33.1	+0.6
TRF				IAmb	IAmb	18 48 34.6	
	comp=Z,9.8nm,1.4s						
MLY	Manley	60.41	26	P	P	18 48 34.5	+1.2
GHO	Glory Hole Cre	60.61	30	P	P	18 48 35.3	+0.6
GHO				IAmb	IAmb	18 48 57.5	
	comp=Z,16nm,1.2s						
PWL	Port Wells	60.75	31	P	P	18 48 36.0	+0.4
KNK	Knik Glacier	60.77	31	P	P	18 48 36.1	+0.4
I23K	Minto, Yukon-K	61.01	26	P	P	18 48 38.4	+1.2
WRH	Wood River Hil	61.42	27	P	P	18 48 40.1	+0.1
TOLK	Toolik Lake Re	61.68	23	P	P	18 48 43.4	+1.7
TOLK				IAmb	IAmb	18 48 43.8	
	comp=Z,4.1nm,1.1s						
H24K	Noodor Dome	61.75	26	P	P	18 48 42.8	+0.7
ILAR	Eielson Array	61.98	27	P	P	18 48 43.2	-0.5
	comp=Z,2.3nm,0.7s,baz=254,slow=5.4,SNR=19						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLU	Klutina	61.99	31	P	P	18 48 44.1	+0.2
KLU				IAmb	IAmb	18 48 47.7	
	comp=Z,12nm,1.4s						
BMRM	Bremner River	62.58	32	P	P	18 48 49.2	+1.5
J25K	Salcha River,	62.61	27	P	P	18 48 47.6	-0.3
BVAR	Borovoye Array	62.82	320	P	P	18 48 49.6	+0.1
	comp=Z,1.6nm,0.5s,baz=61,slow=12,SNR=14						
BRVK	Borovoye	62.89	320	P	P	18 48 50.1	+0.3
BRVK				IAmb	IAmb	18 48 50.8	
	comp=Z,1.7nm,0.6s						
DOT	Dot Lake	63.07	29	P	P	18 48 51.6	+0.7
DOT				IAmb	IAmb	18 49 15.1	
	comp=Z,5.2nm,1.2s						
SCRK	Sand Creek	63.13	28	P	P	18 48 52.0	+0.6
SCRK				IAmb	IAmb	18 48 52.7	
	comp=Z,3.5nm,0.7s						
KKAR	Karatay Array	63.23	308	P	P	18 48 52.8	+0.5
BMAR	Burnt Mountain	63.30	24	P	P	18 48 54.1	+1.8
WAX	Waxell Ridge	63.40	32	P	P	18 48 54.3	+1.1
TGL	Tana Glacier	63.43	32	P	P	18 48 54.4	+1.0
ISLE	Juniper Island	63.66	32	P	P	18 48 55.4	+0.4
GRNC	Granite Creek	63.96	32	P	P	18 48 58.0	+1.0
GRNC				IAmb	IAmb	18 48 58.3	
	comp=Z,6.0nm,0.8s						
L27K	Beaver Creek,	64.03	29	P	P	18 48 57.9	+0.7
L27K				IAmb	IAmb	18 49 15.4	
	comp=Z,6.3nm,1.4s						
BCAR	Beaver Creek A	64.05	29	P	P	18 48 58.6	+1.3
HYT	Haines Junctio	66.04	32	P	P	18 49 11.6	+1.3
HYT				IAmb	IAmb	18 49 35.7	
	comp=Z,6.5nm,1.3s						
EPYK	Eagle Plains	66.32	26	P	P	18 49 12.8	+1.0
EPYK				IAmb	IAmb	18 49 13.8	
	comp=Z,6.8nm,1.1s						
M31M	Drury Creek, Y	67.47	30	P	P	18 49 19.7	+0.6
ARU	Arti	69.41	324	P	P	18 49 31.0	-0.1
ARU				IAmb	IAmb	18 49 31.1	
	comp=Z,2.5nm,0.5s						
ABKAR	Akbulak array	69.71	316	P	P	18 49 32.7	-0.4
YKA	Yellowknife Ar	76.40	28	P	P	18 50 12.0	+0.1
	comp=Z,2.2nm,0.4s,baz=291,slow=5.9,SNR=26						
YKA	Yellowknife Ar	76.40	28	P	P	18 50 11.5	-0.4
ARCES	ARCESS Array B	79.02	342	P	P	18 50 25.9	-0.3
	comp=Z,1.2nm,0.5s,baz=78,slow=9.0,SNR=22						
ARCES	ARCESS Array B	79.02	342	P	P	18 50 26.5	+0.2
ARCES				IAmb	IAmb	18 50 38.7	
	comp=Z,15nm,1.5s						
KBZ	Khabaz	82.53	314	P	P	18 50 45.2	-0.1
	comp=Z,3.4nm,0.8s,baz=103,slow=3.9,SNR=12						
NVAR	Mina Array Bea	83.01	52	P	P	18 50 49.0	+0.8
	comp=Z,1.5nm,0.7s,baz=281,slow=5.5,SNR=12						
NVAR	Mina Array Bea	83.01	52	P	P	18 50 47.9	-0.3
FINES	FINESS Array B	83.29	335	P	P	18 50 47.5	-1.4
	comp=Z,4.3nm,0.5s,baz=66,slow=4.9,SNR=55						
PDAR	Pinedale Array	87.28	45	P	P	18 51 09.0	-0.3
	comp=Z,0.1nm,0.4s,baz=249,slow=2.5,SNR=1.8						
AKASG	Malin Array Be	87.64	325	P	P	18 51 08.4	-2.0
	comp=Z,0.3nm,0.4s,baz=48,slow=5.0,SNR=1.9						
NOA	NORSAR Array B	89.05	339	P	P	18 51 15.0	-1.9
	comp=Z,0.6nm,0.7s,baz=46,slow=4.7,SNR=3.4						
TXAR	Lajitas Array	97.92	54	P	P	18 51 58.4	+0.2
	comp=Z,0.2nm,0.5s,baz=284,slow=3.6,SNR=2.2						
TORD	Torodi Ar. Bea	128.91	309	PKP	PKPdf	18 57 28.3	-0.8
	comp=Z,0.8nm,0.5s,baz=43,slow=1.3,SNR=9.2						
KOWA	Kowa	131.90	315	PKP	PKPdf	18 57 34.9	+0.2
	comp=Z,1.8nm,0.5s,baz=110,slow=4.4,SNR=2.8						
PLCA	Paso Flores	145.59	131	PKPbc	PKPdf	18 57 59.9	+0.9
	comp=Z,6.4nm,0.5s,baz=252,slow=3.9,SNR=18						
LPAZ	La Paz	149.75	85	PKPbc	PKPbc	18 58 12.4	+0.3
	comp=Z,3.4nm,0.5s,baz=266,slow=2.7,SNR=14						
LPAZ	La Paz	149.75	85		PKPbc	18 58 12.1	0.0

JMA 09 18:41:12.2±0.3, 36.°63N×144.°29E, h50km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.80	308	P	Pn	18 41 55.7	+1.2
JIKH				S	Sn	18 42 28.4	+1.3
JFK	Kawauchi	2.83	286	P	Pn	18 41 56.4	+1.4
JFK				S	Sn	18 42 29.0	+1.1
ONAJ	Iwakimizuishiy	2.84	281	P	Pn	18 41 56.8	+1.7
CHOJ	Chosi	2.93	253	P	Pn	18 41 57.6	+1.4
JMST	Minamisoumatoc	2.93	293	P	Pn	18 41 57.5	+1.3
JMST				S	Sn	18 42 30.9	+0.7
JFT	Otama	3.28	287	P	Pn	18 42 03.5	+2.4
JMK	Ichinoseki	3.36	315	P	Pn	18 42 03.4	+1.3
JOM	Ohasama	3.69	321	P	Pn	18 42 08.6	+1.8
JOM				S	Sn	18 42 51.4	+2.4
JOT	Ohata	5.38	333	P	Pn	18 42 32.1	+2.3
JKB	Kayabe	5.83	335	P	Pn	18 42 38.0	+2.0
JCH	Churui	6.02	353	P	Pn	18 42 38.0	-0.6

SFS 09 18:44:24.0, 35.°60N×3.°70W, ML3.0, ALBORAN SUR
MDD 09 18:44:25.0±0.4, 35.°65N×3.°78W, h0km, mb_Lg3.1/5, Error ellipse: s-maj=3.4km s-min=2.7km az=14.0
CNRM 09 18:44:25.6, 35.°69N×3.°67W, h26km, ml3.1
LDG 09 18:44:26.6±0.3, 35.°63N×3.°66W, h10km, Ml3.5/5, Error ellipse: s-maj=6.4km s-min=3.9km az=9.0
ISC 09 18:44:25.2±1.1, 35.°71N±0.°02×3.°68W±0.°03, h16km±9km, n45, σ1s58/76, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.53	203	P	Pg	18 44 35.8	0.0
PALE				S	Sb	18 44 44.6	+0.9
EALB	Alboran	0.57	66	Pg	Pb	18 44 37.4	+0.4
EALB				Sg	Sb	18 44 46.5	+1.7
EMEL	Melilla	0.72	124	Pg	Pg	18 44 38.5	-0.7
EMEL				Sg	Sg	18 44 48.2	-0.6
GOG	Mont Gurugu	0.74	131	P	Pg	18 44 40.0	+0.3
GOG	Mont Gurugu	0.74	131	P	Pg	18 44 39.2	-0.4
GOG				S	Sg	18 44 49.0	-0.5
ELGU	Los Guajares,	1.16	2	Pg	Pb	18 44 45.7	-1.2
ELGU				Sg	Sb	18 45 03.0	+1.2
EMAL	Malaga-Limoner	1.21	330	P	Pn	18 44 46.3	-1.3
EMAL				S	Sb	18 45 01.8	-1.5
EMIJ	Mijas	1.23	314	Pg	Pn	18 44 47.0	-0.8
EMIJ				Sg	Sb	18 45 02.3	-1.5
EMIJ				*i* Vmb_Lg		18 45 03.4	
TAF	Taforalt	1.37	130	P	Pn	18 44 49.0	-0.8
TAF				S	Sb	18 45 07.6	-0.2
SMIR	Smir Dam	1.38	269	P	Pn	18 44 47.0	-2.9
SMIR	Smir Dam	1.38	269	P	Pn	18 44 49.5	-0.4
SMIR				S	Sn	18 45 08.1	+0.2
CEU	Ceuta	1.39	278	P	Pn	18 44 47.0	-3.0
CEU				S	Sn	18 45 03.0	-5.0
EGOR	Sierra Gorda,	1.44	346	Pn	Pn	18 44 51.3	+0.5
EGOR				Sn	Sn	18 45 10.9	+1.3
CHEFC	Chefchaouen	1.48	247	P	Pn	18 44 51.0	-0.4
CHEFC	Chefchaouen	1.48	247	P	Pn	18 44 51.2	-0.1
CHEFC				S	Sn	18 45 11.3	+0.8
EQUE	Quentar	1.51	7	Pn	Pn	18 44 52.6	+0.8
EQUE				Sn	Sn	18 45 12.2	+1.1
EJIF	Jimena Fronter	1.63	298	Pn	Pn	18 44 52.8	-0.5
EJIF				Sn	Sn	18 45 15.7	+1.8
JBK	JBK	1.65	146	P	Pn	18 44 53.0	-0.8
JBK	JBK	1.65	146	P	Pn	18 44 52.4	-1.3
JBK				S	Sn	18 45 12.5	-2.2
LIJA	Lijar	1.83	311	P	Pg	18 45 01.8	+1.3
LCRM	LCR	2.24	206	P	Pg	18 45 09.0	+0.8
LCRM	LCR	2.24	206	P	Pn	18 45 03.9	+2.1
LCRM				S	Sb	18 45 34.2	+1.3
IFR	Ifrane	2.49	209	P	Pn	18 45 06.3	+1.0
IFR				S	Sn	18 45 33.4	-2.1
EADA	Adamuz	2.56	344	Pn	Pn	18 45 07.3	+1.1
EADA				Sn	Sn	18 45 39.0	+2.0
ECAB	El Cabril	2.74	330	Pn	Pn	18 45 09.9	+1.2
ECAB				Sn	Sn	18 45 43.8	+2.3
ECAB				*i* Vmb_Lg		18 45 50.8	
CZD	Col de Zad	2.90	203	P	Pn	18 45 11.0	0.0
CZD				S	Sn	18 45 43.5	-2.1
MD31	MD31	2.97	198	P	Pn	18 45 12.7	+0.9
MD31				S	Sn	18 45 47.5	+0.2
MDT	Midelt	2.99	195	P	Pn	18 45 13.0	+0.9
MDT				S	Sn	18 45 49.4	+1.8
EMIN	Mina Concepcio	3.16	311	Pn	Pn	18 45 14.3	-0.1
EMIN				Sn	Sn	18 45 51.0	-0.8
ZHG	ZHG	3.33	228	P	Pn	18 45 16.9	+0.2
ZHG				S	Sn	18 45 55.8	-0.2
ETOB	Tobarra	3.39	30	Pn	Pn	18 45 19.7	+2.1
EGRO	El Granado	3.56	302	Pn	Pn	18 45 20.0	+0.2
EGRO				Sn	Sn	18 45 59.8	-1.8
PAB	San Pablo	3.87	352	Pn	Pn	18 45 25.5	+1.3
PAB				Sn	Sn	18 46 08.9	-0.5
ESDC	Sonseca Array	3.97	357	Pn	Pn	18 45 26.5	+1.0
ESDC				Sn	Sn	18 46 13.3	+1.6
ESDC				*i* Vmb_Lg		18 46 31.8	
EBAD	Badajoz	4.04	320	Pn	Pn	18 45 26.6	+0.1
EBAD				Sn	Sn	18 46 13.0	-0.5
EBAD				*i* Vmb_Lg		18 46 15.4	
FIGM	Figuig	4.09	150	P	Pn	18 45 26.2	-1.1
FIGM				S	Sn	18 46 14.3	-0.7
UCM	Universidad Co	4.61	4	S	Sn	18 46 23.6	-3.8
OUZM	OUZ	5.43	209	P	Pn	18 45 48.2	+2.4
OUZM				S	Sn	18 46 49.1	+1.0
ETSF	Etsaut	7.58	18	*e*Pn	Pn	18 46 15.0	-0.1
ETSF	Etsaut	7.58	18	*e*P	Pn	18 46 21.0	+5.9
ETSF				*e*Sn	Sn	18 47 38.8	-1.9
	1.8nm,0.3s						
SJPF	Ste Jean	7.64	14	*e*Pn	Pn	18 46 16.5	+0.7
SJPF	Ste Jean	7.64	14	*e*P	Pn	18 46 21.8	+6.0
EPF	Esparros	7.95	22	*e*Pn	Pn	18 46 20.1	-0.1
EPF				*e*Sn	Sn	18 47 49.5	-0.3
	1.0nm,0.4s						
MTLF	Montolieu	8.88	29	*e*Pn	Pn	18 46 33.7	+0.8
MTLF				*e*Sn	Sn	18 48 07.3	-5.3
	0.7nm,0.3s						
ROSF	Rostrenen	12.62	1	*e*Pn	Pn	18 47 24.5	+0.4
ROSF				*e*Sg		18 51 02.6	
	3.9nm,0.3s						

MAN 09 18:46:09.0, 9.°96N×124.°24E, h109km, mb3.8, ML2.6, MS2.1
IDC 09 18:46:08.9±12.0, 10.°16N×125.°39E, h225km±124km, mb3.0/5, mb1 3.1/5, mb1mx2.7/41, mbtmp3.5/5, Error ellipse: s-maj=141.1km s-min=17.7km az=64.0
ISC 09 18:46:07.0±0.9, 10.°21N±0.°07×125.°3E±0.°1, h200km, n13, σ1s61/14, mb3.4/5, 6C-2D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.39	6	⇑*e*P	Pn	18 46 41.2	+1.5
TBP	Tagbilaran	1.50	250	⇑*e*P	Pn	18 46 42.3	+1.6
BIPH	Bislig	2.27	152	⇑*e*P	Pn	18 46 50.5	+2.1
BIPH				*e*S	Sn	18 47 22.6	+1.9
CTBH	Cotabato--PC H	3.15	199	⇓*i*P	Pn	18 47 00.3	+1.9
KCP	Kidapawan	3.19	184	⇑*i*P	Pn	18 46 59.8	+0.9
MATI	Mati	3.38	164	⇑*e*P	Pn	18 46 51.3	-10
PVCP	Virac	3.55	342	⇓*i*P	Pn	18 47 04.6	+1.4
GQP	Guinayangan	4.61	323	⇑*i*P	Pn	18 47 17.8	+1.4
FITZ	Fitzroy Crossi	28.13	179	P	P	18 51 39.5	-1.1
	0.8nm,1.0s,baz=354,slow=9.2,SNR=1.4						
WRA	Warramunga Arr	31.26	163	P	P	18 52 06.8	-1.4
	0.3nm,0.9s,baz=344,slow=8.8,SNR=1.4						
ASAR	Alice Springs	34.70	166	P	P	18 52 37.4	-0.6
	0.2nm,0.3s,baz=348,slow=7.3,SNR=11						
ASAR				PcP	PcP	18 55 06.1	-1.3
	0.2nm,0.4s,baz=345,slow=3.3,SNR=2.2						
STKA	Stephens Creek	44.66	160	P	P	18 53 58.6	-1.3
	1.2nm,0.8s,baz=342,slow=13,SNR=2.8						
MKAR	Makanchi Array	51.50	323	P	P	18 54 52.2	+0.1
	0.9nm,0.6s,baz=128,slow=7.7,SNR=13						

IDC 09 18:55:51.7±0.6, 7.°52N×36.°31W, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.1/44, mbtmp4.1/21, ML4.6/1, MS3.8/46, Ms1 3.8/46, ms1mx3.6/85, Error ellipse: s-maj=19.8km s-min=13.3km az=146.0
NEIC 09 18:55:53.9±1.6, 7.°5N±0.°1×36.°3W±0.°1, h10km±1km, mb4.6/14, Error ellipse: s-maj=23.6km s-min=17.1km az=130.0
GCMT 09 18:55:56.9±0.4, 7.°50N±0.°02×36.°33W±0.°02, h21km±2km, MW4.8/89, Moment Tensor Solution. s9,c10; s89,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.05±.14; $M_{\theta\theta}$0.03±.15; $M_{\phi\phi}$0.01±.12; $M_{r\theta}$-0.84±.22; $M_{\theta\phi}$-1.97±.10; $M_{\phi r}$0.45±.18; Best double couple: $M_0$2.16600×10^{16} NP1:ϕ_s2.00000°, δ69.00000°, λ9.00000°. NP2: ϕ_s269.00000°, δ82.00000°, λ159.00000°. Principal axes: T 2.3450, Plg21.0000°, Azm224.0000°; N -0.3570, Plg67.0000°, Azm68.0000°; P -1.9880, Plg9.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 09 18:55:53.5±0.5, 7.°54N±0.°08×36.°32W±0.°09, h10km, n107, σ0s98/63, mb4.1/20, MS3.8/45, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NBMO	Morrinhos-CE	11.40	199	*e*P	Pn	18 58 35.6	-1.0
NBCL	Cascavel-CE	11.85	190	*e*P	Pn	18 58 40.9	-1.8
NBPS	Pedro II - PI	12.91	204	*e*P	Pn	18 58 54.7	-2.6
ROSB	Rosrio	12.97	217	*e*P	Pn	18 58 55.9	-2.1
RCBR	Riachuelo	13.28	178	Pn	Pn	18 59 01.1	-1.3
	3.5nm,0.3s,baz=142,slow=16,SNR=20						
RCBR	Riachuelo	13.28	178	Sn	Sn	19 01 16.8	-13
NBPB	Pedra_Branca-C	13.40	194	*e*P	Pn	18 59 03.8	-0.1
NBPV	Pedro Velho	13.90	176	*e*P	Pn	18 59 10.5	-0.2
SACV	Santiago Islan	14.48	58	Pn	Pn	18 59 13.3	-5.5
NBLV	Livramento - P	14.81	182	*e*P	Pn	18 59 22.8	-0.4
NBMA	Muriti-CE	15.01	189	*e*P	Pn	18 59 25.3	-0.6
TMAB	Tom-Au,PA,Br	15.33	230	*e*P	Pn	18 59 29.7	-0.4
NBRF	Rio Formoso -	16.16	176	*e*P	Pn	18 59 41.1	+0.3
MDP	Montagnes des	16.41	262	LR	LR	19 04 43.0	
	comp=Z,106nm,19.8s,baz=83,slow=32						
MCPB	Macapa, AP	17.55	244	*e*P	Pn	18 59 59.4	+0.9
NBLA	Lagarto - SE	18.47	185	*e*P	P	19 00 09.8	+0.1
NBPN	Ponto Novo - B	18.67	192	*e*P	P	19 00 11.8	-0.1
PRPB	Parauapebas	19.15	225	*e*P	P	19 00 16.5	-0.7
SMTB	Santa Maria do	19.79	215	*e*P	P	19 00 23.6	-0.6
MALB	Monte Alegre	20.19	243	*e*P	P	19 00 29.1	+0.5
SDBA	SAO DESIDERIO	21.58	203	*e*P	P	19 00 43.1	-0.5
NBIT	Itapeh - BA	22.54	188	*e*P	P	19 00 54.0	+0.2
ITTB	Itaituba	22.70	239	*e*P	P	19 00 54.0	-1.6
PEXB	Peixe	22.87	212	*e*P	P	19 00 58.0	+0.6
CMC01	Camacan, BA	22.97	188	*e*P	P	19 00 59.5	+1.1
JANB	Januaria	23.81	199	*e*P	P	19 01 07.8	+1.0
NPGB	Novo Progresso	23.89	233	*e*P	P	19 01 07.1	-0.5
SNDB	Serra Nova Dou	24.45	218	*e*P	P	19 01 13.7	+0.9
BOAV	Boa Vista	24.64	259	*e*P	P	19 01 14.8	+0.1
H05S1	Guadeloupe/Mar	25.01	288	T	T	19 27 28.6	
	SNR=9.8						
BDFB	Brasilia	25.78	207	P	P	19 01 24.4	-0.5
	11nm,0.8s,baz=37,slow=12,SNR=10						
BDFB				LR	LR	19 10 23.8	
	comp=Z,121nm,18.4s,baz=74,slow=34						
BDFB	Brasilia	25.78	207	P	P	19 01 24.9	-0.1
BDFB				IAmb	IAmb	19 01 27.0	
	comp=Z,15nm,1.0s						
H10N3	ASCENSION HYDR	26.58	125	T	T	19 29 10.9	
	baz=305,slow=75,SNR=28						
H10N2	ASCENSION HYDR	26.58	125	T	T	19 29 11.3	
	baz=305,slow=75,SNR=31						
H10N1	ASCENSION HYDR	26.60	125	T	T	19 29 19.4	
	baz=305,slow=75,SNR=10						
CLDB	Colider	26.66	227	*e*P	P	19 01 33.2	+0.4
DIAM	Diamantina, MG	26.68	196	*e*P	P	19 01 34.6	+1.5
H10S3	ASCENSION HYDR	27.09	127	T	T	19 29 47.7	
	baz=302,slow=74,SNR=11						
H10S2	ASCENSION HYDR	27.11	127	T	T	19 29 49.0	
	baz=278,slow=74,SNR=8.8						
ARAG	Araguaiana, MT	27.73	214	*e*P	P	19 01 44.4	+2.0
PDRB	Porto dos Gac	27.83	227	*e*P	P	19 01 43.8	+0.4
SJG	San Juan	30.88	293	LR	LR	19 12 11.6	
	comp=Z,104nm,19.1s,baz=142,slow=32						
DBIC	Dimbokro	31.23	90	P	P	19 02 11.8	-1.7
	comp=Z,2.9nm,0.7s,baz=276,slow=10,SNR=5.0						
DBIC	Dimbokro	31.23	90	IAmb	IAmb	19 02 27.2	
	comp=Z,17nm,1.4s						
PTLB	Pontes e Lacer	32.14	225	*e*P	P	19 02 23.4	+1.9
KOWA	Kowa	32.42	75	P	P	19 02 23.7	-0.3
	comp=Z,11nm,0.8s,baz=260,slow=7.4,SNR=25						
KOWA				LR	LR	19 13 13.4	
	comp=Z,112nm,21.2s,baz=250,slow=32						
KOWA	Kowa	32.42	75	P	P	19 02 23.5	-0.5
KOWA				IAmb	IAmb	19 02 24.7	
	comp=Z,12nm,0.9s						
PCMB	Pacaembu	32.47	207	*e*P	P	19 02 25.9	+1.6
SIV	San Ignacio	33.88	226	P	P	19 02 37.1	+0.4
	comp=Z,4.9nm,0.8s,baz=59,slow=8.9,SNR=21						
SIV				LR	LR	19 15 35.7	
	comp=Z,242nm,19.4s,baz=116,slow=35						
ETMB	Extrema	34.41	240	*e*P	P	19 02 41.8	+0.4
TORD	Torodi Ar. Bea	37.77	78	P	P	19 03 09.3	-1.0
	comp=Z,4.9nm,1.0s,baz=274,slow=9.6,SNR=13						
TORD	Torodi Ar. Bea	37.77	78	P	P	19 03 09.3	-1.0
MDT	Midelt	38.69	45	P	P	19 03 19.2	+1.4
	comp=Z,2.8nm,0.8s,baz=273,slow=6.7,SNR=4.1						
MDT				LR	LR	19 17 31.8	
	comp=Z,115nm,20.0s,baz=179,slow=34						
CPUP	Villa Florida	39.37	210	LR	LR	19 19 25.5	
	comp=Z,124nm,18.5s,baz=42,slow=36						
LPAZ	La Paz	39.40	233	P	P	19 03 24.5	0.0
	comp=Z,10nm,0.8s,baz=51,slow=6.4,SNR=38						
LPAZ				LR	LR	19 19 37.3	
	comp=Z,89nm,19.1s,baz=56,slow=36						
LPAZ	La Paz	39.40	233	P	P	19 03 24.0	-0.5
LPAZ				IAmb	IAmb	19 03 25.3	
	comp=Z,11nm,0.8s						
LPAZ	La Paz	39.40	233	*e*P	P	19 03 24.2	-0.3
OTAV	Otavalo	42.63	262	*e*P	P	19 03 52.6	+1.6
ESDC	Sonseca Array	43.17	37	P	P	19 03 55.4	+0.7
	comp=Z,1.0nm,0.9s,baz=248,slow=6.8,SNR=2.8						
ESDC				LR	LR	19 18 59.3	
	comp=Z,99nm,18.9s,baz=242,slow=32						
LVC	Limon Verde	43.78	226	LR	LR	19 22 44.6	
	comp=Z,82nm,18.5s,baz=28,slow=37						
ATAH	Atahualpa	44.42	252	LR	LR	19 23 39.9	
	comp=Z,136nm,18.8s,baz=67,slow=38						
BATG	Bathurst New B	47.03	333	P	P	19 04 25.4	+0.3
TKL	Tuckaleechee C	51.57	310	LR	LR	19 26 19.2	
	comp=Z,31nm,18.1s,baz=136,slow=35						
SCHQ	Schefferville	53.10	338	P	P	19 05 11.3	+0.2
	comp=Z,4.6nm,0.7s,baz=123,slow=6.6,SNR=8.6						
SCHQ				LR	LR	19 24 48.4	
	comp=Z,73nm,18.2s,baz=134,slow=33						
SCHQ	Schefferville	53.10	338	IAmb	IAmb	19 05 15.1	
	comp=Z,6.0nm,0.9s						
EKA	Eskdalemuir Ar	54.46	23	LR	LR	19 26 32.5	
	comp=Z,76nm,18.0s,baz=16,slow=34						
VAE	Valguarnera	54.67	49	LR	LR	19 28 17.4	
	comp=Z,100nm,19.5s,baz=234,slow=36						
DAVOX	Davos/Dischmat	55.51	37	LR	LR	19 27 21.0	
	comp=Z,118nm,19.0s,baz=250,slow=34						
PLCA	Paso Flores	57.44	210	LR	LR	19 29 26.3	
	comp=Z,106nm,19.6s,baz=58,slow=35						
GERES	GERESS Array B	58.76	36	P	P	19 05 51.6	-0.2
	comp=Z,0.6nm,0.7s,baz=246,slow=5.9,SNR=3.5						
GERES				LR	LR	19 27 04.8	
	comp=Z,86nm,21.7s,baz=272,slow=32						
TSUM	Tsumeb	59.37	117	LR	LR	19 27 02.5	
	comp=Z,55nm,18.5s,baz=316,slow=32						
VRAC	Vranov	60.67	37	LR	LR	19 29 09.6	
	comp=Z,79nm,19.6s,baz=282,slow=33						
FRB	Frobisher Bay	60.68	344	LR	LR	19 27 14.2	
	comp=Z,63nm,20.3s,baz=178,slow=31						
NOA	NORSAR Array B	63.92	24	P	P	19 06 26.0	-0.5
	comp=Z,0.6nm,0.7s,baz=235,slow=6.5,SNR=2.6						
NOA				LR	LR	19 29 37.5	
	comp=Z,48nm,21.3s,baz=255,slow=32						
HFS	Hagfors	64.42	25	LR	LR	19 34 24.5	
	comp=Z,137nm,18.0s,baz=326,slow=36						
ULM	Lac du Bonnet	65.01	322	P	P	19 06 33.6	-0.2
	comp=Z,1.0nm,0.4s,baz=143,slow=10,SNR=2.9						
ULM	Lac du Bonnet	65.01	322	IAmb	IAmb	19 06 47.1	
	comp=Z,5.0nm,1.1s						
MLR	Muntele Rosu	65.34	43	P	P	19 06 36.7	+0.4
TXAR	Lajitas Array	66.62	299	P	P	19 06 44.1	-0.6
	comp=Z,0.1nm,0.5s,baz=119,slow=9.4,SNR=3.7						
TXAR				LR	LR	19 38 20.8	
	comp=Z,31nm,18.3s,baz=50,slow=38						
FCC	Fort Churchill	67.25	331	P	P	19 06 46.9	-1.1
SUR	Sutherland	67.30	130	LR	LR	19 29 00.3	
	comp=Z,81nm,21.2s,baz=248,slow=30						
MBAR	Mbarara	67.35	94	LR	LR	19 33 21.2	
	comp=Z,32nm,19.6s,baz=234,slow=33						
LSZ	Lusaka	67.80	110	LR	LR	19 31 30.2	
	comp=Z,49nm,18.0s,baz=284,slow=32						
LBTB	Lobatse	68.36	121	LR	LR	19 30 31.5	
	comp=Z,58nm,21.1s,baz=252,slow=30						
AKASG	Malin Array Be	68.80	38	P	P	19 06 56.8	-1.1
	comp=Z,0.8nm,0.6s,baz=255,slow=6.0,SNR=3.6						
BOSA	Boshof	69.33	124	LR	LR	19 31 30.4	
	comp=Z,32nm,18.8s,baz=198,slow=31						
ANMO	Albuquerque	69.45	304	LR	LR	19 33 31.9	
	comp=Z,68nm,21.9s,baz=108,slow=32						
BRTR	Keskin Array B	69.81	51	P	P	19 07 04.7	0.0
	comp=Z,1.5nm,0.8s,baz=260,slow=7.4,SNR=5.4						
EIL	Elat	70.04	61	LR	LR	19 36 54.5	
	comp=Z,103nm,20.9s,baz=264,slow=35						
FINES	FINESS Array B	70.42	27	P	P	19 07 08.2	+0.4
	comp=Z,3.1nm,1.0s,baz=250,slow=4.0,SNR=4.2						
FINES				LR	LR	19 35 17.7	
	comp=Z,125nm,19.4s,baz=286,slow=34						
MMAI	Mount Meron Ar	70.61	58	LR	LR	19 39 22.5	
	comp=Z,29nm,20.4s,baz=60,slow=37						
PDAR	Pinedale Array	72.62	312	P	P	19 07 21.6	-0.2
	comp=Z,0.2nm,0.6s,baz=76,slow=3.8,SNR=2.8						
PDAR				LR	LR	19 34 52.9	
	comp=Z,49nm,21.9s,baz=16,slow=32						
KLMR	Klimovskoe	76.56	29	*e*	P	19 07 43.4	-0.5
KLMR				AMP		19 07 55.3	
	comp=Z,13nm,1.1s						
ELK	Elko	76.73	310	LR	LR	19 41 40.4	
	comp=Z,53nm,18.1s,baz=98,slow=36						
KBZ	Khabaz	77.04	47	P	P	19 07 48.4	+1.5
	comp=Z,0.9nm,0.7s,baz=309,slow=6.5,SNR=3.0						
PFO	Pinyon Flats O	77.68	303	LR	LR	19 39 33.6	
	comp=Z,67nm,19.4s,baz=250,slow=34						
YKA	Yellowknife Ar	77.94	332	P	P	19 07 50.5	-1.2
	comp=Z,0.7nm,0.6s,baz=99,slow=5.7,SNR=12						
GNI	Garni	78.36	51	LR	LR	19 43 07.2	
	comp=Z,59nm,20.7s,baz=294,slow=36						
RPN	Rapa Nui	78.52	240	LR	LR	19 39 22.0	
	comp=Z,50nm,18.3s,baz=204,slow=33						
NVAR	Mina Array Bea	79.09	308	P	P	19 07 58.3	-0.5
	comp=Z,0.2nm,0.5s,baz=110,slow=7.8,SNR=2.1						
NVAR				LR	LR	19 43 16.6	
	comp=Z,49nm,18.0s,baz=252,slow=36						
YBH	Yreka Blue Hor	82.35	311	LR	LR	19 41 43.9	
	comp=Z,76nm,20.0s,baz=18,slow=33						
INK	Inuvik	85.71	338	LR	LR	19 46 07.3	
	comp=Z,70nm,18.0s,baz=116,slow=35						
ARU	Arti	86.47	34	LR	LR	19 48 29.4	
	comp=Z,57nm,18.0s,baz=298,slow=36						
AKTO	Aktyubinsk	87.00	40	LR	LR	19 48 10.7	
	comp=Z,48nm,18.9s,baz=317,slow=36						
WSAR	Wadi Sarin	91.58	66	LR	LR	19 51 34.5	
	comp=Z,33nm,20.4s,baz=296,slow=36						
KDAK	Kodiak Island	97.18	331	LR	LR	19 51 13.9	
	comp=Z,55nm,20.0s,baz=89,slow=34						
KURBB	Kurchatov Arra	99.49	36	LR	LR	19 54 13.5	
	comp=Z,36nm,18.5s,baz=310,slow=35						

YARS 09 19:05:06.8±0.0, 74.°07N×133.°76E, h10km
IDC 09 19:05:06.2±0.8, 74.°72N×135.°25E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.6/41, mbtmp3.6/11, ML4.7/1, Error ellipse: s-maj=31.0km s-min=12.6km az=136.0
NEIC 09 19:05:07.5±1.1, 74.°8N±0.°1×134.°5E±0.°7, h15km±2km, mb4.0/14, Error ellipse: s-maj=33.0km s-min=10.8km az=125.0
ISC 09 19:05:05.0±0.8, 74.°29N±0.°06×134.°02E±0.°08, h10km, n32, σ1s81/30, mb3.9/18, Laptev Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	3.05	212	Pn	Pg	19 06 02.0	-1.5
	2.7nm,0.3s,baz=22,slow=11,SNR=33						
TIXI				Pg	Pg	19 06 10.7	+7.3
	3.1nm,0.3s,baz=34,slow=11,SNR=14						
TIXI				Sn	Sg	19 06 43.6	+0.6
	8.4nm,0.3s,baz=99,slow=18,SNR=13						
TIXI				Lg	Lg	19 06 59.4	
	6.7nm,0.3s,baz=90,slow=23,SNR=4.5						
TIXI	Tiksi	3.05	212		Pg	19 06 02.3	-1.2
TIXI				Sn	Sg	19 06 44.8	+1.8
TIXI	Tiksi	3.05	212	*e*Pg	Pg	19 06 02.3	-1.2
	30nm,0.3s						
TIXI				*e*Sg	Sg	19 06 42.2	-0.8
	84nm,0.2s						
DEPR	Deputatskiy	5.25	157	*e*Sg	Sg	19 07 56.9	+3.6
	605nm,0.3s						
BTGS	Batagay	6.67	178	*i* P	Pn	19 06 41.5	-1.4
	2.9nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BTGS				*e*S	**Sn**	**19 07 56.2**	**-2.6**
	3.1nm,0.3s						
ANM	**Nome**	**22.25**	**84**	P	**P**	**19 10 02.3**	**+0.8**
TOLK	**Toolik Lake Re**	**23.26**	**64**	P	**P**	**19 10 09.9**	**-2.2**
TOLK				IAmb	IAmb	19 10 13.8	
	comp=Z,6.7nm,1.4s						
IMAR	**Indian Mountai**	**24.23**	**72**	P	**P**	**19 10 19.7**	**-1.7**
H21K	**Melozitna Rive**	**24.73**	**72**	P	**P**	**19 10 25.0**	**-1.0**
KLR	**Kul'dur**	**25.16**	**184**	P	P	19 10 38.6	+8.6
	comp=Z,0.6nm,0.5s,baz=350,slow=12,SNR=2.8						
H23K	**Yukon River**	**25.43**	**69**	P	**P**	**19 10 31.3**	**-1.0**
H23K				IAmb	IAmb	19 10 34.4	
	comp=Z,4.9nm,1.2s						
MLY	**Manley**	**25.76**	**71**	P	**P**	**19 10 33.9**	**-1.5**
MLY				IAmb	IAmb	19 10 50.7	
	comp=Z,3.4nm,1.3s						
H24K	**Noodor Dome**	**25.84**	**68**	P	**P**	**19 10 35.2**	**-0.9**
H24K				IAmb	IAmb	19 10 41.3	
	comp=Z,5.3nm,1.4s						
A36M	**Sachs Harbour**	**26.02**	**44**	P	**P**	**19 10 35.0**	**-2.6**
A36M				IAmb	IAmb	19 10 38.3	
	comp=Z,4.7nm,0.9s						
TTA	**Tatalina**	**26.07**	**78**	P	**P**	**19 10 38.7**	**+0.5**
TTA				IAmb	IAmb	19 10 45.9	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**26.95**	**68**	P	**P**	**19 10 45.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=324,slow=9.1,SNR=17						
ZALV	**Zalesovo Beam**	**28.20**	**251**	P	P	19 11 04.7	+7.4
	comp=Z,0.6nm,0.6s,baz=44,slow=8.5,SNR=2.7						
C36M	**Paulatuk**	**28.40**	**47**	P	P	19 10 56.2	-2.7
C36M				IAmb	IAmb	19 11 13.4	
	comp=Z,2.8nm,1.1s						
BCAR	**Beaver Creek A**	**29.64**	**66**	P	**P**	**19 11 09.2**	**-0.9**
KAIM	**Kayak Island**	**31.64**	**72**	P	**P**	**19 11 27.3**	**-0.3**
MKAR	**Makanchi Array**	**35.41**	**249**	P	P	19 12 07.7	+7.0
	comp=Z,0.2nm,0.6s,baz=17,slow=8.2,SNR=1.9						
YKA	**Yellowknife Ar**	**36.29**	**47**	P	P	19 12 05.2	-2.8
	comp=Z,0.7nm,0.6s,baz=338,slow=9.6,SNR=11						
AKASG	**Malin Array Be**	**45.71**	**301**	P	**P**	**19 13 28.9**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=7.9,SNR=1.6						
PDAR	**Pinedale Array**	**55.83**	**53**	P	**P**	**19 14 40.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=345,slow=3.1,SNR=7.8						
NVAR	**Mina Array Bea**	**57.95**	**62**	P	**P**	**19 14 57.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=336,slow=4.2,SNR=4.2						
SDCO	**Great Sand Dun**	**61.51**	**51**	P	**P**	**19 15 21.0**	**-0.9**
SDCO				IAmb	IAmb	19 15 21.6	
	comp=Z,1.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**70.02**	**52**	P	**P**	**19 16 15.7**	**-0.9**
TX32	**Lajitas Array**	**70.02**	**52**	P	**P**	**19 16 15.6**	**-1.0**
TXAR	**Lajitas Array**	**70.02**	**52**	P	**P**	**19 16 15.3**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=4.0,SNR=8.8						
TXAR	**Lajitas Array**	**70.02**	**52**	P	**P**	**19 16 15.0**	**-1.6**
WRA	**Warramunga Arr**	**94.00**	**180**	P	**P**	**19 18 26.7**	**+4.0**
	comp=Z,0.6nm,0.7s,baz=360,slow=5.5,SNR=7.7						
WRA	**Warramunga Arr**	**94.00**	**180**	IAmb	IAmb	19 18 29.6	
	comp=Z,0.1nm,0.8s						

*KRNET **09** 19:11:32.0±0.1, 41°.77N×72°.78E, h21km, mb2.1*
*SOME **09** 19:11:32.9, 41°.73N×72°.82E, h15km*
*NNC **09** 19:11:34.1±0.8, 41°.77N×72°.91E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=7.3km s-min=2.8km az=176.0*
ISC 09 19:11:32.6±1.2**, 41°.69N**±0°.02×**72°.80E**±0°.02**, h3**km±11km**, n44, σ1s31**/74**, 22C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.63**	**280**	⇑*i*P	**Pg**	**19 11 43.9**	**-0.8**
	baz=73						
ARK				⇑*i*S	**Sg**	**19 11 52.3**	**-0.6**
	baz=73						
MRKS	**Merke**	**1.11**	**17**	*e*P	**Pg**	**19 11 54.1**	**+0.4**
	1.3nm,0.1s						
MRKS				*e*S	**Sg**	**19 12 08.7**	**+0.6**
	5.6nm,0.1s						
MRKS	**Merke**	**1.11**	**17**	P	**Pg**	**19 11 53.8**	**0.0**
	1.3nm,0.1s						
MRKS				S	**Sg**	**19 12 08.3**	**+0.2**
	6.5nm,0.2s						
SALK	**Salom-Alik**	**1.11**	**136**	⇑*e*P	**Pg**	**19 11 53.8**	**-0.1**
	baz=38						
SALK				⇑*e*S	**Sn**	**19 12 10.4**	**-0.8**
	baz=38						
ARLS	**Aral**	**1.16**	**81**	⇓*i*P	**Pb**	**19 11 53.3**	**-2.0**
	baz=85						
ARLS				⇓*i*S	**Sg**	**19 12 08.9**	**-0.8**
	baz=85						
OHH	**Osh**	**1.16**	**180**	⇓*i*P	**Pb**	**19 11 55.1**	**-0.2**
	baz=80						
OHH				⇓*i*S	**Sg**	**19 12 11.3**	**+1.5**
	baz=80						
EKS2	**Erkin-Say**	**1.22**	**36**	⇑*i*P	**Pb**	**19 11 53.6**	**-2.7**
	baz=39						
EKS2				⇑*i*S	**Sb**	**19 12 09.3**	**-3.2**
	baz=39						
TRKS	**Terek-Say**	**1.25**	**263**	⇑*i*P	**Pn**	**19 11 55.2**	**-1.9**
	baz=56						
TRKS				⇑*i*S	**Sb**	**19 12 11.7**	**-1.8**
	baz=56						
UCH	**Uchtor**	**1.39**	**67**	⇑*i*P	**Pn**	**19 11 57.5**	**-1.8**
	baz=70						
UCH				⇑*i*S	**Sb**	**19 12 15.7**	**-2.1**
	baz=70						
AAK	**Ala-Archa**	**1.58**	**52**	⇑*i*P	**Pn**	**19 12 00.3**	**-1.3**
	baz=55						
AAK				⇑*i*S	**Sn**	**19 12 20.9**	**-1.8**
	baz=55						
AAK	**Ala-Archa**	**1.58**	**52**	⇓P	**Pn**	**19 12 01.6**	**-0.1**
	0.5nm,0.3s						
AAK				⇓S	**Sn**	**19 12 21.1**	**-1.6**
	2.2nm,0.5s						
KBK	**Karagaybulak**	**1.87**	**58**	⇓*i*P	**Pn**	**19 12 05.5**	**-0.1**
	baz=60						
KBK				⇓*i*S	**Sn**	**19 12 29.8**	**-0.1**
	baz=60						
CHMS	**Chumysh**	**1.96**	**47**	⇑*e*P	**Pn**	**19 12 06.3**	**-0.4**
	baz=49						
CHMS				⇑*i*S	**Sn**	**19 12 31.3**	**-0.4**
	baz=49						
USP	**Ospenovka**	**2.02**	**38**	⇑*i*P	**Pn**	**19 12 07.3**	**-0.3**
	baz=40						
USP				⇑*i*S	**Sn**	**19 12 32.8**	**-0.6**
	baz=40						
KK02	**Karatay Array**	**2.21**	**311**	⇓Pn	**Pn**	**19 12 11.3**	**+1.2**
	0.7nm,0.3s,baz=127,slow=15						
KK02				Sn	**Sb**	**19 12 41.7**	**+0.9**
	baz=126,slow=28						
BTK	**Batken**	**2.21**	**223**	⇓*i*P	**Pn**	**19 12 11.2**	**+1.0**
	baz=22						
BTK				⇓*i*S	**Sb**	**19 12 40.1**	**-0.9**
	baz=22						
KK03	**Karatay Array**	**2.21**	**311**	⇑Sn	**Sb**	**19 12 41.8**	**+0.8**
	2.6nm,0.3s						
SGDS	**Sogindy**	**2.23**	**37**	*e*P	**Pn**	**19 12 12.2**	**+1.8**
	2.9nm,0.2s						
SGDS				*e*S	**Sb**	**19 12 40.3**	**-1.1**
	11nm,0.4s						
SGDS	**Sogindy**	**2.23**	**37**	Pg	**Pn**	**19 12 12.2**	**+1.8**
	2.9nm,0.2s						
SGDS				Lg	Lg	19 12 40.0	
	11nm,0.4s						
DRK	**Karamyk**	**2.33**	**199**	⇓*i*P	**Pn**	**19 12 13.2**	**+1.1**
	baz=98						
DRK				⇓*i*S	**Sb**	**19 12 43.8**	**-0.9**
	baz=98						
TKM2	**Tokmak 2**	**2.42**	**58**	⇑*e*P	**Pn**	**19 12 13.2**	**0.0**
	baz=60						
TKM2				⇑*i*S	**Sn**	**19 12 43.1**	**-0.3**
	baz=60						
TKM2	**Tokmak 2**	**2.42**	**58**	⇓Pn	**Pn**	**19 12 14.7**	**+1.5**
	2.4nm,0.7s						
TKM2				⇑Sn	**Sn**	**19 12 45.1**	**+1.7**
	12nm,0.8s						
BOOM	**Boomskoye usch**	**2.48**	**70**	⇑*e*P	**Pn**	**19 12 14.1**	**+0.2**
	baz=72						
BOOM				⇑*i*S	**Sn**	**19 12 44.9**	**+0.2**
	baz=72						
BRLS	**Borolday**	**2.57**	**302**	*e*P	**Pb**	**19 12 20.8**	**+1.5**
	1.4nm,0.1s						
BRLS				*e*S	**Sg**	**19 12 54.7**	**-0.5**
	7.1nm,0.3s						
BRLS	**Borolday**	**2.57**	**302**	Pg	**Pb**	**19 12 20.8**	**+1.5**
	1.4nm,0.1s						
BRLS				Lg	Lg	19 12 54.4	
	7.1nm,0.3s						
DGS	**Degeres**	**2.70**	**54**	*e*P	**Pb**	**19 12 20.7**	**-0.9**
	1.1nm,0.3s						
DGS				*e*S	**Sb**	**19 12 54.7**	**-0.4**
	5.3nm,0.6s						
DGS	**Degeres**	**2.70**	**54**	Pg	**Pb**	**19 12 20.6**	**-0.9**
	1.1nm,0.3s						
DGS				Lg	Lg	19 12 54.2	
	5.3nm,0.6s						
KRBS	**Karabastau**	**2.92**	**46**	*e*P	**Pb**	**19 12 23.8**	**-1.5**
	0.3nm,0.1s						
KRBS				*e*S	**Sb**	**19 13 00.0**	**-1.5**
	5.7nm,0.3s						
KRBS	**Karabastau**	**2.92**	**46**	Pg	**Pb**	**19 12 24.0**	**-1.3**
	0.3nm,0.1s						
KRBS				Lg	Lg	19 12 59.7	
	2.3nm,0.3s						
MTBS	**Maitube**	**3.05**	**61**	*e*P	**Pb**	**19 12 28.1**	**+0.6**
	1.1nm,0.3s						
MTBS				*e*S	**Sb**	**19 13 07.1**	**+1.9**
	6.1nm,0.3s						
MTBS	**Maitube**	**3.05**	**61**	Pg	**Pb**	**19 12 28.4**	**+0.8**
	1.1nm,0.3s						
MTBS				Lg	Lg	19 13 07.1	
	6.1nm,0.3s						
TNSS	**Tian-Shan**	**3.36**	**65**	*e*P	**Pb**	**19 12 33.5**	**+0.5**
	0.7nm,0.2s						
TNSS				*e*S	**Sb**	**19 13 16.4**	**+2.0**
	1.5nm,0.7s						
TNSS	**Tian-Shan**	**3.36**	**65**	Pg	**Pb**	**19 12 33.0**	**0.0**
	0.7nm,0.2s						
TNSS				Lg	Lg	19 13 15.5	
	1.5nm,0.7s						
KUU	**Kurty**	**3.42**	**49**	*e*P	**Pb**	**19 12 33.8**	**+0.1**
	0.9nm,0.6s						
KUU				*e*S	**Sb**	**19 13 17.3**	**+1.6**
	3.3nm,0.5s						
KUU	**Kurty**	**3.42**	**49**	Pg	**Pb**	**19 12 34.0**	**+0.3**
	0.9nm,0.6s						
KUU				Lg	Lg	19 13 16.8	
	3.3nm,0.5s						
MDOK	**Medeo**	**3.48**	**63**	*e*P	**Pb**	**19 12 35.3**	**+0.5**
	0.9nm,0.4s						
MDOK				*e*S	**Sb**	**19 13 19.4**	**+1.8**
	2.9nm,0.6s						
MDOK	**Medeo**	**3.48**	**63**	⇓Lg	Lg	19 13 20.5	
	3.1nm,0.6s						
MDOK	**Medeo**	**3.48**	**63**	Pg	**Pb**	**19 12 35.6**	**+0.7**
	0.9nm,0.4s						
MDOK				Lg	Lg	19 13 19.5	
	2.9nm,0.6s						
KTBS	**Karatobe**	**3.51**	**53**	*e*P	**Pb**	**19 12 35.6**	**+0.3**
	0.3nm,0.3s						
KTBS				*e*S	**Sb**	**19 13 20.0**	**+1.7**
	4.4nm,0.2s						
KTBS	**Karatobe**	**3.51**	**53**	Pg	**Pb**	**19 12 35.1**	**-0.2**
	0.3nm,0.3s						
KTBS				Lg	Lg	19 13 18.8	
	4.4nm,0.2s						
KOTS	**Kotyrbulak**	**3.55**	**63**	*e*P	**Pb**	**19 12 37.4**	**+1.3**
	0.7nm,0.3s						
KOTS				*e*S	**Sb**	**19 13 22.9**	**+3.3**
	6.9nm,0.4s						
KOTS	**Kotyrbulak**	**3.55**	**63**	Pg	**Pb**	**19 12 37.3**	**+1.3**
	0.7nm,0.3s						
KOTS				Lg	Lg	19 13 22.6	
	6.9nm,0.4s						
CHKK	**Chushkaly**	**3.77**	**54**	*e*P	**Pb**	**19 12 40.4**	**+0.6**
	0.6nm,0.1s						
CHKK				*e*S	**Sb**	**19 13 28.2**	**+2.3**
	3.6nm,0.4s						
CHKK	**Chushkaly**	**3.77**	**54**	Pg	**Pb**	**19 12 40.7**	**+0.9**
	0.6nm,0.1s						
CHKK				Lg	Lg	19 13 28.5	
	3.6nm,0.4s						

IDC 09 19:26:40.3±2.5**, 25°.30N**×**96°.72E, h0**km**, mb3.4**/2**, mb1 3.4**/2**, mb1mx3.1**/36**, mbtmp3.4**/2**, Error ellipse: s-maj=129.4km s-min=36.6km az=72.0, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**163**	Pg	Pb	19 28 50.0	+5.2
	0.1nm,0.3s,baz=339,slow=17,SNR=5.7						
CMAR				Lg	Lg	19 30 22.5	
	0.1nm,0.3s,baz=331,slow=31,SNR=2.4						
MKAR	**Makanchi Array**	**24.34**	**335**	P	P	19 31 59.7	-0.1
	0.4nm,0.6s,baz=142,slow=9.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**29.96**	**346**	P	P	19 32 50.2	+0.1
	0.4nm,0.5s,baz=148,slow=8.5,SNR=1.9						

*MDD **09** 20:05:18.1±0.4, 35°.40N×3°.78W, h0km, mb_Lg3.1/13, Error ellipse: s-maj=3.4km s-min=2.5km az=169.0*
*CNRM **09** 20:05:18.1, 35°.48N×3°.73W, h25km, ml3.7*
*SFS **09** 20:05:18.0, 35°.40N×3°.80W, ML3.0, ALBORAN SUR*
*IDC **09** 20:05:19.3±1.3, 35°.26N×3°.80W, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=48.7km s-min=24.2km az=93.0*
*LDG **09** 20:05:20.3±0.4, 35°.45N×3°.69W, h10km, Ml3.2/4, Error ellipse: s-maj=9.2km s-min=4.3km az=2.0*
ISC 09 20:05:19.1±1.0**, 35°.40N**±0°.02×**3°.73W**±0°.02**, h15**km±7km**, n68, σ2s38**/99**, mb3.8**/3**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.25**	**222**	P	**Pg**	**20 05 24.2**	**-0.4**
PALE				S	**Sb**	**20 05 28.8**	**-0.7**
GOG	**Mont Gurugu**	**0.63**	**107**	P	**Pg**	**20 05 31.0**	**-0.5**
GOG				S	**Sb**	**20 05 42.0**	**+1.5**
GOG	**Mont Gurugu**	**0.63**	**107**	P	**Pg**	**20 05 31.0**	**-0.5**
GOG				S	**Sb**	**20 05 42.0**	**+1.5**
EMEL	**Melilla**	**0.64**	**99**	Pg	**Pg**	**20 05 31.3**	**-0.4**
EMEL				Sg	**Sb**	**20 05 40.6**	**-0.2**
EALB	**Alboran**	**0.78**	**47**	Pg	**Pg**	**20 05 32.8**	**-1.5**
EALB				Sg	**Sg**	**20 05 43.2**	**-1.4**
AKLM	**AKL**	**0.90**	**187**	P	**Pb**	**20 05 36.3**	**-0.1**
AKLM				S	**Sg**	**20 05 48.1**	**-0.2**
TAF	**Taforalt**	**1.23**	**118**	P	**Pn**	**20 05 40.3**	**-1.5**
TAF	**Taforalt**	**1.23**	**118**	P	**Pn**	**20 05 40.0**	**-1.8**
TAF				S	**Sb**	**20 05 56.1**	**-1.8**
CHEFC	**Chefchaouen**	**1.35**	**258**	P	**Pn**	**20 05 43.0**	**-0.5**
CHEFC	**Chefchaouen**	**1.35**	**258**	P	**Pn**	**20 05 43.0**	**-0.5**
CHEFC				S	**Sb**	**20 05 58.2**	**-2.9**
SMIR	**Smir Dam**	**1.37**	**282**	P	**Pn**	**20 05 44.0**	**+0.4**
SMIR	**Smir Dam**	**1.37**	**282**	P	**Pn**	**20 05 40.0**	**-3.7**
SMIR				S	**Sb**	**20 06 00.9**	**-0.8**
CEU	**Ceuta**	**1.42**	**291**	P	**Pn**	**20 05 40.6**	**-3.7**
CEU				S	Sn	20 05 54.1	-8.7
EMIJ	**Mijas**	**1.43**	**324**	Pn	**Pn**	**20 05 42.1**	**-2.4**
EMIJ				Sn	**Sn**	**20 06 00.9**	**-2.3**
EMIJ				*i* Vmb_Lg		20 06 12.0	
JBK	**JBK**	**1.44**	**138**	P	**Pn**	**20 05 43.1**	**-1.6**
JBK	**JBK**	**1.44**	**138**	P	**Pn**	**20 05 43.1**	**-1.6**
JBK				S	**Sn**	**20 05 60.0**	**-3.4**
ELGU	**Los Guajares,**	**1.46**	**3**	Pn	**Pn**	**20 05 42.2**	**-2.8**
ELGU				Sn	**Sn**	**20 06 01.0**	**-3.0**
ELGU				*i* Vmb_Lg		20 06 10.1	
EMAL	**Malaga-Limoner**	**1.47**	**338**	P	**Pn**	**20 05 44.8**	**-0.2**
EMAL				S	**Sn**	**20 06 00.5**	**-3.5**
EGOR	**Sierra Gorda,**	**1.73**	**350**	Pn	**Pn**	**20 05 48.6**	**-0.2**
EGOR				Sn	**Sn**	**20 06 10.4**	**-0.2**
EGOR				*i* Vmb_Lg		20 06 28.9	
EJIF	**Jimena Fronter**	**1.75**	**307**	Pn	**Pn**	**20 05 49.6**	**+0.7**
EJIF				Sn	**Sb**	**20 06 12.8**	**0.0**
RSA	**Sarsar**	**1.79**	**254**	P	**Pn**	**20 05 49.5**	**+0.1**
EQUE	**Quentar**	**1.81**	**7**	Pn	**Pn**	**20 05 50.0**	**+0.1**
EQUE				*i* Vmb_Lg		20 06 23.9	
SICH	**Sidi Chahed**	**1.84**	**226**	S	Sn	20 05 59.0	-14
SICH	**Sidi Chahed**	**1.84**	**226**	P	**Pn**	**20 05 49.7**	**-0.4**
LCRM	**LCR**	**1.95**	**209**	P	**Pn**	**20 05 52.0**	**+0.2**
LCRM				S	**Sg**	**20 06 23.2**	**+1.3**
ENIJ	**Nijar**	**1.99**	**38**	Pn	**Pn**	**20 05 49.6**	**-2.7**
LIJA	**Lijar**	**2.02**	**318**	P	**Pb**	**20 05 55.8**	**+0.2**
IFR	**Ifrane**	**2.21**	**212**	P	**Pn**	**20 05 54.4**	**-0.9**
IFR				S	**Sn**	**20 06 19.6**	**-2.8**
ESPR	**Espera**	**2.25**	**311**	Pn	**Pn**	**20 05 56.0**	**+0.2**
ESPR				Sn	**Sn**	**20 06 23.7**	**+0.3**
ESPR				*i* Vmb_Lg		20 06 42.4	
CZD	**Col de Zad**	**2.60**	**205**	P	**Pn**	**20 06 01.0**	**+0.1**
CZD	**Col de Zad**	**2.60**	**205**	P	**Pn**	**20 06 01.0**	**+0.1**
MD31	**MD31**	**2.67**	**199**	P	**Pn**	**20 06 01.3**	**-0.3**
MDT	**Midelt**	**2.68**	**196**	Pn	**Pn**	**20 06 01.8**	**0.0**
	1.8nm,0.3s,baz=319,slow=20,SNR=49						
MDT				Pg	**Pg**	**20 06 10.0**	**-0.5**
	8.9nm,0.3s,baz=328,slow=19,SNR=25						
MDT				Sn	**Sn**	**20 06 28.8**	**-5.3**
	6.5nm,0.3s,baz=287,slow=10,SNR=8.3						
MDT				Lg	Lg	20 06 40.7	
	7.6nm,0.3s,baz=90,slow=20,SNR=5.7						
MDT	**Midelt**	**2.68**	**196**	P	**Pn**	**20 06 01.6**	**-0.2**
MDT	**Midelt**	**2.68**	**196**	P	**Pn**	**20 06 01.6**	**-0.2**
TDRA	**Tendrara**	**2.75**	**149**	P	**Pn**	**20 06 03.0**	**+0.2**
EADA	**Adamuz**	**2.84**	**346**	Pn	**Pn**	**20 06 03.2**	**-0.7**
EADA				Sn	**Sn**	**20 06 39.0**	**+1.2**
EADA				*i* Vmb_Lg		20 06 51.3	
EZAR	**Zarzadilla de**	**2.96**	**33**	Pn	**Pn**	**20 06 06.8**	**+1.1**
ECAB	**El Cabril**	**2.99**	**334**	Pn	**Pn**	**20 06 06.0**	**0.0**
ECAB				Sn	**Sn**	**20 06 42.5**	**+0.9**
ECAB				*i* Vmb_Lg		20 07 05.4	
CART	**Cartagena**	**3.10**	**45**	P	**Pn**	**20 06 03.1**	**-4.3**
ZHG	**ZHG**	**3.10**	**232**	P	**Pn**	**20 06 06.3**	**-1.2**
EMIN	**Mina Concepcio**	**3.34**	**316**	Pn	**Pn**	**20 06 09.7**	**-1.0**
EMIN				Sn	**Sn**	**20 06 46.2**	**-3.9**
ETOB	**Tobarra**	**3.68**	**28**	Pn	**Pn**	**20 06 15.8**	**+0.3**
ETOB				Sn	**Sn**	**20 06 59.1**	**+0.5**
ETOB				*i* Vmb_Lg		20 07 31.6	
EGRO	**El Granado**	**3.69**	**306**	Pn	**Pn**	**20 06 13.6**	**-2.0**
EGRO				Sn	**Sn**	**20 06 54.8**	**-4.1**
EGRO				*i* Vmb_Lg		20 07 04.0	
PVAQ	**Vaqueiros**	**3.78**	**303**	P	**Pn**	**20 06 15.5**	**-1.3**
PVAQ	**Vaqueiros**	**3.78**	**303**	P	**Pn**	**20 06 15.5**	**-1.3**
PVAQ				S	**Sn**	**20 06 56.8**	**-4.3**
FIGM	**Figuig**	**3.86**	**147**	P	**Pn**	**20 06 19.3**	**+1.3**
PAB	**San Pablo**	**4.16**	**353**	Pn	**Pn**	**20 06 22.1**	**0.0**
PAB				Sn	**Sn**	**20 07 11.5**	**+0.9**
PAB				*i* Vmb_Lg		20 08 09.7	
EBAD	**Badajoz**	**4.25**	**323**	Pn	**Pn**	**20 06 22.8**	**-0.4**
EBAD				Sn	**Sn**	**20 07 09.0**	**-3.5**
EBAD				*i* Vmb_Lg		20 07 19.6	
ESDC	**Sonseca Array**	**4.27**	**358**	Pn	**Pn**	**20 06 22.8**	**-0.8**
	1.1nm,0.3s,baz=179,slow=12,SNR=30						
ESDC				Lg	Lg	20 07 30.4	
	0.5nm,0.3s,baz=181,slow=28,SNR=4.7						
PESTR	**Estremoz**	**4.63**	**319**	P	**Pn**	**20 06 28.2**	**-0.3**
TZRR	**Tazzarine**	**4.86**	**199**	P	**Pn**	**20 06 32.2**	**+0.5**
UCM	**Universidad Co**	**4.91**	**4**	P	**Pn**	**20 06 35.5**	**+3.1**
UCM				S	**Sn**	**20 07 25.1**	**-3.9**
OUZM	**OUZ**	**5.15**	**210**	P	**Pn**	**20 06 35.9**	**+0.1**
OUK	**Oukaimeden**	**5.43**	**221**	P	**Pn**	**20 06 39.0**	**-0.8**
TTIG	**Tnine Tigouga,**	**6.25**	**221**	P	**Pn**	**20 06 48.6**	**-2.3**
ETSF	**Etsaut**	**7.88**	**17**	*e*Pn	**Pn**	**20 07 11.9**	**-1.3**
ETSF	**Etsaut**	**7.88**	**17**	*e*P	**Pn**	**20 07 16.8**	**+3.6**
ETSF				*e*Sn	**Sn**	**20 08 35.3**	**-6.8**
	4.6nm,0.5s						
SJPF	**Ste Jean**	**7.94**	**13**	*e*Pn	**Pn**	**20 07 13.4**	**-0.5**
SJPF	**Ste Jean**	**7.94**	**13**	*e*P	**Pn**	**20 07 17.0**	**+3.1**
EPF	**Esparros**	**8.24**	**21**	*e*Pn	**Pn**	**20 07 17.5**	**-0.7**
EPF	**Esparros**	**8.24**	**21**	*e*P	**Pn**	**20 07 22.2**	**+4.0**
EPF				*e*Sn	**Sn**	**20 08 44.9**	**-6.1**
	0.3nm,0.2s						
MTLF	**Montolieu**	**9.16**	**28**	*e*P	**Pn**	**20 07 34.1**	**+3.4**
LMR	**La Mourre**	**11.20**	**42**	*e*P	**Pn**	**20 08 03.2**	**+4.7**
PGF	**Pioggiola**	**12.20**	**50**	*e*Pn	**Pn**	**20 08 11.2**	**-1.2**
PGF				*e*Sn	**Sn**	**20 10 20.2**	**-8.0**
	0.5nm,0.2s						
TORD	**Torodi Ar. Bea**	**22.70**	**166**	P	**P**	**20 10 21.2**	**+1.0**
	1.6nm,0.9s,baz=344,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**62.74**	**50**	P	**P**	**20 15 47.2**	**+3.6**
	0.5nm,0.7s,baz=283,slow=5.6,SNR=5.9						
YKA	**Yellowknife Ar**	**67.93**	**332**	P	**P**	**20 16 20.1**	**+3.3**
	0.6nm,0.8s,baz=57,slow=6.2,SNR=6.4						

*IDC **09** 20:27:22.0±3.8, 13°.54S×166°.67E, h70km±32km, mb3.5/6, mb1 3.8/8, mb1mx3.6/35, mbtmp4.0/8, ML4.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/32, Error ellipse: s-maj=34.8km s-min=29.1km az=120.0*
ISC 09 20:27:19.9±1.0**, 13°.47S**±0°.09×**166°.7E**±0°.1**, h50**km**, n10, σ1s16**/12**, mb3.7**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.76**	**300**	P	**Pn**	**20 29 12.9**	**+2.6**
	18nm,0.3s,baz=194,slow=12,SNR=2.4						
HNR				S	**Sn**	**20 30 35.2**	**-1.7**
	5.4nm,0.3s,baz=176,slow=19,SNR=1.1						
DZM	**Mont Dzumac**	**8.56**	**182**	P	**Pn**	**20 29 22.0**	**+0.6**
	0.3nm,0.3s,baz=342,slow=20,SNR=1.7						
DZM				S	**Sn**	**20 30 56.4**	**-0.2**
	baz=303,slow=21,SNR=1.8						
DZM				LR	LR	20 31 52.0	
	comp=Z,92nm,18.7s,baz=266,slow=32						
STKA	**Stephens Creek**	**29.43**	**227**	LR	LR	20 43 52.4	
	comp=Z,47nm,18.7s,baz=269,slow=34						
WRA	**Warramunga Arr**	**31.64**	**254**	P	**P**	**20 33 38.2**	**-0.4**
	0.7nm,0.3s,baz=88,slow=9.3,SNR=46						
ASAR	**Alice Springs**	**32.65**	**247**	P	**P**	**20 33 46.8**	**-0.7**
	0.7nm,0.6s,baz=74,slow=9.3,SNR=22						
ASAR				PcP	**PcP**	**20 36 32.1**	**-0.5**
	0.3nm,0.7s,baz=80,slow=2.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**73.96**	**294**	P	**P**	**20 38 49.6**	**-1.0**
	0.7nm,0.8s,baz=124,slow=4.2,SNR=5.8						
SONM	**Songino Array**	**81.18**	**324**	P	**P**	**20 39 30.3**	**-0.1**
	0.2nm,0.4s,baz=108,slow=3.6,SNR=2.1						
ILAR	**Eielson Array**	**85.50**	**18**	P	**P**	**20 39 51.8**	**-0.3**
	0.4nm,0.6s,baz=232,slow=4.9,SNR=8.6						
MKAR	**Makanchi Array**	**95.93**	**317**	P	**P**	**20 40 41.5**	**0.0**
	0.3nm,0.6s,baz=88,slow=6.2,SNR=3.7						
ARCES	**ARCESS Array B**	**118.91**	**345**	PKP	**PKPdf**	**20 46 02.7**	**+0.4**
	1.4nm,0.9s,baz=51,slow=1.8,SNR=9.3						

IDC 09 20:37:02.9±11.0**, 9°.42S**×**154°.27E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/42**, mbtmp3.4**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.6**/21**, Error ellipse: s-maj=182.7km s-min=94.7km az=21.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**239**	P	P	20 41 58.0	0.0
	0.4nm,0.6s,baz=64,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**24.07**	**231**	P	P	20 42 20.3	0.0
	0.5nm,0.7s,baz=62,slow=9.5,SNR=7.8						
STKA	**Stephens Creek**	**25.25**	**206**	P	P	20 42 30.8	0.0
	1.5nm,0.8s,baz=45,slow=11,SNR=2.1						
URZ	**Urewera**	**35.30**	**148**	LR	LR	20 55 45.7	
	comp=Z,58nm,19.6s,baz=212,slow=32						

*BJI **09** 20:40:54.3±0.0, 43°.43N×134°.40E, h405km, mb4.0/18, mB4.5/10*
*MOS **09** 20:40:56.8±1.1, 43°.58N×134°.24E, h426km, mb4.0/4, Error ellipse: s-maj=12.6km s-min=8.6km az=88.1*
*SKHL **09** 20:40:57.3±0.3, 43°.54N×134°.38E, h425km±10km, mb4.2/4, mbv4.1/1, msh4.3/1, msha4.4/1*
*JMA **09** 20:40:58.9±0.4, 43°.33N×134°.92E, h461km±5km, M3.8*
*IDC **09** 20:40:58.1±0.8, 43°.55N×134°.16E, h429km±10km, mb3.0/12, mb1 3.2/19, mb1mx3.0/60, mbtmp3.9/19, Error ellipse: s-maj=12.6km s-min=9.6km az=85.0*
ISC 09 20:40:55.7±0.4**, 43°.46N**±0°.05×**134°.29E**±0°.05**, h400**km**, n74, σ2s32**/88**, mb3.7**/21**, 13C-1D, Primorye**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**1.57**	**280**	⇑*i*P	Pn	20 41 54.4	+5.2
GRTR				*e*S	**S**	**20 42 39.5**	**+7.1**
USRK	**Ussuriysk Ar.**	**1.82**	**295**	P	Pn	20 41 55.5	+5.0
	baz=107,slow=5.4,SNR=41						
TEY	**Ternei**	**2.29**	**46**	⇓*i*P	Pn	20 41 58.2	+4.8
TEY				AMB	AMB	20 41 58.4	
	26nm,0.6s						
TEY				AMB	AMB	20 41 58.6	
	22nm,0.6s						
TEY				*i* S	**S**	**20 42 45.8**	**+5.6**
TEY				A	A	20 42 46.7	
	170nm,2.0s						
TEY				A	A	20 42 46.7	
	260nm,2.0s						
TEY				A	A	20 42 46.8	
	60nm,1.2s						
TEY				A	A	20 42 46.8	
	82nm,1.2s						
JOSM	**Okushiri--Mats**	**4.06**	**108**	P	**Pn**	**20 42 11.3**	**+2.9**
JHST	**Hiyamasetana**	**4.24**	**102**	P	**Pn**	**20 42 13.4**	**+3.4**
JSH	**Shimam**	**4.30**	**99**	P	**Pn**	**20 42 13.6**	**+3.0**
JSK	**Shakotan**	**4.51**	**89**	P	**Pn**	**20 42 15.9**	**+3.2**
KHBR	**Khabarovsk**	**5.04**	**6**	*e*P	**Pn**	**20 42 22.0**	**+4.1**
JIW	**Iwasaki**	**5.14**	**122**	P	**Pn**	**20 42 22.1**	**+2.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKB	Kayabe	5.22	105	P	Pn	20 42 22.1	+2.2
JOT	Ohata	5.42	110	P	Pn	20 42 24.0	+1.9
KLR	Kul'dur	6.03	344	P	Pn	20 42 30.6	+2.1
	2.5nm,0.3s,baz=145,slow=9.9,SNR=79						
KLR				S	S	20 43 46.4	+2.2
	baz=291,slow=20,SNR=1.8						
KLR	Kul'dur	6.03	344	ceP	Pn	20 42 30.5	+2.1
KLR				pmax	pmax		
	comp=Z,33nm,0.9s						
ASAJ	Asahikawa	6.05	81	P	Pn	20 42 31.6	+2.8
	comp=Z,8.8nm,0.3s,baz=258,slow=5.6,SNR=100						
ASAJ				S	S	20 43 47.1	+2.4
	baz=233,slow=20,SNR=0.9						
JRG	Rokugo	6.27	128	P	Pn	20 42 32.9	+1.6
JRG				eS	S	20 43 46.8	-2.4
CN2	Changchun	6.42	276	eP	Pn	20 42 32.8	-0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ERM	Erimo	6.69	99	ceP	Pn	20 42 37.6	+1.7
ERM				pmax	pmax		
	comp=Z,98nm,0.5s						
JCH	Churui	6.71	94	P	Pn	20 42 35.9	-0.1
JCH				S	S	20 43 53.4	-4.5
JMK	Ichinoseki	6.90	128	P	Pn	20 42 39.0	+0.7
JMK				eS	S	20 43 58.0	-4.1
YSS	Yuzh-Sakhalins	6.92	57	eP	P	20 42 40.9	+1.9
YSS				eS	S	20 44 03.3	+1.0
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=N,10.0nm,1.0s						
YSS	Yuzh-Sakhalins	6.92	57	P	P	20 42 40.9	+1.9
YSS				S	S	20 44 03.3	+1.0
JTKR	Abashiri--Toko	6.99	83	P	Pn	20 42 40.4	+1.2
GRNR	Gornyy	7.45	11	⇑iP	P	20 42 46.5	+1.7
GRNR				eS	S	20 44 13.4	+0.3
GRNR				pmax	pmax		
	comp=N,20nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
GRNR				smax	smax		
	comp=N,2.0nm,0.6s						
GRNR	Gornyy	7.45	11	⇑iP	P	20 42 46.3	+1.5
GRNR				AMB	AMB	20 42 47.0	
	comp=N,23nm,0.8s						
GRNR				eS	S	20 44 13.4	+0.3
MJAR	Matsushiro Arr	7.54	155	P	P	20 42 49.6	+3.5
	comp=N,0.2nm,0.3s,baz=342,slow=9.6,SNR=7.7						
KSRS	Korea Array	7.71	221	P	P	20 42 51.8	+3.8
	comp=N,1.7nm,0.3s,baz=40,slow=11,SNR=17						
JFK	Kawauchi	7.89	138	eS	S	20 44 18.1	-4.7
JWT	Wachi	8.22	174	P	Pn	20 42 55.0	+1.7
JRY	Ryogami san	8.24	153	P	Pn	20 42 55.2	+1.6
NEM2	Nemuro 2	8.34	87	P	Pn	20 42 54.7	+0.2
NEM2				eS	S	20 44 25.8	-6.1
JHS	Saijyo	8.50	187	P	P	20 43 00.5	+3.7
TJN	Taejon	8.85	219	ceP	P	20 43 03.8	+3.2
JOD2	Odawara 2	8.99	154	P	P	20 43 03.1	+0.9
JOD2				eS	S	20 44 41.0	-5.0
ZEA	Zeya	11.28	338	eP	Pn	20 43 28.9	+0.6
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA	Zeya	11.28	338	eP	Pn	20 43 29.2	+0.9
ZEA				AMB	AMB	20 43 29.4	
	comp=Z,6.0nm,0.8s						
PETK	Petropavlovsk-	18.25	50	P	P	20 44 44.9	+2.3
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=1.7						
MA2	Magadan	19.02	26	P	P	20 44 50.7	+0.1
	comp=Z,0.2nm,0.3s,baz=213,slow=7.9,SNR=10						
MA2	Magadan	19.02	26	ceP	P	20 44 49.3	-1.3
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	Ulaanbaatar	19.49	293	ceP	P	20 44 53.9	-1.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	Ulaanbaatar	19.49	293	P	P	20 44 53.9	-1.5
SONM	Songino Array	19.93	292	P	P	20 44 58.6	-0.8
	comp=Z,0.1nm,0.3s,baz=98,slow=8.8,SNR=8.2						
SEY	Seymchan	22.16	22	P	P	20 45 20.1	+0.7
	comp=Z,2.3nm,0.7s,baz=232,slow=9.3,SNR=12						
SEY	Seymchan	22.16	22	iP	P	20 45 19.8	+0.4
GTA	Gaotai	26.04	273	eP	P	20 45 55.1	+0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	Tiksi	28.39	356	P	P	20 46 13.4	-1.3
	comp=Z,0.7nm,0.3s,baz=304,slow=9.6,SNR=6.0						
GOMU	GeErMu	30.94	270	P	P	20 46 36.2	-1.8
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,130nm,6.4s						
ZALV	Zalesovo Beam	33.63	306	P	P	20 46 59.8	-0.7
	comp=Z,0.5nm,0.5s,baz=94,slow=11,SNR=3.0						
ZALV				PcP	PcP	20 49 28.9	-0.7
	comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=3.7						
ZALV				ScP	ScP	20 52 31.8	-3.5
	comp=Z,0.3nm,0.3s,baz=126,slow=2.5,SNR=2.6						
MKAR	Makanchi Array	36.28	294	P	P	20 47 22.2	-0.8
	comp=Z,0.8nm,0.6s,baz=86,slow=9.4,SNR=12						
MKAR	Makanchi Array	36.28	294	P	P	20 47 22.1	-0.9
KURK	Kurchatov	37.80	301	ceP	P	20 47 34.1	-1.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	Kurchatov	37.80	301	P	P	20 47 34.1	-1.3
CMAR	Chiang Mai Arr	38.79	241	P	P	20 47 44.5	+0.6
	comp=Z,0.3nm,0.6s,baz=26,slow=8.4,SNR=2.0						
TAPN	Taplejung	40.67	262	eP	P	20 47 58.9	-0.6
	comp=Z,3.5nm,0.4s						
JIRN	Jiri	41.59	264	eP	P	20 48 06.6	-0.4
GUN	Gumba	41.67	265	eP	P	20 48 06.8	-0.8
GKN	Gorkha	42.52	266	eP	P	20 48 13.2	-0.9
	comp=Z,8.5nm,0.5s						
DANN	Dangsing	42.96	267	eP	P	20 48 17.7	-0.1
	comp=Z,58nm,0.6s						
KOLN	Koldanda	43.41	266	eP	P	20 48 20.7	-0.5
PYUN	Piuthan	43.66	267	eP	P	20 48 22.8	-0.4
ILAR	Eielson Array	47.17	35	P	P	20 48 49.5	-0.1
	comp=Z,0.3nm,0.6s,baz=286,slow=6.9,SNR=2.1						
ARU	Arti	47.96	314	c iP	P	20 48 53.8	-1.8
ARU						20 50 15.1	
ARU						20 50 47.1	
ARU				S	S	20 55 18.6	-3.4
ARU				SS	SS	20 58 54.9	-1.3
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	Arti	47.96	314	P	P	20 48 54.7	-0.9
INK	Inuvik	51.25	28	P	P	20 49 20.0	+0.2
	comp=Z,0.2nm,0.4s,baz=338,slow=5.4,SNR=1.3						
PMG	Port Moresby	53.91	164	P	P	20 49 41.7	+2.0
	comp=Z,9.2nm,0.3s,baz=0.0,slow=5.1,SNR=8.0						
FINES	FINESS Array B	60.54	328	P	P	20 50 23.7	-1.2
	comp=Z,1.6nm,0.6s,baz=70,slow=6.7,SNR=8.4						
KIV	Kislovodsk	62.65	306	eP	P	20 50 38.8	-0.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	Kislovodsk	62.65	306	P	P	20 50 38.8	-0.5
KBZ	Khabaz	62.65	305	P	P	20 50 38.3	-0.8
	comp=Z,1.9nm,0.9s,baz=14,slow=7.6,SNR=6.9						
KBZ	Khabaz	62.65	305	ceP	P	20 50 38.4	-0.8
KBZ				pmax	pmax		
	comp=Z,7.0nm,2.3s						
WRA	Warramunga Arr	63.09	180	P	P	20 50 41.7	-0.6
	comp=Z,0.6nm,0.5s,baz=354,slow=7.2,SNR=22						
AKASG	Malin Array Be	65.88	318	P	P	20 50 58.5	-1.3
	comp=Z,0.4nm,0.5s,baz=45,slow=5.9,SNR=4.7						
AKASG	Malin Array Be	65.88	318	ceP	P	20 50 59.0	-0.7
ASAR	Alice Springs	66.80	180	P	P	20 51 05.8	0.0
	comp=Z,0.9nm,0.5s,baz=353,slow=6.4,SNR=28						
KMBO	Kilima Mbogo	95.88	274	ceP	P	20 53 39.2	+0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						

*LDG **09** 20:42:06.8±0.1, 45°.78N×7°.15E, h3km, Md1.7/2, Ml1.7/3, Error ellipse: s-maj=1.1km s-min=0.8km az=131.0*
*STR **09** 20:42:06.9±1.1, 46°N±10°×°±°, h15km±6km, MLv1.3/4, preliminary*
ZUR 09 20:42:07.0, 45°.79N×7°.14E, h7km±1km, MLh0.8/10, 8C-3D, Error ellipse: s-maj=2.0km s-min=1.0km az=147.0, Northern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
REMY	Saint-Rhmy-en	0.05	17	⇓Pg	Pg	20 42 09.0	+0.2
REMY				Sg	Sg	20 42 10.4	+0.3
MRGE	Morge	0.06	247	⇑Pg	Pg	20 42 08.9	+0.1
MRGE				Sg	Sg	20 42 10.2	+0.1
MRGE	Morge	0.06	247	⇑Pg	Pg	20 42 08.9	+0.1
MRGE				Sg	Sg	20 42 10.2	+0.1
LSD	Lago del Serru	0.33	180	⇑Pg	Pg	20 42 13.7	+0.2
LSD				Sg	Sg	20 42 18.0	+0.1
LSD	Lago del Serru	0.33	180	⇑Pg	Pg	20 42 13.7	+0.2
LSD				Sg	Sg	20 42 18.0	+0.1
DIX	Grande Dixence	0.34	33	Pg	Pg	20 42 13.7	-0.2
DIX				Sg	Sg	20 42 18.2	-0.2
DIX	Grande Dixence	0.34	33	Pg	Pg	20 42 13.7	-0.2
DIX				Sg	Sg	20 42 18.2	-0.2
DIX	Grande Dixence	0.34	33	Pg	Pg	20 42 13.7	-0.2
DIX				Sg	Sg	20 42 18.3	-0.1
CIRO	Champorcher	0.36	122	⇑Pg	Pg	20 42 14.0	0.0
CIRO				Sg	Sg	20 42 18.7	-0.1
CIRO	Champorcher	0.36	122	⇑Pg	Pg	20 42 14.0	0.0
CIRO				Sg	Sg	20 42 18.7	-0.1
SALAN	Lac Salanfe	0.37	342	Pg	Pg	20 42 14.2	0.0
SALAN	Lac Salanfe	0.37	342	Pg	Pg	20 42 14.2	0.0
RSL	Roselend	0.37	254	⇑Pg	Pg	20 42 14.3	0.0
RSL				Sg	Sg	20 42 19.1	-0.1
RSL	Roselend	0.37	254	⇑Pg	Pg	20 42 14.3	0.0
RSL				Sg	Sg	20 42 19.1	-0.1
LPL	La Plagne	0.40	226	ePg	Pg	20 42 14.8	+0.1
LPL	La Plagne	0.40	226	eP	Pg	20 42 15.5	+0.8
LPL				eSg	Sg	20 42 20.1	+0.2
	2.5nm,0.3s						
LPG	La Plagne	0.40	223	ePg	Pg	20 42 14.8	0.0
LPG	La Plagne	0.40	223	eP	Pb	20 42 15.7	-0.8
LPG				eSg	Sg	20 42 19.7	-0.4
	2.4nm,0.2s						
GRYON	Gryon	0.46	358	⇓Pg	Pg	20 42 15.9	0.0
GRYON	Gryon	0.46	358	⇓Pg	Pg	20 42 15.9	0.0
EMBD	Embd, Matterta	0.64	49	Sg	Sg	20 42 27.3	-0.5
OGSM	Saint Maurice	1.02	260	Pn	Pb	20 42 26.8	-0.2
OGSM				Sg	Sg	20 42 40.2	+0.3
MBDF	Montbardon	1.10	194	ePg	Pg	20 42 27.3	-0.7
OG35	Corcelles	1.12	284	Pn	Pg	20 42 28.3	-0.2
OG35				Sg	Sg	20 42 42.8	-0.3
ORIF	Oris-en-Rattie	1.24	226	ePg	Pg	20 42 30.0	-0.8
ORIF				eSg	Sg	20 42 46.2	-0.8
	0.9nm,0.3s						
VIVF	Saint-Julien-l	1.97	243	ePg	Pb	20 42 43.5	+0.3
VIVF				eSg	Sg	20 43 09.2	-1.2
	0.7nm,0.2s						

*NEIC **09** 20:47:37.9±1.1, 6°.88S±0°.07×128°.14E±0°.09, h268km±9km, mb4.4/10, Error ellipse: s-maj=12.7km s-min=10.3km az=75.0*
*IDC **09** 20:47:38.7±2.1, 6°.81S×128°.17E, h271km±24km, mb3.4/7, mb1 3.6/11, mb1mx3.2/47, mbtmp4.2/11, Error ellipse: s-maj=24.3km s-min=15.2km az=79.0*
*DJA **09** 20:47:39.0±0.3, 7°S±5°×12°8E±°, h261km±8km, M4.0/9, mB4.4/4, mb4.1/8, MLv4.1/9, Mw(mB)3.5/4*
ISC 09 20:47:39.2±0.5, **6°.93S**±0°.05×**128°.20E**±0°.06, **h300km, n62, σ1s.76**/65, **mb3.9**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.93	35	P	Pn	20 48 34.2	-0.2
AAI	Ambon	3.22	360	P	Pn	20 48 35.5	-1.8
SAUI	Saumlaki	3.25	109	Pn	Pn	20 48 34.6	-2.9
SAUI	Saumlaki	3.25	109	P	Pn	20 48 37.2	-0.3
MSAI	Masohi	3.63	12	P	Pn	20 48 40.6	-1.0
SANI	Sanana	5.33	335	P	Pn	20 48 59.7	-0.9
	0.1nm26nm,0.9s						
SANI	Sanana	5.33	335	P	Pn	20 48 59.7	-0.9
BBSI	Bau Bau	5.78	284	P	Pn	20 49 05.0	-0.9
	0.0nm82nm7.0nm,0.9s						
DRS	Darwin Rock St	6.08	154	P	Pn	20 49 09.6	+0.1
MMRI	Maumere	6.14	254	Pn	Pn	20 49 07.4	-2.9
MMRI	Maumere	6.14	254	P	Pn	20 49 09.3	-1.0
	0.2nm1μm32nm,0.8s						
LBMI	Labuha	6.29	354	P	Pn	20 49 11.2	-0.9
	0.1nm37nm,0.9s						
SIJI	Sorong	6.75	27	P	Pn	20 49 15.4	-2.3
	5.3nm,0.3s,baz=236,slow=23,SNR=112						
SIJI				S	S	20 50 29.4	-7.9
	3.3nm,0.3s,baz=232,slow=19,SNR=13						
SWI	Sorong	6.76	27	P	Pn	20 49 15.4	-2.3
	0.2nm1μm34nm,0.8s						
KDU	Kakadu	7.10	144	P	Pn	20 49 21.9	0.0
KNRA	Kununurra	8.71	176		Pn	20 49 40.7	-0.8
KNRA	Kununurra	8.71	176	P	Pn	20 49 40.7	-0.8
PLAI	Plampang	10.49	259	P	Pn	20 50 00.5	-3.0
FITZ	Fitzroy Crossi	11.38	192	P	P	20 50 15.6	-0.6
	2.0nm,0.3s,baz=23,slow=8.6,SNR=19						
FITZ				S	S	20 52 18.3	-3.0
	0.3nm,0.3s,baz=342,slow=20,SNR=4.7						
FITZ	Fitzroy Crossi	11.38	192		Pn	20 50 12.9	-1.3
JAGI	Jajag, Banyuwa	14.00	263		P	20 50 43.3	-2.1
JAGI	Jajag, Banyuwa	14.00	263	P	Pn	20 50 43.8	-2.2
WB0	Warramunga Arr	14.11	155		Pn	20 50 47.0	-0.2
WRAB	Tennant Creek	14.24	156	P	Pn	20 50 48.1	-0.6
WRAB	Tennant Creek	14.24	156	P	Pn	20 50 49.1	+0.4
WRA	Warramunga Arr	14.24	156	P	Pn	20 50 48.6	-0.2
	0.6nm,0.3s,baz=335,slow=12,SNR=40						
WRA				S	S	20 53 24.9	+0.1
	0.5nm,0.3s,baz=330,slow=21,SNR=17						
WRA	Warramunga Arr	14.24	156	P	Pn	20 50 48.3	-0.4
WB2	Warramunga Arr	14.25	156	P	Pn	20 50 48.7	-0.2
WR0	Warramunga Arr	14.34	155	P	Pn	20 50 49.4	-0.5
BLJI	Banyuglugur	14.51	266	P	Pn	20 50 53.1	+1.1
	24nm,0.7s						
COEN	Coen	16.29	117	Pn	Pn	20 51 12.8	-0.1
COEN				IAmb	IAmb	20 51 13.9	
	comp=Z,23nm,0.5s						
COEN	Coen	16.29	117	P	Pn	20 51 13.1	+0.2
PWJI	Pagerwojo	16.29	265	P	Pn	20 51 11.7	-1.2
	comp=Z,25nm,1.0s						
PSA00	Pilbara Seismi	16.64	208	P	P	20 51 14.3	0.0
PSA00	Pilbara Seismi	16.64	208	P	Pn	20 51 14.8	-2.1
PSA00				IAmb	IAmb	20 51 15.5	
	comp=Z,15nm,0.5s						
PSA00	Pilbara Seismi	16.64	208	P	Pn	20 51 15.3	-1.6
QIS	Mount Isa	17.48	142	P	Pn	20 51 25.8	-1.0
AS31	Alice Springs	17.52	162	P	Pn	20 51 26.2	-1.0
AS31				IAmb	IAmb	20 51 34.1	
	comp=Z,3.8nm,0.5s						
ASAR	Alice Springs	17.52	162	P	Pn	20 51 26.1	-1.1
	comp=Z,0.8nm,0.3s,baz=342,slow=11,SNR=118						
ASAR				S	S	20 54 31.4	+1.1
	comp=Z,0.2nm,0.3s,baz=344,slow=19,SNR=14						
ASAR	Alice Springs	17.52	162	P	Pn	20 51 26.1	-1.0
WRKA	Warakurna	18.00	180	P	P	20 51 31.1	+2.1
GIRL	Giralia	20.62	219	P	P	20 51 57.5	+1.1
GIRL	Giralia	20.62	219	P	P	20 51 57.4	+0.9
MEEK	Meekatharra	21.62	204	P	P	20 52 06.6	+0.7
CTA	Charters Tower	21.86	129	P	P	20 52 11.8	+3.7
	comp=Z,3.4nm,0.7s,baz=287,slow=9.9,SNR=1.5						
FORT	Forrest	23.73	180	P	P	20 52 25.7	+0.8
FORT				IAmb	IAmb	20 52 47.2	
	comp=Z,21nm,1.1s						
FORT	Forrest	23.73	180	P	P	20 52 26.0	+1.1
MORW	Morawa	24.83	206	P	P	20 52 36.1	+1.2
MORW				IAmb	IAmb	20 52 48.1	
	comp=Z,12nm,1.3s						
MORW	Morawa	24.83	206	P	P	20 52 35.7	+0.8
BLDU	Ballidu	25.91	203	P	P	20 52 45.3	+0.7
KLBR	Kellerberrin	26.41	200	P	P	20 52 50.2	+1.2
RPSI	Rantau Prapat	30.75	287	P	P	20 53 29.6	+2.2
PSI	Prapat	30.78	287	P	P	20 53 29.6	+1.7
	comp=Z,3.1nm,0.6s,baz=161,slow=10,SNR=4.4						
HKPS	Hong Kong Po S	32.13	335	P	P	20 53 39.7	+0.3
SONM	Songino Array	57.83	343	P	P	20 57 01.7	+1.7
	comp=Z,1.0nm,0.7s,baz=178,slow=5.5,SNR=7.3						
SONM	Songino Array	57.83	343	IAmb	IAmb	20 57 02.6	
	comp=Z,1.8nm,1.0s						
PETK	Petropavlovsk-	64.83	19	P	P	20 57 47.8	+1.5
	comp=Z,1.2nm,0.5s,baz=191,slow=5.2,SNR=1.7						
MKAR	Makanchi Array	67.20	328	P	P	20 58 03.0	+1.5
	comp=Z,0.4nm,0.5s,baz=114,slow=9.0,SNR=9.7						
MKAR	Makanchi Array	67.20	328	P	P	20 58 02.1	+0.6
ZALV	Zalesovo Beam	70.74	335	P	P	20 58 23.8	+0.8
	comp=Z,1.0nm,0.6s,baz=133,slow=4.7,SNR=5.2						
SEY	Seymchan	72.08	11	P	P	20 58 32.6	+1.9
	comp=Z,1.8nm,0.6s,baz=202,slow=4.2,SNR=7.9						
TIXI	Tiksi	78.42	0	P	P	20 59 07.5	+1.0
TIXI				IAmb	IAmb	20 59 07.7	
	comp=Z,1.5nm,0.5s						

*NEIC **09** 20:54:39.2±1.0, 21°.75N±0°.08×144°.3E±0°.2, h118km±9km, mb4.0/8, Error ellipse: s-maj=28.1km s-min=8.4km az=75.0*
*IDC **09** 20:54:44.4±5.2, 21°.67N×144°.26E, h171km±48km, mb3.6/18, mb1 3.8/18, mb1mx3.5/61, mbtmp4.1/18, Error ellipse: s-maj=20.3km s-min=12.9km az=93.0*
ISC 09 20:54:38.2±0.8, **21°.7N**±0°.1×**144°.3E**±0°.2, **h114km, n30, σ0s.89**/27, **mb4.0**/21, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.76	341	Pn	Pn	20 56 00.9	-0.5
KSRS	Korea Array	21.20	322	P	P	20 59 17.1	+2.5
	3.2nm,0.7s,baz=146,slow=8.9,SNR=11						
H11S3	WAKE ISLAND Hy	21.23	95	T	T	21 21 47.5	
	baz=278						
H11S1	WAKE ISLAND Hy	21.24	94	T	T	21 22 06.4	
	baz=278						
H11S2	WAKE ISLAND Hy	21.25	95	T	T	21 21 55.6	
	baz=278						
KLR	Kul'dur	29.28	343	P	P	21 00 30.0	+0.4
	3.0nm,0.5s,baz=157,slow=7.5,SNR=20						
SONM	Songino Array	40.05	320	P	P	21 02 02.4	0.0
	0.5nm,0.4s,baz=129,slow=8.2,SNR=8.5						
SONM	Songino Array	40.05	320	IAmb	IAmb	21 02 04.2	
	comp=Z,1.5nm,1.4s						
SEY	Seymchan	41.62	6	P	P	21 02 15.7	+0.9
	comp=Z,1.4nm,0.6s,baz=197,slow=6.7,SNR=6.6						
WB0	Warramunga Arr	42.30	194	P	P	21 02 21.2	+0.4
WR0	Warramunga Arr	42.45	194	P	P	21 02 22.3	+0.3
WRAB	Tennant Creek	42.47	194	P	P	21 02 22.6	+0.5
WRAB				IAmb	IAmb	21 02 23.2	
	comp=Z,6.8nm,1.1s						
WB2	Warramunga Arr	42.48	194		P	21 02 22.6	+0.4
WB2				IAmb	IAmb	21 02 23.3	
	comp=Z,5.3nm,1.0s						
WRA	Warramunga Arr	42.48	194	P	P	21 02 22.7	+0.4
	comp=Z,1.0nm,0.3s,baz=14,slow=8.3,SNR=56						
WRA	Warramunga Arr	42.48	194	P	P	21 02 22.1	-0.2
FITZ	Fitzroy Crossi	43.54	206	P	P	21 02 31.3	+0.5
FITZ				IAmb	IAmb	21 02 33.4	
	comp=Z,1.7nm,1.0s						
ASAR	Alice Springs	46.17	193	P	P	21 02 51.8	+0.1
	comp=Z,0.5nm,0.6s,baz=16,slow=8.0,SNR=9.4						
ZALV	Zalesovo Beam	54.91	322	P	P	21 03 56.0	-1.0
	comp=Z,0.6nm,0.4s,baz=126,slow=9.3,SNR=4.0						
ZALV				PcP	PcP	21 04 56.8	-0.8
	comp=Z,0.3nm,0.4s,baz=106,slow=4.7,SNR=2.3						
MKAR	Makanchi Array	55.51	313	P	P	21 04 01.1	-0.4
	comp=Z,0.2nm,0.5s,baz=83,slow=8.7,SNR=2.7						
MKAR				PcP	PcP	21 04 59.6	-0.5
	comp=Z,0.6nm,0.5s,baz=82,slow=5.1,SNR=5.9						
KDAK	Kodiak Island	57.63	34	P	P	21 04 17.5	+1.3
	comp=Z,11nm,1.0s,baz=312,slow=12,SNR=1.6						
ILAR	Eielson Array	61.59	27	P	P	21 04 42.0	-1.3
	comp=Z,1.4nm,0.8s,baz=252,slow=5.7,SNR=10						
YKA	Yellowknife Ar	76.00	28	P	P	21 06 12.2	-0.3
	comp=Z,1.4nm,0.6s,baz=291,slow=5.5,SNR=18						
ARCES	ARCESS Array B	79.30	342	P	P	21 06 30.6	-0.2
	comp=Z,3.8nm,1.1s,baz=66,slow=7.5,SNR=9.9						
NVAR	Mina Array Bea	82.33	52	P	P	21 06 48.5	+0.6
	comp=Z,1.5nm,0.7s,baz=281,slow=5.2,SNR=12						
KBZ	Khabaz	83.17	314	P	P	21 06 52.0	+0.2
	comp=Z,0.9nm,0.7s,baz=80,slow=6.2,SNR=5.2						
ELK	Elko	83.66	49	P	P	21 06 54.8	+0.2
	comp=Z,0.6nm,0.5s,baz=284,slow=12,SNR=3.5						
ELK	Elko	83.66	49	IAmb	IAmb	21 06 56.0	
	comp=Z,4.0nm,1.3s						
FINES	FINESS Array B	83.68	335	P	P	21 06 52.6	-1.4
	comp=Z,3.0nm,0.4s,baz=70,slow=4.6,SNR=64						
PDAR	Pinedale Array	86.67	45	P	P	21 07 09.7	0.0
	comp=Z,0.3nm,0.7s,baz=290,slow=4.4,SNR=3.7						
NOA	NORSAR Array B	89.37	339	P	P	21 07 20.2	-1.6
	comp=Z,0.4nm,0.6s,baz=48,slow=4.2,SNR=1.9						

*IDC **09** 20:58:28.6±1.2, 28°.63S×71°.49W, h0km, mb3.9/1, mb1 3.7/3, mb1mx3.5/39, mbtmp3.6/3, ML3.2/2, Error ellipse: s-maj=78.6km s-min=28.0km az=110.0*
*NEIC **09** 20:58:30.4±1.8, 28°.65S±0°.02×71°.59W±0°.07, h10km±1km, mb3.4/1, ML3.8(GUC), Error ellipse: s-maj=10.5km s-min=3.0km az=104.0*
*GUC **09** 20:58:32.6±0.7, 28°.74S×71°.30W, h41km±4km, ML3.8*
ISC 09 20:58:28.4±2.1, **28°.63S**±0°.03×**71°.61W**±0°.08, **h4**km±12km, **n49, σ1s.26**/54, **1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.63	48	Pg	Pn	20 58 43.7	-0.5
AC04				Sg	Sb	20 58 51.5	+0.3
AC04	Llanos de Chal	0.63	48	⇓iP	Pn	20 58 43.7	-0.5
AC04				iS	Sb	20 58 51.5	+0.3
AC04				IAML		20 58 51.9	
	comp=E,13μm,0.1s						
LCO	Las Campanas	0.88	116	Pg	Pb	20 58 46.4	-0.1
LCO	Las Campanas	0.88	116	eP	Pg	20 58 45.8	+0.4
LCO				eS	Sg	20 58 56.2	-0.6
CO05	La Serena	1.33	166		Pb	20 58 54.5	+0.6
CO05	La Serena	1.33	166	eP	Pb	20 58 54.5	+0.6
CO05				eS	Sb	20 59 09.8	-1.4
CO05				IAML		20 59 13.8	
	comp=E,2μm,0.3s						
GO03	Copiap	1.59	50		Pb	20 58 59.0	+0.5
GO03	Copiap	1.59	50	⇓iP	Pb	20 58 58.9	+0.5
GO03				iS	Sg	20 59 19.1	-0.4
GO03				IAML		20 59 22.0	
	comp=E,3μm,0.9s						
AC06	Mina Casimiro	1.68	42		Pb	20 59 00.8	+0.9
AC06	Mina Casimiro	1.68	42	eP	Pb	20 59 00.7	+0.7
AC06				iS	Sg	20 59 22.2	-0.2
AC06				IAML		20 59 25.4	
	comp=E,947nm,0.5s						
GO04	Tololo Observa	1.69	156		Pn	20 58 59.8	+0.8
GO04	Tololo Observa	1.69	156	eP	Pn	20 58 59.8	+0.8
GO04				iS	Sn	20 59 20.6	-0.7
GO04				IAML		20 59 26.5	
	comp=N,4μm,0.3s						
CO06	Fray Jorge	2.04	181	Pn	Pn	20 59 03.9	+0.3
CO06	Fray Jorge	2.04	181	eP	Pn	20 59 04.0	+0.3
CO03	El Pedregal	2.34	160	Pn	Pn	20 59 09.0	+1.1
CO03	El Pedregal	2.34	160	IAML		20 59 47.2	
	comp=E,469nm,0.3s						
CO02	Combarbal	2.62	169	Pn	Pn	20 59 12.3	+0.7
CO02	Combarbal	2.62	169	eP	Pn	20 59 12.4	+0.7
CO02				eS	Sn	20 59 44.3	+0.3
CO02				IAML		20 59 55.8	
	comp=N,1μm,0.2s						
AC01	Pan de Azucar	2.63	20		Pn	20 59 12.4	+0.8
AC01	Pan de Azucar	2.63	20	⇑iP	Pn	20 59 12.3	+0.6
AC01				IAML		21 00 00.1	
	comp=E,228nm,0.6s						
AC02	Maricunga	2.83	51	Pn	Pn	20 59 17.6	+2.8
AC02	Maricunga	2.83	51	eP	Pn	20 59 17.7	+2.8
AC02				eS	Sb	20 59 51.9	-3.1
AC02				IAML		20 59 58.5	
	comp=N,436nm,0.3s						
ZON	Zonda	3.86	140		Pn	20 59 28.9	+0.3
VA06	Catapilco	3.93	176	Pn	Pn	20 59 29.3	-0.2
VA03	San Esteban	4.22	168	Pn	Pn	20 59 35.5	+1.8
ROC1	El Roble	4.37	173	Pn	Pn	20 59 35.2	-0.5
MT02	Curacav	4.63	175	Pn	Pn	20 59 39.1	-0.1
MT03	Universidad Ad	4.94	169	Pn	Pn	20 59 41.2	-2.3
MT09	Talagante	5.16	174		Pn	20 59 47.2	+0.6
MT01	Popeta	5.23	177	Pn	Pn	20 59 48.2	+0.8
LMEL	Las Melosas	5.34	167	Pn	Pn	20 59 49.5	+0.4
BO04	La Punta	5.41	171	Pn	Pn	20 59 50.4	+0.4
PB15	IPOC Station P	5.73	20	Pn	Pn	20 59 55.1	+0.6
BO01	Tunca	5.76	176	Pn	Pn	20 59 52.0	-2.8
PB06	IPOC Station P	6.18	18	Pn	Pn	20 59 57.9	-2.7
BO02	Sierra Bellavi	6.19	174	Pn	Pn	20 59 59.3	-1.3
PB04	IPOC Station P	6.40	12	Pn	Pn	21 00 00.8	-2.9
LVC	Limon Verde	6.47	23	Pn	Pn	21 00 04.9	+0.1
	comp=N,0.5nm,0.3s,baz=186,slow=8.1,SNR=11						
LVC				Sn	Sn	21 01 18.5	-0.7
	comp=N,1.6nm,0.3s,baz=198,slow=16,SNR=1.8						
PB09	IPOC Station P	7.13	18	Pn	Pn	21 00 11.9	-1.9
H03N1	Juan Fernandez	7.89	231	T	T	21 08 40.4	
	baz=58,slow=72,SNR=1900						
H03N2	Juan Fernandez	7.91	231	T	T	21 08 34.4	
	baz=58,slow=72,SNR=1893						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H03N3	**Juan Fernandez**	**7.91**	**231**	T	T	21 08 33.2	
	baz=58,slow=72,SNR=1622						
PLCA	**Paso Flores**	**12.11**	**176**	Pn	**Pn**	**21 01 22.8**	**+1.0**
	comp=N,0.0nm,0.3s,baz=349,slow=16,SNR=1.0						
TORD	**Torodi Ar. Bea**	**82.05**	**70**	P	**P**	**21 10 50.5**	**+0.1**
	comp=N,0.7nm,0.6s,baz=259,slow=4.6,SNR=7.6						
TORD	**Torodi Ar. Bea**	**82.05**	**70**	IAmb	IAmb	21 11 14.8	
	comp=Z,0.4nm,1.1s						
ASAR	**Alice Springs**	**122.49**	**208**	PKP	**PKPdf**	**21 17 26.0**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=145,slow=0.9,SNR=4.5						
WRA	**Warramunga Arr**	**125.60**	**210**	PKP	**PKPdf**	**21 17 32.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=148,slow=1.8,SNR=9.7						
ZALV	**Zalesovo Beam**	**149.40**	**28**	PKPbc	**PKPbc**	**21 18 19.5**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=310,slow=3.9,SNR=5.9						
MKAR	**Makanchi Array**	**152.71**	**41**	PKPbc	**PKPbc**	**21 18 27.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=298,slow=2.6,SNR=3.6						

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*IDC **09** 21:07:17.7±1.6, 43.99°N×105.72°W, h0^{km}, mb3.8/2, mb1 3.7/5, mb1mx3.4/50, mbtmp3.5/5, ML3.2/3, MS3.4/5, Ms1 3.5/5, ms1mx2.9/86, Error ellipse: s-maj=44.1km s-min=8.5km az=147.0*

*NEIC **09** 21:07:18.2±1.5, 43.70°N±0.05°×105.26°W±0.08°, h0^{km}±2^{km}, ML3.4/62, Error ellipse: s-maj=10.3km s-min=8.1km az=93.0*

ISC 09 21:07:16.7±0.9**, 43.69°N**±0.05°×**105.29°W**±0.06°**, h0^{km}, n55, σ1^{s}65**/49**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**64**		**Pg**	**21 07 36.6**	**+0.6**
K22A	**Casper**	**1.37**	**221**	Pn	**Pg**	**21 07 42.3**	**-0.8**
K22A				IAML		21 08 05.8	
	comp=N,575nm,0.3s						
PHWY	**Pilot Hill**	**2.39**	**183**		**Pn**	**21 07 58.4**	**+1.0**
RWWY	**Rawlins**	**2.45**	**216**		**Pn**	**21 07 59.1**	**+1.0**
RWWY				IAML		21 08 33.4	
	comp=N,252nm,1.2s						
RWWY				IAML		21 08 34.3	
	comp=N,174nm,0.3s						
N23A	**Red Feather La**	**2.83**	**190**	Pn	**Pn**	**21 08 04.8**	**+1.4**
N23A				IAML		21 09 00.6	
	comp=E,87nm,1.4s						
LAO	**LASA Array**	**3.07**	**348**	Pn	**Pn**	**21 08 07.3**	**+0.7**
RLMT	**Red Lodge**	**3.19**	**298**		**Pn**	**21 08 09.1**	**+0.8**
RLMT				IAML		21 09 05.3	
	comp=E,80nm,0.8s						
RLMT				IAML		21 09 06.3	
	comp=E,73nm,1.0s						
PD31	**Pinedale Array**	**3.25**	**255**		**Pn**	**21 08 10.3**	**+1.1**
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**21 08 10.2**	**+1.0**
	comp=E,2.6nm,0.3s,baz=73,slow=17,SNR=52						
PDAR				Lg	Lg	21 08 53.5	
	comp=E,17nm,0.3s,baz=66,slow=36,SNR=12						
PDAR				LR	LR	21 08 53.8	
	comp=E,41nm,21.8s,baz=3.0,slow=31						
PDAR	**Pinedale Array**	**3.25**	**255**		**Pn**	**21 08 09.7**	**+0.5**
YMP	**Mirror Lake Pl**	**3.65**	**288**		**Pn**	**21 08 16.6**	**+1.9**
YMP				IAML		21 09 17.7	
	comp=N,95nm,0.7s						
OGNE	**Ogallala**	**3.65**	**137**	Pn	**Pn**	**21 08 15.0**	**+0.4**
GCMT	**Greycliff**	**3.76**	**306**		**Pn**	**21 08 17.3**	**+1.2**
LKWY	**Lake**	**3.78**	**285**		**Pn**	**21 08 19.2**	**+2.6**
LKWY				IAML		21 09 31.3	
	comp=N,57nm,1.0s						
LKWY				IAML		21 09 32.2	
	comp=N,42nm,2.4s						
LOHW	**Long Hollow**	**3.85**	**271**		**Pn**	**21 08 19.9**	**+2.3**
H17A	**Grant Village**	**3.88**	**282**		**Pn**	**21 08 19.8**	**+2.0**
H17A				IAML		21 09 22.5	
	comp=E,47nm,2.4s						
H17A				IAML		21 09 22.6	
	comp=N,52nm,1.4s						
ISCO	**Idaho Springs**	**3.89**	**184**	Pn	**Pn**	**21 08 20.1**	**+2.1**
ISCO				IAML		21 09 25.8	
	comp=N,39nm,2.1s						
FLWY	**Flagg Ranch**	**3.93**	**278**		**Pn**	**21 08 20.2**	**+1.7**
MOOW	**Moose Ponds**	**3.95**	**273**	Pn	**Pn**	**21 08 21.3**	**+2.4**
SNOW	**Snow King Moun**	**3.98**	**269**		**Pn**	**21 08 22.7**	**+3.5**
SNOW				IAML		21 09 36.2	
	comp=N,68nm,1.2s						
SNOW				IAML		21 09 41.1	
	comp=N,60nm,1.3s						
REDW	**Red Top Meadow**	**4.06**	**267**		**Pn**	**21 08 23.5**	**+3.2**
REDW				IAML		21 09 41.1	
	comp=N,64nm,1.0s						
TPAW	**Teton Pass**	**4.12**	**269**		**Pn**	**21 08 22.7**	**+1.6**
TPAW				IAML		21 09 36.5	
	comp=N,51nm,1.2s						
YHH	**Holmes Hill**	**4.14**	**287**		**Pn**	**21 08 23.9**	**+2.3**
YHH				IAML		21 09 39.5	
	comp=N,29nm,2.3s						
O20A	**White River Ci**	**4.18**	**213**		**Pn**	**21 08 23.5**	**+1.6**
AHID	**Auburn Hatcher**	**4.34**	**260**		**Pn**	**21 08 25.6**	**+1.5**
AHID				IAML		21 09 38.2	
	comp=N,51nm,1.3s						
E28A	**Huff**	**4.35**	**47**	Pn	**Pn**	**21 08 23.7**	**-0.5**
RDMU	**Red Mountain**	**4.45**	**227**	Pn	**Pn**	**21 08 26.5**	**+0.8**
RDMU				IAML		21 09 43.6	
	comp=N,37nm,2.0s						
RDMU				IAML		21 09 44.9	
	comp=E,37nm,1.4s						
SUSD	**Miller**	**4.63**	**78**		**Pn**	**21 08 27.8**	**-0.2**
Q24A	**Divide**	**4.72**	**179**		**Pn**	**21 08 30.9**	**+1.4**
DGMT	**Dagmar**	**4.84**	**9**		**Pn**	**21 08 33.3**	**+2.4**
BOZ	**Bozeman (W)**	**4.91**	**295**		**Pn**	**21 08 33.5**	**+1.6**
BOZ				IAML		21 09 50.9	
	comp=E,31nm,1.8s						
BOZ				IAML		21 09 54.8	
	comp=E,26nm,1.3s						
HWUT	**Hardware Ranch**	**5.07**	**248**		**Pn**	**21 08 35.2**	**+1.0**
HWUT				IAML		21 10 04.3	
	comp=E,31nm,1.4s						
KSCO	**Kaye Shedlock'**	**5.08**	**156**		**Pn**	**21 08 35.4**	**+1.1**
EGMT	**Eagleton**	**5.34**	**326**	Pn	**Pn**	**21 08 39.5**	**+1.7**
P18A	**Preston Nutter**	**5.50**	**224**		**Pn**	**21 08 40.8**	**+0.6**
HRY	**Holter Researc**	**5.52**	**305**		**Pn**	**21 08 41.3**	**+1.0**
PV07	**Paradox Valley**	**5.82**	**207**		**Pn**	**21 08 45.6**	**+1.1**
PV15	**Paradox Valley**	**5.86**	**205**		**Pn**	**21 08 47.5**	**+2.5**
S22A	**4UR Ranch, Cre**	**6.05**	**192**		**Pn**	**21 08 49.1**	**+1.4**
TMUT	**Trail Mountain**	**6.24**	**227**		**Pn**	**21 08 51.5**	**+1.1**
ECSD	**EROS Data Cent**	**6.29**	**87**	Pn	**Pn**	**21 08 52.1**	**+1.4**
T25A	**Trinidad**	**6.58**	**174**	Pn	**Pn**	**21 08 56.3**	**+1.4**
DUG	**Dugway, Tooele**	**6.60**	**241**	Pn	**Pn**	**21 08 55.9**	**+0.7**
F33A	**5 Mile Ranch,**	**6.76**	**68**		**Pn**	**21 08 59.0**	**+1.9**
JTMT	**Jette**	**7.49**	**306**	Pn	**Pn**	**21 09 08.9**	**+1.6**
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**21 09 29.2**	**-1.3**
	comp=E,1.2nm,0.3s,baz=230,slow=12,SNR=9.2						
ULM				Lg	Lg	21 11 59.0	
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=1.6						
NEW	**Newport**	**9.42**	**303**	LR	LR	21 13 34.1	
	comp=E,135nm,18.4s,baz=227,slow=42						
I56US	**NEWPORT INFRAS**	**9.42**	**303**	*i*		22 05 05.9	
	baz=118,slow=317,SNR=2.8						
NVAR	**Mina Array Bea**	**11.13**	**246**	LR	LR	21 14 44.2	
	comp=E,194nm,20.6s,baz=308,slow=41						
TKL	**Tuckaleechee C**	**18.37**	**109**	LR	LR	21 18 37.8	
	comp=E,150nm,20.0s,baz=322,slow=36						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**21 11 43.9**	**-2.4**
	comp=E,0.0nm,0.3s,baz=161,slow=13,SNR=1.9						
SHEM	**Shemya Is, Ala**	**51.80**	**310**	LR	LR	21 39 15.7	
	comp=E,67nm,18.4s,baz=88,slow=37						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**21 17 34.0**	**-0.6**
	comp=E,1.7nm,1.0s,baz=332,slow=7.5,SNR=3.6						
SIV	**San Ignacio**	**71.84**	**135**	LR	LR	21 53 31.4	
	comp=E,27nm,19.7s,baz=123,slow=38						
MKAR	**Makanchi Array**	**89.65**	**355**	P	**P**	**21 20 16.3**	**-0.1**
	comp=E,0.3nm,0.8s,baz=16,slow=4.4,SNR=2.5						

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*IDC **09** 21:38:48.4±1.0, 5.41°N×125.87°E, h0^{km}, mb3.8/5, mb1 3.9/5, mb1mx3.5/35, mbtmp3.8/5, Error ellipse: s-maj=88.4km s-min=15.4km az=71.0*

ISC 09 21:38:49.7±1.2**, 5.5°N**±0.3°×**12.6°E**±°**, h10^{km}, n7, σ0^{s}35**/7**, mb3.8**/5**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.62**	**342**	Pn	**Pb**	**21 39 19.9**	**+0.3**
	52nm,0.3s,baz=264,slow=9.4,SNR=1.8						
DAV				Sn	**Sg**	**21 39 41.4**	**-0.3**
	76nm,0.3s,baz=211,slow=11,SNR=2.4						
KCP	**Kidapawan**	**1.77**	**326**	⇑*e*P	Pg	21 39 29.2	+5.5
WRA	**Warramunga Arr**	**26.58**	**162**	P	**P**	**21 44 28.0**	**-0.2**
	0.8nm,0.4s,baz=343,slow=10,SNR=21						
ASAR	**Alice Springs**	**30.00**	**166**	P	**P**	**21 44 58.6**	**-0.2**
	0.1nm,0.3s,baz=340,slow=7.1,SNR=7.7						
STKA	**Stephens Creek**	**40.02**	**159**	P	**P**	**21 46 25.2**	**+0.2**
	1.2nm,0.5s,baz=324,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**55.72**	**325**	P	**P**	**21 48 26.9**	**+0.3**
	0.6nm,0.5s,baz=122,slow=8.1,SNR=10						
KURBB	**Kurchatov Arra**	**59.89**	**327**	P	**P**	**21 48 55.4**	**-0.3**
	1.3nm,0.5s,baz=129,slow=6.8,SNR=16						

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*MDD **09** 21:42:47.7±0.8, 35.43°N×3.78°W, h5^{km}±6^{km}, mb_Lg2.0/7, Error ellipse: s-maj=5.2km s-min=4.0km az=139.0*

*SFS **09** 21:42:47.0, 35.43°N×3.78°W, h5^{km}, ML2.0, ALBORAN SUR*

*CNRM **09** 21:42:48.2, 35.46°N×3.75°W, h20^{km}, ml2.6*

ISC 09 21:42:46.7±1.3**, 35.45°N**±0.02°×**3.75°W**±0.03°**, h9^{km}**±10^{km}**, n22, σ1^{s}10**/44**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**213**	P	**Pb**	**21 42 53.9**	**-0.1**
PALE				S	**Sb**	**21 42 58.9**	**+0.1**
GOG	**Mont Gurugu**	**0.66**	**110**	P	**Pb**	**21 43 00.8**	**+0.4**
GOG				S	**Sn**	**21 43 11.2**	**-1.6**
EMEL	**Melilla**	**0.67**	**103**	Pg	**Pb**	**21 43 00.1**	**-0.3**
EMEL				Sg	**Sb**	**21 43 09.9**	**+0.1**
EALB	**Alboran**	**0.76**	**50**	Pg	**Pg**	**21 43 01.5**	**+0.2**
EALB				Sg	**Sb**	**21 43 12.8**	**+0.4**
EALB				*i* Vmb_Lg		21 43 14.7	
TAF	**Taforalt**	**1.27**	**120**	P	**Pn**	**21 43 09.5**	**-1.1**
TAF				S	**Sg**	**21 43 27.3**	**-0.2**
CHEFC	**Chefchaouen**	**1.35**	**256**	P	**Pb**	**21 43 12.3**	**+0.1**
CHEFC				S	**Sn**	**21 43 29.3**	**-0.5**
SMIR	**Smir Dam**	**1.35**	**280**	P	**Pn**	**21 43 11.8**	**+0.1**
SMIR				S	**Sn**	**21 43 29.6**	**-0.2**
EMIJ	**Mijas**	**1.38**	**323**	Pn	**Pn**	**21 43 12.0**	**-0.3**
EMIJ				Sn	**Sg**	**21 43 32.0**	**+0.7**
EMIJ				*i* Vmb_Lg		21 43 38.2	
ELGU	**Los Guajares,**	**1.41**	**4**	Pn	**Pb**	**21 43 12.8**	**-0.5**
ELGU				Sn	**Sg**	**21 43 31.8**	**-0.4**
ELGU				*i* Vmb_Lg		21 43 31.9	
EMAL	**Malaga-Limoner**	**1.42**	**337**	P	**Pn**	**21 43 11.7**	**-1.0**
EMAL				S	**Sn**	**21 43 31.1**	**-0.3**
JBK	**JBK**	**1.48**	**139**	P	**Pb**	**21 43 14.6**	**+0.1**
JBK				S	**Sn**	**21 43 31.4**	**-1.8**
EJIF	**Jimena Fronter**	**1.71**	**306**	Pn	**Pb**	**21 43 17.7**	**-0.7**
EJIF				Sn	**Sn**	**21 43 39.3**	**+0.5**
LCRM	**LCR**	**1.99**	**208**	P	**Pb**	**21 43 22.4**	**-0.7**
LCRM				S	**Sg**	**21 43 50.3**	**-0.3**
IFR	**Ifrane**	**2.24**	**211**	P	**Pn**	**21 43 25.5**	**+1.3**
IFR				S	**Sn**	**21 43 49.9**	**-2.2**
MD31	**MD31**	**2.71**	**198**	P	**Pn**	**21 43 31.2**	**+0.6**
MD31				S	**Sn**	**21 44 05.7**	**+2.2**
MDT	**Midelt**	**2.73**	**195**	P	**Pn**	**21 43 32.3**	**+1.6**
MDT				S	**Sn**	**21 44 06.0**	**+2.0**
EADA	**Adamuz**	**2.79**	**346**	Pn	**Pn**	**21 43 32.6**	**+1.1**
EADA				Sn	**Sn**	**21 44 05.3**	**-0.1**
EADA				*i* Vmb_Lg		21 44 15.1	
ECAB	**El Cabril**	**2.94**	**333**	Pn	**Pn**	**21 43 34.0**	**+0.3**
ECAB				Sn	**Sn**	**21 44 09.0**	**-0.1**
ECAB				*i* Vmb_Lg		21 44 16.9	
ZHG	**ZHG**	**3.12**	**231**	P	**Pb**	**21 43 40.2**	**-2.2**
ZHG				S	**Sn**	**21 44 12.9**	**-0.7**
ETOB	**Tobarra**	**3.64**	**28**	Pn	**Pn**	**21 43 45.3**	**+2.0**
ETOB				Sn	**Sn**	**21 44 26.7**	**+0.3**
ETOB				*i* Vmb_Lg		21 44 29.0	
PVAQ	**Vaqueiros**	**3.75**	**302**	P	**Pn**	**21 43 45.0**	**+0.3**
PVAQ				S	**Sn**	**21 44 30.4**	**+1.5**
EBAD	**Badajoz**	**4.20**	**323**	Pn	**Pn**	**21 43 51.3**	**+0.4**
EBAD				Sn	**Sn**	**21 44 37.8**	**-2.4**
EBAD				*i* Vmb_Lg		21 44 44.5	

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*SOME **09** 21:51:38.9, 38.93°N×72.70°E, h0^{km}*

*NNC **09** 21:51:40.1±4.5, 38.83°N×72.67°E, h0^{km}, mb3.8, mpv3.5, Error ellipse: s-maj=33.0km s-min=21.9km az=177.0*

ISC 09 21:51:43.5±2.9**, 39.0°N**±0.1°×**72.70°E**±0.07°**, h10^{km}, n14, σ2^{s}63**/20**, 6C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.78**	**6**	*e*P	**Pb**	**21 52 50.2**	**-0.1**
	8.7nm,0.4s						
MRKS				*e*S	**Sb**	**21 53 41.6**	**+5.4**
	40nm,0.4s						
MRKS	**Merke**	**3.78**	**6**	Pg	**Pb**	**21 52 50.2**	**-0.1**
	8.7nm,0.4s						
MRKS				Lg	Lg	21 53 41.6	
	40nm,0.4s						
AAK	**Ala-Archa**	**3.89**	**20**	⇑Pn	**Pn**	**21 52 44.9**	**+1.4**
	2.5nm,0.7s						
AAK				⇑Sn	**Sb**	**21 53 36.0**	**-3.6**
	8.3nm,0.8s						
DZA	**Taraz**	**4.04**	**346**	*e*P	**Pb**	**21 52 55.3**	**+0.6**
	17nm,0.1s						
DZA				*e*S	**Sg**	**21 53 50.3**	**-2.9**
	177nm,0.4s						
DZA	**Taraz**	**4.04**	**346**	Pg	**Pb**	**21 52 55.3**	**+0.6**
	17nm,0.1s						
DZA				Lg	Lg	21 53 50.3	
	177nm,0.4s						
KK02	**Karatay Array**	**4.43**	**339**	⇑Pg	**Pb**	**21 53 00.4**	**-1.1**
	2.8nm,0.6s,baz=159,slow=12						
KK02				⇑Lg	Lg	21 54 01.4	
	17nm,0.5s,baz=159,slow=24						
TKM2	**Tokmak 2**	**4.50**	**28**	⇑Pn	**Pn**	**21 52 51.2**	**-0.7**
	7.3nm,0.6s						
TKM2				⇑Sn	**Sn**	**21 53 47.0**	**+2.5**
	8.6nm,0.7s						
BRLS	**Borolday**	**4.59**	**333**	*e*P	**Pb**	**21 53 02.2**	**-1.8**
	2.1nm,0.2s						
BRLS				*e*S	**Sb**	**21 54 02.2**	**+2.8**
	20nm,0.3s						
BRLS	**Borolday**	**4.59**	**333**	Pg	**Pb**	**21 53 02.2**	**-1.8**
	2.1nm,0.2s						
BRLS				Lg	Lg	21 54 02.2	
	20nm,0.3s						
DGS	**Degeres**	**4.84**	**28**	*e*P	**Pb**	**21 53 09.6**	**+1.1**
	4.1nm,0.5s						
DGS				*e*S	**Sg**	**21 54 15.1**	**-3.9**
	4.7nm,0.7s						
DGS	**Degeres**	**4.84**	**28**	Pg	**Pb**	**21 53 09.6**	**+1.1**
	4.1nm,0.5s						
DGS				Lg	Lg	21 54 15.1	
	4.7nm,0.7s						
KRBS	**Karabastau**	**5.21**	**24**	Pg	**Pb**	**21 53 17.8**	**+3.1**
	0.9nm,0.3s						
KRBS				Lg	Lg	21 54 28.7	
	3.4nm,0.7s						
KOTS	**Kotyrbulak**	**5.39**	**37**	Pg	**Pb**	**21 53 18.1**	**+0.2**
	1.4nm,0.3s						
KOTS				Lg	Lg	21 54 29.0	
	9.5nm,0.6s						
KTBS	**Karatobe**	**5.59**	**31**	Pg	**Pb**	**21 53 17.4**	**-3.8**
	0.6nm,0.3s						
KTBS				Lg	Lg	21 54 28.2	
	5.5nm,0.5s						

IDC 09 21:53:49.2±2.8**, 17.70°S**×**178.04°W, h641^{km}**±23^{km}**, mb2.6**/4**, mb1 3.1**/5**, mb1mx2.8**/30**, mbtmp3.7**/5**, Error ellipse: s-maj=119.0km s-min=24.6km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**269**	P	P	21 55 15.9	-0.1
	12nm,0.3s,baz=132,slow=3.8,SNR=71						
WRA	**Warramunga Arr**	**45.01**	**259**	P	P	22 01 10.4	+0.1
	0.5nm,0.4s,baz=96,slow=7.3,SNR=29						
ASAR	**Alice Springs**	**45.18**	**254**	P	P	22 01 11.4	-0.1
	0.4nm,0.4s,baz=86,slow=8.0,SNR=7.7						
TXAR	**Lajitas Array**	**85.59**	**58**	P	P	22 05 22.2	+0.2
	0.2nm,0.8s,baz=220,slow=7.6,SNR=4.4						
ILAR	**Eielson Array**	**85.61**	**13**	P	P	22 05 20.9	-0.2
	0.3nm,0.6s,baz=218,slow=5.1,SNR=4.3						

IDC 09 21:57:07.4±55.0**, 21.23°S**×**179.29°W, h0^{km}, mb4.2**/3**, mb1 4.3**/3**, mb1mx3.9**/28**, mbtmp4.2**/3**, Error ellipse: s-maj=1003.0km s-min=150.0km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.39**	**245**	P	P	22 04 14.1	+0.4
	1.9nm,0.5s,baz=95,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**43.18**	**258**	P	P	22 05 10.1	-0.3
	2.4nm,0.7s,baz=101,slow=7.9,SNR=21						
WRA	**Warramunga Arr**	**43.31**	**263**	P	P	22 05 11.1	-0.3
	0.7nm,0.3s,baz=100,slow=7.5,SNR=49						

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*MOS **09** 22:05:50.9±1.3, 30.32°N×99.83°E, h9^{km}, mb4.6/21, Error ellipse: s-maj=9.2km s-min=5.9km az=109.9*

*IDC **09** 22:05:51.2±0.6, 30.43°N×100.01°E, h0^{km}, mb4.1/18, mb1 4.2/20, mb1mx4.1/46, mbtmp4.1/20, ML4.0/2, MS3.8/47, Ms1 3.8/47, ms1mx3.7/89, Error ellipse: s-maj=21.6km s-min=12.6km az=59.0*

*BJI **09** 22:05:53.2±0.0, 30.31°N×99.80°E, h10^{km}, mb4.3/31, mB4.9/15, ML4.3/19, Ms4.4/47, Ms7 4.2/40*

*NEIC **09** 22:05:53.6±1.0, 30.42°N±0.07°×99.86°E±0.06°, h10^{km}±1^{km}, mb4.6/54, Error ellipse: s-maj=13.6km s-min=6.7km az=216.0*

ISC 09 22:05:53.2±0.3**, 30.34°N**±0.03°×**99.75°E**±0.03°**, h10^{km}, n211, σ1^{s}86**/193**, mb4.4**/59**, MS3.9**/47**, 13C-6D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**3.50**	**80**	Pn	**Pn**	**22 06 50.5**	**+2.8**
CD2				Pg	**Pg**	**22 06 59.9**	**-0.3**
CD2				Sn	**Sn**	**22 07 27.3**	**-1.9**
CD2				Sg	**Sg**	**22 07 41.8**	**-3.8**
CD2				smax	smax		
	comp=E,1µm,1.0s						
CD2				LR	LR		
	comp=N,1µm,6.6s						
CD2				LR	LR		
	comp=E,7µm,5.9s						
CD2				LR	LR		
	comp=Z,5µm,6.5s						
PZH	**PanZhiHua**	**4.21**	**155**	Pn	**Pn**	**22 07 00.1**	**+2.6**
PZH				Pg	**Pg**	**22 07 11.1**	**-2.7**
PZH				Sg	**Sg**	**22 08 08.8**	**+0.5**
PZH				LR	LR		
	comp=N,4µm,8.1s						
PZH				LR	LR		
	comp=Z,2µm,5.9s						
KMI	**Kunming**	**5.83**	**152**	⇓Pn	**Pn**	**22 07 21.7**	**+1.7**
KMI				Sg	**Sg**	**22 09 00.4**	**-0.2**
KMI				smax	smax		
	comp=N,85nm,1.7s						
KMI				smax	smax		
	comp=E,71nm,1.8s						
KMI				LR	LR		
	comp=N,4µm,8.8s						
KMI				LR	LR		
	comp=Z,3µm,10.6s						
LZH	**Lanzhou**	**6.67**	**30**	⇓Pn	**Pn**	**22 07 34.1**	**+2.6**
LZH				Sn	**Sn**	**22 08 48.4**	**+0.7**
LZH				SS	**SnSn**	**22 09 04.6**	**+5.1**
LZH				smax	smax		
	comp=N,140nm,1.2s						
LZH				smax	smax		
	comp=E,170nm,1.3s						
LZH				LR	LR		
	comp=N,3µm,6.2s						
LZH				LR	LR		
	comp=E,4µm,7.1s						
LZH				LR	LR		
	comp=Z,3µm,8.0s						
KOHI	**KOHIMA**	**6.79**	**229**	*e*P	**Pn**	**22 07 34.6**	**+1.6**
KOHI				*e*S	**Sn**	**22 08 51.8**	**+1.4**
GOMU	**GeErMu**	**7.16**	**326**	Pn	**Pn**	**22 07 41.0**	**+2.8**
GOMU				Pg	Pb	22 08 03.6	+5.9
GOMU				Sg	**Sg**	**22 09 39.2**	**-3.7**
GOMU				LR	LR		
	comp=N,2µm,9.2s						
GOMU				LR	LR		
	comp=Z,1µm,10.4s						
TEZP	**TEZPUR**	**7.16**	**240**	*e*P	**Pn**	**22 07 39.4**	**+1.5**
TEZP				*e*S	**Sn**	**22 09 00.2**	**+0.9**
GYA	**Guiyang**	**7.21**	**121**	⇑Pn	**Pn**	**22 07 40.6**	**+1.8**
GYA				Sn	**Sn**	**22 09 08.4**	**+7.5**
GYA				smax	smax		
	comp=N,70nm,1.6s						
GYA				smax	smax		
	comp=E,99nm,1.5s						
GYA				LR	LR		
	comp=E,2µm,8.0s						
GYA				LR	LR		
	comp=Z,2µm,7.8s						
LSA	**Lhasa**	**7.49**	**267**	P	**Pn**	**22 07 44.0**	**+1.1**
LSA	**Lhasa**	**7.49**	**267**	Pn	**Pn**	**22 07 44.0**	**+1.1**
LSA	**Lhasa**	**7.49**	**267**	Pn	**Pn**	**22 07 46.0**	**+3.1**
LSA				LR	LR		
	comp=N,400nm,5.0s						
LSA				LR	LR		
	comp=E,620nm,5.3s						
LSA				LR	LR		
	comp=Z,900nm,6.8s						
ENH	**Enshi**	**8.41**	**88**	Pn	**Pn**	**22 07 54.2**	**-1.0**
SHL	**Shillong**	**8.43**	**238**	P	**Pn**	**22 07 55.6**	**0.0**
SHL	**Shillong**	**8.43**	**238**	Pn	**Pn**	**22 07 55.5**	**0.0**
SHL	**Shillong**	**8.43**	**238**	*e*P	**Pn**	**22 07 55.1**	**-0.4**
SHL				*e*S	**Sn**	**22 09 31.9**	**+1.0**
SHL				IAML		22 10 27.9	
	comp=N,137nm,0.5s						
SHL				IAML		22 10 29.8	
	comp=E,94nm,0.7s						
XAN	**Xi'an**	**8.60**	**62**	P	**Pn**	**22 07 59.2**	**+1.4**
XAN				smax	smax		
	comp=E,110nm,1.4s						
XAN				smax	smax		
	comp=E,100nm,1.5s						
XAN				LR	LR		
	comp=E,2µm,8.6s						
XAN				LR	LR		
	comp=E,2µm,10.2s						
GTA	**Gaotai**	**9.05**	**0**	⇓P	**Pn**	**22 08 08.2**	**+4.2**
GTA				sP		22 08 18.3	
GTA				pmax	pmax		
	comp=E,50nm,4.7s						
GTA				LR	LR		
	comp=E,550nm,13.8s						
GTA				LR	LR		
	comp=E,2µm,16.4s						
GTA				LR	LR		
	comp=E,690nm,13.8s						
GTK	**Tadong**	**10.23**	**256**	*e*P	**Pn**	**22 08 21.4**	**+1.1**
GTK				*e*S	**Sn**	**22 10 12.2**	**-3.0**
GULI	**GuiLin**	**10.65**	**116**	⇓P	**Pn**	**22 08 24.7**	**-1.2**
GULI				LR	LR		
	comp=E,1µm,7.3s						
GULI				LR	LR		
	comp=E,1µm,10.0s						
TAPN	**Taplejung**	**10.97**	**257**	*e*P	**Pn**	**22 08 31.7**	**+1.2**
	comp=E,22nm,0.4s						
ODAN	**Odare**	**11.40**	**255**	*e*P	**Pn**	**22 08 36.6**	**+0.2**
	comp=E,40nm,0.4s						
CHTO	**Chiang Mai**	**11.50**	**184**	P	**Pn**	**22 08 38.0**	**+0.5**
CHTO	**Chiang Mai**	**11.50**	**184**	Pn	**Pn**	**22 08 38.0**	**+0.5**
LYN	**LuoYang**	**11.53**	**65**	*e*P	**Pn**	**22 08 37.7**	**-0.2**
LYN				S	**Sn**	**22 10 45.8**	**-0.9**
LYN				pmax	pmax		
	comp=E,200nm,5.3s						
LYN				LR	LR		
	comp=E,3µm,9.6s						
LYN				LR	LR		
	comp=E,830nm,13.7s						
CM31	**Chiang Mai Arr**	**11.86**	**184**	Pn	**Pn**	**22 08 44.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**11.86**	**184**	Pn	**Pn**	**22 08 45.2**	**+2.8**
	comp=E,0.6nm,0.3s,baz=358,slow=12,SNR=16						
CMAR				Lg	Lg	22 12 11.4	
	comp=E,0.2nm,0.3s,baz=8.0,slow=27,SNR=1.4						
CMAR				LR	LR	22 13 55.6	
	comp=E,258nm,18.3s,baz=5.0,slow=40						
CMAR	**Chiang Mai Arr**	**11.86**	**184**	Pn	**Pn**	**22 08 43.2**	**+0.8**
RAMN	**Ramite**	**12.04**	**257**	*e*P	**Pn**	**22 08 46.2**	**+1.1**
	comp=E,34nm,0.5s						
JIRN	**Jiri**	**12.17**	**261**	*e*P	**Pn**	**22 08 47.6**	**+0.6**
	comp=E,24nm,0.4s						
GUN	**Gumba**	**12.37**	**262**	*e*P	**Pn**	**22 08 49.5**	**-0.2**
	comp=E,23nm,0.3s						
WHN	**Wuhan**	**12.60**	**85**	⇓P	**Pn**	**22 08 52.4**	**-0.1**
WHN				S	Sn	22 11 23.9	+11
WHN				LR	LR		

comp=E,6µm,15.0s
PKI Pulchoki 12.86 261 *e*P **Pn 22 08 55.4 -1.0**
comp=E,27nm,0.4s
PKIN Phulchoki 12.87 261 *e*P **Pn 22 08 55.5 -1.0**
comp=E,22nm,0.4s
BTO Baotou 13.21 36 *e*P **Pn 22 09 01.8 +0.9**
BTO S **Sn 22 11 35.2 +7.2**
BTO LR LR
comp=E,3µm,7.9s
BTO LR LR
comp=E,4µm,8.8s
GKN Gorkha 13.41 264 *e*P **Pn 22 09 01.4 -2.4**
comp=E,20nm,0.4s
BOK Bokaro 13.96 245 *e*P **Pn 22 09 09.4 -1.8**
DANN Dangsing 14.09 266 *e*P **Pn 22 09 10.2 -3.0**
comp=E,30nm,0.5s
HHC Hu-ho-hao-te 14.21 39 *e*P **Pn 22 09 12.3 -2.2**
HHC S **Sn 22 11 51.6 -0.6**
HHC pmax pmax
comp=E,10.0nm,1.1s
HHC pmax pmax
comp=E,170nm,5.0s
HHC LR LR
comp=E,2µm,8.2s
HHC LR LR
comp=E,1µm,9.8s
HHC LR LR
comp=E,1µm,8.1s
HNS HongShan 14.27 56 ⇑P **P 22 09 22.5 -0.1**
HNS pmax pmax
comp=E,5.0nm,1.2s
HNS LR LR
comp=E,780nm,11.6s
HNS LR LR
comp=E,450nm,13.5s
KOLN Koldanda 14.36 264 *e*P **Pn 22 09 14.5 -2.3**
comp=E,64nm,0.7s
QIZ Qiongzhong 14.51 139 S **Sn 22 11 55.1 -4.7**
QIZ Qiongzhong 14.51 139 LR LR
comp=N,2µm,12.9s
QIZ Qiongzhong 14.51 139 LR LR
comp=E,2µm,11.1s
QIZ Qiongzhong 14.51 139 LR LR
comp=Z,1µm,9.3s
QIZ Qiongzhong 14.51 139 P Pn 22 09 13.3 -5.4
PYUN Piuthan 14.81 265 *e*P **Pn 22 09 19.9 -3.0**
comp=Z,19nm,0.5s
NJ2 Nanjing 16.43 79 *e*P **Pn 22 09 42.2 -1.7**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 LR LR
comp=Z,940nm,4.0s
NJ2 LR LR
comp=Z,830nm,4.5s
WMQ Urumqi 16.51 328 *e*P **Pn 22 09 44.1 -0.8**
WMQ pP P 22 09 48.6 +1.0
WMQ PP **PnPn 22 09 55.9 +1.8**
WMQ S **Sn 22 12 45.7 -2.6**
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ LR LR
comp=Z,830nm,15.5s
SONM Songino Array 18.20 14 P **Pn 22 10 05.4 -0.6**
comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=50
SONM LR LR 22 17 55.5
comp=Z,330nm,20.5s,baz=200,slow=40
SONM Songino Array 18.20 14 Pn 22 10 04.7 -1.3
DGPR DIGLIPUR 18.21 202 *e*P **Pn 22 10 05.6 -0.6**
ULN Ulaanbaatar 18.38 16*ce*P **Pn 22 10 07.8 -0.4**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 18.38 16 Pn 22 10 06.3 -1.9
XLT XiLinHaoTe 18.73 39 *e*P **Pn 22 10 13.9 +1.4**
XLT pP sP 22 10 18.5 +0.4
XLT sP pP 22 10 20.8 +4.6
XLT pmax pmax
comp=Z,6.0nm,1.1s
XLT pmax pmax
comp=Z,180nm,3.6s
SMLA Simla 19.43 278 *e*P **P 22 10 19.4 -0.3**
PBA Port Blair 19.70 201 P **Pn 22 10 23.7 -0.5**
PBA IAmb IAmb 22 10 53.1
comp=Z,34nm,1.2s
DL2 Dalian 19.89 59 P **P 22 10 22.1 -2.6**
DL2 S **Sn 22 14 09.6 -0.3**
DL2 pmax pmax
comp=Z,34nm,1.5s
DL2 pmax pmax
comp=Z,210nm,3.7s
DL2 LR LR
comp=N,650nm,15.6s
DL2 LR LR
comp=E,450nm,16.1s
DL2 LR LR
comp=Z,290nm,11.8s
DLV T Lat 20.02 154 P **Pn 22 10 27.3 -0.9**
DHRM DHARAMSHALA 20.13 281 *e*P Pn 22 10 29.3 -0.1
ZAK Zakamensk 20.19 7 *e*P **P 22 10 28.3 +0.3**
ZAK pmax pmax
comp=Z,43nm,1.1s
KNGR Kungurtug, Tuv 20.31 356 *i* P Pn 22 10 31.2 -0.1
TARG Taragay, Kyrgy 21.01 309 P **P 22 10 37.6 +0.3**
BHPL Bhopal 21.13 256 *ex* **P 22 10 40.1 +1.8**
BHPL IAmb IAmb 22 10 45.6
comp=Z,36nm,1.3s
MK31 Makanchi Array 21.28 325 P **P 22 10 39.6 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 21.28 325 P **P 22 10 39.6 -0.2**
MKAR Makanchi Array 21.28 325 P **P 22 10 40.4 +0.6**
comp=Z,16nm,0.7s,baz=132,slow=12,SNR=50
MKAR LR LR 22 18 45.4
comp=Z,249nm,21.5s,baz=136,slow=36
MKAR Makanchi Array 21.28 325 P **P 22 10 39.7 0.0**
MOY Mondy 21.32 2 *e*P **P 22 10 41.8 +1.5**
MOY pmax pmax
comp=Z,42nm,1.7s
KSH Kashi 21.49 302 P **P 22 10 44.1 +1.9**
KSH pP sP 22 10 48.1 -0.2
KSH sP pP 22 10 50.8 +4.5
KSH pmax pmax
comp=Z,2.0nm,0.5s
KSH LR LR
comp=Z,580nm,13.3s
KSH LR LR
comp=Z,270nm,9.2s
KSH LR LR
comp=Z,570nm,15.9s
SRIT Nakonsritamara 21.64 180 P **P 22 10 45.0 +1.3**
IRK Irkutsk 22.13 7 *e*P **P 22 10 47.9 -0.9**
IRK pmax pmax
comp=Z,32nm,2.1s
BOOM Boomskoye usch 22.59 309 P **P 22 10 54.0 0.0**
BOOM pmax pmax
comp=Z,8.0nm,1.0s
BOOM Boomskoye usch 22.59 309 P **P 22 10 54.0 0.0**
NIL Nilore 22.70 285 P **P 22 10 55.8 +0.7**
NIL pmax pmax
comp=Z,26nm,1.0s
NIL Nilore 22.70 285 P **P 22 10 55.8 +0.7**
NIL IAmb IAmb 22 11 03.7
comp=Z,26nm,0.9s
HYBB Hyderabad (bro 23.21 241 *e*P **P 22 11 03.3 +2.7**
AAK Ala-Archa 23.63 308 P **P 22 11 05.8 +1.2**
comp=Z,4.1nm,0.9s,baz=122,slow=8.3,SNR=18
AAK LR LR 22 22 00.4
comp=Z,150nm,18.5s,baz=118,slow=41
AAK Ala-Archa 23.63 308*ce*P **P 22 11 05.7 +1.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 23.63 308 P **P 22 11 05.3 +0.7**
HIA Hailar 24.22 33 *i* P **P 22 11 11.2 +1.2**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 24.22 33 P **P 22 11 09.6 -0.5**
HIA IAmb IAmb 22 11 12.1
comp=Z,14nm,1.1s
KSRS Korea Array 24.38 66 P **P 22 11 08.3 -3.2**
comp=Z,8.3nm,0.9s,baz=257,slow=11,SNR=15
KSRS LR LR 22 20 38.8
comp=Z,162nm,21.3s,baz=255,slow=37
CN2 Changchun 24.39 49 *e*P **P 22 11 07.5 -4.1**
CN2 *e*PP **PnPn 22 11 42.3 +0.4**
CN2 *e*S **S 22 15 22.5 -8.6**
CN2 *es*S pS 22 15 29.3 -6.5
CN2 *e*SS **SnSn 22 16 14.8 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,1µm,17.0s
CN2 LR LR
comp=E,620nm,17.0s
CN2 LR LR
comp=Z,890nm,19.0s
DRK Karamyk 24.59 299 P **P 22 11 14.3 +0.4**
JOW Kunigami 25.26 91 LR LR 22 21 59.9
comp=Z,85nm,19.7s,baz=294,slow=39
BTK Batken 25.46 300 P **P 22 11 21.7 +0.3**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 25.46 300 P **P 22 11 21.7 +0.3**
BTK IAmb IAmb 22 11 54.0
comp=Z,6.6nm,0.8s
GAR Garm 25.62 298 P **P 22 11 22.9 0.0**
GAR IAmb IAmb 22 11 55.5
comp=Z,9.8nm,1.0s
KURBB Kurchatov Arra 25.74 328 P **P 22 11 24.0 +0.3**
comp=Z,8.9nm,0.8s,baz=139,slow=9.9,SNR=100
KURBB LR LR 22 22 49.4
comp=Z,169nm,18.8s,baz=114,slow=40
KURK Kurchatov 25.76 328*ce*P **P 22 11 23.6 -0.3**
KURK pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 25.76 328 P **P 22 11 23.8 -0.2**
KURK IAmb IAmb 22 11 25.2
comp=Z,18nm,0.8s
ZAA0 Zalesovo Array 25.95 340 P **P 22 11 24.9 -0.7**
ZALV Zalesovo Beam 25.95 340 P **P 22 11 25.9 +0.3**
comp=Z,1.7nm,0.5s,baz=147,slow=9.2,SNR=9.1
ZALV LR LR 22 22 47.7
comp=Z,105nm,21.5s,baz=159,slow=39
ZALV Zalesovo Beam 25.95 340 *i* P **P 22 11 28.3 +2.7**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 25.95 340 P **P 22 11 25.1 -0.5**
KBL Kabul 26.20 287 P **P 22 11 28.5 +0.1**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 26.20 287 P **P 22 11 28.5 +0.1**
KBL IAmb IAmb 22 12 04.2
comp=Z,5.7nm,0.6s
CHGR Chuyangaron 26.45 297 P **P 22 11 32.5 +2.0**
CHGR pmax pmax
comp=Z,18nm,1.2s
CHGR Chuyangaron 26.45 297 P **P 22 11 31.1 +0.7**
CHGR IAmb IAmb 22 11 38.1
comp=Z,18nm,1.2s
BNX BinXian 26.48 47 ⇓P **P 22 11 31.0 +0.5**
BNX pmax pmax
comp=Z,22nm,1.1s
BNX pmax pmax
comp=Z,430nm,5.6s
KKAR Karatay Array 26.53 307 P **P 22 11 30.9 -0.1**
KKAR Karatay Array 26.53 307 P **P 22 11 30.9 -0.1**
PALK Pallekele 29.09 222 LR LR 22 26 01.5
comp=Z,125nm,19.6s,baz=140,slow=41
KLR Kul'dur 30.66 43 LR LR 22 25 15.2
comp=Z,128nm,18.2s,baz=243,slow=38
BRVK Borovoye 31.24 325*ce*P **P 22 12 12.8 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 31.24 325 P **P 22 12 12.4 -0.4**
BRVK IAmb IAmb 22 12 14.2
comp=Z,5.7nm,0.9s
MJAR Matsushiro Arr 32.52 69 LR LR 22 25 48.1
comp=Z,109nm,19.9s,baz=200,slow=37
DAV Davao City (W) 33.51 128 LR LR 22 28 08.3
comp=Z,192nm,18.4s,baz=350,slow=40
GEYT Alibeck 35.06 294 P **P 22 12 47.8 +1.5**
comp=Z,1.4nm,0.4s,baz=114,slow=9.6,SNR=3.7
GEYT LR LR 22 29 23.7
comp=Z,357nm,18.6s,baz=93,slow=40
GEYT Alibeck 35.06 294 P **P 22 12 45.7 -0.7**
GEYT IAmb IAmb 22 12 51.4
comp=Z,13nm,1.5s
GYA0 ALIBECK ARRAY 35.06 294 P **P 22 12 45.8 -0.5**
GYA0 pmax pmax
comp=Z,16nm,1.4s
GYA0B ALIBECK ARRAY 35.06 294 P **P 22 12 45.8 -0.6**
GYA0B IAmb IAmb 22 12 51.4
comp=Z,16nm,1.4s
ABKAR Akbulak array 35.43 314 P **P 22 12 49.0 -0.4**
ASAJ Asahikawa 36.37 56 LR LR 22 27 10.1
comp=Z,109nm,19.2s,baz=293,slow=35
AKTO Aktyubinsk 36.97 315 LR LR 22 29 55.7
comp=Z,169nm,20.2s,baz=114,slow=39
YAK Yakutsk 37.20 23 LR LR 22 29 25.6
comp=Z,164nm,18.4s,baz=264,slow=38
LEM Lembang 37.72 167 LR LR 22 28 55.6
comp=Z,158nm,19.1s,baz=322,slow=37
SVE Sverdlovsk 37.95 326 *e*P **P 22 13 11.1 +0.4**
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 38.80 324 LR LR 22 30 37.2
comp=Z,116nm,20.2s,baz=106,slow=38
ARU Arti 38.80 324*c i*P **P 22 13 18.1 +0.2**
ARU 22 14 48.6
ARU 22 15 25.4
ARU S **S 22 19 18.3 +3.1**
ARU SS **SnSn 22 21 58.9 -5.4**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 38.80 324 P **P 22 13 17.8 -0.1**
ARU IAmb IAmb 22 13 19.2
comp=Z,13nm,1.0s
NRIK Noril'sk 39.66 353 P **P 22 13 23.8 -1.2**
comp=Z,4.5nm,0.9s,baz=165,slow=5.9,SNR=5.1
NRIK LR LR 22 30 32.9
comp=Z,153nm,18.3s,baz=180,slow=37
NRIK Noril'sk 39.66 353*ce*P **P 22 13 23.9 -1.0**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
NRIK Noril'sk 39.66 353 P **P 22 13 23.9 -1.0**
TIXI Tiksi 44.27 13*ce*P **P 22 14 06.3 +3.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
MA2 Magadan 44.81 34 LR LR 22 33 44.8
comp=Z,114nm,19.2s,baz=274,slow=38
MA2 Magadan 44.81 34*ce*P **P 22 14 06.4 -0.6**
MA2 pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 45.35 298*ce*P P 22 14 16.9 +5.1
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 45.35 298 P **P 22 14 11.7 -0.1**
GNI IAmb IAmb 22 14 36.5
comp=Z,12nm,1.4s
ONI Oni 46.12 302 P **P 22 14 17.4 -0.3**
ONI pmax pmax
comp=Z,18nm,1.8s
ONI Oni 46.12 302 P **P 22 14 17.4 -0.3**
ONI IAmb IAmb 22 14 24.0
comp=Z,18nm,1.8s
KBZ Khabaz 46.46 303 LR LR 22 36 38.1
comp=Z,78nm,19.2s,baz=82,slow=40
KIV Kislovodsk 46.60 303 *e*P **P 22 14 22.8 +1.3**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 46.60 303 P **P 22 14 21.6 +0.1**
KIV IAmb IAmb 22 14 32.0
comp=Z,5.8nm,1.0s
SEY Seymchan 46.61 30 LR LR 22 35 28.9
comp=Z,206nm,20.5s,baz=240,slow=38
PETK Petropavlovsk- 47.34 44 LR LR 22 36 11.1
comp=Z,87nm,20.0s,baz=266,slow=39
GURO Guroymak-BITLI 47.63 296 P **P 22 14 29.6 -0.1**
GURO IAmb IAmb 22 14 37.2
comp=Z,2.3nm,0.7s
RAYN Ar Rayn 48.47 276 P **P 22 14 36.7 +0.4**
RAYN pmax pmax
comp=Z,2.0nm,1.0s
RAYN Ar Rayn 48.47 276 P **P 22 14 36.6 +0.4**
VORR Voronezh 48.85 314 *e*P P 22 14 33.4 -5.3
VORR pmax pmax
comp=Z,20nm,0.4s
KLMR Klimovskoe 49.58 326 *e*P **P 22 14 41.6 -2.6**
KLMR *e* 22 16 36.5
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 49.58 326 *e*P **P 22 14 41.7 -2.5**
KLMR AMP 22 14 44.4
comp=Z,12nm,1.3s
KLMR *e*PP **PP 22 16 36.5 -1.8**
OBN Obninsk 50.55 318 ⇑*i*P **P 22 14 50.7 -0.8**
OBN pmax pmax
comp=Z,6.0nm,0.9s
BILL Bilibino 53.47 25 *i* P **P 22 15 15.8 +2.6**
BILL pmax pmax
comp=Z,2.0nm,1.4s
BRTR Keskin Array B 53.85 299 LR LR 22 43 26.0
comp=Z,66nm,18.0s,baz=80,slow=42
MMAI Mount Meron Ar 54.06 291 LR LR 22 40 46.3
comp=Z,88nm,20.2s,baz=246,slow=39
FITZ Fitzroy Crossi 54.23 149 LR LR 22 40 50.5
comp=Z,48nm,19.0s,baz=324,slow=39
FITZ Fitzroy Crossi 54.23 149 P **P 22 15 18.7 -0.6**
FITZ IAmb IAmb 22 15 43.6
comp=Z,5.5nm,1.4s
AKASG Malin Array Be 55.17 313 P **P 22 15 25.2 -0.6**
comp=Z,1.8nm,0.5s,baz=69,slow=6.4,SNR=7.0
AKASG LR LR 22 42 35.7
comp=Z,114nm,18.3s,baz=358,slow=40
AKASG Malin Array Be 55.17 313*ce*P **P 22 15 28.7 +2.9**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
EIL Elat 55.40 287 LR LR 22 43 38.1
comp=Z,144nm,19.5s,baz=78,slow=41
FIA1 FINESS Array S 56.11 326 P **P 22 15 32.1 -0.3**
FINES FINESS Array B 56.11 326 P **P 22 15 31.6 -0.8**
comp=Z,0.9nm,0.5s,baz=87,slow=7.2,SNR=7.1
FINES FINESS Array B 56.11 326 P **P 22 15 31.8 -0.6**
FINES FINESS Array B 56.11 326 P **P 22 15 31.8 -0.6**
ARCES ARCESS Array B 56.42 336 P **P 22 15 34.2 -0.3**
comp=Z,3.6nm,1.1s,baz=92,slow=6.1,SNR=7.4
ARCES LR LR 22 41 42.2
comp=Z,154nm,19.2s,baz=32,slow=38
ARCES ARCESS Array B 56.42 336 P **P 22 15 34.3 -0.3**
ARCES pmax pmax
comp=Z,18nm,1.4s
ARCES ARCESS Array B 56.42 336 P **P 22 15 34.2 -0.3**
PABE Paberze 57.71 319 P **P 22 15 44.0 +0.2**
MLR Muntele Rosu 58.21 307 LR LR 22 42 34.6
comp=Z,122nm,19.6s,baz=63,slow=38
MLR Muntele Rosu 58.21 307 P **P 22 15 48.0 +0.3**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 58.21 307 P **P 22 15 48.0 +0.3**
MLR IAmb IAmb 22 16 03.9
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 58.26 310 P **P 22 15 48.6 +0.7**
SPITS Spitsbergen Ar 59.18 346 LR LR 22 43 09.2
comp=Z,112nm,21.0s,baz=196,slow=38
KWP Kalwaria Pacla 59.48 313 P **P 22 15 56.5 +0.2**
KWP Kalwaria Pacla 59.48 313 P **P 22 15 56.5 +0.2**
WB0 Warramunga Arr 59.94 142 P **P 22 15 58.8 -1.0**
WRA Warramunga Arr 60.06 142 P **P 22 15 59.6 -0.9**
comp=Z,7.9nm,0.9s,baz=328,slow=7.6,SNR=55
WRA Warramunga Arr 60.06 142 P **P 22 15 59.9 -0.7**
WRA Warramunga Arr 60.06 142 P **P 22 15 59.9 -0.7**
WR0 Warramunga Arr 60.18 142 P **P 22 16 00.6 -0.8**
COEN Coen 60.72 130 P **P 22 16 04.4 -0.7**
COEN IAmb IAmb 22 16 05.4
comp=Z,7.3nm,1.1s
ASAR Alice Springs 62.91 145 P **P 22 16 18.9 -0.9**
comp=Z,1.3nm,0.8s,baz=330,slow=6.4,SNR=14
NB2 NORSAR Subarra 63.27 327 P **P 22 16 25.1 +3.3**
comp=Z,0.9nm,0.6s,baz=74,slow=6.9
NOA NORSAR Array B 63.27 327 P **P 22 16 20.9 -0.9**
comp=Z,1.0nm,0.8s,baz=75,slow=6.8,SNR=3.9
VRAC Vranov 63.42 313 LR LR 22 46 44.8
comp=Z,128nm,20.9s,baz=44,slow=39
CLL Collm 65.04 316 *e*P **P 22 16 37.0 +3.5**
CLL Collm 65.04 316 *e*Px Px 22 16 37.0
GERES GERESS Array B 65.38 314 P **P 22 16 36.4 +0.5**
comp=Z,0.6nm,0.6s,baz=60,slow=6.9,SNR=2.3
ABTA Abfaltersbach 66.82 312 *e*P **P 22 16 48.3 +3.1**
comp=Z,1.6nm,0.7s
KMBO Kilima Mbogo 67.09 254 P **P 22 16 48.6 +1.0**
comp=Z,0.7nm,0.5s,baz=45,slow=17,SNR=1.9
KMBO Kilima Mbogo 67.09 254 *i* P P 22 16 54.0 +6.4
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 67.09 254 P **P 22 16 48.2 +0.6**
KMBO IAmb IAmb 22 17 19.7
comp=Z,3.2nm,1.2s
SQTA Sankt Quirin 67.50 312 *e*P **P 22 16 49.4 -0.1**
comp=Z,1.9nm,0.5s
NRCA Norcia 67.80 308 P **P 22 16 51.9 +0.4**
DAVOX Davos/Dischmat 68.50 312 LR LR 22 49 55.0
comp=Z,113nm,18.9s,baz=46,slow=38
TUE Stuetta 68.96 312 P **P 22 16 59.3 +0.4**
IMAR Indian Mountai 69.01 25 P **P 22 16 57.7 -0.9**
MLY Manley 70.58 25 P **P 22 17 07.8 -0.5**
MLY IAmb IAmb 22 17 35.0
comp=Z,3.9nm,1.2s
BPAW Bear Paw Mtn. 70.95 26 P **P 22 17 10.2 -0.3**
BPAW IAmb IAmb 22 17 41.0
comp=Z,9.2nm,1.5s
BMAR Burnt Mountain 71.39 22 P **P 22 17 12.9 -0.2**
ILAR Eielson Array 72.11 24 P **P 22 17 16.6 -0.9**
comp=Z,0.4nm,0.9s,baz=304,slow=5.3,SNR=2.2
PRP Porcupine Dome 72.17 23 P **P 22 17 17.9 0.0**
PRP IAmb IAmb 22 17 39.9
comp=Z,6.0nm,1.4s
A36M Sachs Harbour 73.29 13 P **P 22 17 23.8 -0.5**
A36M IAmb IAmb 22 17 28.6
comp=Z,4.3nm,0.8s
KDAK Kodiak Island 73.51 32 LR LR 22 53 24.5
comp=Z,114nm,18.3s,baz=4.4,slow=39
STKA Stephens Creek 73.52 144 P **P 22 17 25.5 -0.7**
comp=Z,3.6nm,1.1s,baz=340,slow=13,SNR=4.2
STKA LR LR 22 53 58.5
comp=Z,63nm,18.3s,baz=25,slow=39
SCRK Sand Creek 73.60 24 P **P 22 17 25.9 -0.6**
SCRK IAmb IAmb 22 17 41.7
comp=Z,11nm,1.8s
INK Inuvik 74.07 18 LR LR 22 54 02.9
comp=Z,72nm,18.6s,baz=110,slow=39
KLU Klutina 74.33 27 P **P 22 17 31.0 +0.3**
BORG Borgarnes 74.78 338 LR LR 22 52 42.4
comp=Z,86nm,18.1s,baz=41,slow=38
BCAR Beaver Creek A 74.94 24 P **P 22 17 34.2 +0.1**
SFJD Kangerlussuaq 80.40 349 LR LR 22 57 43.8
comp=Z,111nm,18.5s,baz=26,slow=39
YKA Yellowknife Ar 83.46 15 P **P 22 18 19.7 -1.0**
comp=Z,0.3nm,0.7s,baz=322,slow=4.4,SNR=1.4
YKA LR LR 23 00 56.6
comp=Z,64nm,18.3s,baz=298,slow=40
BOSA Boshof 92.08 238 LR LR 22 59 31.6
comp=Z,47nm,19.2s,baz=118,slow=35
TSUM Tsumeb 93.04 250 LR LR 23 01 46.9
comp=Z,37nm,18.1s,baz=148,slow=36
KOWA Kowa 94.26 289 LR LR 23 09 40.9
comp=Z,57nm,19.4s,baz=248,slow=41
SCHQ Schefferville 94.39 352 LR LR 23 05 58.0
comp=Z,45nm,19.0s,baz=82,slow=38
NEW Newport 95.06 24 LR LR 23 04 38.7
comp=Z,130nm,19.6s,baz=294,slow=37
SUR Sutherland 97.33 237 LR LR 23 02 01.1
comp=Z,38nm,18.2s,baz=106,slow=34
DBIC Dimbokro 99.13 283 LR LR 23 09 38.4
comp=Z,41nm,19.5s,baz=70,slow=38
URZ Urewera 99.27 129 LR LR 23 07 27.3
comp=Z,35nm,18.1s,baz=30,slow=37

KRSC 09 22:20:21.4±2.4, 49°.08N×157°.31E, h30^{km}±28^{km}, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.78**	**335**	*e*P		Pn	22 20 48.7	-1.4
PAU	**Pauzhetka**	**2.42**	**353**	*e*P		Pn	22 21 00.9	+2.1
KDTR	**Khodutka, Kamc**	**2.78**	**10**	*e*P		Pb	22 21 07.1	-3.3
KDTR				*e*S		Sb	22 21 40.8	-3.1
RUS	**Russkaya**	**3.45**	**12**	*e*P		Pn	22 21 16.5	+3.5
RUS				*e*S		Sn	22 21 56.4	+3.7
MTVR	**Mutnovka**	**3.46**	**9**	*e*P		Pn	22 21 17.1	+3.9
MTVR				*e*S		Sb	22 21 58.4	-5.1
GRL	**Gorelyy**	**3.51**	**8**	*e*P		Pn	22 21 18.0	+4.0
KRMR	**Karymshinskiy**	**3.79**	**8**	*e*P		Pn	22 21 22.4	+4.7
DALK	**Dalny**	**4.06**	**12**	*e*P		Pn	22 21 25.9	+4.5
UGLR	**Uglovaya**	**4.25**	**12**	*e*P		Pn	22 21 28.8	+4.7
AVH	**Avacha**	**4.29**	**12**	*e*P		Pn	22 21 29.9	+5.3
SMAR	**Somma**	**4.30**	**12**	*e*P		Pn	22 21 29.4	+4.5
KOK	**Koryaka**	**4.30**	**11**	*e*P		Pn	22 21 30.3	+5.5
SDLR	**Sedlovina**	**4.32**	**13**	*e*P		Pn	22 21 29.3	+4.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRER	Koryakskii	4.33	12	eP	Pn	22 21 30.6	+5.3
SPN	Mys Shipunski	4.38	22	eP	Pn	22 21 30.8	+5.1
SPN				eS	Sn	22 22 20.4	+4.8
GNL	Ganaly	4.64	5	eP	Pn	22 21 33.8	+4.3
TUMD	Tumrok D	6.42	16	eP	Pn	22 21 58.9	+5.0
TUMR	Tumrok	6.46	15	eP	Pn	22 22 00.9	+6.5
KBTR	Krutoberegovo	7.89	23	eP	Pn	22 22 18.4	+4.5

ISK ***09*** *22:21:31.2, 35°.09N×23°.54E, h56km, ML3.7/6*
ATH ***09*** *22:21:32.7, 35°.21N×23°.41E, h41km±1km, ML3.4/8, Error ellipse: s-maj=4.6km s-min=1.3km az=43.0*
DDA ***09*** *22:21:33.9±0.0, 35°.27N×23°.78E, h7km±3km, ML3.5*
IDC ***09*** *22:21:34.4±2.0, 35°.37N×23°.32E, h72km±23km, mb3.6/7, mb1 3.6/9, mb1mx3.3/35, mbtmp3.8/9, MS3.0/2, Ms1 3.0/2, ms1mx2.5/80, Error ellipse: s-maj=29.5km s-min=16.7km az=140.0*
THE ***09*** *22:21:34.0, 35°.20N×23°.39E, h28km, ML3.4/9, Error ellipse: s-maj=1.7km s-min=0.8km az=56.0*
GII ***09*** *22:21:38.7±0.0, 34°.81N×24°.17E, h30km, Mm3.4/5*
ISC 09 22:21:31.5±0.8, **35°.18N**±0°.05×**23°.41E**±0°.05, **h45**km±7km, **n89**, σ**2.37**/105, **mb3.8**/7, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.23	76	P	Pn	22 21 39.8	+0.3
KNDR				S	Sn	22 21 45.0	-0.1
	14µm,0.7s						
KNDR	Palaiochora Ch	0.23	76	PG	Pn	22 21 39.9	+0.4
KNDR				SG	Sn	22 21 47.1	+2.0
RODP	Rodopos	0.47	36	P	Pn	22 21 43.0	+0.9
RODP				S	Sn	22 21 51.1	+1.4
	1µm,0.5s						
RODP	Rodopos	0.47	36	PG	Pn	22 21 43.2	+1.1
RODP				SG	Sn	22 21 52.2	+2.5
IMMV	Iera Moni Meta	0.54	59	P	Pn	22 21 44.1	+1.1
IMMV				S	Sn	22 21 53.4	+2.2
IMMV				AML	AML	22 21 56.1	
	comp=E,13188µm,0.4s						
IMMV				AML	AML	22 21 58.9	
	comp=N,8442µm,0.5s						
IMMV	Iera Moni Meta	0.54	59	P	Pn	22 21 44.1	+1.1
IMMV				S	Sn	22 21 53.4	+2.2
	comp=N,6µm,0.5s						
GVDS	Gavdos	0.65	121	P	Pn	22 21 46.2	+1.8
GVDS				S	Sn	22 21 56.8	+3.2
	comp=N,4µm,0.3s						
GVD	Gavdhos	0.65	121	P	Pn	22 21 46.8	+2.4
GVD				S	Sn	22 21 56.9	+3.3
GVD				AML	AML	22 22 01.2	
	comp=E,8441µm,0.3s						
GVD				AML	AML	22 22 04.7	
	comp=N,11618µm,0.6s						
GVD	Gavdhos	0.65	121	P	Pn	22 21 46.8	+2.4
GVD				S	Sn	22 21 56.9	+3.3
	comp=N,5µm,0.5s						
VAM	Vamos	0.68	70	P	Pn	22 21 46.7	+1.9
VAM				S	Sn	22 21 56.6	+2.2
VAM				AML	AML	22 22 00.0	
	comp=N,13771µm,0.4s						
VAM				AML	AML	22 22 00.3	
	comp=E,8980µm,0.8s						
VAM	Vamos	0.68	70	P	Pn	22 21 46.7	+1.9
VAM				S	Sn	22 21 56.6	+2.2
	comp=E,6µm,0.6s						
ANKY	Antikythira Is	0.69	352	P	Pn	22 21 46.4	+1.5
ANKY				S	Sn	22 21 56.7	+2.1
ANKY				AML	AML	22 21 58.7	
	comp=N,6323µm,0.5s						
ANKY				AML	AML	22 21 59.8	
	comp=E,4068µm,0.5s						
ANKY	Antikythira Is	0.69	352	P	Pn	22 21 46.4	+1.5
ANKY				S	Sn	22 21 56.7	+2.1
	comp=E,3µm,0.5s						
KTHA	Kythira Island	1.11	345	P	Pn	22 21 52.6	+1.9
KTHA				AML	AML	22 22 14.9	
	comp=N,1871µm,0.5s						
KTHA				AML	AML	22 22 17.2	
	comp=E,3250µm,0.8s						
KTHA	Kythira Island	1.11	345	P	Pn	22 21 52.6	+1.9
KTHA				S	Sn	22 22 07.4	+2.6
	comp=E,1µm,0.6s						
SIVA	Sivas	1.16	98	P	Pn	22 21 54.2	+3.0
SIVA				AML	AML	22 22 22.0	
	comp=N,2453µm,0.6s						
SIVA				AML	AML	22 22 23.1	
	comp=E,4244µm,0.6s						
SIVA	Sivas	1.16	98	P	Pn	22 21 54.2	+3.0
IDI	Anoyia	1.21	84	P	Pn	22 21 54.7	+2.7
	comp=E,22nm,0.3s,baz=242,slow=10.0,SNR=137						
IDI				S	Sn	22 22 13.7	+6.3
	comp=E,64nm,0.3s,baz=355,slow=19,SNR=12						
IDI				LR	LR	22 22 41.2	
	comp=E,127nm,18.6s,baz=298,slow=52						
IDI	Anoyia	1.21	84	P	Pn	22 21 54.7	+2.7
IDI				AML	AML	22 22 16.6	
	comp=N,2066µm,0.5s						
IDI				AML	AML	22 22 21.0	
	comp=E,974µm,0.5s						
IDI	Anoyia	1.21	84	P	Pn	22 21 54.8	+2.7
IDI				S	Sn	22 22 11.2	+3.8
	comp=E,760nm,0.5s						
IACM	Heraklion	1.36	84	P	Pn	22 21 56.4	+2.4
IACM	Heraklion	1.36	84	P	Pn	22 21 56.4	+2.4
HRKL	Herakleio	1.39	84	PN	Pn	22 21 53.9	-0.5
HRKL				SN	Sn	22 22 10.6	-0.9
MNVA	Monemvasia	1.54	349	P	Pn	22 21 58.9	+2.5
VLI	Veliai	1.58	346	P	Pn	22 21 59.3	+2.2
VLI				AML	AML	22 22 24.8	
	comp=N,932µm,0.6s						
VLI				AML	AML	22 22 33.0	
	comp=E,606µm,0.6s						
VLI	Veliai	1.58	346	P	Pn	22 21 59.3	+2.2
NPS	Neapolis	1.80	87	P	Pn	22 22 03.4	+3.3
NPS	Neapolis	1.80	87	P	Pn	22 22 03.4	+3.3
ZKR	Zakros	2.30	91	P	Pn	22 22 10.0	+3.1
ZKR	Zakros	2.30	91	P	Pn	22 22 10.0	+3.1
ITM	Ithomi	2.33	329	PN	Pn	22 22 10.7	+3.3
DAT	Datca	3.71	64	PN	Pn	22 22 27.5	+1.1
DAT	Datca	3.71	64	P	Pn	22 22 27.1	+0.7
ARG	Arkhangelos	3.97	74	PN	Pn	22 22 30.7	+0.8
YER	Yerkesik	4.39	62	PN	Pn	22 22 37.4	+1.7
DALY	Dalyan (Mula)	4.55	67	PN	Pn	22 22 39.1	+1.3
FETY	Fethiye	4.83	71	PN	Pn	22 22 43.0	+1.4
FETY	Fethiye	4.83	71	P	Pn	22 22 42.5	+0.9
FETY				S	Sn	22 23 31.7	-4.5
FETY				i AML	AML	22 23 46.0	
	comp=E,51nm,2.0s						
FETY				i AML	AML	22 23 49.0	
	comp=E,61nm,2.5s						
FETY				i AML	AML	22 24 31.0	
	comp=E,75nm,3.5s						
TAVA	DENIZLI_Tavas	4.99	61	P	Pn	22 22 44.6	+0.6
TAVA				S	Sn	22 23 43.7	+3.3
CAME	Cameli-Denizli	5.08	68	PN	Pn	22 22 46.9	+1.6
CAME				SN	Sn	22 23 41.7	-1.1
CAEL	Denizli, Camel	5.16	66	P	Pn	22 22 47.9	+1.6
CAEL				S	Sn	22 23 51.1	+6.5
CAEL				i AML	AML	22 24 07.0	
	comp=E,41nm,1.0s						
CAEL				i AML	AML	22 24 36.0	
	comp=E,118nm,2.2s						
GOLH	Golhisar	5.38	66	P	Pn	22 22 51.5	+2.3
GOLH				S	Sn	22 23 48.3	-1.6
GOLH				i AML	AML	22 24 22.0	
	comp=E,44nm,2.0s						
GOLH				i AML	AML	22 24 47.0	
	comp=E,45nm,2.7s						
GOLH				i AML	AML	22 24 55.0	
	comp=E,49nm,2.5s						
ELL	Elmali	5.50	72	PN	Pn	22 22 52.1	+1.2
AKUM	Antalya-Kumluc	5.75	77	P	Pn	22 22 49.2	-5.0
AKUM				S	Sn	22 23 56.6	-2.3
PASA	Karahalli, USA	5.81	55	P	Pn	22 22 56.7	+1.5
KEPZ	Antalya-Kepez	6.85	73	P	Pn	22 23 10.5	+1.0
KEPZ				i AML	AML	22 25 55.0	
	comp=E,14nm,1.9s						
KEPZ				i AML	AML	22 25 56.0	
	comp=E,16nm,2.2s						
CSS	Mathiatis	8.13	89	Pn	Pn	22 23 25.1	-1.9
CSS				Sn	Sn	22 24 51.7	-5.9
DBRK	Dubrovnik	8.53	333	ePn	Pn	22 23 29.3	-3.1
STON	Ston	8.87	332	ePn	Pn	22 23 34.1	-3.0
STON				Sn	Sn	22 25 04.1	-11
LSTV	Lastovo	9.12	328	ePn	Pn	22 23 37.2	-3.2
BRTR	Keskin Array B	9.31	58	P	Pn	22 23 45.8	+2.6
	baz=236,slow=15,SNR=6.0						
BRTR				LR	LR	22 27 16.6	
	comp=E,60nm,20.2s,baz=318,slow=37						
MAKA	Makarska	9.49	330	ePn	Pn	22 23 42.5	-3.0
RICI	Ricice	9.62	332	ePn	Pn	22 23 44.1	-3.2
RICI				Sn	Sn	22 25 23.1	-11
HVAR	Hvar	9.64	328	ePn	Pn	22 23 44.4	-3.2
HNTI	Hanita	9.97	99	Sn	Sn	22 25 35.1	-7.6
KZIT	Kziot	10.15	112	Pn	Pn	22 23 52.6	-2.1
KZIT				Sn	Sn	22 25 37.6	-10
MMAI	Mount Meron Ar	10.17	99	P	Pn	22 23 54.7	-0.3
	comp=E,1.0nm,0.3s,baz=291,slow=8.9,SNR=3.1						
MMAI				S	Sn	22 25 39.2	-8.5
	comp=E,0.7nm,0.3s,baz=259,slow=35,SNR=1.6						
MMA1	Mount Meron ar	10.18	99	Pn	Pn	22 23 54.4	-0.6
MMA1				Sn	Sn	22 25 41.1	-6.7
AMAZ	Amatzia	10.28	107	Pn	Pn	22 23 54.9	-1.5
AMAZ				Sn	Sn	22 25 41.2	-9.1
GEM	Giv'at Ha'Em	10.33	97	Pn	Pn	22 23 57.0	-0.1
GEM				Sn	Sn	22 25 44.0	-7.6
KIJV	Kijevo	10.34	331	ePn	Pn	22 23 54.3	-2.8
MMLI	Mount Malkishu	10.36	102	Pn	Pn	22 23 55.7	-1.8
HMDT	Nahal Hemdat	10.50	103	Pn	Pn	22 23 58.6	-0.8
HMDT				Sn	Sn	22 25 47.6	-8.0
YTIR	Yattir	10.51	108	Pn	Pn	22 23 58.0	-1.6
YTIR				Sn	Sn	22 25 46.5	-9.5
KSHT	Keshet	10.51	99	Pn	Pn	22 23 58.2	-1.4
MORI	Morici	10.52	328	ePn	Pn	22 23 56.5	-3.1
UJAP	Al Uja	10.55	104	Pn	Pn	22 23 59.0	-1.1
UJAP				Sn	Sn	22 25 49.2	-7.7
DSI	Dead Sea	10.63	106	Pn	Pn	22 24 00.0	-1.2
DSI				Sn	Sn	22 25 50.6	-8.3
MDBI	Mazsada	10.72	108	Pn	Pn	22 24 00.5	-1.8
MDBI				Sn	Sn	22 25 50.6	-10
KRMI	Paran Flat	10.79	115	Pn	Pn	22 24 01.1	-2.2
PRNI	Paran	10.88	113	Pn	Pn	22 24 03.0	-1.6
GHAJ	Ghor Haditha	10.88	107	Pn	Pn	22 24 03.4	-1.2
ZFRI	Zfri	10.91	112	Sn	Sn	22 25 56.4	-9.3
UDBI	Udbina	11.03	330	ePn	Pn	22 24 03.5	-3.1
HRFI	Mount Harif	11.06	114	Pn	Pn	22 24 05.4	-1.7
HRFI				Sn	Sn	22 26 00.5	-8.9
MBRI	Mt Berech	11.09	116	Pn	Pn	22 24 05.9	-1.7
MBRI				Sn	Sn	22 26 00.9	-9.4
EIL	Elat	11.19	116	P	Pn	22 24 07.8	-1.0
	comp=E,0.5nm,0.3s,baz=255,slow=0.9,SNR=11						
EIL				S	Sn	22 26 02.3	-10
	comp=E,0.3nm,0.3s,baz=77,slow=23,SNR=1.6						
EIL	Elat	11.19	116	Pn	Pn	22 24 07.6	-1.2
EIL				Sn	Sn	22 26 03.6	-8.9
VRAC	Vranov	14.98	343	P	P	22 25 05.4	+0.5
	comp=E,0.3nm,0.3s,baz=129,slow=9.5,SNR=5.1						
VRAC				LR	LR	22 32 47.6	
	comp=E,84nm,18.5s,baz=324,slow=46						
GERES	GERESS Array B	15.43	335	P	P	22 25 10.4	+0.5
	comp=E,0.1nm,0.3s,baz=137,slow=12,SNR=7.0						
AKASG	Malin Array Be	16.08	13	P	P	22 25 18.7	+1.7
	comp=E,0.4nm,0.3s,baz=206,slow=9.1,SNR=4.5						
KBZ	Khabaz	17.27	55	P	Pn	22 25 31.4	+2.1
	comp=E,0.1nm,0.3s,baz=249,slow=13,SNR=2.6						
HFS	Hagfors	25.75	349	P	P	22 26 56.3	-1.4
	comp=E,0.7nm,0.5s,baz=148,slow=12,SNR=4.8						
EKA	Eskdalemuir Ar	27.21	326	P	P	22 27 09.9	-0.9
	comp=E,2.7nm,0.9s,baz=122,slow=9.4,SNR=2.5						
TORD	Torodi Ar. Bea	29.43	227	P	P	22 27 31.9	+0.9
	comp=E,0.5nm,0.3s,baz=30,slow=8.6,SNR=21						
DBIC	Dimbokro	38.48	229	P	P	22 28 50.4	+1.1
	comp=E,1.5nm,0.6s,baz=58,slow=9.2,SNR=4.5						
MKAR	Makanchi Array	44.95	56	P	P	22 29 41.6	-0.4
	comp=E,0.3nm,0.3s,baz=264,slow=7.0,SNR=10						
ZALV	Zalesovo Beam	46.02	46	P	P	22 29 49.2	-1.1
	comp=E,0.5nm,0.4s,baz=265,slow=9.6,SNR=3.3						
USRK	Ussuriysk Ar.	77.83	44	P	P	22 33 23.4	-0.8
	comp=E,1.0nm,0.6s,baz=286,slow=7.0,SNR=3.6						

IDC ***09*** *22:36:56.0±1.8, 35°.60N×29°.48E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.1/26, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=126.4km s-min=25.4km az=140.0*
NIC ***09*** *22:36:59.8±0.0, 35°.96N×28°.90E, h27km±2km, Ml3.6/6*
ATH ***09*** *22:36:59.6, 36°.29N×28°.96E, h40km±1km, ML3.2/3, Error ellipse: s-maj=3.3km s-min=0.9km az=175.0*
ISK ***09*** *22:36:59.4, 36°.21N×28°.91E, h12km, ML3.3/15*
THE ***09*** *22:37:00.4, 36°.25N×28°.93E, h2km±1km, ML2.9/2, Error ellipse: s-maj=1.9km s-min=0.5km az=153.0*
DDA ***09*** *22:37:00.0±0.0, 36°.24N×28°.86E, h14km±3km, ML3.3*
GII ***09*** *22:37:01.6±0.0, 35°.87N×29°.24E, h10km, Mm2.8/8*
ISC 09 22:36:58.4±1.1, **36°.08N**±0°.03×**28°.91E**±0°.02, **h25**km±10km, **n108**, σ**1.64**/157, **3C**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.55	83	P	Pn	22 37 11.0	+0.3
KSL				S	Sn	22 37 20.0	+1.1
KSL				AML	AML	22 37 22.3	
	comp=E,8038µm,0.4s						
KSL				AML	AML	22 37 22.8	
	comp=N,4049µm,0.8s						
KSL	Kastellorizon	0.55	83	P	Pn	22 37 10.9	+0.3
KSL				S	Sn	22 37 20.0	+1.1
	comp=N,3µm,0.6s						
KSL	Kastellorizon	0.55	83	P	Pn	22 37 10.9	+0.3
KSL				S	Sn	22 37 21.8	+2.8
KSL				AML	AML	22 37 22.3	
	comp=N,8.1nm,0.4s						
KSL				AML	AML	22 37 22.3	
	comp=N,8.1nm,0.4s						
KSL				AML	AML	22 37 22.8	
	comp=N,4.1nm,0.8s						
KSL				AML	AML	22 37 22.8	
	comp=N,4.1nm,0.8s						
FETY	Fethiye	0.57	14	P	Pb	22 37 08.7	-1.0
FETY				S	Sb	22 37 15.1	-2.4
FETY	Fethiye	0.57	14	PG	Pb	22 37 08.6	-1.1
FETY				SG	Sb	22 37 15.3	-2.1
FETY	Fethiye	0.57	14	P	Pb	22 37 08.8	-1.0
FETY				S	Sb	22 37 15.3	-2.1
FETY				i AML	AML	22 37 16.0	
	comp=N,4µm,1.0s						
FETY				i AML	AML	22 37 16.0	
	comp=N,4µm,0.4s						
FETY				i AML	AML	22 37 18.0	
	comp=N,3µm,0.4s						
AKAS	Kas	0.58	75	P	Pb	22 37 11.2	+1.2
AKAS				S	Sn	22 37 21.3	+1.3
AKAS				i AML	AML	22 37 23.0	
	comp=N,2µm,0.3s						
AKAS				i AML	AML	22 37 23.0	
	comp=N,2µm,0.5s						
AKAS				i AML	AML	22 37 26.0	
	comp=N,4µm,0.3s						
ARG	Arkhangelos	0.65	282	P	Pn	22 37 13.4	+1.3
ARG				S	Sn	22 37 24.1	+2.5
ARG				AML	AML	22 37 27.0	
	comp=E,2194µm,0.9s						
ARG				AML	AML	22 37 28.1	
	comp=N,1439µm,0.4s						
ARG	Arkhangelos	0.65	282	P	Pn	22 37 13.4	+1.3
ARG				S	Sn	22 37 24.1	+2.5
	comp=N,910nm,0.6s						
ARG	Arkhangelos	0.65	282	PG	Pn	22 37 13.0	+1.0
ARG	Arkhangelos	0.65	282	P	Pn	22 37 13.1	+1.1
ARG				S	Sn	22 37 24.6	+3.1
DALY	Dalyan (Mula)	0.76	344	PG	Pn	22 37 11.9	-1.7
DALY				SG	Sb	22 37 21.5	-1.4
DEMR	Demre-Antalya	0.82	79	PG	Pb	22 37 15.2	+1.3
CAME	Cameli-Denizli	0.91	20	PG	Pn	22 37 15.1	-0.7
CAME				SG	Sn	22 37 26.8	-1.5
ELL	Elmali	1.04	50	PG	Pn	22 37 18.6	+1.1
ELL	Elmali	1.04	50	P	Pn	22 37 17.9	+0.4
ELL				S	Sb	22 37 34.6	+3.5
CAEL	Denizli, Camel	1.09	17	P	Pn	22 37 18.3	+0.1
CAEL				S	Sn	22 37 33.5	+0.9
YER	Yerkesik	1.17	334	P	Pb	22 37 20.1	+0.2
YER				S	Sb	22 37 35.2	+0.6
YER	Yerkesik	1.17	334	PG	Pb	22 37 20.1	+0.2
AKUM	Antalya-Kumluc	1.18	78	P	Pb	22 37 20.9	+0.8
AKUM				S	Sn	22 37 35.8	+1.2
DAT	Datca	1.25	301	P	Pb	22 37 22.4	+1.0
DAT				S	Sb	22 37 38.2	+1.0
DAT	Datca	1.25	301	PN	Pb	22 37 22.4	+1.0
DAT	Datca	1.25	301	P	Pb	22 37 22.5	+1.0
DAT				S	Sb	22 37 38.3	+1.0
GOLH	Golhisar	1.26	24	P	Pn	22 37 21.4	+0.8
GOLH				S	Sn	22 37 38.3	+1.5
GOLH				i AML	AML	22 37 40.0	
	comp=N,748nm,0.5s						
MULA	Mugla, Merkez-	1.26	338	P	Pb	22 37 21.6	0.0
MULA				S	Sn	22 37 37.3	+0.5
MULA				i AML	AML	22 37 38.0	
	comp=N,512nm,0.6s						
TAVA	DENIZLI_Tavas	1.38	360	P	Pn	22 37 23.1	+0.9
TAVA				S	Sn	22 37 39.1	-0.6
KEMT	Kemer-ANTALYA	1.42	68	PN	Pb	22 37 25.2	+1.0
KORT	Korkueli	1.48	51	P	Pb	22 37 25.7	+0.5
KORT				S	Sb	22 37 45.2	+1.6
KORT				i AML	AML	22 37 49.0	
	comp=N,391nm,0.9s						
KORT				i AML	AML	22 37 49.0	
	comp=N,686nm,0.7s						
MLSB	Milas	1.52	323	PN	Pb	22 37 25.7	-0.1
KARP	Karpathos	1.52	250	P	Pb	22 37 27.9	+2.0
KARP	Karpathos	1.52	250	P	Pb	22 37 27.9	+2.0
BDRM	Kayabasi	1.54	310	P	Pb	22 37 26.5	+0.4
BDRM				S	Sb	22 37 48.4	+3.2
BODT	Bodrum	1.62	308	P	Pb	22 37 26.6	-1.0
BODT				S	Sb	22 37 47.0	-0.6
BODT	Bodrum	1.62	308	PN	Pb	22 37 26.8	-0.8
ANTB	Antalya	1.62	59	PN	Pb	22 37 27.9	+0.3
AYDN	Tasoluk	1.78	333	P	Pb	22 37 29.8	-0.6
AYDN				S	Sn	22 37 50.5	+1.0
BUCA	Burdur, Bucak-	1.81	46	P	Pb	22 37 30.9	0.0
BUCA				S	Sb	22 37 54.3	+1.1
BRDR	BURDUR-Merkez	1.85	29	P	Pn	22 37 30.2	+1.5
BRDR				S	Sb	22 37 55.9	+1.5
DDIM	Aydin, Didim	1.92	316	P	Pb	22 37 32.6	-0.1
DDIM				i AML	AML	22 38 13.0	
	comp=N,228nm,1.6s						
BCK	Bucak	1.92	44	PN	Pn	22 37 31.8	+2.2
BASM	Basmaki-Afyon	2.04	26	PN	Pn	22 37 32.9	+1.6
GCAM	G?zelcaml?	2.10	321	P	Pb	22 37 33.5	-2.3
GCAM				S	Sn	22 37 56.5	-0.8
ISP	Isparta	2.16	36	P	Pn	22 37 32.6	-0.3
ISP				AML	AML	22 38 08.3	
	comp=E,983µm,0.7s						
ISP				AML	AML	22 38 08.8	
	comp=N,1092µm,0.9s						
ISP	Isparta	2.16	36	PN	Pn	22 37 35.0	+2.1
ISP	Isparta	2.16	36	Pn	Pb	22 37 37.3	+0.4
SUTC	Sutluce-Ispart	2.18	50	PN	Pn	22 37 35.7	+2.5
PASA	Karahalli, USA	2.31	11	P	Pn	22 37 37.3	+2.4
PASA				S	Sn	22 38 04.7	+2.1
KEPZ	Antalya-Kepez	2.32	69	P	Pn	22 37 37.8	+2.8
KEPZ				S	Sn	22 38 05.9	+3.2
SMG	Samos	2.32	315	P	Pn	22 37 35.6	+0.5
KZIL	AFYON_Kizioren	2.38	24	P	Pn	22 37 38.6	+2.6
KZIL				S	Sn	22 38 06.2	+1.8
ZKR	Zakros	2.40	247	P	Pb	22 37 40.3	-0.7
ZKR	Zakros	2.40	247	P	Pb	22 37 40.2	-0.7
MANT	Manisa	2.42	353	P	Pn	22 37 36.6	0.0
MANT				S	Sn	22 38 08.8	+3.3
BAGO	Egridir - ISPA	2.42	38	P	Pn	22 37 36.6	+0.1
KULA	Kula-Manisa	2.43	355	PN	Pn	22 37 38.3	+1.6
DGB	zmir	2.55	321	P	Pn	22 37 35.8	-2.3
DGB				S	Sn	22 38 05.4	-2.9
USAK	Uak-Merkez	2.63	2	P	Pn	22 37 39.1	-0.1
USAK				S	Sn	22 38 08.9	-1.5
SEDI	Konya, Seydise	2.66	58	P	Pn	22 37 42.1	+2.3
SEDI				S	Sn	22 38 14.6	+3.4
SEYD	Seydisehir-KON	2.69	60	PN	Pn	22 37 43.1	+2.8
SHUT	Suhut-Afyon	2.79	27	PN	Pn	22 37 43.2	+1.6
NPS	Neapolis	2.81	254	P	Pb	22 37 45.2	-2.7
NPS	Neapolis	2.81	254	P	Pb	22 37 45.2	-2.7
YVAC	Isparta, Yalva	2.87	40	P	Pn	22 37 43.2	+0.5
AFYO	Afyonkarahisar	2.91	22	P	Pn	22 37 43.7	+0.4
AFYO				i AML	AML	22 38 48.0	
	comp=N,92nm,1.4s						
AFYO				i AML	AML	22 39 15.0	
	comp=N,93nm,0.3s						
URLA	Izmir	2.93	322	P	Pn	22 37 43.5	+0.1
DEMI	Demirci	2.96	357	P	Pn	22 37 44.0	+0.2
AKMS	Akamas	2.99	110	P	Pn	22 37 45.3	+1.2
AKMS				AML	AML	22 38 21.9	
	comp=N,0.6nm,0.8s						
AKMS				AML	AML	22 38 22.2	
	comp=N,0.7nm,0.3s						
DOGA	KONYA_Doganhis	2.99	47	P	Pn	22 37 45.7	+1.4
SIMA	Simav-Kutahya	2.99	1	PN	Pn	22 37 46.3	+1.9
ALFC	Alefka	3.14	106⇑	eP	Pn	22 37 47.2	+0.8
ALFC				AML	AML	22 38 25.6	
	comp=N,0.3nm,0.2s						
ALFC				AML	AML	22 38 26.6	
	comp=N,0.4nm,0.3s						
OSC1	CSNet OBS 1	3.23	142	S	Sn	22 38 24.3	-0.9
CHOS	Chios island	3.24	316	P	Pn	22 37 49.1	+1.4
NATA	Nata	3.26	113⇑	eP	Pn	22 37 49.5	+1.5
NATA				AML	AML	22 38 29.9	
	comp=N,0.8nm,0.5s						
NATA				AML	AML	22 38 30.4	
	comp=N,0.5nm,0.4s						
IDI	Anoyia	3.37	258	P	Pb	22 37 52.3	-5.2
SZAC	Souni	3.50	111⇑	eP	Pn	22 37 52.6	+1.3
SZAC				AML	AML	22 38 34.2	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	22 38 34.2	
	comp=N,0.4nm,0.3s						
SZAC				S	Sn	22 38 34.4	+2.4
SZAC				AML	AML	22 38 36.2	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	22 38 36.2	
	comp=N,0.4nm,0.3s						
ASGA	Asgata	3.77	109	P	Pn	22 37 56.1	+1.1
ASGA				AML	AML	22 38 40.6	
	comp=N,0.2nm,0.2s						
ASGA				AML	AML	22 38 41.6	
	comp=N,0.2nm,0.4s						
CSS	Mathiatis	3.77	106	P	Pn	22 37 55.8	+0.7
CSS	Mathiatis	3.77	106	Pn	Pn	22 37 56.4	+1.4
CSS				Sn	Sn	22 38 36.9	-1.7
PRK	Paraskevi	3.79	327	P	Pn	22 37 55.7	+0.5
VAM	Vamos	3.89	261	P	Pb	22 38 00.4	-5.9
MVOU	Mavrovouni	3.99	104	P	Pn	22 37 59.3	+1.3
MVOU				S	Sn	22 38 47.3	+3.3
IMMV	Iera Moni Meta	4.06	263	P	Pb	22 38 02.9	-6.3
BRTR	Keskin Array B	5.21	44	Pn	Pn	22 38 18.7	+3.8
	comp=N,0.3nm,0.3s,baz=222,slow=17,SNR=7.7						
BRTR				Sn	Sn	22 39 13.4	-0.9
	comp=N,0.5nm,0.3s,baz=216,slow=24,SNR=7.5						
HNTI	Hanita	5.97	118	Pn	Pn	22 38 25.4	+0.2
HNTI				Sn	Sn	22 39 30.7	-2.1
OFRI	`Ofer	6.09	123	Pn	Pn	22 38 27.0	+0.1
OFRI				Sn	Sn	22 39 33.5	-2.4
MMA1	Mount Meron ar	6.17	118	Pn	Pn	22 38 28.5	+0.5
MMA1				Sn	Sn	22 39 35.7	-2.1
GEM	Giv'at Ha'Em	6.26	115	Pn	Pn	22 38 30.3	+1.2
GEM				Sn	Sn	22 39 38.0	-1.9
NATI	Neve Ativ	6.29	115	Pn	Pn	22 38 30.6	+1.1
NATI				Sn	Sn	22 39 38.3	-2.3
SLTI	Sal'it	6.36	125	Pn	Pn	22 38 30.4	-0.2
SLTI				Sn	Sn	22 39 40.3	-2.2
KSHT	Keshet	6.48	117	Pn	Pn	22 38 33.6	+1.4
MMLI	Mount Malkishu	6.50	122	Pn	Pn	22 38 33.1	+0.6
MMLI				Sn	Sn	22 39 44.0	-1.9
HMDT	Nahal Hemdat	6.68	123	Pn	Pn	22 38 36.1	+1.2
HMDT				Sn	Sn	22 39 48.2	-2.1
AMAZ	Amatzia	6.75	131	Pn	Pn	22 38 36.4	+0.5
AMAZ				Sn	Sn	22 39 50.5	-1.5
UJAP	Al Uja	6.82	125	Pn	Pn	22 38 37.2	+0.3
UJAP				Sn	Sn	22 39 51.4	-2.3
KZIT	Kziot	6.90	137	Pn	Pn	22 38 39.0	+1.0
YTIR	Yattir	6.99	131	Pn	Pn	22 38 39.7	+0.4
YTIR				Sn	Sn	22 39 55.1	-2.9
DSI	Dead Sea	7.01	128	Pn	Pn	22 38 39.2	-0.3
MDBI	Mazsada	7.17	130	Sn	Sn	22 39 58.9	-3.5
MSBI	Mazada	7.17	130	Pn	Pn	22 38 42.2	+0.5
MSBI				Sn	Sn	22 39 59.9	-2.5
GHAJ	Ghor Haditha	7.31	129	Pn	Pn	22 38 44.1	+0.5
ZFRI	Zfri	7.61	135	Pn	Pn	22 38 48.0	+0.3
ZFRI				Sn	Sn	22 40 10.4	-2.7
PRNI	Paran	7.66	137	Pn	Pn	22 38 48.7	+0.2
KRMI	Paran Flat	7.69	139	Pn	Pn	22 38 50.0	+1.1
HRFI	Mount Harif	7.92	138	Pn	Pn	22 38 52.9	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MBRI	**Mt Berech**	**8.05**	**140**	Pn	**Pn**	**22 38 53.8**	**0.0**
EIL	**Elat**	**8.16**	**140**	Pn	**Pn**	**22 38 56.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**33.47**	**234**	P	**P**	**22 43 37.7**	**+2.1**
	comp=N,0.7nm,0.7s,baz=28,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**40.70**	**58**	P	**P**	**22 44 36.7**	**-0.2**
	comp=N,0.2nm,0.6s,baz=276,slow=7.6,SNR=2.3						

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*MDD **09** 22:45:28.6±0.5, 35°.43N×3°.85W, h0km, mb_Lg2.7/8, Error ellipse: s-maj=4.1km s-min=3.1km az=8.0*
*CNRM **09** 22:45:28.5, 35°.52N×3°.78W, h22km, ml2.8*
*SFS **09** 22:45:28.0, 35°.40N×3°.87W, ML2.6, ALBORAN SUR*
ISC 09 22:45:29.0±1.0**, 35°.46N**±0°.02×**3°.81W**±0°.02**, h16**km±8km**,**
n24, σ**1.ˢ17**/47**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**203**	P	**Pb**	**22 45 35.5**	**+0.2**
PALE				S	**Sg**	**22 45 40.4**	**+1.8**
GOG	**Mont Gurugu**	**0.71**	**109**	P	**Pg**	**22 45 42.5**	**-0.3**
GOG				S	**Sg**	**22 45 52.2**	**0.0**
EMEL	**Melilla**	**0.72**	**102**	Pg	**Pg**	**22 45 43.1**	**+0.1**
EMEL				Sg	**Sg**	**22 45 52.2**	**-0.3**
EALB	**Alboran**	**0.80**	**52**	Pg	**Pg**	**22 45 44.7**	**+0.2**
EALB				Sg	**Sg**	**22 45 53.9**	**-1.1**
EALB				*i* Vmb_Lg		22 46 11.9	
CHEFC	**Chefchaouen**	**1.30**	**255**	P	**Pg**	**22 45 53.3**	**-0.7**
CHEFC				S	**Sg**	**22 46 11.4**	**+0.5**
SMIR	**Smir Dam**	**1.30**	**280**	P	**Pn**	**22 45 50.6**	**-1.8**
SMIR				S	**Sb**	**22 46 07.3**	**-2.0**
TAF	**Taforalt**	**1.31**	**119**	P	**Pn**	**22 45 52.8**	**+0.1**
TAF				S	**Sb**	**22 46 09.8**	**-0.1**
EMIJ	**Mijas**	**1.35**	**325**	Pn	**Pn**	**22 45 52.8**	**-0.4**
EMIJ				Sn	**Sn**	**22 46 11.5**	**+0.7**
EMIJ				*i* Vmb_Lg		22 46 20.8	
EMAL	**Malaga-Limoner**	**1.40**	**339**	P	**Pn**	**22 45 53.5**	**-0.2**
EMAL				S	**Sb**	**22 46 13.1**	**+0.9**
ELGU	**Los Guajares,**	**1.42**	**6**	Pn	**Pn**	**22 45 53.4**	**-0.8**
ELGU				Sn	**Sn**	**22 46 13.7**	**+1.2**
ELGU				*i* Vmb_Lg		22 46 18.3	
JBK	**JBK**	**1.52**	**137**	P	**Pn**	**22 45 53.9**	**-1.7**
JBK				S	**Sn**	**22 46 12.7**	**-2.4**
EGOR	**Sierra Gorda,**	**1.67**	**352**	Sn	**Sn**	**22 46 20.0**	**+1.2**
EJIF	**Jimena Fronter**	**1.67**	**307**	Pn	**Pn**	**22 45 58.0**	**+0.5**
EJIF				Sn	**Sn**	**22 46 18.2**	**-0.5**
SICH	**Sidi Chahed**	**1.83**	**223**	P	**Pb**	**22 46 01.1**	**-0.9**
SICH				S	**Sg**	**22 46 25.4**	**-2.5**
LCRM	**LCR**	**1.96**	**206**	P	**Pn**	**22 46 02.5**	**+0.8**
LCRM				S	**Sg**	**22 46 31.1**	**-1.2**
ESPR	**Espera**	**2.17**	**311**	Pn	**Pn**	**22 46 05.1**	**+0.7**
ESPR				*i* Vmb_Lg		22 46 31.5	
ESPR				Sn	**Sn**	**22 46 32.2**	**+1.2**
IFR	**Ifrane**	**2.22**	**210**	P	**Pn**	**22 46 06.2**	**+0.9**
IFR				S	**Sn**	**22 46 31.8**	**-0.5**
MD31	**MD31**	**2.70**	**197**	P	**Pn**	**22 46 13.0**	**+1.2**
MD31				S	**Sn**	**22 46 45.9**	**+1.8**
MDT	**Midelt**	**2.72**	**194**	P	**Pn**	**22 46 13.8**	**+1.8**
MDT				S	**Sn**	**22 46 45.9**	**+1.3**
EADA	**Adamuz**	**2.77**	**347**	Pn	**Pn**	**22 46 13.8**	**+1.1**
EADA				Sn	**Sn**	**22 46 46.8**	**+0.9**
EADA				*i* Vmb_Lg		22 48 17.9	
ECAB	**El Cabril**	**2.92**	**334**	Pn	**Pn**	**22 46 15.4**	**+0.8**
ECAB				*i* Vmb_Lg		22 46 35.5	
ECAB				Sn	**Sn**	**22 46 49.5**	**+0.1**
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**22 46 26.3**	**+1.3**
ETOB				Sn	**Sn**	**22 47 07.9**	**0.0**
ETOB				*i* Vmb_Lg		22 48 02.5	
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**22 46 32.2**	**+0.3**
EBAD				Sn	**Sn**	**22 47 20.1**	**-0.2**
OUZM	**OUZ**	**5.16**	**209**	P	**Pn**	**22 46 47.5**	**+1.8**
OUZM				S	**Sn**	**22 47 46.6**	**+1.6**

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*NOU **09** 22:54:23.3, 29°.38S×178°.00W, h414km, mb4.9/35, Kermadec Islands, New Zealand*
*NEIC **09** 22:54:26.2±2.0, 29°.28S±0°.09×179°.1W±0°.1, h368km±5km, mb4.7/53, Error ellipse: s-maj=15.9km s-min=12.1km az=110.0*
*IDC **09** 22:54:27.1±0.5, 29°.13S×179°.10W, h379km±5km, mb4.0/12, mb1 4.3/15, mb1mx4.1/25, mbtmp4.8/15, Error ellipse: s-maj=14.0km s-min=12.5km az=144.0*
ISC 09 22:54:27.5±0.3**, 29°.36S**±0°.04×**178°.91W**±0°.06**, h400**km**,**
n231, σ**2.ˢ98**/289**, mb4.7**/53**, 1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.87**	**82**	P	**Pn**	**22 55 16.2**	**-2.0**
RIZ				S	**S**	**22 55 52.3**	**-6.8**
GLKZ	**Green Lake**	**0.87**	**84**	P	**Pn**	**22 55 14.9**	**-3.3**
GLKZ				S	**S**	**22 55 51.4**	**-7.6**
RAO	**Raoul Island**	**0.88**	**83**	P	**Pn**	**22 55 15.8**	**-2.4**
	1μm,0.3s,baz=182,slow=2.2,SNR=56						
RAO				S	**S**	**22 55 51.2**	**-7.9**
	1μm,0.3s,baz=49,slow=23,SNR=15						
RAO	**Raoul Island**	**0.88**	**83**		**Pn**	**22 55 16.1**	**-2.1**
RAO				Sn	**S**	**22 55 51.9**	**-7.2**
MXZ	**Matakaoa Point**	**8.50**	**195**		**Pn**	**22 56 27.0**	**-1.1**
MXZ	**Matakaoa Point**	**8.50**	**195**	P	**Pn**	**22 56 25.4**	**-2.7**
MXZ				S	S	22 57 57.7	-9.3
KUZ	**Kuaotunu**	**8.63**	**210**	P	**P**	**22 56 31.3**	**+1.6**
WMGZ	**Waiomatatini S**	**8.72**	**194**	P	Pn	22 56 24.6	-6.0
WMGZ				S	**S**	**22 58 04.9**	**-6.8**
HAZ	**Te Kaha**	**8.81**	**197**	P	**Pn**	**22 56 27.9**	**-3.7**
HAZ				S	**S**	**22 58 08.2**	**-5.3**
PKGZ	**Pakihiroa**	**8.86**	**196**	P	**Pn**	**22 56 29.4**	**-2.9**
PKGZ				S	**S**	**22 58 08.7**	**-6.1**
PUZ	**Puketiti**	**9.00**	**194**	P	**Pn**	**22 56 31.0**	**-2.8**
PUZ				S	**S**	**22 58 10.1**	**-7.5**
RUGZ	**Raukumara Rang**	**9.04**	**197**	P	**P**	**22 56 30.8**	**-3.6**
TWGZ	**Tauwhareparae**	**9.16**	**196**	P	**P**	**22 56 31.5**	**-4.2**
TWGZ				S	**S**	**22 58 15.4**	**-5.7**
OPRZ	**Ohinepanea**	**9.26**	**203**	P	**Pn**	**22 56 37.5**	**+0.7**
CNGZ	**Carnagh Statio**	**9.40**	**194**	P	**P**	**22 56 36.3**	**-2.0**
MWZ	**Matawai**	**9.42**	**197**	P	**P**	**22 56 35.8**	**-2.7**
MWZ				S	**S**	**22 58 19.3**	**-7.2**
TKGZ	**Te Karaka**	**9.44**	**196**	P	**P**	**22 56 34.8**	**-3.9**
TKGZ				S	**S**	**22 58 21.2**	**-5.6**
URZ	**Urewera**	**9.47**	**199**	P	**P**	**22 56 36.3**	**-2.7**
	15nm,0.3s,baz=326,slow=5.1,SNR=45						
URZ				S	**S**	**22 58 18.9**	**-8.4**
	14nm,0.3s,baz=5.9,slow=19,SNR=3.5						
URZ	**Urewera**	**9.47**	**199**	Pn	**P**	**22 56 36.2**	**-2.8**
URZ	**Urewera**	**9.47**	**199**	P	**P**	**22 56 36.6**	**-2.4**
URZ				S	**S**	**22 58 22.2**	**-5.1**
URZ	**Urewera**	**9.47**	**199**	P	**P**	**22 56 37.5**	**-1.5**
TOZ	**Tahuroa Road**	**9.55**	**208**	P	**Pn**	**22 56 41.7**	**+1.5**
OMRZ	**Omania**	**9.56**	**203**	P	**Pn**	**22 56 42.3**	**+2.0**
TARZ	**Mount Tarawera**	**9.63**	**202**	P	**Pn**	**22 56 42.6**	**+1.3**
TARZ				S	**S**	**22 58 27.9**	**-3.0**
RIGZ	**Rimuhau**	**9.72**	**196**	P	**P**	**22 56 39.6**	**-2.3**
RIGZ				S	**S**	**22 58 23.9**	**-8.6**
MUGZ	**Murupara**	**9.77**	**200**	P	**P**	**22 56 40.4**	**-2.0**
MUGZ				S	**S**	**22 58 27.0**	**-6.5**
RTZ	**Ruatahuna**	**9.84**	**199**	P	**P**	**22 56 42.0**	**-1.2**
RTZ				S	**S**	**22 58 27.6**	**-7.4**
HRRZ	**Handcock Road**	**9.85**	**203**	P	**Pn**	**22 56 44.2**	**+0.5**
SNGZ	**Shannon Statio**	**9.89**	**197**	P	**P**	**22 56 40.9**	**-2.9**
SNGZ				S	**S**	**22 58 30.7**	**-5.4**
PRGZ	**Paritu Road**	**9.90**	**195**	P	**P**	**22 56 41.1**	**-2.7**
PRGZ				S	**S**	**22 58 29.2**	**-7.0**
PRRZ	**Plateau Road**	**9.91**	**202**	P	**Pn**	**22 56 44.5**	**+0.1**
PRRZ				S	**S**	**22 58 34.7**	**-1.7**
ALRZ	**Allen Road**	**9.98**	**202**	P	**Pn**	**22 56 45.4**	**+0.2**
ALRZ				S	**S**	**22 58 32.7**	**-5.2**
KNZ	**Kokohu**	**10.04**	**195**	P	**P**	**22 56 42.8**	**-2.6**
KNZ				S	**S**	**22 58 30.0**	**-8.9**
RAHZ	**Arahi**	**10.09**	**198**	P	**P**	**22 56 42.8**	**-3.2**
RAHZ				S	**S**	**22 58 34.2**	**-5.8**
KUTZ	**Kaahu Road**	**10.10**	**204**	P	**Pn**	**22 56 47.9**	**+1.3**
MTHZ	**Maungataniwha**	**10.10**	**199**	P	**Pn**	**22 56 46.5**	**-0.1**
MTHZ				S	**S**	**22 58 36.2**	**-4.0**
WHHZ	**Waihua**	**10.20**	**197**	P	**Pn**	**22 56 48.4**	**+0.8**
WHHZ				S	**S**	**22 58 37.8**	**-4.5**
MRHZ	**Matea Rd**	**10.21**	**201**	P	**Pn**	**22 56 47.3**	**-0.5**
MRHZ				S	**S**	**22 58 36.0**	**-6.5**
NMHZ	**Naumai**	**10.33**	**199**	P	**P**	**22 56 48.0**	**-0.8**
NMHZ				S	**S**	**22 58 42.1**	**-3.0**
ARHZ	**Aropaoanui**	**10.44**	**198**	P	**Pn**	**22 56 49.8**	**-0.6**
ARHZ				S	**S**	**22 58 41.9**	**-5.2**
BKZ	**Black Stump Fm**	**10.49**	**200**	P	**P**	**22 56 48.3**	**-2.1**
BKZ				S	**S**	**22 58 42.5**	**-5.8**
BKZ	**Black Stump Fm**	**10.49**	**200**	P	**P**	**22 56 49.3**	**-1.1**
MCHZ	**McNeill Hill**	**10.69**	**199**	P	**P**	**22 56 51.3**	**-1.3**
MCHZ				S	**S**	**22 58 46.7**	**-5.6**
TMVZ	**Te Maari**	**10.70**	**203**	P	**Pn**	**22 56 53.0**	**-0.5**
TMVZ				S	**S**	**22 58 50.2**	**-2.5**
ETVZ	**East Tongariro**	**10.71**	**203**	P	**Pn**	**22 56 52.3**	**-1.5**
ETVZ				S	**S**	**22 58 46.9**	**-6.1**
WTVZ	**West Tongariro**	**10.73**	**204**	P	**Pn**	**22 56 52.6**	**-1.4**
WTVZ				S	**S**	**22 58 48.9**	**-4.5**
NNVZ	**North Ngauruho**	**10.74**	**203**	P	**Pn**	**22 56 53.2**	**-0.9**
NNVZ				S	**S**	**22 58 51.2**	**-2.5**
TWVZ	**Taurewa**	**10.75**	**204**	P	**Pn**	**22 56 53.8**	**-0.4**
OTVZ	**Oturere**	**10.75**	**203**	P	**Pn**	**22 56 53.9**	**-0.3**
OTVZ				S	**S**	**22 58 49.8**	**-4.1**
SNVZ	**South Ngauruho**	**10.78**	**203**	P	**Pn**	**22 56 54.3**	**-0.3**
SNVZ				S	**S**	**22 58 49.3**	**-5.1**
CKHZ	**Cape Kidnapper**	**10.79**	**197**	P	**P**	**22 56 53.1**	**-0.6**
CKHZ				S	**S**	**22 58 47.5**	**-6.8**
TUVZ	**Tukino**	**10.85**	**203**	P	**Pn**	**22 56 54.7**	**-0.7**
TUVZ				S	**S**	**22 58 51.0**	**-4.8**
FWVZ	**Far West T-bar**	**10.87**	**203**	P	**Pn**	**22 56 54.4**	**-1.3**
FWVZ				S	**S**	**22 58 53.6**	**-2.8**
WHVZ	**Whangaehu Hut**	**10.88**	**203**	P	**P**	**22 56 54.2**	**-0.8**
WHVZ				S	**S**	**22 58 52.1**	**-4.5**
BHHZ	**Black Hill Sta**	**10.92**	**201**	P	**P**	**22 56 52.7**	**-2.5**
BHHZ				S	**S**	**22 58 50.6**	**-6.4**
MOVZ	**Moawhango**	**10.94**	**202**	P	**P**	**22 56 53.7**	**-1.7**
MOVZ				S	**S**	**22 58 52.9**	**-4.6**
KRHZ	**Kereru**	**10.96**	**199**	P	**P**	**22 56 52.3**	**-3.4**
KRHZ				S	**S**	**22 58 50.2**	**-7.7**
KAHZ	**Kahuranaki**	**10.97**	**197**	P	**P**	**22 56 52.2**	**-3.5**
KAHZ				S	**S**	**22 58 50.1**	**-7.9**
MSVF	**Nonsavu**	**11.91**	**346**	P	**Pn**	**22 57 04.7**	**-3.2**
	12nm,0.3s,baz=166,slow=7.2,SNR=86						
NIUE	**Niue**	**13.11**	**41**	P	**P**	**22 57 17.2**	**-2.3**
QRZ	**Quartz Range**	**13.40**	**209**	P	**P**	**22 57 21.8**	**-0.6**
PINNC	**Pines Island,**	**13.98**	**296**	P	**Pn**	**22 57 28.1**	**-3.5**
MARNC	**Mare, Loyalty**	**14.16**	**301**	P	**Pn**	**22 57 30.1**	**-0.8**
KHZ	**Kahutara**	**14.38**	**203**	P	**P**	**22 57 31.7**	**-1.3**
DZM	**Mont Dzumac**	**15.05**	**295**	P	**P**	**22 57 41.2**	**+0.4**
	2.6nm,0.3s,baz=150,slow=20,SNR=21						
DZM	**Mont Dzumac**	**15.05**	**295**	*e*P	P	22 57 44.2	+3.4
	26nm,0.6s						
DZM	**Mont Dzumac**	**15.05**	**295**	P	**P**	**22 57 40.0**	**-0.8**
LIFNC	**LIFOU**	**15.17**	**301**	P	**P**	**22 57 41.3**	**-0.6**
RPZ	**Rata Peaks**	**16.41**	**207**	P	**P**	**22 57 55.6**	**+0.6**
	1.5nm,0.3s,baz=314,slow=9.5,SNR=4.2						
RPZ				S	**S**	**23 00 40.4**	**-6.4**
	1.6nm,0.3s,baz=143,slow=22,SNR=2.3						
RPZ	**Rata Peaks**	**16.41**	**207**	P	**P**	**22 57 54.6**	**-0.5**
RPZ				IAmb	IAmb	22 58 07.5	
	comp=Z,26nm,0.7s						
AFI	**Afiamalu**	**16.74**	**25**	P	**P**	**22 57 57.5**	**-1.4**
	comp=Z,7.5nm,0.3s,baz=260,slow=3.3,SNR=12						
AFI				S	**S**	**23 00 47.8**	**-6.0**
	comp=Z,14nm,0.3s,baz=58,slow=20,SNR=7.9						
AFI	**Afiamalu**	**16.74**	**25**	P	**P**	**22 57 57.8**	**-1.1**
SANVU	**Saraoutou**	**18.86**	**314**	P	**P**	**22 58 19.4**	**-1.8**
SANVU				IAmb	IAmb	22 58 38.0	
	comp=Z,85nm,1.2s						
LHI	**Lord Howe Isla**	**19.11**	**258**	P	**P**	**22 58 24.3**	**+0.8**
LHI	**Lord Howe Isla**	**19.11**	**258**	P	**P**	**22 58 27.2**	**+3.6**
FUNA	**Funafuti**	**20.81**	**355**	P	**P**	**22 58 37.9**	**-1.5**
ARMA	**Armidale**	**25.53**	**260**	P	**P**	**22 59 23.5**	**+1.5**
ARMA				IAmb	IAmb	22 59 25.5	
	comp=Z,33nm,0.7s						
ARMA	**Armidale**	**25.53**	**260**	P	**P**	**22 59 24.2**	**+2.2**
MGCD	**Mangrove Creek**	**25.86**	**254**	P	**P**	**22 59 27.2**	**+2.4**
SYDH	**Sydney Hard Ro**	**26.18**	**253**	P	**P**	**22 59 30.2**	**+2.6**
EIDS	**Eidsvold**	**26.91**	**271**	P	**P**	**22 59 34.3**	**+0.1**
EIDS	**Eidsvold**	**26.91**	**271**	P	**P**	**22 59 34.4**	**+0.3**
CNB	**Canberra Magne**	**27.38**	**249**	P	**P**	**22 59 40.6**	**+2.3**
CAN	**Canberra**	**27.68**	**249**	P	**P**	**22 59 42.7**	**+1.8**
CAN				IAmb	IAmb	22 59 44.6	
	comp=Z,50nm,0.9s						
CAN	**Canberra**	**27.68**	**249**	P	**P**	**22 59 43.0**	**+2.1**
RK1H	**Rockhampton Ha**	**28.00**	**275**	P	**P**	**22 59 44.5**	**+0.7**
RMQ	**Roma**	**28.66**	**268**	P	**P**	**22 59 50.9**	**+1.3**
TAU	**Tasmania Unive**	**30.22**	**234**	P	**P**	**23 00 03.8**	**+0.8**
TAU				IAmb	IAmb	23 00 11.0	
	comp=Z,96nm,1.5s						
CMSA	**Cobar Meteorol**	**30.51**	**257**	P	**P**	**23 00 06.7**	**+1.0**
TOO	**Toolangi**	**30.66**	**245**	P	**P**	**23 00 07.9**	**+0.9**
TOO	**Toolangi**	**30.66**	**245**	P	**P**	**23 00 08.3**	**+1.3**
BRAT	**Ballarat**	**31.89**	**245**	P	**P**	**23 00 19.6**	**+2.0**
QLP	**Quilpie**	**32.58**	**266**	P	**P**	**23 00 24.4**	**+0.7**
	comp=Z,65nm,1.4s						
CTA	**Charters Tower**	**32.86**	**278**	P	**P**	**23 00 26.4**	**+0.3**
	comp=Z,15nm,0.5s,baz=97,slow=10,SNR=22						
ARPS	**Mount Arapiles**	**33.53**	**247**	P	**P**	**23 00 33.0**	**+1.3**
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**23 00 36.1**	**+0.8**
	comp=Z,34nm,0.7s,baz=99,slow=9.6,SNR=67						
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**23 00 35.7**	**+0.4**
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**23 00 36.2**	**+0.8**
MTSU	**Mount Surprise**	**35.33**	**280**	P	**P**	**23 00 47.5**	**+0.4**
HTT	**Hallett**	**36.04**	**253**	P	**P**	**23 00 53.5**	**+0.5**
TWOA	**Tennyson Woods**	**36.21**	**250**	P	**P**	**23 00 55.8**	**+1.5**
NAPP	**Napperby**	**36.71**	**253**	P	**P**	**23 00 59.5**	**+1.0**
LCRK	**Leigh Creek**	**37.02**	**257**	P	**P**	**23 01 01.3**	**+0.2**
WHYH	**Whyalla**	**37.20**	**253**	P	**P**	**23 01 03.8**	**+1.2**
	comp=Z,49nm,0.7s						
PMG	**Port Moresby**	**37.45**	**295**	P	**P**	**23 01 04.5**	**-0.3**
COEN	**Coen**	**38.23**	**285**	P	**P**	**23 01 11.3**	**0.0**
QIS	**Mount Isa**	**38.45**	**273**	P	**P**	**23 01 13.3**	**+0.2**
BBOO	**Buckleboo**	**38.50**	**253**	P	**P**	**23 01 12.9**	**-0.4**
BBOO				IAmb	IAmb	23 01 14.3	
	comp=Z,32nm,0.9s						
BBOO	**Buckleboo**	**38.50**	**253**	P	**P**	**23 01 12.9**	**-0.4**
OOD	**Oodnadatta**	**39.71**	**261**	P	**P**	**23 01 23.8**	**+0.6**
MULG	**Mulgathing**	**40.58**	**257**	P	**P**	**23 01 29.9**	**-0.4**
AS31	**Alice Springs**	**42.38**	**266**	P	**P**	**23 01 44.2**	**-0.7**
ASAR	**Alice Springs**	**42.38**	**266**	P	**P**	**23 01 44.2**	**-0.6**
	comp=Z,21nm,0.7s,baz=99,slow=7.1,SNR=223						
ASAR				PP	**PP**	**23 03 34.9**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=106,slow=8.1,SNR=3.8						
ASAR				ScP	**ScP**	**23 06 44.9**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=106,slow=4.9,SNR=4.1						
ASAR				S	**S**	**23 07 32.8**	**-3.2**
	comp=Z,1.2nm,0.8s,baz=100,slow=17,SNR=8.2						
ASAR	**Alice Springs**	**42.38**	**266**	P	**P**	**23 01 44.1**	**-0.7**
WRAB	**Tennant Creek**	**43.27**	**272**	P	**P**	**23 01 50.9**	**-0.9**
WRAB				IAmb	IAmb	23 01 52.7	
	comp=Z,33nm,0.8s						
WRA	**Warramunga Arr**	**43.27**	**272**	P	**P**	**23 01 51.1**	**-0.8**
	comp=Z,30nm,0.8s,baz=111,slow=7.4,SNR=192						
WRA				PcP	**PcP**	**23 03 32.3**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=111,slow=4.1,SNR=3.3						
WRA				ScP	**ScP**	**23 06 49.2**	**+4.1**
	comp=Z,1.9nm,0.9s,baz=112,slow=4.1,SNR=4.9						
WRA				S	**S**	**23 07 44.4**	**-4.4**
	comp=Z,3.9nm,0.9s,baz=110,slow=14,SNR=11						
WRA	**Warramunga Arr**	**43.27**	**272**	P	**P**	**23 01 50.4**	**-1.5**
WB0	**Warramunga Arr**	**43.29**	**272**	P	**P**	**23 01 51.3**	**-0.8**
WB0				IAmb	IAmb	23 01 52.9	
	comp=Z,35nm,0.8s						
FORT	**Forrest**	**45.55**	**254**	P	**P**	**23 02 08.6**	**-0.9**
FORT	**Forrest**	**45.55**	**254**	P	**P**	**23 02 08.5**	**-1.0**
GENI	**Genyem**	**47.09**	**297**	P	**P**	**23 02 21.7**	**+0.2**
	comp=Z,46nm,1.2s						
SBA	**Scott Base**	**49.01**	**184**	P	**P**	**23 02 38.9**	**+3.8**
SBA				IAmb	IAmb	23 02 41.5	
	comp=Z,56nm,0.9s						
VNDA	**Vanda**	**49.05**	**185**	P	**P**	**23 02 39.0**	**+3.7**
	comp=Z,4.7nm,0.7s,baz=348,slow=8.2,SNR=19						
VNDA	**Vanda**	**49.05**	**185**	P	**P**	**23 02 39.1**	**+3.7**
KNRA	**Kununurra**	**49.84**	**274**	P	**P**	**23 02 41.9**	**-0.2**
KNRA				IAmb	IAmb	23 02 43.6	
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.57**	**270**	P	**P**	**23 02 54.1**	**-0.8**
FAKI	**Fak Fak**	**53.24**	**290**	P	**P**	**23 03 06.1**	**-1.0**
FAKI				IAmb	IAmb	23 03 15.6	
	comp=Z,28nm,1.3s						
HMH	**Humu'ula Sheep**	**53.67**	**28**	P	**P**	**23 03 11.6**	**+1.2**
SWI	**Sorong**	**55.23**	**292**	P	**P**	**23 03 20.7**	**-0.5**
	comp=Z,26nm,0.9s						
PSA00	**Pilbara Seismi**	**55.30**	**263**	P	**P**	**23 03 20.5**	**-1.1**
PSA00				IAmb	IAmb	23 03 22.2	
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**55.30**	**263**	P	**P**	**23 03 20.6**	**-1.1**
PSA00				IAmb	IAmb	23 03 22.7	
	comp=Z,12nm,1.1s						
CASY	**Casey**	**55.69**	**208**	P	**P**	**23 03 24.5**	**+0.9**
CASY				IAmb	IAmb	23 03 25.2	
	comp=Z,32nm,0.7s						
MORW	**Morawa**	**56.07**	**253**	P	**P**	**23 03 26.0**	**-0.9**
MORW				IAmb	IAmb	23 03 27.1	
	comp=Z,16nm,0.7s						
MMRI	**Maumere**	**58.72**	**278**	P	**P**	**23 03 44.7**	**-0.7**
MMRI				IAmb	IAmb	23 03 45.7	
	comp=Z,39nm,1.1s						
SANI	**Sanana**	**58.90**	**287**	P	**P**	**23 03 44.7**	**-1.9**
	comp=Z,28nm,0.9s						
SANI	**Sanana**	**58.90**	**287**	P	**P**	**23 03 47.6**	**+1.0**
	comp=Z,28nm,0.9s						
GIRL	**Giralia**	**59.75**	**260**	P	**P**	**23 03 52.8**	**+0.5**
QSPA	**South Pole Qui**	**60.74**	**180**	P	**P**	**23 04 01.6**	**+3.3**
PLAI	**Plampang**	**62.49**	**275**	P	**P**	**23 04 09.0**	**-1.6**
	comp=Z,47nm,0.8s						
PLAI	**Plampang**	**62.49**	**275**	P	**P**	**23 04 10.3**	**-0.3**
SPSI	**Sidrap Palu**	**63.16**	**281**	P	**P**	**23 04 12.2**	**-2.7**
	comp=Z,6.7nm,0.8s						
TOLI2	**Tolitoli**	**64.98**	**287**	P	**P**	**23 04 26.5**	**-0.1**
SRBI	**Singaraja**	**65.07**	**275**	P	**P**	**23 04 25.1**	**-2.1**
	comp=Z,2μmcomp=Z,34nm,1.0s						
MPSI	**Mapaga**	**65.30**	**285**	P	**P**	**23 04 26.8**	**-1.8**
	comp=Z,5.6nm,0.7s						
JAGI	**Jajag, Banyuwa**	**65.81**	**274**	P	**P**	**23 04 30.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**65.81**	**274**	P	**P**	**23 04 28.0**	**-3.9**
	comp=Z,40nm,1.1s						
JAGI	**Jajag, Banyuwa**	**65.81**	**274**	P	**P**	**23 04 31.7**	**-0.2**
	comp=Z,41nm,1.0s						
KMMI	**Kalianget**	**66.65**	**275**	P	**P**	**23 04 35.9**	**-1.2**
	comp=Z,36nm,1.0s						
PWJI	**Pagerwojo**	**68.07**	**273**	P	**P**	**23 04 41.9**	**-4.0**
	comp=Z,23nm,0.7s						
BWJI	**Bawean**	**68.36**	**276**	P	**P**	**23 04 44.4**	**-3.3**
	comp=Z,41nm,1.0s						
UGM	**Wanagama**	**69.24**	**273**	P	**P**	**23 04 52.9**	**-0.2**
BELA	**Belgrano 2**	**70.91**	**172**	P	**P**	**23 05 04.4**	**+2.3**
BELA				IAmb	IAmb	23 05 05.2	
	comp=Z,22nm,0.9s						
KKM	**Kota Kinabalu**	**71.48**	**288**	P	**P**	**23 05 06.5**	**0.0**
KKM				IAmb	IAmb	23 05 14.0	
	comp=Z,24nm,1.1s						
CNJI	**Cibinong**	**72.48**	**271**	P	**P**	**23 05 09.5**	**-2.9**
SBUM	**Sibu**	**72.92**	**283**	P	**P**	**23 05 14.8**	**-0.1**
MAW	**Mawson**	**73.00**	**201**	P	**P**	**23 05 17.0**	**+2.6**
	comp=Z,32nm,0.8s,baz=90,slow=18,SNR=2.8						
MAW	**Mawson**	**73.00**	**201**	P	**P**	**23 05 16.2**	**+1.9**
MAW				IAmb	IAmb	23 05 39.0	
	comp=Z,23nm,1.2s						
SNAA	**Sanae**	**79.21**	**179**	P	**P**	**23 05 51.3**	**+2.3**
SNAA	**Sanae**	**79.21**	**179**	P	**P**	**23 05 51.4**	**+2.3**
SNAA				IAmb	IAmb	23 06 10.8	
	comp=Z,36nm,1.5s						
VNA3	**Neumayer Olymp**	**79.39**	**176**	P	**P**	**23 05 52.5**	**+2.6**
VNA2	**Neumayer--Watz**	**79.81**	**177**	P	**P**	**23 05 55.0**	**+2.8**
	baz=174,slow=4.0						
VNA2	**Neumayer--Watz**	**79.81**	**177**	PP	PP	23 09 00.8	+1.5
VNA1	**Neumayer--Stat**	**80.05**	**177**	P	**P**	**23 05 56.3**	**+2.9**
BKNI	**Bangkinang**	**81.48**	**275**	P	**P**	**23 06 01.4**	**-0.6**
LL02	**Futaleuf**	**81.64**	**135**	P	**P**	**23 06 04.5**	**+2.2**
LL02				IAmb	IAmb	23 06 07.2	
	comp=Z,9.6nm,0.8s						
IPM	**Ipoh**	**83.55**	**279**	P	**P**	**23 06 12.3**	**-0.2**
IPM				IAmb	IAmb	23 06 13.7	
	comp=Z,15nm,0.7s						
PLCA	**Paso Flores**	**83.79**	**133**	P	**P**	**23 06 16.9**	**+3.6**
	comp=Z,4.1nm,1.0s,baz=214,slow=7.3,SNR=5.6						
PLCA	**Paso Flores**	**83.79**	**133**	P	**P**	**23 06 16.7**	**+3.3**
PLCA				IAmb	IAmb	23 06 18.4	
	comp=Z,9.6nm,1.2s						
LC01	**Cunco**	**83.94**	**131**	P	**P**	**23 06 16.4**	**+2.3**
LC01				IAmb	IAmb	23 06 18.7	
	comp=Z,9.3nm,0.9s						
KULM	**Kulim**	**84.28**	**279**	P	**P**	**23 06 15.9**	**-0.1**
KULM				IAmb	IAmb	23 06 17.7	
	comp=Z,12nm,1.0s						
PEA0B	**Petropavlovsk-**	**84.62**	**346**	P	**P**	**23 06 17.9**	**+1.0**
PETK	**Petropavlovsk-**	**84.62**	**346**	P	**P**	**23 06 17.2**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=116,slow=6.8,SNR=5.7						
PETK	**Petropavlovsk-**	**84.62**	**346**	P	**P**	**23 06 17.7**	**+0.9**
NJ2	**Nanjing**	**84.97**	**311**	*e*P	P	23 06 21.9	+2.9
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GSI	**Gunungsitoli**	**84.97**	**274**	P	**P**	**23 06 20.2**	**+0.6**
O02D	**Mt. Diablo Mer**	**86.60**	**40**	P	**P**	**23 06 29.2**	**+2.3**
O02D				IAmb	IAmb	23 06 31.5	
	comp=Z,8.7nm,0.9s						
SRIT	**Nakonsritamara**	**86.83**	**282**	P	**P**	**23 06 29.3**	**+0.9**
SRIT				IAmb	IAmb	23 06 31.0	
	comp=Z,14nm,1.0s						
MT01	**Popeta**	**87.12**	**127**	P	**P**	**23 06 31.7**	**+2.1**
MT01				IAmb	IAmb	23 06 34.1	
	comp=Z,20nm,1.0s						
NVAR	**Mina Array Bea**	**88.02**	**43**	P	**P**	**23 06 35.4**	**+1.6**
	comp=Z,3.1nm,0.9s,baz=221,slow=8.0,SNR=4.7						
NVAR				pP	**pP**	**23 08 01.6**	**-3.8**
	comp=Z,1.4nm,0.8s,baz=230,slow=7.7,SNR=5.3						
CN2	**Changchun**	**88.84**	**323**	*e*P	**P**	**23 06 38.6**	**+1.4**
CN2				*e*PP	**PP**	**23 10 16.7**	**+3.1**
CN2	**Changchun**	**88.84**	**323**	*e*S	**S**	**23 16 52.9**	**+3.2**
CN2	**Changchun**	**88.84**	**323**	*e*sS	sS	23 19 28.4	-3.1
TUC	**Tucson**	**89.09**	**52**		**P**	**23 06 41.9**	**+3.2**
CMAR	**Chiang Mai Arr**	**92.31**	**290**	P	**P**	**23 06 55.3**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=155,slow=3.8,SNR=5.7						
TXAR	**Lajitas Array**	**92.50**	**58**	P	**P**	**23 06 57.2**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=194,slow=4.6,SNR=4.2						
TXAR				pP	**pP**	**23 08 25.0**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=198,slow=7.9,SNR=3.5						
XLT	**XiLinHaoTe**	**94.04**	**319**	*e*P	P	23 07 05.6	+4.3
XLT				pP	pP	23 08 21.8	-11
XLT				sP	sP	23 09 11.3	-2.5
XLT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,180nm,6.6s						
PZH	**PanZhiHua**	**94.12**	**298**	P	**P**	**23 07 03.7**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,6.1s						
HHC	**Hu-ho-hao-te**	**94.94**	**314**	*e*P	**P**	**23 07 04.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,5.8s						
PDAR	**Pinedale Array**	**95.94**	**44**	P	**P**	**23 07 12.1**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=208,slow=3.7,SNR=2.4						
PDAR				pP	**pP**	**23 08 39.6**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=207,slow=3.0,SNR=5.6						
PDAR	**Pinedale Array**	**95.94**	**44**	P	**P**	**23 07 11.9**	**+1.8**
LZH	**Lanzhou**	**97.47**	**307**	⇓P	Pdif	23 07 21.1	+4.0
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
YKA	**Yellowknife Ar**	**104.86**	**26**	PKiKP	**PKiKP**	**23 12 03.1**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=250,slow=1.5,SNR=2.3						
YKA				PKKPbc	**PKKPbc**	**23 23 32.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=46,slow=3.1,SNR=8.8						
MK31	**Makanchi Array**	**116.50**	**311**		**PKiKP**	**23 12 24.6**	**+0.2**
MKAR	**Makanchi Array**	**116.50**	**311**	PKP	**PKiKP**	**23 12 24.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=135,slow=0.6,SNR=6.7						
MKAR				PKKPbc	**PKKPab**	**23 22 56.0**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=284,slow=4.9,SNR=3.7						
MKAR	**Makanchi Array**	**116.50**	**311**		**PKiKP**	**23 12 24.6**	**+0.2**
ZALV	**Zalesovo Beam**	**116.73**	**319**	PKP	**PKiKP**	**23 12 24.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=150,slow=3.2,SNR=2.4						
BOSA	**Boshof**	**117.89**	**204**	PKP	**PKiKP**	**23 12 29.7**	**+1.8**
	comp=Z,2.8nm,1.0s,baz=87,slow=3.8,SNR=4.1						
BOSA	**Boshof**	**117.89**	**204**		**PKiKP**	**23 12 28.9**	**+0.9**
KSH	**Kashi**	**119.03**	**301**	PKP	**PKiKP**	**23 12 31.5**	**+1.8**
AAK	**Ala-Archa**	**120.88**	**305**	PKP	**PKiKP**	**23 12 33.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=194,slow=7.4,SNR=6.0						
AAK	**Ala-Archa**	**120.88**	**305**		**PKiKP**	**23 12 33.4**	**+0.2**
KBL	**Kabul**	**123.08**	**294**	PKPdf	**PKiKP**	**23 12 39.2**	**+1.3**
GAR	**Garm**	**123.16**	**300**	PKPdf	**PKiKP**	**23 12 38.9**	**+1.0**
KKAR	**Karatay Array**	**123.84**	**304**	PKPdf	**PKiKP**	**23 12 39.3**	**+0.4**
BVAR	**Borovoye Array**	**125.11**	**316**	PKP	**PKiKP**	**23 12 41.9**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=54,slow=15,SNR=8.4						
GEYT	**Alibeck**	**132.40**	**296**	SKPab	**SKiKP**	**23 15 48.2**	**-5.3**
	comp=Z,3.6nm,0.8s,baz=69,slow=4.8,SNR=6.2						
AKTO	**Aktyubinsk**	**132.82**	**313**	PKP	**PKiKP**	**23 12 55.7**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=359,slow=1.2,SNR=4.9						
AKTO				SKPab	**SKPab**	**23 15 48.4**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=3.3,slow=9.5,SNR=3.9						
ARCES	**ARCESS Array B**	**137.41**	**348**	PKhKP	PKPpre	23 12 56.2	
	comp=Z,1.5nm,0.8s,baz=48,slow=1.8,SNR=5.8						

ARCES				PKP	PKiKP	23 13 06.2	+0.7
	comp=Z,0.6nm,0.4s,baz=77,slow=3.5,SNR=13						
GNI	Garni	142.88	299	PKP	PKPdf	23 13 13.6	-0.8
	comp=Z,0.8nm,0.4s,baz=90,slow=3.0,SNR=2.5						
ONI	Oni	143.63	303		PKiKP	23 13 15.6	-3.4
KBZ	Khabaz	143.87	305	PKP	PKPdf	23 13 15.4	-0.3
	comp=Z,2.7nm,0.8s,baz=148,slow=1.0,SNR=12						
FINES	FINESS Array B	143.90	340	PKP	PKPdf	23 13 14.7	-0.6
	comp=Z,8.6nm,0.5s,baz=47,slow=3.6,SNR=81						
FINES				SKPbc	SKiKP	23 16 18.9	+2.7
	comp=Z,2.5nm,0.8s,baz=58,slow=4.4,SNR=3.3						
KIV	Kislovodsk	143.99	305		PKPdf	23 13 16.0	-0.1
KARS	Kars	144.12	300	PKPdf	PKiKP	23 13 17.1	-3.1
GEVA	Gevas	144.27	296		PKiKP	23 13 17.5	-3.1
GURO	Guroymak-BITLI	145.06	296		PKiKP	23 13 19.0	-3.2
NB2	NORSAR Subarra	147.61	351	PKP	PKPab	23 13 26.0	-2.4
	comp=Z,3.3nm,0.6s,baz=13,slow=2.8						
NB2	NORSAR Subarra	147.61	351	PKP	pPKPbc	23 15 00.3	-0.5
	comp=Z,15nm,1.7s,baz=10,slow=3.2						
NOA	NORSAR Array B	147.61	351	PKPbc	PKPab	23 13 26.0	-2.4
	comp=Z,3.7nm,0.6s,baz=15,slow=4.3,SNR=20						
NOA				pPKPbc	pPKPdf	23 14 57.5	-1.3
	comp=Z,1.7nm,0.8s,baz=15,slow=4.5,SNR=5.0						
PABE	Paberze	149.18	334		PKiKP	23 13 30.2	+0.3
AKASG	Malin Array Be	150.00	323	PKPbc	PKiKP	23 13 32.5	+0.7
	comp=Z,2.1nm,0.4s,baz=44,slow=2.7,SNR=23						
AKASG				pPKPbc	pPKPbc	23 15 05.4	-1.9
	comp=Z,2.9nm,0.8s,baz=44,slow=2.8,SNR=3.6						
AKASG	Malin Array Be	150.00	323		PKiKP	23 13 32.3	+0.6
AKBB	Malin Array Si	150.00	323		PKiKP	23 13 32.2	+0.4
SUW	Suwalki	150.60	333		PKiKP	23 13 32.6	-0.3
BRTR	Keskin Array B	151.40	300	PKPbc	PKiKP	23 13 36.0	+0.7
	comp=Z,2.8nm,0.8s,baz=131,slow=3.4,SNR=8.0						
BRTR	Keskin Array B	151.40	300		PKiKP	23 13 34.9	-0.4
DBIC	Dimbokro	156.74	165	PKPab	PKPab	23 14 10.9	+2.9
	comp=Z,5.4nm,0.8s,baz=200,slow=4.7,SNR=5.6						
KHC	Kasperske Hory	158.07	338	*e*PKPAB	PKPab	23 14 14.7	+1.7
GERES	GERESS Array B	158.28	337	PKPab	PKPab	23 14 14.1	+0.1
	comp=Z,0.4nm,0.6s,baz=50,slow=2.1,SNR=3.6						
TORD	Torodi Ar. Bea	163.85	182	PKP	PKPdf	23 13 45.5	+1.4
	comp=Z,2.2nm,1.0s,baz=247,slow=0.3,SNR=8.1						
TORD				PKPab	PKPab	23 14 40.8	+1.8
	comp=Z,8.2nm,0.9s,baz=177,slow=3.8,SNR=24						
TORD				pPKPab	pPKPab	23 16 10.0	-1.3
	comp=Z,2.3nm,1.0s,baz=173,slow=3.2,SNR=6.5						
TORD				PP	PP	23 18 28.2	+4.0
	comp=Z,0.7nm,0.7s,baz=180,slow=4.6,SNR=4.1						
TORD	Torodi Ar. Bea	163.85	182		PKPdf	23 13 45.5	+1.4
TORD					PKPab	23 14 40.4	+1.4

*IDC **09** 22:56:15.6±5.5, 31°.26N×88°.92E, h57km±49km, mb3.1/9, mb1 3.4/11, mb1mx3.2/50, mbtmp3.4/11, ML4.3/1, Error ellipse: s-maj=47.4km s-min=18.7km az=55.0*

ISC 09 22:56:13.3±1.0**, 31°.3N**±0°.2×**88°.9E**±0°.2**, h35km, n12,** σ**0s.73**/12**, mb3.6**/8**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.68	142	P	Pn	22 59 52.4	+0.8
	0.4nm,0.3s,baz=328,slow=12,SNR=9.9						
MKAR	Makanchi Array	16.32	344	P	P	23 00 02.8	+0.5
	0.0nm,0.3s,baz=156,slow=8.9,SNR=2.4						
KURBB	Kurchatov Arra	20.82	341	P	P	23 00 52.2	+0.6
	0.3nm,0.2s,baz=158,slow=11,SNR=5.6						
SONM	Songino Array	21.30	34	P	P	23 00 56.8	-0.2
	0.4nm,1.0s,baz=236,slow=10,SNR=2.2						
ZALV	Zalesovo Beam	22.86	354	P	P	23 01 14.3	+0.9
	0.3nm,0.4s,baz=177,slow=9.7,SNR=2.0						
FINES	FINESS Array B	50.13	326	P	P	23 05 04.8	0.0
	1.8nm,1.0s,baz=83,slow=11,SNR=2.5						
NOA	NORSAR Array B	57.30	326	P	P	23 05 57.2	-0.1
	0.8nm,0.9s,baz=81,slow=9.1,SNR=2.0						
GERES	GERESS Array B	57.82	311	P	P	23 06 01.1	-0.2
	0.3nm,0.6s,baz=62,slow=4.8,SNR=3.8						
WRA	Warramunga Arr	67.06	133	P	P	23 07 02.9	-0.3
	0.8nm,0.8s,baz=324,slow=7.4,SNR=3.6						
ASAR	Alice Springs	69.59	136	P	P	23 07 18.4	-0.6
	0.5nm,0.7s,baz=317,slow=6.6,SNR=4.3						
YKA	Yellowknife Ar	84.69	11	P	P	23 08 42.2	-1.0
	0.3nm,0.8s,baz=326,slow=4.6,SNR=4.3						
TXAR	Lajitas Array	118.58	12	PKP	PKiKP	23 14 59.1	+1.1
	0.1nm,0.3s,baz=341,slow=1.9,SNR=2.0						

NEIC 09 23:05:03.5±0.5**, 36°.433N**±0°.010×**98°.79W**±0°.04**, h5**km±2km**, ML2.2**/22**, Error ellipse: s-maj=4.8km s-min=0.9km az=76.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.18	253	Pg	Pg	23 05 07.1	0.0
U32A				IAML		23 05 10.5	
	comp=N,626nm,0.4s						
WMOK	Wichita Mounta	1.69	180	Pn	Pn	23 05 32.9	-1.0
T35A	Sooner Cattle	1.89	75	Pn	Pn	23 05 36.2	-0.4
X34A	Smith Ranch, M	1.99	157	Pn	Pn	23 05 38.3	+0.4

IDC 09 23:31:32.6±3.6**, 1°.94N×99°.23E, h160**km±8km**, mb3.1**/3**, mb1 3.2**/3**, mb1mx2.8**/33**, mbtmp3.5**/3**, Error ellipse: s-maj=199.4km s-min=23.2km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.91	341	P	Pn	23 31 57.4	-0.4
	2.4nm,0.3s,baz=326,slow=15,SNR=10						
PSI				S	Sn	23 32 16.6	-0.6
	0.5nm,0.3s,baz=147,slow=18,SNR=6.1						
WRA	Warramunga Arr	40.73	124	P	P	23 38 58.0	-0.1
	0.2nm,0.4s,baz=301,slow=9.0,SNR=5.9						
MKAR	Makanchi Array	47.05	344	P	P	23 39 48.2	+0.2
	0.2nm,0.4s,baz=160,slow=8.8,SNR=5.9						
ZALV	Zalesovo Beam	53.18	349	P	P	23 40 33.5	-0.4
	0.2nm,0.5s,baz=165,slow=8.1,SNR=4.2						

*IDC **09** 23:46:05.6±0.4, 35°.67N×3°.58W, h0km, mb4.4/33, mb1 4.5/37, mb1mx4.4/53, mbtmp4.4/37, ML4.1/4, MS3.8/44, Ms1 3.8/44, ms1mx3.6/96, Error ellipse: s-maj=13.4km s-min=8.3km az=105.0*

*IGIL **09** 23:46:07.5, 35°.50N×3°.62W, h13km, ML4.4*

*NEIC **09** 23:46:07.4±1.1, 35°.68N±0°.06×3°.57W±0°.07, h10km±1km, mb4.8/152, Error ellipse: s-maj=11.3km s-min=9.1km az=154.0*

*SFS **09** 23:46:07.0, 35°.40N×3°.60W, h22km, ML4.5, ALBORAN SUR*

*CRAAG **09** 23:46:07.6, 35°.69N×3°.63W, Mb4.6*

*CNRM **09** 23:46:07.8, 35°.67N×3°.41W, h12km, ml4.9*

*MED_RC **09** 23:46:07.0±0.8, 35°.65N×3°.84W, h10km, MW4.6/23, Moment Tensor Solution.Mantle waves: s23,c34; Duration: 1s.0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.84±.03; $M_{\theta\theta}$-0.81±.02; $M_{\phi\phi}$-0.03±.03; $M_{r\theta}$0.38±.11; $M_{\theta\phi}$-0.29±.03; $M_{\phi r}$-0.33±.12; Best double couple: $M_0$1.01000×10^{16} NP1:ϕ_s95.00000°, δ58.00000°, λ117.00000°. NP2:ϕ_s231.00000°, δ41.00000°, λ54.00000°. Principal axes: T 1.0600, Plg65.0000°, Azm55.0000°; N -0.1100, Plg22.0000°, Azm260.0000°; P -0.9500, Plg9.0000°, Azm166.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*LDG **09** 23:46:08.0, 35°.45N×3°.56W, h30km*

*MDD **09** 23:46:08.0±0.3, 35°.62N×3°.61W, h12km, mb_Lg4.3/15, Error ellipse: s-maj=2.6km s-min=1.7km az=170.0*

*INMG **09** 23:46:09.5±2.3, 35°.68N×3°.70W, h16km±6km, ML4.3, Error ellipse: s-maj=3.5km s-min=3.5km az=106.0*

ISC 09 23:46:08.1±0.9**, 35°.69N**±0°.02×**3°.57W**±0°.02**, h17**km±6km**, n560,** σ**1s.64**/621**, mb4.8**/103**, MS4.0**/42**, 23C-8D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.50	60	Pg	Pb	23 46 18.5	0.0
EALB				Sg	Sb	23 46 26.5	+1.0
PALE	Palemas	0.56	213	P	Pb	23 46 20.0	+0.4
PALE	Palemas	0.56	213	P	Pg	23 46 18.4	-0.8
PALE				S	Sg	23 46 26.1	-0.7
EMEL	Melilla	0.64	128	Pg	Pg	23 46 20.2	-0.5
EMEL				Sg	Sg	23 46 28.7	-0.4
GOG	Mont Gurugu	0.66	135	P	Pg	23 46 20.4	-0.8
GOG				S	Sg	23 46 29.0	-1.0
ELGU	Los Guajares,	1.18	358	Pg	Pn	23 46 28.4	-1.5
ELGU				Sg	Sg	23 46 46.2	-0.1
EMAL	Malaga-Limoner	1.27	327	P	Pn	23 46 29.4	-1.8
EMAL				S	Sb	23 46 42.6	-5.2
TAF	Taforalt	1.29	132	P	Pn	23 46 30.1	-1.3
TAF	Taforalt	1.29	132	P	Pn	23 46 30.1	-1.3
TAF				S	Sb	23 46 46.1	-2.2
EMIJ	Mijas	1.31	312	Pn	Pn	23 46 29.5	-2.2
EMIJ				Sn	Sb	23 46 45.7	-3.1
SMIR	Smir Dam	1.47	270	P	Pg	23 46 37.0	+0.4
SMIR	Smir Dam	1.47	270	P	Pg	23 46 37.0	+0.4
SMIR				S	Sn	23 46 49.0	-3.8
CEU	Ceuta	1.48	279	P	Pn	23 46 30.9	-3.1
CEU				S	Sn	23 46 48.4	-4.5
EGOR	Sierra Gorda,	1.48	343	Pn	Pn	23 46 33.5	-0.7
EGOR				Sn	Sb	23 46 54.3	+0.4
EGOR				*i* Vmb_Lg		23 47 02.6	
EQUE	Quentar	1.52	4	Pn	Pn	23 46 34.8	+0.2
EQUE				Sn	Sn	23 46 51.7	-2.3
CHEFC	Chefchaouen	1.56	249	P	Pn	23 46 34.3	-0.8
CHEFC				S	Sn	23 46 53.0	-2.0
JBK	JBK	1.58	148	P	Pn	23 46 34.2	-1.4
JBK	JBK	1.58	148	P	Pn	23 46 34.2	-1.4
JBK				S	Sg	23 46 59.1	-0.2
ENIJ	Nijar	1.69	40	Pn	Pn	23 46 35.0	-1.9
ENIJ				Sn	Sb	23 46 59.6	-0.1
ENIJ				*i* Vmb_Lg		23 47 13.5	
EJIF	Jimena Fronter	1.71	297	Pn	Pn	23 46 35.7	-1.6
CPS	Cap Spartel	1.90	274	P	Pb	23 46 42.0	-0.5
CPS	Cap Spartel	1.90	274	P	Pg	23 46 44.0	-0.7
LIJA	Lijar	1.91	310	P	Pb	23 46 42.6	-0.1
LIJA				S	Sb	23 47 07.5	+1.2
CNIL	Conil	2.12	289	P	Pb	23 46 45.9	-0.3
CNIL				S	Sg	23 47 16.3	-0.2
SICH	Sidi Chahed	2.14	223	P	Pb	23 46 46.0	-0.5
SICH	Sidi Chahed	2.14	223	P	Pn	23 46 44.0	+0.9
ESPR	Espera	2.19	303	Pn	Pn	23 46 44.2	+0.5
ESPR				Sn	Sn	23 47 10.3	-0.2
LCRM	LCR	2.26	208	P	Pn	23 46 45.0	0.0
LCRM				S	Sg	23 47 24.0	+3.0
SFS	San Fernando	2.27	291	P	Pn	23 46 46.4	+1.5
SFS				S	Sg	23 47 19.6	-1.6
SFS	San Fernando	2.27	291	Pn	Pn	23 46 44.6	-0.2
SFS	San Fernando	2.27	291	P	Pn	23 46 45.7	+0.9
OTSS	Djebel Tessala	2.30	99	P	Pn	23 46 44.0	-1.4
USTO	Oran	2.46	88	P	Pb	23 46 50.0	-1.9
TLOR	Lorca, Murcia	2.48	37	Pn	Pn	23 46 47.5	-0.3
IFR	Ifrane	2.52	211	P	Pn	23 46 47.6	-0.9
IFR				S	Sn	23 47 17.2	-1.8
EADA	Adamuz	2.60	342	Pn	Pn	23 46 49.8	+0.3
EADA				Sn	Sn	23 47 21.6	+0.9
EADA				*i* Vmb_Lg		23 47 33.5	
EZAR	Zarzadilla de	2.65	34	Pn	Pn	23 46 49.2	-0.9
EZAR				Sn	Sn	23 47 23.5	+1.5
CART	Cartagena	2.80	47	P	Pn	23 46 51.2	-0.9
CART				S	Sb	23 47 30.2	-1.6
CART	Cartagena	2.80	47	Pn	Pn	23 46 50.9	-1.3
CART	Cartagena	2.80	47	P	Pn	23 46 51.4	-0.7
CART	Cartagena	2.80	47	P	Pn	23 46 51.4	-0.7
CART				S	Sn	23 47 23.5	-2.1
ECAB	El Cabril	2.80	329	Pn	Pn	23 46 52.4	+0.1
ECAB				Sn	Sn	23 47 26.9	+1.2
ECAB				*i* Vmb_Lg		23 47 35.6	
ODJA	Bouhanifia	2.81	96	P	Pn	23 46 55.0	+2.6
ARNO	Arenosillo	2.91	300	P	Pn	23 46 53.7	0.0
ARNO				S	Sn	23 47 28.5	+0.2
CZD	Col de Zad	2.92	205	P	Pn	23 46 54.1	0.0
CZD	Col de Zad	2.92	205	P	Pn	23 46 54.1	0.0
TDRA	Tendrara	2.94	154	P	Pg	23 47 03.0	-1.5
TDRA	Tendrara	2.94	154	P	Pn	23 46 54.3	+0.1
MD31	MD31	2.98	200	P	Pn	23 46 54.4	-0.4
MDT	Midelt	3.00	197	Pn	Pn	23 46 54.4	-0.5
	9.3nm,0.3s,baz=176,slow=4.2,SNR=4.9						
MDT				Pg	Pb	23 47 00.4	-0.7
	39nm,0.3s,baz=148,slow=3.9,SNR=25						
MDT				Sn	Sn	23 47 30.3	-0.3
	63nm,0.3s,baz=282,slow=13,SNR=4.9						
MDT				LR	LR	23 47 34.5	
	comp=Z,425nm,20.6s,baz=26,slow=30						
MDT				Lg	Lg	23 47 39.4	
	171nm,0.3s,baz=18,slow=14,SNR=6.9						
MDT	Midelt	3.00	197	P	Pn	23 46 55.2	+0.3
MDT	Midelt	3.00	197	P	Pn	23 46 55.2	+0.3
OJBR	Djebel Berber	3.19	91	P	Pb	23 47 04.0	-0.4
EMIN	Mina Concepcio	3.24	311	Pn	Pn	23 46 57.4	-0.9
EMIN				Sn	Sn	23 47 33.5	-2.9
ETOB	Tobarra	3.36	28	Pn	Pn	23 47 01.3	+1.4
ETOB				Sn	Sn	23 47 39.9	+0.4
OKGL	Djebel Kef Gue	3.44	83	P	Pn	23 47 02.0	+1.0
OJGS	Djebel Guires	3.52	92	P	Pg	23 47 18.0	+2.3
PTAV	Tavira	3.59	295	*e*Sn	Sn	23 47 43.2	-1.9
EGRO	El Granado	3.65	301	Pn	Pn	23 47 03.0	-0.8
EGRO				Sn	Sn	23 47 43.7	-2.7
PBAR	Barrancos	3.72	313⇑	*e*Pn	Pn	23 47 04.1	-0.8
PBAR				*e*Sn	Sn	23 47 46.5	-1.8
PBAR				A	A	23 47 51.2	
	416nm,0.5s						
PVAQ	Vaqueiros	3.75	298	*e*Pn	Pn	23 47 04.2	-1.0
PVAQ				*e*Sn	Sn	23 47 45.8	-3.2
PVAQ				A	A	23 47 49.3	
	568nm,0.6s						
PVAQ	Vaqueiros	3.75	298		Pn	23 47 03.9	-1.3
PVAQ				Sn	Sn	23 47 46.3	-2.7
PVAQ	Vaqueiros	3.75	298	P	Pn	23 47 04.2	-1.0
PVAQ				S	Sn	23 47 50.9	+1.9
PFARO	Faro	3.76	292	*e*Pn	Pn	23 47 05.5	+0.2
PFARO				*e*Sn	Sn	23 47 47.6	-1.5
EANR	'Ain N'Sour	3.80	85	P	Pn	23 47 05.0	-1.0
PBDV	Barranco-do-Ve	3.84	295⇑	*e*Pn	Pn	23 47 05.5	-1.0
PBDV				*e*Sn	Sn	23 47 48.8	-2.5
PBDV				A	A	23 47 56.5	
	523nm,0.7s						
PAB	San Pablo	3.90	351	Pn	Pn	23 47 07.9	+0.6
PAB	San Pablo	3.90	351	P	Pn	23 47 08.0	+0.6
PAB	San Pablo	3.90	351	Pn	Pn	23 47 08.0	+0.7
PAB				Sn	Sn	23 47 54.1	+1.3
AVE	Averroes	3.97	234	P	Pn	23 47 06.9	-1.3
AVE				S	Sn	23 47 51.9	-2.5
AVE	Averroes	3.97	234	P	Pn	23 47 08.6	+0.3
AVE	Averroes	3.97	234	P	Pn	23 47 08.6	+0.3
ESDC	Sonseca Array	3.99	356	Pn	Pn	23 47 08.7	+0.1
	11nm,0.3s,baz=177,slow=12,SNR=103						
ESDC				Lg	Lg	23 48 11.9	
	13nm,0.3s,baz=177,slow=28,SNR=11						
ESDC	Sonseca Array	3.99	356	Pn	Pn	23 47 09.4	+0.9
ESDC	Sonseca Array	3.99	356	Pn	Pn	23 47 09.5	+0.9
ESDC				Sn	Sn	23 47 55.7	+0.8
ESBB	Sonseca Array	3.99	356		Pn	23 47 09.5	+1.0
PALBU	Albufeira	4.03	292	*e*Pn	Pn	23 47 11.5	+2.5
PALBU				*e*Sn	Sn	23 47 52.9	-2.9
ECHA	Ech Chlef	4.03	82	P	Pb	23 47 15.5	-3.2
FIGM	Figuig	4.03	151	P	Pn	23 47 13.0	+3.7
FIGM	Figuig	4.03	151	P	Pn	23 47 13.0	+3.7
PCVE	Castro Verde	4.08	300⇓	*e*Pn	Pn	23 47 08.8	-1.0
PCVE				*e*Sn	Sn	23 47 54.0	-3.2
PCVE				A	A	23 48 00.9	
	491nm,0.5s						
EBAD	Badajoz	4.11	319	Pn	Pn	23 47 09.7	-0.5
EBAD				Sn	Sn	23 47 55.4	-2.5
GOLM	Goulmima	4.14	197	P	Pn	23 47 13.0	+2.3
GOLM	Goulmima	4.14	197	P	Pg	23 47 28.0	+0.5
GOLM	Goulmima	4.14	197	P	Pn	23 47 13.0	+2.3
PBEJ	Beja	4.16	305	*e*Pn	Pn	23 47 10.1	-0.8
PBEJ				*e*Sn	Sn	23 47 56.5	-2.6
PBEJ				A	A	23 48 07.0	
	328nm,0.6s						
EBNR	Beni Rached	4.18	80	P	Pb	23 47 20.6	-0.6
PPOR	Portimao	4.25	291	*e*Sn	Sn	23 47 57.8	-3.6
PLAGO	Lagos	4.36	290	*e*Sn	Sn	23 48 03.3	-0.7
MORF	Marmelete	4.40	293	*e*P	Pn	23 47 12.7	-1.5
MORF				*e*S	Sn	23 48 00.3	-4.8
MORF				IAML		23 48 08.5	
	comp=N,766nm,0.5s						
MORF	Marmelete	4.40	293	*e*Pn	Pn	23 47 12.9	-1.3
MORF				*e*Sn	Sn	23 48 01.6	-3.5
MORF				A	A	23 48 14.9	
	comp=N,273nm,0.7s						
PFVI	Vila Bisbo	4.48	290	*e*Pn	Pn	23 47 15.2	0.0
PFVI				*e*Sn	Sn	23 48 03.7	-3.2
PFVI				A	A	23 48 13.0	
	comp=N,461nm,0.6s						
PFVI	Vila Bisbo	4.48	290	Pn	Pn	23 47 14.6	-0.6
PFVI	Vila Bisbo	4.48	290	P	Pn	23 47 16.7	+1.5
PFVI	Vila Bisbo	4.48	290	P	Pn	23 47 15.0	-0.2
PESTR	Estremoz	4.51	316	*e*Pn	Pn	23 47 15.2	-0.5
PESTR				*e*Sn	Sn	23 48 04.9	-2.8
PESTR				A	A	23 48 39.3	
	comp=N,262nm,0.7s						
PESTR	Estremoz	4.51	316	Pn	Pn	23 47 14.8	-0.9
PESTR	Estremoz	4.51	316	P	Pn	23 47 15.2	-0.5
PALJ	Aljezur	4.51	293	*e*Pn	Pn	23 47 18.0	+2.3
PALJ				*e*Sn	Sn	23 48 05.9	-1.9
PTEO	Sao Teotonio	4.54	296	*e*Pn	Pn	23 47 16.1	0.0
PTEO				*e*Sn	Sn	23 48 05.7	-2.8
PTEO				A	A	23 48 11.2	
	comp=N,463nm,0.6s						
EVO	Evora	4.54	310	P	Pn	23 47 15.7	-0.5
EVO				S	Sn	23 48 06.2	-2.4
EVO	Evora	4.54	310	*e*Pn	Pn	23 47 15.8	-0.3
EVO				*e*Sn	Sn	23 48 05.8	-2.8
EVO				A	A	23 48 11.5	
	comp=N,264nm,0.5s						
PSVI	Cabo S. Vicent	4.58	288	*e*Sn	Sn	23 48 06.9	-2.5
UCM	Universidad Co	4.62	3	P	Pn	23 47 18.2	+1.0
UCM				S	Sn	23 48 14.3	+3.9
PNCL	Nicolau / Gran	4.65	303	*e*Pn	Pn	23 47 16.8	-0.8
PNCL				*e*Sn	Sn	23 48 07.8	-3.4
PNCL				A	A	23 48 21.9	
	comp=N,160nm,0.4s						
EPLA	Plasencia	4.80	336	Pn	Pn	23 47 20.3	+0.7
EPLA				Sn	Sn	23 48 13.8	-1.0
PMRV	Marv??o	4.81	322	*e*Pn	Pn	23 47 20.0	+0.2
PMRV				*e*Sn	Sn	23 48 13.1	-2.0
PMRV				A	A	23 48 50.8	
	comp=N,269nm,0.7s						
GUD	Guadarrama	4.96	355	Pn	Pn	23 47 22.8	+0.7
GUD				Sn	Sn	23 48 16.9	-2.3
PMTG	Montargil	5.01	314	*e*Pn	Pn	23 47 22.0	-0.5
PMTG				*e*Sn	Sn	23 48 16.3	-3.8
PMTG				A	A	23 48 33.1	
	comp=N,212nm,0.5s						
PCBR	Castelo Branco	5.17	324	*e*Pn	Pn	23 47 25.3	+0.6
PCBR				*e*Sn	Sn	23 48 20.9	-3.1
PCBR				A	A	23 48 29.4	
	comp=N,195nm,0.6s						
TZRR	Tazzarine	5.17	199	P	Pn	23 47 26.0	+1.1
TZRR	Tazzarine	5.17	199	P	Pn	23 47 26.0	+1.1
PACT	Alcochete	5.20	308	*e*Pn	Pn	23 47 25.5	+0.3
PACT				*e*Sn	Sn	23 48 22.9	-1.9
PACT				A	A	23 48 39.1	
	comp=N,429nm,0.8s						
ETOR	Torete	5.26	13	Pn	Pn	23 47 27.3	+1.3
LIS	Lisbon	5.38	306	*e*Pn	Pn	23 47 27.6	0.0
LIS				*e*Sn	Sn	23 48 25.9	-3.2
LIS				A	A	23 48 41.5	
	comp=N,338nm,0.7s						
PMST	Lisbon--Monsan	5.41	306	*e*Pn	Pn	23 47 28.0	-0.1
PMST				*e*Sn	Sn	23 48 26.8	-3.2
PMST				A	A	23 48 33.6	
	comp=N,241nm,0.5s						
OUZM	OUZ	5.47	210	P	Pn	23 47 32.0	+3.0
OUZM	OUZ	5.47	210	P	Pn	23 47 29.0	0.0
PMAFR	Mafra	5.60	307	*e*Pn	Pn	23 47 30.4	-0.2
PMAFR				*e*Sn	Sn	23 48 30.8	-3.8
PMAFR				A	A	23 48 35.1	
	comp=N,346nm,0.5s						
PSBE	So Bento	5.64	314	*e*Pn	Pn	23 47 31.3	+0.1
PSBE				*e*Sn	Sn	23 48 32.3	-3.2
PSBE				A	A	23 49 15.4	
	comp=N,248nm,0.6s						
MTE	Manteigas	5.65	327	*e*Pn	Pn	23 47 32.1	+0.7
MTE				*e*Sn	Sn	23 48 32.8	-3.1
MTE				A	A	23 49 08.2	
	comp=N,331nm,0.7s						
MTE	Manteigas	5.65	327	Pn	Pn	23 47 31.1	-0.3
OUK	Oukaimeden	5.74	220	P	Pn	23 47 34.0	+1.2
OUK	Oukaimeden	5.74	220	P	Pn	23 47 32.4	-0.4
ZGR	Zagora	5.82	198	P	Pn	23 47 33.9	+0.1
PCAS	Casmilo, Conde	5.84	320	*e*Pn	Pn	23 47 34.2	+0.2
PCAS				*e*Sn	Sn	23 48 37.1	-3.5
PCAS				A	A	23 49 20.5	
	comp=N,231nm,0.6s						
COI	Coimbra	5.91	321	*e*Pn	Pn	23 47 35.2	+0.3
COI				*e*Sn	Sn	23 48 39.5	-2.8
COI				A	A	23 48 51.8	
	comp=N,401nm,0.7s						
COI	Coimbra	5.91	321	Pn	Pn	23 47 34.8	-0.1
PVIS	Viseu	6.06	327	*e*Pn	Pn	23 47 37.2	+0.2
PVIS				*e*Sn	Sn	23 48 42.6	-3.5
PVIS				A	A	23 48 50.9	
	comp=N,212nm,0.7s						
MVO	Moncorvo	6.10	335	*e*Pn	Pn	23 47 38.2	+0.6
MVO				*e*Sn	Sn	23 48 45.3	-1.8
MVO				A	A	23 49 27.1	
	comp=N,316nm,0.6s						
EAH	EAH	6.43	233	P	Pn	23 47 43.0	+0.9
EAH	EAH	6.43	233	P	Pn	23 47 42.0	-0.2
PVRL	Vila Real	6.45	331	*e*Pn	Pn	23 47 43.0	+0.6
PVRL				*e*Sn	Sn	23 48 53.2	-2.5
PVRL				A	A	23 48 59.2	
	comp=N,269nm,0.6s						
TTIG	Tnine Tigouga,	6.56	220	P	Pn	23 47 42.0	-2.0
POLO	Lamas de Olo	6.57	331	*e*Pn	Pn	23 47 44.7	+0.7
POLO				*e*Sn	Sn	23 48 56.0	-2.6
POLO				A	A	23 49 40.0	
	comp=N,82nm,0.6s						
PBRG	Braganca	6.59	339	*e*Pn	Pn	23 47 44.6	+0.3
PBRG				*e*Sn	Sn	23 48 56.4	-2.6
PBRG				A	A	23 49 40.5	
	comp=N,121nm,0.7s						
PTO	Porto	6.72	326	*e*Pn	Pn	23 47 46.3	+0.3
PTO				*e*Sn	Sn	23 48 57.6	-4.6
PTO				A	A	23 49 03.8	
	comp=N,204nm,0.6s						
EPOB	Poblet	6.72	31	Pn	Pn	23 47 45.7	-0.5
EPOB				*i* Vmb_Lg		23 50 04.0	
PCAB	Cabril	6.95	331	*e*Pn	Pn	23 47 50.2	+1.0
PCAB				*e*Sn	Sn	23 49 04.4	-3.4
PCAB				A	A	23 49 09.8	
	comp=N,178nm,0.7s						
ELOB	Lobios	7.09	332	Pn	Pn	23 47 51.9	+0.7
ELOB				Sn	Sn	23 49 08.0	-3.5
ELOB				*i* Vmb_Lg		23 49 10.6	
PGAV	Gavieira, Arco	7.26	331	*e*Pn	Pn	23 47 54.5	+1.0
PGAV				*e*Sn	Sn	23 49 11.7	-3.9
EORO	Oroz-Betelu	7.40	13	Pn	Pn	23 47 55.6	+0.1
EORO				Sn	Sn	23 49 16.0	-3.1
EORO				*i* Vmb_Lg		23 50 30.4	
ELAN	Lanestosa	7.53	1	Pn	Pn	23 47 58.3	+1.1
ELAN				*i* Vmb_Lg		23 50 55.2	
ECHI	Chisagues Biel	7.55	22	Pn	Pn	23 47 57.8	+0.2
ECHI				*i* Vmb_Lg		23 52 38.6	
ETSF	Etsaut	7.57	17	*e*Pn	Pn	23 47 58.3	+0.6
ETSF				*e*Sn	Sn	23 49 19.4	-3.7
	comp=N,175nm,1.2s						
EZAM	Zamans	7.58	330	Pn	Pn	23 47 57.8	-0.1
EZAM				Sn	Sn	23 49 18.1	-5.3
EZAM				*i* Vmb_Lg		23 49 21.9	
SJPF	Ste Jean	7.63	13	*e*Pn	Pn	23 47 59.0	+0.5
SJPF				*e*Sn	Sn	23 49 20.3	-4.3
	comp=N,33nm,0.7s						
EALK	Alkurruntz	7.69	11	Pn	Pn	23 47 59.4	0.0
EALK				Sn	Sn	23 49 22.4	-3.6
EAGO	Agolada(Pontev	7.92	335	Pn	Pn	23 48 04.4	+2.0
EAGO				Sn	Sn	23 49 26.5	-5.2
EAGO				*i* Vmb_Lg		23 49 47.1	
EPF	Esparros	7.93	21	*e*Pn	Pn	23 48 03.0	+0.3
EPF				*e*Sn	Sn	23 49 28.3	-3.7
	comp=N,22nm,0.5s						
EMAZ	Mazaricos	8.37	332	Pn	Pn	23 48 09.8	+1.1
EMAZ				Sn	Sn	23 49 37.2	-5.6
EMAZ				*i* Vmb_Lg		23 50 53.7	
MTLF	Montolieu	8.85	29	*e*Pn	Pn	23 48 15.5	+0.3
MTLF	Montolieu	8.85	29	*e*P	Pn	23 48 22.2	+7.0
MTLF				*e*Sn	Sn	23 49 51.5	-3.0
	comp=N,10nm,0.7s						
TANT	Tantan	9.74	224	P	Pn	23 48 26.4	-1.1
LFF	La Frestale	9.80	18	*e*Pn	Pn	23 48 28.9	+0.6
LFF				*e*Sn	Sn	23 50 13.0	-5.0
	comp=N,7.9nm,0.6s						
LASF	Ste Croix	10.13	32	*e*Pn	Pn	23 48 33.6	+0.8
LASF	Ste Croix	10.13	32	*e*P	Pn	23 48 38.9	+6.1
CAF	Calviac	10.18	23	*e*Pn	Pn	23 48 34.7	+1.3

PMPST **Porto Santo, M** 10.86 260 *e*P Pn 23 48 43.6 +0.7
PMPST *e*S Sn 23 50 31.7 -12
PMPS Porto Santo 10.87 260 *e*P Pn 23 48 39.1 -3.8
PMPS *e*S Sn 23 50 30.1 -14
LMR La Mourre 10.90 42 *e*Pn Pn 23 48 45.0 +1.8
VSL Villasalto 10.95 66 Pn Pn 23 48 43.1 -0.9
FRF La Foret Royal 11.12 42 *e*Pn Pn 23 48 47.8 +1.5
FRF La Foret Royal 11.12 42 *e*P Pn 23 48 53.8 +7.5
FRF *e*Sn **Sn** 23 50 46.1 -4.2
comp=N,0.6nm,0.4s
MFF Saint Martin d 11.20 12 *e*Pn Pn 23 48 47.5 +0.1
MFF *e*Sn **Sn** 23 50 45.9 -6.3
comp=N,10nm,0.8s
PMAR Madeira 11.44 259 *e*P Pn 23 48 51.0 +0.1
PMAR *e*S Sn 23 50 42.7 -16
PMAR Madeira 11.44 259 P Pn 23 48 49.7 -1.2
FUL Funchal 11.45 258 *e*P Pn 23 48 39.6 -11
FUL *e*S Sn 23 50 43.6 -15
TCF Toulx Ste Croi 11.45 21 *e*Pn Pn 23 48 50.7 -0.1
TCF *e*Sn Sn 23 50 43.0 -15
PMOZ Porto Moniz, M 11.63 260 Pn Pn 23 48 50.6 -2.9
SBF Sospel 11.75 43 *e*P Pn 23 49 01.9 +6.9
BGF Bois d'Agland 11.88 22 *e*Pn Pn 23 48 56.9 +0.2
PGF Pioggiola 11.92 51 *e*Pn Pn 23 48 59.7 +2.4
PGF *e*Sn **Sn** 23 51 03.6 -6.3
comp=N,9.0nm,0.7s
MBDF Montbardon 11.99 38 *e*Pn Pn 23 49 00.3 +2.0
BNI Bardonecchia 12.18 37 Pn Pn 23 49 02.2 +1.3
QUIF Quistinic 12.22 1 *e*Pn Pn 23 49 00.7 -0.6
QUIF *e*Sn **Sn** 23 51 10.3 -6.8
comp=N,15nm,0.6s
AVF Avril sur Loir 12.24 23 *e*Pn Pn 23 49 01.9 +0.2
SMF Signal de Mont 12.28 25 *e*Pn Pn 23 49 02.4 +0.2
SSF Saint Saulge 12.53 23 *e*Pn Pn 23 49 05.4 -0.2
LPL La Plagne 12.54 35 *e*Pn Pn 23 49 06.4 +0.4
LPL La Plagne 12.54 35 *e*P Pn 23 49 11.5 +5.5
ROSF Rostrenen 12.64 1 *e*Pn Pn 23 49 07.4 +0.3
ROSF *e*Sn **Sn** 23 51 18.6 -8.7
comp=N,11nm,0.4s
LOR Lormes 12.83 23 *e*Pn Pn 23 49 09.9 +0.2
GRR Gorron 12.85 8 *e*Pn Pn 23 49 09.5 -0.4
GRR *e*Sn **Sn** 23 51 25.1 -7.3
comp=N,4.7nm,0.4s
CLF Chambon-Foret 13.06 18 Pn Pn 23 49 12.8 0.0
LDF La Druitiere 13.14 10 *e*Pn Pn 23 49 14.8 +0.9
LDF *e*Sn **Sn** 23 51 31.6 -8.1
comp=N,3.8nm,0.6s
FLN La Foliniere 13.26 9 *e*Pn Pn 23 49 15.4 -0.1
baz=181
ZCCA Zocca 14.09 48 Pn Pn 23 49 29.1 +2.1
TUE Stuetta 14.50 38 Pn Pn 23 49 34.4 +1.6
DAVOX Davos/Dischmat 14.98 38 LR LR 23 55 38.5
comp=N,77nm,19.4s,baz=241,slow=38
DAVA Damuels 15.33 37 *i* P P 23 49 48.3 -0.2
comp=N,16nm,1.0s,SNR=4.1
BFO Black Forest 15.39 31 Pn 23 49 46.2 +1.7
FETA Feichten 15.57 39 *e*P P 23 49 50.0 -1.2
comp=N,21nm,0.9s
DOU Dourbes 15.57 20 *d*Pn Pn 23 49 46.3 -0.5
WLF Walferdange 15.67 24 P 23 49 51.7 -0.3
WLF Walferdange 15.67 24 *dx* x 23 49 53.2
RCHB Rochefort 15.81 21 *dx* x 23 49 54.9
RCHB *d*PnPn **P** 23 49 58.2 +4.6
RETA Reutte 15.90 38 *i* P P 23 49 54.9 +0.1
comp=N,11nm,0.9s,SNR=7.5
SQTA Sankt Quirin 15.95 39 *e*P P 23 49 56.5 +1.2
comp=N,29nm,1.0s
BGES Gesves 15.97 20 *d*P P 23 49 54.2 -1.2
BCLA Clavier 16.07 21 *d*Pn Pn 23 49 53.5 +0.3
STAL STALIGIAL 16.17 44 P 23 49 56.5 -1.2
WTTA Wattenberg 16.20 40 *i* P P 23 49 59.2 +1.0
comp=N,8.9nm,0.9s,SNR=8.5
WATA Walderalm 16.21 40 *i* P P 23 49 58.5 +0.3
comp=N,8.7nm,1.0s,SNR=6.5
BHOU Houvegnez 16.22 22 *d*P P 23 49 56.8 -1.4
ABTA Abfaltersbach 16.35 43 *i* P P 23 49 59.3 -0.4
comp=N,2.1nm,0.8s,SNR=5.3
TIP Timpagrande 16.51 72 Pn 23 49 59.9 +0.9
KBA Koelnbreinsper 17.00 43 *i* P P 23 50 10.1 +3.1
comp=N,2.1nm,0.7s
OBKA Obir 17.37 46 *e*P P 23 50 11.9 +0.8
SOKA Soboth 17.75 46 *e*P P 23 50 17.9 +2.7
comp=N,3.5nm,0.9s
SCTE Santa Cesarea 17.93 69 Pn 23 50 16.6 0.0
GEC2 GERESS Array S 18.28 39 Pn 23 50 19.4 -1.6
GERES GERESS Array B 18.28 39 P Pn 23 50 20.1 -0.8
comp=N,0.1nm,0.3s,baz=100,slow=4.1,SNR=14
GERES PcP **PcP** 23 54 51.3 -1.3
comp=N,0.1nm,0.3s,baz=262,slow=0.9,SNR=5.8
GERES LR LR 23 57 29.4
comp=N,75nm,21.3s,baz=251,slow=37
GERES GERESS Array B 18.28 39 P Pn 23 50 19.6 -1.3
ARSA Arzberg 18.33 45 *e*P P 23 50 21.9 +0.3
comp=N,7.4nm,1.2s
KHC Kasperske Hory 18.40 38 *e*P Pn 23 50 24.8 +2.4
KHC Kasperske Hory 18.40 38 P P 23 50 22.0 -0.3
CKRC Cesky Krumlov 18.57 40 *e*P P 23 50 24.3 +0.1
VLO Vlora 18.76 68 P Pn 23 50 26.6 -0.1
VLO IAmb IAmb 23 50 29.0
comp=Z,84nm,1.1s
CONA Conrad Observa 18.89 44 *e*P Pn 23 50 28.5 +0.1
comp=Z,7.6nm,1.0s
PDG Podgorica 18.93 62 ⇑P Pn 23 50 28.9 +0.2
PDG Podgorica 18.93 62 P P 23 50 27.7 -0.4
SOP Sopron 19.16 45 P Pn 23 50 32.5 +1.0
KOVH Kovagotottos 19.34 51 P Pn 23 50 33.5 -0.2
PRU Pruhonice 19.43 37 *e*P Pn 23 50 34.5 -0.3
EGYH Egyhazaskeszo 19.48 47 P Pn 23 50 36.5 +1.2
MPLH Magyarpolny 19.48 47 P Pn 23 50 36.4 +1.1
CLL Collm 19.63 32 P Pn 23 50 36.7 -0.4
CLL Collm 19.63 32 *i* P Pn 23 50 37.2 +0.1
comp=Z,26nm,1.0s
CLL *e*PP **PnPn** 23 50 56.0 +5.3
CLL *e*S Sn 23 54 18.0 +1.0
CLL *e*SSS SSS 23 54 48.0
ESK Eskdalemuir 19.63 1 P Pn 23 50 36.7 -0.4
ESK IAmb IAmb 23 51 01.8
comp=Z,50nm,1.4s
EKA Eskdalemuir Ar 19.65 1 P Pn 23 50 37.0 -0.3
baz=176,slow=11,SNR=15
EKA LR LR 23 58 27.2
comp=Z,376nm,18.5s,baz=194,slow=38
MORH Mrgy, Hungar 19.74 51 P Pn 23 50 37.9 -0.5
ZST Bratislava 19.74 44 *e*P P 23 50 37.0 +0.1
BRG Berggiesshubel 19.74 34 *e*P Pn 23 50 38.2 -0.3
BRG Amp 23 50 41.2
comp=Z,30nm,1.5s
BRG *e*x x 23 51 03.4
BRG Amp 23 51 05.1
comp=Z,34nm,2.0s
KBN Korca 19.75 68 P P 23 50 38.0 +0.7
KRUC Moravsky 19.82 41 *e*P P 23 50 37.7 -0.1
DIVS Divibare 19.88 58 P P 23 50 37.5 -1.2
CSKK Cskako 20.00 48 P Pn 23 50 41.5 -0.1
VRAC Vranov 20.07 41 ⇑P P 23 50 41.1 +0.6
VRAC Vranov 20.07 41 P P 23 50 41.0 +0.4
comp=Z,4.4nm,0.8s,baz=238,slow=9.9,SNR=6.4
VRAC LR LR 23 59 21.2
comp=Z,117nm,18.3s,baz=258,slow=40
VRAC Vranov 20.07 41 *e*P P 23 50 39.9 -0.7
SMOL Smolenice 20.09 44 *e*P Pn 23 50 42.0 -0.6
FNA Florina 20.22 68 P P 23 50 42.0 -0.3
SRO Srobarova 20.25 47 *e*P Pn 23 50 44.0 -0.5
SRO2 Moca 20.27 47 *e*P P 23 50 43.5 +0.8
JAVC Velka Javorina 20.41 43 *e*P P 23 50 44.7 +0.4
SKO Skopje 20.43 65 *i* P P 23 50 44.7 +0.1
UPC Upice 20.49 38 *e*P P 23 50 45.8 +0.7
BUD Budapest 20.52 48 P Pn 23 50 46.8 -0.8
DPC Dobruska-Polom 20.55 38 *e*P P 23 50 46.5 +0.7
CHVC Chvalec 20.56 38 *e*P P 23 50 46.7 +0.8
KRLC Kraliky 20.62 40 *e*P Pn 23 50 47.8 -1.1
OSTC Ostas 20.62 38 *e*P P 23 50 47.1 +0.5
KOLL Kolacno 20.68 45 *e*P P 23 50 47.3 +0.2
AGG Agios Georgios 20.83 73 P P 23 50 49.9 +0.9
AGG IAmb IAmb 23 50 54.0
comp=Z,40nm,1.2s
KSP Ksiaz 20.84 37 *e*P P 23 50 50.0 +1.1
MORC Moravsky Berou 20.85 41 ⇑P P 23 50 48.7 -0.3
MORC Moravsky Berou 20.85 41 P P 23 50 49.1 +0.1
MORC Moravsky Berou 20.85 41 *e*P P 23 50 48.8 -0.3
STIP Stip 20.94 66 *i* P Pn 23 50 51.4 -1.2
KOWA Kowa 21.11 181 P P 23 50 51.0 -1.0
comp=Z,12nm,0.8s,baz=0.4,slow=11,SNR=24

KOWA LR LR 23 59 59.6
comp=Z,466nm,19.4s,baz=14,slow=40
KOWA Kowa 21.11 181 P P 23 50 50.6 -1.4
KOWA Kowa 21.11 181 P P 23 50 53.6 +1.6
VAY Valandovo 21.18 67 *i* P P 23 50 52.1 -0.5
BSZH Besenyszg 21.20 50 P P 23 50 57.6 +4.8
PSZ Piszkesteto 21.24 48 ⇑P P 23 50 53.7 +0.4
PSZ Piszkesteto 21.24 48 P P 23 50 53.0 -0.3
PSZ Piszkesteto 21.24 48 P P 23 50 53.9 +0.6
MDVR Moldovita 21.26 57 ⇑P P 23 50 53.6 +0.1
BZS Buzias 21.45 55 ⇑P P 23 50 55.4 0.0
LANS Liptovska Anna 21.57 44 *e*P P 23 50 57.8 +1.0
VTS Vitosha 21.85 63 ⇑P P 23 51 01.3 +1.3
VTS Vitosha 21.85 63 P P 23 50 59.7 -0.3
GZR Gura Zlata 22.16 56 ⇑P P 23 51 02.7 -0.4
OJC Ojcow 22.31 42 P P 23 51 04.6 -0.1
CRVS Cervenica-Dubn 22.61 47 *e*P P 23 51 09.8 +1.8
TRPA Tarpa 22.94 49 ⇑P P 23 51 11.3 -0.1
TRPA Tarpa 22.94 49 P P 23 51 10.8 -0.5
TORD Torodi Ar. Bea 22.94 167 P P 23 51 11.2 -0.4
comp=Z,4.9nm,0.7s,baz=345,slow=7.7,SNR=27
TORD Torodi Ar. Bea 22.94 167 P P 23 51 10.5 -1.1
TORD IAmb IAmb 23 51 21.0
comp=Z,56nm,1.1s
IDI Anoyia 23.15 83 P P 23 51 15.2 +1.5
comp=Z,33nm,1.2s,baz=141,slow=20,SNR=2.0
IDI Anoyia 23.15 83 P P 23 51 14.6 +0.9
BMR Baia Mare 23.36 51 ⇑P P 23 51 15.7 0.0
ARR Arges 23.41 57 ⇑P P 23 51 16.7 +0.4
KWP Kalwaria Pacla 23.67 46 P P 23 51 17.3 -1.4
VOIR 23.71 57 ⇑P P 23 51 20.4 +1.1
DOPR Dopca 24.08 56 ⇑P P 23 51 22.9 +0.3
MLR Muntele Rosu 24.34 57 ⇑P P 23 51 26.4 +1.2
MLR Muntele Rosu 24.34 57 P P 23 51 26.0 +0.9
comp=Z,18nm,1.0s,baz=257,slow=9.6,SNR=9.8
MLR Muntele Rosu 24.34 57 P P 23 51 25.3 +0.2
MLR IAmb IAmb 23 51 29.0
comp=Z,31nm,1.2s
BUR08 Bucovina Ar. S 24.44 52 P P 23 51 25.8 -0.3
BURAR Bucovina Array 24.44 52 ⇑P P 23 51 26.0 0.0
BURAR Bucovina Array 24.44 52 P P 23 51 25.5 -0.5
NEHR Nehoiu 24.56 58 ⇑P P 23 51 28.0 +0.9
COVR Voineasa-Covas 24.60 57 ⇑P P 23 51 27.5 +0.1
PLOR Plostina 24.90 57 ⇑P P 23 51 30.6 +0.4
VRI Vrincioaia 24.96 57 ⇑P P 23 51 29.7 -0.9
TESR Tescani 25.06 55 ⇑P P 23 51 31.7 +0.1
SUW Suwalki 26.12 37 *e*P P 23 51 39.5 -1.4
SUW Suwalki 26.12 37 P P 23 51 39.2 -1.8
SUW IAmb IAmb 23 52 01.4
comp=Z,39nm,1.1s
SORM Soroca 26.61 52 ⇑P P 23 51 43.7 -1.8
PBUR Paburge 26.73 33 *e*P P 23 51 47.0 +0.6
NC602 NORSAR Array S 26.87 16 P P 23 51 47.9 +0.2
HFS Hagfors 26.89 19 P P 23 51 47.9 0.0
comp=Z,12nm,1.0s,baz=209,slow=15,SNR=11
HFS LR LR 00 02 40.4
comp=Z,268nm,21.0s,baz=211,slow=37
NB2 NORSAR Subarra 27.07 16 P P 23 51 49.8 +0.3
comp=Z,23nm,1.2s,baz=205,slow=9.3
NOA NORSAR Array B 27.07 16 P P 23 51 49.9 +0.3
comp=Z,6.1nm,0.9s,baz=207,slow=9.0,SNR=7.0
NOA LR LR 00 04 15.8
comp=Z,398nm,18.3s,baz=205,slow=40
PABE Paberze 27.34 35 P P 23 51 52.2 +0.3
PABE IAmb IAmb 23 52 05.2
comp=Z,15nm,1.1s
PABE Paberze 27.34 35 *e*P P 23 51 53.0 +1.1
UPP Uppsala 27.82 23 *e*P P 23 51 56.0 -0.2
SLIT Slitere, Latvi 27.91 30 *e*P P 23 51 57.0 0.0
IIGN Ignalina 28.33 37 *e*P P 23 52 02.0 +1.1
NACGM Naroch 28.38 38 *i* P P 23 51 55.4 -5.9
IDID Didziasalis 28.56 37 *e*P P 23 52 04.0 +1.1
DBIC Dimbokro 28.91 183 P P 23 52 06.0 -0.3
comp=Z,8.3nm,0.8s,baz=13,slow=8.6,SNR=10
DBIC LR LR 00 04 19.4
comp=Z,323nm,18.7s,baz=13,slow=38
DBIC Dimbokro 28.91 183 P P 23 52 05.9 -0.3
DBIC IAmb IAmb 23 52 07.0
comp=Z,9.1nm,0.8s
TIC Toumodi 28.94 183 *e*PKIKP P 23 52 06.2 -0.4
KIC Kosan Boka 29.21 182 *e*PKIKP P 23 52 06.7 -2.3
comp=Z,18nm,0.8s
LIC Lamto 29.36 183 *e*PKIKP P 23 52 06.1 -4.2
comp=Z,56nm,1.1s
VSU Vasula 30.29 32 *e*P P 23 52 17.2 -0.9
BORG Borgarnes 30.99 345 LR LR 00 03 12.3
comp=Z,288nm,21.9s,baz=159,slow=33
FINES FINESS Array B 31.86 27 P P 23 52 31.5 -0.5
comp=Z,0.9nm,0.4s,baz=251,slow=5.8,SNR=8.4
FINES PcP **PcP** 23 55 22.1 -0.3
comp=Z,3.2nm,0.7s,baz=122,slow=2.5,SNR=8.9
FINES LR LR 00 05 39.1
comp=Z,101nm,21.3s,baz=246,slow=37
FINES FINESS Array B 31.86 27 P P 23 52 31.2 -0.8
FIA1 FINESS Array S 31.86 27 P P 23 52 31.2 -0.8
FIA1 IAmb IAmb 23 52 54.7
comp=Z,15nm,1.4s
JMIC Jan Mayen 35.46 357 LR LR 00 06 28.4
comp=Z,167nm,20.6s,baz=180,slow=34
GURO Guroymak-BITLI 36.19 72 P P 23 53 09.8 -0.3
KBZ Khabaz 36.24 63 P P 23 53 10.8 +0.6
comp=Z,1.2nm,0.9s,baz=242,slow=7.8,SNR=3.4
KARS Kars 36.67 68 P P 23 53 14.4 +0.3
KARS IAmb IAmb 23 53 25.5
comp=Z,28nm,1.2s
ONI Oni 36.73 65 P P 23 53 14.4 -0.1
GEVA Gevas 37.03 72 P P 23 53 18.0 +0.8
KLMR Klimovskoe 37.11 34 *e*P P 23 53 15.8 -1.6
KLMR AMP 23 53 21.4
comp=Z,17nm,1.4s
KLMR *e*PcP **PcP** 23 55 34.8 -2.6
ARCES ARCESS Array B 37.45 16 P P 23 53 20.1 -0.1
comp=Z,4.0nm,1.0s,baz=201,slow=6.2,SNR=8.1
ARCES LR LR 00 09 57.7
comp=Z,201nm,18.6s,baz=216,slow=38
ARCES ARCESS Array B 37.45 16 P P 23 53 19.5 -0.7
DBG Daneborg 39.54 353 *i* P P 23 53 39.1 +1.4
DBG IAmb IAmb 23 53 40.5
comp=Z,1.4nm,0.8s
DRLN Deer Lake 41.17 306 P P 23 53 51.2 -0.3
DRLN IAmb IAmb 23 53 59.5
comp=Z,34nm,1.2s
SFJD Kangerlussuaq 41.23 334 LR LR 00 08 40.5
comp=Z,109nm,18.1s,baz=128,slow=33
DAG Danmarks Havn 41.74 355 *i* P P 23 53 56.3 +0.5
DAG IAmb IAmb 23 53 58.1
comp=Z,4.7nm,0.8s
SPITS Spitsbergen Ar 43.44 6 LR LR 00 13 22.7
comp=Z,109nm,18.1s,baz=98,slow=38
RAYN Ar Rayn 43.95 92 P P 23 54 13.7 -0.7
GBN Guysborough 44.23 301 P P 23 54 16.1 -0.2
UPNV Upernavik 45.43 341 *i* P P 23 54 29.5 +3.9
UPNV IAmb IAmb 23 54 38.4
comp=Z,8.4nm,1.0s
ARU Arti 46.02 43 P P 23 54 29.8 -0.7
ARU IAmb IAmb 23 54 47.8
comp=Z,8.2nm,0.8s
NOR Nord 46.28 357 *i* P P 23 54 33.0 +0.8
NOR IAmb IAmb 23 54 36.5
comp=Z,1.7nm,0.8s
NEEM North Greenlan 46.60 347 *i* P P 23 54 35.7 +0.6
NEEM IAmb IAmb 23 54 37.3
comp=Z,7.1nm,0.9s
SCHQ Schefferville 46.72 315 P P 23 54 35.5 -0.5
comp=Z,3.3nm,0.8s,baz=110,slow=6.5,SNR=8.5
SCHQ LR LR 00 10 37.8
comp=Z,134nm,20.7s,baz=103,slow=32
SCHQ Schefferville 46.72 315 P P 23 54 35.9 -0.1
SCHQ IAmb IAmb 23 54 47.3
comp=Z,9.5nm,1.1s
BATG Bathurst New B 47.05 304 P P 23 54 39.4 +0.7
BATG IAmb IAmb 23 54 57.0
comp=Z,16nm,1.1s
ABKAR Akbulak array 47.42 53 P P 23 54 41.6 +0.1
FRB Frobisher Bay 47.67 327 P P 23 54 42.9 -0.3
comp=Z,2.2nm,0.9s,baz=117,slow=6.6,SNR=3.3
FRB LR LR 00 10 58.2
comp=Z,203nm,20.4s,baz=50,slow=31
LODK Lodwar 48.20 123 P P 23 54 48.1 0.0
LODK IAmb IAmb 23 54 51.1
comp=Z,6.6nm,1.0s
MBAR Mbarara 48.22 131 LR LR 00 15 59.1
comp=Z,139nm,19.1s,baz=316,slow=37
MBAR Mbarara 48.22 131 P P 23 54 48.7 +0.4

MBAR IAmb IAmb 23 54 51.4
comp=Z,7.1nm,1.1s
ATD Arta Tunnel 48.29 108 LR LR 00 18 08.4
comp=Z,47nm,21.0s,baz=82,slow=40
G65A Princeton 48.46 302 P P 23 54 49.6 0.0
LMQ La Malbaie 49.84 305 P P 23 55 00.0 -0.2
LMQ IAmb IAmb 23 55 04.0
comp=Z,8.6nm,0.9s
RCBR Riachuelo 51.26 223 LR LR 00 15 04.0
comp=Z,79nm,19.1s,baz=139,slow=34
KMBO Kilima Mbogo 52.80 125 P P 23 55 25.3 +2.3
comp=Z,2.0nm,0.9s,baz=329,slow=7.5,SNR=6.1
KMBO Kilima Mbogo 52.80 125 P P 23 55 23.7 +0.6
HRA Herat 52.96 71 P P 23 55 23.6 -0.5
NBLV Livramento - P 53.09 223 *e*P P 23 55 26.7 +1.8
BRVK Borovoye 53.15 46 P P 23 55 24.9 +0.1
EUNU Eureka 53.87 348 P P 23 55 31.0 +1.1
K57A Scipio Center 55.35 301 P P 23 55 41.9 +0.8
K57A IAmb IAmb 23 55 54.6
comp=Z,27nm,1.4s
KKAR Karatay Array 56.01 58 P P 23 55 45.4 -0.5
MVL Millersville 56.15 298 P P 23 55 47.5 +0.6
MVL IAmb IAmb 23 55 52.1
comp=Z,11nm,0.9s
RES Resolute Bay 56.30 341 LR LR 00 19 06.0
comp=Z,59nm,18.8s,baz=93,slow=35
RES Resolute Bay 56.30 341 P P 23 55 48.0 +0.7
RES IAmb IAmb 23 55 51.9
comp=Z,6.2nm,1.1s
SADO Sadowa 56.49 304 P P 23 55 51.0 +1.9
comp=Z,5.2nm,0.8s,baz=92,slow=8.4,SNR=4.7
SADO LR LR 00 17 17.4
comp=Z,112nm,20.8s,baz=32,slow=33
SADO Sadowa 56.49 304 P P 23 55 50.2 +1.1
SADO IAmb IAmb 23 55 54.1
comp=Z,16nm,1.2s
CHGR Chuyangaron 56.59 64 P P 23 55 50.3 +0.2
SSPA Standing Stone 57.03 299 P P 23 55 53.6 +0.6
SSPA IAmb IAmb 23 55 57.6
comp=Z,11nm,1.0s
BTK Batken 57.28 61 P P 23 55 54.8 -0.3
BTK IAmb IAmb 23 55 56.3
comp=Z,7.1nm,1.1s
GAR Garm 57.31 63 P P 23 55 55.1 -0.1
NRIK Noril'sk 57.50 25 P P 23 55 56.6 +0.7
comp=Z,0.9nm,0.4s,baz=75,slow=5.5,SNR=3.6
NRIK Noril'sk 57.50 25 P P 23 55 56.1 +0.2
SJG San Juan 57.59 270 LR LR 00 19 42.0
comp=Z,17nm,18.2s,baz=92,slow=35
NBPN Ponto Novo - B 57.78 224 *e*P P 23 55 58.8 +0.2
JSRW J. Sargeant Re 58.11 296 P P 23 56 01.0 +0.3
TSUM Tsumeb 58.16 156 LR LR 00 22 00.1
comp=Z,101nm,19.4s,baz=342,slow=37
KURK Kurchatov 58.76 47 P P 23 56 04.9 -0.1
AAK Ala-Archa 58.92 57 P P 23 56 07.0 +0.4
AAK IAmb IAmb 23 56 12.9
comp=Z,8.4nm,1.2s
LSZ Lusaka 58.94 144 LR LR 00 22 28.3
comp=Z,125nm,18.5s,baz=336,slow=37
LSZ Lusaka 58.94 144 P P 23 56 07.5 +0.7
LSZ IAmb IAmb 23 56 09.4
comp=Z,7.5nm,1.0s
GDU01 Guandu, BA 59.80 221 *e*P P 23 56 13.1 +0.5
BOOM Boomskoye usch 59.97 57 P P 23 56 14.4 +0.6
PRPB Parauapebas 60.15 236 *e*P P 23 56 15.7 +0.6
MALB Monte Alegre 60.22 243 *e*P P 23 56 16.2 +0.6
FCC Fort Churchill 60.53 323 P P 23 56 17.9 +0.8
FCC IAmb IAmb 23 56 21.0
comp=Z,11nm,1.2s
SMTB Santa Maria do 60.69 232 *e*P P 23 56 19.6 +0.9
NBIT Itapeh - BA 60.73 220 *e*P P 23 56 20.8 +1.9
L48A N Adams 61.10 303 P P 23 56 21.9 +0.6
CMC01 Camacan, BA 61.13 220 *e*P P 23 56 23.5 +1.8
KSH Kashi 61.16 60 P P 23 56 21.7 -0.2
KSH pP pP 23 56 26.2 -0.9
KSH pmax pmax
comp=Z,13nm,1.3s
ZAA0 Zalesovo Array 61.18 42 P P 23 56 21.4 -0.3
ZALV Zalesovo Beam 61.18 42 P P 23 56 21.7 +0.1
comp=Z,2.6nm,0.7s,baz=291,slow=6.9,SNR=10
ZALV Zalesovo Beam 61.18 42 P P 23 56 21.3 -0.3
Q51A Peebles 61.52 299 P P 23 56 24.6 +0.4
Q51A IAmb IAmb 23 56 28.5
comp=Z,13nm,1.0s
TARG Taragay, Kyrgy 61.54 57 P P 23 56 25.1 +0.3
TARG IAmb IAmb 23 56 28.5
comp=Z,10nm,1.0s
NIL Nilore 61.63 67 P P 23 56 24.8 -0.3
NIL IAmb IAmb 23 56 26.5
comp=Z,7.7nm,0.9s
SDBA SAO DESIDERIO 61.76 227 *e*P P 23 56 26.9 +0.8
BOAV Boa Vista 62.12 251 *e*P P 23 56 29.5 +1.0
MAKZ Makanchi 62.26 51 P P 23 56 29.2 +0.2
GUA01 Guaratinga, BA 62.30 220 *e*P P 23 56 30.6 +1.0
MK31 Makanchi Array 62.46 51 P P 23 56 30.1 -0.3
MKAR Makanchi Array 62.46 51 P P 23 56 30.6 +0.2
comp=Z,14nm,0.8s,baz=286,slow=6.0,SNR=140
MKAR Makanchi Array 62.46 51 P P 23 56 30.1 -0.3
P48A Milroy 62.81 301 P P 23 56 32.6 -0.2
P48A IAmb IAmb 23 56 36.3
comp=Z,9.4nm,0.9s
ITTB Itaituba 63.00 242 *e*P P 23 56 35.2 +0.9
R49A Shelbyville 63.13 299 P P 23 56 34.8 -0.2
TKL Tuckaleechee C 63.26 296 LR LR 00 22 33.2
comp=Z,59nm,18.9s,baz=135,slow=35
EYMN Ely 63.27 311 P P 23 56 36.0 +0.3
EYMN IAmb IAmb 23 56 47.2
comp=Z,8.2nm,1.1s
T50A Nancy 63.44 298 P P 23 56 37.6 +0.5
T50A IAmb IAmb 23 56 47.7
comp=Z,7.0nm,0.9s
NAN01 Guarapari, ES 63.52 219 *e*P P 23 56 39.1 +1.5
JANB Januaria 63.52 225 *e*P P 23 56 38.3 +0.5
MATP Matopo 63.55 146 LR LR 00 23 45.7
comp=Z,90nm,20.1s,baz=323,slow=36
PEXB Peixe 63.60 230 *e*P P 23 56 39.4 +1.1
E38A The Farm, Brul 63.87 310 P P 23 56 39.9 +0.2
W50A Signal Mountai 64.59 296 P P 23 56 44.9 +0.2
NPGB Novo Progresso 64.59 240 *e*P P 23 56 45.6 +0.7
SJMB Sao Joao De Ma 64.78 220 *e*P P 23 56 46.5 +0.6
ULM Lac du Bonnet 64.89 315 P P 23 56 46.2 -0.2
comp=Z,5.7nm,0.9s,baz=57,slow=6.7,SNR=6.3
ULM LR LR 00 21 01.5
comp=Z,84nm,20.5s,baz=96,slow=32
ULM Lac du Bonnet 64.89 315 P P 23 56 46.3 -0.1
ULM IAmb IAmb 23 56 49.5
comp=Z,13nm,1.2s
OLIL Olney 65.00 301 P P 23 56 46.5 -0.7
A36M Sachs Harbour 65.23 343 P P 23 56 48.9 +0.7
SNDB Serra Nova Dou 65.41 233 *e*P P 23 56 51.2 +1.1
DIAM Diamantina, MG 65.78 222 *e*P P 23 56 54.2 +1.7
BDFB Brasilia 66.15 228 P P 23 56 55.8 +0.8
comp=Z,6.0nm,0.9s,baz=31,slow=7.7,SNR=8.9
BDFB Brasilia 66.15 228 P P 23 56 54.8 -0.2
BDFB IAmb IAmb 23 56 57.2
comp=Z,12nm,1.1s
FFC Flin Flon 66.17 321 P P 23 56 55.0 +0.5
FFC IAmb IAmb 23 56 59.0
comp=Z,17nm,1.4s
SDV Santo Domingo 66.26 264 P P 23 56 56.0 +0.1
SDV IAmb IAmb 23 56 59.8
comp=Z,12nm,1.1s
SDV Santo Domingo 66.26 264 *e*P P 23 56 57.4 +1.5
LBTB Lobatse 66.38 151 LR LR 00 26 46.1
comp=Z,190nm,21.0s,baz=346,slow=37
C36M Paulatuk 66.64 341 P P 23 56 57.4 +0.1
C36M IAmb IAmb 23 57 03.2
comp=Z,7.0nm,1.2s
PLAL Pickwick Lake 66.70 297 P P 23 56 58.1 -0.2
FVM French Village 66.97 301 P P 23 56 59.1 -0.9
WMQ Urumqi 67.19 52 P P 23 57 00.0 +0.7
WMQ pP pP 23 57 05.1 -1.5
WMQ pmax pmax
comp=Z,22nm,1.1s
CCM Cathedral Cave 67.50 301 P P 23 57 02.7 -0.6
YKA Yellowknife Ar 67.74 332 P P 23 57 04.6 +0.2
comp=Z,12nm,0.8s,baz=60,slow=6.4,SNR=154
YKA LR LR 00 23 57.3
comp=Z,143nm,19.9s,baz=47,slow=34
YKA Yellowknife Ar 67.74 332 P P 23 57 04.1 -0.3
TIXI Tiksi 67.86 15 P P 23 57 05.2 +0.2
TIXI IAmb IAmb 23 57 14.9
comp=Z,6.2nm,1.5s
R40A Maddies Statio 68.10 302 P P 23 57 06.2 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
R40A				IAmb	IAmb	23 57 10.3	
	comp=Z,12nm,1.0s						
DUB01	**Friburgo-RJ**	**68.20**	**219**	*e*P	**P**	**23 57 08.3**	**+0.5**
ECSD	**EROS Data Cent**	**68.36**	**309**	P	**P**	**23 57 08.3**	**-0.3**
ECSD				IAmb	IAmb	23 57 11.3	
	comp=Z,17nm,1.5s						
ARAG	**Araguaiana, MT**	**68.54**	**231**	*e*P	**P**	**23 57 11.2**	**+1.2**
BSCB	**Bom Sucesso**	**68.57**	**221**	*e*P	**P**	**23 57 11.4**	**+1.3**
MGMO	**Mountain Grove**	**68.65**	**301**	P	**P**	**23 57 10.1**	**-0.4**
MGMO				IAmb	IAmb	23 57 13.9	
	comp=Z,11nm,0.8s						
PDRB	**Porto dos Gac**	**68.77**	**237**	*e*P	**P**	**23 57 12.6**	**+1.0**
VAS01	**Vassouras-RJ**	**68.92**	**220**	*e*P	**P**	**23 57 13.2**	**+1.0**
FCAR	**Ozark Folk Cen**	**69.17**	**300**	P	**P**	**23 57 13.4**	**-0.4**
FCAR				IAmb	IAmb	23 57 16.8	
	comp=Z,10nm,0.9s						
BOSA	**Boshof**	**69.49**	**153**	P	**P**	**23 57 15.8**	**-0.1**
	comp=Z,5.0nm,1.0s,baz=342,slow=8.2,SNR=4.8						
BOSA				LR	LR	00 25 59.8	
	comp=Z,86nm,21.1s,baz=356,slow=34						
BOSA	**Boshof**	**69.49**	**153**	P	**P**	**23 57 15.6**	**-0.2**
BOSA				IAmb	IAmb	23 57 19.7	
	comp=Z,8.8nm,1.1s						
MAN01	**Angra dos Reis**	**69.67**	**220**	*e*P	**P**	**23 57 17.1**	**+0.2**
INK	**Inuvik**	**69.83**	**342**	P	**P**	**23 57 17.2**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=21,slow=9.7,SNR=4.5						
HHAR	**Hobbs**	**70.25**	**301**	P	**P**	**23 57 20.1**	**-0.4**
ZARC	**Zaragoza, Cauc**	**70.48**	**265**	P	**P**	**23 57 22.1**	**0.0**
ZARC				IAmb	IAmb	23 57 27.4	
	comp=Z,8.6nm,1.0s						
KSU1	**Kansas State U**	**70.66**	**305**	P	**P**	**23 57 22.8**	**-0.1**
ITRB	**Iturama**	**70.70**	**227**	*e*P	**P**	**23 57 24.7**	**+1.4**
BB19B	**Bebedouro**	**70.70**	**224**	*e*P	**P**	**23 57 24.7**	**+1.4**
TUL1	**Leonard**	**71.73**	**301**		**P**	**23 57 29.2**	**-0.2**
PP1B	**Ponte de Pedra**	**71.89**	**232**	*e*P	**P**	**23 57 31.9**	**+1.4**
VILB	**Vilhena**	**72.11**	**239**	*e*P	**P**	**23 57 33.8**	**+1.9**
PET01	**Itanhaem-SP**	**72.58**	**221**	*e*P	**P**	**23 57 35.2**	**+0.8**
PCMB	**Pacaembu**	**72.71**	**226**	*e*P	**P**	**23 57 36.8**	**+1.5**
RSSD	**Black Hills**	**72.75**	**312**	P	**P**	**23 57 35.4**	**-0.3**
RSSD				IAmb	IAmb	23 57 40.4	
	comp=Z,13nm,1.4s						
BMAR	**Burnt Mountain**	**73.05**	**345**	P	**P**	**23 57 38.0**	**+1.2**
FRTB	**Fartura**	**73.09**	**224**	*e*P	**P**	**23 57 38.8**	**+1.3**
PTLB	**Pontes e Lacer**	**73.14**	**236**	*e*P	**P**	**23 57 39.1**	**+1.2**
TBTG	**Tabatinga, AM**	**73.52**	**252**	*e*P	**P**	**23 57 43.0**	**+2.7**
EGMT	**Eagleton**	**73.85**	**318**	P	**P**	**23 57 40.9**	**-1.0**
Z35A	**Perchaven, San**	**74.11**	**300**	P	**P**	**23 57 42.8**	**-0.8**
ETMB	**Extrema**	**74.32**	**245**	*e*P	**P**	**23 57 45.8**	**+0.8**
TRCB	**Terra Rica**	**74.43**	**226**	P	**P**	**23 57 45.9**	**+0.5**
TRCB	**Terra Rica**	**74.43**	**226**	*e*P	**P**	**23 57 47.1**	**+1.7**
EGAK	**Eagle**	**74.50**	**343**	P	**P**	**23 57 45.5**	**+0.2**
EGAK				IAmb	IAmb	23 57 53.5	
	comp=Z,7.5nm,1.1s						
AQDB	**Aquidauana**	**74.54**	**230**	P	**P**	**23 57 46.8**	**+0.7**
AQDB				IAmb	IAmb	23 57 47.8	
	comp=Z,7.9nm,0.9s						
AQDB	**Aquidauana**	**74.54**	**230**	*e*P	**P**	**23 57 47.4**	**+1.3**
GCMT	**Greycliff**	**75.10**	**316**	P	**P**	**23 57 49.4**	**0.0**
YAK	**Yakutsk**	**75.57**	**21**	LR	LR	00 35 52.9	
	comp=Z,88nm,19.1s,baz=272,slow=40						
PTGB	**Pitanga**	**75.58**	**225**	*e*P	**P**	**23 57 53.6**	**+1.5**
GOMU	**GeErMu**	**75.79**	**56**	P	**P**	**23 57 55.8**	**+2.1**
GOMU				pP	sP	23 58 00.7	-0.3
GOMU				sP	PcP	23 58 03.6	-2.7
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GOMU				pmax	pmax		
	comp=Z,99nm,6.1s						
ILAR	**Eielson Array**	**75.82**	**345**	P	**P**	**23 57 53.7**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=19,slow=4.6,SNR=7.7						
ILAR	**Eielson Array**	**75.82**	**345**	P	**P**	**23 57 53.3**	**+0.4**
SCRK	**Sand Creek**	**75.85**	**343**	P	**P**	**23 57 54.0**	**+0.8**
SCRK				IAmb	IAmb	23 58 00.2	
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**76.00**	**41**	P	**P**	**23 57 54.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=294,slow=5.8,SNR=14						
SONM				LR	LR	00 32 05.7	
	comp=Z,76nm,21.5s,baz=324,slow=36						
SONM	**Songino Array**	**76.00**	**41**	P	**P**	**23 57 54.8**	**+0.4**
IMAR	**Indian Mountai**	**76.06**	**348**	P	**P**	**23 57 54.7**	**+0.4**
BCAR	**Beaver Creek A**	**76.07**	**342**	P	**P**	**23 57 55.6**	**+1.1**
BRU2	**Volcan**	**76.11**	**271**	P	**P**	**23 57 55.4**	**-0.1**
DLBC	**Dease Lake**	**76.14**	**334**	P	**P**	**23 57 56.1**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=46,slow=8.7,SNR=7.8						
DLBC				LR	LR	00 29 04.3	
	comp=Z,123nm,18.7s,baz=112,slow=34						
DLBC	**Dease Lake**	**76.14**	**334**	P	**P**	**23 57 55.6**	**+0.6**
DLBC				IAmb	IAmb	23 57 57.4	
	comp=Z,8.7nm,0.9s						
ISCO	**Idaho Springs**	**76.14**	**309**	P	**P**	**23 57 55.9**	**+0.3**
ISCO				IAmb	IAmb	23 58 04.5	
	comp=Z,8.2nm,1.2s						
ABTX	**Abilene, Hawle**	**76.17**	**300**	P	**P**	**23 57 55.2**	**-0.4**
ABTX				IAmb	IAmb	23 57 59.3	
	comp=Z,8.6nm,0.8s						
BOZ	**Bozeman (W)**	**76.33**	**317**	P	**P**	**23 57 56.7**	**+0.3**
BOZ				IAmb	IAmb	23 57 59.4	
	comp=Z,6.0nm,1.1s						
WRH	**Wood River Hil**	**76.34**	**345**	P	**P**	**23 57 56.3**	**+0.4**
WRH				IAmb	IAmb	23 58 00.7	
	comp=Z,13nm,1.4s						
BOAB	**BOACO BROADBAN**	**76.48**	**276**	P	**P**	**23 57 57.8**	**+0.3**
L26K	**Log Cabin Wild**	**76.50**	**342**	P	**P**	**23 57 58.1**	**+1.3**
L26K				IAmb	IAmb	23 58 04.4	
	comp=Z,5.6nm,0.8s						
LSA	**Lhasa**	**76.82**	**63**	P	**P**	**23 57 59.7**	**-0.1**
LSA				IAmb	IAmb	23 58 01.2	
	comp=Z,6.1nm,0.7s						
PD31	**Pinedale Array**	**76.83**	**313**	P	**P**	**23 57 58.8**	**-0.5**
PD31				IAmb	IAmb	23 58 02.6	
	comp=Z,6.3nm,1.0s						
PDAR	**Pinedale Array**	**76.83**	**313**	P	**P**	**23 57 59.1**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=68,slow=5.9,SNR=17						
PDAR	**Pinedale Array**	**76.83**	**313**	P	**P**	**23 57 58.9**	**-0.5**
MSO	**Missoula**	**76.84**	**319**	P	**P**	**23 57 58.9**	**-0.3**
MSO				IAmb	IAmb	23 58 03.5	
	comp=Z,20nm,1.5s						
DLMT	**Dillon**	**77.01**	**317**	P	**P**	**23 58 00.8**	**+0.6**
DLMT				IAmb	IAmb	23 58 05.9	
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**77.22**	**51**	*e*P	**P**	**23 58 02.4**	**+0.9**
GTA				pP	sP	23 58 08.9	+0.2
GTA				sP	PcP	23 58 13.2	+1.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,160nm,5.1s						
GTA				LR	LR		
	comp=N,140nm,16.0s						
GTA				LR	LR		
	comp=E,130nm,16.7s						
GTA				LR	LR		
	comp=Z,130nm,15.3s						
SDCO	**Great Sand Dun**	**77.25**	**307**	P	**P**	**23 58 01.4**	**-0.5**
JCT	**Junction City**	**77.48**	**298**	P	**P**	**23 58 02.7**	**-0.2**
ITAB	**Concordia**	**77.57**	**223**	P	**P**	**23 58 03.9**	**+0.7**
ITAB	**Concordia**	**77.57**	**223**	*e*P	**P**	**23 58 04.8**	**+1.6**
NEW	**Newport**	**77.60**	**321**	P	**P**	**23 58 03.2**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=115,slow=1.3,SNR=4.2						
NEW				LR	LR	00 28 26.7	
	comp=Z,95nm,20.6s,baz=40,slow=33						
OTAV	**Otavalo**	**77.60**	**261**	P	**P**	**23 58 04.4**	**0.0**
OTAV				IAmb	IAmb	23 58 09.8	
	comp=Z,18nm,1.2s						
OTAV	**Otavalo**	**77.60**	**261**	*e*P	**P**	**23 58 06.0**	**+1.7**
KTH	**Kantishna Hill**	**77.73**	**346**	P	**P**	**23 58 04.0**	**+0.2**
KTH				IAmb	IAmb	23 58 05.5	
	comp=Z,13nm,1.3s						
CZSB	**Cruzeiro do Su**	**77.89**	**251**	*e*P	**P**	**23 58 06.5**	**+1.2**
S22A	**4UR Ranch, Cre**	**78.11**	**308**	P	**P**	**23 58 06.2**	**-0.5**
MTO3	**Montecristo**	**78.38**	**279**	P	**P**	**23 58 08.3**	**-0.1**
MTO3				IAmb	IAmb	23 58 10.1	
	comp=Z,13nm,1.0s						
HWUT	**Hardware Ranch**	**78.72**	**313**	P	**P**	**23 58 09.4**	**-0.4**
HWUT				IAmb	IAmb	23 58 13.7	
	comp=Z,14nm,1.4s						
HLID	**Hailey**	**79.15**	**316**	P	**P**	**23 58 12.1**	**0.0**
ANMO	**Albuquerque**	**79.51**	**305**	LR	LR	00 31 44.9	
	comp=Z,75nm,18.9s,baz=86,slow=34						
SRU	**San Rafael Swe**	**79.62**	**311**	P	**P**	**23 58 14.8**	**0.0**
SHL	**Shillong**	**79.66**	**66**	P	**P**	**23 58 14.2**	**-1.1**
CPUP	**Villa Florida**	**79.88**	**227**	P	**P**	**23 58 16.2**	**+0.2**
	comp=Z,9.9nm,0.9s,baz=55,slow=4.6,SNR=11						
CPUP	**Villa Florida**	**79.88**	**227**	P	**P**	**23 58 15.3**	**-0.7**
CPUP				IAmb	IAmb	23 58 17.6	
	comp=Z,15nm,1.0s						
CPUP	**Villa Florida**	**79.88**	**227**	*e*P	**P**	**23 58 16.2**	**+0.2**
LPAZ	**La Paz**	**79.98**	**242**	P	**P**	**23 58 17.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=25,slow=6.5,SNR=7.3						
LPAZ	**La Paz**	**79.98**	**242**	P	**P**	**23 58 16.8**	**-0.7**
LPAZ				IAmb	IAmb	23 58 21.4	
	comp=Z,12nm,1.4s						
LPAZ	**La Paz**	**79.98**	**242**	*e*P	**P**	**23 58 17.6**	**+0.1**
BBB	**Bella Bella**	**80.01**	**329**	LR	LR	00 31 16.4	
	comp=Z,124nm,18.6s,baz=38,slow=34						
CPSB	**Cacapava Do Su**	**80.75**	**222**	*e*P	**P**	**23 58 21.7**	**+1.1**
TXAR	**Lajitas Array**	**80.88**	**299**	P	**P**	**23 58 22.4**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=79,slow=6.5,SNR=10.0						
TXAR				LR	LR	00 32 58.8	
	comp=Z,60nm,19.4s,baz=30,slow=35						
TXAR	**Lajitas Array**	**80.88**	**299**	P	**P**	**23 58 21.3**	**-0.4**
TX31	**Lajitas Ar. Si**	**80.88**	**299**	P	**P**	**23 58 21.8**	**+0.1**
TX31				IAmb	IAmb	23 58 25.9	
	comp=Z,18nm,1.1s						
ELK	**Elko**	**81.42**	**314**	P	**P**	**23 58 24.3**	**-0.2**
LZH	**Lanzhou**	**81.76**	**51**	*e*P	**P**	**23 58 25.4**	**-0.9**
LZH				sP	pP	23 58 31.4	-0.3
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,83nm,7.6s						
LZH				LR	LR		
	comp=N,190nm,16.7s						
LZH				LR	LR		
	comp=E,230nm,17.0s						
LZH				LR	LR		
	comp=Z,210nm,18.6s						
PLTB	**Pedras Altas**	**81.89**	**221**	P	**P**	**23 58 27.0**	**+0.4**
PLTB				IAmb	IAmb	23 58 28.8	
	comp=Z,15nm,1.0s						
PLTB	**Pedras Altas**	**81.89**	**221**	*e*P	**P**	**23 58 28.2**	**+1.6**
ITQB	**Itaqui**	**81.97**	**225**	*e*P	**P**	**23 58 28.0**	**+1.0**
PB16	**IPOC Station P**	**82.32**	**241**	P	**P**	**23 58 29.4**	**-0.4**
PB16				IAmb	IAmb	23 58 32.6	
	comp=Z,8.8nm,0.7s						
MA2	**Magadan**	**82.73**	**13**	LR	LR	00 41 44.2	
	comp=Z,53nm,18.1s,baz=299,slow=40						
GO01	**Chusmiza**	**82.98**	**240**	P	**P**	**23 58 32.4**	**-0.7**
GO01				IAmb	IAmb	23 58 37.7	
	comp=Z,6.5nm,0.8s						
R11A	**Troy Canyon, C**	**83.17**	**313**	P	**P**	**23 58 34.1**	**+0.5**
KDAK	**Kodiak Island**	**83.30**	**344**	LR	LR	00 39 24.4	
	comp=Z,56nm,18.3s,baz=52,slow=38						
HHC	**Hu-ho-hao-te**	**83.33**	**44**	*e*P	**P**	**23 58 34.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,85nm,5.3s						
319A	**Douglas**	**83.55**	**304**	P	**P**	**23 58 35.6**	**0.0**
XLT	**XiLinHaoTe**	**83.67**	**39**	*e*P	**P**	**23 58 38.3**	**+2.3**
XLT				pP	sP	23 58 43.1	-0.2
XLT				sP	pP	23 58 45.7	+4.3
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
XLT				pmax	pmax		
	comp=Z,140nm,4.4s						
TUC	**Tucson**	**83.97**	**306**	P	**P**	**23 58 37.8**	**0.0**
NVAR	**Mina Array Bea**	**84.72**	**314**	P	**P**	**23 58 41.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=63,slow=37,SNR=3.9						
LVC	**Limon Verde**	**84.73**	**237**	P	**P**	**23 58 41.3**	**-0.6**
LVC				IAmb	IAmb	23 58 43.4	
	comp=Z,7.0nm,0.8s						
LVC	**Limon Verde**	**84.73**	**237**	*e*P	**P**	**23 58 42.3**	**+0.4**
PZH	**PanZhiHua**	**86.26**	**60**	P	**P**	**23 58 48.8**	**-0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,1µm,5.8s						
XAN	**Xi'an**	**86.27**	**50**	P	**P**	**23 58 49.8**	**+0.6**
XAN				pP	sP	23 58 59.0	+2.5
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
BJT	**Baijiatuau**	**86.45**	**42**	P	**P**	**23 58 50.1**	**+0.2**
BJT				IAmb	IAmb	23 58 51.3	
	comp=Z,5.5nm,0.6s						
LPIG	**La Paz**	**88.76**	**299**	LR	LR	00 36 00.4	
	comp=Z,75nm,21.7s,baz=44,slow=34						
CMAR	**Chiang Mai Arr**	**89.12**	**68**	P	**P**	**23 59 03.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=305,slow=6.3,SNR=12						
CMAR	**Chiang Mai Arr**	**89.12**	**68**	P	**P**	**23 59 02.6**	**-0.5**
ASAJ	**Asahikawa**	**94.82**	**24**	LR	LR	00 48 45.7	
	comp=Z,70nm,18.3s,baz=292,slow=40						
PLCA	**Paso Flores**	**97.80**	**225**	P	Pdif	23 59 43.2	+0.8
	comp=Z,2.6nm,1.0s,baz=356,slow=1.9,SNR=5.6						
PLCA				LR	LR	00 42 01.2	
	comp=Z,35nm,19.4s,baz=166,slow=34						
PLCA	**Paso Flores**	**97.80**	**225**	*e*P	Pdif	23 59 42.8	+0.4
MJAR	**Matsushiro Arr**	**99.83**	**30**	LR	LR	00 47 50.1	
	comp=Z,34nm,19.5s,baz=358,slow=37						
WRA	**Warramunga Arr**	**139.93**	**78**	PKhKP	PKPpre	00 05 28.3	
	comp=Z,0.5nm,1.0s,baz=314,slow=3.0,SNR=2.6						
WRA				PKP	**PKPdf**	**00 05 35.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=296,slow=1.7,SNR=4.9						
ASAR	**Alice Springs**	**141.43**	**84**	PKhKP	PKPpre	00 05 31.7	
	comp=Z,0.8nm,0.8s,baz=297,slow=2.8,SNR=7.4						
ASAR				PKP	**PKPdf**	**00 05 37.4**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=302,slow=1.7,SNR=8.4						
STKA	**Stephens Creek**	**150.89**	**93**	PKPbc	**PKPbc**	**00 05 59.5**	**-0.5**
	comp=Z,9.2nm,1.0s,baz=358,slow=5.7,SNR=12						
STKA	**Stephens Creek**	**150.89**	**93**		**PKPbc**	**00 05 58.9**	**-1.0**

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*ZUR **09** 23:48:31.4, 46.°04N×6.°87E, h4km±1km, MLh0.5/6, Error ellipse: s-maj=2.9km s-min=1.1km az=273.0*
*LDG **09** 23:48:31.3±0.3, 46.°04N×6.°87E, h4km, Md1.0/2, Ml1.0/3, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
STR 09 23:48:31.5±0.4**, 46°N**±3°×°±°**, h7**km±4km**, MLv1.1**/4**, 2C, preliminary, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEMOS	**Emosson Stauma**	**0.05**	**61**	⇑Pg	Pg	23 48 33.0	-0.3
SEMOS				Sg	Sg	23 48 34.1	-0.5
OGSI	**Sixt**	**0.09**	**284**	Sg	Sg	23 48 34.6	-0.6
SALAN	**Lac Salanfe**	**0.12**	**34**	⇑Pg	Pg	23 48 34.2	0.0
SALAN				Sg	Sg	23 48 36.1	-0.1
GRYON	**Gryon**	**0.26**	**38**	Pg	Pg	23 48 36.7	0.0
GRYON				Sg	Sg	23 48 40.7	+0.4
AIGLE	**Aigle**	**0.30**	**10**	Sg	Sg	23 48 41.7	+0.2
AIGLE	**Aigle**	**0.30**	**10**	Pg	Pg	23 48 37.5	0.0
MRGE	**Morge**	**0.30**	**155**	Sg	Sg	23 48 41.4	-0.2
DIX	**Grande Dixence**	**0.37**	**84**	Pg	Pg	23 48 38.9	+0.1
DIX	**Grande Dixence**	**0.37**	**84**	Sg	Sg	23 48 44.0	+0.2
DIX	**Grande Dixence**	**0.37**	**84**	Pg	Pg	23 48 38.8	0.0
LPL	**La Plagne**	**0.54**	**191**	*e*Pg	Pg	23 48 41.0	-0.9
LPL				*e*Sg	Sg	23 48 48.3	-0.7
	0.6nm,0.3s						
LPG	**La Plagne**	**0.56**	**189**	*e*Pg	Pg	23 48 41.5	-0.8
LPG				*e*Sg	Sg	23 48 48.6	-0.9
	1.0nm,0.4s						
OG35	**Corcelles**	**0.91**	**270**	Pg	Pg	23 48 48.7	-0.3
OG35				Pn	Pn	23 48 50.9	+0.2
OG35				Sn	Sn	23 49 04.5	+0.4
OGSM	**Saint Maurice**	**0.93**	**243**	Pg	Pg	23 48 49.4	0.0
OGSM				Pn	Pb	23 48 50.2	+0.2
OGSM				Sg	Sg	23 49 01.9	+0.3
OGSM				Sn	Sn	23 49 05.3	+0.7
MBDF	**Montbardon**	**1.32**	**183**	*e*Pg	Pn	23 48 55.3	-1.2
MBDF				*e*Sg	Sb	23 49 12.3	-1.5
	0.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.33**	**212**	*e*Pg	Pn	23 48 56.1	-0.4
ORIF				*e*Sg	Sb	23 49 13.3	-0.7
	0.5nm,0.2s						

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*HLW **10** 00:03:38.1, 34.°93N×23.°56E, h10km±17km, Md4.0, Ml4.3*
*ISK **10** 00:03:38.6, 34.°98N×23.°19E, h59km±2km, ML4.4/12*
*NEIC **10** 00:03:39.3±2.4, 34.°90N±0.°06×23.°24E±0.°05, h36km±6km, mb4.4/55, ML4.1(ATH), Error ellipse: s-maj=9.2km s-min=5.1km az=207.0*
*ATH **10** 00:03:39.2, 34.°88N×23.°23E, h40km, Mw4.4, Moment Tensor Solution. s8 Moment tensor: M_{rr}1.25; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-0.89; $M_{r\theta}$3.22; $M_{\theta\phi}$1.92; $M_{\phi r}$-1.83; Fault plane solution: NP1:ϕ_s355.00000°, δ21.00000°, λ145.00000°. NP2:ϕ_s118.00000°, δ78.00000°, λ73.00000°.*
*MED_RC **10** 00:03:39.0±0.4, 34.°81N×23.°18E, h47km±2km, MW4.6/10, Moment Tensor Solution. Mantle waves: s10,c12; Duration: 1.s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.97±.69; $M_{\theta\theta}$-0.52±.75; $M_{\phi\phi}$-1.46±.50; $M_{r\theta}$1.99±.31; $M_{\theta\phi}$8.81±.61; $M_{\phi r}$-0.57±.27; Best double couple: $M_0$9.05000×10^{15} NP1:ϕ_s92.00000°, δ89.00000°, λ13.00000°. NP2:ϕ_s2.00000°, δ77.00000°, λ179.00000°. Principal axes: T 8.0200, Plg10.0000°, Azm318.0000°; N 2.0500, Plg77.0000°, Azm97.0000°; P -10.0700, Plg8.0000°, Azm226.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*MOS **10** 00:03:39.2±1.1, 34.°98N×23.°23E, h56km, mb4.6/33 Error ellipse: s-maj=6.6km s-min=3.3km az=80.5*
*IDC **10** 00:03:39.1±1.6, 34.°95N×23.°12E, h46km±15km, mb3.8/20, mb1 3.8/27, mb1mx3.7/53, mbtmp4.0/27, ML3.6/5, MS3.7/31, Ms1 3.7/31, ms1mx3.5/93, Error ellipse: s-maj=13.3km s-min=11.2km az=176.0*
*THE **10** 00:03:40.5, 34.°87N×23.°23E, h20km±1km, ML4.0/7, Error ellipse: s-maj=1.3km s-min=0.8km az=45.0*
*DDA **10** 00:03:40.5±0.0, 34.°93N×23.°56E, h7km±3km, MW4.4*
*GII **10** 00:03:45.5±0.0, 34.°60N×24.°12E, h10km, mb4.6/5, MD4.5/5, Mm4.4/5*
ISC 10 00:03:38.9±0.4**, 34.°82N**±0.°04×**23.°26E**±0.°04**, h43**km**, n452,** σ**2.s12**/485**, mb4.4**/59**, MS3.7**/23**, 28C-14D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.54**	**40**	P	**Pn**	**00 03 49.4**	**-0.9**
KNDR				S	**Sn**	**00 03 58.0**	**-0.4**
	16µm,0.7s						
KNDR	**Palaiochora Ch**	**0.54**	**40**	PG	**Pn**	**00 03 49.7**	**-0.6**
KNDR				SG	**Sn**	**00 03 58.9**	**+0.5**
GVD	**Gavdhos**	**0.68**	**88**	P	**Pn**	**00 03 53.8**	**+1.7**
GVD				S	**Sn**	**00 04 04.1**	**+2.4**
GVD				AML	AML	00 04 07.2	
GVD				AML	AML	00 04 11.8	
	comp=E,62788µm,0.5s						
GVD	**Gavdhos**	**0.68**	**88**	P	**Pn**	**00 03 53.9**	**+1.7**
GVD				S	**Sn**	**00 04 04.1**	**+2.4**
	comp=E,55µm,0.4s						
GVD	**Gavdhos**	**0.68**	**88**	PG	**Pn**	**00 03 54.1**	**+1.9**
GVD				SG	**Sn**	**00 04 05.4**	**+3.7**
GVD	**Gavdhos**	**0.68**	**88**		**Pn**	**00 03 53.9**	**+1.7**
GVD					**Sn**	**00 04 04.1**	**+2.4**
RODP	**Rodopos**	**0.84**	**29**	P	**Pn**	**00 03 55.8**	**+1.4**
IMMV	**Iera Moni Meta**	**0.87**	**43**	P	**Pn**	**00 03 55.7**	**+1.0**
IMMV				S	**Sn**	**00 04 08.2**	**+1.9**
IMMV				AML	AML	00 04 14.3	
	comp=N,37242µm,1.0s						
IMMV				AML	AML	00 04 14.9	
	comp=E,30471µm,0.8s						
IMMV	**Iera Moni Meta**	**0.87**	**43**	P	**Pn**	**00 03 55.7**	**+1.0**
IMMV				S	**Sn**	**00 04 08.2**	**+1.9**
	comp=E,17µm,0.9s						
IMMV	**Iera Moni Meta**	**0.87**	**43**	PG	**Pn**	**00 03 55.3**	**+0.5**
IMMV				SG	**Sn**	**00 04 06.5**	**+0.2**
IMMV	**Iera Moni Meta**	**0.87**	**43**		**Pn**	**00 03 55.7**	**+1.0**
IMMV					**Sn**	**00 04 08.2**	**+1.9**
VAM	**Vamos**	**0.97**	**53**	P	**Pn**	**00 03 57.3**	**+1.2**
VAM				S	**Sn**	**00 04 11.4**	**+2.7**
VAM				AML	AML	00 04 17.1	
	comp=E,31842µm,0.9s						
VAM				AML	AML	00 04 23.1	
	comp=N,29022µm,0.7s						
VAM	**Vamos**	**0.97**	**53**	P	**Pn**	**00 03 57.3**	**+1.2**
VAM				S	**Sn**	**00 04 11.4**	**+2.7**
	comp=N,15µm,0.8s						
VAM	**Vamos**	**0.97**	**53**	P	**Pn**	**00 03 57.3**	**+1.2**
VAM				S	**Sn**	**00 04 11.3**	**+2.7**
VAM	**Vamos**	**0.97**	**53**		**Pn**	**00 03 57.3**	**+1.2**
VAM					**Sn**	**00 04 11.4**	**+2.7**
ANKY	**Antikythira Is**	**1.04**	**2**	P	**Pn**	**00 03 58.3**	**+1.1**
ANKY				S	**Sn**	**00 04 11.8**	**+1.3**
ANKY				AML	AML	00 04 21.1	
	comp=N,11097µm,0.9s						
ANKY				AML	AML	00 04 26.6	
	comp=E,15256µm,0.7s						
ANKY	**Antikythira Is**	**1.04**	**2**	P	**Pn**	**00 03 58.2**	**+1.1**
ANKY				S	**Sn**	**00 04 12.5**	**+2.0**
	comp=E,7µm,0.8s						
ANKY	**Antikythira Is**	**1.04**	**2**		**Pn**	**00 03 58.2**	**+1.1**
ANKY					**Sn**	**00 04 11.8**	**+1.3**
PRNS	**Prines Rethymn**	**1.16**	**62**	P	**Pn**	**00 03 59.4**	**+0.8**
PRNS				S	**Sn**	**00 04 14.2**	**+1.0**
	comp=E,4µm,0.9s						
TMBK	**Timbaki Herakl**	**1.27**	**78**	P	**Pn**	**00 04 02.3**	**+2.2**
SIVA	**Sivas**	**1.29**	**81**	P	**Pn**	**00 04 02.1**	**+1.6**
SIVA				S	**Sn**	**00 04 19.4**	**+2.9**
SIVA				AML	AML	00 04 36.8	
	comp=E,59168µm,0.8s						
SIVA				AML	AML	00 04 39.8	
	comp=N,32553µm,0.6s						
SIVA	**Sivas**	**1.29**	**81**	P	**Pn**	**00 04 03.3**	**+2.8**
IDI	**Anoyia**	**1.42**	**70**	⇑P	**Pn**	**00 04 04.3**	**+2.0**
IDI				⇓S	**Sn**	**00 04 28.3**	**+8.5**
IDI	**Anoyia**	**1.42**	**70**	P	**Pn**	**00 04 04.3**	**+2.0**
	comp=N,41nm,0.3s,baz=259,slow=9.7,SNR=214						
IDI				LR	LR	00 04 54.2	
	comp=N,3µm,18.5s,baz=258,slow=50						
IDI	**Anoyia**	**1.42**	**70**	P	**Pn**	**00 04 04.2**	**+1.9**
IDI				S	**Sn**	**00 04 22.4**	**+2.6**
IDI				AML	AML	00 04 33.5	
	comp=N,8875µm,0.8s						
IDI				AML	AML	00 04 38.8	
	comp=E,6464µm,0.9s						
IDI	**Anoyia**	**1.42**	**70**	P	**Pn**	**00 04 04.2**	**+1.9**
IDI				S	**Sn**	**00 04 22.4**	**+2.6**
	comp=E,4µm,0.9s						
IDI	**Anoyia**	**1.42**	**70**	PN	**Pn**	**00 04 03.2**	**+0.9**
IDI	**Anoyia**	**1.42**	**70**		**Pn**	**00 04 04.1**	**+1.9**
KTHA	**Kythira Island**	**1.44**	**354**	P	**Pn**	**00 04 03.7**	**+1.2**
KTHA				AML	AML	00 04 35.1	
	comp=E,8785µm,0.7s						
KTHA				AML	AML	00 04 48.7	
	comp=N,4775µm,0.8s						
KTHA	**Kythira Island**	**1.44**	**354**	P	**Pn**	**00 04 03.7**	**+1.2**
KTHR	**Kythira**	**1.45**	**352**	P	**Pn**	**00 04 03.9**	**+1.2**
IACM	**Heraklion**	**1.57**	**71**	P	**Pn**	**00 04 06.7**	**+2.5**
IACM	**Heraklion**	**1.57**	**71**	P	**Pn**	**00 04 06.7**	**+2.5**
HRKL	**Herakleio**	**1.59**	**72**	P	**Pn**	**00 04 07.2**	**+2.6**
HRKL	**Herakleio**	**1.59**	**72**	PN	**Pn**	**00 04 05.9**	**+1.3**
VLI	**Veliai**	**1.91**	**352**	P	**Pn**	**00 04 10.7**	**+1.7**
VLI				AML	AML	00 04 54.0	
	comp=N,3164µm,0.7s						
VLI				AML	AML	00 05 07.6	
	comp=E,2506µm,1.0s						
VLI	**Veliai**	**1.91**	**352**	P	**Pn**	**00 04 10.7**	**+1.7**
NPS	**Neapolis**	**1.98**	**76**	P	**Pn**	**00 04 12.5**	**+2.5**
NPS				AML	AML	00 04 54.7	
	comp=N,4641µm,0.9s						
NPS				AML	AML	00 05 01.5	
	comp=E,4824µm,0.8s						
NPS	**Neapolis**	**1.98**	**76**	P	**Pn**	**00 04 12.5**	**+2.5**
NPS	**Neapolis**	**1.98**	**76**	P	**Pn**	**00 04 12.4**	**+2.5**
MHLO	**Agia Marina, M**	**2.09**	**26**	P	**Pn**	**00 04 12.5**	**+1.1**
MHLO	**Agia Marina, M**	**2.09**	**26**	P	**Pn**	**00 04 12.5**	**+1.1**
ZKR	**Zakros**	**2.45**	**82**	P	**Pn**	**00 04 19.4**	**+3.0**
ZKR	**Zakros**	**2.45**	**82**	P	**Pn**	**00 04 19.4**	**+3.0**
ZKR	**Zakros**	**2.45**	**82**	PN	**Pn**	**00 04 18.2**	**+1.8**
ITM	**Ithomi**	**2.59**	**336**	P	**Pn**	**00 04 19.2**	**+0.9**
ITM	**Ithomi**	**2.59**	**336**	P	**Pn**	**00 04 19.2**	**+0.9**
ITM	**Ithomi**	**2.59**	**336**	PN	**Pn**	**00 04 17.3**	**-1.0**
ITM	**Ithomi**	**2.59**	**336**	Pn	**Pn**	**00 04 18.7**	**+0.4**
EPID	**Epidavros**	**2.79**	**358**	P	**Pn**	**00 04 22.4**	**+1.3**
APE	**Apeiranthos**	**2.91**	**39**	⇑P	**Pn**	**00 04 22.7**	**0.0**
APE				⇓S	Sn	00 05 06.9	+11
APE	**Apeiranthos**	**2.91**	**39**	*i* P	**Pn**	**00 04 23.0**	**+0.3**
APE	**Apeiranthos**	**2.91**	**39**	PN	**Pn**	**00 04 22.7**	**0.0**
VLY	**Voula,Athens**	**3.06**	**8**	P	**Pn**	**00 04 25.4**	**+0.7**
ATH	**Athens Observa**	**3.17**	**7**	P	**Pn**	**00 04 27.0**	**+0.8**
ATH	**Athens Observa**	**3.17**	**7**	P	**Pn**	**00 04 27.0**	**+0.8**
KARP	**Karpathos**	**3.28**	**76**	PN	**Pn**	**00 04 29.5**	**+1.7**
KARP	**Karpathos**	**3.28**	**76**	Pn	**Pn**	**00 04 29.5**	**+1.7**
KOSK	**Kos Island**	**3.59**	**56**	PN	**Pn**	**00 04 32.9**	**+0.9**
SLUM	**Salum**	**3.70**	**153**	P	**Pn**	**00 04 35.2**	**+1.6**
	baz=157						
SLUM				S	**Sn**	**00 05 16.1**	**+0.1**
	baz=157						
BODT	**Bodrum**	**3.98**	**55**	PN	**Pn**	**00 04 38.6**	**+1.2**
DAT	**Datca**	**4.00**	**60**	PN	**Pn**	**00 04 38.7**	**+1.0**
DAT	**Datca**	**4.00**	**60**	P	**Pn**	**00 04 38.1**	**+0.4**
DAT				S	**Sn**	**00 05 16.0**	**-7.4**

BDRM Kayabasi 4.07 55 P **Pn** 00 04 39.3 +0.6
BDRM S **Sn** 00 05 17.5 -7.5
ARG Arkhangelos 4.21 69 PN **Pn** 00 04 42.5 +2.0
EVR Evrytania 4.25 345 P **Pn** 00 04 43.5 +2.3
AGG Agios Georgios 4.26 350 P **Pn** 00 04 41.6 +0.4
AGG Agios Georgios 4.26 350 Pn **Pn** 00 04 41.6 +0.4
GCAM G?zelcaml? 4.31 47 P **Pn** 00 04 44.4 +2.5
NYDR Nydri-Lefkada 4.39 333 P **Pn** 00 04 43.9 +0.9
URLA Izmir 4.44 36 P **Pn** 00 04 42.7 -1.0
URLA S Sn 00 05 51.9 +18
AYDN Tasoluk 4.69 51 P **Pn** 00 04 48.8 +1.6
MULA Mugla, Merkez- 4.77 58 P **Pn** 00 04 50.3 +1.9
MULA S **Sn** 00 05 41.9 -0.4
IGT Igoumenitsa 5.25 334 P **Pn** 00 04 55.1 +0.3
IGT pmax pmax
comp=Z,24nm,1.0s
TAVA DENIZLI_Tavas 5.28 58 P **Pn** 00 04 56.4 +1.0
TAVA S Sn 00 06 12.4 +17
LIT Litokhoron 5.31 354 P **Pn** 00 04 55.2 -0.4
LIT Litokhoron 5.31 354 Pn **Pn** 00 04 55.1 -0.4
AKAS Kas 5.37 73 Pn **Pn** 00 04 56.9 +0.4
AKAS Kas 5.37 73 P **Pn** 00 04 57.0 +0.5
AKAS S **Sn** 00 05 52.8 -4.3
CAEL Denizli, Camel 5.43 63 P **Pn** 00 04 58.7 +1.3
CAEL S Sn 00 06 21.7 +23
BAYC CANAKKALE_Bayr 5.57 27 P **Pn** 00 04 58.2 -0.9
MANT Manisa 5.62 48 **Pn** 00 05 00.6 +0.5
MANT Manisa 5.62 48 P **Pn** 00 05 01.2 +1.1
MANT S Sn 00 06 31.3 +28
GOLH Golhisar 5.65 63 P **Pn** 00 05 01.5 +1.1
GOLH S **Sn** 00 05 59.8 -4.2
ELL Elmali 5.74 69 P **Pn** 00 05 02.4 +0.7
ELL Elmali 5.74 69 **Pn** 00 05 02.4 +0.7
SWA2 5.87 161 S **Sn** 00 06 07.0 -2.2
baz=163
AKUM Antalya-Kumluc 5.97 73 P **Pn** 00 05 05.2 +0.5
AKUM S **Sn** 00 06 06.6 -5.1
SOH Sokhos 5.99 1 P **Pn** 00 05 04.4 -0.6
SOH pmax pmax
comp=Z,20nm,0.8s
USAK Uak-Merkez 6.04 48 P **Pn** 00 05 07.9 +2.2
KBN Korca 6.12 342 P **Pn** 00 05 07.0 +0.2
KBN Korca 6.12 342 **Pn** 00 05 07.0 +0.2
PASA Karahalli, USA 6.13 53 P **Pn** 00 05 08.7 +1.8
FNA Florina 6.14 347 P **Pn** 00 05 06.2 -0.8
FNA Florina 6.14 347 Pn **Pn** 00 05 06.2 -0.8
KORT Korkueli 6.16 67 P **Pn** 00 05 08.8 +1.5
KORT S **Sn** 00 06 14.6 -2.0
BRDR BURDUR-Merkez 6.20 60 P **Pn** 00 05 08.7 +0.8
SRS Serrai 6.29 2 P **Pn** 00 05 11.0 +1.9
SRS pmax pmax
comp=Z,25nm,1.6s
KNT Kendrikon 6.34 358 P **Pn** 00 05 11.8 +2.1
KNT pmax pmax
comp=Z,39nm,1.5s
BUCA Burdur, Bucak- 6.42 65 P **Pn** 00 05 14.4 +3.4
ALN Alexandroupoli 6.46 19 P **Pn** 00 05 11.2 -0.1
ALN Alexandroupoli 6.46 19 Pn **Pn** 00 05 11.2 -0.1
SCTE Santa Cesarea 6.48 325 Pn **Pn** 00 05 09.3 -2.3
VAY Valandovo 6.51 355 P **Pn** 00 05 12.7 +0.6
VAY pmax pmax
comp=Z,11nm,1.0s
VAY Valandovo 6.51 355 *i* Pn **Pn** 00 05 11.8 -0.3
MMB Musomiste 6.77 3 *e*P **Pn** 00 05 15.3 -0.4
TIP Timpagrande 6.78 312 ⇑P **Pn** 00 05 13.7 -2.2
TIP Timpagrande 6.78 312 **Pn** 00 05 14.3 -1.5
STIP Stip 6.92 353 *i* Pn **Pn** 00 05 17.6 0.0
RZN Rozhen 6.95 9 *e*P **Pn** 00 05 18.6 +0.3
KKB Krupnik 7.04 359 *e*P **Pn** 00 05 22.6 +3.3
TIR Tirane 7.04 339 P **Pn** 00 05 18.1 -1.3
TIR Tirane 7.04 339 Pn **Pn** 00 05 18.1 -1.3
KEPZ Antalya-Kepez 7.09 71 P **Pn** 00 05 21.3 +1.2
KEPZ S **Sn** 00 06 32.7 -6.7
SEDI Konya, Seydise 7.36 67 P **Pn** 00 05 24.7 +0.8
SEDI S Sn 00 06 37.0 -9.2
PLD Plovdiv 7.36 8 P **Pn** 00 05 25.0 +1.2
PLD pmax pmax
comp=Z,159nm,1.2s
PLD Plovdiv 7.36 8 *e*P **Pn** 00 05 25.0 +1.2
RAFF Raffo Rosso 7.59 291 Pn **Pn** 00 05 26.2 -0.8
VAE Valguarnera 7.63 293 P **Pn** 00 05 27.8 +0.2
comp=Z,0.7nm,0.3s,baz=127,slow=5.1,SNR=1.4
VAE S **Sn** 00 06 47.9 -4.8
comp=Z,1.3nm,0.3s,baz=168,slow=17,SNR=1.6
VAE LR LR 00 09 14.8
comp=Z,175nm,18.9s,baz=152,slow=45
VTS Vitosha 7.79 360 ⇑P **Pn** 00 05 30.9 +1.2
VTS Vitosha 7.79 360 P **Pn** 00 05 29.0 -0.8
VTS Vitosha 7.79 360 Pn **Pn** 00 05 29.0 -0.8
MATE Matera 7.79 320 ⇑P **Pn** 00 05 27.1 -2.6
DRME Dracevica, Mon 8.02 338 *e*Pn **Pn** 00 05 29.8 -3.0
PDG Podgorica 8.22 339 ⇑P **Pn** 00 05 34.4 -1.1
PDG Podgorica 8.22 339 Pn **Pn** 00 05 34.0 -1.5
PDG Podgorica 8.22 339 *e*Pn **Pn** 00 05 33.2 -2.3
RYAN Fayoum 8.26 132 P **Pn** 00 05 36.8 +0.7
baz=133
RYAN S **Sn** 00 07 03.9 -4.3
baz=133
CSS Mathiatis 8.28 86 Pn **Pn** 00 05 35.6 -0.8
HCY Herceg Novi 8.48 335 *e*Pn **Pn** 00 05 35.7 -3.4
TREB Trebinje 8.77 336 *e*Pn **Pn** 00 05 39.2 -3.8
BLKB Belogradchik 8.80 357 ⇑P **Pn** 00 05 44.0 +0.4
GLL Jalalah 8.86 124 P **Pn** 00 05 44.5 0.0
baz=125
BRY Bratogost 8.87 337 *e*Pn Pn 00 05 39.6 -4.9
HHAG Hagoal 8.91 121 P **Pn** 00 05 45.8 +0.7
baz=122
HHAG S **Sn** 00 07 18.5 -5.7
baz=122
BR231 Keskin MP Arra 9.09 54 Pn **Pn** 00 05 47.3 -0.2
SGRT San Giovanni R 9.10 322 Pn **Pn** 00 05 44.9 -2.7
ANTO Ankara 9.11 54 P **Pn** 00 05 48.7 +0.8
ANTO Ankara 9.11 54 Pn **Pn** 00 05 48.7 +0.8
STON Ston 9.13 333 *e*Pn **Pn** 00 05 43.7 -4.3
STON Ston 9.13 333 *e*Pn **Pn** 00 05 44.4 -3.6
STON Sn Sn 00 07 17.2 -12
VLAD Vladila 9.21 5 ⇓P **Pn** 00 05 51.0 +2.0
RUDO Rudo 9.29 342 *e*Pn Pn 00 05 44.5 -5.7
LSTV Lastovo 9.36 330 *e*Pn **Pn** 00 05 48.0 -3.2
LSTV Sn Sn 00 07 21.1 -14
BBLS Lazići 9.51 343 *e*Pn **Pn** 00 05 50.4 -2.9
DIVS Divibare 9.60 346 **Pn** 00 05 51.5 -3.0
DIVS Divibare 9.60 346 *e*Pn **Pn** 00 05 50.7 -3.8
BRTR Keskin Array B 9.61 56 P **Pn** 00 05 54.7 -0.1
comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=4.6
BRTR LR LR 00 10 40.9
comp=Z,534nm,18.9s,baz=236,slow=44
BRTR Keskin Array B 9.61 56 Pn **Pn** 00 05 52.0 -2.8
MAKA Makarska 9.74 332 *e*Pn **Pn** 00 05 53.2 -3.2
RICI Ricice 9.88 333 *e*Pn **Pn** 00 05 54.4 -3.9
HVAR Hvar 9.88 330 *e*Pn **Pn** 00 05 57.5 -0.7
HVAR Sn Sn 00 07 35.0 -13
OFRI `Ofer 10.01 99 Pn **Pn** 00 05 59.9 -0.3
KZIT Kziot 10.15 110 Pn **Pn** 00 06 00.9 -1.1
KZIT Sn **Sn** 00 07 47.6 -6.9
SLTI Sal'it 10.17 101 Pn **Pn** 00 06 01.4 -0.9
SLTI Sn **Sn** 00 07 47.8 -7.1
MMAI Mount Meron Ar 10.25 97 P **Pn** 00 06 02.4 -1.1
comp=Z,2.6nm,0.3s,baz=224,slow=22,SNR=6.8
MMAI S **Sn** 00 07 48.7 -8.4
comp=Z,7.8nm,0.3s,baz=271,slow=24,SNR=8.7
MMA0B Mount Meron ar 10.25 97 Pn **Pn** 00 06 03.3 -0.2
MMA0B Sn **Sn** 00 07 50.6 -6.5
AMAZ Amatzia 10.31 105 Pn **Pn** 00 06 03.5 -0.7
AMAZ Sn **Sn** 00 07 50.6 -7.8
ILGA Ilgaz 10.34 50 Pn **Pn** 00 06 02.7 -2.1
MMLI Mount Malkishu 10.42 100 Pn **Pn** 00 06 05.6 -0.1
MMLI Sn **Sn** 00 07 53.8 -7.3
GEM Giv'at Ha'Em 10.42 95 Pn **Pn** 00 06 05.1 -0.6
GEM Sn **Sn** 00 07 53.9 -7.3
HMDT Nahal Hemdat 10.56 101 Pn **Pn** 00 06 06.8 -0.8
HMDT Sn **Sn** 00 07 57.4 -7.0
GZR Gura Zlata 10.57 358 ⇑P **Pn** 00 06 08.8 +1.1
GZR Gura Zlata 10.57 358 P **Pn** 00 06 08.8 +1.1
ARR Arges 10.59 5 ⇓P **Pn** 00 06 08.5 +0.5
KIJV Kijevo 10.59 332 *e*Pn **Pn** 00 06 05.1 -2.9
ZIRJ Zirje 10.61 329 *e*Pn **Pn** 00 06 05.7 -2.6
LOT Lotru 10.62 2 ⇑P **Pn** 00 06 09.5 +0.9
FRGS Fruska Gora 10.66 347 *e*Pn Pn 00 06 03.7 -5.2
DSI Dead Sea 10.66 104 Pn **Pn** 00 06 08.9 -0.1
DSI Sn **Sn** 00 07 59.4 -7.6

VOIR 10.69 7 ⇓P **Pn** 00 06 09.9 +0.5
VOIR 10.69 7 P **Pn** 00 06 10.2 +0.7
VOIR pmax pmax
comp=Z,7.0nm,1.1s
MGRS Mrkonjic Grad 10.70 335 *e*Pn **Pn** 00 06 06.6 -2.9
MSBI Mazada 10.74 106 Pn **Pn** 00 06 09.3 -0.7
MSBI Sn **Sn** 00 08 02.0 -6.8
MORI Morici 10.75 329 *e*Pn **Pn** 00 06 07.3 -2.9
KRMI Paran Flat 10.76 113 Pn **Pn** 00 06 09.6 -0.8
KRMI Sn **Sn** 00 08 02.4 -7.1
NEHR Nehoiu 10.85 11 ⇑P **Pn** 00 06 14.1 +2.6
MLR Muntele Rosu 10.85 10 ⇓P **Pn** 00 06 12.5 +0.8
MLR Muntele Rosu 10.85 10 LR LR 00 10 52.2
comp=Z,515nm,20.3s,baz=224,slow=40
MLR Muntele Rosu 10.85 10 P **Pn** 00 06 10.1 -1.6
MLR Muntele Rosu 10.85 10 Pn **Pn** 00 06 10.1 -1.6
BZS Buzias 10.86 354 P **Pn** 00 06 11.7 +0.1
BZS pmax pmax
comp=Z,18nm,1.2s
PRNI Paran 10.86 111 Pn **Pn** 00 06 10.4 -1.4
PRNI Sn **Sn** 00 08 05.0 -7.0
GHAJ Ghor Haditha 10.91 105 Pn **Pn** 00 06 11.3 -1.1
GHAJ Ghor Haditha 10.91 105 Pn **Pn** 00 06 11.8 -0.6
ZFRI Zfri 10.91 110 Pn **Pn** 00 06 11.1 -1.3
BLY Banja Luka 10.96 337 *e*Pn **Pn** 00 06 10.0 -3.0
HRFI Mount Harif 11.04 112 Pn **Pn** 00 06 13.7 -0.5
HRFI Sn **Sn** 00 08 08.8 -7.5
MBRI Mt Berech 11.06 114 Pn **Pn** 00 06 13.9 -0.7
MBRI Sn **Sn** 00 08 10.4 -6.5
DUGI Dugi Otok 11.13 328 *e*Pn **Pn** 00 06 14.5 -0.9
EIL Elat 11.15 114 P **Pn** 00 06 14.0 -1.7
comp=Z,1.8nm,0.3s,baz=37,slow=0.4,SNR=22
EIL S Sn 00 08 09.3 -10
comp=Z,2.5nm,0.3s,baz=86,slow=19,SNR=2.9
EIL Elat 11.15 114 Pn **Pn** 00 06 15.0 -0.7
NRCA Norcia 11.24 318 Pn **Pn** 00 06 14.5 -2.5
UDBI Udbina 11.28 332 *e*Pn **Pn** 00 06 15.6 -1.9
MRAK Mrakovica 11.29 336 *e*Pn **Pn** 00 06 13.7 -3.8
PLOR Plostina 11.32 12 ⇑P **Pn** 00 06 20.1 +2.2
PLOR Plostina 11.32 12 P **Pn** 00 06 20.1 +2.2
VRI Vrincioaia 11.35 12 ⇓P **Pn** 00 06 19.7 +1.4
VRI Vrincioaia 11.35 12 P **Pn** 00 06 22.2 +3.9
VRI pmax pmax
comp=Z,10.0nm,1.0s
NVLJ Novalja 11.67 329 *e*Pn **Pn** 00 06 21.7 -1.0
ASF Jabal al Asfar 11.69 99 P **Pn** 00 06 22.4 -0.8
comp=Z,0.5nm,0.3s,baz=246,slow=20,SNR=1.6
ASF S **Sn** 00 08 29.0 -3.4
comp=Z,0.8nm,0.3s,baz=4.3,slow=22,SNR=1.5
MORH Mrgy, Hungar 11.91 344 *e*Pn **Pn** 00 06 21.7 -4.3
CRES Cresnjev 12.49 334 *e*Pn Pn 00 06 29.2 -4.8
MILM Milestii Mici 12.79 17 ⇓P **Pn** 00 06 40.8 +2.7
MILM Milestii Mici 12.79 17 P **Pn** 00 06 40.7 +2.7
CEY Cerknica 12.81 331 *e*Pn **Pn** 00 06 35.6 -2.7
BMR Baia Mare 12.84 1 ⇑P **Pn** 00 06 42.3 +3.6
BMR Baia Mare 12.84 1 P **Pn** 00 06 42.3 +3.6
BURAR Bucovina Array 12.87 6 ⇑P **Pn** 00 06 41.1 +1.9
BURAR Bucovina Array 12.87 6 P **Pn** 00 06 41.0 +1.9
BURAR Bucovina Array 12.87 6 Pn **Pn** 00 06 39.2 +0.1
BUR08 Bucovina Ar. S 12.89 6 Pn **Pn** 00 06 40.2 +0.6
SOKA Soboth 13.38 335 *e*Pn **Pn** 00 06 43.5 -2.6
comp=Z,0.8nm,0.3s
OBKA Obir 13.40 333 *e*Pn **Pn** 00 06 45.6 -1.0
comp=Z,1.0nm,0.3s
SORM Soroca 13.84 14 ⇑P **Pn** 00 06 55.2 +2.9
SORM Soroca 13.84 14 P **Pn** 00 06 55.1 +2.9
STAL STALIGIAL 13.94 328 Pn **Pn** 00 06 53.1 -0.7
CTI Castel Tesino 14.26 325 P **Pn** 00 06 57.1 -1.1
CTI Castel Tesino 14.26 325 Pn **Pn** 00 06 57.0 -1.1
KBA Koelnbreinsper 14.34 332 *e*Pn **Pn** 00 06 59.2 0.0
comp=Z,1.2nm,0.4s
MARD Mardin 14.39 75 **Pn** 00 06 59.6 -0.4
MOA Molln 14.65 335 *e*Pn **Pn** 00 07 01.4 -1.9
comp=Z,2.0nm,0.4s
KRUC Moravsky 15.11 342 *e*P **P** 00 07 14.7 +0.9
WTTA Wattenberg 15.19 328 *i* Pn **P** 00 07 17.6 +2.7
comp=Z,1.0nm,0.3s
WATA Walderalm 15.27 328 *e*Pn **P** 00 07 13.8 -2.0
comp=Z,0.9nm,0.2s
VRAC Vranov 15.29 343 ⇓P **Pn** 00 07 11.7 0.0
VRAC Vranov 15.29 343 P **Pn** 00 07 10.7 -1.0
comp=Z,0.2nm,0.3s,baz=195,slow=10.0,SNR=1.6
VRAC LR LR 00 14 38.5
comp=Z,486nm,21.6s,baz=166,slow=44
VRAC Vranov 15.29 343 *e*P **P** 00 07 15.8 0.0
FETA Feichten 15.41 326 *e*Pn **P** 00 07 18.9 +1.5
comp=Z,4.6nm,0.9s
CKRC Cesky Krumlov 15.48 337 *e*P **P** 00 07 17.7 -0.3
MOTA Mosalm 15.48 328 *e*Pn **P** 00 07 20.6 +2.5
comp=Z,0.9nm,0.4s
GURO Guroymak-BITLI 15.52 71 **Pn** 00 07 14.8 0.0
MORC Moravsky Berou 15.53 346 ⇓P **Pn** 00 07 15.6 +0.9
MORC Moravsky Berou 15.53 346 P **P** 00 07 16.9 -1.6
MORC pmax pmax
comp=Z,18nm,1.5s
MORC Moravsky Berou 15.53 346 P **P** 00 07 16.9 -1.6
MORC IAmb IAmb 00 07 52.5
comp=Z,18nm,1.5s
MORC Moravsky Berou 15.53 346 *e*P **P** 00 07 18.6 +0.1
DAVOX Davos/Dischmat 15.64 324 LR LR 00 14 27.4
comp=Z,202nm,21.5s,baz=118,slow=42
TUE Stuetta 15.69 322 P **P** 00 07 19.3 -1.1
GEC2 GERESS Array S 15.70 336 **Pn** 00 07 17.4 +0.4
GERES GERESS Array B 15.70 336 P **Pn** 00 07 15.1 -1.9
comp=Z,0.2nm,0.3s,baz=149,slow=14,SNR=2.7
GERES LR LR 00 15 22.8
comp=Z,409nm,18.1s,baz=155,slow=45
GERES GERESS Array B 15.70 336 P **Pn** 00 07 18.1 +1.1
GERES GERESS Array B 15.70 336 **Pn** 00 07 18.1 +1.1
RETA Reutte 15.74 327 *e*Pn **P** 00 07 21.9 +1.0
comp=Z,1.0nm,0.3s
KRLC Kraliky 15.97 345 *e*P **Pn** 00 07 20.1 -0.3
KRLC Kraliky 15.97 345 *e*P **Pn** 00 07 20.1 -0.3
KHC Kasperske Hory 15.99 336 P **Pn** 00 07 21.9 +1.3
KHC pmax pmax
comp=Z,20nm,1.2s
KHC Kasperske Hory 15.99 336 *e*P **P** 00 07 24.2 +0.6
KHC Kasperske Hory 15.99 336 P **Pn** 00 07 21.9 +1.3
KHC IAmb IAmb 00 07 25.8
comp=Z,20nm,1.2s
DAVA Damuels 16.00 325 *e*Pn **P** 00 07 26.1 +2.2
comp=Z,3.0nm,0.7s
WET Wettzell 16.24 335 P **P** 00 07 27.5 +1.1
WET pmax pmax
comp=Z,14nm,1.3s
BNI Bardonecchia 16.28 314 P **Pn** 00 07 24.5 0.0
BNI pmax pmax
comp=Z,21nm,1.4s
BNI Bardonecchia 16.28 314 Pn **Pn** 00 07 24.5 0.0
BNI IAmb IAmb 00 08 00.1
comp=Z,21nm,1.4s
GEVA Gevas 16.29 72 **Pn** 00 07 25.1 +0.5
GEVA IAmb IAmb 00 07 43.1
comp=Z,16nm,1.1s
DPC Dobruska-Polom 16.33 344 *e*P **P** 00 07 27.5 +0.1
DPC Dobruska-Polom 16.33 344 *e*P **P** 00 07 27.5 +0.1
PRU Pruhonice 16.45 340 *e*P **P** 00 07 28.9 +0.2
PRU Pruhonice 16.45 340 *e*P **P** 00 07 28.9 +0.2
AKASG Malin Array Be 16.46 13 P **Pn** 00 07 25.3 -1.2
comp=Z,5.6nm,0.3s,baz=211,slow=10,SNR=11
AKASG LR LR 00 14 14.0
comp=Z,246nm,18.2s,baz=169,slow=39
AKASG Malin Array Be 16.46 13 *ce*P **Pn** 00 07 27.5 +1.0
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 16.46 13 **Pn** 00 07 25.7 -0.8
AKBB Malin Array Si 16.46 13 P **Pn** 00 07 25.0 -1.5
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 16.46 13 **Pn** 00 07 25.0 -1.5
OSTC Ostas 16.54 344 *e*P **P** 00 07 30.4 +0.7
UPC Upice 16.54 344 *e*P **P** 00 07 29.9 +0.2
UPC Upice 16.54 344 *e*P **P** 00 07 29.9 +0.2
CHVC Chvalec 16.61 344 *e*P **P** 00 07 31.6 +1.1
SENIN Lac Senin/Sane 16.69 318 Pn **Pn** 00 07 29.0 -0.7
KARS Kars 16.71 64 P **Pn** 00 07 28.9 -1.0
KARS pmax pmax
comp=Z,43nm,1.0s
KARS Kars 16.71 64 Pn **Pn** 00 07 28.9 -1.0
KARS IAmb IAmb 00 07 52.8
comp=Z,43nm,1.0s
BRG Berggiesshubel 17.41 340 pmax pmax
comp=Z,8.0nm,1.3s

BRG Berggiesshubel 17.41 340 *e*P P 00 07 46.5 +7.2
BRG Berggiesshubel 17.41 340 pmax pmax
comp=Z,9.0nm,1.4s
BRG Berggiesshubel 17.41 340 Amp 00 07 41.8
comp=Z,8.8nm,1.4s
BRG Berggiesshubel 17.41 340 *ex* x 00 07 46.6
BRG Berggiesshubel 17.41 340 *ex* x 00 07 52.5
BRG Berggiesshubel 17.41 340 Amp 00 07 55.9
comp=Z,8.4nm,1.3s
KIV Kislovodsk 17.54 53 ⇓P **P** 00 07 41.5 +0.6
KIV Kislovodsk 17.54 53 *e*P **P** 00 07 40.7 -0.2
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,86nm,14.0s
KIV Kislovodsk 17.54 53 **P** 00 07 40.7 -0.2
ONI Oni 17.54 58 P **P** 00 07 41.2 +0.3
ONI pmax pmax
comp=Z,5.0nm,0.9s
ONI Oni 17.54 58 P **P** 00 07 41.2 +0.3
KBZ Khabaz 17.59 54 P **Pn** 00 07 40.9 +0.3
comp=Z,0.2nm,0.3s,baz=250,slow=11,SNR=29
KBZ LR LR 00 16 01.7
comp=Z,251nm,18.1s,baz=264,slow=42
KBZ Khabaz 17.59 54 *ce*P **P** 00 07 41.7 +0.5
KBZ pmax pmax
comp=Z,13nm,0.9s
GNI Garni 17.85 66 P **P** 00 07 44.8 +0.4
comp=Z,0.2nm,0.3s,baz=7.6,slow=15,SNR=4.9
GNI LR LR 00 15 50.5
comp=Z,391nm,18.6s,baz=271,slow=41
GNI Garni 17.85 66 *i* P **P** 00 07 44.4 0.0
GNI pmax pmax
comp=Z,13nm,1.8s
GNI Garni 17.85 66 **Pn** 00 07 43.9 -0.2
ZEI Tsey 17.92 58 *e*P **P** 00 07 45.4 +0.2
ZEI pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 18.07 339 *e*P **Pn** 00 07 46.0 -0.5
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,500nm,18.5s
CLL Collm 18.07 339 **Pn** 00 07 46.0 -0.5
CLL IAmb IAmb 00 08 16.8
comp=Z,26nm,1.7s
CLL Collm 18.07 339 *e*P **Pn** 00 07 46.0 -0.5
comp=Z,7.0nm,1.3s
CLL *e*PP **PnPn** 00 07 59.0 +0.7
CLL *e*PPP PPP 00 08 07.0
CLL Lm MLR 00 15 00.0
comp=Z,500nm,18.5s
GOF Gofitskoye 18.25 50 ⇑ *e*P **P** 00 07 48.5 -0.1
GOF pmax pmax
comp=Z,11nm,0.8s
SUW Suwalki 19.19 360 P **P** 00 07 57.0 -1.8
SUW pmax pmax
comp=Z,23nm,0.8s
SUW Suwalki 19.19 360 P **P** 00 07 57.0 -1.8
SUW IAmb IAmb 00 08 20.7
comp=Z,23nm,0.8s
GROC Groznyy 19.37 58 *e*P **P** 00 07 56.1 -4.8
GROC pmax pmax
comp=Z,16nm,1.2s
BTLR Botlikh 19.51 60 *i* P **Pn** 00 08 04.9 +0.8
MNK Minsk 19.95 8 *i* P **P** 00 08 04.4 -2.6
MNK *i* S **S** 00 11 49.0 +0.1
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,1.4s
MNK MLR MLR
comp=N,81nm,11.0s
MNK MLR MLR
comp=E,26nm,17.0s
MNK MLR MLR
comp=Z,195nm,10.0s
MNK Minsk 19.95 8 *i* P **P** 00 08 04.4 -2.6
comp=E,4.0nm,1.4s
MNK *i* P **P** 00 08 04.4 -2.6
comp=N,21nm,1.0s
MNK *i* P **P** 00 08 04.4 -2.6
comp=Z,7.0nm,0.7s,baz=191
MNK *i* PP **pwP** 00 08 19.9 -1.0
MNK *i* PPP PPP 00 08 27.4
MNK *i* S **S** 00 11 49.0 +0.1
MNK *i* SS **SnSn** 00 12 06.2 -0.8
MNK *i* SSS SSS 00 12 19.6
MNK *i* LQ LQ 00 14 01.0
MNK *i* LR LR 00 15 35.6
MNK *i* LRM MLR 00 17 08.4
comp=N,81nm,10.9s
MNK *i* LRM MLR 00 17 10.3
comp=E,26nm,16.9s
MNK *i* LRM MLR 00 17 12.8
comp=Z,195nm,10.2s
BHOU Houvegnez 19.98 326 *dx* **Pn** 00 08 13.0 +3.5
NACGM Naroch 20.23 6 *i* P **P** 00 08 09.0 -1.1
VORR Voronezh 20.39 29 *e*P **P** 00 08 10.0 -1.8
VORR pmax pmax
comp=Z,10.0nm,0.5s
BGES Gesves 20.43 325 *d*P **P** 00 08 11.3 -1.0
DOU Dourbes 20.47 324 *d*Pn **P** 00 08 13.6 +0.8
IIGN Ignalina 20.63 5 *e*P **P** 00 08 13.1 -1.4
IDID Didziasalis 20.64 6 *e*P **P** 00 08 13.9 -0.6
PABE Paberze 20.69 1 P **P** 00 08 13.0 -2.1
PABE Paberze 20.69 1 *e*P **P** 00 08 15.2 +0.1
ISAL Salakas 20.85 5 *e*P **P** 00 08 15.0 -1.8
LPSR Galich'ya Gora 21.00 27 *e*P **P** 00 08 19.1 +0.7
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BSD Bornholm Skovb 21.10 347 *e*P **P** 00 08 19.8 +0.2
VRH Novokhopyorsk 21.13 34 *e*P **P** 00 08 17.7 -2.1
VRH pmax pmax
comp=Z,6.0nm,0.5s
BSEG Bad Segeberg 21.17 338 P **P** 00 08 20.1 -0.1
BSEG pmax pmax
comp=Z,17nm,1.0s
PBUR Paburge 21.23 358 *e*P **P** 00 08 21.3 +0.5
ESDC Sonseca Array 22.16 291 P **P** 00 08 30.0 -1.2
comp=Z,0.6nm,0.8s,baz=99,slow=8.6,SNR=1.9
ESDC LR LR 00 18 29.2
comp=Z,64nm,18.2s,baz=96,slow=40
OBN Obninsk 22.30 20 P **P** 00 08 32.3 0.0
comp=Z,2.5nm,0.4s,baz=294,slow=10.0,SNR=3.4
OBN LR LR 00 17 55.2
comp=Z,28nm,18.4s,baz=186,slow=38
OBN Obninsk 22.30 20 *ce*P **P** 00 08 32.0 -0.3
OBN 00 08 56.0
OBN pmax pmax
comp=Z,12nm,0.8s
OBN MLR MLR
comp=Z,222nm,22.0s
OBN Obninsk 22.30 20 P **P** 00 08 30.7 -1.6
OBN IAmb IAmb 00 09 01.0
comp=Z,12nm,0.7s
RAYN Ar Rayn 22.40 114 P **P** 00 08 34.2 +0.4
RAYN pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 22.40 114 P **P** 00 08 34.2 +0.4
DEL Delary 22.58 346 *e*P **P** 00 08 34.1 -1.3
SLIT Slitere, Latvi 22.82 359 *e*P **P** 00 08 36.9 -1.0
MOS Moscow 23.14 21 *e*P **P** 00 08 39.2 -2.0
MOS *e* 00 08 52.3
MOS *e* 00 09 02.9
MOS pmax pmax
comp=Z,26nm,1.0s
MDT Midelt 23.21 273 LR LR 00 19 20.7
comp=Z,191nm,21.4s,baz=156,slow=41
VSU Vasula 23.76 5 *e*P **P** 00 08 47.4 +0.3
VIKU Vikbolandet 24.09 352 *e*P **P** 00 08 48.9 -1.2
AAL Aland 25.46 356 *e*P **P** 00 09 01.7 -0.8
HFS Hagfors 26.08 349 P **P** 00 09 06.9 -1.3
comp=Z,2.4nm,0.5s,baz=173,slow=13,SNR=16
HFS LR LR 00 20 51.9
comp=Z,252nm,18.6s,baz=176,slow=40
KONO Kongsberg 26.41 344 P **P** 00 09 12.0 +0.9
KONO pmax pmax
comp=Z,40nm,1.5s
KONO Kongsberg 26.41 344 P **P** 00 09 12.0 +0.9
FINES FINESS Array B 26.70 3 P **P** 00 09 11.8 -1.9
comp=Z,1.0nm,0.3s,baz=164,slow=9.5,SNR=16
FINES PcP **PcP** 00 12 36.9 +0.7

comp=Z,1.0nm,0.7s,baz=151,slow=4.4,SNR=4.6
FINES LR LR 00 21 09.6
comp=Z,436nm,18.9s,baz=181,slow=40
FINES FINESS Array B 26.70 3 *i* P **P 00 09 12.1 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 26.70 3 P **P 00 09 11.6 -2.2**
FIA1 FINESS Array S 26.70 3 P **P 00 09 13.0 -0.8**
FIA1 IAmb IAmb 00 09 43.4
comp=Z,30nm,1.8s
NORES NORESS Array B 27.01 347 P **P 00 09 16.0 -0.6**
NB2 NORSAR Subarra 27.36 347 P **P 00 09 18.9 -0.8**
comp=Z,0.4nm,0.4s,baz=156,slow=9.3
NOA NORSAR Array B 27.36 347 P **P 00 09 17.8 -1.9**
comp=Z,0.6nm,0.5s,baz=158,slow=9.9,SNR=12
NOA LR LR 00 22 02.9
comp=Z,152nm,20.2s,baz=165,slow=41
EKA Eskdalemuir Ar 27.44 327 P **P 00 09 18.2 -2.3**
comp=Z,2.9nm,0.9s,baz=125,slow=11,SNR=7.6
KLMR Klimovskoe 28.08 17 P **P 00 09 24.1 -2.0**
KLMR pmax pmax
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 28.08 17 P **P 00 09 24.2 -1.9**
KLMR AMP 00 09 40.3
comp=Z,8.0nm,1.4s
GEYT Alibeck 28.14 73 P **P 00 09 27.2 +0.2**
comp=Z,0.9nm,0.6s,baz=276,slow=18,SNR=1.6
GEYT Alibeck 28.14 73 P **P 00 09 28.4 +1.5**
GYA0B ALIBECK ARRAY 28.14 73 P **P 00 09 28.4 +1.5**
GYA0B IAmb IAmb 00 10 00.1
comp=Z,7.1nm,1.1s
TORD Torodi Ar. Bea 29.09 227 P **P 00 09 35.4 -0.1**
comp=Z,0.6nm,0.3s,baz=29,slow=8.5,SNR=20
TORD Torodi Ar. Bea 29.09 227 P **P 00 09 36.5 +1.0**
KIRV Kirov 29.43 28 LR LR 00 21 59.3
comp=Z,184nm,20.6s,baz=246,slow=38
AKTO Aktyubinsk 29.63 48 LR LR 00 23 26.8
comp=Z,97nm,18.6s,baz=278,slow=40
UOSS Minazif 30.10 100 P **P 00 09 45.2 +0.8**
ABKAR Akbulak array 30.49 50 P **P 00 09 47.2 -0.5**
KOWA Kowa 31.82 237 LR LR 00 23 18.8
comp=Z,120nm,18.5s,baz=32,slow=37
ARU Arti 32.26 37 LR LR 00 23 13.7
comp=Z,43nm,18.8s,baz=252,slow=36
ARU Arti 32.26 37*c i* P **P 00 10 02.0 -1.1**
ARU S **S 00 15 16.3 +3.0**
ARU SS **SnSn 00 17 05.4 -2.0**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 32.26 37 P **P 00 10 02.6 -0.5**
ARU IAmb IAmb 00 10 03.4
comp=Z,4.3nm,0.8s
WSAR Wadi Sarin 32.85 101 LR LR 00 27 56.7
comp=Z,83nm,20.4s,baz=317,slow=44
LODK Lodwar 33.20 158 P **P 00 10 14.0 +2.2**
SVE Sverdlovsk 33.47 37 *e*P **P 00 10 13.2 -0.4**
SVE pmax pmax
comp=Z,10.0nm,0.9s
HEF Hetta 33.64 0 *e*P **P 00 10 14.2 -0.8**
ARCES ARCESS Array B 34.79 1 P **P 00 10 23.1 -1.8**
comp=Z,1.0nm,0.5s,baz=194,slow=9.9,SNR=24
ARCES PcP **PcP 00 12 57.9 +0.5**
comp=Z,1.8nm,0.8s,baz=123,slow=3.3,SNR=1.3
ARCES LR LR 00 25 52.6
comp=Z,248nm,19.2s,baz=190,slow=38
ARCES ARCESS Array B 34.79 1 P **P 00 10 23.8 -1.2**
ARCES pmax pmax
comp=Z,38nm,1.7s
ARCES ARCESS Array B 34.79 1 P **P 00 10 23.8 -1.2**
KEV Kevo 35.05 2 P **P 00 10 26.1 -1.1**
KEV pmax pmax
comp=Z,19nm,1.2s
KEV Kevo 35.05 2 P **P 00 10 26.1 -1.1**
KEV Kevo 35.05 2 *e*P **P 00 10 26.9 -0.3**
CHGR Chuyangaron 36.69 70 P **P 00 10 42.3 +0.6**
CHGR pmax pmax
comp=Z,11nm,0.8s
CHGR Chuyangaron 36.69 70 P **P 00 10 42.3 +0.6**
KKAR Karatay Array 37.25 63 P **P 00 10 46.7 +0.3**
KKAR Karatay Array 37.25 63 P **P 00 10 46.7 +0.3**
GAR Garm 37.53 69 P **P 00 10 49.4 +0.5**
GAR IAmb IAmb 00 11 12.6
comp=Z,9.9nm,0.9s
BRVK Borovoye 37.66 46*ce*P **P 00 10 49.8 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
DBIC Dimbokro 38.15 229 P **P 00 10 53.1 -1.0**
comp=Z,2.2nm,0.7s,baz=39,slow=7.9,SNR=2.2
DBIC Dimbokro 38.15 229 P **P 00 10 54.8 +0.7**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 38.15 229 P **P 00 10 54.8 +0.7**
DBIC IAmb IAmb 00 11 07.5
comp=Z,5.0nm,0.9s
DRK Karamyk 38.60 68 P **P 00 10 58.8 +0.7**
DRK IAmb IAmb 00 11 23.2
comp=Z,4.3nm,0.9s
JMIC Jan Mayen 39.98 344 LR LR 00 28 35.7
comp=Z,70nm,19.0s,baz=108,slow=38
AAK Ala-Archa 40.21 63 LR LR 00 31 29.4
comp=Z,56nm,19.7s,baz=300,slow=42
AAK Ala-Archa 40.21 63*ce*P **P 00 11 12.2 +0.9**
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 40.21 63 P **P 00 11 11.9 +0.6**
AAK IAmb IAmb 00 11 13.6
comp=Z,5.2nm,1.0s
NIL Nilore 41.00 77 P **P 00 11 18.3 +0.5**
NIL pmax pmax
comp=Z,11nm,0.9s
NIL Nilore 41.00 77 P **P 00 11 18.3 +0.5**
NIL IAmb IAmb 00 11 20.4
comp=Z,10nm,0.8s
BOOM Boomskoye usch 41.28 63 P **P 00 11 21.5 +1.3**
BOOM pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 41.28 63 P **P 00 11 21.5 +1.3**
BOOM IAmb IAmb 00 11 39.4
comp=Z,3.2nm,0.8s
KSH Kashi 41.78 67 P **P 00 11 23.1 -1.1**
KSH pP pP 00 11 27.8 -7.4
KSH sP pwP 00 11 30.7 -8.3
KSH pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 42.60 51*ce*P **P 00 11 30.0 -0.6**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 42.60 51 P **P 00 11 30.1 -0.6**
KURK IAmb IAmb 00 11 31.2
comp=Z,4.7nm,0.9s
SPB2 Spitsbergen Ar 43.56 358 P **P 00 11 37.8 -0.2**
SPITS Spitsbergen Ar 43.56 358 P **P 00 11 38.0 -0.1**
SPITS pmax pmax
comp=Z,30nm,1.3s
MK31 Makanchi Array 45.26 56 P **P 00 11 52.2 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 45.26 56 P **P 00 11 52.2 +0.1**
MK31 IAmb IAmb 00 11 53.1
comp=Z,5.6nm,1.1s
MKAR Makanchi Array 45.26 56 P **P 00 11 51.3 -0.8**
comp=Z,1.9nm,0.3s,baz=267,slow=7.9,SNR=63
MKAR PcP **PcP 00 13 32.9 +1.5**
comp=Z,0.6nm,0.6s,baz=273,slow=5.2,SNR=1.4
MKAR Makanchi Array 45.26 56 P **P 00 11 52.3 +0.2**
ZAA0 Zalesovo Array 46.37 46 P **P 00 11 59.9 -0.7**
ZAA0 IAmb IAmb 00 12 00.8
comp=Z,6.8nm,1.0s
ZALV Zalesovo Beam 46.37 46 P **P 00 11 59.8 -0.8**
comp=Z,3.6nm,0.3s,baz=271,slow=8.8,SNR=25
ZALV LR LR 00 33 07.7
comp=Z,68nm,20.2s,baz=290,slow=38
ZALV Zalesovo Beam 46.37 46 *i* P **P 00 11 59.7 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
WMQ Urumqi 49.52 59 *e*P **P 00 12 25.4 +0.1**
WMQ pmax pmax
comp=Z,11nm,0.9s
PYUN Piuthan 50.75 80 *e*P **P 00 12 35.6 +0.6**
comp=Z,13nm,0.6s
DANN Dangsing 51.28 80 *e*P **P 00 12 40.0 +1.0**
GKN Gorkha 52.12 80 *e*P **P 00 12 45.3 +0.1**
SFJD Kangerlussuaq 52.23 331 LR LR 00 36 18.6
comp=Z,96nm,19.4s,baz=92,slow=38
DMN Daman 52.66 80 *e*P **P 00 12 49.8 +0.5**
PKI Pulchoki 52.92 80 *e*P **P 00 12 51.6 +0.3**
GUN Gumba 53.17 79 *e*P **P 00 12 53.6 +0.5**
comp=Z,11nm,0.6s
JIRN Jiri 53.52 79 *e*P **P 00 12 56.2 +0.4**
TSUM Tsumeb 53.99 187 LR LR 00 37 24.9
comp=Z,120nm,18.1s,baz=3.5,slow=37
MATP Matopo 55.17 174 P **P 00 13 08.5 +1.2**
comp=Z,0.9nm,0.5s,baz=22,slow=5.4,SNR=5.9
LSA Lhasa 56.66 75 P **P 00 13 18.8 +0.3**
LSA pmax pmax
comp=Z,4.0nm,0.5s
LSA Lhasa 56.66 75 P **P 00 13 18.8 +0.3**
LSA IAmb IAmb 00 13 22.0
comp=Z,3.7nm,0.5s
GOMU GeErMu 56.99 66 P **P 00 13 21.3 +0.6**
GOMU pP pP 00 13 25.5 -6.5
GOMU sP pwP 00 13 27.0 -9.0
GOMU pmax pmax
comp=Z,1.0nm,1.0s
GOMU pmax pmax
comp=Z,79nm,5.3s
ZAK Zakamensk 58.14 48 *e*P **P 00 13 28.5 +0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 59.50 61 *e*P **P 00 13 36.5 -1.3**
GTA pP pP 00 13 41.8 -7.4
GTA sP pwP 00 13 45.3 -7.9
GTA pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 60.91 50 P **P 00 13 47.4 +0.1**
comp=Z,1.8nm,0.6s,baz=278,slow=8.1,SNR=26
SONM Songino Array 60.91 50 P **P 00 13 47.6 +0.3**
SONM pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 60.91 50 **P 00 13 47.6 +0.3**
SONM IAmb IAmb 00 13 48.8
comp=Z,5.6nm,1.1s
ULN Ulaanbaatar 61.31 50 P **P 00 13 50.3 +0.2**
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 61.31 50 P **P 00 13 50.3 +0.2**
TIXI Tiksi 62.03 20*ce*P **P 00 13 54.4 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 62.03 20 P **P 00 13 54.3 +0.1**
TIXI IAmb IAmb 00 13 55.1
comp=Z,3.3nm,0.9s
SCHQ Schefferville 62.43 319 P **P 00 13 57.0 -0.3**
comp=Z,0.6nm,0.3s,baz=96,slow=4.5,SNR=7.8
SCHQ Schefferville 62.43 319 P **P 00 13 57.8 +0.5**
SCHQ IAmb IAmb 00 14 19.2
comp=Z,3.2nm,0.9s
BOSA Boshof 63.12 178 P **P 00 14 02.3 +0.1**
comp=Z,2.5nm,1.0s,baz=5.3,slow=8.9,SNR=3.6
BOSA Boshof 63.12 178 P **P 00 14 03.9 +1.7**
BOSA pmax pmax
comp=Z,25nm,1.7s
BOSA Boshof 63.12 178 P **P 00 14 03.9 +1.7**
PZH PanZhiHua 66.46 73 P **P 00 14 25.1 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.0s
SUR Sutherland 66.89 182 LR LR 00 46 22.4
comp=Z,166nm,18.9s,baz=353,slow=38
HHC Hu-ho-hao-te 67.12 55 *e*P **P 00 14 29.9 +1.7**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=N,200nm,15.9s
HHC LR LR
comp=E,230nm,15.9s
HHC LR LR
comp=Z,210nm,15.9s
CMAR Chiang Mai Arr 68.17 82 P **P 00 14 34.9 -0.2**
comp=Z,2.1nm,0.3s,baz=298,slow=8.2,SNR=12
CMAR Chiang Mai Arr 68.17 82*ce*P **P 00 14 36.0 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 68.17 82 P **P 00 14 35.5 +0.5**
HIA Hailar 68.37 44 P **P 00 14 36.2 +0.4**
HIA pmax pmax
comp=Z,11nm,1.3s
HIA Hailar 68.37 44 P **P 00 14 36.2 +0.4**
XAN Xi'an 68.39 63 P **P 00 14 38.2 +2.0**
XAN pP pP 00 14 43.9 -3.9
XAN pmax pmax
comp=Z,7.0nm,0.7s
ZEA Zeya 70.18 38 *e*P P 00 14 53.5 +6.6
ZEA pmax pmax
comp=N,10.0nm,0.3s
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
FCC Fort Churchill 73.25 331 P **P 00 15 06.2 +1.0**
FCC pmax pmax
comp=Z,10.0nm,1.7s
FCC Fort Churchill 73.25 331 P **P 00 15 06.2 +1.0**
FCC IAmb IAmb 00 15 15.1
comp=Z,10nm,1.7s
BILL Bilibino 73.77 14⇑ *e*P **P 00 15 09.6 +1.4**
BILL 00 15 23.0
BILL 00 17 53.0
BILL pmax pmax
comp=Z,2.0nm,1.3s
KLR Kul'dur 75.04 40*ce*P **P 00 15 16.3 +0.4**
MA2 Magadan 76.45 25*ce*P **P 00 15 24.7 +1.0**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
MA2 Magadan 76.45 25 P **P 00 15 24.4 +0.7**
MA2 IAmb IAmb 00 15 39.9
comp=Z,7.3nm,1.0s
YKA Yellowknife Ar 77.28 341 P **P 00 15 28.2 -0.1**
comp=Z,0.2nm,0.3s,baz=41,slow=5.2,SNR=12
YKA LR LR 00 50 01.7
comp=Z,38nm,21.2s,baz=317,slow=36
YKA Yellowknife Ar 77.28 341*ce*P **P 00 15 29.1 +0.8**
BMAR Burnt Mountain 77.65 355 P **P 00 15 30.8 +0.4**
USRK Ussuriysk Ar. 78.18 44 P **P 00 15 33.0 -0.7**
comp=Z,2.4nm,0.6s,baz=312,slow=4.5,SNR=1.9
USRK Ussuriysk Ar. 78.18 44 P **P 00 15 33.0 -0.7**
IMAR Indian Mountai 79.49 359 P **P 00 15 41.8 +1.3**
ILAR Eielson Array 80.44 356 P **P 00 15 43.3 -2.4**
comp=Z,0.2nm,0.8s,baz=353,slow=5.8,SNR=1.7
BCAR Beaver Creek A 81.72 353 P **P 00 15 54.2 +1.6**
DHY Denali Highway 82.15 356 P **P 00 15 55.7 +0.7**
DHY IAmb IAmb 00 16 24.7
comp=Z,5.6nm,1.0s
PPLA Purkeypile 82.55 358 P **P 00 15 58.2 +1.2**
PETK Petropavlovsk- 83.90 26 LR LR 00 56 37.7
comp=Z,42nm,18.6s,baz=330,slow=38
ANMO Albuquerque 96.18 321 LR LR 01 00 35.2
comp=Z,37nm,18.8s,baz=240,slow=36
CPUP Villa Florida 97.47 243 LR LR 01 02 13.2
comp=Z,63nm,21.1s,baz=84,slow=36
WRA Warramunga Arr 118.11 96 PKP **PKPdf 00 22 20.8 -0.8**
comp=Z,0.3nm,0.9s,baz=315,slow=1.8,SNR=5.0
ASAR Alice Springs 119.53 100 PKP **PKPdf 00 22 23.7 -0.5**
comp=Z,0.5nm,0.7s,baz=276,slow=1.0,SNR=5.7
ASAR Alice Springs 119.53 100 PKIKP **PKiKP 00 22 25.1 +0.8**
ASAR Alice Springs 119.53 100 **PKiKP 00 22 25.1 +0.8**

IDC 10 00:20:11.9±3.6, 5.59N×94.67E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/38, mbtmp3.4/4, Error ellipse: s-maj=145.8km s-min=27.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.42**	**347**	P	P	00 28 08.2	-0.2
	0.6nm,0.6s,baz=174,slow=8.4,SNR=8.3						
SONM	**Songino Array**	**43.27**	**12**	P	P	00 28 15.8	+0.4
	0.2nm,0.7s,baz=215,slow=7.0,SNR=2.2						
WRA	**Warramunga Arr**	**46.53**	**124**	P	P	00 28 41.4	-0.2
	0.3nm,0.4s,baz=306,slow=8.5,SNR=7.8						
KURBB	**Kurchatov Arra**	**46.88**	**346**	P	P	00 28 43.5	-0.3
	0.5nm,0.5s,baz=171,slow=7.2,SNR=12						

*IDC **10** 00:35:02.1±0.7, 13.97N×120.72E, h212km±7km, mb3.7/17, mb1 3.8/17, mb1mx3.6/44, mbtmp4.2/17, Error ellipse:*
s-maj=19.3km s-min=9.4km az=66.0
*MAN **10** 00:35:02.5, 14.00N×120.52E, h191km, mb4.9, ML3.8, MS3.8*
*NEIC **10** 00:35:02.5±1.4, 13.96N±0.08×120.7E±0.1, h211km±5km, mb4.2/43, Error ellipse: s-maj=18.9km s-min=11.9km az=79.0*

ISC 10 00:35:01.2±0.6, 13.93N±0.06×120.59E±0.08, h204km±5km, n87, σ0.95/93, mb4.1/38, 5C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.38**	**240**⇓	*e*P	**Pn**	**00 35 29.3**	**+0.8**
TGY	**Tagaytay City**	**0.38**	**63**	P	**Pn**	**00 35 30.3**	**+1.7**
	baz=270,slow=2.0						
TGY	**Tagaytay City**	**0.38**	**63**⇑	*e*P	**Pn**	**00 35 29.1**	**+0.6**
TGY				*i* S	**S**	**00 35 45.8**	**-4.0**
PGP	**Puerto Galera**	**0.55**	**140**⇑	*e*P	**Pn**	**00 35 29.3**	**+0.2**
PGP				*i* S	**S**	**00 35 48.9**	**-1.9**
LQP	**Lukban**	**0.94**	**78**	*e*P	**Pn**	**00 35 32.6**	**+1.3**
LQP				*e*S	**S**	**00 35 56.1**	**+1.6**
PCPH	**Palayan**	**1.70**	**17**⇑	*e*P	**Pn**	**00 35 37.3**	**+0.2**
PCPH				*e*S	**S**	**00 36 05.3**	**+0.5**
GQP	**Guinayangan**	**1.81**	**90**⇑	*i*P	**Pn**	**00 35 39.7**	**+1.5**
GQP				*i* S	**S**	**00 36 08.2**	**+1.9**
SMPP	**San Manuel, Pa**	**2.21**	**2**⇓	*e*P	**Pn**	**00 35 42.9**	**+0.5**
SMPP				*e*S	**S**	**00 36 13.0**	**-1.0**
PVCP	**Virac**	**3.48**	**95**⇑	*e*P	**Pn**	**00 35 58.9**	**+2.0**
MYLDM	**Lahad Datu**	**8.93**	**194**	Pn	**Pn**	**00 37 08.3**	**+1.7**
TPUB	**Ta-pu**	**9.33**	**0**	Pn	**Pn**	**00 37 11.9**	**+0.2**
YULB	**Yu-li**	**9.44**	**4**	Pn	**Pn**	**00 37 12.9**	**-0.3**
FAKI	**Fak Fak**	**20.34**	**144**	P	**P**	**00 39 22.1**	**-0.1**
FAKI				IAmb	IAmb	00 39 25.7	
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.26**	**285**	P	**P**	**00 39 33.9**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=93,slow=8.1,SNR=7.9						
SHL	**Shillong**	**29.32**	**298**	P	**P**	**00 40 45.8**	**+0.6**
JTM	**Tenmabayashi**	**32.19**	**30**	P	**P**	**00 41 08.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**32.21**	**171**	P	**P**	**00 41 09.1**	**-1.2**
PSA00	**Pilbara Seismi**	**35.28**	**181**	P	**P**	**00 41 37.2**	**+0.4**
PSA00				IAmb	IAmb	00 41 37.8	
	comp=Z,3.2nm,1.0s						
ASAJ	**Asahikawa**	**35.48**	**28**	P	**P**	**00 41 37.5**	**-0.7**
	comp=Z,6.3nm,0.4s,baz=157,slow=18,SNR=5.7						
JKA	**Kamikawa-asahi**	**35.48**	**28**	P	**P**	**00 41 37.2**	**-1.1**
COEN	**Coen**	**35.60**	**140**	P	**P**	**00 41 38.8**	**-0.8**
COEN				IAmb	IAmb	00 41 39.9	
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**35.81**	**344**	P	**P**	**00 41 41.8**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=161,slow=8.9,SNR=11						
SONM	**Songino Array**	**35.81**	**344**	P	**P**	**00 41 41.8**	**+0.6**
WB0	**Warramunga Arr**	**36.13**	**158**	P	**P**	**00 41 43.3**	**-0.7**
WRA	**Warramunga Arr**	**36.27**	**158**	P	**P**	**00 41 44.6**	**-0.7**
	comp=Z,6.0nm,0.4s,baz=330,slow=9.9,SNR=165						
KLR	**Kul'dur**	**36.38**	**12**	P	**P**	**00 41 45.6**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=231,slow=8.9,SNR=9.0						
AS31	**Alice Springs**	**39.56**	**161**	P	**P**	**00 42 12.4**	**-0.4**
AS31				IAmb	IAmb	00 42 13.5	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**39.57**	**161**	P	**P**	**00 42 12.8**	**0.0**
	comp=Z,4.5nm,0.4s,baz=338,slow=6.8,SNR=91						
ASAR	**Alice Springs**	**39.57**	**161**	P	**P**	**00 42 12.6**	**-0.2**
FORT	**Forrest**	**45.02**	**171**	P	**P**	**00 42 55.8**	**-0.8**
FORT				IAmb	IAmb	00 42 57.0	
	comp=Z,11nm,0.6s						
MK31	**Makanchi Array**	**45.79**	**324**	P	**P**	**00 43 03.6**	**+1.1**
MKAR	**Makanchi Array**	**45.79**	**324**	P	**P**	**00 43 03.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=127,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**45.79**	**324**	P	**P**	**00 43 02.9**	**+0.4**
TARG	**Taragay, Kyrgy**	**46.21**	**315**	P	**P**	**00 43 07.2**	**+0.8**
BOOM	**Boomskoye usch**	**47.79**	**315**	P	**P**	**00 43 19.1**	**+0.8**
BBOO	**Buckleboo**	**48.77**	**163**	P	**P**	**00 43 25.0**	**-0.6**
BBOO				IAmb	IAmb	00 43 37.1	
	comp=Z,18nm,1.4s						
ZAA0	**Zalesovo Array**	**48.81**	**333**	P	**P**	**00 43 25.4**	**-0.3**
ZALV	**Zalesovo Beam**	**48.81**	**333**	P	**P**	**00 43 25.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=117,slow=7.2,SNR=11						
ZALV	**Zalesovo Beam**	**48.81**	**333**	P	**P**	**00 43 25.6**	**0.0**
STKA	**Stephens Creek**	**49.80**	**156**	P	**P**	**00 43 34.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=322,slow=17,SNR=1.5						
STKA	**Stephens Creek**	**49.80**	**156**	P	**P**	**00 43 33.6**	**+0.2**
KURK	**Kurchatov**	**49.94**	**326**	P	**P**	**00 43 35.2**	**+0.9**
KURK				IAmb	IAmb	00 43 36.2	
	comp=Z,10nm,0.7s						
GAR	**Garm**	**50.69**	**309**	P	**P**	**00 43 41.1**	**+0.8**
GAR				IAmb	IAmb	00 43 42.0	
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**51.74**	**314**	P	**P**	**00 43 48.8**	**+0.9**
BRVK	**Borovoye**	**55.60**	**326**	P	**P**	**00 44 16.6**	**+1.0**
BRVK				IAmb	IAmb	00 44 17.3	
	comp=Z,4.2nm,1.0s						
DZM	**Mont Dzumac**	**57.46**	**128**	P	**P**	**00 44 30.1**	**+0.8**
	comp=Z,4.7nm,0.5s,baz=243,slow=14,SNR=6.2						
DZM	**Mont Dzumac**	**57.46**	**128**	P	**P**	**00 44 28.7**	**-0.6**
TIXI	**Tiksi**	**57.92**	**3**	P	**P**	**00 44 30.6**	**-1.0**
TIXI				IAmb	IAmb	00 44 31.7	
	comp=Z,6.0nm,0.8s						
NRIK	**Nuriil'sk**	**59.17**	**347**	P	**P**	**00 44 40.3**	**0.0**
	comp=Z,3.8nm,0.8s,baz=144,slow=5.7,SNR=8.5						
ABKAR	**Akbulak array**	**60.49**	**319**	P	**P**	**00 44 49.7**	**+0.1**
ABKAR	**Akbulak array**	**60.49**	**319**	P	**P**	**00 44 49.3**	**-0.3**
BILL	**Bilibino**	**61.53**	**18**	P	**P**	**00 44 56.1**	**-0.1**
BILL				IAmb	IAmb	00 44 57.1	
	comp=Z,2.8nm,0.6s						
AKTO	**Aktyubinsk**	**61.97**	**320**	P	**P**	**00 45 00.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=169,slow=5.2,SNR=4.0						
ANM	**Nome**	**70.67**	**26**	P	**P**	**00 45 54.9**	**+0.4**
RAYN	**Ar Rayn**	**71.08**	**290**	P	**P**	**00 45 58.0**	**+0.3**
RAYN				IAmb	IAmb	00 45 59.4	
	comp=Z,3.9nm,0.9s						
KIV	**Kislovodsk**	**71.80**	**312**	P	**P**	**00 46 01.5**	**-0.2**
KIV				IAmb	IAmb	00 46 03.2	
	comp=Z,3.1nm,0.7s						
GURO	**Guroymak-BITLI**	**72.57**	**306**	P	**P**	**00 46 07.4**	**+0.9**
GURO				IAmb	IAmb	00 46 08.9	
	comp=Z,2.0nm,0.8s						
BKZ	**Black Stump Fm**	**74.17**	**138**	P	**P**	**00 46 15.5**	**-0.1**
J20K	**Nowinta River**	**75.52**	**27**	P	**P**	**00 46 23.7**	**+0.9**
J20K				IAmb	IAmb	00 46 24.4	
	comp=Z,2.6nm,0.8s						
K20K	**Telida**	**75.58**	**28**	P	**P**	**00 46 24.0**	**+0.7**
K20K				IAmb	IAmb	00 46 47.0	
	comp=Z,7.1nm,1.4s						
IMAR	**Indian Mountai**	**75.63**	**25**	P	**P**	**00 46 23.8**	**+0.3**
H21K	**Melozitna Rive**	**76.03**	**25**	P	**P**	**00 46 26.2**	**+0.5**
H21K				IAmb	IAmb	00 46 27.1	
	comp=Z,2.3nm,0.8s						
PPLA	**Purkeypile**	**76.46**	**28**	P	**P**	**00 46 28.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**76.91**	**27**	P	**P**	**00 46 31.2**	**+0.5**
BPAW				IAmb	IAmb	00 46 32.0	
	comp=Z,4.2nm,0.6s						
RND	**Reindeer**	**77.92**	**27**	P	**P**	**00 46 35.6**	**-0.8**
RND				IAmb	IAmb	00 46 40.1	
	comp=Z,7.6nm,1.4s						
ILAR	**Eielson Array**	**78.60**	**26**	P	**P**	**00 46 38.4**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=294,slow=4.7,SNR=4.4						
ARCES	**ARCESS Array B**	**78.84**	**339**	P	**P**	**00 46 40.9**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=84,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**78.84**	**339**	P	**P**	**00 46 41.2**	**0.0**
ARCES				IAmb	IAmb	00 47 07.1	
	comp=Z,12nm,1.4s						
BMAR	**Burnt Mountain**	**79.11**	**23**	P	**P**	**00 46 43.7**	**+0.9**
FIA1	**FINESS Array S**	**80.03**	**331**	P	**P**	**00 46 47.1**	**-0.7**
FIA1				IAmb	IAmb	00 47 11.2	
	comp=Z,5.4nm,1.5s						
FINES	**FINESS Array B**	**80.04**	**331**	P	**P**	**00 46 46.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=70,slow=6.3,SNR=6.6						
FINES	**FINESS Array B**	**80.04**	**331**	P	**P**	**00 46 47.1**	**-0.6**
EGAK	**Eagle**	**81.01**	**25**	P	**P**	**00 46 53.0**	**+0.1**
EGAK				IAmb	IAmb	00 47 19.2	
	comp=Z,7.3nm,1.4s						
BCAR	**Beaver Creek A**	**81.13**	**27**	P	**P**	**00 46 54.5**	**+0.8**
BURAR	**Bucovina Array**	**83.42**	**317**	P	**P**	**00 47 05.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**83.42**	**317**	P	**P**	**00 47 06.1**	**+0.2**
BUR08				IAmb	IAmb	00 47 26.2	
	comp=Z,4.0nm,1.4s						
EUNU	**Eureka**	**85.12**	**5**	P	**P**	**00 47 13.7**	**-0.1**
C36M	**Paulatuk**	**85.63**	**19**	P	**P**	**00 47 16.3**	**-0.1**
NC405	**NORSAR Array S**	**86.76**	**333**	P	**P**	**00 47 21.3**	**-0.8**
NB2	**NORSAR Subarra**	**87.01**	**333**	P	**P**	**00 47 22.1**	**-1.3**
	comp=Z,3.5nm,1.0s,baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**87.01**	**333**	P	**P**	**00 47 22.1**	**-1.3**
	baz=68,slow=4.6						
NOA	**NORSAR Array B**	**87.01**	**333**	P	**P**	**00 47 22.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=71,slow=4.5,SNR=4.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YKA	**Yellowknife Ar**	**92.61**	**22**	P	**P**	**00 47 49.3**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=306,slow=4.5,SNR=16						
TXAR	**Lajitas Array**	**119.39**	**44**	PKP	**PKiKP**	**00 53 27.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=131,slow=3.9,SNR=4.5						
TXAR	**Lajitas Array**	**119.39**	**44**		**PKiKP**	**00 53 27.0**	**-0.2**
PLCA	**Paso Flores**	**151.57**	**162**	PKPbc	**PKPbc**	**00 54 30.8**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=221,slow=6.7,SNR=5.3						
PLCA	**Paso Flores**	**151.57**	**162**		**PKPbc**	**00 54 31.4**	**-0.1**

*IDC **10** 00:37:03.5±2.0, 32.°99S×178.°36W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/22, mbtmp4.2/3, ML4.4/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/55, Error ellipse: s-maj=58.8km s-min=31.3km az=130.0*

*WEL **10** 00:37:07.8±0.7, 33°S±10°×17°9W±2°6, h33km, M4.4/14, mB5.0/12, ML4.9/16, MLv4.6/14, Mw(mB)4.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*

*NEIC **10** 00:37:14.7±1.6, 32.°97S±0.°08×179.°7W±0.°2, h10km±2km, mb4.7/9, Error ellipse: s-maj=24.3km s-min=6.9km az=118.0*

ISC 10 00:37:07.5±1.2**, 32.°92S**±0.°08×**178.°4W**±0.°2**, h32km, n43,** σ**1.s70**/53**, mb4.5**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.66**	**6**	P	**Pn**	**00 37 59.3**	**-2.6**
GLKZ				S	**Sn**	**00 38 40.4**	**-3.5**
RAO	**Raoul Island**	**3.67**	**6**	Pn	**Pb**	**00 38 15.5**	**+3.8**
WMGZ	**Waiomatatini S**	**5.56**	**207**	P	**Pn**	**00 38 28.2**	**+0.3**
WMGZ				S	**Sn**	**00 39 33.7**	**+3.0**
PKGZ	**Pakihiroa**	**5.75**	**209**	P	**Pn**	**00 38 29.8**	**-0.9**
PKGZ				S	**Sn**	**00 39 32.3**	**-3.3**
HAZ	**Te Kaha**	**5.77**	**212**	P	**Pn**	**00 38 30.3**	**-0.5**
HAZ				S	**Sn**	**00 39 37.9**	**+2.1**
PUZ	**Puketiti**	**5.84**	**207**	P	**Pn**	**00 38 33.3**	**+1.5**
PUZ				S	**Sn**	**00 39 36.2**	**-1.4**
RUGZ	**Raukumara Rang**	**5.99**	**212**	P	**Pn**	**00 38 34.3**	**+0.3**
RUGZ				S	**Sn**	**00 39 41.5**	**0.0**
TWGZ	**Tauwhareparae**	**6.04**	**209**	P	**Pn**	**00 38 34.9**	**+0.3**
TWGZ				S	**Sn**	**00 39 41.6**	**-1.0**
CNGZ	**Carnagh Statio**	**6.22**	**206**	P	**Pn**	**00 38 35.6**	**-1.4**
TKGZ	**Te Karaka**	**6.32**	**208**	P	**Pn**	**00 38 39.3**	**+1.0**
MWZ	**Matawai**	**6.36**	**211**	P	**Pn**	**00 38 40.4**	**+1.4**
MWZ				S	**Sn**	**00 39 49.8**	**-0.8**
URZ	**Urewera**	**6.49**	**213**	Pn	**Pn**	**00 38 40.2**	**-0.4**
	7.5nm,0.3s,baz=287,slow=2.4,SNR=25						
URZ				Sn	**Sn**	**00 39 52.1**	**-1.5**
	4.7nm,0.3s,baz=161,slow=22,SNR=7.7						
URZ				LR	LR	00 40 51.6	
	comp=Z,82nm,19.1s,baz=29,slow=36						
URZ	**Urewera**	**6.49**	**213**		**Pn**	**00 38 40.1**	**-0.5**
URZ	**Urewera**	**6.49**	**213**	P	**Pn**	**00 38 40.5**	**-0.2**
URZ				S	**Sn**	**00 39 51.9**	**-1.6**
EDRZ	**Edgecumbe**	**6.54**	**216**	P	**Pn**	**00 38 45.9**	**+4.3**
RIGZ	**Rimuhau**	**6.58**	**208**	P	**Pn**	**00 38 42.9**	**+0.8**
PRGZ	**Paritu Road**	**6.72**	**206**	P	**Pn**	**00 38 43.2**	**-0.8**
PRGZ				S	**Sn**	**00 39 58.9**	**-0.6**
SNGZ	**Shannon Statio**	**6.82**	**210**	P	**Pn**	**00 38 45.5**	**+0.2**
SNGZ				S	**Sn**	**00 40 02.5**	**+0.8**
MUGZ	**Murupara**	**6.82**	**214**	P	**Pn**	**00 38 45.4**	**+0.2**
MUGZ				S	**Sn**	**00 40 00.3**	**-1.5**
KNZ	**Kokohu**	**6.89**	**207**	P	**Pn**	**00 38 44.6**	**-1.6**
KNZ				S	**Sn**	**00 40 02.1**	**-1.4**
RAHZ	**Arahi**	**7.04**	**210**	P	**Pn**	**00 38 49.0**	**+0.8**
RAHZ				S	**Sn**	**00 40 06.5**	**-0.7**
MTHZ	**Maungataniwha**	**7.09**	**212**	P	**Pn**	**00 38 49.9**	**+0.8**
MTHZ				S	**Sn**	**00 40 08.6**	**+0.1**
HATZ	**Hinemaiaia**	**7.47**	**215**	P	**Pn**	**00 38 57.8**	**+3.6**
HIZ	**Hauiti**	**7.85**	**223**	Pn	**Pn**	**00 38 58.9**	**-0.6**
PRWZ	**Pori Road**	**8.88**	**209**	P	**Pn**	**00 39 16.4**	**+2.9**
NIUE	**Niue**	**15.72**	**31**	Pn	P	00 41 03.9	+14
DZM	**Mont Dzumac**	**17.26**	**305**	LR	LR	00 46 22.7	
	comp=Z,188nm,20.1s,baz=248,slow=32						
LIFNC	**LIFOU**	**17.62**	**310**	Pn	**Pn**	**00 41 09.4**	**-1.2**
LIFNC				IAmb	IAmb	00 41 23.6	
	comp=Z,121nm,1.0s						
CAN	**Canberra**	**27.07**	**256**	P	**P**	**00 42 46.1**	**-1.1**
CAN				IAmb	IAmb	00 43 01.3	
	comp=Z,19nm,1.5s						
TOO	**Toolangi**	**29.77**	**251**	P	**P**	**00 43 08.3**	**-2.9**
TOO				IAmb	IAmb	00 43 23.3	
	comp=Z,21nm,1.5s						
STKA	**Stephens Creek**	**33.69**	**261**	LR	LR	00 56 19.2	
	comp=Z,117nm,18.4s,baz=28,slow=34						
COEN	**Coen**	**39.74**	**289**		**P**	**00 44 39.0**	**+1.7**
XMAS	**Kiritimati**	**40.00**	**34**	P	P	00 44 55.0	+16
AS31	**Alice Springs**	**42.73**	**270**	P	**P**	**00 45 02.6**	**+0.7**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**00 45 02.4**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=109,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**00 45 02.0**	**+0.1**
WR0	**Warramunga Arr**	**43.77**	**275**	P	**P**	**00 45 10.9**	**+0.6**
WR0				IAmb	IAmb	00 45 30.5	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**00 45 12.5**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=116,slow=7.5,SNR=37						
QSPA	**South Pole Qui**	**57.20**	**180**	P	P	00 47 01.8	+11
QSPA				IAmb	IAmb	00 47 16.8	
	comp=Z,11nm,1.3s						
ASAJ	**Asahikawa**	**84.53**	**333**	LR	LR	01 18 27.2	
	comp=Z,22nm,21.3s,baz=26,slow=29						
FINES	**FINESS Array B**	**147.38**	**338**	PKPbc	**PKPbc**	**00 56 48.3**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=46,slow=4.0,SNR=16						
NB2	**NORSAR Subarra**	**151.18**	**350**	PKP	**PKPbc**	**00 56 58.0**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**151.18**	**350**	PKPbc	**PKPbc**	**00 56 57.5**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=14,slow=4.1,SNR=5.3						

*MDD **10** 00:49:20.4±0.4, 35.°71N×3.°63W, h0km, mb_Lg2.6/10, Error ellipse: s-maj=3.4km s-min=2.7km az=13.0*

*CNRM **10** 00:49:20.9, 35.°75N×3.°54W, h21km, ml2.5*

*SFS **10** 00:49:21.0, 35.°69N×3.°63W, ML2.6, ALBORAN SUR*

ISC 10 00:49:19.6±1.2**, 35.°74N**±0.°02×**3.°60W**±0.°03**, h6km**±10km**, n25,** σ**0.s99**/50**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.50**	**67**	Pg	**Pb**	**00 49 31.5**	**+0.7**
EALB				Sg	**Sb**	**00 49 38.2**	**-0.2**
EALB				*i* Vmb_Lg		00 49 41.6	
PALE	**Palemas**	**0.59**	**208**	P	**Pb**	**00 49 33.0**	**+0.5**
PALE				S	**Sb**	**00 49 41.3**	**+0.2**
EMEL	**Melilla**	**0.69**	**130**	Pg	**Pb**	**00 49 34.0**	**0.0**
EMEL				Sg	**Sg**	**00 49 42.9**	**+1.2**
GOG	**Mont Gurugu**	**0.72**	**136**	P	**Pb**	**00 49 34.5**	**-0.1**
GOG				S	**Sg**	**00 49 44.1**	**+1.4**
ELGU	**Los Guajares,**	**1.12**	**359**	Pg	**Pg**	**00 49 41.2**	**+0.1**
ELGU				Sg	**Sb**	**00 49 56.8**	**+0.3**
ELGU				*i* Vmb_Lg		00 50 01.4	
EMAL	**Malaga-Limoner**	**1.22**	**327**	P	**Pg**	**00 49 42.3**	**-0.7**
EMAL				S	**Sg**	**00 49 59.5**	**+0.7**
EMIJ	**Mijas**	**1.25**	**311**	Pg	**Pg**	**00 49 42.5**	**-1.1**
EMIJ				Sg	**Sg**	**00 49 59.7**	**-0.3**
EMIJ				*i* Vmb_Lg		00 50 00.6	
TAF	**Taforalt**	**1.34**	**133**	P	**Pn**	**00 49 44.1**	**-0.9**
TAF				S	**Sg**	**00 50 01.0**	**-1.8**
EGOR	**Sierra Gorda,**	**1.43**	**343**	Pn	**Pn**	**00 49 45.8**	**-0.4**
EGOR				Sn	**Sb**	**00 50 05.2**	**0.0**
EGOR				*i* Vmb_Lg		00 50 22.0	
SMIR	**Smir Dam**	**1.45**	**268**	P	**Pn**	**00 49 45.8**	**-0.6**
SMIR				S	**Sb**	**00 50 04.0**	**-1.8**
EQUE	**Quentar**	**1.47**	**5**	Sn	**Sb**	**00 50 06.6**	**+0.3**
CHEFC	**Chefchaouen**	**1.56**	**246**	P	**Pn**	**00 49 48.3**	**+0.4**
CHEFC				S	**Sn**	**00 50 08.8**	**+0.3**
ENIJ	**Nijar**	**1.66**	**42**	Pn	**Pn**	**00 49 49.6**	**+0.2**
ENIJ				Sn	**Sn**	**00 50 10.5**	**-0.6**
ENIJ				*i* Vmb_Lg		00 50 48.0	
EJIF	**Jimena Fronter**	**1.67**	**296**	Pn	**Pn**	**00 49 49.4**	**-0.1**
EJIF				Sn	**Sn**	**00 50 09.6**	**-1.6**
ESPR	**Espera**	**2.14**	**302**	Pn	**Pn**	**00 49 55.8**	**-0.1**
ESPR				Sn	**Sn**	**00 50 22.4**	**-0.4**
ESPR				*i* Vmb_Lg		00 50 42.2	
LCRM	**LCR**	**2.30**	**207**	P	**Pn**	**00 49 59.2**	**+1.0**
LCRM				S	**Sb**	**00 50 30.2**	**-0.1**
EADA	**Adamuz**	**2.54**	**342**	Pn	**Pn**	**00 50 02.2**	**+0.7**
EADA				*i* Vmb_Lg	**Sn**	**00 50 32.2**	**-0.6**
EADA				Sn	**Sn**	**00 50 32.2**	**-0.6**
IFR	**Ifrane**	**2.55**	**210**	P	**Pn**	**00 50 02.6**	**+0.9**
IFR				S	**Sn**	**00 50 30.8**	**-2.5**
ECAB	**El Cabril**	**2.75**	**328**	Pn	**Pn**	**00 50 05.1**	**+0.8**
ECAB				Sn	**Sn**	**00 50 37.5**	**-0.3**
ECAB				*i* Vmb_Lg		00 50 51.9	
TDRA	**Tendrara**	**2.99**	**154**	P	**Pn**	**00 50 07.8**	**-0.1**
TDRA				S	**Sn**	**00 50 42.3**	**-1.8**
MD31	**MD31**	**3.02**	**199**	P	**Pn**	**00 50 08.5**	**+0.4**
MD31				S	**Sn**	**00 50 45.6**	**+0.8**
MDT	**Midelt**	**3.04**	**196**	P	**Pn**	**00 50 09.8**	**+1.4**
MDT				S	**Sn**	**00 50 47.9**	**+2.7**
EMIN	**Mina Concepcio**	**3.19**	**310**	Pn	**Pn**	**00 50 10.1**	**-0.3**
EMIN				*i* Vmb_Lg		00 50 38.1	
EMIN				Sn	**Sn**	**00 50 48.7**	**0.0**
PVAQ	**Vaqueiros**	**3.71**	**298**	P	**Pn**	**00 50 18.9**	**+1.4**
PVAQ				S	**Sn**	**00 51 02.7**	**+1.3**
PAB	**San Pablo**	**3.84**	**351**	Pn	**Pn**	**00 50 20.1**	**+0.7**
PAB				Sn	**Sn**	**00 51 05.3**	**+0.3**

*KRNET **10** 00:51:11.4±0.1, 41.°81N×79.°71E, h20km, mb2.0*

*SOME **10** 00:51:12.2, 41.°93N×79.°70E, h5km*

*NNC **10** 00:51:12.8±0.8, 41.°92N×79.°74E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=5.5km s-min=3.8km az=152.0*

ISC 10 00:51:10.5±2.1**, 41.°85N**±0.°07×**79.°74E**±0.°05**, h4km**±13km**, n36,** σ**1.s09**/62**, 8C-2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.32**	**351**	*e*P	**Pg**	**00 51 36.7**	**+0.8**
	1.8nm,0.1s						
SHLS				*e*S	**Sn**	**00 51 54.4**	**+0.3**
	4.9nm,0.2s						
SHLS	**Shalkode**	**1.32**	**351**	P	**Pg**	**00 51 36.7**	**+0.8**
	1.8nm,0.1s						
SHLS				S	**Sn**	**00 51 54.4**	**+0.3**
	4.9nm,0.2s						
UZB	**Uzynbulak**	**1.40**	**338**	*e*P	**Pg**	**00 51 38.1**	**+0.7**
	2.7nm,0.2s						
UZB				*e*S	**Sg**	**00 51 56.3**	**+0.8**
	2.9nm,0.3s						
UZB	**Uzynbulak**	**1.40**	**338**	P	**Pg**	**00 51 38.1**	**+0.7**
	2.7nm,0.2s						
UZB				S	**Sg**	**00 51 56.3**	**+0.8**
	2.9nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.45**	**266**	⇑*i*P	**Pn**	**00 51 38.5**	**+0.6**
	baz=67						
TARG				⇑*i*S	**Sg**	**00 51 58.2**	**+1.1**
	baz=67						
PDGK	**Podgornoye**	**1.49**	**353**	P	**Pg**	**00 51 39.0**	**-0.1**
	0.6nm,0.2s						
PDGK				S	**Sg**	**00 51 58.3**	**-0.2**
	1.2nm,0.2s						
PDGK	**Podgornoye**	**1.49**	**353**	⇑P	**Pb**	**00 51 38.5**	**-0.3**
	0.4nm,0.3s						
PDGK				⇑S	**Sg**	**00 51 58.9**	**+0.5**
	1.5nm,0.3s						
SATY	**Saty**	**1.56**	**321**	*e*P	**Pg**	**00 51 40.8**	**+0.4**
	0.6nm,0.1s						
SATY				*e*S	**Sg**	**00 52 01.4**	**+0.7**
	3.3nm,0.1s						
SATY	**Saty**	**1.56**	**321**	P	**Pg**	**00 51 40.8**	**+0.4**
	0.6nm,0.1s						
SATY				S	**Sg**	**00 52 01.4**	**+0.7**
	3.3nm,0.1s						
KTMS	**Ketmen**	**1.66**	**16**	*e*P	**Pb**	**00 51 41.7**	**0.0**
	1.2nm,0.2s						
KTMS				*e*S	**Sg**	**00 52 03.2**	**-0.7**
	2.0nm,0.3s						
KTMS	**Ketmen**	**1.66**	**16**	P	**Pb**	**00 51 41.7**	**0.0**
	1.2nm,0.2s						
KTMS				S	**Sg**	**00 52 03.5**	**-0.4**
	2.0nm,0.3s						
KPKS	**Kokpek**	**1.79**	**335**	*e*P	**Pg**	**00 51 45.0**	**+0.1**
	1.3nm,0.1s						
KPKS				*e*S	**Sg**	**00 52 08.4**	**+0.3**
	4.0nm,0.2s						
ANVS	**Anan'yevo**	**1.80**	**302**	⇓*e*P	**Pg**	**00 51 45.0**	**+0.1**
	baz=3.0						
ANVS				⇓*i*S	**Sg**	**00 52 09.5**	**+1.3**
	baz=3.0						
KDJ	**Kajisay**	**1.93**	**279**	⇑*i*P	**Pb**	**00 51 46.7**	**+0.4**
	baz=80						
KDJ				⇑*i*S	**Sg**	**00 52 12.4**	**0.0**
	baz=80						
KURS	**Kuram**	**2.00**	**325**	*e*P	**Pg**	**00 51 48.8**	**-0.1**
	0.7nm,0.2s						
KURS				*e*S	**Sg**	**00 52 15.0**	**0.0**
	2.2nm,0.4s						
KURS	**Kuram**	**2.00**	**325**	Pg	**Pg**	**00 51 48.8**	**-0.1**
	0.7nm,0.2s						
KURS				Lg	Lg	00 52 15.0	
	2.2nm,0.4s						
MDOK	**Medeo**	**2.38**	**304**	*e*P	**Pg**	**00 51 55.7**	**-0.5**
	1.3nm,0.4s						
MDOK				*e*S	**Sg**	**00 52 26.8**	**-0.3**
	4.9nm,0.5s						
MDOK	**Medeo**	**2.38**	**304**	Pg	**Pg**	**00 51 55.7**	**-0.5**
	1.3nm,0.4s						
MDOK				Lg	Lg	00 52 26.8	
	4.9nm,0.5s						
TNSS	**Tian-Shan**	**2.38**	**301**	*e*P	**Pg**	**00 51 56.1**	**0.0**
	0.7nm,0.2s						
TNSS				*e*S	**Sg**	**00 52 27.0**	**0.0**
	1.6nm,0.2s						
TNSS	**Tian-Shan**	**2.38**	**301**	Pg	**Pg**	**00 51 56.1**	**0.0**
	0.7nm,0.2s						
TNSS				Lg	Lg	00 52 27.0	
	1.6nm,0.2s						
KOTS	**Kotyrbulak**	**2.38**	**306**	*e*P	**Pg**	**00 51 56.2**	**0.0**
	1.6nm,0.2s						
KOTS				*e*S	**Sg**	**00 52 27.5**	**+0.5**
	4.3nm,0.4s						
KOTS	**Kotyrbulak**	**2.38**	**306**	Pg	**Pg**	**00 51 56.2**	**0.0**
	1.6nm,0.2s						
KOTS				Lg	Lg	00 52 27.5	
	4.3nm,0.4s						
BLB	**Baldybastay**	**2.43**	**338**	*e*P	**Pg**	**00 51 56.2**	**-0.9**
	1.7nm,0.1s						
BLB				*e*S	**Sg**	**00 52 27.8**	**-0.8**
	3.8nm,0.2s						
BLB	**Baldybastay**	**2.43**	**338**	Pg	**Pg**	**00 51 56.2**	**-0.9**
	1.7nm,0.1s						
BLB				Lg	Lg	00 52 27.8	
	3.8nm,0.2s						
DJR	**Jarkent**	**2.48**	**1**	*e*P	**Pb**	**00 51 56.8**	**+1.0**
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**00 52 28.6**	**-1.6**
	4.8nm,0.2s						
DJR	**Jarkent**	**2.48**	**1**	Pg	**Pb**	**00 51 56.8**	**+1.0**
	0.6nm,0.1s						
DJR				Lg	Lg	00 52 28.6	
	4.8nm,0.2s						
ARXS	**Arharly**	**2.75**	**330**	*e*P	**Pg**	**00 52 01.9**	**-1.2**
	0.2nm,0.2s						
ARXS				*e*S	**Sg**	**00 52 37.9**	**-0.9**
	1.5nm,0.2s						
ARXS	**Arharly**	**2.75**	**330**	Pg	**Pg**	**00 52 01.9**	**-1.2**
	0.2nm,0.2s						
ARXS				Lg	Lg	00 52 38.1	
	1.5nm,0.2s						
CHKK	**Chushkaly**	**2.85**	**316**	*e*P	**Pg**	**00 52 03.8**	**-1.3**
	0.8nm,0.1s						
CHKK				*e*S	**Sg**	**00 52 40.5**	**-1.4**
	4.4nm,0.3s						
BOOM	**Boomskoye usch**	**2.89**	**284**	⇑*i*P	**Pb**	**00 52 00.6**	**-2.2**
	baz=85						
BOOM				⇑*e*S	**Sb**	**00 52 36.7**	**-1.9**
	baz=85						
KTBS	**Karatobe**	**2.92**	**311**	*e*P	**Pb**	**00 52 04.9**	**+1.7**
	0.5nm,0.2s						
KTBS				*e*S	**Sg**	**00 52 42.7**	**-1.6**
	3.5nm,0.3s						
KTBS	**Karatobe**	**2.92**	**311**	Pg	**Pb**	**00 52 04.9**	**+1.7**
	0.5nm,0.2s						
KTBS				Lg	Lg	00 52 43.3	
	3.5nm,0.3s						
KUU	**Kurty**	**3.23**	**310**	*e*P	**Pb**	**00 52 09.9**	**+1.6**
	0.6nm,0.1s						
KUU				*e*S	**Sg**	**00 52 51.2**	**-2.9**
	1.4nm,0.6s						
KUU	**Kurty**	**3.23**	**310**	Pg	**Pb**	**00 52 10.0**	**+1.6**
	0.6nm,0.1s						
KUU				Lg	Lg	00 52 51.2	
	1.4nm,0.6s						
KRBS	**Karabastau**	**3.51**	**303**	*e*P	**Pb**	**00 52 15.5**	**+2.2**
	0.6nm,0.1s						
KRBS				*e*S	**Sg**	**00 53 01.1**	**-2.3**
	2.1nm,0.3s						
KRBS	**Karabastau**	**3.51**	**303**	Pg	**Pb**	**00 52 15.5**	**+2.2**
	0.6nm,0.1s						
KRBS				Lg	Lg	00 53 01.1	
	2.1nm,0.3s						

PRE 10 01:18:20.4±0.9**, 31.°37S×21.°36E, h5km, ML3.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRAN	**Grantham**	**1.16**	**144**	*e*P	Pb	01 18 42.9	-0.1
GRAN				*e*S	Sb	01 18 58.5	+0.2
GRAN				IAML		01 19 02.4	
	comp=Z,3µm,0.2s						
CVNA	**Calvinia**	**1.37**	**265**	*e*P	Pb	01 18 46.5	-0.1
CVNA				*e*S	Sn	01 19 05.2	+0.3
CVNA				IAML		01 19 16.5	
	comp=Z,475nm,0.4s						
MATJ	**Matjiesfontein**	**2.00**	**199**	*e*P	Pn	01 18 55.5	+0.5
MATJ				*e*S	Sb	01 19 21.8	-0.9
MATJ				IAML		01 19 22.0	
	comp=Z,2µm,0.4s						
KEIM	**Keimoes**	**2.68**	**353**	*e*P	Pn	01 19 04.8	+0.6
KEIM				*e*S	Sn	01 19 36.9	-0.2
KEIM				IAML		01 19 58.9	
	comp=Z,272nm,1.0s						
AUGR	**Augrabies**	**2.90**	**342**	*e*P	Pn	01 19 07.4	0.0
AUGR				*e*S	Sn	01 19 43.8	+1.1
AUGR				IAML		01 19 54.4	
	comp=Z,578nm,0.6s						
UPI	**Upington**	**3.00**	**358**	*e*P	Pn	01 19 10.3	+1.6
UPI				*e*S	Sn	01 19 45.6	+0.6
UPI				IAML		01 20 08.6	
	comp=Z,120nm,0.4s						
ELIM	**Elim**	**3.49**	**202**	*e*P	Pn	01 19 16.1	+0.7
ELIM				*e*S	Sn	01 19 56.7	-0.5
ELIM				IAML		01 20 07.5	
	comp=Z,533nm,0.3s						
ARMS	**Ukamas**	**3.60**	**337**	*i* P	Pn	01 19 14.8	-2.2
KOMG	**Komaggas**	**3.69**	**294**	*e*P	Pn	01 19 19.1	+1.0
KOMG				*e*S	Sn	01 20 02.3	+0.2
KOMG				IAML		01 20 16.7	
	comp=Z,125nm,0.7s						
ROSN	**Rosenhof**	**3.82**	**136**	*e*P	Pn	01 19 21.6	+1.7
ROSN				*e*S	Sn	01 20 04.7	-0.6
ROSN				IAML		01 20 24.2	
	comp=Z,5µm,0.3s						
KROM	**Kromhout**	**3.90**	**136**	*e*P	Pn	01 19 22.0	+1.0
KROM				*e*S	Sn	01 20 06.7	-0.5
KROM				IAML		01 20 27.8	
	comp=Z,2µm,0.9s						
BOSA	**Boshof**	**4.35**	**52**	*e*P	Pn	01 19 28.1	+0.8
BOSA				*e*S	Sn	01 20 17.5	-1.1
BOSA				IAML		01 20 49.4	
	comp=Z,297nm,0.3s						
SWZ	**Schweizer**	**5.42**	**41**	*e*P	Pn	01 19 43.3	+1.2
SWZ				*e*S	Sn	01 20 43.6	-1.4
SWZ				IAML		01 21 13.8	
	comp=Z,224nm,0.5s						
SNKL	**Senekal, Frees**	**6.37**	**63**	*e*P	Pn	01 19 56.4	+1.4
SNKL				*e*S	Sn	01 21 06.0	-2.2
SNKL				IAML		01 21 15.6	
	comp=Z,85nm,0.4s						
AUSN	**Aus**	**6.47**	**315**	*i* P	Pn	01 20 01.3	+4.8
PRYS	**Parys**	**6.86**	**51**	*e*P	Pn	01 20 03.0	+1.1
PRYS				*e*S	Sn	01 21 18.0	-2.4
PRYS				IAML		01 22 00.3	
	comp=Z,90nm,0.4s						
KSR	**Koster**	**7.34**	**43**	*e*P	Pn	01 20 09.4	+1.0
KSR				*e*S	Sn	01 21 28.8	-3.5
KSR				IAML		01 22 21.5	
	comp=Z,271nm,0.4s						
LBTB	**Lobatse**	**7.35**	**32**	*e*P	Pn	01 20 09.0	+0.5
LBTB				*e*S	Sn	01 21 29.1	-3.3
LBTB				IAML		01 22 19.9	
	comp=Z,83nm,0.4s						
WIN	**Windhoek**	**9.55**	**336**	*i* P	Pn	01 20 48.7	+10
POGA	**Pongola**	**9.88**	**69**	*e*P	Pn	01 20 44.9	+1.8
POGA				*e*S	Sn	01 22 28.9	-5.5
POGA				IAML		01 23 38.5	
	comp=Z,56nm,1.0s						
MSNA	**Messina**	**11.85**	**43**	*e*P	Pn	01 21 10.7	+0.5
MSNA				*e*S	Sn	01 23 14.6	-8.2
MSNA				IAML		01 24 30.3	
	comp=Z,43nm,0.8s						
MOPA	**Mopani**	**11.85**	**51**	*e*P	Pn	01 21 11.4	+1.3
MOPA				*e*S	Sn	01 23 16.2	-6.6
MOPA				IAML		01 24 46.1	
	comp=Z,31nm,0.6s						

RSNC 10 01:22:50.8±0.7**, 6.°81N×73.°15W, h144km**±3km**, ML3.0, Mw3.5, 1C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**187**	⇓*i*P	Pn	01 23 10.4	-0.3
BARC				*e*S	Sn	01 23 25.4	-0.4
BARC				*i*		01 23 27.0	
	comp=Z,196nm,0.5s						
PAMC	**Pamplona, Colo**	**0.69**	**41**	⇓*e*P	Pn	01 23 13.3	+0.1
PAMC				*e*S	Sn	01 23 30.2	0.0
PAMC				*i*		01 23 32.6	
	comp=Z,298nm,0.5s						
RUSC	**La Rusia**	**0.92**	**176**	*e*P	Pn	01 23 14.4	-0.5
RUSC				*e*S	Sn	01 23 32.9	-0.3
RUSC				*i*		01 23 34.3	
	comp=Z,179nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P	Pn	01 23 16.9	-1.1
PTBC				*e*S	Sn	01 23 38.2	-0.7
PTBC				*i*		01 23 40.7	
	comp=Z,82nm,0.4s						
TAMC	**Tame, Arauca**	**1.40**	**105**	⇓*i*P	Pn	01 23 18.8	-0.1
TAMC				*e*S	Sn	01 23 39.7	-0.7
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	01 23 18.7	-0.7
OCAC				*e*S	Sn	01 23 40.5	-0.6
OCAC				*i*		01 23 45.2	
	comp=Z,232nm,0.5s						
SPBC	**San Pablo de B**	**1.47**	**218**	*e*P	Pn	01 23 19.3	-0.4
SPBC				*e*S	Sn	01 23 41.7	-0.1
SPBC				*i*		01 23 43.2	
	comp=Z,190nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	Pn	01 23 23.0	-0.5
ZARC				*e*S	Sn	01 23 48.5	0.0
ZARC				*i*		01 23 54.2	
	comp=Z,64nm,0.3s						
NORC	**Norcasia**	**2.11**	**234**	*e*P	Pn	01 23 26.4	-0.5
NORC				*e*S	Sn	01 23 53.7	-1.0
NORC				*i*		01 24 00.1	
	comp=Z,102nm,0.2s						
CHIC	**Chingaza**	**2.24**	**195**	*e*P	Pn	01 23 28.3	-0.6
CHIC				*e*S	Sn	01 23 57.9	-0.3
CHIC				*i*		01 24 07.9	
	comp=Z,54nm,0.4s						
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	01 23 31.9	+0.7
HELC				*e*S	Sn	01 24 01.7	-0.6
HELC				*i*		01 24 09.3	
	comp=Z,51nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P	Pn	01 23 34.5	-0.2
GUY2C				*e*S	Sn	01 24 08.7	+0.2
GUY2C				*i*		01 24 16.6	
	comp=Z,59nm,0.3s						
VILC	**Villavicencio,**	**2.73**	**191**	*e*P	Pn	01 23 34.1	-0.6
VILC				*e*S	Sn	01 24 08.6	-0.1
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P	Pn	01 23 33.4	-1.9
PTGC				*e*S	Sn	01 24 06.9	-2.7
PTGC				*i*		01 24 11.8	
	comp=Z,63nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P	Pn	01 23 37.9	-0.1
CBOC				*e*S	Sn	01 24 15.0	+0.6
CBOC				*i*		01 24 18.5	
	comp=Z,15nm,0.4s						
DBBC	**Dabeiba**	**3.04**	**274**	*i* P	Pn	01 23 38.0	-0.5
DBBC				*e*S	Sn	01 24 13.3	-2.1
DBBC				*i*		01 24 18.1	
	comp=Z,130nm,0.7s						
MOTC	**Monteria, Cord**	**3.16**	**308**	*e*P	Pn	01 23 37.4	-2.7
MOTC				*e*S	Sn	01 24 14.1	-4.1
MOTC				*i*		01 24 17.9	
	comp=Z,18nm,0.2s						
ANIL	**Santa Ana**	**3.21**	**224**	*e*P	Pn	01 23 41.8	+0.9
ANIL				*e*S	Sn	01 24 20.9	+1.1
ANIL				*i*		01 24 29.7	
	comp=Z,93nm,0.3s						
ORTC	**Ortega, Tolima**	**3.56**	**216**	*e*P	Pn	01 23 44.6	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORTC				eS	Sn	01 24 26.8	-0.6
ORTC				i		01 24 34.3	
	comp=Z,33nm,0.5s						
PLMC	San Jos del P	3.64	239	⇑eP	Pn	01 23 46.1	-0.2
PLMC				eS	Sn	01 24 29.0	-0.4
PLMC				i		01 24 32.1	
	comp=Z,17nm,0.2s						
SJCC	San Jacinto, C	3.66	327	eP	Pn	01 23 44.7	-1.9
SJCC				eS	Sn	01 24 26.0	-3.8
SJCC				i		01 24 30.2	
	comp=Z,18nm,0.6s						
CRJC	Cerrejon, Guaj	4.19	4	eP	Pn	01 23 50.8	-2.8
CRJC				eS	Sn	01 24 38.4	-3.8
CRJC				i		01 24 44.1	
	comp=Z,19nm,0.1s						
MACC	Macarena, Meta	4.69	189	i P	Pn	01 23 57.5	-2.5
MACC				i		01 23 57.9	
	comp=Z,29nm,0.4s						
MACC				eS	Sn	01 24 49.7	-4.3

NNC 10 01:28:05.4±3.9, 54.°09N×86.°42E, h0km, mb3.7, mpv3.1, 5C-5D, Error ellipse: s-maj=32.9km s-min=18.6km az=17.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.96	262	⇓P	Pg	01 28 22.8	-0.9
	1.8nm,0.5s						
ZAA0				⇓S	Sb	01 28 37.8	-0.2
	44nm,1.0s						
KURK	Kurchatov	5.85	238	⇓Pn	Pn	01 29 35.1	+1.8
	1.5nm,0.5s						
KURK				⇑Sn	Sn	01 30 39.0	-2.0
	0.9nm,0.5s						
KURK				⇑Lg	Lg	01 31 12.7	
	7.5nm,0.7s						
KURBB	Kurchatov Arra	5.95	237	⇑Pn	Pn	01 29 35.6	+0.9
	3.3nm,0.7s						
KURBB				⇑Sn	Sn	01 30 44.4	+0.9
	5.4nm,0.7s						
KURBB				⇓Lg	Lg	01 31 17.9	
	13nm,0.7s						
MK31	Makanchi Array	7.77	201	Pn	Pn	01 30 02.2	+2.6
	1.2nm,0.7s,baz=27,slow=13,SNR=13						
MK31				⇓Sn	Sn	01 31 29.2	+1.0
	0.7nm,0.6s,baz=24,slow=26,SNR=6.4						
MK31				⇑Lg	Lg	01 32 11.2	
	13nm,1.1s,baz=28,slow=33,SNR=10						

THE 10 01:31:58.3, 35.°38N×23.°58E, h13km±1km, ML2.5/4, Error ellipse: s-maj=2.2km s-min=0.6km az=138.0
ATH 10 01:31:59.1, 35.°44N×23.°60E, h12km±4km, ML2.4/4, Error ellipse: s-maj=4.8km s-min=1.0km az=41.0
ISC 10 01:31:58.3±1.1, 35.°39N±0.°04×23.°57E±0.°04, h12km±9km, n14, σ0.s47/25, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.18	148	P	Pg	01 32 01.8	-0.5
KNDR				S	Sg	01 32 04.6	-0.4
	3μm,0.2s						
RODP	Rodopos	0.23	41	P	Pg	01 32 03.6	+0.4
RODP				S	Sg	01 32 07.0	+0.4
IMMV	Iera Moni Meta	0.34	77	P	Pg	01 32 05.0	-0.2
IMMV				S	Sg	01 32 10.3	+0.5
IMMV				AML	AML	01 32 11.4	
	comp=E,1950μm,0.2s						
IMMV				AML	AML	01 32 12.5	
	comp=N,2349μm,0.3s						
IMMV	Iera Moni Meta	0.34	77	P	Pg	01 32 05.1	-0.2
IMMV				S	Sg	01 32 10.2	+0.3
	comp=N,1μm,0.2s						
VAM	Vamos	0.52	87	P	Pg	01 32 08.0	-0.4
VAM				S	Sg	01 32 15.5	+0.3
VAM				AML	AML	01 32 18.1	
	comp=E,1252μm,0.3s						
VAM				AML	AML	01 32 18.8	
	comp=N,1888μm,0.2s						
VAM	Vamos	0.52	87	P	Pg	01 32 08.0	-0.4
VAM				S	Sb	01 32 15.8	-1.0
	comp=N,772nm,0.3s						
ANKY	Antikythira Is	0.53	336	P	Pg	01 32 08.1	-0.5
ANKY				S	Sg	01 32 15.5	-0.1
ANKY				AML	AML	01 32 17.3	
	comp=E,1013μm,0.8s						
ANKY				AML	AML	01 32 18.3	
	comp=N,736μm,0.4s						
ANKY	Antikythira Is	0.53	336	P	Pg	01 32 08.7	+0.1
GVD	Gavdhos	0.69	142	P	Pb	01 32 13.3	+0.9
GVD				S	Sb	01 32 22.4	+0.6
GVD				AML	AML	01 32 25.5	
	comp=N,698μm,0.3s						
GVD				AML	AML	01 32 26.9	
	comp=E,704μm,0.2s						
KTHA	Kythira Island	0.96	335	P	Pg	01 32 16.5	-0.4
KTHA				S	Sb	01 32 29.5	-0.2
KTHA	Kythira Island	0.96	335	P	Pg	01 32 16.9	0.0
KTHA				S	Sb	01 32 29.6	-0.1
KTHR	Kythira	0.99	332	P	Pg	01 32 17.1	-0.2
KTHR				S	Sb	01 32 30.3	-0.1
	comp=E,148nm,0.4s						
IDI	Anoyia	1.08	95	P	Pb	01 32 18.5	-0.6
NPS	Neapolis	1.68	94	P	Pb	01 32 29.4	+0.3

IDC 10 01:37:47.5±1.3, 50.°91S×139.°63E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/29, mbtmp3.9/5, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/45, Error ellipse: s-maj=43.8km s-min=24.8km az=77.0
NEIC 10 01:37:49.9±1.1, 50.°84S±0.°07×139.°8E±0.°2, h10km±1km, mb4.6/9, Error ellipse: s-maj=24.1km s-min=7.6km az=243.0
ISC 10 01:37:48.9±0.8, 50.°82S±0.°10×139.°6E±0.°2, h11km, n30, σ1.s25/19, mb4.5/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	9.49	37	Pn	Pn	01 40 04.5	-0.9
STKA	Stephens Creek	18.98	5	P	Pn	01 42 11.2	+0.2
	0.1nm,0.3s,baz=170,slow=11,SNR=1.9						
STKA	Stephens Creek	18.98	5	P	Pn	01 42 11.0	+0.1
RPZ	Rata Peaks	22.35	84	P	P	01 42 47.2	+0.5
	13nm,0.9s,baz=221,slow=11,SNR=2.1						
RPZ	Rata Peaks	22.35	84	P	P	01 42 47.1	+0.5
H01W1	Cape Leeuwin H	24.37	301	T	T	02 08 09.2	
	baz=138,slow=76,SNR=464						
H01W2	Cape Leeuwin H	24.37	301	T	T	02 08 09.8	
	baz=138,slow=76,SNR=506						
H01W3	Cape Leeuwin H	24.38	301	T	T	02 08 09.5	
	baz=138,slow=76,SNR=510						
ASAR	Alice Springs	27.46	349	P	P	01 43 36.0	+1.0
	0.2nm,0.3s,baz=169,slow=10,SNR=1.9						
VNDA	Vanda	28.08	170	P	P	01 43 38.9	-1.1
	1.1nm,0.8s,baz=315,slow=8.6,SNR=2.6						
VNDA	Vanda	28.08	170	P	P	01 43 40.3	+0.3
WR0	Warramunga Arr	31.05	351	P	P	01 44 08.0	+1.1
WR0				IAmb	IAmb	01 44 12.4	
	comp=Z,13nm,1.9s						
WB2	Warramunga Arr	31.09	350	P	P	01 44 08.0	+0.9
WB2				IAmb	IAmb	01 44 19.1	
	comp=Z,24nm,1.9s						
WRA	Warramunga Arr	31.09	350	P	P	01 44 08.1	+0.9
	comp=Z,0.7nm,0.5s,baz=177,slow=7.9,SNR=20						
WRAB	Tennant Creek	31.10	350	P	P	01 44 08.1	+0.8
WRAB				IAmb	IAmb	01 44 11.3	
	comp=Z,10nm,1.6s						
WB0	Warramunga Arr	31.26	350	P	P	01 44 10.1	+1.5
WB0				IAmb	IAmb	01 44 12.4	
	comp=Z,9.1nm,1.5s						
PSA00	Pilbara Seismi	33.05	325	P	P	01 44 24.1	-0.3
FITZ	Fitzroy Crossi	34.50	336	LR	LR	01 56 58.7	
	comp=Z,52nm,21.1s,baz=174,slow=33						
QSPA	South Pole Qui	39.30	180	P	P	01 45 18.8	+1.2
QSPA				IAmb	IAmb	01 45 33.7	
	comp=Z,29nm,2.0s						
MAW	Mawson	39.68	216	LR	LR	01 58 48.9	
	comp=Z,98nm,18.5s,baz=67,slow=32						
H08S2	Diego Garcia H	69.73	283	T	T	03 04 44.6	
	baz=142,slow=76,SNR=29						
H08S1	Diego Carcia H	69.75	283	T	T	03 04 42.5	
	baz=142,slow=76,SNR=23						
H08S3	Diego Garcia H	69.75	283	T	T	03 04 45.2	
	baz=142,slow=76,SNR=29						
H03S2	Juan Fernandez	89.11	149	T	T	03 30 20.4	
	baz=201						
H03S1	Juan Fernandez	89.11	149	T	T	03 30 22.9	
	baz=201						
H03S3	Juan Fernandez	89.12	149	T	T	03 30 22.3	
	baz=201						
ARCES	ARCESS Array B	144.57	326	PKP	PKPdf	01 57 25.2	+1.2
	comp=Z,2.3nm,0.7s,baz=76,slow=3.8,SNR=4.4						
ARCES	ARCESS Array B	144.57	326		PKPdf	01 57 24.0	+0.1
ESDC	Sonseca Array	152.33	260	PKPbc	PKiKP	01 57 44.8	+0.1
	comp=Z,0.8nm,0.8s,baz=99,slow=2.6,SNR=2.7						
ESDC	Sonseca Array	152.33	260		PKPbc	01 57 40.8	-3.6

ECX 10 01:45:12.6±0.4, 32.°23N×115.°26W, h14km±2km, MD2.3, ML2.5
MEX 10 01:45:14.6±0.5, 32.°39N×115.°10W, h34km±7km, MD3.6
ISC 10 01:45:13.7±1.0, 32.°28N±0.°04×115.°23W±0.°03, h29km±6km, n18, σ0.s76/30, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.13	10	eP	Pb	01 45 18.9	-0.2
MBIG				eS	Sb	01 45 23.0	+0.2
CPBX	Cerro Prieto	0.16	335	eP	Pb	01 45 18.6	-0.8
CPBX				eS	Sb	01 45 23.1	0.0
CPBX				⇑e		01 45 26.1	
CPBX				IAML		01 45 26.1	
	comp=E,2μm,0.4s						
CPBX				⇑e		01 45 26.4	
CPBX				IAML		01 45 26.4	
	comp=N,2μm,0.2s						
CTLX	Tlaxcala, TLX	0.21	19	i P	Pn	01 45 19.9	-0.9
CTLX				i S	Sb	01 45 25.4	+1.4
RITX	Riito Sonora	0.25	116	⇑i P	Pb	01 45 19.8	-0.5
RITX				i S	Sb	01 45 24.6	-0.2
YUCAX	Ej. Yucat¡n	0.35	18	eS	Sn	01 45 29.2	+0.4
UABX	UABC, Campus M	0.40	333	⇑e	Pn	01 45 31.4	+7.8
UABX				IAML		01 45 31.4	
	comp=N,494nm,0.2s						
UABX				IAML		01 45 31.4	
	comp=E,704nm,0.2s						
UABX				⇑e		01 45 31.4	
EMSC	East Mesa	0.51	24	eP	Pn	01 45 25.1	+0.2
EMSC				i S	Sn	01 45 33.5	+0.9
YMD	Yuma Desert	0.64	64	eP	Pn	01 45 26.3	-0.4
WESC	Westside Schoo	0.65	319	eP	Pb	01 45 26.6	+0.2
YUH2	Yuha Desert	0.70	302	⇓eP	Pb	01 45 26.8	-0.5
YUH2				eS	Sb	01 45 37.1	+0.5
RMX	La Rumorosa	0.79	295	eP	Pb	01 45 27.8	-1.2
RMX				eS	Sb	01 45 37.5	-2.0
RMX				IAML		01 45 38.3	
	comp=E,157nm,0.3s						
RMX				⇓e		01 45 38.3	
IKP	In-Ko-Pah, Jac	0.84	297	eP	Pb	01 45 29.4	-0.3
IKP				eS	Sb	01 45 40.6	-0.1
GLA	Glamis	0.84	23	eP	Pn	01 45 29.8	+0.1
CBX	Cerro Bola	1.22	272	eP	Pn	01 45 34.9	0.0
CBX				eS	Sn	01 45 49.8	-0.7
CBX	Cerro Bola	1.22	272	eP	Pn	01 45 35.3	+0.4
CBX				eS	Sn	01 45 50.9	+0.4
TJIG	Tijuana	1.24	278	eP	Pn	01 45 35.4	+0.4
TJIG				i S	Sn	01 45 50.9	+0.1
SPIG	San Pedro Mart	1.24	190	eP	Pn	01 45 36.0	+0.6
SPIG				eS	Sn	01 45 51.5	+0.2
BAR	Barrett	1.29	289	eP	Pn	01 45 36.6	+0.9
BAR				eS	Sn	01 45 53.5	+1.4

IDC 10 01:48:19.9±1.8, 9.°77S×126.°48E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.1/47, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=109.9km s-min=26.7km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.64	144	Pn	Pn	01 51 19.0	-2.1
	0.1nm,0.3s,baz=319,slow=13,SNR=6.1						
WRA				Sn	Sn	01 53 43.5	+0.7
	0.1nm,0.3s,baz=320,slow=29,SNR=1.4						
ASAR	Alice Springs	15.53	154	Pn	Pn	01 52 01.4	+1.0
	0.1nm,0.3s,baz=336,slow=11,SNR=6.4						
STKA	Stephens Creek	26.08	150	P	P	01 53 56.0	+0.7
	1.2nm,0.8s,baz=326,slow=3.6,SNR=2.9						
MKAR	Makanchi Array	68.71	329	P	P	01 59 25.3	-0.1
	0.1nm,0.5s,baz=130,slow=4.3,SNR=1.5						

IDC 10 01:53:03.8±1.0, 8.°56N×70.°94W, h43km±14km, mb3.0/3, mb1 3.5/4, mb1mx3.2/28, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=52.4km s-min=14.4km az=127.0
ISC 10 01:52:58.5±1.9, 8.°61N±0.°03×71.°25W±0.°04, h0km±13km, n23, σ1.s50/37, mb3.5/3, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.67	66	P	Pn	01 53 15.3	-0.1
	12nm,0.3s,baz=278,slow=6.0,SNR=66						
SDV				S	Sn	01 53 27.0	+0.3
	25nm,0.3s,baz=100,slow=23,SNR=11						
SDV	Santo Domingo	0.67	66	eP	Pn	01 53 15.4	-0.1
SDV				eS	Sn	01 53 26.7	+0.1
PAMC	Pamplona, Colo	1.91	229	eP	Pb	01 53 33.9	-0.6
PAMC				eS	Sb	01 53 58.5	-0.6
PAMC				i		01 54 01.6	
	comp=Z,182nm,0.3s						
OCAC	Ocana	2.08	260	eP	Pn	01 53 34.5	-0.3
OCAC				eS	Sn	01 54 00.1	-1.4
OCAC				i		01 54 03.4	
	comp=Z,753nm,0.3s						
TAMC	Tame, Arauca	2.23	194	eP	Pb	01 53 38.0	-1.6
TAMC				eS	Sb	01 54 07.5	-0.3
TAMC				i		01 54 19.0	
	comp=Z,178nm,0.3s						
BARC	Barichara	2.77	224	eP	Pn	01 53 46.3	+2.0
BARC				eS	Sb	01 54 22.4	-1.2
CRJC	Cerrejon, Guaj	2.88	326	eP	Pn	01 53 47.5	+1.8
CRJC				eS	Sn	01 54 22.5	+1.2
URIC	Uribia, Colomb	3.16	347	eP	Pb	01 53 56.1	+0.6
URIC				eS	Sn	01 54 27.4	-0.4
RUSC	La Rusia	3.25	214	eP	Pn	01 53 52.2	+0.9
ZARC	Zaragoza, Cauc	3.74	253	eP	Pn	01 53 57.5	0.0
SMRC	Santa Marta, M	3.88	311	eP	Pn	01 53 59.8	+0.4
SMRC				eS	Sn	01 54 41.5	-4.2
SPBC	San Pablo de B	4.06	224	eP	Pn	01 54 02.6	+0.6
SPBC				eS	Sn	01 54 51.0	+0.8
SJCC	San Jacinto, C	4.08	289	eP	Pn	01 54 02.5	+0.3
SJCC				eS	Sn	01 54 51.7	+0.8
UREC	San Jos de Ur	4.32	259	eP	Pn	01 54 05.9	+0.4
MOTC	Monteria, Cord	4.37	273	eP	Pn	01 54 06.3	+0.2
MOTC				eS	Sn	01 54 58.1	+0.4
PTGC	Puerto Gaitan,	4.47	191	eP	Pg	01 54 24.3	+0.1
CHIC	Chingaza	4.66	212	eP	Pn	01 54 11.2	+0.7
CHIC				eS	Sn	01 55 03.0	-2.5
ROSC	El Rosal	4.83	219	P	Pn	01 54 15.7	+2.9
	comp=Z,3.4nm,0.3s,baz=106,slow=17,SNR=4.8						
ROSC				S	Sn	01 55 14.2	+4.5
	comp=Z,2.4nm,0.3s,baz=14,slow=24,SNR=1.8						
PDAR	Pinedale Array	47.77	322	P	P	02 01 38.5	+0.7
	comp=Z,0.2nm,0.5s,baz=125,slow=8.9,SNR=3.7						
YKA	Yellowknife Ar	62.25	339	P	P	02 03 22.0	+0.1
	comp=Z,0.2nm,0.6s,baz=126,slow=7.3,SNR=4.5						
ILAR	Eielson Array	76.14	335	P	P	02 04 48.3	+0.3
	comp=Z,0.1nm,0.5s,baz=95,slow=4.5,SNR=1.8						
ASAR	Alice Springs	151.65	235	PKPbc	PKPbc	02 12 54.5	-1.3
	comp=Z,0.4nm,0.8s,baz=111,slow=1.7,SNR=2.7						
WRA	Warramunga Arr	152.81	243	PKPbc	PKPbc	02 12 57.6	-0.8
	comp=Z,0.2nm,0.3s,baz=104,slow=2.7,SNR=10						

IDC 10 01:56:23.5±10.0, 13.°63S×166.°73E, h234km±96km, mb3.2/3, mb1 3.4/4, mb1mx3.1/39, mbtmp3.9/4, Error ellipse: s-maj=99.9km s-min=59.6km az=177.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.40	182	P	Pn	01 58 21.8	-0.1
	0.1nm,0.3s,baz=336,slow=20,SNR=1.7						
STKA	Stephens Creek	29.32	228	P	P	02 02 04.7	0.0
	1.0nm,0.4s,baz=43,slow=8.3,SNR=3.5						
WRA	Warramunga Arr	31.61	254	P	P	02 02 25.0	+0.1
	0.4nm,0.6s,baz=85,slow=9.7,SNR=12						
ASAR	Alice Springs	32.59	247	P	P	02 02 33.2	-0.2
	0.8nm,0.5s,baz=74,slow=9.4,SNR=13						
NOA	NORSAR Array B	129.44	345	PKP	PKPdf	02 15 03.5	-0.5
	0.5nm,0.9s,baz=16,slow=2.9,SNR=3.4						

KRSC 10 01:56:40.8±0.5, 54.°15N×160.°81E, h71km±9km, ML4.5
MOS 10 01:56:41.3±0.5, 54.°12N×160.°86E, h78km, mb4.2/1, Error ellipse: s-maj=11.2km s-min=4.2km az=74.5
IDC 10 01:56:42.1±2.3, 54.°32N×160.°20E, h79km±27km, mb3.1/10, mb1 3.4/10, mb1mx3.3/44, mbtmp3.4/10, Error ellipse: s-maj=30.6km s-min=19.2km az=160.0
ISC 10 01:56:41.8±0.8, 54.°15N±0.°03×160.°75E±0.°04, h75km±7km, n97, σ1.s36/126, mb3.4/10, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.70	55	PN	Pn	01 56 57.2	+0.2
MKZ				S	Sn	01 57 08.7	+0.4
MKZ	Mys Kozlova	0.70	55	eP	Pn	01 56 57.2	+0.2
MKZ				eS	Sn	01 57 08.7	+0.4
KII	Karymskiy	0.77	262	PN	Pn	01 56 57.9	0.0
KII	Karymskiy	0.77	262	eP	Pn	01 56 57.9	0.0
TUMD	Tumrok D	1.07	349	eP	Pn	01 57 01.0	-0.4
TUMD				eS	Sn	01 57 15.3	-0.8
SPN	Mys Shipunski	1.14	202	PN	Pn	01 57 02.5	+0.2
SPN				S	Sn	01 57 18.4	+0.8
SPN	Mys Shipunski	1.14	202	eP	Pn	01 57 02.5	+0.2
SPN				eS	Sn	01 57 18.4	+0.8
TUMR	Tumrok	1.19	343	PN	Pn	01 57 03.2	+0.3
TUMR				S	Sn	01 57 19.1	+0.3
TUMR	Tumrok	1.19	343	eP	Pn	01 57 03.2	+0.3
TUMR				eS	Sn	01 57 19.1	+0.3
NLC	Nalytchevo	1.29	221	PN	Pn	01 57 04.8	+0.7
NLC				S	Sn	01 57 22.2	+1.3
NLC	Nalytchevo	1.29	221	eP	Pn	01 57 04.8	+0.7
NLC				eS	Sn	01 57 22.2	+1.3
SDLR	Sedlovina	1.41	232	PN	Pn	01 57 06.6	+0.7
SDLR				S	Sn	01 57 25.3	+1.3
SDLR	Sedlovina	1.41	232	eP	Pn	01 57 06.6	+0.7
SDLR				eS	Sn	01 57 25.3	+1.3
KRER	Koryakskii	1.46	235	PN	Pn	01 57 07.6	+1.0
KRER				S	Sn	01 57 26.8	+1.6
KRER	Koryakskii	1.46	235	eP	Pn	01 57 07.6	+1.0
KRER				eS	Sn	01 57 26.8	+1.6
SMAR	Somma	1.46	233	PN	Pn	01 57 07.3	+0.7
SMAR				S	Sn	01 57 26.3	+1.1
SMAR	Somma	1.46	233	eP	Pn	01 57 07.3	+0.7
SMAR				eS	Sn	01 57 26.3	+1.1
UGLR	Uglovaya	1.48	231	PN	Pn	01 57 07.7	+0.9
UGLR				S	Sn	01 57 26.9	+1.3
UGLR	Uglovaya	1.48	231	eP	Pn	01 57 07.7	+0.9
UGLR				eS	Sn	01 57 26.9	+1.3
AVH	Avacha	1.49	234	PN	Pn	01 57 07.9	+1.1
AVH				S	Sn	01 57 27.6	+1.9
AVH	Avacha	1.49	234	eP	Pn	01 57 07.9	+1.1
AVH				eS	Sn	01 57 27.6	+1.9
KOK	Koryaka	1.52	236	PN	Pn	01 57 08.2	+0.9
KOK	Koryaka	1.52	236	eP	Pn	01 57 08.2	+0.9
KMNR	Kamenistaya	1.63	350	PN	Pn	01 57 09.5	+0.8
KMNR	Kamenistaya	1.63	350	eP	Pn	01 57 09.5	+0.8
DALK	Dalny	1.64	227	PN	Pn	01 57 09.4	+0.8
DALK				S	Sn	01 57 29.9	+0.9
DALK	Dalny	1.64	227	eP	Pn	01 57 09.4	+0.8
DALK				eS	Sn	01 57 29.9	+0.9
PET	Petropavlovsk	1.69	229	⇓i PN	Pn	01 57 10.2	+1.0
PET				i S	Sn	01 57 31.4	+1.3
PET				pmax	pmax		
	comp=Z,200nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,2μm,0.4s						
PET	Petropavlovsk	1.69	229	eP	Pn	01 57 10.3	+1.0
PET				eS	Sn	01 57 31.3	+1.2
GNL	Ganaly	1.72	256	PN	Pn	01 57 10.8	+0.9
GNL	Ganaly	1.72	256	eP	Pn	01 57 10.8	+0.9
BZGR	Bezymyannyi-Gr	1.79	359	PN	Pn	01 57 11.7	+0.9
BZGR	Bezymyannyi-Gr	1.79	359	eP	Pn	01 57 11.7	+0.9
KIRR	Kirishev	1.82	353	PN	Pn	01 57 12.1	+0.9
KIRR	Kirishev	1.82	353	eP	Pn	01 57 12.1	+0.9
BZWR	Bezymyannyi-We	1.82	356	PN	Pn	01 57 12.4	+1.1
BZWR	Bezymyannyi-We	1.82	356	eP	Pn	01 57 12.4	+1.1
KPT	Kopyto	1.84	351	PN	Pn	01 57 12.3	+0.8
KPT	Kopyto	1.84	351	eP	Pn	01 57 12.3	+0.8
ZLN	Zelenaya	1.87	1	PN	Pn	01 57 13.1	+1.3
ZLN				S	Sn	01 57 37.0	+2.3
ZLN	Zelenaya	1.87	1	eP	Pn	01 57 13.1	+1.3
ZLN				eS	Sn	01 57 37.0	+2.3
LGNR	Loginova	1.94	359	PN	Pn	01 57 14.6	+1.7
LGNR				S	Sn	01 57 39.4	+2.9
LGNR	Loginova	1.94	359	eP	Pn	01 57 14.6	+1.7
LGNR				eS	Sn	01 57 39.4	+2.9
CIRR	Tsirk	1.97	0	PN	Pn	01 57 14.5	+1.3
CIRR	Tsirk	1.97	0	eP	Pn	01 57 14.5	+1.3
KRMR	Karymshinskiy	2.05	231	PN	Pn	01 57 15.6	+1.5
KRMR				S	Sn	01 57 41.3	+2.5
KRMR	Karymshinskiy	2.05	231	eP	Pn	01 57 15.6	+1.5
KRMR				eS	Sn	01 57 41.3	+2.5
KRSR	Krestovskiy	2.07	357	PN	Pn	01 57 15.5	+1.0
KRSR	Krestovskiy	2.07	357	eP	Pn	01 57 15.5	+1.0
PEA0B	Petropavlovsk-	2.10	241	i PN	Pn	01 57 15.4	+0.6
PETK	Petropavlovsk-	2.10	241	P	Pn	01 57 14.6	-0.2
	comp=E,4.9nm,0.3s,baz=67,slow=17,SNR=57						
PETK				S	Sn	01 57 36.0	-3.9
	comp=E,23nm,0.3s,baz=74,slow=15,SNR=4.9						
ESO	Esso	2.13	327	PN	Pn	01 57 16.9	+1.6
ESO	Esso	2.13	327	eP	Pn	01 57 16.9	+1.6
KLY	Klyuchi	2.17	359	PN	Pn	01 57 16.7	+1.0
KLY				S	Sn	01 57 43.1	+1.5
KLY	Klyuchi	2.17	359	eP	Pn	01 57 16.7	+1.0
KLY				eS	Sn	01 57 43.1	+1.5
RUS	Russkaya	2.18	219	PN	Pn	01 57 16.7	+0.8
RUS				S	Sn	01 57 42.9	+0.9
RUS	Russkaya	2.18	219	eP	Pn	01 57 16.7	+0.8
RUS				eS	Sn	01 57 42.9	+0.9
GRL	Gorelyy	2.27	226	PN	Pn	01 57 18.8	+1.6
GRL	Gorelyy	2.27	226	eP	Pn	01 57 18.8	+1.6
MTVR	Mutnovka	2.27	224	PN	Pn	01 57 18.6	+1.3
MTVR	Mutnovka	2.27	224	eP	Pn	01 57 18.6	+1.3
KBTR	Krutoberegovo	2.38	29	PN	Pn	01 57 18.8	+0.3
KBTR	Krutoberegovo	2.38	29	eP	Pn	01 57 18.8	+0.3
KBG	Krutoberegovo	2.39	27	PN	Pn	01 57 18.9	+0.3
KBG	Krutoberegovo	2.39	27	eP	Pn	01 57 18.9	+0.3
BDR	Baidarnaya	2.44	6	PN	Pn	01 57 20.6	+1.2
BDR	Baidarnaya	2.44	6	eP	Pn	01 57 20.6	+1.2
SMKR	Semkarok	2.47	9	PN	Pn	01 57 20.9	+1.0
SMKR	Semkarok	2.47	9	eP	Pn	01 57 20.9	+1.0
APC	Apacha	2.47	242	PN	Pn	01 57 21.3	+1.5
APC	Apacha	2.47	242	eP	Pn	01 57 21.3	+1.5
SRKR	Sorokina	2.52	5	PN	Pn	01 57 21.6	+1.1
SRKR	Sorokina	2.52	5	eP	Pn	01 57 21.6	+1.1
KDTR	Khodutka, Kamc	2.85	216	PN	Pn	01 57 26.3	+1.4
KDTR	Khodutka, Kamc	2.85	216	eP	Pn	01 57 26.3	+1.4
BKI	Bering	3.21	69	PN	Pn	01 57 30.0	+0.2
BKI	Bering	3.21	69	eP	Pn	01 57 30.0	+0.2
PAU	Pauzhetka	3.60	223	PN	Pn	01 57 39.9	+4.8
PAU	Pauzhetka	3.60	223	eP	Pn	01 57 39.9	+4.8
OSSR	Ossora	5.27	13	PN	Pn	01 58 00.6	+2.8
OSSR	Ossora	5.27	13	eP	Pn	01 58 00.6	+2.8
YSS	Yuzh-Sakhalins	13.49	245	i P	Pn	01 59 49.5	-0.3
BILL	Bilibino	14.18	9	⇓eP	Pn	01 59 55.9	-2.7
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL				MLR	MLR		
	comp=Z,35nm,14.0s						
ILAR	Eielson Array	27.80	47	P	P	02 02 23.0	-0.3
	comp=Z,0.5nm,0.7s,baz=266,slow=8.1,SNR=7.1						
ILAR	Eielson Array	27.80	47	eP	P	02 02 23.3	0.0
H11N2	WAKE ISLAND Hy	34.68	170	T	T	02 40 39.0	
	baz=354,slow=76,SNR=39						
H11N3	WAKE ISLAND Hy	34.70	170	T	T	02 40 42.3	
	baz=354,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	34.70	170	T	T	02 40 52.5	
	baz=354,slow=76,SNR=46						
YKA	Yellowknife Ar	42.12	44	P	P	02 04 26.7	+0.7
	comp=Z,0.3nm,0.6s,baz=298,slow=8.0,SNR=7.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	48.05	295	P	P	02 05 09.5	-3.7
	comp=Z,0.1nm,0.5s,baz=86,slow=12,SNR=2.5						
NVAR	Mina Array Bea	55.02	71	P	P	02 06 07.0	+1.4
	comp=Z,0.2nm,0.5s,baz=294,slow=6.8,SNR=2.3						
PDAR	Pinedale Array	56.67	62	P	P	02 06 19.4	+2.1
	comp=Z,0.2nm,0.5s,baz=325,slow=1.8,SNR=2.2						
FINES	FINESS Array B	59.30	337	P	P	02 06 34.8	-0.2
	comp=Z,0.6nm,0.8s,baz=0.0,slow=8.3,SNR=1.5						
NOA	NORSAR Array B	62.63	344	P	P	02 06 56.1	-1.6
	comp=Z,0.5nm,0.8s,baz=21,slow=6.2,SNR=1.9						
AKASG	Malin Array Be	67.90	329	P	P	02 07 28.9	-2.9
	comp=Z,0.2nm,0.3s,baz=29,slow=7.1,SNR=1.8						
TXAR	Lajitas Array	69.87	68	P	P	02 07 45.9	+1.4
	comp=Z,0.1nm,0.4s,baz=293,slow=5.4,SNR=4.6						
WRA	Warramunga Arr	77.21	205	P	P	02 08 27.6	+0.3
	comp=Z,0.2nm,0.3s,baz=20,slow=6.1,SNR=2.4						

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*NEIC **10** 01:58:14.3±1.3, 9°.9S±0°.2×154°.7E±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=31.8km s-min=17.7km az=187.0*

*IDC **10** 01:58:30.5±5.6, 10°.04S×154°.11E, h128km±46km, mb3.4/8, mb1 3.7/9, mb1mx3.5/36, mbtmp3.8/9, MS3.5/13, Ms1 3.5/13, ms1mx3.3/32, Error ellipse: s-maj=42.6km s-min=23.3km az=100.0*

ISC 10 01:58:17.1±1.0**, 9°.9S**±0°.2×**154°.4E**±0°.2**, h18**km**, n33,** σ**1s.09**/22**, mb4.0**/14**, MS3.4**/10**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.16	273	P	Pn	02 00 09.4	+8.4
	1.2nm,0.3s,baz=84,slow=11,SNR=7.6						
PMG				LR	LR	02 02 15.4	
	comp=Z,129nm,18.1s,baz=103,slow=33						
PMG	Port Moresby	7.16	273		Pn	02 00 02.1	+1.1
CTA	Charters Tower	12.86	217	LR	LR	02 06 03.4	
	comp=Z,223nm,18.2s,baz=46,slow=36						
SANVU	Saraoutou	13.67	115	Pn	Pn	02 01 22.9	-7.4
DZM	Mont Dzumac	16.77	138	LR	LR	02 07 56.3	
	comp=Z,537nm,19.7s,baz=303,slow=34						
WR0	Warramunga Arr	21.64	240	P	P	02 03 06.6	-0.1
WR0				IAmb	IAmb	02 03 20.4	
	comp=Z,12nm,1.3s						
WB0	Warramunga Arr	21.69	241	P	P	02 03 07.2	-0.1
WB0				IAmb	IAmb	02 03 22.4	
	comp=Z,15nm,1.4s						
WRAB	Tennant Creek	21.80	240	P	P	02 03 09.3	+0.9
WRAB				IAmb	IAmb	02 03 11.6	
	comp=Z,7.1nm,0.9s						
WB2	Warramunga Arr	21.80	240	P	P	02 03 08.3	-0.1
WB2				IAmb	IAmb	02 03 11.7	
	comp=Z,5.8nm,0.9s						
WRA	Warramunga Arr	21.81	240	P	P	02 03 08.4	-0.1
	comp=Z,3.0nm,0.8s,baz=64,slow=10.0,SNR=24						
WRA				LR	LR	02 11 22.6	
	comp=Z,129nm,18.9s,baz=196,slow=36						
AS31	Alice Springs	23.91	232	P	P	02 03 29.3	-1.0
ASAR	Alice Springs	23.91	232	P	P	02 03 29.9	-0.3
	comp=Z,2.6nm,0.8s,baz=65,slow=9.6,SNR=26						
ASAR				LR	LR	02 12 46.9	
	comp=Z,92nm,18.5s,baz=127,slow=36						
SIJI	Sorong	24.68	290	LR	LR	02 13 33.9	
	comp=Z,130nm,18.8s,baz=51,slow=37						
STKA	Stephens Creek	24.93	207	P	P	02 03 39.2	-0.2
	comp=Z,4.8nm,0.6s,baz=13,slow=10,SNR=12						
STKA				LR	LR	02 13 43.6	
	comp=Z,214nm,18.2s,baz=26,slow=37						
STKA	Stephens Creek	24.93	207	P	P	02 03 39.1	-0.2
GUMO	Guam	25.13	338	LR	LR	02 12 20.3	
	comp=Z,48nm,21.5s,baz=108,slow=33						
KNRA	Kununurra	25.66	254	P	P	02 03 45.6	-0.5
FITZ	Fitzroy Crossi	29.06	250	LR	LR	02 15 37.2	
	comp=Z,76nm,18.7s,baz=92,slow=36						
KAPI	Kappang	34.68	275	LR	LR	02 20 14.9	
	comp=Z,51nm,20.5s,baz=74,slow=38						
RPZ	Rata Peaks	36.72	160	LR	LR	02 19 27.1	
	comp=Z,270nm,19.4s,baz=356,slow=34						
MJAR	Matsushiro Arr	48.59	343	LR	LR	02 25 00.6	
	comp=Z,41nm,21.8s,baz=130,slow=33						
CMAR	Chiang Mai Arr	61.52	297	P	P	02 08 33.7	+0.2
	comp=Z,1.1nm,0.4s,baz=117,slow=5.9,SNR=5.0						
CMAR	Chiang Mai Arr	61.52	297	P	P	02 08 33.0	-0.6
PETK	Petropavlovsk-	62.77	2	LR	LR	02 31 02.6	
	comp=Z,35nm,20.2s,baz=154,slow=31						
SONM	Songino Array	71.42	328	P	P	02 09 36.7	+0.2
	comp=Z,0.2nm,0.4s,baz=134,slow=7.7,SNR=3.9						
MKAR	Makanchi Array	85.15	319	P	P	02 10 52.5	+0.1
	comp=Z,0.5nm,0.9s,baz=99,slow=4.5,SNR=2.7						
MKAR	Makanchi Array	85.15	319	P	P	02 10 51.8	-0.5
WRH	Wood River Hil	85.63	22	P	P	02 10 53.8	-0.4
WRH				IAmb	IAmb	02 10 55.0	
	comp=Z,4.9nm,1.4s						
GLB	Gilahina Butte	85.71	25	P	P	02 10 53.9	-0.9
ZAA0	Zalesovo Array	86.21	326	P	P	02 10 54.7	-2.7
ZAA0				IAmb	IAmb	02 11 11.8	
	comp=Z,1.1nm,0.8s						
ZALV	Zalesovo Beam	86.21	326	P	P	02 10 55.1	-2.3
ILAR	Eielson Array	86.23	22	P	P	02 10 58.1	+0.9
	comp=Z,0.1nm,0.5s,baz=238,slow=5.2,SNR=1.5						
NVAR	Mina Array Bea	93.94	52	P	P	02 11 36.5	+2.1
	comp=Z,0.1nm,0.3s,baz=261,slow=3.5,SNR=2.0						

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*IDC **10** 02:11:26.7±1.5, 56°.44S×27°.80W, h0km, mb4.7/1, mb1 4.7/1, mb1mx3.4/20, mbtmp4.7/1, Error ellipse: s-maj=93.2km s-min=64.0km az=133.0*

ISC 10 02:11:29.3±1.2**, 55°.2S**±0°.3×**26°.6W**±0°.8**, h10**km**, n13,** σ**0s.65**/9**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	17.68	162	P	P	02 15 35.8	-0.4
VNA2	Neumayer--Watz	17.86	159	P	P	02 15 38.5	+0.4
	baz=317,slow=12						
SNAA	Sanae	19.39	157	P	P	02 15 55.1	+0.1
H10N1	ASCENSION HYDR	48.23	16	T	T	03 12 01.3	
	baz=192,slow=75,SNR=2.9						
H10N3	ASCENSION HYDR	48.23	16	T	T	03 12 01.3	
	baz=192,slow=75,SNR=8.2						
H10N2	ASCENSION HYDR	48.24	16	T	T	03 12 01.3	
	baz=192,slow=75,SNR=7.3						
TORD	Torodi Ar. Bea	72.17	29	P	P	02 23 01.6	+7.5
	4.1nm,0.5s,baz=202,slow=6.5,SNR=51						
FINES	FINESS Array B	123.50	27	PKP	PKiKP	02 30 25.9	+0.5
	1.3nm,1.0s,baz=155,slow=5.5,SNR=4.8						
ARCES	ARCESS Array B	130.05	21	PKP	PKPdf	02 30 37.7	+0.2
	1.8nm,0.8s,baz=229,slow=0.8,SNR=4.3						
YKA	Yellowknife Ar	135.75	318	PKP	PKPdf	02 30 48.6	+0.1
	0.3nm,0.5s,baz=107,slow=1.8,SNR=1.5						
KURBB	Kurchatov Arra	136.66	64	PKP	PKPdf	02 30 49.2	-1.3
	0.1nm,0.3s,baz=230,slow=1.6,SNR=2.6						
ILAR	Eielson Array	149.78	313	PKPbc	PKPbc	02 31 17.9	0.0
	2.1nm,0.8s,baz=117,slow=2.0,SNR=8.7						
SONM	Songino Array	150.35	85	PKPbc	PKiKP	02 31 21.2	+0.5
	2.0nm,0.5s,baz=222,slow=3.6,SNR=18						

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*BGR **10** 02:16:18.5±0.0, 19°.83S×170°.82E, h200km*

*BJI **10** 02:16:20.2±0.0, 18°.89S×169°.76E, h216km, mb4.9/55, mB5.0/35*

*NEIC **10** 02:16:23.4±1.4, 18°.98S±0°.05×169°.31E±0°.08, h215km±4km, mb5.1/303, Error ellipse: s-maj=11.1km s-min=7.3km az=82.0*

*IDC **10** 02:16:24.1±0.8, 19°.02S×169°.28E, h228km±6km, mb4.7/26, mb1 4.8/29, mb1mx4.6/42, mbtmp5.3/29, Error ellipse: s-maj=7.9km s-min=7.4km az=149.0*

*MOS **10** 02:16:25.4±1.0, 19°.02S×169°.21E, h250km, mb5.2/34, MS4.3/4, Error ellipse: s-maj=8.7km s-min=7.7km az=112.8*

*NOU **10** 02:16:25.2, 19°.00S×169°.20E, h225km, mb5.2/80, Vanuatu Islands*

*GCMT **10** 02:16:26.4±0.2, 19°.01S±0°.02×169°.16E±0°.01, h233km±1km, MW5.2/116, Moment Tensor Solution. s80,c112; s116,c163; Duration: 1s.0 Moment tensor: Scale 10^{16} Nm; M_{rr}4.43±.17; $M_{\theta\theta}$0.72±.19; $M_{\phi\phi}$-5.16±.17; $M_{r\theta}$4.06±.15; $M_{\theta\phi}$-3.43±.17; $M_{\phi r}$-4.87±.15; Best double couple: $M_0$8.52700×10^{16} NP1:ϕ_s54.00000°, δ41.00000°, λ149.00000°. NP2:ϕ_s168.00000°, δ70.00000°, λ53.00000°. Principal axes: T 9.4630, Plg51.0000°, Azm37.0000°; N -1.8760, Plg34.0000°, Azm182.0000°; P -7.5920, Plg17.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 02:16:24.2±0.5**, 19°.02S**±0°.04×**169°.30E**±0°.04**, h230**km±3km**, n956,** σ**1s.26**/891**, mb5.1**/217**, 128C-108D, Fault plane solution: NP1:**ϕ_s177.89546°, δ81.48051°, λ68.27512°. **NP2:**ϕ_s67.50012°, δ23.26015°, λ157.96695°. **Principal axes:** T Plg48.9720°, Azm64.3968°; N Plg21.4732°, Azm181.2737°; P Plg33.0164°, Azm286.0838°; **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.47	325	P	Pn	02 17 00.7	+0.2
DVP	Devils Point	1.66	320	P	Pn	02 17 02.0	0.0
LIFNC	LIFOU	2.61	228	Pn	Pn	02 17 10.2	-1.0
LIFNC				Sn	S	02 17 46.1	-2.0
LIFNC	LIFOU	2.61	228	P	Pn	02 17 10.3	-1.0
MARNC	Mare, Loyalty	2.73	206		Pn	02 17 10.9	-1.6
MARNC				Sn	S	02 17 47.6	-2.8
MARNC	Mare, Loyalty	2.73	206	P	Pn	02 17 11.7	-0.8
YATNC	Mamie plateau,	3.78	216	P	Pn	02 17 23.1	-1.4
PINNC	Pines Island,	3.98	206		Pn	02 17 25.3	-1.6
PINNC	Pines Island,	3.98	206	P	Pn	02 17 26.7	-0.1
DZM	Mont Dzumac	4.05	221	P	Pn	02 17 27.9	+0.1
	45nm,0.3s,baz=161,slow=21,SNR=234						
DZM				S	S	02 18 17.3	-0.8
	baz=309,slow=23,SNR=0.8						
DZM	Mont Dzumac	4.05	221	*e*Pn	Pn	02 17 28.0	+0.1
	3μm,1.5s						
DZM	Mont Dzumac	4.05	221	Pn	Pn	02 17 27.2	-0.6
DZM	Mont Dzumac	4.05	221	P	Pn	02 17 28.1	+0.3
SANVU	Saraoutou	4.08	330	Pn	Pn	02 17 27.3	-0.8
SANVU	Saraoutou	4.08	330	P	Pn	02 17 27.9	-0.2
OUENC	Ouen Island, N	4.09	214	Pn	Pn	02 17 27.8	-0.4
OUENC	Ouen Island, N	4.09	214	P	Pn	02 17 28.4	+0.1
NOUC	Port Laguerre	4.16	222	P	Pn	02 17 29.6	+0.5
ONTNC	Ouen Toro	4.22	219	Pn	Pn	02 17 29.8	-0.1
ONTNC	Ouen Toro	4.22	219	P	Pn	02 17 30.4	+0.6
KOUNC	Koumac, New Ca	4.96	251	P	Pn	02 17 40.4	+1.5
MSVF	Nonsavu	8.40	83	P	Pn	02 18 24.5	+1.8
	4.1nm,0.3s,baz=259,slow=11,SNR=46						
MSVF				S	S	02 19 58.0	0.0
	baz=148,slow=20,SNR=1.0						
MSVF	Nonsavu	8.40	83 *d*	*i*P	Pn	02 18 25.7	+2.9
MSVF	Nonsavu	8.40	83	Pn	Pn	02 18 22.1	-0.6
MSVF	Nonsavu	8.40	83	P	Pn	02 18 25.7	+2.9
NFK	Norfolk Island	10.06	187	P	Pn	02 18 45.8	+2.1
HNR	Honiara	13.15	315	P	Pn	02 19 23.6	+1.0
	12nm,0.3s,baz=167,slow=5.2,SNR=35						
HNR				S	S	02 21 47.5	-0.8
	10nm,0.3s,baz=188,slow=15,SNR=1.1						
HNR	Honiara	13.15	315		Pn	02 19 23.2	+0.5
HNR	Honiara	13.15	315	P	Pn	02 19 23.7	+1.0
	1μm,1.0s						
FUNA	Funafuti	14.17	44	P	Pn	02 19 35.0	-0.2
LHI	Lord Howe Isla	15.50	215	P	Pn	02 19 52.6	+1.4
	baz=16,SNR=4.8						
OUZ	Omahuta	16.58	168		P	02 20 02.8	+0.3
OUZ				IAmb	IAmb	02 20 07.8	
	comp=Z,61nm,1.1s						
EIDS	Eidsvold	18.01	246	P	Pn	02 20 20.2	-0.6
	baz=18,SNR=42						
EIDS	Eidsvold	18.01	246	P	P	02 20 18.0	-0.2
EIDS	Eidsvold	18.01	246	P	Pn	02 20 20.3	-0.6
RK1H	Rockhampton Ha	18.07	253	P	Pn	02 20 21.0	-0.5
ARMA	Armidale	19.63	231	P	P	02 20 37.6	+1.9
	baz=20,SNR=20						
ARMA	Armidale	19.63	231	P	P	02 20 36.6	+0.8
ARMA				IAmb	IAmb	02 20 40.1	
	comp=Z,62nm,0.8s						
ARMA	Armidale	19.63	231	P	P	02 20 37.8	+2.1
HIZ	Hauiti	20.02	167	P	P	02 20 41.6	+2.0
RMQ	Roma	20.34	245	P	P	02 20 44.9	+1.7
	baz=20,SNR=39						
RMQ	Roma	20.34	245	P	P	02 20 45.0	+1.8
URZ	Urewera	20.34	162	P	P	02 20 44.8	+1.7
	comp=Z,13nm,0.6s,baz=354,slow=5.3,SNR=3.6						
URZ				S	S	02 24 19.3	+1.5
	comp=Z,11nm,0.9s,baz=300,slow=13,SNR=2.4						
URZ	Urewera	20.34	162	P	P	02 20 44.2	+1.1
TARA	Tarawa	20.55	10	P	P	02 20 45.2	-0.4
TARA	Tarawa	20.55	10	P	P	02 20 47.2	+1.6
	comp=Z,363nm,1.1s						
NTLH	Newcastle Hard	20.97	225	P	P	02 20 51.9	+2.1
	comp=Z,98nm,0.8s						
BKZ	Black Stump Fm	21.02	164	P	P	02 20 50.9	+0.5
BKZ	Black Stump Fm	21.02	164	P	P	02 20 52.8	+2.5
MGCD	Mangrove Creek	21.55	225	P	P	02 20 57.4	+1.8
	baz=22,SNR=8.4						
MGCD	Mangrove Creek	21.55	225	P	P	02 20 57.5	+1.9
CTA	Charters Tower	21.74	263	P	P	02 20 57.7	+0.1
	comp=Z,110nm,0.9s,baz=91,slow=11,SNR=57						
CTA				S	S	02 24 43.4	+1.4
	comp=Z,14nm,1.1s,baz=265,slow=14,SNR=8.6						
CTA				ScP	ScP	02 28 05.3	+1.1
	comp=Z,5.1nm,0.9s,baz=304,slow=0.2,SNR=4.5						
CTA	Charters Tower	21.74	263	P	P	02 20 57.5	-0.1
	baz=22						
CTA	Charters Tower	21.74	263	P	P	02 20 57.7	+0.1
QRZ	Quartz Range	21.91	173	P	P	02 21 01.7	+2.8
SYDH	Sydney Hard Ro	22.13	225	P	P	02 21 03.0	+2.0
	comp=Z,139nm,1.0s						
TUWZ	Tuamarina	22.69	171	P	P	02 21 06.3	+0.3
MSWZ	Moikau Station	22.90	168	P	P	02 21 08.6	+0.6
PLWZ	Palliser	23.05	169	P	P	02 21 09.7	+0.4
PMG	Port Moresby	23.47	291	P	P	02 21 13.9	+0.5
	comp=Z,188nm,0.8s,baz=91,slow=5.4,SNR=71						
PMG				S	S	02 25 09.9	+0.2
	comp=Z,3.5nm,0.3s,baz=267,slow=12,SNR=1.3						
PMG				ScP	ScP	02 28 10.2	+1.5
	comp=Z,4.3nm,0.3s,baz=79,slow=6.6,SNR=3.8						
PMG	Port Moresby	23.47	291 *d*	*i*P	P	02 21 13.9	+0.5
PMG				pmax	pmax		
	comp=Z,207nm,0.8s						
PMG	Port Moresby	23.47	291	P	P	02 21 14.0	+0.7
PMG	Port Moresby	23.47	291	P	P	02 21 14.5	+1.1
MTSU	Mount Surprise	23.70	268	P	P	02 21 16.8	+1.4
	baz=24,SNR=164						
MTSU	Mount Surprise	23.70	268	P	P	02 21 16.9	+1.4
CNB	Canberra Magne	23.97	223	P	P	02 21 19.3	+1.4
	baz=24,SNR=19						
CNB	Canberra Magne	23.97	223	P	P	02 21 19.1	+1.3
CAN	Canberra	24.21	224	P	P	02 21 20.5	+0.5
CAN				pmax	pmax		
	comp=Z,31nm,1.1s						
CAN	Canberra	24.21	224	P	P	02 21 20.5	+0.5
CAN	Canberra	24.21	224	P	P	02 21 21.0	+1.0
QLP	Quilpie	24.28	247	P	P	02 21 21.1	+0.5
	baz=24,SNR=65						
QLP	Quilpie	24.28	247	P	P	02 21 21.2	+0.5
CMSA	Cobar Meteorol	24.66	235	P	P	02 21 24.8	+0.7
	baz=25,SNR=22						
CMSA	Cobar Meteorol	24.66	235	P	P	02 21 24.7	+0.7
RPZ	Rata Peaks	24.67	177	P	P	02 21 24.8	+0.9
	comp=Z,15nm,0.9s,baz=344,slow=6.1,SNR=5.1						
RPZ	Rata Peaks	24.67	177	P	P	02 21 25.4	+1.4
RPZ				IAmb	IAmb	02 21 26.3	
	comp=Z,37nm,1.0s						
COEN	Coen	25.54	277	P	P	02 21 32.5	+0.4
COEN				IAmb	IAmb	02 21 34.0	
	comp=Z,69nm,1.0s						
COEN	Coen	25.54	277	P	P	02 21 32.6	+0.5
ODZ	Otahua Downs	25.98	178	P	P	02 21 35.9	+0.2
INKA	Innaminka	27.56	246	P	P	02 21 51.4	+1.4
	comp=Z,90nm,0.6s						
TOO	Toolangi	27.82	223	P	P	02 21 53.1	+0.8
	baz=28,SNR=4.8						
TOO	Toolangi	27.82	223	P	P	02 21 51.8	-0.5
TOO				pmax	pmax		
	comp=Z,13nm,1.1s						
TOO	Toolangi	27.82	223	P	P	02 21 51.8	-0.5
QIS	Mount Isa	27.97	262	P	P	02 21 54.0	+0.2
	baz=28,SNR=24						
QIS	Mount Isa	27.97	262	P	P	02 21 53.8	0.0
STKA	Stephens Creek	28.01	237	P	P	02 21 54.9	+0.9
	comp=Z,58nm,0.7s,baz=71,slow=8.7,SNR=121						
STKA				PcP	PcP	02 25 03.1	+0.4
	comp=Z,4.7nm,0.8s,baz=98,slow=3.7,SNR=4.4						
STKA				ScP	ScP	02 28 23.2	+1.5
	comp=Z,11nm,0.8s,baz=29,slow=3.1,SNR=12						
STKA				ScS	ScS	02 32 15.0	+0.3
	comp=Z,0.9nm,0.8s,baz=303,slow=24,SNR=1.5						
STKA				PKiKP	PKiKP	02 32 36.9	-1.6
	comp=Z,0.5nm,0.5s,baz=105,slow=1.8,SNR=2.9						
STKA	Stephens Creek	28.01	237	P	P	02 21 55.0	+1.0
	baz=28,SNR=39						
STKA	Stephens Creek	28.01	237	P	P	02 21 54.8	+0.8
STKA	Stephens Creek	28.01	237	P	P	02 21 55.0	+1.0
BRAT	Ballarat	28.84	225	P	P	02 22 03.2	+2.0
	comp=Z,14nm,1.0s						
ARPS	Mount Arapiles	29.88	228	P	P	02 22 11.3	+0.9
	baz=30,SNR=12						
ARPS	Mount Arapiles	29.88	228	P	P	02 22 11.3	+0.9
MOO	Moorlands	29.94	214	P	P	02 22 12.2	+1.4
	baz=30,SNR=3.4						
LCRK	Leigh Creek	30.34	242	P	P	02 22 15.1	+0.5
HTT	Hallett	30.67	236	P	P	02 22 18.1	+0.6
	baz=31,SNR=26						
HTT	Hallett	30.67	236	P	P	02 22 18.3	+0.8
NAPP	Napperby	31.20	237	P	P	02 22 23.0	+1.0
TWOA	Tennyson Woods	31.51	233	P	P	02 22 25.5	+0.7
	comp=Z,28nm,0.7s						
WHYH	Whyalla	31.60	237	P	P	02 22 26.7	+1.1
OOD	Oodnadatta	31.98	248	P	P	02 22 29.8	+0.9
BBOO	Buckleboo	32.75	239	P	P	02 22 36.0	+0.3
	baz=33,SNR=88						
BBOO	Buckleboo	32.75	239	P	P	02 22 35.9	+0.3
BBOO				IAmb	IAmb	02 22 36.5	
	comp=Z,48nm,0.7s						
BBOO	Buckleboo	32.75	239	P	P	02 22 36.1	+0.5
GENI	Genyem	32.85	296	P	P	02 22 37.3	+0.6
	comp=Z,5μmcomp=Z,415nm,1.1s						
GENI	Genyem	32.85	296	P	P	02 22 37.2	+0.6
WRAB	Tennant Creek	32.93	263 *ce*	P	P	02 22 36.3	-1.0
WRAB				pmax	pmax		
	comp=Z,85nm,1.0s						
WRAB	Tennant Creek	32.93	263	P	P	02 22 36.7	-0.6
WRAB				IAmb	IAmb	02 22 37.5	
	comp=Z,75nm,0.9s						
WRAB	Tennant Creek	32.93	263	P	P	02 22 36.4	-0.9
WRA	Warramunga Arr	32.94	262	P	P	02 22 36.1	-1.3
	comp=Z,21nm,0.3s,baz=81,slow=6.0,SNR=340						
WRA				PP	PP	02 23 58.6	+1.6
	comp=Z,6.8nm,0.9s,baz=89,slow=9.7,SNR=8.0						
WRA				PcP	PcP	02 25 15.9	-0.2
	comp=Z,2.5nm,0.7s,baz=75,slow=3.9,SNR=2.4						
WRA				S	S	02 27 34.6	-3.7
	comp=Z,6.2nm,0.9s,baz=91,slow=14,SNR=14						
WRA				ScP	ScP	02 28 39.3	+1.1
	comp=Z,6.9nm,1.1s,baz=91,slow=4.2,SNR=8.3						
WRA				PKiKP	PKiKP	02 32 40.4	-1.7
	comp=Z,0.9nm,0.6s,baz=46,slow=0.3,SNR=11						
AS31	Alice Springs	33.24	256	P	P	02 22 40.0	+0.1
ASAR	Alice Springs	33.24	256	P	P	02 22 39.9	-0.1
	comp=Z,190nm,0.4s,baz=83,slow=8.9,SNR=3262						
ASAR				PcP	PcP	02 25 16.1	-0.8
	comp=Z,3.8nm,0.8s,baz=93,slow=3.7,SNR=3.8						
ASAR				S	S	02 27 40.5	-2.4
	comp=Z,9.9nm,0.9s,baz=85,slow=17,SNR=17						
ASAR				ScP	ScP	02 28 40.4	+1.1
	comp=Z,6.4nm,0.8s,baz=100,slow=3.7,SNR=13						
ASAR				ScS	ScS	02 32 38.7	-2.0
	comp=Z,1.1nm,0.8s,baz=81,slow=1.2,SNR=8.4						
ASAR	Alice Springs	33.24	256	P	P	02 22 40.0	0.0
ASAR	Alice Springs	33.24	256	P	P	02 22 40.0	0.0
ASPA	Alice Springs	33.24	256	P	P	02 22 39.9	-0.1
	baz=33						
ASPA				S	S	02 27 40.4	-2.5
	baz=33						
MULG	Mulgathing	33.81	244	P	P	02 22 45.1	+0.3
SMPI	Sarmi	34.40	296	P	P	02 22 50.5	+0.5
	comp=Z,47nm,1.3s						
KDU	Kakadu	35.93	275	P	P	02 23 02.9	-0.1
	baz=36,SNR=41						
KDU	Kakadu	35.93	275	P	P	02 23 02.9	-0.1
DRS	Darwin Rock St	37.48	274	P	P	02 23 16.3	+0.2
WRKA	Warakurna	38.37	253	P	P	02 23 23.5	-0.1
	baz=38,SNR=79						
WRKA	Warakurna	38.37	253	P	P	02 23 23.5	-0.1
KNRA	Kununurra	38.78	268	P	P	02 23 26.5	-0.3
	baz=39,SNR=83						
KNRA	Kununurra	38.78	268	P	P	02 23 26.8	-0.1
KNRA	Kununurra	38.78	268	P	P	02 23 26.6	-0.3
FORT	Forrest	39.00	244	P	P	02 23 28.5	-0.1
	baz=39,SNR=21						
FORT	Forrest	39.00	244	P	P	02 23 28.7	+0.1
FORT				IAmb	IAmb	02 23 29.4	
	comp=Z,72nm,0.9s						
FORT	Forrest	39.00	244	P	P	02 23 28.5	-0.1
FAKI	Fak Fak	39.60	289	P	P	02 23 33.5	-0.2
FAKI				IAmb	IAmb	02 23 34.3	
	comp=Z,51nm,0.8s						
FAKI	Fak Fak	39.60	289	P	P	02 23 33.6	-0.2
	comp=Z,2μmcomp=Z,71nm,1.0s						
FAKI	Fak Fak	39.60	289	P	P	02 23 33.3	-0.5
FITZ	Fitzroy Crossi	41.32	264	P	P	02 23 48.0	+0.2
	comp=Z,116nm,0.8s,baz=104,slow=6.5,SNR=213						
FITZ				S	S	02 29 44.2	-0.5
	comp=Z,3.1nm,0.7s,baz=274,slow=23,SNR=6.9						
FITZ	Fitzroy Crossi	41.32	264	P	P	02 23 48.3	+0.5
SIJI	Sorong	41.41	291	P	P	02 23 48.5	0.0
	comp=Z,29nm,0.6s,baz=242,slow=21,SNR=10						
SWI	Sorong	41.42	291	P	P	02 23 48.0	-0.6
AAI	Ambon	42.94	286	P	P	02 24 00.4	-0.4
	comp=Z,60nm,0.9s						
SANI	Sanana	45.62	286	P	P	02 24 22.0	0.0
	comp=Z,33nm,1.1s						
SANI	Sanana	45.62	286	P	P	02 24 21.8	-0.2
PSA00	Pilbara Seismi	46.30	258	P	P	02 24 27.8	+0.4
PSA00				IAmb	IAmb	02 24 28.6	
	comp=Z,79nm,0.8s						
PSA00	Pilbara Seismi	46.30	258	P	P	02 24 26.8	-0.5
PSA00				IAmb	IAmb	02 24 28.6	
	comp=Z,33nm,0.8s						
PSA00	Pilbara Seismi	46.30	258	P	P	02 24 27.6	+0.3
MMRI	Maumere	46.72	276	P	P	02 24 30.4	-0.2
MMRI				IAmb	IAmb	02 24 31.4	
	comp=Z,74nm,0.8s						
MMRI	Maumere	46.72	276	P	P	02 24 30.7	+0.1
	comp=Z,4μmcomp=Z,110nm,0.7s						
MMRI	Maumere	46.72	276	P	P	02 24 30.7	+0.1
	comp=Z,110nm,0.8s						
MEEK	Meekatharra	47.08	251	P	P	02 24 33.3	0.0
	baz=47,SNR=52						
MEEK	Meekatharra	47.08	251	P	P	02 24 33.3	0.0
KLBR	Kellerberrin	47.86	244	P	P	02 24 38.8	-0.4
	baz=48,SNR=8.0						
KLBR	Kellerberrin	47.86	244	P	P	02 24 38.8	-0.4
RKGY	Rocky Gully	48.70	240	P	P	02 24 45.6	+0.1
	baz=49,SNR=14						
BLDU	Ballidu	48.73	246	P	P	02 24 45.1	-0.8
	baz=49,SNR=4.6						
BLDU	Ballidu	48.73	246	P	P	02 24 45.7	-0.2
	comp=Z,24nm,1.2s						
WBSI	Waikabubak, Su	49.10	274	P	P	02 24 49.4	+0.5
	comp=Z,1μmcomp=Z,160nm,0.9s						
BSSI	Bau Bau, Buton	49.16	278	P	P	02 24 50.3	+1.0
	comp=Z,639nmcomp=Z,20nm,1.0s						
MORW	Morawa	49.31	248	P	P	02 24 49.9	-0.3
	baz=49,SNR=10						
MORW	Morawa	49.31	248	P	P	02 24 50.0	-0.3
MORW	Morawa	49.31	248	P	P	02 24 49.9	-0.3
GTOI	Gorontalo	49.45	288	P	P	02 24 52.7	+1.2
	comp=Z,161nmcomp=Z,18nm,0.9s						
BKSI	Bulukumba	49.78	279	P	P	02 24 54.0	0.0
	comp=Z,419nmcomp=Z,46nm,0.9s						
BNSI	Bone	50.12	280	P	P	02 24 57.7	+1.2
	comp=Z,931nmcomp=Z,45nm,1.1s						
KAPI	Kappang	50.24	280	S	S	02 31 52.5	+0.5
	comp=Z,1.5nm,0.4s,baz=17,slow=23,SNR=1.5						
KAPI	Kappang	50.24	280	P	P	02 24 57.6	+0.2
KAPI				pmax	pmax		
	comp=Z,51nm,0.9s						
KAPI	Kappang	50.24	280	P	P	02 24 57.6	+0.2
KAPI				IAmb	IAmb	02 24 59.1	
	comp=Z,51nm,0.8s						
SPSI	Sidrap Palu	50.59	281	P	P	02 24 59.7	-0.4
	comp=Z,29nm,0.9s						
PLAI	Plampang	50.87	274	P	P	02 25 02.8	+0.7
	comp=Z,55nm,1.0s						
PLAI	Plampang	50.87	274	P	P	02 25 03.0	+0.9
TTSI	Tana Toraja	50.88	282	P	P	02 25 02.3	+0.1
	comp=Z,19nm,1.0s						
GIRL	Giralia	51.36	256	P	P	02 25 06.8	+1.1
	baz=51,SNR=6.0						
HMH	Humu'ula Sheep	51.63	44	P	P	02 25 08.0	0.0
TOLI2	Tolitoli	51.66	287	P	P	02 25 06.7	-1.3
TOLI2				IAmb	IAmb	02 25 08.7	
	comp=Z,36nm,0.9s						

TOLI2 Tolitoli 51.66 287 P P 02 25 08.3 +0.3
JAGI Jajag, Banyuwa 54.39 273 P P 02 25 26.6 -1.3
JAGI IAmb IAmb 02 25 28.0
comp=Z,30nm,1.0s
VNDA Vanda 58.66 182 P P 02 25 57.1 +0.2
comp=Z,2.9nm,0.5s,baz=354,slow=7.8,SNR=19
VNDA Vanda 58.66 182 P P 02 25 57.0 +0.1
SBA Scott Base 58.89 181 P P 02 26 00.0 +1.5
SBA pmax pmax
comp=Z,27nm,0.8s
SBA Scott Base 58.89 181 P P 02 25 60.0 +1.5
SBA IAmb IAmb 02 26 01.0
comp=Z,27nm,0.8s
LEM Lembang 61.06 273 P P 02 26 14.1 -0.4
comp=Z,47nm,0.6s,baz=95,slow=7.9,SNR=14
KSM Kuching 61.38 283 P P 02 26 15.4 -1.0
KSM IAmb IAmb 02 26 17.8
comp=Z,22nm,0.8s
KSM Kuching 61.38 283 P P 02 26 17.0 +0.6
comp=Z,33nm,0.9s
MJAR Matsushiro Arr 62.58 332 P P 02 26 23.5 -0.4
comp=Z,15nm,0.8s,baz=166,slow=6.5,SNR=17
MJAR Matsushiro Arr 62.58 332 P P 02 26 24.0 +0.1
MJAR pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 62.58 332 P P 02 26 24.0 +0.1
MAJO Matsushiro 62.59 332 *i* P P 02 26 23.9 0.0
MAJO pmax pmax
comp=Z,9.0nm,0.5s
MAJO Matsushiro 62.59 332 P P 02 26 24.2 +0.2
MAJO Matsushiro 62.59 332 P P 02 26 25.5 +1.6
MJB9 Matsu-Tunnel 62.59 332 P P 02 26 23.0 -1.0
JSD Sado 63.81 333 P P 02 26 32.0 +0.1
JTM Tenmabayashi 65.03 337 P P 02 26 40.1 +0.4
JTM IAmb IAmb 02 26 41.3
comp=Z,52nm,0.9s
JKA Kamikawa-asahi 67.41 339 P P 02 26 55.5 +0.7
JKA IAmb IAmb 02 26 57.7
comp=Z,64nm,1.0s
ASAJ Asahikawa 67.41 339 P P 02 26 55.5 +0.7
comp=Z,52nm,0.9s
KSRS Korea Array 68.36 326 P P 02 27 01.6 +0.9
comp=Z,2.6nm,0.8s,baz=130,slow=6.7,SNR=5.1
YSS Yuzh-Sakhalins 69.89 341⇑ *eP* P 02 27 11.8 +1.8
YSS *e**PP **pP** 02 28 07.0 +3.8
YSS *eS* **S** 02 36 00.9 +0.3
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,300nm,4.2s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 69.89 341 P P 02 27 10.8 +0.8
YSS IAmb IAmb 02 27 12.9
comp=Z,64nm,1.0s
YSS Yuzh-Sakhalins 69.89 341 P P 02 27 12.1 +2.1
comp=Z,69nm,1.0s
NJ2 Nanjing 70.09 316 *eP* P 02 27 14.7 +3.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
QSPA South Pole Qui 71.04 180 P P 02 27 17.0 +0.1
comp=Z,19nm,0.8s,baz=9.3,slow=0.7,SNR=77
QSPA South Pole Qui 71.04 180 P P 02 27 17.2 +0.3
SHEM Shemya Is, Ala 71.56 3 P P 02 27 19.2 -0.7
comp=Z,35nm,0.4s,baz=274,slow=15,SNR=1.7
USA0B Ussuriysk Arra 71.57 333 P P 02 27 20.6 +0.4
USA0B pmax pmax
comp=Z,43nm,1.2s
USA0B Ussuriysk Arra 71.57 333 P P 02 27 20.6 +0.4
USA0B IAmb IAmb 02 27 22.6
comp=Z,43nm,1.1s
USRK Ussuriysk Ar. 71.57 333 P P 02 27 20.9 +0.8
comp=Z,19nm,1.0s,baz=151,slow=4.4,SNR=21
USRK Ussuriysk Ar. 71.57 333 P P 02 27 20.7 +0.5
PET Petropavlovsk 72.33 353⇓ *iP* P 02 27 25.2 +0.7
PET pmax pmax
comp=Z,80nm,1.5s
PET Petropavlovsk 72.33 353 P P 02 27 25.4 +0.9
PET IAmb IAmb 02 27 26.9
comp=Z,37nm,0.7s
PET Petropavlovsk 72.33 353 P P 02 27 25.7 +1.2
comp=Z,287nm,1.0s
RPSI Rantau Prapat 72.41 279 P P 02 27 25.1 -0.8
PSI Prapat 72.44 279 P P 02 27 25.1 -1.1
comp=Z,8.1nm,0.8s,baz=53,slow=1.7,SNR=7.3
PEA0B Petropavlovsk- 72.52 353 *ceP* P 02 27 26.3 +0.7
PEA0B Petropavlovsk- 72.52 353 P P 02 27 25.8 +0.2
PEA0B IAmb IAmb 02 27 27.4
comp=Z,55nm,0.8s
PETK Petropavlovsk- 72.52 353 P P 02 27 26.0 +0.4
comp=Z,50nm,0.9s,baz=157,slow=8.0,SNR=49
PETK PP **PP** 02 30 09.2 -1.4
comp=Z,2.1nm,0.8s,baz=261,slow=6.8,SNR=3.8
PETK Petropavlovsk- 72.52 353 P P 02 27 26.5 +0.9
PETK Petropavlovsk- 72.52 353 P P 02 27 26.5 +0.9
MDJ Mudanjiang 72.96 331 P P 02 27 28.8 +0.4
MDJ IAmb IAmb 02 27 30.7
comp=Z,44nm,1.1s
MDJ Mudanjiang 72.96 331 P P 02 27 29.6 +1.2
MDJ pmax pmax
comp=Z,42nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.7s
TYV Tymovskoe 73.42 343 *eP* P 02 27 32.6 +1.7
TYV *eS* **S** 02 36 42.4 +1.6
TYV pmax pmax
comp=Z,27nm,1.4s
TYV pmax pmax
comp=Z,200nm,6.3s
TYV smax smax
comp=N,300nm,8.0s
TYV smax smax
comp=E,400nm,8.0s
CN2 Changchun 74.30 329 *eP* P 02 27 36.8 +0.6
CN2 pmax pmax
comp=E,40nm,0.9s
BNX BinXian 74.81 331 ⇓P P 02 27 39.5 +0.4
BNX pmax pmax
comp=E,48nm,0.8s
BNX pmax pmax
comp=E,610nm,4.1s
GRNR Gornyy 75.27 339⇑ *iP* P 02 27 43.6 +2.0
GRNR pmax pmax
comp=N,20nm,0.6s
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR MLR MLR
comp=E,60nm,16.0s
GRNR MLR MLR
comp=N,80nm,15.0s
GRNR MLR MLR
comp=Z,110nm,15.0s
UNV Unalaska Valle 75.49 15 P P 02 27 42.0 -0.7
UNV Unalaska Valle 75.49 15 P P 02 27 42.3 -0.4
baz=204,SNR=5.7
UNV Unalaska Valle 75.49 15 P P 02 27 44.0 +1.2
KLR Kul'dur 75.69 336 P P 02 27 45.2 +1.2
comp=Z,19nm,0.8s,baz=130,slow=3.0,SNR=56
KLR Kul'dur 75.69 336 *ceP* P 02 27 44.5 +0.5
KLR pmax pmax
comp=Z,20nm,0.9s
GYA Guiyang 75.74 305 ⇓P P 02 27 47.9 +2.9
GYA pmax pmax
comp=Z,13nm,0.7s
LYN LuoYang 75.86 315⇑ *iP* P 02 27 46.6 +1.3
LYN pmax pmax
comp=Z,20nm,0.8s
HNS HongShan 76.08 318 ⇑P P 02 27 47.7 +1.3
HNS pmax pmax
comp=Z,15nm,1.0s
BJT Baijiatuau 76.79 321 P P 02 27 49.9 -0.5
BJT pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 76.79 321 P P 02 27 49.9 -0.5
BJI Beijing 76.80 321 P P 02 27 51.7 +1.2
BJI PcP **PcP** 02 28 01.6 +0.9
BJI S **S** 02 37 20.2 +1.7
BJI ScS **ScS** 02 37 44.4 -0.9
BJI pmax pmax
comp=Z,19nm,0.8s
FALS False Pass 77.18 16 P P 02 27 51.5 -0.7
baz=206
XAN Xi'an 78.00 312 P P 02 27 58.3 +0.9
XAN pP pP 02 28 50.2 -1.8
XAN pmax pmax
comp=Z,30nm,1.1s
KMI Kunming 78.21 302 ⇓P P 02 28 01.1 +2.2
KMI pmax pmax
comp=Z,19nm,0.7s
SDPT Sand Point 78.40 17 P P 02 27 58.1 -0.8
baz=209
CMAR Chiang Mai Arr 78.47 294 P P 02 28 01.8 +1.7
comp=Z,4.1nm,0.7s,baz=133,slow=4.5,SNR=20
CMAR Chiang Mai Arr 78.47 294 *ceP* P 02 28 02.4 +2.2
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 78.47 294 P P 02 28 00.5 +0.3
CHTO Chiang Mai 78.61 294 P P 02 28 00.9 -0.1
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 78.61 294 P P 02 28 00.8 -0.1
CHTO Chiang Mai 78.61 294 P P 02 28 03.1 +2.1
comp=Z,4.3nm,0.7s
XLT XiLinHaoTe 79.30 324 *eP* P 02 28 05.1 +0.9
XLT pP pP 02 28 58.4 -0.4
XLT sP sP 02 29 20.2 -2.9
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,160nm,4.4s
PZH PanZhiHua 79.64 303 P P 02 28 07.2 +0.7
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,4.3s
MA2 Magadan 79.76 351 *ceP* P 02 28 06.1 -0.1
MA2 pmax pmax
comp=Z,20nm,1.4s
MA2 Magadan 79.76 351 P P 02 28 06.2 0.0
MA2 Magadan 79.76 351 P P 02 28 07.2 +1.0
comp=Z,16nm,1.6s
CHGN Chignik 79.81 18 P P 02 28 06.4 -0.1
CHGN IAmb IAmb 02 28 10.4
comp=Z,37nm,1.0s
CHGN Chignik 79.81 18 P P 02 28 05.9 -0.6
baz=211
HHC Hu-ho-hao-te 80.09 319 *eP* P 02 28 09.8 +1.2
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.0s
CD2 Chengdu 80.15 307 P P 02 28 10.1 +1.1
HIA Hailar 80.95 330 P P 02 28 13.5 +0.7
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 80.95 330 P P 02 28 13.5 +0.7
ZEA Zeya 80.98 336 *eP* P 02 28 14.2 +1.4
ZEA pmax pmax
comp=Z,30nm,0.7s
SII Sitkinak Islan 81.30 19 P P 02 28 15.1 +0.6
SII Sitkinak Islan 81.30 19 P P 02 28 14.9 +0.5
baz=215
SII Sitkinak Islan 81.30 19 P P 02 28 16.7 +2.2
comp=Z,145nm,1.0s
OHAK Old Harbor 82.13 19 P P 02 28 19.7 +1.0
OHAK Old Harbor 82.13 19 P P 02 28 19.0 +0.3
baz=215
LZH Lanzhou 82.62 312 ⇑P P 02 28 23.9 +1.8
LZH S **S** 02 38 24.3 +4.3
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,170nm,7.6s
SEY Seymchan 82.76 352 *i* P P 02 28 21.4 -0.5
KDAK Kodiak Island 82.80 19 P P 02 28 23.2 +1.0
comp=Z,72nm,0.9s,baz=262,slow=2.3,SNR=20
KDAK Kodiak Island 82.80 19 P P 02 28 23.7 +1.5
KDAK pmax pmax
comp=Z,91nm,0.9s
KDAK Kodiak Island 82.80 19 P P 02 28 23.7 +1.5
KDAK Kodiak Island 82.80 19 P P 02 28 22.9 +0.7
baz=216
Q19K Cape Douglas, 83.41 18 P P 02 28 26.4 +1.0
Q19K Cape Douglas, 83.41 18 P P 02 28 25.5 +0.2
baz=215
GAMB Gambell 83.84 8 P P 02 28 28.5 +1.1
GAMB IAmb IAmb 02 28 29.1
comp=Z,38nm,0.7s
GAMB Gambell 83.84 8 P P 02 28 28.5 +1.1
baz=198,SNR=31
O19K Port Alsworth 84.26 17 P P 02 28 30.3 +0.7
O19K Port Alsworth 84.26 17 P P 02 28 29.8 +0.3
baz=214,SNR=42
HOM Homer 84.61 19 P P 02 28 30.8 -0.5
baz=217
CNPM China Poot 84.63 19 P P 02 28 31.7 +0.3
O20K Slope Mountain 84.66 18 P P 02 28 31.7 0.0
baz=216,SNR=8.1
SVW2 Sparrevohn 84.67 16 P P 02 28 32.4 +0.8
SVW2 IAmb IAmb 02 28 35.2
comp=Z,32nm,0.9s
N19K Bonanza Creek 84.73 17 P P 02 28 32.2 +0.1
N19K IAmb IAmb 02 28 33.3
comp=Z,34nm,0.9s
N19K Bonanza Creek 84.73 17 P P 02 28 31.9 -0.1
baz=214
BRLK Bradley Lake 84.92 19 P P 02 28 33.4 +0.5
BRLK IAmb IAmb 02 28 35.3
comp=Z,80nm,1.2s
RSO Redoubt South 84.93 18 P P 02 28 32.2 -0.9
BRSE Bradley Lake S 84.95 19 P P 02 28 33.9 +0.8
baz=216,SNR=6.6
SYO Syowa Base 85.16 196⇓ *eP* P 02 28 35.4 +1.3
KMPM Mount Pierce 85.53 45 P P 02 28 37.5 +1.1
ANM Nome 85.57 11 P P 02 28 36.7 +0.7
ANM pmax pmax
comp=Z,39nm,1.0s
ANM Nome 85.57 11 P P 02 28 36.7 +0.7
ANM IAmb IAmb 02 28 38.5
comp=Z,38nm,1.0s
ANM Nome 85.57 11 P P 02 28 37.4 +1.4
baz=204,SNR=32
SAO San Andreas Ge 85.63 49 P P 02 28 36.3 -0.7
SAO pmax pmax
comp=Z,47nm,1.0s
SAO San Andreas Ge 85.63 49 P P 02 28 36.3 -0.7
SAO IAmb IAmb 02 28 39.5
comp=Z,47nm,1.0s
SEW Seward 85.64 19 P P 02 28 36.6 +0.2
baz=219
M19K Big River Lodg 85.66 16 P P 02 28 36.7 +0.2
M19K Big River Lodg 85.66 16 P P 02 28 36.1 -0.4
baz=214
SPCR Spurr Chakacha 85.69 18 P P 02 28 38.0 +1.3
baz=216
KMRM Mail Ridge 85.71 45 P P 02 28 38.2 +0.8
L19K White Mountain 85.77 16 P P 02 28 37.8 +0.8
L19K IAmb IAmb 02 28 40.9
comp=Z,56nm,0.9s
L19K White Mountain 85.77 16 P P 02 28 37.7 +0.6
baz=214,SNR=31
BBGB Big Mountain B 85.84 49 P P 02 28 38.2 +0.1
BBGB IAmb IAmb 02 28 45.6
comp=Z,45nm,0.9s
PMPB Monarch Peak 85.85 50 P P 02 28 38.7 +0.6
PMPB IAmb IAmb 02 28 40.4
comp=Z,48nm,1.0s
SBC Santa Barbara 85.85 52 P P 02 28 38.8 +0.7
baz=244
O22K Cooper Landing 85.85 19 P P 02 28 37.1 -0.3
O22K Cooper Landing 85.85 19 P P 02 28 36.7 -0.7
baz=218
KHMM Horse Mountain 86.01 44 P P 02 28 39.0 +0.1
PAGB Antelope Grade 86.03 50 P P 02 28 38.7 -0.3
PAGB IAmb IAmb 02 28 41.1
comp=Z,25nm,0.7s
SMMC Simmler 86.03 51 P P 02 28 40.5 +1.5
baz=243,SNR=5.6
TNA Tin City 86.08 9 P P 02 28 39.5 +1.1
TNA IAmb IAmb 02 28 40.8
comp=Z,53nm,1.0s
TNA Tin City 86.08 9 P P 02 28 39.5 +1.1
baz=202,SNR=42
TTA Tatalina 86.11 15 P P 02 28 39.1 +0.4
baz=213,SNR=20
L20K Farewell, AK 86.27 16 P P 02 28 39.7 +0.1
baz=215,SNR=30
O02D Mt. Diablo Mer 86.30 45 P P 02 28 42.2 +1.9
baz=241,SNR=24
RC01 Rabbit Creek A 86.33 19 IAmb IAmb 02 28 43.1
comp=Z,42nm,1.2s
RC01 Rabbit Creek A 86.33 19 P P 02 28 39.1 -0.7
baz=218,SNR=6.7
CIS Catalina Islan 86.37 53 P P 02 28 41.3 +0.6
baz=244
PWL Port Wells 86.58 19 IAmb IAmb 02 28 43.8
comp=Z,49nm,1.1s
PWL Port Wells 86.58 19 P P 02 28 40.3 -0.7
baz=220,SNR=7.9
FMP Fort Macarthur 86.59 53 P P 02 28 42.7 +1.0
baz=244
OSI Osito Audit: C 86.66 52 P P 02 28 43.1 +1.0
baz=244
WDC Whiskeytown Da 86.66 45 IAmb IAmb 02 28 43.9
comp=Z,42nm,1.1s
YAK Yakutsk 86.68 342 *eP* P 02 28 41.0 -0.4
YAK pmax pmax
comp=Z,44nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.3s
L02E Cave Junction 86.72 43 P P 02 28 43.9 +1.7
baz=241
ULN Ulaanbaatar 86.72 323 *ceP* P 02 28 42.5 +0.3
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 86.72 323 P P 02 28 43.0 +0.8
ULN IAmb IAmb 02 28 44.2
comp=Z,50nm,1.1s
M22K Willow 86.73 18 P P 02 28 41.3 -0.4
M22K Willow 86.73 18 P P 02 28 40.8 -0.9
baz=218,SNR=7.6
N02D Trinity Center 86.74 45 P P 02 28 43.1 +0.7
N02D Trinity Center 86.74 45 P P 02 28 44.1 +1.7
baz=241,SNR=19
DECC Green Verdugo 86.79 52 P P 02 28 43.3 +0.6
baz=244
ARVC Arvin 86.80 51 P P 02 28 44.0 +1.3
baz=244,SNR=8.2
BILL Bilibino 86.83 359 *d iP* P 02 28 42.2 +0.2
BILL *PP **pwP** 02 29 39.0 -0.5
BILL *e* 02 30 12.9
BILL S S 02 38 49.0 -11
BILL pmax pmax
comp=Z,36nm,1.0s
BILL MLR MLR
comp=Z,51nm,17.0s
BILL Bilibino 86.83 359 P P 02 28 42.3 +0.2
BILL IAmb IAmb 02 28 43.5
comp=Z,33nm,0.8s
M02C Callahan 86.84 44 P P 02 28 43.7 +0.9
M02C IAmb IAmb 02 28 45.5
comp=Z,49nm,0.8s
M02C Callahan 86.84 44 P P 02 28 44.8 +1.9
baz=241,SNR=16
PASC Pasadena Art C 86.87 52 P P 02 28 43.3 +0.2
PASC IAmb IAmb 02 28 44.9
comp=Z,55nm,1.1s
ORV Oroville 86.89 46 P P 02 28 43.8 +0.8
ORV pmax pmax
comp=Z,53nm,1.1s
ORV Oroville 86.89 46 P P 02 28 43.8 +0.8
ORV IAmb IAmb 02 28 45.3
comp=Z,53nm,1.1s
PMR Palmer 86.90 19 P P 02 28 41.7 -0.8
PMR pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 86.90 19 P P 02 28 41.7 -0.8
PMR Palmer 86.90 19 P P 02 28 42.5 0.0
baz=219
VOG Valley Oaks Go 86.92 50 P P 02 28 43.5 +0.3
baz=244
VES Vestal, Richgr 86.92 51 P P 02 28 43.8 +0.6
baz=244,SNR=5.9
K02D Willamette Mer 86.94 43 P P 02 28 44.6 +1.3
baz=241,SNR=5.1
K20K Telida 86.95 16 P P 02 28 43.2 +0.4
K20K Telida 86.95 16 P P 02 28 42.4 -0.3
baz=214
CMB Columbia Colle 86.96 48 P P 02 28 44.2 +0.7
CMB pmax pmax
comp=Z,49nm,1.0s
CMB Columbia Colle 86.96 48 P P 02 28 44.2 +0.7
CMB IAmb IAmb 02 28 45.7
comp=Z,49nm,0.9s
KNK Knik Glacier 86.97 19 P P 02 28 42.9 0.0
KNK IAmb IAmb 02 28 46.2
comp=Z,28nm,1.1s
KNK Knik Glacier 86.97 19 P P 02 28 42.1 -0.8
baz=220
GLI Glacier Island 86.98 20 P P 02 28 42.2 -0.8
GLI IAmb IAmb 02 28 44.4
comp=Z,25nm,0.8s
GLI Glacier Island 86.98 20 P P 02 28 42.8 -0.2
baz=221
J01E Myrtle Point 87.00 42 P P 02 28 44.5 +1.0
baz=240
GTA Gaotai 87.02 313 ⇑P P 02 28 44.8 +1.0
GTA pmax pmax
comp=Z,18nm,1.0s
GTA pmax pmax
comp=Z,69nm,5.5s
GTA LR LR
comp=Z,160nm,15.6s
GTA LR LR
comp=Z,180nm,18.5s
GTA LR LR
comp=Z,140nm,18.9s
O03E Paynes Creek 87.02 46 P P 02 28 44.3 +0.5
O03E Paynes Creek 87.02 46 P P 02 28 44.8 +1.0
baz=242,SNR=14
PPLA Purkeypile 87.07 17 P P 02 28 42.5 -0.9
baz=216
SONM Songino Array 87.08 323 P P 02 28 44.5 +0.6
comp=Z,22nm,0.8s,baz=144,slow=5.7,SNR=153
SONM S S 02 38 48.4 -15
comp=Z,0.3nm,0.9s,baz=221,slow=1.6,SNR=1.6
SONM PKKPbc **PKKPbc** 02 46 34.8 -2.3
comp=Z,0.5nm,0.6s,baz=223,slow=2.7,SNR=4.4
SONM Songino Array 87.08 323 P P 02 28 44.6 +0.7
SONM pmax pmax
comp=Z,29nm,0.9s
SONM Songino Array 87.08 323 P P 02 28 44.6 +0.7
SONM IAmb IAmb 02 28 45.7
comp=Z,29nm,0.9s
FID Port Fidalgo 87.08 20 P P 02 28 42.2 -1.3
FID IAmb IAmb 02 28 44.6
comp=Z,36nm,1.0s
YBH Yreka Blue Hor 87.10 44 P P 02 28 44.8 +0.7
YBH pmax pmax
comp=Z,65nm,1.1s
YBH Yreka Blue Hor 87.10 44 P P 02 28 44.8 +0.7
YBH IAmb IAmb 02 28 46.9
comp=Z,65nm,1.1s
GHO Glory Hole Cre 87.10 18 P P 02 28 43.3 -0.3
109C Camp Elliot, M 87.14 54 P P 02 28 45.0 +0.7
109C IAmb IAmb 02 28 47.1
comp=Z,44nm,0.9s
109C Camp Elliot, M 87.14 54 P P 02 28 45.5 +1.1
baz=245,SNR=6.4
KAIM Kayak Island 87.16 21 P P 02 28 43.5 -0.3
baz=223
EYAK Cordova Ski Ar 87.17 20 P P 02 28 44.5 +0.7
EYAK IAmb IAmb 02 28 45.3
comp=Z,26nm,1.0s
EYAK Cordova Ski Ar 87.17 20 P P 02 28 44.1 +0.3
baz=222
CUT Chulitna 87.21 18 P P 02 28 43.5 -0.4
CUT IAmb IAmb 02 28 43.9
comp=Z,32nm,0.8s
CUT Chulitna 87.21 18 P P 02 28 42.8 -1.1
baz=218
ELS Elsinore Mount 87.22 53 P P 02 28 44.6 -0.2
ELS IAmb IAmb 02 28 47.0
comp=Z,24nm,1.0s
CBX Cerro Bola 87.25 55 P P 02 28 45.2 +0.1
ISA Isabella, Lake 87.29 51 P P 02 28 45.6 +0.4
ISA pmax pmax
comp=Z,56nm,1.0s
ISA Isabella, Lake 87.29 51 P P 02 28 45.5 +0.4
ISA IAmb IAmb 02 28 47.6
comp=Z,56nm,1.0s
ISA Isabella, Lake 87.29 51 P P 02 28 46.3 +1.2
baz=244,SNR=32
SML Sawmill 87.31 19 P P 02 28 43.8 -0.8
baz=220

EDW2 **Edwards Air Fo** 87.31 52 P P 02 28 46.5 +1.3
baz=245,SNR=22
HUMO **Hull Mountain** 87.36 43 P P 02 28 45.3 +0.1
HUMO IAmb IAmb 02 28 48.1
comp=Z,60nm,0.9s
MURC **Murrieta** 87.37 53 P P 02 28 46.4 +0.9
baz=245,SNR=11
BAR **Barrett** 87.39 54 P P 02 28 46.5 +0.8
BAR IAmb IAmb 02 28 47.7
comp=Z,38nm,1.1s
TKX **Tecate** 87.39 54 P P 02 28 45.7 +0.1
TKX IAmb IAmb 02 28 52.1
comp=Z,24nm,1.0s
CCAC **Calif City Air** 87.41 52 P P 02 28 46.6 +0.9
CCAC IAmb IAmb 02 28 48.1
comp=Z,22nm,0.8s
GCSA **Galena City Sc** 87.44 14 P P 02 28 45.5 +0.5
baz=212,SNR=7.1
CAST **Castle Rocks** 87.52 16 P P 02 28 44.2 -1.3
CAST IAmb IAmb 02 28 45.0
comp=Z,27nm,0.8s
CAST **Castle Rocks** 87.52 16 P P 02 28 44.1 -1.4
baz=216,SNR=29
I02E **Swisshome, OR** 87.52 42 P P 02 28 45.5 -0.3
baz=240
L04D **Klamath Falls** 87.59 44 P P 02 28 46.8 +0.3
L04D **Klamath Falls** 87.59 44 P P 02 28 47.7 +1.2
baz=242,SNR=8.9
DIV **Divide** 87.60 20 P P 02 28 45.4 -0.6
J20K **Nowinta River** 87.61 15 P P 02 28 45.9 0.0
J20K **Nowinta River** 87.61 15 P P 02 28 46.1 +0.3
baz=214
I03D **Drain, OR** 87.63 42 P P 02 28 46.2 -0.2
baz=241
SCM **Sheep Creek Mo** 87.64 19 P P 02 28 45.7 -0.4
SCM pmax pmax
comp=Z,23nm,0.9s
SCM **Sheep Creek Mo** 87.64 19 P P 02 28 45.7 -0.4
SCM IAmb IAmb 02 28 49.6
comp=Z,23nm,0.9s
SCM **Sheep Creek Mo** 87.64 19 P P 02 28 45.4 -0.7
baz=220,SNR=6.5
MONP2 **Monument Peak** 87.67 54 P P 02 28 48.4 +1.2
baz=246,SNR=18
M04C **Macdoel** 87.70 44 P P 02 28 47.6 +0.6
M04C **Macdoel** 87.70 44 P P 02 28 48.4 +1.4
baz=242,SNR=7.8
OMMB **Old Mammoth Mi** 87.76 49 P P 02 28 48.1 +0.4
MPK **Martis Peak** 87.78 47 P P 02 28 48.3 +0.7
LRMC **Laurel Mtn Rad** 87.80 51 P P 02 28 48.7 +1.1
baz=245,SNR=20
BEKR **Beckworth** 87.81 46 P P 02 28 47.7 0.0
BEKR IAmb IAmb 02 28 49.4
comp=Z,31nm,0.9s
IKP **In-Ko-Pah, Jac** 87.81 54 P P 02 28 49.0 +1.3
baz=246,SNR=10
RMX **La Rumorosa** 87.81 55 P P 02 28 48.6 +0.8
RMX IAmb IAmb 02 28 50.4
comp=Z,52nm,1.0s
KLU **Klutina** 87.82 20 P P 02 28 46.3 -0.8
baz=222
CHUM **Lake Minchumin** 87.83 16 P P 02 28 46.0 -0.8
baz=216,SNR=11
BBRC **Big Bear Solar** 87.86 53 P P 02 28 48.8 +0.7
baz=245
BMRM **Bremner River** 87.86 21 P P 02 28 46.1 -1.1
baz=223
MLAC **Mammoth, Mammo** 87.88 49 P P 02 28 49.5 +1.4
baz=244,SNR=5.6
CWC **Cottonwood Cre** 87.92 50 P P 02 28 49.3 +1.1
baz=244
PFO **Pinyon Flats O** 87.94 53 P P 02 28 48.9 +0.6
PFO pmax pmax
comp=Z,33nm,1.1s
PFO **Pinyon Flats O** 87.94 53 P P 02 28 48.9 +0.6
PFO IAmb IAmb 02 28 50.6
comp=Z,33nm,1.1s
PFO **Pinyon Flats O** 87.94 53 P P 02 28 49.4 +1.0
baz=246,SNR=9.5
KTH **Kantishna Hill** 87.94 17 IAmb IAmb 02 28 48.8
comp=Z,27nm,1.0s
TPFO **Pinon Flats** 87.94 53 P P 02 28 49.4 +1.1
baz=246,SNR=10
YUH **Yuha Desert** 87.95 55 P P 02 28 48.6 +0.4
YUH IAmb IAmb 02 28 50.7
comp=Z,31nm,1.0s
PNTR **Pine Nut** 87.99 47 P P 02 28 48.1 -0.4
PNTR IAmb IAmb 02 28 51.1
comp=Z,60nm,1.1s
TRF **Thorofare Moun** 88.03 17 P P 02 28 47.3 -0.8
TRF IAmb IAmb 02 28 51.4
comp=Z,29nm,1.0s
TRF **Thorofare Moun** 88.03 17 P P 02 28 46.5 -1.6
baz=218,SNR=14
VCNR **Virginia City** 88.04 47 P P 02 28 49.5 +0.8
RRX **Edison Barstow** 88.06 52 P P 02 28 49.8 +1.1
baz=245
TIN **Tinemaha, Big** 88.07 50 P P 02 28 50.2 +1.3
baz=244,SNR=9.0
WAT6 **Susitna Watana** 88.08 18 P P 02 28 47.5 -0.9
baz=220,SNR=8.1
WAX **Waxell Ridge** 88.08 22 P P 02 28 48.2 0.0
WAX IAmb IAmb 02 28 49.2
comp=Z,28nm,0.8s
SFX **San Felipe** 88.14 56 P P 02 28 49.5 +0.4
K04D **Chiloquin, OR** 88.15 44 P P 02 28 50.2 +1.1
baz=242
SWSC **Sam W. Stewart** 88.17 54 P P 02 28 50.5 +1.3
baz=246,SNR=12
MPMC **Manual Prospec** 88.19 51 P P 02 28 50.7 +1.2
baz=245,SNR=40
YERR **Yerington** 88.19 48 P P 02 28 48.8 -0.6
YERR IAmb IAmb 02 28 51.9
comp=Z,37nm,1.1s
M24K **Tolsona, Glenn** 88.20 19 P P 02 28 49.9 +1.1
baz=222
J04D **Umpqua Nationa** 88.21 43 P P 02 28 49.7 +0.3
J04D **Umpqua Nationa** 88.21 43 P P 02 28 50.5 +1.1
baz=242
I04A **Tendick Farm,** 88.28 42 P P 02 28 50.4 +0.9
baz=242,SNR=5.5
N25K **Chitina, Valde** 88.33 20 P P 02 28 49.5 +0.1
N25K IAmb IAmb 02 28 50.1
comp=Z,22nm,1.1s
N25K **Chitina, Valde** 88.33 20 P P 02 28 48.9 -0.6
baz=223,SNR=6.1
BPAW **Bear Paw Mtn.** 88.36 16 P P 02 28 47.6 -1.8
BPAW **Bear Paw Mtn.** 88.36 16 P P 02 28 50.0 +0.6
baz=217
ISLE **Juniper Island** 88.37 22 P P 02 28 48.5 -1.2
ISLE IAmb IAmb 02 28 50.3
comp=Z,18nm,0.8s
GSC **Goldstone, Bar** 88.37 52 P P 02 28 50.1 -0.2
GSC pmax pmax
comp=Z,16nm,1.1s
GSC **Goldstone, Bar** 88.37 52 P P 02 28 50.1 -0.2
GSC **Goldstone, Bar** 88.37 52 P P 02 28 51.3 +1.0
baz=245,SNR=15
LHV **Little Huntoon** 88.39 49 P P 02 28 50.4 +0.3
LHV IAmb IAmb 02 28 52.4
comp=Z,37nm,1.1s
RND **Reindeer** 88.40 17 P P 02 28 49.1 -0.6
RND pmax pmax
comp=Z,38nm,1.2s
RND **Reindeer** 88.40 17 P P 02 28 49.0 -0.6
RND IAmb IAmb 02 28 51.2
comp=Z,38nm,1.2s
PAHR **Pah Rah Range** 88.41 47 P P 02 28 50.8 +0.4
H04D **Lebanon** 88.42 42 P P 02 28 50.5 +0.3
H04D **Lebanon** 88.42 42 P P 02 28 51.5 +1.4
baz=241,SNR=6.3
G03D **McMinnville, O** 88.42 41 P P 02 28 51.3 +1.2
baz=241
VRDI **Verde Repeater** 88.44 21 P P 02 28 49.2 -0.8
BELC **Belle Mtn. Jos** 88.45 53 P P 02 28 52.0 +1.3
baz=246,SNR=26
GLB **Gilahina Butte** 88.47 21 P P 02 28 50.5 +0.4
GLB IAmb IAmb 02 28 51.0
comp=Z,16nm,0.8s
HEC **Hector,Ludlow** 88.53 52 P P 02 28 51.9 +0.9
baz=246,SNR=12
RYN **Ryan** 88.54 48 P P 02 28 51.4 +0.3
RYN IAmb IAmb 02 28 53.5
comp=Z,34nm,1.0s
DHY **Denali Highway** 88.57 18 P P 02 28 50.1 -0.5
DHY **Denali Highway** 88.57 18 P P 02 28 49.7 -0.9
baz=220
LCH **Last Change Ra** 88.57 50 IAmb IAmb 02 28 53.4
comp=Z,27nm,1.2s
NVAR **Mina Array Bea** 88.61 48 P P 02 28 52.6 +1.1
comp=Z,19nm,0.9s,baz=228,slow=7.2,SNR=99
NVAR PKKPbc PKKPbc 02 46 32.9 0.0
comp=Z,0.2nm,0.6s,baz=7.9,slow=3.3,SNR=3.7
MCK **McKinley** 88.63 17 P P 02 28 49.4 -1.3
baz=219,SNR=8.0
GRNC **Granite Creek** 88.67 22 IAmb IAmb 02 28 51.9
comp=Z,18nm,0.8s
GRAC **Grapevine Rang** 88.67 50 P P 02 28 53.0 +1.4
baz=245,SNR=21
TABL **Table Mountain** 88.68 22 IAmb IAmb 02 28 52.0
comp=Z,34nm,0.7s
MCARA **McCarthy VSAT** 88.69 21 P P 02 28 51.6 +0.6
baz=224
NV11 **Mina Array Sit** 88.72 49 IAmb IAmb 02 28 54.3
comp=Z,54nm,1.1s
BC3 **Big Chuckawall** 88.72 54 P P 02 28 53.4 +1.4
baz=246,SNR=17
HARP **HAARP** 88.74 19 P P 02 28 50.9 -0.3
baz=222
PCA **Pinnacle** 88.76 23 IAmb IAmb 02 28 55.1
comp=Z,29nm,0.9s
J05D **Fort Rock, OR** 88.79 43 P P 02 28 53.5 +1.3
baz=242,SNR=34
FURC **Furnace Creek,** 88.82 51 P P 02 28 53.5 +1.4
baz=245,SNR=25
BARN **Barnard Glacie** 88.93 22 IAmb IAmb 02 28 53.3
comp=Z,24nm,0.8s
GLA **Glamis** 88.96 55 IAmb IAmb 02 28 55.4
comp=Z,38nm,0.9s
GLA **Glamis** 88.96 55 P P 02 28 54.8 +1.8
baz=246,SNR=22
I21K **Tanana** 88.97 15 IAmb IAmb 02 28 53.3
comp=Z,26nm,0.9s
I21K **Tanana** 88.97 15 P P 02 28 52.0 -0.2
baz=216
CTG **Chitna Glacier** 88.97 22 P P 02 28 52.3 -0.2
baz=226,SNR=7.0
CTGM **Chitina Glacie** 88.98 22 IAmb IAmb 02 28 53.4
comp=Z,23nm,0.7s
LOGN **Logan Glacier** 89.00 22 IAmb IAmb 02 28 53.0
comp=Z,17nm,0.8s
F04D **Rainier, OR** 89.00 40 P P 02 28 54.2 +1.4
baz=241
GMRC **Granite Mounta** 89.02 53 P P 02 28 54.4 +1.0
baz=246,SNR=17
KVN **Kaiserville** 89.02 48 IAmb IAmb 02 28 55.6
comp=Z,36nm,1.0s
PAX **Paxson** 89.06 19 P P 02 28 52.4 -0.5
baz=222
TUQ **Turquoise Moun** 89.09 52 P P 02 28 54.7 +1.0
baz=246,SNR=23
H21K **Melozitna Rive** 89.16 15 P P 02 28 53.4 +0.3
baz=216
IRM **Iron Mountain** 89.16 53 P P 02 28 55.3 +1.4
baz=246,SNR=36
BOD **Bodaibo** 89.16 334 eP P 02 28 52.7 -0.6
BOD pmax pmax
comp=Z,34nm,1.5s
MLY **Manley** 89.17 16 P P 02 28 52.4 -0.8
baz=217,SNR=11
RDOG **Red Dog Mine** 89.17 10 IAmb IAmb 02 28 55.8
comp=Z,19nm,1.0s
RDOG **Red Dog Mine** 89.17 10 P P 02 28 53.8 +0.7
baz=206
GOMU **GeErMu** 89.18 309 P P 02 28 55.8 +1.4
GOMU pmax pmax
comp=Z,90nm,7.1s
I05D **Terrebonne, OR** 89.21 42 P P 02 28 55.3 +1.3
baz=242,SNR=8.5
NEA2 **Nenana** 89.26 17 P P 02 28 52.2 -1.4
baz=219,SNR=7.8
SNAA **Sanae** 89.39 182 P P 02 28 53.6 -0.8
SNAA **Sanae** 89.39 182 P P 02 28 53.7 -0.7
SNAA pmax pmax
comp=Z,28nm,1.1s
SNAA **Sanae** 89.39 182 P P 02 28 53.7 -0.7
SNAA IAmb IAmb 02 28 55.8
comp=Z,28nm,1.1s
WRH **Wood River Hil** 89.44 17 P P 02 28 53.7 -0.8
WRH IAmb IAmb 02 28 55.4
comp=Z,12nm,0.7s
TPNV **Topopah Spring** 89.46 51 IAmb IAmb 02 28 57.9
comp=Z,32nm,1.0s
TPNV **Topopah Spring** 89.46 51 P P 02 28 56.8 +1.3
baz=246,SNR=60
E04D **Cinebar** 89.50 40 P P 02 28 56.7 +1.6
baz=241,SNR=7.0
I23K **Minto, Yukon-K** 89.62 16 P P 02 28 54.1 -1.1
baz=219
WRAK **Wrangell Islan** 89.62 28 P P 02 28 56.1 +0.6
baz=234
G05D **Wamic, OR** 89.65 41 P P 02 28 56.8 +0.9
baz=242
CCB **Clear Creek Bu** 89.65 17 IAmb IAmb 02 28 56.5
comp=Z,13nm,0.8s
D03D **Eldon** 89.66 39 P P 02 28 57.4 +1.5
baz=241,SNR=10
113A **Mohawk Valley,** 89.67 55 IAmb IAmb 02 28 59.6
comp=Z,36nm,1.2s
D04E **Lakebay** 89.67 39 P P 02 28 56.3 +0.4
baz=241
CLRS **Cowichan Lake** 89.68 37 IAmb IAmb 02 29 10.5
comp=Z,34nm,1.2s
HDA **Harding Lake** 89.71 17 IAmb IAmb 02 28 56.0
comp=Z,22nm,0.8s
HDA **Harding Lake** 89.71 17 P P 02 28 54.8 -0.9
baz=221,SNR=19
L26K **Log Cabin Wild** 89.77 20 P P 02 28 55.7 -0.3
baz=224,SNR=10.0
M27K **Edge Creek, AK** 89.77 21 P P 02 28 55.7 -0.5
baz=225
MDM **Murphy Dome** 89.77 17 IAmb IAmb 02 28 55.8
comp=Z,19nm,0.9s
NEE2 **Needles Airpor** 89.80 53 P P 02 28 57.9 +1.1
baz=247
TCOL **CIGO, UAF Yank** 89.81 17 IAmb IAmb 02 28 56.5
comp=Z,30nm,0.8s
TCOL **CIGO, UAF Yank** 89.81 17 P P 02 28 54.7 -1.4
baz=220,SNR=6.1
COLA **College** 89.81 17 *i* P P 02 28 55.0 -1.1
COLA pmax pmax
comp=Z,31nm,0.9s
COLA **College** 89.81 17 P P 02 28 55.2 -0.9
COLA IAmb IAmb 02 28 56.5
comp=Z,33nm,0.9s
COLA **College** 89.81 17 P P 02 28 54.3 -1.8
baz=220
RIDG **Independent Ri** 89.82 19 IAmb IAmb 02 28 58.2
comp=Z,32nm,1.0s
RIDG **Independent Ri** 89.82 19 P P 02 28 55.5 -0.8
baz=223,SNR=17
YUK3 **Moose Creek** 89.84 21 P P 02 28 56.4 -0.2
baz=227,SNR=8.5
F05D **White Salmon** 89.86 41 P P 02 28 57.6 +0.8
baz=242,SNR=7.7
JIS **Juneau Island** 89.87 26 IAmb IAmb 02 28 58.4
comp=Z,44nm,1.1s
VNA3 **Neumayer Olymp** 89.97 180 P P 02 28 56.1 -0.9
VNA3 **Neumayer Olymp** 89.97 180 pP pP 02 29 50.0 -2.9
PDMCI **Parker Dam,Lak** 89.98 54 P P 02 28 59.0 +1.4
baz=247,SNR=29
DOT **Dot Lake** 90.00 19 IAmb IAmb 02 28 58.4
comp=Z,19nm,0.8s
ILAR **Eielson Array** 90.00 17 P P 02 28 55.9 -1.2
comp=Z,15nm,0.8s,baz=236,slow=5.6,SNR=83
ILAR PP PP 02 32 34.1 +0.2
comp=Z,1.2nm,1.0s,baz=218,slow=5.7,SNR=2.2
YUK6 **Outpost Mounta** 90.03 23 P P 02 28 57.1 -0.5
baz=228
SHPR **Sheep Range** 90.08 51 IAmb IAmb 02 29 00.5
comp=Z,27nm,1.0s
H23K **Yukon River** 90.10 16 P P 02 28 56.9 -0.7
baz=218
214A **Organ Pipe Nat** 90.11 56 P P 02 29 00.1 +1.7
baz=248,SNR=26
POKR **Poker Plat Res** 90.11 17 IAmb IAmb 02 29 00.1
comp=Z,14nm,0.8s
POKR **Poker Plat Res** 90.11 17 P P 02 28 55.8 -1.8
baz=220
BVCY **Beaver Creek** 90.15 21 P P 02 28 57.1 -0.8
baz=226
ZAK **Zakamensk** 90.15 324 eP P 02 28 58.1 -0.1
ZAK pmax pmax
comp=Z,28nm,1.3s
YUK4 **Talbot Arm** 90.19 22 P P 02 28 57.8 -0.5
baz=228
SKAG **Skagway** 90.22 25 P P 02 28 58.8 +0.7
baz=231,SNR=12
SCRK **Sand Creek** 90.26 19 P P 02 28 58.2 -0.2
SCRK IAmb IAmb 02 28 59.9
comp=Z,20nm,0.8s
SCRK **Sand Creek** 90.26 19 P P 02 28 58.1 -0.3
baz=224,SNR=22
HYT **Haines Junctio** 90.26 23 IAmb IAmb 02 28 59.6
comp=Z,27nm,1.0s
HYT **Haines Junctio** 90.26 23 P P 02 28 58.4 -0.2
baz=229,SNR=9.4
VNA2 **Neumayer--Watz** 90.27 181 P P 02 28 57.7 -0.7
baz=186,slow=3.5
VNA2 **Neumayer--Watz** 90.27 181 pP pP 02 29 51.7 -2.6
L27K **Beaver Creek,** 90.28 20 P P 02 28 57.7 -0.8
baz=225
J25K **Salcha River,** 90.32 18 IAmb IAmb 02 29 01.5
comp=Z,14nm,0.8s
J25K **Salcha River,** 90.32 18 P P 02 28 57.8 -0.8
baz=222,SNR=15
A04D **Lummi Island** 90.45 38 P P 02 29 01.0 +1.5
baz=241
W13A **Hualapai Mount** 90.48 53 IAmb IAmb 02 29 02.8
comp=Z,43nm,1.1s
R11A **Troy Canyon, C** 90.52 49 IAmb IAmb 02 29 02.4
comp=Z,11nm,1.0s
R11A **Troy Canyon, C** 90.52 49 P P 02 29 01.3 +0.9
baz=246,SNR=23
H24K **Noodor Dome** 90.55 16 P P 02 28 58.6 -1.0
baz=220
VNA1 **Neumayer--Stat** 90.56 181 P P 02 28 59.0 -0.7
B05A **Bryant** 90.59 38 P P 02 29 01.5 +1.4
baz=242,SNR=8.3
Y14A **Wickenburg** 90.71 54 IAmb IAmb 02 29 03.5
comp=Z,30nm,1.2s
J26L **Joseph Creek** 90.77 18 P P 02 29 00.7 0.0
baz=224
F07A **Phinny Hill Vi** 90.81 41 IAmb IAmb 02 29 03.6
comp=Z,38nm,0.9s
PRP **Porcupine Dome** 90.94 17 P P 02 29 00.9 -0.7
baz=222,SNR=7.9
LTY **Liberty** 90.97 40 IAmb IAmb 02 29 03.4
comp=Z,24nm,0.9s
COLD **Coldfoot** 91.05 15 IAmb IAmb 02 29 03.7
comp=Z,21nm,0.8s
COLD **Coldfoot** 91.05 15 P P 02 29 02.4 +0.5
baz=218,SNR=5.8
B06A **Marblemount** 91.07 38 IAmb IAmb 02 29 04.2
comp=Z,38nm,1.1s
WHY **Whitehorse** 91.15 24 IAmb IAmb 02 29 03.6
comp=Z,26nm,0.8s
WHY **Whitehorse** 91.15 24 P P 02 29 02.6 0.0
baz=232,SNR=13
N31M **Braeburn, Yuko** 91.33 23 P P 02 29 03.4 +0.1
baz=231,SNR=16
M30M **Minto, Yukon** 91.66 22 IAmb IAmb 02 29 05.9
comp=Z,40nm,1.0s
M30M **Minto, Yukon** 91.66 22 P P 02 29 04.6 -0.2
baz=230,SNR=25
P33M **Teslin, Yukon** 91.69 25 IAmb IAmb 02 29 06.2
comp=Z,24nm,0.9s
P33M **Teslin, Yukon** 91.69 25 P P 02 29 05.1 +0.1
baz=233,SNR=12
EGAK **Eagle** 91.69 19 IAmb IAmb 02 29 06.2
comp=Z,23nm,0.7s
EGAK **Eagle** 91.69 19 P P 02 29 04.7 -0.2
baz=226,SNR=20
DAWY **Dawson** 91.77 20 P P 02 29 05.0 -0.3
baz=228,SNR=6.9
CCUT **Cedar City** 91.82 51 IAmb IAmb 02 29 08.6
comp=Z,20nm,1.0s
LLLB **Lillooet** 91.82 36 IAmb IAmb 02 29 08.0
comp=Z,34nm,1.0s
TUC **Tucson** 91.83 57 P P 02 29 06.8 +0.3
TUC pmax pmax
comp=Z,51nm,1.2s
TUC **Tucson** 91.83 57 P P 02 29 06.8 +0.3
TUC **Tucson** 91.83 57 P P 02 29 08.1 +1.7
baz=249
D08A **Wollman Farm,** 91.95 41 IAmb IAmb 02 29 08.2
comp=Z,21nm,1.1s
KNB **Kanab** 92.01 52 IAmb IAmb 02 29 10.0
comp=Z,41nm,1.1s
SZCU **Shurtz Canyon** 92.04 51 IAmb IAmb 02 29 09.4
comp=Z,17nm,1.0s
MOY **Mondy** 92.04 325 eP P 02 29 07.6 +0.6
MOY pmax pmax
comp=Z,22nm,1.6s
E09A **Wood Farm, Sta** 92.20 41 IAmb IAmb 02 29 12.2
comp=Z,13nm,1.0s
B08A **Colville Reser** 92.28 39 IAmb IAmb 02 29 09.7
comp=Z,21nm,1.1s
M31M **Drury Creek, Y** 92.30 23 IAmb IAmb 02 29 08.2
comp=Z,24nm,0.9s
M31M **Drury Creek, Y** 92.30 23 P P 02 29 07.0 -0.8
baz=232,SNR=13
TOLK **Toolik Lake Re** 92.31 14 IAmb IAmb 02 29 08.9
comp=Z,9.3nm,0.8s
TOLK **Toolik Lake Re** 92.31 14 P P 02 29 07.8 +0.1
baz=218
MFID **Camas Ranch** 92.40 45 IAmb IAmb 02 29 10.8
comp=Z,17nm,0.9s
WUAZ **Wupatki** 92.54 53 IAmb IAmb 02 29 12.4
comp=Z,37nm,1.1s
WUAZ **Wupatki** 92.54 53 P P 02 29 11.1 +1.4
baz=248,SNR=23
F10A **Beach Ranch, E** 92.55 42 IAmb IAmb 02 29 10.4
comp=Z,22nm,1.1s
PKCU **Pink Cliffs** 92.55 51 IAmb IAmb 02 29 12.6
comp=Z,27nm,1.0s
C09A **Chrisman Ranch** 92.67 40 IAmb IAmb 02 29 11.0
comp=Z,12nm,1.1s
FARO **Faro, Yukon** 92.70 23 P P 02 29 08.9 -0.7
baz=233,SNR=10
MTPU **Mount Pierson** 92.87 51 IAmb IAmb 02 29 14.4
comp=Z,19nm,0.9s
I29M **Ogilvie Camp,** 92.98 19 IAmb IAmb 02 29 12.3
comp=Z,23nm,1.1s
I29M **Ogilvie Camp,** 92.98 19 P P 02 29 10.3 -0.5
baz=229,SNR=9.4
DUG **Dugway, Tooele** 93.22 49 P P 02 29 13.3 +0.6
baz=248,SNR=8.3
WTLY **Watson Lake, Y** 93.28 26 P P 02 29 12.7 +0.4
baz=237
HLID **Hailey** 93.40 45 IAmb IAmb 02 29 15.7
comp=Z,12nm,0.9s
HLID **Hailey** 93.40 45 P P 02 29 14.3 +0.7
baz=247,SNR=15
NEW **Newport** 93.57 40 P P 02 29 15.4 +1.4
baz=245,SNR=6.4
W18A **Petrified Fore** 93.65 54 P P 02 29 16.1 +1.2
baz=249
NLU **North Lily Min** 93.65 49 IAmb IAmb 02 29 16.9
comp=Z,10nm,1.1s
MMPY **Sheldon Lake,** 93.71 24 P P 02 29 14.4 +0.1
baz=235,SNR=16
HVU **Hansel Valley** 93.84 47 IAmb IAmb 02 29 17.4
comp=Z,11nm,0.9s
Q16A **Castle Valley** 93.93 50 IAmb IAmb 02 29 18.8
comp=Z,26nm,1.2s
TMUT **Trail Mountain** 94.04 50 IAmb IAmb 02 29 23.1
comp=Z,8.6nm,0.8s
EPYK **Eagle Plains** 94.14 19 P P 02 29 15.9 -0.3
baz=230,SNR=14
CTU **Camp Tracy** 94.16 48 IAmb IAmb 02 29 18.2
comp=Z,9.6nm,1.0s
TGTN **Hyland Airport** 94.27 25 P P 02 29 17.2 +0.3
baz=237,SNR=9.8
121A **Cookes Peak, D** 94.29 57 P P 02 29 18.8 +1.0
baz=250
SRU **San Rafael Swe** 94.47 50 IAmb IAmb 02 29 20.3
comp=Z,14nm,1.1s
TIXI **Tiksi** 94.54 348 ceP P 02 29 16.7 -1.1
TIXI pmax pmax
comp=Z,4.0nm,1.3s
DLMT **Dillon** 95.29 44 IAmb IAmb 02 29 23.3
comp=Z,8.3nm,1.0s
MVCO **Mesa Verde** 95.31 53 P P 02 29 22.3 -0.2
baz=250
PV23 **Carpenter Ridg** 95.35 51 IAmb IAmb 02 29 27.5
comp=Z,9.0nm,0.8s
PV11 **David Mesa, Pa** 95.40 51 IAmb IAmb 02 29 30.6
comp=Z,7.8nm,1.0s
PV07 **Paradox Valley** 95.61 51 IAmb IAmb 02 29 26.4
comp=Z,7.1nm,0.9s
MNTX **Cornudas Mount** 95.94 59 P P 02 29 25.8 +0.6

baz=251
BOZ Bozeman (W) 96.01 44 P P 02 29 26.0 +0.6
baz=249
ANMO Albuquerque 96.12 55 *i* P P 02 29 26.7 +0.5
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 96.12 55 P P 02 29 26.1 -0.1
ANMO Albuquerque 96.12 55 P P 02 29 26.7 +0.5
baz=251
H17A Grant Village 96.28 45 P P 02 29 28.0 +1.2
baz=250
INK Inuvik 96.31 18 P P 02 29 25.5 -0.5
comp=Z,14nm,1.0s,baz=236,slow=4.9,SNR=35
INK Inuvik 96.31 18 IAmb IAmb 02 29 27.3
comp=Z,23nm,1.1s
INK Inuvik 96.31 18 P P 02 29 25.4 -0.5
baz=233
BW06 Boulder Array 96.42 47 P P 02 29 27.4 0.0
baz=250
PDAR Pinedale Array 96.42 47 P P 02 29 26.9 -0.4
comp=Z,2.7nm,0.9s,baz=222,slow=2.0,SNR=13
PDAR PP PP 02 33 21.7 -3.1
comp=Z,0.5nm,0.9s,baz=212,slow=5.3,SNR=3.6
O20A White River Ci 96.47 50 IAmb IAmb 02 29 31.9
comp=Z,6.3nm,0.8s
O20A White River Ci 96.47 50 P P 02 29 27.9 +0.2
baz=251
TX31 Lajitas Ar. Si 96.61 61 IAmb IAmb 02 29 34.3
comp=Z,16nm,1.1s
TXAR Lajitas Array 96.61 61 P P 02 29 29.4 +1.0
comp=Z,2.0nm,0.7s,baz=224,slow=5.6,SNR=24
TXAR PP PP 02 33 29.3 +3.0
comp=Z,1.0nm,1.1s,baz=188,slow=7.0,SNR=3.9
TXAR PKKP PKKPdf 02 46 12.6 -0.4
comp=Z,0.5nm,0.7s,baz=91,slow=4.4,SNR=5.6
S22A 4UR Ranch, Cre 96.74 53 P P 02 29 29.9 +0.9
baz=251
WMQ Urumqi 97.09 314 *e*P Pdif 02 29 31.1 +0.9
WMQ pP pP 02 30 21.7 -4.6
WMQ pmax pmax
comp=Z,10.0nm,1.3s
SDCO Great Sand Dun 97.74 53 P Pdif 02 29 35.2 +1.6
baz=252
EGMT Eagleton 98.05 42 P Pdif 02 29 35.0 +0.5
baz=251
ISCO Idaho Springs 98.28 51 P Pdif 02 29 36.2 +0.3
baz=252
N23A Red Feather La 98.38 50 P Pdif 02 29 37.3 +1.1
baz=252
T25A Trinidad 98.38 54 P Pdif 02 29 36.9 +0.5
baz=253
K22A Casper 98.50 48 P P 02 29 36.8 +0.1
baz=252
MSTX Muleshoe 98.72 57 IAmb IAmb 02 29 38.5
comp=Z,5.2nm,0.8s
MSTX Muleshoe 98.72 57 P P 02 29 37.9 +0.1
baz=253
C36M Paulatuk 99.77 19 P Pdif 02 29 41.2 -0.2
baz=242
YKA Yellowknife Ar 100.44 27 P Pdif 02 29 44.3 -0.3
comp=Z,10nm,0.8s,baz=253,slow=4.6,SNR=104
YKA PP PP 02 33 53.1 -1.4
comp=Z,1.1nm,0.9s,baz=245,slow=7.6,SNR=8.1
YKA Yellowknife Ar 100.44 27 P Pdif 02 29 44.8 +0.3
YKA Yellowknife Ar 100.44 27 Pdif Pdif 02 29 44.8 +0.3
A36M Sachs Harbour 100.69 17 P Pdif 02 29 45.4 -0.1
baz=241
MKAR Makanchi Array 101.62 316 P Pdif 02 29 50.4 +0.1
comp=Z,1.2nm,0.6s,baz=97,slow=5.8,SNR=15
MKAR PKiKP PKiKP 02 34 10.8 -1.9
comp=Z,1.0nm,0.7s,baz=83,slow=2.8,SNR=6.9
MKAR PKKPbc PKKPbc 02 45 54.3 -3.8
comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=4.1
MKAR Makanchi Array 101.62 316 *i* P Pdif 02 29 52.0 +1.7
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 101.97 323 P Pdif 02 29 50.9 -0.7
comp=Z,1.4nm,0.6s,baz=106,slow=4.8,SNR=7.7
ZALV PKiKP PKiKP 02 34 11.4 -1.6
comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=2.8
NRIK Noril'sk 104.75 339 Pdiff Pdif 02 30 03.0 -0.6
comp=Z,1.1nm,0.3s,baz=140,slow=9.5,SNR=2.4
KURBB Kurchatov Arra 104.94 319 Pdiff Pdif 02 30 05.0 +0.1
comp=Z,0.8nm,0.8s,baz=102,slow=3.1,SNR=5.2
KURBB PKiKP PKiKP 02 34 17.7 -0.9
comp=Z,1.4nm,0.8s,baz=98,slow=1.7,SNR=11
CCM Cathedral Cave 108.75 55 P PKiKP 02 34 25.0 -1.0
baz=260
GOGA Godfrey 114.33 61 P PKPdf 02 34 35.6 -1.2
baz=263
ARU Arti 117.09 324 *i* PKIKP PKPdf 02 34 40.9 -0.5
ARU 02 35 53.7
ARU 02 41 31.6
ARU SP SP 02 45 09.7 -4.4
ARU Arti 117.09 324 PKPdf PKPdf 02 34 40.9 -0.5
GEYT Alibeck 117.94 303 PKP PKPdf 02 34 43.0 -0.7
comp=Z,6.9nm,0.8s,baz=238,slow=7.2,SNR=11
AKTO Aktyubinsk 117.94 318 PKP PKPdf 02 34 42.0 -1.2
comp=Z,7.1nm,0.8s,baz=101,slow=3.1,SNR=30
M54A Oil Creek Stat 117.96 53 P PKPdf 02 34 42.6 -1.0
baz=269
NEEM North Greenlan 118.28 9 *i* P PKPdf 02 34 42.1 -1.4
O56A Blue Knob Stat 118.77 54 P PKPdf 02 34 43.8 -1.4
baz=269
SSPA Standing Stone 119.29 54 P PKPdf 02 34 45.0 -1.1
baz=269
BOSA Boshof 121.27 217 PKP PKPdf 02 34 50.3 -0.3
comp=Z,2.6nm,0.5s,baz=117,slow=0.7,SNR=16
KIRV Kirov 121.52 328*c i*PKIKP PKPdf 02 34 49.1 -0.7
TRCB Terra Rica 121.65 134 PKPdf 02 34 50.7 -0.6
DAG Danmarks Havn 122.07 2 *i* P PKPdf 02 34 48.0 -2.4
LBTB Lobatse 123.75 220 PKIKP PKPdf 02 34 55.2 -0.2
LBTB Lobatse 123.75 220 PKPdf 02 34 55.2 -0.2
HRV Adam Dziewonsk 123.97 51 P PKPdf 02 34 54.1 -0.9
baz=275
DBG Daneborg 124.44 3 *i* P PKPdf 02 34 53.1 -2.0
SCHQ Schefferville 124.69 36 PKP PKPdf 02 34 54.8 -1.3
comp=Z,4.6nm,1.0s,baz=16,slow=0.9,SNR=5.7
ARA0 ARCESS Array S 124.87 345 *e*PKPdf PKPdf 02 34 55.9 -0.1
ARCES ARCESS Array B 124.87 345 PKP PKPdf 02 34 55.1 -0.9
comp=Z,6.7nm,0.5s,baz=68,slow=2.3,SNR=70
PKME Peaks-Kenny Pk 125.27 48 P PKPdf 02 34 56.6 -0.8
baz=278
KLMR Klimovskoe 125.36 333 *e*PKIKP PKPdf 02 34 55.7 -1.4
KLMR pmax pmax
comp=Z,27nm,1.2s
KLMR Klimovskoe 125.36 333 *e*PKPdf PKPdf 02 34 55.8 -1.4
KLMR AMP 02 34 58.0
comp=Z,27nm,1.2s
KTK1 Kautokeino 125.80 346 *e*PKPdf PKPdf 02 34 56.9 -0.8
MAK Makhachkala 125.86 310 *e*P Pdif 02 31 47.2 +9.1
MAK *i* 02 34 59.6
MAK *e* 02 36 54.5
MAK *e* 02 41 43.4
MAK *e*SS SS 02 53 34.5 -2.9
MAK *e*SSS SSS 02 58 18.4
MAK pmax pmax
comp=Z,36nm,0.6s
JETT Jettan, Norway 126.00 347 *e*PKPdf PKiKP 02 34 58.9 +0.2
GROC Groznyy 127.07 310 *i* PKIKP PKPdf 02 35 01.1 +0.2
GROC *e* 02 46 42.6
GROC pmax pmax
comp=Z,18nm,0.8s
RAYN Ar Rayn 127.70 285 ⇓PKIKP PKiKP 02 35 03.4 0.0
RAYN Ar Rayn 127.70 285 PKPdf PKPdf 02 35 02.8 -0.1
GNI Garni 128.27 306*c i*PKIKP PKiKP 02 35 04.3 +0.1
GNI pmax pmax
comp=Z,9.0nm,0.7s
ZEI Tsey 128.51 310 *i* PKIKP PKPdf 02 35 04.0 0.0
ZEI pmax pmax
comp=Z,7.0nm,1.0s
MOS Moscow 128.53 327 *e*PKIKP PKPdf 02 35 02.1 -1.2
MOS *e* 02 37 08.9
KMBO Kilima Mbogo 128.84 252 PKP PKPdf 02 35 04.2 -1.4
comp=Z,2.2nm,0.7s,baz=52,slow=7.9,SNR=6.9
KBZ Khabaz 129.06 311 PKP PKPdf 02 35 03.6 -1.0
comp=Z,3.4nm,1.0s,baz=94,slow=3.9,SNR=7.0
KBZ Khabaz 129.06 311*c i*PKIKP PKiKP 02 35 06.3 +0.9
KIV Kislovodsk 129.16 312 *e*PKIKP PKPdf 02 35 05.2 +0.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
VORR Voronezh 129.26 322 *e*PKIKP PKPdf 02 35 05.0 +0.2
VORR pmax pmax
comp=Z,10.0nm,0.4s
OBN Obninsk 129.34 327*d i*PKIKP PKiKP 02 35 05.3 -0.3
OBN 02 37 15.0
OBN PPP PPP 02 40 14.0
OBN PS PS 02 47 27.0 -2.7
OBN pmax pmax
comp=Z,11nm,0.6s
BDFB Brasilia 129.65 131 PKP PKPdf 02 35 06.1 -0.8
comp=Z,5.8nm,0.7s,baz=116,slow=1.1,SNR=10
CHVG Ch'k'valeri 129.84 310 ⇓P PKiKP 02 35 07.3 +0.2
CHVG Ch'k'valeri 129.84 310 ⇓PKIKP PKiKP 02 35 07.3 +0.2
MOR8 Moi Rana 130.08 347 *e*PKPdf PKPdf 02 35 05.2 -0.8
FINES FINESS Array B 130.40 338 PKhKP PKPpre 02 35 00.9
comp=Z,2.1nm,0.6s,baz=81,slow=2.5,SNR=7.5
FINES PKP PKPdf 02 35 06.6 -0.1
comp=Z,3.3nm,0.8s,baz=320,slow=1.3,SNR=8.3
FINES SKPbc SKPbc 02 38 08.4 +0.1
comp=Z,4.7nm,0.6s,baz=64,slow=3.7,SNR=14
VSU Vasula 132.10 334 *e*P PKPdf 02 35 10.1 +0.1
AAL Aland 133.41 339 *e*P PKPdf 02 35 12.3 -0.1
MNK Minsk 133.98 330 *i* PKIKP PKPdf 02 35 12.3 -1.3
MNK *i* 02 37 43.3
MNK *i* PPP PPP 02 40 40.1
MNK *i* 02 42 02.4
MNK *i* SP SP 02 47 41.4 -0.4
MNK *i* PS PS 02 48 05.8 -3.7
MNK *i* SS SS 02 55 13.0 -2.4
MNK *i* SSS SSS 03 00 16.0
MNK pmax pmax
comp=N,8.0nm,1.1s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,120nm,14.0s
MNK MLR MLR
comp=N,205nm,21.0s
MNK MLR MLR
comp=E,37nm,19.0s
MNK Minsk 133.98 330 *i* PKP PKPdf 02 35 12.3 -1.3
comp=E,1.0nm,0.9s
MNK *i* PKP PKPdf 02 35 12.3 -1.3
comp=N,8.0nm,1.1s
MNK *i* PKP PKPdf 02 35 12.3 -1.3
comp=Z,12nm,0.9s,baz=55
MNK *i* pPKP pPKPdf 02 36 08.9 -4.0
MNK *i* PP PP 02 37 43.4 -3.2
MNK *i* SKP 02 38 25.8
MNK *i* PKS PKSdf 02 38 47.8 -2.0
MNK *i* PPP PPP 02 40 40.2
MNK *i* SP SP 02 47 41.5 -0.3
MNK *i* PS PS 02 48 05.8 -3.7
MNK *i* SS SS 02 55 13.0 -2.4
MNK *i* SSS SSS 03 00 16.0
MNK *i* LRM MLR 03 35 56.9
comp=Z,120nm,13.6s
MNK *i* LRM MLR 03 36 09.7
comp=N,205nm,21.2s
MNK *i* LRM MLR 03 36 13.0
comp=E,37nm,18.6s
IDID Didziasalis 134.04 331 *e*P PKPdf 02 35 14.5 +0.7
ISAL Salakas 134.16 332 *e*P PKiKP 02 35 15.3 -0.1
IIGN Ignalina 134.25 331 *e*P PKPdf 02 35 14.7 +0.5
NACGM Naroch 134.27 331 *i* PKP PKPdf 02 35 14.7 +0.6
DOMB Dombas 134.85 347 *e*PKPdf PKPdf 02 35 13.9 -1.3
MBAR Mbarara 134.90 249 SKP 02 38 28.0
comp=E,1.3nm,0.3s,baz=134,slow=7.5,SNR=5.6
PABE Paberze 135.16 333 *e*P PKPdf 02 35 16.5 +0.6
NB2 NORSAR Subarra 135.25 345 PKPdf PKPdf 02 35 15.7 -0.2
comp=Z,0.5nm,0.5s,baz=31,slow=1.9
NB2 NORSAR Subarra 135.25 345 PKPdf PKPdf 02 35 15.7 -0.2
baz=31,slow=1.9
NOA NORSAR Array B 135.25 345 PKP PKPdf 02 35 15.3 -0.6
comp=Z,1.2nm,0.6s,baz=30,slow=2.0,SNR=7.8
NOA SKPbc SKPbc 02 38 24.4 -0.5
comp=Z,1.0nm,0.9s,baz=36,slow=2.7,SNR=3.0
AKASG Malin Array Be 135.34 325 PKP PKPdf 02 35 15.0 -1.3
comp=Z,6.3nm,0.9s,baz=59,slow=2.1,SNR=12
AKASG SKPbc SKPbc 02 38 25.3 -0.2
comp=Z,3.0nm,0.7s,baz=45,slow=3.2,SNR=9.8
AKASG SKP 02 38 28.4
comp=Z,5.3nm,0.9s,baz=50,slow=4.1,SNR=4.2
AKASG Malin Array Be 135.34 325 PKIKP PKPdf 02 35 15.9 -0.4
AKASG Malin Array Be 135.34 325 PKPdf PKPdf 02 35 15.9 -0.4
AKBB Malin Array Si 135.34 325*c i*PKIKP PKiKP 02 35 18.2 +0.3
NC602 NORSAR Array S 135.43 345 *e*PKPdf PKPdf 02 35 16.7 +0.5
SUW Suwalki 136.47 331 *e*P PKPdf 02 35 19.1 +0.8
SUE Sulen 136.60 349 *e*PKPdf PKPdf 02 35 17.5 -0.8
BRTR Keskin Array B 136.72 308 PKP PKPdf 02 35 18.6 -0.9
comp=Z,2.3nm,0.7s,baz=134,slow=3.6,SNR=6.9
BRTR SKPbc SKPbc 02 38 29.9 -0.4
comp=Z,1.9nm,1.0s,baz=146,slow=2.4,SNR=4.5
ASK Askoy 137.05 349 *e*PKPdf PKPdf 02 35 19.8 +0.6
SORM Soroca 137.11 322 ⇓P PKPdf 02 35 19.1 -0.6
SORM Soroca 137.11 322 ⇓PKIKP PKPdf 02 35 19.1 -0.6
BER Bergen 137.12 348 *e*PKPdf PKPdf 02 35 19.7 +0.4
MILM Milestii Mici 137.41 320 ⇑P PKPdf 02 35 20.1 -0.1
MILM Milestii Mici 137.41 320 ⇑PKIKP PKPdf 02 35 20.1 -0.1
CFR Carcaliu 138.61 318 ⇑P PKiKP 02 35 24.0 -0.7
CFR Carcaliu 138.61 318 ⇑PKIKP PKiKP 02 35 24.0 -0.7
HARR Harsova 138.95 317 ⇑P PKPpre 02 35 16.6
HARR Harsova 138.95 317 ⇑PKHKP PKPpre 02 35 16.6
VRI Vrincioaia 139.17 319 ⇑P PKiKP 02 35 27.0 +1.1
VRI Vrincioaia 139.17 319 ⇑PKIKP PKiKP 02 35 27.0 +1.1
BURAR Bucovina Array 139.19 323 ⇑P PKPpre 02 35 18.8
BURAR Bucovina Array 139.19 323 ⇑PKIKP PKPpre 02 35 18.8
COVR Voineasa-Covas 139.50 320 ⇑P PKPdf 02 35 23.3 -0.9
MLR Muntele Rosu 139.83 319 ⇑P PKPpre 02 35 17.6
MLR Muntele Rosu 139.83 319 ⇓PKIKP PKPdf 02 35 24.8 -0.2
DOPR Dopca 139.94 320 ⇑P PKPpre 02 35 18.1
TRPA Tarpa 140.41 325 ⇑P PKPdf 02 35 21.0 -4.7
TRPA Tarpa 140.41 325 PKPDF PKPpre 02 35 19.3
TRPA PKIKP PKPdf 02 35 21.0 -4.7
VOIR 140.41 320 ⇑P PKPdf 02 35 25.9 -0.1
VOIR 140.41 320 ⇑PKIKP PKPdf 02 35 25.9 -0.1
CRVS Cervenica-Dubn 140.52 326 *e*PKIKP PKPdf 02 35 23.8 -2.2
CRVS Cervenica-Dubn 140.52 326 *e*PKP PKPdf 02 35 23.8 -2.2
ARR Arges 140.70 320 ⇑P PKPdf 02 35 27.0 +0.6
HUMR Humele 140.90 319 ⇓P PKPpre 02 35 21.3
LOT Lotru 141.18 321 ⇓P PKPdf 02 35 28.1 +0.7
LTVH Ltavrtes, Hu 141.19 324 PKPDF PKiKP 02 35 31.5 +1.6
LANS Liptovska Anna 141.38 328 *e*PKIKP PKPdf 02 35 23.9 -3.6
LANS Liptovska Anna 141.38 328 *e*PKP PKPdf 02 35 23.9 -3.6
GZR Gura Zlata 141.80 321 ⇑P PKPdf 02 35 28.9 +0.5
GZR Gura Zlata 141.80 321 ⇑PKIKP PKPdf 02 35 28.9 +0.5
MORC Moravsky Berou 141.90 330 ⇑P PKPdf 02 35 26.9 -1.5
MORC Moravsky Berou 141.90 330 ⇑PKIKP PKPdf 02 35 26.9 -1.5
MORC Moravsky Berou 141.90 330 *e*PKP PKPdf 02 35 25.0 -3.5
PSZ Piszkesteto 141.95 326 ⇓P PKiKP 02 35 30.3 -1.3
PSZ Piszkesteto 141.95 326 ⇓PKIKP PKiKP 02 35 30.3 -1.3
PSZ Piszkesteto 141.95 326 PKPDF PKPdf 02 35 25.1 -3.5
PSZ PKIKP PKiKP 02 35 26.6 -5.0
OSTC Ostas 141.96 332 *e*PKP PKPdf 02 35 24.0 -4.5
SIRR Siria 141.97 323 ⇑P PKPdf 02 35 25.1 -3.5
CHVC Chvalec 142.00 332 *e*PKP PKPdf 02 35 23.6 -5.0
KRLC Kraliky 142.04 331 *e*PKHKP PKPpre 02 35 23.8
KRLC Kraliky 142.04 331 *e*PKP PKPdf 02 35 23.8 -4.9
DPC Dobruska-Polom 142.06 332 *e*PKIKP PKPdf 02 35 24.3 -4.4
DPC Dobruska-Polom 142.06 332 *e*PKP PKPdf 02 35 24.3 -4.4
UPC Upice 142.08 332 *e*PKIKP PKPdf 02 35 24.6 -4.1
UPC Upice 142.08 332 *e*PKP PKPdf 02 35 24.6 -4.1
KOLL Kolacno 142.29 328 *e*PKP PKPdf 02 35 26.1 -3.0
HERR Herculane 142.29 321 ⇑P PKPdf 02 35 26.0 -3.2
BZS Buzias 142.36 322 ⇑P PKPdf 02 35 29.2 -0.1
BZS Buzias 142.36 322 ⇑PKIKP PKPdf 02 35 29.2 -0.1
JAVC Velka Javorina 142.47 329 *e*PKP PKPdf 02 35 27.6 -1.9
VRAC Vranov 142.67 330 *e*PKP PKPdf 02 35 25.9 -3.9
BUD Budapest 142.68 326 PKPDF PKPdf 02 35 27.0 -2.8
BUD PKIKP PKiKP 02 35 28.3 -4.7
PVCC Panska Ves 142.69 333 *e*PKIKP PKPdf 02 35 26.1 -3.7
PVCC Panska Ves 142.69 333 *e*PKP PKPdf 02 35 26.1 -3.7
BRG Berggiesshubel 142.69 334 *i* PKP PKPdf 02 35 26.4 -3.4
BRG Amp 02 35 27.8
comp=Z,12nm,1.0s
BRG pPKP pPKPdf 02 36 17.3 -12
BRG Amp 02 36 20.8
comp=Z,2.8nm,0.7s
BRG Berggiesshubel 142.69 334 *i* PKIKP PKPdf 02 35 26.4 -3.4
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 142.69 334 *e*PKPbc PKPdf 02 35 26.4 -3.4
baz=36,slow=3.2
CLL Collm 142.74 335 *i* PKIKP PKPdf 02 35 26.0 -3.8
CLL *e* 02 38 45.0
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 142.74 335 *i* PKPpre PKPpre 02 35 26.0
comp=Z,6.0nm,0.6s
CLL *e*PKPdf PKPdf 02 35 30.0 +0.2
comp=Z,11nm,0.8s
CLL *e*x x 02 36 05.0
CLL *e*SKPdf SKPbc 02 38 45.0 -0.9
comp=Z,6.0nm,1.1s
CLL Collm 142.74 335 *e*PKPbc PKPdf 02 35 26.4 -3.4
baz=36,slow=3.2
MDVR Moldovita 142.77 321 ⇑P PKPdf 02 35 27.8 -2.4
BANR Banloc 142.77 322 ⇓P PKPdf 02 35 28.3 -1.8
SMOL Smolenice 142.82 329 *e*PKIKP PKPdf 02 35 28.0 -2.1
SMOL Smolenice 142.82 329 *e*PKP PKPdf 02 35 28.0 -2.1
SRO2 Moca 142.83 327 *e*PKIKP PKPdf 02 35 27.7 -2.4
SRO2 Moca 142.83 327 *e*PKP PKPdf 02 35 27.7 -2.4
SRO Srobarova 142.84 327 *e*PKIKP PKPdf 02 35 28.0 -2.1
SRO Srobarova 142.84 327 *e*PKP PKPdf 02 35 28.0 -2.1
FBE Freiberg 142.90 335 *e*PKPbc PKPdf 02 35 27.4 -2.7
baz=36,slow=3.2
VTS Vitosha 142.93 317 ⇑P PKPdf 02 35 28.2 -2.4
VTS Vitosha 142.93 317 ⇑PKIKP PKPdf 02 35 28.2 -2.4
VTS Vitosha 142.93 317 PKPdf PKPdf 02 35 27.5 -3.1
KRUC Moravsky 142.94 330 *e*PKP PKPdf 02 35 26.9 -3.3
PRU Pruhonice 143.11 333 *e*PKIKP PKPab 02 35 27.3 +0.8
PRU Pruhonice 143.11 333 *e*PKP PKPab 02 35 27.3 +0.8
CSKK Cskako 143.16 327 PKPDF PKPbc 02 35 28.5 +0.2
TREC Trest 143.19 331 *e*PKIKP PKPab 02 35 27.6 +0.6
TREC Trest 143.19 331 *e*PKP PKPab 02 35 27.6 +0.6
ZST Bratislava 143.19 329 *e*PKIKP PKPbc 02 35 29.0 +0.6
ZST Bratislava 143.19 329 *e*PKP PKPbc 02 35 29.0 +0.6
NEUB Neuenburg 143.29 336 *e*PKPbc PKPbc 02 35 28.7 +0.2
baz=36,slow=3.2
CLZ Clausthal 143.29 338 *e*PKPbc PKPbc 02 35 28.8 +0.2
baz=36,slow=3.2
BOVS Bovan 143.39 319 ⇓P PKPbc 02 35 28.9 -0.1
SRS Serrai 143.39 314 P PKPbc 02 35 28.7 -0.5
OUR Ouranopolis 143.47 313 P PKPab 02 35 28.7 +0.4
PBCC Pribram 143.57 333 *e*PKP PKPbc 02 35 29.4 0.0
EGYH Egyhazaskeszo 143.60 327 PKPDF PKPbc 02 35 30.4 +0.9
TANN Tannenbergstha 143.65 335 *e*PKPbc PKPbc 02 35 30.1 +0.4
baz=36,slow=3.2
MPLH Magyarpolny 143.66 327 PKPDF PKPbc 02 35 30.0 +0.3
FRGS Fruska Gora 143.67 323 ⇑P PKPab 02 35 29.3 +0.3
FRGS Fruska Gora 143.67 323⇑*i*P PKPab 02 35 29.0 0.0
MORH Mrgy, Hungar 143.68 325⇑*i*P PKPbc 02 35 29.7 -0.1
GTTG Gottingen 143.68 338 *e*PKPbc PKPbc 02 35 30.2 +0.5
baz=36,slow=3.2
SOH Sokhos 143.69 314 P PKPab 02 35 29.4 +0.2
WERD Werda 143.69 335 *e*PKPbc PKPbc 02 35 30.2 +0.5
baz=36,slow=3.2
PLN Plauen 143.72 335 *e*PKPbc PKPbc 02 35 30.2 +0.4
baz=36,slow=3.2
GUNZ Gunzen 143.74 335 *e*PKPbc PKPbc 02 35 30.5 +0.6
baz=36,slow=3.2
IBBN Ibbenburen 143.77 341 *e*PKPbc PKPbc 02 35 30.2 +0.3
baz=36,slow=3.2
WERN Wernitzgruen 143.78 335 *e*PKPbc PKPbc 02 35 30.8 +0.7
baz=36,slow=3.2
NKC Novy Kostel 143.80 335 *e*PKIKP PKPbc 02 35 30.0 -0.1
NKC Novy Kostel 143.80 335 *e*PKP PKPbc 02 35 30.0 -0.1
MOX Moxa 143.80 336 *e*PKPbc PKPbc 02 35 30.4 +0.3
baz=36,slow=3.2
SOP Sopron 143.81 328 PKPDF PKPbc 02 35 30.8 +0.7
PLG Polygyros 143.82 313 P PKPab 02 35 29.8 0.0
KNT Kendrikon 143.84 315 P PKPab 02 35 29.9 +0.1
HORT Hortiatis 143.96 314 P PKPab 02 35 30.2 -0.1
CONA Conrad Observa 143.98 329 *i* P PKPbc 02 35 31.3 +0.6
comp=Z,52nm,1.3s,SNR=26
VAY Valandovo 143.99 315 *i* P PKPab 02 35 30.5 +0.2
KOVH Kovagotottos 144.06 325 PKPDF PKPbc 02 35 31.1 +0.2
STIP Stip 144.06 316 *i* P PKPab 02 35 30.0 -0.5
CKRC Cesky Krumlov 144.07 332 *e*PKP PKPbc 02 35 30.9 0.0
MANZ Manzenberg 144.13 335 *e*PKPbc PKPdf 02 35 31.8 -0.6
baz=36,slow=3.2
KHC Kasperske Hory 144.16 333 *e*PKIKP PKPbc 02 35 31.1 -0.1
KHC Kasperske Hory 144.16 333 *e*PKP PKPbc 02 35 31.1 -0.1
KHC *e*x x 02 35 39.0
DIVS Divibare 144.17 321⇑*i*P PKPbc 02 35 31.8 +0.3
TEKS Tekeris 144.19 322 *e*P PKPab 02 35 31.0 0.0
ROTZ Rotzenmuhle 144.26 334 *e*PKPbc PKPdf 02 35 32.3 -0.2
baz=36,slow=3.2
GRG Griva 144.27 315 P PKPab 02 35 31.3 -0.2
UBBA Unterbreizbach 144.27 337 *e*PKPbc PKPbc 02 35 31.9 +0.6
baz=36,slow=3.2
GEC2 GERESS Array S 144.32 332 *e*PKPbc PKPbc 02 35 32.1 +0.4
baz=36,slow=3.2
GERES GERESS Array B 144.32 332 PKP PKPbc 02 35 31.8 +0.1
comp=Z,22nm,0.7s,baz=37,slow=5.3,SNR=206
GERES SKPbc SKiKP 02 38 50.5 -0.1
comp=Z,1.1nm,0.8s,baz=48,slow=4.0,SNR=4.9
SKO Skopje 144.41 317 *i* P PKPdf 02 35 32.9 -0.2
WET Wettzell 144.46 333 *e*PKPbc PKPdf 02 35 32.8 -0.1
baz=36,slow=3.2
KASTN Kahler Asten 144.50 339 *e*PKPbc PKPdf 02 35 32.6 -0.3
baz=36,slow=3.2
BEHE Becsehely 144.51 327⇑*i*P PKPdf 02 35 32.8 -0.3
BEHE Becsehely 144.51 327 PKPDF PKPdf 02 35 33.1 +0.1
LIT Litokhoron 144.60 314 P PKPab 02 35 32.1 -0.6
ARSA Arzberg 144.62 329 *i* P PKPab 02 35 31.4 -1.2
comp=Z,57nm,1.3s,SNR=14
BBLS Lazići 144.65 321⇑*i*P PKPdf 02 35 33.5 0.0
IDI Anoyia 144.66 305 ⇑P PKPab 02 35 33.1 -0.1
BUG Bochum--Univer 144.67 340 *e*PKPbc PKPbc 02 35 32.8 +0.2
baz=36,slow=3.2
GRF Grafenberg Arr 144.71 335 *e*PKPbc PKPdf 02 35 33.8 +0.5
baz=36,slow=3.2
GRFO Grafenberg 144.72 335 PKIKP PKPdf 02 35 33.4 +0.1
GRFO Grafenberg 144.72 335 PKPdf 02 35 33.4 +0.1
MOA Molln 144.80 330 *i* P PKPdf 02 35 33.5 -0.1
comp=Z,114nm,1.0s,SNR=32
KOGS Kog 144.80 327 *i* PKPbc PKPab 02 35 33.3 +0.1
RUDO Rudo 144.81 321 *e*P PKPbc 02 35 33.1 -0.2
ATAL Atalanti 144.83 311 P PKPbc 02 35 32.6 -0.9
KALN Kalnik 144.90 326 *i* P PKPab 02 35 33.7 0.0
LBWR Ladybower, Pea 144.98 351⇑*e*P PKPbc 02 35 33.4 -0.2
RCBR Riachuelo 144.99 132 PKIKP PKPbc 02 35 33.9 -0.9
RCBR Riachuelo 144.99 132 PKPbc 02 35 33.9 -0.9
FNA Florina 145.03 315 P PKPbc 02 35 33.7 -0.5
MOSL Moslavina 145.08 326 *i* P PKPbc 02 35 34.0 -0.1
LOBO Lobor 145.09 327 *i* P PKPbc 02 35 33.6 -0.5
PHP Peshkopia 145.20 317 P PKPbc 02 35 34.7 +0.1
BIOA Bad Ischl, Aus 145.20 331 *e*P PKPbc 02 35 34.6 +0.1
WACR West Acre 145.22 348⇑*e*P PKPdf 02 35 34.0 -0.1
SOKA Soboth 145.26 328 *i* P PKPdf 02 35 34.6 +0.1
comp=Z,59nm,0.9s,SNR=14
PTJ Puntijarka 145.30 327 P PKPbc 02 35 35.1 +0.2
TNS Taunus Mts 145.32 338 *e*PKPbc PKPab 02 35 35.6 +0.5
baz=36,slow=3.2
WME Myndd Eilian 145.33 353⇑*e*P PKPdf 02 35 34.2 0.0
WPS Cemaes, Angles 145.35 353⇑*e*P PKPdf 02 35 34.1 -0.1
ZAG Zagreb 145.35 326 *e*P PKPbc 02 35 35.1 +0.2
ZAG Zagreb 145.35 326 P PKPab 02 35 35.2 -0.1
MRAK Mrakovica 145.39 325⇑*i*P PKPab 02 35 35.5 -0.1
BLY Banja Luka 145.40 324⇑*i*P PKPab 02 35 35.8 +0.2
WLF1 Llynfaes 145.44 353⇑*e*P PKPdf 02 35 34.5 +0.1
YRC Rhoscolyn 145.50 354⇑*e*P PKPdf 02 35 34.4 -0.1
KBN Korca 145.50 315 P PKPbc 02 35 35.7 +0.1
AHRW Bad Neuenahr-A 145.51 340 *e*PKPbc PKPab 02 35 35.8 +0.1
baz=36,slow=3.2
PRIJ Prijedor 145.51 325⇑*i*P PKPab 02 35 36.3 +0.3
PDG Podgorica 145.55 319 ⇑P PKPbc 02 35 35.8 +0.1
PDG Podgorica 145.55 319 PKPdf PKPbc 02 35 35.5 -0.1
PDG Podgorica 145.55 319⇑*i*P PKPbc 02 35 35.7 +0.1
RJOB Jochberg 145.55 332 *e*PKPbc PKPab 02 35 36.2 0.0
baz=36,slow=3.2
CWF Charnwood Fore 145.56 350⇑*e*P PKPdf 02 35 35.0 +0.3
YLL Llanberis 145.57 353 *e*P PKPbc 02 35 35.1 -0.2
OBKA Obir 145.61 329 *e*P PKPbc 02 35 35.8 0.0
comp=Z,31nm,0.8s,SNR=5.6
CRES Cresnjev 145.62 327⇑*i*P PKPbc 02 35 36.0 +0.2
MGRS Mrkonjic Grad 145.66 324⇑*i*P PKPab 02 35 36.4 -0.2
FOEL Foel Wylfa 145.69 352⇑*e*P PKPbc 02 35 35.5 -0.2
BRY Bratogost 145.72 320⇑*i*P PKPdf 02 35 35.8 +0.3
KLV Kalavryta, Ach 145.72 311 P PKPbc 02 35 36.3 -0.1
DRME Dracevica, Mon 145.73 319⇑*i*P PKPbc 02 35 36.4 +0.2
BEBN Eben Emael 145.73 341 *d*PKiKP PKiKP 02 35 39.6 +0.4
TIR Tirane 145.74 317 P PKPbc 02 35 36.6 +0.4
OZLJ Ozalj 145.76 327 *i* P PKPdf 02 35 34.0 -1.2
LAKA Lakka 145.76 311 P PKPbc 02 35 36.8 +0.4
BTNL Ternell 145.77 341 *d*PKPdf PKPbc 02 35 36.0 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBA	Koelnbreinsper	145.78	330	iP	PKPdf	02 35 36.0	+0.5
	comp=Z,23nm,0.8s,SNR=10						
MEM	Membach	145.79	341	dPKPdf	PKPbc	02 35 36.1	0.0
FUR	Furstenfeldbru	145.89	333	ePKPbc	PKPab	02 35 37.4	0.0
	baz=36,slow=3.2						
JAN	Janina	145.92	314	P	PKPbc	02 35 36.4	-0.5
TREB	Trebinje	145.94	320	eP	PKPdf	02 35 35.7	0.0
BSTI	Sart Tilman	145.95	341	dPKPdf	PKPbc	02 35 36.8	+0.2
BSTI				dPKiKP	PKiKP	02 35 40.4	+0.7
LJU	Ljubljana	145.95	328⇑	iP	PKPbc	02 35 36.8	+0.1
LJU	Ljubljana	145.95	328	iPKPbc	PKPbc	02 35 36.8	+0.1
MYKA	Terra Mystica	145.97	330	iP	PKPbc	02 35 36.6	-0.3
	comp=Z,19nm,0.8s,SNR=4.3						
HCY	Herceg Novi	146.01	320⇑	iP	PKPdf	02 35 36.4	+0.6
BHOU	Houvegnez	146.01	341	dPKPdf	PKPdf	02 35 36.0	+0.5
CRNS	Crni Vrh	146.06	328	iPKPbc	PKPbc	02 35 37.0	-0.1
UCC	Uccle	146.11	343	dPKPdf	PKPbc	02 35 37.1	+0.1
PLIT	Plitvice	146.17	326	iP	PKPbc	02 35 37.1	-0.3
BCLA	Clavier	146.17	342	dPKPdf	PKPbc	02 35 36.8	-0.4
BCLA				dPKPab	PKPab	02 35 38.9	+0.6
BCLA				dPKiKP	PKiKP	02 35 41.2	+1.1
RICI	Ricice	146.20	322	P	PKPdf	02 35 36.4	+0.3
RLS	Riolos of Patr	146.21	311	P	PKPbc	02 35 38.3	+0.6
CEY	Cerknica	146.21	328⇑	iP	PKPbc	02 35 37.5	0.0
STON	Ston	146.24	321⇑	iP	PKPbc	02 35 37.1	-0.5
STON	Ston	146.24	321	iP	PKPdf	02 35 36.3	+0.2
STU	Stuttgart	146.25	336	ePKPbc	PKPab	02 35 38.3	-0.4
	baz=36,slow=3.2						
BGES	Gesves	146.27	342	dPKPdf	PKPbc	02 35 37.0	-0.5
BGES				dPKiKP	PKiKP	02 35 40.8	+0.5
KIJV	Kijevo	146.30	324	iP	PKPbc	02 35 37.6	-0.2
UDBI	Udbina	146.32	325	iP	PKPbc	02 35 37.3	-0.6
SNF	Seneffe	146.39	343	dPKPbc	PKPbc	02 35 38.0	+0.2
SNF				dPKiKP	PKiKP	02 35 40.5	-0.1
SRN	Sarande	146.39	315	P	PKPbc	02 35 38.1	-0.1
MAKA	Makarska	146.39	322	iP	PKPdf	02 35 37.1	+0.8
WATA	Walderalm	146.40	332	iP	PKPbc	02 35 38.1	0.0
	comp=Z,34nm,0.9s,SNR=11						
ABTA	Abfaltersbach	146.42	331	iP	PKPdf	02 35 35.4	-1.0
	comp=Z,11nm,1.0s,SNR=18						
ABTA				iP	PKPbc	02 35 37.7	-0.5
	comp=Z,39nm,0.7s,SNR=9.2						
WTTA	Wattenberg	146.43	332	eP	PKPdf	02 35 36.4	-0.1
	comp=Z,7.7nm,1.0s						
WTTA				iP	PKPbc	02 35 38.5	+0.2
	comp=Z,76nm,1.4s,SNR=12						
RCHB	Rochefort	146.43	341	dPKPbc	PKPbc	02 35 38.1	+0.2
LKD2	Lefkada island	146.46	313	P	PKPbc	02 35 38.7	+0.2
NYDR	Nydri-Lefkada	146.46	312	P	PKPbc	02 35 38.6	+0.2
MCH1	Michaelchurch	146.53	351⇑	eP	PKPbc	02 35 37.5	-0.7
SKDS	Skadanscina	146.55	328⇑	iP	PKPbc	02 35 38.2	-0.3
WLF	Walferdange	146.57	340	ePKPbc	PKPab	02 35 39.6	-0.3
	baz=36,slow=3.2						
WLF	Walferdange	146.57	340	dPKPdf	PKPbc	02 35 38.0	-0.3
WLF				dPKiKP	PKiKP	02 35 42.2	+1.2
MOTA	Moosalm	146.60	333	eP	PKPdf	02 35 35.9	-1.0
	comp=Z,12nm,1.5s						
MOTA				iP	PKPbc	02 35 38.7	0.0
	comp=Z,54nm,0.9s,SNR=15						
STRD	Stroud	146.62	350⇑	eP	PKPbc	02 35 38.2	-0.2
RETA	Reutte	146.63	333	iP	PKPbc	02 35 39.0	+0.2
	comp=Z,27nm,1.1s,SNR=5.8						
SQTA	Sankt Quirin	146.65	332	iP	PKPbc	02 35 39.1	+0.2
	comp=Z,51nm,0.8s,SNR=11						
MONM	Monmouth	146.66	351⇑	eP	PKPbc	02 35 38.1	-0.4
DOU	Dourbes	146.67	342	dPKPbc	PKPbc	02 35 38.9	+0.3
RABC	Rab	146.70	326	iP	PKPbc	02 35 38.6	-0.2
UBR	Ueberruh	146.76	334	ePKPbc	PKPbc	02 35 39.6	+0.5
	baz=36,slow=3.2						
MORI	Morici	146.78	324	iP	PKPdf	02 35 37.8	+0.7
HVAR	Hvar	146.79	322	iP	PKPbc	02 35 38.2	-1.0
RSBS	Rosebush, Pemb	146.80	353⇑	eP	PKPbc	02 35 38.4	-0.5
SWN1	Swindon	146.82	350⇑	eP	PKPbc	02 35 39.1	+0.1
BFO	Black Forest	146.94	336	PKP2	PKPbc	02 35 39.6	+0.1
BFO	Black Forest	146.94	336		PKPbc	02 35 39.6	+0.1
BFO	Black Forest	146.94	336	ePKPbc	PKPbc	02 35 40.0	+0.5
	baz=36,slow=3.2						
ZIRJ	Zirje	146.95	324	iP	PKPbc	02 35 39.1	-0.5
FETA	Feichten	147.01	333	eP	PKPdf	02 35 37.8	+0.2
	comp=Z,11nm,1.1s						
FETA				iP	PKPbc	02 35 40.2	+0.3
	comp=Z,50nm,0.9s,SNR=12						
DUGI	Dugi Otok	147.05	325	iP	PKPbc	02 35 38.9	-1.0
BRJN	Brijuni	147.13	327	iP	PKPbc	02 35 40.1	+0.1
DAVA	Damuels	147.16	334	iP	PKPbc	02 35 40.6	+0.3
	comp=Z,36nm,0.9s,SNR=7.8						
CTI	Castel Tesino	147.34	331	PKP2	PKPbc	02 35 40.7	-0.1
CTI	Castel Tesino	147.34	331		PKPbc	02 35 40.6	-0.1
MATE	Matera	148.13	318	⇑P	PKPbc	02 35 43.0	+0.1
TIP	Timpagrande	148.90	316	⇑P	PKiKP	02 35 45.8	-0.4
TIP	Timpagrande	148.90	316		PKPbc	02 35 45.3	+0.3
AQU	L'Aquila	149.04	324⇑	iP	PKPbc	02 35 45.2	0.0
ESDC	Sonseca Array	158.61	346	PKPab	PKPab	02 36 30.1	-0.6
	comp=Z,1.5nm,0.9s,baz=338,slow=3.2,SNR=6.6						
DBIC	Dimbokro	166.47	206	PKPab	PKPab	02 37 04.7	-1.0
	comp=Z,2.6nm,0.6s,baz=140,slow=6.7,SNR=4.8						
TORD	Torodi Ar. Bea	166.74	246	PKP	PKPdf	02 36 02.4	-0.6
	comp=Z,7.4nm,0.9s,baz=32,slow=0.8,SNR=31						
TORD				PKPab	PKPab	02 37 06.7	-0.4
	comp=Z,1.8nm,1.0s,baz=115,slow=5.2,SNR=3.7						

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*IDC **10** 02:31:06.7±1.9, 1°.94N×127°.71E, h0^{km}, mb3.4/3, mb1 3.8/4, mb1mx3.5/46, mbtmp3.7/4, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36 Error ellipse: s-maj=57.3km s-min=28.5km az=68.0*

*DJA **10** 02:31:25.5±0.8, 1°N±5°×12°7E±°, h13^{km}±7^{km}, M4.2/8, mb4.5/3, mB5.0/1, MLv4.0/8, Mw(mB)4.3/1*

ISC 10 02:31:23.5±1.4**, 1°.4N**±0°.1×**127°.12E**±0°.09**, h150^{km}, n12, σ1^{s}89**/12**, mb3.4**/3**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.66	158	P	Pn	02 31 42.0	-3.8
LBMI	Labuha	2.04	169	P	Pn	02 31 59.3	+0.1
GTOI	Gorontalo	4.17	260	P	Pn	02 32 26.4	+0.3
GTOI				S	Sn	02 33 13.9	-0.8
SWI	Sorong	4.70	118	P	Pn	02 32 40.9	+7.8
SIJI	Sorong	4.71	118	LR	LR	02 33 29.1	
	comp=Z,129nm,18.2s,baz=11,slow=32						
TTSI	Tana Toraja	8.52	239	P	Pn	02 33 23.6	-0.3
BNSI	Bone	9.06	231	P	Pn	02 33 32.9	+1.7
SPSI	Sidrap Palu	9.06	234	P	Pn	02 33 33.0	+1.8
	731nm38nm,0.5s						
KAPI	Kappang	9.72	229	Pn	Pn	02 33 39.5	-0.4
	3.0nm,0.3s,baz=41,slow=6.2,SNR=9.9						
KAPI				Sn	Sn	02 35 25.5	-2.2
	2.2nm,0.3s,baz=17,slow=23,SNR=6.2						
WRA	Warramunga Arr	22.34	162	P	P	02 36 10.4	+1.1
	1.0nm,0.3s,baz=342,slow=11,SNR=35						
ASAR	Alice Springs	25.76	166	P	P	02 36 42.5	+2.0
	0.1nm,0.3s,baz=352,slow=7.1,SNR=1.7						
MKAR	Makanchi Array	59.70	326	P	P	02 41 12.2	-0.1
	0.2nm,0.4s,baz=117,slow=7.0,SNR=2.9						

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*THE **10** 02:39:56.3, 35°.39N×23°.55E, h9^{km}±3^{km}, ML2.6/5, Error ellipse: s-maj=3.8km s-min=0.8km az=181.0*

*ATH **10** 02:39:56.7, 35°.41N×23°.59E, h10^{km}±3^{km}, ML2.8/3, Error ellipse: s-maj=3.1km s-min=1.0km az=43.0*

ISC 10 02:39:56.4±1.1**, 35°.39N**±0°.03×**23°.57E**±0°.04**, h12^{km}**±9^{km}**, n16, σ0^{s}55**/27**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.18	148	P	Pg	02 39 59.7	-0.6
KNDR				S	Sg	02 40 02.5	-0.6
	3μm,0.3s						
RODP	Rodopos	0.23	41	P	Pg	02 40 01.7	+0.4
RODP				S	Sg	02 40 05.4	+0.8
IMMV	Iera Moni Meta	0.34	77	P	Pg	02 40 02.9	-0.3
IMMV				S	Sg	02 40 08.1	+0.2
IMMV				AML	AML	02 40 12.5	
	comp=E,2853μm,0.2s						
IMMV				AML	AML	02 40 12.6	
	comp=N,2260μm,0.2s						
IMMV	Iera Moni Meta	0.34	77	P	Pg	02 40 03.0	-0.3
IMMV				S	Sg	02 40 08.4	+0.5
	comp=N,930nm,0.1s						
VAM	Vamos	0.52	88	P	Pg	02 40 05.9	-0.5
VAM				S	Sg	02 40 13.8	+0.5
VAM				AML	AML	02 40 14.6	
	comp=N,3283μm,0.3s						
VAM				AML	AML	02 40 16.3	
	comp=E,2470μm,0.3s						
VAM	Vamos	0.52	88	P	Pg	02 40 05.9	-0.5
VAM				S	Sb	02 40 15.0	+0.2
	comp=E,1μm,0.2s						
ANKY	Antikythira Is	0.53	336	P	Pg	02 40 06.7	0.0
ANKY				S	Sg	02 40 13.4	-0.3
ANKY	Antikythira Is	0.53	336	P	Pg	02 40 06.7	0.0
ANKY				S	Sg	02 40 13.6	-0.1
	comp=E,488nm,0.6s						
GVD	Gavdhos	0.69	142	P	Pg	02 40 10.1	+0.3
GVD				S	Sg	02 40 19.6	+0.7
GVD				AML	AML	02 40 21.6	
	comp=N,2021μm,0.4s						
GVD				AML	AML	02 40 22.9	
	comp=E,1939μm,0.3s						
GVD	Gavdhos	0.69	142	P	Pg	02 40 10.1	+0.3
GVD				S	Sg	02 40 19.8	+1.0
	comp=E,980nm,0.3s						
KTHA	Kythira Island	0.96	335	P	Pg	02 40 14.5	-0.4
SIVA	Sivas	1.08	110	P	Pg	02 40 16.3	-0.8
SIVA				S	Sg	02 40 31.2	0.0
IDI	Anoyia	1.08	95	P	Pg	02 40 16.1	-1.2
VLI	Veliai	1.42	339	P	Pb	02 40 22.7	-0.2
NPS	Neapolis	1.68	94	P	Pb	02 40 27.1	0.0
ZKR	Zakros	2.18	96	P	Pb	02 40 36.0	+0.2

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*IDC **10** 02:43:56.0±0.8, 7°.84S×125°.67E, h0^{km}, mb4.1/12, mb1 4.3/15, mb1mx4.0/41, mbtmp4.2/15, ML4.2/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/65, Error ellipse: s-maj=29.9km s-min=16.7km az=61.0*

*NEIC **10** 02:43:59.9±1.6, 7°.88S±0°.05×125°.77E±0°.07, h27^{km}±5^{km}, mb4.2/4, Error ellipse: s-maj=10.0km s-min=7.4km az=79.0*

*DJA **10** 02:43:59.3±0.6, 8°S±4°×12°6E±°, h10^{km}, M4.4/9, mb4.7/8, mB4.9/5, MLv4.4/9, Mw(mB)4.2/5*

ISC 10 02:43:59.6±0.5**, 7°.94S**±0°.05×**125°.75E**±0°.07**, h26^{km}, n51, σ1^{s}51**/50**, mb4.2**/13**, MS3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	3.54	259		Pn	02 44 53.5	+0.5
MMRI				Sn	Sn	02 45 34.3	+0.3
MMRI	Maumere	3.54	259	P	Pn	02 44 54.8	+1.8
BBSI	Bau Bau	3.99	308	P	Pn	02 44 58.5	-0.6
SAUI	Saumlaki	5.50	91	Pn	Pn	02 45 19.5	-0.5
BSSI	Bau Bau, Buton	5.51	289	P	Pn	02 45 19.6	-0.5
	0.2nm606nm38nm,0.5s						
BKSI	Bulukumba	6.16	295	P	Pn	02 45 28.9	-0.1
	0.4nm982nm72nm,0.5s						
WBSI	Waikabubak, Su	6.50	254	P	Pn	02 45 36.9	+3.1
	0.2nm69nm,0.8s						
BNSI	Bone	6.62	302	P	Pn	02 45 34.6	-0.7
	0.2nm733nm59nm,0.5s						
KAPI	Kappang	6.63	296	Pn	Pn	02 45 34.3	-1.1
	3.9nm,0.3s,baz=42,slow=1.0,SNR=8.7						
KAPI				Sn	Sn	02 46 48.6	-1.6
	0.6nm,0.3s,baz=332,slow=22,SNR=1.3						
KAPI	Kappang	6.63	296		Pn	02 45 35.3	-0.1
SPSI	Sidrap Palu	7.14	303	P	Pn	02 45 42.6	+0.2
	0.1nm22nm,0.6s						
TTSI	Tana Toraja	7.64	309	P	Pn	02 45 50.8	+1.4
	0.3nm31nm,0.7s						
KNRA	Kununurra	8.23	159		Pn	02 45 59.6	+2.1
TNTI	Ternate	8.81	11	Pn	Pn	02 46 05.2	-0.2
GTOI	Gorontalo	8.95	342	P	Pn	02 46 08.8	+1.5
	7.2nm,0.9s						
MPSI	Mapaga	10.08	324	P	Pn	02 46 24.0	+1.1
FITZ	Fitzroy Crossi	10.10	181	Pn	Pn	02 46 23.9	+0.9
	1.8nm,0.3s,baz=15,slow=9.0,SNR=60						
FITZ				Sn	Sn	02 48 11.2	-4.3
	2.0nm,0.3s,baz=18,slow=19,SNR=18						
FITZ				LR	LR	02 50 23.0	
	comp=Z,105nm,20.6s,baz=360,slow=38						
FITZ	Fitzroy Crossi	10.10	181	Pn	Pn	02 46 24.0	+0.9
FITZ				Sn	Sn	02 48 15.8	+0.3
TOLI2	Tolitoli	10.27	331	Pn	Pn	02 46 24.2	-1.1
WB0	Warramunga Arr	14.44	145	Pn	Pn	02 47 21.3	-1.1
WRAB	Tennant Creek	14.55	146	Pn	Pn	02 47 22.2	-1.8
WRA	Warramunga Arr	14.55	146	Pn	Pn	02 47 21.0	-3.0
	0.7nm,0.3s,baz=318,slow=13,SNR=37						
WRA				Sn	Sn	02 49 58.0	-6.5
	0.4nm,0.3s,baz=334,slow=17,SNR=5.7						
WB2	Warramunga Arr	14.55	146	Pn	Pn	02 47 21.0	-3.1
WR0	Warramunga Arr	14.67	145	Pn	Pn	02 47 23.5	-2.2
PSA00	Pilbara Seismi	14.70	202	Pn	Pn	02 47 26.6	+0.7
DAV	Davao City (W)	14.91	359	LR	LR	02 53 00.6	
	comp=Z,78nm,19.9s,baz=160,slow=37						
ASAR	Alice Springs	17.48	154	P	Pn	02 48 03.4	+1.5
	0.6nm,0.3s,baz=339,slow=13,SNR=40						
ASAR				S	Sn	02 51 11.0	-4.9
	0.3nm,0.3s,baz=312,slow=20,SNR=3.3						
ASAR				LR	LR	02 55 30.4	
	comp=Z,197nm,20.3s,baz=333,slow=39						
ASAR	Alice Springs	17.48	154	P	Pn	02 48 03.6	+1.7
LEM	Lembang	18.01	272	LR	LR	02 55 58.7	
	comp=Z,159nm,20.3s,baz=78,slow=40						
COEN	Coen	18.12	111	P	Pn	02 48 07.8	-1.9
COEN				IAmb	IAmb	02 48 14.7	
	comp=Z,17nm,1.2s						
PMG	Port Moresby	21.22	96	LR	LR	02 57 13.3	
	comp=Z,130nm,19.6s,baz=280,slow=37						
STKA	Stephens Creek	28.02	150	P	P	02 49 50.2	+1.5
	comp=Z,0.5nm,0.3s,baz=97,slow=10,SNR=1.5						
STKA				LR	LR	03 02 54.5	
	comp=Z,112nm,20.1s,baz=18,slow=40						
RPSI	Rantau Prapat	28.77	291	P	P	02 49 54.7	-0.8
PSI	Prapat	28.80	291	P	P	02 49 54.7	-1.3
	comp=Z,1.9nm,0.3s,baz=91,slow=2.4,SNR=5.3						
CMAR	Chiang Mai Arr	37.25	315	P	P	02 51 09.5	0.0
	comp=Z,1.4nm,0.3s,baz=128,slow=8.2,SNR=5.1						
CMAR	Chiang Mai Arr	37.25	315	P	P	02 51 09.2	-0.2
DZM	Mont Dzumac	41.59	114	LR	LR	03 09 29.7	
	comp=Z,95nm,19.1s,baz=354,slow=37						
SONM	Songino Array	58.11	345	P	P	02 53 51.7	+0.6
	comp=Z,0.8nm,1.0s,baz=143,slow=6.5,SNR=4.4						
SONM	Songino Array	58.11	345	P	P	02 53 51.3	+0.2
PETK	Petropavlovsk-	66.60	20	P	P	02 54 47.9	+0.3
	comp=Z,2.5nm,0.7s,baz=222,slow=1.9,SNR=2.8						
MKAR	Makanchi Array	66.78	329	P	P	02 54 48.7	-0.2
	comp=Z,1.4nm,0.6s,baz=129,slow=7.0,SNR=12						
MKAR	Makanchi Array	66.78	329	P	P	02 54 48.1	-0.8
AAK	Ala-Archa	68.60	322	P	P	02 55 00.3	-0.3
	comp=Z,1.6nm,0.8s,baz=141,slow=6.5,SNR=2.5						
ZALV	Zalesovo Beam	70.63	336	P	P	02 55 11.2	-1.5
	comp=Z,0.6nm,0.4s,baz=134,slow=6.2,SNR=2.5						
KURBB	Kurchatov Arra	71.17	330	P	P	02 55 15.1	-1.0
	comp=Z,0.8nm,0.6s,baz=141,slow=5.2,SNR=9.5						
KURK	Kurchatov	71.19	331	P	P	02 55 14.9	-1.3
VNDA	Vanda	72.06	172	P	P	02 55 22.1	+1.1
	comp=Z,2.0nm,1.2s,baz=324,slow=13,SNR=1.9						
SEY	Seymchan	73.56	12	P	P	02 55 29.9	-0.1
	comp=Z,2.6nm,0.7s,baz=214,slow=6.7,SNR=12						
ABKAR	Akbulak array	80.66	323	P	P	02 56 09.3	-1.0
NRIK	Noril'sk	81.49	347	P	P	02 56 14.7	+0.4
	comp=Z,1.9nm,0.6s,baz=57,slow=6.0,SNR=4.0						
QSPA	South Pole Qui	82.04	180	P	P	02 56 18.4	+0.9
QSPA				IAmb	IAmb	02 56 25.6	
	comp=Z,3.5nm,1.2s						

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*NEIC **10** 02:44:50.6±1.5, 28°.73N±0°.10×127°.6E±0°.2, h218^{km}±10^{km}, mb4.2/14, Error ellipse: s-maj=28.4km s-min=13.3km az=100.0*

*JMA **10** 02:44:52.7±0.2, 28°.67N×127°.71E, h199^{km}±4^{km}, M4.6*

*IDC **10** 02:44:55.4±2.9, 28°.70N×127°.73E, h268^{km}±28^{km}, mb3.3/12, mb1 3.5/13, mb1mx3.2/45, mbtmp3.9/13, Error ellipse: s-maj=19.2km s-min=16.9km az=46.0*

ISC 10 02:44:50.3±0.7**, 28°.69N**±0°.05×**127°.72E**±0°.07**, h218^{km}**±6^{km}**, n53, σ1^{s}13**/74**, mb3.8**/19**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	1.36	109	P	Pn	02 45 25.2	+0.7
JAMN				eS	S	02 45 50.1	-0.8
JTAJ	Takarajima	1.38	70	P	Pn	02 45 25.9	+1.3
JTAJ				eS	S	02 45 50.9	-0.4
JTK	Tokunoshima	1.41	129	P	Pn	02 45 25.8	+0.9
JTK				eS	S	02 45 50.8	-1.0
JOKE	Okinoerabujima	1.52	150	P	Pn	02 45 26.7	+0.8
JOKE				eS	S	02 45 52.6	-0.8
JIH	Iheya	1.66	172	P	Pn	02 45 28.1	+1.0
JIH				eS	S	02 45 54.9	-0.7
JAM	Amami Oshima	1.68	99	P	Pn	02 45 27.9	+0.7
JAM				eS	S	02 45 54.3	-1.4
JYRO	Yoronjima	1.78	158	P	Pn	02 45 29.0	+0.9
JYRO				eS	S	02 45 55.9	-1.5
JOW	Kunigami	1.91	165	P	Pn	02 45 30.3	+0.9
JOW				eS	S	02 45 58.5	-1.2
JOW	Kunigami	1.91	165	Pn	Pn	02 45 30.6	+1.1
JOW				Sn	S	02 45 58.6	-1.1
JZK	Kikaishima	2.02	100	P	Pn	02 45 32.5	+2.1
JZK				eS	S	02 46 01.9	+0.5
JAGN	Aguni-jima	2.13	192	P	Pn	02 45 32.5	+0.9
JAGN				eS	S	02 46 02.7	-0.9
JNTH	Nagotoyohara	2.18	173	P	Pn	02 45 33.1	+1.1
JNTH				eS	S	02 46 03.1	-1.3
JNN	Nakanoshima	2.21	58	eS	S	02 46 05.1	+0.3
JKE	Kume jima 2	2.50	200	P	Pn	02 45 36.0	+0.7
JKE				eS	S	02 46 10.0	-0.3
JJT3	Tamagusuku3	2.54	179	P	Pn	02 45 37.4	+1.6
JJT3				eS	S	02 46 11.7	+0.6
JYAK	Yakushimahirau	2.88	57	P	Pn	02 45 40.7	+1.2
JYAK				eS	S	02 46 15.8	-2.1
JMTN	Minamitane	3.25	58	P	Pn	02 45 45.0	+1.2
JMTN				eS	S	02 46 23.9	-1.7
JTN	Tanegashima 3	3.45	55	P	Pn	02 45 47.3	+1.2
JTN				eS	S	02 46 27.6	-2.1
JMZ	Minamidaito 2	4.23	132	P	Pn	02 45 57.7	+2.1
JMZ				eS	S	02 46 45.9	-0.9
JTZ	Takazaki	4.33	41	P	Pn	02 45 57.9	+1.2
JOGS	Gusukube	4.42	208	S	S	02 46 49.9	-1.4
JNU	Nakatsue	5.19	31	Pn	Pn	02 46 08.9	+1.4
KSRS	Korea Array	8.74	1	P	Pn	02 46 55.1	+2.1
	0.4nm,0.3s,baz=180,slow=14,SNR=8.3						
JHJ	Hachijo jima 2	11.26	64	P	P	02 47 29.1	-1.4
	24nm,0.3s,baz=114,slow=14,SNR=2.5						
MJAR	Matsushiro Arr	11.81	46	P	P	02 47 36.7	+0.1
	0.0nm,0.3s,baz=243,slow=11,SNR=5.9						
SONM	Songino Array	25.27	325	P	P	02 49 59.5	+2.9
	1.6nm,0.8s,baz=141,slow=10,SNR=11						
MKAR	Makanchi Array	39.59	310	P	P	02 52 00.4	-0.1
	0.2nm,0.4s,baz=101,slow=7.8,SNR=4.0						
MKAR				PcP	PcP	02 54 03.0	-0.1
	0.7nm,0.7s,baz=77,slow=5.2,SNR=7.3						
MKAR	Makanchi Array	39.59	310	P	P	02 51 58.4	-2.0
ZALV	Zalesovo Beam	40.04	321	P	P	02 52 02.7	-1.2
	0.4nm,0.3s,baz=126,slow=7.4,SNR=2.3						
ZALV				PcP	PcP	02 54 03.7	-0.6
	0.5nm,0.7s,baz=142,slow=4.9,SNR=3.5						
ZALV	Zalesovo Beam	40.04	321	P	P	02 52 03.5	-0.5
KURK	Kurchatov	42.75	315	P	P	02 52 25.8	-0.2
KURBB	Kurchatov Arra	42.78	315	P	P	02 52 26.1	-0.2
	0.4nm,0.4s,baz=102,slow=9.1,SNR=5.0						
KURBB				PcP	PcP	02 54 12.7	-0.7
	0.7nm,0.7s,baz=106,slow=3.8,SNR=6.1						
FITZ	Fitzroy Crossi	46.55	183	P	P	02 52 57.1	+0.8
	2.5nm,0.6s,baz=100,slow=9.5,SNR=3.0						
FITZ	Fitzroy Crossi	46.55	183	P	P	02 52 57.2	+0.9
WRA	Warramunga Arr	48.77	172	P	P	02 53 13.0	-0.3
	0.9nm,0.8s,baz=352,slow=8.2,SNR=1.7						
ANM	Nome	54.58	29	P	P	02 53 56.7	+0.9
ANM				IAmb	IAmb	02 53 57.5	
	comp=Z,4.0nm,0.8s						
L19K	White Mountain	59.24	32	P	P	02 54 29.0	+0.5
J20K	Nowinta River	59.44	30	P	P	02 54 30.3	+0.5
J20K				IAmb	IAmb	02 54 31.7	
	comp=Z,4.4nm,0.8s						
K20K	Telida	59.52	31	P	P	02 54 30.3	0.0
H23K	Yukon River	61.25	28	P	P	02 54 42.5	+0.5
H23K				IAmb	IAmb	02 54 44.3	
	comp=Z,5.7nm,0.8s						
MDM	Murphy Dome	61.91	29	P	P	02 54 46.9	+0.5
ILAR	Eielson Array	62.50	29	P	P	02 54 49.2	-1.1
	comp=Z,0.7nm,0.8s,baz=257,slow=4.0,SNR=8.3						
ILAR	Eielson Array	62.50	29	P	P	02 54 49.4	-1.0
SCRK	Sand Creek	63.89	29	P	P	02 54 58.9	-0.7
SCRK				IAmb	IAmb	02 55 00.9	
	comp=Z,1.1nm,0.7s						
A36M	Sachs Harbour	68.05	19	P	P	02 55 25.9	+0.2
A36M				IAmb	IAmb	02 55 27.3	
	comp=Z,5.1nm,0.8s						
C36M	Paulatuk	69.57	21	P	P	02 55 35.5	+0.4
FINES	FINESS Array B	70.51	330	P	P	02 55 39.7	-1.3
	comp=Z,0.3nm,0.3s,baz=75,slow=5.9,SNR=1.7						
YKA	Yellowknife Ar	76.50	25	P	P	02 56 16.0	+0.2
	comp=Z,2.7nm,0.8s,baz=299,slow=5.5,SNR=42						
FCC	Fort Churchill	86.20	20	P	P	02 57 06.3	-0.5
FCC				IAmb	IAmb	02 57 07.1	
	comp=Z,4.5nm,0.9s						
FFC	Flin Flon	86.60	26	P	P	02 57 08.8	0.0
FFC				IAmb	IAmb	02 57 09.7	
	comp=Z,3.6nm,0.9s						
NVAR	Mina Array Bea	89.13	46	P	P	02 57 21.9	+0.5
	comp=Z,0.2nm,0.6s,baz=305,slow=5.4,SNR=4.1						
PDAR	Pinedale Array	91.53	38	P	P	02 57 32.9	+0.4
	comp=Z,0.6nm,0.7s,baz=269,slow=1.2,SNR=5.8						
ULM	Lac du Bonnet	92.43	26	P	P	02 57 34.5	-1.6
	comp=Z,1.5nm,0.6s,baz=282,slow=3.3,SNR=3.9						

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*IDC **10** 02:49:18.9±6.9, 19°.74S×178°.35W, h524^{km}±42^{km}, mb2.5/2, mb1 2.9/3, mb1mx2.5/36, mbtmp3.5/3, Error ellipse: s-maj=169.8km s-min=37.2km az=144.0*

ISC 10 02:49:21.0±2.4**, 19°.0S**±0°.6×**178°.6W**±0°.4**, h550^{km}, n6, σ0^{s}90**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.41	291	P	P	02 50 38.5	-0.3
	6.8nm,0.3s,baz=134,slow=3.7,SNR=30						
WRA	Warramunga Arr	44.27	261	P	P	02 56 43.0	+0.6
	0.2nm,0.3s,baz=97,slow=7.7,SNR=9.5						
WRA				PcP	PcP	02 58 14.7	-0.1
	1.0nm,1.3s,baz=90,slow=3.5,SNR=2.0						
ASAR	Alice Springs	44.34	255	P	P	02 56 43.0	+0.1
	0.7nm,0.9s,baz=92,slow=8.2,SNR=3.3						
ASAR				PcP	PcP	02 58 14.2	-0.8
	0.8nm,0.8s,baz=99,slow=4.2,SNR=6.8						
AKASG	Malin Array Be	141.40	332	PKhKP	PKPpre	03 07 47.6	
	0.3nm,0.4s,baz=40,slow=4.4,SNR=6.0						
BRTR	Keskin Array B	145.38	314	PKPbc	PKiKP	03 08 00.4	-0.8
	0.8nm,0.7s,baz=130,slow=4.9,SNR=1.6						
GERES	GERESS Array B	148.58	344	PKPbc	PKiKP	03 08 08.6	+1.2
	0.7nm,0.7s,baz=35,slow=3.6,SNR=5.3						

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*IEPN **10** 03:19:51.0, 60°.19N×59°.25E, h0^{km}*

*MIRAS **10** 03:19:59.4±0.0, 60°.25N×60°.00E, h1^{km}, ML3.3/11, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 10 03:19:47.7±1.9**, 60°.39N**±0°.06×**60°.3E**±0°.1**, h10^{km}, n9, σ1^{s}61**/58**, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PR7R	Sarany	2.01	204	iP	Pn	03 20 21.0	-0.6
PR7R				iP	Pn	03 20 21.0	-0.6
PR7R				iP	Pn	03 20 21.0	-0.6
PR7R				iS	Sn	03 20 45.5	-1.3
PR7R				iS	Sn	03 20 45.5	-1.3
	399nm,0.3s						
PR7R				iS	Sn	03 20 45.5	-1.3
	342nm,0.3s						
PR7R	Sarany	2.01	204	iP	Pn	03 20 21.0	-0.6
	37nm,0.4s						
PR7R				iP	Pn	03 20 21.0	-0.6
PR7R				iP	Pn	03 20 21.0	-0.6
PR7R				iS	Sn	03 20 45.5	-1.3
PR7R				iS	Sn	03 20 45.5	-1.3
	342nm,0.3s						
PR7R				iS	Sn	03 20 45.5	-1.3
	64nm,0.2s						
PR7R				iAML	AML	03 20 48.8	
	342nm,0.3s						
PR1R	Pomanovo	2.17	238	iP	Pn	03 20 24.2	+0.4
	6.1nm,0.1s						
PR1R				iP	Pn	03 20 24.2	+0.4
PR1R				iP	Pn	03 20 24.2	+0.4
PR1R				iP	Pn	03 20 24.2	+0.4
PR1R				iP	Pn	03 20 24.2	+0.4
PR1R				iP	Pn	03 20 24.2	+0.4
PR1R				iS	Sn	03 20 50.4	-0.3
PR1R				iS	Sn	03 20 50.4	-0.3
	140nm,0.2s						
PR1R				iS	Sn	03 20 50.4	-0.3
	140nm,0.2s						

PR1R				*i* S	Sn	03 20 50.4	-0.3
PR1R				*i* S	Sn	03 20 50.4	-0.3
	159nm,0.3s						
PR1R				*i* S	Sn	03 20 50.4	-0.3
	5.8nm,0.2s						
PR1R				*i* AML	AML	03 20 52.3	
	24nm,0.3s						
PR3R	Kungur	3.42	212	*i* P	Pg	03 20 51.0	-2.1
	16nm,0.5s						
PR3R				*i* P	Pg	03 20 51.0	-2.1
PR3R				*i* P	Pb	03 20 51.6	+3.3
PR3R				*i* P	Pb	03 20 51.6	+3.3
PR3R				*i* P	Pb	03 20 51.6	+3.3
PR3R				*i* P	Pb	03 20 51.6	+3.3
PR3R				*i* S	Sb	03 21 30.9	+1.1
	38nm,0.2s						
PR3R				*i* S	Sb	03 21 30.9	+1.1
	38nm,0.2s						
PR3R				*i* S	Sb	03 21 31.5	+1.7
	55nm,0.4s						
PR3R				*i* S	Sb	03 21 31.5	+1.7
	55nm,0.4s						
PR3R				*i* S	Sb	03 21 31.5	+1.7
	41nm,0.3s						
PR3R				*i* S	Sb	03 21 31.5	+1.7
	60nm,0.5s						
PR3R				*i* AML	AML	03 21 36.3	
	60nm,0.4s						
PR4R	Vlasy	3.45	226	*i* P	Pn	03 20 40.7	-0.6
PR4R				*i* P	Pn	03 20 40.7	-0.6
PR4R				*i* P	Pn	03 20 40.7	-0.6
PR4R				*i* S	Sn	03 21 20.9	-1.3
PR4R				*i* S	Sn	03 21 20.9	-1.3
	107nm,0.4s						
PR4R				*i* S	Sn	03 21 20.9	-1.3
	85nm,0.9s						
PR4R	Vlasy	3.45	226	*i* P	Pn	03 20 40.7	-0.6
	16nm,0.2s						
PR4R				*i* P	Pn	03 20 40.7	-0.6
PR4R				*i* P	Pn	03 20 40.7	-0.6
PR4R				*i* S	Sn	03 21 20.9	-1.3
PR4R				*i* S	Sn	03 21 20.9	-1.3
	42nm,0.4s						
PR4R				*i* S	Sn	03 21 20.9	-1.3
	85nm,0.9s						
PR4R				*i* AML	AML	03 21 26.7	
	100nm,0.3s						
ARU	Arti	4.08	194	*i* P	Pb	03 21 01.1	+1.5
	8.1nm,0.3s						
ARU				*i* P	Pb	03 21 01.1	+1.5
ARU				*i* P	Pb	03 21 01.1	+1.5
ARU				*i* S	Sb	03 21 48.6	-0.3
ARU				*i* S	Sb	03 21 48.6	-0.3
	20nm,0.5s						
ARU				*i* S	Sb	03 21 48.6	-0.3
	10nm,0.3s						
ARU				*i* AML	AML	03 21 53.5	
	23nm,0.6s						
LSH	Leshukonskoye	8.07	310	Pn	Pn	03 21 45.9	+1.2
LSH				*e*Sn	Sn	03 23 15.9	-0.1
	9.7nm,1.8s						
KLMR	Klimovskoe	10.22	282	*e*Pn	Pn	03 22 11.9	-2.3
KLMR				*e*Sn	Sn	03 24 02.7	-6.0

*IDC **10** 03:24:04.0±0.6, 57°55S×66°42W, h0^{km}, mb4.7/11, mb1 4.7/13, mb1mx4.6/19, mbtmp4.6/13, ML4.3/2, MS4.0/31, Ms1 4.0/31, ms1mx3.9/48, Error ellipse: s-maj=29.1km s-min=14.9km az=79.0*

*SJA **10** 03:24:06.0, 57°49S×66°41W, h10^{km}, ML5.0, MW5.0*

*NEIC **10** 03:24:06.6±1.3, 57°51S±0°06×66°47W±0°05, h15^{km}±3^{km}, mb5.2/59, Error ellipse: s-maj=9.5km s-min=3.7km az=188.0*

*VAO **10** 03:24:06.2±0.5, 57°53S×66°36W, h10^{km}, mb4.9*

*GCMT **10** 03:24:08.6±0.4, 57°42S±0°04×66°75W±0°06, h28^{km}, MW5.0/52, Moment Tensor Solution. s37,c40; s52,c61; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.75±.21; $M_{\theta\theta}$-1.23±.14; $M_{\phi\phi}$-2.52±.14; $M_{r\theta}$0.83±.18; $M_{\theta\phi}$0.71±.07; $M_{\phi r}$-0.61±.23; Best double couple: $M_0$3.43600×10^{16} NP1:ϕ_s341.00000°, δ38.00000°, λ99.00000°. NP2: ϕ_s149.00000°, δ53.00000°, λ83.00000°. Principal axes: T 3.9210, Plg80.0000°, Azm27.0000°; N -0.9700, Plg6.0000°, Azm153.0000°; P -2.9520, Plg8.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 03:24:05.3±0.4**, 57°50S**±0°05×**66°71W**±0°09**, h10^{km}, n261,** σ1^{s}**22**/241**, mb5.1**/35**, MS4.1**/29**, 9C-1D, Drake Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MG01	Puerto William	2.62	348		Pn	03 24 48.1	+0.4
MG01				Sn	Sn	03 25 20.0	+0.5
MG01	Puerto William	2.62	348⇓	*i*P	Pn	03 24 48.1	+0.4
MG01				*i* S	Sn	03 25 19.6	+0.1
MG01				IAML		03 25 32.3	
	comp=N,6µm,0.7s						
USHA	Ushuaia	2.84	340	Pn	Pn	03 24 51.6	+1.0
	comp=N,12nm,0.3s,baz=176,slow=16,SNR=190						
USHA				LR	LR	03 25 21.7	
	comp=N,509nm,21.4s,baz=138,slow=26						
USHA				Sn	Sn	03 25 22.6	-2.3
	comp=N,46nm,0.3s,baz=94,slow=13,SNR=22						
USHA	Ushuaia	2.84	340⇑	*i*P	Pn	03 24 50.8	+0.1
USHA				*i* S	Sn	03 25 23.2	-1.7
DSPA	Despedida	3.66	345		Pn	03 25 03.2	+1.3
MG03	Isla Dawson	4.23	328		Pn	03 25 11.7	+2.0
MG03	Isla Dawson	4.23	328	*e*P	Pn	03 25 10.9	+1.2
MG03				*i* S	Sn	03 25 55.7	-3.4
MG02	Cerro Sombrero	4.94	342	Pn	Pn	03 25 21.5	+2.0
MG02	Cerro Sombrero	4.94	342⇑	*e*P	Pn	03 25 21.4	+1.9
MG02				*e*S	Sn	03 26 15.1	-1.6
GO10	Punta Arenas	5.01	329		Pn	03 25 22.2	+1.7
GO10	Punta Arenas	5.01	329	*e*P	Pn	03 25 22.1	+1.6
GO10				*e*S	Sn	03 26 12.6	-5.8
MG04	Isla Riesco	5.42	327	Pn	Pn	03 25 27.7	+1.7
MG04	Isla Riesco	5.42	327	*e*P	Pn	03 25 27.6	+1.6
MG04				*i* S	Sn	03 26 18.5	-10
MG05	Puerto Natales	6.73	328		Pn	03 25 44.2	+0.2
PMSA	Palmer Station	7.41	171	LR	LR	03 28 02.9	
	comp=N,2µm,18.3s,baz=345,slow=33						
EFI	East Falkland	7.70	44		Pn	03 25 56.1	-1.2
COYC	Coyhaique	12.40	342		Pn	03 27 01.2	-0.4
AY01	Puyuhuapi	13.61	342		Pn	03 27 17.1	-1.0
LL02	Futaleuf	14.69	345		Pn	03 27 34.8	+1.8
LL03	Petrohue	16.78	345	Pn	Pn	03 28 01.4	+1.2
PLCA	Paso Flores	16.96	350	P	P	03 28 04.8	+0.3
	comp=N,0.4nm,0.3s,baz=183,slow=10.0,SNR=32						
PLCA				LR	LR	03 35 05.6	
	comp=N,852nm,18.6s,baz=179,slow=39						
PLCA	Paso Flores	16.96	350		Pn	03 28 02.7	+0.1
PLCA	Paso Flores	16.96	350	*e*P	P	03 28 05.3	+0.8
LR03	Panguipulli	18.25	346	P	Pn	03 28 18.8	+0.3
LC01	Cunco	18.92	347	P	P	03 28 24.3	-1.7
ML02	Panimavida	21.97	350	P	P	03 28 59.4	+0.3
ML02				IAmb	IAmb	03 29 03.4	
	comp=Z,113nm,0.8s						
GO05	Huala	22.77	349	P	P	03 29 07.7	+0.1
GO05				IAmb	IAmb	03 29 10.8	
	comp=Z,117nm,1.3s						
BO02	Sierra Bellavi	22.88	351	P	P	03 29 07.9	-1.0
BO02				IAmb	IAmb	03 29 16.8	
	comp=Z,68nm,1.0s						
BELA	Belgrano 2	23.16	163	P	P	03 29 10.8	-0.5
BELA				IAmb	IAmb	03 29 29.9	
	comp=Z,87nm,1.3s						
BO01	Tunca	23.30	351	P	P	03 29 12.4	-0.7
BO04	La Punta	23.66	352	P	P	03 29 17.7	+0.9
LMEL	Las Melosas	23.77	353	P	P	03 29 18.8	+0.8
LMEL				IAmb	IAmb	03 29 24.9	
	comp=Z,74nm,1.1s						
MT01	Popeta	23.84	351	P	P	03 29 19.2	+0.8
MT09	Talagante	23.90	351	P	P	03 29 19.1	-0.1
MT09				IAmb	IAmb	03 29 22.5	
	comp=Z,96nm,0.9s						
MT03	Universidad Ad	24.15	352	P	P	03 29 20.9	-0.5
MT05	Renca	24.27	352	P	P	03 29 22.9	+0.5
MT02	Curacav	24.43	351	P	P	03 29 23.6	-0.3
MT02				IAmb	IAmb	03 29 27.9	
	comp=Z,52nm,0.9s						
PEL	Peldehue	24.51	352	P	P	03 29 25.2	+0.5
PEL				IAmb	IAmb	03 29 28.4	
	comp=Z,60nm,0.9s						
ROC1	El Roble	24.70	351	P	P	03 29 26.2	-0.4
VA03	San Esteban	24.88	352	P	P	03 29 28.6	+0.5
VA06	Catapilco	25.14	351	P	P	03 29 30.7	+0.5
VA06				IAmb	IAmb	03 29 40.0	
	comp=Z,47nm,1.1s						
CO02	Combarbal	26.46	352	P	P	03 29 42.7	+0.3
CO02				IAmb	IAmb	03 29 44.3	
	comp=Z,67nm,0.8s						
CO03	El Pedregal	26.80	352	P	P	03 29 46.2	+0.8
CO03				IAmb	IAmb	03 29 47.9	
	comp=Z,77nm,1.1s						
VNA3	Neumayer Olymp	26.94	143	P	P	03 29 47.6	+1.2
PLTB	Pedras Altas	27.27	25	P	P	03 29 49.9	+0.2
PLTB	Pedras Altas	27.27	25	*e*P	P	03 29 49.8	+0.2
GO04	Tololo Observa	27.47	352	P	P	03 29 52.0	+0.4
VNA2	Neumayer--Watz	27.69	143	P	P	03 29 54.0	+1.0
	baz=277,slow=9.0						
CPSB	Cacapava Do Su	28.61	24	*e*P	P	03 30 01.9	+0.3
ITQB	Itaqui	28.70	19	P	P	03 30 02.4	0.0
ITQB				IAmb	IAmb	03 30 14.2	
	comp=Z,42nm,1.1s						
ITQB	Itaqui	28.70	19	*e*P	P	03 30 02.5	+0.2
SNAA	Sanae	29.11	144	P	P	03 30 06.4	+0.7
SNAA	Sanae	29.11	144	P	P	03 30 06.1	+0.4
	comp=Z,6.6nm,0.7s,baz=274,slow=7.5,SNR=5.6						
SNAA				LR	LR	03 39 41.7	
	comp=Z,180nm,22.0s,baz=238,slow=32						
SNAA	Sanae	29.11	144	P	P	03 30 05.3	-0.4
SNAA				IAmb	IAmb	03 30 07.7	
	comp=Z,73nm,1.6s						
AC04	Llanos de Chal	29.44	352	P	P	03 30 09.6	+0.7
GO03	Copiap	29.99	354	P	P	03 30 14.5	+0.5
GO03				IAmb	IAmb	03 30 15.2	
	comp=Z,36nm,1.3s						
AC06	Mina Casimiro	30.23	354	P	P	03 30 16.6	+0.6
AC06				IAmb	IAmb	03 30 17.2	
	comp=Z,50nm,1.5s						
AC02	Maricunga	30.69	356	P	P	03 30 20.9	+0.3
TER01	Tubaro-SC	31.48	31	*e*P	P	03 30 27.7	+0.8
CPUP	Villa Florida	31.86	16	P	P	03 30 29.0	-1.3
	comp=Z,6.2nm,1.0s,baz=217,slow=6.9,SNR=4.9						
CPUP				LR	LR	03 43 41.9	
	comp=Z,199nm,19.9s,baz=192,slow=37						
CPUP	Villa Florida	31.86	16	P	P	03 30 29.1	-1.3
CPUP	Villa Florida	31.86	16	*e*P	P	03 30 30.1	-0.1
ITAB	Concordia	31.96	25	*e*P	P	03 30 32.2	+1.0
QSPA	South Pole Qui	32.74	180	P	P	03 30 37.9	+0.1
	comp=Z,7.6nm,0.8s,baz=149,slow=2.4,SNR=20						
QSPA				LR	LR	03 42 08.7	
	comp=Z,214nm,20.1s,baz=148,slow=33						
QSPA	South Pole Qui	32.74	180	P	P	03 30 38.0	+0.1
QSPA				IAmb	IAmb	03 30 47.0	
	comp=Z,25nm,1.1s						
PTGB	Pitanga	34.41	24	*e*P	P	03 30 53.4	+0.8
TIJ01	Guaruva-PR	34.56	29	*e*P	P	03 30 54.8	+0.8
LVC	Limon Verde	34.89	356	LR	LR	03 46 39.3	
	comp=Z,442nm,19.3s,baz=190,slow=39						
LVC	Limon Verde	34.89	356	*e*P	P	03 30 58.1	+1.0
TRCB	Terra Rica	36.15	22	P	P	03 31 07.5	-0.1
TRCB				IAmb	IAmb	03 31 08.5	
	comp=Z,62nm,1.3s						
TRCB	Terra Rica	36.15	22	*e*P	P	03 31 07.8	+0.1
FRTB	Fartura	36.31	27	*e*P	P	03 31 09.5	+0.5
PATCX	Punta Patache	36.72	355	P	P	03 31 13.1	+0.6
VAO	Valinhos	37.32	31	*e*P	P	03 31 18.1	+0.5
PARB	Paraibuna	37.39	33	*e*P	P	03 31 18.9	+0.7
PCMB	Pacaembu	37.59	24	*e*P	P	03 31 20.5	+0.7
GO01	Chusmiza	37.82	356	P	P	03 31 22.6	+0.2
GO01				IAmb	IAmb	03 31 24.8	
	comp=Z,48nm,1.3s						
AQDB	Aquidauana	37.85	17	P	P	03 31 21.9	-0.2
AQDB	Aquidauana	37.85	17	*e*P	P	03 31 21.8	-0.3
BB19B	Bebedouro	38.76	28	*e*P	P	03 31 29.6	-0.1
PB16	IPOC Station P	39.16	356	P	P	03 31 33.6	-0.1
PB16				IAmb	IAmb	03 31 36.6	
	comp=Z,51nm,1.4s						
DUB01	Friburgo-RJ	39.57	37	*e*P	P	03 31 37.4	+0.8
BSCB	Bom Sucesso	39.84	33	*e*P	P	03 31 39.0	+0.2
CAM01	Campos-RJ	40.04	38	*e*P	P	03 31 41.7	+1.3
PP1B	Ponte de Pedra	40.80	17	*e*P	P	03 31 47.2	+0.5
LPAZ	La Paz	41.15	358	P	P	03 31 51.2	+0.9
	comp=Z,8.4nm,0.9s,baz=156,slow=6.7,SNR=21						
LPAZ				LR	LR	03 50 57.0	
	comp=Z,198nm,19.8s,baz=162,slow=39						
LPAZ	La Paz	41.15	358	P	P	03 31 50.1	-0.2
LPAZ	La Paz	41.15	358	*e*P	P	03 31 51.5	+1.2
ALF01	Guarapari-ES	41.48	38	*e*P	P	03 31 53.2	+1.0
SIV	San Ignacio	41.65	8	LR	LR	03 51 31.9	
	comp=Z,208nm,18.2s,baz=188,slow=40						
IPMB	Ipameri, GO	41.79	27	*e*P	P	03 31 55.2	+0.3
SALV	Santo Antonio	42.35	16	*e*P	P	03 31 59.9	+0.5
PTLB	Pontes e Lacer	42.36	11	*e*P	P	03 31 59.9	+0.4
RPN	Rapa Nui	42.62	297	LR	LR	03 45 13.8	
	comp=Z,113nm,21.7s,baz=208,slow=30						
DIAM	Diamantina, MG	42.72	33	*e*P	P	03 32 03.1	+0.5
RIB01	Linhares ES	42.80	38	*e*P	P	03 32 03.2	+0.2
SYO	Syowa Base	43.06	150⇑	*e*pP	P	03 32 05.8	+1.2
SJMB	Sao Joao De Ma	43.11	37	*e*P	P	03 32 05.3	-0.2
ARAG	Araguaiana, MT	43.20	21	*e*P	P	03 32 06.9	+0.6
BDFB	Brasilia	44.09	26	P	P	03 32 13.7	+0.1
	comp=Z,13nm,1.0s,baz=194,slow=4.0,SNR=16						
BDFB	Brasilia	44.09	26	P	P	03 32 13.3	-0.3
NAN01	Guarapari, ES	44.26	38	*e*P	P	03 32 14.5	-0.3
VILB	Vilhena	44.73	9	*e*P	P	03 32 19.6	+1.0
GUA01	Guaratinga, BA	45.54	37	*e*P	P	03 32 25.2	+0.2
JANB	Januaria	45.61	31	*e*P	P	03 32 25.7	+0.1
NNA	Nana	46.07	346	LR	LR	03 50 30.0	
	comp=Z,112nm,18.3s,baz=159,slow=34						
PDRB	Porto dos Gac	46.42	14	*e*P	P	03 32 31.9	-0.1
CMC01	Camacan, BA	46.78	37	*e*P	P	03 32 34.9	+0.1
SNDB	Serra Nova Dou	46.94	21	*e*P	P	03 32 36.6	+0.6
NBIT	Itapeh - BA	47.21	37	*e*P	P	03 32 38.4	+0.3
CLDB	Colider	47.28	15	*e*P	P	03 32 38.2	-0.5
PEXB	Peixe	47.44	25	*e*P	P	03 32 40.4	+0.4
ETMB	Extrema	47.57	1	*e*P	P	03 32 41.7	+0.7
SDBA	SAO DESIDERIO	47.98	29	*e*P	P	03 32 44.2	0.0
GDU01	Guandu, BA	48.30	36	*e*P	P	03 32 46.2	-0.3
MAW	Mawson	49.78	157	LR	LR	03 54 41.8	
	comp=Z,297nm,18.4s,baz=230,slow=37						
CZSB	Cruzeiro do Su	49.87	352	*e*P	P	03 32 59.9	+1.3
SMTB	Santa Maria do	50.74	25	*e*P	P	03 33 05.6	+0.4
NBPN	Ponto Novo - B	50.81	34	*e*P	P	03 33 05.4	-0.3
ATAH	Atahualpa	51.06	345	LR	LR	03 52 02.4	
	comp=Z,151nm,19.6s,baz=189,slow=33						
NPGB	Novo Progresso	51.10	15	*e*P	P	03 33 08.0	0.0
NBLA	Lagarto - SE	51.43	37	*e*P	P	03 33 09.9	-0.6
PRPB	Parauapebas	52.88	21	*e*P	P	03 33 21.5	+0.3
NBAN	Anadia - AL	53.17	39	*e*P	P	03 33 23.0	-0.4
TBTG	Tabatinga, AM	53.23	356	*e*P	P	03 33 24.6	+0.8
ITTB	Itaituba	53.69	14	*e*P	P	03 33 27.3	+0.2
MACA	Manacapuru-AM	54.40	7	*e*P	P	03 33 32.7	+0.4
NBRF	Rio Formoso -	54.49	40	*e*P	P	03 33 32.3	-0.7
NBMA	Muriti-CE	54.53	35	*e*P	P	03 33 33.3	-0.1
NBPB	Pedra_Branca-C	56.01	33	*e*P	P	03 33 44.0	0.0
MALB	Monte Alegre	56.36	15	*e*P	P	03 33 46.8	+0.3
NBPV	Pedro Velho	56.54	38	*e*P	P	03 33 48.2	+0.4
NBPS	Pedro II - PI	56.57	31	*e*P	P	03 33 48.2	+0.2
RCBR	Riachuelo	56.89	37	LR	LR	03 55 42.4	
	comp=Z,67nm,21.4s,baz=324,slow=33						
TMAB	Tom-Au,PA,Br	56.92	22	*e*P	P	03 33 51.8	+1.4
ROSB	Rosrio	57.31	27	*e*P	P	03 33 52.6	-0.6
NBCL	Cascavel-CE	57.65	34	*e*P	P	03 33 55.1	-0.4
PTLC	Puerto Leguiza	57.86	350	*e*P	P	03 33 55.4	-1.6
MCPB	Macapa, AP	58.16	17	*e*P	P	03 33 59.3	+0.1
OTAV	Otavalo	58.32	346	P	P	03 34 01.5	+0.6
OTAV				IAmb	IAmb	03 34 05.0	
	comp=Z,36nm,1.2s						
OTAV	Otavalo	58.32	346	*e*P	P	03 34 02.6	+1.8
TULM	Tulcn-Chalpat	58.71	347⇑	*e*P	P	03 34 05.9	+2.3
MACC	Macarena, Meta	59.73	352	*e*P	P	03 34 06.9	-3.2
BOAV	Boa Vista	59.91	7	*e*P	P	03 34 11.3	0.0
SOTA	Rioblanco	59.98	349	*e*P	P	03 34 14.5	+2.2
PCON	Cinco Dias	60.15	349⇑	*e*P	P	03 34 14.5	+1.0
POPC	Popayan, Colom	60.38	349	*e*P	P	03 34 15.5	+0.7
YOTC	Yotoco, Valle	61.78	349	*e*P	P	03 34 24.1	0.0
SUR	Sutherland	62.07	107	LR	LR	03 55 16.4	
	comp=Z,140nm,19.0s,baz=224,slow=30						
ROSC	El Rosal	62.44	351	P	P	03 34 30.3	+1.4
	comp=Z,14nm,0.8s,baz=195,slow=3.6,SNR=9.3						
ROSC				LR	LR	04 02 01.9	
	comp=Z,207nm,20.0s,baz=209,slow=36						
ROSC	El Rosal	62.44	351	P	P	03 34 29.0	+0.1
ROSC				IAmb	IAmb	03 34 31.8	
	comp=Z,24nm,1.0s						
PLMC	San Jos del P	62.68	349	*e*P	P	03 34 30.8	+0.7
SPBC	San Pablo de B	63.22	352	*e*P	P	03 34 33.6	-0.1
RUSC	La Rusia	63.39	353	*e*P	P	03 34 35.5	+0.2
MDP	Montagnes des	63.43	16	LR	LR	04 04 23.9	
	comp=Z,209nm,18.2s,baz=200,slow=38						
PTBC	PUERTO BERRIO,	64.13	351⇑	*e*P	P	03 34 37.5	-2.2
ZARC	Zaragoza, Cauc	65.11	351	P	P	03 34 45.5	-0.5
ZARC	Zaragoza, Cauc	65.11	351	*e*P	P	03 34 44.1	-1.8
UREC	San Jos de Ur	65.42	350⇑	*e*P	P	03 34 47.0	-1.0
SDV	Santo Domingo	66.23	356	LR	LR	04 06 02.4	
	comp=Z,128nm,18.0s,baz=215,slow=38						
SDV	Santo Domingo	66.23	356	P	P	03 34 53.9	+0.4
SDV				IAmb	IAmb	03 34 54.4	
	comp=Z,9.3nm,0.8s						
SDV	Santo Domingo	66.23	356⇑	*e*P	P	03 34 52.8	-0.7
SDV	Santo Domingo	66.23	356	*e*P	P	03 34 53.9	+0.4
BOSA	Boshof	67.37	108	P	P	03 34 59.8	-0.9
	comp=Z,8.3nm,0.9s,baz=209,slow=7.1,SNR=9.0						
BOSA				LR	LR	03 59 57.5	
	comp=Z,121nm,18.3s,baz=190,slow=32						
BOSA	Boshof	67.37	108	P	P	03 34 59.9	-0.8
BOSA				IAmb	IAmb	03 35 01.1	
	comp=Z,15nm,1.1s						
SJCC	San Jacinto, C	67.52	351	P	P	03 35 02.1	+0.6
RIMA	Rio Macho	68.49	342	P	P	03 35 08.2	+0.5
RIMA				IAmb	IAmb	03 35 10.4	
	comp=Z,29nm,1.4s						
JTS	Las Juntas de	69.19	341	LR	LR	04 00 12.7	
	comp=Z,91nm,18.2s,baz=218,slow=31						
LBTB	Lobatse	70.47	106	LR	LR	04 00 53.4	
	comp=Z,90nm,18.6s,baz=196,slow=31						
LBTB	Lobatse	70.47	106	P	P	03 35 19.2	-0.8
LBTB				IAmb	IAmb	03 35 20.5	
	comp=Z,17nm,1.1s						
TSUM	Tsumeb	70.98	96	LR	LR	04 02 16.1	
	comp=Z,90nm,18.2s,baz=153,slow=32						
PPT	Papeete	71.55	266	LR	LR	03 58 52.2	
	comp=Z,194nm,18.7s,baz=92,slow=29						
SJG	San Juan	75.32	1	LR	LR	04 13 21.2	
	comp=Z,103nm,18.4s,baz=102,slow=39						
MATP	Matopo	75.76	106	LR	LR	04 04 23.4	
	comp=Z,67nm,18.1s,baz=168,slow=32						
LSZ	Lusaka	79.87	102	LR	LR	04 07 45.9	
	comp=Z,86nm,18.3s,baz=160,slow=33						
LIC	Lamto	80.57	63	*e*P	P	03 36 17.3	-0.5
	comp=Z,79nm,1.2s						
KIC	Kosan Boka	80.82	63	*e*P	P	03 36 18.6	-0.5
	comp=Z,33nm,1.0s						
TIC	Toumodi	80.94	62	*e*P	P	03 36 19.3	-0.5
DBIC	Dimbokro	81.04	62	P	P	03 36 20.1	-0.2
	comp=Z,5.4nm,0.5s,baz=225,slow=5.2,SNR=14						
LPIG	La Paz	89.11	321	LR	LR	04 08 26.6	
	comp=Z,70nm,18.6s,baz=171,slow=30						
TORD	Torodi Ar. Bea	89.81	65	P	P	03 37 04.0	0.0
	comp=Z,1.5nm,0.6s,baz=212,slow=5.3,SNR=11						
TORD	Torodi Ar. Bea	89.81	65	P	P	03 37 03.8	-0.2
TORD				IAmb	IAmb	03 37 05.5	
	comp=Z,22nm,1.9s						
TXAR	Lajitas Array	91.92	328	P	P	03 37 15.2	+1.6
	comp=Z,5.1nm,1.0s,baz=147,slow=7.4,SNR=21						
TXAR				LR	LR	04 14 56.9	
	comp=Z,69nm,18.1s,baz=168,slow=33						
TXAR	Lajitas Array	91.92	328	P	P	03 37 13.3	-0.2
TX31	Lajitas Ar. Si	91.92	328	P	P	03 37 14.6	+1.1
TX32	Lajitas Array	91.92	328	P	P	03 37 12.7	-0.9
TX32				IAmb	IAmb	03 37 16.0	
	comp=Z,8.6nm,1.1s						
JCT	Junction City	91.97	332	P	P	03 37 13.6	0.0
KOND	Kondoa	92.58	103	*i* S	S	03 48 29.6	+7.9
MBAR	Mbarara	93.51	97	LR	LR	04 14 48.3	
	comp=Z,81nm,18.6s,baz=179,slow=33						
KMBO	Kilima Mbogo	96.54	102	LR	LR	04 15 36.0	
	comp=Z,47nm,20.9s,baz=102,slow=32						
ASAR	Alice Springs	97.31	199	P	P	03 37 38.0	-0.7
	comp=Z,0.4nm,0.5s,baz=160,slow=5.2,SNR=5.7						
ANMO	Albuquerque	97.99	328	LR	LR	04 15 27.9	
	comp=Z,142nm,18.5s,baz=169,slow=31						
WRA	Warramunga Arr	100.87	200	P	Pdif	03 37 54.2	-0.3
	comp=Z,1.5nm,0.9s,baz=173,slow=4.1,SNR=10						
WRA	Warramunga Arr	100.87	200		Pdif	03 37 54.5	-0.1
H11S2	WAKE ISLAND Hy	124.80	248	T	T	06 00 36.2	
	baz=148,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	124.81	248	T	T	06 00 33.4	
	baz=148,slow=76,SNR=28						
H11S1	WAKE ISLAND Hy	124.81	248	T	T	06 00 37.5	
	baz=148,slow=76,SNR=20						
GERES	GERESS Array B	124.93	53	PKP	PKiKP	03 43 04.6	-0.2
	comp=Z,1.4nm,0.7s,baz=45,slow=0.2,SNR=14						
YKA	Yellowknife Ar	125.27	335	PKP	PKPdf	03 43 04.7	+0.1
	comp=Z,0.5nm,0.6s,baz=157,slow=2.1,SNR=9.1						
H11N3	WAKE ISLAND Hy	125.73	249	T	T	06 01 43.7	
	baz=145,slow=76,SNR=6.4						
H11N1	WAKE ISLAND Hy	125.73	249	T	T	06 01 44.0	
	baz=145,slow=76,SNR=6.6						
H11N2	WAKE ISLAND Hy	125.75	249	T	T	06 01 45.0	
	baz=145,slow=76,SNR=5.9						
CLL	Collm	126.50	50	*e*PKPdf	PKiKP	03 43 08.0	+0.3
CLL				*e*pPKPdf	sPKPdf	03 43 15.0	+4.4
BRTR	Keskin Array B	127.64	73	PKP	PKPdf	03 43 10.0	-0.1
	comp=Z,1.4nm,0.8s,baz=213,slow=2.8,SNR=2.6						
BRTR	Keskin Array B	127.64	73		PKiKP	03 43 10.7	0.0
GURO	Guroymak-BITLI	131.18	81		PKiKP	03 43 17.1	-0.7
NOA	NORSAR Array B	132.87	40	PKP	PKPdf	03 43 19.2	+0.1
	comp=Z,0.8nm,0.8s,baz=233,slow=2.2,SNR=2.9						
AKASG	Malin Array Be	133.25	60	PKP	PKPdf	03 43 19.8	-0.3
	comp=Z,0.7nm,0.4s,baz=245,slow=2.3,SNR=8.7						
AKASG	Malin Array Be	133.25	60		PKPdf	03 43 19.4	-0.7
AKBB	Malin Array Si	133.25	60		PKPdf	03 43 18.8	-1.3
DOT	Dot Lake	134.47	322		PKPdf	03 43 22.9	+0.9
NACGM	Naroch	134.93	55	*i* PKP	PKPdf	03 43 17.3	-5.8
KBZ	Khabaz	135.33	76	PKP	PKPdf	03 43 24.1	-0.1
	comp=Z,1.9nm,0.9s,baz=194,slow=4.0,SNR=6.1						
A36M	Sachs Harbour	135.42	338		PKiKP	03 43 24.8	-0.3
ILAR	Eielson Array	136.14	322	PKP	PKPdf	03 43 25.1	0.0
	comp=Z,1.8nm,0.9s,baz=176,slow=2.3,SNR=14						
ILAR	Eielson Array	136.14	322		PKPdf	03 43 25.8	+0.7
FINES	FINESS Array B	138.66	47	PKP	PKPdf	03 43 28.9	-1.0
	comp=Z,1.3nm,0.8s,baz=256,slow=1.1,SNR=4.6						
IMAR	Indian Mountai	139.16	321		PKPdf	03 43 30.6	-0.1
TOLK	Toolik Lake Re	139.34	326		PKPdf	03 43 32.2	+1.2
CMAR	Chiang Mai Arr	139.59	159	PKP	PKPdf	03 43 32.3	-0.6
	comp=Z,1.0nm,0.3s,baz=216,slow=4.5,SNR=1.5						
CMAR	Chiang Mai Arr	139.59	159		PKPdf	03 43 32.1	-0.8
ARCES	ARCESS Array B	142.69	35	PKhKP	PKPpre	03 43 32.6	
	comp=Z,3.2nm,0.9s,baz=272,slow=3.2,SNR=8.1						
KLMR	Klimovskoe	143.89	53	*e*PKPdf	PKPab	03 43 35.1	-1.3
KLMR				AMP		03 43 38.1	
	comp=Z,35nm,1.4s						
NIL	Nilore	144.00	114		PKPbc	03 43 38.1	-0.3
SHL	Shillong	144.62	145		PKPbc	03 43 40.8	+0.1
GAMB	Gambell	144.70	312		PKPdf	03 43 40.7	+0.1
LVZ	Lovozero	145.03	40		PKPdf	03 43 41.1	0.0
CHGR	Chuyangaron	145.80	104		PKPbc	03 43 43.5	-0.5
GAR	Garm	146.66	105		PKPdf	03 43 45.4	+0.4
BTK	Batken	147.70	104		PKPdf	03 43 47.5	+0.9
DRK	Karamyk	147.78	106	PKPdf	PKPdf	03 43 47.6	+0.6
ABKAR	Akbulak array	147.90	81		PKPdf	03 43 45.8	-0.7
ABKAR	Akbulak array	147.90	81		PKPdf	03 43 45.3	-1.2
PZH	PanZhiHua	147.95	160	PKPbc	PKPbc	03 43 50.5	0.0
LSA	Lhasa	148.22	142	PKPdf	PKPdf	03 43 48.8	+0.5
GYA	Guiyang	148.62	169	⇑PKPbc	PKPdf	03 43 49.8	+1.2
GYA				pPKP	PKPbc	03 43 52.8	+0.5
GYA				PP	PP	03 47 26.2	+4.7
GYA				SKKS		03 54 14.5	
GYA				AMB	AMB		
	comp=Z,150nm,4.3s						
GYA				LR	LR		
	comp=Z,220nm,5.3s						
GYA				LR	LR		
	comp=Z,330nm,3.9s						
GYA				LR	LR		
	comp=Z,240nm,5.2s						
KKAR	Karatay Array	149.70	100	PKPdf	PKPdf	03 43 49.4	-0.2
KSH	Kashi	149.95	111	PKPbc	PKPdf	03 43 50.3	0.0
AML	Almayashu	150.70	104	P	PKiKP	03 43 58.1	+0.2
	SNR=16						
ARU	Arti	150.82	68		PKPdf	03 43 52.6	+1.7
EKS2	Erkin-Say	151.12	104	P	PKiKP	03 43 58.5	+0.1
	SNR=10						
UCH	Uchtor	151.19	105	P	PKiKP	03 43 59.1	+0.1
	SNR=11						
AAK	Ala-Archa	151.47	105	P	PKiKP	03 43 59.6	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=14						
AAK	Ala-Archa	151.47	105		PKPdf	03 43 53.2	+0.5
KBK	Karagaybulak	151.72	105	P	PKiKP	03 44 00.3	+0.6
	SNR=8.8						
USP	Ospenovka	151.92	104	P	PKiKP	03 44 00.0	0.0
	SNR=11						
ULHL	Ulahol	152.10	107	P	PKiKP	03 44 01.1	+0.6
	SNR=5.5						
BOOM	Boomskoye usch	152.12	106		PKPdf	03 43 53.3	-0.3
TKM2	Tokmak 2	152.25	105	P	PKiKP	03 44 00.8	-0.1
	SNR=6.1						
NJ2	Nanjing	154.27	191	*e*PKPbc	PKPdf	03 43 58.3	+1.5
GOMU	GeErMu	155.39	142	PKP	PKPdf	03 43 55.1	-3.6
GOMU				pPKP	pPKPdf	03 44 00.9	+0.1
GOMU				sPKP		03 44 05.5	
GOMU				SKS	SKSdf	03 51 03.8	-1.4
GOMU				SKKS	SKKSac	03 54 44.5	-6.0
GOMU				AMB	AMB		
	comp=Z,79nm,5.4s						
LZH	Lanzhou	157.67	160	*e*PKP	PKPdf	03 44 03.9	+2.5
LZH				sPKP		03 44 09.9	
MKAR	Makanchi Array	158.37	106	PKP	PKPdf	03 44 01.7	0.0
	comp=Z,0.2nm,0.6s,baz=228,slow=1.5,SNR=3.8						
MKAR				PKPab	PKPab	03 44 35.6	-0.8
	comp=Z,1.1nm,0.8s,baz=240,slow=4.3,SNR=7.7						
WMQ	Urumqi	158.94	120	*e*PKP	PKPdf	03 44 03.9	+1.3
WMQ				LR	LR		
	comp=Z,120nm,20.1s						
GTA	Gaotai	159.88	148	*e*PKP	PKPdf	03 44 04.4	+0.5
HHC	Hu-ho-hao-te	163.30	175	*e*PKP	PKPdf	03 44 04.4	-3.0
ZALV	Zalesovo Beam	163.63	90	PKP	PKPdf	03 44 05.7	-1.4
	comp=Z,0.5nm,0.6s,baz=205,slow=3.1,SNR=4.3						
ZALV	Zalesovo Beam	163.63	90		PKPdf	03 44 06.9	-0.2
NRIK	Noril'sk	163.65	33	PKPab	PKPab	03 44 58.2	-0.5
	comp=Z,1.1nm,0.3s,baz=337,slow=3.7,SNR=4.0						
XLT	XiLinHaoTe	166.27	189	*e*PKP	PKPdf	03 44 07.5	-2.3
SONM	Songino Array	169.46	154	PKP	PKPdf	03 44 11.6	-0.3
	comp=Z,2.5nm,1.2s,baz=194,slow=3.0,SNR=9.4						
SONM				PKPab	PKPab	03 45 23.3	-1.8
	comp=Z,0.5nm,0.9s,baz=185,slow=3.6,SNR=2.0						

*NCEDC **10** 03:38:41.5±2.9, 37°.65N±0°.02×121°.67W±0°.02, h0km±7km, Md3.0/127, ML2.7/40(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=191.0*

NEIC 10 03:38:43.3±1.0**, 37°.67N**±0°.02×**121°.67W**±0°.03**, h17**km±2km**, Error ellipse: s-maj=3.4km s-min=2.3km az=49.0, Central California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WENL	Wente Vineyard	0.08	235		Pg	03 38 44.8	-1.8
WENL					Sg	03 38 46.8	-2.0
COSM	Mount Oso	0.29	124		Pg	03 38 49.0	-0.5
BDM	Black Diamond	0.32	332		Pg	03 38 50.1	0.0
MHC	Mount Hamilton	0.33	176		Pg	03 38 49.8	-0.5
C055	Cottonwood Ave	0.35	268		Pg	03 38 50.4	-0.4
SMCB	Saint Mary's C	0.39	296		Pg	03 38 51.4	+0.1
SCCB	Santa Clara Co	0.41	202		Pg	03 38 51.5	-0.2
CMCM	Mills College	0.41	286		Pb	03 38 52.0	-0.2
BKS	Berkeley--Byer	0.49	295		Pg	03 38 53.2	+0.1
VAK	Adit at Lawren	0.50	295		Pg	03 38 53.5	+0.1
BL67	Building 67, L	0.51	294		Pg	03 38 53.4	0.0
BL88	Building 88, L	0.51	294		Pg	03 38 53.6	+0.1
BRK	Berkeley--Havi	0.51	294		Pg	03 38 53.3	-0.1
JRSC	Jasper Ridge	0.52	240		Pg	03 38 53.2	-0.5
HERB	Hercules	0.58	306		Pb	03 38 55.0	0.0
RFSB	Richmond Field	0.58	295		Pg	03 38 54.8	0.0
GHS	Gilroy Hot Spr	0.60	163		Pg	03 38 54.9	-0.3
HFEM	San Felipe	0.72	162		Pg	03 38 57.1	-0.3
HCOM	Corn Cob Canyo	0.78	182		Pg	03 38 58.9	+0.4
HSFM	Saint Francis	0.87	171		Pn	03 39 00.8	0.0
CVS	Carmenet Viney	0.92	318		Pb	03 38 59.9	-0.9
SAO	San Andreas Ge	0.92	169		Pg	03 39 01.1	-0.1
BLRM	Lewis Ranch	1.05	162		Pn	03 39 03.2	-0.1
MCCM	Marconi Confer	1.07	297		Pb	03 39 02.3	-1.0
MCCM	Marconi Confer	1.07	297	IAML		03 39 18.8	
	comp=N,271nm,0.6s						
CMB	Columbia Colle	1.08	70		Pb	03 39 02.5	-1.1
CMB	Columbia Colle	1.08	70	IAML		03 39 18.4	
	comp=N,170nm,0.5s						
SCZ	Santa Cruz	1.09	169		Pb	03 39 02.7	-1.0
BJCM	Johnson Can.	1.14	169		Pn	03 39 03.5	-1.0
BBGB	Big Mountain B	1.20	155		Pn	03 39 05.2	-0.2
HAST	Hastings Reser	1.28	176		Pn	03 39 05.9	-0.6
BSMM	Soledad Missio	1.30	171		Pn	03 39 06.7	-0.1
MNRC	McLaughlin Min	1.35	334		Pn	03 39 06.8	-0.6
GCRM	Castle Rock Sp	1.38	324		Pn	03 39 06.8	-1.0
GDXM	Geysers	1.44	322		Pb	03 39 09.3	-0.4
SUTB	Sutter Butte	1.56	357		Pn	03 39 08.7	-1.6
PMPB	Monarch Peak	1.61	154		Pn	03 39 11.2	+0.1
PMPB				IAML		03 39 48.5	
	comp=N,91nm,0.8s						
PMPB				IAML		03 39 59.5	
	comp=E,105nm,1.4s						
EMB	Emerald Bay	1.79	43		Pn	03 39 13.6	-0.1
RUBR	Rubicon Trail	1.82	40	Pn	Pn	03 39 14.5	+0.3
RUBR				IAML		03 39 40.4	
	comp=E,101nm,0.4s						
ORV	Oroville	1.89	4		Pn	03 39 14.5	-0.3
KCC	Kaiser Creek	1.90	100		Pn	03 39 15.7	+0.6
MRDM	Red Cones	2.08	91		Pn	03 39 18.7	+1.0
MDCM	Deadman Creek	2.09	88		Pn	03 39 19.1	+1.3
OMMB	Old Mammoth Mi	2.12	91	Pn	Pn	03 39 18.6	+0.3
OMMB				IAML		03 39 54.6	
	comp=N,36nm,0.7s						
PNTR	Pine Nut	2.16	48		Pn	03 39 19.1	+0.3
PNTR				IAML		03 39 59.5	
	comp=N,57nm,0.7s						
PNTR				IAML		03 40 00.1	
	comp=E,60nm,0.7s						
VCNR	Virginia City	2.27	44		Pn	03 39 21.4	+1.1
VCNR				IAML		03 40 03.7	
	comp=N,49nm,0.7s						
VCNR				IAML		03 40 08.4	
	comp=E,54nm,0.8s						
YERR	Yerington	2.32	55		Pn	03 39 21.7	+0.8
YERR				IAML		03 40 00.9	
	comp=N,55nm,0.6s						
BEKR	Beckworth	2.42	25		Pn	03 39 22.3	0.0
BEKR				IAML		03 39 54.5	
	comp=E,35nm,0.9s						
LHV	Little Huntoon	2.57	76	Pn	Pn	03 39 24.9	+0.7
LHV				IAML		03 40 12.5	
	comp=N,37nm,0.6s						
RYN	Ryan	2.66	68		Pn	03 39 25.9	+0.3
RYN				IAML		03 40 09.1	
	comp=E,22nm,0.4s						
RYN				IAML		03 40 15.7	
	comp=N,19nm,1.0s						
PAHR	Pah Rah Range	2.71	41	Pn	Pn	03 39 26.9	+0.7
PAHR				IAML		03 40 17.1	
	comp=N,22nm,4.5s						
NVAR	Mina Array Bea	2.77	73	Pn	Pn	03 39 26.8	-0.3
NV11	Mina Array Sit	2.88	74	Pn	Pn	03 39 27.9	-0.7
KVN	Kaiserville	3.13	63	Pn	Pn	03 39 31.2	-0.9
KVN				IAML		03 40 15.1	
	comp=E,14nm,5.0s						
KVN				IAML		03 40 34.6	
	comp=N,18nm,4.7s						
LCH	Last Change Ra	3.23	97	Pn	Pn	03 39 32.3	-1.2
LCH				IAML		03 40 31.4	
	comp=E,12nm,1.3s						
LCH				IAML		03 40 43.2	
	comp=N,13nm,4.5s						

IDC 10 04:07:14.4±11.0**, 7°.50S×130°.44E, h154**km±131km**, mb3.1**/2**, mb1 3.1**/4**, mb1mx2.9**/24**, mbtmp3.5**/4**, ML3.5**/2**, Error ellipse: s-maj=101.3km s-min=58.9km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.94	163	P	Pn	04 10 12.8	+0.1
	0.3nm,0.3s,baz=345,slow=13,SNR=19						
WRA				S	Sn	04 12 34.5	-1.5
	0.5nm,0.3s,baz=340,slow=21,SNR=8.2						
ASAR	Alice Springs	16.42	169	P	Pn	04 10 57.6	+1.6
	0.2nm,0.3s,baz=356,slow=11,SNR=7.0						
ASAR				S	S	04 13 58.1	-0.2
	0.1nm,0.3s,baz=354,slow=26,SNR=7.3						
MKAR	Makanchi Array	68.88	327	P	P	04 18 02.4	-0.1
	0.3nm,0.5s,baz=115,slow=7.7,SNR=4.9						
KURBB	Kurchatov Arra	73.16	328	P	P	04 18 28.0	-0.1
	0.2nm,0.3s,baz=122,slow=5.6,SNR=1.6						

*NNC **10** 04:43:38.1±6.6, 37°.71N×70°.97E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=56.1km s-min=40.8km az=166.0*

ISC 10 04:43:37.5±3.3**, 37°.4N**±0°.2×**71°.0E**±0°.1**, h68**km**, n10,** σ**1s02**/12**, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.20	23	P	Pn	04 44 53.7	+0.5
	SNR=45						
UCH	Uchtor	5.57	28	P	Pn	04 44 58.5	+0.3
	SNR=10						
EKS2	Erkin-Say	5.71	21	P	Pn	04 45 01.1	+1.3
	SNR=16						
KK09	Karatay Array	5.77	356	⇑P	Pn	04 45 02.0	+1.5
	3.8nm,0.3s,baz=180,slow=13						
KK09				⇓S	Sn	04 46 04.4	-0.9
	1.3nm,0.2s,baz=189,slow=25						
CHMS	Chumysh	6.33	26	P	Pn	04 45 08.7	+0.6
	SNR=8.3						
USP	Ospenovka	6.48	23	P	Pn	04 45 10.4	+0.1
	SNR=17						
TKM2	Tokmak 2	6.58	31	P	Pn	04 45 11.8	0.0
	SNR=9.3						
TKM2	Tokmak 2	6.58	31	⇑P	Pn	04 45 11.5	-0.3
	4.7nm,0.5s						
TKM2				⇑S	Sn	04 46 25.9	+0.4
	1.8nm,0.5s						
AB09	Akbulak array	14.35	329	⇑P	Pn	04 46 55.5	-1.6
	0.5nm,0.3s						
AKTO	Aktyubinsk	16.04	329	⇓P	P	04 47 22.0	+1.1
	1.4nm,0.5s						

IDC 10 04:48:41.3±2.2**, 6°.29S×129°.84E, h0**km**, mb3.4**/2**, mb1 3.5**/5**, mb1mx3.2**/41**, mbtmp3.3**/5**, ML3.0**/3**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx2.6**/36**, Error ellipse: s-maj=103.5km s-min=27.2km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.43	199	Pn	Pn	04 51 41.1	+1.5
	0.1nm,0.3s,baz=33,slow=12,SNR=12						
FITZ				Sn	Sn	04 53 49.0	-10
	0.2nm,0.3s,baz=192,slow=20,SNR=3.4						
WRA	Warramunga Arr	14.26	163	Pn	Pn	04 52 03.6	-1.0
	0.1nm,0.3s,baz=332,slow=14,SNR=1.0						
WRA				Sn	Sn	04 54 28.6	-15
	0.4nm,0.3s,baz=342,slow=21,SNR=8.7						
ASAR	Alice Springs	17.72	168	P	Pn	04 52 49.1	-0.5
	0.1nm,0.3s,baz=346,slow=9.6,SNR=5.2						
KRVT	Keravat (AS076	22.18	86	LR	LR	05 03 29.8	
	comp=Z,296nm,20.7s,baz=298,slow=40						
MKAR	Makanchi Array	67.54	327	P	P	04 59 40.0	+0.5
	0.1nm,0.3s,baz=136,slow=7.4,SNR=2.4						
KURBB	Kurchatov Arra	71.82	328	P	P	05 00 05.3	-0.5
	0.2nm,0.3s,baz=130,slow=5.2,SNR=2.2						

*VIE **10** 04:49:30.6±0.8, 51°.48N×16°.22E, h0km, mb2.5/1, ml2.2/1, Error ellipse: s-maj=5.1km s-min=3.2km az=12.0 70 km NW of Wroclaw Suspected Mining induced.*

*PRU **10** 04:49:34.2±0.0, 51°.44N×16°.09E, h0km*

ISC 10 04:49:34.3±1.3**, 51°.43N**±0°.06×**16°.07E**±0°.03**, h0**km**, n19,** σ**0s79**/33**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	167	*e*Pg	Pg	04 49 45.9	0.0
KSP				*e*Sg	Sg	04 49 54.4	+0.7
CHVC	Chvalec	0.85	181	*e*PG	Pg	04 49 50.6	+0.1
CHVC				*e*SG	Sg	04 50 02.4	+1.0
	comp=Z,6.4nm,0.6s						
OSTC	Ostas	0.88	174	*e*PG	Pg	04 49 51.3	+0.1
OSTC				*e*SG	Sg	04 50 03.1	+0.5
	comp=Z,6.6nm,0.3s						
UPC	Upice	0.93	182	*e*PG	Pg	04 49 52.0	0.0
UPC				*e*SG	Sg	04 50 04.1	+0.1
	comp=Z,19nm,0.5s						
DPC	Dobruska-Polom	1.10	172	*e*PG	Pg	04 49 54.3	-1.0
DPC				*e*SG	Sg	04 50 09.1	-0.3
	comp=Z,7.0nm,0.6s						
PVCC	Panska Ves	1.31	227	*e*PG	Pg	04 49 58.8	-0.6
PVCC				*e*SG	Sb	04 50 17.6	+0.4
	comp=Z,22nm,0.3s						
KRLC	Kraliky	1.43	161	*e*PG	Pn	04 50 00.6	-1.0
KRLC				*e*SG	Sg	04 50 18.6	-1.6
	comp=Z,40nm,1.5s						
BRG	Berggiesshubel	1.45	248	Pg	Pn	04 50 01.6	-0.2
BRG				Sg	Sn	04 50 21.7	+0.2
BRG				Amp		04 50 22.3	
	comp=Z,9.1nm,0.5s						
PRU	Pruhonice	1.74	215	*e*SG	Sg	04 50 31.0	+0.7
	comp=Z,6.0nm,0.9s						
MORC	Moravsky Berou	1.90	150	*e*PN	Pn	04 50 06.5	-1.5
MORC				*e*SG	Sb	04 50 34.0	-0.2
CLL	Collm	1.93	267	*e*Pg	Pb	04 50 10.0	-0.3
CLL				*e*x	x	04 50 14.0	
CLL				*e*Sg	Sb	04 50 35.0	+0.1
	comp=Z,5.0nm,1.0s						
VRAC	Vranov	2.15	171	*e*SG	Sg	04 50 43.5	+0.1
KRUC	Moravsky	2.38	175	*e*SG	Sg	04 50 50.4	-0.4
NKC	Novy Kostel	2.59	244	*e*SG	Sg	04 50 58.8	+1.2
	comp=Z,5.4nm,0.3s						
OJC	Ojcow	2.66	116	*e*Pg	Pg	04 50 25.5	+0.3
OJC				*e*Sg	Sg	04 50 59.6	+0.1
KHC	Kasperske Hory	2.81	216	*e*PN	Pn	04 50 20.0	-0.4
KHC				*e*PG	Pb	04 50 25.8	+0.5
KHC				*e*SG	Sg	04 51 04.3	-0.1
CKRC	Cesky Krumlov	2.85	204	*e*SG	Sg	04 51 05.2	-0.6
	comp=Z,2.5nm,0.5s						
LANS	Liptovska Anna	3.16	135	*e*SG	Sg	04 51 17.5	+1.9
CONA	Conrad Observa	3.51	182	*e*Pg	Pb	04 50 38.8	+1.5
	comp=Z,0.7nm,0.3s						
CONA				*e*Sg	Sg	04 51 27.0	-0.1
	comp=Z,2.6nm,0.5s						

*IDC **10** 04:52:16.8±1.1, 7°.79S×125°.76E, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.8/43, mbtmp4.1/11, ML4.3/3, MS3.4/11, Ms1 3.4/11, ms1mx3.0/68, Error ellipse: s-maj=42.4km s-min=18.9km az=58.0*

*DJA **10** 04:52:22.8±0.5, 8°S±5°×12°6E±°, h128km±15km, M4.3/9, mB4.8/5, mb4.4/9, MLv4.4/8, Mw(mB)4.0/5*

ISC 10 04:52:20.9±0.8**, 8°.00S**±0°.07×**125°.86E**±0°.09**, h35**km**, n29,** σ**2s01**/27**, mb3.9**/8**, MS3.4**/6**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	3.64	260	P	Pn	04 53 16.3	+1.5
BBSI	Bau Bau	4.11	307	P	Pn	04 53 19.4	-1.9
BSSI	Bau Bau, Buton	5.64	289	P	Pn	04 53 40.8	-1.5
	0.2nm513nm56nm,0.8s						
BSSI				S	Sn	04 54 44.4	-1.5
	0.2nm513nm56nm,0.8s						
BKSI	Bulukumba	6.29	295	P	Pn	04 53 49.4	-1.8
	0.3nm705nm84nm,1.0s						
BNSI	Bone	6.74	302	P	Pn	04 53 56.4	-1.1
	0.4nm1μm105nm,0.6s						
KAPI	Kappang	6.75	296	Pn	Pn	04 53 56.2	-1.4
	5.5nm,0.3s,baz=131,slow=13,SNR=11						
KAPI				Sn	Sn	04 55 12.3	-1.1
	1.9nm,0.3s,baz=48,slow=23,SNR=1.5						
SPSI	Sidrap Palu	7.26	303	P	Pn	04 54 03.3	-1.3
	0.1nm23nm,0.7s						
TTSI	Tana Toraja	7.77	309	P	Pn	04 54 10.7	-0.9
	0.2nm1μm18nm,0.6s						
GTOI	Gorontalo	9.04	342	P	Pn	04 54 30.5	+1.5
	7.2nm,1.0s						
FITZ	Fitzroy Crossi	10.04	181	Pn	Pn	04 54 44.1	+1.4
	2.3nm,0.3s,baz=7.6,slow=7.8,SNR=19						
FITZ				Sn	Sn	04 56 32.9	-1.3
	3.5nm,0.3s,baz=3.5,slow=22,SNR=16						
FITZ				LR	LR	04 58 55.1	
	comp=Z,117nm,20.5s,baz=356,slow=39						
MPSI	Mapaga	10.19	324	P	Pn	04 54 45.0	+0.2
	1μm9.6nm,0.8s						
WRA	Warramunga Arr	14.44	146	Pn	Pn	04 55 41.7	-1.2
	0.5nm,0.3s,baz=318,slow=13,SNR=11						
WRA				Sn	Sn	04 58 17.0	-4.8
	0.9nm,0.3s,baz=314,slow=24,SNR=6.3						
WRA				LR	LR	05 01 50.4	
	comp=Z,86nm,21.8s,baz=46,slow=39						
JAY	Jayapura	15.75	71	LR	LR	05 03 04.3	
	comp=Z,82nm,21.1s,baz=233,slow=41						
ASAR	Alice Springs	17.38	155	P	P	04 56 25.0	+3.1
	1.1nm,0.3s,baz=340,slow=13,SNR=29						
ASAR				S	Sn	04 59 31.6	-1.9
	0.4nm,0.3s,baz=320,slow=20,SNR=6.7						
ASAR				LR	LR	05 04 32.9	
	comp=Z,170nm,18.1s,baz=330,slow=42						
LEM	Lembang	18.13	272	LR	LR	05 04 19.1	
	comp=Z,206nm,18.6s,baz=64,slow=40						
TPI	Tanjungpandan	18.85	285	P	Pn	04 56 42.3	+3.4
PPBI	Pangkal Pinang	20.48	285	P	Pn	04 57 01.0	+2.8
PMG	Port Moresby	21.10	95	LR	LR	05 05 57.4	
	comp=Z,107nm,20.1s,baz=212,slow=39						
STKA	Stephens Creek	27.91	150	P	P	04 58 11.2	+3.4
	1.2nm,0.6s,baz=314,slow=10,SNR=1.7						
STKA				LR	LR	05 11 44.0	
	comp=Z,98nm,19.0s,baz=20,slow=42						
PSI	Prapat	28.93	291	P	P	04 58 16.2	-1.1
	4.7nm,0.7s,baz=125,slow=5.2,SNR=5.5						
CMAR	Chiang Mai Arr	37.37	315	P	P	04 59 29.6	-0.9
	0.9nm,0.3s,baz=147,slow=5.4,SNR=1.5						
CMAR				LR	LR	05 16 32.3	
	comp=Z,26nm,18.6s,baz=285,slow=39						
PALK	Pallekele	47.51	287	LR	LR	05 21 12.8	
	comp=Z,40nm,18.4s,baz=218,slow=37						
URZ	Urewera	55.02	131	LR	LR	05 25 57.4	
	comp=Z,77nm,18.2s,baz=210,slow=37						
SONM	Songino Array	58.20	345	P	P	05 02 13.1	+1.5
	0.4nm,0.7s,baz=125,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	66.89	329	P	P	05 03 09.7	+0.1
	1.0nm,0.6s,baz=137,slow=7.1,SNR=9.7						
AAK	Ala-Archa	68.72	322	P	P	05 03 21.7	+0.4
	0.9nm,0.4s,baz=166,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	70.73	336	P	P	05 03 31.2	-2.1
	0.6nm,0.7s,baz=126,slow=2.5,SNR=1.5						
KURBB	Kurchatov Arra	71.28	330	P	P	05 03 35.5	-1.2
	0.5nm,0.6s,baz=139,slow=5.2,SNR=5.6						
LBTB	Lobatse	95.85	244	LR	LR	05 44 36.7	
	comp=Z,28nm,18.9s,baz=163,slow=33						

*NEIC **10** 05:13:44.5±1.7, 5°.53S±0°.09×128°.5E±0°.1, h330km±15km, mb4.0/8, Error ellipse: s-maj=22.0km s-min=7.3km az=60.0*

*IDC **10** 05:13:45.0±2.1, 5°.51S×128°.80E, h343km±29km, mb2.6/1, mb1 3.2/5, mb1mx2.9/36, mbtmp3.8/5, Error ellipse: s-maj=44.4km s-min=15.2km az=77.0*

ISC 10 05:13:44.1±0.7**, 5°.57S**±0°.06×**128°.64E**±0°.10**, h337**km**, n18,** σ**1s13**/23**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.46	54		Pn	05 14 57.7	+0.4
FAKI				Sn	S	05 15 54.0	-2.1
SIJI	Sorong	5.35	29	P	Pn	05 15 07.8	+0.7
	2.8nm,0.3s,baz=292,slow=24,SNR=9.2						
SIJI				S	S	05 16 12.4	-1.8
	3.8nm,0.3s,baz=157,slow=23,SNR=7.4						
TOLI2	Tolitoli	10.28	310		Pn	05 16 05.5	+0.1
FITZ	Fitzroy Crossi	12.80	193	P	Pn	05 16 34.9	-0.6
	0.1nm,0.3s,baz=30,slow=12,SNR=2.4						
FITZ				S	S	05 18 54.2	-2.3
	0.1nm,0.3s,baz=131,slow=18,SNR=2.5						
FITZ	Fitzroy Crossi	12.80	193	P	P	05 16 34.3	-0.9
WB0	Warramunga Arr	15.18	159	P	Pn	05 17 03.1	-0.4
WRAB	Tennant Creek	15.32	159	P	Pn	05 17 04.8	-0.3
WRAB				IAmb	IAmb	05 17 07.2	
	comp=Z,9.5nm,1.0s						
WRA	Warramunga Arr	15.33	159	P	Pn	05 17 04.6	-0.6
	comp=Z,1.5nm,0.3s,baz=339,slow=12,SNR=82						
WRA				S	S	05 19 47.1	-0.9
	comp=Z,0.2nm,0.3s,baz=340,slow=17,SNR=4.6						
WRA	Warramunga Arr	15.33	159	P	P	05 17 03.3	+0.4
WB2	Warramunga Arr	15.33	159	P	Pn	05 17 04.8	-0.5
WB2				IAmb	IAmb	05 17 07.6	
	comp=Z,7.2nm,0.8s						
WR0	Warramunga Arr	15.41	159	P	Pn	05 17 05.8	-0.4
COEN	Coen	16.56	121	P	Pn	05 17 20.4	+0.8
COEN				IAmb	IAmb	05 17 46.1	
	comp=Z,7.1nm,1.1s						
PSA00	Pilbara Seismi	18.05	207	P	P	05 17 31.8	-0.6
PSA00				IAmb	IAmb	05 17 49.0	
	comp=Z,9.6nm,1.2s						
AS31	Alice Springs	18.69	165	P	P	05 17 40.7	+1.5
ASAR	Alice Springs	18.70	165	P	P	05 17 41.2	+2.0
	comp=Z,0.7nm,0.3s,baz=342,slow=11,SNR=44						
ASAR				S	S	05 20 54.9	+0.5
	comp=Z,0.4nm,0.3s,baz=348,slow=23,SNR=38						
MKAR	Makanchi Array	66.30	327	P	P	05 23 57.6	+0.5
	comp=Z,0.1nm,0.3s,baz=130,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	66.30	327	P	P	05 23 57.1	0.0
QSPA	South Pole Qui	84.40	180	P	P	05 25 40.1	+1.1

*MDD **10** 05:25:01.6±0.4, 35°.47N×3°.74W, h12km±1km, mb_Lg2.6/12, Error ellipse: s-maj=3.3km s-min=2.3km az=172.0*

*IGIL **10** 05:25:01.4, 35°.45N×3°.71W, h11km*

*CNRM **10** 05:25:02.5, 35°.40N×3°.76W, h20km, ml3.3*

*SFS **10** 05:25:02.0, 35°.44N×3°.71W, ML2.9, ALBORAN SUR*

ISC 10 05:25:01.5±1.0**, 35°.48N**±0°.02×**3°.71W**±0°.02**, h23**km±10km**, n44,** σ**1s48**/80**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.32	216	P	Pb	05 25 08.0	-0.7
PALE	Palemas	0.32	216	P	Pb	05 25 08.0	-0.7
PALE				S	Sb	05 25 13.4	-0.2
EMEL	Melilla	0.64	106	Pg	Pb	05 25 14.3	+0.3
EMEL				Sg	Sb	05 25 23.4	+0.9
EALB	Alboran	0.72	50	Pg	Pb	05 25 15.2	-0.1
EALB				Sg	Sb	05 25 25.3	+0.6
TAF	Taforalt	1.25	121	P	Pn	05 25 23.1	-0.5
TAF	Taforalt	1.25	121	P	Pn	05 25 23.1	-0.5
TAF				S	Sb	05 25 41.5	+1.4
SMIR	Smir Dam	1.38	279	P	Pn	05 25 25.0	-0.3
SMIR	Smir Dam	1.38	279	P	Pn	05 25 25.0	-0.3
SMIR				S	Sb	05 25 47.4	+3.7
CHEFC	Chefchaouen	1.38	255	P	Pn	05 25 25.0	-0.5
CHEFC	Chefchaouen	1.38	255	P	Pn	05 25 25.0	-0.5
CHEFC				S	Sb	05 25 46.1	+2.2
EMIJ	Mijas	1.39	322	Pg	Pn	05 25 25.2	-0.3
EMIJ				Sg	Sn	05 25 42.4	-0.7
EMIJ				*i* Vmb_Lg		05 25 46.1	
ELGU	Los Guajares,	1.39	3	Pn	Pn	05 25 24.0	-1.6
ELGU				Sn	Sn	05 25 43.0	-0.2
EMAL	Malaga-Limoner	1.41	336	P	Pn	05 25 25.2	-0.6
EMAL				S	Sn	05 25 42.2	-1.4
CEU	Ceuta	1.42	288	P	Pn	05 25 22.8	-3.0
CEU				S	Sn	05 25 38.7	-5.0
JBK	JBK	1.48	140	P	Pn	05 25 26.5	-0.4
JBK				S	Sb	05 25 47.4	+0.7
EGOR	Sierra Gorda,	1.66	349	Pn	Pb	05 25 31.1	-0.4
EGOR				Sn	Sn	05 25 50.7	+0.6
SICH	Sidi Chahed	1.90	224	P	Pn	05 25 33.7	+1.1
SICH				S	Sb	05 26 00.5	+1.7
ENIJ	Nijar	1.93	39	Pn	Pn	05 25 31.9	-1.0
ENIJ				Sn	Sn	05 25 54.6	-1.7
LCRM	LCR	2.02	208	P	Pb	05 25 37.0	-0.6
LCRM	LCR	2.02	208	P	Pb	05 25 37.0	-0.6
LCRM				S	Sb	05 26 01.2	-1.2
ESPR	Espera	2.22	309	Pn	Pn	05 25 38.3	+1.4
ESPR				Sn	Sn	05 26 04.6	+1.0
ESPR				*i* Vmb_Lg		05 26 13.9	
IFR	Ifrane	2.28	211	P	Pn	05 25 37.6	-0.3
IFR				S	Sn	05 26 04.3	-0.9
MD31	MD31	2.74	199	S	Sn	05 26 16.9	+0.2
MDT	Midelt	2.76	196	P	Pn	05 25 45.2	+0.8
MDT	Midelt	2.76	196	P	Pn	05 25 45.2	+0.8
MDT				S	Sn	05 26 18.2	+1.2
EADA	Adamuz	2.77	346	Pn	Pn	05 25 45.6	+1.1
EADA				Sn	Sn	05 26 17.6	+0.3
EADA				*i* Vmb_Lg		05 26 29.2	
TDRA	Tendrara	2.80	150	P	Pn	05 25 45.5	+0.4
TDRA				S	Sb	05 26 22.8	-2.1
ECAB	El Cabril	2.94	333	Pn	Pn	05 25 47.4	+0.7
ECAB				Pg	Pb	05 25 53.6	+0.5
ECAB				Sn	Sn	05 26 21.1	-0.2
ECAB				*i* Vmb_Lg		05 26 31.4	
EMIN	Mina Concepcio	3.30	315	Pn	Pn	05 25 51.8	0.0
EMIN				Sn	Sn	05 26 29.1	-1.2
EMIN				*i* Vmb_Lg		05 26 37.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETOB	Tobarra	3.60	28	Pn	Pn	05 25 57.7	+1.7
ETOB				Sn	Sn	05 26 38.5	+0.6
ETOB				*i* Vmb_Lg		05 26 43.1	
EGRO	El Granado	3.67	305	Pn	Pn	05 25 56.4	-0.4
EGRO				Sn	Sn	05 26 37.0	-2.3
EGRO				*i* Vmb_Lg		05 26 43.1	
AVE	Averroes	3.75	236	P	Pn	05 25 57.9	-0.1
AVE				S	Sn	05 26 40.5	-1.0
PVAQ	Vaqueiros	3.76	302	P	Pn	05 25 58.6	+0.5
PVAQ				S	Sn	05 26 44.4	+2.8
PAB	San Pablo	4.09	353	P	Pn	05 26 04.3	+1.6
PAB	San Pablo	4.09	353	Pn	Pn	05 26 03.7	+0.9
PAB				Sn	Sn	05 26 48.6	-1.4
ESDC	Sonseca Array	4.20	357	Pn	Pn	05 26 05.1	+1.0
ESDC				*i* Vmb_Lg		05 26 40.5	
ESDC				Sn	Sn	05 26 51.7	-0.8
EBAD	Badajoz	4.21	322	Pn	Pn	05 26 04.5	+0.4
EBAD				Sn	Sn	05 26 51.4	-1.1
EBAD				*i* Vmb_Lg		05 26 55.2	
MORF	Marmelete	4.38	296	*e*P	Pn	05 26 06.3	-0.4
TZRR	Tazzarine	4.93	199	P	Pn	05 26 16.9	+2.6
TZRR				S	Sn	05 27 11.9	+1.3
EPLA	Plasencia	4.95	338	Pn	Pn	05 26 16.0	+1.6
EPLA				Sn	Sn	05 27 06.7	-4.3
EPLA				*i* Vmb_Lg		05 27 17.6	
OUZM	OUZ	5.22	210	P	Pn	05 26 20.2	+1.9
OUZM				S	Sn	05 27 19.1	+1.2
ETOR	Torete	5.49	13	Pn	Pn	05 26 23.4	+1.5
ETOR				Sn	Sn	05 27 21.9	-2.5
OUK	Oukaimeden	5.50	220	P	Pn	05 26 22.1	-0.1
OUK				S	Sn	05 27 23.0	-1.9
TTIG	Tnine Tigouga,	6.32	220	P	Pn	05 26 32.0	-1.4
TTIG				S	Sn	05 27 44.0	-0.9

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*KRNET **10** 05:32:02.2±0.1, 39°.47N×77°.59E, mb3.5*
*SOME **10** 05:32:04.6, 39°.72N×77°.07E, h0km*
*NNC **10** 05:32:05.1±1.4, 39°.66N×77°.06E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.7km s-min=8.3km az=157.0*
ISC 10 05:32:11.6±2.8**, 39°.9N**±0°.1×**77°.15E**±0°.04**, h2**km±17km**, n51,** σ1s40/78**, 15C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy baz=4.0	1.87	15	⇑*i*P	Pn	05 32 43.2	-1.9
TARG	baz=4.0			⇑*i*S	Sg	05 33 13.0	+1.1
KDJ	Kajisay baz=54	2.21	1	⇑*e*P	Pn	05 32 48.7	-0.8
KDJ	baz=54			⇑*e*S	Sg	05 33 22.9	+0.3
ULHL	Ulahol baz=40	2.42	344	⇓*i*P	Pn	05 32 52.7	+0.3
ULHL	baz=40			⇓*i*S	Sg	05 33 29.8	+0.3
BOOM	Boomskoye usch baz=38	2.73	341	⇓*e*P	Pn	05 32 57.0	+0.5
BOOM	baz=38			⇓*i*S	Sg	05 33 37.1	-2.1
ANVS	Anan'yevo baz=1.0	2.89	8	⇑*i*P	Pn	05 32 57.7	-1.1
ANVS	baz=1.0			⇑*i*S	Sb	05 33 38.4	-1.4
ARLS	Aral baz=15	2.89	313	⇑*i*P	Pn	05 32 59.5	+0.7
ARLS	baz=15			⇑*e*S	Sb	05 33 41.4	+1.6
TNSS	Tian-Shan 3.8nm,0.3s	3.12	357	*e*P	Pb	05 33 07.4	-0.6
TNSS	7.1nm,0.4s			*e*S	Sg	05 33 52.3	+0.5
TNSS	Tian-Shan 4.6nm,0.3s	3.12	357	Pg	Pb	05 33 07.4	-0.6
TNSS	6.8nm,0.3s			Lg	Lg	05 33 53.0	
IZV	Izvestkoviy 7.0nm,0.4s	3.14	353	*e*P	Pb	05 33 08.8	+0.6
IZV	16nm,0.3s			*e*S	Sg	05 33 54.7	+2.2
IZV	Izvestkoviy 7.1nm,0.3s	3.14	353	Pg	Pb	05 33 07.7	-0.6
IZV	16nm,0.3s			Lg	Lg	05 33 53.9	
KBK	Karagaybulak baz=29	3.20	329	⇑*e*P	Pn	05 33 04.0	+1.0
KBK	baz=29			⇑*i*S	Sb	05 33 49.1	+0.4
TKM2	Tokmak 2 baz=37	3.22	339	⇑*i*P	Pn	05 33 04.0	+0.6
TKM2	baz=37			⇑*e*S	Sb	05 33 49.2	-0.1
TKM2	Tokmak 2 3.7nm,0.5s	3.22	339	⇓Pg	Pb	05 33 06.6	-3.0
TKM2	7.3nm,0.6s			⇓Lg	Lg	05 33 56.6	
MDOK	Medeo 1.8nm,0.3s	3.24	359	*e*P	Pb	05 33 09.5	-0.5
MDOK	13nm,0.6s			*e*S	Sg	05 33 56.2	+0.5
MDOK	Medeo 5.0nm,0.4s	3.24	359	Pg	Pb	05 33 08.8	-1.1
MDOK	13nm,0.5s			Lg	Lg	05 33 55.8	
MTBS	Maitube 1.6nm,0.2s	3.25	351	*e*P	Pb	05 33 10.3	+0.2
MTBS	13nm,0.4s			*e*S	Sg	05 33 57.1	+1.0
MTBS	Maitube 4.5nm,0.4s	3.25	351	Pg	Pb	05 33 07.8	-2.3
MTBS	12nm,0.2s			Lg	Lg	05 33 54.4	
SATY	Saty 3.0nm,0.4s	3.27	16	*e*P	Pb	05 33 11.4	+0.9
SATY	20nm,0.5s			*e*S	Sg	05 33 59.4	+2.5
SATY	Saty 4.6nm,0.6s	3.27	16	Pg	Pb	05 33 10.5	0.0
SATY	17nm,0.3s			Lg	Lg	05 33 57.6	
KOTS	Kotyrbulak 2.8nm,0.4s	3.31	360	*e*P	Pb	05 33 12.1	+1.0
KOTS	25nm,0.8s			*e*S	Sg	05 34 00.4	+2.4
KOTS	Kotyrbulak 6.4nm,0.7s	3.31	360	Pg	Pb	05 33 10.3	-0.9
KOTS	31nm,0.4s			Lg	Lg	05 33 58.6	
AAK	Ala-Archa 4.7nm,0.6s	3.37	324	Pg	Pb	05 33 09.4	-2.8
AAK	14nm,0.6s			Lg	Lg	05 33 58.2	
DGS	Degeres 5.0nm,0.4s	3.48	343	*e*P	Pb	05 33 14.9	+0.9
DGS	8.4nm,0.3s			*e*S	Sg	05 34 05.4	+2.1
DGS	Degeres 7.6nm,0.5s	3.48	343	Pg	Pb	05 33 13.3	-0.6
DGS	8.3nm,0.4s			Lg	Lg	05 34 02.9	
UZB	Uzynbulak 3.1nm,0.2s	3.52	23	*e*P	Pb	05 33 13.3	-1.4
UZB	9.3nm,0.9s			*e*S	Sg	05 34 02.3	-2.3
UZB	Uzynbulak 5.3nm,0.2s	3.52	23	Pg	Pb	05 33 13.7	-0.9
UZB	8.4nm,0.7s			Lg	Lg	05 34 02.9	
KURS	Kuram 2.5nm,0.4s	3.65	12	*e*P	Pb	05 33 17.7	+0.9
KURS	7.6nm,0.5s			*e*S	Sg	05 34 10.0	+1.3
KURS	Kuram 3.1nm,0.3s	3.65	12	Pg	Pb	05 33 16.2	-0.6
KURS	6.9nm,0.7s			Lg	Lg	05 34 07.7	
SHLS	Shalkode 2.6nm,0.3s	3.67	27	*e*P	Pg	05 33 20.8	-1.1
SHLS	7.1nm,0.5s			*e*S	Sg	05 34 15.4	+5.9
KPKS	Kokpek 1.6nm,0.4s	3.73	17	*e*P	Pb	05 33 18.6	+0.5
KPKS	14nm,0.4s			*e*S	Sg	05 34 11.6	+0.3
KTBS	Karatobe 1.1nm,0.5s	3.81	355	*e*P	Pb	05 33 19.6	+0.1
KTBS	14nm,0.4s			*e*S	Sg	05 34 12.9	-0.9
KTBS	Karatobe 3.4nm,0.6s	3.81	355	Pg	Pb	05 33 18.8	-0.7
KTBS	14nm,0.4s			Lg	Lg	05 34 13.2	
PDGK	Podgornoye 1.6nm,0.5s	3.83	26	Pg	Pb	05 33 19.6	-0.3
PDGK	4.9nm,0.5s			Lg	Lg	05 34 13.5	
PDGK	Podgornoye 2.1nm,0.6s	3.83	26	Pg	Pb	05 33 18.9	-1.1
PDGK	9.8nm,0.8s			⇑Lg	Lg	05 34 13.7	
KRBS	Karabastau 3.5nm,0.4s	3.93	344	*e*P	Pb	05 33 22.0	+0.4
KRBS	11nm,0.8s			*e*S	Sg	05 34 17.7	-0.2
KRBS	Karabastau 3.4nm,0.6s	3.93	344	Pg	Pb	05 33 22.0	+0.4
KRBS	11nm,0.7s			Lg	Lg	05 34 17.2	
CHKK	Chushkaly 1.1nm,0.0s	3.93	358	*e*P	Pb	05 33 23.0	+1.3
CHKK	9.5nm,0.4s			*e*S	Sg	05 34 18.9	+1.0
CHKK	Chushkaly 1.1nm,0.1s	3.93	358	Pg	Pb	05 33 23.1	+1.4
CHKK	9.2nm,0.2s			Lg	Lg	05 34 18.6	
SGDS	Sogindy 1.1nm,0.4s	4.00	333	*e*P	Pb	05 33 22.6	-0.2
SGDS	4.5nm,0.5s			*e*S	Sg	05 34 18.6	-1.6
SGDS	Sogindy 5.0nm,0.4s	4.00	333	Pg	Pb	05 33 22.4	-0.5
SGDS	4.2nm,0.5s			Lg	Lg	05 34 18.1	
KUU	Kurty 4.1nm,1.0s	4.02	352	*e*P	Pb	05 33 23.9	+0.8
KUU	8.0nm,0.9s			*e*S	Sg	05 34 20.7	+0.1
KUU	Kurty 4.4nm,0.8s	4.02	352	Pg	Pb	05 33 24.2	+1.1
KUU	13nm,1.0s			Lg	Lg	05 34 20.6	
MRKS	Merke 3.5nm,0.4s	4.08	315	*e*P	Pb	05 33 26.1	+1.8
MRKS	7.4nm,0.3s			*e*S	Sg	05 34 24.2	+1.4
BLB	Baldybastay 2.3nm,0.2s	4.29	13	*e*P	Pb	05 33 28.6	+0.8
BLB	11nm,0.4s			*e*S	Sg	05 34 29.1	-0.3
BLB	Baldybastay 8.0nm,0.3s	4.29	13	Pg	Pb	05 33 28.8	+1.0
BLB	11nm,0.7s			Lg	Lg	05 34 28.3	
ARXS	Arharly 2.9nm,0.5s	4.32	6	*e*P	Pb	05 33 29.6	+1.3
ARXS	11nm,0.4s			*e*S	Sg	05 34 30.8	+0.5
ARXS	Arharly 2.9nm,0.4s	4.32	6	Pg	Pb	05 33 30.1	+1.8
ARXS	6.6nm,0.5s			Lg	Lg	05 34 29.1	
DJR	Jarkent 1.0nm,0.2s	4.83	23	*e*P	Pb	05 33 38.9	+2.0
DJR	8.5nm,0.4s			*e*S	Sg	05 34 46.4	-0.2
DJR	Jarkent 1.7nm,0.5s	4.83	23	Pg	Pb	05 33 37.8	+0.9
DJR	8.5nm,0.6s			Lg	Lg	05 34 44.5	
KK08	Karatay Array 0.8nm,0.5s,baz=128,slow=16	5.93	305	⇑Pg	Pb	05 33 55.3	-0.3
KK08	1.9nm,0.6s,baz=127,slow=29			⇓Lg	Lg	05 35 15.1	
OTUK	Ortayu 2.4nm,1.2s	9.01	339	⇑Lg	Lg	05 36 56.7	

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*IDC **10** 05:39:10.0±1.4, 35°.72N×4°.11W, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/64, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=48.4km s-min=13.9km az=91.0*
*MDD **10** 05:39:10.2±0.3, 35°.66N×3°.64W, h0km, mb_Lg3.1/9, Error ellipse: s-maj=2.8km s-min=2.3km az=176.0*
*SFS **10** 05:39:10.0, 35°.66N×3°.65W, ML3.2, ALBORAN SUR*
*LDG **10** 05:39:11.7, 35°.51N×3°.49W, h30km*
*CNRM **10** 05:39:11.1, 35°.65N×3°.59W, h19km, ml3.2*
ISC 10 05:39:11.5±1.0**, 35°.68N**±0°.02×**3°.59W**±0°.03**, h26**km±9km**, n62,** σ**2s09**/105**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.53	60	Pg	Pb	05 39 21.6	-0.5
EALB				Sg	Sb	05 39 30.1	+0.7
PALE	Palemas	0.54	212	P	Pb	05 39 22.0	-0.4
PALE	Palemas	0.54	212	P	Pb	05 39 22.0	-0.4
PALE				S	Sb	05 39 29.3	-0.5
EMEL	Melilla	0.64	126	Pg	Pb	05 39 22.7	-1.4
EMEL				Sg	Sb	05 39 31.7	-0.9
EMEL				*i* Vmb_Lg		05 39 33.5	
ELGU	Los Guajares,	1.19	359	Pg	Pn	05 39 31.3	-1.2
ELGU				Sg	Sn	05 39 47.1	-0.7
ELGU				*i* Vmb_Lg		05 39 51.0	
EMAL	Malaga-Limoner	1.28	328	P	Pn	05 39 32.7	-0.9
EMAL				S	Sn	05 39 49.0	-0.9
TAF	Taforalt	1.29	131	P	Pn	05 39 34.0	+0.1
TAF	Taforalt	1.29	131	P	Pn	05 39 34.0	+0.1
TAF				S	Sn	05 39 50.3	-0.1
EMIJ	Mijas	1.30	313	Pg	Pn	05 39 32.5	-1.5
EMIJ				Sg	Sn	05 39 49.0	-1.5
EMIJ				*i* Vmb_Lg		05 39 49.9	
SMIR	Smir Dam	1.46	271	P	Pn	05 39 33.9	-2.1
SMIR				S	Sn	05 39 53.5	-0.7
CEU	Ceuta	1.46	279	P	Pn	05 39 32.4	-3.7
CEU				S	Sn	05 39 50.5	-3.9
EGOR	Sierra Gorda,	1.49	344	Pn	Pn	05 39 36.3	-0.3
EGOR				Sn	Sb	05 39 57.0	-0.2
EGOR				*i* Vmb_Lg		05 40 01.7	
EQUE	Quentar	1.53	5	Pn	Pn	05 39 37.6	+0.4
EQUE				Sn	Sn	05 39 57.3	+1.0
CHEFC	Chefchaouen	1.54	249	P	Pn	05 39 37.1	-0.1
CHEFC	Chefchaouen	1.54	249	P	Pn	05 39 37.1	-0.1
CHEFC				S	Sn	05 39 57.5	+1.1
JBK	JBK	1.58	148	S	Sn	05 39 55.5	-2.2
EJIF	Jimena Fronter	1.71	298	Pn	Pn	05 39 39.1	-0.4
EJIF				Sn	Sn	05 40 00.8	+0.4
ENIJ	Nijar	1.71	40	Pn	Pn	05 39 38.5	-1.1
ENIJ				Sn	Sn	05 39 59.8	-0.8
SICH	Sidi Chahed	2.11	223	P	Pn	05 39 45.0	-0.1
SICH				S	Sb	05 40 16.4	+1.5
ESPR	Espera	2.18	304	Pn	Pn	05 39 47.3	+1.3
ESPR				Sn	Sn	05 40 13.4	+1.2
LCRM	LCR	2.24	208	P	Pn	05 39 48.3	+1.3
LCRM				S	Sb	05 40 17.1	-1.7
IFR	Ifrane	2.50	211	P	Pn	05 39 50.5	-0.1
IFR				S	Sn	05 40 20.1	-0.1
EADA	Adamuz	2.61	343	Pn	Pn	05 39 53.1	+1.1
EADA				Sn	Sn	05 40 24.4	+1.7
EZAR	Zarzadilla de	2.67	34	Pn	Pn	05 39 53.3	+0.4
EZAR				Sn	Sn	05 40 24.9	+0.5
ECAB	El Cabril	2.81	329	Pn	Pn	05 39 55.6	+0.9
ECAB				Sn	Sn	05 40 28.9	+1.3
TDRA	Tendrara	2.93	153	P	Pn	05 39 56.1	-0.4
TDRA				S	Sn	05 40 30.9	-0.1
MD31	MD31	2.96	199	P	Pn	05 39 57.5	+0.6
MD31				S	Sn	05 40 32.8	+1.2
MDT	Midelt 0.8nm,0.3s,baz=201,slow=10,SNR=25	2.98	197	Pn	Pn	05 39 57.0	0.0
MDT	2.0nm,0.3s,baz=348,slow=14,SNR=4.4			Lg	Lg	05 40 42.5	
MDT	Midelt	2.98	197	P	Pn	05 39 57.0	0.0
MDT	Midelt	2.98	197	P	Pn	05 39 57.0	0.0
MDT				S	Sn	05 40 34.8	+2.8
EMIN	Mina Concepcio	3.24	311	Pn	Pn	05 40 00.4	-0.1
EMIN				Sn	Sn	05 40 38.0	-0.2
ETOB	Tobarra	3.38	28	Pn	Pn	05 40 04.6	+2.0
ETOB				Sn	Sn	05 40 43.2	+1.3
EGRO	El Granado	3.64	302	Pn	Pn	05 40 05.8	-0.2
EGRO				Sn	Sn	05 40 46.7	-1.4
PVAQ	Vaqueiros	3.74	299	P	Pn	05 40 07.5	+0.1
PVAQ	Vaqueiros	3.74	299	P	Pn	05 40 07.5	+0.1
PVAQ				S	Sn	05 40 51.8	+1.1
PAB	San Pablo	3.91	351	P	Pn	05 40 11.1	+1.3
PAB	San Pablo	3.91	351	P	Pn	05 40 11.1	+1.3
PAB	San Pablo	3.91	351	Pn	Pn	05 40 10.9	+1.0
PAB				Sn	Sn	05 40 55.9	+1.0
PAB				*i* Vmb_Lg		05 41 16.6	
AVE	Averroes	3.95	234	P	Pn	05 40 11.2	+0.9
AVE				S	Sn	05 40 55.1	-0.7
ESDC	Sonseca Array 0.9nm,0.3s,baz=178,slow=12,SNR=40	4.00	356	Pn	Pn	05 40 12.6	+1.5
ESDC	0.5nm,0.3s,baz=175,slow=23,SNR=4.1			Sn	Sn	05 40 57.8	+0.6
ESDC	1.0nm,0.3s,baz=180,slow=28,SNR=8.6			Lg	Lg	05 41 16.0	
ESDC	Sonseca Array	4.00	356	Pn	Pn	05 40 12.6	+1.5
ESDC				Sn	Sn	05 40 57.6	+0.5
ESDC				*i* Vmb_Lg		05 41 05.4	
EBAD	Badajoz	4.11	319	Pn	Pn	05 40 12.8	+0.2
EBAD				Sn	Sn	05 40 58.4	-1.4
EBAD				*i* Vmb_Lg		05 41 03.3	
EPLA	Plasencia	4.80	337	Pn	Pn	05 40 23.9	+1.9
EPLA				Sn	Sn	05 41 16.8	-0.1
GUD	Guadarrama	4.98	355	Pn	Pn	05 40 24.6	0.0
GUD				Sn	Sn	05 41 25.3	+3.9
ETOR	Torete	5.28	13	Pn	Pn	05 40 30.0	+1.4
ETOR				Sn	Sn	05 41 28.8	+0.1
ETOR				*i* Vmb_Lg		05 42 01.7	
OUZM	OUZ	5.44	210	P	Pn	05 40 32.2	+1.2
OUZM				S	Sn	05 41 34.4	+1.5
OUK	Oukaimeden	5.71	220	P	Pn	05 40 36.1	+1.2
OUK				S	Sn	05 41 39.0	-0.8
ELOB	Lobios	7.10	332	Pn	Pn	05 40 55.4	+1.7
ELOB				Sn	Sn	05 42 12.3	-1.2
ETSF	Etsaut	7.59	17	*e*P	Pn	05 41 03.3	+3.0
ETSF	0.3nm,0.3s			*e*Sn	Sn	05 42 21.3	-4.2
SJPF	Ste Jean	7.65	13	*e*P	Pn	05 41 04.2	+3.0
SJPF	1.0nm,0.3s			*e*Sn	Sn	05 42 23.6	-3.3
EPF	Esparros	7.95	21	*e*P	Pn	05 41 08.9	+3.6
EPF	0.8nm,0.3s			*e*Sn	Sn	05 42 29.6	-4.8
MTLF	Montolieu	8.87	29	*e*Pn	Pn	05 41 17.8	-0.1
VIVF	Saint-Julien-l	11.13	32	*e*P	Pn	05 41 52.8	+4.0
FRF	La Foret Royal	11.14	42	*e*Pn	Pn	05 41 47.4	-1.6
ORIF	Oris-en-Rattie	11.72	35	*e*Pn	Pn	05 41 50.0	-7.0
ORIF	1.4nm,0.4s			*e*Sn	Sn	05 44 01.0	-5.9
SBF	Sospel	11.78	43	*e*P	Pn	05 42 01.9	+4.2
SBF	8.7nm,0.6s			*e*Sn	Sn	05 44 02.8	-5.4
PGF	Pioggiola	11.94	51	*e*P	Pn	05 42 02.9	+2.9
QUIF	Quistinic	12.23	1	*e*Pn	Pn	05 42 00.5	-3.4
HYF	Humbligny	12.48	20	*e*P	Pn	05 42 09.8	+2.5
LPL	La Plagne	12.56	35	*e*Sg	Sn	05 44 19.3	-8.5
TORD	Torodi Ar. Bea 0.9nm,0.9s,baz=332,slow=10,SNR=4.2	22.93	167	P	P	05 44 18.6	+5.0
YKA	Yellowknife Ar 0.5nm,0.7s,baz=58,slow=6.3,SNR=8.1	67.75	332	P	P	05 50 07.2	+0.9

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*MOS **10** 05:43:34.5±1.5, 39°.96N×78°.01E, h11km, mb4.5/2, Error ellipse: s-maj=11.3km s-min=5.6km az=94.7*
*IDC **10** 05:43:34.4±0.9, 39°.95N×78°.08E, h0km, mb3.8/9, mb1 3.9/15, mb1mx3.7/57, mbtmp3.8/15, ML3.6/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/91, Error ellipse: s-maj=17.0km s-min=14.7km az=71.0*
*KRNET **10** 05:43:35.9±0.1, 40°.19N×78°.42E, mb4.4*
*SOME **10** 05:43:35.8, 40°.28N×78°.02E, h5km*
*NEIC **10** 05:43:36.1±1.2, 40°.05N±0°.05×78°.15E±0°.08, h10km±1km, mb4.1/6, Error ellipse: s-maj=12.1km s-min=6.1km az=60.0*
*NNC **10** 05:43:37.6±1.7, 40°.26N×78°.15E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=12.0km s-min=9.8km az=157.0*
ISC 10 05:43:38.1±0.5**, 40°.05N**±0°.04×**78°.20E**±0°.03**, h23**km**, n154,** σ**2s05**/190**, mb3.9**/10**, 29C-14D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy baz=43	1.70	350	⇓*i*P	Pn	05 44 05.6	-1.1
TARG	baz=43			⇓*i*S	Sn	05 44 27.6	-0.4
TARG	Taragay, Kyrgy	1.70	350		Pn	05 44 05.7	-1.1
KSH	Kashi	1.80	253	Pg	Pb	05 44 13.9	+3.5
KSH				Sg	Sb	05 44 43.6	+11
KSH	comp=Z,30nm,0.6s			pmax	pmax		
KSH	comp=N,2μm,0.8s			smax	smax		
KSH	comp=E,1μm,0.5s			smax	smax		
KDJ	Kajisay baz=35	2.22	340	⇑*i*P	Pn	05 44 14.4	+0.8
KDJ	baz=35			⇑*i*S	Sb	05 44 42.4	-2.2
ULHL	Ulahol SNR=398	2.65	327	P	Pb	05 44 21.5	-3.4
ULHL	Ulahol baz=22	2.65	327	⇑*i*P	Pn	05 44 21.2	+1.7
ULHL	baz=22			⇑*e*S	Sb	05 44 54.5	-2.5
ANVS	Anan'yevo baz=48	2.76	352	⇑*i*P	Pn	05 44 21.5	+0.4
ANVS	baz=48			⇑*i*S	Sn	05 44 55.0	+1.2
BOOM	Boomskoye usch	2.98	326	PN	Pn	05 44 26.1	+2.1
BOOM						05 45 05.0	
BOOM	Boomskoye usch baz=22	2.98	326	⇓*i*P	Pn	05 44 25.8	+1.8
BOOM	baz=22			⇓*i*S	Sn	05 45 02.1	+3.0
BOOM	Boomskoye usch	2.98	326		Pn	05 44 26.1	+2.1
BOOM					Sb	05 45 05.0	-1.5
SATY	Saty comp=E,83nm,0.4s	3.01	3	*e*P	Pb	05 44 29.6	-1.4
SATY	comp=E,343nm,0.7s			*e*S	Sb	05 45 08.1	+0.7
SATY	Saty comp=E,83nm,0.4s	3.01	3	Pg	Pb	05 44 29.6	-1.4
SATY	comp=E,343nm,0.7s			Lg	Lg	05 45 08.8	
TNSS	Tian-Shan comp=E,182nm,0.4s	3.13	343	*e*P	Pb	05 44 31.5	-1.8
TNSS	comp=E,241nm,0.7s			*e*S	Sb	05 45 11.5	+0.4
TNSS	Tian-Shan comp=E,182nm,0.4s	3.13	343	Pg	Pb	05 44 31.5	-1.8
TNSS	comp=E,241nm,0.7s			Lg	Lg	05 45 11.5	
UZB	Uzynbulak	3.15	11	*e*PN	Pb	05 44 29.1	-4.4
UZB	Uzynbulak comp=E,26nm,0.5s	3.15	11	*e*P	Pb	05 44 29.2	-4.3
UZB	comp=E,169nm,0.8s			*e*S	Sb	05 45 07.7	-3.9
UZB	Uzynbulak comp=E,44nm,0.8s	3.15	11	Pg	Pb	05 44 29.2	-4.3
UZB	comp=E,169nm,0.8s			Lg	Lg	05 45 07.7	
IZV	Izvestkoviy comp=E,201nm,0.6s	3.21	339	*e*P	Pb	05 44 33.1	-1.4
IZV	comp=E,317nm,0.6s			*e*S	Sb	05 45 14.1	+0.9
MDOK	Medeo comp=E,134nm,0.3s	3.23	345	*e*P	Pb	05 44 32.9	-1.9
MDOK	comp=E,419nm,0.7s			*e*S	Sb	05 45 14.0	+0.3
MDOK	Medeo comp=E,90nm,0.5s	3.23	345	⇑Pg	Pb	05 44 31.9	-2.9
MDOK	comp=E,537nm,0.8s			⇑Lg	Lg	05 45 14.3	
MDOK	Medeo comp=E,134nm,0.3s	3.23	345	Pg	Pb	05 44 32.9	-1.9
MDOK	comp=E,419nm,0.7s			Lg	Lg	05 45 14.6	
SHLS	Shalkode	3.24	17	*e*PN	Pb	05 44 32.9	-2.1
SHLS	Shalkode comp=E,41nm,0.6s	3.24	17	*e*P	Pb	05 44 34.4	-0.6
SHLS	comp=E,316nm,0.7s			*e*S	Sb	05 45 16.4	+2.3
SHLS	Shalkode comp=E,34nm,0.5s	3.24	17	Pg	Pb	05 44 33.1	-1.9

SHLS Lg Lg 05 45 14.4
comp=E,166nm,0.5s
KOTS Kotyrbulak 3.28 346 *e*P **Pb 05 44 34.9 -0.8**
comp=E,72nm,0.3s
KOTS *e*S **Sb 05 45 17.2 +1.8**
comp=E,466nm,0.5s
KNDC Almaty 3.30 344 Pg **Pb 05 44 35.9 0.0**
KNDC Lg Lg 05 45 18.6
AAA Alma-Ata 3.30 343 *e*PN **Pb 05 44 34.5 -1.4**
AAA Alma-Ata 3.30 343 *e*P **Pb 05 44 34.8 -1.1**
comp=E,306nm,0.3s
AAA *e*S **Sb 05 45 17.1 +1.4**
comp=E,661nm,0.4s
AAA Alma-Ata 3.30 343 Pg **Pb 05 44 34.8 -1.1**
comp=E,306nm,0.3s
AAA Lg Lg 05 45 17.1
comp=E,661nm,0.4s
MTBS Maitube 3.35 337 *e*P **Pb 05 44 34.5 -2.3**
comp=E,81nm,0.5s
MTBS *e*S **Sb 05 45 17.0 -0.2**
comp=E,201nm,0.4s
MTBS Maitube 3.35 337 Pg **Pb 05 44 34.5 -2.3**
comp=E,81nm,0.5s
MTBS Lg Lg 05 45 17.6
comp=E,201nm,0.4s
PDGK Podgornoye 3.42 16 *e*PN **Pn 05 44 31.8 +1.8**
PDGK Podgornoye 3.42 16 Pg **Pn 05 44 32.9 +2.9**
comp=E,42nm,0.6s
PDGK Lg Lg 05 45 14.2
comp=E,98nm,0.6s
PDGK Podgornoye 3.42 16 ⇑Pn **Pn 05 44 32.2 +2.2**
comp=E,78nm,0.7s
PDGK ⇑Lg Lg 05 45 15.6
comp=E,304nm,0.9s
KPKS Kokpek 3.43 6 *e*PN **Pn 05 44 32.8 +2.6**
KPKS Kokpek 3.43 6 *e*P **Pb 05 44 34.4 -3.8**
comp=E,58nm,0.7s
KPKS *e*S **Sb 05 45 16.5 -3.0**
comp=E,379nm,0.3s
KURS Kuram 3.44 360 *e*P **Pb 05 44 37.4 -0.9**
comp=E,99nm,0.6s
KURS *e*S **Sb 05 45 21.6 +2.1**
comp=E,133nm,0.6s
KURS Kuram 3.44 360 Pg **Pb 05 44 37.4 -0.9**
comp=E,99nm,0.6s
KURS Lg Lg 05 45 21.6
comp=E,133nm,0.6s
ARLS Aral 3.45 303 ⇑*i*P **Pn 05 44 33.5 +3.0**
baz=0.0
ARLS ⇑*i*S **Sb 05 45 15.2 -4.9**
baz=0.0
TKM2 Tokmak 2 3.47 327 P **Pn 05 44 33.0 +2.1**
SNR=90
TKM2 Tokmak 2 3.47 327 ⇓*i*P **Pn 05 44 32.6 +1.7**
baz=23
TKM2 ⇓*i*S **Sn 05 45 14.0 +2.6**
baz=23
TKM2 Tokmak 2 3.47 327 ⇑Pg **Pb 05 44 35.6 -3.3**
comp=E,58nm,0.5s
TKM2 ⇓Lg Lg 05 45 22.1
comp=E,169nm,0.9s
UCH Uchtor 3.53 309 P **Pn 05 44 32.9 +1.0**
SNR=38
KBK Karagaybulak 3.58 318 P **Pn 05 44 34.8 +2.6**
SNR=62
KBK Karagaybulak 3.58 318 ⇓*i*P **Pn 05 44 34.6 +2.3**
baz=14
KBK ⇓*i*S **Sn 05 45 17.5 +3.6**
baz=14
DGS Degeres 3.67 331 *e*P **Pb 05 44 40.0 -2.3**
comp=E,334nm,0.4s
DGS *e*S **Sb 05 45 26.3 -0.1**
comp=E,175nm,0.6s
DGS Degeres 3.67 331 Pg **Pb 05 44 40.0 -2.3**
comp=E,334nm,0.4s
DGS Lg Lg 05 45 27.0
comp=E,175nm,0.6s
KTMS Ketmen 3.75 25 *e*P **Pb 05 44 43.5 -0.2**
comp=E,39nm,0.4s
KTMS *e*S **Sb 05 45 31.9 +3.1**
comp=E,109nm,0.6s
AAK Ala-Archa 3.80 314 Pn **Pn 05 44 36.7 +1.3**
comp=E,31nm,0.3s,baz=137,slow=12,SNR=24
AAK Pg **Pb 05 44 42.4 -2.2**
comp=E,31nm,0.3s,baz=129,slow=11,SNR=95
AAK Lg Lg 05 45 30.8
comp=E,13nm,0.3s,baz=11,slow=22,SNR=8.3
AAK Ala-Archa 3.80 314 P **Pn 05 44 34.0 -1.4**
SNR=71
AAK Ala-Archa 3.80 314 *i* PN **Pn 05 44 33.4 -2.0**
AAK Ala-Archa 3.80 314 ⇑*i*P **Pn 05 44 38.0 +2.6**
baz=11
AAK ⇑*i*S **Sn 05 45 23.0 +3.5**
baz=11
AAK Ala-Archa 3.80 314 Pn **Pn 05 44 34.3 -1.1**
AAK Ala-Archa 3.80 314 Pg **Pb 05 44 42.1 -2.5**
comp=E,58nm,0.5s
AAK ⇑Lg Lg 05 45 32.1
comp=E,252nm,0.8s
KTBS Karatobe 3.83 343 *e*P **Pb 05 44 43.6 -1.4**
comp=E,65nm,0.3s
KTBS *e*S **Sb 05 45 32.4 +1.5**
comp=E,329nm,0.5s
KTBS Karatobe 3.83 343 Pg **Pb 05 44 43.6 -1.4**
comp=E,65nm,0.3s
KTBS Lg Lg 05 45 32.4
comp=E,329nm,0.5s
CHKK Chushkaly 3.91 347 *e*P **Pb 05 44 45.6 -0.7**
comp=E,60nm,0.3s
CHKK *e*S **Sb 05 45 35.3 +2.2**
comp=E,182nm,0.3s
CHKK Chushkaly 3.91 347 Pg **Pb 05 44 45.6 -0.7**
comp=E,60nm,0.3s
CHKK Lg Lg 05 45 35.3
comp=E,182nm,0.3s
CHMS Chumysh 3.92 320 P **Pn 05 44 38.7 +1.8**
SNR=13
CHMS Chumysh 3.92 320 ⇑*e*P **Pn 05 44 39.3 +2.4**
baz=17
CHMS ⇑*i*S **Sn 05 45 25.9 +3.7**
baz=17
AML Almayashu 3.99 303 P Pb 05 44 43.0 -4.9
SNR=50
BLB Baldybastay 4.05 3 *e*P **Pb 05 44 48.5 -0.3**
comp=E,66nm,0.6s
BLB *e*S **Sb 05 45 40.4 +3.1**
comp=E,158nm,0.5s
BLB Baldybastay 4.05 3 Pg **Pb 05 44 48.4 -0.3**
comp=E,66nm,0.6s
BLB Lg Lg 05 45 40.4
comp=E,158nm,0.5s
KUU Kurty 4.08 341 *e*P **Pb 05 44 47.2 -2.1**
comp=E,25nm,0.4s
KUU *e*S **Sb 05 45 38.7 +0.5**
comp=E,173nm,0.6s
KUU Kurty 4.08 341 Pg **Pb 05 44 47.2 -2.1**
comp=E,25nm,0.4s
KUU Lg Lg 05 45 39.0
comp=E,173nm,0.6s
KRBS Karabastau 4.10 333 *e*P **Pb 05 44 48.2 -1.4**
comp=E,104nm,0.4s
KRBS *e*S **Sb 05 45 39.9 +1.2**
comp=E,280nm,0.7s
ARXS Arharly 4.17 356 *e*PN **Pn 05 44 42.0 +1.7**
ARXS Arharly 4.17 356 *e*P **Pb 05 44 49.6 -1.1**
comp=E,32nm,0.5s
ARXS *e*S **Sb 05 45 42.6 +1.9**
comp=E,196nm,0.5s
ARXS Arharly 4.17 356 Pg **Pb 05 44 49.6 -1.1**
comp=E,32nm,0.5s
ARXS Lg Lg 05 45 43.2
comp=E,196nm,0.5s
EKS2 Erkin-Say 4.23 310 P **Pn 05 44 43.5 +2.3**
SNR=12
EKS2 Erkin-Say 4.23 310 ⇑*i*P **Pn 05 44 44.3 +3.1**
baz=7.0
EKS2 ⇑*i*S **Sn 05 45 33.9 +4.0**
baz=7.0
USP Ospenovka 4.25 320 P **Pb 05 44 50.0 -2.0**
SNR=27
SGDS Sogindy 4.32 323 *e*PN **Pb 05 44 51.0 -2.4**
SGDS Sogindy 4.32 323 *e*P **Pb 05 44 51.4 -2.0**
comp=E,53nm,0.5s
SGDS *e*S **Sb 05 45 46.0 +0.9**
comp=E,57nm,0.7s
SGDS Sogindy 4.32 323 Pg **Pb 05 44 51.4 -2.0**
comp=E,53nm,0.5s
SGDS Lg Lg 05 45 46.6
comp=E,57nm,0.7s
DJR Jarkent 4.44 15 *e*P **Pb 05 44 55.2 -0.1**
comp=E,39nm,0.7s
DJR *e*S **Sb 05 45 52.1 +3.7**
comp=E,80nm,0.3s
DJR Jarkent 4.44 15 Pg **Pb 05 44 55.2 -0.1**
comp=E,39nm,0.7s
DJR Lg Lg 05 45 52.1
comp=E,80nm,0.3s
MRKS Merke 4.61 307 *e*P **Pb 05 44 58.4 +0.2**
comp=E,33nm,0.3s
MRKS *e*S **Sb 05 45 57.7 +4.3**
comp=E,76nm,0.5s
MRKS Merke 4.61 307 Pg **Pb 05 44 58.4 +0.2**
comp=E,33nm,0.3s
MRKS Lg Lg 05 45 57.7
comp=E,76nm,0.5s
KAPS Kapalarasan 5.30 9 *e*P **Pb 05 45 10.7 +0.7**
comp=E,6.4nm,0.6s
KAPS *e*S **Sb 05 46 18.7 +5.5**
comp=E,73nm,0.8s
KAPS Kapalarasan 5.30 9 Pg **Pb 05 45 12.8 +2.8**
comp=E,19nm,0.2s
KAPS Lg Lg 05 46 22.4
comp=E,73nm,0.8s
BTK Batken 5.67 272 PN **Pn 05 44 59.8 -1.1**
BTK Batken 5.67 272 **Pn 05 44 59.8 -1.1**
BTLS Baital 5.86 330 *e*PN **Pb 05 45 19.3 -0.1**
BTLS pmax pmax
comp=Z,9.0nm,0.5s
BTLS Baital 5.86 330 *e*P **Pb 05 45 20.7 +1.3**
comp=Z,33nm,0.5s
BTLS *e*S **Sb 05 46 35.7 +6.6**
comp=Z,49nm,0.7s
GAR Garm 6.19 263 **Pn 05 45 07.3 -0.8**
KK02 Karatay Array 6.52 300 ⇓Pn **Pn 05 45 15.5 +2.9**
comp=Z,1.1nm,0.8s
KK02 ⇑Pg **Pb 05 45 32.3 +1.5**
comp=Z,13nm,0.7s,baz=118,slow=16
KK02 ⇓Lg Lg 05 47 00.8
comp=Z,18nm,0.7s,baz=120,slow=28
KKAR Karatay Array 6.52 300 PN **Pn 05 45 10.2 -2.4**
KKAR Karatay Array 6.52 300 **Pn 05 45 10.2 -2.4**
CHGR Chuyangaron 7.15 262 **Pn 05 45 19.9 -1.4**
MK31 Makanchi Array 7.37 22 *e*P **Pn 05 45 26.1 +1.9**
MK31 Makanchi Array 7.37 22 **Pn 05 45 24.3 +0.1**
MK31 Makanchi Array 7.37 22 ⇓Pn **Pn 05 45 26.1 +1.9**
comp=Z,1.5nm,0.5s,baz=202,slow=12,SNR=32
MK31 ⇑Lg Lg 05 47 27.2
comp=Z,13nm,0.9s,baz=206,slow=22,SNR=4.1
MKAR Makanchi Array 7.37 22 Pn **Pn 05 45 25.9 +1.7**
comp=Z,0.9nm,0.3s,baz=197,slow=12,SNR=28
MKAR Pg **Pb 05 45 47.5 +2.3**
comp=Z,0.6nm,0.3s,baz=210,slow=16,SNR=8.0
MKAR Sn **Sn 05 46 52.0 +5.0**
comp=Z,0.6nm,0.3s,baz=200,slow=24,SNR=3.9
MKAR Lg Lg 05 47 28.9
comp=Z,0.7nm,0.3s,baz=199,slow=21,SNR=3.5
MKAR LR LR 05 48 50.3
comp=Z,41nm,19.6s,baz=214,slow=42
MKAR Makanchi Array 7.37 22 *i* P **Pn 05 45 25.8 +1.7**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 7.37 22 Pn **Pn 05 45 25.1 +0.9**
CHCP Chirah Chowk 7.51 213 P **Pn 05 45 28.7 +2.6**
NIL Nilore 7.52 213 P **Pn 05 45 25.5 -0.8**
NIL Nilore 7.52 213 Pn **Pn 05 45 25.5 -0.8**
CEP Cherat 8.00 221 ⇑P **Pn 05 45 34.4 +1.4**
WMQ Urumqi 8.02 59 *e*Pn **Pn 05 45 34.8 +1.7**
WMQ Sn **Sn 05 47 02.8 -0.3**
WMQ smax smax
comp=N,47nm,0.9s
WMQ smax smax
comp=E,40nm,0.9s
THW Thamme Wali 8.91 218 P **Pn 05 45 45.8 +0.3**
KBL Kabul 9.13 236 P **Pn 05 45 47.6 -1.0**
KBL Kabul 9.13 236 Pn **Pn 05 45 47.6 -1.0**
OTUK Ortayu 9.21 335 *e*P **Pn 05 45 49.7 +0.3**
OTUK Ortayu 9.21 335 ⇓Pn **Pn 05 45 49.7 +0.3**
comp=E,2.1nm,1.1s
OTUK ⇑Pg 05 46 20.5
comp=E,5.6nm,1.0s
OTUK ⇑Lg Lg 05 48 20.1
comp=E,62nm,1.3s
KURBB Kurchatov Arra 10.57 1 Pn **Pn 05 46 07.4 -0.7**
comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=14
KURBB Lg Lg 05 49 05.6
comp=E,0.1nm,0.3s,baz=206,slow=30,SNR=6.6
KURK Kurchatov 10.67 1 *i* P **Pn 05 46 09.1 -0.3**
KURK Kurchatov 10.67 1 Pn **Pn 05 46 08.7 -0.6**
KURK Kurchatov 10.67 1 ⇓Pn **Pn 05 46 09.6 +0.2**
comp=E,9.1nm,1.0s
KURK ⇑Lg Lg 05 49 10.9
comp=E,48nm,1.3s
DANN Dangsing 12.54 157 *e*P **Pn 05 46 34.2 -1.1**
comp=E,12nm,0.3s
PYUN Piuthan 12.56 160 *e*P **Pn 05 46 34.1 -1.4**
comp=E,19nm,0.4s
KOLN Koldanda 13.04 158 *e*P **Pn 05 46 39.3 -2.8**
comp=E,6.5nm,0.2s
GOMU GeÉrMu 13.63 101 P **Pn 05 46 50.2 -0.1**
GOMU pP P 05 46 54.2 -4.8
GOMU sP 05 46 56.1
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GUN Gumba 13.67 150 *e*P **Pn 05 46 49.8 -1.1**
PKIN Phulchoki 13.80 152 *e*P **Pn 05 46 50.5 -2.0**
comp=Z,12nm,0.4s
JIRN Jiri 14.02 149 *e*P **Pn 05 46 54.9 -0.7**
comp=Z,22nm,0.6s
BVAR Borovoye Array 14.04 340 Pn **Pn 05 46 53.4 -2.0**
comp=Z,0.3nm,0.3s,baz=88,slow=17,SNR=10
BVAR Lg Lg 05 50 54.6
comp=Z,0.2nm,0.3s,baz=296,slow=31,SNR=5.1
BRVK Borovoye 14.09 340 *i* P **Pn 05 46 54.1 -2.0**
BRVK Borovoye 14.09 340 Pn **Pn 05 46 54.7 -1.4**
BRVK Borovoye 14.09 340 ⇑Pn **Pn 05 46 53.9 -2.2**
comp=Z,7.4nm,1.1s
ZALV Zalesovo Beam 14.61 16 Pn **Pn 05 47 03.5 +0.3**
baz=203,slow=11,SNR=6.2
ZALV Zalesovo Beam 14.61 16 *i* P **Pn 05 47 03.9 +0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 14.61 16 Pn **Pn 05 47 01.7 -1.4**
RAMN Ramite 14.81 149 *e*P **Pn 05 47 04.7 -1.6**
comp=Z,29nm,0.5s
GTA Gaotai 16.64 85 *e*P **P 05 47 31.3 -0.8**
GTA pP pP 05 47 38.6 -0.4
GTA sP sP 05 47 42.8 +0.7
GTA pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 17.55 313 P **P 05 47 41.4 -0.5**
comp=Z,0.1nm,0.3s,baz=94,slow=10,SNR=4.7
AKTO LR LR 05 54 53.3
comp=Z,86nm,19.1s,baz=96,slow=39
SHL Shillong 18.43 137 P **Pn 05 47 51.0 -1.2**
SHL pmax pmax
comp=Z,19nm,1.4s
SHL Shillong 18.43 137 P **Pn 05 47 51.0 -1.2**
SHL IAmb IAmb 05 47 57.3
comp=Z,19nm,1.4s
ARU Arti 20.84 328 P Pn 05 48 18.4 -2.1
comp=Z,0.8nm,0.3s,baz=152,slow=7.4,SNR=7.4
ARU Arti 20.84 328 *i*P Pn 05 48 18.7 -1.8
ARU S Sn 05 52 11.7 -3.3
ARU SS **SnSn 05 52 31.8 +2.0**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 20.84 328 P **P 05 48 16.2 -1.7**
ARU IAmb IAmb 05 48 20.8
comp=Z,12nm,1.1s
SONM Songino Array 21.65 60 P **P 05 48 28.7 +1.9**
comp=Z,1.4nm,0.7s,baz=253,slow=11,SNR=15
SONM Songino Array 21.65 60 P **P 05 48 27.1 +0.2**
NRIK Noril'sk 29.77 7 LR LR 06 02 09.4
comp=Z,71nm,19.0s,baz=182,slow=37
WHN Wuhan 30.81 97 ⇑P P 05 50 00.5 +8.4
KLMR Klimovskoe 31.55 324 *e*P **P 05 49 56.7 -1.5**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 31.55 324 *e*P **P 05 49 56.8 -1.5**
KLMR AMP 05 50 04.3
comp=Z,8.0nm,1.1s
FINES FINESS Array B 37.95 322 P **P 05 50 54.1 +0.6**
comp=Z,3.6nm,0.9s,baz=116,slow=8.7,SNR=7.8
FINES FINESS Array B 37.95 322 P **P 05 50 53.0 -0.4**
AKAS Kas 38.04 280 P **P 05 50 53.8 -1.0**
MANT Manisa 38.06 284 P **P 05 50 53.9 -1.2**
MANT IAmb IAmb 05 50 58.9
comp=Z,11nm,1.2s
ARCES ARCESS Array B 40.22 334 P **P 05 51 13.3 +0.9**
comp=Z,2.1nm,0.8s,baz=105,slow=10,SNR=1.8
NOA NORSAR Array B 45.09 321 P **P 05 51 52.2 +0.1**
comp=Z,1.0nm,0.9s,baz=86,slow=8.1,SNR=3.0
CLL Collm 45.49 307 *e*P **P 05 51 57.0 +1.7**
CLL Collm 45.49 307 *e*P **P 05 51 57.0 +1.7**
CLL LmH 12 31 00.0
comp=N,200nm,19.8s
CLL LmH 12 31 00.0
comp=E,200nm,20.5s
IMAR Indian Mountai 66.97 20 P **P 05 54 27.5 -0.9**
TORD Torodi Ar. Bea 71.38 272 P **P 05 54 55.8 -0.7**
comp=E,1.2nm,0.6s,baz=44,slow=5.4,SNR=14
TORD Torodi Ar. Bea 71.38 272 P **P 05 54 55.9 -0.7**
TORD IAmb IAmb 05 55 06.5
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 77.28 6 P **P 05 55 30.1 0.0**
comp=Z,0.2nm,0.7s,baz=348,slow=5.7,SNR=3.2
YKA Yellowknife Ar 77.28 6 *i* P P 05 55 38.0 +7.9
YKA Yellowknife Ar 77.28 6 P **P 05 55 29.9 -0.2**
WRA Warramunga Arr 79.33 127 P **P 05 55 41.4 -0.6**
comp=Z,0.7nm,0.9s,baz=329,slow=5.3,SNR=5.0
ASAR Alice Springs 81.91 130 P **P 05 55 56.4 +0.6**
comp=Z,0.3nm,0.3s,baz=318,slow=5.1,SNR=6.8

TUL ***10*** *05:47:20.8±1.2,36.13N±0.01×97.25W±0.01,h4km±7km, ML2.6,mb_Lg2.6/27(NEIC),Error ellipse: s-maj=1.7km s-min=1.5km az=194.0*
NEIC 10 05:47:21±1.0,36.13N±0.01×97.26W±0.01,h5km±7km, Error ellipse: s-maj=1.7km s-min=1.5km az=210.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.73**	**192**		Pg	05 47 35.0	-0.1
OKCFA				Sg	Sg	05 47 45.4	+0.8
OKCSW	**OKLAHOMA CITY**	**0.74**	**191**	Pg	Pg	05 47 35.2	0.0
FNO	**Franklin**	**0.88**	**187**	Pg	Pg	05 47 37.6	-0.3
T35A	**Sooner Cattle**	**0.99**	**37**		Pg	05 47 39.6	-0.4
TUL1	**Leonard**	**1.21**	**100**		Pg	05 47 42.9	-1.4
U32A	**Winter Ranch,**	**1.43**	**280**		Pn	05 47 47.5	-0.2
X34A	**Smith Ranch, M**	**1.60**	**197**		Pb	05 47 50.6	-0.4
X34A				IAmb_Lg		05 48 15.0	
	comp=Z,20nm,0.8s						
WMOK	**Wichita Mounta**	**1.86**	**222**		Pn	05 47 54.3	+0.6
WMOK				IAmb_Lg		05 48 21.0	
	comp=Z,35nm,0.8s						
X37A	**Clayton**	**2.18**	**134**		Pn	05 47 58.7	+0.7
X37A				IAmb_Lg		05 48 30.8	
	comp=Z,22nm,1.2s						
HHAR	**Hobbs**	**2.69**	**86**		Pn	05 48 05.4	+0.5
Z38A	**Mt. Pleasant**	**3.42**	**146**	IAmb_Lg		05 49 18.5	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.52**	**63**	IAmb_Lg		05 49 14.8	
	comp=Z,11nm,0.9s						
MGMO	**Mountain Grove**	**4.14**	**74**	IAmb_Lg		05 49 33.3	
	comp=Z,21nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.17**	**92**	IAmb_Lg		05 49 32.9	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**4.57**	**39**	IAmb_Lg		05 49 51.3	
	comp=Z,9.8nm,1.0s						
LCAR	**Lake Charles**	**4.95**	**89**	IAmb_Lg		05 49 57.7	
	comp=Z,12nm,1.1s						
CCM	**Cathedral Cave**	**5.18**	**66**	IAmb_Lg		05 50 02.8	
	comp=Z,8.4nm,0.8s						
BGNE	**Belgrade**	**5.31**	**353**	IAmb_Lg		05 50 12.0	
	comp=Z,12nm,0.8s						
L34A	**Svendsen Farm,**	**5.87**	**6**	IAmb_Lg		05 50 38.6	
	comp=Z,11nm,0.8s						
SLM	**Saint Louis**	**6.13**	**64**	IAmb_Lg		05 50 47.0	
	comp=Z,11nm,0.9s						
WVT	**Waverly**	**7.63**	**87**	IAmb_Lg		05 51 30.4	
	comp=Z,3.7nm,0.7s						

IDC 10 05:52:45.0±3.5,55.50N×86.20E,h0km,mb1 3.1/2, mb1mx2.9/54,mbtmp3.1/2,ML2.6/2,Error ellipse: s-maj=29.2km s-min=24.7km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**208**	*i*		06 03 03.9	
	baz=25,slow=337,SNR=9.4						
ZALV	**Zalesovo Beam**	**1.75**	**208**	Pg	Pn	05 53 14.9	-1.6
	1.5nm,0.3s,baz=31,slow=17,SNR=19						
ZALV				Lg	Lg	05 53 40.8	
	1.1nm,0.3s,baz=25,slow=29,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.72**	**227**	Pn	Pn	05 54 25.5	+0.7
	0.1nm,0.3s,baz=45,slow=14,SNR=6.5						
MKAR	**Makanchi Array**	**9.05**	**197**	Pn	Pn	05 54 56.6	-0.3
	0.0nm,0.3s,baz=20,slow=12,SNR=2.5						
MKAR				Lg	Lg	05 57 35.7	
	0.1nm,0.3s,baz=29,slow=32,SNR=6.4						

MDD ***10*** *05:56:15.8±0.4,35.48N×3.83W,h0km,mb_Lg2.7/11, Error ellipse: s-maj=3.9km s-min=2.8km az=11.0*
LDG ***10*** *05:56:15.8±0.6,35.59N×3.86W,h10km,Ml2.7/2,Error ellipse: s-maj=14.3km s-min=6.8km az=8.0*
CNRM ***10*** *05:56:16.8,35.45N×3.78W,h22km,ml2.7*
SFS ***10*** *05:56:17.0,35.43N×3.69W,ML3.3,ALBORAN SUR*
ISC 10 05:56:15.2±1.1,35.55N±0.03×3.74W±0.02,h17km±9km, n40,σ1.97/69,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.37**	**206**	P	Pg	05 56 22.0	-0.9
PALE	**Palemas**	**0.37**	**206**	P	Pg	05 56 22.0	-0.9
PALE				S	Sb	05 56 28.2	-0.7
EMEL	**Melilla**	**0.69**	**111**	Pg	Pg	05 56 29.1	+0.4
EMEL				Sg	Sb	05 56 38.5	+0.5
EALB	**Alboran**	**0.69**	**56**	Pg	Pn	05 56 30.2	0.0
EALB				Sg	Sn	05 56 40.4	-0.2
EALB				*i* Vmb_Lg		05 56 42.2	
EMIJ	**Mijas**	**1.31**	**321**	Pg	Pn	05 56 39.3	+0.5
EMIJ				Sg	Sn	05 56 55.5	-0.4
EMIJ				*i* Vmb_Lg		05 57 01.2	
TAF	**Taforalt**	**1.31**	**124**	P	Pn	05 56 38.2	-0.7
TAF	**Taforalt**	**1.31**	**124**	P	Pn	05 56 38.2	-0.7
TAF				S	Sg	05 56 57.7	0.0
ELGU	**Los Guajares,**	**1.31**	**4**	Pn	Pn	05 56 39.4	+0.5
ELGU				Sn	Sn	05 56 55.6	-0.5
EMAL	**Malaga-Limoner**	**1.33**	**335**	P	Pn	05 56 39.9	+0.9
EMAL				S	Sn	05 56 57.0	+0.7
SMIR	**Smir Dam**	**1.34**	**276**	P	Pb	05 56 40.1	+0.1
SMIR				S	Sg	05 57 00.4	+1.8
CEU	**Ceuta**	**1.37**	**285**	P	Pn	05 56 38.1	-1.5
CEU				S	Sn	05 56 54.2	-3.1
CHEFC	**Chefchaouen**	**1.38**	**252**	P	Pg	05 56 42.2	+0.3
CHEFC	**Chefchaouen**	**1.38**	**252**	P	Pg	05 56 42.2	+0.3
CHEFC				S	Sn	05 56 56.9	-0.9
EGOR	**Sierra Gorda,**	**1.58**	**349**	Pn	Pb	05 56 44.5	+0.3
EGOR				Sn	Sb	05 57 05.8	+1.9
EGOR				*i* Vmb_Lg		05 57 12.2	
EJIF	**Jimena Fronter**	**1.66**	**303**	Pn	Pb	05 56 45.1	-0.3
ENIJ	**Nijar**	**1.88**	**41**	Pn	Pn	05 56 47.1	+0.5
ENIJ				Sn	Sn	05 57 09.1	-0.9
LCRM	**LCR**	**2.08**	**207**	P	Pb	05 56 53.0	+0.4
LCRM	**LCR**	**2.08**	**207**	P	Pb	05 56 53.0	+0.4
LCRM				S	Sn	05 57 15.6	+0.5
ESPR	**Espera**	**2.16**	**308**	Pn	Pb	05 56 53.2	-0.6
ESPR				Sn	Sb	05 57 20.2	-0.1
ESPR				*i* Vmb_Lg		05 57 29.9	
IFR	**Ifrane**	**2.33**	**210**	P	Pn	05 56 51.9	-1.1
IFR				S	Sn	05 57 19.3	-2.1
EADA	**Adamuz**	**2.69**	**346**	Pn	Pn	05 56 59.8	+2.0
EADA				Sn	Sb	05 57 33.9	-1.9
EADA				*i* Vmb_Lg		05 57 49.0	
MD31	**MD31**	**2.81**	**198**	P	Pn	05 56 59.9	+0.4
MD31				S	Sn	05 57 33.2	+0.2
MDT	**Midelt**	**2.83**	**195**	P	Pn	05 57 01.4	+1.8
MDT	**Midelt**	**2.83**	**195**	P	Pn	05 57 01.4	+1.8
MDT				S	Sn	05 57 35.1	+1.7
ECAB	**El Cabril**	**2.85**	**332**	Pn	Pb	05 57 04.0	-1.7
ECAB				Sn	Sn	05 57 37.2	+3.2
ECAB				*i* Vmb_Lg		05 57 48.9	
TDRA	**Tendrara**	**2.88**	**150**	P	Pn	05 56 57.7	-2.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TDRA				S	Sn	05 57 34.9	0.0
EMIN	Mina Concepcio	3.23	314	Pn	Pn	05 57 06.3	+1.2
EMIN				Sn	Sn	05 57 42.8	-0.5
EMIN				*i* Vmb_Lg		05 58 12.1	
ETOB	Tobarra	3.55	29	Pn	Pn	05 57 12.9	+3.3
ETOB				Sn	Sn	05 57 56.5	+5.4
ETOB				*i* Vmb_Lg		05 58 46.5	
EGRO	El Granado	3.60	304	Pn	Pn	05 57 11.1	+0.8
EGRO				Sn	Sn	05 57 51.3	-1.2
EGRO				*i* Vmb_Lg		05 58 10.4	
PVAQ	Vaqueiros	3.70	301	P	Pn	05 57 12.3	+0.7
PVAQ				S	Sn	05 57 56.3	+1.5
PAB	San Pablo	4.01	353	Pn	Pn	05 57 18.7	+2.7
PAB				Sn	Sn	05 58 07.0	+4.3
EBAD	Badajoz	4.13	322	Pn	Pn	05 57 19.4	+1.9
EBAD				Sn	Sn	05 58 04.6	-0.8
EBAD				*i* Vmb_Lg		05 58 13.7	
OUZM	OUZ	5.28	209	P	Pn	05 57 34.6	+1.1
OUZM				S	Sn	05 58 34.3	+0.4
OUK	Oukaimeden	5.54	220	P	Pn	05 57 37.6	+0.4
OUK				S	Sn	05 58 38.7	-2.0
ETSF	Etsaut	7.74	18	*e*Pn	Pn	05 58 06.5	-0.6
ETSF				*e*Sn	Sn	05 59 29.2	-5.2
	0.5nm,0.2s						
SJPF	Ste Jean	7.80	14	*e*Pn	Pn	05 58 06.2	-1.7
SJPF				*e*Sn	Sn	05 59 28.7	-7.0
	0.3nm,0.2s						
EPF	Esparros	8.11	22	*e*P	Pn	05 58 17.5	+5.3
MTLF	Montolieu	9.04	29	*e*P	Pn	05 58 29.2	+4.3
LASF	Ste Croix	10.32	32	*e*Pn	Pn	05 58 41.5	-1.0
PGF	Pioggiola	12.11	51	*e*Pn	Pn	05 59 06.8	-0.2

IDC 10 05:59:26.3±2.8, 6°.53S×131°.16E, h62km±37km, mb2.9/1, mb1 3.9/5, mb1mx3.4/39, mbtmp3.9/5, ML4.1/4, Error ellipse: s-maj=76.6km s-min=23.6km az=88.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.62	1	P	Pn	06 00 46.7	-0.6
	9.4nm,0.3s,baz=302,slow=23,SNR=40						
SIJI				S	Sn	06 01 44.2	-6.4
	3.3nm,0.3s,baz=134,slow=23,SNR=2.1						
FITZ	Fitzroy Crossi	12.70	205	P	Pn	06 02 24.9	+0.8
	0.7nm,0.3s,baz=35,slow=12,SNR=48						
FITZ				S	Sn	06 04 34.9	-9.0
	0.4nm,0.3s,baz=35,slow=13,SNR=4.4						
WRA	Warramunga Arr	13.69	167	P	Pn	06 02 35.6	-2.0
	0.8nm,0.3s,baz=348,slow=13,SNR=36						
WRA				S	Sn	06 05 00.9	-7.2
	0.8nm,0.3s,baz=360,slow=23,SNR=6.8						
ASAR	Alice Springs	17.25	171	P	P	06 03 23.6	-0.2
	0.4nm,0.3s,baz=352,slow=12,SNR=15						
ASAR				S	Sn	06 06 22.9	-11
	0.1nm,0.3s,baz=359,slow=27,SNR=2.0						
MKAR	Makanchi Array	68.47	326	P	P	06 10 22.3	+0.3
	0.1nm,0.5s,baz=119,slow=7.1,SNR=2.0						

IDC 10 06:07:06.4±0.9, 1°.36N×128°.44E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/54, mbtmp3.8/9, ML3.9/3, Error ellipse: s-maj=37.2km s-min=15.7km az=65.0
DJA 10 06:07:08.9±0.9, 1°N±5°×12°8E±°, h13km±8km, M4.1/7, mb4.5/7, mB4.8/1, MLv3.9/7, Mw(mB)4.1/1
NEIC 10 06:07:10.9±1.3, 1°.17N±0°.05×128°.41E±0°.06, h19km±5km, mb4.0/10, Error ellipse: s-maj=8.5km s-min=6.3km az=114.0
ISC 10 06:07:10.1±0.7, 1°.22N±0°.08×128°.41E±0°.05, h22km, n41, σ1s.23/39, mb4.0/14, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.14	247		Pn	06 07 29.3	-1.4
TNTI					Sn	06 07 46.2	+0.5
TNTI	Ternate	1.14	247	P	Pn	06 07 29.1	-1.6
TNTI				S	Sn	06 07 45.8	+0.2
LBMI	Labuha	2.06	206	P	Pn	06 07 43.1	-0.4
SWI	Sorong	3.52	126	P	Pn	06 08 04.0	+0.4
SWI				S	Sn	06 08 45.4	+0.8
SIJI	Sorong	3.53	126	Pn	Pn	06 08 03.8	+0.1
	25nm,0.3s,baz=330,slow=16,SNR=24						
SIJI				Sn	Sn	06 08 46.1	+1.3
	6.2nm,0.3s,baz=218,slow=23,SNR=6.9						
MSAI	Masohi	4.57	173	P	Pn	06 08 21.2	+3.2
GTOI	Gorontalo	5.43	264	P	Pn	06 08 30.9	+1.1
	0.1nm8.0nm,0.8s						
TOLI2	Tolitoli	7.63	269		Pn	06 09 01.5	+1.5
TTSI	Tana Toraja	9.58	244	P	Pn	06 09 26.3	-0.5
	32nm,0.7s						
BNSI	Bone	10.00	236	P	Pn	06 09 34.0	+1.4
	16nm,0.7s						
SPSI	Sidrap Palu	10.06	239	P	Pn	06 09 32.7	-0.7
	23nm,0.4s						
BKSI	Bulukumba	10.53	232	P	Pn	06 09 36.4	-3.4
	384nm14nm,0.8s						
KAPI	Kappang	10.64	234	Pn	Pn	06 09 43.3	+1.9
	2.4nm,0.3s,baz=59,slow=2.6,SNR=5.8						
KAPI	Kappang	10.64	234		Pn	06 09 40.0	-1.4
KNRA	Kununurra	16.80	179	Pn	Pn	06 11 03.3	-0.8
FITZ	Fitzroy Crossi	19.39	188	P	Pn	06 11 35.5	-0.5
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.4						
FITZ	Fitzroy Crossi	19.39	188	P	Pn	06 11 35.2	-0.8
COEN	Coen	21.01	136	P	P	06 11 52.5	0.0
COEN				IAmb	IAmb	06 11 54.6	
	comp=Z,4.2nm,0.8s						
KPJI	Karang Pucung	21.21	246	P	P	06 11 56.0	+1.4
	comp=Z,28nm,0.9s						
WB0	Warramunga Arr	21.67	165	P	P	06 11 59.6	+0.1
WB0				IAmb	IAmb	06 12 14.0	
	comp=Z,7.6nm,1.1s						
WRAB	Tennant Creek	21.82	165	P	P	06 12 01.4	+0.3
WRAB				IAmb	IAmb	06 12 16.1	
	comp=Z,6.9nm,1.0s						
WRA	Warramunga Arr	21.82	165	P	P	06 12 01.0	-0.1
	comp=Z,2.3nm,0.7s,baz=343,slow=11,SNR=18						
WB2	Warramunga Arr	21.83	165	P	P	06 12 01.3	+0.1
WB2				IAmb	IAmb	06 12 15.6	
	comp=Z,6.5nm,0.9s						
WR0	Warramunga Arr	21.89	164	P	P	06 12 02.3	+0.4
WR0				IAmb	IAmb	06 12 16.7	
	comp=Z,5.8nm,0.9s						
MDSI	Maura Dua	24.87	257	P	P	06 12 32.8	+1.3
ASAR	Alice Springs	25.31	168	P	P	06 12 36.6	+1.3
	comp=Z,2.0nm,0.8s,baz=346,slow=10,SNR=16						
ASAR	Alice Springs	25.31	168	P	P	06 12 35.3	-0.1
FORT	Forrest	31.83	181	P	P	06 13 33.2	-0.2
H11S3	WAKE ISLAND Hy	41.28	63	T	T	06 58 45.2	
	baz=249						
H11S2	WAKE ISLAND Hy	41.29	63	T	T	06 58 46.1	
	baz=249						
H11S1	WAKE ISLAND Hy	41.30	63	T	T	06 58 50.2	
	baz=249						
H11N1	WAKE ISLAND Hy	41.89	61	T	T	06 59 23.9	
	baz=247,slow=75,SNR=9.0						
H11N2	WAKE ISLAND Hy	41.90	61	T	T	06 59 31.2	
	baz=247,slow=75,SNR=6.8						
H11N3	WAKE ISLAND Hy	41.91	61	T	T	06 59 31.8	
	baz=247,slow=75,SNR=9.5						
USA0B	Ussuriysk Arra	42.91	4	P	P	06 15 07.9	+0.8
USA0B				IAmb	IAmb	06 15 12.1	
	comp=Z,7.0nm,0.8s						
SONM	Songino Array	50.20	341	P	P	06 16 03.0	-1.5
	comp=Z,0.3nm,0.8s,baz=155,slow=7.9,SNR=2.5						
MKAR	Makanchi Array	60.56	325	P	P	06 17 18.1	-0.8
	comp=Z,0.8nm,0.6s,baz=124,slow=8.4,SNR=7.7						
KURBB	Kurchatov Arra	64.74	327	P	P	06 17 45.5	-1.3
	comp=Z,1.5nm,0.7s,baz=126,slow=6.0,SNR=13						
KURK	Kurchatov	64.74	328	P	P	06 17 47.1	+0.4
KURK	Kurchatov	64.74	328	⇑Sn	P	06 17 47.1	+0.4
	comp=Z,3.7nm,0.8s						
BVAR	Borovoye Array	70.32	327	P	P	06 18 21.6	-0.4
	comp=Z,0.3nm,0.4s,baz=225,slow=54,SNR=2.3						

IDC 10 06:15:06.3±2.4, 54°.10N×86°.49E, h0km, mb1 3.1/2, mb1mx3.0/41, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=19.9km s-min=12.1km az=58.0
NNC 10 06:15:06.2±4.0, 54°.24N×86°.40E, h0km, mb3.3, mpv2.5, Error ellipse: s-maj=33.7km s-min=19.9km az=5.0, Suspected Mining explosion.
ISC 10 06:15:07.0±4.0, 54°.1N±0°.2×86°.5E±0°.2, h0km, n8, σ1s.77/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	261	*i*		06 22 30.0	
	baz=80,slow=330,SNR=3.7						
ZAA0	Zalesovo Array	0.98	261	⇑P	Pg	06 15 23.7	-2.0
	0.2nm,0.3s						
ZAA0				⇓S	Sg	06 15 38.5	+0.1
	1.2nm,0.5s						
ZALV	Zalesovo Beam	0.98	261	Pg	Pg	06 15 24.0	-1.7
	1.2nm,0.3s,baz=80,slow=17,SNR=16						
ZALV				Lg	Lg	06 15 39.3	
	2.4nm,0.3s,baz=80,slow=28,SNR=26						
KURK	Kurchatov	5.87	238	⇑Pn	Pn	06 16 37.2	+1.9
	0.3nm,0.4s						
KURK				⇑Lg	Lg	06 18 16.5	
	5.6nm,1.0s						
KURBB	Kurchatov Arra	5.98	237	Pn	Pn	06 16 37.3	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Lg	Lg	06 18 17.5	
	0.1nm,0.3s,baz=58,slow=32,SNR=11						
KURBB	Kurchatov Arra	5.98	237	⇑Pn	Pn	06 16 38.6	+1.9
	0.5nm,0.2s						
KURBB				⇓Sn	Sn	06 17 47.7	+2.0
	1.6nm,0.5s						
KURBB				⇑Lg	Lg	06 18 18.6	
	0.9nm,0.2s						
MK31	Makanchi Array	7.79	202	Pn	Pn	06 17 03.0	+1.4
	baz=28,slow=14,SNR=9.9						
MK31				⇑Sn	Sn	06 18 30.9	+0.5
	0.1nm,0.2s						
MK31				⇑Lg	Lg	06 19 13.8	
	0.1nm,0.3s,baz=23,slow=28,SNR=4.4						
MKAR	Makanchi Array	7.79	202	Pn	Pn	06 17 02.0	+0.4
	0.2nm,0.3s,baz=27,slow=14,SNR=13						
MKAR				Sn	Sn	06 18 28.5	-2.0
	baz=22,slow=24,SNR=3.7						
MKAR				Lg	Lg	06 19 13.3	
	0.0nm,0.3s,baz=23,slow=30,SNR=7.9						

DJA 10 06:32:37.4±1.8, 4°S±11°×13°8E±°, h74km±25km, M3.6/3, MLv3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMPI	Sarmi	1.59	9	P	Pn	06 33 03.9	+0.2
GENI	Genyem	1.96	60	P	Pn	06 33 08.8	+0.1
GENI				S	Sn	06 33 32.9	+0.5
SRPI	Serui, Papua	2.79	307	S	Sn	06 33 52.3	-0.1

CNRM 10 06:36:09.4, 36°.54N×3°.00E, h3km, ml3.9
MDD 10 06:36:27.3±1.2, 35°.88N×1°.73E, h0km, Mb4.5/7, M_mb4.0/7, Error ellipse: s-maj=10.4km s-min=9.2km az=20.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)
CRAAG 10 06:36:29.2, 35°.73N×1°.35E, Ml3.3
ISC 10 06:36:32.4±0.9, 35°.91N±0°.05×1°.38E±0°.04, h15km, n21, σ2s.35/35, 6C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EANR	'Ain N'Sour	0.23	279	P	Pg	06 36 36.8	-0.8
ECHA	Ech Chlef	0.23	358	P	Pb	06 36 39.5	+1.1
EBNR	Beni Rached	0.40	18	P	Pb	06 36 42.0	+0.8
EMHD	Djebel Mahouad	1.31	77	P	Pg	06 36 57.4	-0.3
ODJA	Bouhanifia	1.37	245	P	Pn	06 36 55.0	-2.1
ATAF	Djebel Tarf	2.36	90	P	Pn	06 37 11.0	+0.3
CART	Cartagena	2.54	312	P	Pn	06 37 01.3	-12
CART				S	Sn	06 37 43.7	0.0
TAF	Taforalt	3.29	252	P	Pn	06 37 21.7	-1.8
TAF				S	Sg	06 38 18.9	+0.9
ETOB	Tobarra	3.59	320	Pn	Pn	06 37 26.7	-0.9
ETOB				⇑*i*Vmb_V		06 37 35.4	
	904nm,SNR=2.3						
ETOB				Sg	Sn	06 38 05.8	-3.9
ETOB				Sn	Sb	06 38 08.3	-11
JBK	JBK	3.59	245	P	Pn	06 37 26.1	-1.8
JBK				S	Sg	06 38 26.1	-1.8
TDRA	Tendrara	4.01	225	P	Pn	06 37 31.0	-2.6
TDRA				S	Sb	06 38 34.9	+3.4
ECHE	Chera	4.11	334	Pn	Pn	06 37 34.4	-0.4
ECHE				⇑*i*Vmb_V		06 37 41.7	
	440nm,SNR=1.3						
ECHE				Sn	Sn	06 38 21.7	-1.0
ELGU	Los Guajares,	4.15	285	Pn	Pn	06 37 32.5	-2.7
ELGU				⇑*i*Vmb_V		06 37 41.5	
	464nm,SNR=1.2						
ELGU				Sn	Sn	06 38 24.8	+1.3
FIGM	Figuig	4.36	211	P	Pn	06 37 35.4	-2.9
FIGM				S	Sb	06 38 42.3	+1.0
EGOR	Sierra Gorda,	4.58	287	Pn	Pn	06 37 40.3	-1.0
EGOR				⇑*i*Vmb_V		06 37 41.9	
	535nm,SNR=1.2						
EGOR				Sn	Sn	06 38 34.1	-0.1
EMIJ	Mijas	5.01	279	Pn	Pn	06 37 45.8	-1.4
EMIJ				⇑*i*Vmb_V		06 37 53.3	
	293nm,SNR=1.2						
EMIJ				Sn	Sn	06 38 46.7	+2.0
EADA	Adamuz	5.26	297	Pn	Pn	06 37 48.7	-1.9
EADA				⇑*i*Vmb_V		06 37 53.5	
	273nm,SNR=2.2						
EADA				Sn	Sn	06 38 51.5	+0.4
MDT	Midelt	5.83	240	P	Pn	06 37 57.7	-0.8
MDT				S	Sb	06 39 23.6	0.0
ECAB	El Cabril	5.85	294	Pn	Pn	06 37 57.2	-1.5
ECAB				Sn	Sn	06 39 06.9	+1.5
MD31	MD31	5.91	241	P	Pn	06 37 58.3	-1.3
MD31				S	Sb	06 39 25.8	-0.1
PVAQ	Vaqueiros	7.46	284	P	Pn	06 38 17.8	-2.9
PVAQ				S	Sn	06 39 53.9	+8.9

NNC 10 06:42:14.9±11.0, 37°.03N×70°.61E, h0km, mb3.8, mpv3.5, 5C-3D, Error ellipse: s-maj=96.5km s-min=66.8km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK09	Karatay Array	6.08	359	⇑P	Pn	06 43 50.8	+4.7
	1.1nm,0.5s,baz=181,slow=13						
KK09				⇓S	Sn	06 44 59.9	+3.5
	4.4nm,0.5s,baz=185,slow=25						
AAK	Ala-Archa	6.34	27	⇑P	Pn	06 43 50.6	+0.7
	2.3nm,0.3s						
AAK				⇓S	Sn	06 45 03.6	+0.5
	2.9nm,0.6s						
TKM2	Tokmak 2	7.02	32	⇑P	Pn	06 43 58.3	-0.8
	2.2nm,0.4s						
TKM2				⇑S	Sn	06 45 16.4	-3.3
	0.7nm,0.4s						
AB31	Akbulak array	14.46	331	⇑P	Pn	06 45 40.4	-0.5
	0.6nm,0.6s,baz=139,slow=7.4,SNR=4.6						
AKTO	Aktyubinsk	16.16	330	⇓P	Pn	06 45 56.4	-6.9
	1.0nm,0.8s						

SKHL 10 07:16:43.2±0.2, 45°.80N×143°.70E, h332km±1km, mb4.3/4, msha5.0/4
JMA 10 07:16:43.9±0.5, 45°.78N×142°.72E, h336km±4km, M3.4
IDC 10 07:16:44.0±1.0, 45°.92N×142°.53E, h337km±13km, mb2.8/11, mb1 3.1/15, mb1mx3.0/41, mbtmp3.6/15, Error ellipse: s-maj=18.9km s-min=14.7km az=169.0
ISC 10 07:16:42.7±0.6, 45°.75N±0°.06×142°.84E±0°.07, h330km, n39, σ1s.83/46, mb3.2/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	Keihoku	0.79	237	P	Pn	07 17 27.4	+1.9
JWK2				*e*S	S	07 18 01.2	+1.5
JSE	Soyaes	0.81	193	P	Pn	07 17 27.4	+1.8
YSS	Yuzh-Sakhalins	1.21	357	*e*P	Pn	07 17 28.1	+1.0
YSS				AMB	AMB	07 17 29.1	
	80nm,0.3s						
YSS				*e*S	S	07 18 03.0	+0.3
YSS				A	A	07 18 03.5	
	80nm,0.5s						
YSS				A	A	07 18 03.5	
	50nm,0.5s						
JRR	Rishiri	1.23	241	P	Pn	07 17 29.1	+1.8
JRBN	Rebuntou	1.28	256	P	Pn	07 17 28.7	+1.1
JRBN				*e*S	S	07 18 03.1	-0.4
JSS	Shosan	1.52	208	P	Pn	07 17 31.2	+2.2
ASAJ	Asahikawa	1.64	186	P	Pn	07 17 32.2	+2.5
	5.6nm,0.3s,baz=337,slow=7.2,SNR=47						
ASAJ	Asahikawa	1.64	186	P	Pn	07 17 32.1	+2.3
JYG	Yagishiri	1.66	218	P	Pn	07 17 31.9	+2.1
JMP	Maruseppu	1.78	168	P	Pn	07 17 33.0	+2.3
JKK2	Kamakawa 2	1.88	182	P	Pn	07 17 33.8	+2.4
JTKR	Abashiri--Toko	1.93	156	P	Pn	07 17 34.4	+2.7
JHR	Hokuryu	2.15	202	P	Pn	07 17 35.5	+2.1
JAR	Ashorobuto	2.54	164	P	Pn	07 17 39.3	+2.8
JFR	Furan	2.59	184	P	Pn	07 17 39.2	+2.2
JAK	Akkeshi	3.06	153	P	Pn	07 17 43.1	+2.0
JAK				*e*S	S	07 18 28.7	+0.7
JEW	Eniwo	3.07	199	P	Pn	07 17 43.9	+2.6
AKK	Akkeshi	3.09	152	*e*P	Pn	07 17 40.2	-1.2
AKK				AMB	AMB	07 17 44.4	
	30nm,0.5s						
AKK				*e*S	S	07 18 24.8	-3.7
AKK				A	A	07 18 29.7	
	200nm,0.4s						
AKK				A	A	07 18 29.7	
	100nm,0.4s						
NMR	Nemuro--Hokkai	3.15	138	*e*P	Pn	07 17 39.5	-2.5
NMR				AMB	AMB	07 17 46.1	
	10.0nm,0.6s						
NMR				*e*S	S	07 18 28.2	-1.4
NMR				A	A	07 18 30.6	
	40nm,0.2s						
NMR				A	A	07 18 30.6	
	60nm,0.2s						
JCH	Churui	3.15	173	P	Pn	07 17 43.0	+0.9
JCH				*e*S	S	07 18 28.1	-1.6
NEM2	Nemuro 2	3.16	138	*e*S	S	07 18 28.7	-1.0
JNBK	Urakawa-nobuka	3.47	181	P	Pn	07 17 47.0	+1.9
JKB	Kayabe	4.07	199	P	Pn	07 17 52.3	+1.0
JOSM	Okushiri--Mats	4.39	215	P	Pn	07 17 55.9	+1.1
USRK	Ussuriysk Ar.	7.85	262	P	Pn	07 18 35.2	+0.6
	baz=70,slow=12,SNR=32						
KLR	Kul'dur	8.28	299	P	Pn	07 18 39.8	0.0
	0.3nm,0.3s,baz=112,slow=9.2,SNR=8.6						
MJAR	Matsushiro Arr	9.83	202	P	P	07 19 00.5	-0.7
	0.2nm,0.3s,baz=14,slow=14,SNR=5.2						
SEY	Seymchan	18.06	14	P	P	07 20 30.6	-0.3
	0.4nm,0.3s,baz=201,slow=8.5,SNR=9.5						
SONM	Songino Array	24.89	288	P	P	07 21 35.1	-1.4
	0.3nm,0.3s,baz=92,slow=12,SNR=1.8						
MKAR	Makanchi Array	40.95	294	P	P	07 23 51.5	-2.4
	0.1nm,0.4s,baz=75,slow=8.0,SNR=1.3						
ILAR	Eielson Array	41.73	37	P	P	07 23 59.2	-0.7
	0.4nm,0.6s,baz=277,slow=9.4,SNR=6.7						
KURBB	Kurchatov Arra	41.95	301	P	P	07 23 59.7	-2.1
	0.2nm,0.3s,baz=72,slow=8.6,SNR=1.8						
YKA	Yellowknife Ar	55.83	33	P	P	07 25 46.5	+0.5
	0.7nm,0.7s,baz=307,slow=7.0,SNR=13						
FINES	FINESS Array B	61.66	331	P	P	07 26 24.4	-1.5
	1.0nm,0.5s,baz=42,slow=8.5,SNR=5.6						
NOA	NORSAR Array B	66.59	337	P	P	07 26 56.6	-1.1
	0.4nm,0.6s,baz=167,slow=14,SNR=3.3						
NVAR	Mina Array Bea	69.07	56	P	P	07 27 15.8	+2.1
	0.5nm,0.6s,baz=282,slow=7.6,SNR=5.3						
ASAR	Alice Springs	69.56	189	P	P	07 27 17.9	+1.4
	0.1nm,0.5s,baz=0.0,slow=6.8,SNR=1.7						
PDAR	Pinedale Array	70.91	48	P	P	07 27 25.8	+1.0
	0.5nm,0.6s,baz=284,slow=1.7,SNR=5.5						
TXAR	Lajitas Array	84.02	54	P	P	07 28 38.5	+1.7
	0.2nm,0.5s,baz=301,slow=3.5,SNR=5.5						

NNC 10 07:24:02.6±0.5, 50°.00N×78°.60E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=4.7km s-min=2.7km az=74.0, Suspected Mining explosion.
IDC 10 07:24:03.6±0.8, 50°.07N×78°.83E, h0km, mb1 3.0/4, mb1mx2.9/41, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=8.0km s-min=6.4km az=57.0
ISC 10 07:24:03.7±0.8, 50°.05N±0°.05×78°.75E±0°.04, h0km, n26, σ0s.98/35, 18C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.56	344	⇓P	Pg	07 24 14.2	-0.2
KUR07				⇓S	Sg	07 24 22.8	+1.2
KUR06	Kurchatov Arra	0.57	345	⇑P	Pg	07 24 14.5	-0.3
KUR06				⇓S	Sg	07 24 23.4	+1.3
KUR14	Kurchatov Arra	0.58	350	⇑P	Pg	07 24 14.4	-0.3
KUR14				⇑S	Sg	07 24 23.2	+1.0
KUR15	Kurchatov Arra	0.58	348	⇑P	Pg	07 24 14.6	-0.3
KUR15				⇑S	Sg	07 24 23.6	+1.1
KURBB	Kurchatov Arra	0.59	346	Pg	Pg	07 24 14.8	-0.3
	2.9nm,0.3s,baz=164,slow=18,SNR=101						
KURBB				Lg	Lg	07 24 23.2	
	2.6nm,0.3s,baz=160,slow=38,SNR=7.7						
KURBB	Kurchatov Arra	0.59	346	⇑P	Pg	07 24 14.7	-0.4
	16nm,0.2s						
KURBB				⇑S	Sb	07 24 24.1	-1.8
	18nm,0.3s						
KUR16	Kurchatov Arra	0.60	345	⇓P	Pg	07 24 15.0	-0.3
KUR16				⇓S	Sg	07 24 24.1	+1.0
KUR05	Kurchatov Arra	0.61	347	⇑P	Pg	07 24 15.0	-0.4
KUR05				⇑S	Sg	07 24 24.0	+0.6
KUR17	Kurchatov Arra	0.61	343	⇑P	Pg	07 24 15.3	-0.2
KUR17				⇑S	Sb	07 24 24.8	-1.6
KUR04	Kurchatov Arra	0.63	348	⇓P	Pg	07 24 15.5	-0.3
KUR04				⇑S	Sg	07 24 24.7	+0.7
KURK	Kurchatov	0.67	353	⇑P	Pg	07 24 16.2	-0.5
	7.2nm,0.3s						
KURK				⇓S	Sb	07 24 26.7	-1.6
	5.7nm,0.3s						
SEM	Semipalatinsk	1.03	69	P	Pg	07 24 23.0	-0.4
	2.0nm,0.1s						
SEM				S	Sn	07 24 41.4	+0.6
	46nm,0.1s						
MAKZ	Makanchi	3.89	145	⇓Lg	Lg	07 26 02.5	
	4.2nm,0.5s						
BRZS	Berezniki	3.92	271	Pg	Pb	07 25 12.1	-1.5
	1.1nm,0.2s						
BRZS				Lg	Lg	07 26 03.9	
	1.8nm,0.2s						
MK31	Makanchi Array	4.02	143	⇓Pn	Pn	07 25 06.9	+0.3
	0.1nm,0.1s,baz=323,slow=10,SNR=18						
MK31				⇑Pg	Pb	07 25 16.6	+1.2
	0.2nm,0.2s,baz=333,slow=14,SNR=8.6						
MK31				⇑Lg	Lg	07 26 08.6	
	2.7nm,0.4s,baz=339,slow=24,SNR=22						
MKAR	Makanchi Array	4.02	143	Pn	Pn	07 25 06.8	+0.3
	0.3nm,0.3s,baz=327,slow=13,SNR=22						
MKAR				Pg	Pb	07 25 13.1	-2.3
	0.5nm,0.3s,baz=322,slow=13,SNR=14						
MKAR				Lg	Lg	07 26 06.7	
	1.9nm,0.3s,baz=324,slow=28,SNR=16						
OTUK	Ortayu	4.58	249	⇓Pn	Pn	07 25 14.2	-0.1
	1.1nm,0.3s						
OTUK				⇑Pg	Pb	07 25 26.1	+1.1
	0.5nm,0.3s						
OTUK				⇑Lg	Lg	07 26 25.8	
	3.4nm,0.7s						
KAPS	Kapalarasan	4.78	175	Lg	Lg	07 26 27.9	
	5.5nm,0.9s						
ZSN	Zaisan	4.81	120	Pg	Pb	07 25 28.5	-0.3
	3.7nm,0.5s						
I46RU	ZALESOVO INFRA	5.41	41	*i*		07 56 10.0	
	baz=219,slow=327,SNR=2.6						
ZALV	Zalesovo Beam	5.41	41	Pn	Pn	07 25 26.9	+1.3
	0.9nm,0.3s,baz=230,slow=14,SNR=12						
ZALV				Lg	Lg	07 26 53.3	
	0.2nm,0.3s,baz=227,slow=27,SNR=1.8						
ARXS	Arharly	5.87	187	Pg	Pb	07 25 46.8	-0.2
	0.5nm,0.3s						
ARXS				Lg	Lg	07 27 06.3	
	3.3nm,0.5s						
BVAR	Borovoye Array	6.01	303	Pn	Pn	07 25 34.9	+1.1
	0.2nm,0.3s,baz=135,slow=16,SNR=2.0						
BVAR				Lg	Lg	07 27 12.5	
	0.2nm,0.3s,baz=147,slow=29,SNR=1.6						
PDGK	Podgornoye	6.74	175	⇓Lg	Lg	07 27 36.1	
	3.9nm,0.7s						
TKM2	Tokmak 2	7.45	198	⇑Lg	Lg	07 27 58.4	
	2.6nm,0.7s						
AAK	Ala-Archa	7.97	203	Pn	Pn	07 26 00.5	-0.4
	0.3nm,0.3s,baz=73,slow=11,SNR=2.3						
AAK				Lg	Lg	07 28 12.9	
	0.1nm,0.3s,baz=240,slow=21,SNR=2.5						

KRSC 10 07:31:37.1±1.9, 54°.99N×166°.34E, h31km±12km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**315**	*e*P	Pb	07 31 44.9	+0.2
BKI				*e*S	Sn	07 31 50.4	-0.3
KBTR	**Krutoberegovo**	**2.34**	**303**	*e*P	Pn	07 32 14.0	+0.6
KBTR				*e*S	Sn	07 32 42.6	+1.6
KBG	**Krutoberegovo**	**2.42**	**303**	*e*P	Pn	07 32 15.4	+1.0
KBG				*e*S	Sn	07 32 44.8	+1.9
MKZ	**Mys Kozlova**	**2.71**	**263**	*e*P	Pb	07 32 21.8	-3.0
MKZ				*e*S	Sn	07 32 52.9	+2.9
SMKR	**Semkarok**	**3.18**	**302**	*e*P	Pn	07 32 27.8	+2.8
SMKR				*e*S	Sn	07 33 06.2	+4.4
BDR	**Baidarnaya**	**3.30**	**301**	*e*P	Pn	07 32 30.5	+3.9
BDR				*e*S	Sb	07 33 10.4	-4.3
ZLN	**Zelenaya**	**3.31**	**290**	*e*P	Pb	07 32 31.1	-4.1
ZLN				*e*S	Sb	07 33 11.4	-3.6
CIRR	**Tsirk**	**3.37**	**292**	*e*S	Sb	07 33 12.5	-4.2
LGNR	**Loginova**	**3.39**	**291**	*e*P	Pb	07 32 32.5	-4.1
LGNR				*e*S	Sb	07 33 12.7	-4.8
TUMD	**Tumrok D**	**3.42**	**276**	*e*P	Pn	07 32 32.4	+4.2
TUMD				*e*S	Sb	07 33 13.1	-5.0
BZWR	**Bezymyannyi-We**	**3.47**	**289**	*e*P	Pb	07 32 33.4	-4.4
KLY	**Klyuchi**	**3.49**	**295**	*e*P	Pn	07 32 32.1	+3.1
KLY				*e*S	Sn	07 33 11.9	+2.7
KRSR	**Krestovskiy**	**3.50**	**293**	*e*P	Pn	07 32 32.4	+3.0
KRSR				*e*S	Sn	07 33 13.8	+4.1
KIRR	**Kirishev**	**3.55**	**288**	*e*P	Pn	07 32 34.1	+4.0
KMNR	**Kamenistaya**	**3.57**	**285**	*e*P	Pn	07 32 34.7	+4.4
TUMR	**Tumrok**	**3.57**	**277**	*e*P	Pn	07 32 34.6	+4.3
TUMR				*e*S	Sb	07 33 17.7	-4.7
KPT	**Kopyto**	**3.62**	**288**	*e*P	Pn	07 32 34.8	+3.8
SPN	**Mys Shipunski**	**4.18**	**246**	*e*P	Pn	07 32 41.7	+3.1
SPN				*e*S	Sn	07 33 29.7	+3.4
NLC	**Nalytchevo**	**4.51**	**249**	*e*S	Sn	07 33 37.5	+3.2
SDLR	**Sedlovina**	**4.71**	**252**	*e*P	Pn	07 32 50.8	+4.8
SDLR				*e*S	Sn	07 33 44.9	+5.3
SMAR	**Somma**	**4.76**	**252**	*e*P	Pn	07 32 51.9	+5.1
SMAR				*e*S	Sn	07 33 45.7	+4.7
UGLR	**Uglovaya**	**4.77**	**251**	*e*P	Pn	07 32 51.7	+4.9
UGLR				*e*S	Sn	07 33 44.2	+3.1
KRER	**Koryakskii**	**4.77**	**252**	*e*P	Pn	07 32 51.8	+4.8
KRER				*e*S	Sn	07 33 44.1	+2.9
AVH	**Avacha**	**4.80**	**252**	*e*P	Pn	07 32 51.9	+4.8
AVH				*e*S	Sn	07 33 46.6	+5.0
KOK	**Koryaka**	**4.84**	**253**	*e*P	Pn	07 32 52.5	+4.7
KOK				*e*S	Sn	07 33 47.1	+4.4
GNL	**Ganaly**	**5.08**	**259**	*e*P	Pn	07 32 57.0	+5.9
KRMR	**Karymshinskiy**	**5.32**	**249**	*e*S	Sn	07 33 59.3	+5.0
MTVR	**Mutnovka**	**5.46**	**246**	*e*P	Pn	07 33 00.9	+4.6
MTVR				*e*S	Sn	07 34 03.1	+5.1
GRL	**Gorelyy**	**5.48**	**247**	*e*P	Pn	07 33 02.3	+5.7

NNC ***10*** *07:34:02.0±1.1, 51°.75N×75°.50E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=20.1km s-min=6.3km az=24.0, Suspected Mining explosion.*

IDC ***10*** *07:34:03.1±1.1, 51°.73N×75°.41E, h0km, mb1 2.9/5, mb1mx2.8/45, mbtmp2.9/5, ML2.4/5, Error ellipse: s-maj=27.8km s-min=8.7km az=28.0*

ISC 10 07:34:02.0±1.0**, 51°.7N**±0°.1×**75°.33E**±0°.09**, h0**km**, n11,** σ**1.17**s/10**, 5C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.28**	**117**	Pn	**Pn**	**07 34 41.8**	**+0.9**
	0.7nm,0.3s,baz=303,slow=19,SNR=15						
KURBB				Lg	Lg	07 35 13.3	
	0.7nm,0.3s,baz=298,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**2.28**	**117**	⇑Pg	**Pb**	**07 34 43.1**	**-1.0**
	3.3nm,0.4s						
KURBB				⇑Lg	Lg	07 35 13.9	
	20nm,0.7s						
KURK	**Kurchatov**	**2.29**	**114**	⇓Pg	**Pn**	**07 34 41.9**	**+0.9**
	2.4nm,0.6s						
KURK				⇓Lg	Lg	07 35 10.9	
	7.3nm,0.5s						
BVA4	**Borovoye Array**	**3.31**	**296**	⇑Pg	**Pg**	**07 35 04.3**	**-1.1**
	2.9nm,0.6s						
BVA4				⇓Lg	Lg	07 35 47.8	
	7.6nm,0.6s						
BVAR	**Borovoye Array**	**3.31**	**296**	Pn	**Pn**	**07 34 54.9**	**-0.2**
	0.1nm,0.3s,baz=146,slow=14,SNR=2.4						
BVAR				Lg	Lg	07 35 47.1	
	1.7nm,0.3s,baz=124,slow=26,SNR=12						
OTUK	**Ortayu**	**3.96**	**210**	⇓Lg	Lg	07 36 11.0	
	2.9nm,0.6s						
I46RU	**ZALESOVO INFRA**	**6.18**	**65**	*i*		08 08 59.5	
	baz=246,slow=320,SNR=1.5						
ZALV	**Zalesovo Beam**	**6.18**	**65**	Pn	**Pn**	**07 35 35.8**	**+1.4**
	0.6nm,0.3s,baz=256,slow=13,SNR=7.7						
MK31	**Makanchi Array**	**6.69**	**134**	⇑Sn	**Sn**	**07 36 59.1**	**+0.6**
	0.6nm,0.6s,baz=315,slow=24,SNR=4.5						
MK31				⇑Lg	Lg	07 37 32.0	
	1.0nm,0.5s,baz=325,slow=26,SNR=7.4						
MKAR	**Makanchi Array**	**6.69**	**134**	Pn	**Pn**	**07 35 42.1**	**+0.5**
	0.1nm,0.3s,baz=314,slow=12,SNR=6.4						
MKAR				Sn	**Sn**	**07 36 57.4**	**-1.1**
	0.2nm,0.3s,baz=321,slow=25,SNR=5.0						
MKAR				Lg	Lg	07 37 32.5	
	0.4nm,0.3s,baz=324,slow=31,SNR=5.3						
AKTO	**Aktyubinsk**	**10.97**	**270**	Pn	**Pn**	**07 36 41.6**	**+1.4**
	0.1nm,0.3s,baz=80,slow=14,SNR=2.3						

DJA ***10*** *07:47:42.0±1.3, 9°S±6°×12°1E±°, h15km±15km, M3.8/9, mb4.0/1, MLv3.7/9*

IDC ***10*** *07:47:42.3±2.8, 9°.43S×121°.17E, h108km±27km, mb3.0/2, mb1 3.1/6, mb1mx2.8/53, mbtmp3.4/6, Error ellipse: s-maj=106.7km s-min=14.7km az=63.0*

ISC 10 07:47:41.0±0.8**, 9°.54S**±0°.05×**121°.34E**±0°.06**, h100**km**, n14,** σ**2.56**s/18**, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.00**	**228**	P	**Pn**	**07 48 01.9**	**+0.4**
WSI	**Waingapu**	**1.03**	**263**	P	**Pn**	**07 48 02.4**	**+0.7**
MMRI	**Maumere**	**1.27**	**45**	P	**Pn**	**07 48 04.7**	**+0.2**
MMRI				S	**Sn**	**07 48 20.3**	**-1.9**
WBSI	**Waikabubak, Su**	**1.92**	**267**	P	**Pn**	**07 48 12.0**	**-0.6**
BSSI	**Bau Bau, Buton**	**3.48**	**346**	P	**Pn**	**07 48 32.7**	**-0.6**
PLAI	**Plampang**	**3.58**	**281**	P	**Pn**	**07 48 34.5**	**-0.1**
BKSI	**Bulukumba**	**4.36**	**344**	P	**Pn**	**07 48 45.1**	**0.0**
KAPI	**Kappang**	**4.77**	**341**	P	**Pn**	**07 48 51.3**	**+0.7**
	3.8nm,0.3s,baz=162,slow=12,SNR=6.0						
KAPI				S	**Sn**	**07 49 42.3**	**-2.4**
	1.2nm,0.3s,baz=42,slow=18,SNR=1.8						
BNSI	**Bone**	**5.25**	**346**	P	**Pn**	**07 49 01.6**	**+4.4**
FITZ	**Fitzroy Crossi**	**9.47**	**154**	P	**Pn**	**07 49 57.1**	**+2.5**
	0.4nm,0.3s,baz=328,slow=9.6,SNR=13						
FITZ				S	**Sn**	**07 51 36.2**	**-3.1**
	0.2nm,0.3s,baz=19,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**16.27**	**131**	P	**P**	**07 51 25.6**	**+0.7**
	0.1nm,0.3s,baz=300,slow=14,SNR=5.1						
WRA				S	**Sn**	**07 54 18.1**	**-6.0**
	0.1nm,0.3s,baz=304,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**18.48**	**141**	P	**Pn**	**07 51 54.1**	**+3.5**
	0.1nm,0.3s,baz=321,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**66.01**	**332**	P	**P**	**07 58 16.7**	**-0.2**
	0.3nm,0.6s,baz=138,slow=7.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**70.49**	**333**	P	**P**	**07 58 43.0**	**-1.7**
	0.1nm,0.4s,baz=135,slow=6.3,SNR=2.7						

WEL 10 07:53:12.0±0.6**, 32°S**±11°×**18°0E**±2°6**, h183**km±20km**, M4.0**/17**, mB4.7**/15**, ML4.8**/29**, MLv4.5**/17**, Mw(mB)3.9**/15**, Error ellipse: s-maj=0.0km s-min=0.0km az=111.4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.70**	**33**	S	Sn	07 54 51.8	-2.6
MXZ	**Matakaoa Point**	**5.30**	**192**	P	Pn	07 54 32.5	+2.6
MXZ				S	Sn	07 55 31.8	+0.6
HAZ	**Te Kaha**	**5.60**	**196**	P	Pn	07 54 36.1	+2.4
HAZ				S	Sn	07 55 39.3	+1.2
PKGZ	**Pakihiroa**	**5.66**	**193**	P	Pn	07 54 37.9	+3.3
PKGZ				S	Sn	07 55 40.0	+0.3
PUZ	**Puketiti**	**5.81**	**192**	P	Pn	07 54 38.3	+1.8
PUZ				S	Sn	07 55 43.6	+0.5
RUGZ	**Raukumara Rang**	**5.82**	**196**	P	Pn	07 54 38.5	+1.7
RUGZ				S	Sn	07 55 42.1	-1.5
TWGZ	**Tauwhareparae**	**5.96**	**194**	P	Pn	07 54 41.5	+3.0
TWGZ				S	Sn	07 55 47.7	+0.9
OPRZ	**Ohinepanea**	**6.05**	**205**	P	Pn	07 54 41.0	+1.4
MWZ	**Matawai**	**6.21**	**196**	P	Pn	07 54 43.7	+1.9
MWZ				S	Sn	07 55 52.2	-0.4
CNGZ	**Carnagh Statio**	**6.22**	**191**	P	Pn	07 54 44.4	+2.6
TKGZ	**Te Karaka**	**6.24**	**194**	P	Pn	07 54 43.5	+1.4
TKGZ				S	Sn	07 55 52.3	-1.0
URZ	**Urewera**	**6.25**	**199**	P	Pn	07 54 43.3	+1.1
URZ				S	Sn	07 55 52.8	-0.7
RAGZ	**Rawiri**	**6.39**	**197**	P	Pn	07 54 45.8	+1.6
MUGZ	**Murupara**	**6.55**	**201**	P	Pn	07 54 47.0	+0.8
MUGZ				S	Sn	07 56 02.1	+1.6
HSRZ	**Hossack Road**	**6.57**	**205**	P	Pn	07 54 45.3	-1.1
RTZ	**Ruatahuna**	**6.62**	**199**	P	Pn	07 54 48.1	+0.9
SNGZ	**Shannon Statio**	**6.68**	**196**	P	Pn	07 54 48.5	+0.6
SNGZ				S	Sn	07 56 02.0	-1.7
PRGZ	**Paritu Road**	**6.70**	**193**	P	Pn	07 54 49.1	+0.9
PRGZ				S	Sn	07 56 03.9	-0.4
KNZ	**Kokohu**	**6.84**	**194**	P	Pn	07 54 50.4	+0.5
KNZ				S	Sn	07 56 05.6	-1.8
RAHZ	**Arahi**	**6.87**	**198**	P	Pn	07 54 51.0	+0.6
RAHZ				S	Sn	07 56 07.3	-0.9
MTHZ	**Maungataniwha**	**6.88**	**199**	P	Pn	07 54 51.4	+0.9
MRHZ	**Matea Rd**	**6.99**	**202**	P	Pn	07 54 50.5	-1.5
NMHZ	**Naumai**	**7.12**	**199**	P	Pn	07 54 54.7	+1.0
ARHZ	**Aropaoanui**	**7.22**	**197**	P	Pn	07 54 55.6	+0.6
BKZ	**Black Stump Fm**	**7.27**	**200**	P	Pn	07 54 55.7	+0.1
MCHZ	**McNeill Hill**	**7.47**	**198**	P	Pn	07 54 58.0	-0.2
MCHZ				S	Sn	07 56 20.7	-1.7
TMVZ	**Te Maari**	**7.48**	**205**	P	Pn	07 54 59.3	+0.8
ETVZ	**East Tongariro**	**7.50**	**205**	P	Pn	07 54 59.1	+0.4
WTVZ	**West Tongariro**	**7.52**	**206**	P	Pn	07 55 00.1	+1.1
TWVZ	**Taurewa**	**7.54**	**206**	P	Pn	07 55 00.2	+1.0
BHHZ	**Black Hill Sta**	**7.70**	**202**	P	Pn	07 55 00.3	-1.0
MOVZ	**Moawhango**	**7.72**	**204**	P	Pn	07 55 00.8	-0.8
KRHZ	**Kereru**	**7.75**	**200**	P	Pn	07 55 00.7	-1.2
PXZ	**Pawanui**	**7.98**	**196**	P	Pn	07 55 03.9	-1.1
PNHZ	**Pukenui**	**8.04**	**200**	P	Pn	07 55 04.3	-1.5
TSZ	**Takapari Road**	**8.25**	**201**	P	Pn	07 55 06.9	-1.6
WAZ	**Wanganui**	**8.30**	**206**	P	Pn	07 55 08.8	-0.5
DVHZ	**Dannevirke**	**8.41**	**199**	P	Pn	07 55 08.5	-2.1
PRWZ	**Pori Road**	**8.71**	**199**	P	Pn	07 55 12.5	-1.9
HOWZ	**Holdsworth Sta**	**9.15**	**201**	P	Pn	07 55 16.8	-3.6
OGWZ	**Otaki Gorge**	**9.19**	**202**	P	Pn	07 55 17.4	-3.4
TMWZ	**Te Maipa**	**9.24**	**198**	P	Pn	07 55 18.5	-3.0

IDC 10 07:58:42.4±2.7**, 53°.89N**×**86°.70E, h0**km**, mb1 2.6**/2**, mb1mx2.6**/40**, mbtmp2.6**/2**, ML2.5**/2**, Error ellipse: s-maj=23.8km s-min=13.8km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**274**	*i*		08 06 40.0	
	baz=89,slow=330,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.12**	**274**	Pg	Pg	07 59 02.7	-1.1
	0.5nm,0.3s,baz=92,slow=12,SNR=5.4						
ZALV				Lg	Lg	07 59 19.0	
	1.5nm,0.3s,baz=97,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**5.99**	**240**	Pn	Pn	08 00 13.6	+1.4
	0.1nm,0.3s,baz=55,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**7.64**	**203**	Pn	Pn	08 00 35.8	+0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=6.9						

INET ***10*** *07:58:51.7±1.3, 12°.55N×88°.69W, h15km±20km, ML3.3*

SNET ***10*** *07:58:51.5±1.1, 12°.55N×88°.80W, h21km±8km, ML3.1*

ISC 10 07:58:50.7±3.0**, 12°.5N**±0°.1×**88°.73W**±0°.07**, h28**km±16km**, n17,** σ**0.54**s/24**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.86**	**10**	*e*P	**Pb**	**07 59 07.1**	**0.0**
COEB	**Comit de Eme**	**1.03**	**11**	*e*P	**Pn**	**07 59 09.4**	**-0.1**
COEB				*e*S	**Sb**	**07 59 23.3**	**0.0**
COEB	**Comit de Eme**	**1.03**	**11**	*i* P	**Pn**	**07 59 09.4**	**-0.1**
TECO	**Alcaldia de Te**	**1.05**	**357**	*e*P	**Pn**	**07 59 09.4**	**-0.3**
TECO				*e*S	**Sn**	**07 59 22.3**	**-1.2**
COEG	**Centro de Oper**	**1.15**	**353**	*e*P	**Pn**	**07 59 10.7**	**-0.3**
COEG				IAML		07 59 40.9	
	comp=Z,299nm,0.5s						
PQSS	**Presa 15 de Se**	**1.15**	**8**	*e*P	**Pn**	**07 59 11.3**	**+0.3**
PQSS				*e*S	**Sn**	**07 59 26.5**	**+0.7**
SJTE	**Alcalda de S**	**1.16**	**347**	*e*P	**Pn**	**07 59 10.6**	**-0.6**
LCND	**La Caada**	**1.16**	**45**	*e*P	**Pn**	**07 59 11.2**	**0.0**
LCND				IAML		07 59 35.8	
	comp=Z,238nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.22**	**0**	*e*P	**Pn**	**07 59 12.2**	**+0.2**
PAVA	**Las Pavas**	**1.25**	**351**	*e*P	**Pn**	**07 59 12.3**	**-0.1**
PAVA				IAML		07 59 36.7	
	comp=Z,393nm,0.4s						
PAVA	**Las Pavas**	**1.25**	**351**	⇓*i*P	**Pn**	**07 59 12.3**	**-0.1**
CSGN	**Cosiguina Volc**	**1.25**	**66**	*e*P	**Pn**	**07 59 12.3**	**-0.1**
JAYA	**Jayaque - finc**	**1.36**	**329**	*e*P	**Pn**	**07 59 13.8**	**-0.3**
JAYA				*e*S	**Sn**	**07 59 31.1**	**-0.2**
JAYA				IAML		07 59 34.7	
	comp=Z,853nm,0.2s						
CEVE	**Cerro Verde**	**1.60**	**327**	*e*P	**Pn**	**07 59 17.5**	**+0.1**
CEVE				*e*S	**Sn**	**07 59 38.4**	**+1.1**
CEVE				IAML		07 59 42.0	
	comp=Z,756nm,0.2s						
TACO	**Tacachico**	**1.60**	**338**	*e*P	**Pn**	**07 59 17.4**	**+0.2**
TACO				*e*S	**Sn**	**07 59 37.4**	**+0.4**
NUBE	**Las Nubes**	**1.75**	**324**	*e*P	**Pn**	**07 59 19.4**	**0.0**
NUBE				*e*S	**Sn**	**07 59 39.9**	**-0.9**
NUBE				IAML		07 59 42.0	
	comp=Z,138nm,0.2s						
MTO3	**Montecristo**	**2.01**	**342**	*e*P	**Pn**	**07 59 23.8**	**+0.8**

NNC 10 08:00:11.7±5.5**, 54°.33N**×**86°.17E, h0**km**, mb3.6, mpv2.7, 3C-4D, Error ellipse: s-maj=53.4km s-min=28.3km az=171.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.88**	**245**	⇓P	Pg	08 00 27.0	-1.5
	0.1nm,0.2s						
ZAA0				⇑S	Sg	08 00 40.5	+0.6
	3.2nm,0.5s						
KURK	**Kurchatov**	**5.86**	**235**	Pn	Pn	08 01 41.6	+1.9
	3.3nm,1.0s						
KURK				⇓Sn	Sn	08 02 54.1	+6.6
	0.4nm,0.4s						
KURK				⇓Lg	Lg	08 03 20.2	
	2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**5.96**	**235**	⇓Pn	Pn	08 01 42.6	+1.5
	1.4nm,0.5s						
KURBB				Sn	Sn	08 02 52.1	+2.0
	2.4nm,0.7s						
KURBB				Lg	Lg	08 03 22.8	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**7.93**	**200**	⇑Pn	Pn	08 02 09.7	+1.5
	0.5nm,0.6s,baz=25,slow=13,SNR=16						
MK31				Sn	Sn	08 03 36.1	-2.5
	0.2nm,0.5s						
MK31				⇑Lg	Lg	08 04 21.1	
	0.6nm,0.7s,baz=25,slow=30,SNR=4.3						

ISC 10 08:07:16.0±1.1**, 49°.06N**±0°.05×**18°.62E**±0°.04**, h10**km**, n5,** σ**1.20**s/9**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOLL	**Kolacno**	**0.50**	**197**	*e*PG	**Pg**	**08 07 24.3**	**-1.4**
KOLL				*e*SG	**Sg**	**08 07 32.0**	**-0.4**
LANS	**Liptovska Anna**	**0.56**	**80**	*e*PG	**Pg**	**08 07 25.6**	**-1.3**
LANS				*e*SG	**Sb**	**08 07 37.5**	**+1.4**
VYHS	**Vyhne**	**0.58**	**166**	*e*PG	**Pb**	**08 07 29.5**	**+1.2**
JAVC	**Velka Javorina**	**0.66**	**253**	*e*PG	**Pg**	**08 07 28.6**	**-0.1**
JAVC				*e*SG	**Sb**	**08 07 39.1**	**+0.3**
MORC	**Moravsky Berou**	**1.01**	**316**	*e*PG	**Pg**	**08 07 34.6**	**-0.7**
MORC				*e*SG	**Sn**	**08 07 49.8**	**-0.7**

NNC ***10*** *08:14:38.2±3.8, 53°.43N×87°.36E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=28.1km s-min=14.5km az=68.0, Suspected Mining explosion.*

IDC ***10*** *08:14:40.5±2.9, 53°.45N×87°.18E, h0km, mb1 2.8/2, mb1mx2.8/35, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.9km s-min=16.0km az=71.0*

ISC 10 08:14:36.7±3.7**, 53°.5N**±0°.1×**87°.6E**±0°.2**, h0**km**, n8,** σ**2.08**s/11**, 3C-8D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**285**	*i*		08 25 35.7	
	baz=105,slow=338,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.67**	**285**	⇓P	**Pn**	**08 15 07.2**	**-0.1**
	0.1nm,0.3s						
ZAA0				⇓S	**Sn**	**08 15 28.4**	**-1.0**
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**1.67**	**285**	Pg	**Pn**	**08 15 07.1**	**-0.1**
	0.5nm,0.3s,baz=108,slow=17,SNR=8.0						
ZALV				Lg	Lg	08 15 27.7	
	1.1nm,0.3s,baz=108,slow=23,SNR=8.2						
KURK	**Kurchatov**	**6.18**	**246**	⇑Pn	**Pn**	**08 16 11.0**	**+1.8**
	4.0nm,1.4s						
KURK				⇓Sn	**Sn**	**08 17 21.4**	**+0.8**
	0.8nm,0.7s						
KURK				⇑Lg	Lg	08 17 51.6	
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.28**	**246**	Pn	**Pn**	**08 16 12.2**	**+1.7**
	0.1nm,0.3s,baz=62,slow=14,SNR=4.1						
KURBB				Lg	Lg	08 17 48.5	
	0.0nm,0.3s,baz=64,slow=34,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.28**	**246**	⇓Pn	**Pn**	**08 16 09.8**	**-0.7**
	0.6nm,0.5s						
KURBB				⇓Sn	**Sn**	**08 17 23.2**	**+0.3**
	1.3nm,0.7s						
KURBB				⇑Lg	Lg	08 17 51.3	
	2.4nm,0.7s						
MK31	**Makanchi Array**	**7.55**	**209**	⇓Pn	**Pn**	**08 16 28.3**	**+0.3**
	0.1nm,0.3s,baz=31,slow=14,SNR=4.4						
MK31				⇓Sn	**Sn**	**08 17 49.9**	**-4.4**
	0.1nm,0.3s						
MK31				⇓Lg	Lg	08 18 28.6	
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	**Pn**	**08 16 30.6**	**+2.6**
	0.1nm,0.3s,baz=28,slow=14,SNR=3.0						
MKAR				Lg	Lg	08 18 31.2	
	0.0nm,0.3s,baz=28,slow=31,SNR=2.0						

NEIC ***10*** *08:16:44.1±0.5, 36°.52N±0°.02×97°.74W±0°.02, h3km±8km, mb_Lg3.0/65, Error ellipse: s-maj=2.5km s-min=2.3km az=86.0*

ANF ***10*** *08:16:45.7±1.1, 36°.57N×97°.78W, h16km±7km, ML3.8/8, Error ellipse: s-maj=4.1km s-min=3.1km az=22.0*

ISC 10 08:16:44.6±0.8**, 36°.50N**±0°.04×**97°.74W**±0°.03**, h10**km**, n56,** σ**0.91**s/33**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.03**	**264**	Pg	**Pg**	**08 17 03.6**	**-0.9**
T35A	**Sooner Cattle**	**1.07**	**67**		**Pg**	**08 17 04.1**	**-1.1**
OKCFA	**Oklahoma City**	**1.11**	**168**		**Pb**	**08 17 05.5**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.12**	**167**	Pg	**Pb**	**08 17 05.8**	**-0.3**
FNO	**Franklin**	**1.27**	**168**		**Pn**	**08 17 08.3**	**-0.1**
W35A	**Tecumseh**	**1.52**	**152**		**Pn**	**08 17 12.1**	**+0.3**
TUL1	**Leonard**	**1.68**	**110**		**Pn**	**08 17 14.4**	**+0.4**
TUL1				IAmb_Lg		08 17 39.1	
	comp=Z,94nm,0.9s						
TUL1	**Leonard**	**1.68**	**110**	P	**Pn**	**08 17 14.6**	**+0.5**
	baz=292						
TUL1				S	**Sb**	**08 17 37.5**	**+0.7**
	baz=292						
X34A	**Smith Ranch, M**	**1.90**	**182**		**Pn**	**08 17 18.7**	**+1.6**
X34A				IAmb_Lg		08 17 47.2	
	comp=Z,45nm,0.7s						
WMOK	**Wichita Mounta**	**1.95**	**206**		**Pn**	**08 17 18.9**	**+1.0**
WMOK	**Wichita Mounta**	**1.95**	**206**	P	**Pn**	**08 17 18.8**	**+1.0**
	baz=25						
WMOK				S	**Sb**	**08 17 45.3**	**+0.6**
	baz=25						
X37A	**Clayton**	**2.71**	**134**	Pn	**Pn**	**08 17 29.4**	**+1.1**
X37A				IAmb_Lg		08 18 17.8	
	comp=Z,46nm,0.8s						
KSU1	**Kansas State U**	**2.75**	**19**	Pn	**Pn**	**08 17 28.9**	**+0.1**
KSU1	**Kansas State U**	**2.75**	**19**	P	**Pb**	**08 17 35.0**	**+1.2**
	baz=199						
HHAR	**Hobbs**	**3.07**	**93**	Pn	**Pn**	**08 17 34.0**	**+0.8**
W39A	**Magazine**	**3.46**	**111**	IAmb_Lg		08 18 37.4	
	comp=Z,31nm,0.8s						
W39A	**Magazine**	**3.46**	**111**	Sb	**Sg**	**08 18 34.6**	**-1.2**
	baz=294						
AMTX	**Amarillo**	**3.59**	**244**		**Pn**	**08 17 41.5**	**+1.0**
AMTX				IAmb_Lg		08 18 38.8	
	comp=Z,42nm,0.7s						
AMTX	**Amarillo**	**3.59**	**244**	Pb	**Pb**	**08 17 49.4**	**+1.0**
	baz=62						
S39A	**Bolivar**	**3.72**	**70**		**Pn**	**08 17 42.7**	**+0.5**
S39A				IAmb_Lg		08 18 46.1	
	comp=Z,38nm,0.9s						
U40A	**Yellville**	**3.94**	**91**		**Pn**	**08 17 45.4**	**+0.3**
U40A				IAmb_Lg		08 18 50.4	
	comp=Z,36nm,0.7s						
U40A	**Yellville**	**3.94**	**91**	Pb	**Pb**	**08 17 55.7**	**+1.5**
	baz=274						
ABTX	**Abilene, Hawle**	**4.17**	**203**	IAmb_Lg		08 18 58.8	
	comp=Z,22nm,0.8s						
MGMO	**Mountain Grove**	**4.43**	**80**		**Pn**	**08 17 52.6**	**+0.7**
X40A	**Basin Creek Fa**	**4.47**	**115**	IAmb_Lg		08 19 12.2	
	comp=Z,21nm,0.9s						
WHTX	**Lake Whitney,**	**4.50**	**177**	P	**Pn**	**08 17 53.8**	**+0.9**
	baz=357						
P38A	**Dawn**	**4.55**	**45**	IAmb_Lg		08 19 07.9	
	comp=Z,29nm,0.8s						
WHAR	**Wooly Hollow**	**4.58**	**104**	IAmb_Lg		08 19 12.3	
	comp=Z,42nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.62**	**304**	IAmb_Lg		08 19 11.7	
	comp=Z,25nm,0.8s						
W41B	**Gary Mavity, V**	**4.65**	**105**	IAmb_Lg		08 19 10.4	
	comp=Z,29nm,0.7s						
R40A	**Maddies Statio**	**4.71**	**66**		**Pn**	**08 17 55.6**	**-0.1**
WLAR	**White Oak Lake**	**4.71**	**125**	IAmb_Lg		08 19 22.4	
	comp=Z,38nm,0.9s						
BGNE	**Belgrade**	**4.91**	**356**		**Pn**	**08 17 58.0**	**-0.5**
BGNE				IAmb_Lg		08 19 32.4	
	comp=Z,37nm,0.8s						
BGNE	**Belgrade**	**4.91**	**356**	P	**Pn**	**08 17 58.2**	**-0.4**
	baz=176						
Z41A	**Richland Creek**	**5.18**	**127**	IAmb_Lg		08 19 37.8	
	comp=Z,23nm,0.9s						
CCM	**Cathedral Cave**	**5.40**	**71**	IAmb_Lg		08 19 43.1	
	comp=Z,15nm,0.7s						
P40A	**Paris**	**5.41**	**54**	IAmb_Lg		08 19 35.3	
	comp=Z,22nm,1.0s						
N38A	**Joes South For**	**5.55**	**38**	Pn	**Pn**	**08 18 06.9**	**-0.3**
L34A	**Svendsen Farm,**	**5.56**	**11**	IAmb_Lg		08 19 40.7	
	comp=Z,22nm,0.7s						
OGNE	**Ogallala**	**5.57**	**324**	IAmb_Lg		08 19 43.9	
	comp=Z,24nm,0.8s						
435B	**Jarrell**	**5.70**	**179**	IAmb_Lg		08 19 54.3	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.88**	**85**	IAmb_Lg		08 20 07.6	
	comp=Z,14nm,0.7s						
FVM	**French Village**	**6.02**	**74**	Pn	**Pn**	**08 18 14.0**	**+0.3**
FVM				IAmb_Lg		08 19 55.3	
	comp=Z,30nm,1.1s						
K31A	**O'Neill**	**6.17**	**353**	IAmb_Lg		08 20 03.1	
	comp=Z,34nm,0.8s						
SLM	**Saint Louis**	**6.33**	**68**	IAmb_Lg		08 20 14.8	
	comp=Z,19nm,0.7s						
SDCO	**Great Sand Dun**	**6.33**	**284**	Pn	**Pn**	**08 18 19.8**	**+1.5**
Q24A	**Divide**	**6.37**	**295**	IAmb_Lg		08 20 07.3	
	comp=Z,13nm,0.8s						
Q24A	**Divide**	**6.37**	**295**	S	**Sn**	**08 19 31.1**	**-0.7**
	baz=110						
S44A	**Carbondale**	**6.88**	**78**	IAmb_Lg		08 20 25.2	
	comp=Z,17nm,0.7s						
ECSD	**EROS Data Cent**	**7.28**	**6**	Pn	**Pn**	**08 18 29.4**	**-1.6**
T45A	**Paducah**	**7.32**	**83**	IAmb_Lg		08 20 53.1	
	comp=Z,23nm,0.7s						
L40A	**Anamosa**	**7.51**	**40**	IAmb_Lg		08 20 43.9	
	comp=Z,20nm,0.9s						
PHWY	**Pilot Hill**	**7.70**	**311**	IAmb_Lg		08 20 58.7	
	comp=Z,14nm,0.9s						
N23A	**Red Feather La**	**7.77**	**307**	IAmb_Lg		08 20 60.0	
	comp=Z,22nm,0.8s						
JFWS	**Jewell Farm**	**8.62**	**40**	IAmb_Lg		08 21 23.4	
	comp=Z,17nm,0.9s						
K22A	**Casper**	**9.15**	**315**	IAmb_Lg		08 21 42.2	
	comp=Z,12nm,1.0s						

IDC 10 08:21:26.7±5.8**,4°.28S**×**153°.16E,h0**km**,mb3.2**/3**,** **mb1 3.4**/3**,mb1mx3.2**/20**,mbtmp3.2**/3**,Error ellipse: s-maj=173.0km s-min=36.4km az=106.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**228**	P	P	08 26 44.2	+0.3
	0.4nm,0.4s,baz=54,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.77**	**222**	P	P	08 27 08.4	-0.1
	0.1nm,0.3s,baz=58,slow=9.1,SNR=1.3						
SONM	**Songino Array**	**66.08**	**328**	P	P	08 32 15.5	-0.3
	0.2nm,0.5s,baz=122,slow=7.0,SNR=1.6						

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*SJA **10** 08:34:12.4±0.7, 18°.85S×69°.76W, h103km±4km, ML5.0, MW4.6*

*NEIC **10** 08:34:12.4±2.1, 18°.80S±0°.05×69°.63W±0°.08, h94km±6km, mb5.0/96, ML5.0(ARE), ML5.0(GUC), Error ellipse: s-maj=10.9km s-min=7.1km az=84.0*

*ARE **10** 08:34:12±3.2, 18°.99S±0°.05×69°.86W±0°.09, h113km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=176.0*

*VAO **10** 08:34:13.5±0.4, 18°.69S×69°.40W, h95km, mb4.8*

*IDC **10** 08:34:13.6±0.4, 18°.80S×69°.42W, h102km±3km, mb4.3/17, mb1 4.4/21, mb1mx4.4/29, mbtmp4.7/21, MS3.3/9, Ms1 3.3/9, ms1mx3.1/60, Error ellipse: s-maj=12.9km s-min=9.2km az=75.0*

*GUC **10** 08:34:13.7±0.7, 18°.83S×69°.54W, h90km±5km, ML5.0*

ISC 10 08:34:12.4±0.4**,18°.84S**±0°.03×**69°.63W**±0°.05**,h100**km±3km**,** **n390,**σ**1°.54**/427**,mb5.0**/60**,14C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.52**	**13**		**Pn**	**08 34 28.9**	**-0.1**
PB16	**IPOC Station P**	**0.52**	**13**⇓	*i*P	**Pn**	**08 34 29.4**	**+0.4**
PB16				*i* S	**Sn**	**08 34 41.6**	**+0.3**
PB16				IAML		08 34 42.8	
	comp=E,62μm,0.5s						
PB16	**IPOC Station P**	**0.52**	**13**	*e*P	**Pn**	**08 34 29.0**	**-0.1**
PB16				IAML		08 34 43.1	
	comp=Z,36μm,0.5s						
PB12	**IPOC Station P**	**0.70**	**289**	Pn	**Pn**	**08 34 30.1**	**+0.2**
PB12	**IPOC Station P**	**0.70**	**289**⇑	*i*P	**Pn**	**08 34 30.2**	**+0.3**
PB12				*i* S	**Sn**	**08 34 43.3**	**+0.2**
PB12				IAML		08 34 45.1	
	comp=E,97μm,0.3s						
PB12	**IPOC Station P**	**0.70**	**289**	*e*P	**Sn**	**08 34 43.5**	**+0.4**
AP01	**Chacalluta**	**0.82**	**305**		**Pn**	**08 34 31.7**	**+0.7**
AP01	**Chacalluta**	**0.82**	**305**⇑	*i*P	**Pn**	**08 34 31.6**	**+0.6**
AP01				IAML		08 34 46.1	
	comp=E,80μm,0.4s						
AP01	**Chacalluta**	**0.82**	**305**	*e*P	**Pn**	**08 34 31.0**	**0.0**
AP01				IAML		08 34 50.4	
	comp=Z,31μm,0.4s						
PB11	**IPOC Station P**	**0.91**	**182**	*e*P	**Pn**	**08 34 33.5**	**+1.4**
PB11				*e*S	**Sn**	**08 34 46.5**	**-0.3**
PB11				IAML		08 34 49.9	
	comp=Z,22μm,0.4s						
GO01	**Chusmiza**	**0.92**	**154**		**Pn**	**08 34 34.0**	**+1.5**
GO01	**Chusmiza**	**0.92**	**154**	*e*P	**Pn**	**08 34 33.8**	**+1.3**
GO01				*e*S	**Sn**	**08 34 47.4**	**-0.1**
GO01				IAML		08 34 52.5	
	comp=N,52μm,0.3s						
GO01	**Chusmiza**	**0.92**	**154**	*e*P	**Pn**	**08 34 34.2**	**+1.7**
GO01				*e*S	**Sn**	**08 34 50.1**	**+2.6**
PB08	**IPOC Station P**	**1.37**	**161**	*e*P	**Pn**	**08 34 39.5**	**+2.1**
PB08				*e*P	**Pn**	**08 34 39.6**	**+2.1**
PB08				*e*S	**Sn**	**08 34 59.0**	**+2.7**
PB08				IAML		08 35 00.4	
	comp=Z,27μm,0.3s						
HMBC	**Humberstone**	**1.45**	**190**⇑	*i*P	**Pn**	**08 34 39.3**	**+1.2**
HMBC				*e*S	**Sn**	**08 34 58.5**	**+0.8**
HMBC				IAML		08 35 08.3	
	comp=E,21μm,0.5s						
TA02	**Huaiquique**	**1.50**	**198**		**Pn**	**08 34 39.6**	**+0.9**
TA02	**Huaiquique**	**1.50**	**198**⇑	*i*P	**Pn**	**08 34 39.4**	**+0.7**
TA02				*e*S	**Sn**	**08 34 59.0**	**+0.5**
TA02				IAML		08 35 06.5	
	comp=N,18μm,0.1s						
TA02	**Huaiquique**	**1.50**	**198**	*e*P	**Pn**	**08 34 39.3**	**+0.7**
TA02				*e*S	**Sn**	**08 34 58.0**	**-0.5**
TA02				IAML		08 35 04.0	
	comp=Z,9μm,0.1s						
TA01	**Diego Aracena**	**1.79**	**197**		**Pn**	**08 34 43.7**	**+1.4**
TA01	**Diego Aracena**	**1.79**	**197**⇑	*e*P	**Pn**	**08 34 42.8**	**+0.5**
TA01				*e*S	**Sn**	**08 35 03.3**	**-1.7**
TA01				IAML		08 35 13.9	
	comp=N,13μm,0.5s						
TA01	**Diego Aracena**	**1.79**	**197**	*e*P	**Pn**	**08 34 43.0**	**+0.7**
TA01				*e*S	**Sn**	**08 35 07.0**	**+2.0**
TA01				IAML		08 35 12.1	
	comp=Z,6μm,0.8s						
PATCX	**Punta Patache**	**2.03**	**194**		**Pn**	**08 34 47.3**	**+1.8**
PATCX	**Punta Patache**	**2.03**	**194**	*e*P	**Pn**	**08 34 45.8**	**+0.4**
PATCX				*e*S	**Sn**	**08 35 08.6**	**-2.0**
PATCX				IAML		08 35 21.7	
	comp=E,16μm,0.4s						
PATCX	**Punta Patache**	**2.03**	**194**	*e*P	**Pn**	**08 34 41.3**	**-4.1**
PATCX				*e*P	**Pn**	**08 34 46.3**	**+0.9**
PATCX				*e*P	**Pn**	**08 34 46.6**	**+1.2**
PATCX				*e*P	**Pn**	**08 34 46.8**	**+1.4**
PATCX				IAML		08 35 29.1	
	comp=Z,5μm,0.4s						
PB01	**IPOC Station P**	**2.19**	**177**	*e*P	**Pn**	**08 34 49.0**	**+1.4**
PB01				*e*S	**Sn**	**08 35 07.3**	**-7.2**
PB01				*e*S	**Sn**	**08 35 11.3**	**-3.2**
PB01				IAML		08 35 34.3	
	comp=Z,4μm,0.3s						
PB02	**IPOC Station P**	**2.48**	**186**	*e*P	**Pn**	**08 34 52.6**	**+1.3**
PB02				*e*S	**Sn**	**08 35 27.6**	**+6.4**
PB02				IAML		08 35 32.2	
	comp=Z,20μm,0.4s						
PB07	**IPOC Station P**	**2.88**	**185**	*e*P	**Pn**	**08 34 57.9**	**+1.2**
PB07				*e*S	**Sn**	**08 35 34.5**	**+3.7**
PB07				*e*S		08 35 38.8	
PB07				IAML		08 35 43.3	
	comp=Z,5μm,0.3s						
LPAZ	**La Paz**	**2.91**	**30**	P	**Pn**	**08 35 00.3**	**+2.7**
	comp=Z,27nm,0.3s,baz=159,slow=5.9,SNR=388						
LPAZ	**La Paz**	**2.91**	**30**	Pn	**Pn**	**08 34 59.4**	**+1.8**
LPAZ	**La Paz**	**2.91**	**30**	*e*P	**Pn**	**08 35 00.0**	**+2.4**
PB09	**IPOC Station P**	**2.96**	**173**	*e*P	**Pn**	**08 34 59.7**	**+1.9**
PB09				*e*P	**Pn**	**08 35 00.0**	**+2.2**
PB09				*e*S	**Sn**	**08 35 40.8**	**+8.1**
PB09				IAML		08 35 56.5	
	comp=Z,4μm,0.6s						
PB04	**IPOC Station P**	**3.51**	**188**	*e*P	**Pn**	**08 35 06.0**	**+0.9**
PB04				*e*P	**Pn**	**08 35 06.3**	**+1.2**
PB04				*e*S	**Sn**	**08 35 41.3**	**-4.6**
PB04				*e*S		08 35 59.8	
PB04				IAML		08 36 01.2	
	comp=Z,4μm,0.9s						
LVC	**Limon Verde**	**3.81**	**170**	P	**Pn**	**08 35 11.4**	**+2.1**
	comp=Z,47nm,0.3s,baz=358,slow=12,SNR=84						
LVC				S	**Sn**	**08 35 54.3**	**+0.9**
	comp=Z,180nm,0.3s,baz=335,slow=8.2,SNR=5.1						
LVC	**Limon Verde**	**3.81**	**170**	*e*P	**Pn**	**08 35 11.3**	**+1.9**
LVC				*e*S	**Sn**	**08 35 54.5**	**+1.1**
LVC	**Limon Verde**	**3.81**	**170**	*e*P	**Pn**	**08 35 11.0**	**+1.6**
LVC	**Limon Verde**	**3.81**	**170**	*e*P	**Pn**	**08 35 11.0**	**+1.6**
LVC				*e*S	Sn	08 35 37.3	-16
LVC				IAML		08 36 17.5	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**3.84**	**179**	*e*P	**Pn**	**08 35 10.3**	**+0.7**
PB06				*e*S	Sn	08 36 04.0	+10
PB06				IAML		08 36 17.8	
	comp=Z,3μm,0.7s						
PB15	**IPOC Station P**	**4.35**	**178**	*e*P	**Pn**	**08 35 17.7**	**+1.2**
PB15				*e*S	**Sn**	**08 36 06.3**	**+0.1**
PB15				IAML		08 36 23.8	
	comp=Z,4μm,0.4s						
PB10	**IPOC Station P**	**4.73**	**190**		**Pn**	**08 35 21.2**	**-0.3**
PB10	**IPOC Station P**	**4.73**	**190**	*e*P	**Pn**	**08 35 21.1**	**-0.3**
PB10	**IPOC Station P**	**4.73**	**190**	*e*P	**Pn**	**08 35 21.0**	**-0.4**
PB10				*e*P	**Pn**	**08 35 21.3**	**-0.3**
PB10				*e*S	**Sn**	**08 36 14.1**	**-1.1**
HJA	**Humahuaca**	**5.86**	**139**	*e*P	**Pn**	**08 35 40.0**	**+2.8**
AC01	**Pan de Azucar**	**7.33**	**187**		**Pn**	**08 35 55.0**	**-1.7**
AC02	**Maricunga**	**7.97**	**177**	Pn	**Pn**	**08 36 06.0**	**+0.1**
AC02	**Maricunga**	**7.97**	**177**	*e*P	**Pn**	**08 36 05.0**	**-0.9**
AC02				*e*S	**Sn**	**08 37 34.5**	**-0.1**
FSA	**Cafayete**	**7.98**	**156**	*e*P	**Pn**	**08 36 07.3**	**+1.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA				*e*S	**Sn**	**08 37 39.2**	**+4.7**
AC06	**Mina Casimiro**	**8.50**	**184**	Pn	**Pn**	**08 36 10.3**	**-2.4**
SIV	**San Ignacio**	**8.64**	**72**	P	**Pn**	**08 36 13.0**	**-1.8**
	comp=Z,50nm,0.3s,baz=267,slow=9.5,SNR=199						
AHML	**Horco Molle**	**8.84**	**154**	*e*P	**Pn**	**08 36 13.8**	**-3.6**
AHML				*e*P	**Pn**	**08 36 21.0**	**+3.6**
ETMB	**Extrema**	**9.56**	**21**	*e*P	**Pn**	**08 36 25.6**	**-1.6**
NNA	**Nana**	**9.74**	**313**	P	**Pn**	**08 36 29.3**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=130,slow=13,SNR=5.8						
NNA				S	**Sn**	**08 38 17.3**	**0.0**
	comp=Z,1.3nm,0.3s,baz=198,slow=20,SNR=1.7						
NNA				LR	LR	08 40 17.1	
	comp=Z,98nm,20.4s,baz=164,slow=37						
VCA	**Vinchina**	**9.94**	**173**	*e*P	**Pn**	**08 36 32.2**	**-0.1**
PTLB	**Pontes e Lacer**	**10.58**	**73**	*e*P	**Pn**	**08 36 38.4**	**-2.7**
VILB	**Vilhena**	**10.79**	**59**	*e*P	**Pn**	**08 36 42.1**	**-1.8**
AQDB	**Aquidauana**	**13.22**	**99**	Pn	**Pn**	**08 37 14.3**	**-2.0**
AQDB	**Aquidauana**	**13.22**	**99**	*e*P	**Pn**	**08 37 14.9**	**-1.4**
CPUP	**Villa Florida**	**13.58**	**125**	P	**Pn**	**08 37 20.2**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=305,slow=11,SNR=14						
CPUP				LR	LR	08 43 59.6	
	comp=Z,47nm,21.6s,baz=304,slow=44						
CPUP	**Villa Florida**	**13.58**	**125**	Pn	**Pn**	**08 37 19.2**	**-1.7**
CPUP	**Villa Florida**	**13.58**	**125**	*e*P	**Pn**	**08 37 20.0**	**-0.9**
SALV	**Santo Antonio**	**13.62**	**80**	*e*P	**Pn**	**08 37 17.9**	**-3.6**
PP1B	**Ponte de Pedra**	**14.07**	**87**	*e*P	**Pn**	**08 37 25.1**	**-2.2**
ROC1	**El Roble**	**14.13**	**185**		**Pn**	**08 37 27.0**	**-1.2**
PDRB	**Porto dos Gac**	**14.37**	**62**	*e*P	**Pn**	**08 37 27.1**	**-4.1**
MT02	**Curacav**	**14.42**	**185**		**Pn**	**08 37 31.1**	**-0.6**
ATAH	**Atahualpa**	**14.43**	**323**	P	**P**	**08 37 35.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=153,slow=3.2,SNR=4.4						
TBTG	**Tabatinga, AM**	**14.57**	**359**	*e*P	**Pn**	**08 37 33.0**	**-0.8**
MT03	**Universidad Ad**	**14.61**	**183**		**Pn**	**08 37 32.6**	**-1.7**
LMEL	**Las Melosas**	**14.95**	**182**		**Pn**	**08 37 37.2**	**-1.5**
BO04	**La Punta**	**15.11**	**183**	Pn	**Pn**	**08 37 39.1**	**-1.5**
CLDB	**Colider**	**15.53**	**61**	*e*P	**Pn**	**08 37 43.8**	**-2.2**
BO01	**Tunca**	**15.54**	**185**		**Pn**	**08 37 44.4**	**-1.5**
BO02	**Sierra Bellavi**	**15.92**	**183**		**Pn**	**08 37 49.6**	**-1.1**
ITQB	**Itaqui**	**16.01**	**135**	*e*P	**Pn**	**08 37 52.1**	**+0.3**
TRCB	**Terra Rica**	**16.36**	**107**	P	**Pn**	**08 37 56.3**	**0.0**
TRCB				IAmb	IAmb	08 38 00.2	
	comp=Z,132nm,0.9s						
TRCB	**Terra Rica**	**16.36**	**107**	*e*P	**Pn**	**08 37 56.4**	**0.0**
ML02	**Panimavida**	**16.93**	**185**	P	**Pn**	**08 38 02.9**	**-0.2**
ML02				IAmb	IAmb	08 38 39.4	
	comp=Z,41nm,0.8s						
ARAG	**Araguaiana, MT**	**17.30**	**82**	*e*P	**P**	**08 38 06.9**	**-0.8**
PTGB	**Pitanga**	**17.32**	**113**	*e*P	**P**	**08 38 07.9**	**-0.1**
PCMB	**Pacaembu**	**17.45**	**102**	*e*P	**Pn**	**08 38 09.9**	**+0.3**
MACA	**Manacapuru-AM**	**17.87**	**30**	*e*P	**P**	**08 38 12.9**	**-1.1**
ITAB	**Concordia**	**18.12**	**121**		**P**	**08 38 15.7**	**-1.0**
ITAB				IAmb	IAmb	08 38 20.9	
	comp=Z,92nm,0.9s						
ITAB	**Concordia**	**18.12**	**121**	*e*P	**P**	**08 38 17.1**	**+0.4**
NPGB	**Novo Progresso**	**18.17**	**52**	*e*P	**P**	**08 38 15.6**	**-1.7**
ITRB	**Iturama**	**18.21**	**96**	*e*P	**P**	**08 38 16.8**	**-0.9**
SNDB	**Serra Nova Dou**	**18.94**	**72**	*e*P	**P**	**08 38 24.7**	**-1.0**
FRTB	**Fartura**	**19.24**	**107**	*e*P	**P**	**08 38 29.1**	**+0.1**
PLTB	**Pedras Altas**	**19.34**	**135**	*e*P	**P**	**08 38 29.4**	**-0.6**
ITTB	**Itaituba**	**19.78**	**45**	*e*P	**P**	**08 38 33.1**	**-1.7**
BB19B	**Bebedouro**	**19.96**	**100**	*e*P	**P**	**08 38 36.2**	**-0.6**
TIJ01	**Guaruva-PR**	**20.16**	**112**	*e*P	**P**	**08 38 39.2**	**+0.2**
IPMB	**Ipameri, GO**	**20.34**	**91**	*e*P	**P**	**08 38 40.1**	**-0.8**
BDFB	**Brasilia**	**20.88**	**85**	P	**P**	**08 38 45.6**	**-1.3**
	comp=Z,20nm,0.4s,baz=253,slow=8.0,SNR=55						
BDFB	**Brasilia**	**20.88**	**85**	P	**P**	**08 38 44.6**	**-2.2**
BDFB				IAmb	IAmb	08 38 49.5	
	comp=Z,23nm,0.5s						
TER01	**Tubaro-SC**	**21.08**	**121**	*e*P	**P**	**08 38 48.7**	**-0.1**
FLOC	**Florencia**	**21.14**	**343**⇑	*e*P	**P**	**08 38 49.9**	**+0.3**
MACC	**Macarena, Meta**	**21.27**	**348**	*e*P	**P**	**08 38 50.8**	**0.0**
GCUF	**Volcan Galeras**	**21.34**	**338**	*e*P	**P**	**08 38 54.6**	**+2.5**
PET01	**Itanhaem-SP**	**21.47**	**109**	*e*P	**P**	**08 38 53.3**	**+0.3**
VAO	**Valinhos**	**21.56**	**105**	*e*P	**P**	**08 38 52.7**	**-1.3**
PEXB	**Peixe**	**21.60**	**75**	*e*P	**P**	**08 38 53.1**	**-1.4**
GARC	**Garzon, Huila**	**21.68**	**344**	*e*P	**P**	**08 38 54.6**	**-0.8**
PLCA	**Paso Flores**	**21.83**	**182**	P	**P**	**08 38 58.5**	**+1.7**
	comp=Z,15nm,0.9s,baz=360,slow=11,SNR=38						
PLCA	**Paso Flores**	**21.83**	**182**	*e*P	**P**	**08 39 00.0**	**+3.3**
SOTA	**Rioblanco**	**21.95**	**341**	*e*P	**P**	**08 39 01.3**	**+2.7**
PCON	**Cinco Dias**	**22.07**	**342**	*e*P	**P**	**08 39 02.3**	**+2.3**
LL04	**Puerto Octay**	**22.12**	**186**	P	**P**	**08 38 59.4**	**-0.3**
POPC	**Popayan, Colom**	**22.35**	**341**	*e*P	**P**	**08 39 04.2**	**+1.6**
MALB	**Monte Alegre**	**22.62**	**44**	*e*P	**P**	**08 39 02.9**	**-2.2**
PARB	**Paraibuna**	**22.83**	**105**	*e*P	**P**	**08 39 05.9**	**-1.4**
BOAV	**Boa Vista**	**22.93**	**24**	*e*P	**P**	**08 39 07.2**	**-1.0**
PTGC	**Puerto Gaitan,**	**23.03**	**354**⇑	*e*P	**P**	**08 39 08.0**	**-1.1**
PRPB	**Parauapebas**	**23.04**	**59**	*e*P	**P**	**08 39 07.4**	**-1.9**
ORTC	**Ortega, Tolima**	**23.27**	**346**	*e*P	**P**	**08 39 09.9**	**-1.6**
BSCB	**Bom Sucesso**	**23.46**	**99**	*e*P	**P**	**08 39 12.3**	**-1.0**
SMTB	**Santa Maria do**	**23.56**	**68**	*e*P	**P**	**08 39 13.3**	**-0.8**
YOTC	**Yotoco, Valle**	**23.63**	**343**	*e*P	**P**	**08 39 15.6**	**+0.8**
CHIC	**Chingaza**	**23.67**	**350**⇑	*e*P	**P**	**08 39 13.7**	**-1.8**
ANIL	**Santa Ana**	**23.87**	**346**	*e*P	**P**	**08 39 13.8**	**-3.4**
ROSC	**El Rosal**	**23.98**	**348**	LR	LR	08 50 16.3	
	comp=Z,104nm,20.7s,baz=210,slow=40						
MAN01	**Angra dos Reis**	**24.30**	**104**	*e*P	**P**	**08 39 21.1**	**+0.3**
PLMC	**San Jos del P**	**24.49**	**344**	*e*P	**P**	**08 39 22.3**	**-0.2**
JANB	**Januaria**	**24.50**	**85**	*e*P	**P**	**08 39 21.1**	**-1.6**
GUY2C	**Guyana, Caldas**	**24.57**	**346**⇑	*e*P	**P**	**08 39 24.2**	**+0.5**
DIAM	**Diamantina, MG**	**24.60**	**93**	*e*P	**P**	**08 39 22.6**	**-1.0**
SDBA	**SAO DESIDERIO**	**24.64**	**79**	*e*P	**P**	**08 39 22.1**	**-1.8**
NORC	**Norcasia**	**24.80**	**347**	*e*P	**P**	**08 39 24.2**	**-1.1**
RUSC	**La Rusia**	**24.81**	**352**⇑	*e*P	**P**	**08 39 26.1**	**+0.2**
MCPB	**Macapa, AP**	**25.19**	**45**	*e*P	**P**	**08 39 27.9**	**-1.0**
TAMC	**Tame, Arauca**	**25.21**	**355**⇑	*e*P	**P**	**08 39 28.0**	**-1.0**
CBOC	**Ciudad Bolivar**	**25.34**	**345**	*e*P	**P**	**08 39 30.9**	**+0.5**
BARC	**Barichara**	**25.52**	**352**	*e*P	**P**	**08 39 29.9**	**-2.1**
HELC	**Santa Helena**	**25.55**	**346**	*e*P	**P**	**08 39 32.8**	**+0.3**
AY01	**Puyuhuapi**	**25.63**	**185**	P	**P**	**08 39 31.7**	**-0.7**
PTBC	**PUERTO BERRIO,**	**25.67**	**349**⇑	*e*P	**P**	**08 39 30.9**	**-2.3**
DUB01	**Friburgo-RJ**	**25.72**	**102**	*e*P	**P**	**08 39 33.9**	**+0.2**
PAMC	**Pamplona, Colo**	**26.19**	**353**⇑	*e*P	**P**	**08 39 37.5**	**-0.9**
CAM01	**Campos-RJ**	**26.38**	**101**	*e*P	**P**	**08 39 40.0**	**+0.5**
ZARC	**Zaragoza, Cauc**	**26.67**	**348**	P	**P**	**08 39 40.1**	**-2.0**
ZARC	**Zaragoza, Cauc**	**26.67**	**348**	*e*P	**P**	**08 39 39.4**	**-2.7**
TMAB	**Tom-Au,PA,Br**	**26.69**	**55**	*e*P	**P**	**08 39 41.1**	**-1.4**
SJMB	**Sao Joao De Ma**	**26.92**	**94**	*e*P	**P**	**08 39 44.0**	**-0.5**
UREC	**San Jos de Ur**	**27.06**	**347**	*e*P	**P**	**08 39 43.2**	**-2.4**
ALF01	**Guarapari-ES**	**27.25**	**99**	*e*P	**P**	**08 39 48.1**	**+0.8**
SDV	**Santo Domingo**	**27.57**	**358**	P	**P**	**08 39 49.6**	**-0.9**
	comp=Z,9.1nm,0.8s,baz=170,slow=1.8,SNR=14						
SDV				LR	LR	08 53 33.6	
	comp=Z,34nm,19.3s,baz=102,slow=42						
SDV	**Santo Domingo**	**27.57**	**358**	P	**P**	**08 39 47.8**	**-2.6**
SDV	**Santo Domingo**	**27.57**	**358**	*e*P	**P**	**08 39 49.9**	**-0.5**
SDV	**Santo Domingo**	**27.57**	**358**	*e*P	**P**	**08 39 50.3**	**-0.1**
RIB01	**Linhares ES**	**27.62**	**96**	*e*P	**P**	**08 39 50.0**	**-0.7**
NAN01	**Guarapari, ES**	**28.01**	**93**	*e*P	**P**	**08 39 54.1**	**0.0**
GUA01	**Guaratinga, BA**	**28.48**	**90**	*e*P	**P**	**08 39 58.9**	**+0.5**
CMC01	**Camacan, BA**	**28.97**	**88**	*e*P	**P**	**08 40 02.6**	**-0.1**
MDP	**Montagnes des**	**29.09**	**37**	P	**P**	**08 40 02.6**	**-1.2**
	comp=Z,5.8nm,0.5s,baz=212,slow=8.7,SNR=8.1						
MDP				LR	LR	08 52 43.7	
	comp=Z,77nm,19.9s,baz=220,slow=38						
NBIT	**Itapeh - BA**	**29.13**	**87**	*e*P	**P**	**08 40 04.4**	**+0.3**
PLCV	**Puerto La Cruz**	**29.25**	**10**	P	**P**	**08 40 05.2**	**+0.1**
PCRV	**Puerto La Cruz**	**29.25**	**10**	P	**P**	**08 40 05.2**	**0.0**
	comp=Z,5.3nm,0.7s,baz=190,slow=1.0,SNR=0.8						
GDU01	**Guandu, BA**	**29.27**	**85**	*e*P	**P**	**08 40 05.1**	**-0.3**
NBPN	**Ponto Novo - B**	**29.50**	**79**	*e*P	**P**	**08 40 07.2**	**-0.3**
ROSB	**Rosrio**	**29.56**	**61**	*e*P	**P**	**08 40 08.0**	**0.0**
NBPS	**Pedro II - PI**	**31.04**	**66**	*e*P	**P**	**08 40 21.0**	**-0.1**
NBLA	**Lagarto - SE**	**31.70**	**80**	*e*P	**P**	**08 40 26.1**	**-0.8**
NBMA	**Muriti-CE**	**32.09**	**73**	*e*P	**P**	**08 40 30.4**	**+0.1**
NBPB	**Pedra_Branca-C**	**32.13**	**70**	*e*P	**P**	**08 40 30.5**	**-0.1**
JTS	**Las Juntas de**	**32.66**	**331**	LR	LR	08 54 02.0	
	comp=Z,60nm,20.6s,baz=236,slow=36						
NBAN	**Anadia - AL**	**33.53**	**79**	*e*P	**P**	**08 40 42.5**	**-0.4**
NBRF	**Rio Formoso -**	**34.93**	**78**	*e*P	**P**	**08 40 55.1**	**+0.1**
RCBR	**Riachuelo**	**35.31**	**73**	P	**P**	**08 40 58.1**	**-0.1**
	comp=Z,12nm,0.5s,baz=253,slow=14,SNR=19						
RCBR				LR	LR	08 56 54.1	
	comp=Z,84nm,21.3s,baz=320,slow=39						
NBPV	**Pedro Velho**	**35.62**	**74**	*e*P	**P**	**08 41 00.3**	**-0.6**
TIGA	**Tifton**	**51.76**	**345**	P	**P**	**08 43 10.2**	**+0.4**
	baz=163						
NHSC	**New Hope**	**52.63**	**349**	P	**P**	**08 43 17.2**	**+1.0**
	baz=168						
154A	**Montrose**	**52.77**	**346**	P	**P**	**08 43 17.5**	**+0.3**
152A	**Waverly Hall**	**53.22**	**344**	P	**P**	**08 43 20.2**	**-0.3**
152A				IAmb	IAmb	08 43 22.1	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,14nm,1.0s						
BIRD	**Birdtown, Kers**	**54.18**	**349**	P	**P**	**08 43 27.8**	**+0.3**
BIRD				IAmb	IAmb	08 44 13.7	
	comp=Z,13nm,0.9s						
LRAL	**Lakeview Retre**	**54.19**	**342**	P	**P**	**08 43 27.8**	**+0.2**
	baz=160						
VBMS	**Vicksburg**	**54.57**	**338**	P	**P**	**08 43 30.8**	**+0.4**
	baz=156						
KMSC	**Kings Mountain**	**54.83**	**348**	P	**P**	**08 43 30.6**	**-1.5**
KMSC				IAmb	IAmb	08 43 34.6	
	comp=Z,14nm,1.0s						
KMSC	**Kings Mountain**	**54.83**	**348**	P	**P**	**08 43 33.0**	**+0.8**
	baz=166						
833A	**Chaparral WMA,**	**55.02**	**328**	P	**P**	**08 43 34.0**	**+0.2**
833A	**Chaparral WMA,**	**55.02**	**328**	P	**P**	**08 43 35.2**	**+1.5**
	baz=145,SNR=9.1						
X51A	**Calhoun**	**55.05**	**345**	P	**P**	**08 43 33.7**	**-0.1**
X51A				IAmb	IAmb	08 43 52.5	
	comp=Z,22nm,1.2s						
W52A	**Murphy**	**55.33**	**346**	P	**P**	**08 43 36.1**	**+0.3**
W52A				IAmb	IAmb	08 43 37.8	
	comp=Z,13nm,1.2s						
X48A	**Hartselle**	**55.53**	**343**	P	**P**	**08 43 36.0**	**-1.3**
X48A				IAmb	IAmb	08 43 38.3	
	comp=Z,14nm,0.7s						
W50A	**Signal Mountai**	**55.77**	**344**	P	**P**	**08 43 37.9**	**-1.1**
W50A				IAmb	IAmb	08 43 40.2	
	comp=Z,12nm,0.8s						
U56A	**King**	**55.82**	**350**	P	**P**	**08 43 38.3**	**-1.0**
U56A				IAmb	IAmb	08 44 26.1	
	comp=Z,24nm,1.3s						
TKL	**Tuckaleechee C**	**55.84**	**346**	P	**P**	**08 43 38.7**	**-0.8**
TKL				IAmb	IAmb	08 43 40.9	
	comp=Z,12nm,0.9s						
SWET	**Sewanee**	**55.95**	**344**	P	**P**	**08 43 39.5**	**-0.8**
V52A	**Sevierville**	**55.97**	**346**	P	**P**	**08 43 40.2**	**-0.2**
V52A				IAmb	IAmb	08 43 41.5	
	comp=Z,17nm,0.8s						
435B	**Jarrell**	**56.19**	**331**	P	**P**	**08 43 43.6**	**+1.5**
	baz=148						
U54A	**Nelsons Funny**	**56.26**	**348**	P	**P**	**08 43 42.6**	**+0.1**
U54A				IAmb	IAmb	08 43 45.0	
	comp=Z,20nm,0.9s						
OXF	**Oxford**	**56.30**	**340**	P	**P**	**08 43 42.8**	**0.0**
	baz=157						
PLAL	**Pickwick Lake**	**56.33**	**342**	P	**P**	**08 43 42.3**	**-0.6**
PLAL				IAmb	IAmb	08 43 43.4	
	comp=Z,7.7nm,0.9s						
Z41A	**Richland Creek**	**56.34**	**337**	P	**P**	**08 43 44.9**	**+1.9**
	baz=154						
TZTN	**Tazewell**	**56.64**	**347**	P	**P**	**08 43 45.6**	**+0.5**
	baz=164						
BLA	**Blacksburg**	**56.67**	**350**	P	**P**	**08 43 45.9**	**+0.5**
	baz=168						
V48A	**Smith Brothers**	**56.68**	**343**	P	**P**	**08 43 44.8**	**-0.6**
V48A				IAmb	IAmb	08 43 46.5	
	comp=Z,14nm,0.7s						
W45A	**Hickory Valley**	**56.82**	**341**	P	**P**	**08 43 45.3**	**-1.2**
WLAR	**White Oak Lake**	**56.84**	**337**	P	**P**	**08 43 47.5**	**+0.9**
CLTN	**Cedars of Leba**	**56.88**	**344**	P	**P**	**08 43 46.8**	**0.0**
CLTN				IAmb	IAmb	08 43 48.3	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**56.99**	**329**	P	**P**	**08 43 48.0**	**+0.2**
JCT				IAmb	IAmb	08 43 50.3	
	comp=Z,9.9nm,0.8s						
JCT	**Junction City**	**56.99**	**329**	P	**P**	**08 43 48.4**	**+0.6**
	baz=146,SNR=6.1						
U49A	**Red Boiling Sp**	**57.13**	**345**	P	**P**	**08 43 48.0**	**-0.6**
U49A				IAmb	IAmb	08 43 49.4	
	comp=Z,11nm,0.7s						
WHTX	**Lake Whitney,**	**57.15**	**332**	P	**P**	**08 43 49.2**	**+0.3**
WHTX	**Lake Whitney,**	**57.15**	**332**	P	**P**	**08 43 50.1**	**+1.3**
	baz=148						
WVT	**Waverly**	**57.32**	**343**	P	**P**	**08 43 49.2**	**-0.7**
WVT				IAmb	IAmb	08 43 50.4	
	comp=Z,17nm,0.7s						
WVT	**Waverly**	**57.32**	**343**	P	**P**	**08 43 49.8**	**-0.1**
	baz=160						
T50A	**Nancy**	**57.39**	**346**	P	**P**	**08 43 49.9**	**-0.5**
T50A				IAmb	IAmb	08 43 51.2	
	comp=Z,9.6nm,0.7s						
W41B	**Gary Mavity, V**	**57.85**	**338**	P	**P**	**08 43 52.8**	**-0.9**
W41B				IAmb	IAmb	08 44 38.3	
	comp=Z,27nm,1.8s						
W41B	**Gary Mavity, V**	**57.85**	**338**	P	**P**	**08 43 53.1**	**-0.6**
	baz=155						
T47A	**Sharon Grove**	**57.93**	**344**	P	**P**	**08 43 54.0**	**-0.2**
R53A	**Hurricane**	**58.03**	**349**	P	**P**	**08 43 54.3**	**-0.6**
R53A				IAmb	IAmb	08 43 56.7	
	comp=Z,22nm,1.2s						
TXAR	**Lajitas Array**	**58.08**	**325**	P	**P**	**08 43 56.7**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=148,slow=9.1,SNR=18						
TX31	**Lajitas Ar. Si**	**58.08**	**325**	P	**P**	**08 43 56.0**	**+0.4**
TX31				IAmb	IAmb	08 43 57.6	
	comp=Z,11nm,1.0s						
Z35A	**Perchaven, San**	**58.20**	**333**	P	**P**	**08 43 57.1**	**+0.9**
Q56A	**Snyder Ridge,**	**58.27**	**351**	P	**P**	**08 43 57.0**	**+0.4**
Q56A				IAmb	IAmb	08 43 59.1	
	comp=Z,13nm,0.9s						
LCAR	**Lake Charles**	**58.29**	**340**	P	**P**	**08 43 56.7**	**0.0**
LCAR				IAmb	IAmb	08 43 57.6	
	comp=Z,5.4nm,0.7s						
T45A	**Paducah**	**58.39**	**342**	P	**P**	**08 43 56.2**	**-1.2**
W39A	**Magazine**	**58.43**	**337**	P	**P**	**08 43 58.7**	**+1.0**
W39A				IAmb	IAmb	08 44 00.4	
	comp=Z,11nm,0.9s						
W39A	**Magazine**	**58.43**	**337**	P	**P**	**08 43 58.9**	**+1.2**
	baz=153,SNR=6.4						
FCAR	**Ozark Folk Cen**	**58.46**	**339**	P	**P**	**08 43 57.6**	**-0.3**
Q54A	**Coxs Mills**	**58.47**	**350**	P	**P**	**08 43 58.6**	**+0.7**
Q54A				IAmb	IAmb	08 43 59.8	
	comp=Z,18nm,1.1s						
R50A	**Paris**	**58.48**	**346**	P	**P**	**08 43 57.1**	**-0.8**
R50A				IAmb	IAmb	08 43 58.9	
	comp=Z,6.5nm,0.8s						
X37A	**Clayton**	**58.51**	**335**	P	**P**	**08 43 58.9**	**+0.7**
X37A				IAmb	IAmb	08 44 00.7	
	comp=Z,14nm,0.8s						
ABTX	**Abilene, Hawle**	**58.68**	**330**	P	**P**	**08 44 00.0**	**+0.4**
ABTX	**Abilene, Hawle**	**58.68**	**330**	P	**P**	**08 44 00.5**	**+0.9**
	baz=146,SNR=10						
MCWV	**Mont Chateau**	**58.97**	**351**	P	**P**	**08 44 02.7**	**+1.3**
	baz=169						
P53A	**Whipple**	**59.06**	**349**	P	**P**	**08 44 02.2**	**+0.3**
U40A	**Yellville**	**59.13**	**338**	P	**P**	**08 44 02.8**	**+0.2**
	baz=154,SNR=7.4						
S44A	**Carbondale**	**59.19**	**342**	P	**P**	**08 44 01.9**	**-1.1**
SIUC	**Southern Illin**	**59.20**	**342**	P	**P**	**08 44 02.6**	**-0.3**
P52A	**Corning**	**59.33**	**349**	P	**P**	**08 44 03.1**	**-0.8**
P52A				IAmb	IAmb	08 44 04.9	
	comp=Z,13nm,0.7s						
P52A	**Corning**	**59.33**	**349**	P	**P**	**08 44 04.0**	**+0.1**
	baz=166,SNR=5.0						
O56A	**Blue Knob Stat**	**59.39**	**352**	P	**P**	**08 44 05.1**	**+0.7**
	baz=170						
MGMO	**Mountain Grove**	**59.65**	**339**	P	**P**	**08 44 06.1**	**0.0**
MGMO				IAmb	IAmb	08 44 07.7	
	comp=Z,13nm,1.3s						
SSPA	**Standing Stone**	**59.67**	**353**	P	**P**	**08 44 07.4**	**+1.2**
	baz=171						
N59A	**State Game Lan**	**59.73**	**355**	P	**P**	**08 44 07.5**	**+0.9**
	baz=173						
O52A	**Adamsville**	**59.75**	**349**	P	**P**	**08 44 06.8**	**+0.1**
P49A	**Miami Univ. Ec**	**59.76**	**347**	P	**P**	**08 44 06.4**	**-0.4**
	baz=164						
O53A	**New Philadelph**	**59.77**	**350**	P	**P**	**08 44 07.3**	**+0.4**
O53A				IAmb	IAmb	08 44 08.2	
	comp=Z,11nm,0.8s						
O53A	**New Philadelph**	**59.77**	**350**	P	**P**	**08 44 07.7**	**+0.8**
	baz=167						
TUL1	**Leonard**	**59.83**	**336**	P	**P**	**08 44 08.1**	**+0.7**
	baz=151						
WMOK	**Wichita Mounta**	**60.06**	**332**	P	**P**	**08 44 09.4**	**+0.4**
	baz=148						
ACSO	**Alum Creek Sta**	**60.07**	**348**	P	**P**	**08 44 08.8**	**-0.1**
	baz=165						
CCM	**Cathedral Cave**	**60.13**	**340**	P	**P**	**08 44 09.5**	**+0.1**
	baz=156						
N53A	**Lisbon**	**60.25**	**350**	P	**P**	**08 44 10.9**	**+0.7**
N53A				IAmb	IAmb	08 44 12.1	
	comp=Z,25nm,1.3s						
N54A	**Moraine State**	**60.27**	**351**	P	**P**	**08 44 11.3**	**+1.0**
	baz=169						
O48B	**Farmland**	**60.55**	**346**	P	**P**	**08 44 12.7**	**+0.5**
	baz=163						
M54A	**Oil Creek Stat**	**60.76**	**351**	P	**P**	**08 44 14.5**	**+0.9**

baz=169
MNTX Cornudas Mount 60.84 325 P P 08 44 14.8 +0.4
baz=141,SNR=12
M53A WI Miller and 60.84 351 P P 08 44 14.7 +0.6
baz=168,SNR=6.3
T35A Sooner Cattle 60.99 336 P 08 44 16.1 +0.8
T35A IAmb IAmb 08 44 17.1
comp=Z,20nm,1.2s
BINY Binghamton 61.02 355 P P 08 44 16.7 +1.4
baz=173
P43A Skaggs, Pawnee 61.08 343 P P 08 44 15.3 -0.5
SFIN Lafayette 61.12 345 P P 08 44 15.3 -0.8
baz=161,SNR=8.3
MSTX Muleshoe 61.28 329 P P 08 44 18.0 +0.5
baz=144,SNR=11
ERPA Erie 61.40 351 P P 08 44 18.5 +0.6
baz=169,SNR=5.4
AMTX Amarillo 61.50 330 P P 08 44 19.2 +0.3
baz=145
HDIL Hopedale 61.86 343 P P 08 44 20.8 -0.3
HDIL Hopedale 61.86 343 P P 08 44 20.6 -0.5
baz=159,SNR=5.5
L48A N Adams 62.01 348 P P 08 44 21.3 -0.7
P38A Dawn 62.30 339 P P 08 44 24.4 +0.4
P38A IAmb IAmb 08 44 25.4
comp=Z,12nm,0.6s
121A Cookes Peak, D 62.79 324 P P 08 44 29.7 +2.1
baz=139,SNR=5.4
L44A Lake County Fo 63.02 345 P P 08 44 28.6 -0.1
baz=161
R32A Long Quarter, 63.16 335 P P 08 44 30.5 +0.7
R32A IAmb IAmb 08 44 31.7
comp=Z,15nm,0.7s
ANMO Albuquerque 63.92 327 P P 08 44 36.0 +1.0
ANMO Albuquerque 63.92 327 P P 08 44 36.5 +1.5
baz=141
CBKS Cedar Bluff 63.92 334 P P 08 44 36.1 +1.3
baz=148,SNR=6.0
N35A Tabor 64.13 338 P P 08 44 35.9 -0.2
SCIA State Center 64.26 341 P P 08 44 37.0 +0.1
SCIA IAmb IAmb 08 44 38.1
comp=Z,18nm,0.8s
SCIA State Center 64.26 341 P P 08 44 37.4 +0.5
baz=155
JFWS Jewell Farm 64.32 343 P P 08 44 37.4 +0.2
baz=158,SNR=6.4
TUC Tucson 64.34 322 P P 08 44 39.0 +1.3
baz=136
T25A Trinidad 64.62 330 P P 08 44 41.4 +1.7
baz=143,SNR=5.2
GLMI Grayling 64.82 348 P P 08 44 41.2 +0.8
baz=164
214A Organ Pipe Nat 65.30 320 P P 08 44 46.3 +2.4
baz=135,SNR=5.2
KSCO Kaye Shedlock' 65.32 332 P P 08 44 44.6 +0.6
KSCO IAmb IAmb 08 44 46.5
comp=Z,12nm,0.7s
KSCO Kaye Shedlock' 65.32 332 P P 08 44 45.5 +1.5
baz=146
L34A Svendsen Farm, 65.36 338 P P 08 44 44.2 +0.1
BGNE Belgrade 65.52 337 P P 08 44 45.6 +0.5
BGNE Belgrade 65.52 337 P P 08 44 46.1 +1.0
baz=150,SNR=14
SDCO Great Sand Dun 65.63 329 P P 08 44 47.2 +1.0
SDCO Great Sand Dun 65.63 329 P P 08 44 48.1 +1.8
baz=143
W18A Petrified Fore 65.80 325 P P 08 44 49.1 +1.9
baz=138
I37A Lemond, Waseca 66.23 341 P P 08 44 49.9 +0.3
I37A IAmb IAmb 08 44 50.9
comp=Z,19nm,0.8s
S22A 4UR Ranch, Cre 66.28 328 P P 08 44 52.4 +2.0
baz=141
Q24A Divide 66.43 330 P P 08 44 53.0 +1.6
baz=143,SNR=5.3
OGNE Ogallala 66.66 334 P P 08 44 54.1 +1.5
baz=146
MVCO Mesa Verde 66.71 327 P P 08 44 54.9 +1.8
baz=140
K31A O'Neill 66.80 337 P P 08 44 53.9 +0.7
K31A IAmb IAmb 08 44 55.7
comp=Z,24nm,1.0s
WUAZ Wupatki 67.00 324 P P 08 44 57.1 +2.2
baz=137
ECSD EROS Data Cent 67.01 339 P P 08 44 54.6 0.0
ECSD EROS Data Cent 67.01 339 P P 08 44 55.2 +0.7
baz=152,SNR=5.1
SPMN Marine on St. 67.16 342 P P 08 44 55.7 +0.2
baz=156
ISCO Idaho Springs 67.31 331 P P 08 44 58.4 +1.5
baz=143
SMCO Snowmass 67.47 329 P P 08 44 58.6 +0.5
PDMCI Parker Dam,Lak 67.73 321 P P 08 45 01.5 +2.2
baz=134
IKP In-Ko-Pah, Jac 67.80 319 P P 08 45 01.8 +1.9
baz=132
F36A Milaca 67.95 342 P P 08 45 00.5 +0.1
TKX Tecate 68.06 318 P P 08 45 00.1 -1.4
TKX IAmb IAmb 08 45 04.7
comp=Z,17nm,0.9s
BC3 Big Chuckawall 68.08 320 P P 08 45 04.0 +2.4
baz=133,SNR=5.1
MONP2 Monument Peak 68.16 319 P P 08 45 04.4 +2.1
baz=132
IRM Iron Mountain 68.23 320 P P 08 45 05.0 +2.5
baz=133,SNR=6.9
LIC Lamto 68.33 75 eP P 08 45 02.4 -1.1
comp=Z,59nm,1.1s
TIC Toumodi 68.50 75 eP P 08 45 03.8 -0.8
KIC Kosan Boka 68.64 75 eP P 08 45 04.7 -0.8
comp=Z,35nm,0.5s
BELC Belle Mtn. Jos 68.64 320 P P 08 45 07.5 +2.3
baz=133
DBIC Dimbokro 68.66 75 P P 08 45 04.5 -1.0
comp=Z,8.9nm,0.7s,baz=252,slow=5.4,SNR=13
DBIC pP pP 08 45 31.2 -1.0
comp=Z,8.9nm,0.8s,baz=263,slow=6.7,SNR=3.8
TPFO Pinon Flats 68.66 319 P P 08 45 08.0 +2.8
baz=132
PFO Pinyon Flats O 68.67 319 P P 08 45 08.1 +2.8
baz=132
F33A 5 Mile Ranch, 68.77 340 P P 08 45 05.3 -0.2
O20A White River Ci 68.83 329 P P 08 45 08.3 +2.0
baz=141
GMRC Granite Mounta 68.97 321 P P 08 45 09.9 +2.7
baz=133,SNR=7.1
EYMN Ely 69.31 344 P P 08 45 09.3 +0.5
baz=158
HEC Hector,Ludlow 69.41 320 P P 08 45 12.8 +3.0
baz=133
TUQ Turquoise Moun 69.57 321 P P 08 45 13.5 +2.6
baz=133
BFSC Mount Baldy Ra 69.83 319 P P 08 45 14.8 +2.3
baz=132
K22A Casper 70.00 332 P P 08 45 14.9 +1.5
baz=143
GSC Goldstone, Bar 70.01 320 P P 08 45 15.7 +2.2
baz=132
RSSD Black Hills 70.12 334 P P 08 45 15.2 +1.0
RSSD Black Hills 70.12 334 P P 08 45 15.9 +1.7
baz=145
EDW2 Edwards Air Fo 70.46 319 P P 08 45 18.1 +1.8
baz=131
LRMC Laurel Mtn Rad 70.66 320 P P 08 45 19.9 +2.3
baz=132
TPNV Topopah Spring 70.80 322 P P 08 45 21.3 +2.9
baz=133,SNR=8.3
FURC Furnace Creek, 70.83 321 P P 08 45 21.4 +3.1
baz=133
AGMN Agassiz Nation 70.83 342 P P 08 45 18.7 +0.5
baz=154,SNR=5.8
MPMC Manual Prospec 70.93 321 P P 08 45 21.2 +1.9
baz=132
DUG Dugway, Tooele 71.18 326 P P 08 45 23.0 +2.3
baz=137
ISA Isabella, Lake 71.27 320 P P 08 45 21.7 +0.6
ISA Isabella, Lake 71.27 320 P P 08 45 23.7 +2.5
baz=131,SNR=6.0
R11A Troy Canyon, C 71.38 323 P P 08 45 24.7 +2.8
baz=134
BW06 Boulder Array 71.48 330 P P 08 45 25.0 +2.5
baz=140
PDAR Pinedale Array 71.48 330 P P 08 45 23.6 +1.2
comp=Z,1.4nm,0.7s,baz=133,slow=7.2,SNR=12
PDAR pP pP 08 45 49.4 +1.1
comp=Z,0.5nm,0.5s,baz=126,slow=9.8,SNR=2.6
CWC Cottonwood Cre 71.54 320 P P 08 45 25.2 +2.3
baz=132
HWUT Hardware Ranch 71.58 328 P P 08 45 23.8 +0.7
MDND Maddock 71.62 339 P P 08 45 23.6 +0.7
MDND IAmb IAmb 08 45 25.1
comp=Z,28nm,0.7s
MDND Maddock 71.62 339 P P 08 45 24.3 +1.4
baz=150,SNR=9.0
VES Vestal, Richgr 71.76 319 P P 08 45 26.0 +2.0
baz=131
BGU Big Grassy Mou 71.83 327 P P 08 45 25.1 +0.6
ULM Lac du Bonnet 72.59 343 P P 08 45 28.8 +0.2
comp=Z,7.2nm,0.6s,baz=155,slow=5.9,SNR=16
NVAR Mina Array Bea 73.00 322 P P 08 45 33.8 +2.2
comp=Z,2.5nm,0.9s,baz=152,slow=6.1,SNR=15
NVAR pP pP 08 45 59.0 +1.4
comp=Z,2.3nm,0.8s,baz=150,slow=6.6,SNR=6.5
LAO LASA Array 73.11 335 P P 08 45 33.7 +1.8
baz=144
RLMT Red Lodge 73.17 332 P P 08 45 34.2 +1.8
baz=141
SCHQ Schefferville 73.41 2 P P 08 45 33.4 0.0
comp=Z,4.1nm,0.8s,baz=195,slow=3.9,SNR=10
DGMT Dagmar 73.78 337 P P 08 45 37.6 +1.9
baz=146
HLID Hailey 74.44 328 P P 08 45 40.6 +0.7
HLID Hailey 74.44 328 P P 08 45 42.5 +2.6
baz=136
ORV Orville 75.61 321 P P 08 45 44.8 -1.7
EGMT Eagleton 75.63 333 P P 08 45 48.1 +1.6
baz=141
MSO Missoula 76.59 330 P P 08 45 53.0 +1.0
baz=137
TOA0 Torodi Ar. Sit 77.12 71 P P 08 45 54.4 -1.2
TOA0 IAmb IAmb 08 46 23.8
comp=Z,13nm,0.9s
TORD Torodi Ar. Bea 77.12 71 P P 08 45 54.7 -0.8
comp=Z,6.4nm,0.5s,baz=258,slow=5.2,SNR=63
TORD pP pP 08 46 21.8 -0.8
comp=Z,12nm,0.9s,baz=256,slow=5.5,SNR=6.1
TORD Torodi Ar. Bea 77.12 71 P P 08 45 54.5 -1.0
I05D Terrebonne, OR 78.61 325 P P 08 46 05.8 +2.6
baz=131
K02D Willamette Mer 78.86 323 P P 08 46 06.2 +1.6
baz=129
NEW Newport 79.12 330 P P 08 46 07.8 +1.9
baz=135
SYO Syowa Base 79.22 160 eP P 08 46 05.0 -1.1
VNDA Vanda 79.34 190 P P 08 46 07.1 +0.4
comp=Z,1.0nm,0.6s,baz=117,slow=7.3,SNR=2.5
H04D Lebanon 79.50 324 P P 08 46 09.1 +1.2
baz=130
EDM Edmonton 81.08 335 P P 08 46 16.8 +0.5
EDM IAmb IAmb 08 46 17.9
comp=Z,18nm,0.8s
ESDC Sonseca Array 84.43 45 P P 08 46 35.0 +1.1
comp=Z,3.7nm,0.9s,baz=253,slow=4.9,SNR=9.7
ESDC pP pP 08 47 01.7 +0.2
comp=Z,4.1nm,0.8s,baz=256,slow=5.0,SNR=7.2
ESDC Sonseca Array 84.43 45 IAmb IAmb 08 46 36.5
comp=Z,8.9nm,1.2s
BOSA Boshof 85.29 118 P P 08 46 38.6 -0.2
comp=Z,2.6nm,0.8s,baz=22,slow=0.6,SNR=3.3
BOSA LR LR 09 23 19.5
comp=Z,38nm,18.2s,baz=192,slow=35
BOSA Boshof 85.29 118 IAmb IAmb 08 48 17.7
comp=Z,27nm,1.6s
YKA Yellowknife Ar 88.47 341 P P 08 46 54.2 +1.2
comp=Z,15nm,0.8s,baz=135,slow=4.8,SNR=203
YKA pP pP 08 47 20.1 -0.3
comp=Z,5.5nm,0.7s,baz=133,slow=4.7,SNR=5.4
YKA Yellowknife Ar 88.47 341 P P 08 46 54.0 +1.0
LSZ Lusaka 92.31 107 LR LR 09 26 20.1
comp=Z,36nm,19.3s,baz=208,slow=34
TGTN Hyland Airport 92.61 336 P P 08 47 14.7 +2.3
baz=126
SKAG Skagway 94.42 332 P P 08 47 22.7 +2.0
baz=120
TULEG Thule 95.18 0 P P 08 47 24.7 +0.8
ILAR Eielson Array 101.57 335 PP PP 08 51 55.6 -8.7
comp=Z,0.3nm,0.9s,baz=102,slow=4.7,SNR=4.2
STKA Stephens Creek 121.35 211 PKP PKPdf 08 52 54.5 0.0
comp=Z,0.7nm,0.6s,baz=94,slow=3.4,SNR=4.5
H11S2 WAKE ISLAND Hyl 126.83 279 T T 11 12 24.6
baz=101,slow=75,SNR=225
H11S1 WAKE ISLAND Hyl 126.84 279 T T 11 12 25.0
baz=101,slow=75,SNR=188
H11N3 WAKE ISLAND Hyl 126.84 281 T T 11 12 39.2
baz=100,slow=75,SNR=32
H11S3 WAKE ISLAND Hyl 126.85 279 T T 11 12 26.3
baz=101,slow=75,SNR=238
H11N2 WAKE ISLAND Hyl 126.86 281 T T 11 12 38.9
baz=100,slow=75,SNR=33
H11N1 WAKE ISLAND Hyl 126.86 281 T T 11 12 40.5
baz=100,slow=75,SNR=30
SEY Seymchan 127.40 337 PKP PKiKP 08 53 06.6 +1.1
comp=Z,3.2nm,0.6s,baz=100,slow=2.9,SNR=23
SEY pPKP PPKPdf 08 53 34.7 +1.4
comp=Z,1.2nm,0.6s,baz=103,slow=6.9,SNR=2.7
ASAR Alice Springs 131.91 209 PKhKP PKPpre 08 52 58.3
comp=Z,0.3nm,0.7s,baz=134,slow=2.9,SNR=4.2
ASAR PKP PKPdf 08 53 14.6 -0.4
comp=Z,1.3nm,0.6s,baz=132,slow=1.8,SNR=23
ASAR pPKP pPKPdf 08 53 41.9 -1.0
comp=Z,0.3nm,0.4s,baz=120,slow=1.6,SNR=2.3
ASAR SKPbc SKPab 08 56 32.7 -0.2
comp=Z,0.9nm,0.8s,baz=152,slow=4.5,SNR=6.6
WRA Warramunga Arr 134.85 213 PKhKP PKPpre 08 53 13.5
comp=Z,0.3nm,0.5s,baz=149,slow=1.5,SNR=8.0
WRA PKP PKiKP 08 53 21.7 -0.2
comp=Z,2.1nm,0.7s,baz=152,slow=1.8,SNR=15
WRA pPKP pPKPdf 08 53 49.7 +1.2
comp=Z,1.3nm,0.8s,baz=157,slow=1.7,SNR=3.9
WRA SKPbc SKPbc 08 56 42.7 +0.7
comp=Z,0.6nm,0.9s,baz=144,slow=2.7,SNR=4.6
ZALV Zalesovo Beam 139.82 23 PKP PKiKP 08 53 30.4 -0.5
comp=Z,1.9nm,0.5s,baz=279,slow=1.4,SNR=9.2
ZALV pPKP pPKPdf 08 53 57.2 0.0
comp=Z,3.4nm,0.7s,baz=318,slow=2.0,SNR=4.4
ZALV SKPbc SKPbc 08 56 55.5 +0.2
comp=Z,0.7nm,0.6s,baz=289,slow=4.5,SNR=3.8
MKAR Makanchi Array 143.84 33 PKhKP PKPpre 08 53 31.2
comp=Z,0.3nm,0.4s,baz=321,slow=2.0,SNR=4.2
MKAR PKP PKPdf 08 53 37.1 +1.1
comp=Z,0.6nm,0.4s,baz=332,slow=2.1,SNR=11
MKAR SKPbc SKiKP 08 57 07.1 +0.4
comp=Z,0.9nm,0.8s,baz=345,slow=1.6,SNR=4.9
WMQ Urumqi 148.65 32 ePKPbc PKPdf 08 53 40.7 -3.6
USRK Ussuriysk Ar. 148.91 329 PKPbc PKPbc 08 53 48.7 0.0
comp=Z,7.0nm,0.7s,baz=297,slow=1.7,SNR=7.9
HYBB Hyderabad (bro 149.75 88 ePKPdf PKPdf 08 53 43.9 -2.9
HYBB ePKPab PKPab 08 53 55.9 -1.3
MJAR Matsushiro Arr 149.86 312 PKPbc PKiKP 08 53 52.5 +0.3
comp=Z,5.1nm,0.6s,baz=83,slow=0.8,SNR=14
MJAR pPKPbc pPKPbc 08 54 20.8 +1.2
comp=Z,4.0nm,0.8s,baz=78,slow=1.1,SNR=3.9
SONM Songino Array 150.90 6 PKP PKPdf 08 53 50.1 +2.3
comp=Z,0.4nm,0.7s,baz=268,slow=1.6,SNR=4.6
SONM PKPbc PKiKP 08 53 55.3 +1.2
comp=Z,4.8nm,0.5s,baz=308,slow=1.3,SNR=42
SONM pPKPbc pPKPbc 08 54 22.4 +0.5
comp=Z,4.6nm,0.7s,baz=326,slow=1.3,SNR=6.8
HHC Hu-ho-hao-te 158.04 358 ePKP PKPdf 08 53 57.0 -0.9
NJ2 Nanjing 164.79 331 ePKP PKPdf 08 54 05.0 -0.1
PZH PanZhiHua 168.98 45 PKP PKPdf 08 54 06.7 -1.8
CMAR Chiang Mai Arr 169.16 90 PKPab PKPab 08 55 21.6 +0.4
comp=Z,0.8nm,0.3s,baz=260,slow=4.2,SNR=1.6
GYA Guiyang 171.68 24 ||PKP PKPdf 08 54 08.2 -1.8

*ANF **10** 08:53:07.4±1.4, 68.˚14N×158.˚37W, h6km±11km, ML3.8/22, Error ellipse: s-maj=3.0km s-min=2.5km az=87.0*
*IDC **10** 08:53:07.1±1.7, 68.˚52N×158.˚21W, h0km, mb3.2/2, mb1 3.4/6, mb1mx3.3/54, mbtmp3.3/6, ML3.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/43, Error ellipse: s-maj=47.2km s-min=21.1km az=15.0*
*NEIC **10** 08:53:09.8±1.3, 68.˚13N±0.˚05×158.˚39W±0.˚09, h28km±6km, Error ellipse: s-maj=7.7km s-min=5.0km az=168.0*
*AEIC **10** 08:53:09.1±1.2, 68.˚13N±0.˚04×158.˚22W±0.˚10, h27km±8km, ML3.4, ML3.5/44(NEIC), Error ellipse: s-maj=6.6km s-min=3.9km az=137.0*

ISC 10 08:53:07.4±0.8, 68.˚18N±0.˚05×158.˚34W±0.˚04, h10km, n107, σ1§18/105, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
RDOG	Red Dog Mine	1.72	268		Pn	08 53 38.6	+1.3
RDOG					Sn	08 54 01.6	+2.3
RDOG	Red Dog Mine	1.72	268	IAML		08 54 07.3	
	comp=N,351nm,1.2s						
RDOG	Red Dog Mine	1.72	268	P	Pn	08 53 38.2	+0.9
	baz=85,SNR=29						
RDOG				S	Sn	08 54 01.4	+2.1
	baz=85						
IM03		2.85	139		Pn	08 53 52.7	0.0
IMAR	Indian Mountai	2.85	139	Pn	Pn	08 53 52.0	-0.9
A21K	Barrow	3.21	10		Pn	08 53 58.8	+1.0
A21K					Sn	08 54 36.5	+0.5
A21K	Barrow	3.21	10	P	Pn	08 53 58.7	+1.0
	baz=191						
A21K				S	Sn	08 54 37.1	+1.1
	baz=191						
COLD	Coldfoot	3.25	103		Pn	08 53 59.7	+1.3
COLD	Coldfoot	3.25	103	P	Pn	08 53 59.4	+1.1
	baz=290,SNR=22						
COLD				S	Sn	08 54 39.0	+2.0
	baz=290						
TOLK	Toolik Lake Re	3.27	78		Pn	08 54 00.0	+1.3
TOLK	Toolik Lake Re	3.27	78	IAML		08 55 00.1	
	comp=E,181nm,0.7s						
TOLK	Toolik Lake Re	3.27	78	P	Pn	08 53 59.6	+0.9
	baz=265,SNR=26						
TOLK				S	Sn	08 54 40.7	+3.0
	baz=265						
H21K	Melozitna Rive	3.34	137		Pn	08 53 59.6	-0.1
H21K	Melozitna Rive	3.34	137	P	Pn	08 53 59.6	-0.1
	baz=322						
GCSA	Galena City Sc	3.50	170		Pn	08 54 01.3	-0.5
GCSA	Galena City Sc	3.50	170	P	Pn	08 54 01.1	-0.7
	baz=352,SNR=13						
GCSA				Sb	Sb	08 54 53.5	+1.7
	baz=352						
I21K	Tanana	3.93	137		Pn	08 54 08.0	+0.3
I21K	Tanana	3.93	137	IAML		08 55 18.5	
	comp=E,74nm,0.9s						
I21K				IAML		08 55 18.9	
	comp=N,92nm,0.9s						
I21K	Tanana	3.93	137	P	Pn	08 54 07.8	0.0
	baz=323						
PS06	TAPS Pump Stn6	4.11	121		Pn	08 54 10.3	+0.3
H23K	Yukon River	4.18	120		Pn	08 54 10.9	-0.3
H23K	Yukon River	4.18	120	IAML		08 55 19.9	
	comp=N,73nm,1.4s						
H23K				IAML		08 55 23.9	
	comp=E,96nm,1.1s						
H23K	Yukon River	4.18	120	P	Pn	08 54 10.9	-0.3
	baz=308						
H23K				Sb	Sb	08 55 15.3	+3.7
	baz=308						
J20K	Nowinta River	4.37	155		Pn	08 54 13.4	-0.2
J20K	Nowinta River	4.37	155	IAML		08 55 27.6	
	comp=N,44nm,0.9s						
J20K				IAML		08 55 29.7	
	comp=E,58nm,1.2s						
J20K	Nowinta River	4.37	155	P	Pn	08 54 13.3	-0.4
	baz=339						
MLY	Manley	4.38	133		Pn	08 54 13.8	-0.2
MLY	Manley	4.38	133	P	Pn	08 54 13.5	-0.4
	baz=320,SNR=17						
ANM	Nome	4.60	221	Pn	Pn	08 54 16.4	-0.5
ANM				IAML		08 55 44.2	
	comp=E,33nm,1.3s						
ANM	Nome	4.60	221	P	Pn	08 54 16.8	-0.1
	baz=36,SNR=6.8						
TNA	Tin City	4.60	240	Pn	Pn	08 54 17.6	+0.7
I23K	Minto, Yukon-K	4.69	126		Pn	08 54 18.4	+0.3
I23K	Minto, Yukon-K	4.69	126	IAML		08 55 45.0	
	comp=E,47nm,1.7s						
I23K				IAML		08 55 45.2	
	comp=N,41nm,1.5s						
I23K	Minto, Yukon-K	4.69	126	P	Pn	08 54 18.1	0.0
	baz=314,SNR=8.1						
H24K	Noodor Dome	4.73	115		Pn	08 54 18.4	-0.3
H24K				IAML		08 55 44.6	
	comp=N,41nm,1.0s						
H24K				IAML		08 55 44.8	
	comp=E,56nm,1.0s						
H24K	Noodor Dome	4.73	115	P	Pn	08 54 18.8	+0.1
	baz=304						
CHUM	Lake Minchumin	4.97	148		Pn	08 54 22.0	+0.1
CHUM	Lake Minchumin	4.97	148	P	Pn	08 54 22.0	+0.1
	baz=333,SNR=12						
BPAW	Bear Paw Mtn.	5.07	140		Pn	08 54 23.7	+0.3
BPAW	Bear Paw Mtn.	5.07	140	IAML		08 55 60.0	
	comp=E,26nm,1.7s						
BPAW	Bear Paw Mtn.	5.07	140	P	Pn	08 54 23.2	-0.2
	baz=327,SNR=8.3						
K20K	Telida	5.16	158		Pn	08 54 23.9	-0.6
K20K				IAML		08 56 04.5	
	comp=E,26nm,4.6s						
K20K	Telida	5.16	158	P	Pn	08 54 23.9	-0.6
	baz=342						
MDM	Murphy Dome	5.17	124		Pn	08 54 24.3	-0.4
NEA2	Nenana	5.18	130		Pn	08 54 24.8	-0.1
NEA2	Nenana	5.18	130	IAML		08 55 53.0	
	comp=E,22nm,1.7s						
NEA2	Nenana	5.18	130	P	Pn	08 54 24.6	-0.3
	baz=318,SNR=22						
BMAR	Burnt Mountain	5.27	92	Pn	Pn	08 54 27.4	+1.3
FYU	Fort Yukon	5.31	102	Pn	Pn	08 54 26.2	-0.4
POKR	Poker Plat Res	5.32	120		Pn	08 54 27.3	+0.6
POKR	Poker Plat Res	5.32	120	IAML		08 56 08.8	
	comp=E,24nm,1.2s						
POKR				IAML		08 56 10.1	
	comp=N,28nm,1.8s						
POKR	Poker Plat Res	5.32	120	P	Pn	08 54 26.7	0.0
	baz=310						
TCOL	CIGO, UAF Yank	5.34	123	P	Pn	08 54 27.1	0.0
	baz=313						
COLA	College	5.35	123		Pn	08 54 26.3	-0.7
COLA	College	5.35	123	P	Pn	08 54 27.0	-0.1
	baz=313						
TTA	Tatalina	5.36	169		Pn	08 54 27.1	-0.3
TTA	Tatalina	5.36	169	IAML		08 55 09.6	
	comp=E,20nm,4.9s						
TTA				IAML		08 56 21.0	
	comp=N,18nm,5.0s						
TTA	Tatalina	5.36	169	P	Pn	08 54 27.0	-0.4
	baz=351						
TT01	Tatalina	5.39	169		Pn	08 54 27.4	-0.3
BWN	Browne	5.40	134		Pn	08 54 28.6	+0.8
CAST	Castle Rocks	5.43	149	Pn	Pn	08 54 28.4	+0.1
CAST				IAML		08 55 59.5	
	comp=N,18nm,3.7s						
CAST				IAML		08 56 01.8	
	comp=E,18nm,2.3s						
CAST	Castle Rocks	5.43	149	P	Pn	08 54 28.5	+0.2
	baz=335,SNR=14						
CCB	Clear Creek Bu	5.52	125		Pn	08 54 29.2	-0.3
KTH	Kantishna Hill	5.55	143		Pn	08 54 30.1	+0.1
WRH	Wood River Hil	5.56	127		Pn	08 54 30.1	0.0
PRP	Porcupine Dome	5.72	112		Pn	08 54 32.7	+0.4
PRP	Porcupine Dome	5.72	112	P	Pn	08 54 32.3	-0.1
	baz=304,SNR=8.3						
ILAR	Eielson Array	5.72	121	Pn	Pn	08 54 31.8	-0.5
	comp=E,0.4nm,0.3s,baz=310,slow=13,SNR=30						
ILAR				Lg	Lg	08 56 06.8	
	comp=E,0.8nm,0.3s,baz=307,slow=20,SNR=5.1						
ILAR	Eielson Array	5.72	121		Pn	08 54 31.5	-0.7
TRF	Thorofare Moun	5.79	141		Pn	08 54 33.7	+0.3
TRF	Thorofare Moun	5.79	141	P	Pn	08 54 33.2	-0.2
	baz=329,SNR=8.6						
PPLA	Purkeypile	5.89	151		Pn	08 54 35.2	+0.5
PPLA	Purkeypile	5.89	151	P	Pn	08 54 34.8	+0.1
	baz=337,SNR=14						
MCK	McKinley	5.89	135		Pn	08 54 35.1	+0.5
MCK	McKinley	5.89	135	P	Pn	08 54 34.9	+0.3
	baz=324,SNR=9.2						
HDA	Harding Lake	5.95	124		Pn	08 54 34.5	-0.9
HDA	Harding Lake	5.95	124	P	Pn	08 54 35.2	-0.2
	baz=315						
L20K	Farewell, AK	6.02	160		Pn	08 54 36.5	0.0
L20K	Farewell, AK	6.02	160	P	Pn	08 54 36.4	-0.1
	baz=344						
RND	Reindeer	6.18	136		Pn	08 54 39.4	+0.8
L19K	White Mountain	6.20	165		Pn	08 54 39.0	+0.1
L19K	White Mountain	6.20	165	P	Pn	08 54 38.7	-0.2
	baz=348						
J25K	Salcha River,	6.32	118		Pn	08 54 39.3	-1.2
J25K	Salcha River,	6.32	118	P	Pn	08 54 40.3	-0.1
	baz=310						
M19K	Big River Lodg	6.52	163		Pn	08 54 43.4	+0.2
M19K	Big River Lodg	6.52	163	P	Pn	08 54 43.0	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=347						
DHY	**Denali Highway**	**6.84**	**133**		**Pn**	**08 54 48.6**	**+0.9**
DHY	**Denali Highway**	**6.84**	**133**	P	**Pn**	**08 54 48.5**	**+0.7**
	baz=323,SNR=5.9						
J26L	**Joseph Creek**	**6.99**	**115**	P	**Pn**	**08 54 49.6**	**-0.1**
	baz=308						
WAT6	**Susitna Watana**	**7.15**	**137**	P	**Pn**	**08 54 52.4**	**+0.4**
	baz=327						
SCRK	**Sand Creek**	**7.19**	**119**	Pn	**Pn**	**08 54 52.0**	**-0.5**
SVW2	**Sparrevohn**	**7.21**	**169**		**Pn**	**08 54 52.6**	**-0.1**
STLK	**Strandline Lak**	**7.26**	**155**		**Pn**	**08 54 54.6**	**+1.2**
PAX	**Paxson**	**7.46**	**128**		**Pn**	**08 54 57.2**	**+1.0**
PAX	**Paxson**	**7.46**	**128**	P	**Pn**	**08 54 57.0**	**+0.8**
	baz=320						
N19K	**Bonanza Creek**	**7.58**	**166**	P	**Pn**	**08 54 57.9**	**0.0**
	baz=349						
EGAK	**Eagle**	**7.66**	**108**	P	**Pn**	**08 54 59.4**	**+0.5**
	baz=304						
SML	**Sawmill**	**7.67**	**142**		**Pn**	**08 54 58.4**	**-0.6**
EPYK	**Eagle Plains**	**8.55**	**92**	P	**Pn**	**08 55 12.1**	**+1.0**
	baz=292						
INK	**Inuvik**	**9.19**	**78**	Pn	**Pn**	**08 55 19.0**	**-0.7**
	comp=E,0.6nm,0.3s,baz=288,slow=11,SNR=46						
INK				Sn	**Sn**	**08 56 55.0**	**-8.0**
	comp=E,0.4nm,0.3s,baz=280,slow=12,SNR=2.3						
INK	**Inuvik**	**9.19**	**78**	P	**Pn**	**08 55 19.7**	**0.0**
	baz=280						
A36M	**Sachs Harbour**	**11.79**	**56**	P	**Pn**	**08 55 54.0**	**-1.2**
	baz=267,SNR=18						
YKA	**Yellowknife Ar**	**18.76**	**86**	P	**P**	**08 57 25.1**	**-1.0**
	comp=E,0.0nm,0.3s,baz=307,slow=11,SNR=9.9						
RES	**Resolute Bay**	**20.19**	**44**	P	**P**	**08 57 39.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=204,slow=10.0,SNR=1.4						
RES				S	S	09 01 18.2	-9.5
	comp=E,0.2nm,0.3s,baz=337,slow=21,SNR=4.8						
PETK	**Petropavlovsk-**	**25.55**	**256**	LR	LR	09 11 08.1	
	comp=E,20nm,19.3s,baz=91,slow=42						
SONM	**Songino Array**	**48.52**	**296**	P	**P**	**09 01 51.4**	**+1.2**
	comp=E,0.1nm,0.2s,baz=45,slow=8.4,SNR=2.0						
MKAR	**Makanchi Array**	**56.77**	**314**	P	**P**	**09 02 50.0**	**-1.0**
	comp=E,0.1nm,0.5s,baz=40,slow=5.6,SNR=1.9						

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*NNC **10** 08:56:40.3±3.6, 54.°29N×86.°96E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=30.0km s-min=19.5km az=10.0, Suspected Mining explosion.*
*IDC **10** 08:56:40.1±3.8, 54.°42N×86.°90E, h0km, mb1 2.5/1, mb1mx2.5/54, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=30.2km s-min=18.6km az=56.0*
ISC 10 08:56:41.6±4.0**, 54.°3N**±0.°2×**86.°9E**±0.°2**, h0**km**, n7,** σ1§**88**/8**, 4C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**253**	*i*		09 06 11.0	
	baz=69,slow=334,SNR=4.9						
ZAA0	**Zalesovo Array**	**1.26**	**253**	⇓P	**Pg**	**08 57 03.9**	**-1.8**
	0.1nm,0.3s						
ZAA0				⇓S	**Sg**	**08 57 22.5**	**+0.5**
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**1.26**	**253**	Pg	**Pg**	**08 57 04.2**	**-1.5**
	0.9nm,0.3s,baz=67,slow=17,SNR=9.5						
ZALV				Lg	Lg	08 57 22.5	
	0.8nm,0.3s,baz=66,slow=30,SNR=7.6						
KURK	**Kurchatov**	**6.19**	**238**	⇓Pn	**Pn**	**08 58 15.9**	**+1.7**
	0.8nm,0.6s						
KURK				⇓Lg	Lg	09 00 01.0	
	3.1nm,1.0s						
KURBB	**Kurchatov Arra**	**6.29**	**237**	⇓Pn	**Pn**	**08 58 15.6**	**0.0**
	1.6nm,0.6s,baz=56,slow=15						
KURBB				⇑Sn	**Sn**	**08 59 30.3**	**+2.1**
	2.0nm,0.5s						
KURBB				⇑Lg	Lg	09 00 01.3	
	2.2nm,0.8s						
MK31	**Makanchi Array**	**8.09**	**203**	⇑Sn	**Sn**	**09 00 10.7**	**-1.6**
	0.1nm,0.4s,baz=23,slow=28						
MK31				⇑Lg	Lg	09 00 55.1	
	baz=20,slow=34						
MKAR	**Makanchi Array**	**8.09**	**203**	Pn	**Pn**	**08 58 41.6**	**+1.4**
	0.1nm,0.3s,baz=22,slow=13,SNR=2.2						
MKAR				Lg	Lg	09 00 57.5	
	0.0nm,0.3s,baz=14,slow=24,SNR=5.5						

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*DDA **10** 09:16:12.2±0.0, 42.°55N×43.°58E, h14km±2km, ML2.8*
*TIF **10** 09:16:13.6, 42.°51N×43.°52E, h13km±1km*
*MOS **10** 09:16:14.5±0.0, 42.°52N×43.°42E, h9km, MPVA3.5*
*NORS **10** 09:16:14.3±0.0, 42.°59N×43.°54E, h5km, MPVA3.8*
ISC 10 09:16:13.8±0.9**, 42.°47N**±0.°02×**43.°50E**±0.°02**, h8**km±7km**, n42,** σ1§**14**/83**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.13**	**343**	P	**Pg**	**09 16 17.0**	**+0.3**
ONI				S	**Sg**	**09 16 19.0**	**+0.4**
ONI	**Oni**	**0.13**	**343**	*i* Pg	**Pg**	**09 16 17.0**	**+0.3**
ONI				*e*Sg	**Sg**	**09 16 18.1**	**-0.6**
TKB	**Tkibuli**	**0.39**	**253**	P	**Pb**	**09 16 22.5**	**-0.6**
TKB				S	**Sb**	**09 16 29.0**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.43**	**8**	*i* Pg	**Pg**	**09 16 21.7**	**-0.6**
DIGR				*e*Sg	**Sg**	**09 16 27.5**	**-0.5**
ZEI	**Tsey**	**0.43**	**43**	*i* Pg	**Pb**	**09 16 23.2**	**-0.7**
ZEI				*e*Sg	**Sb**	**09 16 29.3**	**-1.4**
LACR	**Lac**	**0.69**	**58**	*e*Pg	**Pb**	**09 16 27.9**	**-0.3**
LACR				*e*Sg	**Sb**	**09 16 38.0**	**+0.1**
GUDG	**Gudauri**	**0.72**	**90**	P	**Pb**	**09 16 28.1**	**-0.7**
GUDG				S	**Sb**	**09 16 38.0**	**-1.0**
KORR	**Kora**	**0.74**	**34**	*e*Pg	**Pg**	**09 16 28.2**	**0.0**
KORR				*e*Sg	**Sb**	**09 16 39.3**	**-0.1**
PNSH	**Pansheti**	**0.84**	**78**	P	**Pg**	**09 16 30.0**	**0.0**
PNSH				S	**Sg**	**09 16 40.4**	**-0.6**
LSNR	**Lesken**	**0.84**	**16**	*e*Pg	**Pg**	**09 16 30.0**	**0.0**
LSNR				*e*Sg	**Sg**	**09 16 41.1**	**+0.1**
ABS	**Abastumani**	**0.88**	**216**	P	**Pb**	**09 16 31.6**	**+0.1**
ABS				S	**Sb**	**09 16 44.6**	**+1.3**
BRNG	**Burnasheti**	**0.88**	**164**	P	**Pb**	**09 16 32.0**	**+0.5**
BRNG				S	**Sn**	**09 16 45.4**	**-0.4**
ARNR	**Ardon**	**0.91**	**39**	*e*Pg	**Pb**	**09 16 32.0**	**+0.1**
ARNR				*e*Sg	**Sn**	**09 16 45.4**	**-1.0**
NEY	**Neytrino**	**0.97**	**324**	*i* Pg	**Pg**	**09 16 31.9**	**-0.5**
NEY				*e*Sg	**Sg**	**09 16 43.5**	**-1.5**
STDR	**Stavd-Durt**	**0.99**	**24**	*e*Pg	**Pn**	**09 16 33.9**	**-0.1**
STDR				*e*Sg	**Sn**	**09 16 47.4**	**-0.8**
NCK	**Nalchik**	**1.03**	**4**	*e*Pg	**Pb**	**09 16 33.9**	**0.0**
NCK				*e*Sg	**Sb**	**09 16 47.5**	**-0.1**
TRLG	**Trialeti**	**1.03**	**154**	P	**Pn**	**09 16 34.6**	**-0.2**
TRLG				S	**Sn**	**09 16 49.8**	**+0.2**
VLKR	**Vladikavkaz**	**1.04**	**56**	*e*Pg	**Pb**	**09 16 34.1**	**0.0**
VLKR				*e*Sg	**Sn**	**09 16 50.0**	**+0.4**
AKH	**Akhalkalaki**	**1.06**	**180**	P	**Pn**	**09 16 35.0**	**-0.1**
AKH				S	**Sn**	**09 16 50.5**	**+0.3**
EPOS	**Posof**	**1.12**	**211**	P	**Pg**	**09 16 35.5**	**+0.1**
EPOS				S	**Sn**	**09 16 52.7**	**+0.9**
EPOS				*i* AML	AML	09 16 57.0	
	comp=N,135nm,0.4s						
KMGR	**Komgaron**	**1.16**	**59**	*e*Pg	**Pn**	**09 16 37.7**	**+1.2**
KMGR				*e*Sg	**Sn**	**09 16 53.8**	**+1.1**
BGD	**Bogdanovka**	**1.21**	**177**	P	**Pn**	**09 16 37.7**	**+0.5**
BGD				S	**Sn**	**09 16 54.4**	**+0.6**
BTNK	**Botanikuri**	**1.25**	**129**	P	**Pg**	**09 16 33.3**	**-4.4**
BTNK				S	**Sg**	**09 16 51.4**	**-2.5**
BTNK	**Botanikuri**	**1.25**	**129**	P	**Pg**	**09 16 33.7**	**-4.0**
BTNK				*i* AML	AML	09 16 49.0	
	comp=N,376nm,58.3s						
BTNK				S	**Sg**	**09 16 53.1**	**-0.8**
DMNI	**Dmanisi**	**1.25**	**155**	P	**Pb**	**09 16 37.7**	**-0.1**
DMNI				S	**Sn**	**09 16 55.1**	**+0.3**
KZRT	**Kazreti**	**1.27**	**148**	P	**Pg**	**09 16 38.3**	**+0.1**
KZRT				S	**Sn**	**09 16 55.7**	**+0.4**
KZRT	**Kazreti**	**1.27**	**148**	P	**Pn**	**09 16 37.8**	**-0.1**
KZRT				S	**Sn**	**09 16 55.3**	**0.0**
KBZ	**Khabaz**	**1.33**	**341**	*i* Pg	**Pn**	**09 16 38.3**	**-0.5**
KBZ				*e*Sg	**Sb**	**09 16 55.9**	**-0.4**
PRTR	**Priterechnaya**	**1.40**	**24**	*e*Pg	**Pg**	**09 16 41.6**	**+0.8**
PRTR				*e*Sg	**Sg**	**09 17 00.1**	**+1.1**
SHA1	**Shidzhatmaz**	**1.41**	**334**	*e*Pg	**Pn**	**09 16 40.0**	**-0.1**
SHA1				*e*Sg	**Sb**	**09 16 58.4**	**-0.4**
KIV	**Kislovodsk**	**1.60**	**338**	*e*Pg	**Pb**	**09 16 43.4**	**-0.3**
KIV				*e*Sg	**Sb**	**09 17 04.5**	**+0.3**
DBOC	**Borcka**	**1.77**	**231**	P	**Pn**	**09 16 45.3**	**+0.4**
DBOC				*i* AML	AML	09 17 12.0	
	comp=E,75nm,0.4s						
EAK	**Akyaka**	**1.78**	**177**	P	**Pn**	**09 16 45.7**	**+0.6**
EAK				S	**Sg**	**09 17 11.9**	**+0.8**
DAGI	**Agillar**	**1.83**	**221**	P	**Pb**	**09 16 47.6**	**0.0**
DAGI				S	**Sg**	**09 17 13.6**	**+1.1**
GROC	**Groznyy**	**1.84**	**66**	*e*Pg	**Pg**	**09 16 51.0**	**+1.9**
GROC				*e*Sg	**Sg**	**09 17 14.7**	**+1.7**
DBAD	**Bademkaya**	**1.98**	**224**	P	**Pb**	**09 16 49.6**	**-0.6**
DBAD				S	**Sg**	**09 17 17.3**	**-0.2**
DBAD				*i* AML	AML	09 17 18.0	
	comp=E,83nm,0.5s						
DBAD				*i* AML	AML	09 17 21.0	
	comp=N,87nm,0.5s						
BTLR	**Botlikh**	**2.02**	**84**	*e*Pg	**Pb**	**09 16 50.6**	**-0.2**
BTLR				*e*Sg	**Sg**	**09 17 17.6**	**-1.1**
DDEM	**Demirkent**	**2.05**	**220**	P	**Pb**	**09 16 50.2**	**-1.2**
DDEM				S	**Sg**	**09 17 20.5**	**+0.8**
DDEM				*i* AML	AML	09 17 22.0	
	comp=E,89nm,0.4s						
DDEM				*i* AML	AML	09 17 23.0	
	comp=N,102nm,0.3s						
DDFL	**Dedoflistskaro**	**2.20**	**117**	P	**Pg**	**09 16 56.5**	**+0.4**
DDFL				S	**Sg**	**09 17 29.5**	**+4.9**
ALER	**Alexandrovskoy**	**2.33**	**350**	*e*Pn	**Pg**	**09 16 58.5**	**0.0**
ALER				*e*Sn	**Sg**	**09 17 27.5**	**-1.3**
GNBR	**Gunib**	**2.56**	**91**	*e*Pn	**Pg**	**09 17 04.1**	**+1.1**
GNBR				*e*Sn	**Sg**	**09 17 36.8**	**+0.5**
GUZR	**Guzeripl'**	**2.91**	**303**	*i* Pn	**Pn**	**09 17 00.9**	**+0.5**
GUZR				*e*Sn	**Sn**	**09 17 35.8**	**+0.2**

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*MOS **10** 09:16:21.9±1.1, 30.°50N×50.°35E, h13km, mb4.4/17, Error ellipse: s-maj=9.1km s-min=5.5km az=102.1*
*IDC **10** 09:16:22.0±0.6, 30.°50N×50.°36E, h0km, mb4.1/31, mb1 4.1/36, mb1mx4.0/63, mbtmp4.1/36, ML3.8/5, MS3.3/5, Ms1 3.3/5, ms1mx2.7/83, Error ellipse: s-maj=14.3km s-min=11.3km az=174.0*
*NEIC **10** 09:16:24.6±2.2, 30.°54N±0.°07×50.°45E±0.°08, h10km±1km, mb4.3/24, mb_Lg4.1(TEH), Error ellipse: s-maj=12.5km s-min=12.0km az=204.0*
*TEH **10** 09:16:25.6, 30.°63N×50.°43E, h16km, ML4.2*
*DSN **10** 09:16:30.6±1.9, 30.°07N×50.°55E, h10km, ML4.1/12, Error ellipse: s-maj=24.1km s-min=8.7km az=2.0*
*OMAN **10** 09:16:32.5±1.2, 30.°34N×50.°63E, h131km±15km, mb5.0/21, Error ellipse: s-maj=24.3km s-min=12.7km az=2.0*
ISC 10 09:16:24.7±0.8**, 30.°53N**±0.°03×**50.°42E**±0.°03**, h17**km±5km**, n218,** σ1§**96**/244**, mb4.2**/50**, MS3.6**/4**, 7C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.16**	**294**	*e*Pg	**Pb**	**09 16 30.6**	**+1.4**
KLNJ	**Kolanjah**	**1.11**	**65**	*e*Pg	**Pb**	**09 16 45.1**	**-0.6**
KLNJ				*e*Sg	**Sb**	**09 17 02.5**	**+2.5**
KLNJ				*e*		09 17 07.5	
	comp=Z,83µm,0.4s						
KAZ1	**Kazerun**	**1.39**	**130**	*e*Pg	**Pg**	**09 16 53.0**	**+1.5**
KAZ1				*e*		09 17 21.0	
	comp=Z,72µm,0.5s						
AMIS	**Naft Sefid**	**1.49**	**319**	*e*Pg	**Pg**	**09 16 52.4**	**-1.0**
IBRJ	**Brojen**	**1.55**	**27**	*e*Pg	**Pn**	**09 16 52.3**	**+0.6**
IBRJ				*e*		09 17 16.8	
	comp=Z,35µm,0.4s						
AHWZ	**Ahwaz**	**1.72**	**298**	*e*Pg	**Pg**	**09 16 57.2**	**-0.6**
AHWZ				*e*Sg	**Sg**	**09 17 20.0**	**-0.2**
AHBU	**AHRAM**	**1.83**	**155**	*e*Pn	**Pg**	**09 16 59.7**	**-0.1**
SHK1	**Shahrekord**	**1.83**	**12**	*e*Pn	**Pb**	**09 16 57.7**	**-0.2**
SHK1				*e*Sg	**Sb**	**09 17 21.6**	**+1.0**
SHK1				*e*		09 17 26.3	
	comp=Z,12µm,0.5s						
SHI	**Shiraz**	**2.02**	**116**	*e*Pn	**Pb**	**09 17 01.0**	**0.0**
SHI				*e*		09 17 40.7	
	comp=Z,16µm,0.4s						
IRAM	**Ramesheh**	**2.11**	**52**	*e*Pn	**Pn**	**09 17 01.9**	**+2.5**
IRAM				*e*		09 17 33.0	
	comp=Z,16µm,0.3s						
IPIR	**Pirpir**	**2.18**	**10**	*e*Pn	**Pn**	**09 17 02.6**	**+2.1**
IPIR				*e*		09 17 36.8	
	comp=Z,12µm,0.5s						
IGAR	**Gharneh**	**2.32**	**36**	*e*		09 17 06.9	
	comp=Z,7µm,0.2s						
IGAR				*e*Pn	**Pn**	**09 17 04.9**	**+2.5**
IZEF	**Zefreh**	**2.86**	**34**	*e*Pn	**Pn**	**09 17 12.1**	**+2.3**
IKLH	**Kolahrood**	**2.95**	**19**	*e*Pn	**Pn**	**09 17 13.0**	**+2.0**
IKLH				*e*		09 18 09.2	
	comp=Z,4µm,0.5s						
NASN	**Na'in**	**3.04**	**41**	*e*Pn	**Pn**	**09 17 14.5**	**+2.2**
QIR1	**Qir**	**3.07**	**131**	*e*Pn	**Pn**	**09 17 15.0**	**+2.5**
ISAD	**Sadrabad**	**3.12**	**63**	*e*Pn	**Pn**	**09 17 16.4**	**+3.1**
ISAD				*e*		09 18 03.7	
	comp=Z,11µm,0.8s						
KHMZ	**Khomeyn**	**3.22**	**353**	*e*Pn	**Pn**	**09 17 16.6**	**+1.9**
QAMS	**Qamsar**	**3.30**	**14**	*e*Pn	**Pn**	**09 17 18.2**	**+2.4**
QAMS				*e*		09 18 12.3	
	comp=Z,3µm,0.4s						
BMDN	**Meydan**	**3.41**	**337**	*e*Pn	**Pn**	**09 17 18.6**	**+1.3**
BMDN				*e*		09 18 24.9	
	comp=Z,3µm,0.6s						
DHL1	**Dehloran**	**3.43**	**309**	*e*Pn	**Pn**	**09 17 19.0**	**+1.6**
IKFM	**Kafar-mosalman**	**3.70**	**324**	*e*Pn	**Pn**	**09 17 22.8**	**+1.8**
IKFM				*e*		09 18 45.4	
	comp=Z,6µm,0.7s						
IMEH	**Mehriz**	**3.70**	**76**	*e*Pn	**Pn**	**09 17 24.0**	**+2.7**
IMEH				*e*		09 18 09.6	
	comp=Z,3µm,0.6s						
KRSH	**Karshahi**	**3.72**	**23**	*e*Pn	**Pn**	**09 17 23.6**	**+2.1**
IDOB	**Doab**	**3.76**	**330**	*e*Pn	**Pn**	**09 17 23.6**	**+1.5**
ICHK	**Chekchek**	**3.81**	**62**	*e*Pn	**Pn**	**09 17 25.7**	**+2.9**
ANAR	**Anarak**	**3.86**	**46**	*e*Pn	**Pn**	**09 17 25.5**	**+2.0**
HSAM	**Samen**	**3.98**	**338**	*e*Pn	**Pn**	**09 17 26.6**	**+1.5**
GHVR	**GHOM**	**4.00**	**10**	*e*Pn	**Pn**	**09 17 27.7**	**+2.4**
YZKH	**Yazd**	**4.01**	**61**	*e*Pn	**Pn**	**09 17 28.3**	**+2.8**
ASAO	**Ashtian**	**4.02**	**355**	*e*Pn	**Pn**	**09 17 28.2**	**+2.5**
ISFB	**Sefidab**	**4.11**	**22**	*e*Pn	**Pn**	**09 17 28.5**	**+1.8**
IQOM	**Qom**	**4.33**	**7**	*e*Pn	**Pn**	**09 17 31.5**	**+1.5**
HAGD	**Aghdareh**	**4.41**	**346**	*e*Pn	**Pn**	**09 17 32.9**	**+1.8**
IBZA	**Bozab**	**4.48**	**332**	*e*Pn	**Pn**	**09 17 33.0**	**+0.9**
IVRN	**Varamin**	**4.58**	**14**	*e*Pn	**Pn**	**09 17 35.0**	**+1.7**
SHMA	**Al-Shehemyia**	**4.69**	**174**	P	**Pn**	**09 17 38.3**	**+3.6**
SHMA				S	**Sn**	**09 18 32.3**	**+3.7**
KCHF	**Cheshme Sefid,**	**4.70**	**323**	*e*Pn	**Pn**	**09 17 37.9**	**+2.9**
IALM	**Almabolaq**	**4.71**	**337**	*e*Pn	**Pn**	**09 17 36.7**	**+1.4**
KER	**Kermanshah**	**4.74**	**325**	*e*Pn	**Pn**	**09 17 38.0**	**+2.5**
IRAZ	**Razeghan**	**4.88**	**355**	*e*Pn	**Pn**	**09 17 39.0**	**+1.6**
IHSB	**Hasanabad**	**4.94**	**8**	*e*Pn	**Pn**	**09 17 39.8**	**+1.5**
IGHG	**Ghaleghazi**	**4.99**	**320**	*e*Pn	**Pn**	**09 17 40.1**	**+1.0**
IMHD	**Mahdasht**	**5.14**	**2**	*e*Pn	**Pn**	**09 17 42.3**	**+1.3**
IDMV	**Damavand**	**5.21**	**15**	*e*Pn	**Pn**	**09 17 43.4**	**+1.3**
QABG	**Abgarm-Qazvin**	**5.21**	**352**	*e*Pn	**Pn**	**09 17 41.8**	**-0.2**
KHGB	**Koh Gabri**	**5.23**	**90**	*e*Pn	**Pn**	**09 17 44.7**	**+2.3**
SNGE	**Sanandaj**	**5.23**	**331**	*e*Pn	**Pn**	**09 17 41.1**	**-1.2**
DAMV	**Damavand**	**5.25**	**14**	*e*Pn	**Pn**	**09 17 44.4**	**+1.8**
ILAS	**Lasjerd**	**5.28**	**23**	*e*Pn	**Pn**	**09 17 44.6**	**+1.5**
IDHR	**Dehrash**	**5.37**	**322**	*e*Pn	**Pn**	**09 17 45.0**	**+0.8**
IDHR				*e*		09 18 49.0	
	comp=Z,2µm,0.3s						
THKV	**Tehran--Karaj**	**5.38**	**4**	*e*Pn	**Pn**	**09 17 46.6**	**+2.2**
CHTH	**Charan**	**5.39**	**6**	*e*Pn	**Pn**	**09 17 46.7**	**+2.1**
IFIR	**Firoozkooh**	**5.46**	**20**	*e*Pn	**Pn**	**09 17 46.7**	**+1.2**
KRBR	**Kerman**	**5.51**	**94**	*e*Pn	**Pn**	**09 17 49.5**	**+3.2**
TVBK	**TV Kerman**	**5.51**	**94**	*e*Pn	**Pn**	**09 17 48.9**	**+2.6**
NGRK	**Negar Kerman**	**5.54**	**98**	*e*Pn	**Pn**	**09 17 49.5**	**+2.8**
IANJ	**Anjilo**	**5.73**	**30**	*e*Pn	**Pn**	**09 17 50.4**	**+1.2**
ISHM	**Shahmirzad**	**5.78**	**24**	*e*Pn	**Pn**	**09 17 51.3**	**+1.3**
TRNA	**Turayna**	**5.82**	**173**	P	**Pn**	**09 17 53.7**	**+3.5**
TRNA				S	**Sn**	**09 19 00.5**	**+3.9**
TPRV	**Parvadeh(Tabas**	**5.88**	**63**	*e*Pn	**Pn**	**09 17 53.4**	**+2.2**
QALM	**Alamut, Qazvin**	**5.88**	**2**	*e*Pn	**Pn**	**09 17 52.4**	**+1.0**
IPRN	**Peran**	**5.91**	**15**	*e*Pn	**Pn**	**09 17 53.6**	**+2.0**
GENO	**Geno**	**5.93**	**120**	*e*Pn	**Pn**	**09 17 55.1**	**+3.2**
TNSJ	**Nastanj**	**6.26**	**55**	*e*Pn	**Pn**	**09 17 57.9**	**+1.6**
ZNJK	**Zanjan**	**6.29**	**347**	*e*Pn	**Pn**	**09 17 59.4**	**+2.5**
TKDS	**Koohdasht(Taba**	**6.46**	**60**	*e*Pn	**Pn**	**09 18 01.3**	**+2.1**
TABS	**Tabas**	**6.47**	**60**	*e*Pn	**Pn**	**09 18 01.6**	**+2.3**
SLWR	**Sila**	**6.54**	**170**	P	Pn	09 18 06.7	+6.7
SLWR				S	**Sn**	**09 19 16.3**	**+2.0**
IGLO	**Ghaloghah**	**6.60**	**25**	*e*Pn	**Pn**	**09 18 03.2**	**+2.1**
SHME	**Shamm**	**6.74**	**130**	P	**Pn**	**09 18 04.1**	**+1.3**
SHME				S	**Sn**	**09 19 17.8**	**-1.3**
SHME	**Shamm**	**6.74**	**130**	P	**Pn**	**09 18 03.7**	**+0.9**
GHWR	**Ruwais**	**6.90**	**161**	P	Pn	09 18 12.0	+7.0
BANOM	**Banah**	**6.93**	**130**	P	**Pn**	**09 18 06.9**	**+1.5**
BANOM				S	**Sn**	**09 19 24.0**	**0.0**
	SNR=11						
BANOM	**Banah**	**6.93**	**130**	*i* P	**Pn**	**09 18 06.8**	**+1.4**
	SNR=26						
BANOM				S	**Sn**	**09 19 22.1**	**-1.9**
KBAM	**BAM**	**7.11**	**99**	*e*Pn	**Pn**	**09 18 10.3**	**+2.2**
SHRO	**Shahrood**	**7.17**	**39**	*e*Pn	**Pn**	**09 18 10.9**	**+1.9**
AJN	**Ajban**	**7.20**	**145**	P	**Pn**	**09 18 12.3**	**+3.1**
AJN				S	**Sn**	**09 19 31.7**	**+1.2**
AJN	**Ajban**	**7.20**	**145**	P	**Pn**	**09 18 11.0**	**+1.8**
NAZ	**Nazwa, Dubai**	**7.21**	**139**	*i* P	**Pn**	**09 18 10.9**	**+1.5**
	SNR=7.5						
MSFE	**Esma-Masafi**	**7.23**	**134**	P	**Pn**	**09 18 11.0**	**+1.3**
ASUD	**Al Ashush, Dub**	**7.32**	**142**	P	**Pn**	**09 18 13.2**	**+2.3**
	SNR=40						
ASUD				S	**Sn**	**09 19 33.5**	**-0.1**
ASUD	**Al Ashush, Dub**	**7.32**	**142**	*i* P	**Pn**	**09 18 12.8**	**+2.0**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**7.37**	**140**	P	**Pn**	**09 18 14.2**	**+2.7**
FAQ				S	**Sn**	**09 19 34.2**	**-0.5**
FAQ	**Al Faqa, Dubai**	**7.37**	**140**	P	**Pn**	**09 18 13.2**	**+1.7**
UOSS	**Minazif**	**7.56**	**136**	Pn	**Pn**	**09 18 16.1**	**+1.9**
UOSS					**Sn**	**09 19 36.9**	**-2.7**
BSRN	**Basiran**	**7.59**	**77**	*e*Pn	Pn	09 18 01.6	-13
HATD	**Hatta, Dubai**	**7.61**	**137**	P	**Pn**	**09 18 15.8**	**+0.9**
	SNR=6.0						
HATD				S	**Sn**	**09 19 39.0**	**-1.8**
HATD	**Hatta, Dubai**	**7.61**	**137**	P	**Pn**	**09 18 16.0**	**+1.1**
ASHO	**Ashiyiah**	**7.68**	**138**	P	**Pn**	**09 18 16.7**	**+0.9**
	SNR=13						
ASHO				S	**Sn**	**09 19 41.0**	**-1.4**
ASHO	**Ashiyiah**	**7.68**	**138**	*i* P	**Pn**	**09 18 16.7**	**+0.9**
	SNR=13						
AFRZ	**Afriz**	**7.85**	**66**	*e*Pn	**Pn**	**09 18 19.6**	**+1.4**
MZR	**Muzera**	**7.98**	**159**	P	**Pn**	**09 18 22.5**	**+2.5**
	SNR=5.5						
MZR	**Muzera**	**7.98**	**159**	*i* P	**Pn**	**09 18 21.8**	**+1.8**
	SNR=11						
ALNE	**Al Ain**	**8.01**	**142**	*i* P	**Pn**	**09 18 22.0**	**+1.8**
	SNR=7.6						
RAYN	**Ar Rayn**	**8.24**	**213**	P	**Pn**	**09 18 24.1**	**+0.4**
RAYN	**Ar Rayn**	**8.24**	**213**		**Pn**	**09 18 24.1**	**+0.4**
RAYN	**Ar Rayn**	**8.24**	**213**	P	**Pn**	**09 18 24.0**	**+0.4**
RAYN				S	**Sn**	**09 19 54.7**	**-1.7**
RAYN	**Ar Rayn**	**8.24**	**213**	*i* P	**Pn**	**09 18 24.0**	**+0.4**
	SNR=32						
SBZV	**Sabzevar**	**8.37**	**44**	*e*Pn	**Pn**	**09 18 27.9**	**+2.4**
SOHO	**SOHO**	**8.38**	**138**	P	**Pn**	**09 18 25.8**	**+0.5**
SOHO				S	**Sn**	**09 19 55.6**	**-3.9**
GRMI	**Germi**	**8.51**	**347**	*e*Pn	**Pn**	**09 18 30.1**	**+2.8**
MRVT	**Maraveh tapeh**	**8.52**	**32**	*e*Pn	**Pn**	**09 18 29.6**	**+2.3**
UMZA	**Um Al Zommool**	**8.87**	**150**	P	**Pn**	**09 18 33.3**	**+1.2**
UMZA				S	**Sn**	**09 20 07.9**	**-3.7**
SHRT	**Shahrakht**	**8.93**	**67**	*e*Pn	Pn	09 18 28.8	-4.2
ARQ	**Araqi**	**9.00**	**141**	P	**Pn**	**09 18 35.5**	**+1.5**
ARQ				S	**Sn**	**09 20 13.3**	**-1.6**
ISFR	**Sfrayin**	**9.05**	**42**	*e*Pn	**Pn**	**09 18 37.1**	**+2.2**
BJRD	**Bojnurd**	**9.20**	**37**	*e*Pn	**Pn**	**09 18 39.5**	**+2.8**
HOQ	**Hoqain**	**9.25**	**137**	P	**Pn**	**09 18 38.6**	**+1.2**
HOQ				S	**Sn**	**09 20 17.9**	**-3.2**
TBJM	**Torbat-e-JAM**	**9.57**	**58**	*e*Pn	**Pn**	**09 18 44.3**	**+2.4**
GEYT	**Alibeck**	**9.74**	**39**	Pn	**Pn**	**09 18 44.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=224,slow=10,SNR=3.1						
GEYT				LR	LR	09 22 22.7	
	comp=Z,74nm,18.9s,baz=236,slow=37						
GYA0B	**ALIBECK ARRAY**	**9.74**	**39**	Pn	**Pn**	**09 18 45.1**	**+1.1**
BIDO	**Bidbid**	**9.79**	**134**	P	**Pn**	**09 18 48.8**	**+4.0**
BIDO				S	**Sn**	**09 20 32.6**	**-1.8**
BSY	**Bisya**	**9.84**	**140**	P	**Pn**	**09 18 46.3**	**+0.8**
	SNR=30						
BSY				S	**Sn**	**09 20 32.4**	**-3.3**
JRKH	**Jarkhoshk**	**9.89**	**55**	*e*Pn	**Pn**	**09 18 49.0**	**+2.8**
IMYA	**Miami**	**9.94**	**52**	*e*Pn	**Pn**	**09 18 48.3**	**+1.3**
SMDO	**Samad**	**10.09**	**136**	P	**Pn**	**09 18 50.2**	**+1.2**
SMDO				S	**Sn**	**09 20 38.9**	**-2.9**
CHBR	**Chabahar**	**10.15**	**117**	*e*Pn	**Pn**	**09 18 50.4**	**+0.7**
WSAR	**Wadi Sarin**	**10.31**	**133**	Pn	**Pn**	**09 18 51.6**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=345,slow=7.5,SNR=13						
WSAR				Sn	**Sn**	**09 20 42.6**	**-4.7**
	comp=Z,1.9nm,0.3s,baz=259,slow=23,SNR=5.9						
MARD	**Mardin**	**10.48**	**313**	Pn	**Pn**	**09 18 54.5**	**+0.2**
JMDO	**Jabal Madar**	**10.65**	**138**	P	**Pn**	**09 18 59.2**	**+2.7**
JMDO				S	**Sn**	**09 20 50.6**	**-4.9**
JLN	**Jalan Bani Buh**	**11.60**	**134**	P	**Pn**	**09 19 08.7**	**-0.9**
JLN				S	**Sn**	**09 21 12.7**	**-6.0**
ASF	**Jabal al Asfar**	**11.68**	**282**	Pn	**Pn**	**09 19 09.7**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=63,slow=21,SNR=6.2						
MHTO	**MHTO**	**11.68**	**143**	P	**Pn**	**09 19 10.9**	**+0.2**
MHTO				S	**Sn**	**09 21 14.6**	**-6.2**
DOK	**Doka**	**12.33**	**163**	P	**Pn**	**09 19 20.8**	**+1.3**
DOK				S	**Sn**	**09 21 29.3**	**-7.4**
DQM	**DQM**	**12.36**	**147**	P	**Pn**	**09 19 19.0**	**-1.0**
	SNR=7.2						
DQM				S	**Sn**	**09 21 31.0**	**-6.4**
MAK	**Makhachkala**	**12.62**	**350**	*i* P	**Pn**	**09 19 24.2**	**+0.8**
WHFO	**Wadi Hawf**	**12.92**	**166**	P	**Pn**	**09 19 29.0**	**+1.3**
	SNR=8.0						
MMAI	**Mount Meron Ar**	**13.02**	**285**	LR	LR	09 25 56.1	
	comp=Z,156nm,18.3s,baz=242,slow=44						
ABTO	**Aybut**	**13.38**	**168**	P	**Pn**	**09 19 35.5**	**+1.6**
NEY	**Neytrino**	**14.10**	**336**	*i* P	**Pn**	**09 19 43.3**	**-0.4**
KBZ	**Khabaz**	**14.46**	**338**	Pn	**Pn**	**09 19 51.0**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=165,slow=5.4,SNR=2.1						
KBZ	**Khabaz**	**14.46**	**338**	*i* P	**Pn**	**09 19 49.0**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**14.73**	**338**	*e*P	**Pn**	**09 19 53.7**	**+1.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARXR	**Arkhyz**	**14.90**	**333**	*i* P	**Pn**	**09 19 55.1**	**+0.4**
BR131	**Keskin Array S**	**16.49**	**308**	*i* P	**Pn**	**09 20 15.7**	**+0.4**
BRTR	**Keskin Array B**	**16.49**	**308**	Pn	**Pn**	**09 20 15.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=135,slow=16,SNR=1.9						
BRTR				LR	LR	09 28 16.9	
	comp=Z,109nm,19.0s,baz=132,slow=43						
CHGR	**Chuyangaron**	**17.40**	**57**	P	**Pn**	**09 20 28.1**	**+1.3**
CHGR				IAmb	IAmb	09 20 34.9	
	comp=Z,30nm,1.0s						
ANN	**Anapa**	**17.53**	**328**	*e*P	**Pn**	**09 20 27.0**	**-1.2**
ANN				*e*S	**Sn**	**09 23 42.0**	**-1.0**
ANN				pmax	pmax		
	comp=Z,45nm,1.0s						
GAR	**Garm**	**18.37**	**57**	P	**P**	**09 20 39.5**	**+0.7**
ABKAR	**Akbulak array**	**20.04**	**18**	P	**P**	**09 20 57.0**	**+0.2**
ABKAR	**Akbulak array**	**20.04**	**18**	P	**P**	**09 20 56.9**	**+0.1**
ABKAR				IAmb	IAmb	09 21 18.5	
	comp=Z,2.6nm,0.8s						
AKTO	**Aktyubinsk**	**20.68**	**14**	P	**P**	**09 21 04.2**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=193,slow=13,SNR=8.2						
VRH	**Novokhopyorsk**	**21.64**	**345**	*e*P	**P**	**09 21 12.8**	**-1.2**
VRH				pmax	pmax		
	comp=Z,40nm,0.6s						
IDI	**Anoyia**	**21.93**	**289**	P	**P**	**09 21 17.4**	**0.0**
	comp=Z,3.1nm,0.3s,baz=187,slow=14,SNR=1.6						
IDI	**Anoyia**	**21.93**	**289**	P	**P**	**09 21 20.6**	**+3.2**
ALN	**Alexandroupoli**	**22.26**	**304**	P	**P**	**09 21 22.1**	**+1.3**
ALN				pmax	pmax		
	comp=Z,41nm,1.5s						
ALN	**Alexandroupoli**	**22.26**	**304**	P	**P**	**09 21 22.1**	**+1.3**
KSH	**Kashi**	**22.70**	**60**	P	**P**	**09 21 21.5**	**-4.2**
KSH				pP	pP	09 21 30.1	-0.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AAK	**Ala-Archa**	**22.71**	**51**	P	**P**	**09 21 27.2**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=217,slow=12,SNR=1.6						
AAK	**Ala-Archa**	**22.71**	**51**	*i* P	**P**	**09 21 25.5**	**-0.3**
AAK	**Ala-Archa**	**22.71**	**51**	P	**P**	**09 21 26.6**	**+0.8**
LPSR	**Galich'ya Gora**	**23.61**	**342**	*e*P	**P**	**09 21 32.6**	**-2.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOOM	**Boomskoye usch**	**23.63**	**53**	P	**P**	**09 21 36.2**	**+1.1**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOOM	**Boomskoye usch**	**23.63**	**53**	P	**P**	**09 21 36.2**	**+1.1**
BOOM				IAmb	IAmb	09 21 38.7	
	comp=Z,4.3nm,0.7s						
MLR	**Muntele Rosu**	**24.26**	**315**	P	**P**	**09 21 42.5**	**+1.5**
	comp=Z,4.4nm,0.7s,baz=101,slow=16,SNR=5.2						
MLR	**Muntele Rosu**	**24.26**	**315**	P	**P**	**09 21 42.9**	**+1.9**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MLR	**Muntele Rosu**	**24.26**	**315**	P	**P**	**09 21 42.9**	**+1.9**
MLR				IAmb	IAmb	09 21 49.0	
	comp=Z,9.3nm,0.8s						

AGG	Agios Georgios	24.51	298	P	P	09 21 44.0	+0.8
AGG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AGG	Agios Georgios	24.51	298	P	P	09 21 44.0	+0.8
AGG				IAmb	IAmb	09 21 50.3	
	comp=Z,6.6nm,0.9s						
ITM	Ithomi	24.52	293	P	P	09 21 44.4	+1.1
AKASG	Malin Array Be	25.62	328	P	P	09 21 52.4	-0.6
	comp=Z,0.8nm,0.5s,baz=130,slow=8.0,SNR=10.0						
AKASG	Malin Array Be	25.62	328	P	P	09 21 55.7	+2.6
AKBB	Malin Array Si	25.62	328	P	P	09 21 53.3	+0.3
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKBB	Malin Array Si	25.62	328	P	P	09 21 53.3	+0.3
AKBB				IAmb	IAmb	09 21 59.0	
	comp=Z,4.1nm,0.8s						
BUR08	Bucovina Ar. S	25.81	319	P	P	09 21 56.1	+1.1
BUR08				IAmb	IAmb	09 22 01.3	
	comp=Z,5.6nm,0.9s						
OBN	Obninsk	26.48	342⇓	eP	P	09 22 01.7	+0.9
OBN				*PP	sP	09 22 07.0	-1.3
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,81nm,12.0s						
ARU	Arti	26.51	10	P	P	09 22 03.2	+2.1
	comp=Z,2.0nm,0.2s,baz=278,slow=8.0,SNR=5.2						
ARU	Arti	26.51	10c	iP	P	09 22 01.6	+0.5
ARU						09 22 39.3	
ARU				S	S	09 26 36.0	+1.6
ARU				SS	SnSn	09 27 37.9	+1.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ARU	Arti	26.51	10	IAmb	IAmb	09 22 14.2	
	comp=Z,6.0nm,1.0s						
BRVK	Borovoye	26.77	27c	eP	P	09 22 03.5	+0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BVAR	Borovoye Array	26.78	27	P	P	09 22 04.3	+0.7
	comp=Z,1.6nm,0.6s,baz=40,slow=4.8,SNR=13						
KIRV	Kirov	28.06	359c	eP	P	09 22 13.0	-1.9
KURBB	Kurchatov Arra	29.02	38	P	P	09 22 25.0	+1.4
	comp=Z,4.6nm,0.7s,baz=240,slow=9.5,SNR=36						
KURK	Kurchatov	29.12	38c	eP	P	09 22 25.3	+0.8
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	Kurchatov	29.12	38	P	P	09 22 25.8	+1.4
KURK				IAmb	IAmb	09 22 26.7	
	comp=Z,6.7nm,0.8s						
MK31	Makanchi Array	29.45	48	P	P	09 22 28.1	+0.6
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	29.45	48	P	P	09 22 28.1	+0.6
MK31				IAmb	IAmb	09 22 29.5	
	comp=Z,2.2nm,0.8s						
MKAR	Makanchi Array	29.45	48	P	P	09 22 28.9	+1.3
	comp=Z,1.5nm,0.5s,baz=242,slow=9.2,SNR=28						
MKAR				PcP	PcP	09 25 32.2	-0.8
	comp=Z,0.4nm,0.5s,baz=259,slow=2.5,SNR=5.1						
MKAR	Makanchi Array	29.45	48	P	P	09 22 28.7	+1.1
KLMR	Klimovskoe	31.18	350	eP	P	09 22 40.0	-2.5
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KLMR	Klimovskoe	31.18	350	eP	P	09 22 40.0	-2.5
KLMR				AMP		09 22 47.8	
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	33.24	314	P	P	09 23 00.1	-0.9
	comp=Z,0.2nm,0.3s,baz=92,slow=9.8,SNR=1.8						
KHC	Kasperske Hory	33.41	314	i P	P	09 23 01.4	-1.0
KHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	Zalesovo Beam	34.05	37	P	P	09 23 08.2	+0.5
	comp=Z,4.4nm,0.5s,baz=258,slow=9.1,SNR=18						
FINES	FINESS Array B	34.81	340	P	P	09 23 13.3	-0.9
	comp=Z,1.1nm,0.4s,baz=141,slow=11,SNR=9.7						
FINES				PcP	PcP	09 25 47.1	-0.1
	comp=Z,0.5nm,0.5s,baz=132,slow=4.1,SNR=1.6						
DAVOX	Davos/Dischmat	35.13	309	P	P	09 23 17.6	+0.1
	comp=Z,0.9nm,0.3s,baz=356,slow=16,SNR=1.7						
HFS	Hagfors	38.39	331	P	P	09 23 43.8	-1.0
	comp=Z,1.8nm,0.4s,baz=144,slow=10,SNR=14						
NB2	NORSAR Subarra	39.91	331	P	P	09 23 56.1	-1.5
	comp=Z,0.4nm,0.5s,baz=122,slow=8.6						
NOA	NORSAR Array B	39.91	331	P	P	09 23 56.2	-1.4
	comp=Z,0.5nm,0.5s,baz=122,slow=8.4,SNR=3.7						
GTA	Gaotai	41.00	64	eP	P	09 24 08.5	+1.5
GTA				pP	sP	09 24 15.4	+0.8
GTA				sP	pP	09 24 18.4	+6.0
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARCES	ARCESS Array B	41.55	347	P	P	09 24 10.2	-0.7
	comp=Z,1.8nm,0.8s,baz=117,slow=4.2,SNR=5.4						
ESDC	Sonseca Array	44.83	297	P	P	09 24 37.9	-0.1
	comp=Z,0.3nm,0.5s,baz=80,slow=6.7,SNR=1.5						
EKA	Eskdalemuir Ar	44.96	319	P	P	09 24 37.7	-1.0
	comp=Z,0.4nm,0.4s,baz=88,slow=7.5,SNR=2.3						
CMAR	Chiang Mai Arr	45.45	94	P	P	09 24 43.3	+0.2
	comp=Z,0.8nm,0.3s,baz=297,slow=8.0,SNR=5.7						
SONM	Songino Array	45.66	51	P	P	09 24 45.4	+0.8
	comp=Z,1.0nm,0.6s,baz=271,slow=7.8,SNR=7.0						
ULN	Ulaanbaatar	46.11	51c	eP	P	09 24 47.5	-0.6
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
MDT	Midelt	46.44	288	P	P	09 24 50.5	-0.4
	comp=Z,3.7nm,0.7s,baz=81,slow=10,SNR=1.8						
TOA0	Torodi Ar. Sit	48.03	260	P	P	09 25 03.6	+0.3
TOA0				IAmb	IAmb	09 25 09.8	
	comp=Z,2.1nm,0.7s						
TORD	Torodi Ar. Bea	48.03	260	P	P	09 25 03.6	+0.2
	comp=Z,2.1nm,0.6s,baz=57,slow=9.1,SNR=16						
TORD	Torodi Ar. Bea	48.03	260	P	P	09 25 03.5	+0.2
TORD				IAmb	IAmb	09 25 24.6	
	comp=Z,2.6nm,1.2s						
SPITS	Spitsbergen Ar	50.05	351	P	P	09 25 18.0	0.0
	comp=Z,0.6nm,0.4s,baz=137,slow=10.0,SNR=14						
SPITS	Spitsbergen Ar	50.05	351	P	P	09 25 18.0	0.0
BOD	Bodaibo	50.77	38	eP	P	09 25 24.0	+0.4
BOD				pmax	pmax		
	comp=Z,34nm,0.9s						
KOWA	Kowa	52.28	265	P	P	09 25 36.3	+0.7
	comp=Z,6.7nm,0.5s,baz=58,slow=7.7,SNR=18						
KOWA	Kowa	52.28	265	P	P	09 25 35.7	+0.2
TIXI	Tiksi	57.71	22	LR	LR	09 55 28.6	
	comp=Z,25nm,19.1s,baz=183,slow=41						
LBTB	Lobatse	60.14	206	P	P	09 26 30.5	-1.0
	comp=Z,1.3nm,0.6s,baz=29,slow=10,SNR=2.0						
KLR	Kul'dur	62.16	47	LR	LR	09 56 28.5	
	comp=Z,43nm,18.8s,baz=20,slow=39						
KLR	Kul'dur	62.16	47c	eP	P	09 26 42.6	-2.3
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSRS	Korea Array	62.95	61	P	P	09 26 50.5	+0.2
	comp=Z,4.1nm,0.5s,baz=284,slow=6.8,SNR=18						
BOSA	Boshof	63.53	205	P	P	09 26 54.0	-0.2
	comp=Z,1.9nm,0.7s,baz=24,slow=8.7,SNR=3.2						
BOSA	Boshof	63.53	205	IAmb	IAmb	09 27 01.5	
	comp=Z,6.9nm,1.2s						
BILL	Bilibino	70.92	21⇑	eP	P	09 27 40.7	+0.1
BILL				eSS	SS	09 41 25.3	-1.6
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,30nm,14.0s						
ILAR	Eielson Array	84.05	7	P	P	09 28 53.5	-0.5
	comp=Z,0.5nm,0.6s,baz=326,slow=4.2,SNR=16						
YKA	Yellowknife Ar	86.52	353	P	P	09 29 06.2	-0.2
	comp=Z,0.4nm,0.4s,baz=7.7,slow=5.0,SNR=12						
WRA	Warramunga Arr	94.90	110	P	P	09 29 45.6	-0.8
	comp=Z,0.3nm,0.8s,baz=322,slow=4.2,SNR=2.1						
ASAR	Alice Springs	96.43	114	P	P	09 29 52.3	-0.9
	comp=Z,0.3nm,0.7s,baz=299,slow=4.5,SNR=7.5						

IDC 10 09:25:15.2±3.1, 53.°46N×87.°34E, h0km, mb1 2.8/2, mb1mx2.7/50, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.7km s-min=15.8km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.58	289	i		09 36 18.8	
	baz=106,slow=339,SNR=2.1						
ZALV	Zalesovo Beam	1.58	289	Pg	Pn	09 25 43.3	-1.1
	0.6nm,0.3s,baz=108,slow=12,SNR=7.4						
ZALV				Lg	Lg	09 26 05.1	
	0.8nm,0.3s,baz=107,slow=28,SNR=7.0						
KURBB	Kurchatov Arra	6.14	246	Pn	Pn	09 26 47.7	+0.7
	0.1nm,0.3s,baz=63,slow=14,SNR=6.2						
MKAR	Makanchi Array	7.42	208	Pn	Pn	09 27 06.3	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=2.8						
MKAR				Lg	Lg	09 29 08.0	
	0.0nm,0.3s,baz=28,slow=31,SNR=2.2						

*IDC **10** 09:56:33.0±1.7, 59.°94N×153.°73W, h128km±29km, mb3.4/2, mb1 3.4/7, mb1mx3.1/51, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/46, Error ellipse: s-maj=30.2km s-min=17.3km az=124.0*

*ANF **10** 09:56:33.4±0.2, 59.°92N×153.°59W, h146km±2km, ML3.6/42, Error ellipse: s-maj=2.1km s-min=1.8km az=115.0*

*NEIC **10** 09:56:33.7±1.1, 59.°96N±0.°02×153.°65W±0.°08, h151km±5km, Error ellipse: s-maj=6.3km s-min=2.4km az=68.0*

*AEIC **10** 09:56:34±1.0, 59.°95N±0.°04×153.°68W±0.°09, h149km±1km, ML3.2, ML3.3/104(NEIC), Error ellipse: s-maj=6.7km s-min=6.0km az=137.0*

ISC 10 09:56:33.9±0.8, 59.°94N±0.°03×153.°63W±0.°03, h154km±5km, n234, σ1.°05/238, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IVE	Iliamna Volcan	0.32	76		Pn	09 56 54.5	-0.5
IVE					Sn	09 57 10.7	-0.5
OPT	Oil Point	0.35	145		Pn	09 56 55.0	0.0
O19K	Port Alsworth	0.43	307		Pn	09 56 54.4	-0.9
O19K	Port Alsworth	0.43	307		Sn	09 57 09.9	-1.8
O19K	Port Alsworth	0.43	307	IAML		09 56 56.4	
	comp=N,92nm,0.4s						
O19K	Port Alsworth	0.43	307	P	Pn	09 56 54.5	-0.8
	baz=128,SNR=36						
O19K				S	Sn	09 57 09.6	-2.1
	baz=128						
AUL	Augustine Lava	0.57	170		Pn	09 56 56.0	0.0
AUH	Augustine H	0.59	171		Pn	09 56 56.3	+0.1
AU22	Augustine Moun	0.59	166		Pn	09 56 56.0	0.0
AU22					Sn	09 57 12.8	-0.1
AGU	Augustine-Summ	0.59	170		Pn	09 56 56.3	+0.1
AUQ	Augustine Qik'	0.60	170		Pn	09 56 56.7	+0.5
RED	Redoubt Volcan	0.64	41		Pn	09 56 56.0	-0.5
RDWB	Redoubt West	0.68	35		Pn	09 56 56.3	-0.5
RDWB					Sn	09 57 13.4	-1.0
RSO	Redoubt South	0.68	39		Pn	09 56 56.4	-0.5
NCT	North Crescent	0.71	29		Pn	09 56 56.6	-0.4
RDJH	Redoubt Jeurge	0.77	32		Pn	09 56 57.1	-0.2
O18K	Koktuh Hills	0.80	265		Pn	09 56 57.0	-0.4
O18K					Sn	09 57 14.4	-1.1
O18K	Koktuh Hills	0.80	265	P	Pn	09 56 57.1	-0.4
	baz=83						
O18K				S	Sn	09 57 14.0	-1.5
	baz=83						
DFR	Drift River	0.81	35		Pn	09 56 57.2	-0.4
DFR					Sn	09 57 14.8	-0.9
RDT	Redoubt	0.88	43		Pn	09 56 57.8	-0.3
N19K	Bonanza Creek	0.97	334		Pn	09 56 58.4	-0.5
N19K	Bonanza Creek	0.97	334	P	Pn	09 56 58.4	-0.5
	baz=155,SNR=17						
N19K				S	Sn	09 57 16.1	-1.9
	baz=155						
P18K	Big Mountain,	0.98	237		Pn	09 56 58.4	-0.5
P18K					Sn	09 57 16.6	-1.4
P18K	Big Mountain,	0.98	237	P	Pn	09 56 58.1	-0.7
	baz=54						
P18K				S	Sn	09 57 16.6	-1.4
	baz=54						
Q19K	Cape Douglas,	1.01	181		Pn	09 56 58.9	-0.3
Q19K	Cape Douglas,	1.01	181	IAML		09 57 23.4	
	comp=N,644nm,0.8s						
Q19K				IAML		09 57 25.9	
	comp=E,901nm,0.9s						
Q19K	Cape Douglas,	1.01	181	P	Pn	09 56 58.9	-0.3
	baz=359						
Q19K				S	Sn	09 57 17.4	-1.0
	baz=359						
HOM	Homer	1.04	105		Pn	09 56 59.4	+0.1
HOM	Homer	1.04	105	IAML		09 57 20.7	
	comp=E,410nm,0.4s						
HOM				IAML		09 57 23.8	
	comp=N,452nm,0.9s						
HOM	Homer	1.04	105	P	Pn	09 56 59.4	+0.1
	baz=287,SNR=7.2						
HOM				S	Sn	09 57 18.5	-0.2
	baz=287						
CNPM	China Poot	1.28	108		Pn	09 57 01.4	-0.2
CNPM	China Poot	1.28	108	IAML		09 57 23.0	
	comp=N,253nm,0.3s						
CNPM				IAML		09 57 24.0	
	comp=E,254nm,0.2s						
BRLK	Bradley Lake	1.39	96		Pn	09 57 02.5	-0.2
BRLK	Bradley Lake	1.39	96	IAML		09 57 24.8	
	comp=E,597nm,0.2s						
BRLK				IAML		09 57 26.2	
	comp=N,501nm,0.1s						
SPCR	Spurr Chakacha	1.45	28		Pn	09 57 03.2	0.0
SPCR	Spurr Chakacha	1.45	28	P	Pn	09 57 03.2	0.0
	baz=210,SNR=23						
SPCR				S	Sn	09 57 24.9	-0.8
	baz=210						
SPBG	Spurr Blockage	1.46	25		Pn	09 57 03.7	+0.3
SPBG					Sn	09 57 26.2	+0.1
SPU	Mount Spurr	1.47	31		Pn	09 56 59.4	-4.0
BRSE	Bradley Lake S	1.47	97		Pn	09 57 03.2	-0.2
BRSE					Sn	09 57 24.8	-1.3
BRSE	Bradley Lake S	1.47	97	P	Pn	09 57 03.3	-0.1
	baz=279,SNR=24						
BRSE				S	Sn	09 57 24.6	-1.4
	baz=279						
SPCN	Chakachatna No	1.47	28		Pn	09 57 03.7	+0.3
CAPN	Captain Cook N	1.48	55		Pn	09 57 05.0	+1.5
CAPN					Sn	09 57 26.9	+0.7
CAPN	Captain Cook N	1.48	55	P	Pn	09 57 04.9	+1.5
	baz=238,SNR=5.9						
SVW2	Sparrevohn	1.51	321		Pn	09 57 03.2	-0.6
CRP	Crater Peak	1.52	28		Pn	09 57 04.3	+0.3
SPCG	Spurr Capps Gl	1.57	30		Pn	09 57 04.6	0.0
SLKM	Skilak Lake	1.79	70		Pn	09 57 06.6	-0.3
SLKM					Sn	09 57 30.3	-1.9
STLK	Strandline Lak	1.79	29		Pn	09 57 07.0	+0.1
M19K	Big River Lodg	2.00	350		Pn	09 57 08.7	-0.5
M19K	Big River Lodg	2.00	350	P	Pn	09 57 08.7	-0.5
	baz=170						
O22K	Cooper Landing	2.02	73		Pn	09 57 09.6	+0.2
O22K					Sn	09 57 35.3	-1.5
O22K	Cooper Landing	2.02	73	P	Pn	09 57 09.5	+0.2
	baz=256,SNR=11						
O22K				S	Sn	09 57 35.0	-1.7
	baz=256						
FIS	Fire Island	2.07	53		Pn	09 57 10.5	+0.6
SEW	Seward	2.10	84		Pn	09 57 10.2	-0.1
SEW	Seward	2.10	84	P	Pn	09 57 10.3	-0.1
	baz=268,SNR=13						
SEW				S	Sn	09 57 36.3	-2.1
	baz=268						
KDAK	Kodiak Island	2.23	165	P	Pn	09 57 10.5	-1.4
	comp=N,4.0nm,0.3s,baz=0.0,slow=13,SNR=61						
KDAK				S	Sn	09 57 38.3	-2.8
	comp=N,33nm,0.3s,baz=225,slow=21,SNR=61						
KDAK	Kodiak Island	2.23	165	IAML		09 57 39.6	
	comp=N,236nm,0.2s						
KDAK				IAML		09 57 40.4	
	comp=N,267nm,0.3s						
KDAK	Kodiak Island	2.23	165	P	Pn	09 57 10.5	-1.4
	baz=346						
KDAK				S	Sn	09 57 38.5	-2.7
	baz=346						
RC01	Rabbit Creek A	2.24	57		Pn	09 57 11.3	-0.7
RC01	Rabbit Creek A	2.24	57	IAML		09 57 41.2	
	comp=N,356nm,0.3s						
RC01				IAML		09 57 41.3	
	comp=E,317nm,0.3s						
RC01	Rabbit Creek A	2.24	57	P	Pn	09 57 11.2	-0.7
	baz=241						
RC01				S	Sn	09 57 39.9	-1.6
	baz=241						
L19K	White Mountain	2.33	346	Pn	Pn	09 57 12.3	-0.7
L19K	White Mountain	2.33	346	P	Pn	09 57 12.4	-0.6
	baz=165						
M22K	Willow	2.50	42		Pn	09 57 14.6	-0.4
M22K	Willow	2.50	42	IAML		09 57 49.3	
	comp=E,339nm,0.5s						
M22K	Willow	2.50	42	P	Pn	09 57 14.5	-0.6
	baz=225,SNR=14						
M22K				S	Sn	09 57 46.1	-0.8
	baz=225						
L20K	Farewell, AK	2.55	357		Pn	09 57 15.6	-0.1
L20K	Farewell, AK	2.55	357	P	Pn	09 57 15.6	-0.1
	baz=178,SNR=15						
PLK3	Peulik 3	2.64	212		Pn	09 57 17.5	+0.6
OHAK	Old Harbor	2.73	176		Pn	09 57 16.3	-1.7
OHAK	Old Harbor	2.73	176	IAML		09 57 50.6	
	comp=E,170nm,0.6s						
OHAK				IAML		09 57 51.5	
	comp=N,181nm,0.5s						
OHAK	Old Harbor	2.73	176	P	Pn	09 57 16.3	-1.7
	baz=356						
OHAK				S	Sn	09 57 49.0	-3.0
	baz=356						
PMR	Palmer	2.76	51		Pn	09 57 16.7	-1.5
PMR	Palmer	2.76	51	IAML		09 57 52.0	
	comp=N,80nm,0.4s						
PMR				IAML		09 57 52.6	
	comp=E,60nm,0.4s						
PMR	Palmer	2.76	51	P	Pn	09 57 16.5	-1.7
	baz=235						
PMR				S	Sn	09 57 49.6	-3.0
	baz=235						
PWL	Port Wells	2.78	68		Pn	09 57 17.5	-1.1
PWL	Port Wells	2.78	68	IAML		09 57 54.0	
	comp=E,196nm,0.3s						
PWL	Port Wells	2.78	68	P	Pn	09 57 17.3	-1.3
	baz=253						
PWL				S	Sn	09 57 50.8	-2.4
	baz=253						
KNK	Knik Glacier	2.94	58		Pn	09 57 19.1	-1.4
KNK	Knik Glacier	2.94	58	IAML		09 57 56.4	
	comp=E,169nm,0.8s						
KNK				IAML		09 57 56.8	
	comp=N,184nm,0.6s						
KNK	Knik Glacier	2.94	58	P	Pn	09 57 19.1	-1.4
	baz=242						
KNK				S	Sn	09 57 54.4	-2.3
	baz=242						
GHO	Glory Hole Cre	2.94	49		Pn	09 57 19.2	-1.4
GHO	Glory Hole Cre	2.94	49	IAML		09 57 55.1	
	comp=E,154nm,0.7s						
GHO				IAML		09 57 55.2	
	comp=N,129nm,0.7s						
CUT	Chulitna	2.96	32		Pn	09 57 20.5	-0.2
CUT	Chulitna	2.96	32	IAML		09 57 59.0	
	comp=N,189nm,0.3s						
CUT	Chulitna	2.96	32	P	Pn	09 57 20.5	-0.2
	baz=215,SNR=32						
CUT				S	Sn	09 57 55.6	-1.5
	baz=215						
PPLA	Purkeypile	3.05	12	P	Pn	09 57 22.9	+0.9
	baz=194,SNR=6.7						
TT01	Tatalina	3.19	340		Pn	09 57 23.1	-0.5
SML	Sawmill	3.19	52		Pn	09 57 22.3	-1.5
SML	Sawmill	3.19	52	IAML		09 58 03.9	
	comp=N,88nm,0.5s						
SML				IAML		09 58 07.7	
	comp=E,91nm,0.7s						
SML	Sawmill	3.19	52	P	Pn	09 57 22.3	-1.5
	baz=237						
SML				S	Sn	09 57 59.6	-2.9
	baz=237						
TTA	Tatalina	3.21	340		Pn	09 57 23.3	-0.7
TTA	Tatalina	3.21	340	P	Pn	09 57 23.3	-0.7
	baz=158,SNR=11						
GLI	Glacier Island	3.37	71		Pn	09 57 25.7	-0.4
GLI	Glacier Island	3.37	71	IAML		09 58 11.3	
	comp=E,126nm,0.5s						
GLI				IAML		09 58 22.8	
	comp=N,110nm,0.7s						
GLI	Glacier Island	3.37	71	P	Pn	09 57 25.5	-0.5
	baz=257						
SII	Sitkinak Islan	3.40	185		Pn	09 57 25.0	-1.5
SII	Sitkinak Islan	3.40	185	P	Pn	09 57 25.1	-1.5
	baz=4.3						
K20K	Telida	3.44	357		Pn	09 57 26.6	-0.2
K20K	Telida	3.44	357	P	Pn	09 57 26.7	-0.2
	baz=177						
CAST	Castle Rocks	3.57	11	Pn	Pn	09 57 28.7	+0.1
CAST	Castle Rocks	3.57	11	P	Pn	09 57 28.6	+0.1
	baz=193,SNR=40						
SCM	Sheep Creek Mo	3.62	56		Pn	09 57 27.9	-1.2
SCM	Sheep Creek Mo	3.62	56	IAML		09 58 12.1	
	comp=E,141nm,0.9s						
SCM	Sheep Creek Mo	3.62	56	P	Pn	09 57 28.0	-1.2
	baz=241						
FID	Port Fidalgo	3.64	74		Pn	09 57 28.7	-0.8
JPK	Jack Peak	3.65	69		Pn	09 57 29.8	+0.1
KTH	Kantishna Hill	3.85	18		Pn	09 57 31.9	-0.3
TRF	Thorofare Moun	3.86	23		Pn	09 57 32.1	-0.4
TRF	Thorofare Moun	3.86	23	IAML		09 58 15.8	
	comp=E,31nm,4.6s						
TRF				IAML		09 58 18.6	
	comp=N,29nm,0.5s						
TRF	Thorofare Moun	3.86	23	P	Pn	09 57 32.1	-0.4
	baz=206,SNR=14						
WAT6	Susitna Watana	3.88	44		Pn	09 57 31.6	-1.2
WAT6	Susitna Watana	3.88	44	P	Pn	09 57 31.6	-1.2
	baz=230,SNR=8.9						
EYAK	Cordova Ski Ar	3.97	78		Pn	09 57 33.5	-0.2
EYAK	Cordova Ski Ar	3.97	78	P	Pn	09 57 33.4	-0.4
	baz=265						
CHUM	Lake Minchumin	4.00	8		Pn	09 57 34.4	+0.3
CHUM	Lake Minchumin	4.00	8	P	Pn	09 57 34.2	+0.1
	baz=190,SNR=14						
DIV	Divide	4.06	70		Pn	09 57 34.5	-0.4
KLU	Klutina	4.09	64		Pn	09 57 34.6	-0.8
KLU	Klutina	4.09	64	P	Pn	09 57 34.2	-1.2
	baz=251,SNR=12						
RND	Reindeer	4.16	31		Pn	09 57 35.6	-0.6
RND	Reindeer	4.16	31	IAML		09 58 25.1	
	comp=N,18nm,1.0s						
RND				IAML		09 58 52.2	
	comp=E,16nm,3.9s						
M24K	Tolsona, Glenn	4.23	56		Pn	09 57 36.8	-0.3
M24K	Tolsona, Glenn	4.23	56	P	Pn	09 57 36.4	-0.7
	baz=243,SNR=5.3						
J20K	Nowinta River	4.26	357		Pn	09 57 37.4	-0.1
J20K	Nowinta River	4.26	357	P	Pn	09 57 37.3	-0.1
	baz=177						
CHIR	Chirikof Islan	4.26	195	P	Pn	09 57 35.7	-1.9
	baz=13						
DHY	Denali Highway	4.34	41		Pn	09 57 37.8	-0.9
DHY	Denali Highway	4.34	41	IAML		09 58 29.2	
	comp=E,63nm,0.3s						
DHY				IAML		09 58 29.7	
	comp=N,48nm,0.3s						
DHY	Denali Highway	4.34	41	P	Pn	09 57 37.8	-0.9
	baz=227,SNR=19						
BPAW	Bear Paw Mtn.	4.36	15		Pn	09 57 38.3	-0.5
BPAW	Bear Paw Mtn.	4.36	15	IAML		09 58 55.8	
	comp=E,13nm,4.2s						
BPAW				IAML		09 58 56.1	
	comp=N,14nm,3.7s						
BPAW	Bear Paw Mtn.	4.36	15	P	Pn	09 57 38.1	-0.7
	baz=198,SNR=15						
MCK	McKinley	4.41	28		Pn	09 57 39.3	-0.1
MCK	McKinley	4.41	28	IAML		09 58 43.0	
	comp=E,17nm,3.1s						
MCK				IAML		09 59 03.3	
	comp=N,21nm,4.7s						
MCK	McKinley	4.41	28	P	Pn	09 57 39.0	-0.5
	baz=213,SNR=19						
CHGN	Chignik	4.45	217		Pn	09 57 39.3	-0.6
CHGN				IAML		09 58 31.7	
	comp=E,32nm,0.1s						
CHGN				IAML		09 58 31.9	
	comp=N,40nm,1.0s						
CHGN	Chignik	4.45	217	P	Pn	09 57 39.4	-0.6
	baz=32,SNR=7.6						
RAGM	Ragged Mountai	4.50	80	Pn	Pn	09 57 39.3	-1.4
PS11	TAPS Pump St11	4.51	58		Pn	09 57 40.7	-0.1
BMRM	Bremner River	4.58	73		Pn	09 57 41.5	-0.3
BMRM	Bremner River	4.58	73	P	Pn	09 57 41.6	-0.3
	baz=261						
BWN	Browne	4.68	23		Pn	09 57 43.1	+0.2
BWN	Browne	4.68	23	IAML		09 58 43.8	
	comp=E,32nm,4.3s						
BWN				IAML		09 59 06.9	
	comp=N,35nm,4.0s						
N25K	Chitina, Valde	4.73	65		Pn	09 57 43.1	-0.6
N25K	Chitina, Valde	4.73	65	P	Pn	09 57 42.9	-0.9

	baz=254,SNR=9.4						
HARP	**HAARP**	**4.78**	**55**		**Pn**	**09 57 44.0**	**-0.4**
HARP	**HAARP**	**4.78**	**55**	P	**Pn**	**09 57 43.8**	**-0.6**
	baz=243						
PAX	**Paxson**	**4.95**	**49**		**Pn**	**09 57 46.1**	**-0.6**
PAX	**Paxson**	**4.95**	**49**	P	**Pn**	**09 57 46.1**	**-0.6**
	baz=236,SNR=8.3						
GLB	**Gilahina Butte**	**5.05**	**68**		**Pn**	**09 57 47.3**	**-0.7**
GLB	**Gilahina Butte**	**5.05**	**68**	IAML		09 58 48.1	
	comp=E,33nm,0.7s						
GCSA	**Galena City Sc**	**5.06**	**344**	P	**Pn**	**09 57 47.2**	**-0.7**
	baz=161						
PS10	**TAPS Pump St10**	**5.12**	**44**		**Pn**	**09 57 49.2**	**+0.4**
NEA2	**Nenana**	**5.13**	**23**		**Pn**	**09 57 47.9**	**-1.1**
NEA2	**Nenana**	**5.13**	**23**	IAML		09 58 59.0	
	comp=N,11nm,4.1s						
NEA2				IAML		09 59 51.7	
	comp=E,9.9nm,4.7s						
NEA2	**Nenana**	**5.13**	**23**	P	**Pn**	**09 57 47.8**	**-1.1**
	baz=207,SNR=34						
VRDI	**Verde Repeater**	**5.18**	**71**		**Pn**	**09 57 49.4**	**-0.4**
VRDI	**Verde Repeater**	**5.18**	**71**	IAML		09 58 49.8	
	comp=E,35nm,0.4s						
WRH	**Wood River Hil**	**5.23**	**27**		**Pn**	**09 57 49.4**	**-0.9**
WRH	**Wood River Hil**	**5.23**	**27**	IAML		09 58 48.0	
	comp=N,13nm,2.4s						
WRH				IAML		09 59 24.7	
	comp=E,12nm,2.8s						
MLY	**Manley**	**5.28**	**13**		**Pn**	**09 57 50.1**	**-0.9**
MLY	**Manley**	**5.28**	**13**	IAML		09 58 56.1	
	comp=N,9.4nm,4.8s						
MLY				IAML		10 01 05.8	
	comp=E,8.4nm,4.8s						
MLY	**Manley**	**5.28**	**13**	P	**Pn**	**09 57 49.7**	**-1.2**
	baz=196,SNR=20						
I21K	**Tanana**	**5.31**	**8**		**Pn**	**09 57 51.0**	**-0.3**
I21K				IAML		09 59 14.3	
	comp=E,17nm,3.6s						
I21K				IAML		10 00 16.5	
	comp=N,16nm,5.0s						
I21K	**Tanana**	**5.31**	**8**	P	**Pn**	**09 57 50.7**	**-0.7**
	baz=189						
WAX	**Waxell Ridge**	**5.40**	**80**		**Pn**	**09 57 52.6**	**0.0**
MCARA	**McCarthy VSAT**	**5.41**	**70**		**Pn**	**09 57 53.1**	**+0.4**
MCARA	**McCarthy VSAT**	**5.41**	**70**	P	**Pn**	**09 57 52.8**	**+0.1**
	baz=259						
CCB	**Clear Creek Bu**	**5.45**	**27**		**Pn**	**09 57 51.9**	**-1.1**
HDA	**Harding Lake**	**5.47**	**32**		**Pn**	**09 57 52.5**	**-0.9**
HDA	**Harding Lake**	**5.47**	**32**	P	**Pn**	**09 57 52.5**	**-0.9**
	baz=218,SNR=37						
I23K	**Minto, Yukon-K**	**5.59**	**19**		**Pn**	**09 57 54.4**	**-0.5**
I23K	**Minto, Yukon-K**	**5.59**	**19**	P	**Pn**	**09 57 53.7**	**-1.2**
	baz=203,SNR=72						
PS08	**TAPS Pump Stn8**	**5.61**	**32**		**Pn**	**09 57 54.4**	**-0.8**
MDM	**Murphy Dome**	**5.62**	**24**		**Pn**	**09 57 54.6**	**-0.8**
MENT	**Mentasta**	**5.62**	**53**		**Pn**	**09 57 55.0**	**-0.5**
TCOL	**CIGO, UAF Yank**	**5.63**	**26**		**Pn**	**09 57 54.6**	**-0.8**
TCOL	**CIGO, UAF Yank**	**5.63**	**26**	P	**Pn**	**09 57 54.6**	**-0.8**
	baz=211,SNR=29						
COLA	**College**	**5.63**	**26**		**Pn**	**09 57 54.6**	**-0.9**
COLA	**College**	**5.63**	**26**	P	**Pn**	**09 57 54.7**	**-0.8**
	baz=211						
RIDG	**Independent Ri**	**5.64**	**44**		**Pn**	**09 57 55.5**	**-0.3**
RIDG	**Independent Ri**	**5.64**	**44**	P	**Pn**	**09 57 55.3**	**-0.4**
	baz=232,SNR=14						
PTPK	**Patty Peak**	**5.65**	**72**		**Pn**	**09 57 56.2**	**+0.3**
ISLE	**Juniper Island**	**5.66**	**78**	Pn	**Pn**	**09 57 56.0**	**0.0**
KIAG	**Kiagna River**	**5.67**	**75**		**Pn**	**09 57 56.5**	**+0.3**
H21K	**Melozitna Rive**	**5.75**	**3**		**Pn**	**09 57 56.9**	**-0.3**
H21K	**Melozitna Rive**	**5.75**	**3**	P	**Pn**	**09 57 56.9**	**-0.3**
	baz=184						
ILAR	**Eielson Array**	**5.77**	**30**	P	**Pn**	**09 57 56.3**	**-1.1**
	comp=N,7.4nm,0.3s,baz=215,slow=13,SNR=456						
ILAR				S	**Sn**	**09 58 57.5**	**-5.3**
	comp=N,1.3nm,0.3s,baz=213,slow=21,SNR=5.0						
L26K	**Log Cabin Wild**	**5.81**	**53**		**Pn**	**09 57 58.0**	**-0.1**
L26K	**Log Cabin Wild**	**5.81**	**53**	P	**Pn**	**09 57 57.9**	**-0.1**
	baz=243						
DOT	**Dot Lake**	**5.86**	**47**		**Pn**	**09 57 58.0**	**-0.6**
POKR	**Poker Plat Res**	**5.93**	**26**		**Pn**	**09 57 59.1**	**-0.4**
POKR	**Poker Plat Res**	**5.93**	**26**	P	**Pn**	**09 57 59.1**	**-0.4**
	baz=212,SNR=18						
BARN	**Barnard Glacie**	**6.02**	**74**		**Pn**	**09 58 01.5**	**+0.6**
J25K	**Salcha River,**	**6.07**	**36**		**Pn**	**09 58 00.7**	**-0.7**
J25K	**Salcha River,**	**6.07**	**36**	P	**Pn**	**09 58 00.7**	**-0.7**
	baz=223,SNR=20						
IM03		**6.07**	**360**		**Pn**	**09 58 01.4**	**+0.2**
IMAR	**Indian Mountai**	**6.07**	**360**		**Pn**	**09 58 01.4**	**+0.1**
SCRK	**Sand Creek**	**6.09**	**44**		**Pn**	**09 58 00.7**	**-1.0**
SCRK	**Sand Creek**	**6.09**	**44**	P	**Pn**	**09 58 00.7**	**-1.0**
	baz=233						
CTG	**Chitna Glacier**	**6.17**	**75**	P	**Pn**	**09 58 03.5**	**+0.6**
	baz=266						
CTGM	**Chitina Glacie**	**6.17**	**75**		**Pn**	**09 58 03.5**	**+0.6**
M27K	**Edge Creek, AK**	**6.18**	**62**	P	**Pn**	**09 58 03.7**	**+0.7**
	baz=252						
H23K	**Yukon River**	**6.19**	**16**		**Pn**	**09 58 02.9**	**-0.2**
H23K	**Yukon River**	**6.19**	**16**	P	**Pn**	**09 58 02.9**	**-0.2**
	baz=200,SNR=48						
L27K	**Beaver Creek,**	**6.46**	**56**	P	**Pn**	**09 58 06.2**	**-0.3**
	baz=246						
H24K	**Noodor Dome**	**6.47**	**21**		**Pn**	**09 58 05.7**	**-1.1**
H24K	**Noodor Dome**	**6.47**	**21**	P	**Pn**	**09 58 06.0**	**-0.8**
	baz=207						
BC03		**6.47**	**56**		**Pn**	**09 58 06.7**	**0.0**
YUK2	**White River**	**6.51**	**68**		**Pn**	**09 58 08.0**	**+0.6**
J26L	**Joseph Creek**	**6.56**	**41**	P	**Pn**	**09 58 07.1**	**-0.8**
	baz=230						
BVCY	**Beaver Creek**	**6.65**	**63**	P	**Pn**	**09 58 10.1**	**+0.9**
	baz=254						
YUK3	**Moose Creek**	**6.69**	**68**		**Pn**	**09 58 10.3**	**+0.5**
YUK3	**Moose Creek**	**6.69**	**68**	P	**Pn**	**09 58 10.5**	**+0.6**
	baz=260						
PRP	**Porcupine Dome**	**6.72**	**30**		**Pn**	**09 58 09.5**	**-0.6**
PRP	**Porcupine Dome**	**6.72**	**30**	P	**Pn**	**09 58 09.4**	**-0.6**
	baz=218,SNR=21						
PNL	**Peninsula**	**7.18**	**86**		**Pn**	**09 58 16.7**	**+0.4**
COLD	**Coldfoot**	**7.47**	**10**		**Pn**	**09 58 19.8**	**-0.2**
COLD	**Coldfoot**	**7.47**	**10**	P	**Pn**	**09 58 19.8**	**-0.2**
	baz=194,SNR=7.7						
EGAK	**Eagle**	**7.55**	**45**		**Pn**	**09 58 20.1**	**-1.0**
EGAK	**Eagle**	**7.55**	**45**	P	**Pn**	**09 58 20.3**	**-0.8**
	baz=236						
FYU	**Fort Yukon**	**7.64**	**26**	Pn	**Pn**	**09 58 21.3**	**-1.0**
DAWY	**Dawson**	**7.87**	**52**	P	**Pn**	**09 58 25.3**	**0.0**
	baz=245						
TOLK	**Toolik Lake Re**	**8.91**	**10**	P	**Pn**	**09 58 39.3**	**+0.2**
	baz=193						
INK	**Inuvik**	**12.08**	**38**	P	**Pn**	**09 59 20.4**	**-0.3**
	comp=N,0.3nm,0.3s,baz=221,slow=13,SNR=13						
INK	**Inuvik**	**12.08**	**38**		**Pn**	**09 59 20.9**	**+0.2**
INK	**Inuvik**	**12.08**	**38**	P	**Pn**	**09 59 20.5**	**-0.2**
	baz=236						
DLBC	**Dease Lake**	**12.18**	**87**	P	**Pn**	**09 59 24.6**	**+2.5**
	comp=N,0.1nm,0.3s,baz=328,slow=15,SNR=1.7						
DLBC				S	**Sn**	**10 01 37.7**	**+1.0**
	comp=N,0.0nm,0.3s,baz=157,slow=15,SNR=1.5						
C36M	**Paulatuk**	**15.59**	**41**	P	**Pn**	**10 00 04.5**	**-0.5**
	baz=248						
YKA	**Yellowknife Ar**	**18.76**	**65**	P	**P**	**10 00 42.0**	**+1.3**
	comp=N,0.1nm,0.3s,baz=277,slow=10,SNR=5.7						
KSRS	**Korea Array**	**52.88**	**282**	LR	LR	10 29 20.4	
	comp=N,19nm,18.4s,baz=25,slow=37						
SONM	**Songino Array**	**54.57**	**305**	P	**P**	**10 05 47.7**	**+1.9**
	comp=N,0.2nm,0.5s,baz=30,slow=6.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.23**	**323**	P	**P**	**10 06 05.2**	**+0.8**
	comp=N,0.7nm,0.4s,baz=15,slow=6.2,SNR=4.2						

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*DDA **10** 10:00:27.9±0.0, 38.°35N×39.°27E, h2km±1km, ML1.9*
*ISK **10** 10:00:28.1, 38.°44N×39.°32E, h4km, ML2.6/3*
ISC 10 10:00:28.8±0.9**, 38.°40N**±0.°03×**39.°31E**±0.°03**, h6**km±7km**,**
n12, σ**0.s77**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.02**	**184**	PG	**Pg**	**10 00 30.1**	**0.0**
ELZG	**Elazig**	**0.27**	**292**	P	**Pg**	**10 00 34.1**	**0.0**
ELZG				S	**Sg**	**10 00 38.1**	**+0.3**
ELZG				*i* AML	AML	10 00 39.0	
	comp=E,302nm,0.2s						
ELZG				*i* AML	AML	10 00 39.0	
	comp=N,222nm,0.2s						
KOVA	**Elazig, Kovanc**	**0.50**	**52**	P	**Pg**	**10 00 38.6**	**+0.2**
KOVA				S	**Sb**	**10 00 47.1**	**-0.5**
KOVA				*i* AML	AML	10 00 50.0	
	comp=E,35nm,0.4s						
TNCL	**Tunceli-Merkez**	**0.74**	**14**	P	**Pg**	**10 00 41.8**	**-1.2**
TNCL				S	**Sg**	**10 00 52.8**	**+0.1**
TNCL				*i* AML	AML	10 00 57.0	
	comp=E,34nm,0.6s						
DIYA	**Diyarbakir**	**0.80**	**126**	P	**Pb**	**10 00 44.6**	**-0.4**
DIYA				S	**Sb**	**10 00 56.4**	**+0.4**
DIYA				*i* AML	AML	10 01 00.0	
	comp=E,36nm,0.2s						
DIYA				*i* AML	AML	10 01 02.0	
	comp=N,42nm,0.3s						
HANI	**Diyarbakir_Han**	**0.86**	**88**	P	**Pb**	**10 00 45.3**	**-0.8**
HANI				S	**Sb**	**10 00 58.0**	**+0.1**
HANI				*i* AML	AML	10 01 01.0	
	comp=N,23nm,0.3s						
HANI				*i* AML	AML	10 01 01.0	
	comp=E,19nm,0.4s						
ARPR	**Arapgir-MALATY**	**1.03**	**313**	PG	**Pg**	**10 00 47.9**	**-0.6**
ARPR				SG	**Sb**	**10 01 02.5**	**-0.5**
KEMA	**Kemaliye**	**1.08**	**324**	P	**Pn**	**10 00 52.7**	**+2.2**
KEMA				S	**Sg**	**10 01 03.1**	**-0.4**
KEMA				*i* AML	AML	10 01 06.0	
	comp=N,22nm,0.6s						
KEMA				*i* AML	AML	10 01 08.0	
	comp=E,15nm,0.5s						
AKCD	**Akcadag**	**1.09**	**265**	P	**Pg**	**10 00 48.8**	**-1.0**
AKCD				S	**Sb**	**10 01 04.8**	**+0.1**
AKCD				*i* AML	AML	10 01 05.0	
	comp=N,56nm,0.2s						
AKCD				*i* AML	AML	10 01 06.0	
	comp=E,31nm,0.2s						
SVAN	**Silvan-Diyarba**	**1.51**	**99**	PN	**Pb**	**10 00 56.6**	**-0.6**
SVAN				SN	**Sg**	**10 01 17.2**	**0.0**
MARD	**Mardin**	**1.59**	**132**	P	**Pb**	**10 00 57.8**	**-0.8**
MARD				S	**Sn**	**10 01 18.2**	**-0.3**
MARD				*i* AML	AML	10 01 20.0	
	comp=N,26nm,0.4s						
MARD				*i* AML	AML	10 01 23.0	
	comp=E,25nm,0.3s						
SURC	**SANLIURFA_SURC**	**1.61**	**200**	P	**Pg**	**10 00 59.4**	**-0.2**
SURC				S	**Sg**	**10 01 19.7**	**-0.9**
SURC				*i* AML	AML	10 01 21.0	
	comp=E,21nm,0.8s						
SURC				*i* AML	AML	10 01 22.0	
	comp=N,24nm,0.6s						

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*SOME **10** 10:01:44.0, 43.°68N×69.°85E*
*NNC **10** 10:01:46.0±1.3, 43.°64N×69.°79E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=9.4km s-min=3.8km az=132.0, Suspected Mining explosion.*
ISC 10 10:01:48.9±2.4**, 43.°54N**±0.°09×**69.°9E**±0.°1**, h0**km**, n12,**
σ**1.s38**/15**, 2C-3D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.52**	**187**	P	**Pb**	**10 02 01.9**	**+1.0**
	2.6nm,0.2s						
BRLS				S	**Sn**	**10 02 14.9**	**+1.8**
	17nm,0.3s						
KK09	**Karatay Array**	**0.59**	**135**	⇑P	**Pg**	**10 01 58.4**	**-1.8**
	0.7nm,0.2s,baz=319,slow=17						
KK09				⇓S	**Sb**	**10 02 10.7**	**-0.4**
	12nm,0.4s,baz=315,slow=29						
IUG	**Iuzhnay**	**1.40**	**177**	P	**Pg**	**10 02 13.4**	**-2.3**
	312nm,0.3s						
IUG				S	**Sg**	**10 02 34.2**	**+0.4**
	63nm,0.4s						
MRKS	**Merke**	**2.54**	**107**	Pg	**Pg**	**10 02 36.6**	**-1.0**
	2.0nm,0.2s						
MRKS				Lg	Lg	10 03 13.8	
	12nm,0.5s						
BTLS	**Baital**	**3.31**	**62**	Pg	**Pb**	**10 02 49.2**	**+0.6**
	10nm,0.5s						
BTLS				Lg	Lg	10 03 34.9	
	2.0nm,0.3s						
SGDS	**Sogindy**	**3.42**	**90**	Pg	**Pb**	**10 02 50.2**	**-0.3**
	1.7nm,0.4s						
SGDS				Lg	Lg	10 03 36.9	
	3.8nm,0.3s						
AAK	**Ala-Archa**	**3.46**	**104**	Pg	**Pb**	**10 02 52.5**	**+1.3**
	2.4nm,0.5s						
AAK				⇓Lg	Lg	10 03 40.2	
	6.6nm,0.7s						
KRBS	**Karabastau**	**4.18**	**86**	Pg	**Pb**	**10 03 04.0**	**+0.7**
	2.7nm,0.5s						
KRBS				Lg	Lg	10 04 01.6	
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**4.19**	**97**	⇑Pg	**Pb**	**10 03 04.8**	**+1.1**
	1.5nm,0.5s						
TKM2				⇓Lg	Lg	10 04 01.6	
	4.9nm,0.6s						
DGS	**Degeres**	**4.27**	**92**	Pg	**Pb**	**10 03 05.9**	**+1.0**
	1.0nm,0.5s						
DGS				Lg	Lg	10 04 03.9	
	4.8nm,0.7s						
KUU	**Kurty**	**4.66**	**83**	Pg	**Pb**	**10 03 11.9**	**+0.3**
	0.7nm,0.4s						
KUU				Lg	Lg	10 04 14.2	
	6.7nm,0.5s						
TNSS	**Tian-Shan**	**5.15**	**93**	Pg	**Pb**	**10 03 22.1**	**+2.0**
	1.3nm,0.4s						
TNSS				Lg	Lg	10 04 31.6	
	3.1nm,0.6s						

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*NEIC **10** 10:07:16.3±1.1, 4.°37S±0.°09×153.°64E±0.°05, h95km±8km, mb4.3/13, Error ellipse: s-maj=14.7km s-min=5.2km az=157.0*
*IDC **10** 10:07:17.5±2.8, 4.°42S×153.°52E, h109km±20km, mb3.6/9, mb1 3.8/10, mb1mx3.6/37, mbtmp4.0/10, Error ellipse: s-maj=33.2km s-min=15.9km az=103.0*
ISC 10 10:07:15.1±0.7**, 4.°38S**±0.°09×**153.°69E**±0.°08**, h85**km**, n28,**
σ**1.s14**/31**, mb4.1**/15**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.54**	**277**	Pn	**Pn**	**10 07 42.3**	**+1.2**
KRVT	**Keravat (AS076**	**1.66**	**272**	P	**Pn**	**10 07 44.1**	**+1.4**
	17nm,0.3s,baz=276,slow=0.2,SNR=12						
KRVT				S	**Sn**	**10 08 04.3**	**+0.6**
	26nm,0.3s,baz=30,slow=23,SNR=9.8						
HNR	**Honiara**	**7.99**	**129**	Pn	**Pn**	**10 09 10.2**	**+1.7**
PMG	**Port Moresby**	**8.19**	**232**	P	**Pn**	**10 09 12.7**	**+1.5**
	7.1nm,0.3s,baz=39,slow=7.2,SNR=18						
PMG				S	**Sn**	**10 10 41.6**	**-0.5**
	2.7nm,0.3s,baz=134,slow=19,SNR=14						
PMG	**Port Moresby**	**8.19**	**232**		**Pn**	**10 09 12.5**	**+1.3**
PMG					**Sn**	**10 10 41.8**	**-0.3**
COEN	**Coen**	**14.08**	**227**	Pn	**Pn**	**10 10 32.6**	**+1.9**
EIDS	**Eidsvold**	**21.02**	**187**	P	**P**	**10 11 51.6**	**-0.4**
EIDS				IAmb	IAmb	10 12 19.1	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**24.24**	**229**	P	**P**	**10 12 23.4**	**-0.9**
WB0				IAmb	IAmb	10 12 24.7	
	comp=Z,8.3nm,0.5s						
WR0	**Warramunga Arr**	**24.25**	**229**	P	**P**	**10 12 23.3**	**-1.0**
WR0				IAmb	IAmb	10 12 24.8	
	comp=Z,5.1nm,0.8s						
WRAB	**Tennant Creek**	**24.38**	**229**	P	**P**	**10 12 24.0**	**-1.5**
WRAB				IAmb	IAmb	10 12 25.9	
	comp=Z,8.2nm,0.6s						
WB2	**Warramunga Arr**	**24.38**	**229**	P	**P**	**10 12 24.6**	**-1.0**
WB2				IAmb	IAmb	10 12 26.1	
	comp=Z,9.3nm,0.6s						
WRA	**Warramunga Arr**	**24.39**	**229**	P	**P**	**10 12 24.6**	**-1.0**
	comp=Z,6.2nm,0.5s,baz=53,slow=9.8,SNR=55						
WRA				PcP	**PcP**	**10 16 02.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=55,slow=2.5,SNR=3.2						
WRA	**Warramunga Arr**	**24.39**	**229**	IAmb	IAmb	10 12 30.6	
	comp=Z,0.3nm,1.1s						
ARMA	**Armidale**	**25.98**	**184**	P	**P**	**10 12 40.6**	**+0.5**
ARMA				IAmb	IAmb	10 12 58.1	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**27.06**	**223**	P	**P**	**10 12 49.0**	**-0.8**
ASAR	**Alice Springs**	**27.06**	**223**	P	**P**	**10 12 48.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=56,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**10 16 08.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=59,slow=3.9,SNR=4.8						
STKA	**Stephens Creek**	**29.62**	**201**	P	**P**	**10 13 11.3**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=28,slow=13,SNR=13						
FITZ	**Fitzroy Crossi**	**30.64**	**241**	P	**P**	**10 13 19.8**	**-1.8**
	comp=Z,2.4nm,0.5s,baz=65,slow=6.5,SNR=12						
FITZ	**Fitzroy Crossi**	**30.64**	**241**	IAmb	IAmb	10 13 21.2	
	comp=Z,3.0nm,0.6s						
BBOO	**Buckleboo**	**32.74**	**208**	P	**P**	**10 13 39.7**	**-0.2**
FORT	**Forrest**	**35.68**	**220**	P	**P**	**10 14 04.3**	**-1.0**
SONM	**Songino Array**	**66.45**	**327**	P	**P**	**10 17 55.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=150,slow=5.6,SNR=2.5						
VNDA	**Vanda**	**73.22**	**178**	P	**P**	**10 18 36.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=331,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**	**10 19 18.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=98,slow=5.8,SNR=5.7						
ILAR	**Eielson Array**	**81.44**	**22**	P	**P**	**10 19 21.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=250,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**94.64**	**28**	P	**P**	**10 20 26.8**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=266,slow=4.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**151.01**	**289**	PKPbc	**PKPbc**	**10 26 57.2**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=95,slow=1.8,SNR=11						
TORD	**Torodi Ar. Bea**	**151.01**	**289**		**PKPbc**	**10 26 58.1**	**-1.2**

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*SOF **10** 10:14:56.8, 39.°99N×28.°24E, h5km, MD3.8*
*DDA **10** 10:15:01.9±0.0, 39.°97N×27.°65E, h7km, MW3.4*
*ISK **10** 10:15:01.9, 40.°00N×27.°63E, h6km, ML3.5/48*
*IASPEI **10** 10:15:02.3±1.0, 39.°98N±0.°02×27.°65E±0.°02, h7km±8km, Error ellipse: s-maj=3.2km s-min=2.8km az=147.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*THE **10** 10:15:03.1, 39.°97N×27.°64E, h4km±2km, ML3.3/7, Error ellipse: s-maj=2.5km s-min=1.1km az=185.0*
ISC 10 10:15:02.3±0.9**, 39.°99N**±0.°02×**27.°65E**±0.°01**, h8**km±7km**,**
n92, σ**0.s59**/121**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.06**	**29**	PG	**Pg**	**10 15 04.1**	**0.0**
KNL	**Balıkesir**	**0.29**	**342**	P	**Pg**	**10 15 08.5**	**+0.4**
KNL				S	**Sg**	**10 15 13.1**	**+1.0**
EDC	**Edincik**	**0.39**	**25**	PG	**Pg**	**10 15 09.9**	**-0.1**
KRBG	**Karabiga-Canak**	**0.48**	**327**	PG	**Pg**	**10 15 11.7**	**0.0**
KRBG				SG	**Sg**	**10 15 18.5**	**+0.5**
STEP	**BALIKESIR_Sava**	**0.62**	**175**	P	**Pg**	**10 15 13.9**	**-0.3**
STEP				S	**Sg**	**10 15 22.7**	**+0.5**
BUHA	**Balikesir, Bur**	**0.66**	**222**	P	**Pg**	**10 15 14.9**	**-0.1**
BUHA				S	**Sg**	**10 15 23.9**	**+0.4**
MAR6	**Marsite Statio**	**0.77**	**338**	PG	**Pb**	**10 15 17.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.78**	**333**	PG	**Pg**	**10 15 16.8**	**-0.6**
RKY				SG	**Sg**	**10 15 27.5**	**-0.1**
MAR3	**Marsite Statio**	**0.80**	**340**	PG	**Pg**	**10 15 17.7**	**0.0**
DST	**Dursunbey**	**0.84**	**117**	PG	**Pg**	**10 15 17.9**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.88**	**254**	P	**Pg**	**10 15 18.8**	**-0.5**
BAYC				S	**Sg**	**10 15 29.8**	**-0.9**
ORLT	**Orhaneli**	**0.96**	**86**	PG	**Pg**	**10 15 20.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.98**	**295**	PG	**Pg**	**10 15 20.8**	**-0.4**
TKR	**Tekirdag**	**1.00**	**355**	PG	**Pb**	**10 15 21.7**	**-0.2**
EZN	**Ezine**	**1.03**	**261**	P	**Pg**	**10 15 21.6**	**-0.4**
EZN				S	**Sb**	**10 15 36.2**	**+0.2**
	2µm,0.5s						
EZN	**Ezine**	**1.03**	**261**	PG	**Pb**	**10 15 22.3**	**-0.1**
DKL	**Dikili**	**1.08**	**212**	PN	**Pg**	**10 15 22.8**	**-0.3**
ZEDA	**zmir-Bergama**	**1.11**	**203**	P	**Pg**	**10 15 23.1**	**-0.5**
ZEDA				S	**Sn**	**10 15 39.8**	**0.0**
AKS	**Akhisar**	**1.12**	**173**	PN	**Pb**	**10 15 23.7**	**-0.2**
ECEA	**Canakkale, Ece**	**1.13**	**273**	P	**Pb**	**10 15 23.8**	**-0.3**
ECEA				S	**Sn**	**10 15 40.7**	**+0.5**
ULDT	**Uludag**	**1.15**	**82**	P	**Pg**	**10 15 23.9**	**-0.6**
ULDT				S	**Sg**	**10 15 39.3**	**-0.2**
CAND	**Candarli**	**1.22**	**212**	PN	**Pg**	**10 15 25.0**	**-0.8**
IGD	**Bursa**	**1.22**	**77**	P	**Pg**	**10 15 25.4**	**-0.4**
IGD				S	**Sb**	**10 15 41.6**	**-0.1**
BOZC	**Bozcaada**	**1.23**	**264**	PN	**Pb**	**10 15 25.6**	**-0.3**
BOZC				SN	**Sn**	**10 15 42.9**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.26**	**248**	P	**Pg**	**10 15 26.0**	**-0.5**
KOCA				S	**Sb**	**10 15 42.7**	**-0.1**
GEMT	**Gemlik**	**1.26**	**69**	PN	**Pn**	**10 15 26.7**	**+0.4**
GEMT				SN	**Sn**	**10 15 44.1**	**+0.6**
GPNR	**Gulpinar-Canak**	**1.28**	**246**	PN	**Pn**	**10 15 26.3**	**-0.2**
PRK	**Paraskevi**	**1.30**	**235**	P	**Pg**	**10 15 27.4**	**+0.3**
PRK				S	**Sn**	**10 15 45.8**	**+1.6**
	1µm,0.8s						
AVCI	**Avcilar-stanb**	**1.30**	**39**	PN	**Pg**	**10 15 27.4**	**+0.2**
AVCI				SN	**Sn**	**10 15 45.3**	**+1.0**
GOMA	**Golmarmara-Man**	**1.30**	**171**	PN	**Pg**	**10 15 26.9**	**-0.3**
SLVT	**Silivri**	**1.31**	**19**	PN	**Pb**	**10 15 27.0**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.33**	**302**	P	**Pn**	**10 15 26.7**	**-0.5**
CAVK				S	**Sb**	**10 15 44.5**	**-0.2**
GOKA	**anakkale-Gk**	**1.35**	**279**	P	**Pb**	**10 15 27.5**	**-0.3**
GADA	**Gvkgeada**	**1.35**	**279**	P	**Pn**	**10 15 27.3**	**-0.2**
GADA				S	**Sn**	**10 15 45.9**	**+0.2**
	898nm,0.5s						
GADA	**Gvkgeada**	**1.35**	**279**	PN	**Pn**	**10 15 27.5**	**0.0**
ENEZ	**Enez**	**1.36**	**304**	P	**Pn**	**10 15 27.5**	**-0.1**
ENEZ				S	**Sn**	**10 15 46.2**	**+0.3**
	930nm,0.3s						
ENEZ	**Enez**	**1.36**	**304**	PN	**Pn**	**10 15 27.5**	**-0.1**
SMAA	**Simav-Kutahya**	**1.36**	**130**	PN	**Pg**	**10 15 28.0**	**-0.4**
UKOP	**Uzunkopru-Edir**	**1.37**	**326**	PN	**Pg**	**10 15 28.2**	**-0.5**
SIMA	**Simav-Kutahya**	**1.38**	**131**	PN	**Pb**	**10 15 28.0**	**-0.3**
CTKS	**Kestanelik-??a**	**1.41**	**28**	PN	**Pb**	**10 15 28.4**	**-0.4**
YLV	**Yalova**	**1.44**	**66**	PN	**Pn**	**10 15 28.2**	**-0.6**
IZI	**Iznik**	**1.44**	**76**	PN	**Pb**	**10 15 29.1**	**-0.4**
FOCM	**Foa**	**1.46**	**209**	PN	**Pb**	**10 15 29.4**	**-0.3**
BGKT	**Bogazkoy**	**1.47**	**35**	PN	**Pn**	**10 15 28.9**	**-0.2**
TVSB	**Tavsanli**	**1.50**	**111**	PN	**Pn**	**10 15 29.9**	**+0.2**
ALN	**Alexandroupoli**	**1.52**	**307**	P	**Pn**	**10 15 29.8**	**0.0**
ALN				S	**Sg**	**10 15 50.5**	**-0.7**
	510nm,0.4s						
ALN	**Alexandroupoli**	**1.52**	**307**	PN	**Pn**	**10 15 30.1**	**+0.3**
KAVV	**Kandilli-Istan**	**1.52**	**45**	PN	**Pn**	**10 15 29.1**	**-0.7**
ISK	**Istanbul-Kandi**	**1.52**	**45**	P	**Pb**	**10 15 30.4**	**-0.4**
ISK				S	**Sg**	**10 15 50.5**	**-0.7**
ISK	**Istanbul-Kandi**	**1.52**	**45**	PN	**Pb**	**10 15 30.4**	**-0.4**
SHAP	**Saphane-Kutahy**	**1.56**	**128**	PN	**Pn**	**10 15 30.7**	**+0.3**
SIGR	**SIGRI**	**1.59**	**241**	P	**Pn**	**10 15 30.5**	**-0.2**
SIGR				S	**Sn**	**10 15 51.6**	**+0.2**
	750nm,0.6s						
SIGR	**SIGRI**	**1.59**	**241**	PN	**Pn**	**10 15 30.9**	**+0.2**
KLYT	**Kilyos**	**1.65**	**40**	PN	**Pb**	**10 15 32.2**	**-0.8**
MANT	**Manisa**	**1.66**	**154**	P	**Pn**	**10 15 32.2**	**+0.3**
MANT				S	**Sb**	**10 15 54.5**	**+0.1**
GEDZ	**Gediz**	**1.66**	**124**	PN	**Pb**	**10 15 32.6**	**-0.6**
USAK	**Uak-Merkez**	**1.66**	**140**	P	**Pn**	**10 15 32.1**	**+0.3**
USAK				S	**Sg**	**10 15 54.7**	**-0.9**
KULA	**Kula-Manisa**	**1.67**	**152**	P	**Pn**	**10 15 32.2**	**+0.3**
KULA				S	**Sn**	**10 15 53.2**	**-0.5**
KULA	**Kula-Manisa**	**1.67**	**152**	PN	**Pn**	**10 15 32.3**	**+0.3**
SMTH	**Samothraki Isl**	**1.69**	**287**	P	**Pb**	**10 15 32.9**	**-0.7**
SMTH				S	**Sb**	**10 15 55.5**	**+0.4**
	1µm,0.5s						
BILE	**Bilecik/Merkez**	**1.72**	**84**	P	**Pn**	**10 15 32.5**	**-0.2**
BILE				S	**Sg**	**10 15 58.1**	**+0.5**
HRT	**Hereke**	**1.75**	**61**	PN	**Pn**	**10 15 33.7**	**+0.6**
ANDZ	**Kutahya, Merke**	**1.80**	**105**	P	**Pb**	**10 15 35.8**	**+0.1**
ANDZ				S	**Sg**	**10 15 59.9**	**-0.3**
URLA	**Izmir**	**1.82**	**207**	PN	**Pn**	**10 15 34.7**	**+0.7**
KIRK	**Kırklareli**	**1.84**	**347**	P	**Pn**	**10 15 33.9**	**-0.3**
SILT	**Sile**	**1.91**	**52**	PN	**Pn**	**10 15 35.6**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**1.96**	**207**	P	**Pb**	**10 15 37.9**	**-0.4**
EDRB	**Edirne**	**1.98**	**340**	P	**Pn**	**10 15 36.1**	**0.0**
EDRB				S	**Sb**	**10 16 02.9**	**-0.4**
EDRB	**Edirne**	**1.98**	**340**	PN	**Pn**	**10 15 35.9**	**-0.2**
RDO	**Rodhopi**	**1.98**	**306**	P	**Pn**	**10 15 37.0**	**+0.8**
RDO	**Rodhopi**	**1.98**	**306**	PN	**Pn**	**10 15 36.9**	**+0.8**
GMLD	**Gumuldur**	**1.99**	**197**	PN	**Pn**	**10 15 37.0**	**+0.7**
CHOS	**Chios island**	**2.02**	**218**	P	**Pn**	**10 15 35.9**	**-0.9**
CHOS	**Chios island**	**2.02**	**218**	PN	**Pn**	**10 15 37.7**	**+0.9**
BORA	**Eskisehir**	**2.16**	**92**	PN	**Pn**	**10 15 39.8**	**+1.1**
SAUV	**Serdivan-Sakar**	**2.18**	**69**	PN	**Pn**	**10 15 39.9**	**+1.0**
KHL	**Karahalli**	**2.21**	**138**	PN	**Pn**	**10 15 40.5**	**+1.0**
KAYN	**Sakarya, Kayna**	**2.27**	**64**	P	**Pn**	**10 15 39.7**	**-0.5**
SRCK	**Saricakaya, Es**	**2.29**	**88**	PN	**Pn**	**10 15 41.4**	**+1.0**
GCAM	**G?zelcaml?**	**2.31**	**188**	PN	**Pn**	**10 15 41.6**	**+0.9**
THAS	**Thassos island**	**2.32**	**286**	P	**Pn**	**10 15 41.5**	**+0.7**
KDZ	**Kurdzhali**	**2.37**	**315**	*i* P	**Pn**	**10 15 42.7**	**+1.2**
ESKT	**Eskisehir**	**2.52**	**100**	PN	**Pn**	**10 15 44.5**	**+0.9**
JMB	**Yambol**	**2.60**	**342**	P	**Pb**	**10 15 48.2**	**-1.0**
KZIL	**AFYON_Kizioren**	**2.60**	**131**	P	**Pn**	**10 15 45.6**	**+0.8**
DIM	**Dimitrovgrad**	**2.60**	**323**	P	**Pn**	**10 15 45.5**	**+0.8**
CIFT	**Cifteler, Eski**	**2.71**	**102**	PN	**Pn**	**10 15 47.2**	**+0.9**
MDUB	**Mudurnu**	**2.76**	**79**	PN	**Pn**	**10 15 47.8**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RZN	Rozhen	2.79	308	P	Pn	10 15 49.7	+2.2
SZH	Strazhica	3.52	339	P	Pn	10 15 56.9	-0.4
MPEP	Malo Peshtene	4.46	320	P	Pn	10 16 10.8	+0.6

IDC 10 10:37:06.6±415.0**, 13°.70N×78°.87E, h0km, Error ellipse: s-maj=302.1km s-min=139.1km az=121.0, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I52GB	DIEGO GARCIA I	21.88	197	*i*		12 50 00.0	
	baz=18,slow=318,SNR=4.4						
I34MN	SONGINO INFRAS	40.99	28	*i*		14 46 00.0	
	baz=216,slow=336,SNR=1.7						
I39PW	PALAU INFRASON	54.97	90	*i*		16 17 53.9	
	baz=288,slow=319,SNR=1.2						

IDC 10 10:43:58.5±2.4, 6°.49N×126°.17E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, Error ellipse: s-maj=221.5km s-min=28.9km az=66.0
MAN 10 10:44:03.9, 7°.19N×127°.24E, h55km, mb4.3, ML3.1, MS2.8
ISC 10 10:44:03.7±2.4**, 7°.0N**±0°.6×**12°7E**±°**, h50km, n4,** σ**0§27**/6**, mb3.0**/3**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.51	323	⇑*i*P	Pn	10 44 28.2	-0.1
BIPH				*i* S	Sn	10 44 46.8	0.0
WRA	Warramunga Arr	27.64	166	P	P	10 49 46.5	-0.3
	0.3nm,0.7s,baz=341,slow=11,SNR=5.7						
ASAR	Alice Springs	31.14	168	P	P	10 50 18.1	+0.2
	0.1nm,0.5s,baz=345,slow=7.5,SNR=5.4						
ASAR				PcP	PcP	10 53 12.2	-0.2
	0.1nm,0.4s,baz=355,slow=2.3,SNR=1.7						
MKAR	Makanchi Array	55.25	324	P	P	10 53 32.1	+0.2
	0.2nm,0.5s,baz=121,slow=7.4,SNR=3.5						

IDC 10 11:15:54.7±1.2, 26°.26N×129°.21E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/48, mbtmp3.4/5, Error ellipse: s-maj=53.2km s-min=23.8km az=72.0
JMA 10 11:15:58.4±0.3, 25°.88N×128°.55E, h43km, M3.2
ISC 10 11:15:59.3±2.2**, 25°.92N**±0°.07×**128°.55E**±0°.05**, h30km**±17km**, n16,** σ**1§47**/21**, mb3.3**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.72	288	P	Pn	11 16 12.6	-0.8
JJT3				*e*S	Sb	11 16 22.9	-0.1
JNTH	Nagotoyohara	0.76	322	P	Pn	11 16 12.8	-1.2
JOW	Kunigami	0.94	345	P	Pn	11 16 16.2	-0.3
JOW				*e*S	Sn	11 16 29.1	+0.2
JYRO	Yoronjima	1.11	355	P	Pn	11 16 18.4	-0.3
JYRO				*e*S	Sn	11 16 33.1	+0.2
JIH	Iheya	1.23	335	P	Pn	11 16 20.7	+0.3
JAGN	Aguni-jima	1.35	300	P	Pn	11 16 21.8	-0.2
JOKE	Okinoerabujima	1.44	1	P	Pn	11 16 23.6	+0.3
JKE	Kume jima 2	1.64	285	P	Pn	11 16 25.0	-1.0
JTK	Tokunoshima	1.90	11	P	Pn	11 16 30.0	+0.4
JMZ	Minamidaito 2	2.41	92	P	Pn	11 16 36.5	-0.1
JMZ				S	Sn	11 17 03.7	-1.4
JKDJ	Kitadaitoujima	2.48	89	P	Pn	11 16 37.7	+0.2
JKDJ				S	Sn	11 17 05.7	-1.0
SONM	Songino Array	27.97	327	P	P	11 21 49.3	+2.0
	0.6nm,0.8s,baz=130,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	41.95	312	P	P	11 23 47.8	+0.4
	0.2nm,0.4s,baz=97,slow=11,SNR=6.7						
WRA	Warramunga Arr	45.93	172	P	P	11 24 21.4	+1.9
	0.3nm,0.7s,baz=353,slow=8.6,SNR=4.6						
ASAR	Alice Springs	49.56	174	P	P	11 24 49.8	+2.2
	0.2nm,0.8s,baz=353,slow=6.7,SNR=2.1						
ILAR	Eielson Array	64.58	28	P	P	11 26 29.2	-4.2
	0.4nm,0.9s,baz=281,slow=8.4,SNR=2.8						

JMA 10 11:17:22.6±0.4, 25°.87N×128°.54E, h42km, M3.0
IDC 10 11:17:23.6±3.5, 25°.40N×127°.22E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/55, mbtmp3.3/4, Error ellipse: s-maj=221.5km s-min=25.4km az=66.0
ISC 10 11:17:23.6±0.9**, 25°.98N**±0°.08×**128°.56E**±0°.05**, h27km, n14,** σ**1§21**/18**, mb3.3**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.72	283	P	Pn	11 17 36.8	-1.1
JJT3				*e*S	Sn	11 17 47.0	-1.1
JNTH	Nagotoyohara	0.72	318	P	Pn	11 17 36.9	-1.1
JOW	Kunigami	0.89	343	P	Pb	11 17 40.5	+0.1
JOW				*e*S	Sn	11 17 53.4	+1.1
JYRO	Yoronjima	1.04	355	P	Pb	11 17 42.8	-0.2
JIH	Iheya	1.18	333	P	Pb	11 17 45.0	-0.3
JOKE	Okinoerabujima	1.38	0	P	Pb	11 17 48.6	-0.1
JKE	Kume jima 2	1.63	283	P	Pn	11 17 49.3	-1.2
JTK	Tokunoshima	1.83	11	P	Pb	11 17 54.4	-2.0
JMZ	Minamidaito 2	2.40	93	P	Pn	11 18 00.7	-0.4
JMZ				*e*S	Sn	11 18 27.9	-1.7
JKDJ	Kitadaitoujima	2.46	90	P	Pn	11 18 01.9	-0.1
JKDJ				S	Sn	11 18 30.5	-0.7
SONM	Songino Array	27.92	327	P	P	11 23 14.1	+2.5
	0.4nm,0.6s,baz=146,slow=9.2,SNR=2.3						
MKAR	Makanchi Array	41.92	312	P	P	11 25 11.8	-0.1
	0.2nm,0.5s,baz=105,slow=9.9,SNR=2.7						
WRA	Warramunga Arr	45.99	172	P	P	11 25 45.4	+0.8
	0.4nm,0.7s,baz=352,slow=8.4,SNR=2.7						
ASAR	Alice Springs	49.62	174	P	P	11 26 13.7	+0.8
	0.2nm,0.7s,baz=359,slow=7.5,SNR=4.1						

KRSC 10 11:20:45.8±1.8**, 48°.89N**×**157°.79E, h29km**±34km**, ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.10	330	*e*P	Pn	11 21 19.6	+0.7
SKR				*e*S	Sn	11 21 44.0	0.0
PAU	Pauzhetka	2.66	347	*e*P	Pn	11 21 29.2	+2.6
PAU				*e*S	Sn	11 22 00.5	+2.7
KDTR	Khodutka, Kamc	2.93	3	*e*P	Pn	11 21 33.7	+3.4
KDTR				*e*S	Sn	11 22 07.7	+3.2
RUS	Russkaya	3.58	7	*e*P	Pn	11 21 42.8	+3.6
RUS				*e*S	Sn	11 22 25.1	+4.6
MTVR	Mutnovka	3.61	4	*e*P	Pn	11 21 43.7	+3.9
MTVR				*e*S	Sn	11 22 26.4	+4.9
GRL	Gorelyy	3.68	3	*e*P	Pn	11 21 44.9	+4.2
GRL				*e*S	Sn	11 22 28.1	+5.1
KRMR	Karymshinskiy	3.96	3	*e*P	Pn	11 21 48.8	+4.4
KRMR				*e*S	Sb	11 22 37.5	-4.6
APC	Apacha	4.07	355	*e*P	Pn	11 21 49.7	+3.8
DALK	Dalny	4.20	8	*e*P	Pn	11 21 51.8	+4.1
DALK				*e*S	Sn	11 22 40.9	+5.3
UGLR	Uglovaya	4.38	8	*e*P	Pn	11 21 55.0	+4.7
AVH	Avacha	4.43	7	*e*P	Pn	11 21 55.9	+5.0
SMAR	Somma	4.43	8	*e*P	Pn	11 21 56.0	+4.9
KOK	Koryaka	4.45	7	*e*P	Pn	11 21 56.5	+5.3
SDLR	Sedlovina	4.45	9	*e*P	Pn	11 21 55.4	+4.1
KRER	Koryakskii	4.47	7	*e*P	Pn	11 21 57.3	+5.7
GNL	Ganaly	4.82	1	*e*P	Pn	11 22 01.1	+4.8
MKZ	Mys Kozlova	6.18	22	*e*P	Pn	11 22 19.5	+4.6
KBTR	Krutoberegovo	7.95	21	*e*P	Pn	11 22 43.5	+4.4

NNC 10 11:29:06.4±0.9, 51°.44N×75°.54E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=13.0km s-min=6.3km az=17.0, Suspected Mining explosion.
IDC 10 11:29:07.4±1.0, 51°.48N×75°.86E, h0km, mb1 2.8/3, mb1mx2.7/65, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=37.8km s-min=9.1km az=29.0
ISC 10 11:29:07.4±1.1**, 51°.44N**±0°.07×**75°.61E**±0°.06**, h0km, n9,** σ**1§07**/14**, 3C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.01	113	Pg	Pn	11 29 41.3	-1.3
	1.1nm,0.3s,baz=299,slow=17,SNR=26						
KURBB	Kurchatov Arra	2.01	113	⇑Pn	Pn	11 29 41.8	-0.7
	10.0nm,0.4s						
KURK	Kurchatov	2.03	110	⇓Pn	Pn	11 29 41.6	-1.2
	9.0nm,0.7s						
KURK				⇓Sn	Sn	11 30 09.6	+0.8
	13nm,0.4s						
BVAR	Borovoye Array	3.58	298	Pn	Pn	11 30 05.3	+1.1
	0.3nm,0.3s,baz=159,slow=12,SNR=3.0						
BVAR				Pg	Pb	11 30 12.1	+0.4
	0.7nm,0.3s,baz=127,slow=15,SNR=7.1						
BVAR				Sn	Sb	11 30 55.8	+0.2
	2.4nm,0.3s,baz=129,slow=30,SNR=6.0						
BVB5	Borovoye Array	3.60	298	⇑Pn	Pn	11 30 04.3	-0.1
	2.6nm,0.7s						
BVB5				⇓Pg	Pb	11 30 12.7	+0.9
	1.1nm,0.4s						
BVB5				⇓Sn	Sn	11 30 46.2	-1.3
	2.2nm,0.3s						
BVB5				⇓Lg	Lg	11 30 55.5	
	4.4nm,0.5s						
OTUK	Ortayu	3.83	215	⇓Pg	Pb	11 30 17.4	+1.5
	0.6nm,0.3s						
OTUK				⇓Sn	Sn	11 30 52.1	-1.3
	1.3nm,0.4s						
OTUK				⇑Lg	Lg	11 31 05.4	
	1.9nm,0.3s						
I46RU	ZALESOVO INFRA	6.14	62	*i*		12 04 50.0	
	baz=244,slow=326,SNR=2.7						
ZALV	Zalesovo Beam	6.14	62	Pn	Pn	11 30 38.6	-0.6
	0.6nm,0.3s,baz=253,slow=13,SNR=8.7						
MKAR	Makanchi Array	6.38	134	Pn	Pn	11 30 42.3	-0.4
	0.1nm,0.3s,baz=318,slow=11,SNR=6.4						

IDC 10 11:29:59.2±1.2, 50°.06N×78°.66E, h0km, mb1 3.2/2, mb1mx2.9/64, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=23.3km s-min=6.7km az=70.0
ISC 10 11:29:57.8±3.5**, 50°.03N**±0°.09×**78°.3E**±0°.3**, h8km, n7,** σ**1§37**/8**, 2C, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	0.62	15	Pg	Pg	11 30 09.1	-0.6
	5.6nm,0.3s,baz=167,slow=18,SNR=30						
KURBB				Lg	Lg	11 30 19.9	
	6.1nm,0.3s,baz=163,slow=28,SNR=13						
KURBB	Kurchatov Arra	0.62	15	⇑Sn	Pg	11 30 09.4	-0.4
	50nm,0.6s						
MK31	Makanchi Array	4.20	139	Sn	Sb	11 32 01.5	-1.2
	11nm,0.6s,baz=327,slow=27,SNR=14						
MK31	Makanchi Array	4.20	139	⇑Pg	Pn	11 31 03.4	+1.3
	0.5nm,0.2s,baz=321,slow=14,SNR=8.5						
MKAR	Makanchi Array	4.20	139	Pn	Pn	11 31 02.9	+0.8
	0.6nm,0.3s,baz=327,slow=11,SNR=28						
MKAR				Pg	Pb	11 31 10.7	-1.2
	1.2nm,0.3s,baz=318,slow=15,SNR=13						
MKAR				Sn	Sn	11 31 52.9	+1.6
	0.8nm,0.3s,baz=336,slow=24,SNR=5.7						
MKAR				Lg	Lg	11 32 03.6	
	2.4nm,0.3s,baz=328,slow=26,SNR=15						
I46RU	ZALESOVO INFRA	5.64	43	*i*		12 01 50.0	
	baz=219,slow=322,SNR=1.2						
ZALV	Zalesovo Beam	5.64	43	Pn	Pn	11 31 22.9	+1.1
	1.4nm,0.3s,baz=232,slow=13,SNR=13						
ZALV				Lg	Lg	11 32 57.0	
	0.3nm,0.3s,baz=229,slow=21,SNR=1.7						

IDC 10 11:31:00.6±1.4**, 1°.11N**×**128°.31E, h0km, mb3.1**/4**, mb1 3.3**/5**, mb1mx3.2**/56**, mbtmp3.2**/5**, ML3.2**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.5**/18**, Error ellipse: s-maj=62.2km s-min=21.4km az=55.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.55	124	Pn	Pn	11 31 56.4	-0.6
	2.1nm,0.3s,baz=324,slow=19,SNR=5.2						
SIJI				Sn	Sn	11 32 39.9	+0.2
	0.5nm,0.3s,baz=18,slow=19,SNR=1.0						
WRA	Warramunga Arr	21.74	165	P	P	11 35 53.1	-0.7
	0.3nm,0.7s,baz=341,slow=11,SNR=2.1						
ASAR	Alice Springs	25.22	168	P	P	11 36 29.3	+0.9
	0.2nm,0.5s,baz=358,slow=8.3,SNR=3.1						
KLR	Kul'dur	48.03	3	LR	LR	11 59 05.1	
	comp=Z,90nm,21.3s,baz=186,slow=35						
MKAR	Makanchi Array	60.60	325	P	P	11 41 12.1	-1.1
	0.2nm,0.5s,baz=112,slow=8.1,SNR=2.6						
KURBB	Kurchatov Arra	64.78	327	P	P	11 41 41.9	+0.9
	0.3nm,0.6s,baz=134,slow=6.1,SNR=1.3						

ISC 10 11:36:43.0±1.1**, 49°.70N**±0°.06×**17°.76E**±0°.05**, h9km**±11km**, n10,** σ**0§55**/11**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.16	298	*e*PG	Pg	11 36 46.3	-0.2
MORC				*e*SG	Sg	11 36 48.8	-0.2
JAVC	Velka Javorina	0.85	184	*e*PG	Pb	11 36 59.8	-0.1
VRAC	Vranov	0.86	243	*e*PG	Pg	11 36 59.8	+0.3
KRUC	Moravsky	1.10	235	*e*PG	Pg	11 37 04.1	0.0
LANS	Liptovska Anna	1.24	116	*e*PG	Pg	11 37 07.5	+0.6
VYHS	Vyhne	1.40	149	*e*PG	Pn	11 37 08.6	-0.1
OJC	Ojcow	1.41	68	*e*Sg	Sn	11 37 26.6	-1.0
OJC	Ojcow	1.41	68	*e*Pg	Pn	11 37 08.9	0.0
KSP	Ksiaz	1.48	321	*e*Sg	Sg	11 37 31.0	+0.4
KSP	Ksiaz	1.48	321	*e*Pg	Pn	11 37 10.4	+0.6

DJA 10 11:42:06.1±0.6, 9°S±3°×11°1E±°, h26km±6km, M4.3/19, mb4.4/6, mB5.3/2, MLv4.3/19, Mw(mB)4.7/2
NEIC 10 11:42:07.5±2.6, 8°.87S±0°.09×111°.39E±0°.07, h69km±8km, mb3.9/12, Error ellipse: s-maj=14.2km s-min=8.7km az=212.0
IDC 10 11:42:07.1±3.2, 8°.58S×111°.60E, h64km±32km, mb3.6/10, mb1 3.8/12, mb1mx3.5/43, mbtmp3.9/12, ML3.3/2, MS3.2/7, Ms1 3.1/7, ms1mx2.8/67, Error ellipse: s-maj=45.2km s-min=14.9km az=48.0
ISC 10 11:42:05.4±0.9**, 8°.93S**±0°.07×**111°.44E**±0°.04**, h59km**±9km**, n57,** σ**1§63**/58**, mb4.0**/14**, MS3.5**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	0.78	340	P	Pn	11 42 20.3	-0.3
PCJI				S	Sn	11 42 30.4	-1.2
PWJI	Pagerwojo	0.97	22	P	Pn	11 42 23.3	+0.3
PWJI				S	Sn	11 42 35.4	-0.6
UGM	Wanagama	1.36	318		Pn	11 42 29.3	+1.1
UGM	Wanagama	1.36	318	P	Pn	11 42 29.3	+1.1
UGM				S	Sn	11 42 46.3	+0.9
YOGI	Yogyakarta	1.59	314	P	Pn	11 42 31.8	+0.5
YOGI				S	Sn	11 42 52.0	+1.2
GMJI	Gumukmas	2.08	72	P	Pn	11 42 38.8	+0.8
GMJI				S	Sn	11 43 03.5	+0.7
SMRI	Semarang	2.12	332		Pn	11 42 39.9	+1.4
SMRI	Semarang	2.12	332	P	Pn	11 42 40.8	+2.3
TBJI	Tambak Boyo	2.14	11	P	Pn	11 42 40.4	+1.7
GRJI	Gresik	2.25	27	P	Pn	11 42 42.0	+1.7
BLJI	Banyuglugur	2.43	61	P	Pn	11 42 44.7	+1.9
UWJI	Ujung Watu	2.54	349	P	Pn	11 42 45.8	+1.5
JAGI	Jajag, Banyuwa	2.72	81		Pn	11 42 47.8	+1.1
JAGI	Jajag, Banyuwa	2.72	81	P	Pn	11 42 47.6	+0.9
JAGI				S	Sn	11 43 16.0	-2.4
KPJI	Karang Pucung	2.95	302	P	Pn	11 42 51.7	+1.8
ABJI	Asem Bagus	2.98	68	P	Pn	11 42 52.6	+2.3
CMJI	Cimerak	3.17	291	P	Pn	11 42 53.4	+0.5
IGBI	Denpasar	3.66	89	P	Pn	11 43 03.0	+3.4
SRBI	Singaraja	3.82	78	P	Pn	11 43 04.2	+2.4
JCJI	Jatiwangi	3.97	307	S	Sn	11 43 46.4	-2.8
LEM	Lembang	4.33	299	P	Pn	11 43 11.5	+2.6
	3.5nm,0.3s,baz=126,slow=10,SNR=6.5						
LEM				S	Sn	11 44 01.4	+3.2
	9.8nm,0.3s,baz=111,slow=16,SNR=4.8						
LEM				LR	LR	11 45 15.2	
	comp=Z,54nm,21.1s,baz=8.5,slow=44						
CNJI	Cibinong	4.56	290	P	Pn	11 43 12.7	+0.7
XMIS	Christmas Isla	5.91	254	Pn	Pn	11 43 30.0	-0.5
CGJI	Cibinong	6.15	292	P	Pn	11 43 36.4	+2.8
PLAI	Plampang	6.26	90	P	Pn	11 43 37.7	+2.5
	0.2nm30nm,0.8s						
KAPI	Kappang	9.12	65	LR	LR	11 47 52.3	
	comp=Z,42nm,21.4s,baz=226,slow=39						
BSSI	Bau Bau, Buton	9.39	73	P	Pn	11 44 20.0	+1.9
	8.3nm,0.9s						
GIRL	Giralia	13.89	169	Pn	Pn	11 45 18.3	-1.2
PSA00	Pilbara Seismi	14.95	148	Pn	Pn	11 45 32.6	-0.8
PSA00				IAmb	IAmb	11 45 56.9	
	comp=Z,15nm,1.4s						
FITZ	Fitzroy Crossi	16.53	125	P	Pn	11 45 54.3	+0.8
	comp=Z,0.1nm,0.3s,baz=158,slow=6.8,SNR=3.3						
FITZ				S	Sn	11 48 43.5	-13
	comp=Z,0.2nm,0.3s,baz=210,slow=22,SNR=6.2						
FITZ				LR	LR	11 52 56.2	
	comp=Z,55nm,18.2s,baz=93,slow=39						
FITZ	Fitzroy Crossi	16.53	125	Pn	P	11 45 54.6	-0.6
KNRA	Kununurra	18.19	113		Pn	11 46 15.4	+1.4
KNRA				IAmb	IAmb	11 46 34.0	
	comp=Z,7.2nm,1.1s						
DAV	Davao City (W)	21.24	42	LR	LR	11 57 38.6	
	comp=Z,91nm,18.0s,baz=354,slow=45						
DAV	Davao City (W)	21.24	42	P	P	11 46 45.3	-1.4
WB0	Warramunga Arr	24.67	118	P	P	11 47 22.2	+1.3
WB0				IAmb	IAmb	11 47 46.4	
	comp=Z,5.5nm,1.2s						
WRA	Warramunga Arr	24.69	119	P	P	11 47 22.8	+1.6
	comp=Z,0.9nm,0.5s,baz=295,slow=11,SNR=15						
WRA				PcP	PcP	11 50 58.5	+1.2
	comp=Z,0.1nm,0.3s,baz=298,slow=4.1,SNR=5.3						
WRAB	Tennant Creek	24.70	119	P	P	11 47 23.1	+1.9
WRAB				IAmb	IAmb	11 47 39.8	
	comp=Z,3.2nm,0.9s						
WB2	Warramunga Arr	24.70	119	P	P	11 47 22.7	+1.4
WB2				IAmb	IAmb	11 47 36.7	
	comp=Z,9.1nm,1.4s						
WR0	Warramunga Arr	24.87	119	P	P	11 47 25.3	+2.5
WR0				IAmb	IAmb	11 47 25.7	
	comp=Z,9.0nm,1.4s						
ASAR	Alice Springs	26.00	127	P	P	11 47 35.0	+1.9
	comp=Z,0.5nm,0.5s,baz=300,slow=8.7,SNR=16						
ASAR				PcP	PcP	11 51 01.8	+1.5
	comp=Z,0.3nm,0.3s,baz=303,slow=2.0,SNR=5.6						
CMAR	Chiang Mai Arr	29.88	336	P	P	11 48 07.3	-0.3
	comp=Z,0.5nm,0.3s,baz=251,slow=28,SNR=4.2						
COEN	Coen	31.48	102	P	P	11 48 22.5	+0.6
STKA	Stephens Creek	36.11	134	LR	LR	12 05 05.4	
	comp=Z,61nm,18.2s,baz=208,slow=38						
H08S2	Diego Garcia H	38.55	269	T	T	12 30 26.3	
	baz=94,slow=74						
H08S3	Diego Garcia H	38.56	269	T	T	12 30 27.1	
	baz=94,slow=74						
H08S1	Diego Carcia H	38.57	269	T	T	12 30 27.7	
	baz=94						
SONM	Songino Array	56.69	356	P	P	11 51 41.8	-1.1
	comp=Z,0.6nm,0.5s,baz=178,slow=8.2,SNR=4.1						
SONM				PcP	PcP	11 52 38.6	0.0
	comp=Z,0.8nm,0.4s,baz=171,slow=4.6,SNR=9.5						
KLR	Kul'dur	60.60	15	P	P	11 52 08.1	-1.8
	comp=Z,0.6nm,0.4s,baz=191,slow=5.2,SNR=1.8						
MKAR	Makanchi Array	61.26	338	P	P	11 52 13.2	-1.3
	comp=Z,1.0nm,0.5s,baz=149,slow=7.0,SNR=12						
ZALV	Zalesovo Beam	66.57	343	P	P	11 52 47.5	-1.6
	comp=Z,0.9nm,0.4s,baz=160,slow=5.9,SNR=6.2						
MA2	Magadan	75.15	19	P	P	11 53 40.7	-0.4
	comp=Z,1.2nm,0.4s,baz=200,slow=9.5,SNR=4.1						
MA2	Magadan	75.15	19	IAmb	IAmb	11 53 41.3	
	comp=Z,2.8nm,1.0s						
SEY	Seymchan	78.21	18	P	P	11 53 58.1	-0.3
	comp=Z,0.7nm,0.4s,baz=164,slow=7.4,SNR=8.0						
KBZ	Khabaz	81.04	317	P	P	11 54 14.1	0.0
	comp=Z,1.2nm,0.8s,baz=170,slow=5.7,SNR=3.8						
MMAI	Mount Meron Ar	83.30	305	LR	LR	12 35 30.3	
	comp=Z,21nm,19.7s,baz=225,slow=38						
BRTR	Keskin Array B	86.40	311	LR	LR	12 38 26.0	
	comp=Z,34nm,18.6s,baz=107,slow=39						
YKA	Yellowknife Ar	117.06	22	PKP	PKPdf	12 00 43.5	+0.1
	comp=Z,0.1nm,0.6s,baz=251,slow=1.4,SNR=2.7						

IDC 10 11:43:38.0±0.7, 25°.96N×128°.33E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.0/44, mbtmp4.1/22, ML3.1/1, MS3.7/27, Ms1 3.7/27, ms1mx3.4/84, Error ellipse: s-maj=20.5km s-min=14.1km az=94.0
JMA 10 11:43:39.8±0.3, 25°.87N×128°.55E, h45km, M3.9
NIED 10 11:43:39.8, 25°.87N×128°.55E, h45km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}5.31; $M_{\theta\theta}$-2.29; $M_{\phi\phi}$-3.01; $M_{r\theta}$0.97; $M_{\theta\phi}$-4.16; $M_{\phi r}$0.50; Fault plane solution: $M_0$6.17000×10^{15} NP1:ϕ_s48.00000°, δ50.00000°, λ97.00000°. NP2:ϕ_s217.00000°, δ41.00000°, λ82.00000°.
MOS 10 11:43:40.7±1.1, 26°.00N×128°.29E, h28km, mb4.6/23 Error ellipse: s-maj=12.1km s-min=7.1km az=102.9
NEIC 10 11:43:40.3±1.6, 26°.00N±0°.05×128°.3E±0°.1, h10km±5km, mb4.6/27, Error ellipse: s-maj=16.2km s-min=5.0km az=110.0
ISC 10 11:43:41.0±1.0**, 25°.92N**±0°.05×**128°.49E**±0°.04**, h24km**±6km**, n136,** σ**1§34**/130**, mb4.5**/56**, MS3.8**/33**, 11C-5D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	0.68	289	P	Pb	11 43 54.1	0.0
JJT3				S	Sb	11 44 04.3	+1.2
JNTH	Nagotoyohara	0.73	325	P	Pb	11 43 54.2	-0.9
JOW	Kunigami	0.93	348	P	Pn	11 43 57.6	-1.0
JOW				*e*S	Sb	11 44 10.7	+0.3
JOW	Kunigami	0.93	348		Pn	11 43 57.9	-0.8
JYRO	Yoronjima	1.10	358	P	Pn	11 44 00.0	-1.0
JYRO				*e*S	Sn	11 44 14.0	-1.4
JIH	Iheya	1.21	337	P	Pn	11 44 01.9	-0.5
JIH				S	Sn	11 44 18.1	+0.1
JAGN	Aguni-jima	1.31	301	P	Pn	11 44 03.2	-0.6
JAGN				*e*S	Sn	11 44 19.6	-0.9
JOKE	Okinoerabujima	1.44	3	P	Pn	11 44 05.0	-0.6
JKE	Kume jima 2	1.59	285	P	Pn	11 44 06.4	-1.2
JKE				*e*S	Sn	11 44 26.5	-0.9
JTK	Tokunoshima	1.90	12	P	Pn	11 44 11.4	-0.6
JMZ	Minamidaito 2	2.46	92	P	Pn	11 44 17.9	-1.7
JMZ				S	Sn	11 44 45.0	-3.9
JKDJ	Kitadaitoujima	2.52	89	P	Pn	11 44 19.0	-1.5
JKDJ				S	Sn	11 44 47.4	-3.2
JSU	Suzuyama	5.83	17	Pn	Pn	11 45 06.0	0.0
YULB	Yu-li	7.01	251	Pn	Pn	11 45 18.7	-3.6
SSLB	Suanglung	7.17	254	Pn	Pn	11 45 21.0	-3.5
JNU	Nakatsue	7.47	16	Pn	Pn	11 45 28.5	-0.1
TPUB	Ta-pu	7.62	252	Pn	Pn	11 45 28.8	-1.8
JHS	Saijyo	9.89	23	Pn	Pn	11 46 02.5	+0.8
KSRS	Korea Array	11.51	358	Pn	Pn	11 46 24.4	+0.6
	0.1nm,0.3s,baz=205,slow=33,SNR=4.4						
KSRS				LR	LR	11 51 09.8	
	comp=Z,405nm,18.0s,baz=160,slow=39						
JHJ	Hachijo jima 2	12.16	51	LR	LR	11 49 56.3	
	comp=Z,97nm,21.6s,baz=295,slow=31						
WHN	Wuhan	13.29	294	⇓P	P	11 46 56.3	-1.4
WHN				LR	LR		
	comp=Z,3μm,14.0s						
MJAR	Matsushiro Arr	13.45	36	Pn	P	11 47 00.8	+1.2
	comp=Z,0.0nm,0.3s,baz=206,slow=7.3,SNR=5.2						
LYN	LuoYang	16.29	306	⇓P	P	11 47 31.8	+0.8
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
LYN				pmax	pmax		
	comp=Z,150nm,6.6s						
LYN				LR	LR		
	comp=Z,850nm,12.7s						
LYN				LR	LR		
	comp=Z,1μm,13.3s						
HNS	HongShan	16.37	318	⇓P	P	11 47 32.4	+0.5
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
HNS				LR	LR		
	comp=Z,830nm,13.1s						
HNS				LR	LR		
	comp=Z,790nm,12.4s						
HNS				LR	LR		
	comp=Z,1μm,13.3s						
XAN	Xi'an	18.77	300	P	P	11 47 59.1	+0.6
XAN				pP	sP	11 48 06.8	-0.3
XAN				pmax	pmax		
	comp=Z,17nm,1.0s						
GUMO	Guam	19.67	125	LR	LR	11 55 17.8	
	comp=Z,36nm,18.4s,baz=286,slow=35						
ASAJ	Asahikawa	21.46	29	P	P	11 48 28.0	+0.4
	comp=Z,2.5nm,0.2s,baz=25,slow=27,SNR=1.8						
ASAJ				LR	LR	11 57 13.7	
	comp=Z,127nm,19.1s,baz=223,slow=38						
CD2	Chengdu	22.30	289	P	P	11 48 37.2	+0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=Z,1μm,13.5s						
CD2				LR	LR		
	comp=Z,1μm,15.2s						
LZH	Lanzhou	23.38	302	*e*P	P	11 48 47.5	-0.6
LZH				pP	pP	11 48 52.2	-1.9

LZH sP sP 11 48 54.8 -2.1
LZH sS sS 11 53 09.2 -1.5
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,94nm,4.5s
LZH LR LR
comp=Z,580nm,12.1s
LZH LR LR
comp=Z,470nm,12.6s
LZH LR LR
comp=Z,630nm,14.7s
KLR Kul'dur 23.41 5 P **P 11 48 47.3 -0.8**
comp=Z,1.3nm,0.7s,baz=218,slow=2.0,SNR=4.0
KLR Kul'dur 23.41 5 *i* P **P 11 48 48.3 +0.2**
KLR pmax pmax
comp=Z,10.0nm,1.7s
YSS Yuzh-Sakhalins 23.85 25 *eP* **P 11 48 54.5 +2.2**
YSS *eS* **S 11 53 10.6 +3.7**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 23.85 25 P **P 11 48 53.0 +0.7**
PZH PanZhiHua 24.00 277 P **P 11 48 53.5 -0.6**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,100nm,4.2s
PZH LR LR
comp=Z,670nm,17.8s
PZH LR LR
comp=Z,760nm,16.1s
PZH LR LR
comp=Z,910nm,17.0s
GRNR Gornyy 25.55 12 *i* P **P 11 49 09.3 +1.5**
GRNR pmax pmax
comp=N,4.0nm,0.9s
GRNR pmax pmax
comp=Z,4.0nm,0.6s
GRNR MLR MLR
comp=Z,200nm,13.0s
GTA Gaotai 27.50 306 *eP* **P 11 49 24.3 -1.5**
GTA sP pP 11 49 32.3 +0.2
GTA pmax pmax
comp=Z,30nm,0.7s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA LR LR
comp=Z,300nm,13.5s
GTA LR LR
comp=Z,230nm,14.5s
GTA LR LR
comp=Z,510nm,15.3s
ULN Ulaanbaatar 27.64 328 *ceP* **P 11 49 26.3 -0.7**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 27.64 328 P **P 11 49 25.2 -1.8**
SONM Songino Array 27.94 327 P **P 11 49 28.6 -1.0**
comp=Z,4.7nm,0.7s,baz=139,slow=10,SNR=36
SONM LR LR 12 01 51.2
comp=Z,136nm,20.8s,baz=106,slow=39
SONM Songino Array 27.94 327 P **P 11 49 27.9 -1.7**
CHTO Chiang Mai 28.18 262 P **P 11 49 33.4 +1.5**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CHTO Chiang Mai 28.18 262 P **P 11 49 33.4 +1.5**
CHTO IAmb IAmb 11 49 35.7
comp=Z,7.0nm,1.1s
CMAR Chiang Mai Arr 28.31 261 P **P 11 49 32.8 -0.3**
comp=Z,0.8nm,0.3s,baz=51,slow=8.7,SNR=7.3
CMAR Chiang Mai Arr 28.31 261 *i* P **P 11 49 33.2 +0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
GOMU GeErMu 30.48 298 P **P 11 49 53.1 +0.5**
GOMU pP pP 11 49 57.9 -1.0
GOMU sP pwP 11 50 00.2 -1.8
GOMU pmax pmax
comp=Z,4.0nm,1.1s
GOMU LR LR
comp=Z,280nm,12.2s
GOMU LR LR
comp=Z,86nm,12.0s
GOMU LR LR
comp=Z,97nm,14.0s
JAY Jayapura 30.64 156 LR LR 12 00 41.6
comp=Z,59nm,21.5s,baz=344,slow=33
KAPI Kappang 31.90 197 LR LR 12 03 04.8
comp=Z,38nm,19.1s,baz=3.5,slow=37
SHL Shillong 32.91 278 P **P 11 50 12.5 -1.3**
SHL pmax pmax
comp=Z,11nm,1.0s
SHL Shillong 32.91 278 P **P 11 50 12.5 -1.3**
SHL IAmb IAmb 11 50 14.6
comp=Z,11nm,1.0s
PEA0B Petropavlovsk- 34.84 31 *i* P **P 11 50 31.6 +1.6**
PETK Petropavlovsk- 34.84 31 LR LR 12 06 48.6
comp=Z,58nm,18.1s,baz=228,slow=40
YAK Yakutsk 36.11 1 LR LR 12 05 45.1
comp=Z,80nm,19.9s,baz=94,slow=37
YAK Yakutsk 36.11 1 *ceP* **P 11 50 41.1 +0.3**
YAK pmax pmax
comp=Z,17nm,1.3s
YAK Yakutsk 36.11 1 P **P 11 50 40.8 0.0**
YAK IAmb IAmb 11 50 41.7
comp=Z,13nm,0.9s
ODAN Odare 36.72 281 *eP* **P 11 50 46.8 0.0**
comp=Z,61nm,0.9s
MA2 Magadan 37.03 19 P **P 11 50 50.6 +1.9**
comp=Z,0.7nm,0.2s,baz=220,slow=9.3,SNR=4.5
MA2 Magadan 37.03 19 *ceP* **P 11 50 50.1 +1.4**
MA2 pmax pmax
comp=Z,7.0nm,2.5s
GUN Gumba 37.91 283 *eP* **P 11 50 57.1 +0.1**
PKI Pulchoki 38.37 282 *eP* **P 11 51 00.6 -0.3**
comp=Z,28nm,0.8s
PKIN Phulchoki 38.38 282 *eP* **P 11 51 00.4 -0.5**
DMN Daman 38.63 282 *eP* **P 11 51 03.3 +0.3**
GKN Gorkha 38.99 283 *eP* **P 11 51 05.6 -0.3**
PMG Port Moresby 39.53 150 LR LR 12 06 01.0
comp=Z,75nm,19.1s,baz=269,slow=34
DANN Dangsing 39.72 284 *eP* **P 11 51 12.4 +0.3**
comp=Z,37nm,0.7s
KOLN Koldanda 39.93 283 *eP* **P 11 51 13.9 +0.1**
SEY Seymchan 40.25 17 P **P 11 51 16.8 +1.1**
comp=Z,1.4nm,0.7s,baz=233,slow=5.5,SNR=11
SEY LR LR 12 07 54.0
comp=Z,116nm,18.6s,baz=218,slow=36
SEY Seymchan 40.25 17 *i* P **P 11 51 16.2 +0.6**
PYUN Piuthan 40.42 284 *eP* **P 11 51 18.2 +0.4**
comp=Z,47nm,1.0s
KNRA Kununurra 41.35 180 P **P 11 51 26.5 +1.3**
KNRA IAmb IAmb 11 51 35.2
comp=Z,15nm,1.1s
MK31 Makanchi Array 41.92 312 P **P 11 51 28.4 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 41.92 312 P **P 11 51 28.4 -1.3**
MKAR Makanchi Array 41.92 312 P **P 11 51 28.7 -1.0**
comp=Z,1.4nm,0.5s,baz=95,slow=10.0,SNR=31
MKAR PcP **PcP 11 53 25.7 +0.7**
comp=Z,1.1nm,0.8s,baz=98,slow=4.7,SNR=3.9
MAKZ Makanchi 42.13 312 P **P 11 51 30.4 -1.0**
MAKZ pmax pmax
comp=Z,14nm,1.5s
MAKZ Makanchi 42.13 312 P **P 11 51 30.4 -1.0**
MAKZ IAmb IAmb 11 51 32.6
comp=Z,14nm,1.4s
ZALV Zalesovo Beam 42.64 323 P **P 11 51 34.3 -1.1**
comp=Z,1.4nm,0.7s,baz=106,slow=8.3,SNR=6.0
ZALV LR LR 12 10 19.0
comp=Z,52nm,18.6s,baz=107,slow=38
ZALV Zalesovo Beam 42.64 323 *i* P **P 11 51 34.4 -1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.64 323 P **P 11 51 33.9 -1.4**
FITZ Fitzroy Crossi 43.84 184 P **P 11 51 46.3 +0.9**
comp=Z,1.9nm,0.8s,baz=346,slow=11,SNR=2.6
FITZ Fitzroy Crossi 43.84 184 IAmb IAmb 11 51 54.6
comp=Z,4.8nm,1.0s
KURK Kurchatov 45.21 317 *ceP* **P 11 51 54.7 -1.4**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 45.21 317 P **P 11 51 55.3 -0.8**
KURK IAmb IAmb 11 51 56.5
comp=Z,6.5nm,1.1s

KSH Kashi 45.62 301 P **P 11 52 06.5 +6.8**
KSH pP pwP 11 52 10.4 +1.1
KSH sP sP 11 52 13.2 +4.6
KSH pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 45.77 0 P **P 11 52 00.0 -0.1**
comp=Z,0.7nm,0.3s,baz=94,slow=20,SNR=5.8
TIXI LR LR 12 11 50.7
comp=Z,109nm,20.1s,baz=181,slow=37
TIXI Tiksi 45.77 0 *ceP* **P 11 51 58.1 -2.1**
TIXI pmax pmax
comp=Z,11nm,2.5s
TIXI Tiksi 45.77 0 P **P 11 51 59.1 -1.1**
WRA Warramunga Arr 45.94 172 P **P 11 52 02.7 +0.5**
comp=Z,1.4nm,0.6s,baz=352,slow=8.4,SNR=14
WR0 Warramunga Arr 45.98 172 P **P 11 52 03.3 +0.8**
WR0 IAmb IAmb 11 52 12.1
comp=Z,7.2nm,1.1s
AAK Ala-Archa 46.84 305 LR LR 12 12 41.1
comp=Z,82nm,18.3s,baz=116,slow=37
BILL Bilibino 47.89 18 *eP* **P 11 52 19.1 +2.2**
BILL *e**SP **pP 11 52 23.0 -0.4**
BILL *e* 11 52 30.3
BILL 11 53 42.0
BILL S **S 11 59 09.0 -3.5**
BILL SS **SS 12 02 37.0 -4.0**
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL MLR MLR
comp=Z,83nm,16.0s
CTA Charters Tower 48.88 158 LR LR 12 15 28.8
comp=Z,37nm,18.0s,baz=260,slow=39
PALK Palikele 49.09 256 LR LR 12 15 19.4
comp=Z,58nm,18.3s,baz=158,slow=39
AS31 Alice Springs 49.57 173 P **P 11 52 31.6 +1.4**
ASAR Alice Springs 49.57 173 P **P 11 52 31.4 +1.1**
comp=Z,1.2nm,0.8s,baz=4.8,slow=8.5,SNR=11
NRIK Noril'sk 49.62 342 LR LR 12 15 22.6
comp=Z,115nm,18.4s,baz=148,slow=38
NRIK Noril'sk 49.62 342 *i* P **P 11 52 27.8 -2.3**
NRIK pmax pmax
comp=Z,4.0nm,1.5s
KKAR Karatay Array 49.78 306 P **P 11 52 31.8 0.0**
KKAR Karatay Array 49.78 306 P **P 11 52 31.8 0.0**
GAR Garm 50.02 300 P **P 11 52 33.1 -0.8**
GAR IAmb IAmb 11 52 45.5
comp=Z,16nm,1.3s
BRVK Borovoye 50.73 318 *ceP* **P 11 52 38.2 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BRVK Borovoye 50.73 318 P **P 11 52 38.7 -0.1**
BRVK IAmb IAmb 11 52 47.8
comp=Z,7.0nm,0.8s
KBL Kabul 51.45 295 P **P 11 52 44.7 0.0**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 51.45 295 P **P 11 52 44.7 0.0**
KBL IAmb IAmb 11 52 54.6
comp=Z,8.6nm,0.8s
ABKAR Akbulak array 57.03 313 P **P 11 53 23.8 -1.1**
ABKAR Akbulak array 57.03 313 P **P 11 53 24.1 -0.9**
ABKAR IAmb IAmb 11 53 26.9
comp=Z,4.8nm,0.7s
ARU Arti 57.78 322 LR LR 12 21 11.4
comp=Z,166nm,19.5s,baz=86,slow=39
ARU Arti 57.78 322 *di* P **P 11 53 28.5 -1.6**
ARU 11 54 16.4
ARU S **S 12 01 27.5 -0.2**
ARU pmax pmax
comp=Z,12nm,2.1s
AKTO Aktyubinsk 58.22 315 LR LR 12 17 54.6
comp=Z,52nm,21.6s,baz=93,slow=35
J20K Nowinta River 61.50 29 P **P 11 53 58.2 +2.6**
KIRV Kirov 62.63 325 LR LR 12 23 53.3
comp=Z,97nm,20.4s,baz=92,slow=39
ILAR Eielson Array 64.60 28 P **P 11 54 16.8 +0.7**
comp=Z,0.3nm,0.6s,baz=264,slow=8.0,SNR=5.4
INK Inuvik 69.08 23 P **P 11 54 45.8 +1.2**
comp=Z,0.6nm,0.6s,baz=294,slow=7.9,SNR=6.0
INK LR LR 12 28 36.2
comp=Z,55nm,18.2s,baz=101,slow=39
ZEI Tsey 69.10 308 *eP* **P 11 54 45.0 -0.5**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 69.54 310 P **P 11 54 49.1 +1.2**
comp=Z,3.5nm,0.7s,baz=56,slow=4.2,SNR=9.6
KBZ Khabaz 69.54 310 *ceP* **P 11 54 48.6 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 69.62 310 *eP* **P 11 54 49.2 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,52nm,17.0s
OBN Obninsk 70.22 322 LR LR 12 28 09.1
comp=Z,97nm,19.9s,baz=27,slow=38
OBN Obninsk 70.22 322 *i* *eP* **P 11 54 52.7 +0.9**
OBN *e* 11 55 09.4
OBN S SKiKP 12 04 19.0 -17
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,166nm,18.0s
A36M Sachs Harbour 70.44 18 P **P 11 54 53.2 +0.3**
C36M Paulatuk 71.90 21 P **P 11 55 03.1 +1.3**
C36M IAmb IAmb 11 55 09.2
comp=Z,4.3nm,0.8s
FINES FINESS Array B 73.25 331 P **P 11 55 10.1 +0.1**
comp=Z,2.9nm,0.7s,baz=69,slow=6.3,SNR=8.5
FINES LR LR 12 31 41.3
comp=Z,244nm,19.3s,baz=50,slow=39
NACGM Naroch 75.56 324 *i* P **P 11 55 20.4 -3.1**
AKASG Malin Array Be 75.92 320 P **P 11 55 25.6 -0.1**
comp=Z,2.7nm,0.5s,baz=58,slow=6.3,SNR=14
AKBB Malin Array Si 75.92 320 *ceP* **P 11 55 25.9 +0.2**
AKBB Malin Array Si 75.92 320 P **P 11 55 25.2 -0.5**
AKBB IAmb IAmb 11 55 26.1
comp=Z,7.3nm,0.7s
BRTR Keskin Array B 77.41 308 P **P 11 55 35.0 +0.5**
comp=Z,4.3nm,0.8s,baz=93,slow=5.1,SNR=12
BRTR Keskin Array B 77.41 308 *ceP* **P 11 55 35.5 +1.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 77.41 308 P **P 11 55 34.8 +0.3**
YKA Yellowknife Ar 78.71 25 P **P 11 55 42.2 +1.1**
comp=Z,0.8nm,0.7s,baz=301,slow=5.3,SNR=14
HFS Hagfors 79.20 332 LR LR 12 34 18.4
comp=Z,121nm,18.4s,baz=34,slow=38
BUR08 Bucovina Ar. S 79.61 318 P **P 11 55 46.6 +0.1**
BUR08 IAmb IAmb 11 55 56.1
comp=Z,4.1nm,0.9s
BURAR Bucovina Array 79.62 318 P **P 11 55 47.4 +0.9**
BURAR IAmb IAmb 11 55 56.4
comp=Z,3.9nm,0.8s
NB2 NORSAR Subarra 79.69 334 P **P 11 55 46.6 0.0**
comp=Z,1.1nm,0.6s,baz=51,slow=5.6
NOA NORSAR Array B 79.69 334 P **P 11 55 46.3 -0.3**
comp=Z,1.9nm,0.7s,baz=52,slow=5.6,SNR=7.2
NOA LR LR 12 37 35.7
comp=Z,45nm,20.6s,baz=15,slow=41
MLR Muntele Rosu 80.13 316 LR LR 12 36 26.0
comp=Z,91nm,20.2s,baz=70,slow=40
GERES GERESS Array B 85.59 323 P **P 11 56 18.3 +0.7**
comp=Z,0.9nm,0.7s,baz=61,slow=8.0,SNR=3.9
DAVOX Davos/Dischmat 88.89 323 LR LR 12 39 57.5
comp=Z,109nm,19.7s,baz=77,slow=38

TAP 10 11:45:02.2,24°30N×121°86E,h58km±1km,ML2.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=273	**0.10**	**274**	*eP*			Pn	11 45 11.5	+0.5
EHP				S			Sn	11 45 18.0	+0.6
EWUT	**Wuta** baz=333	**0.16**	**334**	*eP*			Pn	11 45 10.8	-0.4
EWUT				*eS*			Sn	11 45 18.4	+0.7
ENA	**Nanau** baz=321	**0.16**	**320**	P			Pn	11 45 11.7	+0.5
ENA				S			Sn	11 45 17.6	-0.1
ETL	**Fush Village** baz=235	**0.26**	**236**	*eP*			Pn	11 45 11.9	+0.1
ETL				*eS*			Sn	11 45 18.9	+0.1
NACB	**Ninganchiao** baz=235	**0.27**	**242**	P		n	Pn	11 45 12.3	+0.4
NACB	**Ninganchiao** baz=241	**0.27**	**242**	P			Pn	11 45 12.1	+0.2
NACB				S			Sn	11 45 19.9	+1.0
TWC	**Suao** baz=241	**0.31**	**359**	*eP*			Pn	11 45 12.7	+0.5
TWC				S			Sn	11 45 19.9	+0.6
TWD	**Chiawan** baz=226	**0.32**	**227**	*eP*			Pn	11 45 12.3	0.0
TWD				S			Sn	11 45 20.3	+0.7
TWD	**Chiawan** baz=357	**0.32**	**227**	*eP*			Pn	11 45 12.2	-0.2
ETLH	**Xiulin Townshi** baz=254	**0.35**	**255**	*eP*			Pn	11 45 13.9	+1.2
ETLH				S			Sn	11 45 20.7	+0.5
NDS	**Dongshan** baz=339	**0.35**	**339**	*eP*			Pn	11 45 13.2	+0.6
NDS				*eS*			Sn	11 45 21.0	+1.0
LATG	**Datong** baz=307	**0.38**	**308**	P			Pn	11 45 13.4	+0.4
HWA	**Hwalien** baz=214	**0.40**	**215**	*eS*			Sn	11 45 21.6	+0.9
ENTT	**Nioudou** baz=322	**0.43**	**322**	*i* P			Pn	11 45 13.5	+0.2
ENTT				S			Sn	11 45 21.9	+0.6
NDT	**Datong Townshi** baz=313	**0.43**	**314**	*eP*			Pn	11 45 14.1	+0.8
NNSB	**Datong** baz=286	**0.45**	**286**	*eP*			Pn	11 45 14.3	+0.6
NNSB				S			Sn	11 45 23.2	+1.3
TWE	**Neicheng** baz=339	**0.45**	**338**	P			Pn	11 45 13.0	-0.5
TWE				*eS*			Sn	11 45 21.5	-0.1
NNS	**Nan Shan** baz=287	**0.46**	**287**	*eP*			Pn	11 45 13.7	0.0
NNS				S			Sn	11 45 22.8	+0.7
ILA	**Ilan** baz=348	**0.47**	**348**	*eP*			Pn	11 45 14.6	+0.9
ILA				*eS*			Sn	11 45 22.9	+0.9
FUSB	**Fushanzhiwuyua** baz=331	**0.52**	**332**	P			Pn	11 45 14.3	0.0
FUSB				S			Sn	11 45 24.0	+0.9
FUSS	**Fushou** baz=264	**0.56**	**265**	*eP*			Pn	11 45 15.7	+0.7
FUSS				*eS*			Sn	11 45 23.3	-0.9
WHF	**Hehuan Shan** baz=253	**0.56**	**254**	P			Pn	11 45 15.4	+0.2
WHF				S			Sn	11 45 24.7	+0.2
WHF	**Hehuan Shan** baz=222	**0.56**	**254**	*i* S			Sn	11 45 24.5	0.0
YHNB	**Yeheng** baz=309	**0.57**	**310**	Pn			Pn	11 45 16.1	+1.2
YHNB	**Yeheng** baz=309	**0.57**	**310**	*eP*			Pn	11 45 15.8	+0.9
YHNB				*eS*			Sn	11 45 24.5	+0.4
NWLT	**Wulai** baz=325	**0.57**	**326**	*eP*			Pn	11 45 14.1	-0.8
NWLT				*eS*			Sn	11 45 25.0	+0.9
NSK	**Sanguang** baz=309	**0.59**	**310**	P			Pn	11 45 15.8	+0.8
NSK				S			Sn	11 45 24.7	+0.3
ESL	**Shilin** baz=217	**0.62**	**219**	*eS*			Sn	11 45 25.5	+0.5
TWT	**Tachien** baz=265	**0.62**	**266**	*eS*			Sn	11 45 26.6	+1.3
CHGB	**Renai** baz=248	**0.67**	**249**	P			Pn	11 45 16.8	+0.6
CHGB				S			Sn	11 45 26.3	0.0
CHGB	**Renai** baz=309	**0.67**	**249**	P			Pn	11 45 16.9	+0.8
TWB1	**Santiao Chiao** baz=10.0	**0.71**	**10**	*eP*			Pn	11 45 17.8	+1.2
TWB1				*eS*			Sn	11 45 27.9	+0.9
TWA	**Mucha** baz=340	**0.72**	**340**	*eS*			Sn	11 45 27.8	+0.7
WUSB	**Renai** baz=245	**0.74**	**246**	P			Pn	11 45 16.7	-0.3
WUSB	**Renai** baz=300	**0.74**	**246**	P			Pn	11 45 16.8	-0.2
NFF	**Wufeng Townshi** baz=296	**0.75**	**296**	*eP*			Pn	11 45 17.4	+0.4
NFF				*eS*			Sn	11 45 28.7	+0.9
SXI1	**Grass Mountain** baz=1.0	**0.79**	**1**	*eP*			Pn	11 45 18.5	+0.9
SXI1				*eS*			Sn	11 45 29.9	+1.1
TAP	**Taipei** baz=337	**0.80**	**337**	*eP*			Pn	11 45 18.4	+0.8
TAP				*eS*			Sn	11 45 30.0	+1.1
VWDT	**VWDT** baz=230	**0.85**	**230**	*eP*			Pn	11 45 18.6	+0.3
VWDT				*eS*			Sn	11 45 30.8	+0.8
	baz=230								

TAP 10 11:45:05.3,23°72N×121°62E,h14km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village** baz=258	**0.08**	**260**	P			Pg	11 45 08.5	+0.2
TEGC				S			Sg	11 45 11.5	+1.3
EGFH	**Guangfu** baz=253	**0.19**	**254**	*eP*			Pg	11 45 10.0	+0.3
EGFH				*eS*			Sb	11 45 14.0	0.0
ESL	**Shilin** baz=298	**0.20**	**298**	*i* P			Pg	11 45 10.2	+0.4
ESL				*i* S			Sb	11 45 13.8	-0.5
HWA	**Hwalien** baz=357	**0.25**	**356**	*eP*			Pb	11 45 11.5	-0.1
HWA				S			Sb	11 45 16.1	+0.2
ETM	**Tongmen** baz=333	**0.27**	**334**	P			Pb	11 45 11.9	-0.1
ETM				S			Sb	11 45 16.6	+0.2
HGSD	**Ruisui** baz=218	**0.29**	**219**	P			Pg	11 45 11.4	0.0
HGSD				S			Sb	11 45 17.3	+0.3
EHY	**Hungye** baz=231	**0.35**	**232**	*i* P			Pb	11 45 12.9	-0.4
EHY				*i* S			Sb	11 45 19.3	+0.6
TWD	**Chiawan** baz=357	**0.36**	**356**	*eS*			Sb	11 45 19.5	+0.6
ETL	**Fush Village** baz=359	**0.43**	**360**	P			Pb	11 45 14.7	-0.1
ETL				*eS*			Sb	11 45 21.5	+0.4
VWDT	**VWDT** baz=274	**0.44**	**274**	P			Pb	11 45 15.2	+0.3
VWDT				S			Sb	11 45 21.0	-0.3
YULB	**Yu-li** baz=222	**0.44**	**222**	P			Pg	11 45 14.4	+0.2
YULB				S			Sb	11 45 22.1	+0.7
NACB	**Ninganchiao** baz=356	**0.45**	**357**	*eP*			Pg	11 45 14.3	0.0
NACB				*eS*			Sb	11 45 22.4	+0.8
EYUL	**Yuli** baz=216	**0.47**	**217**	*eP*			Pb	11 45 15.3	0.0
EYUL				*eS*			Sb	11 45 22.1	+0.1
	baz=216								

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OWD	**Renai**	**0.47**	**300**	*i* P	Pb	11 45 15.8	+0.4
	baz=299						
OWD				S	Sb	11 45 23.0	+0.7
	baz=299						
ETLH	**Xiulin Townshi**	**0.50**	**345**	*e*P	Pb	11 45 15.7	-0.2
	baz=344						
ETLH				*e*S	Sb	11 45 23.0	-0.1
	baz=344						
CHGB	**Renai**	**0.53**	**309**	S	Sb	11 45 25.0	+0.9
	baz=309						
WHF	**Hehuan Shan**	**0.53**	**322**	*i* P	Pb	11 45 17.0	+0.3
	baz=322						
WUSB	**Renai**	**0.54**	**300**	S	Sb	11 45 24.9	+0.7
	baz=300						
FULB	**Fuli**	**0.60**	**210**	*e*P	Pb	11 45 17.9	+0.3
	baz=210						
FULB				*e*S	Sb	11 45 26.9	+1.0
	baz=210						
SSLB	**Suanglung**	**0.62**	**276**	P	Pb	11 45 17.8	0.0
	baz=276						
SSLB				S	Sb	11 45 26.6	+0.2
	baz=276						
FUSS	**Fushou**	**0.63**	**326**	P	Pb	11 45 18.1	-0.1
	baz=326						
FUSS				S	Sb	11 45 27.0	+0.1
	baz=326						
YUS	**Yu-Shan**	**0.66**	**250**	*e*S	Sb	11 45 28.2	+0.2
	baz=249						
TWT	**Tachien**	**0.67**	**322**	*e*P	Pb	11 45 18.8	-0.1
	baz=321						
TWT				*e*S	Sb	11 45 28.0	0.0
	baz=321						
SMLT	**Sun Moon Lake**	**0.68**	**284**	P	Pb	11 45 19.2	+0.2
	baz=283						
WHYT	**Xinyi Township**	**0.71**	**268**	*e*P	Pb	11 45 19.9	+0.5
	baz=267						
WHYT				*e*S	Sb	11 45 30.2	+1.2
	baz=267						
TYC	**Yuchr**	**0.72**	**285**	*e*P	Pg	11 45 19.5	0.0
	baz=284						
TYC				S	Sb	11 45 29.8	+0.3
	baz=284						
WCS	**Beigang Elemen**	**0.73**	**297**	*e*P	Pg	11 45 19.5	0.0
	baz=297						
WCS				*e*S	Sb	11 45 30.8	+1.1
	baz=297						
NNSB	**Datong**	**0.74**	**343**	*e*P	Pn	11 45 21.0	-0.4
	baz=342						
NNSB				*e*S	Sb	11 45 30.3	+0.4
	baz=342						
NNS	**Nan Shan**	**0.75**	**342**	*e*P	Pg	11 45 20.0	+0.1
	baz=342						
NNS				*e*S	Sb	11 45 30.6	+0.3
	baz=342						
ELDTW	**Lidau**	**0.77**	**227**	P	Pg	11 45 19.9	-0.4
	baz=225						
ELDTW				*e*S	Sb	11 45 31.7	+0.9
	baz=225						
ALS	**Alishan**	**0.78**	**254**	P	Pb	11 45 21.4	+0.6
	baz=254						
ALS				S	Sb	11 45 31.7	+0.4
	baz=254						
EDH	**Donghe**	**0.80**	**202**	*e*S	Sn	11 45 32.9	-0.9
	baz=201						
LATG	**Datong**	**0.81**	**354**	*e*S	Sn	11 45 33.4	-0.9
	baz=353						
LATG	**Datong**	**0.81**	**354**	*e*P	Pb	11 45 21.4	+0.2
	baz=353						
LATG	**Datong**	**0.81**	**354**	S	Pb	11 45 21.1	-0.2
	baz=307						
WJS	**Zhushan**	**0.83**	**277**	*e*P	Pn	11 45 22.5	+0.1
	baz=276						
WJS				*e*S	Sb	11 45 33.3	+0.9
	baz=276						
WHP	**Taichung City**	**0.83**	**312**	P	Pg	11 45 21.4	0.0
	baz=311						
WHP				*e*S	Sb	11 45 32.7	0.0
	baz=311						
CHN5	**Tsauling**	**0.88**	**262**	P	Pb	11 45 22.5	+0.2
	baz=261						
CHN5				S	Sb	11 45 34.6	+0.7
	baz=261						
NDT	**Datong Townshi**	**0.88**	**353**	*e*P	Pb	11 45 22.3	0.0
	baz=353						
NDT	**Datong Townshi**	**0.88**	**353**	*e*S	Pb	11 45 22.5	+0.1
	baz=313						
ENTT	**Nioudou**	**0.92**	**357**	*e*S	Sg	11 45 35.3	+0.2
	baz=357						
LONT	**Longtian**	**0.93**	**209**	*e*P	Pg	11 45 23.4	+0.1
	baz=209						
LONT				*e*S	Sn	11 45 36.6	-0.5
	baz=209						
STYH	**Taoyuan**	**0.95**	**235**	*e*P	Pb	11 45 23.4	-0.2
	baz=235						
STYH				*e*S	Sb	11 45 36.0	0.0
	baz=235						

*MDD **10** 11:51:15.0±0.4, 35°.67N×3°.71W, h0km, mb_Lg2.8/9, Error ellipse: s-maj=3.4km s-min=2.8km az=14.0*
*CNRM **10** 11:51:15.6, 35°.70N×3°.58W, h25km, ml2.7*
*SFS **10** 11:51:16.0, 35°.62N×3°.67W, ML3.0, ALBORAN SUR*
ISC 10 11:51:14.7±1.2**, 35°.67N**±0°.02×**3°.66W**±0°.03**, h14**km±10km**, n29,** σ1s.**05**/56**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**207**	P	**Pn**	**11 51 27.4**	**-0.1**
PALE				S	**Sn**	**11 51 34.9**	**-1.1**
EALB	**Alboran**	**0.57**	**61**	Pg	**Pb**	**11 51 26.9**	**+0.3**
EALB				Sg	**Sb**	**11 51 35.3**	**+0.7**
EALB				*i* Vmb_Lg		11 51 37.3	
EMEL	**Melilla**	**0.68**	**122**	Pg	**Pg**	**11 51 28.4**	**+0.4**
EMEL				Sg	**Sg**	**11 51 37.2**	**+0.2**
GOG	**Mont Gurugu**	**0.70**	**129**	P	**Pg**	**11 51 28.2**	**-0.1**
GOG				S	**Sg**	**11 51 37.5**	**-0.1**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg	**Pn**	**11 51 36.8**	**-0.4**
ELGU				Sg	**Sn**	**11 51 52.7**	**-0.6**
ELGU				*i* Vmb_Lg		11 51 55.0	
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pn**	**11 51 37.4**	**-0.5**
EMAL				S	**Sn**	**11 51 54.6**	**+0.1**
EMIJ	**Mijas**	**1.27**	**315**	Pg	**Pn**	**11 51 38.1**	**0.0**
EMIJ				Sg	**Sb**	**11 51 53.7**	**-1.0**
TAF	**Taforalt**	**1.33**	**130**	P	**Pn**	**11 51 38.3**	**-0.6**
TAF				S	**Sn**	**11 51 56.1**	**-0.2**
EBER	**Berja**	**1.38**	**27**	Pn	**Pn**	**11 51 39.0**	**-0.7**
EBER				Sn	**Sg**	**11 51 58.7**	**-0.5**
EBER				*i* Vmb_Lg		11 51 59.9	
SMIR	**Smir Dam**	**1.40**	**271**	P	**Pn**	**11 51 38.7**	**-1.1**
SMIR				S	**Sn**	**11 51 58.3**	**+0.2**
CEU	**Ceuta**	**1.41**	**280**	P	Pn	11 51 34.6	-5.4
CEU				S	**Sn**	**11 51 55.6**	**-2.8**
CHEFC	**Chefchaouen**	**1.48**	**248**	P	**Pb**	**11 51 42.5**	**+0.4**
CHEFC				S	**Sb**	**11 52 02.0**	**+1.1**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn	**Pn**	**11 51 40.7**	**-0.4**
EGOR				Sn	**Sb**	**11 52 01.1**	**+0.1**
EGOR				*i* Vmb_Lg		11 52 06.7	
EQUE	**Quentar**	**1.55**	**6**	Pn	**Pb**	**11 51 42.6**	**-0.6**
EQUE				Sn	**Sb**	**11 52 03.0**	**+0.3**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**11 51 42.3**	**-0.4**
JBK				S	**Sn**	**11 52 01.6**	**-1.7**
EJIF	**Jimena Fronter**	**1.66**	**299**	Pn	**Pb**	**11 51 44.8**	**-0.3**
ENIJ	**Nijar**	**1.75**	**42**	Pn	**Pn**	**11 51 45.4**	**+0.7**
ENIJ				*i* Vmb_Lg		11 52 22.1	
ESPR	**Espera**	**2.14**	**305**	Pn	**Pn**	**11 51 49.7**	**-0.4**
ESPR				Sn	**Sn**	**11 52 16.7**	**+0.3**
ESPR				*i* Vmb_Lg		11 52 26.3	
EQES	**Quesada**	**2.18**	**12**	Pg	**Pb**	**11 51 53.3**	**-0.7**
EQES				Sn	**Sb**	**11 52 20.2**	**-0.8**
EQES				*i* Vmb_Lg		11 52 23.1	
IFR	**Ifrane**	**2.46**	**210**	P	**Pn**	**11 51 55.9**	**+1.3**
IFR				S	**Sn**	**11 52 25.0**	**+0.5**
EADA	**Adamuz**	**2.60**	**344**	Pn	**Pn**	**11 51 56.9**	**+0.5**
EADA				Sn	**Sn**	**11 52 27.0**	**-0.8**
EADA				*i* Vmb_Lg		11 52 40.0	
ECAB	**El Cabril**	**2.79**	**330**	Pn	**Pn**	**11 52 00.7**	**+1.8**
ECAB				Pg	**Pb**	**11 52 04.6**	**+0.3**
ECAB				Sn	**Sn**	**11 52 31.2**	**-1.2**
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**11 52 02.8**	**+1.7**
MD31				S	**Sn**	**11 52 36.8**	**+0.7**
MDT	**Midelt**	**2.95**	**196**	P	**Pb**	**11 52 04.8**	**-2.3**
MDT				S	**Sn**	**11 52 38.2**	**+1.7**
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	**Pn**	**11 52 05.6**	**+1.0**
EMIN				Sn	**Sn**	**11 52 41.5**	**-1.0**
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**11 52 09.5**	**+1.8**
ETOB				Sn	**Sn**	**11 52 48.2**	**+0.3**
ETOB				*i* Vmb_Lg		11 53 06.0	
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**11 52 11.2**	**+1.2**
EGRO				Sn	**Sn**	**11 52 51.0**	**-1.3**
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**11 52 12.7**	**+1.3**
PVAQ				S	**Sn**	**11 52 56.0**	**+1.2**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**11 52 16.5**	**+2.1**
PAB				Sn	**Sn**	**11 52 59.9**	**-0.3**

*IDC **10** 11:55:50.4±1.1, 34°.59N×73°.19E, h0km, mb3.6/6, mb1 3.7/11, mb1mx3.4/52, mbtmp3.6/11, ML3.5/5, Error ellipse: s-maj=30.3km s-min=21.9km az=86.0*
ISC 10 11:55:54.7±0.8**, 34°.70N**±0°.07×**73°.0E**±0°.1**, h21**km**, n16,** σ1s.**50**/23**, mb3.4**/5**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**2.52**	**141**	*e*P	**Pn**	**11 56 35.7**	**+1.2**
JMU				*e*S	**Sn**	**11 57 06.8**	**+2.2**
THN	**Thein Dam**	**3.19**	**134**	*e*P	**Pn**	**11 56 44.6**	**+1.0**
THN				*e*PN	**Pb**	**11 56 53.0**	**+2.3**
THN				*e*S	**Sn**	**11 57 22.7**	**+1.7**
THN				*e*SN	**Sb**	**11 57 26.0**	**-3.1**
DHRM	**DHARAMSHALA**	**3.67**	**131**	*e*P	**Pn**	**11 56 50.7**	**+0.2**
DHRM				*e*S	**Sn**	**11 57 33.0**	**-0.4**
SMLA	**Simla**	**4.99**	**134**	*e*P	**Pn**	**11 57 07.9**	**-0.4**
SMLA				*e*S	**Sn**	**11 58 06.0**	**+0.7**
SMLA				IAML		11 58 07.5	
	comp=E,52nm,0.2s						
SMLA				IAML		11 58 08.0	
	comp=N,43nm,0.2s						
KUDL	**Kundal**	**7.18**	**155**	*e*P	**Pn**	**11 57 38.6**	**+0.2**
AAK	**Ala-Archa**	**8.01**	**8**	Pn	**Pn**	**11 57 52.1**	**+2.1**
	comp=N,0.7nm,0.3s,baz=131,slow=7.6,SNR=5.0						
AAK				Sn	**Sn**	**11 59 21.5**	**+1.5**
	comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=1.6						
MKAR	**Makanchi Array**	**13.97**	**27**	Pn	**Pn**	**11 59 10.3**	**-1.0**
	comp=N,0.1nm,0.3s,baz=215,slow=14,SNR=6.2						
KURBB	**Kurchatov Arra**	**16.42**	**13**	Pn	**Pn**	**11 59 42.0**	**-1.7**
	comp=N,0.0nm,0.3s,baz=200,slow=10,SNR=5.1						
BVAR	**Borovoye Array**	**18.42**	**355**	P	**Pn**	**12 00 08.8**	**+0.3**
	comp=N,0.4nm,0.3s,baz=181,slow=9.9,SNR=8.2						
AKTO	**Aktyubinsk**	**19.16**	**330**	P	**Pn**	**12 00 17.0**	**-0.6**
	comp=N,0.4nm,0.3s,baz=132,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**20.96**	**20**	P	**P**	**12 00 34.7**	**-1.5**
	comp=N,4.4nm,0.6s,baz=212,slow=11,SNR=20						
ARCES	**ARCESS Array B**	**43.43**	**338**	P	**P**	**12 03 56.1**	**+0.5**
	comp=N,0.9nm,0.5s,baz=118,slow=9.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**67.35**	**271**	P	**P**	**12 06 48.3**	**-0.2**
	comp=N,0.4nm,0.4s,baz=46,slow=6.1,SNR=6.6						
WRA	**Warramunga Arr**	**79.64**	**123**	P	**P**	**12 07 59.2**	**-1.6**
	comp=N,0.3nm,0.8s,baz=326,slow=5.0,SNR=2.1						
ASAR	**Alice Springs**	**81.88**	**126**	P	**P**	**12 08 11.0**	**-1.7**
	comp=N,0.2nm,0.8s,baz=319,slow=5.9,SNR=2.4						
YKA	**Yellowknife Ar**	**82.95**	**4**	P	**P**	**12 08 16.9**	**-0.8**
	comp=N,0.2nm,0.6s,baz=353,slow=5.3,SNR=5.6						

*TUL **10** 12:24:35.2±0.8, 36°.28N±0°.01×97°.51W±0°.02, h7km±7km, ML3.1, mb_Lg3.0/69(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=61.0*
NEIC 10 12:24:35.0±0.8**, 36°.27N**±0°.01×**97°.523W**±0°.008**, h5**km±2km**, Error ellipse: s-maj=3.0km s-min=2.0km az=47.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.86**	**176**		Pg	12 24 50.6	-0.8
OKCSW	**OKLAHOMA CITY**	**0.87**	**175**	Pg	Pg	12 24 51.6	-0.1
FNO	**Franklin**	**1.02**	**174**		Pg	12 24 54.2	-0.3
T35A	**Sooner Cattle**	**1.04**	**51**	Pg	Pg	12 24 54.8	-0.2
U32A	**Winter Ranch,**	**1.20**	**276**	Pg	Pg	12 24 57.4	-0.6
W35A	**Tecumseh**	**1.23**	**154**		Pg	12 24 57.7	-1.0
TUL1	**Leonard**	**1.45**	**104**		Pn	12 25 01.2	-0.7
X34A	**Smith Ranch, M**	**1.69**	**189**		Pb	12 25 06.3	-0.2
X34A				IAmb_Lg		12 25 32.5	
	comp=Z,59nm,0.9s						
WMOK	**Wichita Mounta**	**1.84**	**214**		Pn	12 25 08.0	+0.6
R32A	**Long Quarter,**	**2.35**	**337**		Pn	12 25 15.4	+1.1
X37A	**Clayton**	**2.43**	**133**		Pn	12 25 16.2	+0.8
HHAR	**Hobbs**	**2.90**	**89**	Pn	Pn	12 25 23.2	+1.3
KSU1	**Kansas State U**	**2.92**	**14**		Pn	12 25 22.3	+0.2
Z35A	**Perchaven, San**	**2.94**	**176**	Pn	Pn	12 25 23.1	+0.6
W39A	**Magazine**	**3.23**	**108**	IAmb_Lg		12 26 21.9	
	comp=Z,55nm,0.9s						
S39A	**Bolivar**	**3.65**	**66**		Pn	12 25 33.3	+1.1
AMTX	**Amarillo**	**3.66**	**249**	Pn	Pn	12 25 33.3	+0.9
AMTX				IAmb_Lg		12 26 36.0	
	comp=Z,32nm,0.8s						
U40A	**Yellville**	**3.77**	**87**		Pn	12 25 34.9	+1.0
U40A				IAmb_Lg		12 26 35.5	
	comp=Z,35nm,0.9s						
ABTX	**Abilene, Hawle**	**4.04**	**206**	IAmb_Lg		12 26 45.5	
	comp=Z,36nm,1.0s						
X40A	**Basin Creek Fa**	**4.22**	**114**	IAmb_Lg		12 26 52.4	
	comp=Z,33nm,0.7s						
WHTX	**Lake Whitney,**	**4.27**	**179**	Pn	Pn	12 25 40.3	-0.4
MGMO	**Mountain Grove**	**4.31**	**77**		Pn	12 25 41.1	-0.2
MGMO				IAmb_Lg		12 26 54.6	
	comp=Z,25nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**101**	IAmb_Lg		12 26 57.0	
	comp=Z,22nm,0.8s						
W41B	**Gary Mavity, V**	**4.43**	**103**	Pn	Pn	12 25 42.9	0.0
W41B				IAmb_Lg		12 27 03.8	
	comp=Z,20nm,1.1s						
WLAR	**White Oak Lake**	**4.45**	**124**	IAmb_Lg		12 27 02.3	
	comp=Z,28nm,0.8s						
P38A	**Dawn**	**4.60**	**42**	IAmb_Lg		12 27 02.9	
	comp=Z,32nm,0.7s						
N35A	**Tabor**	**4.81**	**17**	Pn	Pn	12 25 48.7	+0.5
KSCO	**Kaye Shedlock'**	**4.89**	**306**	IAmb_Lg		12 27 24.0	
	comp=Z,28nm,0.7s						
Z41A	**Richland Creek**	**4.91**	**126**	IAmb_Lg		12 27 20.4	
	comp=Z,42nm,0.8s						
BGNE	**Belgrade**	**5.15**	**355**	Pn	Pn	12 25 52.6	-0.2
BGNE				IAmb_Lg		12 27 23.8	
	comp=Z,29nm,0.7s						
CCAR	**Cane Creek**	**5.27**	**115**	IAmb_Lg		12 27 28.6	
	comp=Z,25nm,0.8s						
CCM	**Cathedral Cave**	**5.32**	**69**	IAmb_Lg		12 27 31.9	
	comp=Z,26nm,0.8s						
P40A	**Paris**	**5.42**	**51**	IAmb_Lg		12 27 32.1	
	comp=Z,32nm,0.8s						
T25A	**Trinidad**	**5.60**	**281**	Pn	Pn	12 25 59.2	0.0
T25A				IAmb_Lg		12 27 34.7	
	comp=Z,20nm,1.1s						
PBMO	**Poplar Bluff**	**5.74**	**83**	IAmb_Lg		12 27 40.7	
	comp=Z,27nm,0.8s						
L34A	**Svendsen Farm,**	**5.76**	**9**	IAmb_Lg		12 27 42.5	
	comp=Z,30nm,0.8s						
OGNE	**Ogallala**	**5.85**	**324**	IAmb_Lg		12 27 47.6	
	comp=Z,28nm,0.8s						
FVM	**French Village**	**5.92**	**71**	IAmb_Lg		12 27 44.3	
	comp=Z,20nm,0.9s						
PARMO	**Parma**	**6.28**	**84**	IAmb_Lg		12 27 51.8	
	comp=Z,27nm,0.8s						
K31A	**O'Neill**	**6.42**	**352**	IAmb_Lg		12 28 04.0	
	comp=Z,30nm,0.7s						
SCIA	**State Center**	**6.55**	**29**	IAmb_Lg		12 28 20.1	
	comp=Z,25nm,0.7s						
Q24A	**Divide**	**6.62**	**296**	IAmb_Lg		12 28 08.3	
	comp=Z,17nm,0.8s						
S44A	**Carbondale**	**6.77**	**75**	IAmb_Lg		12 28 09.0	
	comp=Z,23nm,0.8s						
SIUC	**Southern Illin**	**6.80**	**75**	IAmb_Lg		12 28 15.5	
	comp=Z,26nm,0.8s						
L40A	**Anamosa**	**7.58**	**38**	IAmb_Lg		12 28 46.3	
	comp=Z,12nm,0.7s						
OLIL	**Olney**	**7.88**	**69**	IAmb_Lg		12 28 48.1	
	comp=Z,19nm,0.8s						
PHWY	**Pilot Hill**	**7.97**	**311**	IAmb_Lg		12 28 59.8	
	comp=Z,13nm,0.8s						
SUSD	**Miller**	**8.24**	**353**	IAmb_Lg		12 29 04.9	
	comp=Z,14nm,0.9s						
JFWS	**Jewell Farm**	**8.69**	**38**	IAmb_Lg		12 29 09.2	
	comp=Z,19nm,0.9s						
I40A	**Norwalk**	**9.27**	**33**	IAmb_Lg		12 29 38.8	
	comp=Z,9.5nm,0.8s						

IDC 10 12:26:23.4±4.0**, 12°.91S**×**166°.53E, h0**km**, mb3.4**/5**, mb1 3.6**/5**, mb1mx3.5**/25**, mbtmp3.4**/5**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.4**/28**, Error ellipse: s-maj=144.3km s-min=34.2km az=137.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.12**	**181**	LR	LR	12 31 56.6	
	comp=Z,94nm,18.2s,baz=2.5,slow=37						
WRA	**Warramunga Arr**	**31.62**	**253**	P	P	12 32 48.5	+0.1
	0.1nm,0.7s,baz=85,slow=9.3,SNR=0.9						
ASAR	**Alice Springs**	**32.70**	**246**	P	P	12 32 57.9	0.0
	0.3nm,0.8s,baz=73,slow=9.4,SNR=4.6						
SONM	**Songino Array**	**80.61**	**324**	P	P	12 38 38.1	-0.1
	0.1nm,0.5s,baz=143,slow=4.8,SNR=2.0						
ILAR	**Eielson Array**	**85.03**	**18**	P	P	12 39 00.7	+0.2
	0.3nm,0.7s,baz=224,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**95.40**	**317**	P	P	12 39 49.6	-0.3
	0.5nm,0.8s,baz=96,slow=6.4,SNR=4.4						

*CNRM **10** 12:42:40.1, 35°.41N×3°.64W, h40km, ml2.9*
*MDD **10** 12:42:40.7±0.7, 35°.45N×3°.72W, h20km±6km, mb_Lg2.6/8, Error ellipse: s-maj=5.6km s-min=3.9km az=136.0*
ISC 10 12:42:39.6±1.2**, 35°.42N**±0°.03×**3°.71W**±0°.03**, h29**km±13km**, n16,** σ1s.**48**/31**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.62**	**109**	P	**Pb**	**12 42 51.5**	**-0.5**
GOG				S	**Sb**	**12 43 00.5**	**+0.1**
EMEL	**Melilla**	**0.63**	**101**	Pg	**Pb**	**12 42 52.2**	**+0.2**
EMEL				Sg	**Sn**	**12 43 01.5**	**0.0**
EALB	**Alboran**	**0.75**	**47**	Pg	**Pb**	**12 42 53.5**	**-0.7**
EALB				Sg	**Sb**	**12 43 03.9**	**-0.2**
EALB				*i* Vmb_Lg		12 43 04.4	
TAF	**Taforalt**	**1.22**	**119**	P	**Pn**	**12 42 59.9**	**-0.9**
TAF				S	**Sn**	**12 43 15.0**	**-1.4**
CHEFC	**Chefchaouen**	**1.37**	**257**	P	**Pn**	**12 43 02.2**	**-0.7**
CHEFC				S	**Sn**	**12 43 21.9**	**+1.8**
EMIJ	**Mijas**	**1.43**	**323**	Pn	**Pb**	**12 43 05.9**	**+0.3**
EMIJ				Sn	**Sn**	**12 43 19.1**	**-2.3**
EMIJ				*i* Vmb_Lg		12 43 25.2	
ELGU	**Los Guajares,**	**1.44**	**3**	Pn	**Pn**	**12 43 05.4**	**+1.5**
ELGU				Sn	**Sn**	**12 43 19.7**	**-2.2**
ELGU				*i* Vmb_Lg		12 43 24.5	
EBER	**Berja**	**1.61**	**24**	Pn	**Pn**	**12 43 07.0**	**+0.7**
EBER				Sn	**Sn**	**12 43 26.7**	**+0.4**
EBER				*i* Vmb_Lg		12 43 28.3	
EQUE	**Quentar**	**1.79**	**7**	Sn	**Sn**	**12 43 30.9**	**+0.4**
ENIJ	**Nijar**	**1.97**	**38**	Pn	**Pn**	**12 43 11.9**	**+0.9**
ENIJ				Sn	**Sn**	**12 43 32.9**	**-1.8**
ENIJ				*i* Vmb_Lg		12 43 34.6	
EQES	**Quesada**	**2.43**	**12**	Pn	**Pn**	**12 43 19.5**	**+2.0**
EQES				Sn	**Sn**	**12 43 48.7**	**+2.4**
EQES				*i* Vmb_Lg		12 43 50.5	
MD31	**MD31**	**2.69**	**199**	P	**Pn**	**12 43 22.5**	**+1.5**
MD31				S	**Sn**	**12 43 52.4**	**-0.3**
MDT	**Midelt**	**2.71**	**196**	P	**Pn**	**12 43 22.5**	**+1.3**
MDT				S	**Sn**	**12 43 53.3**	**+0.2**
ECAB	**El Cabril**	**2.98**	**333**	Pn	**Pn**	**12 43 26.3**	**+1.4**
ECAB				Sn	**Sn**	**12 43 58.9**	**-0.9**
EMIN	**Mina Concepcio**	**3.34**	**315**	Pn	**Pn**	**12 43 31.2**	**+1.3**
EMIN				Sn	**Sn**	**12 44 06.4**	**-2.2**
EMIN				*i* Vmb_Lg		12 44 53.5	
EGRO	**El Granado**	**3.70**	**306**	Pn	**Pn**	**12 43 35.0**	**+0.1**
EGRO				Sn	**Sn**	**12 44 14.1**	**-3.4**
EGRO				*i* Vmb_Lg		12 45 01.7	

*IDC **10** 12:48:37.2±0.7, 8°.19N×103°.49W, h0km, mb4.5/19, mb1 4.7/20, mb1mx4.6/33, mbtmp4.5/20, ML4.1/1, MS4.6/56, Ms1 4.7/56, ms1mx4.6/67, Error ellipse: s-maj=25.6km s-min=11.2km az=54.0*
*NEIC **10** 12:48:40.5±2.5, 8°.38N±0°.09×103°.3W±0°.1, h10km±1km, mb4.9/278, Error ellipse: s-maj=19.0km s-min=13.7km az=239.0*
*GCMT **10** 12:48:41.5±0.1, 8°.51N±0°.01×103°.33W±0°.01, h12km, MW5.3/126, Moment Tensor Solution. s96,c140; s126,c240; Duration: 1s.1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.22±.01; $M_{\theta\theta}$0.23±.01; $M_{\phi\phi}$0.00±.01; $M_{r\theta}$-0.33±.04; $M_{\theta\phi}$-0.96±.01; $M_{\phi r}$0.03±.04; Best double couple: $M_0$1.02400×10^{17} NP1:ϕ_s356.00000°,δ70.00000°,λ-4.00000°. NP2:ϕ_s88.00000°,δ86.00000°,λ-160.00000°. Principal axes: T 1.1280, Plg11.0000°, Azm220.0000°; N -0.2080, Plg70.0000°, Azm98.0000°; P -0.9200, Plg17.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MEX **10** 12:51:04.6, 8°.23N×103°.35W, h10km, MD5.1*
ISC 10 12:48:39.1±0.4**, 8°.29N**±0°.06×**103°.33W**±0°.07**, h10**km**, n495,** σ1s.**27**/336**, mb4.9**/138**, MS4.7**/59**, 1D, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**9.20**	**19**	*e*P	Pn	12 51 02.9	+11
DAIG	**Los Arroyos**	**9.39**	**22**	*e*P	Pn	12 51 02.0	+7.4
ZIIG	**Zihuatanejo**	**9.44**	**11**		**Pn**	**12 50 59.9**	**+4.6**
ZIIG	**Zihuatanejo**	**9.44**	**11**	*e*P	**Pn**	**12 50 59.9**	**+4.6**
PNIG	**Pinotepa**	**9.52**	**32**		**Pn**	**12 50 59.7**	**+3.3**
PNIG	**Pinotepa**	**9.52**	**32**	*i* S	Sn	12 52 56.1	+13
PNIG	**Pinotepa**	**9.52**	**32**	*e*P	**Pn**	**12 50 59.7**	**+3.3**
PEIG	**Puerto Escondi**	**9.76**	**38**	*e*P	**Pn**	**12 51 00.5**	**+0.9**
MMIG	**Aquila**	**9.94**	**360**		**Pn**	**12 51 00.7**	**-1.4**
MMIG	**Aquila**	**9.94**	**360**	*e*S	**Sn**	**12 52 58.2**	**+4.3**
MMIG	**Aquila**	**9.94**	**360**	*e*P	**Pn**	**12 51 00.7**	**-1.4**
HUIG	**Huatulco**	**10.25**	**43**		Pn	12 51 01.4	-5.0
HUIG	**Huatulco**	**10.25**	**43**	⇓*e*P	Pn	12 51 01.4	-5.0
TLIG	**Tlapa**	**10.32**	**26**	Pn	**Pn**	**12 51 07.1**	**-0.3**
ARIG	**Puente Sto Nin**	**10.35**	**16**		Pn	12 51 03.1	-4.7
ARIG	**Puente Sto Nin**	**10.35**	**16**	*e*P	Pn	12 51 03.1	-4.7
MOIG	**Morelia**	**11.51**	**10**	Pn	**Pn**	**12 51 24.3**	**+0.4**
THIG		**12.67**	**58**		**Pn**	**12 51 36.7**	**-2.8**
CCIG	**Comitan**	**13.51**	**53**		**Pn**	**12 51 51.0**	**-0.1**
HUEH	**Huehuetenango**	**13.51**	**58**		**Pn**	**12 51 48.3**	**-3.0**
ZAIG	**Zacatecas**	**14.42**	**3**	Pn	**Pn**	**12 52 05.1**	**+1.4**
MTO3	**Montecristo**	**14.97**	**65**	Pn	**Pn**	**12 52 08.3**	**-2.9**
ESQI	**Esquipulas**	**15.05**	**64**	Pn	**Pn**	**12 52 13.3**	**+1.1**
PETF	**Flores**	**15.68**	**56**	Pn	**Pn**	**12 52 18.8**	**-1.5**
PETF				IAmb	IAmb	12 52 26.0	
	comp=Z,74nm,1.1s						
PAYG	**Puerto Ayora**	**15.75**	**124**	Pn	**Pn**	**12 52 22.8**	**+1.5**
PAYG				IAmb	IAmb	12 52 32.5	
	comp=Z,130nm,1.4s						
SLBS	**Sierra La Lagu**	**16.57**	**338**	Pn	**Pn**	**12 52 31.8**	**-0.1**
CRIN	**San Cristobal**	**16.59**	**73**	Pn	**Pn**	**12 52 32.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**16.75**	**69**	Pn	**Pn**	**12 52 34.7**	**+0.4**
TGUH				IAmb	IAmb	12 52 39.9	
	comp=Z,111nm,1.3s						
LPIG	**La Paz**	**17.09**	**338**	LR	LR	12 57 35.4	
	comp=Z,5µm,19.3s,baz=162,slow=32						
MATN	**Matagalpa**	**17.71**	**73**	Pn	**Pn**	**12 52 44.5**	**-1.7**
ORTG	**Ortega, Santa**	**17.75**	**82**	P	**P**	**12 52 49.2**	**+1.7**
BOAB	**BOACO BROADBAN**	**17.85**	**75**		**Pn**	**12 52 48.8**	**+1.0**
BOAB				IAmb	IAmb	12 53 02.8	
	comp=Z,168nm,1.3s						
CAO2	**Cobano, Puntar**	**18.05**	**84**	P	**P**	**12 52 52.2**	**+1.5**
ACON	**Acoyapa**	**18.24**	**77**	P	**Pn**	**12 52 53.6**	**+1.0**
ACON				IAmb	IAmb	12 52 57.8	
	comp=Z,91nm,1.3s						
JTS	**Las Juntas de**	**18.24**	**82**	P	**P**	**12 52 54.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=266,slow=3.9,SNR=9.2						
JTS				LR	LR	12 57 52.4	
	comp=Z,2µm,20.9s,baz=322,slow=30						
JTS	**Las Juntas de**	**18.24**	**82**		**Pn**	**12 52 53.8**	**+1.1**
HPIG		**18.68**	**353**	P	**Pn**	**12 53 00.1**	**+2.0**
ESPN	**Las Esperanzas**	**19.12**	**77**	P	**P**	**12 53 03.2**	**+0.7**
ESPN				IAmb	IAmb	12 53 11.5	
	comp=Z,82nm,1.3s						
RIMA	**Rio Macho**	**19.28**	**84**	P	**Pn**	**12 53 06.7**	**+1.2**
PEZE	**Perez Zeledon,**	**19.45**	**85**	P	**P**	**12 53 07.5**	**+1.3**
PEZE				IAmb	IAmb	12 53 12.6	
	comp=Z,127nm,1.4s						
RIOS	**Rincon, Osa**	**19.60**	**87**	P	**P**	**12 53 08.9**	**+1.1**
SRBA	**San Rafael, Bu**	**19.75**	**86**	P	**P**	**12 53 11.0**	**+1.4**
DRK0	**Durika**	**19.87**	**86**	P	**P**	**12 53 12.8**	**+1.9**
CDITO	**Canoas**	**20.23**	**88**	P	Pn	12 53 17.2	+0.6
833A	**Chaparral WMA,**	**20.27**	**10**	P	**P**	**12 53 15.4**	**+0.5**
833A				IAmb	IAmb	12 53 28.5	
	comp=Z,55nm,1.2s						
833A	**Chaparral WMA,**	**20.27**	**10**	P	**P**	**12 53 15.3**	**+0.3**
	baz=191						

TX31 **Lajitas Ar. Si** 20.94 359 P P 12 53 22.8 +0.5
TX31 IAmb IAmb 12 53 38.2
comp=Z,85nm,1.1s
TXAR **Lajitas Array** 20.94 359 P P 12 53 23.4 +1.1
comp=Z,6.8nm,0.8s,baz=182,slow=12,SNR=33
TXAR LR LR 13 00 54.0
comp=Z,4µm,18.3s,baz=176,slow=35
JCT **Junction City** 22.32 8 P P 12 53 36.8 -0.4
HKT **Hockley** 22.67 17 P P 12 53 41.3 +0.7
HKT IAmb IAmb 12 54 06.1
comp=Z,48nm,1.4s
435B **Jarrell** 23.02 13 IAmb IAmb 12 53 57.5
comp=Z,44nm,1.1s
435B **Jarrell** 23.02 13 P P 12 53 43.7 -0.7
baz=195
MNTX **Cornudas Mount** 23.37 356 P P 12 53 47.0 -1.0
319A **Douglas** 23.63 347 IAmb IAmb 12 54 01.6
comp=Z,59nm,1.4s
WHTX **Lake Whitney,** 24.21 12 P P 12 53 55.8 -0.3
baz=194
ABTX **Abilene, Hawle** 24.46 8 IAmb IAmb 12 54 12.1
comp=Z,38nm,1.0s
ABTX **Abilene, Hawle** 24.46 8 P P 12 53 58.7 +0.4
baz=189
121A **Cookes Peak, D** 24.48 351 P P 12 53 59.1 +0.4
baz=169,SNR=20
TUC **Tucson** 24.89 345 P P 12 54 02.6 +0.3
TUC **Tucson** 24.89 345 P P 12 54 03.5 +1.1
baz=162
214A **Organ Pipe Nat** 25.15 341 IAmb IAmb 12 54 07.3
comp=Z,26nm,1.1s
214A **Organ Pipe Nat** 25.15 341 P P 12 54 05.3 +0.7
baz=158,SNR=11
MSTX **Muleshoe** 25.56 1 P P 12 54 08.5 0.0
MSTX **Muleshoe** 25.56 1 P P 12 54 08.3 -0.2
baz=181
Y22D **IRIS PASSCAL I** 25.88 353 P P 12 54 10.4 -1.0
baz=172
BNM **Barren Site** 25.92 354 P P 12 54 12.6 +0.7
OTAV **Otavalo** 26.04 107 P P 12 54 14.2 +0.7
113A **Mohawk Valley,** 26.21 340 IAmb IAmb 12 54 15.8
comp=Z,23nm,0.9s
AMTX **Amarillo** 26.51 3 P P 12 54 17.2 +0.1
AMTX IAmb IAmb 12 54 32.6
comp=Z,28nm,1.3s
AMTX **Amarillo** 26.51 3 P P 12 54 17.3 +0.3
baz=184
Z41A **Richland Creek** 26.69 20 P P 12 54 18.8 +0.3
baz=204
ANMO **Albuquerque** 26.69 354 P P 12 54 19.6 +0.9
comp=Z,1.3nm,0.6s,baz=188,slow=9.5,SNR=6.2
ANMO LR LR 13 03 22.3
comp=Z,2µm,18.9s,baz=176,slow=33
ANMO **Albuquerque** 26.69 354 P P 12 54 18.9 +0.2
GCUF **Volcan Galeras** 26.81 104 eP P 12 54 24.5 +4.1
GLA **Glamis** 26.84 338 P P 12 54 19.9 -0.1
baz=154,SNR=7.4
IKP **In-Ko-Pah, Jac** 26.99 336 P P 12 54 21.9 +0.6
baz=151
X16A **Lo Mia Camp, P** 27.06 345 P P 12 54 21.7 -0.4
SWSC **Sam W. Stewart** 27.12 337 P P 12 54 21.7 -0.7
baz=152
POPC **Popayan, Colom** 27.13 101 eP P 12 54 24.5 +1.6
BAR **Barrett** 27.25 335 IAmb IAmb 12 54 25.3
comp=Z,27nm,1.2s
SOTA **Rioblanco** 27.29 101 eP P 12 54 26.6 +1.9
MONP2 **Monument Peak** 27.32 335 P P 12 54 24.2 -0.4
baz=151,SNR=7.6
W18A **Petrified Fore** 27.34 349 IAmb IAmb 12 54 28.7
comp=Z,40nm,1.5s
W18A **Petrified Fore** 27.34 349 P P 12 54 26.0 +1.4
baz=166,SNR=6.8
MOTC **Monteria, Cord** 27.36 87 eP P 12 54 26.6 +1.8
PCON **Cinco Dias** 27.45 101 eP P 12 54 28.1 +1.9
109C **Camp Elliot, M** 27.61 334 P P 12 54 27.7 +0.9
baz=150
BC3 **Big Chuckawall** 27.62 338 P P 12 54 28.0 +1.0
baz=153,SNR=7.7
PDMCI **Parker Dam,Lak** 27.74 341 P P 12 54 28.9 +0.9
baz=157,SNR=8.7
MARP **Paez Belalcaza** 27.76 100 eP P 12 54 30.9 +2.1
X40A **Basin Creek Fa** 27.80 19 P P 12 54 30.1 +1.6
baz=203
SJCC **San Jacinto, C** 27.84 85 P P 12 54 29.8 +0.7
SJCC **San Jacinto, C** 27.84 85 eP P 12 54 30.4 +1.3
GUY2C **Guyana, Caldas** 27.93 94 eP P 12 54 32.6 +2.2
IRM **Iron Mountain** 27.95 339 P P 12 54 29.5 -0.4
baz=154,SNR=19
TPFO **Pinon Flats** 27.96 336 P P 12 54 29.9 -0.2
baz=151,SNR=5.5
PFO **Pinyon Flats O** 27.97 336 P P 12 54 30.9 +0.7
comp=Z,8.7nm,0.9s,baz=143,slow=7.6,SNR=12
PFO LR LR 13 03 38.2
comp=Z,1µm,19.3s,baz=144,slow=32
PFO **Pinyon Flats O** 27.97 336 P P 12 54 29.9 -0.3
PFO IAmb IAmb 12 54 34.1
comp=Z,19nm,1.2s
PFO **Pinyon Flats O** 27.97 336 P P 12 54 29.3 -0.8
baz=151,SNR=6.3
BELC **Belle Mtn. Jos** 28.13 337 P P 12 54 31.7 +0.1
baz=153,SNR=8.6
W39A **Magazine** 28.18 17 P P 12 54 32.1 +0.3
baz=200
ZARC **Zaragoza, Cauc** 28.21 90 IAmb IAmb 12 54 35.7
comp=Z,24nm,1.5s
ORTC **Ortega, Tolima** 28.25 97 eP P 12 54 35.0 +2.1
MURC **Murrieta** 28.26 335 P P 12 54 31.0 -1.7
baz=150
NEE2 **Needles Airpor** 28.32 340 P P 12 54 32.9 -0.3
baz=156
SCI2 **San Clemente I** 28.33 332 P P 12 54 32.6 -0.6
baz=147
TUL1 **Leonard** 28.34 13 P P 12 54 33.1 -0.3
baz=196
FLOC **Florencia** 28.35 102 eP P 12 54 33.1 -0.6
CIS **Catalina Islan** 28.62 333 P P 12 54 37.2 +1.3
baz=148
W41B **Gary Mavity, V** 28.62 19 IAmb IAmb 12 54 47.9
comp=Z,24nm,1.4s
W41B **Gary Mavity, V** 28.62 19 P P 12 54 36.9 +1.0
baz=203
PTBC **PUERTO BERRIO,** 28.68 92 eP P 12 54 37.7 +1.1
GMRC **Granite Mounta** 28.70 339 P P 12 54 37.4 +0.7
baz=154,SNR=11
T25A **Trinidad** 28.74 358 P P 12 54 37.8 +0.7
baz=178
HEC **Hector,Ludlow** 28.99 338 P P 12 54 39.8 +0.6
baz=153
BFSC **Mount Baldy Ra** 29.00 335 P P 12 54 39.5 0.0
baz=150,SNR=5.5
ROSC **El Rosal** 29.01 95 P P 12 54 42.8 +2.8
comp=Z,7.6nm,0.4s,baz=17,slow=9.7,SNR=4.1
ROSC **El Rosal** 29.01 95 IAmb IAmb 12 54 46.1
comp=Z,22nm,1.1s
ATAH **Atahualpa** 29.20 121 P P 12 54 42.8 +1.2
comp=Z,3.2nm,0.7s,baz=310,slow=8.3,SNR=4.6
ATAH LR LR 13 04 00.4
comp=Z,3µm,20.7s,baz=289,slow=32
DECC **Green Verdugo** 29.30 334 P P 12 54 43.4 +1.5
baz=148
TUQ **Turquoise Moun** 29.38 339 P P 12 54 43.4 +0.6
baz=154,SNR=9.3
SDCO **Great Sand Dun** 29.39 356 P P 12 54 44.2 +1.2
baz=176
TIGA **Tifton** 29.48 36 P P 12 54 44.0 +0.6
baz=223
S22A **4UR Ranch, Cre** 29.50 354 P P 12 54 45.0 +1.1
baz=173,SNR=11
U40A **Yellville** 29.53 17 P P 12 54 44.7 +0.8
baz=201
PTLC **Puerto Leguiza** 29.55 104 eP P 12 54 45.9 +1.5
GSC **Goldstone, Bar** 29.59 337 P P 12 54 45.1 +0.5
baz=152,SNR=7.9
EDW2 **Edwards Air Fo** 29.70 335 P P 12 54 46.2 +0.7
baz=150,SNR=6.7
CCAC **Calif City Air** 29.94 335 IAmb IAmb 12 54 49.8
comp=Z,23nm,0.8s
LCMT **Little Creek M** 29.98 344 IAmb IAmb 12 54 50.1
comp=Z,22nm,1.1s
PLAL **Pickwick Lake** 30.03 26 IAmb IAmb 12 54 59.3
comp=Z,18nm,1.3s
SBC **Santa Barbara** 30.08 332 P P 12 54 49.5 +0.7
baz=146
LRMC **Laurel Mtn Rad** 30.09 336 P P 12 54 50.3 +1.3
baz=151,SNR=9.5
RUSC **La Rusia** 30.10 93 eP P 12 54 52.0 +2.2
CRJC **Cerrejon, Guaj** 30.13 82 eP P 12 54 39.6 -10

PV13 **Radium Mtn., P** 30.15 351 IAmb IAmb 12 55 01.9
comp=Z,14nm,1.0s
QSM **Queen of Sheba** 30.20 338 IAmb IAmb 12 54 51.9
comp=Z,19nm,1.3s
ARVC **Arvin** 30.26 334 P P 12 54 51.2 +0.8
baz=148
PV15 **Paradox Valley** 30.28 352 IAmb IAmb 12 55 03.3
comp=Z,24nm,1.5s
PV11 **David Mesa, Pa** 30.30 351 IAmb IAmb 12 54 53.2
comp=Z,25nm,1.2s
GWY **Greenwater Val** 30.32 338 IAmb IAmb 12 54 52.9
comp=Z,16nm,1.0s
PAMC **Pamplona, Colo** 30.35 90 eP P 12 54 54.0 +2.0
PV07 **Paradox Valley** 30.40 352 IAmb IAmb 12 54 54.3
comp=Z,13nm,1.0s
MPMC **Manual Prospec** 30.52 337 P P 12 54 53.5 +0.6
baz=152,SNR=12
ISA **Isabella, Lake** 30.57 335 P P 12 54 53.8 +0.6
baz=150
Q24A **Divide** 30.59 357 P P 12 54 54.6 +1.0
baz=176
KSCO **Kaye Shedlock'** 30.60 1 P P 12 54 54.6 +1.1
baz=181
FURC **Furnace Creek,** 30.64 338 P P 12 54 54.7 +1.0
baz=153,SNR=8.4
MTPU **Mount Pierson** 30.69 346 IAmb IAmb 12 54 57.7
comp=Z,30nm,1.3s
FPAL **Fort Paine** 30.79 29 IAmb IAmb 12 55 04.9
comp=Z,18nm,1.3s
TPNV **Topopah Spring** 30.86 340 P P 12 54 57.0 +1.2
baz=154
SMCO **Snowmass** 30.93 354 IAmb IAmb 12 55 14.4
comp=Z,21nm,1.4s
SMMC **Simmler** 30.93 333 P P 12 54 57.2 +0.9
baz=147
VES **Vestal, Richgr** 30.98 335 P P 12 54 57.1 +0.4
baz=149
URIC **Uribia, Colomb** 31.03 81 eP P 12 55 12.4 +15
CWC **Cottonwood Cre** 31.08 337 P P 12 54 58.2 +0.4
baz=151
WVT **Waverly** 31.11 25 P P 12 54 57.7 -0.1
WVT IAmb IAmb 12 55 05.3
comp=Z,15nm,1.2s
GRAC **Grapevine Rang** 31.30 338 IAmb IAmb 12 55 02.1
comp=Z,18nm,1.2s
GRAC **Grapevine Rang** 31.30 338 P P 12 55 00.6 +1.1
baz=153
Q16A **Castle Valley** 31.30 348 IAmb IAmb 12 55 01.9
comp=Z,14nm,1.2s
S11A **Rachel** 31.32 341 IAmb IAmb 12 55 02.4
comp=Z,25nm,1.1s
SRU **San Rafael Swe** 31.36 349 IAmb IAmb 12 55 11.3
comp=Z,16nm,1.2s
R40A **Maddies Statio** 31.50 17 IAmb IAmb 12 55 09.3
comp=Z,13nm,1.1s
CCM **Cathedral Cave** 31.58 18 P P 12 55 02.5 +0.5
baz=203
TIN **Tinemaha, Big** 31.68 337 P P 12 55 03.8 +0.9
baz=151
TMUT **Trail Mountain** 31.68 348 IAmb IAmb 12 55 05.4
comp=Z,21nm,1.2s
P18A **Preston Nutter** 31.82 350 IAmb IAmb 12 55 06.4
comp=Z,20nm,1.4s
R11A **Troy Canyon, C** 31.91 342 P P 12 55 05.8 +0.7
baz=157,SNR=7.4
O20A **White River Ci** 32.02 353 P P 12 55 07.6 +1.5
baz=171,SNR=5.3
CPCT **Cooper Cave** 32.05 30 IAmb IAmb 12 55 14.2
comp=Z,20nm,1.1s
T47A **Sharon Grove** 32.15 25 IAmb IAmb 12 55 17.4
comp=Z,18nm,1.2s
U49A **Red Boiling Sp** 32.32 27 IAmb IAmb 12 55 16.3
comp=Z,23nm,1.4s
SDV **Santo Domingo** 32.33 86 P P 12 55 10.7 +1.7
comp=Z,30nm,1.0s,baz=266,slow=4.9,SNR=18
SDV LR LR 13 07 36.6
comp=Z,487nm,18.6s,baz=253,slow=35
SDV **Santo Domingo** 32.33 86 P P 12 55 09.9 +0.8
NLU **North Lily Min** 32.49 347 IAmb IAmb 12 55 12.6
comp=Z,16nm,1.2s
N23A **Red Feather La** 32.55 356 P P 12 55 11.1 +0.2
baz=175
TKL **Tuckaleechee C** 32.58 30 LR LR 13 09 15.1
comp=Z,1µm,21.8s,baz=218,slow=38
RDMU **Red Mountain** 32.63 351 IAmb IAmb 12 55 20.7
comp=Z,20nm,1.3s
P40A **Paris** 32.71 16 IAmb IAmb 12 55 19.9
comp=Z,18nm,1.1s
LHV **Little Huntoon** 32.83 338 IAmb IAmb 12 55 25.1
comp=Z,21nm,1.5s
NV11 **Mina Array Sit** 32.86 338 IAmb IAmb 12 55 15.8
comp=Z,19nm,1.3s
NVAR **Mina Array Sit** 32.91 338 P P 12 55 15.7 +1.8
comp=Z,5.2nm,0.8s,baz=168,slow=8.6,SNR=35
NVAR LR LR 13 06 34.3
comp=Z,1µm,20.4s,baz=147,slow=33
JLU **Jordanelle** 32.98 349 IAmb IAmb 12 55 16.6
comp=Z,15nm,1.1s
V53A **Saluda** 33.08 32 IAmb IAmb 12 55 17.5
comp=Z,20nm,1.4s
Q44A **Meyer Farm, Va** 33.09 21 P P 12 55 15.5 +0.3
CTU **Camp Tracy** 33.13 348 IAmb IAmb 12 55 25.3
comp=Z,18nm,1.1s
NNA **Nana** 33.15 127 LR LR 13 05 38.0
comp=Z,828nm,18.5s,baz=324,slow=31
RYN **Ryan** 33.17 338 IAmb IAmb 12 55 18.4
comp=Z,12nm,1.0s
BGNE **Belgrade** 33.30 7 P P 12 55 17.3 +0.2
baz=189
KVN **Kaiserville** 33.38 339 IAmb IAmb 12 55 20.4
comp=Z,18nm,1.0s
KMSC **Kings Mountain** 33.48 34 P P 12 55 18.2 -0.5
baz=222
BGU **Big Grassy Mou** 33.63 347 IAmb IAmb 12 55 23.0
comp=Z,27nm,1.2s
PNTR **Pine Nut** 33.98 337 IAmb IAmb 12 55 27.0
comp=Z,14nm,0.8s
S51A **Beattyville** 34.25 28 IAmb IAmb 12 55 33.4
comp=Z,20nm,1.1s
BMN **Battle Mountai** 34.33 341 IAmb IAmb 12 55 28.8
comp=Z,26nm,1.1s
K22A **Casper** 34.34 356 P P 12 55 26.3 0.0
baz=174
HVU **Hansel Valley** 34.39 347 P P 12 55 27.0 +0.3
HVU IAmb IAmb 12 55 28.8
comp=Z,20nm,1.1s
PAHR **Pah Rah Range** 34.43 338 IAmb IAmb 12 55 29.6
comp=Z,22nm,1.1s
PDAR **Pinedale Array** 34.78 352 P P 12 55 30.2 +0.1
comp=Z,8.3nm,1.0s,baz=167,slow=8.7,SNR=47
U56A **King** 34.88 33 IAmb IAmb 12 55 33.3
comp=Z,28nm,1.1s
BEKR **Beckworth** 34.94 337 IAmb IAmb 12 55 42.3
comp=Z,26nm,1.5s
AHID **Auburn Hatcher** 35.02 350 IAmb IAmb 12 55 34.1
comp=Z,28nm,1.3s
SFIN **Lafayette** 35.08 22 IAmb IAmb 12 55 44.1
comp=Z,32nm,1.4s
SFIN **Lafayette** 35.08 22 P P 12 55 31.4 -1.1
baz=209
ORV **Oroville** 35.14 335 IAmb IAmb 12 55 35.5
comp=Z,22nm,1.1s
P49A **Miami Univ. Ec** 35.30 25 P P 12 55 33.7 -0.7
baz=213
Q51A **Peebles** 35.48 27 P P 12 55 35.0 -1.0
S54A **Dingess, Beckl** 35.49 31 IAmb IAmb 12 55 52.1
comp=Z,36nm,1.4s
BLA **Blacksburg** 35.51 32 IAmb IAmb 12 55 44.2
comp=Z,39nm,1.0s
REDW **Red Top Meadow** 35.55 351 IAmb IAmb 12 55 39.0
comp=Z,30nm,1.3s
SNOW **Snow King Moun** 35.64 351 IAmb IAmb 12 55 50.6
comp=Z,30nm,1.4s
RPN **Rapa Nui** 35.68 189 LR LR 13 06 41.2
comp=Z,1µm,20.6s,baz=1.0,slow=30
L42A **Oliver, Polo** 35.68 18 IAmb IAmb 12 55 49.3
comp=Z,25nm,1.3s
TPAW **Teton Pass** 35.70 350 IAmb IAmb 12 55 58.3
comp=Z,17nm,1.2s
RSSD **Black Hills** 35.70 359 P P 12 55 38.0 0.0
O48B **Farmland** 35.73 24 P P 12 55 37.6 -0.4
baz=212
LOHW **Long Hollow** 35.76 351 IAmb IAmb 12 55 47.4
comp=Z,17nm,1.1s
T57A **Hurt** 35.98 34 IAmb IAmb 12 55 42.7
comp=Z,31nm,1.3s
O02D **Mt. Diablo Mer** 36.20 334 P P 12 55 41.9 -0.3
baz=146

H17A **Grant Village** 36.52 351 P P 12 55 45.4 +0.3
baz=168
P52A **Corning** 36.53 28 P P 12 55 45.3 +0.4
baz=217
WVOR **Wild Horse Val** 36.59 341 P P 12 55 45.9 +0.4
WVOR IAmb IAmb 12 55 48.0
comp=Z,24nm,1.1s
ACSO **Alum Creek Sta** 36.63 26 IAmb IAmb 12 55 47.2
comp=Z,19nm,1.1s
I37A **Lemond, Waseca** 36.63 12 IAmb IAmb 12 55 57.4
comp=Z,23nm,1.1s
LKWY **Lake** 36.66 352 IAmb IAmb 12 56 11.8
comp=Z,24nm,1.4s
MOD **Modoc Plateau** 36.69 339 P P 12 55 47.4 +0.9
MOD IAmb IAmb 12 55 48.8
comp=Z,28nm,1.2s
S57A **Dark Hollow, R** 36.70 33 IAmb IAmb 12 55 48.5
comp=Z,34nm,1.1s
N02D **Trinity Center** 36.83 335 P P 12 55 47.8 +0.2
baz=147
YMR **Madison River** 36.85 351 IAmb IAmb 12 55 57.4
comp=Z,32nm,1.5s
T59A **Double "B" Far** 36.91 35 IAmb IAmb 12 55 56.6
comp=Z,26nm,1.1s
YHL **Hebgen Lake** 37.06 351 IAmb IAmb 12 56 01.4
comp=Z,22nm,1.3s
M04C **Macdoel** 37.16 337 P P 12 55 50.8 +0.3
baz=149,SNR=7.3
M02C **Callahan** 37.24 335 P P 12 55 51.1 0.0
baz=147
MCMT **McKenzie Canyo** 37.33 349 P P 12 55 53.0 +1.0
SJG **San Juan** 37.42 71 LR LR 13 10 42.1
comp=Z,772nm,19.0s,baz=270,slow=35
O53A **New Philadelph** 37.45 28 P P 12 55 52.7 -0.1
baz=218
L48A **N Adams** 37.45 23 IAmb IAmb 12 56 03.5
comp=Z,37nm,1.3s
YBH **Yreka Blue Hor** 37.46 336 LR LR 13 08 53.0
comp=Z,845nm,20.8s,baz=152,slow=32
Q56A **Snyder Ridge,** 37.52 32 IAmb IAmb 12 56 01.6
comp=Z,21nm,1.2s
MCWV **Mont Chateau** 37.65 30 P P 12 55 54.5 0.0
baz=220
L04D **Klamath Falls** 37.71 337 P P 12 55 55.6 +0.4
baz=148
O54A **Avella** 37.79 29 IAmb IAmb 12 56 02.8
comp=Z,20nm,1.1s
DLMT **Dillon** 37.80 349 IAmb IAmb 12 55 58.5
comp=Z,37nm,1.3s
K04D **Chiloquin, OR** 37.85 338 P P 12 55 57.1 +0.8
baz=149
BOZ **Bozeman (W)** 37.86 350 IAmb IAmb 12 56 07.5
comp=Z,29nm,1.4s
SPMN **Marine on St.** 37.91 12 P P 12 55 57.2 +0.6
baz=197
L02E **Cave Junction** 38.19 335 P P 12 55 59.9 +0.9
baz=146
LRM **Limekiln Ridge** 38.22 350 P P 12 55 59.8 +0.3
J05D **Fort Rock, OR** 38.23 339 P P 12 56 01.1 +1.6
baz=151,SNR=9.2
PLID **Pearl Lake** 38.27 345 IAmb IAmb 12 56 01.6
comp=Z,38nm,1.4s
J04D **Umpqua Nationa** 38.51 338 P P 12 56 02.8 +0.8
baz=149
N54A **Moraine State** 38.58 29 IAmb IAmb 12 56 10.5
comp=Z,39nm,1.5s
N54A **Moraine State** 38.58 29 P P 12 56 02.2 -0.1
baz=219
M53A **WI Miller and** 38.64 28 P P 12 56 02.2 -0.5
baz=218
K02D **Willamette Mer** 38.66 336 P P 12 56 02.1 -0.9
baz=147
O56A **Blue Knob Stat** 38.75 31 IAmb IAmb 12 56 12.0
comp=Z,29nm,1.4s
O56A **Blue Knob Stat** 38.75 31 P P 12 56 03.5 -0.3
baz=221
I04A **Tendick Farm,** 39.10 338 P P 12 56 06.7 0.0
baz=149
J01E **Myrtle Point** 39.16 336 P P 12 56 08.2 +1.2
baz=147
M54A **Oil Creek Stat** 39.16 29 IAmb IAmb 12 56 09.1
comp=Z,44nm,1.4s
M54A **Oil Creek Stat** 39.16 29 P P 12 56 07.2 0.0
baz=219
I05D **Terrebonne, OR** 39.19 339 P P 12 56 08.0 +0.6
baz=151
SSPA **Standing Stone** 39.37 31 P P 12 56 07.4 -1.6
SSPA IAmb IAmb 12 56 10.9
comp=Z,34nm,1.4s
SSPA **Standing Stone** 39.37 31 P P 12 56 09.4 +0.4
baz=222
I03D **Drain, OR** 39.37 337 P P 12 56 09.2 +0.3
baz=148
M55A **Ridgway** 39.56 29 IAmb IAmb 12 56 17.9
comp=Z,28nm,1.2s
H04A **Detroit Lake** 39.79 339 IAmb IAmb 12 56 14.1
comp=Z,23nm,0.9s
I02E **Swisshome, OR** 39.91 337 P P 12 56 13.4 +0.1
baz=147
G05D **Wamic, OR** 39.97 340 P P 12 56 13.9 0.0
baz=152
EGMT **Eagleton** 39.97 353 P P 12 56 13.9 0.0
DGMT **Dagman** 40.05 359 IAmb IAmb 12 56 28.8
comp=Z,43nm,1.2s
F07A **Phinny Hill Vi** 40.11 342 IAmb IAmb 12 56 17.2
comp=Z,38nm,1.0s
WVNY **West Valley, N** 40.36 29 IAmb IAmb 12 56 18.9
comp=Z,36nm,1.4s
AGMN **Agassiz Nation** 40.37 8 P P 12 56 16.4 -0.7
TAOE **Nuku Hiva Isla** 40.45 246 eS S 13 02 31.2 +3.9
comp=Z,170nm,25.9s
TAOE eLQ LQ 13 05 35.8
comp=Z,3µm,27.1s
TAOE eLR LR 13 07 08.8
comp=Z,2µm,25.5s,baz=242
TAOE **Nuku Hiva Isla** 40.45 246 eT T 13 39 08.9
comp=Z,84nm,0.2s
F05D **White Salmon** 40.59 340 P P 12 56 18.5 -0.5
baz=152
E07A **Sunnyside** 40.68 342 IAmb IAmb 12 56 22.4
comp=Z,33nm,0.9s
B35A **Bob, Littlefor** 40.76 10 P P 12 56 19.7 -0.6
EYMN **Ely** 40.78 12 P P 12 56 19.9 -0.6
EYMN IAmb IAmb 12 56 21.9
comp=Z,27nm,1.4s
D08A **Wollman Farm,** 40.87 344 IAmb IAmb 12 56 22.9
comp=Z,18nm,1.0s
ETMB **Extrema** 41.10 115 eP P 12 56 22.7 -0.8
C09A **Chrisman Ranch** 41.37 345 IAmb IAmb 12 56 26.8
comp=Z,30nm,1.2s
BINY **Binghamton** 41.49 31 P P 12 56 26.4 -0.1
BINY IAmb IAmb 12 56 28.6
comp=Z,38nm,1.3s
NEW **Newport** 41.52 346 P P 12 56 26.6 -0.1
NEW IAmb IAmb 12 56 28.2
comp=Z,32nm,1.1s
E04D **Cinebar** 41.55 340 P P 12 56 26.2 -0.6
baz=151
WALA **Waterton Lakes** 41.60 350 P P 12 56 28.5 +1.1
K57A **Scipio Center** 41.61 30 IAmb IAmb 12 56 32.4
comp=Z,44nm,1.4s
TRNY **Table Rock, Ra** 41.67 34 IAmb IAmb 12 56 30.0
comp=Z,29nm,1.1s
PAL **Palisades** 41.75 34 P P 12 56 28.5 -0.1
baz=227
J56A **Wolcott** 41.85 29 IAmb IAmb 12 56 31.0
comp=Z,39nm,1.2s
SADO **Sadowa** 41.96 26 LR LR 13 15 40.0
comp=Z,642nm,19.3s,baz=196,slow=38
D04E **Lakebay** 42.16 340 P P 12 56 31.4 -0.3
baz=151
B08A **Colville Reser** 42.17 344 P P 12 56 31.8 -0.2
ULM **Lac du Bonnet** 42.29 7 P P 12 56 32.1 -0.7
comp=Z,2.5nm,0.7s,baz=186,slow=10,SNR=5.0
ULM LR LR 13 13 55.8
comp=Z,819nm,19.4s,baz=196,slow=36
J57A **Williamstown** 42.37 30 IAmb IAmb 12 56 35.8
comp=Z,21nm,1.2s
DELO **Deloro Mine** 42.44 27 IAmb IAmb 12 56 36.1
comp=Z,25nm,1.3s
LPAZ **La Paz** 42.54 125 P P 12 56 36.0 0.0
comp=Z,9.7nm,1.0s,baz=309,slow=6.0,SNR=17
LPAZ LR LR 13 12 14.7
comp=Z,623nm,21.8s,baz=315,slow=33
LPAZ **La Paz** 42.54 125 P P 12 56 36.0 0.0
D03D **Eldon** 42.57 340 P P 12 56 35.3 +0.1
baz=150
PB16 **IPOC Station P** 42.59 129 IAmb IAmb 12 56 45.3

comp=Z,34nm,1.5s
B05A Bryant 42.89 342 P P 12 56 38.2 +0.5
baz=152
BOAV Boa Vista 42.99 95 eP P 12 56 37.7 -1.4
A04D Lummi Island 43.48 341 P P 12 56 42.0 -0.5
baz=152
GO01 Chusmiza 43.61 130 P P 12 56 45.6 +1.1
NCB Newcomb 43.66 31 IAmb IAmb 12 56 52.3
comp=Z,26nm,1.4s
M65A Busby, Falmout 43.96 36 P P 12 56 46.5 0.0
baz=230
TRQ Mont Tremblant 45.14 28 IAmb IAmb 12 56 57.7
comp=Z,17nm,1.2s
LVC Limon Verde 45.59 133 P P 12 57 00.3 +0.1
comp=Z,4.8nm,0.9s,baz=298,slow=4.4,SNR=3.0
LVC LR LR 13 11 28.6
comp=Z,1µm,21.3s,baz=300,slow=30
LVC Limon Verde 45.59 133 P P 12 56 59.5 -0.7
LVC IAmb IAmb 12 57 07.2
comp=Z,18nm,1.2s
FFC Flin Flon 46.32 1 P P 12 57 03.3 -1.8
FFC IAmb IAmb 12 57 15.8
comp=Z,25nm,1.5s
H03N2 Juan Fernandez 47.53 152 T T 13 48 17.6
baz=329,slow=78,SNR=101
H03N1 Juan Fernandez 47.55 152 T T 13 48 23.6
baz=329,slow=78,SNR=126
H03N3 Juan Fernandez 47.55 152 T T 13 48 21.5
baz=329,slow=78,SNR=104
VILB Vilhena 47.76 116 eP P 12 57 16.2 -0.7
AC02 Maricunga 48.15 138 IAmb IAmb 12 57 26.8
comp=Z,16nm,1.1s
BBB Bella Bella 48.24 340 LR LR 13 15 47.9
comp=Z,578nm,21.1s,baz=156,slow=34
SIV San Ignacio 48.29 120 P P 12 57 19.5 -1.6
comp=Z,5.6nm,1.0s,baz=294,slow=8.7,SNR=11
SIV PcP PcP 12 58 48.4 +0.4
comp=Z,1.2nm,0.7s,baz=311,slow=5.6,SNR=4.0
SIV LR LR 13 16 04.9
comp=Z,1µm,18.2s,baz=293,slow=34
ITTB Itaituba 49.10 103 eP P 12 57 25.1 -2.2
PTLB Pontes e Lacer 49.73 118 eP P 12 57 30.9 -1.1
MALB Monte Alegre 49.94 99 eP P 12 57 31.9 -1.8
NPGB Novo Progresso 50.19 106 eP P 12 57 33.1 -2.5
MDP Montagnes des 50.41 90 LR LR 13 18 05.1
comp=Z,327nm,20.6s,baz=272,slow=35
FCC Fort Churchill 50.85 6 IAmb IAmb 12 57 53.3
comp=Z,28nm,1.5s
LMEL Las Melosas 52.38 145 IAmb IAmb 12 57 59.8
comp=Z,29nm,1.3s
PPT Papeete 52.42 240 LR LR 13 14 26.5
comp=Z,1µm,18.4s,baz=68,slow=30
PPT2 Papeete2 52.43 240 eS S 13 05 24.6 +5.7
comp=Z,344nm,27.5s
PPT2 eLR LR 13 12 44.8
comp=Z,2µm,25.0s,baz=57
CRAG Craig 52.64 339 P P 12 57 54.0 +0.7
baz=142
SALV Santo Antonio 52.93 117 eP P 12 57 54.5 -1.6
DLBC Dease Lake 54.07 343 LR LR 13 20 01.9
comp=Z,940nm,19.6s,baz=139,slow=35
PP1B Ponte de Pedra 54.33 119 eP P 12 58 06.6 +0.2
YKA Yellowknife Ar 54.73 354 P P 12 58 07.8 -0.7
comp=Z,5.3nm,1.1s,baz=164,slow=7.8,SNR=36
YKA PcP PcP 12 59 10.2 -0.8
comp=Z,2.5nm,0.9s,baz=159,slow=3.4,SNR=8.0
YKA LR LR 13 21 56.7
comp=Z,1µm,18.3s,baz=151,slow=36
SCHQ Schefferville 54.75 25 P P 12 58 08.3 -0.5
comp=Z,8.1nm,0.9s,baz=229,slow=6.9,SNR=6.4
SCHQ LR LR 13 23 08.1
comp=Z,1µm,19.4s,baz=233,slow=38
SCHQ Schefferville 54.75 25 IAmb IAmb 12 58 09.7
comp=Z,12nm,1.1s
AQDB Aquidauana 54.86 122 IAmb IAmb 12 58 14.1
comp=Z,12nm,1.1s
SNDB Serra Nova Dou 55.51 111 eP P 12 58 14.1 -0.8
TGTN Hyland Airport 56.24 346 P P 12 58 20.4 +0.9
baz=150
ARAG Araguaiana, MT 56.31 115 eP P 12 58 19.7 -1.0
CPUP Villa Florida 56.37 129 P P 12 58 21.1 +0.3
comp=Z,13nm,1.0s,baz=277,slow=5.7,SNR=8.1
CPUP Villa Florida 56.37 129 IAmb IAmb 12 58 26.3
comp=Z,25nm,1.1s
WHY Whitehorse 57.32 342 P P 12 58 27.7 +0.5
baz=142
PLCA Paso Flores 57.37 151 P P 12 58 27.6 -0.2
comp=Z,2.2nm,0.8s,baz=347,slow=10,SNR=4.0
PLCA LR LR 13 17 46.4
comp=Z,755nm,18.7s,baz=317,slow=30
MMPY Sheldon Lake, 57.91 345 P P 12 58 31.2 -0.1
baz=147
PNL Peninsula 58.04 339 P P 12 58 32.2 0.0
baz=137
SMTB Santa Maria do 58.08 106 eP P 12 58 32.3 -1.0
FARO Faro, Yukon 58.14 344 P P 12 58 33.4 +0.5
baz=144
N31M Braeburn, Yuko 58.24 342 P P 12 58 34.0 +0.4
baz=141
HYT Haines Junctio 58.26 341 P P 12 58 34.0 +0.1
baz=139
PEXB Peixe 58.33 110 eP P 12 58 34.6 -0.4
M31M Drury Creek, Y 58.41 344 IAmb IAmb 12 58 46.3
comp=Z,20nm,1.5s
M31M Drury Creek, Y 58.41 344 P P 12 58 35.1 +0.4
baz=143
YUK6 Outpost Mounta 58.63 341 P P 12 58 37.1 +0.6
baz=138
YUK4 Talbot Arm 59.02 341 P P 12 58 41.0 +1.7
baz=138
M30M Minto, Yukon 59.39 343 P P 12 58 41.8 +0.2
baz=141
CTG Chitna Glacier 59.64 340 P P 12 58 43.0 -0.5
baz=135
BDFB Brasilia 59.72 113 P P 12 58 45.0 +0.3
comp=Z,3.3nm,0.5s,baz=307,slow=13,SNR=3.5
BDFB LR LR 13 23 23.3
comp=Z,432nm,18.3s,baz=311,slow=35
YUK3 Moose Creek 59.93 341 P P 12 58 45.2 -0.4
baz=136
ROSB Rosrio 60.07 98 eP P 12 58 47.7 +0.7
IPMB Ipameri, GO 60.34 116 eP P 12 58 51.2 +2.3
MCARA McCarthy VSAT 60.52 339 P P 12 58 49.4 +0.1
baz=134
BVCY Beaver Creek 60.52 341 P P 12 58 49.0 -0.4
baz=136
FRB Frobisher Bay 60.67 17 LR LR 13 27 06.8
comp=Z,557nm,18.1s,baz=204,slow=38
BMRM Bremner River 60.80 338 P P 12 58 51.1 -0.2
baz=132
M27K Edge Creek, AK 60.81 341 P P 12 58 51.0 -0.5
baz=135
EYAK Cordova Ski Ar 60.95 338 P P 12 58 51.2 -1.0
baz=130
N25K Chitina, Valde 61.23 339 IAmb IAmb 12 58 59.9
comp=Z,15nm,1.1s
N25K Chitina, Valde 61.23 339 P P 12 58 53.5 -0.7
baz=132
J29M Klondike Camp 61.25 344 P P 12 58 53.9 -0.4
baz=140
BCAR Beaver Creek A 61.29 341 P P 12 58 53.4 -1.2
DAWY Dawson 61.29 343 P P 12 58 53.5 -1.1
DAWY IAmb IAmb 12 58 59.9
comp=Z,17nm,1.2s
DAWY Dawson 61.29 343 P P 12 58 54.2 -0.3
baz=138,SNR=8.4
L27K Beaver Creek, 61.30 341 IAmb IAmb 12 59 03.4
comp=Z,20nm,1.5s
L27K Beaver Creek, 61.30 341 P P 12 58 54.7 +0.1
baz=135
KLU Klutina 61.63 338 P P 12 58 56.6 -0.4
baz=130
HARP HAARP 61.95 339 P P 12 58 59.1 +0.1
baz=132
I29M Ogilvie Camp, 61.97 344 P P 12 58 58.9 -0.2
baz=140
SEW Seward 62.13 336 P P 12 59 00.2 0.0
baz=126
KDAK Kodiak Island 62.16 333 LR LR 13 19 44.1
comp=Z,345nm,20.1s,baz=149,slow=30
OHAK Old Harbor 62.20 332 P P 12 59 00.5 -0.1
baz=121
EGAK Eagle 62.34 343 P P 12 59 01.1 -0.5
EGAK IAmb IAmb 12 59 06.6
comp=Z,7.4nm,1.0s
DOT Dot Lake 62.43 341 IAmb IAmb 12 59 02.8
comp=Z,7.9nm,1.0s

PAX Paxson 62.44 340 IAmb IAmb 12 59 23.0
comp=Z,15nm,1.4s
PAX Paxson 62.44 340 P P 12 59 01.5 -0.9
baz=132
C36M Paulatuk 62.47 352 P P 12 59 01.6 -0.7
baz=157
KNK Knik Glacier 62.53 337 P P 12 59 01.2 -1.7
baz=128
SCRK Sand Creek 62.63 341 IAmb IAmb 12 59 12.9
comp=Z,13nm,1.4s
SCRK Sand Creek 62.63 341 P P 12 59 03.6 -0.1
baz=134
RAR Rarotonga 62.69 241 LR LR 13 20 52.9
comp=Z,441nm,19.2s,baz=67,slow=31
SML Sawmill 62.72 338 P P 12 59 01.6 -2.6
SML Sawmill 62.72 338 P P 12 59 03.2 -1.0
baz=128
RIDG Independent Ri 62.75 341 P P 12 59 04.3 -0.1
baz=132,SNR=6.7
RC01 Rabbit Creek A 62.82 337 P P 12 59 03.8 -1.1
baz=126
J26L Joseph Creek 62.86 342 P P 12 59 04.1 -1.1
baz=134
PMR Palmer 62.89 337 P P 12 59 05.1 -0.1
baz=127
JANB Januaria 62.92 112 eP P 12 59 06.0 -0.3
WAT6 Susitna Watana 62.99 339 P P 12 59 05.5 -0.6
baz=129
DHY Denali Highway 63.17 339 P P 12 59 06.7 -0.7
baz=130
INK Inuvik 63.20 348 LR LR 13 26 50.3
comp=Z,471nm,18.7s,baz=148,slow=36
INK Inuvik 63.20 348 P P 12 59 06.7 -0.4
INK Inuvik 63.20 348 P P 12 59 06.7 -0.4
baz=146,SNR=10
CAPN Captain Cook N 63.20 336 P P 12 59 06.1 -1.2
baz=125
M22K Willow 63.37 337 P P 12 59 07.9 -0.5
baz=126
J25K Salcha River, 63.51 341 IAmb IAmb 12 59 22.1
comp=Z,9.6nm,1.4s
J25K Salcha River, 63.51 341 P P 12 59 08.7 -0.8
baz=132
HDA Harding Lake 63.89 341 P P 12 59 10.9 -0.9
baz=130
ILAR Eielson Array 64.10 341 P P 12 59 12.4 -0.8
comp=Z,5.1nm,0.9s,baz=155,slow=5.1,SNR=41
MCK McKinley 64.13 339 P P 12 59 12.9 -0.6
baz=128
PRP Porcupine Dome 64.17 342 P P 12 59 13.6 -0.2
baz=132,SNR=9.4
P18K Big Mountain, 64.18 333 P P 12 59 11.9 -2.0
baz=120
O18K Koktuh Hills 64.41 334 P P 12 59 13.7 -1.7
baz=120
TRF Thorofare Moun 64.44 339 P P 12 59 14.9 -0.8
baz=127
TCOL CIGO, UAF Yank 64.49 341 P P 12 59 14.9 -0.9
baz=130
DIAM Diamantina, MG 64.51 115 eP P 12 59 16.8 -0.1
BWN Browne 64.59 340 P P 12 59 13.8 -2.6
N19K Bonanza Creek 64.59 335 P P 12 59 16.0 -0.7
N19K Bonanza Creek 64.59 335 P P 12 59 15.6 -1.1
baz=122
NEA2 Nenana 64.71 340 P P 12 59 16.3 -1.0
baz=128,SNR=9.0
KTH Kantishna Hill 64.73 339 IAmb IAmb 12 59 25.8
comp=Z,16nm,1.3s
PPLA Purkeypile 64.82 338 P P 12 59 17.3 -0.8
baz=125
A36M Sachs Harbour 65.06 353 P P 12 59 18.4 -0.9
baz=156,SNR=13
CAST Castle Rocks 65.08 338 P P 12 59 18.4 -1.2
baz=125
BPAW Bear Paw Mtn. 65.08 339 P P 12 59 19.1 -0.5
baz=126
H24K Noodor Dome 65.11 341 P P 12 59 19.3 -0.7
baz=130
M19K Big River Lodg 65.13 336 P P 12 59 18.5 -1.5
baz=122
I23K Minto, Yukon-K 65.16 340 P P 12 59 19.5 -0.6
baz=128,SNR=9.1
L20K Farewell, AK 65.23 337 P P 12 59 19.2 -1.5
baz=123
CHUM Lake Minchumin 65.43 338 P P 12 59 20.0 -1.9
baz=125
L19K White Mountain 65.46 336 P P 12 59 20.8 -1.4
baz=122
MLY Manley 65.55 340 P P 12 59 21.3 -1.5
baz=127
H23K Yukon River 65.64 341 P P 12 59 22.9 -0.4
baz=128
K20K Telida 65.79 337 P P 12 59 23.3 -0.9
baz=123
I21K Tanana 66.06 340 P P 12 59 25.3 -0.6
baz=126
J20K Nowinta River 66.26 338 P P 12 59 26.4 -0.9
baz=123
TTA Tatalina 66.31 337 P P 12 59 26.6 -1.1
baz=121
RES Resolute Bay 66.53 2 LR LR 13 27 25.0
comp=Z,530nm,18.0s,baz=204,slow=35
RES Resolute Bay 66.53 2 P P 12 59 27.6 -1.2
H21K Melozitna Rive 66.62 340 P P 12 59 28.6 -1.0
baz=125
COLD Coldfoot 66.72 342 P P 12 59 30.5 +0.3
COLD IAmb IAmb 12 59 35.9
comp=Z,12nm,1.2s
COLD Coldfoot 66.72 342 P P 12 59 30.3 +0.1
baz=128,SNR=6.6
TOLK Toolik Lake Re 67.42 343 P P 12 59 34.2 -0.4
baz=129
GUA01 Guaratinga, BA 67.51 112 eP P 12 59 36.6 +0.6
GCSA Galena City Sc 67.57 338 P P 12 59 34.9 -0.6
baz=121
RIB01 Linhares ES 67.77 115 eP P 12 59 37.8 +0.1
ALF01 Guarapari-ES 67.88 116 eP P 12 59 39.8 +1.5
NBLA Lagarto - SE 67.96 105 eP P 12 59 38.8 -0.2
SFJD Kangerlussuaq 68.45 20 LR LR 13 30 33.9
comp=Z,512nm,18.2s,baz=232,slow=37
NIKH Nikolski High 68.78 324 P P 12 59 43.0 -0.4
baz=105
USHA Ushuaia 69.34 159 LR LR 13 24 31.6
comp=Z,338nm,19.2s,baz=351,slow=31
NBPV Pedro Velho 69.39 100 eP P 12 59 48.7 +0.8
ANM Nome 70.76 336 P P 12 59 54.9 -0.5
baz=112
RDOG Red Dog Mine 71.27 340 P P 12 59 58.2 -0.3
baz=116
AFI Afiamalu 71.41 252 LR LR 13 24 11.5
comp=Z,439nm,18.8s,baz=82,slow=30
TNA Tin City 72.13 337 IAmb IAmb 13 00 13.0
comp=Z,9.6nm,1.2s
TNA Tin City 72.13 337 P P 13 00 03.2 -0.4
baz=110
EUNU Eureka 72.20 3 P P 13 00 03.4 -0.6
PMSA Palmer Station 78.53 164 LR LR 13 25 46.6
comp=Z,123nm,22.0s,baz=302,slow=28
SHEM Shemya Is, Ala 78.96 322 LR LR 13 30 36.2
comp=Z,116nm,18.6s,baz=88,slow=32
BORG Borgarnes 79.14 26 LR LR 13 35 56.3
comp=Z,237nm,20.3s,baz=269,slow=36
RAO Raoul Island 80.78 239 LR LR 13 27 42.7
comp=Z,312nm,18.9s,baz=94,slow=29
MSVF Nonsavu 81.80 251 LR LR 13 28 36.2
comp=Z,433nm,20.9s,baz=117,slow=29
BILL Bilibino 82.53 338 P P 13 01 01.4 -0.5
BILL IAmb IAmb 13 01 11.1
comp=Z,10nm,1.3s
JMIC Jan Mayen 83.80 19 LR LR 13 39 55.0
comp=Z,411nm,18.6s,baz=272,slow=37
URZ Urewera 86.97 231 LR LR 13 31 14.0
comp=Z,408nm,21.8s,baz=60,slow=30
SPITS Spitsbergen Ar 87.76 10 LR LR 13 41 43.0
comp=Z,711nm,18.8s,baz=359,slow=36
PETK Petropavlovsk- 88.79 323 P P 13 01 32.5 -0.7
comp=Z,5.4nm,0.9s,baz=61,slow=7.0,SNR=4.3
PETK LR LR 13 34 37.2
comp=Z,130nm,20.8s,baz=81,slow=31
EKA Eskdalemuir Ar 88.99 34 LR LR 13 41 04.7
comp=Z,318nm,18.9s,baz=300,slow=35
SEY Seymchan 89.11 334 LR LR 13 35 41.3
comp=Z,334nm,21.9s,baz=91,slow=32
MA2 Magadan 90.85 331 P P 13 01 42.4 -0.4
MA2 IAmb IAmb 13 01 47.7
comp=Z,7.5nm,1.1s
ESDC Sonseca Array 91.90 50 LR LR 13 37 07.5
comp=Z,334nm,21.2s,baz=314,slow=32

RPZ Rata Peaks 92.51 226 LR LR 13 33 41.7
comp=Z,404nm,21.9s,baz=83,slow=29
MDT Midelt 92.81 56 LR LR 13 41 11.7
comp=Z,109nm,18.2s,baz=343,slow=34
TIXI Tiksi 93.23 345 P P 13 01 52.4 -1.2
DZM Mont Dzumac 93.28 248 LR LR 13 34 35.2
comp=Z,266nm,21.1s,baz=112,slow=30
DZM Mont Dzumac 93.28 248 eLR LR 13 31 59.6
comp=Z,573nm,27.4s
NOA NORSAR Array B 94.30 26 LR LR 13 42 39.9
comp=Z,401nm,21.7s,baz=275,slow=34
ARCES ARCESS Array B 94.83 16 LR LR 13 45 12.5
comp=Z,516nm,19.8s,baz=307,slow=36
HFS Hagfors 95.80 27 LR LR 13 43 11.4
comp=Z,518nm,21.8s,baz=280,slow=34
KOWA Kowa 96.86 74 LR LR 13 43 40.0
comp=Z,190nm,19.5s,baz=228,slow=34
QSPA South Pole Qui 98.26 180 LR LR 13 40 27.8
comp=Z,331nm,19.1s,baz=114,slow=32
VNDA Vanda 99.08 193 LR LR 13 38 33.9
comp=Z,222nm,18.3s,baz=100,slow=30
DAVOX Davos/Dischmat 99.44 40 LR LR 13 49 23.4
comp=Z,237nm,18.0s,baz=266,slow=37
CLL Collm 99.44 35 ePS PS 13 15 24.0 +1.4
CLL ePPS PPS 13 16 07.0
CLL eSS SS 13 20 44.0 +0.2
SONM Songino Array 118.25 338 PKP PKPdf 13 07 25.4 -1.7
comp=Z,0.3nm,0.6s,baz=111,slow=2.7,SNR=3.7
HHC Hu-ho-hao-te 121.50 329 ePKP PKPdf 13 07 29.5 -4.0
HHC LR LR
comp=Z,180nm,14.6s
HHC LR LR
comp=Z,290nm,14.6s
HHC LR LR
comp=Z,450nm,15.2s
WRA Warramunga Arr 123.13 252 PKP PKPdf 13 07 36.0 -1.0
comp=Z,1.9nm,0.8s,baz=92,slow=2.1,SNR=14
WRA Warramunga Arr 123.13 252 PKPdf 13 07 35.8 -1.3
NJ2 Nanjing 123.17 317 ePKP PKPdf 13 07 36.2 -0.6
ASAR Alice Springs 123.25 247 PKP PKPdf 13 07 36.8 -0.5
comp=Z,2.0nm,0.8s,baz=102,slow=1.9,SNR=17
MKAR Makanchi Array 124.94 355 PKP PKPdf 13 07 38.6 -1.2
comp=Z,0.7nm,0.7s,baz=5.3,slow=2.0,SNR=8.9
LZH Lanzhou 128.99 332 ePKP PKPdf 13 07 47.2 -0.9
LZH LR LR
comp=Z,400nm,17.9s
LZH LR LR
comp=Z,340nm,18.0s
LZH LR LR
comp=Z,410nm,20.6s
KSH Kashi 132.44 1 PKP PKiKP 13 07 57.3 +1.7
KSH PP PP 13 10 25.4 +9.4
KSH SKS SKSdf 13 15 05.6 -0.7
KSH LR LR
comp=Z,290nm,15.9s
KSH LR LR
comp=Z,180nm,18.6s
KSH LR LR
comp=Z,430nm,19.8s
GOMU GeErMu 132.57 340 Pdif Pdif 13 04 43.1 -7.3
GOMU pPKP sPdif 13 05 02.1 +8.5
GOMU sPKP 13 05 11.8
GOMU AMB AMB
comp=Z,80nm,6.1s
CMAR Chiang Mai Arr 145.52 321 PKPbc PKPbc 13 08 18.9 +0.2
comp=Z,14nm,0.9s,baz=13,slow=3.2,SNR=64
CMAR Chiang Mai Arr 145.52 321 PKPbc 13 08 18.6 0.0
HYBB Hyderabad (bro 154.39 356 ePKiKP PKPbc 13 08 41.4 +0.4
HYBB ePKPab PKPab 13 08 54.3 -0.6

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*NEIC **10** 12:55:17.3±1.2, 6°.25N±0°.08×126°.1E±0°.1, h114km±5km, mb4.1/17, Error ellipse: s-maj=19.0km s-min=10.2km az=74.0*
*IDC **10** 12:55:19.3±0.7, 6°.19N×125°.98E, h139km±6km, mb3.5/9, mb1 3.7/11, mb1mx3.5/34, mbtmp4.0/11, Error ellipse: s-maj=30.4km s-min=11.2km az=68.0*
*MAN **10** 12:55:21.9, 6°.26N×125°.80E, h117km, mb4.5, ML3.4, MS3.2*
ISC 10 12:55:18.3±0.5**, 6°.08N**±0°.05×**125°.96E**±0°.07**, h127**km**, n41, σ1s.39/44, mb4.0**/17**, 5D, Mindanao**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MATI Mati 0.91 19⇓ eP Pn 12 55 41.4 +1.2
GSPH General Santos 1.00 270⇓ eP Pn 12 55 41.5 +0.3
GSPH eS Sn 12 55 58.9 +0.5
DAV Davao City (W) 1.05 339 P Pn 12 55 42.7 +1.2
86nm,0.3s,baz=243,slow=6.0,SNR=12
DAV S Sn 12 56 01.0 +1.9
144nm,0.3s,baz=50,slow=15,SNR=5.3
KCP Kidapawan 1.26 317⇓ iP Pn 12 55 45.1 +1.4
KCP i S Sn 12 56 14.9 +12
CTBH Cotabato--PC H 2.04 304⇓ iP Pn 12 55 53.5 +0.8
BIPH Bislig 2.13 11⇓ eP Pn 12 55 56.2 +2.4
BIPH i S Sn 12 56 23.3 +2.5
SNPH Sibulan 4.22 320 eP Pn 12 56 22.4 +1.4
TNTI Ternate 5.46 165 Pn 12 56 38.3 +0.7
TNTI Sn 12 57 40.5 +1.1
TOLI2 Tolitoli 7.14 226 Pn Pn 12 57 01.3 +1.0
SIJI Sorong 8.70 142 P Pn 12 57 22.3 +0.9
2.8nm,0.3s,baz=336,slow=23,SNR=8.9
KAPI Kappang 12.64 209 P Pn 12 58 16.6 +2.8
0.6nm,0.3s,baz=49,slow=20,SNR=1.4
SBUM Sibu 14.16 256 P P 12 58 38.8 +1.8
KNRA Kununurra 21.80 173 P P 13 00 01.1 +0.7
KNRA IAmb IAmb 13 00 06.6
comp=Z,7.2nm,0.7s
FITZ Fitzroy Crossi 24.03 181 P P 13 00 22.6 +1.0
comp=Z,2.1nm,0.4s,baz=7.8,slow=7.3,SNR=18
FITZ Fitzroy Crossi 24.03 181 IAmb IAmb 13 00 24.6
comp=Z,3.1nm,0.8s
PMG Port Moresby 26.14 126 P P 13 00 40.9 0.0
comp=Z,7.4nm,0.8s,baz=26,slow=4.0,SNR=3.2
PMG Port Moresby 26.14 126 IAmb IAmb 13 00 42.2
comp=Z,9.5nm,0.8s
COEN Coen 26.24 139 P P 13 00 42.5 +0.8
COEN IAmb IAmb 13 00 47.0
comp=Z,6.0nm,0.8s
WB0 Warramunga Arr 26.99 162 P P 13 00 48.8 +0.3
WB0 IAmb IAmb 13 01 00.1
comp=Z,5.9nm,1.1s
WRAB Tennant Creek 27.14 162 P P 13 00 50.3 +0.5
WRAB IAmb IAmb 13 01 01.3
comp=Z,7.2nm,1.2s
WRA Warramunga Arr 27.14 163 P P 13 00 50.0 +0.1
comp=Z,0.8nm,0.3s,baz=333,slow=11,SNR=21
WRA S S 13 05 15.4 -3.8
comp=Z,0.4nm,0.6s,baz=320,slow=26,SNR=2.6
WB2 Warramunga Arr 27.15 162 P P 13 00 49.9 0.0
WB2 IAmb IAmb 13 01 02.1
comp=Z,3.9nm,0.8s
WR0 Warramunga Arr 27.22 162 P P 13 00 50.8 +0.3
WR0 IAmb IAmb 13 01 02.5
comp=Z,2.5nm,0.7s
PSA00 Pilbara Seismi 28.13 192 P P 13 00 58.8 +0.2
CMAR Chiang Mai Arr 29.07 297 P P 13 01 06.6 -0.4
comp=Z,0.4nm,0.5s,baz=75,slow=8.9,SNR=2.5
AS31 Alice Springs 30.57 166 P P 13 01 20.6 +0.4
AS31 IAmb IAmb 13 01 23.0
comp=Z,1.0nm,0.6s
ASAR Alice Springs 30.57 166 P P 13 01 20.9 +0.7
comp=Z,2.0nm,0.6s,baz=342,slow=7.1,SNR=69
ASAR PcP PcP 13 04 15.9 -0.2
comp=Z,0.5nm,0.4s,baz=343,slow=2.4,SNR=8.0
FORT Forrest 36.71 177 P P 13 02 13.7 +0.5
HNR Honiara 37.21 114 P P 13 02 15.5 -2.3
BBOO Buckleboo 39.85 167 P P 13 02 41.0 +1.4
STKA Stephens Creek 40.59 159 P P 13 02 46.9 +1.3
comp=Z,1.8nm,0.7s,baz=2.0,slow=12,SNR=3.8
STKA Stephens Creek 40.59 159 IAmb IAmb 13 02 51.9
comp=Z,0.7nm,0.9s
SONM Songino Array 44.84 341 P P 13 03 19.3 -0.6
comp=Z,0.2nm,0.7s,baz=89,slow=7.5,SNR=1.4
SONM Songino Array 44.84 341 IAmb IAmb 13 03 21.4
comp=Z,0.4nm,1.0s
MK31 Makanchi Array 55.20 325 P P 13 04 36.6 -1.4
MKAR Makanchi Array 55.20 325 P P 13 04 36.7 -1.3
comp=Z,0.2nm,0.4s,baz=119,slow=7.4,SNR=6.4
MKAR PcP PcP 13 05 36.1 -1.4
comp=Z,0.7nm,0.6s,baz=124,slow=3.4,SNR=6.8
MKAR Makanchi Array 55.20 325 P P 13 04 37.3 -0.7
ABKAR Akbulak array 69.86 320 P P 13 06 13.9 -1.4
ILAR Eielson Array 83.33 26 P P 13 07 30.9 0.0
comp=Z,0.4nm,1.0s,baz=239,slow=5.5,SNR=4.4

ARCES	**ARCESS Array B**	**87.99**	**340**	P	**P**	**13 07 51.5**	**-2.3**
	comp=Z,2.2nm,1.0s,baz=76,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**121.44**	**289**	PKP	**PKPdf**	**13 13 56.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=13,slow=1.7,SNR=5.2						

*ATH **10** 12:56:21.2, 35.°41N×23.°59E, h11km±2km, ML2.7/4, Error ellipse: s-maj=3.0km s-min=0.8km az=65.0*
*THE **10** 12:56:21.1, 35.°39N×23.°56E, h10km±2km, ML2.7/5, Error ellipse: s-maj=2.9km s-min=0.6km az=174.0*
ISC 10 12:56:20.9±1.0, **35.°38N**±0.°03×**23.°55E**±0.°04, **h11**km±8km, **n20**, σ**0.s74**/34, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**142**	P	**Pg**	**12 56 24.6**	**-0.2**
KNDR				S	**Sg**	**12 56 27.4**	**-0.1**
	3µm,0.3s						
RODP	**Rodopos**	**0.25**	**43**	P	**Pg**	**12 56 26.2**	**+0.2**
RODP				S	**Sg**	**12 56 30.4**	**+1.0**
	1µm,0.3s						
IMMV	**Iera Moni Meta**	**0.36**	**77**	P	**Pg**	**12 56 27.8**	**-0.3**
IMMV				S	**Sg**	**12 56 33.2**	**+0.3**
IMMV				AML	AML	12 56 33.5	
	comp=N,5569µm,0.3s						
IMMV				AML	AML	12 56 33.9	
	comp=E,4358µm,0.4s						
IMMV	**Iera Moni Meta**	**0.36**	**77**	P	**Pg**	**12 56 28.1**	**0.0**
IMMV				S	**Sg**	**12 56 33.2**	**+0.3**
	comp=E,2µm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**338**	P	**Pg**	**12 56 31.4**	**+0.3**
ANKY				S	**Sg**	**12 56 37.8**	**-0.3**
ANKY	**Antikythira Is**	**0.53**	**338**	P	**Pg**	**12 56 31.4**	**+0.3**
ANKY				S	**Sg**	**12 56 38.4**	**+0.3**
VAM	**Vamos**	**0.53**	**87**	P	**Pg**	**12 56 31.0**	**-0.2**
VAM				S	**Sg**	**12 56 37.6**	**-0.7**
VAM				AML	AML	12 56 40.0	
	comp=E,2113µm,0.4s						
VAM				AML	AML	12 56 40.9	
	comp=N,3223µm,0.4s						
VAM	**Vamos**	**0.53**	**87**	P	**Pg**	**12 56 31.0**	**-0.2**
VAM				S	**Sb**	**12 56 38.9**	**-1.0**
	comp=N,1µm,0.4s						
GVD	**Gavdhos**	**0.70**	**141**	P	**Pg**	**12 56 34.5**	**+0.1**
GVD				S	**Sg**	**12 56 44.3**	**+0.8**
GVD				AML	AML	12 56 48.9	
	comp=E,1653µm,0.3s						
GVD				AML	AML	12 56 56.0	
	comp=N,1374µm,0.6s						
GVD	**Gavdhos**	**0.70**	**141**	P	**Pg**	**12 56 34.6**	**+0.2**
GVD				S	**Sb**	**12 56 45.3**	**+0.6**
	comp=N,730nm,0.3s						
KTHA	**Kythira Island**	**0.96**	**336**	P	**Pg**	**12 56 39.3**	**0.0**
KTHA				S	**Sb**	**12 56 52.0**	**-0.3**
SIVA	**Sivas**	**1.09**	**109**	P	**Pb**	**12 56 41.0**	**-0.8**
SIVA				S	**Sn**	**12 56 57.2**	**-0.1**
IDI	**Anoyia**	**1.10**	**94**	P	**Pb**	**12 56 41.4**	**-0.6**
IDI				S	**Sg**	**12 56 55.3**	**-1.1**
IDI				AML	AML	12 56 58.1	
	comp=N,338µm,0.5s						
IDI				AML	AML	12 57 00.1	
	comp=E,270µm,0.4s						
VLI	**Veliai**	**1.42**	**340**	P	**Pb**	**12 56 47.4**	**0.0**
MHLO	**Agia Marina, M**	**1.48**	**28**	P	**Pb**	**12 56 48.3**	**-0.1**
MHLO				S	**Sg**	**12 57 07.7**	**-0.8**
THR3	**Thira Island,**	**1.82**	**55**	P	**Pb**	**12 56 54.5**	**+0.3**
ZKR	**Zakros**	**2.20**	**96**	P	**Pb**	**12 56 60.0**	**-0.7**
APE	**Apeiranthos**	**2.33**	**43**	P	**Pn**	**12 57 00.7**	**+1.6**
VIL2	**Platees**	**2.83**	**356**	P	**Pn**	**12 57 06.8**	**+0.7**
KLV	**Kalavryta, Ach**	**2.89**	**337**	P	**Pb**	**12 57 10.1**	**-2.4**

*IDC **10** 13:08:02.1±2.8, 7.°21S×129.°61E, h77km±32km, mb3.3/3, mb1 3.3/7, mb1mx3.1/43, mbtmp3.5/7, MS3.9/1, Ms1 3.9/1, ms1mx2.4/24, Error ellipse: s-maj=55.5km s-min=19.7km az=83.0*
ISC 10 13:08:02.1±0.8, **7.°28S**±0.°06×**129.°8E**±0.°2, **h100**km, **n8**, σ**4.s26**/10, **mb3.4**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.53**	**13**	P	**Pn**	**13 09 35.9**	**+0.3**
	0.4nm,0.3s,baz=192,slow=18,SNR=8.9						
SIJI				S	**Sn**	**13 10 42.4**	**-6.3**
	0.5nm,0.3s,baz=106,slow=23,SNR=5.8						
FITZ	**Fitzroy Crossi**	**11.50**	**200**	P	**Pn**	**13 10 43.0**	**-0.2**
	0.1nm,0.3s,baz=17,slow=14,SNR=1.0						
FITZ				S	**Sn**	**13 12 46.1**	**-3.6**
	0.2nm,0.3s,baz=170,slow=6.6,SNR=2.0						
WRA	**Warramunga Arr**	**13.33**	**161**	P	**Pn**	**13 11 08.4**	**+1.0**
	0.2nm,0.3s,baz=345,slow=13,SNR=12						
WRA				S	Sn	13 13 28.0	-6.2
	0.4nm,0.3s,baz=351,slow=20,SNR=9.7						
ASAR	**Alice Springs**	**16.76**	**167**	P	**P**	**13 11 54.4**	**+2.9**
	0.2nm,0.3s,baz=345,slow=9.0,SNR=35						
ASAR				S	**Sn**	**13 14 50.3**	**-6.8**
	0.1nm,0.3s,baz=350,slow=25,SNR=3.0						
STKA	**Stephens Creek**	**26.83**	**157**	P	**P**	**13 13 37.0**	**+3.8**
	1.4nm,0.5s,baz=323,slow=10,SNR=3.1						
ASAJ	**Asahikawa**	**52.44**	**12**	LR	LR	13 40 18.9	
	comp=Z,109nm,20.4s,baz=80,slow=37						
SONM	**Songino Array**	**58.65**	**342**	P	**P**	**13 17 50.0**	**+1.1**
	0.1nm,0.5s,baz=154,slow=7.0,SNR=1.8						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**13 18 54.4**	**+1.5**
	0.2nm,0.4s,baz=98,slow=6.0,SNR=4.6						

*TEH **10** 13:18:26.7, 37.°35N×53.°40E, h9km, ML3.6*
*AZER **10** 13:18:32.9±1.1, 37.°18N×52.°97E, h10km, Error ellipse: s-maj=12.9km s-min=6.9km az=60.0*
ISC 10 13:18:30.6±1.3, **37.°23N**±0.°05×**53.°19E**±0.°08, **h10**km, **n50**, σ**1.s30**/50, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.89**	**144**	*e*Pg	Pg	13 18 43.9	-3.8
IGLO				*e*		13 19 02.7	
	comp=Z,26µm,0.3s						
IPRN	**Peran**	**1.20**	**215**	*e*Pg	**Pn**	**13 18 53.8**	**+0.3**
ISHM	**Shahmirzad**	**1.42**	**177**	*e*Pg	**Pn**	**13 18 56.0**	**-0.8**
IFIR	**Firoozkooh**	**1.62**	**193**	*e*Pn	**Pn**	**13 19 00.7**	**+1.2**
IFIR				*e*		13 19 25.8	
	comp=Z,7µm,0.1s						
IMND	**Minoodasht**	**1.77**	**88**	*e*Pg	Pn	13 18 56.1	-5.2
ILAS	**Lasjerd**	**1.85**	**186**	*e*Pn	**Pn**	**13 19 03.9**	**+1.3**
ILAS				*e*		13 19 30.6	
	comp=Z,7µm,0.4s						
IANJ	**Anjilo**	**1.85**	**161**	*e*Pn	**Pn**	**13 19 02.1**	**-0.5**
DAMV	**Damavand**	**1.87**	**212**	*e*Pn	**Pb**	**13 19 04.4**	**-0.7**
IDMV	**Damavand**	**1.89**	**210**	*e*		13 19 35.8	
	comp=Z,5µm,0.3s						
IDMV				*e*Pn	**Pb**	**13 19 05.4**	**0.0**
CHTH	**Charan**	**2.12**	**232**	*e*Pn	**Pb**	**13 19 08.7**	**-0.6**
QALM	**Alamut, Qazvin**	**2.19**	**249**	*e*Pn	**Pn**	**13 19 07.4**	**+0.1**
THKV	**Tehran--Karaj**	**2.27**	**236**	*e*Pn	**Pn**	**13 19 07.7**	**-0.7**
MRVT	**Maraveh tapeh**	**2.35**	**79**	*e*Pn	Pn	13 19 05.4	-3.9
IVRN	**Varamin**	**2.52**	**208**	*e*Pn	**Pn**	**13 19 13.7**	**+2.0**
IVRN				*e*		13 19 54.5	
	comp=Z,2µm,0.3s						
IGZV	**Ghazvin**	**2.53**	**251**	*e*Pn	**Pb**	**13 19 13.6**	**-2.6**
IGZV				*e*		13 20 03.6	
	comp=Z,1µm,0.2s						
SHRO	**Shahrood**	**2.58**	**118**	*e*Pn	Pn	13 19 09.1	-3.5
JIR1	**Jirandeh**	**2.76**	**260**	*e*Pn	**Pn**	**13 19 15.2**	**+0.1**
ISFB	**Sefidab**	**2.97**	**195**	*e*Pn	**Pn**	**13 19 18.9**	**+1.0**
ISFB				*e*		13 20 08.2	
	comp=Z,1µm,0.3s						
QABG	**Abgarm-Qazvin**	**3.28**	**244**	*e*Pn	**Pn**	**13 19 22.7**	**+0.5**
KRSH	**Karshahi**	**3.36**	**195**	*e*Pn	**Pn**	**13 19 24.3**	**+0.9**
KRSH				*e*		13 20 24.0	
	comp=Z,1µm,0.5s						
BJRD	**Bojnurd**	**3.39**	**81**	*e*Pn	Pn	13 19 19.9	-3.8
SBZV	**Sabzevar**	**3.65**	**102**	*e*Pn	Pn	13 19 23.3	-4.0
ASTR	**Astara**	**3.72**	**292**	P	**Pn**	**13 19 28.2**	**0.0**
	SNR=3.0						
ASTR				S	**Sn**	**13 20 11.2**	**-0.9**
ISFR	**Sfrayin**	**3.85**	**91**	*e*Pn	Pn	13 19 27.2	-2.9
LRK	**Lerik**	**4.08**	**292**	P	**Pn**	**13 19 33.7**	**+0.4**
	SNR=5.0						
LRK				S	**Sn**	**13 20 21.2**	**0.0**
NDR	**Nardaran**	**4.18**	**324**	S	**Sn**	**13 20 27.9**	**+4.7**
YRD	**Yardimli**	**4.25**	**295**	P	**Pn**	**13 19 35.8**	**+0.2**
	SNR=5.1						
YRD				S	**Sn**	**13 20 25.7**	**+0.3**
GLBA	**Clilabad**	**4.28**	**299**	P	**Pn**	**13 19 36.8**	**+1.1**
GLBA				S	**Sn**	**13 20 26.2**	**+0.5**
TNSJ	**Nastanj**	**4.29**	**138**	*e*Pn	Pn	13 19 34.1	-1.9
TNSJ				*e*		13 20 24.0	
	comp=Z,723nm,0.4s						
IAKL	**Akhelmad**	**4.51**	**96**	*e*Pn	Pn	13 19 35.4	-3.8
TKDS	**Koohdasht(Taba**	**4.83**	**137**	*e*Pn	Pn	13 19 41.1	-2.4
TKDS				*e*		13 20 36.7	
	comp=Z,236nm,0.4s						
ATGJ	**Altiaghaj**	**4.91**	**319**	S	**Sn**	**13 20 43.9**	**+2.4**
IHRS	**Heris**	**4.99**	**284**	*e*Pn	**Pn**	**13 19 46.7**	**+0.9**
PQL	**Pirkuli**	**5.04**	**316**	P	**Pn**	**13 19 47.1**	**+0.7**
PQL				S	**Sn**	**13 20 44.2**	**-0.7**
BLQ	**Beylaqan**	**5.07**	**301**	S	**Sn**	**13 20 45.0**	**-0.2**
TPRV	**Parvadeh(Tabas**	**5.08**	**145**	*e*Pn	**Pn**	**13 19 45.2**	**-1.6**
TPRV				*e*		13 19 52.2	
	comp=Z,157nm,0.3s						
SIZA	**Siyzn**	**5.09**	**320**	P	**Pn**	**13 19 46.7**	**-0.3**
	SNR=6.0						
SIZA				S	**Sn**	**13 20 46.4**	**+0.6**
ZRD	**Zardab**	**5.27**	**307**	S	**Sn**	**13 20 52.1**	**+1.9**
IML	**Ismayilli**	**5.28**	**314**	S	**Sn**	**13 20 52.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**5.50**	**320**	P	**Pn**	**13 19 53.4**	**+0.8**
QUBA				S	**Sn**	**13 20 54.8**	**-1.1**
XNQ	**Khinaliq**	**5.56**	**317**	P	**Pn**	**13 19 54.3**	**+0.8**
	SNR=20						
XNQ				S	**Sn**	**13 20 56.6**	**-0.9**
QBL	**Gabala**	**5.58**	**313**	S	**Sn**	**13 20 57.8**	**0.0**
QSAR	**Qusar**	**5.73**	**320**	P	**Pn**	**13 19 56.8**	**+1.0**
QSAR				S	**Sn**	**13 21 00.4**	**-1.3**
ORD	**Ordubad**	**5.92**	**289**	P	**Pn**	**13 20 00.8**	**+2.3**
ORD				S	**Sn**	**13 21 08.1**	**+1.7**
AFRZ	**Afriz**	**6.09**	**127**	*e*Pn	Pn	13 19 58.2	-2.6
SEKA	**Sheki**	**6.12**	**312**	P	**Pn**	**13 20 01.0**	**-0.1**
SEKA				S	**Sn**	**13 21 12.0**	**+0.8**
ITEG	**Tejag**	**6.28**	**132**	*e*Pn	Pn	13 20 01.2	-2.3
GANJ	**Ganja**	**6.35**	**305**	S	**Sn**	**13 21 15.7**	**-1.1**
ZKTA	**Zakatala**	**6.72**	**313**	P	**Pn**	**13 20 10.7**	**+1.3**
ZKTA				S	**Sn**	**13 21 26.7**	**+0.7**
GDB	**GEDABAY**	**6.76**	**303**	P	**Pn**	**13 20 10.8**	**+0.8**
	SNR=3.2						

IDC 10 13:24:22.1±2.0, **7.°32S**×**126.°78E**, **h0**km, **mb3.6**/1, **mb1 4.2**/3, **mb1mx3.7**/22, **mbtmp4.0**/3, **ML3.8**/2, **Error ellipse: s-maj=221.2km s-min=30.9km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**150**	Pn	Pn	13 27 48.1	-1.2
	0.3nm,0.3s,baz=324,slow=14,SNR=29						
WRA				Sn	Sn	13 30 24.7	-6.5
	0.3nm,0.3s,baz=333,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.64**	**158**	P	P	13 28 30.2	-0.3
	0.8nm,0.3s,baz=337,slow=12,SNR=35						
ASAR				S	Sn	13 31 39.4	-7.3
	0.1nm,0.3s,baz=325,slow=17,SNR=4.7						
MKAR	**Makanchi Array**	**66.78**	**328**	P	P	13 35 15.5	0.0
	0.4nm,0.6s,baz=129,slow=7.7,SNR=6.6						

MAN 10 13:26:00.6, 18.°08N×120.°90E, h120km, mb4.1, ML2.8, MS2.5, Luzon

*MOS **10** 13:46:54.3±1.2, 35.°96N×140.°85E, h49km, mb4.4/17, Error ellipse: s-maj=9.8km s-min=5.7km az=90.9*
*JMA **10** 13:46:55.1±0.2, 35.°72N×140.°70E, h48km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs49.00000°, δ72.00000°, λ115.00000°. NP2: φs173.00000°, δ30.00000°, λ38.00000°. Principal axes: T Plg56.0000°, Azm351.0000°; N Plg24.0000°, Azm221.0000°; P Plg23.0000°, Azm120.0000°;*
JMA Felt II J1.
*NIED **10** 13:46:55.1, 35.°72N×140.°70E, h48km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr0.99; Mθθ2.54; Mφφ-3.53; Mrθ1.36; Mθφ-0.76; Mφr0.23; Fault plane solution: M0 3.52000×10^{15} NP1:φs48.00000°, δ74.00000°, λ155.00000°. NP2:φs146.00000°, δ66.00000°, λ18.00000°.*
*IDC **10** 13:46:56.5±1.7, 35.°65N×140.°70E, h54km±16km, mb3.6/17, mb1 3.8/21, mb1mx3.7/49, mbtmp3.9/21, ML2.8/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/83 Error ellipse: s-maj=15.5km s-min=8.9km az=78.0*
*NEIC **10** 13:46:56.1±1.4, 35.°75N±0.°06×140.°75E±0.°09, h44km±4km, mb4.4/25, Error ellipse: s-maj=10.6km s-min=7.5km az=113.0*
ISC 10 13:46:55.2±0.5, **35.°74N**±0.°05×**140.°90E**±0.°05, **h50**km, **n120**, σ**2.s06**/123, **mb4.1**/38, **MS3.2**/3, **9C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**227**	⇑P	**Pn**	**13 47 02.5**	**-0.4**
JIHU	**Itakohorinouch**	**0.38**	**307**	⇓P	**Pn**	**13 47 04.5**	**-0.7**
JSMT	**Sammumatsuo**	**0.38**	**256**	⇑P	**Pn**	**13 47 03.8**	**-1.4**
JCN	**Nagara**	**0.65**	**241**	⇑P	**Pn**	**13 47 07.0**	**-1.4**
JYT	**Yasato**	**0.76**	**311**	⇓P	**Pn**	**13 47 08.0**	**-1.7**
JYT				S	**Sn**	**13 47 17.6**	**-2.6**
JYT	**Yasato**	**0.76**	**311**		**Pn**	**13 47 07.9**	**-1.8**
BSO4	**Boso 4**	**0.88**	**212**	P	**Pn**	**13 47 10.0**	**-1.2**
JHO	**Hitachi**	**0.91**	**343**	⇓P	**Pn**	**13 47 11.7**	**-0.1**
BSO3	**Boso 3**	**0.99**	**199**	P	**Pn**	**13 47 11.6**	**-0.9**
BSO1	**Boso 1**	**1.08**	**177**	P	**Pn**	**13 47 13.7**	**+0.1**
JMM	**Marumori**	**2.13**	**358**		**Pn**	**13 47 28.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.32**	**291**	P	**Pn**	**13 47 30.5**	**-0.5**
	5.0nm,0.3s,baz=94,slow=17,SNR=102						
MJAR				S	**Sn**	**13 47 57.1**	**-1.3**
	4.7nm,0.3s,baz=149,slow=28,SNR=2.6						
MJAR				LR	LR	13 48 30.5	
	comp=Z,657nm,19.6s,baz=62,slow=42						
MAJO	**Matsushiro**	**2.33**	**291**	P	**Pn**	**13 47 30.6**	**-0.5**
MAJO	**Matsushiro**	**2.33**	**291**	Pn	**Pn**	**13 47 30.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.33**	**291**	Pn	**Pn**	**13 47 30.6**	**-0.5**
JHJ2	**Mitsune**	**2.77**	**199**	Pn	**Pn**	**13 47 35.7**	**-1.4**
JHJ	**Hachijo jima 2**	**2.77**	**200**	P	**Pn**	**13 47 35.8**	**-1.3**
	155nm,0.3s,baz=122,slow=22,SNR=8.7						
JHJ				S	**Sn**	**13 48 07.5**	**-1.9**
	141nm,0.3s,baz=78,slow=22,SNR=4.7						
JGF	**Kuroka**	**2.89**	**268**	Pn	**Pn**	**13 47 38.8**	**0.0**
JSD	**Sado**	**3.12**	**318**	Pn	**Pn**	**13 47 42.4**	**+0.4**
INU	**Inuyama**	**3.19**	**264**	Pn	**Pn**	**13 47 42.0**	**-0.9**
JTM	**Tenmabayashi**	**5.04**	**1**	Pn	**Pn**	**13 48 09.9**	**+1.6**
JMN	**Monobe**	**6.12**	**253**	Pn	**Pn**	**13 48 21.9**	**-1.3**
JHS	**Saijyo**	**6.41**	**266**	Pn	**Pn**	**13 48 28.1**	**+1.1**
ERM	**Erimo**	**6.51**	**15**	*ce*P	**Pn**	**13 48 27.2**	**-1.2**
ERM				pmax	pmax		
	comp=Z,40nm,1.0s						
ERM	**Erimo**	**6.51**	**15**		**Pn**	**13 48 28.1**	**-0.3**
JEW	**Eniwo**	**7.11**	**3**	Pn	**Pn**	**13 48 37.2**	**+0.7**
ASAJ	**Asahikawa**	**8.47**	**8**	P	**Pn**	**13 48 54.9**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=219,slow=13,SNR=40						
ASAJ	**Asahikawa**	**8.47**	**8**	P	**Pn**	**13 48 54.2**	**-1.0**
JKA	**Kamikawa-asahi**	**8.47**	**8**	Pn	**Pn**	**13 48 54.2**	**-1.0**
NMR	**Nemuro--Hokkai**	**8.48**	**25**	*e*P	**Pn**	**13 48 53.3**	**-2.1**
NMR				*e*S	**Sn**	**13 50 23.3**	**-6.4**
GLVR	**Golovnino**	**8.74**	**23**	*e*P	**Pn**	**13 48 57.2**	**-1.8**
GLVR				*e*S	**Sn**	**13 50 30.0**	**-6.1**
RUSJ	**Misakicho**	**9.00**	**20**	*e*P	**Pn**	**13 49 01.2**	**-1.2**
RUSJ				*e*S	**Sn**	**13 50 37.3**	**-5.0**
YUK	**Yuzh-Kuril'sk**	**9.12**	**23**	*e*P	**Pn**	**13 49 02.4**	**-1.7**
YUK				*e*S	**Sn**	**13 50 39.5**	**-5.8**
YUK				pmax	pmax		
	comp=N,76nm,0.4s						
YUK				pmax	pmax		
	comp=Z,50nm,0.4s						
YUK				pmax	pmax		
	comp=E,53nm,0.6s						
KSRS	**Korea Array**	**10.58**	**283**	P	**Pn**	**13 49 24.9**	**+0.9**
	comp=E,0.2nm,0.3s,baz=98,slow=14,SNR=8.4						
KSRS	**Korea Array**	**10.58**	**283**	P	**Pn**	**13 49 25.0**	**+0.9**
KUR	**Kuril'sk**	**10.86**	**27**	*e*P	**Pn**	**13 49 27.1**	**-0.8**
KUR				*e*S	**Sn**	**13 51 24.2**	**-3.7**
KUR				pmax	pmax		
	comp=Z,16nm,0.6s						
KUR				smax	smax		
	comp=E,24nm,0.7s						
KUR				smax	smax		
	comp=N,16nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.87**	**324**	P	**Pn**	**13 49 28.8**	**+0.8**
	baz=134,slow=12,SNR=2.8						
YSS	**Yuzh-Sakhalins**	**11.29**	**6**	*i* P	**Pn**	**13 49 29.1**	**-4.7**
YSS				pmax	pmax		
	comp=Z,24nm,1.8s						
KLR	**Kul'dur**	**15.06**	**336**	LR	LR	13 56 04.6	
	comp=Z,200nm,20.2s,baz=36,slow=36						
KLR	**Kul'dur**	**15.06**	**336**	*i* P	**Pn**	**13 50 23.1**	**-1.7**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TYV	**Tymovskoe**	**15.17**	**4**	*e*P	**P**	**13 50 32.2**	**+1.9**
TYV				pmax	pmax		
	comp=Z,15nm,0.9s						
ZEA	**Zeya**	**20.38**	**336**	*e*P	**P**	**13 51 26.0**	**-1.6**
ZEA				*e*		13 51 44.6	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**21.02**	**29**	*i* P	**P**	**13 51 32.6**	**-1.9**
PETK	**Petropavlovsk-**	**21.02**	**29**	P	**P**	**13 51 36.3**	**+1.8**
	comp=Z,7.6nm,0.9s,baz=232,slow=8.8,SNR=5.5						
PETK				LR	LR	14 01 47.0	
	comp=Z,47nm,18.4s,baz=301,slow=42						
GUMO	**Guam**	**22.34**	**170**	LR	LR	13 59 44.6	
	comp=Z,118nm,19.3s,baz=62,slow=34						
MA2	**Magadan**	**24.71**	**12**	P	**P**	**13 52 12.9**	**+1.5**
	comp=Z,8.2nm,0.8s,baz=199,slow=8.0,SNR=28						
MA2				LR	LR	14 03 22.4	
	comp=Z,80nm,19.0s,baz=352,slow=40						
MA2	**Magadan**	**24.71**	**12**	*ce*P	**P**	**13 52 08.5**	**-2.9**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**24.71**	**12**	P	**P**	**13 52 13.6**	**+2.2**
MA2				IAmb	IAmb	13 52 15.3	
	comp=Z,9.1nm,0.9s						
YAK	**Yakutsk**	**27.25**	**348**	*i* P	**P**	**13 52 33.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	14 22 03.2	
	baz=310,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	14 22 01.6	
	baz=310,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	14 21 58.1	
	baz=310,slow=75,SNR=34						
SEY	**Seymchan**	**28.14**	**11**	P	**P**	**13 52 44.2**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=197,slow=6.5,SNR=5.1						
SEY	**Seymchan**	**28.14**	**11**	*i* P	**P**	**13 52 40.4**	**-1.9**
SEY				pmax	pmax		
	comp=Z,21nm,3.8s						
SONM	**Songino Array**	**28.19**	**306**	P	**P**	**13 52 43.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=103,slow=6.2,SNR=3.0						
SONM	**Songino Array**	**28.19**	**306**	P	**P**	**13 52 43.1**	**0.0**
H11S3	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	14 22 42.8	
	baz=312,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	14 22 43.3	
	baz=312,slow=75,SNR=63						
H11S2	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	14 22 44.9	
	baz=312,slow=75,SNR=54						
BILL	**Bilibino**	**35.38**	**16**	⇓*e*P	**P**	**13 53 46.8**	**+1.0**
BILL				*SP	**pP**	**13 53 58.0**	**-0.7**
BILL						13 55 05.0	
BILL						13 56 14.0	
BILL				SS	SS	14 01 36.0	-16
BILL				SSS	SSS	14 02 07.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TIXI	**Tiksi**	**36.53**	**354**	*ce*P	**P**	**13 53 53.7**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**36.53**	**354**	P	**P**	**13 53 56.7**	**+1.2**
TIXI				IAmb	IAmb	13 53 56.9	
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.78**	**256**	P	**P**	**13 54 30.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=40,slow=9.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**40.78**	**256**	*ce*P	**P**	**13 54 28.6**	**-3.2**
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**13 54 45.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=104,slow=6.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**13 54 45.0**	**-0.4**
ANM	**Nome**	**42.92**	**31**	P	**P**	**13 54 50.0**	**+1.4**
ANM				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ANM	**Nome**	**42.92**	**31**	P	**P**	**13 54 50.0**	**+1.4**
ANM				IAmb	IAmb	13 55 12.9	
	comp=Z,7.3nm,1.4s						
NRIK	**Noril'sk**	**44.28**	**336**	*i* P	**P**	**13 54 59.0**	**-0.5**
NRIK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
MK31	**Makanchi Array**	**44.47**	**303**	P	**P**	**13 55 01.5**	**+0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**44.47**	**303**	P	**P**	**13 55 01.5**	**+0.1**
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**13 55 01.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=87,slow=9.5,SNR=9.7						
MKAR	**Makanchi Array**	**44.47**	**303**	*ce*P	**P**	**13 55 01.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**13 55 01.3**	**-0.1**
MAKZ	**Makanchi**	**44.68**	**303**	P	**P**	**13 55 02.4**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAKZ	**Makanchi**	**44.68**	**303**	P	**P**	**13 55 02.4**	**-0.7**
KURK	**Kurchatov**	**46.42**	**309**	*ce*P	**P**	**13 55 14.5**	**-2.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	**Kurchatov**	**46.42**	**309**	P	**P**	**13 55 16.9**	**+0.2**
KURK				IAmb	IAmb	13 55 41.5	
	comp=Z,6.1nm,1.1s						
K20K	**Telida**	**47.63**	**34**	P	**P**	**13 55 28.7**	**+2.7**
K20K				IAmb	IAmb	13 55 30.4	
	comp=Z,4.0nm,0.9s						
J20K	**Nowinta River**	**47.65**	**32**	P	**P**	**13 55 29.0**	**+2.9**
J20K				IAmb	IAmb	13 55 55.6	
	comp=Z,3.8nm,1.2s						
MLY	**Manley**	**49.17**	**31**	P	**P**	**13 55 40.8**	**+3.0**
MLY				IAmb	IAmb	13 55 42.0	
	comp=Z,3.5nm,0.9s						
H23K	**Yukon River**	**49.69**	**30**	P	**P**	**13 55 42.7**	**+0.9**
H23K				IAmb	IAmb	13 55 46.3	
	comp=Z,3.5nm,0.9s						
RND	**Reindeer**	**49.98**	**34**	P	**P**	**13 55 44.8**	**+0.7**
RND				pmax	pmax		
	comp=Z,4.0nm,1.2s						
RND	**Reindeer**	**49.98**	**34**	P	**P**	**13 55 44.8**	**+0.7**
RND				IAmb	IAmb	13 56 11.6	
	comp=Z,4.4nm,1.2s						
MDM	**Murphy Dome**	**50.23**	**32**	P	**P**	**13 55 47.1**	**+1.1**
POKR	**Poker Plat Res**	**50.57**	**31**	P	**P**	**13 55 50.6**	**+2.2**
AAK	**Ala-Archa**	**50.75**	**299**	*i* P	**P**	**13 55 47.6**	**-2.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**50.81**	**32**	P	**P**	**13 55 52.5**	**+2.2**
	comp=Z,2.7nm,0.8s,baz=270,slow=6.4,SNR=30						
ILAR	**Eielson Array**	**50.81**	**32**	P	**P**	**13 55 52.0**	**+1.7**
BRVK	**Borovoye**	**51.20**	**313**	*i* P	**P**	**13 55 52.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.8s						
PRP	**Porcupine Dome**	**51.36**	**31**	P	**P**	**13 55 56.7**	**+2.2**
PRP				IAmb	IAmb	13 56 16.5	
	comp=Z,6.6nm,1.5s						
BMAR	**Burnt Mountain**	**51.67**	**28**	P	**P**	**13 55 59.9**	**+3.2**
SCRK	**Sand Creek**	**52.12**	**33**	P	**P**	**13 56 01.6**	**+1.4**
SCRK				IAmb	IAmb	13 56 03.9	
	comp=Z,3.1nm,0.8s						
KNRA	**Kununurra**	**52.41**	**195**	P	**P**	**13 56 03.2**	**+0.6**
MCARA	**McCarthy VSAT**	**52.85**	**36**	P	**P**	**13 56 09.2**	**+3.8**
BCAR	**Beaver Creek A**	**53.20**	**34**	P	**P**	**13 56 10.2**	**+2.1**
EGAK	**Eagle**	**53.26**	**32**	P	**P**	**13 56 08.8**	**+0.4**
WB0	**Warramunga Arr**	**55.54**	**187**	P	**P**	**13 56 26.4**	**+0.9**
WRAB	**Tennant Creek**	**55.71**	**187**	*i* P	**P**	**13 56 22.1**	**-4.6**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WR0	**Warramunga Arr**	**55.72**	**187**	P	**P**	**13 56 27.1**	**+0.4**
WR0				IAmb	IAmb	13 56 44.3	
	comp=Z,3.8nm,0.8s						
WB2	**Warramunga Arr**	**55.72**	**187**	P	**P**	**13 56 27.6**	**+0.9**
WB2				IAmb	IAmb	13 56 44.3	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**13 56 27.3**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=1.6,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**13 56 28.3**	**+1.5**
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**13 56 28.3**	**+1.5**
INK	**Inuvik**	**55.73**	**27**	P	**P**	**13 56 28.4**	**+2.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INK	Inuvik	55.73	27	P	P	13 56 28.4	+2.2
ARU	Arti	57.06	319	d iP	P	13 56 34.6	-1.4
ARU				S	S	14 04 32.6	+5.7
ARU				SS	SS	14 08 21.3	+5.8
ARU				pmax	pmax		
	comp=Z,10.0nm,1.9s						
ABKAR	Akbulak array	58.46	311	P	P	13 56 45.9	0.0
AS31	Alice Springs	59.45	187	P	P	13 56 54.3	+1.3
ASAR	Alice Springs	59.45	187	P	P	13 56 53.2	+0.2
	comp=Z,0.3nm,0.5s,baz=21,slow=11,SNR=16						
ASAR	Alice Springs	59.45	187	P	P	13 56 54.9	+1.9
ASAR	Alice Springs	59.45	187	P	P	13 56 54.9	+1.9
KIRV	Kirov	61.03	323	i P	P	13 57 02.3	-1.1
YKA	Yellowknife Ar	65.14	30	P	P	13 57 32.5	+2.0
	comp=Z,0.8nm,0.8s,baz=298,slow=6.5,SNR=13						
FINES	FINESS Array B	69.77	332	P	P	13 57 59.8	0.0
	comp=Z,0.8nm,0.8s,baz=70,slow=6.3,SNR=3.4						
KBZ	Khabaz	71.43	311	P	P	13 58 10.2	-0.1
	comp=Z,1.2nm,0.9s,baz=24,slow=20,SNR=2.1						
AKASG	Malin Array Be	75.07	322	P	P	13 58 31.9	+0.4
	comp=Z,0.4nm,0.4s,baz=50,slow=6.1,SNR=4.3						
NOA	NORSAR Array B	75.22	337	P	P	13 58 33.0	+0.7
	comp=Z,1.1nm,0.8s,baz=40,slow=5.6,SNR=4.3						
NVAR	Mina Array Bea	76.10	53	P	P	13 58 40.6	+2.6
	comp=Z,1.0nm,0.8s,baz=286,slow=5.1,SNR=5.5						
PDAR	Pinedale Array	78.87	45	P	P	13 58 55.4	+2.0
	comp=Z,0.6nm,0.8s,baz=263,slow=2.4,SNR=6.6						

TUL ***10*** *13:56:34.5±0.7, 36°.51N±0°.02×98°.72W±0°.02, h5km±3km, ML3.1, mb_Lg3.1/63(NEIC), Error ellipse: s-maj=4.4km s-min=0.7km az=140.0*

NEIC 10 13:56:34.7±0.6, 36°.51N±0°.02×98°.67W±0°.03, h5km±2km, Error ellipse: s-maj=5.0km s-min=3.4km az=310.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.30	244	Pg	Pg	13 56 40.0	-0.4
OKCFA	Oklahoma City	1.47	137	Pn	Pn	13 57 01.6	-0.3
OKCSW	OKLAHOMA CITY	1.49	137	Pn	Pn	13 57 02.1	0.0
WMOK	Wichita Mounta	1.77	183		Pn	13 57 05.5	-0.5
T35A	Sooner Cattle	1.78	76		Pn	13 57 05.6	-0.6
R32A	Long Quarter,	1.91	359		Pn	13 57 08.4	+0.5
W35A	Tecumseh	1.99	132		Pn	13 57 09.2	+0.2
X34A	Smith Ranch, M	2.02	160	Pn	Pn	13 57 09.9	+0.4
X34A				IAmb_Lg		13 57 42.7	
	comp=Z,106nm,0.8s						
X37A	Clayton	3.30	124	IAmb_Lg		13 58 24.4	
	comp=Z,61nm,0.9s						
KSCO	Kaye Shedlock'	4.01	310	IAmb_Lg		13 58 51.1	
	comp=Z,35nm,0.9s						
W39A	Magazine	4.18	107	IAmb_Lg		13 58 49.3	
	comp=Z,46nm,0.7s						
S39A	Bolivar	4.43	73	IAmb_Lg		13 58 56.4	
	comp=Z,41nm,1.1s						
Z38A	Mt. Pleasant	4.43	136	IAmb_Lg		13 59 05.7	
	comp=Z,31nm,0.8s						
T25A	Trinidad	4.65	279	IAmb_Lg		13 59 02.5	
	comp=Z,37nm,0.7s						
BGNE	Belgrade	4.91	5	IAmb_Lg		13 59 20.5	
	comp=Z,37nm,0.7s						
237A	Washetta, Mont	5.08	151	IAmb_Lg		13 59 29.6	
	comp=Z,32nm,1.1s						
OGNE	Ogallala	5.15	330	IAmb_Lg		13 59 23.5	
	comp=Z,30nm,0.8s						
WHAR	Wooly Hollow	5.32	101	IAmb_Lg		13 59 35.4	
	comp=Z,24nm,0.7s						
FCAR	Ozark Folk Cen	5.33	95	IAmb_Lg		13 59 25.9	
	comp=Z,23nm,0.7s						
WLAR	White Oak Lake	5.36	120	IAmb_Lg		13 59 35.7	
	comp=Z,40nm,1.2s						
W41B	Gary Mavity, V	5.38	102	IAmb_Lg		13 59 29.3	
	comp=Z,25nm,0.8s						
R40A	Maddies Statio	5.40	69	IAmb_Lg		13 59 28.8	
	comp=Z,25nm,0.7s						
Z41A	Richland Creek	5.81	122	IAmb_Lg		13 59 50.8	
	comp=Z,32nm,1.1s						
P40A	Paris	6.04	58	IAmb_Lg		13 59 53.2	
	comp=Z,34nm,0.8s						
JCT	Junction City	6.09	189	IAmb_Lg		13 59 57.9	
	comp=Z,21nm,0.9s						
K31A	O'Neill	6.11	359	IAmb_Lg		13 59 56.0	
	comp=Z,19nm,0.7s						
CCM	Cathedral Cave	6.12	73	IAmb_Lg		13 59 52.4	
	comp=Z,25nm,0.9s						
ISCO	Idaho Springs	6.38	303	IAmb_Lg		13 59 59.3	
	comp=Z,19nm,0.9s						
PBMO	Poplar Bluff	6.63	85	IAmb_Lg		14 00 04.2	
	comp=Z,21nm,0.8s						
FVM	French Village	6.74	75	IAmb_Lg		14 00 11.0	
	comp=Z,21nm,0.7s						
SCIA	State Center	6.86	36	IAmb_Lg		14 00 18.0	
	comp=Z,25nm,0.8s						
SLM	Saint Louis	7.03	70	IAmb_Lg		14 00 16.0	
	comp=Z,21nm,0.9s						
Y22D	IRIS PASSCAL I	7.17	253	IAmb_Lg		14 00 41.9	
	comp=Z,25nm,0.9s						
S44A	Carbondale	7.62	78	IAmb_Lg		14 00 33.4	
	comp=Z,18nm,0.7s						
SIUC	Southern Illin	7.65	78	IAmb_Lg		14 00 53.2	
	comp=Z,22nm,0.9s						
OXF	Oxford	7.81	102	IAmb_Lg		14 00 49.2	
	comp=Z,22nm,1.0s						
K22A	Casper	8.62	318	IAmb_Lg		14 01 21.9	
	comp=Z,22nm,1.1s						
L42A	Oliver, Polo	8.88	49	IAmb_Lg		14 01 33.8	
	comp=Z,13nm,0.8s						
JFWS	Jewell Farm	9.11	43	IAmb_Lg		14 01 30.3	
	comp=Z,14nm,0.8s						

IDC ***10*** *13:58:48.5±1.1, 4°.66S×94°.36E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.9/39, mbtmp4.0/14, ML4.1/2, MS3.8/40, Ms1 3.8/40, ms1mx3.7/79, Error ellipse: s-maj=33.7km s-min=19.7km az=42.0*

NEIC ***10*** *13:58:49.3±1.4, 4°.7S±0°.1×94°.5E±0°.1, h10km±2km, mb4.4/10, Error ellipse: s-maj=25.3km s-min=21.4km az=261.0*

ISC 10 13:58:49.6±0.9, 4°.6S±0°.1×94°.5E±0°.1, h10km, n65, σ1s.69/36, mb4.3/20, MS3.8/38, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	Gunungsitoli	6.63	28	Pn	Pn	14 00 26.3	-0.9
PSI	Prapat	8.59	31	Pn	Pn	14 00 55.4	+1.2
	0.9nm,0.3s,baz=124,slow=11,SNR=4.5						
PSI				Sn	Sn	14 02 29.3	-2.0
	0.7nm,0.3s,baz=88,slow=8.6,SNR=1.4						
IPM	Ipoh	11.14	36		Pn	14 01 30.5	+1.5
LEM	Lembang	13.23	100	LR	LR	14 06 53.2	
	comp=Z,365nm,19.9s,baz=184,slow=36						
PALK	Pallekele	18.14	311	P	Pn	14 03 01.8	-0.2
	1.4nm,0.3s,baz=232,slow=13,SNR=10						
PALK				LR	LR	14 08 42.8	
	comp=Z,310nm,18.8s,baz=227,slow=33						
PALK	Pallekele	18.14	311	P	Pn	14 03 01.6	-0.3
PALK				IAmb	IAmb	14 03 23.6	
	comp=Z,24nm,1.4s						
CMAR	Chiang Mai Arr	23.34	11	P	P	14 03 59.1	+0.9
	comp=Z,3.1nm,0.9s,baz=201,slow=9.1,SNR=16						
CMAR				LR	LR	14 13 05.8	
	comp=Z,77nm,18.0s,baz=355,slow=37						
KAPI	Kappang	25.16	92	LR	LR	14 15 05.6	
	comp=Z,138nm,18.1s,baz=256,slow=39						
DAV	Davao City (W)	33.11	70	LR	LR	14 19 33.1	
	comp=Z,156nm,20.1s,baz=290,slow=37						
GOMU	GeErMu	40.60	0	P	P	14 06 32.6	+2.6
GOMU				pP	pwP	14 06 37.3	-0.9
GOMU				sP	sP	14 06 38.9	+6.7
GOMU				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WRA	Warramunga Arr	41.65	115	P	P	14 06 39.2	+0.7
	comp=Z,1.0nm,0.9s,baz=284,slow=9.2,SNR=5.2						
WRA				LR	LR	14 21 53.9	
	comp=Z,97nm,21.7s,baz=176,slow=33						
WRAB	Tennant Creek	41.66	115	P	P	14 06 37.5	-1.2
WB2	Warramunga Arr	41.66	115	P	P	14 06 37.1	-1.6
WB2				IAmb	IAmb	14 06 55.3	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	41.84	115	P	P	14 06 40.0	-0.1
WR0				IAmb	IAmb	14 06 51.9	
	comp=Z,11nm,1.4s						
ASAR	Alice Springs	42.43	120	P	P	14 06 46.6	+1.7
	comp=Z,0.4nm,0.9s,baz=305,slow=8.7,SNR=4.0						
ASAR				LR	LR	14 23 39.1	
	comp=Z,123nm,18.7s,baz=296,slow=35						
ASAR	Alice Springs	42.43	120	P	P	14 06 43.4	-1.5
GTA	Gaotai	44.08	6	eP	P	14 07 00.1	+2.0
GTA				pP	pwP	14 07 08.0	+1.8
GTA				sP	sP	14 07 12.2	+12
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WSAR	Wadi Sarin	44.63	310	LR	LR	14 23 28.5	
	comp=Z,130nm,21.3s,baz=170,slow=33						
KSH	Kashi	47.12	340	P	P	14 07 19.9	-2.3
KSH				pP	pwP	14 07 31.8	+1.5
KSH				sP	sP	14 07 36.4	+12
KSH				ScP	ScP	14 12 41.3	-6.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOOM	Boomskoye usch	49.82	342	P	P	14 07 42.5	-0.6
BOOM				IAmb	IAmb	14 07 45.4	
	comp=Z,6.8nm,0.9s						
AAK	Ala-Archa	50.41	341	LR	LR	14 28 52.4	
	comp=Z,168nm,20.8s,baz=180,slow=36						
STKA	Stephens Creek	51.73	127	LR	LR	14 28 25.0	
	comp=Z,260nm,21.4s,baz=256,slow=34						
KSRS	Korea Array	52.14	34	LR	LR	14 31 20.6	
	comp=Z,59nm,18.8s,baz=240,slow=37						
KKAR	Karatay Array	52.22	338	P	P	14 08 01.6	+0.7
MK31	Makanchi Array	52.32	349	P	P	14 08 00.5	-1.0
MK31				IAmb	IAmb	14 08 02.6	
	comp=Z,2.2nm,0.8s						
MKAR	Makanchi Array	52.32	349	P	P	14 08 02.0	+0.5
	comp=Z,2.6nm,0.7s,baz=155,slow=8.1,SNR=39						
MKAR				LR	LR	14 32 28.9	
	comp=Z,45nm,20.4s,baz=244,slow=39						
MKAR	Makanchi Array	52.32	349	P	P	14 08 00.7	-0.8
CTA	Charters Tower	52.60	112	LR	LR	14 31 09.0	
	comp=Z,97nm,19.0s,baz=264,slow=37						
SONM	Songino Array	53.26	10	P	P	14 08 09.8	+1.2
	comp=Z,1.1nm,0.8s,baz=190,slow=8.9,SNR=9.4						
SONM	Songino Array	53.26	10	P	P	14 08 07.2	-1.4
GEYT	Alibeck	54.15	325	P	P	14 08 14.9	-0.4
	comp=Z,2.7nm,0.7s,baz=219,slow=27,SNR=2.7						
GEYT				LR	LR	14 31 15.6	
	comp=Z,169nm,21.3s,baz=153,slow=36						
MJAR	Matsushiro Arr	57.79	41	LR	LR	14 35 27.0	
	comp=Z,48nm,18.0s,baz=237,slow=38						
ZAA0	Zalesovo Array	58.91	353	P	P	14 08 48.5	-0.2
ZAA0				IAmb	IAmb	14 08 49.8	
	comp=Z,5.0nm,1.1s						
ZALV	Zalesovo Beam	58.91	353	P	P	14 08 49.1	+0.4
	comp=Z,3.1nm,0.8s,baz=181,slow=5.9,SNR=15						
ZALV				LR	LR	14 35 00.5	
	comp=Z,43nm,21.3s,baz=194,slow=37						
ZALV	Zalesovo Beam	58.91	353	P	P	14 08 47.4	-1.3
USRK	Ussuriysk Ar.	59.11	31	LR	LR	14 33 53.2	
	comp=Z,69nm,21.6s,baz=197,slow=36						
ABKAR	Akbulak array	61.48	335	P	P	14 09 05.0	-1.5
ABKAR	Akbulak array	61.48	335	P	P	14 09 06.2	-0.2
ABKAR				IAmb	IAmb	14 09 08.0	
	comp=Z,12nm,0.7s						
KLR	Kul'dur	62.62	27	LR	LR	14 40 01.4	
	comp=Z,54nm,18.5s,baz=258,slow=39						
AKTO	Aktyubinsk	63.19	335	LR	LR	14 36 14.1	
	comp=Z,65nm,21.3s,baz=148,slow=36						
GNI	Garni	63.76	319	LR	LR	14 38 10.5	
	comp=Z,52nm,19.6s,baz=136,slow=37						
ASAJ	Asahikawa	64.91	36	LR	LR	14 38 17.0	
	comp=Z,36nm,19.7s,baz=304,slow=36						
MATP	Matopo	65.93	250	LR	LR	14 33 37.9	
	comp=Z,116nm,19.7s,baz=98,slow=32						
KBZ	Khabaz	66.81	322	P	P	14 09 41.6	0.0
	comp=Z,2.1nm,0.7s,baz=134,slow=7.3,SNR=6.4						
ARU	Arti	67.55	339	LR	LR	14 40 40.5	
	comp=Z,55nm,18.3s,baz=152,slow=37						
LBTB	Lobatse	68.96	245	LR	LR	14 34 52.9	
	comp=Z,148nm,19.8s,baz=72,slow=32						
BOSA	Boshof	69.60	241	LR	LR	14 35 05.9	
	comp=Z,84nm,19.9s,baz=74,slow=31						
BRTR	Keskin Array B	71.13	315	P	P	14 10 08.9	+0.2
	comp=Z,2.1nm,0.6s,baz=136,slow=8.4,SNR=5.8						
BRTR				LR	LR	14 43 31.9	
	comp=Z,116nm,18.3s,baz=121,slow=38						
YAK	Yakutsk	71.72	17	LR	LR	14 45 13.2	
	comp=Z,48nm,18.2s,baz=265,slow=39						
SUR	Sutherland	73.78	238	LR	LR	14 35 13.3	
	comp=Z,139nm,21.8s,baz=86,slow=30						
TSUM	Tsumeb	76.16	251	LR	LR	14 40 35.4	
	comp=Z,111nm,18.6s,baz=117,slow=33						
RPZ	Rata Peaks	77.11	134	LR	LR	14 44 15.4	
	comp=Z,147nm,18.8s,baz=272,slow=35						
MA2	Magadan	77.70	26	LR	LR	14 47 09.4	
	comp=Z,58nm,20.0s,baz=258,slow=37						
PETK	Petropavlovsk-	78.04	33	LR	LR	14 46 25.1	
	comp=Z,40nm,19.7s,baz=261,slow=36						
AKASG	Malin Array Be	78.26	324	P	P	14 10 49.7	0.0
	comp=Z,1.5nm,0.5s,baz=95,slow=4.5,SNR=8.2						
AKASG				LR	LR	14 48 30.3	
	comp=Z,22nm,18.2s,baz=156,slow=38						
MLR	Muntele Rosu	78.49	318	LR	LR	14 49 44.2	
	comp=Z,60nm,18.2s,baz=72,slow=39						
URZ	Urewera	81.36	128	LR	LR	14 48 05.3	
	comp=Z,85nm,18.4s,baz=212,slow=36						
FINES	FINESS Array B	83.91	333	P	P	14 11 20.8	+1.3
	comp=Z,1.6nm,1.0s,baz=147,slow=7.8,SNR=1.9						
VRAC	Vranov	85.63	320	LR	LR	14 52 42.0	
	comp=Z,40nm,20.4s,baz=98,slow=38						
GERES	GERESS Array B	87.41	319	P	P	14 11 38.5	+1.1
	comp=Z,0.2nm,0.3s,baz=116,slow=3.1,SNR=3.8						
HFS	Hagfors	89.40	330	LR	LR	14 52 38.9	
	comp=Z,61nm,21.7s,baz=85,slow=36						
DAVOX	Davos/Dischmat	89.65	317	LR	LR	14 55 45.1	
	comp=Z,30nm,18.8s,baz=76,slow=38						
NOA	NORSAR Array B	90.75	331	LR	LR	14 54 40.3	
	comp=Z,48nm,19.1s,baz=110,slow=37						
SPITS	Spitsbergen Ar	92.06	348	LR	LR	14 57 46.8	
	comp=Z,49nm,21.1s,baz=188,slow=38						
TXAR	Lajitas Array	149.99	33	PKPbc	PKiKP	14 18 41.6	-0.6
	comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=2.3						

IDC 10 14:04:45.3±439.0, 57°.68N×30°.25E, h0km, Error ellipse: s-maj=188.7km s-min=94.7km az=92.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.91	101	i		14 28 33.5	
	baz=289,slow=314,SNR=4.3						
I37NO	I37NO	12.53	340	i		15 12 10.0	
	baz=149,slow=331,SNR=2.5						
I46RU	ZALESOVO INFRA	30.19	73	i		17 10 59.0	
	baz=290,slow=324,SNR=1.9						
I18DK	QAANAAQ INFRAS	36.51	339	i		17 47 20.0	
	baz=66,slow=339,SNR=1.0						

NEIC ***10*** *14:40:40.5±2.0, 24°.7S±0°.1×179°.8W±0°.1, h519km±9km, mb4.2/16, Error ellipse: s-maj=21.0km s-min=10.2km az=138.0*

IDC ***10*** *14:40:42.5±1.4, 24°.73S×179°.87E, h519km±14km, mb3.5/10, mb1 3.7/13, mb1mx3.5/37, mbtmp4.4/13, Error ellipse: s-maj=19.7km s-min=12.5km az=149.0*

ISC 10 14:40:41.1±0.5, 24°.68S±0°.06×179°.87W±0°.07, h519km, n80, σ1s.92/94, mb4.2/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.88	160	P	P	14 42 10.1	+2.1
GLKZ				S	S	14 43 15.0	-4.0
MSVF	Nonsavu	7.18	344	P	P	14 42 30.1	+0.1
	3.2nm,0.3s,baz=227,slow=21,SNR=14						
MSVF	Nonsavu	7.18	344	P	P	14 42 29.9	-0.1
MARNC	Mare, Loyalty	11.58	284	P	P	14 43 15.0	-0.2
PINNC	Pines Island,	11.80	277	P	P	14 43 18.8	+1.2
OUZ	Omahuta	11.93	207	P	P	14 43 20.8	+2.1
OUZ	Omahuta	11.93	207	P	P	14 43 21.4	+2.7
WCZ	Waipu Caves	12.28	203	P	P	14 43 24.7	+2.4
KUZ	Kuaotunu	12.61	196	P	P	14 43 26.9	+1.1
DZM	Mont Dzumac	12.83	279	P	P	14 43 29.0	+0.5
	1.7nm,0.3s,baz=92,slow=12,SNR=9.3						
DZM	Mont Dzumac	12.83	279	P	P	14 43 29.1	+0.6
MXZ	Matakaoa Point	12.94	186	P	P	14 43 31.0	+1.8
AFI	Afiamalu	13.15	37	P	P	14 43 30.4	-1.5
	4.2nm,0.3s,baz=334,slow=2.1,SNR=7.4						
AFI				S	S	14 45 48.1	-4.6
	1.9nm,0.3s,baz=254,slow=19,SNR=2.1						
AFI	Afiamalu	13.15	37	P	P	14 43 30.1	-1.9
HAZ	Te Kaha	13.19	188	P	P	14 43 28.3	-3.6
HAZ				S	S	14 45 54.7	+2.1
RUGZ	Raukumara Rang	13.41	188	P	P	14 43 37.0	+2.6
PUZ	Puketiti	13.45	186	P	P	14 43 36.3	+1.7
PUZ				S	S	14 45 56.0	-1.7
TOZ	Tahuroa Road	13.60	196	P	P	14 43 40.7	+4.5
KMRZ	Kaimai	13.60	194	P	P	14 43 40.2	+4.0
URZ	Urewera	13.78	190	P	P	14 43 37.2	-0.8
	3.7nm,0.3s,baz=298,slow=5.1,SNR=24						
URZ				S	S	14 46 02.0	-1.9
	1.2nm,0.3s,baz=249,slow=24,SNR=11						
URZ	Urewera	13.78	190	P	P	14 43 36.9	-1.2
URZ	Urewera	13.78	190	P	P	14 43 36.5	-1.6
URZ				S	S	14 46 01.2	-2.7
MWZ	Matawai	13.79	189	P	P	14 43 37.4	-0.8
MWZ				S	S	14 46 03.0	-1.3
TKGZ	Te Karaka	13.85	187	P	P	14 43 39.5	+0.7
MUGZ	Murupara	14.05	191	P	P	14 43 39.5	-1.5
RTZ	Ruatahuna	14.15	190	P	P	14 43 43.4	+1.3
SNGZ	Shannon Statio	14.26	189	P	P	14 43 43.3	+0.2
MTHZ	Maungataniwha	14.40	190	P	P	14 43 44.8	+0.1
MTHZ				S	S	14 46 11.6	-4.5
HIZ	Hauiti	14.50	197	P	P	14 43 49.6	+4.0
RATZ	Rangitukua	14.62	194	P	P	14 43 48.5	+1.6
NMHZ	Naumai	14.65	190	P	P	14 43 47.7	+0.4
NMHZ				S	S	14 46 20.0	-0.8
BKZ	Black Stump Fm	14.77	191	P	P	14 43 47.2	-1.2
BKZ	Black Stump Fm	14.77	191	P	P	14 43 47.1	-1.4
BKZ				S	S	14 46 18.6	-4.4
TMVZ	Te Maari	14.87	194	P	P	14 43 50.2	+0.6
ETVZ	East Tongariro	14.89	193	P	P	14 43 49.7	-0.2
OTVZ	Oturere	14.93	194	P	P	14 43 51.1	+0.9
MCHZ	McNeill Hill	15.00	190	P	P	14 43 48.3	-2.6
WNVZ	Wahianoa	15.10	194	P	P	14 43 52.9	+0.8
VRZ	Vera Road	15.10	196	P	P	14 43 55.4	+3.5
MOVZ	Moawhango	15.14	193	P	P	14 43 51.9	-0.5
TSZ	Takapari Road	15.73	192	P	P	14 43 56.7	-1.8
RPZ	Rata Peaks	20.39	199	P	P	14 44 41.5	-0.6
	11nm,0.7s,baz=28,slow=7.9,SNR=1.8						
ARMA	Armidale	25.87	251	P	P	14 45 30.2	-1.1
ARMA				IAmb	IAmb	14 45 36.1	
	comp=Z,6.2nm,1.1s						
EIDS	Eidsvold	26.31	262	P	P	14 45 33.4	-1.8
EIDS				IAmb	IAmb	14 45 50.1	
	comp=Z,9.3nm,1.1s						
CAN	Canberra	28.86	241	P	P	14 45 57.5	0.0
CTA	Charters Tower	31.60	271	P	P	14 46 21.5	+0.2
	comp=Z,17nm,0.3s,baz=95,slow=10,SNR=44						
TOO	Toolangi	32.13	238	P	P	14 46 27.2	+1.6
TOO				IAmb	IAmb	14 46 37.2	
	comp=Z,9.4nm,1.1s						
STKA	Stephens Creek	34.55	249	P	P	14 46 46.0	0.0
	comp=Z,2.5nm,0.4s,baz=94,slow=10,SNR=22						
STKA	Stephens Creek	34.55	249	P	P	14 46 45.9	-0.1
COEN	Coen	36.36	280	P	P	14 47 01.6	+0.2
BBOO	Buckleboo	39.25	248	P	P	14 47 23.8	-0.9
BBOO				IAmb	IAmb	14 47 24.3	
	comp=Z,4.7nm,0.8s						
AS31	Alice Springs	42.03	261	P	P	14 47 46.5	-0.6
AS31				IAmb	IAmb	14 47 49.3	
	comp=Z,2.9nm,0.3s						
ASAR	Alice Springs	42.03	261	P	P	14 47 46.6	-0.5
	comp=Z,2.9nm,0.4s,baz=92,slow=7.4,SNR=187						
ASAR				PcP	PcP	14 49 31.5	+1.3
	comp=Z,0.3nm,0.6s,baz=151,slow=4.2,SNR=2.6						
ASAR				S	S	14 53 26.9	-1.7
	comp=Z,0.4nm,0.7s,baz=92,slow=16,SNR=4.9						
ASAR	Alice Springs	42.03	261	P	P	14 47 46.3	-0.8
WR0	Warramunga Arr	42.29	267	P	P	14 47 48.1	-1.1
WR0				IAmb	IAmb	14 47 48.5	
	comp=Z,4.9nm,0.5s						
WB2	Warramunga Arr	42.47	267	P	P	14 47 49.6	-1.0
WRAB	Tennant Creek	42.47	267	P	P	14 47 49.5	-1.1
WB0	Warramunga Arr	42.47	267	P	P	14 47 49.5	-1.1
WRA	Warramunga Arr	42.48	267	P	P	14 47 49.7	-0.9
	comp=Z,4.7nm,0.3s,baz=99,slow=6.7,SNR=434						
WRA				ScP	ScP	14 52 35.0	+2.1
	comp=Z,2.2nm,1.0s,baz=100,slow=4.1,SNR=9.5						
WRA				S	S	14 53 30.8	-4.2
	comp=Z,1.6nm,1.1s,baz=99,slow=15,SNR=4.8						
WRA	Warramunga Arr	42.48	267	P	P	14 47 48.4	-2.2
FORT	Forrest	46.15	250	P	P	14 48 17.1	-1.7
KNRA	Kununurra	48.80	270	P	P	14 48 38.6	-0.4
KNRA				IAmb	IAmb	14 48 39.1	
	comp=Z,9.5nm,0.6s						
FITZ	Fitzroy Crossi	50.89	266	P	P	14 48 53.6	-0.7
FITZ				IAmb	IAmb	14 48 55.2	
	comp=Z,5.0nm,0.8s						
MORW	Morawa	56.72	250	P	P	14 49 33.6	-1.8
QSPA	South Pole Qui	65.41	180	P	P	14 50 34.6	+2.5
PETK	Petropavlovsk-	79.88	346	P	P	14 51 56.7	+1.4
	comp=Z,1.6nm,0.6s,baz=126,slow=7.7,SNR=6.2						
VNA3	Neumayer Olymp	84.09	177	P	P	14 52 18.1	+1.5
VNA2	Neumayer--Watz	84.51	178	P	P	14 52 20.5	+1.8
	baz=164,slow=2.0						
NVAR	Mina Array Bea	85.23	44	P	P	14 52 25.4	+2.4
	comp=Z,0.7nm,0.6s,baz=226,slow=8.4,SNR=4.7						
MA2	Magadan	87.36	346	P	P	14 52 33.4	+1.2
	comp=Z,0.5nm,0.4s,baz=144,slow=6.6,SNR=5.1						
ILAR	Eielson Array	92.76	14	P	P	14 52 58.0	+0.8
	comp=Z,0.2nm,0.5s,baz=226,slow=4.5,SNR=4.2						
PDAR	Pinedale Array	93.17	44	P	P	14 53 02.4	+2.5
	comp=Z,0.2nm,0.5s,baz=198,slow=5.7,SNR=2.3						
MKAR	Makanchi Array	112.76	312	PKiKP	PKiKP	14 58 18.9	+0.4
	comp=Z,0.1nm,0.4s,baz=123,slow=0.4,SNR=4.1						
WUPA	West Chester U	115.97	56		PKPdf	14 58 23.9	-0.9
ARCES	ARCESS Array B	132.67	348	PKP	PKiKP	14 58 57.1	0.0
	comp=Z,1.9nm,0.7s,baz=64,slow=2.1,SNR=9.3						
FINES	FINESS Array B	139.22	341	PKP	PKiKP	14 59 10.0	-0.7
	comp=Z,0.4nm,0.3s,baz=113,slow=3.6,SNR=3.6						
NOA	NORSAR Array B	142.87	351	PKP	PKPdf	14 59 13.5	-1.4
	comp=Z,0.8nm,0.7s,baz=13,slow=2.3,SNR=3.7						
AKASG	Malin Array Be	145.69	327	PKPbc	PKPbc	14 59 21.8	+0.3
	comp=Z,0.8nm,0.3s,baz=44,slow=3.6,SNR=10.0						
CLL	Collm	151.63	343	i PKPbc	PKiKP	14 59 37.8	+1.3
	comp=Z,5.0nm,0.7s						
TORD	Torodi Ar. Bea	168.43	188	PKPab	PKPab	15 01 02.4	+1.0
	comp=Z,0.6nm,0.7s,baz=183,slow=2.7,SNR=3.3						

WEL 10 14:48:41.0±0.4, 38°S±3°×17°7E±°, h5km, M3.3/25, ML3.5/25, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=9.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.15	342	P	Pg	14 48 44.4	+0.3
WSRZ	White Island S	0.17	340	P	Pg	14 48 44.6	+0.3
WHRZ	Whale Island	0.28	230	P	Pg	14 48 47.4	+0.9
HAZ	Te Kaha	0.43	101	P	Pg	14 48 49.4	+0.1
HAZ				S	Sg	14 48 56.1	+1.2
RUGZ	Raukumara Rang	0.45	131	P	Pg	14 48 49.7	+0.1
RUGZ				S	Sg	14 48 56.1	+0.6
MARZ	Manawahe	0.55	235	P	Pg	14 48 52.4	+0.7
OPRZ	Ohinepanea	0.58	253	P	Pg	14 48 52.3	+0.2
URZ	Urewera	0.60	191	P	Pg	14 48 52.3	-0.1
URZ				S	Sg	14 49 00.3	0.0
PKGZ	Pakihiroa	0.69	108	P	Pg	14 48 54.5	+0.2
PKGZ				S	Sg	14 49 04.2	+1.0
MWZ	Matawai	0.69	162	P	Pg	14 48 54.4	0.0
MWZ				S	Sg	14 49 04.2	+0.8
LIRZ	Lichensteins R	0.76	244	P	Pb	14 48 56.4	-0.4
TWGZ	Tauwhareparae	0.77	131	P	Pb	14 48 56.4	-0.4
TWGZ				S	Sb	14 49 08.9	+1.3
MKRZ	Makatiti	0.77	233	P	Pb	14 48 57.8	+0.7
TGRZ	Tauranga	0.79	266	P	Pg	14 48 55.9	-0.2
TARZ	Mount Tarawera	0.81	226	P	Pb	14 48 57.2	-0.5
OMRZ	Omania	0.82	238	P	Pg	14 48 57.1	+0.4
RAGZ	Rawiri	0.83	171	P	Pg	14 48 57.0	0.0
MXZ	Matakaoa Point	0.85	83	P	Pg	14 48 56.9	-0.4
KARZ	Kaharoa	0.87	246	P	Pg	14 48 57.6	-0.1
RRRZ	Republican Roa	0.88	221	P	Pg	14 48 58.0	+0.1
MUGZ	Murupara	0.89	205	P	Pg	14 48 57.4	-0.6
PUZ	Puketiti	0.89	117	P	Pb	14 48 58.8	-0.2
MYRZ	Mayor Island	0.89	296	P	Pg	14 48 57.7	-0.5
TKGZ	Te Karaka	0.90	148	P	Pb	14 48 59.2	+0.1
NGRZ	Ngongotaha	0.94	243	P	Pn	14 49 01.2	+0.2
RTZ	Ruatahuna	0.96	193	P	Pg	14 48 59.1	-0.4
HRRZ	Handcock Road	1.05	227	P	Pb	14 49 01.6	-0.1
KMRZ	Kaimai	1.05	260	P	Pb	14 49 01.9	+0.2
PRRZ	Plateau Road	1.07	219	P	Pg	14 49 00.5	-0.9
CNGZ	Carnagh Statio	1.11	137	P	Pn	14 49 04.1	+0.9
RIGZ	Rimuhau	1.11	159	P	Pn	14 49 03.4	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNGZ	Shannon Statio	1.11	176	P	Pg	14 49 02.2	-0.1
ALRZ	Allen Road	1.14	219	P	Pg	14 49 02.1	-0.8
WPRZ	Whakapapatarin	1.21	225	P	Pn	14 49 05.8	+1.3
MTHZ	Maungataniwha	1.22	195	P	Pg	14 49 04.0	-0.4
RAHZ	Arahi	1.25	186	P	Pg	14 49 04.8	-0.2
MRHZ	Matea Rd	1.33	209	P	Pn	14 49 04.5	-1.8
PRGZ	Paritu Road	1.34	158	P	Pg	14 49 07.5	+0.8
KNZ	Kokohu	1.39	166	P	Pb	14 49 07.2	-0.2
TOZ	Tahuroa Road	1.39	267	P	Pn	14 49 04.2	-2.8
WHHZ	Waihua	1.40	181	P	Pg	14 49 08.5	+0.6
NMHZ	Naumai	1.46	194	P	Pn	14 49 05.5	-2.6
KUZ	Kuaotunu	1.53	307	P	Pn	14 49 05.8	-3.2
ARHZ	Aropaoanui	1.60	187	P	Pb	14 49 10.6	-0.4
BKZ	Black Stump Fm	1.60	202	P	Pn	14 49 08.5	-1.5
RATZ	Rangitukua	1.67	224	P	Pg	14 49 15.5	+2.6
RITZ	Rihia Road	1.70	220	P	Pg	14 49 15.2	+1.5
MCHZ	McNeill Hill	1.82	194	P	Pb	14 49 14.0	-0.8
KWHZ	Kaweka Forest	1.86	200	P	Pn	14 49 14.0	+0.3
TMVZ	Te Maari	1.88	220	P	Pn	14 49 14.1	+0.1
ETVZ	East Tongariro	1.90	219	P	Pn	14 49 12.1	-2.1
WIAZ	Waiheke Island	1.90	297	P	Pn	14 49 14.9	+0.8
OTVZ	Oturere	1.94	219	P	Pg	14 49 18.0	-0.2
NNVZ	North Ngauruho	1.94	221	P	Pg	14 49 18.3	+0.1
ETAZ	East Tamaki Re	1.99	290	P	Pn	14 49 13.5	-1.7
GRZ	Great Barrier	2.02	314	P	Pn	14 49 12.8	-2.9
BHHZ	Black Hill Sta	2.04	207	P	Pn	14 49 17.2	+1.2
HIZ	Hauiti	2.07	245	P	Pg	14 49 20.9	+0.3
MBAZ	Motutapu North	2.08	295	P	Pn	14 49 14.8	-1.8
KRHZ	Kereru	2.08	199	P	Pn	14 49 16.5	-0.1
MOVZ	Moawhango	2.09	214	P	Pn	14 49 17.5	+0.7
WNVZ	Wahianoa	2.10	218	P	Pb	14 49 18.9	-0.7
AWAZ	Awhitu Peninsu	2.16	286	P	Pn	14 49 18.9	+1.2
RVAZ	Riverhead Bore	2.31	292	P	Pn	14 49 18.1	-1.6
PXZ	Pawanui	2.37	187	P	Pn	14 49 19.2	-1.4
PNHZ	Pukenui	2.38	200	P	Pn	14 49 20.1	-0.6
VRZ	Vera Road	2.44	233	P	Pb	14 49 23.5	-1.8
TSZ	Takapari Road	2.59	203	P	Pn	14 49 23.1	-0.5
WAZ	Wanganui	2.73	220	P	Pn	14 49 26.9	+1.4
LREZ	Lake Rotokare	2.86	230	P	Pb	14 49 30.5	-2.0
BFZ	Birch Farm	3.10	194	P	Pn	14 49 29.3	-1.3
MRZ	Mangatainoka R	3.25	203	P	Pn	14 49 31.1	-1.6
OUZ	Omahuta	3.83	309	P	Pn	14 49 38.8	-1.8

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*JMA **10** 14:55:24.9±0.3, 25°.00N×123°.03E, h148km, M3.8*
*IDC **10** 14:55:38.1±14.0, 25°.33N×123°.38E, h313km±177km, mb3.1/6, mb1 3.2/7, mb1mx2.8/46, mbtmp3.8/7, Error ellipse: s-maj=119.2km s-min=14.5km az=58.0*
ISC 10 14:55:23.8±0.8**, 25°.0N**±0°.1×**123°.01E**±0°.07**, h153**km±8km**, n19,** σ**0s.75**/30**, mb3.7**/6**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.58	180	P	Pn	14 55 46.5	+0.6
YOJ				eS	Sn	14 56 02.8	0.0
JYNG	Yonagunijimaku	0.59	185	P	Pn	14 55 46.7	+0.7
JYNG				S	Sn	14 56 02.8	-0.1
IRIF	Iriomote-Funau	0.96	137	P	Pn	14 55 48.8	+0.2
JKRS	Kuro-shima	1.22	131	P	Pn	14 55 51.4	+0.6
JKRS				S	Sn	14 56 10.9	-0.5
HATJ	Hateruma jima	1.22	143	P	Pn	14 55 51.6	+0.8
HATJ				eS	Sn	14 56 11.5	0.0
JIJ	Ishigaki jima	1.23	123	P	Pn	14 55 51.2	+0.3
JIJ				S	Sn	14 56 10.0	-1.7
JISG	Ishigakijimahi	1.27	111	P	Pn	14 55 51.6	+0.4
JISG				S	Sn	14 56 11.6	-0.7
JTJ	Tarama	1.59	104	P	Pn	14 55 55.3	+0.8
JTJ				S	Sn	14 56 17.7	-0.4
JIRB	Irabujima	1.98	96	P	Pn	14 55 59.5	+0.7
JIRB				S	Sn	14 56 24.6	-1.1
JIKM	Ikemajima	2.04	93	P	Pn	14 56 00.6	+1.1
JIKM				S	Sn	14 56 26.6	-0.4
JMJ2	Miyako jima3	2.13	98	P	Pn	14 56 01.7	+1.1
JMJ2				S	Sn	14 56 28.6	-0.3
JOGS	Gusukube	2.20	97	P	Pn	14 56 02.6	+1.2
JOGS				S	Sn	14 56 29.9	-0.4
KSRS	Korea Array	13.06	18	P	P	14 58 28.4	+0.2
	0.3nm,0.3s,baz=198,slow=11,SNR=9.3						
SONM	Songino Array	26.27	334	P	P	15 00 44.5	-0.4
	0.2nm,0.6s,baz=160,slow=6.8,SNR=2.5						
MKAR	Makanchi Array	38.90	314	P	P	15 02 34.4	+0.1
	0.7nm,0.4s,baz=99,slow=9.1,SNR=16						
ZALV	Zalesovo Beam	40.45	326	P	P	15 02 46.2	-0.8
	1.0nm,0.5s,baz=112,slow=8.8,SNR=4.8						
WRA	Warramunga Arr	46.05	165	P	P	15 03 32.6	+0.3
	2.2nm,0.4s,baz=347,slow=8.8,SNR=44						
ASAR	Alice Springs	49.56	167	P	P	15 03 60.0	+0.7
	0.2nm,0.3s,baz=354,slow=7.9,SNR=19						
STKA	Stephens Creek	59.32	162	P	P	15 05 08.9	-0.6
	0.7nm,0.5s,baz=356,slow=7.6,SNR=4.5						

IDC 10 14:55:46.7±2.3**, 2°.07N×127°.33E, h0**km**, mb3.1**/3**, mb1 3.4**/3**, mb1mx3.0**/43**, mbtmp3.1**/3**, Error ellipse: s-maj=165.9km s-min=28.3km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.93	163	P	P	15 00 52.5	-0.1
	0.6nm,0.5s,baz=342,slow=10,SNR=11						
ASAR	Alice Springs	26.36	166	P	P	15 01 24.3	-0.5
	0.1nm,0.6s,baz=352,slow=7.6,SNR=4.3						
MKAR	Makanchi Array	59.26	326	P	P	15 05 50.6	+0.5
	0.1nm,0.5s,baz=113,slow=7.4,SNR=2.1						

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*IDC **10** 14:59:50.7±0.6, 56°.35S×26°.47W, h0km, mb4.8/10, mb1 4.7/11, mb1mx4.5/19, mbtmp4.8/11, ML4.6/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=24.6km s-min=17.0km az=90.0*
*NEIC **10** 14:59:58.3±1.8, 56°.44S±0°.10×26°.6W±0°.2, h57km±5km, mb5.0/55, Error ellipse: s-maj=14.6km s-min=12.5km az=198.0*
ISC 10 14:59:57.4±0.3**, 56°.39S**±0°.06×**26°.52W**±0°.06**, h50**km**, n110,** σ**1s.38**/100**, mb4.9**/28**, MS3.4**/7**, 1C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.07	286	Pn	Pn	15 01 22.2	-2.2
VNA1	Neumayer--Stat	16.34	158	P	P	15 03 47.6	+2.5
VNA3	Neumayer Olymp	16.55	161	P	P	15 03 49.9	+2.4
ESPZ	Base Esperanza	16.69	233	Pn	Pn	15 03 46.8	-0.6
ESPZ				IAmb	IAmb	15 04 31.9	
	comp=Z,118nm,1.4s						
VNA2	Neumayer--Watz	16.74	158	P	P	15 03 52.0	+2.4
	baz=316,slow=14						
SNAA	Sanae	18.28	156	P	Pn	15 04 13.9	+6.9
SNAA	Sanae	18.28	156	P	Pn	15 04 07.5	+0.5
	comp=Z,1.8nm,0.3s,baz=302,slow=10,SNR=27						
SNAA				S	Sn	15 07 22.8	-7.2
	comp=Z,0.9nm,0.3s,baz=172,slow=17,SNR=1.9						
SNAA				LR	LR	15 10 44.1	
	comp=Z,160nm,18.7s,baz=3.0,slow=36						
SNAA	Sanae	18.28	156	P	P	15 04 05.5	-1.2
SNAA				IAmb	IAmb	15 04 15.5	
	comp=Z,81nm,0.5s						
EFI	East Falkland	19.02	271	P	Pn	15 04 16.8	+0.9
EFI				IAmb	IAmb	15 04 31.8	
	comp=Z,181nm,1.6s						
PMSA	Palmer Station	19.96	230	P	Pn	15 04 27.4	+0.4
	comp=Z,46nm,0.8s,baz=131,slow=8.7,SNR=4.2						
PMSA				S	Sn	15 08 11.1	+0.7
	comp=Z,26nm,0.6s,baz=162,slow=23,SNR=8.3						
PMSA				LR	LR	15 11 03.7	
	comp=Z,281nm,18.3s,baz=96,slow=34						
PMSA	Palmer Station	19.96	230	P	P	15 04 25.3	+0.3
PMSA				IAmb	IAmb	15 04 55.5	
	comp=Z,158nm,1.2s						
SMAI	San Martin Ant	21.75	221	P	P	15 04 45.5	+1.3
SMAI				IAmb	IAmb	15 04 48.1	
	comp=Z,96nm,1.1s						
BELA	Belgrano 2	21.77	185	P	P	15 04 43.5	-0.8
USHA	Ushuaia	23.47	256	LR	LR	15 13 03.1	
	comp=Z,122nm,19.0s,baz=59,slow=34						
DSPA	Despedida	23.70	258	P	P	15 05 04.6	+0.3
MG02	Cerro Sombrero	24.71	260	P	P	15 05 15.2	+1.7
MG04	Isla Riesco	25.96	259	P	P	15 05 24.8	0.0
PLTB	Pedras Altas	31.00	311	P	P	15 06 10.1	+0.2
PLTB				IAmb	IAmb	15 07 18.2	
	comp=Z,27nm,1.2s						
SYO	Syowa Base	31.08	140	⇑eP	P	15 06 10.0	-0.2
SYO	Syowa Base	31.08	140	⇓eX	P	15 06 24.9	+15
PLCA	Paso Flores	32.43	280	LR	LR	15 19 48.5	
	comp=Z,76nm,18.2s,baz=163,slow=37						
PLCA	Paso Flores	32.43	280	P	P	15 06 22.5	0.0
QSPA	South Pole Qui	33.86	180	P	P	15 06 35.2	+0.3
	comp=Z,17nm,0.5s,baz=9.4,slow=1.7,SNR=179						
QSPA	South Pole Qui	33.86	180	P	P	15 06 34.6	-0.2
CPUP	Villa Florida	37.32	311	P	P	15 07 03.8	-0.8
CPUP				IAmb	IAmb	15 07 41.2	
	comp=Z,36nm,1.8s						
BO04	La Punta	37.41	288	P	P	15 07 06.3	+0.9
BO04				IAmb	IAmb	15 08 20.6	
	comp=Z,20nm,1.4s						
MT09	Talagante	37.77	288	P	P	15 07 08.0	-0.6
MT09				IAmb	IAmb	15 07 39.8	
	comp=Z,51nm,1.9s						
MT02	Curacav	38.25	288	P	P	15 07 11.8	-0.7
MT02				IAmb	IAmb	15 08 01.2	
	comp=Z,48nm,1.6s						
ROC1	El Roble	38.41	288	P	P	15 07 13.6	-0.5
ROC1				IAmb	IAmb	15 08 01.8	
	comp=Z,21nm,1.3s						
MAW	Mawson	39.65	143	P	P	15 07 24.0	+0.3
	comp=Z,15nm,0.8s,baz=251,slow=7.7,SNR=2.2						
MAW	Mawson	39.65	143	P	P	15 07 23.6	-0.1
MAW				IAmb	IAmb	15 08 39.7	
	comp=Z,24nm,1.6s						
CO02	Combarbal	39.79	290	P	P	15 07 26.2	+0.8
CO02				IAmb	IAmb	15 07 29.7	
	comp=Z,37nm,1.6s						
SUR	Sutherland	40.37	74	P	P	15 07 30.5	+0.2
	comp=Z,7.4nm,1.0s,baz=237,slow=11,SNR=2.2						
SUR				LR	LR	15 20 53.5	
	comp=Z,60nm,18.6s,baz=183,slow=31						
SUR	Sutherland	40.37	74	P	P	15 07 30.1	-0.2
SUR				IAmb	IAmb	15 07 48.5	
	comp=Z,60nm,1.6s						
CO06	Fray Jorge	40.54	290	P	P	15 07 30.6	-0.9
AC02	Maricunga	42.36	296	P	P	15 07 47.6	+0.5
AC01	Pan de Azucar	43.67	295	P	P	15 07 56.9	-0.2
AC01				IAmb	IAmb	15 08 26.5	
	comp=Z,24nm,1.2s						
BOSA	Boshof	45.69	75	P	P	15 08 12.8	-0.5
	comp=Z,5.8nm,0.8s,baz=211,slow=7.2,SNR=6.7						
BOSA				LR	LR	15 24 55.5	
	comp=Z,29nm,19.2s,baz=188,slow=33						
BOSA	Boshof	45.69	75	P	P	15 08 12.2	-1.1
BOSA				IAmb	IAmb	15 08 14.6	
	comp=Z,20nm,1.2s						
SBA	Scott Base	45.77	184	P	P	15 08 13.5	+0.4
SBA				IAmb	IAmb	15 08 27.1	
	comp=Z,20nm,1.1s						
LVC	Limon Verde	45.80	300	P	P	15 08 15.4	+1.0
PB10	IPOC Station P	45.84	297	P	P	15 08 14.5	+0.2
VNDA	Vanda	46.25	183	P	P	15 08 17.4	+0.5
	comp=Z,8.0nm,0.6s,baz=187,slow=6.0,SNR=34						
VNDA	Vanda	46.25	183	P	P	15 08 17.6	+0.5
VNDA				IAmb	IAmb	15 08 18.2	
	comp=Z,11nm,0.8s						
PATCX	Punta Patache	47.92	300	P	P	15 08 29.2	-1.5
H10S2	ASCENSION HYDR	48.22	16	T	T	16 01 17.4	
	baz=189,slow=74,SNR=44						
H10S3	ASCENSION HYDR	48.23	16	T	T	16 01 17.8	
	baz=31,slow=74,SNR=42						
GO01	Chusmiza	48.44	301	P	P	15 08 36.0	+0.8
GO01				IAmb	IAmb	15 09 12.0	
	comp=Z,14nm,1.1s						
LBTB	Lobatse	48.75	72	LR	LR	15 26 40.9	
	comp=Z,38nm,18.8s,baz=174,slow=33						
LBTB	Lobatse	48.75	72	P	P	15 08 37.0	-0.1
LBTB				IAmb	IAmb	15 08 38.4	
	comp=Z,10nm,0.8s						
H10N1	ASCENSION HYDR	49.34	16	T	T	16 02 41.8	
	baz=189						
H10N3	ASCENSION HYDR	49.34	16	T	T	16 02 41.7	
	baz=189						
H10N2	ASCENSION HYDR	49.36	16	T	T	16 02 42.9	
	baz=189						
TSUM	Tsumeb	49.52	60	P	P	15 08 43.1	0.0
TSUM				IAmb	IAmb	15 08 45.0	
	comp=Z,38nm,1.6s						
PB16	IPOC Station P	49.74	302	P	P	15 08 46.3	+1.0
LPAZ	La Paz	50.88	305	P	P	15 08 55.0	+1.0
	comp=Z,4.8nm,0.5s,baz=96,slow=5.5,SNR=16						
LPAZ	La Paz	50.88	305	P	P	15 08 53.4	-0.6
RCBR	Riachuelo	50.97	348	LR	LR	15 25 12.1	
	comp=Z,28nm,21.9s,baz=314,slow=30						
LSZ	Lusaka	58.15	68	LR	LR	15 33 26.4	
	comp=Z,64nm,18.1s,baz=180,slow=35						
LSZ	Lusaka	58.15	68	P	P	15 09 45.8	-0.3
LSZ				IAmb	IAmb	15 09 47.4	
	comp=Z,13nm,0.9s						
VOI	Vohitsoka	62.83	89	P	P	15 10 15.9	-2.1
VOI				IAmb	IAmb	15 10 43.4	
	comp=Z,35nm,1.5s						
LIC	Lamto	64.85	24	eP	P	15 10 31.4	+0.3
	comp=Z,12nm,0.4s						
KIC	Kosan Boka	65.05	24	eP	P	15 10 32.4	0.0
	comp=Z,7.8nm,0.7s						
TIC	Toumodi	65.26	24	eP	P	15 10 34.1	+0.3
DBIC	Dimbokro	65.32	24	P	P	15 10 34.6	+0.5
	comp=Z,4.4nm,0.4s,baz=195,slow=6.0,SNR=15						
DBIC	Dimbokro	65.32	24	P	P	15 10 34.3	+0.2
DBIC				IAmb	IAmb	15 10 35.0	
	comp=Z,6.6nm,0.6s						
MCQ	Macquarie Isla	69.38	183	P	P	15 10 58.9	-0.4
OTAV	Otavalo	70.16	303	P	P	15 11 04.5	-0.7
MBAR	Mbarara	71.97	62	P	P	15 11 17.4	+1.6
TOSP	Speyside	73.12	325	P	P	15 11 21.6	-0.8
TOA0	Torodi Ar. Sit	73.17	29	P	P	15 11 22.8	+0.2
TOA0				IAmb	IAmb	15 11 24.1	
	comp=Z,17nm,0.7s						
TORD	Torodi Ar. Bea	73.17	29	P	P	15 11 23.2	+0.6
	comp=Z,18nm,0.6s,baz=202,slow=6.5,SNR=140						
TORD	Torodi Ar. Bea	73.17	29	P	P	15 11 23.2	+0.6
TORD				IAmb	IAmb	15 11 24.0	
	comp=Z,12nm,0.8s						
KIBK	Kibwezi	74.19	70	P	P	15 11 31.0	+2.1
GRGR	Grenville	74.26	324	P	P	15 11 29.9	+0.9
BIRV	Birongo	74.31	319	P	P	15 11 30.0	+0.7
SDV	Santo Domingo	74.52	314	P	P	15 11 29.6	-1.1
KMBO	Kilima Mbogo	74.81	68	P	P	15 11 33.8	+1.2
BIM	Bigot	76.32	326	P	P	15 11 41.0	+0.1
HIZ	Hauiti	83.74	197	P	P	15 12 19.4	-1.3
STKA	Stephens Creek	91.50	170	P	P	15 12 59.9	+1.6
	comp=Z,0.9nm,0.6s,baz=136,slow=8.1,SNR=5.1						
ASAR	Alice Springs	98.55	162	P	P	15 13 29.1	-1.5
	comp=Z,1.0nm,0.7s,baz=181,slow=4.1,SNR=16						
NVAR	Mina Array Bea	121.87	292	PKP	PKiKP	15 18 46.6	+1.0
	comp=Z,0.3nm,0.4s,baz=201,slow=12,SNR=4.5						
FINES	FINESS Array B	124.51	28	PKP	PKPdf	15 18 50.3	+0.9
	comp=Z,0.5nm,0.5s,baz=222,slow=1.9,SNR=1.2						
CMAR	Chiang Mai Arr	124.59	110	PKP	PKPdf	15 18 51.0	0.0
	comp=Z,0.3nm,0.5s,baz=218,slow=2.3,SNR=4.8						
MKAR	Makanchi Array	136.64	71	PKP	PKPdf	15 19 12.2	-0.7
	comp=Z,0.3nm,0.6s,baz=163,slow=1.3,SNR=4.9						
YKA	Yellowknife Ar	136.68	317	PKP	PKPdf	15 19 11.5	-1.0
	comp=Z,0.8nm,0.5s,baz=128,slow=2.2,SNR=14						
ZALV	Zalesovo Beam	142.18	64	PKhKP	PKPpre	15 19 16.5	
	comp=Z,0.5nm,0.4s,baz=206,slow=2.7,SNR=3.1						
A36M	Sachs Harbour	144.70	328	P	PKPab	15 19 25.4	-0.2
	baz=108						
M30M	Minto, Yukon	145.68	310	P	PKPdf	15 19 29.0	+0.3
	baz=112						
INK	Inuvik	146.31	320	P	PKPdf	15 19 30.3	+0.9
	baz=107						
DAWY	Dawson	147.30	311	P	PKPdf	15 19 32.9	+1.5
	baz=109						
NRIK	Noril'sk	149.04	39	PKPbc	PKPbc	15 19 37.8	-0.4
	comp=Z,0.9nm,0.3s,baz=353,slow=2.5,SNR=5.7						
J26L	Joseph Creek	149.17	311	P	PKPbc	15 19 38.5	-0.3
	baz=105						
SCRK	Sand Creek	149.21	310	P	PKPbc	15 19 38.6	-0.4
	baz=106						
RIDG	Independent Ri	149.51	309	P	PKPbc	15 19 39.8	+0.2
	baz=105						
PRP	Porcupine Dome	150.21	313		PKPbc	15 19 40.0	-1.3
SONM	Songino Array	150.37	87	PKPbc	PKPbc	15 19 41.4	-0.9
	comp=Z,5.3nm,0.8s,baz=224,slow=3.2,SNR=32						
SONM	Songino Array	150.37	87		PKPbc	15 19 41.3	-1.0
WAT6	Susitna Watana	150.47	307	P	PKPbc	15 19 41.8	-0.3
	baz=105						
ILAR	Eielson Array	150.62	311	PKPbc	PKPbc	15 19 41.2	-0.9
	comp=Z,3.5nm,0.8s,baz=131,slow=1.7,SNR=32						
RND	Reindeer	151.17	308		PKPbc	15 19 42.5	-1.1
H24K	Noodor Dome	151.23	313	P	PKPbc	15 19 43.2	-0.4
	baz=99						
MCK	McKinley	151.28	309	P	PKPbc	15 19 43.6	-0.2
	baz=102						
TRF	Thorofare Moun	151.81	308	P	PKPbc	15 19 44.4	-0.8
	baz=102						
TOLK	Toolik Lake Re	152.18	319	P	PKPbc	15 19 45.3	-0.4
	baz=93						
BPAW	Bear Paw Mtn.	152.24	309	P	PKPbc	15 19 45.3	-0.7
	baz=100						
CAST	Castle Rocks	152.59	307	P	PKPbc	15 19 45.6	-1.2
	baz=101						
CHUM	Lake Minchumin	152.78	308	P	PKPbc	15 19 46.3	-0.8
	baz=100						
H21K	Melozitna Rive	153.22	312	P	PKPbc	15 19 47.5	-0.6
	baz=96						

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*NDI **10** 15:02:10.5±1.2, 22°.80N×94°.11E, h33km, ML3.6*
*NEIC **10** 15:02:10.9±1.1, 22°.6N±0°.1×93°.8E±0°.2, h35km±9km, mb4.2/25, Error ellipse: s-maj=26.1km s-min=3.0km az=54.0*
*IDC **10** 15:02:15.3±3.9, 22°.75N×94°.01E, h70km±36km, mb3.6/10, mb1 3.8/11, mb1mx3.5/39, mbtmp3.9/11, MS3.2/6, Ms1 3.2/6, ms1mx2.8/84, Error ellipse: s-maj=45.3km s-min=14.2km az=59.0*
ISC 10 15:02:11.0±0.6**, 22°.72N**±0°.08×**93°.88E**±0°.07**, h35**km**, n55,** σ**1s.45**/54**, mb4.1**/18**, MS3.4**/4**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BELO	BELONIA	2.31	284	ex	Pn	15 02 46.6	+0.1
BELO				eS	Sn	15 03 16.9	+3.3
AGT	Agartala	2.68	296	ex	x	15 02 14.3	
AGT				ex	x	15 03 12.8	
SHL	Shillong	3.37	328		Pn	15 03 01.7	+0.5
SHL				Sn	Sn	15 03 37.8	-2.4
SHL	Shillong	3.37	328	eP	Pn	15 03 01.8	+0.5
SHL				eS	Sn	15 03 39.6	-0.6
TURI	Tura	4.29	312	eP	Pn	15 03 16.4	+2.5
TURI				eS	Sn	15 04 03.6	+0.8
TURI				IAML		15 04 07.4	
	comp=E,388nm,0.4s						
TURI				IAML		15 04 09.2	
	comp=N,205nm,0.3s						
DHUB	DHUBRI	4.83	314	eP	Pn	15 03 22.0	+0.8
DHUB				eS	Sn	15 04 13.9	-2.0
DHUB				IAML		15 04 18.4	
	comp=N,79nm,0.3s						
DHUB				IAML		15 04 18.8	
	comp=E,66nm,0.1s						
CHTO	Chiang Mai	6.13	128		Pn	15 03 38.0	-1.1
CM31	Chiang Mai Arr	6.36	131	Pn	Pn	15 03 41.3	-1.0
CMAR	Chiang Mai Arr	6.36	131	P	Pn	15 03 45.4	+3.1
	baz=310,slow=14,SNR=15						
CMAR				LR	LR	15 06 55.0	
	comp=E,86nm,18.6s,baz=295,slow=44						
CMAR	Chiang Mai Arr	6.36	131		Pn	15 03 41.1	-1.2
LSA	Lhasa	7.37	341		Pn	15 03 57.3	+0.8
BOK	Bokaro	7.43	280	eS	Sn	15 05 17.3	-2.8
VLK	Valmikinagar	10.17	299	eS	Sn	15 06 22.2	-5.1
PALK	Pallekele	19.93	222	LR	LR	15 16 02.8	
	comp=E,48nm,18.6s,baz=143,slow=41						
KDJ	Kajisay	23.86	328	P	P	15 07 22.0	+0.7
KDJ				IAmb	IAmb	15 07 32.9	
	comp=Z,10nm,1.6s						
BOOM	Boomskoye usch	24.75	327	P	P	15 07 31.4	+1.9
BOOM				IAmb	IAmb	15 07 51.8	
	comp=Z,4.9nm,1.1s						
SSLB	Suanglung	24.88	82	P	P	15 07 32.6	+1.9
AAK	Ala-Archa	25.59	325	P	P	15 07 38.8	+1.7
	comp=Z,0.7nm,0.3s,baz=168,slow=17,SNR=3.8						
MK31	Makanchi Array	25.78	341	P	P	15 07 39.0	+0.4
MKAR	Makanchi Array	25.78	341	P	P	15 07 39.5	+0.9
	comp=Z,3.9nm,0.8s,baz=150,slow=9.6,SNR=47						
MKAR	Makanchi Array	25.78	341	P	P	15 07 39.0	+0.4
GAR	Garm	25.82	314	P	P	15 07 39.6	+0.5
GAR				IAmb	IAmb	15 07 40.7	
	comp=Z,11nm,0.9s						
MAKZ	Makanchi	25.88	341	P	P	15 07 40.1	+0.6
BTK	Batken	26.08	317	P	P	15 07 41.6	+0.1
CHGR	Chuyangaron	26.42	313	P	P	15 07 44.1	-0.5
CHGR				IAmb	IAmb	15 07 45.1	
	comp=Z,4.5nm,0.7s						
SONM	Songino Array	26.99	19	P	P	15 07 50.0	+0.4
	comp=Z,0.3nm,0.3s,baz=207,slow=3.5,SNR=3.5						
ZAA0	Zalesovo Array	31.93	350	P	P	15 08 33.4	+0.2
ZAA0				IAmb	IAmb	15 08 34.7	
	comp=Z,2.0nm,0.8s						
ZALV	Zalesovo Beam	31.93	350	P	P	15 08 33.8	+0.7
	comp=Z,1.4nm,0.7s,baz=160,slow=9.3,SNR=8.0						
WSAR	Wadi Sarin	32.41	278	LR	LR	15 23 40.5	
	comp=Z,32nm,20.4s,baz=112,slow=40						
KSAR	Wonju Array Be	32.67	56	P	P	15 08 40.2	+0.2
ABKAR	Akbulak array	37.62	323	P	P	15 09 23.3	+0.8
ABKAR				IAmb	IAmb	15 09 24.3	
	comp=Z,2.6nm,0.8s						
ABKAR	Akbulak array	37.62	323	P	P	15 09 23.2	+0.8
USA0B	Ussuriysk Arra	37.87	46	P	P	15 09 24.8	+0.2
AKTO	Aktyubinsk	39.31	324	LR	LR	15 27 28.2	
	comp=Z,48nm,18.5s,baz=84,slow=38						
MJAR	Matsushiro Arr	40.57	60	LR	LR	15 27 57.6	
	comp=Z,52nm,18.8s,baz=207,slow=38						
TIXI	Tiksi	52.85	13	P	P	15 11 22.0	-0.8
TIXI				IAmb	IAmb	15 11 32.0	
	comp=Z,3.0nm,1.1s						
MA2	Magadan	54.03	32	LR	LR	15 37 23.9	
	comp=Z,36nm,20.0s,baz=274,slow=39						
WB0	Warramunga Arr	57.86	134	P	P	15 11 58.3	-1.2
WRA	Warramunga Arr	57.95	134	P	P	15 12 00.1	-0.1
	comp=Z,1.0nm,0.8s,baz=317,slow=7.8,SNR=4.6						
WRA	Warramunga Arr	57.95	134	P	P	15 11 59.9	-0.3
WB2	Warramunga Arr	57.95	134	P	P	15 11 58.4	-1.8
WB2				IAmb	IAmb	15 12 19.1	
	comp=Z,3.3nm,1.1s						
FIA1	FINESS Array S	59.71	329	P	P	15 12 12.0	+0.2
FINES	FINESS Array B	59.71	329	P	P	15 12 12.0	+0.2
PABE	Paberze	60.25	322	P	P	15 12 15.9	+0.3
AS31	Alice Springs	60.33	137	P	P	15 12 16.0	-0.7
ASAR	Alice Springs	60.33	137	P	P	15 12 17.2	+0.6
	comp=Z,1.2nm,0.9s,baz=318,slow=6.8,SNR=16						
ASAR	Alice Springs	60.33	137	P	P	15 12 15.7	-1.0
ARCES	ARCESS Array B	61.37	338	P	P	15 12 24.9	+1.9
	comp=Z,2.4nm,0.9s,baz=84,slow=6.3,SNR=3.8						
GEC2	GERESS Array S	66.90	315	P	P	15 12 59.0	-0.8
GERES	GERESS Array B	66.90	315	P	P	15 13 00.1	+0.2
	comp=Z,1.1nm,0.7s,baz=72,slow=8.6,SNR=8.9						
GERES	GERESS Array B	66.90	315	P	P	15 12 58.7	-1.1
NBO00	NORSAR Array S	67.08	328	P	P	15 13 00.1	-0.5
STKA	Stephens Creek	70.93	138	P	P	15 13 24.2	-0.7
	comp=Z,2.1nm,1.0s,baz=331,slow=4.4,SNR=3.1						
STKA	Stephens Creek	70.93	138	P	P	15 13 23.7	-1.2
STKA				IAmb	IAmb	15 13 26.7	
	comp=Z,2.8nm,1.5s						
ILAR	Eielson Array	81.15	22	P	P	15 14 22.3	-0.4
	comp=Z,0.5nm,0.7s,baz=290,slow=4.8,SNR=11						

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*NOU **10** 15:25:09.6, 39°.03S×174°.73E, h237km, MLv3.9/8, North Island, New Zealand*
*WEL **10** 15:25:16.5, 39°S±9°×17°5E±1°5, h180km±19km, M2.8/26, MLv2.8/26, Error ellipse: s-maj=0.0km s-min=0.0km az=89.7*
ISC 10 15:25:12.6±1.6**, 39°.14S**±0°.06×**174°.74E**±0°.06**, h200**km**, n78,** σ**1s.29**/77**, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.02	56	P	Pn	15 25 41.0	+2.3
PKVZ	Pokaka	0.50	108	P	Pn	15 25 41.8	+2.1
TWVZ	Taurewa	0.55	83	P	Pn	15 25 41.9	+1.9
HIZ	Hauiti	0.63	9	P	Pn	15 25 42.0	+1.7
HIZ	Hauiti	0.63	9	P	Pn	15 25 42.2	+1.9
WAZ	Wanganui	0.65	163	P	Pn	15 25 43.0	+2.7
TRVZ	Turoa	0.65	105	P	Pn	15 25 42.6	+2.0
WTVZ	West Tongariro	0.67	88	P	Pn	15 25 42.5	+1.9
NGZ	Ngauruhoe	0.67	94	P	Pn	15 25 42.6	+2.0
WNVZ	Wahianoa	0.70	106	P	Pn	15 25 42.9	+2.1
MOVZ	Moawhango	0.83	109	P	Pn	15 25 42.9	+1.5
BHHZ	Black Hill Sta	1.09	109	P	Pn	15 25 44.3	+1.3
TSZ	Takapari Road	1.32	135	P	Pn	15 25 46.4	+1.7
MRHZ	Matea Rd	1.34	78	P	Pn	15 25 38.9	-6.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRHZ	**Kereru**	**1.36**	**112**	P	**Pn**	**15 25 46.5**	**+1.4**
BKZ	**Black Stump Fm**	**1.37**	**92**	P	**Pn**	**15 25 46.0**	**+0.8**
BKZ	**Black Stump Fm**	**1.37**	**92**	P	**Pn**	**15 25 46.1**	**+0.9**
PNHZ	**Pukenui**	**1.37**	**125**	P	**Pn**	**15 25 46.7**	**+1.5**
POWZ	**Post Office Ro**	**1.48**	**148**	P	**Pn**	**15 25 47.5**	**+1.4**
TOZ	**Tahuroa Road**	**1.53**	**23**	P	**Pn**	**15 25 47.4**	**+0.9**
MCHZ	**McNeill Hill**	**1.55**	**102**	P	**Pn**	**15 25 48.4**	**+1.7**
DVHZ	**Dannevirke**	**1.60**	**137**	P	**Pn**	**15 25 48.4**	**+1.2**
NMHZ	**Naumai**	**1.61**	**89**	P	**Pn**	**15 25 48.9**	**+1.5**
WPHZ	**Waipukurau**	**1.61**	**126**	P	**Pn**	**15 25 48.6**	**+1.3**
MRZ	**Mangatainoka R**	**1.66**	**157**	P	**Pn**	**15 25 48.7**	**+1.1**
MTHZ	**Maungataniwha**	**1.67**	**81**	P	**Pn**	**15 25 48.3**	**+0.4**
PRWZ	**Pori Road**	**1.71**	**147**	P	**Pn**	**15 25 49.5**	**+1.4**
OGWZ	**Otaki Gorge**	**1.71**	**169**	P	**Pn**	**15 25 49.7**	**+1.5**
MUGZ	**Murupara**	**1.72**	**68**	P	**Pn**	**15 25 48.1**	**-0.3**
KIW	**Kapiti Island**	**1.73**	**176**	P	**Pn**	**15 25 49.6**	**+1.3**
ARHZ	**Aropaoanui**	**1.76**	**95**	P	**Pn**	**15 25 49.8**	**+1.1**
DUWZ	**D'Urville Isla**	**1.78**	**200**	P	**Pn**	**15 25 50.5**	**+1.6**
KAHZ	**Kahuranaki**	**1.78**	**112**	P	**Pn**	**15 25 50.3**	**+1.3**
RTZ	**Ruatahuna**	**1.83**	**74**	P	**Pn**	**15 25 49.3**	**-0.1**
PRHZ	**Porangahau**	**1.85**	**128**	P	**Pn**	**15 25 50.6**	**+1.1**
HOWZ	**Holdsworth Sta**	**1.86**	**161**	P	**Pn**	**15 25 50.4**	**+0.8**
TIWZ	**Tintock**	**1.86**	**152**	P	**Pn**	**15 25 50.6**	**+0.9**
PXZ	**Pawanui**	**1.87**	**119**	P	**Pn**	**15 25 50.7**	**+1.0**
ANWZ	**Angora Road**	**1.88**	**135**	P	**Pn**	**15 25 51.0**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.89**	**107**	P	**Pn**	**15 25 51.2**	**+1.3**
BFZ	**Birch Farm**	**1.93**	**144**	P	**Pn**	**15 25 51.0**	**+0.6**
BFZ	**Birch Farm**	**1.93**	**144**	P	**Pn**	**15 25 51.1**	**+0.7**
CAW	**Cannon Point**	**1.98**	**173**	P	**Pn**	**15 25 51.9**	**+1.0**
URZ	**Urewera**	**2.06**	**66**	P	**Pn**	**15 25 50.9**	**-0.8**
URZ	**Urewera**	**2.06**	**66**	P	**Pn**	**15 25 50.9**	**-0.8**
SNGZ	**Shannon Statio**	**2.06**	**81**	P	**Pn**	**15 25 51.9**	**+0.2**
CPWZ	**Castlepoint**	**2.10**	**148**	P	**Pn**	**15 25 53.2**	**+1.1**
TCW	**Tory Channel**	**2.10**	**189**	P	**Pn**	**15 25 53.4**	**+1.3**
MTW	**Mount Morrison**	**2.10**	**164**	P	**Pn**	**15 25 52.6**	**+0.5**
PAWZ	**Paruwai Farm**	**2.30**	**167**	P	**Pn**	**15 25 54.7**	**+0.4**
MSWZ	**Moikau Station**	**2.31**	**170**	P	**Pn**	**15 25 54.7**	**+0.4**
NNZ	**Nelson**	**2.32**	**206**	P	**Pn**	**15 25 55.4**	**+1.0**
MWZ	**Matawai**	**2.33**	**71**	P	**Pn**	**15 25 53.9**	**-0.7**
TKNZ	**Takaka Hill**	**2.33**	**215**	P	**Pn**	**15 25 55.2**	**+0.6**
TUWZ	**Tuamarina**	**2.37**	**195**	P	**Pn**	**15 25 56.1**	**+1.1**
QRZ	**Quartz Range**	**2.39**	**224**	P	**Pn**	**15 25 55.7**	**+0.5**
QRZ	**Quartz Range**	**2.39**	**224**	P	**Pn**	**15 25 55.2**	**0.0**
PLWZ	**Palliser**	**2.46**	**171**	P	**Pn**	**15 25 56.2**	**+0.2**
TKGZ	**Te Karaka**	**2.53**	**75**	P	**Pn**	**15 25 56.4**	**-0.4**
RUGZ	**Raukumara Rang**	**2.59**	**64**	P	**Pn**	**15 25 55.7**	**-1.9**
BSWZ	**Blackbirch Sta**	**2.66**	**194**	P	**Pn**	**15 25 59.3**	**+1.1**
MRNZ	**Matariki Terra**	**2.72**	**213**	P	**Pn**	**15 25 59.0**	**+0.1**
HAZ	**Te Kaha**	**2.76**	**61**	P	**Pn**	**15 25 57.4**	**-2.0**
PUZ	**Puketiti**	**2.96**	**70**	P	**Pn**	**15 26 00.2**	**-1.5**
THZ	**Tophouse**	**2.97**	**207**	P	**Pn**	**15 26 02.2**	**+0.3**
KHZ	**Kahutara**	**3.40**	**195**	P	**Pn**	**15 26 06.9**	**0.0**
KHZ	**Kahutara**	**3.40**	**195**	P	**Pn**	**15 26 07.2**	**+0.3**
DSZ	**Denniston Nort**	**3.43**	**220**	P	**Pn**	**15 26 07.0**	**-0.3**
LTZ	**Lake Taylor**	**4.09**	**206**	P	**Pn**	**15 26 14.7**	**-0.8**
INZ	**Inchbonnie**	**4.37**	**214**	P	**Pn**	**15 26 18.3**	**-0.6**
WVZ	**Waitaha Valley**	**4.96**	**216**	P	**Pn**	**15 26 27.8**	**+1.5**
RACZ	**Rakaia**	**4.98**	**202**	P	**Pn**	**15 26 25.2**	**-1.5**
RPZ	**Rata Peaks**	**5.35**	**210**	P	**Pn**	**15 26 29.8**	**-1.6**
RPZ	**Rata Peaks**	**5.35**	**210**	P	**Pn**	**15 26 30.1**	**-1.2**
ARCZ	**Arundel**	**5.50**	**208**	P	**Pn**	**15 26 31.8**	**-1.5**
TMZ	**Timaru**	**5.94**	**207**	P	**Pn**	**15 26 37.6**	**-1.4**
ODZ	**Otahua Downs**	**6.64**	**206**	P	**Pn**	**15 26 46.8**	**-1.1**
ODZ	**Otahua Downs**	**6.64**	**206**	P	**Pn**	**15 26 46.9**	**-1.1**

*IDC **10** 15:36:18.7±2.3, 4°.83S×145°.61E, h131km±23km, mb3.4/5, mb1 3.5/8, mb1mx3.3/32, mbtmp3.8/8, Error ellipse: s-maj=25.3km s-min=18.9km az=70.0*

ISC 10 15:36:20.3±1.0**, 4°.9S**±0°.1×**145°.5E**±0°.2**, h150**km**, n8, σ1s.06**/9**, mb3.7**/5**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.74**	**160**	P	**Pn**	**15 37 30.5**	**+0.2**
	1.7nm,0.3s,baz=3.6,slow=4.9,SNR=9.0						
PMG				S	**Sn**	**15 38 23.6**	**-1.4**
	2.8nm,0.3s,baz=124,slow=18,SNR=7.4						
JAY	**Jayapura**	**5.37**	**296**	P	**Pn**	**15 37 37.5**	**-1.3**
	1.6nm,0.3s,baz=105,slow=16,SNR=5.2						
WRA	**Warramunga Arr**	**18.48**	**215**	P	**Pn**	**15 40 26.6**	**-0.4**
	0.3nm,0.3s,baz=35,slow=11,SNR=41						
ASAR	**Alice Springs**	**21.75**	**210**	P	**P**	**15 41 01.6**	**+1.4**
	0.7nm,0.4s,baz=41,slow=7.6,SNR=54						
FITZ	**Fitzroy Crossi**	**23.44**	**234**	P	**P**	**15 41 17.0**	**+0.7**
	2.1nm,0.5s,baz=50,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**75.74**	**321**	P	**P**	**15 47 50.1**	**+0.6**
	0.1nm,0.4s,baz=102,slow=7.0,SNR=2.7						
NRIK	**Noril'sk**	**83.81**	**342**	P	**P**	**15 48 32.6**	**+0.2**
	1.4nm,0.7s,baz=117,slow=4.5,SNR=3.6						
ILAR	**Eielson Array**	**85.07**	**23**	P	**P**	**15 48 38.8**	**-0.2**
	0.9nm,0.7s,baz=259,slow=5.1,SNR=6.4						

IDC 10 15:37:17.2±6.7**, 20°.13S**×**176°.56W, h0**km**, mb3.1**/2**, mb1 3.3**/2**, mb1mx3.2**/32**, mbtmp3.1**/2**, Error ellipse: s-maj=357.0km s-min=97.7km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.92**	**256**	P	P	15 45 42.2	+0.1
	0.1nm,0.5s,baz=93,slow=8.5,SNR=4.9						
WRA	**Warramunga Arr**	**45.99**	**261**	P	P	15 45 42.4	-0.3
	0.2nm,0.6s,baz=98,slow=7.5,SNR=7.2						
AKASG	**Malin Array Be**	**143.33**	**332**	PKP	PKPdf	15 56 52.7	-0.7
	0.8nm,0.4s,baz=40,slow=4.0,SNR=6.1						

*IDC **10** 15:40:32.5±4.3, 3°.77S×11°.85W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/27, mbtmp3.9/6, MS3.5/19, Ms1 3.5/19, ms1mx3.2/78, Error ellipse: s-maj=132.9km s-min=87.7km az=135.0*

*NEIC **10** 15:40:39.6±4.0, 2°.9S±0°.2×11°.6W±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=36.0km s-min=21.4km az=140.0*

ISC 10 15:40:35.5±2.3**, 3°.4S**±0°.3×**11°.6W**±0°.3**, h10**km**, n40, σ1s.76**/16**, mb4.0**/7**, MS3.5**/17**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**5.25**	**213**	T	T	15 46 30.3	
	baz=32,slow=74,SNR=230						
H10N1	**ASCENSION HYDR**	**5.26**	**213**	T	T	15 46 25.6	
	baz=32,slow=74,SNR=250						
H10N3	**ASCENSION HYDR**	**5.27**	**213**	T	T	15 46 31.6	
	baz=32,slow=74,SNR=180						
H10S2	**ASCENSION HYDR**	**6.29**	**209**	T	T	15 47 46.0	
	baz=194,slow=74,SNR=34						
H10S3	**ASCENSION HYDR**	**6.29**	**209**	T	T	15 47 50.3	
	baz=26,slow=74,SNR=80						
DBIC	**Dimbokro**	**12.06**	**34**	LR	LR	15 47 30.0	
	comp=Z,139nm,19.3s,baz=198,slow=33						
DBIC	**Dimbokro**	**12.06**	**34**	Pn	**Pn**	**15 43 28.3**	**+0.6**
KOWA	**Kowa**	**19.32**	**23**	LR	LR	15 51 33.0	
	comp=Z,112nm,18.1s,baz=205,slow=34						
KOWA	**Kowa**	**19.32**	**23**	P	**P**	**15 45 00.4**	**-0.6**
KOWA				IAmb	IAmb	15 45 09.2	
	comp=Z,18nm,1.2s						
TOA0	**Torodi Ar. Sit**	**21.09**	**38**	P	**P**	**15 45 19.1**	**-1.2**
TOA0				IAmb	IAmb	15 45 28.7	
	comp=Z,19nm,1.4s						
TORD	**Torodi Ar. Bea**	**21.09**	**38**	P	**P**	**15 45 23.0**	**+2.7**
	comp=Z,7.0nm,0.9s,baz=224,slow=10,SNR=13						
TORD	**Torodi Ar. Bea**	**21.09**	**38**	P	**P**	**15 45 19.2**	**-1.1**
RCBR	**Riachuelo**	**24.35**	**263**	LR	LR	15 52 34.1	
	comp=Z,90nm,21.0s,baz=296,slow=30						
TSUM	**Tsumeb**	**32.53**	**121**	LR	LR	15 57 40.6	
	comp=Z,58nm,21.5s,baz=340,slow=32						
LSZ	**Lusaka**	**40.89**	**109**	LR	LR	16 02 19.3	
	comp=Z,52nm,19.5s,baz=292,slow=32						
LBTB	**Lobatse**	**41.71**	**125**	LR	LR	16 03 03.5	
	comp=Z,31nm,21.4s,baz=226,slow=32						
MBAR	**Mbarara**	**42.38**	**87**	LR	LR	16 04 08.6	
	comp=Z,87nm,21.5s,baz=182,slow=33						
MATP	**Matopo**	**42.54**	**117**	LR	LR	16 04 30.1	
	comp=Z,62nm,18.1s,baz=299,slow=34						
BOSA	**Boshof**	**43.06**	**129**	LR	LR	16 04 18.5	
	comp=Z,62nm,18.7s,baz=208,slow=33						
ESDC	**Sonseca Array**	**43.45**	**9**	LR	LR	16 08 03.7	
	comp=Z,37nm,19.3s,baz=277,slow=38						
ROSA	**Rosais**	**44.66**	**341**	P	**P**	**15 48 48.9**	**+0.4**
VSL	**Villasalto**	**46.86**	**22**	P	**P**	**15 49 04.5**	**-1.4**
KMBO	**Kilima Mbogo**	**48.85**	**89**	LR	LR	16 08 36.8	
	comp=Z,104nm,18.7s,baz=68,slow=34						
CPUP	**Villa Florida**	**49.36**	**238**	LR	LR	16 07 14.1	
	comp=Z,36nm,20.1s,baz=223,slow=33						
SIV	**San Ignacio**	**50.21**	**252**	LR	LR	16 08 57.4	
	comp=Z,63nm,19.4s,baz=230,slow=34						
AKAS	**Kas**	**55.08**	**40**	P	**P**	**15 50 06.2**	**-1.8**
GERES	**GERESS Array B**	**56.51**	**20**	P	**P**	**15 50 19.5**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=193,slow=5.3,SNR=6.4						
GERES	**GERESS Array B**	**56.51**	**20**	P	**P**	**15 50 16.4**	**-1.6**
LPAZ	**La Paz**	**56.98**	**253**	LR	LR	16 13 39.3	
	comp=Z,42nm,19.8s,baz=78,slow=35						
MMAI	**Mount Meron Ar**	**57.31**	**47**	LR	LR	16 15 47.0	
	comp=Z,22nm,20.0s,baz=39,slow=37						
SJG	**San Juan**	**57.85**	**294**	LR	LR	16 09 09.5	
	comp=Z,29nm,20.0s,baz=166,slow=30						
AKASG	**Malin Array Be**	**64.23**	**27**	P	**P**	**15 51 12.1**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=227,slow=5.8,SNR=4.7						
AKASG	**Malin Array Be**	**64.23**	**27**	P	**P**	**15 51 07.6**	**-3.0**
NNA	**Nana**	**65.10**	**258**	LR	LR	16 16 54.7	
	comp=Z,35nm,22.0s,baz=53,slow=34						
ATAH	**Atahualpa**	**66.58**	**264**	LR	LR	16 18 53.0	
	comp=Z,52nm,20.4s,baz=64,slow=35						
KBZ	**Khabaz**	**67.69**	**40**	P	**P**	**15 51 35.6**	**+2.5**
	comp=Z,1.3nm,0.7s,baz=267,slow=5.0,SNR=4.0						
BORG	**Borgarnes**	**68.37**	**356**	LR	LR	16 17 27.3	
	comp=Z,32nm,18.2s,baz=197,slow=32						
FINES	**FINESS Array B**	**70.86**	**18**	P	**P**	**15 51 53.5**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=230,slow=4.7,SNR=6.7						
FINES	**FINESS Array B**	**70.86**	**18**	P	**P**	**15 51 52.9**	**+0.5**
MKAR	**Makanchi Array**	**95.13**	**43**	P	**P**	**15 53 58.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=274,slow=4.9,SNR=4.8						

*IDC **10** 15:51:02.5±2.7, 27°.73N×139°.58E, h506km±32km, mb3.1/8, mb1 3.3/9, mb1mx2.8/44, mbtmp4.0/9, Error ellipse: s-maj=33.4km s-min=12.5km az=90.0*

*JMA **10** 15:51:03.7±0.1, 28°.12N×140°.38E, h481km, M3.8*

ISC 10 15:51:01.4±0.8**, 27°.7N**±0°.1×**140°.0E**±0°.2**, h500**km**, n22, σ1s.34**/23**, mb3.4**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.00**	**107**	P	**P**	**15 52 07.1**	**+0.5**
CBIJ				*e*S	**S**	**15 52 56.9**	**-2.5**
JHH2	**Haha-jima-NKT2**	**2.18**	**118**	*e*S	**S**	**15 52 59.3**	**-1.8**
JTNC	**Tanabenakahech**	**7.19**	**329**	P	**P**	**15 52 49.6**	**+0.1**
JIE	**Ise**	**7.26**	**338**	P	**P**	**15 52 50.8**	**+0.7**
JKN2	**Miekihoku**	**7.28**	**335**	P	**P**	**15 52 51.0**	**+0.7**
JNY	**Yasuok**	**7.86**	**347**	P	**P**	**15 52 55.6**	**-0.7**
JAO	**Obara**	**7.91**	**343**	P	**P**	**15 52 57.6**	**+0.8**
JHU	**Hanno**	**8.16**	**356**	P	**P**	**15 52 57.5**	**-1.8**
JRY	**Ryogami san**	**8.36**	**354**	P	**P**	**15 53 00.4**	**-1.0**
JAG	**Ashikaga**	**8.72**	**357**	P	**P**	**15 53 03.4**	**-1.8**
JHO	**Hitachi**	**8.90**	**3**	P	**P**	**15 53 06.0**	**-1.1**
MJAR	**Matsushiro Arr**	**8.96**	**351**	P	**P**	**15 53 07.2**	**-0.5**
	0.3nm,0.3s,baz=174,slow=11,SNR=9.4						
JMK	**Ichinoseki**	**11.27**	**5**	P	**P**	**15 53 32.5**	**+0.4**
WRA	**Warramunga Arr**	**47.67**	**187**	P	**P**	**15 58 52.6**	**+0.5**
	1.4nm,0.4s,baz=5.0,slow=7.7,SNR=56						
ZALV	**Zalesovo Beam**	**47.78**	**319**	P	**P**	**15 58 51.3**	**-1.2**
	0.8nm,0.4s,baz=108,slow=8.0,SNR=5.6						
ASAR	**Alice Springs**	**51.40**	**187**	P	**P**	**15 59 20.1**	**+0.5**
	0.3nm,0.4s,baz=1.0,slow=4.7,SNR=43						
ILAR	**Eielson Array**	**58.11**	**29**	P	**P**	**16 00 09.1**	**+3.0**
	0.4nm,1.1s,baz=300,slow=9.8,SNR=4.3						
ARCES	**ARCESS Array B**	**72.34**	**340**	P	**P**	**16 01 35.4**	**-0.2**
	3.5nm,0.9s,baz=18,slow=4.3,SNR=5.6						
YKA	**Yellowknife Ar**	**72.52**	**28**	P	**P**	**16 01 37.4**	**+0.7**
	0.3nm,0.4s,baz=296,slow=5.5,SNR=7.7						
FINES	**FINESS Array B**	**76.56**	**333**	P	**P**	**16 01 59.0**	**-0.4**
	1.7nm,0.3s,baz=59,slow=5.2,SNR=22						
NB2	**NORSAR Subarra**	**82.34**	**338**	P	**P**	**16 02 28.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=43,slow=4.8						
NOA	**NORSAR Array B**	**82.34**	**338**	P	**P**	**16 02 28.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=43,slow=5.2,SNR=3.7						

*TAP **10** 15:52:19.0, 24°.86N×122°.51E, h130km, ML3.1, D*

*JMA **10** 15:52:18.8±0.2, 24°.79N×122°.48E, h134km±3km, M2.3*

ISC 10 15:52:19.3±1.5**, 24°.88N**±0°.04×**122°.49E**±0°.03**, h128**km±8km**, n63, σ0s.56**/119**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**286**	*i* P	**Pn**	**15 52 38.2**	**+0.3**
	baz=287						
SXI1	**Grass Mountain**	**0.60**	**292**	P	**Pn**	**15 52 38.9**	**+0.1**
	baz=292						
SXI1				S	**Sn**	**15 52 53.5**	**0.0**
	baz=292						
TIPB	**Shuangxi**	**0.61**	**279**	*i* P	**Pn**	**15 52 39.0**	**+0.2**
	baz=280						
TIPB				*i* S	**Sn**	**15 52 53.8**	**+0.3**
	baz=280						
YOJ	**Yonaguni jima**	**0.63**	**131**	P	**Pn**	**15 52 38.2**	**-0.6**
	baz=130						
YOJ				*i* S	**Sn**	**15 52 53.3**	**-0.4**
	baz=130						
TWC	**Suao**	**0.64**	**246**	P	**Pn**	**15 52 38.5**	**-0.4**
	baz=247						
TWC				S	**Sn**	**15 52 52.9**	**-0.8**
	baz=247						
NWF	**Wu-fen Shan**	**0.67**	**287**	*i* P	**Pn**	**15 52 39.4**	**+0.1**
	baz=287						
NWF				S	**Sn**	**15 52 55.3**	**+0.9**
	baz=287						
WFSB	**Wu-fen Shan**	**0.67**	**287**	*i* P	**Pn**	**15 52 39.5**	**+0.3**
	baz=287						
WFSB				*i* S	**Sn**	**15 52 54.5**	**+0.3**
	baz=287						
TNOU	**National Taiwa**	**0.71**	**293**	P	**Pn**	**15 52 40.2**	**+0.8**
	baz=293						
TNOU				S	**Sn**	**15 52 54.8**	**+0.2**
	baz=293						
NDS	**Dongshan**	**0.74**	**251**	P	**Pn**	**15 52 39.6**	**-0.1**
	baz=252						
NDS				*e*S	**Sn**	**15 52 54.0**	**-1.2**
	baz=252						
TWE	**Neicheng**	**0.76**	**259**	P	**Pn**	**15 52 40.2**	**+0.4**
	baz=259						
TWE				S	**Sn**	**15 52 54.5**	**-0.9**
	baz=259						
EWUT	**Wuta**	**0.78**	**237**	P	**Pn**	**15 52 39.9**	**-0.1**
	baz=238						
EWUT				*i* S	**Sn**	**15 52 55.7**	**+0.1**
	baz=238						
ENA	**Nanau**	**0.81**	**237**	*i* P	**Pn**	**15 52 40.4**	**+0.1**
	baz=238						
ENA				S	**Sn**	**15 52 56.5**	**+0.3**
	baz=238						
FUSB	**Fushanzhiwuyua**	**0.83**	**262**	P	**Pn**	**15 52 40.2**	**-0.2**
	baz=263						
FUSB				S	**Sn**	**15 52 57.5**	**+1.0**
	baz=263						
TWA	**Mucha**	**0.83**	**277**	P	**Pn**	**15 52 40.7**	**+0.2**
	baz=278						
TWA				S	**Sn**	**15 52 56.2**	**-0.2**
	baz=278						
PCYT	**Pengchaiyu**	**0.84**	**333**	*e*P	**Pn**	**15 52 40.6**	**+0.1**
	baz=333						
ENTT	**Nioudou**	**0.87**	**255**	*i* P	**Pn**	**15 52 41.0**	**+0.2**
	baz=255						
ENTT				*i* S	**Sn**	**15 52 56.9**	**-0.2**
	baz=255						
YM08	**YM08**	**0.87**	**291**	*e*S	**Sn**	**15 52 57.4**	**+0.2**
	baz=291						
YM01	**YM01**	**0.88**	**288**	P	**Pn**	**15 52 41.1**	**+0.2**
	baz=288						
YM01				S	**Sn**	**15 52 57.8**	**+0.5**
	baz=288						
NHDH	**Xindian Distri**	**0.88**	**276**	P	**Pn**	**15 52 41.3**	**+0.4**
	baz=276						
NHDH				S	**Sn**	**15 52 57.4**	**+0.2**
	baz=276						
NWLT	**Wulai**	**0.90**	**264**	*i* P	**Pn**	**15 52 41.2**	**+0.1**
	baz=265						
NWLT				S	**Sn**	**15 52 57.3**	**-0.3**
	baz=265						
NDT	**Datong Townshi**	**0.93**	**253**	P	**Pn**	**15 52 41.8**	**+0.5**
	baz=254						
NDT				S	**Sn**	**15 52 58.6**	**+0.6**
	baz=254						
ANP	**Anpu**	**0.93**	**290**	P	**Pn**	**15 52 41.5**	**+0.1**
	baz=290						
LATG	**Datong**	**0.94**	**249**	P	**Pn**	**15 52 42.0**	**+0.5**
	baz=250						
LATG				S	**Sn**	**15 52 59.1**	**+0.8**
	baz=250						
YHNB	**Yeheng**	**1.03**	**259**	P	**Pn**	**15 52 42.3**	**0.0**
	baz=259						
YHNB				S	**Sn**	**15 52 59.3**	**-0.5**
	baz=259						
NSK	**Sanguang**	**1.05**	**259**	P	**Pn**	**15 52 42.5**	**0.0**
	baz=260						
NSK				S	**Sn**	**15 52 59.5**	**-0.6**
	baz=260						
ETL	**Fush Village**	**1.06**	**228**	P	**Pn**	**15 52 42.8**	**+0.2**
	baz=229						
ETL				S	**Sn**	**15 53 00.1**	**-0.2**
	baz=229						
NACB	**Ninganchiao**	**1.07**	**230**	P	**Pn**	**15 52 42.4**	**-0.3**
	baz=230						
NACB				S	**Sn**	**15 52 59.9**	**-0.5**
	baz=230						
NNSB	**Datong**	**1.10**	**246**	P	**Pn**	**15 52 43.2**	**+0.2**
	baz=247						
NNSB				S	**Sn**	**15 53 01.2**	**+0.1**
	baz=247						
NNS	**Nan Shan**	**1.10**	**247**	P	**Pn**	**15 52 43.5**	**+0.4**
	baz=247						
NNS				S	**Sn**	**15 53 01.3**	**+0.1**
	baz=247						
ETLH	**Xiulin Townshi**	**1.13**	**234**	P	**Pn**	**15 52 43.0**	**-0.4**
	baz=235						
ETLH				S	**Sn**	**15 53 00.8**	**-0.8**
	baz=235						
TWD	**Chiawan**	**1.14**	**226**	P	**Pn**	**15 52 43.8**	**+0.5**
	baz=226						
TWD				S	**Sn**	**15 53 01.2**	**-0.3**
	baz=226						
IRIF	**Iriomote-Funau**	**1.25**	**115**	P	**Pn**	**15 52 44.4**	**0.0**
IRIF				*e*S	**Sn**	**15 53 03.3**	**-0.3**
NFF	**Wufeng Townshi**	**1.27**	**259**	*e*P	**Pn**	**15 52 43.6**	**-1.1**
	baz=259						
NFF				S	**Sn**	**15 53 03.3**	**-0.8**
	baz=259						
FUSS	**Fushou**	**1.29**	**241**	P	**Pn**	**15 52 45.5**	**+0.3**
	baz=242						
FUSS				*e*S	**Sn**	**15 53 04.4**	**-0.5**
	baz=242						
WHF	**Hehuan Shan**	**1.33**	**237**	P	**Pn**	**15 52 45.6**	**-0.2**
	baz=237						
WHF				S	**Sn**	**15 53 05.3**	**-0.6**
	baz=237						
LIOB	**Emei**	**1.36**	**261**	P	**Pn**	**15 52 45.2**	**-0.5**
	baz=261						
LIOB				S	**Sn**	**15 53 05.3**	**-0.4**
	baz=261						
SBCB	**Hsinchu**	**1.37**	**267**	P	**Pn**	**15 52 46.4**	**+0.7**
	baz=267						
SBCB				S	**Sn**	**15 53 05.9**	**0.0**
	baz=267						
NSTT	**Nanjuang**	**1.38**	**260**	P	**Pn**	**15 52 46.1**	**+0.3**
	baz=260						
NSTT				*e*S	**Sn**	**15 53 05.0**	**-1.0**
	baz=260						
CHGB	**Renai**	**1.45**	**236**	P	**Pn**	**15 52 46.6**	**-0.2**
	baz=236						
CHGB				S	**Sn**	**15 53 07.5**	**-0.3**
	baz=236						
HATJ	**Hateruma jima**	**1.45**	**124**	S	**Sn**	**15 53 08.3**	**+0.9**
OWD	**Renai**	**1.51**	**233**	P	**Pn**	**15 52 47.6**	**+0.2**
	baz=233						
OWD				S	**Sn**	**15 53 08.5**	**-0.4**
	baz=233						
JKRS	**Kuro-shima**	**1.52**	**114**	P	**Pn**	**15 52 47.4**	**0.0**
JKRS				*e*S	**Sn**	**15 53 09.5**	**+0.6**
WHP	**Taichung City**	**1.53**	**247**	P	**Pn**	**15 52 47.9**	**+0.3**
	baz=247						
WHP				S	**Sn**	**15 53 09.1**	**0.0**
	baz=247						
WUSB	**Renai**	**1.53**	**235**	P	**Pn**	**15 52 47.8**	**+0.2**
	baz=235						
WUSB				*e*S	**Sn**	**15 53 07.2**	**-2.0**
	baz=235						
JIJ	**Ishigaki jima**	**1.59**	**108**	P	**Pn**	**15 52 48.5**	**+0.3**
JIJ				S	**Sn**	**15 53 10.0**	**-0.2**
TWQ1	**Liyutan**	**1.65**	**252**	P	**Pn**	**15 52 49.1**	**+0.2**
	baz=252						
TWQ1				S	**Sn**	**15 53 11.2**	**-0.3**
	baz=252						
WCS	**Beigang Elemen**	**1.65**	**241**	P	**Pn**	**15 52 49.6**	**+0.6**
	baz=241						
WCS				S	**Sn**	**15 53 12.3**	**+0.8**
	baz=241						
DPDB	**Guoxing**	**1.65**	**240**	P	**Pn**	**15 52 50.0**	**+1.0**
	baz=240						
DPDB				*e*S	**Sn**	**15 53 12.5**	**+0.8**
	baz=240						
VWDT	**VWDT**	**1.66**	**228**	P	**Pn**	**15 52 49.3**	**+0.2**
	baz=228						
VWDT				S	**Sn**	**15 53 11.6**	**-0.2**
	baz=228						
JISG	**Ishigakijimahi**	**1.68**	**99**	P	**Pn**	**15 52 49.3**	**+0.1**
JISG				*e*S	**Sn**	**15 53 11.6**	**-0.5**
HGSD	**Ruisui**	**1.69**	**215**	P	**Pn**	**15 52 49.5**	**+0.2**
	baz=216						
HGSD				S	**Sn**	**15 53 11.8**	**-0.5**
	baz=216						
SMLT	**Sun Moon Lake**	**1.75**	**236**	P	**Pn**	**15 52 50.3**	**0.0**
	baz=236						
SMLT				S	**Sn**	**15 53 12.9**	**-1.0**
	baz=236						
SSLB	**Suanglung**	**1.77**	**233**	P	**Pn**	**15 52 51.1**	**+0.7**
	baz=233						
SSLB				*e*S	**Sn**	**15 53 15.1**	**+0.9**
	baz=233						
TYC	**Yuchr**	**1.77**	**237**	P	**Pn**	**15 52 51.0**	**+0.6**
	baz=237						
TYC				*e*S	**Sn**	**15 53 15.4**	**+1.3**
	baz=237						
YULB	**Yu-li**	**1.83**	**217**	P	**Pn**	**15 52 51.6**	**+0.4**
	baz=217						
YULB				S	**Sn**	**15 53 15.1**	**-0.4**
	baz=217						
WHYT	**Xinyi Township**	**1.90**	**232**	P	**Pn**	**15 52 52.3**	**+0.4**
	baz=232						
WHYT				*e*S	**Sn**	**15 53 18.3**	**+1.4**
	baz=232						
WJS	**Zhushan**	**1.92**	**237**	P	**Pn**	**15 52 53.0**	**+0.9**
	baz=237						
WJS				*e*S	**Sn**	**15 53 18.1**	**+0.9**
	baz=237						
JTJ	**Tarama**	**2.02**	**96**	*e*S	**Sn**	**15 53 19.7**	**+0.2**
EDH	**Donghe**	**2.18**	**210**	P	**Pn**	**15 52 55.1**	**-0.2**
	baz=210						
EDH				S	**Sn**	**15 53 22.3**	**-0.8**
	baz=210						
JMJ2	**Miyako jima3**	**2.58**	**92**	S	**Sn**	**15 53 32.2**	**+0.2**
MATB	**Ma-tsu**	**2.63**	**299**	*e*P	**Pn**	**15 53 01.4**	**+0.5**
	baz=298						
MATB				*e*S	**Sn**	**15 53 32.8**	**-0.2**
	baz=298						
XPSS	**Dashiqiu**	**2.91**	**315**	*e*P	**Pn**	**15 53 03.6**	**-1.0**
	baz=314						
XPSS				S	**Sn**	**15 53 39.2**	**-0.4**
	baz=314						
PHUB	**P'eng-hu**	**2.99**	**244**	P	**Pn**	**15 53 05.9**	**+0.2**
	baz=243						
PHUB				S	**Sn**	**15 53 40.6**	**-0.8**
	baz=243						

*NEIC **10** 15:55:20.6±1.6, 24°.3S±0°.1×173°.3W±0°.2, h10km±2km, mb4.6/16, Error ellipse: s-maj=30.4km s-min=15.0km az=128.0*

*IDC **10** 15:55:30.2±20.0, 24°.34S×174°.94W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/32, mbtmp4.0/5, Error ellipse: s-maj=382.2km s-min=153.3km az=85.0*

ISC 10 15:55:20.4±1.1**, 24°.3S**±0°.1×**173°.3W**±0°.2**, h10**km**, n24, σ1s.10**/24**, mb4.5**/12**, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.08**	**32**	Pn	**Pn**	**15 56 49.8**	**-0.6**
RAO	**Raoul Island**	**6.42**	**219**	Pn	**Pn**	**15 56 54.3**	**-0.7**
LIFNC	**LIFOU**	**18.28**	**277**	P	**Pn**	**15 59 34.8**	**+0.5**
SNZO	**South Karori**	**19.69**	**208**	P	**Pn**	**15 59 51.8**	**+0.6**
EIDS	**Eidsvold**	**32.26**	**261**	P	**P**	**16 01 48.2**	**-1.1**
CTA	**Charters Tower**	**37.56**	**268**	P	**P**	**16 02 35.0**	**-0.1**
	4.2nm,0.9s,baz=110,slow=12,SNR=1.9						
CTAO	**Charters Tower**	**37.56**	**268**	P	**P**	**16 02 35.0**	**-0.1**
CTAO				IAmb	IAmb	16 02 48.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,25nm,1.5s						
STKA	**Stephens Creek**	**40.25**	**249**	P	**P**	**16 02 57.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=85,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**40.25**	**249**	P	**P**	**16 02 56.4**	**-1.1**
COEN	**Coen**	**42.20**	**276**	P	**P**	**16 03 16.5**	**+2.7**
COEN				IAmb	IAmb	16 03 21.5	
	comp=Z,11nm,1.3s						
BBOO	**Buckleboo**	**44.91**	**247**	P	**P**	**16 03 34.5**	**-0.9**
BBOO				IAmb	IAmb	16 03 51.8	
	comp=Z,9.3nm,1.3s						
AS31	**Alice Springs**	**47.97**	**259**	P	**P**	**16 03 59.2**	**-0.4**
ASAR	**Alice Springs**	**47.97**	**259**	P	**P**	**16 03 59.1**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=93,slow=7.4,SNR=30						
ASAR	**Alice Springs**	**47.97**	**259**	P	**P**	**16 03 58.3**	**-1.3**
WR0	**Warramunga Arr**	**48.26**	**264**	P	**P**	**16 04 01.2**	**-0.7**
WR0				IAmb	IAmb	16 04 25.2	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**48.44**	**264**	P	**P**	**16 04 02.7**	**-0.6**
WB2				IAmb	IAmb	16 04 19.1	
	comp=Z,6.6nm,1.5s						
WRAB	**Tennant Creek**	**48.44**	**264**	P	**P**	**16 04 02.9**	**-0.3**
WRAB				IAmb	IAmb	16 04 11.3	
	comp=Z,3.7nm,1.2s						
WB0	**Warramunga Arr**	**48.44**	**265**	P	**P**	**16 04 02.9**	**-0.4**
WB0				IAmb	IAmb	16 04 26.9	
	comp=Z,12nm,1.6s						
WRA	**Warramunga Arr**	**48.45**	**264**	P	**P**	**16 04 02.9**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=104,slow=7.8,SNR=31						
KNRA	**Kununurra**	**54.77**	**267**	P	**P**	**16 04 52.2**	**+1.6**
KNRA				IAmb	IAmb	16 05 08.8	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**56.86**	**264**	P	**P**	**16 05 07.2**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=98,slow=7.1,SNR=1.3						
FITZ	**Fitzroy Crossi**	**56.86**	**264**	P	**P**	**16 05 07.1**	**+1.5**
MORW	**Morawa**	**62.44**	**249**	P	**P**	**16 05 43.0**	**-1.0**
QSPA	**South Pole Qui**	**65.80**	**180**	P	**P**	**16 06 06.8**	**+1.2**

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*IDC **10** 16:10:58.9±3.1, 5°.00S×93°.90E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/37, mbtmp3.7/6, MS3.1/4, Ms1 3.2/4, ms1mx2.6/85, Error ellipse: s-maj=105.8km s-min=22.4km az=57.0*

ISC 10 16:11:00.6±3.3**, 5°.0S**±0°.4×**93°.9E**±0°.7**, h10km, n9, σ0s41**/7**, mb3.6**/6**, MS3.4**/3**, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**13.73**	**98**	LR	LR	16 18 59.8	
	comp=Z,44nm,18.0s,baz=216,slow=35						
CMAR	**Chiang Mai Arr**	**23.81**	**12**	P	**P**	**16 16 14.2**	**+0.3**
	0.6nm,0.4s,baz=199,slow=10.0,SNR=6.2						
CMAR				LR	LR	16 26 00.6	
	comp=Z,28nm,18.7s,baz=180,slow=38						
WRA	**Warramunga Arr**	**42.02**	**114**	P	**P**	**16 18 52.3**	**-0.3**
	1.0nm,0.8s,baz=287,slow=9.2,SNR=7.2						
ASAR	**Alice Springs**	**42.74**	**120**	P	**P**	**16 18 58.6**	**+0.2**
	0.7nm,1.0s,baz=296,slow=9.0,SNR=6.5						
AAK	**Ala-Archa**	**50.58**	**341**	LR	LR	16 41 45.2	
	comp=Z,30nm,18.1s,baz=174,slow=36						
MKAR	**Makanchi Array**	**52.57**	**350**	P	**P**	**16 20 14.2**	**-0.2**
	0.6nm,0.7s,baz=159,slow=7.3,SNR=7.6						
SONM	**Songino Array**	**53.72**	**10**	P	**P**	**16 20 22.8**	**-0.1**
	0.5nm,0.7s,baz=196,slow=9.0,SNR=4.2						
SONM				PcP	**PcP**	**16 21 29.6**	**+0.5**
	0.5nm,0.8s,baz=164,slow=3.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**59.21**	**354**	P	**P**	**16 21 01.4**	**-0.4**
	1.0nm,0.6s,baz=149,slow=6.9,SNR=5.6						
VAE	**Valguarnera**	**84.73**	**308**	LR	LR	17 05 07.1	
	comp=Z,17nm,18.8s,baz=298,slow=38						

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*IDC **10** 16:14:27.8±8.1, 31°.37S×179°.63W, h454km±108km, mb2.9/3, mb1 3.3/4, mb1mx3.0/35, mbtmp3.8/4, Error ellipse: s-maj=106.6km s-min=31.6km az=3.0*

ISC 10 16:14:25.0±1.1**, 31°.04S**±0°.09×**179°.6W**±0°.1**, h400km, n55, σ1s81**/70**, mb3.1**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.29**	**40**	S	**S**	**16 16 12.5**	**+2.9**
MXZ	**Matakaoa Point**	**6.74**	**194**	P	**P**	**16 16 08.0**	**+1.8**
MXZ				S	**S**	**16 17 26.7**	**-1.0**
WMGZ	**Waiomatatini S**	**6.96**	**193**	P	**P**	**16 16 09.4**	**+0.7**
WMGZ				S	**S**	**16 17 33.3**	**+1.0**
HAZ	**Te Kaha**	**7.04**	**197**	P	**P**	**16 16 10.9**	**+1.3**
HAZ				S	**S**	**16 17 32.7**	**-1.3**
OUZ	**Omahuta**	**7.07**	**232**	P	**P**	**16 16 12.7**	**+2.8**
PKGZ	**Pakihiroa**	**7.10**	**195**	P	**P**	**16 16 13.3**	**+3.0**
PKGZ				S	**S**	**16 17 34.1**	**-1.2**
PUZ	**Puketiti**	**7.24**	**194**	P	**P**	**16 16 12.4**	**+0.6**
PUZ				S	**S**	**16 17 36.8**	**-1.3**
RUGZ	**Raukumara Rang**	**7.27**	**197**	P	**P**	**16 16 13.1**	**+0.9**
RUGZ				S	**S**	**16 17 36.0**	**-2.9**
TWGZ	**Tauwhareparae**	**7.40**	**195**	P	**P**	**16 16 16.8**	**+3.3**
TWGZ				S	**S**	**16 17 41.5**	**0.0**
OPRZ	**Ohinepanea**	**7.50**	**204**	P	**P**	**16 16 17.1**	**+2.5**
CNGZ	**Carnagh Statio**	**7.65**	**193**	P	**P**	**16 16 18.2**	**+1.9**
MWZ	**Matawai**	**7.66**	**197**	P	**P**	**16 16 16.7**	**+0.2**
MWZ				S	**S**	**16 17 45.1**	**-1.7**
TKGZ	**Te Karaka**	**7.68**	**195**	P	**P**	**16 16 17.2**	**+0.6**
TKGZ				S	**S**	**16 17 45.0**	**-2.2**
URZ	**Urewera**	**7.70**	**200**	P	**Pn**	**16 16 16.8**	**+0.4**
	16nm,0.3s,baz=278,slow=3.2,SNR=120						
URZ				S	**S**	**16 17 45.6**	**-2.0**
	3.5nm,0.3s,baz=263,slow=23,SNR=16						
URZ	**Urewera**	**7.70**	**200**	P	**Pn**	**16 16 16.7**	**+0.4**
URZ				S	**S**	**16 17 45.8**	**-1.8**
RAGZ	**Rawiri**	**7.84**	**197**	P	**P**	**16 16 19.3**	**+0.8**
RIGZ	**Rimuhau**	**7.95**	**195**	P	**P**	**16 16 22.2**	**+2.4**
MUGZ	**Murupara**	**8.00**	**201**	P	**P**	**16 16 20.4**	**+0.2**
RTZ	**Ruatahuna**	**8.07**	**199**	P	**Pn**	**16 16 20.8**	**+0.1**
HRRZ	**Handcock Road**	**8.08**	**204**	P	**P**	**16 16 24.4**	**+3.3**
SNGZ	**Shannon Statio**	**8.12**	**197**	P	**P**	**16 16 22.4**	**+0.7**
SNGZ				S	**S**	**16 17 55.0**	**-1.6**
PRGZ	**Paritu Road**	**8.13**	**194**	P	**P**	**16 16 24.9**	**+3.1**
PRGZ				S	**S**	**16 17 58.0**	**+1.1**
ALRZ	**Allen Road**	**8.21**	**203**	P	**P**	**16 16 25.2**	**+2.6**
KNZ	**Kokohu**	**8.28**	**195**	P	**P**	**16 16 25.0**	**+1.8**
RAHZ	**Arahi**	**8.32**	**198**	P	**P**	**16 16 24.0**	**+0.2**
MTHZ	**Maungataniwha**	**8.33**	**200**	P	**P**	**16 16 25.3**	**+1.4**
MTHZ				S	**S**	**16 17 57.9**	**-3.0**
MHGZ	**Mahia Peninsul**	**8.35**	**193**	P	**P**	**16 16 26.3**	**+2.2**
WHHZ	**Waihua**	**8.43**	**197**	P	**P**	**16 16 28.3**	**+3.2**
WHHZ				S	**S**	**16 18 03.4**	**+0.4**
MRHZ	**Matea Rd**	**8.44**	**202**	P	**P**	**16 16 26.5**	**+1.3**
NMHZ	**Naumai**	**8.56**	**199**	P	**P**	**16 16 28.2**	**+1.6**
HATZ	**Hinemaiaia**	**8.60**	**203**	P	**P**	**16 16 28.6**	**+1.7**
ARHZ	**Aropaoanui**	**8.67**	**198**	P	**P**	**16 16 29.3**	**+1.7**
BKZ	**Black Stump Fm**	**8.72**	**200**	P	**Pn**	**16 16 27.7**	**-0.4**
HIZ	**Hauiti**	**8.74**	**210**	P	**P**	**16 16 32.0**	**+3.5**
MCHZ	**McNeill Hill**	**8.92**	**199**	P	**P**	**16 16 32.2**	**+1.7**
TMVZ	**Te Maari**	**8.93**	**204**	P	**P**	**16 16 32.3**	**+1.6**
ETVZ	**East Tongariro**	**8.95**	**204**	P	**P**	**16 16 32.3**	**+1.4**
KWHZ	**Kaweka Forest**	**8.98**	**200**	P	**P**	**16 16 32.1**	**+1.0**
OTVZ	**Oturere**	**8.99**	**204**	P	**P**	**16 16 33.0**	**+1.7**
TWVZ	**Taurewa**	**8.99**	**206**	P	**P**	**16 16 33.4**	**+2.0**
CKHZ	**Cape Kidnapper**	**9.02**	**197**	P	**P**	**16 16 32.9**	**+1.4**
NGZ	**Ngauruhoe**	**9.02**	**205**	P	**P**	**16 16 33.8**	**+2.1**
TRVZ	**Turoa**	**9.15**	**204**	P	**P**	**16 16 35.0**	**+1.8**
WNVZ	**Wahianoa**	**9.16**	**204**	P	**P**	**16 16 34.2**	**+1.0**
MOVZ	**Moawhango**	**9.17**	**203**	P	**P**	**16 16 34.1**	**+0.8**
KRHZ	**Kereru**	**9.20**	**200**	P	**Pn**	**16 16 33.8**	**+0.2**
KAHZ	**Kahuranaki**	**9.20**	**197**	P	**P**	**16 16 35.3**	**+1.8**
MTVZ	**Mangateitei**	**9.25**	**204**	P	**Pn**	**16 16 35.8**	**+1.5**
PXZ	**Pawanui**	**9.43**	**197**	P	**Pn**	**16 16 37.3**	**+1.1**
WPHZ	**Waipukurau**	**9.57**	**199**	P	**Pn**	**16 16 38.7**	**+0.8**
PRHZ	**Porangahau**	**9.71**	**197**	P	**Pn**	**16 16 40.8**	**+1.4**
ANWZ	**Angora Road**	**9.93**	**198**	P	**Pn**	**16 16 43.5**	**+1.5**
ASAR	**Alice Springs**	**41.71**	**268**	P	**P**	**16 21 35.4**	**-1.6**
	0.2nm,0.5s,baz=107,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**42.75**	**274**	P	**P**	**16 21 43.7**	**-1.5**
	0.3nm,0.3s,baz=111,slow=8.1,SNR=19						
TXAR	**Lajitas Array**	**93.89**	**58**	P	**P**	**16 26 56.7**	**-1.8**
	0.2nm,0.3s,baz=292,slow=7.4,SNR=3.5						

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*ARE **10** 16:22:36±3.7, 17°.54S±0°.04×71°.40W±0°.08, h13km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=160.0*

*NEIC **10** 16:22:37.9±2.0, 17°.62S±0°.07×71°.55W±0°.10, h54km±12km, mb3.9/2, ML4.0(ARE), Error ellipse: s-maj=15.4km s-min=6.9km az=122.0*

*IDC **10** 16:22:43.7±4.1, 17°.71S×71°.09W, h96km±34km, mb3.4/2, mb1 3.7/5, mb1mx3.4/41, mbtmp3.9/5, MS2.5/2, Ms1 2.5/2, ms1mx2.3/22, Error ellipse: s-maj=52.3km s-min=21.6km az=98.0*

ISC 10 16:22:38.2±1.3**, 17°.65S**±0°.08×**71°.50W**±0°.10**, h50km, n28, σ1s34**/25**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.32**	**123**		**Pn**	**16 23 00.6**	**+0.3**
AP01				Sn	**Sn**	**16 23 16.2**	**-0.5**
PB12	**IPOC Station P**	**1.47**	**131**		**Pn**	**16 23 03.5**	**+1.0**
PB12				Sn	**Sn**	**16 23 21.4**	**+0.7**
PB16	**IPOC Station P**	**2.02**	**110**		**Pn**	**16 23 09.9**	**-0.4**
PB16				Sn	**Sn**	**16 23 33.2**	**-1.5**
TA02	**Huaiquique**	**2.91**	**154**		**Pn**	**16 23 23.8**	**+1.7**
TA02				Sn	**Sn**	**16 23 56.4**	**+0.5**
GO01	**Chusmiza**	**2.97**	**133**		**Pn**	**16 23 24.8**	**+1.5**
TA01	**Diego Aracena**	**3.16**	**157**		**Pn**	**16 23 26.6**	**+1.2**
TA01				Sn	**Sn**	**16 24 02.0**	**+0.1**
PATCX	**Punta Patache**	**3.40**	**158**		**Pn**	**16 23 30.0**	**+1.1**
LPAZ	**La Paz**	**3.50**	**68**	P	**Pn**	**16 23 32.8**	**+2.1**
	18nm,0.3s,baz=266,slow=7.7,SNR=129						
LPAZ				LR	LR	16 25 03.6	
	comp=Z,50nm,19.0s,baz=236,slow=44						
LPAZ	**La Paz**	**3.50**	**68**		**Pn**	**16 23 32.1**	**+1.3**
LVC	**Limon Verde**	**5.50**	**154**	P	**Pn**	**16 23 59.9**	**+1.9**
	2.4nm,0.3s,baz=359,slow=9.1,SNR=14						
LVC				S	**Sn**	**16 25 01.5**	**+1.3**
	3.2nm,0.3s,baz=146,slow=15,SNR=3.9						
LVC				LR	LR	16 26 09.5	
	comp=Z,68nm,21.9s,baz=47,slow=39						
LVC	**Limon Verde**	**5.50**	**154**		**Pn**	**16 23 59.8**	**+1.8**
PB10	**IPOC Station P**	**5.90**	**171**	Pn	**Pn**	**16 24 03.5**	**+0.4**
PB10				Sn	**Sn**	**16 25 06.8**	**-2.6**
AC01	**Pan de Azucar**	**8.50**	**174**	Pn	**Pn**	**16 24 38.2**	**-0.5**
AC02	**Maricunga**	**9.40**	**167**	Pn	**Pn**	**16 24 51.9**	**+0.3**
AC06	**Mina Casimiro**	**9.72**	**174**	Pn	**Pn**	**16 24 54.7**	**-0.8**
SIV	**San Ignacio**	**10.12**	**82**	P	**Pn**	**16 25 00.4**	**-0.7**
	1.0nm,0.3s,baz=273,slow=12,SNR=13						
H03N1	**Juan Fernandez**	**17.08**	**202**	T	T	16 44 16.4	
	baz=26,slow=73,SNR=516						
H03N2	**Juan Fernandez**	**17.08**	**202**	T	T	16 44 16.1	
	baz=26,slow=73,SNR=608						
H03N3	**Juan Fernandez**	**17.09**	**202**	T	T	16 44 13.1	
	baz=26,slow=73,SNR=574						
TORD	**Torodi Ar. Bea**	**78.44**	**72**	P	**P**	**16 34 32.8**	**-1.5**
	0.5nm,0.7s,baz=255,slow=6.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.44**	**72**	IAmb	IAmb	16 34 52.4	
	comp=Z,1.7nm,1.2s						
YKA	**Yellowknife Ar**	**86.77**	**341**	P	**P**	**16 35 17.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=134,slow=5.0,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**124.86**	**282**	T	T	18 59 24.0	
	baz=100,slow=74,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**124.87**	**281**	T	T	18 59 05.1	
	baz=99,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**124.88**	**282**	T	T	18 59 26.3	
	baz=100,slow=74,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**124.88**	**282**	T	T	18 59 24.8	
	baz=100,slow=74,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**124.88**	**281**	T	T	18 59 04.4	
	baz=99,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**124.89**	**281**	T	T	18 59 05.6	
	baz=99,slow=75,SNR=32						

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*IDC **10** 16:28:48.9±2.0, 6°.16N×125°.09E, h150km±14km, mb2.9/3, mb1 3.2/3, mb1mx2.8/39, mbtmp3.3/3, Error ellipse: s-maj=74.0km s-min=23.8km az=92.0*

*MAN **10** 16:28:49.4, 6°.22N×126°.02E, h136km, mb4.4, ML3.3, MS3.1*

ISC 10 16:28:49.7±1.0**, 6°.08N**±0°.09×**125°.8E**±0°.1**, h150km, n10, σ1s49**/14**, mb2.9**/3**, 2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.86**	**271**⇓	*e*P	**Pn**	**16 29 12.1**	**-1.4**
GSPH				*e*S	**Sn**	**16 29 29.7**	**-1.9**
MATI	**Mati**	**0.97**	**27**⇓	*e*P	**Pn**	**16 29 11.1**	**-3.1**
DAV	**Davao City (W)**	**1.01**	**347**	P	**Pn**	**16 29 14.3**	**-0.3**
	43nm,0.3s,baz=207,slow=11,SNR=2.0						
DAV				S	**Sn**	**16 29 33.4**	**-0.3**
	85nm,0.3s,baz=244,slow=22,SNR=8.5						
KCP	**Kidapawan**	**1.17**	**322**⇓	*i*P	**Pn**	**16 29 15.8**	**-0.2**
KCP				*i* S	**Sn**	**16 29 35.1**	**-1.2**
CTBH	**Cotabato--PC H**	**1.93**	**306**⇑	*i*P	**Pn**	**16 29 24.4**	**+0.4**
BIPH	**Bislig**	**2.16**	**14**⇑	*e*P	**Pn**	**16 29 27.9**	**+1.2**
BIPH				*e*S	**Sn**	**16 29 54.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.02**	**180**	P	**P**	**16 33 51.5**	**+0.6**
	baz=4.4,slow=13						
WRA	**Warramunga Arr**	**27.18**	**162**	P	**P**	**16 34 21.1**	**+1.7**
	0.1nm,0.4s,baz=336,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**30.60**	**165**	P	**P**	**16 34 50.8**	**+1.2**
	0.2nm,0.3s,baz=341,slow=6.7,SNR=7.1						
ILAR	**Eielson Array**	**83.39**	**26**	P	**P**	**16 41 00.2**	**+0.4**
	0.1nm,0.5s,baz=243,slow=5.7,SNR=4.5						

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*TUL **10** 16:46:29.7±0.6, 36°.45N±0°.01×98°.782W±0°.007, h7km±1km, ML3.2, mb_Lg3.0/61(NEIC), Mwr2.9/8(SLM), Error ellipse: s-maj=1.9km s-min=0.6km az=164.0*

*NEIC **10** 16:46:29.7, 36°.45N×98°.78W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-0.95; $M_{\theta\theta}$2.50; $M_{\phi\phi}$-1.55; $M_{r\theta}$-1.09; $M_{\theta\phi}$-0.47; $M_{\phi r}$-1.32; Fault plane solution: $M_0$2.82000×10^{13} NP1:ϕ_s58.00000°, δ75.00000°, λ-138.00000°. NP2:ϕ_s315.00000°, δ50.00000°, λ-20.00000°. Principal axes: T 2.8173, Plg16.0000°, Azm181.0000°; N -0.0016, Plg46.0000°, Azm74.0000°; P -2.8157, Plg40.0000°, Azm285.0000°;*

NEIC 10 16:46:30.1±0.5**, 36°.438N**±0°.010×**98°.79W**±0°.02**, h5km**±2km **Error ellipse: s-maj=2.6km s-min=0.9km az=60.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.18**	**251**	Pg	Pg	16 46 33.9	+0.2
FNO	**Franklin**	**1.63**	**136**		Pn	16 46 59.3	-0.1
WMOK	**Wichita Mounta**	**1.70**	**180**	Pn	Pn	16 46 59.5	-0.9
T35A	**Sooner Cattle**	**1.89**	**75**		Pn	16 47 03.0	0.0
R32A	**Long Quarter,**	**1.98**	**2**		Pn	16 47 03.2	-1.1
X34A	**Smith Ranch, M**	**1.99**	**157**	Pn	Pn	16 47 04.8	+0.4
CBKS	**Cedar Bluff**	**2.49**	**343**	IAmb_Lg		16 47 52.5	
	comp=Z,44nm,0.7s						
AMTX	**Amarillo**	**2.82**	**237**	IAmb_Lg		16 48 00.5	
	comp=Z,74nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.98**	**311**	IAmb_Lg		16 48 46.7	
	comp=Z,28nm,0.8s						
MSTX	**Muleshoe**	**4.09**	**234**	IAmb_Lg		16 48 42.3	
	comp=Z,39nm,0.9s						
W39A	**Magazine**	**4.25**	**105**	IAmb_Lg		16 48 52.2	
	comp=Z,36nm,0.8s						
Z38A	**Mt. Pleasant**	**4.45**	**134**	IAmb_Lg		16 48 52.7	
	comp=Z,40nm,1.0s						
S39A	**Bolivar**	**4.55**	**72**	IAmb_Lg		16 48 54.3	
	comp=Z,21nm,0.8s						
T25A	**Trinidad**	**4.56**	**280**	IAmb_Lg		16 49 02.3	
	comp=Z,30nm,0.8s						
MIAR	**Mount Ida**	**4.65**	**112**	IAmb_Lg		16 49 04.9	
	comp=Z,19nm,1.0s						
U40A	**Yellville**	**4.79**	**89**	IAmb_Lg		16 49 00.9	
	comp=Z,27nm,0.8s						
BGNE	**Belgrade**	**4.99**	**6**	IAmb_Lg		16 49 21.5	
	comp=Z,33nm,0.7s						
237A	**Washetta, Mont**	**5.07**	**150**	IAmb_Lg		16 49 23.8	
	comp=Z,20nm,0.8s						
OGNE	**Ogallala**	**5.17**	**332**	IAmb_Lg		16 49 13.0	
	comp=Z,34nm,0.8s						
MGMO	**Mountain Grove**	**5.28**	**80**	IAmb_Lg		16 49 22.6	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**5.40**	**100**	IAmb_Lg		16 49 24.0	
	comp=Z,30nm,1.0s						
WLAR	**White Oak Lake**	**5.40**	**119**	IAmb_Lg		16 49 30.4	
	comp=Z,27nm,1.0s						
W41B	**Gary Mavity, V**	**5.46**	**101**	IAmb_Lg		16 49 27.9	
	comp=Z,25nm,0.9s						
R40A	**Maddies Statio**	**5.51**	**68**	IAmb_Lg		16 49 25.6	
	comp=Z,16nm,0.8s						
Q24A	**Divide**	**5.64**	**298**	IAmb_Lg		16 49 31.6	
	comp=Z,16nm,0.8s						
435B	**Jarrell**	**5.73**	**170**	IAmb_Lg		16 49 44.0	
	comp=Z,27nm,0.8s						
JCT	**Junction City**	**6.00**	**188**	IAmb_Lg		16 49 48.2	
	comp=Z,19nm,0.7s						
P40A	**Paris**	**6.16**	**58**	IAmb_Lg		16 49 46.1	
	comp=Z,32nm,0.8s						
K31A	**O'Neill**	**6.18**	**0**	IAmb_Lg		16 49 48.8	
	comp=Z,27nm,0.7s						
CCM	**Cathedral Cave**	**6.23**	**73**	IAmb_Lg		16 49 48.9	
	comp=Z,26nm,0.9s						
FVM	**French Village**	**6.85**	**74**	IAmb_Lg		16 50 05.5	
	comp=Z,14nm,0.8s						
PHWY	**Pilot Hill**	**7.12**	**315**	IAmb_Lg		16 50 22.1	
	comp=Z,12nm,0.7s						
143A	**Socs Landing,**	**7.14**	**119**	IAmb_Lg		16 50 25.2	
	comp=Z,16nm,0.8s						
MNTX	**Cornudas Mount**	**7.23**	**231**	IAmb_Lg		16 50 23.0	
	comp=Z,12nm,0.9s						
S44A	**Carbondale**	**7.73**	**78**	IAmb_Lg		16 50 47.2	
	comp=Z,13nm,0.7s						
SIUC	**Southern Illin**	**7.76**	**78**	IAmb_Lg		16 50 42.0	
	comp=Z,14nm,0.7s						
L40A	**Anamosa**	**8.12**	**44**	IAmb_Lg		16 50 52.9	
	comp=Z,24nm,0.9s						

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*IDC **10** 16:47:59.1±2.8, 6°.75S×130°.28E, h111km±38km, mb3.1/1, mb1 3.2/5, mb1mx2.9/45, mbtmp3.5/5, Error ellipse: s-maj=71.6km s-min=21.9km az=89.0*

ISC 10 16:47:57.0±0.9**, 6°.80S**±0°.06×**130°.3E**±0°.2**, h100km, n5, σ3s74**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.98**	**10**	P	**Pn**	**16 49 24.8**	**+1.7**
	0.3nm,0.3s,baz=163,slow=19,SNR=7.7						
SIJI				S	**Sn**	**16 50 24.9**	**-5.2**
	0.8nm,0.3s,baz=202,slow=23,SNR=16						
FITZ	**Fitzroy Crossi**	**12.10**	**201**	P	**Pn**	**16 50 47.9**	**+1.8**
	0.1nm,0.3s,baz=21,slow=12,SNR=6.4						
FITZ				S	**Sn**	**16 52 54.5**	**-4.7**
	0.1nm,0.3s,baz=204,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**13.65**	**164**	P	**Pn**	**16 51 08.8**	**+2.3**
	0.2nm,0.3s,baz=348,slow=13,SNR=17						
WRA				S	**Sn**	**16 53 32.9**	**-3.9**
	0.1nm,0.3s,baz=349,slow=20,SNR=2.1						
ASAR	**Alice Springs**	**17.13**	**169**	P	**Pn**	**16 51 53.0**	**+2.7**
	0.2nm,0.3s,baz=341,slow=9.0,SNR=23						
ASAR				S	**Sn**	**16 55 00.5**	**-0.3**
	0.1nm,0.3s,baz=319,slow=22,SNR=1.7						
MKAR	**Makanchi Array**	**68.21**	**327**	P	**P**	**16 58 47.5**	**+0.7**
	0.2nm,0.5s,baz=110,slow=7.7,SNR=4.7						

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*IDC **10** 16:55:41.8±1.1, 3°.68N×63°.39E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.8/41, mbtmp4.0/10, Error ellipse: s-maj=34.0km s-min=22.1km az=76.0*

*NEIC **10** 16:55:43.4±1.0, 3°.72N±0°.10×63°.4E±0°.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=26.8km s-min=9.2km az=301.0*

ISC 10 16:55:42.9±0.7**, 3°.7N**±0°.1×**63°.4E**±0°.1**, h10km, n26, σ0s75**/26**, mb4.2**/17**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**11.50**	**223**		**Pn**	**16 58 27.0**	**-0.5**
GYA0B	**ALIBECK ARRAY**	**34.37**	**353**		**P**	**17 02 29.4**	**-0.8**
GYA0B				IAmb	IAmb	17 02 54.5	
	comp=Z,4.2nm,0.8s						
GAR	**Garm**	**35.66**	**9**	P	**P**	**17 02 41.1**	**-0.4**
GAR				IAmb	IAmb	17 02 44.9	
	comp=Z,8.0nm,1.1s						
BTK	**Batken**	**36.77**	**10**	P	**P**	**17 02 50.2**	**-0.7**
BTK				IAmb	IAmb	17 02 54.8	
	comp=Z,12nm,1.7s						
LSA	**Lhasa**	**36.84**	**43**	P	**P**	**17 02 51.7**	**-0.4**
LSA				IAmb	IAmb	17 02 54.7	
	comp=Z,3.8nm,0.9s						
CM31	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**17 02 58.9**	**-0.2**
CM31				IAmb	IAmb	17 03 02.3	
	comp=Z,8.7nm,1.4s						
CMAR	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**17 03 00.4**	**+1.2**
	comp=Z,1.1nm,1.0s,baz=266,slow=9.3,SNR=9.1						
CMAR	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**17 02 58.8**	**-0.4**
CHTO	**Chiang Mai**	**37.83**	**64**		**P**	**17 03 00.0**	**-0.1**
CHTO				IAmb	IAmb	17 03 02.9	
	comp=Z,7.5nm,1.5s						
AAK	**Ala-Archa**	**39.98**	**13**	P	**P**	**17 03 20.0**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=219,slow=5.7,SNR=5.0						
AAK	**Ala-Archa**	**39.98**	**13**	P	**P**	**17 03 18.4**	**+0.5**
MKAR	**Makanchi Array**	**45.91**	**18**	P	**P**	**17 04 06.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=203,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**45.91**	**18**	P	**P**	**17 04 06.0**	**+0.1**
ZALV	**Zalesovo Beam**	**53.03**	**16**	P	**P**	**17 05 00.2**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=216,slow=9.2,SNR=11						
ZALV	**Zalesovo Beam**	**53.03**	**16**	P	**P**	**17 04 59.5**	**-0.5**
SONM	**Songino Array**	**57.35**	**33**	P	**P**	**17 05 32.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=229,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**57.35**	**33**	P	**P**	**17 05 31.2**	**-0.3**
ESDC	**Sonseca Array**	**70.26**	**311**	P	**P**	**17 06 57.7**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=77,slow=6.2,SNR=3.7						
FORT	**Forrest**	**70.46**	**124**	P	**P**	**17 06 57.8**	**-0.2**
MAW	**Mawson**	**71.18**	**180**	P	**P**	**17 07 02.2**	**+0.6**
	comp=Z,3.3nm,0.4s,baz=343,slow=11,SNR=1.2						
WRA	**Warramunga Arr**	**73.47**	**112**	P	**P**	**17 07 16.8**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=287,slow=5.3,SNR=9.9						
WRA	**Warramunga Arr**	**73.47**	**112**	P	**P**	**17 07 16.5**	**+0.2**
WB2	**Warramunga Arr**	**73.48**	**112**	P	**P**	**17 07 15.3**	**-1.1**
WB2				IAmb	IAmb	17 07 17.7	
	comp=Z,6.1nm,1.1s						
ASAR	**Alice Springs**	**73.78**	**116**	P	**P**	**17 07 18.4**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=290,slow=5.9,SNR=41						
ASAR	**Alice Springs**	**73.78**	**116**	P	**P**	**17 07 17.1**	**-1.0**
MA2	**Magadan**	**85.47**	**31**	P	**P**	**17 08 21.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=329,slow=4.8,SNR=4.7						

IDC 10 16:56:23.4±25.0**, 3°.80N**×**63°.49E, h0km, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.5**/41**, mbtmp3.9**/3**, MS3.3**/3**, Ms1 3.3**/3**, ms1mx2.8**/53**, Error ellipse: s-maj=880.6km s-min=41.3km az=71.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**37.32**	**317**	LR	LR	17 18 30.0	
	comp=Z,34nm,18.6s,baz=284,slow=36						
BRTR	**Keskin Array B**	**44.82**	**327**	LR	LR	17 23 11.0	
	comp=Z,44nm,19.4s,baz=133,slow=36						
ARU	**Arti**	**52.63**	**357**	LR	LR	17 27 53.4	
	comp=Z,32nm,18.9s,baz=286,slow=36						
ZALV	**Zalesovo Beam**	**52.95**	**16**	P	P	17 05 41.4	-0.1
	1.0nm,0.7s,baz=210,slow=8.2,SNR=4.6						
WRA	**Warramunga Arr**	**73.40**	**112**	P	P	17 07 57.8	-0.2
	1.0nm,0.8s,baz=284,slow=5.1,SNR=5.0						
ASAR	**Alice Springs**	**73.71**	**116**	P	P	17 08 00.1	+0.2
	1.2nm,0.9s,baz=290,slow=5.8,SNR=9.6						

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*IDC **10** 17:10:55.8±0.8, 4°.04N×94°.64E, h0km, mb4.1/17, mb1 4.2/19, mb1mx3.9/54, mbtmp4.1/19, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/82, Error ellipse: s-maj=35.1km s-min=12.7km az=44.0*

*NEIC **10** 17:11:00.6±1.1, 3°.99N±0°.08×94°.65E±0°.09, h29km±6km, mb4.4/30, Error ellipse: s-maj=13.4km s-min=10.7km az=53.0*

*DJA **10** 17:11:08.8±1.1, 4°N±4°×9°6E±°, h10km, M3.8/5, mb4.0/1, mB5.3/1, MLv3.8/5, Mw(mB)4.7/1*

ISC 10 17:11:00.8±0.5**, 4°.07N**±0°.07×**94°.62E**±0°.06**, h35km, n80, σ1s68**/80**, mb4.3**/35**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.59**	**64**		**Pn**	**17 11 41.1**	**+0.9**
LHMI	**Lhok Sumawe**	**2.59**	**64**	P	**Pn**	**17 11 41.3**	**+1.1**
LHMI				S	**Sn**	**17 12 03.0**	**-7.5**
KCSI	**Kotacane, Aceh**	**3.19**	**100**	P	**Pn**	**17 11 50.1**	**+1.6**
KCSI				S	Sn	17 12 15.4	-10
TSI	**Tuntungan**	**3.97**	**98**	P	**Pn**	**17 11 57.8**	**-1.5**
GSI	**Gunungsitoli**	**4.03**	**133**	Pn	**Pn**	**17 11 59.5**	**-0.6**
GSI	**Gunungsitoli**	**4.03**	**133**	P	**Pn**	**17 11 59.5**	**-0.6**
PSI	**Prapat**	**4.47**	**106**	Pn	**Pn**	**17 12 07.3**	**+1.0**
	4.8nm,0.3s,baz=323,slow=7.7,SNR=6.0						
PSI				Sn	**Sn**	**17 12 57.0**	**-0.3**
	2.3nm,0.3s,baz=268,slow=3.6,SNR=5.5						
RPSI	**Rantau Prapat**	**4.51**	**108**		**Pn**	**17 12 07.3**	**+0.7**
RPSI					**Sn**	**17 12 57.0**	**-0.9**
MNSI	**Mandailing Nat**	**5.92**	**123**	P	**Pn**	**17 12 26.3**	**+0.2**
KULM	**Kulim**	**6.13**	**78**	Pn	**Pn**	**17 12 28.8**	**-0.1**
IPM	**Ipoh**	**6.40**	**86**	Pn	**Pn**	**17 12 30.7**	**-1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SRIT	**Nakonsritamara**	**6.69**	**48**	Pn	**Pn**	**17 12 37.4**	**+0.8**
SISI	**Saibi**	**6.98**	**140**	P	**Pn**	**17 12 40.6**	**0.0**
MNAI	**Manna**	**11.81**	**135**	Pn	**Pn**	**17 13 45.9**	**-1.0**
PALK	**Pallekele**	**14.21**	**284**	Pn	**Pn**	**17 14 20.3**	**+0.6**
	0.2nm,0.3s,baz=21,slow=15,SNR=2.1						
PALK				Sn	**Sn**	**17 16 48.2**	**-8.1**
	1.2nm,0.3s,baz=125,slow=19,SNR=6.8						
CM31	**Chiang Mai Arr**	**14.91**	**16**		**Pn**	**17 14 29.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.91**	**16**	Pn	**Pn**	**17 14 32.3**	**+3.1**
	0.4nm,0.3s,baz=210,slow=12,SNR=48						
CMAR	**Chiang Mai Arr**	**14.91**	**16**	Pn	**Pn**	**17 14 31.4**	**+2.2**
CHTO	**Chiang Mai**	**15.25**	**16**		**Pn**	**17 14 36.4**	**+2.7**
SHL	**Shillong**	**21.54**	**353**	P	**P**	**17 15 46.5**	**-0.8**
SHL				IAmb	IAmb	17 15 50.3	
	comp=Z,7.3nm,1.0s						
ODAN	**Odare**	**23.69**	**344**	*e*P	**P**	**17 16 09.1**	**-0.7**
	comp=Z,8.3nm,0.6s						
JIRN	**Jiri**	**24.80**	**342**	*e*P	**P**	**17 16 20.7**	**+0.6**
	comp=Z,7.4nm,0.4s						
H08S2	**Diego Garcia H**	**24.96**	**242**	T	T	17 42 17.5	
	baz=63,slow=75,SNR=71						
H08S3	**Diego Garcia H**	**24.96**	**242**	T	T	17 42 17.6	
	baz=63,slow=75,SNR=140						
PKI	**Pulchoki**	**24.97**	**340**	*e*P	**P**	**17 16 22.9**	**+1.3**
	comp=Z,4.6nm,0.4s						
H08S1	**Diego Carcia H**	**24.98**	**242**	T	T	17 42 16.5	
	baz=63,slow=75,SNR=24						
PKIN	**Phulchoki**	**24.98**	**340**	*e*P	**P**	**17 16 22.8**	**+1.2**
	comp=Z,5.2nm,0.4s						
GUN	**Gumba**	**25.13**	**342**	*e*P	**P**	**17 16 23.9**	**+0.8**
	comp=Z,14nm,0.5s						
LSA	**Lhasa**	**25.70**	**353**	P	**P**	**17 16 28.9**	**+0.5**
LSA				IAmb	IAmb	17 16 30.2	
	comp=Z,8.1nm,0.5s						
KOLN	**Koldanda**	**25.80**	**337**	*e*P	**P**	**17 16 30.7**	**+1.6**
PYUN	**Piuthan**	**26.34**	**336**	*e*P	**P**	**17 16 36.2**	**+2.3**
	comp=Z,6.4nm,0.3s						
KAPI	**Kappang**	**26.68**	**110**	LR	LR	17 27 28.9	
	comp=Z,50nm,19.4s,baz=290,slow=37						
SIJI	**Sorong**	**36.95**	**97**	P	**P**	**17 18 06.5**	**-0.5**
	comp=Z,6.5nm,0.7s,baz=296,slow=9.0,SNR=3.9						
FITZ	**Fitzroy Crossi**	**37.69**	**127**	P	**P**	**17 18 12.6**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=79,slow=6.5,SNR=4.1						
FITZ	**Fitzroy Crossi**	**37.69**	**127**	P	**P**	**17 18 12.3**	**-0.9**
FITZ				IAmb	IAmb	17 18 12.8	
	comp=Z,2.6nm,0.9s						
JOW	**Kunigami**	**39.32**	**51**	P	**P**	**17 18 26.8**	**0.0**
TARG	**Taragay, Kyrgy**	**40.41**	**340**	P	**P**	**17 18 36.0**	**-0.1**
KDJ	**Kajisay**	**40.97**	**340**	P	**P**	**17 18 41.6**	**+1.1**
GAR	**Garm**	**41.19**	**331**	P	**P**	**17 18 42.5**	**+0.2**
GAR				IAmb	IAmb	17 18 43.4	
	comp=Z,12nm,1.3s						
CHGR	**Chuyangaron**	**41.50**	**329**	P	**P**	**17 18 45.0**	**+0.2**
CHGR				IAmb	IAmb	17 18 45.6	
	comp=Z,6.7nm,0.7s						
BTK	**Batken**	**41.78**	**332**	P	**P**	**17 18 47.7**	**+0.6**
BTK				IAmb	IAmb	17 18 50.1	
	comp=Z,3.8nm,0.5s						
MK31	**Makanchi Array**	**43.88**	**348**	P	**P**	**17 19 04.3**	**+0.3**
MK31				IAmb	IAmb	17 19 18.4	
	comp=Z,5.5nm,0.8s						
MKAR	**Makanchi Array**	**43.88**	**348**	P	**P**	**17 19 04.5**	**+0.6**
	comp=Z,5.1nm,0.4s,baz=162,slow=7.9,SNR=114						
MKAR	**Makanchi Array**	**43.88**	**348**	P	**P**	**17 19 04.1**	**+0.2**
MAKZ	**Makanchi**	**43.96**	**347**	P	**P**	**17 19 04.8**	**+0.2**
KKAR	**Karatay Array**	**44.37**	**335**	P	**P**	**17 19 08.6**	**+0.7**
SONM	**Songino Array**	**44.76**	**11**	P	**P**	**17 19 11.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=192,slow=7.6,SNR=4.8						
SONM				PcP	**PcP**	**17 20 53.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=218,slow=2.0,SNR=3.0						
SONM	**Songino Array**	**44.76**	**11**	P	**P**	**17 19 12.7**	**+1.6**
WB0	**Warramunga Arr**	**45.70**	**123**	P	**P**	**17 19 18.1**	**-0.7**
WB0				IAmb	IAmb	17 19 19.0	
	comp=Z,3.3nm,0.6s						
WRA	**Warramunga Arr**	**45.74**	**123**	P	**P**	**17 19 19.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=300,slow=9.1,SNR=7.8						
WRA	**Warramunga Arr**	**45.74**	**123**	P	**P**	**17 19 19.4**	**+0.2**
WRAB	**Tennant Creek**	**45.74**	**123**	P	**P**	**17 19 18.8**	**-0.4**
WB2	**Warramunga Arr**	**45.75**	**123**	P	**P**	**17 19 19.3**	**+0.1**
WB2				IAmb	IAmb	17 19 19.8	
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**45.91**	**123**	P	**P**	**17 19 19.9**	**-0.6**
WR0				IAmb	IAmb	17 19 21.3	
	comp=Z,3.7nm,0.8s						
ASAR	**Alice Springs**	**47.17**	**128**	P	**P**	**17 19 30.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=300,slow=7.6,SNR=26						
ASAR				PcP	**PcP**	**17 21 01.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.5,SNR=4.1						
ASAR	**Alice Springs**	**47.17**	**128**	P	**P**	**17 19 26.2**	**-4.2**
AS31	**Alice Springs**	**47.17**	**128**	P	**P**	**17 19 27.8**	**-2.5**
KURBB	**Kurchatov Arra**	**48.33**	**346**	P	**P**	**17 19 39.6**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=170,slow=6.8,SNR=42						
KURK	**Kurchatov**	**48.40**	**346**	P	**P**	**17 19 39.1**	**-0.2**
KURK				IAmb	IAmb	17 19 40.5	
	comp=Z,2.6nm,0.6s						
ZAA0	**Zalesovo Array**	**50.37**	**352**	P	**P**	**17 19 54.4**	**+0.1**
ZALV	**Zalesovo Beam**	**50.37**	**352**	P	**P**	**17 19 54.7**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=184,slow=7.0,SNR=32						
ZALV	**Zalesovo Beam**	**50.37**	**352**	P	**P**	**17 19 53.8**	**-0.5**
BVAR	**Borovoye Array**	**52.73**	**342**	P	**P**	**17 20 12.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=73,slow=17,SNR=9.6						
BRVK	**Borovoye**	**52.79**	**342**	P	**P**	**17 20 12.5**	**+0.1**
BRVK				IAmb	IAmb	17 20 16.0	
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**53.79**	**332**	P	**P**	**17 20 20.3**	**+0.4**
ABKAR	**Akbulak array**	**53.79**	**332**	P	**P**	**17 20 20.2**	**+0.3**
ABKAR				IAmb	IAmb	17 20 21.6	
	comp=Z,5.6nm,0.9s						
AKTO	**Aktyubinsk**	**55.51**	**332**	P	**P**	**17 20 32.8**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=124,slow=8.5,SNR=7.2						
BR131	**Keskin Array S**	**65.29**	**312**	P	**P**	**17 21 40.0**	**+0.4**
BRTR	**Keskin Array B**	**65.29**	**312**	P	**P**	**17 21 40.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=141,slow=6.5,SNR=4.8						
NRIK	**Noril'sk**	**65.34**	**357**	P	**P**	**17 21 39.1**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=193,slow=3.8,SNR=5.5						
NRIK	**Noril'sk**	**65.34**	**357**	P	**P**	**17 21 38.8**	**-0.3**
NRIK				IAmb	IAmb	17 21 39.2	
	comp=Z,1.9nm,0.7s						
AKASG	**Malin Array Be**	**71.43**	**322**	P	**P**	**17 22 17.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=89,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**71.43**	**322**	IAmb	IAmb	17 22 24.1	
	comp=Z,1.2nm,1.2s						
FINES	**FINESS Array B**	**76.28**	**333**	P	**P**	**17 22 46.1**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=98,slow=6.2,SNR=10						
ARCES	**ARCESS Array B**	**78.98**	**340**	P	**P**	**17 23 01.1**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=68,slow=3.3,SNR=5.8						
ARCES	**ARCESS Array B**	**78.98**	**340**	IAmb	IAmb	17 23 06.6	
	comp=Z,21nm,1.4s						
GERES	**GERESS Array B**	**80.97**	**319**	P	**P**	**17 23 12.9**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=73,slow=9.9,SNR=6.3						
CLL	**Collm**	**81.60**	**321**	*e*P	**P**	**17 23 18.0**	**+2.8**
DAVOX	**Davos/Dischmat**	**83.45**	**316**	P	**P**	**17 23 26.2**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=99,slow=22,SNR=4.1						
PDAR	**Pinedale Array**	**128.49**	**23**	PKP	**PKiKP**	**17 30 05.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=310,slow=0.7,SNR=2.7						

WEL 10 17:40:21.0±1.1**, 36°S**±10°×**17°8E**±1°0**, h201**km±12km**, M3.5**/14**, ML3.9**/14**, MLv3.5**/14**, Error ellipse: s-maj=0.0km s-min=0.0km az=49.9, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.36**	**166**	P	Pn	17 40 53.9	+0.4
MXZ				S	S	17 41 18.9	+0.4
HAZ	**Te Kaha**	**1.51**	**183**	P	Pn	17 40 54.7	-0.1
HAZ				S	S	17 41 21.3	+0.5
PKGZ	**Pakihiroa**	**1.65**	**175**	P	Pn	17 40 56.5	+0.4
PKGZ				S	S	17 41 24.2	+1.0
RUGZ	**Raukumara Rang**	**1.73**	**186**	P	Pn	17 40 56.4	-0.5
KUZ	**Kuaotunu**	**1.82**	**253**	P	Pn	17 40 57.7	+0.1
PUZ	**Puketiti**	**1.85**	**171**	P	Pn	17 40 58.2	+0.2
PUZ				S	S	17 41 26.9	+0.4
OPRZ	**Ohinepanea**	**1.92**	**213**	P	Pn	17 40 58.4	-0.3
TWGZ	**Tauwhareparae**	**1.93**	**178**	P	Pn	17 40 59.7	+0.9
TWGZ				S	S	17 41 30.5	+2.5
GRZ	**Great Barrier**	**1.96**	**269**	P	Pn	17 40 59.1	-0.1
URZ	**Urewera**	**2.11**	**197**	P	Pn	17 41 00.2	-0.4
URZ				S	S	17 41 32.0	+1.0
MWZ	**Matawai**	**2.11**	**188**	P	Pn	17 41 00.4	-0.3
TKGZ	**Te Karaka**	**2.19**	**181**	P	Pn	17 41 01.6	+0.1
TKGZ				S	S	17 41 33.0	+0.3
CNGZ	**Carnagh Statio**	**2.25**	**174**	P	Pn	17 41 02.6	+0.4
RAGZ	**Rawiri**	**2.28**	**189**	P	Pn	17 41 02.8	+0.2
RAGZ				S	S	17 41 35.8	+1.3
MUGZ	**Murupara**	**2.40**	**201**	P	Pn	17 41 03.4	-0.4
TOZ	**Tahuroa Road**	**2.42**	**231**	P	Pn	17 41 04.9	+0.9
RIGZ	**Rimuhau**	**2.46**	**182**	P	Pn	17 41 04.3	-0.2
RIGZ				S	S	17 41 39.2	+1.2
RTZ	**Ruatahuna**	**2.48**	**197**	P	Pn	17 41 03.9	-0.8
RTZ				S	S	17 41 39.2	+1.0
SNGZ	**Shannon Statio**	**2.57**	**190**	P	Pn	17 41 05.4	-0.3
PRGZ	**Paritu Road**	**2.68**	**180**	P	Pn	17 41 06.7	-0.1
MTHZ	**Maungataniwha**	**2.73**	**197**	P	Pn	17 41 06.8	-0.8
RAHZ	**Arahi**	**2.75**	**193**	P	Pn	17 41 07.4	-0.3
KNZ	**Kokohu**	**2.78**	**183**	P	Pn	17 41 07.2	-0.8
MRHZ	**Matea Rd**	**2.84**	**204**	P	Pn	17 41 08.1	-0.6
WHHZ	**Waihua**	**2.88**	**190**	P	Pn	17 41 09.8	+0.6
WCZ	**Waipu Caves**	**2.89**	**275**	P	Pn	17 41 09.3	0.0
MHGZ	**Mahia Peninsul**	**2.91**	**180**	P	Pn	17 41 09.4	-0.1
NMHZ	**Naumai**	**2.98**	**196**	P	Pn	17 41 10.3	-0.1
ARHZ	**Aropaoanui**	**3.10**	**193**	P	Pn	17 41 11.2	-0.5
BKZ	**Black Stump Fm**	**3.12**	**200**	P	Pn	17 41 10.9	-1.2
HIZ	**Hauiti**	**3.31**	**226**	P	Pn	17 41 15.3	+1.0
MCHZ	**McNeill Hill**	**3.33**	**196**	P	Pn	17 41 14.0	-0.6
TMVZ	**Te Maari**	**3.35**	**210**	P	Pn	17 41 14.6	-0.3
ETVZ	**East Tongariro**	**3.37**	**210**	P	Pn	17 41 14.4	-0.7
KWHZ	**Kaweka Forest**	**3.38**	**200**	P	Pn	17 41 14.0	-1.2
TWVZ	**Taurewa**	**3.43**	**214**	P	Pn	17 41 15.1	-0.7
CKHZ	**Cape Kidnapper**	**3.47**	**190**	P	Pn	17 41 15.5	-0.7
TUVZ	**Tukino**	**3.50**	**210**	P	Pn	17 41 15.7	-1.1
BHHZ	**Black Hill Sta**	**3.55**	**203**	P	Pn	17 41 15.6	-1.6
WNVZ	**Wahianoa**	**3.57**	**210**	P	Pn	17 41 16.4	-1.2
MOVZ	**Moawhango**	**3.58**	**208**	P	Pn	17 41 15.9	-1.7
KRHZ	**Kereru**	**3.60**	**199**	P	Pn	17 41 16.1	-1.7
KAHZ	**Kahuranaki**	**3.63**	**192**	P	Pn	17 41 17.1	-1.2
PKVZ	**Pokaka**	**3.65**	**213**	P	Pn	17 41 17.5	-0.9
MTVZ	**Mangateitei**	**3.67**	**211**	P	Pn	17 41 17.5	-1.3
PXZ	**Pawanui**	**3.87**	**192**	P	Pn	17 41 19.3	-1.8
PNHZ	**Pukenui**	**3.90**	**199**	P	Pn	17 41 19.4	-2.1
WPHZ	**Waipukurau**	**3.98**	**196**	P	Pn	17 41 20.5	-2.1
TSZ	**Takapari Road**	**4.10**	**201**	P	Pn	17 41 21.5	-2.6
PRHZ	**Porangahau**	**4.14**	**193**	P	Pn	17 41 22.4	-2.0
DVHZ	**Dannevirke**	**4.27**	**198**	P	Pn	17 41 23.4	-2.7
POWZ	**Post Office Ro**	**4.47**	**201**	P	Pn	17 41 26.1	-2.4
PRWZ	**Pori Road**	**4.56**	**199**	P	Pn	17 41 27.3	-2.5
BFZ	**Birch Farm**	**4.62**	**196**	P	Pn	17 41 27.7	-2.8
MRZ	**Mangatainoka R**	**4.77**	**202**	P	Pn	17 41 29.1	-3.3
TIWZ	**Tintock**	**4.79**	**199**	P	Pn	17 41 29.9	-2.8
HOWZ	**Holdsworth Sta**	**5.01**	**201**	P	Pn	17 41 31.8	-3.6
OGWZ	**Otaki Gorge**	**5.04**	**204**	P	Pn	17 41 32.4	-3.4
TMWZ	**Te Maipa**	**5.10**	**197**	P	Pn	17 41 31.2	-5.4
KIW	**Kapiti Island**	**5.17**	**206**	P	Pn	17 41 33.5	-4.0
MTW	**Mount Morrison**	**5.25**	**200**	P	Pn	17 41 34.7	-3.9
CAW	**Cannon Point**	**5.34**	**204**	P	Pn	17 41 35.6	-4.0
TCW	**Tory Channel**	**5.71**	**209**	P	Pn	17 41 39.7	-4.6
TUWZ	**Tuamarina**	**6.03**	**210**	P	Pn	17 41 43.9	-4.6
THZ	**Tophouse**	**6.74**	**214**	P	Pn	17 41 54.0	-3.8
LTZ	**Lake Taylor**	**7.84**	**212**	P	Pn	17 42 07.2	-4.9

*DDA **10** 17:49:17.3±0.0, 40°54N×30°63E, h10km±1km, MW3.5*
*ISK **10** 17:49:17.5, 40°55N×30°64E, h7km, ML3.5/32*
*IDC **10** 17:49:18.3±1.1, 40°72N×30°91E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.3/42, mbtmp3.6/5, ML3.3/3, MS2.1/1, Ms1 2.1/1, ms1mx1.8/90, Error ellipse: s-maj=23.0km s-min=7.5km az=44.0*
ISC 10 17:49:17.9±0.9**, 40°56N**±0°02×**30°64E**±0°01**, h8**km±7km**, n96, σ1§10**/133**, mb3.4**/3**, 14C-11D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTAS	**Taskesti**	**0.27**	**87**	P	**Pg**	**17 49 23.5**	**+0.1**
BTAS				S	**Sg**	**17 49 27.5**	**+0.5**
BTAS				*i* AML	AML	17 49 28.0	
	comp=E,10μm,0.5s						
BTAS				*i* AML	AML	17 49 28.0	
	comp=N,2μm,0.6s						
GEYV	**SAKARYA_Geyve**	**0.27**	**255**	P	**Pg**	**17 49 22.7**	**-0.7**
GEYV				S	**Sg**	**17 49 27.3**	**+0.2**
GEYV				*i* AML	AML	17 49 28.0	
	comp=N,9μm,0.4s						
GEYV				*i* AML	AML	17 49 28.0	
	comp=E,4μm,0.8s						
SAUV	**Serdivan-Sakar**	**0.30**	**307**	PG	**Pg**	**17 49 23.9**	**0.0**
SAUV				SG	**Sg**	**17 49 28.7**	**+0.8**
SAHE	**Sakarya_HENDEK**	**0.34**	**28**	P	**Pg**	**17 49 24.5**	**0.0**
SAHE				S	**Sg**	**17 49 28.9**	**-0.1**
SAHE				*i* AML	AML	17 49 31.0	
	comp=N,2μm,0.8s						
SAHE				*i* AML	AML	17 49 31.0	
	comp=E,2μm,0.3s						
GPA	**Golpazari**	**0.37**	**224**	PG	**Pg**	**17 49 24.7**	**-0.5**
GPA				SG	**Sg**	**17 49 29.9**	**-0.1**
MDUB	**Mudurnu**	**0.43**	**101**	PG	**Pg**	**17 49 26.7**	**+0.4**
MDUB				SG	**Sg**	**17 49 32.8**	**+0.8**
KAYN	**Sakarya, Kayna**	**0.47**	**331**	P	**Pg**	**17 49 27.2**	**+0.2**
KAYN				S	**Sg**	**17 49 33.8**	**+0.6**
KAYN				*i* AML	AML	17 49 34.0	
	comp=E,1μm,0.5s						
KAYN				*i* AML	AML	17 49 34.0	
	comp=N,1μm,0.4s						
SRCK	**Saricakaya, Es**	**0.51**	**181**	PG	**Pg**	**17 49 27.9**	**0.0**
KAND	**Kocaeli-Kandir**	**0.64**	**328**	P	**Pg**	**17 49 30.0**	**-0.2**
KAND				S	**Sg**	**17 49 38.0**	**-0.5**
KAND				*i* AML	AML	17 49 41.0	
	comp=E,926nm,0.4s						
KAND				*i* AML	AML	17 49 41.0	
	comp=N,804nm,0.3s						
BILE	**Bilecik/Merkez**	**0.71**	**236**	P	**Pg**	**17 49 31.1**	**-0.5**
BILE				S	**Sb**	**17 49 42.7**	**+0.3**
BILE				*i* AML	AML	17 49 43.0	
	comp=E,1μm,0.5s						
YIGI	**Dzce**	**0.73**	**56**	P	**Pg**	**17 49 31.6**	**-0.5**
YIGI				S	**Sg**	**17 49 41.8**	**+0.2**
YIGI				*i* AML	AML	17 49 42.0	
	comp=E,627nm,0.5s						
YIGI				*i* AML	AML	17 49 45.0	
	comp=N,587nm,0.4s						
HRT	**Hereke**	**0.79**	**290**	PG	**Pg**	**17 49 32.7**	**-0.4**
YUVA	**Yuva-Kibriscik**	**0.81**	**101**	PG	**Pb**	**17 49 33.9**	**-0.5**
IZI	**Iznik**	**0.92**	**257**	PG	**Pb**	**17 49 35.9**	**-0.2**
KIBS	**BOLU**	**0.93**	**98**	P	**Pb**	**17 49 36.2**	**-0.2**
SILT	**Sile**	**0.96**	**308**	PG	**Pb**	**17 49 36.7**	**-0.2**
YLV	**Yalova**	**0.97**	**271**	PG	**Pb**	**17 49 36.4**	**-0.6**
KDZE	**Karadeniz Ereo**	**0.97**	**38**	⇓P	**Pg**	**17 49 35.6**	**-1.0**
KDZE				⇑S	**Sg**	**17 49 47.9**	**-1.2**
KDZE	**Karadeniz Ereo**	**0.97**	**38**	PG	**Pb**	**17 49 36.9**	**-0.1**
SGAZ	**Eskisehir, Sey**	**1.04**	**172**	P	**Pg**	**17 49 37.1**	**-0.7**
SGAZ				S	**Sb**	**17 49 52.1**	**+0.2**
ESKT	**Eskisehir**	**1.05**	**171**	PG	**Pb**	**17 49 37.9**	**-0.5**
TUZL	**Tuzla-Istanbul**	**1.08**	**284**	P	**Pg**	**17 49 38.1**	**-0.6**
KURT	**Yalova, Merkez**	**1.09**	**272**	P	**Pg**	**17 49 38.0**	**-0.9**
KURT				P	**Pb**	**17 49 38.5**	**-0.5**
KURT				S	**Sn**	**17 49 53.7**	**-1.1**
KURT				*i* AML	AML	17 49 57.0	
	comp=N,762nm,0.3s						
BCAM	**Yenicaga**	**1.11**	**76**	P	**Pg**	**17 49 38.5**	**-0.8**
BCAM				S	**Sg**	**17 49 52.4**	**-1.4**
BCAM				*i* AML	AML	17 49 57.0	
	comp=E,136nm,0.4s						
BCAM				*i* AML	AML	17 50 00.0	
	comp=N,237nm,0.5s						
GEMT	**Gemlik**	**1.12**	**264**	PN	**Pb**	**17 49 39.1**	**-0.3**
TRML	**Termal-Yalova**	**1.12**	**273**	PN	**Pn**	**17 49 39.3**	**-0.6**
IGD	**Bursa**	**1.14**	**256**	P	**Pg**	**17 49 38.8**	**-1.0**
IGD				S	**Sb**	**17 49 54.5**	**-0.3**
IGD				*i* AML	AML	17 49 58.0	
	comp=N,458nm,0.4s						
IGD				*i* AML	AML	17 49 58.0	
	comp=E,966nm,0.7s						
STBT	**Saitabat**	**1.15**	**249**	P	**Pg**	**17 49 38.2**	**-1.8**
STBT				S	**Sn**	**17 49 56.7**	**+0.4**
STBT				*i* AML	AML	17 50 03.0	
	comp=N,1μm,0.5s						
AVDN	**Avdancik/Bursa**	**1.16**	**257**	P	**Pg**	**17 49 39.2**	**-1.0**
AVDN				S	**Sn**	**17 49 55.8**	**-0.7**
AVDN				*i* AML	AML	17 49 59.0	
	comp=E,830nm,0.4s						
AVDN				*i* AML	AML	17 50 03.0	
	comp=N,624nm,0.6s						
DEVR	**Zonguldak/Devr**	**1.17**	**59**	P	**Pg**	**17 49 38.9**	**-1.4**
DEVR				S	**Sg**	**17 49 53.4**	**-2.0**
DEVR				*i* AML	AML	17 49 54.0	
	comp=N,27nm,0.2s						
DEVR				*i* AML	AML	17 49 58.0	
	comp=E,374nm,0.4s						
ANDZ	**Kutahya, Merke**	**1.19**	**209**	P	**Pg**	**17 49 39.7**	**-1.1**
ANDZ				S	**Sb**	**17 49 56.0**	**-0.4**
ANDZ				*i* AML	AML	17 49 59.0	
	comp=N,670nm,0.6s						
ANDZ				*i* AML	AML	17 49 59.0	
	comp=E,880nm,0.5s						
ULDT	**Uludag**	**1.22**	**251**	P	**Pg**	**17 49 40.3**	**-1.1**
ULDT				S	**Sn**	**17 49 57.3**	**-1.0**
ULDT				*i* AML	AML	17 50 01.0	
	comp=N,1μm,0.5s						
CIFT	**Cifteler, Eski**	**1.24**	**165**	PN	**Pn**	**17 49 41.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.30**	**148**	PN	**Pg**	**17 49 42.8**	**0.0**
KAVV	**Kandilli-Istan**	**1.30**	**293**	PN	**Pg**	**17 49 42.8**	**-0.1**
ISK	**Istanbul-Kandi**	**1.30**	**293**	PN	**Pg**	**17 49 42.6**	**-0.4**
AUSIV	**SIVRIHISAR**	**1.31**	**148**	P	**Pn**	**17 49 42.1**	**-0.5**
AUSIV				S	**Sg**	**17 49 59.5**	**-0.6**
AUSIV				*i* AML	AML	17 50 04.0	
	comp=N,346nm,0.3s						
AUSIV				*i* AML	AML	17 50 05.0	
	comp=E,231nm,0.4s						
CMDR	**Camlidere-ANKA**	**1.40**	**92**	P	**Pb**	**17 49 44.1**	**-0.3**
CMDR				S	**Sb**	**17 50 02.2**	**-0.1**
CMDR				*i* AML	AML	17 50 12.0	
	comp=N,473nm,0.6s						
KLYT	**Kilyos**	**1.40**	**300**	PN	**Pb**	**17 49 44.0**	**-0.3**
YYLC	**Yaylacik**	**1.42**	**260**	P	**Pn**	**17 49 43.5**	**-0.4**
YYLC				S	**Sg**	**17 50 04.4**	**+0.9**
YYLC				*i* AML	AML	17 50 06.0	
	comp=N,851nm,0.4s						
YYLC				*i* AML	AML	17 50 08.0	
	comp=E,967nm,0.7s						
ORLT	**Orhaneli**	**1.43**	**250**	PN	**Pg**	**17 49 44.8**	**-0.5**
TVSB	**Tavsanli**	**1.43**	**220**	PN	**Pb**	**17 49 44.3**	**-0.6**
AVCI	**Avcilar-stanb**	**1.52**	**287**	PN	**Pb**	**17 49 45.7**	**-0.7**
BGKT	**Bogazkoy**	**1.55**	**294**	PN	**Pn**	**17 49 45.9**	**+0.1**
BTIN	**Bartın**	**1.62**	**48**	P	**Pn**	**17 49 46.8**	**0.0**
BTIN				P	**Pn**	**17 49 46.8**	**0.0**
BTIN				S	**Sn**	**17 50 07.8**	**-0.1**
BTIN				*i* AML	AML	17 50 14.0	
	comp=N,308nm,0.3s						
KBUK	**KARABUK-Merkez**	**1.65**	**65**	P	**Pb**	**17 49 47.9**	**-0.7**
KBUK				S	**Sn**	**17 50 08.6**	**0.0**
KBUK				*i* AML	AML	17 50 18.0	
	comp=E,207nm,0.9s						
SAFT	**Safranbolu**	**1.69**	**66**	PN	**Pn**	**17 49 48.1**	**+0.3**
LOD	**Lodumlu**	**1.75**	**112**	PN	**Pn**	**17 49 48.9**	**+0.2**
CTKS	**Kestanelik-??a**	**1.76**	**293**	PN	**Pn**	**17 49 48.9**	**+0.3**
ELBA	**Catalca**	**1.78**	**290**	P	**Pn**	**17 49 48.9**	**-0.1**
ELBA				S	**Sn**	**17 50 10.8**	**-0.9**
ELBA				*i* AML	AML	17 50 13.0	
	comp=E,216nm,0.8s						
ELBA				*i* AML	AML	17 50 14.0	
	comp=N,180nm,0.6s						
ANTO	**Ankara**	**1.78**	**112**	PN	**Pb**	**17 49 50.5**	**-0.4**
GEDZ	**Gediz**	**1.78**	**213**	PN	**Pb**	**17 49 49.5**	**-1.4**
DST	**Dursunbey**	**1.82**	**239**	PN	**Pb**	**17 49 50.3**	**-1.2**
SHAP	**Saphane-Kutahy**	**1.88**	**216**	PN	**Pb**	**17 49 51.3**	**-1.3**
KIZT	**Kizilcal**	**1.93**	**150**	PN	**Pn**	**17 49 51.6**	**+0.5**
SMAA	**Simav-Kutahya**	**1.94**	**222**	PN	**Pn**	**17 49 51.5**	**+0.3**
SIMA	**Simav-Kutahya**	**1.95**	**222**	PN	**Pn**	**17 49 51.8**	**+0.4**
SHUT	**Suhut-Afyon**	**2.00**	**182**	PN	**Pn**	**17 49 52.5**	**+0.4**
KURC	**Kurucasile-Bar**	**2.04**	**50**	PN	**Pn**	**17 49 53.1**	**+0.6**
PELI	**Kastamonı-Ara**	**2.15**	**69**	P	**Pb**	**17 49 57.9**	**+0.7**
BBAL	**Bala**	**2.16**	**117**	P	**Pg**	**17 49 58.9**	**-0.4**
AFSR	**Afar-Bala (An**	**2.17**	**120**	PN	**Pn**	**17 49 54.9**	**+0.5**
USAK	**Uak-Merkez**	**2.23**	**215**	P	**Pn**	**17 49 54.9**	**-0.3**
CANT	**Cankiri**	**2.27**	**88**	PN	**Pn**	**17 49 56.5**	**+0.8**
KDHN	**Kadinhani**	**2.33**	**150**	P	**Pn**	**17 49 56.4**	**-0.2**
VIZE	**Kirklareli, Vi**	**2.35**	**297**	P	**Pn**	**17 49 56.4**	**-0.5**
VIZE				S	**Sn**	**17 50 25.6**	**-0.3**
BRTR	**Keskin Array B**	**2.44**	**109**	Pn	**Pn**	**17 49 58.8**	**+0.6**
	1.0nm,0.3s,baz=297,slow=13,SNR=23						
BRTR				Pg	**Pb**	**17 50 01.5**	**-0.7**
	1.5nm,0.3s,baz=286,slow=14,SNR=20						
BRTR				Lg	Lg	17 50 32.9	
	2.6nm,0.3s,baz=284,slow=18,SNR=4.3						
BRTR				LR	LR	17 50 49.7	
	comp=Z,40nm,18.5s,baz=243,slow=40						
BRTR	**Keskin Array B**	**2.44**	**109**	PN	**Pn**	**17 49 58.8**	**+0.6**
STEP	**BALIKESIR_Sava**	**2.54**	**243**	P	**Pg**	**17 50 05.5**	**-1.0**
DELI	**KIRIKKALE**	**2.57**	**101**	P	**Pn**	**17 49 59.9**	**0.0**
KAMT	**Kaman**	**2.64**	**116**	PN	**Pn**	**17 50 01.6**	**+0.7**
BZK	**Bozkurt**	**2.90**	**60**	⇑P	**Pb**	**17 50 07.1**	**-2.6**
KIRK	**Kırklareli**	**2.94**	**296**	P	**Pn**	**17 50 04.7**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**3.24**	**257**	P	**Pn**	**17 50 10.6**	**+1.5**
KALB	**Balgarevo**	**3.30**	**330**	⇓P	**Pn**	**17 50 11.0**	**+1.3**
KALB				⇓S	**Sn**	**17 50 49.6**	**+0.4**
ICOR	**Ion Corvin**	**4.13**	**330**	⇑P	**Pn**	**17 50 22.5**	**+1.2**
ICOR				⇓S	**Sn**	**17 51 09.6**	**-0.2**
TIRR	**Tirgusor**	**4.23**	**338**	⇑P	**Pn**	**17 50 23.8**	**+1.1**
TIRR				⇓S	**Sn**	**17 51 10.9**	**-1.3**
HARR	**Harsova**	**4.59**	**335**	⇓P	**Pn**	**17 50 28.3**	**+0.8**
TPGR	**Topolog**	**4.60**	**340**	⇓P	**Pn**	**17 50 28.5**	**+0.8**
TPGR				⇑S	**Sn**	**17 51 19.8**	**-1.5**
TLCR		**4.82**	**344**	⇑P	**Pn**	**17 50 31.2**	**+0.5**
CFR	**Carcaliu**	**4.97**	**339**	⇓P	**Pn**	**17 50 33.5**	**+0.7**
CFR				⇓S	**Sn**	**17 51 30.1**	**-0.3**
VLDR	**Vladesti**	**5.61**	**341**	⇓P	**Pn**	**17 50 43.6**	**+2.1**
MLR	**Muntele Rosu**	**6.01**	**327**	⇑P	**Pn**	**17 50 49.7**	**+2.5**
MLR	**Muntele Rosu**	**6.01**	**327**	Pn	**Pn**	**17 50 49.1**	**+1.8**
	0.5nm,0.3s,baz=153,slow=16,SNR=5.4						
MLR				Sn	**Sn**	**17 51 57.2**	**+0.9**
	0.8nm,0.3s,baz=76,slow=19,SNR=1.8						
VRI	**Vrincioaia**	**6.03**	**333**	⇑P	**Pn**	**17 50 49.2**	**+1.9**
PLOR	**Plostina**	**6.04**	**332**	⇓P	**Pn**	**17 50 49.6**	**+2.0**
COVR	**Voineasa-Covas**	**6.20**	**330**	⇑P	**Pn**	**17 50 52.0**	**+2.3**
VOIR		**6.37**	**322**	⇑P	**Pn**	**17 50 53.7**	**+1.6**
ARR	**Arges**	**6.52**	**319**	⇑P	**Pn**	**17 50 54.8**	**+0.7**
TESR	**Tescani**	**6.62**	**335**	⇑P	**Pn**	**17 50 56.2**	**+0.7**
SORM	**Soroca**	**7.75**	**349**	⇑P	**Pn**	**17 51 10.4**	**-0.6**
BURAR	**Bucovina Array**	**8.06**	**333**	⇑P	**Pn**	**17 51 16.7**	**+1.4**
AKASG	**Malin Array Be**	**10.19**	**355**	Pn	**Pn**	**17 51 42.7**	**-1.7**
	1.4nm,0.3s,baz=177,slow=12,SNR=9.7						
AKASG				Sn	**Sn**	**17 53 32.5**	**-6.3**
	1.2nm,0.3s,baz=180,slow=22,SNR=5.3						
FINES	**FINESS Array B**	**21.10**	**354**	P	**P**	**17 54 01.2**	**-1.4**
	1.5nm,0.9s,baz=172,slow=11,SNR=2.5						
MDT	**Midelt**	**29.16**	**266**	P	**P**	**17 55 23.5**	**+3.8**
	4.1nm,0.7s,baz=83,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**37.30**	**63**	P	**P**	**17 56 30.3**	**-0.1**
	0.2nm,0.5s,baz=267,slow=7.6,SNR=2.4						

*BJI **10** 17:56:20.5±0.0, 4°40S×153°60E, h111km, mb4.6/24, mB5.0/11*
*NEIC **10** 17:56:20.7±1.6, 4°38S±0°08×153°64E±0°05, h92km±5km, mb4.8/52, Error ellipse: s-maj=11.8km s-min=7.2km az=189.0*
*IDC **10** 17:56:22.1±1.6, 4°43S×153°57E, h108km±14km, mb4.2/15, mb1 4.3/18, mb1mx4.1/41, mbtmp4.5/18, MS3.1/6, Ms1 3.1/6, ms1mx2.8/56, Error ellipse: s-maj=13.7km s-min=10.1km az=109.0*
*DJA **10** 17:56:22.1±0.6, 4°S±5°×15°4E±°, h114km±4km, M5.0/31, mB5.3/6, mb4.8/31, MLv5.2/2, Mw(mB)4.7/6*
ISC 10 17:56:19.6±0.4**, 4°37S**±0°05×**153°57E**±0°06**, h85**km**, n164, σ1§09**/166**, mb4.8**/60**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.41**	**277**		**Pn**	**17 56 46.8**	**+2.7**
RABL	**Rabaul**	**1.41**	**277**	P	**Pn**	**17 56 47.1**	**+3.1**
HNR	**Honiara**	**8.08**	**129**	P	**Pn**	**17 58 18.3**	**+4.0**
	3.1nm,0.3s,baz=228,slow=3.4,SNR=5.0						
HNR				S	**Sn**	**17 59 44.8**	**+0.7**
	25nm,0.3s,baz=217,slow=20,SNR=3.3						
HNR	**Honiara**	**8.08**	**129**		**Pn**	**17 58 13.6**	**-0.7**
HNR	**Honiara**	**8.08**	**129**	P	Pn	17 58 19.2	+4.9
PMG	**Port Moresby**	**8.09**	**231**	P	**Pn**	**17 58 16.7**	**+2.3**
	50nm,0.3s,baz=63,slow=6.6,SNR=131						
PMG				S	**Sn**	**17 59 46.3**	**+1.9**
	18nm,0.3s,baz=132,slow=23,SNR=24						
PMG	**Port Moresby**	**8.09**	**231**	Pn	**Pn**	**17 58 16.4**	**+2.0**
PMG	**Port Moresby**	**8.09**	**231**	P	**Pn**	**17 58 16.7**	**+2.3**
PMG	**Port Moresby**	**8.09**	**231**	P	**Pn**	**17 58 16.6**	**+2.2**
PATS	**Pohnpei**	**12.10**	**23**	Pn	**Pn**	**17 59 09.3**	**+0.4**
JAY	**Jayapura**	**12.97**	**278**	P	**P**	**17 59 27.5**	**-0.6**
	2.6nm,0.3s,baz=78,slow=6.1,SNR=7.0						
COEN	**Coen**	**13.99**	**226**	Pn	**Pn**	**17 59 35.3**	**+1.2**
COEN	**Coen**	**13.99**	**226**	P	**Pn**	**17 59 35.7**	**+1.6**
SMPI	**Sarmi**	**15.02**	**279**	P	**Pn**	**17 59 48.9**	**+1.5**

28nm,0.7s
MTSU Mount Surprise 16.40 213 P P 18 00 06.5 +0.4
CTA Charters Tower 17.17 204 P P 18 00 16.8 +2.2
0.2nm,0.3s,baz=20,slow=12,SNR=1.7
CTA LR LR 18 06 10.7
comp=Z,94nm,18.4s,baz=24,slow=34
SRPI Serui, Papua 17.48 278 P **Pn 18 00 19.4 +1.4**
21nm,0.5s
BAKI Biak 17.72 280 P P 18 00 20.3 -0.4
RK1H Rockhampton Ha 19.14 189 P Pn 18 00 38.0 +0.2
GUMO Guam 19.82 334 LR LR 18 07 35.3
comp=Z,20nm,20.0s,baz=110,slow=34
EIDS Eidsvold 21.02 186 P P 18 00 57.0 +0.6
QIS Mount Isa 21.06 219 P P 18 00 57.2 +0.2
KDU Kakadu 22.42 247 P P 18 01 11.0 -0.6
RMQ Roma 22.47 191 P P 18 01 13.2 +1.3
SIJI Sorong 22.55 278 P **P 18 01 13.2 +0.2**
18nm,0.5s,baz=82,slow=13,SNR=17
SIJI LR LR 18 09 13.0
comp=Z,62nm,20.4s,baz=192,slow=34
SWI Sorong 22.55 278 P **P 18 01 12.8 -0.2**
32nm,0.6s
QLP Quilpie 23.82 201 P P 18 01 25.2 +0.3
WB0 Warramunga Arr 24.16 229 P P 18 01 28.0 0.0
WB0 IAmb IAmb 18 01 29.5
comp=Z,36nm,0.6s
WR0 Warramunga Arr 24.16 229 P P 18 01 28.0 -0.1
WR0 IAmb IAmb 18 01 29.6
comp=Z,27nm,0.8s
WRAB Tennant Creek 24.29 229 P P 18 01 29.3 +0.1
WRAB IAmb IAmb 18 01 30.7
comp=Z,34nm,0.6s
WRAB Tennant Creek 24.29 229 P P 18 01 29.4 +0.2
WB2 Warramunga Arr 24.29 229 P P 18 01 29.1 -0.1
WB2 IAmb IAmb 18 01 30.9
comp=Z,36nm,0.6s
WRA Warramunga Arr 24.30 229 P P 18 01 29.3 -0.1
comp=Z,31nm,0.5s,baz=54,slow=10.0,SNR=99
WRA PcP **PcP 18 05 07.1 -0.3**
comp=Z,1.9nm,0.9s,baz=46,slow=2.0,SNR=5.5
WRA S **S 18 05 41.4 -1.2**
comp=Z,1.4nm,0.8s,baz=50,slow=14,SNR=4.0
WRA Warramunga Arr 24.30 229 P P 18 01 28.8 -0.6
ARMA Armidale 25.97 184 P P 18 01 44.2 -0.3
ARMA IAmb IAmb 18 01 46.0
comp=Z,14nm,0.8s
H11S3 WAKE ISLAND Hy 26.14 29 T T 18 29 18.8
baz=208,SNR=18
H11S2 WAKE ISLAND Hy 26.15 29 T T 18 29 37.0
baz=208
H11S1 WAKE ISLAND Hy 26.16 29 T T 18 29 54.2
baz=208
INKA Innaminka 26.26 206 P P 18 01 47.2 +0.2
LBMI Labuha 26.30 277 P P 18 01 47.2 -0.4
comp=Z,22nm,1.0s
KNRA Kununurra 26.85 243 P P 18 01 52.1 -0.3
KNRA IAmb IAmb 18 01 56.1
comp=Z,15nm,0.6s
KNRA Kununurra 26.85 243 P P 18 01 52.1 -0.3
AS31 Alice Springs 26.98 223 P P 18 01 53.0 -0.6
ASAR Alice Springs 26.98 223 P P 18 01 53.0 -0.6
comp=Z,2.9nm,0.5s,baz=58,slow=8.8,SNR=78
ASAR PcP **PcP 18 05 12.9 -0.5**
comp=Z,2.4nm,0.7s,baz=53,slow=2.6,SNR=9.1
ASAR S **S 18 06 24.4 -0.7**
comp=Z,0.5nm,0.8s,baz=31,slow=15,SNR=2.8
ASAR ScP **ScP 18 08 44.6 -1.7**
comp=Z,0.3nm,0.6s,baz=46,slow=4.0,SNR=2.9
ASAR LR LR 18 13 21.9
comp=Z,42nm,18.1s,baz=118,slow=38
ASAR Alice Springs 26.98 223 P P 18 01 52.8 -0.8
CMSA Cobar Meteorol 28.02 194 P P 18 02 02.9 +0.2
OOD Oodnadatta 28.86 214 P P 18 02 09.7 -0.5
STKA Stephens Creek 29.58 201 P P 18 02 16.0 -0.6
comp=Z,13nm,0.6s,baz=18,slow=9.9,SNR=41
STKA LR LR 18 14 20.3
comp=Z,47nm,18.4s,baz=28,slow=36
STKA Stephens Creek 29.58 201 P P 18 02 15.9 -0.7
STKA Stephens Creek 29.58 201 P P 18 02 16.3 -0.3
LCRK Leigh Creek 29.71 207 P P 18 02 17.8 +0.1
KMSI Cibinong 29.97 279 P P 18 02 19.3 -0.9
comp=Z,54nm,0.7s
FITZ Fitzroy Crossi 30.54 241 P P 18 02 24.4 -0.8
CAN Canberra 31.09 187 P P 18 02 30.1 +0.2
CAN IAmb IAmb 18 02 33.0
comp=Z,12nm,1.1s
MMRI Maumere 31.41 261 P P 18 02 32.5 -0.4
MMRI IAmb IAmb 18 02 33.9
comp=Z,25nm,1.1s
MMRI Maumere 31.41 261 P P 18 02 30.8 -2.1
comp=Z,27nm,0.8s
MULG Mulgathing 31.68 213 P P 18 02 34.1 -1.0
WRKA Warakurna 31.81 227 P P 18 02 35.5 -0.9
MRSI Marisa 31.97 278 P P 18 02 36.9 -0.9
comp=Z,13nm,0.7s
HTT Hallett 31.98 204 P P 18 02 37.8 0.0
APSI Ampana 32.07 275 P P 18 02 35.0 -3.7
BBOO Buckleboo 32.69 208 P P 18 02 43.0 -0.9
BBOO IAmb IAmb 18 02 44.0
comp=Z,16nm,1.0s
BBOO Buckleboo 32.69 208 P P 18 02 43.6 -0.3
TOO Toolangi 33.86 192 P P 18 02 53.0 -1.1
MPSI Mapaga 33.96 277 P P 18 02 54.7 -0.6
comp=Z,14nm,0.6s
ARPS Mount Arapiles 34.00 197 P P 18 02 55.9 +0.7
WBSI Waikabubak, Su 34.31 259 P P 18 02 57.4 -0.9
comp=Z,69nm,0.7s
FORT Forrest 35.60 220 P 18 03 08.4 -0.7
FORT Forrest 35.60 220 P P 18 03 08.7 -0.5
PSA00 Pilbara Seismi 36.91 239 P P 18 03 19.3 -1.2
PSA00 IAmb IAmb 18 03 20.2
comp=Z,18nm,0.8s
PSA00 Pilbara Seismi 36.91 239 P P 18 03 18.3 -2.1
PSA00 IAmb IAmb 18 03 20.3
comp=Z,7.0nm,0.8s
PSA00 Pilbara Seismi 36.91 239 P P 18 03 19.6 -0.8
TAU Tasmania Unive 38.78 187 P P 18 03 35.8 -0.1
JHJ2 Mitsune 39.49 342 P P 18 03 42.5 +0.6
MEEK Meekatharra 40.07 233 P P 18 03 46.1 -0.8
QRZ Quartz Range 40.10 157 P P 18 03 47.8 +0.9
BWJI Bawean 40.77 266 P P 18 03 51.1 -1.7
comp=Z,13nm,0.4s
RPZ Rata Peaks 42.12 161 P P 18 04 04.0 +0.6
comp=Z,16nm,1.2s,baz=344,slow=7.4,SNR=5.3
RPZ Rata Peaks 42.12 161 P P 18 04 03.8 +0.3
STKI Sintang 42.28 275 P P 18 04 06.3 +1.1
comp=Z,2µmcomp=Z,8.5nm,0.5s
PCJI Pacitan 42.29 263 P P 18 04 04.6 -0.7
comp=Z,28nm,1.2s
JNU Nakatsue 43.04 332 P P 18 04 11.6 +0.5
KLBR Kellerberrin 43.16 227 P P 18 04 10.8 -1.2
MORW Morawa 43.21 231 P P 18 04 11.4 -1.1
MORW IAmb IAmb 18 04 12.0
comp=Z,11nm,0.7s
MORW Morawa 43.21 231 P P 18 04 11.6 -0.9
KSM Kuching 43.62 277 P P 18 04 15.7 -0.2
LEM Lembang 45.78 265 LR LR 18 26 25.6
comp=Z,30nm,20.0s,baz=197,slow=39
TPI Tanjungpandan 45.85 270 P P 18 04 33.0 -0.7
KSRS Korea Array 47.97 332 P P 18 04 50.4 +0.6
comp=Z,2.8nm,0.8s,baz=148,slow=7.8,SNR=6.1
IPM Ipoh 53.22 279 P P 18 05 29.2 -0.7
IPM IAmb IAmb 18 05 29.9
comp=Z,8.6nm,0.7s
KULM Kulim 53.72 280 P P 18 05 32.8 -0.6
GSI Gunungsitoli 56.23 274 P P 18 05 50.0 -1.6
LHMI Lhok Sumawe 57.35 279 P P 18 05 58.9 -0.6
PETK Petropavlovsk- 57.37 3 P P 18 06 00.3 +1.4
comp=Z,2.2nm,0.7s,baz=161,slow=7.7,SNR=5.6
CM31 Chiang Mai Arr 58.39 295 P P 18 06 07.9 +1.2
CM31 IAmb IAmb 18 06 08.9
comp=Z,7.1nm,0.9s
CMAR Chiang Mai Arr 58.39 295 P P 18 06 07.6 +0.8
comp=Z,3.9nm,0.8s,baz=113,slow=5.3,SNR=38
CMAR Chiang Mai Arr 58.39 295 P P 18 06 07.2 +0.5
CHTO Chiang Mai 58.50 295 P P 18 06 08.1 +0.6
MA2 Magadan 63.79 358 P P 18 06 42.4 0.0
MA2 IAmb IAmb 18 06 43.8
comp=Z,4.9nm,0.7s
GTA Gaotai 65.87 317 *e*P **P 18 06 57.5 +1.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 66.04 328 P P 18 06 58.5 +1.0
SONM Songino Array 66.38 327 P P 18 07 00.1 +0.5
comp=Z,1.5nm,0.7s,baz=149,slow=5.8,SNR=9.0
SONM Songino Array 66.38 327 P P 18 06 59.6 0.0
SHL Shillong 66.75 300 P P 18 07 02.6 0.0
GOMU GeErMu 68.05 312 P P 18 07 12.4 +1.7
GOMU pmax pmax
comp=Z,2.0nm,0.8s
GOMU pmax pmax
comp=Z,71nm,5.2s
LSA Lhasa 68.63 304 P P 18 07 15.6 +1.0
LSA IAmb IAmb 18 07 16.8
comp=Z,14nm,0.8s
LSA Lhasa 68.63 304 P P 18 07 15.7 +1.1
LSA pmax pmax
comp=Z,22nm,0.8s
TAPN Taplejung 70.84 301 *e*P **P 18 07 28.7 +0.6**
comp=Z,34nm,0.8s
ODAN Odare 70.99 300 *e*P **P 18 07 29.5 +0.6**
comp=Z,47nm,0.8s
RAMN Ramite 71.69 300 *e*P **P 18 07 33.5 +0.4**
comp=Z,5.7nm,0.5s
JIRN Jiri 72.23 301 *e*P **P 18 07 37.1 +0.6**
comp=Z,22nm,0.8s
GUN Gumba 72.56 301 *e*P **P 18 07 39.0 +0.6**
comp=Z,62nm,0.7s
BILL Bilibino 72.80 5 P 18 07 39.1 +0.6
PKI Pulchoki 72.88 300 *e*P **P 18 07 40.3 0.0**
PKIN Phulchoki 72.89 300 *e*P **P 18 07 40.4 +0.1**
KKN Kakani 73.04 301 *e*P **P 18 07 41.5 +0.4**
DMN Daman 73.15 300 *e*P **P 18 07 42.4 +0.6**
comp=Z,59nm,0.9s
VNDA Vanda 73.23 178 P **P 18 07 40.8 -0.2**
comp=Z,5.2nm,0.6s,baz=328,slow=6.8,SNR=26
VNDA Vanda 73.23 178 P **P 18 07 40.8 -0.2**
VNDA IAmb IAmb 18 07 41.7
comp=Z,5.8nm,0.7s
GKN Gorkha 73.64 301 *e*P **P 18 07 44.9 +0.3**
comp=Z,52nm,0.9s
DANN Dangsing 74.48 301 *e*P **P 18 07 49.6 0.0**
comp=Z,29nm,0.8s
KOLN Koldanda 74.48 300 *e*P **P 18 07 49.7 +0.2**
comp=Z,41nm,0.9s
PYUN Pihan 75.08 300 *e*P **P 18 07 52.9 -0.1**
comp=Z,56nm,1.0s
IMAR Indian Mountai 79.73 19 P 18 08 18.1 +0.3
I21K Tanana 79.86 20 P **P 18 08 18.8 +0.3**
MCK McKinley 80.18 22 P **P 18 08 19.3 -1.1**
MCK IAmb IAmb 18 08 21.3
comp=Z,12nm,1.1s
MK31 Makanchi Array 80.51 319 P P 18 08 22.1 -0.4
MKAR Makanchi Array 80.51 319 P **P 18 08 22.7 +0.2**
comp=Z,4.5nm,1.0s,baz=95,slow=7.3,SNR=24
MKAR Makanchi Array 80.51 319 P P 18 08 22.1 -0.4
MAKZ Makanchi 80.72 319 P P 18 08 23.2 -0.4
ZAA0 Zalesovo Array 81.22 326 P P 18 08 24.8 -1.3
ZALV Zalesovo Beam 81.22 326 P P 18 08 25.4 -0.7
comp=Z,1.7nm,0.5s,baz=123,slow=5.7,SNR=10
ZALV Zalesovo Beam 81.22 326 P P 18 08 24.7 -1.4
ILAR Eielson Array 81.48 22 P P 18 08 26.5 -0.7
comp=Z,1.6nm,0.7s,baz=253,slow=5.2,SNR=7.3
ILAR Eielson Array 81.48 22 P P 18 08 26.2 -1.0
J25K Salcha River, 81.97 22 P P 18 08 29.9 0.0
J25K IAmb IAmb 18 08 31.4
comp=Z,14nm,1.4s
KDJ Kajisay 82.88 313 P 18 08 35.6 +0.3
KDJ IAmb IAmb 18 08 37.2
comp=Z,9.4nm,0.9s
KSH Kashi 83.24 310 P **P 18 08 39.1 +2.0**
KSH pmax pmax
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 83.85 313 P 18 08 40.9 +0.6
BOOM IAmb IAmb 18 08 42.1
comp=Z,6.3nm,0.8s
KURK Kurchatov 83.91 322 P 18 08 39.7 -0.4
KURK IAmb IAmb 18 08 40.8
comp=Z,6.3nm,1.0s
TKM2 Tokmak 2 84.19 314 P **P 18 08 42.6 +0.6**
SNR=12
NIL Nilore 84.37 304 P 18 08 42.9 0.0
KBK Karagaybulak 84.61 313 P **P 18 08 44.9 +0.8**
SNR=7.5
CHMS Chumysh 84.81 314 P **P 18 08 45.3 +0.4**
SNR=8.8
UCH Uchtor 84.84 313 P **P 18 08 47.0 +1.4**
SNR=11
AAK Ala-Archa 84.93 313 P **P 18 08 46.1 +0.4**
SNR=14
AAK Ala-Archa 84.93 313 P 18 08 45.7 0.0
AAK IAmb IAmb 18 08 47.3
comp=Z,7.9nm,0.8s
USP Ospenovka 85.04 314 P P 18 08 47.0 +0.9
SNR=11
AML Almayashu 85.42 313 P P 18 08 49.5 +1.1
SNR=14
EKS2 Erkin-Say 85.45 313 P P 18 08 49.5 +1.2
SNR=8.8
NRIK Noril'sk 85.81 341 P **P 18 08 50.0 +0.8**
comp=Z,2.8nm,0.6s,baz=98,slow=4.0,SNR=5.5
GAR Garm 87.49 309 P 18 08 58.2 -0.1
GAR IAmb IAmb 18 08 59.5
comp=Z,17nm,1.2s
CHGR Chuyangaron 88.34 309 P **P 18 09 01.6 -0.7**
BRVK Borovoye 89.43 323 P 18 09 05.9 -1.1
BRVK IAmb IAmb 18 09 06.8
comp=Z,5.5nm,0.9s
YKA Yellowknife Ar 94.69 28 P **P 18 09 31.6 +0.5**
comp=Z,0.7nm,0.9s,baz=270,slow=4.9,SNR=9.7
YKA PKKPbc **PKKPbc 18 26 26.8 -4.3**
comp=Z,0.2nm,0.5s,baz=77,slow=2.9,SNR=5.4
YKA Yellowknife Ar 94.69 28 P **P 18 09 31.1 0.0**
AKASG Malin Array Be 114.59 325 PKP **PKiKP 18 14 49.4 -0.6**
comp=Z,0.8nm,0.5s,baz=46,slow=2.0,SNR=5.7
AKASG Malin Array Be 114.59 325 PKiKP 18 14 49.1 -0.9
BRTR Keskin Array B 115.59 312 PKP **PKiKP 18 14 51.5 -1.0**
comp=Z,0.3nm,0.6s,baz=121,slow=3.8,SNR=1.4
CLL Coilm 122.84 332 *e*PKPdf **PKiKP 18 15 06.0 -0.1**
GERES GERESS Array B 124.09 329 PKP **PKPdf 18 15 07.9 -0.6**
comp=Z,1.0nm,0.6s,baz=62,slow=3.2,SNR=13
BDFB Brasilia 150.81 133 PKPbc **PKPbc 18 16 01.2 -2.3**
comp=Z,2.6nm,0.7s,baz=243,slow=4.8,SNR=3.4
TORD Torodi Ar. Bea 150.90 289 PKPbc **PKPbc 18 16 02.6 -0.9**
comp=Z,9.5nm,0.7s,baz=53,slow=2.3,SNR=53
TORD Torodi Ar. Bea 150.90 289 PKPbc 18 16 02.4 -1.2

IDC ***10*** *18:04:36.0±11.0, 25.65S×179.74E, h493km±129km, mb3.2/4, mb1 3.3/5, mb1mx3.0/33, mbtmp4.1/5, Error ellipse: s-maj=125.1km s-min=45.9km az=19.0*

ISC 10 18:04:36.3±2.1, 25.38S±0.1×179.8E±0.3, h500km, n7, σ0 92/8, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.61**	**190**	P	**P**	**18 07 22.0**	**+0.9**
	0.8nm,0.3s,baz=1.3,slow=11,SNR=1.1						
URZ				S	**S**	18 09 35.9	-1.1
	0.2nm,0.3s,baz=183,slow=18,SNR=1.1						
CTA	**Charters Tower**	**31.35**	**273**	P	**P**	**18 10 15.9**	**+0.4**
	3.1nm,0.5s,baz=104,slow=8.3,SNR=2.0						
STKA	**Stephens Creek**	**33.87**	**251**	P	**P**	**18 10 37.4**	**+0.6**
	0.9nm,0.5s,baz=90,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**41.57**	**263**	P	**P**	**18 11 39.5**	**-0.5**
	1.4nm,0.4s,baz=97,slow=7.2,SNR=13						
WRA	**Warramunga Arr**	**42.13**	**268**	P	**P**	**18 11 43.4**	**-1.0**
	1.1nm,0.5s,baz=104,slow=7.7,SNR=6.8						
NB2	**NORSAR Subarra**	**143.94**	**351**	PKP	**PKPdf**	**18 23 13.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=20,slow=3.3						
NOA	**NORSAR Array B**	**143.94**	**351**	PKP	**PKPdf**	**18 23 13.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=23,slow=2.5,SNR=5.3						

TUL ***10*** *18:13:13.7±1.1, 36.675N±0.008×98.16W±0.01, h6km±5km, ML3.0, mb_Lg2.7/46(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=80.0*

NEIC 10 18:13:13.8±1.0, 36.67N±0.03×98.17W±0.04, h11km±6km, Error ellipse: s-maj=5.9km s-min=1.4km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.73**	**246**	Pg	Pg	18 13 27.8	-0.1
T35A	**Sooner Cattle**	**1.36**	**79**	Pn	Pn	18 13 38.7	0.0
OKCFA	**Oklahoma City**	**1.39**	**155**	Pn	Pn	18 13 37.2	-1.9
FNO	**Franklin**	**1.55**	**156**	Pn	Pn	18 13 41.1	-0.2
R32A	**Long Quarter,**	**1.80**	**346**		Pb	18 13 46.0	-0.8
R32A				IAmb_Lg		18 14 11.7	
	comp=Z,27nm,0.8s						
W35A	**Tecumseh**	**1.85**	**145**	Pn	Pn	18 13 46.3	+0.9
W35A				IAmb_Lg		18 14 12.9	
	comp=Z,38nm,0.9s						
WMOK	**Wichita Mounta**	**1.99**	**195**	Pn	Pn	18 13 46.4	-1.1
TUL1	**Leonard**	**2.07**	**111**		Pn	18 13 49.2	+0.7
TUL1				IAmb_Lg		18 14 22.2	
	comp=Z,55nm,1.0s						
X34A	**Smith Ranch, M**	**2.09**	**172**		Pn	18 13 48.8	+0.1
X34A				IAmb_Lg		18 14 22.7	
	comp=Z,52nm,0.8s						
CBKS	**Cedar Bluff**	**2.47**	**330**		Pn	18 13 52.6	-1.4
KSU1	**Kansas State U**	**2.72**	**27**	Pn	Pn	18 13 57.2	-0.3
X37A	**Clayton**	**3.09**	**132**	IAmb_Lg		18 14 58.3	
	comp=Z,34nm,0.7s						
AMTX	**Amarillo**	**3.36**	**239**		Pb	18 14 13.8	+0.3
AMTX				IAmb_Lg		18 15 08.4	
	comp=Z,20nm,0.8s						
HHAR	**Hobbs**	**3.44**	**95**	IAmb_Lg		18 15 04.6	
	comp=Z,18nm,0.8s						
W39A	**Magazine**	**3.86**	**111**	IAmb_Lg		18 15 26.0	
	comp=Z,25nm,0.8s						
S39A	**Bolivar**	**4.00**	**74**		Pn	18 14 15.4	+0.3
S39A				IAmb_Lg		18 15 20.5	
	comp=Z,21nm,0.8s						
ABTX	**Abilene, Hawle**	**4.22**	**197**	IAmb_Lg		18 15 26.0	
	comp=Z,14nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.23**	**305**	IAmb_Lg		18 15 32.3	
	comp=Z,19nm,0.8s						
U40A	**Yellville**	**4.30**	**93**		Pn	18 14 20.1	+1.0
U40A				IAmb_Lg		18 15 30.6	
	comp=Z,24nm,0.7s						
MIAR	**Mount Ida**	**4.31**	**118**	IAmb_Lg		18 15 38.5	
	comp=Z,12nm,0.7s						
P38A	**Dawn**	**4.70**	**50**	IAmb_Lg		18 15 50.8	
	comp=Z,14nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.95**	**97**	IAmb_Lg		18 15 50.2	
	comp=Z,10nm,0.8s						
R40A	**Maddies Statio**	**4.97**	**69**	Pn	Pn	18 14 26.4	-1.9
R40A				IAmb_Lg		18 15 59.0	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.97**	**104**	IAmb_Lg		18 16 02.4	
	comp=Z,23nm,0.8s						
W41B	**Gary Mavity, V**	**5.04**	**106**	IAmb_Lg		18 16 02.6	
	comp=Z,19nm,0.8s						
Z41A	**Richland Creek**	**5.57**	**126**	IAmb_Lg		18 16 22.0	
	comp=Z,20nm,0.8s						
P40A	**Paris**	**5.61**	**58**	IAmb_Lg		18 16 15.5	
	comp=Z,18nm,0.7s						
CCM	**Cathedral Cave**	**5.69**	**74**	IAmb_Lg		18 16 19.0	
	comp=Z,12nm,0.7s						
435B	**Jarrell**	**5.90**	**175**	IAmb_Lg		18 16 32.3	
	comp=Z,15nm,0.8s						

BJI ***10*** *18:38:55.8±0.0, 43.41N×148.93E, h4km, mb4.7/68, mB5.1/46, Ms4.4/56, Ms7 4.1/55*

IDC ***10*** *18:38:55.5±0.4, 43.16N×149.08E, h0km, mb4.9/38, mb1 5.0/45, mb1mx5.0/54, mbtmp4.9/45, ML4.4/7, MS4.0/80, Ms1 4.0/80, ms1mx3.9/93, Error ellipse: s-maj=12.4km s-min=10.5km az=155.0*

NEIC ***10*** *18:38:57.5±1.7, 43.17N±0.08×149.1E±0.1, h10km±1km, mb5.4/597, Mww5.0, Error ellipse: s-maj=16.1km s-min=10.9km az=136.0*

NEIC ***10*** *18:38:59, 43.29N×149.03E, h24km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16Nm; Mrr1.00; Mθθ0.04; Mϕϕ-1.03; Mrθ3.41; Mϕr-2.34; Mθr1.19; Fault plane solution: Mo4.42000×10^16 NP1:ϕs72.00000°, δ82.00000°, λ120.00000°. NP2:ϕs176.00000°, δ31.00000°, λ16.00000°. Principal axes: T 4.0579, Plg45.0000°, Azm12.0000°; N 0.6569, Plg29.0000°, Azm248.0000°; P -4.7148, Plg30.0000°, Azm138.0000°;*

MOS ***10*** *18:38:59.8±0.7, 43.07N×148.99E, h45km, mb5.4/66 Error ellipse: s-maj=5.7km s-min=4.4km az=45.0*

NIED ***10*** *18:39:00.7, 43.41N×149.07E, h30km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.37; Mθθ2.36; Mϕϕ-2.73; Mrθ2.19; Mϕr-2.61; Mθr0.77; Fault plane solution: Mo4.33000×10^16 NP1:ϕs66.00000°, δ86.00000°, λ147.00000°. NP2:ϕs159.00000°, δ57.00000°, λ4.00000°.*

JMA ***10*** *18:39:00.7±0.4, 43.41N×149.07E, h30km, MS5.1*

SKHL ***10*** *18:39:00.7±0.3, 43.10N×149.10E, h56km±4km, mb6.2/7, mbv5.8/2*

GCMT ***10*** *18:39:04.5±0.3, 43.19N±0.01×148.89E±0.02, h40km±1km, MW5.1/99, Moment Tensor Solution. s43,c59; s99,c162; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.41±.18; Mθθ0.90±.13; Mϕϕ-3.31±.12; Mrθ3.14±.13; Mϕϕ-2.06±.08; Mθr0.66±.11; Best double couple: Mo4.82400×10^16 NP1:ϕs170.00000°, δ42.00000°, λ30.00000°. NP2: ϕs56.00000°, δ70.00000°, λ128.00000°. Principal axes: T 4.9580, Plg50.0000°, Azm9.0000°; N -0.2710, Plg36.0000°, Azm222.0000°; P -4.6890, Plg17.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***10*** *18:39:08.2±0.0, 44.11N×148.41E, h33km, mb5.2, Ms4.2*

ISC 10 18:39:00.7±0.4, 43.18N±0.04×149.04E±0.03, h34km±1km, h36km:pP-P, n1560, σ1926/1608, mb5.3/486, MS4.1/98, 66C-32D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.22**	**338**	*d* PN	**Pn**	**18 39 36.7**	**+1.7**
KUR				*i* S	**Sn**	**18 40 02.6**	**+1.3**
KUR				pmax	pmax		
	comp=Z,6µm,0.3s						
KUR				pmax	pmax		
	comp=N,2µm,0.3s						
KUR				pmax	pmax		
	comp=E,1µm,0.3s						
KUR				pmax	pmax		
	comp=Z,1µm,1.1s						
KUR				smax	smax		
	comp=N,22µm,0.3s						
KUR				smax	smax		
	comp=E,13µm,0.3s						
KUR				smax	smax		
	comp=E,51nm,2.1s						
KUR				smax	smax		
	comp=N,87nm,1.8s						
KUR				smax	smax		
	comp=E,51nm,1.8s						
KUR	**Kuril'sk**	**2.22**	**338**	*i* P	**Pn**	**18 39 36.8**	**+1.7**
KUR				AMB	AMB	18 39 37.7	
KUR				AMB	AMB	18 39 37.8	
	comp=E,10µm,1.0s						
KUR				AMB	AMB	18 39 37.8	
	comp=E,5µm,0.4s						
KUR				*i* S	**Sn**	**18 40 02.9**	**+1.6**
KUR				A	A	18 40 06.8	
	comp=E,87µm,2.0s						
KUR				A	A	18 40 06.8	
	comp=E,51µm,2.0s						
KUR				A	A	18 40 06.8	
	comp=E,22µm,0.5s						
KUR				A	A	18 40 06.8	
	comp=E,13µm,0.5s						
NEM2	**Nemuro 2**	**2.42**	**276**	P	**Pn**	**18 39 37.7**	**0.0**
NEM2				*e*S	**Sn**	**18 40 04.9**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.43**	**276**	*e*PN	**Pn**	**18 39 37.9**	**0.0**
NMR				*e*S	**Sn**	**18 40 05.6**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.43**	**276**	*e*P	**Pn**	**18 39 37.9**	**0.0**
NMR				*e*S	**Sn**	**18 40 05.6**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**2.46**	**291**	*e*PN	**Pn**	**18 39 39.0**	**+0.6**
YUK				*e*S	**Sn**	**18 40 07.0**	**-0.2**
YUK				pmax	pmax		
	comp=Z,14µm,0.2s						
YUK				pmax	pmax		
	comp=E,6µm,0.7s						
YUK				smax	smax		
	comp=N,21µm,0.4s						
YUK				smax	smax		
	comp=E,18µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**291**	*e*P	**Pn**	**18 39 39.0**	**+0.6**
YUK				AMB	AMB	18 39 40.4	
	comp=E,8µm,0.2s						
YUK				*e*S	**Sn**	**18 40 07.0**	**-0.2**
YUK				A	A	18 40 10.9	
	comp=E,21µm,0.5s						
YUK				A	A	18 40 10.9	
	comp=E,18µm,0.5s						
GLVR	**Golovnino**	**2.62**	**284**	*e*PN	**Pn**	**18 39 41.2**	**+0.6**

GLVR eS Sn 18 40 12.3 +1.1
GLVR pmax pmax
comp=Z,4μm,0.1s
GLVR pmax pmax
comp=N,2μm,0.2s
GLVR pmax pmax
comp=E,2μm,0.2s
GLVR smax smax
comp=N,17μm,0.4s
GLVR smax smax
comp=E,11μm,0.4s
GLVR Golovnino 2.62 284 eP **Pn** **18 39 41.1 +0.5**
GLVR AMB AMB 18 39 43.0
comp=E,4μm,0.2s
GLVR eS **Sn** **18 40 12.3 +1.1**
GLVR A A 18 40 17.0
comp=E,17μm,0.4s
GLVR A A 18 40 17.0
comp=E,11μm,0.4s
RUSJ Misakicho 2.91 290 ePN **Pn** **18 39 45.6 +1.2**
RUSJ eS **Sn** **18 40 20.3 +2.1**
JRA Rausu 2.95 286 P **Pn** **18 39 45.8 +0.8**
JRA eS **Sn** **18 40 19.3 +0.1**
AKK Akkeshi 3.08 268 eP **Pn** **18 39 47.2 +0.4**
AKK eS **Sn** **18 40 21.4 -1.1**
JNK Nakash 3.18 279 P **Pn** **18 39 48.4 +0.2**
JNK eS **Sn** **18 40 23.4 -1.5**
JAK Akkeshi 3.19 268 P **Pn** **18 39 48.7 +0.4**
JAK eS **Sn** **18 40 23.5 -1.6**
JTKR Abashiri--Toko 3.81 284 P **Pn** **18 39 58.5 +1.6**
JTKR eS **Sn** **18 40 42.1 +1.6**
JOB Onbets 3.83 268 P **Pn** **18 39 57.7 +0.6**
JOB eS **Sn** **18 40 39.0 -1.9**
JAR Ashorobuto 3.85 274 P **Pn** **18 39 58.2 +0.7**
JAR eS **Sn** **18 40 41.2 -0.4**
JMP Maruseppu 4.21 283 P **Pn** **18 40 04.1 +1.7**
JMP eS **Sn** **18 40 50.7 +0.3**
JCH Churui 4.21 264 P **Pn** **18 40 02.7 +0.3**
JCH eS **Sn** **18 40 47.9 -2.4**
JTHR Tokachihiroo 4.32 260 P **Pn** **18 40 04.9 +1.0**
ERM Erimo 4.50 257cePN **Pn** **18 40 08.1 +1.8**
ERM pmax pmax
comp=Z,1μm,1.7s
ERM Erimo 4.50 257 Pn **Pn** **18 40 07.2 +0.9**
JEM Erimo 4.50 257 P **Pn** **18 40 08.2 +1.9**
JKK2 Kamakawa 2 4.63 281 P **Pn** **18 40 10.1 +1.9**
JFR Furan 4.72 272 P **Pn** **18 40 10.6 +1.2**
JFR eS **Sn** **18 41 01.6 -1.3**
JNBK Urakawa-nobuka 4.72 261 P **Pn** **18 40 09.5 +0.1**
JKA Kamikawa-asahi 4.77 284 Pn **Pn** **18 40 10.4 +0.4**
ASAJ Asahikawa 4.77 284 Pn **Pn** **18 40 12.4 +2.3**
comp=Z,234nm,0.3s,baz=111,slow=8.3,SNR=697
ASAJ Sn **Sn** **18 41 04.1 0.0**
baz=209,slow=30,SNR=0.8
ASAJ LR LR 18 41 16.0
comp=Z,807nm,21.1s,baz=154,slow=29
ASAJ Asahikawa 4.77 284 PN **Pn** **18 40 10.5 +0.4**
ASAJ Asahikawa 4.77 284 P **Pn** **18 40 12.3 +2.3**
JBT2 Biratori 2 4.92 268 P **Pn** **18 40 12.2 +0.1**
JBT2 eS **Sn** **18 41 03.2 -4.5**
JSE Soyaes 4.98 293 P **Pn** **18 40 14.8 +1.8**
JAB Ashibetsu 4.98 276 P **Pn** **18 40 15.7 +2.7**
JHR Hokuryu 5.36 279 P **Pn** **18 40 20.9 +2.8**
JWK2 Keihoku 5.56 295 P **Pn** **18 40 24.3 +3.4**
JISS Ishikarishitsu 5.57 274 P **Pn** **18 40 24.1 +3.0**
JEW Eniwo 5.58 269 P **Pn** **18 40 22.6 +1.4**
JEW eS **Sn** **18 41 23.3 -0.7**
JEW Eniwo 5.58 269 Pn **Pn** **18 40 22.5 +1.4**
YSS Yuzh-Sakhalins 5.84 312dePN **Pn** **18 40 26.8 +2.1**
YSS pmax pmax
comp=N,140nm,0.5s
YSS pmax pmax
comp=Z,300nm,0.5s
YSS pmax pmax
comp=E,130nm,0.4s
YSS pmax pmax
comp=Z,700nm,4.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS Yuzh-Sakhalins 5.84 312 Pn **Pn** **18 40 25.7 +1.0**
YSS Yuzh-Sakhalins 5.84 312 eP **Pn** **18 40 26.8 +2.1**
YSS AMB AMB 18 40 27.8
comp=Z,290nm,0.4s
YSS eS **Sn** **18 41 31.1 +0.7**
YSS A A 18 41 34.1
comp=Z,120nm,0.5s
YSS A A 18 41 34.1
comp=Z,70nm,0.5s
JNB Noboribetsu 5.93 266 P **Pn** **18 40 26.9 +0.9**
JNB eS **Sn** **18 41 30.3 -2.4**
JKB Kayabe 6.06 260 P **Pn** **18 40 28.2 +0.5**
JKB eS **Sn** **18 41 31.7 -4.1**
JRBN Rebuntou 6.15 294 P **Pn** **18 40 31.3 +2.3**
JKEN Kujiedanarisaw 6.24 244 P **Pn** **18 40 28.1 -2.2**
JSK Shakotan 6.26 275 P **Pn** **18 40 32.3 +1.8**
JSK eS **Sn** **18 41 40.4 -0.3**
JTH Tanohata 6.28 241 P **Pn** **18 40 28.7 -2.2**
JANG Nango 6.29 246 P **Pn** **18 40 29.2 -1.7**
JANG eS **Sn** **18 41 35.5 -6.0**
JTM Tenmabayashi 6.40 251 P **Pn** **18 40 32.4 -0.1**
JTM eS **Sn** **18 41 39.0 -5.4**
JTM Tenmabayashi 6.40 251 Pn **Pn** **18 40 32.5 -0.1**
JYM2 Yakumo 2 6.48 264 P **Pn** **18 40 34.4 +0.8**
JKZ Kuzumaki 6.60 244 P **Pn** **18 40 34.2 -1.1**
JSH Shimam 6.63 268 P **Pn** **18 40 37.2 +1.6**
JSI2 Shiura 2 6.76 255 P **Pn** **18 40 37.7 +0.3**
JOM Ohasama 6.91 240 P **Pn** **18 40 38.4 -1.1**
OFUJ Ofunato 6.91 236 P **Pn** **18 40 37.8 -1.7**
JOSM Okushiri--Mats 7.14 264 P **Pn** **18 40 43.8 +1.2**
JKMT Kesennumamotoy 7.20 235 P **Pn** **18 40 43.1 -0.3**
JRG Rokugo 7.37 242 P **Pn** **18 40 45.5 -0.3**
JRG eS **Sn** **18 42 03.4 -4.8**
JIO Ouri 7.50 234 P **Pn** **18 40 45.6 -2.0**
JIO eS **Sn** **18 42 02.7 -8.7**
UGL Uglegorsk 7.63 323 ePN **Pn** **18 40 53.0 +3.7**
UGL e 18 42 21.7
UGL pmax pmax
comp=Z,700nm,2.0s
UGL pmax pmax
comp=Z,229nm,0.9s
UGL Uglegorsk 7.63 323 eP **Pn** **18 40 53.0 +3.7**
UGL AMB AMB 18 40 54.0
comp=Z,700nm,2.0s
UGL AMB AMB 18 40 55.0
comp=Z,230nm,0.9s
UGL eS **Sn** **18 42 15.5 +1.0**
UGL A A 18 42 18.0
comp=Z,60nm,0.9s
UGL A A 18 42 18.0
comp=Z,120nm,0.9s
JMM Marumori 8.22 233 **Pn** **18 40 54.8 -2.6**
JYA Atsumi 8.42 240 P **Pn** **18 40 59.9 -0.3**
TYV Tymovskoe 8.84 333 ePN **Pn** **18 41 09.4 +3.6**
TYV pmax pmax
comp=Z,200nm,1.9s
TYV pmax pmax
comp=Z,35nm,0.8s
TYV Tymovskoe 8.84 333 eP **Pn** **18 41 09.4 +3.6**
TYV AMB AMB 18 41 10.2
comp=Z,500nm,2.0s
TYV AMB AMB 18 41 10.4
comp=Z,40nm,0.8s
TYV eS **Sn** **18 42 45.1 +1.0**
TYV A A 18 42 48.3
comp=Z,20nm,0.9s
TYV A A 18 42 48.3
comp=Z,20nm,0.9s
TYV A A 18 42 49.5
comp=Z,200nm,5.0s
TYV A A 18 42 49.5
comp=Z,300nm,5.0s
TYV AMS AMS 18 44 10.0
comp=Z,2μm,18.0s
SKR Severo-Kuril's 8.93 30 ePN **Pn** **18 41 08.3 +1.2**
SKR pmax pmax
comp=Z,408nm,0.8s
SKR MLR MLR
comp=Z,400nm,15.0s
SKR Severo-Kuril's 8.93 30 eP **Pn** **18 41 09.8 +2.7**
SKR AMB AMB 18 41 09.9
comp=Z,410nm,0.8s

SKR eS **Sn** **18 42 43.5 -2.8**
SKR A A 18 42 46.1
comp=Z,320nm,0.5s
SKR A A 18 42 46.1
comp=Z,170nm,0.5s
SKR AMS AMS 18 43 52.1
comp=Z,400nm,15.0s
TEY Ternei 9.14 286⇑ePN **Pn** **18 41 12.5 +2.5**
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=E,60nm,0.9s
TEY pmax pmax
comp=Z,60nm,0.9s
TEY MLR MLR
comp=Z,100nm,15.0s
TEY Ternei 9.14 286 eP **Pn** **18 41 12.5 +2.5**
TEY AMB AMB 18 41 13.1
comp=Z,60nm,0.9s
JSD Sado 9.67 242 Pn **Pn** **18 41 15.8 -1.5**
JYT Yasato 9.72 227 Pn **Pn** **18 41 15.4 -2.7**
PAU Pauzhetka 9.82 30 eP **Pn** **18 41 19.9 +0.6**
PAU AMB AMB 18 41 21.7
comp=Z,140nm,0.7s
PAU eS **Sn** **18 43 05.1 -3.2**
PAU A A 18 43 06.9
comp=Z,560nm,0.4s
PAU A A 18 43 06.9
comp=Z,560nm,0.4s
MAJO Matsushiro 10.64 235 i PN **Pn** **18 41 29.8 -0.8**
MAJO Matsushiro 10.64 235 Pn **Pn** **18 41 30.1 -0.6**
MJAR Matsushiro Arr 10.64 235 Pn **Pn** **18 41 30.1 -0.5**
comp=Z,0.8nm,0.3s,baz=28,slow=15,SNR=42
MJAR Sn **Sn** **18 43 25.3 -3.2**
comp=Z,0.3nm,0.3s,baz=48,slow=12,SNR=4.5
MJAR LR LR 18 46 03.8
comp=Z,257nm,20.6s,baz=52,slow=40
MJB9 Matsu-Tunnel 10.64 235 Pn **Pn** **18 41 29.7 -0.9**
OKH Okha 11.14 341dePN **Pn** **18 41 34.4 -2.9**
OKH pmax pmax
comp=Z,100nm,5.5s
OKH MLR MLR
comp=Z,600nm,15.0s
OKH MLR MLR
comp=N,700nm,12.0s
OKH Okha 11.14 341 eP **Pn** **18 41 39.5 +2.2**
OKH AMB AMB 18 41 42.2
comp=N,100nm,6.0s
OKH AMB AMB 18 41 42.8
comp=N,60nm,0.5s
OKH eS **Sn** **18 43 42.0 +1.5**
OKH A A 18 43 47.8
comp=N,100nm,0.7s
OKH A A 18 43 47.8
comp=N,120nm,0.7s
NKL Nikolayevsk 11.42 334 ePN **Pn** **18 41 43.5 +2.3**
NKL pmax pmax
comp=E,2.0nm,0.5s
NKL pmax pmax
comp=N,384nm,1.1s
NKL pmax pmax
comp=Z,52nm,1.1s
NKL MLR MLR
comp=E,12nm,16.0s
NKL MLR MLR
comp=N,4μm,10.0s
NKL MLR MLR
comp=Z,536nm,15.0s
NKL Nikolayevsk 11.42 334 eP **Pn** **18 41 43.5 +2.3**
NKL AMB AMB 18 41 46.3
comp=Z,50nm,1.0s
NKL A A 18 43 56.4
comp=Z,900nm,1.0s
NKL AMS AMS 18 43 56.5
comp=Z,4μm,15.0s
NKL AMS AMS 18 43 56.5
comp=Z,10.0nm,15.0s
NKL AMS AMS 18 43 56.5
comp=Z,500nm,15.0s
GRNR Gornyy 11.48 316⇓iPN **Pn** **18 41 44.9 +2.9**
GRNR eS **Sn** **18 43 56.8 +7.9**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=E,30nm,1.0s
GRNR pmax pmax
comp=Z,40nm,1.1s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=Z,520nm,15.0s
GRNR Gornyy 11.48 316 eP **Pn** **18 41 44.9 +2.9**
GRNR AMB AMB 18 41 45.9
comp=Z,40nm,1.0s
GRNR AMS AMS 18 45 55.0
comp=Z,200nm,18.0s
GRNR AMS AMS 18 45 55.0
comp=Z,400nm,18.0s
GRNR AMS AMS 18 45 55.0
comp=Z,500nm,18.0s
PEA0B Petropavlovsk- 11.49 27cePN **Pn** **18 41 42.4 +0.3**
PEA0B Petropavlovsk- 11.49 27 Pn **Pn** **18 41 42.4 +0.3**
PETK Petropavlovsk- 11.49 27 Pn **Pn** **18 41 41.8 -0.3**
comp=Z,6.5nm,0.3s,baz=216,slow=7.3,SNR=126
PETK Sn **Sn** **18 43 47.9 -1.2**
comp=Z,0.9nm,0.3s,baz=149,slow=17,SNR=1.2
PETK LR LR 18 47 26.4
comp=Z,495nm,18.5s,baz=213,slow=44
PETK Petropavlovsk- 11.49 27 Pn **Pn** **18 41 41.2 -1.0**
PET Petropavlovsk 11.75 30 ePN Pn 18 41 40.9 -4.8
PET pmax pmax
comp=Z,44nm,0.8s
PET pmax pmax
comp=Z,100nm,12.5s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 11.75 30 Pn **Pn** **18 41 42.6 -3.0**
PET Petropavlovsk 11.75 30 eP **Pn** **18 41 45.1 -0.6**
PET AMB AMB 18 41 50.6
comp=Z,20nm,0.3s
PET eS **Sn** **18 43 51.0 -4.5**
JGF Kuroka 11.78 234 Pn **Pn** **18 41 45.6 -0.7**
INU Inuyama 12.15 234 **Pn** **18 41 51.5 +0.1**
USA0B Ussuriysk Arra 12.39 281 PN **Pn** **18 41 54.8 +0.3**
USA0B Ussuriysk Arra 12.39 281 **Pn** **18 41 54.8 +0.3**
USRK Ussuriysk Ar. 12.39 281 Pn **Pn** **18 41 54.7 +0.2**
baz=87,slow=14,SNR=56
USRK LR LR 18 46 52.0
comp=Z,567nm,20.5s,baz=83,slow=38
VLA Vladivostok 12.54 276d iPN **Pn** **18 41 56.2 -0.3**
VLA Vladivostok 12.54 276 eP **Pn** **18 41 56.2 -0.3**
MSHR Mys Shultsa 13.13 274cePN **Pn** **18 42 04.6 -0.1**
MSHR pmax pmax
comp=Z,337nm,1.7s
KLR Kul'dur 13.41 303 Pn **Pn** **18 42 09.3 +0.9**
comp=Z,1.4nm,0.3s,baz=110,slow=14,SNR=56
KLR LR LR 18 47 30.1
comp=Z,604nm,21.5s,baz=120,slow=38
KLR Kul'dur 13.41 303cePN **Pn** **18 42 09.8 +1.4**
KLR pmax pmax
comp=Z,120nm,1.6s
KLR Kul'dur 13.41 303 eP **Pn** **18 42 09.8 +1.4**
MDJ Mudanjiang 14.10 283 Pn **Pn** **18 42 16.6 -1.2**
MDJ Mudanjiang 14.10 283 P **Pn** **18 42 17.4 -0.4**
MDJ S **Sn** **18 44 55.1 +2.1**
MDJ sS S 18 45 00.1 -13
MDJ pmax pmax
comp=Z,130nm,1.0s
MDJ pmax pmax
comp=Z,410nm,4.3s
MDJ LR LR
comp=Z,1μm,14.3s
MDJ LR LR
comp=Z,610nm,18.5s
MDJ LR LR
comp=Z,820nm,15.7s
BNX BinXian 15.65 287 ⇑P **Pn** **18 42 37.1 -1.5**
BNX pmax pmax
comp=Z,180nm,0.8s
BNX pmax pmax
comp=Z,490nm,4.6s
MA2 Magadan 16.45 3 Pn **Pn** **18 42 47.3 -1.4**
comp=Z,0.8nm,0.3s,baz=172,slow=8.6,SNR=49
MA2 LR LR 18 49 01.9

comp=Z,496nm,21.2s,baz=193,slow=37
MA2 Magadan 16.45 3c iP **Pn** **18 42 47.1 -1.6**
MA2 pmax pmax
comp=Z,89nm,2.2s
MA2 Magadan 16.45 3 **Pn** **18 42 46.8 -1.9**
MA2 Magadan 16.45 3 eP **Pn** **18 42 47.1 -1.6**
KSRS Korea Array 17.07 258 P **Pn** **18 42 55.2 -1.3**
comp=Z,0.4nm,0.3s,baz=67,slow=13,SNR=20
KSRS S **Sn** **18 46 09.1 +3.8**
comp=Z,0.4nm,0.3s,baz=70,slow=24,SNR=4.7
KSRS PcP **PcP** **18 47 40.8 +0.4**
baz=63,slow=1.8,SNR=4.2
KSRS LR LR 18 49 25.8
comp=Z,365nm,20.9s,baz=65,slow=37
KS19 Wonju Array Si 17.09 258 **Pn** **18 42 55.1 -1.7**
KSAR Wonju Array Be 17.11 258 P **Pn** **18 42 55.2 -1.8**
KSAR Wonju Array Be 17.11 258 Pn **Pn** **18 42 55.2 -1.8**
CN2 Changchun 17.12 280 eP **Pn** **18 42 54.4 -2.8**
CN2 eS **Sn** **18 46 00.9 -5.6**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,18.0s
JNU Nakatsue 17.43 241 **Pn** **18 42 56.0 -5.0**
ZEA Zeya 17.83 314 eP **Pn** **18 43 05.6 -0.2**
ZEA eS **Sn** **18 46 21.1 -2.2**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=E,100nm,3.1s
ZEA pmax pmax
comp=Z,100nm,3.4s
ZEA smax smax
comp=N,200nm,5.6s
ZEA Zeya 17.83 314 eP **Pn** **18 43 05.6 -0.2**
ZEA AMB AMB 18 43 06.6
comp=N,40nm,0.8s
ZEA AMS AMS 18 49 35.0
comp=N,200nm,17.0s
ZEA AMS AMS 18 49 35.0
comp=N,200nm,17.0s
ZEA AMS AMS 18 49 35.0
comp=N,300nm,17.0s
TJN Taejon 17.97 255ceP **P** **18 43 08.0 0.0**
KROS Kirovskiy 18.30 316 eP **Pn** **18 43 13.4 +1.8**
KROS AMB AMB 18 43 15.9
comp=N,50nm,0.9s
KROS AMB AMB 18 43 15.9
comp=N,50nm,0.9s
KROS AMB AMB 18 43 15.9
comp=N,100nm,0.9s
SNY Shenyang 18.81 275 ⇑P **P** **18 43 17.2 +0.1**
SNY pmax pmax
comp=N,37nm,1.4s
SHEM Shemya Is, Ala 19.22 51 P **Pn** **18 43 24.1 +1.4**
comp=N,10.0nm,0.3s,baz=316,slow=1.9,SNR=4.6
SHEM LR LR 18 49 45.6
comp=N,240nm,21.4s,baz=286,slow=34
SEY Seymchan 19.89 4 P **P** **18 43 28.0 -0.7**
comp=N,1.1nm,0.3s,baz=181,slow=8.7,SNR=134
SEY LR LR 18 51 00.7
comp=N,530nm,20.9s,baz=178,slow=36
SEY Seymchan 19.89 4 i P **P** **18 43 27.8 -1.0**
SEY pmax pmax
comp=Z,49nm,1.0s
DL2 Dalian 21.07 268 P **P** **18 43 45.3 +3.5**
DL2 sP **sP** **18 43 53.7 +1.2**
DL2 S **S** **18 47 36.7 +2.3**
DL2 pmax pmax
comp=Z,88nm,0.8s
DL2 pmax pmax
comp=Z,140nm,4.9s
DL2 LR LR
comp=Z,260nm,12.3s
DL2 LR LR
comp=Z,250nm,10.6s
HIA Hailar 21.08 297 P **P** **18 43 39.9 -2.0**
HIA pmax pmax
comp=Z,31nm,0.6s
HIA Hailar 21.08 297 P **P** **18 43 39.9 -2.0**
YAK Yakutsk 22.08 335 P **P** **18 43 50.2 -2.2**
comp=Z,18nm,0.4s,baz=146,slow=2.1,SNR=21
YAK S **S** **18 47 44.2 -9.4**
comp=Z,3.5nm,0.4s,baz=24,slow=20,SNR=6.9
YAK LR LR 18 52 24.1
comp=Z,926nm,21.8s,baz=134,slow=37
YAK Yakutsk 22.08 335 eP **P** **18 43 48.6 -3.8**
YAK e*PP **pP** **18 43 59.8 +0.8**
YAK ePPP PPP 18 44 21.7
YAK e 18 47 45.4
YAK eS **S** **18 47 50.1 -3.5**
YAK eSSS SSS 18 48 32.7
YAK e 18 55 03.6
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,339nm,2.0s
YAK smax smax
comp=E,211nm,2.3s
YAK Yakutsk 22.08 335 P **P** **18 43 48.6 -3.8**
XLT XiLinHaoTe 23.82 283⇑iP **P** **18 44 10.7 +0.2**
XLT pP pP 18 44 15.7 -2.0
XLT sP sP 18 44 17.6 -4.1
XLT S **S** **18 48 23.7 -0.3**
XLT sS pS 18 48 29.2 -2.6
XLT pmax pmax
comp=E,140nm,0.9s
XLT LR LR
comp=E,60nm,17.2s
XLT LR LR
comp=E,500nm,14.2s
XLT LR LR
comp=E,520nm,15.5s
BJI Beijing 24.69 274 P **P** **18 44 18.8 +0.5**
BJI pP **pP** **18 44 22.8 -2.8**
BJI sP **sP** **18 44 25.2 -4.5**
BJI S **S** **18 48 38.8 +1.1**
BJI sS **pS** **18 48 45.4 -0.2**
BJI pmax pmax
comp=E,6.0nm,1.0s
BJI pmax pmax
comp=E,190nm,4.1s
BJI LR LR
comp=E,200nm,13.2s
BJI LR LR
comp=E,280nm,13.6s
BJI LR LR
comp=E,420nm,17.8s
BJT Baijiatuau 24.70 274 P **P** **18 44 19.3 +0.9**
BJT pmax pmax
comp=Z,25nm,0.7s
BJT Baijiatuau 24.70 274 P **P** **18 44 19.3 +0.9**
TIA Tai'an 25.42 265 ⇓P **P** **18 44 30.8 +5.8**
TIA S **S** **18 48 59.1 +10**
TIA pmax pmax
comp=Z,21nm,0.8s
TIA pmax pmax
comp=Z,200nm,3.5s
NJ2 Nanjing 26.23 255 eP **P** **18 44 33.3 +0.9**
NJ2 pP **pP** **18 44 38.2 -1.7**
NJ2 sP **sP** **18 44 42.5 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
BOD Bodaibo 26.30 316 eP **P** **18 44 32.3 -0.4**
BOD pmax pmax
comp=Z,27nm,1.6s
BOD Bodaibo 26.30 316 eP **P** **18 44 32.3 -0.4**
BILL Bilibino 26.55 14d iP **P** **18 44 35.4 +0.5**
BILL i 18 44 47.8
BILL i *SP **pwP** **18 44 51.4 -1.1**
BILL ePPP PPP 18 45 25.1

BILL *i* 18 48 00.1
BILL *eS* **S** **18 48 56.6 -10**
BILL pmax pmax
comp=Z,59nm,1.0s
BILL MLR MLR
comp=Z,165nm,14.0s
BILL Bilibino 26.55 14 P **P** **18 44 34.6 -0.3**
BILL IAmb IAmb 18 44 37.1
comp=Z,89nm,1.3s
BILL Bilibino 26.55 14 *eP* **P** **18 44 35.4 +0.5**
HNS HongShan 26.69 269 ⇑P P 18 44 43.6 +7.1
HNS S S 18 49 20.6 +11
HNS pmax pmax
comp=Z,79nm,1.0s
HNS LR LR
comp=E,380nm,11.4s
HNS LR LR
comp=Z,460nm,17.5s
HHC Hu-ho-hao-te 27.79 278 *eP* **P** **18 44 51.1 +4.6**
HHC S **S** **18 49 28.7 +1.6**
HHC pmax pmax
comp=Z,40nm,1.2s
HHC pmax pmax
comp=Z,370nm,6.5s
HHC LR LR
comp=Z,260nm,12.7s
HHC LR LR
comp=Z,300nm,13.3s
HHC LR LR
comp=Z,370nm,13.3s
TIY Taiyuan 28.23 271 ⇓*i*P P 18 45 00.1 +10
TIY pmax pmax
comp=Z,60nm,0.8s
BTO Baotou 28.98 278 *eP* P 18 45 03.6 +6.5
BTO S S 18 50 04.4 +19
BTO LR LR
comp=N,2μm,10.4s
BTO LR LR
comp=E,590nm,4.7s
ULN Ulaanbaatar 29.52 294 *ceP* **P** **18 45 02.6 +0.8**
ULN pmax pmax
comp=Z,34nm,1.7s
ULN MLR MLR
comp=Z,539nm,16.0s
ULN Ulaanbaatar 29.52 294 P **P** **18 45 01.5 -0.3**
ULN IAmb IAmb 18 45 17.3
comp=Z,120nm,1.3s
ULN Ulaanbaatar 29.52 294 *eP* **P** **18 45 02.6 +0.8**
LYN LuoYang 29.56 265 ⇑P P 18 45 09.9 +7.8
LYN sP pwP 18 45 23.4 +2.8
LYN S S 18 50 10.1 +15
LYN pmax pmax
comp=Z,10.0nm,0.8s
LYN pmax pmax
comp=Z,140nm,6.2s
LYN LR LR
comp=E,240nm,8.4s
LYN LR LR
comp=Z,210nm,13.9s
GUMO Guam 29.70 188 LR LR 18 55 12.2
comp=Z,396nm,21.8s,baz=14,slow=33
SONM Songino Array 29.96 294 P **P** **18 45 05.9 +0.2**
comp=Z,7.4nm,0.6s,baz=82,slow=8.6,SNR=24
SONM LR LR 18 58 05.1
comp=Z,647nm,19.4s,baz=89,slow=38
SONM Songino Array 29.96 294 P **P** **18 45 06.3 +0.6**
SONM pmax pmax
comp=Z,61nm,1.0s
SONM Songino Array 29.96 294 P **P** **18 45 06.3 +0.6**
SONM IAmb IAmb 18 45 21.2
comp=Z,61nm,1.0s
TIXI Tiksi 30.21 347 P **P** **18 45 05.7 -1.7**
comp=Z,3.4nm,0.4s,baz=260,slow=19,SNR=41
TIXI S **S** **18 49 57.6 -6.5**
comp=Z,0.7nm,0.6s,baz=269,slow=24,SNR=1.5
TIXI LR LR 18 58 01.5
comp=Z,200nm,19.2s,baz=179,slow=38
TIXI Tiksi 30.21 347 *i* P **P** **18 45 05.1 -2.3**
TIXI pmax pmax
comp=Z,13nm,2.0s
TIXI MLR MLR
comp=Z,196nm,16.0s
TIXI Tiksi 30.21 347 P **P** **18 45 05.7 -1.7**
WHN Wuhan 30.27 257 ⇓P **P** **18 45 12.6 +4.2**
WHN S S 18 50 16.7 +11
WHN LR LR
comp=Z,1μm,26.8s
GAMB Gambell 30.40 34 P **P** **18 45 08.4 -0.8**
GAMB Gambell 30.40 34 P **P** **18 45 10.2 +1.0**
baz=246
ZAK Zakamensk 31.73 299 *eP* P 18 45 33.3 +12
ZAK pmax pmax
comp=Z,17nm,1.2s
XAN Xi'an 32.39 267 P **P** **18 45 27.9 +0.8**
XAN pmax pmax
comp=Z,30nm,1.3s
XAN LR LR
comp=Z,270nm,17.2s
XAN LR LR
comp=Z,370nm,17.2s
XAN LR LR
comp=Z,330nm,21.3s
TNA Tin City 32.60 32 P **P** **18 45 29.7 +1.2**
TNA IAmb IAmb 18 45 31.4
comp=Z,41nm,0.8s
TNA Tin City 32.60 32 P **P** **18 45 30.2 +1.7**
baz=248,SNR=29
FALS False Pass 32.67 52 P **P** **18 45 30.7 +1.5**
baz=269
MOY Mondy 33.07 302 *eP* **P** **18 45 33.9 +0.9**
MOY pmax pmax
comp=Z,54nm,1.5s
MOY Mondy 33.07 302 *eP* **P** **18 45 33.9 +0.9**
ANM Nome 33.27 34 P **P** **18 45 36.4 +1.9**
ANM pmax pmax
comp=Z,50nm,1.0s
ANM Nome 33.27 34 P **P** **18 45 36.4 +1.9**
ANM IAmb IAmb 18 45 38.5
comp=Z,50nm,1.0s
ANM Nome 33.27 34 P **P** **18 45 36.3 +1.9**
baz=252,SNR=32
SDPT Sand Point 34.36 51 P **P** **18 45 45.3 +1.4**
baz=271
LZH Lanzhou 35.18 274 ⇑P **P** **18 45 53.6 +2.1**
LZH sP pP 18 45 58.4 -0.5
LZH S **S** **18 51 23.7 +1.2**
LZH sS sS 18 51 34.6 -1.4
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,280nm,5.0s
LZH LR LR
comp=Z,350nm,12.8s
LZH LR LR
comp=Z,360nm,13.2s
LZH LR LR
comp=Z,460nm,15.3s
RDOG Red Dog Mine 35.35 29 P **P** **18 45 53.7 +1.2**
RDOG IAmb IAmb 18 45 55.1
comp=Z,81nm,1.0s
RDOG Red Dog Mine 35.35 29 P **P** **18 45 53.6 +1.2**
baz=250,SNR=9.6
GTA Gaotai 36.75 281 ⇑P **P** **18 46 05.6 +0.7**
GTA pP pP 18 46 11.3 -1.0
GTA sP sP 18 46 14.7 -1.5
GTA PP **PP** **18 47 26.9 -1.9**
GTA PcP **PcP** **18 48 27.0 +0.3**
GTA S **S** **18 51 44.8 -1.7**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.8s
GTA LR LR
comp=Z,230nm,20.4s
GTA LR LR
comp=Z,200nm,18.9s
GTA LR LR
comp=Z,320nm,19.6s
GCSA Galena City Sc 36.87 35 P **P** **18 46 06.1 +0.7**
baz=261
TTA Tatalina 37.01 38 P **P** **18 46 07.8 +1.0**
TTA pmax pmax
comp=Z,33nm,1.0s
TTA Tatalina 37.01 38 P **P** **18 46 07.8 +1.0**
TTA Tatalina 37.01 38 P **P** **18 46 08.0 +1.3**
baz=264,SNR=16

SVW2 Sparrevohn 37.07 42 P **P** **18 46 08.8 +1.6**
SVW2 IAmb IAmb 18 46 10.3
comp=Z,42nm,0.9s
CHIR Chirikof Islan 37.09 50 P **P** **18 46 09.0 +1.7**
baz=274
P18K Big Mountain, 37.20 44 P **P** **18 46 06.3 -2.0**
P18K IAmb IAmb 18 46 10.8
comp=Z,56nm,1.0s
P18K Big Mountain, 37.20 44 P **P** **18 46 09.7 +1.4**
baz=270
L19K White Mountain 37.48 40 P **P** **18 46 12.6 +1.8**
L19K White Mountain 37.48 40 P **P** **18 46 12.1 +1.4**
baz=266,SNR=8.3
N19K Bonanza Creek 37.60 42 P **P** **18 46 12.6 +0.9**
N19K Bonanza Creek 37.60 42 P **P** **18 46 13.0 +1.3**
baz=268
O19K Port Alsworth 37.66 43 P **P** **18 46 13.4 +1.2**
O19K Port Alsworth 37.66 43 P **P** **18 46 13.6 +1.5**
baz=269,SNR=6.7
M19K Big River Lodg 37.69 40 P **P** **18 46 14.2 +1.8**
M19K Big River Lodg 37.69 40 P **P** **18 46 13.9 +1.6**
baz=267,SNR=7.4
CD2 Chengdu 37.73 266 P **P** **18 46 13.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,1.2s
SII Sitkinak Islan 37.84 49 P **P** **18 46 14.7 +0.9**
baz=274
K20K Telida 37.93 38 P **P** **18 46 14.9 +0.4**
K20K Telida 37.93 38 P **P** **18 46 15.8 +1.4**
baz=265
L20K Farewell, AK 37.96 39 P **P** **18 46 16.1 +1.4**
baz=267
J20K Nowinta River 37.97 37 P **P** **18 46 15.5 +0.7**
J20K Nowinta River 37.97 37 P **P** **18 46 15.8 +1.1**
baz=264
GYA Guiyang 38.13 258 ⇑P **P** **18 46 17.4 +0.7**
GYA sP pP 18 46 23.0 -1.4
GYA PP **PnPn** **18 47 46.6 +0.8**
GYA S **S** **18 52 10.0 +2.4**
GYA pmax pmax
comp=Z,17nm,1.0s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,270nm,4.3s
GYA LR LR
comp=Z,280nm,4.2s
GYA LR LR
comp=Z,130nm,5.5s
OHAK Old Harbor 38.29 48 P **P** **18 46 17.1 -0.4**
baz=274
IMAR Indian Mountai 38.35 34 P **P** **18 46 18.6 +0.7**
IMAR **PcP** **18 48 31.1 +0.2**
A21K Barrow 38.48 25 P **P** **18 46 20.3 +1.5**
A21K Barrow 38.48 25 P **P** **18 46 20.2 +1.3**
baz=253,SNR=12
KDAK Kodiak Island 38.63 47 P **P** **18 46 19.8 -0.5**
comp=Z,48nm,0.8s,baz=288,slow=6.3,SNR=20
KDAK LR LR 19 04 41.9
comp=Z,150nm,20.2s,baz=264,slow=40
KDAK Kodiak Island 38.63 47 P **P** **18 46 20.4 +0.1**
KDAK pmax pmax
comp=Z,47nm,0.8s
KDAK Kodiak Island 38.63 47 P **P** **18 46 20.4 +0.1**
KDAK IAmb IAmb 18 46 21.5
comp=Z,47nm,0.8s
KDAK Kodiak Island 38.63 47 P **P** **18 46 20.4 +0.1**
baz=274
H21K Melozitna Rive 38.70 34 P **P** **18 46 21.9 +1.1**
H21K Melozitna Rive 38.70 34 P **P** **18 46 22.0 +1.2**
baz=264
SPCR Spurr Chakacha 38.71 41 P **P** **18 46 22.6 +1.5**
baz=270,SNR=7.9
CHUM Lake Minchumin 38.75 37 P **P** **18 46 23.2 +1.9**
baz=266,SNR=12
PPLA Purkeypile 38.76 39 P **P** **18 46 21.5 -0.1**
PPLA Purkeypile 38.76 39 P **P** **18 46 23.3 +1.8**
baz=268,SNR=9.4
SPU Mount Spurr 38.78 41 P **P** **18 46 22.8 +1.1**
CAST Castle Rocks 38.83 38 P **P** **18 46 23.5 +1.5**
CAST Castle Rocks 38.83 38 P **P** **18 46 23.7 +1.7**
baz=267,SNR=22
I21K Tanana 38.99 35 P **P** **18 46 24.2 +0.9**
I21K Tanana 38.99 35 P **P** **18 46 25.0 +1.8**
baz=265
BPAW Bear Paw Mtn. 39.35 37 P **P** **18 46 27.8 +1.5**
baz=267,SNR=7.1
KTH Kantishna Hill 39.35 38 P **P** **18 46 27.8 +1.4**
KTH IAmb IAmb 18 46 29.3
comp=Z,63nm,1.0s
BRSE Bradley Lake S 39.47 44 P **P** **18 46 28.0 +0.6**
baz=273
MLY Manley 39.51 35 P **P** **18 46 28.5 +0.8**
MLY Manley 39.51 35 P **P** **18 46 29.0 +1.4**
baz=266,SNR=15
CUT Chulitna 39.63 40 P **P** **18 46 29.1 +0.5**
CUT Chulitna 39.63 40 P **P** **18 46 29.2 +0.5**
baz=270,SNR=5.4
TRF Thorofare Moun 39.63 38 P **P** **18 46 29.6 +0.7**
TRF Thorofare Moun 39.63 38 P **P** **18 46 29.6 +0.7**
baz=269
COLD Coldfoot 39.90 32 P **P** **18 46 31.7 +0.8**
COLD Coldfoot 39.90 32 P **P** **18 46 31.9 +1.0**
baz=264,SNR=19
RC01 Rabbit Creek A 39.91 42 P **P** **18 46 31.8 +0.8**
RC01 Rabbit Creek A 39.91 42 P **P** **18 46 31.3 +0.3**
baz=272,SNR=5.4
BWN Browne 40.02 37 P **P** **18 46 33.8 +2.0**
BWN IAmb IAmb 18 46 35.3
comp=Z,140nm,1.1s
H23K Yukon River 40.05 34 P **P** **18 46 33.9 +1.7**
H23K Yukon River 40.05 34 P **P** **18 46 33.7 +1.6**
baz=267
I23K Minto, Yukon-K 40.09 35 P **P** **18 46 33.9 +1.4**
I23K Minto, Yukon-K 40.09 35 P **P** **18 46 34.0 +1.6**
baz=268,SNR=12
PMR Palmer 40.19 41 P **P** **18 46 33.6 +0.4**
PMR pmax pmax
comp=Z,41nm,1.1s
PMR Palmer 40.19 41 P **P** **18 46 33.6 +0.4**
PMR Palmer 40.19 41 P **P** **18 46 34.6 +1.4**
baz=272
NEA2 Nenana 40.20 36 P **P** **18 46 34.7 +1.3**
NEA2 Nenana 40.20 36 P **P** **18 46 34.7 +1.3**
baz=268,SNR=9.7
MCK McKinley 40.24 37 P **P** **18 46 34.6 +0.8**
MCK pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 40.24 37 P **P** **18 46 34.6 +0.8**
MCK McKinley 40.24 37 P **P** **18 46 34.5 +0.8**
baz=270,SNR=9.6
GHO Glory Hole Cre 40.28 41 P **P** **18 46 34.3 +0.1**
RND Reindeer 40.28 38 P **P** **18 46 34.6 +0.5**
RND pmax pmax
comp=Z,37nm,1.0s
RND Reindeer 40.28 38 P **P** **18 46 34.6 +0.5**
TOLK Toolik Lake Re 40.29 30 P **P** **18 46 35.0 +0.9**
TOLK Toolik Lake Re 40.29 30 P **P** **18 46 35.5 +1.3**
baz=263,SNR=32
NRIK Noril'sk 40.41 331 P **P** **18 46 34.8 -0.3**
comp=Z,5.2nm,0.5s,baz=111,slow=7.9,SNR=20
NRIK PcP **PcP** **18 48 37.8 +0.4**
comp=Z,8.7nm,0.8s,baz=127,slow=4.3,SNR=4.1
NRIK LR LR 19 04 18.1
comp=Z,342nm,21.2s,baz=94,slow=38
NRIK Noril'sk 40.41 331 *ceP* **P** **18 46 34.7 -0.3**
NRIK pmax pmax
comp=Z,42nm,1.5s
NRIK Noril'sk 40.41 331 P **P** **18 46 34.8 -0.3**
KNK Knik Glacier 40.52 41 P **P** **18 46 36.4 +0.4**
KNK IAmb IAmb 18 46 38.1
comp=Z,88nm,1.2s
KNK Knik Glacier 40.52 41 P **P** **18 46 36.7 +0.7**
baz=273,SNR=14
SML Sawmill 40.56 40 P **P** **18 46 37.1 +0.7**
SML Sawmill 40.56 40 P **P** **18 46 37.1 +0.7**
SML IAmb IAmb 18 46 38.5
comp=Z,109nm,1.0s
SML Sawmill 40.56 40 P **P** **18 46 37.1 +0.7**
baz=272,SNR=20
MDM Murphy Dome 40.57 36 P **P** **18 46 37.4 +0.9**
PWL Port Wells 40.60 42 P **P** **18 46 36.8 0.0**
PWL IAmb IAmb 18 46 38.3
comp=Z,55nm,1.0s
PWL Port Wells 40.60 42 P **P** **18 46 37.1 +0.3**
baz=274,SNR=10

WRH Wood River Hil 40.62 36 P **P** **18 46 37.3 +0.4**
TCOL CIGO, UAF Yank 40.72 36 **P** **18 46 38.7 +1.0**
TCOL CIGO, UAF Yank 40.72 36 P **P** **18 46 38.7 +1.0**
baz=269
COLA College 40.73 36 *i* P **P** **18 46 37.0 -0.7**
COLA pmax pmax
comp=Z,21nm,0.9s
COLA College 40.73 36 P **P** **18 46 38.5 +0.8**
COLA College 40.73 36 P **P** **18 46 38.8 +1.1**
baz=269
H24K Noodor Dome 40.74 34 P **P** **18 46 39.8 +1.9**
H24K Noodor Dome 40.74 34 P **P** **18 46 39.4 +1.5**
baz=268
CCB Clear Creek Bu 40.74 36 P **P** **18 46 38.4 +0.6**
QIZ Qiongzhong 40.77 246 P **P** **18 46 42.6 +4.0**
QIZ S S 18 52 58.2 +11
QIZ pmax pmax
comp=Z,51nm,2.7s
QIZ LR LR
comp=Z,580nm,15.1s
QIZ LR LR
comp=Z,590nm,16.7s
QIZ LR LR
comp=Z,260nm,23.1s
WAT6 Susitna Watana 40.80 39 P **P** **18 46 39.2 +0.6**
baz=272,SNR=9.3
POKR Poker Plat Res 40.91 35 P **P** **18 46 40.5 +1.2**
POKR IAmb IAmb 18 46 42.0
comp=Z,49nm,0.8s
POKR Poker Plat Res 40.91 35 P **P** **18 46 40.7 +1.5**
baz=269,SNR=20
DHY Denali Highway 40.95 38 P **P** **18 46 40.3 +0.5**
DHY Denali Highway 40.95 38 P **P** **18 46 40.6 +0.8**
baz=272,SNR=15
SCM Sheep Creek Mo 41.03 40 P **P** **18 46 41.4 +1.0**
SCM pmax pmax
comp=Z,49nm,0.9s
SCM Sheep Creek Mo 41.03 40 P **P** **18 46 41.4 +1.0**
SCM IAmb IAmb 18 46 42.5
comp=Z,49nm,0.9s
SCM Sheep Creek Mo 41.03 40 P **P** **18 46 41.2 +0.9**
baz=273,SNR=10.0
HDA Harding Lake 41.12 36 P **P** **18 46 41.1 +0.1**
HDA Harding Lake 41.12 36 P **P** **18 46 41.0 0.0**
baz=271,SNR=6.6
ILAR Eielson Array 41.14 36 P **P** **18 46 41.0 -0.1**
comp=Z,9.9nm,0.9s,baz=256,slow=7.5,SNR=71
ILAR Eielson Array 41.14 36 P **P** **18 46 41.0 -0.1**
GLI Glacier Island 41.21 42 P **P** **18 46 42.2 +0.5**
GLI Glacier Island 41.21 42 P **P** **18 46 42.2 +0.5**
baz=275
DAV Davao City (W) 41.46 217 LR LR 19 04 33.0
comp=Z,76nm,18.8s,baz=13,slow=37
M24K Tolsona, Glenn 41.56 40 P **P** **18 46 46.3 +1.7**
M24K IAmb IAmb 18 46 47.4
comp=Z,72nm,0.8s
M24K Tolsona, Glenn 41.56 40 P **P** **18 46 45.9 +1.2**
baz=274,SNR=10
PZH PanZhiHua 41.65 262 P **P** **18 46 46.0 +0.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.6s
GOMU GeErMu 41.69 279 P **P** **18 46 47.2 +0.8**
GOMU pP pP 18 46 53.4 -0.5
GOMU sP sP 18 46 57.5 -0.3
GOMU S **S** **18 53 03.1 +2.0**
GOMU sS pS 18 53 09.5 -0.7
GOMU SS **SS** **18 56 02.1 -4.9**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,220nm,4.5s
GOMU LR LR
comp=Z,210nm,17.1s
GOMU LR LR
comp=Z,190nm,19.0s
GOMU LR LR
comp=Z,140nm,19.1s
PRP Porcupine Dome 41.71 35 P **P** **18 46 46.9 +0.9**
PRP Porcupine Dome 41.71 35 P **P** **18 46 46.8 +0.9**
baz=271,SNR=15
KLU Klutina 41.73 41 P **P** **18 46 47.1 +1.1**
KLU IAmb IAmb 18 46 48.5
comp=Z,52nm,1.0s
KLU Klutina 41.73 41 P **P** **18 46 47.1 +1.1**
baz=275,SNR=13
KMI Kunming 41.75 260 ⇓P **P** **18 46 47.8 +0.9**
KMI pP pP 18 46 52.2 -2.4
KMI sP sP 18 46 56.0 -2.0
KMI pmax pmax
comp=Z,10.0nm,0.8s
J25K Salcha River, 41.79 36 P **P** **18 46 45.5 -1.1**
J25K Salcha River, 41.79 36 P **P** **18 46 46.7 +0.2**
baz=272,SNR=8.1
FYU Fort Yukon 41.83 33 P **P** **18 46 47.8 +1.1**
FYU IAmb IAmb 18 46 50.0
comp=Z,125nm,1.4s
PAX Paxson 41.83 39 P **P** **18 46 48.4 +1.5**
PAX pmax pmax
comp=Z,22nm,1.3s
PAX Paxson 41.83 39 P **P** **18 46 48.4 +1.5**
PAX Paxson 41.83 39 P **P** **18 46 47.7 +0.8**
baz=274,SNR=6.8
DIV Divide 41.83 41 P **P** **18 46 47.8 +0.9**
DIV IAmb IAmb 18 46 49.3
comp=Z,70nm,1.2s
EYAK Cordova Ski Ar 41.90 42 P **P** **18 46 48.5 +1.2**
baz=276
HARP HAARP 42.01 39 P **P** **18 46 49.6 +1.2**
baz=274,SNR=6.2
RIDG Independent Ri 42.06 37 P **P** **18 46 48.6 -0.1**
RIDG Independent Ri 42.06 37 P **P** **18 46 49.0 +0.3**
baz=273,SNR=7.0
BMAR Burnt Mountain 42.09 32 P **P** **18 46 50.6 +1.7**
N25K Chitina, Valde 42.34 41 P **P** **18 46 52.5 +1.4**
N25K Chitina, Valde 42.34 41 P **P** **18 46 52.1 +1.0**
baz=276
BMRM Bremner River 42.41 41 P **P** **18 46 53.1 +1.5**
BMRM IAmb IAmb 18 46 54.1
comp=Z,51nm,1.0s
BMRM Bremner River 42.41 41 P **P** **18 46 52.5 +0.8**
baz=276,SNR=12
DOT Dot Lake 42.42 37 P **P** **18 46 51.6 0.0**
SCRK Sand Creek 42.43 37 P **P** **18 46 52.2 +0.3**
baz=274,SNR=19
ZAA0 Zalesovo Array 42.44 308 P **P** **18 46 51.1 -0.7**
ZALV Zalesovo Beam 42.44 308 P **P** **18 46 52.3 +0.4**
comp=Z,3.0nm,0.3s,baz=78,slow=6.3,SNR=22
ZALV PcP **PcP** **18 48 44.6 +0.3**
comp=Z,13nm,0.7s,baz=78,slow=2.9,SNR=11
ZALV LR LR 19 05 22.9
comp=Z,154nm,19.3s,baz=69,slow=37
ZALV Zalesovo Beam 42.44 308 P **P** **18 46 51.4 -0.4**
J26L Joseph Creek 42.58 36 P **P** **18 46 53.6 +0.6**
baz=274
MENT Mentasta 42.63 39 P **P** **18 46 54.6 +1.3**
KAIM Kayak Island 42.63 43 P **P** **18 46 53.3 -0.1**
baz=278
GLB Gilahina Butte 42.74 41 P **P** **18 46 55.5 +1.2**
L26K Log Cabin Wild 42.79 38 P **P** **18 46 55.9 +1.3**
L26K Log Cabin Wild 42.79 38 P **P** **18 46 56.0 +1.3**
baz=275,SNR=25
VRDI Verde Repeater 42.94 41 P **P** **18 46 57.5 +1.5**
MCARA McCarthy VSAT 43.12 41 P **P** **18 46 58.9 +1.7**
MCARA McCarthy VSAT 43.12 41 P **P** **18 46 59.0 +1.7**
baz=277,SNR=7.6
WAX Waxell Ridge 43.33 42 P **P** **18 47 00.9 +1.8**
WAX IAmb IAmb 18 47 02.0
comp=Z,67nm,1.2s
L27K Beaver Creek, 43.47 38 P **P** **18 47 01.6 +1.4**
L27K IAmb IAmb 18 47 03.1
comp=Z,39nm,0.8s
L27K Beaver Creek, 43.47 38 P **P** **18 47 02.0 +1.8**
baz=276
BCAR Beaver Creek A 43.49 38 P **P** **18 47 01.7 +1.3**
M27K Edge Creek, AK 43.54 39 P **P** **18 47 02.2 +1.4**
M27K Edge Creek, AK 43.54 39 P **P** **18 47 02.5 +1.7**
baz=277
ISLE Juniper Island 43.56 42 P **P** **18 47 02.1 +1.0**
ISLE IAmb IAmb 18 47 03.5
comp=Z,59nm,1.2s
WMQ Urumqi 43.59 293 *eP* **P** **18 47 04.9 +3.5**
WMQ pP pP 18 47 07.6 -1.4
WMQ PP **PcP** **18 48 49.2 +0.7**

WMQ S S 18 53 30.9 +2.6
WMQ pmax pmax
comp=Z,58nm,0.9s
WMQ pmax pmax
comp=Z,390nm,4.1s
WMQ LR LR
comp=Z,930nm,17.7s
WMQ LR LR
comp=Z,560nm,20.5s
WMQ LR LR
comp=Z,430nm,20.5s
EGAK Eagle 43.59 36 P **P** **18 47 01.8 +0.7**
EGAK Eagle 43.59 36 P **P** **18 47 01.5 +0.5**
baz=275,SNR=16
BARN Barnard Glacie 43.82 41 P **P** **18 47 04.4 +1.3**
BARN IAmb IAmb 18 47 05.9
comp=Z,54nm,1.1s
GRNC Granite Creek 43.83 42 P **P** **18 47 04.6 +1.3**
GRNC IAmb IAmb 18 47 05.8
comp=Z,80nm,1.2s
CTG Chitna Glacier 43.99 41 P **P** **18 47 06.0 +1.5**
baz=279,SNR=12
CTGM Chitina Glacie 43.99 41 P **P** **18 47 05.9 +1.4**
CTGM IAmb IAmb 18 47 07.2
comp=Z,65nm,1.2s
BVCY Beaver Creek 44.00 39 P **P** **18 47 06.0 +1.6**
baz=278,SNR=14
LOGN Logan Glacier 44.17 41 P **P** **18 47 06.2 +0.2**
LOGN IAmb IAmb 18 47 11.3
comp=Z,61nm,1.5s
ZSN Zaisan 44.19 299*c i*P **P** **18 47 06.5 +0.4**
ZSN Zaisan 44.19 299⇑*i*P **P** **18 47 06.6 +0.4**
baz=299
YUK3 Moose Creek 44.28 40 P **P** **18 47 07.9 +1.0**
baz=279,SNR=17
DAWY Dawson 44.43 37 P **P** **18 47 08.9 +1.1**
DAWY Dawson 44.43 37 P **P** **18 47 08.8 +0.9**
baz=278,SNR=5.7
I29M Ogilvie Camp, 44.73 35 P **P** **18 47 11.0 +0.8**
I29M IAmb IAmb 18 47 12.5
comp=Z,28nm,0.8s
I29M Ogilvie Camp, 44.73 35 P **P** **18 47 11.2 +1.0**
baz=277,SNR=6.7
J29M Klondike Camp 44.89 36 P **P** **18 47 12.6 +1.0**
baz=278
YUK4 Talbot Arm 45.21 40 P **P** **18 47 15.6 +1.3**
baz=281,SNR=5.0
YUK6 Outpost Mounta 45.42 41 P **P** **18 47 17.2 +1.2**
baz=282
BAKI Biak 45.67 198 P P 18 47 24.8 +6.6
M30M Minto, Yukon 45.83 38 P **P** **18 47 20.4 +1.4**
M30M Minto, Yukon 45.83 38 P **P** **18 47 20.6 +1.6**
baz=281
HYT Haines Junctio 45.86 41 P **P** **18 47 21.2 +1.9**
HYT Haines Junctio 45.86 41 P **P** **18 47 21.5 +2.2**
baz=282,SNR=33
SMPI Sarmi 45.92 194 P **P** **18 47 21.6 +1.6**
MK31 Makanchi Array 46.07 299 *i* P **P** **18 47 21.4 +0.3**
MK31 Makanchi Array 46.07 299 P **P** **18 47 21.3 +0.3**
MK31 IAmb IAmb 18 47 47.7
comp=Z,25nm,0.8s
MKAR Makanchi Array 46.07 299 P **P** **18 47 21.7 +0.7**
comp=Z,16nm,0.6s,baz=81,slow=8.7,SNR=66
MKAR PcP **PcP** **18 48 57.2 +0.3**
comp=Z,6.5nm,0.6s,baz=64,slow=3.4,SNR=4.0
MKAR S **S** **18 54 03.1 -1.0**
comp=Z,0.1nm,0.6s,baz=92,slow=31,SNR=1.7
MKAR LR LR 19 08 07.8
comp=Z,430nm,19.1s,baz=69,slow=38
MKAR Makanchi Array 46.07 299 P **P** **18 47 21.1 0.0**
MKAR **PcP** **18 48 56.6 -0.3**
JAY Jayapura 46.10 192 LR LR 19 04 10.3
comp=Z,137nm,21.9s,baz=15,slow=33
SEM Semipalatinsk 46.11 304 *eP* **P** **18 47 21.2 -0.3**
SEM pmax pmax
comp=Z,13nm,0.8s
SEM Semipalatinsk 46.11 304 *eP* **P** **18 47 21.2 -0.3**
comp=Z,13nm,0.8s,baz=304
INK Inuvik 46.20 30 P **P** **18 47 22.9 +1.1**
comp=Z,18nm,0.8s,baz=279,slow=7.6,SNR=34
INK LR LR 19 09 38.6
comp=Z,142nm,18.4s,baz=300,slow=40
INK Inuvik 46.20 30 P **P** **18 47 22.8 +1.1**
INK IAmb IAmb 18 47 24.3
comp=Z,27nm,0.9s
INK Inuvik 46.20 30 P **P** **18 47 23.0 +1.2**
baz=278,SNR=18
GENI Genyem 46.26 192 P P 18 47 32.9 +10
comp=Z,55nm,1.1s
MAKZ Makanchi 46.26 299 P **P** **18 47 22.9 +0.3**
MAKZ pmax pmax
comp=Z,32nm,0.9s
MAKZ Makanchi 46.26 299 P **P** **18 47 22.9 +0.3**
MAKZ IAmb IAmb 18 47 38.8
comp=Z,32nm,0.8s
N31M Braeburn, Yuko 46.53 40 P **P** **18 47 25.8 +1.4**
N31M IAmb IAmb 18 47 27.8
comp=Z,38nm,0.9s
N31M Braeburn, Yuko 46.53 40 P **P** **18 47 26.1 +1.6**
baz=283
SIJI Serong 46.67 205 LR LR 19 03 37.8
comp=Z,94nm,21.6s,baz=1.5,slow=32
KURK Kurchatov 46.99 305*c i*P **P** **18 47 28.6 +0.5**
KURK pmax pmax
comp=Z,27nm,0.8s
KURK Kurchatov 46.99 305 P **P** **18 47 28.3 +0.1**
KURK IAmb IAmb 18 47 42.9
comp=Z,40nm,0.9s
KURK Kurchatov 46.99 305 *eP* **P** **18 47 28.6 +0.5**
M31M Drury Creek, Y 47.01 39 P **P** **18 47 29.3 +1.1**
M31M IAmb IAmb 18 47 31.0
comp=Z,26nm,0.9s
M31M Drury Creek, Y 47.01 39 P **P** **18 47 29.6 +1.4**
baz=283,SNR=15
KURBB Kurchatov Arra 47.07 305 LR LR 19 09 34.9
comp=Z,187nm,19.1s,baz=50,slow=39
KURBB Kurchatov Arra 47.07 305 P **P** **18 47 28.7 -0.1**
WHY Whitehorse 47.15 41 P **P** **18 47 31.2 +1.8**
WHY IAmb IAmb 18 47 32.6
comp=Z,27nm,1.1s
WHY Whitehorse 47.15 41 P **P** **18 47 30.9 +1.5**
baz=284,SNR=8.0
SKAG Skagway 47.24 42 P **P** **18 47 31.3 +1.4**
baz=285
FARO Faro, Yukon 47.47 38 P **P** **18 47 33.2 +1.4**
baz=284,SNR=15
LSA Lhasa 47.59 274 P **P** **18 47 34.0 +0.3**
LSA pmax pmax
comp=Z,33nm,1.3s
LSA Lhasa 47.59 274 P **P** **18 47 34.0 +0.3**
LSA IAmb IAmb 18 47 55.9
comp=Z,34nm,1.3s
LSA Lhasa 47.59 274 P **P** **18 47 33.7 0.0**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 47.59 274 P **P** **18 47 34.9 +1.2**
P33M Teslin, Yukon 48.26 41 P **P** **18 47 39.7 +1.7**
P33M IAmb IAmb 18 47 41.0
comp=Z,45nm,1.1s
P33M Teslin, Yukon 48.26 41 P **P** **18 47 39.6 +1.7**
baz=286,SNR=18
MMPY Sheldon Lake, 48.31 38 P **P** **18 47 40.0 +1.7**
baz=286,SNR=9.7
A36M Sachs Harbour 48.32 25 P **P** **18 47 39.9 +1.7**
A36M IAmb IAmb 18 47 41.8
comp=Z,27nm,1.0s
A36M Sachs Harbour 48.32 25 P **P** **18 47 39.7 +1.6**
baz=282,SNR=13
CHTO Chiang Mai 48.47 256 P **P** **18 47 40.5 +0.5**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO Chiang Mai 48.47 256 P **P** **18 47 40.5 +0.5**
CHTO IAmb IAmb 18 48 03.4
comp=Z,26nm,0.9s
CM31 Chiang Mai Arr 48.70 256 P **P** **18 47 41.2 -0.6**
CMAR Chiang Mai Arr 48.70 256 P **P** **18 47 41.9 0.0**
comp=Z,1.8nm,0.9s,baz=41,slow=7.6,SNR=16
CMAR PcP **PcP** **18 49 07.5 +0.8**
comp=Z,2.3nm,0.8s,baz=358,slow=1.5,SNR=6.3
CMAR LR LR 19 09 12.4
comp=Z,145nm,21.1s,baz=55,slow=37
CMAR Chiang Mai Arr 48.70 256 *i* P **P** **18 47 42.2 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 48.70 256 P **P** **18 47 42.0 +0.2**
PDGK Podgornoye 49.26 296 P **P** **18 47 49.4 +3.5**

TDK Taldyqorghan 49.26 298 *eP* **P** **18 47 46.5 +0.7**
TDK Taldyqorghan 49.26 298 *eP* **P** **18 47 46.5 +0.7**
baz=298
C36M Paulatuk 49.34 28 P **P** **18 47 46.8 +0.8**
C36M IAmb IAmb 18 47 47.6
comp=Z,20nm,0.7s
C36M Paulatuk 49.34 28 P **P** **18 47 46.9 +0.8**
baz=286,SNR=20
SHLS Shalkode 49.35 295 *eP* **P** **18 47 44.3 -2.3**
SHLS Shalkode 49.35 295 *eP* **P** **18 47 44.4 -2.2**
baz=295
SHL Shillong 49.39 268 P **P** **18 47 46.6 -0.6**
SHL pmax pmax
comp=Z,37nm,1.0s
SHL Shillong 49.39 268 P **P** **18 47 46.6 -0.6**
SHL IAmb IAmb 18 48 02.2
comp=Z,37nm,1.0s
SANI Sanana 49.58 211 P **P** **18 47 45.4 -3.0**
UZB Uzynbulak 49.64 295 *eP* **P** **18 47 48.9 0.0**
UZB Uzynbulak 49.64 295 *eP* **P** **18 47 49.0 0.0**
baz=296
WRAK Wrangell Islan 49.67 46 P **P** **18 47 50.2 +1.5**
baz=290
KPKS Kokpek 49.73 296 *eP* **P** **18 47 50.0 +0.5**
KPKS pmax pmax
comp=Z,10.0nm,1.2s
KPKS Kokpek 49.73 296 *eP* **P** **18 47 50.1 +0.5**
comp=Z,10.0nm,1.2s,baz=296
ARXS Arharly 49.97 297 *eP* **P** **18 47 51.8 +0.5**
TGTN Hyland Airport 49.98 38 P **P** **18 47 52.7 +1.6**
baz=289,SNR=7.7
MPSI Mapaga 49.99 219 P P 18 47 57.3 +5.7
comp=Z,9.2nm,1.2s
ZHN Zhinishke 50.02 296 *eP* **P** **18 47 51.5 -0.2**
ZHN Zhinishke 50.02 296 *eP* **P** **18 47 51.5 -0.2**
baz=296
SATY Saty 50.09 296 *eP* **P** **18 47 52.7 +0.5**
SATY Saty 50.09 296 *eP* **P** **18 47 52.8 +0.5**
baz=296
DLBC Dease Lake 50.17 43 P **P** **18 47 54.3 +1.7**
APSI Ampana 50.31 217 P **P** **18 47 58.3 +4.3**
comp=Z,370nmcomp=Z,34nm,1.1s
CHKK Chushkaly 50.67 297 *eP* **P** **18 47 56.3 -0.2**
baz=297
BRZS Berezniki 50.80 306*c i*P **P** **18 47 57.8 +0.4**
BRZS pmax pmax
comp=Z,13nm,0.6s
BRZS Berezniki 50.80 306⇑*i*P **P** **18 47 57.9 +0.4**
comp=Z,13nm,0.6s,baz=306
MDOK Medeo 50.94 296 *eP* **P** **18 47 58.9 +0.2**
MDOK Medeo 50.94 296 *eP* **P** **18 47 58.9 +0.2**
baz=296
BRVK Borovoye 50.97 310*c i*P **P** **18 47 59.0 +0.4**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK MLR MLR
comp=Z,262nm,19.0s
BRVK Borovoye 50.97 310 P **P** **18 47 59.0 +0.4**
BRVK IAmb IAmb 18 48 14.3
comp=Z,36nm,0.9s
BRVK Borovoye 50.97 310 *eP* **P** **18 47 59.0 +0.4**
AAA Alma-Ata 51.00 296 *eP* **P** **18 47 59.6 +0.5**
AAA Alma-Ata 51.00 296 *eP* **P** **18 47 59.6 +0.5**
baz=296
TNSS Tian-Shan 51.06 296 *eP* **P** **18 48 00.1 +0.2**
baz=296
KUU Kurty 51.07 297 *eP* **P** **18 47 59.4 -0.2**
KUU Kurty 51.07 297 *eP* **P** **18 47 59.4 -0.2**
baz=298
TARG Taragay, Kyrgy 51.08 294 P **P** **18 48 00.7 +0.6**
KDJ Kajisay 51.31 295 P **P** **18 48 01.9 +0.3**
KDJ pmax pmax
comp=Z,18nm,0.5s
KDJ Kajisay 51.31 295 P **P** **18 48 01.9 +0.3**
KDJ IAmb IAmb 18 48 19.4
comp=Z,18nm,0.5s
TAPN Taplejung 51.41 273 *eP* **P** **18 48 03.2 +0.6**
comp=Z,46nm,1.3s
OTUK Ortayu 51.72 304 P **P** **18 48 04.6 +0.3**
ULHL Ulahol 51.88 296 P P 18 48 12.0 +6.2
SNR=5.0
ODAN Odare 51.92 273 *eP* **P** **18 48 06.8 +0.4**
BOOM Boomskoye usch 51.97 296 P **P** **18 48 07.8 +1.3**
BOOM pmax pmax
comp=Z,53nm,1.2s
BOOM Boomskoye usch 51.97 296 P **P** **18 48 07.8 +1.3**
BOOM IAmb IAmb 18 48 34.5
comp=Z,53nm,1.1s
TKM2 Tokmak 2 51.99 297 P **P** **18 48 08.3 +1.6**
SNR=12
BTLS Baital 52.04 300 *eP* **P** **18 48 06.7 0.0**
BTLS Baital 52.04 300 *eP* **P** **18 48 06.7 0.0**
baz=300
JIRN Jiri 52.34 274 *eP* **P** **18 48 10.0 +0.3**
PMG Port Moresby 52.36 182 LR LR 19 07 19.8
comp=Z,104nm,21.6s,baz=35,slow=33
SGDS Sogindy 52.38 298 *eP* **P** **18 48 08.3 -1.1**
SGDS pmax pmax
comp=Z,14nm,0.9s
SGDS Sogindy 52.38 298⇑*i*P **P** **18 48 09.9 +0.5**
comp=Z,13nm,1.6s,baz=298
GUN Gumba 52.43 275 *eP* **P** **18 48 10.5 +0.2**
comp=Z,122nm,1.2s
RAMN Ramite 52.45 273 *eP* **P** **18 48 10.8 +0.5**
comp=Z,18nm,0.5s
KBK Karagaybulak 52.54 297 P **P** **18 48 12.1 +1.4**
SNR=9.8
USP Ospenovka 52.55 298 P **P** **18 48 11.9 +1.3**
SNR=14
FRU1 Bishkek 52.68 297 P **P** **18 48 11.5 -0.1**
FRU1 pmax pmax
comp=Z,25nm,0.6s
FRU1 Bishkek 52.68 297 P **P** **18 48 11.5 -0.1**
FRU1 IAmb IAmb 18 48 28.9
comp=Z,25nm,0.6s
AAK Ala-Archa 52.84 297 LR LR 19 13 32.1
comp=Z,196nm,18.2s,baz=74,slow=39
AAK Ala-Archa 52.84 297 *i* P **P** **18 48 12.6 -0.3**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 52.84 297 P **P** **18 48 13.5 +0.5**
AAK Ala-Archa 52.84 297 *eP* **P** **18 48 12.6 -0.3**
AAK Ala-Archa 52.84 297 *i* P **P** **18 48 13.3 +0.3**
SNR=10
KKN Kakani 52.93 275 *eP* **P** **18 48 14.2 +0.3**
PKI Pulchoki 52.96 275 *eP* **P** **18 48 14.2 0.0**
PKIN Phulchoki 52.97 275 *eP* **P** **18 48 14.1 -0.1**
DMN Daman 53.16 275 *eP* **P** **18 48 16.3 +0.7**
EUNU Eureka 53.18 10 P **P** **18 48 15.0 +0.2**
EUNU IAmb IAmb 18 48 23.0
comp=Z,53nm,1.4s
GKN Gorkha 53.28 276 *eP* **P** **18 48 16.3 0.0**
comp=Z,83nm,1.1s
EKS2 Erkin-Say 53.30 297 P **P** **18 48 17.6 +1.3**
SNR=8.9
KSH Kashi 53.35 293 P **P** **18 48 19.5 +2.8**
KSH pP sP 18 48 27.1 -0.9
KSH PP PP 18 50 24.9 +8.0
KSH S **S** **18 55 52.2 +6.0**
KSH pmax pmax
comp=Z,6.0nm,1.6s
KSH LR LR
comp=Z,230nm,12.1s
KSH LR LR
comp=Z,230nm,18.1s
KSH LR LR
comp=Z,430nm,19.4s
MTKI Muara Teweh, K 53.54 224 P P 18 48 27.2 +9.1
comp=Z,984nmcomp=Z,13nm,0.7s
BBB Bella Bella 53.60 49 LR LR 19 10 04.3
comp=Z,40nm,20.2s,baz=234,slow=35
AML Almayashu 53.61 297 P **P** **18 48 19.5 +0.7**
SNR=12
AML Almayashu 53.61 297 *i* P **P** **18 48 19.6 +0.7**
SNR=18
SPSI Sidrap Palu 53.86 217 P P 18 48 26.0 +5.6
comp=Z,6.8nm,1.2s
BBSI Bau Bau 54.05 213 P P 18 48 27.3 +5.5
comp=Z,2.2nm,1.4s
BNSI Bone 54.10 217 P P 18 48 27.9 +5.7
comp=Z,8.2nm,0.7s
KOLN Koldanda 54.17 276 *eP* **P** **18 48 23.3 +0.4**
comp=Z,86nm,1.2s
PYUN Piuthan 54.42 277 *eP* **P** **18 48 25.0 +0.2**
comp=Z,86nm,1.2s
SVE Sverdlovsk 54.50 318*ceP* **P** **18 48 25.6 +1.0**

SVE *e*S S 18 56 10.8 +10
SVE pmax pmax
comp=Z,50nm,0.9s
SVE Sverdlovsk 54.50 318 *eP* **P** **18 48 25.6 +1.0**
STKI Sintang 54.51 228 P P 18 48 32.8 +7.6
comp=Z,5.6nm,0.5s
DZA Taraz 54.77 298 *eP* **P** **18 48 27.3 +0.4**
DZA Taraz 54.77 298 *eP* **P** **18 48 27.3 +0.4**
baz=298
KAPI Kappang 54.80 217 LR LR 19 11 22.9
comp=Z,29nm,21.1s,baz=25,slow=36
BKSI Bulukumba 54.92 216 P P 18 48 36.5 +8.4
comp=Z,10nm,1.0s
RES Resolute Bay 55.12 17 P **P** **18 48 29.0 +0.2**
comp=Z,38nm,0.9s,baz=296,slow=7.5,SNR=128
RES LR LR 19 13 41.3
comp=Z,93nm,22.0s,baz=274,slow=38
RES Resolute Bay 55.12 17 P **P** **18 48 29.1 +0.3**
RES pmax pmax
comp=Z,57nm,1.0s
RES Resolute Bay 55.12 17 P **P** **18 48 29.1 +0.3**
RES IAmb IAmb 18 48 30.8
comp=Z,57nm,1.0s
SRIT Nakonsritamara 55.14 246 P **P** **18 48 28.6 -1.1**
KKAR Karatay Array 55.20 299 P **P** **18 48 29.7 -0.2**
KKAR Karatay Array 55.20 299 P **P** **18 48 29.7 -0.2**
NOR Nord 55.24 357 *i* P **P** **18 48 28.6 -1.0**
NOR IAmb IAmb 18 48 31.4
comp=Z,7.3nm,0.8s
YKA Yellowknife Ar 55.51 34 P **P** **18 48 32.1 +0.3**
comp=Z,13nm,0.8s,baz=297,slow=6.8,SNR=114
YKA PcP **PcP** **18 49 30.9 -0.6**
comp=Z,5.5nm,0.9s,baz=299,slow=4.0,SNR=6.7
YKA LR LR 19 15 55.2
comp=Z,52nm,19.7s,baz=302,slow=40
YKA Yellowknife Ar 55.51 34 P **P** **18 48 32.0 +0.2**
KBS Kingsbay 55.57 351 *eP* **P** **18 48 33.2 +1.1**
SPITS Spitsbergen Ar 55.60 349 LR LR 19 12 26.6
comp=Z,93nm,21.5s,baz=236,slow=36
ARU Arti 55.70 318 P **P** **18 48 33.4 +0.1**
baz=82,slow=7.4
ARU S **S** **18 56 15.2 -1.8**
comp=Z,0.2nm,0.3s,baz=105,slow=23,SNR=1.4
ARU LR LR 19 14 35.1
comp=Z,297nm,19.4s,baz=54,slow=38
ARU Arti 55.70 318*c i*P **P** **18 48 33.3 0.0**
ARU *PP **sP** **18 48 45.0 0.0**
ARU 18 49 32.2
ARU 18 50 34.0
ARU S **S** **18 56 19.5 +2.4**
ARU SS **SS** **19 00 05.1 +3.1**
ARU pmax pmax
comp=Z,55nm,1.1s
ARU MLR MLR
comp=Z,218nm,15.0s
ARU Arti 55.70 318 P **P** **18 48 33.2 -0.1**
ARU IAmb IAmb 18 48 36.4
comp=Z,42nm,0.9s
ARU Arti 55.70 318 *eP* **P** **18 48 33.3 0.0**
IUG Iuzhnay 55.98 298*c i*P **P** **18 48 36.0 +0.4**
IUG Iuzhnay 55.98 298⇑*i*P **P** **18 48 36.1 +0.4**
baz=298
BTK Batken 56.52 296 P **P** **18 48 39.5 -0.1**
BTK pmax pmax
comp=Z,47nm,1.4s
BTK Batken 56.52 296 P **P** **18 48 39.5 -0.1**
BTK IAmb IAmb 18 49 00.2
comp=Z,47nm,1.4s
HSPB Hornsund (broa 56.62 349 *eP* **P** **18 48 40.4 +0.8**
TAS Tashkent 56.87 298 P **P** **18 48 42.8 +0.9**
TAS pmax pmax
comp=Z,38nm,0.5s
TAS Tashkent 56.87 298 P **P** **18 48 42.8 +0.9**
COEN Coen 57.11 187 P **P** **18 48 42.3 -1.4**
GAR Garm 57.40 295 P **P** **18 48 45.8 0.0**
TULEG Thule 58.16 10 *i* P **P** **18 48 46.6 -3.8**
TULEG IAmb IAmb 18 48 53.9
comp=Z,19nm,0.7s
NIL Nilore 58.27 288 P **P** **18 48 51.5 -0.4**
NIL pmax pmax
comp=Z,39nm,0.9s
NIL Nilore 58.27 288 P **P** **18 48 51.5 -0.4**
NIL IAmb IAmb 18 49 01.6
comp=Z,39nm,0.9s
CHGR Chuyangaron 58.35 295 P **P** **18 48 51.9 -0.5**
AB31 Akbulak array 58.49 310 *eP* **P** **18 48 53.2 +0.1**
ABKAR Akbulak array 58.49 310 P **P** **18 48 53.2 +0.1**
ABKAR IAmb IAmb 18 49 20.3
comp=Z,25nm,0.7s
ABKAR Akbulak array 58.49 310 P **P** **18 48 53.3 +0.2**
D03D Eldon 58.68 52 P **P** **18 48 55.6 +1.2**
baz=301
PRGR Permogore 58.80 327 *eP* **P** **18 48 54.1 -1.0**
B05A Bryant 58.87 51 P **P** **18 48 56.5 +0.7**
baz=301
LVZ Lovozero 58.88 336 *i* P **P** **18 48 55.2 -0.4**
LVZ pmax pmax
comp=Z,63nm,1.2s
LVZ Lovozero 58.88 336 P **P** **18 48 55.0 -0.7**
LVZ IAmb IAmb 18 48 56.6
comp=Z,53nm,1.1s
KIRV Kirov 58.89 323 P **P** **18 48 55.9 +0.2**
comp=Z,29nm,0.5s,baz=62,slow=4.0,SNR=3.7
KIRV PcP **PcP** **18 49 45.0 +0.3**
comp=Z,19nm,0.6s,baz=62,slow=3.2,SNR=2.1
KIRV LR LR 19 16 10.9
comp=Z,303nm,21.3s,baz=53,slow=38
KIRV Kirov 58.89 323*c i*P **P** **18 48 55.6 -0.1**
AKTO Aktyubinsk 58.95 312 P **P** **18 48 56.5 +0.2**
comp=Z,7.7nm,0.6s,baz=69,slow=8.2,SNR=35
AKTO LR LR 19 16 00.5
comp=Z,217nm,18.1s,baz=61,slow=38
NEEM North Greenlan 59.00 5 *i* P **P** **18 48 55.6 -1.0**
NEEM IAmb IAmb 18 48 57.2
comp=Z,16nm,0.8s
KMMI Kalianget 59.27 222 P P 18 49 07.0 +8.2
comp=Z,14nm,0.8s
APA Apatity 59.46 336⇓*i*P **P** **18 48 58.2 -1.3**
APA *i* 18 51 14.0
APA *i* S **S** **18 57 02.0 -4.0**
APA *i* 18 58 47.0
APA *i* SSS SSS 19 03 38.0
APA pmax pmax
comp=Z,13nm,0.9s
F04D Rainier, OR 59.48 54 P **P** **18 49 01.8 +1.8**
baz=302
E04D Cinebar 59.49 53 P **P** **18 49 01.3 +1.2**
baz=302
SRBI Singaraja 59.57 220 P **P** **18 49 01.8 +0.9**
C06D Leavenworth 59.73 51 P **P** **18 49 02.8 +1.0**
baz=302
PSI Prapat 59.89 242 LR LR 19 18 26.6
comp=Z,65nm,18.1s,baz=42,slow=40
F04A Amboy 59.91 54 P **P** **18 49 04.1 +1.1**
DAG Danmarks Havn 60.07 357 *i* P **P** **18 49 02.0 -1.6**
DAG IAmb IAmb 18 49 04.0
comp=Z,6.9nm,0.7s
LTY Liberty 60.22 52 P **P** **18 49 05.1 -0.1**
LTY IAmb IAmb 18 49 06.9
comp=Z,38nm,1.3s
ARA0 ARCESS Array S 60.26 340 *eP* **P** **18 49 05.6 +0.6**
ARCES ARCESS Array B 60.26 340 P **P** **18 49 05.2 +0.2**
comp=Z,12nm,0.8s,baz=44,slow=7.8,SNR=46
ARCES PcP **PcP** **18 49 48.9 -1.2**
comp=Z,8.1nm,0.7s,baz=38,slow=4.6,SNR=5.0
ARCES LR LR 19 18 46.9
comp=Z,177nm,20.4s,baz=47,slow=40
ARCES ARCESS Array B 60.26 340 P **P** **18 49 05.5 +0.5**
ARCES pmax pmax
comp=Z,29nm,1.1s
ARCES ARCESS Array B 60.26 340 P **P** **18 49 05.5 +0.5**
ARCES IAmb IAmb 18 49 06.5
comp=Z,29nm,1.1s
B08A Colville Reser 60.38 50 P **P** **18 49 06.5 +0.2**
B08A IAmb IAmb 18 49 31.8
comp=Z,43nm,1.4s
BKNI Bangkinang 60.44 239 P **P** **18 49 07.2 +0.2**
J01E Myrtle Point 60.49 57 P **P** **18 49 08.7 +1.7**
baz=303
F05D White Salmon 60.50 53 P **P** **18 49 07.9 +0.8**
F05D IAmb IAmb 18 49 09.8
comp=Z,39nm,1.1s
I03D Drain, OR 60.56 56 P **P** **18 49 08.9 +1.4**
baz=303
KBL Kabul 60.68 291 P **P** **18 49 08.2 -0.5**

KBL **Kabul** 60.68 291 P **P** 18 49 08.2 -0.5
KBL IAmb IAmb 18 49 16.8
comp=Z,35nm,1.1s
HOOD **Mount Hood Mea** 60.70 54 P **P** 18 49 09.4 +0.9
H04A **Detroit Lake** 60.73 55 P **P** 18 49 09.4 +0.7
H04A IAmb IAmb 18 49 10.9
comp=Z,33nm,1.0s
K02D **Willamette Mer** 60.91 57 P **P** 18 49 11.6 +1.5
baz=303
G05D **Wamic, OR** 60.94 54 P **P** 18 49 11.2 +1.2
baz=303
E07A **Sunnyside** 61.07 52 P **P** 18 49 12.0 +1.0
E07A IAmb IAmb 18 49 13.2
comp=Z,50nm,1.0s
I04A **Tendick Farm,** 61.08 56 P **P** 18 49 12.4 +1.3
baz=303
PWJI **Pagerwojo** 61.17 223 P P 18 49 19.9 +8.0
comp=Z,60nm,1.1s
KTK1 **Kautokeino** 61.19 341 *eP* **P** 18 49 12.1 +0.7
L02E **Cave Junction** 61.25 58 P **P** 18 49 13.1 +0.9
baz=304
C09A **Chrisman Ranch** 61.28 50 P **P** 18 49 12.9 +0.5
C09A IAmb IAmb 18 49 14.0
comp=Z,22nm,0.9s
D08A **Wollman Farm,** 61.33 51 P **P** 18 49 12.9 +0.3
D08A IAmb IAmb 18 49 14.3
comp=Z,32nm,1.1s
HAWA **Hanford** 61.35 52 P **P** 18 49 13.6 +0.8
HAWA IAmb IAmb 18 49 15.0
comp=Z,30nm,0.9s
F07A **Phinny Hill Vi** 61.39 53 P **P** 18 49 14.7 +1.6
I05D **Terrebonne, OR** 61.42 55 P **P** 18 49 14.5 +1.1
baz=304
JETT **Jettan, Norway** 61.45 342 *eP* **P** 18 49 14.8 +1.6
E08A **Dider Farm, El** 61.56 52 P **P** 18 49 14.8 +0.5
E08A IAmb IAmb 18 49 16.1
comp=Z,20nm,0.8s
J04D **Umpqua Nationa** 61.56 56 P **P** 18 49 15.2 +0.6
J04D **Umpqua Nationa** 61.56 56 P **P** 18 49 15.7 +1.1
baz=304
KLMR **Klimovskoe** 61.65 328 *eP* **P** 18 49 12.4 -2.2
KLMR pmax pmax
comp=Z,90nm,1.4s
KLMR **Klimovskoe** 61.65 328 *eP* **P** 18 49 12.4 -2.2
KLMR AMP 18 49 29.6
comp=Z,90nm,1.4s
NEW **Newport** 61.67 49 LR LR 19 13 23.6
comp=Z,60nm,21.8s,baz=278,slow=34
NEW **Newport** 61.67 49 P **P** 18 49 15.8 +0.8
NEW pmax pmax
comp=Z,21nm,1.0s
NEW **Newport** 61.67 49 P **P** 18 49 15.8 +0.8
NEW IAmb IAmb 18 49 16.7
comp=Z,22nm,0.9s
NEW **Newport** 61.67 49 P **P** 18 49 15.5 +0.5
baz=304
TRO **Tromso** 61.73 342 *eP* **P** 18 49 15.3 +0.4
PINE **Pine Mountain** 61.96 55 P **P** 18 49 18.6 +1.3
L04D **Klamath Falls** 62.02 57 P **P** 18 49 18.9 +1.4
L04D **Klamath Falls** 62.02 57 P **P** 18 49 18.5 +1.0
baz=304
YBH **Yreka Blue Hor** 62.04 58 P **P** 18 49 19.1 +1.4
YBH pmax pmax
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 62.04 58 P **P** 18 49 19.1 +1.4
KPJI **Karang Pucung** 62.06 226 P P 18 49 25.8 +7.9
J05D **Fort Rock, OR** 62.07 56 P **P** 18 49 19.4 +1.4
baz=304
E09A **Wood Farm, Sta** 62.07 51 P **P** 18 49 18.6 +0.9
E09A IAmb IAmb 18 49 19.7
comp=Z,39nm,0.9s
M02C **Callahan** 62.14 58 P **P** 18 49 20.3 +2.0
M02C IAmb IAmb 18 49 21.9
comp=Z,52nm,1.5s
M02C **Callahan** 62.14 58 P **P** 18 49 20.1 +1.8
baz=304
G08A **Pilot Rock** 62.29 53 P **P** 18 49 20.5 +1.1
LEM **Lembang** 62.34 228 LR LR 19 15 54.1
comp=Z,37nm,22.0s,baz=346,slow=36
N02D **Trinity Center** 62.47 59 P **P** 18 49 21.6 +1.1
N02D IAmb IAmb 18 49 23.2
comp=Z,16nm,0.7s
N02D **Trinity Center** 62.47 59 P **P** 18 49 21.6 +1.1
baz=304
M04C **Macdoel** 62.55 57 P **P** 18 49 21.8 +0.7
M04C IAmb IAmb 18 49 23.5
comp=Z,29nm,0.9s
M04C **Macdoel** 62.55 57 P **P** 18 49 22.3 +1.2
baz=305
DBG **Daneborg** 62.58 357 *i* P **P** 18 49 19.6 -1.1
DBG IAmb IAmb 18 49 43.0
comp=Z,4.9nm,0.8s
K05A **Summer Lake** 62.59 56 P **P** 18 49 22.4 +0.9
I07A **Izee** 62.66 54 P **P** 18 49 22.9 +1.1
WDC **Whiskeytown Da** 62.79 59 P **P** 18 49 23.9 +1.3
WDC pmax pmax
comp=Z,15nm,1.0s
WDC **Whiskeytown Da** 62.79 59 P **P** 18 49 23.9 +1.3
O02D **Mt. Diablo Mer** 62.87 59 P **P** 18 49 24.5 +1.3
baz=305
F10A **Beach Ranch, E** 62.91 51 P **P** 18 49 24.3 +0.9
WALA **Waterton Lakes** 62.97 47 P **P** 18 49 24.5 +0.8
WALA IAmb IAmb 18 49 25.6
comp=Z,30nm,0.9s
CTA **Charters Tower** 63.00 183 LR LR 19 12 55.6
comp=Z,92nm,21.1s,baz=1.0,slow=32
O03E **Paynes Creek** 63.42 59 P **P** 18 49 27.5 +0.6
O03E **Paynes Creek** 63.42 59 P **P** 18 49 27.5 +0.6
baz=305
BMO **Blue Mountains** 63.51 52 P **P** 18 49 28.4 +1.0
BMO pmax pmax
comp=Z,15nm,1.2s
BMO **Blue Mountains** 63.51 52 P **P** 18 49 28.4 +1.0
JTMT **Jette** 63.53 48 P **P** 18 49 28.5 +1.0
JTMT IAmb IAmb 18 49 29.5
comp=Z,17nm,0.8s
J08A **Circle Bar Ran** 63.68 54 P **P** 18 49 29.4 +0.8
J08A IAmb IAmb 18 49 30.9
comp=Z,28nm,1.0s
ORV **Oroville** 64.04 59 P **P** 18 49 31.2 +0.3
ORV pmax pmax
comp=Z,8.0nm,0.8s
ORV **Oroville** 64.04 59 P **P** 18 49 31.2 +0.3
WB0 **Warramunga Arr** 64.07 195 P **P** 18 49 30.3 -0.8
WB0 IAmb IAmb 18 49 49.2
comp=Z,18nm,0.7s
PLID **Pearl Lake** 64.12 52 P **P** 18 49 32.2 +0.6
PLID IAmb IAmb 18 49 33.2
comp=Z,39nm,1.1s
WVOR **Wild Horse Val** 64.12 55 P **P** 18 49 32.5 +1.0
WVOR pmax pmax
comp=Z,23nm,0.9s
WVOR **Wild Horse Val** 64.12 55 P **P** 18 49 32.5 +1.0
WVOR IAmb IAmb 18 49 33.6
comp=Z,23nm,0.9s
HYBB **Hyderabad (bro** 64.14 270 *eP* **P** 18 49 32.0 +0.2
HYBB *e* 18 49 41.3
HYBB *e* 18 51 42.3
WR0 **Warramunga Arr** 64.23 195 P **P** 18 49 31.6 -0.6
WRAB **Tennant Creek** 64.24 195 *i* P **P** 18 49 30.5 -1.7
WRAB pmax pmax
comp=Z,17nm,1.0s
WRAB **Tennant Creek** 64.24 195 P **P** 18 49 31.6 -0.5
WRAB IAmb IAmb 18 49 50.4
comp=Z,17nm,0.8s
WB2 **Warramunga Arr** 64.25 195 P **P** 18 49 31.3 -1.0
WB2 IAmb IAmb 18 49 50.5
comp=Z,16nm,0.8s
WRA **Warramunga Arr** 64.25 195 P **P** 18 49 31.6 -0.7
comp=Z,4.6nm,0.7s,baz=16,slow=6.9,SNR=27
WRA LR LR 19 14 20.5
comp=Z,45nm,21.5s,baz=138,slow=33
WRA PKP2bc 19 18 27.9
comp=Z,2.4nm,1.0s,baz=210,slow=2.2,SNR=8.4
WRA **Warramunga Arr** 64.25 195 P **P** 18 49 31.5 -0.7
MSO **Missoula** 64.26 49 P **P** 18 49 32.7 +0.4
MSO IAmb IAmb 18 49 34.0
comp=Z,29nm,0.8s
MSO **Missoula** 64.26 49 P **P** 18 49 33.0 +0.7
baz=306
FAUS **Fauske** 64.34 342 *eP* **P** 18 49 32.5 +0.2
BEKR **Beckworth** 64.57 58 P **P** 18 49 35.0 +0.5
BEKR IAmb IAmb 18 49 36.3
comp=Z,19nm,1.0s
FITZ **Fitzroy Crossi** 64.66 205 LR LR 19 20 50.3
comp=Z,17nm,18.1s,baz=33,slow=39
FITZ **Fitzroy Crossi** 64.66 205 P **P** 18 49 34.5 -0.5
MFID **Camas Ranch** 65.21 53 P **P** 18 49 39.0 +0.4
PAHR **Pah Rah Range** 65.27 58 P **P** 18 49 40.1 +1.0
PAHR IAmb IAmb 18 49 41.0
comp=Z,27nm,1.3s
FFC **Flin Flon** 65.33 37 P **P** 18 49 39.6 +0.6
FFC pmax pmax
comp=Z,32nm,1.2s
FFC **Flin Flon** 65.33 37 P **P** 18 49 39.6 +0.6
FFC IAmb IAmb 18 49 40.6
comp=Z,32nm,1.2s
HRA **Herat** 65.35 295 P **P** 18 49 40.2 +0.5
HRA IAmb IAmb 18 49 49.1
comp=Z,19nm,1.1s
HRY **Holter Researc** 65.49 48 P **P** 18 49 41.1 +0.8
PNTR **Pine Nut** 65.50 59 P **P** 18 49 41.9 +1.2
PNTR IAmb IAmb 18 49 43.7
comp=Z,24nm,0.6s
MOR8 **Moi Rana** 65.52 341 *eP* **P** 18 49 38.5 -1.5
CMB **Columbia Colle** 65.63 60 P **P** 18 49 42.2 +0.9
CMB pmax pmax
comp=Z,11nm,0.7s
CMB **Columbia Colle** 65.63 60 P **P** 18 49 42.2 +0.9
LRM **Limekiln Ridge** 65.69 49 P **P** 18 49 42.5 +0.7
MOS **Moscow** 65.72 325 *eP* **P** 18 49 39.0 -2.5
MOS *e* 18 49 55.2
MOS *e* 18 50 06.2
MOS pmax pmax
comp=Z,55nm,1.3s
EGMT **Eagleton** 65.80 46 P **P** 18 49 42.9 +0.6
EGMT **Eagleton** 65.80 46 P **P** 18 49 42.9 +0.6
baz=308
FCC **Fort Churchill** 65.82 31 P **P** 18 49 41.7 -0.4
FCC pmax pmax
comp=Z,16nm,0.9s
FCC **Fort Churchill** 65.82 31 P **P** 18 49 41.7 -0.4
FCC IAmb IAmb 18 49 42.5
comp=Z,16nm,0.9s
GEYT **Alibeck** 65.92 300 P **P** 18 49 43.5 +0.3
comp=Z,12nm,0.8s,baz=44,slow=6.6,SNR=14
GEYT LR LR 19 20 40.7
comp=Z,226nm,19.2s,baz=64,slow=38
GEYT **Alibeck** 65.92 300 P **P** 18 49 43.4 +0.2
GYA0B **ALIBECK ARRAY** 65.92 300 P **P** 18 49 42.7 -0.5
GYA0B IAmb IAmb 18 50 08.9
comp=Z,15nm,0.8s
HLID **Hailey** 65.94 52 P **P** 18 49 44.1 +0.7
HLID **Hailey** 65.94 52 P **P** 18 49 44.3 +0.9
baz=307
FIA1 **FINESS Array S** 66.00 334 P **P** 18 49 43.1 -0.1
FINES **FINESS Array B** 66.00 334 P **P** 18 49 43.0 -0.2
comp=Z,23nm,0.6s,baz=41,slow=7.5,SNR=118
FINES LR LR 19 20 10.7
comp=Z,229nm,22.0s,baz=40,slow=38
FINES **FINESS Array B** 66.00 334 P **P** 18 49 42.6 -0.6
BCYI **Bear Canyon** 66.07 51 P **P** 18 49 44.7 +0.4
MCMT **McKenzie Canyo** 66.07 50 P **P** 18 49 44.6 +0.4
BMN **Battle Mountai** 66.17 56 P **P** 18 49 46.3 +1.4
BMN pmax pmax
comp=Z,35nm,0.7s
BMN **Battle Mountai** 66.17 56 P **P** 18 49 46.3 +1.4
MSVF **Nonsavu** 66.21 150 LR LR 19 12 50.9
comp=Z,179nm,21.2s,baz=33,slow=31
BOZ **Bozeman (W)** 66.28 49 P **P** 18 49 46.2 +0.7
BOZ pmax pmax
comp=Z,27nm,0.7s
BOZ **Bozeman (W)** 66.28 49 P **P** 18 49 46.2 +0.7
BOZ IAmb IAmb 18 49 47.3
comp=Z,27nm,0.7s
BOZ **Bozeman (W)** 66.28 49 P **P** 18 49 46.4 +0.9
baz=308
RYN **Ryan** 66.45 59 P **P** 18 49 47.6 +0.9
KVN **Kaiserville** 66.46 58 P **P** 18 49 47.7 +0.9
KVN pmax pmax
comp=Z,46nm,1.2s
KVN **Kaiserville** 66.46 58 P **P** 18 49 47.7 +0.9
KVN IAmb IAmb 18 49 49.0
comp=Z,46nm,1.2s
OBN **Obninsk** 66.58 325 P **P** 18 49 47.1 +0.2
comp=Z,4.6nm,0.6s,baz=155,slow=3.0,SNR=8.8
OBN LR LR 19 21 09.3
comp=Z,50nm,20.2s,baz=4.5,slow=38
OBN **Obninsk** 66.58 325 *ce* P **P** 18 49 47.2 +0.2
OBN *e**PP* **sP** 18 50 01.7 +3.0
OBN *i* *SP* **pwP** 18 50 08.8 +2.7
OBN *i* 18 50 13.5
OBN S **S** 18 58 40.0 +4.6
OBN pmax pmax
comp=Z,64nm,1.4s
OBN MLR MLR
comp=Z,124nm,14.0s
OBN **Obninsk** 66.58 325 P **P** 18 49 46.7 -0.3
LHV **Little Huntoon** 66.69 59 P **P** 18 49 49.6 +1.6
NVAR **Mina Array Bea** 66.71 59 P **P** 18 49 48.7 +0.3
comp=Z,10nm,0.6s,baz=298,slow=6.9,SNR=65
NVAR LR LR 19 19 26.2
comp=Z,46nm,18.4s,baz=272,slow=36
NVAR **Mina Array Bea** 66.71 59 P **P** 18 49 49.4 +1.0
NV11 **Mina Array Sit** 66.80 59 P **P** 18 49 50.2 +1.3
VRH **Novokhopyorsk** 66.86 319 *eP* **P** 18 49 48.4 -0.5
VRH pmax pmax
comp=Z,40nm,1.1s
QLMT **Earthquake Lak** 66.86 50 P **P** 18 49 50.3 +1.0
DZM **Mont Dzumac** 66.87 162 LR LR 19 19 32.7
comp=Z,99nm,18.2s,baz=28,slow=36
DZM **Mont Dzumac** 66.87 162 *e* LR LR 19 09 25.0
comp=Z,305nm,33.0s
YHL **Hebgen Lake** 66.99 50 P **P** 18 49 51.1 +0.9
YHL IAmb IAmb 18 49 52.2
comp=Z,18nm,0.9s
PAGB **Antelope Grade** 67.11 62 P **P** 18 49 52.1 +1.4
PAGB IAmb IAmb 18 49 52.9
comp=Z,50nm,1.3s
ELK **Elko** 67.17 55 P **P** 18 49 52.2 +0.8
ELK pmax pmax
comp=Z,9.0nm,0.8s
ELK **Elko** 67.17 55 P **P** 18 49 52.2 +0.8
AFI **Afiamalu** 67.19 138 LR LR 19 22 06.4
comp=Z,27nm,18.5s,baz=343,slow=39
YHH **Holmes Hill** 67.21 49 P **P** 18 49 52.2 +0.6
YHH IAmb IAmb 18 49 53.5
comp=Z,17nm,0.9s
YMR **Madison River** 67.22 50 P **P** 18 49 52.6 +1.0
YMR IAmb IAmb 18 49 53.6
comp=Z,17nm,0.8s
GCMT **Greycliff** 67.24 48 P **P** 18 49 52.4 +0.8
LPSR **Galich'ya Gora** 67.24 322 *eP* **P** 18 49 51.3 +0.1
LPSR pmax pmax
comp=Z,40nm,1.0s
YNR **Norris Junctio** 67.36 49 P **P** 18 49 54.0 +1.6
YFT **Old Faithful** 67.43 50 P **P** 18 49 53.5 +0.6
YFT IAmb IAmb 18 49 57.6
comp=Z,36nm,1.4s
YUF **Upper Falls** 67.45 49 P **P** 18 49 54.3 +1.2
TIN **Tinemaha, Big** 67.59 60 P **P** 18 49 55.3 +1.4
baz=308
TPH **Tonopah** 67.60 58 P **P** 18 49 54.9 +0.9
TPH pmax pmax
comp=Z,106nm,1.0s
TPH **Tonopah** 67.60 58 P **P** 18 49 54.9 +0.9
LKWY **Lake** 67.60 49 P **P** 18 49 55.3 +1.2
LKWY pmax pmax
comp=Z,16nm,1.0s
LKWY **Lake** 67.60 49 P **P** 18 49 55.2 +1.2
H17A **Grant Village** 67.61 50 P **P** 18 49 56.3 +2.1
H17A IAmb IAmb 18 49 57.7
comp=Z,35nm,1.1s
H17A **Grant Village** 67.61 50 P **P** 18 49 56.4 +2.3
baz=309
VORR **Voronezh** 67.73 321 *eP* **P** 18 49 55.7 +1.3
VORR pmax pmax
comp=Z,20nm,0.4s
FLWY **Flagg Ranch** 67.74 50 P **P** 18 49 56.5 +1.6
LCH **Last Change Ra** 67.85 59 P **P** 18 49 56.4 +0.8
ICESG **Greenland Ices** 67.87 3 *i* P **P** 18 49 54.7 -0.7
ICESG IAmb IAmb 18 49 56.9
comp=Z,26nm,0.8s
RLMT **Red Lodge** 67.88 48 P **P** 18 49 56.2 +0.5
RLMT **Red Lodge** 67.88 48 P **P** 18 49 56.7 +1.0
baz=309
MOOW **Moose Ponds** 67.92 50 P **P** 18 49 56.8 +0.8
MOOW IAmb IAmb 18 49 58.5
comp=Z,27nm,1.1s
MOOW PcP **PcP** 18 50 20.8 -1.5
AS31 **Alice Springs** 67.96 195 P **P** 18 49 55.7 -0.3
ASAR **Alice Springs** 67.96 195 P **P** 18 49 56.0 0.0
comp=Z,2.9nm,0.7s,baz=12,slow=5.8,SNR=48
ASAR LR LR 19 16 41.8
comp=Z,34nm,21.5s,baz=2.5,slow=33
ASAR PKP2bc 19 18 16.5
comp=Z,3.0nm,1.1s,baz=195,slow=2.8,SNR=10.0
ASAR **Alice Springs** 67.96 195 P **P** 18 49 55.9 -0.2
TPAW **Teton Pass** 67.97 51 P **P** 18 49 56.4 0.0
TPAW IAmb IAmb 18 49 58.0
comp=Z,35nm,0.9s
HVU **Hansel Valley** 67.99 53 P **P** 18 49 56.9 +0.4
HVU pmax pmax
comp=Z,15nm,0.9s
HVU **Hansel Valley** 67.99 53 P **P** 18 49 56.9 +0.4
HVU IAmb IAmb 18 49 58.5
comp=Z,15nm,0.9s
VSU **Vasula** 68.00 331 *i* P **P** 18 49 55.7 -0.2
VSU **Vasula** 68.00 331 *eP* **P** 18 49 56.4 +0.4
CWC **Cottonwood Cre** 68.06 60 P **P** 18 49 57.7 +0.7
baz=308
LOHW **Long Hollow** 68.09 50 P **P** 18 49 58.1 +1.1
SNOW **Snow King Moun** 68.10 51 P **P** 18 49 57.5 +0.3
SNOW IAmb IAmb 18 49 59.7
comp=Z,50nm,1.4s
REDW **Red Top Meadow** 68.11 51 P **P** 18 49 58.2 +1.0
REDW IAmb IAmb 18 49 59.6
comp=Z,40nm,1.2s
BCW **Bitter Crk WRg** 68.13 62 P **P** 18 49 56.8 -0.6
BCW IAmb IAmb 18 49 59.8
comp=Z,22nm,0.8s
GRAC **Grapevine Rang** 68.17 59 P **P** 18 49 58.1 +0.6
GRAC IAmb IAmb 18 49 59.6
comp=Z,52nm,1.4s
GRAC **Grapevine Rang** 68.17 59 P **P** 18 49 58.6 +1.2
baz=308
ISA **Isabella, Lake** 68.29 61 P **P** 18 49 58.2 -0.1
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 68.29 61 P **P** 18 49 58.2 -0.1
ISA **Isabella, Lake** 68.29 61 P **P** 18 49 58.2 -0.1
baz=308
AHID **Auburn Hatcher** 68.34 51 P **P** 18 49 58.5 -0.2
AHID IAmb IAmb 18 50 00.4
comp=Z,22nm,1.1s
DGMT **Dagmar** 68.38 43 P **P** 18 49 58.8 +0.3
DGMT **Dagmar** 68.38 43 P **P** 18 49 58.9 +0.3
baz=311
BGU **Big Grassy Mou** 68.38 54 P **P** 18 49 59.3 +0.4
R11A **Troy Canyon, C** 68.44 57 P **P** 18 49 59.7 +0.3
R11A IAmb IAmb 18 50 01.2
comp=Z,24nm,0.9s
R11A **Troy Canyon, C** 68.44 57 P **P** 18 50 00.1 +0.8
baz=309
LAO **LASA Array** 68.50 46 P **P** 18 49 59.9 +0.5
LAO IAmb IAmb 18 50 01.4
comp=Z,33nm,0.9s
LAO **LASA Array** 68.50 46 P **P** 18 50 00.2 +0.8
baz=311
MPMC **Manual Prospec** 68.67 60 P **P** 18 50 01.5 +0.7
baz=308
OSI **Osito Audit: C** 68.78 62 P **P** 18 50 02.2 +0.9
baz=308
S11A **Rachel** 68.78 58 P **P** 18 50 01.6 +0.2
MTSE **Matsula** 68.81 333 *eP* **P** 18 50 01.8 +0.8
FURC **Furnace Creek,** 68.81 60 P **P** 18 50 02.5 +1.1
baz=309
AAL **Aland** 68.89 335 *eP* **P** 18 50 01.6 +0.2
CCAC **Calif City Air** 68.90 61 P **P** 18 50 02.5 +0.5
CCAC IAmb IAmb 18 50 03.7
comp=Z,22nm,0.8s
TPNV **Topopah Spring** 68.90 59 P **P** 18 50 03.0 +0.8
TPNV pmax pmax
comp=Z,25nm,1.4s
TPNV **Topopah Spring** 68.90 59 P **P** 18 50 03.0 +0.8
TPNV IAmb IAmb 18 50 04.2
comp=Z,25nm,1.4s
TPNV **Topopah Spring** 68.90 59 P **P** 18 50 02.9 +0.8
baz=309
LRMC **Laurel Mtn Rad** 68.91 61 P **P** 18 50 02.5 +0.3
baz=309
DUG **Dugway, Tooele** 68.97 54 P **P** 18 50 03.5 +1.0
DUG pmax pmax
comp=Z,31nm,0.9s
DUG **Dugway, Tooele** 68.97 54 P **P** 18 50 03.5 +1.0
DUG IAmb IAmb 18 50 04.6
comp=Z,31nm,0.9s
DUG **Dugway, Tooele** 68.97 54 P **P** 18 50 03.5 +1.0
baz=309
EDW2 **Edwards Air Fo** 69.08 62 P **P** 18 50 04.2 +1.0
baz=309
GWY **Greenwater Val** 69.11 60 P **P** 18 50 04.0 +0.5
QSM **Queen of Sheba** 69.12 60 P **P** 18 50 04.1 +0.7
QSM IAmb IAmb 18 50 05.3
comp=Z,36nm,1.4s
SFJD **Kangerlussuaq** 69.13 8 LR LR 19 21 03.5
comp=Z,93nm,21.8s,baz=342,slow=37
SFJD **Kangerlussuaq** 69.13 8 *i* P **P** 18 49 59.6 -3.3
SFJD IAmb IAmb 18 50 03.7
comp=Z,6.7nm,0.8s
MAK **Makhachkala** 69.17 310 *eP* **P** 18 50 01.5 -2.0
MAK *e* 18 52 38.0
MAK *eS* **S** 18 59 04.4 -2.3
MAK *eSS* **SS** 19 03 26.8 -5.8
MAK pmax pmax
comp=Z,78nm,1.2s
MAK MLR MLR
comp=Z,125nm,18.0s
BW06 **Boulder Array** 69.22 51 P **P** 18 50 04.5 +0.3
BW06 IAmb IAmb 18 50 05.5
comp=Z,20nm,1.1s
BW06 **Boulder Array** 69.22 51 P **P** 18 50 04.5 +0.3
baz=310
PD31 **Pinedale Array** 69.22 51 P **P** 18 50 04.3 +0.2
PDAR **Pinedale Array** 69.22 51 P **P** 18 50 04.7 +0.5
comp=Z,11nm,0.7s,baz=270,slow=1.3,SNR=76
PDAR PKiKP **PKiKP** 18 56 20.6 -0.1
comp=Z,0.6nm,0.9s,baz=342,slow=2.4,SNR=2.4
PDAR **Pinedale Array** 69.22 51 P **P** 18 50 03.9 -0.2
CTU **Camp Tracy** 69.28 53 P **P** 18 50 04.7 +0.3
PALK **Pallekele** 69.29 260 LR LR 19 21 43.8
comp=Z,51nm,21.9s,baz=146,slow=37
FRB **Frobisher Bay** 69.34 17 LR LR 19 25 15.9
comp=Z,78nm,18.1s,baz=14,slow=40
PRN **Pahroc Range** 69.36 58 P **P** 18 50 06.1 +1.1
PSUT **Pine Spring** 69.39 56 P **P** 18 50 05.8 +0.6
JLU **Jordanelle** 69.51 53 P **P** 18 50 06.5 +0.4
JLU IAmb IAmb 18 50 08.1
comp=Z,36nm,1.5s
NLU **North Lily Min** 69.56 54 P **P** 18 50 07.3 +1.0
NLU IAmb IAmb 18 50 08.2
comp=Z,22nm,1.0s
GSC **Goldstone, Bar** 69.58 61 P **P** 18 50 07.0 +0.7
GSC pmax pmax
comp=Z,11nm,1.3s
GSC **Goldstone, Bar** 69.58 61 P **P** 18 50 07.0 +0.7
GSC **Goldstone, Bar** 69.58 61 P **P** 18 50 06.6 +0.3
baz=309
BFSC **Mount Baldy Ra** 69.70 62 P **P** 18 50 07.8 +0.7
baz=309
MPU **Maple Canyon** 69.78 54 P **P** 18 50 08.1 +0.5
MPU IAmb IAmb 18 50 09.5
comp=Z,19nm,0.8s
UPP **Uppsala** 69.85 336 *eP* **P** 18 50 07.7 +0.3
SHPR **Sheep Range** 69.86 59 P **P** 18 50 09.0 +0.9
SHPR IAmb IAmb 18 50 10.3
comp=Z,24nm,1.1s
GROC **Groznyy** 69.97 311 *eP* **P** 18 50 08.8 +0.4
GROC *e* 18 52 41.8
GROC pmax pmax
comp=Z,30nm,1.3s
TUQ **Turquoise Moun** 70.05 60 P **P** 18 50 10.1 +0.8
baz=309
HEC **Hector,Ludlow** 70.17 61 P **P** 18 50 10.7 +0.7
baz=309
TCRU **Three Creeks R** 70.19 55 P **P** 18 50 10.8 +0.5
ELS **Elsinore Mount** 70.22 62 P **P** 18 50 10.7 +0.4
GOF **Gofitskoye** 70.24 314 *i* P **P** 18 50 10.9 +0.8
GOF pmax pmax
comp=Z,136nm,1.3s
DOMB **Dombas** 70.28 341 *eP* **P** 18 50 10.7 +0.5
CCUT **Cedar City** 70.31 57 P **P** 18 50 12.1 +1.1
CCUT IAmb IAmb 18 50 13.2
comp=Z,25nm,1.0s
IDID **Didziasalis** 70.37 329 *eP* **P** 18 50 11.7 +1.1

MURC	Murrieta	70.40	62	P	P	18 50 11.6	+0.3
	baz=309						
ISAL	Salakas	70.40	330	eP	P	18 50 12.7	+1.8
MSU	Marysvale	70.42	55	P	P	18 50 12.0	+0.4
MSU	Marysvale	70.42	55	P	P	18 50 12.0	+0.4
NC303	NORSAR Array S	70.43	340	P	P	18 50 10.9	0.0
NC303				IAmb	IAmb	18 50 12.3	
	comp=Z,63nm,1.3s						
NC405	NORSAR Array S	70.43	340	P	P	18 50 11.2	+0.2
SZCU	Shurtz Canyon	70.45	57	P	P	18 50 12.5	+0.7
SEKA	Sheki	70.48	308	P	P	18 50 12.2	+0.5
TMUT	Trail Mountain	70.49	54	P	P	18 50 13.0	+0.9
ZKTA	Zakatala	70.53	309	P	P	18 50 12.1	+0.2
IIGN	Ignalina	70.53	329	eP	P	18 50 12.8	+1.1
NC204	NORSAR Array S	70.53	340	P	P	18 50 11.4	-0.3
MNK	Minsk	70.54	328	iP	P	18 50 11.2	-0.5
MNK				i		18 52 47.7	
MNK				iPPP	PPP	18 54 29.6	
MNK				iS	S	18 59 21.8	-0.7
MNK				iSS	SS	19 03 52.2	-0.9
MNK				pmax	pmax		
	comp=Z,49nm,0.9s						
MNK				pmax	pmax		
	comp=E,6.0nm,1.4s						
MNK				pmax	pmax		
	comp=N,41nm,1.4s						
MNK				MLR	MLR		
	comp=N,195nm,17.0s						
MNK				MLR	MLR		
	comp=Z,416nm,20.0s						
MNK				MLR	MLR		
	comp=E,34nm,19.0s						
MNK	Minsk	70.54	328	iP	P	18 50 11.3	-0.5
	comp=E,6.0nm,1.4s						
MNK				iP	P	18 50 11.3	-0.5
	comp=N,41nm,1.4s						
MNK				iP	P	18 50 11.3	-0.5
	comp=Z,49nm,0.9s,baz=42						
MNK				iPP	PP	18 52 47.7	+0.1
MNK				iPPP	PPP	18 54 29.6	
MNK				iS	S	18 59 21.9	-0.7
MNK				iSS	SS	19 03 52.2	-0.9
MNK				iSSS	SSS	19 07 16.0	
MNK				iLQ	LQ	19 16 23.7	
MNK				iLR	LR	19 20 32.7	
MNK				iLRM	MLR	19 23 00.9	
	comp=N,195nm,16.6s						
MNK				iLRM	MLR	19 23 01.6	
	comp=Z,416nm,19.8s						
MNK				iLRM	MLR	19 23 15.6	
	comp=E,34nm,19.2s						
NB201	NORSAR Array S	70.60	340	P	P	18 50 12.5	+0.5
NB2	NORSAR Subarra	70.62	340	P	P	18 50 12.2	0.0
	comp=Z,26nm,0.7s,baz=31,slow=6.5						
NB2	NORSAR Subarra	70.62	340	P	P	18 50 12.2	0.0
	baz=31,slow=6.5						
NOA	NORSAR Array B	70.62	340	P	P	18 50 11.8	-0.5
	comp=Z,25nm,0.8s,baz=32,slow=6.6,SNR=70						
NOA				LR	LR	19 24 48.3	
	comp=Z,165nm,21.0s,baz=25,slow=39						
RDMU	Red Mountain	70.63	52	P	P	18 50 13.3	+0.5
GMRC	Granite Mounta	70.63	60	P	P	18 50 13.5	+0.6
	baz=310						
P17A	Butcher Ranch,	70.65	54	P	P	18 50 13.5	+0.5
P17A				IAmb	IAmb	18 50 14.9	
	comp=Z,34nm,1.0s						
NACGM	Naroch	70.66	329	iP	P	18 50 12.8	+0.3
MTPU	Mount Pierson	70.71	56	P	P	18 50 14.9	+1.4
MTPU				IAmb	IAmb	18 50 16.1	
	comp=Z,21nm,0.8s						
LCMT	Little Creek M	70.73	57	P	P	18 50 14.0	+0.7
LCMT				IAmb	IAmb	18 50 15.7	
	comp=Z,32nm,0.9s						
NBO00	NORSAR Array S	70.74	340	P	P	18 50 13.0	+0.1
Q16A	Castle Valley	70.76	55	P	P	18 50 14.2	+0.6
Q16A				IAmb	IAmb	18 50 15.7	
	comp=Z,19nm,0.9s						
NC602	NORSAR Array S	70.80	339	P	P	18 50 12.9	-0.3
NC602				IAmb	IAmb	18 50 28.0	
	comp=Z,45nm,1.3s						
NC602	NORSAR Array S	70.80	339	eP	P	18 50 12.9	-0.3
MNGR	Mingechevir, A	70.83	308	P	P	18 50 15.2	+1.5
P18A	Preston Nutter	70.84	53	P	P	18 50 14.9	+0.6
P18A				IAmb	IAmb	18 50 16.3	
	comp=Z,39nm,1.4s						
PFO	Pinyon Flats O	70.86	62	LR	LR	19 14 52.0	
	comp=Z,130nm,20.0s,baz=302,slow=30						
PFO	Pinyon Flats O	70.86	62	P	P	18 50 14.2	0.0
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PFO	Pinyon Flats O	70.86	62	P	P	18 50 14.2	0.0
PFO	Pinyon Flats O	70.86	62	P	P	18 50 14.7	+0.4
	baz=310						
TPFO	Pinon Flats	70.87	62	P	P	18 50 14.6	+0.3
	baz=310						
PYA1	Pyatigorsk	70.87	313	iP	P	18 50 14.0	0.0
NAO01	NORSAR Array S	70.88	340	P	P	18 50 13.8	+0.1
NAO01	NORSAR Array S	70.88	340	eP	P	18 50 12.5	-1.2
BELC	Belle Mtn. Jos	70.92	61	P	P	18 50 14.6	0.0
	baz=310						
KNB	Kanab	70.98	57	P	P	18 50 16.0	+1.0
KNB				pmax	pmax		
	comp=Z,41nm,1.0s						
KNB	Kanab	70.98	57	P	P	18 50 16.0	+1.0
KNB				IAmb	IAmb	18 50 17.5	
	comp=Z,41nm,1.0s						
NCK	Nalchik	70.98	312	iP	P	18 50 14.3	-0.4
NCK				pmax	pmax		
	comp=Z,60nm,1.3s						
K22A	Casper	70.99	49	P	P	18 50 15.1	+0.2
K22A				IAmb	IAmb	18 50 16.4	
	comp=Z,24nm,0.8s						
K22A	Casper	70.99	49	P	P	18 50 15.0	0.0
	baz=312						
SRU	San Rafael Swe	71.02	54	P	P	18 50 15.7	+0.5
SRU				pmax	pmax		
	comp=Z,41nm,1.0s						
SRU	San Rafael Swe	71.02	54	P	P	18 50 15.7	+0.5
SRU				IAmb	IAmb	18 50 16.8	
	comp=Z,41nm,1.0s						
MDND	Maddock	71.06	42	P	P	18 50 15.4	+0.3
MDND	Maddock	71.06	42	P	P	18 50 15.1	0.0
	baz=314						
ULM	Lac du Bonnet	71.11	38	P	P	18 50 14.8	-0.5
	comp=Z,8.3nm,0.9s,baz=313,slow=7.7,SNR=11						
ULM	Lac du Bonnet	71.11	38	P	P	18 50 14.9	-0.5
ULM				pmax	pmax		
	comp=Z,15nm,1.1s						
ULM	Lac du Bonnet	71.11	38	P	P	18 50 14.9	-0.5
KIV	Kislovodsk	71.17	313	⇑P	P	18 50 18.6	+2.7
KIV	Kislovodsk	71.17	313	eP	P	18 50 16.7	+0.9
KIV				eS	S	18 59 31.7	+1.4
KIV				pmax	pmax		
	comp=Z,17nm,3.3s						
KIV				pmax	pmax		
	comp=Z,64nm,1.1s						
KIV				MLR	MLR		
	comp=Z,229nm,18.0s						
KIV	Kislovodsk	71.17	313	P	P	18 50 16.8	+0.9
KIV	Kislovodsk	71.17	313	eP	P	18 50 16.7	+0.9
KIV	Kislovodsk	71.17	313	iP	P	18 50 16.7	+0.9
	SNR=8.3						
LKRN	Lenkeran, Azer	71.17	306	P	P	18 50 16.1	+0.2
KBZ	Khabaz	71.20	313	P	P	18 50 16.7	+0.7
	comp=Z,38nm,0.9s,baz=50,slow=3.9,SNR=76						
KBZ				LR	LR	19 26 01.0	
	comp=Z,338nm,18.6s,baz=38,slow=40						
KBZ	Khabaz	71.20	313c	iP	P	18 50 16.5	+0.6
KBZ				pmax	pmax		
	comp=Z,61nm,1.0s						
KBZ	Khabaz	71.20	313	eP	P	18 50 16.5	+0.6
VIKU	Vikbolandet	71.24	336	eP	P	18 50 16.1	+0.2
PABE	Paberze	71.24	331	P	P	18 50 15.7	-0.2
PABE	Paberze	71.24	331	eP	P	18 50 16.5	+0.5
ZEI	Tsey	71.29	311	eP	P	18 50 14.5	-2.3
ZEI				pmax	pmax		
	comp=Z,28nm,1.0s						
NEE2	Needles Airpor	71.30	60	P	P	18 50 16.9	+0.2
	baz=310						
GANJ	Ganja	71.35	308	P	P	18 50 17.8	+0.9
MONP2	Monument Peak	71.35	62	P	P	18 50 17.7	+0.4
	baz=310						
RSSD	Black Hills	71.36	47	P	P	18 50 16.8	-0.4
RSSD				pmax	pmax		
	comp=Z,26nm,0.9s						
RSSD	Black Hills	71.36	47	P	P	18 50 16.8	-0.4
RSSD				IAmb	IAmb	18 50 18.2	
	comp=Z,26nm,0.8s						
RSSD	Black Hills	71.36	47	P	P	18 50 17.3	+0.1
	baz=312						
IRM	Iron Mountain	71.36	61	P	P	18 50 17.9	+0.8
	baz=310						
E28A	Huff	71.41	43	P	P	18 50 17.2	0.0
BC3	Big Chuckawall	71.48	61	P	P	18 50 18.3	+0.3
	baz=310						
W13A	Hualapai Mount	71.55	59	P	P	18 50 18.1	-0.4
PBUR	Paburge	71.55	332	eP	P	18 50 18.2	+0.4
NEY	Neytrino	71.62	312	iP	P	18 50 18.0	-0.7
NEY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ONI	Oni	71.67	311	P	P	18 50 20.3	+1.4
ONI				pmax	pmax		
	comp=Z,38nm,1.0s						
ONI	Oni	71.67	311	P	P	18 50 20.3	+1.4
ONI				IAmb	IAmb	18 50 21.7	
	comp=Z,38nm,1.0s						
O20A	White River Ci	71.68	52	P	P	18 50 19.3	+0.1
O20A				IAmb	IAmb	18 50 20.6	
	comp=Z,35nm,1.3s						
O20A	White River Ci	71.68	52	P	P	18 50 19.3	+0.1
	baz=311						
U15A	North Rim	71.69	57	P	P	18 50 19.7	+0.3
U15A				IAmb	IAmb	18 50 21.7	
	comp=Z,31nm,0.9s						
IKP	In-Ko-Pah, Jac	71.70	62	P	P	18 50 19.8	+0.5
	baz=310						
SWSC	Sam W. Stewart	71.72	62	P	P	18 50 19.4	+0.2
	baz=310						
HYA	Hoyanger	71.72	342	eP	P	18 50 19.2	+0.5
RMX	La Rumorosa	71.75	62	P	P	18 50 20.4	+0.7
YUH	Yuha Desert	71.83	62	P	P	18 50 20.3	+0.4
PDMCI	Parker Dam,Lak	71.90	60	P	P	18 50 20.9	+0.6
	baz=310						
BLYC	Blythe	72.02	61	P	P	18 50 21.9	+0.8
BORG	Borgarnes	72.15	356	LR	LR	19 22 01.0	
	comp=Z,32nm,20.9s,baz=349,slow=36						
KONO	Kongsberg	72.23	340	P	P	18 50 22.1	+0.2
KONO				pmax	pmax		
	comp=Z,27nm,1.2s						
KONO	Kongsberg	72.23	340	P	P	18 50 22.1	+0.2
KONO				IAmb	IAmb	18 50 23.3	
	comp=Z,27nm,1.2s						
GLA	Glamis	72.27	61	P	P	18 50 23.1	+0.5
GLA				pmax	pmax		
	comp=Z,21nm,0.9s						
GLA	Glamis	72.27	61	P	P	18 50 23.1	+0.5
GLA				IAmb	IAmb	18 50 24.5	
	comp=Z,21nm,0.9s						
GLA	Glamis	72.27	61	P	P	18 50 23.3	+0.7
	baz=310						
PV23	Carpenter Ridg	72.34	54	P	P	18 50 23.4	+0.1
PV23				IAmb	IAmb	18 50 24.9	
	comp=Z,72nm,1.4s						
PV10	Paradox Valley	72.37	54	P	P	18 50 24.3	+0.9
AKH	Akhalkalaki	72.44	311	⇑P	P	18 50 26.2	+2.6
PHWY	Pilot Hill	72.48	50	P	P	18 50 24.5	+0.4
N23A	Red Feather La	72.48	50	P	P	18 50 24.9	+0.8
N23A				IAmb	IAmb	18 50 26.1	
	comp=Z,34nm,1.1s						
N23A	Red Feather La	72.48	50	P	P	18 50 24.7	+0.6
	baz=312						
AGMN	Agassiz Nation	72.52	39	P	P	18 50 23.1	-0.8
AGMN				IAmb	IAmb	18 50 24.5	
	comp=Z,33nm,1.2s						
AGMN	Agassiz Nation	72.52	39	P	P	18 50 23.2	-0.6
	baz=316						
PV11	David Mesa, Pa	72.52	54	P	P	18 50 24.5	+0.2
PV07	Paradox Valley	72.56	54	P	P	18 50 25.0	+0.5
GNI	Garni	72.58	309	P	P	18 50 25.8	+1.3
	comp=Z,17nm,1.0s,baz=197,slow=4.1,SNR=14						
GNI				LR	LR	19 27 46.8	
	comp=Z,121nm,18.0s,baz=50,slow=40						
GNI	Garni	72.58	309c	iP	P	18 50 24.1	-0.4
GNI				pmax	pmax		
	comp=Z,61nm,1.5s						
GNI	Garni	72.58	309	P	P	18 50 26.4	+1.9
GNI				IAmb	IAmb	18 50 27.8	
	comp=Z,70nm,1.4s						
GNI	Garni	72.58	309	P	P	18 50 26.2	+1.7
PV13	Radium Mtn., P	72.65	54	P	P	18 50 25.6	+0.6
PV13				IAmb	IAmb	18 50 26.8	
	comp=Z,34nm,0.7s						
SUW	Suwalki	72.69	330	P	P	18 50 24.4	-0.3
SUW				pmax	pmax		
	comp=Z,33nm,0.8s						
SUW	Suwalki	72.69	330	P	P	18 50 24.4	-0.3
SUW				IAmb	IAmb	18 50 25.7	
	comp=Z,33nm,0.8s						
SUW	Suwalki	72.69	330	eP	P	18 50 24.9	+0.3
PV15	Paradox Valley	72.73	54	P	P	18 50 25.5	0.0
PV15				IAmb	IAmb	18 50 27.1	
	comp=Z,27nm,1.3s						
ODD1	Odda	72.73	341	eP	P	18 50 25.4	+0.5
NAX	Nakhchivan	72.80	308	P	P	18 50 26.1	+0.4
D32A	Dogwood Acres,	72.81	41	P	P	18 50 25.3	-0.2
D32A				IAmb	IAmb	18 50 26.2	
	comp=Z,50nm,0.9s						
WUAZ	Wupatki	72.84	57	P	P	18 50 27.1	+0.9
WUAZ				IAmb	IAmb	18 50 28.4	
	comp=Z,26nm,1.1s						
WUAZ	Wupatki	72.84	57	P	P	18 50 27.3	+1.1
	baz=311						
AKASG	Malin Array Be	72.85	325	P	P	18 50 25.4	-0.3
	comp=Z,8.4nm,0.5s,baz=38,slow=6.1,SNR=54						
AKASG				LR	LR	19 24 55.4	
	comp=Z,117nm,18.2s,baz=356,slow=38						
AKASG	Malin Array Be	72.85	325	iP	P	18 50 25.3	-0.4
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AKASG	Malin Array Be	72.85	325	P	P	18 50 24.8	-0.9
AKBB	Malin Array Si	72.85	325c	iP	P	18 50 25.4	-0.3
AKBB	Malin Array Si	72.85	325	P	P	18 50 25.1	-0.6
AKBB				IAmb	IAmb	18 50 26.7	
	comp=Z,30nm,0.9s						
Y14A	Wickenburg	72.86	60	P	P	18 50 26.7	+0.6
SMCO	Snowmass	73.05	52	P	P	18 50 28.0	+0.4
113A	Mohawk Valley,	73.14	61	P	P	18 50 27.7	0.0
KARS	Kars	73.19	310	P	P	18 50 28.9	+0.8
KARS				pmax	pmax		
	comp=Z,93nm,0.8s						
KARS	Kars	73.19	310	P	P	18 50 28.9	+0.8
ANN	Anapa	73.32	316	eP	P	18 50 25.4	-3.2
ANN				e*PP	sP	18 50 38.2	-1.8
ANN				e		18 53 09.2	
ANN				eS	S	18 59 51.4	-3.3
ANN				pmax	pmax		
	comp=Z,53nm,1.2s						
ISCO	Idaho Springs	73.41	51	P	P	18 50 30.1	+0.5
ISCO				pmax	pmax		
	comp=Z,17nm,1.1s						
ISCO	Idaho Springs	73.41	51	P	P	18 50 30.1	+0.5
ISCO	Idaho Springs	73.41	51	P	P	18 50 30.4	+0.8
	baz=313						
B35A	Bob, Littlefor	73.45	38	P	P	18 50 28.7	-0.6
B35A				IAmb	IAmb	18 50 30.0	
	comp=Z,30nm,1.1s						
MVCO	Mesa Verde	73.47	54	P	P	18 50 30.3	+0.4
MVCO	Mesa Verde	73.47	54	P	P	18 50 30.6	+0.7
	baz=312						
X16A	Lo Mia Camp, P	73.52	58	P	P	18 50 31.1	+0.9
X16A				IAmb	IAmb	18 50 32.5	
	comp=Z,22nm,0.9s						
SUSD	Miller	73.77	44	P	P	18 50 30.9	-0.4
SUSD				IAmb	IAmb	18 50 32.1	
	comp=Z,31nm,0.9s						
SUSD	Miller	73.77	44	P	P	18 50 30.9	-0.4
	baz=315						
DEL	Delary	73.78	336	eP	P	18 50 30.6	-0.5
F33A	5 Mile Ranch,	74.09	41	P	P	18 50 32.7	-0.4
F33A				IAmb	IAmb	18 50 34.1	
	comp=Z,50nm,1.2s						
S22A	4UR Ranch, Cre	74.09	53	P	P	18 50 34.2	+0.6
S22A	4UR Ranch, Cre	74.09	53	P	P	18 50 34.6	+1.0
	baz=313						
W18A	Petrified Fore	74.11	57	P	P	18 50 34.5	+0.8
W18A	Petrified Fore	74.11	57	P	P	18 50 34.6	+1.0
	baz=312						
Q24A	Divide	74.24	51	P	P	18 50 34.7	+0.2
Q24A	Divide	74.24	51	P	P	18 50 34.7	+0.2
	baz=313						
214A	Organ Pipe Nat	74.28	61	P	P	18 50 34.9	+0.4
214A	Organ Pipe Nat	74.28	61	P	P	18 50 35.1	+0.6
	baz=311						
X18A	Snowflake	74.37	57	P	P	18 50 35.3	+0.1
BSD	Bornholm Skovb	74.61	335	eP	P	18 50 36.3	+0.4
OGNE	Ogallala	74.61	48	P	P	18 50 36.4	+0.1
OGNE	Ogallala	74.61	48	P	P	18 50 36.5	+0.1
	baz=314						
BANOM	Banah	74.64	291	P	P	18 50 36.9	+0.3
SHME	Shamm	74.66	291	P	P	18 50 37.6	+0.9
EYMN	Ely	74.76	37	P	P	18 50 36.6	-0.3
EYMN				IAmb	IAmb	18 50 37.8	
	comp=Z,37nm,1.1s						
EYMN	Ely	74.76	37	P	P	18 50 36.7	-0.3
	baz=319						
WSAR	Wadi Sarin	74.77	288	LR	LR	19 27 00.3	
	comp=Z,52nm,18.8s,baz=76,slow=39						
GEVA	Gevas	74.78	308	P	P	18 50 38.2	+0.8
GEVA				IAmb	IAmb	18 50 40.0	
	comp=Z,19nm,0.7s						
SIM	Simferopol'	74.86	318	eP	P	18 50 37.9	+0.3
SIM				e		18 50 52.1	
SIM				eSSS	SSS	19 08 16.0	
SIM				pmax	pmax		
	comp=Z,53nm,1.2s						
SDCO	Great Sand Dun	74.87	52	P	P	18 50 38.3	+0.2
SDCO	Great Sand Dun	74.87	52	P	P	18 50 38.7	+0.6
	baz=313						
STKA	Stephens Creek	75.00	187	P	P	18 50 38.0	-0.3
	comp=Z,0.8nm,0.6s,baz=195,slow=23,SNR=2.0						
STKA				LR	LR	19 20 21.8	
	comp=Z,113nm,21.5s,baz=22,slow=33						
STKA	Stephens Creek	75.00	187	P	P	18 50 38.0	-0.3
KOPT	Kop Dagi	75.05	311	P	P	18 50 41.1	+2.0
KOPT				IAmb	IAmb	18 50 42.1	
	comp=Z,35nm,1.1s						
SORM	Soroca	75.16	323	⇑P	P	18 50 39.6	+0.4
SORM	Soroca	75.16	323	⇑P	P	18 50 39.6	+0.4
K31A	O'Neill	75.17	45	P	P	18 50 38.8	-0.6
GURO	Guroymak-BITLI	75.20	309	P	P	18 50 40.8	+0.9
GURO				IAmb	IAmb	18 50 42.7	
	comp=Z,38nm,0.8s						
TUC	Tucson	75.33	59	P	P	18 50 40.6	0.0
TUC				pmax	pmax		
	comp=Z,11nm,1.0s						
TUC	Tucson	75.33	59	P	P	18 50 40.5	0.0
TUC	Tucson	75.33	59	P	P	18 50 41.2	+0.6
	baz=312						
UOSS	Minazif	75.34	290	P	P	18 50 40.8	+0.1
UOSS				IAmb	IAmb	18 50 41.7	
	comp=Z,24nm,0.9s						
UOSS	Minazif	75.34	290	iP	P	18 50 40.2	-0.4
	SNR=6.9						
F36A	Milaca	75.39	40	P	P	18 50 39.7	-0.9
ECSD	EROS Data Cent	75.46	43	P	P	18 50 40.2	-0.8
ECSD				IAmb	IAmb	18 50 41.9	
	comp=Z,38nm,1.1s						
ECSD	EROS Data Cent	75.46	43	P	P	18 50 40.7	-0.4
	baz=317						
HATD	Hatta, Dubai	75.47	290	iP	P	18 50 41.3	-0.1
	SNR=6.3						
ASHO	Ashiyiah	75.61	290	iP	P	18 50 42.5	+0.2
	SNR=5.9						
KSCO	Kaye Shedlock'	75.63	50	P	P	18 50 42.2	-0.1
KSCO				IAmb	IAmb	18 50 43.6	
	comp=Z,72nm,1.4s						
KSCO	Kaye Shedlock'	75.63	50	P	P	18 50 41.9	-0.3
	baz=314						
LVV	L'vov	75.66	327	eP	P	18 50 41.4	-0.7
E38A	The Farm, Brul	75.74	38	P	P	18 50 41.1	-1.6
E38A				IAmb	IAmb	18 50 43.2	
	comp=Z,48nm,1.0s						
FAQ	Al Faqa, Dubai	75.89	291	P	P	18 50 44.3	+0.5
T25A	Trinidad	75.91	52	P	P	18 50 43.9	-0.1
T25A				IAmb	IAmb	18 50 45.7	
	comp=Z,20nm,0.9s						
T25A	Trinidad	75.91	52	P	P	18 50 44.5	+0.5
	baz=314						
FORT	Forrest	76.08	199	P	P	18 50 43.7	-0.7
FORT				IAmb	IAmb	18 50 55.8	
	comp=Z,25nm,0.8s						
ASUD	Al Ashush, Dub	76.15	291	P	P	18 50 45.8	+0.5
SPMN	Marine on St.	76.20	40	P	P	18 50 44.6	-0.7
SPMN				IAmb	IAmb	18 50 46.0	
	comp=Z,31nm,1.0s						
SPMN	Marine on St.	76.20	40	P	P	18 50 44.6	-0.7
	baz=318						
ANMO	Albuquerque	76.21	55	iP	P	18 50 45.0	-0.8
ANMO				pmax	pmax		
	comp=Z,18nm,1.5s						
ANMO	Albuquerque	76.21	55	P	P	18 50 46.6	+0.8
ANMO	Albuquerque	76.21	55	P	P	18 50 46.5	+0.8
	baz=313						
ALNE	Al Ain	76.23	290	iP	P	18 50 45.7	-0.1
	SNR=7.7						
KWP	Kalwaria Pacla	76.34	327	eP	P	18 50 46.9	+0.9
KWP				eL	L	19 26 20.8	
	comp=Z,261nm,22.5s						
KWP	Kalwaria Pacla	76.34	327	P	P	18 50 46.7	+0.7
KWP	Kalwaria Pacla	76.34	327	P	P	18 50 46.7	+0.7
BGNE	Belgrade	76.35	46	P	P	18 50 45.5	-0.8
BGNE	Belgrade	76.35	46	P	P	18 50 45.6	-0.6
	baz=316						
LENM	Lemitar	76.43	56	P	P	18 50 48.0	+1.0
BNM	Barren Site	76.65	56	P	P	18 50 48.9	+0.6
D41A	Chassel	76.72	36	P	P	18 50 48.4	+0.2
MARD	Mardin	76.78	309	P	P	18 50 49.1	+0.3
I37A	Lemond, Waseca	76.82	41	P	P	18 50 48.7	-0.1
L34A	Svendsen Farm,	76.86	44	P	P	18 50 48.4	-0.7
BUR08	Bucovina Ar. S	76.89	325	P	P	18 50 49.6	+0.3
BUR08				IAmb	IAmb	18 51 08.1	
	comp=Z,17nm,0.7s						
319A	Douglas	76.90	59	P	P	18 50 50.1	+0.4
319A				IAmb	IAmb	18 50 51.6	
	comp=Z,33nm,0.9s						
BURAR	Bucovina Array	76.91	325	⇓P	P	18 50 50.5	+1.2
BURAR	Bucovina Array	76.91	325	⇓P	P	18 50 50.5	+1.2
BURAR	Bucovina Array	76.91	325	P	P	18 50 49.1	-0.2
OJC	Ojcow	76.98	329	eP	P	18 50 50.1	+0.5
OJC				eL	L	19 25 40.6	
	comp=Z,281nm,23.1s						
OJC	Ojcow	76.98	329	P	P	18 50 49.8	+0.2
OJC				pmax	pmax		
	comp=Z,44nm,1.1s						
OJC	Ojcow	76.98	329	P	P	18 50 49.8	+0.2
OJC				IAmb	IAmb	18 50 51.4	
	comp=Z,44nm,1.1s						
BSEG	Bad Segeberg	77.01	336	eP	P	18 50 50.5	+0.9
	comp=Z,32nm,0.9s,baz=30,slow=5.5						
VLDR	Vladesti	77.03	322	⇓P	P	18 50 51.3	+1.4
121A	Cookes Peak, D	77.05	58	P	P	18 50 51.5	+0.9
121A	Cookes Peak, D	77.05	58	P	P	18 50 51.7	+1.1
	baz=313						
KOLS	Kolonicke sedl	77.07	327	eP	P	18 50 51.1	+1.0
KOLS	Kolonicke sedl	77.07	327	eP	P	18 50 51.1	+1.0
TESR	Tescani	77.15	323	⇑P	P	18 50 51.2	+0.6
TLCR		77.19	321	⇑P	P	18 50 52.2	+1.4
TLCR		77.19	321	⇑P	P	18 50 52.2	+1.4
RUE	Ruedersdorf	77.20	334	eP	P	18 50 51.5	+0.8
	comp=Z,67nm,1.2s,baz=30,slow=5.5						
COWI	Conover	77.21	37	P	P	18 50 50.5	-0.5
COWI				IAmb	IAmb	18 50 51.6	
	comp=Z,24nm,1.1s						
UZH	Uzhgorod	77.30	327c	eP	P	18 50 51.4	0.0
UZH				e		18 51 01.0	
UZH				e		18 51 12.1	
CBKS	Cedar Bluff	77.36	48	P	P	18 50 50.8	-1.2
CBKS	Cedar Bluff	77.36	48	P	P	18 50 50.8	-1.2
CBKS	Cedar Bluff	77.36	48	P	P	18 50 51.3	-0.7
	baz=316						
G40A	Rib Lake	77.37	38	P	P	18 50 51.2	-0.7
G40A				IAmb	IAmb	18 50 52.5	
	comp=Z,24nm,0.8s						
CRVS	Cervenica-Dubn	77.41	328	eP	P	18 50 52.8	+0.8
CRVS				pmax	pmax		
	comp=Z,21nm,0.9s						
CRVS	Cervenica-Dubn	77.41	328	eP	P	18 50 52.8	+0.8
KAC	Achnashellach	77.41	346	eP	P	18 50 52.2	+0.4
NIE	Niedzica	77.44	329	eP	P	18 50 54.0	+1.8
NIE				eL	L	19 25 57.4	
	comp=Z,120nm,23.9s						
CFR	Carcaliu	77.51	322	⇑P	P	18 50 53.7	+1.1
CFR	Carcaliu	77.51	322	⇑P	P	18 50 53.7	+1.1
TRPA	Tarpa	77.60	327	P	P	18 50 53.8	+0.8

VRI Vrincioaia 77.61 323 ⇑P P 18 50 54.8 +1.6
VRI Vrincioaia 77.61 323 ⇑P P 18 50 54.8 +1.6
KPL Plockton 77.63 346 eP P 18 50 53.0 -0.1
SCHQ Schefferville 77.69 20 P P 18 50 54.0 +0.5
comp=Z,6.9nm,0.6s,baz=353,slow=5.3,SNR=13
SCHQ LR LR 19 28 57.1
comp=Z,46nm,20.2s,baz=37,slow=39
SCHQ Schefferville 77.69 20 P P 18 50 53.6 +0.1
KSP Ksiaz 77.73 332 eP P 18 50 54.2 +0.4
KSP eL L 19 27 55.6
comp=Z,241nm,18.5s
ILGA Ilgaz 77.91 316 P P 18 50 56.5 +1.3
F42A Maple Grove Fa 77.92 37 P P 18 50 54.4 -0.5
F42A IAmb IAmb 18 50 55.8
comp=Z,55nm,1.1s
LANS Liptovska Anna 77.98 329 eP P 18 50 57.1 +1.9
LANS pmax pmax
comp=Z,16nm,0.9s
LANS Liptovska Anna 77.98 329 eP P 18 50 57.1 +1.9
OSTC Ostas 78.00 331 eP P 18 50 55.6 +0.3
OSTC ex x 18 51 22.3
CHVC Chvalec 78.03 332 eP P 18 50 55.4 -0.1
N35A Tabor 78.05 44 P P 18 50 55.4 -0.3
UPC Upice 78.11 332 eP P 18 50 56.7 +0.8
UPC Upice 78.11 332 eP P 18 50 56.7 +0.8
UPC ex x 18 51 23.3
FLTG Flechtingen 78.13 335 eP P 18 50 56.3 +0.4
comp=Z,34nm,0.8s,baz=30,slow=5.5
DPC Dobruska-Polom 78.14 331 eP P 18 50 56.5 +0.4
DPC Dobruska-Polom 78.14 331 eP P 18 50 56.5 +0.4
MORC Moravsky Berou 78.18 330 ⇓P P 18 50 57.5 +1.2
MORC Moravsky Berou 78.18 330 ⇓P P 18 50 57.5 +1.2
MORC Moravsky Berou 78.18 330 P P 18 50 56.8 +0.4
MORC IAmb IAmb 18 50 58.2
comp=Z,28nm,1.0s
MORC Moravsky Berou 78.18 330 eP P 18 50 56.7 +0.4
KRLC Kraliky 78.20 331 eP P 18 50 56.3 -0.2
KRLC Kraliky 78.20 331 eP P 18 50 56.3 -0.2
KRLC ex x 18 51 26.1
R32A Long Quarter, 78.20 48 P P 18 50 55.2 -1.5
R32A IAmb IAmb 18 50 58.5
comp=Z,14nm,0.6s
RAO Raoul Island 78.20 151 LR LR 19 21 39.4
comp=Z,223nm,19.0s,baz=36,slow=33
I40A Norwalk 78.23 40 P P 18 50 55.8 -0.9
I40A IAmb IAmb 18 50 57.3
comp=Z,34nm,1.1s
MLR Muntele Rosu 78.25 323 ⇑P P 18 50 57.4 +0.4
MLR Muntele Rosu 78.25 323 P P 18 50 57.5 +0.6
comp=Z,4.4nm,0.8s,baz=136,slow=10,SNR=4.6
MLR LR LR 19 27 23.8
comp=Z,227nm,21.4s,baz=79,slow=37
MLR Muntele Rosu 78.25 323 P P 18 50 57.2 +0.3
MLR IAmb IAmb 18 51 20.8
comp=Z,37nm,1.3s
NRDL Niedersach Rie 78.33 336 eP P 18 50 57.7 +0.8
comp=Z,14nm,1.0s,baz=30,slow=5.5
RETH Rethem/Aller, 78.34 336 eP P 18 50 57.8 +0.7
comp=Z,36nm,1.2s,baz=30,slow=5.5
IZAB Izabela 78.36 328 eP P 18 50 58.3 +1.0
IZAB pmax pmax
comp=Z,21nm,1.3s
ESY Stoneypath 78.40 344 eP P 18 50 57.9 +0.5
BNN Bunyan 78.41 313 P P 18 50 59.0 +1.1
CLL Collm 78.45 334 eP P 18 50 57.0 -0.7
CLL pmax pmax
comp=Z,49nm,1.0s
CLL Collm 78.45 334 P P 18 50 57.6 -0.1
CLL IAmb IAmb 18 50 58.8
comp=Z,39nm,0.9s
CLL Collm 78.45 334 eP P 18 50 57.0 -0.7
comp=Z,49nm,1.0s
CLL eSS SS 19 06 06.0 +13
CLL Collm 78.45 334 eP P 18 50 58.1 +0.4
comp=Z,49nm,1.0s,baz=30,slow=5.5
ASSE Asse, Remlinge 78.47 335 eP P 18 50 58.5 +0.7
comp=Z,88nm,2.2s,baz=30,slow=5.5
ICOR Ion Corvin 78.48 321 ⇑P P 18 50 59.9 +1.9
EAB Aberfoyle 78.48 345 eP P 18 50 58.3 +0.5
MZR Muzera 78.49 291 iP P 18 50 58.3 -0.1
SNR=14
SCIA State Center 78.49 42 P P 18 50 58.0 -0.1
SCIA State Center 78.49 42 P P 18 50 58.1 -0.1
baz=319
BRG Berggiesshubel 78.51 333 iP P 18 50 58.7 +0.6
BRG Amp 18 50 59.4
comp=Z,27nm,1.5s
BRG ex x 18 51 19.2
BRG Amp 18 51 22.2
comp=Z,12nm,1.2s
BRG Berggiesshubel 78.51 333 iP P 18 50 58.6 +0.6
BRG e 18 51 19.2
BRG pmax pmax
comp=Z,27nm,1.5s
BRG Berggiesshubel 78.51 333 eP P 18 50 58.5 +0.4
comp=Z,27nm,1.5s,baz=30,slow=5.5
PVCC Panska Ves 78.59 332 eP P 18 50 59.3 +0.8
PVCC Panska Ves 78.59 332 eP P 18 50 59.3 +0.8
DRGR 78.60 326 ⇑P P 18 50 59.6 +0.8
DRGR 78.60 326 ⇑P P 18 50 59.6 +0.8
LAWE Loch Awe, Argy 78.61 346 eP P 18 50 57.6 -0.8
FBE Freiberg 78.66 333 eP P 18 50 59.5 +0.6
comp=Z,30nm,1.0s,baz=30,slow=5.5
VOIR 78.68 323 ⇑P P 18 51 00.6 +1.4
VOIR 78.68 323 ⇑P P 18 51 00.6 +1.4
CLZ Clausthal 78.82 335 eP P 18 51 00.9 +1.1
comp=Z,52nm,1.2s,baz=30,slow=5.5
PSZ Piszkesteto 78.82 328 ⇑P P 18 51 01.3 +1.4
PSZ Piszkesteto 78.82 328 ⇑P P 18 51 01.3 +1.4
PSZ Piszkesteto 78.82 328 P P 18 51 00.3 +0.4
PSZ Piszkesteto 78.82 328 P P 18 51 00.2 +0.3
KSU1 Kansas State U 78.84 46 P P 18 50 59.2 -0.9
KSU1 IAmb IAmb 18 51 00.2
comp=Z,40nm,0.7s
KSU1 Kansas State U 78.84 46 P P 18 50 59.2 -0.9
baz=317
KOLL Kolacno 78.85 329 eP P 18 51 01.5 +1.5
PGBU Glenifferbraes 78.86 345 eP P 18 51 00.4 +0.5
PGBU IAmb IAmb 18 51 01.8
comp=Z,35nm,0.8s
JAVC Velka Javorina 78.89 330 eP P 18 51 01.4 +1.1
VRAC Vranov 78.91 331 ⇑P P 18 51 01.0 +0.7
VRAC Vranov 78.91 331 P P 18 51 01.0 +0.7
comp=Z,17nm,0.8s,baz=33,slow=5.9,SNR=20
VRAC LR LR 19 28 32.6
comp=Z,160nm,19.9s,baz=36,slow=38
VRAC Vranov 78.91 331 ⇑P P 18 51 01.0 +0.7
VRAC Vranov 78.91 331 eP P 18 51 00.8 +0.5
ARR Arges 78.92 324 ⇑P P 18 51 02.5 +2.0
NEUB Neuenburg 78.93 334 eP P 18 51 00.9 +0.6
comp=Z,52nm,1.1s,baz=30,slow=5.5
BR131 Keskin Array S 78.93 315c iP P 18 51 01.0 +0.2
BR131 Keskin Array S 78.93 315 P P 18 51 00.8 0.0
BR131 IAmb IAmb 18 51 02.7
comp=Z,25nm,0.8s
BRTR Keskin Array B 78.93 315 P P 18 51 01.3 +0.5
comp=Z,9.8nm,0.7s,baz=83,slow=3.4,SNR=51
BRTR LR LR 19 31 48.3
comp=Z,148nm,20.1s,baz=65,slow=40
BRTR Keskin Array B 78.93 315 iP P 18 51 01.7 +0.9
BRTR pmax pmax
comp=Z,10.0nm,0.6s
BRTR Keskin Array B 78.93 315 P P 18 51 00.9 +0.2
I42A Draeger Farm, 79.02 39 P P 18 51 00.7 -0.4
I42A IAmb IAmb 18 51 01.7
comp=Z,30nm,0.8s
EKA Eskdalemuir Ar 79.06 344 LR LR 19 30 50.0
comp=Z,103nm,20.6s,baz=22,slow=39
PRU Pruhonice 79.06 332 eP P 18 51 01.1 0.0
PRU Pruhonice 79.06 332 eP P 18 51 01.1 0.0
AMTX Amarillo 79.07 52 P P 18 51 02.1 +0.6
AMTX IAmb IAmb 18 51 03.3
comp=Z,32nm,1.0s
AMTX Amarillo 79.07 52 P P 18 51 02.2 +0.6
baz=315
E46A Sault Ste Mari 79.08 34 P P 18 51 00.1 -1.1
MSTX Muleshoe 79.08 54 P P 18 51 01.3 -0.3
MSTX Muleshoe 79.08 54 P P 18 51 01.7 0.0
baz=315
ESK Eskdalemuir 79.08 344 eP P 18 51 01.6 +0.5
ESK IAmb IAmb 18 51 04.7
comp=Z,17nm,0.8s
H43A Windswept, Lux 79.09 38 P P 18 51 01.0 -0.4
H43A IAmb IAmb 18 51 02.2
comp=Z,42nm,0.8s
MNTX Cornudas Mount 79.10 57 P P 18 51 02.0 +0.3
MNTX Cornudas Mount 79.10 57 P P 18 51 02.3 +0.6
baz=314
JFWS Jewell Farm 79.16 40 P P 18 51 00.2 -1.6
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 79.16 40 P P 18 51 00.1 -1.6
JFWS Jewell Farm 79.16 40 P P 18 51 00.9 -0.8
baz=320
IBBN Ibbenburen 79.18 337 eP P 18 51 02.4 +0.7
comp=Z,109nm,2.0s,baz=30,slow=5.5
KRUC Moravsky 79.19 330 eP P 18 51 02.3 +0.5
GTTG Gottingen 79.20 335 eP P 18 51 02.6 +0.8
comp=Z,44nm,1.2s,baz=30,slow=5.5
ANTO Ankara 79.26 315 P P 18 51 02.9 +0.4
ANTO pmax pmax
comp=Z,65nm,0.8s
ANTO Ankara 79.26 315 P P 18 51 02.9 +0.4
SMOL Smolenice 79.27 330 eP P 18 51 03.4 +1.1
SMOL pmax pmax
comp=Z,15nm,0.9s
SMOL Smolenice 79.27 330 eP P 18 51 03.4 +1.1
BR231 Keskin MP Arra 79.29 315 P P 18 51 03.0 +0.3
TREC Trest 79.32 331 eP P 18 51 02.9 +0.3
TREC e 18 51 25.2
TREC Trest 79.32 331 eP P 18 51 02.9 +0.3
TREC ex x 18 51 25.2
N38A Joes South For 79.32 43 P P 18 51 02.3 -0.4
N38A IAmb IAmb 18 51 03.5
comp=Z,45nm,0.8s
L40A Anamosa 79.34 41 P P 18 51 01.9 -1.0
L40A IAmb IAmb 18 51 03.3
comp=Z,45nm,0.8s
TANN Tannenbergstha 79.39 333 eP P 18 51 03.5 +0.5
comp=Z,40nm,1.9s,baz=30,slow=5.5
WERD Werda 79.41 334 eP P 18 51 03.6 +0.5
comp=Z,21nm,1.1s,baz=30,slow=5.5
PLN Plauen 79.43 334 eP P 18 51 03.7 +0.6
comp=Z,12nm,0.9s,baz=30,slow=5.5
MOX Moxa 79.47 334 eP P 18 51 03.9 +0.5
comp=Z,31nm,1.4s,baz=30,slow=5.5
MOX eL L 19 27 41.6
comp=Z,148nm,22.0s
GUNZ Gunzen 79.48 333 eP P 18 51 04.0 +0.6
comp=Z,17nm,0.9s,baz=30,slow=5.5
RAR Rarotonga 79.48 132 LR LR 19 19 51.7
comp=Z,82nm,20.8s,baz=286,slow=31
PBCC Pribram 79.50 332 eP P 18 51 04.3 +0.7
SRO Srobarova 79.52 329 eP P 18 51 04.6 +1.0
SRO Srobarova 79.52 329 eP P 18 51 04.6 +1.0
U32A Winter Ranch, 79.52 50 P P 18 51 03.9 0.0
U32A IAmb IAmb 18 51 05.1
comp=Z,27nm,0.8s
WERN Wernitzgruen 79.53 333 eP P 18 51 04.4 +0.7
comp=Z,20nm,1.0s,baz=30,slow=5.5
NKC Novy Kostel 79.55 333 eP P 18 51 03.8 0.0
NKC Novy Kostel 79.55 333 eP P 18 51 03.8 0.0
G45A Suttons Bay 79.56 36 P P 18 51 03.5 -0.5
G45A IAmb IAmb 18 51 04.8
comp=Z,50nm,1.0s
MDUB Mudurnu 79.62 317 P P 18 51 04.6 +0.1
COPA Copaceanca 79.63 323 ⇓P P 18 51 04.3 -0.1
ZST Bratislava 79.65 330 eP P 18 51 05.0 +0.6
ZST Bratislava 79.65 330 eP P 18 51 05.0 +0.6
KESW Keswick, Cumbr 79.75 344 eP P 18 51 04.9 +0.2
KESW IAmb IAmb 18 51 07.7
comp=Z,191nm,1.9s
GAL1 Galloway 79.80 345 eP P 18 51 05.3 +0.3
GAL1 IAmb IAmb 18 51 06.4
comp=Z,209nm,2.1s
UBBA Unterbreizbach 79.82 335 eP P 18 51 05.8 +0.7
comp=Z,49nm,2.0s,baz=30,slow=5.5
MANZ Manzenberg 79.88 333 eP P 18 51 06.1 +0.5
comp=Z,3.9nm,1.1s,baz=30,slow=5.5
CSKK Cskako 79.91 328 P P 18 51 06.6 +0.8
KASTN Kahler Asten 79.97 336 eP P 18 51 06.6 +0.6
comp=Z,24nm,1.3s,baz=30,slow=5.5
BZS Buzias 80.00 326 ⇑P P 18 51 06.5 +0.2
BZS Buzias 80.00 326 ⇑P P 18 51 06.5 +0.2
HPK Haverah Park 80.03 343 eP P 18 51 07.1 +0.8
HPK IAmb IAmb 18 51 07.7
comp=Z,39nm,0.8s
ROTZ Rotzenmuhle 80.03 333 eP P 18 51 07.3 +0.9
comp=Z,7.4nm,1.2s,baz=30,slow=5.5
P38A Dawn 80.05 44 P P 18 51 06.5 -0.2
P38A IAmb IAmb 18 51 07.6
comp=Z,54nm,0.9s
BUG Bochum--Univer 80.09 337 eP P 18 51 07.4 +0.7
comp=Z,21nm,0.7s,baz=30,slow=5.5
KHC Kasperske Hory 80.12 332c iP P 18 51 07.0 0.0
KHC pmax pmax
comp=Z,67nm,0.7s
KHC Kasperske Hory 80.12 332 eP P 18 51 06.9 0.0
KHC ex x 18 51 20.0
KHC ex x 18 51 36.7
KHC Kasperske Hory 80.12 332 P P 18 51 07.0 0.0
KHC IAmb IAmb 18 51 08.7
comp=Z,30nm,0.8s
CKRC Cesky Krumlov 80.13 332 eP P 18 51 07.0 0.0
CKRC ex x 18 51 36.9
L42A Oliver, Polo 80.13 40 P P 18 51 06.5 -0.5
GLMI Grayling 80.18 36 P P 18 51 07.1 -0.2
baz=323
K43A Burlington 80.21 39 P P 18 51 06.8 -0.7
K43A IAmb IAmb 18 51 07.9
comp=Z,45nm,0.9s
EGYH Egyhazaskeszo 80.22 329 P P 18 51 08.3 +0.9
HERR Herculane 80.26 325 ⇑P P 18 51 08.2 +0.5
SOP Sopron 80.28 330 P P 18 51 09.1 +1.3
VLDQ Val d'Or 80.30 30 P P 18 51 06.4 -1.5
VLDQ IAmb IAmb 18 51 07.4
comp=Z,36nm,1.1s
GEC2 GERESS Array S 80.32 332 P P 18 51 08.1 0.0
GEC2 GERESS Array S 80.32 332 eP P 18 51 08.5 +0.4
comp=Z,16nm,1.2s,baz=30,slow=5.5
GERES GERESS Array B 80.32 332 P P 18 51 07.9 -0.2
comp=Z,4.7nm,0.6s,baz=32,slow=6.3,SNR=43
GERES GERESS Array B 80.32 332 P P 18 51 07.7 -0.4
CONA Conrad Observa 80.33 330 iP P 18 51 09.5 +1.3
comp=Z,10.0nm,0.8s,SNR=9.6
MPLH Magyarpolny 80.34 329 P P 18 51 08.6 +0.5
IOMK Kirk Michael 80.34 345 eP P 18 51 08.2 +0.2
WET Wettzell 80.34 333 eP P 18 51 09.1 +1.0
comp=Z,31nm,1.1s,baz=30,slow=5.5
GRA1 Grafenberg Arr 80.42 334 P P 18 51 08.7 +0.2
GRA1 IAmb IAmb 18 51 10.3
comp=Z,35nm,0.9s
GRF Grafenberg Arr 80.42 334 P P 18 51 08.7 +0.2
GRF pmax pmax
comp=Z,35nm,0.9s
GRF Grafenberg Arr 80.42 334 eP P 18 51 09.5 +1.0
comp=Z,40nm,1.0s,baz=30,slow=5.5
GRF eL L 19 27 34.4
comp=Z,126nm,22.0s
GRFO Grafenberg 80.42 334 P P 18 51 08.9 +0.4
GRFO pmax pmax
comp=Z,32nm,0.9s
GRFO Grafenberg 80.42 334 P P 18 51 08.9 +0.4
GRFO IAmb IAmb 18 51 10.3
comp=Z,32nm,0.9s
BORA Eskisehir 80.44 317 P P 18 51 10.0 +1.1
T35A Sooner Cattle 80.49 48 P P 18 51 08.9 -0.3
T35A IAmb IAmb 18 51 10.2
comp=Z,46nm,0.9s
N41A Harden Midland 80.56 42 P P 18 51 09.0 -0.4
LBWR Ladybower, Pea 80.57 343 eP P 18 51 10.0 +0.7
LBWR IAmb IAmb 18 51 10.7
comp=Z,56nm,0.9s
MORH Mrgy, Hungar 80.71 328 P P 18 51 09.6 -0.5
L44A Lake County Fo 80.82 39 P P 18 51 10.5 -0.2
L44A IAmb IAmb 18 51 11.3
comp=Z,32nm,0.7s
L44A Lake County Fo 80.82 39 P P 18 51 10.1 -0.6
baz=322
TNS Taunus Mts 80.82 336 eP P 18 51 11.5 +0.7
comp=Z,32nm,1.6s,baz=30,slow=5.5
WMOK Wichita Mounta 80.83 51 P P 18 51 11.1 +0.1
baz=317
P40A Paris 80.87 43 P P 18 51 10.8 -0.3
MPEP Malo Peshtene 80.90 323 iP P 18 51 11.8 +0.6
AHRW Bad Neuenahr-A 80.95 337 eP P 18 51 12.0 +0.7
baz=30,slow=5.5
MOA Molln 80.97 331 eP P 18 51 12.6 +1.0
comp=Z,4.9nm,0.7s
KOVH Kovagotottos 81.03 328 P P 18 51 11.1 -0.7
ARSA Arzberg 81.03 330 eP P 18 51 12.9 +1.1
comp=Z,5.3nm,0.9s
WME Myndd Eilian 81.11 344 eP P 18 51 12.5 +0.4
FRGS Fruska Gora 81.11 326 ⇑P P 18 51 12.2 -0.1
BEBN Eben Emael 81.12 337 dP P 18 51 12.8 +0.7
comp=Z,39nm,0.9s
DIM Dimitrovgrad 81.13 321 iP P 18 51 13.9 +1.5
BTNL Ternell 81.18 337 dP P 18 51 12.9 +0.4
comp=Z,12nm,1.1s
LPIG La Paz 81.18 65 LR LR 19 20 24.5
comp=Z,76nm,19.4s,baz=230,slow=31
MEM Membach 81.19 337 dP P 18 51 13.4 +0.8
comp=Z,10nm,1.0s
FNO Franklin 81.22 49 P 18 51 13.2 +0.1
FNO IAmb IAmb 18 51 14.5
comp=Z,51nm,0.9s
BIOA Bad Ischl, Aus 81.33 331 iP P 18 51 14.3 +0.9
comp=Z,13nm,0.7s
FOEL Foel Wylfa 81.36 343 eP P 18 51 14.3 +0.8
FOEL IAmb IAmb 18 51 15.0
comp=Z,32nm,0.7s
J47A Sunmer 81.36 37 P P 18 51 13.8 +0.2
M44A Midewin, Midew 81.37 40 P P 18 51 13.5 -0.3
BHOU Houvegnez 81.42 337 dP P 18 51 14.7 +0.9
comp=Z,17nm,1.0s
HDIL Hopedale 81.43 41 P P 18 51 13.6 -0.4
HDIL Hopedale 81.43 41 P P 18 51 14.0 -0.1
baz=321
BCLA Clavier 81.56 338 dP P 18 51 15.1 +0.6
comp=Z,19nm,1.0s
RJOB Jochberg 81.58 332 eP P 18 51 15.9 +1.1
comp=Z,17nm,1.0s,baz=30,slow=5.5
W35A Tecumseh 81.59 49 P 18 51 14.8 -0.3
W35A IAmb IAmb 18 51 16.2
comp=Z,39nm,1.2s
S39A Bolivar 81.61 45 P P 18 51 13.7 -1.3
S39A IAmb IAmb 18 51 15.2
comp=Z,30nm,0.8s
TUL1 Leonard 81.63 48 P P 18 51 14.7 -0.5
TUL1 IAmb IAmb 18 51 16.2
comp=Z,24nm,0.7s
TUL1 Leonard 81.63 48 P P 18 51 15.1 0.0
baz=318
HLM1 Long Mynd 81.64 343 eP P 18 51 15.6 +0.6
HLM1 IAmb IAmb 18 51 16.3
comp=Z,73nm,1.7s
BGES Gesves 81.65 338 dP P 18 51 15.4 +0.3
comp=Z,14nm,1.0s
I49A Point Hope 81.65 35 P P 18 51 15.4 +0.2
I49A IAmb IAmb 18 51 16.1
comp=Z,33nm,0.9s
L46A Eue Claire 81.69 38 P P 18 51 15.1 -0.2
SOKA Soboth 81.69 330 iP P 18 51 15.9 +0.5
comp=Z,9.5nm,0.6s,SNR=14
PERS Pernice 81.69 330 eP P 18 51 15.3 -0.1
R40A Maddies Statio 81.70 44 P P 18 51 14.8 -0.7
R40A IAmb IAmb 18 51 16.1
comp=Z,44nm,0.8s
GROS Grobnik 81.70 330 iP P 18 51 15.1 -0.3
VTS Vitosha 81.72 323 ⇓P P 18 51 17.0 +1.3
VTS Vitosha 81.72 323 ⇓P P 18 51 17.0 +1.3
VTS Vitosha 81.72 323 P P 18 51 16.2 +0.5
VTS IAmb IAmb 18 51 17.6
comp=Z,36nm,0.8s
VTS Vitosha 81.72 323 iP P 18 51 15.9 +0.2
FUR Furstenfeldbru 81.73 333 eP P 18 51 16.4 +0.9
baz=30,slow=5.5
SNF Seneffe 81.76 338 dP P 18 51 15.2 -0.4
comp=Z,13nm,0.9s
RZN Rozhen 81.79 321 iP P 18 51 16.5 +0.3
TX31 Lajitas Ar. Si 81.81 57 P P 18 51 16.4 0.0
TX32 Lajitas Array 81.81 57 P P 18 51 16.3 -0.1
TX32 IAmb IAmb 18 51 17.8
comp=Z,36nm,1.4s
TXAR Lajitas Array 81.81 57 P P 18 51 17.0 +0.6
comp=Z,7.7nm,0.5s,baz=301,slow=4.2,SNR=54
TXAR LR LR 19 22 40.2
comp=Z,63nm,20.0s,baz=308,slow=32
TXAR Lajitas Array 81.81 57 P P 18 51 16.4 +0.1
RCHB Rochefort 81.82 337 dP P 18 51 15.8 -0.1
comp=Z,12nm,1.2s
RCHB dPcP PcP 18 51 21.8 +0.2
ABTX Abilene, Hawle 81.87 53 P P 18 51 16.9 +0.3
ABTX IAmb IAmb 18 51 18.1
comp=Z,31nm,1.3s
ABTX Abilene, Hawle 81.87 53 P P 18 51 16.8 +0.3
baz=317
STU Stuttgart 81.87 334 eP P 18 51 16.8 +0.6
baz=30,slow=5.5
DIVS Divibare 81.91 326 P P 18 51 16.5 -0.1
KBA Koelnbreinsper 81.96 331 iP P 18 51 17.9 +0.9
comp=Z,10nm,0.6s,SNR=12
GIVF Givet 81.98 338 eP P 18 51 16.7 -0.1
GIVF pmax pmax
comp=Z,19nm,1.1s
WLF Walferdange 82.00 337 P P 18 51 17.8 +0.9
WLF pmax pmax
comp=Z,30nm,1.0s
WLF Walferdange 82.00 337 P P 18 51 17.8 +0.9
WLF IAmb IAmb 18 51 20.9
comp=Z,30nm,1.0s
WLF Walferdange 82.00 337 dP P 18 51 17.2 +0.4
comp=Z,18nm,1.1s
OBKA Obir 82.01 330 eP P 18 51 17.7 +0.6
comp=Z,4.5nm,0.6s
P43A Skaggs, Pawnee 82.03 42 P P 18 51 16.6 -0.6
P43A IAmb IAmb 18 51 18.0
comp=Z,42nm,0.8s
DOU Dourbes 82.05 338 kP P 18 51 17.4 +0.3
comp=Z,7.4nm,1.3s
O44A Mansfield 82.14 41 P P 18 51 17.4 -0.4
MCH1 Michaelchurch 82.16 343 eP P 18 51 17.7 0.0
MCH1 IAmb IAmb 18 51 19.0
comp=Z,40nm,0.9s
BAIF Baives 82.19 338 eP P 18 51 18.8 +0.9
BAIF pmax pmax
comp=Z,19nm,1.1s
MYKA Terra Mystica 82.23 331 eP P 18 51 18.5 +0.3
comp=Z,7.4nm,0.7s
MONM Monmouth 82.27 343 eP P 18 51 19.0 +0.8
MONM IAmb IAmb 18 51 19.6
comp=Z,84nm,1.1s
MMB Musomiste 82.32 322 iP P 18 51 18.5 -0.3
TAOE Nuku Hiva Isla 82.34 110 eLR LR 19 16 25.8
comp=Z,323nm,24.7s
HHAR Hobbs 82.34 47 P P 18 51 18.4 -0.5
HHAR IAmb IAmb 18 51 19.5
comp=Z,26nm,0.7s
WATA Walderalm 82.35 332 iP P 18 51 19.2 +0.2
comp=Z,12nm,0.5s,SNR=10
KKB Krupnik 82.39 322 iP P 18 51 19.8 +0.7
WTTA Wattenberg 82.39 332 iP P 18 51 19.7 +0.5
comp=Z,19nm,0.6s,SNR=8.9
CCM Cathedral Cave 82.40 44 P P 18 51 19.0 -0.2
CCM pmax pmax
comp=Z,48nm,0.8s
CCM Cathedral Cave 82.40 44 P P 18 51 19.0 -0.2
CCM Cathedral Cave 82.40 44 P P 18 51 19.1 0.0
baz=320
MANT Manisa 82.45 317 P P 18 51 19.9 +0.2
MANT IAmb IAmb 18 51 21.1
comp=Z,31nm,0.9s
SLM Saint Louis 82.46 43 P P 18 51 19.0 -0.5
SLM pmax pmax
comp=Z,70nm,0.9s
SLM Saint Louis 82.46 43 P P 18 51 19.0 -0.5
SADO Sadowa 82.47 32 LR LR 19 32 03.1
comp=Z,41nm,19.5s,baz=344,slow=39
SADO Sadowa 82.47 32 P P 18 51 18.4 -1.0
RETA Reutte 82.49 333 iP P 18 51 20.6 +1.0
comp=Z,5.7nm,0.6s,SNR=5.2
MOTA Moosalm 82.50 333 iP P 18 51 20.5 +0.7
comp=Z,18nm,0.8s,SNR=11
EZN Ezine 82.50 319 P P 18 51 21.9 +2.2
ABTA Abfaltersbach 82.53 332 eP P 18 51 20.2 +0.3
comp=Z,4.3nm,0.6s
BFO Black Forest 82.53 335 P P 18 51 19.2 -0.5
BFO pmax pmax
comp=Z,16nm,0.9s
BFO Black Forest 82.53 335 P P 18 51 19.2 -0.5
BFO Black Forest 82.53 335 eP P 18 51 20.2 +0.5
baz=30,slow=5.5
PPT Papeete 82.55 122 LR LR 19 23 19.6
comp=Z,160nm,19.6s,baz=351,slow=32
IWEX Carrickbyrne, 82.56 345 eP P 18 51 19.1 -0.6

MGMO Mountain Grove 82.56 45 P **P** 18 51 19.1 -0.9
MGMO IAmb IAmb 18 51 20.6
comp=Z,24nm,1.0s

PPT2 Papeete2 82.56 122 *e*LR LR 19 16 32.3
comp=Z,593nm,28.5s

RSBS Rosebush, Pemb 82.56 344 *e*P **P** 18 51 20.2 +0.4

SQTA Sankt Quirin 82.57 333 *i* P **P** 18 51 20.9 +0.8
comp=Z,13nm,0.7s,SNR=9.6

L48A N Adams 82.58 37 P **P** 18 51 19.5 -0.5

SFIN Lafayette 82.61 40 P **P** 18 51 19.6 -0.7
SFIN IAmb IAmb 18 51 21.1
comp=Z,35nm,0.8s

SFIN Lafayette 82.61 40 P **P** 18 51 20.3 0.0
baz=322

AAM Ann Arbor 82.63 37 P **P** 18 51 20.3 0.0
AAM pmax pmax
comp=Z,56nm,0.9s

AAM Ann Arbor 82.63 37 P **P** 18 51 20.3 0.0

AAM Ann Arbor 82.63 37 P **P** 18 51 20.2 0.0
baz=324

CSS Mathiatis 82.63 312 P **P** 18 51 20.6 +0.1
CSS IAmb IAmb 18 51 22.0
comp=Z,28nm,0.7s

ASF Jabal al Asfar 82.68 308 P **P** 18 51 22.1 +1.2
comp=Z,9.4nm,0.6s,baz=54,slow=5.0,SNR=5.8

K50A Casco 82.69 36 P **P** 18 51 20.5 -0.1

JAVS Javornik 82.71 330 *i* P **P** 18 51 20.1 -0.7

CDF Champ du Feu 82.78 335 *e*P **P** 18 51 20.8 -0.3
CDF pmax pmax
comp=Z,27nm,1.1s

X37A Clayton 82.84 49 P **P** 18 51 21.4 -0.1

Q44A Meyer Farm, Va 82.85 42 P **P** 18 51 21.3 -0.2

N47A Urbana 82.86 39 P **P** 18 51 21.0 -0.5

U40A Yellville 82.86 46 P **P** 18 51 20.7 -0.9

U40A Yellville 82.86 46 P **P** 18 51 21.3 -0.4
baz=320

FVM French Village 82.86 43 P **P** 18 51 21.6 0.0
FVM pmax pmax
comp=Z,27nm,0.8s

FVM French Village 82.86 43 P **P** 18 51 21.6 0.0
FVM IAmb IAmb 18 51 22.6
comp=Z,27nm,0.8s

STAL STALIGIAL 82.88 331 P **P** 18 51 20.5 -1.1
STAL IAmb IAmb 18 51 22.3
comp=Z,21nm,0.8s

FETA Feichten 82.91 333 *e*P **P** 18 51 22.5 +0.6
comp=Z,8.6nm,0.9s

MMAI Mount Meron Ar 82.92 309 P **P** 18 51 23.6 +1.5
comp=Z,11nm,0.5s,baz=299,slow=5.6,SNR=38
MMAI LR LR 19 33 52.2
comp=Z,158nm,19.0s,baz=197,slow=40

STIP Stip 82.92 323 *i* P **P** 18 51 21.4 -0.4

TRQ Mont Tremblant 82.94 29 P **P** 18 51 20.9 -1.0
TRQ IAmb IAmb 18 51 22.3
comp=Z,32nm,1.0s

DAVA Damuels 82.95 333 *i* P **P** 18 51 22.8 +0.7
comp=Z,7.8nm,0.6s,SNR=5.2

ECH Echery 82.99 335 P **P** 18 51 21.1 -1.0
ECH pmax pmax
comp=Z,16nm,0.9s

ECH Echery 82.99 335 P **P** 18 51 21.1 -1.0
ECH IAmb IAmb 18 51 23.3
comp=Z,16nm,0.9s

SKO Skopje 83.03 323 *i* P **P** 18 51 23.2 +0.8

VAY Valandovo 83.05 322 *i* P **P** 18 51 22.9 +0.4

ELL Elmali 83.10 315 P **P** 18 51 23.2 +0.2
ELL pmax pmax
comp=Z,118nm,0.8s

ELL Elmali 83.10 315 P **P** 18 51 23.2 +0.2

P46A Rosedale 83.16 40 P **P** 18 51 23.1 0.0

LMQ La Malbaie 83.20 26 P **P** 18 51 22.9 -0.3
LMQ IAmb IAmb 18 51 23.8
comp=Z,31nm,0.8s

W39A Magazine 83.25 47 P **P** 18 51 23.5 -0.1
W39A IAmb IAmb 18 51 24.5
comp=Z,23nm,0.9s

W39A Magazine 83.25 47 P **P** 18 51 23.5 -0.1
baz=319

DELO Deloro Mine 83.27 32 P **P** 18 51 22.6 -1.0
DELO IAmb IAmb 18 51 24.1
comp=Z,25nm,1.0s

JCT Junction City 83.33 54 P **P** 18 51 24.2 0.0
JCT pmax pmax
comp=Z,33nm,1.0s

JCT Junction City 83.33 54 P **P** 18 51 24.2 0.0
JCT IAmb IAmb 18 51 25.5
comp=Z,33nm,1.0s

JCT Junction City 83.33 54 P **P** 18 51 24.5 +0.3
baz=317

DAVOX Davos/Dischmat 83.40 333 P **P** 18 51 24.9 +0.5
comp=Z,7.5nm,0.6s,baz=59,slow=4.3,SNR=22
DAVOX LR LR 19 31 13.2
comp=Z,113nm,21.6s,baz=34,slow=38

HAU Haudompre 83.43 336 *e*P **P** 18 51 24.9 +0.5
HAU pmax pmax
comp=Z,13nm,0.8s

OLIL Olney 83.43 41 P **P** 18 51 24.6 +0.1

CTI Castel Tesino 83.44 332 P **P** 18 51 23.8 -0.8
CTI pmax pmax
comp=Z,11nm,0.8s

CTI Castel Tesino 83.44 332 P **P** 18 51 23.8 -0.8

HINF Hinteralfeld 83.44 335 *e*P **P** 18 51 20.5 -4.0
HINF pmax pmax
comp=Z,5.0nm,0.8s

RAYN Ar Rayn 83.49 296 ⇑P **P** 18 51 26.4 +1.3

RAYN Ar Rayn 83.49 296 P **P** 18 51 24.6 -0.5
RAYN IAmb IAmb 18 51 26.9
comp=Z,24nm,1.0s

RAYN Ar Rayn 83.49 296 *i* P **P** 18 51 25.5 +0.3
SNR=20

N49A Columbus Grove 83.51 38 P **P** 18 51 24.6 -0.3

PDG Podgorica 83.58 325 ⇑P **P** 18 51 25.5 +0.3

PDG Podgorica 83.58 325 P **P** 18 51 24.5 -0.7

WHTX Lake Whitney, 83.59 52 P **P** 18 51 25.7 +0.3
baz=318

FCAR Ozark Folk Cen 83.60 46 P **P** 18 51 24.9 -0.5

O48B Farmland 83.61 39 P **P** 18 51 24.8 -0.6
baz=323

M50A Fremont 83.62 37 P **P** 18 51 24.1 -1.3

YER Yerkesik 83.64 316 P **P** 18 51 27.1 +1.4

S44A Carbondale 83.67 43 P **P** 18 51 25.9 +0.1

SIUC Southern Illin 83.68 43 P **P** 18 51 26.0 +0.2

PBMO Poplar Bluff 83.79 44 P **P** 18 51 26.3 -0.1

TUE Stuetta 83.84 333 P **P** 18 51 26.9 +0.1
TUE IAmb IAmb 18 51 28.3
comp=Z,17nm,0.8s

MIAR Mount Ida 83.85 47 P **P** 18 51 26.8 +0.1
baz=319

J54A Appleton 83.92 33 P **P** 18 51 26.3 -0.6

LCAR Lake Charles 83.97 45 P **P** 18 51 26.7 -0.6

WHAR Wooly Hollow 83.97 46 P **P** 18 51 26.8 -0.5

PECO Prince Edward 84.00 32 P **P** 18 51 26.5 -0.8
PECO IAmb IAmb 18 51 27.6
comp=Z,22nm,0.8s

D62A Allapoint, All 84.01 25 P **P** 18 51 27.2 -0.1

FNA Florina 84.02 323 P **P** 18 51 27.3 -0.3
FNA pmax pmax
comp=Z,29nm,0.9s

FNA Florina 84.02 323 P **P** 18 51 27.3 -0.3
FNA IAmb IAmb 18 51 28.2
comp=Z,29nm,0.9s

TEOL Teolo 84.03 331 P **P** 18 51 27.1 -0.4
TEOL IAmb IAmb 18 51 29.4
comp=Z,22nm,0.8s

O49A Covington 84.03 38 P **P** 18 51 27.4 -0.1
O49A IAmb IAmb 18 51 28.4
comp=Z,28nm,0.9s

LIT Litokhoron 84.07 322 P **P** 18 51 27.1 -0.7
LIT pmax pmax
comp=Z,29nm,1.0s

LIT Litokhoron 84.07 322 P **P** 18 51 27.1 -0.7
LIT IAmb IAmb 18 51 28.3
comp=Z,29nm,1.0s

MEDO Medina 84.08 33 P **P** 18 51 27.4 -0.3
MEDO IAmb IAmb 18 51 28.5
comp=Z,30nm,0.9s

W41B Gary Mavity, V 84.08 46 P **P** 18 51 27.1 -0.8
W41B IAmb IAmb 18 51 29.3
comp=Z,30nm,0.8s

W41B Gary Mavity, V 84.08 46 P **P** 18 51 27.7 -0.2
baz=320

P48A Milroy 84.12 39 P **P** 18 51 27.3 -0.7

SALO Salr 84.20 332 P **P** 18 51 28.1 -0.3
SALO IAmb IAmb 18 51 29.1
comp=Z,24nm,0.8s

TIR Tirane 84.22 324 P **P** 18 51 28.6 +0.1
TIR pmax pmax
comp=Z,46nm,0.9s

TIR Tirane 84.22 324 P **P** 18 51 28.6 +0.1

M52A Chesterland 84.24 36 P **P** 18 51 28.1 -0.5

J55A Hilton 84.25 32 P **P** 18 51 28.0 -0.6

X40A Basin Creek Fa 84.29 47 P **P** 18 51 28.5 -0.5
X40A IAmb IAmb 18 51 30.2
comp=Z,15nm,0.8s

X40A Basin Creek Fa 84.29 47 P **P** 18 51 29.0 0.0
baz=320

N51A Ashland 84.31 37 P **P** 18 51 28.6 -0.4

LONY Lake Ozonia 84.31 30 P **P** 18 51 28.1 -0.8
baz=330

ERPA Erie 84.33 34 P **P** 18 51 29.0 -0.1

ERPA Erie 84.33 34 P **P** 18 51 29.0 -0.1
baz=326

P49A Miami Univ. Ec 84.39 39 P **P** 18 51 29.0 -0.4

P49A Miami Univ. Ec 84.39 39 P **P** 18 51 29.2 -0.2
baz=324

435B Jarrell 84.41 53 P **P** 18 51 29.8 +0.1
baz=318

KBN Korca 84.41 323 P **P** 18 51 29.0 -0.6
KBN pmax pmax
comp=Z,33nm,1.0s

KBN Korca 84.41 323 P **P** 18 51 29.0 -0.6
KBN IAmb IAmb 18 51 30.4
comp=Z,33nm,1.0s

CLF Chambon-Foret 84.57 338 P **P** 18 51 31.0 +0.8

SENIN Lac Senin/Sane 84.60 334 P **P** 18 51 31.1 +0.5
SENIN IAmb IAmb 18 51 31.9
comp=Z,13nm,0.7s

FLN La Foliniere 84.60 340 *e*P **P** 18 51 30.0 -0.3
FLN pmax pmax
comp=Z,26nm,0.7s

ACSO Alum Creek Sta 84.60 37 P **P** 18 51 30.2 -0.3

ACSO Alum Creek Sta 84.60 37 P **P** 18 51 30.6 +0.1
baz=325

J56A Wolcott 84.61 32 P **P** 18 51 29.7 -0.7
J56A IAmb IAmb 18 51 30.7
comp=Z,27nm,0.8s

M53A WI Miller and 84.61 35 P **P** 18 51 30.6 +0.1

M53A WI Miller and 84.61 35 P **P** 18 51 30.6 +0.1
baz=326

GNAR Gosnell 84.63 44 P **P** 18 51 31.2 +0.5

WVNY West Valley, N 84.66 33 P **P** 18 51 30.6 -0.1

ALLY Alegheny Colle 84.66 35 P **P** 18 51 30.8 0.0

MMNY Mt. Morris Dam 84.66 33 P **P** 18 51 30.4 -0.4

WCI Wyandotte Cave 84.69 41 P **P** 18 51 30.8 -0.2
WCI pmax pmax
comp=Z,44nm,1.0s

WCI Wyandotte Cave 84.69 41 P **P** 18 51 30.8 -0.2

WCI Wyandotte Cave 84.69 41 P **P** 18 51 31.1 +0.2
baz=323

PQI Presque Isle 84.70 25 P **P** 18 51 30.3 -0.5
PQI IAmb IAmb 18 51 30.8
comp=Z,50nm,1.3s

WLAR White Oak Lake 84.75 48 P **P** 18 51 31.3 0.0

LOR Lormes 84.82 337 *e*P **P** 18 51 31.2 -0.3
LOR pmax pmax
comp=Z,51nm,1.3s

J57A Williamstown 84.83 31 P **P** 18 51 30.9 -0.6
J57A IAmb IAmb 18 51 32.8
comp=Z,45nm,1.4s

URZ Urewera 84.97 158 LR LR 19 27 42.3
comp=Z,125nm,19.6s,baz=30,slow=34

M54A Oil Creek Stat 84.97 35 P **P** 18 51 32.1 -0.3

M54A Oil Creek Stat 84.97 35 P **P** 18 51 32.5 +0.1
baz=327

NCB Newcomb 85.00 30 P **P** 18 51 32.1 -0.4

GRR Gorron 85.04 340 *e*P **P** 18 51 32.6 +0.1
GRR pmax pmax
comp=Z,42nm,0.8s

N53A Lisbon 85.06 36 P **P** 18 51 32.7 -0.1

J58A Remsen 85.14 31 P **P** 18 51 32.1 -1.0
J58A IAmb IAmb 18 51 33.6
comp=Z,26nm,0.8s

833A Chaparral WMA, 85.14 55 P **P** 18 51 33.8 +0.5
baz=317

ZCCA Zocca 85.15 331 P **P** 18 51 34.3 +1.1

R49A Shelbyville 85.17 40 P **P** 18 51 33.2 -0.2

P51A Williamsport 85.18 38 P **P** 18 51 33.2 -0.1

G62A West of Eustis 85.19 27 P **P** 18 51 33.6 +0.2
G62A IAmb IAmb 18 51 34.7
comp=Z,34nm,0.9s

O52A Adamsville 85.20 37 P **P** 18 51 33.2 -0.3

K57A Scipio Center 85.20 32 P **P** 18 51 33.1 -0.4
K57A IAmb IAmb 18 51 34.0
comp=Z,22nm,0.9s

VT1 Waterbury 85.21 29 P **P** 18 51 32.9 -0.6
VT1 IAmb IAmb 18 51 34.4
comp=Z,26nm,0.9s

Z41A Richland Creek 85.24 48 P **P** 18 51 34.2 +0.4
baz=320

T47A Sharon Grove 85.29 42 P **P** 18 51 33.9 -0.1

CCAR Cane Creek 85.29 47 P **P** 18 51 33.8 -0.2

N54A Moraine State 85.30 35 P **P** 18 51 34.1 +0.1

N54A Moraine State 85.30 35 P **P** 18 51 34.0 +0.1
baz=326

L56A Greenwood 85.30 33 P **P** 18 51 33.7 -0.3

J59A Piesco 85.34 30 P **P** 18 51 32.8 -1.3
J59A IAmb IAmb 18 51 34.5
comp=Z,25nm,0.8s

NATX Nacogdoches 85.35 50 P **P** 18 51 34.3 0.0

NATX Nacogdoches 85.35 50 P **P** 18 51 34.9 +0.5
baz=319

O53A New Philadelph 85.36 36 P **P** 18 51 34.3 0.0

O53A New Philadelph 85.36 36 P **P** 18 51 34.3 0.0
baz=326

M55A Ridgway 85.38 34 P **P** 18 51 34.0 -0.4

AVF Avril sur Loir 85.40 337 *e*P **P** 18 51 34.4 +0.1
AVF pmax pmax
comp=Z,77nm,1.2s

SOCY Socotra 85.41 282 P **P** 18 51 32.9 -2.1
SOCY IAmb IAmb 18 51 55.9
comp=Z,38nm,1.1s

Q51A Peebles 85.42 38 P **P** 18 51 34.9 +0.2

P52A Corning 85.47 37 P **P** 18 51 34.4 -0.4
P52A IAmb IAmb 18 51 35.4
comp=Z,23nm,0.8s

P52A Corning 85.47 37 P **P** 18 51 34.3 -0.6
baz=325

VLC Villacollemand 85.52 332 P **P** 18 51 34.2 -0.8
VLC IAmb IAmb 18 51 36.8
comp=Z,49nm,1.2s

MURB Monte Urbino 85.53 330 P **P** 18 51 35.0 -0.2

LPL La Plagne 85.54 334 *e*P **P** 18 51 35.7 +0.4
LPL pmax pmax
comp=Z,34nm,1.1s

LPG La Plagne 85.55 334 *e*P **P** 18 51 35.9 +0.4
LPG pmax pmax
comp=Z,39nm,1.1s

H62A Milan 85.55 28 P **P** 18 51 35.4 +0.2

PKME Peaks-Kenny Pk 85.56 26 P **P** 18 51 35.2 +0.1
baz=333

R50A Paris 85.57 39 P **P** 18 51 35.6 +0.2
R50A IAmb IAmb 18 51 36.6
comp=Z,15nm,0.8s

LBNH Lisbon 85.58 28 P **P** 18 51 35.4 +0.1
baz=331

WVT Waverly 85.61 43 P **P** 18 51 35.5 -0.1
WVT pmax pmax
comp=Z,33nm,0.9s

WVT Waverly 85.61 43 P **P** 18 51 35.5 -0.1
WVT IAmb IAmb 18 51 36.7
comp=Z,33nm,0.8s

WVT Waverly 85.61 43 P **P** 18 51 35.8 +0.2
baz=322

EIL Elat 85.65 307 P **P** 18 51 36.9 +1.0
comp=Z,16nm,0.8s,baz=331,slow=0.4,SNR=10
EIL LR LR 19 35 53.0
comp=Z,97nm,18.3s,baz=72,slow=40

NRCA Norcia 85.68 329 P **P** 18 51 35.7 -0.2

W45A Hickory Valley 85.69 44 P **P** 18 51 36.0 0.0

ACCN Adirondack Com 85.71 30 P **P** 18 51 35.6 -0.3
ACCN IAmb IAmb 18 51 36.7
comp=Z,22nm,1.0s

OSSC Osservatorio P 85.77 331 P **P** 18 51 36.1 -0.1
OSSC IAmb IAmb 18 51 36.9
comp=Z,24nm,0.7s

O54A Avella 85.78 36 P **P** 18 51 36.4 0.0

BINY Binghamton 85.86 32 P **P** 18 51 36.9 +0.2
BINY IAmb IAmb 18 51 37.5
comp=Z,23nm,1.0s

BINY Binghamton 85.86 32 P **P** 18 51 36.5 -0.2
baz=329

P53A Whipple 85.92 37 P **P** 18 51 37.3 +0.3
P53A IAmb IAmb 18 51 38.0
comp=Z,22nm,0.8s

BNI Bardonecchia 85.97 334 P **P** 18 51 37.4 0.0
BNI pmax pmax
comp=Z,25nm,1.0s

BNI Bardonecchia 85.97 334 P **P** 18 51 37.4 0.0
BNI IAmb IAmb 18 51 39.3
comp=Z,25nm,1.0s

AQU L'Aquila 85.99 329 P **P** 18 51 38.0 +0.6
AQU pmax pmax
comp=Z,26nm,0.7s

AQU L'Aquila 85.99 329 P **P** 18 51 38.0 +0.6
AQU IAmb IAmb 18 51 39.3
comp=Z,26nm,0.7s

QUIF Quistinic 86.03 342 *e*P **P** 18 51 38.3 +0.9
QUIF pmax pmax
comp=Z,162nm,1.8s

HKT Hockley 86.04 52 *i* P **P** 18 51 36.7 -1.0
HKT pmax pmax
comp=Z,31nm,1.5s

HKT Hockley 86.04 52 P **P** 18 51 38.0 +0.3

OXF Oxford 86.07 45 P **P** 18 51 37.9 0.0
baz=321

M57A Sunshine Farm, 86.15 33 P **P** 18 51 38.1 -0.1

TCF Toulx Ste Croi 86.18 338 *e*P **P** 18 51 38.5 +0.2
TCF pmax pmax
comp=Z,20nm,0.9s

I63A Otisfield 86.21 27 P **P** 18 51 39.5 +1.1
I63A IAmb IAmb 18 51 40.1
comp=Z,30nm,0.9s

L59A Walton 86.23 31 P **P** 18 51 37.9 -0.7
L59A IAmb IAmb 18 51 39.5
comp=Z,37nm,0.8s

ORIF Oris-en-Rattie 86.34 335 *e*P **P** 18 51 39.5 +0.3
ORIF pmax pmax
comp=Z,44nm,0.9s

T50A Nancy 86.35 40 P **P** 18 51 39.0 -0.2

CLTN Cedars of Leba 86.38 42 P **P** 18 51 39.2 -0.2
CLTN IAmb IAmb 18 51 40.6
comp=Z,40nm,1.0s

LMN Caledonia Moun 86.39 23 P **P** 18 51 39.2 0.0
LMN IAmb IAmb 18 51 40.2
comp=Z,27nm,0.8s

PLAL Pickwick Lake 86.39 44 P **P** 18 51 38.8 -0.6
PLAL IAmb IAmb 18 51 39.6
comp=Z,14nm,0.7s

V48A Smith Brothers 86.41 42 P **P** 18 51 39.5 -0.1
V48A IAmb IAmb 18 51 40.5
comp=Z,23nm,0.8s

SSB Saint Sauveur 86.42 336 P **P** 18 51 39.8 +0.3
SSB pmax pmax
comp=Z,30nm,1.1s

SSB Saint Sauveur 86.42 336 P **P** 18 51 39.8 +0.3
SSB IAmb IAmb 18 51 41.3
comp=Z,30nm,1.1s

S51A Beattyville 86.43 39 P **P** 18 51 39.5 -0.2
S51A IAmb IAmb 18 51 40.6
comp=Z,20nm,0.8s

SSPA Standing Stone 86.44 34 P **P** 18 51 39.8 +0.1
SSPA IAmb IAmb 18 51 40.8
comp=Z,31nm,0.8s

SSPA Standing Stone 86.44 34 P **P** 18 51 39.7 +0.1
baz=328

MCWV Mont Chateau 86.44 36 P **P** 18 51 40.0 +0.4

MCWV Mont Chateau 86.44 36 P **P** 18 51 40.0 +0.4
baz=327

O56A Blue Knob Stat 86.47 34 P **P** 18 51 40.0 +0.2

O56A Blue Knob Stat 86.47 34 P **P** 18 51 40.0 +0.2
baz=327

KSPA Keystone Colle 86.50 32 P **P** 18 51 39.9 0.0
KSPA IAmb IAmb 18 51 40.6
comp=Z,19nm,0.7s

Y45A Yeager Farm, C 86.51 45 P **P** 18 51 40.3 +0.3

Q54A Coxs Mills 86.57 37 P **P** 18 51 40.5 +0.2

R53A Hurricane 86.62 38 P **P** 18 51 40.6 +0.1

VIVF Saint-Julien-l 86.77 335 *e*P **P** 18 51 41.5 +0.3
VIVF pmax pmax
comp=Z,80nm,1.3s

IDI Anoyia 86.78 317 P **P** 18 51 39.3 -2.2
comp=Z,10nm,0.8s,baz=38,slow=8.0,SNR=1.9
IDI LR LR 19 37 07.5
comp=Z,49nm,18.6s,baz=44,slow=40

L61B Northampton 86.88 30 P **P** 18 51 42.3 +0.6
baz=331

HRV Adam Dziewonsk 87.23 29 P **P** 18 51 43.6 +0.2
baz=332

PAGS Pennsylvania G 87.25 33 P **P** 18 51 43.5 -0.1

SWET Sewanee 87.27 42 P **P** 18 51 43.4 -0.4

FRF La Foret Royal 87.31 334 *e*P **P** 18 51 43.3 -0.5
FRF pmax pmax
comp=Z,63nm,1.2s

X48A Hartselle 87.32 43 P **P** 18 51 43.5 -0.5
X48A IAmb IAmb 18 51 44.0
comp=Z,15nm,0.7s

TIP Timpagrande 87.34 325 ⇓P **P** 18 51 43.9 -0.2

TIP Timpagrande 87.34 325 P **P** 18 51 43.5 -0.6

S54A Dingess, Beckl 87.34 38 P **P** 18 51 44.3 +0.2
S54A IAmb IAmb 18 51 45.3
comp=Z,30nm,1.0s

TZTN Tazewell 87.34 40 P **P** 18 51 44.4 +0.3

TZTN Tazewell 87.34 40 P **P** 18 51 44.3 +0.2
baz=324

ODNJ Ogdensburg 87.35 31 P **P** 18 51 43.3 -0.8
ODNJ IAmb IAmb 18 51 44.8
comp=Z,15nm,0.9s

P57A Homestead Farm 87.36 35 P **P** 18 51 43.7 -0.4
P57A IAmb IAmb 18 51 45.3
comp=Z,32nm,1.2s

WES Weston 87.42 29 P **P** 18 51 44.8 +0.5
WES pmax pmax
comp=Z,35nm,0.9s

WES Weston 87.42 29 P **P** 18 51 44.8 +0.5

TRNY Table Rock, Ra 87.44 31 P **P** 18 51 44.2 -0.2
TRNY IAmb IAmb 18 51 45.5
comp=Z,28nm,0.8s

R55A Marlinton 87.47 37 P **P** 18 51 44.6 -0.1

CAF Calviac 87.47 337 *e*P **P** 18 51 45.5 +0.9
CAF pmax pmax
comp=Z,19nm,0.8s

LUPA Lehigh Univers 87.47 32 P **P** 18 51 44.4 -0.2
LUPA IAmb IAmb 18 51 45.5
comp=Z,21nm,0.7s

V51A Loudon 87.56 41 P **P** 18 51 45.4 +0.2

W50A Signal Mountai 87.58 42 P **P** 18 51 45.0 -0.3
W50A IAmb IAmb 18 51 46.2
comp=Z,27nm,0.8s

MVL Millersville 87.60 33 P **P** 18 51 45.1 -0.1

PAL Palisades 87.68 31 P **P** 18 51 45.5 -0.1
baz=330

BRNJ Basking Ridge 87.71 32 P **P** 18 51 46.1 +0.3

146A Union 87.72 46 P **P** 18 51 46.8 +0.8

CPCT Cooper Cave 87.77 41 P **P** 18 51 46.2 0.0

Z47A Carrollton 87.79 45 P **P** 18 51 46.1 -0.1

WUPA West Chester U 87.95 33 P **P** 18 51 47.2 +0.3
WUPA IAmb IAmb 18 51 49.0
comp=Z,12nm,0.8s

TKL Tuckaleechee C 87.96 40 LR LR 19 31 36.3
comp=Z,49nm,22.0s,baz=316,slow=36

TKL Tuckaleechee C 87.96 40 P **P** 18 51 46.7 -0.4
TKL pmax pmax
comp=Z,46nm,0.8s

TKL Tuckaleechee C 87.96 40 P **P** 18 51 46.7 -0.4

FPAL Fort Paine 87.97 42 P **P** 18 51 46.5 -0.7

Y49A Blount Mountai 88.11 43 P **P** 18 51 47.3 -0.6

U54A Nelsons Funny 88.16 39 P **P** 18 51 48.1 0.0

BLA Blacksburg 88.22 37 P **P** 18 51 48.4 0.0
BLA pmax pmax
comp=Z,48nm,1.0s

BLA Blacksburg 88.22 37 P **P** 18 51 48.4 0.0

BLA Blacksburg 88.22 37 P **P** 18 51 48.3 0.0
baz=326

X51A Calhoun 88.32 42 P **P** 18 51 48.6 -0.1

W52A Murphy 88.34 41 P **P** 18 51 49.0 +0.1
W52A IAmb IAmb 18 51 50.0
comp=Z,13nm,0.7s

S57A Dark Hollow, R 88.41 36 P **P** 18 51 49.0 -0.2
S57A IAmb IAmb 18 51 50.5
comp=Z,23nm,1.0s

LRAL Lakeview Retre 88.47 44 P **P** 18 51 48.8 -0.7
LRAL IAmb IAmb 18 51 50.2
comp=Z,11nm,0.8s

LRAL Lakeview Retre 88.47 44 P **P** 18 51 49.0 -0.5
baz=323

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	88.73	164	LR	LR	19 25 49.7	
	comp=Z,194nm,20.5s,baz=9.5,slow=32						
BG3	Lake Jocassee	88.90	40	P	P	18 51 51.9	+0.4
T57A	Hurt	88.92	37	P	P	18 51 51.4	-0.2
U56A	King	88.96	38	P	P	18 51 51.7	-0.1
V55A	Taylorsville	88.99	39	P	P	18 51 52.0	+0.1
V55A				IAmb	IAmb	18 51 53.0	
	comp=Z,30nm,1.2s						
Z51A	Franklin	89.16	43	P	P	18 51 52.5	-0.3
Y52A	Lilburn	89.27	42	P	P	18 51 53.4	+0.1
KMSC	Kings Mountain	89.52	39	P	P	18 51 54.2	-0.2
KMSC	Kings Mountain	89.52	39	P	P	18 51 54.4	-0.1
	baz=326						
PAULI	Pauline	89.56	40	P	P	18 51 54.9	+0.3
PAULI				IAmb	IAmb	18 51 55.6	
	comp=Z,30nm,0.8s						
T59A	Double "B" Far	89.67	36	P	P	18 51 55.3	+0.3
T59A				IAmb	IAmb	18 51 56.4	
	comp=Z,26nm,1.1s						
EPF	Esparros	89.70	338	eP	P	18 51 54.5	-0.7
EPF				pmax	pmax		
	comp=Z,27nm,1.5s						
VAE	Valguarnera	89.76	326	LR	LR	19 36 26.4	
	comp=Z,114nm,18.8s,baz=138,slow=38						
HODGE	Hodges	89.84	40	P	P	18 51 56.1	+0.2
HODGE				IAmb	IAmb	18 51 57.3	
	comp=Z,25nm,1.0s						
152A	Waverly Hall	89.91	43	P	P	18 51 55.9	-0.4
152A				IAmb	IAmb	18 51 57.1	
	comp=Z,16nm,0.9s						
GOGA	Godfrey	89.93	42	P	P	18 51 56.5	+0.1
GOGA				pmax	pmax		
	comp=Z,14nm,1.0s						
GOGA	Godfrey	89.93	42	P	P	18 51 56.5	+0.1
GOGA	Godfrey	89.93	42	P	P	18 51 56.4	+0.1
	baz=325						
U59A	Littleton	90.09	36	P	P	18 51 57.4	+0.4
U59A				IAmb	IAmb	18 51 58.3	
	comp=Z,26nm,1.2s						
W57A	Gilead	90.12	38	P	P	18 51 57.4	+0.2
W57A				IAmb	IAmb	18 51 58.3	
	comp=Z,32nm,0.8s						
BIRD	Birdtown, Kers	90.33	39	P	P	18 51 58.3	+0.1
BIRD				IAmb	IAmb	18 51 59.3	
	comp=Z,28nm,1.0s						
ATD	Arta Tunnel	93.70	289	LR	LR	19 39 57.9	
	comp=Z,84nm,18.6s,baz=48,slow=39						
ESDC	Sonseca Array	93.99	339	P	P	18 52 14.7	-0.4
	comp=Z,3.8nm,0.9s,baz=29,slow=4.0,SNR=11						
ESDC				LR	LR	19 38 50.5	
	comp=Z,173nm,21.8s,baz=22,slow=38						
ESDC	Sonseca Array	93.99	339	P	P	18 52 14.6	-0.4
TORD	Torodi Ar. Bea	116.48	324	PKP	PKPdf	18 57 40.3	-1.0
	comp=Z,1.4nm,0.5s,baz=18,slow=2.2,SNR=14						
TORD				PP	PP	18 58 45.8	-1.4
	comp=Z,1.3nm,0.9s,baz=7.3,slow=8.9,SNR=5.2						
TORD	Torodi Ar. Bea	116.48	324		PKPdf	18 57 40.4	-0.8
DBIC	Dimbokro	125.02	328	PKP	PKPdf	18 57 56.4	-1.3
	comp=Z,5.8nm,0.7s,baz=79,slow=2.7,SNR=7.9						
DBIC	Dimbokro	125.02	328		PKPdf	18 57 56.8	-0.9
TIC	Toumodi	125.11	328	ePKIKP	PKPdf	18 57 56.6	-1.3
KIC	Kosan Boka	125.26	327	ePKIKP	PKPdf	18 57 57.0	-1.2
	comp=Z,6.5nm,0.7s						
LIC	Lamto	125.49	328	ePKIKP	PKPdf	18 57 57.1	-1.5
	comp=Z,50nm,1.7s						
ITTB	Itaituba	135.55	37	eP	PKPdf	18 58 17.5	-0.1
SYO	Syowa Base	136.37	209⇑	ePdiff	Pdif	18 55 24.4	+1.5
NPGB	Novo Progresso	138.10	38	eP	PKiKP	18 58 24.6	+0.3
NBMO	Morrinhos-CE	139.49	14	eP	PKiKP	18 58 27.1	-0.1
PRPB	Parauapebas	139.56	30	eP	PKiKP	18 58 27.2	-0.2
CLDB	Colider	141.25	41	eP	PKiKP	18 58 30.4	-0.3
H03N2	Juan Fernandez	141.58	92	T	T	21 37 25.7	
	baz=305,slow=77,SNR=15						
H03N3	Juan Fernandez	141.59	92	T	T	21 37 28.8	
	baz=305,slow=77,SNR=11						
H03N1	Juan Fernandez	141.59	92	T	T	21 37 27.4	
	baz=305,slow=77,SNR=9.9						
NBMA	Muriti-CE	143.68	13	eP	PKiKP	18 58 34.5	-1.3
BELA	Belgrano 2	145.16	179		PKPbc	18 58 31.8	-0.9
NBRF	Rio Formoso -	145.44	7	eP	PKPbc	18 58 35.3	-0.1
SALV	Santo Antonio	145.58	45	eP	PKPdf	18 58 35.3	-0.3
PEXB	Peixe	145.59	31	eP	PKPab	18 58 36.3	+0.2
NBAN	Anadia - AL	146.30	9	eP	PKPdf	18 58 36.4	-0.5
SDBA	SAO DESIDERIO	147.05	26	eP	PKPbc	18 58 40.2	0.0
ARAG	Araguaiana, MT	147.33	39	eP	PKPdf	18 58 39.3	+0.8
NBLA	Lagarto - SE	147.39	13	eP	PKPbc	18 58 40.5	-0.6
PP1B	Ponte de Pedra	147.42	46	eP	PKPbc	18 58 40.5	-0.6
SNAA	Sanae	148.31	196	PKPdf	PKPbc	18 58 41.6	-0.4
BDFB	Brasilia	148.92	33	PKPbc	PKPbc	18 58 45.3	+0.1
	comp=Z,9.7nm,0.8s,baz=348,slow=7.7,SNR=5.9						
LC01	Cunco	149.06	96	PKPdf	PKPdf	18 58 40.4	-0.3
AQDB	Aquidauana	149.32	50	PKPdf	PKPdf	18 58 41.1	-0.5
GDU01	Guandu, BA	149.72	17	eP	PKPbc	18 58 45.2	-1.9
JANB	Januaria	149.73	26	eP	PKPdf	18 58 43.4	+0.9
VNA2	Neumayer--Watz	149.81	195	PKPdf	PKPbc	18 58 46.0	+0.2
	baz=150,slow=2.0						
VNA3	Neumayer Olymp	149.96	194	PKPdf	PKPbc	18 58 46.0	-0.1
LL02	Futaleuf	150.39	104		PKPbc	18 58 48.0	0.0
PLCA	Paso Flores	150.64	99	PKPbc	PKPbc	18 58 48.8	0.0
	comp=Z,14nm,0.9s,baz=270,slow=3.3,SNR=20						
PLCA	Paso Flores	150.64	99	eP	PKPbc	18 58 46.2	-2.6
NBIT	Itapeh - BA	150.93	17	eP	PKPdf	18 58 46.5	+2.3
ITRB	Iturama	151.47	41	eP	PKPdf	18 58 45.8	+0.7
CPUP	Villa Florida	152.74	61	PKPbc	PKPbc	18 58 53.7	-0.1
	comp=Z,2.2nm,0.6s,baz=302,slow=4.1,SNR=3.9						
CPUP				PKPab	PKPab	18 59 04.8	0.0
	comp=Z,4.0nm,0.8s,baz=311,slow=3.2,SNR=5.3						

*CNRM **10** 19:18:22.5, 35.73N×3.55W, h30km, ml2.6*
*MDD **10** 19:18:23.1±0.4, 35.70N×3.63W, h0km, mb_Lg2.9/13, Error ellipse: s-maj=3.3km s-min=2.5km az=0.0*
*SFS **10** 19:18:23.0, 35.76N×3.61W, ML2.7, ALBORAN SUR*
ISC 10 19:18:21.3±1.2**, 35.71N**±0.02×**3.64W**±0.03**, h6**km±10km**, n28, σ1.32**/55**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.54	65	Pg	Pb	19 18 33.4	+0.2
EALB				Sg	Sb	19 18 41.5	+0.2
EALB				i Vmb_Lg		19 18 43.6	
PALE	Palemas	0.55	206	P	Pb	19 18 34.2	+0.8
PALE				S	Sb	19 18 43.1	+1.6
EMEL	Melilla	0.69	126	Pg	Pg	19 18 35.1	+0.5
EMEL				Sg	Sg	19 18 44.2	+0.6
GOG	Mont Gurugu	0.72	133	P	Pg	19 18 35.6	+0.4
GOG				S	Sg	19 18 45.4	+1.0
ELGU	Los Guajares,	1.16	1	Pg	Pg	19 18 43.4	-0.1
ELGU				Sg	Sb	19 18 59.2	+0.1
ELGU				i Vmb_Lg		19 19 02.5	
EMAL	Malaga-Limoner	1.23	329	P	Pg	19 18 44.8	-0.1
EMAL				S	Sg	19 18 59.2	-1.7
EMIJ	Mijas	1.25	313	Pg	Pg	19 18 45.0	-0.4
EMIJ				Sg	Sg	19 19 01.1	-0.4
EMIJ				i Vmb_Lg		19 19 02.2	
EBER	Berja	1.33	27	Pg	Pg	19 18 45.5	-1.3
EBER				Sg	Sg	19 19 03.9	-0.3
EBER				i Vmb_Lg		19 19 16.7	
TAF	Taforalt	1.34	131	P	Pn	19 18 45.3	-1.4
SMIR	Smir Dam	1.42	269	P	Pn	19 18 46.3	-1.3
SMIR				S	Sb	19 19 05.9	-0.6
CEU	Ceuta	1.42	278	P	Pn	19 18 46.5	-1.2
CEU				S	Sb	19 19 04.0	-2.6
CHEFC	Chefchaouen	1.51	247	P	Pn	19 18 50.2	+1.1
CHEFC				S	Sn	19 19 10.1	+0.9
JBK	JBK	1.63	147	P	Pn	19 18 49.2	-1.6
JBK				S	Sn	19 19 08.5	-3.7
EJIF	Jimena Fronter	1.66	297	Pn	Pn	19 18 51.6	+0.6
EJIF				Sn	Sn	19 19 13.3	+0.8
EQES	Quesada	2.14	12	Pn	Pb	19 19 00.1	-0.5
EQES				Sn	Sb	19 19 26.1	-1.4
EQES				i Vmb_Lg		19 19 30.1	
LCRM	LCR	2.25	207	P	Pn	19 19 00.5	+1.1
LCRM				S	Sn	19 19 30.1	+2.5
IFR	Ifrane	2.51	210	P	Pn	19 19 02.3	-0.5
IFR				S	Sn	19 19 32.9	-1.0
EADA	Adamuz	2.56	343	Pn	Pn	19 19 04.8	+1.3
EADA				Sn	Sn	19 19 36.2	+1.2
EADA				i Vmb_Lg		19 19 50.9	
ECAB	El Cabril	2.76	329	Pn	Pn	19 19 08.4	+2.2
ECAB				Sn	Sn	19 19 40.8	+0.9
ECAB				i Vmb_Lg		19 19 50.5	
MDT	Midelt	3.00	196	P	Pn	19 19 10.6	+1.1
MDT				S	Sn	19 19 44.4	-1.5
EMIN	Mina Concepcio	3.19	311	Pn	Pn	19 19 12.7	+0.7
EMIN				Sn	Sn	19 19 49.5	-0.8
EMIN				i Vmb_Lg		19 20 11.8	
ETOB	Tobarra	3.37	29	Pn	Pn	19 19 16.5	+1.9
ETOB				Sn	Sn	19 19 55.3	+0.3
ETOB				i Vmb_Lg		19 20 43.5	
EGRO	El Granado	3.59	302	Pn	Pn	19 19 19.9	+2.3
EGRO				Sn	Sn	19 19 59.8	-0.4
PVAQ	Vaqueiros	3.69	298	P	Pn	19 19 19.6	+0.7
PVAQ				S	Sn	19 20 00.7	-2.1
PAB	San Pablo	3.87	352	Pn	Pn	19 19 23.6	+2.1
PAB				Sn	Sn	19 20 08.2	+0.9
PAB				i Vmb_Lg		19 21 53.3	
ESDC	Sonseca Array	3.96	356	Pn	Pn	19 19 23.5	+0.7
ESDC				i Vmb_Lg		19 20 02.0	
ESDC				Sn	Sn	19 20 10.1	+0.5
EBAD	Badajoz	4.06	319	Pn	Pn	19 19 25.4	+1.4
EBAD				Sn	Sn	19 20 11.3	-0.5
EPLA	Plasencia	4.75	337	Pn	Pn	19 19 34.3	+0.7
EPLA				Sn	Sn	19 20 28.9	-0.2
EPLA				i Vmb_Lg		19 22 14.7	

IDC 10 19:23:47.9±363.0**, 67.13N**×**37.12E, h0**km**, Error ellipse: s-maj=155.4km s-min=15.1km az=114.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I37NO	I37NO	7.18	294	i		20 08 50.0	
	baz=97,slow=328,SNR=2.6						
I31KZ	AKTYUBINSK INF	19.78	138	i		21 29 10.0	
	baz=336,slow=341,SNR=1.0						
I46RU	ZALESOVO INFRA	26.11	97	i		22 02 30.0	
	baz=321,slow=328,SNR=1.6						

*ISK **10** 19:24:38.1, 38.51N×26.48E, h11km±2km, ML2.0/5*
DDA 10 19:24:43.3±0.0**, 38.72N**×**26.51E, h7**km±2km**, ML1.7, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FOCM	Foa	0.17	93	PG	Pg	19 24 44.4	-2.4
FOCM				SG	Sg	19 24 48.9	-0.3
URLA	Izmir	0.37	169	PG	Pg	19 24 42.3	-8.2
URLA				SG	Sg	19 24 45.6	-10
DKL	Dikili	0.47	42	PG	Pg	19 24 51.3	-1.0
CHOS	Chios island	0.49	227	PG	Pg	19 24 45.7	-7.0
CHOS				SG	Sg	19 24 51.2	-7.9
AYVA	Ayvalik	0.60	14	P	Pg	19 24 55.4	+0.4
SIGR	SIGRI	0.70	314	PG	Pg	19 24 54.9	-2.0
KOCA	Canakkale, Ayv	0.83	340	P	Pg	19 24 59.0	-0.3
KOCA				i AML	AML	19 25 08.0	
	comp=Z,28nm,1.0s						
KOCA				S	Sb	19 25 11.7	+0.3
KOCA				i AML	AML	19 25 14.0	
	comp=N,43nm,1.8s						
BUHA	Balikesir, Bur	0.90	29	P	Pg	19 24 49.9	-11
BUHA				S	Sb	19 25 13.3	0.0
BAYC	CANAKKALE_Bayr	1.02	2	P	Pg	19 25 00.7	-2.2
BAYC				S	Sb	19 25 16.9	+0.1

TIR 10 19:25:54.4, 41.20N×**20.42E, h20**km±1km**, Md2.5, Ml1.8, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.44	290	P	Pb	19 26 03.8	+0.3
	baz=290						
TIR				S	Sb	19 26 10.9	+1.2
	baz=290						
TIR				AMP			
	comp=E,0.3nm,0.3s,baz=290						
PHP	Peshkopia	0.48	2	P	Pb	19 26 04.6	+0.3
	baz=1.0						
PHP				S	Sb	19 26 12.1	+1.1
	baz=1.0						
PHP				AMP			
	comp=N,0.6nm,0.2s,baz=1.0						
FNA	Florina	0.84	120	P	Pn	19 26 11.2	+0.1
	baz=119						
FNA				S	Sn	19 26 23.3	+0.4
	baz=119						

IDC 10 19:39:04.4±964.0**, 52.01N**×**32.55E, h0**km**, Error ellipse: s-maj=390.0km s-min=114.0km az=34.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	5.45	28	i		20 12 20.0	
	baz=212,slow=324,SNR=1.8						
I31KZ	AKTYUBINSK INF	16.03	86	i		21 16 10.0	
	baz=287,slow=328,SNR=0.7						
I46RU	ZALESOVO INFRA	30.95	65	i		22 50 20.0	
	baz=285,slow=328,SNR=1.0						

RSNC 10 19:42:49.0±1.2**, 6.86N**×**73.13W, h152**km±5km**, ML3.0, Mw3.7, 3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	190⇓	iP	Pn	19 43 09.3	-0.7
BARC				eS	Sn	19 43 25.0	-1.1
BARC				i		19 43 26.9	
	comp=Z,168nm,0.4s						
PAMC	Pamplona, Colo	0.64	42	eP	Pn	19 43 12.2	+0.2
PAMC				eS	Sn	19 43 29.5	0.0
PAMC				i		19 43 31.6	
	comp=Z,214nm,0.6s						
RUSC	La Rusia	0.96	177⇓	iP	Pn	19 43 13.2	-1.1
RUSC				eS	Sn	19 43 32.9	-0.6
RUSC				i		19 43 33.5	
	comp=Z,48nm,0.2s						
PTBC	PUERTO BERRIO,	1.35	257	eP	Pn	19 43 16.0	-1.2
PTBC				eS	Sn	19 43 37.7	-1.2
PTBC				i		19 43 44.8	
	comp=Z,211nm,0.4s						
OCAC	Ocana	1.38	352	eP	Pn	19 43 18.2	+0.4
OCAC				eS	Sn	19 43 39.7	-0.1
OCAC				i		19 43 45.0	
	comp=Z,217nm,0.7s						
TAMC	Tame, Arauca	1.40	107⇓	iP	Pn	19 43 17.5	-0.3
TAMC				eS	Sn	19 43 39.6	-0.2
TAMC				i		19 43 39.8	
	comp=Z,52nm,0.3s						
SPBC	San Pablo de B	1.52	218	eP	Pn	19 43 18.3	-0.8
SPBC				eS	Sn	19 43 41.5	-0.6
SPBC				i		19 43 43.8	
	comp=Z,159nm,0.1s						
ZARC	Zaragoza, Cauc	1.82	290	eP	Pn	19 43 22.0	-0.2
ZARC				eS	Sn	19 43 48.3	+0.5
ZARC				i		19 43 55.8	
	comp=Z,104nm,0.2s						
NORC	Norcasia	2.15	233	eP	Pn	19 43 25.1	-1.0
NORC				eS	Sn	19 43 53.5	-1.2
NORC				i		19 43 58.1	
	comp=Z,67nm,0.2s						
CHIC	Chingaza	2.29	195	eP	Pn	19 43 27.3	-0.9
CHIC				eS	Sn	19 43 57.8	-0.5
CHIC				i		19 44 04.4	
	comp=Z,42nm,0.5s						
ROSC	El Rosal	2.33	211	eP	Pn	19 43 29.0	+0.5
ROSC				eS	Sn	19 43 58.6	-0.3
ROSC				i		19 44 07.0	
	comp=Z,73nm,0.5s						
HELC	Santa Helena	2.47	255	eP	Pn	19 43 31.4	+1.1
HELC				eS	Sn	19 44 02.4	+0.4
HELC				i		19 44 09.0	
	comp=Z,52nm,0.2s						
UREC	San Jos de Ur	2.54	291	eP	Pn	19 43 29.4	-1.4
UREC				eS	Sn	19 44 00.9	-2.1
UREC				i		19 44 10.2	
	comp=Z,66nm,0.3s						
GUY2C	Guyana, Caldas	2.75	234	eP	Pn	19 43 34.2	+0.4
GUY2C				eS	Sn	19 44 09.9	+1.6
GUY2C				i		19 44 14.3	
	comp=Z,55nm,0.3s						
VILC	Villavicencio,	2.78	192	eP	Pn	19 43 34.0	+0.1
VILC				eS	Sn	19 44 08.3	-0.3
PTGC	Puerto Gaitan,	2.82	159	eP	Pn	19 43 32.2	-2.1
PTGC				eS	Sn	19 44 05.5	-3.8
PTGC				i		19 44 08.0	
	comp=Z,55nm,0.4s						
CBOC	Ciudad Bolivar	3.03	251	eP	Pn	19 43 36.8	-0.2
CBOC				eS	Sn	19 44 14.5	+0.5
CBOC				i		19 44 22.8	
	comp=Z,16nm,0.5s						
DBBC	Dabeiba	3.06	273	eP	Pn	19 43 36.8	-0.5
DBBC				eS	Sn	19 44 14.6	0.0
DBBC				i		19 44 32.5	
	comp=Z,106nm,0.5s						
MOTC	Monteria, Cord	3.15	307	eP	Pn	19 43 36.6	-1.8
MOTC				eS	Sn	19 44 15.4	-1.2
MOTC				i		19 44 17.9	
	comp=Z,18nm,0.6s						
SDV	Santo Domingo	3.19	51	eP	Pn	19 43 38.9	-0.2
SDV				eS	Sn	19 44 17.1	-0.8
ORTC	Ortega, Tolima	3.61	216	eP	Pn	19 43 44.2	-0.1
ORTC				eS	Sn	19 44 27.1	-0.1
ORTC				i		19 44 33.0	
	comp=Z,26nm,0.4s						
SJCC	San Jacinto, C	3.63	326	eP	Pn	19 43 43.3	-1.4
SJCC				eS	Sn	19 44 27.2	-0.7
SJCC				i		19 44 29.3	
	comp=Z,28nm,0.5s						
PLMC	San Jos del P	3.68	238	eP	Pn	19 43 45.0	-0.3
PLMC				eS	Sn	19 44 25.8	-3.2
PLMC				i		19 44 39.8	
	comp=Z,13nm,0.5s						
CRJC	Cerrejon, Guaj	4.14	3	eP	Pn	19 43 50.1	-1.2
CRJC				eS	Sn	19 44 39.1	-0.7
CRJC				i		19 44 41.6	
	comp=Z,25nm,0.2s						

IDC 10 19:50:15.3±2.6**, 2.08N**×**127.41E, h0**km**, mb3.1**/3**, mb1 3.3**/3**, mb1mx2.9**/39**, mbtmp3.1**/3**, Error ellipse: s-maj=220.7km s-min=27.8km az=67.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.92	163	P	P	19 55 21.9	+0.7
	0.1nm,0.3s,baz=343,slow=10,SNR=2.2						
ASAR	Alice Springs	26.36	166	P	P	19 55 52.6	-0.8
	0.2nm,0.5s,baz=347,slow=8.0,SNR=4.5						
MKAR	Makanchi Array	59.29	326	P	P	20 00 19.2	+0.2
	0.2nm,0.5s,baz=116,slow=8.1,SNR=4.4						

*IDC **10** 20:06:31.3±2.9, 17.79S×178.67W, h578km±19km, mb3.6/4, mb1 3.7/5, mb1mx3.1/29, mbtmp4.5/5, Error ellipse: s-maj=64.3km s-min=32.9km az=137.0*
ISC 10 20:06:30.7±2.4**, 17.8S**±0.5×**178.6W**±0.4**, h579**km**, n7, σ0.54**/8**, mb4.1**/4**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.21	270	P	P	20 07 49.4	-0.1
	3.9nm,0.3s,baz=127,slow=7.1,SNR=26						
STKA	Stephens Creek	38.54	241	P	P	20 13 05.3	+0.5
	3.1nm,0.5s,baz=92,slow=10.0,SNR=23						
WRA	Warramunga Arr	44.49	259	P	P	20 13 51.0	-0.9
	1.5nm,0.5s,baz=96,slow=6.8,SNR=42						
ASAR	Alice Springs	44.66	254	P	P	20 13 53.0	-0.1
	17nm,0.6s,baz=88,slow=8.3,SNR=408						
ASAR				PcP	PcP	20 15 22.8	-0.3
	0.2nm,0.4s,baz=100,slow=3.4,SNR=2.3						
SIJI	Sorong	52.04	283	P	P	20 14 48.5	+0.5
	3.1nm,0.5s,baz=125,slow=18,SNR=5.4						
BRTR	Keskin Array B	144.57	315	PKP	PKPdf	20 25 02.5	+0.1
	0.7nm,0.5s,baz=62,slow=2.5,SNR=4.2						
GERES	GERESS Array B	147.45	345	PKPbc	PKPbc	20 25 10.3	0.0
	0.2nm,0.4s,baz=23,slow=5.3,SNR=2.1						

*IDC **10** 20:23:57.7±0.8, 41.42S×174.36E, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/28, mbtmp4.1/5, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/43, Error ellipse: s-maj=26.9km s-min=12.7km az=129.0*
*WEL **10** 20:24:00, 41.60S×174.45E, h18km, ML4.6, Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}0.84; $M_{\theta\theta}$1.42; $M_{\phi\phi}$-2.26; $M_{r\theta}$-0.72; $M_{\theta\phi}$-0.69; $M_{\phi r}$-0.52; Fault plane solution: $M_0$2.22000×10^{15} NP1: ϕ_s328.00000°, δ59.00000°, λ16.00000°. NP2: ϕ_s230.00000°, δ76.00000°, λ149.00000°. Principal axes: T -250.9700, Plg32.0000°, Azm185.0000°; N 192.4300, Plg55.0000°, Azm28.0000°; P 58.5500, Plg11.0000°, Azm282.0000°;*
*WEL **10** 20:24:01.1±0.3, 42°S±4°×17°4E±°, h11km±2km, M4.6/24, ML4.8/24, MLv4.6/24 Error ellipse: s-maj=0.0km s-min=0.0km az=155.5*
*NEIC **10** 20:24:01.2±1.2, 41.64S±0.04×174.48E±0.03, h22km±5km, mb4.3/10, Error ellipse: s-maj=6.2km s-min=2.6km az=161.0*
ISC 10 20:24:01.1±0.9**, 41.65S**±0.03×**174.48E**±0.03**, h25**km±6km**, n123, σ1.05**/135**, mb4.2**/8**, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.22	244		Pn	20 24 07.0	-1.8
CMWZ	Cape Campbell	0.22	244	P	Pn	20 24 07.1	-1.7
CMWZ				S	Sb	20 24 11.8	+0.7
SNZO	South Karori	0.38	27		Pb	20 24 09.1	-0.2
SNZO				Sg	Sb	20 24 14.8	-0.1
BHW	Baring Head	0.38	51		Pb	20 24 09.2	0.0
BHW	Baring Head	0.38	51	P	Pb	20 24 09.3	0.0
WEL	Wellington	0.43	31	P	Pb	20 24 10.0	-0.1
WEL				S	Sb	20 24 16.0	-0.2
BSWZ	Blackbirch Sta	0.46	262		Pb	20 24 10.6	+0.1
BSWZ				Sg	Sb	20 24 17.9	+0.9
BSWZ	Blackbirch Sta	0.46	262	P	Pb	20 24 10.7	+0.1
BSWZ				S	Sb	20 24 17.4	+0.4
TUWZ	Tuamarina	0.46	299		Pb	20 24 10.1	-0.4
TUWZ					Sb	20 24 16.7	-0.4
TUWZ	Tuamarina	0.46	299	P	Pb	20 24 10.2	-0.4
TUWZ				S	Sb	20 24 16.3	-0.7
TCW	Tory Channel	0.47	341	P	Pb	20 24 10.1	-0.6
TCW				S	Sb	20 24 16.1	-1.2
PLWZ	Palliser	0.59	82		Pn	20 24 13.6	-0.3
PLWZ	Palliser	0.59	82	P	Pn	20 24 13.8	-0.1
MSWZ	Moikau Station	0.62	68		Pn	20 24 14.0	-0.4
MSWZ	Moikau Station	0.62	68	P	Pn	20 24 14.1	-0.3
CAW	Cannon Point	0.70	39	P	Pn	20 24 14.6	-0.8
PAWZ	Paruwai Farm	0.76	70	P	Pn	20 24 16.5	+0.2
KIW	Kapiti Island	0.85	22	P	Pn	20 24 17.1	-0.4
MTW	Mount Morrison	0.91	58	P	Pn	20 24 19.0	+0.7
NNZ	Nelson	0.93	297		Pn	20 24 18.4	-0.1
NNZ	Nelson	0.93	297	P	Pn	20 24 18.5	-0.1
TRWZ	Traveller	0.94	75	P	Pn	20 24 19.2	+0.5
DUWZ	D'Urville Isla	0.95	333	P	Pn	20 24 18.6	-0.2
OGWZ	Otaki Gorge	0.98	32	P	Pn	20 24 19.4	+0.1
KHZ	Kahutara	1.04	222		Pn	20 24 20.9	+0.9
KHZ	Kahutara	1.04	222	P	Pn	20 24 20.9	+0.9
HOWZ	Holdsworth Sta	1.08	46	P	Pn	20 24 21.4	+0.7
THZ	Tophouse	1.18	264		Pb	20 24 23.1	+0.2
THZ	Tophouse	1.18	264	P	Pb	20 24 23.1	+0.2
TMWZ	Te Maipa	1.19	63	P	Pn	20 24 22.6	+0.4
MRZ	Mangatainoka R	1.29	40	P	Pn	20 24 24.5	+0.9
TKNZ	Takaka Hill	1.30	298	P	Pb	20 24 24.7	-0.1
MRNZ	Matariki Terra	1.32	280	P	Pb	20 24 25.1	0.0
TIWZ	Tintock	1.38	51	P	Pn	20 24 25.1	+0.4
CPWZ	Castlepoint	1.50	61	P	Pn	20 24 27.0	+0.7
PRWZ	Pori Road	1.57	46	P	Pn	20 24 27.9	+0.5
OHWZ	Ohakea	1.58	24	P	Pb	20 24 30.1	+0.6
POWZ	Post Office Ro	1.59	38	P	Pn	20 24 28.4	+0.7
BFZ	Birch Farm	1.65	55		Pn	20 24 28.3	-0.2
BFZ	Birch Farm	1.65	55	P	Pn	20 24 28.2	-0.2
QRZ	Quartz Range	1.69	299		Pb	20 24 30.9	-0.4
QRZ	Quartz Range	1.69	299	P	Pb	20 24 31.0	-0.4
GVZ	Greta Valley S	1.70	219	P	Pn	20 24 29.6	+0.5
DVHZ	Dannevirke	1.86	44	P	Pn	20 24 31.3	0.0
ANWZ	Angora Road	1.92	52	P	Pn	20 24 32.3	+0.1
WAZ	Wanganui	1.93	12	P	Pb	20 24 35.8	+0.2
TSZ	Takapari Road	1.95	36	P	Pn	20 24 33.2	+0.6
LTZ	Lake Taylor	1.99	235	Pn	Pn	20 24 33.8	+0.6
LTZ	Lake Taylor	1.99	235	P	Pn	20 24 33.9	+0.6
DSZ	Denniston Nort	2.00	266	P	Pn	20 24 34.9	+1.5
AMCZ	Amberley	2.04	221	P	Pn	20 24 33.9	+0.1

PRHZ	**Porangahau**	**2.14**	**50**	P	**Pn**	**20 24 35.1**	**-0.1**
PNHZ	**Pukenui**	**2.17**	**38**	P	**Pn**	**20 24 36.0**	**+0.3**
WPHZ	**Waipukurau**	**2.17**	**44**	P	**Pn**	**20 24 35.8**	**+0.1**
LREZ	**Lake Rotokare**	**2.19**	**358**	P	**Pb**	**20 24 39.7**	**-0.3**
NMEZ	**Namu Road**	**2.28**	**348**	P	**Pb**	**20 24 41.2**	**-0.3**
OKCZ	**Okains Bay**	**2.32**	**206**	P	**Pn**	**20 24 37.3**	**-0.4**
PREZ	**Palmer Road**	**2.32**	**354**	P	**Pb**	**20 24 42.1**	**-0.2**
KHEZ	**Kahui Hut**	**2.38**	**351**	P	**Pb**	**20 24 42.3**	**-1.0**
MTVZ	**Mangateitei**	**2.39**	**19**	P	**Pn**	**20 24 40.7**	**+2.1**
NEZ	**North Egmont**	**2.40**	**353**	P	**Pb**	**20 24 43.1**	**-0.5**
NBEZ	**Newall Road No**	**2.43**	**349**	P	**Pb**	**20 24 42.8**	**-1.2**
MOVZ	**Moawhango**	**2.44**	**24**	P	**Pn**	**20 24 40.9**	**+1.5**
MQZ	**McQueen's Vall**	**2.46**	**213**	Pn	**Pn**	**20 24 38.4**	**-1.1**
MQZ	**McQueen's Vall**	**2.46**	**213**	P	**Pn**	**20 24 38.5**	**-1.1**
OXZ	**Oxford**	**2.46**	**226**		**Pn**	**20 24 39.0**	**-0.7**
OXZ	**Oxford**	**2.46**	**226**	P	**Pn**	**20 24 39.0**	**-0.7**
DREZ	**Durham Road**	**2.47**	**355**	P	**Pb**	**20 24 44.1**	**-0.6**
KRHZ	**Kereru**	**2.47**	**36**	P	**Pn**	**20 24 39.8**	**+0.1**
BHHZ	**Black Hill Sta**	**2.47**	**30**	P	**Pn**	**20 24 40.9**	**+1.0**
PKE	**Pukeiti**	**2.48**	**351**	P	**Pb**	**20 24 43.4**	**-1.6**
TRVZ	**Turoa**	**2.49**	**19**	P	**Pn**	**20 24 42.4**	**+2.2**
INZ	**Inchbonnie**	**2.50**	**244**	P	**Pn**	**20 24 41.0**	**+0.9**
AKCZ	**Akaroa Harbour**	**2.50**	**207**	P	**Pn**	**20 24 39.7**	**-0.5**
WHVZ	**Whangaehu Hut**	**2.51**	**20**	P	**Pn**	**20 24 42.6**	**+2.1**
DRZ	**Dome Shelter**	**2.51**	**20**	P	**Pn**	**20 24 43.7**	**+3.1**
FWVZ	**Far West T-bar**	**2.53**	**19**	P	**Pn**	**20 24 42.9**	**+2.1**
TUVZ	**Tukino**	**2.54**	**21**	P	**Pn**	**20 24 43.0**	**+2.1**
KAHZ	**Kahuranaki**	**2.60**	**45**	P	**Pn**	**20 24 41.0**	**-0.6**
NGZ	**Ngauruhoe**	**2.62**	**19**	P	**Pn**	**20 24 44.2**	**+2.2**
SNVZ	**South Ngauruho**	**2.62**	**20**	P	**Pn**	**20 24 43.9**	**+2.0**
KWHZ	**Kaweka Forest**	**2.67**	**34**	P	**Pn**	**20 24 42.8**	**+0.2**
RACZ	**Rakaia**	**2.70**	**219**	P	**Pn**	**20 24 42.0**	**-0.9**
TMVZ	**Te Maari**	**2.70**	**21**	P	**Pn**	**20 24 44.9**	**+1.8**
KRVZ	**Karewarewa**	**2.70**	**20**	P	**Pn**	**20 24 45.2**	**+2.1**
BKZ	**Black Stump Fm**	**2.92**	**32**		**Pn**	**20 24 45.9**	**-0.1**
HIZ	**Hauiti**	**3.15**	**5**		**Pn**	**20 24 50.4**	**+1.4**
RPZ	**Rata Peaks**	**3.26**	**230**	Pn	**Pn**	**20 24 49.7**	**-0.9**
	54nm,0.3s,baz=63,slow=2.0,SNR=212						
RPZ				Pg	**Pb**	**20 24 58.1**	**-0.2**
	41nm,0.3s,baz=211,slow=2.3,SNR=13						
RPZ				Sn	**Sn**	**20 25 26.8**	**-1.8**
	62nm,0.3s,baz=347,slow=23,SNR=18						
RPZ				Lg	Lg	20 25 42.8	
	18nm,0.3s,baz=360,slow=18,SNR=1.2						
RPZ				LR	LR	20 26 03.2	
	comp=Z,146nm,21.1s,baz=51,slow=38						
RPZ	**Rata Peaks**	**3.26**	**230**	Pn	**Pn**	**20 24 50.2**	**-0.4**
FOZ	**Fox Glacier**	**3.92**	**240**		**Pn**	**20 24 59.8**	**+0.1**
URZ	**Urewera**	**3.95**	**32**	Pn	**Pn**	**20 24 57.9**	**-2.1**
	2.9nm,0.3s,baz=239,slow=5.8,SNR=18						
URZ				Pg	**Pb**	**20 25 06.8**	**-3.1**
	8.1nm,0.3s,baz=232,slow=10,SNR=7.9						
URZ				Sn	**Sn**	**20 25 42.8**	**-2.7**
	14nm,0.3s,baz=197,slow=23,SNR=3.9						
URZ				Lg	Lg	20 25 58.2	
	16nm,0.3s,baz=333,slow=3.5,SNR=1.7						
URZ	**Urewera**	**3.95**	**32**		**Pn**	**20 24 59.5**	**-0.6**
LBZ	**Lake Benmore**	**4.17**	**228**	Pn	**Pn**	**20 25 03.0**	**-0.1**
ODZ	**Otahua Downs**	**4.39**	**218**		**Pn**	**20 25 05.3**	**-0.9**
MXZ	**Matakaoa Point**	**5.04**	**37**	Pn	**Pn**	**20 25 14.1**	**-1.0**
WKZ	**Wanaka**	**5.10**	**230**	Pn	**Pn**	**20 25 14.9**	**-1.0**
MLZ	**Mavora Lakes**	**5.93**	**229**		**Pn**	**20 25 26.0**	**-1.3**
WHZ	**Wether Hill Ro**	**6.35**	**226**	Pn	**Pn**	**20 25 32.2**	**-0.8**
OUZ	**Omahuta**	**6.46**	**354**	Pn	**Pn**	**20 25 33.5**	**-1.0**
DCZ	**Deep Cove**	**6.54**	**232**	Pn	**Pn**	**20 25 34.5**	**-1.2**
SANVU	**Saraoutou**	**26.86**	**344**	P	**P**	**20 29 39.1**	**-0.7**
AS31	**Alice Springs**	**38.17**	**285**	P	**P**	**20 31 17.9**	**-0.7**
ASAR	**Alice Springs**	**38.17**	**285**	P	**P**	**20 31 18.2**	**-0.4**
	1.0nm,0.4s,baz=126,slow=7.0,SNR=19						
ASAR				LR	LR	20 47 19.1	
	comp=Z,66nm,18.1s,baz=156,slow=37						
FORT	**Forrest**	**38.58**	**271**	P	**P**	**20 31 21.9**	**0.0**
FORT				IAmb	IAmb	20 31 28.3	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**40.08**	**290**	P	**P**	**20 31 34.3**	**-0.3**
WR0				IAmb	IAmb	20 31 41.5	
	comp=Z,7.0nm,1.3s						
WB2	**Warramunga Arr**	**40.22**	**290**	P	**P**	**20 31 35.6**	**-0.1**
WB2				IAmb	IAmb	20 32 00.6	
	comp=Z,4.7nm,0.9s						
WRAB	**Tennant Creek**	**40.23**	**290**	P	**P**	**20 31 35.6**	**-0.2**
WRAB				IAmb	IAmb	20 31 38.7	
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**40.23**	**290**	P	**P**	**20 31 35.5**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=126,slow=8.4,SNR=43						
WRA	**Warramunga Arr**	**40.23**	**290**	P	**P**	**20 31 35.6**	**-0.2**
WB0	**Warramunga Arr**	**40.31**	**290**	P	**P**	**20 31 36.4**	**-0.1**
WB0				IAmb	IAmb	20 31 46.0	
	comp=Z,6.7nm,1.2s						
KNRA	**Kununurra**	**47.01**	**289**	P	**P**	**20 32 31.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**47.66**	**284**	P	**P**	**20 32 35.6**	**+0.2**
QSPA	**South Pole Qui**	**48.48**	**180**	P	**P**	**20 32 44.6**	**+3.3**
	comp=Z,4.1nm,0.9s,baz=333,slow=0.6,SNR=11						
QSPA	**South Pole Qui**	**48.48**	**180**	P	**P**	**20 32 43.4**	**+2.0**
QSPA				IAmb	IAmb	20 32 56.5	
	comp=Z,6.4nm,1.2s						
YKA	**Yellowknife Ar**	**118.21**	**30**	PKP	**PKiKP**	**20 42 45.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=242,slow=1.7,SNR=4.9						
YKA	**Yellowknife Ar**	**118.21**	**30**		**PKPdf**	**20 42 44.7**	**-0.2**
KSH	**Kashi**	**120.36**	**298**	PKP	**PKPdf**	**20 42 49.4**	**-0.5**
KSH				PP	PP	20 44 35.4	+18
KSH				SKKS		20 51 10.7	
KSH				AMB	AMB		
	comp=Z,210nm,5.2s						
DBIC	**Dimbokro**	**145.16**	**181**	PKPbc	**PKPdf**	**20 43 37.2**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=290,slow=1.7,SNR=5.4						
ARCES	**ARCESS Array B**	**147.74**	**340**	PKPbc	**PKPbc**	**20 43 41.8**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=8.1,slow=2.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**150.91**	**195**	PKPbc	**PKiKP**	**20 43 52.6**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=165,slow=2.0,SNR=23						
TORD	**Torodi Ar. Bea**	**150.91**	**195**		**PKiKP**	**20 43 52.8**	**+0.3**
FINES	**FINESS Array B**	**152.54**	**327**	PKPbc	**PKPbc**	**20 43 52.3**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=72,slow=4.5,SNR=1.5						
FINES	**FINESS Array B**	**152.54**	**327**		**PKPdf**	**20 43 49.0**	**+1.8**

*IDC **10** 20:45:57.6±1.4, 9°.24S×106°.86E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/42, mbtmp3.7/10, ML4.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/71, Error ellipse: s-maj=44.9km s-min=15.7km az=59.0*

*DJA **10** 20:46:01.8±0.4, 9°S±3°×10°7E±°, h60km±25km, M4.2/15, mB5.5/3, mb4.5/3, MLv4.0/15, Mw(mB)4.9/3*

ISC 10 20:46:00.4±3.7**, 9°.10S**±0°.07×**107°.06E**±0°.05**, h15**km±23km**, n26,** σ1s.38/35**, mb3.7**/8**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.78**	**2**	P	**Pn**	**20 46 31.5**	**+0.8**
CNJI				S	**Sn**	**20 46 54.0**	**+0.9**
CMJI	**Cimerak**	**1.90**	**46**	P	**Pn**	**20 46 33.4**	**+1.1**
CMJI				S	**Sn**	**20 46 55.7**	**-0.3**
SKJI	**Sukabumi**	**2.14**	**347**	P	**Pn**	**20 46 35.1**	**-0.6**
SKJI				S	**Sn**	**20 47 03.0**	**+1.0**
LEM	**Lembang**	**2.33**	**14**	Pn	**Pb**	**20 46 41.0**	**-1.3**
	41nm,0.3s,baz=124,slow=14,SNR=23						
LEM				Sn	**Sb**	**20 47 11.4**	**+0.6**
	60nm,0.3s,baz=321,slow=22,SNR=20						
LEM				LR	LR	20 47 23.9	
	comp=Z,75nm,21.6s,baz=182,slow=34						
LEM	**Lembang**	**2.33**	**14**	P	**Pn**	**20 46 40.7**	**+2.3**
DBJI	**Dramaga**	**2.55**	**353**	P	**Pn**	**20 46 42.7**	**+1.4**
KPJI	**Karang Pucung**	**2.55**	**47**	P	**Pn**	**20 46 44.0**	**+2.7**
KPJI				S	**Sb**	**20 47 16.8**	**-0.4**
CGJI	**Cibinong**	**2.82**	**331**	P	**Pn**	**20 46 45.2**	**+0.2**
CGJI				S	**Sn**	**20 47 17.3**	**-1.4**
JCJI	**Jatiwangi**	**2.86**	**25**	P	**Pn**	**20 46 45.2**	**-0.3**
UGM	**Wanagama**	**3.62**	**71**	P	**Pn**	**20 46 57.1**	**+1.0**
PCJI	**Pacitan**	**4.17**	**78**	P	**Pn**	**20 47 04.3**	**+0.7**
PCJI				S	**Sn**	**20 47 49.5**	**-2.6**
KASI	**Kota Agung**	**4.37**	**324**	P	**Pn**	**20 47 06.0**	**-0.3**
KASI				S	**Sn**	**20 47 54.1**	**-2.9**
PWJI	**Pagerwojo**	**4.81**	**77**	P	**Pn**	**20 47 13.7**	**+1.3**
PWJI				S	**Sn**	**20 48 04.5**	**-3.5**
KLSI		**4.96**	**332**	P	**Pn**	**20 47 14.7**	**+0.3**
LWLI	**Liwa**	**5.03**	**324**	P	**Pn**	**20 47 15.0**	**-0.6**
	0.5nm14μm45nm,0.4s						
JAGI	**Jajag, Banyuwa**	**7.04**	**85**	P	**Pn**	**20 47 43.6**	**+0.6**
SRBI	**Singaraja**	**8.12**	**83**	P	**Pn**	**20 47 56.9**	**-1.0**
	936nm24nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.14**	**118**	P	**P**	**20 50 34.7**	**+0.6**
	1.2nm,0.8s,baz=302,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**28.47**	**115**	P	**P**	**20 51 55.3**	**0.0**
	0.1nm,0.3s,baz=287,slow=9.8,SNR=16						
CMAR	**Chiang Mai Arr**	**28.53**	**344**	P	**P**	**20 51 55.0**	**-0.7**
	0.3nm,0.3s,baz=175,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**29.47**	**123**	P	**P**	**20 52 04.2**	**+0.2**
	0.2nm,0.3s,baz=302,slow=7.6,SNR=5.9						
STKA	**Stephens Creek**	**39.22**	**130**	P	**P**	**20 53 28.9**	**+0.6**
	2.2nm,0.6s,baz=309,slow=9.3,SNR=8.7						
SONM	**Songino Array**	**56.69**	**359**	P	**P**	**20 55 44.5**	**+1.1**
	0.6nm,0.9s,baz=178,slow=7.9,SNR=4.5						
MKAR	**Makanchi Array**	**59.87**	**341**	P	**P**	**20 56 06.2**	**+0.6**
	0.8nm,0.4s,baz=150,slow=8.7,SNR=18						
KLR	**Kul'dur**	**62.00**	**18**	P	**P**	**20 56 20.5**	**+0.6**
	0.2nm,0.3s,baz=212,slow=9.5,SNR=1.4						
ZALV	**Zalesovo Beam**	**65.57**	**346**	P	**P**	**20 56 42.6**	**-0.7**
	0.3nm,0.3s,baz=149,slow=6.9,SNR=2.6						

*IDC **10** 21:29:56.9±2.9, 5°.87S×130°.82E, h65km±36km, mb3.3/1, mb1 3.8/5, mb1mx3.3/30, mbtmp3.8/5, ML4.0/4, Error ellipse: s-maj=80.4km s-min=22.5km az=87.0*

ISC 10 21:29:55.5±0.9**, 5°.93S**±0°.06×**130°.6E**±0°.1**, h50**km**, n13,** σ3s.81/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.07**	**7**	P	**Pn**	**21 31 09.6**	**+0.6**
	7.8nm,0.3s,baz=202,slow=19,SNR=66						
SIJI				S	**Sn**	**21 32 00.8**	**-5.4**
	5.0nm,0.3s,baz=251,slow=24,SNR=12						
DRS	**Darwin Rock St**	**6.47**	**177**	P	Pn	21 31 36.0	+7.8
KDU	**Kakadu**	**6.96**	**165**	P	Pn	21 31 40.3	+5.3
KNRA	**Kununurra**	**9.86**	**190**	P	Pn	21 32 21.2	+6.6
FITZ	**Fitzroy Crossi**	**13.03**	**201**	P	**Pn**	**21 33 00.7**	**+2.7**
	0.5nm,0.3s,baz=28,slow=14,SNR=11						
FITZ				S	**Sn**	**21 35 18.2**	**-3.4**
	0.4nm,0.3s,baz=52,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**14.40**	**166**	P	**Pn**	**21 33 16.1**	**-0.4**
	0.5nm,0.3s,baz=357,slow=12,SNR=24						
WRA				S	**Sn**	**21 35 47.6**	**-7.2**
	0.7nm,0.3s,baz=356,slow=23,SNR=10						
COEN	**Coen**	**14.72**	**124**	P	**Pn**	**21 33 21.0**	**+0.2**
QIS	**Mount Isa**	**16.96**	**150**	P	**P**	**21 33 53.1**	**+2.3**
ASAR	**Alice Springs**	**17.92**	**170**	P	**P**	**21 34 03.0**	**+1.7**
	0.5nm,0.3s,baz=356,slow=14,SNR=25						
ASAR				S	**Sn**	**21 37 15.1**	**-5.3**
	0.2nm,0.3s,baz=359,slow=28,SNR=4.9						
WRKA	**Warakurna**	**19.13**	**186**	P	**Pn**	**21 34 18.9**	**+3.1**
OOD	**Oodnadatta**	**22.28**	**168**	P	**P**	**21 34 51.0**	**+2.5**
MULG	**Mulgathing**	**24.44**	**173**	P	**P**	**21 35 12.2**	**+2.6**
MKAR	**Makanchi Array**	**67.67**	**326**	P	**P**	**21 40 47.5**	**+0.1**
	0.3nm,0.4s,baz=123,slow=8.7,SNR=9.8						

*ISK **10** 21:51:55.8, 42°.42N×29°.92E, h23km, ML2.8/23*

*DDA **10** 21:51:56.9±0.0, 42°.25N×30°.38E, h12km±2km, ML2.5*

*SIGU **10** 21:51:56.9, 42°.58N×30°.05E, h35km, MD2.7/3, msh3.1/3, Black Sea region 9*

ISC 10 21:51:53.0±1.6**, 42°.48N**±0°.03×**30°.00E**±0°.03**, h9**km±12km**, n66,** σ1s.43/86**, 17C-5D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILT	**Sile**	**1.35**	**192**	PN	**Pg**	**21 52 19.1**	**+0.2**
SILT				SN	**Sg**	**21 52 35.4**	**-1.1**
KAND	**Kocaeli-Kandir**	**1.39**	**174**	P	**Pn**	**21 52 19.1**	**+0.6**
KAND				S	**Sg**	**21 52 36.3**	**-1.4**
KAND				*i* AML	AML	21 52 37.0	
	comp=E,148nm,0.2s						
KLYT	**Kilyos**	**1.42**	**211**	PN	**Pn**	**21 52 19.9**	**+1.0**
KALB	**Balgarevo**	**1.49**	**309**	⇑P	**Pn**	**21 52 21.0**	**+1.2**
KAYN	**Sakarya, Kayna**	**1.54**	**170**	P	**Pn**	**21 52 21.0**	**+0.5**
KAYN				S	**Sn**	**21 52 40.6**	**+0.1**
KAYN				*i* AML	AML	21 52 41.0	
	comp=N,86nm,0.2s						
KAYN				*i* AML	AML	21 52 41.0	
	comp=E,163nm,0.2s						
ISK	**Istanbul-Kandi**	**1.58**	**207**	PN	**Pn**	**21 52 22.0**	**+0.9**
ISK				SN	**Sn**	**21 52 40.4**	**-1.2**
KAVV	**Kandilli-Istan**	**1.58**	**207**	PN	**Pn**	**21 52 21.9**	**+0.8**
KAVV				SN	**Sn**	**21 52 40.0**	**-1.7**
KDZE	**Karadeniz Ereo**	**1.59**	**137**	⇑P	**Pn**	**21 52 23.1**	**+1.9**
KDZE	**Karadeniz Ereo**	**1.59**	**137**	PN	**Pn**	**21 52 23.3**	**+2.1**
KDZE				SN	**Sn**	**21 52 42.7**	**+0.9**
BGKT	**Bogazkoy**	**1.59**	**216**	PN	**Pn**	**21 52 22.1**	**+0.8**
CTKS	**Kestanelik-??a**	**1.67**	**222**	PN	**Pn**	**21 52 23.4**	**+1.0**
HRT	**Hereke**	**1.68**	**189**	PN	**Pn**	**21 52 23.7**	**+1.2**
MANR	**Mangalia**	**1.69**	**323**	⇓P	**Pn**	**21 52 22.7**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.75**	**158**	P	**Pn**	**21 52 24.7**	**+1.3**
SAHE				S	**Sn**	**21 52 44.0**	**-1.9**
SAHE				*i* AML	AML	21 53 03.0	
	comp=N,46nm,1.1s						
SAUV	**Serdivan-Sakar**	**1.76**	**172**	PN	**Pn**	**21 52 24.9**	**+1.4**
SLVT	**Silivri**	**1.83**	**228**	PN	**Pn**	**21 52 25.2**	**+0.6**
YIGI	**Dzce**	**1.86**	**144**	P	**Pn**	**21 52 25.3**	**+0.3**
YIGI				S	**Sn**	**21 52 47.8**	**-0.8**
BTIN	**Bartın**	**1.87**	**116**	P	**Pn**	**21 52 25.9**	**+0.7**
BTIN				P	**Pn**	**21 52 25.9**	**+0.7**
BTIN				S	**Sn**	**21 52 47.9**	**-1.1**
BTIN				*i* AML	AML	21 52 49.0	
	comp=E,90nm,0.6s						
BTIN				*i* AML	AML	21 52 52.0	
	comp=N,46nm,0.4s						
TRML	**Termal-Yalova**	**1.97**	**199**	PN	**Pn**	**21 52 27.3**	**+0.8**
YLV	**Yalova**	**1.97**	**194**	PN	**Pn**	**21 52 27.3**	**+0.8**
DEVR	**Zonguldak/Devr**	**1.99**	**132**	P	**Pn**	**21 52 27.2**	**+0.5**
DEVR				S	**Sn**	**21 52 49.8**	**-2.0**
GEYV	**SAKARYA_Geyve**	**2.01**	**174**	P	**Pn**	**21 52 27.6**	**+0.6**
BTAS	**Taskesti**	**2.05**	**158**	P	**Pn**	**21 52 29.4**	**+1.7**
BTAS				S	**Sn**	**21 52 50.8**	**-2.6**
BTAS				*i* AML	AML	21 52 56.0	
	comp=E,31nm,0.4s						
MFTR	**Murfatlar**	**2.05**	**326**	⇑S	**Sn**	**21 52 53.5**	**+0.2**
MDUB	**Mudurnu**	**2.20**	**156**	PN	**Pn**	**21 52 31.3**	**+1.6**
CIDE	**Kastamonu/Cide**	**2.27**	**104**	P	**Pn**	**21 52 31.9**	**+1.4**
CIDE				S	**Sn**	**21 52 57.9**	**-0.7**
CIDE				*i* AML	AML	21 53 00.0	
	comp=E,78nm,0.1s						
BCAM	**Yenicaga**	**2.27**	**136**	P	**Pn**	**21 52 33.0**	**+2.3**
BCAM				S	**Sn**	**21 52 58.3**	**-0.6**
TIRR	**Tirgusor**	**2.29**	**330**	⇑P	**Pn**	**21 52 31.9**	**+1.1**
ICOR	**Ion Corvin**	**2.29**	**316**	⇑P	**Pn**	**21 52 32.1**	**+1.1**
KBUK	**KARABUK-Merkez**	**2.32**	**122**	P	**Pn**	**21 52 31.0**	**-0.3**
KBUK				S	**Sn**	**21 53 00.0**	**0.0**
CVDA	**Cernavoda**	**2.34**	**323**	⇑P	**Pn**	**21 52 32.9**	**+1.4**
YUVA	**Yuva-Kibriscik**	**2.44**	**148**	PN	**Pn**	**21 52 34.9**	**+1.8**
SRCK	**Saricakaya, Es**	**2.48**	**169**	PN	**Pn**	**21 52 35.1**	**+1.6**
KIBS	**BOLU**	**2.48**	**145**	P	**Pn**	**21 52 36.3**	**+2.6**
EDRB	**Edirne**	**2.50**	**256**	PN	**Pn**	**21 52 35.3**	**+1.5**
BORA	**Eskisehir**	**2.62**	**172**	PN	**Pn**	**21 52 36.9**	**+1.4**
BORA	**Eskisehir**	**2.62**	**172**	P	**Pn**	**21 52 35.1**	**-0.4**
TPGR	**Topolog**	**2.64**	**335**	⇓P	**Pn**	**21 52 36.7**	**+0.9**
MAR3	**Marsite Statio**	**2.67**	**230**	PN	**Pn**	**21 52 37.2**	**+1.1**
HARR	**Harsova**	**2.67**	**326**	⇑P	**Pn**	**21 52 37.3**	**+1.2**
CMDR	**Camlidere-ANKA**	**2.72**	**136**	P	**Pn**	**21 52 40.8**	**+3.9**
PELI	**Kastamonı-Ara**	**2.74**	**114**	P	**Pn**	**21 52 38.8**	**+1.7**
PELI				S	**Sn**	**21 53 10.1**	**-0.3**
TLCR		**2.84**	**343**	⇑P	**Pn**	**21 52 39.1**	**+0.6**
UKOP	**Uzunkopru-Edir**	**2.86**	**243**	PN	**Pn**	**21 52 39.9**	**+1.2**
KRBG	**Karabiga-Canak**	**2.91**	**225**	PN	**Pn**	**21 52 40.4**	**+1.0**
BZK	**Bozkurt**	**3.02**	**99**	⇓P	**Pn**	**21 52 42.4**	**+1.5**
BZK				⇑S	**Sn**	**21 53 17.0**	**-0.1**
CFR	**Carcaliu**	**3.02**	**334**	⇓P	**Pn**	**21 52 41.8**	**+0.9**
CFR				⇓S	**Sn**	**21 53 16.7**	**-0.4**
TVSB	**Tavsanli**	**3.06**	**188**	PN	**Pn**	**21 52 42.7**	**+1.2**
ILGA	**Ilgaz**	**3.12**	**116**	P	**Pn**	**21 52 44.5**	**+1.9**
ERIK	**Erikli-Kesan**	**3.18**	**237**	PN	**Pn**	**21 52 44.5**	**+1.4**
CIFT	**Cifteler, Eski**	**3.22**	**165**	PN	**Pn**	**21 52 45.3**	**+1.6**
ALN	**Alexandroupoli**	**3.36**	**243**	PN	**Pn**	**21 52 47.2**	**+1.6**
GELI	**Tayfur-Gelibol**	**3.37**	**233**	PN	**Pn**	**21 52 46.9**	**+1.2**
SEV	**Sevastopol'**	**3.37**	**51**	*e*(Pn)	**Pn**	**21 52 46.9**	**+1.2**
SEV				Pnm		21 52 48.3	
	comp=Z,1.0nm,0.2s						
SEV				*e*Sn	**Sn**	**21 53 23.1**	**-2.7**
SEV				Snm		21 53 26.4	
	comp=N,11nm,0.3s						
SEV				Snm		21 53 26.4	
	comp=E,9.0nm,0.2s						
RDO	**Rodhopi**	**3.59**	**250**	PN	**Pn**	**21 52 49.8**	**+1.0**
YAL	**Yalta**	**3.63**	**55**	*e*x	x	21 52 46.2	
YAL				*e*x	x	21 52 50.6	
YAL				*e*Sn	**Sn**	**21 53 29.0**	**-3.1**
YAL				Snm		21 53 29.5	
	comp=N,59nm,0.2s						
YAL				Snm		21 53 29.5	
	comp=E,29nm,0.3s						
SIM	**Simferopol'**	**3.87**	**49**	*e*Pn	**Pn**	**21 52 54.3**	**+1.7**
SIM				Pnm		21 52 56.6	
	comp=Z,5.0nm,0.2s						
SIM				*e*Sn	**Sn**	**21 53 36.8**	**-1.4**
SIM				Snm		21 53 37.5	
	comp=N,15nm,0.5s						
SIM				Snm		21 53 37.5	
	comp=E,12nm,0.3s						
BRTR	**Keskin Array B**	**3.89**	**134**	PN	**Pn**	**21 52 55.0**	**+2.0**
VRI	**Vrincioaia**	**4.12**	**326**	⇑P	**Pn**	**21 52 57.7**	**+1.6**
PLOR	**Plostina**	**4.14**	**326**	⇑P	**Pn**	**21 52 58.0**	**+1.6**
MLR	**Muntele Rosu**	**4.20**	**317**	⇑P	**Pn**	**21 52 59.2**	**+1.9**
MILM	**Milestii Mici**	**4.52**	**350**	⇑P	**Pn**	**21 53 01.8**	**+0.4**
VOIR		**4.64**	**311**	⇑P	**Pn**	**21 53 05.4**	**+2.1**
TESR	**Tescani**	**4.69**	**330**	⇑P	**Pn**	**21 53 04.9**	**+1.0**
VTS	**Vitosha**	**5.00**	**274**	⇑P	**Pn**	**21 53 09.9**	**+1.6**
SORM	**Soroca**	**5.77**	**349**	⇑P	**Pn**	**21 53 18.4**	**-0.3**

*NEIC **10** 22:23:41.9±1.2, 29°.86S±0°.08×177°.7W±0°.1, h94km±9km, mb4.0/10, Error ellipse: s-maj=19.6km s-min=4.9km az=120.0*

*IDC **10** 22:23:47.2±1.0, 30°.00S×178°.17W, h129km±7km, mb3.4/4, mb1 3.7/6, mb1mx3.6/27, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=32.8km s-min=20.5km az=131.0*

ISC 10 22:23:42.5±0.8**, 29°.8S**±0°.1×**177°.9W**±0°.2**, h100**km**, n25,** σ1s.15/25**, mb3.9**/10**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.52**	**2**	P	Pn	22 24 08.4	+10
	148nm,0.3s,baz=351,slow=19,SNR=8.8						
RAO				S	Sn	22 24 24.7	+14
	220nm,0.3s,baz=286,slow=23,SNR=32						
RAO	**Raoul Island**	**0.52**	**2**	Pn	**Pn**	**22 23 58.4**	**-0.1**
RAO					**Sn**	**22 24 09.7**	**-0.6**
URZ	**Urewera**	**9.41**	**205**	P	**Pn**	**22 25 53.7**	**-1.3**
	0.5nm,0.3s,baz=21,slow=14,SNR=8.3						
URZ				S	**Sn**	**22 27 39.0**	**+0.1**
	5.6nm,0.3s,baz=60,slow=24,SNR=14						
BKZ	**Black Stump Fm**	**10.44**	**205**	Pn	**Pn**	**22 26 07.3**	**-1.8**
HIZ	**Hauiti**	**10.56**	**212**	Pn	**Pn**	**22 26 10.8**	**0.0**
BFZ	**Birch Farm**	**11.88**	**202**	Pn	**Pn**	**22 26 27.9**	**-0.5**
MSVF	**Nonsavu**	**12.53**	**342**	LR	LR	22 30 30.5	
	comp=Z,165nm,20.7s,baz=68,slow=32						
NIUE	**Niue**	**12.90**	**36**	Pn	**Pn**	**22 26 41.0**	**-1.1**
RPZ	**Rata Peaks**	**16.46**	**209**	P	**Pn**	**22 27 26.2**	**-1.1**
	0.6nm,0.3s,baz=108,slow=19,SNR=1.1						
STKA	**Stephens Creek**	**34.68**	**256**	P	**P**	**22 30 23.3**	**+0.7**
	1.1nm,0.5s,baz=96,slow=11,SNR=3.6						
COEN	**Coen**	**39.16**	**285**	P	**P**	**22 31 00.3**	**-0.4**
COEN				IAmb	IAmb	22 31 08.6	
	comp=Z,7.0nm,1.1s						
BBOO	**Buckleboo**	**39.20**	**253**	P	**P**	**22 31 01.9**	**+0.9**
BBOO				IAmb	IAmb	22 31 04.7	
	comp=Z,4.6nm,1.1s						
ASAR	**Alice Springs**	**43.20**	**266**	P	**P**	**22 31 33.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=101,slow=6.7,SNR=8.1						
ASAR	**Alice Springs**	**43.20**	**266**	P	**P**	**22 31 34.2**	**+0.4**
WR0	**Warramunga Arr**	**43.95**	**272**	P	**P**	**22 31 39.9**	**+0.1**
WR0				IAmb	IAmb	22 31 52.7	
	comp=Z,2.4nm,1.1s						
WB2	**Warramunga Arr**	**44.12**	**271**	P	**P**	**22 31 41.9**	**+0.7**
WB2				IAmb	IAmb	22 31 44.2	
	comp=Z,1.8nm,0.6s						
WRAB	**Tennant Creek**	**44.13**	**271**	P	**P**	**22 31 42.0**	**+0.8**
WRAB				IAmb	IAmb	22 31 42.3	
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**44.13**	**271**	P	**P**	**22 31 41.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.4,SNR=16						
WRA				ScP	**ScP**	**22 37 04.5**	**-3.0**
	comp=Z,0.3nm,0.8s,baz=106,slow=3.6,SNR=1.7						
WRA	**Warramunga Arr**	**44.13**	**271**	IAmb	IAmb	22 31 43.4	
	comp=Z,0.2nm,0.9s						
WB0	**Warramunga Arr**	**44.15**	**272**	P	**P**	**22 31 42.3**	**+0.8**
WB0				IAmb	IAmb	22 31 49.4	
	comp=Z,1.2nm,0.8s						
FORT	**Forrest**	**46.27**	**255**	P	**P**	**22 31 57.5**	**-0.6**
NVAR	**Mina Array Bea**	**87.74**	**43**	P	**P**	**22 36 22.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=257,slow=8.2,SNR=1.5						
FINES	**FINESS Array B**	**144.58**	**340**	PKP	**PKPdf**	**22 43 06.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=18,slow=2.7,SNR=10						
AKASG	**Malin Array Be**	**150.83**	**323**	PKPbc	**PKiKP**	**22 43 23.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=44,slow=2.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**163.45**	**179**	PKPab	**PKPab**	**22 44 27.6**	**+2.2**
	comp=Z,1.5nm,1.3s,baz=193,slow=3.1,SNR=2.3						

IDC 10 22:34:08.7±2.4**, 7°.27S**×**127°.11E, h0**km**, mb3.2**/1**, mb1 3.5**/3**, mb1mx3.3**/32**, mbtmp3.3**/3**, ML3.2**/2**, Error ellipse: s-maj=284.8km s-min=33.1km az=63.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.42**	**152**	Pn	Pn	22 37 32.9	-1.4
	0.1nm,0.3s,baz=328,slow=13,SNR=6.3						
WRA				Sn	Sn	22 40 09.6	-5.4
	0.1nm,0.3s,baz=328,slow=22,SNR=1.4						
ASAR	**Alice Springs**	**17.56**	**159**	P	P	22 38 16.1	-0.2
	0.1nm,0.3s,baz=337,slow=12,SNR=9.2						
MKAR	**Makanchi Array**	**66.91**	**328**	P	P	22 45 02.9	0.0
	0.2nm,0.7s,baz=114,slow=8.2,SNR=1.5						

*IDC **10** 22:40:24.8±4.4, 8°.13S×158°.35E, h106km±49km, mb3.3/7, mb1 3.6/8, mb1mx3.4/28, mbtmp3.7/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=49.7km s-min=21.8km az=139.0*

ISC 10 22:40:24.3±0.8**, 8°.1S**±0°.1×**158°.3E**±0°.1**, h100**km**, n12,** σ0s.74/9**, mb3.5**/7**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.13**	**130**	P	**Pn**	**22 40 59.4**	**+0.7**
	401nm,0.3s,baz=216,slow=7.7,SNR=84						
HNR				S	**Sn**	**22 41 24.1**	**-0.9**
	597nm,0.3s,baz=270,slow=20,SNR=17						
WRA	**Warramunga Arr**	**26.02**	**241**	P	**P**	**22 45 48.1**	**-0.3**
	0.2nm,0.3s,baz=65,slow=9.1,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.66**	**17**	T	T	23 14 48.9	
	baz=199,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**27.66**	**17**	T	T	23 14 42.7	
	baz=199,slow=76,SNR=49						
H11S1	**WAKE ISLAND Hy**	**27.67**	**17**	T	T	23 14 46.7	
	baz=199,slow=76,SNR=45						
ASAR	**Alice Springs**	**28.05**	**234**	P	**P**	**22 46 05.5**	**-1.0**
	0.2nm,0.5s,baz=63,slow=10,SNR=1.5						
STKA	**Stephens Creek**	**28.34**	**211**	P	**P**	**22 46 09.6**	**+0.7**
	0.6nm,0.3s,baz=23,slow=13,SNR=2.2						
LEM	**Lembang**	**50.23**	**268**	LR	LR	23 15 19.3	
	comp=Z,34nm,19.2s,baz=33,slow=42						
SONM	**Songino Array**	**72.01**	**326**	P	**P**	**22 51 37.6**	**+0.1**
	0.6nm,0.6s,baz=134,slow=5.9,SNR=4.6						
ILAR	**Eielson Array**	**83.19**	**21**	P	**P**	**22 52 38.5**	**-0.6**
	0.5nm,0.9s,baz=229,slow=8.2,SNR=2.4						
MKAR	**Makanchi Array**	**86.36**	**318**	P	**P**	**22 52 55.9**	**+0.4**
	0.1nm,0.5s,baz=92,slow=6.0,SNR=4.4						
YKA	**Yellowknife Ar**	**95.75**	**28**	P	**P**	**22 53 38.9**	**+0.1**
	0.1nm,0.4s,baz=272,slow=7.3,SNR=1.6						

*CNRM **10** 22:41:06.3, 35°.67N×3°.84W, h1km, ml3.1*

*MDD **10** 22:41:08.2±0.4, 35°.45N×3°.85W, h0km, mb_Lg2.9/20, Error ellipse: s-maj=3.2km s-min=2.3km az=170.0*

*SFS **10** 22:41:09.0, 35°.32N×3°.81W, ML2.8, ALBORAN SUR*

*IGIL **10** 22:41:09.4, 35°.33N×3°.81W, h23km*

ISC 10 22:41:08.2±1.1**, 35°.48N**±0°.02×**3°.84W**±0°.02**, h14**km±9km**, n41,** σ1s.12/74**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**197**	P	**Pb**	**22 41 15.2**	**+0.2**
PALE	**Palemas**	**0.28**	**197**	P	**Pb**	**22 41 15.2**	**+0.2**
PALE				S	**Sn**	**22 41 21.7**	**-2.1**
GOG	**Mont Gurugu**	**0.74**	**110**	P	**Pg**	**22 41 22.0**	**-0.6**
GOG	**Mont Gurugu**	**0.74**	**110**	P	**Pg**	**22 41 22.2**	**-0.4**
GOG				S	**Sn**	**22 41 34.8**	**-0.5**
EMEL	**Melilla**	**0.74**	**104**	Pg	**Pg**	**22 41 22.1**	**-0.6**
EMEL				Sg	**Sb**	**22 41 32.7**	**-0.3**
SMIR	**Smir Dam**	**1.27**	**280**	P	**Pn**	**22 41 31.0**	**-0.6**
SMIR	**Smir Dam**	**1.27**	**280**	P	**Pn**	**22 41 30.2**	**-1.3**

SMIR				S	Sg	22 41 50.4	+1.1
CHEFC	Chefchaouen	1.28	254	P	Pg	22 41 32.8	-0.2
CEU	Ceuta	1.32	289	P	Pn	22 41 30.5	-1.6
CEU				S	Sb	22 41 47.5	-1.9
EMIJ	Mijas	1.32	325	Pn	Pn	22 41 31.9	-0.3
EMIJ				Pg	Pb	22 41 32.1	-0.7
EMIJ				Sg	Sg	22 41 51.4	+0.5
EMIJ				*i* Vmb_Lg		22 41 54.8	
TAF	Taforalt	1.34	119	P	Pn	22 41 31.9	-0.7
TAF				S	Sb	22 41 49.8	-0.6
EMAL	Malaga-Limoner	1.36	340	P	Pn	22 41 32.2	-0.7
EMAL				S	Sn	22 41 49.9	-0.8
ELGU	Los Guajares,	1.40	7	Pn	Pn	22 41 31.9	-1.4
ELGU				Sn	Sg	22 41 53.3	0.0
ELGU				*i* Vmb_Lg		22 41 55.2	
JBK	JBK	1.55	137	P	Pb	22 41 37.0	+0.2
JBK	JBK	1.55	137	P	Pn	22 41 35.8	+0.2
JBK				S	Sg	22 41 57.6	-0.6
EBER	Berja	1.61	28	Pn	Pn	22 41 35.3	-1.1
EBER				Sn	Sb	22 41 58.4	+0.3
EBER				*i* Vmb_Lg		22 42 11.6	
EJIF	Jimena Fronter	1.64	307	Pn	Pn	22 41 37.1	+0.5
EJIF				Sn	Sn	22 41 58.0	+0.5
EGOR	Sierra Gorda,	1.64	352	Pn	Pn	22 41 36.5	-0.3
EGOR				Sn	Sb	22 41 59.1	+0.1
EGOR				*i* Vmb_Lg		22 42 12.8	
EQUE	Quentar	1.75	11	Pn	Pn	22 41 38.5	+0.2
EQUE				Sn	Sn	22 42 01.1	+0.7
EQUE				*i* Vmb_Lg		22 42 15.3	
LCRM	LCR	1.98	205	P	Pg	22 41 45.1	-1.1
LCRM	LCR	1.98	205	P	Pb	22 41 44.5	+0.4
LCRM				S	Sg	22 42 13.9	+2.0
ENIJ	Nijar	1.99	41	Pn	Pn	22 41 41.1	-0.4
ENIJ				*i* Vmb_Lg		22 42 02.8	
ENIJ				Sn	Sn	22 42 07.3	+1.1
ESPR	Espera	2.14	311	Pn	Pn	22 41 44.9	+1.4
ESPR				Sn	Sn	22 42 10.6	+0.8
ESPR				*i* Vmb_Lg		22 42 25.5	
IFR	Ifrane	2.23	209	P	Pn	22 41 46.0	+1.1
IFR				S	Sn	22 42 12.7	+0.4
EQES	Quesada	2.40	15	Pn	Pn	22 41 48.5	+1.3
EQES				Sn	Sn	22 42 18.5	+2.1
EQES				*i* Vmb_Lg		22 42 30.5	
MD31	MD31	2.71	197	P	Pn	22 41 53.5	+2.0
MD31				S	Sb	22 42 28.2	-1.6
MDT	Midelt	2.73	194	P	Pn	22 41 53.7	+2.0
EADA	Adamuz	2.75	348	Pn	Pn	22 41 53.6	+1.7
EADA				Sn	Sn	22 42 26.3	+1.4
EADA				*i* Vmb_Lg		22 42 42.1	
TLOR	Lorca, Murcia	2.78	38	Sn	Sn	22 42 26.8	+1.2
ECAB	El Cabril	2.88	334	Pn	Pn	22 41 55.8	+2.0
ECAB				Sn	Sn	22 42 29.5	+1.2
ECAB				*i* Vmb_Lg		22 42 37.4	
EMIN	Mina Concepcio	3.23	316	Pn	Pn	22 42 00.1	+1.6
EMIN				*i* Vmb_Lg		22 42 13.9	
EMIN				Sn	Sn	22 42 37.1	+0.5
EGRO	El Granado	3.58	306	Pn	Pn	22 42 03.2	-0.1
EGRO				*i* Vmb_Lg		22 42 09.1	
EGRO				Sn	Sn	22 42 43.6	-1.8
ETOB	Tobarra	3.65	29	Pn	Pn	22 42 05.6	+1.2
ETOB				*i* Vmb_Lg		22 42 08.3	
ETOB				Sn	Sn	22 42 47.1	-0.1
PVAQ	Vaqueiros	3.67	303	P	Pn	22 42 03.8	-0.7
PVAQ				S	Sn	22 42 49.0	+1.5
PAB	San Pablo	4.08	354	Pn	Pn	22 42 11.9	+1.6
PAB				Sn	Sn	22 42 57.8	0.0
PAB				*i* Vmb_Lg		22 43 00.2	
EBAD	Badajoz	4.14	323	Pn	Pn	22 42 11.4	+0.4
EBAD				Sn	Sn	22 42 58.7	-0.4
EBAD				*i* Vmb_Lg		22 43 18.0	
ESDC	Sonseca Array	4.19	359	Pn	Pn	22 42 12.8	+1.1
ESDC				Sn	Sn	22 43 01.0	+0.5
ESDC				*i* Vmb_Lg		22 45 10.3	
MORF	Marmelete	4.29	297	*e*P	Pn	22 42 13.2	+0.1
EPLA	Plasencia	4.91	339	Pn	Pn	22 42 22.7	+1.1
EPLA				Sn	Sn	22 43 17.8	-0.4
EPLA				*i* Vmb_Lg		22 43 52.2	
GUD	Guadarrama	5.16	357	Pn	Pn	22 42 24.7	-0.4
GUD				Sn	Sn	22 43 22.6	-2.0
ETOR	Torete	5.51	14	Pn	Pn	22 42 30.7	+0.8
ETOR				Sn	Sn	22 43 30.8	-2.3
ETOR				*i* Vmb_Lg		22 44 09.9	

BJI 10 22:46:12.6±0.0, 12°07N×144°76E, h10km, mb4.4/38, mB4.9/20, Ms4.4/7, Ms7 3.9/7

IDC 10 22:46:16.8±0.5, 12°36N×144°14E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.3/38, mbtmp4.2/23, ML4.1/2, MS3.7/47, Ms1 3.7/47, ms1mx3.6/73, Error ellipse: s-maj=20.8km s-min=10.7km az=102.0

NEIC 10 22:46:19.4±1.5, 12°26N±0°05×144°22E±0°07, h10km±1km, mb4.7/100, Error ellipse: s-maj=12.4km s-min=6.9km az=242.0

DJA 10 22:46:24.3±0.6, 13°N±4°×14°4E±°, h50km±11km, M4.8/15, mB5.3/3, mb4.7/15, MLv4.9/1, Mw(mB)4.7/3

ISC 10 22:46:18.8±0.8**, 12°32N**±0°05×**144°23E**±0°07**, h10**km±5km**, n187, σ1.06**/160**, mb4.6**/84**, MS3.8**/48**, 2C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.41	26	Pn	Pn	22 46 44.6	0.0
	781nm,0.3s,baz=184,slow=7.1,SNR=105						
GUMO				Sn	Sg	22 47 03.9	-0.4
	1µm,0.3s,baz=311,slow=19,SNR=34						
GUMO	Guam	1.41	26	Pn	Pb	22 46 45.4	+0.1
GUMO				Sn	Sg	22 47 05.4	+1.1
PATS	Pohnpei	14.91	110	Pn	Pn	22 49 49.1	-0.8
JAY	Jayapura	15.14	194	Pn	Pn	22 49 52.6	-0.4
	0.4nm,0.3s,baz=295,slow=22,SNR=1.6						
JAY				LR	LR	22 55 03.2	
	comp=Z,521nm,18.9s,baz=59,slow=35						
GENI	Genyem	15.35	195	P	Pn	22 49 58.5	+2.8
	72nm,1.1s						
SIJI	Sorong	18.36	225	P	Pn	22 50 32.9	-0.9
	1.3nm,0.3s,baz=49,slow=11,SNR=2.3						
SIJI				LR	LR	22 57 31.2	
	comp=Z,209nm,18.7s,baz=46,slow=37						
SWI	Sorong	18.36	225	P	P	22 50 35.4	+1.6
	26nm,1.3s						
DAV	Davao City (W)	19.10	256	LR	LR	22 58 12.5	
	comp=Z,76nm,20.1s,baz=76,slow=38						
FAKI	Fak Fak	19.25	219	P	Pn	22 50 45.9	+1.3
	31nm,1.2s						
JHJ	Hachijo jima 2	21.10	350	LR	LR	22 58 46.2	
	comp=Z,244nm,18.8s,baz=180,slow=36						
PMG	Port Moresby	21.78	172	LR	LR	22 59 50.0	
	comp=Z,193nm,18.3s,baz=352,slow=37						
H11N1	WAKE ISLAND Hy	22.98	68	T	T	23 15 24.0	
	baz=255,slow=75,SNR=119						
H11N2	WAKE ISLAND Hy	22.98	68	T	T	23 15 24.8	
	baz=255,slow=75,SNR=93						
H11N3	WAKE ISLAND Hy	22.99	68	T	T	23 15 24.0	
	baz=255,slow=75,SNR=82						
JNU	Nakatsue	24.05	332	P	P	22 51 33.8	-0.5
JNU				IAmb	IAmb	22 51 52.0	
	comp=Z,20nm,1.1s						
MJAR	Matsushiro Arr	24.72	348	P	P	22 51 38.9	-1.5
	comp=Z,2.0nm,0.5s,baz=171,slow=8.9,SNR=5.1						
MJAR				LR	LR	23 00 51.9	
	comp=Z,208nm,19.1s,baz=160,slow=36						
MAJO	Matsushiro	24.73	348	P	P	22 51 39.8	-0.6
MAJO				IAmb	IAmb	22 51 43.4	
	comp=Z,14nm,1.1s						
MJB9	Matsu-Tunnel	24.73	348	P	P	22 51 39.3	-1.1
MJB9				IAmb	IAmb	22 51 43.3	
	comp=Z,14nm,1.1s						
MRSI	Marisa	25.04	244	P	P	22 51 45.2	+1.7
	comp=Z,918nmcomp=Z,53nm,1.3s						
LUWI	Luwuk	25.10	240	P	P	22 51 43.6	-0.3
LUWI	Luwuk	25.10	240	P	P	22 51 44.1	+0.1
	comp=Z,2µmcomp=Z,77nm,1.2s						
TOLI2	Tolitoli	25.77	246	P	P	22 51 49.9	-0.2
TOLI2				IAmb	IAmb	22 51 54.9	
	comp=Z,14nm,1.0s						
COEN	Coen	26.12	182	P	P	22 51 52.2	-1.1
COEN				IAmb	IAmb	22 51 55.8	
	comp=Z,15nm,1.1s						
KSRS	Korea Array	28.98	333	P	P	22 52 18.1	-0.6
	comp=Z,2.1nm,0.8s,baz=128,slow=9.6,SNR=5.7						
BNSI	Bone	29.17	237	P	P	22 52 21.5	+0.9
	comp=Z,6.2nm,0.7s						
NJ2	Nanjing	30.49	314	*e*P	P	22 52 33.1	+1.0
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTA	Charters Tower	32.26	176	P	P	22 52 48.1	+0.3
	comp=Z,5.3nm,0.8s,baz=17,slow=7.6,SNR=2.5						
CTA				LR	LR	23 06 02.9	
	comp=Z,84nm,18.3s,baz=352,slow=37						
WB0	Warramunga Arr	33.32	197	P	P	22 52 57.0	-0.1
WR0	Warramunga Arr	33.46	197	P	P	22 52 58.0	-0.3
WR0				IAmb	IAmb	22 53 01.7	
	comp=Z,6.3nm,1.1s						
WRAB	Tennant Creek	33.49	197	P	P	22 52 57.9	-0.7
WRAB				IAmb	IAmb	22 53 00.2	
	comp=Z,6.9nm,1.0s						
WB2	Warramunga Arr	33.50	197	P	P	22 52 58.7	0.0
WB2				IAmb	IAmb	22 53 02.6	
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	33.50	197	P	P	22 52 57.8	-0.9
	comp=Z,3.3nm,0.8s,baz=18,slow=9.4,SNR=27						
WRA				S	S	22 58 22.5	+1.8
	comp=Z,0.5nm,1.0s,baz=45,slow=25,SNR=1.3						
WRA				LR	LR	23 06 34.2	
	comp=Z,171nm,19.5s,baz=188,slow=36						
WRA	Warramunga Arr	33.50	197	P	P	22 52 58.5	-0.2
FITZ	Fitzroy Crossi	35.35	212	P	P	22 53 13.3	-1.4
LYN	LuoYang	36.34	313	*e*P	P	22 53 23.7	+0.6
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN				LR	LR		
	comp=Z,310nm,10.7s						
LYN				LR	LR		
	comp=Z,100nm,11.4s						
BJT	Baijiatuau	37.06	323	P	P	22 53 28.7	-0.4
BJI	Beijing	37.07	323	P	P	22 53 28.9	-0.3
BJI				pP	sP	22 53 32.4	+1.3
BJI				sP	pwP	22 53 35.8	-1.7
BJI				PcP	PcP	22 55 50.9	+1.1
BJI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AS31	Alice Springs	37.16	196	P	P	22 53 30.5	+0.4
ASAR	Alice Springs	37.16	196	P	P	22 53 29.9	-0.3
	comp=Z,1.9nm,0.8s,baz=19,slow=6.7,SNR=22						
ASAR				PcP	PcP	22 55 50.4	0.0
	comp=Z,0.8nm,0.8s,baz=46,slow=3.6,SNR=3.1						
ASAR				LR	LR	23 09 19.1	
	comp=Z,135nm,19.8s,baz=19,slow=37						
ASAR	Alice Springs	37.16	196	P	P	22 53 30.3	+0.1
GYA	Guiyang	37.97	297	⇑P	P	22 53 38.9	+1.7
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
EIDS	Eidsvold	38.05	170	P	P	22 53 36.1	-1.5
EIDS				IAmb	IAmb	22 53 53.1	
	comp=Z,11nm,1.1s						
KLR	Kul'dur	38.23	347	LR	LR	23 08 33.9	
	comp=Z,75nm,18.0s,baz=155,slow=35						
XAN	Xi'an	38.71	310	P	P	22 53 46.6	+3.4
XAN				pP	pwP	22 53 50.8	-0.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SMRI	Semarang	38.71	242	P	P	22 53 42.9	-0.5
TPI	Tanjungpandan	39.30	250	P	P	22 53 47.8	-0.6
HHC	Hu-ho-hao-te	40.34	321	*e*P	P	22 53 58.7	+1.9
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,180nm,5.4s						
DZM	Mont Dzumac	40.53	147	LR	LR	23 07 17.9	
	comp=Z,145nm,21.5s,baz=116,slow=31						
KMI	Kunming	41.14	294	⇑P	P	22 54 04.7	+0.9
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PETK	Petropavlovsk-	42.09	12	LR	LR	23 13 14.8	
	comp=Z,37nm,18.4s,baz=182,slow=38						
LZH	Lanzhou	43.34	310	*e*P	P	22 54 20.3	-1.2
LZH				pP	sP	22 54 25.7	+2.2
LZH				sP	pwP	22 54 28.1	-1.7
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				LR	LR		
	comp=Z,300nm,13.6s						
LZH				LR	LR		
	comp=Z,220nm,13.0s						
LZH				LR	LR		
	comp=Z,230nm,16.3s						
CM31	Chiang Mai Arr	44.00	284	P	P	22 54 26.7	-0.2
CMAR	Chiang Mai Arr	44.00	284	P	P	22 54 26.1	-0.8
	comp=Z,1.2nm,0.5s,baz=87,slow=5.8,SNR=15						
CMAR				PcP	PcP	22 56 13.6	+1.0
	comp=Z,0.7nm,0.5s,baz=71,slow=1.4,SNR=4.7						
CMAR				LR	LR	23 12 21.3	
	comp=Z,44nm,19.6s,baz=90,slow=36						
CMAR	Chiang Mai Arr	44.00	284	P	P	22 54 27.3	+0.4
STKA	Stephens Creek	44.01	183	P	P	22 54 26.2	-0.4
	comp=Z,1.4nm,0.5s,baz=354,slow=11,SNR=4.7						
STKA	Stephens Creek	44.01	183	P	P	22 54 26.4	-0.3
XMIS	Christmas Isla	44.51	241	P	P	22 54 30.6	-0.4
BBOO	Buckleboo	45.55	190	P	P	22 54 39.2	+0.3
BBOO				IAmb	IAmb	22 54 42.9	
	comp=Z,10nm,0.9s						
SHEM	Shemya Is, Ala	46.87	25	LR	LR	23 15 13.4	
	comp=Z,47nm,18.4s,baz=12,slow=37						
SMY	Shemya	46.87	25	P	P	22 54 50.8	+1.7
SONM	Songino Array	47.42	326	P	P	22 54 52.8	-0.9
	comp=Z,1.6nm,0.7s,baz=147,slow=8.8,SNR=14						
SONM				PcP	PcP	22 56 23.9	-0.2
	comp=Z,1.1nm,0.6s,baz=137,slow=3.1,SNR=4.8						
SONM				LR	LR	23 16 34.8	
	comp=Z,54nm,18.0s,baz=96,slow=38						
SONM	Songino Array	47.42	326	P	P	22 54 54.1	+0.5
GSI	Gunungsitoli	47.51	260	P	P	22 54 53.6	-1.1
GTA	Gaotai	47.56	313	*e*P	P	22 54 54.6	-0.3
GTA				pP	pwP	22 55 02.9	-0.3
GTA				sP	sP	22 55 08.0	+11
GTA				PcP	PcP	22 56 25.7	+0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,57nm,4.4s						
GTA				LR	LR		
	comp=Z,93nm,18.5s						
GTA				LR	LR		
	comp=Z,100nm,18.2s						
GTA				LR	LR		
	comp=Z,95nm,19.6s						
MORW	Morawa	49.33	213	P	P	22 55 08.1	-0.4
MORW				IAmb	IAmb	22 55 09.7	
	comp=Z,10.0nm,0.9s						
YAK	Yakutsk	50.74	351	LR	LR	23 16 30.9	
	comp=Z,64nm,18.8s,baz=286,slow=36						
SHL	Shillong	50.93	293	P	P	22 55 20.3	-0.7
SHL				IAmb	IAmb	22 55 21.9	
	comp=Z,7.2nm,0.8s						
LSA	Lhasa	52.03	298	P	P	22 55 29.4	-0.1
LSA				IAmb	IAmb	22 55 32.3	
	comp=Z,4.3nm,0.7s						
UNV	Unalaska Valle	56.73	32		P	22 56 02.2	-0.4
AKUT	Akutan	57.25	32	P	P	22 56 05.9	-0.4
WMQ	Urumqi	57.57	314	*e*P	P	22 56 09.3	+0.4
WMQ				sP	pwP	22 56 19.1	+1.8
WMQ				PcP	PcP	22 57 02.5	+0.2
WMQ				pmax	pmax		
	comp=Z,13nm,1.7s						
URZ	Urewera	58.98	150	LR	LR	23 19 44.2	
	comp=Z,82nm,18.6s,baz=28,slow=34						
RPZ	Rata Peaks	60.89	158	LR	LR	23 21 02.0	
	comp=Z,83nm,19.5s,baz=300,slow=34						
MK31	Makanchi Array	61.97	317	P	P	22 56 39.1	-0.1
MK31				IAmb	IAmb	22 56 39.9	
	comp=Z,2.6nm,0.8s						
MKAR	Makanchi Array	61.97	317	P	P	22 56 38.4	-0.8
	comp=Z,3.2nm,0.7s,baz=92,slow=8.8,SNR=45						
MKAR				PcP	PcP	22 57 18.5	-1.3
	comp=Z,1.8nm,0.8s,baz=93,slow=8.3,SNR=5.3						
MKAR	Makanchi Array	61.97	317	P	P	22 56 39.2	0.0
MAKZ	Makanchi	62.19	317	P	P	22 56 40.8	+0.2
MAKZ				IAmb	IAmb	22 56 42.3	
	comp=Z,5.1nm,0.7s						
ZAA0	Zalesovo Array	62.29	325	P	P	22 56 39.9	-1.3
ZAA0				PcP	PcP	22 57 20.3	-0.6
ZALV	Zalesovo Beam	62.29	325	P	P	22 56 40.0	-1.2
	comp=Z,0.7nm,0.3s,baz=116,slow=6.6,SNR=5.9						
ZALV				PcP	PcP	22 57 19.9	-1.0
	comp=Z,2.4nm,0.7s,baz=124,slow=2.9,SNR=7.7						
ZALV				LR	LR	23 24 37.2	
	comp=Z,52nm,19.4s,baz=99,slow=37						
ZALV	Zalesovo Beam	62.29	325	P	P	22 56 40.9	-0.3
ZALV				PcP	PcP	22 57 19.8	-1.0
PALK	Pallekele	62.69	272	LR	LR	23 23 24.9	
	comp=Z,29nm,19.7s,baz=210,slow=36						
RAR	Rarotonga	64.30	121	P	P	22 56 54.7	-0.2
KDJ	Kajisay	64.84	311	P	P	22 56 58.4	-0.1
KDJ				IAmb	IAmb	22 57 12.2	
	comp=Z,3.1nm,1.1s						
KURK	Kurchatov	65.15	320	P	P	22 56 59.7	-0.4
KURBB	Kurchatov Arra	65.19	320	LR	LR	23 28 03.4	
	comp=Z,45nm,18.4s,baz=85,slow=38						
KDAK	Kodiak Island	65.47	32	LR	LR	23 20 57.1	
	comp=Z,65nm,22.0s,baz=240,slow=32						
N19K	Bonanza Creek	65.49	28	P	P	22 57 03.0	+0.8
N19K				IAmb	IAmb	22 57 10.2	
	comp=Z,9.0nm,1.1s						
KSH	Kashi	65.52	308	P	P	22 57 04.8	+2.0
KSH				pP	pwP	22 57 10.3	-0.9
KSH				PcP	PcP	22 57 38.3	+3.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOOM	Boomskoye usch	65.79	311	P	P	22 57 04.4	-0.2
CNPM	China Poot	66.64	30	P	P	22 57 09.2	-0.3
AAK	Ala-Archa	66.87	311	LR	LR	23 26 06.3	
	comp=Z,29nm,21.9s,baz=102,slow=36						
AAK	Ala-Archa	66.87	311	P	P	22 57 11.5	0.0
BRLK	Bradley Lake	66.88	30	P	P	22 57 09.4	-1.7
NRIK	Noril'sk	67.13	341	P	P	22 57 10.8	-1.6
	comp=Z,0.7nm,0.4s,baz=114,slow=12,SNR=2.2						
PPLA	Purkeypile	67.20	26	P	P	22 57 13.0	-0.2
PPLA				IAmb	IAmb	22 57 21.0	
	comp=Z,5.3nm,1.1s						
CAST	Castle Rocks	67.41	26	P	P	22 57 14.3	0.0
CAST				IAmb	IAmb	22 57 18.5	
	comp=Z,9.1nm,1.2s						
NIL	Nilore	67.50	301	P	P	22 57 15.9	+0.3
RC01	Rabbit Creek A	67.78	29	P	P	22 57 17.2	+0.5
KTH	Kantishna Hill	67.95	26	P	P	22 57 17.8	0.0
KTH				IAmb	IAmb	22 57 21.9	
	comp=Z,9.6nm,1.2s						
TRF	Thorofare Moun	68.19	26	P	P	22 57 19.8	+0.4
GHO	Glory Hole Cre	68.34	28	P	P	22 57 20.6	+0.3
PWL	Port Wells	68.39	29	P	P	22 57 21.2	+0.7
KNK	Knik Glacier	68.46	28	P	P	22 57 22.5	+1.5
KNK				IAmb	IAmb	22 57 30.8	
	comp=Z,10nm,1.2s						
MLY	Manley	68.47	24	P	P	22 57 21.6	+0.6
MLY				IAmb	IAmb	22 57 22.3	
	comp=Z,4.1nm,1.0s						
SML	Sawmill	68.62	28	P	P	22 57 22.4	+0.3
SML				IAmb	IAmb	22 57 33.5	
	comp=Z,6.8nm,1.0s						
RND	Reindeer	68.80	26	P	P	22 57 24.4	+1.3
SCM	Sheep Creek Mo	69.09	28	P	P	22 57 25.0	0.0
H23K	Yukon River	69.19	24	P	P	22 57 27.7	+2.3
H23K				IAmb	IAmb	22 57 29.6	
	comp=Z,2.5nm,0.8s						
FID	Port Fidalgo	69.25	29	P	P	22 57 26.4	+0.6
KLU	Klutina	69.67	29	P	P	22 57 28.9	+0.3
KLU				IAmb	IAmb	22 57 30.0	
	comp=Z,6.3nm,1.1s						
M24K	Tolsona, Glenn	69.68	28	P	P	22 57 29.8	+1.2
M24K				IAmb	IAmb	22 57 44.5	
	comp=Z,9.7nm,1.1s						
ILAR	Eielson Array	69.98	25	P	P	22 57 29.0	-1.3
	comp=Z,1.5nm,0.4s,baz=252,slow=5.5,SNR=21						
ILAR	Eielson Array	69.98	25	P	P	22 57 29.7	-0.6
TOLK	Toolik Lake Re	70.02	21	IAmb	IAmb	22 57 34.9	
	comp=Z,3.4nm,0.9s						
PAX	Paxson	70.18	27	P	P	22 57 31.9	+0.2
BMRM	Bremner River	70.19	29	P	P	22 57 32.5	+0.7
N25K	Chitina, Valde	70.31	29	P	P	22 57 31.8	-0.8
J25K	Salcha River,	70.58	26	P	P	22 57 32.9	-1.2
BRVK	Borovoye	70.60	322	P	P	22 57 34.2	-0.1
BRVK				IAmb	IAmb	22 57 34.7	
	comp=Z,5.1nm,0.8s						
RIDG	Independent Ri	70.62	26	P	P	22 57 34.6	+0.2
RIDG				IAmb	IAmb	22 57 37.9	
	comp=Z,3.5nm,0.7s						
GLB	Gilahina Butte	70.65	29	P	P	22 57 34.9	+0.3
GLB				IAmb	IAmb	22 57 37.8	
	comp=Z,9.6nm,1.2s						
VRDI	Verde Repeater	70.79	29	P	P	22 57 36.0	+0.4
VRDI				IAmb	IAmb	22 57 39.0	
	comp=Z,4.4nm,0.9s						
DOT	Dot Lake	70.94	27	P	P	22 57 36.8	+0.5
DOT				IAmb	IAmb	22 57 37.1	
	comp=Z,5.7nm,0.8s						
MENT	Mentasta	70.96	27	P	P	22 57 37.6	+1.2
MCARA	McCarthy VSAT	71.02	29	P	P	22 57 38.0	+1.3
SCRK	Sand Creek	71.04	26	P	P	22 57 37.5	+0.5
ISLE	Juniper Island	71.23	30	P	P	22 57 38.2	0.0
ISLE				IAmb	IAmb	22 57 52.2	
	comp=Z,11nm,1.1s						
BMAR	Burnt Mountain	71.51	23	P	P	22 57 40.9	+1.2
GRNC	Granite Creek	71.53	30	P	P	22 57 40.9	+0.8
BARN	Barnard Glacie	71.62	30	P	P	22 57 41.6	+0.9
BARN				IAmb	IAmb	22 57 55.3	
	comp=Z,9.2nm,1.2s						
M27K	Edge Creek, AK	71.70	28	P	P	22 57 41.7	+0.6
M27K				IAmb	IAmb	22 57 56.1	
	comp=Z,5.1nm,1.1s						
CTGM	Chitina Glacie	71.77	30	P	P	22 57 42.7	+1.2
CTGM				IAmb	IAmb	22 57 43.2	
	comp=Z,8.3nm,0.8s						
TABL	Table Mountain	71.79	30	P	P	22 57 42.3	+0.6
L27K	Beaver Creek,	71.83	27	P	P	22 57 42.2	+0.5
BCAR	Beaver Creek A	71.85	27	P	P	22 57 42.5	+0.7
LOGN	Logan Glacier	71.91	30	P	P	22 57 43.1	+0.8
LOGN				IAmb	IAmb	22 57 44.0	
	comp=Z,6.9nm,0.6s						
EGAK	Eagle	72.39	26	P	P	22 57 45.7	+0.8
EGAK				IAmb	IAmb	22 57 56.5	
	comp=Z,4.4nm,1.1s						
HYT	Haines Junctio	73.61	30	P	P	22 57 54.1	+1.7
HYT				IAmb	IAmb	22 57 57.1	
	comp=Z,9.1nm,1.2s						
M30M	Minto, Yukon	74.08	28	P	P	22 57 56.2	+1.2
N31M	Braeburn, Yuko	74.49	29	P	P	22 57 58.6	+1.2
N31M				IAmb	IAmb	22 58 02.6	
	comp=Z,7.4nm,1.1s						
WHY	Whitehorse	74.89	30	P	P	22 58 01.1	+1.2
M31M	Drury Creek, Y	75.18	29	IAmb	IAmb	22 58 02.8	
	comp=Z,3.4nm,0.7s						
INK	Inuvik	75.77	22	LR	LR	23 29 55.6	
	comp=Z,51nm,20.8s,baz=264,slow=35						
P33M	Teslin, Yukon	75.91	31	P	P	22 58 06.6	+0.9
HRA	Herat	76.59	303	IAmb	IAmb	22 58 12.2	
	comp=Z,4.0nm,0.8s						
ABKAR	Akbulak array	77.06	318	IAmb	IAmb	22 58 12.3	
	comp=Z,6.3nm,0.8s						
DLBC	Dease Lake	77.39	33	LR	LR	23 34 17.1	
	comp=Z,38nm,18.2s,baz=248,slow=37						
DLBC	Dease Lake	77.39	33	P	P	22 58 15.4	+1.3
DLBC				IAmb	IAmb	22 58 15.9	
	comp=Z,5.5nm,0.7s						
ARU	Arti	77.45	325	LR	LR	23 34 51.2	
	comp=Z,32nm,18.1s,baz=45,slow=38						
ARU	Arti	77.45	325	P	P	22 58 13.8	-0.5
ARU				IAmb	IAmb	22 58 16.1	
	comp=Z,4.6nm,0.7s						
AKTO	Aktyubinsk	78.22	319	LR	LR	23 34 35.6	
	comp=Z,28nm,18.7s,baz=87,slow=37						
C36M	Paulatuk	79.17	21	IAmb	IAmb	22 58 24.5	
	comp=Z,5.3nm,0.9s						
WSAR	Wadi Sarin	81.25	292	LR	LR	23 35 05.5	
	comp=Z,19nm,20.9s,baz=115,slow=36						
KIRV	Kirov	82.09	328	LR	LR	23 37 20.1	
	comp=Z,60nm,18.2s,baz=68,slow=37						
YBH	Yreka Blue Hor	84.18	49	LR	LR	23 27 57.1	
	comp=Z,70nm,21.8s,baz=286,slow=30						
YBH	Yreka Blue Hor	84.18	49	P	P	22 58 53.5	+2.7
YKA	Yellowknife Ar	84.27	27	P	P	22 58 50.9	+0.3
	comp=Z,1.2nm,0.4s,baz=285,slow=5.1,SNR=22						
YKA				LR	LR	23 35 26.8	
	comp=Z,51nm,19.9s,baz=270,slow=35						
YKA	Yellowknife Ar	84.27	27	P	P	22 58 51.6	+1.0
RES	Resolute Bay	85.93	13	LR	LR	23 41 21.8	
	comp=Z,18nm,18.7s,baz=85,slow=38						
RES	Resolute Bay	85.93	13	P	P	22 58 59.9	+1.1
NEW	Newport	86.59	41	LR	LR	23 35 58.3	
	comp=Z,56nm,18.8s,baz=263,slow=34						
NEW	Newport	86.59	41	P	P	22 59 03.3	+0.7
BMO	Blue Mountains	87.33	45	P	P	22 59 07.3	+0.9
BMO				IAmb	IAmb	22 59 08.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.8nm,0.9s						
ARCES	ARCESS Array B	88.10	342	P	P	22 59 09.3	-0.1
	comp=Z,1.4nm,0.8s,baz=18,slow=4.2,SNR=1.1						
ARCES				LR	LR	23 39 51.7	
	comp=Z,37nm,21.8s,baz=52,slow=36						
PLID	Pearl Lake	88.16	44	P	P	22 59 11.3	+0.8
PLID				IAmb	IAmb	22 59 11.9	
	comp=Z,4.6nm,0.9s						
NVAR	Mina Array Bea	88.20	51	P	P	22 59 10.4	-0.5
	comp=Z,1.0nm,0.5s,baz=274,slow=5.8,SNR=7.0						
GNI	Garni	89.27	311	LR	LR	23 41 23.9	
	comp=Z,14nm,21.2s,baz=72,slow=37						
KBZ	Khabaz	89.61	315	P	P	22 59 15.5	-1.5
	comp=Z,2.3nm,1.0s,baz=68,slow=12,SNR=4.7						
ELK	Elko	89.88	48	LR	LR	23 32 27.9	
	comp=Z,55nm,21.5s,baz=256,slow=31						
PFO	Pinyon Flats O	90.87	55	LR	LR	23 40 06.1	
	comp=Z,52nm,18.2s,baz=324,slow=36						
FINES	FINESS Array B	92.05	335	P	P	22 59 25.2	-2.7
	comp=Z,1.6nm,0.6s,baz=66,slow=4.6,SNR=8.5						
FINES				LR	LR	23 44 18.5	
	comp=Z,29nm,18.9s,baz=37,slow=38						
H17A	Grant Village	92.06	44	IAmb	IAmb	22 59 34.0	
	comp=Z,5.3nm,1.0s						
PDAR	Pinedale Array	93.30	45	P	P	22 59 35.1	+0.6
	comp=Z,0.2nm,0.5s,baz=247,slow=1.9,SNR=1.8						
PDAR				LR	LR	23 34 12.8	
	comp=Z,49nm,21.7s,baz=288,slow=31						
AKASG	Malin Array Be	95.69	325	LR	LR	23 46 18.7	
	comp=Z,44nm,18.4s,baz=355,slow=38						
BRTR	Keskin Array B	97.48	313	P	P	22 59 50.8	-2.8
	comp=Z,0.7nm,0.7s,baz=78,slow=3.6,SNR=3.7						
BRTR				LR	LR	23 48 03.5	
	comp=Z,18nm,19.6s,baz=42,slow=38						
HFS	Hagfors	97.72	337	LR	LR	23 45 25.6	
	comp=Z,38nm,19.4s,baz=54,slow=36						
ASF	Jabal al Asfar	97.73	305	LR	LR	23 45 02.5	
	comp=Z,3µm,20.3s,baz=108,slow=36						
NOA	NORSAR Array B	98.01	339	P	P	22 59 55.3	0.0
	comp=Z,0.4nm,0.8s,baz=46,slow=4.5,SNR=2.0						
NOA				LR	LR	23 46 35.0	
	comp=Z,29nm,19.7s,baz=25,slow=37						
ANMO	Albuquerque	98.32	52	LR	LR	23 40 30.0	
	comp=Z,26nm,18.7s,baz=281,slow=33						
ULM	Lac du Bonnet	98.64	34	P	P	22 59 58.2	-0.1
	comp=Z,1.2nm,0.6s,baz=305,slow=5.8,SNR=4.1						
ULM				LR	LR	23 40 44.9	
	comp=Z,41nm,20.0s,baz=6.0,slow=33						
LPIG	La Paz	98.75	63	LR	LR	23 41 12.2	
	comp=Z,34nm,18.0s,baz=208,slow=33						
MLR	Muntele Rosu	100.08	321	LR	LR	23 48 51.8	
	comp=Z,71nm,18.2s,baz=78,slow=38						
TORD	Torodi Ar. Bea	135.05	303	PKP	PKPdf	23 05 37.6	-1.9
	comp=Z,1.5nm,1.0s,baz=45,slow=0.9,SNR=5.5						
DBIC	Dimbokro	143.94	300	PKP	PKPab	23 05 53.6	+0.7
	comp=Z,2.6nm,0.4s,baz=46,slow=2.9,SNR=14						
KIC	Kosan Boka	144.00	299	ePKP1	PKPab	23 05 53.2	+0.1
	comp=Z,4.8nm,0.5s						
TIC	Toumodi	144.09	300	ePKP1	PKPab	23 05 53.7	+0.2
LIC	Lamto	144.31	299	ePKP1	PKPab	23 05 54.3	0.0
	comp=Z,39nm,0.8s						

IDC 10 22:56:46.6±2.9**, 68°.50N×171°.09W, h0km, mb3.4**/3**, mb1 3.9**/4**, mb1mx3.4**/46**, mbtmp3.6**/4**, ML3.7**/1**, Error ellipse: s-maj=119.3km s-min=27.9km az=165.0, Chukchi Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	10.27	100	Pn	Pn	22 59 10.2	-4.8
	0.6nm,0.3s,baz=296,slow=14,SNR=17						
PETK	Petropavlovsk-	21.30	239	P	P	23 01 34.6	+0.2
	1.3nm,0.5s,baz=35,slow=12,SNR=1.9						
YKA	Yellowknife Ar	23.39	77	P	P	23 01 56.1	-0.3
	0.6nm,0.6s,baz=307,slow=11,SNR=5.4						
PDAR	Pinedale Array	40.69	97	P	P	23 04 27.9	-0.6
	0.6nm,0.7s,baz=316,slow=7.5,SNR=3.6						

*IDC **10** 23:04:16.8±0.7, 35°.66N×3°.65W, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.7/59, mbtmp3.8/18, ML3.8/4, MS2.7/2, Ms1 2.8/2, ms1mx2.4/90, Error ellipse: s-maj=22.0km s-min=11.8km az=99.0*
*CNRM **10** 23:04:18.3, 35°.71N×3°.56W, h24km, ml3.9*
*IGIL **10** 23:04:19.1, 35°.67N×3°.67W, h0km, ML3.6*
*SFS **10** 23:04:19.0, 35°.67N×3°.67W, ML3.8, ALBORAN SUR*
*MDD **10** 23:04:19.7±0.3, 35°.62N×3°.63W, h12km, mb_Lg3.8/28, Error ellipse: s-maj=2.8km s-min=1.8km az=171.0*
*CRAAG **10** 23:04:19.1, 35°.70N×3°.68W, Ml3.8*
*NEIC **10** 23:04:19.4±2.1, 35°.71N±0°.08×3°.66W±0°.07, h10km±1km, mb4.2/19, Error ellipse: s-maj=14.2km s-min=9.4km az=169.0*
*LDG **10** 23:04:20.0±0.2, 35°.57N×3°.61W, h10km, Ml3.3/6, Error ellipse: s-maj=4.0km s-min=2.1km az=177.0*
*INMG **10** 23:04:20.8±1.7, 35°.63N×3°.69W, h20km±6km, ML3.5, Error ellipse: s-maj=3.6km s-min=3.3km az=161.0*
ISC 10 23:04:18.1±1.1**, 35°.70N**±0°.02×**3°.64W**±0°.02**, h9**km±7km**, n181,** σ1§**69**/263**, mb4.1**/23**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.54	207	P	Pn	23 04 33.0	+0.9
PALE	Palemas	0.54	207	P	Pb	23 04 29.8	0.0
PALE				S	Sb	23 04 37.5	-0.2
EALB	Alboran	0.55	64	Pg	Pb	23 04 30.0	+0.1
EALB				Sg	Sb	23 04 38.6	+0.8
EALB				i Vmb_Lg		23 04 40.3	
EMEL	Melilla	0.68	125	Pg	Pg	23 04 31.4	+0.2
EMEL				Sg	Sg	23 04 40.5	+0.3
GOG	Mont Gurugu	0.71	132	P	Pg	23 04 31.7	-0.1
GOG				S	Sg	23 04 40.4	-0.6
ELGU	Los Guajares,	1.17	0	Pg	Pb	23 04 39.6	-0.8
ELGU				Sg	Sn	23 04 57.2	+0.3
ELGU				i Vmb_Lg		23 05 01.6	
EMAL	Malaga-Limoner	1.24	329	P	Pn	23 04 40.8	-0.8
EMAL				S	Sb	23 04 57.5	-0.2
EMIJ	Mijas	1.26	314	Pg	Pn	23 04 41.1	-0.9
EMIJ				Sg	Sb	23 04 57.1	-1.4
EMIJ				i Vmb_Lg		23 05 03.2	
TAF	Taforalt	1.33	131	P	Pn	23 04 41.1	-1.9
TAF				S	Sb	23 04 58.7	-1.9
EBER	Berja	1.34	27	Pn	Pn	23 04 42.3	-0.9
EBER				Sn	Sb	23 05 00.5	-0.4
EBER				i Vmb_Lg		23 05 10.1	
SMIR	Smir Dam	1.42	270	P	Pn	23 04 41.9	-2.2
CEU	Ceuta	1.42	279	P	Pn	23 04 41.8	-2.4
CEU				S	Sn	23 04 60.0	-3.0
EGOR	Sierra Gorda,	1.46	345	Pn	Pn	23 04 44.9	+0.1
EGOR				Sn	Sg	23 05 05.5	+0.5
EGOR				i Vmb_Lg		23 05 09.9	
CHEFC	Chefchaouen	1.51	247	P	Pg	23 04 49.0	+1.9
CHEFC	Chefchaouen	1.51	247	P	Pn	23 04 45.8	+0.4
CHEFC				S	Sg	23 05 06.5	-0.2
EQUE	Quentar	1.51	6	Pn	Pn	23 04 45.9	+0.5
EQUE				i Vmb_Lg		23 05 14.9	
JBK	JBK	1.62	147	P	Pn	23 04 45.2	-1.9
JBK				S	Sn	23 05 04.6	-3.6
EJIF	Jimena Fronter	1.66	297	Pn	Pn	23 04 47.9	+0.5
ENIJ	Nijar	1.72	42	Pn	Pn	23 04 46.7	-1.5
ENIJ				Sn	Sn	23 05 07.6	-2.7
ENIJ				i Vmb_Lg		23 05 20.5	
SICH	Sidi Chahed	2.11	221	P	Pn	23 04 54.4	+0.8
ESPR	Espera	2.14	304	Pn	Pb	23 04 55.9	-1.1
ESPR				Sn	Sb	23 05 22.6	-1.1
ESPR				i Vmb_Lg		23 05 30.7	
EQES	Quesada	2.15	12	Pn	Pb	23 04 56.5	-0.7
EQES				Sn	Sb	23 05 23.0	-1.1
SFS	San Fernando	2.22	291	P	Pn	23 04 51.2	-3.8
SFS				S	Sn	23 05 21.9	-0.7
SFS	San Fernando	2.22	291	Pn	Pn	23 04 55.5	+0.5
SFS				Sn	Sn	23 05 18.8	-3.8
LCRM	LCR	2.25	207	P	Pn	23 04 56.0	+0.4
LCRM	LCR	2.25	207	P	Pn	23 04 55.8	+0.2
LCRM				S	Sb	23 05 26.0	-0.9
OTSS	Djebel Tessala	2.36	99	P	Pg	23 05 04.0	+0.7
IFR	Ifrane	2.50	210	P	Pn	23 04 58.7	-0.4
IFR				S	Sn	23 05 28.8	-1.0
TLOR	Lorca, Murcia	2.50	38	Pn	Pn	23 04 59.4	+0.3
TLOR				Sn	Sn	23 05 28.9	-0.8
EADA	Adamuz	2.58	343	Pn	Pn	23 05 01.2	+1.2
EADA				Sn	Sn	23 05 32.1	+0.6
EADA				i Vmb_Lg		23 05 40.5	
EZAR	Zarzadilla de	2.67	35	Pn	Pn	23 05 01.2	-0.2
EZAR				Sn	Sn	23 05 33.4	-0.6
ECAB	El Cabril	2.77	329	Pn	Pn	23 05 04.2	+1.5
ECAB				Sn	Sn	23 05 37.6	+1.4
ECAB				Sg	Sg	23 05 45.5	-1.4
ECAB				i Vmb_Lg		23 05 50.4	
CART	Cartagena	2.84	48	P	Pn	23 05 03.2	-0.4
CART				S	Sn	23 05 34.1	-3.8
CART	Cartagena	2.84	48	Pn	Pn	23 05 03.6	+0.1
CART	Cartagena	2.84	48	P	Pn	23 05 02.4	-1.2
CART				S	Sn	23 05 34.5	-3.4
ARNO	Arenosillo	2.86	300	P	Pn	23 05 04.9	+1.0
ARNO				S	Sn	23 05 39.3	+0.8
ODJA	Bouhanifia	2.87	96	P	Pb	23 05 09.0	-0.5
CZD	Col de Zad	2.90	204	P	Pn	23 05 05.0	+0.3
MD31	MD31	2.97	199	P	Pn	23 05 05.5	0.0
MDT	Midelt	2.99	196	Pn	Pn	23 05 04.4	-1.4
	4.9nm,0.3s,baz=45,slow=17,SNR=95						
MDT				Pg	Pg	23 05 14.2	-1.1
	11nm,0.3s,baz=337,slow=9.8,SNR=16						
MDT				Sn	Sn	23 05 40.6	-1.2
	9.3nm,0.3s,baz=315,slow=17,SNR=5.6						
MDT				Lg	Lg	23 05 50.9	
	19nm,0.3s,baz=353,slow=5.8,SNR=5.7						
MDT	Midelt	2.99	196	P	Pn	23 05 05.5	-0.2
EMIN	Mina Concepcio	3.19	311	Pn	Pn	23 05 08.8	+0.3
EMIN				Sn	Sn	23 05 45.6	-1.2
ETRV	Los Montesinos	3.27	44	Pn	Pn	23 05 10.5	+1.0
ETRV				Sn	Sn	23 05 47.3	-1.2
ETRV				i Vmb_Lg		23 06 21.1	
ETOB	Tobarra	3.38	29	Pn	Pn	23 05 13.1	+1.9
ETOB				Sn	Sn	23 05 51.7	+0.3
ETOB				i Vmb_Lg		23 06 14.6	
EGRO	El Granado	3.59	302	Pn	Pn	23 05 14.3	+0.3
EGRO				Sn	Sn	23 05 54.3	-2.3
EGRO				i Vmb_Lg		23 05 58.7	
PBAR	Barrancos	3.68	313	ePn	Pn	23 05 15.5	+0.3
PBAR				eSn	Sn	23 05 56.0	-2.7
PBAR				A	A	23 06 01.0	
	81nm,0.4s						
PVAQ	Vaqueiros	3.70	299	ePn	Pn	23 05 15.6	+0.1
PVAQ				eSn	Sn	23 05 57.3	-1.9
PVAQ				A	A	23 06 02.3	
	81nm,0.4s						
PVAQ	Vaqueiros	3.70	299		Pn	23 05 15.5	+0.1
PVAQ				Sn	Sn	23 05 56.8	-2.4
PVAQ	Vaqueiros	3.70	299	P	Pn	23 05 15.6	+0.1
PVAQ				S	Sn	23 05 56.9	-2.3
PBDV	Barranco-do-Ve	3.79	295	ePn	Pn	23 05 17.0	+0.3
PBDV				eSn	Sn	23 05 59.7	-1.7
PBDV				A	A	23 06 08.7	
	63nm,0.5s						
AFON	Font Roja	3.86	39	Pn	Pn	23 05 19.1	+1.4
AFON				Sn	Sn	23 06 03.7	+0.4
AFON				i Vmb_Lg		23 08 06.2	
PAB	San Pablo	3.88	352		Pn	23 05 19.3	+1.3
PAB	San Pablo	3.88	352	P	Pn	23 05 20.7	+2.7
PAB	San Pablo	3.88	352	Pn	Pn	23 05 19.6	+1.6
PAB				Sn	Sn	23 06 03.2	-0.6
PAB				Sg	Sg	23 06 23.1	+0.4
PAB				i Vmb_Lg		23 06 35.5	
AVE	Averroes	3.93	234	P	Pn	23 05 19.2	+0.5
AVE				S	Sn	23 06 03.5	-1.5
AVE	Averroes	3.93	234	P	Pn	23 05 19.2	+0.5
ESDC	Sonseca Array	3.98	356	Pn	Pn	23 05 20.7	+1.4
	4.0nm,0.3s,baz=178,slow=12,SNR=242						
ESDC				Sn	Sn	23 06 04.5	-1.7
	3.1nm,0.3s,baz=173,slow=19,SNR=7.7						
ESDC				Lg	Lg	23 06 25.1	
	4.7nm,0.3s,baz=181,slow=28,SNR=2.5						
ESDC				LR	LR	23 06 46.2	
	comp=Z,99nm,19.9s,baz=223,slow=37						
ESDC	Sonseca Array	3.98	356		Pn	23 05 20.2	+0.9
ESDC	Sonseca Array	3.98	356	Pn	Pn	23 05 20.7	+1.4
ESDC				Sn	Sn	23 06 04.4	-1.7
ESDC				Sg	Sg	23 06 24.4	-1.3
ESDC				i Vmb_Lg		23 06 36.1	
ESBB	Sonseca Array	3.98	356		Pn	23 05 20.3	+1.0
PCVE	Castro Verde	4.03	300	ePn	Pn	23 05 20.2	+0.2
PCVE				eSn	Sn	23 06 05.3	-2.0
PCVE				A	A	23 06 08.7	
	92nm,0.3s						
EBAD	Badajoz	4.07	320	Pn	Pn	23 05 21.1	+0.6
EBAD				Sn	Sn	23 06 07.6	-0.7
PBEJ	Beja	4.11	306	ePn	Pn	23 05 21.6	+0.5
PBEJ				eSn	Sn	23 06 07.8	-1.5
PBEJ				A	A	23 06 11.0	
	35nm,0.4s						
MORF	Marmelete	4.34	293	eP	Pn	23 05 24.2	-0.2
MORF				eS	Sn	23 06 11.9	-3.3
MORF				IAML		23 06 18.6	
	comp=N,122nm,0.3s						
MORF	Marmelete	4.34	293	ePn	Pn	23 05 24.8	+0.4
MORF				eSn	Sn	23 06 12.3	-2.9
MORF				A	A	23 06 21.3	
	comp=N,43nm,0.4s						
PFVI	Vila Bisbo	4.42	290	ePn	Pn	23 05 26.3	+0.9
PFVI				eSn	Sn	23 06 14.5	-2.5
PFVI				A	A	23 06 23.9	
	comp=N,60nm,0.8s						
PFVI	Vila Bisbo	4.42	290	Pn	Pn	23 05 25.7	+0.4
PFVI	Vila Bisbo	4.42	290	P	Pn	23 05 26.0	+0.6
ECHE	Chera	4.42	28	Pn	Pn	23 05 26.4	+0.9
ECHE				i Vmb_Lg		23 06 18.5	
PESTR	Estremoz	4.46	316	ePn	Pn	23 05 26.8	+0.8
PESTR				eSn	Sn	23 06 17.0	-1.1
PESTR				A	A	23 06 51.5	
	comp=N,36nm,0.5s						
PESTR	Estremoz	4.46	316		Pn	23 05 26.7	+0.7
PTEO	Sao Teotonio	4.49	296	ePn	Pn	23 05 26.8	+0.5
PTEO				eSn	Sn	23 06 17.0	-1.6
PTEO				A	A	23 06 30.0	
	comp=N,57nm,0.5s						
EVO	Evora	4.50	310	P	Pn	23 05 26.3	-0.1
EVO				S	Sn	23 06 16.3	-2.6
EVO	Evora	4.50	310	ePn	Pn	23 05 27.1	+0.7
EVO				eSn	Sn	23 06 16.7	-2.1
EVO				A	A	23 06 18.7	
	comp=N,63nm,0.4s						
PNCL	Nicolau / Gran	4.60	303	ePn	Pn	23 05 28.3	+0.5
PNCL				eSn	Sn	23 06 19.0	-2.4
PNCL				A	A	23 06 20.2	
	comp=N,40nm,0.3s						
UCM	Universidad Co	4.61	4	P	Pn	23 05 29.6	+1.6
UCM				S	Sn	23 06 25.1	+3.4
EPLA	Plasencia	4.77	337	Pn	Pn	23 05 31.3	+1.2
EPLA				Sn	Sn	23 06 25.4	-0.2
EPLA				Sg	Sg	23 06 49.0	-2.1
EPLA				i Vmb_Lg		23 07 00.4	
PMRV	Marv??o	4.77	322	ePn	Pn	23 05 31.2	+1.0
PMRV				eSn	Sn	23 06 23.9	-1.7
PMRV				A	A	23 06 37.5	
	comp=N,50nm,0.5s						
PMTG	Montargil	4.96	314	ePn	Pn	23 05 33.5	+0.7
PMTG				eSn	Sn	23 06 28.7	-1.7
PMTG				A	A	23 06 48.9	
	comp=N,35nm,0.6s						
PCBR	Castelo Branco	5.13	325	ePn	Pn	23 05 36.9	+1.8
PCBR				eSn	Sn	23 06 32.9	-1.6
PCBR				A	A	23 06 35.1	
	comp=N,65nm,0.5s						
PACT	Alcochete	5.15	308	ePn	Pn	23 05 36.8	+1.4
PACT				eSn	Sn	23 06 34.2	-0.8
PACT				A	A	23 06 39.5	
	comp=N,62nm,0.5s						
TZRR	Tazzarine	5.16	199	P	Pn	23 05 35.9	+0.3
ETOR	Torete	5.26	13	Pn	Pn	23 05 38.4	+1.4
ETOR				Sn	Sn	23 06 39.1	+1.3
ETOR				Sg	Sg	23 07 02.5	-4.5
ETOR				i Vmb_Lg		23 07 32.9	
PMST	Lisbon--Monsan	5.36	306	ePn	Pn	23 05 39.8	+1.5
PMST				eSn	Sn	23 06 38.9	-1.3
PMST				A	A	23 06 53.8	
	comp=N,49nm,0.6s						
OUZM	OUZ	5.45	210	P	Pn	23 05 40.2	+0.6
OUZM	OUZ	5.45	210	P	Pn	23 05 40.1	+0.5
PMAFR	Mafra	5.55	308	ePn	Pn	23 05 41.8	+0.9
PMAFR				eSn	Sn	23 06 42.1	-2.7
PMAFR				A	A	23 06 45.9	
	comp=N,76nm,0.5s						
PSBE	So Bento	5.59	314	ePn	Pn	23 05 42.7	+1.2
PSBE				eSn	Sn	23 06 43.9	-2.0
PSBE				A	A	23 07 02.6	
	comp=N,27nm,0.4s						
MTE	Manteigas	5.61	328	ePn	Pn	23 05 43.7	+1.9
MTE				eSn	Sn	23 06 44.5	-2.0
MTE				A	A	23 07 19.6	
	comp=N,68nm,0.7s						
MTE	Manteigas	5.61	328		Pn	23 05 43.3	+1.5
OUK	Oukaimeden	5.71	219	P	Pn	23 05 42.7	-0.7
PCAS	Casmilo, Conde	5.80	320	ePn	Pn	23 05 45.7	+1.4
PCAS				eSn	Sn	23 06 48.7	-2.3
PCAS				A	A	23 07 35.8	
	comp=N,38nm,0.5s						
ZGR	Zagora	5.81	197	P	Pn	23 05 42.8	-1.8
COI	Coimbra	5.87	321	ePn	Pn	23 05 46.6	+1.3
COI				eSn	Sn	23 06 50.1	-2.6
COI				A	A	23 06 54.8	
	comp=N,65nm,0.5s						
COI	Coimbra	5.87	321		Pn	23 05 46.1	+0.8
PVIS	Viseu	6.03	327	ePn	Pn	23 05 48.9	+1.4
PVIS				eSn	Sn	23 06 53.8	-2.8
PVIS				A	A	23 06 57.9	
	comp=N,41nm,0.5s						
MVO	Moncorvo	6.07	335	ePn	Pn	23 05 49.8	+1.7
MVO				eSn	Sn	23 06 54.9	-2.8
MVO				A	A	23 07 36.5	
	comp=N,47nm,0.5s						
PVRL	Vila Real	6.42	331	ePn	Pn	23 05 54.7	+1.8
PVRL				eSn	Sn	23 07 03.2	-3.1
PVRL				A	A	23 07 10.2	
	comp=N,43nm,0.9s						
TTIG	Tnine Tigouga,	6.53	219	P	Pn	23 05 52.0	-2.5
POLO	Lamas de Olo	6.53	331	ePn	Pn	23 05 56.4	+1.9
POLO				eSn	Sn	23 07 05.6	-3.6
POLO				A	A	23 07 10.5	
	comp=N,12nm,0.6s						
PBRG	Braganca	6.56	339	ePn	Pn	23 05 56.1	+1.3
PBRG				eSn	Sn	23 07 07.5	-2.3
PBRG				A	A	23 07 58.3	
	comp=N,19nm,0.7s						
PTO	Porto	6.68	326	ePn	Pn	23 05 57.9	+1.5
PTO				eSn	Sn	23 07 09.0	-3.7
EPOB	Poblet	6.75	32	Pn	Pn	23 05 58.5	+1.1
EPOB				i Vmb_Lg		23 09 09.3	
PCAB	Cabril	6.91	332	ePn	Pn	23 06 01.6	+2.0
PCAB				eSn	Sn	23 07 16.1	-2.3
ELOB	Lobios	7.06	332	Pn	Pn	23 06 03.3	+1.6
ELOB				Sn	Sn	23 07 18.8	-3.4
ELOB				i Vmb_Lg		23 08 45.9	
PGAV	Gavieira, Arco	7.22	331	ePn	Pn	23 06 05.9	+1.9
PGAV				eSn	Sn	23 07 22.9	-3.3
EORO	Oroz-Betelu	7.41	13	Pn	Pn	23 06 08.1	+1.7
EORO				i Vmb_Lg		23 09 09.6	
ELAN	Lanestosa	7.52	1	Pn	Pn	23 06 10.0	+2.0
ELAN				Sn	Sn	23 07 30.6	-2.9
ELAN				i Vmb_Lg		23 08 44.4	
ETSF	Etsaut	7.57	17	ePn	Pn	23 06 09.8	+1.1
ETSF				eSn	Sn	23 07 31.6	-3.2
	comp=N,4.7nm,0.5s						
SJPF	Ste Jean	7.63	13	ePn	Pn	23 06 10.6	+1.1
SJPF				eSn	Sn	23 07 32.7	-3.5
	comp=N,3.9nm,0.4s						
EALK	Alkurruntz	7.69	12	Pn	Pn	23 06 12.0	+1.7
EALK				Sn	Sn	23 07 34.7	-2.8
EAGO	Agolada(Pontev	7.89	335	Pn	Pn	23 06 15.4	+2.4
EAGO				Sn	Sn	23 07 38.6	-3.8
EAGO				i Vmb_Lg		23 08 35.6	
EPF	Esparros	7.94	22	ePn	Pn	23 06 14.6	+0.8
MTLF	Montolieu	8.87	29	ePn	Pn	23 06 27.5	+1.1
MTLF				eSn	Sn	23 08 02.4	-4.1
	comp=N,0.3nm,0.2s						
LFF	La Frestale	9.81	19	ePn	Pn	23 06 40.6	+1.2
LFF	La Frestale	9.81	19	eP	Pn	23 06 45.4	+6.0
LASF	Ste Croix	10.15	32	ePn	Pn	23 06 45.2	+1.2
CAF	Calviac	10.19	24	eP	Pn	23 06 51.3	+6.8
RJF	Les Rejaudoux	10.36	21	eP	Pn	23 06 53.2	+6.3
LMR	La Mourre	10.93	43	eP	Pn	23 07 00.8	+6.2
MFF	Saint Martin d	11.20	12	ePn	Pn	23 06 58.4	0.0
MFF				eSn	Sn	23 08 59.4	-4.3
	comp=N,0.6nm,0.3s						
TCF	Toulx Ste Croi	11.46	21	eP	Pn	23 07 09.6	+7.7
BGF	Bois d'Agland	11.89	22	ePn	Pn	23 07 08.3	+0.5
PGF	Pioggiola	11.95	51	ePn	Pn	23 07 10.8	+2.0
QUIF	Quistinic	12.21	2	ePn	Pn	23 07 12.6	+0.4
QUIF	Quistinic	12.21	2	eP		23 07 19.9	
QUIF				eSn	Sn	23 09 23.7	-4.7
	comp=N,1.4nm,0.4s						
AVF	Avril sur Loir	12.26	23	eP	Pn	23 07 18.4	+5.6
SMF	Signal de Mont	12.29	25	ePn	Pn	23 07 12.3	-1.0
HYF	Humbligny	12.47	20	ePn	Pn	23 07 16.4	+0.6
HYF	Humbligny	12.47	20	eP		23 07 24.8	
SGMF	Saint Gilles	12.57	3	ePn	Pn	23 07 17.5	+0.4
ROSF	Rostrenen	12.63	1	ePn	Pn	23 07 18.3	+0.4
ROSF				eSn	Sn	23 09 31.8	-6.8
	comp=N,1.3nm,0.3s						
GRR	Gorron	12.85	8	ePn	Pn	23 07 21.9	+1.1
LDF	La Druitiere	13.14	10	ePn	Pn	23 07 26.1	+1.2
FLN	La Foliniere	13.26	9	ePn	Pn	23 07 26.8	+0.3
	baz=189						
GERES	GERESS Array B	18.31	39	P	P	23 08 33.2	+0.8
	comp=N,0.1nm,0.3s,baz=230,slow=10,SNR=3.8						
KHC	Kasperske Hory	18.43	38		Pn	23 08 34.8	+1.0
EKA	Eskdalemuir Ar	19.64	1	P	Pn	23 08 48.6	+0.3
	baz=178,slow=12,SNR=13						
CLL	Collm	19.65	32	P	P	23 08 47.0	-0.1
CLL	Collm	19.65	32	eP	Pn	23 08 49.0	+0.6
CLL				Lm	MLR	23 43 00.0	
	comp=Z,100nm,19.0s						
TOA0	Torodi Ar. Sit	22.96	167	P	P	23 09 24.4	+1.5
TOA0				IAmb	IAmb	23 09 31.7	
	comp=Z,15nm,1.1s						
TORD	Torodi Ar. Bea	22.96	167	P	P	23 09 24.0	+1.0
	comp=Z,4.3nm,0.9s,baz=341,slow=9.7,SNR=16						
TORD	Torodi Ar. Bea	22.96	167	P	P	23 09 24.4	+1.5
TORD				IAmb	IAmb	23 09 31.7	
	comp=Z,6.7nm,1.1s						
BURAR	Bucovina Array	24.48	52	P	P	23 09 37.3	-0.3
NC602	NORSAR Array S	26.88	17	P	P	23 09 58.4	-0.6
NC602				IAmb	IAmb	23 09 59.9	
	comp=Z,3.5nm,0.8s						
HFS	Hagfors	26.90	19	P	P	23 09 59.6	+0.4
	comp=Z,0.7nm,0.5s,baz=195,slow=17,SNR=4.3						
ELL	Elmali	27.01	78	P	P	23 10 00.6	0.0
NOA	NORSAR Array B	27.08	16	P	P	23 10 02.0	+1.2
	comp=Z,0.6nm,0.9s,baz=205,slow=9.4,SNR=2.6						
NOA				LR	LR	23 20 30.6	
	comp=Z,19nm,19.6s,baz=15,slow=36						
NB201	NORSAR Array S	27.10	16	P	P	23 10 00.7	-0.3
NC204	NORSAR Array S	27.19	15	P	P	23 10 03.2	+1.4
SACV	Santiago Islan	27.32	226	P	P	23 10 01.1	-2.2
BR131	Keskin Array S	29.62	71	P	P	23 10 25.4	+1.5
BR131				IAmb	IAmb	23 10 33.0	
	comp=Z,4.5nm,1.1s						
FINES	FINESS Array B	31.88	27	P	P	23 10 42.7	-0.6
	comp=Z,0.4nm,0.6s,baz=258,slow=9.2,SNR=4.5						
MMAI	Mount Meron Ar	32.20	83	P	P	23 10 47.3	+0.7
	comp=Z,0.9nm,0.7s,baz=216,slow=7.1,SNR=1.3						
ARCES	ARCESS Array B	37.45	16	P	P	23 11 32.3	+0.9
	comp=Z,2.3nm,0.9s,baz=198,slow=8.3,SNR=3.5						
ARCES	ARCESS Array B	37.45	16	P	P	23 11 31.4	0.0
ARU	Arti	46.06	43	P	P	23 12 41.6	-0.3
ARU				IAmb	IAmb	23 12 41.9	
	comp=Z,2.5nm,0.7s						
SCHQ	Schefferville	46.67	315	P	P	23 12 47.1	+0.2
	comp=Z,1.2nm,0.6s,baz=90,slow=11,SNR=1.7						
SCHQ	Schefferville	46.67	315	P	P	23 12 47.4	+0.6
SCHQ				IAmb	IAmb	23 12 47.8	
	comp=Z,2.6nm,1.1s						
BATG	Bathurst New B	47.00	304	P	P	23 12 47.8	-1.7
ABKAR	Akbulak array	47.46	53	P	P	23 12 53.7	+0.6
ABKAR	Akbulak array	47.46	53	P	P	23 12 53.7	+0.6
ABKAR				IAmb	IAmb	23 12 54.2	
	comp=Z,1.5nm,0.7s						
G65A	Princeton	48.41	302	P	P	23 13 01.2	+0.7
EUNU	Eureka	53.85	348	P	P	23 13 42.8	+1.8
EUNU				IAmb	IAmb	23 13 46.8	
	comp=Z,4.0nm,0.9s						
KURBB	Kurchatov Arra	58.77	48	P	P	23 14 16.3	0.0
	comp=Z,2.2nm,0.8s,baz=293,slow=7.8,SNR=14						
KDJ	Kajisay	60.99	57	P	P	23 14 33.0	+0.9
KDJ				IAmb	IAmb	23 14 34.1	
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	61.21	42	P	P	23 14 32.8	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.6s,baz=316,slow=8.4,SNR=2.9						
MAKZ	Makanchi	62.29	51	P	P	23 14 41.0	+0.4
MAKZ				IAmb	IAmb	23 14 41.6	
	comp=Z,2.6nm,0.8s						
MKAR	Makanchi Array	62.49	51	P	P	23 14 41.8	-0.1
	comp=Z,2.8nm,0.8s,baz=286,slow=6.1,SNR=34						
MKAR	Makanchi Array	62.49	51	P	P	23 14 42.3	+0.4
YKA	Yellowknife Ar	67.71	332	P	P	23 15 15.7	+0.2
	comp=Z,1.5nm,0.6s,baz=59,slow=6.4,SNR=24						
BMAR	Burnt Mountain	73.03	345	P	P	23 15 50.1	+2.1
ILAR	Eielson Array	75.80	345	P	P	23 16 06.0	+1.9
	comp=Z,0.2nm,0.6s,baz=359,slow=4.8,SNR=2.1						
SONM	Songino Array	76.03	41	P	P	23 16 05.2	-0.7
	comp=Z,0.1nm,0.3s,baz=318,slow=1.9,SNR=3.1						
IMAR	Indian Mountai	76.04	348	P	P	23 16 07.1	+1.6
BCAR	Beaver Creek A	76.05	342	P	P	23 16 07.3	+1.7
L27K	Beaver Creek,	76.06	342	P	P	23 16 07.3	+1.7
DOT	Dot Lake	76.12	343	P	P	23 16 08.3	+2.3
PDAR	Pinedale Array	76.78	313	P	P	23 16 09.3	-1.1
	comp=Z,0.3nm,0.5s,baz=74,slow=5.3,SNR=3.8						
PDAR	Pinedale Array	76.78	313	P	P	23 16 09.7	-0.7
K20K	Telida	78.50	347	P	P	23 16 20.3	+1.0
K20K				IAmb	IAmb	23 16 39.5	
	comp=Z,0.7nm,0.8s						

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*VAO **10** 23:08:30.4±0.9, 18°.59S×69°.92W, h104km, mb4.1*
*SJA **10** 23:08:31.0±0.7, 18°.81S×69°.72W, h107km±3km, ML4.3, MW4.1*
*GUC **10** 23:08:32.6±0.8, 18°.78S×69°.58W, h94km±6km, ML4.2*
*IDC **10** 23:08:32.9±0.7, 18°.66S×69°.42W, h101km±5km, mb3.7/9, mb1 4.0/11, mb1mx3.8/29, mbtmp4.1/11, Error ellipse: s-maj=17.7km s-min=12.7km az=80.0*
*NEIC **10** 23:08:32.3±1.8, 18°.82S±0°.02×69°.70W±0°.04, h98km±5km, mb4.6/39, Mwr4.0/14, ML4.2(GUC), Error ellipse: s-maj=5.6km s-min=1.6km az=122.0*
*NEIC **10** 23:08:32.2, 18°.83S×69°.68W, h94km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.22; $M_{\theta\theta}$0.06; $M_{\phi\phi}$1.16; $M_{r\theta}$-0.38; $M_{\theta\phi}$-0.61; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.39000×10^{15} NP1:ϕ_s352.23000°, δ43.49000°, λ-65.44000°. NP2:ϕ_s140.02000°, δ51.24000°, λ-111.52000°. Principal axes: T 1.4407, Plg4.0000°, Azm245.0000°; N -0.1083, Plg17.0000°, Azm154.0000°; P -1.3324, Plg73.0000°, Azm348.0000°;*
ISC 10 23:08:31.7±0.5, **18°.77S**±0°.03×**69°.64W**±0°.05, **h96**km±4km, **n128**, σ1s.**49**/155, **mb4.5**/28, **4C-2D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB16	IPOC Station P	0.45	16		Pn	23 08 48.7	+1.1
PB16				Sn	Sn	23 09 00.5	+1.4
PB16	IPOC Station P	0.45	16	⇓iP	Pn	23 08 48.3	+0.8
PB16				i S	Sn	23 09 00.3	+1.2
PB16				IAML		23 09 01.6	
	comp=E,15μm,0.6s						
PB16	IPOC Station P	0.45	16	eP	Pn	23 08 48.6	+1.1
PB16				eS	Sn	23 09 01.3	+2.1
PB16				IAML		23 09 02.0	
	comp=Z,9μm,0.5s						
PB12	IPOC Station P	0.67	283	Pn	Pn	23 08 49.4	+0.7
PB12				Sn	Sn	23 09 02.1	+0.7
PB12	IPOC Station P	0.67	283	⇑iP	Pn	23 08 49.2	+0.6
PB12				i S	Sn	23 09 01.8	+0.5
PB12				IAML		23 09 02.4	
	comp=N,17μm,0.3s						
PB12	IPOC Station P	0.67	283	eP	Pn	23 08 49.0	+0.4
PB12				eS	Sn	23 09 02.4	+1.0
PB12				IAML		23 09 04.0	
	comp=Z,7μm,0.3s						
AP01	Chacalluta	0.77	300	Pn	Pn	23 08 50.6	+1.1
AP01				Sn	Sn	23 09 04.0	+1.2
AP01	Chacalluta	0.77	300	⇑iP	Pn	23 08 50.5	+1.1
AP01				i S	Sn	23 09 04.5	+1.7
AP01	Chacalluta	0.77	300	eP	Pn	23 08 50.6	+1.1
AP01				eS	Sn	23 09 04.2	+1.4
AP01				IAML		23 09 09.4	
	comp=Z,8μm,0.2s						
PB11	IPOC Station P	0.99	181	eP	Pn	23 08 52.4	+0.3
PB11				eS	Sn	23 09 08.5	+1.3
GO01	Chusmiza	0.99	155		Pn	23 08 53.2	+0.8
GO01				Sn	Sn	23 09 08.4	+0.7
GO01	Chusmiza	0.99	155	⇓iP	Pn	23 08 53.1	+0.8
GO01				i S	Sn	23 09 08.7	+0.9
GO01				IAML		23 09 10.5	
	comp=E,4μm,0.2s						
GO01	Chusmiza	0.99	155	eP	Pn	23 08 53.2	+0.8
GO01				eS	Sn	23 09 10.0	+2.2
PB08	IPOC Station P	1.44	162	eP	Pn	23 08 58.4	+0.8
PB08				eS	Sn	23 09 18.4	+1.4
PB08				IAML		23 09 19.6	
	comp=Z,3μm,0.4s						
HMBC	Humberstone	1.52	189	⇑iP	Pn	23 08 58.2	-0.1
HMBC				i S	Sn	23 09 18.4	+0.1
HMBC				IAML		23 09 25.9	
	comp=E,5μm,0.1s						
TA02	Huaiquique	1.57	197	Pn	Pn	23 08 58.7	+0.1
TA02				Sn	Sn	23 09 17.6	-1.5
TA02	Huaiquique	1.57	197	eP	Pn	23 08 58.9	+0.2
TA02				i S	Sn	23 09 18.5	-0.5
TA02				IAML		23 09 21.6	
	comp=N,4μm,0.1s						
TA02	Huaiquique	1.57	197	eP	Pn	23 08 59.0	+0.4
TA02				eS	Sn	23 09 23.4	+4.3
TA02				IAML		23 09 29.4	
	comp=Z,2μm,0.5s						
TA01	Diego Aracena	1.86	196		Pn	23 09 02.5	0.0
TA01	Diego Aracena	1.86	196	IAML		23 09 32.8	
	comp=N,3μm,0.5s						
TA01	Diego Aracena	1.86	196	eP	Pn	23 09 02.1	-0.3
TA01				eS	Sn	23 09 30.5	+4.8
TA01				IAML		23 09 31.6	
	comp=Z,2μm,0.5s						
PATCX	Punta Patache	2.10	193		Pn	23 09 05.5	-0.1
PATCX	Punta Patache	2.10	193	eP	Pn	23 09 05.0	-0.6
PATCX				IAML		23 09 40.8	
	comp=E,2μm,0.7s						
PATCX	Punta Patache	2.10	193	eP	Pn	23 09 01.3	-4.3
PATCX				eP	Pn	23 09 05.5	-0.1
PATCX				eP	Pn	23 09 06.0	+0.4
PATCX				eP	Pn	23 09 06.3	+0.7
PATCX				IAML		23 09 32.0	
	comp=Z,1μm,0.4s						
PB01	IPOC Station P	2.27	176	eP	Pn	23 09 08.1	+0.3
PB01				eS	Sn	23 09 36.5	+1.1
PB02	IPOC Station P	2.55	185	eP	Pn	23 09 06.3	-5.3
PB02				eP	Pn	23 09 11.6	+0.1
PB02				eS	Sn	23 09 40.8	-1.3
PB02				IAML		23 09 48.4	
	comp=Z,2μm,0.8s						
LPAZ	La Paz	2.85	31	P	Pn	23 09 19.3	+3.2
	comp=Z,17nm,0.3s,baz=202,slow=2.7,SNR=296						
LPAZ				S	Sn	23 09 51.7	+1.7
	comp=Z,5.5nm,0.3s,baz=207,slow=11,SNR=4.7						
LPAZ	La Paz	2.85	31	eP	Pn	23 09 19.0	+2.9
PB07	IPOC Station P	2.96	184	eP	Pn	23 09 17.1	+0.1
PB07				eS	Sn	23 10 01.5	+10
PB07				IAML		23 10 02.3	
	comp=Z,1μm,0.7s						
PB09	IPOC Station P	3.04	173	eP	Pn	23 09 18.8	+0.7
PB09				IAML		23 10 23.1	
	comp=Z,677nm,0.6s						
PB04	IPOC Station P	3.58	188	eP	Pn	23 09 25.3	-0.1
PB04				eS	Sn	23 10 19.8	+13
PB04				IAML		23 10 26.0	
	comp=Z,668nm,0.4s						
LVC	Limon Verde	3.89	170	P	Pn	23 09 30.5	+0.8
	comp=Z,15nm,0.3s,baz=320,slow=8.2,SNR=60						
LVC				S	Sn	23 10 18.3	+3.8
	comp=Z,26nm,0.3s,baz=80,slow=18,SNR=4.7						
LVC	Limon Verde	3.89	170		Pn	23 09 30.0	+0.3
LVC	Limon Verde	3.89	170	eP	Pn	23 09 30.1	+0.3
LVC				i S	Sn	23 10 13.7	-0.8
LVC	Limon Verde	3.89	170	eP	Pn	23 09 30.4	+0.7
LVC	Limon Verde	3.89	170	eP	Pn	23 09 30.0	+0.3
LVC				eS	Sn	23 10 20.3	+5.8
PB06	IPOC Station P	3.92	179	eP	Pn	23 09 30.0	+0.1
PB06				eS	Sn	23 10 19.3	+4.2
PB06				IAML		23 10 25.7	
	comp=Z,336nm,0.8s						
PB15	IPOC Station P	4.42	178	eP	Pn	23 09 37.0	+0.2
PB15				IAML		23 10 53.0	
	comp=Z,647nm,0.3s						
PB10	IPOC Station P	4.80	190		Pn	23 09 40.6	-1.1
PB10	IPOC Station P	4.80	190	⇑iP	Pn	23 09 40.1	-1.7
PB10	IPOC Station P	4.80	190	eP	Pn	23 09 37.5	-4.2
AC01	Pan de Azucar	7.40	187		Pn	23 10 14.9	-2.2
AC02	Maricunga	8.05	177	Pn	Pn	23 10 25.3	-1.0
AC06	Mina Casimiro	8.58	184	Pn	Pn	23 10 31.1	-2.0
SIV	San Ignacio	8.63	73	P	Pn	23 10 32.0	-2.0
	comp=Z,10nm,0.3s,baz=269,slow=9.2,SNR=70						
SIV				S	Sn	23 12 06.8	-2.9
	comp=Z,0.7nm,0.3s,baz=167,slow=21,SNR=1.4						
GO03	Copiap	8.80	183	Pn	Pn	23 10 32.5	-3.8
ETMB	Extrema	9.49	21	eP	Pn	23 10 43.4	-2.2
VILB	Vilhena	10.76	59	eP	Pn	23 11 02.1	-0.8
CLDB	Colider	15.51	62	eP	Pn	23 12 04.6	-0.5
TRCB	Terra Rica	16.40	107	eP	P	23 12 18.7	+1.3
H03N1	Juan Fernandez	16.81	208	T	T	23 29 30.6	
	baz=30,slow=73,SNR=139						
H03N2	Juan Fernandez	16.82	208	T	T	23 29 32.9	
	baz=30,slow=73,SNR=160						
H03N3	Juan Fernandez	16.82	208	T	T	23 29 32.0	
	baz=30,slow=73,SNR=165						
PTGB	Pitanga	17.36	113	eP	Pn	23 12 31.0	+2.9
PCMB	Pacaembu	17.48	102	eP	Pn	23 12 30.1	+0.5
NPGB	Novo Progresso	18.13	52	eP	P	23 12 36.4	-0.1
ITAB	Concordia	18.18	121	P	Pn	23 12 38.1	+0.3
ITAB	Concordia	18.18	121	eP	Pn	23 12 38.2	+0.4
CPSB	Cacapava Do Su	18.72	131	eP	Pn	23 12 44.3	0.0
SNDB	Serra Nova Dou	18.93	72	eP	P	23 12 45.2	+0.1
ITTB	Itaituba	19.73	45	eP	P	23 12 53.1	-0.8
TIJ01	Guaruva-PR	20.20	113	eP	Pn	23 13 00.8	-0.9
IPMB	Ipameri, GO	20.35	91	eP	P	23 13 01.0	+0.3
BDFB	Brasilia	20.89	85	P	P	23 13 06.1	-0.4
	comp=Z,1.9nm,0.4s,baz=290,slow=9.2,SNR=5.8						
BDFB	Brasilia	20.89	85	P	P	23 13 05.8	-0.7
PET01	Itanhaem-SP	21.51	109	eP	P	23 13 15.3	+2.3
PEXB	Peixe	21.60	75	eP	P	23 13 14.8	+0.8
MALB	Monte Alegre	22.57	44	eP	P	23 13 23.8	-0.5
PRPB	Parauapebas	23.02	60	eP	P	23 13 27.8	-1.0
SMTB	Santa Maria do	23.54	68	eP	P	23 13 33.5	-0.1
JANB	Januaria	24.50	85	eP	P	23 13 41.5	-0.8
DIAM	Diamantina, MG	24.62	93	eP	P	23 13 43.6	+0.1
SDBA	SAO DESIDERIO	24.64	79	eP	P	23 13 43.0	-0.5
MCPB	Macapa, AP	25.15	45	eP	P	23 13 45.8	-2.3
ZARC	Zaragoza, Cauc	26.59	348	P	P	23 14 00.7	-0.4
SJCC	San Jacinto, C	29.00	349	P	P	23 14 25.2	+2.6
SJCC				IAmb	IAmb	23 14 27.2	
	comp=Z,6.7nm,0.8s						
GDU01	Guandu, BA	29.27	85	eP	P	23 14 24.7	-0.4
NBLA	Lagarto - SE	31.70	80	eP	P	23 14 45.9	-0.6
NBMA	Muriti-CE	32.08	73	eP	P	23 14 49.9	0.0
NBPB	Pedra_Branca-C	32.11	70	eP	P	23 14 49.9	-0.3
NBAN	Anadia - AL	33.53	79	eP	P	23 15 02.7	+0.2
CRPR	Cabo Rojo, PR	36.63	4	P	P	23 15 27.7	-1.2
OBIP	Obispado Ponce	36.70	5	P	P	23 15 28.8	-0.7
CELP	Cerrillos	36.73	5	P	P	23 15 29.5	-0.3
MTP	Monte Pirata	36.85	6	P	P	23 15 28.9	-2.0
HUMP	Col San Antoni	36.87	6	P	P	23 15 31.1	+0.2
GCPR	Guaynabo City	37.01	6	P	P	23 15 30.5	-1.6
833A	Chaparral WMA,	54.95	328	P	P	23 17 52.8	-0.2
833A				IAmb	IAmb	23 17 55.1	
	comp=Z,6.0nm,0.6s						
V55A	Taylorsville	55.41	349	P	P	23 17 57.5	+1.3
V55A				IAmb	IAmb	23 17 57.9	
	comp=Z,7.0nm,0.7s						
V53A	Saluda	55.56	347	P	P	23 17 54.6	-2.6
V53A				IAmb	IAmb	23 17 57.8	
	comp=Z,3.1nm,0.9s						
TKL	Tuckaleechee C	55.76	346	P	P	23 17 59.2	+0.6
TKL				IAmb	IAmb	23 18 01.8	
	comp=Z,7.6nm,1.1s						
SWET	Sewanee	55.87	344	P	P	23 17 59.4	-0.1
V52A	Sevierville	55.90	346	P	P	23 17 59.8	+0.2
V52A				IAmb	IAmb	23 18 00.3	
	comp=Z,5.2nm,0.9s						
T59A	Double "B" Far	55.94	352	P	P	23 17 60.0	+0.2
T59A				IAmb	IAmb	23 18 03.0	
	comp=Z,6.3nm,1.1s						
U49A	Red Boiling Sp	57.06	345	P	P	23 18 07.4	-0.4
U49A				IAmb	IAmb	23 18 08.5	
	comp=Z,3.0nm,0.7s						
WVT	Waverly	57.25	343	P	P	23 18 08.8	-0.3
WVT				IAmb	IAmb	23 18 09.4	
	comp=Z,5.2nm,0.7s						
T50A	Nancy	57.31	346	P	P	23 18 09.6	0.0
T50A				IAmb	IAmb	23 18 10.0	
	comp=Z,2.7nm,0.6s						
R55A	Marlinton	57.59	350	P	P	23 18 12.9	+1.3
R55A				IAmb	IAmb	23 18 14.3	
	comp=Z,4.7nm,0.8s						
MIAR	Mount Ida	57.70	337	P	P	23 18 13.1	+0.7
MIAR				IAmb	IAmb	23 18 21.9	
	comp=Z,2.9nm,1.0s						
TXAR	Lajitas Array	58.01	325	P	P	23 18 14.9	+0.2
	comp=Z,0.6nm,0.6s,baz=142,slow=8.9,SNR=3.7						
Q56A	Snyder Ridge,	58.19	351	P	P	23 18 16.6	+0.9
Q56A				IAmb	IAmb	23 18 19.0	
	comp=Z,6.2nm,1.0s						
O52A	Adamsville	59.67	349	P	P	23 18 26.2	+0.3
O52A				IAmb	IAmb	23 18 26.9	
	comp=Z,5.0nm,0.7s						
FVM	French Village	59.73	341	P	P	23 18 26.9	+0.5
L64A	Middleborough	60.40	359	P	P	23 18 30.3	-0.5
L64A				IAmb	IAmb	23 18 36.4	
	comp=Z,10nm,1.1s						
S39A	Bolivar	60.42	339	P	P	23 18 31.4	+0.4
S39A				IAmb	IAmb	23 18 31.7	
	comp=Z,3.5nm,0.7s						
M55A	Ridgway	60.52	352	P	P	23 18 32.4	+0.7
M55A				IAmb	IAmb	23 18 33.1	
	comp=Z,6.0nm,1.0s						
M54A	Oil Creek Stat	60.68	351	P	P	23 18 33.4	+0.6
M54A				IAmb	IAmb	23 18 34.4	
	comp=Z,11nm,1.1s						
T35A	Sooner Cattle	60.91	336	P	P	23 18 35.1	+0.7
T35A				IAmb	IAmb	23 18 35.8	
	comp=Z,3.6nm,0.5s						
L61B	Northampton	60.97	357	P	P	23 18 34.9	+0.2
L61B				IAmb	IAmb	23 18 44.2	
	comp=Z,5.7nm,1.1s						
SDCO	Great Sand Dun	65.56	329	P	P	23 19 07.1	+1.6
PDAR	Pinedale Array	71.41	330	P	P	23 19 43.3	+1.5
	comp=Z,0.2nm,0.5s,baz=133,slow=12,SNR=2.2						
ULM	Lac du Bonnet	72.52	343	P	P	23 19 48.0	+0.1
	comp=Z,3.1nm,0.6s,baz=168,slow=5.7,SNR=5.7						
ULM	Lac du Bonnet	72.52	343	IAmb	IAmb	23 19 48.6	
	comp=Z,3.3nm,0.6s						
KOWA	Kowa	72.59	68	P	P	23 19 48.4	-0.7
NVAR	Mina Array Bea	72.93	322	P	P	23 19 52.5	+1.6
	comp=Z,0.1nm,0.3s,baz=113,slow=6.4,SNR=2.9						
SCHQ	Schefferville	73.34	2	P	P	23 19 52.0	-0.7
	comp=Z,2.4nm,0.7s,baz=221,slow=7.1,SNR=6.2						
TORD	Torodi Ar. Bea	77.11	71	P	P	23 20 13.1	-2.1
	comp=Z,1.1nm,0.7s,baz=250,slow=5.5,SNR=11						
TORD				pP	pP	23 20 41.1	-0.5
	comp=Z,1.5nm,0.7s,baz=248,slow=5.0,SNR=5.1						
TORD	Torodi Ar. Bea	77.11	71	P	P	23 20 14.0	-1.2
PAB	San Pablo	84.06	45	P	P	23 20 51.8	-0.1
ESDC	Sonseca Array	84.38	45	P	P	23 20 53.7	+0.2
	comp=Z,1.6nm,1.1s,baz=243,slow=8.5,SNR=4.0						
ESDC				pP	pP	23 21 18.7	-1.6
	comp=Z,1.2nm,0.9s,baz=227,slow=5.1,SNR=4.0						
ESDC	Sonseca Array	84.38	45	P	P	23 20 54.4	+0.9
YKA	Yellowknife Ar	88.39	341	P	P	23 21 13.3	+0.9
	comp=Z,1.9nm,0.5s,baz=136,slow=4.8,SNR=52						
YKA				pP	pP	23 21 38.4	-0.5
	comp=Z,0.8nm,0.5s,baz=134,slow=4.7,SNR=5.5						
ASAR	Alice Springs	131.97	210	PKP	PKPdf	23 27 35.1	+0.4
	comp=Z,0.2nm,0.6s,baz=114,slow=1.8,SNR=4.4						
WRA	Warramunga Arr	134.91	213	PKP	PKiKP	23 27 41.2	-0.7
	comp=Z,0.5nm,0.7s,baz=148,slow=1.8,SNR=7.0						
KURBB	Kurchatov Arra	139.40	31	PKP	PKiKP	23 27 49.2	-0.7
	comp=Z,0.4nm,0.7s,baz=354,slow=1.9,SNR=2.3						
ZALV	Zalesovo Beam	139.75	23	PKP	PKPdf	23 27 48.9	+0.7
	comp=Z,0.8nm,0.5s,baz=298,slow=2.7,SNR=5.8						
MKAR	Makanchi Array	143.78	33	PKP	PKPbc	23 27 53.4	-0.1
	comp=Z,0.2nm,0.4s,baz=314,slow=2.7,SNR=6.8						
SONM	Songino Array	150.82	5	PKPbc	PKiKP	23 28 14.4	+0.6
	comp=Z,2.9nm,0.6s,baz=296,slow=1.4,SNR=33						
SONM				pPKPbc	pPKPbc	23 28 41.2	+0.4
	comp=Z,1.1nm,0.7s,baz=348,slow=1.4,SNR=5.1						

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*DDA **10** 23:20:41.1±0.0, 38°.93N×26°.28E, h7km±3km, ML2.8*
*ISK **10** 23:20:41.1, 38°.93N×26°.27E, h9km, ML2.9/28*
*ATH **10** 23:20:41.2, 38°.93N×26°.27E, h26km±1km, ML2.6/4, Error ellipse: s-maj=3.0km s-min=1.2km az=257.0*
*THE **10** 23:20:42.2, 38°.93N×26°.27E, h4km±1km, ML2.3/9, Error ellipse: s-maj=1.3km s-min=0.6km az=267.0*
ISC 10 23:20:41.4±1.0, **38°.93N**±0°.01×**26°.28E**±0°.02, **h10**km±8km, **n72**, σ0s.**61**/108, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.32	359	P	Pb	23 20 49.1	-0.1
PRK				S	Sb	23 20 53.6	-0.9
PRK				AML	AML	23 20 54.9	
	comp=E,2602μm,0.4s						
PRK				AML	AML	23 20 55.1	
	comp=N,2210μm,0.3s						
PRK	Paraskevi	0.32	359	P	Pb	23 20 49.1	-0.1
PRK				S	Sb	23 20 53.8	-0.7
	comp=N,1μm,0.3s						
CAND	Candarli	0.41	86	PG	Pg	23 20 49.8	+0.4
CAND				SG	Sb	23 20 56.5	-0.6
FOCM	Foa	0.41	121	PG	Pg	23 20 49.9	+0.5
SIGR	SIGRI	0.44	311	P	Pg	23 20 50.4	+0.4
SIGR				S	Sg	23 20 56.4	+0.7
SIGR				AML	AML	23 20 57.1	
	comp=E,1038μm,0.4s						
SIGR				AML	AML	23 20 57.8	
	comp=N,757μm,0.1s						
SIGR	SIGRI	0.44	311	P	Pg	23 20 50.3	+0.4
SIGR				S	Sb	23 20 57.3	-0.5
	comp=N,500nm,0.3s						
SIGR	SIGRI	0.44	311	PG	Pg	23 20 50.3	+0.4
SIGR				SG	Sb	23 20 56.6	-1.2
AYVA	Ayvalik	0.50	40	P	Pb	23 20 51.6	-0.6
AYVA				S	Sg	23 20 57.5	-0.1
AYVA				i AML	AML	23 20 59.0	
	comp=N,377nm,0.7s						
AYVA				i AML	AML	23 20 59.0	
	comp=N,717nm,0.2s						
DKL	Dikili	0.51	73	PG	Pg	23 20 51.6	+0.3
DKL				SG	Sb	23 20 59.6	-0.3
GPNR	Gulpinar-Canak	0.54	348	PG	Pg	23 20 51.9	0.0
CHOS	Chios island	0.56	198	P	Pb	23 20 52.7	-0.7
CHOS				S	Sb	23 21 02.1	+0.5
CHOS				AML	AML	23 21 04.8	
	comp=N,1319μm,0.2s						
CHOS				AML	AML	23 21 05.0	
	comp=E,1597μm,0.2s						
CHOS	Chios island	0.56	198	P	Pg	23 20 52.6	+0.2
CHOS				S	Sb	23 21 01.9	+0.3
	comp=E,730nm,0.2s						
CHOS	Chios island	0.56	198	PG	Pg	23 20 52.5	+0.2
KOCA	Canakkale, Ayv	0.59	349	P	Pg	23 20 53.0	+0.2
KOCA				S	Sg	23 21 01.1	+0.6
URLA	Izmir	0.62	156	PG	Pg	23 20 53.4	+0.1
URLA				SG	Sb	23 21 02.5	-0.5
URLA	Izmir	0.62	156	P	Pb	23 20 53.9	-0.4
URLA				S	Sg	23 21 01.1	-0.3
URLA				i AML	AML	23 21 05.0	
	comp=E,354nm,0.3s						
URLA				i AML	AML	23 21 06.0	
	comp=E,552nm,0.3s						
ZEDA	zmir-Bergama	0.62	86	P	Pg	23 20 53.4	0.0
ZEDA				S	Sb	23 21 02.6	-0.7
ZEDA				i AML	AML	23 21 06.0	
	comp=E,294nm,0.2s						
ZEYE	Izmir, Urla-Ze	0.71	165	P	Pg	23 20 54.7	-0.3
ZEYE				S	Sg	23 21 04.7	+0.4
ZEYE				i AML	AML	23 21 08.0	
	comp=E,1μm,0.5s						
BAYC	CANAKKALE_Bayr	0.84	14	P	Pn	23 20 59.2	-0.1
BAYC				S	Sg	23 21 08.6	+0.1
BUHA	Balikesir, Bur	0.85	47	P	Pg	23 20 57.6	-0.1
BUHA				S	Sb	23 21 09.8	+0.1
BUHA				i AML	AML	23 21 13.0	
	comp=E,388nm,0.3s						
BUHA				i AML	AML	23 21 14.0	
	comp=E,285nm,0.4s						
EZN	Ezine	0.90	2	P	Pg	23 20 58.6	-0.1
EZN				S	Sn	23 21 12.3	-0.9
EZN	Ezine	0.90	2	PG	Pb	23 20 58.8	-0.3
EZN				SG	Sb	23 21 11.1	-0.1
BOZC	Bozcaada	0.93	349	PG	Pg	23 20 59.0	-0.3
BOZC				SG	Sb	23 21 12.1	0.0
BOZC	Bozcaada	0.93	349	P	Pn	23 21 00.2	-0.4
BOZC				S	Sg	23 21 10.5	-1.0
DGB	zmir	0.99	151	P	Pg	23 21 00.4	0.0
DGB				S	Sg	23 21 12.8	-0.5
AKHS	Akhisar	1.20	92	P	Pg	23 21 04.9	+0.5
STEP	BALIKESIR_Sava	1.21	68	P	Pg	23 21 04.6	+0.1
STEP				S	Sn	23 21 20.6	-0.3
STEP				i AML	AML	23 21 25.0	
	comp=E,237nm,0.5s						
LIA	Limnos Island	1.29	319	P	Pb	23 21 05.7	0.0
LIA				S	Sb	23 21 22.3	-0.1
LIA	Limnos Island	1.29	319	P	Pb	23 21 05.7	0.0
LIA				S	Sn	23 21 24.5	+1.7
	comp=E,75nm,0.4s						
SMG	Samos	1.29	160	P	Pn	23 21 04.8	-0.7
SMG				S	Sn	23 21 23.2	+0.3
SMG				AML	AML	23 21 26.7	
	comp=E,1638μm,0.3s						
SMG				AML	AML	23 21 28.3	
	comp=N,1259μm,0.4s						
SMG	Samos	1.29	160	P	Pn	23 21 04.8	-0.7
SMG				S	Sn	23 21 24.6	+1.7
GOKA	anakkale-Gk	1.30	347	P	Pb	23 21 05.7	-0.1
GOKA				S	Sn	23 21 23.4	+0.4
GOKA				i AML	AML	23 21 24.0	
	comp=N,270nm,0.5s						
GADA	Gvkgeada	1.30	347	P	Pb	23 21 05.7	-0.2
GADA				S	Sn	23 21 23.3	+0.3
	comp=N,100nm,0.4s						
GADA	Gvkgeada	1.30	347	PN	Pb	23 21 05.7	-0.2
GCAM	G?zelcaml?	1.44	148	PN	Pb	23 21 08.0	-0.2
GCAM	G?zelcaml?	1.44	148	P	Pg	23 21 08.6	-0.3
GCAM				S	Sg	23 21 27.1	-0.4
GCAM				i AML	AML	23 21 31.0	
	comp=N,131nm,0.3s						
GELI	Tayfur-Gelibol	1.48	6	PN	Pb	23 21 08.4	-0.6
GONE	Gonen-Balikesi	1.56	44	PN	Pn	23 21 09.5	+0.3
SMTH	Samothraki Isl	1.65	340	P	Pn	23 21 10.9	+0.5
SMTH	Samothraki Isl	1.65	340	P	Pn	23 21 10.9	+0.5
SMTH				S	Sg	23 21 33.4	-1.0
	comp=N,38nm,0.3s						
KRBG	Karabiga-Canak	1.67	28	PN	Pn	23 21 10.9	+0.3
KYMI	Kymi, Euboea I	1.73	261	P	Pn	23 21 11.5	0.0
KYMI				S	Sb	23 21 35.3	+0.3
	comp=N,72nm,0.2s						
ERIK	Erikli-Kesan	1.75	6	PN	Pn	23 21 12.5	+0.7
CAVK	Edirne/Enez-Ca	1.77	357	P	Pn	23 21 10.8	-1.3
AYDN	Tasoluk	1.78	135	P	Pn	23 21 12.5	+0.2
ENEZ	Enez	1.81	357	P	Pb	23 21 13.6	-1.0
ENEZ				S	Sb	23 21 36.9	-0.5
	comp=N,102nm,0.4s						
ENEZ	Enez	1.81	357	PN	Pb	23 21 13.7	-0.9
DURS	Dursunbey	1.83	68	P	Pn	23 21 13.0	0.0
MANT	Manisa	1.83	103	P	Pn	23 21 13.0	-0.2
MANT				S	Sb	23 21 38.5	+0.2
EDC	Edincik	1.88	40	PN	Pn	23 21 14.2	+0.7
RKY	Sarkoy-Tekirda	1.89	21	PN	Pn	23 21 14.2	+0.4
KULA	Kula-Manisa	1.91	102	P	Pn	23 21 14.6	+0.5
KULA				S	Sb	23 21 40.4	+0.1
KULA	Kula-Manisa	1.91	102	PN	Pn	23 21 14.7	+0.6
KESN	Edirne-Kesan	1.92	9	P	Pn	23 21 14.5	0.0
MAR6	Marsite Statio	1.93	23	PN	Pn	23 21 15.2	+0.9
APE	Apeiranthos	1.94	198	P	Pn	23 21 13.5	-1.1
ALN	Alexandroupoli	1.98	355	P	Pn	23 21 15.4	+0.5
ALN	Alexandroupoli	1.98	355	P	Pn	23 21 15.4	+0.5
ALN				S	Sb	23 21 41.8	-0.4
	comp=N,40nm,0.3s						
ALN	Alexandroupoli	1.98	355	PN	Pn	23 21 15.7	+0.8
MAR3	Marsite Statio	1.98	23	PN	Pn	23 21 15.9	+1.0
MLSB	Milas	2.01	144	PN	Pn	23 21 16.4	+1.0
BODT	Bodrum	2.03	156	PN	Pn	23 21 15.2	-0.5
BDRM	Kayabasi	2.07	153	P	Pn	23 21 15.3	-0.9
SIMA	Simav-Kutahya	2.11	85	PN	Pn	23 21 17.9	+1.0
UKOP	Uzunkopru-Edir	2.22	7	PN	Pn	23 21 19.2	+1.0
RDO	Rodhopi	2.29	346	P	Pn	23 21 20.0	+0.7
RDO	Rodhopi	2.29	346	P	Pn	23 21 20.1	+0.9
YER	Yerkesik	2.39	138	PN	Pn	23 21 21.8	+1.2
GEDZ	Gediz	2.44	86	PN	Pn	23 21 22.6	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	2.53	77	PN	Pn	23 21 23.4	+0.8
NVR	Nevrokopi	3.05	323	P	Pn	23 21 30.1	+0.4
NVR	Nevrokopi	3.05	323	P	Pn	23 21 30.3	+0.6

NEIC 10 23:42:19.5±0.4, 36°.29N±0°.01×97°.65W±0°.02, h4km±7km, mb_Lg3.1/69, Error ellipse: s-maj=2.0km s-min=1.5km az=66.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.88	170		Pg	23 42 35.5	-0.9
OKCSW	OKLAHOMA CITY	0.90	169	Pg	Pg	23 42 35.8	-0.8
FNO	Franklin	1.05	169	Pg	Pg	23 42 38.5	-1.1
U32A	Winter Ranch,	1.10	275		Pg	23 42 39.5	-1.1
T35A	Sooner Cattle	1.11	55		Pg	23 42 39.8	-1.0
W35A	Tecumseh	1.29	151		Pg	23 42 42.5	-1.8
TUL1	Leonard	1.55	104		Pn	23 42 46.7	-1.1
X34A	Smith Ranch, M	1.69	185	Pn	Pn	23 42 49.7	-0.1
X34A				IAmb_Lg		23 43 15.2	
	comp=Z,176nm,0.7s						
WMOK	Wichita Mounta	1.80	211	Pn	Pn	23 42 50.7	-0.6
WMOK				IAmb_Lg		23 43 19.2	
	comp=Z,97nm,0.8s						
R32A	Long Quarter,	2.29	339	Pn	Pn	23 42 57.9	-0.2
X37A	Clayton	2.51	132	Pn	Pn	23 43 01.0	-0.1
KSU1	Kansas State U	2.93	16	Pn	Pn	23 43 07.2	+0.4
Z35A	Perchaven, San	2.97	174	Pn	Pn	23 43 05.8	-1.5
HHAR	Hobbs	2.99	89	Pn	Pn	23 43 07.0	-0.7
CBKS	Cedar Bluff	3.02	327	Pg	Pb	23 43 14.8	+0.9
W39A	Magazine	3.33	108	IAmb_Lg		23 44 12.7	
	comp=Z,57nm,0.8s						
AMTX	Amarillo	3.57	248	Pn	Pn	23 43 15.8	+0.1
AMTX				IAmb_Lg		23 44 15.3	
	comp=Z,42nm,0.7s						
Z38A	Mt. Pleasant	3.73	143	Pn	Pn	23 43 17.3	-0.5
S39A	Bolivar	3.73	67		Pn	23 43 17.5	-0.4
S39A				IAmb_Lg		23 44 20.6	
	comp=Z,36nm,1.1s						
MIAR	Mount Ida	3.75	116	Pn	Pn	23 43 18.0	-0.1
MIAR				IAmb_Lg		23 44 27.1	
	comp=Z,31nm,0.7s						
U40A	Yellville	3.87	88	Pn	Pn	23 43 19.6	-0.2
X40A	Basin Creek Fa	4.32	113	IAmb_Lg		23 44 38.4	
	comp=Z,40nm,0.9s						
WHAR	Wooly Hollow	4.47	101	Pn	Pn	23 43 27.6	-0.3
WHAR				IAmb_Lg		23 44 50.0	
	comp=Z,46nm,0.8s						
W41B	Gary Mavity, V	4.53	103	Pn	Pn	23 43 28.9	+0.1
WLAR	White Oak Lake	4.54	124	Pn	Pn	23 43 28.1	-0.8
WLAR				IAmb_Lg		23 44 44.8	
	comp=Z,41nm,0.7s						
P38A	Dawn	4.66	43	IAmb_Lg		23 44 49.5	
	comp=Z,29nm,0.8s						
R40A	Maddies Statio	4.73	63	Pn	Pn	23 43 31.0	-0.5
R40A				IAmb_Lg		23 44 45.4	
	comp=Z,28nm,0.8s						
MSTX	Muleshoe	4.79	243	Pn	Pn	23 43 32.2	-0.4
KSCO	Kaye Shedlock'	4.80	306	Pn	Pn	23 43 32.2	-0.4
KSCO				IAmb_Lg		23 44 55.5	
	comp=Z,40nm,1.1s						
N35A	Tabor	4.83	18	Pn	Pn	23 43 31.8	-1.1
N35A				Pg	Pg	23 43 48.8	-3.2
BGNE	Belgrade	5.13	356	IAmb_Lg		23 45 14.8	
	comp=Z,50nm,0.8s						
NATX	Nacogdoches	5.15	150	Pn	Pn	23 43 37.2	-0.1
CCM	Cathedral Cave	5.41	69	IAmb_Lg		23 45 14.3	
	comp=Z,28nm,0.8s						
P40A	Paris	5.48	52	IAmb_Lg		23 45 16.8	
	comp=Z,40nm,0.9s						
435B	Jarrell	5.49	179	IAmb_Lg		23 45 14.2	
	comp=Z,31nm,0.9s						
OGNE	Ogallala	5.78	325	IAmb_Lg		23 45 33.0	
	comp=Z,37nm,0.9s						
PBMO	Poplar Bluff	5.83	83	IAmb_Lg		23 45 25.5	
	comp=Z,37nm,0.7s						
FVM	French Village	6.01	71	IAmb_Lg		23 45 41.7	
	comp=Z,21nm,0.9s						
JCT	Junction City	6.07	198	IAmb_Lg		23 45 40.5	
	comp=Z,28nm,0.7s						
143A	Socs Landing,	6.27	123	IAmb_Lg		23 45 51.9	
	comp=Z,17nm,0.9s						
SLM	Saint Louis	6.34	66	IAmb_Lg		23 45 41.4	
	comp=Z,42nm,1.0s						
Q24A	Divide	6.53	296	IAmb_Lg		23 45 46.6	
	comp=Z,25nm,0.8s						
S44A	Carbondale	6.86	76	IAmb_Lg		23 46 05.4	
	comp=Z,18nm,0.7s						
SIUC	Southern Illin	6.89	76	IAmb_Lg		23 45 56.2	
	comp=Z,17nm,0.8s						
OXF	Oxford	6.96	102	IAmb_Lg		23 46 14.9	
	comp=Z,35nm,1.1s						
P43A	Skaggs, Pawnee	7.24	60	IAmb_Lg		23 46 07.5	
	comp=Z,21nm,0.8s						
L40A	Anamosa	7.62	39	IAmb_Lg		23 46 22.5	
	comp=Z,23nm,0.8s						
PHWY	Pilot Hill	7.89	312	IAmb_Lg		23 46 39.5	
	comp=Z,14nm,1.0s						
N23A	Red Feather La	7.96	308	IAmb_Lg		23 46 42.9	
	comp=Z,16nm,0.8s						
OLIL	Olney	7.97	69	IAmb_Lg		23 46 42.2	
	comp=Z,30nm,1.1s						
L42A	Oliver, Polo	8.42	45	IAmb_Lg		23 46 45.5	
	comp=Z,22nm,0.8s						
JFWS	Jewell Farm	8.74	39	IAmb_Lg		23 47 05.0	
	comp=Z,15nm,0.7s						
I40A	Norwalk	9.31	33	IAmb_Lg		23 47 18.6	
	comp=Z,14nm,1.1s						
K22A	Casper	9.35	316	IAmb_Lg		23 47 30.6	
	comp=Z,20nm,1.0s						

*TUL **10** 23:47:24.6±1.0, 36°.28N±0°.01×97°.64W±0°.02, h6km±6km, ML3.2, mb_Lg3.0/72(NEIC), Error ellipse: s-maj=2.6km s-min=1.5km az=64.0*

NEIC 10 23:47:24.7±0.9, 36°.276N±0°.009×97°.64W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=87.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.87	170		Pg	23 47 41.5	0.0
OKCSW	OKLAHOMA CITY	0.89	169	Pg	Pg	23 47 41.6	-0.1
FNO	Franklin	1.04	169		Pg	23 47 44.3	-0.3
U32A	Winter Ranch,	1.10	276		Pg	23 47 45.4	-0.5
T35A	Sooner Cattle	1.11	55		Pg	23 47 45.5	-0.6
W35A	Tecumseh	1.28	151	Pn	Pn	23 47 48.3	-1.0
TUL1	Leonard	1.54	103	Pn	Pn	23 47 52.4	-0.5
X34A	Smith Ranch, M	1.68	185		Pb	23 47 55.8	-0.4
WMOK	Wichita Mounta	1.79	212		Pn	23 47 56.7	+0.3
WMOK				IAmb_Lg		23 48 25.0	
	comp=Z,77nm,0.9s						
R32A	Long Quarter,	2.31	339		Pn	23 48 03.7	+0.3
R32A				IAmb_Lg		23 48 41.9	
	comp=Z,46nm,0.8s						
X37A	Clayton	2.50	132		Pn	23 48 06.3	+0.2
U38A	Gravette	2.63	85	Pn	Pn	23 48 08.4	+0.5
KSU1	Kansas State U	2.94	16		Pn	23 48 12.1	0.0
Z35A	Perchaven, San	2.96	174	Pn	Pn	23 48 13.5	+1.1
HHAR	Hobbs	2.99	89		Pn	23 48 13.1	+0.2
CBKS	Cedar Bluff	3.03	327		Pb	23 48 20.8	+1.6
W39A	Magazine	3.32	108	Pn	Pn	23 48 18.1	+0.8
W39A				IAmb_Lg		23 49 18.5	
	comp=Z,62nm,0.8s						
AMTX	Amarillo	3.57	248	Pn	Pn	23 48 19.9	-0.9
AMTX				IAmb_Lg		23 49 21.1	
	comp=Z,30nm,0.7s						
Z38A	Mt. Pleasant	3.72	143	Pg	Pg	23 48 34.1	-1.9
S39A	Bolivar	3.74	67	Pn	Pn	23 48 23.3	+0.2
S39A				IAmb_Lg		23 49 27.9	
	comp=Z,27nm,0.7s						
MIAR	Mount Ida	3.74	116		Pn	23 48 23.9	+0.8
MIAR				IAmb_Lg		23 49 33.6	
	comp=Z,63nm,1.3s						
U40A	Yellville	3.87	87	Pn	Pn	23 48 24.5	-0.4
U40A				IAmb_Lg		23 49 27.7	
	comp=Z,41nm,0.7s						
ABTX	Abilene, Hawle	4.00	205	Pn	Pn	23 48 26.5	-0.2
WHTX	Lake Whitney,	4.28	178	Pn	Pn	23 48 31.2	+0.7
X40A	Basin Creek Fa	4.32	113		Pn	23 48 31.4	+0.3
X40A				IAmb_Lg		23 49 45.2	
	comp=Z,30nm,0.9s						
MGMO	Mountain Grove	4.41	77	Pn	Pn	23 48 32.1	-0.2
WHAR	Wooly Hollow	4.46	101		Pn	23 48 32.9	-0.1
WHAR				IAmb_Lg		23 49 54.9	
	comp=Z,44nm,0.8s						
FCAR	Ozark Folk Cen	4.49	93	Pn	Pn	23 48 33.7	+0.3
W41B	Gary Mavity, V	4.53	102		Pn	23 48 33.8	-0.1
W41B				IAmb_Lg		23 49 59.3	
	comp=Z,26nm,0.8s						
WLAR	White Oak Lake	4.53	123		Pn	23 48 33.3	-0.6
WLAR				IAmb_Lg		23 49 59.9	
	comp=Z,37nm,0.7s						
P38A	Dawn	4.66	43		Pn	23 48 35.2	-0.6
P38A				IAmb_Lg		23 49 52.5	
	comp=Z,33nm,0.7s						
R40A	Maddies Statio	4.73	63	Pn	Pn	23 48 36.6	-0.2
R40A				IAmb_Lg		23 49 51.2	
	comp=Z,23nm,0.7s						
MSTX	Muleshoe	4.79	243	Pn	Pn	23 48 37.3	-0.4
MSTX					Lg	23 49 59.4	
KSCO	Kaye Shedlock'	4.81	306	Pn	Pn	23 48 37.5	-0.4
KSCO				Pg	Pg	23 48 54.1	-2.7
KSCO				IAmb_Lg		23 50 03.0	
	comp=Z,24nm,0.8s						
N35A	Tabor	4.84	18	Pn	Pn	23 48 38.1	-0.1
N35A				Pg	Pg	23 48 54.2	-3.3
Z41A	Richland Creek	4.99	126	Pn	Pn	23 48 38.6	-1.7
Z41A				IAmb_Lg		23 50 13.1	
	comp=Z,31nm,0.7s						
BGNE	Belgrade	5.14	356	Pn	Pn	23 48 41.5	-0.9
BGNE				IAmb_Lg		23 50 21.0	
	comp=Z,36nm,0.8s						
LCAR	Lake Charles	5.25	90	Pn	Pn	23 48 44.1	+0.2
CCAR	Cane Creek	5.36	114	Pn	Pn	23 48 45.5	+0.2
CCM	Cathedral Cave	5.41	69	Pn	Pn	23 48 45.9	-0.2
CCM				IAmb_Lg		23 50 17.5	
	comp=Z,20nm,0.8s						
435B	Jarrell	5.48	179	IAmb_Lg		23 50 21.6	
	comp=Z,34nm,1.1s						
P40A	Paris	5.49	52	IAmb_Lg		23 50 22.5	
	comp=Z,34nm,0.9s						
L34A	Svendsen Farm,	5.77	9	IAmb_Lg		23 50 27.8	
	comp=Z,29nm,0.7s						
OGNE	Ogallala	5.79	325	IAmb_Lg		23 50 38.3	
	comp=Z,38nm,0.8s						
FVM	French Village	6.01	71	IAmb_Lg		23 50 47.4	
	comp=Z,19nm,0.9s						
JCT	Junction City	6.06	198	IAmb_Lg		23 50 45.2	
	comp=Z,22nm,0.7s						
SLM	Saint Louis	6.34	66	IAmb_Lg		23 50 43.8	
	comp=Z,32nm,0.7s						
Q24A	Divide	6.53	296	IAmb_Lg		23 50 52.3	
	comp=Z,24nm,0.9s						
S44A	Carbondale	6.86	76	IAmb_Lg		23 51 03.7	
	comp=Z,17nm,0.8s						
SIUC	Southern Illin	6.89	75	IAmb_Lg		23 51 08.7	
	comp=Z,16nm,0.8s						
W45A	Hickory Valley	6.97	97	IAmb_Lg		23 51 08.7	
	comp=Z,24nm,0.8s						
P43A	Skaggs, Pawnee	7.24	60	IAmb_Lg		23 51 13.6	
	comp=Z,21nm,0.8s						
PHWY	Pilot Hill	7.90	312	IAmb_Lg		23 51 45.3	
	comp=Z,13nm,1.0s						
WVT	Waverly	7.94	88	IAmb_Lg		23 51 58.1	
	comp=Z,15nm,1.0s						
N23A	Red Feather La	7.97	308	IAmb_Lg		23 51 48.7	
	comp=Z,14nm,0.8s						
SUSD	Miller	8.22	353	IAmb_Lg		23 52 04.5	
	comp=Z,15nm,0.9s						
I37A	Lemond, Waseca	8.38	21	IAmb_Lg		23 52 03.7	
	comp=Z,16nm,1.1s						
L42A	Oliver, Polo	8.43	45	IAmb_Lg		23 51 51.2	
	comp=Z,21nm,0.7s						
JFWS	Jewell Farm	8.74	38	IAmb_Lg		23 52 24.1	
	comp=Z,15nm,0.8s						

*SJA **10** 23:47:45.6±0.8, 24°.69S×71°.06W, h21km±4km, ML4.3, MW4.1*
*IDC **10** 23:47:45.8±0.8, 24°.72S×70°.44W, h0km, mb4.2/9, mb1 4.2/11, mb1mx4.0/34, mbtmp4.2/11, ML3.7/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/57, Error ellipse: s-maj=27.3km s-min=22.8km az=105.0*
*GUC **10** 23:47:50.1±0.6, 24°.77S×70°.64W, h36km, ML4.0*
*NEIC **10** 23:47:51.3, 24°.70S×70°.84W, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.25; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-1.44; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.00; $M_{\phi r}$-0.00; Fault plane solution: $M_0$1.43000×10^{15} NP1:ϕ_s19.08000°, δ48.34000°, λ117.36000°. NP2:ϕ_s161.18000°, δ48.43000°, λ62.68000°. Principal axes: T 1.4177, Plg70.0000°, Azm0.0000°; N 0.0253, Plg20.0000°, Azm180.0000°; P -1.4429, Plg0.0000°, Azm270.0000°;*
*NEIC **10** 23:47:51.2±3.0, 24°.73S±0°.04×70°.88W±0°.08, h36km±7km, mb4.5/6, Mwr4.0/25, ML4.0(GUC) Error ellipse: s-maj=11.1km s-min=2.4km az=61.0*
*VAO **10** 23:48:12.2±1.1, 23°.23S×69°.90W, h100km, mb4.2*
ISC 10 23:47:45.6±1.5, 24°.68S±0°.02×71°.04W±0°.05, h2km±9km, n113, σ2^s.10/132, mb4.3/11, 4C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.58	85	eP	Pg	23 47 57.5	+0.9
PB14				eS	Sg	23 48 02.3	-1.9
PB14				IAML		23 48 02.5	
	comp=Z,37µm,0.1s						
PB10	IPOC Station P	1.24	21		Pn	23 48 11.8	+1.8
PB10	IPOC Station P	1.24	21	⇑iP	Pn	23 48 11.8	+1.8
PB10				iS	Sn	23 48 27.9	+0.6
PB10				IAML		23 48 33.4	
	comp=E,2µm,0.7s						
PB10	IPOC Station P	1.24	21	eP	Pg	23 48 07.8	-1.5
PB10				eS	Pb	23 48 11.9	+2.2
AC01	Pan de Azucar	1.52	165		Pn	23 48 13.8	0.0
AC01	Pan de Azucar	1.52	165	⇑eP	Pn	23 48 13.8	0.0
AC01				iS	Sn	23 48 31.9	-2.3
AC01				IAML		23 48 33.8	
	comp=N,3µm,0.6s						
AC01	Pan de Azucar	1.52	165	eP	Pn	23 48 13.8	0.0
AC01				eS	Sn	23 48 33.3	-0.9
PB15	IPOC Station P	2.05	45	eP	Pn	23 48 22.1	+0.8
PB15				eS	Sn	23 48 48.1	+0.6
PB15				eS	Sb	23 48 48.6	-1.0
PB15				IAML		23 48 51.5	
	comp=Z,5µm,0.5s						
PB06	IPOC Station P	2.38	35	eP	Pn	23 48 26.8	+1.0
PB06				eS	Sn	23 48 55.1	-0.5
PB06				IAML		23 49 05.8	
	comp=Z,1µm,0.5s						
PB04	IPOC Station P	2.47	19	eP	Pn	23 48 28.3	+1.2
PB04				eS	Sn	23 48 58.1	+0.2
PB04				eS	Sg	23 49 04.6	-0.4
PB04				IAML		23 49 18.8	
	comp=Z,858nm,0.6s						
AC06	Mina Casimiro	2.74	167		Pn	23 48 31.1	+0.5
AC06	Mina Casimiro	2.74	167	eP	Pn	23 48 31.1	+0.5
AC06				iS	Sn	23 49 01.5	-2.8
AC06				IAML		23 49 15.6	
	comp=E,790nm,0.1s						
AC02	Maricunga	2.75	142		Pn	23 48 31.9	+0.7
AC02	Maricunga	2.75	142	⇑iP	Pn	23 48 32.0	+0.7
AC02				iS	Sn	23 49 00.9	-4.5
AC02				IAML		23 49 05.8	
	comp=E,2µm,0.6s						
AC02	Maricunga	2.75	142	eP	Pn	23 48 31.9	+0.7
AC02				eS	Sn	23 49 05.7	+0.4
AC02				IAML		23 49 10.4	
	comp=Z,881nm,0.4s						
LVC	Limon Verde	2.83	44	Pn	Pn	23 48 33.1	+0.9
	comp=Z,68nm,0.3s,baz=218,slow=10,SNR=217						
LVC				Sn	Sn	23 49 08.3	+1.1
	comp=Z,223nm,0.3s,baz=310,slow=8.7,SNR=18						
LVC				LR	LR	23 49 38.8	
	comp=Z,378nm,19.0s,baz=212,slow=45						
LVC	Limon Verde	2.83	44		Pn	23 48 33.5	+1.2
LVC	Limon Verde	2.83	44	⇑iP	Pn	23 48 33.3	+1.0
LVC	Limon Verde	2.83	44	eP	Pn	23 48 33.5	+1.2
LVC	Limon Verde	2.83	44	eP	Pn	23 48 33.5	+1.2
LVC				eS	Sn	23 49 08.8	+1.5
LVC				IAML		23 49 19.6	
	comp=Z,628nm,0.9s						
GO03	Copiap	2.99	166		Pn	23 48 34.2	+0.1
GO03	Copiap	2.99	166	eP	Pn	23 48 34.3	+0.1
GO03	Copiap	2.99	166	eP	Pn	23 48 34.6	+0.5
GO03				eS	Sn	23 49 08.6	-2.1
PB09	IPOC Station P	3.31	30	eP	Pn	23 48 40.4	+1.7
PB09				eS	Sn	23 49 19.6	+1.0
PB09				IAML		23 49 31.9	
	comp=Z,584nm,0.6s						
AC04	Llanos de Chal	3.51	181		Pn	23 48 40.5	-0.9
AC04	Llanos de Chal	3.51	181	eP	Pn	23 48 40.4	-0.9
AC04	Llanos de Chal	3.51	181	eP	Pn	23 48 31.2	-10
AC04				eP	Pn	23 48 40.4	-0.9
AC04				eS	Sb	23 49 28.6	-3.0
PB01	IPOC Station P	3.89	22	eP	Pn	23 48 47.7	+1.2
PB01				eS	Sb	23 49 40.6	-2.0
PB01				IAML		23 49 51.3	
	comp=Z,315nm,0.7s						
PATCX	Punta Patache	3.92	12		Pn	23 48 48.7	+1.7
PATCX	Punta Patache	3.92	12	eP	Pn	23 48 47.7	+0.7
PATCX				eP	Pn	23 48 47.9	+0.9
PATCX				eP	Pn	23 48 48.4	+1.4
PATCX				eP	Pn	23 48 48.9	+1.9
PATCX				eS	Sn	23 49 30.6	-3.1
PATCX				IAML		23 49 59.1	
	comp=Z,281nm,1.0s						
TA01	Diego Aracena	4.17	11	Pn	Pn	23 48 51.5	+1.2
TA01	Diego Aracena	4.17	11	eP	Pn	23 48 51.1	+0.9
TA01				IAML		23 50 03.3	
	comp=Z,226nm,0.9s						
LCO	Las Campanas	4.33	176		Pn	23 48 55.0	+2.3
LCO	Las Campanas	4.33	176	eP	Pn	23 48 52.0	-0.7
TA02	Huaiquique	4.46	11	Pn	Pn	23 48 56.7	+2.4
VCA	Vinchina	4.77	149	eP	Pn	23 49 01.0	+2.3
VCA				eS	Sb	23 50 10.1	+2.1
VCA				IAML		23 50 11.7	
	comp=Z,105nm,0.7s						
VCA				eS	Sb	23 50 11.9	+3.9
PB08	IPOC Station P	4.84	21	eP	Pn	23 49 00.9	+1.0
PB08				eS	Sb	23 50 04.6	-5.6
PB08				IAML		23 50 22.2	
	comp=Z,254nm,1.1s						
PB11	IPOC Station P	5.06	15	eP	Pn	23 49 03.3	+0.6
PB11				eS	Sb	23 50 13.6	-2.7
PB11				IAML		23 50 37.3	
	comp=Z,328nm,0.8s						
GO01	Chusmiza	5.27	19		Pn	23 49 06.9	+1.0
GO01	Chusmiza	5.27	19	eP	Pn	23 49 07.0	+1.2
HJA	Humahuaca	5.35	75	eP	Pn	23 49 09.4	+2.5
GO04	Tololo Observa	5.48	178		Pn	23 49 09.3	+0.8
AHML	Horco Molle	5.55	113	eP	Pn	23 49 11.4	+2.1
AHML	Horco Molle	5.55	113	eP	Pn	23 49 12.1	+2.8
AHML				eP	Pn	23 49 13.0	+3.6
AHML				eS	Sb	23 50 32.6	+2.1
AROD	Rodeo	5.64	166	eP	Pn	23 49 13.0	+2.2
CO06	Fray Jorge	6.00	185	Pn	Pn	23 49 14.1	-1.3
PB12	IPOC Station P	6.07	6	Pn	Pn	23 49 17.6	+1.1
PB12	IPOC Station P	6.07	6	eP	Pn	23 49 18.0	+1.5
PB12				eS	Sn	23 50 25.4	-1.3
ACCO	Cerro Coronel	6.14	164	eP	Pn	23 49 19.9	+2.2
ACCO				eS	Sb	23 50 41.1	-6.5
CO03	El Pedregal	6.14	177		Pn	23 49 17.9	+0.4
PB16	IPOC Station P	6.47	13		Pn	23 49 24.0	+1.5
CO02	Combarbal	6.50	180	Pn	Pn	23 49 23.9	+1.5
AVFE	Valle Fertil	6.75	153	eP	Pn	23 49 26.1	+0.3
ZON	Zonda	7.15	164	Pn	Pn	23 49 34.9	+3.6
ACHE	Chepes	7.53	150	eP	Pn	23 49 37.0	+0.4
VA06	Catapilco	7.86	182	Pn	Pn	23 49 43.5	+2.6
VA03	San Esteban	8.07	177	Pn	Pn	23 49 47.0	+3.0
LPAZ	La Paz	8.78	19	Pn	Pn	23 49 52.2	-2.0
	comp=Z,0.1nm,0.3s,baz=180,slow=3.0,SNR=1.7						
LPAZ				LR	LR	23 53 36.3	
	comp=Z,128nm,21.8s,baz=236,slow=40						
LPAZ	La Paz	8.78	19		Pn	23 49 56.9	+2.7
LPAZ	La Paz	8.78	19	eP	Pn	23 49 55.1	+0.9
MT09	Talagante	9.07	180	Pn	Pn	23 50 00.2	+2.5
MT01	Popeta	9.16	181	Pn	Pn	23 50 02.0	+3.2
BO02	Sierra Bellavi	10.08	179	Pn	Pn	23 50 14.6	+3.0
GO05	Huala	10.33	184	Pn	Pn	23 50 15.8	+0.9
H03N1	Juan Fernandez	11.12	216	Pn	Pn	23 50 26.6	+1.2
	baz=106,slow=15,SNR=13						
H03N1				T	T	00 02 03.2	
	baz=44,slow=72,SNR=871						
H03N2	Juan Fernandez	11.13	217	Pn	Pn	23 50 27.4	+1.9
	baz=106,slow=15,SNR=5.6						
H03N2				T	T	00 02 08.9	
	baz=44,slow=72,SNR=708						
H03N3	Juan Fernandez	11.14	216	Pn	Pn	23 50 27.1	+1.4
	baz=106,slow=15,SNR=16						
H03N3				T	T	00 02 01.5	
	baz=44,slow=72,SNR=1047						
H03S3	Juan Fernandez	11.41	215	T	T	00 02 22.0	
	baz=41						
H03S1	Juan Fernandez	11.42	215	T	T	00 02 23.4	
	baz=41						
H03S2	Juan Fernandez	11.43	215	T	T	00 02 20.7	
	baz=41						
CPUP	Villa Florida	12.49	100	LR	LR	23 55 48.1	
	comp=Z,82nm,21.4s,baz=248,slow=40						
SIV	San Ignacio	12.72	49	Pn	Pn	23 50 43.6	-4.1
	comp=Z,2.7nm,0.3s,baz=231,slow=11,SNR=58						
SIV				Sn	Sn	23 53 04.1	-6.0
	comp=Z,0.2nm,0.3s,baz=251,slow=18,SNR=2.4						
PTLB	Pontes e Lacer	14.46	53	eP	Pn	23 51 11.0	-0.4
AQDB	Aquidauana	14.77	77	eP	P	23 51 18.9	-2.9
ETMB	Extrema	15.48	18	eP	Pn	23 51 22.7	-2.4
PLCA	Paso Flores	16.02	179	LR	LR	23 57 51.2	
	comp=Z,118nm,18.2s,baz=28,slow=38						
PLTB	Pedras Altas	16.90	119		Pn	23 51 40.6	-2.7
PTGB	Pitanga	17.24	94	eP	P	23 51 57.2	+7.8
PDRB	Porto dos Gac	18.78	49	eP	P	23 52 04.5	-1.9
ITRB	Iturama	19.77	80	eP	Pn	23 52 20.9	+2.3
CLDB	Colider	19.95	49	eP	P	23 52 17.1	-2.1
TER01	Tubaro-SC	19.95	106	eP	Pn	23 52 30.8	+10
NPGB	Novo Progresso	23.08	43	eP	P	23 52 50.4	-2.5
BDFB	Brasilia	23.38	72	P	P	23 52 50.0	-5.9
	comp=Z,2.3nm,0.5s,baz=233,slow=15,SNR=4.8						
ITTB	Itaituba	24.99	39	eP	P	23 53 09.6	-1.3
JANB	Januaria	26.85	74	eP	P	23 53 31.5	+3.7
SMTB	Santa Maria do	27.34	59	eP	P	23 53 32.3	0.0
PRPB	Parauapebas	27.43	51	eP	P	23 53 33.9	+0.8
ROSC	El Rosal	29.51	353	P	P	23 53 52.8	+0.8
	comp=Z,5.6nm,0.3s,baz=223,slow=23,SNR=2.1						
GUA01	Guaratinga, BA	30.26	81	eP	P	23 54 02.4	+4.1
S39A	Bolivar	65.48	341	P	P	23 58 32.1	+1.9
S39A				IAmb	IAmb	23 58 32.8	
	comp=Z,3.9nm,0.8s						
R40A	Maddies Statio	65.73	342	P	P	23 58 33.5	+1.7
VNDA	Vanda	73.39	190	P	P	23 59 19.5	+0.8
	comp=Z,0.6nm,0.3s,baz=48,slow=6.7,SNR=2.7						
PDAR	Pinedale Array	75.92	332	P	P	23 59 36.4	+2.3
	comp=Z,0.3nm,0.8s,baz=124,slow=7.9,SNR=2.5						
PDAR	Pinedale Array	75.92	332	P	P	23 59 35.7	+1.6
ULM	Lac du Bonnet	77.78	344	P	P	23 59 45.2	+1.2
	comp=Z,1.5nm,0.6s,baz=162,slow=9.1,SNR=3.3						
SCHQ	Schefferville	79.27	2	P	P	23 59 52.9	+0.7
	comp=Z,0.7nm,0.5s,baz=210,slow=4.8,SNR=6.1						
TOA0	Torodi Ar. Sit	80.26	71	P	P	23 59 56.7	-1.7
TOA0				IAmb	IAmb	23 59 57.4	
	comp=Z,5.4nm,0.7s						
TORD	Torodi Ar. Bea	80.26	71	P	P	23 59 56.2	-2.2
	comp=Z,3.5nm,0.5s,baz=260,slow=5.1,SNR=41						
TORD	Torodi Ar. Bea	80.26	71	P	P	23 59 56.7	-1.7
TORD				IAmb	IAmb	23 59 57.4	
	comp=Z,3.5nm,0.7s						
BOSA	Boshof	83.67	118	P	P	00 00 14.7	-1.8
	comp=Z,6.6nm,1.3s,baz=221,slow=6.5,SNR=3.7						
YKA	Yellowknife Ar	93.54	341	P	P	00 01 03.4	+0.8
	comp=Z,0.5nm,0.7s,baz=137,slow=4.8,SNR=8.3						
ASAR	Alice Springs	126.20	209	PKP	PKPdf	00 06 50.6	0.0
	comp=Z,0.4nm,0.6s,baz=109,slow=1.1,SNR=5.6						
H11S2	WAKE ISLAND Hy	126.28	275	T	T	02 26 18.6	
	baz=108,slow=75,SNR=137						
H11S1	WAKE ISLAND Hy	126.29	275	T	T	02 26 22.0	
	baz=108,slow=75,SNR=172						
H11S3	WAKE ISLAND Hy	126.30	275	T	T	02 26 20.6	
	baz=108,slow=75,SNR=179						
H11N3	WAKE ISLAND Hy	126.45	277	T	T	02 26 34.4	
	baz=107,slow=75,SNR=25						
H11N1	WAKE ISLAND Hy	126.47	277	T	T	02 26 35.7	
	baz=107,slow=75,SNR=23						
H11N2	WAKE ISLAND Hy	126.47	277	T	T	02 26 36.3	
	baz=107,slow=75,SNR=24						
WRA	Warramunga Arr	129.24	211	PKP	PKPdf	00 06 56.6	+0.2
	comp=Z,0.3nm,0.5s,baz=152,slow=1.7,SNR=8.1						
ZALV	Zalesovo Beam	145.65	25	PKPbc	PKPbc	00 07 25.6	+0.1
	comp=Z,3.9nm,0.7s,baz=320,slow=4.4,SNR=21						
MKAR	Makanchi Array	149.34	37	PKPbc	PKPbc	00 07 36.1	0.0
	comp=Z,2.0nm,0.8s,baz=317,slow=2.6,SNR=21						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	156.80	4	PKPab	PKPab	00 08 13.5	+1.3
	comp=Z,0.6nm,0.8s,baz=338,slow=3.5,SNR=5.5						

WEL 10 23:49:14.6±0.3, 41˚S±3˚×17˚5E±˚, h27km±3km, M3.2/22, ML3.5/22, MLv3.2/22, Error ellipse: s-maj=0.0km s-min=0.0km az=150.8, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOWZ	Holdsworth Sta	0.12	81	P	Pn	23 49 21.3	+0.4
HOWZ				S	Sb	23 49 25.7	+2.6
OGWZ	Otaki Gorge	0.17	305	P	Pn	23 49 21.7	+0.2
OGWZ				S	Sb	23 49 26.3	+2.4
MTW	Mount Morrison	0.27	156	P	Pn	23 49 22.8	0.0
MTW				S	Sn	23 49 28.6	+0.6
CAW	Cannon Point	0.29	229	P	Pn	23 49 23.1	0.0
CAW				S	Sn	23 49 28.7	0.0
MRZ	Mangatainoka R	0.31	34	P	Pn	23 49 23.1	-0.3
MRZ				S	Sn	23 49 29.0	0.0
KIW	Kapiti Island	0.34	279	P	Pn	23 49 23.8	-0.1
TIWZ	Tintock	0.43	71	P	Pn	23 49 24.8	-0.3
TMWZ	Te Maipa	0.45	115	P	Pn	23 49 25.2	-0.1
PAWZ	Paruwai Farm	0.47	173	P	Pn	23 49 25.5	-0.2
MSWZ	Moikau Station	0.51	189	P	Pn	23 49 25.8	-0.3
TRWZ	Traveller	0.54	153	P	Pn	23 49 26.8	+0.2
WEL	Wellington	0.58	230	P	Pn	23 49 27.1	+0.1
PRWZ	Pori Road	0.59	53	P	Pn	23 49 27.3	0.0
POWZ	Post Office Ro	0.61	31	P	Pn	23 49 27.4	-0.2
BHW	Baring Head	0.61	216	P	Pn	23 49 27.5	0.0
CPWZ	Castlepoint	0.64	90	P	Pn	23 49 28.4	+0.4
PLWZ	Palliser	0.66	187	P	Pb	23 49 27.7	+0.1
OHWZ	Ohakea	0.71	357	P	Pn	23 49 29.8	+0.9
BFZ	Birch Farm	0.71	71	P	Pb	23 49 28.6	+0.1
TCW	Tory Channel	0.87	250	P	Pn	23 49 31.2	+0.2
DVHZ	Dannevirke	0.87	45	P	Pb	23 49 30.6	-0.5
ANWZ	Angora Road	0.96	62	P	Pn	23 49 31.8	-0.6
TSZ	Takapari Road	0.97	29	P	Pn	23 49 32.5	-0.1
DUWZ	D'Urville Isla	1.09	276	P	Pb	23 49 34.7	-0.2
TUWZ	Tuamarina	1.18	244	P	Pn	23 49 35.3	-0.2
WPHZ	Waipukurau	1.19	45	P	Pn	23 49 35.2	-0.3
PNHZ	Pukenui	1.19	33	P	Pn	23 49 35.2	-0.3
WAZ	Wanganui	1.19	346	P	Pb	23 49 37.9	+1.3
BSWZ	Blackbirch Sta	1.37	234	P	Pn	23 49 37.7	-0.3
KRHZ	Kereru	1.49	32	P	Pn	23 49 39.2	-0.5
BHHZ	Black Hill Sta	1.52	21	P	Pn	23 49 40.2	+0.1
NNZ	Nelson	1.52	258	P	Pn	23 49 40.4	+0.4
MOVZ	Moawhango	1.54	12	P	Pn	23 49 40.7	+0.3
WNVZ	Wahianoa	1.60	7	P	Pn	23 49 42.1	+0.8
KAHZ	Kahuranaki	1.61	47	P	Pn	23 49 40.8	-0.6
TRVZ	Turoa	1.62	5	P	Pn	23 49 42.7	+1.0
PKVZ	Pokaka	1.62	360	P	Pb	23 49 43.1	-0.8
LREZ	Lake Rotokare	1.63	333	P	Pb	23 49 46.2	+2.3
WHVZ	Whangaehu Hut	1.64	6	P	Pn	23 49 43.0	+1.1
DRZ	Dome Shelter	1.65	6	P	Pb	23 49 44.0	-0.5
TUVZ	Tukino	1.66	8	P	Pb	23 49 43.4	-1.2
FWVZ	Far West T-bar	1.67	5	P	Pn	23 49 43.4	+1.1
KWHZ	Kaweka Forest	1.70	29	P	Pn	23 49 42.0	-0.6
SNVZ	South Ngauruho	1.74	7	P	Pn	23 49 44.2	+1.0
NGZ	Ngauruhoe	1.75	6	P	Pn	23 49 44.5	+1.2
OTVZ	Oturere	1.77	8	P	Pn	23 49 44.5	+0.9
NNVZ	North Ngauruho	1.79	6	P	Pn	23 49 45.3	+1.3
WTVZ	West Tongariro	1.81	6	P	Pn	23 49 45.4	+1.3
TKNZ	Takaka Hill	1.82	266	P	Pn	23 49 44.6	+0.5
TMVZ	Te Maari	1.82	9	P	Pn	23 49 45.4	+1.1
NTVZ	North Tongarir	1.83	8	P	Pn	23 49 45.4	+1.0
TWVZ	Taurewa	1.84	2	P	Pn	23 49 45.4	+0.8
VRZ	Vera Road	1.85	345	P	Pb	23 49 47.0	-0.7
NEZ	North Egmont	1.91	329	P	Pb	23 49 50.8	+2.0
KHEZ	Kahui Hut	1.92	327	P	Pb	23 49 49.2	+0.3
BKZ	Black Stump Fm	1.95	27	P	Pn	23 49 45.2	-0.8
KATZ	Kakaramea	1.96	8	P	Pn	23 49 47.7	+1.5
PKE	Pukeiti	2.02	328	P	Pb	23 49 51.5	+1.0
MRNZ	Matariki Terra	2.02	255	P	Pn	23 49 47.6	+0.7
KHZ	Kahutara	2.02	222	P	Pn	23 49 45.7	-1.3
THZ	Tophouse	2.03	245	P	Pn	23 49 46.5	-0.6
NMHZ	Naumai	2.13	32	P	Pn	23 49 47.8	-0.8
QRZ	Quartz Range	2.15	271	P	Pn	23 49 49.0	+0.4
HIZ	Hauiti	2.43	351	P	Pb	23 49 56.4	-1.2
SNGZ	Shannon Statio	2.62	36	P	Pn	23 49 53.8	-1.5
DSZ	Denniston Nort	2.80	252	P	Pn	23 49 57.6	-0.1
LTZ	Lake Taylor	2.96	230	P	Pn	23 49 58.6	-1.4
OKCZ	Okains Bay	3.28	210	P	Pn	23 50 02.0	-2.3
TMZ	Timaru	4.72	221	P	Pn	23 50 22.5	-1.6

MDD 10 23:50:54.9±1.1, 35˚43N×3˚92W, h2km±10km, mb_Lg2.3/5, Error ellipse: s-maj=10.9km s-min=6.2km az=164.0
CNRM 10 23:50:54.7, 35˚62N×3˚82W, h10km, ml2.5
ISC 10 23:50:54.8±1.4, 35˚50N±0˚03×3˚87W±0˚03, h5km±12km, n14, σ0˚75/28, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.29	190	P	Pb	23 51 01.9	-0.7
PALE				S	Sg	23 51 05.4	+1.1
GOG	Mont Gurugu	0.77	111	P	Pg	23 51 09.2	-0.4
GOG				S	Sg	23 51 19.8	+0.1
EMEL	Melilla	0.78	105	Pg	Pg	23 51 09.7	0.0
EMEL				Sg	Sg	23 51 20.6	+0.8
EALB	Alboran	0.81	57	Pg	Pb	23 51 10.9	-0.6
EALB				Sg	Sb	23 51 22.6	0.0
EALB				i Vmb_Lg		23 51 31.0	
SMIR	Smir Dam	1.24	279	P	Pn	23 51 18.9	0.0
SMIR				S	Sn	23 51 35.6	-0.4
EMIJ	Mijas	1.28	326	Pn	Pb	23 51 20.0	+0.4
EMIJ				Sn	Sb	23 51 36.5	+0.1
ELGU	Los Guajares,	1.38	8	Pn	Pn	23 51 20.2	-0.6
ELGU				Sn	Sn	23 51 40.7	+1.2
ELGU				i Vmb_Lg		23 52 04.5	
TAF	Taforalt	1.38	119	P	Pb	23 51 21.1	-0.1
TAF				S	Sg	23 51 39.4	+0.2
JBK	JBK	1.59	137	P	Pn	23 51 24.2	+0.4
JBK				S	Sb	23 51 45.2	0.0
EBER	Berja	1.60	30	Pn	Pn	23 51 23.8	-0.3
EBER				Sn	Sb	23 51 45.3	-0.4
EBER				i Vmb_Lg		23 52 03.2	
EGOR	Sierra Gorda,	1.61	353	Pn	Pb	23 51 24.9	-0.4
EGOR				Sn	Sb	23 51 46.1	+0.1
EGOR				i Vmb_Lg		23 51 57.1	
EQES	Quesada	2.38	15	Pn	Pn	23 51 34.0	-0.7
EQES				Sn	Sn	23 52 05.1	+0.7
EQES				i Vmb_Lg		23 52 13.5	
MD31	MD31	2.73	196	P	Pn	23 51 41.1	+1.7
MD31				S	Sb	23 52 17.5	-0.6
MDT	Midelt	2.75	193	P	Pb	23 51 42.6	-1.9
MDT				S	Sb	23 52 18.8	+0.2

NAO 10 23:53:04.3±1.0, 76˚89N×18˚41E, h14km±9km, ML2.6
IEPN 10 23:53:05.0, 76˚88N×18˚52E, h10km
BER 10 23:53:06.6±3.5, 76˚90N×18˚39E, h23km±19km, ML2.3, ML2.6(NAO), Confirmed Earthquake
KOLA 10 23:53:12.2, 76˚52N×19˚54E, h0km, ML2.1
ISC 10 23:53:04.9±1.2, 76˚86N±0˚04×18˚49E±0˚05, h29km±14km, n26, σ2˚30/51, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.69	284	Pg	Pb	23 53 17.6	-0.7
HSPB				Lg	Lg	23 53 26.1	
HSPB	Hornsund (broa	0.69	284	eP	Pb	23 53 17.6	-0.7
HSPB				eS	Sb	23 53 26.1	-1.3
HSPB				i		23 53 30.4	
HSPB				IAML		23 53 30.8	
	comp=Z,56nm,0.2s						
HSPB	Hornsund (broa	0.69	284	⇑iP	Pb	23 53 17.4	-0.9
HSPB				i S	Sb	23 53 25.9	-1.5
SPA0	Spitsbergen Ar	1.41	342	Pn	Pn	23 53 28.9	+0.4
	baz=154,slow=18						
SPA0				Pg	Pb	23 53 29.8	-0.6
	baz=148,slow=22						
SPA0				Lg	Lg	23 53 46.6	
	baz=154,slow=37						
SPA0	Spitsbergen Ar	1.41	342	Pn	Pn	23 53 28.9	+0.4
	baz=154,slow=18						
SPA0				Pg	Pb	23 53 29.8	-0.6
	baz=148,slow=22						
SPA0				Sg	Sn	23 53 46.6	+0.6
	baz=154,slow=37						
SPA0	Spitsbergen Ar	1.41	342	⇑iP	Pn	23 53 28.9	+0.4
SPA0				i S	Sn	23 53 47.0	+1.0
BRBA	Barentsburg A	1.53	324	Pn	Pn	23 53 31.2	+1.1
BRBA				Pg	Pn	23 53 32.2	+2.1
BRBA				Lg	Lg	23 53 51.7	
BRBA	Barentsburg A	1.53	324	eP	Pn	23 53 32.3	+2.1
BRBA				eSg	Sb	23 53 51.3	0.0
BRBA				IAML		23 53 55.2	
	comp=Z,89nm,0.5s						
HOPEN	Hopen	1.55	100	Pn	Pn	23 53 32.2	+1.7
HOPEN				Sn	Sn	23 53 51.6	+2.0
HOPEN				Lg	Lg	23 53 55.6	
HOPEN	Hopen	1.55	100	eP	Pn	23 53 32.2	+1.7
HOPEN				eS	Sn	23 53 51.8	+2.3
HOPEN				IAML		23 53 59.8	
	comp=Z,68nm,0.3s						
HOPEN	Hopen	1.55	100	eP	Pn	23 53 32.1	+1.7
HOPEN				eS	Sn	23 53 51.5	+2.0
BRBB	Barentsburg B	1.55	325	Pn	Pn	23 53 31.4	+0.9
BRBB				Pg	Pb	23 53 32.5	-0.3
BRBB				Lg	Lg	23 53 51.8	
BRBB	Barentsburg B	1.55	325	eP	Pn	23 53 31.4	+0.9
BRBB				⇓ePg	Pb	23 53 32.6	-0.3
BRBB				eSg	Sb	23 53 51.9	-0.2
BJO1	Bjornoya	2.37	177	Pn	Pn	23 53 42.9	+1.1
BJO1				Lg	Lg	23 54 20.1	
BJO1	Bjornoya	2.37	177	eSg	Sb	23 54 20.7	+5.1
BJO1				IAML		23 54 28.1	
	comp=Z,23nm,0.5s						
BJO1	Bjornoya	2.37	177	P	Pn	23 53 42.5	+0.7
BJO1				eS	Sn	23 54 10.9	+1.1
KBS	Kingsbay	2.49	330	Pn	Pn	23 53 43.1	-0.3
KBS				Pg	Pb	23 53 49.5	+0.6
KBS				Lg	Lg	23 54 20.6	
KBS	Kingsbay	2.49	330	eP	Pn	23 53 43.4	-0.1
KBS				ePg	Pb	23 53 49.2	+0.4
KBS				eSg	Sb	23 54 20.2	+1.1
KBS				IAML		23 54 30.4	
	comp=Z,49nm,0.5s						
KBS	Kingsbay	2.49	330	eP	Pn	23 53 43.3	-0.1
KBS				S	Sn	23 54 12.6	-0.2
ZFI	Zemlya Franca-	6.82	41	eP	Pn	23 54 43.5	+0.8
ZFI				eS	Sn	23 55 54.0	-5.2
ZFI2	Zemlya Franca-	6.82	41	eP	Pn	23 54 43.3	+0.6
ZFI2				eS	Sn	23 55 54.2	-4.9
	comp=Z,11nm,2.8s						
ARA0	ARCESS Array S	7.63	161	Pn	Pn	23 54 54.5	+0.6
	baz=356,slow=14						
ARA0				Sn	Sn	23 56 14.3	-4.9
	baz=356,slow=22						
ARA0	ARCESS Array S	7.63	161	Pn	Pn	23 54 54.5	+0.6
	baz=356,slow=14						
ARA0				Sn	Sn	23 56 14.3	-4.9
	baz=356,slow=22						
ARCES	ARCESS Array B	7.63	161	P	Pn	23 54 57.2	+3.4
ARCES				S	Sn	23 56 15.4	-3.8
PRVG	Vayda Guba	8.13	144	P	Pn	23 55 03.1	+2.4
PRVG				S	Sn	23 56 27.5	-3.9
TERR	Teriberka	9.04	139	S	Sn	23 56 48.6	-5.3

NEIC 11 00:17:37.4±1.5, 16˚39S±0˚08×174˚0W±0˚1, h94km±10km, mb4.1/7, Error ellipse: s-maj=17.3km s-min=11.3km az=84.0
IDC 11 00:17:38.2±3.7, 15˚46S×174˚67W, h80km±48km, mb3.2/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=166.1km s-min=24.0km az=148.0
ISC 11 00:17:36.9±0.8, 16˚39S±0˚06×173˚91W±0˚10, h100km, n16, σ1˚34/19, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.21	40	P	Pn	00 18 26.3	+0.7
	20nm,0.3s,baz=210,slow=1.9,SNR=3.8						
AFI				S	Sn	00 19 00.6	-2.5
	48nm,0.3s,baz=53,slow=22,SNR=13						
AFI	Afiamalu	3.21	40		Pn	00 18 26.6	+1.0
AFI					Sn	00 19 01.9	-1.3
NIUE	Niue	4.64	126	Pn	Pn	00 18 46.3	+1.6
NIUE				Sn	Sn	00 19 35.3	-2.2
KNTN	Kanton	13.70	9	Pn	Pn	00 20 46.5	-0.5
THZ	Tophouse	27.72	202	P	P	00 23 15.4	-0.5
KHZ	Kahutara	28.08	200	P	P	00 23 17.4	-1.5
KHZ				IAmb	IAmb	00 23 24.1	
	comp=Z,34nm,1.2s						
WR0	Warramunga Arr	48.96	258		P	00 26 13.1	-0.4
WR0				IAmb	IAmb	00 26 19.7	
	comp=Z,1.8nm,1.1s						
WB0	Warramunga Arr	49.11	258	P	P	00 26 14.5	-0.2
WB0				IAmb	IAmb	00 26 23.3	
	comp=Z,1.5nm,0.9s						
WB2	Warramunga Arr	49.14	258	P	P	00 26 14.1	-0.8
WB2				IAmb	IAmb	00 26 17.1	
	comp=Z,4.3nm,1.1s						
WRA	Warramunga Arr	49.15	258	P	P	00 26 14.6	-0.4
	comp=Z,0.2nm,0.5s,baz=90,slow=8.0,SNR=7.2						
ASAR	Alice Springs	49.34	253	P	P	00 26 16.2	-0.3
	comp=Z,0.5nm,0.6s,baz=88,slow=8.0,SNR=9.7						
FORT	Forrest	54.54	244	P	P	00 26 54.4	-0.5
PDAR	Pinedale Array	83.33	42	P	P	00 29 55.0	+1.9
	comp=Z,0.3nm,0.5s,baz=218,slow=6.8,SNR=3.7						
PDAR	Pinedale Array	83.33	42	P	P	00 29 54.3	+1.3
ILAR	Eielson Array	83.51	11	P	P	00 29 53.5	+0.4
	comp=Z,0.6nm,1.0s,baz=217,slow=5.3,SNR=5.3						
J25K	Salcha River,	83.66	12	P	P	00 29 55.6	+1.6
J25K				IAmb	IAmb	00 29 56.5	
	comp=Z,1.0nm,0.8s						

IDC 11 00:25:03.4±2.6, 22˚57N×93˚46E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=155.5km s-min=25.0km az=58.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.56	128	Pn	Pn	00 26 41.5	+0.3
	1.3nm,0.3s,baz=305,slow=13,SNR=4.1						
MKAR	Makanchi Array	25.80	342	P	P	00 30 36.2	0.0
	1.1nm,0.8s,baz=152,slow=9.5,SNR=14						
WRA	Warramunga Arr	58.12	134	P	P	00 34 59.5	+0.5
	0.2nm,0.8s,baz=321,slow=7.6,SNR=1.1						
ASAR	Alice Springs	60.48	137	P	P	00 35 14.6	-0.7
	0.2nm,0.3s,baz=322,slow=6.4,SNR=1.5						

MDD 11 00:26:54.7±0.8, 35˚44N×3˚80W, h3km±6km, mb_Lg2.5/10, Error ellipse: s-maj=5.4km s-min=3.9km az=133.0
SFS 11 00:26:54.0, 35˚44N×3˚83W, ML2.5, ALBORAN SUR
CNRM 11 00:26:55.6, 35˚44N×3˚76W, h30km, ml2.4
ISC 11 00:26:54.5±1.4, 35˚47N±0˚02×3˚78W±0˚03, h15km±11km, n22, σ1˚01/42, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.28	208	P	Pb	00 27 01.8	+0.5
PALE				S	Sb	00 27 07.0	+1.1
GOG	Mont Gurugu	0.68	111	P	Pb	00 27 08.5	+0.3
GOG				S	Sb	00 27 18.4	+1.0
EMEL	Melilla	0.69	104	Pg	Pg	00 27 08.1	+0.1
EMEL				Sg	Sb	00 27 18.1	+0.6
EALB	Alboran	0.77	52	Pg	Pb	00 27 08.5	-1.0
EALB				Sg	Sb	00 27 19.7	-0.1
EALB				i Vmb_Lg		00 27 24.1	
TAF	Taforalt	1.29	120	P	Pn	00 27 17.6	-0.5
TAF				S	Sb	00 27 32.4	-2.6
SMIR	Smir Dam	1.33	280	P	Pn	00 27 18.4	-0.1
SMIR				S	Sn	00 27 35.0	-0.9
CHEFC	Chefchaouen	1.33	255	P	Pb	00 27 19.4	+0.2
CHEFC				S	Sn	00 27 35.8	-0.3
EMIJ	Mijas	1.36	324	Pn	Pn	00 27 18.1	-0.9
EMIJ				Sn	Sn	00 27 36.5	-0.3
EMIJ				i Vmb_Lg		00 27 41.5	
CEU	Ceuta	1.37	289	P	Pg	00 27 20.9	0.0
CEU				S	Sn	00 27 33.6	-3.3
EMAL	Malaga-Limoner	1.40	338	P	Pg	00 27 21.3	-0.1
EMAL				S	Sn	00 27 36.9	-0.7
ELGU	Los Guajares,	1.40	5	Pn	Pn	00 27 19.4	-0.3
ELGU				Sn	Sb	00 27 38.8	+0.5
ELGU				i Vmb_Lg		00 27 40.4	
JBK	JBK	1.50	138	P	Pn	00 27 20.7	-0.4
EBER	Berja	1.60	26	Pn	Pn	00 27 21.4	-1.0
EBER				i Vmb_Lg		00 27 25.1	
EBER				Sn	Sn	00 27 42.9	0.0
EGOR	Sierra Gorda,	1.66	351	Pn	Pn	00 27 23.7	+0.4
EGOR				Sn	Sb	00 27 46.4	+0.6
EGOR				i Vmb_Lg		00 28 06.0	
LCRM	LCR	1.99	207	P	Pb	00 27 29.8	-0.7
LCRM				S	Sn	00 27 53.2	+0.7
IFR	Ifrane	2.24	210	P	Pg	00 27 37.4	-0.2
IFR				S	Sn	00 27 58.4	-0.4
EQES	Quesada	2.40	13	Pn	Pn	00 27 34.3	+1.0
EQES				Sn	Sn	00 28 04.2	+1.6
EQES				i Vmb_Lg		00 29 18.3	
CZD	Col de Zad	2.65	204	P	Pn	00 27 38.3	+1.4
CZD				S	Sn	00 28 07.9	-1.0
MD31	MD31	2.72	198	P	Pn	00 27 38.7	+1.0
EADA	Adamuz	2.77	347	Pn	Pn	00 27 39.8	+1.4
EADA				Sn	Sn	00 28 12.4	+0.7
EADA				i Vmb_Lg		00 28 18.9	
ECAB	El Cabril	2.92	334	Pn	Pn	00 27 40.1	-0.4
ECAB				Sn	Sn	00 28 15.6	+0.3
ECAB				i Vmb_Lg		00 28 38.8	
ETOB	Tobarra	3.64	29	Pn	Pn	00 27 51.3	+0.9
ETOB				i Vmb_Lg		00 27 58.0	
ETOB				Sn	Sn	00 28 33.8	+0.7

CNRM 11 00:33:00.8, 35˚79N×3˚45W, h18km, ml2.6
MDD 11 00:33:01.1±0.3, 35˚68N×3˚66W, h0km, mb_Lg2.7/17, Error ellipse: s-maj=3.1km s-min=2.3km az=0.0
SFS 11 00:33:01.0, 35˚80N×3˚60W, ML2.6, ALBORAN SUR
ISC 11 00:32:59.9±1.2, 35˚63N±0˚02×3˚63W±0˚02, h12km±10km, n39, σ1˚46/72, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.48	211	P	Pn	00 33 14.3	+1.6
PALE	Palemas	0.48	211	P	Pn	00 33 12.5	-0.1
PALE				S	Sb	00 33 21.0	+3.5
EALB	Alboran	0.57	58	Pg	Pb	00 33 11.6	-0.2
EALB				Sg	Sb	00 33 20.2	+0.2
EALB				i Vmb_Lg		00 33 20.5	
EMEL	Melilla	0.65	121	Pg	Pn	00 33 14.1	-0.7
EMEL				Sg	Sb	00 33 22.2	+0.2
GOG	Mont Gurugu	0.66	128	P	Pn	00 33 14.5	-0.7
GOG	Mont Gurugu	0.66	128	P	Pn	00 33 14.6	-0.5
GOG				S	Sb	00 33 21.8	-0.8
ELGU	Los Guajares,	1.23	0	Pg	Pn	00 33 21.8	-1.2
ELGU				Sg	Sb	00 33 38.6	-0.4
ELGU				i Vmb_Lg		00 33 41.1	
TAF	Taforalt	1.29	129	P	Pg	00 33 24.1	-0.6
TAF	Taforalt	1.29	129	P	Pg	00 33 24.9	+0.2
EMAL	Malaga-Limoner	1.30	330	P	Pn	00 33 23.4	-0.4
EMAL				S	Sb	00 33 37.3	-3.5
EMIJ	Mijas	1.31	316	Pg	Pn	00 33 23.5	-0.5
EMIJ				Sg	Sb	00 33 39.3	-1.8
EMIJ				i Vmb_Lg		00 33 40.9	
EBER	Berja	1.40	25	Pn	Pn	00 33 24.5	-0.9
EBER				Sn	Sb	00 33 43.1	-0.7
EBER				i Vmb_Lg		00 33 50.4	
SMIR	Smir Dam	1.42	272	P	Pn	00 33 25.5	0.0
SMIR				S	Sg	00 33 47.9	+2.1
CEU	Ceuta	1.44	281	P	Pn	00 33 25.4	-0.4
CEU				S	Sn	00 33 41.6	-2.9
CHEFC	Chefchaouen	1.49	250	P	Pg	00 33 28.1	-0.4
CHEFC				S	Sg	00 33 49.4	+1.5
EGOR	Sierra Gorda,	1.52	346	Pn	Pn	00 33 27.2	+0.2
EGOR				Sn	Sn	00 33 46.3	-0.5
EGOR				i Vmb_Lg		00 33 51.4	
JBK	JBK	1.56	146	P	Pb	00 33 28.5	-0.4
JBK	JBK	1.56	146	P	Pb	00 33 28.1	-0.7
JBK				S	Sn	00 33 47.7	-0.2
EQUE	Quentar	1.58	6	Pn	Pb	00 33 28.6	-0.4
EQUE				Sn	Sn	00 33 48.4	+0.3
EQUE				i Vmb_Lg		00 33 58.5	
EJIF	Jimena Fronter	1.70	299	Pn	Pb	00 33 30.5	-0.5
EJIF				Sn	Sn	00 33 51.1	+0.1
ENIJ	Nijar	1.76	40	Pn	Pn	00 33 31.1	+0.8
ENIJ				Sn	Sb	00 33 53.9	-0.4
ENIJ				i Vmb_Lg		00 34 21.8	
SICH	Sidi Chahed	2.06	223	S	Sb	00 34 03.1	+0.3
ESPR	Espera	2.18	305	Pn	Pn	00 33 37.2	+1.3
ESPR				Sn	Sn	00 34 03.6	+0.8
ESPR				i Vmb_Lg		00 34 10.8	
LCRM	LCR	2.19	208	P	Pb	00 33 38.6	-0.9
LCRM				S	Sg	00 34 08.5	-1.8
EQES	Quesada	2.21	12	Pn	Pb	00 33 38.6	-1.3
EQES				Sn	Sn	00 34 04.2	+0.4
EQES				i Vmb_Lg		00 34 15.3	
IFR	Ifrane	2.44	211	P	Pb	00 33 42.1	-1.8
IFR				S	Sb	00 34 11.9	-2.1
EADA	Adamuz	2.64	344	Pn	Pn	00 33 43.8	+1.5
EADA				Sn	Sn	00 34 15.2	+1.0
EADA				i Vmb_Lg		00 34 21.3	
ECAB	El Cabril	2.83	330	Pn	Pn	00 33 47.0	+2.1
ECAB				Sn	Sn	00 34 19.2	+0.4
ECAB				i Vmb_Lg		00 34 31.0	
CZD	Col de Zad	2.84	205	P	Pn	00 33 47.0	+1.7
CZD				S	Sn	00 34 22.4	+2.8
MD31	MD31	2.91	199	P	Pn	00 33 48.3	+2.2
MD31				S	Sb	00 34 25.3	-2.1
EMIN	Mina Concepcio	3.24	312	Pn	Pn	00 33 51.1	+0.5
EMIN				Sn	Sn	00 34 28.0	-0.9
EMIN				i Vmb_Lg		00 34 50.2	
ETOB	Tobarra	3.44	28	Pn	Pn	00 33 54.7	+1.4
ETOB				Sn	Sn	00 34 35.0	+1.1
ETOB				i Vmb_Lg		00 35 06.6	
EGRO	El Granado	3.63	303	Pn	Pn	00 33 56.7	+0.8
EGRO				Sn	Sn	00 34 37.6	-1.1
EGRO				i Vmb_Lg		00 34 41.1	
PVAQ	Vaqueiros	3.73	299	P	Pn	00 33 58.4	+1.2
PVAQ	Vaqueiros	3.73	299	P	Pn	00 33 58.4	+1.2
PVAQ				S	Sn	00 34 39.2	-1.9
PAB	San Pablo	3.95	352	Pn	Pn	00 34 01.7	+1.4
PAB				Sn	Sn	00 34 46.7	+0.1
PAB				Sg	Sb	00 35 02.3	+5.1
ESDC	Sonseca Array	4.04	356	Pn	Pn	00 34 03.0	+1.4
ESDC				Sn	Sn	00 34 48.3	-0.6
EBAD	Badajoz	4.12	320	Pn	Pn	00 34 03.6	+1.0
EBAD				Sn	Sn	00 34 49.2	-1.5
EBAD				i Vmb_Lg		00 34 51.9	
EVIV	Cofrentes, Val	4.14	28	Pn	Pn	00 34 03.0	+0.1
EVIV				Sn	Sn	00 34 51.8	+0.5

DJA 11 00:53:53.7±0.6, 5˚S±4˚×14˚3E±˚, h24km±5km, M4.6/15, mB5.1/4, mb4.8/15, MLv4.5/5, Mw(mB)4.5/4
IDC 11 00:53:54.2±0.7, 4˚17S×143˚15E, h120km±5km, mb4.0/17, mb1 4.1/21, mb1mx4.0/38, mbtmp4.4/21, MS3.0/2, Ms1 3.0/2, ms1mx2.5/54, Error ellipse: s-maj=18.9km s-min=10.3km az=90.0
NEIC 11 00:53:55.1±1.4, 4˚15S±0˚08×142˚99E±0˚07, h115km±7km, mb4.4/42, Error ellipse: s-maj=11.4km s-min=9.5km az=209.0
ISC 11 00:53:54.4±0.4, 4˚16S±0˚05×143˚05E±0˚06, h115km, n103, σ0˚99/104, mb4.4/45, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.86	305	P	Pn	00 54 38.2	-0.5
	51nm,0.3s,baz=161,slow=10.0,SNR=83						
JAY				S	Sn	00 55 12.4	-0.5
	19nm,0.3s,baz=259,slow=15,SNR=4.7						
JAY				LR	LR	00 55 50.0	
	comp=Z,265nm,18.8s,baz=15,slow=39						
JAY	Jayapura	2.86	305	P	Pn	00 54 38.9	+0.1
GENI	Genyem	3.27	298	P	Pn	00 54 45.0	+0.8
MANU	Manus Island	4.79	64		Pn	00 55 05.5	+0.9
SMPI	Sarmi	4.84	296	P	Pn	00 55 05.9	+0.7
PMG	Port Moresby	6.62	142	P	Pn	00 55 26.4	-2.8
	4.4nm,0.3s,baz=359,slow=4.5,SNR=4.8						
PMG				LR	LR	00 58 15.8	
	comp=Z,123nm,18.8s,baz=62,slow=40						
PMG	Port Moresby	6.62	142	Pn	Pn	00 55 29.0	-0.2
RABL	Rabaul	9.09	91	Pn	Pn	00 56 04.3	+1.6
COEN	Coen	9.73	179	Pn	Pn	00 56 12.2	+0.8
FAKI	Fak Fak	10.85	276	Pn	Pn	00 56 25.2	-1.4
FAKI	Fak Fak	10.85	276	P	Pn	00 56 27.1	+0.5
	32nm,1.6s						
SIJI	Sorong	12.22	285	P	Pn	00 56 45.9	+1.1
	6.6nm,0.3s,baz=64,slow=10,SNR=11						
SWI	Sorong	12.23	285	P	Pn	00 56 46.3	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	58nm,0.6s						
SAUI	**Saumlaki**	**12.29**	**251**	Pn	**Pn**	**00 56 45.1**	**-0.6**
LBMI	**Labuha**	**15.93**	**282**	P	**P**	**00 57 34.9**	**+1.4**
	37nm,0.9s						
LBMI				pP	Pn	00 57 41.4	+9.2
	37nm,0.9s						
TNTI	**Ternate**	**16.42**	**287**	Pn	**Pn**	**00 57 36.6**	**-1.7**
TNTI				IAmb	IAmb	00 57 50.5	
	comp=Z,21nm,0.9s						
SANI	**Sanana**	**17.17**	**277**	P	**Pn**	**00 57 52.3**	**+4.9**
	comp=Z,35nm,1.1s						
WB0	**Warramunga Arr**	**17.66**	**208**		**P**	**00 57 51.7**	**-0.9**
WB0				IAmb	IAmb	00 57 54.4	
	comp=Z,8.9nm,0.7s						
WR0	**Warramunga Arr**	**17.76**	**207**	P	**P**	**00 57 52.9**	**-0.8**
WR0				IAmb	IAmb	00 57 55.7	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**17.82**	**208**	P	**P**	**00 57 53.5**	**-0.9**
WRAB				IAmb	IAmb	00 57 56.4	
	comp=Z,10.0nm,0.8s						
WB2	**Warramunga Arr**	**17.83**	**208**	P	**P**	**00 57 53.7**	**-0.8**
WB2				IAmb	IAmb	00 57 56.5	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**17.84**	**208**	P	**P**	**00 57 54.1**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=27,slow=13,SNR=51						
WRA	**Warramunga Arr**	**17.84**	**208**	P	**P**	**00 57 54.3**	**-0.3**
KNRA	**Kununurra**	**18.12**	**230**	P	**Pn**	**00 57 58.0**	**-0.9**
MMRI	**Maumere**	**21.15**	**257**	P	**P**	**00 58 29.6**	**-1.0**
AS31	**Alice Springs**	**21.31**	**204**	P	**P**	**00 58 31.9**	**-0.3**
ASAR	**Alice Springs**	**21.31**	**204**	P	**P**	**00 58 32.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=32,slow=6.4,SNR=12						
ASAR				pP	**pP**	**00 58 55.8**	**+1.6**
	comp=Z,4.6nm,0.6s,baz=35,slow=9.2,SNR=6.6						
ASAR				S	**S**	**01 02 23.8**	**+1.4**
	comp=Z,1.7nm,1.0s,baz=23,slow=22,SNR=4.3						
ASAR				PcP	**PcP**	**01 02 32.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=315,slow=0.2,SNR=4.1						
MRSI	**Marisa**	**21.59**	**282**	P	P	00 58 44.9	+10
	comp=Z,49nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.96**	**230**	P	**P**	**00 58 38.4**	**-0.7**
	comp=Z,13nm,0.5s,baz=49,slow=9.2,SNR=73						
FITZ	**Fitzroy Crossi**	**21.96**	**230**	P	**P**	**00 58 39.1**	**0.0**
FITZ				IAmb	IAmb	00 58 42.0	
	comp=Z,22nm,1.1s						
EIDS	**Eidsvold**	**22.45**	**161**	P	**P**	**00 58 45.3**	**+1.2**
EIDS				IAmb	IAmb	00 59 03.9	
	comp=Z,11nm,1.1s						
BSSI	**Bau Bau, Buton**	**22.56**	**264**	P	P	00 58 51.8	+6.5
	comp=Z,361nmcomp=Z,34nm,0.7s						
TOLI2	**Tolitoli**	**22.86**	**283**	P	**P**	**00 58 47.8**	**-0.5**
TOLI2				IAmb	IAmb	00 59 03.0	
	comp=Z,23nm,1.1s						
BKSI	**Bulukumba**	**22.88**	**266**	P	P	00 58 54.8	+6.4
	comp=Z,638nmcomp=Z,78nm,0.8s						
BNSI	**Bone**	**22.88**	**269**	P	P	00 58 56.5	+8.0
	comp=Z,63nm,0.8s						
SPSI	**Sidrap Palu**	**23.23**	**270**	P	P	00 58 59.7	+8.0
KAPI	**Kappang**	**23.24**	**267**	P	**P**	**00 58 51.0**	**-0.9**
KAPI				IAmb	IAmb	00 59 06.1	
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**27.60**	**183**	P	**P**	**00 59 30.0**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=351,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**27.60**	**183**	P	**P**	**00 59 30.8**	**-0.3**
PSA00	**Pilbara Seismi**	**28.41**	**230**	P	**P**	**00 59 37.9**	**-0.4**
PSA00				IAmb	IAmb	00 59 51.1	
	comp=Z,9.2nm,1.0s						
DZM	**Mont Dzumac**	**28.83**	**130**	P	**P**	**00 59 42.5**	**+0.3**
DZM				IAmb	IAmb	00 59 55.3	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**29.24**	**192**	P	**P**	**00 59 46.0**	**+0.4**
PINNC	**Pines Island,**	**29.90**	**130**	P	**P**	**00 59 50.8**	**-0.7**
FORT	**Forrest**	**30.02**	**206**	P	**P**	**00 59 52.6**	**+0.1**
FORT				IAmb	IAmb	01 00 00.2	
	comp=Z,14nm,0.8s						
MORW	**Morawa**	**35.63**	**223**	P	**P**	**01 00 41.0**	**-0.4**
MORW				IAmb	IAmb	01 00 57.2	
	comp=Z,8.8nm,1.1s						
JMN	**Monobe**	**38.67**	**348**	P	**P**	**01 01 07.3**	**+0.3**
JNU	**Nakatsue**	**38.83**	**344**	P	**P**	**01 01 08.6**	**+0.2**
JNU				IAmb	IAmb	01 01 09.3	
	comp=Z,11nm,0.9s						
JHS	**Saijyo**	**40.06**	**347**	P	**P**	**01 01 18.8**	**+0.3**
MJAR	**Matsushiro Arr**	**40.74**	**354**	P	**P**	**01 01 23.1**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=175,slow=7.7,SNR=4.2						
JSD	**Sado**	**42.22**	**354**	P	**P**	**01 01 36.1**	**0.0**
JSD				IAmb	IAmb	01 01 36.5	
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**43.73**	**343**	P	**P**	**01 01 47.9**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=160,slow=8.5,SNR=10						
WHN	**Wuhan**	**44.09**	**323**	⇑P	**P**	**01 01 51.0**	**-0.3**
JTM	**Tenmabayashi**	**44.77**	**358**	P	**P**	**01 01 56.6**	**+0.1**
URZ	**Urewera**	**45.98**	**142**	P	**P**	**01 02 07.4**	**+1.2**
BKZ	**Black Stump Fm**	**46.18**	**144**	P	**P**	**01 02 08.5**	**+0.7**
RPZ	**Rata Peaks**	**46.51**	**152**	P	**P**	**01 02 10.9**	**+0.6**
KHZ	**Kahutara**	**46.77**	**149**	P	**P**	**01 02 12.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**48.92**	**299**	P	**P**	**01 02 28.4**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=118,slow=6.0,SNR=11						
USA0B	**Ussuriysk Arra**	**49.16**	**349**	P	**P**	**01 02 31.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**49.16**	**349**	P	**P**	**01 02 29.9**	**-0.7**
	comp=Z,8.2nm,0.6s,baz=175,slow=7.1,SNR=10						
USRK	**Ussuriysk Ar.**	**49.16**	**349**	P	**P**	**01 02 31.2**	**+0.7**
KLR	**Kul'dur**	**54.08**	**351**	P	**P**	**01 03 06.7**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=179,slow=5.1,SNR=13						
PETK	**Petropavlovsk-**	**58.38**	**10**	P	**P**	**01 03 37.1**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=188,slow=8.7,SNR=6.6						
PETK	**Petropavlovsk-**	**58.38**	**10**	P	**P**	**01 03 38.8**	**+1.2**
ULN	**Ulaanbaatar**	**60.66**	**333**	P	**P**	**01 03 53.9**	**+0.4**
SONM	**Songino Array**	**60.93**	**333**	P	**P**	**01 03 56.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=159,slow=6.1,SNR=5.4						
SONM	**Songino Array**	**60.93**	**333**	P	**P**	**01 03 56.0**	**+0.6**
TAPN	**Taplejung**	**61.87**	**304**	*e*P	**P**	**01 04 02.6**	**+0.3**
	comp=Z,6.9nm,0.4s						
ODAN	**Odare**	**61.95**	**303**	*e*P	**P**	**01 04 03.3**	**+0.5**
	comp=Z,10.0nm,0.7s						
RAMN	**Ramite**	**62.65**	**303**	*e*P	**P**	**01 04 07.9**	**+0.5**
	comp=Z,9.7nm,0.4s						
JIRN	**Jiri**	**63.24**	**304**	*e*P	**P**	**01 04 11.6**	**+0.1**
GUN	**Gumba**	**63.58**	**304**	*e*P	**P**	**01 04 14.1**	**+0.4**
	comp=Z,6.1nm,0.4s						
MA2	**Magadan**	**63.84**	**4**	P	**P**	**01 04 14.1**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=173,slow=9.7,SNR=3.8						
KOLN	**Koldanda**	**65.43**	**303**	*e*P	**P**	**01 04 25.8**	**+0.2**
	comp=Z,15nm,0.7s						
DANN	**Dangsing**	**65.49**	**304**	*e*P	**P**	**01 04 26.0**	**-0.1**
	comp=Z,18nm,0.6s						
PYUN	**Piuthan**	**66.05**	**303**	*e*P	**P**	**01 04 29.5**	**-0.1**
	comp=Z,19nm,0.6s						
MK31	**Makanchi Array**	**73.60**	**321**	P	**P**	**01 05 15.3**	**0.0**
MKAR	**Makanchi Array**	**73.60**	**321**	P	**P**	**01 05 15.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=96,slow=8.8,SNR=33						
MKAR				pP	**pP**	**01 05 45.6**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=105,slow=7.6,SNR=6.0						
VNDA	**Vanda**	**73.99**	**176**	P	**P**	**01 05 16.0**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=325,slow=7.5,SNR=11						
VNDA	**Vanda**	**73.99**	**176**	P	**P**	**01 05 16.7**	**-0.2**
KSH	**Kashi**	**75.24**	**313**	P	**P**	**01 05 25.8**	**+0.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**75.39**	**329**	P	**P**	**01 05 24.4**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=115,slow=6.3,SNR=7.6						
ZALV				pP	**pP**	**01 05 55.1**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=125,slow=4.5,SNR=2.7						
NIL	**Nilore**	**75.67**	**306**	P	**P**	**01 05 27.6**	**+0.1**
TIXI	**Tiksi**	**76.24**	**355**	P	**P**	**01 05 28.4**	**-1.4**
	comp=Z,0.6nm,0.2s,baz=291,slow=14,SNR=5.1						
KKAR	**Karatay Array**	**80.21**	**315**	P	**P**	**01 05 52.3**	**-0.1**
L19K	**White Mountain**	**81.06**	**25**	P	**P**	**01 05 57.5**	**+1.0**
L19K				IAmb	IAmb	01 06 13.3	
	comp=Z,3.9nm,1.1s						
M19K	**Big River Lodg**	**81.13**	**25**	P	**P**	**01 05 58.8**	**+1.9**
M19K				IAmb	IAmb	01 06 15.8	
	comp=Z,4.1nm,1.1s						
J20K	**Nowinta River**	**82.25**	**23**	P	**P**	**01 06 02.9**	**+0.2**
NRIK	**Noril'sk**	**82.35**	**343**	P	**P**	**01 06 02.5**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=120,slow=5.5,SNR=13						
NRIK				pP	**pP**	**01 06 33.5**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=128,slow=4.3,SNR=1.7						
BRVK	**Borovoye**	**83.06**	**324**	P	**P**	**01 06 07.1**	**0.0**
BRVK				IAmb	IAmb	01 06 07.9	
	comp=Z,5.6nm,0.9s						
KTH	**Kantishna Hill**	**83.28**	**24**	P	**P**	**01 06 06.8**	**-1.4**
KTH				IAmb	IAmb	01 06 08.4	
	comp=Z,3.6nm,1.0s						
RND	**Reindeer**	**84.08**	**25**	P	**P**	**01 06 11.5**	**-0.7**
RND				IAmb	IAmb	01 06 15.2	
	comp=Z,5.2nm,1.2s						
DHY	**Denali Highway**	**84.59**	**25**	P	**P**	**01 06 14.5**	**-0.4**
DHY				IAmb	IAmb	01 06 27.0	
	comp=Z,4.9nm,1.2s						
CCB	**Clear Creek Bu**	**84.96**	**24**	P	**P**	**01 06 15.6**	**-0.9**
CCB				IAmb	IAmb	01 06 20.2	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**85.38**	**24**	P	**P**	**01 06 16.6**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=258,slow=4.8,SNR=24						
ILAR				pP	**pP**	**01 06 47.3**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=260,slow=5.0,SNR=5.4						
PLCA	**Paso Flores**	**125.76**	**149**	PKP	**PKPdf**	**01 12 43.0**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=253,slow=2.3,SNR=11						
TORD	**Torodi Ar. Bea**	**140.82**	**286**	PKhKP	PKPpre	01 13 05.9	
	comp=Z,0.3nm,0.4s,baz=42,slow=2.0,SNR=4.5						
TORD				PKP	**PKPdf**	**01 13 12.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=118,slow=2.1,SNR=5.4						
LPAZ	**La Paz**	**143.07**	**124**	PKP	PKPbc	01 13 13.4	-0.4
	comp=Z,1.8nm,0.4s,baz=341,slow=4.5,SNR=10.0						
CPUP	**Villa Florida**	**143.83**	**148**	PKP	PKPbc	01 13 14.9	+0.1
	comp=Z,3.6nm,0.8s,baz=211,slow=7.7,SNR=3.4						
KIC	**Kosan Boka**	**147.86**	**275**	*e*PKP2	**PKPbc**	**01 13 25.7**	**-1.5**
	comp=Z,7.4nm,0.7s						
DBIC	**Dimbokro**	**147.96**	**276**	PKPbc	**PKPbc**	**01 13 26.7**	**-0.7**
	comp=Z,5.1nm,0.6s,baz=110,slow=2.4,SNR=8.7						
TIC	**Toumodi**	**148.12**	**276**	*e*PKP2	**PKPdf**	**01 13 25.7**	**+1.1**
LIC	**Lamto**	**148.15**	**275**	*e*PKP2	**PKPbc**	**01 13 27.0**	**-1.0**
	comp=Z,17nm,0.7s						

*UPP **11** 00:55:13.9±0.0, 67°.85N×20°.20E, h0^{km}, ML2.4, Explosion*
*HEL **11** 00:55:14.5, 67°.84N×20°.20E, h0^{km}, ML2.0, Explosion*
*HEL **11** 00:55:14.5±0.1, 67°.84N×20°.20E, h0^{km}, ML2.0, ML2.4(UPP), Explosion*
*IDC **11** 00:55:15.2±1.3, 67°.79N×20°.61E, h0^{km}, mb1 2.8/3, mb1mx2.7/41, mbtmp2.6/3, ML1.8/3, Error ellipse: s-maj=20.0km s-min=9.5km az=111.0*
ISC 11 00:55:13.9±0.8**, 67°.82N**±0°.02×**20°.24E**±0°.03**, h0^{km}, n37,** σ**1s.16**/55**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.41**	**356**	P	**Pg**	**00 55 21.2**	**-0.5**
KOVU				S	**Sg**	**00 55 26.5**	**-0.5**
KOVU	**Salmi**	**0.41**	**356**	*i* P	**Pg**	**00 55 21.2**	**-0.5**
KOVU				*i* S	**Sg**	**00 55 26.5**	**-0.5**
NIKU	**Nikkaluokta**	**0.46**	**277**	P	**Pg**	**00 55 22.4**	**-0.2**
NIKU	**Nikkaluokta**	**0.46**	**277**	*i* P	**Pg**	**00 55 22.4**	**-0.2**
LANU	**Lannavaara**	**0.70**	**70**	P	**Pg**	**00 55 27.3**	**0.0**
LANU	**Lannavaara**	**0.70**	**70**	*e*P	**Pg**	**00 55 27.1**	**-0.2**
	baz=257						
LANU				*e*S	**Sg**	**00 55 36.5**	**+0.2**
DUNU	**Dundret**	**0.71**	**170**	P	**Pg**	**00 55 27.9**	**+0.5**
DUNU	**Dundret**	**0.71**	**170**	*i* P	**Pg**	**00 55 27.9**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	P	**Pg**	**00 55 28.9**	**+0.5**
MASU	**Masugnsbyn**	**0.76**	**117**	*i* P	**Pg**	**00 55 28.9**	**+0.5**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**00 55 28.9**	**-0.1**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	**Pg**	**00 55 28.9**	**-0.1**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 55 36.7**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	**Pg**	**00 55 36.6**	**-0.4**
	baz=190						
KIF				MSG		00 55 51.8	
	comp=Z,22nm,0.2s						
KIF				*e*S	**Sg**	**00 55 52.3**	**-0.5**
PAJU	**Pajala**	**1.36**	**124**	P	**Pg**	**00 55 39.4**	**-0.6**
PAJU	**Pajala**	**1.36**	**124**	*e*P	**Pg**	**00 55 39.3**	**-0.7**
PAJU				*e*SB	**Sb**	**00 55 58.1**	**-0.1**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 55 40.1**	**-0.7**
HEF	**Hetta**	**1.41**	**64**	*e*PG	**Pn**	**00 55 39.9**	**-0.9**
HEF				MSG		00 55 57.3	
	comp=Z,8.5nm,0.2s						
HEF				*e*SB	**Sg**	**00 55 58.4**	**-0.8**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**00 55 41.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG	**Pn**	**00 55 41.6**	**-0.1**
ERTU				*e*SB	**Sn**	**00 56 02.0**	**+0.4**
KLF	**Kolari**	**1.55**	**110**	*e*P	**Pn**	**00 55 42.5**	**-0.1**
KLF				*e*SN	**Sg**	**00 56 03.8**	**+0.3**
HARU	**Harads**	**1.69**	**170**	P	**Pb**	**00 55 45.2**	**-0.4**
HARU	**Harads**	**1.69**	**170**	*e*P	**Pb**	**00 55 45.2**	**-0.4**
KALU	**Kalix**	**2.32**	**146**	*e*P	**Pb**	**00 55 54.8**	**-1.6**
KALU				*e*SB	**Sb**	**00 56 25.2**	**-0.4**
TOF	**Tornio**	**2.37**	**135**	*e*PB	**Pb**	**00 55 55.9**	**-1.4**
	baz=320						
TOF				MSG		00 56 25.5	
	comp=Z,9.3nm,0.2s						
TOF				*e*SG	**Sb**	**00 56 27.9**	**+0.8**
SGF	**Sodankyl**	**2.43**	**96**	*e*PB	**Pb**	**00 55 57.3**	**-1.1**
SGF				*e*SG	**Sb**	**00 56 29.3**	**+0.4**
RNF	**Rovaniemi**	**2.55**	**116**	*e*PB	**Pb**	**00 55 59.0**	**-1.5**
RNF				*e*SB	**Sb**	**00 56 32.4**	**0.0**
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	**Pn**	**00 55 57.4**	**+0.5**
	baz=230						
ARA0				*e*SB	**Sn**	**00 56 31.1**	**+2.1**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**00 55 57.1**	**+0.2**
	baz=224,slow=16,SNR=14						
ARCES				Sn	**Sn**	**00 56 30.5**	**+1.5**
	baz=227,slow=25,SNR=13						
KEV	**Kevo**	**3.14**	**49**	*e*S	**Sn**	**00 56 43.2**	**+0.7**
KEV				MSG		00 56 46.5	
	comp=Z,4.8nm,0.2s						
OUL	**Oulu**	**3.56**	**138**	*e*PG	**Pg**	**00 56 20.4**	**-1.6**
VRF	**Varrio**	**3.56**	**87**	*e*PG	**Pb**	**00 56 18.8**	**+1.2**
	baz=271						
VRF				*e*S	**Sn**	**00 56 55.0**	**+2.1**
UMAU	**Umeaa**	**3.95**	**177**	*e*P	**Pn**	**00 56 19.3**	**+3.7**
	baz=357						
UMAU				*e*SG	**Sg**	**00 57 19.7**	**-1.0**
MSF	**Maaselka**	**3.96**	**115**	*e*P	**Pn**	**00 56 18.4**	**+2.6**
	baz=299						
KU6	**Riekki**	**4.20**	**111**	*e*P	**Pn**	**00 56 21.2**	**+2.2**
KU6				*e*SG	**Sg**	**00 57 26.7**	**-2.0**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**00 56 56.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=3.5						
FINES				Sn	**Sn**	**00 58 11.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=353,slow=21,SNR=1.7						
FINES				Lg	Lg	00 58 48.8	
	comp=Z,0.4nm,0.3s,baz=349,slow=25,SNR=8.3						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**00 57 09.4**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=1.6						
NOA				Lg	Lg	00 59 22.6	
	comp=Z,0.0nm,0.3s,baz=24,slow=16,SNR=4.0						

*BJI **11** 01:08:20.8±0.0, 9°.92S×161°.89E, h101^{km}, mb4.8/42, mB4.9/29*
*IDC **11** 01:08:21.6±0.5, 10°.28S×161°.30E, h88^{km}±3^{km}, mb4.4/29, mb1 4.5/33, mb1mx4.4/47, mbtmp4.7/33, MS3.5/35, Ms1 3.5/35, ms1mx3.4/57, Error ellipse: s-maj=11.9km s-min=9.8km az=89.0*
*NEIC **11** 01:08:23.1±1.6, 10°.28S±0°.09×161°.38E±0°.08, h94^{km}±6^{km}, mb4.9/95, Error ellipse: s-maj=14.4km s-min=9.3km az=218.0*
*GCMT **11** 01:08:23.1±0.3, 10°.35S±0°.02×161°.27E±0°.02, h94^{km}±4^{km}, MW4.9/86, Moment Tensor Solution. s25,c27; s86,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60±.13; $M_{\theta\theta}$-2.17±.14; $M_{\phi\phi}$2.78±.13; $M_{r\theta}$0.78±.08; $M_{\theta\phi}$-0.50±.14; $M_{\phi r}$1.78±.08; Best double couple: $M_0$3.15900×10^{16} NP1:ϕ_s308.00000°,δ51.00000°,λ-175.00000°. NP2: ϕ_s215.00000°,δ86.00000°,λ-39.00000°. Principal axes: T 3.5480, Plg23.0000°, Azm268.0000°; N -0.7710, Plg51.0000°, Azm30.0000°; P -2.7700, Plg30.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 01:08:21.9±0.4**, 10°.25S**±0°.05×**161°.40E**±0°.05**, h90**^{km}±3^{km}**, h91**^{km}**:pP-P, n273,** σ**1s.09**/272**, mb5.0**/130**, 37C-7D, Fault plane solution: NP1:**ϕ_s54.02063°**,**δ86.47263°**,**λ31.99031°. **NP2:**ϕ_s321.81979°**,**δ58.07747°**,**λ175.84309°. **Principal axes:** T Plg24.6708°**,** Azm282.7235°**;** N Plg57.8363°**,** Azm59.6460°**;** P Plg19.2927°**,** Azm183.4707°**; Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.64**	**299**	P	**Pn**	**01 08 49.1**	**-0.4**
	2µm,0.3s,baz=142,slow=7.1,SNR=99						
HNR				S	**Sn**	**01 09 11.1**	**+0.6**
	1µm,0.3s,baz=190,slow=23,SNR=11						
HNR	**Honiara**	**1.64**	**299**		**Pn**	**01 08 50.3**	**+0.7**
HNR	**Honiara**	**1.64**	**299**	P	**Pn**	**01 08 50.0**	**+0.5**
SANVU	**Saraoutou**	**7.67**	**133**	Pn	**Pn**	**01 10 10.0**	**-0.9**
SANVU	**Saraoutou**	**7.67**	**133**	P	**Pn**	**01 10 10.5**	**-0.4**
	379nm,0.6s						
DVP	**Devils Point**	**9.93**	**139**	P	**Pn**	**01 10 42.6**	**+0.8**
	174µm,0.8s						
KOUNC	**Koumac, New Ca**	**10.62**	**165**	P	**Pn**	**01 10 52.1**	**+1.0**
	202nm,0.9s						
LIFNC	**LIFOU**	**11.88**	**152**	Pn	**Pn**	**01 11 07.7**	**-0.5**
NOUC	**Port Laguerre**	**12.69**	**159**	P	**Pn**	**01 11 20.3**	**+1.2**
	120nm,0.8s						
DZM	**Mont Dzumac**	**12.71**	**158**	P	**Pn**	**01 11 20.1**	**+0.6**
	6.0nm,0.3s,baz=114,slow=23,SNR=47						
DZM				S	**Sn**	**01 13 36.4**	**-2.9**
	3.7nm,0.3s,baz=305,slow=22,SNR=3.7						
DZM				LR	LR	01 14 42.0	
	comp=Z,322nm,19.3s,baz=346,slow=30						
DZM	**Mont Dzumac**	**12.71**	**158**	*e*Pn	**Pn**	**01 11 19.5**	**0.0**
	23nm,0.2s						
DZM				*e*Sn	Sn	01 13 30.3	-9.0
	16nm,0.3s						
DZM				*e*LR	LR	01 14 14.6	
	comp=Z,951nm,26.5s						
DZM	**Mont Dzumac**	**12.71**	**158**	Pn	**Pn**	**01 11 19.1**	**-0.4**
DZM	**Mont Dzumac**	**12.71**	**158**	P	**Pn**	**01 11 21.3**	**+1.8**
	80nm,1.1s						
MARNC	**Mare, Loyalty**	**12.86**	**151**	Pn	**Pn**	**01 11 19.9**	**-1.5**
ONTNC	**Ouen Toro**	**12.93**	**159**	Pn	**Pn**	**01 11 23.9**	**+1.6**
ONTNC	**Ouen Toro**	**12.93**	**159**	P	**Pn**	**01 11 25.9**	**+3.6**
	215nm,0.9s						
OUENC	**Ouen Island, N**	**13.18**	**157**	Pn	**Pn**	**01 11 25.6**	**0.0**
PMG	**Port Moresby**	**14.06**	**272**	P	**Pn**	**01 11 37.1**	**0.0**
	0.9nm,0.3s,baz=96,slow=7.9,SNR=16						
PMG				LR	LR	01 16 43.4	
	comp=Z,207nm,21.1s,baz=86,slow=36						
PMG	**Port Moresby**	**14.06**	**272**	Pn	**Pn**	**01 11 39.2**	**+2.1**
PMG	**Port Moresby**	**14.06**	**272**	P	**Pn**	**01 11 35.8**	**-1.3**
	156nm,1.1s						
PMG	**Port Moresby**	**14.06**	**272**	P	**Pn**	**01 11 36.9**	**-0.2**
	156nm,1.1s						
MANU	**Manus Island**	**16.15**	**299**	Pn	**Pn**	**01 12 02.2**	**-1.4**
PATS	**Pohnpei**	**17.25**	**350**	P	**Pn**	**01 12 16.0**	**-1.2**
	baz=17						
PATS	**Pohnpei**	**17.25**	**350**		**Pn**	**01 12 16.9**	**-0.2**
CTA	**Charters Tower**	**17.57**	**234**	P	**P**	**01 12 20.9**	**-0.1**
	2.2nm,0.3s,baz=59,slow=12,SNR=31						
CTA				LR	LR	01 18 20.9	
	comp=Z,144nm,19.8s,baz=59,slow=34						
CTA	**Charters Tower**	**17.57**	**234**	P	**Pn**	**01 12 23.8**	**+2.6**
	82nm,1.3s						
FUNA	**Funafuti**	**17.64**	**86**	P	**P**	**01 12 21.3**	**-0.5**
FUNA				IAmb	IAmb	01 12 30.9	
	comp=Z,61nm,1.1s						
MSVF	**Nonsavu**	**17.78**	**117**	P	**Pn**	**01 12 25.8**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=280,slow=20,SNR=4.2						
MSVF				LR	LR	01 17 30.2	
	comp=Z,361nm,21.0s,baz=112,slow=31						
MSVF	**Nonsavu**	**17.78**	**117**	P	**P**	**01 12 23.0**	**-0.3**
MSVF	**Nonsavu**	**17.78**	**117**	P	**P**	**01 12 23.5**	**+0.2**
	comp=Z,31nm,1.3s						
EIDS	**Eidsvold**	**17.95**	**212**	P	**P**	**01 12 25.2**	**+0.2**
COEN	**Coen**	**18.19**	**256**	P	**Pn**	**01 12 30.5**	**+1.8**
	baz=18						
COEN	**Coen**	**18.19**	**256**	P	**Pn**	**01 12 29.9**	**+1.2**
MTSU	**Mount Surprise**	**18.31**	**243**	P	**Pn**	**01 12 31.5**	**+1.4**
	baz=18						
RMQ	**Roma**	**20.09**	**215**	P	Pn	01 12 51.7	+0.7
	comp=Z,63nm,1.0s						
MMPI	**Merauke**	**20.81**	**273**	P	**P**	**01 12 57.5**	**+1.3**
	comp=Z,332nm,0.4s						
JAY	**Jayapura**	**21.94**	**289**	P	**P**	**01 13 06.2**	**-2.1**
	comp=Z,16nm,0.5s,baz=100,slow=4.8,SNR=6.9						
JAY	**Jayapura**	**21.94**	**289**	P	**P**	**01 13 05.7**	**-2.6**
	comp=Z,20nm,0.9s						
ARMA	**Armidale**	**22.04**	**203**	P	**P**	**01 13 09.2**	**0.0**
	baz=22,SNR=12						
ARMA	**Armidale**	**22.04**	**203**	P	**P**	**01 13 09.3**	**0.0**
ARMA	**Armidale**	**22.04**	**203**	P	**P**	**01 13 10.9**	**+1.6**
	comp=Z,22nm,0.8s						
GENI	**Genyem**	**22.41**	**288**	P	**P**	**01 13 12.4**	**-0.9**
	comp=Z,50nm,1.2s						
QLP	**Quilpie**	**22.96**	**223**	P	**P**	**01 13 20.8**	**+2.0**
	comp=Z,21nm,0.7s						
QIS	**Mount Isa**	**23.35**	**241**	P	**P**	**01 13 22.4**	**-0.2**
	baz=24,SNR=11						
QIS	**Mount Isa**	**23.35**	**241**	P	**P**	**01 13 23.5**	**+0.9**
	comp=Z,25nm,1.5s						
SMPI	**Sarmi**	**23.98**	**289**	P	**P**	**01 13 28.7**	**+0.4**
	comp=Z,236nm,1.0s						
CMSA	**Cobar Meteorol**	**25.71**	**212**	P	**P**	**01 13 44.6**	**+0.8**
	baz=26,SNR=6.5						
CMSA	**Cobar Meteorol**	**25.71**	**212**	P	**P**	**01 13 45.8**	**+2.0**
	comp=Z,11nm,1.3s						
INKA	**Innaminka**	**26.08**	**225**	P	**P**	**01 13 48.6**	**+1.4**
	comp=Z,56nm,1.0s						
AFI	**Afiamalu**	**26.48**	**101**	LR	LR	01 22 48.4	
	comp=Z,64nm,18.1s,baz=248,slow=33						
RAO	**Raoul Island**	**27.05**	**137**	LR	LR	01 22 33.2	
	comp=Z,95nm,18.1s,baz=250,slow=31						
OUZ	**Omahuta**	**27.23**	**158**	P	**P**	**01 13 58.5**	**+1.0**
OUZ				IAmb	IAmb	01 14 21.5	
	comp=Z,32nm,1.1s						
CAN	**Canberra**	**27.40**	**202**	P	**P**	**01 14 00.7**	**+1.7**
WR0	**Warramunga Arr**	**27.63**	**246**	P	**P**	**01 14 00.6**	**-0.6**
WR0				IAmb	IAmb	01 14 01.7	
	comp=Z,26nm,1.0s						
WB0	**Warramunga Arr**	**27.71**	**247**	P	**P**	**01 14 01.8**	**-0.2**
WB0				IAmb	IAmb	01 14 02.4	
	comp=Z,50nm,0.8s						
WRAB	**Tennant Creek**	**27.79**	**247**	P	**P**	**01 14 02.4**	**-0.3**
WRAB				IAmb	IAmb	01 14 03.2	
	comp=Z,35nm,0.9s						
WRAB	**Tennant Creek**	**27.79**	**247**	P	**P**	**01 14 02.6**	**-0.1**
	comp=Z,41nm,0.9s						
WB2	**Warramunga Arr**	**27.80**	**247**	P	**P**	**01 14 02.4**	**-0.3**
WB2				IAmb	IAmb	01 14 03.2	
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**27.81**	**247**	P	**P**	**01 14 01.9**	**-0.9**
	comp=Z,26nm,0.7s,baz=75,slow=9.1,SNR=193						
WRA				ScP	**ScP**	**01 20 48.7**	**-1.2**
	comp=Z,2.8nm,1.1s,baz=72,slow=1.9,SNR=6.5						
WRA				LR	LR	01 24 26.9	
	comp=Z,152nm,20.6s,baz=51,slow=35						
WRA	**Warramunga Arr**	**27.81**	**247**	P	**P**	**01 14 00.9**	**-1.9**
WRA					**ScP**	**01 20 49.6**	**-0.4**
STKA	**Stephens Creek**	**28.27**	**217**	P	**P**	**01 14 05.8**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=35,slow=14,SNR=6.3						
STKA	**Stephens Creek**	**28.27**	**217**	P	**P**	**01 14 06.2**	**-0.6**
	baz=28,SNR=5.5						
STKA	**Stephens Creek**	**28.27**	**217**	P	**P**	**01 14 07.0**	**+0.2**
STKA	**Stephens Creek**	**28.27**	**217**	P	**P**	**01 14 09.3**	**+2.5**
	comp=Z,2.6nm,1.9s						
KDU	**Kakadu**	**28.44**	**262**	P	**P**	**01 14 07.7**	**-0.8**
	baz=29,SNR=34						
KDU	**Kakadu**	**28.44**	**262**	P	**P**	**01 14 08.3**	**-0.2**
	comp=Z,103nm,0.9s						
GUMO	**Guam**	**28.81**	**325**	LR	LR	01 25 14.0	
	comp=Z,132nm,20.1s,baz=130,slow=35						
AS31	**Alice Springs**	**29.41**	**240**	P	**P**	**01 14 15.3**	**-1.8**
ASAR	**Alice Springs**	**29.42**	**240**	P	**P**	**01 14 15.7**	**-1.4**
	comp=Z,6.1nm,0.7s,baz=71,slow=9.3,SNR=63						
ASAR				ScP	**ScP**	**01 20 53.5**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=57,slow=2.8,SNR=4.4						
ASAR				LR	LR	01 24 57.0	
	comp=Z,241nm,21.7s,baz=92,slow=34						
ASAR	**Alice Springs**	**29.42**	**240**	P	**P**	**01 14 17.1**	**-0.1**
LCRK	**Leigh Creek**	**29.49**	**224**	P	**P**	**01 14 17.9**	**+0.3**
	comp=Z,34nm,0.7s						
SAUI	**Saumlaki**	**29.80**	**272**	P	**P**	**01 14 20.8**	**+0.3**
OOD	**Oodnadatta**	**29.82**	**231**	P	**P**	**01 14 21.2**	**+0.7**
	comp=Z,15nm,1.3s						
TOO	**Toolangi**	**30.75**	**205**	P	**P**	**01 14 29.5**	**+0.8**
	baz=31,SNR=6.7						
TOO	**Toolangi**	**30.75**	**205**	P	**P**	**01 14 28.7**	**0.0**
HTT	**Hallett**	**30.96**	**218**	P	**P**	**01 14 31.1**	**+0.4**
	baz=31,SNR=6.2						
HTT	**Hallett**	**30.96**	**218**	P	**P**	**01 14 32.9**	**+2.2**
	comp=Z,14nm,1.5s						
MXZ	**Matakaoa Point**	**31.17**	**153**	P	**P**	**01 14 31.6**	**-0.8**
URZ	**Urewera**	**31.25**	**156**	P	**P**	**01 14 34.0**	**+0.9**
	comp=Z,14nm,0.6s,baz=233,slow=0.9,SNR=5.9						
URZ				LR	LR	01 25 15.6	
	comp=Z,146nm,19.6s,baz=28,slow=32						
URZ	**Urewera**	**31.25**	**156**	IAmb	IAmb	01 14 42.6	
	comp=Z,59nm,1.2s						
SIJI	**Sorong**	**31.37**	**285**	P	**P**	**01 14 33.3**	**-1.1**
	comp=Z,6.4nm,0.4s,baz=91,slow=2.0,SNR=4.1						
SIJI				LR	LR	01 27 22.0	
	comp=Z,155nm,21.4s,baz=85,slow=36						

SWI Sorong 31.38 285 P **P** **01 14 33.7 -0.8**
comp=Z,12nm,0.6s
BNDI Bandanaira 31.73 278 P **P** **01 14 37.3 -0.3**
comp=Z,347nm,1.1s
BKZ Black Stump Fm 31.80 157 P **P** **01 14 37.6 -0.3**
BKZ IAmb IAmb 01 14 39.4
comp=Z,31nm,0.6s
BKZ Black Stump Fm 31.80 157 P **P** **01 14 38.8 +0.9**
comp=Z,199nm,0.6s
KNRA Kununurra 32.23 257 P **P** **01 14 41.7 -0.2**
baz=32,SNR=21
KNRA Kununurra 32.23 257 P **P** **01 14 41.9 -0.1**
KNRA Kununurra 32.23 257 P **P** **01 14 42.0 +0.1**
comp=Z,173nm,1.0s
MULG Mulgathing 32.33 228 P **P** **01 14 41.8 -0.8**
comp=Z,17nm,0.8s
BBOO Buckleboo 32.39 222 P **P** **01 14 43.0 -0.2**
baz=33,SNR=37
BBOO Buckleboo 32.39 222 P **P** **01 14 42.9 -0.2**
BBOO IAmb IAmb 01 14 44.2
comp=Z,11nm,0.7s
BBOO Buckleboo 32.39 222 P **P** **01 14 42.9 -0.2**
comp=Z,17nm,0.8s
MSAI Masohi 32.94 280 P **P** **01 14 47.7 -0.5**
comp=Z,2µmcomp=Z,8.7nm,0.7s
AAI Ambon 33.57 279 P **P** **01 14 52.9 -0.8**
comp=Z,74nm,0.7s
RPZ Rata Peaks 34.38 168 P **P** **01 14 59.8 -0.6**
comp=Z,32nm,0.9s,baz=312,slow=1.7,SNR=9.4
RPZ LR LR 01 27 46.6
comp=Z,66nm,18.5s,baz=344,slow=34
WRKA Warakurna 34.68 241 P **P** **01 15 02.2 -1.0**
baz=35,SNR=12
WRKA Warakurna 34.68 241 P **P** **01 15 02.4 -0.8**
comp=Z,21nm,1.0s
LBMI Labuha 35.03 284 P **P** **01 15 06.4 +0.1**
comp=Z,762nmcomp=Z,58nm,0.8s
FITZ Fitzroy Crossi 35.48 253 P **P** **01 15 09.2 -0.9**
comp=Z,55nm,0.6s,baz=75,slow=8.2,SNR=294
FITZ LR LR 01 28 58.2
comp=Z,114nm,20.1s,baz=88,slow=35
FITZ Fitzroy Crossi 35.48 253 P **P** **01 15 09.1 -1.0**
baz=36,SNR=72
FITZ Fitzroy Crossi 35.48 253 P **P** **01 15 09.6 -0.6**
SANI Sanana 36.10 281 P **P** **01 15 14.9 -0.6**
comp=Z,67nm,1.1s
SANI Sanana 36.10 281 P **P** **01 15 15.2 -0.3**
comp=Z,66nm,1.1s
FORT Forrest 37.09 232 P **P** **01 15 24.2 +0.6**
FORT IAmb IAmb 01 15 42.8
comp=Z,18nm,1.1s
MMRI Maumere 38.65 269 P **P** **01 15 35.3 -1.6**
MMRI Maumere 38.65 269 P **P** **01 15 36.0 -1.0**
comp=Z,151nm,0.8s
MMRI Maumere 38.65 269 P **P** **01 15 36.2 -0.8**
comp=Z,152nm,0.8s
KMSI Cibinong 38.74 284 P **P** **01 15 38.2 +0.4**
comp=Z,193nm,0.7s
RAR Rarotonga 38.83 111 LR LR 01 31 01.4
comp=Z,91nm,18.2s,baz=295,slow=35
LUWI Luwuk 39.47 281 P **P** **01 15 44.0 +0.1**
LUWI Luwuk 39.47 281 P **P** **01 15 43.9 +0.1**
comp=Z,5µmcomp=Z,174nm,1.0s
LUWI Luwuk 39.47 281 P **P** **01 15 43.9 +0.1**
comp=Z,176nm,1.1s
DAV Davao City (W) 39.60 294 LR LR 01 31 06.0
comp=Z,43nm,21.0s,baz=320,slow=34
APSI Ampana 40.58 281 P **P** **01 15 53.2 +0.1**
comp=Z,749nmcomp=Z,75nm,1.1s
MRSI Marisa 40.67 283 P **P** **01 15 52.8 -1.0**
BSSI Bau Bau, Buton 40.67 272 P **P** **01 15 53.2 -0.6**
comp=Z,732nmcomp=Z,67nm,0.9s
BKSI Bulukumba 41.16 274 P **P** **01 15 57.5 -0.3**
comp=Z,22nm,0.8s
BNSI Bone 41.34 275 P **P** **01 15 59.2 0.0**
comp=Z,1µmcomp=Z,112nm,0.9s
WBSI Waikabubak, Su 41.36 267 P P 01 15 46.5 -13
PSA00 Pilbara Seismi 41.39 249 P **P** **01 15 58.3 -1.3**
PSA00 IAmb IAmb 01 16 00.0
comp=Z,22nm,0.8s
PSA00 Pilbara Seismi 41.39 249 P **P** **01 15 59.7 +0.1**
comp=Z,64nm,0.9s
KAPI Kappang 41.58 274 P **P** **01 16 00.8 -0.4**
comp=Z,20nm,0.4s,baz=124,slow=6.6
KAPI Kappang 41.58 274 P **P** **01 16 00.1 -1.1**
SPSI Sidrap Palu 41.75 276 P **P** **01 16 01.6 -1.0**
comp=Z,36nm,1.0s
TTSI Tana Toraja 41.88 277 P **P** **01 16 04.5 +0.8**
comp=Z,2µmcomp=Z,31nm,0.9s
TOLI2 Tolitoli 41.96 283 P **P** **01 16 03.1 -1.3**
TOLI2 Tolitoli 41.96 283 P **P** **01 16 02.8 -1.6**
comp=Z,57nm,0.9s
MPSI Mapaga 42.60 282 P **P** **01 16 07.8 -1.7**
comp=Z,447nmcomp=Z,55nm,0.9s
PLAI Plampang 43.02 268 P **P** **01 16 11.8 -1.1**
comp=Z,1000nmcomp=Z,87nm,1.5s
PLAI Plampang 43.02 268 P **P** **01 16 12.5 -0.4**
comp=Z,87nm,0.8s
MEEK Meekatharra 43.50 242 P **P** **01 16 16.7 0.0**
baz=44,SNR=33
MEEK Meekatharra 43.50 242 P **P** **01 16 17.3 +0.6**
comp=Z,70nm,1.0s
DNP Denpasar 45.56 268 P **P** **01 16 32.5 -0.7**
IGBI Denpasar 45.61 268 P **P** **01 16 33.0 -0.6**
comp=Z,119nm,1.1s
SRBI Singaraja 45.62 269 P **P** **01 16 32.4 -1.3**
comp=Z,62nm,1.1s
BLDU Ballidu 46.15 237 P **P** **01 16 37.2 -0.4**
baz=46,SNR=15
BLDU Ballidu 46.15 237 P **P** **01 16 38.1 +0.5**
comp=Z,55nm,1.1s
MORW Morawa 46.30 239 P **P** **01 16 38.7 -0.2**
baz=46,SNR=6.2
MORW Morawa 46.30 239 P **P** **01 16 38.6 -0.2**
MORW IAmb IAmb 01 16 39.4
comp=Z,22nm,0.8s
MORW Morawa 46.30 239 P **P** **01 16 39.1 +0.2**
comp=Z,31nm,1.1s
ABJI Asem Bagus 46.61 269 P **P** **01 16 41.3 -0.2**
comp=Z,43nm,1.1s
JAGI Jajag, Banyuwa 46.62 268 P **P** **01 16 39.3 -2.3**
JAGI Jajag, Banyuwa 46.62 268 P **P** **01 16 39.4 -2.1**
comp=Z,2µmcomp=Z,146nm,1.0s
JAGI Jajag, Banyuwa 46.62 268 P **P** **01 16 39.6 -1.9**
comp=Z,148nm,1.1s
GIRL Giralia 46.69 249 P **P** **01 16 42.9 +0.9**
baz=47,SNR=4.3
GIRL Giralia 46.69 249 P **P** **01 16 42.4 +0.4**
KMMI Kalianget 46.97 270 P **P** **01 16 43.8 -0.4**
comp=Z,28nm,1.4s
BLJI Banyuglugur 47.25 269 P **P** **01 16 45.4 -1.0**
comp=Z,34nm,1.1s
GMJI Gumukmas 47.34 268 P **P** **01 16 45.9 -1.2**
comp=Z,38nm,1.0s
JHJ Hachijo jima 2 47.79 335 LR LR 01 38 22.4
comp=Z,22nm,19.1s,baz=149,slow=38
KKM Kota Kinabalu 47.82 288 P **P** **01 16 50.6 -0.3**
KKM Kota Kinabalu 47.82 288 P **P** **01 16 50.7 -0.3**
comp=Z,78nm,1.1s
PPT Papeete 48.03 104 LR LR 01 34 17.5
comp=Z,43nm,18.1s,baz=24,slow=32
PPT2 Papeete2 48.03 104 *e*LR LR 01 30 33.8
comp=Z,288nm,31.2s
PWJI Pagerwojo 48.98 268 P **P** **01 16 58.0 -1.8**
comp=Z,43nm,0.9s
PCJI Pacitan 49.58 268 P **P** **01 17 04.2 -0.1**
UGM Wanagama 50.25 268 P **P** **01 17 09.1 -0.4**
SBUM Sibu 50.55 282 P **P** **01 17 11.0 -0.7**
SBUM IAmb IAmb 01 17 12.7
comp=Z,10nm,1.0s
INU Inuyama 50.87 334 P **P** **01 17 14.1 +0.4**
INU IAmb IAmb 01 17 15.1
comp=Z,22nm,0.9s
JGF Kuroka 50.94 335 P **P** **01 17 14.8 +0.5**
JGF IAmb IAmb 01 17 32.1
comp=Z,17nm,1.1s
JMN Monobe 50.97 330 P **P** **01 17 15.3 +0.9**
MJAR Matsushiro Arr 51.40 336 P **P** **01 17 17.4 -0.3**
comp=Z,4.7nm,0.6s,baz=173,slow=8.1,SNR=9.7
MJAR LR LR 01 41 28.1
comp=Z,22nm,18.7s,baz=176,slow=39
MJAR Matsushiro Arr 51.40 336 P **P** **01 17 18.0 +0.3**
MAJO Matsushiro 51.40 336 P **P** **01 17 18.0 +0.3**
MAJO IAmb IAmb 01 17 42.0
comp=Z,18nm,1.1s
MJB9 Matsu-Tunnel 51.41 336 P **P** **01 17 18.0 +0.3**
MJB9 IAmb IAmb 01 17 41.9
comp=Z,19nm,1.1s
JNU Nakatsue 52.02 327 P **P** **01 17 22.8 +0.4**
KSM Kuching 52.16 280 P **P** **01 17 22.5 -1.2**
KSM Kuching 52.16 280 P **P** **01 17 23.1 -0.6**
comp=Z,34nm,0.9s
JSD Sado 52.68 337 P **P** **01 17 27.4 +0.3**
JSD IAmb IAmb 01 17 56.4
comp=Z,15nm,0.8s
JTM Tenmabayashi 54.14 341 P **P** **01 17 38.9 +1.2**
XMIS Christmas Isla 54.77 264 P **P** **01 17 41.6 -1.3**
ASAJ Asahikawa 56.74 344 P **P** **01 17 56.9 +0.6**
comp=Z,9.6nm,0.5s,baz=217,slow=6.4,SNR=8.0
ASAJ LR LR 01 40 31.1
comp=Z,42nm,20.6s,baz=23,slow=34
KSRS Korea Array 56.88 328 P **P** **01 17 57.0 -0.4**
comp=Z,3.5nm,0.6s,baz=142,slow=7.1,SNR=9.9
KSRS pP **pP** **01 18 20.4 +0.9**
comp=Z,6.0nm,1.0s,baz=153,slow=6.2,SNR=4.9
KSRS LR LR 01 39 08.3
comp=Z,24nm,20.4s,baz=135,slow=32
KSAR Wonju Array Be 56.90 328 P **P** **01 17 57.9 +0.3**
NJ2 Nanjing 58.50 318 *e*P **P** **01 18 10.8 +1.9**
NJ2 pP **pP** **01 18 31.0 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
USA0B Ussuriysk Arra 60.40 336 P **P** **01 18 22.3 +0.6**
USA0B IAmb IAmb 01 18 27.0
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 60.40 336 P **P** **01 18 22.5 +0.8**
comp=Z,13nm,0.8s,baz=125,slow=7.1,SNR=14
USRK LR LR 01 42 54.3
comp=Z,34nm,21.3s,baz=113,slow=34
USRK Ussuriysk Ar. 60.40 336 P **P** **01 18 21.8 0.0**
BKNI Bangkinang 60.94 276 P **P** **01 18 25.5 -0.5**
BKNI Bangkinang 60.94 276 P **P** **01 18 26.4 +0.4**
comp=Z,68nm,0.5s
MDJ Mudanjiang 61.73 335 P **P** **01 18 31.3 +0.6**
MDJ IAmb IAmb 01 18 32.5
comp=Z,11nm,1.0s
MDJ Mudanjiang 61.73 335 P **P** **01 18 30.5 -0.2**
MDJ pP pP 01 18 52.4 -0.5
MDJ sP sP 01 19 03.6 +1.0
MDJ ScP **ScP** **01 23 02.5 -2.4**
MDJ PcS **PcS** **01 23 13.9 -0.2**
MDJ S **S** **01 26 48.6 +2.0**
MDJ sS sS 01 27 25.2 -0.2
MDJ pmax pmax
comp=Z,12nm,1.4s
MDJ pmax pmax
comp=Z,79nm,4.6s
MDJ LR LR
comp=Z,130nm,5.0s
MDJ LR LR
comp=Z,150nm,5.7s
MDJ LR LR
comp=Z,160nm,6.0s
MDJ Mudanjiang 61.73 335 P **P** **01 18 34.5 +3.8**
comp=Z,12nm,1.2s
IPM Ipoh 61.87 281 P **P** **01 18 31.6 -0.8**
IPM Ipoh 61.87 281 P **P** **01 18 31.8 -0.6**
comp=Z,35nm,1.2s
KULM Kulim 62.44 281 P **P** **01 18 34.4 -1.7**
KULM IAmb IAmb 01 18 36.2
comp=Z,24nm,0.9s
CN2 Changchun 62.93 331 *e*P **P** **01 18 37.8 -1.0**
CN2 *e*pP pP 01 19 02.1 +1.1
CN2 *e*S **S** **01 26 59.8 -2.0**
CN2 pmax pmax
comp=Z,20nm,0.6s
PETK Petropavlovsk- 63.18 358 P **P** **01 18 40.6 +0.3**
comp=Z,1.7nm,0.6s,baz=115,slow=6.5,SNR=2.8
PETK LR LR 01 42 36.1
comp=Z,27nm,22.0s,baz=151,slow=32
PETK Petropavlovsk- 63.18 358 P **P** **01 18 41.6 +1.3**
PSI Prapat 63.53 278 LR LR 01 50 19.9
comp=Z,26nm,20.0s,baz=162,slow=40
LYN LuoYang 64.28 316 *e*P **P** **01 18 47.1 -0.8**
LYN pmax pmax
comp=Z,10.0nm,0.5s
SRIT Nakonsritamara 64.29 285 P **P** **01 18 47.8 -0.5**
SRIT IAmb IAmb 01 18 49.0
comp=Z,23nm,1.0s
GSI Gunungsitoli 64.53 276 P **P** **01 18 48.5 -1.4**
GSI Gunungsitoli 64.53 276 P **P** **01 18 49.4 -0.5**
comp=Z,76nm,0.9s
KLR Kul'dur 64.70 339 P **P** **01 18 50.4 +0.1**
comp=Z,4.1nm,0.7s,baz=137,slow=3.0,SNR=18
KLR LR LR 01 45 31.2
comp=Z,35nm,20.5s,baz=122,slow=34
VNDA Vanda 67.26 180 P **P** **01 19 05.8 -0.5**
comp=Z,5.9nm,0.7s,baz=343,slow=6.5,SNR=20
VNDA pP **pP** **01 19 28.9 +0.4**
comp=Z,5.5nm,0.8s,baz=337,slow=7.4,SNR=6.6
VNDA Vanda 67.26 180 P **P** **01 19 06.5 +0.2**
XLT XiLinHaoTe 67.78 326 ⇓P **P** **01 19 10.9 +0.7**
XLT pP pP 01 19 34.1 +1.4
XLT pmax pmax
comp=Z,36nm,0.8s
XLT pmax pmax
comp=Z,100nm,5.0s
CM31 Chiang Mai Arr 67.89 295 P **P** **01 19 12.1 +0.8**
CM31 IAmb IAmb 01 19 38.0
comp=Z,9.6nm,0.7s
CMAR Chiang Mai Arr 67.89 295 P **P** **01 19 10.8 -0.4**
comp=Z,4.0nm,0.7s,baz=129,slow=4.9,SNR=22
CMAR pP **pP** **01 19 34.0 +0.4**
comp=Z,6.6nm,0.9s,baz=115,slow=4.4,SNR=4.5
CMAR LR LR 01 45 41.2
comp=Z,12nm,21.6s,baz=90,slow=33
CMAR Chiang Mai Arr 67.89 295 P **P** **01 19 09.8 -1.5**
CHTO Chiang Mai 68.01 295 P **P** **01 19 11.7 -0.3**
CHTO IAmb IAmb 01 19 38.8
comp=Z,14nm,1.2s
PZH PanZhiHua 68.46 304 P **P** **01 19 17.3 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 68.50 321 *e*P **P** **01 19 17.3 +2.5**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.5s
CD2 Chengdu 68.75 309 P **P** **01 19 17.1 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.7s
HIA Hailar 69.62 332 P **P** **01 19 21.5 0.0**
HIA IAmb IAmb 01 19 22.8
comp=Z,12nm,0.7s
MA2 Magadan 70.11 354 P **P** **01 19 24.3 +0.1**
comp=Z,3.7nm,0.4s,baz=120,slow=3.8,SNR=6.2
MA2 LR LR 01 45 41.5
comp=Z,18nm,21.9s,baz=134,slow=32
MA2 Magadan 70.11 354 P **P** **01 19 25.1 +0.9**
LZH Lanzhou 71.09 314 *e*P P 01 19 39.1 +8.2
LZH pP pwP 01 19 57.9 +4.2
LZH sP sP 01 20 12.5 +9.0
LZH pmax pmax
comp=Z,16nm,1.5s
SEY Seymchan 73.29 356 P **P** **01 19 43.3 +0.2**
comp=Z,2.0nm,0.5s,baz=180,slow=11,SNR=6.9
ULN Ulaanbaatar 75.19 326 P **P** **01 19 55.4 +0.6**
ULN IAmb IAmb 01 20 22.3
comp=Z,30nm,1.3s
GTA Gaotai 75.46 315 ⇓P **P** **01 19 57.4 +0.9**
GTA pP pP 01 20 19.4 +0.2
GTA sP sP 01 20 30.2 +1.4
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.8s
GTA LR LR
comp=Z,94nm,16.4s
GTA LR LR
comp=Z,99nm,16.4s
GTA LR LR
comp=Z,92nm,16.0s
SONM Songino Array 75.54 325 P **P** **01 19 57.3 +0.6**
comp=Z,11nm,0.7s,baz=141,slow=5.6,SNR=90
SONM pP **pP** **01 20 19.1 -0.5**
comp=Z,9.7nm,0.7s,baz=138,slow=5.2,SNR=10
SONM Songino Array 75.54 325 P **P** **01 19 57.0 +0.2**
SONM IAmb IAmb 01 19 58.2
comp=Z,12nm,0.7s
YAK Yakutsk 76.18 345 P **P** **01 19 59.8 -0.1**
comp=Z,7.3nm,0.3s,baz=358,slow=1.1,SNR=6.1
YAK LR LR 01 50 44.8
comp=Z,26nm,21.6s,baz=101,slow=33
YAK Yakutsk 76.18 345 P **P** **01 19 59.2 -0.6**
YAK IAmb IAmb 01 20 00.9
comp=Z,32nm,0.7s
SHL Shillong 76.39 299 P **P** **01 20 02.1 -0.1**
SHL IAmb IAmb 01 20 28.5
comp=Z,14nm,1.1s
OHAK Old Harbor 76.81 23 P **P** **01 20 04.5 +1.0**
OHAK IAmb IAmb 01 20 22.7
comp=Z,63nm,1.5s
KDAK Kodiak Island 77.47 23 P **P** **01 20 08.2 +1.0**
comp=Z,14nm,0.9s,baz=268,slow=2.7,SNR=4.6
GOMU GeErMu 77.73 311 P **P** **01 20 11.3 +1.6**
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,74nm,5.1s
Q19K Cape Douglas, 77.87 22 P **P** **01 20 10.3 +0.8**
BILL Bilibino 78.16 2 P **P** **01 20 10.5 -0.4**
BILL IAmb IAmb 01 20 39.2
comp=Z,28nm,1.1s
SVW2 Sparrevohn 78.75 20 P **P** **01 20 15.5 +1.3**
SVW2 IAmb IAmb 01 20 16.9
comp=Z,15nm,0.8s
QSPA South Pole Qui 79.75 180 P **P** **01 20 19.4 -0.5**
QSPA IAmb IAmb 01 20 20.4
comp=Z,17nm,0.9s
L19K White Mountain 79.78 19 P **P** **01 20 21.4 +1.6**
L19K IAmb IAmb 01 20 46.2
comp=Z,17nm,1.1s
TTA Tatalina 79.96 18 P **P** **01 20 22.2 +1.3**
TTA IAmb IAmb 01 20 47.1
comp=Z,16nm,1.2s
PPLA Purkeypile 81.16 20 P **P** **01 20 28.0 +0.6**
PPLA IAmb IAmb 01 20 37.6
comp=Z,27nm,1.4s
CAST Castle Rocks 81.56 19 P **P** **01 20 29.8 +0.5**
CAST IAmb IAmb 01 20 54.2
comp=Z,12nm,0.8s
KTH Kantishna Hill 82.03 20 P **P** **01 20 31.6 -0.2**
KTH IAmb IAmb 01 20 56.2
comp=Z,11nm,0.8s
TRF Thorofare Moun 82.17 20 P **P** **01 20 32.8 0.0**
PALK Pallekele 82.20 279 LR LR 02 01 21.8
comp=Z,29nm,18.1s,baz=244,slow=39
RND Reindeer 82.62 20 P **P** **01 20 35.7 +0.7**
MCK McKinley 82.81 20 P **P** **01 20 37.0 +1.1**
MCK IAmb IAmb 01 21 00.3
comp=Z,16nm,0.9s
IMAR Indian Mountai 82.86 17 P **P** **01 20 37.1 +1.0**
GLB Gilahina Butte 83.24 23 P **P** **01 20 39.6 +1.4**
VRDI Verde Repeater 83.26 24 P **P** **01 20 39.4 +0.9**
TABL Table Mountain 83.74 25 P **P** **01 20 42.4 +1.5**
TABL IAmb IAmb 01 20 54.4
comp=Z,17nm,1.2s
BARN Barnard Glacie 83.87 24 P **P** **01 20 43.4 +1.8**
BARN IAmb IAmb 01 21 07.7
comp=Z,7.8nm,0.8s
CTGM Chitina Glacie 83.95 24 P **P** **01 20 43.4 +1.5**
CTGM IAmb IAmb 01 21 10.3
comp=Z,20nm,1.4s
LOGN Logan Glacier 84.01 25 P **P** **01 20 43.7 +1.4**
ILAR Eielson Array 84.17 20 P **P** **01 20 42.5 -0.3**
comp=Z,1.4nm,0.5s,baz=244,slow=4.9,SNR=38
ILAR pP **pP** **01 21 05.7 -0.3**
comp=Z,3.1nm,0.8s,baz=256,slow=4.6,SNR=7.5
ILAR Eielson Array 84.17 20 P **P** **01 20 42.7 -0.1**
RIDG Independent Ri 84.23 21 P **P** **01 20 44.3 +1.1**
DOT Dot Lake 84.45 21 P **P** **01 20 45.3 +1.0**
TIXI Tiksi 84.54 350 P **P** **01 20 43.4 -1.0**
comp=Z,1.9nm,0.6s,baz=268,slow=23,SNR=6.2
TIXI Tiksi 84.54 350 P **P** **01 20 44.8 +0.4**
TIXI IAmb IAmb 01 21 08.4
comp=Z,18nm,1.5s
J25K Salcha River, 84.58 20 P **P** **01 20 46.0 +1.0**
SCRK Sand Creek 84.68 21 P **P** **01 20 46.9 +1.4**
SCRK IAmb IAmb 01 21 10.7
comp=Z,8.2nm,0.9s
BCAR Beaver Creek A 84.95 22 P **P** **01 20 48.4 +1.6**
WMQ Urumqi 85.53 316 *e*P **P** **01 20 51.5 +1.3**
EGAK Eagle 86.14 21 P **P** **01 20 53.8 +1.2**
EGAK IAmb IAmb 01 21 23.1
comp=Z,8.3nm,0.9s
YBH Yreka Blue Hor 86.42 47 LR LR 01 53 20.6
comp=Z,26nm,20.9s,baz=272,slow=31
NVAR Mina Array Bea 88.81 51 P **P** **01 21 07.9 +1.6**
comp=Z,2.1nm,0.7s,baz=237,slow=7.5,SNR=8.8
NVAR pP **pP** **01 21 30.4 +0.3**
comp=Z,3.0nm,0.7s,baz=233,slow=7.8,SNR=4.9
NVAR Mina Array Bea 88.81 51 P **P** **01 21 07.3 +1.0**
PFO Pinyon Flats O 89.15 56 LR LR 01 56 12.4
comp=Z,43nm,18.4s,baz=293,slow=32
MK31 Makanchi Array 90.04 318 P **P** **01 21 11.2 -0.4**
MKAR Makanchi Array 90.04 318 P **P** **01 21 11.1 -0.6**
comp=Z,1.3nm,0.6s,baz=91,slow=6.8,SNR=25
MKAR pP **pP** **01 21 33.4 -1.8**
comp=Z,2.1nm,0.7s,baz=100,slow=5.8,SNR=5.1
MKAR LR LR 02 02 01.8
comp=Z,19nm,20.7s,baz=76,slow=36
MAKZ Makanchi 90.25 318 P **P** **01 21 11.3 -1.3**
ZALV Zalesovo Beam 90.43 325 P **P** **01 21 11.4 -1.8**
comp=Z,0.5nm,0.4s,baz=107,slow=5.1,SNR=4.8
ZALV pP **pP** **01 21 35.4 -1.4**
comp=Z,1.1nm,0.6s,baz=103,slow=6.5,SNR=3.0
ZALV Zalesovo Beam 90.43 325 P **P** **01 21 11.1 -2.1**
SHPR Sheep Range 90.81 53 P **P** **01 21 17.7 +2.0**
SHPR IAmb IAmb 01 21 41.9
comp=Z,4.3nm,0.8s
BELA Belgrano 2 91.56 177 P **P** **01 21 17.3 -0.8**
BELA IAmb IAmb 01 21 17.9
comp=Z,9.0nm,1.1s
ELK Elko 91.63 49 LR LR 01 56 27.0
comp=Z,22nm,19.0s,baz=250,slow=32
ELK Elko 91.63 49 P **P** **01 21 20.6 +1.2**
PLID Pearl Lake 92.00 45 P **P** **01 21 22.2 +1.1**
PLID IAmb IAmb 01 21 46.0
comp=Z,4.3nm,1.0s
LPIG La Paz 92.58 66 LR LR 01 54 54.7
comp=Z,33nm,19.8s,baz=222,slow=30
KURK Kurchatov 93.31 321 P **P** **01 21 26.0 -0.6**
KURK IAmb IAmb 01 21 53.7
comp=Z,7.9nm,1.4s
AAK Ala-Archa 94.59 312 LR LR 02 04 52.6
comp=Z,19nm,20.8s,baz=86,slow=36
PDAR Pinedale Array 96.17 48 P **P** **01 21 40.8 +0.5**
comp=Z,0.4nm,0.7s,baz=195,slow=3.1,SNR=4.6
YKA Yellowknife Ar 96.24 28 P **P** **01 21 39.4 -0.3**
comp=Z,1.4nm,0.6s,baz=259,slow=4.7,SNR=16
YKA pP **pP** **01 22 03.0 -0.5**
comp=Z,1.2nm,0.8s,baz=256,slow=4.8,SNR=5.8
ANMO Albuquerque 97.53 56 LR LR 01 57 26.1
comp=Z,17nm,20.4s,baz=290,slow=30
ARCES ARCESS Array B 114.46 344 PKP **PKiKP** **01 26 49.4 -1.5**
comp=Z,3.3nm,1.0s,baz=53,slow=2.3,SNR=5.0
ESDC Sonseca Array 147.93 338 PKPbc **PKPbc** **01 27 56.7 -0.5**
comp=Z,1.1nm,0.7s,baz=21,slow=3.0,SNR=7.8

IDC ***11*** *01:16:22.1±0.8, 11°.08N×138°.89E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/39, mbtmp3.9/11 Error ellipse: s-maj=31.9km s-min=15.8km az=91.0*

ISC 11 01:16:26.8±0.8, 11°.1N±0°.1×138°.9E±0°.2, h31km, n12, σ0°.98/12, mb4.0/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**21.95**	**2**	**P**		**P**		**01 21 17.8**	**-0.1**
	259nm,0.6s,baz=161,slow=20,SNR=7.3								
WRA	**Warramunga Arr**	**31.15**	**188**	P		P		**01 22 41.0**	**-2.1**
	0.4nm,0.6s,baz=7.5,slow=9.8,SNR=5.5								
ASAR	**Alice Springs**	**34.88**	**188**	P		P		**01 23 15.4**	**-0.2**
	0.7nm,0.5s,baz=17,slow=12,SNR=26								
KLR	**Kul'dur**	**38.48**	**353**	P		P		**01 23 46.3**	**+0.3**
	2.4nm,0.7s,baz=151,slow=6.9,SNR=7.9								
CMAR	**Chiang Mai Arr**	**39.23**	**286**	P		P		**01 23 53.0**	**+0.3**
	1.1nm,0.4s,baz=88,slow=6.5,SNR=5.8								
STKA	**Stephens Creek**	**42.80**	**177**	P		P		**01 24 23.3**	**+1.5**
	1.0nm,0.7s,baz=9.3,slow=8.6,SNR=3.3								
PETK	**Petropavlovsk-**	**44.56**	**16**	P		P		**01 24 35.7**	**-0.1**
	6.7nm,1.1s,baz=184,slow=10,SNR=4.0								
SONM	**Songino Array**	**45.64**	**330**	P		P		**01 24 44.8**	**+0.1**
	0.6nm,0.8s,baz=134,slow=8.3,SNR=2.8								
MKAR	**Makanchi Array**	**59.31**	**318**	P		P		**01 26 26.1**	**+0.2**
	1.8nm,0.7s,baz=103,slow=9.0,SNR=13								
ZALV	**Zalesovo Beam**	**60.35**	**327**	P		P		**01 26 31.8**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.0nm,0.7s,baz=130,slow=6.8,SNR=2.5						
ILAR	**Eielson Array**	**73.33**	**26**	P	**P**	**01 27 54.5**	**-0.7**
	0.5nm,0.6s,baz=243,slow=5.9,SNR=6.6						
YKA	**Yellowknife Ar**	**87.73**	**26**	P	**P**	**01 29 13.1**	**+0.7**
	0.9nm,0.8s,baz=292,slow=5.2,SNR=10						

*JMA **11** 01:20:04.4±0.1, 24°.57N×123°.01E, h70km±1km, M2.6*
*TAP **11** 01:20:05.7, 24°.48N×122°.93E, h61km±1km, ML3.1, C*
ISC 11 01:20:05.0±1.4**, 24°.49N**±0°.05×**123°.01E**±0°.03**, h68**km±8km**,**
n64, σ0s.76/111**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.03**	**174**	P	**Pn**	**01 20 14.7**	**-0.1**
YOJ				S	**Sn**	**01 20 22.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.03**	**174**	P	**Pn**	**01 20 14.9**	**+0.1**
	baz=99						
YOJ				S	**Sn**	**01 20 22.1**	**+0.1**
	baz=99						
JYNG	**Yonagunijimaku**	**0.07**	**236**	P	**Pn**	**01 20 14.8**	**0.0**
JYNG				S	**Sn**	**01 20 22.2**	**+0.2**
IRIF	**Iriomote-Funau**	**0.68**	**103**	P	**Pn**	**01 20 19.2**	**-0.2**
IRIF				*e*S	**Sn**	**01 20 29.9**	**-0.1**
HATJ	**Hateruma jima**	**0.85**	**120**	P	**Pn**	**01 20 21.7**	**+0.3**
HATJ				*e*S	**Sn**	**01 20 34.6**	**+1.0**
JKRS	**Kuro-shima**	**0.95**	**105**	P	**Pn**	**01 20 22.8**	**+0.2**
JKRS				*e*S	**Sn**	**01 20 36.1**	**+0.3**
JIJ	**Ishigaki jima**	**1.04**	**97**	P	**Pn**	**01 20 23.6**	**-0.3**
JIJ				S	**Sn**	**01 20 37.3**	**-0.6**
TWC	**Suao**	**1.06**	**277**	*i* P	**Pn**	**01 20 23.7**	**-0.4**
	baz=277						
TWC				*i* S	**Sn**	**01 20 36.9**	**-1.4**
	baz=277						
EWUT	**Wuta**	**1.12**	**268**	*e*S	**Sn**	**01 20 39.5**	**-0.2**
	baz=268						
NTC	**Toucheng**	**1.13**	**289**	*e*P	**Pn**	**01 20 25.0**	**0.0**
	baz=290						
NTC				*e*S	**Sn**	**01 20 40.2**	**+0.3**
	baz=290						
ENA	**Nanau**	**1.16**	**267**	P	**Pn**	**01 20 26.2**	**+0.9**
	baz=267						
ENA				*e*S	**Sn**	**01 20 40.2**	**-0.3**
	baz=267						
TIPB	**Shuangxi**	**1.18**	**294**	P	**Pn**	**01 20 25.5**	**-0.2**
	baz=295						
TIPB				S	**Sn**	**01 20 39.7**	**-1.4**
	baz=295						
NDS	**Dongshan**	**1.19**	**277**	P	**Pn**	**01 20 26.0**	**+0.3**
	baz=277						
NDS				S	**Sn**	**01 20 40.1**	**-1.1**
	baz=277						
JISG	**Ishigakijimahi**	**1.19**	**85**	P	**Pn**	**01 20 25.4**	**-0.4**
JISG				S	**Sn**	**01 20 40.9**	**-0.4**
SXI1	**Grass Mountain**	**1.19**	**301**	*e*P	**Pn**	**01 20 26.8**	**+0.9**
	baz=302						
TWE	**Neicheng**	**1.24**	**281**	*i* P	**Pn**	**01 20 26.1**	**-0.3**
	baz=281						
TWE				*e*S	**Sn**	**01 20 42.4**	**-0.1**
	baz=281						
NWF	**Wu-fen Shan**	**1.26**	**298**	*e*P	**Pn**	**01 20 27.3**	**+0.5**
	baz=299						
NWF				*e*S	**Sn**	**01 20 42.9**	**-0.1**
	baz=299						
ENTT	**Nioudou**	**1.32**	**277**	*i* P	**Pn**	**01 20 28.3**	**+0.8**
	baz=277						
ENTT				S	**Sn**	**01 20 44.3**	**-0.1**
	baz=277						
NACB	**Ninganchiao**	**1.33**	**257**	P	**Pn**	**01 20 27.9**	**+0.4**
	baz=255						
NACB				S	**Sn**	**01 20 44.2**	**-0.3**
	baz=255						
LATG	**Datong**	**1.35**	**272**	P	**Pn**	**01 20 28.7**	**+0.7**
	baz=272						
LATG				S	**Sn**	**01 20 45.6**	**+0.3**
	baz=272						
TWD	**Chiawan**	**1.35**	**253**	*e*P	**Pn**	**01 20 28.6**	**+0.7**
	baz=251						
TWD				S	**Sn**	**01 20 44.8**	**-0.2**
	baz=251						
NDT	**Datong Townshi**	**1.37**	**275**	*i* P	**Pn**	**01 20 28.9**	**+0.9**
	baz=275						
NDT				S	**Sn**	**01 20 45.9**	**+0.4**
	baz=275						
NWLT	**Wulai**	**1.40**	**282**	*e*P	**Pn**	**01 20 28.7**	**+0.1**
	baz=282						
NWLT				S	**Sn**	**01 20 46.1**	**-0.2**
	baz=282						
ETLH	**Xiulin Townshi**	**1.42**	**259**	*e*P	**Pn**	**01 20 28.5**	**-0.4**
	baz=258						
ETLH				S	**Sn**	**01 20 46.7**	**-0.1**
	baz=258						
NHDH	**Xindian Distri**	**1.43**	**290**	*e*P	**Pn**	**01 20 29.4**	**+0.5**
	baz=290						
YM01	**YM01**	**1.46**	**297**	P	**Pn**	**01 20 29.6**	**+0.2**
	baz=298						
YM01				*e*S	**Sn**	**01 20 47.1**	**-0.7**
	baz=298						
TAP	**Taipei**	**1.47**	**292**	*e*S	**Sn**	**01 20 47.6**	**-0.3**
	baz=293						
NNSB	**Datong**	**1.48**	**268**	P	**Pn**	**01 20 30.1**	**+0.4**
	baz=267						
NNSB				*e*S	**Sn**	**01 20 47.4**	**-1.0**
	baz=267						
NNS	**Nan Shan**	**1.49**	**268**	P	**Pn**	**01 20 29.8**	**0.0**
	baz=268						
NNS				*e*S	**Sn**	**01 20 48.2**	**-0.3**
	baz=268						
YHNB	**Yeheng**	**1.50**	**277**	P	**Pn**	**01 20 30.1**	**+0.2**
	baz=277						
YHNB				S	**Sn**	**01 20 48.3**	**-0.3**
	baz=277						
NSK	**Sanguang**	**1.51**	**277**	*i* P	**Pn**	**01 20 30.6**	**+0.5**
	baz=277						
NSK				S	**Sn**	**01 20 49.3**	**+0.2**
	baz=277						
NTST	**Danshui**	**1.57**	**296**	*e*P	**Pn**	**01 20 31.3**	**+0.6**
	baz=296						
ESL	**Shilin**	**1.59**	**245**	*e*S	**Sn**	**01 20 50.4**	**-0.3**
	baz=243						
FUSS	**Fushou**	**1.63**	**262**	*e*P	**Pn**	**01 20 32.0**	**+0.3**
	baz=261						
FUSS				*e*S	**Sn**	**01 20 51.5**	**-0.5**
	baz=261						
WHF	**Hehuan Shan**	**1.63**	**258**	P	**Pn**	**01 20 32.0**	**+0.1**
	baz=257						
WHF				S	**Sn**	**01 20 51.6**	**-0.7**
	baz=257						
EGFH	**Guangfu**	**1.66**	**241**	*e*S	**Sn**	**01 20 51.4**	**-1.0**
	baz=239						
CHGB	**Renai**	**1.73**	**256**	P	**Pn**	**01 20 33.6**	**+0.6**
	baz=255						
CHGB				S	**Sn**	**01 20 53.7**	**-0.7**
	baz=255						
NFF	**Wufeng Townshi**	**1.73**	**275**	*e*P	**Pn**	**01 20 33.6**	**+0.7**
	baz=275						
OWD	**Renai**	**1.75**	**253**	P	**Pn**	**01 20 33.8**	**+0.4**
	baz=251						
OWD				*e*S	**Sn**	**01 20 53.7**	**-1.3**
	baz=251						
HGSD	**Ruisui**	**1.76**	**236**	P	**Pn**	**01 20 35.2**	**+1.9**
	baz=234						
HGSD				S	**Sn**	**01 20 54.0**	**-0.8**
	baz=234						
WUSB	**Renai**	**1.79**	**254**	P	**Pn**	**01 20 34.1**	**+0.2**
	baz=253						
WUSB				*e*S	**Sn**	**01 20 54.8**	**-1.1**
	baz=253						
LIOB	**Emei**	**1.82**	**275**	*e*P	**Pn**	**01 20 35.2**	**+1.0**
	baz=275						
EHY	**Hungye**	**1.83**	**238**	*e*P	**Pn**	**01 20 34.7**	**+0.5**
	baz=236						
EHY				S	**Sn**	**01 20 54.6**	**-1.8**
	baz=236						
VWDT	**VWDT**	**1.86**	**247**	*e*P	**Pn**	**01 20 34.4**	**-0.2**
	baz=246						
VWDT				S	**Sn**	**01 20 56.5**	**-0.6**
	baz=246						
WHP	**Taichung City**	**1.89**	**264**	P	**Pn**	**01 20 36.3**	**+1.1**
	baz=263						
WHP				S	**Sn**	**01 20 58.3**	**+0.1**
	baz=263						
YULB	**Yu-li**	**1.91**	**235**	P	**Pn**	**01 20 34.7**	**-0.7**
	baz=233						
YULB				*e*S	**Sn**	**01 20 56.5**	**-1.9**
	baz=233						
EYUL	**Yuli**	**1.92**	**234**	*e*P	**Pn**	**01 20 36.1**	**+0.6**
	baz=232						
EYUL				*e*S	**Sn**	**01 20 57.4**	**-1.3**
	baz=232						
WCS	**Beigang Elemen**	**1.96**	**258**	*e*P	**Pn**	**01 20 36.8**	**+0.7**
	baz=257						
WCS				*e*S	**Sn**	**01 20 58.9**	**-0.8**
	baz=257						
SSLB	**Suanglung**	**2.00**	**250**	*e*P	**Pn**	**01 20 38.0**	**+1.4**
	baz=249						
SSLB				*e*S	**Sn**	**01 20 59.7**	**-1.0**
	baz=249						
SMLT	**Sun Moon Lake**	**2.02**	**253**	P	**Pn**	**01 20 37.9**	**+1.0**
	baz=252						
SMLT				*e*S	**Sn**	**01 20 60.0**	**-1.2**
	baz=252						
FULB	**Fuli**	**2.03**	**231**	*e*P	**Pn**	**01 20 38.9**	**+1.9**
	baz=229						
FULB				*e*S	**Sn**	**01 21 00.8**	**-0.5**
	baz=229						
TYC	**Yuchr**	**2.05**	**254**	P	**Pn**	**01 20 37.8**	**+0.6**
	baz=253						
TYC				*e*S	**Sn**	**01 21 02.1**	**+0.4**
	baz=253						
WHYT	**Xinyi Township**	**2.12**	**249**	*e*P	**Pn**	**01 20 39.5**	**+1.2**
	baz=247						
YUS	**Yu-Shan**	**2.13**	**243**	*e*P	**Pn**	**01 20 38.4**	**-0.4**
	baz=241						
YUS				*e*S	**Sn**	**01 21 03.6**	**-0.8**
	baz=241						
ALS	**Alishan**	**2.24**	**245**	*e*P	**Pn**	**01 20 41.0**	**+0.9**
	baz=243						
CHN5	**Tsauling**	**2.31**	**248**	*e*P	**Pn**	**01 20 41.5**	**+0.6**
	baz=246						
STYH	**Taoyuan**	**2.43**	**238**	*e*P	**Pn**	**01 20 42.7**	**+0.3**
	baz=236						
STYH				*e*S	**Sn**	**01 21 10.4**	**-0.6**
	baz=236						
WRL	**Guolierlin Hig**	**2.47**	**257**	*e*P	**Pn**	**01 20 44.1**	**+1.1**
	baz=256						
WRL				*e*S	**Sn**	**01 21 11.3**	**-0.7**
	baz=256						
TPUB	**Ta-pu**	**2.48**	**242**	*e*P	**Pn**	**01 20 44.3**	**+1.2**
	baz=240						
TPUB				*e*S	**Sn**	**01 21 11.8**	**-0.5**
	baz=240						
CHN4	**Tsaushan**	**2.48**	**243**	*e*P	**Pn**	**01 20 44.5**	**+1.3**
	baz=242						
WTP	**Ta-pu**	**2.52**	**241**	*e*P	**Pn**	**01 20 44.4**	**+0.7**
	baz=239						
TWK	**Hsinying**	**2.61**	**243**	*e*P	**Pn**	**01 20 46.0**	**+1.1**
	baz=241						
CHN1	**Nanshi**	**2.62**	**241**	*e*P	**Pn**	**01 20 45.6**	**+0.6**
	baz=239						
WSL	**Shuilin Townsh**	**2.72**	**250**	*e*P	**Pn**	**01 20 46.7**	**+0.4**
	baz=248						

*IDC **11** 01:30:21.6±1.0, 21°.55N×121°.56E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/37, mbtmp3.7/8, MS3.8/6, Ms1 3.8/6, ms1mx2.9/83, Error ellipse: s-maj=42.0km s-min=19.1km az=65.0*
*NEIC **11** 01:30:23.3±1.6, 21°.61N±0°.08×121°.63E±0°.09, h10km±1km, mb4.1/7, Error ellipse: s-maj=14.7km s-min=13.8km az=261.0*
*TAP **11** 01:30:25.1, 21°.69N×121°.36E, h37km, ML4.0, C*
*JMA **11** 01:30:25.8±0.3, 21°.72N×121°.34E, h41km, M4.3*
ISC 11 01:30:26.7±1.0**, 21°.74N**±0°.05×**121°.35E**±0°.03**, h28**km±7km**,**
n120, σ1s.30/140**, mb3.8**/12**, MS3.9**/6**, 1C-8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.34**	**40**	⇓*i*P	**Pb**	**01 30 34.0**	**-0.4**
	baz=34						
LYUB				*i* S	**Sb**	**01 30 40.4**	**+0.6**
	baz=34						
LAY	**Lan-yu**	**0.35**	**33**	*i* P	**Pb**	**01 30 34.3**	**-0.4**
	baz=28						
LAY				S	**Sb**	**01 30 41.2**	**+1.1**
	baz=28						
TSEB	**Hengchuen, Pin**	**0.45**	**291**	*e*P	**Pn**	**01 30 37.2**	**-0.1**
	baz=294						
TSEB				S	**Sn**	**01 30 44.4**	**0.0**
	baz=294						
TWKBT	**Hengchun**	**0.54**	**292**	*i* P	**Pb**	**01 30 37.1**	**-0.5**
	baz=296						
TWKBT				*e*S	**Sb**	**01 30 45.3**	**+0.3**
	baz=296						
TWK1	**Hengchun**	**0.54**	**292**	*i* P	**Pb**	**01 30 37.1**	**-0.6**
	baz=296						
TWK1				*e*S	**Sb**	**01 30 45.5**	**+0.3**
	baz=296						
SMST	**Manzhou Townsh**	**0.55**	**300**	⇑P	**Pb**	**01 30 37.8**	**-0.1**
	baz=304						
SMST				*e*S	**Sb**	**01 30 45.9**	**+0.5**
	baz=304						
SNW	**Nanwan**	**0.60**	**291**	*e*P	**Pn**	**01 30 39.6**	**+0.3**
	baz=296						
SNW				*e*S	**Sn**	**01 30 48.0**	**-0.1**
	baz=296						
HEN	**Hengchun**	**0.62**	**295**	*e*P	**Pb**	**01 30 38.6**	**-0.4**
	baz=299						
HEN				*e*S	**Sb**	**01 30 48.0**	**+0.5**
	baz=299						
SLIU	**Shizi**	**0.69**	**313**	⇓*i*P	**Pb**	**01 30 39.2**	**-1.0**
	baz=315						
SLIU				*e*S	**Sb**	**01 30 49.1**	**-0.3**
	baz=315						
TAWH	**Dawu Township**	**0.73**	**324**	⇓*i*P	**Pb**	**01 30 39.7**	**-1.2**
	baz=326						
TAWH				*e*S	**Sb**	**01 30 49.8**	**-0.7**
	baz=326						
TAW	**Tawu**	**0.74**	**326**	P	**Pb**	**01 30 39.9**	**-1.1**
	baz=328						
TAW				*e*S	**Sb**	**01 30 50.0**	**-0.8**
	baz=328						
EAST	**Anshuo**	**0.79**	**324**	⇓*i*P	**Pb**	**01 30 40.5**	**-1.3**
	baz=326						
EAST				*e*S	**Sb**	**01 30 51.6**	**-0.6**
	baz=326						
SCZT	**Fangliau**	**0.92**	**313**	P	**Pb**	**01 30 43.1**	**-0.9**
	baz=315						
SCZT				*e*S	**Sb**	**01 30 55.5**	**-0.4**
	baz=315						
ECL	**Taimali**	**0.93**	**337**	⇓*i*P	**Pb**	**01 30 42.0**	**-2.1**
	baz=338						
ECL				*e*S	**Sb**	**01 30 54.2**	**-1.9**
	baz=338						
TTN	**Taitung**	**1.02**	**350**	*e*P	**Pn**	**01 30 45.2**	**0.0**
	baz=350						
TTN				*e*S	**Sn**	**01 31 00.2**	**+1.6**
	baz=350						
SSPT	**Xinbi**	**1.03**	**316**	*e*P	**Pn**	**01 30 45.6**	**+0.2**
	baz=317						
WLCH	**Liuqiu**	**1.08**	**304**	*e*P	**Pn**	**01 30 46.2**	**+0.1**
	baz=306						
MASBT	**Mashibuluo**	**1.09**	**323**	*e*P	**Pn**	**01 30 45.4**	**-0.8**
	baz=324						
MASBT				*e*S	**Sn**	**01 31 01.8**	**+1.5**
	baz=324						
TWP	**Hsiaoliuchiu**	**1.09**	**303**	*e*P	**Pn**	**01 30 46.0**	**-0.2**
	baz=306						
TWGBT	**Beinan**	**1.10**	**347**	⇓*i*P	**Pn**	**01 30 44.6**	**-1.6**
	baz=347						
TWGBT				*e*S	**Sb**	**01 30 58.8**	**-2.2**
	baz=347						
TWG	**Pinlang**	**1.10**	**347**		**Pn**	**01 30 44.7**	**-1.6**
TWG	**Pinlang**	**1.10**	**347**	⇓*i*P	**Pn**	**01 30 44.6**	**-1.6**
	baz=347						
TSMG	**Majia**	**1.16**	**326**	*e*P	**Pn**	**01 30 46.3**	**-0.8**
	baz=327						
TSMG				*e*S	**Sb**	**01 31 04.0**	**+1.2**
	baz=327						
LONT	**Longtian**	**1.18**	**350**	⇓*i*P	**Pn**	**01 30 45.8**	**-1.5**
	baz=350						
LONT				*e*S	**Sn**	**01 30 58.4**	**-4.1**
	baz=350						
SSD	**Sandimen**	**1.20**	**326**	*e*P	**Pb**	**01 30 48.8**	**0.0**
	baz=328						
SSD				*e*S	**Sb**	**01 31 05.7**	**+1.8**
	baz=328						
EDH	**Donghe**	**1.22**	**358**	*e*P	**Pn**	**01 30 46.8**	**-1.1**
	baz=358						
EDH				*e*S	**Sn**	**01 31 02.9**	**-0.7**
	baz=358						
CHKT	**Chengkung**	**1.35**	**1**	*e*P	**Pn**	**01 30 48.3**	**-1.4**
	baz=1.0						
CHKT				*e*S	**Sn**	**01 31 06.4**	**-0.3**
	baz=1.0						
ECS	**Chishang**	**1.35**	**355**	*e*P	**Pn**	**01 30 48.2**	**-1.5**
	baz=355						
TWM1	**Shoushan**	**1.38**	**322**	*e*P	**Pb**	**01 30 52.1**	**+0.4**
	baz=323						
SCST	**Cishan**	**1.39**	**325**	*e*P	**Pb**	**01 30 51.7**	**-0.3**
	baz=326						
FULB	**Fuli**	**1.45**	**358**	*e*P	**Pn**	**01 30 50.2**	**-0.9**
	baz=358						
FULB				*e*S	**Sn**	**01 31 06.2**	**-3.1**
	baz=358						
ELDTW	**Lidau**	**1.47**	**348**	*e*P	**Pn**	**01 30 50.0**	**-1.5**
	baz=348						
SGST	**Jiashian**	**1.51**	**332**	*e*P	**Pn**	**01 30 52.6**	**+0.7**
	baz=333						
STYT	**Tauyuan**	**1.52**	**339**	*e*P	**Pn**	**01 30 51.9**	**-0.2**
	baz=339						
STYH	**Taoyuan**	**1.52**	**340**	*e*P	**Pn**	**01 30 51.8**	**-0.1**
	baz=340						
SHHT	**Tainan City**	**1.57**	**324**	*e*P	**Pb**	**01 30 56.0**	**+0.8**
	baz=325						
EYUL	**Yuli**	**1.60**	**359**	*e*P	**Pn**	**01 30 52.5**	**-0.6**
	baz=359						
TWF1	**Yuli**	**1.60**	**358**	*e*P	**Pn**	**01 30 52.0**	**-1.2**
	baz=358						
CHN1	**Nanshi**	**1.62**	**332**	*e*P	**Pn**	**01 30 54.8**	**+1.3**
	baz=333						
CHN1				*e*S	**Sb**	**01 31 16.6**	**+0.5**
	baz=333						
WTP	**Ta-pu**	**1.64**	**336**	*e*P	**Pn**	**01 30 55.2**	**+1.5**
	baz=336						
YULB	**Yu-li**	**1.64**	**358**		**Pn**	**01 30 53.4**	**-0.3**
YULB	**Yu-li**	**1.64**	**358**	*e*P	**Pn**	**01 30 52.2**	**-1.5**
	baz=358						
TPUB	**Ta-pu**	**1.69**	**337**		**Pn**	**01 30 55.5**	**+1.2**
TPUB	**Ta-pu**	**1.69**	**337**	*e*P	**Pn**	**01 30 55.7**	**+1.4**
	baz=337						
TPUB				*e*S	**Sb**	**01 31 18.4**	**+0.5**
	baz=337						
TWK	**Hsinying**	**1.71**	**332**	*e*P	**Pn**	**01 30 55.9**	**+1.1**
	baz=333						
HGSD	**Ruisui**	**1.74**	**2**	*e*P	**Pn**	**01 30 54.8**	**-0.3**
	baz=2.0						
CHN4	**Tsaushan**	**1.75**	**337**	*e*P	**Pn**	**01 30 56.6**	**+1.5**
	baz=337						
CHN4				*e*S	**Sb**	**01 31 20.4**	**+0.8**
	baz=337						
EHY	**Hungye**	**1.75**	**359**	*e*P	**Pn**	**01 30 53.7**	**-1.5**
	baz=359						
ALS	**Alishan**	**1.83**	**344**	*e*P	**Pn**	**01 30 56.9**	**+0.4**
	baz=344						
ICHU	**Yijhu**	**1.89**	**329**	*e*P	**Pn**	**01 30 58.4**	**+1.2**
	baz=329						
EGFH	**Guangfu**	**1.92**	**2**	*e*P	**Pn**	**01 30 58.4**	**+0.8**
	baz=2.0						
CHY	**Chiayi**	**1.94**	**334**	*e*P	**Pb**	**01 31 00.1**	**-1.4**
	baz=335						
CHN5	**Tsauling**	**1.95**	**342**	*e*P	**Pn**	**01 30 59.2**	**+1.3**
	baz=342						
WHYT	**Xinyi Township**	**2.00**	**347**	*e*P	**Pn**	**01 30 60.0**	**+1.3**
	baz=347						
VWDT	**VWDT**	**2.01**	**355**	*e*P	**Pn**	**01 30 59.3**	**+0.5**
	baz=354						
WSL	**Shuilin Townsh**	**2.05**	**330**	*e*P	**Pn**	**01 31 00.0**	**+0.7**
	baz=330						
WSL				*e*S	**Sn**	**01 31 25.4**	**+1.4**
	baz=330						
SSLB	**Suanglung**	**2.07**	**350**		**Pn**	**01 31 00.8**	**+1.1**
SSLB	**Suanglung**	**2.07**	**350**	*e*P	**Pn**	**01 31 01.5**	**+1.9**
	baz=350						
TYC	**Yuchr**	**2.20**	**348**	*e*P	**Pn**	**01 31 03.1**	**+1.8**
	baz=348						
TYC				*e*S	**Sb**	**01 31 31.6**	**-1.0**
	baz=348						
OWD	**Renai**	**2.21**	**356**	*e*P	**Pn**	**01 31 02.3**	**+0.7**
	baz=356						
WUSB	**Renai**	**2.25**	**355**	*e*P	**Pn**	**01 31 02.7**	**+0.6**
	baz=354						
VCHM	**Qimei**	**2.30**	**310**	*e*P	**Pn**	**01 31 02.2**	**-0.5**
	baz=310						
VCHM				*e*S	**Sn**	**01 31 29.3**	**-0.8**
	baz=310						
CHGB	**Renai**	**2.31**	**356**	*e*P	**Pn**	**01 31 03.7**	**+0.6**
	baz=356						
WHF	**Hehuan Shan**	**2.39**	**358**	*e*P	**Pn**	**01 31 03.4**	**-1.1**
	baz=358						
PHUB	**P'eng-hu**	**2.41**	**317**	*e*P	**Pn**	**01 31 03.5**	**-0.7**
	baz=318						
NACB	**Ninganchiao**	**2.43**	**5**		**Pn**	**01 31 05.8**	**+1.2**
NACB	**Ninganchiao**	**2.43**	**5**	*e*P	**Pn**	**01 31 05.7**	**+1.2**
	baz=5.0						
FUSS	**Fushou**	**2.49**	**358**	*e*P	**Pn**	**01 31 06.3**	**+0.6**
	baz=358						
WHP	**Taichung City**	**2.55**	**352**	*e*P	**Pn**	**01 31 08.2**	**+1.9**
	baz=352						
LATG	**Datong**	**2.78**	**3**	*e*P	**Pn**	**01 31 11.2**	**+1.6**
	baz=3.0						
ENTT	**Nioudou**	**2.89**	**4**	*e*P	**Pn**	**01 31 10.3**	**-0.6**
	baz=4.0						
YHNB	**Yeheng**	**2.91**	**0**		**Pn**	**01 31 12.6**	**+1.3**
YHNB	**Yeheng**	**2.91**	**0**	*e*P	**Pn**	**01 31 12.5**	**+1.3**
NSK	**Sanguang**	**2.92**	**0**	*e*P	**Pn**	**01 31 12.6**	**+1.3**
YOJ	**Yonaguni jima**	**3.11**	**29**	*e*S	**Sn**	**01 31 50.4**	**+0.3**
YOJ	**Yonaguni jima**	**3.11**	**29**	*e*P	**Pn**	**01 31 12.4**	**-1.5**
	baz=29						
HATJ	**Hateruma jima**	**3.23**	**44**	P	**Pn**	**01 31 16.3**	**+0.7**
HATJ				S	**Sn**	**01 31 53.0**	**-0.1**
TIPB	**Shuangxi**	**3.24**	**8**	*e*P	**Pn**	**01 31 18.6**	**+2.9**
	baz=7.0						
WFSB	**Wu-fen Shan**	**3.34**	**7**	*e*P	**Pn**	**01 31 21.1**	**+4.1**
	baz=7.0						
IRIF	**Iriomote-Funau**	**3.39**	**40**	P	**Pn**	**01 31 18.5**	**+0.8**
IRIF				*e*S	**Sn**	**01 31 57.6**	**+0.6**
JKRS	**Kuro-shima**	**3.49**	**44**	P	**Pn**	**01 31 19.9**	**+0.8**
JKRS				*e*S	**Sn**	**01 31 59.7**	**+0.2**
JIJ	**Ishigaki jima**	**3.66**	**44**	P	**Pn**	**01 31 22.0**	**+0.5**
JIJ				*e*S	**Sn**	**01 32 03.9**	**+0.1**
KNMB	**Chin-men Tao**	**3.84**	**315**	Pn	**Pn**	**01 31 24.2**	**+0.2**
PTMZ	**Houxiangcun**	**3.87**	**328**	*e*P	**Pn**	**01 31 22.8**	**-1.5**
	baz=328						
JISG	**Ishigakijimahi**	**3.93**	**43**	P	**Pn**	**01 31 25.8**	**+0.6**
JISG				*e*S	**Sn**	**01 32 11.0**	**+0.6**
JTJ	**Tarama**	**4.22**	**46**	S	**Sn**	**01 32 18.2**	**+0.6**
AXDP	**Jialang**	**4.42**	**316**	*e*P	**Pn**	**01 31 32.3**	**+0.4**
	baz=316						
JIRB	**Irabujima**	**4.67**	**48**	*e*S	**Sn**	**01 32 29.2**	**+0.6**
JMJ2	**Miyako jima3**	**4.72**	**50**	S	**Sn**	**01 32 30.9**	**+1.0**
JIKM	**Ikemajima**	**4.78**	**48**	*e*S	**Sn**	**01 32 31.9**	**+0.5**
JOW	**Kunigami**	**8.10**	**50**	Pn	Pn	01 32 17.5	-4.9
CMAR	**Chiang Mai Arr**	**21.29**	**265**	P	**P**	**01 35 11.5**	**+0.2**
	1.1nm,0.3s,baz=70,slow=9.3,SNR=6.3						
SONM	**Songino Array**	**28.68**	**339**	P	**P**	**01 36 23.1**	**+1.8**
	0.6nm,0.8s,baz=146,slow=7.5,SNR=5.1						
SONM	**Songino Array**	**28.68**	**339**	IAmb	IAmb	01 37 25.2	
	comp=Z,3.5nm,1.6s						
LEM	**Lembang**	**31.43**	**207**	LR	LR	01 48 47.9	
	comp=Z,83nm,22.0s,baz=242,slow=35						
MK31	**Makanchi Array**	**40.22**	**318**	P	**P**	**01 38 01.7**	**+0.8**
MK31				IAmb	IAmb	01 38 20.3	
	comp=Z,4.4nm,1.8s						
MKAR	**Makanchi Array**	**40.22**	**318**	P	**P**	**01 38 02.8**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=109,slow=9.8,SNR=8.5						
MKAR	**Makanchi Array**	**40.22**	**318**	P	**P**	**01 38 02.0**	**+1.1**
MAKZ	**Makanchi**	**40.42**	**318**	P	**P**	**01 38 03.9**	**+1.4**
MAKZ				IAmb	IAmb	01 38 25.5	
	comp=Z,6.1nm,1.7s						
ZAA0	**Zalesovo Array**	**42.38**	**329**	P	**P**	**01 38 19.9**	**+1.4**
ZALV	**Zalesovo Beam**	**42.38**	**329**	P	**P**	**01 38 19.1**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=111,slow=8.2,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**42.53**	**84**	T	T	02 23 35.4	
	baz=282,slow=75,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**42.53**	**84**	T	T	02 23 34.1	
	baz=282,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**42.55**	**84**	T	T	02 23 38.5	
	baz=282,slow=75,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**42.58**	**86**	T	T	02 23 40.4	
	baz=282,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**42.59**	**86**	T	T	02 23 32.8	
	baz=282,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**42.60**	**86**	T	T	02 23 31.2	
	baz=282,slow=75,SNR=11						
WRA	**Warramunga Arr**	**43.33**	**162**	P	**P**	**01 38 23.4**	**-3.2**
	comp=Z,0.7nm,0.6s,baz=344,slow=9.0,SNR=10						
WB2	**Warramunga Arr**	**43.34**	**162**	P	**P**	**01 38 23.0**	**-3.5**
WB2				IAmb	IAmb	01 39 39.4	
	comp=Z,8.9nm,1.3s						
WR0	**Warramunga Arr**	**43.41**	**162**	P	**P**	**01 38 23.6**	**-3.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WR0				IAmb	IAmb	01 39 24.0	
	comp=Z,12nm,1.6s						
ASAR	**Alice Springs**	**46.76**	**164**	P	**P**	**01 38 51.2**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=343,slow=9.3,SNR=5.6						
KKAR	**Karatay Array**	**47.09**	**309**	P	**P**	**01 38 57.5**	**+1.3**
KBL	**Kabul**	**47.38**	**297**	P	**P**	**01 38 59.7**	**+0.9**
KIRV	**Kirov**	**62.30**	**326**	LR	LR	02 09 09.8	
	comp=Z,78nm,18.4s,baz=56,slow=37						
FINES	**FINESS Array B**	**73.62**	**330**	P	**P**	**01 41 57.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=75,slow=5.9,SNR=2.6						
AKASG	**Malin Array Be**	**74.79**	**319**	LR	LR	02 18 03.3	
	comp=Z,40nm,18.2s,baz=82,slow=38						
MLR	**Muntele Rosu**	**78.45**	**314**	LR	LR	02 22 26.7	
	comp=Z,47nm,18.8s,baz=195,slow=40						
HFS	**Hagfors**	**79.76**	**331**	LR	LR	02 21 50.0	
	comp=Z,63nm,19.1s,baz=34,slow=39						
YKA	**Yellowknife Ar**	**85.15**	**23**	P	**P**	**01 42 59.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=313,slow=4.8,SNR=1.9						
DAVOX	**Davos/Dischmat**	**88.07**	**320**	LR	LR	02 25 01.4	
	comp=Z,60nm,20.1s,baz=83,slow=37						

*NNC **11** 01:44:27.9±3.4, 45.°39N×72.°48E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=30.2km s-min=14.8km az=8.0*
*SOME **11** 01:44:31.3, 45.°15N×72.°32E, h0km*
ISC 11 01:44:32.0±2.0**, 45.°1N**±0.°1×**72.°36E**±0.°06**, h10km, n11, σ1.s53**/19**, 4C-1D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLS	**Baital**	**1.20**	**93**	*e*P	**Pn**	**01 44 54.1**	**-0.7**
	4.0nm,0.1s						
BTLS				*e*S	**Sb**	**01 45 10.3**	**-0.1**
	18nm,0.1s						
SGDS	**Sogindy**	**2.33**	**135**	*e*P	**Pg**	**01 45 16.0**	**-0.6**
	0.9nm,0.1s						
SGDS				*e*S	**Sg**	**01 45 47.8**	**+1.1**
	6.3nm,0.1s						
KK01	**Karatay Array**	**2.40**	**214**	⇓Pg	**Pg**	**01 45 17.4**	**-0.7**
	0.6nm,0.5s,baz=32,slow=17						
KK01				⇑Lg	Lg	01 45 52.4	
	1.5nm,0.4s,baz=29,slow=27						
KRBS	**Karabastau**	**2.77**	**119**	*e*P	**Pg**	**01 45 24.3**	**-0.7**
	1.0nm,0.1s						
KRBS				*e*S	**Sg**	**01 46 02.2**	**+1.4**
	7.9nm,0.3s						
AAK	**Ala-Archa**	**2.91**	**147**	Pn	**Pn**	**01 45 19.2**	**+0.6**
	0.6nm,0.5s						
AAK				⇑Lg	Lg	01 46 05.5	
	2.6nm,0.5s						
DGS	**Degeres**	**3.08**	**126**	*e*P	**Pg**	**01 45 30.4**	**-0.7**
	1.3nm,0.1s						
DGS				*e*S	**Sg**	**01 46 12.6**	**+1.5**
	8.8nm,0.5s						
KUU	**Kurty**	**3.10**	**112**	*e*P	**Pg**	**01 45 30.1**	**-1.3**
	0.1nm,0.0s						
KUU				*e*S	**Sg**	**01 46 11.8**	**+0.3**
	12nm,0.1s						
TKM2	**Tokmak 2**	**3.20**	**132**	⇑Pg	**Pb**	**01 45 27.2**	**-1.9**
	1.6nm,0.9s						
TKM2				⇑Lg	Lg	01 46 14.2	
	2.2nm,0.5s						
KTBS	**Karatobe**	**3.40**	**113**	*e*P	**Pb**	**01 45 34.4**	**+2.0**
	0.9nm,0.1s						
KTBS				*e*S	**Sg**	**01 46 20.4**	**-0.8**
	11nm,0.1s						
CHKK	**Chushkaly**	**3.54**	**109**	*e*P	**Pb**	**01 45 37.1**	**+2.3**
	0.9nm,0.0s						
CHKK				*e*S	**Sg**	**01 46 24.4**	**-1.4**
	3.5nm,0.0s						
TNSS	**Tian-Shan**	**3.90**	**120**	*e*P	**Pb**	**01 45 43.2**	**+2.0**
	0.8nm,0.3s						
TNSS				*e*S	**Sg**	**01 46 34.5**	**-2.8**
	2.2nm,0.5s						

IDC 11 02:05:50.0±52.0**, 18.°86S×179.°58E, h0km, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.8**/33**, mbtmp4.3**/3**, Error ellipse: s-maj=935.7km s-min=143.0km az=79.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.49**	**242**	P	P	02 12 57.6	+0.5
	2.4nm,0.7s,baz=91,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**42.58**	**261**	P	P	02 13 48.0	-0.1
	1.5nm,0.3s,baz=98,slow=7.8,SNR=74						
ASAR	**Alice Springs**	**42.69**	**255**	P	P	02 13 48.5	-0.6
	4.3nm,0.8s,baz=88,slow=8.5,SNR=37						

IDC 11 02:09:08.2±1.5**, 10.°99N×138.°66E, h0km, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.5**/38**, mbtmp3.5**/4**, Error ellipse: s-maj=70.8km s-min=26.8km az=86.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.03**	**188**	P	P	02 15 26.8	-1.2
	0.5nm,0.8s,baz=360,slow=9.7,SNR=2.5						
ASAR	**Alice Springs**	**34.76**	**188**	P	P	02 16 01.2	+0.7
	0.4nm,0.5s,baz=19,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**59.25**	**318**	P	P	02 19 12.1	+0.4
	0.4nm,0.7s,baz=97,slow=9.5,SNR=6.3						
YKA	**Yellowknife Ar**	**87.91**	**26**	P	P	02 21 59.0	-0.6
	0.3nm,0.7s,baz=299,slow=5.4,SNR=4.4						

IDC 11 02:34:03.9±5.3**, 2.°94S×103.°70E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/37**, mbtmp3.4**/3**, Error ellipse: s-maj=298.0km s-min=28.6km az=52.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.35**	**122**	P	P	02 40 52.9	+0.1
	0.1nm,0.3s,baz=300,slow=8.6,SNR=5.4						
ASAR	**Alice Springs**	**35.74**	**128**	P	P	02 41 04.7	0.0
	0.1nm,0.3s,baz=298,slow=7.6,SNR=2.0						
MKAR	**Makanchi Array**	**52.99**	**342**	P	P	02 43 22.7	+0.2
	0.2nm,0.4s,baz=150,slow=8.8,SNR=6.4						
TXAR	**Lajitas Array**	**143.06**	**42**	PKP	PKPbc	02 53 37.9	+0.5
	0.2nm,0.5s,baz=222,slow=1.1,SNR=6.6						

IDC 11 02:44:49.1±2.7**, 5.°68S×129.°95E, h0km, mb3.5**/1**, mb1 3.4**/3**, mb1mx3.1**/41**, mbtmp3.2**/3**, ML3.3**/2**, Error ellipse: s-maj=178.6km s-min=32.9km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.80**	**164**	Pn	Pn	02 48 20.0	0.0
	0.1nm,0.3s,baz=346,slow=13,SNR=12						
WRA				Sn	Sn	02 50 51.7	-13
	0.3nm,0.3s,baz=341,slow=19,SNR=8.0						
ASAR	**Alice Springs**	**18.28**	**168**	P	Pn	02 49 04.2	-0.2
	0.1nm,0.3s,baz=352,slow=10,SNR=6.8						
ASAR				S	Sn	02 52 18.4	-11
	0.1nm,0.3s,baz=346,slow=27,SNR=2.8						
MKAR	**Makanchi Array**	**67.10**	**327**	P	P	02 55 44.7	+0.1
	0.2nm,0.4s,baz=115,slow=9.9,SNR=3.0						

*IDC **11** 03:22:14.5±2.2, 0.°72S×126.°65E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/36, mbtmp3.5/3, Error ellipse: s-maj=194.4km s-min=28.1km az=65.0*
*DJA **11** 03:22:29.7±0.9, 1°S±8°×12°7E±°, h90km±13km, M3.9/8, mB4.6/1, MLv3.9/8, Mw(mB)3.8/1*
ISC 11 03:22:27.7±1.2**, 0.°68S**±0.°09×**127.°40E**±0.°08**, h111km**±10km**, n12, σ2.s15**/13**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.11**	**69**	P	**Pn**	**03 22 43.9**	**+1.0**
LBMI	**Labuha**	**0.11**	**69**	P	**Pn**	**03 22 44.0**	**+1.0**
SANI	**Sanana**	**1.96**	**226**	P	**Pn**	**03 23 01.2**	**+1.0**
SANI				S	**Sn**	**03 23 23.1**	**-1.9**
MSAI	**Masohi**	**3.06**	**150**	P	**Pn**	**03 23 16.7**	**+2.2**
AAI	**Ambon**	**3.09**	**165**	P	**Pn**	**03 23 17.1**	**+2.1**
AAI	**Ambon**	**3.09**	**165**	P	**Pn**	**03 23 16.8**	**+1.8**
GTOI	**Gorontalo**	**4.58**	**287**	P	**Pn**	**03 23 38.5**	**+3.7**
APSI	**Ampana**	**5.75**	**268**	P	**Pn**	**03 23 52.2**	**+1.5**
APSI	**Ampana**	**5.75**	**268**	P	**Pn**	**03 23 51.9**	**+1.2**
WRA	**Warramunga Arr**	**20.32**	**161**	P	**P**	**03 26 54.5**	**-0.6**
	0.5nm,0.3s,baz=338,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.71**	**165**	P	**P**	**03 27 30.0**	**+0.4**
	1.5nm,0.5s,baz=342,slow=9.5,SNR=24						
MKAR	**Makanchi Array**	**61.55**	**326**	P	**P**	**03 32 31.1**	**-2.1**
	0.1nm,0.6s,baz=134,slow=8.3,SNR=2.1						

*IDC **11** 03:38:06.3±1.0, 39.°36N×73.°80E, h0km, mb3.6/8, mb1 3.7/14, mb1mx3.5/50, mbtmp3.6/14, ML2.7/5, Error ellipse: s-maj=20.0km s-min=14.3km az=109.0*
*KRNET **11** 03:38:08.3±0.1, 39.°50N×73.°78E, mb4.1*
*SOME **11** 03:38:08.4, 39.°50N×73.°78E, h20km*
*NNC **11** 03:38:13.8±2.4, 39.°72N×73.°68E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=20.7km s-min=11.5km az=0.0*
ISC 11 03:38:07.8±1.4**, 39.°60N**±0.°04×**73.°80E**±0.°02**, h5km**±8km**, n69, σ1.s81**/110**, mb3.6**/8**, 33C-18D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.21**	**320**	⇑*i*P	**Pn**	**03 38 32.8**	**+1.3**
	baz=23						
OHH				⇑*i*S	**Sn**	**03 38 50.6**	**+2.3**
	baz=23						
DRK	**Karamyk**	**1.55**	**266**	⇑*i*P	**Pg**	**03 38 37.3**	**-0.2**
	baz=70						
DRK				⇑*i*S	**Sg**	**03 38 58.6**	**+1.0**
	baz=70						
ARLS	**Aral**	**2.30**	**10**	⇓*e*P	**Pg**	**03 38 50.9**	**-1.0**
	baz=10.0						
ARLS				⇓*i*S	**Sg**	**03 39 22.2**	**+0.6**
	baz=10.0						
BTK	**Batken**	**2.34**	**282**	⇑*i*P	**Pb**	**03 38 50.3**	**-0.2**
	baz=85						
BTK				⇑*i*S	**Sg**	**03 39 21.1**	**-1.9**
	baz=85						
AML	**Almayashu**	**2.53**	**358**	P	**Pb**	**03 38 54.5**	**+0.5**
	SNR=82						
ARK	**Arkit**	**2.60**	**328**	⇑*i*P	**Pb**	**03 38 55.0**	**-0.1**
	baz=30						
ARK				⇑*i*S	**Sg**	**03 39 29.3**	**-2.2**
	baz=30						
UCH	**Uchtor**	**2.69**	**11**	P	**Pb**	**03 38 57.3**	**+0.7**
	SNR=138						
UCH	**Uchtor**	**2.69**	**11**	⇓*e*P	**Pb**	**03 38 56.6**	**0.0**
	baz=11						
UCH				⇓*i*S	**Sg**	**03 39 31.6**	**-2.5**
	baz=11						
TRKS	**Terek-Say**	**2.80**	**315**	⇑*i*P	**Pb**	**03 38 56.6**	**-1.8**
	baz=15						
TRKS				⇑*i*S	**Sb**	**03 39 31.8**	**-1.2**
	baz=15						
EKS2	**Erkin-Say**	**3.06**	**360**	P	**Pb**	**03 39 02.6**	**-0.3**
	SNR=43						
EKS2	**Erkin-Say**	**3.06**	**360**	⇑*i*P	**Pb**	**03 39 01.6**	**-1.3**
	baz=60						
EKS2				⇑*i*S	**Sb**	**03 39 40.6**	**0.0**
	baz=60						
AAK	**Ala-Archa**	**3.08**	**10**	Pn	**Pb**	**03 39 03.0**	**-0.3**
	14nm,0.3s,baz=182,slow=7.0,SNR=119						
AAK				Lg	Lg	03 39 49.9	
	15nm,0.3s,baz=188,slow=22,SNR=10						
AAK	**Ala-Archa**	**3.08**	**10**	P	**Pb**	**03 39 03.1**	**-0.2**
	SNR=61						
AAK	**Ala-Archa**	**3.08**	**10**	⇓*i*P	**Pb**	**03 39 02.0**	**-1.3**
	baz=10.0						
AAK				⇓*i*S	**Sb**	**03 39 41.2**	**-0.1**
	baz=10.0						
AAK	**Ala-Archa**	**3.08**	**10**	⇓Pn	**Pb**	**03 39 03.0**	**-0.3**
	28nm,0.4s						
AAK				⇓Lg	Lg	03 39 50.2	
	102nm,0.5s						
MRKS	**Merke**	**3.18**	**352**	*e*P	**Pg**	**03 39 08.2**	**-0.5**
	30nm,0.1s						
MRKS				*e*S	**Sg**	**03 39 51.9**	**+2.0**
	124nm,0.2s						
KBK	**Karagaybulak**	**3.18**	**15**	P	**Pb**	**03 39 04.7**	**-0.2**
	SNR=16						
KBK	**Karagaybulak**	**3.18**	**15**	⇑*e*P	**Pb**	**03 39 03.5**	**-1.4**
	baz=15						
KBK				⇑*i*S	**Sb**	**03 39 43.5**	**-0.5**
	baz=15						
ULHL	**Ulahol**	**3.23**	**34**	P	**Pg**	**03 39 09.6**	**-0.1**
	SNR=26						
ULHL	**Ulahol**	**3.23**	**34**	⇑*i*P	**Pb**	**03 39 03.9**	**-1.9**
	baz=33						
ULHL				⇑*i*S	**Sb**	**03 39 44.6**	**-0.9**
	baz=33						
FRU1	**Bishkek**	**3.27**	**11**	⇑*e*P	**Pb**	**03 39 04.6**	**-1.8**
	baz=10.0						
FRU1				⇑*i*S	**Sb**	**03 39 45.9**	**-0.7**
	baz=10.0						
BOOM	**Boomskoye usch**	**3.31**	**29**	⇑*e*P	**Pb**	**03 39 05.0**	**-2.2**
	baz=28						
BOOM				⇑*i*S	**Sb**	**03 39 46.5**	**-1.4**
	baz=28						
CHMS	**Chumysh**	**3.48**	**12**	P	**Pb**	**03 39 08.2**	**-1.7**
	SNR=20						
TKM2	**Tokmak 2**	**3.59**	**22**	P	**Pb**	**03 39 09.8**	**-2.1**
	SNR=22						
TKM2	**Tokmak 2**	**3.59**	**22**	⇑*e*P	**Pb**	**03 39 09.0**	**-2.9**
	baz=21						
TKM2				⇑*i*S	**Sb**	**03 39 53.4**	**-2.4**
	baz=21						
TKM2	**Tokmak 2**	**3.59**	**22**	⇑Pn	**Pb**	**03 39 09.2**	**-2.7**
	12nm,0.7s						
TKM2				⇓Pg	**Pg**	**03 39 18.0**	**+1.5**
	14nm,0.3s						
TKM2				⇑Lg	Lg	03 40 06.6	
	44nm,0.5s						
USP	**Ospenovka**	**3.71**	**8**	P	**Pb**	**03 39 11.1**	**-2.7**
	SNR=22						
USP	**Ospenovka**	**3.71**	**8**	⇑*i*P	**Pb**	**03 39 10.4**	**-3.4**
	baz=8.0						
USP				⇑*i*S	**Sb**	**03 39 56.1**	**-2.9**
	baz=8.0						
DZA	**Taraz**	**3.78**	**331**	*e*P	**Pg**	**03 39 18.1**	**-2.1**
	83nm,0.0s						
DZA				*e*S	**Sg**	**03 40 08.4**	**-0.8**
	200nm,0.3s						
IUG	**Iuzhnay**	**3.83**	**313**	*e*P	**Pg**	**03 39 19.9**	**-1.3**
	494nm,0.2s						
IUG				*e*S	**Sg**	**03 40 11.4**	**+0.6**
	222nm,0.5s						
SGDS	**Sogindy**	**3.90**	**9**	*e*P	**Pg**	**03 39 21.0**	**-1.6**
	44nm,0.3s						
SGDS				*e*S	**Sg**	**03 40 14.0**	**+0.8**
	26nm,0.9s						
DGS	**Degeres**	**3.93**	**22**	*e*P	**Pg**	**03 39 22.7**	**-0.5**
	29nm,0.2s						
DGS				*e*S	**Sg**	**03 40 16.2**	**+2.0**
	70nm,0.2s						
IZV	**Izvestkoviy**	**4.04**	**31**	*e*P	**Pg**	**03 39 23.8**	**-1.3**
	21nm,0.3s						
IZV				*e*S	**Sg**	**03 40 18.9**	**+1.3**
	82nm,0.1s						
MTBS	**Maitube**	**4.05**	**28**	*e*P	**Pg**	**03 39 24.8**	**-0.5**
	18nm,0.2s						
MTBS				*e*S	**Sg**	**03 40 19.7**	**+1.9**
	113nm,0.2s						
TNSS	**Tian-Shan**	**4.18**	**34**	*e*P	**Pg**	**03 39 26.8**	**-1.0**
	22nm,0.2s						
TNSS				*e*S	**Sg**	**03 40 23.5**	**+1.5**
	48nm,0.3s						
CHM	**Chimkent**	**4.18**	**312**	*e*P	**Pg**	**03 39 27.4**	**-0.5**
	96nm,0.1s						
CHM				*e*S	**Sg**	**03 40 24.3**	**+2.2**
	472nm,0.1s						
KK07	**Karatay Array**	**4.28**	**326**	⇓Pn	**Pn**	**03 39 17.4**	**+3.7**
	4.9nm,0.3s,baz=131,slow=12						
KK07				⇑Pg	**Pg**	**03 39 28.6**	**-1.2**
	21nm,0.7s,baz=143,slow=15						
KK07				⇑Sn	**Sn**	**03 40 08.5**	**+4.4**
	33nm,0.7s,baz=143,slow=23						
KK07				⇓Lg	Lg	03 40 25.6	
	55nm,0.7s,baz=143,slow=30						
AAA	**Alma-Ata**	**4.30**	**32**	*e*P	**Pg**	**03 39 29.1**	**-1.2**
	26nm,0.0s						
AAA				*e*S	**Sg**	**03 40 26.0**	**-0.1**
	178nm,0.2s						
MDOK	**Medeo**	**4.32**	**33**	*e*P	**Pg**	**03 39 29.3**	**-1.3**
	11nm,0.1s						
MDOK				*e*S	**Sg**	**03 40 27.9**	**+1.3**
	74nm,0.2s						
MDOK	**Medeo**	**4.32**	**33**	⇓Pn	**Pb**	**03 39 21.7**	**-2.7**
	5.0nm,0.5s						
MDOK				⇑Pg	**Pg**	**03 39 31.2**	**+0.6**
	21nm,0.5s						
MDOK				⇓Lg	Lg	03 40 28.0	
	68nm,0.7s						
KRBS	**Karabastau**	**4.33**	**18**	*e*P	**Pg**	**03 39 29.3**	**-1.5**
	34nm,0.4s						
KRBS				*e*S	**Sg**	**03 40 27.5**	**+0.6**
	52nm,0.3s						
KOTS	**Kotyrbulak**	**4.41**	**33**	*e*P	**Pg**	**03 39 32.3**	**+0.1**
	39nm,0.1s						
KOTS				*e*S	**Sg**	**03 40 31.8**	**+2.5**
	176nm,0.1s						
KTBS	**Karatobe**	**4.65**	**27**	*e*P	**Pg**	**03 39 36.1**	**-0.7**
	12nm,0.1s						
KTBS				*e*S	**Sg**	**03 40 38.5**	**+1.5**
	47nm,0.2s						
KUU	**Kurty**	**4.70**	**23**	*e*P	**Pg**	**03 39 36.9**	**-0.9**
	18nm,0.5s						
KUU				*e*S	**Sg**	**03 40 39.4**	**+0.8**
	45nm,0.1s						
CHKK	**Chushkaly**	**4.88**	**28**	*e*P	**Pg**	**03 39 40.0**	**-1.3**
	6.0nm,0.1s						
CHKK				*e*S	**Sg**	**03 40 45.6**	**+1.1**
	42nm,0.2s						
SATY	**Saty**	**4.90**	**44**	*e*P	**Pg**	**03 39 40.1**	**-1.5**
	26nm,0.4s						
SATY				*e*S	**Sg**	**03 40 46.5**	**+1.3**
	49nm,0.3s						
ZHN	**Zhinishke**	**4.99**	**43**	*e*P	**Pg**	**03 39 42.4**	**-1.0**
	13nm,0.3s						
ZHN				*e*S	**Sg**	**03 40 49.9**	**+1.8**
	45nm,0.3s						
UZB	**Uzynbulak**	**5.29**	**46**	*e*P	**Pg**	**03 39 46.2**	**-3.1**
	9.0nm,0.1s						
UZB				*e*S	**Sg**	**03 40 57.0**	**-0.8**
	15nm,1.3s						
KPKS	**Kokpek**	**5.33**	**42**	*e*P	**Pg**	**03 39 47.8**	**-2.1**
	12nm,0.0s						
KPKS				*e*S	**Sg**	**03 40 58.7**	**-0.2**
	76nm,0.2s						
BTLS	**Baital**	**5.45**	**2**	*e*P	**Pg**	**03 39 50.0**	**-2.0**
	6.6nm,0.1s						
BTLS				*e*S	**Sg**	**03 41 02.8**	**+0.2**
	15nm,0.2s						
SHLS	**Shalkode**	**5.55**	**48**	*e*P	Pg	03 39 59.1	+5.0
	10nm,0.1s						
SHLS				*e*S	Sg	03 41 18.2	+12
	34nm,0.2s						
PDGK	**Podgornoye**	**5.67**	**47**	⇓Pn	Pn	03 39 38.9	+6.0
	5.5nm,0.7s						
PDGK				⇓Pg	**Pg**	**03 39 54.1**	**-2.4**
	14nm,0.7s						
PDGK				⇑Lg	Lg	03 41 09.8	
	98nm,1.2s						
DJR	**Jarkent**	**6.51**	**41**	*e*P	**Pg**	**03 40 11.3**	**-1.1**
	7.3nm,0.2s						
DJR				*e*S	**Sg**	**03 41 40.1**	**+3.5**
	18nm,0.3s						
MK31	**Makanchi Array**	**9.49**	**38**	⇑Pn	Pn	03 40 35.3	+10
	1.0nm,0.7s,baz=220,slow=15,SNR=5.8						
MK31				⇓Lg	Lg	03 43 10.9	
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**9.49**	**38**	Pn	**Pn**	**03 40 29.1**	**+3.9**
	0.0nm,0.3s,baz=216,slow=12,SNR=4.5						
MKAR				Lg	Lg	03 43 12.7	
	0.1nm,0.3s,baz=227,slow=26,SNR=3.5						
KURBB	**Kurchatov Arra**	**11.52**	**15**	Pn	**Pn**	**03 40 54.9**	**+2.1**
	0.0nm,0.3s,baz=204,slow=11,SNR=4.2						
KURBB				Lg	Lg	03 44 16.4	
	0.1nm,0.3s,baz=200,slow=27,SNR=11						
AB31	**Akbulak array**	**13.81**	**319**	⇑Pn	**Pn**	**03 41 25.1**	**+1.0**
	0.6nm,0.6s,baz=128,slow=14,SNR=20						
AB31				⇓Sn	**Sn**	**03 43 50.9**	**-6.9**
	0.8nm,0.6s,baz=135,slow=26,SNR=2.7						
AKTO	**Aktyubinsk**	**15.52**	**319**	Pn	**Pn**	**03 41 48.2**	**+0.9**
	0.3nm,0.3s,baz=126,slow=14,SNR=10						
AKTO	**Aktyubinsk**	**15.52**	**319**	⇓P	**Pn**	**03 41 48.3**	**+1.1**
	4.9nm,0.8s						
AKTO				⇑S	**Sn**	**03 44 35.9**	**-3.6**
	2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**16.19**	**24**	Pn	**P**	**03 41 57.7**	**-1.5**
	0.2nm,0.3s,baz=210,slow=8.6,SNR=7.1						
ARU	**Arti**	**19.61**	**334**	P	**Pn**	**03 42 38.6**	**+0.5**
	0.0nm,0.3s,baz=169,slow=10,SNR=8.3						
FINES	**FINESS Array B**	**36.24**	**323**	P	**P**	**03 45 12.3**	**+0.8**
	0.7nm,0.5s,baz=112,slow=8.1,SNR=9.5						
ARCES	**ARCESS Array B**	**39.19**	**335**	P	**P**	**03 45 37.4**	**+1.0**
	1.0nm,0.5s,baz=105,slow=8.9,SNR=13						
NOA	**NORSAR Array B**	**43.30**	**321**	P	**P**	**03 46 10.8**	**+0.5**
	0.4nm,0.5s,baz=110,slow=7.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**67.99**	**269**	P	**P**	**03 49 06.8**	**-1.4**
	0.3nm,0.4s,baz=56,slow=5.5,SNR=6.2						
ILAR	**Eielson Array**	**71.19**	**17**	P	**P**	**03 49 27.6**	**+0.3**
	0.3nm,0.7s,baz=323,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**78.03**	**4**	P	**P**	**03 50 06.9**	**-0.1**
	0.2nm,0.5s,baz=348,slow=6.1,SNR=5.4						
WRA	**Warramunga Arr**	**81.82**	**124**	P	**P**	**03 50 26.9**	**-1.2**
	0.3nm,0.7s,baz=330,slow=5.6,SNR=4.9						
ASAR	**Alice Springs**	**84.28**	**127**	P	**P**	**03 50 39.2**	**-1.5**
	0.2nm,0.4s,baz=318,slow=5.4,SNR=1.9						

*GUC **11** 03:45:29.0±0.7, 25.°84S×70.°27W, h66km±5km, ML4.2*
*SJA **11** 03:45:29.3±0.6, 25.°78S×70.°19W, h45km±38km, ML4.0, MW4.1*
*IDC **11** 03:45:29.4±1.4, 25.°80S×70.°06W, h54km±6km, mb3.4/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.7/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/20, Error ellipse: s-maj=49.5km s-min=31.1km az=6.0*
ISC 11 03:45:27.6±0.7**, 25.°78S**±0.°02×**70.°28W**±0.°05**, h30km**±4km**, n60, σ2.s08**/84**, mb3.7**/3**, 2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.47**	**218**	⇑*e*P	**Pn**	**03 45 41.3**	**+3.0**
AC01				*e*S	**Sn**	**03 45 49.8**	**+4.2**
AC01				IAML		03 45 50.4	
	comp=E,22μm,0.2s						
AC01	**Pan de Azucar**	**0.47**	**218**	*i* P	**Pn**	**03 45 41.3**	**+3.0**
AC01				*e*S	**Sn**	**03 45 50.1**	**+4.5**
PB14	**IPOC Station P**	**1.16**	**354**	*i* P	**Pb**	**03 45 50.5**	**+1.3**
PB14				*e*S	**Sb**	**03 46 07.0**	**+3.1**
PB14				IAML		03 46 07.4	
	comp=Z,3μm,1.3s						
AC02	**Maricunga**	**1.47**	**136**	⇑*e*P	**Pb**	**03 45 54.9**	**+0.2**
AC02				*e*S	**Sb**	**03 46 13.3**	**+0.1**
AC02				IAML		03 46 14.2	
	comp=N,11μm,0.2s						
AC02	**Maricunga**	**1.47**	**136**	*i* P	**Pb**	**03 45 54.9**	**+0.2**
AC02				*e*S	**Sb**	**03 46 13.2**	**+0.1**
AC06	**Mina Casimiro**	**1.57**	**183**	*e*P	**Pn**	**03 45 54.7**	**+1.2**
AC06				*e*S	**Sn**	**03 46 14.3**	**+1.4**
AC06				IAML		03 46 19.4	
	comp=E,4μm,0.2s						
GO03	**Copiap**	**1.81**	**179**	*e*P	**Pn**	**03 45 58.2**	**+1.4**
GO03				*e*S	**Sn**	**03 46 19.9**	**+1.1**
GO03				IAML		03 46 26.4	
	comp=E,2μm,0.1s						
GO03	**Copiap**	**1.81**	**179**	*i* P	**Pn**	**03 45 58.4**	**+1.6**
GO03				*e*S	**Sb**	**03 46 22.4**	**+0.1**
PB10	**IPOC Station P**	**2.27**	**354**	*e*P	**Pn**	**03 46 04.6**	**+1.5**
PB10				⇓*e*S	**Sb**	**03 46 33.9**	**-1.7**
PB10	**IPOC Station P**	**2.27**	**354**	*i* P	**Pn**	**03 46 04.7**	**+1.5**
PB10				*e*S	**Sn**	**03 46 32.4**	**+2.3**
PB10				IAML		03 46 45.0	
	comp=Z,507nm,0.5s						
AC04	**Llanos de Chal**	**2.52**	**196**	*e*P	**Pn**	**03 46 07.1**	**+0.6**
AC04				*e*S	**Sn**	**03 46 37.5**	**+1.3**
AC04				IAML		03 46 50.0	
	comp=E,1μm,0.5s						
AC04	**Llanos de Chal**	**2.52**	**196**	*i* P	**Pn**	**03 46 07.2**	**+0.7**
AC04				*e*S	**Sb**	**03 46 45.7**	**+3.0**
PB15	**IPOC Station P**	**2.66**	**16**	*i* P	**Pb**	**03 46 11.7**	**-3.0**
PB06	**IPOC Station P**	**3.13**	**12**	*i* P	**Pn**	**03 46 16.7**	**+1.7**
PB06				*e*S	**Sb**	**03 47 01.2**	**+0.8**
PB06				IAML		03 47 13.8	
	comp=Z,714nm,0.7s						
LCO	**Las Campanas**	**3.24**	**187**	*e*P	**Pn**	**03 46 17.5**	**+0.8**
LCO				*e*S	**Sn**	**03 46 55.8**	**+1.3**
LCO	**Las Campanas**	**3.24**	**187**	*i* P	**Pn**	**03 46 18.0**	**+1.3**
LCO				*e*S	**Sb**	**03 47 04.0**	**+0.2**
LCO				IAML		03 47 13.3	
	comp=Z,3μm,0.2s						
LVC	**Limon Verde**	**3.39**	**22**	LR	LR	03 47 48.5	
	comp=Z,90nm,21.6s,baz=206,slow=42						
LVC	**Limon Verde**	**3.39**	**22**	*e*P	**Pn**	**03 46 21.3**	**+2.4**
LVC				*e*S	**Sn**	**03 47 02.1**	**+3.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.39**	**22**	*i* P	**Pn**	**03 46 21.5**	**+2.6**
LVC				IAML		03 47 20.1	
	comp=Z,545nm,0.7s						
PB04	**IPOC Station P**	**3.43**	**2**	*i* P	**Pn**	**03 46 19.9**	**+0.7**
PB04				*e*S	**Sb**	**03 47 11.1**	**+1.9**
VCA	**Vinchina**	**3.47**	**148**	*i* P	**Pn**	**03 46 24.2**	**+4.4**
VCA				IAML		03 47 31.1	
	comp=Z,182nm,1.1s						
FSA	**Cafayete**	**3.88**	**96**	*i* P	**Pn**	**03 46 29.3**	**+3.9**
PB07	**IPOC Station P**	**4.05**	**5**	*i* P	**Pn**	**03 46 28.2**	**+0.5**
PB07				*e*S	**Sb**	**03 47 29.6**	**+2.6**
PB07				IAML		03 47 38.8	
	comp=Z,432nm,0.4s						
PB09	**IPOC Station P**	**4.08**	**14**	*i* P	**Pn**	**03 46 30.0**	**+1.9**
PB09				IAML		03 47 54.4	
	comp=Z,352nm,0.6s						
CO05	**La Serena**	**4.21**	**191**	*e*P	**Pn**	**03 46 30.9**	**+1.1**
CO05				*e*S	**Sn**	**03 47 16.3**	**-1.6**
GO04	**Tololo Observa**	**4.40**	**186**	*e*P	**Pn**	**03 46 33.6**	**+1.0**
GO04				*e*S	**Sn**	**03 47 23.7**	**+0.7**
GO04	**Tololo Observa**	**4.40**	**186**	*i* P	**Pn**	**03 46 33.6**	**+1.0**
AROD	**Rodeo**	**4.43**	**171**	*i* P	**Pn**	**03 46 36.8**	**+3.7**
PB02	**IPOC Station P**	**4.45**	**5**	*i* P	**Pn**	**03 46 33.5**	**+0.2**
PB02				IAML		03 47 56.3	
	comp=Z,449nm,0.7s						
ACDV	**Cuesta del Vie**	**4.49**	**167**	*i* P	Pn	03 46 39.0	+5.2
ACDV				IAML		03 47 57.0	
	comp=Z,79nm,1.3s						
AHML	**Horco Molle**	**4.55**	**104**	*i* P	Pn	03 46 40.2	+5.7
AHML				IAML		03 47 53.3	
	comp=Z,9.8nm,0.4s						
PB01	**IPOC Station P**	**4.77**	**9**	*i* P	**Pn**	**03 46 38.0**	**+0.4**
PB01				IAML		03 48 10.3	
	comp=Z,186nm,0.5s						
ACCO	**Cerro Coronel**	**4.91**	**168**	*i* P	**Pn**	**03 46 43.0**	**+3.3**
ACCO				IAML		03 48 15.8	
	comp=Z,69nm,0.4s						
PATCX	**Punta Patache**	**4.94**	**1**	*i* P	**Pn**	**03 46 39.3**	**-0.6**
PATCX				IAML		03 48 08.2	
	comp=Z,135nm,1.1s						
CO03	**El Pedregal**	**5.05**	**184**	*i* P	**Pn**	**03 46 42.0**	**+0.5**
HJA	**Humahuaca**	**5.12**	**61**	*i* P	Pn	03 46 48.1	+5.5
HJA				IAML		03 48 23.9	
	comp=Z,4.3nm,0.5s						
TA01	**Diego Aracena**	**5.19**	**1**	*i* P	**Pn**	**03 46 42.5**	**-0.7**
CO02	**Combarbal**	**5.44**	**187**	*i* P	**Pn**	**03 46 46.0**	**-0.8**
AVFE	**Valle Fertil**	**5.46**	**154**	*i* P	**Pn**	**03 46 49.2**	**+2.2**
AVFE				IAML		03 48 30.9	
	comp=Z,26nm,0.8s						
PB08	**IPOC Station P**	**5.71**	**11**	*i* P	**Pn**	**03 46 51.0**	**+0.3**
PB08				IAML		03 48 36.1	
	comp=Z,124nm,0.7s						
RTLL	**Cerro Villicun**	**5.75**	**164**	*i* P	**Pn**	**03 46 54.0**	**+3.0**
RTLL				IAML		03 48 45.3	
	comp=Z,39nm,0.9s						
PB11	**IPOC Station P**	**6.02**	**6**	*i* P	**Pn**	**03 46 53.0**	**-1.8**
RTLS	**Leoncito**	**6.06**	**172**	*i* P	**Pn**	**03 46 58.0**	**+2.6**
RTLS				IAML		03 48 55.0	
	comp=Z,34nm,1.0s						
GO01	**Chusmiza**	**6.16**	**10**	*i* P	**Pn**	**03 46 57.0**	**-0.1**
ASAL	**Salagasta**	**6.90**	**170**	*i* P	**Pn**	**03 47 08.8**	**+1.9**
VA03	**San Esteban**	**6.96**	**182**	*i* P	**Pn**	**03 47 08.0**	**+0.3**
PB12	**IPOC Station P**	**7.13**	**360**	*i* P	**Pn**	**03 47 09.0**	**-1.0**
PB12				IAML		03 49 23.5	
	comp=Z,45nm,0.8s						
ARCO	**CERRO ARCO**	**7.13**	**171**	*i* P	**Pn**	**03 47 14.7**	**+4.6**
ARCO				IAML		03 49 32.1	
	comp=Z,47nm,0.6s						
AAGR	**Agrelo**	**7.39**	**171**	*i* P	**Pn**	**03 47 18.0**	**+4.5**
AAGR				IAML		03 49 50.8	
	comp=Z,44nm,4.7s						
AAGR				IAML		03 49 50.8	
	comp=Z,44nm,4.7s						
AAGR				IAML		03 49 50.8	
	comp=Z,44nm,4.7s						
PB16	**IPOC Station P**	**7.44**	**6**	*i* P	**Pn**	**03 47 15.0**	**+0.3**
PB16				*i* P	**Pn**	**03 47 15.0**	**+0.3**
PB16				*i* P	**Pn**	**03 47 15.0**	**+0.3**
PB16				*i* P	**Pn**	**03 47 15.0**	**+0.3**
PB16				IAML		03 49 42.5	
	comp=Z,33nm,1.3s						
MT03	**Universidad Ad**	**7.69**	**181**	*i* P	**Pn**	**03 47 20.0**	**+2.3**
MT03				*i* P	**Pn**	**03 47 20.0**	**+2.3**
MT03				*i* P	**Pn**	**03 47 20.0**	**+2.3**
MT03				*i* P	**Pn**	**03 47 20.0**	**+2.3**
RFA	**San Rafael**	**9.10**	**171**	*i* P	**Pn**	**03 47 38.0**	**+1.1**
LPAZ	**La Paz**	**9.65**	**12**	P	**Pn**	**03 47 46.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=206,slow=6.1,SNR=9.4						
CPUP	**Villa Florida**	**11.65**	**96**	LR	LR	03 53 03.3	
	comp=Z,46nm,21.9s,baz=238,slow=40						
BDFB	**Brasilia**	**23.10**	**68**	P	**P**	**03 50 27.7**	**-3.6**
	comp=Z,1.0nm,0.4s,baz=266,slow=10,SNR=3.4						
BDFB				pP	**sP**	**03 50 41.9**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=223,slow=19,SNR=1.6						
TXAR	**Lajitas Array**	**63.48**	**328**	P	**P**	**03 55 54.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=145,slow=8.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.97**	**70**	P	**P**	**03 57 32.8**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=256,slow=4.9,SNR=9.6						
TORD				pP	**sP**	**03 57 47.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=266,slow=5.4,SNR=4.6						
TORD				sP	pP	03 57 54.2	+10
	comp=Z,1.5nm,0.8s,baz=264,slow=4.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**146.33**	**27**	PKPbc	**PKPdf**	**04 05 02.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=308,slow=4.9,SNR=5.7						
MKAR	**Makanchi Array**	**149.78**	**39**	PKPbc	**PKPbc**	**04 05 13.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=318,slow=2.5,SNR=9.2						
MKAR				pPKPbc	**sPKPbc**	**04 05 28.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=330,slow=2.0,SNR=7.9						
KLR	**Kul'dur**	**150.99**	**330**	PKPbc	**PKPbc**	**04 05 15.1**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=48,slow=6.0,SNR=5.7						

IDC 11 04:16:01.2±2.3**,5°.46S**×**130°.92E,h0**km**,mb3.4**/1**, mb1 3.6**/3**,mb1mx3.4**/39**,mbtmp3.4**/3**,ML3.3**/2**,MS3.6**/1**, Ms1 3.6**/1**,ms1mx2.5**/26**,Error ellipse: s-maj=103.4km s-min=32.1km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.78**	**167**	Pn	Pn	04 19 33.0	+1.3
	0.1nm,0.3s,baz=348,slow=11,SNR=9.1						
WRA				Sn	Sn	04 22 02.0	-14
	0.1nm,0.3s,baz=339,slow=19,SNR=3.3						
PMG	**Port Moresby**	**16.57**	**105**	LR	LR	04 27 19.3	
	comp=Z,189nm,19.1s,baz=170,slow=41						
ASAR	**Alice Springs**	**18.33**	**171**	P	Pn	04 20 16.2	-0.9
	0.2nm,0.3s,baz=350,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.45**	**326**	P	P	04 26 58.9	+0.1
	0.2nm,0.4s,baz=130,slow=6.3,SNR=3.8						

IDC ***11*** *04:16:45.7±0.3,35°.71N×3°.61W,h0km,mb4.8/48, mb1 4.8/52,mb1mx4.8/58,mbtmp4.8/52,ML4.4/4,MS4.2/59, Ms1 4.2/59,ms1mx4.1/73,Error ellipse: s-maj=10.6km s-min=8.1km az=132.0*

MOS ***11*** *04:16:46.1±0.8,35°.73N×3°.55W,h13km,mb5.2/81, MS4.4/15,Error ellipse: s-maj=6.5km s-min=3.1km az=56.9*

IGIL ***11*** *04:16:46.1,35°.45N×3°.61W,h0km,ML4.9*

CNRM ***11*** *04:16:46.3,35°.75N×3°.56W,h16km,ml5.4*

LDG ***11*** *04:16:46.2±0.1,35°.49N×3°.57W,h10km,Ml4.6/61,Error ellipse: s-maj=3.8km s-min=3.3km az=176.0*

BJI ***11*** *04:16:46.6±0.0,36°.20N×3°.63W,h8km,mb5.1/59, mB5.3/35,Ms4.9/24,Ms7 4.6/23*

MDD ***11*** *04:16:47.4±0.3,35°.64N×3°.66W,h0km,mb_Lg4.8/29, Error ellipse: s-maj=1.7km s-min=2.3km az=168.0*

INMG ***11*** *04:16:47.9±2.0,35°.68N×3°.71W,h0km,ML4.5,Error ellipse: s-maj=3.5km s-min=2.6km az=149.0*

CRAAG ***11*** *04:16:47.9,35°.66N×3°.68W,Mb4.8*

NEIC ***11*** *04:16:47.9±1.4,35°.70N±0°.06×3°.60W±0°.07,h10km±1km, mb5.3/555,Mww5.0,Error ellipse: s-maj=9.7km s-min=9.6km az=303.0*

GCMT ***11*** *04:16:47.9±0.2,35°.62N±0°.01×3°.66W±0°.02,h12km, MW5.0/123,Moment Tensor Solution. s42,c55; s123,c180; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.47±.07; $M_{\theta\theta}$-3.28±.06; $M_{\phi\phi}$-0.19±.07; $M_{r\theta}$0.29±.24; $M_{\theta\phi}$-1.01±.06; $M_{\phi r}$-0.13±.26; Best double couple: $M_0$3.54000×10^{16} NP1:ϕ_s250.00000°,δ43.00000°, λ85.00000°. NP2:ϕ_s77.00000°,δ47.00000°,λ95.00000°. Principal axes: T 3.4910, Plg86.0000°, Azm44.0000°; N 0.0980, Plg3.0000°, Azm254.0000°; P -3.5890, Plg2.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MED_RC ***11*** *04:16:47.0±0.3,35°.57N×3°.72W,h10km,MW5.0/34, Moment Tensor Solution. Body waves: s10,c12;Mantle waves: s34,c55; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.07; $M_{\theta\theta}$-2.92±.05; $M_{\phi\phi}$-0.07±.07; $M_{r\theta}$0.91±.24; $M_{\theta\phi}$-1.06±.06; $M_{\phi r}$-0.93±.28; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s91.00000°,δ54.00000°, λ115.00000°. NP2:ϕ_s233.00000°,δ43.00000°,λ60.00000°. Principal axes: T 3.4700, Plg69.0000°, Azm59.0000°; N -0.1400, Plg20.0000°, Azm255.0000°; P -3.3300, Plg5.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

SFS ***11*** *04:16:47.0,35°.60N×3°.60W,ML4.8,ALBORAN SUR*

NEIC ***11*** *04:16:50,35°.73N×3°.58W,h12km,Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.18; $M_{\theta\theta}$-2.46; $M_{\phi\phi}$-0.72; $M_{r\theta}$-1.75; $M_{\theta\phi}$-0.83; $M_{\phi r}$0.07; Fault plane solution: $M_0$3.48000×10^{16} NP1:ϕ_s60.00000°, δ31.00000°,λ74.00000°. NP2:ϕ_s259.00000°,δ60.00000°, λ100.00000°. Principal axes: T 3.7023, Plg73.0000°, Azm193.0000°; N -0.4958, Plg8.0000°, Azm74.0000°; P -3.2065, Plg14.0000°, Azm342.0000°;*

ISC 11 04:16:48.4±0.5**,35°.71N**±0°.02×**3°.57W**±0°.02**,h18**km±2km**, n1384,**σ**1s64**/1316**,mb5.2**/386**,MS4.3**/73**,171C-129D, Fault plane solution: NP1:**ϕ_s92.91039°**,**δ13.31512°**,** λ105.38680°. **NP2:**ϕ_s257.11948°**,**δ77.17044°**,**λ86.40676°. **Principal axes:** T Plg57.6840°**,** Azm162.3643°**;** N Plg3.5034°**,** Azm257.9184°**;** P Plg32.0787°**,** Azm350.1175°**; Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.49**	**62**	Pg	**Pb**	**04 16 58.7**	**0.0**
EALB				Sg	**Sb**	**04 17 06.9**	**+1.3**
EALB				*i* Vmb_Lg		04 17 07.9	
PALE	**Palemas**	**0.58**	**212**	P	**Pg**	**04 16 58.4**	**-1.5**
PALE	**Palemas**	**0.58**	**212**	P	**Pg**	**04 16 58.5**	**-1.5**
PALE				S	**Sg**	**04 17 06.4**	**-1.2**
EMEL	**Melilla**	**0.65**	**129**	Pg	**Pg**	**04 17 00.1**	**-1.1**
EMEL				Sg	**Sg**	**04 17 08.9**	**-0.9**
EMEL				*i* Vmb_Lg		04 17 10.8	
ELGU	**Los Guajares,**	**1.16**	**358**	Pg	**Pn**	**04 17 08.2**	**-1.7**
ELGU				Sg	**Sb**	**04 17 24.7**	**0.0**
ELGU				*i* Vmb_Lg		04 17 35.7	
EMAL	**Malaga-Limoner**	**1.26**	**327**	P	**Pn**	**04 17 09.7**	**-1.5**
EMAL				S	**Sb**	**04 17 26.7**	**-0.9**
EMIJ	**Mijas**	**1.29**	**312**	Pn	**Pn**	**04 17 09.5**	**-2.2**
EMIJ				Sn	**Sb**	**04 17 26.3**	**-2.3**
EMIJ				*i* Vmb_Lg		04 17 27.6	
TAF	**Taforalt**	**1.30**	**133**	P	**Pn**	**04 17 10.3**	**-1.5**
TAF	**Taforalt**	**1.30**	**133**	P	**Pn**	**04 17 10.2**	**-1.6**
TAF				S	**Sb**	**04 17 26.7**	**-2.2**
EBER	**Berja**	**1.31**	**25**	Pn	**Pn**	**04 17 11.1**	**-1.0**
EBER				Sn	**Sn**	**04 17 29.7**	**+0.5**
EBER				*i* Vmb_Lg		04 17 41.6	
EGOR	**Sierra Gorda,**	**1.46**	**343**	Pn	**Pn**	**04 17 13.6**	**-0.6**
EGOR				Sn	**Sb**	**04 17 34.2**	**+0.5**
EGOR				*i* Vmb_Lg		04 17 45.2	
SMIR	**Smir Dam**	**1.47**	**269**	P	**Pn**	**04 17 13.0**	**-1.1**
SMIR	**Smir Dam**	**1.47**	**269**	P	**Pn**	**04 17 10.9**	**-3.2**
SMIR				S	**Sn**	**04 17 30.4**	**-2.5**
CEU	**Ceuta**	**1.48**	**278**	P	**Pn**	**04 17 10.6**	**-3.6**
CEU				S	**Sn**	**04 17 27.7**	**-5.4**
EQUE	**Quentar**	**1.50**	**4**	Pn	**Pn**	**04 17 13.8**	**-0.8**
EQUE				Sg	**Sb**	**04 17 34.4**	**-0.2**
EQUE				Sn	**Sb**	**04 17 34.4**	**-0.2**
EQUE				*i* Vmb_Lg		04 17 46.4	
CHEFC	**Chefchaouen**	**1.56**	**248**	P	**Pn**	**04 17 14.4**	**-1.1**
CHEFC	**Chefchaouen**	**1.56**	**248**	P	**Pn**	**04 17 14.6**	**-0.9**
CHEFC				S	**Sb**	**04 17 36.3**	**-0.1**
JBK	**JBK**	**1.60**	**149**	P	**Pn**	**04 17 14.0**	**-2.0**
JBK	**JBK**	**1.60**	**149**	P	**Pn**	**04 17 14.3**	**-1.8**
JBK				S	**Sn**	**04 17 35.9**	**-0.5**
ENIJ	**Nijar**	**1.67**	**41**	Pg	**Pn**	**04 17 15.0**	**-1.9**
ENIJ				Pn	**Pn**	**04 17 15.0**	**-1.9**
ENIJ				Sn	**Sn**	**04 17 36.2**	**-1.8**
ENIJ				Sg	**Sn**	**04 17 36.2**	**-1.8**
ENIJ				*i* Vmb_Lg		04 17 42.5	
EJIF	**Jimena Fronter**	**1.71**	**296**	Pn	**Pn**	**04 17 16.7**	**-0.7**
LIJA	**Lijar**	**1.90**	**309**	P	**Pb**	**04 17 22.8**	**+0.1**
CNIL	**Conil**	**2.12**	**289**	P	**Pb**	**04 17 26.1**	**-0.2**
CNIL				S	**Sn**	**04 17 49.4**	**+0.5**
EQES	**Quesada**	**2.13**	**11**	Pn	**Pb**	**04 17 25.3**	**-1.3**
EQES				Sn	**Sb**	**04 17 52.3**	**-0.4**
EQES				*i* Vmb_Lg		04 17 55.5	
SICH	**Sidi Chahed**	**2.15**	**222**	P	**Pn**	**04 17 23.6**	**+0.1**
SICH				S	**Sn**	**04 17 50.9**	**+1.2**
ESPR	**Espera**	**2.18**	**303**	Pn	**Pn**	**04 17 24.5**	**+0.7**
ESPR				Sn	**Sn**	**04 17 49.6**	**-0.8**
ESPR				*i* Vmb_Lg		04 17 57.9	
SFS	**San Fernando**	**2.26**	**290**	P	**Pn**	**04 17 26.6**	**+1.6**
SFS				S	**Sn**	**04 17 50.8**	**-1.7**
SFS	**San Fernando**	**2.26**	**290**	P	**Pn**	**04 17 24.9**	**-0.1**
SFS	**San Fernando**	**2.26**	**290**	Pn	**Pn**	**04 17 24.9**	**-0.1**
SFS	**San Fernando**	**2.26**	**290**	P	**Pn**	**04 17 25.4**	**+0.4**
LCRM	**LCR**	**2.28**	**208**	P	**Pn**	**04 17 25.0**	**-0.4**
LCRM	**LCR**	**2.28**	**208**	P	**Pn**	**04 17 24.4**	**-1.0**
LCRM				S	**Sb**	**04 17 57.5**	**+0.4**
USTO	**Oran**	**2.46**	**89**	P	**Pn**	**04 17 24.0**	**-3.7**
IFR	**Ifrane**	**2.54**	**211**	P	**Pn**	**04 17 27.8**	**-1.1**
IFR				S	**Sn**	**04 17 57.7**	**-1.8**
EADA	**Adamuz**	**2.58**	**342**	Pn	**Pn**	**04 17 29.7**	**+0.3**
EADA				Sn	**Sn**	**04 18 01.8**	**+1.3**
EADA				Sg	**Sb**	**04 18 07.2**	**+1.5**
EADA				*i* Vmb_Lg		04 18 15.3	
EZAR	**Zarzadilla de**	**2.63**	**34**	Pn	**Pn**	**04 17 30.3**	**0.0**
EZAR				Sn	**Sn**	**04 18 02.4**	**+0.6**
ECAB	**El Cabril**	**2.79**	**328**	Pn	**Pn**	**04 17 33.8**	**+1.5**
ECAB				Sn	**Sn**	**04 18 05.6**	**+0.1**
ECAB				Sg	**Sb**	**04 18 13.2**	**+1.6**
ECAB				*i* Vmb_Lg		04 18 18.1	
CART	**Cartagena**	**2.79**	**47**	P	**Pn**	**04 17 31.6**	**-0.6**
CART				S	**Sn**	**04 18 02.6**	**-2.8**
CART	**Cartagena**	**2.79**	**47**	Pn	**Pn**	**04 17 29.7**	**-2.5**
CART	**Cartagena**	**2.79**	**47**	P	**Pn**	**04 17 31.5**	**-0.8**
CART	**Cartagena**	**2.79**	**47**	P	**Pn**	**04 17 31.5**	**-0.8**
CART				S	**Sn**	**04 18 03.8**	**-1.7**
ODJA	**Bouhanifia**	**2.82**	**97**	P	**Pn**	**04 17 30.0**	**-2.7**
ARNO	**Arenosillo**	**2.90**	**299**	P	**Pn**	**04 17 34.1**	**+0.3**
ARNO				S	**Sn**	**04 18 08.7**	**+0.5**
CZD	**Col de Zad**	**2.93**	**205**	P	**Pn**	**04 17 34.0**	**-0.5**
CZD	**Col de Zad**	**2.93**	**205**	P	**Pn**	**04 17 34.0**	**-0.5**
CZD				S	**Sn**	**04 18 10.2**	**+0.7**
MD31	**MD31**	**3.00**	**199**	P	**Pn**	**04 17 34.4**	**-0.8**
MD31				S	**Sn**	**04 18 11.5**	**+0.6**
MDT	**Midelt**	**3.01**	**197**	Pn	**Pn**	**04 17 34.4**	**-1.0**
	24nm,0.3s,baz=177,slow=4.1,SNR=292						
MDT				Sn	**Sb**	**04 18 17.4**	**-0.8**
	138nm,0.3s,baz=300,slow=3.0,SNR=6.7						
MDT				LR	LR	04 19 04.8	
	comp=Z,8μm,20.3s,baz=26,slow=46						
MDT	**Midelt**	**3.01**	**197**		**Pn**	**04 17 34.4**	**-1.0**
MDT	**Midelt**	**3.01**	**197**	P	**Pn**	**04 17 34.3**	**-1.1**
MDT	**Midelt**	**3.01**	**197**	P	**Pn**	**04 17 34.3**	**-1.1**
MDT				S	**Sn**	**04 18 12.2**	**+1.0**
OJBR	**Djebel Berber**	**3.19**	**91**	P	**Pn**	**04 17 38.0**	**+0.1**
EMIN	**Mina Concepcio**	**3.23**	**310**	Pn	**Pn**	**04 17 37.7**	**-0.6**
EMIN				Sn	**Sn**	**04 18 14.4**	**-1.9**
EMIN				*i* Vmb_Lg		04 18 20.5	
ETOB	**Tobarra**	**3.35**	**28**	Pn	**Pn**	**04 17 41.5**	**+1.5**
ETOB				Sn	**Sn**	**04 18 19.8**	**+0.5**
ETOB				*i* Vmb_Lg		04 18 36.2	
OKGL	**Djebel Kef Gue**	**3.44**	**83**	P	**Pn**	**04 17 42.0**	**+0.8**
PTAV	**Tavira**	**3.58**	**294**	*e*Pn	**Pn**	**04 17 43.3**	**+0.2**
PTAV				*e*Sn	**Sn**	**04 18 25.2**	**+0.2**
EGRO	**El Granado**	**3.64**	**301**	Pn	**Pn**	**04 17 42.8**	**-1.1**
EGRO				Sn	**Sn**	**04 18 24.7**	**-1.7**
EGRO				*i* Vmb_Lg		04 18 27.1	
PBAR	**Barrancos**	**3.71**	**313**⇓	*e*Pn	**Pn**	**04 17 44.3**	**-0.6**
PBAR				*e*Sn	**Sn**	**04 18 26.8**	**-1.4**
PBAR				A	A	04 18 34.8	
	648nm,0.6s						
PVAQ	**Vaqueiros**	**3.74**	**298**⇓	*e*Pn	**Pn**	**04 17 44.5**	**-0.8**
PVAQ				*e*Sn	**Sn**	**04 18 26.5**	**-2.5**
PVAQ				A	A	04 18 31.9	
	845nm,0.5s						
PVAQ	**Vaqueiros**	**3.74**	**298**		**Pn**	**04 17 43.9**	**-1.5**
PVAQ	**Vaqueiros**	**3.74**	**298**	P	**Pn**	**04 17 44.2**	**-1.1**
PVAQ	**Vaqueiros**	**3.74**	**298**	P	**Pn**	**04 17 44.2**	**-1.1**
PVAQ				S	**Sn**	**04 18 25.6**	**-3.3**
PFARO	**Faro**	**3.75**	**292**	*e*Pn	**Pn**	**04 17 46.5**	**+1.1**
PFARO				*e*Sn	**Sn**	**04 18 29.3**	**+0.2**
EANR	**'Ain N'Sour**	**3.80**	**85**	P	**Pn**	**04 17 44.5**	**-1.7**
AFON	**Font Roja**	**3.81**	**38**	Pn	**Pn**	**04 17 48.4**	**+1.9**
AFON				Sn	**Sn**	**04 18 33.7**	**+2.7**
AFON				*i* Vmb_Lg		04 19 56.1	
PBDV	**Barranco-do-Ve**	**3.83**	**295**	*e*Pn	**Pn**	**04 17 45.7**	**-0.9**
PBDV				*e*Sn	**Sn**	**04 18 29.7**	**-1.6**
PBDV				A	A	04 18 34.5	
	666nm,0.8s						
PAB	**San Pablo**	**3.88**	**351**	P	**Pn**	**04 17 46.8**	**-0.5**
PAB	**San Pablo**	**3.88**	**351**	Pn	**Pn**	**04 17 46.8**	**-0.5**
PAB	**San Pablo**	**3.88**	**351**	P	**Pn**	**04 17 47.9**	**+0.6**
PAB	**San Pablo**	**3.88**	**351**	Pn	**Pn**	**04 17 48.0**	**+0.7**
PAB				Sn	**Sn**	**04 18 33.5**	**+1.1**
PAB				*i* Vmb_Lg		04 19 01.1	
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**04 17 47.8**	**-0.7**
	25nm,0.3s,baz=178,slow=12,SNR=1092						
ESDC				Sn	**Sn**	**04 18 35.6**	**+0.9**
	17nm,0.3s,baz=160,slow=14,SNR=1.0						
ESDC				LR	LR	04 19 00.8	
	comp=Z,2μm,21.8s,baz=222,slow=34						
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**04 17 49.2**	**+0.6**
ESDC	**Sonseca Array**	**3.97**	**356**		**Sn**	**04 18 35.6**	**+0.9**
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**04 17 49.7**	**+1.2**
ESDC				Sn	**Sn**	**04 18 35.1**	**+0.4**
ESDC				Sg	**Sg**	**04 18 54.4**	**-1.6**
ESDC				*i* Vmb_Lg		04 19 07.5	
ESBB	**Sonseca Array**	**3.97**	**356**		**Pn**	**04 17 48.5**	**0.0**
AVE	**Averroes**	**3.98**	**234**	P	**Pn**	**04 17 47.0**	**-1.7**
AVE				S	**Sn**	**04 18 32.1**	**-2.8**
AVE	**Averroes**	**3.98**	**234**	P	**Pn**	**04 17 47.1**	**-1.5**
AVE	**Averroes**	**3.98**	**234**	P	**Pn**	**04 17 47.1**	**-1.5**
PALBU	**Albufeira**	**4.02**	**292**	*e*Pn	**Pn**	**04 17 50.1**	**+1.0**
PALBU				*e*Sn	**Sn**	**04 18 36.3**	**+0.5**
ECHA	**Ech Chlef**	**4.03**	**82**	P	**Pn**	**04 17 48.4**	**-0.9**
PCVE	**Castro Verde**	**4.07**	**299**⇓	*e*Pn	**Pn**	**04 17 49.1**	**-0.8**
PCVE				*e*Sn	**Sn**	**04 18 35.3**	**-1.8**
PCVE				A	A	04 18 42.5	
	811nm,0.4s						
EBAD	**Badajoz**	**4.10**	**319**	Pn	**Pn**	**04 17 49.7**	**-0.5**
EBAD				Sn	**Sn**	**04 18 36.8**	**-0.9**
EBAD				*i* Vmb_Lg		04 18 41.3	
PBEJ	**Beja**	**4.15**	**305**⇓	*e*Pn	**Pn**	**04 17 50.2**	**-0.7**
PBEJ				*e*Sn	**Sn**	**04 18 37.4**	**-1.6**
PBEJ				A	A	04 18 47.6	
	489nm,0.7s						
GOLM	**Goulmima**	**4.16**	**196**	P	**Pn**	**04 17 51.0**	**-0.2**
GOLM	**Goulmima**	**4.16**	**196**	P	**Pn**	**04 17 50.7**	**-0.5**
EBNR	**Beni Rached**	**4.18**	**81**	P	**Pn**	**04 17 52.2**	**+0.8**
PPOR	**Portimao**	**4.25**	**291**	*e*Sn	**Sn**	**04 18 40.3**	**-1.1**
PLAGO	**Lagos**	**4.35**	**290**	*e*Pn	**Pn**	**04 17 54.9**	**+1.2**
PLAGO				*e*Sn	**Sn**	**04 18 44.3**	**+0.3**
ECHE	**Chera**	**4.39**	**27**	Pn	**Pn**	**04 17 55.4**	**+1.1**
ECHE				Sn	**Sn**	**04 18 46.1**	**+1.1**
ECHE				*i* Vmb_Lg		04 19 30.0	
MORF	**Marmelete**	**4.39**	**293**	*e*P	**Pn**	**04 17 53.0**	**-1.3**
MORF				*e*S	**Sn**	**04 18 42.2**	**-2.9**
MORF				IAML		04 18 49.1	
	comp=N,1μm,0.5s						
MORF	**Marmelete**	**4.39**	**293**⇓	*e*Pn	**Pn**	**04 17 53.8**	**-0.5**
MORF				*e*Sn	**Sn**	**04 18 42.7**	**-2.4**
MORF				A	A	04 18 55.8	
	comp=N,330nm,0.7s						
MORF	**Marmelete**	**4.39**	**293**	*e*P	**Pn**	**04 17 53.0**	**-1.3**
MORF				*e*S	**Sn**	**04 18 42.2**	**-2.9**
PFVI	**Vila Bisbo**	**4.47**	**290**	*e*Pn	**Pn**	**04 17 55.5**	**+0.1**
PFVI				*e*Sn	**Sn**	**04 18 43.9**	**-3.0**
PFVI				A	A	04 18 53.5	
	comp=N,905nm,0.7s						
PFVI	**Vila Bisbo**	**4.47**	**290**	Pn	**Pn**	**04 17 53.9**	**-1.5**
PFVI	**Vila Bisbo**	**4.47**	**290**	P	**Pn**	**04 17 55.4**	**+0.1**
PFVI	**Vila Bisbo**	**4.47**	**290**	P	**Pn**	**04 17 55.4**	**+0.1**
PESTR	**Estremoz**	**4.50**	**316**	*e*Pn	**Pn**	**04 17 55.6**	**-0.1**
PESTR				*e*Sn	**Sn**	**04 18 46.3**	**-1.3**
PESTR				A	A	04 19 20.4	
	comp=N,492nm,0.7s						
PESTR	**Estremoz**	**4.50**	**316**	Pn	**Pn**	**04 17 54.6**	**-1.1**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**04 17 55.2**	**-0.5**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**04 17 55.2**	**-0.5**
PALJ	**Aljezur**	**4.51**	**292**	*e*Pn	**Pn**	**04 17 57.8**	**+2.0**
PALJ				*e*Sn	**Sn**	**04 18 44.8**	**-3.0**
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**04 17 55.8**	**-0.4**
EVO				S	**Sn**	**04 18 46.1**	**-2.4**
EVO	**Evora**	**4.53**	**310**	*e*Pn	**Pn**	**04 17 56.0**	**-0.2**
EVO				*e*Sn	**Sn**	**04 18 46.0**	**-2.4**
EVO				A	A	04 18 48.5	
	comp=N,842nm,0.4s						
PTEO	**Sao Teotonio**	**4.53**	**295**	*e*Pn	**Pn**	**04 17 55.6**	**-0.6**
PTEO				*e*Sn	**Sn**	**04 18 46.4**	**-2.0**
PTEO				A	A	04 18 53.1	
	comp=N,699nm,1.0s						
PSVI	**Cabo S. Vicent**	**4.57**	**288**	*e*Sn	**Sn**	**04 18 47.5**	**-1.9**
UCM	**Universidad Co**	**4.60**	**3**	P	**Pn**	**04 17 58.3**	**+1.2**
UCM				S	**Sn**	**04 18 45.5**	**-4.6**
PNCL	**Nicolau / Gran**	**4.64**	**303**	*e*Pn	**Pn**	**04 17 57.0**	**-0.7**
PNCL				*e*Sn	**Sn**	**04 18 47.4**	**-3.7**
PNCL				A	A	04 18 52.3	
	comp=N,525nm,0.7s						
EPLA	**Plasencia**	**4.78**	**336**	Pn	**Pn**	**04 18 00.4**	**+0.8**
EPLA				Sn	**Sn**	**04 18 54.4**	**-0.2**
EPLA				*i* Vmb_Lg		04 19 24.0	
PMRV	**Marv??o**	**4.79**	**322**	*e*Pn	**Pn**	**04 18 00.1**	**+0.3**
PMRV				*e*Sn	**Sn**	**04 18 52.2**	**-2.8**
PMRV				A	A	04 19 09.7	
	comp=N,482nm,0.7s						
GUD	**Guadarrama**	**4.95**	**355**	Pn	**Pn**	**04 18 02.7**	**+0.7**
GUD				Sn	**Sn**	**04 18 59.3**	**+0.4**
GUD				Sg	**Sg**	**04 19 26.3**	**-0.9**
GUD				*i* Vmb_Lg		04 19 32.8	
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**04 18 02.3**	**-0.3**
PMTG				*e*Sn	**Sn**	**04 18 57.5**	**-2.4**
PMTG				A	A	04 19 18.3	
	comp=N,475nm,0.5s						
PCBR	**Castelo Branco**	**5.16**	**324**	*e*Pn	**Pn**	**04 18 05.2**	**+0.4**
PCBR				*e*Sn	**Sn**	**04 19 01.0**	**-2.8**
PCBR				A	A	04 19 04.7	
	comp=N,403nm,0.5s						
TZRR	**Tazzarine**	**5.19**	**199**	P	**Pn**	**04 18 05.0**	**-0.3**
TZRR	**Tazzarine**	**5.19**	**199**	P	**Pn**	**04 18 04.7**	**-0.6**
PACT	**Alcochete**	**5.19**	**308**⇑	*e*Pn	**Pn**	**04 18 05.8**	**+0.6**
PACT				*e*Sn	**Sn**	**04 19 03.3**	**-1.3**
ETOR	**Torete**	**5.24**	**13**	Pn	**Pn**	**04 18 07.3**	**+1.3**
ETOR				Sn	**Sn**	**04 19 06.4**	**+0.4**
ETOR				Sg	**Sg**	**04 19 29.9**	**-6.7**
ETOR				*i* Vmb_Lg		04 19 51.7	
LIS	**Lisbon**	**5.37**	**306**	*e*P	**Pn**	**04 18 06.9**	**-0.8**
LIS				*e*S	**Sn**	**04 19 05.9**	**-3.2**
LIS				IAML		04 19 09.5	
	comp=E,2μm,0.7s						
LIS	**Lisbon**	**5.37**	**306**	*e*P	**Pn**	**04 18 06.8**	**-0.8**
LIS				*e*S	**Sn**	**04 19 05.8**	**-3.2**
ECOL	**Islas Columbre**	**5.37**	**38**	Pn	**Pn**	**04 18 08.2**	**+0.5**
PMST	**Lisbon--Monsan**	**5.40**	**306**⇓	*e*Pn	**Pn**	**04 18 08.0**	**-0.1**
PMST				*e*Sn	**Sn**	**04 19 07.8**	**-2.1**
PMST				A	A	04 19 21.8	
	comp=E,520nm,0.6s						
OUZM	**OUZ**	**5.48**	**210**	P	**Pn**	**04 18 10.0**	**+0.6**
OUZM	**OUZ**	**5.48**	**210**	P	**Pn**	**04 18 08.6**	**-0.8**
PMAFR	**Mafra**	**5.59**	**307**⇓	*e*Pn	**Pn**	**04 18 10.3**	**-0.4**
PMAFR				*e*Sn	**Sn**	**04 19 11.6**	**-2.8**
PMAFR				A	A	04 19 14.3	
	comp=E,902nm,0.5s						
PSBE	**So Bento**	**5.62**	**314**⇓	*e*Pn	**Pn**	**04 18 11.3**	**+0.1**
PSBE				*e*Sn	**Sn**	**04 19 12.9**	**-2.5**
PSBE				A	A	04 19 49.8	
	comp=E,357nm,0.7s						
MTE	**Manteigas**	**5.63**	**327**⇓	*e*Pn	**Pn**	**04 18 11.8**	**+0.4**
MTE				*e*Sn	**Sn**	**04 19 14.7**	**-1.0**
MTE				A	A	04 19 19.6	
	comp=E,360nm,0.6s						
MTE	**Manteigas**	**5.63**	**327**	Pn	**Pn**	**04 18 11.2**	**-0.2**
OUK	**Oukaimeden**	**5.75**	**220**	P	**Pn**	**04 18 12.0**	**-1.3**
OUK	**Oukaimeden**	**5.75**	**220**	P	**Pn**	**04 18 11.4**	**-1.8**
PCAS	**Casmilo, Conde**	**5.83**	**320**⇓	*e*Pn	**Pn**	**04 18 14.1**	**+0.1**
PCAS				*e*Sn	**Sn**	**04 19 17.6**	**-2.8**
PCAS				A	A	04 20 01.1	

comp=E,429nm,0.7s
ZGR Zagora 5.83 198 P **Pn** **04 18 14.1 -0.1**
COI Coimbra 5.90 321 *e*Pn **Pn** **04 18 15.2 +0.2**
COI *e*Sn **Sn** **04 19 19.6 -2.5**
COI A A 04 19 23.6

comp=E,674nm,0.7s
COI Coimbra 5.90 321 P **Pn** **04 18 14.9 -0.1**
COI Coimbra 5.90 321 Pn **Pn** **04 18 14.9 -0.1**
PVIS Viseu 6.05 327 *e*Pn **Pn** **04 18 17.4 +0.3**
PVIS *e*Sn **Sn** **04 19 23.1 -2.8**
PVIS A A 04 19 27.4

comp=E,548nm,0.6s
MVO Moncorvo 6.08 335 *e*Pn **Pn** **04 18 18.2 +0.6**
MVO *e*Sn **Sn** **04 19 25.1 -1.7**
MVO A A 04 20 05.3

comp=E,387nm,0.6s
PVRL Vila Real 6.44 331 *e*Pn **Pn** **04 18 23.0 +0.6**
PVRL *e*Sn **Sn** **04 19 32.4 -3.1**
PVRL A A 04 19 39.7

comp=E,426nm,0.9s
EAH EAH 6.44 233 P **Pn** **04 18 21.0 -1.5**
EAH EAH 6.44 233 P **Pn** **04 18 21.0 -1.5**
POLO Lamas de Olo 6.55 331 *e*Pn **Pn** **04 18 24.7 +0.7**
POLO *e*Sn **Sn** **04 19 33.4 -5.0**
POLO A A 04 20 13.2

comp=E,134nm,0.6s
PBRG Braganca 6.57 339 *e*Pn **Pn** **04 18 24.6 +0.4**
PBRG *e*Sn **Sn** **04 19 38.5 -0.2**
PBRG A A 04 20 28.8

comp=E,238nm,0.8s
TTIG Tnine Tigouga, 6.57 220 P **Pn** **04 18 22.0 -2.4**
TTIG Tnine Tigouga, 6.57 220 P **Pn** **04 18 21.2 -3.1**
PTO Porto 6.71 325⇑ *e*Pn **Pn** **04 18 26.6 +0.6**
PTO *e*Sn **Sn** **04 19 38.9 -3.1**
PTO A A 04 19 41.6

comp=E,342nm,0.6s
EPOB Poblet 6.71 31 Pn **Pn** **04 18 27.4 +1.2**
EPOB *i* Vmb_Lg 04 20 57.0
PCAB Cabril 6.93 331 *e*Pn **Pn** **04 18 29.9 +0.7**
PCAB *e*Sn **Sn** **04 19 44.2 -3.4**
ELOB Lobios 7.08 332 Pn **Pn** **04 18 31.6 +0.4**
ELOB Sn **Sn** **04 19 47.7 -3.6**
ELOB *i* Vmb_Lg 04 19 52.4
EARA Aranguren 7.22 12 Pn **Pn** **04 18 35.6 +2.4**
EARA Sn **Sn** **04 19 54.5 -0.2**
EARA *i* Vmb_Lg 04 21 14.1
PGAV Gavieira, Arco 7.24 331 *e*Pn **Pn** **04 18 34.4 +0.9**
PGAV *e*Sn **Sn** **04 19 52.5 -2.8**
EMIR Miracle 7.36 31 Pn **Pn** **04 18 38.7 +3.6**
EMIR *i* Vmb_Lg 04 21 25.1
ELAN Lanestosa 7.51 1 Pn **Pn** **04 18 38.9 +1.7**
ELAN Sn **Sn** **04 19 58.7 -3.2**
ELAN Sg Sb 04 20 51.3 +24
ELAN *i* Vmb_Lg 04 21 32.7
ECHI Chisagues Biel 7.54 22 Pn **Pn** **04 18 38.2 +0.7**
ECHI *i* Vmb_Lg 04 21 03.9
ETSF Etsaut 7.55 17 *e*Pn **Pn** **04 18 39.6 +1.9**
ETSF *e*Sn **Sn** **04 19 59.7 -3.2**

comp=E,99nm,0.8s
ETSF *e*Sg Sb 04 20 46.9 +18

comp=E,1µm,1.6s
EZAM Zamans 7.57 330 Pn **Pn** **04 18 38.6 +0.7**
EZAM Sn **Sn** **04 20 00.8 -2.4**
EZAM *i* Vmb_Lg 04 20 03.8
SJPF Ste Jean 7.61 13 *e*Pn **Pn** **04 18 39.4 +0.9**
SJPF *e*Sn **Sn** **04 20 01.6 -2.8**

comp=E,42nm,0.6s
SJPF *e*Sg Sb 04 20 48.9 +19

comp=E,2µm,1.7s
EALK Alkurruntz 7.67 11 Pn **Pn** **04 18 41.0 +1.6**
EALK Sn **Sn** **04 20 05.6 -0.2**
EAGO Agolada(Pontev 7.90 335 Pn **Pn** **04 18 43.5 +1.0**
EAGO Sn **Sn** **04 20 08.8 -2.7**
EAGO *i* Vmb_Lg 04 21 10.6
EPF Esparros 7.91 21 *e*Pn **Pn** **04 18 43.5 +0.8**
EPF *e*Sn **Sn** **04 20 08.6 -3.2**

comp=E,73nm,0.8s
EPF *e*Sg Sb 04 20 59.5 +20

comp=E,241nm,1.0s
EMAZ Mazaricos 8.35 332 Pn **Pn** **04 18 49.3 +0.7**
EMAZ Sn **Sn** **04 20 19.2 -3.3**
EMAZ *i* Vmb_Lg 04 21 32.2
MTLF Montolieu 8.83 29 *e*Pn **Pn** **04 18 55.5 +0.2**
MTLF *e*Sn **Sn** **04 20 30.5 -3.9**

comp=E,27nm,0.7s
MTLF *e*Sg 04 21 28.6

comp=E,2µm,2.6s
LFF La Frestale 9.79 18 *e*Pn **Pn** **04 19 08.3 0.0**
LFF *e*Sn **Sn** **04 20 53.0 -4.7**

comp=E,60nm,1.0s
LFF *e*Sg 04 21 59.7

comp=E,548nm,1.6s
LASF Ste Croix 10.11 32 *e*Pn **Pn** **04 19 13.6 +0.8**
LASF *e*Sn **Sn** **04 21 02.6 -3.2**
LASF *e*Sg 04 22 04.4

comp=E,28nm,0.7s
CAF Calviac 10.16 23 *e*Pn **Pn** **04 19 13.0 -0.4**
CAF *e*Sn **Sn** **04 21 03.8 -3.1**
CAF *e*Sg 04 22 10.7

comp=E,67nm,0.8s
RJF Les Rejaudoux 10.34 20 *e*Pn **Pn** **04 19 15.5 -0.3**
RJF *e*Sn **Sn** **04 21 05.9 -5.3**

comp=E,40nm,0.9s
RJF *e*Sg 04 22 14.9

comp=E,874nm,2.0s
SMRF Simiane la Rot 10.84 38 *e*Pn **Pn** **04 19 20.5 -2.2**
SMRF *e*Sn **Sn** **04 21 25.5 +1.9**
SMRF *e*Sg 04 22 33.0

comp=E,434nm,2.0s
PMPST Porto Santo, M 10.87 260 *e*P Pn 04 19 18.2 -4.9
PMPST *e*S Sn 04 21 08.9 -15
PMPS Porto Santo 10.87 260 *e*P **Pn** **04 19 19.8 -3.4**
PMPS *e*S Sn 04 21 11.3 -13
LMR La Mourre 10.88 43 *e*Pn **Pn** **04 19 20.8 -2.5**
LMR *e*Sn **Sn** **04 21 18.9 -5.7**

comp=E,15nm,0.7s
LMR *e*Sg 04 22 30.3

comp=E,13nm,0.7s
VSL Villasalto 10.95 66 Pn **Pn** **04 19 20.7 -3.5**
VIVF Saint-Julien-l 11.09 32 *e*Pn **Pn** **04 19 26.2 0.0**
VIVF *e*Sn **Sn** **04 21 26.3 -3.4**
VIVF *e*Sg 04 22 38.9

comp=E,504nm,2.0s
FRF La Foret Royal 11.11 42 *e*Pn **Pn** **04 19 23.5 -2.9**
FRF *e*Sn **Sn** **04 21 25.2 -4.9**

comp=E,14nm,0.8s
FRF *e*Sg 04 22 40.3

comp=E,28nm,1.0s
MFF Saint Martin d 11.18 12 *e*Pn **Pn** **04 19 24.9 -2.5**
MFF *e*Sn **Sn** **04 21 26.0 -5.9**

comp=E,18nm,0.7s
MFF *e*Sg 04 22 42.2

comp=E,203nm,1.4s
SSB Saint Sauveur 11.37 30 P **Pn** **04 19 30.0 -0.1**
SSB Saint Sauveur 11.37 30 **Pn** **04 19 30.0 -0.1**
TCF Toulx Ste Croi 11.43 21 *e*Pn **Pn** **04 19 29.6 -1.2**
TCF *e*Sn **Sn** **04 21 32.4 -5.7**
TCF *e*Sg 04 22 44.2

comp=E,88nm,1.3s
PMAR Madeira 11.44 259 *e*P **Pn** **04 19 27.3 -3.8**
PMAR *e*S Sn 04 21 23.9 -15
FUL Funchal 11.45 258 *e*P **Pn** **04 19 27.4 -3.7**
FUL *e*S Sn 04 21 23.0 -16
PMOZ Porto Moniz, M 11.63 260 *e*P **Pn** **04 19 31.4 -2.3**
PMOZ *e*S Sn 04 21 31.3 -12
PMOZ Porto Moniz, M 11.63 260 **Pn** **04 19 30.6 -3.1**
ORIF Oris-en-Rattie 11.68 35 *e*Pn **Pn** **04 19 31.5 -2.8**
ORIF *e*Sn **Sn** **04 21 41.2 -3.1**
ORIF *e*Sg 04 22 57.8

comp=E,6.0nm,0.6s
SBF Sospel 11.74 43 *e*Pn **Pn** **04 19 32.8 -2.3**
SBF *e*Sn **Sn** **04 21 39.8 -5.9**
SBF *e*Sg 04 22 56.1

comp=E,40nm,1.1s
BGF Bois d'Agland 11.86 22 *e*Pn **Pn** **04 19 35.1 -1.6**
BGF *e*Sn **Sn** **04 21 45.4 -3.2**
BGF *e*Sg 04 23 01.4

comp=E,53nm,0.7s
PGF Pioggiola 11.91 51 *e*Pn **Pn** **04 19 36.6 -0.8**
PGF *e*Sn **Sn** **04 21 42.1 -7.7**

comp=E,63nm,1.3s
MBDF Montbardon 11.97 38 *e*Pn **Pn** **04 19 38.3 -0.1**
MBDF *e*Sn **Sn** **04 21 44.2 -7.3**
MBDF *e*Sg 04 23 05.8

comp=E,39nm,1.4s
BNI Bardonecchia 12.16 37 P **Pn** **04 19 42.9 +2.0**
BNI Bardonecchia 12.16 37 **Pn** **04 19 42.9 +2.0**
QUIF Quistinic 12.20 1 *e*Pn **Pn** **04 19 41.0 -0.3**
QUIF *e*Sn **Sn** **04 21 49.4 -7.4**

comp=E,59nm,1.0s
QUIF *e*Sg 04 23 12.1

comp=E,261nm,1.7s
AVF Avril sur Loir 12.23 23 *e*Pn **Pn** **04 19 41.3 -0.4**
AVF *e*Sn **Sn** **04 21 53.2 -4.3**
AVF *e*Sg 04 23 12.6

comp=E,477nm,2.0s
SMF Signal de Mont 12.26 25 *e*Pn **Pn** **04 19 41.7 -0.5**
SMF *e*Sn **Sn** **04 21 52.7 -5.7**
SMF *e*Sg 04 23 14.8

comp=E,72nm,1.1s
HYF Humbligny 12.45 20 *e*Pn **Pn** **04 19 43.1 -1.6**
HYF *e*Sn **Sn** **04 22 00.7 -2.2**
HYF *e*Sg 04 23 19.6
SSF Saint Saulge 12.52 23 *e*Pn **Pn** **04 19 43.4 -2.2**
SSF *e*Sn **Sn** **04 21 59.5 -5.1**
SSF *e*Sg 04 23 22.5

comp=E,287nm,1.5s
LPG La Plagne 12.52 36 *e*Pn **Pn** **04 19 46.8 +0.8**
LPG *e*Sn **Sn** **04 22 02.5 -2.7**
LPG *e*Sg 04 23 28.6

comp=E,25nm,1.1s
LPL La Plagne 12.53 35 *e*Pn **Pn** **04 19 49.4 +3.4**
LPL *e*Sn **Sn** **04 22 00.9 -4.3**
LPL *e*Sg 04 23 27.8

comp=E,14nm,0.9s
SGMF Saint Gilles 12.56 3 *e*Pn **Pn** **04 19 45.2 -1.0**
SGMF *e*Sn **Sn** **04 21 58.1 -7.5**

comp=E,30nm,0.8s
SGMF *e*Sg 04 23 26.0

comp=E,473nm,2.0s
ROSF Rostrenen 12.62 1 *e*Pn **Pn** **04 19 46.4 -0.6**
ROSF *e*Sn **Sn** **04 22 03.1 -4.0**
ROSF *e*Sg 04 23 24.3

comp=E,348nm,2.0s
LOR Lormes 12.81 23 *e*Pn **Pn** **04 19 48.4 -1.3**
baz=204
LOR *e*Sn **Sn** **04 22 06.7 -5.1**

comp=E,1.9nm,0.4s
LOR *e*Sg 04 23 31.5

comp=E,429nm,2.1s
GRR Gorron 12.83 8 *e*Pn **Pn** **04 19 50.2 +0.3**
GRR *e*Sn **Sn** **04 22 05.7 -6.4**
GRR *e*Sg 04 23 32.2

comp=E,246nm,1.6s
CLF Chambon-Foret 13.05 18 **Pn** **04 19 52.9 0.0**
CABF La Chapelle 13.09 31 *e*Pn **Pn** **04 19 56.8 +3.3**
CABF *e*Sn **Sn** **04 22 14.0 -4.6**
CABF *e*Sg S 04 23 41.2 +58

comp=E,402nm,1.8s
LDF La Druitiere 13.12 10 *e*Pn **Pn** **04 19 53.8 -0.1**
LDF *e*Sn **Sn** **04 22 14.3 -5.1**
LDF *e*Sg S 04 23 40.0 +56

comp=E,325nm,2.0s
MSSA Maissana 13.20 45 **Pn** **04 19 54.0 -1.1**
FLN La Foliniere 13.24 9 *e*Pn **Pn** **04 19 55.4 -0.1**
baz=186
FLN *e*Sn **Sn** **04 22 15.1 -7.1**

comp=E,85nm,1.1s
FLN *e*Sg S 04 23 41.0 +54

comp=E,12nm,0.6s
SENIN Lac Senin/Sane 13.42 34 **Pn** **04 19 59.0 +0.8**
VLC Villacollemand 13.62 47 **Pn** **04 19 59.3 -1.4**
OSSC Osservatorio P 13.82 51 **Pn** **04 20 01.1 -2.4**
PRMA PARMA 13.92 45 Pn **Pn** **04 20 05.2 +0.5**
SFTF Sexfontaines 14.02 24 *e*Pn **Pn** **04 20 06.7 +0.5**
SFTF *e*Sn **Sn** **04 22 37.9 -3.4**
SFTF *e*Sg 04 24 09.8

comp=E,118nm,1.4s
ZCCA Zocca 14.08 48 **Pn** **04 20 07.6 +0.6**
MEZF Maizieres J'vi 14.28 24 *e*Pn **Pn** **04 20 08.6 -1.1**
MEZF *e*Sn **Sn** **04 22 44.1 -3.5**
MEZF *e*Sg 04 24 17.3

comp=E,32nm,0.9s
HAU Haudompre 14.32 28 *e*Pn **Pn** **04 20 09.9 -0.4**
HAU *e*Sn **Sn** **04 22 43.2 -5.5**
HAU *e*Sg 04 24 19.2

comp=E,0.9nm,0.3s
HINF Hinteralfeld 14.37 29 *e*Pn **Pn** **04 20 10.5 -0.4**
HINF *e*Sn **Sn** **04 22 42.5 -7.2**
HINF *e*Sg 04 24 22.5

comp=E,12nm,0.6s
SAVF Savonnieres en 14.40 24 *e*Pn **Pn** **04 20 09.5 -1.9**
baz=209
SAVF *e*Sn **Sn** **04 22 44.6 -6.0**
SAVF *e*Sg 04 24 22.3

comp=E,2.8nm,0.5s
TUE Stuetta 14.49 38 **Pn** **04 20 12.7 -0.1**
RAFF Raffo Rosso 14.51 79 **Pn** **04 20 13.5 +0.5**
MURB Monte Urbino 14.53 54 **Pn** **04 20 11.9 -1.2**
SALO Salr 14.55 43 **Pn** **04 20 12.9 -0.6**
PAGF Fort de Pagny 14.56 25 *e*Pn **Pn** **04 20 13.6 +0.1**
PAGF *e*Sg 04 24 28.8

comp=E,3.2nm,0.3s
VAE Valguarnera 14.56 78 Pn **Pn** **04 20 15.8 +2.2**
baz=141,slow=6.5,SNR=2.8
VAE Valguarnera 14.56 78 **Pn** **04 20 15.8 +2.2**
NRCA Norcia 14.74 56 **Pn** **04 20 15.2 -0.9**
AQU L'Aquila 14.76 58 P **Pn** **04 20 15.2 -1.1**
AQU L'Aquila 14.76 58 **Pn** **04 20 15.2 -1.1**
ECH Echery 14.81 29 P **Pn** **04 20 16.7 -0.2**
ECH Echery 14.81 29 **Pn** **04 20 16.7 -0.2**
DAVOX Davos/Dischmat 14.97 38 Pn **Pn** **04 20 19.2 0.0**
comp=E,0.1nm,0.3s,baz=216,slow=10,SNR=2.5
CDF Champ du Feu 15.01 29 *e*Sg 04 24 40.9
comp=E,1.5nm,0.4s
TEOL Teolo 15.05 46 **Pn** **04 20 19.5 -0.7**
DAVA Damuels 15.31 37 *i* P **Pn** **04 20 25.8 +2.0**
comp=E,58nm,1.2s,SNR=8.5
BFO Black Forest 15.38 31 P **Pn** **04 20 23.4 -1.1**
BFO pmax pmax

comp=E,48nm,1.4s
BFO Black Forest 15.38 31 Pn **Pn** **04 20 23.4 -1.1**
BFO Black Forest 15.38 31 *e*P **Pn** **04 20 25.5 +1.0**
baz=223,slow=12
BFO *e*L L 04 25 35.4

comp=Z,528nm,20.8s
BAIF Baives 15.42 19 *e*Pn **Pn** **04 20 24.2 -0.8**
BAIF Baives 15.42 19 *e*P **P** **04 20 29.7 +0.2**
BAIF *e*Sg 04 24 53.5

comp=Z,374nm,2.0s
CTI Castel Tesino 15.44 43 P **Pn** **04 20 23.9 -1.5**
CTI pmax pmax

comp=Z,49nm,1.2s
CTI Castel Tesino 15.44 43 **Pn** **04 20 23.9 -1.5**
DOU Dourbes 15.56 20 *d*Pn **Pn** **04 20 26.5 -0.3**
FETA Feichten 15.56 39 *i* P **P** **04 20 29.3 -1.9**
comp=Z,64nm,1.1s,SNR=17
GIVF Givet 15.63 20 *e*Pn **Pn** **04 20 27.2 -0.5**
GIVF *e*Sg 04 25 01.0

comp=Z,3.7nm,0.5s
WLF Walferdange 15.65 24 P **Pn** **04 20 29.4 +1.4**
WLF pmax pmax

comp=Z,52nm,1.1s
WLF Walferdange 15.65 24 **Pn** **04 20 29.4 +1.4**
WLF Walferdange 15.65 24 *e*P **P** **04 20 30.3 -1.7**
baz=223,slow=12
WLF Walferdange 15.65 24 *d*x x 04 20 32.2
UBR Ueberruh 15.70 36 *e*P **Pn** **04 20 29.9 +1.1**
baz=223,slow=12
RCHB Rochefort 15.79 21 *d*Pn **P** **04 20 32.7 -0.9**
RCHB *d*x x 04 20 36.0
RETA Reutte 15.89 38 *i* P **Pn** **04 20 32.2 +1.1**
comp=Z,43nm,1.2s,SNR=5.6
SQTA Sankt Quirin 15.94 39 *i* P **Pn** **04 20 33.6 +1.7**
comp=Z,115nm,1.3s,SNR=31
BGES Gesves 15.96 21 *d*Pn **P** **04 20 34.3 -1.1**
MOTA Moosalm 15.96 39 *i* P **Pn** **04 20 33.4 +1.1**
comp=Z,60nm,1.3s,SNR=6.6
BCLA Clavier 16.05 21 *d*Pn **Pn** **04 20 34.0 +0.9**
STU Stuttgart 16.09 32 P **Pn** **04 20 34.2 +0.6**
STU pmax pmax

comp=Z,43nm,1.3s
STU Stuttgart 16.09 32 **Pn** **04 20 34.2 +0.6**
STU Stuttgart 16.09 32 *e*P **Pn** **04 20 34.7 +1.1**
baz=223,slow=12
STRD Stroud 16.09 3 *e*P **P** **04 20 36.0 -0.9**
STRD IAmb IAmb 04 20 41.8

comp=Z,208nm,1.5s
MONM Monmouth 16.14 2 *e*P **P** **04 20 36.4 -1.0**
MONM IAmb IAmb 04 20 43.5

comp=Z,354nm,1.6s
UCC Uccle 16.14 18 P **Pn** **04 20 34.9 +0.7**
UCC pmax pmax

comp=Z,14nm,1.0s
UCC Uccle 16.14 18 Pn **Pn** **04 20 34.9 +0.7**
UCC Uccle 16.14 18 *d*pP pP 04 20 40.2 -1.8
STAL STALIGIAL 16.16 44 **Pn** **04 20 35.1 +0.5**
WTTA Wattenberg 16.19 40 *i* P **Pn** **04 20 36.6 +1.4**
comp=Z,139nm,1.3s,SNR=34
WATA Walderalm 16.20 40 *i* P **Pn** **04 20 35.9 +0.6**
comp=Z,86nm,1.4s,SNR=24
BHOU Houvegnez 16.20 22 *d*Pn **Pn** **04 20 36.0 +0.9**
SGRT San Giovanni R 16.22 62 **Pn** **04 20 35.8 +0.3**
RSBS Rosebush, Pemb 16.26 357 *e*P **P** **04 20 38.7 -0.1**
RSBS IAmb IAmb 04 20 45.1

comp=Z,126nm,1.7s
BSTI Sart Tilman 16.27 21 *d*Pn **P** **04 20 37.9 -1.1**
MCH1 Michaelchurch 16.29 1 *e*P **P** **04 20 38.0 -1.1**
MCH1 IAmb IAmb 04 20 45.3

comp=Z,197nm,1.5s
ABTA Abfaltersbach 16.34 43 *i* P **P** **04 20 39.8 0.0**
comp=Z,146nm,1.5s,SNR=38
MEM Membach 16.43 22 *d*Pn **Pn** **04 20 38.6 +0.6**
MEM *d*x x 04 20 42.5
BTNL Ternell 16.45 22 *d*Pn **P** **04 20 39.7 -1.2**
BEBN Eben Emael 16.50 21 *d*Pn **P** **04 20 40.7 -0.7**
TIP Timpagrande 16.51 72⇑⇑ **P** **04 20 40.9 -0.9**
TIP Timpagrande 16.51 72 **Pn** **04 20 39.8 +0.6**
FUR Furstenfeldbru 16.60 37 *e*P **P** **04 20 43.7 +1.0**
comp=Z,4µm,4.2s,baz=223,slow=12
FUR *e*L L 04 26 32.7

comp=Z,566nm,20.6s
MATE Matera 16.68 67⇑⇑ **Pn** **04 20 42.2 +1.0**
CADS Cadrg 16.74 46 *i* Pn **Pn** **04 20 41.9 0.0**
CADS *i* 04 20 44.5
HLM1 Long Mynd 16.81 1 *e*P **P** **04 20 45.1 +0.2**
MYKA Terra Mystica 16.90 45 *e*P **P** **04 20 48.7 +2.7**
comp=Z,41nm,1.4s
TNS Taunus Mts 16.93 27 *e*P **P** **04 20 46.2 -0.1**
comp=Z,182nm,1.8s,baz=223,slow=12
TNS *e*L L 04 25 00.9

comp=Z,196nm,21.7s
KBA Koelnbreinsper 16.99 43 *i* P **P** **04 20 47.4 +0.2**
comp=Z,34nm,1.3s,SNR=10
RJOB Jochberg 17.09 40 *e*P **Pn** **04 20 46.1 -0.4**
comp=Z,69nm,1.5s,baz=223,slow=12
CWF Charnwood Fore 17.10 5 *e*P **P** **04 20 48.8 +0.7**
CWF IAmb IAmb 04 20 52.5

comp=Z,67nm,1.4s
LJU Ljubljana 17.11 47 *e*Pn **Pn** **04 20 47.1 +0.5**
LJU *i* 04 20 50.0
FOEL Foel Wylfa 17.18 1 *e*P **P** **04 20 51.4 +2.4**
FOEL IAmb IAmb 04 20 56.6

comp=Z,161nm,1.6s
WACR West Acre 17.27 9 *e*P **P** **04 20 50.4 +0.5**
WACR IAmb IAmb 04 20 51.3

comp=Z,120nm,1.1s
OBKA Obir 17.36 46 *e*P **P** **04 20 53.4 +2.3**
comp=Z,63nm,1.4s
BIOA Bad Ischl, Aus 17.52 42 *e*P **Pn** **04 20 51.7 0.0**
BUG Bochum-Univer 17.55 23 *e*P **P** **04 20 55.7 +2.7**
comp=Z,217nm,1.8s,baz=223,slow=12
GRFO Grafenberg 17.66 33 P **Pn** **04 20 53.4 0.0**
GRFO pmax pmax

comp=Z,61nm,1.2s
GRFO Grafenberg 17.66 33 P **Pn** **04 20 53.4 0.0**
GRA1 Grafenberg Arr 17.66 33 P **Pn** **04 20 53.6 +0.2**
GRF Grafenberg Arr 17.66 33 P **Pn** **04 20 53.7 +0.2**
GRF pmax pmax

comp=Z,66nm,1.2s
GRF Grafenberg Arr 17.66 33 *e*P **P** **04 20 54.9 +0.6**
comp=Z,78nm,1.2s,baz=223,slow=12
GRF *e*L L 04 28 48.3

comp=Z,446nm,18.4s
KASTN Kahler Asten 17.73 25 *e*P **P** **04 20 59.1 +4.0**
comp=Z,53nm,1.5s,baz=223,slow=12
SOKA Soboth 17.73 46 *i* P **P** **04 20 56.3 +1.1**
comp=Z,47nm,1.4s,SNR=19
LBWR Ladybower, Pea 17.74 4 *e*P **P** **04 20 57.1 +1.9**
LBWR IAmb IAmb 04 21 00.6

comp=Z,42nm,1.0s
SCTE Santa Cesarea 17.92 69 P **Pn** **04 20 56.2 -0.5**
MOA Molln 17.95 42 *e*P **P** **04 20 58.4 +0.8**
comp=Z,39nm,1.8s
WET Wettzell 18.05 37 *e*P **Pn** **04 20 57.6 -0.7**
comp=Z,30nm,1.4s,baz=223,slow=12
WET *e*L L 04 27 26.4

comp=Z,478nm,21.7s
ROTZ Rotzenmuhle 18.16 34 *e*P **P** **04 21 01.2 +1.4**
baz=223,slow=12
GEC2 GERESS Array S 18.26 39 P **Pn** **04 21 00.1 -0.9**
GEC2 GERESS Array S 18.26 39 *e*P **Pn** **04 21 00.2 -0.7**
comp=Z,95nm,1.5s,baz=223,slow=12
GEC2 *e*L L 04 30 54.7

comp=Z,388nm,21.0s
GERES GERESS Array B 18.26 39 P **Pn** **04 21 00.4 -0.6**
comp=Z,0.2nm,0.3s,baz=231,slow=8.4,SNR=28
GERES PcP **PcP** **04 25 32.8 0.0**
comp=Z,0.2nm,0.3s,baz=158,slow=3.7,SNR=5.7
GERES LR LR 04 28 07.9

comp=Z,341nm,19.0s,baz=247,slow=37
GERES GERESS Array B 18.26 39 **PcP** **04 25 32.8 0.0**
GERES GERESS Array B 18.26 39 **Pn** **04 20 59.8 -1.2**
MANZ Manzenberg 18.27 34 *e*P **P** **04 21 02.5 +1.5**
comp=Z,16nm,1.4s,baz=223,slow=12
ARSA Arzberg 18.32 45 *i* P **P** **04 21 02.7 +1.0**
comp=Z,27nm,1.2s,SNR=6.9
KHC Kasperske Hory 18.39 38 P **P** **04 21 01.2 -1.2**
KHC pmax pmax

comp=Z,28nm,1.0s
KHC Kasperske Hory 18.39 38 *e*P **Pn** **04 21 02.5 +0.1**
KHC *e*pP **sP** **04 21 11.7 +2.7**
KHC AMS AMS 04 28 40.0

comp=Z,2µm,9.8s
KHC Kasperske Hory 18.39 38 P **P** **04 21 01.2 -1.2**
IBBN Ibbenburen 18.45 22 *e*P **Pn** **04 21 05.7 +2.7**
comp=Z,190nm,1.6s,baz=223,slow=12
MOX Moxa 18.53 32 *e*P **Pn** **04 21 05.2 +1.1**
comp=Z,155nm,2.1s,baz=223,slow=12
MOX *e*L L 04 30 54.1

comp=Z,346nm,19.8s
CKRC Cesky Krumlov 18.56 40 *e*P **P** **04 21 04.1 -0.2**
CKRC *e*S **Sn** **04 24 30.0 -1.5**
CKRC AMS AMS 04 29 00.0

comp=Z,900nm,9.9s
NKC Novy Kostel 18.60 34 *e*P **Pn** **04 21 06.9 +1.9**
NKC MLR MLR

comp=Z,3µm,10.6s
NKC Novy Kostel 18.60 34 *e*P **Pn** **04 21 06.9 +1.9**
NKC AMS AMS 04 29 00.0

comp=Z,3µm,10.6s
WERN Wernitzgruen 18.60 34 *e*P **Pn** **04 21 05.9 +0.8**
comp=Z,136nm,1.9s,baz=223,slow=12
GUNZ Gunzen 18.64 33 *e*P **Pn** **04 21 06.4 +0.9**
comp=Z,75nm,1.5s,baz=223,slow=12
PLN Plauen 18.65 33 *e*P **Pn** **04 21 06.3 +0.8**
comp=Z,151nm,2.0s,baz=223,slow=12
TANN Tannenbergstha 18.73 33 *e*P **Pn** **04 21 07.3 +0.6**
comp=Z,91nm,1.5s,baz=223,slow=12
GDLE Glaisdale, N Y 18.81 5 *e*P **Pn** **04 21 08.7 +1.2**
CONA Conrad Observa 18.88 44 *i* P **P** **04 21 07.9 +0.1**
comp=Z,38nm,1.3s,SNR=12
KESW Keswick, Cumbr 18.88 1 *e*P **Pn** **04 21 10.0 +1.7**
PDG Podgorica 18.92 62⇑⇑ **Pn** **04 21 09.4 +0.5**
PDG Podgorica 18.92 62 P **P** **04 21 07.8 -0.4**
CLZ Clausthal 18.96 27 *e*P **Pn** **04 21 11.1 +1.8**
comp=Z,70nm,1.5s,baz=223,slow=12
NEUB Neuenburg 19.02 31 *e*P **Pn** **04 21 11.5 +1.5**
comp=Z,178nm,1.8s,baz=223,slow=12
SOP Sopron 19.15 45 P **Pn** **04 21 11.9 +0.4**
EDMD Edmundbyers 19.16 3 *e*P **Pn** **04 21 13.0 +1.4**
EDMD IAmb IAmb 04 21 18.2

comp=Z,88nm,1.2s
TIR Tirane 19.16 66 P **P** **04 21 10.8 0.0**
TIR pmax pmax

comp=Z,79nm,1.0s
TIR Tirane 19.16 66 P **P** **04 21 10.8 0.0**
KOVH Kovagotottos 19.33 51 PN **P** **04 21 13.0 +0.3**
RETH Rethem/Aller, 19.33 24 *e*P **Pn** **04 21 16.2 +2.5**
comp=Z,197nm,1.8s,baz=223,slow=12
NRDL Niedersach Rie 19.39 26 *e*P **Pn** **04 21 16.4 +2.0**
baz=223,slow=12

NEWG New Galloway 19.41 359 *e*P **Pn 04 21 15.5 +0.8**
PRU Pruhonice 19.42 37 *e*P **Pn 04 21 14.9 0.0**
PRU *e*S **Sn 04 24 49.6 -2.6**
PRU MLR MLR
comp=Z,1μm,9.0s
PRU Pruhonice 19.42 37 *e*P **Pn 04 21 14.9 0.0**
PRU *e*S **Sn 04 24 49.6 -2.6**
PRU AMS AMS 04 30 30.0
comp=Z,1μm,9.0s
EGYH Egyhazaskeszo 19.46 47 PN **Pn 04 21 15.0 -0.4**
TREC Trest 19.46 40 AMS AMS 04 31 40.0
comp=Z,1μm,11.8s
MPLH Magyarpolny 19.47 48 PN **Pn 04 21 16.8 +1.3**
FBE Freiberg 19.49 34 *e*P **Pn 04 21 16.2 +0.5**
comp=Z,156nm,1.6s,baz=223,slow=12
TIH Tihany 19.56 49 PN **Pn 04 21 17.8 +1.4**
ESK Eskdalemuir 19.61 1 *e*P **Pn 04 21 17.4 +0.4**
ESK Eskdalemuir 19.61 1 P **Pn 04 21 16.5 -0.6**
ESK pmax pmax
comp=Z,49nm,1.2s
ESK Eskdalemuir 19.61 1 P **Pn 04 21 16.5 -0.6**
CLL Collm 19.61 32⇑ *i*P **Pn 04 21 17.3 +0.1**
CLL *e*S **Sn 04 24 57.0 +0.2**
CLL pmax pmax
comp=Z,106nm,1.3s
CLL Collm 19.61 32⇑ *i*P **Pn 04 21 17.3 +0.1**
comp=Z,106nm,1.3s
CLL *e*PPP PPP 04 21 42.0
CLL *e*S **Sn 04 24 57.0 +0.2**
CLL Lmax 04 30 00.0
CLL Collm 19.61 32 *e*P **Pn 04 21 17.4 +0.3**
comp=Z,106nm,1.3s,baz=223,slow=12
CLL *e*L L 04 28 03.5
comp=Z,292nm,21.9s
EKA Eskdalemuir Ar 19.63 1 P **P 04 21 15.9 0.0**
baz=180,slow=11,SNR=45
EKA LR LR 04 28 58.1
comp=Z,1μm,20.8s,baz=195,slow=37
FLTG Flechtingen 19.67 28 *e*P **Pn 04 21 18.3 +0.6**
comp=Z,55nm,1.5s,baz=223,slow=12
MORH Mrgy, Hungar 19.73 51 PN **Pn 04 21 17.8 -0.7**
ZST Bratislava 19.73 44 *e*P **Pn 04 21 18.6 +0.1**
ZST pmax pmax
comp=Z,2μm,2.9s
ZST Bratislava 19.73 44 *e*P **Pn 04 21 18.6 +0.1**
BRG Berggiesshubel 19.73 34⇑ *i*P **Pn 04 21 18.8 +0.2**
BRG Amp 04 21 22.5
comp=Z,144nm,1.6s
BRG Berggiesshubel 19.73 34 S **Sn 04 25 05.0 +5.4**
BRG ⇑PP 04 25 35.4
BRG Amp 04 25 39.1
comp=Z,10nm,1.3s
BRG Amp 04 29 59.0
comp=E,1.1nm,8.1s
BRG Amp 04 30 01.0
comp=Z,1.9nm,10.3s
BRG Amp 04 30 04.0
comp=N,1.7nm,13.0s
BRG Berggiesshubel 19.73 34⇑ *i*P **Pn 04 21 18.7 +0.2**
BRG pmax pmax
comp=Z,144nm,1.6s
BRG Berggiesshubel 19.73 34 *e*P **Pn 04 21 18.7 +0.2**
comp=Z,144nm,1.6s,baz=223,slow=12
PVCC Panska Ves 19.79 36 *e*P **Pn 04 21 19.6 +0.4**
PVCC MLR MLR
comp=Z,2μm,10.6s
PVCC Panska Ves 19.79 36 *e*P **Pn 04 21 19.6 +0.4**
PVCC AMS AMS 04 29 50.0
comp=Z,2μm,10.6s
KRUC Moravsky 19.81 42 *e*P **P 04 21 17.8 -0.1**
CSKK Cskako 19.99 48 PN **Pn 04 21 21.7 +0.1**
VRAC Vranov 20.06 41⇓ P **P 04 21 21.5 +0.9**
VRAC Vranov 20.06 41 P **P 04 21 20.6 0.0**
comp=Z,11nm,1.0s,baz=233,slow=11,SNR=14
VRAC Vranov 20.06 41 *e*P **P 04 21 20.6 0.0**
SMOL Smolenice 20.08 44 *e*P Pn 04 21 22.2 -0.5
SMOL pmax pmax
comp=Z,33nm,1.3s
SMOL Smolenice 20.08 44 *e*P Pn 04 21 22.2 -0.5
FRGS Fruska Gora 20.09 55⇑ P **P 04 21 21.3 +0.3**
PGBU Glenifferbraes 20.11 359 *e*P Pn 04 21 23.8 +0.7
PGBU IAmb IAmb 04 21 27.2
comp=Z,493nm,2.2s
EDI Edinburgh 20.22 1 *e*P Pn 04 21 24.1 -0.2
ESY Stoneypath 20.22 2 *e*P Pn 04 21 24.5 +0.2
SRO Srobarova 20.24 47 *e*P Pn 04 21 24.2 -0.3
SRO Srobarova 20.24 47 *e*P Pn 04 21 24.2 -0.3
SRO2 Moca 20.26 47 *e*P **P 04 21 23.2 +0.4**
SRO2 Moca 20.26 47 *e*P **P 04 21 23.2 +0.4**
JAVC Velka Javorina 20.40 43 *e*P **P 04 21 24.8 +0.4**
SKO Skopje 20.42 65 *i*P **P 04 21 24.7 +0.1**
UPC Upice 20.48 38 *e*P Pn 04 21 26.4 -1.0
UPC MLR MLR
comp=Z,1μm,9.5s
UPC Upice 20.48 38 *e*P Pn 04 21 26.4 -1.0
UPC AMS AMS 04 30 00.0
comp=Z,1μm,9.5s
BUD Budapest 20.51 48 PN **P 04 21 26.1 +0.6**
DPC Dobruska-Polom 20.54 38 *e*P **P 04 21 26.8 +0.9**
DPC MLR MLR
comp=Z,1μm,10.7s
DPC Dobruska-Polom 20.54 38 *e*P **P 04 21 26.8 +0.9**
DPC AMS AMS 04 30 10.0
comp=Z,1μm,10.7s
CHVC Chvalec 20.55 38 *e*P **P 04 21 27.0 +1.0**
CHVC AMS AMS 04 29 50.0
comp=Z,1μm,8.9s
ITM Ithomi 20.55 78 IAmb IAmb 04 21 33.8
comp=Z,124nm,1.3s
LAWE Loch Awe, Argy 20.59 357 *e*P Pn 04 21 28.1 -0.5
LAWE IAmb IAmb 04 21 33.1
comp=Z,77nm,1.2s
KRLC Kraliky 20.61 40 *e*P Pn 04 21 28.4 -0.5
KRLC MLR MLR
comp=Z,1μm,9.4s
KRLC Kraliky 20.61 40 *e*P Pn 04 21 28.4 -0.5
KRLC *ex* x 04 21 39.3
KRLC AMS AMS 04 30 50.0
comp=Z,1μm,9.4s
OSTC Ostas 20.61 38 *e*P Pn 04 21 28.0 -0.9
BSEG Bad Segeberg 20.65 24 *e*P Pn 04 21 29.3 +0.1
comp=Z,269nm,1.4s,baz=223,slow=12
BSEG *e*L L 04 29 03.3
comp=Z,1μm,20.0s
KOLL Kolacno 20.67 45 *e*P **P 04 21 28.3 +1.1**
RUE Ruedersdorf 20.80 31 *e*P Pn 04 21 31.0 0.0
RUE Ruedersdorf 20.80 31 *e*P Pn 04 21 30.8 -0.3
comp=Z,368nm,1.3s,baz=223,slow=12
AGG Agios Georgios 20.83 73 IAmb IAmb 04 21 34.4
comp=Z,179nm,1.3s
KSP Ksiaz 20.83 37 *e*P **P 04 21 30.0 +1.0**
KSP *e*S Sn 04 25 27.2 +1.1
MORC Moravsky Berou 20.83 41 P **P 04 21 28.7 -0.4**
MORC pmax pmax
comp=Z,73nm,1.4s
MORC Moravsky Berou 20.83 41 P **P 04 21 28.7 -0.4**
MORC Moravsky Berou 20.83 41 *e*P **P 04 21 28.6 -0.5**
STIP Stip 20.93 66 *i*P Pn 04 21 31.5 -1.2
LIT Litokhoron 21.00 70 IAmb IAmb 04 21 35.2
comp=Z,122nm,1.3s
KOWA Kowa 21.13 181 P **P 04 21 31.0 -1.4**
comp=Z,43nm,0.8s,baz=22,slow=8.7,SNR=20
KOWA LR LR 04 29 45.7
comp=Z,1μm,18.4s,baz=7.0,slow=37
KOWA Kowa 21.13 181 P **P 04 21 31.8 -0.6**
VAY Valandovo 21.17 67 *i*P **P 04 21 32.3 -0.4**
OKC Ostrava-Krasne 21.19 42 *e*P **P 04 21 34.0 +1.1**
OKC MLR MLR
comp=Z,2μm,9.3s
OKC Ostrava-Krasne 21.19 42 *e*P **P 04 21 34.0 +1.1**
OKC AMS AMS 04 30 50.0
comp=Z,2μm,9.3s
DRUM Mains of Drumt 21.22 2 *e*P **P 04 21 35.1 +2.0**
DRUM IAmb IAmb 04 21 38.5
comp=Z,709nm,2.0s
PSZ Piszkesteto 21.23 48⇑ P **P 04 21 34.3 +0.9**
PSZ Piszkesteto 21.23 48 P **P 04 21 33.6 +0.2**
PSZ pmax pmax
comp=Z,99nm,1.5s
PSZ Piszkesteto 21.23 48 P **P 04 21 33.6 +0.2**
PSZ Piszkesteto 21.23 48 P **P 04 21 32.7 -0.7**
IZAB Izabela 21.42 46 *e*P **P 04 21 36.4 +1.0**
BZS Buzias 21.44 55⇑ P **P 04 21 35.8 +0.2**
LANS Liptovska Anna 21.56 44 *e*P **P 04 21 37.9 +1.0**
LANS pmax pmax
comp=Z,29nm,1.2s
LANS Liptovska Anna 21.56 44 *e*P **P 04 21 37.9 +1.0**
KKB Krupnik 21.62 65 *i*P **P 04 21 37.5 -0.1**
SIRR Siria 21.68 53⇑ P **P 04 21 39.7 +1.5**
HERR Herculane 21.76 57⇑ P **P 04 21 39.1 +0.1**
KECS Kecovo 21.84 47 *e*P **P 04 21 41.8 +2.0**
KECS Kecovo 21.84 47 *e*P **P 04 21 41.8 +2.0**
VTS Vitosha 21.84 63⇑ P **P 04 21 41.6 +1.5**
VTS Vitosha 21.84 63 P **P 04 21 39.6 -0.5**
VTS pmax pmax
comp=Z,36nm,1.2s
VTS Vitosha 21.84 63 P **P 04 21 39.6 -0.5**
VTS Vitosha 21.84 63 *i*P **P 04 21 39.3 -0.8**
MCD Coleburn Disti 21.88 0 *e*P **P 04 21 42.3 +2.1**
MMB Musomiste 22.07 66 *i*P **P 04 21 41.6 -0.8**
GZR Gura Zlata 22.15 56⇓ P **P 04 21 43.8 +0.5**
RGN Rugen 22.18 27 P **P 04 21 44.3 +0.8**
LTVH Ltavrtes, Hu 22.24 51 P **P 04 21 45.3 +1.1**
OJC Ojcow 22.30 42 *e*P **P 04 21 45.0 +0.3**
OJC *e*S **S 04 25 50.6 +1.5**
MPEP Malo Peshtene 22.34 62 *i*P **P 04 21 46.5 +1.2**
LLD Lille Linde 22.43 24 *i*P **P 04 21 46.7 +0.7**
MUD Monsted U'grnd 22.48 19 *i*P **P 04 21 48.0 +1.4**
MUD IAmb IAmb 04 21 49.0
comp=Z,15nm,1.1s
PGB Panagyurishte 22.51 64 *i*P **P 04 21 52.5 +5.3**
CRVS Cervenica-Dubn 22.60 47 *e*P **P 04 21 49.4 +1.4**
CRVS pmax pmax
comp=Z,387nm,2.0s
CRVS Cervenica-Dubn 22.60 47 *e*P **P 04 21 49.4 +1.4**
COP Copenhagen 22.79 24 *i*P **P 04 21 49.0 -0.9**
COP IAmb IAmb 04 21 53.8
comp=Z,182nm,0.8s
RZN Rozhen 22.81 66 *i*P **P 04 21 50.4 -0.1**
MESR Meseseni 22.82 52⇑ P **P 04 21 52.2 +1.9**
LOT Lotru 22.84 56⇓ P **P 04 21 51.5 +0.9**
PLD Plovdiv 22.85 65 *i*P P 04 21 59.9 +9.2
GKP Gorka Klasztor 22.85 33 *e*P **P 04 21 51.5 +0.9**
GKP Gorka Klasztor 22.85 33 *e*P **P 04 21 52.7 +2.2**
TRPA Tarpa 22.93 49⇓ P **P 04 21 51.7 +0.3**
TRPA Tarpa 22.93 49 P **P 04 21 50.7 -0.8**
TOA0 Torodi Ar. Sit 22.96 167 P **P 04 21 51.6 -0.4**
TORD Torodi Ar. Bea 22.96 167 P **P 04 21 51.1 -0.9**
comp=Z,9.7nm,0.7s,baz=347,slow=7.4,SNR=34
TORD Torodi Ar. Bea 22.96 167 P **P 04 21 51.2 -0.8**
UZH Uzhgorod 22.98 48⇑ *i*P **P 04 21 51.0 -1.0**
UZH *i* 04 21 58.5
UZH *e* 04 22 21.2
UZH *i*S **S 04 25 55.0 -6.5**
UZH *e*SS **SnSn 04 26 40.7 +7.1**
UZH *i* 04 26 58.2
UZH MLR MLR
comp=Z,800nm,10.0s
GOET G??ttrup 23.01 18 *i*P **P 04 21 53.5 +1.3**
KOLS Kolonicke sedl 23.10 47 *e*P **P 04 21 54.8 +1.6**
KOLS Kolonicke sedl 23.10 47 *e*P **P 04 21 54.8 +1.6**
IDI Anoyia 23.15 83⇓ P **P 04 21 55.5 +1.6**
IDI Anoyia 23.15 83 P **P 04 21 54.1 +0.2**
comp=Z,54nm,1.1s,baz=276,slow=14,SNR=12
IDI Anoyia 23.15 83 P **P 04 21 53.4 -0.5**
BMR Baia Mare 23.36 51⇑ P **P 04 21 57.0 +1.2**
ARR Arges 23.40 57⇓ P **P 04 21 57.1 +0.7**
APE Apeiranthos 23.43 78 *i*P **P 04 21 55.5 -1.2**
APE pmax pmax
comp=Z,60nm,1.2s
KWP Kalwaria Pacla 23.66 46 *e*P **P 04 21 58.8 +0.1**
BEL Belsk 23.69 40 *e*P **P 04 21 59.1 +0.2**
VOIR 23.70 57⇑ P **P 04 22 00.4 +1.0**
ARCR ARCALIA 23.70 53⇑ P **P 04 22 00.6 +1.4**
ALN Alexandroupoli 23.75 68 P **P 04 22 02.6 +2.9**
ALN pmax pmax
comp=Z,41nm,1.2s
ALN Alexandroupoli 23.75 68 P **P 04 22 02.6 +2.9**
DEL Delary 23.90 24 *e*P **P 04 22 03.6 +2.7**
DOPR Dopca 24.07 56⇑ P **P 04 22 03.4 +0.6**
MLR Muntele Rosu 24.33 57⇑ P **P 04 22 06.8 +1.5**
MLR Muntele Rosu 24.33 57 P **P 04 22 05.2 0.0**
comp=Z,63nm,1.1s,baz=236,slow=4.2,SNR=22
MLR LR LR 04 32 06.4
comp=Z,295nm,20.0s,baz=257,slow=38
MLR Muntele Rosu 24.33 57 IAmb IAmb 04 22 10.0
comp=Z,84nm,1.2s
OZUR 24.37 56⇑ P **P 04 22 06.4 +0.9**
MBO M'Bour 24.39 213 P **P 04 22 05.0 -0.9**
MBO IAmb IAmb 04 22 07.2
comp=Z,79nm,1.2s
BUR08 Bucovina Ar. S 24.43 52 P **P 04 22 06.0 -0.1**
BUR08 IAmb IAmb 04 22 34.5
comp=Z,92nm,1.5s
BURAR Bucovina Array 24.43 52⇑ P **P 04 22 07.4 +1.3**
LVV L'vov 24.51 46 *e*P **P 04 22 05.3 -1.4**
LVV *e* 04 22 48.6
LVV *e*S **S 04 26 20.8 -5.5**
LVV *e*SS **SnSn 04 27 25.5 +14**
LVV MLR MLR
comp=Z,700nm,13.0s
LVV MLR MLR
comp=E,480nm,11.0s
LVV MLR MLR
comp=N,270nm,14.0s
COVR Voineasa-Covas 24.59 57⇑ P **P 04 22 08.6 +1.1**
PLOR Plostina 24.89 57⇑ P **P 04 22 10.1 -0.2**
KARP Karpathos 24.93 81 P **P 04 22 11.0 +0.3**
KARP IAmb IAmb 04 22 25.8
comp=Z,97nm,1.1s
VRI Vrincioaia 24.95 57⇓ P **P 04 22 11.3 +0.6**
TESR Tescani 25.05 55⇑ P **P 04 22 11.8 +0.1**
ODBI Odobesti 25.15 57⇓ P **P 04 22 13.7 +1.2**
KONO Kongsberg 25.44 16*ce*P **P 04 22 15.2 +0.2**
KONO pmax pmax
comp=Z,64nm,1.7s
KONO Kongsberg 25.44 16 P **P 04 22 15.4 +0.4**
KONO IAmb IAmb 04 22 17.1
comp=Z,76nm,1.5s
MANT Manisa 25.71 74 P **P 04 22 18.3 +0.4**
CFR Carcaliu 25.78 59⇑ P **P 04 22 18.8 +0.6**
TPGR Topolog 25.92 60⇓ P **P 04 22 19.2 -0.4**
SUW Suwalki 26.10 37 *e*P **P 04 22 19.8 -1.2**
SUW Suwalki 26.10 37 P **P 04 22 20.1 -1.0**
SUW pmax pmax
comp=Z,127nm,1.1s
SUW Suwalki 26.10 37 P **P 04 22 20.1 -1.0**
SUW Suwalki 26.10 37 *e*P **P 04 22 20.3 -0.8**
VIKU Vikbolandet 26.44 24 *e*P **P 04 22 24.3 +0.3**
AKAS Kas 26.79 79 P **P 04 22 27.2 -0.4**
AKAS IAmb IAmb 04 22 46.1
comp=Z,100nm,1.3s
NAO01 NORSAR Array S 26.80 16 IAmb IAmb 04 22 29.3
comp=Z,75nm,1.1s
HFS Hagfors 26.87 19 P **P 04 22 27.7 -0.2**
comp=Z,41nm,1.1s,baz=208,slow=9.2,SNR=28
HFS LR LR 04 33 31.8
comp=Z,781nm,18.6s,baz=212,slow=37
NBO00 NORSAR Array S 26.95 15 IAmb IAmb 04 22 30.6
comp=Z,72nm,1.1s
ELL Elmali 26.95 78 P **P 04 22 29.1 0.0**
ELL pmax pmax
comp=Z,110nm,1.0s
ELL Elmali 26.95 78 P **P 04 22 29.1 0.0**
NB2 NORSAR Subarra 27.05 16 P **P 04 22 29.9 +0.3**
comp=Z,147nm,2.5s,baz=209,slow=9.3
NB2 NORSAR Subarra 27.05 16 P **P 04 22 29.9 +0.3**
baz=209,slow=9.3
NOA NORSAR Array B 27.05 16 P **P 04 22 29.3 -0.3**
comp=Z,18nm,1.0s,baz=207,slow=8.7,SNR=13
NOA PcP **PcP 04 25 50.0 -0.3**
comp=Z,4.3nm,0.9s,baz=211,slow=2.6,SNR=5.3
NOA LR LR 04 34 55.5
comp=Z,2μm,18.4s,baz=210,slow=40
NB201 NORSAR Array S 27.08 16 IAmb IAmb 04 22 31.9
comp=Z,126nm,1.4s
BORA Eskisehir 27.11 71 P **P 04 22 30.7 +0.3**
NC204 NORSAR Array S 27.16 15 IAmb IAmb 04 22 33.0
comp=Z,68nm,1.1s
PABE Paberze 27.32 35 P **P 04 22 31.6 -0.4**
PABE IAmb IAmb 04 22 57.1
comp=Z,99nm,1.5s
PABE Paberze 27.32 35 *e*P **P 04 22 33.5 +1.5**
MDUB Mudurnu 27.66 70 P **P 04 22 35.3 -0.1**
MDUB IAmb IAmb 04 23 04.0
comp=Z,89nm,1.1s
UPP Uppsala 27.80 23 *e*P **P 04 22 36.9 +0.6**
AKASG Malin Array Be 27.93 47 P **P 04 22 34.6 -2.9**
comp=Z,1.8nm,0.7s,baz=246,slow=10,SNR=7.6
AKASG PcP **PcP 04 25 51.6 -1.0**
comp=Z,0.3nm,0.3s,baz=264,slow=2.7,SNR=7.1
AKASG LR LR 04 34 00.4
comp=Z,193nm,18.9s,baz=336,slow=37
AKASG Malin Array Be 27.93 47 **PcP 04 25 51.6 -1.0**
AKBB Malin Array Si 27.93 47 *i*P **P 04 22 35.3 -2.2**
IGN Ignalina 28.31 37 *e*P **P 04 22 41.4 +0.4**
NACGM Naroch 28.36 38 *i*P **P 04 22 45.1 +3.8**
IDID Didziasalis 28.55 37 *e*P **P 04 22 43.8 +0.9**
MNK Minsk 28.73 39 *i*P P 04 22 39.5 -5.1
MNK *i*PPP PPP 04 23 37.2
MNK *i* 04 25 50.8
MNK *i*S **S 04 27 27.0 -5.8**
MNK *i*SSS SSS 04 29 02.7
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=N,14nm,1.2s
MNK MLR MLR
comp=Z,208nm,15.0s
MNK MLR MLR
comp=E,25nm,14.0s
MNK MLR MLR
comp=N,48nm,11.0s
MNK Minsk 28.73 39 *i*P P 04 22 39.6 -5.0
comp=E,2.0nm,0.9s
MNK *i*P P 04 22 39.6 -5.0
comp=N,14nm,1.2s
MNK *i*P P 04 22 39.6 -5.0
comp=Z,7.0nm,0.9s,baz=241
MNK *i*PP **PnPn 04 23 29.0 -6.1**
MNK *i*PPP PPP 04 23 37.2
MNK *i*S **S 04 27 27.0 -5.8**
MNK *i*SS **SnSn 04 28 48.4 -5.4**
MNK *i*SSS SSS 04 29 02.8
MNK *i*LQ LQ 04 31 00.7
MNK *i*LR LR 04 33 14.2
MNK *i*LRM MLR 04 34 59.6
comp=Z,208nm,15.3s
MNK *i*LRM MLR 04 35 03.4
comp=E,25nm,14.1s
MNK *i*LRM MLR 04 35 04.7
comp=N,48nm,10.9s
AAL Aland 28.82 24 *e*P **P 04 22 45.0 -0.3**
DBIC Dimbokro 28.93 183 P **P 04 22 45.4 -1.3**
comp=N,18nm,0.8s,baz=16,slow=9.4,SNR=17
DBIC LR LR 04 34 59.1
comp=N,1μm,18.7s,baz=12,slow=38
DBIC Dimbokro 28.93 183 *e*P **P 04 22 46.0 -0.7**
DBIC Dimbokro 28.93 183 P **P 04 22 46.2 -0.5**
DBIC pmax pmax
comp=Z,56nm,1.2s
DBIC Dimbokro 28.93 183 P **P 04 22 46.2 -0.5**
DBIC IAmb IAmb 04 22 47.4
comp=Z,56nm,1.1s
TIC Toumodi 28.96 183 *e*P **P 04 22 46.3 -0.7**
MTSE Matsula 29.21 29 *e*P **P 04 22 48.5 -0.3**
KIC Kosan Boka 29.23 182 *e*P **P 04 22 48.0 -1.4**
comp=Z,82nm,1.1s
LIC Lamto 29.37 183 *e*P **P 04 22 48.5 -2.2**
comp=Z,165nm,1.2s
BR131 Keskin Array S 29.57 71 P **P 04 22 52.3 -0.1**
BR131 pmax pmax
comp=Z,8.0nm,1.5s
BR131 Keskin Array S 29.57 71 P **P 04 22 52.3 -0.1**
BRTR Keskin Array B 29.57 71 P **P 04 22 50.8 -1.6**
BRTR PcP **PcP 04 25 57.2 +0.1**
comp=Z,0.6nm,0.6s,baz=273,slow=2.5,SNR=4.1
BRTR Keskin Array B 29.57 71 P **P 04 22 50.8 -1.6**
BRTR **PcP 04 25 57.2 +0.1**
VSU Vasula 30.27 32 *i*P **P 04 22 56.8 -1.4**
VSU pmax pmax
comp=Z,40nm,1.1s
VSU Vasula 30.27 32 *e*P **P 04 22 57.7 -0.5**
BORG Borgarnes 30.98 345 LR LR 04 34 14.5
comp=Z,848nm,21.8s,baz=174,slow=34
TOKA Tokat 31.70 69 P **P 04 23 11.3 +0.2**
FINES FINESS Array B 31.85 27 P **P 04 23 11.2 -0.8**
comp=Z,4.2nm,0.9s,baz=216,slow=5.7,SNR=9.6
FINES PcP **PcP 04 26 02.5 0.0**
comp=Z,6.4nm,0.8s,baz=130,slow=3.0,SNR=9.0
FINES LR LR 04 35 09.4
comp=Z,360nm,19.9s,baz=226,slow=35
FINES FINESS Array B 31.85 27 P **P 04 23 11.2 -0.8**
FINES PcP **PcP 04 26 02.7 +0.2**
FIA1 FINESS Array S 31.85 27 P **P 04 23 10.9 -1.2**
FIA1 IAmb IAmb 04 23 37.4
comp=Z,39nm,1.4s
MMAI Mount Meron Ar 32.14 83 P **P 04 23 15.7 +0.6**
comp=Z,18nm,1.1s,baz=81,slow=11,SNR=11
MMAI LR LR 04 40 02.8
comp=Z,59nm,18.1s,baz=46,slow=43
ANN Anapa 32.29 61 *e*P **P 04 23 13.1 -3.1**
ANN *e*S **S 04 28 26.6 -2.3**
ANN pmax pmax
comp=Z,88nm,1.2s
EIL Elat 32.83 89 P **P 04 23 21.9 +0.8**
comp=Z,22nm,1.0s,baz=256,slow=4.0,SNR=8.9
OBN Obninsk 33.59 42 P **P 04 23 27.2 -0.1**
comp=Z,2.9nm,0.4s,baz=241,slow=6.4,SNR=5.0
OBN PcP **PcP 04 26 07.8 +0.5**
comp=Z,2.7nm,0.4s,baz=167,slow=4.1,SNR=6.5
OBN Obninsk 33.59 42*de*P **P 04 23 26.2 -1.1**
OBN *e* 04 24 41.5
OBN *e*S **S 04 28 47.4 -1.3**
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,154nm,12.0s
OBN Obninsk 33.59 42 P **P 04 23 26.4 -0.9**
OBN IAmb IAmb 04 23 31.0
comp=Z,37nm,1.2s
OBN PcP **PcP 04 26 07.3 0.0**
ASF Jabal al Asfar 33.59 84 P **P 04 23 28.4 +0.6**
comp=Z,13nm,1.1s,baz=276,slow=8.5,SNR=8.4
VORR Voronezh 34.24 49 P **P 04 23 33.7 +0.6**
VORR pmax pmax
comp=Z,20nm,1.4s
LPSR Galich'ya Gora 34.26 47 *e*P **P 04 23 31.3 -2.0**
LPSR pmax pmax
comp=Z,40nm,1.3s
MOS Moscow 34.35 41 *e*P **P 04 23 32.6 -1.4**
MOS *e* 04 26 08.3
MOS *e*S **S 04 29 01.6 +1.0**
MOS pmax pmax
comp=Z,74nm,1.6s
MOS MLR MLR
comp=Z,200nm,15.0s
JMIC Jan Mayen 35.44 357 LR LR 04 38 09.8
comp=Z,425nm,19.1s,baz=166,slow=36
VRH Novokhopyorsk 35.72 50 *e*P **P 04 23 43.3 -2.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
SHA1 Shidzhatmaz 36.06 63 *i*P **P 04 23 49.3 +0.1**
KIV Kislovodsk 36.07 62 *e*P **P 04 23 48.7 -0.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,55nm,16.0s
KIV Kislovodsk 36.07 62 P **P 04 23 48.8 -0.3**
KBZ Khabaz 36.23 63 P **P 04 23 51.7 +1.3**
comp=Z,3.3nm,1.0s,baz=308,slow=3.7,SNR=6.2
KBZ Khabaz 36.23 63*ce*P **P 04 23 50.6 +0.3**
KBZ pmax pmax
comp=Z,17nm,1.5s
GOF Gofitskoye 36.28 61⇑ *e*P **P 04 23 51.0 +0.3**
GOF pmax pmax
comp=Z,80nm,1.5s
KARS Kars 36.67 68 P **P 04 23 54.6 +0.3**
KARS pmax pmax
comp=Z,149nm,1.4s
KARS Kars 36.67 68 P **P 04 23 54.6 +0.3**
NCK Nalchik 36.76 63 *i*P **P 04 23 55.2 +0.3**
NCK pmax pmax
comp=Z,10.0nm,1.0s
GEVA Gevas 37.02 72 P **P 04 23 58.0 +0.6**
ZEI Tsey 37.04 64 *e*P **P 04 23 55.9 -1.6**
ZEI pmax pmax
comp=Z,14nm,1.6s
KLMR Klimovskoe 37.09 34 *e*P **P 04 23 55.2 -2.3**

KLMR *e* 04 25 17.1
KLMR *e* 04 26 16.2
KLMR pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe 37.09 34 *e*P **P 04 23 55.2 -2.3**
KLMR AMP 04 24 00.2
comp=Z,36nm,1.2s
KLMR *e*PP **PP 04 25 17.1 -4.8**
KLMR *e*PcP **PcP 04 26 16.2 -1.4**
KLMR *e*ScP **ScP 04 30 05.7 +2.0**
KLMR LQ LQ 04 35 23.7
KLMR LQ LQ 04 35 23.7
KLMR LR LR 04 36 44.3
ARCES ARCESS Array B 37.43 16 P **P 04 24 01.4 +1.2**
comp=Z,6.0nm,0.7s,baz=213,slow=4.2,SNR=14
ARCES LR LR 04 41 07.5
comp=Z,597nm,19.1s,baz=222,slow=39
ARCES ARCESS Array B 37.43 16 P **P 04 24 01.5 +1.3**
ARCES IAmb IAmb 04 24 08.2
comp=Z,49nm,1.4s
GNI Garni 37.99 68 P **P 04 24 05.3 -0.2**
comp=Z,4.5nm,0.5s,baz=241,slow=9.8,SNR=6.3
GNI Garni 37.99 68*c e*P **P 04 24 05.4 -0.2**
GNI pmax pmax
comp=Z,18nm,1.7s
GNI Garni 37.99 68 P **P 04 24 05.3 -0.2**
APA Apatity 38.18 22‖ *i*P P 04 24 12.4 +5.9
APA *i* S **S 04 30 06.0 +7.2**
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,1μm,11.0s
GROC Groznyy 38.38 63 *e*P **P 04 24 08.7 +0.1**
GROC *e* 04 26 21.6
GROC pmax pmax
comp=Z,49nm,1.7s
LVZ Lovozero 38.76 22 *i*P **P 04 24 11.8 +0.3**
LVZ pmax pmax
comp=Z,34nm,1.4s
MAK Makhachkala 39.65 64 *e*P P 04 24 13.6 -5.6
MAK *e*S S 04 30 11.9 -10
MAK *e*SS **SS 04 33 14.3 -2.5**
MAK pmax pmax
comp=Z,108nm,1.3s
PRGR Permogore 40.14 34 *e*P P 04 24 17.6 -5.4
PRGR *e* 04 26 23.6
DRLN Deer Lake 41.16 306 P **P 04 24 31.8 +0.2**
SFJD Kangerlussuaq 41.21 334 LR LR 04 38 41.1
comp=Z,424nm,21.3s,baz=128,slow=32
KIRV Kirov 41.27 39 P **P 04 24 31.9 -0.4**
comp=Z,5.5nm,0.5s,baz=279,slow=10,SNR=8.2
KIRV LR LR 04 42 39.7
comp=Z,193nm,18.1s,baz=262,slow=38
KIRV Kirov 41.27 39*ce*P **P 04 24 31.3 -1.0**
DAG Danmarks Havn 41.72 355 *i*P **P 04 24 36.7 +0.9**
DAG IAmb IAmb 04 24 38.6
comp=Z,7.9nm,0.9s
SPITS Spitsbergen Ar 43.42 6 P **P 04 24 49.5 -0.1**
comp=Z,22nm,1.0s,baz=253,slow=29,SNR=4.0
SPITS LR LR 04 43 21.1
comp=Z,284nm,19.9s,baz=92,slow=37
RAYN Ar Rayn 43.95 92 P **P 04 24 55.0 +0.3**
RAYN pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 43.95 92 P **P 04 24 55.0 +0.3**
RAYN Ar Rayn 43.95 92 P **P 04 24 56.1 +1.4**
RAYN Ar Rayn 43.95 92 *i*P **P 04 24 56.2 +1.6**
SNR=9.7
GBN Guysborough 44.22 301 P **P 04 24 56.9 +0.4**
GBN IAmb IAmb 04 24 58.3
comp=Z,43nm,0.9s
ARU Arti 46.01 43 P **P 04 25 10.4 -0.2**
comp=Z,2.5nm,0.3s,baz=261,slow=6.6,SNR=20
ARU LR LR 04 43 38.0
comp=Z,116nm,22.0s,baz=270,slow=35
ARU Arti 46.01 43*c i*P **P 04 25 10.2 -0.4**
ARU 04 26 43.5
ARU 04 26 58.0
ARU S **S 04 31 57.4 +2.7**
ARU SS **SS 04 35 19.3 0.0**
ARU pmax pmax
comp=Z,56nm,1.5s
ARU MLR MLR
comp=Z,168nm,12.0s
ARU Arti 46.01 43 P **P 04 25 10.0 -0.6**
ARU IAmb IAmb 04 25 14.5
comp=Z,66nm,1.4s
AKTO Aktyubinsk 46.02 51 P **P 04 25 11.3 +0.5**
comp=Z,24nm,1.1s,baz=280,slow=9.3,SNR=43
AKTO LR LR 04 46 20.7
comp=Z,85nm,18.7s,baz=307,slow=38
LMN Caledonia Moun 46.42 302 IAmb IAmb 04 25 15.2
comp=Z,26nm,0.8s
NEEM North Greenlan 46.58 347 *i*P **P 04 25 15.4 +0.2**
NEEM IAmb IAmb 04 25 17.4
comp=Z,17nm,0.9s
SCHQ Schefferville 46.70 315 P **P 04 25 16.1 +0.1**
comp=Z,4.9nm,0.5s,baz=93,slow=4.5,SNR=34
SCHQ LR LR 04 41 16.3
comp=Z,301nm,21.0s,baz=74,slow=32
SCHQ Schefferville 46.70 315 **P 04 25 15.5 -0.6**
SCHQ IAmb IAmb 04 25 18.0
comp=Z,35nm,1.4s
BATG Bathurst New B 47.04 304 **P 04 25 19.1 +0.3**
SVE Sverdlovsk 47.15 42⇑ *e*P **P 04 25 19.7 +0.2**
SVE pmax pmax
comp=Z,38nm,1.5s
SVE MLR MLR
comp=Z,334nm,11.0s
ABKAR Akbulak array 47.41 53 P **P 04 25 21.9 +0.3**
ABKAR IAmb IAmb 04 25 23.4
comp=Z,42nm,1.1s
ABKAR Akbulak array 47.41 53 P **P 04 25 21.9 +0.3**
FRB Frobisher Bay 47.66 327 LR LR 04 41 49.6
comp=Z,550nm,21.2s,baz=94,slow=32
KHOR Al-Khor Airpor 47.90 86 P **P 04 25 26.2 +0.5**
TRNA Turayna 48.05 87 P **P 04 25 27.5 +0.6**
LODK Lodwar 48.21 123 P **P 04 25 29.5 +1.2**
LODK IAmb IAmb 04 25 31.5
comp=Z,32nm,1.1s
LODK Lodwar 48.21 123 P **P 04 25 30.4 +2.1**
SNR=27
MBAR Mbarara 48.23 131 LR LR 04 46 38.7
comp=Z,598nm,18.1s,baz=312,slow=37
MBAR Mbarara 48.23 131 P **P 04 25 29.9 +1.3**
MBAR pmax pmax
comp=Z,30nm,1.1s
MBAR Mbarara 48.23 131 P **P 04 25 29.9 +1.3**
MBAR IAmb IAmb 04 25 31.8
comp=Z,30nm,1.1s
MBAR Mbarara 48.23 131 P **P 04 25 30.5 +1.9**
G65A Princeton 48.45 302 P **P 04 25 30.0 +0.3**
G65A IAmb IAmb 04 25 33.5
comp=Z,33nm,0.8s
PQI Presque Isle 48.46 304 P **P 04 25 30.1 +0.3**
PQI IAmb IAmb 04 25 36.6
comp=Z,34nm,1.2s
GEYT Alibeck 48.63 68 P **P 04 25 31.6 +0.3**
comp=Z,2.2nm,0.5s,baz=252,slow=28,SNR=4.1
GYA0B ALIBECK ARRAY 48.63 68 P **P 04 25 31.8 +0.5**
SLWR Sila 48.73 88 P **P 04 25 32.1 -0.1**
D62A Allapoint, All 49.08 305 IAmb IAmb 04 25 39.0
comp=Z,26nm,1.0s
PKME Peaks-Kenny Pk 49.63 302 P **P 04 25 38.5 -0.3**
baz=77
GHWR Ruwais 49.74 87 P **P 04 25 40.3 +0.3**
TULEG Thule 49.85 344 P **P 04 25 40.5 +0.4**
TULEG IAmb IAmb 04 25 48.6
comp=Z,37nm,1.4s
MZWR Madinat Zayed 50.65 87 P **P 04 25 46.7 -0.1**
MZR Muzera 50.68 88 P **P 04 25 47.7 +0.6**
SNR=7.1
MZR Muzera 50.68 88 *i*P **P 04 25 48.5 +1.5**
SNR=6.9
AJN Ajban 51.19 86 P **P 04 25 52.2 +1.3**
RCBR Riachuelo 51.28 223 P **P 04 25 52.5 +0.9**
comp=Z,20nm,1.2s,baz=200,slow=5.9,SNR=5.4
RCBR LR LR 04 45 53.5
comp=Z,188nm,18.2s,baz=162,slow=34
RCBR Riachuelo 51.28 223 P **P 04 25 52.4 +0.8**
RCBR pmax pmax
comp=Z,54nm,1.5s
RCBR Riachuelo 51.28 223 P **P 04 25 52.4 +0.8**
RCBR IAmb IAmb 04 25 54.2
comp=Z,54nm,1.4s

RCBR Riachuelo 51.28 223 *e*P **P 04 25 53.3 +1.7**
NBCL Cascavel-CE 51.34 227 *e*P **P 04 25 53.9 +1.8**
NBPV Pedro Velho 51.43 222 *e*P **P 04 25 54.4 +1.7**
ASUD Al Ashush, Dub 51.44 85 P **P 04 25 53.5 +0.8**
NAZ Nazwa, Dubai 51.54 85 P **P 04 25 53.9 +0.3**
FAQ Al Faqa, Dubai 51.60 85 P **P 04 25 53.2 -0.7**
NBMO Morrinhos-CE 51.68 229 *e*P **P 04 25 55.5 +0.9**
LBNH Lisbon 51.70 302 P **P 04 25 55.3 +0.8**
LBNH pmax pmax
comp=Z,19nm,0.9s
LBNH Lisbon 51.70 302 P **P 04 25 55.3 +0.8**
LBNH Lisbon 51.70 302 P **P 04 25 55.6 +1.1**
baz=74
WES Weston 51.79 299 IAmb IAmb 04 25 56.9
comp=Z,26nm,0.9s
HRV Adam Dziewonsk 51.92 299 P **P 04 25 56.6 +0.5**
baz=73
ASHO Ashiyiah 52.00 85 P **P 04 25 57.2 +0.2**
UOSS Minazif 52.00 84 P **P 04 25 57.0 0.0**
UOSS IAmb IAmb 04 26 12.2
comp=Z,37nm,1.4s
ALNE Al Ain 52.04 86 P **P 04 25 57.5 +0.2**
SNR=6.4
ALNE Al Ain 52.04 86 *i*P **P 04 25 58.7 +1.5**
SNR=6.2
UMZA Um Al Zommool 52.18 88 P **P 04 25 58.3 0.0**
K62A Royalston 52.35 300 IAmb IAmb 04 26 04.4
comp=Z,23nm,0.9s
MNTQ Montreal, Queb 52.53 304 IAmb IAmb 04 26 05.2
comp=Z,22nm,0.8s
SOHO SOHO 52.64 85 P **P 04 26 00.8 -0.9**
SOHO SOHO 52.64 85 *i*P **P 04 26 01.9 +0.3**
SNR=8.5
L61B Northampton 52.73 300 P **P 04 26 03.3 +1.1**
baz=73
KMBO Kilima Mbogo 52.81 125 P **P 04 26 04.9 +1.6**
comp=Z,18nm,1.2s,baz=322,slow=6.8,SNR=21
KMBO LR LR 04 50 45.7
comp=Z,778nm,19.4s,baz=284,slow=39
KMBO Kilima Mbogo 52.81 125 *e*P **P 04 26 06.0 +2.7**
KMBO IAmb IAmb 04 26 07.2
comp=Z,100nm,1.4s
KMBO Kilima Mbogo 52.81 125 P **P 04 26 04.6 +1.3**
KMBO pmax pmax
comp=Z,30nm,1.3s
KMBO Kilima Mbogo 52.81 125 P **P 04 26 04.6 +1.3**
KMBO Kilima Mbogo 52.81 125 *i*P **P 04 26 05.7 +2.4**
SNR=15
HRA Herat 52.96 71 P **P 04 26 04.0 -0.2**
ARQ Araqi 53.00 86 P **P 04 26 04.8 +0.4**
SNR=12
BRVK Borovoye 53.14 46*ce*P **P 04 26 06.5 +1.5**
BRVK pmax pmax
comp=Z,46nm,1.7s
BRVK Borovoye 53.14 46 P **P 04 26 05.1 +0.1**
NBPB Pedra_Branca-C 53.16 227 *e*P **P 04 26 06.8 +1.1**
BVAR Borovoye Array 53.21 46 P **P 04 26 05.5 0.0**
comp=Z,4.9nm,0.9s,baz=6.3,slow=15,SNR=14
ABTO Aybut 53.34 94 P **P 04 26 07.1 +0.1**
SNR=6.7
DOK Doka 53.36 93 P **P 04 26 06.9 -0.1**
SNR=5.2
LONY Lake Ozonia 53.42 303 P **P 04 26 08.2 +1.0**
baz=73
WHFO Wadi Hawf 53.43 94 P **P 04 26 08.1 +0.5**
KSCT Kent School, K 53.52 299 IAmb IAmb 04 26 10.1
comp=Z,23nm,1.0s
HOQ Hoqain 53.52 85 P **P 04 26 09.1 +0.9**
BSY Bisya 53.83 86 P **P 04 26 11.0 +0.5**
SNR=8.2
EUNU Eureka 53.85 348 P **P 04 26 11.3 +1.4**
PAL Palisades 54.05 298 P **P 04 26 12.3 +0.5**
baz=71
NBMA Muni-CE 54.15 225 *e*P **P 04 26 14.5 +1.7**
BIDO Bidbid 54.21 85 P **P 04 26 15.0 +1.7**
SNR=6.2
TRNY Table Rock, Ra 54.23 299 IAmb IAmb 04 26 25.5
comp=Z,44nm,1.4s
KIBK Kibwezi 54.24 125 P **P 04 26 14.9 +1.2**
KIBK IAmb IAmb 04 26 17.6
comp=Z,27nm,1.2s
KIBK Kibwezi 54.24 125 P **P 04 26 17.0 +3.4**
SNR=8.1
SMDO Samad 54.37 86 P **P 04 26 16.0 +1.5**
SNR=8.4
MDP Montagnes des 54.38 248 P **P 04 26 14.5 -0.1**
comp=Z,18nm,0.7s,baz=51,slow=4.2,SNR=12
NBAN Anadia - AL 54.67 221 *e*P **P 04 26 18.4 +1.8**
JMDO Jabal Madar 54.74 86 P **P 04 26 15.9 -1.2**
SNR=8.0
BINY Binghamton 55.14 300 IAmb IAmb 04 26 21.8
comp=Z,21nm,1.0s
BINY Binghamton 55.14 300 P **P 04 26 20.8 +1.0**
baz=71
KSPA Keystone Colle 55.20 300 IAmb IAmb 04 26 27.7
comp=Z,21nm,1.1s
LUPA Lehigh Univers 55.23 298 IAmb IAmb 04 26 24.9
comp=Z,28nm,1.2s
PECO Prince Edward 55.28 303 P **P 04 26 21.4 +0.7**
MHTO MHTO 55.30 88 P **P 04 26 22.0 +0.8**
SNR=19
K57A Scipio Center 55.34 301 IAmb IAmb 04 26 34.7
comp=Z,25nm,1.1s
BRZS Berezniki 55.34 50*c i*P **P 04 26 21.3 +0.2**
BRZS *i* S **S 04 34 05.2 +0.8**
BRZS pmax pmax
comp=Z,62nm,1.6s
BRZS Berezniki 55.34 50⇑*i*P **P 04 26 21.3 +0.2**
comp=Z,62nm,1.6s,baz=50
BRZS *i* S **S 04 34 05.2 +0.8**
baz=50
JLN Jalan Bani Buh 55.90 86 P **P 04 26 25.5 0.0**
SNR=5.6
IUG Iuznay 55.99 59*ce*P **P 04 26 26.2 +0.2**
IUG Iuznay 55.99 59⇑*e*P **P 04 26 26.3 +0.2**
baz=60
KKAR Karatay Array 56.01 58 P **P 04 26 26.1 +0.1**
KKAR Karatay Array 56.01 58 P **P 04 26 26.1 +0.1**
N58A Sunbury 56.11 299 IAmb IAmb 04 26 39.4
comp=Z,46nm,1.4s
MVL Millersville 56.14 298 IAmb IAmb 04 26 29.6
comp=Z,33nm,1.0s
TMAB Tom-Au,PA,Br 56.23 237 *e*P **P 04 26 28.9 +1.0**
M57A Sunshine Farm, 56.23 300 IAmb IAmb 04 26 35.9
comp=Z,28nm,1.1s
RES Resolute Bay 56.28 341 LR LR 04 48 47.6
comp=Z,142nm,21.5s,baz=78,slow=34
RES Resolute Bay 56.28 341 P **P 04 26 28.6 +1.2**
RES pmax pmax
comp=Z,26nm,1.1s
RES Resolute Bay 56.28 341 **P 04 26 28.6 +1.2**
RES IAmb IAmb 04 26 29.8
comp=Z,26nm,1.1s
MMNY Mt. Morris Dam 56.30 301 IAmb IAmb 04 26 53.8
comp=Z,38nm,1.3s
PAGS Pennsylvania G 56.33 298 IAmb IAmb 04 26 31.1
comp=Z,46nm,1.3s
SADO Sadowa 56.48 304 LR LR 04 47 57.3
comp=Z,335nm,21.7s,baz=54,slow=33
NBLA Lagarto - SE 56.59 221 *e*P **P 04 26 30.9 +0.5**
DZA Taraz 56.64 58*c i*P **P 04 26 30.6 +0.1**
DZA Taraz 56.64 58⇑*i*P **P 04 26 30.6 +0.1**
baz=58
SOCY Socotra 56.72 99 P **P 04 26 30.7 -0.8**
SSPA Standing Stone 57.02 299 P **P 04 26 33.8 +0.6**
SSPA IAmb IAmb 04 26 44.3
comp=Z,32nm,1.2s
SSPA Standing Stone 57.02 299 P **P 04 26 34.6 +1.4**
baz=69
BTK Batken 57.28 61 IAmb IAmb 04 26 36.8
comp=Z,23nm,1.2s
M55A Ridgway 57.34 300 IAmb IAmb 04 26 38.1
comp=Z,30nm,1.1s
NRIK Noril'sk 57.48 25 P **P 04 26 37.1 +1.1**
comp=Z,3.2nm,0.5s,baz=274,slow=4.3,SNR=12
NRIK LR LR 04 52 43.9
comp=Z,373nm,21.6s,baz=302,slow=38
NRIK Noril'sk 57.48 25*ce*P **P 04 26 37.1 +1.1**
NRIK pmax pmax
comp=Z,34nm,1.5s
NRIK Noril'sk 57.48 25 **P 04 26 36.7 +0.7**
NRIK IAmb IAmb 04 26 41.8
comp=Z,40nm,1.4s
SJG San Juan 57.59 270 LR LR 04 46 21.3
comp=Z,96nm,21.2s,baz=75,slow=31
MCPB Macapa, AP 57.60 242 *e*P **P 04 26 38.5 +0.8**

O56A Blue Knob Stat 57.63 299 P **P 04 26 38.5 +0.8**
baz=68
BTLS Baital 57.76 55*c i*P **P 04 26 38.7 +0.4**
BTLS pmax pmax
comp=Z,35nm,1.8s
BTLS Baital 57.76 55⇑*i*P **P 04 26 38.8 +0.4**
comp=Z,36nm,1.8s,baz=55
NBPN Ponto Novo - B 57.79 224 *e*P **P 04 26 39.9 +1.0**
CELP Cerrillos 57.96 270 P **P 04 26 40.9 +0.8**
CELP IAmb IAmb 04 26 45.7
comp=Z,43nm,1.1s
M54A Oil Creek Stat 57.96 301 P **P 04 26 40.8 +1.0**
baz=69
ERPA Erie 57.96 301 P **P 04 26 40.2 +0.3**
baz=69
KBL Kabul 58.08 68 P **P 04 26 40.8 -0.3**
KBL pmax pmax
comp=Z,14nm,1.5s
KBL Kabul 58.08 68 P **P 04 26 40.8 -0.3**
TSUM Tsumeb 58.18 156 P **P 04 26 42.6 +1.0**
TSUM IAmb IAmb 04 26 44.0
comp=Z,30nm,1.2s
DRK Karamyk 58.19 62 IAmb IAmb 04 26 44.8
comp=Z,24nm,1.1s
N54A Moraine State 58.38 300 P **P 04 26 42.5 -0.4**
baz=68
EKS2 Erkin-Say 58.41 58 P **P 04 26 44.2 +1.1**
SNR=22
CRPR Cabo Rojo, PR 58.42 270 P **P 04 26 44.2 +0.9**
Q56A Snyder Ridge, 58.53 298 IAmb IAmb 04 26 46.5
comp=Z,28nm,1.2s
AML Almayashu 58.55 58 P **P 04 26 45.4 +1.0**
SNR=13
AML Almayashu 58.55 58 *i*P **P 04 26 45.2 +0.8**
SNR=13
U59A Littleton 58.56 294 IAmb IAmb 04 26 46.6
comp=Z,31nm,1.1s
M53A WI Miller and 58.69 301 P **P 04 26 45.6 +0.7**
baz=68
SGDS Sogindy 58.71 57 *e*P **P 04 26 44.8 -0.3**
comp=Z,11nm,1.8s,baz=57
KURBB Kurchatov Arra 58.72 48 P **P 04 26 45.3 +0.3**
comp=Z,54nm,1.0s,baz=292,slow=7.7,SNR=176
KURBB LR LR 04 54 16.9
comp=Z,75nm,19.9s,baz=284,slow=38
KURK Kurchatov 58.74 47*ce*P **P 04 26 45.2 +0.1**
KURK pmax pmax
comp=Z,158nm,1.7s
KURK Kurchatov 58.74 47 P **P 04 26 45.3 +0.1**
MCWV Mont Chateau 58.77 299 IAmb IAmb 04 26 59.2
comp=Z,36nm,1.3s
MCWV Mont Chateau 58.77 299 P **P 04 26 46.5 +1.0**
baz=68
AAK Ala-Archa 58.91 57 P **P 04 26 47.5 +0.9**
comp=Z,4.2nm,0.8s,baz=249,slow=4.4,SNR=14
AAK Ala-Archa 58.91 57*ce*P **P 04 26 47.3 +0.6**
AAK pmax pmax
comp=Z,37nm,1.7s
AAK Ala-Archa 58.91 57 P **P 04 26 47.3 +0.6**
AAK IAmb IAmb 04 26 53.3
comp=Z,34nm,1.2s
AAK Ala-Archa 58.91 57 *i*P **P 04 26 47.6 +0.9**
SNR=17
O54A Avella 58.95 299 IAmb IAmb 04 27 12.4
comp=Z,24nm,1.2s
CHMS Chumysh 58.95 57 P **P 04 26 46.7 -0.1**
SNR=6.2
LSZ Lusaka 58.96 144 LR LR 04 53 07.6
comp=Z,455nm,19.1s,baz=349,slow=37
LSZ Lusaka 58.96 144 *e*P **P 04 26 48.7 +1.6**
LSZ IAmb IAmb 04 26 49.6
comp=Z,456nm,1.3s
LSZ Lusaka 58.96 144 P **P 04 26 47.8 +0.7**
LSZ pmax pmax
comp=Z,52nm,1.3s
LSZ Lusaka 58.96 144 P **P 04 26 47.8 +0.7**
UCH Uchtor 59.08 58 P **P 04 26 49.0 +0.8**
SNR=13
CNNC Cliffs of the 59.08 293 P **P 04 26 48.7 +1.0**
baz=66
T57A Hurt 59.38 296 IAmb IAmb 04 26 52.6
comp=Z,23nm,0.9s
O53A New Philadelph 59.52 300 IAmb IAmb 04 26 58.4
comp=Z,21nm,1.1s
O53A New Philadelph 59.52 300 P **P 04 26 51.7 +1.0**
baz=67
TKM2 Tokmak 2 59.56 57 P **P 04 26 49.3 -2.0**
SNR=6.2
KUU Kurty 59.70 56*c i*P **P 04 26 52.3 +0.4**
KUU Kurty 59.70 56⇑*i*P **P 04 26 52.4 +0.4**
baz=56
Q54A Coxs Mills 59.74 298 IAmb IAmb 04 26 54.2
comp=Z,36nm,1.4s
GDU01 Guandu, BA 59.81 221 *e*P **P 04 26 53.2 +0.4**
SEM Semipalatinsk 59.83 47*c i*P **P 04 26 53.2 +0.3**
SEM pmax pmax
comp=Z,41nm,1.4s
SEM Semipalatinsk 59.83 47⇑*i*P **P 04 26 53.3 +0.3**
comp=Z,42nm,1.4s,baz=48
P53A Whipple 59.94 299 IAmb IAmb 04 27 01.8
comp=Z,39nm,1.4s
BOOM Boomskoye usch 59.96 57 P **P 04 26 53.8 -0.1**
BOOM pmax pmax
comp=Z,26nm,1.5s
BOOM Boomskoye usch 59.96 57 P **P 04 26 53.8 -0.1**
BOOM IAmb IAmb 04 27 07.3
comp=Z,26nm,1.5s
O52A Adamsville 60.01 300 IAmb IAmb 04 27 01.5
comp=Z,45nm,1.3s
GLMI Grayling 60.11 306 P **P 04 26 55.1 +0.4**
baz=68
BLA Blacksburg 60.15 296 P **P 04 26 55.9 +0.7**
baz=66
CHKK Chushkaly 60.15 55⇑*i*P **P 04 26 54.9 -0.1**
baz=56
PRPB Parauapebas 60.16 236 *e*P **P 04 26 56.2 +0.9**
MALB Monte Alegre 60.22 243 *e*P **P 04 26 56.7 +0.9**
ULHL Ulahol 60.26 57 P **P 04 26 56.8 +0.8**
SNR=6.3
AAA Alma-Ata 60.34 56*c i*P **P 04 26 57.6 +1.2**
AAA Alma-Ata 60.34 56⇑*i*P **P 04 26 57.6 +1.2**
baz=56
P52A Corning 60.41 299 P **P 04 26 57.8 +1.0**
baz=66
TNSS Tian-Shan 60.43 56 *e*P **P 04 26 58.2 +0.8**
baz=56
MDOK Medeo 60.45 56 *i*P **P 04 26 58.0 +0.8**
MDOK Medeo 60.45 56 *i*P **P 04 26 58.1 +0.8**
baz=56
FCC Fort Churchill 60.52 323 P **P 04 26 57.7 +0.5**
FCC pmax pmax
comp=Z,17nm,1.1s
FCC Fort Churchill 60.52 323 P **P 04 26 57.6 +0.5**
FCC IAmb IAmb 04 27 15.0
comp=Z,17nm,1.1s
ARXS Arharly 60.57 55 P **P 04 26 57.6 -0.4**
TDK Taldyqorghan 60.65 54*c i*P **P 04 26 59.1 +0.7**
TDK Taldyqorghan 60.65 54⇑*i*P **P 04 26 59.1 +0.7**
baz=54
SMTB Santa Maria do 60.70 232 *e*P **P 04 26 59.8 +0.8**
NBIT Itapeh - BA 60.74 220 *e*P **P 04 27 00.7 +1.5**
ACSO Alum Creek Sta 60.77 300 IAmb IAmb 04 27 01.4
comp=Z,24nm,0.9s
ACSO Alum Creek Sta 60.77 300 P **P 04 27 00.2 +0.9**
baz=66,SNR=5.9
R53A Hurricane 60.80 298 IAmb IAmb 04 27 04.1
comp=Z,33nm,1.2s
J47A Sunmer 60.85 304 IAmb IAmb 04 27 21.0
comp=Z,34nm,1.1s
KDJ Kajisay 60.94 57 P **P 04 27 00.8 +0.1**
KDJ pmax pmax
comp=Z,21nm,1.2s
KDJ Kajisay 60.94 57 P **P 04 27 00.8 +0.1**
KDJ IAmb IAmb 04 27 03.9
comp=Z,21nm,1.1s
L48A N Adams 61.09 303 IAmb IAmb 04 27 02.9
comp=Z,24nm,0.7s
P51A Williamsport 61.12 300 IAmb IAmb 04 27 05.8
comp=Z,23nm,0.9s
CMC01 Camacan, BA 61.14 220 *e*P **P 04 27 03.7 +1.8**
KSH Kashi 61.15 60 P **P 04 27 02.1 +0.1**
KSH pP pP 04 27 07.2 -0.3
KSH sP sP 04 27 09.3 -0.2
KSH PcP **PcP 04 27 48.1 +3.3**
KSH PP **PP 04 29 17.1 +0.6**
KSH pmax pmax

comp=Z,40nm,1.1s
ZAA0 Zalesovo Array 61.17 42 P P 04 27 01.8 0.0
ZALV Zalesovo Beam 61.17 42 P P 04 27 01.7 0.0
comp=Z,4.9nm,0.8s,baz=294,slow=6.9,SNR=18
ZALV LR LR 04 55 49.4
comp=Z,134nm,18.5s,baz=300,slow=38
ZALV Zalesovo Beam 61.17 42 P P 04 27 01.4 -0.3
ZALV Zalesovo Beam 61.17 42 P P 04 27 01.4 -0.3
SDDR Presa de Saban 61.32 274 P P 04 27 04.0 +0.6
SDDR IAmb IAmb 04 27 06.3
comp=Z,33nm,1.1s
N49A Columbus Grove 61.33 302 IAmb IAmb 04 27 07.3
comp=Z,17nm,1.1s
ZHN Zhinishke 61.38 56 *eP* **P 04 27 04.1 +0.5**
ZHN Zhinishke 61.38 56 *eP* **P 04 27 04.1 +0.5**
baz=56
SATY Saty 61.41 56*c i*P **P 04 27 04.2 +0.5**
SATY pmax pmax
comp=Z,28nm,1.9s
SATY Saty 61.41 56⇑ *i*P **P 04 27 04.2 +0.5**
comp=Z,28nm,1.9s,baz=56
KPKS Kokpek 61.43 55*c i*P **P 04 27 04.3 +0.5**
KPKS pmax pmax
comp=Z,42nm,1.9s
KPKS Kokpek 61.43 55⇑ *i*P **P 04 27 04.4 +0.5**
comp=Z,42nm,1.9s,baz=55
Q51A Peebles 61.51 299 IAmb IAmb 04 27 06.5
comp=Z,25nm,1.0s
NIL Nilore 61.62 67 P P **04 27 05.2 0.0**
NIL pmax pmax
comp=Z,60nm,1.3s
NIL Nilore 61.62 67 P P **04 27 05.2 0.0**
KMSC Kings Mountain 61.68 295 IAmb IAmb 04 27 08.0
comp=Z,17nm,1.2s
KMSC Kings Mountain 61.68 295 P P **04 27 05.9 +0.4**
baz=64
NHSC New Hope 61.70 292 P P **04 27 06.7 +1.0**
baz=64
O49A Covington 61.73 301 IAmb IAmb 04 27 08.9
comp=Z,36nm,1.3s
SDBA SAO DESIDERIO 61.77 227 *eP* **P 04 27 06.7 +0.4**
UZB Uzynbulak 61.79 55 *i*P **P 04 27 06.4 +0.1**
UZB pmax pmax
comp=Z,23nm,1.5s
UZB Uzynbulak 61.79 55 *i*P **P 04 27 06.5 +0.1**
comp=Z,23nm,1.5s,baz=56
SHLS Shalkode 62.08 55*c i*P **P 04 27 11.0 +2.8**
SHLS pmax pmax
comp=Z,29nm,1.6s
SHLS Shalkode 62.08 55⇑ *i*P **P 04 27 11.1 +2.8**
comp=Z,29nm,1.6s,baz=55
BOAV Boa Vista 62.12 251 *eP* **P 04 27 09.4 +0.7**
MAKZ Makanchi 62.24 51 P P **04 27 09.4 +0.2**
MAKZ pmax pmax
comp=Z,67nm,1.1s
MAKZ Makanchi 62.24 51 P P **04 27 09.4 +0.2**
S51A Beattyville 62.27 298 IAmb IAmb 04 27 22.8
comp=Z,38nm,1.5s
P49A Miami Univ. Ec 62.27 300 IAmb IAmb 04 27 13.1
comp=Z,22nm,1.1s
P49A Miami Univ. Ec 62.27 300 P P **04 27 09.8 +0.3**
baz=65
O48B Farmland 62.28 301 P P **04 27 09.9 +0.4**
baz=65,SNR=7.7
GUA01 Guaratinga, BA 62.31 220 *eP* **P 04 27 10.7 +0.9**
MK31 Makanchi Array 62.45 51 P P **04 27 10.9 +0.4**
MK31 pmax pmax
comp=Z,44nm,1.1s
MK31 Makanchi Array 62.45 51 P P **04 27 10.9 +0.4**
MKAR Makanchi Array 62.45 51 P P **04 27 10.8 +0.3**
comp=Z,34nm,0.9s,baz=286,slow=5.9,SNR=275
MKAR Makanchi Array 62.45 51 P P **04 27 10.7 +0.1**
R50A Paris 62.52 299 IAmb IAmb 04 27 14.4
comp=Z,35nm,1.4s
COWI Conover 62.54 309 IAmb IAmb 04 27 21.6
comp=Z,17nm,1.1s
TZTN Tazewell 62.71 297 IAmb IAmb 04 27 16.0
comp=Z,27nm,1.4s
TZTN Tazewell 62.71 297 P P **04 27 13.2 +0.8**
baz=64
HODGE Hodges 62.76 294 IAmb IAmb 04 27 17.4
comp=Z,19nm,1.2s
P48A Milroy 62.80 301 IAmb IAmb 04 27 16.4
comp=Z,19nm,0.8s
ITTB Itaituba 63.01 242 *eP* **P 04 27 15.3 +0.7**
R49A Shelbyville 63.12 299 IAmb IAmb 04 27 16.5
comp=Z,23nm,0.9s
TKL Tuckaleechee C 63.26 296 LR LR 04 53 32.5
comp=Z,184nm,18.8s,baz=81,slow=35
TKL Tuckaleechee C 63.26 296 IAmb IAmb 04 27 23.2
comp=Z,30nm,1.5s
EYMN Ely 63.26 311 P P **04 27 16.3 +0.4**
EYMN IAmb IAmb 04 27 22.4
comp=Z,24nm,1.1s
EYMN Ely 63.26 311 P P **04 27 16.2 +0.4**
baz=66,SNR=10
I42A Draeger Farm, 63.31 306 IAmb IAmb 04 27 18.2
comp=Z,21nm,1.1s
L44A Lake County Fo 63.36 304 P P **04 27 17.0 +0.3**
baz=65
BLWY Bulawayo 63.37 146 *eP* **P 04 27 18.0 +1.0**
BLWY IAmb IAmb 04 27 20.3
comp=Z,2μm,3.0s
K43A Burlington 63.42 305 IAmb IAmb 04 27 18.7
comp=Z,23nm,0.9s
T50A Nancy 63.43 298 IAmb IAmb 04 27 19.0
comp=Z,12nm,0.8s
NAN01 Guarapari, ES 63.53 219 *eP* **P 04 27 19.2 +1.3**
JANB Januaria 63.53 225 *eP* **P 04 27 18.5 +0.4**
G40A Rib Lake 63.56 308 IAmb IAmb 04 27 19.8
comp=Z,17nm,0.9s
MATP Matopo 63.56 146 LR LR 04 54 00.2
comp=Z,366nm,18.7s,baz=334,slow=35
SFIN Lafayette 63.57 302 P P **04 27 18.3 +0.2**
baz=64
V51A Loudon 63.61 296 IAmb IAmb 04 27 23.1
comp=Z,26nm,1.1s
PEXB Peixe 63.61 230 *eP* **P 04 27 19.5 +0.9**
W52A Murphy 63.62 296 P P **04 27 19.3 +0.8**
W52A IAmb IAmb 04 27 20.7
comp=Z,24nm,1.2s
BLO Bloomington 63.69 301 IAmb IAmb 04 27 31.4
comp=Z,18nm,0.8s
ZSN Zaisan 63.78 49*c i*P **P 04 27 20.5 +1.2**
ZSN pmax pmax
comp=Z,49nm,1.6s
ZSN Zaisan 63.78 49⇑ *i*P **P 04 27 20.6 +1.2**
comp=Z,49nm,1.6s,baz=49
CPCT Cooper Cave 63.89 296 IAmb IAmb 04 27 24.7
comp=Z,29nm,1.4s
GOGA Godfrey 64.03 294 IAmb IAmb 04 27 26.0
comp=Z,19nm,1.3s
GOGA Godfrey 64.03 294 P P **04 27 22.1 +0.9**
baz=63
Y52A Lilburn 64.27 294 IAmb IAmb 04 27 27.6
comp=Z,28nm,1.2s
U49A Red Boiling Sp 64.33 298 IAmb IAmb 04 27 27.3
comp=Z,19nm,1.1s
I40A Norwalk 64.42 307 IAmb IAmb 04 27 25.2
comp=Z,21nm,1.1s
B35A Bob, Littlefor 64.44 312 P P **04 27 23.2 -0.4**
B35A IAmb IAmb 04 27 35.1
comp=Z,29nm,1.4s
JFWS Jewell Farm 64.60 306 P P **04 27 24.8 0.0**
baz=64
NPGB Novo Progresso 64.60 240 *eP* **P 04 27 25.8 +0.7**
O44A Mansfield 64.61 302 IAmb IAmb 04 27 26.4
comp=Z,34nm,1.2s
SJMB Sao Joao De Ma 64.80 220 *eP* **P 04 27 27.0 +0.8**
ULM Lac du Bonnet 64.88 315 P P **04 27 26.1 -0.4**
comp=Z,12nm,0.9s,baz=77,slow=5.5,SNR=16
ULM LR LR 04 53 05.0
comp=Z,199nm,19.8s,baz=70,slow=34
ULM Lac du Bonnet 64.88 315 IAmb IAmb 04 27 27.6
comp=Z,36nm,1.2s
RIB01 Linhares ES 64.90 219 *eP* **P 04 27 27.6 +0.7**
CLTN Cedars of Leba 64.92 297 IAmb IAmb 04 27 30.9
comp=Z,12nm,0.8s
DWPF Disney Wildern 64.94 288 P P **04 27 28.4 +1.2**
baz=61
OLIL Olney 64.99 301 IAmb IAmb 04 27 28.4
comp=Z,25nm,0.8s
HDIL Hopedale 65.00 303 P P **04 27 27.6 +0.2**
baz=64
SWET Sewanee 65.03 296 IAmb IAmb 04 27 32.6
comp=Z,22nm,1.2s
TIGA Tifton 65.03 292 P P **04 27 27.6 -0.1**
baz=62
FPAL Fort Paine 65.10 296 IAmb IAmb 04 27 32.4
comp=Z,19nm,1.0s
A36M Sachs Harbour 65.21 343 P P **04 27 29.5 +1.3**
baz=50,SNR=26
SPMN Marine on St. 65.24 309 P P **04 27 28.9 0.0**
SPMN IAmb IAmb 04 27 30.4
comp=Z,30nm,1.2s
SPMN Marine on St. 65.24 309 P P **04 27 29.1 +0.2**
baz=64,SNR=5.5
152A Waverly Hall 65.30 293 IAmb IAmb 04 27 32.2
comp=Z,32nm,1.1s
Z51A Franklin 65.34 294 IAmb IAmb 04 27 32.4
comp=Z,30nm,1.1s
F36A Milaca 65.41 310 IAmb IAmb 04 27 31.3
comp=Z,17nm,1.1s
SNDB Serra Nova Dou 65.42 233 *eP* **P 04 27 31.4 +1.1**
V48A Smith Brothers 65.44 297 IAmb IAmb 04 27 34.1
comp=Z,20nm,1.1s
Q44A Meyer Farm, Va 65.55 301 IAmb IAmb 04 27 35.8
comp=Z,19nm,1.1s
P43A Skaggs, Pawnee 65.57 302 IAmb IAmb 04 27 32.2
comp=Z,17nm,1.0s
L40A Anamosa 65.63 305 IAmb IAmb 04 27 32.6
comp=Z,17nm,0.9s
AGMN Agassiz Nation 65.74 313 IAmb IAmb 04 27 33.5
comp=Z,16nm,1.1s
AGMN Agassiz Nation 65.74 313 P P **04 27 32.2 +0.1**
baz=63,SNR=7.3
DIAM Diamantina, MG 65.79 222 *eP* **P 04 27 34.3 +1.5**
MACA Manacapuru-AM 65.83 247 *eP* **P 04 27 34.1 +1.0**
MSNA Messina 65.92 146 *eP* **P 04 27 33.7 +0.2**
MSNA IAmb IAmb 04 27 35.7
comp=Z,36nm,1.1s
WVT Waverly 65.98 298 P P **04 27 33.8 0.0**
WVT pmax pmax
comp=Z,11nm,1.2s
WVT Waverly 65.98 298 P P **04 27 33.8 0.0**
WVT Waverly 65.98 298 P P **04 27 33.4 -0.4**
baz=62
N41A Harden Midland 65.99 304 IAmb IAmb 04 27 44.8
comp=Z,19nm,1.0s
Y49A Blount Mountai 66.01 295 IAmb IAmb 04 27 46.7
comp=Z,15nm,0.9s
FFC Flin Flon 66.15 321 P P **04 27 35.0 +0.4**
FFC pmax pmax
comp=Z,25nm,1.2s
FFC Flin Flon 66.15 321 P P **04 27 35.0 +0.4**
FFC IAmb IAmb 04 27 36.4
comp=Z,25nm,1.1s
ALF01 Guarapari-ES 66.16 218 *eP* **P 04 27 35.8 +0.8**
BDFB Brasilia 66.17 228 P P **04 27 35.4 +0.1**
comp=Z,30nm,1.1s,baz=36,slow=5.8,SNR=25
BDFB LR LR 04 54 28.6
comp=Z,76nm,18.2s,baz=5.8,slow=34
BDFB Brasilia 66.17 228 P P **04 27 35.0 -0.2**
X48A Hartselle 66.19 296 IAmb IAmb 04 27 37.0
comp=Z,38nm,1.4s
SIUC Southern Illin 66.24 300 IAmb IAmb 04 27 36.0
comp=Z,22nm,1.1s
SDV Santo Domingo 66.26 264 LR LR 04 51 12.1
comp=Z,57nm,20.2s,baz=77,slow=31
SDV Santo Domingo 66.26 264 P P **04 27 36.5 +0.4**
SDV Santo Domingo 66.26 264 *eP* **P 04 27 36.5 +0.4**
SDV Santo Domingo 66.26 264 *eP* **P 04 27 37.5 +1.4**
S44A Carbondale 66.27 300 IAmb IAmb 04 27 36.2
comp=Z,23nm,1.1s
K38A Parkersburg 66.38 306 IAmb IAmb 04 27 36.9
comp=Z,26nm,1.1s
LBTB Lobatse 66.40 151 LR LR 04 57 26.0
comp=Z,794nm,20.8s,baz=337,slow=37
LBTB Lobatse 66.40 151 P P **04 27 36.6 0.0**
LBTB pmax pmax
comp=Z,25nm,1.2s
LBTB Lobatse 66.40 151 P P **04 27 36.6 0.0**
LBTB IAmb IAmb 04 27 37.6
comp=Z,25nm,1.1s
C36M Paulatuk 66.62 341 P P **04 27 38.0 +0.7**
C36M IAmb IAmb 04 27 41.6
comp=Z,16nm,1.1s
C36M Paulatuk 66.62 341 P P **04 27 38.1 +0.8**
baz=50,SNR=10
LRAL Lakeview Retre 66.83 295 IAmb IAmb 04 27 40.4
comp=Z,14nm,0.9s
LRAL Lakeview Retre 66.83 295 P P **04 27 39.8 +0.5**
baz=62
FVM French Village 66.96 301 IAmb IAmb 04 27 41.0
comp=Z,38nm,1.2s
SCIA State Center 67.02 306 P P **04 27 39.9 -0.5**
baz=62
F33A 5 Mile Ranch, 67.14 311 IAmb IAmb 04 27 42.0
comp=Z,19nm,1.1s
WMQ Urumqi 67.17 52 *eP* **P 04 27 42.6 +1.2**
WMQ pP pP 04 27 45.6 -1.4
WMQ pmax pmax
comp=Z,67nm,1.1s
WMQ pmax pmax
comp=Z,350nm,4.3s
WMQ LR LR
comp=Z,380nm,11.5s
WMQ LR LR
comp=Z,370nm,12.1s
WMQ LR LR
comp=Z,98nm,20.9s
P40A Paris 67.35 303 IAmb IAmb 04 27 43.2
comp=Z,12nm,0.9s
CCM Cathedral Cave 67.49 301 P P **04 27 43.4 0.0**
CCM pmax pmax
comp=Z,22nm,0.9s
CCM Cathedral Cave 67.49 301 P P **04 27 43.4 0.0**
CCM IAmb IAmb 04 27 44.2
comp=Z,22nm,0.8s
CCM Cathedral Cave 67.49 301 P P **04 27 43.0 -0.4**
baz=62
PBMO Poplar Bluff 67.53 300 IAmb IAmb 04 27 44.2
comp=Z,19nm,1.1s
N38A Joes South For 67.55 305 IAmb IAmb 04 27 44.5
comp=Z,24nm,1.2s
MOPA Mopani 67.57 145 *eP* **P 04 27 44.8 +0.8**
MOPA IAmb IAmb 04 27 45.8
comp=Z,1μm,4.7s
CLDB Colider 67.62 237 *eP* **P 04 27 45.2 +0.8**
YKA Yellowknife Ar 67.73 332 P P **04 27 44.9 +0.4**
comp=Z,33nm,0.9s,baz=59,slow=6.4,SNR=272
YKA LR LR 04 54 37.1
comp=Z,464nm,20.6s,baz=58,slow=34
YKA PKPPKP **P'P'df 04 56 07.4 -5.7**
comp=Z,1.1nm,1.0s,baz=236,slow=3.1,SNR=4.3
YKA Yellowknife Ar 67.73 332 P P **04 27 44.6 +0.1**
BRAL Brewton 67.76 293 P P **04 27 44.8 -0.4**
baz=61
TIXI Tiksi 67.84 15*c e*P **P 04 27 45.5 +0.5**
TIXI pmax pmax
comp=Z,16nm,1.7s
TIXI Tiksi 67.84 15 P P **04 27 45.6 +0.5**
OXF Oxford 67.88 297 P P **04 27 44.7 -1.2**
baz=61,SNR=8.3
R40A Maddies Statio 68.09 302 IAmb IAmb 04 27 48.2
comp=Z,23nm,1.0s
IPMB Ipameri, GO 68.11 226 *eP* **P 04 27 48.0 +0.4**
KEIM Keimoes 68.12 157 *eP* **P 04 27 46.3 -1.1**
KEIM IAmb IAmb 04 27 51.3
comp=Z,44nm,1.2s
MDND Maddock 68.17 314 P P **04 27 47.2 -0.3**
baz=61
DUB01 Friburgo-RJ 68.22 219 *eP* **P 04 27 49.1 +1.0**
P38A Dawn 68.31 304 IAmb IAmb 04 27 49.8
comp=Z,37nm,1.4s
ECSD EROS Data Cent 68.35 309 IAmb IAmb 04 27 54.9
comp=Z,32nm,1.3s
ECSD EROS Data Cent 68.35 309 P P **04 27 48.2 -0.5**
baz=61
LCAR Lake Charles 68.38 299 IAmb IAmb 04 27 49.7
comp=Z,25nm,1.2s
ARAG Araguaiana, MT 68.55 231 *eP* **P 04 27 51.5 +1.3**
BSCB Bom Sucesso 68.58 221 *eP* **P 04 27 51.0 +0.5**
MGMO Mountain Grove 68.64 301 P P **04 27 50.0 -0.7**
MGMO IAmb IAmb 04 27 51.9
comp=Z,23nm,0.9s
PDRB Porto dos Gac 68.78 237 *eP* **P 04 27 53.0 +1.2**
FCAR Ozark Folk Cen 69.16 300 IAmb IAmb 04 27 54.8
comp=Z,29nm,1.0s
U40A Yellville 69.44 300 P P **04 27 55.6 -0.1**
baz=60,SNR=22
SUSD Miller 69.47 310 P P **04 27 55.3 -0.4**
baz=60
BOSA Boshof 69.51 153 P P **04 27 56.2 +0.1**
comp=Z,8.2nm,0.9s,baz=317,slow=9.8,SNR=6.0
BOSA LR LR 04 59 07.7
comp=Z,414nm,18.5s,baz=341,slow=37
BOSA Boshof 69.51 153 P P **04 27 56.7 +0.6**
BOSA pmax pmax
comp=Z,29nm,1.3s
BOSA Boshof 69.51 153 P P **04 27 56.6 +0.6**
BOSA IAmb IAmb 04 27 57.5
comp=Z,29nm,1.2s
W41B Gary Mavity, V 69.60 299 IAmb IAmb 04 27 57.5
comp=Z,30nm,1.1s
W41B Gary Mavity, V 69.60 299 P P **04 27 56.4 -0.2**
baz=60,SNR=10
MAN01 Angra dos Reis 69.68 220 *eP* **P 04 27 58.1 +0.9**
INK Inuvik 69.81 342 P P **04 27 57.1 -0.2**
comp=Z,9.4nm,0.9s,baz=28,slow=10,SNR=13
INK LR LR 04 58 49.7
comp=Z,116nm,18.7s,baz=20,slow=36
INK Inuvik 69.81 342 IAmb IAmb 04 28 02.0
comp=Z,23nm,1.1s
INK Inuvik 69.81 342 P P **04 27 57.8 +0.4**
baz=42,SNR=12
PTGC Puerto Gaitan, 70.19 261 *eP* **P 04 27 59.5 -1.0**
X40A Basin Creek Fa 70.36 299 P P **04 28 01.1 -0.2**
baz=60,SNR=17
ZARC Zaragoza, Cauc 70.48 265 *eP* **P 04 28 00.9 -1.5**
BGNE Belgrade 70.49 307 P P **04 28 01.8 -0.2**
baz=59,SNR=7.0
DGMT Dagmar 70.50 316 P P **04 28 03.0 +1.0**
baz=58,SNR=9.5
NWCL Newcastle 70.56 149 *eP* **P 04 28 02.9 +0.3**
NWCL IAmb IAmb 04 28 06.6
comp=Z,30nm,1.1s
KSU1 Kansas State U 70.64 305 P P **04 28 02.9 -0.1**
baz=59,SNR=7.4
W39A Magazine 70.67 300 P P **04 28 03.3 +0.1**
baz=60,SNR=11
ITRB Iturama 70.72 227 *eP* **P 04 28 05.0 +1.5**
BB19B Bebedouro 70.72 224 *eP* **P 04 28 04.9 +1.3**
MIAR Mount Ida 70.86 299 P P **04 28 04.4 0.0**
baz=59,SNR=19
UREC San Jos de Ur 70.88 266⇑ *eP* **P 04 28 06.3 +1.5**
SPBC San Pablo de B 70.90 263‖ *eP* P 04 27 51.4 -14
MOY Mondy 70.90 40 *eP* **P 04 28 05.2 +0.7**
MOY pmax pmax
comp=Z,46nm,2.1s
PARB Paraibuna 70.94 221 *eP* **P 04 28 06.5 +1.5**
Z41A Richland Creek 70.95 298 P P **04 28 05.3 +0.3**
baz=59
WLAR White Oak Lake 70.96 298 P P **04 28 05.4 +0.4**
WLAR IAmb IAmb 04 28 07.2
comp=Z,30nm,1.2s
POGA Pongola 71.01 147 *eP* **P 04 28 05.2 +0.1**
POGA IAmb IAmb 04 28 07.2
comp=Z,33nm,1.0s
SALV Santo Antonio 71.18 233 *eP* **P 04 28 07.3 +0.9**
VAO Valinhos 71.39 222 *eP* **P 04 28 09.2 +1.5**
SUR Sutherland 71.49 158 P P **04 28 08.6 +0.4**
comp=Z,16nm,1.1s,baz=328,slow=11,SNR=2.7
SUR LR LR 05 01 32.1
comp=Z,302nm,19.0s,baz=342,slow=38
ROSC El Rosal 71.57 263 P P **04 28 09.4 -0.1**
comp=Z,5.7nm,0.6s,baz=65,slow=3.9,SNR=6.1
ROSC LR LR 04 55 34.8
comp=Z,122nm,18.9s,baz=60,slow=33
ROSC El Rosal 71.57 263 IAmb IAmb 04 28 11.0
comp=Z,39nm,1.4s
NORC Norcasia 71.60 264 *eP* **P 04 28 07.6 -1.5**
PYUN Piuthan 71.61 68 *eP* **P 04 28 09.3 0.0**
comp=Z,66nm,0.8s
TUL1 Leonard 71.72 301 P P **04 28 09.6 0.0**
baz=59,SNR=15
HELC Santa Helena 71.77 264 *eP* **P 04 28 07.6 -2.9**
GRAN Grantham 71.83 157 *eP* **P 04 28 08.4 -1.7**
GRAN IAmb IAmb 04 28 16.7
comp=Z,26nm,1.4s
DBBC Dabeiba 71.84 266 *eP* **P 04 28 13.1 +2.3**
PP1B Ponte de Pedra 71.91 232 *eP* **P 04 28 12.0 +1.2**
DANN Dangsing 72.07 68 *eP* **P 04 28 12.0 -0.2**
comp=Z,122nm,1.0s
VILB Vilhena 72.12 239 *eP* **P 04 28 13.9 +1.7**
GUY2C Guyana, Caldas 72.19 264 *eP* **P 04 28 13.1 -0.2**
KOLN Koldanda 72.25 68 *eP* **P 04 28 12.6 -0.5**
PET01 Itanhaem-SP 72.59 221 *eP* **P 04 28 16.6 +1.9**
LAO LASA Array 72.62 315 IAmb IAmb 04 28 17.1
comp=Z,45nm,1.1s
LAO LASA Array 72.62 315 P P **04 28 15.7 +0.8**
baz=56,SNR=12
ANIL Santa Ana 72.65 263 *eP* **P 04 28 15.8 0.0**
PCMB Pacaembu 72.72 226 *eP* **P 04 28 16.9 +1.3**
RSSD Black Hills 72.74 312 P P **04 28 16.3 +0.4**
RSSD pmax pmax
comp=Z,27nm,1.2s
RSSD Black Hills 72.74 312 P P **04 28 16.3 +0.4**
RSSD IAmb IAmb 04 28 17.7
comp=Z,26nm,1.2s
RSSD Black Hills 72.74 312 P P **04 28 16.2 +0.3**
baz=57
MACC Macarena, Meta 72.78 260 *eP* **P 04 28 17.1 +0.9**
ZAK Zakamensk 72.82 40 *eP* **P 04 28 16.7 +0.7**
ZAK pmax pmax
comp=Z,25nm,1.6s
ORTC Ortega, Tolima 72.86 262 *eP* **P 04 28 14.4 -2.3**
CBKS Cedar Bluff 72.88 306 P P **04 28 16.8 +0.3**
baz=58,SNR=23
GKN Gorkha 72.91 68 *eP* **P 04 28 16.7 -0.3**
TOLK Toolik Lake Re 72.93 348 IAmb IAmb 04 28 21.4
comp=Z,37nm,1.4s
TOLK Toolik Lake Re 72.93 348 P P **04 28 17.8 +1.5**
baz=28,SNR=11
BMAR Burnt Mountain 73.03 345 P P **04 28 18.6 +1.7**
NATX Nacogdoches 73.07 297 IAmb IAmb 04 28 21.6
comp=Z,24nm,0.9s
NATX Nacogdoches 73.07 297 P P **04 28 18.2 +0.5**
baz=58
FRTB Fartura 73.10 224 *eP* **P 04 28 19.2 +1.4**
PTLB Pontes e Lacer 73.14 236 *eP* **P 04 28 19.4 +1.2**
BOD Bodaibo 73.19 30 *eP* **P 04 28 16.0 -1.9**
BOD pmax pmax
comp=Z,22nm,2.0s
OGNE Ogallala 73.22 309 P P **04 28 19.0 +0.4**
OGNE Ogallala 73.22 309 P P **04 28 18.8 +0.2**
baz=57,SNR=8.9
TGTN Hyland Airport 73.26 336 P P **04 28 20.1 +1.7**
baz=44,SNR=8.5
I29M Ogilvie Camp, 73.30 342 IAmb IAmb 04 28 20.7
comp=Z,29nm,1.0s
I29M Ogilvie Camp, 73.30 342 P P **04 28 19.2 +0.8**
baz=37,SNR=18
MMPY Sheldon Lake, 73.43 338 P P **04 28 21.4 +2.0**
baz=42,SNR=11
DMN Daman 73.47 68 *eP* **P 04 28 20.5 +0.1**
KKN Kakani 73.50 67 *eP* **P 04 28 20.4 -0.2**
TBTG Tabatinga, AM 73.52 252 *eP* **P 04 28 21.5 +1.0**
PKIN Phulchoki 73.70 68 *eP* **P 04 28 21.2 -0.6**
YOTC Yotoco, Valle 73.71 263 *eP* **P 04 28 22.5 +0.7**
PKI Pulchoki 73.72 68 *eP* **P 04 28 21.5 -0.5**
HYBB Hyderabad (bro 73.78 80 *eP* **P 04 28 20.9 -1.2**
EGMT Eagleton 73.83 318 IAmb IAmb 04 28 24.1
comp=Z,48nm,1.1s
EGMT Eagleton 73.83 318 P P **04 28 22.7 +0.7**
baz=54,SNR=6.1
GUN Gumba 73.89 67 *eP* **P 04 28 22.8 -0.2**
comp=Z,121nm,1.3s
J29M Klondike Camp 74.00 341 P P **04 28 24.0 +1.3**
baz=37
GARC Garzon, Huila 74.07 261 *eP* **P 04 28 22.5 -1.6**
JIRN Jiri 74.26 67 *eP* **P 04 28 24.9 -0.3**
COLD Coldfoot 74.30 347 P P **04 28 25.4 +1.2**
baz=28,SNR=5.9
ETMB Extrema 74.33 245 *eP* **P 04 28 26.0 +0.8**
FARO Faro, Yukon 74.36 338 P P **04 28 26.4 +1.6**
baz=40,SNR=12
WMOK Wichita Mounta 74.41 302 IAmb IAmb 04 28 27.2
comp=Z,37nm,1.2s
WMOK Wichita Mounta 74.41 302 P P **04 28 25.9 +0.4**
baz=57,SNR=23
TRCB Terra Rica 74.44 226 *eP* **P 04 28 26.9 +1.2**
WTLY Watson Lake, Y 74.46 335 P P **04 28 26.2 +0.8**
baz=44
EGAK Eagle 74.48 343 IAmb IAmb 04 28 30.7
comp=Z,36nm,1.2s
EGAK Eagle 74.48 343 P P **04 28 26.3 +1.0**
baz=35
AQDB Aquidauana 74.55 230 IAmb IAmb 04 28 28.3
comp=Z,28nm,1.0s

AQDB **Aquidauana** 74.55 230 *e*P P 04 28 27.3 +1.0
DAWY **Dawson** 74.62 341 IAmb IAmb 04 28 28.8
comp=Z,22nm,1.1s
DAWY **Dawson** 74.62 341 P P 04 28 27.6 +1.3
baz=36,SNR=16
KSCO **Kaye Shedlock'** 74.66 307 IAmb IAmb 04 28 31.2
comp=Z,42nm,1.0s
KSCO **Kaye Shedlock'** 74.66 307 P P 04 28 27.8 +0.7
baz=56
M31M **Drury Creek, Y** 74.70 338 P P 04 28 28.4 +1.7
baz=40,SNR=12
PTLC **Puerto Leguiza** 74.71 259 *e*P P 04 28 29.3 +1.7
PCON **Cinco Dias** 74.72 262 *e*P P 04 28 29.3 +1.0
POPC **Popayan, Colom** 74.82 262 *e*P P 04 28 27.9 -0.5
PRP **Porcupine Dome** 74.86 345 IAmb IAmb 04 28 33.0
comp=Z,27nm,1.2s
PRP **Porcupine Dome** 74.86 345 P P 04 28 29.4 +1.6
baz=31,SNR=13
HKT **Hockley** 74.89 296 P P 04 28 28.8 +0.6
HKT pmax pmax
comp=Z,28nm,1.1s
HKT **Hockley** 74.89 296 P P 04 28 28.8 +0.6
HKT IAmb IAmb 04 28 30.5
comp=Z,28nm,1.1s
WHTX **Lake Whitney,** 74.96 299 IAmb IAmb 04 28 30.2
comp=Z,47nm,1.1s
WHTX **Lake Whitney,** 74.96 299 P P 04 28 29.0 +0.3
baz=57
SOTA **Rioblanco** 75.00 262 *e*P P 04 28 32.0 +2.2
K22A **Casper** 75.07 312 IAmb IAmb 04 28 33.0
comp=Z,26nm,1.1s
K22A **Casper** 75.07 312 P P 04 28 29.5 +0.1
baz=55,SNR=11
H24K **Noodor Dome** 75.08 346 P P 04 28 29.7 +0.8
baz=29
M30M **Minto, Yukon** 75.11 340 IAmb IAmb 04 28 54.5
comp=Z,27nm,1.4s
M30M **Minto, Yukon** 75.11 340 P P 04 28 29.8 +0.7
baz=38
PHWY **Pilot Hill** 75.18 310 IAmb IAmb 04 28 32.3
comp=Z,35nm,1.1s
RLMT **Red Lodge** 75.25 315 P P 04 28 31.1 +0.6
baz=54,SNR=10
J26L **Joseph Creek** 75.28 343 P P 04 28 31.4 +1.2
baz=33,SNR=13
RDOG **Red Dog Mine** 75.39 352 P P 04 28 31.7 +1.1
RDOG IAmb IAmb 04 28 33.5
comp=Z,24nm,1.3s
RDOG **Red Dog Mine** 75.39 352 P P 04 28 31.3 +0.7
baz=17,SNR=8.0
H23K **Yukon River** 75.42 346 IAmb IAmb 04 28 33.7
comp=Z,40nm,1.4s
H23K **Yukon River** 75.42 346 P P 04 28 31.4 +0.6
baz=28
WALA **Waterton Lakes** 75.43 320 IAmb IAmb 04 28 35.8
comp=Z,40nm,1.1s
YAK **Yakutsk** 75.55 21 *i* P P 04 28 32.5 +0.9
YAK pmax pmax
comp=Z,15nm,0.8s
PTGB **Pitanga** 75.59 225 *e*P P 04 28 34.1 +1.8
J25K **Salcha River,** 75.60 344 P P 04 28 32.7 +0.8
baz=31
POKR **Poker Plat Res** 75.61 345 IAmb IAmb 04 28 34.7
comp=Z,28nm,1.2s
POKR **Poker Plat Res** 75.61 345 P P 04 28 33.3 +1.3
baz=30,SNR=7.1
N31M **Braeburn, Yuko** 75.67 338 IAmb IAmb 04 28 37.5
comp=Z,26nm,1.1s
N31M **Braeburn, Yuko** 75.67 338 P P 04 28 33.3 +1.0
baz=38,SNR=8.4
435B **Jarrell** 75.71 298 IAmb IAmb 04 28 34.5
comp=Z,28nm,0.9s
435B **Jarrell** 75.71 298 P P 04 28 33.4 +0.3
baz=57
N23A **Red Feather La** 75.71 310 IAmb IAmb 04 28 36.3
comp=Z,52nm,1.4s
N23A **Red Feather La** 75.71 310 P P 04 28 34.4 +1.1
baz=55,SNR=13
P33M **Teslin, Yukon** 75.74 336 IAmb IAmb 04 28 35.4
comp=Z,26nm,1.1s
P33M **Teslin, Yukon** 75.74 336 P P 04 28 34.0 +1.2
baz=40,SNR=12
GR1C **Gorgona, Isla** 75.75 263 *e*P P 04 28 33.3 -0.2
GOMU **GeErMu** 75.78 56 P P 04 28 33.9 0.0
GOMU sP sP 04 28 41.1 -0.3
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,82nm,4.5s
IL31 75.80 345 P P 04 28 33.9 +0.9
ILAR **Eielson Array** 75.80 345 P P 04 28 33.2 +0.2
comp=Z,3.1nm,0.9s,baz=16,slow=5.2,SNR=23
ILAR LR LR 05 04 03.4
comp=Z,83nm,19.9s,baz=19,slow=37
ILAR **Eielson Array** 75.80 345 P P 04 28 34.0 +1.0
ILAR **Eielson Array** 75.80 345 P P 04 28 34.0 +1.0
SCRK **Sand Creek** 75.83 343 IAmb IAmb 04 28 38.7
comp=Z,18nm,1.0s
SCRK **Sand Creek** 75.83 343 P P 04 28 35.1 +1.8
baz=32,SNR=12
COLA **College** 75.92 345 *i* P P 04 28 33.5 -0.1
COLA pmax pmax
comp=Z,53nm,4.4s
COLA **College** 75.92 345 P P 04 28 34.6 +1.0
baz=29
TCOL **CIGO, UAF Yank** 75.92 345 P P 04 28 34.5 +0.9
baz=29
I23K **Minto, Yukon-K** 75.98 346 P P 04 28 35.3 +1.3
baz=28
SONM **Songino Array** 75.99 41 P P 04 28 34.4 -0.2
comp=Z,4.0nm,0.9s,baz=315,slow=5.4,SNR=27
SONM LR LR 05 03 10.3
comp=Z,225nm,21.7s,baz=343,slow=37
SONM **Songino Array** 75.99 41 P P 04 28 35.0 +0.5
SONM pmax pmax
comp=Z,13nm,1.3s
SONM **Songino Array** 75.99 41 P P 04 28 35.0 +0.5
YMP **Mirror Lake Pl** 75.99 315 IAmb IAmb 04 28 52.8
comp=Z,19nm,1.0s
IMAR **Indian Mountai** 76.04 348 P P 04 28 35.7 +1.3
WHY **Whitehorse** 76.05 338 P P 04 28 35.6 +1.0
baz=39,SNR=7.1
BCAR **Beaver Creek A** 76.06 342 P P 04 28 35.8 +1.3
L27K **Beaver Creek,** 76.07 342 IAmb IAmb 04 28 41.0
comp=Z,25nm,1.5s
L27K **Beaver Creek,** 76.07 342 P P 04 28 35.8 +1.2
baz=34
CCB **Clear Creek Bu** 76.11 345 P P 04 28 35.8 +1.1
DLBC **Dease Lake** 76.12 334 LR LR 04 59 23.8
comp=Z,280nm,21.8s,baz=84,slow=34
DLBC **Dease Lake** 76.12 334 IAmb IAmb 04 28 37.8
comp=Z,17nm,0.9s
DOT **Dot Lake** 76.12 343 IAmb IAmb 04 28 37.9
comp=Z,18nm,1.0s
HDA **Harding Lake** 76.13 345 IAmb IAmb 04 28 37.1
comp=Z,34nm,1.2s
HDA **Harding Lake** 76.13 345 P P 04 28 35.9 +1.0
baz=30,SNR=14
GCUF **Volcan Galeras** 76.13 261 *e*P P 04 28 37.4 +1.1
ISCO **Idaho Springs** 76.13 309 IAmb IAmb 04 28 41.8
comp=Z,48nm,1.4s
ISCO **Idaho Springs** 76.13 309 P P 04 28 36.6 +0.8
baz=55,SNR=25
ABTX **Abilene, Hawle** 76.16 300 IAmb IAmb 04 28 37.2
comp=Z,36nm,1.1s
ABTX **Abilene, Hawle** 76.16 300 P P 04 28 36.1 +0.4
baz=56,SNR=8.9
H21K **Melozitna Rive** 76.17 347 IAmb IAmb 04 28 41.0
comp=Z,32nm,1.4s
H21K **Melozitna Rive** 76.17 347 P P 04 28 36.3 +1.2
baz=25
RIDG **Independent Ri** 76.23 343 P P 04 28 37.2 +1.7
baz=32,SNR=14
BILL **Bilibino** 76.28 4⇑ *e*P P 04 28 35.2 -0.5
BILL *e* 04 31 36.4
BILL *e*S S 04 38 16.2 -2.9
BILL pmax pmax
comp=Z,20nm,1.7s
BILL MLR MLR
comp=Z,115nm,18.0s
BILL **Bilibino** 76.28 4 P P 04 28 35.7 0.0
BOZ **Bozeman (W)** 76.31 317 IAmb IAmb 04 28 41.0
comp=Z,34nm,1.2s
BOZ **Bozeman (W)** 76.31 317 P P 04 28 37.5 +1.1
baz=53,SNR=14
Q24A **Divide** 76.31 308 IAmb IAmb 04 28 40.7
comp=Z,25nm,1.2s
Q24A **Divide** 76.31 308 P P 04 28 37.1 +0.2
baz=55,SNR=8.5
ULN **Ulaanbaatar** 76.31 40 *ce*P P 04 28 36.6 +0.2
ULN pmax pmax
comp=Z,28nm,1.7s
ULN **Ulaanbaatar** 76.31 40 P P 04 28 36.6 +0.2
ULN IAmb IAmb 04 28 38.5
comp=Z,23nm,1.4s
WRH **Wood River Hil** 76.32 345 IAmb IAmb 04 28 38.6
comp=Z,20nm,1.1s
AMTX **Amarillo** 76.32 303 IAmb IAmb 04 28 42.1
comp=Z,32nm,1.4s
AMTX **Amarillo** 76.32 303 P P 04 28 37.3 +0.7
baz=56
BVCY **Beaver Creek** 76.36 341 P P 04 28 37.6 +1.3
baz=35
MLY **Manley** 76.36 346 P P 04 28 37.5 +1.2
baz=27
SRBA **San Rafael, Bu** 76.41 272 IAmb IAmb 04 28 41.5
comp=Z,29nm,1.3s
NEA2 **Nenana** 76.42 345 P P 04 28 37.1 +0.6
baz=28,SNR=6.1
MATN **Matagalpa** 76.42 276 P P 04 28 37.9 +0.4
MATN IAmb IAmb 04 28 41.7
comp=Z,21nm,1.0s
H17A **Grant Village** 76.44 315 P P 04 28 38.9 +1.6
baz=53,SNR=6.4
I21K **Tanana** 76.46 347 IAmb IAmb 04 28 40.1
comp=Z,28nm,1.2s
I21K **Tanana** 76.46 347 P P 04 28 38.0 +1.3
baz=26
L26K **Log Cabin Wild** 76.48 342 IAmb IAmb 04 28 40.1
comp=Z,26nm,1.1s
L26K **Log Cabin Wild** 76.48 342 P P 04 28 38.4 +1.5
baz=33,SNR=12
RIMA **Rio Macho** 76.51 272 IAmb IAmb 04 28 42.7
comp=Z,49nm,1.4s
YFT **Old Faithful** 76.55 315 P P 04 28 39.5 +1.5
YFT IAmb IAmb 04 28 41.7
comp=Z,31nm,1.4s
YUK4 **Talbot Arm** 76.62 340 P P 04 28 38.2 +0.2
baz=36
M27K **Edge Creek, AK** 76.67 341 IAmb IAmb 04 28 41.3
comp=Z,29nm,1.2s
M27K **Edge Creek, AK** 76.67 341 P P 04 28 39.1 +1.0
baz=34
FLWY **Flagg Ranch** 76.70 315 IAmb IAmb 04 28 52.3
comp=Z,42nm,1.5s
HYT **Haines Junctio** 76.71 339 IAmb IAmb 04 28 44.2
comp=Z,16nm,1.0s
HYT **Haines Junctio** 76.71 339 P P 04 28 39.9 +1.5
baz=37,SNR=7.6
YUK3 **Moose Creek** 76.78 341 P P 04 28 40.0 +1.2
baz=35,SNR=6.0
TULM **Tulcn-Chalpat** 76.79 261⇑ *e*P P 04 28 41.4 +1.5
LSA **Lhasa** 76.81 63 P P 04 28 40.1 +0.1
LSA pmax pmax
comp=Z,21nm,1.0s
LSA **Lhasa** 76.81 63 P P 04 28 40.1 +0.1
LSA IAmb IAmb 04 28 41.8
comp=Z,21nm,1.0s
BW06 **Boulder Array** 76.82 313 IAmb IAmb 04 28 42.7
comp=Z,23nm,1.1s
BW06 **Boulder Array** 76.82 313 P P 04 28 39.4 -0.1
baz=53,SNR=23
PD31 **Pinedale Array** 76.82 313 IAmb IAmb 04 28 42.7
comp=Z,21nm,1.1s
PDAR **Pinedale Array** 76.82 313 P P 04 28 39.0 -0.4
comp=Z,7.3nm,0.8s,baz=65,slow=6.2,SNR=48
PDAR LR LR 05 01 04.8
comp=Z,129nm,18.5s,baz=56,slow=35
PDAR **Pinedale Array** 76.82 313 P P 04 28 38.9 -0.6
MSO **Missoula** 76.82 319 P P 04 28 39.4 +0.1
baz=52,SNR=11
YUK6 **Outpost Mounta** 76.87 339 P P 04 28 40.8 +1.4
baz=36,SNR=9.8
T25A **Trinidad** 76.88 306 IAmb IAmb 04 28 44.3
comp=Z,24nm,1.4s
T25A **Trinidad** 76.88 306 P P 04 28 40.4 +0.5
baz=55,SNR=7.5
TER01 **Tubaro-SC** 76.98 220 *e*P P 04 28 42.0 +1.9
PAX **Paxson** 77.04 343 P P 04 28 41.1 +0.9
baz=31
SNOW **Snow King Moun** 77.10 314 IAmb IAmb 04 28 45.4
comp=Z,26nm,1.4s
JTS **Las Juntas de** 77.11 273 LR LR 04 56 24.9
comp=Z,66nm,20.2s,baz=117,slow=31
SKAG **Skagway** 77.12 337 P P 04 28 41.3 +0.7
baz=38
MCK **McKinley** 77.15 345 IAmb IAmb 04 28 42.7
comp=Z,34nm,1.4s
MCK **McKinley** 77.15 345 P P 04 28 41.0 +0.3
baz=28
TPAW **Teton Pass** 77.20 315 IAmb IAmb 04 28 45.0
comp=Z,25nm,1.4s
GTA **Gaotai** 77.20 51 ⇑P P 04 28 42.2 +0.6
GTA pmax pmax
comp=Z,16nm,1.3s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,260nm,19.6s
GTA LR LR
comp=Z,110nm,17.8s
REDW **Red Top Meadow** 77.22 314 IAmb IAmb 04 28 46.0
comp=Z,27nm,1.2s
SDCO **Great Sand Dun** 77.24 307 P P 04 28 42.2 +0.2
SDCO **Great Sand Dun** 77.24 307 P P 04 28 42.5 +0.5
baz=55,SNR=15
SMCO **Snowmass** 77.35 309 IAmb IAmb 04 28 46.8
comp=Z,24nm,1.1s
DHY **Denali Highway** 77.39 344 IAmb IAmb 04 28 44.7
comp=Z,31nm,1.3s
DHY **Denali Highway** 77.39 344 P P 04 28 43.3 +1.1
baz=30,SNR=7.3
PETF **Flores** 77.39 282 IAmb IAmb 04 28 43.4
comp=Z,22nm,0.8s
RND **Reindeer** 77.42 345 IAmb IAmb 04 28 43.8
comp=Z,25nm,1.4s
HARP **HAARP** 77.45 343 P P 04 28 42.9 +0.4
baz=31
JCT **Junction City** 77.47 298 P P 04 28 43.6 +0.6
baz=56,SNR=15
ITAB **Concordia** 77.58 223 *e*P P 04 28 45.1 +1.6
O20A **White River Ci** 77.58 311 P P 04 28 44.1 +0.4
baz=54
MSTX **Muleshoe** 77.58 303 IAmb IAmb 04 28 47.8
comp=Z,27nm,1.1s
MSTX **Muleshoe** 77.58 303 P P 04 28 44.2 +0.4
baz=55,SNR=9.7
NEW **Newport** 77.58 321 LR LR 04 59 06.5
comp=Z,330nm,21.6s,baz=42,slow=33
NEW **Newport** 77.58 321 P P 04 28 43.3 -0.1
baz=50,SNR=6.0
OTAV **Otavalo** 77.60 261 P P 04 28 44.9 +0.3
OTAV pmax pmax
comp=Z,88nm,1.4s
OTAV **Otavalo** 77.60 261 P P 04 28 44.9 +0.3
OTAV **Otavalo** 77.60 261 *e*P P 04 28 46.0 +1.4
BESE **Bessie Mountai** 77.66 336 IAmb IAmb 04 29 09.2
comp=Z,31nm,1.3s
TRF **Thorafare Moun** 77.68 345 IAmb IAmb 04 28 45.5
comp=Z,43nm,1.5s
TRF **Thorafare Moun** 77.68 345 P P 04 28 44.0 +0.2
baz=27,SNR=6.0
CTGM **Chitina Glacie** 77.68 340 IAmb IAmb 04 28 49.0
comp=Z,26nm,1.0s
CTG **Chitna Glacier** 77.69 340 P P 04 28 45.2 +1.3
baz=34,SNR=6.9
CHUM **Lake Minchumin** 77.69 346 P P 04 28 44.4 +0.7
baz=26
GCSA **Galena City Sc** 77.70 349 P P 04 28 44.7 +1.0
baz=22
LOGN **Logan Glacier** 77.71 340 IAmb IAmb 04 28 46.8
comp=Z,16nm,0.9s
KTH **Kantishna Hill** 77.72 346 P P 04 28 43.8 -0.2
KTH IAmb IAmb 04 28 48.5
comp=Z,38nm,1.3s
AHID **Auburn Hatcher** 77.72 314 IAmb IAmb 04 28 51.4
comp=Z,18nm,1.0s
J20K **Nowinta River** 77.76 347 P P 04 28 45.1 +1.1
baz=24
MCARA **McCarthy VSAT** 77.78 341 P P 04 28 45.4 +1.1
baz=33
CZSB **Cruzeiro do Su** 77.90 251 *e*P P 04 28 46.2 +0.7
WAT6 **Susitna Watana** 77.90 344 P P 04 28 46.1 +1.1
baz=29,SNR=8.8
M24K **Tolsona, Glenn** 77.95 343 P P 04 28 46.4 +1.2
baz=30
N25K **Chitina, Valde** 78.00 342 P P 04 28 46.7 +1.2
baz=32
VRDI **Verde Repeater** 78.03 341 IAmb IAmb 04 28 48.3
comp=Z,18nm,1.0s
CAST **Castle Rocks** 78.07 346 P P 04 28 46.5 +0.7
baz=26
S22A **4UR Ranch, Cre** 78.10 308 P P 04 28 47.7 +0.8
baz=54,SNR=23
RDMU **Red Mountain** 78.14 312 IAmb IAmb 04 28 51.1
comp=Z,36nm,1.0s
TNA **Tin City** 78.32 353 IAmb IAmb 04 28 51.9
comp=Z,26nm,1.5s
TNA **Tin City** 78.32 353 P P 04 28 47.8 +0.7
baz=13
MTO3 **Montecristo** 78.38 279 P P 04 28 49.4 +0.9
833A **Chaparral WMA,** 78.38 296 IAmb IAmb 04 28 52.3
comp=Z,31nm,1.1s
833A **Chaparral WMA,** 78.38 296 P P 04 28 48.8 +0.7
baz=56,SNR=9.0
KLU **Klutina** 78.42 343 IAmb IAmb 04 28 52.7
comp=Z,22nm,1.2s
KLU **Klutina** 78.42 343 P P 04 28 48.9 +1.0
baz=30
SCM **Sheep Creek Mo** 78.46 343 P P 04 28 49.2 +1.1
baz=29,SNR=5.1
K20K **Telida** 78.50 347 IAmb IAmb 04 28 50.8
comp=Z,55nm,1.4s
K20K **Telida** 78.50 347 P P 04 28 49.0 +0.8
baz=24
BMRM **Bremner River** 78.55 342 P P 04 28 49.7 +1.2
baz=31,SNR=7.1
PPLA **Purkeypile** 78.56 346 IAmb IAmb 04 28 52.2
comp=Z,30nm,1.3s
PPLA **Purkeypile** 78.56 346 P P 04 28 49.0 +0.3
baz=26
CUT **Chulitna** 78.61 345 P P 04 28 48.9 +0.2
baz=27
B08A **Colville Reser** 78.64 322 IAmb IAmb 04 28 54.0
comp=Z,36nm,1.2s
HWUT **Hardware Ranch** 78.70 313 IAmb IAmb 04 28 53.9
comp=Z,31nm,1.1s
SML **Sawmill** 78.71 344 P P 04 28 49.5 +0.1
baz=29
ANM **Nome** 79.03 352 P P 04 28 51.7 +0.6
baz=15
PMR **Palmer** 79.08 344 P P 04 28 51.7 +0.3
PMR pmax pmax
comp=Z,30nm,1.3s
PMR **Palmer** 79.08 344 P P 04 28 51.7 +0.3
PMR IAmb IAmb 04 28 53.5
comp=Z,30nm,1.3s
PMR **Palmer** 79.08 344 P P 04 28 52.3 +1.0
baz=28
KNK **Knik Glacier** 79.09 344 P P 04 28 52.3 +0.8
baz=28
P18A **Preston Nutter** 79.12 311 IAmb IAmb 04 28 56.4
comp=Z,37nm,1.3s
PV10 **Paradox Valley** 79.12 310 P P 04 28 53.0 +0.6
PV10 IAmb IAmb 04 28 56.9
comp=Z,33nm,1.0s
HLID **Hailey** 79.13 316 P P 04 28 53.5 +1.2
baz=31,SNR=13
M22K **Willow** 79.16 345 IAmb IAmb 04 28 59.1
comp=Z,43nm,1.2s
EYAK **Cordova Ski Ar** 79.19 342 P P 04 28 53.1 +1.1
baz=30
TTA **Tatalina** 79.24 348 P P 04 28 53.2 +0.8
baz=22
MVCO **Mesa Verde** 79.48 308 P P 04 28 55.1 +0.7
baz=53,SNR=7.8
ANMO **Albuquerque** 79.50 305 *ce*P P 04 28 55.5 +1.1
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO **Albuquerque** 79.50 305 P P 04 28 54.2 -0.2
ANMO **Albuquerque** 79.50 305 P P 04 28 55.1 +0.6
baz=54
P17A **Butcher Ranch,** 79.52 311 IAmb IAmb 04 28 56.0
comp=Z,33nm,1.4s
CCIG **Comitan** 79.54 282 IAmb IAmb 04 28 56.1
comp=Z,17nm,0.7s
PWL **Port Wells** 79.55 343 P P 04 28 54.8 +0.8
baz=28
HUEH **Huehuetenango** 79.58 281 P P 04 28 54.1 -1.0
SRU **San Rafael Swe** 79.60 311 IAmb IAmb 04 28 56.5
comp=Z,26nm,1.2s
SHL **Shillong** 79.66 66 P P 04 28 55.0 -0.5
SNR=23
L19K **White Mountain** 79.73 347 P P 04 28 55.9 +1.0
baz=23
SEY **Seymchan** 79.82 11 LR LR 05 09 39.3
comp=Z,142nm,19.3s,baz=106,slow=40
SEY **Seymchan** 79.82 11 *i* P P 04 28 55.2 -0.2
SEY pmax pmax
comp=Z,8.0nm,1.8s
M19K **Big River Lodg** 79.89 346 P P 04 28 56.4 +0.5
baz=24
CPUP **Villa Florida** 79.90 227 P P 04 28 56.5 +0.3
comp=Z,35nm,0.9s,baz=47,slow=6.1,SNR=22
CPUP **Villa Florida** 79.90 227 P P 04 28 56.5 +0.3
CPUP **Villa Florida** 79.90 227 *e*P P 04 28 56.6 +0.3
BBB **Bella Bella** 79.99 329 LR LR 05 02 05.7
comp=Z,186nm,18.6s,baz=32,slow=34
LPAZ **La Paz** 79.99 242 P P 04 28 57.5 -0.2
comp=Z,7.2nm,0.8s,baz=41,slow=4.2,SNR=24
LPAZ **La Paz** 79.99 242 *e*P P 04 28 57.6 -0.1
DUG **Dugway, Tooele** 80.32 313 P P 04 28 58.6 -0.1
DUG pmax pmax
comp=Z,20nm,1.3s
DUG **Dugway, Tooele** 80.32 313 P P 04 28 58.6 -0.1
DUG **Dugway, Tooele** 80.32 313 P P 04 28 59.2 +0.4
baz=51,SNR=7.3
GAMB **Gambell** 80.40 355 IAmb IAmb 04 29 02.4
comp=Z,31nm,1.2s
GAMB **Gambell** 80.40 355 P P 04 28 59.0 +0.5
baz=9.8
MNTX **Cornudas Mount** 80.69 302 P P 04 29 01.4 +0.7
baz=54
CPSB **Cacapava Do Su** 80.76 222 *e*P P 04 29 01.3 +0.5
TXAR **Lajitas Array** 80.87 299 P P 04 29 01.9 +0.2
comp=Z,1.9nm,0.7s,baz=74,slow=6.0,SNR=25
TXAR **Lajitas Array** 80.87 299 P P 04 29 02.0 +0.2
TXAR **Lajitas Array** 80.87 299 P P 04 29 02.2 +0.4
TX31 **Lajitas Ar. Si** 80.87 299 IAmb IAmb 04 29 06.2
comp=Z,23nm,1.1s
D03D **Eldon** 81.05 323 P P 04 29 03.2 +0.9
baz=46
PALK **Pallekele** 81.16 87 LR LR 05 06 04.3
comp=Z,47nm,20.9s,baz=27,slow=36
PALK **Pallekele** 81.16 87 P P 04 29 04.6 +1.1
PALK pmax pmax
comp=Z,25nm,1.4s
PALK **Pallekele** 81.16 87 P P 04 29 04.6 +1.1
PALK IAmb IAmb 04 29 05.3
comp=Z,25nm,1.4s
MTPU **Mount Pierson** 81.29 311 IAmb IAmb 04 29 08.7
comp=Z,28nm,1.2s
ZEA **Zeya** 81.29 27 *e*P P 04 29 04.0 +0.5
ZEA pmax pmax
comp=E,10.0nm,0.2s
ZEA pmax pmax
comp=Z,10.0nm,0.4s
ZEA MLR MLR
comp=N,100nm,16.0s
ZEA MLR MLR
comp=Z,100nm,18.0s
ELK **Elko** 81.40 314 LR LR 05 03 25.6
comp=Z,234nm,18.7s,baz=40,slow=34
ELK **Elko** 81.40 314 IAmb IAmb 04 29 07.0
comp=Z,25nm,1.4s
HIA **Hailar** 81.59 34 P P 04 29 05.8 +0.6
HIA pmax pmax
comp=Z,7.0nm,0.9s
HIA **Hailar** 81.59 34 P P 04 29 05.8 +0.6
PKCU **Pink Cliffs** 81.74 310 IAmb IAmb 04 29 30.0
comp=Z,27nm,1.4s
LZH **Lanzhou** 81.75 51 ⇑P P 04 29 07.6 +1.1
LZH pP pP 04 29 11.0 -1.1
LZH pmax pmax
comp=Z,43nm,1.5s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=Z,210nm,15.2s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LZH				LR	LR		
	comp=Z,180nm,14.1s						
LZH				LR	LR		
	comp=Z,150nm,14.1s						
121A	**Cookes Peak, D**	**81.83**	**304**	IAmb	IAmb	04 29 10.3	
	comp=Z,18nm,1.1s						
121A	**Cookes Peak, D**	**81.83**	**304**	P	**P**	**04 29 08.2**	**+1.2**
	baz=53,SNR=11						
PLTB	**Pedras Altas**	**81.90**	**221**	*e*P	**P**	**04 29 08.3**	**+1.5**
ITQB	**Itaqui**	**81.98**	**225**	P	**P**	**04 29 07.6**	**+0.3**
ITQB	**Itaqui**	**81.98**	**225**	*e*P	**P**	**04 29 07.9**	**+0.7**
WVOR	**Wild Horse Val**	**82.22**	**317**	IAmb	IAmb	04 29 15.1	
	comp=Z,28nm,1.4s						
KNB	**Kanab**	**82.32**	**310**	P	**P**	**04 29 09.7**	**+0.3**
KNB				pmax	pmax		
	comp=Z,22nm,1.5s						
KNB	**Kanab**	**82.32**	**310**	P	**P**	**04 29 09.7**	**+0.3**
KNB				IAmb	IAmb	04 29 10.6	
	comp=Z,22nm,1.5s						
WUAZ	**Wupatki**	**82.35**	**308**	IAmb	IAmb	04 29 12.2	
	comp=Z,22nm,1.4s						
WUAZ	**Wupatki**	**82.35**	**308**	P	**P**	**04 29 10.7**	**+1.1**
	baz=51,SNR=6.8						
I05D	**Terrebonne, OR**	**82.38**	**320**	P	**P**	**04 29 10.5**	**+1.0**
	baz=46						
MA2	**Magadan**	**82.71**	**13**	*ce*P	**P**	**04 29 10.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,25nm,1.7s						
MA2	**Magadan**	**82.71**	**13**	P	**P**	**04 29 11.1**	**+0.3**
GO01	**Chusmiza**	**82.98**	**240**	IAmb	IAmb	04 29 16.9	
	comp=Z,25nm,0.9s						
J05D	**Fort Rock, OR**	**83.05**	**319**	P	**P**	**04 29 14.1**	**+1.0**
	baz=46,SNR=5.5						
X16A	**Lo Mia Camp, P**	**83.08**	**308**	IAmb	IAmb	04 29 16.7	
	comp=Z,15nm,1.1s						
PB12	**IPOC Station P**	**83.09**	**241**	IAmb	IAmb	04 29 16.4	
	comp=Z,27nm,1.0s						
R11A	**Troy Canyon, C**	**83.16**	**313**	IAmb	IAmb	04 29 18.9	
	comp=Z,19nm,1.1s						
R11A	**Troy Canyon, C**	**83.16**	**313**	P	**P**	**04 29 14.6**	**+0.8**
	baz=49,SNR=23						
KDAK	**Kodiak Island**	**83.28**	**344**	LR	LR	05 08 09.1	
	comp=Z,164nm,19.2s,baz=45,slow=37						
KDAK	**Kodiak Island**	**83.28**	**344**	P	**P**	**04 29 14.8**	**+1.0**
	baz=25						
HHC	**Hu-ho-hao-te**	**83.32**	**44**	*e*P	**P**	**04 29 14.6**	**+0.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
HHC				LR	LR		
	comp=Z,370nm,14.2s						
HHC				LR	LR		
	comp=Z,240nm,15.0s						
HHC				LR	LR		
	comp=Z,490nm,14.3s						
PRN	**Pahroc Range**	**83.44**	**312**	IAmb	IAmb	04 29 20.9	
	comp=Z,43nm,1.5s						
MOD	**Modoc Plateau**	**83.49**	**318**	IAmb	IAmb	04 29 17.2	
	comp=Z,25nm,1.5s						
XLT	**XiLinHaoTe**	**83.66**	**39**	⇑*i*P	**P**	**04 29 17.0**	**+0.9**
XLT				pP	pP	04 29 21.4	-0.4
XLT				sP	sP	04 29 24.2	+0.4
XLT				S	**S**	**04 39 30.9**	**-6.9**
XLT				pmax	pmax		
	comp=Z,17nm,1.1s						
XLT				pmax	pmax		
	comp=Z,230nm,3.5s						
XLT				LR	LR		
	comp=Z,410nm,17.8s						
XLT				LR	LR		
	comp=Z,160nm,16.0s						
HPIG		**83.71**	**299**	P	**P**	**04 29 17.0**	**+0.2**
HPIG				IAmb	IAmb	04 29 36.9	
	comp=Z,11nm,0.5s						
S11A	**Rachel**	**83.71**	**312**	IAmb	IAmb	04 29 35.7	
	comp=Z,19nm,1.1s						
NNA	**Nana**	**83.72**	**251**	*ce*P	**P**	**04 29 18.3**	**+1.5**
NNA				pmax	pmax		
	comp=Z,213nm,1.7s						
NNA	**Nana**	**83.72**	**251**	P	**P**	**04 29 17.2**	**+0.4**
TLIG	**Tlapa**	**83.88**	**287**	IAmb	IAmb	04 29 20.5	
	comp=Z,29nm,1.3s						
ZAIG	**Zacatecas**	**83.91**	**294**	IAmb	IAmb	04 29 22.1	
	comp=Z,20nm,1.1s						
TUC	**Tucson**	**83.96**	**306**	P	**P**	**04 29 18.6**	**+0.7**
TUC				pmax	pmax		
	comp=Z,78nm,1.4s						
TUC	**Tucson**	**83.96**	**306**	P	**P**	**04 29 18.6**	**+0.7**
TUC	**Tucson**	**83.96**	**306**	P	**P**	**04 29 19.4**	**+1.5**
	baz=51						
L04D	**Klamath Falls**	**84.35**	**319**	P	**P**	**04 29 20.9**	**+1.2**
	baz=46						
Y14A	**Wickenburg**	**84.39**	**308**	IAmb	IAmb	04 29 25.6	
	comp=Z,30nm,1.3s						
TPNV	**Topopah Spring**	**84.47**	**312**	P	**P**	**04 29 21.7**	**+1.2**
	baz=49						
PAHR	**Pah Rah Range**	**84.47**	**316**	IAmb	IAmb	04 29 43.2	
	comp=Z,23nm,1.4s						
MOIG	**Morelia**	**84.67**	**290**	P	**P**	**04 29 23.0**	**+1.1**
NVAR	**Mina Array Bea**	**84.71**	**314**	P	**P**	**04 29 21.9**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=46,slow=5.1,SNR=6.5						
NVAR				LR	LR	05 05 47.1	
	comp=Z,150nm,18.0s,baz=36,slow=35						
NVAR	**Mina Array Bea**	**84.71**	**314**	P	**P**	**04 29 22.4**	**+0.6**
LVC	**Limon Verde**	**84.74**	**237**	P	**P**	**04 29 22.4**	**+0.3**
LVC				pmax	pmax		
	comp=Z,38nm,1.1s						
LVC	**Limon Verde**	**84.74**	**237**	P	**P**	**04 29 22.4**	**+0.3**
LVC	**Limon Verde**	**84.74**	**237**	*e*P	**P**	**04 29 22.7**	**+0.5**
PDMCI	**Parker Dam,Lak**	**84.88**	**309**	P	**P**	**04 29 23.6**	**+1.2**
	baz=50,SNR=6.4						
YBH	**Yreka Blue Hor**	**84.91**	**319**	LR	LR	05 04 21.7	
	comp=Z,72nm,19.2s,baz=22,slow=34						
CD2	**Chengdu**	**84.91**	**55**	P	**P**	**04 29 23.5**	**+0.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
PNTR	**Pine Nut**	**85.01**	**315**	IAmb	IAmb	04 29 39.9	
	comp=Z,16nm,0.8s						
GRAC	**Grapevine Rang**	**85.11**	**313**	IAmb	IAmb	04 29 31.5	
	comp=Z,17nm,1.1s						
GRAC	**Grapevine Rang**	**85.11**	**313**	P	**P**	**04 29 25.0**	**+1.4**
	baz=48						
FURC	**Furnace Creek,**	**85.16**	**312**	P	**P**	**04 29 25.4**	**+1.7**
	baz=48,SNR=8.6						
GWY	**Greenwater Val**	**85.22**	**312**	IAmb	IAmb	04 29 28.0	
	comp=Z,19nm,1.1s						
TUQ	**Turquoise Moun**	**85.26**	**311**	P	**P**	**04 29 25.7**	**+1.2**
	baz=49						
O03E	**Paynes Creek**	**85.42**	**317**	P	**P**	**04 29 25.6**	**+0.6**
	baz=46						
BLYC	**Blythe**	**85.48**	**309**	IAmb	IAmb	04 29 44.4	
	comp=Z,20nm,1.2s						
QSM	**Queen of Sheba**	**85.49**	**312**	IAmb	IAmb	04 29 38.2	
	comp=Z,22nm,1.4s						
GMRC	**Granite Mounta**	**85.52**	**310**	P	**P**	**04 29 26.7**	**+1.0**
	baz=49,SNR=6.2						
214A	**Organ Pipe Nat**	**85.52**	**306**	P	**P**	**04 29 26.0**	**+0.3**
214A	**Organ Pipe Nat**	**85.52**	**306**	P	**P**	**04 29 26.8**	**+1.1**
	baz=50,SNR=6.4						
IRM	**Iron Mountain**	**85.61**	**309**	P	**P**	**04 29 27.3**	**+1.2**
	baz=49,SNR=9.0						
MPMC	**Manual Prospec**	**85.80**	**312**	P	**P**	**04 29 28.4**	**+1.1**
	baz=48,SNR=8.1						
GSC	**Goldstone, Bar**	**85.89**	**311**	P	**P**	**04 29 28.2**	**+0.7**
	baz=48						
CWC	**Cottonwood Cre**	**85.91**	**313**	P	**P**	**04 29 28.6**	**+0.9**
	baz=48						
HEC	**Hector,Ludlow**	**85.91**	**310**	P	**P**	**04 29 28.7**	**+1.1**
	baz=49						
BC3	**Big Chuckawall**	**86.13**	**309**	P	**P**	**04 29 30.4**	**+1.6**
	baz=49						
PZH	**PanZhiHua**	**86.25**	**60**	P	**P**	**04 29 29.7**	**+0.2**
PZH				PcP	**PcP**	**04 29 33.1**	**+1.0**
PZH				pmax	pmax		
	comp=Z,30nm,1.2s						
PZH				pmax	pmax		
	comp=Z,130nm,5.6s						
XAN	**Xi'an**	**86.26**	**50**	P	**P**	**04 29 30.0**	**+0.7**
XAN				pP	sP	04 29 39.6	+2.6
XAN				pmax	pmax		
	comp=Z,24nm,1.2s						
BJI	**Beijing**	**86.42**	**42**	P	**P**	**04 29 30.2**	**+0.3**
BJI				pP	**pP**	**04 29 34.0**	**-1.6**
BJI				sP	**sP**	**04 29 35.5**	**-2.1**
BJI				PP	**PP**	**04 32 53.9**	**+3.2**
BJI				pmax	pmax		
	comp=Z,22nm,1.3s						
BJI				pmax	pmax		
	comp=Z,220nm,3.5s						
BJI				LR	LR		
	comp=Z,200nm,20.4s						
BJI				LR	LR		
	comp=Z,230nm,19.7s						
BJI				LR	LR		
	comp=Z,240nm,21.0s						
BJT	**Baijiatuau**	**86.44**	**42**	P	**P**	**04 29 30.2**	**+0.2**
BJT				pmax	pmax		
	comp=Z,38nm,1.3s						
BJT	**Baijiatuau**	**86.44**	**42**	P	**P**	**04 29 30.2**	**+0.2**
BJT				IAmb	IAmb	04 29 31.8	
	comp=Z,38nm,1.3s						
KLR	**Kul'dur**	**86.59**	**28**	LR	LR	05 12 35.1	
	comp=Z,112nm,18.2s,baz=352,slow=39						
KLR	**Kul'dur**	**86.59**	**28**	*ce*P	**P**	**04 29 29.2**	**-1.4**
KLR				pmax	pmax		
	comp=Z,13nm,1.8s						
ISA	**Isabella, Lake**	**86.66**	**312**	P	**P**	**04 29 32.6**	**+1.3**
	baz=48,SNR=6.9						
PFO	**Pinyon Flats O**	**86.79**	**310**	LR	LR	05 06 49.2	
	comp=Z,69nm,19.3s,baz=28,slow=35						
PFO	**Pinyon Flats O**	**86.79**	**310**	P	**P**	**04 29 33.7**	**+1.7**
	baz=48						
SWSC	**Sam W. Stewart**	**86.81**	**309**	P	**P**	**04 29 33.5**	**+1.6**
	baz=49						
EDW2	**Edwards Air Fo**	**86.89**	**311**	P	**P**	**04 29 33.9**	**+1.4**
	baz=48						
MONP2	**Monument Peak**	**87.24**	**309**	P	**P**	**04 29 35.5**	**+1.1**
	baz=48						
HNS	**HongShan**	**87.46**	**45**	⇑P	**P**	**04 29 35.6**	**+0.6**
HNS				pmax	pmax		
	comp=Z,23nm,1.1s						
AC02	**Maricunga**	**87.71**	**234**	P	**P**	**04 29 37.3**	**+0.4**
KMI	**Kunming**	**87.81**	**61**	⇓P	**P**	**04 29 38.2**	**+0.9**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
LYN	**LuoYang**	**88.10**	**48**	⇑P	**P**	**04 29 39.0**	**+0.8**
LYN				pmax	pmax		
	comp=Z,20nm,1.1s						
CHTO	**Chiang Mai**	**88.90**	**68**	P	**P**	**04 29 42.6**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,32nm,1.4s						
CHTO	**Chiang Mai**	**88.90**	**68**	P	**P**	**04 29 42.6**	**+0.4**
CHTO				IAmb	IAmb	04 29 46.6	
	comp=Z,32nm,1.4s						
GO03	**Copiap**	**88.95**	**235**	IAmb	IAmb	04 29 45.8	
	comp=Z,15nm,0.8s						
ENH	**Enshi**	**89.10**	**53**	P	**P**	**04 29 43.1**	**+0.1**
ENH				IAmb	IAmb	04 29 51.1	
	comp=Z,23nm,1.2s						
CM31	**Chiang Mai Arr**	**89.11**	**68**	P	**P**	**04 29 43.7**	**+0.5**
CM31				IAmb	IAmb	04 29 46.9	
	comp=Z,26nm,1.2s						
CMAR	**Chiang Mai Arr**	**89.11**	**68**	P	**P**	**04 29 43.0**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=302,slow=6.1,SNR=34						
CMAR	**Chiang Mai Arr**	**89.11**	**68**	*ce*P	**P**	**04 29 44.0**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.11**	**68**	P	**P**	**04 29 43.7**	**+0.5**
MDJ	**Mudanjiang**	**89.48**	**31**	P	**P**	**04 29 45.6**	**+1.1**
MDJ				S	**S**	**04 40 32.1**	**-2.0**
MDJ				ScS	**ScS**	**04 40 34.9**	**-3.9**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,99nm,5.7s						
MDJ				LR	LR		
	comp=Z,190nm,6.6s						
MDJ				LR	LR		
	comp=Z,170nm,5.6s						
MDJ				LR	LR		
	comp=Z,220nm,12.1s						
TIA	**Tai'an**	**89.67**	**44**	⇓P	**P**	**04 29 46.3**	**+0.8**
TIA				pmax	pmax		
	comp=Z,21nm,1.1s						
GYA	**Guiyang**	**89.70**	**57**	⇓P	**P**	**04 29 46.7**	**+0.7**
GYA				PP	**PP**	**04 33 16.8**	**-0.8**
GYA				SKS	**SKSac**	**04 40 13.5**	**-2.7**
GYA				S	**S**	**04 40 35.1**	**-2.0**
GYA				ScS	**ScS**	**04 40 39.5**	**-2.1**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
GYA				pmax	pmax		
	comp=Z,200nm,5.3s						
GYA				LR	LR		
	comp=Z,180nm,4.2s						
GYA				LR	LR		
	comp=Z,290nm,4.0s						
GYA				LR	LR		
	comp=Z,120nm,5.1s						
AC04	**Llanos de Chal**	**89.91**	**235**	IAmb	IAmb	04 29 47.9	
	comp=Z,14nm,1.0s						
LCO	**Las Campanas**	**90.19**	**234**	P	**P**	**04 29 49.1**	**+0.9**
LCO	**Las Campanas**	**90.19**	**234**	P	**P**	**04 29 49.0**	**+0.9**
ZON	**Zonda**	**90.58**	**231**	IAmb	IAmb	04 29 51.4	
	comp=Z,25nm,1.3s						
CO03	**El Pedregal**	**91.39**	**232**	IAmb	IAmb	04 29 54.7	
	comp=Z,16nm,1.1s						
BO04	**La Punta**	**93.41**	**230**	IAmb	IAmb	04 30 07.0	
	comp=Z,22nm,1.1s						
NJ2	**Nanjing**	**93.65**	**46**	*e*P	**P**	**04 30 03.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.8s						
BO01	**Tunca**	**93.97**	**230**	IAmb	IAmb	04 30 08.6	
	comp=Z,28nm,1.4s						
KSAR	**Wonju Array Be**	**94.42**	**37**	P	**P**	**04 30 06.9**	**-0.6**
KSAR	**Wonju Array Be**	**94.42**	**37**	P	**P**	**04 30 06.9**	**-0.6**
KSRS	**Korea Array**	**94.43**	**37**	P	**P**	**04 30 06.2**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=323,slow=3.3,SNR=6.6						
PLCA	**Paso Flores**	**97.81**	**225**	P	Pdif	04 30 23.7	+1.0
	comp=Z,7.1nm,1.0s,baz=70,slow=0.3,SNR=8.3						
PLCA				LR	LR	05 14 16.5	
	comp=Z,126nm,18.9s,baz=49,slow=35						
PLCA	**Paso Flores**	**97.81**	**225**	*e*P	Pdif	04 30 23.8	+1.1
QSPA	**South Pole Qui**	**125.59**	**180**	PKPdf	**PKiKP**	**04 35 48.1**	**0.0**
ASAR	**Alice Springs**	**141.43**	**84**	PKhKP	PKPpre	04 36 12.0	
	comp=Z,1.1nm,0.8s,baz=299,slow=3.0,SNR=5.8						
ASAR				PKP	**PKiKP**	**04 36 20.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=327,slow=2.1,SNR=7.5						
ASAR	**Alice Springs**	**141.43**	**84**	PKIKP	**PKPdf**	**04 36 17.7**	**-1.1**
ASAR	**Alice Springs**	**141.43**	**84**	PKPdf	**PKPdf**	**04 36 17.7**	**-1.1**
COEN	**Coen**	**143.13**	**63**	PKPdf	PKPbc	04 36 20.2	+1.3
BBOO	**Buckleboo**	**146.67**	**97**	PKPbc	**PKPbc**	**04 36 29.0**	**-0.3**
CTA	**Charters Tower**	**149.28**	**68**	PKPbc	**PKPbc**	**04 36 36.6**	**0.0**
	comp=Z,7.5nm,0.8s,baz=340,slow=4.8,SNR=4.9						
STKA	**Stephens Creek**	**150.89**	**93**	PKPbc	**PKPbc**	**04 36 39.3**	**-0.8**
	comp=Z,24nm,1.0s,baz=320,slow=3.2,SNR=32						
STKA	**Stephens Creek**	**150.89**	**93**	PKIKP	**PKPbc**	**04 36 39.8**	**-0.3**
STKA	**Stephens Creek**	**150.89**	**93**		**PKPbc**	**04 36 39.8**	**-0.3**

*IDC **11** 04:19:45.8±0.7, 35.°64N×3.°68W, h0km, mb4.1/14, mb1 4.2/18, mb1mx3.9/59, mbtmp4.0/18, ML3.9/4 Error ellipse: s-maj=22.4km s-min=14.7km az=109.0*
*NEIC **11** 04:19:47.6±1.3, 35.°66N±0.°06×3.°63W±0.°06, h10km±1km, mb4.6/11, Error ellipse: s-maj=12.6km s-min=6.2km az=324.0*
*SFS **11** 04:19:48.0, 35.°50N×3.°60W, h21km, ML4.1, ALBORAN SUR*
*CNRM **11** 04:19:48.8, 35.°66N×3.°64W, h29km, ml4.2*
*MDD **11** 04:19:48.1±0.5, 35.°61N×3.°63W, h10km±4km, mb_Lg4.1/26, Error ellipse: s-maj=3.3km s-min=1.9km az=165.0*
*INMG **11** 04:19:49.3±1.6, 35.°62N×3.°60W, h22km±8km, ML3.7, Error ellipse: s-maj=6.5km s-min=3.9km az=145.0*
*IGIL **11** 04:19:49.3, 35.°69N×3.°70W, h0km, ML3.8*
ISC 11 04:19:48.1±1.2**, 35.°65N**±0.°02×**3.°63W**±0.°02**, h16**km±7km**, n136**, σ1.°46/202**, mb4.3**/19**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**210**	P	**Pb**	**04 19 58.3**	**-0.2**
PALE				S	**Sb**	**04 20 06.1**	**+0.5**
EALB	**Alboran**	**0.56**	**59**	Pg	**Pg**	**04 19 59.3**	**0.0**
EALB				Sg	**Sb**	**04 20 07.7**	**+0.3**
EALB				*i* Vmb_Lg		04 20 08.3	
EMEL	**Melilla**	**0.65**	**122**	Pg	**Pg**	**04 20 00.3**	**-0.6**
EMEL				Sg	**Sg**	**04 20 09.3**	**-0.3**
ELGU	**Los Guajares,**	**1.21**	**0**	Pn	**Pn**	**04 20 09.1**	**-1.5**
ELGU				Sn	**Sb**	**04 20 26.8**	**+0.5**
ELGU				*i* Vmb_Lg		04 20 28.8	
EMAL	**Malaga-Limoner**	**1.28**	**330**	P	**Pn**	**04 20 10.1**	**-1.3**
EMAL				S	**Sb**	**04 20 25.7**	**-2.4**
EMIJ	**Mijas**	**1.30**	**315**	Pn	**Pn**	**04 20 09.8**	**-1.8**
EMIJ				Sn	**Sb**	**04 20 26.7**	**-1.9**
EMIJ				*i* Vmb_Lg		04 20 32.3	
TAF	**Taforalt**	**1.30**	**130**	P	**Pn**	**04 20 10.7**	**-1.0**
TAF				S	**Sb**	**04 20 27.3**	**-1.4**
EBER	**Berja**	**1.38**	**26**	Pn	**Pn**	**04 20 10.6**	**-2.4**
EBER				Sn	**Sb**	**04 20 29.3**	**-1.9**
EBER				*i* Vmb_Lg		04 20 36.3	
SMIR	**Smir Dam**	**1.43**	**272**	P	**Pn**	**04 20 10.6**	**-2.8**
SMIR				S	**Sn**	**04 20 29.6**	**-2.2**
CEU	**Ceuta**	**1.44**	**280**	S	**Sn**	**04 20 27.9**	**-4.2**
CHEFC	**Chefchaouen**	**1.50**	**249**	P	**Pn**	**04 20 14.3**	**-0.1**
CHEFC				S	**Sn**	**04 20 34.4**	**+0.7**
EGOR	**Sierra Gorda,**	**1.51**	**345**	Pn	**Pn**	**04 20 13.4**	**-1.2**
EGOR				Sn	**Sn**	**04 20 34.4**	**+0.4**
EGOR				*i* Vmb_Lg		04 20 39.7	
EQUE	**Quentar**	**1.56**	**6**	Pn	**Pn**	**04 20 15.0**	**-0.2**
EQUE				Sn	**Sn**	**04 20 33.9**	**-1.4**
EQUE				*i* Vmb_Lg		04 20 45.9	
JBK	**JBK**	**1.58**	**146**	P	**Pn**	**04 20 14.5**	**-1.2**
JBK				S	**Sn**	**04 20 33.6**	**-2.2**
EJIF	**Jimena Fronter**	**1.69**	**299**	Pn	**Pn**	**04 20 16.4**	**-0.6**
ENIJ	**Nijar**	**1.75**	**41**	Pn	**Pn**	**04 20 17.0**	**-0.8**
ENIJ				Sn	**Sn**	**04 20 36.4**	**-3.5**
ENIJ				*i* Vmb_Lg		04 20 48.1	
LIJA	**Lijar**	**1.90**	**312**	P	**Pg**	**04 20 24.4**	**-0.2**
SICH	**Sidi Chahed**	**2.07**	**222**	P	**Pn**	**04 20 23.7**	**+1.4**
ESPR	**Espera**	**2.17**	**305**	Pn	**Pn**	**04 20 24.1**	**+0.6**
ESPR				Sn	**Sn**	**04 20 51.4**	**+1.3**
ESPR				*i* Vmb_Lg		04 20 58.5	
EQES	**Quesada**	**2.19**	**12**	Pn	**Pn**	**04 20 25.4**	**+1.4**
EQES				Sn	**Sn**	**04 20 52.3**	**+1.4**
EQES				*i* Vmb_Lg		04 20 55.5	
LCRM	**LCR**	**2.21**	**208**	P	**Pn**	**04 20 24.5**	**+0.3**
LCRM				S	**Sb**	**04 20 54.6**	**-0.3**
SFS	**San Fernando**	**2.24**	**292**	P	**Pb**	**04 20 29.4**	**+1.3**
SFS	**San Fernando**	**2.24**	**292**	S	**Sn**	**04 20 51.2**	**-0.6**
IFR	**Ifrane**	**2.46**	**211**	P	**Pn**	**04 20 28.6**	**+0.8**
IFR				S	**Sn**	**04 20 57.3**	**-0.3**
TLOR	**Lorca, Murcia**	**2.54**	**37**	Pn	**Pn**	**04 20 28.2**	**-0.4**
TLOR				Sn	**Sn**	**04 20 58.7**	**-0.6**
EADA	**Adamuz**	**2.62**	**343**	Pn	**Pn**	**04 20 30.5**	**+0.7**
EADA				Sn	**Sn**	**04 21 01.9**	**+0.4**
EADA				*i* Vmb_Lg		04 21 15.2	
EZAR	**Zarzadilla de**	**2.71**	**34**	Pn	**Pn**	**04 20 30.3**	**-0.9**
EZAR				Sn	**Sn**	**04 21 03.5**	**-0.1**
ECAB	**El Cabril**	**2.81**	**330**	Pn	**Pn**	**04 20 33.3**	**+0.8**
ECAB				Sn	**Sn**	**04 21 05.8**	**-0.2**
ECAB				*i* Vmb_Lg		04 21 17.2	
CZD	**Col de Zad**	**2.86**	**204**	P	**Pn**	**04 20 34.2**	**+0.8**
CART	**Cartagena**	**2.87**	**47**	Pn	**Pn**	**04 20 32.6**	**-0.5**
CART	**Cartagena**	**2.87**	**47**	P	**Pn**	**04 20 34.2**	**+1.1**
ARNO	**Arenosillo**	**2.89**	**301**	P	**Pn**	**04 20 34.0**	**+0.5**
ARNO				S	**Sn**	**04 21 09.2**	**+1.3**
TDRA	**Tendrara**	**2.92**	**153**	P	**Pn**	**04 20 34.3**	**+0.2**
MD31	**MD31**	**2.93**	**199**	P	**Pn**	**04 20 34.8**	**+0.7**
MDT	**Midelt**	**2.94**	**196**	Pn	**Pn**	**04 20 33.7**	**-0.6**
	6.3nm,0.3s,baz=264,slow=9.5,SNR=0.9						
MDT				Sn	**Sn**	**04 21 09.7**	**+0.3**
	41nm,0.3s,baz=32,slow=14,SNR=1.4						
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**04 20 35.0**	**+0.7**
EMIN	**Mina Concepcio**	**3.23**	**312**	*i* Vmb_Lg		04 20 33.4	
EMIN				Pn	**Pn**	**04 20 37.2**	**-0.9**
EMIN				Sn	**Sn**	**04 21 14.4**	**-1.9**
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**04 20 41.8**	**+1.0**
ETOB				*i* Vmb_Lg		04 20 43.1	
ETOB				Sn	**Sn**	**04 21 20.8**	**-0.3**
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**04 20 42.1**	**-1.5**
EGRO				Sn	**Sn**	**04 21 24.6**	**-1.4**
EGRO				*i* Vmb_Lg		04 21 28.8	
PBAR	**Barrancos**	**3.71**	**314**	*e*Pn	**Pn**	**04 20 44.5**	**-0.3**
PBAR				*e*Sn	**Sn**	**04 21 26.8**	**-1.5**
PBAR				A	A	04 21 28.8	
	108nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**299**	*e*Pn	**Pn**	**04 20 44.9**	**-0.1**
PVAQ				*e*Sn	**Sn**	**04 21 26.8**	**-1.8**
PVAQ				A	A	04 21 29.5	
	94nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**299**	Pn	**Pn**	**04 20 43.6**	**-1.4**
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**04 20 44.6**	**-0.4**
PVAQ				S	**Sn**	**04 21 26.6**	**-2.0**
PBDV	**Barranco-do-Ve**	**3.81**	**296**	*e*Pn	**Pn**	**04 20 46.2**	**0.0**
PBDV				*e*Sn	**Sn**	**04 21 28.3**	**-2.5**
PBDV				A	A	04 21 35.3	
	75nm,0.6s						
AFON	**Font Roja**	**3.89**	**38**	*i* Vmb_Lg		04 20 45.4	
AFON				Pn	**Pn**	**04 20 47.2**	**-0.1**
AFON				Sn	**Sn**	**04 21 31.1**	**-1.7**
AVE	**Averroes**	**3.91**	**234**	P	**Pn**	**04 20 48.0**	**+0.5**
PAB	**San Pablo**	**3.93**	**352**	Pn	**Pn**	**04 20 48.5**	**+0.6**
PAB				*i* Vmb_Lg		04 20 58.1	
PAB				Sn	**Sn**	**04 21 33.9**	**+0.2**
ESDC	**Sonseca Array**	**4.03**	**356**	Pn	**Pn**	**04 20 49.4**	**+0.2**
	3.1nm,0.3s,baz=179,slow=12,SNR=1.3						
ESDC				Sn	**Sn**	**04 21 35.8**	**-0.3**
	3.9nm,0.3s,baz=171,slow=22,SNR=1.5						
ESDC	**Sonseca Array**	**4.03**	**356**	Pn	**Pn**	**04 20 49.5**	**+0.4**
ESDC				*i* Vmb_Lg		04 21 13.2	
ESDC				Sn	**Sn**	**04 21 35.4**	**-0.6**
PCVE	**Castro Verde**	**4.06**	**300**	*e*Pn	**Pn**	**04 20 49.1**	**-0.4**
PCVE				*e*Sn	**Sn**	**04 21 35.4**	**-1.4**
PCVE				A	A	04 21 42.6	
	111nm,0.5s						
GOLM	**Goulmima**	**4.09**	**196**	P	**Pn**	**04 20 51.5**	**+1.4**
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**04 20 49.5**	**-0.7**
EBAD				Sn	**Sn**	**04 21 36.4**	**-1.6**
EBAD				*i* Vmb_Lg		04 21 39.3	
PBEJ	**Beja**	**4.14**	**306**	*e*Pn	**Pn**	**04 20 50.8**	**+0.1**
PBEJ				*e*Sn	**Sn**	**04 21 36.1**	**-2.7**
MORF	**Marmelete**	**4.37**	**294**	*e*P	**Pn**	**04 20 53.9**	**+0.1**
MORF				*e*S	**Sn**	**04 21 41.4**	**-3.1**
MORF				IAML		04 21 46.6	
	comp=N,113nm,0.3s						
MORF	**Marmelete**	**4.37**	**294**	*e*Pn	**Pn**	**04 20 54.3**	**+0.4**
MORF				*e*Sn	**Sn**	**04 21 43.1**	**-1.4**
MORF				A	A	04 21 50.3	
	comp=N,75nm,0.5s						
PFVI	**Vila Bisbo**	**4.44**	**291**	*e*Pn	**Pn**	**04 20 56.0**	**+1.1**
PFVI				*e*Sn	**Sn**	**04 21 44.7**	**-1.6**
PFVI				A	A	04 21 50.4	
	comp=N,80nm,0.5s						
PFVI	**Vila Bisbo**	**4.44**	**291**	P	**Pn**	**04 20 54.5**	**-0.4**
ECHE	**Chera**	**4.46**	**27**	*i* Vmb_Lg		04 20 50.5	
ECHE				Pn	**Pn**	**04 20 55.4**	**+0.2**
ECHE				Sn	**Sn**	**04 21 44.8**	**-2.0**
PESTR	**Estremoz**	**4.50**	**317**	*e*Pn	**Pn**	**04 20 55.9**	**+0.2**
PESTR				*e*Sn	**Sn**	**04 21 46.0**	**-1.7**
PESTR				A	A	04 21 50.8	
	comp=N,90nm,0.5s						
PESTR	**Estremoz**	**4.50**	**317**	P	**Pn**	**04 20 55.3**	**-0.4**
PTEO	**Sao Teotonio**	**4.51**	**296**	*e*Pn	**Pn**	**04 20 56.6**	**+0.8**
PTEO				*e*Sn	**Sn**	**04 21 48.4**	**+0.5**
PTEO				A	A	04 21 56.5	
	comp=N,80nm,0.9s						
EVO	**Evora**	**4.53**	**311**	P	**Pn**	**04 20 56.0**	**-0.1**
EVO				S	**Sn**	**04 21 45.3**	**-3.1**
EVO	**Evora**	**4.53**	**311**	*e*Pn	**Pn**	**04 20 56.4**	**+0.3**
EVO				*e*Sn	**Sn**	**04 21 45.6**	**-2.8**
EVO				A	A	04 21 47.9	
	comp=N,96nm,0.4s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**04 20 57.0**	**-0.4**
PNCL				*e*Sn	**Sn**	**04 21 48.9**	**-1.9**
PNCL				A	A	04 21 57.1	
	comp=N,62nm,0.5s						
PMRV	**Marv??o**	**4.81**	**323**	*e*Pn	**Pn**	**04 21 00.5**	**+0.6**
PMRV				*e*Sn	**Sn**	**04 21 53.9**	**-1.4**
PMRV				A	A	04 22 06.4	
	comp=N,100nm,0.5s						
EPLA	**Plasencia**	**4.81**	**337**	*i* Vmb_Lg		04 20 58.3	
EPLA				Pn	**Pn**	**04 21 00.7**	**+0.7**
EPLA				Sn	**Sn**	**04 21 54.0**	**-1.4**
GUD	**Guadarrama**	**5.00**	**355**	*i* Vmb_Lg		04 20 59.7	
GUD				Pn	**Pn**	**04 21 03.1**	**+0.5**
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**04 21 03.7**	**+1.2**
PMTG				*e*Sn	**Sn**	**04 21 59.1**	**-0.9**
PMTG				A	A	04 22 11.4	
	comp=N,80nm,0.5s						
TZRR	**Tazzarine**	**5.12**	**199**	P	**Pn**	**04 21 05.6**	**+1.4**
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**04 21 06.0**	**+1.1**
PCBR				*e*Sn	**Sn**	**04 22 02.4**	**-1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCBR				A	A	04 22 05.3	
	comp=N,126nm,0.6s						
PACT	**Alcochete**	**5.19**	**308**	*e*Pn	**Pn**	**04 21 05.6**	**+0.6**
PACT				*e*Sn	**Sn**	**04 22 03.7**	**-0.9**
ETOR	**Torete**	**5.31**	**13**	*i* Vmb_Lg		04 21 05.8	
ETOR				Pn	**Pn**	**04 21 07.9**	**+1.1**
LIS	**Lisbon**	**5.36**	**306**	*e*S	**Sn**	**04 22 04.4**	**-4.5**
LIS				IAML		04 22 08.6	
	comp=N,196nm,0.5s						
LIS	**Lisbon**	**5.36**	**306**	*e*Pn	**Pn**	**04 21 08.9**	**+1.4**
LIS				*e*Sn	**Sn**	**04 22 08.1**	**-0.8**
PMST	**Lisbon--Monsan**	**5.40**	**306**	*e*Pn	**Pn**	**04 21 08.3**	**+0.4**
PMST				*e*Sn	**Sn**	**04 22 09.8**	**+0.1**
OUZM	**OUZ**	**5.41**	**210**	P	**Pn**	**04 21 09.0**	**+0.8**
PMAFR	**Mafra**	**5.58**	**308**	*e*Pn	**Pn**	**04 21 11.4**	**+0.9**
PMAFR				*e*Sn	**Sn**	**04 22 11.6**	**-2.7**
PSBE	**So Bento**	**5.63**	**315**	*e*Pn	**Pn**	**04 21 11.8**	**+0.6**
PSBE				*e*Sn	**Sn**	**04 22 12.7**	**-2.8**
PSBE				A	A	04 22 23.7	
	comp=N,43nm,0.5s						
MTE	**Manteigas**	**5.66**	**328**	*e*Pn	**Pn**	**04 21 12.4**	**+0.8**
MTE				*e*Sn	**Sn**	**04 22 14.5**	**-1.8**
OUK	**Oukaimeden**	**5.67**	**220**	P	**Pn**	**04 21 12.3**	**+0.2**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**04 21 15.0**	**+0.9**
PCAS				*e*Sn	**Sn**	**04 22 18.1**	**-2.6**
COI	**Coimbra**	**5.91**	**322**	*e*Pn	**Pn**	**04 21 15.4**	**+0.4**
COI				*e*Sn	**Sn**	**04 22 19.1**	**-3.3**
PVIS	**Viseu**	**6.07**	**328**	*e*Pn	**Pn**	**04 21 18.1**	**+0.9**
PVIS				*e*Sn	**Sn**	**04 22 23.7**	**-2.7**
MVO	**Moncorvo**	**6.12**	**335**	*e*Pn	**Pn**	**04 21 18.7**	**+0.8**
MVO				*e*Sn	**Sn**	**04 22 25.6**	**-2.0**
EAH	**EAH**	**6.37**	**233**	P	**Pn**	**04 21 20.9**	**-0.5**
PVRL	**Vila Real**	**6.46**	**332**	*e*Pn	**Pn**	**04 21 23.6**	**+0.9**
PVRL				*e*Sn	**Sn**	**04 22 33.2**	**-2.9**
TTIG	**Tnine Tigouga,**	**6.49**	**220**	P	**Pn**	**04 21 21.8**	**-1.4**
POLO	**Lamas de Olo**	**6.58**	**332**	*e*Pn	**Pn**	**04 21 25.4**	**+1.1**
POLO				*e*Sn	**Sn**	**04 22 35.0**	**-4.0**
PBRG	**Braganca**	**6.61**	**339**	*e*Pn	**Pn**	**04 21 26.3**	**+1.7**
PBRG				*e*Sn	**Sn**	**04 22 37.8**	**-1.8**
PTO	**Porto**	**6.73**	**326**	*e*Pn	**Pn**	**04 21 26.8**	**+0.6**
PTO				*e*Sn	**Sn**	**04 22 37.6**	**-4.8**
PCAB	**Cabril**	**6.96**	**332**	*e*Pn	**Pn**	**04 21 30.5**	**+1.1**
PCAB				*e*Sn	**Sn**	**04 22 46.6**	**-1.6**
ELOB	**Lobios**	**7.11**	**332**	Pn	**Pn**	**04 21 32.2**	**+0.8**
ELOB				*i* Vmb_Lg		04 21 46.2	
ELOB				Sn	**Sn**	**04 22 48.6**	**-3.3**
PGAV	**Gavieira, Arco**	**7.27**	**332**	*e*Pn	**Pn**	**04 21 35.0**	**+1.3**
PGAV				*e*Sn	**Sn**	**04 22 53.7**	**-2.3**
EALK	**Alkurruntz**	**7.74**	**12**	Pn	**Pn**	**04 21 42.3**	**+2.2**
EALK				Sn	**Sn**	**04 23 04.9**	**-2.5**
SSB	**Saint Sauveur**	**11.45**	**30**	Pn	**Pn**	**04 22 30.6**	**-0.3**
BNI	**Bardonecchia**	**12.24**	**37**	Pn	**Pn**	**04 22 41.6**	**-0.3**
CLF	**Chambon-Foret**	**13.12**	**18**	Pn	**Pn**	**04 22 53.4**	**-0.2**
SENIN	**Lac Senin/Sane**	**13.50**	**34**	Pn	**Pn**	**04 22 57.5**	**-1.6**
ECH	**Echery**	**14.88**	**29**	Pn	**Pn**	**04 23 16.4**	**-1.4**
BFO	**Black Forest**	**15.45**	**31**	Pn	**Pn**	**04 23 23.0**	**-2.4**
STU	**Stuttgart**	**16.16**	**32**	Pn	**Pn**	**04 23 31.9**	**-2.6**
GERES	**GERESS Array B**	**18.34**	**39**	P	**Pn**	**04 24 02.5**	**+0.7**
	comp=N,0.2nm,0.3s,baz=212,slow=9.2,SNR=1.7						
EKA	**Eskdalemuir Ar**	**19.69**	**1**	P	**P**	**04 24 17.8**	**+1.4**
	baz=177,slow=11,SNR=4.6						
CLL	**Collm**	**19.69**	**32**	*e*P	**P**	**04 24 18.0**	**+1.5**
BRG	**Berggiesshubel**	**19.80**	**34**	(P)	**Pn**	**04 24 19.5**	**+0.2**
BRG				Amp		04 24 23.1	
	comp=Z,16nm,1.4s						
TOA0	**Torodi Ar. Sit**	**22.92**	**167**	P	**P**	**04 24 49.0**	**-2.4**
TOA0				IAmb	IAmb	04 25 00.4	
	comp=Z,25nm,1.0s						
TORD	**Torodi Ar. Bea**	**22.92**	**167**	P	**P**	**04 24 52.1**	**+0.7**
	comp=Z,6.7nm,0.9s,baz=338,slow=10,SNR=1.7						
TORD	**Torodi Ar. Bea**	**22.92**	**167**	P	**P**	**04 24 51.4**	**0.0**
TORD				IAmb	IAmb	04 25 00.3	
	comp=Z,16nm,0.9s						
HFS	**Hagfors**	**26.94**	**19**	P	**P**	**04 25 28.0**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=198,slow=12,SNR=4.9						
NOA	**NORSAR Array B**	**27.12**	**16**	P	**P**	**04 25 30.0**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=208,slow=8.6,SNR=4.2						
NACGM	**Naroch**	**28.44**	**38**	*i* P	P	04 25 54.4	+12
ARCES	**ARCESS Array B**	**37.50**	**16**	P	**P**	**04 27 02.4**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=207,slow=6.9,SNR=1.3						
SCHQ	**Schefferville**	**46.71**	**315**	P	**P**	**04 28 16.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=109,slow=3.7,SNR=5.9						
SCHQ	**Schefferville**	**46.71**	**315**	IAmb	IAmb	04 28 27.0	
	comp=Z,7.2nm,1.2s						
ABKAR	**Akbulak array**	**47.48**	**53**	P	**P**	**04 28 21.8**	**-0.3**
EUNU	**Eureka**	**53.90**	**348**	P	**P**	**04 29 11.1**	**+0.9**
EUNU				IAmb	IAmb	04 29 12.7	
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**58.80**	**48**	P	**P**	**04 29 45.7**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=293,slow=7.2,SNR=5.9						
KURK	**Kurchatov**	**58.82**	**47**	P	**P**	**04 29 45.7**	**+0.1**
KURK	**Kurchatov**	**58.82**	**47**	IAmb	IAmb	04 29 49.5	
	comp=Z,5.7nm,1.1s						
LSZ	**Lusaka**	**58.94**	**144**	P	**P**	**04 29 46.2**	**-0.7**
KSH	**Kashi**	**61.22**	**60**	P	**P**	**04 30 02.4**	**-0.1**
KSH				PcP	**PcP**	**04 30 45.7**	**+0.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**61.25**	**42**	P	**P**	**04 30 02.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=288,slow=6.0,SNR=4.2						
MK31	**Makanchi Array**	**62.52**	**51**	P	**P**	**04 30 10.9**	**-0.1**
MK31				IAmb	IAmb	04 30 12.3	
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**62.52**	**51**	P	**P**	**04 30 11.2**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=296,slow=5.8,SNR=12						
ULM	**Lac du Bonnet**	**64.89**	**315**	P	**P**	**04 30 26.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=81,slow=5.8,SNR=2.0						
A36M	**Sachs Harbour**	**65.25**	**343**	P	**P**	**04 30 29.4**	**+1.0**
YKA	**Yellowknife Ar**	**67.75**	**332**	P	**P**	**04 30 45.0**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=58,slow=6.3,SNR=12						
PDAR	**Pinedale Array**	**76.82**	**313**	P	**P**	**04 31 38.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=51,slow=7.1,SNR=3.0						
CPUP	**Villa Florida**	**79.82**	**227**	P	**P**	**04 31 56.1**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=52,slow=6.6,SNR=4.2						
CPUP	**Villa Florida**	**79.82**	**227**	IAmb	IAmb	04 32 03.1	
	comp=Z,16nm,1.4s						
LPAZ	**La Paz**	**79.92**	**242**	P	**P**	**04 31 57.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=4.9,slow=6.5,SNR=1.9						
TXAR	**Lajitas Array**	**80.86**	**299**	P	**P**	**04 32 01.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=72,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**139.98**	**78**	PKP	**PKPdf**	**04 39 18.1**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=291,slow=1.4,SNR=6.1						
WRA	**Warramunga Arr**	**139.98**	**78**		**PKPdf**	**04 39 15.3**	**-0.9**
ASAR	**Alice Springs**	**141.49**	**84**	PKP	**PKPdf**	**04 39 21.0**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=347,slow=1.9,SNR=4.3						
STKA	**Stephens Creek**	**150.94**	**93**	PKPbc	**PKPbc**	**04 39 39.0**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=346,slow=4.2,SNR=3.1						

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*IDC **11** 04:23:04.8±1.5, 3.98S×152.39E, h175km±11km, mb4.1/19, mb1 4.3/23, mb1mx4.3/35, mbtmp4.7/23, MS3.3/2, Ms1 3.3/2, ms1mx2.7/56, Error ellipse: s-maj=16.1km s-min=9.3km az=87.0*

*NEIC **11** 04:23:08.7±1.7, 3.93S±0.08×152.25E±0.09, h199km±4km, mb4.6/91, Error ellipse: s-maj=13.0km s-min=11.8km az=46.0*

*DJA **11** 04:23:09.1±0.6, 4°S±4°×15°2E±°, h207km±4km, M4.7/45, mB5.3/15, mb4.8/45, MLv4.5/3, Mw(mB)4.8/15*

ISC 11 04:23:08.5±0.8**, 4.03S**±0.05×**152.24E**±0.06**, h207**km±6km**, n271,** σ1s**10**/291**, mb4.7**/99**, 1C-5D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.18**	**203**		**Pn**	**04 23 35.1**	**-0.6**
MANU	**Manus Island**	**5.25**	**292**		**Pn**	**04 24 26.3**	**+0.1**
PMG	**Port Moresby**	**7.35**	**223**	P	**Pn**	**04 24 51.3**	**-2.0**
	21nm,0.3s,baz=44,slow=6.0,SNR=23						
PMG	**Port Moresby**	**7.35**	**223**	Pn	**Pn**	**04 24 52.9**	**-0.4**
PMG	**Port Moresby**	**7.35**	**223**	P	**Pn**	**04 24 54.7**	**+1.4**
JAY	**Jayapura**	**11.61**	**277**	P	**Pn**	**04 25 47.0**	**-1.3**
	2.4nm,0.3s,baz=101,slow=6.0,SNR=6.5						
JAY	**Jayapura**	**11.61**	**277**	P	**Pn**	**04 25 49.1**	**+0.7**
	35nm,0.9s						
GENI	**Genyem**	**12.13**	**276**	P	**P**	**04 26 00.1**	**+0.9**
	153nm,0.8s						
GENI	**Genyem**	**12.13**	**276**	P	**P**	**04 25 57.7**	**-1.5**
PATS	**Pohnpei**	**12.38**	**29**	P	**P**	**04 26 02.8**	**+0.9**
COEN	**Coen**	**13.31**	**222**	Pn	**Pn**	**04 26 11.0**	**+1.2**
COEN	**Coen**	**13.31**	**222**	P	**P**	**04 26 11.3**	**-1.1**
SMPI	**Sarmi**	**13.66**	**278**	P	**P**	**04 26 15.4**	**-0.8**
	169nm,1.2s						
MTSU	**Mount Surprise**	**16.02**	**208**	P	**Pn**	**04 26 45.1**	**+2.2**
CTA	**Charters Tower**	**17.00**	**200**	P	**Pn**	**04 26 54.2**	**-0.2**
	1.1nm,0.3s,baz=24,slow=13,SNR=24						
CTA	**Charters Tower**	**17.00**	**200**	P	**Pn**	**04 26 55.8**	**+1.3**
GUMO	**Guam**	**18.97**	**337**	P	**P**	**04 27 13.8**	**-0.6**
	9.2nm,0.3s,baz=176,slow=7.4,SNR=6.0						
GUMO	**Guam**	**18.97**	**337**	P	**P**	**04 27 15.8**	**+1.4**
RK1H	**Rockhampton Ha**	**19.32**	**185**	P	**Pn**	**04 27 23.9**	**+2.1**
	27nm,0.9s						
FAKI	**Fak Fak**	**19.98**	**273**	P	**P**	**04 27 25.8**	**+0.4**
FAKI	**Fak Fak**	**19.98**	**273**	P	**P**	**04 27 25.7**	**+0.3**
	679nm71nm,0.8s						
FAKI	**Fak Fak**	**19.98**	**273**	P	**P**	**04 27 25.8**	**+0.4**
QIS	**Mount Isa**	**20.52**	**216**	P	**P**	**04 27 31.6**	**+0.5**
SWI	**Sorong**	**21.19**	**278**	P	**P**	**04 27 38.9**	**+0.7**
	2µm229nm,0.9s						
EIDS	**Eidsvold**	**21.25**	**183**	P	**P**	**04 27 39.5**	**+0.8**
EIDS				IAmb	IAmb	04 27 40.6	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**21.25**	**183**	P	**P**	**04 27 43.1**	**+4.4**
KDU	**Kakadu**	**21.34**	**245**	P	**P**	**04 27 38.9**	**-0.9**
TARA	**Tarawa**	**21.35**	**76**	P	**P**	**04 27 39.8**	**-0.1**
RMQ	**Roma**	**22.58**	**188**	P	**P**	**04 27 54.9**	**+3.3**
	comp=Z,16nm,0.7s						
DZM	**Mont Dzumac**	**22.62**	**144**	P	**P**	**04 27 51.4**	**-0.7**
	comp=Z,6.7nm,0.6s,baz=314,slow=9.9,SNR=8.1						
DZM				LR	LR	04 35 24.7	
	comp=Z,107nm,18.1s,baz=131,slow=33						
DZM	**Mont Dzumac**	**22.62**	**144**	P	**P**	**04 27 53.6**	**+1.5**
DZM				IAmb	IAmb	04 27 57.6	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**23.40**	**227**	P	**P**	**04 27 59.9**	**+0.8**
WR0	**Warramunga Arr**	**23.42**	**226**	P	**P**	**04 28 00.0**	**+0.8**
WR0				PcP	**PcP**	**04 31 39.7**	**+0.1**
WRA	**Warramunga Arr**	**23.55**	**226**	P	**P**	**04 28 00.5**	**+0.1**
	comp=Z,69nm,0.5s,baz=48,slow=10,SNR=174						
WRA				PcP	**PcP**	**04 31 40.4**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=52,slow=2.1,SNR=7.6						
WRA				S	**S**	**04 31 58.7**	**-0.5**
	comp=Z,19nm,0.9s,baz=51,slow=14,SNR=18						
WRA				ScP	**ScP**	**04 34 59.4**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=52,slow=2.6,SNR=6.2						
WRA	**Warramunga Arr**	**23.55**	**226**	P	**P**	**04 28 01.4**	**+1.0**
WRA				IAmb	IAmb	04 28 02.0	
	comp=Z,12nm,0.6s						
WRA				PcP	**PcP**	**04 31 40.1**	**+0.2**
QLP	**Quilpie**	**23.70**	**198**	P	**P**	**04 28 04.8**	**+3.1**
LBMI	**Labuha**	**24.94**	**277**	P	**P**	**04 28 14.3**	**+1.2**
	comp=Z,55nm,1.4s						
KNRA	**Kununurra**	**25.82**	**242**	P	**P**	**04 28 20.7**	**-0.3**
KNRA				IAmb	IAmb	04 28 24.2	
	comp=Z,12nm,0.9s						
INKA	**Innaminka**	**26.00**	**204**	P	**P**	**04 28 23.7**	**+1.2**
ARMA	**Armidale**	**26.26**	**181**	P	**P**	**04 28 26.7**	**+1.8**
ARMA				IAmb	IAmb	04 28 32.5	
	comp=Z,8.7nm,1.0s						
SANI	**Sanana**	**26.28**	**274**	P	**P**	**04 28 29.1**	**+3.9**
	comp=Z,43nm,0.9s						
SANI	**Sanana**	**26.28**	**274**	P	**P**	**04 28 25.7**	**+0.5**
AS31	**Alice Springs**	**26.35**	**221**	P	**P**	**04 28 26.5**	**+0.8**
AS31				IAmb	IAmb	04 28 28.6	
	comp=Z,3.2nm,0.3s						
ASAR	**Alice Springs**	**26.35**	**221**	P	**P**	**04 28 26.2**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=45,slow=8.0,SNR=33						
ASAR				PcP	**PcP**	**04 31 45.7**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=52,slow=3.5,SNR=5.9						
ASAR				S	**S**	**04 32 41.5**	**-2.0**
	comp=Z,4.9nm,0.8s,baz=42,slow=14,SNR=7.1						
ASAR	**Alice Springs**	**26.35**	**221**		**P**	**04 28 25.2**	**-0.6**
ASAR				PcP	**PcP**	**04 31 45.9**	**-0.3**
OOD	**Oodnadatta**	**28.42**	**212**	P	**P**	**04 28 44.8**	**+0.8**
STKA	**Stephens Creek**	**29.45**	**199**	P	**P**	**04 28 52.5**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=6.0,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**29.45**	**199**	P	**P**	**04 28 54.2**	**+1.1**
STKA	**Stephens Creek**	**29.45**	**199**	P	**P**	**04 28 55.3**	**+2.2**
	comp=Z,1.4nm,0.7s						
GTOI	**Gorontalo**	**29.57**	**278**	P	**P**	**04 28 56.5**	**+2.1**
	comp=Z,310nmcomp=Z,39nm,0.7s						
MRSI	**Marisa**	**30.60**	**278**	P	**P**	**04 29 04.4**	**+0.9**
	comp=Z,2µmcomp=Z,30nm,0.7s						
APSI	**Ampana**	**30.71**	**275**	P	**P**	**04 29 05.8**	**+1.4**
	comp=Z,498nmcomp=Z,48nm,1.1s						
WRKA	**Warakurna**	**31.08**	**225**	P	**P**	**04 29 07.6**	**0.0**
MULG	**Mulgathing**	**31.26**	**211**	P	**P**	**04 29 09.4**	**+0.4**
CAN	**Canberra**	**31.29**	**185**	P	**P**	**04 29 09.8**	**+0.5**
CAN				IAmb	IAmb	04 29 17.4	
	comp=Z,35nm,1.5s						
HTT	**Hallett**	**31.79**	**201**	P	**P**	**04 29 14.5**	**+0.9**
TOLI2	**Tolitoli**	**31.84**	**279**	P	**P**	**04 29 14.3**	**0.0**
TOLI2				IAmb	IAmb	04 29 16.5	
	comp=Z,13nm,0.8s						
TOLI2	**Tolitoli**	**31.84**	**279**	P	**P**	**04 29 17.3**	**+2.9**
BKSI	**Bulukumba**	**32.03**	**266**	P	**P**	**04 29 14.5**	**-1.5**
	comp=Z,7.7nm,1.1s						
BNSI	**Bone**	**32.04**	**268**	P	**P**	**04 29 17.6**	**+1.5**
	comp=Z,20nm,1.1s						
SPSI	**Sidrap Palu**	**32.39**	**269**	P	**P**	**04 29 19.2**	**+0.1**
	comp=Z,12nm,1.0s						
BBOO	**Buckleboo**	**32.39**	**206**	P	**P**	**04 29 19.1**	**+0.3**
BBOO				IAmb	IAmb	04 29 19.5	
	comp=Z,16nm,1.4s						
BBOO				PcP	**PcP**	**04 32 01.7**	**+0.3**
KAPI	**Kappang**	**32.40**	**267**	P	**P**	**04 29 19.2**	**0.0**
KAPI				IAmb	IAmb	04 29 20.5	
	comp=Z,9.9nm,0.9s						
MPSI	**Mapaga**	**32.60**	**277**	P	**P**	**04 29 21.2**	**+0.2**
PLAI	**Plampang**	**34.56**	**260**	P	**P**	**04 29 35.9**	**-2.0**
	comp=Z,28nm,0.8s						
FORT	**Forrest**	**35.04**	**218**	P	**P**	**04 29 41.9**	**+0.1**
FORT	**Forrest**	**35.04**	**218**	P	**P**	**04 29 41.8**	**+0.1**
SMKI	**Samarinda**	**35.17**	**275**	P	**P**	**04 29 44.0**	**+0.9**
PSA00	**Pilbara Seismi**	**35.95**	**238**	P	**P**	**04 29 49.2**	**-0.4**
PSA00				IAmb	IAmb	04 29 49.5	
	comp=Z,27nm,0.9s						
PSA00	**Pilbara Seismi**	**35.95**	**238**	P	**P**	**04 29 49.2**	**-0.4**
MEEK	**Meekatharra**	**39.23**	**232**	P	**P**	**04 30 16.7**	**-0.4**
PWJI	**Pagerwojo**	**40.39**	**262**	P	**P**	**04 30 25.2**	**-1.6**
	comp=Z,24nm,1.1s						
SBUM	**Sibu**	**40.50**	**278**	P	**P**	**04 30 29.2**	**+1.5**
YULB	**Yu-li**	**40.66**	**314**	P	**P**	**04 30 28.9**	**0.0**
YULB				IAmb	IAmb	04 30 30.8	
	comp=Z,29nm,0.9s						
STKI	**Sintang**	**40.93**	**275**	P	**P**	**04 30 32.8**	**+1.6**
TPUB	**Ta-pu**	**41.09**	**313**	P	**P**	**04 30 32.0**	**-0.4**
SSLB	**Suanglung**	**41.15**	**314**	P	**P**	**04 30 33.3**	**+0.4**
SSLB				IAmb	IAmb	04 30 34.0	
	comp=Z,39nm,1.2s						
GIRL	**Giralia**	**41.16**	**240**	P	**P**	**04 30 33.1**	**+0.2**
GIRL				PcP	**PcP**	**04 32 29.3**	**+1.1**
BKZ	**Black Stump Fm**	**41.33**	**151**	P	**P**	**04 30 35.4**	**+1.3**
BKZ				IAmb	IAmb	04 30 36.5	
	comp=Z,28nm,1.3s						
YHNB	**Yeheng**	**41.40**	**315**	P	**P**	**04 30 36.0**	**+1.1**
JNU	**Nakatsue**	**42.12**	**333**	P	**P**	**04 30 41.1**	**+0.5**
KSM	**Kuching**	**42.25**	**277**	P	**P**	**04 30 42.7**	**+0.7**
MJAR	**Matsushiro Arr**	**42.43**	**343**	P	**P**	**04 30 40.8**	**-2.2**
	comp=Z,6.8nm,1.0s,baz=179,slow=7.7,SNR=7.2						
MAJO	**Matsushiro**	**42.43**	**343**	P	**P**	**04 30 41.8**	**-1.2**
MAJO				IAmb	IAmb	04 30 43.9	
	comp=Z,34nm,1.5s						
JHS	**Saijyo**	**42.78**	**337**	P	**P**	**04 30 46.0**	**+0.1**
JHS				IAmb	IAmb	04 30 51.0	
	comp=Z,22nm,0.8s						
RPZ	**Rata Peaks**	**42.89**	**160**	LR	LR	04 50 14.6	
	comp=Z,22nm,18.1s,baz=28,slow=38						
KPJI	**Karang Pucung**	**43.20**	**264**	P	**P**	**04 30 49.5**	**-0.1**
CNJI	**Cibinong**	**44.99**	**264**	P	**P**	**04 31 02.7**	**-1.0**
	comp=Z,1µmcomp=Z,139nm,1.0s						
JTM	**Tenmabayashi**	**45.75**	**348**	P	**P**	**04 31 09.3**	**+0.1**
JTM				IAmb	IAmb	04 31 26.6	
	comp=Z,39nm,1.0s						
DLV	**T Lat**	**46.30**	**291**	P	**P**	**04 31 14.2**	**0.0**
TJN	**Taejon**	**46.43**	**332**	P	**P**	**04 31 15.9**	**+1.3**
KSRS	**Korea Array**	**47.06**	**333**	P	**P**	**04 31 19.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=149,slow=8.6,SNR=36						
KSAR	**Wonju Array Be**	**47.07**	**333**	P	**P**	**04 31 19.8**	**+0.3**
KASI	**Kota Agung**	**47.59**	**266**	P	**P**	**04 31 21.8**	**-2.2**
	comp=Z,30nm,1.1s						
INCN	**Inchon**	**47.67**	**332**	P	**P**	**04 31 24.7**	**+0.5**
NJ2	**Nanjing**	**47.89**	**321**	*e*P	**P**	**04 31 27.5**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
MDSI	**Maura Dua**	**47.92**	**268**	P	**P**	**04 31 25.1**	**-1.4**
	comp=Z,8.9nm,1.1s						
JKA	**Kamikawa-asahi**	**48.70**	**351**	P	**P**	**04 31 32.6**	**+0.7**
JKA				IAmb	IAmb	04 31 33.3	
	comp=Z,20nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.34**	**341**	P	**P**	**04 31 51.6**	**-0.1**
	comp=Z,17nm,0.8s,baz=179,slow=8.4,SNR=26						
USRK	**Ussuriysk Ar.**	**51.34**	**341**	P	**P**	**04 31 51.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**51.34**	**341**	P	**P**	**04 31 51.5**	**-0.3**
USA0B				IAmb	IAmb	04 31 52.9	
	comp=Z,19nm,0.9s						
TIA	**Tai'an**	**51.76**	**324**	⇓P	**P**	**04 31 55.2**	**+0.1**
TIA				pmax	pmax		
	comp=Z,28nm,0.8s						
IPM	**Ipoh**	**51.85**	**279**	P	**P**	**04 31 55.5**	**-0.7**
IPM				IAmb	IAmb	04 31 57.5	
	comp=Z,13nm,0.6s						
KULM	**Kulim**	**52.35**	**280**	P	**P**	**04 31 59.0**	**-0.8**
KULM				IAmb	IAmb	04 32 00.3	
	comp=Z,18nm,0.7s						
MDJ	**Mudanjiang**	**52.50**	**340**	P	**P**	**04 32 00.1**	**-0.2**
MDJ				IAmb	IAmb	04 32 01.4	
	comp=Z,23nm,0.9s						
MDJ	**Mudanjiang**	**52.50**	**340**	P	**P**	**04 32 00.4**	**0.0**
MDJ				ScP	ScP	04 37 01.1	+16
MDJ				PcS	**PcS**	**04 37 12.4**	**+5.9**
MDJ				S	**S**	**04 39 13.3**	**+2.6**
MDJ				ScS	ScS	04 41 42.4	+14
MDJ				pmax	pmax		
	comp=Z,30nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.4s						
MDJ				LR	LR		
	comp=N,120nm,4.7s						
MDJ				LR	LR		
	comp=E,220nm,5.1s						
MDJ				LR	LR		
	comp=Z,150nm,6.8s						
MNSI	**Mandailing Nat**	**52.84**	**274**	P	**P**	**04 32 01.8**	**-1.6**
ENH	**Enshi**	**53.22**	**313**	P	**P**	**04 32 05.8**	**-0.1**
ENH				IAmb	IAmb	04 32 07.3	
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**53.37**	**336**	*e*P	**P**	**04 32 05.6**	**-1.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
GSI	**Gunungsitoli**	**54.88**	**274**	P	**P**	**04 32 17.1**	**-1.0**
BJT	**Baijiatuau**	**54.93**	**326**	P	**P**	**04 32 17.3**	**-0.7**
BJT				IAmb	IAmb	04 32 21.2	
	comp=Z,7.0nm,0.7s						
XAN	**Xi'an**	**55.68**	**316**	P	**P**	**04 32 23.7**	**+0.1**
XAN				pmax	pmax		
	comp=Z,21nm,0.8s						
LHMI	**Lhok Sumawe**	**55.98**	**279**	P	**P**	**04 32 24.8**	**-1.2**
LHMI	**Lhok Sumawe**	**55.98**	**279**	P	**P**	**04 32 25.6**	**-0.4**
	comp=Z,65nm,1.1s						
KMI	**Kunming**	**56.09**	**304**	⇑P	**P**	**04 32 28.6**	**+1.7**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**57.04**	**295**	P	**P**	**04 32 35.0**	**+1.6**
CM31				IAmb	IAmb	04 32 36.4	
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.04**	**295**	P	**P**	**04 32 35.2**	**+1.8**
	comp=Z,15nm,0.9s,baz=115,slow=5.3,SNR=46						
CMAR	**Chiang Mai Arr**	**57.04**	**295**	P	**P**	**04 32 35.0**	**+1.5**
PETK	**Petropavlovsk-**	**57.11**	**4**	P	**P**	**04 32 32.2**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=175,slow=7.4,SNR=7.8						
PETK	**Petropavlovsk-**	**57.11**	**4**	P	**P**	**04 32 32.9**	**-0.4**
CHTO	**Chiang Mai**	**57.15**	**295**	P	**P**	**04 32 34.8**	**+0.6**
CHTO				IAmb	IAmb	04 32 36.8	
	comp=Z,11nm,1.1s						
PZH	**PanZhiHua**	**57.47**	**305**	P	**P**	**04 32 38.9**	**+2.5**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
HIA	**Hailar**	**60.10**	**336**	P	**P**	**04 32 53.8**	**-0.2**
HIA				IAmb	IAmb	04 32 55.0	
	comp=Z,14nm,0.8s						
MA2	**Magadan**	**63.42**	**359**	P	**P**	**04 33 15.1**	**-0.7**
MA2				IAmb	IAmb	04 33 16.7	
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	**64.71**	**317**	⇓P	**P**	**04 33 26.0**	**+1.2**
GTA				pP	PcP	04 33 57.8	+1.1
GTA				sP	pP	04 34 16.2	+3.9
GTA				pmax	pmax		
	comp=Z,15nm,1.2s						
GTA				pmax	pmax		
	comp=Z,65nm,5.3s						
GTA				LR	LR		
	comp=N,150nm,15.6s						
GTA				LR	LR		
	comp=E,260nm,15.3s						
GTA				LR	LR		
	comp=Z,120nm,14.2s						
ULN	**Ulaanbaatar**	**65.05**	**328**	P	**P**	**04 33 27.1**	**+0.3**
ULN				IAmb	IAmb	04 33 29.6	
	comp=Z,9.4nm,0.8s						
SONM	**Songino Array**	**65.37**	**328**	P	**P**	**04 33 29.5**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=149,slow=5.6,SNR=32						
SONM	**Songino Array**	**65.37**	**328**	P	**P**	**04 33 29.2**	**+0.3**
SONM				IAmb	IAmb	04 33 30.2	
	comp=Z,5.8nm,0.8s						
SHL	**Shillong**	**65.43**	**300**	P	**P**	**04 33 29.6**	**-0.2**
GOMU	**GeErMu**	**66.83**	**312**	P	**P**	**04 33 40.1**	**+1.4**
GOMU				S	**S**	**04 42 14.9**	**0.0**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GOMU				AMB	AMB		
	comp=Z,47nm,3.9s						
GOMU				LR	LR		
	comp=N,130nm,14.1s						
GOMU				LR	LR		
	comp=E,120nm,14.3s						
GOMU				LR	LR		
	comp=Z,61nm,15.7s						
LSA	**Lhasa**	**67.34**	**304**	P	**P**	**04 33 42.6**	**+0.4**
LSA				IAmb	IAmb	04 33 44.2	
	comp=Z,11nm,0.9s						
TAPN	**Taplejung**	**69.53**	**301**	*e*P	**P**	**04 33 56.2**	**+0.6**
	comp=Z,31nm,0.7s						
ODAN	**Odare**	**69.67**	**300**	*e*P	**P**	**04 33 57.0**	**+0.6**
	comp=Z,56nm,0.7s						
RAMN	**Ramite**	**70.37**	**300**	*e*P	**P**	**04 34 01.0**	**+0.3**
	comp=Z,15nm,0.5s						
JIRN	**Jiri**	**70.91**	**301**	*e*P	**P**	**04 34 04.5**	**+0.4**
	comp=Z,27nm,0.6s						
GUN	**Gumba**	**71.24**	**301**	*e*P	**P**	**04 34 06.6**	**+0.6**
	comp=Z,64nm,0.7s						
PKI	**Pulchoki**	**71.56**	**301**	*e*P	**P**	**04 34 08.0**	**+0.1**
	comp=Z,17nm,0.6s						
PKIN	**Phulchoki**	**71.57**	**301**	*e*P	**P**	**04 34 08.0**	**+0.1**
	comp=Z,18nm,0.5s						
KKN	**Kakani**	**71.72**	**301**	*e*P	**P**	**04 34 08.6**	**-0.2**
DMN	**Daman**	**71.83**	**301**	*e*P	**P**	**04 34 09.9**	**+0.5**
PALK	**Pallekele**	**72.26**	**279**	P	**P**	**04 34 12.1**	**+0.1**
PALK				IAmb	IAmb	04 34 13.4	
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**73.16**	**300**	*e*P	**P**	**04 34 17.2**	**0.0**
	comp=Z,47nm,0.8s						
DANN	**Dangsing**	**73.16**	**301**	*e*P	**P**	**04 34 17.3**	**-0.1**
	comp=Z,36nm,0.7s						
VNDA	**Vanda**	**73.62**	**178**	P	**P**	**04 34 18.3**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=320,slow=6.1,SNR=7.7						
PYUN	**Piuthan**	**73.76**	**301**	*e*P	**P**	**04 34 20.6**	**-0.1**
	comp=Z,60nm,0.9s						
WMQ	**Urumqi**	**74.79**	**317**	*e*P	**P**	**04 34 27.1**	**+0.9**
WMQ				PcP	**PcP**	**04 34 41.1**	**+1.9**
WMQ				pP	pP	04 35 12.0	-2.9
WMQ				pmax	pmax		
	comp=Z,26nm,1.5s						
WMQ				LR	LR		
	comp=N,480nm,15.1s						
WMQ				LR	LR		
	comp=E,370nm,13.9s						
WMQ				LR	LR		
	comp=Z,130nm,20.3s						
L19K	**White Mountain**	**77.25**	**23**	P	**P**	**04 34 39.9**	**+0.3**
TTA	**Tatalina**	**77.26**	**22**	P	**P**	**04 34 40.0**	**+0.2**
PWL	**Port Wells**	**79.19**	**25**	P	**P**	**04 34 49.8**	**-0.5**
PWL				IAmb	IAmb	04 34 52.3	
	comp=Z,14nm,1.2s						
KAAM	**Kaadhehdhoo**	**79.30**	**271**	P	**P**	**04 34 49.9**	**-1.9**
MK31	**Makanchi Array**	**79.38**	**319**	P	**P**	**04 34 51.7**	**+0.1**
MK31				IAmb	IAmb	04 34 53.0	
	comp=Z,12nm,1.1s						
MKAR	**Makanchi Array**	**79.38**	**319**	P	**P**	**04 34 51.9**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=100,slow=6.7,SNR=41						
MKAR				PKKPbc	**PKKPbc**	**04 53 40.4**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=210,slow=1.0,SNR=4.1						
MKAR	**Makanchi Array**	**79.38**	**319**	P	**P**	**04 34 51.6**	**0.0**
MAKZ	**Makanchi**	**79.58**	**319**	P	**P**	**04 34 52.4**	**-0.3**

IMAR	**Indian Mountai**	**79.85**	**20**	P	**P**	**04 34 53.9**	**+0.2**
ZAA0	**Zalesovo Array**	**80.20**	**326**	P	**P**	**04 34 55.4**	**-0.4**
ZAA0				IAmb	IAmb	04 34 55.9	
	comp=Z,7.5nm,1.0s						
ZALV	**Zalesovo Beam**	**80.20**	**326**	P	**P**	**04 34 55.2**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=113,slow=5.3,SNR=16						
RND	**Reindeer**	**80.24**	**23**	P	**P**	**04 34 55.2**	**-0.7**
MLY	**Manley**	**80.37**	**21**	P	**P**	**04 34 56.6**	**0.0**
MCK	**McKinley**	**80.37**	**23**	P	**P**	**04 34 56.0**	**-0.6**
DHY	**Denali Highway**	**80.66**	**24**	P	**P**	**04 34 58.4**	**+0.1**
WRH	**Wood River Hil**	**81.06**	**22**	P	**P**	**04 34 59.4**	**-0.7**
GLB	**Gilahina Butte**	**81.41**	**26**	P	**P**	**04 35 02.7**	**+0.5**
IL31		**81.66**	**22**	P	**P**	**04 35 01.6**	**-1.7**
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**04 35 01.9**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=246,slow=5.5,SNR=37						
ILAR				PKKPbc	**PKKPbc**	**04 53 34.1**	**-3.6**
	comp=Z,0.2nm,0.7s,baz=9.5,slow=2.7,SNR=5.0						
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**04 35 02.1**	**-1.2**
KDJ	**Kajisay**	**81.68**	**313**	P	**P**	**04 35 04.5**	**+0.3**
KDJ				IAmb	IAmb	04 35 05.9	
	comp=Z,16nm,0.8s						
RIDG	**Independent Ri**	**81.98**	**24**	P	**P**	**04 35 05.2**	**+0.2**
KSH	**Kashi**	**82.01**	**311**	P	**P**	**04 35 07.9**	**+2.1**
KSH				pP	pP	04 35 56.2	+1.0
KSH				pmax	pmax		
	comp=Z,17nm,1.0s						
J25K	**Salcha River,**	**82.16**	**23**	P	**P**	**04 35 05.4**	**-0.6**
J25K				IAmb	IAmb	04 35 06.8	
	comp=Z,6.0nm,0.7s						
BARN	**Barnard Glacie**	**82.21**	**27**	P	**P**	**04 35 07.2**	**+0.7**
DOT	**Dot Lake**	**82.25**	**24**	P	**P**	**04 35 06.7**	**+0.3**
L26K	**Log Cabin Wild**	**82.28**	**25**	P	**P**	**04 35 07.4**	**+0.8**
CTGM	**Chitina Glacie**	**82.32**	**27**	P	**P**	**04 35 07.3**	**+0.3**
CTGM				IAmb	IAmb	04 35 07.4	
	comp=Z,16nm,1.4s						
ULHL	**Ulahol**	**82.38**	**313**	P	**P**	**04 35 08.5**	**+0.6**
	SNR=5.6						
SCRK	**Sand Creek**	**82.42**	**24**	P	**P**	**04 35 07.5**	**0.0**
BOOM	**Boomskoye usch**	**82.65**	**314**	P	**P**	**04 35 10.1**	**+0.9**
BOOM				IAmb	IAmb	04 35 10.9	
	comp=Z,10nm,0.6s						
TOLK	**Toolik Lake Re**	**82.66**	**18**	P	**P**	**04 35 08.8**	**+0.3**
KURK	**Kurchatov**	**82.81**	**322**	P	**P**	**04 35 09.7**	**+0.1**
KURK				IAmb	IAmb	04 35 10.5	
	comp=Z,26nm,1.4s						
KURBB	**Kurchatov Arra**	**82.85**	**322**	P	**P**	**04 35 08.9**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=109,slow=4.1,SNR=16						
KURBB				PKKPbc	**PKKPbc**	**04 53 32.6**	**-1.6**
	comp=Z,0.2nm,0.2s,baz=294,slow=2.8,SNR=4.2						
BCAR	**Beaver Creek A**	**82.94**	**25**	P	**P**	**04 35 09.7**	**-0.4**
TKM2	**Tokmak 2**	**82.99**	**314**	P	**P**	**04 35 11.7**	**+0.7**
	SNR=11						
NIL	**Nilore**	**83.08**	**304**	P	**P**	**04 35 11.4**	**+0.1**
FYU	**Fort Yukon**	**83.10**	**21**	P	**P**	**04 35 11.2**	**+0.5**
KBK	**Karagaybulak**	**83.40**	**314**	P	**P**	**04 35 13.8**	**+0.8**
	SNR=6.0						
CHMS	**Chumysh**	**83.61**	**314**	P	**P**	**04 35 14.5**	**+0.6**
	SNR=10						
UCH	**Uchtor**	**83.64**	**313**	P	**P**	**04 35 15.8**	**+1.2**
	SNR=27						
BMAR	**Burnt Mountain**	**83.72**	**20**	P	**P**	**04 35 14.3**	**+0.4**
AAK	**Ala-Archa**	**83.73**	**313**	P	**P**	**04 35 15.4**	**+0.8**
	comp=Z,11nm,0.6s,baz=134,slow=5.1,SNR=29						
AAK	**Ala-Archa**	**83.73**	**313**	P	**P**	**04 35 15.3**	**+0.7**
AAK				IAmb	IAmb	04 35 16.3	
	comp=Z,13nm,0.7s						
USP	**Ospenovka**	**83.85**	**314**	P	**P**	**04 35 15.7**	**+0.6**
	SNR=21						
HYT	**Haines Junctio**	**84.01**	**28**	P	**P**	**04 35 16.6**	**+0.9**
AML	**Almayashu**	**84.21**	**313**	P	**P**	**04 35 19.0**	**+1.6**
	SNR=5.7						
EKS2	**Erkin-Say**	**84.25**	**313**	P	**P**	**04 35 18.3**	**+1.0**
	SNR=20						
DAWY	**Dawson**	**84.32**	**24**	P	**P**	**04 35 18.2**	**+1.3**
N31M	**Braeburn, Yuko**	**85.02**	**27**	P	**P**	**04 35 21.2**	**+0.7**
N31M				IAmb	IAmb	04 35 26.7	
	comp=Z,14nm,1.4s						
NRIK	**Noril'sk**	**85.05**	**341**	P	**P**	**04 35 19.6**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=200,slow=5.1,SNR=3.9						
DRK	**Karamyk**	**85.17**	**310**	P	**P**	**04 35 22.4**	**+0.3**
QSPA	**South Pole Qui**	**85.93**	**180**	P	**P**	**04 35 25.0**	**-0.1**
QSPA				IAmb	IAmb	04 35 26.4	
	comp=Z,9.0nm,0.8s						
BTK	**Batken**	**86.01**	**310**	P	**P**	**04 35 25.9**	**-0.1**
KBL	**Kabul**	**86.66**	**305**	P	**P**	**04 35 28.1**	**-1.3**
KBL				IAmb	IAmb	04 35 29.6	
	comp=Z,9.5nm,0.7s						
KKAR	**Karatay Array**	**86.69**	**313**	P	**P**	**04 35 28.8**	**-0.3**
BRVK	**Borovoye**	**88.36**	**323**	P	**P**	**04 35 35.4**	**-1.4**
BRVK				IAmb	IAmb	04 35 36.7	
	comp=Z,12nm,1.0s						
NVAR	**Mina Array Bea**	**92.05**	**52**	P	**P**	**04 35 54.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=277,slow=6.8,SNR=3.6						
HRA	**Herat**	**92.24**	**304**	P	**P**	**04 35 54.4**	**-1.2**
HRA				IAmb	IAmb	04 35 55.7	
	comp=Z,10nm,1.2s						
ABKAR	**Akbulak array**	**94.52**	**319**	P	**P**	**04 36 03.6**	**-1.8**
ABKAR				IAmb	IAmb	04 36 04.4	
	comp=Z,2.6nm,0.9s						
YKA	**Yellowknife Ar**	**95.01**	**28**	P	**P**	**04 36 07.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=271,slow=5.0,SNR=16						
YKA				PKiKP	**PKiKP**	**04 40 48.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=236,slow=1.7,SNR=4.0						
YKA				PKKPbc	**PKKPdf**	**04 53 01.1**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=86,slow=2.8,SNR=13						
PDAR	**Pinedale Array**	**98.75**	**48**	P	**P**	**04 36 24.6**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=254,slow=2.3,SNR=6.2						
TXAR	**Lajitas Array**	**104.25**	**61**	PKKPbc	PKKPbc	04 52 37.6	+0.4
	comp=Z,0.6nm,0.7s,baz=110,slow=5.1,SNR=7.4						
FINES	**FINESS Array B**	**110.12**	**336**	PKiKP	**PKiKP**	**04 41 15.2**	**0.0**
	comp=Z,1.8nm,0.7s,baz=77,slow=4.1,SNR=6.4						
AKASG	**Malin Array Be**	**113.54**	**324**	PKiKP	**PKiKP**	**04 41 21.2**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=49,slow=2.3,SNR=8.1						
NB2	**NORSAR Subarra**	**116.00**	**340**	PKPdf	**PKPdf**	**04 41 25.6**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=42,slow=1.8						
NOA	**NORSAR Array B**	**116.00**	**340**	PKP	**PKPdf**	**04 41 26.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=46,slow=1.9,SNR=11						
BURAR	**Bucovina Array**	**117.24**	**323**	PKPdf	**PKiKP**	**04 41 30.3**	**+0.9**
SWET	**Sewanee**	**118.09**	**52**	PKPdf	**PKPdf**	**04 41 30.6**	**-0.7**
KOLS	**Kolonicke sedl**	**118.36**	**325**	*e*PKP	**PKiKP**	**04 41 31.9**	**+0.4**
T50A	**Nancy**	**118.41**	**50**	PKPdf	**PKPdf**	**04 41 30.7**	**-1.1**
FPAL	**Fort Paine**	**118.53**	**53**	PKPdf	**PKPdf**	**04 41 31.2**	**-1.0**
W50A	**Signal Mountai**	**118.58**	**52**	PKPdf	**PKPdf**	**04 41 32.2**	**-0.1**
TZTN	**Tazewell**	**119.54**	**50**	PKPdf	**PKiKP**	**04 41 34.4**	**+0.2**
BOSA	**Boshof**	**119.63**	**234**	PKP	**PKPdf**	**04 41 34.5**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=357,slow=3.2,SNR=3.6						
LANS	**Liptovska Anna**	**119.83**	**326**	*e*PKP	**PKiKP**	**04 41 35.4**	**+1.0**
SCHQ	**Schefferville**	**120.33**	**25**	PKP	**PKPdf**	**04 41 34.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=221,slow=1.1,SNR=3.8						
V53A	**Saluda**	**120.39**	**51**	PKPdf	**PKiKP**	**04 41 35.9**	**0.0**
KOLL	**Kolacno**	**120.73**	**326**	*e*PKP	**PKiKP**	**04 41 36.1**	**0.0**
PLCA	**Paso Flores**	**120.73**	**143**	PKP	**PKPdf**	**04 41 35.9**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=259,slow=2.4,SNR=15						
PLCA	**Paso Flores**	**120.73**	**143**	PKPdf	**PKiKP**	**04 41 37.0**	**+0.5**
KRLC	**Kraliky**	**120.76**	**328**	*e*PKPDF	**PKiKP**	**04 41 36.4**	**+0.2**
OSTC	**Ostas**	**120.77**	**329**	*e*PKPDF	**PKiKP**	**04 41 36.6**	**+0.5**
BLA	**Blacksburg**	**121.67**	**48**	PKPdf	**PKiKP**	**04 41 38.3**	**0.0**
BRG	**Berggiesshubel**	**121.72**	**330**	*e*PKP	**PKPdf**	**04 41 37.8**	**0.0**
BRG				Amp		04 41 39.6	
	comp=Z,3.0nm,0.7s						
CONA	**Conrad Observa**	**122.50**	**327**	*e*P	**PKPdf**	**04 41 39.4**	**-0.1**
	comp=Z,3.2nm,0.6s						
CKRC	**Cesky Krumlov**	**122.80**	**328**	*e*PKPDF	**PKiKP**	**04 41 40.2**	**0.0**
N58A	**Sunbury**	**122.85**	**43**	PKPdf	**PKPdf**	**04 41 40.1**	**-0.2**
KHC	**Kasperske Hory**	**122.99**	**329**	*e*PKPDF	**PKiKP**	**04 41 40.6**	**0.0**
GEC2	**GERESS Array S**	**123.10**	**329**	PKPdf	**PKiKP**	**04 41 40.9**	**0.0**
GERES	**GERESS Array B**	**123.10**	**329**	PKP	**PKPdf**	**04 41 40.6**	**0.0**
	comp=Z,2.7nm,0.6s,baz=60,slow=2.7,SNR=34						
MOA	**Molln**	**123.41**	**327**	*i* P	**PKPdf**	**04 41 40.8**	**-0.4**
	comp=Z,0.6nm,0.3s						
SOKA	**Soboth**	**123.68**	**326**	*e*P	**PKPdf**	**04 41 41.3**	**-0.5**
	comp=Z,1.9nm,0.8s						
BO02	**Sierra Bellavi**	**124.10**	**137**	PKPdf	**PKiKP**	**04 41 43.6**	**+0.3**
KBA	**Koelnbreinsper**	**124.37**	**327**	*i* P	**PKPdf**	**04 41 42.3**	**-0.9**
	comp=Z,1.0nm,0.4s						
ROC1	**El Roble**	**124.96**	**135**	PKPdf	**PKPdf**	**04 41 43.7**	**-1.2**
ABTA	**Abfaltersbach**	**125.03**	**327**	*e*P	**PKPdf**	**04 41 43.8**	**-0.6**
	comp=Z,3.4nm,0.6s						
WATA	**Walderalm**	**125.16**	**328**	*e*P	**PKiKP**	**04 41 44.9**	**-0.1**
	comp=Z,4.5nm,0.6s						
WTTA	**Wattenberg**	**125.17**	**328**	*e*P	**PKPdf**	**04 41 44.7**	**-0.1**
	comp=Z,2.1nm,0.4s						
STAL	**STALIGIAL**	**125.22**	**327**	PKPdf	**PKPdf**	**04 41 44.3**	**-0.4**
MOTA	**Moosalm**	**125.40**	**328**	*e*P	**PKPdf**	**04 41 45.0**	**-0.2**
	comp=Z,4.7nm,0.7s						
SQTA	**Sankt Quirin**	**125.43**	**328**	*e*P	**PKPdf**	**04 41 45.3**	**+0.1**
	comp=Z,3.4nm,0.5s						
RETA	**Reutte**	**125.49**	**329**	*e*P	**PKPdf**	**04 41 45.2**	**-0.1**
	comp=Z,0.4nm,0.3s						
BTNL	**Ternell**	**125.56**	**334**	*d*PKP	**PKPdf**	**04 41 45.3**	**+0.1**
MEM	**Membach**	**125.60**	**334**	*d*PKP	**PKPdf**	**04 41 45.2**	**-0.1**
FETA	**Feichten**	**125.81**	**328**	*e*P	**PKPdf**	**04 41 46.0**	**0.0**
	comp=Z,2.6nm,0.6s						
DAVA	**Damuels**	**126.07**	**329**	*e*P	**PKPdf**	**04 41 46.6**	**+0.2**
	comp=Z,4.9nm,0.6s						
WLF	**Walferdange**	**126.22**	**333**	*d*PKP	**PKiKP**	**04 41 47.4**	**+0.4**
CO03	**El Pedregal**	**126.35**	**133**	PKPdf	**PKiKP**	**04 41 47.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**126.41**	**329**	PKP	**PKiKP**	**04 41 47.5**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=134,slow=2.3,SNR=9.9						
BNI	**Bardonecchia**	**129.22**	**329**	PKPdf	**PKiKP**	**04 41 53.9**	**+0.7**
LVC	**Limon Verde**	**131.88**	**125**	SKPbc	**SKPab**	**04 45 09.0**	**+2.9**
	comp=Z,4.7nm,0.8s,baz=324,slow=4.2,SNR=4.2						
LPAZ	**La Paz**	**135.28**	**118**	PKP	**PKPdf**	**04 42 04.8**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=234,slow=1.8,SNR=10						
LPAZ				SKPbc	**SKPab**	**04 45 20.6**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=299,slow=3.4,SNR=9.8						
LPAZ	**La Paz**	**135.28**	**118**	PKPdf	**PKiKP**	**04 42 06.2**	**-0.7**
CPUP	**Villa Florida**	**138.41**	**138**	PKP	**PKPdf**	**04 42 09.7**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=330,slow=4.4,SNR=4.7						
CPUP	**Villa Florida**	**138.41**	**138**	PKPdf	**PKPdf**	**04 42 10.8**	**+0.7**
ESDC	**Sonseca Array**	**138.48**	**332**	PKP	**PKPdf**	**04 42 10.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=8.2,slow=3.0,SNR=4.6						
ESDC				SKPbc	**SKiKP**	**04 45 27.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=301,slow=4.7,SNR=3.1						
OBIP	**Obispado Ponce**	**139.53**	**67**	PKPdf	**PKPdf**	**04 42 12.2**	**-0.1**
SIV	**San Ignacio**	**141.51**	**122**	PKhKP	PKPpre	04 42 10.5	
	comp=Z,1.2nm,0.5s,baz=247,slow=6.1,SNR=6.8						
SIV				PKP	**PKPdf**	**04 42 14.5**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=242,slow=0.6,SNR=8.3						
SIV				SKPbc	**SKiKP**	**04 45 36.1**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=243,slow=2.7,SNR=8.7						
TRCB	**Terra Rica**	**143.94**	**139**	PKPdf	PKPbc	04 42 19.1	+0.5
TORD	**Torodi Ar. Bea**	**149.53**	**289**	PKPbc	**PKPbc**	**04 42 33.7**	**-0.7**
	comp=Z,17nm,0.7s,baz=95,slow=2.2,SNR=83						
TORD	**Torodi Ar. Bea**	**149.53**	**289**	PKPbc	**PKPbc**	**04 42 33.2**	**-1.2**
BDFB	**Brasilia**	**152.01**	**135**	PKP	**PKPdf**	**04 42 34.2**	**+0.6**
	comp=Z,16nm,0.5s,baz=266,slow=3.8,SNR=5.2						
BDFB				PKPbc	**PKiKP**	**04 42 40.9**	**+0.2**
	comp=Z,16nm,0.5s,baz=229,slow=1.2,SNR=38						
BDFB	**Brasilia**	**152.01**	**135**		**PKPbc**	**04 42 39.5**	**-0.8**
DBIC	**Dimbokro**	**157.04**	**278**	PKPab	**PKPab**	**04 43 12.2**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=85,slow=3.3,SNR=6.4						

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*CNRM **11** 04:26:12.2, 35°.58N×3°.80W, h17km, ml3.0*
*MDD **11** 04:26:12.8±0.4, 35°.45N×3°.84W, h0km, mb_Lg3.0/18, Error ellipse: s-maj=3.4km s-min=2.2km az=176.0*
*SFS **11** 04:26:12.0, 35°.46N×3°.83W, ML3.0, ALBORAN SUR*
*LDG **11** 04:26:14.1±0.5, 35°.38N×3°.73W, h10km, Ml2.6/3, Error ellipse: s-maj=10.2km s-min=4.7km az=2.0*
ISC 11 04:26:12.4±1.1**, 35°.49N**±0°.02×**3°.83W**±0°.02**, h16**km±9km**,**
n54, σ**1s.78**/94**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**198**	P	**Pb**	**04 26 19.3**	**+0.1**
PALE				S	**Sb**	**04 26 25.0**	**+1.1**
PALE	**Palemas**	**0.29**	**198**	P	**Pb**	**04 26 19.5**	**+0.3**
PALE				S	**Sb**	**04 26 24.8**	**+1.0**
EMEL	**Melilla**	**0.74**	**105**	Pg	**Pg**	**04 26 26.5**	**-0.2**
EMEL				Sg	**Sb**	**04 26 36.5**	**-0.2**
EALB	**Alboran**	**0.78**	**55**	Pg	**Pb**	**04 26 27.7**	**0.0**
EALB				Sg	**Sb**	**04 26 38.5**	**+0.5**
EALB				*i* Vmb_Lg		04 26 41.1	
SMIR	**Smir Dam**	**1.28**	**279**	P	**Pn**	**04 26 35.0**	**-0.6**
SMIR	**Smir Dam**	**1.28**	**279**	P	**Pn**	**04 26 34.8**	**-0.8**
SMIR				S	**Sn**	**04 26 53.4**	**+0.9**
CHEFC	**Chefchaouen**	**1.30**	**253**	P	**Pg**	**04 26 37.5**	**+0.2**
CHEFC				S	**Sb**	**04 26 52.8**	**-0.1**
EMIJ	**Mijas**	**1.32**	**325**	Pg	**Pn**	**04 26 36.3**	**+0.2**
EMIJ				Sg	**Sb**	**04 26 54.3**	**+0.9**
EMIJ				*i* Vmb_Lg		04 26 58.1	
CEU	**Ceuta**	**1.32**	**288**	P	**Pn**	**04 26 35.0**	**-1.1**
CEU				S	**Sn**	**04 26 50.6**	**-2.8**
TAF	**Taforalt**	**1.34**	**120**	P	**Pb**	**04 26 37.0**	**-0.2**
TAF	**Taforalt**	**1.34**	**120**	P	**Pb**	**04 26 37.2**	**+0.1**
TAF				S	**Sg**	**04 26 55.2**	**-0.5**
EMAL	**Malaga-Limoner**	**1.36**	**339**	P	**Pn**	**04 26 36.6**	**-0.1**
EMAL				S	**Sn**	**04 26 54.0**	**-0.4**
ELGU	**Los Guajares,**	**1.38**	**7**	Pn	**Pn**	**04 26 36.5**	**-0.6**
ELGU				Sn	**Sg**	**04 26 57.4**	**+0.4**
ELGU				*i* Vmb_Lg		04 27 02.7	
JBK	**JBK**	**1.55**	**138**	P	**Pn**	**04 26 40.0**	**+0.5**
JBK	**JBK**	**1.55**	**138**	P	**Pb**	**04 26 40.3**	**-0.6**
JBK				S	**Sn**	**04 26 59.6**	**+0.2**
EBER	**Berja**	**1.59**	**28**	Pn	**Pn**	**04 26 40.2**	**+0.1**
EBER				Sn	**Sb**	**04 27 02.2**	**+0.6**
EBER				*i* Vmb_Lg		04 27 14.8	
EGOR	**Sierra Gorda,**	**1.63**	**352**	Pn	**Pn**	**04 26 41.4**	**+0.8**
EGOR				Sn	**Sb**	**04 27 03.9**	**+1.3**
EGOR				*i* Vmb_Lg		04 27 07.6	
EJIF	**Jimena Fronter**	**1.64**	**306**	Pn	**Pb**	**04 26 41.8**	**-0.4**
EJIF				Sn	**Sn**	**04 27 01.7**	**+0.3**
EQUE	**Quentar**	**1.74**	**10**	Pn	**Pb**	**04 26 43.3**	**-0.6**
EQUE				Sn	**Sg**	**04 27 07.7**	**-0.6**
ENIJ	**Nijar**	**1.97**	**41**	Pn	**Pn**	**04 26 46.4**	**+1.2**
ENIJ				*i* Vmb_Lg		04 27 12.3	
LCRM	**LCR**	**1.99**	**206**	P	**Pb**	**04 26 49.0**	**+0.6**
LCRM	**LCR**	**1.99**	**206**	P	**Pb**	**04 26 49.3**	**+1.0**
LCRM				S	**Sg**	**04 27 16.1**	**-0.4**
ESPR	**Espera**	**2.14**	**310**	Pn	**Pb**	**04 26 49.4**	**-1.3**
ESPR				Sn	**Sn**	**04 27 15.2**	**+1.6**
ESPR				*i* Vmb_Lg		04 27 26.0	
IFR	**Ifrane**	**2.24**	**209**	P	**Pb**	**04 26 52.3**	**-0.4**
IFR				S	**Sn**	**04 27 15.8**	**-0.7**
EQES	**Quesada**	**2.38**	**15**	Pn	**Pb**	**04 26 53.5**	**-1.5**
EQES				Sn	**Sn**	**04 27 21.7**	**+1.8**
EQES				*i* Vmb_Lg		04 27 25.6	
CZD	**Col de Zad**	**2.65**	**203**	P	**Pn**	**04 26 56.8**	**+2.1**
CZD				S	**Sb**	**04 27 30.0**	**-2.1**
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**04 26 57.3**	**+1.7**
MD31				S	**Sn**	**04 27 30.5**	**+2.2**
EADA	**Adamuz**	**2.74**	**348**	Pn	**Pn**	**04 26 57.6**	**+1.9**
EADA				Sn	**Sn**	**04 27 29.9**	**+1.4**
EADA				*i* Vmb_Lg		04 27 39.6	
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**04 26 57.7**	**+1.8**
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**04 26 57.7**	**+1.8**
MDT				S	**Sb**	**04 27 33.2**	**-1.5**
TLOR	**Lorca, Murcia**	**2.76**	**38**	Pn	**Pn**	**04 26 58.8**	**+2.8**
TLOR				Sn	**Sn**	**04 27 28.8**	**-0.2**
ECAB	**El Cabril**	**2.88**	**334**	Pn	**Pn**	**04 26 59.9**	**+2.3**
ECAB				Sn	**Sn**	**04 27 33.1**	**+1.2**
ECAB				*i* Vmb_Lg		04 27 44.3	
EZAR	**Zarzadilla de**	**2.93**	**35**	Pn	**Pn**	**04 26 59.0**	**+0.6**
EZAR				Sn	**Sn**	**04 27 33.7**	**+0.4**
CART	**Cartagena**	**3.09**	**47**	P	**Pn**	**04 26 58.9**	**-1.6**
CART				S	**Sn**	**04 27 34.4**	**-2.6**
EMIN	**Mina Concepcio**	**3.22**	**316**	Pn	**Pn**	**04 27 04.5**	**+2.1**
EMIN				Sn	**Sn**	**04 27 41.0**	**+0.6**
EGRO	**El Granado**	**3.58**	**306**	Pn	**Pn**	**04 27 08.3**	**+1.1**
EGRO				Sn	**Sn**	**04 27 47.6**	**-1.6**
EGRO				*i* Vmb_Lg		04 27 52.8	
ETOB	**Tobarra**	**3.64**	**29**	Pn	**Pn**	**04 27 10.0**	**+1.9**
ETOB				*i* Vmb_Lg		04 27 18.5	
ETOB				Sn	**Sn**	**04 27 51.8**	**+1.2**
PVAQ	**Vaqueiros**	**3.67**	**302**	P	**Pn**	**04 27 09.6**	**+1.1**
PVAQ				S	**Sn**	**04 27 52.0**	**+0.6**
AVE	**Averroes**	**3.69**	**235**	P	**Pb**	**04 27 15.8**	**-1.3**
AVE				S	**Sb**	**04 27 57.1**	**-4.5**
PAB	**San Pablo**	**4.07**	**354**	Pn	**Pn**	**04 27 16.2**	**+2.2**
PAB				Sn	**Sn**	**04 28 03.6**	**+2.3**
PAB				*i* Vmb_Lg		04 28 22.2	
EBAD	**Badajoz**	**4.13**	**323**	Pn	**Pn**	**04 27 16.4**	**+1.6**
EBAD				Sn	**Sn**	**04 28 04.1**	**+1.2**
EBAD				*i* Vmb_Lg		04 28 06.3	
ESDC	**Sonseca Array**	**4.18**	**359**	Pn	**Pn**	**04 27 17.6**	**+2.2**
ESDC				Sn	**Sn**	**04 28 03.2**	**-0.8**
ESDC				*i* Vmb_Lg		04 28 26.0	
EVO	**Evora**	**4.52**	**313**	P	**Pn**	**04 27 22.1**	**+2.0**
EVO				S	**Sn**	**04 28 11.9**	**-0.5**
ECHE	**Chera**	**4.68**	**28**	Pn	**Pn**	**04 27 23.2**	**+0.9**
ECHE				*i* Vmb_Lg		04 27 51.0	
UCM	**Universidad Co**	**4.83**	**5**	P	**Pn**	**04 27 28.0**	**+3.6**
UCM				S	**Sn**	**04 28 17.9**	**-2.1**
OUZM	**OUZ**	**5.19**	**209**	P	**Pn**	**04 27 31.8**	**+2.3**
OUK	**Oukaimeden**	**5.45**	**219**	P	**Pn**	**04 27 34.1**	**+0.8**
ETOR	**Torete**	**5.50**	**14**	Pn	**Pn**	**04 27 36.8**	**+3.2**
ETOR				Sn	**Sn**	**04 28 39.1**	**+2.5**
ETSF	**Etsaut**	**7.82**	**18**	*e*Pn	**Pn**	**04 28 07.4**	**+1.9**
ETSF				*e*Sn	**Sn**	**04 29 30.8**	**-2.9**
	0.2nm,0.2s						
SJPF	**Ste Jean**	**7.87**	**14**	*e*P	**Pn**	**04 28 10.7**	**+4.5**
SJPF				*e*Sn	**Sn**	**04 29 32.8**	**-2.1**
	0.3nm,0.2s						
EPF	**Esparros**	**8.19**	**22**	*e*P	Pn	04 28 17.7	+7.1
MTLF	**Montolieu**	**9.12**	**29**	*e*Pn	**Pn**	**04 28 24.7**	**+1.4**
MTLF				*e*Sn	**Sn**	**04 30 02.8**	**-2.9**
	0.2nm,0.2s						
LMR	**La Mourre**	**11.18**	**42**	*e*P	Pn	04 28 57.6	+6.1
LMR				*e*Sn	**Sn**	**04 30 49.3**	**-6.9**
PGF	**Pioggiola**	**12.20**	**51**	*e*P	Pn	04 29 11.2	+5.6

KRNET 11 04:39:35.0±0.1**, 41°.05N**×**69°.88E, h13**km**, mb2.8, 9C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.52**	**302**	⇓*i*P	Pg	04 39 45.0	-0.2
	baz=2.0						
TAS				⇓*i*S	Sg	04 39 52.4	+0.3
	baz=2.0						
TRKS	**Terek-Say**	**1.06**	**63**	⇑*i*P	Pb	04 39 54.9	-0.5
	baz=67						
TRKS				⇑*i*S	Sn	04 40 10.0	-0.5
	baz=67						
BTK	**Batken**	**1.23**	**144**	⇑*i*P	Pb	04 39 58.3	+0.2
	baz=44						
BTK				⇑*i*S	Sg	04 40 15.3	+0.8
	baz=44						
ARK	**Arkit**	**1.73**	**64**	⇓*i*P	Pb	04 40 07.2	+0.4
	baz=64						
ARK				⇓*i*S	Sg	04 40 31.0	+0.1
	baz=64						
KK01	**Karatay Array**	**2.10**	**13**	⇓Pg	Pg	04 40 14.5	-0.9
	1.5nm,0.5s,baz=196,slow=16						
KK01				⇑Lg	Lg	04 40 44.9	
	3.9nm,0.5s,baz=194,slow=26						
OHH	**Osh**	**2.27**	**103**	⇑*i*P	Pb	04 40 15.7	-0.2
	baz=3.0						
OHH				⇑*i*S	Sb	04 40 44.8	+0.9
	baz=3.0						
ARLS	**Aral**	**3.44**	**75**	⇑*i*P	Pn	04 40 31.9	+3.5
	baz=75						
ARLS				⇑*i*S	Sb	04 41 13.5	-4.1
	baz=75						

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*THE **11** 04:57:00.5, 35°.39N×23°.56E, h1km±1km, ML2.6/9, Error ellipse: s-maj=1.1km s-min=0.3km az=211.0*
*ATH **11** 04:57:00.6, 35°.40N×23°.58E, h11km±1km, ML2.7/6, Error ellipse: s-maj=2.1km s-min=0.7km az=224.0*
ISC 11 04:57:00.4±1.1**, 35°.38N**±0°.04×**23°.57E**±0°.04**, h11**km±7km**,**
n18, σ**0s.45**/36**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.18**	**146**	P	**Pg**	**04 57 04.0**	**-0.3**
KNDR				S	**Sg**	**04 57 06.7**	**-0.2**
	2µm,0.4s						
RODP	**Rodopos**	**0.24**	**41**	P	**Pg**	**04 57 05.2**	**-0.2**
RODP				S	**Sg**	**04 57 09.2**	**+0.5**
	1µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**77**	P	**Pg**	**04 57 07.2**	**-0.2**
IMMV				S	**Sg**	**04 57 12.4**	**+0.3**
IMMV				AML	AML	04 57 16.1	
	comp=N,2466µm,0.2s						
IMMV				AML	AML	04 57 17.7	
	comp=E,1835µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**77**	P	**Pg**	**04 57 07.3**	**-0.1**
IMMV				S	**Sg**	**04 57 13.2**	**+1.1**
	comp=E,1µm,0.3s						
VAM	**Vamos**	**0.52**	**87**	P	**Pg**	**04 57 10.3**	**-0.3**
VAM				S	**Sg**	**04 57 17.5**	**+0.1**
VAM				AML	AML	04 57 19.5	
	comp=N,2010µm,0.2s						
VAM				AML	AML	04 57 21.8	
	comp=E,1518µm,0.2s						
VAM	**Vamos**	**0.52**	**87**	P	**Pg**	**04 57 10.4**	**-0.2**
VAM				S	**Sb**	**04 57 18.8**	**-0.3**
	comp=E,888nm,0.2s						
ANKY	**Antikythira Is**	**0.53**	**336**	P	**Pg**	**04 57 10.8**	**0.0**
ANKY				S	**Sg**	**04 57 17.2**	**-0.6**
ANKY				AML	AML	04 57 20.7	
	comp=N,2446µm,0.3s						
ANKY				AML	AML	04 57 21.2	
	comp=E,1841µm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**336**	P	**Pg**	**04 57 10.8**	**0.0**
ANKY				S	**Sg**	**04 57 18.2**	**+0.4**
	comp=E,1µm,0.4s						
GVD	**Gavdhos**	**0.69**	**141**	P	**Pg**	**04 57 13.8**	**0.0**
GVD				S	**Sg**	**04 57 23.8**	**+0.9**
GVD				AML	AML	04 57 30.7	
	comp=E,1001µm,0.4s						
GVD				AML	AML	04 57 31.2	
	comp=N,860µm,0.5s						
KTHA	**Kythira Island**	**0.96**	**335**	P	**Pg**	**04 57 18.3**	**-0.7**
KTHA				S	**Sg**	**04 57 31.3**	**-0.3**
KTHA				AML	AML	04 57 34.6	
	comp=N,683µm,0.3s						
KTHA				AML	AML	04 57 34.9	
	comp=E,2354µm,0.3s						
KTHA	**Kythira Island**	**0.96**	**335**	P	**Pg**	**04 57 18.7**	**-0.3**
KTHA				S	**Sb**	**04 57 32.3**	**+0.4**
	comp=E,765nm,0.2s						
KTHR	**Kythira**	**0.99**	**333**	P	**Pg**	**04 57 19.1**	**-0.4**
KTHR				S	**Sb**	**04 57 32.8**	**+0.2**
	comp=E,682nm,0.3s						
SIVA	**Sivas**	**1.08**	**109**	P	**Pg**	**04 57 20.4**	**-0.9**
SIVA				S	**Sg**	**04 57 35.2**	**-0.1**
IDI	**Anoyia**	**1.09**	**95**	P	**Pg**	**04 57 20.6**	**-0.7**
IDI				S	**Sg**	**04 57 35.0**	**-0.5**
IDI	**Anoyia**	**1.09**	**95**	P	**Pg**	**04 57 20.7**	**-0.7**
IDI				S	**Sn**	**04 57 37.1**	**+0.4**
	comp=E,185nm,0.5s						
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**04 57 26.5**	**+0.1**
VLI				S	**Sb**	**04 57 45.3**	**0.0**
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**04 57 26.4**	**+0.1**
VLI				S	**Sg**	**04 57 46.3**	**-0.1**
	comp=E,132nm,0.7s						
MHLO	**Agia Marina, M**	**1.47**	**27**	P	**Pn**	**04 57 27.0**	**+0.1**
MHLO				S	**Sn**	**04 57 46.2**	**+0.1**
MHLO				AML	AML	04 57 53.9	
	comp=N,1299µm,0.5s						
MHLO				AML	AML	04 57 55.4	
	comp=E,1196µm,0.5s						

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*TAP **11** 04:59:41.4, 24°.77N×122°.81E, h17km, ML3.2, D*
*JMA **11** 04:59:41.6±0.1, 24°.73N×122°.80E, h23km±2km, M2.2*
ISC 11 04:59:40.5±3.1**, 24°.77N**±0°.04×**122°.82E**±0°.02**, h13**km±24km**,**
n55, σ**0s.66**/92**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.33**	**160**	P	**Pb**	**04 59 48.4**	**+0.1**
JYNG				S	**Sb**	**04 59 53.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.35**	**150**	P	**Pb**	**04 59 48.7**	**+0.1**
YOJ				S	**Sb**	**04 59 53.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.35**	**150**	*i* P	**Pb**	**04 59 49.0**	**+0.5**
	baz=147						
YOJ				S	**Sb**	**04 59 53.7**	**-0.3**
	baz=147						
TWB1	**Santiao Chiao**	**0.79**	**288**	P	**Pb**	**04 59 56.1**	**0.0**
	baz=288						
TWB1				S	**Sb**	**05 00 06.5**	**-0.3**
	baz=288						
TWC	**Suao**	**0.90**	**260**	P	**Pb**	**04 59 57.8**	**-0.1**
	baz=259						
TWC				S	**Sb**	**05 00 09.3**	**-0.5**
	baz=259						
NTC	**Toucheng**	**0.91**	**276**	P	**Pn**	**04 59 58.7**	**-0.2**
	baz=275						
NTC				*e*S	**Sb**	**05 00 10.4**	**+0.4**
	baz=275						
SXI1	**Grass Mountain**	**0.92**	**291**	P	**Pb**	**04 59 58.1**	**-0.2**
	baz=291						
SXI1				S	**Sb**	**05 00 10.9**	**+0.5**
	baz=291						
TIPB	**Shuangxi**	**0.93**	**283**	*i* P	**Pb**	**04 59 58.2**	**-0.2**
	baz=283						
TIPB				S	**Sb**	**05 00 10.0**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=283						
IRIF	Iriomote-Funau	0.93	117	P	Pb	04 59 58.2	-0.3
ILA	Ilan	0.98	270	i P	Pb	04 59 59.4	+0.2
	baz=270						
NWF	Wu-fen Shan	0.99	288	eP	Pb	04 59 59.3	-0.3
	baz=288						
NWF				eS	Sb	05 00 12.4	-0.2
	baz=288						
EWUT	Wuta	1.00	252	P	Pb	04 59 59.4	-0.3
	baz=251						
EWUT				eS	Sb	05 00 11.5	-1.3
	baz=251						
NDS	Dongshan	1.01	263	P	Pb	04 59 59.7	-0.3
	baz=262						
NDS				S	Sb	05 00 13.2	+0.1
	baz=262						
ENA	Nanau	1.04	251	P	Pb	05 00 00.3	0.0
	baz=250						
ENA				eS	Sb	05 00 12.3	-1.5
	baz=250						
TWE	Neicheng	1.05	268	P	Pb	05 00 00.2	-0.3
	baz=267						
TWE				i S	Sb	05 00 14.0	-0.2
	baz=267						
HATJ	Hateruma jima	1.14	128	P	Pn	05 00 02.3	+0.1
ENTT	Nioudou	1.15	264	P	Pn	05 00 02.4	+0.1
	baz=263						
ENTT				eS	Sb	05 00 16.6	-0.5
	baz=263						
NHDH	Xindian Distri	1.19	280	P	Pn	05 00 02.5	-0.4
	baz=280						
YM01	YM01	1.20	289	P	Pb	05 00 03.6	+0.5
	baz=289						
NWLT	Wulai	1.20	271	P	Pn	05 00 03.0	0.0
	baz=270						
NWLT				S	Sb	05 00 17.8	-0.7
	baz=270						
LATG	Datong	1.20	259	P	Pn	05 00 03.2	+0.1
	baz=259						
LATG				i S	Sn	05 00 18.6	-0.7
	baz=259						
NDT	Datong Townshi	1.20	262	P	Pb	05 00 03.5	+0.3
	baz=262						
NDT				S	Sb	05 00 18.4	-0.2
	baz=262						
JKRS	Kuro-shima	1.20	116	P	Pn	05 00 03.3	+0.3
JKRS				S	Sn	05 00 19.1	-0.1
ETL	Fush Village	1.25	241	eP	Pn	05 00 03.3	-0.4
	baz=241						
ETL				eS	Sn	05 00 19.7	-0.7
	baz=241						
ANP	Anpu	1.25	290	S	Sb	05 00 19.9	-0.2
	baz=289						
NACB	Ninganchiao	1.26	242	P	Pn	05 00 04.0	+0.2
	baz=242						
NACB				eS	Sb	05 00 19.9	-0.5
	baz=242						
JIJ	Ishigaki jima	1.27	108	P	Pn	05 00 04.1	+0.2
TWD	Chiawan	1.31	239	eP	Pb	05 00 06.9	+1.9
	baz=249						
TWD				eS	Sb	05 00 21.4	-0.2
	baz=249						
YHNB	Yeheng	1.32	266	P	Pn	05 00 04.7	0.0
	baz=266						
YHNB				eS	Sb	05 00 21.8	-0.2
	baz=266						
NSK	Sanguang	1.33	266	P	Pb	05 00 05.7	+0.3
	baz=266						
NSK				eS	Sb	05 00 22.2	-0.2
	baz=266						
ETLH	Xiulin Townshi	1.34	246	P	Pn	05 00 05.3	+0.3
	baz=246						
ETLH				eS	Sb	05 00 22.2	-0.4
	baz=246						
NNSB	Datong	1.35	256	P	Pn	05 00 05.5	+0.3
	baz=255						
NNSB				eS	Sn	05 00 22.5	-0.6
	baz=255						
NNS	Nan Shan	1.36	256	P	Pb	05 00 06.7	+0.8
	baz=256						
NNS				S	Sb	05 00 23.0	-0.2
	baz=256						
JISG	Ishigakijimahi	1.37	97	P	Pb	05 00 06.1	+0.2
FUSS	Fushou	1.53	251	P	Pb	05 00 09.6	+0.7
	baz=260						
FUSS				eS	Sb	05 00 27.9	-0.3
	baz=260						
WHF	Hehuan Shan	1.55	247	P	Pb	05 00 09.7	+0.4
	baz=247						
WHF				eS	Sb	05 00 28.6	-0.3
	baz=247						
NFF	Wufeng Townshi	1.56	265	P	Pb	05 00 09.4	+0.2
	baz=265						
NFF				eS	Sb	05 00 29.6	+0.8
	baz=265						
TWT	Tachien	1.58	251	eP	Pb	05 00 11.6	+1.8
	baz=261						
TWT				eS	Sb	05 00 29.6	-0.2
	baz=261						
CHGB	Renai	1.66	245	eP	Pb	05 00 11.9	+0.9
	baz=246						
CHGB				eS	Sb	05 00 32.8	+0.9
	baz=246						
NSTT	Nanjuang	1.66	266	eS	Sb	05 00 31.6	-0.2
	baz=265						
OWD	Renai	1.71	242	eP	Pb	05 00 11.6	-0.2
	baz=243						
OWD				eS	Sb	05 00 33.5	+0.3
	baz=243						
WUSB	Renai	1.73	244	P	Pb	05 00 11.8	-0.5
	baz=229						
WUSB				eS	Sb	05 00 33.8	-0.2
	baz=229						
WHP	Taichung City	1.78	254	P	Pb	05 00 13.9	+0.9
	baz=262						
WHP				eS	Sb	05 00 36.4	+1.2
	baz=262						
HGSD	Ruisui	1.80	225	eP	Pb	05 00 12.5	-0.8
	baz=228						
VWDT	VWDT	1.84	237	eP	Pb	05 00 12.9	-1.0
	baz=240						
YULB	Yu-li	1.95	226	P	Pn	05 00 13.4	+0.1
	baz=246						
SMLT	Sun Moon Lake	1.96	244	eP	Pn	05 00 14.4	+0.9
	baz=231						
SSLB	Suanglung	1.96	241	eP	Pb	05 00 16.3	+0.2
	baz=243						
TYC	Yuchr	1.99	245	eP	Pb	05 00 16.4	-0.1
	baz=232						
FULB	Fuli	2.10	222	eP	Pn	05 00 15.8	+0.5
	baz=225						
YUS	Yu-Shan	2.13	234	eP	Pb	05 00 18.0	-1.2
	baz=236						
ALS	Alishan	2.23	236	eP	Pb	05 00 20.6	-0.2
	baz=238						
ALS				eS	Sn	05 00 45.2	+0.3
	baz=238						
CHN4	Tsaushan	2.48	236	P	Pb	05 00 23.0	-1.9
	baz=238						
CHN4				eS	Sb	05 00 54.1	-1.2
	baz=238						
TPUB	Ta-pu	2.48	234	eP	Pn	05 00 21.4	+0.8
	baz=237						
MASBT	Mashibuluo	2.94	224	eP	Pn	05 00 28.2	+1.3
	baz=216						
MASBT				eS	Sn	05 01 03.4	+1.3
	baz=216						

*TRN **11** 05:04:46.0, 10°.73N×62°.44W, h104km, MD3.9*
*FUNV **11** 05:04:47.2, 10°.82N×62°.44W, h99km, MW3.7*
ISC 11 05:04:45.2±1.4**, 10°.76N**±0°.06×**62°.48W**±0°.05**, h109**km±12km**, n25, σ1s27**/43**, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.75	264	eP	Pn	05 05 04.6	+0.7
CRUV				eS	Sn	05 05 17.6	-0.5
TRN	Trinidad (W)	1.06	96	eP	Pn	05 05 07.9	+1.0
TRN				eS	Sn	05 05 22.2	-1.2
GRFF	Grenada Fort F	1.47	29	eP	Pn	05 05 12.0	+0.3
GRFF				eS	Sn	05 05 31.1	-0.7
GRGR	Grenville	1.59	31	eP	Pn	05 05 13.5	+0.4
GRGR				eS	Sn	05 05 33.8	-0.4
GRHS	Sauteurs	1.67	29	eP	Pn	05 05 15.7	+1.6
GRHS				eS	Sn	05 05 36.4	+0.4
TOSP	Speyside	1.98	74	eP	Pn	05 05 18.1	+0.2
TOSP				eS	Sn	05 05 41.5	-1.3
GCMP	Grenada, Carri	2.00	31	eP	Pn	05 05 18.6	+0.4
GCMP				eS	Sn	05 05 42.8	-0.6
PCRV	Puerto La Cruz	2.20	255	eP	Pn	05 05 21.9	+1.1
PCRV				eS	Sn	05 05 47.4	-0.6
SVOC	Richmond Hill,	2.68	27	eP	Pn	05 05 27.6	+0.6
SVOC				eS	Sn	05 05 59.5	+0.4
SVB	Belmont	2.77	26	eP	Pn	05 05 29.6	+1.3
SVB				eS	Sn	05 06 00.8	-0.5
SVV	Soufriere Volc	2.83	26	eP	Pn	05 05 29.8	+0.8
SVV				eS	Sn	05 06 01.2	-1.4
PRGV	PARIAGUAN	2.92	227	eP	Pn	05 05 32.2	+2.0
PRGV				eS	Sn	05 06 04.8	+0.1
MCLT	Moule a Chique	3.29	27	eP	Pn	05 05 35.6	+0.5
MCLT				eS	Sn	05 06 13.8	+0.1
SLBI	Saint Lucia, B	3.56	24	eP	Pn	05 05 38.9	+0.2
SLBI				eS	Sn	05 06 19.7	-0.4
BIRV	Birongo	3.74	266	eP	Pn	05 05 42.7	+1.6
BIRV				⇓eS	Sn	05 06 23.5	-0.8
MPOM	Morne Pois Mar	3.99	23	eP	Pn	05 05 45.7	+1.2
MPOM				eS	Sn	05 06 28.7	-1.7
MERV	Las Mercedes	4.05	249	eP	Pn	05 05 46.1	+0.9
MERV				eS	Sn	05 06 30.9	-0.9
FDF	Fort de France	4.16	18	eP	Pn	05 05 47.5	+0.8
FDF	Fort de France	4.16	18	eS	Sn	05 06 33.3	-1.2
DSLB	Salisbury	4.76	12	eP	Pn	05 05 57.0	+2.1
BENV	Beln	5.10	262	eP	Pn	05 05 59.7	+0.2
BENV				eS	Sn	05 06 55.4	-1.9
CACV	CAICARA DEL OR	5.12	232	eP	Pn	05 05 55.1	-4.5
CACV				eS	Sn	05 06 47.0	-11
CBE	Ff, Capester	5.35	9	eP	Pn	05 06 03.5	+0.7
CBE	Ff, Capester	5.35	9	eS	Sn	05 07 00.6	-2.6
MAPV	Macapo	5.96	262	eP	Pn	05 06 11.3	+0.3
MAPV				eS	Sn	05 07 14.0	-4.0

IDC 11 05:07:33.6±2.4**, 22°.41S×148°.20E, h0**km**, mb1 3.7**/4**, mb1mx3.3**/22**, mbtmp3.5**/4**, ML3.4**/4**, Error ellipse: s-maj=28.9km s-min=18.6km az=75.0, Queensland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	2.94	321	Pn	Pn	05 08 22.8	+1.2
	3.4nm,0.3s,baz=132,slow=16,SNR=34						
CTA				Pg	Pg	05 08 28.4	-1.4
	9.4nm,0.3s,baz=139,slow=17,SNR=26						
CTA				Lg	Lg	05 09 06.2	
	15nm,0.3s,baz=242,slow=22,SNR=12						
STKA	Stephens Creek	11.11	211	Pn	Pn	05 10 13.2	-0.6
	0.2nm,0.3s,baz=36,slow=14,SNR=4.1						
STKA				Sn	Sn	05 12 14.8	-4.0
	0.2nm,0.3s,baz=290,slow=21,SNR=3.2						
STKA				Lg	Lg	05 13 26.7	
	0.0nm,0.3s,baz=108,slow=21,SNR=3.2						
WRA	Warramunga Arr	13.16	278	Pn	Pn	05 10 40.1	-1.7
	0.1nm,0.3s,baz=98,slow=12,SNR=6.6						
WRA				Sn	Sn	05 13 12.4	+3.3
	0.1nm,0.3s,baz=108,slow=25,SNR=2.2						
WRA				Lg	Lg	05 14 31.2	
	0.1nm,0.3s,baz=104,slow=28,SNR=17						
I07AU	WARRAMUNGA INF	13.17	278	i		06 25 50.0	
	baz=103,slow=319,SNR=3.6						
ASAR	Alice Springs	13.22	262	Pn	Pn	05 10 40.5	-2.2
	0.2nm,0.3s,baz=90,slow=13,SNR=7.0						
ASAR				Sn	Sn	05 13 14.6	+4.0
	0.1nm,0.3s,baz=82,slow=21,SNR=5.1						
ASAR				Lg	Lg	05 14 34.1	
	0.1nm,0.3s,baz=82,slow=28,SNR=6.5						
TORD	Torodi Ar. Bea	146.87	260	PKPbc	PKPbc	05 27 17.9	-0.8
	0.3nm,0.5s,baz=113,slow=2.7,SNR=5.3						

IDC 11 05:21:49.1±3.6**, 54°.99N×88°.38E, h0**km**, mb1 2.4**/3**, mb1mx2.4**/45**, mbtmp2.4**/3**, ML1.6**/2**, Error ellipse: s-maj=28.2km s-min=24.6km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.33	245	i		05 35 30.0	
	baz=62,slow=341,SNR=4.9						
ZALV	Zalesovo Beam	2.33	245	Pn	Pn	05 22 28.2	-0.3
	0.2nm,0.3s,baz=64,slow=14,SNR=6.6						
ZALV				Lg	Lg	05 23 01.5	
	1.4nm,0.3s,baz=64,slow=26,SNR=17						
KURBB	Kurchatov Arra	7.40	238	Pn	Pn	05 23 39.4	+1.2
	0.0nm,0.3s,baz=54,slow=14,SNR=2.9						
KURBB				Lg	Lg	05 25 43.4	
	0.0nm,0.3s,baz=55,slow=32,SNR=3.7						
MKAR	Makanchi Array	9.06	208	Pn	Pn	05 23 59.9	-1.1
	baz=28,slow=14,SNR=1.5						
MKAR				Sn	Sn	05 25 44.2	+0.6
	0.0nm,0.3s,baz=31,slow=25,SNR=7.7						
MKAR				Lg	Lg	05 26 36.5	
	baz=21,slow=28,SNR=5.3						

*CNRM **11** 05:23:33.6, 35°.83N×3°.41W, h8km, ml3.2*
*IDC **11** 05:23:35.0±1.3, 35°.79N×3°.72W, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/56, mbtmp3.4/5, ML3.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/68, Error ellipse: s-maj=46.2km s-min=20.6km az=90.0*
*MDD **11** 05:23:35.8±0.3, 35°.66N×3°.66W, h0km, mb_Lg3.0/13, Error ellipse: s-maj=2.9km s-min=2.3km az=176.0*
*SFS **11** 05:23:35.0, 35°.64N×3°.67W, ML3.4, ALBORAN SUR*
ISC 11 05:23:34.8±1.6**, 35°.68N**±0°.02×**3°.58W**±0°.02**, h6**km±11km**, n53, σ1s72**/90**, mb3.6**/3**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.51	60	Pg	Pn	05 23 46.9	-1.8
EALB				Sg	Sn	05 23 55.2	-2.6
PALE	Palemas	0.55	212	P	Pn	05 23 48.0	-1.3
PALE	Palemas	0.55	212	P	Pb	05 23 47.3	+0.3
PALE				S	Sb	05 23 55.5	+0.4
EMEL	Melilla	0.64	127	Pg	Pn	05 23 48.5	-1.9
EMEL				Sg	Sn	05 23 57.3	-3.5
ELGU	Los Guajares,	1.18	358	Pg	Pn	05 23 56.8	-1.2
ELGU				Sg	Sg	05 24 14.3	+1.5
EMAL	Malaga-Limoner	1.28	328	P	Pn	05 23 57.9	-1.3
EMAL				S	Sb	05 24 14.5	-1.5
TAF	Taforalt	1.29	132	P	Pb	05 23 58.5	-1.1
TAF	Taforalt	1.29	132	P	Pb	05 23 58.5	-1.1
TAF				S	Sg	05 24 16.3	+0.1
EMIJ	Mijas	1.31	313	Pg	Pn	05 23 57.9	-1.8
EMIJ				Sg	Sn	05 24 14.3	-3.2
EBER	Berja	1.33	24	Pn	Pb	05 23 59.3	-1.1
EBER				Sn	Sg	05 24 17.8	+0.1
EBER				i Vmb_Lg		05 24 19.7	
SMIR	Smir Dam	1.47	270	P	Pn	05 23 59.4	-2.4
SMIR				S	Sn	05 24 17.6	-3.7
CEU	Ceuta	1.48	279	P	Pn	05 23 59.3	-2.6
CEU				S	Sn	05 24 16.9	-4.6
EGOR	Sierra Gorda,	1.49	343	Pn	Pn	05 24 01.9	-0.4
EGOR				Sn	Sg	05 24 23.2	+0.6
EGOR				i Vmb_Lg		05 24 26.9	
EQUE	Quentar	1.52	4	Pn	Pb	05 24 02.7	-0.8
EQUE				Sn	Sg	05 24 23.3	-0.5
EQUE				i Vmb_Lg		05 24 27.2	
CHEFC	Chefchaouen	1.55	249	P	Pn	05 24 03.3	+0.2
CHEFC	Chefchaouen	1.55	249	P	Pn	05 24 03.1	0.0
CHEFC				S	Sb	05 24 24.6	+0.7
JBK	JBK	1.58	148	P	Pn	05 24 02.2	-1.4
JBK	JBK	1.58	148	P	Pn	05 24 02.7	-1.0
JBK				S	Sn	05 24 22.2	-2.3
ENIJ	Nijar	1.70	40	Pn	Pn	05 24 03.6	-1.5
ENIJ				Sn	Sn	05 24 25.2	-1.9
ENIJ				i Vmb_Lg		05 24 26.7	
EJIF	Jimena Fronter	1.71	297	Pn	Pn	05 24 04.5	-0.8
EJIF				Sn	Sn	05 24 26.3	-1.2
SICH	Sidi Chahed	2.13	223	P	Pb	05 24 12.5	-1.3
SICH				S	Sb	05 24 42.4	+1.9
EQES	Quesada	2.15	11	Pn	Pb	05 24 13.8	-0.6
EQES				Sn	Sb	05 24 40.5	-0.8
EQES				i Vmb_Lg		05 24 46.8	
ESPR	Espera	2.19	303	Pn	Pn	05 24 12.8	+1.0
ESPR				Sn	Sn	05 24 39.5	+0.4
ESPR				i Vmb_Lg		05 24 45.4	
LCRM	LCR	2.25	208	P	Pn	05 24 13.3	+0.5
LCRM				S	Sg	05 24 47.0	-0.3
IFR	Ifrane	2.51	211	P	Pn	05 24 16.0	-0.4
IFR				S	Sn	05 24 46.1	-1.3
EADA	Adamuz	2.60	342	Pn	Pn	05 24 18.1	+0.5
EADA				Sn	Sn	05 24 50.8	+1.3
EADA				i Vmb_Lg		05 24 59.8	
ECAB	El Cabril	2.81	329	Pn	Pn	05 24 21.3	+1.0
ECAB				Sn	Sn	05 24 55.3	+0.8
ECAB				i Vmb_Lg		05 25 05.3	
CZD	Col de Zad	2.91	205	P	Pn	05 24 23.0	+1.0
CZD	Col de Zad	2.91	205	P	Pn	05 24 22.7	+0.7
CZD				S	Sb	05 25 00.6	-2.6
ARNO	Arenosillo	2.91	300	S	Sn	05 24 57.4	+0.5
MD31	MD31	2.98	200	P	Pn	05 24 23.3	+0.6
MD31				S	Sn	05 24 58.0	-0.7
MDT	Midelt	2.99	197	Pn	Pn	05 24 22.9	0.0
	0.9nm,0.3s,baz=228,slow=11,SNR=57						
MDT				Sn	Sn	05 24 59.2	+0.2
	2.9nm,0.3s,baz=349,slow=22,SNR=6.6						
MDT	Midelt	2.99	197	P	Pn	05 24 24.6	+1.8
MDT	Midelt	2.99	197	P	Pn	05 24 24.6	+1.8
MDT				S	Sb	05 25 01.9	-3.4
EMIN	Mina Concepcio	3.24	311	Pn	Pn	05 24 25.9	-0.3
EMIN				Sn	Sn	05 25 03.7	-1.4
ETOB	Tobarra	3.37	28	Pn	Pn	05 24 29.4	+1.3
ETOB				i Vmb_Lg		05 24 31.2	
ETOB				Sn	Sn	05 25 10.3	+1.8
EGRO	El Granado	3.64	302	Pn	Pn	05 24 31.2	-0.5
EGRO				Sn	Sn	05 25 12.8	-2.3
EGRO				i Vmb_Lg		05 25 14.1	
PVAQ	Vaqueiros	3.75	298	P	Pn	05 24 32.7	-0.5
PVAQ	Vaqueiros	3.75	298	P	Pn	05 24 32.7	-0.5
PVAQ				S	Sn	05 25 15.0	-2.7
PAB	San Pablo	3.90	351	Pn	Pn	05 24 36.4	+0.9
PAB				Sn	Sn	05 25 22.6	+0.9
AVE	Averroes	3.96	234	P	Pn	05 24 36.6	+0.4
AVE				S	Sn	05 25 20.3	-2.6
ESDC	Sonseca Array	4.00	356	Pn	Pn	05 24 36.7	+0.1
	0.7nm,0.3s,baz=178,slow=12,SNR=39						
ESDC				Sn	Sn	05 25 23.6	-0.3
	0.6nm,0.3s,baz=191,slow=23,SNR=5.8						
EBAD	Badajoz	4.11	319	Pn	Pn	05 24 38.1	-0.1
EBAD				Sn	Sn	05 25 24.3	-2.4
GOLM	Goulmima	4.13	196	P	Pn	05 24 40.8	+2.2
GOLM				S	Sn	05 25 31.3	+3.9
EVO	Evora	4.54	310	P	Pn	05 24 44.2	0.0
EVO				S	Sn	05 25 33.8	-3.5
UCM	Universidad Co	4.62	3	P	Pn	05 24 49.3	+4.0
UCM				S	Sn	05 25 41.9	+2.6
EPLA	Plasencia	4.80	336	Pn	Pn	05 24 49.1	+1.4
EPLA				Sn	Sn	05 25 42.3	-1.4
EPLA				i Vmb_Lg		05 25 46.1	
OUZM	OUZ	5.46	210	P	Pn	05 24 57.6	+0.8
OUK	Oukaimeden	5.72	220	P	Pn	05 25 00.5	-0.3
TORD	Torodi Ar. Bea	22.94	167	P	P	05 28 43.8	+4.0
	1.2nm,1.0s,baz=345,slow=12,SNR=4.5						
MMAI	Mount Meron Ar	32.15	83	LR	LR	05 44 34.3	
	comp=Z,14nm,21.9s,baz=93,slow=39						
MKAR	Makanchi Array	62.47	51	P	P	05 33 59.5	+0.6
	0.5nm,0.7s,baz=295,slow=6.0,SNR=6.7						
YKA	Yellowknife Ar	67.75	332	P	P	05 34 33.2	+0.3
	0.2nm,0.5s,baz=59,slow=6.5,SNR=5.6						

IDC 11 05:29:54.2±3.1**, 54°.52N×86°.15E, h0**km**, mb1 2.5**/2**, mb1mx2.5**/53**, mbtmp2.5**/2**, ML2.0**/2**, Error ellipse: s-maj=23.7km s-min=14.3km az=46.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	234	i		05 36 10.0	
	baz=53,slow=340,SNR=2.0						
ZALV	Zalesovo Beam	0.97	234	Pg	Pg	05 30 10.8	-2.0
	0.4nm,0.3s,baz=56,slow=16,SNR=4.9						
ZALV				Lg	Lg	05 30 26.9	
	3.0nm,0.3s,baz=55,slow=26,SNR=20						
KURBB	Kurchatov Arra	6.06	233	Pn	Pn	05 31 25.4	+0.4
	0.0nm,0.3s,baz=50,slow=14,SNR=7.0						
MKAR	Makanchi Array	8.11	199	Pn	Pn	05 31 54.9	+1.7
	0.0nm,0.3s,baz=24,slow=14,SNR=1.5						

*CNRM **11** 05:31:23.4, 35°.74N×3°.44W, h15km, ml2.2*
*MDD **11** 05:31:24.5±0.7, 35°.68N×3°.66W, h0km±4km, mb_Lg2.5/8, Error ellipse: s-maj=4.0km s-min=3.4km az=18.0*
ISC 11 05:31:25.2±1.1**, 35°.70N**±0°.03×**3°.55W**±0°.03**, h27**km±13km**, n19, σ1s14**/31**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.48	60	Pg	Pn	05 31 35.8	-0.5
EALB				Sg	Sn	05 31 43.7	-0.1
EALB				i Vmb_Lg		05 31 45.6	
PALE	Palemas	0.58	214	P	Pb	05 31 36.1	-0.8
PALE				S	Sn	05 31 45.8	-0.5
EMEL	Melilla	0.63	130	Pg	Pb	05 31 37.3	-0.2
EMEL				Sg	Sb	05 31 46.0	0.0
ELGU	Los Guajares,	1.17	357	Pg	Pb	05 31 47.1	+0.4
ELGU				Sg	Sn	05 32 02.0	+1.1
ELGU				i Vmb_Lg		05 32 05.2	
TAF	Taforalt	1.28	133	P	Pn	05 31 47.8	+0.4
TAF				S	Sn	05 32 04.2	+0.4
EBER	Berja	1.31	24	Pn	Pb	05 31 49.0	-0.2
EBER				Sn	Sb	05 32 07.3	+1.7
EBER				i Vmb_Lg		05 32 35.8	
EMIJ	Mijas	1.31	311	Pg	Pn	05 31 46.3	-1.5
EMIJ				Sg	Sn	05 32 03.5	-1.0
EMIJ				i Vmb_Lg		05 32 04.1	
EGOR	Sierra Gorda,	1.48	342	Pn	Pn	05 31 50.4	+0.2
EGOR				Sn	Sb	05 32 10.6	+0.1
EGOR				i Vmb_Lg		05 32 26.3	
SMIR	Smir Dam	1.49	270	P	Pn	05 31 49.1	-1.1
SMIR				S	Sb	05 32 13.9	+3.1
EQUE	Quentar	1.50	3	Sn	Sb	05 32 11.2	0.0
JBK	JBK	1.58	149	P	Pn	05 31 51.1	-0.6
JBK				S	Sn	05 32 10.6	-0.8
ENIJ	Nijar	1.67	40	Pn	Pb	05 31 54.7	-0.5
ENIJ				i Vmb_Lg		05 32 03.8	
ENIJ				Sn	Sn	05 32 14.2	+1.0
EJIF	Jimena Fronter	1.73	296	Sn	Sn	05 32 14.3	-0.4
EQES	Quesada	2.13	10	Pn	Pb	05 32 01.6	-1.7
EQES				i Vmb_Lg		05 32 28.1	
EQES				Sn	Sb	05 32 28.2	-1.1
EADA	Adamuz	2.59	342	Sn	Sn	05 32 38.2	+2.1
ECAB	El Cabril	2.80	328	Sn	Sn	05 32 42.7	+1.4
MD31	MD31	3.00	200	P	Pn	05 32 12.6	+1.5
MDT	Midelt	3.01	197	P	Pn	05 32 11.3	0.0
EGRO	El Granado	3.66	301	Sn	Sn	05 33 01.7	-0.6

*IDC **11** 05:36:52.1±0.8, 6°.67N×72°.90W, h164km±9km, mb3.3/6, mb1 3.6/8, mb1mx3.3/31, mbtmp3.8/8, Error ellipse: s-maj=33.9km s-min=7.5km az=131.0*
*RSNC **11** 05:36:53.9±0.7, 6°.82N×73°.14W, h146km±3km, ML3.7, Mw3.8, Fault plane solution: NP1:φs58.00000°, δ68.00000°, λ78.00000°.*
ISC 11 05:36:52.4±0.7**, 6°.85N**±0°.03×**73°.11W**±0°.04**, h157**km±6km**, n32, σ1s34**/55**, mb3.6**/6**, 7C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	195	⇑iP	Pn	05 37 13.5	-0.4
BARC				eS	Sn	05 37 28.6	-1.8
BARC				i		05 37 29.4	
	comp=Z,1μm,0.3s						
PAMC	Pamplona, Colo	0.64	40	⇑eP	Pn	05 37 16.3	+0.5
PAMC				eS	Sn	05 37 33.1	-0.6
PAMC				i		05 37 35.4	
	comp=Z,1μm,0.5s						
RUSC	La Rusia	0.95	178	⇑eP	Pn	05 37 17.6	-0.4
RUSC				eS	Sn	05 37 36.4	-1.1
RUSC				i		05 37 38.0	
	comp=Z,433nm,0.3s						
TAMC	Tame, Arauca	1.37	107	⇑iP	Pn	05 37 21.9	+0.7
TAMC				eS	Sn	05 37 43.7	+0.4
OCAC	Ocana	1.40	352	⇓eP	Pn	05 37 21.5	0.0
OCAC				eS	Sn	05 37 43.8	-0.3
OCAC				i		05 37 46.6	
	comp=Z,1μm,0.2s						
SPBC	San Pablo de B	1.52	219	eP	Pn	05 37 22.5	-0.3
SPBC				eS	Sn	05 37 44.8	-1.3
SPBC				i		05 37 50.5	
	comp=Z,746nm,0.2s						
ZARC	Zaragoza, Cauc	1.85	290	eP	Pn	05 37 26.2	+0.1

ZARC				eS	Sn	05 37 52.1	-0.1
ZARC				i		05 37 57.8	
	comp=Z,543nm,0.4s						
NORC	Norcasia	2.16	234	⇑eP	Pn	05 37 29.8	-0.1
NORC				eS	Sn	05 37 57.8	-1.0
NORC				i		05 38 03.6	
	comp=Z,294nm,0.2s						
CHIC	Chingaza	2.29	196	⇑eP	Pn	05 37 31.8	+0.1
CHIC				eS	Sn	05 38 01.0	-1.0
CHIC				i		05 38 04.4	
	comp=Z,165nm,0.4s						
ROSC	El Rosal	2.33	211	P	Pn	05 37 33.5	+1.3
	comp=Z,50nm,0.3s,baz=207,slow=0.3,SNR=117						
ROSC				S	Sn	05 38 02.9	+0.1
	comp=Z,45nm,0.3s,baz=81,slow=15,SNR=12						
HELC	Santa Helena	2.49	255	eP	Pn	05 37 34.2	+0.2
HELC				eS	Sn	05 38 06.0	-0.1
HELC				i		05 38 11.7	
	comp=Z,206nm,0.3s						
UREC	San Jos de Ur	2.56	291	eP	Pn	05 37 33.6	-1.0
UREC				eS	Sn	05 38 05.2	-2.0
UREC				i		05 38 06.9	
	comp=Z,246nm,0.2s						
GUY2C	Guyana, Caldas	2.76	234	⇑eP	Pn	05 37 37.9	+0.4
GUY2C				eS	Sn	05 38 12.3	+0.1
GUY2C				i		05 38 21.4	
	comp=Z,172nm,0.7s						
VILC	Villavicencio,	2.78	192	eP	Pn	05 37 37.1	-0.2
VILC				eS	Sn	05 38 12.3	+0.1
LL6C	La Loma 6 Bece	2.88	357	eP	Pn	05 37 38.2	-0.2
LL6C				eS	Sn	05 38 13.8	-0.4
DBBC	Dabeiba	3.08	273	eP	Pn	05 37 41.2	+0.1
DBBC				eS	Sn	05 38 18.3	-0.5
DBBC				i		05 38 25.6	
	comp=Z,469nm,0.7s						
SDV	Santo Domingo	3.18	50	P	Pn	05 37 42.9	+0.4
	comp=Z,22nm,0.3s,baz=208,slow=4.1,SNR=219						
SDV				S	Sn	05 38 20.8	-0.6
	comp=Z,28nm,0.3s,baz=252,slow=23,SNR=32						
ANIL	Santa Ana	3.27	224	eP	Pn	05 37 45.0	+1.4
ANIL				eS	Sn	05 38 21.2	-2.2
ANIL				i		05 38 31.1	
	comp=Z,442nm,0.3s						
ORTC	Ortega, Tolima	3.61	216	eP	Pn	05 37 48.0	+0.2
ORTC				eS	Sn	05 38 31.4	+0.4
ORTC				i		05 38 36.0	
	comp=Z,128nm,0.4s						
SJCC	San Jacinto, C	3.66	326	eP	Pn	05 37 47.5	-0.9
SJCC				eS	Sn	05 38 28.9	-3.1
SJCC				i		05 38 33.2	
	comp=Z,141nm,0.5s						
LCBC	Los crdobas,	3.79	302	eS	Sn	05 38 34.9	-0.1
LCBC				i		05 38 38.6	
	comp=Z,122nm,0.4s						
CRJC	Cerrejon, Guaj	4.15	3	eP	Pn	05 37 53.8	-1.1
CRJC				eS	Sn	05 38 39.6	-4.1
CRJC				i		05 38 51.4	
	comp=Z,65nm,0.2s						
GUVC	San Jose del G	4.30	174	eP	Pn	05 37 56.0	-0.7
GUVC				eS	Sn	05 38 44.6	-2.4
GUVC				i		05 38 51.1	
	comp=Z,82nm,0.2s						
MACC	Macarena, Meta	4.73	189	eP	Pn	05 38 00.6	-1.8
MACC				eS	Sn	05 38 52.6	-4.5
TXAR	Lajitas Array	36.45	312	P	P	05 43 43.8	+1.4
	comp=Z,0.3nm,0.4s,baz=127,slow=9.5,SNR=6.1						
ULM	Lac du Bonnet	47.27	340	P	P	05 45 09.7	0.0
	comp=Z,1.3nm,0.3s,baz=137,slow=3.4,SNR=3.8						
PDAR	Pinedale Array	48.06	324	P	P	05 45 16.9	+0.6
	comp=Z,0.3nm,0.5s,baz=122,slow=9.6,SNR=2.7						
SCHQ	Schefferville	48.12	5	P	P	05 45 17.5	+1.3
	comp=Z,0.8nm,0.5s,baz=179,slow=8.0,SNR=5.7						
YKA	Yellowknife Ar	63.24	340	P	P	05 47 04.3	+0.5
	comp=Z,1.0nm,0.6s,baz=133,slow=6.6,SNR=24						
INK	Inuvik	73.01	340	P	P	05 48 05.0	+0.4
	comp=Z,0.8nm,0.8s,baz=81,slow=3.2,SNR=4.6						
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	05 56 21.9	-1.3
	comp=Z,0.1nm,0.4s,baz=116,slow=3.6,SNR=4.3						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	05 56 24.3	-1.9
	comp=Z,0.2nm,0.4s,baz=110,slow=2.3,SNR=8.1						

IDC 11 05:37:47.0±2.4, 6°.49S×129°.42E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/42, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=94.8km s-min=30.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.11	197	Pn	Pn	05 40 42.5	+1.6
	0.1nm,0.3s,baz=16,slow=8.6,SNR=10						
FITZ				Sn	Sn	05 42 49.4	-7.5
	baz=80,slow=17						
WRA	Warramunga Arr	14.20	161	Pn	Pn	05 41 08.8	-0.8
	0.2nm,0.3s,baz=341,slow=13,SNR=6.6						
WRA				Sn	Sn	05 43 36.5	-12
	0.3nm,0.3s,baz=337,slow=21,SNR=4.0						
ASAR	Alice Springs	17.62	166	P	Pn	05 41 53.4	-0.7
	0.1nm,0.3s,baz=334,slow=9.5,SNR=8.5						
MKAR	Makanchi Array	67.48	327	P	P	05 48 44.8	0.0
	0.1nm,0.3s,baz=123,slow=5.3,SNR=1.6						

IDC 11 05:38:50.0±5.9, 19°.12S×178°.87W, h580km±48km, mb2.7/3, mb1 3.0/4, mb1mx2.8/34, mbtmp3.6/4, Error ellipse: s-maj=266.0km s-min=30.5km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.24	295	P	P	05 40 09.1	0.0
	5.1nm,0.3s,baz=110,slow=15,SNR=24						
WRA	Warramunga Arr	44.00	261	P	P	05 46 06.8	-0.5
	0.2nm,0.3s,baz=98,slow=7.3,SNR=6.3						
ASAR	Alice Springs	44.05	255	P	P	05 46 07.8	+0.1
	0.6nm,0.4s,baz=89,slow=7.7,SNR=8.8						
TXAR	Lajitas Array	87.01	58	P	P	05 50 34.8	-0.1
	0.2nm,0.5s,baz=224,slow=3.8,SNR=2.1						

IDC 11 05:50:36.3±3.0, 54°.38N×86°.93E, h0km, mb1 2.7/2, mb1mx2.6/35, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=26.0km s-min=17.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.31	252	i		05 57 10.0	
	baz=71,slow=338,SNR=4.6						
ZALV	Zalesovo Beam	1.31	251	Pg	Pg	05 50 59.9	-1.7
	0.7nm,0.3s,baz=68,slow=16,SNR=8.9						
ZALV				Lg	Lg	05 51 17.8	
	0.9nm,0.3s,baz=73,slow=29,SNR=8.0						
KURBB	Kurchatov Arra	6.36	237	Pn	Pn	05 52 12.1	+0.9
	0.0nm,0.3s,baz=54,slow=14,SNR=7.6						
KURBB				Lg	Lg	05 54 02.1	
	0.0nm,0.3s,baz=54,slow=30,SNR=8.2						
MKAR	Makanchi Array	8.15	203	Pn	Pn	05 52 37.0	+1.2
	0.1nm,0.3s,baz=34,slow=12,SNR=5.7						
MKAR				Lg	Lg	05 54 56.5	
	0.0nm,0.3s,baz=23,slow=33,SNR=3.3						

TEH 11 05:53:44.2, 35°.07N×46°.02E, h7km, ML3.0
ISN 11 05:53:46.6±1.6, 35°.03N×45°.83E, h38km±35km, ML2.6
ISC 11 05:53:44.3±1.0, 35°.01N±0°.05×45°.94E±0°.05, h10km, n11, σ1s.04/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.86	142	ePg	Pb	05 54 01.5	+0.1
IGHG				e		05 54 21.1	
	comp=Z,4µm,0.5s						
KER	Kermanshah	1.17	122	ePg	Pn	05 54 06.8	0.0
KCHF	Cheshme Sefid,	1.17	129	eSg	Sn	05 54 22.6	-0.4
KCHF				ePg	Pn	05 54 06.8	-0.1
KCHF				e		05 54 29.1	
	comp=Z,5µm,0.3s						
IKRK	Kirkuk	1.36	287	ePg	Pn	05 54 09.0	-0.4
	baz=107						
IKRK				eSg	Sn	05 54 28.0	+0.4
IKRK				AML	AML	05 54 32.9	
	comp=N,140nm,0.4s						
IKRK				AML	AML	05 54 38.8	
	comp=E,125nm,0.4s						
MAHB	Mahabad	1.76	354	ePg	Pb	05 54 16.5	-0.3
MAHB				e		05 54 46.3	
	comp=Z,3µm,0.4s						
IALM	Almabolaq	1.84	94	ePg	Pg	05 54 18.2	-1.4
IALM				eSg	Sg	05 54 44.2	+0.8
IBDR	Badra	1.90	180	ePn	Pn	05 54 18.0	+1.3
IBDR				eSn	Sn	05 54 42.0	+1.3
IBDR				AML	AML	05 54 53.3	
	comp=N,63nm,0.4s						
IBDR				AML	AML	05 54 54.1	
	comp=E,48nm,0.3s						
IKFM	Kafar-mosalman	2.17	133	ePn	Pb	05 54 22.5	-1.1
IKFM				e		05 54 29.3	
	comp=Z,1µm,0.3s						
HAGD	Aghdareh	2.64	93	ePn	Pn	05 54 28.5	+1.4
ISHB	Shabestar	3.28	356	ePn	Pn	05 54 36.0	+0.1
ISHB				e		05 54 48.9	
	comp=Z,274nm,0.3s						
IHRS	Heris	3.42	15	ePn	Pn	05 54 39.7	+1.8
IHRS				e		05 54 40.5	
	comp=Z,163nm,0.5s						

IDC 11 06:09:19.7±7.3, 17°.69S×177°.25W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=302.7km s-min=114.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.76	259	P	P	06 17 44.0	+0.7
	0.3nm,0.3s,baz=91,slow=8.3,SNR=12						
ASAR	Alice Springs	45.91	254	P	P	06 17 43.2	-1.4
	1.1nm,0.8s,baz=93,slow=8.3,SNR=12						
FITZ	Fitzroy Crossi	54.16	260	P	P	06 18 47.9	+0.7
	1.3nm,0.8s,baz=85,slow=11,SNR=1.7						
AKASG	Malin Array Be	140.87	333	PKP	PKPdf	06 28 50.8	-0.8
	0.2nm,0.2s,baz=41,slow=3.7,SNR=6.1						

IDC 11 06:13:00.4±2.5, 54°.11N×86°.50E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=21.2km s-min=13.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	261	i		06 18 30.0	
	baz=82,slow=334,SNR=2.1						
ZALV	Zalesovo Beam	1.00	261	Pg	Pg	06 13 18.4	-1.3
	2.1nm,0.3s,baz=81,slow=18,SNR=19						
ZALV				Lg	Lg	06 13 34.2	
	1.9nm,0.3s,baz=76,slow=31,SNR=6.7						
KURBB	Kurchatov Arra	6.00	238	Pn	Pn	06 14 31.1	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=9.7						
KURBB				Lg	Lg	06 16 13.3	
	0.0nm,0.3s,baz=48,slow=32,SNR=3.2						
MKAR	Makanchi Array	7.80	202	Pn	Pn	06 14 56.3	+1.1
	0.3nm,0.3s,baz=26,slow=14,SNR=18						
MKAR				Lg	Lg	06 17 07.2	
	0.1nm,0.3s,baz=30,slow=22,SNR=3.4						

IDC 11 06:26:46.5±1.2, 65°.90N×111°.34E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/38, mbtmp3.4/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/60, Error ellipse: s-maj=63.5km s-min=20.4km az=139.0
ISC 11 06:26:47.6±1.1, 66°.2N±0°.1×111°.2E±0°.1, h10km, n9, σ1s.90/8, mb3.4/5, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	8.38	41	Sn	Sn	06 30 20.5	-2.9
	baz=90,slow=23,SNR=1.1						
TIXI				Lg	Lg	06 31 09.7	
	0.1nm,0.3s,baz=92,slow=24,SNR=3.2						
NRIK	Noril'sk	9.46	300	Sn	Sn	06 30 49.5	-0.3
	0.2nm,0.3s,baz=4.0,slow=15,SNR=1.6						
NRIK				Lg	Lg	06 31 45.8	
	0.2nm,0.3s,baz=209,slow=15,SNR=1.8						
ZALV	Zalesovo Beam	17.79	239	P	P	06 30 55.6	-0.1
	baz=23,slow=13,SNR=4.4						
SONM	Songino Array	18.57	190	LR	LR	06 38 40.1	
	comp=Z,41nm,19.7s,baz=64,slow=39						
KURBB	Kurchatov Arra	22.74	243	P	P	06 31 48.6	-0.8
	1.1nm,0.7s,baz=39,slow=11,SNR=12						
MKAR	Makanchi Array	24.73	232	P	P	06 32 08.1	-0.7
	0.3nm,0.6s,baz=38,slow=7.9,SNR=2.4						
ILAR	Eielson Array	37.85	43	P	P	06 34 06.2	+2.4
	0.5nm,0.7s,baz=309,slow=6.4,SNR=7.6						
YKA	Yellowknife Ar	47.32	27	P	P	06 35 21.9	+1.2
	0.2nm,0.7s,baz=336,slow=7.9,SNR=4.5						
WRA	Warramunga Arr	87.63	158	P	P	06 39 34.6	-1.1
	0.2nm,0.7s,baz=345,slow=5.9,SNR=1.7						

NNC 11 06:37:45.9±5.2, 54°.58N×87°.23E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=32.0km s-min=24.9km az=50.0, Suspected Mining explosion.
IDC 11 06:37:48.1±2.9, 54°.49N×87°.22E, h0km, mb1 3.3/2, mb1mx3.0/45, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=23.2km s-min=17.4km az=53.0
ISC 11 06:37:49.9±4.6, 54°.4N±0°.2×87°.0E±0°.2, h0km, n8, σ1s.70/13, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.35	249	i		06 45 20.0	
	baz=71,slow=335,SNR=2.1						
ZAA0	Zalesovo Array	1.35	249	⇓P	Pg	06 38 13.8	-1.9
	0.6nm,0.4s,baz=65,slow=16						
ZAA0				⇑S	Sn	06 38 35.5	+0.9
	3.2nm,0.7s,baz=61,slow=26						
ZALV	Zalesovo Beam	1.35	249	Pg	Pg	06 38 13.7	-2.1
	2.1nm,0.3s,baz=67,slow=17,SNR=22						
ZALV				Lg	Lg	06 38 35.8	
	2.2nm,0.3s,baz=71,slow=27,SNR=9.5						
KURK	Kurchatov	6.31	237	⇑Pn	Pn	06 39 25.6	+1.5
	3.2nm,1.1s						
KURK				⇑Sn	Sn	06 40 37.3	+0.6
	1.9nm,0.8s						
KURK				⇑Lg	Lg	06 41 09.7	
	4.6nm,1.2s						
KURBB	Kurchatov Arra	6.41	237	Pn	Pn	06 39 26.2	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=18						
KURBB				Sn	Sn	06 40 41.6	+2.3
	0.0nm,0.3s,baz=42,slow=20,SNR=2.0						
KURBB				Lg	Lg	06 41 15.3	
	0.0nm,0.3s,baz=52,slow=31,SNR=2.5						
KURBB	Kurchatov Arra	6.41	237	⇓Pn	Pn	06 39 26.2	+0.8
	2.5nm,0.5s						
KURBB				⇑Sn	Sn	06 40 40.0	+0.8
	5.0nm,0.6s						
KURBB				⇑Lg	Lg	06 41 12.3	
	4.2nm,0.6s						
MK31	Makanchi Array	8.21	203	⇑Pn	Pn	06 39 51.5	+1.2
	0.4nm,0.5s,baz=28,slow=12,SNR=5.7						
MK31				⇓Sn	Sn	06 41 21.4	-2.2
	0.5nm,0.6s,baz=30,slow=27						
MK31				⇑Lg	Lg	06 42 09.2	
	3.8nm,1.4s,baz=22,slow=33						
MKAR	Makanchi Array	8.21	203	Pn	Pn	06 39 50.8	+0.5
	0.2nm,0.3s,baz=20,slow=12,SNR=6.7						
MKAR				Sn	Sn	06 41 25.5	+1.8
	0.1nm,0.3s,baz=20,slow=26,SNR=3.9						
MKAR				Lg	Lg	06 42 10.8	
	0.1nm,0.3s,baz=21,slow=25,SNR=2.4						

IDC 11 06:44:37.8±2.6, 54°.27N×86°.21E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=20.7km s-min=13.2km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.88	249	i		06 49 20.0	
	baz=68,slow=342,SNR=14						
ZALV	Zalesovo Beam	0.88	249	Pg	Pg	06 44 52.8	-1.9
	0.7nm,0.3s,baz=61,slow=18,SNR=8.5						
ZALV				Lg	Lg	06 45 07.8	
	4.5nm,0.3s,baz=69,slow=28,SNR=23						
KURBB	Kurchatov Arra	5.95	235	Pn	Pn	06 46 08.3	+1.3
	0.1nm,0.3s,baz=51,slow=13,SNR=8.8						
MKAR	Makanchi Array	7.89	200	Pn	Pn	06 46 34.5	+0.8
	0.1nm,0.3s,baz=23,slow=12,SNR=6.8						

DJA 11 06:49:32.2±1.0, 8°S±6°×12°1E±°, h159km±20km, M3.5/7, MLv3.5/7
IDC 11 06:49:32.8±5.2, 7°.12S×123°.24E, h192km±98km, mb3.8/1, mb1 3.2/3, mb1mx2.9/26, mbtmp3.7/3, Error ellipse: s-maj=151.4km s-min=69.8km az=56.0
ISC 11 06:49:31.5±1.1, 8°.56S±0°.07×121°.40E±0°.08, h150km, n9, σ4s.43/12, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.83	95	P	Sn	06 50 21.7	+9.0
BASI	Baing, Sumba	1.84	206	P	Pn	06 50 07.2	+2.4
WBSI	Waikabubak, Su	2.26	241	P	Pn	06 50 11.2	+1.4
WBSI				S	Sn	06 50 40.4	+1.2
BKSI	Bulukumba	3.46	338	P	Pn	06 50 24.2	-0.6
PLAI	Plampang	3.60	265	P	Pn	06 50 26.8	+0.3
BNSI	Bone	4.33	343	P	Pn	06 50 36.6	+0.5
WRA	Warramunga Arr	16.87	133	P	P	06 53 15.7	-2.9
	0.2nm,0.3s,baz=316,slow=9.6,SNR=2.6						
WRA				S	S	06 56 18.0	-8.7
	0.1nm,0.3s,baz=319,slow=24,SNR=2.6						
ASAR	Alice Springs	19.21	143	P	P	06 53 44.0	0.0
	0.2nm,0.3s,baz=324,slow=12,SNR=18						
ASAR				S	S	06 57 14.2	+0.4
	0.0nm,0.3s,baz=324,slow=22,SNR=7.2						
STKA	Stephens Creek	29.84	144	P	P	06 55 23.4	-1.2
	1.3nm,0.3s,baz=322,slow=10,SNR=4.0						

GUC 11 07:02:16.9±0.8, 23°.08S×68°.90W, h102km±5km, ML5.0, MW4.8
VAO 11 07:02:16.4±0.4, 23°.02S×68°.78W, h79km, mb4.7
NEIC 11 07:02:17.2±2.1, 23°.12S±0°.06×68°.76W±0°.09, h86km±6km, mb4.9/55, Mwr4.8(GUC), Error ellipse: s-maj=11.3km s-min=8.2km az=88.0
IDC 11 07:02:18.1±0.4, 22°.93S×68°.70W, h91km±2km, mb4.3/13, mb1 4.4/16, mb1mx4.4/25, mbtmp4.6/16, MS3.5/14, Ms1 3.5/14, ms1mx3.2/58, Error ellipse: s-maj=15.9km s-min=9.6km az=52.0
ISC 11 07:02:17.4±0.4, 23°.06S±0°.04×68°.72W±0°.05, h92km±3km, n306, σ1s.32/312, mb4.8/36, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.48	338	P	Pn	07 02 33.0	+0.4
	3µm,0.3s,baz=177,slow=6.8						
LVC				S	Sn	07 02 44.9	+0.9
	4µm,0.3s,baz=294,slow=20,SNR=18						
LVC	Limon Verde	0.48	338	eP	Pn	07 02 32.5	-0.2
LVC				i S	Sn	07 02 44.3	+0.3
PB10	IPOC Station P	1.75	255		Pn	07 02 45.5	-1.0
PB10	IPOC Station P	1.75	255	⇑iP	Pn	07 02 44.9	-1.5
PB10				eS	Sn	07 03 04.7	-3.8
PB10				IAML		07 03 12.6	
	comp=N,11µm,0.3s						
PATCX	Punta Patache	2.60	329		Pn	07 02 58.0	+0.2
PATCX	Punta Patache	2.60	329	⇓iP	Pn	07 02 57.2	-0.5
PATCX				eS	Sn	07 03 23.0	-5.7
PATCX				IAML		07 03 39.6	
	comp=E,5µm,0.1s						
TA01	Diego Aracena	2.83	331		Pn	07 02 59.9	-0.9
TA01	Diego Aracena	2.83	331	i P	Pn	07 02 59.7	-1.0
TA01				eS	Sn	07 03 34.0	-0.1
HMBC	Humberstone	2.98	338	i P	Pn	07 03 02.2	-0.6
HMBC				eS	Sn	07 03 28.1	-10
HMBC				IAML		07 03 49.5	
	comp=N,6µm,0.4s						
TA02	Huaiquique	3.08	334		Pn	07 03 02.7	-1.3
TA02	Huaiquique	3.08	334	eP	Pn	07 03 03.2	-0.8
GO01	Chusmiza	3.41	352		Pn	07 03 09.2	+0.3
GO01	Chusmiza	3.41	352	eP	Pn	07 03 09.5	+0.5
GO01				IAML		07 04 02.0	
	comp=N,3µm,0.4s						
AC01	Pan de Azucar	3.52	209		Pn	07 03 07.2	-2.7
AC01	Pan de Azucar	3.52	209	i P	Pn	07 03 07.1	-2.9
AC01				eS	Sn	07 03 43.9	-6.7
AC02	Maricunga	3.77	186	Pn	Pn	07 03 13.6	-0.3
AC02	Maricunga	3.77	186	⇓iP	Pn	07 03 13.7	-0.2
AC06	Mina Casimiro	4.53	199	Pn	Pn	07 03 20.6	-3.0
AC06	Mina Casimiro	4.53	199	eP	Pn	07 03 20.5	-3.2
PB12	IPOC Station P	4.68	341	Pn	Pn	07 03 23.7	-2.1
GO03	Copiap	4.72	197	Pn	Pn	07 03 23.5	-2.8
GO03	Copiap	4.72	197	eP	Pn	07 03 23.3	-2.9
LPAZ	La Paz	6.76	5	P	Pn	07 03 54.4	-0.2
	comp=N,2.9nm,0.3s,baz=182,slow=6.3,SNR=50						
LPAZ				S	Sn	07 04 53.1	-17
	comp=N,2.8nm,0.3s,baz=297,slow=6.5,SNR=6.6						
LPAZ				LR	LR	07 06 40.0	
	comp=N,171nm,18.3s,baz=160,slow=40						
LPAZ	La Paz	6.76	5	Pn	Pn	07 03 56.2	+1.6
GO04	Tololo Observa	7.32	194		Pn	07 03 57.6	-4.2
CO03	El Pedregal	7.94	192		Pn	07 04 05.3	-4.9
SIV	San Ignacio	10.07	47	P	Pn	07 04 38.3	-0.8
	comp=N,85nm,0.3s,baz=228,slow=11,SNR=532						
SIV				S	Sn	07 06 22.3	-8.0
	comp=N,1.0nm,0.3s,baz=164,slow=19,SNR=3.2						
ROC1	El Roble	10.08	191		Pn	07 04 37.0	-2.5
MT03	Universidad Ad	10.51	188		Pn	07 04 44.1	-1.1
CPUP	Villa Florida	10.85	110	P	Pn	07 04 49.7	-0.1
	comp=N,0.7nm,0.3s,baz=288,slow=12,SNR=36						
CPUP				LR	LR	07 09 45.3	
	comp=N,183nm,20.0s,baz=280,slow=41						
CPUP	Villa Florida	10.85	110	eP	Pn	07 04 50.0	+0.2
BO01	Tunca	11.48	190		Pn	07 04 55.5	-2.7
PTLB	Pontes e Lacer	11.79	52	eP	Pn	07 05 01.0	-1.5
BO02	Sierra Bellavi	11.83	188	Pn	Pn	07 05 02.4	-0.6
AQDB	Aquidauana	12.36	80	Pn	Pn	07 05 09.8	-0.4
AQDB	Aquidauana	12.36	80	eP	Pn	07 05 10.9	+0.7
VILB	Vilhena	12.90	40	eP	Pn	07 05 17.7	+0.3
NNA	Nana	13.46	324	P	P	07 05 29.8	-1.0
	comp=N,0.8nm,0.3s,baz=156,slow=11,SNR=6.2						
PP1B	Ponte de Pedra	14.06	70	eP	Pn	07 05 32.6	0.0
SALV	Santo Antonio	14.19	62	eP	Pn	07 05 33.0	-1.2
TRCB	Terra Rica	14.82	92		Pn	07 05 40.4	-1.9
TRCB	Terra Rica	14.82	92	eP	Pn	07 05 43.7	+1.4
PTGB	Pitanga	15.32	99	eP	P	07 05 50.6	-0.8
CPSB	Cacapava Do Su	15.47	121	eP	Pn	07 05 50.6	+0.1
ITAB	Concordia	15.58	109	eP	Pn	07 05 52.3	+0.5
CZSB	Cruzeiro do Su	15.72	345	eP	Pn	07 05 53.9	+0.2
LC01	Cunco	16.01	189	Pn	Pn	07 05 56.5	-0.8
PDRB	Porto dos Gac	16.13	47	eP	Pn	07 05 58.2	-0.6
PCMB	Pacaembu	16.21	88	eP	Pn	07 05 59.8	-0.1
CLDB	Colider	17.29	48	eP	P	07 06 13.4	+0.2
ITRB	Iturama	17.42	82	eP	Pn	07 06 15.1	+0.4
ARAG	Araguaiana, MT	17.54	68	eP	Pn	07 06 17.0	+0.9
FRTB	Fartura	17.61	95	eP	Pn	07 06 18.2	+1.2
PLCA	Paso Flores	17.69	185	P	P	07 06 18.3	+0.9
	comp=N,0.3nm,0.3s,baz=14,slow=11,SNR=6.5						
PLCA				PcP	PcP	07 10 52.6	+1.3
	comp=N,0.2nm,0.3s,baz=36,slow=3.0,SNR=5.8						
PLCA				LR	LR	07 12 57.7	
	comp=N,85nm,18.1s,baz=316,slow=36						
PLCA	Paso Flores	17.69	185	eP	P	07 06 16.9	-0.5
LL04	Puerto Octay	18.07	189	P	P	07 06 19.1	-2.4
LL03	Petrohue	18.29	189	P	P	07 06 23.2	-0.7
LL03				IAmb	IAmb	07 07 15.7	
	comp=Z,67nm,0.8s						
TER01	Tubaro-SC	18.45	111	eP	Pn	07 06 27.0	-0.1
LL05	Los Muermos	18.72	191	P	P	07 06 28.7	0.0
LL05				IAmb	IAmb	07 06 59.7	
	comp=Z,72nm,0.9s						
TBTG	Tabatinga, AM	18.80	356	eP	Pn	07 06 30.8	-0.5
BB19B	Bebedouro	18.82	88	eP	Pn	07 06 30.7	-0.8
PET01	Itanhaem-SP	19.68	98	eP	P	07 06 39.6	+0.3
IPMB	Ipameri, GO	19.85	79	eP	P	07 06 41.9	+0.6
SNDB	Serra Nova Dou	19.91	59	eP	P	07 06 41.1	-0.8
VAO	Valinhos	20.02	94	eP	P	07 06 42.5	-0.6
NPGB	Novo Progresso	20.46	41	eP	P	07 06 46.6	-1.3
BDFB	Brasilia	20.86	73	P	P	07 06 52.5	+0.2
	comp=Z,23nm,0.7s,baz=250,slow=11,SNR=37						
BDFB	Brasilia	20.86	73	P	P	07 06 52.6	+0.3
PARB	Paraibuna	21.23	95	eP	P	07 06 56.8	+0.7
MACA	Manacapuru-AM	21.26	23	eP	P	07 06 55.6	-0.7
PEXB	Peixe	22.27	64	eP	P	07 07 06.1	-1.1
BSCB	Bom Sucesso	22.28	89	eP	P	07 07 07.2	-0.2
ITTB	Itaituba	22.43	36	eP	P	07 07 07.6	-1.2
COYC	Coyhaique	22.62	186	P	P	07 07 09.0	-1.6
MAN01	Angra dos Reis	22.79	94	eP	P	07 07 12.6	+0.1
VAS01	Vassouras-RJ	23.33	93	eP	P	07 07 19.0	+1.3
DIAM	Diamantina, MG	23.89	83	eP	P	07 07 24.2	+1.3

DUB01 **Friburgo-RJ** 24.33 93 *e*P P 07 07 28.1 +1.3
JANB **Januaria** 24.38 75 *e*P P 07 07 26.1 -1.2
SMTB **Santa Maria do** 24.69 59 *e*P P 07 07 29.9 -0.1
PRPB **Parauapebas** 24.77 50 *e*P P 07 07 30.7 -0.1
SDBA **SAO DESIDERIO** 24.99 69 *e*P P 07 07 32.9 +0.1
OTAV **Otavalo** 25.02 336 P P 07 07 34.5 +1.0
TULM **Tulcn-Chalpat** 25.23 338⇑ *e*P P 07 07 42.2 +6.7
MALB **Monte Alegre** 25.32 36 *e*P P 07 07 35.4 -0.4
FLOC **Florencia** 25.41 344 *e*P P 07 07 38.8 +2.2
GCUF **Volcan Galeras** 25.56 340 *e*P P 07 07 39.9 +1.4
SJMB **Sao Joao De Ma** 26.07 86 *e*P P 07 07 42.6 +0.1
ALF01 **Guarapari-ES** 26.08 90 *e*P P 07 07 44.0 +1.4
SOTA **Rioblanco** 26.20 342⇑ *e*P P 07 07 47.8 +3.6
PCON **Cinco Dias** 26.32 342 *e*P P 07 07 48.9 +3.5
BOAV **Boa Vista** 26.53 19 *e*P P 07 07 47.6 +0.9
POPC **Popayan, Colom** 26.61 342 *e*P P 07 07 51.2 +3.6
RIB01 **Linhares ES** 26.65 87 *e*P P 07 07 47.8 +0.1
MARP **Paez Belalcaza** 26.70 344 *e*P P 07 07 50.1 +1.6
NAN01 **Guarapari, ES** 27.26 84 *e*P P 07 07 54.8 +1.5
ORTC **Ortega, Tolima** 27.55 346 *e*P P 07 07 57.0 +1.1
YOTC **Yotoco, Valle** 27.89 344 *e*P P 07 07 58.0 -1.1
GUA01 **Guaratinga, BA** 27.92 82 *e*P P 07 08 00.3 +1.2
ROSC **El Rosal** 28.27 348 LR LR 07 21 31.8
comp=Z,96nm,19.0s,baz=228,slow=41
CMC01 **Camacan, BA** 28.57 80 *e*P P 07 08 05.8 +0.8
RUSC **La Rusia** 29.09 351 *e*P P 07 08 10.6 +0.5
GDU01 **Guandu, BA** 29.12 77 *e*P P 07 08 09.6 -0.3
NBPN **Ponto Novo - B** 29.79 71 *e*P P 07 08 16.8 +1.0
ZARC **Zaragoza, Cauc** 30.96 348 P P 07 08 24.4 -1.6
ZARC **Zaragoza, Cauc** 30.96 348 *e*P P 07 08 24.6 -1.4
SDV **Santo Domingo** 31.81 356 LR LR 07 21 32.8
comp=Z,102nm,20.3s,baz=188,slow=36
SDV **Santo Domingo** 31.81 356 *e*P P 07 08 32.2 -1.4
SDV **Santo Domingo** 31.81 356 *e*P P 07 08 32.7 -1.0
NBLA **Lagarto - SE** 31.84 73 *e*P P 07 08 34.3 +0.5
MDP **Montagnes des** 32.10 31 LR LR 07 22 22.1
comp=Z,72nm,19.5s,baz=152,slow=38
NBPS **Pedro II - PI** 32.23 59 *e*P P 07 08 38.7 +1.4
NBPB **Pedra_Branca-C** 33.05 63 *e*P P 07 08 44.9 +0.4
NBAN **Anadia - AL** 33.76 72 *e*P P 07 08 52.1 +1.5
RCBR **Riachuelo** 35.96 67 LR LR 07 25 38.5
comp=Z,103nm,18.8s,baz=318,slow=39
MATN **Matagalpa** 39.54 333 P P 07 09 39.1 -0.6
MATN IAmb IAmb 07 10 00.3
comp=Z,9.1nm,0.7s
MTO3 **Montecristo** 42.36 330 P P 07 10 03.2 +0.2
MTO3 IAmb IAmb 07 10 05.2
comp=Z,14nm,1.0s
TIGA **Tifton** 56.03 345 P P 07 11 45.9 -0.8
baz=164
ZAIG **Zacatecas** 56.21 322 P P 07 11 49.2 +0.7
ZAIG IAmb IAmb 07 11 51.4
comp=Z,13nm,0.8s
BELA **Belgrano 2** 57.18 172 P P 07 11 54.3 0.0
BELA IAmb IAmb 07 11 55.2
comp=Z,7.4nm,0.8s
GOGA **Godfrey** 57.89 345 P P 07 11 59.0 -0.8
baz=164
LRAL **Lakeview Retre** 58.45 342 P P 07 12 03.3 -0.4
baz=160
BIRD **Birdtown, Kers** 58.47 349 P P 07 12 04.5 +0.7
BIRD IAmb IAmb 07 12 04.8
comp=Z,15nm,0.8s
VNA3 **Neumayer Olymp** 58.55 161 P P 07 12 03.8 -0.2
VNA1 **Neumayer--Stat** 58.76 160 P P 07 12 05.4 0.0
833A **Chaparral WMA,** 59.04 328 P P 07 12 08.0 +0.1
baz=147
KMSC **Kings Mountain** 59.11 348 P P 07 12 08.2 0.0
baz=167
VNA2 **Neumayer--Watz** 59.12 160 P P 07 12 07.3 -0.7
baz=276,slow=8.1
V53A **Saluda** 59.92 347 P P 07 12 13.8 -0.1
V53A IAmb IAmb 07 12 14.7
comp=Z,9.0nm,0.8s
W50A **Signal Mountai** 60.04 344 P P 07 12 14.6 -0.1
TKL **Tuckaleechee C** 60.12 346 LR LR 07 40 21.3
comp=Z,35nm,18.7s,baz=129,slow=38
SWET **Sewanee** 60.22 344 P P 07 12 15.2 -0.7
OXF **Oxford** 60.54 340 P P 07 12 17.3 -0.8
OXF **Oxford** 60.54 340 P P 07 12 17.0 -1.1
baz=158
SNAA **Sanae** 60.75 161 P P 07 12 18.9 -0.3
SNAA **Sanae** 60.75 161 P P 07 12 19.1 -0.1
BLA **Blacksburg** 60.96 349 P P 07 12 21.0 +0.1
baz=168
JCT **Junction City** 61.03 329 P P 07 12 21.4 -0.1
baz=147
CLTN **Cedars of Leba** 61.15 344 P P 07 12 22.4 +0.3
WVT **Waverly** 61.59 342 P P 07 12 24.0 -1.1
baz=160
MIAR **Mount Ida** 61.97 337 P P 07 12 27.2 -0.5
MIAR IAmb IAmb 07 12 28.6
comp=Z,8.5nm,0.8s
MIAR **Mount Ida** 61.97 337 P P 07 12 27.2 -0.5
baz=154,SNR=5.2
TXAR **Lajitas Array** 62.01 325 P P 07 12 28.6 +0.3
comp=Z,1.0nm,0.8s,baz=153,slow=8.0,SNR=9.5
TXAR pP pP 07 12 52.5 +0.3
comp=Z,0.9nm,0.7s,baz=160,slow=9.3,SNR=5.3
TX31 **Lajitas Ar. Si** 62.01 325 P P 07 12 28.3 0.0
TX31 IAmb IAmb 07 13 04.6
comp=Z,12nm,1.1s
W41B **Gary Mavity, V** 62.07 338 P P 07 12 27.8 -0.5
baz=156
Q56A **Snyder Ridge,** 62.55 351 P P 07 12 32.4 +0.9
Q56A IAmb IAmb 07 14 12.6
comp=Z,16nm,1.1s
W39A **Magazine** 62.63 337 P P 07 12 32.7 +0.6
W39A IAmb IAmb 07 12 57.5
comp=Z,10nm,0.9s
W39A **Magazine** 62.63 337 P P 07 12 32.3 +0.3
baz=154
T45A **Paducah** 62.65 342 P P 07 12 31.3 -0.9
FCAR **Ozark Folk Cen** 62.68 339 P P 07 12 31.5 -0.9
FCAR IAmb IAmb 07 12 56.6
comp=Z,16nm,1.2s
PBMO **Poplar Bluff** 62.95 341 P P 07 12 33.5 -0.7
PBMO IAmb IAmb 07 12 58.5
comp=Z,14nm,0.8s
U40A **Yellville** 63.35 338 P P 07 12 36.1 -0.7
baz=155,SNR=6.7
P52A **Corning** 63.62 348 P P 07 12 37.9 -0.6
baz=166
HHAR **Hobbs** 63.66 337 P P 07 12 39.0 +0.1
HHAR IAmb IAmb 07 13 03.7
comp=Z,17nm,1.2s
O56A **Blue Knob Stat** 63.67 352 P P 07 12 39.5 +0.6
baz=170
TUL1 **Leonard** 64.00 336 P P 07 12 41.0 -0.2
baz=152
P49A **Miami Univ. Ec** 64.04 346 P P 07 12 40.4 -0.9
baz=164
O53A **New Philadelph** 64.05 349 P P 07 12 40.9 -0.5
baz=167
FVM **French Village** 64.06 341 P P 07 12 41.5 0.0
ACSO **Alum Creek Sta** 64.36 348 P P 07 12 42.7 -0.7
baz=166
CCM **Cathedral Cave** 64.38 340 P P 07 12 43.0 -0.6
baz=157
N54A **Moraine State** 64.55 351 P P 07 12 44.8 +0.2
baz=169
MNTX **Cornudas Mount** 64.78 326 P P 07 12 45.9 -0.4
baz=143
O48B **Farmland** 64.83 346 P P 07 12 46.3 -0.2
baz=163
M54A **Oil Creek Stat** 65.04 351 P P 07 12 47.6 -0.2
baz=169
M53A **WI Miller and** 65.13 350 P P 07 12 48.0 -0.3
baz=168
BINY **Binghamton** 65.28 354 P P 07 12 49.4 +0.1
baz=173
L61B **Northampton** 65.28 357 P P 07 12 49.8 +0.4
baz=176
HRV **Adam Dziewonsk** 65.29 358 P P 07 12 49.7 +0.3
baz=177
MSTX **Muleshoe** 65.32 329 P P 07 12 49.6 -0.3
baz=146
AMTX **Amarillo** 65.57 331 P P 07 12 51.5 0.0
baz=147
ERPA **Erie** 65.68 351 P P 07 12 52.1 +0.1
baz=169
P38A **Dawn** 66.53 339 P P 07 12 57.3 -0.1
P38A IAmb IAmb 07 13 22.0
comp=Z,18nm,1.0s
121A **Cookes Peak, D** 66.70 325 P P 07 12 60.0 +1.1
baz=141
LBNH **Lisbon** 67.04 357 P P 07 13 01.3 +0.7
baz=177
KSU1 **Kansas State U** 67.12 337 P P 07 13 01.7 +0.5
baz=152
QSPA **South Pole Qui** 67.14 180 P P 07 13 01.5 +0.3
LONY **Lake Ozonia** 67.56 355 P P 07 13 04.9 +1.0
LONY IAmb IAmb 07 13 05.6
comp=Z,12nm,0.8s
LONY **Lake Ozonia** 67.56 355 P P 07 13 04.3 +0.4
baz=174
ANMO **Albuquerque** 67.90 327 P P 07 13 07.4 +1.0
ANMO **Albuquerque** 67.90 327 P P 07 13 07.0 +0.6
baz=143
G62A **West of Eustis** 67.97 359 P P 07 13 07.7 +1.3
PKME **Peaks-Kenny Pk** 68.00 360 P P 07 13 07.5 +1.0
baz=180
CBKS **Cedar Bluff** 68.07 334 P P 07 13 07.5 +0.2
baz=149
SADO **Sadowa** 68.17 352 LR LR 07 46 11.4
comp=Z,33nm,18.3s,baz=186,slow=39
TUC **Tucson** 68.18 322 P P 07 13 09.4 +1.4
baz=138
JFWS **Jewell Farm** 68.58 343 P P 07 13 10.2 -0.1
JFWS IAmb IAmb 07 13 35.0
comp=Z,20nm,0.7s
JFWS **Jewell Farm** 68.58 343 P P 07 13 09.9 -0.4
baz=159,SNR=5.7
LIC **Lamu** 68.66 73 *e*PKIKP P 07 13 13.4 +2.0
comp=Z,32nm,1.2s
T25A **Trinidad** 68.68 330 P P 07 13 12.0 +0.7
baz=145
TIC **Toumodi** 68.86 73 *e*PKIKP P 07 13 12.9 +0.2
KIC **Kosan Boka** 68.97 73 *e*PKIKP P 07 13 12.8 -0.6
comp=Z,9.8nm,0.7s
DBIC **Dimbokro** 69.01 73 P P 07 13 14.0 +0.4
comp=Z,4.7nm,0.7s,baz=256,slow=4.7,SNR=6.3
DBIC LR LR 07 43 44.5
comp=Z,42nm,18.2s,baz=196,slow=36
DBIC **Dimbokro** 69.01 73 IAmb IAmb 07 14 31.1
comp=Z,41nm,1.8s
214A **Organ Pipe Nat** 69.08 321 P P 07 13 15.2 +1.6
baz=137
TRQ **Mont Tremblant** 69.16 356 P P 07 13 14.3 +0.5
X18A **Snowflake** 69.39 324 P P 07 13 17.0 +1.3
KSCO **Kaye Shedlock'** 69.43 332 P P 07 13 16.5 +0.6
baz=147
SDCO **Great Sand Dun** 69.68 330 P P 07 13 18.3 +0.8
SDCO IAmb IAmb 07 13 19.8
comp=Z,15nm,1.3s
SDCO **Great Sand Dun** 69.68 330 P P 07 13 18.5 +1.0
baz=144,SNR=15
BGNE **Belgrade** 69.71 337 P P 07 13 17.1 -0.3
baz=151
D62A **Allapoint, All** 69.81 360 P P 07 13 18.6 +0.8
D62A IAmb IAmb 07 13 19.7
comp=Z,22nm,1.1s
S22A **4UR Ranch, Cre** 70.31 329 P P 07 13 22.3 +0.9
baz=143
Q24A **Divide** 70.50 331 P P 07 13 23.3 +0.7
baz=145,SNR=6.3
MVCO **Mesa Verde** 70.70 327 P P 07 13 24.9 +1.2
baz=142,SNR=7.5
WUAZ **Wupatki** 70.90 324 P P 07 13 26.6 +1.7
baz=139,SNR=8.6
GLA **Glamis** 71.05 320 P P 07 13 26.9 +1.3
baz=136
ECSD **EROS Data Cent** 71.23 339 P P 07 13 26.5 -0.1
baz=153
ISCO **Idaho Springs** 71.39 331 P P 07 13 28.5 +0.6
baz=144,SNR=5.1
SPMN **Marine on St.** 71.42 342 P P 07 13 27.8 +0.2
baz=157
IKP **In-Ko-Pah, Jac** 71.53 319 P P 07 13 29.8 +1.2
baz=135
PDMC **Parker Dam,Lak** 71.54 322 P P 07 13 30.1 +1.5
baz=136
BC3 **Big Chuckawall** 71.84 320 P P 07 13 31.9 +1.3
baz=135,SNR=6.5
MONP2 **Monument Peak** 71.89 319 P P 07 13 32.2 +1.3
baz=134
IRM **Iron Mountain** 72.02 321 P P 07 13 32.8 +1.3
baz=136,SNR=6.8
D41A **Chassel** 72.06 346 P P 07 13 31.7 +0.3
TPFO **Pinon Flats** 72.40 320 P P 07 13 35.4 +1.5
baz=135
BELC **Belle Mtn. Jos** 72.41 320 P P 07 13 35.3 +1.4
baz=135
PFO **Pinyon Flats O** 72.41 320 P P 07 13 35.5 +1.5
baz=135
N23A **Red Feather La** 72.43 331 P P 07 13 35.0 +1.0
baz=144
GMRC **Granite Mounta** 72.76 321 P P 07 13 37.6 +1.5
baz=135,SNR=9.8
MURC **Murrieta** 72.84 319 P P 07 13 38.2 +1.8
baz=134
O20A **White River Ci** 72.87 329 P P 07 13 37.8 +1.2
baz=142,SNR=6.2
HEC **Hector,Ludlow** 73.19 321 P P 07 13 40.2 +1.7
baz=135,SNR=6.4
MTPU **Mount Pierson** 73.22 325 P P 07 13 40.2 +1.2
TUQ **Turquoise Moun** 73.38 321 P P 07 13 41.5 +1.9
baz=135
P18A **Preston Nutter** 73.44 328 P P 07 13 41.2 +1.1
P18A IAmb IAmb 07 14 07.0
comp=Z,11nm,0.9s
BFSC **Mount Baldy Ra** 73.56 319 P P 07 13 42.4 +1.7
baz=134
GSC **Goldstone, Bar** 73.79 321 P P 07 13 43.8 +1.8
baz=135
K22A **Casper** 74.10 332 P P 07 13 45.4 +1.6
baz=144
EDW2 **Edwards Air Fo** 74.20 320 P P 07 13 45.7 +1.3
baz=134
RSSD **Black Hills** 74.28 334 P P 07 13 45.6 +0.9
baz=147
TPNV **Topopah Spring** 74.63 322 P P 07 13 48.4 +1.4
TPNV **Topopah Spring** 74.63 322 P P 07 13 48.7 +1.8
baz=135
FURC **Furnace Creek,** 74.64 321 P P 07 13 48.8 +2.0
baz=135
MPMC **Manual Prospec** 74.72 321 P P 07 13 48.9 +1.3
baz=134
SYO **Syowa Base** 74.98 159⇑ *i*P P 07 13 44.3 -4.0
ISA **Isabella, Lake** 75.02 320 P P 07 13 50.5 +1.4
ISA IAmb IAmb 07 13 51.8
comp=Z,9.2nm,0.9s
ISA **Isabella, Lake** 75.02 320 P P 07 13 50.7 +1.6
baz=134,SNR=6.0
AGMN **Agassiz Nation** 75.09 342 P P 07 13 49.4 +0.3
baz=154
DUG **Dugway, Tooele** 75.15 327 P P 07 13 51.3 +1.4
baz=139,SNR=5.2
R11A **Troy Canyon, C** 75.26 324 P P 07 13 51.8 +1.2
baz=136,SNR=5.8
CWC **Cottonwood Cre** 75.33 321 P P 07 13 52.3 +1.4
baz=134
VNDA **Vanda** 75.35 190 P P 07 13 52.6 +2.3
comp=Z,1.8nm,0.7s,baz=124,slow=2.3,SNR=6.0
VNDA pP pP 07 14 15.6 +0.6
comp=Z,2.0nm,0.8s,baz=146,slow=4.7,SNR=2.9
VES **Vestal, Richgr** 75.51 320 P P 07 13 53.5 +1.7
baz=133
PDAR **Pinedale Array** 75.55 330 P P 07 13 52.6 +0.5
comp=Z,0.9nm,0.4s,baz=138,slow=7.3,SNR=13
PDAR pP pP 07 14 17.3 +0.5
comp=Z,1.0nm,0.8s,baz=134,slow=8.5,SNR=3.4
BW06 **Boulder Array** 75.55 330 P P 07 13 53.5 +1.3
baz=142
SMMC **Simmler** 75.70 319 P P 07 13 54.8 +1.8
baz=132
TIN **Tinemaha, Big** 75.84 321 P P 07 13 55.5 +1.7
baz=134
MDND **Maddock** 75.85 339 P P 07 13 54.3 +0.8
baz=151
TPAW **Teton Pass** 76.75 330 P P 07 13 59.2 +0.2
TPAW IAmb IAmb 07 14 24.7
comp=Z,9.9nm,1.1s
NVAR **Mina Array Bea** 76.83 322 P P 07 14 01.0 +1.5
comp=Z,2.7nm,0.9s,baz=158,slow=6.1,SNR=12
NVAR pP pP 07 14 24.7 +0.4
comp=Z,2.6nm,0.8s,baz=164,slow=7.5,SNR=7.7
ULM **Lac du Bonnet** 76.85 342 P P 07 13 58.9 -0.2
comp=Z,10nm,0.5s,baz=156,slow=6.0,SNR=29
ULM pP pP 07 14 23.6 -0.3
comp=Z,2.3nm,0.5s,baz=130,slow=5.2,SNR=2.9
ULM **Lac du Bonnet** 76.85 342 P P 07 13 59.0 0.0
ULM IAmb IAmb 07 13 59.3
comp=Z,12nm,0.6s
MOOW **Moose Ponds** 76.86 330 P P 07 14 00.1 +0.6
KVN **Kaiserville** 77.15 323 P P 07 14 01.9 +0.6
KVN IAmb IAmb 07 14 03.4
comp=Z,10nm,1.0s
LAO **LASA Array** 77.27 335 P P 07 14 03.0 +1.5
baz=145
RLMT **Red Lodge** 77.27 332 P P 07 14 03.1 +1.3
baz=142
SCHQ **Schefferville** 77.59 1 P P 07 14 03.3 +0.2
comp=Z,7.5nm,0.9s,baz=184,slow=2.7,SNR=11
SCHQ **Schefferville** 77.59 1 IAmb IAmb 07 14 04.1
comp=Z,6.5nm,0.8s
TOA0 **Torodi Ar. Sit** 77.71 70 P P 07 14 04.8 +0.1
TORD **Torodi Ar. Bea** 77.71 70 P P 07 14 04.9 +0.2
comp=Z,39nm,0.7s,baz=255,slow=5.3,SNR=170
TORD pP pP 07 14 29.9 +0.6
comp=Z,11nm,0.5s,baz=255,slow=5.5,SNR=5.8
TORD **Torodi Ar. Bea** 77.71 70 P P 07 14 04.5 -0.2
DGMT **Dagmar** 77.97 337 P P 07 14 07.0 +1.6
baz=147
HLID **Hailey** 78.46 328 P P 07 14 10.0 +1.6
baz=138,SNR=6.5
BOZ **Bozeman (W)** 78.68 331 P P 07 14 10.9 +1.3
baz=140
MSO **Missoula** 80.66 330 P P 07 14 21.5 +1.3
baz=139
N02D **Trinity Center** 81.05 322 P P 07 14 23.6 +1.3
baz=131
M04C **Macdoel** 81.10 323 P P 07 14 23.8 +1.2
baz=132
L04D **Klamath Falls** 81.64 323 P P 07 14 27.0 +1.5
baz=132
J05D **Fort Rock, OR** 81.77 324 P P 07 14 27.8 +1.6
baz=133
J04D **Umpqua Nationa** 82.22 324 P P 07 14 30.1 +1.5
baz=132
I05D **Terrebonne, OR** 82.54 325 P P 07 14 31.8 +1.7
baz=133
BOSA **Boshof** 82.56 118 P P 07 14 31.1 +0.3
comp=Z,9.2nm,0.8s,baz=258,slow=3.0,SNR=9.9
MDT **Midelt** 82.61 50 LR LR 07 50 50.7
comp=Z,28nm,19.6s,baz=240,slow=35
K02D **Willamette Mer** 82.72 323 P P 07 14 33.1 +2.0
baz=131
MAW **Mawson** 82.79 163 P P 07 14 32.6 +1.6
comp=Z,11nm,1.0s,baz=239,slow=4.7,SNR=3.6
MAW pP pP 07 14 56.5 +0.5
comp=Z,12nm,0.6s,baz=226,slow=7.5,SNR=4.1
ESDC **Sonseca Array** 86.82 44 P P 07 14 52.2 +0.5
comp=Z,1.4nm,0.9s,baz=228,slow=3.8,SNR=5.0
ESDC LR LR 07 53 01.5
comp=Z,33nm,18.0s,baz=178,slow=35
MATP **Matopo** 88.47 111 LR LR 07 51 58.2
comp=Z,49nm,18.4s,baz=218,slow=34
YKA **Yellowknife Ar** 92.71 341 P P 07 15 18.9 +0.2
comp=Z,7.0nm,0.9s,baz=137,slow=4.6,SNR=103
YKA pP pP 07 15 43.8 -0.3
comp=Z,3.5nm,0.9s,baz=136,slow=4.7,SNR=7.4
DAVOX **Davos/Dischmat** 99.08 43 LR LR 07 59 03.6
comp=Z,28nm,18.5s,baz=257,slow=34
KBZ **Khabaz** 120.95 52 PKP **PKiKP** 07 20 59.5 +0.3
comp=Z,1.2nm,0.4s,baz=174,slow=5.5,SNR=4.3
KBZ pPKP **pPKPdf** 07 21 25.4 -0.1
comp=Z,3.8nm,1.0s,baz=274,slow=0.7,SNR=2.6
ASAR **Alice Springs** 128.61 207 PKP **PKPdf** 07 21 14.3 -0.3
comp=Z,2.9nm,0.8s,baz=134,slow=1.7,SNR=35
ASAR pPKP **pPKPdf** 07 21 40.3 -0.9
comp=Z,2.2nm,0.7s,baz=138,slow=2.0,SNR=8.0
ARU **Arti** 129.33 35 PKP **PKPdf** 07 21 14.8 +0.1
comp=Z,0.8nm,0.3s,baz=320,slow=2.5,SNR=6.0
AKTO **Aktyubinsk** 130.67 43 PKP **PKiKP** 07 21 17.7 -0.7
comp=Z,0.7nm,0.7s,baz=306,slow=1.9,SNR=5.2
WRA **Warramunga Arr** 131.70 210 PKP **PKPdf** 07 21 20.8 +0.3
comp=Z,2.6nm,0.6s,baz=157,slow=1.7,SNR=26
WRA pPKP **pPKPdf** 07 21 47.1 +0.1
comp=Z,1.0nm,0.7s,baz=158,slow=1.6,SNR=3.3
BVAR **Borovoye Array** 136.97 35 PKP **PKiKP** 07 21 30.5 -0.6
comp=Z,1.2nm,0.7s,baz=40,slow=12,SNR=7.2
BVAR pPKP **pPKPdf** 07 21 55.3 -0.5
comp=Z,2.0nm,0.9s,baz=49,slow=10.0,SNR=4.7
KURBB **Kurchatov Arra** 142.53 35 PKiKP PKPpre 07 21 35.4
comp=Z,1.3nm,0.6s,baz=304,slow=3.1,SNR=16
KURBB PKP **PKiKP** 07 21 40.8 -1.7
comp=Z,1.8nm,0.7s,baz=303,slow=2.7,SNR=11
ZALV **Zalesovo Beam** 143.28 26 PKP PKPbc 07 21 38.9 +1.0
comp=Z,6.5nm,0.7s,baz=304,slow=3.8,SNR=20
ZALV pPKP pPKPdf 07 22 04.8 -2.4
comp=Z,4.4nm,0.6s,baz=318,slow=3.9,SNR=5.3
AML **Almayashu** 143.44 50 P **PKPdf** 07 21 40.7 -1.1
SNR=6.0
AAK **Ala-Archa** 143.82 48 PKP **PKPdf** 07 21 40.9 -1.3
comp=Z,2.5nm,0.2s,baz=251,slow=2.4,SNR=9.9
UCH **Uchtor** 143.98 49 P **PKPdf** 07 21 42.7 -0.1
SNR=8.9
KBK **Karagaybulak** 144.12 48 P **PKPdf** 07 21 42.7 0.0
SNR=9.0
TKM2 **Tokmak 2** 144.47 48 P **PKPdf** 07 21 43.4 0.0
SNR=9.2
ULHL **Ulahol** 145.16 48 P **PKiKP** 07 21 46.3 -2.2
SNR=21
KSH **Kashi** 145.92 53 PKPbc **PKPbc** 07 21 46.5 -0.2
KSH pPKP pPKPdf 07 22 11.2 -1.3
KSH sPKP 07 22 22.7
MKAR **Makanchi Array** 146.77 37 PKPbc **PKPbc** 07 21 47.8 -1.0
comp=Z,11nm,0.8s,baz=337,slow=1.2,SNR=57
MKAR pPKPbc **pPKPdf** 07 22 13.9 +0.4
comp=Z,13nm,0.7s,baz=352,slow=1.2,SNR=14
WMQ **Urumqi** 151.61 38 *e*P **PKPdf** 07 21 55.7 +0.9
USRK **Ussuriysk Ar.** 152.91 326 PKPbc **PKPbc** 07 22 03.2 -0.7
comp=Z,2.0nm,0.7s,baz=227,slow=7.6,SNR=4.2
MJAR **Matsushiro Arr** 153.16 306 PKPbc **PKPbc** 07 22 03.8 -0.9
comp=Z,3.8nm,0.7s,baz=278,slow=1.7,SNR=7.1
MJAR PKPab **PKPab** 07 22 16.9 +0.1
comp=Z,5.6nm,0.6s,baz=72,slow=2.9,SNR=8.5
SONM **Songino Array** 154.97 8 PKP **PKPdf** 07 21 59.2 -0.4
comp=Z,1.3nm,0.8s,baz=317,slow=1.9,SNR=9.4
SONM PKPbc **PKPbc** 07 22 07.5 -0.9
comp=Z,1.4nm,0.7s,baz=311,slow=1.7,SNR=8.1
SONM PKPab **PKPab** 07 22 24.8 +0.7
comp=Z,2.5nm,0.9s,baz=329,slow=4.2,SNR=8.3
KSRS **Korea Array** 159.74 319 PKP **PKPdf** 07 22 07.0 +1.3
comp=Z,0.7nm,0.4s,baz=82,slow=1.8,SNR=6.3
KSRS PKPab **sPKPdf** 07 22 46.0 +3.6
comp=Z,1.6nm,0.5s,baz=56,slow=3.7,SNR=5.5
GTA **Gaotai** 161.01 28 ⇑PKP **PKPdf** 07 22 08.8 +1.5
GTA pPKP pPKPdf 07 22 34.2 +0.2
GTA PKPab **PKPab** 07 22 51.9 +1.4
HHC **Hu-ho-hao-te** 162.26 359 *e*P **PKPdf** 07 22 06.1 -2.4
NJ2 **Nanjing** 168.81 325 *e*P **PKPdf** 07 22 15.2 +1.2
PZH **PanZhiHua** 170.68 67 PKP **PKPdf** 07 22 15.7 +0.2

IDC 11 07:02:32.1±480.0, **70°.86N**×**35°.61E**, **h0**km, **Error ellipse: s-maj=226.9km s-min=27.8km az=81.0, Barents Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I37NO	**I37NO**	**6.11**	**261**	*i*		07 43 00.0	
	baz=65,slow=329,SNR=2.7						
I43RU	**DUBNA INFRASON**	**14.22**	**176**	*i*		08 32 20.0	
	baz=358,slow=330,SNR=0.6						
I18DK	**QAANAAQ INFRAS**	**25.47**	**331**	*i*		09 36 50.0	
	baz=51,slow=331,SNR=0.3						

*NNC **11** 07:14:25.4±0.4, 50°.00N×78°.79E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=7.4km s-min=1.9km az=75.0, Suspected Mining explosion.*

*IDC **11** 07:14:26.9±1.0, 50°.06N×78°.77E, h0km, mb1 2.6/2, mb1mx2.6/42, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=12.3km s-min=6.4km az=64.0*

ISC 11 07:14:26.4±0.9, **50°.01N**±0°.05×**78°.84E**±0°.06, **h0**km, **n18, s08/31, 8C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.61**	**340**	P	**Pg**	**07 14 37.4**	**-0.6**
KUR07				S	**Sg**	**07 14 45.9**	**0.0**
KUR14	**Kurchatov Arra**	**0.62**	**346**	P	**Pg**	**07 14 37.7**	**-0.6**
KUR14				S	**Sg**	**07 14 46.4**	**0.0**
KUR06	**Kurchatov Arra**	**0.62**	**341**	P	**Pg**	**07 14 37.8**	**-0.5**
KUR06				S	**Sg**	**07 14 46.3**	**-0.2**
KUR15	**Kurchatov Arra**	**0.63**	**344**	P	**Pg**	**07 14 37.9**	**-0.6**
KUR15				S	**Sg**	**07 14 47.0**	**+0.3**

KURBB	Kurchatov Arra	0.64	342	Pg	Pg	07 14 38.0	-0.6
	0.8nm,0.3s,baz=167,slow=19,SNR=55						
KURBB				Lg	Lg	07 14 46.8	
	1.4nm,0.3s,baz=161,slow=34,SNR=30						
KURBB	Kurchatov Arra	0.64	342	⇑P	Pg	07 14 38.0	-0.6
	19nm,0.7s						
KURBB				⇑S	Sg	07 14 47.1	+0.1
	79nm,0.7s						
KUR16	Kurchatov Arra	0.65	341	P	Pg	07 14 38.3	-0.5
KUR16				S	Sg	07 14 47.2	-0.1
KUR05	Kurchatov Arra	0.66	343	P	Pg	07 14 38.4	-0.6
KUR05				S	Sg	07 14 47.3	-0.3
KUR17	Kurchatov Arra	0.66	339	P	Pg	07 14 38.5	-0.6
KUR17				S	Sg	07 14 47.7	0.0
KUR04	Kurchatov Arra	0.68	344	P	Pg	07 14 38.8	-0.6
KUR04				S	Sg	07 14 47.8	-0.3
KURK	Kurchatov	0.72	349	⇑P	Pg	07 14 39.4	-0.7
	9.2nm,0.7s						
KURK				⇑S	Sg	07 14 50.0	+0.6
	20nm,0.9s						
MAKZ	Makanchi	3.83	146	⇓Pn	Pn	07 15 24.6	-2.0
	0.3nm,0.7s						
MAKZ				⇓Pg	Pb	07 15 33.4	-1.3
	2.2nm,0.8s						
MAKZ				⇓Lg	Lg	07 16 26.2	
	4.0nm,0.6s						
MK31	Makanchi Array	3.96	143	⇓Pn	Pn	07 15 29.6	+1.3
	baz=324,slow=14,SNR=16						
MK31				⇑Pg	Pb	07 15 38.2	+1.2
	0.4nm,0.4s,baz=309,slow=15,SNR=5.9						
MK31				⇓Lg	Lg	07 16 31.3	
	6.1nm,0.8s,baz=332,slow=27,SNR=12						
MKAR	Makanchi Array	3.96	143	Pn	Pn	07 15 30.3	+2.0
	0.1nm,0.3s,baz=321,slow=10,SNR=18						
MKAR				Pg	Pb	07 15 37.3	+0.4
	0.2nm,0.3s,baz=322,slow=14,SNR=9.5						
MKAR				Lg	Lg	07 16 33.5	
	0.5nm,0.3s,baz=319,slow=25,SNR=15						
OTUK	Ortayu	4.62	250	⇑Pn	Pn	07 15 37.0	-0.4
	0.7nm,0.5s						
OTUK				⇑Pg	Pb	07 15 49.4	+1.2
	1.3nm,0.7s						
OTUK				⇑Lg	Lg	07 16 51.6	
	2.5nm,0.6s						
I46RU	ZALESOVO INFRA	5.40	41	*i*		07 46 10.0	
	baz=222,slow=326,SNR=1.9						
ZALV	Zalesovo Beam	5.40	41	Pn	Pn	07 15 49.3	+1.2
	0.2nm,0.3s,baz=231,slow=14,SNR=8.6						
BVAR	Borovoye Array	6.08	303	Sn	Sn	07 17 06.5	-1.1
	0.4nm,0.3s,baz=41,slow=18,SNR=6.8						
BVAR				Lg	Lg	07 17 37.4	
	0.3nm,0.3s,baz=348,slow=20,SNR=3.9						

*RSNC **11** 07:16:06.2±1.1, 6.°83N×73.°12W, h152km±4km, ML3.0, Mw3.6*

*IDC **11** 07:16:06.3±5.8, 6.°76N×73.°14W, h170km±122km, mb3.1/3, mb1 3.4/4, mb1mx3.0/28, mbtmp3.6/4, Error ellipse: s-maj=167.6km s-min=83.1km az=166.0*

ISC 11 07:16:05.0±0.9, **6.°84N**±0.°03×**73.°10W**±0.°04, **h160**km±6km, **n27**, σ**1.25**/51, **mb3.5**/3, **1C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	198	*i* P	Pn	07 16 26.8	-0.1
BARC				*e*S	Sn	07 16 42.0	-1.6
BARC				*i*		07 16 44.5	
	comp=Z,196nm,0.3s						
PAMC	Pamplona, Colo	0.64	39	⇑*i*P	Pn	07 16 29.6	+0.8
PAMC				*e*S	Sn	07 16 46.9	0.0
PAMC				*i*		07 16 49.0	
	comp=Z,207nm,0.5s						
RUSC	La Rusia	0.94	179	⇓*e*P	Pn	07 16 30.7	-0.2
RUSC				*e*S	Sn	07 16 49.6	-1.0
RUSC				*i*		07 16 50.5	
	comp=Z,95nm,0.3s						
TAMC	Tame, Arauca	1.36	107	⇓*i*P	Pn	07 16 35.0	+1.0
TAMC				*i*		07 16 55.8	
	comp=Z,97nm,0.4s						
TAMC				*e*S	Sn	07 16 56.5	+0.3
OCAC	Ocana	1.41	351	*e*P	Pn	07 16 34.8	+0.2
OCAC				*e*S	Sn	07 16 56.9	-0.5
OCAC				*i*		07 17 03.1	
	comp=Z,239nm,0.4s						
SPBC	San Pablo de B	1.52	219	*e*P	Pn	07 16 35.7	0.0
SPBC				*e*S	Sn	07 16 58.3	-0.9
SPBC				*i*		07 17 02.9	
	comp=Z,197nm,0.3s						
ZARC	Zaragoza, Cauc	1.86	291	*e*P	Pn	07 16 39.5	+0.3
ZARC				*e*S	Sn	07 17 05.1	-0.5
ZARC				*i*		07 17 11.4	
	comp=Z,143nm,0.5s						
NORC	Norcasia	2.17	234	*e*P	Pn	07 16 42.7	0.0
NORC				*e*S	Sn	07 17 11.2	-0.7
NORC				*i*		07 17 18.0	
	comp=Z,94nm,0.2s						
CHIC	Chingaza	2.28	196	*e*P	Pn	07 16 44.8	+0.3
CHIC				*e*S	Sn	07 17 14.1	-0.8
CHIC				*i*		07 17 18.3	
	comp=Z,62nm,0.4s						
ROSC	El Rosal	2.33	211	P	Pn	07 16 46.5	+1.6
	comp=Z,30nm,0.3s,baz=81,slow=16,SNR=33						
ROSC				S	Sn	07 17 16.5	+0.7
	comp=Z,33nm,0.3s,baz=226,slow=20,SNR=8.8						
HELC	Santa Helena	2.50	255	*e*P	Pn	07 16 48.0	+1.0
HELC				*e*S	Sn	07 17 19.3	+0.1
HELC				*i*		07 17 25.5	
	comp=Z,73nm,0.4s						
UREC	San Jos de Ur	2.58	291	*e*P	Pn	07 16 46.8	-0.8
UREC				*e*S	Sn	07 17 17.6	-2.9
UREC				*i*		07 17 31.9	
	comp=Z,51nm,0.2s						
GUY2C	Guyana, Caldas	2.76	235	*e*P	Pn	07 16 50.9	+0.6
GUY2C				*e*S	Sn	07 17 27.7	+2.4
GUY2C				*i*		07 17 33.5	
	comp=Z,97nm,0.4s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	07 16 50.0	-0.1
VILC				*e*S	Sn	07 17 25.0	0.0
PTGC	Puerto Gaitan,	2.79	160	*e*P	Pn	07 16 49.7	-0.6
PTGC				*e*S	Sn	07 17 23.2	-2.1
PTGC				*i*		07 17 27.9	
	comp=Z,31nm,0.4s						
LL6C	La Loma 6 Bece	2.88	357	*e*P	Pn	07 16 52.0	+0.6
LL6C				*e*S	Sn	07 17 26.2	-1.1
LL6C				*i*		07 17 30.4	
	comp=Z,24nm,0.7s						
SDV	Santo Domingo	3.18	50	*e*P	Pn	07 16 55.9	+0.7
SDV				*e*S	Sn	07 17 33.7	-0.5
SDV				*i*		07 17 35.5	
	comp=Z,15nm,0.3s						
ANIL	Santa Ana	3.27	225	*e*P	Pn	07 16 58.1	+1.7
ANIL				*e*S	Sn	07 17 36.5	+0.1
ORTC	Ortega, Tolima	3.61	216	*e*P	Pn	07 17 00.8	+0.3
ORTC				*e*S	Sn	07 17 44.0	+0.2
ORTC				*i*		07 17 51.5	
	comp=Z,45nm,0.6s						
SJCC	San Jacinto, C	3.67	326	*e*P	Pn	07 17 00.8	-0.6
SJCC				*e*S	Sn	07 17 42.4	-2.8
SJCC				*i*		07 17 52.8	
	comp=Z,14nm,0.5s						
CRJC	Cerrejon, Guaj	4.16	3	*e*P	Pn	07 17 07.0	-0.8
CRJC				*e*S	Sn	07 17 55.4	-1.3
CRJC				*i*		07 18 00.3	
	comp=Z,37nm,0.3s						
MACC	Macarena, Meta	4.72	189	*e*P	Pn	07 17 13.5	-1.5
MACC				*e*S	Sn	07 18 05.6	-4.1
MACC				*i*		07 18 22.9	
	comp=Z,8.4nm,0.4s						
POPC	Popayan, Colom	5.56	220	*e*P	Pn	07 17 26.5	+0.2
POPC				*e*S	Sn	07 18 28.0	-1.9
FLOC	Florencia	5.81	206	*e*P	Pn	07 17 29.2	-0.2
FLOC				*e*S	Sn	07 18 34.2	-1.2
FLOC				*i*		07 18 38.0	
	comp=Z,3.1nm,0.6s						
TXAR	Lajitas Array	36.47	312	P	P	07 22 55.9	+0.9
	comp=Z,0.2nm,0.6s,baz=114,slow=11,SNR=1.9						
ULM	Lac du Bonnet	47.28	340	P	P	07 24 22.1	-0.1
	comp=Z,0.9nm,0.5s,baz=146,slow=3.6,SNR=2.1						
YKA	Yellowknife Ar	63.26	340	P	P	07 26 17.0	+0.7
	comp=Z,0.3nm,0.5s,baz=133,slow=6.6,SNR=9.2						

IDC 11 07:26:04.4±2.6, **54.°05N**×**86.°51E, h0**km, **mb1 2.9**/2, **mb1mx2.8**/49, **mbtmp2.9**/2, **ML2.6**/2, **Error ellipse: s-maj=21.0km s-min=12.1km az=64.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	265	*i*		07 31 43.9	
	baz=83,slow=330,SNR=5.1						
ZALV	Zalesovo Beam	1.00	265	Pg	Pg	07 26 22.2	-1.3
	1.0nm,0.3s,baz=82,slow=17,SNR=6.8						
ZALV				Lg	Lg	07 26 38.2	
	2.0nm,0.3s,baz=82,slow=29,SNR=9.3						
ZALV				Rg	Rg	07 26 42.9	
	7.6nm,0.8s,baz=81,slow=28,SNR=4.0						
KURBB	Kurchatov Arra	5.98	238	Pn	Pn	07 27 35.0	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=6.9						
KURBB				Lg	Lg	07 29 12.5	
	0.0nm,0.3s,baz=59,slow=34,SNR=1.7						
MKAR	Makanchi Array	7.75	202	Pn	Pn	07 27 59.5	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=5.9						
MKAR				Sn	Sn	07 29 26.3	-0.6
	0.1nm,0.3s,baz=28,slow=28,SNR=3.5						
MKAR				Lg	Lg	07 30 08.8	
	baz=23,slow=30,SNR=2.5						

*THE **11** 07:28:02.6, 35.°38N×23.°57E, h10km±2km, ML2.4/7, Error ellipse: s-maj=2.9km s-min=0.7km az=181.0*

*ATH **11** 07:28:03.3, 35.°41N×23.°59E, h14km±2km, ML2.5/3, Error ellipse: s-maj=3.2km s-min=0.9km az=55.0*

ISC 11 07:28:02.7±1.0, **35.°40N**±0.°03×**23.°64E**±0.°05, **h12**km±8km, **n14**, σ**0.64**/25, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.17	167	P	Pg	07 28 05.9	-0.6
KNDR				S	Sg	07 28 08.6	-0.6
	2μm,0.2s						
RODP	Rodopos	0.19	31	P	Pb	07 28 08.1	0.0
RODP				S	Sg	07 28 11.8	+1.9
	1μm,0.3s						
IMMV	Iera Moni Meta	0.29	77	P	Pb	07 28 09.5	-0.2
IMMV				S	Sb	07 28 14.6	+0.2
IMMV				AML	AML	07 28 14.9	
	comp=N,1458μm,0.2s						
IMMV				AML	AML	07 28 15.3	
	comp=E,1225μm,0.3s						
IMMV	Iera Moni Meta	0.29	77	P	Pb	07 28 09.4	-0.3
IMMV				S	Sb	07 28 14.4	-0.1
	comp=E,958nm,0.4s						
VAM	Vamos	0.46	89	P	Pb	07 28 12.6	-0.1
VAM				S	Sb	07 28 19.7	+0.4
VAM				AML	AML	07 28 20.9	
	comp=N,1721μm,0.3s						
VAM				AML	AML	07 28 22.9	
	comp=E,997μm,0.4s						
VAM	Vamos	0.46	89	P	Pb	07 28 12.3	-0.4
VAM				S	Sb	07 28 19.8	+0.4
	comp=E,790nm,0.3s						
ANKY	Antikythira Is	0.54	330	P	Pg	07 28 13.2	-0.1
ANKY				S	Sg	07 28 20.4	-0.2
ANKY	Antikythira Is	0.54	330	P	Pg	07 28 13.1	-0.2
ANKY				S	Sg	07 28 20.2	-0.4
	comp=E,248nm,0.9s						
GVDS	Gavdos	0.66	146	P	Pg	07 28 15.5	-0.1
GVDS				S	Sb	07 28 25.3	0.0
	comp=E,970nm,0.2s						
GVD	Gavdhos	0.67	146	P	Pb	07 28 16.5	+0.3
GVD				S	Sb	07 28 26.5	+1.1
GVD				AML	AML	07 28 28.2	
	comp=N,1297μm,0.4s						
GVD				AML	AML	07 28 29.2	
	comp=E,1307μm,0.3s						
GVD	Gavdhos	0.67	146	P	Pb	07 28 16.3	+0.1
GVD				S	Sb	07 28 26.3	+0.9
	comp=E,652nm,0.4s						
KTHA	Kythira Island	0.98	332	P	Pg	07 28 21.1	-0.5
IDI	Anoyia	1.03	96	P	Pn	07 28 23.0	0.0
NPS	Neapolis	1.62	94	P	Pg	07 28 32.9	-0.9

*IDC **11** 07:29:10.7±2.4, 54.°01N×86.°54E, h0km, mb1 3.1/2, mb1mx2.9/47, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=20.8km s-min=12.9km az=56.0*

*NNC **11** 07:29:10.5±1.4, 54.°09N×86.°50E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=8.1km s-min=6.2km az=60.0, Suspected Mining explosion.*

ISC 11 07:29:10.8±3.8, **54.°1N**±0.°2×**86.°5E**±0.°2, **h0**km, **n8**, σ**1.27**/11, **4C-6D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.97	262	*i*		07 36 20.0	
	baz=85,slow=330,SNR=4.9						
ZAA0	Zalesovo Array	0.97	262	⇓P	Pb	07 29 29.5	-1.1
	0.1nm,0.2s,baz=79,slow=17						
ZAA0				⇑S	Sb	07 29 43.6	-0.3
	0.2nm,0.2s,baz=81,slow=27						
ZALV	Zalesovo Beam	0.97	262	Pg	Pg	07 29 28.9	-0.6
	0.9nm,0.3s,baz=83,slow=17,SNR=9.7						
ZALV				Lg	Lg	07 29 45.2	
	3.4nm,0.3s,baz=90,slow=29,SNR=15						
KURK	Kurchatov	5.87	238	⇑Pn	Pn	07 30 40.6	+1.7
	1.9nm,1.2s						
KURK				⇓Sn	Sn	07 31 48.4	+1.6
	0.8nm,0.8s						
KURK				⇓Lg	Lg	07 32 18.0	
	2.3nm,0.9s						
KURBB	Kurchatov Arra	5.97	238	Pn	Pn	07 30 40.8	+0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=17						
KURBB				Lg	Lg	07 32 18.8	
	0.0nm,0.3s,baz=59,slow=32,SNR=3.5						
KURBB	Kurchatov Arra	5.97	238	⇓Pn	Pn	07 30 41.8	+1.5
	2.5nm,0.8s						
KURBB				⇓Sn	Sn	07 31 49.6	+0.3
	1.2nm,0.6s						
KURBB				⇓Lg	Lg	07 32 21.1	
	2.6nm,0.8s						
MK31	Makanchi Array	7.78	202	Pn	Pn	07 31 06.4	+1.2
	0.5nm,0.2s,baz=25,slow=13,SNR=18						
MK31				⇑Sn	Sn	07 32 32.5	-1.3
	0.3nm,0.6s						
MK31				⇑Lg	Lg	07 33 13.3	
	0.8nm,0.8s						
MKAR	Makanchi Array	7.78	202	Pn	Pn	07 31 05.6	+0.4
	0.3nm,0.3s,baz=25,slow=14,SNR=15						

*TUL **11** 07:32:11.4±1.0, 35.°98N±0.°02×96.°81W±0.°04, h5km±6km, ML3.2, mb_Lg3.0/94(NEIC), Error ellipse: s-maj=4.7km s-min=2.1km az=115.0*

NEIC 11 07:32:11.5±0.9, **35.°99N**±0.°02×**96.°82W**±0.°04, **h5**km±7km, **Error ellipse: s-maj=4.7km s-min=2.6km az=107.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	Oklahoma City	0.77	222		Pg	07 32 26.1	0.0
OKCSW	OKLAHOMA CITY	0.77	221	Pg	Pg	07 32 25.6	-0.6
W35A	Tecumseh	0.83	183	Pg	Pg	07 32 26.9	-0.6
FNO	Franklin	0.87	213	Pg	Pg	07 32 27.8	-0.3
T35A	Sooner Cattle	0.96	15	Pg	Pg	07 32 29.7	-0.3
U32A	Winter Ranch,	1.81	283	IAmb_Lg		07 33 13.4	
	comp=Z,82nm,1.1s						
X37A	Clayton	1.83	139	IAmb_Lg		07 33 11.7	
	comp=Z,75nm,0.8s						
WMOK	Wichita Mounta	2.03	233	IAmb_Lg		07 33 15.6	
	comp=Z,64nm,0.8s						
HHAR	Hobbs	2.35	82	Pn	Pn	07 32 51.8	+1.0
W39A	Magazine	2.60	107		Pn	07 32 55.7	+1.4
R32A	Long Quarter,	2.86	329	IAmb_Lg		07 33 47.7	
	comp=Z,35nm,1.0s						
MIAR	Mount Ida	3.02	117	Pn	Pn	07 33 00.6	+0.6
KSU1	Kansas State U	3.11	3	IAmb_Lg		07 33 58.4	
	comp=Z,27nm,0.8s						
Z38A	Mt. Pleasant	3.11	150	IAmb_Lg		07 33 55.7	
	comp=Z,34nm,0.7s						
S39A	Bolivar	3.28	58	IAmb_Lg		07 33 55.8	
	comp=Z,32nm,0.7s						
WHAR	Wooly Hollow	3.76	99	IAmb_Lg		07 34 14.4	
	comp=Z,41nm,1.1s						
FCAR	Ozark Folk Cen	3.81	90	IAmb_Lg		07 34 13.4	
	comp=Z,46nm,0.7s						
W41B	Gary Mavity, V	3.82	101		Pn	07 33 10.8	-0.2
WLAR	White Oak Lake	3.82	126	IAmb_Lg		07 34 13.6	
	comp=Z,27nm,0.8s						
MGMO	Mountain Grove	3.85	71	IAmb_Lg		07 34 18.4	
	comp=Z,42nm,0.8s						
AMTX	Amarillo	4.12	256	IAmb_Lg		07 34 27.7	
	comp=Z,28nm,0.9s						
R40A	Maddies Statio	4.30	56	IAmb_Lg		07 34 29.7	
	comp=Z,40nm,0.8s						
P38A	Dawn	4.47	35	IAmb_Lg		07 34 34.6	
	comp=Z,26nm,0.8s						
LCAR	Lake Charles	4.59	87	IAmb_Lg		07 34 44.4	
	comp=Z,18nm,0.8s						
N33A	J Bar K, Exete	4.77	354	IAmb_Lg		07 34 45.3	
	comp=Z,35nm,0.9s						
CCM	Cathedral Cave	4.92	64	IAmb_Lg		07 34 52.0	
	comp=Z,39nm,0.8s						
N35A	Tabor	4.95	10	IAmb_Lg		07 34 59.4	
	comp=Z,37nm,0.8s						
HBAR	Harrisburg	5.03	93	IAmb_Lg		07 34 53.0	
	comp=Z,40nm,0.7s						
P40A	Paris	5.18	46	IAmb_Lg		07 35 03.0	
	comp=Z,35nm,0.8s						
FVM	French Village	5.50	67	IAmb_Lg		07 35 08.1	
	comp=Z,27nm,0.8s						
BGNE	Belgrade	5.51	350	IAmb_Lg		07 35 17.9	
	comp=Z,34nm,0.8s						
KSCO	Kaye Shedlock’	5.51	305	IAmb_Lg		07 35 13.2	
	comp=Z,24nm,0.8s						
GNAR	Gosnell	5.52	88	IAmb_Lg		07 35 08.2	
	comp=Z,46nm,0.8s						
N38A	Joes South For	5.56	29	IAmb_Lg		07 35 15.8	
	comp=Z,30nm,0.8s						
JCT	Junction City	6.03	205	IAmb_Lg		07 35 23.1	
	comp=Z,13nm,0.7s						
T25A	Trinidad	6.21	283	IAmb_Lg		07 35 32.9	
	comp=Z,17nm,1.0s						
W45A	Hickory Valley	6.28	95	IAmb_Lg		07 35 40.4	
	comp=Z,22nm,0.7s						
OGNE	Ogallala	6.42	322	IAmb_Lg		07 35 51.9	
	comp=Z,26nm,0.7s						
SCIA	State Center	6.54	24	IAmb_Lg		07 35 44.7	
	comp=Z,18nm,0.7s						
K31A	O'Neill	6.79	348	IAmb_Lg		07 36 05.5	
	comp=Z,36nm,0.9s						
Q44A	Meyer Farm, Va	6.86	63	IAmb_Lg		07 35 59.0	
	comp=Z,25nm,0.9s						
PLAL	Pickwick Lake	7.21	95	IAmb_Lg		07 36 15.0	
	comp=Z,14nm,1.1s						
Q24A	Divide	7.26	297	IAmb_Lg		07 36 11.6	
	comp=Z,11nm,0.9s						
K38A	Parkersburg	7.35	24	IAmb_Lg		07 36 20.1	
	comp=Z,21nm,1.0s						
L40A	Anamosa	7.47	34	IAmb_Lg		07 36 05.3	
	comp=Z,19nm,0.9s						
O44A	Mansfield	7.79	55	IAmb_Lg		07 36 26.4	
	comp=Z,19nm,0.7s						
L42A	Oliver, Polo	8.19	41	IAmb_Lg		07 36 35.2	
	comp=Z,19nm,0.8s						
I37A	Lemond, Waseca	8.44	17	IAmb_Lg		07 36 51.9	
	comp=Z,15nm,1.1s						
JFWS	Jewell Farm	8.58	34	IAmb_Lg		07 36 50.2	
	comp=Z,15nm,0.8s						
M44A	Midewin, Midew	8.73	49	IAmb_Lg		07 36 45.3	
	comp=Z,19nm,0.9s						
SFIN	Lafayette	8.82	57	IAmb_Lg		07 36 53.9	
	comp=Z,23nm,0.8s						
RSSD	Black Hills	9.82	328	IAmb_Lg		07 37 40.5	
	comp=Z,10nm,0.9s						

*VAO **11** 07:49:57.8±0.6, 22.°23S×68.°94W, h126km, mb4.2*

*IDC **11** 07:49:59.1±0.8, 22.°25S×68.°36W, h97km±16km, mb3.6/2, mb1 3.7/4, mb1mx3.4/25, mbtmp4.0/4, Error ellipse: s-maj=48.3km s-min=26.8km az=127.0*

*GUC **11** 07:50:00.4±0.7, 22.°14S×68.°99W, h102km±7km, ML3.7*

ISC 11 07:49:58.3±0.7, **22.°14S**±0.°05×**68.°82W**±0.°07, **h120**km±7km, **n46**, σ**1.01**/54, **2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.48	190	P	Pn	07 50 17.1	+0.6
	153nm,0.3s,baz=330,slow=4.1,SNR=1774						
LVC				S	Sn	07 50 29.9	-0.4
	680nm,0.3s,baz=282,slow=22,SNR=45						
LVC	Limon Verde	0.48	190	*e*P	Pn	07 50 16.6	0.0
LVC				*i* S	Sn	07 50 29.6	-0.7
LVC	Limon Verde	0.48	190	*e*P	Pn	07 50 16.9	+0.4
PATCX	Punta Patache	1.81	316	*e*P	Pn	07 50 30.4	+0.9
PATCX				*e*S	Sn	07 50 52.8	-0.4
PATCX				IAML		07 50 59.7	
	comp=N,497nm,0.2s						
TA01	Diego Aracena	2.02	321	*e*P	Pn	07 50 32.5	+0.6
TA01				*i* S	Sn	07 50 58.2	+0.6
TA01				IAML		07 51 00.7	
	comp=N,969nm,0.3s						
HMBC	Humberstone	2.10	331	⇓*i*P	Pn	07 50 33.4	+0.3
HMBC				*i* S	Sn	07 50 58.8	-1.1
HMBC				IAML		07 51 05.5	
	comp=E,780nm,0.4s						
PB10	IPOC Station P	2.11	229	*e*P	Pn	07 50 34.0	+0.9
PB10				*e*S	Sn	07 50 58.5	-1.1
PB10				IAML		07 51 12.0	
	comp=N,258nm,0.4s						
TA02	Huaiquique	2.23	326	*e*P	Pn	07 50 34.4	-0.2
TA02				*e*S	Sn	07 51 02.4	0.0
GO01	Chusmiza	2.48	352	⇓*i*P	Pn	07 50 39.4	+1.1
GO01				*e*S	Sn	07 51 09.5	+0.5
GO01				IAML		07 51 11.1	
	comp=N,738nm,0.7s						
PB12	IPOC Station P	3.78	338	*e*P	Pn	07 50 53.7	-1.3
PB16	IPOC Station P	3.84	350	*e*P	Pn	07 50 57.1	+0.8
LPAZ	La Paz	5.86	6	P	Pn	07 51 25.5	+2.1
	comp=N,2.4nm,0.3s,baz=189,slow=5.6,SNR=93						
LPAZ	La Paz	5.86	6	*e*P	Pn	07 51 24.9	+1.5
SIV	San Ignacio	9.54	51	P	Pn	07 52 09.0	-3.6
	comp=N,1.4nm,0.3s,baz=232,slow=10,SNR=22						
SIV				S	Sn	07 53 47.4	-11
	comp=N,0.3nm,0.3s,baz=294,slow=23,SNR=3.8						
CPUP	Villa Florida	11.28	114	*e*P	Pn	07 52 36.1	+0.1
VILB	Vilhena	12.28	43	*e*P	Pn	07 52 50.1	+0.8
AQDB	Aquidauana	12.34	85	*e*P	Pn	07 52 50.5	+0.5
PP1B	Ponte de Pedra	13.87	73	*e*P	Pn	07 53 10.1	+0.3
CZSB	Cruzeiro do Su	14.81	345	*e*P	Pn	07 53 21.5	-0.2
PDRB	Porto dos Gac	15.59	50	*e*P	P	07 53 33.4	+0.1
PTGB	Pitanga	15.59	103	*e*P	P	07 53 33.8	+0.6
PCMB	Pacaembu	16.31	91	*e*P	P	07 53 41.3	+0.2
CLDB	Colider	16.76	50	*e*P	Pn	07 53 47.5	+1.5
ARAG	Araguaiana, MT	17.31	71	*e*P	P	07 53 52.4	+0.2
ITRB	Iturama	17.42	85	*e*P	Pn	07 53 54.2	+0.3
FRTB	Fartura	17.80	98	*e*P	Pn	07 53 58.8	+0.2
BB19B	Bebedouro	18.90	91	*e*P	P	07 54 10.3	+0.6
IPMB	Ipameri, GO	19.79	82	*e*P	P	07 54 18.1	-1.2
VAO	Valinhos	20.20	97	*e*P	P	07 54 22.9	-0.9
MACA	Manacapuru-AM	20.45	24	*e*P	P	07 54 27.8	+1.4
BDFB	Brasilia	20.71	75	P	P	07 54 29.0	-0.3
	comp=N,2.8nm,0.4s,baz=238,slow=10.0,SNR=6.6						
PARB	Paraibuna	21.43	98	*e*P	P	07 54 36.0	-1.0
ITTB	Itaituba	21.75	38	*e*P	P	07 54 39.6	-0.7
BSCB	Bom Sucesso	22.39	92	*e*P	P	07 54 48.6	+1.6
OTAV	Otavalo	24.14	336	*e*P	P	07 55 02.2	-1.6
JANB	Januaria	24.25	77	*e*P	P	07 55 03.0	-1.3
PRPB	Parauapebas	24.27	52	*e*P	P	07 55 03.9	-0.6
SMTB	Santa Maria do	24.30	60	*e*P	P	07 55 05.5	+0.7
MALB	Monte Alegre	24.64	37	*e*P	P	07 55 08.6	+0.8
SDBA	SAO DESIDERIO	24.77	71	*e*P	P	07 55 09.7	+0.6
GUA01	Guaratinga, BA	27.90	84	*e*P	P	07 55 37.1	-0.1
GDU01	Guandu, BA	29.01	78	*e*P	P	07 55 46.7	-0.3
NBLA	Lagarto - SE	31.67	75	*e*P	P	07 56 09.1	-1.4
NBAN	Anadia - AL	33.58	74	*e*P	P	07 56 27.1	0.0
TORD	Torodi Ar. Bea	77.49	70	P	P	08 01 41.4	+0.3
	comp=N,0.4nm,0.5s,baz=256,slow=4.2,SNR=2.9						
MKAR	Makanchi Array	146.10	37	PKPbc	PKiKP	08 09 27.1	-0.3
	comp=N,0.3nm,0.8s,baz=318,slow=1.9,SNR=3.7						

*IDC **11** 08:08:06.7±3.0, 54.°21N×87.°40E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=16.6km az=54.0*

*NNC **11** 08:08:06.8±2.4, 54.°31N×87.°30E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=15.3km s-min=11.4km az=47.0, Suspected Mining explosion.*

ISC 11 08:08:10.3±5.2, **54.°1N**±0.°2×**87.°0E**±0.°2, **h0**km, **n7**, σ**0.75**/9, **2C-4D, Southwestern Siberia**

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

I46RU	**ZALESOVO INFRA** baz=81,slow=332,SNR=4.2	**1.31**	**263**	*i*		08 17 50.0	
ZAA0	**Zalesovo Array** 0.3nm,0.3s,baz=74,slow=14	**1.31**	**263**	⇓P	**Pg**	**08 08 34.5**	**-0.8**
ZAA0	2.8nm,0.6s,baz=74,slow=25			⇓S	**Sn**	**08 08 55.0**	**+1.1**
ZALV	**Zalesovo Beam** 2.8nm,0.3s,baz=82,slow=16,SNR=28	**1.31**	**263**	Pg	**Pg**	**08 08 34.5**	**-0.8**
ZALV	2.5nm,0.3s,baz=74,slow=26,SNR=13			Lg	Lg	08 08 55.2	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=55,slow=14,SNR=5.4	**6.27**	**239**	Pn	**Pn**	**08 09 44.3**	**+0.4**
KURBB	0.0nm,0.3s,baz=62,slow=28,SNR=2.6			Lg	Lg	08 11 34.5	
MK31	**Makanchi Array** baz=28,slow=13,SNR=16	**7.93**	**204**	Pn	**Pn**	**08 10 07.5**	**+0.7**
MK31	0.4nm,0.6s			⇓Sn	**Sn**	**08 11 37.2**	**0.0**
MK31	0.6nm,0.7s			⇑Lg	Lg	08 12 25.5	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=27,slow=14,SNR=9.6	**7.93**	**204**	Pn	**Pn**	**08 10 06.6**	**-0.2**
MKAR	0.1nm,0.3s,baz=30,slow=25,SNR=5.6			Sn	**Sn**	**08 11 37.2**	**0.0**
MAKZ	**Makanchi** 0.7nm,0.8s	**8.00**	**206**	⇑Pn	**Pn**	**08 10 08.1**	**+0.5**
MAKZ	1.8nm,1.2s			⇓Lg	Lg	08 12 26.0	

TAP 11 08:21:16.4,21°.90N×120°.54E,h46km,ML3.6,8C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HEN	**Hengchun** baz=72	**0.21**	**61**	⇑*i*P	Pn	08 21 24.7	+0.3
HEN	baz=72			*i* S	Sn	08 21 31.1	+1.1
TWK1	**Hengchun** baz=82	**0.25**	**81**	⇑*i*P	Pn	08 21 25.0	+0.3
TWK1	baz=82			S	Sn	08 21 31.1	+0.5
TWKBT	**Hengchun** baz=81	**0.26**	**81**	⇑*i*P	Pn	08 21 25.1	+0.3
TWKBT	baz=81			S	Sn	08 21 31.3	+0.7
SMST	**Manzhou Townsh** baz=67	**0.30**	**67**	*i* P	Pn	08 21 25.7	+0.5
SMST	baz=67			*e*S	Sn	08 21 32.7	+1.3
TSEB	**Hengchuen, Pin** baz=90	**0.34**	**90**	⇑*i*P	Pn	08 21 25.9	+0.3
TSEB	baz=90			*e*S	Sn	08 21 32.8	+0.8
SLIU	**Shizi** baz=44	**0.40**	**38**	⇑*i*P	Pn	08 21 26.8	+0.6
SLIU	baz=44			S	Sn	08 21 34.0	+0.8
WLCH	**Liuqiu** baz=332	**0.47**	**342**	*e*P	Pn	08 21 28.1	+1.0
WLCH	baz=332			*e*S	Sn	08 21 37.8	+3.2
SCZT	**Fangliau** baz=16	**0.47**	**9**	⇑*i*P	Pn	08 21 27.7	+0.5
SCZT	baz=16			*e*S	Sn	08 21 34.8	0.0
TAWH	**Dawu Township** baz=44	**0.54**	**37**	⇑*i*P	Pn	08 21 28.9	+0.9
TAWH	baz=44			*i* S	Sn	08 21 37.0	+0.8
EAST	**Anshuo** baz=41	**0.56**	**31**	P	Pn	08 21 29.1	+0.9
EAST	baz=41			*e*S	Sn	08 21 37.6	+0.9
TAW	**Tawu** baz=37	**0.56**	**36**	P	Pn	08 21 29.1	+0.9
TAW	baz=37			*e*S	Sn	08 21 37.5	+0.8
SSPT	**Xinbi** baz=12	**0.58**	**3**	⇑*i*P	Pn	08 21 29.2	+0.7
SSPT	baz=12			*e*S	Sn	08 21 39.0	+2.0
MASBT	**Mashibuluo** baz=18	**0.71**	**7**	*i* P	Pn	08 21 30.4	+0.2
MASBT	baz=18			*e*S	Sn	08 21 40.7	+0.6
TSMG	**Majia** baz=7.0	**0.81**	**7**	P	Pn	08 21 32.1	+0.6
TSMG	baz=7.0			*e*S	Sn	08 21 42.9	+0.6
SSD	**Sandimen** baz=7.0	**0.84**	**6**	P	Pn	08 21 32.5	+0.5
SSD	baz=7.0			*e*S	Sn	08 21 43.8	+0.5
TWM1	**Shoushan** baz=354	**0.92**	**353**	*e*P	Pn	08 21 34.7	+1.6
LAY	**Lan-yu** baz=72	**0.95**	**82**	P	Pn	08 21 33.9	+0.4
LAY	baz=72			*e*S	Sn	08 21 46.5	+0.6
LYUB	**Lan-yu** baz=74	**0.98**	**84**	*e*P	Pn	08 21 33.0	-0.7
LYUB	baz=74			*e*S	Sn	08 21 44.8	-1.7
SCST	**Cishan** baz=358	**0.98**	**358**	*e*P	Pn	08 21 34.0	+0.2
TWG	**Pinlang** baz=39	**1.04**	**28**	*e*P	Pn	08 21 35.7	+1.1
TWG	baz=39			*e*S	Sn	08 21 49.6	+1.5
TWGBT	**Beinan** baz=39	**1.04**	**29**	*e*P	Pn	08 21 35.6	+1.0
SHHT	**Tainan City** baz=341	**1.13**	**351**	*e*P	Pn	08 21 38.4	+2.6
LONT	**Longtian** baz=40	**1.14**	**29**	*e*P	Pn	08 21 36.4	+0.4
SGST	**Jiashian** baz=3.0	**1.18**	**2**	*e*P	Pn	08 21 36.0	-0.5
SSHA	**Shanhua** baz=350	**1.25**	**349**	*e*P	Pn	08 21 38.2	+0.8
CHN1	**Nanshi** baz=360	**1.28**	**360**	*e*P	Pn	08 21 38.4	+0.5
EDH	**Donghe** baz=34	**1.28**	**33**	*e*P	Pn	08 21 38.2	+0.3
STYH	**Taoyuan** baz=1.0	**1.28**	**10**	*e*P	Pn	08 21 38.9	+1.0
STYH	baz=1.0			*e*S	Sn	08 21 54.9	+1.0
WTP	**Ta-pu** baz=3.0	**1.34**	**3**	*e*P	Pn	08 21 39.4	+0.6
WTP	baz=3.0			*e*S	Sn	08 21 56.0	+0.6
ELDTW	**Lidau** baz=7.0	**1.35**	**19**	*e*P	Pn	08 21 40.4	+1.4
TWK	**Hsinying** baz=359	**1.36**	**358**	*e*P	Pn	08 21 40.2	+1.2
TWK	baz=359			*e*S	Sn	08 21 55.6	-0.3
TPUB	**Ta-pu** baz=4.0	**1.39**	**3**	P	Pn	08 21 39.9	+0.4
TPUB	baz=4.0			*e*S	Sn	08 21 57.2	+0.5
CHKT	**Chengkung** baz=33	**1.42**	**33**	*e*P	Pn	08 21 41.7	+2.0
CHN4	**Tsaushan** baz=2.0	**1.44**	**2**	P	Pn	08 21 40.8	+0.6
CHN4	baz=2.0			*e*S	Sn	08 21 59.1	+1.2
FULB	**Fuli** baz=38	**1.47**	**28**	*e*P	Pn	08 21 42.5	+2.1
FULB	baz=38			*e*S	Sn	08 22 01.1	+2.6
CHY	**Chiayi** baz=357	**1.59**	**356**	*e*P	Pn	08 21 42.5	+0.4
CHY	baz=357			*e*S	Sn	08 22 01.5	0.0
EYUL	**Yuli** baz=39	**1.61**	**26**	*e*P	Pn	08 21 44.3	+1.9
ALS	**Alishan** baz=359	**1.62**	**9**	P	Pn	08 21 43.8	+1.0
ALS	baz=359			*e*S	Sn	08 22 03.1	+0.4
YUS	**Yu-Shan** baz=4.0	**1.62**	**14**	P	Pn	08 21 44.2	+1.2
WSL	**Shuilin Townsh** baz=350	**1.64**	**350**	*e*P	Pn	08 21 42.4	-0.3
YULB	**Yu-li** baz=14	**1.64**	**25**	*e*P	Pn	08 21 44.0	+1.1
VCHM	**Qimei** baz=333	**1.66**	**322**	*e*P	Pn	08 21 42.2	-0.8
VCHM	baz=333			*e*S	Sn	08 22 01.5	-1.6
CHN5	**Tsauling** baz=354	**1.69**	**4**	*e*P	Pn	08 21 44.3	+0.7
CHN5	baz=354			*e*S	Sn	08 22 04.2	+0.1
WSF	**Szhu** baz=351	**1.75**	**350**	*e*P	Pn	08 21 44.9	+0.6
WSF	baz=351			*e*S	Sn	08 22 05.2	-0.3
EHY	**Hungye** baz=37	**1.75**	**24**	*e*P	Pn	08 21 45.9	+1.5
WDLH	**Douliu**	**1.78**	**0**	*e*P	Pn	08 21 45.1	+0.4
HGSD	**Ruisui** baz=16	**1.78**	**27**	*e*P	Pn	08 21 45.6	+0.9
HGSD	baz=16			*e*S	Sn	08 22 08.6	+2.4
WTK	**Tuku** baz=356	**1.78**	**356**	*e*P	Pn	08 21 44.5	-0.3
WHYT	**Xinyi Township** baz=358	**1.81**	**9**	*e*P	Pn	08 21 46.4	+1.2
PHUB	**P'eng-hu** baz=331	**1.83**	**331**	*e*P	Pn	08 21 44.4	-1.0
PHUB	baz=331			*e*S	Sn	08 22 04.9	-2.6
SSLB	**Suanglung**	**1.92**	**11**	*e*P	Pn	08 21 47.7	+1.0
WJS	**Zhushan** baz=356	**1.92**	**5**	*e*P	Pn	08 21 46.9	+0.3
VWDT	**VWDT** baz=6.0	**1.93**	**17**	*e*P	Pn	08 21 48.5	+1.8
WRL	**Guolierlin Hig** baz=356	**2.00**	**356**	*e*P	Pn	08 21 47.3	-0.4
SMLT	**Sun Moon Lake** baz=359	**2.00**	**10**	*e*P	Pn	08 21 48.9	+1.1
SMLT	baz=359			*e*S	Sn	08 22 13.9	+2.2
TYC	**Yuchr** baz=357	**2.01**	**8**	*e*P	Pn	08 21 49.0	+1.1
TYC	baz=357			*e*S	Sn	08 22 12.8	+0.9
ESL	**Shilin** baz=35	**2.07**	**23**	*e*P	Pn	08 21 50.6	+1.9
ESL	baz=35			*e*S	Sn	08 22 14.7	+1.3
OWD	**Renai** baz=6.0	**2.13**	**16**	*e*P	Pn	08 21 51.3	+1.6
OWD	baz=6.0			*e*S	Sn	08 22 15.2	+0.3
WUSB	**Renai** baz=3.0	**2.15**	**14**	*e*P	Pn	08 21 51.4	+1.5
WUSB	baz=3.0			*e*S	Sn	08 22 16.1	+0.7
WCS	**Beigang Elemen** baz=9.0	**2.17**	**9**	P	Pn	08 21 51.3	+1.1
WCS	baz=9.0			*e*S	Sn	08 22 16.9	+1.0
CHGB	**Renai** baz=4.0	**2.23**	**15**	*e*P	Pn	08 21 52.2	+1.2
TCU	**Taichung** baz=4.0	**2.24**	**3**	*e*P	Pn	08 21 51.9	+0.9
WHF	**Hehuan Shan** baz=7.0	**2.33**	**17**	*e*P	Pn	08 21 54.0	+1.4
TWD	**Chiawan** baz=24	**2.38**	**24**	*e*P	Pn	08 21 54.7	+1.8
WHP	**Taichung City** baz=9.0	**2.39**	**9**	P	Pn	08 21 54.7	+1.4
WHP	baz=9.0			*e*S	Sn	08 22 22.9	+1.5
FUSS	**Fushou** baz=5.0	**2.42**	**15**	*e*P	Pn	08 21 55.4	+1.6
TWQ1	**Liyutan** baz=5.0	**2.44**	**5**	*e*P	Pn	08 21 54.6	+0.7
TWQ1	baz=5.0			*e*S	Sn	08 22 23.4	+0.9
ETLH	**Xiulin Townshi** baz=9.0	**2.45**	**21**	*e*P	Pn	08 21 55.4	+1.4
ETLH	baz=9.0			*e*S	Sn	08 22 24.7	+1.8
NACB	**Ninganchiao** baz=23	**2.46**	**23**	*e*P	Pn	08 21 54.4	+0.3
NNSB	**Datong** baz=17	**2.63**	**17**	*e*P	Pn	08 21 58.6	+2.1
NNSB	baz=17			*e*S	Sn	08 22 29.2	+1.8
NNS	**Nan Shan** baz=17	**2.64**	**17**	*e*P	Pn	08 21 58.5	+1.8
NNS	baz=17			*e*S	Sn	08 22 28.9	+1.4
NSTT	**Nanjuang** baz=358	**2.75**	**9**	*e*P	Pn	08 21 59.0	+1.0
LIOB	**Emei** baz=358	**2.77**	**9**	*e*P	Pn	08 21 59.6	+1.3
NFF	**Wufeng Townshi** baz=359	**2.77**	**11**	*e*P	Pn	08 21 59.5	+1.1
NFF	baz=359			*e*S	Sn	08 22 32.6	+2.0
LATG	**Datong** baz=9.0	**2.77**	**19**	*e*P	Pn	08 22 00.1	+1.6
LATG	baz=9.0			*e*S	Sn	08 22 33.9	+3.1
NDT	**Datong Townshi** baz=7.0	**2.83**	**18**	*e*P	Pn	08 22 01.1	+1.9
YHNB	**Yeheng** baz=16	**2.86**	**15**	*e*P	Pn	08 22 00.6	+1.0
YHNB	baz=16			*e*S	Sn	08 22 34.5	+1.6
NSK	**Sanguang** baz=15	**2.86**	**15**	*e*P	Pn	08 22 01.2	+1.6
ENTT	**Nioudou** baz=31	**2.88**	**19**	*e*P	Pn	08 22 02.5	+2.6
NDS	**Dongshan** baz=33	**2.93**	**21**	*e*P	Pn	08 22 03.8	+3.3
NWLT	**Wulai** baz=7.0	**3.00**	**17**	*e*P	Pn	08 22 03.5	+2.0
TIPB	**Shuangxi** baz=32	**3.28**	**21**	*e*P	Pn	08 22 07.5	+2.2

*IDC **11** 08:38:32.4±0.9,5°.07N×125°.40E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/49,mbtmp3.8/6,MS2.9/3,Ms1 3.0/3, ms1mx2.5/75,Error ellipse: s-maj=56.4km s-min=16.1km az=73.0*

ISC 11 08:38:35.5±1.2,**6°.0N**±0°.2×**127°.4E**±0°.2,**h35km,n11, σ1s.13**/11,**mb3.8**/6,**1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)** 90nm,0.3s,baz=106,slow=1.4,SNR=5.5	**2.11**	**301**	Pn	**Pn**	**08 39 08.1**	**-0.2**
DAV	95nm,0.3s,baz=62,slow=23,SNR=8.8			Sn	**Sn**	**08 39 35.8**	**+2.4**
KCP	**Kidapawan**	**2.51**	**294**	⇑*e*P	**Pn**	**08 39 13.3**	**-0.6**
KCP				*i* S	**Sn**	**08 39 42.4**	**-1.0**
SIJI	**Sorong** comp=Z,63nm,21.2s,baz=166,slow=33	**7.81**	**150**	LR	LR	08 43 08.4	
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=345,slow=10,SNR=4.0	**26.64**	**165**	P	**P**	**08 44 10.2**	**-0.9**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=340,slow=7.0,SNR=2.9	**30.13**	**168**	P	**P**	**08 44 41.8**	**-0.4**
ASAR	0.2nm,0.4s,baz=355,slow=2.3,SNR=4.3			PcP	**PcP**	**08 47 43.2**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,18nm,21.7s,baz=250,slow=36	**30.39**	**297**	LR	LR	08 56 03.4	
STKA	**Stephens Creek** 1.2nm,0.8s,baz=334,slow=9.4,SNR=4.5	**39.99**	**161**	P	**P**	**08 46 08.2**	**+1.3**
MKAR	**Makanchi Array** 0.6nm,0.3s,baz=116,slow=7.6,SNR=19	**56.13**	**324**	P	**P**	**08 48 11.0**	**-0.5**
AAK	**Ala-Archa** comp=Z,23nm,18.6s,baz=8.0,slow=40	**59.17**	**317**	LR	LR	09 17 01.0	
KURBB	**Kurchatov Arra** 1.2nm,0.4s,baz=126,slow=7.0,SNR=21	**60.24**	**326**	P	**P**	**08 48 39.6**	**-0.6**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=89,slow=13,SNR=2.8	**65.83**	**326**	P	**P**	**08 49 17.2**	**-0.1**

*SFS **11** 08:41:51.0,35°.68N×3°.68W,ML2.5,ALBORAN SUR*
*MDD **11** 08:41:52.2±0.5,35°.70N×3°.66W,h0km,mb_Lg2.5/13, Error ellipse: s-maj=4.6km s-min=3.0km az=19.0*
*CNRM **11** 08:41:53.2,35°.66N×3°.64W,h31km,ml2.0*
ISC 11 08:41:52.0±1.3,**35°.68N**±0°.03×**3°.64W**±0°.04,**h16km**±11km, **n23,σ0s.82**/40,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**208**	P	**Pb**	**08 42 03.4**	**+0.6**
PALE				S	**Sb**	**08 42 11.4**	**+1.3**
EALB	**Alboran**	**0.56**	**62**	Pg	**Pg**	**08 42 03.2**	**+0.1**
EALB				Sg	**Sb**	**08 42 12.2**	**+1.0**
EALB				*i* Vmb_Lg		08 42 14.0	
EMEL	**Melilla**	**0.68**	**124**	Pg	**Pg**	**08 42 05.2**	**-0.1**
EMEL				Sg	**Sg**	**08 42 13.9**	**-0.4**
ELGU	**Los Guajares,**	**1.19**	**1**	Pg	**Pn**	**08 42 13.5**	**-0.6**
ELGU				Sg	**Sb**	**08 42 29.3**	**-0.1**
ELGU				*i* Vmb_Lg		08 42 33.2	
EMAL	**Malaga-Limoner**	**1.25**	**330**	P	**Pn**	**08 42 14.1**	**-0.8**
EMAL				S	**Sn**	**08 42 31.9**	**+0.4**
EMIJ	**Mijas**	**1.27**	**314**	Pg	**Pn**	**08 42 15.1**	**-0.1**
EMIJ				Sg	**Sb**	**08 42 30.6**	**-1.2**
EMIJ				*i* Vmb_Lg		08 42 32.4	
TAF	**Taforalt**	**1.33**	**130**	P	**Pn**	**08 42 15.6**	**-0.4**
EBER	**Berja**	**1.36**	**26**	Pg	**Pn**	**08 42 15.6**	**-1.0**
EBER				Sg	**Sn**	**08 42 33.8**	**-0.6**
EBER				*i* Vmb_Lg		08 42 57.8	
SMIR	**Smir Dam**	**1.42**	**271**	P	**Pn**	**08 42 15.4**	**-1.7**
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pn**	**08 42 18.0**	**-0.1**
EGOR				Sn	**Sb**	**08 42 37.7**	**-0.1**
EGOR				*i* Vmb_Lg		08 42 44.2	
CHEFC	**Chefchaouen**	**1.50**	**248**	P	**Pb**	**08 42 19.6**	**+0.1**
EQUE	**Quentar**	**1.53**	**6**	Pn	**Pn**	**08 42 18.6**	**-0.3**
EQUE				Sn	**Sn**	**08 42 37.9**	**-0.6**
EQUE				*i* Vmb_Lg		08 43 22.7	
JBK	**JBK**	**1.61**	**146**	P	**Pn**	**08 42 19.0**	**-0.9**
JBK				S	**Sn**	**08 42 38.4**	**-2.1**
EQES	**Quesada**	**2.17**	**12**	Pn	**Pn**	**08 42 29.3**	**+1.7**
EQES				Sn	**Sn**	**08 42 55.2**	**+1.0**
EQES				*i* Vmb_Lg		08 42 59.3	
EADA	**Adamuz**	**2.59**	**343**	Pn	**Pn**	**08 42 33.2**	**-0.2**
EADA				Sn	**Sn**	**08 43 05.1**	**+0.5**
EADA				*i* Vmb_Lg		08 43 16.9	
ECAB	**El Cabril**	**2.78**	**330**	Pn	**Pn**	**08 42 35.9**	**-0.1**
ECAB				Sn	**Sn**	**08 43 09.8**	**+0.5**
ECAB				*i* Vmb_Lg		08 43 38.0	
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**08 42 38.8**	**+0.4**
MDT	**Midelt**	**2.97**	**196**	P	**Pn**	**08 42 40.2**	**+1.6**
EMIN	**Mina Concepcio**	**3.20**	**311**	Pn	**Pn**	**08 42 41.6**	**-0.2**
EMIN				Sn	**Sn**	**08 43 19.2**	**-0.4**
EMIN				*i* Vmb_Lg		08 43 22.8	
ZHG	**ZHG**	**3.33**	**229**	P	**Pn**	**08 42 43.4**	**-0.1**
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**08 42 47.5**	**+0.3**
EGRO				Sn	**Sn**	**08 43 28.9**	**-0.5**
EGRO				*i* Vmb_Lg		08 44 44.6	
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**08 42 49.4**	**+0.8**
PVAQ				S	**Sn**	**08 43 31.6**	**-0.4**
EBAD	**Badajoz**	**4.08**	**320**	Pn	**Pn**	**08 42 53.6**	**-0.2**
EBAD				Sn	**Sn**	**08 43 41.3**	**+0.1**
EBAD				*i* Vmb_Lg		08 43 53.6	

IDC 11 08:51:28.0±3.3,**54°.30N**×**87°.81E,h0km,mb1 2.4**/2, **mb1mx2.4**/52,**mbtmp2.4**/2,**ML2.0**/2,**Error ellipse: s-maj=28.3km s-min=21.7km az=39.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=82,slow=331,SNR=2.9	**1.79**	**260**	*i*		09 01 11.2	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=76,slow=13,SNR=18	**1.79**	**260**	Pn	Pn	08 51 58.7	-1.5
ZALV	1.2nm,0.3s,baz=78,slow=22,SNR=5.9			Lg	Lg	08 52 24.4	
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=54,slow=13,SNR=3.0	**6.76**	**241**	Pn	Pn	08 53 08.8	+0.4
KURBB	0.0nm,0.3s,baz=63,slow=33,SNR=5.2			Lg	Lg	08 55 06.5	
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=24,slow=14,SNR=1.9	**8.30**	**207**	Pn	Pn	08 53 31.1	+1.5
MKAR	0.0nm,0.3s,baz=30,slow=23,SNR=2.8			Lg	Lg	08 55 53.2	

*IDC **11** 08:52:40.5±3.0,53°.72N×88°.13E,h0km,mb1 3.0/2, mb1mx2.9/51,mbtmp3.0/2,ML2.7/2,Error ellipse: s-maj=28.2km s-min=18.8km az=54.0*
*NNC **11** 08:52:40.6±1.2,53°.68N×88°.20E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=8.8km s-min=6.4km az=89.0, Suspected Mining explosion.*
ISC 11 08:52:38.5±3.8,**53°.9N**±0°.2×**88°.3E**±0°.2,**h0km,n7,σ0s.71**/8, **4C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=92,slow=338,SNR=3.7	**2.05**	**272**	*i*		09 06 10.0	
ZAA0	**Zalesovo Array** 1.4nm,0.7s,baz=98,slow=16	**2.05**	**272**	⇓Pn	**Pb**	**08 53 15.7**	**-1.0**
ZAA0	2.1nm,0.5s,baz=97,slow=23			⇓Sn	**Sb**	**08 53 42.8**	**+0.1**
ZALV	**Zalesovo Beam** 1.5nm,0.3s,baz=99,slow=14,SNR=14	**2.05**	**272**	Pn	**Pn**	**08 53 15.1**	**+0.9**
ZALV	5.8nm,0.3s,baz=98,slow=28,SNR=24			Lg	Lg	08 53 43.7	
KURK	**Kurchatov** 1.1nm,0.7s	**6.74**	**246**	⇑Pn	**Pn**	**08 54 18.7**	**+0.1**
KURK	2.8nm,1.0s			⇓Lg	Lg	08 56 10.2	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=13	**6.84**	**245**	Pn	**Pn**	**08 54 20.0**	**+0.1**
KURBB	0.0nm,0.3s,baz=61,slow=35,SNR=2.1			Lg	Lg	08 56 10.1	
KURBB	**Kurchatov Arra** 1.2nm,0.3s	**6.84**	**245**	⇑Pn	**Pn**	**08 54 20.7**	**+0.8**
KURBB	2.6nm,0.6s			⇑Sn	**Sn**	**08 55 38.7**	**+0.3**
KURBB	3.3nm,0.7s			⇑Lg	Lg	08 56 13.1	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=29,slow=13,SNR=4.9	**8.09**	**211**	Pn	**Pn**	**08 54 37.5**	**+0.3**
MKAR	0.1nm,0.3s,baz=27,slow=29,SNR=2.2			Lg	Lg	08 56 50.2	

*IDC **11** 09:09:08.7±2.6,53°.52N×87°.83E,h0km,mb1 3.9/2, mb1mx3.2/45,mbtmp3.9/2,ML3.5/2,Error ellipse: s-maj=22.5km s-min=15.0km az=62.0*
*NNC **11** 09:09:09.4±1.5,53°.45N×87°.71E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=10.5km s-min=5.8km az=72.0, Suspected Mining explosion.*
ISC 11 09:09:08.2±3.2,**53°.6N**±0°.1×**87°.8E**±0°.2,**h0km,n10, σ1s.27**/16,**9C-5D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=99,slow=334,SNR=12	**1.78**	**283**	*i*		09 21 40.0	
ZAA0	**Zalesovo Array** 1.9nm,0.5s,baz=102,slow=13	**1.78**	**283**	⇑P	**Pn**	**09 09 40.6**	**+0.4**
ZAA0	9.1nm,0.9s,baz=106,slow=26			⇓S	**Sg**	**09 10 05.7**	**+0.3**
ZALV	**Zalesovo Beam** 8.0nm,0.3s,baz=103,slow=14,SNR=95	**1.78**	**283**	Pn	**Pb**	**09 09 40.8**	**-0.9**
ZALV	7.4nm,0.3s,baz=102,slow=20,SNR=6.4			Lg	Lg	09 10 06.4	
KURK	**Kurchatov** 2.5nm,0.5s	**6.31**	**247**	⇓Pn	**Pn**	**09 10 43.0**	**+0.6**
KURK	3.7nm,0.8s			⇑Sn	**Sn**	**09 11 54.8**	**-0.3**
KURK	8.6nm,0.6s			⇑Lg	Lg	09 12 27.2	
KURBB	**Kurchatov Arra** 0.8nm,0.3s,baz=61,slow=14,SNR=28	**6.40**	**246**	Pn	**Pn**	**09 10 45.4**	**+1.7**
KURBB	0.1nm,0.3s,baz=65,slow=24,SNR=5.3			Sn	**Sn**	**09 11 58.2**	**+0.8**
KURBB	0.1nm,0.3s,baz=63,slow=32,SNR=5.4			Lg	Lg	09 12 31.7	
KURBB	**Kurchatov Arra** 7.7nm,0.3s	**6.40**	**246**	⇓Pn	**Pn**	**09 10 45.0**	**+1.3**
KURBB	12nm,0.6s			⇑Sn	**Sn**	**09 11 58.2**	**+0.8**
KURBB	12nm,0.4s			⇓Lg	Lg	09 12 29.6	
MK31	**Makanchi Array** 0.4nm,0.3s,baz=29,slow=13,SNR=48	**7.63**	**209**	⇑Pn	**Pn**	**09 11 02.0**	**+1.3**
MK31	2.8nm,0.8s,baz=30,slow=23,SNR=5.3			⇑Sn	**Sn**	**09 12 25.8**	**-2.0**
MK31	7.2nm,0.9s,baz=36,slow=30,SNR=5.1			⇓Lg	Lg	09 13 08.6	
MKAR	**Makanchi Array** 1.1nm,0.3s,baz=29,slow=14,SNR=63	**7.63**	**209**	Pn	**Pn**	**09 11 02.3**	**+1.6**

MKAR				Sn	**Sn**	**09 12 26.3**	**-1.5**
	0.2nm,0.3s,baz=32,slow=26,SNR=14						
MKAR				Lg	Lg	09 13 09.6	
	0.2nm,0.3s,baz=29,slow=25,SNR=3.2						
MAKZ	**Makanchi**	**7.72**	**211**	⇑Pn	**Pn**	**09 11 03.0**	**+1.2**
	0.9nm,0.4s						
MAKZ				⇑Sn	**Sn**	**09 12 28.6**	**-1.3**
	3.4nm,0.9s						
MAKZ				⇑Lg	Lg	09 13 09.5	
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**10.41**	**274**	Sn	**Sn**	**09 13 35.7**	**-0.2**
	0.6nm,0.3s,baz=76,slow=19,SNR=5.4						

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*IDC **11** 09:28:01.4±5.9, 28°.05N×85°.43E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.3/65, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=106.2km s-min=55.4km az=174.0*

ISC 11 09:28:02.0±3.3**, 27°.9N**±0°.4×**85°.4E**±0°.3**, h18km, n6,** σ**1s.78**/7**, mb3.6**/4**, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**13.99**	**329**	P	**P**	**09 31 25.1**	**-2.3**
KSH				S	**S**	**09 34 17.6**	**+1.6**
MKAR	**Makanchi Array**	**19.05**	**354**	P	**Pn**	**09 32 22.9**	**-1.1**
	0.1nm,0.3s,baz=172,slow=13,SNR=5.1						
KURBB	**Kurchatov Arra**	**23.31**	**349**	P	**P**	**09 33 09.6**	**+0.7**
	0.5nm,0.6s,baz=167,slow=10.0,SNR=3.7						
SONM	**Songino Array**	**25.80**	**34**	P	**P**	**09 33 32.5**	**+0.4**
	0.7nm,0.6s,baz=220,slow=9.4,SNR=3.4						
FINES	**FINESS Array B**	**51.32**	**328**	P	**P**	**09 37 06.3**	**+1.4**
	0.5nm,0.4s,baz=98,slow=3.9,SNR=4.9						
ARCES	**ARCESS Array B**	**53.73**	**338**	P	**P**	**09 37 23.5**	**+0.8**
	2.3nm,1.0s,baz=108,slow=8.1,SNR=8.1						

IDC 11 09:30:41.1±485.0**, 70°.97N**×**36°.58E, h0km, Error ellipse: s-maj=230.6km s-min=26.0km az=82.0, Barents Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**6.43**	**261**	*i*		10 13 50.0	
	baz=65,slow=328,SNR=3.0						
I43RU	**DUBNA INFRASON**	**14.30**	**179**	*i*		11 03 20.0	
	baz=359,slow=326,SNR=0.9						
I18DK	**QAANAAQ INFRAS**	**25.54**	**331**	*i*		12 04 20.0	
	baz=49,slow=332,SNR=0.7						

IDC 11 09:36:09.4±2.7**, 53°.71N**×**86°.82E, h0km, mb1 3.0**/2**, mb1mx2.9**/65**, mbtmp3.0**/2**, ML2.5**/2**, Error ellipse: s-maj=26.2km s-min=14.5km az=64.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**282**	*i*		09 44 53.0	
	baz=101,slow=333,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.21**	**282**	Pg	Pg	09 36 31.1	-1.5
	1.1nm,0.3s,baz=105,slow=17,SNR=15						
ZALV				Lg	Lg	09 36 49.2	
	0.8nm,0.3s,baz=104,slow=31,SNR=7.3						
KURBB	**Kurchatov Arra**	**5.96**	**242**	Pn	Pn	09 37 40.5	+1.6
	0.1nm,0.3s,baz=58,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**7.50**	**205**	Pn	Pn	09 38 01.2	+1.2
	0.1nm,0.3s,baz=24,slow=14,SNR=9.2						

DJA 11 09:37:45.5±0.3**, 1°S**±3°×**12°2E**±°**, h10km, M3.9**/13**, mb4.3**/4**, mB4.4**/2**, MLv3.8**/13**, Mw(mB)3.6**/2**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67**	**136**	P	Pg	09 37 58.7	+0.3
APSI	**Ampana**	**0.75**	**242**	P	Pg	09 37 59.8	-0.2
MRSI	**Marisa**	**1.09**	**340**	P	Pb	09 38 05.9	-0.6
GTOI	**Gorontalo**	**1.38**	**31**	P	Pn	09 38 10.4	-0.4
MPSI	**Mapaga**	**2.57**	**290**	P	Pn	09 38 27.9	+0.7
TTSI	**Tana Toraja**	**3.51**	**225**	P	Pn	09 38 40.3	+0.2
SPSI	**Sidrap Palu**	**4.23**	**217**	P	Pn	09 38 50.3	+0.3
BNSI	**Bone**	**4.40**	**210**	P	Pn	09 38 52.3	-0.2
BBSI	**Bau Bau**	**4.90**	**177**	P	Pn	09 38 59.7	+0.4
BKSI	**Bulukumba**	**5.21**	**205**	P	Pn	09 39 03.1	-0.5
	0.1nm294nm15nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.83**	**198**	P	Pn	09 39 12.2	0.0

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*MDD **11** 09:40:18.9±0.3, 35°.67N×3°.65W, h0km, mb_Lg3.8/31, Error ellipse: s-maj=2.9km s-min=2.0km az=3.0*

*IDC **11** 09:40:18.3±0.9, 35°.81N×3°.54W, h0km, mb3.9/6, mb1 3.9/9, mb1mx3.6/59, mbtmp3.8/9, ML3.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/93, Error ellipse: s-maj=28.7km s-min=19.6km az=87.0*

*CRAAG **11** 09:40:18.1, 35°.64N×3°.72W, Ml3.7*

*LDG **11** 09:40:19.1, 35°.46N×3°.40W, h30km*

*SFS **11** 09:40:19.0, 35°.60N×3°.60W, ML4.2, ALBORAN SUR*

*IGIL **11** 09:40:19.7, 35°.68N×3°.69W, h0km, ML3.6*

*CNRM **11** 09:40:19.2, 35°.71N×3°.54W, h26km, ml3.9*

*INMG **11** 09:40:21.2±1.6, 35°.74N×3°.79W, h4km±4km, ML3.6, Error ellipse: s-maj=4.2km s-min=3.3km az=123.0*

*NEIC **11** 09:40:21.8±1.8, 35°.85N±0°.03×3°.80W±0°.08, h10km±1km, mb4.3/9, mb_Lg4.2(MDD), Error ellipse: s-maj=10.4km s-min=5.0km az=91.0*

ISC 11 09:40:19.7±1.0**, 35°.73N**±0°.02×**3°.58W**±0°.02**, h13km**±7km**, n155,** σ**2s.29**/226**, mb4.2**/11**, 2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.49**	**64**	Pg	**Pb**	**09 40 30.2**	**0.0**
EALB				Sg	**Sb**	**09 40 38.8**	**+1.5**
EALB				*i* Vmb_Lg		09 40 41.5	
PALE	**Palemas**	**0.59**	**210**	P	**Pn**	**09 40 33.0**	**-0.8**
PALE	**Palemas**	**0.59**	**210**	P	**Pg**	**09 40 30.5**	**-0.7**
PALE				S	**Sg**	**09 40 38.8**	**-0.2**
EMEL	**Melilla**	**0.66**	**130**	Pg	**Pg**	**09 40 32.1**	**-0.5**
EMEL				Sg	**Sg**	**09 40 40.7**	**-0.5**
GOG	**Mont Gurugu**	**0.69**	**137**	P	**Pg**	**09 40 32.3**	**-0.9**
GOG	**Mont Gurugu**	**0.69**	**137**	P	**Pg**	**09 40 32.3**	**-0.9**
GOG				S	**Sg**	**09 40 41.3**	**-1.0**
ELGU	**Los Guajares,**	**1.14**	**358**	Pg	**Pb**	**09 40 39.9**	**-1.5**
ELGU				Sg	**Sn**	**09 40 57.4**	**+0.3**
ELGU				*i* Vmb_Lg		09 40 58.7	
EMAL	**Malaga-Limoner**	**1.24**	**327**	P	**Pn**	**09 40 41.1**	**-1.7**
EMAL				S	**Sb**	**09 40 57.7**	**-1.3**
EMIJ	**Mijas**	**1.28**	**311**	Pn	**Pn**	**09 40 41.2**	**-2.2**
EMIJ				Sn	**Sb**	**09 40 57.3**	**-2.8**
EMIJ				*i* Vmb_Lg		09 41 00.8	
EBER	**Berja**	**1.29**	**25**	Pn	**Pn**	**09 40 42.2**	**-1.5**
EBER				Pg	**Pb**	**09 40 42.5**	**-1.6**
EBER				Sg	**Sg**	**09 41 02.1**	**+0.6**
EBER				*i* Vmb_Lg		09 41 13.1	
TAF	**Taforalt**	**1.32**	**133**	P	**Pn**	**09 40 42.1**	**-1.8**
TAF				S	**Sb**	**09 40 59.0**	**-2.2**
TAF	**Taforalt**	**1.32**	**133**	P	**Pn**	**09 40 42.0**	**-1.9**
TAF				S	**Sb**	**09 40 58.2**	**-3.0**
EGOR	**Sierra Gorda,**	**1.45**	**343**	Pn	**Pn**	**09 40 45.0**	**-0.8**
EGOR				Sn	**Sg**	**09 41 06.4**	**+0.1**
EGOR				*i* Vmb_Lg		09 41 13.3	
SMIR	**Smir Dam**	**1.47**	**269**	P	**Pn**	**09 40 42.3**	**-3.6**
CEU	**Ceuta**	**1.47**	**277**	P	**Pn**	**09 40 42.0**	**-3.9**
CEU				S	**Sn**	**09 41 00.1**	**-4.9**
EQUE	**Quentar**	**1.48**	**4**	Pn	**Pn**	**09 40 46.1**	**-0.1**
EQUE				Sn	**Sn**	**09 41 05.7**	**+0.2**
EQUE				*i* Vmb_Lg		09 41 14.8	
CHEFC	**Chefchaouen**	**1.57**	**247**	P	**Pg**	**09 40 49.0**	**-0.8**
CHEFC	**Chefchaouen**	**1.57**	**247**	P	**Pn**	**09 40 46.0**	**-1.4**
CHEFC				S	**Sg**	**09 41 18.1**	**+7.9**
JBK	**JBK**	**1.62**	**149**	P	**Pn**	**09 40 46.1**	**-2.1**
JBK	**JBK**	**1.62**	**149**	P	**Pn**	**09 40 46.0**	**-2.2**
JBK				S	**Sn**	**09 41 04.7**	**-4.2**
ENIJ	**Nijar**	**1.66**	**41**	Pn	**Pn**	**09 40 46.9**	**-1.8**
ENIJ				Sn	**Sn**	**09 41 08.2**	**-1.7**
ENIJ				*i* Vmb_Lg		09 41 17.5	
EJIF	**Jimena Fronter**	**1.69**	**296**	Pn	**Pn**	**09 40 47.9**	**-1.2**
OLHC	**Oulhaca**	**1.82**	**104**	P	**Pn**	**09 40 47.7**	**-3.2**
ALJ	**Aljibe**	**1.86**	**296**	P	**Pb**	**09 40 53.0**	**-0.6**
ALJ				S	**Sn**	**09 41 12.8**	**-2.0**
LIJA	**Lijar**	**1.89**	**309**	P	**Pn**	**09 40 52.8**	**+1.0**
LIJA				S	**Sn**	**09 41 13.7**	**-1.9**
CNIL	**Conil**	**2.11**	**288**	P	**Pb**	**09 40 56.1**	**-1.7**
CNIL				S	**Sb**	**09 41 22.7**	**-1.2**
EQES	**Quesada**	**2.11**	**11**	Pn	**Pb**	**09 40 56.7**	**-1.2**
EQES				Sn	**Sb**	**09 41 24.5**	**+0.3**
EQES				*i* Vmb_Lg		09 41 26.2	
SICH	**Sidi Chahed**	**2.16**	**222**	P	**Pn**	**09 40 54.6**	**-0.8**
ESPR	**Espera**	**2.17**	**302**	Pn	**Pn**	**09 40 56.2**	**+0.7**
ESPR				Sn	**Sn**	**09 41 23.5**	**+1.2**
ESPR				*i* Vmb_Lg		09 41 28.7	
SFS	**San Fernando**	**2.25**	**290**	Pn	**Pn**	**09 40 53.9**	**-2.9**
LCRM	**LCR**	**2.29**	**208**	P	**Pg**	**09 41 03.0**	**-0.7**
LCRM				S	**Sg**	**09 41 38.4**	**+5.0**
OTSS	**Djebel Tessala**	**2.31**	**100**	P	**Pn**	**09 40 55.0**	**-2.7**
IFR	**Ifrane**	**2.55**	**211**	P	**Pn**	**09 40 59.8**	**-1.2**
IFR				S	**Sn**	**09 41 30.0**	**-2.0**
EADA	**Adamuz**	**2.56**	**342**	Pn	**Pn**	**09 41 01.1**	**0.0**
EADA				Sn	**Sn**	**09 41 33.4**	**+1.2**
EADA				*i* Vmb_Lg		09 41 39.6	
EZAR	**Zarzadilla de**	**2.62**	**35**	Pn	**Pn**	**09 41 01.6**	**-0.4**
EZAR				Sn	**Sn**	**09 41 33.4**	**-0.3**
ECAB	**El Cabril**	**2.77**	**328**	Pn	**Pn**	**09 41 04.6**	**+0.7**
ECAB				Sn	**Sn**	**09 41 36.9**	**-0.4**
ECAB				*i* Vmb_Lg		09 41 48.2	
CART	**Cartagena**	**2.78**	**47**	P	**Pn**	**09 41 02.4**	**-1.6**
CART				S	**Sn**	**09 41 34.3**	**-3.1**
CART	**Cartagena**	**2.78**	**47**	Pn	**Pn**	**09 41 06.0**	**+2.0**
CART	**Cartagena**	**2.78**	**47**	P	**Pn**	**09 41 02.7**	**-1.3**
CART				S	**Sn**	**09 41 34.1**	**-3.4**
ODJA	**Bouhanifia**	**2.82**	**97**	P	**Pn**	**09 41 05.5**	**+0.9**
ARNO	**Arenosillo**	**2.89**	**299**	P	**Pn**	**09 41 05.5**	**0.0**
ARNO				S	**Sn**	**09 41 40.1**	**-0.1**
CZD	**Col de Zad**	**2.95**	**205**	P	**Pn**	**09 41 06.3**	**-0.3**
TDRA	**Tendrara**	**2.97**	**154**	P	**Pn**	**09 41 05.9**	**-0.9**
MD31	**MD31**	**3.02**	**199**	P	**Pn**	**09 41 06.4**	**-1.0**
MDT	**Midelt**	**3.03**	**197**	Pn	**Pn**	**09 41 06.8**	**-0.7**
	3.4nm,0.3s,baz=188,slow=5.6,SNR=28						
MDT				Sn	**Sn**	**09 41 43.4**	**-0.3**
	9.0nm,0.3s,baz=30,slow=23,SNR=6.3						
MDT	**Midelt**	**3.03**	**197**	P	**Pn**	**09 41 06.8**	**-0.7**
OJBR	**Djebel Berber**	**3.20**	**91**	P	Pn	09 41 05.0	-4.8
EMIN	**Mina Concepcio**	**3.21**	**310**	Pn	**Pn**	**09 41 09.2**	**-0.7**
EMIN				Sn	**Sn**	**09 41 46.7**	**-1.5**
EMIN				*i* Vmb_Lg		09 41 48.4	
ETOB	**Tobarra**	**3.33**	**28**	Pn	**Pn**	**09 41 13.6**	**+1.9**
ETOB				*i* Vmb_Lg		09 41 14.4	
ETOB				Sn	**Sn**	**09 41 53.6**	**+2.4**
ZHG	**ZHG**	**3.40**	**229**	P	**Pn**	**09 41 10.9**	**-1.7**
OKGL	**Djebel Kef Gue**	**3.44**	**84**	P	Pn	09 41 05.0	-8.1
OJGS	**Djebel Guires**	**3.53**	**92**	P	Pn	09 41 06.0	-8.4
EGRO	**El Granado**	**3.62**	**301**	Pn	**Pn**	**09 41 14.6**	**-1.0**
EGRO				Sn	**Sn**	**09 41 55.6**	**-2.7**
EGRO				*i* Vmb_Lg		09 41 58.2	
PBAR	**Barrancos**	**3.70**	**312**	*e*Pn	**Pn**	**09 41 15.7**	**-0.9**
PBAR				*e*Sn	**Sn**	**09 41 57.2**	**-2.8**
PBAR				A	A	09 42 01.8	
	89nm,0.5s						
PVAQ	**Vaqueiros**	**3.73**	**298**	⇓*e*Pn	**Pn**	**09 41 15.9**	**-1.2**
PVAQ				*e*Sn	**Sn**	**09 41 57.7**	**-3.2**
PVAQ				A	A	09 42 04.8	
	89nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**298**		**Pn**	**09 41 15.9**	**-1.2**
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**09 41 15.9**	**-1.2**
AFON	**Font Roja**	**3.81**	**39**	Pn	**Pn**	**09 41 18.4**	**+0.2**
AFON				*i* Vmb_Lg		09 42 42.4	
PBDV	**Barranco-do-Ve**	**3.82**	**295**	*e*Pn	**Pn**	**09 41 17.2**	**-1.1**
PBDV				*e*Sn	**Sn**	**09 41 59.9**	**-3.3**
PBDV				A	A	09 42 08.4	
	87nm,0.5s						
PAB	**San Pablo**	**3.86**	**351**		**Pn**	**09 41 19.7**	**+0.8**
PAB	**San Pablo**	**3.86**	**351**	Pn	**Pn**	**09 41 19.9**	**+1.0**
PAB				Sn	**Sn**	**09 42 05.0**	**+0.8**
PAB				*i* Vmb_Lg		09 42 32.2	
ESDC	**Sonseca Array**	**3.95**	**356**	Pn	**Pn**	**09 41 20.2**	**0.0**
	5.1nm,0.3s,baz=180,slow=12,SNR=83						
ESDC				Sn	**Sn**	**09 42 04.7**	**-1.8**
	4.0nm,0.3s,baz=175,slow=21,SNR=5.6						
ESDC				LR	LR	09 43 00.2	
	comp=Z,59nm,18.2s,baz=290,slow=42						
ESDC	**Sonseca Array**	**3.95**	**356**	Pn	**Pn**	**09 41 20.9**	**+0.8**
ESDC				Sn	**Sn**	**09 42 05.0**	**-1.4**
ESDC				*i* Vmb_Lg		09 42 36.2	
ESBB	**Sonseca Array**	**3.95**	**356**		**Pn**	**09 41 21.2**	**+1.1**
EBEN2	**Beniarda presa**	**4.00**	**42**	Pn	**Pn**	**09 41 21.1**	**+0.3**
EBEN2				Sn	**Sn**	**09 42 04.4**	**-3.1**
EBEN2				*i* Vmb_Lg		09 44 19.2	
EVIV	**Cofrentes, Val**	**4.04**	**28**	Pn	**Pn**	**09 41 19.9**	**-1.4**
PCVE	**Castro Verde**	**4.06**	**299**	⇓*e*Pn	**Pn**	**09 41 20.5**	**-1.1**
PCVE				*e*Sn	**Sn**	**09 42 06.2**	**-2.8**
PCVE				A	A	09 42 09.7	
	96nm,0.4s						
EBAD	**Badajoz**	**4.08**	**319**	Pn	**Pn**	**09 41 21.2**	**-0.7**
EBAD				Sn	**Sn**	**09 42 07.1**	**-2.4**
EBAD				*i* Vmb_Lg		09 42 09.9	
PBEJ	**Beja**	**4.13**	**305**	*e*Pn	**Pn**	**09 41 21.8**	**-0.8**
PBEJ				*e*Sn	**Sn**	**09 42 07.9**	**-3.0**
PBEJ				A	A	09 42 10.9	
	42nm,0.6s						
ECHE	**Chera**	**4.38**	**27**	Pn	**Pn**	**09 41 26.9**	**+0.9**
ECHE				*i* Vmb_Lg		09 42 46.4	
MORF	**Marmelete**	**4.38**	**293**	*e*P	**Pn**	**09 41 24.5**	**-1.5**
MORF				*e*S	**Sn**	**09 42 12.1**	**-4.9**
MORF				IAML		09 42 17.0	
	comp=N,111nm,0.3s						
MORF	**Marmelete**	**4.38**	**293**	*e*Pn	**Pn**	**09 41 24.7**	**-1.3**
MORF				*e*Sn	**Sn**	**09 42 13.1**	**-3.9**
MORF				A	A	09 42 27.3	
	comp=N,48nm,0.4s						
PFVI	**Vila Bisbo**	**4.46**	**290**	*e*Pn	**Pn**	**09 41 26.7**	**-0.4**
PFVI				*e*Sn	**Sn**	**09 42 14.7**	**-4.2**
PFVI				A	A	09 42 31.8	
	comp=N,59nm,0.6s						
PFVI	**Vila Bisbo**	**4.46**	**290**	Pn	**Pn**	**09 41 26.4**	**-0.7**
PFVI	**Vila Bisbo**	**4.46**	**290**	P	**Pn**	**09 41 25.6**	**-1.4**
PESTR	**Estremoz**	**4.48**	**316**	*e*Pn	**Pn**	**09 41 27.4**	**0.0**
PESTR				*e*Sn	**Sn**	**09 42 16.7**	**-2.7**
PESTR				A	A	09 42 18.8	
	comp=N,45nm,0.4s						
PESTR	**Estremoz**	**4.48**	**316**		**Pn**	**09 41 26.5**	**-0.8**
PESTR	**Estremoz**	**4.48**	**316**	P	**Pn**	**09 41 26.6**	**-0.8**
EVO	**Evora**	**4.52**	**310**	P	**Pn**	**09 41 27.4**	**-0.5**
EVO				S	**Sn**	**09 42 17.0**	**-3.3**
EVO	**Evora**	**4.52**	**310**	*e*Pn	**Pn**	**09 41 27.4**	**-0.5**
EVO				*e*Sn	**Sn**	**09 42 17.0**	**-3.3**
EVO				A	A	09 42 20.1	
	comp=N,76nm,0.4s						
PTEO	**Sao Teotonio**	**4.52**	**295**	*e*Pn	**Pn**	**09 41 27.0**	**-0.9**
PTEO				*e*Sn	**Sn**	**09 42 17.7**	**-2.6**
PTEO				A	A	09 42 23.3	
	comp=N,94nm,0.4s						
UCM	**Universidad Co**	**4.58**	**3**	P	**Pn**	**09 41 29.3**	**+0.5**
UCM				S	**Sn**	**09 42 22.1**	**+0.2**
PNCL	**Nicolau / Gran**	**4.63**	**302**	*e*Pn	**Pn**	**09 41 28.6**	**-0.8**
PNCL				*e*Sn	**Sn**	**09 42 19.5**	**-3.5**
PNCL				A	A	09 42 21.4	
	comp=N,52nm,0.3s						
EPLA	**Plasencia**	**4.76**	**336**	Pn	**Pn**	**09 41 32.4**	**+1.2**
EPLA				Sn	**Sn**	**09 42 23.7**	**-2.7**
EPLA				*i* Vmb_Lg		09 42 51.1	
PMRV	**Marv??o**	**4.78**	**322**	*e*Pn	**Pn**	**09 41 31.8**	**+0.3**
PMRV				*e*Sn	**Sn**	**09 42 24.3**	**-2.5**
PMRV				A	A	09 42 51.8	
	comp=N,54nm,0.5s						
GUD	**Guadarrama**	**4.93**	**355**	Pn	**Pn**	**09 41 34.3**	**+0.6**
GUD				*i* Vmb_Lg		09 43 07.7	
PMTG	**Montargil**	**4.98**	**313**	*e*Pn	**Pn**	**09 41 33.7**	**-0.6**
PMTG				*e*Sn	**Sn**	**09 42 28.8**	**-2.9**
PMTG				A	A	09 42 30.8	
	comp=N,51nm,0.7s						
PCBR	**Castelo Branco**	**5.14**	**324**	*e*Pn	**Pn**	**09 41 37.0**	**+0.6**
PCBR				*e*Sn	**Sn**	**09 42 32.6**	**-3.0**
PCBR				A	A	09 42 35.6	
	comp=N,72nm,0.7s						
PACT	**Alcochete**	**5.18**	**307**	*e*Pn	**Pn**	**09 41 36.7**	**-0.2**
TZRR	**Tazzarine**	**5.20**	**199**	P	**Pn**	**09 41 38.2**	**+0.8**
ETOR	**Torete**	**5.22**	**13**	Pn	**Pn**	**09 41 38.5**	**+0.9**
ETOR				Sn	**Sn**	**09 42 37.2**	**-0.7**
ETOR				*i* Vmb_Lg		09 43 20.7	
LIS	**Lisbon**	**5.36**	**306**	*e*Pn	**Pn**	**09 41 39.3**	**-0.1**
LIS				*e*Sn	**Sn**	**09 42 39.3**	**-1.6**
PMST	**Lisbon--Monsan**	**5.39**	**306**	*e*Pn	**Pn**	**09 41 39.8**	**0.0**
PMST				*e*Sn	**Sn**	**09 42 40.0**	**-1.7**
OUZM	**OUZ**	**5.49**	**210**	P	**Pn**	**09 41 41.0**	**-0.4**
PMAFR	**Mafra**	**5.57**	**307**	*e*Pn	**Pn**	**09 41 42.1**	**-0.3**
PMAFR				*e*Sn	**Sn**	**09 42 42.3**	**-4.0**
PMAFR				A	A	09 42 45.8	
	comp=N,110nm,0.5s						
PSBE	**So Bento**	**5.61**	**314**	*e*Pn	**Pn**	**09 41 43.1**	**+0.2**
PSBE				*e*Sn	**Sn**	**09 42 44.4**	**-2.8**
PSBE				A	A	09 42 49.2	
	comp=N,30nm,0.3s						
MTE	**Manteigas**	**5.62**	**327**	*e*Pn	**Pn**	**09 41 44.1**	**+1.0**
MTE				*e*Sn	**Sn**	**09 42 44.9**	**-2.6**
MTE				A	A	09 42 48.4	
	comp=N,70nm,0.5s						
MTE	**Manteigas**	**5.62**	**327**		**Pn**	**09 41 43.5**	**+0.5**
OUK	**Oukaimeden**	**5.76**	**220**	P	**Pn**	**09 41 43.3**	**-2.0**
PCAS	**Casmilo, Conde**	**5.81**	**319**	*e*Pn	**Pn**	**09 41 46.0**	**+0.3**
PCAS				*e*Sn	**Sn**	**09 42 48.6**	**-3.6**
PCAS				A	A	09 42 50.7	
	comp=N,24nm,0.4s						
COI	**Coimbra**	**5.88**	**321**	*e*Pn	**Pn**	**09 41 46.9**	**+0.3**
COI				*e*Sn	**Sn**	**09 42 50.4**	**-3.5**
COI	**Coimbra**	**5.88**	**321**		**Pn**	**09 41 46.6**	**0.0**
PVIS	**Viseu**	**6.03**	**327**	*e*Pn	**Pn**	**09 41 49.2**	**+0.5**
PVIS				*e*Sn	**Sn**	**09 42 53.8**	**-3.8**
PVIS				A	A	09 42 55.8	
	comp=N,44nm,0.4s						
MVO	**Moncorvo**	**6.07**	**335**	*e*Pn	**Pn**	**09 41 49.9**	**+0.7**
MVO				*e*Sn	**Sn**	**09 42 54.9**	**-3.7**
MVO				A	A	09 42 56.4	
	comp=N,22nm,0.7s						
PVRL	**Vila Real**	**6.42**	**331**	*e*Pn	**Pn**	**09 41 54.7**	**+0.6**
PVRL				*e*Sn	**Sn**	**09 43 03.4**	**-3.8**
PVRL				A	A	09 43 08.5	
	comp=N,44nm,0.2s						
POLO	**Lamas de Olo**	**6.54**	**331**	*e*Pn	**Pn**	**09 41 56.4**	**+0.7**
POLO				*e*Sn	**Sn**	**09 43 05.3**	**-4.8**
POLO				A	A	09 43 44.5	
	comp=N,14nm,0.6s						
PBRG	**Braganca**	**6.55**	**339**	*e*Pn	**Pn**	**09 41 56.5**	**+0.6**
PBRG				*e*Sn	**Sn**	**09 43 08.0**	**-2.5**
PBRG				A	A	09 43 56.5	
	comp=N,26nm,0.7s						
TTIG	**Tnine Tigouga,**	**6.58**	**220**	P	**Pn**	**09 41 52.7**	**-3.6**
PTO	**Porto**	**6.69**	**325**	*e*Pn	**Pn**	**09 41 58.0**	**+0.3**
PTO				*e*Sn	**Sn**	**09 43 08.9**	**-4.9**
PCAB	**Cabril**	**6.91**	**331**	*e*Pn	**Pn**	**09 42 01.6**	**+0.8**
PCAB				*e*Sn	**Sn**	**09 43 14.8**	**-4.5**
ELOB	**Lobios**	**7.06**	**332**	Pn	**Pn**	**09 42 04.0**	**+1.2**
ELOB				Sn	**Sn**	**09 43 15.5**	**-7.5**
ELOB				*i* Vmb_Lg		09 46 35.2	
PGAV	**Gavieira, Arco**	**7.22**	**331**	*e*Pn	**Pn**	**09 42 06.3**	**+1.2**
PGAV				*e*Sn	**Sn**	**09 43 23.5**	**-3.6**
ELAN	**Lanestosa**	**7.50**	**1**	Pn	**Pn**	**09 42 10.8**	**+2.0**
ELAN				*i* Vmb_Lg		09 44 37.5	
ETSF	**Etsaut**	**7.53**	**17**	*e*P	**Pn**	**09 42 12.2**	**+2.8**
ETSF				*e*Sn	**Sn**	**09 43 28.0**	**-6.7**
	comp=N,1.8nm,0.3s						
SJPF	**Ste Jean**	**7.60**	**13**	*e*P	**Pn**	**09 42 12.5**	**+2.3**
SJPF				*e*Sn	**Sn**	**09 43 29.7**	**-6.5**
	comp=N,5.2nm,0.5s						
EALK	**Alkurruntz**	**7.65**	**11**	Pn	**Pn**	**09 42 13.5**	**+2.5**
EALK				Sn	**Sn**	**09 43 37.0**	**-0.6**
EARI	**Arriondas**	**7.67**	**351**	Pn	**Pn**	**09 42 11.9**	**+0.7**
EARI				Sn	**Sn**	**09 43 33.0**	**-5.0**
EARI				*i* Vmb_Lg		09 44 21.5	
EAGO	**Agolada(Pontev**	**7.88**	**335**	Pn	**Pn**	**09 42 15.1**	**+1.0**
EAGO				*i* Vmb_Lg		09 44 38.3	
EPF	**Esparros**	**7.90**	**21**	*e*P	**Pn**	**09 42 16.1**	**+1.8**
EPF				*e*Sn	**Sn**	**09 43 38.3**	**-5.3**
	comp=N,3.2nm,0.3s						
MTLF	**Montolieu**	**8.82**	**29**	*e*Pn	**Pn**	**09 42 23.4**	**-3.6**
LFF	**La Frestale**	**9.77**	**18**	*e*P	**Pn**	**09 42 42.3**	**+2.3**
LASF	**Ste Croix**	**10.10**	**32**	*e*Pn	**Pn**	**09 42 41.8**	**-2.7**
RJF	**Les Rejaudoux**	**10.32**	**20**	*e*P	**Pn**	**09 42 50.4**	**+2.9**
SMRF	**Simiane la Rot**	**10.83**	**38**	*e*Pn	**Pn**	**09 42 50.4**	**-4.1**
SBF	**Sospel**	**11.73**	**43**	*e*Pn	**Pn**	**09 43 03.3**	**-3.5**
BGF	**Bois d'Agland**	**11.85**	**22**	*e*P	**Pn**	**09 43 10.4**	**+2.0**
PGF	**Pioggiola**	**11.90**	**51**	*e*P	**Pn**	**09 43 10.9**	**+1.7**
SGMF	**Saint Gilles**	**12.54**	**3**	*e*Pn	**Pn**	**09 43 16.0**	**-1.8**
SGMF	**Saint Gilles**	**12.54**	**3**	*e*P	**Pn**	**09 43 20.6**	**+2.8**
ROSF	**Rostrenen**	**12.60**	**1**	*e*Pn	**Pn**	**09 43 16.6**	**-2.1**
ROSF	**Rostrenen**	**12.60**	**1**	*e*P	**Pn**	**09 43 22.4**	**+3.7**
MEZF	**Maizieres J'vi**	**14.27**	**24**	*e*Pn	**Pn**	**09 43 39.9**	**-1.5**
HAU	**Haudompre**	**14.31**	**28**	*e*P	**Pn**	**09 43 43.9**	**+1.9**
CLL	**Collm**	**19.60**	**32**	*e*P	**Pn**	**09 44 49.0**	**0.0**
EKA	**Eskdalemuir Ar**	**19.61**	**1**	P	**P**	**09 44 48.4**	**+0.7**
	baz=176,slow=12,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**22.98**	**167**	P	**P**	**09 45 28.4**	**+4.2**
TOA0				IAmb	IAmb	09 45 39.9	
	comp=Z,7.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**22.98**	**167**	P	**P**	**09 45 27.2**	**+3.0**
	comp=Z,3.3nm,0.8s,baz=344,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**22.98**	**167**	P	**P**	**09 45 28.0**	**+3.8**
NACGM	**Naroch**	**28.35**	**38**	*i* P	P	09 46 08.5	-4.7
BORG	**Borgarnes**	**30.96**	**345**	LR	LR	09 57 23.4	
	comp=Z,35nm,20.3s,baz=202,slow=33						
SCHQ	**Schefferville**	**46.69**	**315**	P	**P**	**09 48 48.4**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=102,slow=14,SNR=5.3						
SCHQ	**Schefferville**	**46.69**	**315**	P	**P**	**09 48 48.5**	**+0.4**
SCHQ				IAmb	IAmb	09 49 08.1	
	comp=Z,4.7nm,1.3s						
ABKAR	**Akbulak array**	**47.40**	**53**	P	**P**	**09 48 54.4**	**+0.8**
ABKAR				IAmb	IAmb	09 48 54.6	
	comp=Z,1.9nm,0.9s						
EUNU	**Eureka**	**53.84**	**348**	P	**P**	**09 49 43.7**	**+1.9**
EUNU				IAmb	IAmb	09 49 50.3	
	comp=Z,7.0nm,1.2s						
KURBB	**Kurchatov Arra**	**58.71**	**48**	P	**P**	**09 50 16.8**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=292,slow=7.8,SNR=10						
KURK	**Kurchatov**	**58.74**	**47**	P	**P**	**09 50 16.8**	**-0.3**
KURK	**Kurchatov**	**58.74**	**47**	IAmb	IAmb	09 50 18.6	
	comp=Z,6.1nm,1.2s						
P52A	**Corning**	**60.40**	**299**	P	**P**	**09 50 29.8**	**+0.9**
FCC	**Fort Churchill**	**60.50**	**323**	P	**P**	**09 50 30.0**	**+0.9**
E43A	**Lone Tree Farm**	**61.05**	**308**	P	**P**	**09 50 33.9**	**+0.8**
KSH	**Kashi**	**61.15**	**60**	P	P	09 50 28.0	-6.1
KSH				pP	pP	09 50 33.6	-4.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**62.44**	**51**	P	**P**	**09 50 42.0**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=286,slow=4.9,SNR=21						
YKA	**Yellowknife Ar**	**67.71**	**332**	P	**P**	**09 51 16.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=60,slow=6.4,SNR=8.0						
PDAR	**Pinedale Array**	**76.80**	**313**	P	**P**	**09 52 11.4**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=98,slow=6.6,SNR=3.2						
TXAR	**Lajitas Array**	**80.86**	**299**	LR	LR	10 29 22.7	
	comp=Z,20nm,18.1s,baz=336,slow=36						

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*IDC **11** 09:41:40.1±1.2, 28°.54N×142°.49E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/47, mbtmp3.7/9, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/73, Error ellipse: s-maj=40.9km s-min=19.7km az=81.0*

*NEIC **11** 09:41:42.2±1.7, 28°.55N±0°.06×142°.5E±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=29.7km s-min=9.9km az=87.0*

ISC 11 09:41:42.0±1.0**, 28°.60N**±0°.09×**142°.4E**±0°.2**, h10km, n26,** σ**1s.24**/26**, mb4.0**/11**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.52**	**188**	Pn	**Pn**	**09 42 08.1**	**-1.1**
JHJ2	**Mitsune**	**5.03**	**334**	Pn	**Pn**	**09 42 58.0**	**+0.6**
JHJ	**Hachijo jima 2**	**5.04**	**334**	Pn	**Pn**	**09 42 57.5**	**-0.2**
	67nm,0.3s,baz=233,slow=23,SNR=4.8						
JHJ				Sn	**Sn**	**09 43 52.2**	**-3.8**
	61nm,0.3s,baz=112,slow=23,SNR=2.5						
JYT	**Yasato**	**7.83**	**347**	Pn	**Pn**	**09 43 37.6**	**+1.7**
MJAR	**Matsushiro Arr**	**8.68**	**337**	Pn	**Pn**	**09 43 48.3**	**+0.7**
	0.2nm,0.3s,baz=154,slow=9.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**8.68**	**337**		**Pn**	**09 43 47.5**	**-0.1**
MAJO	**Matsushiro**	**8.68**	**337**	Pn	**Pn**	**09 43 49.6**	**+2.0**
MJB9	**Matsu-Tunnel**	**8.69**	**337**	Pn	**Pn**	**09 43 49.5**	**+1.8**
JMM	**Marumori**	**9.34**	**352**	Pn	**Pn**	**09 43 56.0**	**-0.6**
SONM	**Songino Array**	**33.80**	**315**	P	**P**	**09 48 24.1**	**-0.1**
	0.7nm,0.8s,baz=129,slow=6.9,SNR=4.5						
SONM	**Songino Array**	**33.80**	**315**	IAmb	IAmb	09 48 28.3	
	comp=Z,3.2nm,1.5s						
SEY	**Seymchan**	**34.94**	**8**	P	**P**	**09 48 33.5**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=120,slow=7.0,SNR=3.7						
WB0	**Warramunga Arr**	**48.71**	**190**	P	**P**	**09 50 26.1**	**-0.6**
WB0				IAmb	IAmb	09 50 29.1	
	comp=Z,4.9nm,1.2s						
WR0	**Warramunga Arr**	**48.88**	**190**	P	**P**	**09 50 27.2**	**-0.8**
WR0				IAmb	IAmb	09 50 48.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.2nm,0.9s						
WRAB	**Tennant Creek**	**48.88**	**190**	P	**P**	**09 50 27.2**	**-0.8**
WB2	**Warramunga Arr**	**48.89**	**190**	P	**P**	**09 50 27.9**	**-0.2**
WB2				IAmb	IAmb	09 50 34.8	
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**48.89**	**190**	P	**P**	**09 50 27.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=12,slow=8.5,SNR=11						
MK31	**Makanchi Array**	**49.70**	**309**	P	**P**	**09 50 33.6**	**-0.6**
MK31				IAmb	IAmb	09 50 43.4	
	comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**49.70**	**309**	P	**P**	**09 50 34.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=87,slow=9.7,SNR=6.2						
MKAR				LR	LR	10 13 23.4	
	comp=Z,18nm,18.5s,baz=28,slow=38						
MKAR	**Makanchi Array**	**49.70**	**309**	P	**P**	**09 50 35.1**	**+1.0**
KURK	**Kurchatov**	**52.10**	**314**	P	**P**	**09 50 52.4**	**+0.3**
KURBB	**Kurchatov Arra**	**52.15**	**314**	P	**P**	**09 50 53.0**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=89,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**52.61**	**190**	P	**P**	**09 50 55.2**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=6.1,slow=6.2,SNR=1.7						
KKAR	**Karatay Array**	**58.39**	**305**	P	**P**	**09 51 39.3**	**+1.7**
ABKAR	**Akbulak array**	**64.21**	**314**	P	**P**	**09 52 17.8**	**+0.9**
YKA	**Yellowknife Ar**	**70.72**	**29**	P	**P**	**09 52 58.0**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=294,slow=6.0,SNR=2.2						

*IDC **11** 09:56:21.2±2.9, 53°.61N×87°.91E, h0km, mb1 3.0/2, mb1mx2.9/53, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.8km s-min=15.6km az=60.0*
*NNC **11** 09:56:24.7±2.8, 53°.35N×87°.54E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=21.4km s-min=14.7km az=65.0, Suspected Mining explosion.*
ISC 11 09:56:21.1±3.7**, 53°.7N**±0°.1×**87°.9E**±0°.2**, h0km, n7, σ0.36**/8**, 2C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**279**	*i*		10 08 20.0	
	baz=101,slow=334,SNR=4.2						
ZAA0	**Zalesovo Array**	**1.81**	**279**	⇓P	**Pb**	**09 56 54.8**	**-0.3**
	0.5nm,0.7s,baz=106,slow=15						
ZAA0				⇑S	**Sg**	**09 57 19.4**	**+0.1**
	2.2nm,0.5s,baz=111,slow=23						
ZALV	**Zalesovo Beam**	**1.81**	**279**	Pn	**Pn**	**09 56 53.6**	**+0.1**
	1.1nm,0.3s,baz=100,slow=16,SNR=15						
ZALV				Lg	Lg	09 57 20.6	
	1.6nm,0.3s,baz=93,slow=28,SNR=17						
KURBB	**Kurchatov Arra**	**6.51**	**245**	Pn	**Pn**	**09 57 58.5**	**+0.4**
	0.1nm,0.3s,baz=61,slow=14,SNR=5.1						
KURBB				Lg	Lg	09 59 45.9	
	0.0nm,0.3s,baz=62,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.51**	**245**	⇑Pn	**Pn**	**09 57 58.4**	**+0.4**
	1.7nm,0.8s						
KURBB				⇓Lg	Lg	09 59 43.4	
	11nm,0.8s						
MK31	**Makanchi Array**	**7.78**	**209**	⇓Pn	**Pn**	**09 58 15.6**	**+0.1**
	0.5nm,0.6s,baz=33,slow=14,SNR=14						
MK31				⇓Lg	Lg	10 00 21.0	
	0.9nm,0.6s,baz=30,slow=30,SNR=4.9						
MKAR	**Makanchi Array**	**7.78**	**209**	Pn	**Pn**	**09 58 15.8**	**+0.3**
	0.3nm,0.3s,baz=31,slow=14,SNR=15						
MKAR				Sn	**Sn**	**09 59 44.0**	**-0.3**
	0.1nm,0.3s,baz=27,slow=27,SNR=5.7						
MKAR				Lg	Lg	10 00 24.1	
	0.1nm,0.3s,baz=27,slow=29,SNR=6.7						

*HEL **11** 09:58:57.8±0.4, 64°.69N×30°.76E, h0km, ML1.6, Explosion*
*IDC **11** 09:58:58.6±2.7, 64°.62N×30°.69E, h0km, mb1 3.0/3, mb1mx2.8/54, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=36.9km s-min=9.2km az=101.0*
ISC 11 09:58:57.7±1.5**, 64°.72N**±0°.03×**30°.44E**±0°.09**, h0km, n9, σ0.45**/14**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.55**	**204**	*e*P	**Pg**	**09 59 08.2**	**+0.1**
RMF				*e*S	**Sg**	**09 59 15.5**	**+0.3**
KU6	**Riekki**	**1.33**	**350**	*e*P	**Pg**	**09 59 22.8**	**-0.4**
KU6				*e*S	**Sg**	**09 59 40.1**	**-0.2**
KU6				MSG		09 59 45.7	
	comp=Z,4.8nm,0.1s						
MSF	**Maaselka**	**1.33**	**334**	*e*P	**Pg**	**09 59 23.2**	**+0.1**
MSF				*e*S	**Sg**	**09 59 40.9**	**+0.5**
MSF				MSG		09 59 45.2	
	comp=Z,6.6nm,0.1s						
OUL	**Oulu**	**1.97**	**283**	*e*P	**Pb**	**09 59 34.7**	**+0.3**
OUL				*e*S	**Sg**	**10 00 00.9**	**0.0**
OBF4	**Vikkela, Lumij**	**2.29**	**275**	*e*P	**Pb**	**09 59 39.3**	**-0.5**
OBF4				*e*S	**Sb**	**10 00 08.8**	**+0.2**
FINES	**FINESS Array B**	**3.84**	**213**	Pn	**Pn**	**09 59 57.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=14,SNR=1.7						
FINES				Lg	Lg	10 00 57.3	
	comp=Z,1.3nm,0.3s,baz=36,slow=29,SNR=12						
ARCES	**ARCESS Array B**	**5.20**	**341**	Pn	**Pn**	**10 00 17.5**	**+0.8**
	baz=152,slow=13,SNR=9.6						
ARCES				Sn	**Sn**	**10 01 16.9**	**-0.4**
	baz=159,slow=25,SNR=2.0						
ARCES				Lg	Lg	10 01 42.4	
	baz=163,slow=28,SNR=3.9						
I37NO	**I37NO**	**6.38**	**318**	*i*		10 37 51.9	
	baz=132,slow=324,SNR=14						
NOA	**NORSAR Array B**	**9.51**	**256**	Pn	**Pn**	**10 01 14.9**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=56,slow=14,SNR=4.0						

DJA 11 10:10:46.9±0.3**, 1°S**±2°×**12°2E**±°**, h10km, M3.9**/9**, mb4.3**/1**, MLv3.6**/9**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.63**	**138**	P	Pb	10 10 59.8	-0.2
LUWI				S	Sb	10 11 08.9	0.0
APSI	**Ampana**	**0.78**	**244**	P	Pg	10 11 01.4	-0.6
APSI				S	Sg	10 11 12.3	+0.2
MRSI	**Marisa**	**1.12**	**339**	P	Pn	10 11 10.2	+1.6
MRSI				S	Sg	10 11 23.2	+0.2
GTOI	**Gorontalo**	**1.37**	**29**	P	Pn	10 11 11.5	-0.6
GTOI				S	Sb	10 11 29.9	-0.3
MPSI	**Mapaga**	**2.61**	**290**	P	Pn	10 11 29.0	-0.2
TTSI	**Tana Toraja**	**3.53**	**226**	P	Pn	10 11 42.1	+0.3
SPSI	**Sidrap Palu**	**4.25**	**217**	P	Pn	10 11 51.5	-0.2
BNSI	**Bone**	**4.42**	**210**	P	Pn	10 11 54.6	+0.6

DDA 11 10:18:42.9±0.0**, 38°.09N×26°.56E, h7km**±1km**, ML1.6, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.16**	**344**	P	Pg	10 18 46.5	+0.3
ZEYE				*i* AML	AML	10 18 49.0	
	comp=N,283nm,0.2s						
ZEYE				S	Sg	10 18 49.3	+0.9
DGB	**zmir**	**0.26**	**97**	P	Pg	10 18 48.0	0.0
DGB				S	Sg	10 18 52.3	+0.9
URLA	**Izmir**	**0.28**	**6**	P	Pg	10 18 48.1	-0.3
URLA				S	Sg	10 18 52.6	+0.6
URLA				*i* AML	AML	10 18 55.0	
	comp=N,45nm,1.0s						

ISK 11 10:19:24.8, 37°.22N×27°.95E, h0km, ML1.4/5**, Suspected Mining explosion., Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.16**	**298**	PG	Pg	10 19 30.8	+3.0
MLSB				SG	Sg	10 19 35.4	+5.6
YER	**Yerkesik**	**0.28**	**108**	PG	Pb	10 19 32.8	0.0
YER				SG	Sb	10 19 37.9	-0.1
BODT	**Bodrum**	**0.54**	**253**	PG	Pb	10 19 36.5	-0.6
BODT				SG	Sb	10 19 45.1	-0.3
DAT	**Datca**	**0.58**	**211**	PG	Pb	10 19 37.2	-0.6
DAT				SG	Sb	10 19 46.3	-0.3
DALY	**Dalyan (Mula)**	**0.69**	**126**	PG	Pg	10 19 38.7	+0.6

IDC 11 10:37:41.1±5.6**, 3°.74S×132°.10E, h0km, mb3.5**/1**, mb1 3.5**/3**, mb1mx3.4**/42**, mbtmp3.3**/3**, ML3.5**/2**, Error ellipse: s-maj=372.3km s-min=31.7km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.25**	**172**	Pn	Pn	10 41 28.9	-2.0
	0.1nm,0.3s,baz=353,slow=13,SNR=5.8						
WRA				Sn	Sn	10 44 16.1	-16
	0.2nm,0.3s,baz=348,slow=25,SNR=7.0						
ASAR	**Alice Springs**	**19.89**	**175**	P	Pn	10 42 15.1	-0.7
	0.3nm,0.3s,baz=349,slow=11,SNR=31						
ASAR				S	S	10 45 41.2	-18
	0.1nm,0.3s,baz=356,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**66.71**	**325**	P	P	10 48 34.0	0.0
	0.3nm,0.5s,baz=109,slow=6.8,SNR=1.6						

*IDC **11** 10:45:38.6±0.9, 10°.29S×161°.58E, h88km±6km, mb4.0/14, mb1 4.1/17, mb1mx3.9/39, mbtmp4.4/17, MS3.4/3, Ms1 3.4/3, ms1mx2.8/56, Error ellipse: s-maj=14.1km s-min=10.2km az=28.0*
*NEIC **11** 10:45:40.2±1.2, 10°.21S±0°.06×161°.55E±0°.09, h92km±7km, mb4.6/30, Error ellipse: s-maj=12.7km s-min=8.0km az=72.0*
ISC 11 10:45:38.8±0.5**, 10°.21S**±0°.07×**161°.61E**±0°.07**, h85km, n73, σ1.06**/76**, mb4.5**/27**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.81**	**295**	P	**Pn**	**10 46 08.5**	**+0.2**
	224nm,0.3s,baz=132,slow=2.3,SNR=81						
HNR				S	**Sn**	**10 46 31.1**	**+0.3**
	2µm,0.3s,baz=351,slow=22,SNR=17						
HNR	**Honiara**	**1.81**	**295**		**Pn**	**10 46 08.4**	**+0.1**
HNR	**Honiara**	**1.81**	**295**	P	**Pn**	**10 46 08.6**	**+0.2**
SANVU	**Saraoutou**	**7.54**	**134**		**Pn**	**10 47 25.8**	**-0.3**
SANVU	**Saraoutou**	**7.54**	**134**	P	**Pn**	**10 47 26.2**	**+0.1**
DVP	**Devils Point**	**9.83**	**140**	P	**Pn**	**10 47 58.1**	**+0.8**
RTV	**Rentapao**	**10.03**	**139**	P	**Pn**	**10 48 01.4**	**+1.4**
KOUNC	**Koumac, New Ca**	**10.60**	**166**	Pn	**Pn**	**10 48 09.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**10.60**	**166**	P	**Pn**	**10 48 08.7**	**+0.9**
RABL	**Rabaul**	**11.11**	**302**	Pn	**Pn**	**10 48 16.9**	**+2.1**
NOUC	**Port Laguerre**	**12.65**	**160**	P	**Pn**	**10 48 37.7**	**+2.1**
DZM	**Mont Dzumac**	**12.67**	**159**	P	**Pn**	**10 48 36.2**	**+0.2**
	2.5nm,0.3s,baz=318,slow=14,SNR=62						
DZM				LR	LR	10 51 57.7	
	comp=Z,82nm,18.3s,baz=358,slow=30						
DZM	**Mont Dzumac**	**12.67**	**159**		**Pn**	**10 48 35.5**	**-0.4**
MARNC	**Mare, Loyalty**	**12.79**	**152**	Pn	**Pn**	**10 48 38.6**	**+1.1**
MARNC	**Mare, Loyalty**	**12.79**	**152**	P	**Pn**	**10 48 39.5**	**+2.0**
YATNC	**Mamie plateau,**	**12.83**	**157**	P	**Pn**	**10 48 39.7**	**+1.8**
ONTNC	**Ouen Toro**	**12.90**	**159**	Pn	**Pn**	**10 48 41.1**	**+2.2**
ONTNC	**Ouen Toro**	**12.90**	**159**	P	**Pn**	**10 48 41.4**	**+2.5**
OUENC	**Ouen Island, N**	**13.14**	**158**	Pn	**Pn**	**10 48 44.5**	**+2.5**
OUENC	**Ouen Island, N**	**13.14**	**158**	P	**Pn**	**10 48 43.3**	**+1.3**
PINNC	**Pines Island,**	**13.54**	**156**	Pn	**Pn**	**10 48 47.8**	**+0.4**
PMG	**Port Moresby**	**14.26**	**272**	P	**Pn**	**10 48 57.6**	**+0.8**
	baz=245,slow=21,SNR=1.0						
PMG				LR	LR	10 53 50.9	
	comp=Z,175nm,18.0s,baz=74,slow=35						
PATS	**Pohnpei**	**17.25**	**349**	P	**Pn**	**10 49 34.9**	**+0.6**
CTA	**Charters Tower**	**17.76**	**235**	P	**Pn**	**10 49 40.1**	**-0.6**
	0.4nm,0.3s,baz=54,slow=12,SNR=6.4						
EIDS	**Eidsvold**	**18.09**	**212**	P	**P**	**10 49 43.4**	**-0.5**
EIDS				IAmb	IAmb	10 49 57.9	
	comp=Z,22nm,1.4s						
COEN	**Coen**	**18.40**	**256**	P	**Pn**	**10 49 50.6**	**+2.2**
COEN				IAmb	IAmb	10 49 53.2	
	comp=Z,13nm,0.9s						
ARMA	**Armidale**	**22.15**	**203**	P	**P**	**10 50 29.3**	**+1.5**
RAO	**Raoul Island**	**26.94**	**138**	P	**P**	**10 51 12.9**	**+0.6**
WR0	**Warramunga Arr**	**27.83**	**246**	P	**P**	**10 51 19.9**	**-0.6**
WB0	**Warramunga Arr**	**27.91**	**247**	P	**P**	**10 51 20.4**	**-0.8**
WB0				IAmb	IAmb	10 51 20.8	
	comp=Z,4.0nm,0.7s						
WB2	**Warramunga Arr**	**28.00**	**247**	P	**P**	**10 51 21.3**	**-0.7**
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**10 51 21.1**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=74,slow=9.1,SNR=38						
WRA				pP	**pP**	**10 51 41.5**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=76,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**10 51 20.6**	**-1.5**
STKA	**Stephens Creek**	**28.42**	**218**	P	**P**	**10 51 23.9**	**-1.7**
AS31	**Alice Springs**	**29.61**	**240**	P	**P**	**10 51 35.1**	**-1.1**
ASAR	**Alice Springs**	**29.61**	**240**	P	**P**	**10 51 34.2**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=63,slow=10.0,SNR=11						
ASAR				pP	**pP**	**10 51 55.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=63,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**29.61**	**240**	P	**P**	**10 51 35.0**	**-1.2**
KNRA	**Kununurra**	**32.44**	**257**	P	**P**	**10 52 00.5**	**-0.7**
KNRA				IAmb	IAmb	10 52 09.2	
	comp=Z,16nm,1.2s						
BBOO	**Buckleboo**	**32.55**	**222**	P	**P**	**10 52 01.7**	**-0.3**
BBOO				IAmb	IAmb	10 52 04.2	
	comp=Z,11nm,1.3s						
FITZ	**Fitzroy Crossi**	**35.69**	**253**	P	**P**	**10 52 28.1**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=69,slow=9.6,SNR=12						
FITZ	**Fitzroy Crossi**	**35.69**	**253**	P	**P**	**10 52 28.4**	**-1.0**
PSA00	**Pilbara Seismi**	**41.60**	**249**	P	**P**	**10 53 18.1**	**-0.6**
PSA00				IAmb	IAmb	10 53 34.6	
	comp=Z,4.6nm,1.2s						
MBWA	**Marble Bar**	**41.64**	**250**	P	**P**	**10 53 18.4**	**-0.7**
MBWA				IAmb	IAmb	10 53 44.1	
	comp=Z,17nm,1.2s						
PPT	**Papeete**	**47.84**	**104**	LR	LR	11 10 59.0	
	comp=Z,86nm,20.7s,baz=327,slow=32						
JMN	**Monobe**	**51.03**	**330**	P	**P**	**10 54 33.2**	**+0.7**
MJAR	**Matsushiro Arr**	**51.45**	**336**	P	**P**	**10 54 34.6**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=169,slow=8.1,SNR=13						
MJAR	**Matsushiro Arr**	**51.45**	**336**	P	**P**	**10 54 35.0**	**-0.5**
MJAR				IAmb	IAmb	10 54 35.4	
	comp=Z,4.4nm,0.8s						
MAJO	**Matsushiro**	**51.45**	**336**	P	**P**	**10 54 34.9**	**-0.6**
MAJO				IAmb	IAmb	10 54 35.4	
	comp=Z,7.0nm,0.7s						
MJB9	**Matsu-Tunnel**	**51.46**	**336**	P	**P**	**10 54 34.8**	**-0.8**
MJB9				IAmb	IAmb	10 54 35.1	
	comp=Z,7.4nm,0.6s						
JMM	**Marumori**	**51.64**	**339**	P	**P**	**10 54 36.1**	**-0.7**
JMM				IAmb	IAmb	10 54 37.7	
	comp=Z,18nm,0.8s						
JNU	**Nakatsue**	**52.10**	**327**	P	**P**	**10 54 40.6**	**+0.2**
SSLB	**Suanglung**	**52.16**	**311**	P	**P**	**10 54 40.3**	**-0.7**
JHS	**Saijyo**	**52.43**	**330**	P	**P**	**10 54 42.9**	**+0.1**
JSD	**Sado**	**52.73**	**337**	P	**P**	**10 54 45.3**	**+0.4**
JSD				IAmb	IAmb	10 55 14.5	
	comp=Z,26nm,1.0s						
JKA	**Kamikawa-asahi**	**56.76**	**344**	P	**P**	**10 55 14.2**	**+0.3**
ASAJ	**Asahikawa**	**56.76**	**344**	P	**P**	**10 55 14.8**	**+0.9**
	comp=Z,11nm,0.7s,baz=101,slow=14,SNR=5.5						
KSRS	**Korea Array**	**56.96**	**328**	P	**P**	**10 55 15.8**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=140,slow=8.4,SNR=10						
KSAR	**Wonju Array Be**	**56.97**	**328**	P	**P**	**10 55 15.7**	**+0.1**
USA0B	**Ussuriysk Arra**	**60.45**	**336**	P	**P**	**10 55 39.8**	**+0.2**
USA0B				IAmb	IAmb	10 55 41.1	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.45**	**336**	P	**P**	**10 55 40.3**	**+0.7**
	comp=Z,11nm,0.8s,baz=155,slow=6.7,SNR=14						
USRK	**Ussuriysk Ar.**	**60.45**	**336**	P	**P**	**10 55 39.9**	**+0.4**
KLR	**Kul'dur**	**64.74**	**339**	P	**P**	**10 56 07.8**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=134,slow=5.5,SNR=11						
CMAR	**Chiang Mai Arr**	**68.06**	**295**	pP	pP	10 56 51.5	+0.3
	comp=Z,0.8nm,0.4s,baz=143,slow=4.9,SNR=1.4						
SEY	**Seymchan**	**73.27**	**356**	P	**P**	**10 57 00.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=159,slow=4.9,SNR=6.1						
ULN	**Ulaanbaatar**	**75.27**	**325**	P	**P**	**10 57 13.0**	**+0.2**
ULN				IAmb	IAmb	10 57 14.2	
	comp=Z,7.2nm,0.8s						
SONM	**Songino Array**	**75.62**	**325**	P	**P**	**10 57 14.2**	**-0.5**
	comp=Z,6.9nm,0.7s,baz=140,slow=5.8,SNR=24						
SONM	**Songino Array**	**75.62**	**325**	P	**P**	**10 57 15.0**	**+0.3**
SONM				IAmb	IAmb	10 57 16.0	
	comp=Z,6.5nm,0.7s						
BILL	**Bilibino**	**78.12**	**2**	P	**P**	**10 57 28.9**	**+0.8**
BILL				IAmb	IAmb	10 57 30.2	
	comp=Z,6.4nm,0.9s						
ILAR	**Eielson Array**	**84.06**	**20**	P	**P**	**10 57 59.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=242,slow=5.6,SNR=10.0						
ILAR				pP	**pP**	**10 58 22.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=240,slow=5.4,SNR=2.5						
MK31	**Makanchi Array**	**90.15**	**318**	P	**P**	**10 58 28.5**	**-1.1**
MKAR	**Makanchi Array**	**90.15**	**318**	P	**P**	**10 58 28.9**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=90,slow=6.8,SNR=22						
INK	**Inuvik**	**90.46**	**20**	P	**P**	**10 58 29.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=162,slow=3.2,SNR=1.9						
YKA	**Yellowknife Ar**	**96.11**	**28**	P	**P**	**10 58 56.0**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=260,slow=5.6,SNR=4.4						
YKA				pP	**pP**	**10 59 19.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=255,slow=4.8,SNR=4.3						

*SOF **11** 10:49:26.4, 39°.97N×24°.35E, h2km, MD3.5*
*DDA **11** 10:49:29.7±0.0, 39°.95N×24°.34E, h0km±2km, ML3.2*
*THE **11** 10:49:30.2, 40°.05N×24°.27E, h13km±1km, ML3.2/16, Error ellipse: s-maj=1.0km s-min=0.6km az=356.0*
*ISK **11** 10:49:30.2, 40°.07N×24°.09E, h31km, ML3.4/20*
ISC 11 10:49:30.0±1.0**, 40°.06N**±0°.02×**24°.26E**±0°.02**, h12km**±9km**, n85, σ0.90**/114**, 3C-10D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.35**	**323**	P	**Pb**	**10 49 37.8**	**-0.4**
OUR				S	**Sb**	**10 49 43.1**	**-0.5**
	6µm,0.2s						
OUR	**Ouranopolis**	**0.35**	**323**	PG	**Pb**	**10 49 37.9**	**-0.3**
OUR				SG	**Sb**	**10 49 43.6**	**0.0**
PAIG	**Paliouri**	**0.46**	**254**	P	**Pg**	**10 49 39.0**	**-0.1**
PAIG				S	**Sg**	**10 49 45.7**	**+0.4**
	3µm,0.3s						
THAS	**Thassos island**	**0.65**	**33**	P	**Pg**	**10 49 42.4**	**-0.3**
THAS				S	**Sb**	**10 49 52.4**	**0.0**
	5µm,0.5s						
PLG	**Polygyros**	**0.70**	**297**	P	**Pb**	**10 49 43.8**	**-0.3**
PLG				S	**Sb**	**10 49 53.9**	**+0.2**
	2µm,0.5s						
LIA	**Limnos Island**	**0.73**	**102**	P	**Pg**	**10 49 43.6**	**-0.5**
LIA				S	**Sb**	**10 49 55.1**	**+0.5**
	5µm,0.5s						
KOKK	**Kokkinochori,**	**0.79**	**346**	P	**Pb**	**10 49 45.6**	**0.0**
KOKK				S	**Sb**	**10 49 56.3**	**+0.1**
	6µm,0.4s						
KAVA	**Kavala**	**0.96**	**12**	P	**Pb**	**10 49 48.4**	**-0.2**
KAVA				S	**Sn**	**10 50 01.8**	**-1.1**
	1µm,0.2s						
SOH	**Sokhos**	**1.03**	**318**	P	**Pn**	**10 49 50.2**	**-0.1**
SOH				S	**Sn**	**10 50 04.7**	**0.0**
	3µm,0.6s						
HORT	**Hortiatis**	**1.04**	**302**	P	**Pb**	**10 49 49.7**	**-0.3**
HORT				S	**Sn**	**10 50 04.6**	**-0.3**
	932nm,0.7s						
SMTH	**Samothraki Isl**	**1.06**	**67**	P	**Pb**	**10 49 49.3**	**-1.0**
SMTH				S	**Sn**	**10 50 04.7**	**-0.7**
	598nm,0.4s						
XOR	**Xorichti**	**1.07**	**230**	P	**Pb**	**10 49 50.1**	**-0.4**
XOR				S	**Sb**	**10 50 04.5**	**0.0**
	1µm,0.5s						
NEO	**Neokhori**	**1.09**	**227**	P	**Pb**	**10 49 50.2**	**-0.7**
NEO				S	**Sg**	**10 50 06.1**	**+0.8**
	2µm,0.5s						
THE	**Thessaloniki**	**1.14**	**301**	P	**Pn**	**10 49 51.5**	**-0.3**
THE				S	**Sn**	**10 50 07.6**	**+0.2**
	302nm,0.7s						
SRS	**Serrai**	**1.17**	**335**	P	**Pg**	**10 49 52.1**	**-0.5**
SRS				S	**Sn**	**10 50 07.7**	**-0.5**
	732nm,0.2s						
GADA	**Gvkgeada**	**1.27**	**83**	PN	**Pb**	**10 49 53.9**	**+0.1**
GADA				SN	**Sg**	**10 50 11.4**	**+0.6**
GOKA	**anakkale-Gk**	**1.27**	**83**	P	**Pb**	**10 49 54.0**	**0.0**
GOKA				S	**Sg**	**10 50 11.7**	**+0.7**
NVR	**Nevrokopi**	**1.33**	**347**	P	**Pb**	**10 49 54.4**	**-0.5**
NVR				S	**Sn**	**10 50 11.4**	**-0.6**
	485nm,0.2s						
LIT	**Litokhoron**	**1.36**	**272**	P	**Pn**	**10 49 54.4**	**-0.4**
BOZC	**Bozcaada**	**1.40**	**98**	PN	**Pb**	**10 49 55.9**	**-0.1**
BOZC				SN	**Sb**	**10 50 14.6**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.43**	**185**	P	**Pn**	**10 49 54.3**	**-1.5**
RDO	**Rodhopi**	**1.46**	**41**	P	**Pn**	**10 49 55.4**	**-0.8**
RDO	**Rodhopi**	**1.46**	**41**	PN	**Pn**	**10 49 55.6**	**-0.6**
ECEA	**Canakkale, Ece**	**1.47**	**90**	P	**Pn**	**10 49 56.3**	**-0.1**
ECEA				S	**Sg**	**10 50 17.3**	**0.0**
ECEA				*i* AML	AML	10 50 21.0	
	comp=N,585nm,0.5s						
KNT	**Kendrikon**	**1.51**	**317**	P	**Pb**	**10 49 57.7**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.55**	**110**	P	**Pn**	**10 49 58.1**	**+0.7**
KOCA				S	**Sb**	**10 50 18.7**	**+0.4**
GPNR	**Gulpinar-Canak**	**1.57**	**112**	PN	**Pn**	**10 49 58.2**	**+0.6**
MMB	**Musomiste**	**1.58**	**345**	*i* P	**Pn**	**10 49 57.9**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.59**	**66**	P	**Pg**	**10 49 59.8**	**-0.7**
CAVK				S	**Sg**	**10 50 22.2**	**+1.0**
CAVK				*i* AML	AML	10 50 31.0	
	comp=N,347nm,0.7s						
ENEZ	**Enez**	**1.60**	**64**	P	**Pn**	**10 49 57.7**	**-0.4**
ENEZ	**Enez**	**1.60**	**64**	PN	**Pb**	**10 49 58.7**	**-0.8**
ALN	**Alexandroupoli**	**1.60**	**58**	P	**Pn**	**10 49 57.3**	**-0.8**
ALN	**Alexandroupoli**	**1.60**	**58**	PN	**Pn**	**10 49 58.4**	**+0.3**
EZN	**Ezine**	**1.61**	**98**	P	**Pn**	**10 49 57.7**	**-0.5**
EZN				S	**Sn**	**10 50 18.0**	**-0.8**
	868nm,0.5s						
EZN	**Ezine**	**1.61**	**98**	PN	**Pn**	**10 49 58.9**	**+0.7**
ATAL	**Atalanti**	**1.67**	**215**	P	**Pn**	**10 49 58.1**	**-0.9**
RZN	**Rozhen**	**1.67**	**12**	*i* P	**Pb**	**10 49 59.6**	**-1.1**
GRG	**Griva**	**1.68**	**303**	P	**Pb**	**10 50 00.1**	**-0.7**
LKR	**Lokris**	**1.71**	**215**	P	**Pn**	**10 49 58.8**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.73**	**78**	PN	**Pn**	**10 50 00.7**	**+0.8**
PRK	**Paraskevi**	**1.75**	**117**	P	**Pn**	**10 49 58.4**	**-1.8**
BAYC	**CANAKKALE_Bayr**	**1.79**	**99**	P	**Pn**	**10 50 00.1**	**-0.7**
BAYC				S	**Sb**	**10 50 26.1**	**+1.0**
BAYC				*i* AML	AML	10 50 29.0	
	comp=N,160nm,0.5s						
THL	**Klokotos Trika**	**1.80**	**255**	P	**Pn**	**10 50 00.8**	**0.0**
VAY	**Valandovo**	**1.80**	**315**	*e*Pn	**Pg**	**10 50 03.9**	**-0.7**
VAY				*e*Sg	**Sg**	**10 50 30.7**	**+2.8**
AGG	**Agios Georgios**	**1.81**	**236**	P	**Pn**	**10 50 00.7**	**-0.4**
KDZ	**Kurdzhali**	**1.82**	**29**	*i* P	**Pn**	**10 50 00.3**	**-0.8**
ERIK	**Erikli-Kesan**	**1.83**	**70**	PN	**Pn**	**10 50 01.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.95**	**238**	P	**Pn**	**10 50 03.4**	**+0.5**
KKB	**Krupnik**	**2.01**	**334**	*i* P	**Pn**	**10 50 04.5**	**+0.7**
PLD	**Plovdiv**	**2.07**	**9**	PN	**Pn**	**10 50 03.8**	**-0.8**
PLD	**Plovdiv**	**2.07**	**9**	*i* P	**Pb**	**10 50 05.9**	**-1.7**
UKOP	**Uzunkopru-Edir**	**2.10**	**59**	PN	**Pn**	**10 50 05.7**	**+0.7**
CHOS	**Chios island**	**2.18**	**140**	P	**Pn**	**10 50 05.5**	**-0.6**
DIM	**Dimitrovgrad**	**2.21**	**25**	*i* P	**Pn**	**10 50 07.1**	**+0.6**
BUHA	**Balikesir, Bur**	**2.24**	**103**	P	**Pn**	**10 50 06.4**	**-0.5**
BUHA				S	**Sb**	**10 50 40.2**	**+2.1**
BUHA				*i* AML	AML	10 50 43.0	
	comp=E,231nm,0.7s						
LTK	**Loutraki**	**2.27**	**207**	P	**Pn**	**10 50 07.3**	**0.0**
STIP	**Stip**	**2.27**	**317**	*i* Pn	**Pn**	**10 50 07.0**	**-0.3**
STIP				*e*Sg	**Sg**	**10 50 41.4**	**-1.5**
DKL	**Dikili**	**2.27**	**115**	PN	**Pn**	**10 50 08.4**	**+1.1**
FNA	**Florina**	**2.32**	**289**	P	**Pn**	**10 50 09.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.32**	**73**	PN	**Pn**	**10 50 09.0**	**+0.9**
KRBG	**Karabiga-Canak**	**2.35**	**81**	PN	**Pn**	**10 50 09.6**	**+1.2**
MAR6	**Marsite Statio**	**2.39**	**73**	PN	**Pn**	**10 50 09.9**	**+0.9**
MAR3	**Marsite Statio**	**2.42**	**73**	PN	**Pn**	**10 50 10.4**	**+1.0**
ZEDA	**zmir-Bergama**	**2.44**	**116**	P	**Pg**	**10 50 15.8**	**-0.9**
PGB	**Panagyurishte**	**2.49**	**358**	*i* P	**Pg**	**10 50 16.9**	**-0.9**
KNL	**Balıkesir**	**2.51**	**84**	P	**Pb**	**10 50 15.6**	**+0.5**
KNL				S	**Sg**	**10 50 49.1**	**-1.6**
KNL				*i* AML	AML	10 50 51.0	
	comp=N,278nm,0.7s						
EDRB	**Edirne**	**2.60**	**46**	PN	**Pn**	**10 50 12.6**	**+0.8**
GONE	**Gonen-Balikesi**	**2.63**	**89**	PN	**Pn**	**10 50 13.6**	**+1.3**
VTS	**Vitosha**	**2.67**	**344**	⇓P	**Pn**	**10 50 14.0**	**+1.0**
VTS				⇓S	**Sn**	**10 50 45.8**	**+0.4**
VTS	**Vitosha**	**2.67**	**344**	*i* P	**Pn**	**10 50 14.0**	**+1.0**
EDC	**Edincik**	**2.78**	**83**	PN	**Pn**	**10 50 15.5**	**+1.2**
SLVT	**Silivri**	**3.23**	**67**	PN	**Pn**	**10 50 22.0**	**+1.5**
MPEP	**Malo Peshtene**	**3.32**	**353**	*i* P	**Pn**	**10 50 23.0**	**+1.2**
CTKS	**Kestanelik-??a**	**3.44**	**69**	PN	**Pn**	**10 50 24.9**	**+1.5**
PDG	**Podgorica**	**4.45**	**304**	⇓P	**Pn**	**10 50 40.2**	**+2.8**
HERR	**Herculane**	**5.01**	**345**	⇓P	**Pn**	**10 50 45.1**	**+0.1**
MDVR	**Moldovita**	**5.08**	**339**	⇑P	**Pn**	**10 50 47.2**	**+1.2**
ARR	**Arges**	**5.31**	**3**	⇓P	**Pn**	**10 50 50.2**	**+1.0**
GZR	**Gura Zlata**	**5.44**	**349**	⇓P	**Pn**	**10 50 52.1**	**+1.1**
MLR	**Muntele Rosu**	**5.57**	**12**	⇓P	**Pn**	**10 50 53.6**	**+0.8**
CFR	**Carcaliu**	**5.86**	**28**	⇓P	**Pn**	**10 50 57.4**	**+0.7**
BZS	**Buzias**	**5.88**	**342**	⇑P	**Pn**	**10 50 58.3**	**+1.3**
VRI	**Vrincioaia**	**6.08**	**17**	⇓P	**Pn**	**10 50 59.8**	**+0.1**
TESR	**Tescani**	**6.68**	**14**	⇑P	**Pn**	**10 51 08.9**	**+0.9**
BURAR	**Bucovina Array**	**7.59**	**5**	⇓P	**Pn**	**10 51 22.5**	**+2.0**

*IDC **11** 10:58:06.2±0.7, 7°.74S×125°.66E, h0km, mb4.3/15, mb1 4.4/18, mb1mx4.1/49, mbtmp4.4/18, ML4.4/3, MS3.7/4, Ms1 3.7/4, ms1mx3.1/56, Error ellipse: s-maj=23.0km s-min=14.7km az=42.0*
*DJA **11** 10:58:07.8±0.2, 8°S±3°×12°6E±°, h10km, M4.5/19, mb4.8/19, mB5.1/13, MLv4.7/14, Mw(mB)4.4/13, MwMwp4.4/1, Mwp4.8/1*

*NEIC **11** 10:58:07.3±2.1, 7°.77S±0°.07×125°.78E±0°.06, h10km±1km, mb4.6/21, Error ellipse: s-maj=12.3km s-min=9.3km az=161.0*

ISC 11 10:58:10.7±0.4**, 7°.89S**±0°.05×**125°.77E**±0°.06**, h35km, n102,** σ**1.s61**/103**, mb4.5**/35**, MS3.9**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.57**	**258**	Pn	**Pn**	**10 59 04.6**	**+0.9**
MMRI	**Maumere**	**3.57**	**258**	P	**Pn**	**10 59 04.7**	**+1.0**
BBSI	**Bau Bau**	**3.97**	**307**	P	**Pn**	**10 59 07.9**	**-1.3**
BSSI	**Bau Bau, Buton**	**5.52**	**288**	P	**Pn**	**10 59 29.2**	**-1.3**
	0.5nm1μm104nm,0.9s						
BASI	**Baing, Sumba**	**5.63**	**245**	P	**Pn**	**10 59 31.9**	**0.0**
	0.7nm2μm123nm,0.8s						
SANI	**Sanana**	**5.80**	**2**	P	**Pn**	**10 59 31.0**	**-3.4**
	0.1nm25nm,1.1s						
BKSI	**Bulukumba**	**6.16**	**294**	P	**Pn**	**10 59 38.7**	**-0.6**
	0.7nm2μm224nm,0.9s						
WBSI	**Waikabubak, Su**	**6.54**	**254**	P	**Pn**	**10 59 46.5**	**+1.9**
	0.4nm1μm133nm,0.8s						
BNSI	**Bone**	**6.61**	**301**	P	**Pn**	**10 59 45.3**	**-0.1**
	0.7nm2μm233nm,0.7s						
KAPI	**Kappang**	**6.62**	**295**	Pn	**Pn**	**10 59 44.5**	**-1.1**
	7.6nm,0.3s,baz=131,slow=11,SNR=18						
KAPI				Sn	**Sn**	**11 00 59.8**	**-0.2**
	3.4nm,0.3s,baz=229,slow=19,SNR=2.6						
KAPI	**Kappang**	**6.62**	**295**	Pn	**Pn**	**10 59 44.6**	**-1.0**
DRS	**Darwin Rock St**	**6.78**	**132**	P	**Pn**	**10 59 50.0**	**+2.3**
SPSI	**Sidrap Palu**	**7.13**	**303**	P	**Pn**	**10 59 51.6**	**-1.0**
	0.4nm1μm102nm,0.7s						
TTSI	**Tana Toraja**	**7.63**	**309**	P	**Pn**	**10 59 59.6**	**+0.1**
	0.2nm54nm,1.1s						
PLAI	**Plampang**	**7.96**	**263**	P	**Pn**	**11 00 05.3**	**+1.2**
	1μm912nm85nm,0.8s						
APSI	**Ampana**	**8.05**	**329**	P	**Pn**	**11 00 04.5**	**-0.8**
	628nm53nm,0.7s						
KNRA	**Kununurra**	**8.28**	**160**	Pn	**Pn**	**11 00 09.5**	**+1.1**
KNRA	**Kununurra**	**8.28**	**160**	P	**Pn**	**11 00 09.9**	**+1.5**
SIJI	**Sorong**	**8.87**	**38**	Pn	**Pn**	**11 00 16.6**	**+0.2**
	0.9nm,0.3s,baz=192,slow=6.2,SNR=4.3						
GTOI	**Gorontalo**	**8.90**	**342**	P	**Pn**	**11 00 19.1**	**+2.2**
	18nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.15**	**181**	Sn	**Sn**	**11 02 23.6**	**-3.1**
	baz=169,slow=10						
FITZ	**Fitzroy Crossi**	**10.15**	**181**	Pn	**Pn**	**11 00 34.1**	**+0.1**
ABJI	**Asem Bagus**	**11.43**	**270**	P	Pn	11 00 42.4	-9.2
WB0	**Warramunga Arr**	**14.47**	**146**	Pn	**Pn**	**11 01 30.2**	**-3.0**
WRAB	**Tennant Creek**	**14.58**	**146**	Pn	**Pn**	**11 01 31.4**	**-3.2**
WRA	**Warramunga Arr**	**14.58**	**146**	Pn	**Pn**	**11 01 31.5**	**-3.2**
	1.3nm,0.3s,baz=315,slow=13,SNR=67						
WRA				Sn	**Sn**	**11 04 12.3**	**-2.9**
	1.8nm,0.3s,baz=331,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**14.58**	**146**	Pn	**Pn**	**11 01 30.9**	**-3.8**
WB2	**Warramunga Arr**	**14.59**	**146**	Pn	**Pn**	**11 01 31.3**	**-3.4**
WR0	**Warramunga Arr**	**14.71**	**146**	Pn	**Pn**	**11 01 32.8**	**-3.6**
PSA00	**Pilbara Seismi**	**14.76**	**202**	Pn	**Pn**	**11 01 37.0**	**0.0**
PSA00	**Pilbara Seismi**	**14.76**	**202**	P	**Pn**	**11 01 37.2**	**+0.2**
WRKA	**Warakurna**	**17.23**	**172**	P	**Pn**	**11 02 08.1**	**-0.6**
AS31	**Alice Springs**	**17.52**	**154**	Pn	**Pn**	**11 02 11.9**	**-0.5**
ASAR	**Alice Springs**	**17.52**	**154**	P	**Pn**	**11 02 10.8**	**-1.7**
	0.6nm,0.3s,baz=326,slow=9.5,SNR=58						
ASAR				LR	LR	11 10 20.3	
	comp=Z,552nm,18.4s,baz=334,slow=42						
ASAR	**Alice Springs**	**17.52**	**154**	Pn	**Pn**	**11 02 11.1**	**-1.4**
LEM	**Lembang**	**18.03**	**272**	P	**Pn**	**11 02 18.4**	**-0.5**
	4.5nm,0.3s,baz=64,slow=1.3,SNR=5.1						
COEN	**Coen**	**18.12**	**111**		**Pn**	**11 02 18.6**	**-1.2**
COEN	**Coen**	**18.12**	**111**	P	**Pn**	**11 02 19.4**	**-0.4**
QIS	**Mount Isa**	**18.38**	**135**	P	**Pn**	**11 02 24.9**	**+1.9**
MEEK	**Meekatharra**	**19.85**	**199**	P	**Pn**	**11 02 41.3**	**+0.7**
PPBI	**Pangkal Pinang**	**20.36**	**285**	P	**P**	**11 02 45.2**	**+0.8**
MTSU	**Mount Surprise**	**20.72**	**121**	P	**P**	**11 02 49.4**	**+1.0**
PMG	**Port Moresby**	**21.20**	**96**	P	**P**	**11 02 55.9**	**+2.3**
	9.5nm,0.7s,baz=282,slow=15,SNR=9.2						
PMG				LR	LR	11 13 09.7	
	comp=Z,464nm,18.2s,baz=264,slow=42						
PMG	**Port Moresby**	**21.20**	**96**	P	**P**	**11 02 50.8**	**-2.7**
PMG				IAmb	IAmb	11 03 00.6	
	comp=Z,16nm,0.8s						
OOD	**Oodnadatta**	**21.91**	**156**	P	**P**	**11 03 02.6**	**+1.6**
FORT	**Forrest**	**22.88**	**175**	P	**P**	**11 03 12.1**	**+0.8**
FORT				IAmb	IAmb	11 03 34.5	
	comp=Z,25nm,0.8s						
FORT	**Forrest**	**22.88**	**175**	P	**P**	**11 03 11.7**	**+0.4**
MORW	**Morawa**	**22.98**	**202**	P	**P**	**11 03 13.5**	**+1.2**
MORW				IAmb	IAmb	11 03 13.9	
	comp=Z,11nm,0.8s						
MORW	**Morawa**	**22.98**	**202**	P	**P**	**11 03 13.8**	**+1.4**
CTA	**Charters Tower**	**23.25**	**124**	P	**P**	**11 03 17.2**	**+2.0**
	comp=Z,6.9nm,0.9s,baz=313,slow=7.5,SNR=3.7						
MULG	**Mulgathing**	**23.60**	**162**	P	**P**	**11 03 19.9**	**+1.4**
BLDU	**Ballidu**	**24.15**	**199**	P	**P**	**11 03 24.7**	**+1.0**
INKA	**Innaminka**	**24.31**	**146**	P	**P**	**11 03 27.3**	**+2.2**
LCRK	**Leigh Creek**	**25.29**	**154**	P	**P**	**11 03 37.3**	**+3.3**
BBOO	**Buckleboo**	**26.57**	**160**	P	**P**	**11 03 46.0**	**+0.3**
STKA	**Stephens Creek**	**28.05**	**150**	P	**P**	**11 04 00.8**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=331,slow=10.0,SNR=7.6						
STKA	**Stephens Creek**	**28.05**	**150**	P	**P**	**11 04 01.1**	**+2.2**
HTT	**Hallett**	**28.18**	**156**	P	**P**	**11 04 02.5**	**+2.4**
RPSI	**Rantau Prapat**	**28.77**	**290**	P	**P**	**11 04 04.6**	**-0.9**
PSI	**Prapat**	**28.81**	**291**	P	**P**	**11 04 04.6**	**-1.4**
	comp=Z,5.4nm,0.3s,baz=119,slow=6.0,SNR=8.9						
QIZ	**Qiongzhong**	**31.01**	**330**	P	**P**	**11 04 23.6**	**-1.7**
QIZ				S	**S**	**11 09 30.3**	**+2.3**
QIZ				LR	LR		
	comp=N,830nm,12.0s						
QIZ				LR	LR		
	comp=E,650nm,11.1s						
QIZ				LR	LR		
	comp=Z,400nm,9.8s						
CMAR	**Chiang Mai Arr**	**37.23**	**315**	P	**P**	**11 05 18.8**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=145,slow=6.9,SNR=13						
NJ2	**Nanjing**	**40.26**	**351**	*e*P	**P**	**11 05 45.2**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH	**PanZhiHua**	**41.38**	**327**	P	**P**	**11 05 55.6**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
MJAR	**Matsushiro Arr**	**45.71**	**14**	P	**P**	**11 06 27.0**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=198,slow=9.7,SNR=5.0						
MJAR				LR	LR	11 22 37.3	
	comp=Z,44nm,20.6s,baz=171,slow=32						
MJAR	**Matsushiro Arr**	**45.71**	**14**	IAmb	IAmb	11 06 31.9	
	comp=Z,5.5nm,1.3s						
HHC	**Hu-ho-hao-te**	**50.23**	**346**	*e*P	**P**	**11 07 06.1**	**+2.6**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,99nm,6.4s						
RAMN	**Ramite**	**51.38**	**314**	*e*P	**P**	**11 07 12.6**	**0.0**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**52.47**	**314**	*e*P	**P**	**11 07 20.2**	**-0.6**
	comp=Z,23nm,0.8s						
PKIN	**Phulchoki**	**52.61**	**314**	*e*P	**P**	**11 07 19.9**	**-1.9**
	comp=Z,19nm,0.5s						
DMN	**Daman**	**52.84**	**313**	*e*P	**P**	**11 07 23.3**	**-0.2**
GTA	**Gaotai**	**52.85**	**335**	*e*P	**P**	**11 07 24.6**	**+1.4**
GTA				pP	pwP	11 07 39.9	+3.4
GTA				sP	sP	11 07 47.9	+11
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KOLN	**Koldanda**	**54.02**	**313**	*e*P	**P**	**11 07 31.6**	**-0.5**
	comp=Z,31nm,0.8s						
DANN	**Dangsing**	**54.24**	**313**	*e*P	**P**	**11 07 33.0**	**-0.8**
	comp=Z,39nm,0.7s						
PYUN	**Piuthan**	**54.65**	**313**	*e*P	**P**	**11 07 36.2**	**-0.5**
	comp=Z,35nm,0.8s						
KLR	**Kul'dur**	**57.12**	**5**	LR	LR	11 32 09.2	
	comp=Z,32nm,20.7s,baz=177,slow=36						
SONM	**Songino Array**	**58.07**	**345**	P	**P**	**11 08 02.0**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=161,slow=9.2,SNR=2.6						
WMQ	**Urumqi**	**61.94**	**330**	*e*P	**P**	**11 08 27.9**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
KSH	**Kashi**	**65.90**	**320**	P	**P**	**11 08 53.4**	**0.0**
KSH				sP	sP	11 09 06.4	-0.7
KSH				PcP	**PcP**	**11 09 24.3**	**+0.2**
KSH				ScP		11 13 17.9	
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				LR	LR		
	comp=N,240nm,24.0s						
KSH				LR	LR		
	comp=E,180nm,17.9s						
PETK	**Petropavlovsk-**	**66.54**	**20**	P	**P**	**11 08 57.6**	**+0.6**
	comp=E,2.6nm,0.6s,baz=185,slow=3.1,SNR=8.2						
KDJ	**Kajisay**	**66.65**	**323**	P	**P**	**11 08 57.5**	**-0.7**
KDJ				IAmb	IAmb	11 09 00.1	
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**66.74**	**329**	P	**P**	**11 08 56.2**	**-2.3**
MK31				IAmb	IAmb	11 08 59.4	
	comp=Z,3.7nm,0.8s						
MKAR	**Makanchi Array**	**66.74**	**329**	P	**P**	**11 08 58.1**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=131,slow=7.9,SNR=45						
MKAR	**Makanchi Array**	**66.74**	**329**	P	**P**	**11 08 57.2**	**-1.3**
MAKZ	**Makanchi**	**66.91**	**329**	P	**P**	**11 08 58.7**	**-0.9**
BOOM	**Boomskoye usch**	**67.61**	**322**	P	**P**	**11 09 04.1**	**-0.2**
BOOM				IAmb	IAmb	11 09 20.0	
	comp=Z,4.2nm,0.7s						
KBL	**Kabul**	**68.18**	**312**	P	**P**	**11 09 07.1**	**-0.9**
AAK	**Ala-Archa**	**68.57**	**322**	P	**P**	**11 09 10.7**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=127,slow=6.7,SNR=9.8						
AAK	**Ala-Archa**	**68.57**	**322**	P	**P**	**11 09 09.5**	**-0.8**
AAK				IAmb	IAmb	11 09 11.1	
	comp=Z,3.3nm,0.7s						
MA2	**Magadan**	**70.15**	**13**	P	**P**	**11 09 17.7**	**-1.7**
ZAA0	**Zalesovo Array**	**70.59**	**336**	P	**P**	**11 09 20.5**	**-1.7**
ZAA0				IAmb	IAmb	11 09 41.6	
	comp=Z,6.5nm,1.2s						
ZALV	**Zalesovo Beam**	**70.59**	**336**	P	**P**	**11 09 21.1**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=137,slow=4.4,SNR=10						
ZALV	**Zalesovo Beam**	**70.59**	**336**	P	**P**	**11 09 20.0**	**-2.3**
KURBB	**Kurchatov Arra**	**71.13**	**330**	P	**P**	**11 09 25.2**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=142,slow=5.1,SNR=11						
KURK	**Kurchatov**	**71.15**	**330**	P	**P**	**11 09 24.3**	**-1.4**
KURK				IAmb	IAmb	11 09 25.8	
	comp=Z,5.0nm,0.8s						
VNDA	**Vanda**	**72.11**	**172**	P	**P**	**11 09 32.0**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=317,slow=4.3,SNR=2.7						
BRVK	**Borovoye**	**76.69**	**329**	P	**P**	**11 09 56.9**	**-1.2**
TIXI	**Tiksi**	**79.39**	**1**	P	**P**	**11 10 12.2**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=90,slow=20,SNR=4.3						
AKTO	**Aktyubinsk**	**82.24**	**323**	P	**P**	**11 10 27.0**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=101,slow=5.6,SNR=3.9						
RAYN	**Ar Rayn**	**84.28**	**295**	P	**P**	**11 10 38.6**	**-1.0**
RAYN				IAmb	IAmb	11 11 07.1	
	comp=Z,7.3nm,1.2s						
LVC	**Limon Verde**	**146.46**	**155**	PKPbc	**PKiKP**	**11 17 52.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=195,slow=1.2,SNR=3.6						
LVC	**Limon Verde**	**146.46**	**155**		**PKPdf**	**11 17 47.9**	**-0.3**

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*NEIC **11** 10:58:10.3±2.0, 22°.46S±0°.09×179°.6W±0°.1, h546km±5km, mb4.9/145, Error ellipse: s-maj=13.8km s-min=12.4km az=103.0*

*IDC **11** 10:58:10.2±0.9, 22°.42S×179°.63W, h546km±9km, mb4.2/29, mb1 4.3/34, mb1mx4.2/49, mbtmp5.1/34, Error ellipse: s-maj=10.3km s-min=9.0km az=104.0*

*NOU **11** 10:58:10.8, 22°.45S×179°.55W, h560km, ML5.0/80, South of Fiji Islands*

*GCMT **11** 10:58:14.3±0.5, 22°.72S±0°.04×179°.76W±0°.07, h593km±5km, MW5.3/39, Moment Tensor Solution. s39,c50; Duration: 1.s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.04; $M_{\theta\theta}$0.90±.06; $M_{\phi\phi}$-0.79±.07; $M_{r\theta}$0.39±.07; $M_{\theta\phi}$0.34±.07; $M_{\phi r}$-0.14±.07; Best double couple: $M_0$0.99200×10^{17} NP1:ϕ_s33.00000°, δ66.00000°, λ179.00000°. NP2:ϕ_s124.00000°, δ89.00000°, λ24.00000°. Principal axes: T 1.0720, Plg17.0000°, Azm351.0000°; N -0.1580, Plg66.0000°, Azm126.0000°; P -0.9130, Plg16.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 11 10:58:12.0±0.2**, 22°.56S**±0°.04×**179°.59W**±0°.04**, h579km, n681,** σ**1.s58**/744**, mb4.9**/128**, 30C-11D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**335**	P	**P**	**10 59 43.1**	**-3.1**
	81nm,0.3s,baz=198,slow=8.9,SNR=310						
MSVF				S	**S**	**11 00 58.8**	**-4.1**
	baz=79,slow=18,SNR=3.7						
MSVF	**Nonsavu**	**5.29**	**335**	P	**P**	**10 59 42.9**	**-3.3**
MSVF	**Nonsavu**	**5.29**	**335**	P	**P**	**10 59 44.4**	**-1.8**
RIZ	**Raoul Island**	**6.83**	**168**	P	**P**	**10 59 57.1**	**-2.4**
RIZ				S	**S**	**11 01 24.9**	**-2.5**
RAO	**Raoul Island**	**6.84**	**168**	P	**P**	**10 59 57.6**	**-1.9**
	2μm,0.3s,baz=118,slow=2.8,SNR=70						
RAO	**Raoul Island**	**6.84**	**168**	P	**P**	**10 59 57.9**	**-1.6**
GLKZ	**Green Lake**	**6.84**	**168**	P	**P**	**10 59 56.2**	**-3.4**
GLKZ				S	**S**	**11 01 23.2**	**-4.5**
NIUE	**Niue**	**9.68**	**71**	P	**P**	**11 00 25.9**	**-1.4**
	baz=9.6,SNR=31						
NIUE				S	**S**	**11 02 20.1**	**+1.8**
	baz=9.6						
NIUE	**Niue**	**9.68**	**71**	P	**P**	**11 00 24.9**	**-2.3**
NIUE	**Niue**	**9.68**	**71**	P	**P**	**11 00 26.2**	**-1.1**
AFI	**Afiamalu**	**11.36**	**42**	P	**P**	**11 00 40.1**	**-4.2**
	27nm,0.3s,baz=12,slow=1.6,SNR=41						
AFI				S	**S**	**11 02 40.7**	**-8.7**
	8.2nm,0.3s,baz=357,slow=24,SNR=8.8						
AFI	**Afiamalu**	**11.36**	**42**	P	**P**	**11 00 39.6**	**-4.7**
AFI	**Afiamalu**	**11.36**	**42**	P	**P**	**11 00 40.9**	**-3.4**
MARNC	**Mare, Loyalty**	**11.53**	**273**	P	**P**	**11 00 44.3**	**-1.7**
MARNC	**Mare, Loyalty**	**11.53**	**273**	P	**P**	**11 00 44.6**	**-1.4**
PINNC	**Pines Island,**	**11.98**	**267**	P	**P**	**11 00 49.5**	**-1.0**
PINNC	**Pines Island,**	**11.98**	**267**	P	**P**	**11 00 49.6**	**-0.9**
LIFNC	**LIFOU**	**12.37**	**276**	P	**P**	**11 00 51.3**	**-3.2**
LIFNC	**LIFOU**	**12.37**	**276**	P	**P**	**11 00 52.4**	**-2.2**
YATNC	**Mamie plateau,**	**12.53**	**270**	P	**P**	**11 00 54.9**	**-1.2**
OUENC	**Ouen Island, N**	**12.55**	**268**	P	**P**	**11 00 54.3**	**-2.0**
OUENC	**Ouen Island, N**	**12.55**	**268**	P	**P**	**11 00 55.0**	**-1.3**
ONTNC	**Ouen Toro**	**12.91**	**268**	P	**P**	**11 00 58.0**	**-2.1**
ONTNC	**Ouen Toro**	**12.91**	**268**	P	**P**	**11 00 59.1**	**-0.9**
DZM	**Mont Dzumac**	**12.94**	**269**	P	**P**	**11 00 58.6**	**-1.9**
	6.4nm,0.3s,baz=82,slow=17,SNR=44						
DZM	**Mont Dzumac**	**12.94**	**269**	*e*P	**P**	**11 00 58.6**	**-1.9**
	312nm,1.0s						
DZM	**Mont Dzumac**	**12.94**	**269**	P	**P**	**11 00 58.6**	**-1.9**
NFK	**Norfolk Island**	**12.95**	**238**	P	**P**	**11 01 00.9**	**+0.5**
	baz=13,SNR=6.2						
NFK	**Norfolk Island**	**12.95**	**238**	P	**P**	**11 01 01.4**	**+1.0**
NOUC	**Port Laguerre**	**13.06**	**269**	P	**P**	**11 01 00.0**	**-1.6**
OUZ	**Omahuta**	**13.95**	**204**	P	**P**	**11 01 10.6**	**+0.1**
OUZ	**Omahuta**	**13.95**	**204**	P	**P**	**11 01 11.3**	**+0.8**
FUNA	**Funafuti**	**14.00**	**355**	P	**P**	**11 01 08.4**	**-2.9**
WCZ	**Waipu Caves**	**14.34**	**200**	P	**P**	**11 01 14.7**	**+0.4**
SANVU	**Saraoutou**	**14.35**	**297**	P	**P**	**11 01 11.3**	**-3.3**
KUZ	**Kuaotunu**	**14.71**	**195**	P	**P**	**11 01 16.4**	**-1.5**
WIAZ	**Waiheke Island**	**14.91**	**197**	P	**P**	**11 01 19.8**	**+0.1**
MXZ	**Matakaoa Point**	**15.07**	**186**	P	**P**	**11 01 20.6**	**-0.7**
KOUNC	**Koumac, New Ca**	**15.13**	**275**	P	**P**	**11 01 21.0**	**-1.1**
KOUNC				IAmb	IAmb	11 01 25.3	
	comp=Z,50nm,0.8s						
KOUNC	**Koumac, New Ca**	**15.13**	**275**	P	**P**	**11 01 21.1**	**-1.1**
TGRZ	**Tauranga**	**15.54**	**192**	P	**P**	**11 01 26.3**	**+0.5**
OPRZ	**Ohinepanea**	**15.60**	**191**	P	**P**	**11 01 25.8**	**-0.6**
TOZ	**Tahuroa Road**	**15.70**	**195**	P	**P**	**11 01 27.4**	**0.0**
KMRZ	**Kaimai**	**15.72**	**193**	P	**P**	**11 01 28.4**	**+0.8**
KARZ	**Kaharoa**	**15.82**	**192**	P	**P**	**11 01 28.4**	**-0.2**
OMRZ	**Omania**	**15.88**	**192**	P	**P**	**11 01 28.9**	**-0.2**
URZ	**Urewera**	**15.91**	**190**	P	**P**	**11 01 28.1**	**-1.1**
	comp=Z,59nm,0.3s,baz=11,slow=1.7,SNR=44						
URZ				S	**S**	**11 04 09.3**	**-0.8**
	comp=Z,6.7nm,0.3s,baz=169,slow=20,SNR=11						
URZ	**Urewera**	**15.91**	**190**	P	**P**	**11 01 26.0**	**-3.3**
URZ				P	**S**	**11 04 02.9**	**-7.2**
NGRZ	**Ngongotaha**	**15.91**	**192**	P	**P**	**11 01 29.8**	**+0.4**
TARZ	**Mount Tarawera**	**15.98**	**191**	P	**P**	**11 01 32.0**	**+1.9**
HLRZ	**Highlands Stat**	**16.03**	**192**	P	**P**	**11 01 30.3**	**-0.2**
RRRZ	**Republican Roa**	**16.08**	**191**	P	**P**	**11 01 29.3**	**-1.7**
HSRZ	**Hossack Road**	**16.11**	**192**	P	**P**	**11 01 31.9**	**+0.7**
GRRZ	**Galatos Road**	**16.17**	**192**	P	**P**	**11 01 32.5**	**+0.7**
MUGZ	**Murupara**	**16.17**	**190**	P	**P**	**11 01 29.9**	**-1.9**
HRRZ	**Handcock Road**	**16.18**	**192**	P	**P**	**11 01 29.3**	**-2.5**
RIGZ	**Rimuhau**	**16.26**	**187**	P	**P**	**11 01 31.4**	**-1.2**
RIGZ				S	**S**	**11 04 10.1**	**-5.9**
RTZ	**Ruatahuna**	**16.27**	**190**	P	**P**	**11 01 30.1**	**-2.7**
RAHZ	**Arahi**	**16.55**	**189**	P	**P**	**11 01 33.7**	**-1.5**
HIZ	**Hauiti**	**16.60**	**195**	P	**P**	**11 01 36.5**	**+0.8**
HIZ	**Hauiti**	**16.60**	**195**	P	**P**	**11 01 36.5**	**+0.8**
MHGZ	**Mahia Peninsul**	**16.68**	**187**	P	**P**	**11 01 36.8**	**+0.4**
MHGZ				S	**S**	**11 04 21.5**	**-1.3**
NMHZ	**Naumai**	**16.77**	**190**	P	**P**	**11 01 36.2**	**-1.1**
RITZ	**Rihia Road**	**16.82**	**192**	P	**P**	**11 01 37.8**	**+0.1**
BKZ	**Black Stump Fm**	**16.89**	**191**	P	**P**	**11 01 34.9**	**-3.4**
BKZ				S	**S**	**11 04 17.9**	**-8.5**
BKZ	**Black Stump Fm**	**16.89**	**191**	P	**P**	**11 01 38.9**	**+0.5**
ARHZ	**Aropaoanui**	**16.91**	**189**	P	**P**	**11 01 37.4**	**-1.0**
ARHZ				S	**S**	**11 04 24.6**	**-1.9**
KRVZ	**Karewarewa**	**16.98**	**193**	P	**P**	**11 01 40.4**	**+1.2**
WTVZ	**West Tongariro**	**17.01**	**193**	P	**P**	**11 01 43.0**	**+3.5**
OTVZ	**Oturere**	**17.04**	**193**	P	**P**	**11 01 37.1**	**-2.7**
OTVZ				S	**S**	**11 04 29.5**	**+0.5**
SNVZ	**South Ngauruho**	**17.07**	**193**	P	**P**	**11 01 40.1**	**0.0**
SNVZ				S	**S**	**11 04 24.8**	**-4.7**
MCHZ	**McNeill Hill**	**17.13**	**190**	P	**P**	**11 01 38.3**	**-2.2**
MCHZ				S	**S**	**11 04 22.9**	**-7.2**
TUVZ	**Tukino**	**17.15**	**193**	P	**P**	**11 01 40.1**	**-0.7**
TUVZ				S	**S**	**11 04 31.6**	**+0.9**
DRZ	**Dome Shelter**	**17.17**	**193**	P	**P**	**11 01 44.3**	**+3.1**
WHVZ	**Whangaehu Hut**	**17.17**	**193**	P	**P**	**11 01 41.6**	**+0.5**
VRZ	**Vera Road**	**17.21**	**195**	P	**P**	**11 01 42.9**	**+1.8**
WNVZ	**Wahianoa**	**17.21**	**193**	P	**P**	**11 01 38.9**	**-2.6**
WNVZ				S	**S**	**11 04 32.0**	**+0.2**
BHHZ	**Black Hill Sta**	**17.28**	**191**	P	**P**	**11 01 38.2**	**-3.7**
BHHZ				S	**S**	**11 04 25.4**	**-7.3**
KRHZ	**Kereru**	**17.38**	**190**	P	**P**	**11 01 40.0**	**-2.7**
KRHZ				S	**S**	**11 04 27.2**	**-7.0**
KAHZ	**Kahuranaki**	**17.45**	**189**	P	**P**	**11 01 41.9**	**-1.4**
KAHZ				S	**S**	**11 04 30.0**	**-5.3**
PKE	**Pukeiti**	**17.47**	**197**	P	**P**	**11 01 46.6**	**+3.0**
NEZ	**North Egmont**	**17.51**	**196**	P	**P**	**11 01 46.4**	**+2.4**
KHEZ	**Kahui Hut**	**17.55**	**197**	P	**P**	**11 01 48.0**	**+3.5**
PREZ	**Palmer Road**	**17.56**	**196**	P	**P**	**11 01 47.1**	**+2.7**
NBEZ	**Newall Road No**	**17.57**	**197**	P	**P**	**11 01 48.3**	**+3.9**
LREZ	**Lake Rotokare**	**17.61**	**196**	P	**P**	**11 01 46.7**	**+1.9**
PNHZ	**Pukenui**	**17.67**	**191**	P	**P**	**11 01 43.3**	**-2.1**
PNHZ				S	**S**	**11 04 35.6**	**-3.3**
PXZ	**Pawanui**	**17.68**	**189**	P	**P**	**11 01 44.0**	**-1.4**
PXZ				S	**S**	**11 04 37.2**	**-1.8**
NMEZ	**Namu Road**	**17.70**	**197**	P	**P**	**11 01 48.7**	**+3.0**
WAZ	**Wanganui**	**17.75**	**194**	P	**P**	**11 01 46.8**	**+0.6**
WPHZ	**Waipukurau**	**17.78**	**190**	P	**P**	**11 01 45.3**	**-1.0**
WPHZ				S	**S**	**11 04 40.2**	**-0.4**
TSZ	**Takapari Road**	**17.85**	**191**	P	**P**	**11 01 44.5**	**-2.5**
TSZ				S	**S**	**11 04 37.7**	**-4.2**
PRHZ	**Porangahau**	**17.94**	**189**	P	**P**	**11 01 46.4**	**-1.5**
DVHZ	**Dannevirke**	**18.05**	**191**	P	**P**	**11 01 46.9**	**-1.9**
ANWZ	**Angora Road**	**18.16**	**190**	P	**P**	**11 01 49.0**	**-0.8**
POWZ	**Post Office Ro**	**18.21**	**191**	P	**P**	**11 01 50.1**	**-0.2**
PRWZ	**Pori Road**	**18.33**	**191**	P	**P**	**11 01 50.5**	**-1.0**
BFZ	**Birch Farm**	**18.41**	**190**	P	**P**	**11 01 50.2**	**-1.9**
RAR	**Rarotonga**	**18.44**	**90**	P	**P**	**11 01 51.7**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=160,slow=7.1,SNR=3.3						
RAR	**Rarotonga**	**18.44**	**90**	P	**P**	**11 01 52.2**	**-0.5**
MRZ	**Mangatainoka R**	**18.51**	**192**	P	**P**	**11 01 50.7**	**-2.3**
TIWZ	**Tintock**	**18.56**	**191**	P	**P**	**11 01 53.0**	**-0.6**
OGWZ	**Otaki Gorge**	**18.74**	**192**	P	**P**	**11 01 53.1**	**-2.0**
HOWZ	**Holdsworth Sta**	**18.75**	**192**	P	**P**	**11 01 54.0**	**-1.2**
TMWZ	**Te Maipa**	**18.88**	**191**	P	**P**	**11 01 55.8**	**-0.6**
MTW	**Mount Morrison**	**19.00**	**191**	P	**P**	**11 01 56.1**	**-1.4**
CAW	**Cannon Point**	**19.04**	**192**	P	**P**	**11 01 56.6**	**-1.2**
TRWZ	**Traveller**	**19.20**	**191**	P	**P**	**11 01 58.7**	**-0.6**
PAWZ	**Paruwai Farm**	**19.23**	**191**	P	**P**	**11 01 58.8**	**-0.9**
MSWZ	**Moikau Station**	**19.30**	**192**	P	**P**	**11 01 59.1**	**-1.1**
QRZ	**Quartz Range**	**19.39**	**198**	P	**P**	**11 02 02.5**	**+1.5**
KHZ	**Kahutara**	**20.62**	**195**	P	**P**	**11 02 12.2**	**+0.1**
LHI	**Lord Howe Isla**	**20.98**	**240**	P	**P**	**11 02 16.5**	**+1.0**
	baz=21						
LHI	**Lord Howe Isla**	**20.98**	**240**	P	**P**	**11 02 16.0**	**+0.6**
LHI	**Lord Howe Isla**	**20.98**	**240**	P	**P**	**11 02 16.1**	**+0.6**
RPZ	**Rata Peaks**	**22.48**	**198**	P	**P**	**11 02 30.0**	**+1.3**
	comp=Z,50nm,0.7s,baz=349,slow=1.5,SNR=24						
RPZ	**Rata Peaks**	**22.48**	**198**	P	**P**	**11 02 29.2**	**+0.4**
ODZ	**Otahua Downs**	**23.82**	**197**	P	**P**	**11 02 41.1**	**+0.5**
TARA	**Tarawa**	**24.86**	**342**	P	**P**	**11 02 48.7**	**-1.6**
TARA	**Tarawa**	**24.86**	**342**	P	**P**	**11 02 49.5**	**-0.7**
ARMA	**Armidale**	**26.87**	**247**	P	**P**	**11 03 08.6**	**+0.8**
	baz=27,SNR=81						
ARMA	**Armidale**	**26.87**	**247**	P	**P**	**11 03 08.6**	**+0.8**
ARMA	**Armidale**	**26.87**	**247**	P	**P**	**11 03 08.7**	**+0.8**
EIDS	**Eidsvold**	**26.92**	**258**	P	**P**	**11 03 08.6**	**+0.2**
	baz=27,SNR=26						
EIDS	**Eidsvold**	**26.92**	**258**	P	**P**	**11 03 08.2**	**-0.1**
EIDS	**Eidsvold**	**26.92**	**258**	P	**P**	**11 03 08.5**	**+0.2**
NTLS	**Newcastle Soft**	**27.30**	**242**	P	**P**	**11 03 13.3**	**+1.8**
	comp=Z,279nm,0.7s						
NTLH	**Newcastle Hard**	**27.34**	**242**	P	**P**	**11 03 13.1**	**+1.3**
MGCD	**Mangrove Creek**	**27.90**	**241**	P	**P**	**11 03 17.7**	**+1.0**
	baz=28,SNR=100						
MGCD	**Mangrove Creek**	**27.90**	**241**	P	**P**	**11 03 17.6**	**+0.9**
RIV	**Riverview**	**28.03**	**240**	P	**P**	**11 03 18.7**	**+1.0**
	baz=28,SNR=4.5						
SYDH	**Sydney Hard Ro**	**28.34**	**240**	P	**P**	**11 03 21.3**	**+0.8**
PAE	**Paea**	**28.57**	**86**	*e*P	**P**	**11 03 23.6**	**+0.9**
	comp=Z,10nm,0.9s						
PPT2	**Papeete2**	**28.59**	**86**	*e*P	**P**	**11 03 24.2**	**+1.2**
	comp=Z,81nm,0.9s						
TVO	**Taravao**	**28.84**	**86**	*e*P	**P**	**11 03 26.3**	**+1.2**
	comp=Z,1.1nm,0.7s						
RMQ	**Roma**	**29.02**	**256**	P	**P**	**11 03 27.5**	**+0.9**
	baz=29,SNR=98						
RMQ	**Roma**	**29.02**	**256**	P	**P**	**11 03 27.7**	**+1.1**
CNB	**Canberra Magne**	**29.87**	**238**	P	**P**	**11 03 34.5**	**+0.7**
	baz=30,SNR=134						
CNB	**Canberra Magne**	**29.87**	**238**	P	**P**	**11 03 35.1**	**+1.3**
CAN	**Canberra**	**30.15**	**238**	P	**P**	**11 03 36.8**	**+0.5**
CAN	**Canberra**	**30.15**	**238**	P	**P**	**11 03 37.3**	**+1.1**
MILA	**Mila**	**30.57**	**235**	P	**P**	**11 03 40.5**	**+0.8**
	baz=31,SNR=6.8						
PMOR	**Pomariorio Ree**	**30.89**	**82**	*e*P	**P**	**11 03 43.5**	**+0.8**
	comp=Z,269nm,1.0s						
CTA	**Charters Tower**	**31.87**	**268**	P	**P**	**11 03 51.0**	**0.0**
	comp=Z,159nm,0.5s,baz=94,slow=10,SNR=280						
CTA	**Charters Tower**	**31.87**	**268**	P	**P**	**11 03 50.8**	**-0.3**
	baz=32						
CTA	**Charters Tower**	**31.87**	**268**	P	**P**	**11 03 51.3**	**+0.2**
CMSA	**Cobar Meteorol**	**32.08**	**246**	P	**P**	**11 03 52.6**	**-0.1**
	baz=32,SNR=283						
CMSA	**Cobar Meteorol**	**32.08**	**246**	P	**P**	**11 03 52.9**	**+0.2**
QLP	**Quilpie**	**33.07**	**256**	P	**P**	**11 04 01.0**	**-0.1**
	baz=33,SNR=8.3						
TOO	**Toolangi**	**33.51**	**235**	P	**P**	**11 04 05.0**	**+0.3**
	baz=34,SNR=209						
TOO	**Toolangi**	**33.51**	**235**	P	**P**	**11 04 05.1**	**+0.5**
TOO	**Toolangi**	**33.51**	**235**	P	**P**	**11 04 05.4**	**+0.8**
CORO	**Coronation Par**	**33.64**	**228**	P	**P**	**11 04 07.0**	**+1.4**
MOO	**Moorlands**	**34.02**	**226**	P	**P**	**11 04 09.5**	**+0.7**
	baz=34,SNR=4.9						
MLBS	**Spotswood, Mel**	**34.03**	**235**	P	**P**	**11 04 10.2**	**+1.2**
MTSU	**Mount Surprise**	**34.07**	**271**	P	**P**	**11 04 09.6**	**0.0**
	baz=34,SNR=15						
MTSU	**Mount Surprise**	**34.07**	**271**	P	**P**	**11 04 09.8**	**+0.2**
TAU	**Tasmania Unive**	**34.13**	**226**	P	**P**	**11 04 10.2**	**+0.5**
TAU	**Tasmania Unive**	**34.13**	**226**	P	**P**	**11 04 10.2**	**+0.5**
PMG	**Port Moresby**	**34.44**	**287**	P	**P**	**11 04 12.3**	**-0.4**
	comp=Z,63nm,0.8s,baz=86,slow=5.3,SNR=15						
PMG				S	**S**	**11 09 00.0**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=30,slow=24,SNR=7.5						
PMG	**Port Moresby**	**34.44**	**287**	P	**P**	**11 04 11.8**	**-0.9**
PMG	**Port Moresby**	**34.44**	**287**	P	**P**	**11 04 12.9**	**+0.2**
	comp=Z,82nm,0.9s						
GEXS	**Deakin Univers**	**34.59**	**235**	P	**P**	**11 04 14.9**	**+1.3**
BRAT	**Ballarat**	**34.69**	**236**	P	**P**	**11 04 15.9**	**+1.4**
STKA	**Stephens Creek**	**35.59**	**246**	P	**P**	**11 04 22.0**	**0.0**
	comp=Z,62nm,0.6s,baz=90,slow=10.0,SNR=81						
STKA	**Stephens Creek**	**35.59**	**246**	P	**P**	**11 04 22.4**	**+0.3**
	baz=36,SNR=34						
STKA	**Stephens Creek**	**35.59**	**246**	P	**P**	**11 04 22.3**	**+0.3**
STKA				IAmb	IAmb	11 04 23.2	
	comp=Z,25nm,1.0s						
STKA	**Stephens Creek**	**35.59**	**246**	P	**P**	**11 04 22.3**	**+0.3**
ARPS	**Mount Arapiles**	**36.13**	**238**	P	**P**	**11 04 26.5**	**0.0**
	baz=36,SNR=28						
ARPS	**Mount Arapiles**	**36.13**	**238**	P	**P**	**11 04 26.8**	**+0.4**
INKA	**Innaminka**	**36.16**	**253**	P	**P**	**11 04 27.9**	**+1.1**
COEN	**Coen**	**36.30**	**277**	P	**P**	**11 04 29.4**	**+1.3**
	comp=Z,32nm,0.9s						
HTT	**Hallett**	**37.98**	**244**	P	**P**	**11 04 41.6**	**0.0**
	baz=38,SNR=32						
HTT	**Hallett**	**37.98**	**244**	P	**P**	**11 04 41.7**	**0.0**
LCRK	**Leigh Creek**	**38.40**	**249**	P	**P**	**11 04 45.3**	**+0.3**
TWOA	**Tennyson Woods**	**38.45**	**242**	P	**P**	**11 04 45.1**	**-0.2**
NAPP	**Napperby**	**38.60**	**245**	P	**P**	**11 04 47.0**	**+0.4**
WHYH	**Whyalla**	**39.07**	**245**	P	**P**	**11 04 50.7**	**+0.3**
TAOE	**Nuku Hiva Isla**	**40.20**	**77**	*e*P	**P**	**11 05 00.4**	**+0.7**

	comp=Z,130nm,0.8s						
BBOO	Buckleboo	40.33	245	P	P	11 04 60.0	-0.5
	baz=40,SNR=34						
BBOO	Buckleboo	40.33	245	P	P	11 05 00.1	-0.5
BBOO	Buckleboo	40.33	245	P	P	11 05 00.0	-0.5
OOD	Oodnadatta	40.64	253	P	P	11 05 03.8	+0.8
MULG	Mulgathing	41.99	249	P	P	11 05 13.4	-0.2
AS31	Alice Springs	42.64	259	P	P	11 05 19.4	+0.5
AS31				IAmb	IAmb	11 05 19.7	
	comp=Z,52nm,1.4s						
ASAR	Alice Springs	42.64	259	P	P	11 05 18.4	-0.4
	comp=Z,87nm,0.8s,baz=90,slow=8.4,SNR=97						
ASAR				ScP	ScP	11 09 58.5	+4.8
	comp=Z,5.0nm,0.8s,baz=97,slow=4.2,SNR=4.9						
ASAR				S	S	11 10 58.6	-2.4
	comp=Z,4.2nm,0.8s,baz=102,slow=16,SNR=5.7						
WR0	Warramunga Arr	42.70	265	P	P	11 05 18.7	-0.6
WR0				IAmb	IAmb	11 05 29.7	
	comp=Z,47nm,1.1s						
WB0	Warramunga Arr	42.88	265	P	P	11 05 20.1	-0.6
WB2	Warramunga Arr	42.88	265	P	P	11 05 19.7	-1.0
	baz=43						
WB2	Warramunga Arr	42.88	265	P	P	11 05 20.0	-0.8
WRAB	Tennant Creek	42.88	265	P	P	11 05 19.8	-0.9
WRA	Warramunga Arr	42.89	265	P	P	11 05 19.7	-1.1
	comp=Z,31nm,0.6s,baz=96,slow=8.4,SNR=21						
WRA				S	S	11 11 01.1	-3.5
	comp=Z,10nm,1.0s,baz=97,slow=14,SNR=5.1						
WRA	Warramunga Arr	42.89	265	IAmb	IAmb	11 05 20.6	
	comp=Z,6.2nm,0.8s						
KDU	Kakadu	46.56	274	P	P	11 05 48.1	-0.8
	baz=47,SNR=10						
FORT	Forrest	47.14	248	P	P	11 05 52.7	-0.4
	baz=47,SNR=39						
FORT	Forrest	47.14	248	P	P	11 05 52.7	-0.4
FORT	Forrest	47.14	248	P	P	11 05 52.8	-0.3
WRKA	Warakurna	47.51	256	P	P	11 05 55.6	-0.4
KNRA	Kununurra	49.08	268	P	P	11 06 07.6	-0.2
GUMO	Guam	50.03	312	P	P	11 06 13.4	-1.2
	comp=Z,87nm,0.7s,baz=226,slow=10,SNR=4.9						
GUMO	Guam	50.03	312	P	P	11 06 13.7	-1.0
MIDW	Midway	50.52	3	P	P	11 06 18.1	+0.2
FITZ	Fitzroy Crossi	51.32	264	P	P	11 06 24.2	+0.2
	comp=Z,46nm,0.8s,baz=103,slow=8.1,SNR=3.4						
SIJI	Sorong	52.38	287	P	P	11 06 31.2	-0.5
	comp=Z,20nm,0.7s,baz=95,slow=4.2,SNR=7.8						
SWI	Sorong	52.39	287	P	P	11 06 31.3	-0.4
	comp=Z,35nm,0.7s						
VNDA	Vanda	55.74	185	P	P	11 06 56.6	+2.3
	comp=Z,1.0nm,0.4s,baz=20,slow=8.0,SNR=6.5						
VNDA	Vanda	55.74	185	P	P	11 06 56.0	+1.8
PSA00	Pilbara Seismi	55.79	259	P	P	11 06 55.2	-0.3
PSA00				IAmb	IAmb	11 06 55.9	
	comp=Z,48nm,1.1s						
PSA00	Pilbara Seismi	55.79	259	P	P	11 06 55.2	-0.3
KLBR	Kellerberrin	55.86	246	P	P	11 06 55.6	-0.2
	baz=56,SNR=13						
KLBR	Kellerberrin	55.86	246	P	P	11 06 55.7	-0.2
MEEK	Meekatharra	55.87	252	P	P	11 06 55.6	-0.4
	baz=56,SNR=7.4						
MEEK	Meekatharra	55.87	252	P	P	11 06 55.9	-0.1
NWAO	Narrogin (SRO)	56.14	245	P	P	11 06 57.9	+0.1
NWAO				IAmb	IAmb	11 06 59.1	
	comp=Z,51nm,0.7s						
RKGY	Rocky Gully	56.17	243	P	P	11 06 58.3	+0.3
	baz=56,SNR=8.1						
RKGY	Rocky Gully	56.17	243	P	P	11 06 58.7	+0.7
BLDU	Ballidu	56.88	247	P	P	11 07 02.3	-0.6
	baz=57,SNR=9.5						
BLDU	Ballidu	56.88	247	P	P	11 07 02.4	-0.5
MUN	Mundaring	57.12	246	P	P	11 07 04.6	+0.2
	baz=57,SNR=12						
MUN	Mundaring	57.12	246	P	P	11 07 04.7	+0.2
MORW	Morawa	57.70	249	P	P	11 07 08.3	-0.2
	baz=58,SNR=16						
MORW	Morawa	57.70	249	P	P	11 07 08.2	-0.2
MORW				IAmb	IAmb	11 07 09.1	
	comp=Z,83nm,1.0s						
MORW	Morawa	57.70	249	P	P	11 07 08.1	-0.4
WBSI	Waikabubak, Su	59.66	272	P	P	11 07 21.5	-0.4
	comp=Z,52nm,1.1s						
GIRL	Giralia	60.60	256	P	P	11 07 29.0	+1.1
	baz=61,SNR=10						
GIRL	Giralia	60.60	256	P	P	11 07 29.0	+1.1
KAPI	Kappang	61.03	277	P	P	11 07 30.4	-0.5
PLAI	Plampang	61.44	272	P	P	11 07 33.1	-0.4
	comp=Z,1µmcomp=Z,111nm,1.0s						
PLAI	Plampang	61.44	272	P	P	11 07 33.1	-0.4
CASY	Casey	61.48	206	P	P	11 07 33.6	+0.7
CASY				IAmb	IAmb	11 07 34.3	
	comp=Z,34nm,1.0s						
TOLI2	Tolitoli	62.62	284	P	P	11 07 40.8	-0.4
MPSI	Mapaga	63.08	283	P	P	11 07 43.4	-0.7
	comp=Z,21nm,0.7s						
VA02	Isla de Pascua	63.08	110	P	P	11 07 43.4	-0.5
IGBI	Denpasar	63.87	271	P	P	11 07 49.3	+0.1
	comp=Z,94nm,0.9s						
SRBI	Singaraja	64.07	272	P	P	11 07 50.0	-0.4
	comp=Z,70nm,0.8s						
JAGI	Jajag, Banyuwa	64.91	271	P	P	11 07 54.6	-1.2
JAGI				IAmb	IAmb	11 07 55.3	
	comp=Z,51nm,1.0s						
JAGI	Jajag, Banyuwa	64.91	271	P	P	11 07 54.7	-1.1
	comp=Z,58nm,0.9s						
JAGI	Jajag, Banyuwa	64.91	271	P	P	11 07 54.9	-0.9
KMMI	Kalianget	65.59	272	P	P	11 07 59.4	-0.6
	comp=Z,59nm,0.9s						
GMJI	Gumukmas	65.64	271	P	P	11 07 59.7	-0.6
	comp=Z,44nm,0.8s						
BLJI	Banyuglugur	65.69	272	P	P	11 08 00.8	+0.2
	comp=Z,1µmcomp=Z,54nm,0.6s						
GRJI	Gresik	67.02	272	P	P	11 08 09.1	+0.3
	comp=Z,1µmcomp=Z,167nm,0.8s						
PWJI	Pagerwojo	67.24	271	P	P	11 08 09.9	-0.3
	comp=Z,59nm,0.7s						
QSPA	South Pole Qui	67.52	180	P	P	11 08 13.1	+2.0
	comp=Z,13nm,0.9s,baz=14,slow=1.0,SNR=35						
QSPA	South Pole Qui	67.52	180	P	P	11 08 13.1	+2.0
JHJ2	Mitsune	67.56	324	P	P	11 08 12.4	+0.7
PCJI	Pacitan	67.76	270	P	P	11 08 13.3	-0.1
	comp=Z,2µmcomp=Z,229nm,0.6s						
UGM	Wanagama	68.47	270	P	P	11 08 17.8	+0.1
UGM	Wanagama	68.47	270	P	P	11 08 17.9	+0.2
	comp=Z,88nm,0.8s						
UWJI	Ujung Watu	68.61	272	P	P	11 08 18.6	+0.1
	comp=Z,6µmcomp=Z,75nm,0.7s						
KKM	Kota Kinabalu	68.88	286	P	P	11 08 20.2	0.0
KKM				IAmb	IAmb	11 08 49.0	
	comp=Z,25nm,1.2s						
KPJI	Karang Pucung	70.15	270	P	P	11 08 27.6	-0.1
	comp=Z,47nm,0.7s						
CMJI	Cimerak	70.43	270	P	P	11 08 29.5	+0.2
	comp=Z,21nm,0.7s						
JGF	Kuroka	70.77	324	P	P	11 08 31.4	+0.6
MJAR	Matsushiro Arr	71.01	325	P	P	11 08 31.7	-0.6
	comp=Z,21nm,0.8s,baz=160,slow=5.6,SNR=29						
MJAR	Matsushiro Arr	71.01	325	P	P	11 08 32.4	+0.1
MAJO	Matsushiro	71.01	325	P	P	11 08 32.4	+0.2
MAJO				IAmb	IAmb	11 08 33.3	
	comp=Z,27nm,0.8s						
MAJO	Matsushiro	71.01	325	P	P	11 08 32.6	+0.3
	comp=Z,34nm,1.1s						
MJB9	Matsu-Tunnel	71.02	325	P	P	11 08 32.3	0.0
MJB9				IAmb	IAmb	11 08 33.3	
	comp=Z,27nm,0.8s						
JMN	Monobe	71.38	320	P	P	11 08 35.8	+1.2
JMN				IAmb	IAmb	11 08 36.5	
	comp=Z,56nm,1.2s						
LEM	Lembang	71.54	270	P	P	11 08 36.2	+0.2
	comp=Z,79nm,0.8s,baz=89,slow=7.6,SNR=13						
LEM	Lembang	71.54	270	P	P	11 08 36.5	+0.4
	comp=Z,52nm,0.9s						
CNJI	Cibinong	71.82	270	P	P	11 08 36.9	-0.6
	comp=Z,99nm,1.0s						
JSU	Suzuyama	71.96	317	P	P	11 08 38.6	+0.7
JSU				IAmb	IAmb	11 09 01.8	
	comp=Z,67nm,1.2s						
XMIS	Christmas Isla	72.06	266	P	P	11 08 39.2	+0.3
XMIS				IAmb	IAmb	11 08 40.5	
	comp=Z,37nm,1.1s						
JSD	Sado	72.11	326	P	P	11 08 40.1	+1.5
JSD				IAmb	IAmb	11 08 47.8	
	comp=Z,57nm,1.3s						
KSM	Kuching	72.25	279	P	P	11 08 40.6	+0.6
KSM				IAmb	IAmb	11 08 41.1	
	comp=Z,20nm,0.7s						

KSM	Kuching	72.25	279	P	P	11 08 40.8	+0.8
	comp=Z,27nm,0.9s						
JHS	Saijyo	72.72	321	P	P	11 08 42.6	+0.4
JNU	Nakatsue	72.78	318	P	P	11 08 42.6	0.0
JNU				IAmb	IAmb	11 08 44.0	
	comp=Z,29nm,1.1s						
JTM	Tenmabayashi	72.86	330	P	P	11 08 44.0	+1.1
TWG	Pinlang	73.27	304	P	P	11 08 44.8	-0.8
TWG				IAmb	IAmb	11 08 45.1	
	comp=Z,35nm,0.6s						
CGJI	Cibinong	73.40	270	P	P	11 08 45.7	-0.8
YULB	Yu-li	73.42	305	P	P	11 08 45.9	-0.6
YULB				IAmb	IAmb	11 09 13.5	
	comp=Z,85nm,1.5s						
TPUB	Ta-pu	73.87	304	P	P	11 08 48.5	-0.5
TPUB	Ta-pu	73.87	304	P	P	11 08 48.3	-0.7
SSLB	Suanglung	73.90	305	P	P	11 08 47.3	-1.9
SSLB				IAmb	IAmb	11 08 49.0	
	comp=Z,32nm,0.6s						
SSLB	Suanglung	73.90	305	*e*P	P	11 08 46.9	-2.3
	baz=234						
KIWB	Kanaga Island	74.12	2	P	P	11 08 50.4	+0.7
ADK	Adak	74.16	2	P	P	11 08 50.2	+0.3
JEW	Eniwo	74.32	331	P	P	11 08 52.6	+1.5
JKA	Kamikawa-asahi	74.84	333	P	P	11 08 55.7	+1.8
JKA				IAmb	IAmb	11 08 56.7	
	comp=Z,41nm,0.8s						
ASAJ	Asahikawa	74.84	333	P	P	11 08 55.5	+1.5
	comp=Z,40nm,0.8s,baz=209,slow=5.8,SNR=20						
UNV	Unalaska Valle	76.92	8	P	P	11 09 04.9	-0.2
	baz=192						
YSS	Yuzh-Sakhalins	77.08	335	P	P	11 09 06.8	+0.6
YSS				IAmb	IAmb	11 09 09.0	
	comp=Z,39nm,0.6s						
YSS	Yuzh-Sakhalins	77.08	335	P	P	11 09 06.4	+0.2
TJN	Taejon	77.10	319	P	P	11 09 06.8	+0.2
KSRS	Korea Array	77.47	320	P	P	11 09 09.7	+1.1
	comp=Z,6.4nm,0.8s,baz=133,slow=5.9,SNR=22						
KSAR	Wonju Array Be	77.48	320	P	P	11 09 08.4	-0.2
PET	Petropavlovsk	77.60	347	P	P	11 09 09.1	+0.2
PET				IAmb	IAmb	11 09 09.4	
	comp=Z,19nm,0.7s						
PET	Petropavlovsk	77.60	347	P	P	11 09 09.0	+0.2
	comp=Z,131nm,0.8s						
BELA	Belgrano 2	77.72	173	P	P	11 09 10.4	+1.1
PEA0B	Petropavlovsk-	77.89	346	P	P	11 09 11.0	+0.6
PEA0B				IAmb	IAmb	11 09 12.0	
	comp=Z,48nm,0.8s						
PETK	Petropavlovsk-	77.89	346	P	P	11 09 10.2	-0.2
	comp=Z,37nm,0.7s,baz=142,slow=7.5,SNR=59						
PETK	Petropavlovsk-	77.89	346	P	P	11 09 10.5	0.0
MAW	Mawson	79.14	200	P	P	11 09 18.4	+1.4
	comp=Z,8.3nm,0.7s,baz=136,slow=6.7,SNR=8.9						
MAW	Mawson	79.14	200	P	P	11 09 18.4	+1.4
	baz=79						
USA0B	Ussuriysk Arra	79.85	327	P	P	11 09 21.8	+0.8
USA0B				IAmb	IAmb	11 09 23.5	
	comp=Z,26nm,0.9s						
USRK	Ussuriysk Ar.	79.85	327	P	P	11 09 21.4	+0.3
	comp=Z,13nm,0.7s,baz=132,slow=4.5,SNR=18						
USRK	Ussuriysk Ar.	79.85	327	P	P	11 09 21.6	+0.5
NJ2	Nanjing	80.07	311	*e*P	P	11 09 23.6	+1.1
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
CHGN	Chignik	80.57	12	P	P	11 09 24.4	-0.1
	baz=200						
MDJ	Mudanjiang	81.36	326	P	P	11 09 29.2	+0.4
MDJ				IAmb	IAmb	11 09 31.2	
	comp=Z,24nm,0.8s						
MDJ	Mudanjiang	81.36	326	P	P	11 09 30.1	+1.2
MDJ				sP	sP	11 12 22.6	-6.1
MDJ				S	S	11 18 59.3	+6.7
MDJ				ScS	ScS	11 19 03.0	-2.4
MDJ				sS	sS	11 22 29.8	-0.6
MDJ				SS	SS	11 24 34.9	+8.2
MDJ				pmax	pmax		
	comp=Z,35nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,5.1s						
MDJ	Mudanjiang	81.36	326	P	P	11 09 30.4	+1.5
	comp=Z,35nm,0.9s						
MONP2	Monument Peak	81.67	49	P	P	11 09 31.6	+0.6
	baz=236						
SII	Sitkinak Islan	81.68	14	P	P	11 09 31.1	+0.9
	baz=204						
EDW2	Edwards Air Fo	81.70	47	P	P	11 09 31.7	+0.8
	baz=235						
IKP	In-Ko-Pah, Jac	81.75	50	P	P	11 09 33.6	+2.4
	baz=237						
O02D	Mt. Diablo Mer	81.80	40	P	P	11 09 34.0	+2.7
	baz=231						
ISA	Isabella, Lake	81.82	46	P	P	11 09 32.8	+1.2
ISA	Isabella, Lake	81.82	46	P	P	11 09 33.7	+2.2
	baz=235						
IPM	Ipoh	81.94	278	P	P	11 09 33.1	+0.5
IPM				IAmb	IAmb	11 09 34.0	
	comp=Z,16nm,0.7s						
IPM	Ipoh	81.94	278	P	P	11 09 33.7	+1.1
	comp=Z,26nm,0.8s						
SWSC	Sam W. Stewart	82.13	50	P	P	11 09 35.6	+2.5
	baz=237						
ORV	Oroville	82.19	41	P	P	11 09 33.9	+0.7
N02D	Trinity Center	82.34	40	P	P	11 09 36.4	+2.4
	baz=231						
M02C	Callahan	82.52	39	P	P	11 09 37.3	+2.4
	baz=231						
BELC	Belle Mtn. Jos	82.57	49	P	P	11 09 37.4	+2.0
	baz=237						
MPMC	Manual Prospec	82.70	46	P	P	11 09 37.6	+1.4
	baz=235						
GSC	Goldstone, Bar	82.74	47	P	P	11 09 38.1	+1.9
	baz=236						
HEC	Hector,Ludlow	82.80	48	P	P	11 09 38.2	+1.8
	baz=236						
J01E	Myrtle Point	83.02	37	P	P	11 09 39.4	+2.2
	baz=230						
CN2	Changchun	83.04	323	*e*P	P	11 09 36.5	-0.8
CN2				*e*pP	pP	11 11 34.4	-5.2
CN2				SKS	S	11 19 04.8	-4.5
CN2				*e*sS	sS	11 22 38.7	-10
CN2				pmax	pmax		
	comp=Z,40nm,1.0s						
PNTR	Pine Nut	83.09	43	P	P	11 09 39.5	+1.5
KDAK	Kodiak Island	83.16	14	P	P	11 09 38.1	+0.5
	comp=Z,21nm,1.1s,baz=303,slow=5.4,SNR=4.2						
KDAK	Kodiak Island	83.16	14	P	P	11 09 38.4	+0.8
	baz=205						
GMRC	Granite Mounta	83.24	48	P	P	11 09 39.8	+1.1
	baz=237						
YERR	Yerington	83.25	43	P	P	11 09 40.9	+2.1
GRAC	Grapevine Rang	83.32	45	P	P	11 09 39.7	+0.7
	baz=235						
L04D	Klamath Falls	83.35	39	P	P	11 09 40.8	+1.6
	baz=232						
FURC	Furnace Creek,	83.35	46	P	P	11 09 40.8	+1.7
	baz=236						
M04C	Macdoel	83.35	40	P	P	11 09 40.3	+1.2
	baz=232						
NVAR	Mina Array Bea	83.53	44	P	P	11 09 40.8	+0.6
	comp=Z,3.1nm,0.9s,baz=224,slow=8.9,SNR=14						
NVAR				pP	pP	11 11 44.3	+1.3
	comp=Z,3.0nm,1.0s,baz=228,slow=9.1,SNR=8.3						
KLR	Kul'dur	83.56	330	P	P	11 09 40.7	+0.9
	comp=Z,6.4nm,0.8s,baz=96,slow=3.0,SNR=19						
PAHR	Pah Rah Range	83.59	42	P	P	11 09 41.6	+1.2
NV11	Mina Array Sit	83.62	44	P	P	11 09 41.2	+0.6
I03D	Drain, OR	83.68	37	P	P	11 09 42.8	+2.2
	baz=231						
K04D	Chiloquin, OR	83.92	39	P	P	11 09 43.9	+2.0
	baz=232						
TPH	Tonopah	84.02	45	P	P	11 09 43.9	+1.3
TPH				IAmb	IAmb	11 09 45.0	
	comp=Z,26nm,1.2s						
PDMCI	Parker Dam,Lak	84.03	49	P	P	11 09 44.8	+2.3
	baz=238						
TPNV	Topopah Spring	84.03	46	P	P	11 09 44.7	+2.0
	baz=236						
P18K	Big Mountain,	84.08	12	P	P	11 09 42.7	+0.5
P18K				IAmb	IAmb	11 09 43.3	
	comp=Z,45nm,1.0s						
P18K	Big Mountain,	84.08	12	P	P	11 09 42.5	+0.3
	baz=202						
J04D	Umpqua Nationa	84.10	38	P	P	11 09 44.3	+1.4
J04D				IAmb	IAmb	11 09 46.2	
	comp=Z,27nm,0.9s						
J04D	Umpqua Nationa	84.10	38	P	P	11 09 45.2	+2.4

	baz=232						
I04A	Tendick Farm,	84.27	38	P	P	11 09 45.3	+1.8
	baz=231						
SYO	Syowa Base	84.40	193	⇓*i*P	P	11 09 45.4	+1.7
J05D	Fort Rock, OR	84.63	39	P	P	11 09 47.8	+2.4
	baz=232						
O19K	Port Alsworth	85.00	12	P	P	11 09 47.0	+0.5
O19K	Port Alsworth	85.00	12	P	P	11 09 46.8	+0.3
	baz=203,SNR=14						
PINE	Pine Mountain	85.11	38	P	P	11 09 49.0	+1.2
PINE				IAmb	IAmb	11 09 51.6	
	comp=Z,28nm,1.5s						
BRSE	Bradley Lake S	85.34	14	P	P	11 09 48.9	+0.7
	baz=207						
TUC	Tucson	85.40	52	P	P	11 09 49.3	0.0
TUC	Tucson	85.40	52	P	P	11 09 51.5	+2.2
	baz=240						
N19K	Bonanza Creek	85.53	12	P	P	11 09 49.6	+0.3
	baz=203						
HNS	HongShan	85.86	313	⇑P	P	11 09 52.7	+1.5
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
SNAA	Sanae	86.00	179	pP	pP	11 11 53.9	-1.3
I07A	Izee	86.11	39	P	P	11 09 53.0	+0.6
I07A				IAmb	IAmb	11 09 55.7	
	comp=Z,19nm,1.3s						
VNA3	Neumayer Olymp	86.19	177	pP	pP	11 11 54.6	-1.5
O22K	Cooper Landing	86.24	14	P	P	11 09 53.4	+0.9
	baz=208						
D03D	Eldon	86.26	34	P	P	11 09 54.3	+1.4
	baz=231						
GAMB	Gambell	86.27	4	P	P	11 09 54.1	+1.6
GAMB				IAmb	IAmb	11 09 54.8	
	comp=Z,14nm,0.9s						
GAMB	Gambell	86.27	4	P	P	11 09 54.1	+1.6
	baz=187						
J08A	Circle Bar Ran	86.29	40	P	P	11 09 54.8	+1.5
J08A				IAmb	IAmb	11 09 56.5	
	comp=Z,20nm,1.4s						
BJT	Baijiatuau	86.32	316	P	P	11 09 54.0	+0.6
BJI	Beijing	86.33	316	P	P	11 09 54.4	+1.0
BJI				pmax	pmax		
	comp=Z,13nm,0.7s						
SPCR	Spurr Chakacha	86.34	13	P	P	11 09 53.2	+0.1
	baz=205						
U15A	North Rim	86.43	48	P	P	11 09 56.9	+2.6
M19K	Big River Lodg	86.56	12	P	P	11 09 54.5	+0.5
M19K	Big River Lodg	86.56	12	P	P	11 09 54.7	+0.7
	baz=203						
WUAZ	Wupatki	86.60	49	P	P	11 09 56.6	+1.6
	baz=239						
VNA2	Neumayer--Watz	86.61	177	pP	pP	11 11 57.0	-1.4
	baz=80,slow=6.2						
D05A	Enumclaw	86.62	35	P	P	11 09 56.7	+2.1
D05A				IAmb	IAmb	11 09 58.9	
	comp=Z,48nm,1.3s						
L19K	White Mountain	86.73	11	P	P	11 09 55.6	+0.8
L19K				IAmb	IAmb	11 09 56.8	
	comp=Z,31nm,0.8s						
L19K	White Mountain	86.73	11	P	P	11 09 55.7	+0.9
	baz=203,SNR=13						
RC01	Rabbit Creek A	86.78	14	P	P	11 09 55.4	+0.4
RC01				IAmb	IAmb	11 09 56.6	
	comp=Z,38nm,1.1s						
RC01	Rabbit Creek A	86.78	14	P	P	11 09 55.6	+0.6
	baz=207,SNR=5.2						
PWL	Port Wells	86.89	15	P	P	11 09 56.0	+0.4
	baz=209						
G08A	Pilot Rock	87.14	38	P	P	11 09 57.7	+0.5
L20K	Farewell, AK	87.18	12	P	P	11 09 57.3	+0.4
	baz=204						
GLI	Glacier Island	87.21	15	P	P	11 09 57.6	+0.5
	baz=210						
TTA	Tatalina	87.22	11	P	P	11 09 57.9	+0.8
TTA	Tatalina	87.22	11	P	P	11 09 58.0	+0.8
	baz=202,SNR=5.4						
B05A	Bryant	87.24	34	P	P	11 09 59.5	+2.1
	baz=231						
EYAK	Cordova Ski Ar	87.26	16	P	P	11 09 58.1	+0.9
	baz=211						
M22K	Willow	87.28	14	P	P	11 09 58.0	+0.7
M22K	Willow	87.28	14	P	P	11 09 57.6	+0.3
	baz=207,SNR=7.1						
KNK	Knik Glacier	87.35	14	P	P	11 09 58.1	+0.4
KNK				IAmb	IAmb	11 09 59.4	
	comp=Z,29nm,0.7s						
KNK	Knik Glacier	87.35	14	P	P	11 09 58.4	+0.7
	baz=209,SNR=7.3						
PMR	Palmer	87.36	14	P	P	11 09 58.1	+0.5
PMR				IAmb	IAmb	11 09 59.2	
	comp=Z,34nm,1.1s						
PMR	Palmer	87.36	14	P	P	11 09 58.2	+0.5
	baz=208,SNR=5.9						
E07A	Sunnyside	87.39	37	P	P	11 10 00.4	+2.1
E07A				IAmb	IAmb	11 10 01.5	
	comp=Z,16nm,1.0s						
HAWA	Hanford	87.47	37	P	P	11 10 00.7	+2.0
HAWA				IAmb	IAmb	11 10 01.7	
	comp=Z,12nm,0.9s						
ANM	Nome	87.54	6	P	P	11 09 59.3	+0.8
	baz=193						
GHO	Glory Hole Cre	87.56	14	P	P	11 09 59.5	+0.7
SML	Sawmill	87.73	14	P	P	11 10 00.3	+0.7
	baz=209						
DIV	Divide	87.75	16	P	P	11 09 59.0	-0.7
DIV				IAmb	IAmb	11 10 01.3	
	comp=Z,22nm,0.8s						
CUT	Chulitna	87.83	13	P	P	11 10 00.4	+0.5
CUT	Chulitna	87.83	13	P	P	11 10 00.1	+0.2
	baz=207,SNR=6.6						
BMO	Blue Mountains	87.84	39	P	P	11 10 02.0	+1.4
PPLA	Purkeypile	87.89	12	P	P	11 10 00.8	+0.5
	baz=205						
MFID	Camas Ranch	87.90	41	P	P	11 10 02.7	+1.8
BMRM	Bremner River	87.91	16	P	P	11 10 01.4	+1.0
	baz=212						
K20K	Telida	87.96	11	P	P	11 10 00.8	+0.3
K20K				IAmb	IAmb	11 10 02.1	
	comp=Z,22nm,1.0s						
K20K	Telida	87.96	11	P	P	11 10 01.2	+0.7
	baz=204						
SCM	Sheep Creek Mo	87.98	15	P	P	11 10 01.6	+0.8
SCM	Sheep Creek Mo	87.98	15	P	P	11 10 01.5	+0.8
	baz=210,SNR=11						
KLU	Klutina	88.03	15	P	P	11 10 01.7	+0.7
	baz=211						
D08A	Wollman Farm,	88.21	37	P	P	11 10 03.4	+1.4
TNA	Tin City	88.29	5	P	P	11 10 02.7	+0.8
TNA				IAmb	IAmb	11 10 04.6	
	comp=Z,9.5nm,0.9s						
TNA	Tin City	88.29	5	P	P	11 10 02.9	+1.0
	baz=191						
E09A	Wood Farm, Sta	88.32	37	P	P	11 10 02.6	0.0
CAST	Castle Rocks	88.38	12	P	P	11 10 02.2	-0.3
CAST	Castle Rocks	88.38	12	P	P	11 10 01.8	-0.7
	baz=205,SNR=21						
VRDI	Verde Repeater	88.43	17	P	P	11 10 03.9	+0.9
VRDI				IAmb	IAmb	11 10 04.9	
	comp=Z,20nm,1.0s						
N25K	Chitina, Valde	88.45	16	P	P	11 10 04.3	+1.3
	baz=212						
M24K	Tolsona, Glenn	88.49	15	P	P	11 10 04.0	+0.9
	baz=211						
F10A	Beach Ranch, E	88.53	38	P	P	11 10 04.6	+0.9
WAT6	Susitna Watana	88.54	14	P	P	11 10 03.7	+0.3
	baz=209,SNR=11						
TMUT	Trail Mountain	88.64	46	P	P	11 10 06.6	+1.9
TMUT				IAmb	IAmb	11 10 08.3	
	comp=Z,14nm,1.4s						
MCARA	McCarthy VSAT	88.67	17	P	P	11 10 04.9	+1.0
	baz=213						
J20K	Nowinta River	88.70	11	P	P	11 10 04.4	+0.5
J20K				IAmb	IAmb	11 10 05.6	
	comp=Z,16nm,1.0s						
J20K	Nowinta River	88.70	11	P	P	11 10 04.7	+0.8
	baz=203						
KTH	Kantishna Hill	88.73	12	P	P	11 10 03.7	-0.5
KTH				IAmb	IAmb	11 10 05.1	
	comp=Z,24nm,0.9s						
B08A	Colville Reser	88.76	35	P	P	11 10 05.7	+1.0
B08A				IAmb	IAmb	11 10 06.8	
	comp=Z,11nm,1.1s						
CHUM	Lake Minchumin	88.76	12	P	P	11 10 03.9	-0.3
	baz=205,SNR=7.0						
TRF	Thorofare Moun	88.77	13	P	P	11 10 04.4	-0.1
TRF	Thorofare Moun	88.77	13	P	P	11 10 04.4	-0.1

baz=207,SNR=23
GCSA Galena City Sc 88.78 10 P **P** 11 10 05.4 +1.2
baz=201
CTG Chitna Glacier 88.78 18 P **P** 11 10 06.0 +1.4
baz=215
HLID Hailey 88.84 41 P **P** 11 10 07.3 +2.0
HLID Hailey 88.84 41 P **P** 11 10 07.8 +2.5
baz=237
PLCA Paso Flores 88.93 134 P **P** 11 10 08.1 +2.2
comp=Z,3.4nm,1.0s,baz=206,slow=7.2,SNR=3.0
HARP HAARP 88.99 15 P **P** 11 10 06.6 +1.3
baz=212
SRU San Rafael Swe 89.01 47 P **P** 11 10 06.9 +0.7
RND Reindeer 89.03 13 P **P** 11 10 06.3 +0.7
DHY Denali Highway 89.06 14 P **P** 11 10 06.5 +0.6
DHY IAmb IAmb 11 10 09.6
comp=Z,14nm,1.2s
DHY Denali Highway 89.06 14 P **P** 11 10 06.3 +0.5
baz=210
LENM Lemitar 89.09 52 P **P** 11 10 08.0 +1.2
MNTX Cornudas Mount 89.14 55 P **P** 11 10 08.0 +1.2
MNTX Cornudas Mount 89.14 55 P **P** 11 10 08.9 +2.1
baz=243
MCK McKinley 89.30 13 P **P** 11 10 07.8 +1.1
MCK IAmb IAmb 11 10 08.5
comp=Z,25nm,1.1s
MCK McKinley 89.30 13 P **P** 11 10 06.5 -0.2
baz=208,SNR=7.9
TX31 Lajitas Ar. Si 89.40 58 P **P** 11 10 10.3 +2.1
TX31 IAmb IAmb 11 10 11.5
comp=Z,10nm,1.1s
TX32 Lajitas Array 89.40 58 P **P** 11 10 07.2 -1.0
TXAR Lajitas Array 89.40 58 P **P** 11 10 09.8 +1.7
comp=Z,1.8nm,0.9s,baz=218,slow=5.8,SNR=11
TXAR pP **pP** 11 12 13.9 +0.9
comp=Z,0.9nm,1.0s,baz=239,slow=7.0,SNR=3.3
TXAR Lajitas Array 89.40 58 P **P** 11 10 10.8 +2.6
PAX Paxson 89.41 15 P **P** 11 10 07.4 +0.1
baz=211
CMAR Chiang Mai Arr 89.42 290 P **P** 11 10 09.8 +1.5
comp=Z,3.3nm,0.7s,baz=121,slow=2.9,SNR=11
CHTO Chiang Mai 89.56 290 P **P** 11 10 10.3 +1.3
CHTO IAmb IAmb 11 10 11.7
comp=Z,6.6nm,0.8s
YUK3 Moose Creek 89.69 17 P **P** 11 10 10.3 +1.4
baz=216
HHC Hu-ho-hao-te 89.74 315 *e*P **P** 11 10 11.6 +2.1
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.2s
M27K Edge Creek, AK 89.79 17 P **P** 11 10 10.1 +0.9
M27K IAmb IAmb 11 10 11.6
comp=Z,13nm,0.9s
M27K Edge Creek, AK 89.79 17 P **P** 11 10 10.7 +1.5
baz=214
HYT Haines Junctio 89.79 19 P **P** 11 10 10.3 +1.0
baz=218
MENT Mentasta 89.80 16 P **P** 11 10 09.9 +0.8
MENT IAmb IAmb 11 10 10.6
comp=Z,10nm,1.0s
ANMO Albuquerque 89.84 52 P **P** 11 10 11.5 +1.3
baz=242
YUK4 Talbot Arm 89.86 18 P **P** 11 10 10.7 +1.1
baz=217
NEW Newport 89.90 36 P **P** 11 10 11.0 +1.1
baz=235
L26K Log Cabin Wild 89.97 16 P **P** 11 10 10.9 +1.0
baz=213
I21K Tanana 90.00 11 P **P** 11 10 10.4 +0.5
I21K IAmb IAmb 11 10 11.8
comp=Z,22nm,1.1s
I21K Tanana 90.00 11 P **P** 11 10 10.7 +0.8
baz=205
NEA2 Nenana 90.03 13 P **P** 11 10 09.9 -0.2
baz=208
MLY Manley 90.09 12 P **P** 11 10 10.4 0.0
MLY IAmb IAmb 11 10 11.1
comp=Z,9.2nm,1.0s
MLY Manley 90.09 12 P **P** 11 10 10.6 +0.1
baz=206
BVCY Beaver Creek 90.11 17 P **P** 11 10 11.5 +1.0
baz=215
WRH Wood River Hil 90.12 13 P **P** 11 10 10.4 -0.1
WRH IAmb IAmb 11 10 11.6
comp=Z,20nm,1.0s
RIDG Independent Ri 90.21 15 P **P** 11 10 11.7 +0.6
baz=212
H21K Melozitna Rive 90.29 11 P **P** 11 10 12.4 +1.1
H21K Melozitna Rive 90.29 11 P **P** 11 10 12.1 +0.9
baz=205
HDA Harding Lake 90.31 14 P **P** 11 10 11.9 +0.5
HDA IAmb IAmb 11 10 13.5
comp=Z,12nm,1.2s
HDA Harding Lake 90.31 14 P **P** 11 10 11.9 +0.5
baz=210
DOT Dot Lake 90.32 15 P **P** 11 10 11.8 +0.4
DOT IAmb IAmb 11 10 13.2
comp=Z,18nm,1.2s
CCB Clear Creek Bu 90.34 13 P **P** 11 10 11.7 +0.2
CCB IAmb IAmb 11 10 12.3
comp=Z,9.8nm,0.7s
PZH PanZhiHua 90.37 299 P **P** 11 10 13.7 +0.9
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.1s
L27K Beaver Creek, 90.38 16 P **P** 11 10 12.3 +0.5
baz=214
IMAR Indian Mountai 90.43 10 P **P** 11 10 12.5 +0.6
I23K Minto, Yukon-K 90.47 12 P **P** 11 10 11.9 -0.2
baz=208
MDM Murphy Dome 90.53 13 P **P** 11 10 12.4 -0.1
MDM IAmb IAmb 11 10 13.2
comp=Z,15nm,1.0s
TCOL CIGO, UAF Yank 90.53 13 P **P** 11 10 12.2 -0.2
TCOL IAmb IAmb 11 10 13.2
comp=Z,13nm,0.8s
TCOL CIGO, UAF Yank 90.53 13 P **P** 11 10 12.5 +0.2
baz=209
COLA College 90.53 13 P **P** 11 10 12.3 -0.1
COLA IAmb IAmb 11 10 13.2
comp=Z,14nm,0.8s
COLA College 90.53 13 P **P** 11 10 12.5 +0.2
baz=209
SCRK Sand Creek 90.61 15 P **P** 11 10 13.4 +0.4
SCRK Sand Creek 90.61 15 P **P** 11 10 13.5 +0.5
baz=213
IL31 90.64 13 P **P** 11 10 12.6 -0.3
IL31 IAmb IAmb 11 10 15.2
comp=Z,9.6nm,1.2s
ILAR Eielson Array 90.64 13 P **P** 11 10 12.8 -0.2
comp=Z,2.8nm,0.8s,baz=212,slow=4.5,SNR=21
ILAR PP **PP** 11 14 02.0 +2.9
comp=Z,1.1nm,0.9s,baz=218,slow=6.2,SNR=4.1
ILAR Eielson Array 90.64 13 P **P** 11 10 13.1 +0.2
J25K Salcha River, 90.84 14 P **P** 11 10 14.6 +0.7
J25K Salcha River, 90.84 14 P **P** 11 10 14.2 +0.3
baz=211
S22A 4UR Ranch, Cre 90.88 49 P **P** 11 10 16.3 +1.3
baz=242
BILL Bilibino 90.93 355 P **P** 11 10 15.0 +0.8
BILL IAmb IAmb 11 10 15.9
comp=Z,17nm,0.8s
O20A White River Ci 91.04 47 P **P** 11 10 16.9 +1.2
baz=241
SNOW Snow King Moun 91.05 43 P **P** 11 10 16.6 +0.9
J26L Joseph Creek 91.16 15 P **P** 11 10 16.8 +1.4
baz=213
RDOG Red Dog Mine 91.18 6 P **P** 11 10 16.7 +1.3
baz=195
M30M Minto, Yukon 91.37 18 P **P** 11 10 17.4 +1.0
baz=219
PDAR Pinedale Array 91.47 44 P **P** 11 10 17.0 -0.6
comp=Z,0.7nm,0.7s,baz=199,slow=3.1,SNR=6.6
PDAR Pinedale Array 91.47 44 P **P** 11 10 17.2 -0.4
PRP Porcupine Dome 91.58 14 P **P** 11 10 18.5 +1.1
PRP Porcupine Dome 91.58 14 P **P** 11 10 18.7 +1.3
baz=211
MT01 Popeta 91.75 128 P **P** 11 10 19.2 +0.3
MT01 IAmb IAmb 11 10 48.1
comp=Z,16nm,1.2s
M31M Drury Creek, Y 91.81 19 P **P** 11 10 19.4 +1.0
baz=221
SDCO Great Sand Dun 91.81 50 P **P** 11 10 21.3 +2.0
baz=243

DAWY Dawson 91.84 16 P **P** 11 10 19.3 +0.8
DAWY IAmb IAmb 11 10 19.9
comp=Z,6.6nm,0.8s
DAWY Dawson 91.84 16 P **P** 11 10 19.8 +1.3
baz=217
EGAK Eagle 91.97 15 P **P** 11 10 19.6 +0.6
EGAK IAmb IAmb 11 10 20.6
comp=Z,9.6nm,0.8s
EGAK Eagle 91.97 15 P **P** 11 10 20.5 +1.5
baz=215
COLD Coldfoot 92.16 11 P **P** 11 10 21.7 +1.8
baz=207
J29M Klondike Camp 92.46 17 P **P** 11 10 22.9 +1.6
baz=218
ISCO Idaho Springs 92.67 48 P **P** 11 10 24.4 +1.1
baz=243
I29M Ogilvie Camp, 93.16 16 P **P** 11 10 24.9 +0.4
baz=218
YAK Yakutsk 93.47 339 P **P** 11 10 25.5 -0.4
comp=Z,6.4nm,0.4s,baz=84,slow=1.0,SNR=5.9
EGMT Eagleton 93.94 39 P **P** 11 10 30.5 +1.9
baz=240
EPYK Eagle Plains 94.36 16 P **P** 11 10 30.5 +0.5
baz=219
SONM Songino Array 96.33 319 PP **PP** 11 14 40.3 -3.1
comp=Z,1.0nm,0.9s,baz=123,slow=5.5,SNR=4.3
INK Inuvik 96.64 16 P **P** 11 10 40.3 +0.2
comp=Z,1.7nm,0.6s,baz=176,slow=3.9,SNR=4.7
INK PP **PP** 11 14 41.8 -3.2
comp=Z,1.1nm,0.9s,baz=227,slow=14,SNR=3.6
INK Inuvik 96.64 16 P **P** 11 10 39.6 -0.5
INK IAmb IAmb 11 10 40.8
comp=Z,3.6nm,0.8s
INK Inuvik 96.64 16 P **P** 11 10 40.4 +0.3
baz=222
GTA Gaotai 97.13 310 *e*P **P** 11 10 44.8 +1.6
GTA pmax pmax
comp=Z,5.0nm,1.5s
YKA Yellowknife Ar 98.99 25 P **P** 11 10 50.8 0.0
comp=Z,0.5nm,0.7s,baz=243,slow=4.5,SNR=7.5
YKA PP **PP** 11 15 01.6 -1.3
comp=Z,0.3nm,0.8s,baz=239,slow=7.8,SNR=5.2
YKA PKKPbc **PKKPbc** 11 27 14.4 -1.9
comp=Z,0.1nm,0.5s,baz=40,slow=2.6,SNR=4.4
A36M Sachs Harbour 101.23 15 P **Pdif** 11 11 01.7 +1.2
baz=230
WMQ Urumqi 107.15 311 *e*P **Pdif** 11 11 29.4 +1.8
WMQ pmax pmax
comp=Z,120nm,3.9s
NHSC New Hope 109.53 61 P **PKiKP** 11 15 37.8 +0.1
baz=255
ZALV Zalesovo Beam 111.15 321 Pdiff **Pdif** 11 11 45.1 0.0
comp=Z,0.7nm,0.6s,baz=142,slow=7.3,SNR=1.5
ZALV PKiKP **PKiKP** 11 15 39.6 -0.5
comp=Z,1.0nm,0.7s,baz=146,slow=0.5,SNR=3.7
ZALV PP **PP** 11 16 38.2 +6.8
comp=Z,0.8nm,0.6s,baz=86,slow=15,SNR=3.6
MKAR Makanchi Array 111.52 313 PKiKP **PKiKP** 11 15 41.1 0.0
comp=Z,0.4nm,0.6s,baz=79,slow=3.0,SNR=3.1
MKAR PKKPbc **PKKPbc** 11 26 38.5 +0.4
comp=Z,0.3nm,0.6s,baz=268,slow=3.3,SNR=4.2
M54A Oil Creek Stat 111.81 53 P **PKiKP** 11 15 42.6 +0.7
baz=259
O56A Blue Knob Stat 112.38 54 P **PKiKP** 11 15 43.5 +0.4
baz=259
KURK Kurchatov 114.49 317 PKPdf 11 15 46.5 -0.2
KURBB Kurchatov Arra 114.53 317 PKP PKPdf 11 15 46.5 -0.2
comp=Z,0.9nm,0.6s,baz=106,slow=2.0,SNR=7.4
KURBB PP **PP** 11 16 52.6 -2.5
comp=Z,1.4nm,0.9s,baz=101,slow=6.6,SNR=7.2
BVAR Borovoye Array 119.68 319 PKP **PKiKP** 11 15 56.8 +0.1
comp=Z,0.9nm,0.4s,baz=242,slow=1.9,SNR=6.0
ARU Arti 126.02 324 PKP **PKiKP** 11 16 09.4 +0.3
comp=Z,1.8nm,0.5s,baz=86,slow=4.8,SNR=5.4
AKTO Aktyubinsk 127.58 317 PKP **PKiKP** 11 16 13.2 +0.8
comp=Z,1.9nm,0.8s,baz=110,slow=5.9,SNR=3.6
KIRV Kirov 129.98 329 SKPbc SKPab 11 18 47.9 +2.3
comp=Z,38nm,0.7s,baz=60,slow=1.7,SNR=15
ARCES ARCESS Array B 130.65 349 PKP **PKiKP** 11 16 18.2 +0.1
comp=Z,2.7nm,0.7s,baz=22,slow=1.4,SNR=8.3
ARCES SKPbc **SKPab** 11 18 50.9 +2.7
comp=Z,18nm,0.9s,baz=52,slow=4.8,SNR=15
JETT Jettan, Norway 131.47 351 *e*PKPdf **PKPdf** 11 16 16.4 -2.4
LOF Lofoten 133.70 353 *e*Pdif **Pdif** 11 13 24.7 -0.3
KMBO Kilima Mbogo 137.07 242 SKPbc **SKiKP** 11 19 13.7 -1.1
comp=Z,2.2nm,0.4s,baz=352,slow=2.7,SNR=6.9
FINES FINESS Array B 137.29 342 PKhKP PKPpre 11 16 18.7
comp=Z,1.2nm,0.7s,baz=358,slow=5.9,SNR=5.0
FINES PKP **PKPdf** 11 16 30.0 +0.3
comp=Z,1.2nm,0.5s,baz=45,slow=3.5,SNR=12
FINES SKPbc **SKiKP** 11 19 12.0 -1.4
comp=Z,6.3nm,0.8s,baz=48,slow=5.7,SNR=12
AKN Aaknes 140.14 355 *e*Pdif **Pdif** 11 13 54.2 +0.4
MTSE Matsula 140.18 341 *e*P PKPpre 11 16 29.0
NB2 NORSAR Subarra140.81 352 PKP PKPpre 11 16 31.1
comp=Z,0.6nm,0.5s,baz=17,slow=2.6
NB2 NORSAR Subarra140.81 352 PKPab PKPpre 11 16 31.1
baz=17,slow=2.6
NOA NORSAR Array B 140.81 352 PKhKP PKPpre 11 16 31.3
comp=Z,0.8nm,0.5s,baz=22,slow=3.3,SNR=7.1
NOA SKPbc **SKiKP** 11 19 21.6 +1.0
comp=Z,4.1nm,0.9s,baz=15,slow=4.3,SNR=8.4
HFS Hagfors 141.30 349 PKhKP PKPpre 11 16 32.2
comp=Z,5.9nm,0.5s,baz=63,slow=0.3,SNR=10
HFS SKPbc **SKiKP** 11 19 22.5 +0.9
comp=Z,6.8nm,0.7s,baz=186,slow=4.5,SNR=9.0
SUE Sulen 141.41 357 *e*Pdif **Pdif** 11 13 59.3 -0.1
IDID Didziasalis 141.87 336 *e*P **PKPdf** 11 16 35.8 -2.4
ISAL Salakas 141.90 336 *e*P **PKPdf** 11 16 35.2 -3.0
IIGN Ignalina 142.03 336 *e*P **PKPdf** 11 16 35.9 -2.5
NACGM Naroch 142.16 335 *i* PKP **PKPdf** 11 16 38.7 +0.1
VIKU Vikbolandet 142.23 346 *e*P **PKPdf** 11 16 35.2 -3.5
KONO Kongsberg 142.37 352 **PKPdf** 11 16 36.6 -2.3
KONO Kongsberg 142.37 352 *e*PKPdf **PKPdf** 11 16 36.3 -2.6
PABE Paberze 142.72 338 **PKPdf** 11 16 38.6 -1.1
PABE Paberze 142.72 338 *e*P **PKPdf** 11 16 39.1 -0.6
KMY Karmoy 143.22 356 *e*PKPab PKPbc 11 16 39.3 +0.5
HOMB Homborsund 143.85 353 *i* P PKPab 11 16 41.0 +0.1
HOMB Homborsund 143.85 353 *e*PKPbc PKPab 11 16 41.2 +0.2
SNART Snartemo 143.92 354 *i* P PKPbc 11 16 41.0 0.0
SNART Snartemo 143.92 354 *e*PKPbc PKPab 11 16 41.2 0.0
AKASG Malin Array Be 144.04 329 PKP PKPbc 11 16 41.5 -0.2
comp=Z,13nm,0.6s,baz=40,slow=4.1,SNR=56
AKASG SKPbc **SKiKP** 11 19 29.4 +1.9
comp=Z,3.4nm,0.8s,baz=41,slow=2.9,SNR=9.1
AKBB Malin Array Si 144.04 329 PKPbc 11 16 41.5 -0.1
SUW Suwalki 144.19 337 *e*PKPdf **PKPab** 11 16 42.3 -0.1
SUW Suwalki 144.19 337 *e*P **PKPab** 11 16 42.7 +0.3
DEL Delary 144.71 347 *i* P **PKPdf** 11 16 43.0 -0.1
DEL Delary 144.71 347 *e*P PKPbc 11 16 43.8 +0.3
GOET G??ttrup 144.96 352 *i* P PKPbc 11 16 44.7 +0.5
MUD Monsted U'grnd 145.53 351 *i* P **PKPbc** 11 16 46.0 +0.1
BNN Bunyan 145.73 306 **PKPbc** 11 16 48.1 +0.7
COP Copenhagen 145.73 348 *i* P **PKPbc** 11 16 46.9 +0.4
SORM Soroca 146.12 326 ⇑P **PKPbc** 11 16 48.1 +0.2
BEL Belsk 146.80 337 *e*PKPbc **PKPbc** 11 16 50.5 +0.9
BR131 Keskin Array S 147.05 309 PKPbc **PKPbc** 11 16 51.1 +0.2
BR131 PKPab **PKPab** 11 16 55.1 +0.7
BRTR Keskin Array B 147.05 309 PKPbc **PKPbc** 11 16 51.1 +0.2
comp=Z,3.7nm,0.7s,baz=142,slow=4.5,SNR=20
BRTR Keskin Array B 147.05 309 **PKPbc** 11 16 51.0 +0.2
BRTR PKPab **PKPab** 11 16 55.4 +1.0
VASR Vaslui 147.35 324 ⇓P **PKiKP** 11 16 52.5 -0.4
MMAI Mount Meron Ar 147.47 296 PKPbc **PKiKP** 11 16 53.1 -0.5
comp=Z,1.9nm,0.4s,baz=259,slow=8.4,SNR=4.7
VLDR Vladesti 147.67 323 ⇑P **PKiKP** 11 16 53.3 -0.3
KWP Kalwaria Pacla 147.77 332 *e*PKPbc **PKiKP** 11 16 53.2 -0.4
KWP *e*PKPab **PKPab** 11 16 57.9 +1.1
KWP Kalwaria Pacla 147.77 332 **PKPbc** 11 16 52.7 +0.5
KWP PKPab **PKPab** 11 16 57.9 +1.1
CFR Carcaliu 148.03 322 ⇑P **PKPbc** 11 16 53.4 +0.4
TESR Tescani 148.05 325 ⇑P **PKPbc** 11 16 53.6 +0.5
BURAR Bucovina Array 148.06 328 ⇓P **PKiKP** 11 16 54.6 +0.2
VRI Vrincioaia 148.41 324 ⇑P **PKiKP** 11 16 55.1 0.0
PLOR Plostina 148.46 324 ⇓P **PKPbc** 11 16 54.0 -0.2
OJC Ojcow 148.48 336 *e*PKPbc **PKiKP** 11 16 54.8 -0.2
OJC *e*PKPab **PKPab** 11 17 00.6 +0.9
OJC Ojcow 148.48 336 PKPdf **PKPdf** 11 16 48.5 -1.1
OJC **PKiKP** 11 16 54.9 -0.2
OJC PKPab **PKPab** 11 17 00.8 +1.1
KOLS Kolonicke sedl 148.48 332 *e*PKP **PKiKP** 11 16 55.9 +0.8
CRVS Cervenica-Dubn 148.85 333 *e*PKP **PKiKP** 11 16 56.2 +0.3
CRVS *e* 11 17 02.6
NEHR Nehoiu 148.92 323 ⇑P **PKPbc** 11 16 53.6 -1.7
NIE Niedzica 148.93 335 *e*PKPbc **PKiKP** 11 16 57.2 +1.2

NIE *e*PKPab **PKPab** 11 17 03.5 +1.9
TRPA Tarpa 148.96 331 PKP **PKiKP** 11 16 56.1 0.0
DOPR Dopca 149.07 325 ⇑P **PKiKP** 11 16 57.0 +0.5
MLR Muntele Rosu 149.07 324 ⇑P **PKiKP** 11 16 56.9 +0.3
MLR Muntele Rosu 149.07 324 PKPbc **PKiKP** 11 16 56.4 -0.3
comp=Z,5.6nm,0.7s,baz=67,slow=0.6,SNR=6.3
MLR Muntele Rosu 149.07 324 **PKPbc** 11 16 56.1 +0.4
FLTG Flechtingen 149.13 347 *e*PKPbc **PKiKP** 11 16 56.3 0.0
baz=21,slow=2.3
KSP Ksiaz 149.16 340 *e*PKPbc **PKiKP** 11 16 57.0 +0.5
KSP *e*PKPab **PKPab** 11 17 03.6 +1.1
SECR 149.29 323 ⇓P **PKiKP** 11 16 56.9 0.0
ASSE Asse, Remlinge 149.43 348 *e*PKPbc **PKiKP** 11 16 57.2 +0.3
baz=21,slow=2.3
OSTC Ostas 149.44 340⇑ *e*PKP **PKiKP** 11 16 58.0 +0.9
CHVC Chvalec 149.46 340⇑ *e*PKP **PKiKP** 11 16 57.8 +0.7
LANS Liptovska Anna 149.47 335 *e*PKP **PKiKP** 11 16 58.6 +1.4
LANS *e* 11 17 05.7
UPC Upice 149.54 340⇑ *e*PKP **PKiKP** 11 16 57.9 +0.6
DPC Dobruska-Polom 149.58 340⇑ *e*PKP **PKiKP** 11 16 58.0 +0.6
DPC *e*PKPAB **PKPab** 11 17 05.4 +1.1
VOIR 149.59 325 ⇑P **PKiKP** 11 16 58.0 +0.3
MORC Moravsky Berou 149.66 338 ⇓P **PKiKP** 11 16 58.4 +0.8
MORC Moravsky Berou 149.66 338 *e*PKP **PKiKP** 11 16 57.7 +0.1
KRLC Kraliky 149.67 339⇑ *e*PKP **PKiKP** 11 16 58.3 +0.7
KRLC *e*PKPAB **PKPab** 11 17 05.0 +0.3
CLL Collm 149.68 344 **PKiKP** 11 16 57.6 +0.2
CLL PKPab **PKPab** 11 17 05.0 +0.5
CLL Collm 149.68 344⇑ *i*PKPbc **PKiKP** 11 16 57.7 +0.2
comp=Z,41nm,0.9s
CLL ⇓ *i*PKPab **PKPab** 11 17 05.1 +0.5
comp=Z,27nm,0.9s
CLL Collm 149.68 344 *e*PKPbc **PKiKP** 11 16 57.9 +0.4
baz=21,slow=2.3
CLZ Clausthal 149.77 348 *e*PKPbc **PKiKP** 11 16 58.3 +0.6
baz=21,slow=2.3
BRG Berggiesshubel 149.83 343 *i* PKP **PKiKP** 11 16 58.3 +0.5
BRG Amp 11 16 59.2
comp=Z,26nm,0.9s
BRG *i* x **PKPab** 11 17 06.0 +0.8
BRG Amp 11 17 06.8
comp=Z,25nm,0.8s
BRG Berggiesshubel 149.83 343 *e*PKPbc **PKPab** 11 16 58.6 -6.7
baz=21,slow=2.3
DRGR 149.85 329 ⇑P **PKiKP** 11 16 58.4 +0.2
ARR Arges 149.86 325 ⇑P **PKiKP** 11 16 59.4 +1.2
FBE Freiberg 149.94 344 *e*PKPbc **PKiKP** 11 16 58.9 +0.8
baz=21,slow=2.3
PVCC Panska Ves 149.96 342⇑ *e*PKP **PKiKP** 11 16 59.0 +0.9
VYHS Vyhne 150.25 335 *e*PKP **PKPab** 11 17 08.2 +1.1
PSZ Piszkesteto 150.28 333 PKPdf **PKPdf** 11 16 52.4 -0.2
PSZ **PKiKP** 11 16 59.0 0.0
PSZ PKPab **PKPab** 11 17 08.2 +0.8
JAVC Velka Javorina 150.39 337 *e*PKP **PKiKP** 11 17 00.5 +1.4
JAVC *e* 11 17 09.8
VRAC Vranov 150.39 338 PKPbc **PKiKP** 11 16 59.6 +0.5
comp=Z,1.3nm,0.3s,baz=345,slow=0.8,SNR=4.6
VRAC PKPab **PKPab** 11 17 08.3 +0.7
comp=Z,5.7nm,0.7s,baz=44,slow=4.7,SNR=6.6
VRAC Vranov 150.39 338 *e*PKP **PKiKP** 11 16 59.5 +0.5
VRAC *e* 11 17 08.7
PRU Pruhonice 150.45 341⇑ *e*PKP **PKiKP** 11 16 59.6 +0.5
PRU *e*PKPAB **PKPab** 11 17 08.9 +1.0
MOX Moxa 150.63 345 *e*PKPbc **PKiKP** 11 17 00.1 +0.6
baz=21,slow=2.3
TANN Tannenbergstha 150.63 344 *e*PKPbc **PKiKP** 11 17 00.2 +0.6
baz=21,slow=2.3
WERD Werda 150.64 344 *e*PKPbc **PKiKP** 11 17 00.2 +0.6
baz=21,slow=2.3
PLN Plauen 150.64 345 *e*PKPbc **PKiKP** 11 17 00.1 +0.6
baz=21,slow=2.3
KRUC Moravsky 150.67 338 *e*PKP **PKiKP** 11 16 59.9 +0.3
KRUC *e* 11 17 09.6
GUNZ Gunzen 150.71 344 *e*PKPbc **PKiKP** 11 17 00.4 +0.7
baz=21,slow=2.3
KASTN Kahler Asten 150.73 350 *e*PKPbc **PKiKP** 11 17 00.1 +0.4
baz=21,slow=2.3
SIRR Siria 150.74 329 ⇑P **PKiKP** 11 17 00.4 +0.5
NKC Novy Kostel 150.80 344⇑ *e*PKP **PKiKP** 11 17 00.4 +0.5
NKC *e*PKPAB **PKPab** 11 17 10.5 +1.1
GZR Gura Zlata 150.81 327 ⇑P **PKiKP** 11 17 00.2 0.0
PBCC Pribram 150.88 342⇑ *e*PKP **PKiKP** 11 17 00.7 +0.6
PBCC *e*PKPAB **PKPab** 11 17 10.7 +1.0
BZS Buzias 151.23 328 ⇑P **PKiKP** 11 17 01.2 +0.3
HERR Herculane 151.35 326 ⇑P **PKiKP** 11 17 01.4 +0.3
KHC Kasperske Hory 151.50 342⇑ *e*PKP **PKiKP** 11 17 01.8 +0.4
KHC *e*PKPAB **PKPab** 11 17 13.2 +0.8
KHC Kasperske Hory 151.50 342 **PKiKP** 11 17 01.6 +0.2
KHC **PKPab** 11 17 13.4 +1.1
CKRC Cesky Krumlov 151.56 341⇑ *e*PKP **PKiKP** 11 17 02.4 +0.9
BTNL Ternell 151.67 352 *d*PKiKP **PKiKP** 11 17 01.8 +0.1
GEC2 GERESS Array S 151.72 341 PKPdf **PKPdf** 11 16 54.9 +0.1
GEC2 **PKiKP** 11 17 02.0 0.0
GEC2 PKPab **PKPab** 11 17 13.9 +0.5
GERES GERESS Array B 151.72 341 PKPbc **PKiKP** 11 17 02.3 +0.3
comp=Z,2.8nm,0.8s,baz=46,slow=3.9,SNR=19
GERES PKPab **PKPab** 11 17 13.7 +0.3
comp=Z,2.4nm,0.6s,baz=35,slow=5.4,SNR=13
GERES GERESS Array B 151.72 341 **PKiKP** 11 17 02.1 +0.2
GERES **PKPab** 11 17 13.3 0.0
CONA Conrad Observa 151.82 338 *e*P **PKiKP** 11 17 02.9 +0.7
comp=Z,7.7nm,0.9s
CONA *e*P **PKPab** 11 17 15.4 +1.5
comp=Z,14nm,1.0s
BCLA Clavier 151.93 353 *d*PKPab **PKPab** 11 17 13.8 -0.2
MORH Mrgy, Hungar 152.14 332 ⇑P **PKiKP** 11 17 03.2 +0.5
MORH Mrgy, Hungar 152.14 332 PKP **PKiKP** 11 17 03.2 +0.5
VTS Vitosha 152.40 322 ⇑P **PKiKP** 11 17 04.8 +1.1
VTS Vitosha 152.40 322 PKPbc **PKiKP** 11 17 04.5 +0.9
VTS PKPab **PKPab** 11 17 17.2 +0.6
MOA Molln 152.43 340 *e*P **PKPab** 11 17 18.0 +1.6
comp=Z,10.0nm,1.1s
ARSA Arzberg 152.52 337 *e*P **PKPab** 11 17 17.9 +1.2
comp=Z,8.3nm,1.3s
WLF Walferdange 152.57 352 *d*PKPab **PKPab** 11 17 17.7 +0.9
DIVS Divibare 153.12 328 PKPdf **PKPdf** 11 16 56.0 -1.0
DIVS **PKiKP** 11 17 05.7 +0.7
DIVS PKPab **PKPab** 11 17 20.2 +0.7
SOKA Soboth 153.18 337 *e*P **PKPab** 11 17 20.7 +1.1
comp=Z,8.8nm,1.3s
KBA Koelnbreinsper 153.40 340 *e*P **PKiKP** 11 17 07.0 +1.5
comp=Z,6.7nm,1.3s
OBKA Obir 153.50 338 *e*P **PKPab** 11 17 20.4 -0.6
comp=Z,8.3nm,1.6s
BFO Black Forest 153.51 348 PKPbc **PKiKP** 11 17 06.6 +1.0
BFO PKPab **PKPab** 11 17 21.4 +0.4
WATA Walderalm 153.69 343 *e*P **PKPab** 11 17 23.3 +1.4
comp=Z,13nm,0.6s
MYKA Terra Mystica 153.70 339 *e*P **PKPab** 11 17 22.3 +0.4
comp=Z,8.4nm,0.9s
WTTA Wattenberg 153.74 343 *e*P **PKiKP** 11 17 07.1 +0.8
comp=Z,5.5nm,0.9s
WTTA *i* P **PKPab** 11 17 23.4 +1.2
comp=Z,16nm,0.6s,SNR=6.6
RETA Reutte 153.77 344 *i* P **PKPab** 11 17 23.1 +1.0
comp=Z,13nm,0.7s,SNR=5.1
MOTA Moosalm 153.81 343 *i* P **PKPab** 11 17 23.4 +0.9
comp=Z,22nm,1.0s,SNR=6.4
ECH Echery 153.83 350 PKPbc **PKPbc** 11 17 05.8 -0.4
ECH **PKPab** 11 17 21.7 -0.6
SQTA Sankt Quirin 153.90 343 *e*P **PKPab** 11 17 23.8 +1.1
comp=Z,14nm,0.9s
ABTA Abfaltersbach 153.96 341 *e*P **PKiKP** 11 17 06.8 +0.2
comp=Z,6.5nm,1.1s
ABTA *e*P **PKPab** 11 17 23.2 +0.2
comp=Z,13nm,0.8s
DAVA Damuels 154.17 345 *i* P **PKPab** 11 17 24.9 +0.9
comp=Z,12nm,0.6s,SNR=5.6
FETA Feichten 154.21 344 *e*P **PKPab** 11 17 25.5 +1.3
comp=Z,12nm,1.3s
STAL STALIGIAL 154.33 340 PKPdf **PKPdf** 11 16 58.0 -0.5
STAL PKPbc **PKPbc** 11 17 08.2 +0.8
STAL **PKPab** 11 17 24.1 -0.4
LIT Litokhoron 154.39 318 PKPab **PKPab** 11 17 25.1 +0.1
DAVOX Davos/Dischmat 154.65 345 PKPbc **PKPbc** 11 17 11.3 +3.1
comp=Z,3.3nm,0.6s,baz=218,slow=8.5,SNR=6.7
DAVOX PKPab **PKPab** 11 17 27.2 +1.1
comp=Z,14nm,0.6s,baz=340,slow=3.5,SNR=21
PDG Podgorica 154.70 326 ⇓P **PKPab** 11 17 26.6 +0.5
PDG Podgorica 154.70 326 **PKPab** 11 17 25.8 -0.4
TUE Stuetta 155.06 345 PKPab **PKPab** 11 17 26.9 -1.0
SENIN Lac Senin/Sane 155.60 348 PKPab **PKPab** 11 17 30.9 +0.7
NRCA Norcia 157.18 335 PKPdf **PKPdf** 11 17 01.0 -1.4
NRCA **PKPab** 11 17 37.5 +0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	162.53	11	PKPab	PKPab	11 18 00.1	-0.3
	comp=Z,3.2nm,0.9s,baz=338,slow=4.8,SNR=12						
ESDC	Sonseca Array	162.53	11	PKPab	PKPab	11 18 00.9	+0.5
TORD	Torodi Ar. Bea	170.56	188	PKPab	PKPab	11 18 37.0	+0.8
	comp=Z,2.0nm,0.7s,baz=187,slow=2.9,SNR=9.4						

*NEIC **11** 11:00:23.3±2.0, 9°45S±0°10×126°28E±0°10, h10km±2km, mb4.5/5, Error ellipse: s-maj=17.2km s-min=15.7km az=227.0*
*IDC **11** 11:00:23.8±1.7, 9°32S×126°34E, h0km, mb4.1/2, mb1 4.4/4, mb1mx3.7/51, mbtmp4.2/4, ML4.0/2, MS3.9/3, Ms1 3.8/3, ms1mx2.9/56, Error ellipse: s-maj=167.2km s-min=31.8km az=59.0*
ISC 11 11:00:22.8±0.8**, 9°40S**±0°09**×126°3E**±0°1**, h10**km**, n22, σ1s23**/19**, mb4.4**/5**, MS3.9**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	5.11	74	Pn	Pn	11 01 38.1	-1.4
KAPI	Kappang	7.85	303	Pn	Pn	11 02 15.8	-1.4
FITZ	Fitzroy Crossi	8.67	184	Pn	Pn	11 02 27.2	-1.2
WRAB	Tennant Creek	13.02	144	Pn	Pn	11 03 26.8	-1.2
WRA	Warramunga Arr	13.03	144	Pn	Pn	11 03 30.0	+1.9
	0.9nm,0.3s,baz=317,slow=14,SNR=1.8						
WRA	Warramunga Arr	13.03	144		Pn	11 03 28.3	+0.2
WB2	Warramunga Arr	13.03	144	Pn	Pn	11 03 28.0	-0.2
WR0	Warramunga Arr	13.15	144	Pn	Pn	11 03 30.3	+0.5
PSA00	Pilbara Seismi	13.62	207	Pn	Pn	11 03 35.9	-0.2
AS31	Alice Springs	15.92	154	Pn	Pn	11 04 07.5	+0.4
ASAR	Alice Springs	15.93	154	Pn	P	11 04 11.7	+0.9
	0.7nm,0.3s,baz=334,slow=13,SNR=4.1						
ASAR	Alice Springs	15.93	154	Pn	Pn	11 04 08.1	+0.9
STKA	Stephens Creek	26.47	150	LR	LR	11 17 12.7	
	comp=Z,316nm,18.8s,baz=319,slow=38						
MKAR	Makanchi Array	68.32	329	P	P	11 11 27.0	+2.7
	1.3nm,0.7s,baz=126,slow=7.5,SNR=4.7						
MKAR	Makanchi Array	68.32	329	P	P	11 11 24.3	0.0
MAKZ	Makanchi	68.49	329	P	P	11 11 25.2	-0.1
MAKZ				IAmb	IAmb	11 11 39.5	
	comp=Z,2.6nm,0.9s						
AAK	Ala-Archa	70.10	322	LR	LR	11 45 20.5	
	comp=Z,46nm,18.2s,baz=109,slow=38						
MA2	Magadan	71.49	13	P	P	11 11 44.6	+1.2
ZAA0	Zalesovo Array	72.19	336	P	P	11 11 48.3	+0.6
ZAA0				IAmb	IAmb	11 11 53.4	
	comp=Z,8.1nm,1.2s						
KURBB	Kurchatov Arra	72.72	330	P	P	11 11 52.6	+1.7
	comp=Z,2.3nm,1.0s,baz=138,slow=4.9,SNR=4.0						
KURK	Kurchatov	72.73	330	P	P	11 11 51.3	+0.2
KURK				IAmb	IAmb	11 11 57.5	
	comp=Z,4.4nm,1.0s						
MATP	Matopo	94.00	249	LR	LR	11 54 05.5	
	comp=Z,45nm,18.0s,baz=128,slow=34						

*BJI **11** 11:07:17.9±0.0, 27°90N×101°40E, h8km, mb4.0/16, mB4.3/2, ML3.9/17, Ms3.8/13, Ms7 3.7/12*
*IDC **11** 11:07:17.2±0.7, 27°99N×101°70E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.0/64, mbtmp4.3/15, ML3.8/1, MS3.5/12, Ms1 3.5/12, ms1mx3.1/87, Error ellipse: s-maj=23.3km s-min=12.6km az=77.0*
*NEIC **11** 11:07:22.6±2.0, 28°06N±0°08×101°40E±0°08, h35km±2km, mb4.7/83, Error ellipse: s-maj=13.5km s-min=12.4km az=182.0*
ISC 11 11:07:22.2±0.4**, 27°96N**±0°05**×101°44E**±0°06**, h35**km**, n130, σ1s38**/129**, mb4.7**/53**, MS3.4**/11**, 2C-2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	PanZhiHua	1.48	169	Pg	Pn	11 07 42.7	-3.7
PZH				Sg	Sn	11 08 02.3	-2.2
PZH				smax	smax		
	comp=N,4μm,0.8s						
PZH				smax	smax		
	comp=E,4μm,0.7s						
KMI	Kunming	3.06	157	⇑Pn	Pn	11 08 09.2	+1.0
KMI				Sn	Sn	11 08 47.6	+3.9
KMI				Sg		11 09 00.9	
KMI				smax	smax		
	comp=N,680nm,0.5s						
KMI				smax	smax		
	comp=E,650nm,0.8s						
CD2	Chengdu	3.57	34	Pn	Pn	11 08 17.9	+2.8
CD2				Pg		11 08 21.6	
CD2				Sg	Sn	11 09 08.8	+13
CD2				smax	smax		
	comp=E,2μm,1.4s						
GYA	Guiyang	4.89	107	⇓Pn	Pn	11 08 34.4	+1.1
GYA				Sn	Sn	11 09 32.7	+4.0
GYA				smax	smax		
	comp=N,270nm,0.6s						
GYA				smax	smax		
	comp=E,340nm,0.7s						
ENH	Enshi	7.41	70	Pn	Pn	11 09 07.8	0.0
LZH	Lanzhou	8.36	14	eP	Pn	11 09 18.4	-2.5
LZH				sP		11 09 25.3	
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
LZH				LR	LR		
	comp=N,740nm,9.7s						
LZH				LR	LR		
	comp=E,1μm,9.8s						
LZH				LR	LR		
	comp=Z,490nm,10.3s						
XAN	Xi'an	8.83	45	P	Pn	11 09 27.4	+0.1
XAN				S	Sn	11 11 07.8	+2.2
XAN				LR	LR		
	comp=Z,530nm,14.1s						
XAN				LR	LR		
	comp=Z,370nm,10.2s						
SHL	Shillong	8.87	257	Pn	Pn	11 09 28.3	+0.3
LSA	Lhasa	9.19	283	Pn	Pn	11 09 31.6	-1.1
CHTO	Chiang Mai	9.39	195	Pn	Pn	11 09 34.8	-0.2
CMAR	Chiang Mai Arr	9.73	194	Pn	Pn	11 09 40.0	+0.2
	comp=Z,0.3nm,0.3s,baz=6.1,slow=13,SNR=9.7						
CMAR				Pg		11 10 18.2	
	comp=Z,0.3nm,0.3s,baz=11,slow=17,SNR=13						
CMAR				Lg	Lg	11 12 31.4	
	comp=Z,0.2nm,0.3s,baz=14,slow=31,SNR=6.6						
CMAR				LR	LR	11 13 47.7	
	comp=Z,130nm,21.2s,baz=15,slow=40						
CMAR	Chiang Mai Arr	9.73	194	Pn	Pn	11 09 44.4	+4.7
GOMU	GeErMu	9.95	327	P	Pn	11 09 44.1	+1.1
GOMU				pP		11 09 48.1	
GOMU				sP		11 09 51.5	
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				LR	LR		
	comp=Z,280nm,8.4s						
GOMU				LR	LR		
	comp=Z,160nm,8.5s						
GOMU				LR	LR		
	comp=Z,310nm,9.8s						
LYN	LuoYang	11.49	52	⇓P	Pn	11 10 02.4	-1.4
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	Gaotai	11.50	354	eP	Pn	11 10 06.6	+2.6
GTA				pP		11 10 12.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,28nm,4.2s						
GTA				LR	LR		
	comp=Z,220nm,10.9s						
GTA				LR	LR		
	comp=Z,460nm,8.7s						
WHN	Wuhan	11.57	74	⇑P	Pn	11 10 05.6	+0.8
WHN				pP		11 10 08.5	
WHN				S	Sn	11 12 08.3	-4.4
WHN				LR	LR		
	comp=Z,380nm,8.7s						
BJI	Beijing	17.13	42	P	Pn	11 11 18.7	-0.1
BJI				pP	P	11 11 21.7	+1.5
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				LR	LR		
	comp=Z,220nm,11.5s						
BJI				LR	LR		
	comp=Z,240nm,11.1s						
BJI				LR	LR		
	comp=Z,130nm,14.7s						
YHNB	Yeheng	18.17	96	P	P	11 11 31.5	-0.4
YHNB				IAmb	IAmb	11 11 41.3	
	comp=Z,120nm,1.5s						
WMQ	Urumqi	19.31	329	eP	Pn	11 11 45.2	-0.2
SONM	Songino Array	20.22	10	P	P	11 11 52.7	-1.5
	comp=Z,3.2nm,1.0s,baz=185,slow=12,SNR=6.9						
SONM				LR	LR	11 20 27.1	
	comp=Z,149nm,19.1s,baz=184,slow=39						
ULN	Ulaanbaatar	20.35	11	P	P	11 11 54.5	-1.0
TARG	Taragay, Kyrgy	23.67	312	P	P	11 12 30.4	-0.6
KSH	Kashi	24.03	305	P	P	11 12 38.1	+4.1
MK31	Makanchi Array	24.07	326	P	P	11 12 34.4	+0.2
MKAR	Makanchi Array	24.07	326	P	P	11 12 35.0	+0.8
	comp=Z,7.6nm,0.6s,baz=135,slow=10,SNR=15						
MKAR				LR	LR	11 23 22.3	
	comp=Z,95nm,18.7s,baz=134,slow=40						
MKAR	Makanchi Array	24.07	326	P	P	11 12 34.4	+0.2
KS19	Wonju Array Si	24.12	60	P	P	11 12 34.1	-0.5
KSRS	Korea Array	24.15	60	P	P	11 12 34.0	-1.0
	comp=Z,3.5nm,0.8s,baz=253,slow=11,SNR=12						
KSRS				LR	LR	11 21 11.8	
	comp=Z,37nm,21.7s,baz=170,slow=35						
MAKZ	Makanchi	24.24	326	P	P	11 12 36.4	+0.7
KDJ	Kajisay	24.27	312	P	P	11 12 34.1	-2.2
NIL	Nilore	24.82	290	P	P	11 12 37.8	-3.4
PSI	Prapat	25.13	186	P	P	11 12 44.8	+0.7
	comp=Z,4.5nm,0.3s,baz=358,slow=12,SNR=6.4						
AAK	Ala-Archa	26.28	311	LR	LR	11 25 09.0	
	comp=Z,83nm,19.8s,baz=126,slow=41						
AAK	Ala-Archa	26.28	311	P	P	11 12 53.1	-1.3
MYLDM	Lahad Datu	27.86	141	P	P	11 13 10.8	+2.2
MYLDM				IAmb	IAmb	11 13 11.9	
	comp=Z,23nm,0.9s						
KBL	Kabul	28.38	291	P	P	11 13 13.8	+0.3
KURBB	Kurchatov Arra	28.53	329	LR	LR	11 25 52.2	
	comp=Z,103nm,19.3s,baz=103,slow=39						
KURK	Kurchatov	28.56	329	P	P	11 13 14.7	+0.2
ZALV	Zalesovo Beam	28.69	339	P	P	11 13 16.9	+1.3
	comp=Z,1.1nm,0.6s,baz=141,slow=9.3,SNR=3.4						
ZALV				LR	LR	11 25 32.7	
	comp=Z,103nm,19.5s,baz=142,slow=38						
ZALV	Zalesovo Beam	28.69	339	P	P	11 13 14.8	-0.9
MJB9	Matsu-Tunnel	32.10	65	P	P	11 13 43.4	-2.6
MAJO	Matsushiro	32.10	65	P	P	11 13 43.4	-2.6
TOLI2	Tolitoli	32.49	142	P	P	11 13 48.0	-1.6
TOLI2				IAmb	IAmb	11 13 50.8	
	comp=Z,19nm,1.0s						
BVAR	Borovoye Array	33.96	326	P	P	11 14 04.8	+2.8
	comp=Z,0.6nm,0.5s,baz=62,slow=19,SNR=3.7						
BRVK	Borovoye	34.03	326	P	P	11 14 00.2	-2.4
KAPI	Kappang	37.24	149	P	P	11 14 29.5	-1.0
KAPI				IAmb	IAmb	11 14 41.3	
	comp=Z,8.3nm,0.9s						
GEYT	Alibeck	37.40	297	LR	LR	11 32 07.1	
	comp=Z,49nm,19.7s,baz=174,slow=40						
ABKAR	Akbulak array	38.15	315	P	P	11 14 38.5	+0.6
AKTO	Aktyubinsk	39.70	317	P	P	11 14 51.9	+0.9
	comp=Z,1.8nm,0.7s,baz=90,slow=9.1,SNR=4.2						
ARU	Arti	41.59	325	LR	LR	11 33 45.8	
	comp=Z,87nm,19.6s,baz=129,slow=38						
MA2	Magadan	45.98	32	P	P	11 15 41.3	-0.4
MA2				IAmb	IAmb	11 15 42.1	
	comp=Z,5.4nm,0.9s						
TIXI	Tiksi	46.29	12	P	P	11 15 42.6	-1.3
KIRV	Kirov	46.97	326	LR	LR	11 37 05.1	
	comp=Z,88nm,18.9s,baz=104,slow=38						
KNRA	Kununurra	50.82	145	P	P	11 16 18.7	-0.7
KNRA				IAmb	IAmb	11 16 19.7	
	comp=Z,15nm,1.1s						
FITZ	Fitzroy Crossi	51.44	150	P	P	11 16 23.6	-0.3
PSA00	Pilbara Seismi	52.36	158	P	P	11 16 30.8	0.0
PSA00				IAmb	IAmb	11 16 34.9	
	comp=Z,20nm,1.4s						
WB0	Warramunga Arr	57.16	142	P	P	11 17 05.2	-0.5
WRAB	Tennant Creek	57.27	143	P	P	11 17 06.2	-0.3
WRA	Warramunga Arr	57.28	143	P	P	11 17 05.8	-0.7
	comp=Z,13nm,0.7s,baz=331,slow=7.9,SNR=121						
WRA	Warramunga Arr	57.28	143	P	P	11 17 05.4	-1.1
WB2	Warramunga Arr	57.28	143	P	P	11 17 06.2	-0.4
WR0	Warramunga Arr	57.40	142	P	P	11 17 06.0	-1.3
PMG	Port Moresby	57.75	123	P	P	11 17 10.0	+0.1
	comp=Z,14nm,0.8s,baz=344,slow=2.8,SNR=13						
PMG	Port Moresby	57.75	123	P	P	11 17 10.7	+0.8
COEN	Coen	58.06	130	P	P	11 17 12.2	+0.1
COEN				IAmb	IAmb	11 17 30.7	
	comp=Z,18nm,1.5s						
FINES	FINESS Array B	58.91	327	LR	LR	11 44 57.4	
	comp=Z,61nm,18.3s,baz=130,slow=38						
AS31	Alice Springs	60.12	145	P	P	11 17 26.3	0.0
ASAR	Alice Springs	60.12	145	P	P	11 17 25.9	-0.4
	comp=Z,2.6nm,0.8s,baz=326,slow=6.8,SNR=27						
ASAR	Alice Springs	60.12	145	P	P	11 17 26.5	+0.2
FORT	Forrest	63.70	155	P	P	11 17 49.8	-0.3
FORT				IAmb	IAmb	11 17 50.9	
	comp=Z,9.7nm,0.8s						
ANM	Nome	66.46	28	P	P	11 18 08.4	+0.7
ANM				IAmb	IAmb	11 18 11.0	
	comp=Z,7.5nm,1.1s						
CLL	Collm	67.78	317	i P	P	11 18 17.9	+1.6
IMAR	Indian Mountai	70.55	25	P	P	11 18 33.5	+0.3
STKA	Stephens Creek	70.73	144	P	P	11 18 33.9	-0.8
	comp=Z,2.2nm,0.6s,baz=340,slow=9.1,SNR=6.5						
TOLK	Toolik Lake Re	70.82	22	P	P	11 18 35.3	+0.4
TOLK				IAmb	IAmb	11 18 35.9	
	comp=Z,5.1nm,0.8s						
TTA	Tatalina	70.93	28	P	P	11 18 34.7	-1.0
TTA				IAmb	IAmb	11 18 57.9	
	comp=Z,7.8nm,1.4s						
H21K	Melozitna Rive	71.04	25	P	P	11 18 36.1	-0.1
H21K				IAmb	IAmb	11 18 37.1	
	comp=Z,4.2nm,0.9s						
J20K	Nowinta River	71.17	27	P	P	11 18 37.6	+0.6
J20K				IAmb	IAmb	11 18 40.0	
	comp=Z,6.6nm,0.9s						
COLD	Coldfoot	71.27	23	P	P	11 18 38.2	+0.7
COLD				IAmb	IAmb	11 18 43.7	
	comp=Z,6.6nm,1.4s						
K20K	Telida	71.55	27	P	P	11 18 39.6	+0.3
K20K				IAmb	IAmb	11 18 41.9	
	comp=Z,6.3nm,1.1s						
I21K	Tanana	71.56	25	P	P	11 18 38.5	-0.9
I21K				IAmb	IAmb	11 18 41.7	
	comp=Z,11nm,1.3s						
L19K	White Mountain	71.73	29	P	P	11 18 41.1	+0.7
L19K				IAmb	IAmb	11 19 06.5	
	comp=Z,11nm,1.4s						
MLY	Manley	72.10	25	P	P	11 18 43.1	+0.5
MLY				IAmb	IAmb	11 18 43.8	
	comp=Z,6.2nm,1.0s						
EUNU	Eureka	72.13	1	P	P	11 18 43.2	+0.6
H23K	Yukon River	72.16	24	P	P	11 18 44.1	+1.1
H23K				IAmb	IAmb	11 18 44.9	
	comp=Z,17nm,1.5s						
CAST	Castle Rocks	72.32	27	P	P	11 18 43.2	-0.8
CAST				IAmb	IAmb	11 18 46.8	
	comp=Z,17nm,1.4s						
PPLA	Purkeypile	72.52	27	P	P	11 18 45.7	+0.3
I23K	Minto, Yukon-K	72.56	25	P	P	11 18 45.3	0.0
I23K				IAmb	IAmb	11 18 46.2	
	comp=Z,5.1nm,0.9s						
NEA2	Nenana	72.94	25	P	P	11 18 47.8	+0.2
BMAR	Burnt Mountain	73.06	22	P	P	11 18 49.3	+1.0
MDM	Murphy Dome	73.07	25	P	P	11 18 48.3	-0.1
MDM				IAmb	IAmb	11 18 52.1	
	comp=Z,14nm,1.2s						
TCOL	CIGO, UAF Yank	73.25	25	P	P	11 18 49.9	+0.5
TCOL				IAmb	IAmb	11 18 50.6	
	comp=Z,6.6nm,0.8s						
COLA	College	73.25	25	P	P	11 18 49.9	+0.5
COLA				IAmb	IAmb	11 18 50.6	
	comp=Z,7.0nm,0.8s						
POKR	Poker Plat Res	73.28	24	P	P	11 18 49.0	-0.7
POKR				IAmb	IAmb	11 18 53.4	
	comp=Z,8.5nm,0.8s						
RND	Reindeer	73.61	26	P	P	11 18 51.9	+0.2
RND				IAmb	IAmb	11 18 52.7	
	comp=Z,15nm,1.1s						
ILAR	Eielson Array	73.66	25	P	P	11 18 50.5	-1.3
	comp=Z,3.9nm,1.1s,baz=289,slow=4.0,SNR=14						
ILAR	Eielson Array	73.66	25	P	P	11 18 50.9	-1.0
PRP	Porcupine Dome	73.76	24	P	P	11 18 52.4	-0.2
PRP				IAmb	IAmb	11 18 53.5	
	comp=Z,6.8nm,0.8s						
J25K	Salcha River,	74.30	24	P	P	11 18 54.4	-1.2
DHY	Denali Highway	74.35	26	P	P	11 18 55.5	-0.6
DHY				IAmb	IAmb	11 19 04.2	
	comp=Z,14nm,1.4s						
PMR	Palmer	74.40	28	P	P	11 18 54.6	-1.6
SML	Sawmill	74.62	28	P	P	11 18 57.6	0.0
SML				IAmb	IAmb	11 19 09.2	
	comp=Z,17nm,1.1s						
KNK	Knik Glacier	74.77	28	P	P	11 18 57.8	-0.6
RIDG	Independent Ri	74.96	25	P	P	11 18 58.8	-0.7
RIDG				IAmb	IAmb	11 18 59.3	
	comp=Z,5.1nm,0.7s						
SEW	Seward	75.01	29	P	P	11 18 59.1	-0.6
SCM	Sheep Creek Mo	75.02	27	P	P	11 19 00.0	+0.1
PWL	Port Wells	75.11	28	P	P	11 19 00.3	-0.1
SCRK	Sand Creek	75.15	25	P	P	11 18 59.7	-1.0
SCRK				IAmb	IAmb	11 19 03.1	
	comp=Z,5.8nm,1.0s						
A36M	Sachs Harbour	75.26	14	P	P	11 19 01.6	+0.6
A36M				IAmb	IAmb	11 19 04.3	
	comp=Z,20nm,1.4s						
M24K	Tolsona, Glenn	75.34	27	P	P	11 19 02.4	+0.7
TULEG	Thule	75.57	358	P	P	11 19 02.7	0.0
TULEG				IAmb	IAmb	11 19 03.0	
	comp=Z,9.0nm,1.0s						
KLU	Klutina	75.77	27	P	P	11 19 04.3	+0.1
INK	Inuvik	75.87	18	P	P	11 19 04.4	-0.1
	comp=Z,6.4nm,0.8s,baz=324,slow=6.9,SNR=27						
INK	Inuvik	75.87	18	P	P	11 19 04.3	-0.3
INK				IAmb	IAmb	11 19 05.7	
	comp=Z,7.4nm,0.9s						
FID	Port Fidalgo	75.94	28	P	P	11 19 05.4	+0.3
EPYK	Eagle Plains	76.19	21	P	P	11 19 06.1	-0.4
EPYK				IAmb	IAmb	11 19 09.3	
	comp=Z,4.7nm,0.8s						
N25K	Chitina, Valde	76.24	27	P	P	11 19 07.6	+0.7
L27K	Beaver Creek,	76.47	25	P	P	11 19 09.0	+0.9
L27K				IAmb	IAmb	11 19 11.7	
	comp=Z,9.5nm,1.3s						
BCAR	Beaver Creek A	76.48	25	P	P	11 19 09.1	+0.9
BMRM	Bremner River	76.59	27	P	P	11 19 09.0	+0.1
GLB	Gilahina Butte	76.64	27	P	P	11 19 09.5	+0.4
GLB				IAmb	IAmb	11 19 29.8	
	comp=Z,21nm,1.5s						
DAWY	Dawson	76.75	23	P	P	11 19 09.3	-0.4
DAWY				IAmb	IAmb	11 19 12.4	
	comp=Z,9.2nm,1.4s						
M27K	Edge Creek, AK	76.86	25	P	P	11 19 11.4	+0.9
M27K				IAmb	IAmb	11 19 19.5	
	comp=Z,9.7nm,1.1s						
RES	Resolute Bay	77.05	4	P	P	11 19 11.7	+0.5
RES				IAmb	IAmb	11 19 13.5	
	comp=Z,5.9nm,1.1s						
HMT	Hamilton	77.08	28	P	P	11 19 12.5	+0.8
C36M	Paulatuk	77.52	15	P	P	11 19 13.7	-0.2
C36M				IAmb	IAmb	11 19 14.2	
	comp=Z,7.5nm,0.8s						
CTGM	Chitina Glacie	77.90	26	P	P	11 19 15.8	-0.5
LOGN	Logan Glacier	78.11	26	P	P	11 19 17.3	-0.2
SFJD	Kangerlussuaq	83.01	349	LR	LR	11 58 55.5	
	comp=Z,54nm,18.2s,baz=37,slow=37						
YKA	Yellowknife Ar	85.36	16	P	P	11 19 55.0	-0.4
	comp=Z,1.2nm,0.8s,baz=327,slow=4.8,SNR=15						

TAP 11 11:08:30.7, 24°26N×121°68E, h9km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.11	207	eP	Pg	11 08 34.0	+0.6
	baz=206						
ETL				S	Sg	11 08 35.9	+0.6
	baz=206						
NACB	Ninganchiao	0.12	222	i P	Pg	11 08 33.6	+0.2
	baz=221						
NACB				i S	Sg	11 08 35.8	+0.5
	baz=221						
ENA	Nanau	0.18	19	eP	Pg	11 08 34.9	+0.4
	baz=21						
ENA				eS	Sg	11 08 38.1	+1.0
	baz=21						
ETLH	Xiulin Townshi	0.19	254	P	Pg	11 08 35.1	+0.4
	baz=253						
ETLH				S	Sg	11 08 38.3	+0.9
	baz=253						
TWD	Chiawan	0.19	203	eS	Sg	11 08 38.6	+1.1
	baz=200						
LATG	Datong	0.31	333	eP	Pg	11 08 37.6	+0.7
	baz=333						
NNSB	Datong	0.32	302	eP	Pg	11 08 36.6	-0.5
	baz=301						
NNSB				eS	Sb	11 08 42.8	-1.1
	baz=301						
NNS	Nan Shan	0.33	303	eP	Pb	11 08 38.4	-0.5
	baz=303						
NNS				S	Sb	11 08 43.2	-1.1
	baz=303						
NDT	Datong Townshi	0.37	336	eP	Pb	11 08 39.2	-0.4
	baz=336						
NDT				eS	Sb	11 08 44.3	-1.1
	baz=336						
NDS	Dongshan	0.37	5	eP	Pb	11 08 39.1	-0.5
	baz=5.0						
NDS				eS	Sb	11 08 44.4	-1.1
	baz=5.0						
ENTT	Nioudou	0.39	345	eP	Pb	11 08 39.3	-0.5
	baz=345						
ENTT				eS	Sb	11 08 45.0	-1.0
	baz=345						
WHF	Hehuan Shan	0.39	253	eP	Pb	11 08 39.6	-0.5
	baz=252						
FUSS	Fushou	0.40	268	eP	Pb	11 08 39.5	-0.6
	baz=268						
FUSS				eS	Sb	11 08 46.1	-0.2
	baz=268						
YHNB	Yeheng	0.49	326	eP	Pb	11 08 41.5	-0.1
	baz=325						
CHGB	Renai	0.50	247	eP	Pb	11 08 41.7	-0.2
	baz=246						
CHGB				eS	Sb	11 08 49.8	+0.5
	baz=246						
FUSB	Fushanzhiwuyua	0.50	351	eP	Pb	11 08 42.0	+0.2
	baz=350						
FUSB				eS	Sb	11 08 49.6	+0.4
	baz=350						
NSK	Sanguang	0.51	325	eP	Pb	11 08 41.8	-0.1
	baz=325						
NSK				eS	Sb	11 08 50.1	+0.8
	baz=325						
NWLT	Wulai	0.54	343	eP	Pb	11 08 42.7	+0.3
	baz=342						
NWLT				eS	Sb	11 08 50.2	-0.1
	baz=342						
OWD	Renai	0.55	237	eP	Pb	11 08 42.5	-0.1
	baz=236						
WUSB	Renai	0.58	243	eP	Pb	11 08 42.8	-0.2
	baz=242						
WHP	Taichung City	0.67	272	eS	Sb	11 08 54.6	+0.6
	baz=271						
VWDT	VWDT	0.70	224	eP	Pn	11 08 47.2	+0.4
	baz=224						
TIPB	Shuangxi	0.72	11	eP	Pb	11 08 45.7	+0.2
	baz=10.0						
SSLB	Suanglung	0.81	235	eS	Sb	11 08 58.2	+0.1
	baz=234						

*NOU **11** 11:20:40.8, 38°77S×176°48E, h67km, MLv3.6/6, North Island, New Zealand*
*WEL **11** 11:20:41.8, 38°6S±1°0×17°6E±°, h5km±1km, M2.5/30, ML2.7/38, MLv2.5/30, Error ellipse: s-maj=0.0km s-min=0.0km az=76.2*
*IASPEI **11** 11:20:42.0±0.9, 38°60S±0°02×176°16E±0°02, h9km±7km, Error ellipse: s-maj=3.6km s-min=2.8km az=123.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
ISC 11 11:20:42.1±0.9**, 38°60S**±0°02**×176°17E**±0°02**, h12**km±6km**, n57, σ0s61**/62**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPRZ	Whakapapatarin	0.08	357	P	Pg	11 20 44.7	0.0
WPRZ				S	Sg	11 20 46.5	-0.1
ALRZ	Allen Road	0.14	74	P	Pg	11 20 44.8	-0.7
WHTZ	Whakaora	0.18	248	P	Pb	11 20 48.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PRRZ	**Plateau Road**	**0.20**	**60**	P	**Pg**	**11 20 46.2**	**-0.3**
PRRZ				S	**Sg**	**11 20 48.9**	**-0.6**
HRRZ	**Handcock Road**	**0.23**	**23**	P	**Pb**	**11 20 47.4**	**-0.9**
HRRZ				S	**Sg**	**11 20 50.9**	**+0.7**
GRRZ	**Galatos Road**	**0.26**	**350**	P	**Pb**	**11 20 48.4**	**-0.3**
KUTZ	**Kaahu Road**	**0.29**	**292**	P	**Pb**	**11 20 49.2**	**-0.1**
HSRZ	**Hossack Road**	**0.29**	**12**	P	**Pb**	**11 20 48.9**	**-0.4**
HATZ	**Hinemaiaia**	**0.30**	**192**	P	**Pg**	**11 20 47.9**	**-0.2**
MRHZ	**Matea Rd**	**0.30**	**140**	P	**Pg**	**11 20 47.9**	**-0.5**
MRHZ				S	**Sg**	**11 20 51.9**	**-0.6**
WATZ	**Wairara**	**0.36**	**252**	P	**Pb**	**11 20 50.2**	**-0.2**
HLRZ	**Highlands Stat**	**0.38**	**23**	P	**Pb**	**11 20 50.5**	**-0.3**
RRRZ	**Republican Roa**	**0.38**	**46**	P	**Pb**	**11 20 50.1**	**-0.7**
RRRZ				S	**Sg**	**11 20 55.0**	**+0.4**
UTU	**Utuhina**	**0.42**	**3**	P	**Pn**	**11 20 54.7**	**+0.6**
RITZ	**Rihia Road**	**0.45**	**213**	P	**Pb**	**11 20 51.9**	**-0.2**
TARZ	**Mount Tarawera**	**0.45**	**36**	P	**Pn**	**11 20 53.3**	**-1.2**
MUGZ	**Murupara**	**0.49**	**76**	P	**Pg**	**11 20 51.5**	**-0.2**
MUGZ				S	**Sg**	**11 20 57.8**	**-0.4**
MTHZ	**Maungataniwha**	**0.58**	**116**	P	**Pg**	**11 20 53.4**	**-0.1**
BKZ	**Black Stump Fm**	**0.62**	**156**	P	**Pg**	**11 20 54.1**	**-0.1**
BKZ	**Black Stump Fm**	**0.62**	**156**	P	**Pg**	**11 20 54.1**	**-0.1**
RTZ	**Ruatahuna**	**0.64**	**92**	P	**Pg**	**11 20 54.4**	**-0.1**
WTVZ	**West Tongariro**	**0.68**	**221**	P	**Pn**	**11 20 57.2**	**-0.6**
OTVZ	**Oturere**	**0.69**	**215**	P	**Pb**	**11 20 55.8**	**-0.3**
NMHZ	**Naumai**	**0.70**	**135**	P	**Pb**	**11 20 56.4**	**0.0**
SNVZ	**South Ngauruho**	**0.71**	**215**	P	**Pb**	**11 20 56.4**	**-0.3**
TWVZ	**Taurewa**	**0.74**	**230**	P	**Pn**	**11 20 58.5**	**-0.1**
TUVZ	**Tukino**	**0.78**	**211**	P	**Pn**	**11 20 58.5**	**-0.6**
RAHZ	**Arahi**	**0.78**	**114**	P	**Pb**	**11 20 57.8**	**0.0**
FWVZ	**Far West T-bar**	**0.81**	**216**	P	**Pb**	**11 20 57.9**	**-0.4**
OPRZ	**Ohinepanea**	**0.81**	**22**	P	**Pb**	**11 20 58.5**	**+0.3**
URZ	**Urewera**	**0.81**	**66**	P	**Pg**	**11 20 57.6**	**-0.3**
URZ	**Urewera**	**0.81**	**66**	P	**Pg**	**11 20 56.8**	**-1.0**
KWHZ	**Kaweka Forest**	**0.85**	**167**	P	**Pb**	**11 20 58.5**	**-0.3**
WNVZ	**Wahianoa**	**0.85**	**211**	P	**Pg**	**11 20 58.3**	**-0.2**
MOVZ	**Moawhango**	**0.87**	**202**	P	**Pg**	**11 20 58.2**	**-0.7**
TGRZ	**Tauranga**	**0.87**	**5**	P	**Pn**	**11 21 00.4**	**+0.2**
BHHZ	**Black Hill Sta**	**0.89**	**185**	P	**Pg**	**11 20 58.8**	**-0.6**
ARHZ	**Aropaoanui**	**0.92**	**136**	P	**Pn**	**11 21 01.3**	**+0.3**
SNGZ	**Shannon Statio**	**0.94**	**102**	P	**Pn**	**11 21 00.6**	**-0.6**
MCHZ	**McNeill Hill**	**0.94**	**154**	P	**Pn**	**11 21 01.7**	**+0.5**
HIZ	**Hauiti**	**1.03**	**274**	P	**Pn**	**11 21 02.5**	**+0.1**
HIZ	**Hauiti**	**1.03**	**274**	P	**Pn**	**11 21 02.6**	**+0.1**
KRHZ	**Kereru**	**1.05**	**171**	P	**Pn**	**11 21 02.3**	**-0.5**
MWZ	**Matawai**	**1.10**	**76**	P	**Pb**	**11 21 02.8**	**-0.3**
VRZ	**Vera Road**	**1.22**	**244**	P	**Pg**	**11 21 06.0**	**+0.5**
RIGZ	**Rimuhau**	**1.25**	**95**	P	**Pg**	**11 21 07.9**	**+1.7**
PNHZ	**Pukenui**	**1.31**	**179**	P	**Pg**	**11 21 06.8**	**-0.5**
KAHZ	**Kahuranaki**	**1.31**	**155**	P	**Pg**	**11 21 08.9**	**+1.6**
TKGZ	**Te Karaka**	**1.33**	**84**	P	**Pg**	**11 21 08.8**	**+1.1**
RUGZ	**Raukumara Rang**	**1.35**	**62**	P	**Pb**	**11 21 07.3**	**-0.1**
PRGZ	**Paritu Road**	**1.38**	**104**	P	**Pg**	**11 21 10.0**	**+1.4**
TSZ	**Takapari Road**	**1.47**	**186**	P	**Pg**	**11 21 09.6**	**-0.7**
TWGZ	**Tauwhareparae**	**1.49**	**74**	P	**Pg**	**11 21 11.5**	**+0.9**
HAZ	**Te Kaha**	**1.53**	**57**	P	**Pb**	**11 21 10.4**	**+0.1**
BFZ	**Birch Farm**	**2.08**	**178**	P	Pn	11 21 10.4	-6.5
MRZ	**Mangatainoka R**	**2.11**	**192**	P	**Pb**	**11 21 20.8**	**+0.5**
HOWZ	**Holdsworth Sta**	**2.35**	**192**	P	**Pg**	**11 21 27.4**	**+0.3**

WEL 11 11:21:19.0±0.5**,41˚S**±3˚×**17˚4E**±˚**,h75**km±6km**,M3.0**/18**,**
ML3.4/25**,MLv3.0**/18**,Error ellipse: s-maj=0.0km**
s-min=0.0km az=171.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.27**	**59**	P	Pn	11 21 31.8	+1.2
DUWZ	**D'Urville Isla**	**0.27**	**59**	S	Sn	11 21 42.0	+2.9
DUWZ	**D'Urville Isla**	**0.27**	**59**	P	Pn	11 21 31.7	+1.1
NNZ	**Nelson**	**0.33**	**213**	P	Pn	11 21 32.0	+1.1
NNZ				S	Sn	11 21 42.5	+2.9
TKNZ	**Takaka Hill**	**0.51**	**259**	P	Pn	11 21 32.8	+0.4
TKNZ				S	Sn	11 21 43.5	+1.3
TUWZ	**Tuamarina**	**0.55**	**154**	P	Pn	11 21 34.0	+1.3
TUWZ	**Tuamarina**	**0.55**	**154**	S	Sn	11 21 46.2	+3.3
TUWZ	**Tuamarina**	**0.55**	**154**	P	Pn	11 21 34.5	+1.8
TCW	**Tory Channel**	**0.56**	**119**	P	Pn	11 21 34.4	+1.5
TCW	**Tory Channel**	**0.56**	**119**	S	Sn	11 21 45.9	+2.8
TCW	**Tory Channel**	**0.56**	**119**	P	Pn	11 21 34.5	+1.6
MRNZ	**Matariki Terra**	**0.80**	**235**	P	Pn	11 21 36.1	+0.7
MRNZ				S	Sn	11 21 49.5	+2.0
BSWZ	**Blackbirch Sta**	**0.80**	**166**	P	Pn	11 21 36.9	+1.5
BSWZ	**Blackbirch Sta**	**0.80**	**166**	S	Sn	11 21 51.2	+3.7
BSWZ	**Blackbirch Sta**	**0.80**	**166**	P	Pn	11 21 37.0	+1.6
QRZ	**Quartz Range**	**0.83**	**278**	S	Sn	11 21 47.9	-0.4
QRZ	**Quartz Range**	**0.83**	**278**	P	Pn	11 21 35.3	-0.5
QRZ	**Quartz Range**	**0.83**	**278**	P	Pn	11 21 35.4	-0.4
WEL	**Wellington**	**0.93**	**112**	P	Pn	11 21 38.6	+1.7
KIW	**Kapiti Island**	**0.98**	**86**	P	Pn	11 21 38.0	+0.4
KIW				S	Sn	11 21 52.4	+1.1
THZ	**Tophouse**	**0.98**	**213**	P	Pn	11 21 38.3	+0.7
THZ				S	Sn	11 21 53.7	+2.2
CAW	**Cannon Point**	**1.11**	**99**	P	Pn	11 21 39.5	+0.4
CAW				S	Sn	11 21 54.6	+0.5
OGWZ	**Otaki Gorge**	**1.18**	**85**	P	Pn	11 21 40.2	+0.2
OGWZ				S	Sn	11 21 56.9	+1.1
MSWZ	**Moikau Station**	**1.32**	**112**	P	Pn	11 21 42.2	+0.4
MSWZ				S	Sn	11 21 57.8	-1.2
PLWZ	**Palliser**	**1.38**	**118**	P	Pn	11 21 43.0	+0.3
PLWZ				S	Sn	11 21 59.9	-0.6
PAWZ	**Paruwai Farm**	**1.43**	**109**	P	Pn	11 21 44.2	+0.9
PAWZ				S	Sn	11 22 00.9	-0.8
HOWZ	**Holdsworth Sta**	**1.44**	**89**	P	Pn	11 21 42.9	-0.4
HOWZ				S	Sn	11 22 01.3	-0.4
MTW	**Mount Morrison**	**1.44**	**99**	P	Pn	11 21 43.2	-0.2
MTW				S	Sn	11 22 01.1	-0.6
KHZ	**Kahutara**	**1.48**	**182**	P	Pn	11 21 44.4	+0.6
KHZ				S	Sn	11 22 02.8	+0.3
KHZ	**Kahutara**	**1.48**	**182**	P	Pn	11 21 43.8	0.0
OHWZ	**Ohakea**	**1.48**	**61**	P	Pn	11 21 44.1	+0.1
OHWZ				S	Sn	11 22 05.5	+2.8
MRZ	**Mangatainoka R**	**1.51**	**80**	P	Pn	11 21 43.5	-0.8
NMEZ	**Namu Road**	**1.54**	**7**	P	Pn	11 21 44.8	+0.2
WAZ	**Wanganui**	**1.58**	**42**	P	Pn	11 21 45.7	+0.5
DSZ	**Denniston Nort**	**1.59**	**239**	P	Pn	11 21 45.0	-0.3
LREZ	**Lake Rotokare**	**1.59**	**22**	P	Pn	11 21 46.1	+0.7
PREZ	**Palmer Road**	**1.65**	**15**	P	Pn	11 21 46.4	+0.2
KHEZ	**Kahui Hut**	**1.67**	**11**	P	Pn	11 21 46.5	0.0
TIWZ	**Tintock**	**1.73**	**85**	P	Pn	11 21 46.2	-1.0
TMWZ	**Te Maipa**	**1.73**	**96**	P	Pn	11 21 46.6	-0.5
DREZ	**Durham Road**	**1.81**	**14**	P	Pn	11 21 48.1	-0.1
PRWZ	**Pori Road**	**1.83**	**79**	P	Pn	11 21 47.5	-0.9
TSZ	**Takapari Road**	**1.99**	**65**	P	Pn	11 21 49.4	-1.3
BFZ	**Birch Farm**	**2.01**	**83**	P	Pn	11 21 49.6	-1.3
VRZ	**Vera Road**	**2.01**	**26**	P	Pn	11 21 51.2	+0.2
DVHZ	**Dannevirke**	**2.04**	**73**	P	Pn	11 21 49.7	-1.7
GVZ	**Greta Valley S**	**2.07**	**192**	P	Pn	11 21 51.5	-0.3
LTZ	**Lake Taylor**	**2.10**	**208**	P	Pn	11 21 51.8	-0.3
PKVZ	**Pokaka**	**2.12**	**39**	P	Pn	11 21 51.6	-0.8
WNVZ	**Wahianoa**	**2.21**	**44**	P	Pn	11 21 53.1	-0.7
PNHZ	**Pukenui**	**2.22**	**63**	P	Pn	11 21 52.0	-1.8
MOVZ	**Moawhango**	**2.24**	**48**	P	Pn	11 21 52.8	-1.3
TUVZ	**Tukino**	**2.29**	**44**	P	Pn	11 21 54.2	-0.5
TWVZ	**Taurewa**	**2.33**	**37**	P	Pn	11 21 54.5	-0.9
BHHZ	**Black Hill Sta**	**2.37**	**53**	P	Pn	11 21 54.3	-1.5
WTVZ	**West Tongariro**	**2.37**	**40**	P	Pn	11 21 55.0	-0.9
OTVZ	**Oturere**	**2.37**	**42**	P	Pn	11 21 55.2	-0.7
PRHZ	**Porangahau**	**2.39**	**75**	P	Pn	11 21 54.4	-1.7
KRVZ	**Karewarewa**	**2.41**	**41**	P	Pn	11 21 55.7	-0.7
INZ	**Inchbonnie**	**2.41**	**222**	P	Pn	11 21 56.3	0.0
KRHZ	**Kereru**	**2.47**	**59**	P	Pn	11 21 55.1	-2.0
HIZ	**Hauiti**	**2.60**	**22**	P	Pn	11 21 58.2	-0.7
OXZ	**Oxford**	**2.66**	**206**	P	Pn	11 21 57.9	-1.7
KAHZ	**Kahuranaki**	**2.74**	**66**	P	Pn	11 21 58.7	-2.1
OKCZ	**Okains Bay**	**2.81**	**188**	P	Pn	11 22 00.8	-1.0
MQZ	**McQueen's Vall**	**2.86**	**194**	P	Pn	11 22 00.2	-2.1
TLZ	**Tolley Road**	**3.00**	**30**	P	Pn	11 22 04.4	+0.1
WVZ	**Waitaha Valley**	**3.03**	**224**	P	Pn	11 22 04.8	+0.2
RPZ	**Rata Peaks**	**3.36**	**214**	P	Pn	11 22 09.0	-0.2
GCSZ	**Gaunt Creek Bo**	**3.41**	**225**	P	Pn	11 22 09.5	-0.4
ARCZ	**Arundel**	**3.51**	**210**	P	Pn	11 22 10.8	-0.4
FOZ	**Fox Glacier**	**3.83**	**226**	P	Pn	11 22 14.5	-1.0
TMZ	**Timaru**	**3.94**	**208**	P	Pn	11 22 15.3	-1.9
ETAZ	**East Tamaki Re**	**4.11**	**15**	P	Pn	11 22 19.2	-0.2
MBAZ	**Motutapu North**	**4.28**	**14**	P	Pn	11 22 21.9	+0.2
WIAZ	**Waiheke Island**	**4.31**	**16**	P	Pn	11 22 20.6	-1.5
ODZ	**Otahua Downs**	**4.65**	**207**	P	Pn	11 22 25.8	-0.8
JCZ	**Jackson Bay**	**4.75**	**227**	P	Pn	11 22 26.8	-1.4
WKZ	**Wanaka**	**5.15**	**220**	P	Pn	11 22 32.6	-1.0

WEL 11 11:23:29.6,39˚S±1˚×**17˚6E**±˚**,h5**km±2km**,M2.0**/12**,**
ML2.3/13**,MLv2.0**/12**,Error ellipse: s-maj=0.0km**
s-min=0.0km az=66.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.11**	**58**	P	Pg	11 23 32.6	+0.8
WPRZ	**Whakapapatarin**	**0.11**	**334**	P	Pg	11 23 32.4	+0.5
PRRZ	**Plateau Road**	**0.18**	**48**	P	Pg	11 23 34.0	+0.9
HRRZ	**Handcock Road**	**0.23**	**11**	P	Pg	11 23 35.3	+1.2
MRHZ	**Matea Rd**	**0.26**	**145**	P	Pg	11 23 35.3	+0.6
HATZ	**Hinemaiaia**	**0.29**	**201**	P	Pg	11 23 35.8	+0.5
HSRZ	**Hossack Road**	**0.31**	**3**	P	Pb	11 23 36.8	-0.8
HLRZ	**Highlands Stat**	**0.38**	**15**	P	Pb	11 23 38.3	-0.4
MUGZ	**Murupara**	**0.45**	**72**	P	Pb	11 23 39.3	-0.7
RITZ	**Rihia Road**	**0.46**	**219**	P	Sb	11 23 56.5	+9.2
MKRZ	**Makatiti**	**0.52**	**22**	P	Sn	11 24 06.2	+13
MTHZ	**Maungataniwha**	**0.54**	**116**	P	Pn	11 23 51.1	+7.2
MTHZ				S	Sn	11 24 02.6	+9.3
BKZ	**Black Stump Fm**	**0.58**	**159**	P	Pb	11 23 41.9	-0.4
KRVZ	**Karewarewa**	**0.66**	**224**	P	Sn	11 23 56.8	+0.3
NMHZ	**Naumai**	**0.66**	**137**	P	Pb	11 23 44.0	+0.5
OTVZ	**Oturere**	**0.70**	**219**	P	Sn	11 23 56.6	-0.9
SNVZ	**South Ngauruho**	**0.73**	**219**	P	Sn	11 23 56.5	-1.7
RAHZ	**Arahi**	**0.73**	**114**	P	Pb	11 23 45.6	+0.8
TUVZ	**Tukino**	**0.79**	**214**	P	Sn	11 23 56.0	-3.6
KWHZ	**Kaweka Forest**	**0.82**	**169**	P	Pg	11 23 45.7	+0.4
FWVZ	**Far West T-bar**	**0.82**	**219**	P	Sn	11 23 57.1	-3.6
WNVZ	**Wahianoa**	**0.86**	**214**	P	Sn	11 23 56.3	-5.2
MOVZ	**Moawhango**	**0.87**	**205**	P	Pn	11 23 53.6	+5.1
MOVZ				S	Sn	11 24 06.5	+5.0
BHHZ	**Black Hill Sta**	**0.88**	**188**	P	Pn	11 23 49.3	+0.7
ARHZ	**Aropaoanui**	**0.88**	**137**	P	Pg	11 23 44.8	-1.6
SNGZ	**Shannon Statio**	**0.89**	**101**	P	Pn	11 23 52.8	+4.1
MCHZ	**McNeill Hill**	**0.90**	**156**	P	Pg	11 23 43.0	-3.9
MCHZ	**McNeill Hill**	**0.90**	**156**	S	Sg	11 23 49.1	-10
WHHZ	**Waihua**	**0.91**	**120**	P	Pn	11 23 49.6	+0.6
KRHZ	**Kereru**	**1.03**	**174**	P	Pg	11 23 45.5	-3.8
MWZ	**Matawai**	**1.06**	**75**	P	Pn	11 23 52.0	+0.9
PNHZ	**Pukenui**	**1.29**	**181**	P	Pn	11 23 48.8	-5.4
TSZ	**Takapari Road**	**1.45**	**188**	P	Pn	11 23 51.8	-4.6
WPHZ	**Waipukurau**	**1.45**	**173**	P	Pn	11 23 47.8	-8.7

*ISK **11** 11:41:32.6,40.˚01N×24.˚26E,h31km,ML2.4/9*
*ATH **11** 11:41:33.4,40.˚01N×24.˚32E,h27km±6km,ML2.5/5,Error ellipse: s-maj=6.1km s-min=1.1km az=288.0*
*THE **11** 11:41:34.0,40.˚06N×24.˚32E,h13km±1km,ML2.2/7,Error ellipse: s-maj=1.8km s-min=0.8km az=182.0*
ISC 11 11:41:33.3±1.1**,40.˚01N**±0.˚03×**24.˚32E**±0.˚02**,h23**km±11km**,**
n34,σ**0.s48**/51**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.42**	**321**	P	**Pb**	**11 41 42.0**	**0.0**
OUR				S	**Sb**	**11 41 49.0**	**+1.0**
OUR				AML	AML	11 41 52.3	
	comp=N,1660µm,0.2s						
OUR				AML	AML	11 41 52.4	
	comp=E,1396µm,0.2s						
OUR	**Ouranopolis**	**0.42**	**321**	P	**Pb**	**11 41 42.0**	**0.0**
OUR				S	**Sb**	**11 41 46.4**	**-1.6**
	comp=E,762nm,0.2s						
OUR	**Ouranopolis**	**0.42**	**321**	PG	**Pb**	**11 41 42.0**	**0.0**
PAIG	**Paliouri**	**0.50**	**261**	P	**Pb**	**11 41 43.2**	**-0.3**
PAIG				S	**Sb**	**11 41 50.4**	**0.0**
PAIG				AML	AML	11 41 53.4	
	comp=N,767µm,0.5s						
PAIG				AML	AML	11 41 54.4	
	comp=E,680µm,0.3s						
PAIG	**Paliouri**	**0.50**	**261**	P	**Pb**	**11 41 43.3**	**-0.2**
PAIG				S	**Sb**	**11 41 50.9**	**+0.5**
	comp=E,348nm,0.5s						
THAS	**Thassos island**	**0.67**	**27**	P	**Pb**	**11 41 45.7**	**-0.6**
THAS				S	**Sb**	**11 41 56.0**	**+0.9**
THAS				AML	AML	11 41 57.4	
	comp=N,3305µm,0.2s						
THAS				AML	AML	11 41 57.4	
	comp=E,3308µm,0.2s						
THAS	**Thassos island**	**0.67**	**27**	P	**Pb**	**11 41 45.7**	**-0.6**
THAS				S	**Sb**	**11 41 55.6**	**+0.5**
	comp=E,2µm,0.2s						
LIA	**Limnos Island**	**0.67**	**99**	P	**Pb**	**11 41 46.7**	**+0.4**
LIA				S	**Sb**	**11 41 55.7**	**+0.5**
LIA				AML	AML	11 41 57.2	
	comp=E,686µm,0.2s						
LIA				AML	AML	11 41 57.8	
	comp=N,784µm,0.3s						
LIA	**Limnos Island**	**0.67**	**99**	P	**Pn**	**11 41 47.1**	**-0.2**
LIA				S	**Sn**	**11 41 56.7**	**-0.4**
	comp=N,370nm,0.3s						
PLG	**Polygyros**	**0.76**	**299**	P	**Pn**	**11 41 48.5**	**-0.2**
PLG	**Polygyros**	**0.76**	**299**	P	**Pn**	**11 41 48.5**	**-0.2**
PLG				S	**Sn**	**11 41 59.1**	**-0.4**
	comp=N,188nm,0.4s						
KOKK	**Kokkinochori,**	**0.84**	**343**	P	**Pb**	**11 41 49.5**	**+0.2**
KOKK				S	**Sb**	**11 42 00.3**	**+0.1**
KOKK	**Kokkinochori,**	**0.84**	**343**	P	**Pn**	**11 41 49.6**	**-0.1**
KAVA	**Kavala**	**0.99**	**8**	P	**Pn**	**11 41 51.8**	**0.0**
KAVA				S	**Sn**	**11 42 05.0**	**-0.2**
KAVA	**Kavala**	**0.99**	**8**	P	**Pb**	**11 41 52.0**	**+0.1**
KAVA				S	**Sb**	**11 42 04.7**	**+0.2**
SMTH	**Samothraki Isl**	**1.03**	**63**	P	**Pn**	**11 41 51.8**	**-0.5**
SMTH				S	**Sn**	**11 42 05.8**	**-0.3**
SMTH				AML	AML	11 42 08.6	
	comp=E,294µm,0.2s						
SMTH				AML	AML	11 42 08.6	
	comp=N,257µm,0.3s						
XOR	**Xorichti**	**1.09**	**234**	P	**Pb**	**11 41 53.2**	**-0.3**
SOH	**Sokhos**	**1.10**	**318**	P	**Pb**	**11 41 54.0**	**+0.4**
SOH	**Sokhos**	**1.10**	**318**	P	**Pb**	**11 41 54.2**	**+0.6**
SOH				S	**Sb**	**11 42 09.0**	**+1.5**
	comp=N,115nm,0.4s						
NEO	**Neokhori**	**1.10**	**231**	P	**Pn**	**11 41 53.3**	**-0.1**
GADA	**Gvkgeada**	**1.22**	**81**	PN	**Pn**	**11 41 54.8**	**-0.1**
GADA				SN	**Sn**	**11 42 10.8**	**+0.1**
SRS	**Serrai**	**1.24**	**333**	P	**Pb**	**11 41 55.6**	**-0.3**
SRS	**Serrai**	**1.24**	**333**	P	**Pb**	**11 41 55.7**	**-0.3**
SRS				S	**Sb**	**11 42 11.9**	**+0.4**
	comp=N,52nm,0.2s						
BOZC	**Bozcaada**	**1.34**	**97**	PN	**Pn**	**11 41 56.4**	**-0.2**
BOZC				SN	**Sn**	**11 42 13.7**	**+0.1**
NVR	**Nevrokopi**	**1.38**	**345**	P	**Pb**	**11 41 57.9**	**-0.6**
SIGR	**SIGRI**	**1.43**	**124**	PN	**Pn**	**11 41 57.5**	**-0.2**
RDO	**Rodhopi**	**1.46**	**39**	PN	**Pn**	**11 41 57.8**	**-0.4**
EZN	**Ezine**	**1.55**	**96**	PN	**Pn**	**11 41 59.4**	**0.0**
ENEZ	**Enez**	**1.57**	**62**	PN	**Pn**	**11 41 59.5**	**-0.3**
ALN	**Alexandroupoli**	**1.58**	**55**	PN	**Pn**	**11 41 59.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.69**	**76**	PN	**Pn**	**11 42 01.4**	**0.0**
ERIK	**Erikli-Kesan**	**1.80**	**68**	PN	**Pn**	**11 42 02.8**	**0.0**
VAY	**Valandovo**	**1.87**	**315**	*e*Pn	**Pb**	**11 42 06.8**	**+0.1**
STIP	**Stip**	**2.34**	**317**	*i* Pn	**Pn**	**11 42 10.7**	**+0.4**

*IDC **11** 11:45:30.7±1.6,6.˚23S×128.˚34E,h315km±19km,mb3.4/4, mb1 3.7/10,mb1mx3.3/40,mbtmp4.4/10,Error ellipse: s-maj=21.1km s-min=10.2km az=69.0*
*NEIC **11** 11:45:31.2±1.5,6.˚19S±0.˚09×128.˚24E±0.˚09,h317km±9km, mb4.3/11,Error ellipse: s-maj=14.1km s-min=11.8km az=61.0*
*DJA **11** 11:45:32.0±0.2,6˚S±3˚×12˚8E±˚,h318km±5km,M4.2/19, mB4.8/6,mb4.2/19,MLv4.3/12,Mw(mB)4.0/6*
ISC 11 11:45:30.8±0.5**,6.˚15S**±0.˚06×**128.˚33E**±0.˚06**,h322**km**,n74,**
σ**1.s46**/77**,mb4.0**/7**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.25**	**44**	P	**Pn**	**11 46 23.9**	**+2.3**
AAI	**Ambon**	**2.45**	**357**	P	**Pn**	**11 46 25.2**	**+2.0**
MSAI	**Masohi**	**2.84**	**12**	P	**Pn**	**11 46 27.2**	**+0.4**
SAUI	**Saumlaki**	**3.47**	**122**	Pn	**Pn**	**11 46 33.0**	**+0.3**
SAUI	**Saumlaki**	**3.47**	**122**	P	**Pn**	**11 46 34.6**	**+1.8**
SANI	**Sanana**	**4.69**	**330**	P	**Pn**	**11 46 46.5**	**+0.7**
SANI	**Sanana**	**4.69**	**330**	P	**Pn**	**11 46 47.3**	**+1.5**
LBMI	**Labuha**	**5.53**	**351**	P	**Pn**	**11 46 57.1**	**+1.7**
	0.3nm861nm78nm,0.8s						
BBSI	**Bau Bau**	**5.76**	**276**	P	**Pn**	**11 47 01.5**	**+3.4**
	0.0nm136nm8.6nm,0.8s						
SIJI	**Sorong**	**6.01**	**29**	P	**Pn**	**11 46 59.4**	**-1.5**
	4.5nm,0.3s,baz=202,slow=23,SNR=21						
SIJI				S	**S**	**11 48 09.0**	**-4.7**
	4.5nm,0.3s,baz=126,slow=23,SNR=6.5						
SWI	**Sorong**	**6.01**	**29**	P	**Pn**	**11 47 00.3**	**-0.6**
	0.4nm2µm34nm,0.7s						
MMRI	**Maumere**	**6.53**	**247**	Pn	**Pn**	**11 47 05.7**	**-1.3**
DRS	**Darwin Rock St**	**6.74**	**158**	P	**Pn**	**11 47 10.5**	**+0.9**
TNTI	**Ternate**	**6.94**	**352**	Pn	**Pn**	**11 47 10.6**	**-1.3**
LUWI	**Luwuk**	**7.51**	**312**	Pn	**Pn**	**11 47 15.7**	**-3.1**
KDU	**Kakadu**	**7.68**	**148**	P	**Pn**	**11 47 21.4**	**+0.6**
BSSI	**Bau Bau, Buton**	**7.79**	**270**	P	**Pn**	**11 47 24.6**	**+2.4**
	0.1nm15nm,0.9s						
BKSI	**Bulukumba**	**8.20**	**275**	P	**Pn**	**11 47 29.8**	**+2.6**
	28nm,1.0s						
BNSI	**Bone**	**8.37**	**282**	P	**P**	**11 47 33.0**	**-0.2**
	19nm,0.8s						
APSI	**Ampana**	**8.45**	**308**	P	**P**	**11 47 33.6**	**-0.6**
	20nm,0.9s						
KAPI	**Kappang**	**8.61**	**277**	P	**Pn**	**11 47 31.9**	**-0.1**
	1.3nm,0.3s,baz=81,slow=3.0,SNR=5.5						
KAPI	**Kappang**	**8.61**	**277**		**Pn**	**11 47 28.8**	**-3.3**
SPSI	**Sidrap Palu**	**8.79**	**284**	P	**Pn**	**11 47 36.9**	**+2.6**
	18nm,0.9s						
MRSI	**Marisa**	**9.16**	**316**	P	**Pn**	**11 47 41.3**	**+2.5**
	560nm17nm,0.7s						
KNRA	**Kununurra**	**9.48**	**177**		**Pn**	**11 47 42.6**	**-0.1**
KNRA	**Kununurra**	**9.48**	**177**	P	**Pn**	**11 47 43.2**	**+0.6**
WBSI	**Waikabubak, Su**	**9.51**	**248**	P	**Pn**	**11 47 43.1**	**+0.1**
	22nm,0.9s						
TOLI2	**Tolitoli**	**10.43**	**313**	Pn	**Pn**	**11 47 53.0**	**-1.1**
TOLI2	**Tolitoli**	**10.43**	**313**	P	**Pn**	**11 47 56.0**	**+1.9**
PLAI	**Plampang**	**10.79**	**255**	P	**P**	**11 48 01.1**	**+0.7**
	18nm,0.7s						
PLAI	**Plampang**	**10.79**	**255**	P	**Pn**	**11 47 58.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.17**	**192**	P	**Pn**	**11 48 13.7**	**-1.4**
	2.7nm,0.3s,baz=35,slow=7.4,SNR=45						
JAGI	**Jajag, Banyuwa**	**14.25**	**260**		**P**	**11 48 37.7**	**-1.0**
WB0	**Warramunga Arr**	**14.77**	**157**	P	**P**	**11 48 45.0**	**+0.6**
WRAB	**Tennant Creek**	**14.90**	**157**	P	**P**	**11 48 45.5**	**-0.3**
WRAB	**Tennant Creek**	**14.90**	**157**	P	**P**	**11 48 46.5**	**+0.7**
WRA	**Warramunga Arr**	**14.91**	**157**	P	**P**	**11 48 46.3**	**+0.4**
	4.4nm,0.3s,baz=339,slow=12,SNR=109						
WRA				S	**S**	**11 51 23.9**	**-3.9**
	1.9nm,0.3s,baz=341,slow=17,SNR=15						
WRA	**Warramunga Arr**	**14.91**	**157**	P	**P**	**11 48 45.7**	**-0.2**
WB2	**Warramunga Arr**	**14.91**	**157**	P	**P**	**11 48 45.7**	**-0.2**
WR0	**Warramunga Arr**	**15.00**	**157**	P	**P**	**11 48 46.8**	**0.0**
GRJI	**Gresik**	**15.76**	**266**	P	**P**	**11 48 56.0**	**+0.7**
	2µm76nm,0.4s						
COEN	**Coen**	**16.55**	**119**	P	**P**	**11 49 04.2**	**+0.4**
COEN	**Coen**	**16.55**	**119**	P	**P**	**11 49 04.7**	**+0.9**
MBWA	**Marble Bar**	**17.09**	**208**	P	**P**	**11 49 08.3**	**-1.2**
MBWA				IAmb	IAmb	11 49 10.3	
	comp=Z,16nm,0.9s						
PSA00	**Pilbara Seismi**	**17.39**	**207**	P	**P**	**11 49 12.6**	**-0.3**
PSA00				IAmb	IAmb	11 49 35.3	
	comp=Z,19nm,1.1s						
PSA00	**Pilbara Seismi**	**17.39**	**207**	P	**P**	**11 49 13.1**	**+0.2**
QIS	**Mount Isa**	**18.03**	**144**	P	**P**	**11 49 20.4**	**+0.7**
AS31	**Alice Springs**	**18.23**	**163**	P	**P**	**11 49 22.1**	**+0.3**
AS31				IAmb	IAmb	11 49 23.7	
	comp=Z,5.4nm,0.6s						
ASAR	**Alice Springs**	**18.23**	**163**	P	**P**	**11 49 22.5**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=343,slow=11,SNR=277						
ASAR				S	**S**	**11 52 31.2**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=346,slow=20,SNR=52						
WRKA	**Warakurna**	**18.79**	**180**	P	**P**	**11 49 28.5**	**+0.8**
PMG	**Port Moresby**	**18.94**	**101**	P	**P**	**11 49 29.8**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=285,slow=5.0,SNR=12						
PMG	**Port Moresby**	**18.94**	**101**	P	**P**	**11 49 30.4**	**+0.9**
PMG				IAmb	IAmb	11 49 32.6	
	comp=Z,15nm,0.6s						
MTSU	**Mount Surprise**	**19.63**	**129**	P	**P**	**11 49 37.1**	**+0.3**
CTA	**Charters Tower**	**22.25**	**130**	P	**P**	**11 50 02.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=318,slow=10,SNR=12						
CTA	**Charters Tower**	**22.25**	**130**	P	**P**	**11 50 03.2**	**+1.6**
MEEK	**Meekatharra**	**22.38**	**203**	P	**P**	**11 50 02.5**	**-0.2**
OOD	**Oodnadatta**	**22.64**	**163**	P	**P**	**11 50 05.3**	**+0.3**
MULG	**Mulgathing**	**24.61**	**168**	P	**P**	**11 50 23.5**	**+0.7**
LCRK	**Leigh Creek**	**25.90**	**160**	P	**P**	**11 50 34.9**	**+0.5**
STKA	**Stephens Creek**	**28.45**	**156**	P	**P**	**11 50 56.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=358,slow=15,SNR=3.3						
STKA	**Stephens Creek**	**28.45**	**156**	IAmb	IAmb	11 50 58.5	
	comp=Z,1.0nm,1.3s						
HTT	**Hallett**	**28.88**	**161**	P	**P**	**11 51 01.4**	**+0.6**
CMSA	**Cobar Meteorol**	**30.04**	**149**	P	**P**	**11 51 11.9**	**+1.0**
ARPS	**Mount Arapiles**	**32.89**	**160**	P	**P**	**11 51 37.0**	**+1.4**
CAN	**Canberra**	**34.72**	**150**	P	**P**	**11 51 52.0**	**+0.6**
CAN				IAmb	IAmb	11 52 05.9	
	comp=Z,23nm,1.5s						
CAN	**Canberra**	**34.72**	**150**	P	**P**	**11 51 51.7**	**+0.3**
SANVU	**Saraoutou**	**39.23**	**107**	P	**P**	**11 52 30.5**	**+1.2**
DZM	**Mont Dzumac**	**40.06**	**117**	P	**P**	**11 52 35.3**	**-0.8**
DZM				IAmb	IAmb	11 52 55.1	
	comp=Z,22nm,1.2s						
DZM	**Mont Dzumac**	**40.06**	**117**	P	**P**	**11 52 37.3**	**+1.2**
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**43.38**	**360**	P	**P**	**11 53 03.5**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=179,slow=8.9,SNR=5.9						
MK31	**Makanchi Array**	**66.61**	**327**	P	**P**	**11 55 48.2**	**+0.9**
MKAR	**Makanchi Array**	**66.61**	**327**	P	**P**	**11 55 48.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=119,slow=7.9,SNR=9.2						
MKAR				PcP	**PcP**	**11 56 14.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=124,slow=4.5,SNR=3.8						
ZAA0	**Zalesovo Array**	**70.09**	**334**	P	**P**	**11 56 09.6**	**+1.1**
ZAA0				IAmb	IAmb	11 56 13.9	
	comp=Z,4.8nm,1.5s						
ZALV	**Zalesovo Beam**	**70.09**	**334**	P	**P**	**11 56 08.7**	**+0.1**

HEL 11 12:04:58.5±0.1**,62.˚91N**×**21.˚53E,h0**km**,ML1.7,**
Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.54**	**75**	PG	Pg	12 05 08.0	-0.8
VAF				SG	Sg	12 05 15.3	-0.5
UMAU	**Umeaa**	**1.05**	**339**	PG	Pg	12 05 17.1	-1.5
UMAU				SG	Sg	12 05 30.7	-1.4
KEF	**Keuruu**	**1.72**	**114**	PG	Pn	12 05 29.2	-0.4
KEF				MSG		12 05 49.8	
	comp=Z,3.7nm,0.2s						
KEF				SN	Sn	12 05 52.0	-0.2
RAF	**Rauma**	**1.90**	**177**	PG	Pn	12 05 32.3	+0.3
RAF				MSG		12 05 55.0	
	comp=Z,3.5nm,0.2s						
RAF				SG	Sn	12 05 57.3	+0.7
OBF0	**Syolatti, Pyha**	**2.00**	**36**	PG	Pn	12 05 34.4	+0.9
	baz=222						
OBF0				SG	Sb	12 06 00.6	-0.4
OUF	**Merijarvi**	**2.04**	**43**	PG	Pn	12 05 34.3	+0.2
	baz=223						
OUF				MSG		12 05 59.1	
	comp=Z,4.8nm,0.2s						
OUF				SG	Sn	12 06 00.7	+0.4
SUF	**Sumiainen**	**2.13**	**93**	PG	Pn	12 05 36.1	+0.8
	baz=282						
SUF				MSG		12 06 01.7	
	comp=Z,3.0nm,0.2s						
SUF				SG	Sb	12 06 04.3	-0.6
KAF	**Kangasniemi**	**2.36**	**108**	PG	Pn	12 05 39.9	+1.5
	baz=288						
KAF				SG	Sb	12 06 10.8	-0.6
FIA0	**FINESS Array S**	**2.59**	**123**	PB	Pn	12 05 42.9	+1.3
	baz=310						
FIA0				SG	Sb	12 06 17.0	-1.1
TOF	**Tornio**	**3.40**	**20**	SN	Sn	12 06 32.9	-0.9
ERTU	**Ertsjaerv**	**3.67**	**4**	SN	Sn	12 06 38.9	-1.4
RNF	**Rovaniemi**	**4.18**	**25**	SN	Sn	12 06 51.0	-1.9

HEL 11 12:06:00.7±0.5**,67.˚64N**×**33.˚77E,h0**km**,ML1.6,**
Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.59**	**276**	PG	Pn	12 06 29.0	-1.1
VRF				MSG		12 06 48.4	
	comp=Z,3.1nm,0.2s						
VRF				SG	Sn	12 06 48.9	-2.5
KU6	**Riekki**	**2.23**	**225**	PG	Pb	12 06 40.4	-1.4
KU6				MSG		12 07 06.8	
	comp=Z,3.3nm,0.2s						
KU6				SG	Sb	12 07 09.6	-0.4
MSF	**Maaselka**	**2.56**	**229**	PG	Pb	12 06 46.4	-0.9
SGF	**Sodankyl**	**2.79**	**269**	PG	Pb	12 06 49.6	-1.7
	baz=78						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RNF	Rovaniemi	3.20	255	PN	Pn	12 06 51.9	-0.3
KEV	Kevo	3.25	314	PN	Pn	12 06 52.9	0.0
KEV				SN	Sn	12 07 31.6	-0.7
ARA0	ARCESS Array S	3.58	306	PN	Pn	12 06 56.6	-0.8
	baz=121						
ARA0				SN	Sn	12 07 39.7	-0.6
KLF	Kolari	3.80	268	SN	Pn	12 06 57.5	-2.9
KLF	Kolari	3.80	268	PN	Pn	12 06 57.6	-2.8
HEF	Hetta	3.88	286	SG	Sb	12 08 00.6	+3.3
LANU	Lannavaara	4.48	281	PB	Pb	12 07 15.7	-4.4
LANU				SN	Sn	12 07 58.4	-4.2
ERTU	Ertsjaerv	4.65	262	SN	Sn	12 08 05.5	-1.2

IDC 11 12:08:29.6±2.5, 11°.70N×138°.93E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.2/53, mbtmp3.3/4, MS2.7/2, Ms1 2.7/2, ms1mx2.3/36, Error ellipse: s-maj=303.6km s-min=24.8km az=105.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.09	71	LR	LR	12 11 49.4	
	comp=Z,43nm,20.4s,baz=48,slow=33						
KSRS	Korea Array	27.48	341	LR	LR	12 24 26.8	
	comp=Z,21nm,21.0s,baz=40,slow=35						
WRA	Warramunga Arr	31.76	188	P	P	12 14 55.6	-0.2
	0.2nm,0.6s,baz=7.8,slow=9.5,SNR=1.7						
ASAR	Alice Springs	35.49	188	P	P	12 15 28.2	0.0
	0.2nm,0.6s,baz=16,slow=12,SNR=7.3						
ILAR	Eielson Array	72.76	26	P	P	12 19 59.2	-0.4
	0.3nm,0.5s,baz=241,slow=6.1,SNR=9.8						
YKA	Yellowknife Ar	87.16	26	P	P	12 21 18.2	+0.7
	0.3nm,0.7s,baz=289,slow=5.2,SNR=4.6						

IDC 11 12:12:08.9±2.4, 4°.86S×102°.70E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/50, mbtmp3.9/7, Error ellipse: s-maj=113.8km s-min=16.9km az=57.0
NEIC 11 12:12:14.3±2.4, 4°.91S±0°.10×102°.5E±0°.1, h35km±2km, mb4.2/11, Error ellipse: s-maj=22.8km s-min=16.2km az=263.0
DJA 11 12:12:19.6±1.1, 5°S±11°×10°3E±1°1, h32km±9km, M3.6/6, MLv3.6/6
ISC 11 12:12:15.1±1.0, 4°.9S±0°.1×102°.7E±0°.1, h44km, n32, σ0s.96/28, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.62	22		Pn	12 12 28.6	+1.0
MNAI	Manna	0.62	22	P	Pn	12 12 28.7	+1.0
LWLI	Liwa	1.34	93	P	Pn	12 12 38.3	+0.8
MDSI	Maura Dua	1.52	73	P	Pn	12 12 40.8	+0.9
MASI	Maura Aman, Be	1.85	345	P	Pn	12 12 46.2	+1.8
KASI	Kota Agung	1.86	108	P	Pn	12 12 45.4	+0.8
KASI				S	Sn	12 13 06.4	-0.5
KLSI		2.02	83	P	Pn	12 12 47.6	+0.9
RGRI	Rengat	4.58	355	P	Pn	12 13 16.4	-5.5
CMAR	Chiang Mai Arr	23.54	351	P	P	12 17 20.6	-1.1
	0.7nm,0.5s,baz=183,slow=9.4,SNR=6.8						
FITZ	Fitzroy Crossi	25.94	122	P	P	12 17 43.9	+0.2
FITZ				IAmb	IAmb	12 18 01.7	
	comp=Z,3.7nm,1.1s						
KNRA	Kununurra	27.72	115	P	P	12 18 01.1	+1.5
KNRA				IAmb	IAmb	12 18 18.9	
	comp=Z,10.0nm,1.1s						
H08S2	Diego Garcia H	30.16	263	T	T	12 49 18.7	
	baz=85,slow=74,SNR=3.3						
H08S3	Diego Garcia H	30.17	263	T	T	12 49 32.7	
	baz=85,slow=74,SNR=3.7						
H08S1	Diego Carcia H	30.18	263	T	T	12 49 38.1	
	baz=85						
WB0	Warramunga Arr	34.17	118	P	P	12 18 57.2	+0.6
WB0				IAmb	IAmb	12 19 03.7	
	comp=Z,3.8nm,1.1s						
WRA	Warramunga Arr	34.19	119	P	P	12 18 56.0	-0.7
	comp=Z,0.2nm,0.4s,baz=298,slow=11,SNR=8.4						
WRAB	Tennant Creek	34.20	119	P	P	12 18 56.3	-0.5
WB2	Warramunga Arr	34.20	119	P	P	12 18 56.2	-0.6
WB2				IAmb	IAmb	12 19 15.1	
	comp=Z,4.5nm,1.2s						
WR0	Warramunga Arr	34.38	119	P	P	12 18 58.2	-0.1
WR0				IAmb	IAmb	12 19 10.9	
	comp=Z,4.5nm,1.3s						
ASAR	Alice Springs	35.35	125	P	P	12 19 06.6	-0.1
	comp=Z,0.3nm,0.4s,baz=292,slow=6.9,SNR=11						
ASAR				PcP	PcP	12 21 36.9	+0.6
	comp=Z,0.3nm,0.9s,baz=305,slow=2.1,SNR=4.3						
STKA	Stephens Creek	45.18	131	P	P	12 20 29.1	+1.1
	comp=Z,2.0nm,0.5s,baz=308,slow=6.8,SNR=8.6						
STKA	Stephens Creek	45.18	131	IAmb	IAmb	12 20 29.8	
	comp=Z,0.5nm,0.8s						
SONM	Songino Array	52.65	3	P	P	12 21 24.9	-0.1
	comp=Z,0.8nm,0.5s,baz=187,slow=8.6,SNR=5.6						
SONM	Songino Array	52.65	3	IAmb	IAmb	12 21 25.5	
	comp=Z,1.9nm,1.2s						
MK31	Makanchi Array	54.59	343	P	P	12 21 38.1	-1.1
MK31				IAmb	IAmb	12 21 39.0	
	comp=Z,1.2nm,0.6s						
MKAR	Makanchi Array	54.59	343	P	P	12 21 38.4	-0.8
	comp=Z,1.5nm,0.5s,baz=150,slow=8.9,SNR=26						
MKAR	Makanchi Array	54.59	343	P	P	12 21 38.1	-1.1
ZAA0	Zalesovo Array	60.56	348	P	P	12 22 19.1	-1.8
ZALV	Zalesovo Beam	60.56	348	P	P	12 22 19.8	-1.1
	comp=Z,2.2nm,0.5s,baz=155,slow=3.9,SNR=13						
ZALV	Zalesovo Beam	60.56	348	P	P	12 22 20.2	-0.8
ABKAR	Akbulak array	65.51	331	P	P	12 22 53.5	-0.4
TXAR	Lajitas Array	145.19	43	PKPbc	PKPdf	12 31 48.6	-0.2
	comp=Z,0.5nm,0.7s,baz=318,slow=1.7,SNR=4.5						

IDC 11 12:12:30.9±416.0, 50°.24N×47°.16E, h0km, Error ellipse: s-maj=152.5km s-min=132.0km az=90.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.96	84	*i*		12 55 40.0	
	baz=277,slow=317,SNR=2.1						
I43RU	DUBNA INFRASON	8.79	321	*i*		13 06 10.0	
	baz=134,slow=334,SNR=0.5						
I46RU	ZALESOVO INFRA	23.25	66	*i*		14 32 20.0	
	baz=270,slow=327,SNR=2.5						
I34MN	SONGINO INFRAS	38.04	70	*i*		16 09 10.0	
	baz=289,slow=332,SNR=0.9						
I45RU	USSURIYSK INFR	54.95	61	*i*		17 50 47.8	
	baz=304,slow=331						
I30JP	ISUMI INFRASON	65.66	64	*i*		18 58 40.0	
	baz=301,slow=327,SNR=1.4						

KRSC 11 12:15:35.5±1.7, 51°.00N×157°.94E, h63km±20km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	0.82	6	*e*P	Pn	12 15 53.3	+2.0
KDTR				*e*S	Sn	12 16 04.6	+1.6
PAU	Pauzhetka	0.85	304	*e*P	Pn	12 15 53.0	+1.3
SKR	Severo-Kuril's	1.20	256	*e*P	Pn	12 15 57.1	+1.0
SKR				*e*S	Sn	12 16 11.5	-0.1
RUS	Russkaya	1.48	14	*e*P	Pn	12 16 01.8	+1.8
RUS				*e*S	Sn	12 16 19.1	+0.7
MTVR	Mutnovka	1.50	6	*e*P	Pn	12 16 02.5	+2.2
MTVR				*e*S	Sn	12 16 20.7	+1.7
GRL	Gorelyy	1.56	3	*e*P	Pn	12 16 03.6	+2.5
GRL				*e*S	Sn	12 16 22.4	+1.9
KRMR	Karymshinskiy	1.84	4	*e*P	Pn	12 16 07.4	+2.6
KRMR				*e*S	Sn	12 16 32.0	+5.0
PET	Petropavlovsk	2.08	12	*e*P	Pn	12 16 10.4	+2.4
PET				*e*S	Sn	12 16 34.6	+1.8
DALK	Dalny	2.10	14	*e*P	Pn	12 16 10.7	+2.4
DALK				*e*S	Sn	12 16 35.5	+2.2
UGLR	Uglovaya	2.28	14	*e*P	Pn	12 16 13.9	+3.0
AVH	Avacha	2.33	12	*e*P	Pn	12 16 14.9	+3.5
SMAR	Somma	2.33	13	*e*P	Pn	12 16 14.5	+2.8
KOK	Koryaka	2.34	10	*e*P	Pn	12 16 15.1	+3.5
NLC	Nalytchevo	2.34	21	*e*S	Sn	12 16 39.4	+0.2
SDLR	Sedlovina	2.36	14	*e*P	Pn	12 16 14.2	+2.3
KRER	Koryakskii	2.37	12	*e*P	Pn	12 16 15.5	+3.4
SPN	Mys Shipunski	2.47	31	*e*P	Pn	12 16 16.5	+3.2
SPN				*e*S	Sn	12 16 44.7	+2.4
GNL	Ganaly	2.70	0	*e*P	Pn	12 16 19.4	+2.8
MKZ	Mys Kozlova	4.25	31	*e*P	Pn	12 16 39.9	+2.4
KBTR	Krutoberegovo	5.97	27	*e*P	Pn	12 17 03.8	+2.6

IDC 11 12:16:56.2±2.1, 18°.04S×178°.03W, h625km±20km, mb3.3/13, mb1 3.5/14, mb1mx3.2/41, mbtmp4.3/14, Error ellipse: s-maj=39.6km s-min=16.7km az=140.0
ISC 11 12:16:53.4±1.4, 18°.0S±0°.3×177°.9W±0°.2, h590km, n16, σ0s.84/15, mb3.9/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.83	273	P	P	12 18 22.0	+4.9
	50nm,0.3s,baz=143,slow=3.9,SNR=265						
CTA	Charters Tower	33.88	261	P	P	12 22 48.5	-0.2
	3.9nm,1.1s,baz=95,slow=9.5,SNR=5.1						
PMG	Port Moresby	34.91	279	P	P	12 22 58.9	+1.5
	11nm,0.8s,baz=70,slow=4.7,SNR=7.4						
STKA	Stephens Creek	38.99	241	P	P	12 23 30.5	+0.1
	1.3nm,0.7s,baz=109,slow=9.6,SNR=4.5						
WRA	Warramunga Arr	45.06	260	P	P	12 24 17.3	-0.9
	2.3nm,0.6s,baz=97,slow=7.6,SNR=41						
ASAR	Alice Springs	45.21	254	P	P	12 24 18.6	-0.8
	5.6nm,0.7s,baz=85,slow=8.5,SNR=42						
FITZ	Fitzroy Crossi	53.46	261	P	P	12 25 19.3	-0.6
	1.5nm,0.6s,baz=132,slow=4.8,SNR=6.8						
MJAR	Matsushiro Arr	68.23	323	P	P	12 26 56.1	-0.2
	2.5nm,0.5s,baz=164,slow=5.8,SNR=5.7						
PETK	Petropavlovsk-	73.86	345	P	P	12 27 28.8	0.0
	3.3nm,0.6s,baz=139,slow=7.9,SNR=5.0						
MA2	Magadan	81.38	344	P	P	12 28 08.5	-0.5
	1.5nm,0.6s,baz=143,slow=4.6,SNR=6.2						
SEY	Seymchan	83.94	347	P	P	12 28 21.6	-0.2
	3.6nm,0.8s,baz=136,slow=6.6,SNR=16						
TXAR	Lajitas Array	85.65	57	P	P	12 28 32.2	+1.1
	1.2nm,1.0s,baz=214,slow=6.3,SNR=7.0						
ILAR	Eielson Array	85.85	13	P	P	12 28 30.1	-0.9
	0.6nm,0.4s,baz=217,slow=5.0,SNR=7.8						
CMAR	Chiang Mai Arr	89.33	290	P	P	12 28 49.4	+1.0
	0.7nm,0.6s,baz=97,slow=2.8,SNR=5.7						
BRTR	Keskin Array B	145.15	315	PKPbc	PKPdf	12 35 25.1	+0.2
	1.4nm,0.8s,baz=155,slow=3.8,SNR=5.8						
GERES	GERESS Array B	147.79	346	PKPbc	PKPbc	12 35 31.9	-0.9
	0.5nm,0.5s,baz=33,slow=5.6,SNR=5.7						

HEL 11 12:31:18.5±0.1, 63°.97N×28°.20E, h0km, ML1.8, Explosion
IDC 11 12:31:19.0±1.6, 63°.86N×28°.35E, h0km, mb1 2.9/3, mb1mx2.7/42, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=29.4km s-min=7.2km az=99.0
UPP 11 12:31:24.7±2.4, 64°.11N×27°.17E, h0km, ML1.6, Suspected explosion
ISC 11 12:31:20.1±1.2, 64°.02N±0°.03×27°.90E±0°.05, h0km, n31, σ1s.22/50, Finland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUL	Oulu	1.38	322	PG	Pg	12 31 45.4	-1.1
OUL				SG	Sg	12 32 04.7	+0.3
OUF	Merijarvi	1.43	286	PG	Pn	12 31 46.1	-1.2
	baz=104						
OUF				MSG		12 32 05.4	
	comp=Z,10nm,0.2s						
OUF				SG	Sb	12 32 06.1	-0.3
SUF	Sumiainen	1.52	212	PG	Pn	12 31 46.6	-2.0
SUF				MSG		12 32 05.4	
	comp=Z,4.0nm,0.2s						
SUF				SN	Sn	12 32 09.9	+0.9
OBF0	Syolatti, Pyha	1.67	288	PG	Pn	12 31 51.0	+0.4
OBF0				SG	Sg	12 32 14.1	+0.3
MSF	Maaselka	1.96	14	PG	Pn	12 31 53.7	-1.0
	baz=193						
MSF				SG	Sn	12 32 20.7	+0.7
KAF	Kangasniemi	2.04	202	PG	Pn	12 31 55.2	-0.5
KAF				SG	Sn	12 32 22.1	+0.2
KU6	Riekki	2.19	22	PG	Pn	12 31 57.5	-0.2
	baz=199						
KU6				MSG		12 32 23.3	
	comp=Z,4.2nm,0.2s						
KU6				SG	Sn	12 32 25.2	-0.3
KEF	Keuruu	2.31	218	PG	Pn	12 32 00.4	+1.0
KEF				MSG		12 32 28.5	
	comp=Z,5.0nm,0.2s						
KEF				SG	Sn	12 32 30.3	+1.8
VAF	Ylistaro	2.54	250	PB	Pn	12 32 04.4	+1.9
VAF				MSG		12 32 36.5	
	comp=Z,5.0nm,0.2s						
VAF				SB	Sb	12 32 37.6	-0.6
TOF	Tornio	2.57	325	PN	Pn	12 32 03.2	+0.3
TOF				MSG		12 32 37.3	
	comp=Z,2.5nm,0.2s						
TOF				SG	Sb	12 32 39.6	+0.5
KALU	Kalix	2.68	316	P	Pn	12 32 04.9	+0.5
KALU				S	Sn	12 32 33.1	-4.4
KALU	Kalix	2.68	316	PN	Pn	12 32 05.0	+0.6
KALU				SN	Sn	12 32 39.5	+2.0
FIA0	FINESS Array S	2.71	199	PB	Pn	12 32 05.4	+0.5
FIA0				SB	Sn	12 32 38.5	+0.1
FINES	FINESS Array B	2.71	199	Pn	Pn	12 32 05.8	+0.9
	comp=Z,0.5nm,0.3s,baz=26,slow=16,SNR=19						
FINES				Lg	Lg	12 32 40.2	
	comp=Z,0.9nm,0.3s,baz=24,slow=28,SNR=19						
RNF	Rovaniemi	2.72	344	PB	Pn	12 32 06.4	+1.3
RNF				SG	Sb	12 32 43.2	-0.3
SJUU	Sjulsmark	3.09	302	P	Pn	12 32 10.5	+0.5
UMAU	Umeaa	3.19	271	PN	Pn	12 32 10.9	-0.5
	baz=90						
SGF	Sodankyl	3.49	351	PB	Pn	12 32 16.7	+1.2
ERTU	Ertsjaerv	3.50	319	P	Pn	12 32 16.3	+0.6
ERTU	Ertsjaerv	3.50	319	PN	Pn	12 32 16.3	+0.6
ERTU				SN	Sn	12 32 59.8	+2.0
PAJU	Pajala	3.62	329	P	Pn	12 32 18.2	+0.8
PAJU	Pajala	3.62	329	PN	Pn	12 32 18.1	+0.8
PAJU				SN	Sn	12 33 02.3	+1.5
KLF	Kolari	3.62	335	PN	Pn	12 32 17.5	+0.1
	baz=154						
KLF				SN	Sn	12 33 00.4	-0.4
HARU	Harads	3.64	309	P	Pn	12 32 18.3	+0.7
SVAU	Svanoeiden	3.67	281	P	Pn	12 32 17.5	-0.5
SVAU				S	Sn	12 33 02.9	+1.1
LILU	Lilltraesk	3.69	294	P	Pn	12 32 18.1	-0.2
VRF	Varrio	3.81	10	PB	Pn	12 32 21.9	+1.9
MASU	Masugnsbyn	4.23	327	P	Pn	12 32 27.2	+1.4
LANU	Lannavaara	4.71	332	P	Pn	12 32 33.7	+1.3
ARCES	ARCESS Array B	5.62	351	Pn	Pn	12 32 45.3	+0.4
	baz=167,slow=14,SNR=12						
ARCES				Sn	Sn	12 33 48.0	-2.2
	baz=168,slow=26,SNR=1.8						
ARCES				Lg	Lg	12 34 18.7	
	baz=169,slow=25,SNR=9.5						
NOA	NORSAR Array B	8.27	256	Pn	Pn	12 33 20.6	-0.5
	comp=Z,0.0nm,0.3s,baz=65,slow=8.0,SNR=2.1						

SFS 11 12:46:41.0, 35°.64N×3°.72W, ML2.5, ALBORAN SUR
MDD 11 12:46:42.2±0.4, 35°.64N×3°.70W, h0km, mb_Lg2.4/10, Error ellipse: s-maj=3.9km s-min=2.9km az=12.0
CNRM 11 12:46:42.5, 35°.66N×3°.58W, h27km, ml2.0
ISC 11 12:46:40.8±1.1, 35°.64N±0°.02×3°.72W±0°.03, h20km±4km, n26, σ1s.63/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.46	204	P	Pn	12 46 53.0	+0.7
PALE				S	Sn	12 47 00.8	+1.0
EALB	Alboran	0.63	61	Pg	Pg	12 46 53.4	0.0
EALB				Sg	Sb	12 47 02.0	+0.5
EALB				*i* Vmb_Lg		12 47 05.0	
EMEL	Melilla	0.70	118	Pg	Pg	12 46 54.7	0.0
EMEL				Sg	Sg	12 47 03.8	-0.3
GOG	Mont Gurugu	0.72	125	P	Pn	12 46 55.4	-0.5
ELGU	Los Guajares,	1.23	3	Pg	Pb	12 47 03.4	-0.1
ELGU				Sg	Sb	12 47 18.2	-0.8
ELGU				*i* Vmb_Lg		12 47 24.1	
EMIJ	Mijas	1.26	318	Pg	Pb	12 47 04.5	+0.6
EMIJ				Sg	Sn	12 47 20.3	+0.5
EMIJ				*i* Vmb_Lg		12 47 23.9	
EMAL	Malaga-Limoner	1.26	333	P	Pn	12 47 01.0	-2.3
EMAL				S	Sn	12 47 20.6	+0.9
TAF	Taforalt	1.34	127	P	Pn	12 47 04.3	-0.2
SMIR	Smir Dam	1.36	272	P	Pn	12 47 05.1	+0.6
CEU	Ceuta	1.37	282	P	Pn	12 47 01.3	-3.5
CEU				S	Sn	12 47 22.3	-0.1
CHEFC	Chefchaouen	1.43	249	P	Pg	12 47 08.3	0.0
EBER	Berja	1.43	28	Pg	Pn	12 47 05.5	-0.3
EBER				Sn	Sb	12 47 25.0	+0.4
EBER				*i* Vmb_Lg		12 47 25.4	
EGOR	Sierra Gorda,	1.51	348	Pn	Pb	12 47 08.5	+0.4
EGOR				Sn	Sg	12 47 30.2	+0.6
EGOR				*i* Vmb_Lg		12 47 39.5	
EQUE	Quentar	1.58	8	Pn	Pg	12 47 10.7	-0.6
EQUE				Sn	Sg	12 47 31.2	-0.7
EQUE				*i* Vmb_Lg		12 47 41.7	
JBK	JBK	1.60	144	P	Pn	12 47 08.3	+0.1
JBK				S	Sn	12 47 27.4	-1.0
EJIF	Jimena Fronter	1.64	300	Pn	Pb	12 47 11.1	+0.8
EJIF				Sn	Sg	12 47 32.7	-1.0
EQES	Quesada	2.23	13	Pn	Pb	12 47 19.8	-0.6
EQES				Sn	Sb	12 47 47.4	-0.2
EQES				*i* Vmb_Lg		12 47 50.1	
EADA	Adamuz	2.62	345	Pn	Pb	12 47 24.8	-2.3
EADA				Sn	Sb	12 47 56.9	-1.9
EADA				*i* Vmb_Lg		12 48 08.5	
ECAB	El Cabril	2.79	331	Pn	Pb	12 47 27.8	-2.2
ECAB				*i* Vmb_Lg		12 47 60.0	
ECAB				Sn	Sb	12 48 01.2	-2.6
MD31	MD31	2.89	198	P	Pb	12 47 29.5	-2.2
MD31				S	Sn	12 48 03.7	+3.5
MDT	Midelt	2.91	195	P	Pb	12 47 31.1	-1.0
EMIN	Mina Concepcio	3.19	313	Sn	Sn	12 48 08.9	+1.6
ZHG	ZHG	3.25	229	P	Pn	12 47 32.1	+1.3
ETOB	Tobarra	3.47	29	Pn	Pn	12 47 36.1	+2.4
ETOB				Sn	Sn	12 48 16.2	+1.9
EGRO	El Granado	3.58	303	Pn	Pn	12 47 37.7	+2.6
EGRO				Sn	Sn	12 48 18.2	+1.5
EGRO				*i* Vmb_Lg		12 48 49.7	
PVAQ	Vaqueiros	3.67	300	P	Pn	12 47 40.7	+4.2

BEO 11 12:59:41.8±1.2, 42°.50N×24°.07E, h0km, ML1.4/5, 4C-3D, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VTS	Vitosha	0.63	281	⇑P	Pg	12 59 52.8	-1.0
VTS				⇓S	Sg	13 00 02.4	+0.5
VTS	Vitosha	0.63	281	*e*Pg	Pg	12 59 52.9	-0.9
VTS				*e*Sg	Sg	13 00 01.2	-0.7
BOSS	Bosilegrad	1.18	270	*e*Pg	Pg	13 00 02.7	-1.6
BOSS				*e*Sg	Sg	13 00 20.1	+0.6
ZAPS	Zavoj	1.31	307	*e*Pg	Pg	13 00 05.1	-1.7
ZAPS				*e*Sg	Sg	13 00 23.9	+0.1
PRVS	Prvonek	1.47	271	*e*Pg	Pn	13 00 09.2	-0.5
PRVS				*e*Sg	Sb	13 00 29.4	0.0
BLKB	Belogradchik	1.52	318	⇓S	Sg	13 00 29.2	-1.3
VLAD	Vladila	1.52	9	⇑S	Sg	13 00 25.2	-5.3
STIP	Stip	1.62	241	*i* Pn	Pn	13 00 08.3	-3.2
STIP				*e*Sn	Sn	13 00 29.1	-4.1
BARS	Barje	1.69	281	*e*Pg	Pn	13 00 12.0	-0.6
BARS				*e*Sg	Sn	13 00 34.8	-0.2
MDVR	Moldovita	2.85	324	⇑S	Sn	13 01 01.0	-2.6
GZR	Gura Zlata	3.04	343	⇑P	Pn	13 00 28.2	-3.0
GZR				⇓S	Sn	13 01 04.1	-4.1

BEO 11 13:01:31.9±1.2, 42°.47N×23°.89E, h0km, ML1.4/5, 3C-2D, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VTS	Vitosha	0.50	287	*e*Pg	Pg	13 01 40.2	-1.3
VTS				*e*Sg	Sg	13 01 49.4	+1.3
VTS	Vitosha	0.50	287	⇑P	Pg	13 01 40.4	-1.2
VTS				⇓S	Sb	13 01 49.4	-2.3
BOSS	Bosilegrad	1.04	272	*e*Pg	Pg	13 01 50.6	-1.2
BOSS				*e*Sg	Sg	13 02 04.3	-1.0
ZAPS	Zavoj	1.22	312	*e*Pg	Pg	13 01 54.0	-1.3
ZAPS				*e*Sg	Sg	13 02 10.5	-0.7
PRVS	Prvonek	1.34	272	*e*Pg	Pg	13 01 57.0	-0.6
PRVS				*e*Sg	Sg	13 02 15.1	+0.2
BLKB	Belogradchik	1.45	323	⇑S	Sg	13 02 17.7	-0.9
STIP	Stip	1.48	239	*e*Pn	Pn	13 01 55.6	-4.2
STIP				*e*Sg	Sg	13 02 17.3	-2.2
BARS	Barje	1.57	283	*e*Pg	Pn	13 01 59.9	-1.1
BARS				*e*Sg	Sn	13 02 21.2	-0.8
GZR	Gura Zlata	3.03	345	⇓P	Pn	13 02 15.5	-5.7
GZR				⇑S	Sn	13 02 54.0	-4.2

SOME 11 13:02:38.3, 40°.83N×70°.33E, h0km
KRNET 11 13:02:41.8±0.1, 41°.08N×70°.17E, h13km, mb2.8
ISC 11 13:02:43.3±1.3, 41°.00N±0°.05×70°.31E±0°.06, h10km, n14, σ2s.15/27, 9C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.82	49	⇑*i*P	Pg	13 02 57.8	-1.3
	baz=63						
TRKS				⇑*i*S	Sg	13 03 10.4	+0.6
	baz=63						
BTK	Batken	1.02	158	⇑*i*P	Pn	13 03 03.8	+0.1
	baz=54						
BTK				⇑*i*S	Sn	13 03 19.4	+1.3
	baz=54						
IUG	Iuzhnay	1.17	350	*e*P	Pb	13 03 04.1	-1.5
	175nm,0.1s						
IUG				*e*S	Sn	13 03 25.1	+3.2
	81nm,0.1s						
ARK	Arkit	1.48	57	⇓*i*P	Pb	13 03 10.5	-0.4
	baz=61						
ARK				⇓*i*S	Sg	13 03 31.8	+1.0
	baz=61						
KK09	Karatay Array	2.13	4	⇑Pg	Pb	13 03 21.0	-0.9
	9.4nm,0.9s,baz=190,slow=16						
KK09				⇓Lg	Lg	13 03 49.1	
	2.6nm,0.3s,baz=189,slow=26						
MRKS	Merke	2.79	50	*e*P	Pb	13 03 32.5	-0.8
	2.4nm,0.2s						
MRKS				*e*S	Sg	13 04 12.7	-0.2
	7.8nm,0.2s						
EKS2	Erkin-Say	3.08	56	⇑*i*P	Pn	13 03 34.6	+2.5
	baz=58						
EKS2				⇑*i*S	Sb	13 04 14.5	-1.3
	baz=58						
ARLS	Aral	3.14	73	⇑*i*P	Pn	13 03 35.2	+2.3
	baz=75						
ARLS				⇑*i*S	Sb	13 04 15.1	-2.5
	baz=75						
UCH	Uchtor	3.38	67	⇓*e*P	Pn	13 03 39.5	+2.9
	baz=69						
UCH				⇓*e*S	Sb	13 04 22.9	-2.0
	baz=69						
SGDS	Sogindy	4.04	51	*e*P	Pb	13 03 54.9	+0.4
	3.2nm,0.0s						
SGDS				*e*S	Sg	13 04 49.0	-3.8
	2.7nm,0.0s						
DGS	Degeres	4.64	59	*e*P	Pb	13 04 05.8	+1.1
	1.7nm,0.0s						
DGS				*e*S	Sg	13 05 09.3	-2.9
	1.8nm,0.1s						
KRBS	Karabastau	4.80	54	*e*P	Pb	13 04 09.2	+1.7
	0.4nm,0.0s						
KRBS				*e*S	Sg	13 05 14.5	-2.9
	1.4nm,0.2s						
BTLS	Baital	4.88	33	*e*P	Pb	13 04 11.1	+2.3
	1.2nm,0.2s						
BTLS				*e*S	Sg	13 05 17.7	-2.2
	2.0nm,0.2s						
KTBS	Karatobe	5.44	58	*e*P	Pb	13 04 21.2	+2.7
	0.2nm,0.1s						
KTBS				*e*S	Sg	13 05 35.4	-2.6
	4.6nm,0.1s						

TUL 11 13:03:38±1.1, 35°.79N±0°.01×96°.989W±0°.009, h6km±5km, ML3.1, mb_Lg2.6/44(NEIC), Error ellipse: s-maj=2.0km s-min=0.4km az=149.0
NEIC 11 13:03:38.5±1.2, 35°.80N±0°.01×96°.99W±0°.02, h6km±6km, Error ellipse: s-maj=2.3km s-min=1.4km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.22	228	Pg	Pg	13 03 42.6	-0.2
OK005				Sg	Sg	13 03 45.8	0.0
OK001	Jones High Sch	0.34	226	Pg	Pg	13 03 44.8	-0.4
OK001				Sg	Sg	13 03 49.7	0.0
OKCSW	OKLAHOMA CITY	0.54	223	Pg	Pg	13 03 48.6	-0.3
OKCSW				Sg	Sg	13 03 55.9	0.0
OKCFA	Oklahoma City	0.54	224		Pg	13 03 48.5	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKCFA				Sg	Sg	13 03 55.3	-0.7
FNO	Franklin	0.64	212		Pg	13 03 50.0	-0.9
FNO				Sg	Sg	13 03 58.7	-0.4
W35A	Tecumseh	0.66	172	Pg	Pg	13 03 50.2	-0.8
W35A				Sg	Sg	13 03 59.3	-0.3
TUL1	Leonard	0.98	83	Pg	Pg	13 03 56.2	-1.1
TUL1				Sg	Sg	13 04 09.4	-0.6
T35A	Sooner Cattle	1.18	19		Pg	13 03 59.9	-1.1
T35A				Sg	Sg	13 04 16.1	-0.2
X34A	Smith Ranch, M	1.39	210		Pn	13 04 03.8	-0.6
U32A	Winter Ranch,	1.73	290		Pn	13 04 09.4	+0.3
X37A	Clayton	1.79	132		Pb	13 04 10.9	-0.9
WMOK	Wichita Mounta	1.81	235		Pn	13 04 10.7	+0.5
Z35A	Perchaven, San	2.48	185	Pn	Pn	13 04 20.1	+0.7
HHAR	Hobbs	2.52	78		Pn	13 04 21.4	+1.5
W39A	Magazine	2.68	102	Pn	Pn	13 04 22.8	+0.6
R32A	Long Quarter,	2.96	333		Pn	13 04 25.9	0.0
Z38A	Mt. Pleasant	3.03	146	IAmb_Lg		13 05 13.6	
	comp=Z,20nm,0.8s						
MIAR	Mount Ida	3.06	113		Pn	13 04 28.4	+0.9
KSU1	Kansas State U	3.31	5		Pn	13 04 30.4	-0.3
KSU1				IAmb_Lg		13 05 30.4	
	comp=Z,13nm,0.8s						
U40A	Yellville	3.39	79		Pn	13 04 32.1	+0.1
S39A	Bolivar	3.50	56		Pn	13 04 33.7	+0.3
S39A				IAmb_Lg		13 05 33.5	
	comp=Z,13nm,0.8s						
X40A	Basin Creek Fa	3.65	110		Pn	13 04 36.4	+0.9
X40A				IAmb_Lg		13 05 40.1	
	comp=Z,22nm,0.8s						
CBKS	Cedar Bluff	3.72	325		Pn	13 04 37.1	+0.6
ABTX	Abilene, Hawle	3.86	216	Pn	Pn	13 04 40.1	+1.7
WHAR	Wooly Hollow	3.87	96	Pn	Pn	13 04 38.6	+0.1
WHAR				IAmb_Lg		13 05 42.6	
	comp=Z,10nm,0.9s						
W41B	Gary Mavity, V	3.92	98		Pn	13 04 39.1	-0.1
AMTX	Amarillo	3.94	258	IAmb_Lg		13 05 52.4	
	comp=Z,17nm,1.0s						
FCAR	Ozark Folk Cen	3.95	87		Pn	13 04 39.9	+0.2
FCAR				IAmb_Lg		13 05 45.5	
	comp=Z,18nm,1.1s						
MGMO	Mountain Grove	4.04	69	IAmb_Lg		13 05 50.6	
	comp=Z,15nm,0.9s						
R40A	Maddies Statio	4.52	55	Pn	Pn	13 04 45.1	-2.3
R40A				IAmb_Lg		13 05 59.2	
	comp=Z,16nm,0.7s						
P38A	Dawn	4.70	35		Pn	13 04 47.1	-2.7
P38A				IAmb_Lg		13 06 20.1	
	comp=Z,11nm,0.7s						
LCAR	Lake Charles	4.74	85	Pn	Pn	13 04 49.1	-1.3
CCM	Cathedral Cave	5.12	62	IAmb_Lg		13 06 26.3	
	comp=Z,9.5nm,0.7s						
PBMO	Poplar Bluff	5.39	78	IAmb_Lg		13 06 33.9	
	comp=Z,14nm,0.9s						
KSCO	Kaye Shedlock'	5.51	307	IAmb_Lg		13 06 43.9	
	comp=Z,9.9nm,0.8s						
FVM	French Village	5.69	66	IAmb_Lg		13 06 43.4	
	comp=Z,11nm,0.8s						
N38A	Joes South For	5.79	30	IAmb_Lg		13 06 48.0	
	comp=Z,15nm,0.8s						
JCT	Junction City	5.81	205	IAmb_Lg		13 06 47.7	
	comp=Z,12nm,1.0s						
SLM	Saint Louis	6.08	60	IAmb_Lg		13 07 01.3	
	comp=Z,12nm,0.7s						
OGNE	Ogallala	6.49	324	Pn	Pn	13 05 19.6	+5.1
O44A	Mansfield	8.01	55	IAmb_Lg		13 07 50.8	
	comp=Z,7.2nm,0.8s						
N23A	Red Feather La	8.68	309	IAmb_Lg		13 08 23.0	
	comp=Z,7.3nm,0.7s						

*IDC **11** 13:13:22.7±0.9, 3°.32S×129°.86E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/33, mbtmp3.8/7, ML3.7/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/63, Error ellipse: s-maj=34.7km s-min=12.7km az=77.0*

*NEIC **11** 13:13:24.1±1.8, 3°.35S±0°.07×129°.84E±0°.06, h10km±1km, mb4.1/18, Error ellipse: s-maj=12.0km s-min=10.1km az=350.0*

*DJA **11** 13:13:25.1±0.8, 3°S±4°×13°0E±°, h15km±7km, M4.2/10, mb4.6/8, mB5.0/1, MLv4.0/10, Mw(mB)4.3/1*

ISC 11 13:13:23.9±0.5**, 3°.38S**±0°.06×**129°.79E**±0°.05**, h10**km**, n52,** σ**1s.19**/51**, mb4.0**/11**, 1C, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.86	272	P	Pg	13 13 40.4	-0.1
MSAI				S	Sg	13 13 52.2	+0.5
AAI	Ambon	1.62	259	P	Pn	13 13 53.2	+0.6
SIJI	Sorong	2.90	31	Pn	Pn	13 14 09.9	-0.3
	11nm,0.3s,baz=226,slow=13,SNR=28						
SIJI				Sn	Sn	13 14 43.5	-1.6
	16nm,0.3s,baz=40,slow=23,SNR=4.2						
SIJI				LR	LR	13 15 21.5	
	comp=Z,134nm,20.3s,baz=278,slow=42						
SWI	Sorong	2.90	31	P	Pn	13 14 10.0	-0.2
LBMI	Labuha	3.56	320	P	Pn	13 14 18.7	-0.5
SANI	Sanana	4.02	289	P	Pn	13 14 25.3	-0.3
TNTI	Ternate	4.78	330	Pn	Pn	13 14 36.0	-0.1
TNTI	Ternate	4.78	330	P	Pn	13 14 35.6	-0.5
SAUI	Saumlaki	4.81	162	Pn	Pn	13 14 36.2	-0.3
BAKI	Biak	6.68	71	P	Pn	13 15 03.0	+0.8
	163nm,0.8s						
LUWI	Luwuk	7.39	288	Pn	Pn	13 15 12.5	+0.6
APSI	Ampana	8.49	287	P	Pn	13 15 27.1	0.0
	802nm104nm,0.7s						
SMPI	Sarmi	9.02	81	P	Pn	13 15 34.7	+0.4
	50nm,0.9s						
BKSI	Bulukumba	9.83	258	P	Pn	13 15 44.6	-0.9
	12nm,0.7s						
TOLI2	Tolitoli	10.05	296	Pn	Pn	13 15 49.8	+1.4
KAPI	Kappang	10.14	260	LR	LR	13 20 38.6	
	comp=Z,138nm,21.6s,baz=79,slow=43						
GENI	Genyem	10.39	86	P	Pn	13 15 56.4	+3.2
	38nm,1.1s						
KNRA	Kununurra	12.26	185		Pn	13 16 19.0	+0.2
MYLDM	Lahad Datu	14.12	307	Pn	Pn	13 16 43.8	-0.5
FITZ	Fitzroy Crossi	15.18	195	Pn	Pn	13 16 58.5	-0.1
FITZ				IAmb	IAmb	13 17 25.6	
	comp=Z,4.4nm,0.9s						
COEN	Coen	16.89	129	P	P	13 17 22.4	-0.2
COEN				IAmb	IAmb	13 17 27.0	
	comp=Z,13nm,1.1s						
WB0	Warramunga Arr	16.90	165	P	Pn	13 17 20.3	-0.5
WRAB	Tennant Creek	17.05	165	P	Pn	13 17 20.7	-1.9
WRAB				IAmb	IAmb	13 17 41.1	
	comp=Z,3.3nm,0.7s						
WRA	Warramunga Arr	17.05	165	P	Pn	13 17 20.2	-2.5
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=3.6						
WRA	Warramunga Arr	17.05	165	P	Pn	13 17 20.9	-1.8
WB2	Warramunga Arr	17.05	165	P	Pn	13 17 21.2	-1.6
WR0	Warramunga Arr	17.12	165	P	Pn	13 17 22.1	-1.4
WR0				IAmb	IAmb	13 17 33.0	
	comp=Z,2.9nm,0.7s						
AS31	Alice Springs	20.56	169	P	P	13 18 04.2	+1.2
AS31				IAmb	IAmb	13 18 13.8	
	comp=Z,3.3nm,0.6s						
ASAR	Alice Springs	20.56	169	P	P	13 18 03.1	+0.2
	comp=Z,2.4nm,0.5s,baz=348,slow=10,SNR=67						
ASAR				S	Sn	13 21 56.3	-0.9
	comp=Z,1.0nm,0.8s,baz=349,slow=19,SNR=5.8						
ASAR	Alice Springs	20.56	169	P	Pn	13 18 04.8	-0.4
FORT	Forrest	27.30	183	P	P	13 19 08.5	-0.4
BBOO	Buckleboo	29.86	169	P	P	13 19 29.2	-2.5
BBOO				IAmb	IAmb	13 19 30.9	
	comp=Z,8.3nm,1.4s						
STKA	Stephens Creek	30.45	160	P	P	13 19 37.3	+0.5
	comp=Z,1.2nm,0.6s,baz=328,slow=13,SNR=3.5						
STKA	Stephens Creek	30.45	160	P	P	13 19 36.4	-0.4
ARMA	Armidale	33.91	145	P	P	13 20 06.7	-0.7
ARMA				IAmb	IAmb	13 20 07.8	
	comp=Z,10nm,1.4s						
TOO	Toolangi	36.95	159	P	P	13 20 33.0	-0.5
CMAR	Chiang Mai Arr	37.33	307	P	P	13 20 37.9	+1.0
	comp=Z,1.3nm,0.7s,baz=137,slow=7.7,SNR=9.3						
CMAR	Chiang Mai Arr	37.33	307	P	P	13 20 35.0	-1.8
KSRS	Korea Array	40.66	358	LR	LR	13 38 10.5	
	comp=Z,9.7nm,19.7s,baz=350,slow=37						
SONM	Songino Array	54.97	341	P	P	13 22 55.9	+0.5
	comp=Z,0.2nm,0.4s,baz=167,slow=7.2,SNR=2.0						
MK31	Makanchi Array	65.11	326	P	P	13 24 05.2	+0.2
MK31				IAmb	IAmb	13 24 06.9	
	comp=Z,2.7nm,1.5s						
MKAR	Makanchi Array	65.11	326	P	P	13 24 04.9	-0.1
	comp=Z,0.3nm,0.4s,baz=125,slow=7.8,SNR=20						
MKAR	Makanchi Array	65.11	326	P	P	13 24 04.3	-0.7
MAKZ	Makanchi	65.29	326	P	P	13 24 06.5	+0.3
MAKZ				IAmb	IAmb	13 24 32.6	
	comp=Z,2.8nm,1.4s						
MAKZ	Makanchi	65.29	326	⇑S	P	13 24 06.5	+0.3
	comp=Z,0.2nm,0.2s						
ZALV	Zalesovo Beam	68.27	333	P	P	13 24 24.7	-0.3
	comp=Z,0.6nm,0.6s,baz=66,slow=5.0,SNR=3.6						
ZALV	Zalesovo Beam	68.27	333	P	P	13 24 24.2	-0.8
KURK	Kurchatov	69.34	328	P	P	13 24 31.6	-0.2
ABKAR	Akbulak array	79.56	321	P	P	13 25 30.9	-0.3
QSPA	South Pole Qui	86.57	180	P	P	13 26 07.0	-0.3
QSPA				IAmb	IAmb	13 26 18.6	
	comp=Z,4.5nm,1.2s						
ILAR	Eielson Array	90.18	25	P	P	13 26 26.7	+2.4
	comp=Z,0.2nm,0.5s,baz=256,slow=3.6,SNR=4.6						
SNAA	Sanae	99.11	194	P	Pdif	13 27 01.8	-3.4

*IDC **11** 13:18:43.5±4.9, 18°.37S×173°.00E, h44km±65km, mb3.7/3, mb1 4.0/5, mb1mx3.5/33, mbtmp3.9/5, ML4.3/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/55, Error ellipse: s-maj=196.6km s-min=22.2km az=161.0*

ISC 11 13:18:42.5±1.0**, 18°.1S**±0°.4×**172°.9E**±0°.1**, h35**km**, n9,** σ**0s.48**/6**, mb3.8**/3**, MS3.2**/3**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.91	87	P	Pn	13 19 53.7	-0.2
	1.2nm,0.3s,baz=252,slow=11,SNR=8.8						
MSVF				LR	LR	13 20 55.9	
	comp=Z,37nm,20.2s,baz=241,slow=27						
DZM	Mont Dzumac	7.25	236	P	Pn	13 20 25.9	-0.1
	0.8nm,0.3s,baz=57,slow=17,SNR=7.6						
DZM				LR	LR	13 23 01.2	
	comp=Z,278nm,18.4s,baz=46,slow=36						
RPZ	Rata Peaks	25.59	183	LR	LR	13 32 36.4	
	comp=Z,74nm,19.1s,baz=14,slow=33						
WRA	Warramunga Arr	36.46	261	P	P	13 25 44.1	-0.3
	0.7nm,0.8s,baz=94,slow=8.0,SNR=2.4						
ASAR	Alice Springs	36.78	255	P	P	13 25 47.6	+0.5
	1.0nm,0.7s,baz=90,slow=8.7,SNR=10						
FITZ	Fitzroy Crossi	44.83	262	LR	LR	13 44 33.3	
	comp=Z,29nm,18.6s,baz=132,slow=34						
YAK	Yakutsk	86.88	341	LR	LR	14 10 04.6	
	comp=Z,12nm,18.6s,baz=48,slow=35						
TXAR	Lajitas Array	93.17	60	P	P	13 31 54.0	+0.4
	0.6nm,0.8s,baz=218,slow=5.9,SNR=4.3						
GERES	GERESS Array B	145.00	336	PKPbc	PKPbc	13 38 15.1	-0.4
	0.8nm,0.5s,baz=28,slow=6.0,SNR=6.8						

*NEIC **11** 13:21:06.9±1.9, 7°.82S±0°.08×125°.9E±0°.1, h10km±1km, mb4.2/3, Error ellipse: s-maj=25.7km s-min=4.8km az=58.0*

*IDC **11** 13:21:06.7±2.0, 7°.77S×125°.96E, h0km, mb3.6/2, mb1 4.1/5, mb1mx3.6/33, mbtmp3.9/5, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/47, Error ellipse: s-maj=73.1km s-min=26.0km az=64.0*

ISC 11 13:21:07.2±1.0**, 7°.97S**±0°.09×**125°.9E**±0°.1**, h10**km**, n21,** σ**2s.11**/23**, mb4.0**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMRI	Maumere	3.70	259	Pn	Pn	13 22 03.4	-1.0
KAPI	Kappang	6.80	295	Pn	Pn	13 22 46.6	-0.4
	1.3nm,0.3s,baz=146,slow=12,SNR=5.0						
KAPI	Kappang	6.80	295	Pn	Pn	13 22 45.1	-2.0
KNRA	Kununurra	8.15	160		Pn	13 23 09.4	+3.8
FITZ	Fitzroy Crossi	10.07	182	Pn	Pn	13 23 34.2	+2.2
	1.0nm,0.3s,baz=7.8,slow=10,SNR=32						
FITZ				Sn	Sn	13 25 25.4	+0.3
	1.0nm,0.3s,baz=111,slow=19,SNR=8.9						
FITZ	Fitzroy Crossi	10.07	182		Pn	13 23 34.6	+2.7
WB0	Warramunga Arr	14.31	146		Pn	13 24 31.2	+1.1
WRAB	Tennant Creek	14.43	146	Pn	Pn	13 24 32.4	+0.8
WRA	Warramunga Arr	14.43	146	Pn	Pn	13 24 30.5	-1.1
	0.2nm,0.3s,baz=317,slow=13,SNR=11						
WRA				Sn	Sn	13 27 09.5	-2.3
	0.3nm,0.3s,baz=332,slow=22,SNR=6.5						
WRA	Warramunga Arr	14.43	146		Pn	13 24 32.4	+0.7
WB2	Warramunga Arr	14.43	146	Pn	Pn	13 24 33.1	+1.4
WR0	Warramunga Arr	14.55	146	Pn	Pn	13 24 35.3	+2.0
AS31	Alice Springs	17.38	155	P	Pn	13 25 09.3	-0.7
AS31				IAmb	IAmb	13 25 26.3	
	comp=Z,1.5nm,0.7s						
ASAR	Alice Springs	17.38	155	P	P	13 25 14.1	+2.8
	comp=Z,0.3nm,0.3s,baz=331,slow=11,SNR=19						
ASAR				S	Sn	13 28 19.2	-4.5
	comp=Z,0.1nm,0.3s,baz=323,slow=37,SNR=3.6						
ASAR	Alice Springs	17.38	155	P	Pn	13 25 08.3	-1.7
PMG	Port Moresby	21.04	95	LR	LR	13 35 10.6	
	comp=Z,47nm,20.1s,baz=317,slow=40						
FORT	Forrest	22.78	175	P	P	13 26 07.7	-2.2
FORT				IAmb	IAmb	13 26 31.5	
	comp=Z,10nm,0.8s						
MORW	Morawa	22.95	203	P	P	13 26 13.1	+1.2
MORW				IAmb	IAmb	13 26 21.1	
	comp=Z,23nm,1.3s						
CMAR	Chiang Mai Arr	37.39	315	P	P	13 28 22.2	+1.6
	comp=Z,0.6nm,0.6s,baz=133,slow=7.0,SNR=4.7						
MKAR	Makanchi Array	66.89	329	P	P	13 31 59.0	-0.7
	comp=Z,0.3nm,0.6s,baz=124,slow=8.2,SNR=6.6						
MKAR	Makanchi Array	66.89	329	P	P	13 31 58.2	-1.4

IDC 11 13:41:00.6±1.6**, 2°.18N**×**121°.02E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.3**/50**, mbtmp3.7**/4**, Error ellipse: s-maj=210.5km s-min=27.2km az=61.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.58	150	P	P	13 46 31.2	-0.3
	0.7nm,0.5s,baz=324,slow=12,SNR=16						
ASAR	Alice Springs	28.59	155	P	P	13 46 59.8	+1.2
	0.6nm,0.5s,baz=334,slow=7.3,SNR=18						
STKA	Stephens Creek	39.10	152	P	P	13 48 28.5	-1.2
	0.8nm,0.3s,baz=324,slow=8.5,SNR=5.0						
MKAR	Makanchi Array	55.73	329	P	P	13 50 39.1	0.0
	0.1nm,0.4s,baz=116,slow=9.1,SNR=2.7						

*SOME **11** 13:42:27.7, 40°.88N×71°.10E, h5km*

*ISU **11** 13:42:27, 40°.82N×71°.13E, h15km*

*KRNET **11** 13:42:28.4±0.1, 40°.94N×71°.27E, h17km, mb2.7*

ISC 11 13:42:25.7±1.4**, 40°.87N**±0°.05×**71°.20E**±0°.03**, h6**km±13km**, n17,** σ**1s.09**/33**, 12C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.66	356	⇓eP	Pg	13 42 38.8	+0.3
	baz=52						
TRKS				⇓eS	Sg	13 42 46.1	-1.0
	baz=52						
FRG	Fergana	0.67	138	eP	Pn	13 42 40.0	-1.7
FRG				eS	Sn	13 42 50.0	-2.5
BTK	Batken	0.86	200	⇑iP	Pn	13 42 45.9	+1.5
	baz=2.0						
BTK				⇑iS	Sn	13 42 58.9	+1.6
	baz=2.0						
ARK	Arkit	1.09	32	⇑iP	Pn	13 42 47.4	-0.3
	baz=31						
ARK				⇑iS	Sg	13 43 00.9	+0.1
	baz=31						
CHMG	Chimgan	1.13	308	eP	Pn	13 42 48.0	-0.1
CHMG				eS	Sg	13 43 02.0	+0.1
OHH	Osh	1.25	105	⇑iP	Pn	13 42 50.9	+1.1
	baz=9.0						
OHH				⇑iS	Sn	13 43 07.4	+0.3
	baz=9.0						
YBZ	Yangibazar	1.29	290	eP	Pn	13 42 50.0	-0.3
YBZ				eS	Sg	13 43 07.0	-0.3
IUG	Iuzhnay	1.55	326	eP	Pg	13 42 56.4	+1.0
	342nm,0.2s						
IUG				eS	Sg	13 43 15.7	+0.2
	82nm,0.1s						
KK09	Karatay Array	2.31	347	⇑Pg	Pb	13 43 06.7	-1.1
	6.0nm,0.6s,baz=160,slow=16						
KK09				⇑Lg	Lg	13 43 38.5	
	21nm,0.3s,baz=159,slow=26						
MRKS	Merke	2.41	38	eP	Pg	13 43 13.4	+1.6
	1.1nm,0.1s						
MRKS				eS	Sg	13 43 44.4	+1.2
	11nm,0.1s						
ARLS	Aral	2.55	66	⇑iP	Pb	13 43 10.6	-1.4
	baz=67						
ARLS				⇑iS	Sn	13 43 40.8	+1.6
	baz=67						
UCH	Uchtor	2.83	60	⇑iP	Pb	13 43 16.2	-0.8
	baz=61						
UCH				⇑iS	Sn	13 43 47.8	+1.2
	baz=61						
SGDS	Sogindy	3.63	44	eP	Pg	13 43 35.4	+0.2
	1.6nm,0.0s						
SGDS				eS	Sg	13 44 23.6	+1.4
	7.4nm,0.0s						
DGS	Degeres	4.15	54	eP	Pg	13 43 45.8	+0.6
	1.1nm,0.2s						
DGS				eS	Sg	13 44 40.1	+1.2
	3.0nm,0.2s						
KRBS	Karabastau	4.36	48	eP	Pg	13 43 48.7	-0.5
	0.4nm,0.1s						
KRBS				eS	Sg	13 44 45.1	-0.6
	2.0nm,0.3s						
BTLS	Baital	4.66	26	eP	Pg	13 43 54.8	-0.3
	0.5nm,0.1s						
BTLS				eS	Sg	13 44 54.7	-0.8
	3.5nm,0.1s						
KTBS	Karatobe	4.96	53	eP	Pg	13 44 00.4	-0.3
	0.7nm,0.2s						
KTBS				eS	Sg	13 45 06.0	+1.1
	3.3nm,0.3s						

IDC 11 13:45:33.9±3.1**, 2°.30N**×**128°.19E, h228**km±35km**, mb3.2**/5**, mb1 3.3**/6**, mb1mx2.9**/50**, mbtmp3.7**/6**, MS2.2**/1**, Ms1 2.2**/1**, ms1mx2.0**/20**, Error ellipse: s-maj=63.9km s-min=17.8km az=71.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.40	136	P	Pn	13 46 41.6	-0.1
	0.8nm,0.3s,baz=329,slow=19,SNR=4.8						
SIJI				LR	LR	13 47 48.5	
	comp=Z,32nm,21.1s,baz=132,slow=31						
FITZ	Fitzroy Crossi	20.43	187	P	P	13 49 54.4	+0.4
	4.8nm,1.2s,baz=21,slow=11,SNR=2.0						
WRA	Warramunga Arr	22.91	165	P	P	13 50 17.9	-0.3
	0.9nm,0.4s,baz=343,slow=10,SNR=30						
ASAR	Alice Springs	26.40	168	P	P	13 50 49.7	0.0
	0.8nm,0.5s,baz=353,slow=7.7,SNR=35						
STKA	Stephens Creek	36.30	161	P	P	13 52 15.8	0.0
	0.7nm,0.4s,baz=351,slow=8.5,SNR=3.8						
MKAR	Makanchi Array	59.55	325	P	P	13 55 13.5	0.0
	0.2nm,0.4s,baz=110,slow=7.6,SNR=9.4						

*NEIC **11** 14:07:17.1±1.6, 17°.7S±0°.1×178°.71W±0°.09, h550km±8km, mb4.3/25, Error ellipse: s-maj=16.7km s-min=11.6km az=195.0*

*IDC **11** 14:07:17.4±1.6, 17°.93S×178°.65W, h563km±19km, mb3.3/10, mb1 3.5/12, mb1mx3.4/26, mbtmp4.1/12, Error ellipse: s-maj=26.4km s-min=15.2km az=137.0*

ISC 11 14:07:16.7±0.5**, 17°.7S**±0°.1×**178°.7W**±0°.1**, h550**km**, n50,** σ**1s.17**/52**, mb4.1**/21**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.09	269	P	P	14 08 35.3	+2.8
	2.9nm,0.3s,baz=52,slow=1.7,SNR=16						
MSVF	Nonsavu	3.09	269	P	P	14 08 35.4	+3.0
AFI	Afiamalu	7.67	61	P	P	14 09 11.5	0.0
MARNC	Mare, Loyalty	13.04	251	P	P	14 10 04.6	-1.5
DZM	Mont Dzumac	14.62	250	P	P	14 10 22.8	+0.4
	0.9nm,0.3s,baz=82,slow=18,SNR=5.6						
KOUNC	Koumac, New Ca	16.31	257	P	P	14 10 39.5	+0.2
URZ	Urewera	20.78	189	P	P	14 11 16.4	-3.3
	12nm,0.9s,baz=282,slow=2.5,SNR=6.5						
LTZ	Lake Taylor	26.13	195	P	P	14 12 06.4	-0.8
WKZ	Wanaka	28.91	198	P	P	14 12 29.5	-2.1
MLZ	Mavora Lakes	29.67	199	P	P	14 12 38.0	-0.2
ARMA	Armidale	29.79	239	P	P	14 12 39.9	+0.4
ARMA				IAmb	IAmb	14 12 40.7	
	comp=Z,5.9nm,0.7s						
CAN	Canberra	33.59	232	P	P	14 13 11.5	-0.3
COEN	Coen	36.82	270	P	P	14 13 39.9	+1.0
COEN				IAmb	IAmb	14 13 48.5	
	comp=Z,16nm,1.4s						
TOO	Toolangi	37.06	230	P	P	14 13 41.2	+0.6
TOO				IAmb	IAmb	14 13 41.7	
	comp=Z,7.2nm,0.7s						
STKA	Stephens Creek	38.47	241	P	P	14 13 52.5	+0.5
	comp=Z,2.6nm,0.5s,baz=90,slow=12,SNR=14						
STKA	Stephens Creek	38.47	241	P	P	14 13 52.3	+0.3
BBOO	Buckleboo	43.24	241	P	P	14 14 29.8	-0.2
BBOO				IAmb	IAmb	14 14 30.6	
	comp=Z,10.0nm,0.8s						
WR0	Warramunga Arr	44.20	259	P	P	14 14 36.6	-1.0
WR0				IAmb	IAmb	14 14 43.6	
	comp=Z,8.1nm,1.4s						
WB0	Warramunga Arr	44.35	260	P	P	14 14 38.4	-0.3
WB0				IAmb	IAmb	14 15 00.7	
	comp=Z,10nm,1.5s						
WB2	Warramunga Arr	44.38	259	P	P	14 14 38.4	-0.5
WRAB	Tennant Creek	44.38	259	P	P	14 14 38.6	-0.4
WRAB				IAmb	IAmb	14 14 40.1	
	comp=Z,9.6nm,1.5s						
WRA	Warramunga Arr	44.39	259	P	P	14 14 38.1	-1.0
	comp=Z,1.0nm,0.5s,baz=98,slow=7.0,SNR=40						
WRA	Warramunga Arr	44.39	259	P	P	14 14 38.3	-0.8
AS31	Alice Springs	44.57	254	P	P	14 14 40.2	-0.2
AS31				IAmb	IAmb	14 14 40.8	
	comp=Z,4.3nm,0.7s						
ASAR	Alice Springs	44.57	254	P	P	14 14 40.2	-0.2
	comp=Z,14nm,0.5s,baz=90,slow=7.9,SNR=440						
ASAR	Alice Springs	44.57	254	P	P	14 14 40.1	-0.3
FORT	Forrest	49.83	244	P	P	14 15 19.3	-0.5
FORT				IAmb	IAmb	14 15 19.6	
	comp=Z,10nm,0.6s						
KNRA	Kununurra	50.23	264	P	P	14 15 22.5	-0.3
KNRA				IAmb	IAmb	14 15 49.3	
	comp=Z,16nm,1.2s						
FITZ	Fitzroy Crossi	52.78	260	P	P	14 15 41.5	+0.2
VNDA	Vanda	60.60	185	P	P	14 16 36.6	+2.7
QSPA	South Pole Qui	72.32	180	P	P	14 17 46.8	0.0
XMIS	Christmas Isla	73.31	264	P	P	14 17 51.7	-1.6
PEA0B	Petropavlovsk-	73.44	345	P	P	14 17 50.6	-2.5
PETK	Petropavlovsk-	73.44	345	P	P	14 17 52.9	-0.2
	comp=Z,1.9nm,0.7s,baz=133,slow=8.8,SNR=7.9						
PETK	Petropavlovsk-	73.44	345	P	P	14 17 53.6	+0.6
BEKR	Beckworth	78.95	42	P	P	14 18 24.3	+0.4
NVAR	Mina Array Bea	79.49	44	P	P	14 18 27.8	+0.9
	comp=Z,0.6nm,0.7s,baz=218,slow=7.9,SNR=4.1						
K05A	Summer Lake	80.24	39	P	P	14 18 30.8	+0.1
K05A				IAmb	IAmb	14 18 32.6	
	comp=Z,7.9nm,1.2s						
CAST	Castle Rocks	83.51	12	P	P	14 18 45.4	-1.2
CCB	Clear Creek Bu	85.47	13	P	P	14 18 55.2	-0.9
CCB				IAmb	IAmb	14 18 56.5	
	comp=Z,6.8nm,1.4s						
IMAR	Indian Mountai	85.55	10	P	P	14 18 56.2	-0.3
ILAR	Eielson Array	85.78	13	P	P	14 18 56.5	-1.1
	comp=Z,0.6nm,0.4s,baz=220,slow=5.2,SNR=15						
ILAR	Eielson Array	85.78	13	P	P	14 18 56.9	-0.7
TXAR	Lajitas Array	86.14	58	P	P	14 19 01.5	+1.3
	comp=Z,0.6nm,0.7s,baz=214,slow=5.9,SNR=4.9						
PDAR	Pinedale Array	87.42	44	P	P	14 19 06.3	+0.1
	comp=Z,0.7nm,0.6s,baz=204,slow=3.7,SNR=7.4						
BMAR	Burnt Mountain	88.55	13	P	P	14 19 11.2	+0.6
YKA	Yellowknife Ar	94.29	25	P	P	14 19 36.5	-0.5
	comp=Z,0.4nm,0.8s,baz=246,slow=4.9,SNR=4.3						
BRTR	Keskin Array B	144.46	315	PKP	PKPdf	14 25 51.1	+0.1
	comp=Z,0.7nm,0.5s,baz=129,slow=2.3,SNR=4.1						
GERES	GERESS Array B	147.37	345	PKPbc	PKPbc	14 25 59.0	+0.1
	comp=Z,1.4nm,0.6s,baz=25,slow=3.5,SNR=10						
GERES	GERESS Array B	147.37	345	PKPdf	PKPdf	14 25 53.9	-1.8
GERES					PKPbc	14 25 58.6	-0.4
GERES				PKPab	PKPab	14 26 02.4	-0.3

*IDC **11** 14:44:23.0±0.7, 36°.44N×84°.25E, h0km, mb4.1/17, mb1 4.3/22, mb1mx4.1/35, mbtmp4.1/22, ML3.6/5, MS3.8/54, Ms1 3.8/54, ms1mx3.7/85, Error ellipse: s-maj=21.9km s-min=13.0km az=50.0*

*BJI **11** 14:44:25.6±0.0, 36°.57N×83°.90E, h9km, mb4.2/25, mB4.6/19, ML5.0/9, Ms4.4/29, Ms7 4.0/27*

*NEIC **11** 14:44:27.3±2.2, 36°.55N±0°.08×84°.0E±0°.1, h14km±4km, mb4.6/52, Error ellipse: s-maj=12.7km s-min=12.1km*

az=123.0

GCMT ***11** 14:44:27.3±0.3, 36.̊59N±0.̊02×83.̊90E±0.̊02, h25km±1km, MW4.7/78, Moment Tensor Solution. s8,c8; s78,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.13; $M_{\theta\theta}$-1.23±.08; $M_{\phi\phi}$1.69±.09; $M_{r\theta}$-0.02±.17; $M_{\theta\phi}$0.70±.06; $M_{\phi r}$0.27±.16; Best double couple: $M_0$1.63900×10^{16} NP1:ϕ_s58.00000°,δ82.00000°,λ1.00000°. NP2: ϕ_s328.00000°,δ89.00000°,λ172.00000°. Principal axes: T 1.8810, Plg6.0000°, Azm283.0000°; N -0.4800, Plg82.0000°, Azm140.0000°; P -1.3980, Plg5.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NNC ***11** 14:44:28.9±2.9, 36.̊66N×83.̊85E, h23km±15km, mb4.7, mpv4.9 Error ellipse: s-maj=22.7km s-min=13.3km az=90.0*

ISC 11 14:44:26.7±0.4**, 36.̊61N**±0.̊04×**83.̊93E**±0.̊04**, h10**km**, n223, σ1.̊82**/185**, mb4.5**/39**, MS3.8**/56**, 16C-17D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.92**	**297**	Pn	**Pn**	**14 46 09.5**	**+1.2**
KSH				Sn	**Sn**	**14 47 32.6**	**+5.5**
KSH				smax	smax		
	comp=N,810nm,0.9s						
KSH				smax	smax		
	comp=E,700nm,0.8s						
TARG	**Taragay, Kyrgy**	**6.99**	**319**		**Pn**	**14 46 11.2**	**+1.7**
SHLS	**Shalkode**	**7.39**	**334**	*e*P	**Pn**	**14 46 13.4**	**-1.4**
	baz=336						
PDGK	**Podgornoye**	**7.53**	**334**	⇓Pn	**Pn**	**14 46 17.8**	**+1.2**
	36nm,0.7s						
PDGK				⇑Sn	**Sn**	**14 47 41.1**	**-1.1**
	495nm,1.0s						
PDGK				⇓Lg	Lg	14 48 26.3	
	1μm,1.4s						
UZB	**Uzynbulak**	**7.54**	**332**	*e*P	**Pn**	**14 46 17.1**	**+0.2**
	baz=331						
KDJ	**Kajisay**	**7.60**	**319**	Pn	**Pn**	**14 46 19.1**	**+1.5**
DHRM	**DHARAMSHALA**	**7.66**	**238**	*e*P	**Pn**	**14 46 19.5**	**+1.0**
DHRM				IAMs_20	IAMs_20	14 49 13.2	
	comp=Z,3μm,7.5s						
SATY	**Saty**	**7.72**	**328**	*e*P	**Pn**	**14 46 20.1**	**+0.8**
	baz=328						
WMQ	**Urumqi**	**7.76**	**21**	*e*Pn	**Pn**	**14 46 22.1**	**+2.4**
WMQ				Sn	**Sn**	**14 47 52.8**	**+5.1**
WMQ				Sg	**Sg**	**14 48 29.1**	**-6.6**
WMQ				smax	smax		
	comp=Z,200nm,1.1s						
WMQ				smax	smax		
	comp=Z,230nm,0.9s						
WMQ				LR	LR		
	comp=Z,890nm,10.5s						
WMQ				LR	LR		
	comp=Z,1μm,15.9s						
WMQ				LR	LR		
	comp=Z,540nm,17.5s						
ZHN	**Zhinishke**	**7.80**	**329**	*e*P	**Pn**	**14 46 21.2**	**+0.9**
	baz=329						
SMLA	**Simla**	**7.84**	**228**	*e*P	Pn	14 46 24.1	+3.3
SMLA				*i* x	x	14 48 34.0	
SMLA				IAMs_20	IAMs_20	14 49 27.0	
	comp=Z,2μm,7.9s						
KPKS	**Kokpek**	**7.95**	**331**	*e*P	**Pn**	**14 46 23.0**	**+0.7**
	baz=331						
ULHL	**Ulahol**	**8.19**	**316**	P	**Pn**	**14 46 27.0**	**+1.2**
	SNR=15						
DANN	**Dangsing**	**8.23**	**181**	*e*P	**Pn**	**14 46 25.9**	**-0.6**
	comp=Z,38nm,0.5s						
TNSS	**Tian-Shan**	**8.37**	**322**	*e*P	**Pn**	**14 46 28.9**	**+0.4**
	baz=322						
MDOK	**Medeo**	**8.42**	**323**	*e*P	**Pn**	**14 46 29.1**	**+0.2**
	baz=323						
MDOK	**Medeo**	**8.42**	**323**	Pn	**Pn**	**14 46 30.0**	**+1.2**
	comp=Z,35nm,0.6s						
MDOK				Lg	Lg	14 48 55.6	
	comp=Z,316nm,1.2s						
AAA	**Alma-Ata**	**8.52**	**323**	*e*P	**Pn**	**14 46 30.2**	**+0.1**
	baz=323						
PYUN	**Piuthan**	**8.52**	**186**	*e*P	**Pn**	**14 46 27.7**	**-2.6**
	comp=Z,56nm,0.8s						
BOOM	**Boomskoye usch**	**8.52**	**316**	Pn	**Pn**	**14 46 31.8**	**+1.6**
GKN	**Gorkha**	**8.60**	**176**	*e*P	**Pn**	**14 46 32.2**	**+0.8**
GOMU	**GeErMu**	**8.78**	**89**	P	**Pn**	**14 46 37.3**	**+3.2**
GOMU				pP	Pg	14 46 40.9	-34
GOMU				sP		14 46 44.8	
GOMU				pmax	pmax		
	comp=Z,20nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,120nm,4.0s						
GOMU				LR	LR		
	comp=Z,2μm,10.5s						
GOMU				LR	LR		
	comp=Z,750nm,11.0s						
GOMU				LR	LR		
	comp=Z,810nm,9.4s						
KOLN	**Koldanda**	**8.81**	**182**	*e*P	**Pn**	**14 46 31.3**	**-3.1**
	comp=Z,134nm,1.0s						
GUN	**Gumba**	**8.82**	**169**	*e*P	**Pn**	**14 46 37.5**	**+2.9**
CHKK	**Chushkaly**	**8.98**	**326**	*e*P	**Pn**	**14 46 36.5**	**+0.1**
	baz=326						
TKM2	**Tokmak 2**	**8.99**	**317**	P	**Pn**	**14 46 38.0**	**+1.2**
	SNR=78						
TKM2	**Tokmak 2**	**8.99**	**317**	⇓Pn	**Pn**	**14 46 38.0**	**+1.2**
	comp=Z,36nm,0.6s						
TKM2				⇓Lg	Lg	14 49 13.2	
	comp=Z,231nm,1.2s						
PKIN	**Phulchoki**	**9.09**	**172**	*e*P	**Pn**	**14 46 38.2**	**0.0**
	comp=Z,38nm,0.9s						
PKI	**Pulchoki**	**9.09**	**172**	*e*P	**Pn**	**14 46 39.4**	**+1.1**
LSA	**Lhasa**	**9.16**	**137**	P	Pn	14 46 43.5	+4.1
LSA				pP		14 46 46.8	
LSA				S	Sn	14 48 33.9	+11
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LSA				LR	LR		
	comp=Z,2μm,10.0s						
LSA				LR	LR		
	comp=Z,760nm,8.5s						
LSA				LR	LR		
	comp=Z,630nm,7.8s						
KBK	**Karagaybulak**	**9.19**	**314**	P	**Pn**	**14 46 40.5**	**+1.0**
	SNR=19						
UCH	**Uchtor**	**9.20**	**310**	P	**Pn**	**14 46 41.1**	**+1.3**
	SNR=47						
CHCP	**Chirah Chowk**	**9.22**	**255**	P	**Pn**	**14 46 39.4**	**-0.4**
NIL	**Nilore**	**9.23**	**255**	Pn	**Pn**	**14 46 39.8**	**-0.1**
KUU	**Kurty**	**9.31**	**324**	*e*P	**Pn**	**14 46 40.6**	**-0.3**
	baz=324						
TDK	**Taldyqorghan**	**9.37**	**335**	*e*P	**Pn**	**14 46 41.8**	**0.0**
	baz=335						
AAK	**Ala-Archa**	**9.45**	**313**	Pn	**Pn**	**14 46 44.6**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=114,slow=8.0,SNR=88						
AAK				Lg	Lg	14 49 25.6	
	comp=Z,1.8nm,0.3s,baz=201,slow=23,SNR=5.3						
AAK	**Ala-Archa**	**9.45**	**313**	P	**Pn**	**14 46 44.8**	**+1.8**
	SNR=45						
AAK	**Ala-Archa**	**9.45**	**313**	Pn	**Pn**	**14 46 44.0**	**+1.1**
AAK	**Ala-Archa**	**9.45**	**313**	Pn	**Pn**	**14 46 44.4**	**+1.5**
	comp=Z,19nm,0.6s						
AAK				Pg		14 47 15.1	
	comp=Z,26nm,0.7s						
AAK				Lg	Lg	14 49 22.8	
	comp=Z,146nm,1.1s						
FRU1	**Bishkek**	**9.47**	**314**		**Pn**	**14 46 45.7**	**+2.5**
AML	**Almayashu**	**9.65**	**308**	P	**Pn**	**14 46 46.8**	**+0.8**
	SNR=42						
SGDS	**Sogindy**	**9.88**	**317**	*e*P	**Pn**	**14 46 48.6**	**-0.2**
	baz=317						
EKS2	**Erkin-Say**	**9.89**	**311**	P	**Pn**	**14 46 50.7**	**+1.7**
	SNR=30						
CEP	**Cherat**	**10.22**	**258**	P	**Pn**	**14 46 52.0**	**-1.6**
MK31	**Makanchi Array**	**10.25**	**354**	Pn	**Pn**	**14 46 53.6**	**-0.2**
MK31	**Makanchi Array**	**10.25**	**354**	Pn	**Pn**	**14 46 53.4**	**-0.5**
	comp=Z,6.0nm,0.5s,baz=171,slow=14,SNR=166						
MK31				⇓Sn	**Sn**	**14 48 46.4**	**-2.5**
	comp=Z,42nm,0.7s,baz=180,slow=22,SNR=6.6						
MK31				⇓Lg	Lg	14 49 51.0	
	comp=Z,112nm,0.9s,baz=162,slow=29,SNR=3.9						
MKAR	**Makanchi Array**	**10.25**	**354**	Pn	**Pn**	**14 46 53.3**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=167,slow=14,SNR=60						
MKAR				Sn	**Sn**	**14 48 46.9**	**-2.0**
	comp=Z,3.1nm,0.3s,baz=179,slow=22,SNR=7.1						
MKAR				Lg	Lg	14 49 56.1	
	comp=Z,1.1nm,0.3s,baz=167,slow=28,SNR=3.0						
MKAR				LR	LR	14 51 47.5	
	comp=Z,332nm,18.4s,baz=170,slow=42						
MAKZ	**Makanchi**	**10.30**	**352**	Pn	**Pn**	**14 46 54.5**	**0.0**
MAKZ	**Makanchi**	**10.30**	**352**	⇑Pn	**Pn**	**14 46 54.8**	**+0.4**
	comp=Z,30nm,1.2s						
MAKZ				⇑Sn	**Sn**	**14 48 48.6**	**-1.3**
	comp=Z,60nm,1.2s						
MAKZ				⇓Lg	Lg	14 49 54.2	
	comp=Z,110nm,1.4s						
THW	**Thamme Wali**	**10.73**	**253**	P	**Pn**	**14 46 59.5**	**-0.9**
ZSN	**Zaisan**	**10.86**	**3**	*e*P	**Pn**	**14 47 02.0**	**-0.1**
	baz=3.3						
BTK	**Batken**	**10.86**	**292**	Pn	**Pn**	**14 47 00.8**	**-1.5**
BTLS	**Baital**	**11.27**	**321**	*e*P	**Pn**	**14 47 07.4**	**-0.3**
	baz=321						
DZA	**Taraz**	**11.55**	**307**	*e*P	**Pn**	**14 47 11.2**	**-0.4**
	baz=307						
IUG	**Iuzhnay**	**12.09**	**301**	*e*P	**Pn**	**14 47 17.5**	**-1.7**
	baz=301						
KK07	**Karatay Array**	**12.18**	**306**	⇓Pn	**Pn**	**14 47 19.6**	**-0.6**
	comp=Z,7.4nm,0.7s						
KK07				⇑Lg	Lg	14 50 51.2	
	comp=Z,24nm,0.9s						
KKAR	**Karatay Array**	**12.18**	**306**	Pn	**Pn**	**14 47 19.9**	**-0.3**
KBL	**Kabul**	**12.30**	**265**	Pn	**Pn**	**14 47 20.9**	**-1.2**
TAS	**Tashkent**	**12.33**	**297**	Pn	**Pn**	**14 47 20.8**	**-1.4**
GTA	**Gaotai**	**12.84**	**73**	*e*P	**Pn**	**14 47 29.2**	**-0.1**
GTA				pP		14 47 33.4	
GTA				sP		14 47 36.7	
GTA				S	**Sn**	**14 49 55.9**	**+3.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,4.0s						
GTA				LR	LR		
	comp=Z,1μm,16.0s						
GTA				LR	LR		
	comp=Z,430nm,16.0s						
GTA				LR	LR		
	comp=Z,540nm,15.3s						
BOK	**Bokaro**	**12.88**	**172**	*e*P	**Pn**	**14 47 27.4**	**-2.5**
BOK				*i* x	x	14 52 45.0	
LKP	**Lekhapani**	**13.69**	**129**	*i* x	x	14 52 44.1	
LKP				IAML		14 53 13.3	
	comp=Z,1μm,10.8s						
KOHI	**KOHIMA**	**13.90**	**138**	*e*P	Pn	14 47 38.7	-5.3
KOHI				*i* x	x	14 52 04.8	
SEM	**Semipalatinsk**	**14.05**	**350**	*e*P	**Pn**	**14 47 46.8**	**+0.9**
	baz=350						
OTUK	**Ortayu**	**14.42**	**327**	⇑Pn	**Pn**	**14 47 50.5**	**-0.3**
	comp=Z,12nm,0.9s						
OTUK				⇓Lg	Lg	14 52 03.6	
	comp=Z,151nm,1.4s						
BHPL	**Bhopal**	**14.46**	**205**	*e*P	**Pn**	**14 47 47.2**	**-4.3**
BHPL				*i* x	x	14 52 56.2	
BHPL				IAMs_20	IAMs_20	14 53 39.5	
	comp=Z,706nm,9.1s						
KURBB	**Kurchatov Arra**	**14.54**	**346**	Pn	**Pn**	**14 47 50.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=11						
KURBB				LR	LR	14 54 24.3	
	comp=Z,264nm,21.1s,baz=146,slow=41						
KURBB	**Kurchatov Arra**	**14.54**	**346**	⇓Pn	**Pn**	**14 47 52.1**	**-0.3**
	comp=Z,15nm,0.8s						
KURBB				⇓Lg	Lg	14 52 07.7	
	comp=Z,177nm,1.1s						
KURK	**Kurchatov**	**14.61**	**347**	Pn	**Pn**	**14 47 53.8**	**+0.4**
KURK	**Kurchatov**	**14.61**	**347**	Pn	**Pn**	**14 47 53.1**	**-0.3**
KURK				Lg	Lg	14 52 08.9	
BRZS	**Berezniki**	**15.65**	**332**	*e*P	**Pn**	**14 48 07.5**	**+0.2**
	baz=332						
LZH	**Lanzhou**	**16.05**	**86**	⇓P	**P**	**14 48 15.8**	**-0.3**
LZH				sP	sP	14 48 23.1	+1.1
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,6.0s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
LZH				LR	LR		
	comp=Z,690nm,14.1s						
LZH				LR	LR		
	comp=Z,570nm,13.6s						
ZAA0	**Zalesovo Array**	**17.36**	**2**	Pn	**Pn**	**14 48 25.8**	**-3.0**
ZALV	**Zalesovo Beam**	**17.36**	**2**	Pn	**Pn**	**14 48 26.3**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=183,slow=12,SNR=29						
ZALV				LR	LR	14 56 08.5	
	comp=Z,220nm,18.6s,baz=194,slow=40						
ZALV	**Zalesovo Beam**	**17.36**	**2**		**Pn**	**14 48 26.1**	**-2.7**
HRA	**Herat**	**17.80**	**269**		**Pn**	**14 48 31.6**	**-3.1**
BVA1	**Borovoye Array**	**18.97**	**334**	⇑Pn	**Pn**	**14 48 48.0**	**-0.6**
	comp=Z,10nm,0.8s						
BVAR	**Borovoye Array**	**18.97**	**334**	P	**Pn**	**14 48 48.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=85,slow=18,SNR=24						
BVAR				Lg	Lg	14 54 33.1	
	comp=Z,0.1nm,0.3s,baz=114,slow=22,SNR=4.0						
BRVK	**Borovoye**	**19.03**	**334**		**Pn**	**14 48 49.7**	**+0.2**
BRVK	**Borovoye**	**19.03**	**334**	⇑Pn	**Pn**	**14 48 49.6**	**+0.2**
	comp=Z,11nm,0.8s						
HYBB	**Hyderabad (bro**	**19.70**	**195**	*e*P	**P**	**14 48 54.2**	**-2.0**
KMI	**Kunming**	**19.75**	**120**	⇑P	**P**	**14 48 54.6**	**-2.4**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
SONM	**Songino Array**	**19.99**	**49**	P	Pn	14 48 59.8	-1.2
	comp=Z,0.6nm,0.3s,baz=241,slow=10,SNR=49						
SONM				LR	LR	14 57 00.1	
	comp=Z,306nm,20.0s,baz=248,slow=38						
SONM	**Songino Array**	**19.99**	**49**		Pn	14 49 01.6	+0.5
SONM				IAmb	IAmb	14 49 04.2	
	comp=Z,20nm,0.8s						
POO	**Poona**	**20.08**	**209**	IAMs_20	IAMs_20	14 50 38.8	
	comp=Z,118nm,5.6s						
ULN	**Ulaanbaatar**	**20.40**	**49**		Pn	14 49 04.8	-1.1
ULN				IAmb	IAmb	14 49 09.3	
	comp=Z,36nm,1.2s						
XAN	**Xi'an**	**20.54**	**90**	P	**P**	**14 49 03.1**	**-2.2**
XAN				pP	pP	14 49 07.8	-1.5
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GEYT	**Alibeck**	**20.57**	**281**	P	**P**	**14 49 05.2**	**-0.5**
	comp=Z,8.6nm,0.8s,baz=99,slow=15,SNR=10						
GEYT				LR	LR	14 58 41.3	
	comp=Z,192nm,19.1s,baz=101,slow=41						
GEYT	**Alibeck**	**20.57**	**281**	P	**P**	**14 49 05.1**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**20.57**	**281**	P	**P**	**14 49 05.1**	**-0.6**
GYA0B				IAmb	IAmb	14 49 30.8	
	comp=Z,15nm,0.8s						
AB31	**Akbulak array**	**21.53**	**313**	P	**P**	**14 49 15.0**	**-0.9**
	comp=Z,16nm,0.7s,baz=108,slow=11,SNR=182						
ABKAR	**Akbulak array**	**21.53**	**313**	P	**P**	**14 49 15.2**	**-0.7**
ABKAR	**Akbulak array**	**21.53**	**313**	P	**P**	**14 49 15.6**	**-0.3**
ABKAR				IAmb	IAmb	14 49 22.1	
	comp=Z,29nm,1.0s						
GYA	**Guiyang**	**21.81**	**111**	⇓P	**P**	**14 49 19.6**	**+0.4**
GYA				S	**S**	**14 53 21.3**	**+0.9**
GYA				pmax	pmax		
	comp=Z,16nm,0.9s						
GYA				pmax	pmax		
	comp=Z,190nm,3.5s						
GYA				LR	LR		
	comp=Z,280nm,8.0s						
GYA				LR	LR		
	comp=Z,150nm,7.2s						
GYA				LR	LR		
	comp=Z,420nm,16.1s						
CHTO	**Chiang Mai**	**22.10**	**139**	P	**P**	**14 49 19.3**	**-2.9**
CM31	**Chiang Mai Arr**	**22.40**	**140**	P	**P**	**14 49 23.5**	**-1.9**
CM31				IAmb	IAmb	14 49 29.7	
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**22.40**	**140**	P	**P**	**14 49 20.2**	**-5.2**
	comp=Z,2.9nm,0.9s,baz=321,slow=10,SNR=19						
CMAR	**Chiang Mai Arr**	**22.40**	**140**	P	**P**	**14 49 21.8**	**-3.6**
AKTO	**Aktyubinsk**	**23.18**	**315**	P	**P**	**14 49 33.2**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=114,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**23.18**	**315**	⇑P	**P**	**14 49 31.6**	**-1.7**
	comp=Z,7.1nm,0.9s						
LYN	**LuoYang**	**23.27**	**87**	*e*P	**P**	**14 49 35.4**	**+1.0**
LYN				S	**S**	**14 53 41.8**	**-4.8**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN				pmax	pmax		
	comp=Z,80nm,4.2s						
LYN				LR	LR		
	comp=Z,350nm,11.4s						
LYN				LR	LR		
	comp=Z,300nm,10.2s						
LYN				LR	LR		
	comp=Z,390nm,20.6s						
HNS	**HongShan**	**24.54**	**79**	⇑P	**P**	**14 49 50.0**	**+3.5**
HNS				S	**S**	**14 54 14.7**	**+7.7**
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
HNS				LR	LR		
	comp=Z,1μm,17.3s						
HNS				LR	LR		
	comp=Z,370nm,17.5s						
HNS				LR	LR		
	comp=Z,410nm,15.7s						
BJI	**Beijing**	**25.45**	**72**	P	**P**	**14 50 00.8**	**+6.1**
BJI				LR	LR		
	comp=Z,290nm,10.6s						
BJI				LR	LR		
	comp=Z,270nm,11.2s						
BJI				LR	LR		
	comp=Z,360nm,13.7s						
PBA	**Port Blair**	**26.08**	**160**	IAMs_20	IAMs_20	14 50 44.7	
	comp=Z,461nm,6.2s						
ARU	**Arti**	**26.16**	**327**	P	**P**	**14 50 01.4**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=150,slow=3.3,SNR=11						
ARU				LR	LR	15 01 21.1	
	comp=Z,260nm,19.9s,baz=124,slow=38						
ARU	**Arti**	**26.16**	**327**	P	**P**	**14 50 01.4**	**+0.5**
ARU				IAmb	IAmb	14 50 06.9	
	comp=Z,9.6nm,0.9s						
TIA	**Tai'an**	**26.64**	**81**	⇓P	P	14 50 14.5	+8.9
TIA				S	S	14 55 01.7	+21
TIA				pmax	pmax		
	comp=Z,14nm,0.8s						
TIA				pmax	pmax		
	comp=Z,110nm,5.7s						
TIA				LR	LR		
	comp=N,1μm,19.0s						
TIA				LR	LR		
	comp=E,230nm,20.2s						
TIA				LR	LR		
	comp=Z,270nm,11.4s						
TRD	**Trivandrum**	**28.68**	**194**	IAMs_20	IAMs_20	14 49 52.4	
	comp=Z,196nm,5.6s						
KIRV	**Kirov**	**31.46**	**325**	LR	LR	15 04 02.8	
	comp=Z,101nm,18.5s,baz=123,slow=37						
ONI	**Oni**	**31.54**	**294**	P	**P**	**14 50 50.8**	**+1.7**
GEVA	**Gevas**	**32.31**	**286**	P	**P**	**14 50 56.7**	**+0.7**
GEVA				IAmb	IAmb	14 51 02.3	
	comp=Z,7.5nm,1.2s						
NRIK	**Noril'sk**	**32.85**	**2**	P	**P**	**14 51 01.0**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=176,slow=6.7,SNR=8.0						
NRIK	**Noril'sk**	**32.85**	**2**	P	**P**	**14 51 00.5**	**+0.4**
NRIK				IAmb	IAmb	14 51 02.4	
	comp=Z,9.0nm,1.0s						
GURO	**Guroymak-BITLI**	**33.06**	**286**	P	**P**	**14 51 03.3**	**+0.7**
GURO				IAmb	IAmb	14 51 08.8	
	comp=Z,3.3nm,0.7s						
KSRS	**Korea Array**	**34.89**	**75**	LR	LR	15 06 15.2	
	comp=Z,118nm,18.9s,baz=270,slow=38						
RAYN	**Ar Rayn**	**35.49**	**259**	P	**P**	**14 51 25.2**	**+1.5**
RAYN				IAmb	IAmb	14 51 27.1	
	comp=Z,6.0nm,0.9s						
PSI	**Prapat**	**36.37**	**154**	LR	LR	15 08 12.0	
	comp=Z,122nm,21.6s,baz=348,slow=40						
KLR	**Kul'dur**	**36.62**	**55**	LR	LR	15 07 03.6	
	comp=Z,224nm,18.1s,baz=269,slow=37						
USRK	**Ussuriysk Ar.**	**36.93**	**63**	LR	LR	15 06 29.2	
	comp=Z,99nm,21.8s,baz=258,slow=36						
KLMR	**Klimovskoe**	**36.96**	**325**	*e*P	**P**	**14 51 34.8**	**-0.9**
KLMR				AMP		14 51 41.1	
	comp=Z,10.0nm,0.9s						
KLMR				*e*PP	**PP**	**14 52 58.2**	**-1.5**
OBN	**Obninsk**	**36.96**	**315**	LR	LR	15 08 14.5	
	comp=Z,50nm,18.4s,baz=12,slow=38						
YAK	**Yakutsk**	**37.97**	**33**	LR	LR	15 07 14.8	
	comp=Z,86nm,18.7s,baz=260,slow=36						
ILGA	**Ilgaz**	**38.94**	**292**	P	**P**	**14 51 54.2**	**+1.3**
BR131	**Keskin Array S**	**39.25**	**290**	P	**P**	**14 51 56.3**	**+0.8**
BR131				IAmb	IAmb	14 52 01.4	
	comp=Z,18nm,0.9s						
BRTR	**Keskin Array B**	**39.25**	**290**	P	**P**	**14 51 56.1**	**+0.6**
	comp=Z,9.6nm,1.0s,baz=88,slow=7.8,SNR=21						
BRTR	**Keskin Array B**	**39.25**	**290**	P	**P**	**14 51 55.8**	**+0.3**
ANTO	**Ankara**	**39.86**	**291**	P	**P**	**14 52 01.1**	**+0.7**
AKASG	**Malin Array Be**	**41.08**	**308**	P	**P**	**14 52 09.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=7.2,SNR=7.8						
AKASG				LR	LR	15 10 41.1	
	comp=Z,66nm,19.1s,baz=74,slow=38						
AKASG	**Malin Array Be**	**41.08**	**308**	P	**P**	**14 52 10.6**	**+0.3**
BORA	**Eskisehir**	**41.61**	**291**	P	**P**	**14 52 15.8**	**+0.8**
BORA				IAmb	IAmb	14 52 20.7	
	comp=Z,14nm,0.9s						
MNK	**Minsk**	**41.89**	**314**	*i* P	**P**	**14 52 17.1**	**+0.2**
	comp=E,2.0nm,0.6s						
MNK				*i* P	**P**	**14 52 17.1**	**+0.2**
	comp=N,17nm,0.7s						
MNK				*i* P	**P**	**14 52 17.1**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=272						
MNK				*i* PP	**PP**	**14 53 54.1**	**+0.4**
MNK				*i* PPP	PPP	14 54 22.9	
MNK				*i* S	**S**	**14 58 35.8**	**+0.9**
MNK				*i* SS	**SS**	**15 01 43.9**	**+2.8**
MNK				*i* SSS	SSS	15 02 13.1	
MNK				*i* LQ	LQ	15 06 37.7	
MNK				*i* LR	LR	15 09 34.0	
MNK				*i* LRM	MLR	15 11 35.2	
	comp=N,62nm,16.1s						
MNK				*i* LRM	MLR	15 11 36.2	
	comp=E,21nm,17.4s						
MNK				*i* LRM	MLR	15 11 36.2	
	comp=Z,133nm,16.1s						
TIXI	**Tiksi**	**41.96**	**20**	LR	LR	15 11 41.1	
	comp=Z,58nm,20.7s,baz=185,slow=39						
TIXI	**Tiksi**	**41.96**	**20**	P	**P**	**14 52 17.3**	**0.0**
ELL	**Elmali**	**42.83**	**287**	P	**P**	**14 52 25.8**	**+0.7**
MJAR	**Matsushiro Arr**	**43.09**	**73**	LR	LR	15 11 17.8	
	comp=Z,76nm,18.2s,baz=326,slow=38						
VRI	**Vrincioaia**	**43.17**	**301**	⇓P	**P**	**14 52 29.2**	**+1.7**
FINES	**FINESS Array B**	**43.41**	**324**	P	**P**	**14 52 30.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=104,slow=8.0,SNR=4.0						
FINES				LR	LR	15 11 40.2	
	comp=Z,112nm,20.6s,baz=98,slow=38						
MLR	**Muntele Rosu**	**43.78**	**300**	⇑P	**P**	**14 52 34.6**	**+2.1**
MLR	**Muntele Rosu**	**43.78**	**300**	LR	LR	15 13 39.6	
	comp=Z,116nm,19.4s,baz=66,slow=40						
MLR	**Muntele Rosu**	**43.78**	**300**	P	**P**	**14 52 33.8**	**+1.3**
MLR				IAmb	IAmb	14 52 40.5	
	comp=Z,12nm,0.8s						
BURAR	**Bucovina Array**	**43.95**	**304**	⇓P	**P**	**14 52 34.8**	**+0.9**
BURAR	**Bucovina Array**	**43.95**	**304**	P	**P**	**14 52 34.8**	**+0.9**
BUR08	**Bucovina Ar. S**	**43.96**	**304**	P	**P**	**14 52 34.6**	**+0.7**
PABE	**Paberze**	**44.16**	**315**	P	**P**	**14 52 35.8**	**+0.5**
VOIR		**44.41**	**301**	⇑P	**P**	**14 52 39.0**	**+1.5**
ASAJ	**Asahikawa**	**44.50**	**61**	LR	LR	15 11 12.5	
	comp=Z,81nm,20.6s,baz=276,slow=36						
ARR	**Arges**	**44.71**	**300**	⇑P	**P**	**14 52 41.6**	**+1.6**
ARCES	**ARCESS Array B**	**45.25**	**335**	P	**P**	**14 52 43.5**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=81,slow=5.6,SNR=3.0						
ARCES	**ARCESS Array B**	**45.25**	**335**	P	**P**	**14 52 44.8**	**+0.9**
ARCES				IAmb	IAmb	14 53 12.7	
	comp=Z,13nm,1.1s						
GZR	**Gura Zlata**	**45.99**	**301**	⇑P	**P**	**14 52 51.6**	**+1.5**
BZS	**Buzias**	**46.74**	**301**	⇑P	**P**	**14 52 57.3**	**+1.4**
MDVR	**Moldovita**	**46.85**	**300**	⇑P	**P**	**14 52 58.7**	**+1.9**
LIT	**Litokhoron**	**47.47**	**294**	P	**P**	**14 53 03.2**	**+1.5**
MA2	**Magadan**	**47.77**	**39**	LR	LR	15 13 50.3	
	comp=Z,172nm,18.1s,baz=272,slow=37						
DIVS	**Divibare**	**48.21**	**300**	P	**P**	**14 53 08.1**	**+0.6**
LEM	**Lembang**	**48.58**	**148**	LR	LR	15 17 57.2	
	comp=Z,83nm,18.4s,baz=344,slow=42						
MORH	**Mrgy, Hungar**	**48.64**	**303**	⇓P	**P**	**14 53 10.8**	**+0.2**
VRAC	**Vranov**	**49.32**	**307**	LR	LR	15 16 10.8	
	comp=Z,52nm,21.2s,baz=106,slow=38						
HFS	**Hagfors**	**49.45**	**322**	LR	LR	15 15 28.3	
	comp=Z,163nm,18.2s,baz=83,slow=38						
SPITS	**Spitsbergen Ar**	**49.89**	**346**	LR	LR	15 17 33.3	
	comp=Z,167nm,18.9s,baz=154,slow=40						
NB2	**NORSAR Subarra**	**50.58**	**323**	P	**P**	**14 53 25.4**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=84,slow=7.9						
NOA	**NORSAR Array B**	**50.58**	**323**	P	**P**	**14 53 25.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=85,slow=7.4,SNR=7.6						
NOA				LR	LR	15 15 06.4	
	comp=Z,150nm,18.4s,baz=90,slow=36						
CLL	**Collm**	**51.16**	**310**	*e*P	**P**	**14 53 29.0**	**-0.7**
CLL				LmV		15 16 00.0	
	comp=Z,100nm,19.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEC2	GERESS Array S	51.28	307	P	P	14 53 32.2	+1.4
GEC2				IAmb	IAmb	14 53 37.6	
	comp=Z,5.0nm,0.9s						
GERES	GERESS Array B	51.28	307	P	P	14 53 31.8	+1.0
	comp=Z,2.0nm,0.6s,baz=69,slow=8.7,SNR=20						
PETK	Petropavlovsk-	52.46	47	LR	LR	15 17 15.8	
	comp=Z,131nm,18.5s,baz=281,slow=38						
KAPI	Kappang	53.24	133	LR	LR	15 19 22.8	
	comp=Z,46nm,19.2s,baz=312,slow=40						
DAVOX	Davos/Dischmat	54.32	306	LR	LR	15 22 19.6	
	comp=Z,60nm,21.1s,baz=79,slow=42						
SIJI	Sorong	57.56	119	LR	LR	15 20 14.5	
	comp=Z,44nm,21.8s,baz=83,slow=38						
GUMO	Guam	58.75	96	LR	LR	15 19 34.9	
	comp=Z,35nm,21.2s,baz=34,slow=36						
EKA	Eskdalemuir Ar	59.30	318	LR	LR	15 21 26.1	
	comp=Z,163nm,18.2s,baz=89,slow=37						
MBAR	Mbarara	61.59	246	LR	LR	15 24 17.6	
	comp=Z,56nm,19.6s,baz=96,slow=39						
SHEM	Shemya Is, Ala	61.97	44	LR	LR	15 23 11.5	
	comp=Z,38nm,19.7s,baz=8.5,slow=38						
EUNU	Eureka	63.46	358	P	P	14 54 58.4	+2.1
EUNU				IAmb	IAmb	14 55 03.3	
	comp=Z,5.0nm,0.8s						
ESDC	Sonseca Array	66.40	303	P	P	14 55 15.4	-0.6
	comp=Z,1.4nm,0.8s,baz=50,slow=7.0,SNR=8.0						
ESDC				LR	LR	15 28 00.5	
	comp=Z,34nm,20.2s,baz=351,slow=39						
ESDC	Sonseca Array	66.40	303	P	P	14 55 16.2	+0.1
FITZ	Fitzroy Crossi	67.17	137	LR	LR	15 27 35.8	
	comp=Z,57nm,18.3s,baz=306,slow=39						
FITZ	Fitzroy Crossi	67.17	137	P	P	14 55 19.2	-1.7
FITZ				IAmb	IAmb	14 55 34.3	
	comp=Z,5.0nm,1.1s						
TOLK	Toolik Lake Re	67.84	19	P	P	14 55 24.0	-0.7
IMAR	Indian Mountai	68.55	22	P	P	14 55 29.0	-0.1
COLD	Coldfoot	68.69	20	P	P	14 55 30.4	+0.4
COLD				IAmb	IAmb	14 55 41.7	
	comp=Z,4.8nm,0.9s						
RES	Resolute Bay	68.99	360	LR	LR	15 29 05.1	
	comp=Z,61nm,18.3s,baz=166,slow=39						
H21K	Melozitna Rive	69.06	22	P	P	14 55 32.4	+0.1
BMAR	Burnt Mountain	70.01	18	P	P	14 55 38.3	+0.2
SFJD	Kangerlussuaq	71.09	343	LR	LR	15 31 40.8	
	comp=Z,66nm,18.2s,baz=42,slow=40						
ILAR	Eielson Array	71.42	21	P	P	14 55 45.3	-1.5
	comp=Z,1.1nm,0.8s,baz=309,slow=3.6,SNR=11						
ILAR	Eielson Array	71.42	21	P	P	14 55 45.6	-1.1
INK	Inuvik	71.72	14	LR	LR	15 33 29.4	
	comp=Z,50nm,18.1s,baz=60,slow=41						
MORW	Morawa	71.96	151	P	P	14 55 48.5	-1.8
C36M	Paulatuk	72.36	10	P	P	14 55 51.2	-1.0
SCRK	Sand Creek	72.85	20	P	P	14 55 54.5	-0.9
SCRK				IAmb	IAmb	14 55 58.2	
	comp=Z,10nm,1.4s						
WB0	Warramunga Arr	73.57	131	P	P	14 55 59.2	-0.9
WB0				IAmb	IAmb	14 56 00.8	
	comp=Z,3.2nm,0.9s						
WRA	Warramunga Arr	73.67	131	P	P	14 55 57.3	-3.4
	comp=Z,1.8nm,0.8s,baz=323,slow=6.0,SNR=13						
WRA	Warramunga Arr	73.67	131	P	P	14 55 59.2	-1.5
WRAB	Tennant Creek	73.67	131	P	P	14 55 58.6	-2.1
WRAB				IAmb	IAmb	14 56 21.9	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	73.68	131	P	P	14 55 58.0	-2.8
WB2				IAmb	IAmb	14 56 23.1	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	73.81	131	IAmb	IAmb	14 55 58.8	
	comp=Z,5.8nm,1.2s						
WR0				P	P	14 55 59.1	-2.4
DAWY	Dawson	73.99	18	P	P	14 56 01.7	-0.3
DAWY				IAmb	IAmb	14 56 06.9	
	comp=Z,6.1nm,1.2s						
KDAK	Kodiak Island	74.72	28	LR	LR	15 30 25.4	
	comp=Z,130nm,19.4s,baz=300,slow=37						
KDAK	Kodiak Island	74.72	28	P	P	14 56 06.1	-0.2
PMG	Port Moresby	74.86	114	LR	LR	15 35 20.2	
	comp=Z,20nm,18.6s,baz=330,slow=41						
TOA0	Torodi Ar. Sit	76.11	276	P	P	14 56 15.4	+0.4
TOA0				IAmb	IAmb	14 56 26.7	
	comp=Z,6.4nm,1.3s						
TORD	Torodi Ar. Bea	76.11	276	P	P	14 56 15.4	+0.4
	comp=Z,1.7nm,0.6s,baz=47,slow=5.1,SNR=8.5						
TORD	Torodi Ar. Bea	76.11	276	P	P	14 56 15.8	+0.8
AS31	Alice Springs	76.26	134	P	P	14 56 15.5	-0.2
ASAR	Alice Springs	76.26	134	P	P	14 56 10.4	-5.2
	comp=Z,0.7nm,0.9s,baz=330,slow=6.2,SNR=5.6						
ASAR				LR	LR	15 33 43.4	
	comp=Z,58nm,18.6s,baz=234,slow=39						
ASAR	Alice Springs	76.26	134	P	P	14 56 13.8	-1.9
FRB	Frobisher Bay	77.62	348	LR	LR	15 35 30.8	
	comp=Z,75nm,18.4s,baz=16,slow=39						
SKAG	Skagway	78.91	19	P	P	14 56 29.4	-0.5
KOWA	Kowa	79.89	281	LR	LR	15 38 46.8	
	comp=Z,49nm,18.8s,baz=24,slow=41						
YKA	Yellowknife Ar	80.12	9	P	P	14 56 34.6	-1.8
	comp=Z,1.1nm,0.8s,baz=339,slow=5.1,SNR=13						
DLBC	Dease Lake	81.15	17	LR	LR	15 37 13.0	
	comp=Z,57nm,19.0s,baz=290,slow=39						
CTA	Charters Tower	81.45	123	LR	LR	15 33 39.5	
	comp=Z,35nm,22.0s,baz=263,slow=36						
LBTB	Lobatse	82.32	231	LR	LR	15 33 26.5	
	comp=Z,38nm,18.6s,baz=89,slow=36						
DBIC	Dimbokro	85.10	275	LR	LR	15 39 02.6	
	comp=Z,50nm,20.1s,baz=74,slow=38						
BOSA	Boshof	85.13	229	LR	LR	15 31 17.5	
	comp=Z,60nm,21.7s,baz=161,slow=33						
SCHQ	Schefferville	85.53	344	LR	LR	15 40 00.0	
	comp=Z,59nm,18.2s,baz=81,slow=39						
BBB	Bella Bella	87.25	19	LR	LR	15 39 52.9	
	comp=Z,68nm,18.7s,baz=312,slow=38						
NEW	Newport	93.44	14	LR	LR	15 44 53.3	
	comp=Z,54nm,18.5s,baz=326,slow=39						
ULM	Lac du Bonnet	93.52	360	LR	LR	15 42 22.8	
	comp=Z,76nm,19.1s,baz=115,slow=37						
SADO	Sadowa	97.56	348	LR	LR	15 47 11.0	
	comp=Z,59nm,18.7s,baz=204,slow=38						
YBH	Yreka Blue Hor	98.31	20	LR	LR	15 46 48.6	
	comp=Z,55nm,18.5s,baz=338,slow=38						

*IDC **11** 14:55:28.7±18.0, 11°.31N×89°.56W, h0^{km}, mb3.6/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/58, Error ellipse: s-maj=364.0km s-min=64.2km az=8.0*

*SNET **11** 14:55:38.6±0.8, 12°.45N×90°.09W, h4^{km}±10^{km}, ML3.4*

ISC 11 14:55:39.7±1.8, 12°.5N±0°.1×90°.02W±0°.10, h10^{km}, n19, σ$1^s.10$/20, mb3.4/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.28	26	eP	Pn	14 56 03.3	-0.5
JAYA				IAML		14 56 22.0	
	comp=Z,806nm,0.2s						
CEVE	Cerro Verde	1.39	16	eP	Pn	14 56 05.0	-0.3
NUBE	Las Nubes	1.43	9	eP	Pn	14 56 05.3	-0.5
NUBE				IAML		14 56 27.0	
	comp=Z,338nm,0.5s						
SNJE	San Jose	1.43	16	eP	Pn	14 56 05.5	-0.4
SNJE				IAML		14 56 36.5	
	comp=Z,407nm,0.6s						
BOQS	Boqueron	1.43	30	eP	Pn	14 56 05.8	-0.1
BOQS				IAML		14 56 29.5	
	comp=Z,370nm,0.3s						
RTR	El Retiro	1.45	14	eP	Pn	14 56 06.1	0.0
LFRS	El Faro	1.46	39	eP	Pn	14 56 06.7	+0.4
LFU	La Fuente	1.53	35	eP	Pn	14 56 07.7	+0.5
SLOZ	Alcaldia de Sa	1.55	8	eP	Pb	14 56 07.7	-0.7
SLOZ				eS	Sg	14 56 29.9	+0.5
SLOZ				IAML		14 56 33.6	
	comp=Z,299nm,0.5s						
LBRS	Las Brisas	1.56	37	eP	Pb	14 56 08.3	-0.4
COEG	Centro de Oper	1.58	44	eP	Pn	14 56 08.2	+0.4
TACO	Tacachico	1.61	24	eP	Pn	14 56 08.2	0.0
PAVA	Las Pavas	1.61	41	eP	Pn	14 56 08.9	+0.6
PAVA				eS	Sg	14 56 32.3	+0.7
PAVA				IAML		14 56 34.2	
	comp=Z,803nm,0.3s						
SCLA	Alcaldia de Sa	1.74	46	eP	Pb	14 56 11.4	-0.4
MTO3	Montecristo	2.00	19	eP	Pn	14 56 14.3	+0.5
TXAR	Lajitas Array	21.02	325	P	P	15 00 27.4	+3.6
	comp=Z,0.8nm,0.6s,baz=148,slow=9.7,SNR=7.4						
SJG	San Juan	23.68	73	LR	LR	15 09 57.3	
	comp=Z,34nm,18.8s,baz=136,slow=37						
SCHQ	Schefferville	46.00	18	P	P	15 04 01.3	-1.8
	comp=Z,1.7nm,0.5s,baz=240,slow=4.8,SNR=6.6						
YKA	Yellowknife Ar	52.94	346	P	P	15 04 55.3	-0.6
	comp=Z,0.3nm,0.6s,baz=144,slow=7.9,SNR=7.3						

IDC 11 15:07:50.0±2.2, 1°.69N×127°.09E, h0^{km}, mb3.2/4, mb1 3.3/4, mb1mx3.2/39, mbtmp3.2/4, Error ellipse: s-maj=217.9km s-min=23.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.64	162	P	P	15 12 52.7	-0.2
	0.3nm,0.7s,baz=340,slow=10,SNR=2.2						
ASAR	Alice Springs	26.06	166	P	P	15 13 25.4	0.0
	0.1nm,0.8s,baz=352,slow=13,SNR=1.7						
MKAR	Makanchi Array	59.43	326	P	P	15 17 55.0	+0.3
	0.2nm,0.4s,baz=119,slow=7.9,SNR=7.3						
KURBB	Kurchatov Arra	63.64	328	P	P	15 18 22.6	-0.4
	0.1nm,0.6s,baz=129,slow=5.9,SNR=4.4						

IDC 11 15:09:30.5±60.0, 22°.23S×178°.92W, h0^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, Error ellipse: s-maj=1093.0km s-min=166.8km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.28	246	P	P	15 16 34.9	-0.9
	1.0nm,0.6s,baz=90,slow=11,SNR=3.1						
ASAR	Alice Springs	43.31	259	P	P	15 17 34.2	-0.3
	0.5nm,0.3s,baz=94,slow=7.3,SNR=34						
WRA	Warramunga Arr	43.54	264	P	P	15 17 36.8	+0.5
	1.1nm,0.5s,baz=97,slow=8.5,SNR=38						

IDC 11 15:21:45.8±2.1, 15°.24S×175°.33W, h257^{km}±31^{km}, mb3.3/5, mb1 3.6/6, mb1mx3.3/27, mbtmp3.9/6, Error ellipse: s-maj=106.9km s-min=15.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.68	69	P	Pn	15 22 46.3	0.0
	15nm,0.3s,baz=230,slow=0.2,SNR=15						
STKA	Stephens Creek	42.51	239	P	P	15 29 16.2	-0.3
	0.5nm,0.3s,baz=96,slow=12,SNR=4.0						
WRA	Warramunga Arr	48.07	257	P	P	15 29 59.9	-0.2
	1.8nm,0.6s,baz=92,slow=6.9,SNR=49						
ASAR	Alice Springs	48.39	252	P	P	15 30 02.6	0.0
	19nm,0.7s,baz=86,slow=8.2,SNR=394						
NVAR	Mina Array Bea	75.47	43	P	P	15 33 02.7	+0.6
	0.9nm,0.6s,baz=229,slow=8.2,SNR=5.4						
ILAR	Eielson Array	82.66	12	P	P	15 33 40.1	-0.1
	0.4nm,0.8s,baz=230,slow=5.8,SNR=6.9						
PDAR	Pinedale Array	83.40	43	P	P	15 33 44.2	-0.6
	0.5nm,0.6s,baz=227,slow=4.3,SNR=6.2						

IDC 11 15:28:09.2±5.3, 18°.36S×178°.22E, h0^{km}, mb3.6/2, mb1 3.9/2, mb1mx3.5/22, mbtmp3.6/2, Error ellipse: s-maj=335.6km s-min=59.5km az=154.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.40	260	P	P	15 35 57.2	-0.3
	0.2nm,0.7s,baz=95,slow=6.4,SNR=9.2						
ASAR	Alice Springs	41.58	255	P	P	15 35 59.0	0.0
	1.2nm,0.5s,baz=87,slow=7.9,SNR=41						
FINES	FINESS Array B	132.69	342	PKP	PKPdf	15 47 25.4	-0.2
	0.5nm,0.4s,baz=72,slow=5.4,SNR=9.0						

*KRNET **11** 16:08:45.6±0.1, 41°.39N×73°.54E, h20^{km}, mb3.8*

*SOME **11** 16:08:45.4, 41°.37N×73°.58E, h15^{km}*

*KNET **11** 16:08:47.3±0.5, 41°.49N×73°.62E, h5^{km}±2^{km}, ml3.0, Error ellipse: s-maj=3.8km s-min=2.2km az=77.0*

*NNC **11** 16:08:49.5±3.1, 41°.75N×73°.39E, h0^{km}, mb3.9, mpv3.7, Error ellipse: s-maj=32.9km s-min=16.3km az=154.0*

ISC 11 16:08:44.8±1.2, 41°.34N±0°.03×73°.61E±0°.02, h9^{km}±10^{km}, n60, σ$1^s.75$/109, 51C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARLS	Aral	0.75	45	⇑iP	Pg	16 09 00.0	+0.7
	baz=52						
ARLS				⇑iS	Sb	16 09 10.2	-0.4
	baz=52						
AML	Almayashu	0.80	5	⇑P	Pg	16 08 60.0	-0.2
	142nm,0.1s,SNR=439						
AML				⇓S	Sg	16 09 10.2	-0.5
OHH	Osh	1.02	218	⇑iP	Pb	16 09 04.6	-0.2
	baz=14						
OHH				⇑iS	Sb	16 09 18.7	+0.3
	baz=14						
UCH	Uchtor	1.12	37	P	Pg	16 09 06.8	+0.5
	162nm,0.2s,SNR=224						
UCH				⇑S	Sg	16 09 21.6	+0.7
	105nm,0.2s						
UCH	Uchtor	1.12	37	⇑eP	Pn	16 09 06.7	-0.4
	baz=41						
UCH				⇑iS	Sg	16 09 21.5	+0.6
	baz=41						
ARK	Arkit	1.32	291	⇓iP	Pn	16 09 08.8	-0.8
	baz=90						
ARK				⇓iS	Sb	16 09 25.2	-1.7
	baz=90						
EKS2	Erkin-Say	1.33	5	P	Pb	16 09 09.5	-0.6
	25nm,0.1s,SNR=16						
EKS2				⇑S	Sn	16 09 26.7	-1.0
	94nm,0.2s						
EKS2	Erkin-Say	1.33	5	⇑iP	Pb	16 09 09.5	-0.6
	baz=8.0						
EKS2				⇑iS	Sn	16 09 26.5	-1.1
	baz=8.0						
MRKS	Merke	1.44	349	eP	Pg	16 09 13.3	+0.9
	26nm,0.1s						
MRKS				eS	Sg	16 09 31.3	+0.3
	394nm,0.1s						
AAK	Ala-Archa	1.46	27	⇑P	Pb	16 09 12.5	+0.2
	76nm,0.3s,SNR=84						
AAK	Ala-Archa	1.46	27	⇑iP	Pb	16 09 12.0	-0.2
	baz=29						
AAK				⇑iS	Sg	16 09 31.4	-0.3
	baz=29						
AAK	Ala-Archa	1.46	27	⇑P	Pb	16 09 12.1	-0.1
	20nm,0.3s						
AAK				⇑S	Sn	16 09 27.8	-3.1
	40nm,0.3s						
KBK	Karagaybulak	1.65	37	P	Pg	16 09 16.5	-0.1
	73nm,0.1s,SNR=159						
KBK				⇓S	Sg	16 09 39.5	+1.5
	135nm,0.2s						
KBK	Karagaybulak	1.65	37	⇑iP	Pb	16 09 15.8	+0.2
	baz=39						
KBK				⇑iS	Sg	16 09 37.7	-0.3
	baz=39						
FRU1	Bishkek	1.66	27	⇑iP	Pb	16 09 15.8	+0.2
	baz=29						
FRU1				⇑iS	Sg	16 09 37.7	-0.4
	baz=29						
CHMS	Chumysh	1.86	27	⇑P	Pb	16 09 19.8	+0.7
	32nm,0.2s,SNR=28						
CHMS				⇑S	Sg	16 09 44.3	-0.5
	95nm,0.3s						
CHMS	Chumysh	1.86	27	⇑iP	Pb	16 09 18.5	-0.6
	baz=29						
CHMS				⇑iS	Sb	16 09 42.9	+0.3
	baz=29						
TRKS	Terek-Say	1.87	277	⇑iP	Pb	16 09 18.1	-1.1
	baz=73						
TRKS				⇑iS	Sb	16 09 41.6	-1.1
	baz=73						
USP	Ospenovka	2.04	19	⇑P	Pb	16 09 22.7	+0.7
	46nm,0.2s,SNR=40						
USP				⇑S	Sg	16 09 49.9	-0.5
	146nm,0.3s						
USP	Ospenovka	2.04	19	⇑iP	Pb	16 09 21.3	-0.8
	baz=20						
USP				⇑iS	Sb	16 09 47.0	-0.6
	baz=20						
BOOM	Boomskoye usch	2.09	56	⇑iP	Pb	16 09 22.5	-0.5
	baz=58						
BOOM				⇑iS	Sb	16 09 49.3	+0.2
	baz=58						
TKM2	Tokmak 2	2.17	42	⇑P	Pg	16 09 25.6	-0.8
	137nm,0.3s,SNR=156						
TKM2	Tokmak 2	2.17	42	⇓iP	Pb	16 09 23.6	-0.8
	baz=44						
TKM2				⇓iS	Sb	16 09 50.8	-0.6
	baz=44						
TKM2	Tokmak 2	2.17	42	⇑Pn	Pg	16 09 25.5	-0.8
	57nm,0.3s						
TKM2				⇑Sn	Sg	16 09 55.8	+1.3
	65nm,0.5s						
ULHL	Ulahol	2.17	64	⇑P	Pb	16 09 25.8	+1.4
	36nm,0.2s,SNR=128						
ULHL	Ulahol	2.17	64	⇓iP	Pb	16 09 23.7	-0.7
	baz=66						
ULHL				⇓iS	Sb	16 09 51.5	0.0
	baz=66						
SGDS	Sogindy	2.25	19	eP	Pb	16 09 26.2	+0.6
	20nm,0.1s						
SGDS				eS	Sg	16 09 55.7	-1.2
	203nm,0.2s						
DZA	Taraz	2.30	313	eP	Pg	16 09 29.7	+0.8
	73nm,0.0s						
DZA				eS	Sg	16 10 00.3	+1.6
	388nm,0.1s						
DRK	Karamyk	2.31	217	⇑iP	Pb	16 09 25.4	-1.5
	baz=15						
DRK				⇑iS	Sb	16 09 54.4	-1.3
	baz=15						
BTK	Batken	2.48	240	⇑iP	Pn	16 09 27.4	+1.9
	baz=38						
BTK				⇑iS	Sb	16 09 57.9	-2.3
	baz=38						
DGS	Degeres	2.49	39	eP	Pg	16 09 31.9	-0.7
	88nm,0.6s						
DGS				eS	Sg	16 10 04.6	-0.2
	102nm,0.1s						
MTBS	Maitube	2.76	49	eP	Pg	16 09 36.3	-1.3
	41nm,0.1s						
MTBS				eS	Sg	16 10 13.3	0.0
	78nm,0.1s						
KDJ	Kajisay	2.79	72	⇓eP	Pb	16 09 32.6	-2.3
	baz=74						
KDJ				⇓iS	Sb	16 10 06.8	-2.5
	baz=74						
IUG	Iuzhnay	2.80	288	eP	Pb	16 09 35.3	+0.3
	678nm,0.4s						
IUG				eS	Sb	16 10 11.0	+1.5
	285nm,0.1s						
KRBS	Karabastau	2.81	32	eP	Pb	16 09 36.7	+1.4
	58nm,0.3s						
KRBS				eS	Sg	16 10 13.2	-1.9
	65nm,0.2s						
KK08	Karatay Array	2.92	308	⇑Pg	Pb	16 09 36.1	-0.9
	10nm,0.6s,baz=126,slow=16						
KK08				⇑Lg	Lg	16 10 13.7	
	24nm,0.5s,baz=126,slow=29						
TNSS	Tian-Shan	3.01	54	eP	Pb	16 09 40.5	+1.7
	23nm,0.0s						
TNSS				eS	Sg	16 10 21.2	-0.2
	29nm,0.0s						
AAA	Alma-Ata	3.08	52	eP	Pg	16 09 43.1	-0.8
	67nm,0.3s						
AAA				eS	Sg	16 10 24.7	+0.7
	171nm,0.1s						
KNDC	Almaty	3.12	52	⇑Pg	Pg	16 09 42.9	-1.7
	27nm,0.3s						
KNDC				⇓Lg	Lg	16 10 26.1	
	141nm,0.7s						
MDOK	Medeo	3.14	53	eP	Pb	16 09 42.5	+1.6
	18nm,0.0s						
MDOK				eS	Sg	16 10 24.0	-1.6
	35nm,0.2s						
MDOK	Medeo	3.14	53	⇑Pg	Pb	16 09 42.4	+1.6
	14nm,0.4s						
MDOK				⇑Lg	Lg	16 10 25.8	
	82nm,1.0s						
KOTS	Kotyrbulak	3.22	53	eP	Pg	16 09 45.4	-1.1
	18nm,1.8s						
KOTS				eS	Sg	16 10 29.1	+1.0
	124nm,0.1s						
KUU	Kurty	3.25	37	eP	Pb	16 09 44.5	+1.7
	40nm,0.3s						
KUU				eS	Sg	16 10 26.9	-2.4
	80nm,0.1s						
KTBS	Karatobe	3.29	43	eP	Pb	16 09 45.6	+2.3
	16nm,0.3s						
KTBS				eS	Sg	16 10 28.6	-1.8
	52nm,0.4s						
ANVS	Anan'yevo	3.35	63	⇑iP	Pn	16 09 40.1	+2.5
	baz=64						
ANVS				⇑iS	Sn	16 10 19.8	+2.2
	baz=64						
CHKK	Chushkaly	3.54	44	eP	Pb	16 09 50.1	+2.4
	7.2nm,0.1s						
CHKK				eS	Sg	16 10 37.0	-1.6
	57nm,0.2s						
BTLS	Baital	3.72	5	eP	Pb	16 09 49.6	-1.0
	3.3nm,0.3s						
BTLS				eS	Sb	16 10 36.3	+0.6
	34nm,0.1s						
SATY	Saty	3.96	63	eP	Pb	16 09 57.8	+3.0
	7.4nm,0.1s						
SATY				eS	Sg	16 10 50.1	-1.8
	25nm,0.3s						
KURS	Kuram	4.00	56	eP	Pg	16 09 59.0	-2.5
	6.1nm,0.1s						
KURS				eS	Sg	16 10 51.9	-1.5
	18nm,0.3s						
ZHN	Zhinishke	4.02	61	eP	Pb	16 09 59.0	+3.1
	10nm,0.2s						
ZHN				eS	Sg	16 10 51.7	-2.3
	23nm,0.0s						
ARXS	Arharly	4.23	46	eP	Pb	16 10 02.9	+3.4
	16nm,0.1s						
ARXS				eS	Sg	16 10 58.5	-2.1
	25nm,0.1s						
KPKS	Kokpek	4.32	59	eP	Pg	16 10 04.8	-2.8
	13nm,0.1s						
KPKS				eS	Sg	16 11 02.7	-0.8
	35nm,0.1s						
SHLS	Shalkode	4.71	65	eP	Pg	16 10 19.1	+4.1
	7.1nm,0.3s						
SHLS				eS	Sg	16 11 26.8	+11
	14nm,0.3s						
PDGK	Podgornoye	4.79	64	⇑Pg	Pb	16 10 11.0	+2.0
	4.8nm,0.5s						
PDGK				⇓Lg	Lg	16 11 15.8	
	14nm,0.6s						
TDK	Taldyqorghan	5.07	42	eP	Pg	16 10 18.2	-3.8
	20nm,0.1s						
TDK				eS	Sg	16 11 25.3	-2.3
	37nm,0.2s						
DJR	Jarkent	5.44	55	eP	Pg	16 10 26.2	-2.8
	7.0nm,0.3s						
DJR				eS	Sg	16 11 38.0	-1.5
	10nm,0.1s						
KAPS	Kapalarasan	5.76	45	eP	Pb	16 10 28.9	+3.4
	1.7nm,0.5s						
KAPS				eS	Sg	16 11 43.5	-6.1
	10nm,0.2s						
MK31	Makanchi Array	8.29	46	⇓Pn	Pn	16 10 49.5	+4.3
	1.0nm,0.5s,baz=222,slow=13,SNR=7.2						
MK31				⇑Lg	Lg	16 13 08.5	
	2.5nm,0.7s						
KURBB	Kurchatov Arra	9.90	19	⇓Pn	Pn	16 11 09.2	+2.1
	1.5nm,0.6s						
KURBB				⇑Lg	Lg	16 13 50.8	
	6.5nm,0.8s						
AB31	Akbulak array	12.45	314	⇑Pn	Pn	16 11 38.9	-3.2
	0.5nm,0.4s,baz=261,slow=35,SNR=20						

*IDC **11** 16:51:35.8±3.0, 5°.53S×130°.86E, h54^{km}±39^{km}, mb3.2/1, mb1 3.6/5, mb1mx3.1/36, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=80.1km s-min=23.5km az=88.0*

ISC 11 16:51:36.8±0.8, 5°.30S±0°.07×131°.4E±0°.1, h50^{km}, n15, σ$2^s.38$/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.67	297	P	Pn	16 52 06.8	+3.2
SAUI	Saumlaki	2.67	182	P	Pn	16 52 20.6	+3.3
SIJI	Sorong	4.40	358	P	Pn	16 52 43.5	+2.4
	2.9nm,0.3s,baz=45,slow=14,SNR=38						
SIJI				S	Sn	16 53 29.6	-1.6
	12nm,0.3s,baz=91,slow=23,SNR=25						
SANI	Sanana	6.28	301	P	Pn	16 53 08.0	+1.1
DRS	Darwin Rock St	7.10	184	P	Pn	16 53 19.5	+1.3
KDU	Kakadu	7.42	172	P	Pn	16 53 23.7	+1.2
KNRA	Kununurra	10.63	194	P	Pn	16 54 05.2	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.60	271	P	Pn	16 54 20.7	+1.0
FITZ	Fitzroy Crossi	13.91	203	P	Pn	16 54 45.4	-5.9
	0.2nm,0.3s,baz=23,slow=12,SNR=18						
FITZ				S	Sn	16 57 07.6	-17
	0.3nm,0.3s,baz=106,slow=18,SNR=1.7						
COEN	Coen	14.45	127	P	Pn	16 55 00.2	+1.7
WRA	Warramunga Arr	14.84	169	P	Pn	16 55 00.1	-3.5
	0.3nm,0.3s,baz=349,slow=13,SNR=27						
WRA				S	Sn	16 57 34.4	-12
	0.5nm,0.3s,baz=342,slow=22,SNR=6.2						
QIS	Mount Isa	17.14	153	P	P	16 55 35.2	+1.2
	4.4nm,1.8s						
ASAR	Alice Springs	18.42	173	P	P	16 55 45.1	-3.1
	0.1nm,0.3s,baz=348,slow=9.8,SNR=4.1						
ASAR				S	Sn	16 58 60.0	-14
	0.2nm,0.3s,baz=358,slow=28,SNR=6.4						
WRKA	Warakurna	19.85	188	P	P	16 56 02.4	-1.4
	3.6nm,1.2s						
MKAR	Makanchi Array	67.59	326	P	P	17 02 26.2	-2.0
	0.2nm,0.4s,baz=114,slow=7.7,SNR=5.3						

*MAN **11** 17:57:50.8, 5°.13N×126°.05E, h72km, mb4.5, ML3.4, MS3.2*
*IDC **11** 17:57:51.2±2.8, 5°.32N×126°.12E, h92km±26km, mb3.3/5, mb1 3.5/6, mb1mx3.2/47, mbtmp3.7/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/31, Error ellipse: s-maj=74.2km s-min=16.1km az=67.0*
ISC 11 17:57:51.9±1.0, **5°.3N**±0°.2×**126°.1E**±0°.2, **h100**km, **n11**, σ**0s.41**/14, **mb3.7**/5, **2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.42	304	⇑iP	Pn	17 58 16.4	-0.9
GSPH				iS	Sn	17 58 36.2	-0.3
CTBH	Cotabato--PC H	2.68	316	⇑iP	Pn	17 58 33.8	+0.4
ZCP	Zamboanga City	4.35	292	⇓eP	Pn	17 58 56.0	+0.2
ZCP				eS	Sn	17 59 45.8	+0.3
SIJI	Sorong	7.99	140	P	Pn	17 59 45.1	-0.2
	1.7nm,0.3s,baz=331,slow=24,SNR=8.1						
FITZ	Fitzroy Crossi	23.25	181	P	P	18 02 50.8	+0.1
	1.2nm,0.3s,baz=356,slow=7.1,SNR=24						
WRA	Warramunga Arr	26.35	162	P	P	18 03 19.0	+0.2
	0.2nm,0.5s,baz=341,slow=9.9,SNR=14						
ASAR	Alice Springs	29.77	166	P	P	18 03 49.2	-0.1
	0.3nm,0.6s,baz=340,slow=7.4,SNR=9.9						
ASAR				PcP	PcP	18 06 51.5	+0.7
	0.4nm,0.6s,baz=358,slow=2.9,SNR=6.9						
ASAR				ScP	ScP	18 10 24.1	+0.2
	0.7nm,1.0s,baz=338,slow=3.0,SNR=4.1						
USRK	Ussuriysk Ar.	39.08	7	LR	LR	18 20 47.6	
	comp=Z,18nm,20.6s,baz=102,slow=35						
MKAR	Makanchi Array	55.94	325	P	P	18 07 19.4	-0.3
	0.6nm,0.3s,baz=120,slow=7.0,SNR=21						
KURBB	Kurchatov Arra	60.11	327	P	P	18 07 48.6	0.0
	0.5nm,0.5s,baz=126,slow=6.2,SNR=7.9						
TORD	Torodi Ar. Bea	121.86	289	PKP	PKiKP	18 16 35.7	0.0
	0.6nm,0.7s,baz=74,slow=1.1,SNR=3.6						

*CNRM **11** 18:05:07.3, 35°.53N×3°.73W, h19km, ml2.6*
*MDD **11** 18:05:08.8±0.6, 35°.33N×3°.37W, h89km±10km, Mb2.3/9, M_mb1.3/9, Error ellipse: s-maj=4.8km s-min=4.2km az=64.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
ISC 11 18:05:07.4±1.1, **35°.45N**±0°.02×**3°.65W**±0°.03, **h13**km±9km, **n22**, σ**1s.61**/43, **8C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.34	226	P	Pg	18 05 14.2	-0.1
PALE				S	Sg	18 05 19.4	+0.5
GOG	Mont Gurugu	0.58	113	P	Pn	18 05 21.2	-0.2
GOG				S	Sn	18 05 30.1	-0.7
EMEL	Melilla	0.58	105	Pg	Pn	18 05 21.0	-0.4
EMEL				Sg	Sn	18 05 29.9	-0.9
EALB	Alboran	0.69	45	Pg	Pn	18 05 22.2	-0.7
EALB				⇑iVmb_V		18 05 23.1	
	3µm,SNR=2.5						
EALB				Sg	Sn	18 05 31.4	-2.1
TAF	Taforalt	1.19	122	P	Pg	18 05 30.4	+0.1
TAF				S	Sn	18 05 47.9	+2.0
ELGU	Los Guajares,	1.41	1	Pg	Pg	18 05 34.7	+0.2
ELGU				⇑iVmb_V		18 05 44.2	
	335nm,SNR=3.1						
ELGU				Sg	Sb	18 05 52.1	+0.5
JBK	JBK	1.42	141	P	Pg	18 05 33.5	-1.3
JBK				S	Sg	18 05 52.2	-1.1
CHEFC	Chefchaouen	1.43	257	P	Pn	18 05 32.0	-1.1
CHEFC				S	Sn	18 05 50.4	-1.4
SMIR	Smir Dam	1.43	280	P	Pn	18 05 30.1	-2.9
SMIR				S	Sn	18 05 51.0	-0.8
EMIJ	Mijas	1.44	321	Pg	Pn	18 05 34.2	+1.1
EMIJ				Sg	Sn	18 05 51.0	-0.9
EBER	Berja	1.57	23	Pn	Pn	18 05 34.8	-0.3
EBER				⇑iVmb_V		18 05 44.3	
	314nm,SNR=2.4						
EBER				Sn	Sn	18 05 54.0	-1.3
EGOR	Sierra Gorda,	1.70	347	Pn	Pb	18 05 39.1	+0.5
EGOR				⇑iVmb_V		18 05 42.4	
	141nm,SNR=2.2						
EGOR				Sn	Sg	18 06 01.9	-0.2
EQUE	Quentar	1.76	5	Pg	Pb	18 05 39.4	-0.1
EQUE				⇑iVmb_V		18 05 43.1	
	160nm,SNR=1.9						
EQUE				Sn	Sn	18 05 59.5	-0.4
SICH	Sidi Chahed	1.93	226	P	Pn	18 05 37.5	-2.4
SICH				S	Sn	18 06 04.8	+0.9
EQES	Quesada	2.39	11	Pn	Pn	18 05 46.6	+0.2
EQES				⇑iVmb_V		18 05 56.2	
	151nm,SNR=1.9						
EQES				Sn	Sn	18 06 15.7	+0.1
CZD	Col de Zad	2.68	206	P	Pn	18 05 51.0	+0.5
CZD				S	Sn	18 06 23.3	+0.3
MD31	MD31	2.74	200	P	Pn	18 05 51.9	+0.8
MD31				S	Sn	18 06 23.9	-0.3
MDT	Midelt	2.75	197	P	Pn	18 05 52.5	+1.3
MDT				S	Sn	18 06 26.0	+1.6
EADA	Adamuz	2.81	345	Pn	Pn	18 05 53.4	+1.3
EADA				⇑iVmb_V		18 06 00.1	
	104nm,SNR=1.8						
EADA				Sn	Sn	18 06 27.8	+2.0
ECAB	El Cabril	2.98	332	Pn	Pn	18 05 57.2	+2.8
ECAB				⇑iVmb_V		18 06 06.3	
	78nm,SNR=1.3						
ECAB				Sn	Sn	18 06 32.6	+2.6
ZHG	ZHG	3.18	232	P	Pn	18 06 00.5	+3.3
PVAQ	Vaqueiros	3.82	302	P	Pn	18 06 05.1	-0.7
PVAQ				S	Sn	18 06 45.4	-5.2

*IDC **11** 18:05:01.0±23.0, 51°.68N×175°.20W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.4/59, mbtmp3.8/3, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/94, Error ellipse: s-maj=453.9km s-min=71.8km az=85.0*
*NEIC **11** 18:05:13.0±1.9, 51°.95N±0°.03×174°.4W±0°.1, h62km±11km, mb4.1/45, ML3.5/16(AEIC), Error ellipse: s-maj=12.0km s-min=2.2km az=111.0*
*AEIC **11** 18:05:13±3.4, 51°.9N±0°.1×174°.5W±0°.1, h51km±8km, Error ellipse: s-maj=20.1km s-min=8.8km az=166.0*
ISC 11 18:05:13.0±1.0, **51°.9N**±0°.2×**174°.35W**±0°.06, **h67**km, **n82**, σ**1s.06**/75, **mb4.0**/6, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.33	17		Pn	18 05 23.5	-0.5
ATKA					Sn	18 05 31.8	-0.2
KOFP	Korovin Flat P	0.41	22		Pn	18 05 25.1	+0.2
GSMY	Great Sitkin M	1.06	279		Pn	18 05 31.6	-0.6
GSTD	Great Sitkin T	1.12	279		Pn	18 05 32.5	-0.4
GSTD					Sn	18 05 47.4	-0.4
GSCK	Great Sitkin C	1.12	277		Pn	18 05 32.4	-0.5
ADK	Adak	1.44	271		Pn	18 05 36.7	-0.4
ADK					Sn	18 05 55.0	-0.2
KIWB	Kanaga Island	1.73	270		Pn	18 05 41.2	+0.3
KIKV	Kanaga Island	1.75	271		Pn	18 05 41.4	+0.3
KIMD	Kanaga Island	1.79	267		Pn	18 05 41.6	-0.1
KIMD					Sn	18 06 03.2	-0.3
TAPA	Tanaga Point A	2.15	269		Pn	18 05 46.9	+0.4
TAFP	Tanaga Falls P	2.25	272		Pn	18 05 48.1	+0.2
TASE	Tanaga Southea	2.28	270		Pn	18 05 48.6	+0.2
UNV	Unalaska Valle	5.14	65	Pn	Pn	18 06 27.5	+0.2
AKUT	Akutan	5.65	63	Pn	Pn	18 06 34.2	0.0
SDPT	Sand Point	8.94	62	Pn	Pn	18 07 19.0	-0.2
CHGN	Chignik	10.34	58	Pn	Pn	18 07 37.0	-1.3
SVW2	Sparrevohn	13.82	41	Pn	Pn	18 08 27.8	+2.3
KDAK	Kodiak Island	13.83	56	Pn	Pn	18 08 25.5	-0.1
N19K	Bonanza Creek	14.13	43	Pn	Pn	18 08 28.3	-1.3
L19K	White Mountain	14.72	38	Pn	Pn	18 08 35.2	-2.1
M19K	Big River Lodg	14.75	39	Pn	Pn	18 08 37.1	-0.5
CNPM	China Poot	15.04	50	Pn	Pn	18 08 40.8	-0.7
BRLK	Bradley Lake	15.29	50	Pn	Pn	18 08 43.3	-1.4
K20K	Telida	15.72	35	P	Pn	18 08 52.1	+2.1
K20K				IAmb	IAmb	18 09 02.9	
	comp=Z,17nm,1.6s						
PPLA	Purkeypile	16.15	38	P	Pn	18 08 56.7	+1.1
PPLA				IAmb	IAmb	18 09 30.4	
	comp=Z,34nm,1.6s						
J20K	Nowinta River	16.21	33	P	Pn	18 08 56.6	+0.5
RC01	Rabbit Creek A	16.32	46	P	Pn	18 08 58.4	+0.8
CAST	Castle Rocks	16.48	37	P	P	18 09 02.4	+1.2
CAST				IAmb	IAmb	18 09 08.0	
	comp=Z,14nm,1.6s						
PWL	Port Wells	16.87	48	P	Pn	18 09 04.1	-0.3
GHO	Glory Hole Cre	16.95	44	P	Pn	18 09 05.5	-0.1
KTH	Kantishna Hill	16.99	38	P	Pn	18 09 07.4	+1.5
KTH				IAmb	IAmb	18 09 09.0	
	comp=Z,21nm,1.6s						
KNK	Knik Glacier	17.02	46	P	Pn	18 09 05.2	-1.0
TRF	Thorofare Moun	17.18	38	P	Pn	18 09 08.3	-0.1
TRF				IAmb	IAmb	18 09 29.2	
	comp=Z,20nm,1.5s						
SML	Sawmill	17.23	45	P	Pn	18 09 08.1	-0.8
SML				IAmb	IAmb	18 09 26.0	
	comp=Z,31nm,1.5s						
H21K	Melozitna Rive	17.61	30	P	Pn	18 09 14.1	+0.7
SCM	Sheep Creek Mo	17.68	45	P	Pn	18 09 14.0	-0.3
SCM				IAmb	IAmb	18 09 39.9	
	comp=Z,26nm,1.4s						
FID	Port Fidalgo	17.69	49	P	Pn	18 09 11.5	-3.1
RND	Reindeer	17.71	40	P	Pn	18 09 13.4	-1.4
RND				IAmb	IAmb	18 09 34.4	
	comp=Z,20nm,1.5s						
MCK	McKinley	17.84	39	P	P	18 09 16.1	-0.1
MLY	Manley	17.89	34	P	P	18 09 18.4	+1.6
DHY	Denali Highway	18.16	42	P	P	18 09 19.5	-0.3
KLU	Klutina	18.18	47	P	P	18 09 17.8	-2.3
KLU				IAmb	IAmb	18 09 21.3	
	comp=Z,32nm,1.6s						
M24K	Tolsona, Glenn	18.28	45	P	P	18 09 19.1	-2.0
I23K	Minto, Yukon-K	18.44	34	P	P	18 09 24.0	+1.3
WRH	Wood River Hil	18.53	37	P	P	18 09 21.9	-1.9
CCB	Clear Creek Bu	18.73	37	P	P	18 09 24.2	-1.7
MDM	Murphy Dome	18.74	36	P	P	18 09 24.6	-1.4
N25K	Chitina, Valde	18.82	47	P	P	18 09 26.1	-1.0
N25K				IAmb	IAmb	18 09 46.6	
	comp=Z,22nm,1.4s						
HDA	Harding Lake	18.93	38	P	P	18 09 28.6	+0.4
HDA				IAmb	IAmb	18 09 30.2	
	comp=Z,6.1nm,0.5s						
IL31		19.13	37	P	P	18 09 30.2	-0.1
IL31				IAmb	IAmb	18 10 02.4	
	comp=Z,13nm,1.6s						
ILAR	Eielson Array	19.13	37	P	P	18 09 30.5	+0.2
	comp=Z,0.5nm,0.3s,baz=225,slow=8.4,SNR=37						
GLB	Gilahina Butte	19.14	48	P	P	18 09 29.9	-0.6
GLB				IAmb	IAmb	18 09 38.6	
	comp=Z,25nm,1.6s						
VRDI	Verde Repeater	19.24	49	P	P	18 09 31.9	+0.1
VRDI				IAmb	IAmb	18 09 52.2	
	comp=Z,28nm,1.6s						
H24K	Noodor Dome	19.34	34	P	P	18 09 32.9	+0.3
WAX	Waxell Ridge	19.35	51	P	P	18 09 31.6	-1.1
RIDG	Independent Ri	19.47	41	P	P	18 09 33.4	-0.7
RIDG				IAmb	IAmb	18 10 02.2	
	comp=Z,26nm,1.6s						
J25K	Salcha River,	19.64	38	P	P	18 09 34.7	-1.2
J25K				IAmb	IAmb	18 09 37.1	
	comp=Z,7.3nm,0.7s						
DOT	Dot Lake	19.76	42	P	P	18 09 35.6	-1.6
DOT				IAmb	IAmb	18 09 38.5	
	comp=Z,9.3nm,1.4s						
SCRK	Sand Creek	19.91	41	P	P	18 09 37.5	-1.5
M27K	Edge Creek, AK	20.27	46	P	P	18 09 44.1	+1.3
M27K				IAmb	IAmb	18 10 08.0	
	comp=Z,20nm,1.6s						
L27K	Beaver Creek,	20.50	44	P	P	18 09 45.6	+0.4
L27K				IAmb	IAmb	18 10 15.7	
	comp=Z,10nm,1.6s						
BCAR	Beaver Creek A	20.52	44	P	P	18 09 45.1	-0.3
BMAR	Burnt Mountain	21.31	32	P	P	18 09 52.9	-0.9
EGAK	Eagle	21.36	40	P	P	18 09 53.1	-1.2
EGAK				IAmb	IAmb	18 09 55.6	
	comp=Z,4.1nm,0.7s						
DAWY	Dawson	21.84	43	P	P	18 09 59.7	+0.1
DAWY				IAmb	IAmb	18 10 10.6	
	comp=Z,11nm,1.6s						
H11N2	WAKE ISLAND Hy	35.30	212	T	T	18 49 49.7	
	baz=20,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	35.30	212	T	T	18 49 39.7	
	baz=20,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	35.31	212	T	T	18 49 50.5	
	baz=20,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	36.50	211	T	T	18 51 23.5	
	baz=20,slow=76,SNR=31						
H11S2	WAKE ISLAND Hy	36.52	211	T	T	18 51 19.3	
	baz=20,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	36.52	211	T	T	18 51 11.9	
	baz=20,slow=76,SNR=13						
MCMT	McKenzie Canyo	40.38	75	P	P	18 12 44.9	+0.6
BOZ	Bozeman (W)	40.69	73	P	P	18 12 47.7	+0.9
BOZ				IAmb	IAmb	18 12 48.0	
	comp=Z,1.5nm,0.5s						
YHH	Holmes Hill	41.59	74	P	P	18 12 55.3	+0.9
YHH				IAmb	IAmb	18 12 55.9	
	comp=Z,1.6nm,0.5s						
PD31	Pinedale Array	43.51	75	P	P	18 13 10.8	+1.0
PDAR	Pinedale Array	43.51	75	P	P	18 13 10.6	+0.8
	comp=Z,1.5nm,0.6s,baz=306,slow=3.2,SNR=16						
LPIG	La Paz	55.49	94	LR	LR	18 36 17.5	
	comp=Z,12nm,18.8s,baz=252,slow=34						
TXAR	Lajitas Array	55.84	85	P	P	18 14 44.0	+0.5
	comp=Z,0.8nm,0.6s,baz=292,slow=5.0,SNR=6.7						
KIRV	Kirov	64.27	336	LR	LR	18 46 08.1	
	comp=Z,18nm,18.2s,baz=348,slow=38						
H03N2	Juan Fernandez	118.65	108	T	T	20 33 55.7	
	baz=317,slow=78,SNR=12						
H03N1	Juan Fernandez	118.66	108	T	T	20 33 57.2	
	baz=317,slow=78,SNR=11						
H03N3	Juan Fernandez	118.66	108	T	T	20 33 56.7	
	baz=317,slow=78,SNR=9.7						

*VAO **11** 18:07:56.0±1.7, 22°.51S×70°.42W, h10km, mb4.3*
*GUC **11** 18:08:24.9±0.8, 22°.01S×68°.62W, h128km±7km, ML4.0*
*IDC **11** 18:08:24.3±0.9, 22°.04S×68°.17W, h113km±14km, mb3.5/2, mb1 3.5/5, mb1mx3.3/30, mbtmp3.7/5, Error ellipse: s-maj=43.8km s-min=21.1km az=116.0*
ISC 11 18:08:24.0±0.7, **21°.96S**±0°.04×**68°.57W**±0°.08, **h129**km±8km, **n38**, σ**1s.30**/46, **1C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.72	206	P	Pn	18 08 45.6	+0.8
	190nm,0.3s,baz=34,slow=7.3,SNR=585						
LVC				S	Sn	18 09 01.2	+0.5
	301nm,0.3s,baz=237,slow=21,SNR=52						
LVC	Limon Verde	0.72	206	eP	Pn	18 08 44.8	-0.1
LVC				iS	Sn	18 09 00.8	+0.1
PATCX	Punta Patache	1.86	307	⇑iP	Pn	18 08 56.7	+0.4
PATCX				iS	Sn	18 09 20.4	-0.6
PATCX				IAML		18 09 25.1	
	comp=N,2µm,0.3s						
TA01	Diego Aracena	2.04	313	eP	Pn	18 08 58.6	+0.2
TA01				iS	Sn	18 09 23.9	-0.9
TA01				IAML		18 09 25.9	
	comp=E,1µm,0.3s						
HMBC	Humberstone	2.08	324	⇓iP	Pn	18 08 58.8	-0.2
HMBC				iS	Sn	18 09 24.5	-1.3
HMBC				IAML		18 09 27.0	
	comp=N,996nm,0.3s						
TA02	Huaiquique	2.22	319	IAML		18 09 32.0	
	comp=N,1µm,0.1s						
GO01	Chusmiza	2.35	346	eP	Pn	18 09 03.7	+0.8
GO01				iS	Sn	18 09 33.0	+0.5
GO01				IAML		18 09 37.2	
	comp=N,594nm,0.1s						
PB10	IPOC Station P	2.39	229	eP	Pn	18 09 03.5	+0.7
PB10				iS	Sn	18 09 30.7	-1.9
PB10				IAML		18 09 49.3	
	comp=E,224nm,0.4s						
PB12	IPOC Station P	3.72	333	eP	Pn	18 09 18.6	-1.5
PB12				iS	Sn	18 10 00.6	-2.9
AC01	Pan de Azucar	4.56	204	eP	Pn	18 09 30.6	-0.5
AC01				iS	Sn	18 10 20.6	-2.8
LPAZ	La Paz	5.66	4	P	Pn	18 09 49.2	+2.6
	comp=E,0.3nm,0.3s,baz=205,slow=6.2,SNR=5.3						
SIV	San Ignacio	9.25	51	P	Pn	18 10 31.4	-3.0
	comp=E,2.2nm,0.3s,baz=233,slow=10.0,SNR=24						
PTLB	Pontes e Lacer	11.04	56	eP	Pn	18 10 56.6	-1.7
PDRB	Porto dos Gac	15.30	50	eP	P	18 11 54.1	-1.0
PCMB	Pacaembu	16.09	92	eP	P	18 12 04.7	+0.9
CLDB	Colider	16.47	50	eP	P	18 12 09.7	+1.6
ARAG	Araguaiana, MT	17.04	71	eP	Pn	18 12 16.8	+2.3
ITRB	Iturama	17.18	86	eP	Pn	18 12 17.0	+0.8
BB19B	Bebedouro	18.68	91	eP	Pn	18 12 33.0	-1.1
PLCA	Paso Flores	18.79	185	P	Pn	18 12 36.0	+0.8
	comp=E,0.1nm,0.3s,baz=350,slow=13,SNR=3.0						
SNDB	Serra Nova Dou	19.26	62	eP	P	18 12 38.4	-0.2
RCLB	Rio Claro- Sao	19.49	95	eP	P	18 12 41.0	-0.1
IPMB	Ipameri, GO	19.54	82	eP	P	18 12 42.4	+0.7
NPGB	Novo Progresso	19.56	43	eP	P	18 12 41.2	-0.7
PET01	Itanhaem-SP	19.72	101	eP	P	18 12 43.2	-0.3
VAO	Valinhos	20.00	97	eP	P	18 12 47.4	+0.8
ITTB	Itaituba	21.47	37	eP	P	18 13 01.7	-0.6
PEXB	Peixe	21.70	66	eP	P	18 13 03.9	-0.9
PRPB	Parauapebas	23.98	52	eP	P	18 13 26.4	-0.3
JANB	Januaria	23.99	78	eP	P	18 13 26.7	-0.2
SMTB	Santa Maria do	24.02	60	eP	P	18 13 27.3	+0.2
GUA01	Guaratinga, BA	27.65	84	eP	P	18 14 00.2	+0.4
GDU01	Guandu, BA	28.76	78	eP	P	18 14 09.4	-0.2
NBPN	Ponto Novo - B	29.32	72	eP	P	18 14 15.4	+0.7
NBLA	Lagarto - SE	31.41	75	eP	P	18 14 32.5	-0.5
NBAN	Anadia - AL	33.31	74	eP	P	18 14 49.2	-0.4
TORD	Torodi Ar. Bea	77.22	70	P	P	18 20 04.2	0.0
	comp=E,0.6nm,0.3s,baz=256,slow=5.5,SNR=10						
YKA	Yellowknife Ar	91.72	340	P	P	18 21 19.1	+2.8
	comp=E,0.2nm,0.6s,baz=122,slow=4.4,SNR=2.8						

*NEIC **11** 18:16:19.7±1.8, 51°.33N±0°.10×178°.83E±0°.06, h53km±10km, mb4.2/40, ML3.3/16(AEIC), Error ellipse: s-maj=15.0km s-min=2.0km az=158.0*
*AEIC **11** 18:16:19±2.1, 51°.3N±0°.2×178°.97E±0°.07, h62km±7km, Error ellipse: s-maj=23.0km s-min=6.7km az=179.0*
*IDC **11** 18:16:21.1±4.5, 51°.46N×178°.71E, h65km±40km, mb3.2/7, mb1 3.5/7, mb1mx3.2/52, mbtmp3.5/7, ML4.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/27, Error ellipse: s-maj=44.6km s-min=17.7km az=166.0*
ISC 11 18:16:19.4±0.9, **51°.3N**±0°.1×**178°.86E**±0°.04, **h50**km, **n71**, σ**1s.18**/71, **mb4.0**/19, **Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	1.48	79		Pn	18 16 43.8	+0.3
GASW	Gareloi Southw	1.51	70		Pn	18 16 44.1	+0.1
GASW					Sn	18 17 02.9	+0.5
GALAA	Gareloi Lava P	1.55	71		Pn	18 16 45.0	+0.4
TASE	Tanaga Southea	2.01	73		Pn	18 16 51.3	+0.5
TASE					Sn	18 17 15.9	+1.0
TAFP	Tanaga Falls P	2.06	71		Pn	18 16 51.6	+0.1
TAFP					Sn	18 17 17.1	+1.1
TAPA	Tanaga Point A	2.14	74		Pn	18 16 53.0	+0.4
TAPA					Sn	18 17 18.8	+0.8
KIMD	Kanaga Island	2.48	77		Pn	18 16 57.9	+0.7
KIKV	Kanaga Island	2.54	75		Pn	18 16 58.8	+0.6
KIWB	Kanaga Island	2.55	76		Pn	18 16 58.7	+0.5
ADK	Adak	2.84	76		Pn	18 17 02.4	+0.2
ADK	Adak	2.84	76		Sn	18 17 35.2	+0.1
GSCK	Great Sitkin C	3.18	75		Pn	18 17 07.7	+0.8
GSMY	Great Sitkin M	3.25	75		Pn	18 17 08.4	+0.6
SHEM	Shemya Is, Ala	3.28	298	P	Pn	18 17 07.9	-0.3
	37nm,0.3s,baz=191,slow=2.7,SNR=14						
SHEM				S	Sn	18 17 46.8	+0.9
	15nm,0.3s,baz=228,slow=20,SNR=1.9						
SMY	Shemya	3.28	298		Pn	18 17 07.2	-1.0
UNV	Unalaska Valle	9.27	68	Pn	Pn	18 18 31.9	+1.6
PETK	Petropavlovsk-	13.11	286	P	Pn	18 19 25.8	+3.1
	0.1nm,0.3s,baz=94,slow=17,SNR=2.0						
PETK				LR	LR	18 23 46.5	
	comp=Z,20nm,21.4s,baz=96,slow=34						
ANM	Nome	15.65	26	P	P	18 19 59.7	+0.1
BILL	Bilibino	17.90	345	P	P	18 20 24.5	+0.1
J20K	Nowinta River	19.14	37	P	Pn	18 20 39.7	+0.4
PPLA	Purkeypile	19.35	42	P	P	18 20 41.2	+0.6
PPLA				IAmb	IAmb	18 20 42.5	
	comp=Z,30nm,1.6s						
CAST	Castle Rocks	19.61	41	P	P	18 20 44.0	+0.8
CAST				IAmb	IAmb	18 21 16.2	
	comp=Z,12nm,1.4s						
KTH	Kantishna Hill	20.14	41	P	P	18 20 48.6	-0.4
KTH				IAmb	IAmb	18 21 27.1	
	comp=Z,17nm,1.6s						
IMAR	Indian Mountai	20.24	33	P	P	18 20 51.0	+1.0
BPAW	Bear Paw Mtn.	20.34	39	P	P	18 20 49.8	-1.4
TRF	Thorofare Moun	20.36	41	P	P	18 20 50.8	-0.8
TRF				IAmb	IAmb	18 20 58.7	
	comp=Z,13nm,1.5s						
H21K	Melozitna Rive	20.39	34	P	P	18 20 50.7	-0.9
GHO	Glory Hole Cre	20.40	47	P	P	18 20 52.2	+0.3
PWL	Port Wells	20.45	49	P	P	18 20 53.7	+1.4
I21K	Tanana	20.45	36	P	Pn	18 20 55.0	+0.2
KNK	Knik Glacier	20.52	48	P	P	18 20 54.1	+1.0
KNK				IAmb	IAmb	18 20 59.8	
	comp=Z,29nm,1.4s						
SML	Sawmill	20.68	47	P	P	18 20 54.1	-0.8
SML				IAmb	IAmb	18 21 29.1	
	comp=Z,29nm,1.4s						
MLY	Manley	20.84	37	P	P	18 20 57.2	+0.6
RND	Reindeer	20.95	42	P	P	18 20 54.9	-2.9
RND				IAmb	IAmb	18 21 15.4	
	comp=Z,17nm,1.4s						
SCM	Sheep Creek Mo	21.15	47	P	P	18 20 57.9	-2.1
DHY	Denali Highway	21.47	44	P	P	18 21 02.1	-1.3
DHY				IAmb	IAmb	18 21 06.1	
	comp=Z,7.0nm,1.0s						
EYAK	Cordova Ski Ar	21.63	51	P	P	18 21 03.3	-1.7
WRH	Wood River Hil	21.65	40	P	P	18 21 05.1	-0.1
WRH				IAmb	IAmb	18 21 31.7	
	comp=Z,15nm,1.5s						
KLU	Klutina	21.73	48	P	P	18 21 06.2	+0.1
KLU				IAmb	IAmb	18 21 14.3	
	comp=Z,22nm,1.4s						
M24K	Tolsona, Glenn	21.75	47	P	P	18 21 06.8	+0.5
MDM	Murphy Dome	21.78	39	P	P	18 21 05.9	-0.7
MDM				IAmb	IAmb	18 21 27.3	
	comp=Z,15nm,1.6s						
IL31		22.24	40	P	P	18 21 11.6	+0.2
ILAR	Eielson Array	22.24	40	P	P	18 21 10.4	-1.1
	comp=Z,0.2nm,0.5s,baz=245,slow=7.8,SNR=5.7						
BMRM	Bremner River	22.26	50	P	P	18 21 13.2	+1.4
H24K	Noodor Dome	22.27	37	P	P	18 21 14.0	+2.1
H24K				IAmb	IAmb	18 21 36.9	
	comp=Z,8.0nm,1.6s						
N25K	Chitina, Valde	22.37	48	P	P	18 21 13.5	+0.4
N25K				IAmb	IAmb	18 21 41.8	
	comp=Z,15nm,1.2s						
GLB	Gilahina Butte	22.71	49	P	P	18 21 16.5	-0.1
RIDG	Independent Ri	22.76	43	P	P	18 21 15.3	-1.8
RIDG				IAmb	IAmb	18 21 51.0	
	comp=Z,16nm,1.4s						
VRDI	Verde Repeater	22.85	50	P	P	18 21 15.8	-2.5
VRDI				IAmb	IAmb	18 21 48.6	
	comp=Z,17nm,1.2s						
TOLK	Toolik Lake Re	23.05	29	P	P	18 21 19.1	-0.9
SCRK	Sand Creek	23.19	43	P	P	18 21 19.5	-2.0
SCRK				IAmb	IAmb	18 21 29.6	
	comp=Z,8.9nm,1.6s						
BARN	Barnard Glacie	23.69	50	P	P	18 21 25.6	-0.8
M27K	Edge Creek, AK	23.77	47	P	P	18 21 26.2	-0.9
M27K				IAmb	IAmb	18 22 04.1	
	comp=Z,14nm,1.4s						
CTGM	Chitina Glacie	23.84	51	P	P	18 21 26.9	-0.8
L27K	Beaver Creek,	23.92	45	P	P	18 21 27.9	-0.4
L27K				IAmb	IAmb	18 22 10.3	
	comp=Z,6.1nm,1.5s						
LOGN	Logan Glacier	23.98	51	P	P	18 21 27.3	-1.7
BMAR	Burnt Mountain	24.13	34	P	P	18 21 30.8	+0.6
EGAK	Eagle	24.58	41	P	P	18 21 33.9	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGAK				IAmb	IAmb	18 21 35.4	
	comp=Z,8.2nm,1.1s						
KLR	Kul'dur	29.79	285	P	P	18 22 20.9	-0.2
	comp=Z,0.8nm,0.5s,baz=61,slow=4.1,SNR=6.6						
H11N2	WAKE ISLAND Hy	32.87	201	T	T	18 57 53.9	
	baz=11,slow=76,SNR=8.8						
H11N3	WAKE ISLAND Hy	32.88	201	T	T	18 57 51.6	
	baz=11,slow=76,SNR=9.9						
H11N1	WAKE ISLAND Hy	32.89	201	T	T	18 57 51.5	
	baz=11,slow=76,SNR=12						
YKA	Yellowknife Ar	36.35	46	P	P	18 23 18.5	+0.4
	comp=Z,0.6nm,0.6s,baz=280,slow=8.1,SNR=8.9						
YKA				pP	pP	18 23 28.0	-3.1
	comp=Z,0.5nm,0.7s,baz=280,slow=8.2,SNR=4.7						
PDAR	Pinedale Array	47.73	71	P	P	18 24 51.7	+0.5
	comp=Z,0.6nm,0.6s,baz=328,slow=3.3,SNR=7.2						
PDAR				pP	pP	18 25 02.3	-2.4
	comp=Z,0.9nm,0.7s,baz=299,slow=3.1,SNR=5.5						
PDAR	Pinedale Array	47.73	71	P	P	18 24 50.5	-0.8
MKAR	Makanchi Array	58.93	307	P	P	18 26 11.6	-1.6
	comp=Z,0.4nm,0.4s,baz=50,slow=5.8,SNR=7.5						
TXAR	Lajitas Array	60.11	79	P	P	18 26 22.0	+0.4
	comp=Z,0.3nm,0.6s,baz=327,slow=6.5,SNR=3.1						
WRA	Warramunga Arr	80.95	222	P	P	18 28 28.4	+0.1
	comp=Z,0.1nm,0.5s,baz=29,slow=6.2,SNR=5.0						
H03N2	Juan Fernandez	122.54	104	T	T	20 49 48.6	
	baz=324,slow=76,SNR=4.4						
H03N1	Juan Fernandez	122.55	104	T	T	20 49 49.9	
	baz=324,slow=76,SNR=4.5						
H03N3	Juan Fernandez	122.55	104	T	T	20 49 50.4	
	baz=324						

*IDC **11** 18:17:31.6±1.4, 24.°02N×125.°81E, h0^{km}, mb3.6/4, mb1 3.7/4, mb1mx3.4/50, mbtmp3.6/4, Error ellipse: s-maj=49.0km s-min=26.8km az=74.0*

*JMA **11** 18:17:35.2±0.2, 24.°21N×126.°05E, h74^{km}±4^{km}, M3.3*

ISC 11 18:17:33.7±2.1, **24.°15N**±0.°07×**126.°10E**±0.°04, **h18**^{km}±11^{km}, **n21**, σ1§**40**/37, **mb3.5**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.88	314	P	Pn	18 17 51.7	+0.5
JOGS				S	Sb	18 18 03.3	+1.4
JMJ2	Miyako jima3	0.92	310	P	Pb	18 17 52.0	+0.9
JMJ2				S	Sb	18 18 04.3	+1.3
JIRB	Irabujima	1.08	309	P	Pg	18 17 54.1	-0.6
JIRB				S	Sb	18 18 09.0	+1.2
JIKM	Ikemajima	1.10	315	P	Pb	18 17 54.4	+0.3
JIKM				S	Sg	18 18 08.7	-0.6
JTJ	Tarama	1.37	291	P	Pn	18 17 57.9	0.0
JTJ				S	Sb	18 18 14.5	-1.4
JISG	Ishigakijimahi	1.69	285	P	Pn	18 18 02.4	+0.1
JISG				S	Sn	18 18 21.9	-1.7
JIJ	Ishigaki jima	1.80	277	P	Pn	18 18 04.0	+0.1
JIJ				*e*S	Sn	18 18 24.5	-1.8
JKRS	Kuro-shima	1.91	273	P	Pn	18 18 05.8	+0.4
JKRS				S	Sn	18 18 27.7	-1.3
HATJ	Hateruma jima	2.10	268	P	Pn	18 18 07.9	-0.1
HATJ				*e*S	Sn	18 18 30.9	-2.8
IRIF	Iriomote-Funau	2.17	275	P	Pn	18 18 08.8	-0.2
IRIF				S	Sn	18 18 34.5	-1.0
JKE	Kume jima 2	2.26	16	P	Pn	18 18 09.9	-0.2
JKE				S	Sn	18 18 36.4	-1.2
JJT3	Tamagusuku3	2.51	37	P	Pn	18 18 14.0	+0.4
JJT3				*e*S	Sn	18 18 41.8	-1.9
JAGN	Aguni-jima	2.64	23	P	Pn	18 18 16.2	+0.8
JAGN				*e*S	Sn	18 18 46.4	-0.6
YOJ	Yonaguni jima	2.84	277	S	Sn	18 18 50.9	-1.0
JNTH	Nagotoyohara	2.93	36	P	Pn	18 18 19.9	+0.5
JNTH				*e*S	Sn	18 18 51.0	-3.2
JOW	Kunigami	3.32	36	P	Pn	18 18 25.1	+0.3
JOW				*e*S	Sn	18 19 00.9	-2.9
JIH	Iheya	3.33	30	P	Pn	18 18 25.2	+0.3
JIH				*e*S	Sn	18 19 01.5	-2.6
MKAR	Makanchi Array	41.54	314	P	P	18 25 20.4	+0.3
	0.4nm,0.5s,baz=104,slow=9.1,SNR=11						
SEY	Seymchan	42.57	17	P	P	18 25 30.6	+2.3
	2.3nm,0.3s,baz=241,slow=13,SNR=30						
ZALV	Zalesovo Beam	42.79	325	P	P	18 25 29.4	-0.8
	0.5nm,0.4s,baz=111,slow=7.9,SNR=3.8						
WRA	Warramunga Arr	44.55	169	P	P	18 25 44.8	+0.1
	0.6nm,0.8s,baz=350,slow=9.7,SNR=5.7						

*IDC **11** 18:30:52.7±1.4, 36.°02N×27.°61E, h70^{km}±17^{km}, mb3.4/6, mb1 3.5/11, mb1mx3.2/43, mbtmp3.7/11, Error ellipse: s-maj=20.0km s-min=11.6km az=166.0*

*ATH **11** 18:30:53.1, 36.°09N×27.°62E, h77^{km}±4^{km}, ML3.4/6, Error ellipse: s-maj=4.2km s-min=1.5km az=202.0*

*ISK **11** 18:30:53.4, 36.°12N×27.°55E, h80^{km}, ML3.5/31*

*DDA **11** 18:30:55.2±0.0, 36.°12N×27.°58E, h43^{km}±3^{km}, MW3.6*

*NIC **11** 18:30:55.0±0.0, 35.°73N×27.°81E, h74^{km}±2^{km}, Ml4.0/4*

*THE **11** 18:30:56.0, 36.°09N×27.°61E, h54^{km}±3^{km}, ML3.2/4, Error ellipse: s-maj=3.4km s-min=0.6km az=284.0*

*GII **11** 18:30:58.5±0.0, 35.°54N×27.°97E, h30^{km}, MD3.6/3, Mm3.7/5*

*HLW **11** 18:31:02.9, 35.°21N×27.°72E, h60^{km}±25^{km}, Md3.4*

ISC 11 18:30:53.1±0.7, **36.°00N**±0.°03×**27.°71E**±0.°03, **h74**^{km}±7^{km}, **n149**, σ1§**73**/203, **mb3.5**/6, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.63	225	P	Pn	18 31 08.9	+1.3
KARP				S	Sn	18 31 19.6	+1.4
KARP				AML	AML	18 31 20.0	
	comp=N,22111µm,0.3s						
KARP				AML	AML	18 31 20.2	
	comp=E,7740µm,0.1s						
KARP	Karpathos	0.63	225	P	Pn	18 31 08.8	+1.3
KARP				S	Sn	18 31 18.9	+0.7
	comp=E,8µm,0.2s						
KARP	Karpathos	0.63	225	PG	Pn	18 31 08.7	+1.3
KARP				SG	Sn	18 31 19.6	+1.4
KARP	Karpathos	0.63	225	P	Pn	18 31 08.9	+1.3
KARP				S	Sn	18 31 19.6	+1.4
KARP				AML	AML	18 31 19.8	
	comp=E,24nm,0.4s						
KARP				AML	AML	18 31 19.8	
	comp=E,24nm,0.4s						
KARP				AML	AML	18 31 20.7	
	comp=E,8.8nm,0.3s						
KARP				AML	AML	18 31 20.7	
	comp=E,8.8nm,0.3s						
NISR	Nisiros	0.77	323	P	Pn	18 31 09.0	0.0
NISR				AML	AML	18 31 20.3	
	comp=E,4818µm,0.6s						
NISR				S	S	18 31 20.3	-0.6
NISR				AML	AML	18 31 26.9	
	comp=N,2523µm,0.6s						
NISR	Nisiros	0.77	323	P	Pn	18 31 08.8	-0.3
NISR				S	Sn	18 31 18.8	-2.1
	comp=N,2µm,0.5s						
KOSK	Kos Island	0.96	322	P	Pn	18 31 11.3	0.0
KOSK				S	Sn	18 31 22.5	-2.2
	comp=N,1µm,0.5s						
KOSK	Kos Island	0.96	322	PG	Pn	18 31 11.2	0.0
BDRM	Kayabasi	1.09	349	P	Pn	18 31 12.9	0.0
BDRM				S	Sn	18 31 26.1	-1.6
BODT	Bodrum	1.11	344	P	Pn	18 31 13.3	+0.1
BODT				S	Sn	18 31 26.7	-1.5
BODT	Bodrum	1.11	344	PG	Pn	18 31 12.9	-0.3
BODT				SG	Sn	18 31 26.0	-2.2
DALY	Dalyan (Mula)	1.12	43	PN	Pn	18 31 15.3	+2.0
DALY				SN	Sn	18 31 29.8	+1.4
YKAV	Yalikavak-Bodr	1.18	343	PG	Pn	18 31 12.9	-1.1
YER	Yerkesik	1.23	22	P	Pn	18 31 16.0	+1.3
YER	Yerkesik	1.23	22	PN	Pn	18 31 15.7	+1.0
FETY	Fethiye	1.28	60	P	Pn	18 31 17.1	+1.7
FETY	Fethiye	1.28	60	PN	Pn	18 31 17.3	+1.9
FETY	Fethiye	1.28	60	P	Pn	18 31 17.1	+1.7
FETY				S	Sn	18 31 33.3	+1.1
MLSB	Milas	1.30	3	PN	Pn	18 31 15.9	+0.3
MULA	Mugla, Merkez-	1.35	21	P	Pn	18 31 17.6	+1.2
MULA				S	Sn	18 31 33.4	-0.4
DIDI	Didim-Aydin	1.43	345	PN	Pn	18 31 16.6	-0.6
ZKR	Zakros	1.50	235	P	Pn	18 31 19.9	+1.8
ZKR				S	Sn	18 31 38.4	+1.3
ZKR				AML	AML	18 31 39.8	
	comp=N,576µm,0.3s						
ZKR				AML	AML	18 31 40.2	
	comp=E,2321µm,0.4s						
ZKR	Zakros	1.50	235	P	Pn	18 31 20.0	+1.8
ZKR				S	Sn	18 31 38.9	+1.8
	comp=E,728nm,0.4s						
ZKR	Zakros	1.50	235	PN	Pn	18 31 20.0	+1.8
ZKR	Zakros	1.50	235	P	Pn	18 31 19.9	+1.8
ZKR				S	Sn	18 31 38.8	+1.7
DDIM	Aydin, Didim	1.51	346	P	Pn	18 31 18.3	+0.1
DDIM				S	Sn	18 31 36.7	-0.5
KSL	Kastellorizon	1.53	84	P	Pn	18 31 21.1	+2.5
KSL				S	Sn	18 31 40.4	+2.6
KSL				AML	AML	18 31 42.0	
	comp=E,1673µm,0.4s						
KSL				AML	AML	18 31 42.9	
	comp=N,1068µm,0.4s						
KSL	Kastellorizon	1.53	84	P	Pn	18 31 21.2	+2.7
KSL	Kastellorizon	1.53	84	P	Pn	18 31 21.1	+2.5
KSL				S	Sn	18 31 40.3	+2.5
AKAS	Kas	1.56	81	PN	Pn	18 31 21.5	+2.5
AKAS	Kas	1.56	81	P	Pn	18 31 21.5	+2.5
AKAS				S	Sn	18 31 41.0	+2.4
CAME	Cameli-Denizli	1.60	53	PN	Pn	18 31 21.8	+2.2
AYDN	Tasoluk	1.67	5	P	Pn	18 31 20.8	+0.4
AYDN				S	Sn	18 31 39.3	-1.9
CAEL	Denizli, Camel	1.72	49	P	Pn	18 31 23.5	+2.2
GCAM	G?zelcaml?	1.74	348	PN	Pn	18 31 21.3	-0.1
GCAM	G?zelcaml?	1.74	348	P	Pn	18 31 21.5	+0.2
GCAM				S	Sn	18 31 40.7	-2.1
TAVA	DENIZLI_Tavas	1.76	33	P	Pn	18 31 23.7	+2.0
TAVA				S	Sn	18 31 44.1	+0.7
DEMR	Demre-Antalya	1.80	82	PN	Pn	18 31 25.4	+3.3
SMG	Samos	1.85	338	P	Pn	18 31 22.3	-0.5
SMG				S	Sn	18 31 43.5	-1.9
SMG				AML	AML	18 31 44.5	
	comp=N,1087µm,0.4s						
SMG				AML	AML	18 31 45.0	
	comp=E,930µm,0.4s						
NPS	Neapolis	1.85	247	P	Pn	18 31 23.4	+0.5
NPS				AML	AML	18 31 46.1	
	comp=E,2426µm,0.3s						
NPS				AML	AML	18 31 46.2	
	comp=N,1060µm,0.2s						
THR6	Thira Island,	1.90	282	P	Pn	18 31 24.0	+0.5
SNT5	Nea Kammeni, S	1.91	283	P	Pn	18 31 23.7	+0.1
CMBO	Columbo, Santo	1.92	285	P	Pn	18 31 24.2	+0.5
ELL	Elmali	1.93	66	PN	Pn	18 31 26.4	+2.4
ELL	Elmali	1.93	66	P	Pn	18 31 26.6	+2.6
ELL				S	Sn	18 31 52.0	+4.5
GOLH	Golhisar	1.94	50	P	Pn	18 31 26.4	+2.3
GOLH				S	Sn	18 31 48.7	+1.0
APE	Apeiranthos	2.05	302	P	Pn	18 31 25.5	-0.1
APE	Apeiranthos	2.05	302	PN	Pn	18 31 25.0	-0.6
DGB	zmir	2.16	342	P	Pn	18 31 26.6	-0.3
DGB				S	Sn	18 31 50.3	-2.4
AKUM	Antalya-Kumluc	2.16	81	P	Pn	18 31 29.4	+2.5
AKUM				S	Sn	18 31 55.2	+2.4
GMLD	Gumuldur	2.17	343	PN	Pn	18 31 26.7	-0.4
KORT	Korkueli	2.36	64	PN	Pn	18 31 32.9	+3.2
KORT	Korkueli	2.36	64	P	Pn	18 31 32.6	+2.9
KEMT	Kemer-ANTALYA	2.38	74	PN	Pn	18 31 33.1	+3.2
IDI	Anoyia	2.40	254	P	Pn	18 31 30.6	+0.4
	comp=N,7.5nm,0.3s,baz=38,slow=9.1,SNR=78						
IDI				S	Sn	18 31 57.0	-1.7
	comp=N,28nm,0.3s,baz=327,slow=18,SNR=17						
IDI	Anoyia	2.40	254	P	Pn	18 31 30.6	+0.4
IDI	Anoyia	2.40	254	PN	Pn	18 31 30.3	+0.1
ZEYE	Izmir, Urla-Ze	2.44	337	P	Pn	18 31 30.2	-0.5
ZEYE				S	Sn	18 31 56.7	-2.7
URLA	Izmir	2.52	340	PN	Pn	18 31 31.7	-0.2
URLA	Izmir	2.52	340	P	Pn	18 31 31.1	-0.8
URLA				S	Sn	18 31 59.2	-2.5
BRDR	BURDUR-Merkez	2.54	47	P	Pn	18 31 34.0	+1.8
ANTB	Antalya	2.54	68	PN	Pn	18 31 35.3	+3.2
MANT	Manisa	2.58	15	P	Pn	18 31 33.2	+0.3
MANT				S	Sn	18 32 01.5	-1.9
KULA	Kula-Manisa	2.63	17	PN	Pn	18 31 33.9	+0.5
BUCA	Burdur, Bucak-	2.65	59	P	Pn	18 31 36.6	+2.9
BASM	Basmaki-Afyon	2.69	44	PN	Pn	18 31 36.1	+2.0
GOMA	Golmarmara-Man	2.71	4	PN	Pn	18 31 34.9	+0.5
CHOS	Chios island	2.73	332	PN	Pn	18 31 34.4	-0.3
KHL	Karahalli	2.74	31	PN	Pn	18 31 36.7	+1.8
PASA	Karahalli, USA	2.75	31	P	Pn	18 31 35.6	+0.6
PASA				S	Sn	18 32 05.5	-1.6
AKHS	Akhisar	2.88	2	P	Pn	18 31 36.5	-0.2
AKHS				S	Sn	18 32 08.2	-2.1
ISP	Isparta	2.90	50	PN	Pn	18 31 39.8	+2.7
USAK	Uak-Merkez	2.91	21	P	Pn	18 31 37.8	+0.7
KZIL	AFYON_Kizioren	2.98	40	P	Pn	18 31 39.8	+1.6
ZEDA	zmir-Bergama	3.01	351	P	Pn	18 31 37.9	-0.5
ZEDA				S	Sn	18 32 11.3	-2.0
SUTC	Sutluce-Ispart	3.03	60	PN	Pn	18 31 42.1	+3.2
IMMV	Iera Moni Meta	3.08	261	PN	Pn	18 31 40.8	+1.4
DKL	Dikili	3.14	349	PN	Pn	18 31 40.3	+0.1
DEMI	Demirci	3.15	14	P	Pn	18 31 40.4	0.0
DEMI				S	Sn	18 32 15.1	-1.8
GVD	Gavdhos	3.17	250	P	Pn	18 31 42.1	+1.5
GVD	Gavdhos	3.17	250	PN	Pn	18 31 42.3	+1.6
SIMA	Simav-Kutahya	3.25	18	PN	Pn	18 31 42.6	+0.8
SHAP	Saphane-Kutahy	3.25	21	PN	Pn	18 31 43.6	+1.7
STEP	BALIKESIR_Sava	3.38	0	P	Pn	18 31 43.3	-0.2
STEP				S	Sn	18 32 20.7	-1.7
SHUT	Suhut-Afyon	3.42	41	PN	Pn	18 31 46.1	+2.0
SIGR	SIGRI	3.53	336	PN	Pn	18 31 45.5	0.0
BUHA	Balikesir, Bur	3.54	352	P	Pn	18 31 45.5	-0.1
TVSB	Tavsanli	3.72	21	PN	Pn	18 31 48.8	+0.6
OSC1	CSNet OBS 1	3.85	129	P	Pn	18 31 50.4	+0.5
OSC1				S	Sn	18 32 32.2	-1.8
AKMS	Akamas	3.90	103	P	Pn	18 31 51.7	+1.1
AKMS				AML	AML	18 32 35.1	
	comp=N,1.8nm,0.7s						
AKMS				AML	AML	18 32 35.5	
	comp=N,0.9nm,0.4s						
EZN	Ezine	3.98	344	PN	Pn	18 31 51.6	0.0
ALFC	Alefka	4.08	100	P	Pn	18 31 54.1	+1.1
ALFC				AML	AML	18 32 37.8	
	comp=N,0.6nm,0.5s						
ALFC				AML	AML	18 32 38.1	
	comp=N,0.6nm,0.5s						
NATA	Nata	4.16	106	P	Pn	18 31 55.0	+0.9
EDC	Edincik	4.35	2	PN	Pn	18 31 56.8	+0.1
KRBG	Karabiga-Canak	4.40	356	PN	Pn	18 31 57.1	-0.3
SZAC	Souni	4.41	105	P	Pn	18 31 58.5	+1.0
SZAC				AML	AML	18 32 47.8	
	comp=N,0.4nm,0.3s						
SZAC				AML	AML	18 32 48.6	
	comp=N,1.1nm,0.3s						
GADA	Gvkgeada	4.42	342	PN	Pn	18 31 57.7	0.0
ASGA	Asgata	4.69	103	P	Pn	18 32 02.1	+0.8
SLUM	Salum	4.95	206	P	Pn	18 32 05.6	+0.7
	baz=211						
SLUM				S	Sn	18 32 51.4	-9.4
	baz=211						
BRTR	Keskin Array B	5.99	50	P	Pn	18 32 21.3	+2.0
	comp=N,0.2nm,0.3s,baz=239,slow=16,SNR=5.1						
BRTR				S	Sn	18 33 26.4	-0.2
	comp=N,0.5nm,0.3s,baz=220,slow=24,SNR=8.0						
HMYD	Mayadein	6.71	156	P	Pn	18 32 30.2	+1.2
	baz=153						
HNTI	Hanita	6.81	113	Pn	Pn	18 32 31.8	+1.4
HNTI				Sn	Sn	18 33 43.9	-2.6
OFRI	\`Ofer	6.90	117	Pn	Pn	18 32 33.1	+1.5
HWQ	Hawqa	6.97	102	*e*P	Pn	18 32 33.8	+1.2
SWA2		6.99	196	P	Pn	18 32 33.5	+0.6
	baz=199						
QRWL	Qaraoun	7.00	108	*e*P	Pn	18 32 33.8	+0.8
MMA0B	Mount Meron ar	7.01	113	Pn	Pn	18 32 33.9	+0.7
MMA0B				Sn	Sn	18 33 49.8	-1.7
MMAI	Mount Meron Ar	7.01	113	P	Pn	18 32 33.0	-0.2
	comp=N,7.4nm,0.3s,baz=290,slow=18,SNR=14						
MMAI				S	Sn	18 33 48.6	-3.0
	comp=N,14nm,0.3s,baz=187,slow=11,SNR=13						
HHAG	Hagoal	7.07	147	P	Pn	18 32 34.9	+1.0
	baz=143						
GEM	Giv'at Ha'Em	7.12	111	Pn	Pn	18 32 35.7	+1.1
GEM				Sn	Sn	18 33 52.4	-1.7
SHBL	Chebaa	7.13	109	*e*P	Pn	18 32 35.1	+0.3
HSAF	As Saff	7.13	152	P	Pn	18 32 35.6	+0.8
	baz=148						
SLTI	Sal'it	7.14	120	Pn	Pn	18 32 36.0	+1.1
NATI	Neve Ativ	7.16	110	Pn	Pn	18 32 36.3	+1.2
RYAN	Fayoum	7.23	162	P	Pn	18 32 36.7	+0.7
	baz=159						
MMLI	Mount Malkishu	7.31	117	Pn	Pn	18 32 37.5	+0.3
MMLI				Sn	Sn	18 33 56.2	-2.5
AMAZ	Amatzia	7.47	124	Pn	Pn	18 32 40.0	+0.6
AMAZ				Sn	Sn	18 34 00.1	-2.6
HMDT	Nahal Hemdat	7.48	118	Pn	Pn	18 32 40.8	+1.3
KZIT	Kziot	7.55	130	Pn	Pn	18 32 41.0	+0.5
KZIT				Sn	Sn	18 34 00.1	-4.4
YTIR	Yattir	7.71	125	Pn	Pn	18 32 43.0	+0.3
YTIR				Sn	Sn	18 34 05.8	-2.8
DSI	Dead Sea	7.76	122	Pn	Pn	18 32 43.8	+0.4
MSBI	Mazada	7.91	124	Pn	Pn	18 32 45.9	+0.6
MSBI				Sn	Sn	18 34 11.1	-2.0
ZFRI	Zfri	8.28	129	Pn	Pn	18 32 50.9	+0.5
ZFRI				Sn	Sn	18 34 17.5	-4.8
KRMI	Paran Flat	8.31	133	Pn	Pn	18 32 51.1	+0.2
KRMI				Sn	Sn	18 34 18.4	-4.7
PRNI	Paran	8.31	131	Pn	Pn	18 32 50.9	0.0
PRNI				Sn	Sn	18 34 18.4	-4.8
HRFI	Mount Harif	8.55	132	Pn	Pn	18 32 54.5	+0.3
HRFI				Sn	Sn	18 34 25.9	-3.2
MBRI	Mt Berech	8.66	134	Pn	Pn	18 32 56.0	+0.3
MBRI				Sn	Sn	18 34 27.5	-4.2
EIL	Elat	8.77	134	P	Pn	18 32 56.6	-0.5
	comp=N,3.8nm,0.3s,baz=203,slow=12,SNR=31						
EIL				S	Sn	18 34 30.0	-4.4
	comp=N,4.9nm,0.3s,baz=101,slow=18,SNR=8.5						
EIL	Elat	8.77	134	Pn	Pn	18 32 57.3	+0.2
HFRF	Wahat Farafira	8.84	176	P	Pn	18 32 58.5	+0.5
	baz=176						
AKASG	Malin Array Be	14.74	4	P	P	18 34 21.9	+0.3
	comp=N,1.0nm,0.3s,baz=197,slow=12,SNR=5.8						
KBA	Koelnbreinsper	15.41	320	*i* P	P	18 34 30.0	+0.7
	comp=N,6.1nm,0.9s						
ABTA	Abfaltersbach	15.64	318	*e*P	P	18 34 32.1	+0.3
	comp=N,3.7nm,0.7s						
WTTA	Wattenberg	16.43	318	*e*P	P	18 34 41.6	+1.0
	comp=N,2.6nm,0.6s						
GERES	GERESS Array B	16.45	326	P	P	18 34 39.8	-0.9
	comp=N,0.1nm,0.3s,baz=129,slow=12,SNR=12						
WATA	Walderalm	16.50	318	*e*P	P	18 34 42.7	+1.3
	comp=N,4.3nm,0.6s						
SQTA	Sankt Quirin	16.64	317	*e*P	P	18 34 44.6	+1.8
	comp=N,2.3nm,0.5s						
MOTA	Moosalm	16.77	318	*e*P	P	18 34 45.4	+1.1
	comp=N,3.6nm,0.9s						
FETA	Feichten	16.79	316	*e*P	P	18 34 45.8	+1.3
	comp=N,7.1nm,0.9s						
DAVOX	Davos/Dischmat	17.14	314	P	P	18 34 49.5	+1.0
	comp=N,0.2nm,0.3s,baz=161,slow=8.7,SNR=3.6						
DAVA	Damuels	17.41	316	*i* P	Pn	18 34 52.2	+1.0
	comp=N,3.0nm,0.5s						
DEL	Delary	22.52	340	*i* P	P	18 35 44.0	-2.5
ESDC	Sonseca Array	25.21	288	P	P	18 36 11.5	-0.4
	comp=N,0.3nm,0.4s,baz=80,slow=11,SNR=4.1						
FINES	FINESS Array B	25.49	358	P	P	18 36 12.7	-1.4
	comp=N,0.6nm,0.4s,baz=169,slow=11,SNR=7.3						
HFS	Hagfors	25.79	344	P	P	18 36 17.3	+0.4
	comp=N,1.2nm,0.7s,baz=157,slow=16,SNR=6.1						
TORD	Torodi Ar. Bea	32.63	232	P	P	18 37 18.0	+0.1
	comp=N,2.1nm,0.5s,baz=34,slow=8.7,SNR=16						
ARCES	ARCESS Array B	33.62	359	P	P	18 37 24.7	-1.4
	comp=N,2.4nm,1.0s,baz=180,slow=8.7,SNR=13						
MKAR	Makanchi Array	41.58	58	P	P	18 38 34.7	+1.1
	comp=N,0.1nm,0.5s,baz=286,slow=6.5,SNR=1.9						
ASAR	Alice Springs	116.17	101	PKP	PKiKP	18 49 28.3	+0.2
	comp=N,0.1nm,0.6s,baz=313,slow=1.3,SNR=4.2						

*IDC **11** 18:49:10.7±2.0, 14.°61N×88.°19W, h0^{km}, mb3.1/2, mb1 3.6/2, mb1mx3.3/32, mbtmp3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/20, Error ellipse: s-maj=156.4km s-min=20.8km az=55.0*

*SNET **11** 18:49:14.5±1.3, 13.°34N×89.°91W, h47^{km}, ML4.0, ML4.0*

*INET **11** 18:49:14.7±0.5, 13.°34N×89.°93W, h22^{km}±8^{km}, MW3.4*

*GCG **11** 18:49:16.2±0.5, 13.°47N×89.°97W, h94^{km}±18^{km}, MD3.8*

ISC 11 18:49:15.4±1.3, **13.°38N**±0.°08×**89.°82W**±0.°05, **h57**^{km}±9^{km}, **n38**, σ1§**38**/53, **8D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	0.45	53⇓	*i*P	Pn	18 49 26.5	-0.4
JAYA				IAML		18 49 35.8	
	comp=Z,12µm,0.2s						
CEVE	Cerro Verde	0.48	23⇓	*i*P	Pn	18 49 27.1	-0.2
CEVE				*e*S	Sn	18 49 36.6	+0.7
CEVE				IAML		18 49 38.1	
	comp=Z,15µm,0.3s						
SBLS	San Blas	0.50	23	*e*P	Pn	18 49 27.2	-0.2
LALI	Alcalda de L	0.50	78	*e*P	Pn	18 49 26.6	-0.6
LALI				*e*S	Sn	18 49 34.6	-1.1
NUBE	Las Nubes	0.52	5⇓	*i*P	Pn	18 49 27.2	-0.4
NUBE				*e*S	Sn	18 49 36.1	-0.2
SNJE	San Jose	0.53	24	*e*P	Pn	18 49 27.6	-0.1
RTR	El Retiro	0.54	19	*e*P	Pn	18 49 27.9	+0.1
CEDA	San Andres	0.59	45	*e*P	Pn	18 49 28.2	-0.1
CEDA				*e*S	Sn	18 49 38.7	+1.2
CEDA				IAML		18 49 46.5	
	comp=Z,6µm,0.3s						
BOQS	Boqueron	0.64	56	*e*P	Pn	18 49 29.0	0.0
SLOZ	Alcaldia de Sa	0.64	3⇓	*i*P	Pn	18 49 28.9	0.0
SLOZ				*e*S	Sn	18 49 39.6	+1.0
SNET	Serv Nac Est T	0.65	62	*e*P	Pn	18 49 29.0	0.0
SNET				*e*S	Sn	18 49 39.6	+0.7
SNET	Serv Nac Est T	0.65	62	*e*P	Pn	18 49 29.0	0.0
UEES	Universidad Ev	0.66	59	*e*P	Pn	18 49 29.2	+0.1
OPAM	Oficina de Pla	0.69	61	*e*P	Pn	18 49 29.7	+0.2
OPAM				*e*S	Sn	18 49 41.1	+1.4
TACO	Tacachico	0.74	38⇓	*i*P	Pn	18 49 30.4	+0.3
TACO				*e*S	Sn	18 49 42.1	+1.3
LFRS	El Faro	0.78	72	*e*P	Pn	18 49 30.3	-0.3
LFU	La Fuente	0.78	62	*e*P	Pn	18 49 30.9	+0.3
LBRS	Las Brisas	0.84	65	*e*P	Pn	18 49 31.8	+0.5
PAVA	Las Pavas	0.92	69	*e*P	Pn	18 49 33.0	+0.6
PAVA				*e*S	Sn	18 49 47.4	+2.4
PAVA	Las Pavas	0.92	69	*e*P	Pn	18 49 33.0	+0.6
COEG	Centro de Oper	0.95	75	*e*P	Pn	18 49 32.8	0.0
COEG				*e*S	Sn	18 49 46.6	+1.0
COEG				IAML		18 49 55.3	
	comp=Z,3µm,0.5s						
COEG	Centro de Oper	0.95	75	*e*P	Pn	18 49 32.8	0.0
TECO	Alcaldia de Te	1.03	81	*e*P	Pn	18 49 33.6	-0.1
TECO				*e*S	Sn	18 49 47.4	+0.1
MTO3	Montecristo	1.11	24⇓	*i*P	Pn	18 49 35.2	+0.2
MTO3	Montecristo	1.11	24	*e*P	Pn	18 49 35.3	+0.2
SCLA	Alcaldia de Sa	1.11	73	*i* P	Pn	18 49 35.4	+0.5
SCLA				*e*S	Sn	18 49 51.2	+1.8
ALJI	Alcalda de J	1.22	92	*e*S	Sn	18 49 52.8	+1.0
ESQI	Esquipulas	1.26	22	*e*P	Pn	18 49 37.5	+0.5
ESQI				*e*S	Sn	18 49 54.7	+1.7
NBG	Las Nubes	1.30	337⇓	*e*P	Pn	18 49 39.1	+1.4
NBG				*e*S	Sn	18 49 57.2	+2.9
FUG	Fuego 3	1.45	317⇓	*e*P	Pn	18 49 40.0	+0.5
FUG				*e*S	Sn	18 49 58.9	+1.2
JUCU	Jucuar¡n	1.54	95	*e*P	Pn	18 49 40.5	-0.1
MRL	Marmol	1.70	5	*e*P	Pn	18 49 44.5	+1.5
MRL				*e*S	Sn	18 49 56.8	-6.9
LCND	La Caada	1.88	92	*e*P	Pn	18 49 45.5	+0.2
LCND				IAML		18 50 15.8	
	comp=Z,571nm,0.3s						
STG3	Santiaguito 3,	2.15	308	*e*P	Pn	18 49 49.6	+0.5
STG3				*e*S	Sn	18 50 14.8	+0.1
JTS	Las Juntas de	5.67	122	Pg	Pn	18 50 46.7	+10
	comp=Z,1.3nm,0.3s,baz=352,slow=9.1,SNR=5.4						
JTS				Lg	Lg	18 52 02.2	
	comp=Z,1.0nm,0.3s,baz=180,slow=23,SNR=7.8						
JTS				LR	LR	18 52 11.5	
	comp=Z,55nm,19.4s,baz=176,slow=34						
TXAR	Lajitas Array	20.42	323	P	Pn	18 53 50.7	0.0
	comp=Z,0.4nm,0.6s,baz=142,slow=10,SNR=5.2						
YKA	Yellowknife Ar	52.13	346	P	P	18 58 17.6	-2.1
	comp=Z,0.2nm,0.7s,baz=136,slow=7.9,SNR=4.2						
CMAR	Chiang Mai Arr	147.20	345	PKPbc	PKPdf	19 08 52.3	+1.3
	comp=Z,0.4nm,0.5s,baz=345,slow=2.6,SNR=4.2						

*NEIC **11** 19:01:01.7±1.8, 43.°73N±0.°04×105.°13W±0.°07, h0^{km}±2^{km}, ML3.6/71, Error ellipse: s-maj=9.3km s-min=5.1km az=239.0*

*IDC **11** 19:01:02.7±1.6, 43.°74N×105.°52W, h0^{km}, mb3.9/2, mb1 3.6/6, mb1mx3.4/39, mbtmp3.5/6, ML3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/85, Error ellipse: s-maj=43.1km s-min=9.3km az=148.0*

ISC 11 19:01:01.8±1.0,**43°.73N**±0°.06×**105°.20W**±0°.07,**h0^{km},n72,** σ**1^s.13**/70,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	64		Pn	19 01 21.8	-0.5
K22A	Casper	1.45	223	Pn	Pn	19 01 27.6	-1.8
K22A				IAML		19 01 50.6	
	comp=N,669nm,0.3s						
K22A				IAML		19 01 53.6	
	comp=E,1µm,0.7s						
PHWY	Pilot Hill	2.43	185		Pn	19 01 43.8	+0.7
PHWY				IAML		19 02 21.9	
	comp=E,188nm,0.8s						
RWWY	Rawlins	2.52	217		Pn	19 01 43.1	-1.2
RWWY				IAML		19 02 21.5	
	comp=E,310nm,1.0s						
N23A	Red Feather La	2.88	191		Pn	19 01 50.4	+1.1
N23A				IAML		19 02 33.2	
	comp=E,148nm,1.0s						
N23A				IAML		19 02 41.1	
	comp=N,173nm,1.0s						
LAO	LASA Array	3.05	347		Pn	19 01 53.0	+1.6
LAO				IAML		19 02 48.3	
	comp=N,252nm,1.1s						
LAO				IAML		19 03 07.3	
	comp=N,213nm,1.0s						
RLMT	Red Lodge	3.23	297		Pn	19 01 54.3	+0.3
RLMT				IAML		19 02 56.7	
	comp=N,96nm,1.1s						
PD31	Pinedale Array	3.33	255		Pn	19 01 55.5	+0.1
PDAR	Pinedale Array	3.33	255	Pn	Pn	19 01 55.3	0.0
	comp=N,4.0nm,0.3s,baz=70,slow=17,SNR=72						
PDAR				Lg	Lg	19 02 41.6	
	comp=N,27nm,0.3s,baz=70,slow=43,SNR=3.5						
BW06	Boulder Array	3.33	255		Pn	19 01 55.5	+0.1
BW06				IAML		19 02 46.5	
	comp=N,93nm,0.9s						
OGNE	Ogallala	3.64	139	Pn	Pn	19 02 00.8	+1.3
YMP	Mirror Lake Pl	3.71	288		Pn	19 02 00.9	+0.3
YMP				IAML		19 03 11.7	
	comp=E,135nm,1.2s						
YMP				IAML		19 03 15.4	
	comp=N,128nm,0.9s						
GCMT	Greycliff	3.79	304		Pn	19 02 02.2	+0.6
LKWY	Lake	3.84	284		Pn	19 02 03.1	+0.7
LKWY				IAML		19 02 35.4	
	comp=N,78nm,1.1s						
LOHW	Long Hollow	3.92	270		Pn	19 02 04.1	+0.6
LOHW				IAML		19 03 08.4	
	comp=N,51nm,1.1s						
H17A	Grant Village	3.94	282		Pn	19 02 05.2	+1.5
H17A				IAML		19 03 09.4	
	comp=N,72nm,1.2s						
ISCO	Idaho Springs	3.94	185	Pn	Pn	19 02 04.9	+1.1
YUF	Upper Falls	3.95	286		Pn	19 02 04.0	+0.2
FLWY	Flagg Ranch	3.99	277		Pn	19 02 05.1	+0.6
FLWY				IAML		19 03 18.5	
	comp=N,83nm,1.8s						
FLWY				IAML		19 03 22.1	
	comp=N,72nm,1.2s						
MOOW	Moose Ponds	4.02	272		Pn	19 02 05.5	+0.7
SNOW	Snow King Moun	4.05	268		Pn	19 02 06.2	+0.9
SNOW				IAML		19 03 19.4	
	comp=N,118nm,1.2s						
SNOW				IAML		19 03 21.1	
	comp=N,114nm,1.2s						
YNR	Norris Junctio	4.06	286		Pn	19 02 07.9	+2.4
REDW	Red Top Meadow	4.13	267		Pn	19 02 08.1	+1.8
REDW				IAML		19 03 17.4	
	comp=N,124nm,1.1s						
REDW				IAML		19 03 27.4	
	comp=N,120nm,1.4s						
TPAW	Teton Pass	4.19	269		Pn	19 02 06.7	-0.5
TPAW				IAML		19 03 21.8	
	comp=N,82nm,1.1s						
TPAW				IAML		19 03 34.4	
	comp=N,55nm,1.2s						
YHH	Holmes Hill	4.20	287	Pn	Pn	19 02 07.2	-0.2
YHH				IAML		19 03 32.3	
	comp=N,44nm,1.0s						
O20A	White River Ci	4.25	213		Pn	19 02 06.9	-1.0
O20A				IAML		19 03 35.3	
	comp=E,114nm,1.1s						
YMR	Madison River	4.25	285		Pn	19 02 07.8	-0.2
YMR				IAML		19 03 34.9	
	comp=N,113nm,1.1s						
YMR				IAML		19 03 50.6	
	comp=E,76nm,1.1s						
E28A	Huff	4.27	47		Pn	19 02 05.4	-2.7
E28A				IAML		19 03 31.3	
	comp=N,116nm,1.0s						
E28A				IAML		19 04 01.1	
	comp=E,106nm,1.1s						
AHID	Auburn Hatcher	4.42	259		Pn	19 02 10.5	+0.2
AHID				IAML		19 03 30.4	
	comp=E,94nm,1.0s						
RDMU	Red Mountain	4.53	227	Pn	Pn	19 02 11.7	-0.2
RDMU				IAML		19 03 26.9	
	comp=N,85nm,1.1s						
RDMU				IAML		19 03 41.7	
	comp=E,80nm,1.2s						
ECR	Eagle Creek	4.55	264		Pn	19 02 11.2	-0.9
SUSD	Miller	4.55	79		Pn	19 02 09.0	-3.0
QLMT	Earthquake Lak	4.61	286		Pn	19 02 11.5	-1.4
SMCO	Snowmass	4.74	197		Pn	19 02 14.8	0.0
SMCO				IAML		19 03 38.1	
	comp=E,43nm,1.1s						
SMCO				IAML		19 03 48.3	
	comp=E,60nm,1.1s						
Q24A	Divide	4.76	180		Pn	19 02 15.4	+0.3
Q24A				IAML		19 03 39.4	
	comp=E,58nm,1.2s						
DGMT	Dagmar	4.79	8	Pn	Pn	19 02 11.6	-3.7
K31A	O'Neill	4.84	101		Pn	19 02 13.9	-1.9
BOZ	Bozeman (W)	4.96	294		Pn	19 02 18.4	+0.8
BOZ				IAML		19 03 36.0	
	comp=E,31nm,1.4s						
BOZ				IAML		19 03 40.1	
	comp=E,27nm,1.0s						
KSCO	Kaye Shedlock'	5.09	157		Pn	19 02 17.9	-1.6
HWUT	Hardware Ranch	5.15	248		Pn	19 02 20.1	-0.2
EGMT	Eagleton	5.35	325	Pn	Pn	19 02 22.6	-0.3
DLMT	Dillon	5.54	290		Pn	19 02 24.6	-1.0
HRY	Holter Researc	5.55	305		Pn	19 02 25.4	-0.4
LRM	Limekiln Ridge	5.57	295		Pn	19 02 25.5	-0.7
P18A	Preston Nutter	5.57	224		Pn	19 02 24.9	-1.3
MCMT	McKenzie Canyo	5.60	284		Pn	19 02 27.5	+0.9
MDND	Maddock	5.68	42		Pn	19 02 25.2	-2.2
PV07	Paradox Valley	5.89	207		Pn	19 02 30.8	+0.2
HVU	Hansel Valley	5.91	253		Pn	19 02 31.2	+0.5
PV15	Paradox Valley	5.93	206		Pn	19 02 31.7	+0.7
P17A	Butcher Ranch,	5.94	226		Pn	19 02 31.9	+0.7
SDCO	Great Sand Dun	5.98	182	Pn	Pn	19 02 31.5	-0.4
MPU	Maple Canyon	6.07	235		Pn	19 02 32.5	-0.5
PV11	David Mesa, Pa	6.09	208		Pn	19 02 32.9	-0.4
S22A	4UR Ranch, Cre	6.10	192		Pn	19 02 33.1	-0.4
SRU	San Rafael Swe	6.11	223		Pn	19 02 33.9	+0.4
PV13	Radium Mtn., P	6.20	207		Pn	19 02 35.8	+1.0
ECSD	EROS Data Cent	6.22	87		Pn	19 02 33.8	-1.0
TMUT	Trail Mountain	6.32	228		Pn	19 02 36.9	+0.3
NLU	North Lily Min	6.37	236		Pn	19 02 36.4	-0.7
CBKS	Cedar Bluff	6.40	138		Pn	19 02 37.0	-0.4
Q16A	Castle Valley	6.58	225		Pn	19 02 39.7	-0.3
DUG	Dugway, Tooele	6.68	241	Pn	Pn	19 02 41.2	-0.2
HLID	Hailey	6.69	272	Pn	Pn	19 02 40.9	-0.6
ELK	Elko	8.03	252	Pn	Pn	19 03 00.6	+0.7
	comp=E,0.2nm,0.3s,baz=64,slow=13,SNR=2.6						
ULM	Lac du Bonnet	9.11	41	Pn	Pn	19 03 16.1	+1.6
	comp=E,0.9nm,0.3s,baz=226,slow=12,SNR=5.7						
ULM				Lg	Lg	19 05 47.5	
	comp=E,0.3nm,0.3s,baz=323,slow=22,SNR=2.4						
ULM	Lac du Bonnet	9.11	41	Pn	Pn	19 03 14.5	0.0
TXAR	Lajitas Array	14.42	175	Lg	Lg	19 08 35.8	
	comp=E,0.1nm,0.3s,baz=357,slow=18,SNR=3.5						
TKL	Tuckaleechee C	18.32	109	LR	LR	19 12 32.7	
	comp=E,58nm,19.0s,baz=2.5,slow=37						
YKA	Yellowknife Ar	19.59	347	P	Pn	19 05 32.0	-0.4
	baz=164,slow=12,SNR=3.8						
ZALV	Zalesovo Beam	82.32	354	P	P	19 13 25.2	+0.2
	comp=E,0.6nm,0.7s,baz=1.3,slow=6.2,SNR=2.1						
MKAR	Makanchi Array	89.62	355	P	P	19 14 01.6	+0.3
	comp=E,0.6nm,0.8s,baz=18,slow=5.2,SNR=6.4						

*NEIC **11** 19:09:13.8±3.0, 4°.6S±0°.1×145°.3E±0°.1, h107^{km}±10^{km}, mb4.1/15, Error ellipse: s-maj=19.1km s-min=12.3km az=55.0*

*IDC **11** 19:09:14.0±3.8, 4°.67S×144°.99E, h81^{km}±40^{km}, mb3.6/6, mb1 3.8/9, mb1mx3.6/28, mbtmp4.0/9, MS2.7/2, Ms1 2.7/2, ms1mx2.4/42, Error ellipse: s-maj=32.8km s-min=23.9km az=74.0*

ISC 11 19:09:13.2±0.9,**4°.62S**±0°.09×**145°.20E**±0°.09,**h100^{km},n30,** σ**2^s.01**/32,**mb3.8**/9,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.14	158	P	Pn	19 10 29.7	+1.9
	5.8nm,0.3s,baz=36,slow=4.4,SNR=27						
PMG				S	Sn	19 11 27.7	+1.8
	8.1nm,0.3s,baz=24,slow=13,SNR=10.0						
PMG				LR	LR	19 12 28.0	
	comp=Z,75nm,20.0s,baz=244,slow=38						
PMG	Port Moresby	5.14	158		Pn	19 10 29.4	+1.6
PMG				Sn	Sn	19 11 24.9	-1.0
COEN	Coen	9.49	192		Pn	19 11 28.3	+1.2
COEN				Sn	Sn	19 13 08.0	-4.0
SIJI	Sorong	14.41	285	P	Pn	19 12 31.6	-0.9
	1.8nm,0.3s,baz=21,slow=23,SNR=12						
HNR	Honiara	15.39	109		Pn	19 12 40.0	-5.0
CTA	Charters Tower	15.41	176	P	P	19 12 51.5	+3.9
	0.3nm,0.3s,baz=319,slow=24,SNR=3.2						
GUMO	Guam	18.09	359	LR	LR	19 19 48.6	
	comp=Z,21nm,18.6s,baz=112,slow=35						
WB0	Warramunga Arr	18.38	214		P	19 13 20.9	+0.6
WB0				IAmb	IAmb	19 13 22.0	
	comp=Z,3.9nm,0.8s						
WR0	Warramunga Arr	18.45	213	P	P	19 13 21.3	+0.1
WR0				IAmb	IAmb	19 13 23.8	
	comp=Z,7.0nm,0.8s						
WRAB	Tennant Creek	18.53	214	P	P	19 13 22.8	+0.7
WRAB				IAmb	IAmb	19 13 24.3	
	comp=Z,4.6nm,0.8s						
WB2	Warramunga Arr	18.54	214	P	P	19 13 21.8	-0.3
WB2				IAmb	IAmb	19 13 23.4	
	comp=Z,5.3nm,0.8s						
WRA	Warramunga Arr	18.55	214	P	P	19 13 22.3	+0.1
	comp=Z,0.7nm,0.3s,baz=41,slow=11,SNR=57						
WRA	Warramunga Arr	18.55	214	P	P	19 13 20.3	-1.9
KNRA	Kununurra	19.54	235	P	P	19 13 31.0	-2.0
KNRA				IAmb	IAmb	19 13 46.3	
	comp=Z,20nm,1.1s						
AS31	Alice Springs	21.85	209	P	P	19 13 57.8	0.0
ASAR	Alice Springs	21.85	209	P	P	19 13 58.6	+0.8
	comp=Z,0.8nm,0.5s,baz=31,slow=13,SNR=24						
ASAR	Alice Springs	21.85	209	P	P	19 13 57.4	-0.4
MMRI	Maumere	23.15	259	P	P	19 14 09.8	-1.3
MMRI				IAmb	IAmb	19 14 10.7	
	comp=Z,18nm,0.5s						
FITZ	Fitzroy Crossi	23.36	233	P	P	19 14 13.3	+0.3
	comp=Z,10nm,0.6s,baz=42,slow=8.9,SNR=51						
FITZ	Fitzroy Crossi	23.36	233	P	P	19 14 10.9	-2.1
FITZ				IAmb	IAmb	19 14 14.4	
	comp=Z,11nm,0.7s						
TOLI2	Tolitoli	25.05	283	P	P	19 14 27.1	-1.4
TOLI2				IAmb	IAmb	19 14 32.5	
	comp=Z,11nm,0.9s						
STKA	Stephens Creek	27.33	187	P	P	19 14 51.3	+2.6
	comp=Z,0.7nm,0.4s,baz=2.5,slow=16,SNR=2.9						
OUENC	Ouen Island, N	27.42	132	P	P	19 14 46.9	-2.8
PSA00	Pilbara Seismi	29.81	233	P	P	19 15 11.3	+0.3
CMAR	Chiang Mai Arr	51.02	298	P	P	19 18 07.3	+1.8
	comp=Z,0.6nm,0.4s,baz=124,slow=6.3,SNR=5.2						
MK31	Makanchi Array	75.30	321	P	P	19 20 45.4	-0.1
MK31				IAmb	IAmb	19 21 18.1	
	comp=Z,1.6nm,1.2s						
MKAR	Makanchi Array	75.30	321	P	P	19 20 48.4	+2.8
	comp=Z,0.5nm,0.6s,baz=98,slow=7.9,SNR=8.2						
MKAR	Makanchi Array	75.30	321	P	P	19 20 45.4	-0.1
ZALV	Zalesovo Beam	76.90	328	P	P	19 20 56.2	+1.8
	comp=Z,0.9nm,0.6s,baz=107,slow=5.1,SNR=5.6						
ZALV	Zalesovo Beam	76.90	328	P	P	19 20 56.0	+1.6

MAN 11 19:36:44.3, 10°.19N×126°.03E, h33^{km}, mb3.8, ML2.6, MS2.1, Philippine Islands region

*BJI **11** 20:00:32.3±0.0, 28°.14N×129°.68E, h53^{km}, mb4.1/21, mB4.5/12, Ms3.9/7, Ms7 3.6/8*

*JMA **11** 20:00:32.4±0.1, 28°.25N×129°.53E, h33^{km}±2^{km}, M4.2*

JMA Felt III J1.

*NIED **11** 20:00:32.5, 28°.25N×129°.53E, h33^{km}, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.90; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-0.21; $M_{r\theta}$1.17; $M_{\theta\phi}$-0.62; $M_{\phi r}$4.85; Fault plane solution: $M_0$5.01000×10^{15} NP1: ϕ_s192.00000°, δ89.00000°, λ-87.00000°. NP2: ϕ_s305.00000°, δ4.00000°, λ-157.00000°.*

*NEIC **11** 20:00:33.7±1.8, 28°.12N±0°.04×129°.69E±0°.10, h55^{km}±7^{km}, mb4.4/33 Error ellipse: s-maj=13.2km s-min=3.0km az=112.0*

*IDC **11** 20:00:38.8±4.3, 28°.21N×129°.46E, h94^{km}±40^{km}, mb3.5/11, mb1 3.6/12, mb1mx3.4/51, mbtmp3.8/12, MS3.4/19, Ms1 3.4/19, ms1mx3.2/61, Error ellipse: s-maj=27.6km s-min=14.0km az=80.0*

ISC 11 20:00:30.8±0.4,**28°.18N**±0°.03×**129°.67E**±0°.04,**h27^{km},n111,** σ**1^s.51**/102,**mb4.3**/31,**MS3.5**/19,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.24	346	P	Pn	20 00 38.4	-0.2
JAM				eS	Sb	20 00 42.9	+1.4
JZK	Kikaishima	0.30	63	P	Pn	20 00 41.3	+1.9
JZK				S	Sn	20 00 47.1	+2.1
JAMN	Amaminishikomi	0.44	279	P	Pb	20 00 40.2	0.0
JAMN				eS	Sb	20 00 46.1	-0.4
JTK	Tokunoshima	0.75	239	P	Pb	20 00 45.1	-0.1
JTK				eS	Sb	20 00 54.8	-0.3
JTAJ	Takarajima	1.06	337	P	Pn	20 00 49.2	-0.6
JTAJ				S	Sn	20 01 02.5	-1.2
JOKE	Okinoerabujima	1.27	230	P	Pb	20 00 54.0	-0.1
JOKE				eS	Sn	20 01 09.1	+0.1
JYRO	Yoronjima	1.58	224	P	Pn	20 00 58.6	+1.6
JNN	Nakanoshima	1.67	6	P	Pb	20 00 59.4	-1.5
JNN				eS	Sb	20 01 20.2	-1.3
JOW	Kunigami	1.83	223	P	Pn	20 01 01.7	+1.3
JOW	Kunigami	1.83	223		Pn	20 01 01.8	+1.4
JOW				Sn	Sn	20 01 24.9	+2.3
JIH	Iheya	1.89	233	P	Pn	20 01 02.6	+1.3
JIH				eS	Sn	20 01 24.0	-0.3
JNTH	Nagotoyohara	2.21	222	P	Pn	20 01 07.1	+1.4
JNTH				eS	Sn	20 01 33.0	+0.9
JKC	Kuchinoerabu	2.32	11	P	Pn	20 01 08.9	+1.6
JMTN	Minamitane	2.46	26	P	Pb	20 01 11.8	-2.5
JJT3	Tamagusuku3	2.63	220	P	Pn	20 01 13.0	+1.5
JKDJ	Kitadaitoujima	2.65	146	P	Pn	20 01 13.8	+2.0
JKDJ				eS	Sn	20 01 43.6	+0.6
JAGN	Aguni-jima	2.68	234	P	Pn	20 01 13.9	+1.8
JTN	Tanegashima 3	2.72	24	P	Pn	20 01 14.9	+2.2
JMZ	Minamidaito 2	2.73	149	P	Pn	20 01 13.7	+0.9
JMZ				eS	Sn	20 01 44.5	-0.4
JKE	Kume jima 2	3.16	235	P	Pn	20 01 19.7	+0.9
JKE				eS	Sn	20 01 56.0	+0.3
JSU	Suzuyama	3.39	11	Pn	Pn	20 01 23.4	+1.4
JNU	Nakatsue	5.04	12	Pn	Pn	20 01 48.1	+3.4
JTU	Tsushima	6.33	358	Pn	Pn	20 02 05.3	+2.9
JMN	Monobe	6.61	32	Pn	Pn	20 02 08.6	+2.4
JHS	Saijyo	7.41	22	Pn	Pn	20 02 19.0	+1.8
YHNB	Yeheng	8.22	247	Pn	Pn	20 02 30.0	+1.6
NACB	Ninganchiao	8.28	243	Pn	Pn	20 02 28.9	-0.2
YULB	Yu-li	8.92	240	Pn	Pn	20 02 35.2	-2.8
SSLB	Suanglung	8.98	243	Pn	Pn	20 02 37.2	-1.6
KSRS	Korea Array	9.37	351	P	Pn	20 02 49.9	+5.9
	0.2nm,0.3s,baz=171,slow=20,SNR=2.9						
KSRS				LR	LR	20 06 35.1	
	comp=Z,129nm,18.5s,baz=160,slow=38						
TWG	Pinlang	9.42	237	Pn	Pn	20 02 42.9	-2.0
TPUB	Ta-pu	9.49	241	Pn	Pn	20 02 43.5	-2.2
INU	Inuyama	9.49	39	Pn	Pn	20 02 48.5	+2.7
JHJ	Hachijo jima 2	10.00	58	LR	LR	20 06 29.9	
	comp=Z,174nm,21.3s,baz=263,slow=34						
MAJO	Matsushiro	11.02	39	Pn	Pn	20 03 09.8	+3.1
MJAR	Matsushiro Arr	11.02	39	LR	LR	20 07 36.1	
	comp=Z,72nm,20.7s,baz=212,slow=38						
MJB9	Matsu-Tunnel	11.03	39	Pn	Pn	20 03 09.6	+2.9
USA0B	Ussuriysk Arra	16.10	6	Pn	Pn	20 04 16.4	+1.2
BJT	Baijiatuau	16.24	320		P	20 04 21.4	+1.4
ENH	Enshi	17.74	282	P	Pn	20 04 36.1	+0.2
ENH				IAmb	IAmb	20 04 42.1	
	comp=Z,13nm,1.0s						
XAN	Xi'an	18.69	293	P	Pn	20 04 50.3	+2.7
XAN				pP	sP	20 04 59.0	+1.2
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC	Hu-ho-hao-te	19.51	315	eP	Pn	20 04 58.7	+1.3
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,65nm,6.3s						
HHC				LR	LR		
	comp=Z,140nm,10.1s						
HHC				LR	LR		
	comp=Z,150nm,11.7s						
HHC				LR	LR		
	comp=Z,190nm,12.0s						
GUMO	Guam	20.27	133	LR	LR	20 11 23.5	
	comp=Z,70nm,21.8s,baz=40,slow=32						
CD2	Chengdu	22.69	283	P	P	20 05 32.2	+1.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=Z,280nm,12.0s						
CD2				LR	LR		
	comp=Z,290nm,14.2s						
LZH	Lanzhou	23.20	296	eP	P	20 05 46.0	+10
LZH				pP	sP	20 05 54.4	+7.8
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
PZH	PanZhiHua	24.85	273	P	P	20 05 51.6	+0.3
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
UBPT	Khong Chiam	25.82	245	P	P	20 05 58.5	-1.5
SONM	Songino Array	26.68	324	P	P	20 06 10.4	+2.7
	comp=Z,0.6nm,0.6s,baz=121,slow=10,SNR=4.9						
SONM				LR	LR	20 17 41.5	
	comp=Z,53nm,19.1s,baz=156,slow=38						
GTA	Gaotai	27.11	302	eP	P	20 06 13.4	+1.8
GTA				pP	sP	20 06 25.6	+2.9
GTA				sP	pP	20 06 32.2	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,62nm,5.1s						
GTA				LR	LR		
	comp=Z,97nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,200nm,16.4s						
CMAR	Chiang Mai Arr	29.76	258	P	P	20 06 35.8	+0.6
	comp=Z,0.9nm,1.0s,baz=48,slow=7.4,SNR=4.1						
CMAR				LR	LR	20 19 51.4	
	comp=Z,48nm,18.1s,baz=85,slow=39						
PETK	Petropavlovsk-	32.37	32	LR	LR	20 20 03.6	
	comp=Z,54nm,21.4s,baz=244,slow=36						
KAPI	Kappang	34.36	198	LR	LR	20 23 13.4	
	comp=Z,20nm,18.3s,baz=44,slow=40						
MA2	Magadan	34.56	19	LR	LR	20 21 44.3	
	comp=Z,26nm,18.8s,baz=150,slow=37						
H11N2	WAKE ISLAND Hy	34.93	96	T	T	20 44 44.1	
	baz=290,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy	34.93	96	T	T	20 44 42.7	
	baz=290,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	34.95	96	T	T	20 44 44.1	
	baz=290,slow=75,SNR=17						
H11S3	WAKE ISLAND Hy	35.21	98	T	T	20 45 11.8	
	baz=282,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	35.22	98	T	T	20 45 07.3	
	baz=282,slow=74,SNR=6.2						
H11S2	WAKE ISLAND Hy	35.23	98	T	T	20 45 12.9	
	baz=282,slow=74,SNR=5.2						
WMQ	Urumqi	36.95	306	eP	P	20 07 40.4	+2.7
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,73nm,20.1s						
GSI	Gunungsitoli	40.69	235	P	P	20 08 07.9	-1.3
SHEM	Shemya Is, Ala	40.86	41	LR	LR	20 32 57.0	
	comp=Z,20nm,18.1s,baz=280,slow=47						
MK31	Makanchi Array	41.23	310	P	P	20 08 12.2	-1.3
MKAR	Makanchi Array	41.23	310	P	P	20 08 12.9	-0.6
	comp=Z,0.6nm,0.7s,baz=100,slow=9.4,SNR=6.0						
MKAR	Makanchi Array	41.23	310	P	P	20 08 11.9	-1.5
ZALV	Zalesovo Beam	41.51	321	P	P	20 08 14.9	-0.6
	comp=Z,0.5nm,0.5s,baz=115,slow=6.5,SNR=2.5						
KNRA	Kununurra	43.60	181	P	P	20 08 31.7	-1.2
COEN	Coen	43.88	161	P	P	20 08 34.2	-0.9
COEN				IAmb	IAmb	20 08 41.0	
	comp=Z,11nm,1.3s						
KURK	Kurchatov	44.33	315	P	P	20 08 38.3	0.0
KURK				IAmb	IAmb	20 08 42.0	
	comp=Z,3.4nm,1.3s						
KURBB	Kurchatov Arra	44.36	315	P	P	20 08 37.7	-1.0
	comp=Z,0.8nm,0.8s,baz=99,slow=8.9,SNR=5.1						
KURBB				LR	LR	20 28 23.2	
	comp=Z,113nm,19.0s,baz=77,slow=38						
KDJ	Kajisay	44.46	303	P	P	20 08 40.2	+0.4
KDJ				IAmb	IAmb	20 08 50.5	
	comp=Z,2.8nm,1.1s						
FITZ	Fitzroy Crossi	46.17	185	P	P	20 08 54.5	+1.3
	comp=Z,3.5nm,0.8s,baz=3.4,slow=10,SNR=6.9						
FITZ	Fitzroy Crossi	46.17	185	P	P	20 08 54.0	+0.8
AAK	Ala-Archa	46.45	303	LR	LR	20 31 17.9	
	comp=Z,55nm,18.3s,baz=68,slow=40						
WB0	Warramunga Arr	47.88	174	P	P	20 09 05.7	-0.9
WB0				IAmb	IAmb	20 09 22.4	
	comp=Z,12nm,1.6s						
WRAB	Tennant Creek	48.04	174	P	P	20 09 06.7	-1.2
WRAB				IAmb	IAmb	20 09 09.2	
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	48.05	174	P	P	20 09 08.7	+0.7
	comp=Z,1.1nm,0.7s,baz=353,slow=8.3,SNR=13						
WRA	Warramunga Arr	48.05	174	P	P	20 09 06.5	-1.4
WB2	Warramunga Arr	48.05	174	P	P	20 09 06.9	-1.1
WB2				IAmb	IAmb	20 09 13.2	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	48.09	174	P	P	20 09 06.3	-1.9
WR0				IAmb	IAmb	20 09 44.4	
	comp=Z,10nm,1.4s						
TARA	Tarawa	49.17	115	P	P	20 09 15.2	-1.5
BTK	Batken	49.34	300	P	P	20 09 16.9	-1.0
BTK				IAmb	IAmb	20 09 28.2	
	comp=Z,4.5nm,1.5s						
KKAR	Karatay Array	49.36	304	P	P	20 09 17.1	-0.8
BRVK	Borovoye	49.77	317	P	P	20 09 19.5	-1.3
BRVK				IAmb	IAmb	20 09 42.1	
	comp=Z,1.5nm,0.8s						
PSA00	Pilbara Seismi	50.36	192	P	P	20 09 23.6	-2.0
CTA	Charters Tower	50.59	160	LR	LR	20 32 39.9	
	comp=Z,28nm,18.1s,baz=130,slow=38						
PALK	Pallekele	50.65	255	LR	LR	20 32 22.6	
	comp=Z,56nm,19.9s,baz=170,slow=38						
KBL	Kabul	51.50	293	P	P	20 09 33.4	-1.1
KBL				IAmb	IAmb	20 09 44.9	
	comp=Z,3.5nm,0.7s						
AS31	Alice Springs	51.70	175	P	P	20 09 34.5	-1.2
ASAR	Alice Springs	51.70	175	P	P	20 09 36.4	+0.7
	comp=Z,0.9nm,0.9s,baz=5.7,slow=14,SNR=28						
ASAR	Alice Springs	51.70	175	P	P	20 09 34.6	-1.1
ABKAR	Akbulak array	56.27	312	P	P	20 10 07.3	-1.6
ARU	Arti	56.68	321	LR	LR	20 37 16.3	
	comp=Z,91nm,18.8s,baz=70,slow=39						
AKTO	Aktyubinsk	57.40	314	LR	LR	20 36 06.4	
	comp=Z,43nm,20.4s,baz=68,slow=37						
MORW	Morawa	58.40	194	P	P	20 10 22.7	-1.3
H23K	Yukon River	60.90	28	P	P	20 10 42.1	+1.3
H23K				IAmb	IAmb	20 10 43.9	
	comp=Z,2.3nm,0.8s						
KIRV	Kirov	61.42	324	LR	LR	20 40 14.6	
	comp=Z,80nm,18.9s,baz=63,slow=39						
MDM	Murphy Dome	61.53	29	P	P	20 10 45.0	-0.1
MDM				IAmb	IAmb	20 11 08.3	
	comp=Z,7.3nm,1.1s						
H24K	Noodor Dome	61.59	28		P	20 10 47.1	+1.6
BMAR	Burnt Mountain	62.70	26	P	P	20 10 55.3	+2.3
BCAR	Beaver Creek A	64.63	30	P	P	20 11 04.2	-1.6
EUNU	Eureka	70.21	6	P	P	20 11 40.6	-0.2
EUNU				IAmb	IAmb	20 11 42.6	
	comp=Z,9.1nm,1.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA1	FINESS Array S	71.80	331	P	P	20 11 49.5	-1.1
FIA1				IAmb	IAmb	20 11 57.5	
	comp=Z,12nm,1.6s						
FINES	FINESS Array B	71.81	331	P	P	20 11 50.0	-0.7
	comp=Z,1.1nm,0.6s,baz=60,slow=7.5,SNR=5.8						
SOCY	Socotra	71.82	274	P	P	20 11 51.1	-0.5
RES	Resolute Bay	73.40	11	P	P	20 12 00.4	+0.5
	comp=Z,1.5nm,0.7s,baz=301,slow=8.3,SNR=8.1						
RES	Resolute Bay	73.40	11	P	P	20 12 00.2	+0.3
RES				IAmb	IAmb	20 12 01.4	
	comp=Z,2.1nm,0.8s						
AKASG	Malin Array Be	74.89	320	P	P	20 12 07.9	-1.1
	comp=Z,0.6nm,0.5s,baz=57,slow=6.4,SNR=4.5						
AKASG				LR	LR	20 48 14.4	
	comp=Z,61nm,18.9s,baz=350,slow=38						
YKA	Yellowknife Ar	76.22	26	P	P	20 12 17.1	+0.6
	comp=Z,0.4nm,0.6s,baz=303,slow=5.6,SNR=11						
NOA	NORSAR Array B	78.14	334	LR	LR	20 50 13.7	
	comp=Z,20nm,19.8s,baz=300,slow=38						
BURAR	Bucovina Array	78.65	318	P	P	20 12 30.7	+0.2

CNRM 11 20:13:17.3, 35°.77N×3°.60W, h27km, ml2.9
MDD 11 20:13:19.6±0.4, 35°.73N×3°.62W, h0km, mb_Lg2.9/16, Error ellipse: s-maj=3.4km s-min=2.0km az=5.0
SFS 11 20:13:19.0, 35°.70N×3°.60W, ML2.8, ALBORAN SUR
ISC 11 20:13:18.4±0.7, 35°.68N±0°.02×3°.61W±0°.02, h14km, n33, σ1s.25/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALE	Palemas	0.53	210	P	Pg	20 13 29.9	+0.9
PALE				S	Sg	20 13 38.4	+2.3
EALB	Alboran	0.54	61	Pg	Pb	20 13 29.9	+0.2
EALB				Sg	Sb	20 13 36.6	-0.6
EALB				*i* Vmb_Lg		20 13 39.2	
EMEL	Melilla	0.65	125	Pg	Pg	20 13 31.3	+0.1
EMEL				Sg	Sg	20 13 41.5	+1.6
GOG	Mont Gurugu	0.68	132	P	Pg	20 13 31.7	+0.1
GOG				S	Sg	20 13 41.7	+1.1
ELGU	Los Guajares,	1.19	359	Pg	Pb	20 13 39.4	-1.4
ELGU				Sg	Sn	20 13 55.9	-0.8
ELGU				*i* Vmb_Lg		20 13 59.0	
EMAL	Malaga-Limoner	1.27	329	P	Pn	20 13 31.6	-10
EMAL				S	Sb	20 13 56.6	-1.7
EMIJ	Mijas	1.29	314	Pg	Pn	20 13 41.0	-1.1
EMIJ				Sg	Sb	20 13 58.0	-1.1
EMIJ				*i* Vmb_Lg		20 13 58.4	
TAF	Taforalt	1.30	131	P	Pn	20 13 42.4	+0.1
TAF				S	Sb	20 13 58.2	-1.1
EBER	Berja	1.35	25	Pg	Pn	20 13 42.5	-0.5
EBER				Sg	Sn	20 14 00.3	-0.6
EBER				*i* Vmb_Lg		20 14 07.6	
SMIR	Smir Dam	1.44	271	P	Pn	20 13 42.4	-1.7
SMIR				S	Sn	20 14 01.9	-0.9
CEU	Ceuta	1.45	279	P	Pn	20 13 30.8	-13
CEU				S	Sn	20 13 59.7	-3.3
EGOR	Sierra Gorda,	1.48	344	Pn	Pb	20 13 45.7	-0.2
EGOR				Sn	Sb	20 14 04.3	-0.4
EGOR				*i* Vmb_Lg		20 14 09.8	
EQUE	Quentar	1.53	5	Pn	Pb	20 13 46.2	-0.5
EQUE				Sn	Sb	20 14 05.3	-0.7
EQUE				*i* Vmb_Lg		20 14 26.6	
JBK	JBK	1.59	147	P	Pn	20 13 43.9	-2.5
JBK				S	Sn	20 14 04.9	-1.9
EJIF	Jimena Fronter	1.69	298	Sn	Sb	20 14 10.5	-0.1
ENIJ	Nijar	1.72	41	Pn	Pn	20 13 47.5	-0.5
ENIJ				Sn	Sn	20 14 09.9	+0.1
ENIJ				*i* Vmb_Lg		20 14 19.3	
LIJA	Lijar	1.90	311	P	Pb	20 13 53.0	+0.1
EQES	Quesada	2.17	11	Pn	Pb	20 13 56.3	-1.2
EQES				Sn	Sn	20 14 20.3	-0.6
EQES				*i* Vmb_Lg		20 14 33.5	
ESPR	Espera	2.17	304	Pn	Pn	20 13 55.4	+1.3
ESPR				Sn	Sn	20 14 21.3	+0.4
ESPR				*i* Vmb_Lg		20 14 29.0	
IFR	Ifrane	2.49	211	P	Pn	20 13 57.4	-1.3
IFR				S	Sn	20 14 28.8	-0.3
EADA	Adamuz	2.60	343	Pn	Pn	20 13 60.0	-0.2
EADA				Sn	Sn	20 14 32.9	+1.3
EADA				*i* Vmb_Lg		20 14 46.9	
EZAR	Zarzadilla de	2.68	34	Pn	Pn	20 14 01.4	+0.1
EZAR				Sn	Sn	20 14 34.2	+0.7
ECAB	El Cabril	2.80	329	Pn	Pn	20 14 03.0	+0.2
ECAB				Sn	Sn	20 14 36.2	-0.2
ECAB				*i* Vmb_Lg		20 14 51.2	
MD31	MD31	2.96	199	S	Sn	20 14 43.2	+2.7
MDT	Midelt	2.97	196	S	Sn	20 14 42.1	+1.3
EMIN	Mina Concepcio	3.23	311	Pn	Pn	20 14 08.9	+0.3
EMIN				Sn	Sn	20 14 46.4	-0.5
ZHG	ZHG	3.35	229	P	Pn	20 14 10.4	0.0
ZHG				S	Sn	20 14 49.5	-0.6
ETOB	Tobarra	3.39	28	Pn	Pn	20 14 13.0	+2.0
ETOB				Sn	Sn	20 14 51.7	+0.7
EGRO	El Granado	3.62	302	Pn	Pn	20 14 14.8	+0.6
EGRO				*i* Vmb_Lg		20 14 20.9	
EGRO				Sn	Sn	20 14 57.3	+0.6
PAB	San Pablo	3.91	352	Pn	Pn	20 14 20.0	+1.9
PAB				Sn	Sn	20 15 02.0	-1.8
PAB				*i* Vmb_Lg		20 15 32.2	
ESDC	Sonseca Array	4.00	356	Pn	Pn	20 14 20.9	+1.5
ESDC				Sn	Sn	20 15 03.5	-2.6
ESDC				*i* Vmb_Lg		20 15 10.4	
EBAD	Badajoz	4.10	320	Pn	Pn	20 14 21.5	+0.8
EBAD				Sn	Sn	20 15 07.8	-0.7
EPLA	Plasencia	4.79	337	Pn	Pn	20 14 31.6	+1.4
EPLA				Sn	Sn	20 15 24.3	-1.3
EPLA				*i* Vmb_Lg		20 15 29.5	

IDC 11 20:32:57.5±1.8, 15°.56N×94°.03W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.0/38, mbtmp4.1/9, ML4.0/1, MS3.2/10, Ms1 3.3/10, ms1mx3.0/69, Error ellipse: s-maj=75.6km s-min=23.3km az=52.0
MEX 11 20:33:02.7±1.4, 15°.32N×94°.44W, h16km±118km, MD4.6
NEIC 11 20:33:02.2±2.7, 15°.39N±0°.07×94°.40W±0°.05, h38km±8km, mb4.5/90, Md4.6/55(MEX), Error ellipse: s-maj=11.0km s-min=6.4km az=199.0
ISC 11 20:33:01.6±1.0, 15°.27N±0°.05×94°.46W±0°.03, h44km±10km, n170, σ1s.72/191, mb4.4/36, MS3.4/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CARR	Arriaga	1.11	28	*e*P	Pn	20 33 19.0	-1.7
CARR				*i* S	Sn	20 33 31.4	-3.4
PCIG		1.27	70		Pn	20 33 21.9	-1.1
PCIG					Sn	20 33 36.1	-2.8
PCIG		1.27	70	*e*P	Pn	20 33 21.9	-1.1
PCIG				*e*S	Sn	20 33 36.1	-2.8
HUIG	Huatulco	1.66	288		Pn	20 33 28.1	-0.3
HUIG					Sn	20 33 46.4	-2.1
HUIG	Huatulco	1.66	288	*e*P	Pn	20 33 28.1	-0.3
HUIG				*e*S	Sn	20 33 46.4	-2.1
CMIG	Matias Romero	1.86	347		Pn	20 33 30.6	-0.4
CMIG	Matias Romero	1.86	347	*e*P	Pn	20 33 30.6	-0.4
TGIG		1.98	40		Pn	20 33 32.4	-0.3
TGIG		1.98	40	*e*P	Pn	20 33 32.4	-0.3
TGBT	Tuxtla Gutierr	2.00	41		Pn	20 33 32.7	-0.2
TGBT					Sn	20 33 55.8	-0.9
TGBT	Tuxtla Gutierr	2.00	41	*e*P	Pn	20 33 32.7	-0.2
TGBT				*i* S	Sn	20 33 55.8	-0.9
THIG		2.15	99		Pn	20 33 33.7	-1.3
THIG					Sn	20 33 58.5	-2.0
THIG		2.15	99	*e*P	Pn	20 33 33.7	-1.3
THIG				*e*S	Sn	20 33 58.5	-2.0
PATR	El Naranjo	2.16	94	*e*P	Pn	20 33 34.4	-0.9
PAVE	Pavencul	2.21	92	*e*P	Pn	20 33 35.4	-0.6
CCIG	Comitan	2.46	65		Pn	20 33 39.3	0.0
CCIG				Sn	Sn	20 34 04.9	-3.3
CCIG	Comitan	2.46	65	*e*P	Pn	20 33 40.7	+1.3
CCIG				*e*S	Sn	20 34 09.5	+1.3
PEIG	Puerto Escondi	2.69	286	*e*P	Pn	20 33 42.2	-0.2
NEUV	Arroyo Zacate	2.75	332	*e*P	Pn	20 33 42.4	-0.8
NEUV				*e*S	Sn	20 34 12.9	-2.3
RTAL	Retalhuleu	2.78	105		Pn	20 33 42.1	-1.5
RTAL				Sn	Sn	20 34 15.7	-0.2
OXBJ	Oaxaca	2.81	310		Pn	20 33 46.2	+1.8
OXBJ					Sn	20 34 16.5	-0.7
OXBJ	Oaxaca	2.81	310	*e*P	Pn	20 33 46.2	+1.8
OXBJ				*e*S	Sn	20 34 16.5	-0.7
VHO	Vista Hermosa	2.83	310	*e*P	Pn	20 33 46.4	+2.0
VHO				*e*S	Sn	20 34 16.5	-0.9
HUEH	Huehuetenango	2.86	89		Pn	20 33 46.0	+1.1
HUEH				Sn	Sn	20 34 17.2	-1.0
TOIG	Toxpalan	3.76	319	*e*P	Pn	20 34 00.7	+3.4
TOIG				*i* S	Sn	20 34 38.7	-1.6
HLIG	Huajuapan de L	4.09	309	*e*P	Pn	20 34 04.6	+2.7
HLIG				*e*S	Sn	20 34 49.8	+1.1
TPIG	Tehuac#an	4.19	319		Pn	20 34 03.6	+0.5
TPIG					Sn	20 34 51.6	+0.7
TPIG	Tehuac#an	4.19	319	*e*P	Pn	20 34 03.6	+0.5
TPIG				*e*S	Sn	20 34 51.6	+0.7
FTIG	Fresnillo de T	4.39	307	*e*P	Pn	20 34 09.0	+3.1
FTIG				*e*		20 34 53.2	
MGIG	Malinaltepec	4.46	297	*e*	Pn	20 34 09.1	+2.2
MGIG				*i*		20 34 55.5	
TLIG	Tlapa	4.55	301	Pn	Pn	20 34 10.2	+2.1
TLIG				Sn	Sn	20 34 57.4	-2.5
TLIG	Tlapa	4.55	301	*e*	Pn	20 34 10.9	+2.8
TLIG				*e*		20 34 57.9	
JAUV	Jalcomulco	4.65	332	*e*	Pn	20 34 08.4	-1.0
JAUV				*e*		20 34 58.4	
PETF	Flores	4.71	69	Pn	Pn	20 34 10.8	+0.5
CRIG	Cruz Grande	4.72	289		Pn	20 34 11.4	+1.1
CRIG					Sn	20 34 59.8	-4.1
CRIG	Cruz Grande	4.72	289	*e*	Pn	20 34 11.4	+1.1
CRIG				*e*		20 34 59.8	
ESQI	Esquipulas	5.00	97		Pn	20 34 15.5	+1.2
MTO3	Montecristo	5.01	99		Pn	20 34 14.3	-0.2
DAIG	Los Arroyos	5.28	290		Pn	20 34 18.7	+0.6
DAIG					Sn	20 35 14.5	-3.2
DAIG	Los Arroyos	5.28	290	*e*	Pn	20 34 18.7	+0.6
DAIG				*e*		20 35 14.5	
PPM	Popocatepetl	5.49	314	*e*	Pn	20 34 25.8	+4.5
PPM				*e*		20 35 22.2	
YAIG	Yautepec	5.67	310		Pn	20 34 27.2	+3.7
YAIG					Sn	20 35 25.5	-2.0
YAIG	Yautepec	5.67	310	*e*	Pn	20 34 27.2	+3.7
YAIG				*e*		20 35 25.5	
PLIG	Platanillo	5.74	303		Pn	20 34 28.0	+3.6
PLIG					Sn	20 35 25.8	-3.2
PLIG	Platanillo	5.74	303	*e*	Pn	20 34 28.0	+3.6
PLIG				*e*		20 35 25.8	
CAIG	El Cayaco	5.85	288		Pn	20 34 25.1	-0.8
CAIG					Sn	20 35 27.6	-4.2
CAIG	El Cayaco	5.85	288	*e*	Pn	20 34 25.1	-0.8
CAIG				*e*		20 35 27.6	
MAVM	Malinalco, Edo	6.05	308		Pn	20 34 31.7	+2.9
MAVM					Sn	20 35 33.1	-3.8
MAVM	Malinalco, Edo	6.05	308	*e*	Pn	20 34 31.7	+2.9
MAVM				*e*		20 35 33.1	
ARIG	Puente Sto Nin	6.38	299		Pn	20 34 36.8	+3.6
ARIG					Sn	20 35 40.9	-3.9
ARIG	Puente Sto Nin	6.38	299	*e*	Pn	20 34 36.8	+3.6
ARIG				*e*		20 35 40.9	
TGUH	Tegucigalpa,Un	7.06	99	Pn	Pn	20 34 41.9	-0.7
CRIN	San Cristobal	7.63	109		Pn	20 34 48.4	-2.0
MOIG	Morelia	7.77	305	Pn	Pn	20 34 55.1	+2.6
CNGN	Cerro Negro	8.03	109	Pn	Pn	20 34 56.9	+1.1
MATN	Matagalpa	8.60	105		Pn	20 35 04.1	+0.4
BOAB	BOACO BROADBAN	8.99	107	Pn	Pn	20 35 10.2	+1.2
HZTE	Horizontes, Gu	9.75	117	Pn	Pn	20 35 20.7	+1.3
ORTG	Ortega, Santa	10.04	118		Pn	20 35 24.8	+1.4
DUNO	Dulce Nombre,	10.16	119	Pn	Pn	20 35 25.8	+0.9
CAO2	Cobano, Puntar	10.69	120		Pn	20 35 33.7	+1.5
JACO	JACO, Garabito	11.07	119	Pn	Pn	20 35 40.6	+3.1
CVTR	Volcan Turrial	11.67	115	Pn	Pn	20 35 44.7	-1.3
RIMA	Rio Macho	11.70	117		Pn	20 35 48.7	+2.5
PEZE	Perez Zeledon,	12.05	118	Pn	Pn	20 35 51.7	+0.8
SRBA	San Rafael, Bu	12.39	118		Pn	20 35 56.7	+1.0
DRK0	Durika	12.48	117	Pn	Pn	20 35 57.4	+0.5
833A	Chaparral WMA,	13.77	341	Pn	Pn	20 36 15.8	+1.5
435B	Jarrell	15.71	350	P	P	20 36 41.2	-2.0
435B				IAmb	IAmb	20 36 46.3	
	comp=Z,52nm,1.1s						
JCT	Junction City	15.91	343		Pn	20 36 43.2	+0.6
342A	Flagon Creek P	16.15	7		Pn	20 36 45.6	+0.1
342A				IAmb	IAmb	20 36 48.8	
	comp=Z,90nm,1.6s						
TX32	Lajitas Array	16.37	330	P	Pn	20 36 48.1	-0.4
TXAR	Lajitas Array	16.37	330	Pn	P	20 36 50.8	0.0
	comp=Z,0.1nm,0.3s,baz=152,slow=14,SNR=11						
TXAR	Lajitas Array	16.37	330		Pn	20 36 48.7	+0.2
TX31	Lajitas Ar. Si	16.37	330	P	Pn	20 36 47.9	-0.6
TX31				IAmb	IAmb	20 37 05.1	
	comp=Z,36nm,1.4s						
NATX	Nacogdoches	16.42	359		Pn	20 36 48.1	-0.8
NATX				IAmb	IAmb	20 36 52.3	
	comp=Z,57nm,1.6s						
237A	Washetta, Mont	16.70	356	P	P	20 36 54.7	+0.4
237A				IAmb	IAmb	20 36 57.4	
	comp=Z,39nm,1.1s						
WHTX	Lake Whitney,	16.87	351	P	Pn	20 36 53.3	-1.3
WHTX				IAmb	IAmb	20 37 01.8	
	comp=Z,49nm,1.4s						
LPIG	La Paz	17.30	303	LR	LR	20 44 25.2	
	comp=Z,30nm,20.4s,baz=58,slow=39						
ABTX	Abilene, Hawle	17.91	346		Pn	20 37 05.3	-2.2
ABTX				IAmb	IAmb	20 37 16.4	
	comp=Z,14nm,0.6s						
MNTX	Cornudas Mount	19.16	331		P	20 37 20.0	-1.4
X37A	Clayton	19.26	358		P	20 37 20.8	-1.6
X37A				IAmb	IAmb	20 37 34.3	
	comp=Z,26nm,1.4s						
X34A	Smith Ranch, M	19.49	352		P	20 37 24.6	-0.3
W39A	Magazine	19.85	2		P	20 37 27.9	-1.0
W35A	Tecumseh	19.92	354		P	20 37 29.6	-0.1
W35A				IAmb	IAmb	20 37 35.4	
	comp=Z,20nm,0.6s						
MSTX	Muleshoe	20.08	340	P	P	20 37 30.6	-0.9
AMTX	Amarillo	20.58	343		P	20 37 36.3	-0.7
AMTX				IAmb	IAmb	20 37 42.3	
	comp=Z,18nm,0.7s						
TUL1	Leonard	20.59	357		P	20 37 35.8	-1.1
TUL1				IAmb	IAmb	20 37 41.5	
	comp=Z,15nm,1.0s						
FCAR	Ozark Folk Cen	20.64	5	P	P	20 37 36.0	-1.5
FPAL	Fort Paine	20.78	21	P	P	20 37 37.8	-1.2
HHAR	Hobbs	20.93	1	P	P	20 37 39.9	-0.8
HHAR				IAmb	IAmb	20 37 43.3	
	comp=Z,8.0nm,0.5s						
319A	Douglas	20.99	322	P	P	20 37 41.6	+0.2
121A	Cookes Peak, D	21.03	327	P	P	20 37 42.5	+0.6
121A				IAmb	IAmb	20 37 46.5	
	comp=Z,22nm,0.9s						
U40A	Yellville	21.05	4	P	P	20 37 40.4	-1.5
T35A	Sooner Cattle	21.64	356	P	P	20 37 46.0	-2.2
T35A				IAmb	IAmb	20 37 51.1	
	comp=Z,11nm,0.8s						
OTAV	Otavalo	21.75	132	P	P	20 37 51.1	+1.0
OTAV				IAmb	IAmb	20 38 27.8	
	comp=Z,13nm,0.8s						
BNM	Barren Site	21.77	332	P	P	20 37 50.2	+0.3
LENM	Lemitar	21.94	331	P	P	20 37 51.5	-0.2
S39A	Bolivar	22.36	2	P	P	20 37 54.0	-1.9
ANMO	Albuquerque	22.36	333	P	P	20 37 56.6	+0.4
TKL	Tuckaleechee C	22.45	23	LR	LR	20 47 34.4	
	comp=Z,33nm,18.6s,baz=172,slow=40						
TKL	Tuckaleechee C	22.45	23	P	P	20 37 55.9	-1.1
TKL				IAmb	IAmb	20 38 05.2	
	comp=Z,19nm,1.2s						
CCM	Cathedral Cave	22.88	7	P	P	20 37 59.4	-1.9
CCM				IAmb	IAmb	20 38 01.7	
	comp=Z,10.0nm,0.9s						
R40A	Maddies Statio	23.02	4	P	P	20 38 01.9	-0.9
R40A				IAmb	IAmb	20 38 03.2	
	comp=Z,12nm,0.8s						
R32A	Long Quarter,	23.37	352	P	P	20 38 04.6	-1.7
T25A	Trinidad	23.51	340	P	P	20 38 08.1	+0.2
T25A				IAmb	IAmb	20 38 12.4	
	comp=Z,15nm,1.1s						
CBKS	Cedar Bluff	23.91	350	P	P	20 38 10.9	-0.5
SDV	Santo Domingo	24.14	102	LR	LR	20 47 23.9	
	comp=Z,45nm,20.2s,baz=298,slow=36						
P40A	Paris	24.26	5	P	P	20 38 12.4	-2.2
P40A				IAmb	IAmb	20 38 13.8	
	comp=Z,14nm,0.6s						
P38A	Dawn	24.28	2	P	P	20 38 12.8	-1.9
SDCO	Great Sand Dun	24.43	338	P	P	20 38 16.4	-0.1
X16A	Lo Mia Camp, P	24.45	324	P	P	20 38 17.7	+1.2
Y14A	Wickenburg	25.02	321	P	P	20 38 22.6	+1.0
P46A	Rosedale	25.08	13	P	P	20 38 20.2	-1.7
BLA	Blacksburg	25.16	27	P	P	20 38 21.8	-1.1
BLA				IAmb	IAmb	20 38 38.6	
	comp=Z,19nm,0.9s						
N41A	Harden Midland	25.54	6	P	P	20 38 24.5	-1.6
N41A				IAmb	IAmb	20 38 25.8	
	comp=Z,15nm,0.8s						
Q52A	Bidwell	25.93	22	P	P	20 38 27.9	-1.8
PV13	Radium Mtn., P	26.09	334	P	P	20 38 31.8	+0.2
SMCO	Snowmass	26.23	338	P	P	20 38 31.4	-1.5
PV07	Paradox Valley	26.25	334	P	P	20 38 32.4	-0.6
PV07				IAmb	IAmb	20 38 36.3	
	comp=Z,7.2nm,0.8s						
ISCO	Idaho Springs	26.32	340	P	P	20 38 33.2	-0.4
PV10	Paradox Valley	26.37	334		PcP	20 41 58.5	-0.6
PV23	Carpenter Ridg	26.42	334	P	P	20 38 35.7	+1.2
PV23				IAmb	IAmb	20 38 37.9	
	comp=Z,8.0nm,0.8s						
SCIA	State Center	26.57	2	P	P	20 38 34.0	-1.5
P53A	Whipple	26.71	23	P	P	20 38 36.1	-0.7
L40A	Anamosa	26.85	5	P	P	20 38 36.1	-1.9
L40A				IAmb	IAmb	20 38 37.6	
	comp=Z,13nm,0.8s						
L42A	Oliver, Polo	26.96	8	P	P	20 38 36.8	-2.2
R11A	Troy Canyon, C	29.59	325	P	P	20 39 03.6	+0.9
R11A				IAmb	IAmb	20 39 08.3	
	comp=Z,8.0nm,1.1s						
SPMN	Marine on St.	29.89	2	P	P	20 39 03.3	-1.8
PDAR	Pinedale Array	30.32	338	P	P	20 39 10.2	+1.0
	comp=Z,1.2nm,0.9s,baz=147,slow=8.9,SNR=7.5						
PDAR				LR	LR	20 51 02.7	
	comp=Z,20nm,21.9s,baz=100,slow=36						
F36A	Milaca	30.51	1	P	P	20 39 08.7	-1.8
F36A				IAmb	IAmb	20 39 09.7	
	comp=Z,11nm,1.1s						
HVU	Hansel Valley	30.79	333	P	P	20 39 14.4	+1.1
HVU				IAmb	IAmb	20 39 16.4	
	comp=Z,5.5nm,0.8s						
ELK	Elko	31.16	329	P	P	20 39 18.6	+2.0
NVAR	Mina Array Bea	31.20	322	P	P	20 39 20.4	+3.4
	comp=Z,2.1nm,0.8s,baz=120,slow=8.8,SNR=4.2						
NVAR	Mina Array Bea	31.20	322	P	P	20 39 17.0	0.0
REDW	Red Top Meadow	31.31	337	P	P	20 39 18.0	0.0
REDW				IAmb	IAmb	20 39 20.6	
	comp=Z,7.6nm,0.9s						
E38A	The Farm, Brul	31.34	4	P	P	20 39 15.8	-2.0
E38A				IAmb	IAmb	20 39 16.9	
	comp=Z,11nm,0.8s						
SNOW	Snow King Moun	31.36	337	P	P	20 39 17.4	-1.0
LOHW	Long Hollow	31.43	337	P	P	20 39 18.6	-0.4
MOOW	Moose Ponds	31.60	337	P	P	20 39 20.2	-0.3
SADO	Sadowa	32.14	21	LR	LR	20 53 21.7	
	comp=Z,36nm,18.7s,baz=4.0,slow=39						
RLMT	Red Lodge	32.28	340	P	P	20 39 26.5	+0.1
RLMT				IAmb	IAmb	20 39 29.3	
	comp=Z,4.6nm,1.0s						
YMR	Madison River	32.47	338	P	P	20 39 29.0	+0.9
YMR				IAmb	IAmb	20 39 31.1	
	comp=Z,4.9nm,0.9s						
EYMN	Ely	32.68	4	P	P	20 39 27.1	-2.5
EYMN				IAmb	IAmb	20 39 28.2	
	comp=Z,4.1nm,0.7s						
HLID	Hailey	32.95	333	P	P	20 39 30.7	-1.5
AGMN	Agassiz Nation	32.96	358	P	P	20 39 29.9	-2.1
AGMN				IAmb	IAmb	20 39 31.6	
	comp=Z,11nm,1.0s						
B35A	Bob, Littlefor	33.00	1	P	P	20 39 30.4	-2.0
GCMT	Greycliff	33.01	340	P	P	20 39 31.6	-1.1
MCMT	McKenzie Canyo	33.32	336	P	P	20 39 35.6	0.0
LRM	Limekiln Ridge	34.00	337	P	P	20 39 39.7	-1.8
WVOR	Wild Horse Val	34.13	327	P	P	20 39 42.1	-0.3
WVOR				IAmb	IAmb	20 39 45.6	
	comp=Z,7.9nm,1.1s						
MOD	Modoc Plateau	34.66	325	P	P	20 39 47.3	+0.3
MOD				IAmb	IAmb	20 39 49.9	
	comp=Z,14nm,1.4s						
J08A	Circle Bar Ran	34.71	329	P	P	20 39 48.8	+1.4
J08A				IAmb	IAmb	20 39 50.6	
	comp=Z,8.8nm,0.9s						
PLID	Pearl Lake	34.85	333	P	P	20 39 47.8	-1.0
PLID				IAmb	IAmb	20 39 51.1	
	comp=Z,6.1nm,0.9s						
ULM	Lac du Bonnet	34.91	358	P	P	20 39 47.3	-1.6
	comp=Z,4.4nm,0.8s,baz=184,slow=8.3,SNR=5.0						
ULM	Lac du Bonnet	34.91	358	P	P	20 39 47.3	-1.6
ULM				IAmb	IAmb	20 39 47.9	
	comp=Z,7.0nm,1.1s						
F10A	Beach Ranch, E	36.08	333	P	P	20 39 59.4	+0.2
F10A				IAmb	IAmb	20 40 00.8	
	comp=Z,18nm,1.6s						
HOOD	Mount Hood Mea	37.71	328	P	P	20 40 13.0	0.0
NEW	Newport	37.83	335	LR	LR	20 58 26.5	
	comp=Z,63nm,21.8s,baz=168,slow=40						
FFC	Flin Flon	39.80	353	P	P	20 40 29.5	-0.9
FFC				IAmb	IAmb	20 40 31.1	
	comp=Z,6.1nm,0.9s						
SIV	San Ignacio	45.30	132	P	P	20 41 16.0	+0.5
	comp=Z,1.5nm,0.7s,baz=276,slow=14,SNR=6.5						
YKA	Yellowknife Ar	49.27	348	P	P	20 41 45.6	-0.1
	comp=Z,2.2nm,0.7s,baz=154,slow=7.3,SNR=25						
SFJD	Kangerlussuaq	59.05	19	LR	LR	21 11 25.3	
	comp=Z,39nm,19.3s,baz=306,slow=39						
ILAR	Eielson Array	60.75	337	P	P	20 43 09.2	+0.6
	comp=Z,1.8nm,1.0s,baz=144,slow=4.3,SNR=11						
NB2	NORSAR Subarra	84.16	28	P	P	20 45 28.9	+0.8
	comp=Z,0.8nm,0.7s,baz=293,slow=5.3						
NOA	NORSAR Array B	84.16	28	P	P	20 45 28.9	+0.8
	comp=Z,1.4nm,0.8s,baz=292,slow=5.2,SNR=5.0						
NOA				LR	LR	21 21 46.6	
	comp=Z,20nm,18.7s,baz=265,slow=35						
ARCES	ARCESS Array B	85.67	18	P	P	20 45 37.5	+2.0
	comp=Z,2.6nm,0.8s,baz=298,slow=5.2,SNR=7.8						
ARCES				LR	LR	21 22 54.1	
	comp=Z,22nm,21.2s,baz=228,slow=35						
FINES	FINESS Array B	90.35	24	LR	LR	21 26 24.6	
	comp=Z,45nm,18.7s,baz=301,slow=36						
PZH	PanZhiHua	135.59	339	PKP	PKPdf	20 52 16.6	-1.4
CMAR	Chiang Mai Arr	143.98	338	PKhKP	PKPpre	20 52 30.6	
	comp=Z,0.6nm,0.8s,baz=349,slow=2.8,SNR=2.9						

IDC 11 21:14:45.9±3.9, 14°.58N×93°.07W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/41, mbtmp3.6/4, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/68, Error ellipse: s-maj=192.5km s-min=71.8km az=60.0
MEX 11 21:14:48.7±0.6, 14°.30N×93°.83W, h20km±23km, MD4.4
ISC 11 21:14:46.0±2.3, 14°.4N±0°.1×93°.72W±0°.06, h2km±14km, n14, σ0s.90/18, mb4.0/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.37	21	*e*P	Pn	21 15 11.7	-0.4
PCIG				*e*S	Sn	21 15 29.7	-1.1
THIG		1.49	71	*e*P	Pg	21 15 15.0	+0.4
THIG				*i* S	Sn	21 15 33.5	-0.3
PATR	El Naranjo	1.60	64	*e*P	Pn	21 15 15.1	-0.3
PATR				*i* S	Sn	21 15 36.0	-0.8
PAVE	Pavencul	1.68	62	*e*P	Pn	21 15 16.5	-0.2
PAVE				*i* S	Sn	21 15 38.2	-0.6
CCIG	Comitan	2.40	39	*e*P	Pb	21 15 29.0	-1.1
TGIG		2.42	14	*e*P	Pn	21 15 27.5	+0.9
TGIG				*e*S	Sn	21 15 56.8	-0.1
HUIG	Huatulco	2.67	301	*e*P	Pn	21 15 29.0	-1.1
HUIG				*i* S	Sn	21 15 50.9	-12
CMIG	Matias Romero	2.89	337	*e*P	Pn	21 15 32.3	-0.7
TXAR	Lajitas Array	17.47	330	P	P	21 18 53.5	+1.3
	0.1nm,0.3s,baz=148,slow=11,SNR=4.5						
TKL	Tuckaleechee C	22.96	21	LR	LR	21 29 12.8	
	comp=Z,45nm,18.9s,baz=182,slow=38						
PDAR	Pinedale Array	31.38	337	P	P	21 21 09.6	+1.2
	0.3nm,0.9s,baz=126,slow=4.6,SNR=3.4						
YKA	Yellowknife Ar	50.25	348	P	P	21 23 43.3	-0.1
	1.3nm,0.6s,baz=153,slow=7.3,SNR=17						
ILAR	Eielson Array	61.81	337	P	P	21 25 06.8	+0.7
	0.8nm,0.8s,baz=176,slow=5.0,SNR=6.5						
CMAR	Chiang Mai Arr	145.03	339	PKPbc	PKPdf	21 34 24.9	-1.0
	1.2nm,1.0s,baz=340,slow=1.3,SNR=7.1						

TAP 11 21:28:49.6, 23°.40N×120°.17E, h4km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHN8	Yiju	0.07	146	*i* P	Pg	21 28 51.8	+0.7
	baz=138						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHN8				*i* S	Sg	21 28 53.6	+1.6
	baz=138						
ICHU	Yijhu	0.11	112	P	Pg	21 28 52.5	+0.7
	baz=112						
ICHU				S	Sg	21 28 54.8	+1.6
	baz=112						
WSL	Shuilin Townsh	0.13	23	*e*S	Sg	21 28 55.7	+1.7
	baz=23						
SCLT	Jiali	0.23	175	*e*P	Pg	21 28 55.2	+1.2
	baz=172						
SCLT				*e*S	Sg	21 28 59.3	+2.3
	baz=172						
WSF	Szhu	0.24	11	*e*S	Sg	21 28 59.9	+2.4
	baz=13						
SSHA	Shanhua	0.28	158	*e*P	Pb	21 28 56.4	-0.9
	baz=157						
SSHA				*e*S	Sb	21 29 01.4	-1.1
	baz=157						
CHN3	Shinhua	0.37	151	*e*S	Sb	21 29 04.2	-0.8
	baz=151						
CHN4	Tsaushan	0.39	97	*e*S	Sb	21 29 05.1	-0.4
	baz=97						
SGST	Jiashian	0.49	130	*e*S	Sb	21 29 09.4	+0.8
	baz=129						

TAP 11 21:29:08.3, 23°.15N×120°.80E, h10^{km}, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STYH	Taoyuan	0.03	313	*e*S	Sg	21 29 12.6	+1.0
	baz=111						
STYH	Taoyuan	0.03	313	*i* P	Pg	21 29 10.8	+0.6
	baz=331						
STYH				*i* S	Sg	21 29 12.5	+1.0
	baz=331						
STYT	Tauyuan	0.04	288	*i* S	Sg	21 29 12.1	+0.2
	baz=113						
STYT	Tauyuan	0.04	288	*i* P	Pg	21 29 10.5	+0.1
	baz=288						
STYT				*i* S	Sg	21 29 12.1	+0.2
	baz=288						
WTP	Ta-pu	0.19	299	P	Pg	21 29 13.2	+0.7
	baz=299						
WTP				*e*S	Sg	21 29 16.7	+1.4
	baz=299						
ELDTW	Lidau	0.20	79	*e*S	Sg	21 29 17.5	+1.8
	baz=80						
SGST	Jiashian	0.21	251	*e*P	Pb	21 29 13.6	-0.6
	baz=249						
SGST				*e*S	Sg	21 29 17.2	+1.5
	baz=249						
CHN1	Nanshi	0.25	278	*e*S	Sb	21 29 18.7	-0.6
	baz=277						
CHN4	Tsaushan	0.27	317	*e*S	Sb	21 29 19.4	-0.5
	baz=316						
YUS	Yu-Shan	0.36	23	*e*P	Pb	21 29 16.4	-0.7
	baz=23						
YUS				*e*S	Sb	21 29 22.4	-0.7
	baz=23						
CHN3	Shinhua	0.41	259	*e*S	Sb	21 29 23.7	0.0
	baz=259						
SSD	Sandimen	0.43	201	*e*S	Sb	21 29 24.4	0.0
	baz=199						

IDC 11 21:34:08.0±5.9, 6°.27S×149°.31E, h60^{km}±55^{km}, mb3.4/3, mb1 3.8/5, mb1mx3.2/41, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=91.8km s-min=33.6km az=134.0

NEIC 11 21:34:09.7±1.3, 6°.12S±0°.07×149°.06E±0°.08, h67^{km}±9^{km}, mb4.1/13, Error ellipse: s-maj=11.9km s-min=9.6km az=107.0

ISC 11 21:34:08.3±0.8, 6°.14S±0°.08×149°.05E±0°.09, h60^{km}, n22, $\sigma 1^{s}55$/25, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	3.65	58		Pn	21 35 04.0	+1.6
PMG	Port Moresby	3.75	210	P	Pn	21 35 05.4	+1.7
	18nm,0.3s,baz=34,slow=4.2,SNR=33						
PMG				S	Sn	21 35 47.1	+0.5
	44nm,0.3s,baz=59,slow=11,SNR=14						
PMG	Port Moresby	3.75	210		Pn	21 35 05.2	+1.5
PMG					Sn	21 35 47.8	+1.2
MANU	Manus Island	4.40	337	Pn	Pn	21 35 13.9	+1.2
COEN	Coen	9.69	216	Pn	Pn	21 36 25.5	+0.4
COEN				Sn	Sn	21 38 07.0	-5.4
PATS	Pohnpei	15.86	36	Pn	Pn	21 37 46.0	-1.9
WB0	Warramunga Arr	19.66	225	P	P	21 38 33.6	+1.1
WR0	Warramunga Arr	19.69	224	P	P	21 38 33.3	+0.6
WR0				IAmb	IAmb	21 38 38.8	
	comp=Z,8.9nm,1.4s						
WRAB	Tennant Creek	19.80	225	P	P	21 38 34.5	+0.5
WRAB				IAmb	IAmb	21 38 36.3	
	comp=Z,4.1nm,0.6s						
WB2	Warramunga Arr	19.81	225	P	P	21 38 34.8	+0.7
WB2				IAmb	IAmb	21 38 36.4	
	comp=Z,4.3nm,0.6s						
WRA	Warramunga Arr	19.82	225	P	P	21 38 35.0	+0.8
	comp=Z,0.6nm,0.3s,baz=51,slow=11,SNR=40						
KOUNC	Koumac, New Ca	20.58	136	P	P	21 38 40.7	-1.8
KOUNC				IAmb	IAmb	21 38 48.0	
	comp=Z,15nm,1.2s						
KNRA	Kununurra	22.04	243	P	P	21 38 58.0	-0.1
KNRA				IAmb	IAmb	21 39 05.0	
	comp=Z,23nm,1.2s						
AS31	Alice Springs	22.71	218	P	P	21 39 06.5	+1.1
ASAR	Alice Springs	22.72	218	P	P	21 39 06.2	+0.9
	comp=Z,0.6nm,0.5s,baz=53,slow=9.9,SNR=18						
DZM	Mont Dzumac	23.09	135	P	P	21 39 09.4	+0.1
FITZ	Fitzroy Crossi	25.75	240	P	P	21 39 33.9	+0.4
	comp=Z,1.7nm,0.6s,baz=66,slow=11,SNR=9.8						
FITZ	Fitzroy Crossi	25.75	240	P	P	21 39 33.8	+0.3
FITZ				IAmb	IAmb	21 39 55.2	
	comp=Z,3.2nm,0.7s						
OUZ	Omahuta	36.72	145	P	P	21 41 09.7	-0.1
QSPA	South Pole Qui	83.83	180	P	P	21 46 31.9	+0.7
QSPA				IAmb	IAmb	21 46 44.3	
	comp=Z,5.1nm,1.4s						
ILAR	Eielson Array	84.81	23	P	P	21 46 35.1	-0.9
	comp=Z,0.3nm,0.6s,baz=260,slow=5.2,SNR=4.3						
TORD	Torodi Ar. Bea	147.10	285	PKPbc	PKPbc	21 53 46.3	+0.6
	comp=Z,0.3nm,0.4s,baz=66,slow=3.2,SNR=6.1						

NNC 11 21:39:14.5±1.2, 43°.20N×87°.99E, h0^{km}, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=8.7km s-min=7.2km az=91.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	5.41	314	Pn	Pn	21 40 36.6	+0.2
	0.8nm,0.4s,baz=128,slow=14,SNR=44						
MK31				⇑Sn	Sn	21 41 40.1	+0.8
	4.4nm,0.8s,baz=131,slow=26,SNR=6.0						
MK31				⇑Lg	Lg	21 42 08.0	
	2.8nm,0.7s						
MAKZ	Makanchi	5.58	312	⇓Pn	Pn	21 40 39.0	+0.2
	2.8nm,0.4s						
MAKZ				⇑Sn	Sn	21 41 44.6	+0.9
	2.6nm,0.9s						
MAKZ				⇓Lg	Lg	21 42 13.0	
	1.6nm,0.8s						
PDGK	Podgornoye	6.21	274	⇓Pn	Pn	21 40 47.3	-0.2
	1.3nm,0.5s						
PDGK				⇓Sn	Sn	21 42 00.4	+1.3
	2.1nm,0.7s						
PDGK				⇑Lg	Lg	21 42 32.5	
	3.0nm,0.7s						

DJA 11 21:52:47.7±0.5, 4°N±5°×12°6E±°, h135^{km}±5^{km}, M4.0/13, mb3.9/6, mB4.8/3, MLv4.1/13, Mw(mB)4.1/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	Sangihe	0.87	221	P	Pn	21 53 09.6	-0.4
SGSI				S	Sn	21 53 27.8	+1.0
GSPH	General Santos	2.07	326	⇓*e*P	Pn	21 53 18.1	-4.8
GSPH				*i* S	Sn	21 53 43.3	-6.7
TNTI	Ternate	3.77	160	P	Pn	21 53 44.5	-0.1
KMSI	Cibinong	4.31	210	P	Pn	21 53 52.5	+0.8
GTOI	Gorontalo	4.81	220	P	Pn	21 53 58.2	-0.2
LBMI	Labuha	5.15	164	P	Pn	21 54 03.5	+0.6
	0.2nm676nm14nm,0.6s						
MRSI	Marisa	5.66	227	P	Pn	21 54 10.2	+0.4
	0.1nm27nm,0.6s						
SANI	Sanana	6.36	181	P	Pn	21 54 16.8	-2.3
APSI	Ampana	6.86	221	P	Pn	21 54 27.0	+1.1
	0.1nm404nm24nm,1.0s						

IDC 11 21:56:25.8±0.6, 15°.42S×173°.02W, h0^{km}, mb4.8/15, mb1 5.0/16, mb1mx4.9/26, mbtmp4.8/16, ML4.1/1, MS4.2/41, Ms1 4.2/41, ms1mx4.2/62, Error ellipse: s-maj=22.5km s-min=15.5km az=144.0

MOS 11 21:56:27.5±0.9, 15°.04S×172°.87W, h11^{km}, mb5.3/17, Error ellipse: s-maj=10.8km s-min=7.3km az=60.9

NEIC 11 21:56:28.0±1.6, 15°.10S±0°.06×172°.78W±0°.07, h0^{km}±1^{km}, mb5.3/411, Error ellipse: s-maj=13.1km s-min=8.4km az=126.0

BJI 11 21:56:28.4±0.0, 14°.74S×172°.66W, h18^{km}, mb5.0/47, mB5.3/30, Ms4.9/14, Ms7 4.6/15

NOU 11 21:56:33.1, 14°.99S×172°.52W, h86^{km}, mb4.9/30, Samoa Islands

GCMT 11 21:56:37.0±0.2, 15°.09S±0°.01×172°.81W±0°.01, h42^{km}±1^{km}, MW5.1/113, Moment Tensor Solution. s71,c93; s113,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.33±.18; $M_{\theta\theta}$3.90±.13; $M_{\phi\phi}$0.42±.14; $M_{r\theta}$-3.42±.14; $M_{\theta\phi}$-2.51±.08; $M_{\phi r}$0.77±.11; Best double couple: $M_0$5.93700×10^{16} NP1:ϕ_s310.00000°, δ28.00000°, λ-70.00000°. NP2:ϕ_s108.00000°, δ63.00000°, λ-100.00000°. Principal axes: T 6.3050, Plg18.0000°, Azm205.0000°; N -0.7370, Plg9.0000°, Azm112.0000°; P -5.5690, Plg70.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 21:56:31.0±0.2, 15°.18S±0°.04×172°.83W±0°.05, h29^{km}, n969, $\sigma 1^{s}17$/851, mb5.2/253, MS4.3/45, 43C-61D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.62	39	Pn	Pn	21 56 56.4	-1.3
	3μm,0.3s,baz=216,slow=1.0,SNR=1071						
AFI				Sn	Sn	21 57 15.7	-2.0
	2μm,0.3s,baz=43,slow=22,SNR=5.2						
AFI	Afiamalu	1.62	39	P	Pn	21 56 56.4	-1.3
AFI						21 57 16.2	
AFI	Afiamalu	1.62	39	Pn	Pn	21 56 56.4	-1.3
AFI				Sn	Sn	21 57 16.2	-1.4
AFI	Afiamalu	1.62	39	P	Pn	21 56 56.7	-1.0
NIUE	Niue	4.77	145	Pn	Pn	21 57 40.4	-0.6
NIUE	Niue	4.77	145	P	Pn	21 57 40.5	-0.4
MSVF	Nonsavu	9.11	253	Pn	Pn	21 58 46.0	+5.3
	1.0nm,0.3s,baz=96,slow=9.6,SNR=25						
MSVF				LR	LR	22 01 47.5	
	comp=Z,4μm,19.1s,baz=75,slow=36						
MSVF	Nonsavu	9.11	253	P	Pn	21 58 43.8	+3.1
MSVF	Nonsavu	9.11	253	Pn	Pn	21 58 43.8	+3.1
MSVF	Nonsavu	9.11	253	P	Pn	21 58 46.4	+5.7
KNTN	Kanton	12.37	5	Pn	Pn	21 59 22.5	-2.7
KNTN	Kanton	12.37	5	P	Pn	21 59 23.2	-2.1
RAR	Rarotonga	13.78	118	Pn	Pn	21 59 43.2	-1.3
	9.7nm,0.3s,baz=236,slow=9.2,SNR=7.3						
RAR				LR	LR	22 04 01.6	
	comp=Z,391nm,18.8s,baz=306,slow=33						
MARNC	Mare, Loyalty	19.21	248	P	P	22 00 51.9	-0.9
MARNC	Mare, Loyalty	19.21	248	P	Pn	22 00 54.4	+0.5
SANVU	Saraoutou	19.26	267	P	P	22 00 53.5	+0.2
LIFNC	LIFOU	19.75	251	P	P	22 00 58.9	+0.2
LIFNC				IAmb	IAmb	22 01 23.1	
	comp=Z,270nm,1.4s						
PINNC	Pines Island,	20.06	245	P	P	22 01 01.6	-0.5
PINNC				IAmb	IAmb	22 01 15.3	
	comp=Z,303nm,1.3s						
OUENC	Ouen Island, N	20.53	246	P	P	22 01 07.9	+0.7
DZM	Mont Dzumac	20.79	248	P	P	22 01 09.9	-0.2
	comp=Z,42nm,1.1s,baz=41,slow=10,SNR=10.0						
DZM				LR	LR	22 08 02.4	
	comp=Z,1μm,21.2s,baz=93,slow=34						
DZM	Mont Dzumac	20.79	248	*e*P	Pn	22 01 12.6	0.0
	comp=Z,253nm,1.6s						
DZM				*e*S	S	22 04 57.7	-3.2
	comp=Z,420nm,29.5s						
DZM				*e*LR	LR	22 06 12.7	
	comp=Z,3μm,26.1s						
DZM	Mont Dzumac	20.79	248		P	22 01 10.8	+0.7
DZM				IAmb	IAmb	22 01 14.3	
	comp=Z,127nm,1.3s						
DZM	Mont Dzumac	20.79	248	P	P	22 01 10.5	+0.4
ONTNC	Ouen Toro	20.85	247	P	Pn	22 01 12.2	-1.0
ONTNC				IAmb	IAmb	22 01 15.0	
	comp=Z,93nm,0.9s						
NOUC	Port Laguerre	20.92	248	P	Pn	22 01 14.1	0.0
KOUNC	Koumac, New Ca	22.42	253	P	P	22 01 27.1	-0.4
PPT	Papeete	22.43	99	LR	LR	22 07 41.0	
	comp=Z,332nm,22.0s,baz=264,slow=30						
PAE	Paea	22.44	100	*e*T	T	22 24 26.1	
	comp=Z,11nm,0.4s						
PPT2	Papeete2	22.44	99	*e*S	S	22 05 27.3	-5.5
	comp=Z,282nm,25.0s						
PPT2				*e*LQ	LQ	22 05 53.2	
	comp=Z,2μm,27.5s						
PPT2				*e*LR	LR	22 06 46.6	
	comp=Z,904nm,25.2s						
PPT2	Papeete2	22.44	99	*e*T	T	22 24 24.8	
	comp=Z,6.7nm,0.3s						
TVO	Taravao	22.75	100	*e*T	T	22 24 47.8	
	comp=Z,0.7nm,0.2s						
XMAS	Kiritimati	22.90	43	P	P	22 01 32.5	-0.2
XMAS				IAmb	IAmb	22 01 38.1	
	comp=Z,179nm,1.1s						
OUZ	Omahuta	23.39	209	P	P	22 01 37.6	+0.3
OUZ				IAmb	IAmb	22 01 38.3	
	comp=Z,82nm,1.1s						
OUZ	Omahuta	23.39	209	P	P	22 01 38.7	+1.4
MXZ	Matakaoa Point	23.64	198	P	P	22 01 39.7	-0.1
MXZ				IAmb	IAmb	22 02 04.1	
	comp=Z,95nm,1.0s						
MXZ	Matakaoa Point	23.64	198	P	P	22 01 40.3	+0.5
KUZ	Kuaotunu	23.78	203	P	P	22 01 40.8	-0.3
WMGZ	Waiomatatini S	23.85	197	P	P	22 01 42.3	+0.5
HAZ	Te Kaha	23.98	199	P	P	22 01 41.5	-1.4
PKGZ	Pakihiroa	24.01	198	P	P	22 01 45.2	+1.9
WIAZ	Waiheke Island	24.05	204	P	P	22 01 42.5	-1.2
PUZ	Puketiti	24.13	197	P	P	22 01 46.3	+1.8
RUGZ	Raukumara Rang	24.20	199	P	P	22 01 46.1	+0.8
TWGZ	Tauwhareparae	24.31	198	P	P	22 01 46.6	+0.5
AWAZ	Awhitu Peninsu	24.48	205	P	P	22 01 47.3	-0.3
CNGZ	Carnagh Statio	24.53	197	P	P	22 01 48.9	+0.9
MWZ	Matawai	24.59	198	P	P	22 01 48.8	+0.2
URZ	Urewera	24.65	199	P	P	22 01 46.2	-2.9
	comp=Z,16nm,0.4s,baz=246,slow=4.1,SNR=13						
URZ				LR	LR	22 10 41.6	
	comp=Z,752nm,19.8s,baz=34,slow=35						
URZ	Urewera	24.65	199	P	P	22 01 48.0	-1.1
URZ				IAmb	IAmb	22 02 00.7	
	comp=Z,48nm,1.0s						
URZ	Urewera	24.65	199	P	P	22 01 46.0	-3.1
URZ	Urewera	24.65	199	P	P	22 01 47.9	-1.2
HIZ	Hauiti	25.66	203	P	P	22 01 59.4	+1.1
HIZ	Hauiti	25.66	203	P	P	22 01 57.6	-0.7
BKZ	Black Stump Fm	25.67	199	P	P	22 01 57.3	-1.1
BKZ	Black Stump Fm	25.67	199	P	P	22 01 57.4	-1.1
PREZ	Palmer Road	26.64	203	P	P	22 02 10.6	+3.3
BFZ	Birch Farm	27.13	198	P	P	22 02 11.3	-0.3
BFZ				IAmb	IAmb	22 02 37.8	
	comp=Z,61nm,1.0s						
BFZ	Birch Farm	27.13	198	P	P	22 02 12.1	+0.5
HNR	Honiara	27.19	279	LR	LR	22 11 39.3	
	comp=Z,423nm,19.3s,baz=110,slow=34						
OGWZ	Otaki Gorge	27.60	200	P	P	22 02 17.1	+1.3
KIW	Kapiti Island	27.72	200	P	P	22 02 14.2	-2.7
CAW	Cannon Point	27.89	200	P	P	22 02 20.1	+1.7
PAWZ	Paruwai Farm	28.03	199	P	P	22 02 20.9	+1.2
MSWZ	Moikau Station	28.11	199	P	P	22 02 21.8	+1.4
MSWZ	Moikau Station	28.11	199	P	P	22 02 21.7	+1.3
SNZO	South Karori	28.20	200	P	P	22 02 23.1	+2.0
SNZO	South Karori	28.20	200	P	P	22 02 19.7	-1.4
PLWZ	Palliser	28.25	199	P	P	22 02 22.3	+0.7
TCW	Tory Channel	28.25	201	P	P	22 02 22.9	+1.3
QRZ	Quartz Range	28.55	204	P	P	22 02 23.7	-0.6
QRZ				IAmb	IAmb	22 02 29.9	
	comp=Z,71nm,1.2s						
QRZ	Quartz Range	28.55	204	P	P	22 02 23.4	-0.9
QRZ	Quartz Range	28.55	204	P	P	22 02 23.9	-0.4
TUWZ	Tuamarina	28.56	201	P	P	22 02 24.5	+0.2
TUWZ	Tuamarina	28.56	201	P	P	22 02 24.4	+0.1
TKNZ	Takaka Hill	28.57	203	P	P	22 02 23.6	-0.8
NNZ	Nelson	28.57	202	P	P	22 02 25.2	+0.8
NNZ				IAmb	IAmb	22 02 25.4	
	comp=Z,42nm,0.9s						
NNZ	Nelson	28.57	202	P	P	22 02 21.3	-3.1
BSWZ	Blackbirch Sta	28.84	201	P	P	22 02 28.0	+1.2
MRNZ	Matariki Terra	28.96	203	P	P	22 02 27.2	-0.8
THZ	Tophouse	29.22	202	P	P	22 02 29.1	-1.2
KHZ	Kahutara	29.57	201	P	P	22 02 33.3	0.0
KHZ				IAmb	IAmb	22 02 41.1	
	comp=Z,35nm,0.9s						
KHZ	Kahutara	29.57	201	P	P	22 02 33.1	-0.2
LTZ	Lake Taylor	30.34	202	P	P	22 02 37.1	-3.0
LTZ				IAmb	IAmb	22 03 02.0	
	comp=Z,26nm,0.7s						
OXZ	Oxford	30.90	202	P	P	22 02 44.0	-1.0
OXZ				IAmb	IAmb	22 02 58.1	
	comp=Z,48nm,1.2s						
MQZ	McQueen's Vall	31.02	201	P	P	22 02 48.2	+2.2
MQZ				IAmb	IAmb	22 03 01.1	
	comp=Z,64nm,1.3s						
RPZ	Rata Peaks	31.59	203	LR	LR	22 14 42.6	
	comp=Z,1μm,21.8s,baz=40,slow=35						
RPZ	Rata Peaks	31.59	203	P	P	22 02 51.4	+0.2
RPZ	Rata Peaks	31.59	203	P	P	22 02 50.3	-0.9
FOZ	Fox Glacier	31.91	204	P	P	22 02 53.0	-0.9
FOZ				IAmb	IAmb	22 03 02.3	
	comp=Z,66nm,1.4s						
LBZ	Lake Benmore	32.49	203	P	P	22 02 58.6	-0.4
LBZ				IAmb	IAmb	22 03 12.6	
	comp=Z,50nm,1.5s						
TAOE	Nuku Hiva Isla	32.55	83	*e*S	S	22 08 11.2	-2.7
	comp=Z,222nm,26.6s						
TAOE				*e*LR	LR	22 11 28.1	
	comp=Z,933nm,25.6s						
TAOE	Nuku Hiva Isla	32.55	83	*e*T	T	22 37 02.9	
	comp=Z,132nm,0.4s						
ODZ	Otahua Downs	32.89	202	P	P	22 03 03.6	+1.1
ODZ				IAmb	IAmb	22 03 26.4	
	comp=Z,46nm,1.5s						
ODZ	Otahua Downs	32.89	202	P	P	22 03 02.1	-0.4
WKZ	Wanaka	33.31	204	P	P	22 03 04.0	-2.2
WKZ				IAmb	IAmb	22 03 05.0	
	comp=Z,28nm,1.0s						
MLZ	Mavora Lakes	34.11	204	P	P	22 03 11.6	-1.7
DCZ	Deep Cove	34.58	205	P	P	22 03 15.5	-1.7
WHZ	Wether Hill Ro	34.62	204	P	P	22 03 17.2	-0.3
WHZ				IAmb	IAmb	22 03 19.0	
	comp=Z,41nm,0.9s						
H11S2	WAKE ISLAND Hy	39.06	328	T	T	22 44 33.9	
	baz=146,slow=76,SNR=8.6						
H11S3	WAKE ISLAND Hy	39.07	328	T	T	22 44 35.6	
	baz=146,slow=76,SNR=24						
H11S1	WAKE ISLAND Hy	39.08	328	T	T	22 44 35.0	
	baz=146,slow=76,SNR=8.4						
CTA	Charters Tower	39.23	257	LR	LR	22 17 23.0	
	comp=Z,403nm,21.6s,baz=81,slow=32						
PMG	Port Moresby	39.47	274	LR	LR	22 17 56.6	
	comp=Z,244nm,18.7s,baz=110,slow=33						
H11N3	WAKE ISLAND Hy	39.99	329	T	T	22 45 25.9	
	baz=147,slow=76,SNR=40						
H11N1	WAKE ISLAND Hy	40.00	329	T	T	22 45 23.7	
	baz=147,slow=76,SNR=80						
H11N2	WAKE ISLAND Hy	40.01	329	T	T	22 45 27.2	
	baz=147,slow=76,SNR=89						
CMSA	Cobar Meteorol	41.14	239	P	P	22 04 09.5	-3.3
COEN	Coen	42.55	266	P	P	22 04 23.6	-0.9
COEN	Coen	42.55	266	P	P	22 04 23.4	-1.1
TOO	Toolangi	43.03	231	P	P	22 04 27.5	-0.7
TOO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TOO	Toolangi	43.03	231	P	P	22 04 27.5	-0.7
MIDW	Midway	43.36	354	P	P	22 04 32.5	+1.8
MIDW				IAmb	IAmb	22 04 44.6	
	comp=Z,42nm,0.7s						
STKA	Stephens Creek	44.62	240	P	P	22 04 37.5	-3.5
	comp=Z,4.2nm,0.7s,baz=89,slow=8.2,SNR=13						
STKA				LR	LR	22 20 48.6	
	comp=Z,345nm,21.8s,baz=66,slow=33						
STKA	Stephens Creek	44.62	240	P	P	22 04 38.0	-3.1
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	Stephens Creek	44.62	240	P	P	22 04 38.0	-3.1
STKA	Stephens Creek	44.62	240	P	P	22 04 37.9	-3.1
LCRK	Leigh Creek	47.26	242	P	P	22 04 59.8	-2.0
OOD	Oodnadatta	49.20	246	P	P	22 05 16.3	-0.6
	comp=Z,6.9nm,1.4s						
BBOO	Buckleboo	49.40	240	P	P	22 05 15.8	-2.6
BBOO	Buckleboo	49.40	240	P	P	22 05 17.1	-1.3
WR0	Warramunga Arr	50.24	257	P	P	22 05 22.3	-2.6
WB0	Warramunga Arr	50.39	257	P	P	22 05 22.8	-3.3
WB2	Warramunga Arr	50.42	257	P	P	22 05 23.4	-2.9
WRAB	Tennant Creek	50.42	257	⇑*i*P	P	22 05 23.1	-3.2
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WRAB	Tennant Creek	50.42	257	P	P	22 05 23.8	-2.5
WRA	Warramunga Arr	50.43	257	P	P	22 05 22.1	-4.2
	comp=Z,1.3nm,0.4s,baz=93,slow=6.7,SNR=95						
WRA				LR	LR	22 24 57.0	
	comp=Z,365nm,21.3s,baz=16,slow=34						
WRA	Warramunga Arr	50.43	257	P	P	22 05 23.1	-3.3
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	50.43	257	P	P	22 05 23.1	-3.3
GUMO	Guam	50.68	302	LR	LR	22 21 41.1	
	comp=Z,58nm,20.3s,baz=104,slow=30						
ASAR	Alice Springs	50.70	252	P	P	22 05 24.9	-3.6
	comp=Z,4.2nm,0.6s,baz=92,slow=7.7,SNR=42						
ASAR				S	S	22 12 34.0	-8.2
	comp=Z,0.7nm,1.0s,baz=90,slow=11,SNR=3.3						
ASAR				LR	LR	22 24 55.4	
	comp=Z,986nm,21.9s,baz=106,slow=34						
ASAR	Alice Springs	50.70	252	P	P	22 05 25.8	-2.7
MULG	Mulgathing	50.81	243	P	P	22 05 26.2	-2.9
WRKA	Warakurna	55.79	250	P	P	22 06 03.6	-2.2
FORT	Forrest	56.01	243	P	P	22 06 05.5	-1.8
FORT	Forrest	56.01	243	P	P	22 06 04.7	-2.6
SIJI	Sorong	56.97	279	LR	LR	22 29 33.7	
	comp=Z,225nm,21.4s,baz=207,slow=35						
FITZ	Fitzroy Crossi	58.79	258	LR	LR	22 29 52.3	
	comp=Z,265nm,21.5s,baz=98,slow=34						
FITZ	Fitzroy Crossi	58.79	258	P	P	22 06 28.2	+1.1
SBA	Scott Base	63.52	185	P	P	22 07 01.4	+3.3
SBA				pmax	pmax		
	comp=Z,43nm,1.2s						
SBA	Scott Base	63.52	185	P	P	22 07 01.4	+3.3
VNDA	Vanda	63.65	186	LR	LR	22 28 27.7	
	comp=Z,74nm,22.0s,baz=348,slow=30						
VNDA	Vanda	63.65	186	P	P	22 07 00.2	+1.2
VNDA				pmax	pmax		
	comp=Z,17nm,1.3s						
VNDA	Vanda	63.65	186	P	P	22 07 00.2	+1.2
VNDA				IAmb	IAmb	22 07 25.8	
	comp=Z,16nm,1.3s						
PSA00	Pilbara Seismi	63.80	253	P	P	22 07 00.5	-0.5
PSA00				IAmb	IAmb	22 07 05.9	
	comp=Z,32nm,1.4s						
PSA00	Pilbara Seismi	63.80	253	P	P	22 06 59.2	-1.8
PSA00				IAmb	IAmb	22 07 22.2	
	comp=Z,6.1nm,1.1s						
DAV	Davao City (W)	64.90	285	LR	LR	22 33 43.2	
	comp=Z,84nm,18.9s,baz=118,slow=34						
JHJ	Hachijo jima 2	65.97	317	LR	LR	22 32 40.4	
	comp=Z,40nm,19.5s,baz=96,slow=33						
KAPI	Kappang	66.92	271	LR	LR	22 35 01.8	
	comp=Z,70nm,20.8s,baz=106,slow=35						
TOLI2	Tolitoli	67.56	278	P	P	22 07 26.7	+1.3
JYT	Yasato	67.69	320	P	P	22 07 25.7	0.0
SHEM	Shemya Is, Ala	68.56	352	LR	LR	22 32 17.1	
	comp=Z,485nm,19.5s,baz=134,slow=31						
GIRL	Giralia	68.82	251	P	P	22 07 33.2	+0.1
UNV	Unalaska Valle	68.96	4	P	P	22 07 33.1	0.0
	baz=186						
JGF	Kuroka	69.08	318	P	P	22 07 33.9	-0.6
JGF				IAmb	IAmb	22 07 35.0	
	comp=Z,18nm,1.2s						
MJAR	Matsushiro Arr	69.13	319	P	P	22 07 34.1	-0.6
	comp=Z,8.3nm,0.9s,baz=150,slow=6.1,SNR=11						
MJAR				LR	LR	22 31 47.2	
	comp=Z,300nm,22.0s,baz=126,slow=31						
MJAR	Matsushiro Arr	69.13	319	P	P	22 07 34.3	-0.4

MJAR pmax pmax
comp=Z,11nm,1.2s
MJAR Matsushiro Arr 69.13 319 P **P** **22 07 34.3 -0.4**
MAJO Matsushiro 69.13 319*d i*P **P** **22 07 34.3 -0.4**
MAJO pmax pmax
comp=Z,23nm,1.2s
MAJO Matsushiro 69.13 319 P **P** **22 07 34.4 -0.4**
MAJO IAmb IAmb 22 07 36.0
comp=Z,22nm,1.1s
MJB9 Matsu-Tunnel 69.13 319 P **P** **22 07 33.4 -1.3**
MJB9 IAmb IAmb 22 07 35.9
comp=Z,24nm,1.2s
AKUT Akutan 69.30 4 P **P** **22 07 34.8 -0.5**
SNCC San Nicolas Is 70.03 46 P **P** **22 07 41.9 +1.6**
baz=235
JSD Sado 70.03 321 P **P** **22 07 39.2 -1.0**
JMN Monobe 70.29 315 P **P** **22 07 41.2 -0.8**
PAGB Antelope Grade 70.97 43 P **P** **22 07 47.3 +1.2**
PAGB IAmb IAmb 22 08 11.4
comp=Z,58nm,1.3s
SDPT Sand Point 71.03 7 P **P** **22 07 45.6 -0.2**
CBX Cerro Bola 71.53 48 P **P** **22 07 49.7 +0.1**
ASAJ Asahikawa 71.64 328 LR LR 22 35 34.8
comp=Z,63nm,19.0s,baz=160,slow=33
ELS Elsinore Mount 71.71 46 P **P** **22 07 50.6 -0.1**
BAR Barrett 71.72 48 P **P** **22 07 50.2 -0.4**
EDW2 Edwards Air Fo 72.00 45 P **P** **22 07 53.5 +1.2**
baz=236
MONP2 Monument Peak 72.01 47 P **P** **22 07 54.0 +1.3**
baz=238
JNU Nakatsue 72.05 313 P **P** **22 07 51.9 -0.7**
JNU IAmb IAmb 22 07 53.2
comp=Z,59nm,1.4s
O02D Mt. Diablo Mer 72.06 38 P **P** **22 07 52.2 -0.4**
O02D IAmb IAmb 22 08 14.3
comp=Z,29nm,1.3s
IKP In-Ko-Pah, Jac 72.11 48 P **P** **22 07 54.2 +1.2**
baz=238
ISA Isabella, Lake 72.11 44 P **P** **22 07 53.7 +0.7**
baz=236
CHGN Chignik 72.23 8 P **P** **22 07 53.9 +0.8**
baz=195
PET Petropavlovsk 72.23 342*⇓ i*P **P** **22 07 54.0 +0.8**
PET pmax pmax
comp=Z,38nm,1.7s
PET Petropavlovsk 72.23 342 P **P** **22 07 52.5 -0.6**
PET IAmb IAmb 22 07 55.4
comp=Z,42nm,1.5s
CMB Columbia Colle 72.23 41 P **P** **22 07 53.4 -0.2**
CMB pmax pmax
comp=Z,15nm,1.2s
CMB Columbia Colle 72.23 41 P **P** **22 07 53.4 -0.2**
YUH Yuha Desert 72.24 48 P **P** **22 07 54.1 +0.4**
PFO Pinyon Flats O 72.37 47 P **P** **22 07 54.5 -0.2**
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 72.37 47 P **P** **22 07 54.5 -0.2**
ORV Oroville 72.46 39 P **P** **22 07 55.0 +0.1**
ORV pmax pmax
comp=Z,12nm,1.3s
ORV Oroville 72.46 39 P **P** **22 07 55.0 +0.1**
WDC Whiskeytown Da 72.47 38 P **P** **22 07 55.3 +0.4**
WDC pmax pmax
comp=Z,23nm,1.5s
WDC Whiskeytown Da 72.47 38 P **P** **22 07 55.3 +0.4**
WDC IAmb IAmb 22 07 57.4
comp=Z,23nm,1.4s
SWSC Sam W. Stewart 72.48 48 P **P** **22 07 56.9 +1.7**
baz=238
SLBS Sierra La Lagu 72.57 59 P **P** **22 07 56.2 +0.2**
SLBS IAmb IAmb 22 08 17.9
comp=Z,40nm,1.5s
PEA0B Petropavlovsk- 72.59 342 P **P** **22 07 56.1 +0.7**
PEA0B pmax pmax
comp=Z,93nm,1.3s
PEA0B Petropavlovsk- 72.59 342 P **P** **22 07 56.1 +0.7**
PETK Petropavlovsk- 72.59 342 P **P** **22 07 55.2 -0.1**
comp=Z,23nm,0.9s,baz=152,slow=9.9,SNR=20
PETK Petropavlovsk- 72.59 342 P **P** **22 07 55.5 +0.2**
PETK Petropavlovsk- 72.59 342 P **P** **22 07 55.5 +0.2**
O03E Paynes Creek 72.73 39 P **P** **22 07 57.3 +0.7**
O03E IAmb IAmb 22 08 17.3
comp=Z,21nm,1.1s
CWC Cottonwood Cre 72.81 44 P **P** **22 07 58.4 +1.1**
baz=236
L02E Cave Junction 72.85 36 P **P** **22 07 57.5 +0.3**
baz=230
OMMB Old Mammoth Mi 72.88 42 P **P** **22 07 57.5 -0.4**
MPMC Manual Prospec 72.99 44 P **P** **22 07 59.8 +1.4**
baz=236
GSC Goldstone, Bar 73.04 45 P **P** **22 07 58.1 -0.5**
GSC pmax pmax
comp=Z,22nm,1.5s
GSC Goldstone, Bar 73.04 45 P **P** **22 07 58.1 -0.5**
GSC Goldstone, Bar 73.04 45 P **P** **22 07 59.6 +1.0**
baz=237
BC3 Big Chuckawall 73.10 47 P **P** **22 08 00.4 +1.4**
baz=238
HEC Hector,Ludlow 73.11 46 P **P** **22 07 59.9 +0.9**
baz=237
K02D Willamette Mer 73.16 36 P **P** **22 07 59.1 0.0**
baz=230
GLA Glamis 73.23 48 P **P** **22 08 00.4 +0.7**
GLA pmax pmax
comp=Z,13nm,1.0s
GLA Glamis 73.23 48 P **P** **22 08 00.4 +0.7**
GLA Glamis 73.23 48 P **P** **22 08 01.0 +1.3**
baz=239
J01E Myrtle Point 73.31 35 P **P** **22 08 00.5 +0.7**
baz=229
BEKR Beckworth 73.35 40 P **P** **22 08 00.8 +0.4**
PNTR Pine Nut 73.36 41 P **P** **22 08 00.5 0.0**
PNTR IAmb IAmb 22 08 21.4
comp=Z,28nm,1.1s
QSM Queen of Sheba 73.36 45 P **P** **22 08 01.0 +0.7**
KKM Kota Kinabalu 73.37 281 P **P** **22 08 00.6 -0.4**
KKM IAmb IAmb 22 08 23.4
comp=Z,37nm,1.3s
VCNR Virginia City 73.45 40 P **P** **22 08 01.0 0.0**
GMRC Granite Mounta 73.55 46 P **P** **22 08 03.2 +1.6**
baz=238
LHV Little Huntoon 73.56 42 P **P** **22 08 01.9 +0.5**
LHV IAmb IAmb 22 08 05.6
comp=Z,21nm,1.2s
YSS Yuzh-Sakhalins 73.56 330*de*P **P** **22 08 01.8 +0.6**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS Yuzh-Sakhalins 73.56 330 P **P** **22 08 01.3 +0.1**
YSS IAmb IAmb 22 08 02.5
comp=Z,33nm,1.1s
IRM Iron Mountain 73.58 47 P **P** **22 08 02.9 +1.2**
baz=238
M04C Macdoel 73.63 37 P **P** **22 08 02.8 +0.8**
M04C IAmb IAmb 22 08 23.1
comp=Z,26nm,1.2s
M04C Macdoel 73.63 37 P **P** **22 08 03.0 +1.1**
baz=231
L04D Klamath Falls 73.63 37 P **P** **22 08 03.1 +1.2**
baz=231
TUQ Turquoise Moun 73.72 45 P **P** **22 08 03.8 +1.2**
baz=237
RYN Ryan 73.77 41 **P** **22 08 03.5 +0.6**
NVAR Mina Array Bea 73.80 42 P **P** **22 08 04.1 +1.0**
comp=Z,4.6nm,0.8s,baz=231,slow=12,SNR=12
NVAR Mina Array Bea 73.80 42 P **P** **22 08 03.9 +0.8**
BLYC Blythe 73.81 48 P **P** **22 08 03.5 +0.5**
113A Mohawk Valley, 73.86 49 P **P** **22 08 03.8 +0.5**
PAHR Pah Rah Range 73.86 40 P **P** **22 08 03.9 +0.6**
NV11 Mina Array Sit 73.89 42 P **P** **22 08 04.1 +0.5**
OHAK Old Harbor 73.94 11 P **P** **22 08 02.9 -0.3**
OHAK Old Harbor 73.94 11 P **P** **22 08 04.1 +0.9**
baz=200
I03D Drain, OR 73.98 35 P **P** **22 08 05.0 +1.2**
baz=230
214A Organ Pipe Nat 74.15 50 P **P** **22 08 05.3 +0.2**
214A Organ Pipe Nat 74.15 50 P **P** **22 08 06.4 +1.3**
baz=240
KVN Kaiserville 74.28 41 P **P** **22 08 05.3 -0.6**
KVN pmax pmax
comp=Z,17nm,1.3s
KVN Kaiserville 74.28 41 P **P** **22 08 05.3 -0.6**
TPH Tonopah 74.30 43 P **P** **22 08 06.1 +0.1**
TPH pmax pmax
comp=Z,83nm,0.9s
TPH Tonopah 74.30 43 P **P** **22 08 06.0 +0.1**

TPNV Topopah Spring 74.32 44 P **P** **22 08 06.3 +0.2**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 74.32 44 P **P** **22 08 06.3 +0.2**
TPNV Topopah Spring 74.32 44 P **P** **22 08 07.6 +1.5**
baz=237
PDMCI Parker Dam,Lak 74.37 47 P **P** **22 08 07.7 +1.4**
baz=239
J04D Umpqua Nationa 74.39 36 P **P** **22 08 05.1 -1.4**
J04D IAmb IAmb 22 08 28.2
comp=Z,27nm,0.8s
J04D Umpqua Nationa 74.39 36 P **P** **22 08 07.3 +0.8**
baz=231
I04A Tendick Farm, 74.57 35 P **P** **22 08 07.9 +0.7**
baz=230
KDAK Kodiak Island 74.60 11 LR LR 22 33 38.5
comp=Z,562nm,21.4s,baz=224,slow=30
KDAK Kodiak Island 74.60 11 P **P** **22 08 08.1 +1.1**
KDAK pmax pmax
comp=Z,45nm,1.1s
KDAK Kodiak Island 74.60 11 P **P** **22 08 08.1 +1.1**
KDAK IAmb IAmb 22 08 08.9
comp=Z,45nm,1.1s
MOD Modoc Plateau 74.61 38 P **P** **22 08 07.5 -0.2**
K05A Summer Lake 74.77 37 P **P** **22 08 09.0 +0.4**
K05A IAmb IAmb 22 08 36.2
comp=Z,73nm,1.3s
SHPR Sheep Range 74.81 45 P **P** **22 08 09.2 +0.2**
SHPR IAmb IAmb 22 08 12.1
comp=Z,31nm,1.5s
H04D Lebanon 74.85 35 P **P** **22 08 10.1 +1.3**
baz=230
QSPA South Pole Qui 74.87 180 LR LR 22 36 41.8
comp=Z,77nm,21.6s,baz=40,slow=32
QSPA South Pole Qui 74.87 180 P **P** **22 08 09.8 +1.0**
QSPA IAmb IAmb 22 08 11.5
comp=Z,20nm,1.0s
J05D Fort Rock, OR 74.91 36 P **P** **22 08 10.8 +1.4**
baz=232
W13A Hualapai Mount 74.96 47 P **P** **22 08 09.9 0.0**
Y14A Winkenburg 75.00 48 P **P** **22 08 10.1 +0.2**
G03D McMinnville, O 75.01 34 P **P** **22 08 09.7 0.0**
G03D IAmb IAmb 22 08 30.9
comp=Z,36nm,1.1s
G03D McMinnville, O 75.01 34 P **P** **22 08 10.8 +1.1**
baz=230
H04A Detroit Lake 75.26 35 P **P** **22 08 12.0 +0.8**
H04A IAmb IAmb 22 08 15.2
comp=Z,31nm,1.3s
PRN Pahroc Range 75.37 44 P **P** **22 08 13.2 +1.0**
PINE Pine Mountain 75.40 36 P **P** **22 08 13.2 +1.0**
PINE IAmb IAmb 22 08 15.4
comp=Z,48nm,1.2s
Q19K Cape Douglas, 75.49 10 P **P** **22 08 12.0 -0.2**
baz=199
I05D Terrebonne, OR 75.51 35 P **P** **22 08 13.9 +1.2**
baz=231
R11A Troy Canyon, C 75.52 43 P **P** **22 08 13.3 +0.2**
R11A Troy Canyon, C 75.52 43 P **P** **22 08 14.4 +1.3**
baz=237
BMN Battle Mountai 75.63 41 P **P** **22 08 13.7 +0.1**
BMN pmax pmax
comp=Z,13nm,1.1s
BMN Battle Mountai 75.63 41 P **P** **22 08 13.7 +0.1**
F04D Rainier, OR 75.71 33 P **P** **22 08 15.0 +1.3**
baz=230
E03A Lebam 75.72 33 P **P** **22 08 13.4 -0.3**
E03A IAmb IAmb 22 08 16.6
comp=Z,58nm,1.2s
TUC Tucson 75.83 50 P **P** **22 08 15.1 +0.3**
TUC pmax pmax
comp=Z,17nm,1.2s
TUC Tucson 75.83 50 P **P** **22 08 15.1 +0.3**
TUC Tucson 75.83 50 P **P** **22 08 16.4 +1.5**
baz=242
WVOR Wild Horse Val 75.92 38 P **P** **22 08 15.5 +0.3**
WVOR pmax pmax
comp=Z,19nm,1.2s
WVOR Wild Horse Val 75.92 38 P **P** **22 08 15.5 +0.3**
F04A Amboy 75.93 34 P **P** **22 08 14.2 -0.8**
F04A IAmb IAmb 22 08 16.7
comp=Z,15nm,0.9s
HOOD Mount Hood Mea 75.96 35 P **P** **22 08 16.0 +0.7**
HOOD IAmb IAmb 22 08 17.8
comp=Z,37nm,1.2s
G05D Wamic, OR 76.09 35 P **P** **22 08 16.8 +0.9**
baz=231
TJN Taejon 76.22 314*d i*P **P** **22 08 16.7 -0.1**
TJN Taejon 76.22 314 P **P** **22 08 16.1 -0.7**
E04D Cinebar 76.25 33 P **P** **22 08 17.3 +0.5**
E04D IAmb IAmb 22 08 19.9
comp=Z,36nm,1.2s
E04D Cinebar 76.25 33 P **P** **22 08 17.9 +1.1**
baz=230
X16A Lo Mia Camp, P 76.36 48 P **P** **22 08 18.5 +0.6**
X16A IAmb IAmb 22 08 21.1
comp=Z,16nm,1.1s
KSRS Korea Array 76.39 315 P **P** **22 08 19.1 +1.4**
comp=Z,9.0nm,1.0s,baz=127,slow=6.4,SNR=24
KSRS LR LR 22 36 04.9
comp=Z,93nm,22.0s,baz=105,slow=31
LCMT Little Creek M 76.39 45 P **P** **22 08 18.1 +0.1**
I07A Izee 76.39 36 P **P** **22 08 18.9 +1.1**
TYV Tymovskoe 76.40 333*eP* **P** **22 08 17.7 +0.2**
TYV *eS* **S** **22 18 01.8 +1.0**
TYV pmax pmax
comp=Z,30nm,0.9s
TYV pmax pmax
comp=Z,200nm,2.8s
TYV smax smax
comp=N,300nm,5.6s
TYV smax smax
comp=E,200nm,5.6s
KSAR Wonju Array Be 76.41 315 P **P** **22 08 18.9 +1.0**
KSAR Wonju Array Be 76.41 315 P **P** **22 08 18.9 +1.0**
F05D White Salmon 76.42 34 P **P** **22 08 18.3 +0.6**
F05D IAmb IAmb 22 08 19.8
comp=Z,30nm,1.2s
F05D White Salmon 76.42 34 P **P** **22 08 19.0 +1.2**
baz=231
CNPM China Poot 76.48 11 P **P** **22 08 18.2 +0.4**
319A Douglas 76.52 52 P **P** **22 08 19.1 +0.2**
319A IAmb IAmb 22 08 22.9
comp=Z,18nm,1.0s
D04E Lakebay 76.55 33 P **P** **22 08 19.7 +1.3**
baz=230
J08A Circle Bar Ran 76.56 38 P **P** **22 08 19.0 +0.3**
J08A IAmb IAmb 22 08 20.9
comp=Z,24nm,1.3s
O19K Port Alsworth 76.58 9 P **P** **22 08 18.2 -0.1**
baz=198,SNR=6.4
CCUT Cedar City 76.59 45 P **P** **22 08 18.9 -0.3**
D03D Eldon 76.61 32 P **P** **22 08 19.7 +0.9**
baz=229
KNB Kanab 76.68 45 P **P** **22 08 20.6 +0.9**
KNB pmax pmax
comp=Z,19nm,1.2s
KNB Kanab 76.68 45 P **P** **22 08 20.6 +0.9**
U15A North Rim 76.75 46 P **P** **22 08 21.5 +1.3**
U15A IAmb IAmb 22 08 23.5
comp=Z,28nm,1.4s
O20K Slope Mountain 76.75 10 P **P** **22 08 19.7 +0.3**
baz=200
PSUT Pine Spring 76.77 44 P **P** **22 08 20.8 +0.6**
BRSE Bradley Lake S 76.78 11 P **P** **22 08 19.5 0.0**
baz=202
WUAZ Wupatki 76.94 47 P **P** **22 08 21.7 +0.5**
WUAZ Wupatki 76.94 47 P **P** **22 08 22.7 +1.5**
baz=240
D05A Enumclaw 76.96 33 P **P** **22 08 21.7 +0.9**
ELK Elko 77.05 41 P **P** **22 08 22.8 +1.0**
ELK pmax pmax
comp=Z,32nm,1.5s
ELK Elko 77.05 41 P **P** **22 08 22.8 +1.0**
ELK IAmb IAmb 22 08 24.6
comp=Z,32nm,1.5s
N19K Bonanza Creek 77.15 9 IAmb IAmb 22 08 22.9
comp=Z,34nm,1.0s
CBB Campbell River 77.17 29 P **P** **22 08 22.7 +0.8**
CBB IAmb IAmb 22 08 24.6
comp=Z,61nm,1.4s
PKCU Pink Cliffs 77.25 45 P **P** **22 08 23.6 +0.6**
PKCU IAmb IAmb 22 08 26.3
comp=Z,30nm,1.2s
SVW2 Sparrevohn 77.26 8 IAmb IAmb 22 08 23.5
comp=Z,24nm,1.0s

F07A Phinny Hill Vi 77.26 35 P **P** **22 08 23.4 +0.9**
INCN Inchon 77.28 315 P **P** **22 08 23.6 +0.7**
INCN pmax pmax
comp=Z,90nm,1.4s
INCN Inchon 77.28 315 P **P** **22 08 23.6 +0.7**
SEW Seward 77.36 12 P **P** **22 08 23.3 +0.7**
baz=203
G08A Pilot Rock 77.43 36 P **P** **22 08 24.8 +1.1**
G08A IAmb IAmb 22 08 26.3
comp=Z,43nm,1.2s
BBB Bella Bella 77.44 26 LR LR 22 36 15.3
comp=Z,208nm,19.0s,baz=162,slow=31
HPIG 77.45 57 P **P** **22 08 24.8 +0.6**
HPIG IAmb IAmb 22 08 27.9
comp=Z,32nm,1.5s
X18A Snowflake 77.49 49 IAmb IAmb 22 08 27.4
comp=Z,20nm,1.3s
USA0B Ussuriysk Arra 77.54 323 P **P** **22 08 25.4 +1.3**
USA0B pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 77.54 323 P **P** **22 08 25.4 +1.3**
USRK Ussuriysk Ar. 77.54 323 P **P** **22 08 24.6 +0.6**
comp=Z,3.8nm,0.7s,baz=112,slow=8.5,SNR=8.4
USRK LR LR 22 36 09.9
comp=Z,246nm,21.8s,baz=120,slow=31
A04D Lummi Island 77.58 31 P **P** **22 08 25.9 +1.7**
baz=229
B05A Bryant 77.60 32 P **P** **22 08 25.4 +1.1**
baz=230
MTPU Mount Pierson 77.64 45 P **P** **22 08 27.1 +1.8**
LTY Liberty 77.70 33 P **P** **22 08 24.7 -0.3**
E07A Sunnyside 77.71 34 P **P** **22 08 25.7 +0.7**
E07A IAmb IAmb 22 08 27.8
comp=Z,40nm,1.2s
TCRU Three Creeks R 77.75 44 P **P** **22 08 27.3 +1.6**
TCRU IAmb IAmb 22 08 31.6
comp=Z,39nm,1.4s
HAWA Hanford 77.78 35 P **P** **22 08 26.1 +0.7**
HAWA IAmb IAmb 22 08 28.1
comp=Z,51nm,1.3s
SPCR Spurr Chakacha 77.88 10 P **P** **22 08 26.1 +0.4**
baz=200
W18A Petrified Fore 77.92 48 P **P** **22 08 27.0 +0.3**
W18A Petrified Fore 77.92 48 P **P** **22 08 28.2 +1.5**
baz=242
B06A Marblemount 78.07 32 P **P** **22 08 26.6 -0.3**
B06A IAmb IAmb 22 08 28.9
comp=Z,22nm,1.4s
E08A Dider Farm, El 78.10 35 P **P** **22 08 28.1 +0.9**
E08A IAmb IAmb 22 08 29.8
comp=Z,57nm,1.4s
BMO Blue Mountains 78.12 37 P **P** **22 08 27.8 +0.3**
BMO pmax pmax
comp=Z,32nm,1.4s
BMO Blue Mountains 78.12 37 P **P** **22 08 27.8 +0.3**
BMO IAmb IAmb 22 08 29.9
comp=Z,32nm,1.4s
MFID Camas Ranch 78.17 39 P **P** **22 08 27.8 0.0**
MFID IAmb IAmb 22 08 30.3
comp=Z,35nm,1.4s
121A Cookes Peak, D 78.18 51 P **P** **22 08 29.5 +1.3**
121A IAmb IAmb 22 08 32.6
comp=Z,22nm,1.2s
121A Cookes Peak, D 78.18 51 P **P** **22 08 29.7 +1.6**
baz=243,SNR=5.9
LEM Lembang 78.19 266 LR LR 22 42 45.1
comp=Z,113nm,20.6s,baz=124,slow=36
LEM Lembang 78.19 266 P P 22 08 36.0 +7.3
M19K Big River Lodg 78.20 9 IAmb IAmb 22 08 28.1
comp=Z,15nm,0.8s
M19K Big River Lodg 78.20 9 P **P** **22 08 27.5 0.0**
baz=198,SNR=5.4
RC01 Rabbit Creek A 78.22 11 P **P** **22 08 26.8 -0.7**
RC01 Rabbit Creek A 78.22 11 P **P** **22 08 27.8 +0.4**
baz=203
PWL Port Wells 78.28 12 P **P** **22 08 25.6 -2.2**
PWL IAmb IAmb 22 08 29.2
comp=Z,46nm,1.1s
KAIM Kayak Island 78.29 14 P **P** **22 08 28.7 +0.8**
baz=208
DUG Dugway, Tooele 78.33 43 P **P** **22 08 28.7 -0.1**
DUG pmax pmax
comp=Z,29nm,1.4s
DUG Dugway, Tooele 78.33 43 P **P** **22 08 28.6 -0.1**
DUG IAmb IAmb 22 08 31.4
comp=Z,29nm,1.4s
DUG Dugway, Tooele 78.33 43 P **P** **22 08 29.8 +1.0**
baz=239,SNR=8.9
L19K White Mountain 78.40 8 IAmb IAmb 22 08 30.1
comp=Z,25nm,1.1s
L19K White Mountain 78.40 8 P **P** **22 08 29.1 +0.6**
baz=198,SNR=5.0
ZAIG Zacatecas 78.41 62 P **P** **22 08 30.4 +0.6**
SIT Sitka 78.43 20 P **P** **22 08 28.8 +0.1**
baz=217
D08A Wollman Farm, 78.52 34 P **P** **22 08 30.5 +1.0**
D08A IAmb IAmb 22 08 32.1
comp=Z,45nm,1.2s
GLI Glacier Island 78.55 13 P **P** **22 08 29.2 -0.1**
baz=205
BGU Big Grassy Mou 78.56 42 P **P** **22 08 30.6 +0.5**
E09A Wood Farm, Sta 78.62 35 P **P** **22 08 30.4 +0.3**
E09A IAmb IAmb 22 08 32.3
comp=Z,34nm,1.3s
NLU North Lily Min 78.69 43 P **P** **22 08 31.8 +1.0**
GAMB Gambell 78.71 1 IAmb IAmb 22 08 32.6
comp=Z,52nm,1.2s
GAMB Gambell 78.71 1 P **P** **22 08 31.2 +1.1**
baz=181,SNR=18
KNK Knik Glacier 78.76 12 P **P** **22 08 30.9 +0.4**
KNK IAmb IAmb 22 08 32.1
comp=Z,42nm,1.1s
KNK Knik Glacier 78.76 12 P **P** **22 08 30.6 +0.1**
baz=204
M22K Willow 78.76 11 P **P** **22 08 30.7 +0.3**
baz=202,SNR=9.0
Q16A Castle Valley 78.77 44 P **P** **22 08 32.5 +1.2**
PMR Palmer 78.80 11 P **P** **22 08 31.0 +0.3**
baz=203,SNR=6.4
F10A Beach Ranch, E 78.82 36 IAmb IAmb 22 08 33.3
comp=Z,34nm,1.2s
BERG Berg Lake 78.87 14 P **P** **22 08 31.9 +0.7**
SNH Sunshine Point 78.89 15 P **P** **22 08 32.2 +0.9**
TMUT Trail Mountain 78.93 44 P **P** **22 08 32.9 +0.5**
TMUT IAmb IAmb 22 08 35.7
comp=Z,44nm,1.3s
TTA Tatalina 78.96 8 P **P** **22 08 32.9 +1.3**
baz=196,SNR=30
GHO Glory Hole Cre 79.00 11 IAmb IAmb 22 08 33.4
comp=Z,49nm,1.0s
MPU Maple Canyon 79.01 43 P **P** **22 08 33.4 +0.8**
B08A Colville Reser 79.09 33 IAmb IAmb 22 08 34.4
comp=Z,31nm,1.2s
HLID Hailey 79.11 39 P **P** **22 08 33.9 +0.8**
HLID IAmb IAmb 22 08 36.0
comp=Z,33nm,1.2s
HLID Hailey 79.11 39 P **P** **22 08 34.6 +1.5**
baz=237,SNR=25
WAX Waxell Ridge 79.13 15 P **P** **22 08 33.5 +0.8**
SML Sawmill 79.14 12 P **P** **22 08 33.0 +0.4**
baz=204
BMRM Bremner River 79.17 14 P **P** **22 08 33.1 +0.3**
BMRM Bremner River 79.17 14 P **P** **22 08 33.4 +0.6**
baz=208,SNR=8.6
HVU Hansel Valley 79.18 41 P **P** **22 08 34.1 +0.6**
HVU pmax pmax
comp=Z,33nm,1.3s
HVU Hansel Valley 79.18 41 P **P** **22 08 34.1 +0.6**
HVU IAmb IAmb 22 08 36.1
comp=Z,33nm,1.3s
MDJ Mudanjiang 79.19 322 P **P** **22 08 34.0 +0.8**
MDJ Mudanjiang 79.19 322 P **P** **22 08 32.0 -1.2**
MDJ S **S** **22 18 34.0 +2.8**
MDJ ScS **ScS** **22 18 52.2 -1.7**
MDJ pmax pmax
comp=Z,14nm,2.1s
MDJ pmax pmax
comp=Z,180nm,3.9s
MDJ LR LR
comp=Z,340nm,24.9s
LLLB Lillooet 79.22 30 P **P** **22 08 34.1 +0.8**
GRNR Gornyy 79.22 330*⇓ i*P **P** **22 08 33.5 +0.2**
GRNR pmax pmax
comp=Z,7.0nm,1.0s
CTU Camp Tracy 79.28 43 P **P** **22 08 34.5 +0.4**
SRU San Rafael Swe 79.30 45 P **P** **22 08 35.3 +1.1**

SRU				pmax	pmax		
	comp=Z,40nm,1.5s						
SRU	San Rafael Swe	79.30	45	P	P	22 08 35.3	+1.1
SRU				IAmb	IAmb	22 08 37.1	
	comp=Z,40nm,1.5s						
C09A	Chrisman Ranch	79.32	34	IAmb	IAmb	22 08 36.1	
	comp=Z,32nm,1.1s						
P17A	Butcher Ranch,	79.33	44	P	P	22 08 35.1	+0.7
P17A				IAmb	IAmb	22 08 37.6	
	comp=Z,45nm,1.4s						
CUT	Chulitna	79.34	10	P	P	22 08 33.9	+0.2
CUT	Chulitna	79.34	10	P	P	22 08 33.8	+0.2
	baz=202,SNR=11						
KLU	Klutina	79.35	13	P	P	22 08 33.9	+0.1
KLU				IAmb	IAmb	22 08 35.5	
	comp=Z,35nm,1.1s						
KLU	Klutina	79.35	13	P	P	22 08 34.1	+0.3
	baz=206,SNR=6.7						
PNL	Peninsula	79.35	17	P	P	22 08 34.4	+0.6
	baz=213						
SCM	Sheep Creek Mo	79.37	12	IAmb	IAmb	22 08 35.4	
	comp=Z,41nm,0.9s						
SCM	Sheep Creek Mo	79.37	12	P	P	22 08 34.5	+0.6
	baz=205,SNR=5.5						
ISLE	Juniper Island	79.39	15	P	P	22 08 33.8	-0.3
ISLE				IAmb	IAmb	22 08 35.9	
	comp=Z,55nm,1.0s						
JLU	Jordanelle	79.43	43	P	P	22 08 35.8	+0.8
JLU				IAmb	IAmb	22 08 37.6	
	comp=Z,36nm,1.4s						
PPLA	Purkeypile	79.48	9	P	P	22 08 34.4	-0.2
	baz=200						
PCA	Pinnacle	79.48	16	P	P	22 08 34.1	-0.5
Y22D	IRIS PASSCAL I	79.51	50	P	P	22 08 36.6	+1.2
	baz=244						
LENM	Lemitar	79.51	50	P	P	22 08 36.0	+0.5
TABL	Table Mountain	79.55	15	P	P	22 08 35.5	+0.5
TABL				IAmb	IAmb	22 08 36.9	
	comp=Z,38nm,0.9s						
K20K	Telida	79.63	8	IAmb	IAmb	22 08 37.8	
	comp=Z,66nm,1.1s						
MNTX	Cornudas Mount	79.65	53	P	P	22 08 37.0	+0.9
MNTX				IAmb	IAmb	22 08 39.1	
	comp=Z,37nm,1.5s						
MNTX	Cornudas Mount	79.65	53	P	P	22 08 37.6	+1.5
	baz=245,SNR=18						
VRDI	Verde Repeater	79.67	14	P	P	22 08 36.0	+0.4
VRDI				IAmb	IAmb	22 08 37.4	
	comp=Z,46nm,1.1s						
ANM	Nome	79.70	3	P	P	22 08 37.0	+1.4
ANM				pmax	pmax		
	comp=Z,23nm,1.1s						
ANM	Nome	79.70	3	P	P	22 08 37.0	+1.4
ANM	Nome	79.70	3	P	P	22 08 36.8	+1.3
	baz=187,SNR=20						
JIS	Juneau Island	79.71	20	P	P	22 08 36.5	+0.9
JIS				IAmb	IAmb	22 08 37.6	
	comp=Z,31nm,1.1s						
N25K	Chitina, Valde	79.74	13	P	P	22 08 36.4	+0.5
N25K				IAmb	IAmb	22 08 37.7	
	comp=Z,39nm,0.9s						
N25K	Chitina, Valde	79.74	13	P	P	22 08 36.7	+0.7
	baz=208,SNR=8.4						
P18A	Preston Nutter	79.74	44	P	P	22 08 37.8	+1.0
BNM	Barren Site	79.76	50	P	P	22 08 38.3	+1.4
GLB	Gilahina Butte	79.77	14	IAmb	IAmb	22 08 37.8	
	comp=Z,59nm,1.2s						
MVCO	Mesa Verde	79.79	47	P	P	22 08 37.9	+0.9
MVCO	Mesa Verde	79.79	47	P	P	22 08 38.5	+1.5
	baz=242						
BESE	Bessie Mountai	79.80	19	P	P	22 08 36.5	+0.2
BESE				IAmb	IAmb	22 08 38.6	
	comp=Z,66nm,1.4s						
M24K	Tolsona, Glenn	79.85	12	P	P	22 08 37.8	+1.2
M24K	Tolsona, Glenn	79.85	12	P	P	22 08 37.0	+0.5
	baz=206,SNR=9.5						
HWUT	Hardware Ranch	79.86	42	P	P	22 08 38.2	+1.0
MCARA	McCarthy VSAT	79.90	14	IAmb	IAmb	22 08 38.6	
	comp=Z,51nm,1.2s						
MCARA	McCarthy VSAT	79.90	14	P	P	22 08 37.5	+0.7
	baz=209,SNR=5.3						
LOGN	Logan Glacier	79.91	15	P	P	22 08 37.4	+0.4
LOGN				IAmb	IAmb	22 08 38.8	
	comp=Z,55nm,1.1s						
CTG	Chitna Glacier	79.95	15	P	P	22 08 38.0	+0.8
	baz=211						
BARN	Barnard Glacie	79.95	15	P	P	22 08 38.3	+1.0
BARN				IAmb	IAmb	22 08 39.1	
	comp=Z,73nm,1.1s						
CTGM	Chitina Glacie	79.95	15	P	P	22 08 36.7	-0.4
CTGM				IAmb	IAmb	22 08 39.0	
	comp=Z,26nm,0.9s						
PV10	Paradox Valley	79.96	46	P	P	22 08 38.0	+0.1
PV10				IAmb	IAmb	22 08 40.4	
	comp=Z,28nm,1.2s						
WAT6	Susitna Watana	79.97	11	P	P	22 08 37.7	+0.5
	baz=204,SNR=16						
CAST	Castle Rocks	79.99	9	P	P	22 08 36.2	-1.0
	baz=200,SNR=9.7						
PV13	Radium Mtn., P	80.01	46	P	P	22 08 39.1	+0.9
PV23	Carpenter Ridg	80.02	46	P	P	22 08 39.8	+1.6
PV23				IAmb	IAmb	22 08 41.1	
	comp=Z,33nm,1.0s						
TX31	Lajitas Ar. Si	80.03	56	P	P	22 08 39.9	+1.6
TX32	Lajitas Array	80.03	56	IAmb	IAmb	22 08 41.6	
	comp=Z,49nm,1.4s						
TXAR	Lajitas Array	80.03	56	P	P	22 08 39.5	+1.2
	comp=Z,13nm,1.1s,baz=225,slow=5.1,SNR=49						
PV11	David Mesa, Pa	80.04	46	P	P	22 08 39.1	+0.8
PV11				IAmb	IAmb	22 08 41.1	
	comp=Z,51nm,1.3s						
TLIG	Tlapa	80.11	69	P	P	22 08 40.1	+1.2
MA2	Magadan	80.12	342	LR	LR	22 39 33.5	
	comp=Z,120nm,20.3s,baz=138,slow=32						
MA2	Magadan	80.12	342	⇓*i*P	P	22 08 37.5	-0.4
MA2				pmax	pmax		
	comp=Z,28nm,1.3s						
MA2	Magadan	80.12	342	P	P	22 08 37.8	-0.1
NEW	Newport	80.22	34	P	P	22 08 39.2	+0.4
	baz=234						
ANMO	Albuquerque	80.24	50	*de*P	P	22 08 40.9	+1.5
ANMO				pmax	pmax		
	comp=Z,20nm,1.3s						
ANMO	Albuquerque	80.24	50	P	P	22 08 40.5	+1.0
ANMO	Albuquerque	80.24	50	P	P	22 08 40.6	+1.2
	baz=244						
PV07	Paradox Valley	80.26	46	P	P	22 08 40.9	+1.4
KTH	Kantishna Hill	80.30	10	IAmb	IAmb	22 08 40.6	
	comp=Z,56nm,1.1s						
TRF	Thorofare Moun	80.31	10	IAmb	IAmb	22 08 40.1	
	comp=Z,46nm,0.9s						
TRF	Thorofare Moun	80.31	10	P	P	22 08 39.0	-0.1
	baz=202,SNR=16						
PV15	Paradox Valley	80.33	46	P	P	22 08 40.1	+0.2
SKAG	Skagway	80.36	18	IAmb	IAmb	22 08 41.9	
	comp=Z,41nm,1.1s						
SKAG	Skagway	80.36	18	P	P	22 08 40.8	+1.7
	baz=217,SNR=5.9						
CHUM	Lake Minchumin	80.39	9	P	P	22 08 39.0	-0.2
	baz=200,SNR=13						
NJ2	Nanjing	80.47	307	*e*P	P	22 08 41.4	+1.0
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
DHY	Denali Highway	80.49	11	IAmb	IAmb	22 08 41.5	
	comp=Z,40nm,1.2s						
DHY	Denali Highway	80.49	11	P	P	22 08 40.3	+0.3
	baz=205,SNR=10						
TNA	Tin City	80.58	2	IAmb	IAmb	22 08 42.7	
	comp=Z,56nm,1.0s						
TNA	Tin City	80.58	2	P	P	22 08 41.4	+1.2
	baz=185,SNR=41						
GCSA	Galena City Sc	80.61	7	P	P	22 08 41.9	+1.5
	baz=196						
KLR	Kul'dur	80.63	327	LR	LR	22 38 57.9	
	comp=Z,157nm,21.4s,baz=134,slow=32						
RDMU	Red Mountain	80.66	44	P	P	22 08 42.1	+0.6
YUK6	Outpost Mounta	80.70	16	P	P	22 08 41.9	+0.6
	baz=214						
AHID	Auburn Hatcher	80.75	41	IAmb	IAmb	22 08 44.5	
	comp=Z,26nm,1.2s						
PAX	Paxson	80.77	12	IAmb	IAmb	22 08 42.8	
	comp=Z,40nm,1.4s						
PAX	Paxson	80.77	12	P	P	22 08 41.3	-0.2
	baz=207,SNR=8.4						
BPAW	Bear Paw Mtn.	80.80	10	P	P	22 08 40.8	-0.8
	baz=201,SNR=9.4						
MCK	McKinley	80.80	11	P	P	22 08 41.7	+0.2
	baz=203,SNR=32						
HYT	Haines Junctio	80.84	17	IAmb	IAmb	22 08 44.4	
	comp=Z,52nm,1.1s						
HYT	Haines Junctio	80.84	17	P	P	22 08 43.1	+1.2
	baz=214,SNR=11						
YUK3	Moose Creek	80.86	15	P	P	22 08 42.8	+0.6
	baz=212,SNR=12						
YUK4	Talbot Arm	80.96	16	P	P	22 08 44.0	+1.3
	baz=213,SNR=5.1						
MENT	Mentasta	81.11	13	P	P	22 08 43.6	+0.3
MENT				IAmb	IAmb	22 08 45.3	
	comp=Z,51nm,1.2s						
DLMT	Dillon	81.17	38	P	P	22 08 45.3	+1.2
DLMT				IAmb	IAmb	22 08 46.9	
	comp=Z,40nm,1.4s						
MSO	Missoula	81.18	37	IAmb	IAmb	22 08 45.9	
	comp=Z,51nm,1.3s						
MSO	Missoula	81.18	37	P	P	22 08 44.5	+0.4
	baz=237,SNR=13						
REDW	Red Top Meadow	81.21	41	P	P	22 08 43.9	-0.6
REDW				IAmb	IAmb	22 08 47.2	
	comp=Z,51nm,1.4s						
TPAW	Teton Pass	81.21	41	P	P	22 08 42.5	-2.0
S22A	4UR Ranch, Cre	81.22	47	P	P	22 08 46.0	+1.3
S22A				IAmb	IAmb	22 08 48.0	
	comp=Z,54nm,1.4s						
S22A	4UR Ranch, Cre	81.22	47	P	P	22 08 46.6	+1.9
	baz=243,SNR=16						
CN2	Changchun	81.27	320	*e*P	P	22 08 43.3	-1.2
CN2				*e*PP	PP	22 11 50.2	-0.3
CN2				SKS	S	22 18 56.8	+3.7
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				pmax	pmax		
	comp=Z,160nm,4.5s						
L26K	Log Cabin Wild	81.27	13	IAmb	IAmb	22 08 46.2	
	comp=Z,35nm,1.1s						
L26K	Log Cabin Wild	81.27	13	P	P	22 08 45.0	+0.9
	baz=209,SNR=13						
DLBC	Dease Lake	81.30	21	LR	LR	22 38 02.5	
	comp=Z,238nm,19.0s,baz=138,slow=31						
BVCY	Beaver Creek	81.31	14	P	P	22 08 45.1	+0.8
	baz=211,SNR=7.8						
SNOW	Snow King Moun	81.32	41	P	P	22 08 45.5	+0.4
SNOW				IAmb	IAmb	22 08 47.9	
	comp=Z,58nm,1.4s						
O20A	White River Ci	81.34	44	P	P	22 08 45.9	+0.7
O20A	White River Ci	81.34	44	P	P	22 08 45.9	+0.7
	baz=242						
WHY	Whitehorse	81.46	18	P	P	22 08 45.8	+0.6
WHY				IAmb	IAmb	22 08 47.5	
	comp=Z,21nm,1.1s						
WHY	Whitehorse	81.46	18	P	P	22 08 45.3	+0.1
	baz=217						
MOOW	Moose Ponds	81.47	40	P	P	22 08 46.3	+0.4
MOOW				IAmb	IAmb	22 08 48.6	
	comp=Z,33nm,1.5s						
SNY	Shenyang	81.48	317	⇓P	P	22 08 46.2	+0.6
SNY				pmax	pmax		
	comp=Z,23nm,1.5s						
LOHW	Long Hollow	81.49	41	P	P	22 08 46.5	+0.5
LOHW				IAmb	IAmb	22 08 48.7	
	comp=Z,36nm,1.4s						
LRM	Limekiln Ridge	81.50	38	P	P	22 08 46.6	+0.6
NEA2	Nenana	81.57	10	IAmb	IAmb	22 08 47.5	
	comp=Z,30nm,0.9s						
NEA2	Nenana	81.57	10	P	P	22 08 45.4	-0.2
	baz=203,SNR=16						
RIDG	Independent Ri	81.59	12	P	P	22 08 46.0	+0.3
RIDG	Independent Ri	81.59	12	P	P	22 08 46.1	+0.3
	baz=207,SNR=15						
QLMT	Earthquake Lak	81.60	39	P	P	22 08 48.0	+1.6
L27K	Beaver Creek,	81.64	14	P	P	22 08 46.3	+0.2
	baz=210						
I21K	Tanana	81.66	9	IAmb	IAmb	22 08 47.6	
	comp=Z,40nm,1.1s						
FLWY	Flagg Ranch	81.67	40	P	P	22 08 47.8	+1.0
FLWY				IAmb	IAmb	22 08 50.0	
	comp=Z,56nm,1.2s						
DOT	Dot Lake	81.67	13	IAmb	IAmb	22 08 47.9	
	comp=Z,52nm,1.0s						
MLY	Manley	81.71	9	IAmb	IAmb	22 08 47.4	
	comp=Z,46nm,1.0s						
MLY	Manley	81.71	9	P	P	22 08 46.2	-0.1
	baz=202,SNR=35						
P33M	Teslin, Yukon	81.73	19	P	P	22 08 47.5	+0.9
P33M	Teslin, Yukon	81.73	19	P	P	22 08 46.5	-0.1
	baz=219						
BW06	Boulder Array	81.73	42	P	P	22 08 47.2	0.0
BW06				IAmb	IAmb	22 08 49.5	
	comp=Z,36nm,1.4s						
BW06	Boulder Array	81.73	42	P	P	22 08 48.0	+0.7
	baz=241,SNR=18						
PD31	Pinedale Array	81.73	42	IAmb	IAmb	22 08 49.5	
	comp=Z,36nm,1.4s						
PDAR	Pinedale Array	81.73	42	P	P	22 08 48.0	+0.7
	comp=Z,11nm,1.1s,baz=241,slow=3.1,SNR=32						
PDAR	Pinedale Array	81.73	42	P	P	22 08 47.6	+0.4
SMCO	Snowmass	81.76	46	P	P	22 08 48.9	+1.2
SMCO				IAmb	IAmb	22 08 49.9	
	comp=Z,29nm,1.3s						
SMAI	San Martin Ant	81.77	159	P	P	22 08 48.4	+1.7
HDA	Harding Lake	81.78	11	P	P	22 08 46.9	+0.2
	baz=205,SNR=13						
YMR	Madison River	81.80	39	P	P	22 08 48.9	+1.3
N31M	Braeburn, Yuko	81.86	17	IAmb	IAmb	22 08 49.5	
	comp=Z,44nm,1.0s						
N31M	Braeburn, Yuko	81.86	17	P	P	22 08 48.2	+1.0
	baz=216,SNR=7.1						
BOZ	Bozeman (W)	81.88	38	IAmb	IAmb	22 08 51.4	
	comp=Z,44nm,1.3s						
BOZ	Bozeman (W)	81.88	38	P	P	22 08 49.0	+1.2
	baz=239,SNR=34						
H17A	Grant Village	81.90	40	P	P	22 08 49.5	+1.4
H17A				IAmb	IAmb	22 08 52.0	
	comp=Z,32nm,1.3s						
H17A	Grant Village	81.90	40	P	P	22 08 50.6	+2.5
	baz=240,SNR=11						
YHH	Holmes Hill	81.93	39	P	P	22 08 49.8	+1.5
YHH				IAmb	IAmb	22 08 53.3	
	comp=Z,37nm,1.4s						
SCRK	Sand Creek	81.97	12	IAmb	IAmb	22 08 49.7	
	comp=Z,32nm,1.0s						
SCRK	Sand Creek	81.97	12	P	P	22 08 48.5	+0.6
	baz=208,SNR=22						
H21K	Melozitna Rive	82.00	8	IAmb	IAmb	22 08 50.1	
	comp=Z,47nm,1.1s						
YNR	Norris Junctio	82.00	40	P	P	22 08 50.3	+1.7
YNR				IAmb	IAmb	22 08 53.3	
	comp=Z,51nm,1.3s						
I23K	Minto, Yukon-K	82.04	10	P	P	22 08 48.2	+0.2
	baz=203,SNR=22						
TCOL	CIGO, UAF Yank	82.04	10	P	P	22 08 48.3	+0.3
	baz=204,SNR=17						
COLA	College	82.04	10	*d i*P	P	22 08 48.2	+0.2
COLA				pmax	pmax		
	comp=Z,114nm,1.0s						
COLA	College	82.04	10	P	P	22 08 48.4	+0.4
COLA	College	82.04	10	P	P	22 08 48.2	+0.2
	baz=204						
LKWY	Lake	82.10	40	P	P	22 08 50.5	+1.4
LKWY				pmax	pmax		
	comp=Z,45nm,1.2s						
LKWY	Lake	82.10	40	P	P	22 08 50.5	+1.4
LKWY				IAmb	IAmb	22 08 53.2	
	comp=Z,45nm,1.1s						
YUF	Upper Falls	82.10	40	P	P	22 08 50.1	+1.0
YUF				IAmb	IAmb	22 08 52.7	
	comp=Z,44nm,1.5s						
IL31		82.12	11	IAmb	IAmb	22 08 50.7	
	comp=Z,41nm,1.2s						
ILAR	Eielson Array	82.12	11	P	P	22 08 48.5	0.0
	comp=Z,11nm,0.8s,baz=230,slow=5.9,SNR=72						
ILAR				LR	LR	22 38 19.2	
	comp=Z,191nm,21.4s,baz=198,slow=30						
SDCO	Great Sand Dun	82.16	48	IAmb	IAmb	22 08 52.4	
	comp=Z,24nm,1.2s						
SDCO	Great Sand Dun	82.16	48	P	P	22 08 50.9	+1.2
	baz=244,SNR=24						
J25K	Salcha River,	82.27	12	P	P	22 08 49.7	+0.3
	baz=207,SNR=27						
YMP	Mirror Lake Pl	82.33	40	P	P	22 08 52.8	+2.3
YMP				IAmb	IAmb	22 09 05.5	
	comp=Z,35nm,1.2s						
HRY	Holter Researc	82.34	37	P	P	22 08 51.2	+1.0
POKR	Poker Plat Res	82.34	11	P	P	22 08 50.0	+0.4
	baz=205,SNR=31						
WALA	Waterton Lakes	82.42	35	P	P	22 08 50.8	+0.2
WALA				IAmb	IAmb	22 08 52.6	
	comp=Z,38nm,1.2s						
SEY	Seymchan	82.45	345	LR	LR	22 40 23.1	
	comp=Z,258nm,21.8s,baz=154,slow=32						
SEY	Seymchan	82.45	345	⇓*i*P	P	22 08 50.2	0.0
SEY				pmax	pmax		
	comp=Z,42nm,1.3s						
M30M	Minto, Yukon	82.48	16	IAmb	IAmb	22 08 52.2	
	comp=Z,24nm,1.0s						
MSTX	Muleshoe	82.59	52	P	P	22 08 52.7	+0.9
MSTX	Muleshoe	82.59	52	P	P	22 08 52.7	+0.9
	baz=246,SNR=15						
H23K	Yukon River	82.64	9	P	P	22 08 51.4	+0.2
H23K				IAmb	IAmb	22 08 52.4	
	comp=Z,24nm,1.1s						
T25A	Trinidad	82.68	49	IAmb	IAmb	22 08 54.8	
	comp=Z,32nm,1.1s						
T25A	Trinidad	82.68	49	P	P	22 08 53.4	+1.1
	baz=245,SNR=14						
M31M	Drury Creek, Y	82.83	17	IAmb	IAmb	22 08 54.7	
	comp=Z,22nm,1.4s						
M31M	Drury Creek, Y	82.83	17	P	P	22 08 52.5	+0.3
	baz=217,SNR=7.0						
Q24A	Divide	82.94	47	P	P	22 08 54.7	+1.0
Q24A	Divide	82.94	47	P	P	22 08 55.1	+1.4
	baz=244,SNR=20						
WTLY	Watson Lake, Y	82.97	21	P	P	22 08 53.6	+0.6
	baz=222						
ISCO	Idaho Springs	82.98	46	P	P	22 08 55.0	+1.1
ISCO				pmax	pmax		
	comp=Z,25nm,1.3s						
ISCO	Idaho Springs	82.98	46	P	P	22 08 55.0	+1.1
ISCO				IAmb	IAmb	22 08 56.7	
	comp=Z,24nm,1.2s						
ISCO	Idaho Springs	82.98	46	P	P	22 08 55.4	+1.5
	baz=244,SNR=12						
PRP	Porcupine Dome	83.05	11	P	P	22 08 54.0	+0.5
	baz=206,SNR=39						
DAWY	Dawson	83.07	14	P	P	22 08 54.3	+0.8
	baz=212,SNR=27						
RLMT	Red Lodge	83.07	40	P	P	22 08 55.4	+1.2
	baz=240,SNR=37						
833A	Chaparral WMA,	83.11	58	P	P	22 08 55.2	+0.7
833A				IAmb	IAmb	22 08 56.8	
	comp=Z,36nm,1.4s						
833A	Chaparral WMA,	83.11	58	P	P	22 08 55.6	+1.1
	baz=249						
GCMT	Greycliff	83.16	39	P	P	22 08 56.2	+1.7
N23A	Red Feather La	83.24	45	P	P	22 08 56.1	+0.8
N23A	Red Feather La	83.24	45	P	P	22 08 56.6	+1.4
	baz=243,SNR=15						
EGAK	Eagle	83.28	13	IAmb	IAmb	22 08 56.5	
	comp=Z,37nm,1.1s						
EGAK	Eagle	83.28	13	P	P	22 08 55.3	+0.8
	baz=211,SNR=12						
RDOG	Red Dog Mine	83.31	4	P	P	22 08 55.6	+1.0
RDOG				IAmb	IAmb	22 08 56.9	
	comp=Z,37nm,1.2s						
RDOG	Red Dog Mine	83.31	4	P	P	22 08 55.6	+1.0
	baz=190,SNR=7.5						
TIA	Tai'an	83.48	310	⇓P	P	22 08 57.0	+0.8
TIA				pmax	pmax		
	comp=Z,15nm,1.1s						
JCT	Junction City	83.57	56	P	P	22 08 57.2	+0.4
JCT				pmax	pmax		
	comp=Z,15nm,1.0s						
JCT	Junction City	83.57	56	P	P	22 08 57.2	+0.4
JCT				IAmb	IAmb	22 09 00.1	
	comp=Z,15nm,1.0s						
K22A	Casper	83.65	43	P	P	22 08 58.3	+1.2
K22A	Casper	83.65	43	P	P	22 08 58.1	+0.9
	baz=243,SNR=8.5						
J29M	Klondike Camp	83.68	14	P	P	22 08 58.0	+1.4
	baz=213,SNR=6.2						
PHWY	Pilot Hill	83.75	44	P	P	22 08 58.5	+0.7
PHWY				IAmb	IAmb	22 08 60.0	
	comp=Z,22nm,1.1s						
AMTX	Amarillo	83.78	52	P	P	22 08 58.6	+0.7
AMTX	Amarillo	83.78	52	P	P	22 08 59.2	+1.3
	baz=247						
COLD	Coldfoot	83.84	9	P	P	22 08 58.9	+1.6
COLD	Coldfoot	83.84	9	P	P	22 08 58.7	+1.4
	baz=202,SNR=8.0						
FYU	Fort Yukon	84.04	11	P	P	22 08 58.8	+0.4
FYU				IAmb	IAmb	22 09 17.5	
	comp=Z,13nm,1.0s						
MMPY	Sheldon Lake,	84.07	18	P	P	22 08 59.5	+0.8
	baz=220,SNR=16						
BELA	Belgrano 2	84.14	172	P	P	22 08 58.9	0.0
PMSA	Palmer Station	84.15	156	LR	LR	22 37 49.0	
	comp=Z,165nm,21.0s,baz=266,slow=30						
TGTN	Hyland Airport	84.18	20	P	P	22 09 00.5	+1.2
	baz=223,SNR=21						
EGMT	Eagleton	84.22	37	P	P	22 09 00.8	+1.0
	baz=240,SNR=15						
BILL	Bilibino	84.36	352	⇑*e*P	P	22 09 00.1	+0.2
BILL				*e*		22 12 20.3	
BILL				*e*PPP	PPP	22 14 09.1	
BILL				*e*S	S	22 19 22.1	-1.5
BILL				pmax	pmax		
	comp=Z,30nm,1.7s						
BILL	Bilibino	84.36	352	P	P	22 09 00.2	+0.2
BILL				IAmb	IAmb	22 09 01.6	
	comp=Z,30nm,1.4s						
I29M	Ogilvie Camp,	84.42	14	IAmb	IAmb	22 09 02.0	
	comp=Z,39nm,1.1s						
I29M	Ogilvie Camp,	84.42	14	P	P	22 09 00.9	+0.6
	baz=213,SNR=18						
KSCO	Kaye Shedlock'	84.74	47	P	P	22 09 03.4	+0.6
KSCO	Kaye Shedlock'	84.74	47	P	P	22 09 03.9	+1.2
	baz=246						
TOLK	Toolik Lake Re	85.25	8	IAmb	IAmb	22 09 06.7	
	comp=Z,43nm,1.1s						
TOLK	Toolik Lake Re	85.25	8	P	P	22 09 05.3	+0.8
	baz=202,SNR=18						
435B	Jarrell	85.46	57	P	P	22 09 07.3	+1.0
435B	Jarrell	85.46	57	P	P	22 09 07.3	+1.0
	baz=250						
CCIG	Comitan	85.56	72	P	P	22 09 08.4	+1.1
CCIG				IAmb	IAmb	22 09 11.4	
	comp=Z,28nm,1.1s						
EPYK	Eagle Plains	85.62	14	IAmb	IAmb	22 09 07.6	
	comp=Z,33nm,1.1s						
EPYK	Eagle Plains	85.62	14	P	P	22 09 06.9	+0.6
	baz=215,SNR=11						
LAO	LASA Array	85.69	39	P	P	22 09 08.6	+1.4
LAO	LASA Array	85.69	39	P	P	22 09 08.7	+1.5
	baz=243,SNR=22						
BJT	Baijiatuau	85.71	313	IAmb	IAmb	22 09 09.7	
	comp=Z,32nm,1.3s						
BJI	Beijing	85.72	313	P	P	22 09 08.1	+0.7
BJI				pP	pP	22 09 14.6	+0.1
BJI				S	S	22 19 41.9	+3.7
BJI				pmax	pmax		
	comp=Z,18nm,1.4s						
HNS	HongShan	85.73	310	⇓P	P	22 09 08.5	+1.0
HNS				pmax	pmax		
	comp=Z,29nm,1.3s						
USHA	Ushuaia	85.80	146	LR	LR	22 38 33.5	
	comp=Z,272nm,20.5s,baz=252,slow=30						
RSSD	Black Hills	85.93	42	P	P	22 09 09.3	+0.7
RSSD				pmax	pmax		
	comp=Z,29nm,1.2s						
RSSD	Black Hills	85.93	42	P	P	22 09 09.3	+0.7
RSSD				IAmb	IAmb	22 09 10.3	
	comp=Z,29nm,1.1s						
RSSD	Black Hills	85.93	42	P	P	22 09 08.6	-0.1
	baz=244						
WMOK	Wichita Mounta	85.93	53	P	P	22 09 09.4	+0.7
WMOK				pmax	pmax		
	comp=Z,24nm,1.4s						
WMOK	Wichita Mounta	85.93	53	P	P	22 09 09.4	+0.7
WMOK				IAmb	IAmb	22 09 10.2	
	comp=Z,24nm,1.4s						
WMOK	Wichita Mounta	85.93	53	P	P	22 09 08.8	+0.1
	baz=248						
WHTX	Lake Whitney,	85.99	56	P	P	22 09 09.5	+0.6
WHTX	Lake Whitney,	85.99	56	P	P	22 09 09.8	+0.9
	baz=249						
LYN	LuoYang	86.36	307	⇓P	P	22 09 11.3	+0.6
LYN				pmax	pmax		
	comp=Z,20nm,0.9s						
HKT	Hockley	86.60	58	*de*P	P	22 09 12.6	+0.7

HKT pmax pmax
comp=Z,38nm,1.6s
HKT Hockley 86.60 58 P P 22 09 13.4 +1.5
HKT IAmb IAmb 22 09 15.8
comp=Z,35nm,1.4s
X34A Smith Ranch, M 86.61 53 P 22 09 13.4 +1.4
Z35A Perchaven, San 86.61 54 P P 22 09 12.9 +0.9
CBKS Cedar Bluff 86.73 48 P P 22 09 12.9 +0.4
baz=248
A21K Barrow 87.00 5 P P 22 09 13.2 +0.3
baz=196
FNO Franklin 87.17 52 P 22 09 15.5 +0.8
FNO IAmb IAmb 22 09 17.8
comp=Z,23nm,1.1s
ENH Enshi 87.27 302 IAmb IAmb 22 09 16.9
comp=Z,25nm,1.2s
R32A Long Quarter, 87.33 49 P P 22 09 16.1 +0.6
XLT XiLinHaoTe 87.34 317⇑*i*P P 22 09 15.4 0.0
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,150nm,4.8s
TIY Taiyuan 87.53 310 P P 22 09 17.6 +1.2
W35A Tecumseh 87.54 53 P 22 09 16.7 +0.2
W35A IAmb IAmb 22 09 17.9
comp=Z,16nm,1.1s
MTO3 Montecristo 87.59 74 P P 22 09 18.4 +1.0
MTO3 IAmb IAmb 22 09 20.0
comp=Z,32nm,1.2s
DGMT Dagmar 87.71 38 P P 22 09 17.8 +0.8
DGMT Dagmar 87.71 38 P P 22 09 18.0 +1.0
baz=244,SNR=7.8
INK Inuvik 87.92 14 P P 22 09 17.6 +0.1
INK pmax pmax
comp=Z,29nm,1.1s
INK Inuvik 87.92 14 P P 22 09 17.6 +0.1
INK IAmb IAmb 22 09 19.0
comp=Z,29nm,1.1s
INK Inuvik 87.92 14 P P 22 09 17.4 -0.1
baz=218,SNR=9.0
NATX Nacogdoches 88.15 57 P P 22 09 20.4 +1.0
NATX Nacogdoches 88.15 57 P P 22 09 20.8 +1.4
baz=251
MAW Mawson 88.18 198 LR LR 22 44 38.6
comp=Z,270nm,21.9s,baz=71,slow=33
GYA Guiyang 88.42 298 ⇑P P 22 09 22.3 +1.3
GYA S S 22 20 06.5 +1.3
GYA pmax pmax
comp=Z,8.0nm,1.5s
GYA pmax pmax
comp=Z,130nm,3.9s
GYA LR LR
comp=Z,85nm,4.2s
GYA LR LR
comp=Z,130nm,4.0s
GYA LR LR
comp=Z,54nm,4.1s
T35A Sooner Cattle 88.43 51 P P 22 09 20.5 -0.2
T35A IAmb IAmb 22 09 22.2
comp=Z,17nm,1.1s
X37A Clayton 88.51 54 P P 22 09 20.8 -0.3
TUL1 Leonard 88.63 52 P P 22 09 22.4 +0.8
TUL1 IAmb IAmb 22 09 24.4
comp=Z,18nm,1.1s
TUL1 Leonard 88.63 52 P P 22 09 22.5 +0.8
baz=250
BGNE Belgrade 88.83 47 P P 22 09 22.6 +0.1
baz=249
XAN Xi'an 88.95 306 P P 22 09 24.2 +1.0
XAN pP sP 22 09 32.9 +0.1
XAN pmax pmax
comp=Z,18nm,1.5s
KSU1 Kansas State U 89.11 49 P P 22 09 24.2 +0.4
baz=250
YAK Yakutsk 89.13 337 LR LR 22 42 47.3
comp=Z,86nm,21.8s,baz=88,slow=31
YAK Yakutsk 89.13 337⇑*e*P P 22 09 22.5 -0.8
YAK pmax pmax
comp=Z,16nm,1.1s
HHC Hu-ho-hao-te 89.28 313 *e*P P 22 09 25.8 +1.1
HHC sP pwP 22 09 39.0 -1.7
HHC S S 22 20 17.9 +5.3
HHC sS pS 22 20 22.3 +0.7
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,76nm,5.0s
SUSD Miller 89.40 43 P P 22 09 24.8 -0.2
baz=248
YKA Yellowknife Ar 89.68 23 P P 22 09 26.1 +0.3
comp=Z,13nm,0.9s,baz=235,slow=4.5,SNR=106
W39A Magazine 89.94 54 P P 22 09 28.4 +0.7
W39A IAmb IAmb 22 09 31.2
comp=Z,15nm,1.1s
W39A Magazine 89.94 54 P P 22 09 29.0 +1.2
baz=251
Z41A Richland Creek 90.11 56 P P 22 09 29.8 +1.2
baz=252
HHAR Hobbs 90.17 52 P P 22 09 29.2 +0.4
MDND Maddock 90.26 40 P P 22 09 29.2 +0.2
baz=248
X40A Basin Creek Fa 90.46 54 P P 22 09 30.9 +0.7
baz=252
JTS Las Juntas de 90.63 80*de*P P 22 09 33.4 +1.9
JTS Las Juntas de 90.63 80 P P 22 09 31.6 +0.2
ECSD EROS Data Cent 90.71 45 IAmb IAmb 22 09 34.7
comp=Z,14nm,1.1s
ECSD EROS Data Cent 90.71 45 P P 22 09 30.9 -0.3
baz=250
BO01 Tunca 90.93 126 P P 22 09 33.6 +1.1
MT01 Popeta 90.97 125 P P 22 09 34.1 +1.3
C36M Paulatuk 91.00 15 P P 22 09 32.0 +0.1
baz=226
U40A Yellville 91.03 53 IAmb IAmb 22 09 36.0
comp=Z,13nm,1.1s
U40A Yellville 91.03 53 P P 22 09 32.9 +0.1
baz=252
S39A Bolivar 91.08 51 IAmb IAmb 22 09 35.5
comp=Z,15nm,1.2s
W41B Gary Mavity, V 91.13 54 P P 22 09 34.5 +1.1
W41B Gary Mavity, V 91.13 54 P P 22 09 34.4 +1.1
baz=252
WHAR Wooly Hollow 91.14 54 P P 22 09 34.2 +0.8
WHAR IAmb IAmb 22 09 36.3
comp=Z,36nm,1.2s
344A Westbrook Farm 91.24 58 P P 22 09 34.7 +0.8
FCAR Ozark Folk Cen 91.44 53 P P 22 09 34.9 +0.2
FCAR IAmb IAmb 22 09 37.3
comp=Z,25nm,1.3s
P38A Dawn 91.53 49 P P 22 09 34.6 -0.5
P38A IAmb IAmb 22 09 36.1
comp=Z,11nm,0.9s
FFC Flin Flon 91.62 33 P P 22 09 35.3 +0.2
FFC pmax pmax
comp=Z,18nm,1.3s
FFC Flin Flon 91.62 33 P P 22 09 35.3 +0.2
FFC IAmb IAmb 22 09 36.4
comp=Z,18nm,1.2s
PEL Peldehue 91.65 125 P P 22 09 36.5 +0.5
PEL pmax pmax
comp=Z,49nm,1.5s
PEL Peldehue 91.65 125 P P 22 09 36.5 +0.5
F33A 5 Mile Ranch, 91.66 43 IAmb IAmb 22 09 36.4
comp=Z,14nm,1.1s
MGMO Mountain Grove 91.72 52 P P 22 09 36.7 +0.6
LCAR Lake Charles 92.25 53 P P 22 09 38.9 +0.4
LCAR IAmb IAmb 22 09 40.1
comp=Z,27nm,1.2s
A36M Sachs Harbour 92.56 13 P P 22 09 39.5 +0.5
baz=226
PZH PanZhiHua 92.67 297 P P 22 09 39.9 -0.9
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
CCM Cathedral Cave 92.76 51 P P 22 09 41.0 +0.2
baz=253
AGMN Agassiz Nation 92.77 41 IAmb IAmb 22 09 42.0
comp=Z,24nm,1.4s
AGMN Agassiz Nation 92.77 41 P P 22 09 40.5 -0.1
baz=250
Y45A Yeager Farm, C 92.89 56 P P 22 09 42.7 +1.2
SYO Syowa Base 92.92 191⇓*e*P P 22 09 40.5 -0.5
LCO Las Campanas 92.99 121 P P 22 09 44.6 +2.1
LCO pmax pmax
comp=Z,23nm,1.2s
LCO Las Campanas 92.99 121 P P 22 09 44.6 +2.1
LCO IAmb IAmb 22 09 45.3
comp=Z,23nm,1.2s
I37A Lemond, Waseca 93.00 45 P P 22 09 42.6 +0.8
PBMO Poplar Bluff 93.01 53 P P 22 09 42.5 +0.6
PBMO IAmb IAmb 22 09 43.4
comp=Z,18nm,1.0s
K38A Parkersburg 93.02 47 P P 22 09 42.4 +0.5
CMAR Chiang Mai Arr 93.07 288 LR LR 22 46 42.3
comp=Z,47nm,21.9s,baz=75,slow=32
SNAA Sanae 93.10 177 LR LR 22 44 10.6
comp=Z,198nm,20.7s,baz=182,slow=31
SNAA Sanae 93.10 177⇓*e*P P 22 09 42.6 +0.7
OXF Oxford 93.17 55 P P 22 09 43.2 +0.4
OXF pmax pmax
comp=Z,77nm,1.3s
OXF Oxford 93.17 55 P P 22 09 43.2 +0.4
OXF Oxford 93.17 55 P P 22 09 43.7 +0.9
baz=254
FVM French Village 93.36 52 P P 22 09 43.4 -0.2
FVM pmax pmax
comp=Z,28nm,1.2s
FVM French Village 93.36 52 P P 22 09 43.4 -0.2
FVM IAmb IAmb 22 09 45.2
comp=Z,28nm,1.1s
ULM Lac du Bonnet 93.42 39 P P 22 09 43.3 -0.2
comp=Z,12nm,1.0s,baz=248,slow=4.6,SNR=12
F36A Milaca 93.49 43 IAmb IAmb 22 09 46.4
comp=Z,12nm,1.1s
W45A Hickory Valley 93.53 55 P P 22 09 45.0 +0.6
LZH Lanzhou 93.53 306 *e*P P 22 09 45.6 +1.0
LZH pP pP 22 09 49.6 -2.1
LZH sP sP 22 09 53.9 -0.4
LZH pmax pmax
comp=Z,18nm,1.5s
SPMN Marine on St. 93.78 44 P P 22 09 45.7 +0.4
SPMN IAmb IAmb 22 09 47.5
comp=Z,26nm,1.1s
SPMN Marine on St. 93.78 44 P P 22 09 45.9 +0.6
baz=252
B35A Bob, Littlefor 94.14 41 IAmb IAmb 22 09 47.5
comp=Z,20nm,1.1s
S44A Carbondale 94.17 52 P P 22 09 47.9 +0.6
S44A IAmb IAmb 22 09 49.1
comp=Z,35nm,1.3s
PLAL Pickwick Lake 94.36 55 IAmb IAmb 22 09 50.7
comp=Z,38nm,1.5s
ULN Ulaanbaatar 94.63 318⇓*e*P P 22 09 49.4 0.0
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 94.63 318 P P 22 09 49.9 +0.6
LRAL Lakeview Retre 94.72 57 P P 22 09 50.2 +0.3
baz=255
WVT Waverly 94.85 54 P P 22 09 51.3 +0.8
WVT pmax pmax
comp=Z,17nm,1.2s
WVT Waverly 94.85 54 P P 22 09 51.3 +0.8
WVT IAmb IAmb 22 09 52.0
comp=Z,16nm,1.2s
WVT Waverly 94.85 54 P P 22 09 50.8 +0.3
baz=255
JFWS Jewell Farm 94.87 47 P P 22 09 50.6 +0.1
baz=254
TIXI Tiksi 94.94 344 LR LR 22 49 24.5
comp=Z,148nm,20.4s,baz=176,slow=33
TIXI Tiksi 94.94 344⇓*e*P P 22 09 49.0 -1.0
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 94.94 344 P P 22 09 49.1 -0.9
E38A The Farm, Brul 95.02 43 P P 22 09 51.2 +0.3
E38A IAmb IAmb 22 09 52.0
comp=Z,28nm,1.4s
SONM Songino Array 95.05 318 P P 22 09 51.4 +0.2
comp=Z,0.6nm,0.7s,baz=104,slow=4.7,SNR=4.2
SONM PP PP 22 13 39.0 -2.1
comp=Z,0.2nm,0.4s,baz=134,slow=4.3,SNR=3.9
SONM LR LR 22 47 59.1
comp=Z,58nm,21.0s,baz=111,slow=32
SONM Songino Array 95.05 318 P P 22 09 51.5 +0.2
SONM pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 95.05 318 P P 22 09 51.5 +0.2
EYMN Ely 95.44 42 IAmb IAmb 22 09 55.0
comp=Z,13nm,1.2s
EYMN Ely 95.44 42 P P 22 09 53.3 +0.4
baz=254
G40A Rib Lake 95.55 45 P P 22 09 53.7 +0.2
G40A IAmb IAmb 22 09 54.8
comp=Z,22nm,1.2s
I42A Draeger Farm, 96.07 46 P P 22 09 54.9 -0.9
SWET Sewanee 96.12 55 P P 22 09 56.3 -0.1
SWET IAmb IAmb 22 09 58.8
comp=Z,17nm,1.1s
K43A Burlington 96.17 48 P P 22 09 56.1 -0.2
U49A Red Boiling Sp 96.55 54 P P 22 09 58.6 +0.4
W50A Signal Mountai 96.61 55 P P 22 09 58.6 +0.1
W50A IAmb IAmb 22 10 00.3
comp=Z,17nm,1.2s
GTA Gaotai 97.47 309 *e*P P 22 10 02.5 0.0
GTA sP sP 22 10 12.3 +0.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,67nm,5.5s
GTA LR LR
comp=Z,86nm,20.0s
GTA LR LR
comp=Z,110nm,20.7s
GTA LR LR
comp=Z,130nm,20.4s
GOGA Godfrey 97.68 58 P Pdif 22 10 05.6 +2.1
baz=257
ACSO Alum Creek Sta 99.52 51 P Pdif 22 10 12.6 +1.1
baz=258
P52A Corning 100.04 52 P Pdif 22 10 14.3 +0.5
baz=259
MK31 Makanchi Array 111.06 315⇑*i*PKIKP PKiKP 22 15 00.7 -1.1
MKAR Makanchi Array 111.06 315 PKiKP PKiKP 22 15 00.8 -1.0
comp=Z,0.4nm,0.7s,baz=248,slow=0.7,SNR=5.0
KURK Kurchatov 113.33 319⇓*i*PKIKP PKiKP 22 15 04.5 -1.4
KSH Kashi 115.78 307 PKP PKiKP 22 15 11.7 +0.5
AAK Ala-Archa 116.76 310⇓*i*PKIKP PKPdf 22 15 12.0 -1.0
BRVK Borovoye 118.10 322⇓*i*PKIKP PKiKP 22 15 15.2 +0.2
KBL Kabul 121.51 301 PKIKP PKiKP 22 15 22.7 +0.1
KBL Kabul 121.51 301 PKPdf PKiKP 22 15 22.7 +0.1
ARU Arti 123.44 329 *i* PKIKP PKPdf 22 15 25.0 -0.2
ARU 22 17 07.5
ARU 22 22 35.3
ARU Arti 123.44 329 PKPdf PKPdf 22 15 25.0 -0.2
ABKAR Akbulak array 125.40 320 PKiKP 22 15 29.4 -0.2
ABKAR Akbulak array 125.40 320 PKPdf 22 15 28.8 -0.3
KLMR Klimovskoe 128.77 340 *e*PKIKP PKPdf 22 15 32.9 -2.3
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 128.77 340 *e*PKPdf PKPdf 22 15 32.9 -2.3
KLMR AMP 22 15 36.4
comp=Z,18nm,1.4s
KLMR *e* 22 17 53.8
FINES FINESS Array B 131.84 348 PKP PKiKP 22 15 41.7 -0.4
comp=Z,1.3nm,0.8s,baz=88,slow=3.5,SNR=4.2
OBN Obninsk 134.13 337⇑*i*PKIKP PKiKP 22 15 47.0 +0.2
OBN *e* 22 18 18.1
OBN *e*SS SS 22 36 08.7 +6.2
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,148nm,20.0s
NACGM Naroch 137.53 343 *i* PKP PKiKP 22 15 59.4 +5.6
KBZ Khabaz 138.37 320⇑*e*PKIKP PKPdf 22 15 53.6 -0.2
KIV Kislovodsk 138.38 321 *i* PKIKP PKPdf 22 15 54.5 +0.6
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,111nm,24.0s
GNI Garni 138.91 315⇓*e*PKIKP PKPdf 22 15 54.8 -0.3
AKASG Malin Array Be 140.34 338 PKP PKPdf 22 15 56.6 -0.5
comp=Z,1.7nm,0.8s,baz=34,slow=2.2,SNR=8.5
AKBB Malin Array Si 140.34 338⇑*e*PKIKP PKPdf 22 15 56.7 -0.5
LVV L'vov 142.82 342 *e*PKIKP PKPdf 22 16 00.6 -1.1
RAYN Ar Rayn 142.98 289 ⇓PKIKP PKPdf 22 15 59.9 -2.9
RAYN Ar Rayn 142.98 289 PKPdf PKPdf 22 16 00.1 -2.7
OJC Ojcow 143.58 346 PKIKP PKPbc 22 16 00.4 +0.1
OJC Ojcow 143.58 346 PKPdf PKPbc 22 16 00.4 0.0
CLL Collm 143.66 354 *i* PKIKP PKPbc 22 16 01.1 +0.6
CLL *i* 22 16 03.8
CLL *i* 22 16 06.1
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 143.66 354 *i* PKPpre PKPpre 22 16 01.1
comp=Z,9.0nm,1.0s
CLL *i* PKPdf **PKPdf 22 16 03.8 +0.7**
CLL *i* x **PKiKP 22 16 06.1 -0.4**
CLL *ex* x 22 16 23.0
CLL Collm 143.66 354 *e*L L 23 29 58.9
comp=Z,231nm,19.4s
CHVC Chvalec 143.96 350 *e*PKP PKPbc 22 16 01.6 +0.1
OSTC Ostas 143.96 350 *e*PKP PKPbc 22 16 01.7 +0.2
BRG Berggiesshubel 143.98 353 (PKP) PKPbc 22 16 01.9 +0.4
BRG Amp 22 16 10.5
comp=Z,7.4nm,1.2s
BRG Berggiesshubel 143.98 353 PKIKP PKPbc 22 16 01.8 +0.3
BRG pmax pmax
comp=Z,7.0nm,1.3s
UPC Upice 144.04 350 *e*PKIKP PKPbc 22 16 02.3 +0.6
UPC Upice 144.04 350 *e*PKP PKPbc 22 16 02.3 +0.6
DPC Dobruska-Polom 144.14 350 *e*PKIKP PKPbc 22 16 02.5 +0.4
DPC *e* 22 16 08.1
DPC Dobruska-Polom 144.14 350 *e*PKP PKPbc 22 16 02.5 +0.4
DPC *ex* **PKiKP 22 16 08.1 +0.5**
VASR Vaslui 144.21 335 ⇑P PKPdf 22 16 03.4 -0.8
KRLC Kraliky 144.33 349 *e*PKIKP PKPbc 22 16 02.9 +0.2
KRLC *e* 22 16 09.3
KRLC Kraliky 144.33 349 *e*PKP PKPbc 22 16 02.9 +0.2
KRLC *ex* **PKiKP 22 16 09.3 +1.3**
TSUM Tsumeb 144.33 197 PKPdf PKPdf 22 16 04.7 -0.8
BURAR Bucovina Array 144.36 339 ⇑P PKPbc 22 16 03.1 +0.2
BURAR Bucovina Array 144.36 339 ⇑PKIKP PKPbc 22 16 03.1 +0.1
CRVS Cervenica-Dubn 144.38 344 *e*PKIKP PKPbc 22 16 03.1 +0.3
CRVS Cervenica-Dubn 144.38 344 *e*PKP PKPbc 22 16 03.1 +0.3
UZH Uzhgorod 144.40 343⇑*i*PKIKP PKPab 22 16 02.0 -0.6
UZH *e* 22 16 10.7
MOX Moxa 144.44 355 *e*L L 23 33 42.9
comp=Z,259nm,18.9s
MORC Moravsky Berou 144.47 348 ⇑P PKPbc 22 16 03.8 +0.7
MORC Moravsky Berou 144.47 348 ⇑PKIKP PKPbc 22 16 03.8 +0.6
MORC Moravsky Berou 144.47 348 *e*PKP PKPab 22 16 03.0 +0.1
TANN Tannenbergstha 144.59 354 *e*PKPbc PKPab 22 16 03.4 0.0
baz=7.1,slow=3.1
MEM Membach 144.65 1 *d*PKPdf PKPbc 22 16 03.9 +0.3
LANS Liptovska Anna 144.65 346 *e*PKIKP PKPdf 22 16 05.0 0.0
LANS Liptovska Anna 144.65 346 *e*PKP PKPdf 22 16 05.0 0.0
GUNZ Gunzen 144.66 354 *e*PKPbc PKPdf 22 16 04.8 -0.1
baz=7.1,slow=3.1
BSTI Sart Tilman 144.66 2 *d*PKPdf PKPbc 22 16 03.6 0.0
BTNL Ternell 144.67 1 *d*PKPdf PKPab 22 16 03.5 -0.1
BZK Bozkurt 144.68 324 ⇑P PKPbc 22 16 04.3 +0.3
SNF Seneffe 144.68 3 *d*PKPdf PKPab 22 16 03.2 -0.3
WERN Wernitzgruen 144.73 354 *e*PKPbc PKPab 22 16 03.4 -0.4
baz=7.1,slow=3.1
PRU Pruhonice 144.77 352 *e*PKIKP PKPbc 22 16 04.3 +0.3
PRU Pruhonice 144.77 352 *e*PKP PKPbc 22 16 04.3 +0.3
TESR Tescani 144.77 336 ⇑P PKPab 22 16 03.9 -0.2
TRPA Tarpa 144.77 342 ⇓P PKPbc 22 16 04.3 +0.2
NKC Novy Kostel 144.77 354 *e*PKIKP PKPbc 22 16 04.3 +0.2
NKC Novy Kostel 144.77 354 *e*PKP PKPbc 22 16 04.3 +0.2
BCLA Clavier 144.82 2 *d*PKPdf PKPab 22 16 03.8 -0.3
KIBK Kibwezi 144.83 243 PKPdf PKPbc 22 16 05.6 +0.2
GHRR 144.84 335 ⇑P PKPdf 22 16 05.5 +0.2
BGES Gesves 144.84 2 *d*PKPdf PKPab 22 16 03.8 -0.3
BMR Baia Mare 144.88 341 ⇓P PKPbc 22 16 04.8 +0.3
BMR Baia Mare 144.88 341 ⇓PKIKP PKPbc 22 16 04.8 +0.3
BHOU Houvegnez 144.90 1 *d*PKPdf PKPbc 22 16 04.7 +0.3
TLCR 144.95 333 ⇓P PKPdf 22 16 05.2 -0.3
TLCR 144.95 333 ⇓PKIKP PKPdf 22 16 05.2 +0.3
KECS Kecovo 145.02 344 *e*PKIKP PKPdf 22 16 05.4 -0.2
KECS Kecovo 145.02 344 *e*PKP PKPdf 22 16 05.4 -0.2
TNS Taunus Mts 145.03 359 *e*PKPbc PKPab 22 16 05.2 +0.3
baz=7.1,slow=3.1
MANZ Manzenberg 145.05 354 *e*PKPbc PKPdf 22 16 05.4 -0.2
baz=7.1,slow=3.1
RCHB Rochefort 145.08 2 *d*PKPdf PKPbc 22 16 04.9 -0.1
VRAC Vranov 145.10 349 ⇓P PKPdf 22 16 05.6 -0.1
VRAC Vranov 145.10 349 ⇓PKIKP PKPdf 22 16 05.6 -0.1
VRAC Vranov 145.10 349 *e*PKP PKPab 22 16 05.2 0.0
PANC Panciu 145.10 335 ⇓P PKPdf 22 16 06.0 +0.3
DOU Dourbes 145.11 3 *d*PKPdf PKPbc 22 16 04.9 -0.2
IZVR Izvoarele 145.11 334 ⇑P PKPbc 22 16 06.3 +0.5
PBCC Pribram 145.14 352 *e*PKP PKPab 22 16 05.4 +0.1
CFR Carcaliu 145.25 334 ⇑P PKPdf 22 16 05.9 -0.1
CFR Carcaliu 145.25 334 ⇑PKIKP PKPdf 22 16 05.9 -0.1
ROTZ Rotzenmuhle 145.26 354 *e*PKPbc PKPdf 22 16 05.9 0.0
baz=7.1,slow=3.1
VRI Vrincioaia 145.27 336 ⇓P PKPab 22 16 06.0 +0.1
VRI Vrincioaia 145.27 336 ⇓PKIKP PKPab 22 16 06.0 +0.1
TREC Trest 145.30 350 *e*PKIKP PKPdf 22 16 06.1 +0.1
TREC Trest 145.30 350 *e*PKP PKPdf 22 16 06.1 +0.1
PLOR Plostina 145.31 336 ⇑P PKPdf 22 16 06.3 +0.1
PLOR Plostina 145.31 336 ⇑PKIKP PKPdf 22 16 06.3 +0.1
JAVC Velka Javorina 145.32 348 *e*PKP PKPdf 22 16 07.2 +1.1
KRUC Moravsky 145.37 349 *e*PKP PKPbc 22 16 06.0 0.0
TPGR Topolog 145.38 333 ⇓P PKPab 22 16 06.5 +0.1
VYHS Vyhne 145.41 346 *e*PKIKP PKPab 22 16 06.4 0.0
VYHS Vyhne 145.41 346 *e*PKP PKPab 22 16 06.4 0.0
GRF Grafenberg Arr 145.42 355 *e*PKPbc PKPab 22 16 06.8 +0.4
baz=7.1,slow=3.1
GRF *e*L L 23 30 59.4
comp=Z,318nm,21.1s
GRFO Grafenberg 145.42 355 PKIKP PKPab 22 16 07.0 +0.7
GRFO Grafenberg 145.42 355 PKPab 22 16 07.0 +0.7
KOLL Kolacno 145.43 347 *e*PKP PKPab 22 16 06.9 +0.5
COVR Voineasa-Covas 145.50 336 ⇓P PKPab 22 16 06.7 -0.1
MESR Meseseni 145.52 341 ⇓P PKPab 22 16 07.6 +0.9
WLF Walferdange 145.59 1 *e*PKPbc PKPab 22 16 07.5 +0.5
baz=7.1,slow=3.1
WLF Walferdange 145.59 1 *d*PKPdf PKPab 22 16 07.3 +0.3
LTVH Ltavrtes, Hu 145.63 342 ⇑ PKPab 22 16 07.9 +0.7
PSZ Piszkesteto 145.70 345 ⇓P PKPdf 22 16 06.4 -0.4
PSZ Piszkesteto 145.70 345 ⇓PKIKP PKPdf 22 16 06.4 -0.4
PSZ Piszkesteto 145.70 345 PKPdf PKPbc 22 16 07.3 +0.1
TIRR Tirgusor 145.70 333 ⇑P PKPdf 22 16 04.2 -2.6
TIRR Tirgusor 145.70 333 ⇑PKP2 PKPdf 22 16 04.2 -2.6
SMOL Smolenice 145.70 348 *e*PKIKP PKPab 22 16 08.3 +0.9
SMOL Smolenice 145.70 348 *e*PKP PKPab 22 16 08.3 +0.9
DOPR Dopca 145.70 337 ⇓P PKPab 22 16 08.2 +0.7
HARR Harsova 145.72 333 ⇓P PKPpre 22 16 00.6
HARR Harsova 145.72 333 ⇓PKHKP PKPpre 22 16 00.6
KHC Kasperske Hory 145.73 353*d* *i*PKIKP PKPab 22 16 07.4 -0.2
KHC Kasperske Hory 145.73 353 *e*PKP PKPbc 22 16 07.3 +0.1
WET Wettzell 145.80 353 *e*PKPbc PKPab 22 16 07.6 -0.2
baz=7.1,slow=3.1
NEHR Nehoiu 145.81 336 ⇑P PKPbc 22 16 07.7 +0.2
MLR Muntele Rosu 145.89 336 ⇓P PKPbc 22 16 07.7 -0.2
MLR Muntele Rosu 145.89 336 ⇓PKP2 PKPbc 22 16 07.7 -0.2
MLR Muntele Rosu 145.89 336 PKPdf PKPbc 22 16 07.9 0.0
DRGR 145.91 341 ⇑P PKPdf 22 16 07.1 -0.2
DRGR 145.91 341 ⇑PKP2 PKPdf 22 16 07.1 -0.2
CKRC Cesky Krumlov 145.94 352 *e*PKP PKPbc 22 16 07.9 +0.1
GEC2 GERESS Array S 146.00 352 *e*PKPbc PKPbc 22 16 08.2 +0.1
baz=7.1,slow=3.1
GERES GERESS Array B 146.00 352 PKPbc PKPbc 22 16 08.1 0.0
comp=Z,12nm,0.9s,baz=20,slow=4.3,SNR=70
ZST Bratislava 146.07 348 *e*PKP2 PKPab 22 16 09.7 +0.9
ZST Bratislava 146.07 348 *e*PKP PKPab 22 16 09.7 +0.9
KMBO Kilima Mbogo 146.13 244 PKPbc PKPbc 22 16 09.7 0.0
comp=Z,2.1nm,0.8s,baz=50,slow=4.9,SNR=7.6
SECR 146.22 336 ⇓P PKPab 22 16 09.8 +0.3
ICOR Ion Corvin 146.24 333 ⇑P PKPab 22 16 10.1 +0.5
VOIR 146.28 337 ⇑P PKPab 22 16 10.1 +0.3
VOIR 146.28 337 ⇑PKP2 PKPab 22 16 10.1 +0.3
BR131 Keskin Array S 146.33 322*d* *i*PKP2 PKPbc 22 16 09.3 -0.2
BRTR Keskin Array B 146.33 322 PKPbc PKPbc 22 16 09.6 +0.1
comp=Z,32nm,1.1s,baz=114,slow=1.7,SNR=109
LEHL Lehliu 146.37 334 ⇑P PKPab 22 16 10.1 0.0
ARR Arges 146.49 337 ⇓P PKPab 22 16 10.6 0.0
CONA Conrad Observa 146.56 349 *i* P PKPab 22 16 10.8 0.0
comp=Z,21nm,1.0s,SNR=13
SIRR Siria 146.71 342 ⇓P PKPbc 22 16 10.2 0.0
LOT Lotru 146.74 338 ⇑P PKPbc 22 16 10.2 -0.2
MOA Molln 146.90 351 *i* P PKPab 22 16 11.4 -0.6
comp=Z,29nm,1.3s,SNR=10
BFO Black Forest 146.93 359 PKP2 PKPbc 22 16 11.3 +0.5
BFO Black Forest 146.93 359 PKPbc 22 16 11.3 +0.5
BFO Black Forest 146.93 359 *e*PKPbc PKPbc 22 16 11.2 +0.4
baz=7.1,slow=3.1
FUR Furstenfeldbru 146.93 355 *e*PKPbc PKPbc 22 16 11.2 +0.4
baz=7.1,slow=3.1
CLF Chambon-Foret 147.00 6 PKPbc 22 16 09.9 -0.9

BIOA	Bad Ischl, Aus	147.14	352	*i* P	PKPbc	22 16 11.6	+0.3
	comp=Z,22nm,0.9s						
RJOB	Jochberg	147.20	353	*e*PKPbc	PKPbc	22 16 11.9	+0.3
	baz=7.1,slow=3.1						
ARSA	Arzberg	147.27	349	*e*P	PKPbc	22 16 12.3	+0.5
	comp=Z,23nm,1.4s,SNR=7.1						
BZS	Buzias	147.31	341	⇑P	PKPdf	22 16 10.6	+1.1
BZS	Buzias	147.31	341	⇑PKP2	PKPdf	22 16 10.6	+1.1
COPA	Copaceanca	147.31	336	⇑P	PKPab	22 16 13.0	-0.7
UBR	Ueberruh	147.50	356	*e*PKPbc	PKPbc	22 16 12.5	+0.1
	baz=7.1,slow=3.1						
SRE	Strehaia	147.62	338	⇑P	PKPbc	22 16 13.4	+0.7
SRE	Strehaia	147.62	338	⇑PKP2	PKPbc	22 16 13.4	+0.7
RETA	Reutte	147.65	355	*i* P	PKPbc	22 16 13.2	+0.4
	comp=Z,29nm,1.2s,SNR=10						
HERR	Herculane	147.70	340	⇓P	PKPbc	22 16 12.8	-0.2
WATA	Walderalm	147.73	354	*i* P	PKPbc	22 16 13.5	+0.3
	comp=Z,29nm,1.1s,SNR=5.5						
VLAD	Vladila	147.74	336	⇓P	PKiKP	22 16 14.2	-0.9
MOTA	Moosalm	147.76	355	*i* P	PKPbc	22 16 13.6	+0.3
	comp=Z,29nm,1.2s,SNR=7.6						
KBA	Koelnbreinsper	147.78	352	*i* P	PKPbc	22 16 13.2	-0.1
	comp=Z,14nm,1.4s						
WTTA	Wattenberg	147.79	354	*i* P	PKPbc	22 16 13.9	+0.5
	comp=Z,22nm,1.0s,SNR=6.5						
SQTA	Sankt Quirin	147.88	355	*i* P	PKPbc	22 16 14.0	+0.5
	comp=Z,27nm,1.3s,SNR=8.9						
DAVA	Damuels	147.91	357	*i* P	PKPbc	22 16 14.3	+0.6
	comp=Z,30nm,1.1s,SNR=8.4						
KOGS	Kog	147.91	348	*i* PKPbc	PKPbc	22 16 13.0	-0.5
SOKA	Soboth	147.91	350	*i* P	PKPbc	22 16 13.6	0.0
	comp=Z,29nm,1.3s,SNR=9.6						
PERS	Pernice	147.94	350	*i* PKPbc	PKPbc	22 16 13.0	-0.6
MDVR	Moldovita	148.02	340	⇑P	PKPbc	22 16 14.4	+0.5
BORA	Eskisehir	148.06	325		PKPbc	22 16 14.8	+0.5
FETA	Feichten	148.11	355	*i* P	PKPbc	22 16 14.9	+0.7
	comp=Z,21nm,1.1s,SNR=6.3						
OBKA	Obir	148.16	350	*i* P	PKPbc	22 16 14.0	-0.3
	comp=Z,14nm,1.1s						
MYKA	Terra Mystica	148.18	352	*i* P	PKPbc	22 16 14.0	-0.3
	comp=Z,24nm,1.4s						
ABTA	Abfaltersbach	148.21	353	*i* P	PKPbc	22 16 14.3	-0.1
	comp=Z,31nm,1.2s,SNR=10.0						
FRGS	Fruska Gora	148.26	343	⇑P	PKPbc	22 16 13.9	-0.6
FRGS	Fruska Gora	148.26	343	*e*P	PKPbc	22 16 13.4	-1.1
LJU	Ljubljana	148.61	350	*e*P	PKPbc	22 16 14.6	-0.8
LJU	Ljubljana	148.61	350	*e*PKPbc	PKPbc	22 16 15.1	-0.3
CRES	Cresnjev	148.66	349	*e*P	PKPbc	22 16 14.9	-0.6
CEY	Cerknica	148.93	350	*e*P	PKiKP	22 16 18.2	+0.6
DIVS	Divibare	149.18	342	PKPbc	PKiKP	22 16 18.0	-0.2
DIVS	Divibare	149.18	342	*e*P	PKPbc	22 16 17.1	+0.1
BLY	Banja Luka	149.32	346	*e*P	PKPbc	22 16 16.4	-0.8
VTS	Vitosha	149.36	336	⇑P	PKPbc	22 16 17.8	+0.3
VTS	Vitosha	149.36	336	PKP2	PKPbc	22 16 16.9	-0.7
VTS	Vitosha	149.36	336	PKPbc	PKPbc	22 16 16.9	-0.7
RUDO	Rudo	149.80	342	*e*P	PKPbc	22 16 16.7	-1.7
PGAV	Gavieira, Arco	150.16	24	*e*PKP	PKPbc	22 16 19.8	+0.3
PGAV	Gavieira, Arco	150.16	24	*e*LR	LR	23 17 57.3	
	comp=Z,231nm,18.0s						
UPM	Unac-Piva	150.31	343	*e*P	PKPab	22 16 24.8	-1.3
PCAB	Cabril	150.47	23	*e*PKP	PKiKP	22 16 20.9	0.0
STIP	Stip	150.56	337	*e*P	PKPbc	22 16 19.5	-0.8
SKO	Skopje	150.59	338	*i* P	PKPbc	22 16 20.5	+0.1
BRY	Bratogost	150.70	343	*e*P	PKPbc	22 16 20.3	-0.5
VAY	Valandovo	150.73	336	*i* P	PKPbc	22 16 19.9	-0.8
POLO	Lamas de Olo	150.85	24	*e*PKP	PKiKP	22 16 21.5	-0.3
PBRG	Braganca	150.87	22	*e*PKP	PKPbc	22 16 20.9	-0.2
PDG	Podgorica	150.91	341	⇑P	PKPbc	22 16 19.5	-1.6
PDG	Podgorica	150.91	341	*e*P	PKPbc	22 16 20.8	-0.3
STON	Ston	150.96	344	*e*P	PKPab	22 16 26.6	-1.9
PVRL	Vila Real	150.97	24	*e*PKP	PKiKP	22 16 22.2	+0.3
HCY	Herceg Novi	151.13	342	*e*P	PKPbc	22 16 19.4	-2.2
DRME	Dracevica, Mon	151.16	341	*e*P	PKPbc	22 16 21.2	-0.5
MVO	Moncorvo	151.32	23	*e*PKP	PKiKP	22 16 23.1	+0.4
MVO	Moncorvo	151.32	23	*e*LR	LR	23 21 07.5	
	comp=Z,244nm,18.0s						
PVIS	Viseu	151.38	24	*e*PKP	PKPab	22 16 31.5	+1.1
OHR	Ohrid	151.58	338	*i* P	PKiKP	22 16 23.1	-0.1
PCAS	Casmilo, Conde	151.69	26	*e*PKP	PKPdf	22 16 13.8	-2.9
MTE	Manteigas	151.78	24	*e*PKP	PKPbc	22 16 23.3	0.0
MTE	Manteigas	151.78	24	*e*LR	LR	23 19 49.5	
	comp=Z,297nm,18.0s						
MTE	Manteigas	151.78	24		PKPbc	22 16 22.8	-0.4
PCBR	Castelo Branco	152.29	25	*e*PKP	PKPbc	22 16 24.2	-0.1
AQU	L'Aquila	152.39	350	*e*P	PKPab	22 16 40.2	+5.6
PMTG	Montargil	152.62	27	*e*PKP	PKPab	22 16 36.3	+0.7
PMRV	Marv??o	152.67	25	*e*PKP	PKiKP	22 16 25.6	+0.1
PMRV	Marv??o	152.67	25	*e*LR	LR	23 17 06.0	
	comp=Z,277nm,22.0s						
EVO	Evora	153.16	27	*e*PKP	PKPab	22 16 38.8	+0.9
PNCL	Nicolau / Gran	153.27	28	*e*PKP	PKPbc	22 16 26.5	-0.1
ESDC	Sonseca Array	153.72	20	PKPbc	PKiKP	22 16 27.8	+0.1
	comp=Z,1.2nm,0.8s,baz=347,slow=2.0,SNR=7.0						
ESDC				PKPab	PKPab	22 16 41.4	+1.1
	comp=Z,8.4nm,1.1s,baz=326,slow=4.1,SNR=22						
PBAR	Barrancos	153.88	26	*e*PKP	PKPab	22 16 41.5	+0.6
PVAQ	Vaqueiros	154.22	28	*e*LR	LR	23 16 02.1	
	comp=Z,307nm,20.0s						
TOA0	Torodi Ar. Sit	174.32	110	PKPdf	PKPdf	22 16 38.6	-0.3
TOA0					PKPab	22 18 10.8	-0.5
TORD	Torodi Ar. Bea	174.32	110	PKP	PKPdf	22 16 37.6	-1.3
	comp=Z,1.3nm,1.1s,baz=331,slow=5.5,SNR=4.8						
TORD				PKPab	PKPab	22 18 10.8	-0.4
	comp=Z,3.4nm,1.0s,baz=278,slow=4.4,SNR=7.8						
TORD				PP	PP	22 22 08.6	+5.0
	comp=Z,2.4nm,1.2s,baz=242,slow=3.1,SNR=5.5						

*IDC **11** 22:41:24.9±0.8, 15.°04N×94.°50W, h0^{km}, mb4.4/20, mb1 4.7/21, mb1mx4.4/49, mbtmp4.4/21, ML4.0/1, MS4.4/55, Ms1 4.4/55, ms1mx4.3/64, Error ellipse: s-maj=29.8km s-min=12.3km az=55.0*

*MEX **11** 22:41:25.8±1.4, 14.°79N×94.°83W, h20^{km}±74^{km}, MD4.9*

*NEIC **11** 22:41:26.6±2.1, 14.°83N±0.°06×94.°82W±0.°04, h26^{km}±4^{km}, mb4.7/431, Md4.9/61(MEX), Error ellipse: s-maj=9.3km s-min=5.3km az=199.0*

*GCMT **11** 22:41:27.6±0.2, 14.°96N±0.°01×94.°83W±0.°02, h12^{km}, MW5.1/116, Moment Tensor Solution. s63,c84; s116,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.18±.07; $M_{\theta\theta}$-2.55±.07; $M_{\phi\phi}$-1.63±.08; $M_{r\theta}$2.09±.23; $M_{\theta\phi}$1.58±.07; $M_{\phi r}$-2.84±.29; Best double couple: $M_0$5.29200×10^{16} NP1:ϕ_s299.00000°, δ25.00000°, λ74.00000°. NP2:ϕ_s137.00000°, δ66.00000°, λ98.00000°. Principal axes: T 5.5760, Plg68.0000°, Azm62.0000°; N -0.5680, Plg7.0000°, Azm314.0000°; P -5.0080, Plg21.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 22:41:26.2±0.7, **14.°83N**±0.°05×**94.°83W**±0.°03, **h24**^{km}±4^{km}, **n774**, σ1^{s}55/712, **mb4.7**/209, **MS4.4**/58, **8D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.55	307		Pn	22 41 50.0	-2.4
HUIG					Sn	22 42 07.6	-4.1
HUIG	Huatulco	1.55	307	*e*P	Pn	22 41 50.0	-2.4
HUIG				*e*S	Sn	22 42 07.6	-4.1
CARR	Arriaga	1.67	32	*e*P	Pn	22 41 51.5	-2.6
CARR				*e*S	Sn	22 42 11.4	-3.3
PCIG		1.79	60		Pn	22 41 52.6	-3.0
PCIG					Sn	22 42 14.1	-3.5
PCIG		1.79	60	*e*P	Pn	22 41 52.6	-3.0
PCIG				*e*S	Sn	22 42 14.1	-3.5
CMIG	Matias Romero	2.25	359		Pn	22 42 00.6	-1.5
CMIG	Matias Romero	2.25	359	*e*P	Pn	22 42 00.6	-1.5
CMIG				*e*		22 42 26.1	
CMIG				*e*S	Sn	22 42 26.5	-2.6
THIG		2.48	88		Pn	22 42 02.2	-3.0
THIG		2.48	88	*e*P	Pn	22 42 02.1	-3.1
THIG				*e*		22 42 02.2	
PEIG	Puerto Escondi	2.52	298	*e*P	Pn	22 42 04.3	-1.4
PATR	El Naranjo	2.53	83	*e*P	Pn	22 42 03.9	-2.2
PATR				*e*S	Sn	22 42 31.2	-5.0
TGIG		2.55	40		Pn	22 42 04.8	-1.4
TGIG		2.55	40	*e*P	Pn	22 42 04.8	-1.4
PAVE	Pavencul	2.59	82	*e*P	Pn	22 42 04.0	-2.9
PAVE				*e*S	Sn	22 42 32.4	-5.4
VHO	Vista Hermosa	2.89	321	*e*	Pn	22 42 11.4	+0.5
VHO				*e*		22 42 43.5	
VHO				*e*		22 42 44.5	
CCIG	Comitan	2.97	60		Pn	22 42 11.4	-0.7
CCIG					Sn	22 42 46.5	-0.6
CCIG	Comitan	2.97	60	*e*P	Pn	22 42 11.6	-0.5
CCIG				*e*S	Sn	22 42 47.4	+0.2
NEUV	Arroyo Zacate	3.02	342	*e*	Pn	22 42 12.2	-0.4
NEUV				*e*		22 42 45.6	
RTAL	Retalhuleu	3.05	95		Pn	22 42 11.6	-1.4
RTAL				Sn	Sn	22 42 46.9	-2.0
TUIG	Tuzandepetl	3.21	7	*e*	Pn	22 42 13.2	-2.1
HUEH	Huehuetenango	3.25	81		Pn	22 42 15.2	-0.8
PNIG	Pinotepa	3.54	297	*e*	Pn	22 42 19.2	-0.6
PNIG				*e*		22 42 54.8	
TOIG	Toxpalan	3.89	327	*e*	Pn	22 42 27.4	+2.7
TOIG				*e*		22 43 07.0	
HLIG	Huajuapan de L	4.13	317	*e*	Pb	22 42 40.9	+2.5
TPIG	Tehuac#an	4.32	326	*e*	Pb	22 42 50.5	+9.0
FTIG	Fresnillo de T	4.41	315	*e*P	Pn	22 42 34.0	+2.2
FTIG				*e*S	Sn	22 43 19.1	-3.4
TLIG	Tlapa	4.50	308	Pn	Pn	22 42 32.5	-0.6
TLIG	Tlapa	4.50	308	*e*	Pb	22 42 44.9	+0.2
CRIG	Cruz Grande	4.55	295	*e*P	Pn	22 42 34.0	+0.3
CRIG				*e*S	Sn	22 43 19.5	-6.4
JAUV	Jalcomulco	4.89	338	*e*	Pn	22 42 37.5	-0.9
JAUV				*e*		22 43 05.3	
PETF	Flores	5.21	66	Pn	Pn	22 42 41.8	-0.9
MTO3	Montecristo	5.31	94		Pn	22 42 43.0	-1.3
ESQI	Esquipulas	5.32	92		Pn	22 42 43.0	-1.4
MEIG	Mezcala	5.53	305	*e*	Pb	22 43 03.2	+0.9
SNET	Serv Nac Est T	5.55	101	Pn	Pn	22 42 47.1	-0.3
PPM	Popocatepetl	5.57	320	*e*	Pn	22 42 53.3	+5.2
CAIG	El Cayaco	5.68	294	*e*	Pn	22 42 50.8	+1.7
YAIG	Yautepec	5.71	315	*e*	Pn	22 42 52.4	+2.7
YAIG				*e*		22 43 49.6	
PLIG	Platanillo	5.71	309	*e*	Pn	22 42 54.5	+4.8
THVM	De Xico	5.96	319	*e*	Pb	22 43 11.1	+1.4
TLVM	San Miguel Top	6.01	317	*e*	Pn	22 42 58.8	+4.8
XCVM	Xochimilco	6.01	318	*e*	Pn	22 42 54.2	+0.2
MAVM	Malinalco, Edo	6.07	313	*e*	Pn	22 42 57.5	+2.8
UNM	Universidad Na	6.11	318	Pn	Pn	22 42 54.0	-1.4
AOVM	Tlapan	6.16	316	*e*	Pn	22 43 00.0	+3.8
GMVM	Gustavo A Made	6.19	319	*e*	Pn	22 43 02.5	+6.1
VTVM	Tizayuca	6.19	323	*e*	Pb	22 43 12.7	-0.9
ARIG	Puente Sto Nin	6.31	304	*e*	Pn	22 43 00.1	+2.3
ARIG				*e*		22 44 22.8	
AZVM	Cuida Lopez Ma	6.36	319	*e*	Pn	22 43 04.1	+5.3
TOVM	TOLUCA	6.41	314	*e*	Pn	22 43 03.7	+4.1
ATVM	ATLACOMULCO	6.86	316	*e*	Pn	22 43 13.6	+8.0
ACIG	Acambay	7.04	317	*e*	Pn	22 42 56.3	-12
TGUH	Tegucigalpa,Un	7.36	95	Pn	Pn	22 43 10.7	-1.7
MOIG	Morelia	7.76	309	Pn	Pn	22 43 17.3	-0.6
CRIN	San Cristobal	7.85	105	Pn	Pn	22 43 17.6	-1.5
CNGN	Cerro Negro	8.24	105	Pn	Pn	22 43 21.8	-2.6
MATN	Matagalpa	8.85	101	Pn	Pn	22 43 30.9	-1.9
GTIG	Gomez Farias	9.17	334	*e*	Pn	22 43 40.0	+3.0
BOAB	BOACO BROADBAN	9.22	104	Pn	Pn	22 43 36.9	-0.9
ACON	Acoyapa	9.82	106	Pn	Pn	22 43 44.4	-1.6
HZTE	Horizontes, Gu	9.89	113	Pn	Pn	22 43 46.4	-0.7
ORTG	Ortega, Santa	10.17	115		Pn	22 43 49.0	-1.9
DUNO	Dulce Nombre,	10.27	116		Pn	22 43 51.0	-1.2
ESPN	Las Esperanzas	10.57	103	Pn	Pn	22 43 55.6	-0.7
JTS	Las Juntas de	10.64	114		Pn	22 43 57.2	-0.2
ZAIG	Zacatecas	10.77	318	Pn	Pn	22 43 59.4	+0.1
CAO2	Cobano, Puntar	10.79	117	Pn	Pn	22 43 57.3	-2.0
JACO	JACO, Garabito	11.19	116	Pn	Pn	22 44 05.0	+0.2
HDC	Heredia	11.51	113	Pn	Pn	22 44 07.7	-1.7
CVTR	Volcan Turrial	11.82	113	Pn	Pn	22 44 13.3	-0.5
RIMA	Rio Macho	11.84	114		Pn	22 44 14.2	+0.3
PEZE	Perez Zeledon,	12.17	115	Pn	Pn	22 44 17.7	-0.7
SRBA	San Rafael, Bu	12.52	115		Pn	22 44 22.0	-1.1
DRK0	Durika	12.61	115	Pn	Pn	22 44 22.6	-1.8
RIOS	Rincon, Osa	12.64	118	Pn	Pn	22 44 21.6	-3.0
CDITO	Canoas	13.25	117	Pn	Pn	22 44 31.9	-1.2
833A	Chaparral WMA,	14.08	343	Pn	Pn	22 44 44.7	+0.3
833A	Chaparral WMA,	14.08	343	P	Pn	22 44 44.6	+0.2
	baz=160,SNR=10						
PDIG	Papasquiaro	14.20	317	*e*		22 42 45.6	
735A	Kenedy	14.23	349	Pn	Pn	22 44 45.9	-0.4
HKT	Hockley	15.08	357	Pn	Pn	22 44 57.9	+0.1
CBCY	The Bluff, Cay	15.20	69	Pn	Pn	22 44 59.3	-0.1
BCIP	Isla Barro Col	15.71	109	Pn	Pn	22 45 06.3	+0.2
BCIP				IAmb	IAmb	22 45 17.8	
	comp=Z,108nm,1.4s						
HPIG		15.72	322	Pn	Pn	22 45 05.9	-0.6
435B	Jarrell	16.08	351	P	Pn	22 45 11.9	+1.0
435B				IAmb	IAmb	22 45 30.4	
	comp=Z,48nm,1.1s						
435B	Jarrell	16.08	351	P	Pn	22 45 10.3	-0.5
	baz=170						
JCT	Junction City	16.24	344	Pn	Pn	22 45 13.5	+0.6
JCT	Junction City	16.24	344	P	Pn	22 45 12.6	-0.3
	baz=162,SNR=11						
TXAR	Lajitas Array	16.59	332	Pn	P	22 45 19.0	-0.8
	comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=61						
TXAR	Lajitas Array	16.59	332	Pn	Pn	22 45 17.6	+0.2
TX31	Lajitas Ar. Si	16.59	332	P	Pn	22 45 17.6	+0.2
TX31				IAmb	IAmb	22 45 37.1	
	comp=Z,94nm,1.4s						
TX32	Lajitas Array	16.59	332	P	Pn	22 45 17.7	+0.3
342A	Flagon Creek P	16.63	8		Pn	22 45 16.6	-1.2
SLBS	Sierra La Lagu	16.76	304	P	P	22 45 21.3	-0.4
NATX	Nacogdoches	16.86	1	P	Pn	22 45 18.5	-2.2
	baz=180						
MTDJ	Mount Denham	16.93	76	Pn	Pn	22 45 19.8	-1.9
MTDJ				IAmb	IAmb	22 45 24.2	
	comp=Z,115nm,1.4s						
344A	Westbrook Farm	16.97	12	Pn	Pn	22 45 21.3	-0.8
061Z	Ochoppi	17.05	48	Pn	Pn	22 45 21.6	-1.4
237A	Washetta, Mont	17.12	357	Pn	Pn	22 45 23.1	-0.9
346A	Big Creek Wild	17.20	16	Pn	Pn	22 45 24.0	-1.0
346A				IAmb	IAmb	22 45 43.1	
	comp=Z,38nm,0.9s						
WHTX	Lake Whitney,	17.26	352		Pn	22 45 26.0	+0.3
WHTX	Lake Whitney,	17.26	352	P	Pn	22 45 25.0	-0.7
	baz=171						
VBMS	Vicksburg	17.76	12		Pn	22 45 31.3	-0.6
VBMS	Vicksburg	17.76	12	P	Pn	22 45 29.9	-1.9
	baz=193						
BRAL	Brewton	17.76	22	P	Pn	22 45 30.7	-1.3
	baz=205						
553A	Crawfordville	18.04	30	P	Pn	22 45 33.5	-1.8
143A	Socs Landing,	18.07	9		Pn	22 45 34.7	-1.0
143A				IAmb	IAmb	22 45 53.8	
	comp=Z,71nm,1.3s						
DWPF	Disney Wildern	18.15	41	P	Pn	22 45 33.8	-2.9
	baz=226						
ABTX	Abilene, Hawle	18.25	347	P	Pn	22 45 36.7	-1.3
ABTX	Abilene, Hawle	18.25	347	P	Pn	22 45 37.6	-0.4
	baz=164,SNR=9.7						
Z38A	Mt. Pleasant	18.35	360	P	P	22 45 36.6	-2.5
Z41A	Richland Creek	18.44	5		P	22 45 39.9	-0.2
Z41A	Richland Creek	18.44	5	P	P	22 45 38.3	-1.8
	baz=186						
146A	Union	18.50	16	P	P	22 45 39.4	-1.3
Z35A	Perchaven, San	18.55	354	P	P	22 45 41.0	-0.3
250A	Grady	18.78	23	P	P	22 45 41.7	-2.2
WLAR	White Oak Lake	18.84	4	P	P	22 45 43.8	-0.7
WLAR				IAmb	IAmb	22 45 54.6	
	comp=Z,31nm,1.0s						
352A	Blakely	18.89	27		P	22 45 44.9	-0.2
352A				IAmb	IAmb	22 45 57.9	
	comp=Z,25nm,0.6s						
Z47A	Carrollton	19.30	17	P	P	22 45 48.9	-0.6
Z47A				IAmb	IAmb	22 45 58.4	
	comp=Z,25nm,0.7s						
MNTX	Cornudas Mount	19.37	332	P	P	22 45 50.8	+0.4
MNTX	Cornudas Mount	19.37	332	P	Pn	22 45 51.9	+0.3
	baz=147,SNR=8.1						
LRAL	Lakeview Retre	19.48	20	P	P	22 45 50.8	-0.7
LRAL	Lakeview Retre	19.48	20	P	P	22 45 50.8	-0.7
	baz=203,SNR=7.0						
TIGA	Tifton	19.48	30	P	P	22 45 49.4	-2.1
TIGA				IAmb	IAmb	22 46 10.4	
	comp=Z,30nm,0.9s						
TIGA	Tifton	19.48	30	P	P	22 45 49.8	-1.7
	baz=214						
Y45A	Yeager Farm, C	19.55	13	P	P	22 45 52.0	-0.3
Y45A				IAmb	IAmb	22 45 55.0	
	comp=Z,39nm,1.1s						
X40A	Basin Creek Fa	19.66	5	P	P	22 45 52.5	-1.0
X40A	Basin Creek Fa	19.66	5	P	P	22 45 52.3	-1.1
	baz=185						
X37A	Clayton	19.69	359	P	Pn	22 45 54.5	-0.7
X37A				IAmb	IAmb	22 46 01.7	
	comp=Z,24nm,0.8s						
MOTC	Monteria, Cord	19.69	106	*e*P	Pn	22 45 56.4	+0.9
456A	Hilliard	19.72	34	P	P	22 45 52.6	-1.5
456A				IAmb	IAmb	22 46 10.6	
	comp=Z,33nm,0.9s						
SJCC	San Jacinto, C	19.81	102	P	P	22 45 54.5	-0.8
DBBC	Dabeiba	19.85	111	*e*P	Pn	22 46 01.2	+3.7
X34A	Smith Ranch, M	19.88	353		P	22 45 56.5	+0.6
X34A				IAmb	IAmb	22 46 14.6	
	comp=Z,37nm,0.8s						
152A	Waverly Hall	20.01	26	P	P	22 45 55.7	-1.6
WMOK	Wichita Mounta	20.14	351	P	P	22 45 59.0	+0.2
WMOK	Wichita Mounta	20.14	351	P	P	22 45 58.6	-0.2
	baz=168						
GR1C	Gorgona, Isla	20.20	124	*e*P	Pn	22 46 10.5	+9.0
OXF	Oxford	20.20	13	P	P	22 45 58.6	-0.7
OXF				IAmb	IAmb	22 46 13.6	
	comp=Z,35nm,1.1s						
OXF	Oxford	20.20	13	P	P	22 45 58.7	-0.7
	baz=195						
W39A	Magazine	20.31	2	P	P	22 46 00.3	-0.2
W39A	Magazine	20.31	2	P	P	22 45 60.0	-0.5
	baz=182						
W35A	Tecumseh	20.32	355		P	22 46 00.1	-0.6
MSTX	Muleshoe	20.37	341	P	P	22 46 00.2	-1.2
MSTX				IAmb	IAmb	22 46 09.9	
	comp=Z,33nm,0.9s						
MSTX	Muleshoe	20.37	341	P	P	22 46 01.6	+0.3
	baz=157,SNR=8.6						
Z51A	Franklin	20.39	24	P	P	22 46 00.6	-0.8
W41B	Gary Mavity, V	20.40	6	P	P	22 46 00.9	-0.6
	baz=187						
Y49A	Blount Mountai	20.43	20	P	P	22 46 01.9	0.0
FNO	Franklin	20.48	354		P	22 46 03.1	+0.8
WHAR	Wooly Hollow	20.51	6	P	P	22 46 03.5	+0.8
CBOC	Ciudad Bolivar	20.53	114	*e*P	Pn	22 46 06.0	+0.5
HSIG		20.53	316	P	P	22 46 03.4	+0.3
HSIG				IAmb	IAmb	22 46 08.6	
	comp=Z,30nm,1.1s						
OKCFA	Oklahoma City	20.64	354	P	P	22 46 04.1	-0.1
PLMC	San Jos del P	20.74	116	*e*P	Pn	22 46 07.9	0.0
X48A	Hartselle	20.77	18	P	P	22 46 03.9	-1.6
HELC	Santa Helena	20.81	112	*e*P	P	22 46 07.3	+0.7
W45A	Hickory Valley	20.87	13	P	P	22 46 07.2	+0.6
W45A				IAmb	IAmb	22 46 20.3	
	comp=Z,30nm,1.1s						
ZARC	Zaragoza, Cauc	20.89	108	P	P	22 46 07.0	-0.1
ZARC	Zaragoza, Cauc	20.89	108	*e*P	P	22 46 05.8	-1.3
AMTX	Amarillo	20.90	344	P	P	22 46 07.3	+0.2
AMTX				IAmb	IAmb	22 46 18.5	
	comp=Z,42nm,0.8s						
AMTX	Amarillo	20.90	344	P	P	22 46 08.0	+0.9
	baz=160						
PLAL	Pickwick Lake	20.97	16	P	P	22 46 07.0	-0.7
HBAR	Harrisburg	20.98	10	P	P	22 46 06.5	-1.3
HBAR				IAmb	IAmb	22 46 14.5	
	comp=Z,26nm,0.6s						
TUL1	Leonard	21.02	358	P	P	22 46 09.5	+1.3
TUL1				IAmb	IAmb	22 46 22.0	
	comp=Z,25nm,1.0s						
TUL1	Leonard	21.02	358	P	P	22 46 08.0	-0.1
	baz=177						
FCAR	Ozark Folk Cen	21.12	6	P	P	22 46 07.8	-1.4
FCAR				IAmb	IAmb	22 46 22.8	
	comp=Z,22nm,0.7s						
319A	Douglas	21.13	324	P	P	22 46 10.0	+0.4
319A				IAmb	IAmb	22 46 18.0	
	comp=Z,40nm,1.1s						
YOTC	Yotoco, Valle	21.16	119	*e*P	P	22 46 10.6	+0.6
GOGA	Godfrey	21.18	27	P	P	22 46 08.5	-1.5
GOGA	Godfrey	21.18	27	P	P	22 46 09.1	-0.9
	baz=212						
121A	Cookes Peak, D	21.21	328	P	P	22 46 12.1	+1.6
121A				IAmb	IAmb	22 46 22.2	
	comp=Z,47nm,1.2s						
121A	Cookes Peak, D	21.21	328	P	P	22 46 13.5	+3.0
	baz=142,SNR=14						
257A	Skidaway Islan	21.22	34	P	P	22 46 11.0	+0.6
Y52A	Lilburn	21.32	25	P	P	22 46 09.4	-2.0
Y52A				IAmb	IAmb	22 46 12.5	
	comp=Z,26nm,1.2s						
FPAL	Fort Paine	21.32	21	P	P	22 46 10.6	-1.0
FPAL				IAmb	IAmb	22 46 15.1	
	comp=Z,18nm,0.9s						
HHAR	Hobbs	21.38	2	P	P	22 46 10.7	-1.4
GUY2C	Guyana, Caldas	21.39	115	*e*P	P	22 46 14.7	+1.8
LCAR	Lake Charles	21.41	8	P	P	22 46 10.2	-2.2
U40A	Yellville	21.52	4	P	P	22 46 13.2	-0.3
U40A				IAmb	IAmb	22 46 31.8	
	comp=Z,33nm,1.4s						
U40A	Yellville	21.52	4	P	P	22 46 14.9	+1.3
	baz=185						
U38A	Gravette	21.53	1	P	P	22 46 12.9	-0.8
PTBC	PUERTO BERRIO,	21.63	110	*e*P	P	22 46 14.7	-0.3
NORC	Norcasia	21.68	113	*e*P	P	22 46 16.6	+1.1
POPC	Popayan, Colom	21.68	123	*e*P	P	22 46 18.2	+2.5
ANIL	Santa Ana	21.71	116	*e*P	P	22 46 20.8	+4.6
OTAV	Otavalo	21.73	130	P	P	22 46 14.9	-1.6
U32A	Winter Ranch,	21.79	351		P	22 46 16.0	-0.5
SWET	Sewanee	21.82	20	P	P	22 46 16.0	-0.9
TULM	Tulcn-Chalpat	21.91	128	*e*P	P	22 46 22.2	+3.6
GCUF	Volcan Galeras	21.93	126	*e*P	P	22 46 23.0	+4.3
SOTA	Rioblanco	21.97	123	*e*P	P	22 46 20.7	+1.6
BNM	Barren Site	22.00	333	P	P	22 46 19.2	+0.2
W50A	Signal Mountai	22.02	21	P	P	22 46 18.4	-0.7
PCON	Cinco Dias	22.03	123	*e*P	P	22 46 21.7	+1.9
V48A	Smith Brothers	22.03	18	P	P	22 46 18.7	-0.4
T35A	Sooner Cattle	22.05	356		P	22 46 19.8	+0.4
T35A				IAmb	IAmb	22 46 29.8	
	comp=Z,40nm,0.9s						
OCAC	Ocana	22.06	105	P	P	22 46 19.4	-0.4
Y22D	IRIS PASSCAL I	22.06	332	P	P	22 46 21.7	+2.1
	baz=147						
MARP	Paez Belalcaza	22.10	121	*e*P	P	22 46 24.3	+4.0
WVT	Waverly	22.12	15	P	P	22 46 19.0	-1.1
WVT				IAmb	IAmb	22 46 22.7	
	comp=Z,18nm,0.9s						
WVT	Waverly	22.12	15	P	P	22 46 19.7	-0.3
	baz=198						
ORTC	Ortega, Tolima	22.14	117	*e*P	P	22 46 24.3	+3.8
LENM	Lemitar	22.16	332	P	P	22 46 22.4	+1.6
PARMO	Parma	22.22	11	P	P	22 46 20.7	-0.3
PARMO				IAmb	IAmb	22 46 24.1	
	comp=Z,26nm,0.8s						
SPBC	San Pablo de B	22.35	112	*e*P	P	22 46 22.9	+0.1
MGMO	Mountain Grove	22.36	5	P	P	22 46 22.8	+0.2
MGMO				IAmb	IAmb	22 46 34.3	
	comp=Z,14nm,0.7s						
HODGE	Hodges	22.41	28	P	P	22 46 23.6	+0.4
ROSC	El Rosal	22.49	114	P	P	22 46 27.6	+3.0
	comp=Z,20nm,0.8s,baz=142,slow=5.7,SNR=10						
ROSC	El Rosal	22.49	114	P	P	22 46 23.9	-0.8
ROSC	El Rosal	22.49	114	*e*P	P	22 46 27.0	+2.4
CLTN	Cedars of Leba	22.50	18	P	P	22 46 23.8	-0.4
NHSC	New Hope	22.55	34	P	P	22 46 24.8	+0.2
NHSC	New Hope	22.55	34	P	P	22 46 23.3	-1.3
	baz=219						
ANMO	Albuquerque	22.60	334	P	P	22 46 27.9	+2.4
	comp=Z,5.3nm,0.8s,baz=151,slow=12,SNR=15						
ANMO				LR	LR	22 55 47.1	
	comp=Z,539nm,19.5s,baz=156,slow=38						
ANMO	Albuquerque	22.60	334	P	P	22 46 25.8	+0.3
ANMO	Albuquerque	22.60	334	P	P	22 46 26.2	+0.7
	baz=149						
TUC	Tucson	22.68	323	P	P	22 46 27.5	+1.4
TUC	Tucson	22.68	323	P	P	22 46 27.8	+1.6
	baz=136						
BG3	Lake Jocassee	22.76	26	IAmb	IAmb	22 46 27.3	
	comp=Z,16nm,0.8s						
BARC	Barichara	22.77	109	*e*P	P	22 46 29.1	+1.6
PAMC	Pamplona, Colo	22.94	107	*e*P	P	22 46 30.7	+1.2
TKL	Tuckaleechee C	23.00	24	P	P	22 46 28.0	-1.4
	comp=Z,8.0nm,0.9s,baz=166,slow=9.5,SNR=6.3						
TKL				LR	LR	22 56 56.3	
	comp=Z,567nm,20.8s,baz=201,slow=41						
TKL	Tuckaleechee C	23.00	24	IAmb	IAmb	22 46 44.2	
	comp=Z,33nm,1.4s						
PAULI	Pauline	23.11	28	P	P	22 46 29.7	-0.8
T47A	Sharon Grove	23.12	16	IAmb	IAmb	22 46 31.0	
	comp=Z,16nm,0.8s						
RUSC	La Rusia	23.14	110	*e*P	P	22 46 31.5	-0.1
V52A	Sevierville	23.23	24	IAmb	IAmb	22 46 32.9	

comp=Z,17nm,1.1s
S44A Carbondale 23.31 11 IAmb IAmb 22 46 50.5
comp=Z,15nm,0.9s
SIUC Southern Illin 23.34 11 IAmb IAmb 22 46 51.3
comp=Z,25nm,1.1s
CCM Cathedral Cave 23.36 7 P **P** **22 46 31.8 -1.1**
CCM IAmb IAmb 22 46 34.5
comp=Z,18nm,1.1s
CCM Cathedral Cave 23.36 7 P **P** **22 46 30.3 -2.6**
baz=188
V53A Saluda 23.39 25 P **P** **22 46 33.0 -0.4**
FVM French Village 23.40 9 P **P** **22 46 32.7 -0.6**
R40A Maddies Statio 23.48 5 IAmb IAmb 22 46 35.6
comp=Z,22nm,1.1s
KMSC Kings Mountain 23.59 29 P **P** **22 46 34.8 -0.5**
KMSC IAmb IAmb 22 46 35.8
comp=Z,18nm,0.9s
KMSC Kings Mountain 23.59 29 P **P** **22 46 32.7 -2.6**
baz=214
214A Organ Pipe Nat 23.67 319 P **P** **22 46 36.2 +0.1**
214A IAmb IAmb 22 46 55.9
comp=Z,23nm,1.2s
214A Organ Pipe Nat 23.67 319 P **P** **22 46 38.9 +2.8**
baz=131
R32A Long Quarter, 23.75 352 P **P** **22 46 37.6 +0.7**
R32A IAmb IAmb 22 46 40.5
comp=Z,44nm,1.1s
T25A Trinidad 23.80 341 P **P** **22 46 38.4 +0.8**
T25A Trinidad 23.80 341 P **P** **22 46 39.8 +2.2**
baz=156,SNR=31
TZTN Tazewell 23.86 23 IAmb IAmb 22 46 36.1
comp=Z,42nm,1.5s
TZTN Tazewell 23.86 23 P **P** **22 46 35.2 -2.6**
baz=208
X18A Snowflake 23.89 328 P **P** **22 46 38.5 +0.1**
X18A IAmb IAmb 22 46 46.9
comp=Z,18nm,1.0s
SLM Saint Louis 24.06 9 P **P** **22 46 39.3 -0.4**
SLM IAmb IAmb 22 46 57.3
comp=Z,59nm,1.4s
TAMC Tame, Arauca 24.11 108 *eP* **P** **22 46 40.0 -0.4**
KSU1 Kansas State U 24.23 357 P **P** **22 46 40.9 -0.4**
KSU1 IAmb IAmb 22 46 43.2
comp=Z,25nm,0.8s
KSU1 Kansas State U 24.23 357 P **P** **22 46 40.9 -0.4**
baz=175
V55A Taylorsville 24.23 28 P **P** **22 46 40.7 -0.7**
V55A IAmb IAmb 22 46 58.4
comp=Z,19nm,1.2s
W57A Gilead 24.24 31 P **P** **22 46 39.6 -1.8**
W57A IAmb IAmb 22 46 41.8
comp=Z,15nm,1.0s
W18A Petrified Fore 24.25 329 P **P** **22 46 40.3 -1.4**
W18A IAmb IAmb 22 46 48.8
comp=Z,28nm,1.2s
W18A Petrified Fore 24.25 329 P **P** **22 46 44.8 +3.1**
baz=142,SNR=6.8
CBKS Cedar Bluff 24.29 351 P **P** **22 46 41.0 -0.8**
CBKS Cedar Bluff 24.29 351 P **P** **22 46 42.3 +0.5**
baz=168
SDV Santo Domingo 24.39 101 P **P** **22 46 43.2 -0.1**
comp=Z,7.2nm,0.7s,baz=278,slow=4.5,SNR=7.8
SDV LR LR 22 56 13.4
comp=Z,393nm,18.9s,baz=291,slow=37
SDV Santo Domingo 24.39 101 P **P** **22 46 41.8 -1.4**
SFX San Felipe 24.43 315 P **P** **22 46 40.7 -2.5**
SFX IAmb IAmb 22 46 49.6
comp=Z,26nm,1.3s
WCI Wyandotte Cave 24.51 16 P **P** **22 46 41.9 -1.9**
WCI Wyandotte Cave 24.51 16 P **P** **22 46 41.6 -2.2**
baz=200
Q44A Meyer Farm, Va 24.53 11 P **P** **22 46 41.8 -2.2**
OLIL Olney 24.55 13 P **P** **22 46 42.5 -1.6**
PTLC Puerto Leguiza 24.58 125 *eP* **P** **22 46 50.5 +5.7**
X16A Lo Mia Camp, P 24.60 325 P **P** **22 46 45.9 +1.0**
X16A IAmb IAmb 22 46 51.8
comp=Z,22nm,0.9s
SDCO Great Sand Dun 24.71 339 P **P** **22 46 45.6 -0.5**
SDCO Great Sand Dun 24.71 339 P **P** **22 46 48.2 +2.2**
baz=154,SNR=24
PTGC Puerto Gaitan, 24.72 113 *eP* **P** **22 46 47.9 +1.9**
P38A Dawn 24.73 2 P **P** **22 46 44.8 -1.0**
P38A IAmb IAmb 22 46 55.9
comp=Z,15nm,0.8s
P40A Paris 24.73 5 P **P** **22 46 44.7 -1.1**
113A Mohawk Valley, 24.81 319 P **P** **22 46 46.4 -0.2**
113A IAmb IAmb 22 47 00.9
comp=Z,14nm,1.1s
S51A Beattyville 24.82 22 P **P** **22 46 46.3 -0.3**
S51A IAmb IAmb 22 46 59.5
comp=Z,12nm,0.9s
R49A Shelbyville 24.89 18 P **P** **22 46 46.5 -0.7**
U56A King 25.02 28 IAmb IAmb 22 46 48.9
comp=Z,13nm,0.8s
KSCO Kaye Shedlock' 25.05 346 P **P** **22 46 48.9 +0.1**
KSCO IAmb IAmb 22 47 04.5
comp=Z,25nm,0.9s
KSCO Kaye Shedlock' 25.05 346 P **P** **22 46 50.1 +1.3**
baz=161
R50A Paris 25.14 20 P **P** **22 46 48.7 -0.9**
R50A IAmb IAmb 22 47 04.1
comp=Z,21nm,1.4s
Y14A Wickenburg 25.14 322 P **P** **22 46 50.0 +0.3**
P43A Skaggs, Pawnee 25.16 10 P **P** **22 46 49.7 +0.1**
P43A IAmb IAmb 22 46 51.0
comp=Z,22nm,0.9s
S22A 4UR Ranch, Cre 25.19 337 P **P** **22 46 49.2 -1.1**
S22A 4UR Ranch, Cre 25.19 337 P **P** **22 46 51.8 +1.5**
baz=151,SNR=7.4
MVCO Mesa Verde 25.39 334 P **P** **22 46 51.3 -0.8**
MVCO IAmb IAmb 22 46 59.1
comp=Z,16nm,1.1s
MVCO Mesa Verde 25.39 334 P **P** **22 46 53.5 +1.3**
baz=147
WUAZ Wupatki 25.39 327 P **P** **22 46 51.5 -0.6**
WUAZ IAmb IAmb 22 47 08.1
comp=Z,30nm,1.0s
WUAZ Wupatki 25.39 327 P **P** **22 46 54.5 +2.5**
baz=140,SNR=12
CNNC Cliffs of the 25.40 34 P **P** **22 46 51.5 -0.4**
baz=221
GLA Glamis 25.67 318 P **P** **22 46 52.8 -1.7**
GLA IAmb IAmb 22 47 02.0
comp=Z,17nm,0.8s
GLA Glamis 25.67 318 P **P** **22 46 56.7 +2.2**
baz=130
Q24A Divide 25.71 341 P **P** **22 46 54.7 -0.3**
Q24A Divide 25.71 341 P **P** **22 46 56.6 +1.6**
baz=156
BLA Blacksburg 25.72 27 P **P** **22 46 55.4 +0.5**
baz=213
S54A Dingess, Beckl 25.83 25 P **P** **22 46 55.7 -0.2**
S54A IAmb IAmb 22 47 11.1
comp=Z,11nm,0.8s
O44A Mansfield 25.84 11 P **P** **22 46 54.8 -1.0**
O44A IAmb IAmb 22 46 57.0
comp=Z,17nm,0.8s
P48A Milroy 25.90 17 IAmb IAmb 22 46 56.7
comp=Z,25nm,0.9s
N38A Joes South For 25.91 3 P **P** **22 46 55.5 -1.0**
BLYC Blythe 25.94 320 P **P** **22 46 56.3 -0.5**
N35A Tabor 25.95 359 P **P** **22 46 55.7 -1.2**
N41A Harden Midland 26.02 7 P **P** **22 46 56.6 -0.9**
R53A Hurricane 26.04 24 P **P** **22 46 56.4 -1.2**
R53A IAmb IAmb 22 46 58.9
comp=Z,15nm,0.8s
ELOV Elorza 26.05 105 *eP* **P** **22 46 58.0 -0.1**
PDMCI Parker Dam,Lak 26.07 321 P **P** **22 46 59.3 +1.2**
baz=133
HDIL Hopedale 26.09 10 P **P** **22 46 57.7 -0.4**
HDIL Hopedale 26.09 10 P **P** **22 46 58.4 +0.3**
baz=192
Q51A Peebles 26.14 21 IAmb IAmb 22 46 58.7
comp=Z,17nm,0.8s
P49A Miami Univ. Ec 26.17 18 IAmb IAmb 22 46 58.2
comp=Z,11nm,0.8s
P49A Miami Univ. Ec 26.17 18 P **P** **22 46 57.1 -1.7**
baz=202
IKP In-Ko-Pah, Jac 26.26 316 P **P** **22 47 00.1 +0.3**
baz=127
PV13 Radium Mtn., P 26.33 335 P **P** **22 46 59.1 -1.5**
PV13 IAmb IAmb 22 47 17.9
comp=Z,16nm,0.9s
SFIN Lafayette 26.34 13 IAmb IAmb 22 47 03.1
comp=Z,10nm,0.8s
SFIN Lafayette 26.34 13 P **P** **22 46 58.8 -1.6**
baz=197
PV15 Paradox Valley 26.35 335 P **P** **22 46 59.0 -1.8**
PV15 IAmb IAmb 22 47 16.9
comp=Z,17nm,1.1s
Q52A Bidwell 26.47 22 IAmb IAmb 22 47 01.9
comp=Z,26nm,0.8s
PV11 David Mesa, Pa 26.47 335 P **P** **22 47 02.1 +0.2**
W13A Hualapai Mount 26.48 323 P **P** **22 47 02.0 +0.1**
PV07 Paradox Valley 26.50 335 P **P** **22 47 02.3 +0.2**
PV07 IAmb IAmb 22 47 08.4
comp=Z,16nm,0.9s
SMCO Snowmass 26.51 339 P **P** **22 47 02.4 0.0**
TKX Tecate 26.55 316 **PcP** **22 50 26.2 -0.5**
U15A North Rim 26.57 327 P **P** **22 47 02.1 -0.8**
IRM Iron Mountain 26.59 320 P **P** **22 47 02.6 -0.2**
baz=131
PV10 Paradox Valley 26.61 334 P **P** **22 47 00.4 -2.8**
PV10 IAmb IAmb 22 47 07.9
comp=Z,15nm,1.2s
ISCO Idaho Springs 26.61 341 P **P** **22 47 03.5 +0.2**
ISCO Idaho Springs 26.61 341 P **P** **22 47 02.9 -0.3**
baz=156,SNR=7.5
MONP2 Monument Peak 26.61 316 P **P** **22 47 03.6 +0.4**
baz=127
P51A Williamsport 26.65 21 IAmb IAmb 22 47 02.7
comp=Z,11nm,0.8s
PV23 Carpenter Ridg 26.66 335 P **P** **22 47 02.1 -1.6**
PV23 IAmb IAmb 22 47 14.0
comp=Z,23nm,1.2s
O48B Farmland 26.71 17 P **P** **22 47 01.5 -2.2**
baz=201,SNR=8.2
OGNE Ogallala 26.77 348 P **P** **22 47 04.8 +0.4**
OGNE IAmb IAmb 22 47 10.9
comp=Z,25nm,0.8s
OGNE Ogallala 26.77 348 P **P** **22 47 05.6 +1.2**
baz=164
O49A Covington 26.89 18 IAmb IAmb 22 47 05.3
comp=Z,21nm,0.9s
T59A Double "B" Far 26.89 32 P **P** **22 47 03.8 -1.6**
T59A IAmb IAmb 22 47 04.9
comp=Z,13nm,1.0s
SCIA State Center 27.02 3 P **P** **22 47 06.4 -0.1**
baz=183
109C Camp Elliot, M 27.07 316 P **P** **22 47 06.8 -0.3**
baz=126
TPFO Pinon Flats 27.07 317 P **P** **22 47 06.9 -0.4**
baz=128
L34A Svendsen Farm, 27.08 357 P **P** **22 47 07.3 +0.2**
PFO Pinyon Flats O 27.08 317 LR LR 22 58 16.8
comp=Z,1µm,18.4s,baz=128,slow=37
PFO Pinyon Flats O 27.08 317 P **P** **22 47 06.3 -1.0**
PFO Pinyon Flats O 27.08 317 P **P** **22 47 07.2 -0.1**
baz=128
P52A Corning 27.11 22 IAmb IAmb 22 47 07.7
comp=Z,18nm,0.8s
P52A Corning 27.11 22 P **P** **22 47 05.3 -2.0**
baz=208,SNR=5.5
M44A Midewin, Midew 27.12 11 P **P** **22 47 06.1 -1.3**
M44A IAmb IAmb 22 47 07.5
comp=Z,30nm,1.1s
N47A Urbana 27.15 15 IAmb IAmb 22 47 16.0
comp=Z,12nm,0.8s
ATAH Atahualpa 27.23 142 P **P** **22 47 12.9 +3.7**
comp=Z,1.9nm,0.4s,baz=336,slow=9.8,SNR=4.1
ATAH LR LR 22 55 02.8
comp=Z,605nm,20.2s,baz=328,slow=30
OBIP Obispado Ponce 27.25 79 P **P** **22 47 08.8 0.0**
JSRW J. Sargeant Re 27.29 30 P **P** **22 47 07.6 -1.4**
KNB Kanab 27.29 327 P **P** **22 47 08.7 -0.5**
L40A Anamosa 27.32 6 P **P** **22 47 07.3 -1.8**
L40A IAmb IAmb 22 47 10.1
comp=Z,24nm,0.9s
GMRC Granite Mounta 27.32 320 P **P** **22 47 09.5 0.0**
baz=131
ACSO Alum Creek Sta 27.35 20 P **P** **22 47 07.9 -1.6**
ACSO IAmb IAmb 22 47 09.7
comp=Z,10nm,0.8s
ACSO Alum Creek Sta 27.35 20 P **P** **22 47 07.4 -2.1**
baz=205
L42A Oliver, Polo 27.45 8 P **P** **22 47 08.8 -1.6**
MURC Murrieta 27.56 317 P **P** **22 47 11.0 -0.5**
baz=127
O52A Adamsville 27.64 22 IAmb IAmb 22 47 11.9
comp=Z,24nm,0.8s
N23A Red Feather La 27.72 342 P **P** **22 47 13.8 +0.7**
N23A Red Feather La 27.72 342 P **P** **22 47 11.7 -1.4**
baz=156
ELS Elsinore Mount 27.74 316 P **P** **22 47 14.5 +1.4**
MTPU Mount Pierson 27.76 330 P **P** **22 47 12.9 -0.7**
MTPU IAmb IAmb 22 47 27.9
comp=Z,13nm,1.3s
HEC Hector,Ludlow 27.77 320 P **P** **22 47 13.6 +0.2**
baz=130
K38A Parkersburg 27.78 3 P **P** **22 47 12.0 -1.3**
O20A White River Ci 27.81 338 P **P** **22 47 13.1 -0.8**
O20A IAmb IAmb 22 47 31.1
comp=Z,12nm,1.1s
O20A White River Ci 27.81 338 P **P** **22 47 13.8 -0.1**
baz=151
SRU San Rafael Swe 27.86 333 P **P** **22 47 13.8 -0.5**
SZCU Shurtz Canyon 27.87 328 P **P** **22 47 15.8 +1.4**
SZCU IAmb IAmb 22 47 34.8
comp=Z,12nm,1.3s
CBN Corbin Frederi 27.94 30 P **P** **22 47 12.6 -2.2**
baz=218
PHWY Pilot Hill 27.95 343 P **P** **22 47 14.9 -0.3**
CCUT Cedar City 27.98 327 P **P** **22 47 15.5 +0.1**
Q16A Castle Valley 27.98 332 P **P** **22 47 15.6 +0.2**
O53A New Philadelph 27.99 23 P **P** **22 47 13.9 -1.3**
baz=209
MCWV Mont Chateau 28.02 25 P **P** **22 47 15.3 -0.1**
L46A Eue Claire 28.08 14 IAmb IAmb 22 47 21.9
comp=Z,24nm,1.1s
MSU Marysvale 28.13 330 P **P** **22 47 16.1 -0.7**
P18A Preston Nutter 28.17 334 P **P** **22 47 16.8 -0.4**
P17A Butcher Ranch, 28.25 333 P **P** **22 47 16.9 -0.9**
BFSC Mount Baldy Ra 28.25 317 P **P** **22 47 18.1 +0.3**
baz=127
JFWS Jewell Farm 28.27 7 P **P** **22 47 15.9 -1.7**
JFWS IAmb IAmb 22 47 18.5
comp=Z,18nm,0.8s
JFWS Jewell Farm 28.27 7 P **P** **22 47 16.0 -1.7**
baz=189,SNR=6.8
TMUT Trail Mountain 28.31 333 P **P** **22 47 17.9 -0.5**
K43A Burlington 28.34 10 P **P** **22 47 16.6 -1.7**
K43A IAmb IAmb 22 47 26.8
comp=Z,11nm,0.8s
L48A N Adams 28.48 16 P **P** **22 47 17.1 -2.4**
L48A IAmb IAmb 22 47 19.3
comp=Z,19nm,0.9s
RDMU Red Mountain 28.69 336 P **P** **22 47 22.5 +0.7**
PRN Pahroc Range 28.78 325 P **P** **22 47 22.0 -0.5**
RWWY Rawlins 28.84 341 P **P** **22 47 23.8 +0.7**
RWWY IAmb IAmb 22 47 35.1
comp=Z,16nm,0.9s
QSM Queen of Sheba 28.84 321 P **P** **22 47 21.6 -1.3**
ECSD EROS Data Cent 28.85 357 P **P** **22 47 22.3 -0.6**
ECSD IAmb IAmb 22 47 33.6
comp=Z,7.9nm,0.7s
ECSD EROS Data Cent 28.85 357 P **P** **22 47 21.8 -1.1**
baz=176,SNR=7.6
EDW2 Edwards Air Fo 28.86 318 P **P** **22 47 22.1 -1.1**
baz=128
GWY Greenwater Val 28.87 321 P **P** **22 47 23.5 +0.2**
PSUT Pine Spring 28.98 328 P **P** **22 47 24.6 +0.3**
PSUT IAmb IAmb 22 47 29.4
comp=Z,13nm,1.1s
AAM Ann Arbor 29.03 17 P **P** **22 47 22.3 -2.1**
baz=202
O56A Blue Knob Stat 29.06 26 P **P** **22 47 21.6 -3.2**
baz=214
R61A Willards 29.07 33 P **P** **22 47 21.5 -3.3**
N54A Moraine State 29.07 24 P **P** **22 47 22.4 -2.4**
baz=210
MPU Maple Canyon 29.09 333 P **P** **22 47 25.0 -0.2**
MPU IAmb IAmb 22 47 44.5
comp=Z,12nm,1.1s
I37A Lemond, Waseca 29.12 2 IAmb IAmb 22 47 27.0
comp=Z,13nm,0.9s
FURC Furnace Creek, 29.17 322 P **P** **22 47 24.9 -0.8**
baz=131
I40A Norwalk 29.19 6 P **P** **22 47 25.3 -0.6**
I40A IAmb IAmb 22 47 27.7
comp=Z,9.2nm,0.8s
M53A WI Miller and 29.23 22 IAmb IAmb 22 47 26.4
comp=Z,12nm,0.8s
M53A WI Miller and 29.23 22 P **P** **22 47 23.5 -2.7**
baz=209
NLU North Lily Min 29.23 332 P **P** **22 47 26.9 +0.3**
MPMC Manual Prospec 29.29 320 P **P** **22 47 25.4 -1.7**
baz=130
S11A Rachel 29.34 325 P **P** **22 47 26.6 -0.8**
S11A IAmb IAmb 22 47 42.7
comp=Z,16nm,1.1s
I42A Draeger Farm, 29.41 9 P **P** **22 47 26.2 -1.6**
I42A IAmb IAmb 22 47 29.3
comp=Z,11nm,0.9s
K22A Casper 29.50 342 P **P** **22 47 29.5 +0.7**
K22A IAmb IAmb 22 47 45.3
comp=Z,24nm,1.4s
K22A Casper 29.50 342 P **P** **22 47 28.6 -0.3**
baz=156
ARVC Arvin 29.56 317 P **P** **22 47 30.0 +0.8**
baz=127
ISA Isabella, Lake 29.65 319 P **P** **22 47 28.7 -1.4**
ISA Isabella, Lake 29.65 319 P **P** **22 47 30.0 -0.2**
baz=128
M54A Oil Creek Stat 29.66 23 P **P** **22 47 27.7 -2.4**
baz=210
SUSD Miller 29.73 354 P **P** **22 47 31.6 +0.9**
SUSD Miller 29.73 354 P **P** **22 47 30.3 -0.4**
baz=172
R11A Troy Canyon, C 29.75 326 P **P** **22 47 31.3 +0.2**
DUG Dugway, Tooele 29.76 332 P **P** **22 47 31.3 +0.1**
DUG Dugway, Tooele 29.76 332 P **P** **22 47 30.6 -0.5**
baz=142
K50A Casco 29.77 18 P **P** **22 47 28.8 -2.2**
PCRV Puerto La Cruz 29.82 95 LR LR 23 01 00.7
comp=Z,1µm,18.8s,slow=40
PAGS Pennsylvania G 29.85 29 P **P** **22 47 31.9 +0.1**
PAGS IAmb IAmb 22 47 49.7
comp=Z,19nm,1.2s
I45A Fountain 30.02 12 P **P** **22 47 31.5 -1.7**
ERPA Erie 30.07 22 P **P** **22 47 31.6 -2.0**
baz=209
VES Vestal, Richgr 30.15 318 P **P** **22 47 34.0 -0.5**
baz=127
RSSD Black Hills 30.24 347 P **P** **22 47 34.9 -0.5**
SPMN Marine on St. 30.35 3 P **P** **22 47 34.4 -1.7**
baz=184,SNR=5.9
HWUT Hardware Ranch 30.37 335 P **P** **22 47 36.6 +0.1**
HWUT **PcP** **22 50 38.6 +2.4**
BGU Big Grassy Mou 30.45 332 P **P** **22 47 36.0 -1.2**
BW06 Boulder Array 30.59 338 P **P** **22 47 38.7 +0.2**
BW06 Boulder Array 30.59 338 P **P** **22 47 36.5 -2.1**
baz=151,SNR=5.3
PD31 Pinedale Array 30.59 338 P **P** **22 47 38.8 +0.2**
PDAR Pinedale Array 30.59 338 P **P** **22 47 40.0 +1.4**
comp=Z,3.5nm,0.9s,baz=140,slow=8.1,SNR=20
PDAR LR LR 23 01 02.6
comp=Z,742nm,18.9s,baz=170,slow=39
PDAR Pinedale Array 30.59 338 P **P** **22 47 39.0 +0.5**
G40A Rib Lake 30.60 6 P **P** **22 47 37.0 -1.3**
G40A IAmb IAmb 22 47 38.9
comp=Z,9.2nm,1.0s
LUPA Lehigh Univers 30.78 30 P **P** **22 47 38.9 -1.0**
LUPA IAmb IAmb 22 47 58.0
comp=Z,18nm,1.4s
F33A 5 Mile Ranch, 30.94 358 P **P** **22 47 40.8 -0.6**
F33A IAmb IAmb 22 47 42.3
comp=Z,8.4nm,1.1s
F36A Milaca 30.96 2 P **P** **22 47 40.1 -1.4**
F36A IAmb IAmb 22 47 42.5
comp=Z,8.9nm,0.9s
HVU Hansel Valley 31.02 333 P **P** **22 47 43.1 +0.8**
HVU IAmb IAmb 22 47 47.0
comp=Z,14nm,1.0s
G45A Suttons Bay 31.11 13 P **P** **22 47 41.5 -1.2**
GLMI Grayling 31.13 14 P **P** **22 47 40.5 -2.6**
baz=199,SNR=7.2
AHID Auburn Hatcher 31.16 337 P **P** **22 47 42.9 -0.6**
AHID IAmb IAmb 22 48 01.4
comp=Z,8.9nm,0.9s
NV11 Mina Array Sit 31.25 323 P **P** **22 47 45.1 +0.7**
NV11 IAmb IAmb 22 48 02.8
comp=Z,21nm,1.5s
LHV Little Huntoon 31.34 323 P **P** **22 47 44.1 -0.7**
LHV IAmb IAmb 22 47 50.8
comp=Z,9.0nm,1.1s
NVAR Mina Array Bea 31.34 323 P **P** **22 47 48.5 +3.3**
comp=Z,4.6nm,0.8s,baz=147,slow=8.7,SNR=11
NVAR LR LR 22 59 36.4
comp=Z,879nm,21.0s,baz=136,slow=35
NVAR Mina Array Bea 31.34 323 P **P** **22 47 44.7 -0.5**
ELK Elko 31.35 329 P **P** **22 47 48.7 +3.4**
comp=Z,5.2nm,0.9s,baz=120,slow=5.0,SNR=15
ELK LR LR 23 02 25.9
comp=Z,2µm,18.1s,baz=154,slow=40
ELK Elko 31.35 329 P **P** **22 47 45.4 +0.1**
ELK IAmb IAmb 22 47 50.3
comp=Z,7.3nm,1.1s
F42A Maple Grove Fa 31.35 9 P **P** **22 47 41.8 -3.1**
F42A IAmb IAmb 22 47 43.4
comp=Z,9.4nm,0.7s
ECR Eagle Creek 31.51 336 P **P** **22 47 46.9 +0.2**
COWI Conover 31.54 8 IAmb IAmb 22 47 49.7
comp=Z,9.4nm,0.9s
REDW Red Top Meadow 31.58 337 P **P** **22 47 47.4 +0.2**
RYN Ryan 31.60 323 P **P** **22 47 46.7 -0.7**
RYN IAmb IAmb 22 47 52.8
comp=Z,14nm,1.3s
SNOW Snow King Moun 31.63 338 P **P** **22 47 47.9 +0.2**
KVN Kaiserville 31.64 324 P **P** **22 47 43.9 -3.9**
KVN IAmb IAmb 22 47 54.7
comp=Z,13nm,1.5s
LOHW Long Hollow 31.70 338 P **P** **22 47 47.4 -0.9**
LOHW IAmb IAmb 22 48 01.0
comp=Z,14nm,0.8s
TPAW Teton Pass 31.73 337 P **P** **22 47 47.9 -0.7**
TPAW IAmb IAmb 22 48 03.8
comp=Z,20nm,1.1s
BINY Binghamton 31.76 27 P **P** **22 47 46.2 -2.4**
baz=216
PAL Palisades 31.80 31 P **P** **22 47 46.4 -2.5**
baz=221
BBGB Big Mountain B 31.86 318 P **P** **22 47 50.0 +0.3**
MOOW Moose Ponds 31.87 338 P **P** **22 47 51.0 +1.2**
MOOW IAmb IAmb 22 47 54.0
comp=Z,8.0nm,0.9s
E28A Huff 32.03 352 P **P** **22 47 51.1 +0.1**
NNA Nana 32.05 145 LR LR 22 58 17.1
comp=Z,487nm,19.3s,baz=328,slow=32
BMN Battle Mountai 32.13 327 P **P** **22 47 50.4 -1.6**
BMN IAmb IAmb 22 47 59.8
comp=Z,11nm,1.4s
FLWY Flagg Ranch 32.15 338 P **P** **22 47 53.2 +1.0**
FLWY IAmb IAmb 22 47 57.8
comp=Z,10nm,0.9s
SAO San Andreas Ge 32.23 318 P **P** **22 47 52.9 0.0**
CMB Columbia Colle 32.33 320 P **P** **22 47 52.6 -1.1**
CMB IAmb IAmb 22 47 58.6
comp=Z,14nm,1.4s
H17A Grant Village 32.37 339 P **P** **22 47 53.6 -0.7**
H17A Grant Village 32.37 339 P **P** **22 47 53.4 -0.9**
baz=150
LKWY Lake 32.46 339 P **P** **22 47 53.8 -1.2**
LKWY IAmb IAmb 22 48 01.6
comp=Z,12nm,1.1s
YLE Yale 32.52 32 P **P** **22 47 53.0 -2.3**
RLMT Red Lodge 32.58 341 P **P** **22 47 55.8 -0.2**
RLMT IAmb IAmb 22 48 01.4
comp=Z,15nm,1.1s
RLMT Red Lodge 32.58 341 P **P** **22 47 55.4 -0.6**
baz=153,SNR=9.7
BIM Bigot 32.65 86 P **P** **22 47 56.2 -0.5**
SADO Sadowa 32.68 21 LR LR 23 03 21.7
comp=Z,554nm,19.3s,baz=188,slow=41
SADO Sadowa 32.68 21 P **P** **22 47 54.3 -2.3**
SADO IAmb IAmb 22 47 56.7
comp=Z,14nm,1.0s
YNR Norris Junctio 32.69 339 P **P** **22 47 56.4 -0.7**
YNR IAmb IAmb 22 48 08.5
comp=Z,6.9nm,1.1s
YMR Madison River 32.75 338 P **P** **22 47 57.3 -0.2**
YMR IAmb IAmb 22 48 02.2
comp=Z,13nm,1.0s
YHH Holmes Hill 32.81 339 P **P** **22 47 57.8 -0.3**
YHH IAmb IAmb 22 48 02.7
comp=Z,7.0nm,1.2s
PAHR Pah Rah Range 32.82 324 P **P** **22 47 57.2 -0.9**
QLMT Earthquake Lak 33.05 338 P **P** **22 48 01.2 +1.1**

EYMN Ely 33.14 4 IAmb IAmb 22 48 08.9
comp=Z,6.1nm,0.7s
EYMN Ely 33.14 4 P P 22 47 58.9 -1.8
baz=186
MDND Maddock 33.16 354 P P 22 48 00.8 0.0
MDND Maddock 33.16 354 P P 22 47 59.7 -1.1
baz=171
LAO LASA Array 33.17 346 P P 22 48 00.4 -0.5
LAO IAmb IAmb 22 48 04.2
comp=Z,15nm,1.1s
LAO LASA Array 33.17 346 P P 22 48 00.1 -0.8
baz=159
HLID Hailey 33.18 334 P P 22 48 01.7 +0.5
HLID IAmb IAmb 22 48 15.6
comp=Z,6.9nm,0.8s
HLID Hailey 33.18 334 P P 22 48 00.7 -0.5
baz=143,SNR=14
UCCT U. Connecticut 33.23 32 P P 22 48 01.2 -0.3
UCCT IAmb IAmb 22 48 19.4
comp=Z,16nm,1.1s
GCMT Greycliff 33.30 341 P P 22 48 03.7 +1.4
BCYI Bear Canyon 33.37 335 P P 22 48 03.3 +0.3
AGMN Agassiz Nation 33.39 359 P P 22 48 01.4 -1.3
baz=178,SNR=14
B35A Bob, Littlefor 33.45 1 IAmb IAmb 22 48 04.4
comp=Z,10.0nm,0.8s
MCMT McKenzie Canyo 33.58 337 P P 22 48 06.0 +1.2
BOZ Bozeman (W) 33.79 339 P P 22 48 05.0 -1.5
baz=149
M65A Busby, Falmout 33.89 33 P P 22 48 04.6 -2.6
baz=225
DLMT Dillon 33.94 337 P P 22 48 08.2 +0.4
ORV Oroville 33.96 322 P P 22 48 07.1 -0.8
MCCM Marconi Confer 33.97 318 P P 22 48 07.0 -0.9
HRV Adam Dziewonsk 34.09 31 P P 22 48 06.6 -2.3
baz=223
LRM Limekiln Ridge 34.27 338 P P 22 48 12.1 +1.3
WVOR Wild Horse Val 34.31 328 P P 22 48 11.3 +0.3
WVOR IAmb IAmb 22 48 25.8
comp=Z,12nm,1.1s
LONY Lake Ozonia 34.31 26 P P 22 48 09.7 -1.2
LONY IAmb IAmb 22 48 27.0
comp=Z,7.9nm,1.3s
LONY Lake Ozonia 34.31 26 P P 22 48 08.8 -2.1
baz=216
DGMT Dagmar 34.43 349 P P 22 48 10.7 -1.1
DGMT Dagmar 34.43 349 P P 22 48 11.4 -0.4
baz=163
O03E Paynes Creek 34.61 322 P P 22 48 11.5 -2.1
O03E IAmb IAmb 22 48 21.9
comp=Z,18nm,1.1s
O03E Paynes Creek 34.61 322 P P 22 48 13.2 -0.4
baz=129
MOD Modoc Plateau 34.82 326 P P 22 48 15.1 -0.3
MOD IAmb IAmb 22 48 28.9
comp=Z,5.0nm,0.8s
HRY Holter Researc 34.82 339 P P 22 48 16.6 +1.2
J08A Circle Bar Ran 34.90 329 P P 22 48 16.6 +0.4
PLID Pearl Lake 35.08 334 P P 22 48 18.5 +0.8
PLID IAmb IAmb 22 48 30.2
comp=Z,15nm,0.9s
O02D Mt. Diablo Mer 35.12 321 P P 22 48 16.4 -1.6
baz=128
EGMT Eagleton 35.33 343 IAmb IAmb 22 48 31.6
comp=Z,17nm,1.1s
EGMT Eagleton 35.33 343 P P 22 48 18.7 -1.0
baz=154
ULM Lac du Bonnet 35.34 359 P P 22 48 19.4 -0.3
comp=Z,6.9nm,0.8s,baz=181,slow=9.3,SNR=9.1
ULM PcP PcP 22 50 51.2 +1.6
comp=Z,1.7nm,0.6s,baz=214,slow=3.6,SNR=3.6
ULM LR LR 23 04 57.5
comp=Z,562nm,18.1s,baz=164,slow=40
ULM Lac du Bonnet 35.34 359 P P 22 48 18.4 -1.2
ULM IAmb IAmb 22 48 20.8
comp=Z,9.7nm,1.0s
BMO Blue Mountains 35.47 332 P P 22 48 21.3 +0.3
MSO Missoula 35.68 337 P P 22 48 23.2 +0.5
MSO IAmb IAmb 22 48 29.4
comp=Z,9.3nm,1.0s
MSO Missoula 35.68 337 P P 22 48 23.1 +0.4
baz=147
I07A Izee 35.94 329 P P 22 48 25.8 +0.7
I07A IAmb IAmb 22 48 28.3
comp=Z,10nm,1.4s
YBH Yreka Blue Hor 36.05 324 LR LR 23 02 32.4
comp=Z,1μm,19.1s,baz=147,slow=35
L04D Klamath Falls 36.13 324 P P 22 48 25.5 -1.3
baz=130
F10A Beach Ranch, E 36.31 333 P P 22 48 29.1 +0.9
G08A Pilot Rock 36.57 331 P P 22 48 30.7 +0.3
JTMT Jette 36.58 338 P P 22 48 30.8 +0.3
JTMT IAmb IAmb 22 48 35.7
comp=Z,12nm,1.0s
J04D Umpqua Nationa 36.70 326 P P 22 48 30.3 -1.4
J04D Umpqua Nationa 36.70 326 P P 22 48 31.5 -0.2
baz=132
I05D Terrebonne, OR 37.05 328 P P 22 48 34.5 +0.1
baz=134
E09A Wood Farm, Sta 37.13 333 P P 22 48 34.2 -0.8
K02D Willamette Mer 37.21 324 P P 22 48 36.5 +0.6
baz=129
WALA Waterton Lakes 37.56 339 P P 22 48 37.7 -1.0
J01E Myrtle Point 37.66 324 P P 22 48 39.7 +0.2
baz=129
G05D Wamic, OR 37.67 329 P P 22 48 39.8 +0.1
baz=135
I03D Drain, OR 37.68 325 P P 22 48 39.7 0.0
baz=130
H04A Detroit Lake 37.73 328 P P 22 48 39.3 -0.9
H04A IAmb IAmb 22 48 44.1
comp=Z,13nm,0.9s
D08A Wollman Farm, 37.89 333 P P 22 48 40.2 -1.2
HOOD Mount Hood Mea 37.90 329 P P 22 48 41.1 -0.6
H04D Lebanon 37.90 327 P P 22 48 40.4 -1.2
H04D IAmb IAmb 22 48 45.7
comp=Z,23nm,1.1s
H04D Lebanon 37.90 327 P P 22 48 41.3 -0.3
baz=132
E07A Sunnyside 37.93 332 P P 22 48 39.2 -2.6
E07A IAmb IAmb 22 48 41.9
comp=Z,12nm,1.4s
NEW Newport 38.08 336 P P 22 48 45.1 +2.0
comp=Z,4.8nm,0.9s,baz=147,slow=8.0,SNR=7.0
NEW LR LR 23 06 45.5
comp=Z,630nm,20.1s,baz=162,slow=40
NEW Newport 38.08 336 P P 22 48 43.7 +0.6
NEW Newport 38.08 336 P P 22 48 43.5 +0.4
baz=143
C09A Chrisman Ranch 38.19 334 P P 22 48 43.0 -0.9
F05D White Salmon 38.20 330 P P 22 48 43.8 -0.3
F05D IAmb IAmb 22 48 50.5
comp=Z,18nm,1.0s
GGN Saint George 38.35 32 P P 22 48 44.3 -1.0
GGN IAmb IAmb 22 49 01.8
comp=Z,16nm,1.1s
LTY Liberty 38.83 332 P P 22 48 49.3 -0.1
LTY IAmb IAmb 22 49 08.1
comp=Z,11nm,1.1s
HEBO Mount Hebo 38.90 327 P P 22 48 49.3 -0.8
B08A Colville Reser 39.07 334 P P 22 48 49.2 -2.2
D05A Enumclaw 39.39 331 P P 22 48 52.5 -1.5
D05A IAmb IAmb 22 48 58.2
comp=Z,16nm,0.9s
D03D Eldon 40.16 330 P P 22 49 00.6 +0.2
baz=134
FFC Flin Flon 40.20 354 P P 22 49 00.6 -0.1
FFC IAmb IAmb 22 49 03.5
comp=Z,14nm,1.3s
LPAZ La Paz 40.63 138 P P 22 49 06.5 +1.1
comp=Z,1.4nm,0.9s,baz=350,slow=10,SNR=5.3
LPAZ LR LR 23 04 15.3
comp=Z,396nm,20.9s,baz=322,slow=34
LPAZ La Paz 40.63 138 P P 22 49 04.0 -1.3
A04D Lummi Island 40.83 332 P P 22 49 06.2 +0.3
baz=136
EDM Edmonton 41.01 343 P P 22 49 06.6 -0.9
EDM IAmb IAmb 22 49 10.4
comp=Z,19nm,1.2s
PB16 IPOC Station P 41.34 142 P P 22 49 08.4 -2.7
LLLB Lillooet 41.86 334 P P 22 49 12.8 -1.6
LLLB IAmb IAmb 22 49 25.1
comp=Z,10nm,1.1s
MDP Montagnes des 42.59 99 LR LR 23 07 52.0
comp=Z,415nm,21.1s,baz=287,slow=38
TA01 Diego Aracena 42.70 145 P P 22 49 20.4 -1.1
TA01 IAmb IAmb 22 49 38.4
comp=Z,26nm,1.4s
FCC Fort Churchill 43.87 1 P P 22 49 31.2 +0.7
RPN Rapa Nui 44.01 199 LR LR 23 03 23.3
comp=Z,187nm,18.3s,baz=47,slow=30
HOLB Holberg 44.70 330 P P 22 49 37.9 +0.5
HOLB IAmb IAmb 22 49 52.7
comp=Z,15nm,1.5s
LVC Limon Verde 45.04 145 LR LR 23 07 37.9
comp=Z,238nm,18.2s,baz=310,slow=35
SCHQ Schefferville 45.46 22 LR LR 23 10 27.4
comp=Z,776nm,20.2s,baz=220,slow=39
BBB Bella Bella 45.72 332 LR LR 23 09 05.2
comp=Z,545nm,18.3s,baz=158,slow=36
RUBB Prince Rupert 48.11 333 P P 22 50 03.9 -0.1
AC02 Maricunga 48.36 149 P P 22 50 05.3 -1.6
AC02 IAmb IAmb 22 50 20.6
comp=Z,11nm,0.8s
DIB Dawson Inlet, 48.41 331 P P 22 50 05.5 -0.8
GO03 Copiap 48.45 150 P P 22 50 04.6 -2.4
GO03 IAmb IAmb 22 50 18.7
comp=Z,12nm,1.4s
AC04 Llanos de Chal 48.57 152 P P 22 50 06.2 -1.6
AC04 IAmb IAmb 22 50 15.1
comp=Z,7.0nm,1.0s
LCO Las Campanas 49.43 152 P P 22 50 13.0 -1.8
LCO IAmb IAmb 22 50 26.5
comp=Z,14nm,1.2s
YKA Yellowknife Ar 49.63 348 P P 22 50 15.9 +0.4
comp=Z,9.2nm,0.9s,baz=154,slow=7.3,SNR=64
YKA LR LR 23 14 42.7
comp=Z,396nm,19.0s,baz=184,slow=40
YKA Yellowknife Ar 49.63 348 P P 22 50 15.6 +0.1
GO04 Tololo Observa 50.38 153 P P 22 50 20.6 -1.4
TAOE Nuku Hiva Isla 50.71 245 eS S 22 57 40.2 +1.2
comp=Z,262nm,24.7s
TAOE eLR LR 23 04 48.3
comp=Z,580nm,24.7s
TAOE Nuku Hiva Isla 50.71 245 P P 22 50 22.1 -2.4
DLBC Dease Lake 50.80 337 LR LR 23 12 40.2
comp=Z,429nm,19.4s,baz=120,slow=37
CO03 El Pedregal 50.99 153 P P 22 50 26.5 +0.1
CO03 IAmb IAmb 22 50 39.3
comp=Z,14nm,1.1s
FRB Frobisher Bay 52.17 14 LR LR 23 14 21.7
comp=Z,585nm,20.3s,baz=195,slow=38
VA06 Catapilco 52.22 155 P P 22 50 31.0 -4.5
VA06 IAmb IAmb 22 50 48.7
comp=Z,11nm,0.9s
JIS Juneau Island 52.42 335 P P 22 50 35.6 -1.0
JIS IAmb IAmb 22 50 45.8
comp=Z,10nm,0.9s
VA03 San Esteban 52.71 154 P P 22 50 36.7 -2.5
VA03 IAmb IAmb 22 50 52.2
comp=Z,18nm,1.2s
SKAG Skagway 53.55 336 P P 22 50 43.9 -1.0
LMEL Las Melosas 53.79 155 P P 22 50 46.0 -1.2
LMEL IAmb IAmb 22 51 03.4
comp=Z,8.6nm,1.1s
GO05 Huala 54.12 157 P P 22 50 46.0 -3.4
MMPY Sheldon Lake, 54.18 340 P P 22 50 49.6 +0.1
baz=135
FARO Fase Yukon 54.61 339 P P 22 50 52.7 0.0
baz=132
CPUP Villa Florida 54.80 138 LR LR 23 14 57.8
comp=Z,198nm,18.6s,baz=328,slow=37
N31M Braeburn, Yuko 55.00 337 P P 22 50 54.9 -0.7
N31M Braeburn, Yuko 55.00 337 P P 22 50 54.8 -0.7
baz=129
BI05 Punta Hualpn 55.21 159 P P 22 50 55.7 -1.5
HYT Haines Junctio 55.24 336 P P 22 50 56.4 -1.0
BDFB Brasilia 55.28 121 P P 22 50 58.9 +0.6
comp=Z,5.0nm,0.8s,baz=323,slow=11,SNR=7.0
BDFB Brasilia 55.28 121 P P 22 50 57.1 -1.2
BDFB IAmb IAmb 22 51 07.2
comp=Z,13nm,1.1s
PNL Peninsula 55.33 334 P P 22 50 58.2 +0.3
baz=124
YUK6 Outpost Mounta 55.65 336 P P 22 50 59.4 -1.0
baz=126
YUK4 Talbot Arm 56.00 336 P P 22 51 02.4 -0.6
baz=126
YUK3 Mose Creek 56.96 336 P P 22 51 09.1 -0.7
baz=124
MCARA McCarthy VSAT 57.77 335 P P 22 51 15.1 -0.2
MCARA McCarthy VSAT 57.77 335 P P 22 51 15.5 +0.3
baz=121
DAWY Dawson 57.90 339 P P 22 51 16.3 +0.2
baz=126
BCAR Beaver Creek A 58.20 337 P P 22 51 20.3 +2.0
Q23K Middleton Isla 58.25 332 P P 22 51 17.9 -0.7
baz=117
KHLU Kahalu`u 58.27 284 P P 22 51 18.1 -1.5
I29M Ogilvie Camp, 58.33 340 P P 22 51 19.4 +0.3
baz=126
EPYK Eagle Plains 58.47 342 P P 22 51 21.3 +1.2
baz=130
EYAK Cordova Ski Ar 58.51 333 P P 22 51 20.5 +0.1
baz=118
N25K Chitina, Valde 58.54 335 P P 22 51 21.4 +0.7
baz=120
L26K Log Cabin Wild 58.77 336 P P 22 51 22.7 +0.5
baz=122
INK Inuvik 58.89 344 LR LR 23 18 35.3
comp=Z,704nm,18.4s,baz=155,slow=38
INK Inuvik 58.89 344 P P 22 51 23.1 +0.3
INK IAmb IAmb 22 51 25.9
comp=Z,7.2nm,0.9s
INK Inuvik 58.89 344 P P 22 51 23.6 +0.8
baz=135
EGAK Eagle 58.94 339 P P 22 51 24.9 +1.6
baz=125
KLU Klutina 59.03 334 P P 22 51 21.6 -2.5
KLU Klutina 59.03 334 P P 22 51 24.8 +0.7
baz=118
DOT Dot Lake 59.38 337 P P 22 51 26.2 -0.2
DOT IAmb IAmb 22 51 38.8
comp=Z,10nm,1.1s
M24K Tolsona, Glenn 59.44 335 P P 22 51 25.9 -0.9
M24K Tolsona, Glenn 59.44 335 P P 22 51 27.9 +1.0
baz=118
SCRK Sand Creek 59.52 337 P P 22 51 27.5 0.0
SCRK IAmb IAmb 22 51 32.2
comp=Z,3.8nm,0.9s
SCRK Sand Creek 59.52 337 P P 22 51 28.2 +0.6
baz=122
PAX Paxson 59.58 336 P P 22 51 25.8 -2.1
PAX IAmb IAmb 22 51 31.0
comp=Z,7.0nm,1.0s
PAX Paxson 59.58 336 P P 22 51 29.8 +2.0
baz=120
SFJD Kangerlussuaq 59.59 19 LR LR 23 19 22.1
comp=Z,365nm,18.4s,baz=229,slow=38
PLCA Paso Flores 59.69 159 P P 22 51 31.2 +2.3
comp=Z,5.1nm,1.0s,baz=292,slow=6.8,SNR=5.1
PLCA LR LR 23 11 00.9
comp=Z,279nm,21.2s,baz=341,slow=30
PLCA Paso Flores 59.69 159 P P 22 51 29.3 +0.4
PLCA IAmb IAmb 22 51 42.0
comp=Z,8.0nm,0.9s
RIDG Independent Ri 59.72 337 P P 22 51 30.4 +1.6
RIDG Independent Ri 59.72 337 P P 22 51 30.8 +1.9
baz=121
RES Resolute Bay 59.86 360 LR LR 23 19 07.6
comp=Z,217nm,18.9s,baz=188,slow=38
RES Resolute Bay 59.86 360 P P 22 51 29.0 -0.5
RES IAmb IAmb 22 51 31.6
comp=Z,4.8nm,0.9s
A36M Sachs Harbour 59.93 350 P P 22 51 29.3 -0.6
A36M IAmb IAmb 22 51 44.4
comp=Z,12nm,1.2s
A36M Sachs Harbour 59.93 350 P P 22 51 31.4 +1.4
baz=145
SEW Seward 59.96 332 P P 22 51 31.6 +1.2
baz=114
OPA Opana 60.05 287 P P 22 51 28.2 -3.5
J25K Salcha River, 60.37 337 P P 22 51 31.9 -1.3
J25K IAmb IAmb 22 51 37.5
comp=Z,4.4nm,0.9s
J25K Salcha River, 60.37 337 P P 22 51 34.6 +1.3
baz=120
DHY Denali Highway 60.39 335 P P 22 51 34.9 +1.4
baz=118
BRSE Bradley Lake S 60.41 331 P P 22 51 34.5 +1.0
baz=113
RC01 Rabbit Creek A 60.50 333 P P 22 51 34.8 +0.7
baz=114
KDAK Kodiak Island 60.58 329 LR LR 23 16 51.1
comp=Z,363nm,18.1s,baz=145,slow=35
DY2G Dye2 60.67 20 *i* P P 22 51 35.3 -0.2
DY2G IAmb IAmb 22 51 36.9
comp=Z,4.8nm,0.9s
GO07 Milladeo Hill, 60.84 162 P P 22 51 34.1 -2.5
HDA Harding Lake 60.86 337 P P 22 51 35.7 -0.8
HDA IAmb IAmb 22 51 39.6
comp=Z,6.6nm,0.8s
HDA Harding Lake 60.86 337 P P 22 51 36.8 +0.3
baz=119
PRP Porcupine Dome 60.89 338 P P 22 51 36.2 -0.7
PRP IAmb IAmb 22 51 40.2
comp=Z,7.9nm,1.0s
PRP Porcupine Dome 60.89 338 P P 22 51 37.0 +0.1
baz=121
IL31 61.01 337 P P 22 51 37.2 -0.3
IL31 IAmb IAmb 22 51 40.9
comp=Z,6.6nm,0.8s
ILAR Eielson Array 61.01 337 P P 22 51 38.7 +1.1
comp=Z,5.2nm,0.9s,baz=131,slow=4.8,SNR=31
ILAR LR LR 23 19 07.2
comp=Z,362nm,19.0s,baz=145,slow=37
ILAR Eielson Array 61.01 337 P P 22 51 37.7 +0.2
RND Reindeer 61.13 335 P P 22 51 38.7 +0.2
CUT Chulitna 61.28 334 P P 22 51 40.1 +0.7
CUT Chulitna 61.28 334 P P 22 51 39.9 +0.5
baz=114
CCB Clear Creek Bu 61.30 337 P P 22 51 39.6 +0.2
CCB IAmb IAmb 22 51 46.3
comp=Z,4.9nm,1.2s
MCK McKinley 61.31 336 P P 22 51 39.6 0.0
MCK IAmb IAmb 22 51 42.7
comp=Z,11nm,1.0s
MCK McKinley 61.31 336 P P 22 51 41.3 +1.7
baz=116
WRH Wood River Hil 61.32 337 P P 22 51 40.4 +0.7
WRH IAmb IAmb 22 51 43.3
comp=Z,9.3nm,1.1s
FYU Fort Yukon 61.34 339 P P 22 51 39.7 0.0
POKR Poker Plat Res 61.39 337 P P 22 51 41.1 +1.0
baz=119
COLA College 61.42 337 P P 22 51 41.0 +0.7
baz=118
TCOL CIGO, UAF Yank 61.43 337 P P 22 51 41.6 +1.2
baz=118
LL02 Futaleuf 61.46 161 P P 22 51 38.0 -2.8
Q19K Cape Douglas, 61.50 330 P P 22 51 42.0 +0.9
baz=109
BMAR Burnt Mountain 61.59 340 P P 22 51 42.6 +1.1
BWN Browne 61.72 336 P P 22 51 42.3 0.0
TRF Thorofare Moun 61.73 335 P P 22 51 43.0 +0.3
TRF Thorofare Moun 61.73 335 P P 22 51 43.4 +0.7
baz=115
NEA2 Nenana 61.76 337 P P 22 51 43.4 +0.8
baz=117
H24K Noodor Dome 61.90 338 P P 22 51 44.0 +0.4
H24K IAmb IAmb 22 51 47.5
comp=Z,6.2nm,0.9s
RCBR Riachuelo 61.91 105 LR LR 23 22 22.6
comp=Z,466nm,18.5s,baz=86,slow=40
KTH Kantishna Hill 62.03 335 P P 22 51 44.3 -0.2
I23K Minto, Yukon-K 62.12 337 P P 22 51 45.7 +0.8
I23K IAmb IAmb 22 51 56.5
comp=Z,9.3nm,0.9s
I23K Minto, Yukon-K 62.12 337 P P 22 51 45.9 +0.9
baz=117
BPAW Bear Paw Mtn. 62.29 336 P P 22 51 46.9 +0.7
BPAW Bear Paw Mtn. 62.29 336 P P 22 51 46.9 +0.7
baz=115
CAST Castle Rocks 62.46 335 P P 22 51 47.6 +0.2
CAST Castle Rocks 62.46 335 P P 22 51 47.9 +0.6
baz=113
MLY Manley 62.59 337 P P 22 51 48.6 +0.4
MLY Manley 62.59 337 P P 22 51 49.1 +0.8
baz=115
PPT Papeete 62.85 241 LR LR 23 11 41.0
comp=Z,217nm,21.4s,baz=7.0,slow=29
PPT2 Papeete2 62.86 241 eS S 23 00 23.6 +4.2
comp=Z,138nm,24.2s
PPT2 eLR LR 23 10 15.6
comp=Z,537nm,26.5s
M19K Big River Lodg 62.88 333 P P 22 51 50.9 +0.8
baz=110
I21K Tanana 63.13 337 P P 22 51 51.6 -0.1
I21K IAmb IAmb 22 52 08.7
comp=Z,8.7nm,1.4s
L19K White Mountain 63.18 333 P P 22 51 52.4 +0.3
baz=110
K20K Telida 63.26 334 P P 22 51 53.7 +1.1
COLD Coldfoot 63.37 339 P P 22 51 54.3 +1.0
baz=117
J20K Nowinta River 63.59 335 P P 22 51 54.7 -0.1
J20K IAmb IAmb 22 51 59.1
comp=Z,14nm,1.4s
H21K Melozitna Rive 63.64 337 P P 22 51 56.0 +0.8
H21K IAmb IAmb 22 51 57.8
comp=Z,5.6nm,1.1s
TOLK Toolik Lake Re 63.83 341 P P 22 51 57.2 +0.8
TOLK IAmb IAmb 22 51 59.9
comp=Z,6.7nm,1.1s
TOLK Toolik Lake Re 63.83 341 P P 22 51 56.5 +0.2
baz=118
TTA Tatalina 63.94 333 P P 22 51 58.0 +0.8
TTA IAmb IAmb 22 51 59.4
comp=Z,5.6nm,1.0s
TTA Tatalina 63.94 333 P P 22 51 57.7 +0.5
baz=109
IMAR Indian Mountai 64.13 337 P P 22 51 59.4 +1.0
ICESG Greenland Ices 64.18 19 *i* P P 22 51 58.1 -1.0
ICESG IAmb IAmb 22 52 00.3
comp=Z,9.4nm,0.8s
EUNU Eureka 65.37 2 P P 22 52 07.3 +1.0
EUNU IAmb IAmb 22 52 25.9
comp=Z,10nm,1.2s
NEEM North Greenlan 66.37 10 *i* P P 22 52 12.8 -0.2
NEEM IAmb IAmb 22 52 15.8
comp=Z,15nm,0.9s
UNV Unalaska Valle 67.36 322 P P 22 52 19.9 +0.5
baz=96
ANM Nome 68.38 334 P P 22 52 26.3 +0.7
baz=101
TNA Tin City 69.62 335 P P 22 52 33.7 +0.5
TNA IAmb IAmb 22 52 36.9
comp=Z,6.4nm,1.0s
TNA Tin City 69.62 335 P P 22 52 34.2 +1.0
baz=99
GAMB Gambell 71.01 333 P P 22 52 42.2 +0.4
GAMB IAmb IAmb 22 52 45.4
comp=Z,8.1nm,1.2s
GAMB Gambell 71.01 333 P P 22 52 43.5 +1.7
baz=95
PMOZ Porto Moniz, M 71.85 60 eLR LR 23 15 19.2
comp=Z,225nm,20.0s
DAG Danmarks Havn 72.50 14 *i* P P 22 52 50.3 -0.3
DAG IAmb IAmb 22 52 51.5
comp=Z,4.4nm,0.8s
USHA Ushuaia 72.91 164 LR LR 23 20 47.1
comp=Z,409nm,18.7s,baz=299,slow=32
NOR Nord 73.70 9 *i* P P 22 52 58.2 +0.6
NOR IAmb IAmb 22 53 00.9
comp=Z,3.8nm,0.6s
JMIC Jan Mayen 74.90 20 LR LR 23 26 35.9
comp=Z,394nm,20.7s,baz=264,slow=36
PTO Porto 77.60 51 eP P 22 53 21.9 +1.2
comp=Z,40nm,1.3s
PGAV Gavieira, Arco 77.72 50 eLR LR 23 17 51.8
comp=Z,231nm,18.0s
PACT Alcochete 77.80 53 eP P 22 53 23.6 +1.8
comp=Z,206nm,1.6s
PCAS Casmilo, Conde 77.85 52 eP P 22 53 23.4 +1.3
comp=Z,43nm,1.6s
PNCL Nicolau / Gran 78.14 54 eP P 22 53 25.2 +1.4
comp=Z,35nm,1.8s
POLO Lamas de Olo 78.17 50 eP P 22 53 24.2 +0.2
comp=Z,13nm,2.5s
PVIS Viseu 78.20 51 eP P 22 53 24.4 +0.3
comp=Z,26nm,1.8s
EVO Evora 78.47 53 eP P 22 53 26.5 +0.9
comp=Z,22nm,2.1s
MTE Manteigas 78.52 51 eP P 22 53 26.7 +0.8
comp=Z,30nm,2.6s
MTE Manteigas 78.52 51 eLR LR 23 19 52.8
comp=Z,297nm,18.0s
MTE Manteigas 78.52 51 P P 22 53 25.1 -0.8

PCBR	**Castelo Branco**	**78.66**	**52**	*e*P	**P**	**22 53 27.8**	**+1.2**
	comp=Z,22nm,1.9s						
MVO	**Moncorvo**	**78.77**	**50**	*e*P	**P**	**22 53 27.0**	**-0.3**
	comp=Z,25nm,2.1s						
MVO	**Moncorvo**	**78.77**	**50**	*e*LR	LR	23 14 27.9	
	comp=Z,244nm,18.0s						
PMRV	**Marv??o**	**78.80**	**52**	*e*P	**P**	**22 53 28.6**	**+1.2**
	comp=Z,26nm,1.5s						
PMRV	**Marv??o**	**78.80**	**52**	*e*LR	LR	23 17 07.6	
	comp=Z,277nm,22.0s						
PBRG	**Braganca**	**78.88**	**50**	*e*P	**P**	**22 53 26.8**	**-1.0**
	comp=Z,37nm,1.9s						
PVAQ	**Vaqueiros**	**78.90**	**54**	*e*LR	LR	23 16 09.9	
	comp=Z,307nm,20.0s						
EKA	**Eskdalemuir Ar**	**78.90**	**36**	P	**P**	**22 53 27.8**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=289,slow=4.5,SNR=9.3						
BILL	**Bilibino**	**79.67**	**338**	P	**P**	**22 53 32.0**	**+0.5**
SPITS	**Spitsbergen Ar**	**79.82**	**11**	LR	LR	23 32 18.4	
	comp=Z,276nm,18.1s,baz=360,slow=38						
PAB	**San Pablo**	**81.09**	**52**	P	**P**	**22 53 37.5**	**-2.4**
PAB				IAmb	IAmb	22 53 49.5	
	comp=Z,6.5nm,1.1s						
AFI	**Afiamalu**	**81.29**	**253**	LR	LR	23 20 37.8	
	comp=Z,112nm,18.5s,baz=45,slow=29						
ESDC	**Sonseca Array**	**81.35**	**51**	P	**P**	**22 53 41.7**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=294,slow=5.2,SNR=22						
ESDC				LR	LR	23 26 19.1	
	comp=Z,203nm,18.3s,baz=308,slow=33						
ESDC	**Sonseca Array**	**81.35**	**51**	P	**P**	**22 53 39.9**	**-1.4**
ESDC				IAmb	IAmb	22 53 58.4	
	comp=Z,9.2nm,1.4s						
ESBB	**Sonseca Array**	**81.35**	**51**	P	**P**	**22 53 40.0**	**-1.2**
MDT	**Midelt**	**82.30**	**58**	LR	LR	23 22 57.6	
	comp=Z,163nm,21.1s,baz=298,slow=30						
CLF	**Chambon-Foret**	**83.78**	**42**	P	**P**	**22 53 53.6**	**0.0**
NB2	**NORSAR Subarra**	**84.72**	**28**	P	**P**	**22 54 00.2**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**84.72**	**28**	P	**P**	**22 53 59.8**	**+1.6**
	comp=Z,3.1nm,0.9s,baz=293,slow=4.8,SNR=8.3						
NOA				LR	LR	23 32 30.5	
	comp=Z,58nm,18.1s,baz=285,slow=36						
BGES	**Gesves**	**84.91**	**39**	*d*P	**P**	**22 54 00.2**	**+0.9**
	comp=Z,8.1nm,0.9s						
BGES				*d*pP	**pwP**	**22 54 12.5**	**+1.0**
NC405	**NORSAR Array S**	**84.92**	**28**	P	**P**	**22 54 00.7**	**+1.5**
NC602	**NORSAR Array S**	**84.98**	**28**	P	**P**	**22 54 00.2**	**+0.7**
NC602				IAmb	IAmb	22 54 12.1	
	comp=Z,4.8nm,0.8s						
RCHB	**Rochefort**	**85.07**	**39**	*d*P	**P**	**22 54 00.8**	**+0.7**
RCHB				*d*pP	**pwP**	**22 54 13.4**	**+1.2**
BSTI	**Sart Tilman**	**85.15**	**39**	*d*x	**P**	**22 54 02.4**	**+1.9**
MEM	**Membach**	**85.41**	**39**	*d*P	**P**	**22 54 03.3**	**+1.5**
	comp=Z,5.7nm,0.8s						
BTNL	**Ternell**	**85.49**	**39**	*d*PcP	**PcP**	**22 54 05.5**	**+0.3**
WLF	**Walferdange**	**85.78**	**40**	P	**P**	**22 54 03.6**	**-0.1**
WLF	**Walferdange**	**85.78**	**40**	*d*pP	pP	22 54 17.1	+7.1
HFS	**Hagfors**	**86.20**	**28**	LR	LR	23 32 23.9	
	comp=Z,126nm,18.5s,baz=285,slow=36						
ARCES	**ARCESS Array B**	**86.20**	**18**	P	**P**	**22 54 06.4**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=350,slow=6.2,SNR=4.2						
ARCES				LR	LR	23 33 28.3	
	comp=Z,216nm,19.5s,baz=290,slow=36						
ARCES	**ARCESS Array B**	**86.20**	**18**	P	**P**	**22 54 05.4**	**0.0**
ARCES				IAmb	IAmb	22 54 09.6	
	comp=Z,6.5nm,1.2s						
SEY	**Seymchan**	**86.86**	**335**	LR	LR	23 34 33.3	
	comp=Z,200nm,18.3s,baz=166,slow=37						
KOWA	**Kowa**	**87.14**	**76**	LR	LR	23 32 01.5	
	comp=Z,167nm,19.6s,baz=299,slow=35						
KOWA	**Kowa**	**87.14**	**76**	P	**P**	**22 54 10.2**	**-0.9**
TIC	**Toumodi**	**88.14**	**84**	*e*PKP1	**P**	**22 54 18.3**	**+2.4**
LIC	**Lamto**	**88.24**	**84**	*e*PKP1	**P**	**22 54 17.9**	**+1.6**
	comp=Z,60nm,1.1s						
DBIC	**Dimbokro**	**88.30**	**84**	P	**P**	**22 54 19.4**	**+2.9**
	comp=Z,4.3nm,0.8s,baz=222,slow=4.9,SNR=3.9						
DBIC				LR	LR	23 30 54.7	
	comp=Z,163nm,20.4s,baz=267,slow=34						
DBIC	**Dimbokro**	**88.30**	**84**	P	**P**	**22 54 15.1**	**-1.5**
PETK	**Petropavlovsk-**	**88.41**	**325**	LR	LR	23 30 54.3	
	comp=Z,87nm,21.9s,baz=49,slow=34						
KIC	**Kosan Boka**	**88.48**	**84**	*e*PKP1	**P**	**22 54 18.9**	**+1.4**
	comp=Z,11nm,0.9s						
TIXI	**Tiksi**	**88.87**	**347**	P	**P**	**22 54 18.6**	**+0.4**
TIXI				IAmb	IAmb	22 54 31.0	
	comp=Z,10.0nm,1.5s						
DAVOX	**Davos/Dischmat**	**89.09**	**42**	LR	LR	23 34 18.8	
	comp=Z,166nm,18.3s,baz=297,slow=36						
CLL	**Collm**	**89.31**	**37**	*e*P	**P**	**22 54 23.0**	**+2.4**
CLL				*e*pP	**sP**	**22 54 30.0**	**+0.8**
CLL				*e*(sP)	**pwP**	**22 54 34.0**	**+1.2**
CLL				*e*SKKSac	**SKKSac**	**23 05 00.0**	**-1.5**
CLL				*e*SP	**SPn**	**23 06 06.0**	**-6.2**
CLL				*e*PPS	PPS	23 06 42.0	
CLL				*e*SS	**SS**	**23 11 12.0**	**+9.0**
GERES	**GERESS Array B**	**90.70**	**39**	P	**P**	**22 54 28.4**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=337,slow=3.0,SNR=7.9						
FINES	**FINESS Array B**	**90.90**	**24**	P	**P**	**22 54 31.4**	**+3.5**
	comp=Z,0.7nm,0.7s,baz=316,slow=5.3,SNR=3.9						
FINES				LR	LR	23 35 34.4	
	comp=Z,158nm,19.4s,baz=304,slow=36						
MSVF	**Nonsavu**	**91.75**	**252**	LR	LR	23 25 49.7	
	comp=Z,189nm,20.6s,baz=158,slow=29						
VRAC	**Vranov**	**92.23**	**38**	LR	LR	23 36 57.1	
	comp=Z,156nm,18.5s,baz=318,slow=36						
VAE	**Valguarnera**	**95.71**	**49**	LR	LR	23 32 54.1	
	comp=Z,357nm,21.8s,baz=344,slow=32						
YAK	**Yakutsk**	**95.79**	**341**	LR	LR	23 42 02.5	
	comp=Z,117nm,18.5s,baz=86,slow=38						
URZ	**Urewera**	**97.53**	**233**	LR	LR	23 30 10.9	
	comp=Z,108nm,18.3s,baz=34,slow=30						
AKASG	**Malin Array Be**	**98.52**	**32**	LR	LR	23 38 06.5	
	comp=Z,143nm,21.6s,baz=339,slow=35						
OBN	**Obninsk**	**99.17**	**26**	LR	LR	23 42 43.9	
	comp=Z,36nm,18.1s,baz=354,slow=37						
MLR	**Muntele Rosu**	**99.64**	**38**	LR	LR	23 41 02.2	
	comp=Z,121nm,19.6s,baz=342,slow=36						
DZM	**Mont Dzumac**	**103.36**	**250**	*e*LR	LR	23 29 29.9	
	comp=Z,318nm,23.1s						
KURK	**Kurchatov**	**114.49**	**5**		PKPdf	23 00 06.0	+1.6
KURBB	**Kurchatov Arra**	**114.58**	**5**	PKP	PKPdf	23 00 06.0	+1.5
	comp=Z,0.4nm,0.6s,baz=353,slow=1.5,SNR=5.1						
MKAR	**Makanchi Array**	**118.61**	**2**	PKP	**PKiKP**	**23 00 13.2**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=29,slow=2.8,SNR=4.9						
HHC	**Hu-ho-hao-te**	**119.44**	**337**	*e*P	**PKiKP**	**23 00 15.2**	**+0.8**
WMQ	**Urumqi**	**121.60**	**358**	*e*P	**PKiKP**	**23 00 20.6**	**+2.1**
NJ2	**Nanjing**	**123.30**	**326**	*e*P	**PKiKP**	**23 00 23.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**132.93**	**256**	PKP	**PKiKP**	**23 00 43.4**	**+1.8**
	comp=Z,1.0nm,1.1s,baz=100,slow=14,SNR=4.9						
PZH	**PanZhiHua**	**135.87**	**338**	PKP	**PKiKP**	**23 00 48.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**144.25**	**337**	PKhKP	PKPpre	23 01 00.1	
	comp=Z,4.9nm,0.9s,baz=347,slow=3.9,SNR=20						
HYBB	**Hyderabad (bro**	**147.30**	**12**	*e*PKPbc	**PKPdf**	**23 01 07.4**	**+0.9**

*IDC **11** 22:42:32.9±4.4, 11°.00S×166°.50E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/40, mbtmp3.9/3, Error ellipse: s-maj=180.4km s-min=37.9km az=141.0*
*NEIC **11** 22:42:49.8±1.3, 11°.19S±0°.04×166°.4E±0°.2, h133km±9km, mb4.1/23, Error ellipse: s-maj=26.8km s-min=4.5km az=81.0*
ISC 11 22:42:51.5±0.9**, 11°.30S**±0°.10×**166°.4E**±0°.2**, h150**km**, n32,** σ**0.s93**/32**, mb4.0**/16**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.20**	**169**	Pn	**Pn**	**22 43 53.7**	**-0.7**
SANVU				Sn	**Sn**	**22 44 41.4**	**-1.9**
URZ	**Urewera**	**28.51**	**162**	P	**P**	**22 48 34.5**	**+1.7**
BKZ	**Black Stump Fm**	**29.18**	**164**	P	**P**	**22 48 40.4**	**+1.7**
LTZ	**Lake Taylor**	**31.78**	**172**	P	**P**	**22 49 03.2**	**+1.6**
WRA	**Warramunga Arr**	**31.97**	**250**	P	**P**	**22 49 03.1**	**-0.5**
	0.6nm,0.6s,baz=82,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**31.97**	**250**	IAmb	IAmb	22 49 12.6	
	comp=Z,0.1nm,1.1s						
FOZ	**Fox Glacier**	**32.25**	**175**	P	**P**	**22 49 05.4**	**-0.2**
LBZ	**Lake Benmore**	**33.13**	**175**	P	**P**	**22 49 14.3**	**+1.0**
BBOO	**Buckleboo**	**35.11**	**228**	P	**P**	**22 49 31.6**	**+1.1**
BBOO				IAmb	IAmb	22 49 43.0	
	comp=Z,4.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.91**	**255**	P	**P**	**22 50 11.2**	**+0.1**
FITZ				IAmb	IAmb	22 50 11.9	
	comp=Z,4.2nm,1.1s						
FORT	**Forrest**	**40.40**	**235**	P	**P**	**22 50 14.8**	**-0.2**
FORT				IAmb	IAmb	22 50 21.9	
	comp=Z,8.2nm,0.9s						
VNDA	**Vanda**	**66.25**	**181**	P	**P**	**22 53 22.7**	**-0.2**
QSPA	**South Pole Qui**	**78.70**	**180**	P	**P**	**22 54 38.3**	**+1.3**
QSPA				IAmb	IAmb	22 54 58.3	
	comp=Z,1.1nm,0.7s						
M19K	**Big River Lodg**	**79.16**	**18**	P	**P**	**22 54 39.2**	**0.0**
M19K				IAmb	IAmb	22 54 44.9	
	comp=Z,3.0nm,0.9s						
L19K	**White Mountain**	**79.23**	**17**	P	**P**	**22 54 39.4**	**-0.3**
L19K				IAmb	IAmb	22 54 54.1	
	comp=Z,2.0nm,1.0s						
TTA	**Tatalina**	**79.50**	**16**	P	**P**	**22 54 40.5**	**-0.7**
J20K	**Nowinta River**	**81.00**	**16**	P	**P**	**22 54 48.9**	**-0.2**
CAST	**Castle Rocks**	**81.00**	**18**	P	**P**	**22 54 49.3**	**+0.2**
CAST				IAmb	IAmb	22 54 50.0	
	comp=Z,3.0nm,0.9s						
KTH	**Kantishna Hill**	**81.45**	**18**	P	**P**	**22 54 51.4**	**-0.2**
KTH				IAmb	IAmb	22 54 53.1	
	comp=Z,3.7nm,1.0s						
N25K	**Chitina, Valde**	**82.16**	**21**	P	**P**	**22 54 54.5**	**-0.8**
N25K				IAmb	IAmb	22 54 57.6	
	comp=Z,3.6nm,0.9s						
GLB	**Gilahina Butte**	**82.34**	**22**	P	**P**	**22 54 55.3**	**-0.9**
GLB				IAmb	IAmb	22 54 56.5	
	comp=Z,9.3nm,1.2s						
IMAR	**Indian Mountai**	**82.51**	**15**	P	**P**	**22 54 56.5**	**-0.4**
WRH	**Wood River Hil**	**82.98**	**18**	P	**P**	**22 54 58.4**	**-1.0**
CCB	**Clear Creek Bu**	**83.19**	**18**	P	**P**	**22 54 59.5**	**-1.0**
H23K	**Yukon River**	**83.53**	**17**	P	**P**	**22 55 02.2**	**0.0**
ILAR	**Eielson Array**	**83.56**	**18**	P	**P**	**22 55 01.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=223,slow=4.9,SNR=9.6						
M27K	**Edge Creek, AK**	**83.63**	**22**	P	**P**	**22 55 02.7**	**-0.3**
M27K				IAmb	IAmb	22 55 06.8	
	comp=Z,4.9nm,1.1s						
J25K	**Salcha River,**	**83.93**	**19**	P	**P**	**22 55 03.6**	**-0.7**
J25K				IAmb	IAmb	22 55 03.9	
	comp=Z,2.5nm,0.8s						
SCRK	**Sand Creek**	**83.95**	**20**	P	**P**	**22 55 03.3**	**-1.2**
SCRK				IAmb	IAmb	22 55 04.6	
	comp=Z,3.1nm,1.1s						
L27K	**Beaver Creek,**	**84.09**	**21**	P	**P**	**22 55 04.9**	**-0.2**
BCAR	**Beaver Creek A**	**84.11**	**21**	P	**P**	**22 55 04.9**	**-0.4**
MKAR	**Makanchi Array**	**94.13**	**317**	P	**P**	**22 55 52.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=88,slow=5.9,SNR=7.9						

*IDC **11** 23:06:17.1±1.9, 34°.97S×108°.53W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/25, mbtmp3.9/4, MS4.0/9, Ms1 4.0/9, ms1mx3.5/52, Error ellipse: s-maj=63.7km s-min=32.2km az=35.0*
*NEIC **11** 23:06:19.4±1.0, 34°.8S±0°.1×108°.4W±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=25.2km s-min=17.9km az=274.0*
ISC 11 23:06:19.0±0.8**, 34°.8S**±0°.1×**108°.4W**±0°.1**, h10**km**, n36,** σ**0.s72**/24**, mb4.4**/10**, MS3.9**/9**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**7.66**	**353**	Pn	**Pn**	**23 08 10.1**	**-0.5**
RPN	**Rapa Nui**	**7.68**	**354**	Pn	**Pn**	**23 08 11.1**	**+0.2**
H03S2	**Juan Fernandez**	**24.31**	**96**	T	T	23 36 48.2	
	baz=246						
H03S1	**Juan Fernandez**	**24.32**	**96**	T	T	23 36 43.8	
	baz=246						
H03S3	**Juan Fernandez**	**24.32**	**96**	T	T	23 36 42.1	
	baz=246						
COYC	**Coyhaique**	**29.52**	**122**	P	**P**	**23 12 23.5**	**+0.1**
COYC				IAmb	IAmb	23 12 27.1	
	comp=Z,6.3nm,1.0s						
GO05	**Huala**	**29.79**	**101**	P	**P**	**23 12 25.9**	**-0.1**
PLCA	**Paso Flores**	**30.32**	**113**	P	**P**	**23 12 30.8**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=275,slow=9.2,SNR=6.1						
PLCA	**Paso Flores**	**30.32**	**113**	IAmb	IAmb	23 12 31.4	
	comp=Z,9.9nm,1.1s						
MT01	**Popeta**	**30.56**	**99**	P	**P**	**23 12 32.9**	**0.0**
LMEL	**Las Melosas**	**31.42**	**99**	P	**P**	**23 12 40.0**	**-0.6**
LMEL				IAmb	IAmb	23 12 41.4	
	comp=Z,7.4nm,0.9s						
LVC	**Limon Verde**	**36.46**	**81**	P	**P**	**23 13 24.3**	**-0.4**
LVC				IAmb	IAmb	23 13 26.2	
	comp=Z,7.0nm,1.1s						
NNA	**Nana**	**36.52**	**59**	LR	LR	23 24 08.4	
	comp=Z,201nm,20.2s,baz=246,slow=29						
ATAH	**Atahualpa**	**38.96**	**52**	LR	LR	23 24 54.0	
	comp=Z,121nm,20.8s,baz=311,slow=28						
LPAZ	**La Paz**	**40.39**	**73**	P	**P**	**23 13 59.1**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=234,slow=2.2,SNR=9.5						
LPAZ				LR	LR	23 26 21.4	
	comp=Z,123nm,21.6s,baz=20,slow=30						
LPAZ	**La Paz**	**40.39**	**73**	P	**P**	**23 13 58.1**	**0.0**
SMAI	**San Martin Ant**	**40.68**	**158**	P	**P**	**23 13 59.6**	**+0.5**
SMAI				IAmb	IAmb	23 14 19.0	
	comp=Z,9.0nm,0.7s						
ORTG	**Ortega, Santa**	**49.88**	**30**	P	**P**	**23 15 11.5**	**-1.3**
JTS	**Las Juntas de**	**50.02**	**31**	LR	LR	23 30 59.9	
	comp=Z,106nm,20.4s,baz=234,slow=30						
JTS	**Las Juntas de**	**50.02**	**31**	P	**P**	**23 15 12.5**	**-1.4**
JTS				IAmb	IAmb	23 15 21.4	
	comp=Z,8.9nm,1.0s						
ROSC	**El Rosal**	**50.81**	**46**	LR	LR	23 32 47.3	
	comp=Z,174nm,19.0s,baz=262,slow=31						
BCIP	**Isla Barro Col**	**51.38**	**37**	P	**P**	**23 15 23.6**	**-0.5**
ESPN	**Las Esperanzas**	**52.01**	**30**	P	**P**	**23 15 28.8**	**0.0**
CCIG	**Comitan**	**53.08**	**20**	P	**P**	**23 15 37.1**	**+0.3**
CCIG				IAmb	IAmb	23 15 43.3	
	comp=Z,6.6nm,1.0s						
SDV	**Santo Domingo**	**56.22**	**47**	LR	LR	23 36 27.4	
	comp=Z,110nm,18.1s,baz=186,slow=32						
VNDA	**Vanda**	**56.29**	**195**	LR	LR	23 33 46.1	
	comp=Z,96nm,20.9s,baz=119,slow=29						
MSWZ	**Moikau Station**	**58.66**	**239**	P	**P**	**23 16 17.1**	**+0.5**
FOZ	**Fox Glacier**	**61.64**	**235**	P	**P**	**23 16 35.6**	**-1.3**
TXAR	**Lajitas Array**	**63.93**	**5**	P	**P**	**23 16 52.8**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=161,slow=3.6,SNR=1.9						
TXAR	**Lajitas Array**	**63.93**	**5**	P	**P**	**23 16 52.4**	**+0.1**
MDP	**Montagnes des**	**65.70**	**65**	LR	LR	23 42 22.8	
	comp=Z,152nm,18.6s,baz=193,slow=33						
PDAR	**Pinedale Array**	**77.19**	**359**	P	**P**	**23 18 14.3**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=151,slow=3.4,SNR=4.0						
PDAR	**Pinedale Array**	**77.19**	**359**	P	**P**	**23 18 13.9**	**+0.9**
MAW	**Mawson**	**77.71**	**177**	LR	LR	23 48 18.4	
	comp=Z,159nm,20.0s,baz=242,slow=32						
BRTR	**Keskin Array B**	**149.52**	**69**	PKPbc	**PKPbc**	**23 26 08.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=306,slow=2.7,SNR=3.9						
SONM	**Songino Array**	**151.07**	**307**	PKPbc	**PKPbc**	**23 26 11.5**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=132,slow=2.2,SNR=4.1						

IDC 11 23:22:43.5±2.0**, 8°.62S**×**124°.28E, h0**km**, mb3.2**/1**, mb1 3.5**/4**, mb1mx3.2**/31**, mbtmp3.3**/4**, ML3.5**/3**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.5**/18**, Error ellipse: s-maj=114.8km s-min=28.6km az=64.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.74**	**308**	LR	LR	23 26 49.7	
	comp=Z,24nm,18.9s,baz=206,slow=43						
FITZ	**Fitzroy Crossi**	**9.52**	**172**	Pn	Pn	23 25 00.3	-1.7
	0.2nm,0.3s,baz=352,slow=11,SNR=23						
FITZ				Sn	Sn	23 26 33.0	-17
	2.2nm,0.3s,baz=351,slow=12,SNR=17						
WRA	**Warramunga Arr**	**14.89**	**140**	Pn	Pn	23 26 16.0	+0.5
	0.3nm,0.3s,baz=320,slow=14,SNR=12						
WRA				Sn	Sn	23 28 47.4	-14
	0.4nm,0.3s,baz=286,slow=16,SNR=11						
ASAR	**Alice Springs**	**17.58**	**149**	P	P	23 26 51.6	+0.3
	0.1nm,0.3s,baz=321,slow=12,SNR=8.1						
MSVF	**Nonsavu**	**52.99**	**106**	LR	LR	23 52 21.7	
	comp=Z,62nm,21.2s,baz=176,slow=34						
MKAR	**Makanchi Array**	**66.61**	**330**	P	P	23 33 35.8	0.0
	0.2nm,0.6s,baz=135,slow=7.1,SNR=2.3						

*IDC **11** 23:50:59.8±1.8, 27°.72N×44°.08W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/64, mbtmp3.7/7, MS3.5/7, Ms1 3.5/7, ms1mx2.9/84, Error ellipse: s-maj=54.4km s-min=24.4km az=12.0*
ISC 11 23:51:02.6±1.6**, 27°.7N**±0°.3×**44°.1W**±0°.2**, h18**km**, n17,** σ**0.s72**/7**, mb3.8**/7**, MS3.6**/7**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**31.28**	**238**	LR	LR	00 09 32.3	
	comp=Z,50nm,18.4s,baz=81,slow=36						
TKL	**Tuckaleechee C**	**34.51**	**293**	LR	LR	00 09 19.6	
	comp=Z,52nm,18.6s,baz=94,slow=32						
FRB	**Frobisher Bay**	**39.35**	**343**	P	**P**	**23 58 30.6**	**+0.1**
	2.4nm,0.8s,baz=149,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**45.02**	**99**	P	**P**	**23 59 17.0**	**-0.4**
	0.8nm,0.9s,baz=299,slow=5.9,SNR=3.5						
H10N2	**ASCENSION HYDR**	**45.48**	**137**	T	T	00 47 58.1	
	baz=322,slow=75,SNR=30						
H10N3	**ASCENSION HYDR**	**45.48**	**137**	T	T	00 47 54.2	
	baz=322,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**45.49**	**137**	T	T	00 48 01.1	
	baz=322,slow=75,SNR=28						
TXAR	**Lajitas Array**	**51.88**	**287**	P	**P**	**00 00 10.8**	**+0.5**
	0.2nm,0.7s,baz=94,slow=6.3,SNR=3.4						
PDAR	**Pinedale Array**	**54.27**	**304**	P	**P**	**00 00 28.0**	**+0.1**
	0.6nm,0.7s,baz=96,slow=9.1,SNR=6.1						
LVC	**Limon Verde**	**55.48**	**208**	LR	LR	00 22 21.9	
	comp=Z,51nm,18.6s,baz=234,slow=34						
FINES	**FINESS Array B**	**56.61**	**33**	P	**P**	**00 00 44.5**	**+0.4**
	1.0nm,0.6s,baz=238,slow=4.7,SNR=5.3						
YKA	**Yellowknife Ar**	**56.84**	**328**	P	**P**	**00 00 44.6**	**-1.1**
	0.3nm,0.7s,baz=93,slow=7.5,SNR=3.3						
NEW	**Newport**	**58.87**	**312**	LR	LR	00 26 48.2	
	comp=Z,46nm,18.5s,baz=64,slow=36						
BRTR	**Keskin Array B**	**63.90**	**57**	P	**P**	**00 01 35.0**	**+0.4**
	0.6nm,0.6s,baz=256,slow=5.6,SNR=4.4						
KBZ	**Khabaz**	**69.36**	**51**	LR	LR	00 32 37.5	
	comp=Z,32nm,18.0s,baz=182,slow=36						
GEYT	**Alibeck**	**82.24**	**51**	LR	LR	00 39 32.9	
	comp=Z,31nm,20.4s,baz=198,slow=35						
AAK	**Ala-Archa**	**90.04**	**40**	LR	LR	00 44 13.5	
	comp=Z,34nm,18.7s,baz=135,slow=36						

*IDC **12** 00:13:53.6±2.2, 7°.88S×74°.71W, h161km±30km, mb3.4/3, mb1 3.5/8, mb1mx3.2/38, mbtmp3.9/8, Error ellipse: s-maj=31.9km s-min=13.5km az=56.0*
*NEIC **12** 00:13:54.1±1.9, 7°.82S±0°.09×74°.62W±0°.07, h158km±7km, mb4.1/9, Error ellipse: s-maj=13.7km s-min=8.7km az=155.0*
*VAO **12** 00:14:05.8±0.8, 7°.50S×73°.40W, h144km±5km, mbR4.0*
ISC 12 00:13:53.0±0.6**, 7°.80S**±0°.06×**74°.62W**±0°.06**, h151**km**, n31,** σ**1.s13**/33**, mb3.9**/5**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.90**	**88**	*e*P	**Pn**	**00 14 28.6**	**+1.6**
ATAH	**Atahualpa**	**3.80**	**280**	P	**Pn**	**00 14 51.0**	**-0.2**
	1.3nm,0.3s,baz=43,slow=3.5,SNR=15						
ATAH				S	**Sn**	**00 15 35.4**	**-0.7**
	9.5nm,0.3s,baz=291,slow=15,SNR=13						
NNA	**Nana**	**4.71**	**208**	P	**Pn**	**00 15 03.3**	**+0.7**
	2.2nm,0.3s,baz=21,slow=8.3,SNR=9.6						
NNA				S	**Sn**	**00 15 55.4**	**-1.5**
	9.4nm,0.3s,baz=320,slow=23,SNR=11						
NNA	**Nana**	**4.71**	**208**		**Pn**	**00 15 03.3**	**+0.7**
NNA				Sn	**Sn**	**00 15 56.4**	**-0.6**
ETMB	**Extrema**	**8.54**	**104**	*e*P	**Pn**	**00 15 52.3**	**-1.4**
OTAV	**Otavalo**	**8.85**	**334**	Pn	**Pn**	**00 15 57.5**	**-0.7**
LPAZ	**La Paz**	**10.55**	**144**	P	**Pn**	**00 16 22.3**	**+1.4**
	0.3nm,0.3s,baz=320,slow=12,SNR=4.3						
LPAZ	**La Paz**	**10.55**	**144**		**Pn**	**00 16 20.9**	**0.0**
MACA	**Manacapuru-AM**	**14.61**	**72**	*e*P	**Pn**	**00 17 10.3**	**-2.4**
VILB	**Vilhena**	**15.07**	**111**	*e*P	**Pn**	**00 17 17.5**	**-1.0**
SIV	**San Ignacio**	**15.55**	**123**	P	**P**	**00 17 25.9**	**+0.5**
	0.7nm,0.3s,baz=317,slow=10.0,SNR=5.7						
PTLB	**Pontes e Lacer**	**16.95**	**118**	*e*P	**Pn**	**00 17 44.2**	**+2.9**
SDV	**Santo Domingo**	**17.04**	**14**	P	**Pn**	**00 17 43.7**	**+1.0**
	1.0nm,0.3s,baz=154,slow=5.9,SNR=5.9						
SDV	**Santo Domingo**	**17.04**	**14**	P	**Pn**	**00 17 43.6**	**+0.9**
SDV				IAmb	IAmb	00 17 47.7	
	comp=Z,6.3nm,0.9s						
PAYG	**Puerto Ayora**	**17.14**	**294**	IAmb	IAmb	00 17 41.0	
	comp=Z,22nm,1.1s						
PAYG				P	**P**	**00 17 42.0**	**-0.9**
PDRB	**Porto dos Gac**	**18.03**	**104**	*e*P	**P**	**00 17 53.7**	**+1.0**
CLDB	**Colider**	**18.82**	**101**	*e*P	**P**	**00 18 02.2**	**+0.9**
ITTB	**Itaituba**	**19.08**	**81**	*e*P	**P**	**00 18 04.8**	**+0.6**
NPGB	**Novo Progresso**	**19.11**	**89**	*e*P	**P**	**00 18 04.7**	**+0.1**
BIRV	**Birongo**	**19.96**	**25**	P	**Pn**	**00 18 16.9**	**0.0**
SALV	**Santo Antonio**	**20.18**	**115**	*e*P	Pn	00 18 19.3	-0.3
MALB	**Monte Alegre**	**21.11**	**75**	*e*P	**P**	**00 18 26.4**	**+0.4**
GRGR	**Grenville**	**23.62**	**33**	P	**P**	**00 18 50.6**	**+0.1**
MCPB	**Macapa, AP**	**23.67**	**73**	*e*P	**P**	**00 18 51.2**	**+0.2**
TXAR	**Lajitas Array**	**46.32**	**324**	P	**P**	**00 22 05.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=144,slow=11,SNR=3.3						
DBIC	**Dimbokro**	**71.04**	**80**	P	**P**	**00 24 54.2**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=256,slow=9.2,SNR=5.2						
DBIC	**Dimbokro**	**71.04**	**80**	P	**P**	**00 24 54.3**	**-0.9**
DBIC				IAmb	IAmb	00 24 55.1	
	comp=Z,3.3nm,0.7s						
LLLB	**Lillooet**	**71.06**	**330**	P	**P**	**00 24 56.1**	**+1.5**
LLLB				IAmb	IAmb	00 25 08.9	
	comp=Z,1.9nm,0.6s						
TOA0	**Torodi Ar. Sit**	**78.58**	**75**	P	**P**	**00 25 37.8**	**-0.8**
TOA0				IAmb	IAmb	00 25 40.8	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**78.58**	**75**	P	**P**	**00 25 38.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=265,slow=5.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**78.58**	**75**	P	**P**	**00 25 38.0**	**-0.6**

*IDC **12** 00:24:02.3±0.7, 32°.09N×141°.90E, h0km, mb4.3/22, mb1 4.4/25, mb1mx4.2/47, mbtmp4.3/25, ML3.8/3, MS3.4/11, Ms1 3.4/11, ms1mx3.0/87, Error ellipse: s-maj=20.8km s-min=15.4km az=63.0*
*JMA **12** 00:24:03.6±0.2, 32°.28N×141°.91E, h6km±3km, M4.1*
*NIED **12** 00:24:03.6, 32°.28N×141°.91E, h6km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.81; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-1.86; $M_{r\theta}$0.62; $M_{\theta\phi}$0.17; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.95000×10^{15} NP1: ϕ_s158.00000°, δ51.00000°, λ67.00000°. NP2: ϕ_s11.00000°, δ44.00000°, λ115.00000°.*
*NEIC **12** 00:24:08.4±1.8, 32°.18N±0°.07×141°.86E±0°.09, h32km±5km, mb4.6/72 Error ellipse: s-maj=10.8km s-min=9.0km az=58.0*
ISC 12 00:24:07.6±0.4**, 32°.21N**±0°.05×**141°.85E**±0°.06**, h29**km**, n158,** σ**1.s23**/161**, mb4.5**/67**, MS3.6**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.79**	**279**	P	**Pn**	**00 24 36.0**	**-0.5**
JHCJ	**Hachijojimakas**	**1.94**	**297**	P	**Pn**	**00 24 37.8**	**-0.7**
JHJ2	**Mitsune**	**1.94**	**298**	P	**Pn**	**00 24 37.8**	**-0.8**
JHJ2				*e*S	**Sn**	**00 25 02.8**	**+0.8**
JHJ2	**Mitsune**	**1.94**	**298**	Pn	**Pn**	**00 24 38.3**	**-0.3**
JHJ	**Hachijo jima 2**	**1.97**	**298**	Pn	**Pn**	**00 24 38.4**	**-0.6**
	153nm,0.3s,baz=274,slow=17,SNR=18						
JHJ				Sn	**Sb**	**00 25 04.5**	**-2.3**
	114nm,0.3s,baz=67,slow=18,SNR=3.6						
JHJ				LR	LR	00 25 40.2	
	comp=Z,621nm,20.4s,baz=109,slow=48						
BSO1	**Boso 1**	**2.54**	**344**	P	**Pn**	**00 24 45.8**	**-0.6**
BSO3	**Boso 3**	**2.82**	**337**	P	**Pn**	**00 24 50.0**	**-0.4**
JOD2	**Odawara 2**	**3.82**	**324**	P	**Pn**	**00 25 03.7**	**-0.8**
JOD2				*e*S	**Sn**	**00 25 49.2**	**+0.8**
JYT	**Yasato**	**4.24**	**342**		**Pn**	**00 25 09.0**	**-1.2**
JYN	**Shimob**	**4.28**	**321**	P	**Pn**	**00 25 11.1**	**+0.2**
JYN				S	**Sn**	**00 26 01.2**	**+1.3**
JRY	**Ryogami san**	**4.52**	**328**	P	**Pn**	**00 25 14.2**	**+0.1**
JRY				S	**Sn**	**00 26 06.8**	**+1.1**
JAG	**Ashikaga**	**4.65**	**335**	P	**Pn**	**00 25 15.6**	**-0.3**
JAG				S	**Sn**	**00 26 09.3**	**+0.4**
JGF	**Kuroka**	**5.04**	**313**	Pn	**Pn**	**00 25 22.4**	**+1.1**
INU	**Inuyama**	**5.10**	**309**	Pn	**Pn**	**00 25 22.6**	**+0.6**
CBIJ	**Chichi jima**	**5.11**	**177**	P	**Pn**	**00 25 23.7**	**+1.6**
CBIJ				S	**Sn**	**00 26 21.7**	**+1.6**
JCJ	**Chichijima**	**5.11**	**177**	Pn	**Pn**	**00 25 19.9**	**-2.3**
MJAR	**Matsushiro Arr**	**5.27**	**326**	Pn	**Pn**	**00 25 24.1**	**-0.3**
	1.2nm,0.3s,baz=150,slow=11,SNR=23						
MJAR				LR	LR	00 27 44.4	
	comp=Z,284nm,18.9s,baz=132,slow=41						
MJAR	**Matsushiro Arr**	**5.27**	**326**		**Pn**	**00 25 25.0**	**+0.7**
MAJO	**Matsushiro**	**5.27**	**326**	Pn	**Pn**	**00 25 25.2**	**+0.8**
MAT	**Matsushiro**	**5.27**	**326**	P	**Pn**	**00 25 25.0**	**+0.6**
MJB9	**Matsu-Tunnel**	**5.27**	**326**	Pn	**Pn**	**00 25 25.2**	**+0.7**
JFT	**Otama**	**5.44**	**347**	P	**Pn**	**00 25 26.5**	**-0.2**
JFT				S	**Sn**	**00 26 27.3**	**-1.1**
JMM	**Marumori**	**5.71**	**352**		**Pn**	**00 25 28.9**	**-1.5**
JSD	**Sado**	**6.52**	**334**	Pn	**Pn**	**00 25 40.6**	**-0.9**
JMN	**Monobe**	**6.87**	**285**	Pn	**Pn**	**00 25 47.3**	**+0.9**
JHS	**Saijyo**	**7.80**	**293**	Pn	**Pn**	**00 26 00.3**	**+1.1**

JTM	Tenmabayashi	8.58	356	Pn	Pn	00 26 08.9	-0.9
ERM	Erimo	9.84	6	Pn	Pn	00 26 24.1	-3.0
ASAJ	Asahikawa	11.90	3	LR	LR	00 32 36.9	
	comp=Z,157nm,19.8s,baz=181,slow=43						
KSRS	Korea Array	12.58	298	Pn	Pn	00 27 08.6	+4.0
	0.2nm,0.3s,baz=103,slow=14,SNR=3.5						
KSRS				LR	LR	00 32 31.1	
	comp=Z,97nm,18.9s,baz=100,slow=40						
MDJ	Mudanjiang	15.65	326	P	Pn	00 27 45.7	-0.3
MDJ				pmax	pmax		
	comp=Z,11nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.3s						
KLR	Kul'dur	18.62	339	P	P	00 28 20.8	-1.8
	comp=Z,0.4nm,0.3s,baz=167,slow=5.7,SNR=9.6						
NJ2	Nanjing	19.48	276	*e*P	Pn	00 28 33.1	-0.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YHNB	Yeheng	19.49	253	P	Pn	00 28 32.5	-1.4
YHNB				IAmb	IAmb	00 28 49.9	
	comp=Z,26nm,1.1s						
NACB	Ninganchiao	19.55	251	P	P	00 28 30.8	-2.2
NACB				IAmb	IAmb	00 28 38.6	
	comp=Z,18nm,0.9s						
PETK	Petropavlovsk-	23.81	24	LR	LR	00 41 04.9	
	comp=Z,95nm,18.7s,baz=205,slow=43						
XAN	Xi'an	27.58	283	P	P	00 29 40.4	-12
XAN				pP	pP	00 29 52.4	-6.4
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	Magadan	28.01	10	LR	LR	00 40 58.5	
	comp=Z,36nm,21.8s,baz=131,slow=36						
ULN	Ulaanbaatar	30.58	311	P	P	00 30 20.5	+1.5
SONM	Songino Array	31.00	311	P	P	00 30 23.4	+0.9
	comp=Z,2.7nm,0.7s,baz=112,slow=9.6,SNR=21						
SONM	Songino Array	31.00	311	P	P	00 30 24.3	+1.8
LZH	Lanzhou	31.56	288	*e*P	P	00 30 35.1	+7.4
LZH				pP	pwP	00 30 41.6	-1.8
LZH				sP	sP	00 30 45.5	+8.4
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				LR	LR		
	comp=N,220nm,11.9s						
LZH				LR	LR		
	comp=E,190nm,12.5s						
LZH				LR	LR		
	comp=Z,220nm,11.4s						
SIJI	Sorong	34.39	199	LR	LR	00 41 56.1	
	comp=Z,80nm,20.6s,baz=158,slow=31						
GTA	Gaotai	34.60	294	*e*P	P	00 30 53.2	-0.9
GTA				sP	pP	00 31 00.3	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,90nm,4.0s						
GTA				LR	LR		
	comp=N,110nm,15.3s						
GTA				LR	LR		
	comp=E,160nm,16.7s						
GTA				LR	LR		
	comp=Z,140nm,14.5s						
GOMU	GeErMu	38.81	289	P	P	00 31 29.3	-1.0
GOMU				pP	pP	00 31 32.0	-4.8
GOMU				sP	sP	00 31 36.5	-3.4
GOMU				S	S	00 37 26.1	-0.4
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,84nm,6.0s						
GOMU				LR	LR		
	comp=N,89nm,5.7s						
GOMU				LR	LR		
	comp=E,19nm,4.8s						
GOMU				LR	LR		
	comp=Z,45nm,5.9s						
TIXI	Tiksi	40.11	354	P	P	00 31 40.2	-0.1
	comp=Z,1.6nm,0.5s,baz=271,slow=22,SNR=7.0						
WMQ	Urumqi	43.51	302	*e*P	P	00 32 09.2	+0.7
WMQ				sP	pwP	00 32 20.5	-3.4
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ZAA0	Zalesovo Array	45.53	316	P	P	00 32 24.4	0.0
ZAA0				IAmb	IAmb	00 32 24.8	
	comp=Z,7.2nm,1.1s						
ZALV	Zalesovo Beam	45.53	316	P	P	00 32 23.8	-0.6
	comp=Z,1.9nm,0.4s,baz=100,slow=7.7,SNR=20						
ZALV				PcP	PcP	00 34 02.0	-0.7
	comp=Z,1.0nm,0.6s,baz=142,slow=2.7,SNR=3.2						
ZALV	Zalesovo Beam	45.53	316	P	P	00 32 24.4	0.0
ANM	Nome	45.58	29	P	P	00 32 25.5	+0.8
COEN	Coen	45.92	178	P	P	00 32 27.1	-0.7
COEN				IAmb	IAmb	00 32 41.5	
	comp=Z,6.9nm,1.1s						
TAPN	Taplejung	46.84	279	*e*P	P	00 32 33.7	-1.7
MK31	Makanchi Array	47.12	306	P	P	00 32 37.4	+0.4
MK31				IAmb	IAmb	00 32 38.0	
	comp=Z,8.0nm,0.8s						
MKAR	Makanchi Array	47.12	306	P	P	00 32 36.9	-0.2
	comp=Z,8.4nm,0.8s,baz=90,slow=9.7,SNR=111						
MKAR				LR	LR	00 51 22.0	
	comp=Z,29nm,19.8s,baz=65,slow=35						
MKAR	Makanchi Array	47.12	306	P	P	00 32 37.2	+0.1
CHGN	Chignik	47.27	41	P	P	00 32 36.1	-1.8
MAKZ	Makanchi	47.33	306	P	P	00 32 39.0	+0.3
MAKZ				IAmb	IAmb	00 32 39.7	
	comp=Z,7.9nm,0.8s						
NRIK	Noril'sk	47.82	337	P	P	00 32 43.4	+1.3
	comp=Z,1.4nm,0.3s,baz=113,slow=7.6,SNR=5.8						
RAMN	Ramite	47.90	279	*e*P	P	00 32 42.3	-1.4
	comp=Z,5.7nm,0.3s						
JIRN	Jiri	48.00	280	*e*P	P	00 32 43.6	-1.0
	comp=Z,12nm,0.4s						
GUN	Gumba	48.18	280	*e*P	P	00 32 44.9	-1.0
	comp=Z,22nm,0.8s						
KKN	Kakani	48.72	280	*e*P	P	00 32 48.8	-1.1
CHIR	Chirikof Islan	48.80	42	P	P	00 32 47.6	-2.2
GKN	Gorkha	49.19	281	*e*P	P	00 32 52.4	-1.0
P18K	Big Mountain,	49.21	37	P	P	00 32 52.9	-0.1
P18K				IAmb	IAmb	00 32 58.1	
	comp=Z,6.5nm,1.0s						
TTA	Tatalina	49.23	32	P	P	00 32 53.8	+0.7
KNRA	Kununurra	49.24	197	P	P	00 32 52.9	-0.6
KURK	Kurchatov	49.29	312	P	P	00 32 53.7	0.0
KURBB	Kurchatov Arra	49.36	311	P	P	00 32 53.9	-0.3
	comp=Z,7.2nm,0.7s,baz=86,slow=7.5,SNR=84						
DANN	Dangsing	49.80	282	*e*P	P	00 32 57.6	-0.7
	comp=Z,12nm,0.4s						
K20K	Telida	50.17	32	P	P	00 33 01.2	+1.0
K20K				IAmb	IAmb	00 33 06.0	
	comp=Z,4.7nm,1.1s						
KDAK	Kodiak Island	50.52	39	P	P	00 33 04.0	+1.1
PYUN	Piuthan	50.52	282	*e*P	P	00 33 02.8	-0.8
	comp=Z,28nm,0.7s						
PPLA	Purkeypile	50.97	33	P	P	00 33 07.4	+1.0
TARG	Taragay, Kyrgy	50.99	300	IAmb	IAmb	00 33 08.4	
	comp=Z,3.8nm,0.7s						
H21K	Melozitna Rive	51.00	29	P	P	00 33 10.2	+3.7
CNPM	China Poot	51.26	37	P	P	00 33 09.7	+1.2
KDJ	Kajisay	51.37	301	P	P	00 33 10.0	+0.2
KDJ				IAmb	IAmb	00 33 13.5	
	comp=Z,3.6nm,0.8s						
WB0	Warramunga Arr	52.17	189	P	P	00 33 14.3	-1.4
WB0				IAmb	IAmb	00 33 15.0	
	comp=Z,5.9nm,0.7s						
BOOM	Boomskoye usch	52.20	301	P	P	00 33 16.3	+0.3
WR0	Warramunga Arr	52.34	189	P	P	00 33 15.5	-1.4
WR0				IAmb	IAmb	00 33 18.5	
	comp=Z,5.0nm,0.8s						
WB2	Warramunga Arr	52.35	189	P	P	00 33 15.4	-1.5
WB2				IAmb	IAmb	00 33 16.4	
	comp=Z,6.4nm,0.7s						
WRA	Warramunga Arr	52.35	189	P	P	00 33 15.2	-1.8
	comp=Z,3.9nm,0.5s,baz=4.5,slow=7.7,SNR=136						
WRA	Warramunga Arr	52.35	189	P	P	00 33 15.4	-1.6
FITZ	Fitzroy Crossi	52.38	200	P	P	00 33 16.5	-0.6
RND	Reindeer	52.51	32	P	P	00 33 17.8	-0.1
KNK	Knik Glacier	52.66	35	P	P	00 33 18.0	-0.9
KNK				IAmb	IAmb	00 33 36.2	
	comp=Z,4.0nm,0.8s						
KSH	Kashi	52.83	298	P	P	00 33 23.9	+3.2
KSH				pP	pwP	00 33 33.6	-2.6
KSH				PcP	PcP	00 34 36.8	+7.1
KSH				ScP	ScP	00 38 23.5	-1.6
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H24K	Noodor Dome	53.04	29	P	P	00 33 22.9	+1.2
AAK	Ala-Archa	53.22	302	P	P	00 33 23.4	0.0
	comp=Z,0.9nm,0.5s,baz=148,slow=8.8,SNR=6.4						
AAK	Ala-Archa	53.22	302	P	P	00 33 22.7	-0.7
ILAR	Eielson Array	53.42	30	P	P	00 33 24.2	-0.1
	comp=Z,0.9nm,0.9s,baz=259,slow=5.8,SNR=7.4						
ILAR	Eielson Array	53.42	30	P	P	00 33 25.8	+1.4
KLU	Klutina	53.87	34	P	P	00 33 28.5	+0.6
KLU				IAmb	IAmb	00 33 42.6	
	comp=Z,10nm,1.2s						
BVAR	Borovoye Array	54.16	315	P	P	00 33 30.1	+0.1
	comp=Z,1.2nm,0.5s,baz=243,slow=4.7,SNR=13						
BRVK	Borovoye	54.22	315	P	P	00 33 31.1	+0.7
BRVK				IAmb	IAmb	00 33 31.4	
	comp=Z,6.6nm,1.1s						
RIDG	Independent Ri	54.31	32	P	P	00 33 32.5	+1.5
RIDG				IAmb	IAmb	00 33 50.2	
	comp=Z,6.7nm,1.2s						
BMAR	Burnt Mountain	54.41	27	P	P	00 33 33.0	+1.3
BMRM	Bremner River	54.53	35	P	P	00 33 32.3	-0.4
SCRK	Sand Creek	54.68	31	P	P	00 33 34.1	+0.3
SCRK				IAmb	IAmb	00 33 37.7	
	comp=Z,4.8nm,1.2s						
WAX	Waxell Ridge	55.43	36	P	P	00 33 39.9	+0.7
BCAR	Beaver Creek A	55.72	32	P	P	00 33 42.2	+1.0
EGAK	Eagle	55.87	30	P	P	00 33 42.8	+0.7
KKAR	Karatay Array	55.96	303	P	P	00 33 43.5	+0.3
AS31	Alice Springs	56.08	189	P	P	00 33 44.0	-0.2
ASAR	Alice Springs	56.08	189	P	P	00 33 42.5	-1.6
	comp=Z,0.8nm,0.4s,baz=9.8,slow=7.7,SNR=22						
ASAR	Alice Springs	56.08	189	P	P	00 33 43.9	-0.3
NIL	Nilore	56.59	292	P	P	00 33 48.5	+0.6
NIL				IAmb	IAmb	00 33 49.0	
	comp=Z,8.2nm,0.9s						
PSA00	Pilbara Seismi	57.48	204	P	P	00 33 53.8	-0.3
PSA00				IAmb	IAmb	00 34 05.7	
	comp=Z,5.8nm,1.1s						
EPYK	Eagle Plains	57.56	28	P	P	00 33 55.4	+1.2
HYT	Haines Junctio	58.00	35	P	P	00 33 59.4	+1.9
M30M	Minto, Yukon	58.05	33	P	P	00 33 59.6	+1.9
N31M	Braeburn, Yuko	58.71	34	P	P	00 34 03.6	+1.3
M31M	Drury Creek, Y	59.22	33	P	P	00 34 07.0	+1.1
M31M				IAmb	IAmb	00 34 19.8	
	comp=Z,3.7nm,0.8s						
WHY	Whitehorse	59.30	35	P	P	00 34 08.1	+1.6
WHY				IAmb	IAmb	00 34 08.6	
	comp=Z,3.4nm,0.9s						
ARU	Arti	60.26	321	P	P	00 34 12.8	-0.3
	comp=Z,1.5nm,0.3s,baz=80,slow=7.5,SNR=14						
ARU	Arti	60.26	321	P	P	00 34 12.8	-0.3
P33M	Teslin, Yukon	60.39	35	P	P	00 34 15.4	+1.5
P33M				IAmb	IAmb	00 34 27.9	
	comp=Z,2.5nm,0.8s						
ABKAR	Akbulak array	61.39	312	P	P	00 34 20.7	-0.1
ABKAR	Akbulak array	61.39	312	P	P	00 34 20.8	0.0
ABKAR				IAmb	IAmb	00 34 22.1	
	comp=Z,4.6nm,0.6s						
AKTO	Aktyubinsk	62.22	314	P	P	00 34 26.2	-0.2
	comp=Z,3.3nm,0.8s,baz=82,slow=12,SNR=8.1						
FORT	Forrest	64.00	193	P	P	00 34 37.5	-0.8
KIRV	Kirov	64.34	325	P	P	00 34 40.4	+0.1
	comp=Z,14nm,0.6s,baz=12,slow=1.5,SNR=7.7						
HRA	Herat	64.87	296	P	P	00 34 44.7	+0.2
HRA				IAmb	IAmb	00 34 45.2	
	comp=Z,3.2nm,0.7s						
EUNU	Eureka	64.89	8	P	P	00 34 44.2	+0.5
EUNU				IAmb	IAmb	00 34 56.6	
	comp=Z,4.2nm,0.7s						
MORW	Morawa	65.69	205	P	P	00 34 49.0	-0.4
MORW				IAmb	IAmb	00 34 52.9	
	comp=Z,6.5nm,0.9s						
RES	Resolute Bay	67.18	14	P	P	00 34 58.9	+0.6
RES				IAmb	IAmb	00 35 11.3	
	comp=Z,5.3nm,0.9s						
YKA	Yellowknife Ar	67.81	29	P	P	00 35 02.2	-0.3
	comp=Z,0.4nm,0.5s,baz=300,slow=6.5,SNR=13						
ARCES	ARCESS Array B	68.64	340	P	P	00 35 07.6	0.0
	comp=Z,7.0nm,1.2s,baz=50,slow=7.2,SNR=1.9						
C03A	Quillayute Air	69.08	46	P	P	00 35 11.5	+0.8
FIA1	FINESS Array S	73.26	333	P	P	00 35 35.6	-0.1
FIA1				IAmb	IAmb	00 35 45.7	
	comp=Z,8.7nm,1.1s						
FINES	FINESS Array B	73.26	333	P	P	00 35 35.5	-0.3
	comp=Z,1.5nm,0.4s,baz=45,slow=6.8,SNR=36						
FINES	FINESS Array B	73.26	333	P	P	00 35 35.7	0.0
UOSS	Minazif	73.69	289	P	P	00 35 39.6	+0.6
UOSS				IAmb	IAmb	00 35 40.3	
	comp=Z,7.0nm,1.0s						
KBZ	Khabaz	74.35	312	P	P	00 35 43.2	+0.8
	comp=Z,4.7nm,0.8s,baz=71,slow=4.2,SNR=20						
KIV	Kislovodsk	74.37	312	P	P	00 35 43.3	+0.5
KIV				IAmb	IAmb	00 35 45.0	
	comp=Z,5.7nm,0.9s						
GNI	Garni	74.92	308	LR	LR	01 12 36.7	
	comp=Z,38nm,18.3s,baz=54,slow=39						
NACGM	Naroch	76.96	328	*i* P	P	00 35 52.5	-4.7
LRM	Limekiln Ridge	77.36	44	P	P	00 36 00.5	+0.5
AKASG	Malin Array Be	78.35	323	P	P	00 36 04.6	-0.4
	comp=Z,0.6nm,0.4s,baz=44,slow=6.3,SNR=9.8						
NC405	NORSAR Array S	78.56	338	P	P	00 36 05.8	-0.2
NC405				IAmb	IAmb	00 36 08.8	
	comp=Z,9.8nm,1.1s						
NC303	NORSAR Array S	78.58	338	P	P	00 36 07.1	+0.9
NC204	NORSAR Array S	78.74	338	P	P	00 36 07.5	+0.4
NB201	NORSAR Array S	78.74	338	P	P	00 36 06.8	-0.2
NB201				IAmb	IAmb	00 36 07.1	
	comp=Z,6.8nm,0.7s						
NB2	NORSAR Subarra	78.77	338	P	P	00 36 07.2	-0.1
	comp=Z,0.9nm,0.6s,baz=41,slow=5.6						
NOA	NORSAR Array B	78.77	338	P	P	00 36 07.2	-0.1
	comp=Z,1.5nm,0.6s,baz=41,slow=5.3,SNR=6.7						
SOCY	Socotra	81.83	279	P	P	00 36 23.2	-1.4
RDMU	Red Mountain	82.07	47	P	P	00 36 26.3	+0.7
RDMU				IAmb	IAmb	00 36 39.1	
	comp=Z,3.2nm,0.6s						
KWP	Kalwaria Pacla	82.27	325	P	P	00 36 26.4	+0.3
BUR08	Bucovina Ar. S	82.32	322	P	P	00 36 27.1	+0.5
BURAR	Bucovina Array	82.33	322	P	P	00 36 27.2	+0.5
BRTR	Keskin Array B	82.34	312	P	P	00 36 26.9	0.0
	comp=Z,2.1nm,1.0s,baz=107,slow=4.3,SNR=12						
RAYN	Ar Rayn	82.85	293	P	P	00 36 30.0	+0.2
RAYN				IAmb	IAmb	00 36 32.8	
	comp=Z,3.8nm,0.8s						
ULM	Lac du Bonnet	83.33	33	LR	LR	01 12 02.2	
	comp=Z,28nm,21.6s,baz=222,slow=34						
CLL	Collm	85.46	331	*e*P	P	00 36 42.0	-0.4
	comp=Z,6.0nm,1.1s						
CLL				*i* pP	sP	00 36 53.2	+1.5
	comp=Z,69nm,2.9s						
TXAR	Lajitas Array	92.76	53	P	P	00 37 17.8	+0.2
	comp=Z,0.6nm,0.8s,baz=315,slow=2.8,SNR=6.0						
TXAR				LR	LR	01 15 51.0	
	comp=Z,35nm,20.4s,baz=310,slow=34						
TORD	Torodi Ar. Bea	120.94	313	PKP	PKPdf	00 42 56.7	-1.2
	comp=Z,0.6nm,0.9s,baz=46,slow=4.7,SNR=2.3						

WEL 12 00:31:19.4±0.4**, 43˚S**±2˚×**17˚3E**±˚**, h9**km±2km**, M2.7**/10**, ML3.1**/19**, MLv2.7**/10**, Error ellipse: s-maj=0.0km s-min=0.0km az=100.7, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.22	200	P	Pg	00 31 24.4	+0.5
MQZ				S	Sg	00 31 28.0	+1.0
OKCZ	Okains Bay	0.31	136	P	Pb	00 31 26.6	-0.6
AMCZ	Amberley	0.33	346	P	Pg	00 31 26.2	+0.4
AMCZ				S	Sb	00 31 32.1	-0.7
AKCZ	Akaroa Harbour	0.39	164	P	Pb	00 31 27.9	-0.6
RACZ	Rakaia	0.51	243	P	Pb	00 31 30.0	-0.4
OXZ	Oxford	0.55	288	P	Pg	00 31 30.3	+0.3
OXZ				S	Sb	00 31 38.6	-0.7
GVZ	Greta Valley S	0.57	21	P	Pg	00 31 30.4	+0.1
GVZ				S	Sb	00 31 39.8	+0.1
LTZ	Lake Taylor	0.80	333	P	Pb	00 31 35.2	-0.3
LTZ				S	Sb	00 31 46.0	-0.4
WACZ	Wakanui South	0.80	236	P	Pb	00 31 35.8	+0.3
WACZ				S	Sn	00 31 47.7	-1.2
KHZ	Kahutara	1.22	28	P	Pn	00 31 41.6	-1.0
ARCZ	Arundel	1.23	248	P	Pn	00 31 41.8	-1.0
INZ	Inchbonnie	1.23	308	P	Pn	00 31 41.7	-1.1
RPZ	Rata Peaks	1.26	259	P	Pn	00 31 42.2	-1.0
RPZ				S	Sb	00 31 58.9	-0.7
WVZ	Waitaha Valley	1.54	285	P	Pn	00 31 46.9	-0.1
TMZ	Timaru	1.55	234	P	Pn	00 31 46.5	-0.6
THZ	Tophouse	1.74	4	P	Pn	00 31 48.6	-1.2
GCSZ	Gaunt Creek Bo	1.78	275	P	Pn	00 31 51.0	+0.6
DSZ	Denniston Nort	1.89	338	P	Pn	00 31 51.5	-0.4
LBZ	Lake Benmore	2.06	244	P	Pn	00 31 53.9	-0.3
MRNZ	Matariki Terra	2.10	360	P	Pn	00 31 55.7	+1.0
FOZ	Fox Glacier	2.14	268	P	Pn	00 31 56.0	+0.7
TKNZ	Takaka Hill	2.47	4	P	Pn	00 31 59.9	+0.1
JCZ	Jackson Bay	2.94	257	P	Pn	00 32 06.3	0.0
EAZ	Earnscleugh	3.02	234	P	Pn	00 32 06.7	-0.7
TUZ	Tuapeka	3.32	221	P	Pn	00 32 10.7	-0.7
RIGZ	Rimuhau	6.10	40	P	Pn	00 32 55.8	+6.1
WTAZ	Waiatarua	6.70	13	P	Pn	00 33 01.1	+3.1
PKGZ	Pakihiroa	6.91	38	P	Pn	00 33 03.1	+2.2

IDC ***12*** *00:33:06.1±2.1, 50˚08N×90˚64E, h0km, mb1 3.1/3, mb1mx2.9/38, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=23.6km s-min=20.4km az=14.0*
ASRS ***12*** *00:33:06.4±0.3, 50˚N±1˚×9˚1E±˚, h5km, MLh4.0/15, Error ellipse: s-maj=3.1km s-min=2.0km az=155.6, confirmed*
SOME ***12*** *00:33:15.1, 49˚82N×89˚98E, h5km*
NNC ***12*** *00:33:20.3±3.6, 50˚32N×89˚16E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=32.1km s-min=15.1km az=91.0*
ISC 12 00:33:07.6±1.3**, 50˚22N**±0˚03×**90˚62E**±0˚03**, h3**km±12km**, n41, σ1˚93**/70**, 5C-4D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUR	Chagan-Uzun	1.47	266	Pg	Pn	00 33 34.3	-0.7
CUR				Sg	Sb	00 33 54.0	-0.6
ULGR	Ulagan, Altay	1.75	285	Pg	Pg	00 33 41.2	0.0
ULGR				Sg	Sg	00 34 06.0	+2.2
AKAR	Aktash	1.93	274	Pn	Pb	00 33 42.4	-1.0
AKAR				Pg	Pg	00 33 43.6	-1.0
AKAR				Sg	Sg	00 34 09.8	+0.2
CHBI	Chibit, Altay	2.00	274	Pn	Pb	00 33 44.3	-0.4
CHBI				Pg	Pg	00 33 45.7	-0.3
CHBI				Sg	Sg	00 34 12.5	+0.6
DGZ	Jazzator, Alta	2.12	257	Pn	Pb	00 33 45.3	-1.4
DGZ				Pg	Pg	00 33 50.7	+2.4
DGZ				Sg	Sg	00 34 15.4	-0.4
DJO	Djoy, Khakassi	2.60	8	Pg	Pg	00 33 57.3	0.0
DJO				Sg	Sg	00 34 32.6	+1.7
DJOS	Djoyskaya Sosn	2.63	10	Pg	Pg	00 33 58.2	+0.3
DJOS				Sg	Sg	00 34 33.3	+1.4
ARTR	Artybash	2.64	308	Pn	Pb	00 33 54.3	-1.2
ARTR				Pg	Pg	00 33 58.3	+0.1
ARTR				Sg	Sg	00 34 33.9	+1.6
CERR	Cheremushki	2.69	10	Pg	Pg	00 33 59.9	+0.8
CERR				Sg	Sg	00 34 35.3	+1.4
KZLR	Kyzyl	2.84	57	Pn	Pn	00 33 55.0	+1.2
KZLR				Pg	Pb	00 33 58.6	-0.3
KZLR				Sg	Sg	00 34 39.1	+0.2
ERNS	Erzin	2.91	87	Pg	Pn	00 33 57.0	+2.2
ERNS				Sg	Sb	00 34 35.2	-0.9
ARDR	Aradan	2.95	36	Pg	Pb	00 34 01.8	+1.0
ARDR				Sg	Sg	00 34 41.4	-0.9
TASR	Tashtagol	3.07	327	Pg	Pg	00 34 06.5	+0.1
TASR				S	Sn	00 34 32.7	-1.4
TASR				Sg	Sg	00 34 48.0	+1.8
ABNR	Abakan	3.55	8	Sg	Sg	00 35 02.2	+0.7
ABNR	Abakan	3.55	8	Pg	Pg	00 34 15.5	-0.1
LUZB	Luzhba, Kemero	3.61	343	Pg	Pg	00 34 15.1	-1.7
LUZB				Sg	Sg	00 35 05.6	+2.1
UKR	Ust'-Kan	3.80	283	Pg	Pb	00 34 17.5	+2.3
UKR				Sg	Sg	00 35 07.7	-1.8
ELT	Eltsovka	4.09	320	Pn	Pn	00 34 12.7	+1.8
ELT				Pg	Pg	00 34 24.3	-1.6
ELT				Sg	Sg	00 35 21.0	+2.1
SHRR	Shira	4.29	356	Sg	Sg	00 35 24.8	-0.6
SHRR	Shira	4.29	356	Pg	Pg	00 34 29.0	-0.8
ERU	Erunakovo, Kuz	4.41	334	Pg	Pg	00 34 30.2	-1.8
ERU				Sg	Sg	00 35 32.3	+3.3
KNGR	Kungurtug, Tuv	4.43	82	Pn	Pn	00 34 15.9	+0.2
KNGR				Pg	Pb	00 34 25.4	-0.5
KNGR				Sg	Sg	00 35 26.8	-2.8
VCHU	Verkh-Chumysh,	4.55	327	Sg	Sg	00 35 34.7	+1.2
ZSN	Zaisan	4.70	236	*e*P	Pg	00 34 36.2	-1.4
	44nm,0.7s						
ZSN				*e*S	Sg	00 35 35.2	-3.3
	55nm,0.4s						
POMOR	Pomortsevo, Ku	4.89	331	Sg	Sg	00 35 45.9	+1.3
BJR1	Bachatsky 1, K	4.92	327	Sg	Sg	00 35 44.1	-1.2
BJR2	Bachatsky-2, K	4.92	328	Sg	Sg	00 35 45.0	-0.5
MINR	Mina	5.17	24	Pg	Pg	00 34 43.6	-3.1
MINR				Sg	Sg	00 35 54.4	+0.8
ZAA0	Zalesovo Array	5.17	318	⇑Pg	Pg	00 34 43.2	-3.4
	2.2nm,0.8s						
ZAA0				⇓Lg	Lg	00 35 45.1	
	13nm,0.8s						
ZALV	Zalesovo Beam	5.17	318	Pn	Pn	00 34 27.0	+1.2
	0.3nm,0.3s,baz=137,slow=13,SNR=3.5						
ZALV				Pg	Pg	00 34 43.6	-3.0
	1.7nm,0.3s,baz=136,slow=16,SNR=16						
ZALV				Lg	Lg	00 35 54.4	
	2.4nm,0.3s,baz=142,slow=26,SNR=6.7						
SALR	Pechorkino, Sa	5.18	326	Sg	Sg	00 35 51.4	-2.4
BRCR	Berchikul'	5.61	347	Pg	Pg	00 34 52.9	-2.1
BRCR				Sg	Sg	00 36 05.9	-1.7
MK31	Makanchi Array	6.51	241	⇓Pn	Pn	00 34 46.5	+2.4
	0.8nm,0.5s,baz=48,slow=15,SNR=8.7						
MK31				⇑Pg	Pb	00 35 05.2	+3.8
	13nm,0.6s,baz=63,slow=14,SNR=28						
MK31				⇓Lg	Lg	00 36 27.1	
	22nm,0.6s,baz=47,slow=31,SNR=5.3						
MKAR	Makanchi Array	6.51	241	Pn	Pn	00 34 43.8	-0.4
	0.2nm,0.3s,baz=58,slow=15,SNR=2.3						
MKAR				Lg	Lg	00 36 32.8	
	3.9nm,0.3s,baz=53,slow=31,SNR=7.3						
SEM	Semipalatinsk	6.65	276	*e*P	Pg	00 35 11.6	-3.3
	2.5nm,0.3s						
SEM				*e*S	Sg	00 36 36.2	-4.8
	60nm,0.6s						
SEM	Semipalatinsk	6.65	276	Pg	Pb	00 35 07.9	+4.1
SEM				Lg	Lg	00 36 35.9	
MAKZ	Makanchi	6.68	243	⇑Pg	Pb	00 35 08.7	+4.4
	10.0nm,0.8s						
MAKZ				⇑Lg	Lg	00 36 32.2	
	26nm,0.8s						
KURK	Kurchatov	7.68	278	⇓Lg	Lg	00 36 56.0	
	23nm,0.7s						
KURBB	Kurchatov Arra	7.74	278	Pn	Pn	00 35 00.1	-0.8
	0.2nm,0.3s,baz=93,slow=14,SNR=17						
KURBB				Lg	Lg	00 37 09.5	
	0.4nm,0.3s,baz=87,slow=34,SNR=3.1						
KURBB	Kurchatov Arra	7.74	278	⇑Lg	Lg	00 36 56.7	
	84nm,0.7s						
SONM	Songino Array	10.63	97	Pg	Pn	00 36 19.2	+38
	0.2nm,0.3s,baz=290,slow=18,SNR=4.3						
SONM				Lg	Lg	00 38 40.9	
	0.4nm,0.3s,baz=288,slow=28,SNR=6.4						

ASRS ***12*** *00:33:38.5±1.0, 50˚N±4˚×9˚0E±˚, h10km, MLh3.8/5, Error ellipse: s-maj=10.8km s-min=2.9km az=135.6, confirmed*
ISC 12 00:33:39.8±1.8**, 50˚27N**±0˚07×**90˚45E**±0˚08**, h10**km**, n18, σ1˚01**/16**, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUR	Chagan-Uzun	1.36	264	Pg	Pg	00 34 05.8	-0.2
CUR				Sg	Sg	00 34 22.8	-0.8
ULGR	Ulagan, Altay	1.63	284	Pg	Pg	00 34 10.4	-0.7
ULGR				Sg	Sg	00 34 33.5	+1.2
AKAR	Aktash	1.82	273	Sg	Sg	00 34 36.9	-1.3
CHBI	Chibit, Altay	1.89	272	Sg	Sg	00 34 41.4	+0.8
DGZ	Jazzator, Alta	2.03	255	Sg	Sg	00 34 43.1	-2.0
ARTR	Artybash	2.52	309	Sg	Sg	00 35 00.6	-0.2
DJO	Djoy, Khakassi	2.56	10	Sg	Sg	00 35 00.5	-1.5
DJOS	Djoyskaya Sosn	2.60	13	Sg	Sg	00 35 02.7	-0.5
CERR	Cheremushki	2.66	13	Sg	Sg	00 35 05.4	+0.2
LUZB	Luzhba, Kemero	3.53	345	Sg	Sg	00 35 33.0	-0.1
UKR	Ust'-Kan	3.68	283	Sg	Sg	00 35 38.1	+0.1
SHRR	Shira	4.24	358	Sg	Sg	00 35 55.8	+0.1
KAPS	Kapalarasan	8.98	241	*e*S	Sn	00 37 43.6	+13
	6.2nm,0.7s						
KAPS	Kapalarasan	8.98	241	*e*P	Pn	00 35 50.3	+0.8
	2.8nm,0.6s						
DJR	Jarkent	9.36	235	Lg	Lg	00 37 59.1	
	2.7nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DJR	**Jarkent**	**9.36**	**235**	Pg	**Pn**	**00 35 55.7**	**+0.9**
	0.7nm,0.1s						
PDGK	**Podgornoye**	**10.22**	**231**	Lg	Lg	00 38 25.9	
	1.9nm,0.8s						
PDGK	**Podgornoye**	**10.22**	**231**	Pg	Pn	00 36 12.1	+5.5
	0.6nm,0.6s						

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*CNRM **12** 00:40:59.1, 35°.86N×3°.59W, h18km, ml2.8*
*SFS **12** 00:41:01.0, 35°.68N×3°.62W, ML2.3, ALBORAN SUR*
*MDD **12** 00:41:01.9±0.4, 35°.68N×3°.63W, h0km, mb_Lg2.3/11, Error ellipse: s-maj=3.2km s-min=2.8km az=14.0*
ISC 12 00:41:02.0±1.6**, 35°.69N**±0°.02×**3°.60W**±0°.02**, h20**km±6km**, n37,** σ**1ˢ.26**/67**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.53**	**61**	Pg	**Pb**	**00 41 13.3**	**+0.8**
EALB				Sg	**Sn**	**00 41 21.9**	**-0.8**
EALB				*i* Vmb_Lg		00 41 22.2	
PALE	**Palemas**	**0.54**	**210**	P	**Pb**	**00 41 13.0**	**+0.1**
PALE	**Palemas**	**0.54**	**210**	P	**Pb**	**00 41 13.0**	**+0.1**
PALE				S	**Sb**	**00 41 20.7**	**+0.5**
EMEL	**Melilla**	**0.66**	**126**	Pg	**Pb**	**00 41 14.2**	**-0.5**
EMEL				Sg	**Sb**	**00 41 23.1**	**-0.3**
GOG	**Mont Gurugu**	**0.68**	**133**	P	**Pb**	**00 41 14.3**	**-0.9**
GOG				S	**Sg**	**00 41 25.0**	**+0.4**
GOG	**Mont Gurugu**	**0.68**	**133**	P	**Pb**	**00 41 14.2**	**-1.0**
GOG				S	**Sb**	**00 41 23.2**	**-1.0**
ELGU	**Los Guajares,**	**1.18**	**359**	Pg	**Pn**	**00 41 22.9**	**-0.5**
ELGU				Sg	**Sg**	**00 41 40.3**	**0.0**
ELGU				*i* Vmb_Lg		00 41 44.1	
EMAL	**Malaga-Limoner**	**1.26**	**328**	P	**Pn**	**00 41 24.0**	**-0.5**
EMAL				S	**Sb**	**00 41 37.7**	**-3.2**
EMIJ	**Mijas**	**1.29**	**313**	Pg	**Pn**	**00 41 24.0**	**-0.9**
EMIJ				Sg	**Sn**	**00 41 40.9**	**-0.7**
EMIJ				*i* Vmb_Lg		00 41 46.1	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**00 41 24.3**	**-0.9**
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**00 41 24.1**	**-1.1**
TAF				S	**Sn**	**00 41 41.0**	**-1.2**
EBER	**Berja**	**1.34**	**25**	Pg	**Pn**	**00 41 25.6**	**-0.2**
EBER				Sg	**Sb**	**00 41 43.7**	**+0.4**
EBER				*i* Vmb_Lg		00 41 50.2	
SMIR	**Smir Dam**	**1.45**	**270**	P	**Pn**	**00 41 25.1**	**-1.9**
SMIR	**Smir Dam**	**1.45**	**270**	P	**Pn**	**00 41 25.1**	**-1.9**
SMIR				S	**Sn**	**00 41 46.0**	**+0.5**
CEU	**Ceuta**	**1.45**	**279**	P	**Pn**	**00 41 24.9**	**-2.3**
CEU				S	**Sn**	**00 41 45.2**	**-0.4**
EGOR	**Sierra Gorda,**	**1.48**	**344**	Pg	**Pb**	**00 41 28.7**	**-0.2**
EGOR				Sg	**Sg**	**00 41 48.8**	**-1.0**
EGOR				*i* Vmb_Lg		00 42 04.8	
CHEFC	**Chefchaouen**	**1.53**	**248**	P	**Pn**	**00 41 28.7**	**+0.4**
CHEFC				S	**Sg**	**00 41 50.5**	**-1.1**
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**00 41 28.2**	**-1.1**
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**00 41 28.5**	**-0.8**
JBK				S	**Sn**	**00 41 47.1**	**-2.3**
EJIF	**Jimena Fronter**	**1.69**	**297**	Pg	**Pn**	**00 41 31.2**	**+0.8**
EQES	**Quesada**	**2.15**	**11**	Pg	**Pb**	**00 41 39.5**	**-0.9**
EQES				Sg	**Sb**	**00 42 07.5**	**+0.8**
EQES				*i* Vmb_Lg		00 42 09.2	
ESPR	**Espera**	**2.17**	**304**	Pg	**Pb**	**00 41 40.7**	**+0.2**
ESPR				Sn	**Sb**	**00 42 06.1**	**-0.9**
ESPR				*i* Vmb_Lg		00 42 12.6	
LCRM	**LCR**	**2.25**	**208**	P	**Pn**	**00 41 39.0**	**+0.7**
LCRM	**LCR**	**2.25**	**208**	P	**Pn**	**00 41 39.0**	**+0.7**
LCRM				S	**Sb**	**00 42 09.2**	**-0.2**
IFR	**Ifrane**	**2.50**	**211**	P	**Pn**	**00 41 41.6**	**-0.1**
IFR				S	**Sn**	**00 42 12.2**	**+0.4**
EADA	**Adamuz**	**2.59**	**343**	Pn	**Pn**	**00 41 44.7**	**+1.8**
EADA				Sn	**Sb**	**00 42 17.0**	**-2.3**
EADA				*i* Vmb_Lg		00 42 17.6	
ECAB	**El Cabril**	**2.79**	**329**	Pn	**Pn**	**00 41 47.2**	**+1.6**
ECAB				Sn	**Sn**	**00 42 20.4**	**+1.7**
ECAB				*i* Vmb_Lg		00 42 28.8	
CZD	**Col de Zad**	**2.90**	**205**	P	**Pn**	**00 41 48.1**	**+0.8**
CZD				S	**Sn**	**00 42 22.7**	**+0.9**
MD31	**MD31**	**2.97**	**199**	P	**Pn**	**00 41 49.0**	**+0.9**
MD31				S	**Sn**	**00 42 23.2**	**-0.1**
MDT	**Midelt**	**2.98**	**196**	P	**Pn**	**00 41 48.3**	**0.0**
MDT				S	**Sn**	**00 42 24.4**	**+0.9**
EMIN	**Mina Concepcio**	**3.22**	**311**	Pn	**Pn**	**00 41 51.7**	**+0.2**
EMIN				Sn	**Sn**	**00 42 29.7**	**+0.5**
EMIN				*i* Vmb_Lg		00 42 34.5	
ETOB	**Tobarra**	**3.38**	**28**	Pn	**Pn**	**00 41 56.3**	**+2.7**
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**00 41 57.4**	**+0.4**
EGRO				Sn	**Sn**	**00 42 40.0**	**+0.8**
EGRO				*i* Vmb_Lg		00 42 41.5	
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**00 41 56.8**	**-1.6**
PVAQ				S	**Sn**	**00 42 40.2**	**-1.5**
EBAD	**Badajoz**	**4.10**	**319**	Pn	**Pn**	**00 42 04.3**	**+0.9**
EBAD				Sn	**Sn**	**00 42 51.1**	**+0.3**
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**00 42 10.3**	**+0.9**
EVO				S	**Sn**	**00 43 01.0**	**-0.4**
OUZM	**OUZ**	**5.45**	**210**	P	**Pn**	**00 42 21.8**	**-0.4**
OUZM				S	**Sn**	**00 43 28.9**	**+4.5**

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*NEIC **12** 00:47:35.6±1.0, 22°.7S±0°.2×179°.0W±0°.1, h531km±13km, mb4.1/23, Error ellipse: s-maj=23.8km s-min=17.0km az=152.0*
*IDC **12** 00:47:42.7±24.0, 22°.60S×179°.57E, h498km±218km, mb3.0/3, mb1 3.2/4, mb1mx3.0/28, mbtmp4.0/4, Error ellipse: s-maj=657.2km s-min=106.7km az=91.0*
ISC 12 00:47:35.6±0.8**, 22°.6S**±0°.1×**179°.0W**±0°.1**, h550**km**, n37,** σ**1ˢ.14**/37**, mb4.0**/12**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.57**	**330**	P	**P**	**00 49 10.0**	**-0.5**
	6.1nm,0.3s,baz=144,slow=14,SNR=38						
MSVF	**Nonsavu**	**5.57**	**330**	P	**P**	**00 49 09.7**	**-0.9**
NIUE	**Niue**	**9.21**	**69**	P	**P**	**00 49 44.6**	**-0.8**
AFI	**Afiamalu**	**11.05**	**40**	P	**P**	**00 50 04.1**	**-0.4**
MARNC	**Mare, Loyalty**	**12.06**	**273**	P	**P**	**00 50 13.6**	**-1.2**
PINNC	**Pines Island,**	**12.50**	**267**	P	**P**	**00 50 17.7**	**-1.5**
LIFNC	**LIFOU**	**12.90**	**276**	P	**P**	**00 50 22.8**	**-0.6**
OUENC	**Ouen Island, N**	**13.06**	**268**	P	**P**	**00 50 24.5**	**-0.6**
DZM	**Mont Dzumac**	**13.46**	**270**	P	**P**	**00 50 28.5**	**-0.8**
KOUNC	**Koumac, New Ca**	**15.66**	**274**	P	**P**	**00 50 51.6**	**-0.2**
KOUNC				IAmb	IAmb	00 50 54.6	
	comp=Z,13nm,1.1s						
URZ	**Urewera**	**15.95**	**191**	P	**P**	**00 50 52.0**	**-2.4**
URZ				IAmb	IAmb	00 50 56.5	
	comp=Z,9.5nm,1.1s						
HIZ	**Hauiti**	**16.70**	**197**	P	**P**	**00 51 01.6**	**+0.2**
BKZ	**Black Stump Fm**	**16.94**	**192**	P	**P**	**00 51 00.8**	**-2.8**
BKZ				IAmb	IAmb	00 51 19.0	
	comp=Z,1.4nm,0.7s						
MSWZ	**Moikau Station**	**19.36**	**193**	P	**P**	**00 51 27.2**	**+1.5**
PLWZ	**Palliser**	**19.51**	**193**	P	**P**	**00 51 29.7**	**+2.7**
QRZ	**Quartz Range**	**19.51**	**199**	P	**P**	**00 51 26.9**	**-0.1**
NNZ	**Nelson**	**19.63**	**197**	P	**P**	**00 51 27.5**	**-0.5**
THZ	**Tophouse**	**20.26**	**198**	P	**P**	**00 51 34.0**	**+0.2**
THZ				IAmb	IAmb	00 51 44.7	
	comp=Z,9.6nm,1.0s						
LTZ	**Lake Taylor**	**21.38**	**198**	P	**P**	**00 51 44.0**	**+0.1**
FOZ	**Fox Glacier**	**22.82**	**201**	P	**P**	**00 51 55.5**	**-1.2**
WHZ	**Wether Hill Ro**	**25.53**	**201**	P	**P**	**00 52 21.6**	**+0.8**
WHZ				IAmb	IAmb	00 52 32.1	
	comp=Z,5.2nm,1.2s						
EIDS	**Eidsvold**	**27.42**	**258**	P	**P**	**00 52 37.9**	**+0.2**
EIDS				IAmb	IAmb	00 52 48.4	
	comp=Z,4.7nm,1.1s						
CAN	**Canberra**	**30.57**	**238**	P	**P**	**00 53 05.2**	**+0.3**
CAN				IAmb	IAmb	00 53 07.3	
	comp=Z,2.9nm,0.8s						
TOO	**Toolangi**	**33.91**	**236**	P	**P**	**00 53 33.6**	**+0.4**
TOO				IAmb	IAmb	00 53 51.2	
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	**36.04**	**247**	P	**P**	**00 53 51.6**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=101,slow=5.2,SNR=3.7						
STKA	**Stephens Creek**	**36.04**	**247**	P	**P**	**00 53 51.4**	**+0.3**
BBOO	**Buckleboo**	**40.78**	**246**	P	**P**	**00 54 28.2**	**-1.2**
BBOO				IAmb	IAmb	00 54 30.2	
	comp=Z,5.5nm,1.1s						
ASAR	**Alice Springs**	**43.14**	**259**	P	**P**	**00 54 48.9**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=98,slow=7.4,SNR=15						
WR0	**Warramunga Arr**	**43.22**	**264**	P	**P**	**00 54 49.1**	**+0.4**
WB0	**Warramunga Arr**	**43.39**	**265**	P	**P**	**00 54 50.7**	**+0.5**
WB2	**Warramunga Arr**	**43.39**	**264**	P	**P**	**00 54 50.6**	**+0.5**
WB2				IAmb	IAmb	00 54 50.8	
	comp=Z,1.9nm,0.7s						
WRA	**Warramunga Arr**	**43.41**	**264**	P	**P**	**00 54 50.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=102,slow=8.6,SNR=88						
WRA	**Warramunga Arr**	**43.41**	**264**	P	**P**	**00 54 50.5**	**+0.3**
FORT	**Forrest**	**47.61**	**248**	P	**P**	**00 55 22.7**	**+0.6**
FORT				IAmb	IAmb	00 55 23.1	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**49.60**	**268**	P	**P**	**00 55 38.6**	**+1.5**
KNRA				IAmb	IAmb	00 55 47.0	
	comp=Z,7.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.83**	**264**	P	**P**	**00 55 55.1**	**+1.8**
CBX	**Cerro Bola**	**80.81**	**49**	P	**P**	**00 58 54.0**	**+1.5**
CBX				IAmb	IAmb	00 58 55.6	
	comp=Z,3.9nm,0.6s						

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*IDC **12** 01:03:39.1±16.0, 35°.18N×72°.49E, h273km±237km, mb2.8/2, mb1 2.6/3, mb1mx2.3/58, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=646.2km s-min=73.6km az=132.0*
*NNC **12** 01:03:42.5±12.0, 37°.10N×70°.40E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=98.6km s-min=83.6km az=172.0*
ISC 12 01:03:36.8±3.6**, 36°.4N**±0°.2×**70°.7E**±0°.2**, h100**km**, n6,** σ**2ˢ.86**/8**, 3C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**6.69**	**359**	⇓Pn	**Pn**	**01 05 15.4**	**+3.0**
	0.9nm,0.2s,baz=184,slow=13						
KK09				⇓Sn	**Sn**	**01 06 24.9**	**-2.1**
	1.5nm,0.5s,baz=189,slow=24						
AAK	**Ala-Archa**	**6.85**	**24**	⇑Pn	**Pn**	**01 05 17.5**	**+2.7**
	1.0nm,0.5s						
AAK				⇑Sn	**Sn**	**01 06 31.5**	**+0.2**
	4.6nm,0.7s						
TKM2	**Tokmak 2**	**7.50**	**29**	⇓Pn	**Pn**	**01 05 25.6**	**+2.0**
	3.1nm,0.6s						
TKM2				⇑Sn	**Sn**	**01 06 46.7**	**-0.4**
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**13.48**	**36**	P	**Pn**	**01 06 44.3**	**+0.4**
	0.1nm,0.3s,baz=209,slow=13,SNR=5.6						
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**01 07 58.1**	**-3.9**
	0.5nm,0.5s,baz=210,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P	P	01 14 02.8	-6.8
	0.4nm,0.7s,baz=54,slow=6.6,SNR=5.5						

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*AEIC **12** 01:08:27.7±1.0, 56°.08N±0°.05×158°.87W±0°.07, h5km±7km, ML3.3/55, ML3.6/24(NEIC), Error ellipse: s-maj=8.3km s-min=4.4km az=149.0*
*NEIC **12** 01:08:27.8±0.9, 56°.06N±0°.06×158°.91W±0°.06, h1km±9km, Error ellipse: s-maj=8.7km s-min=4.1km az=154.0*
ISC 12 01:08:28.2±0.8**, 56°.06N**±0°.05×**158°.87W**±0°.03**, h10**km**, n79,** σ**1ˢ.22**/84**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNHG	**Veniaminof 1**	**0.23**	**315**		**Pg**	**01 08 32.8**	**-0.2**
CHGN	**Chignik**	**0.35**	**46**		**Pg**	**01 08 34.7**	**-0.5**
CHGN					**Sg**	**01 08 40.0**	**+0.2**
CHGN	**Chignik**	**0.35**	**46**	IAML		01 08 40.9	
	comp=N,3μm,0.1s						
CHGN				IAML		01 08 41.7	
	comp=E,7μm,0.1s						
CHGN	**Chignik**	**0.35**	**46**	P	**Pg**	**01 08 34.7**	**-0.5**
	baz=228						
CHGN				S	**Sg**	**01 08 40.0**	**+0.2**
	baz=228						
ANPB	**Aniakchak Plen**	**0.81**	**23**		**Pg**	**01 08 43.4**	**-0.5**
SDPT	**Sand Point**	**1.16**	**233**		**Pb**	**01 08 48.5**	**-1.7**
SDPT	**Sand Point**	**1.16**	**233**	P	**Pb**	**01 08 48.5**	**-1.7**
	baz=51						
PVV	**Pavlof Volcano**	**1.79**	**249**		**Pn**	**01 08 59.5**	**+0.4**
PVV					**Sb**	**01 09 22.9**	**-0.6**
PS4A	**Pavlof South-4**	**1.83**	**248**		**Pn**	**01 09 00.0**	**+0.2**
PS4A					**Sb**	**01 09 23.7**	**-1.1**
BLHA	**Black Hill**	**1.84**	**260**		**Pn**	**01 08 59.6**	**-0.2**
BLHA	**Black Hill**	**1.84**	**260**	P	**Pn**	**01 08 59.6**	**-0.2**
	baz=77						
CHIR	**Chirikof Islan**	**1.84**	**96**		**Pb**	**01 09 00.5**	**-1.5**
CHIR					**Sb**	**01 09 24.6**	**-0.4**
CHIR	**Chirikof Islan**	**1.84**	**96**	IAML		01 09 32.5	
	comp=N,494nm,2.1s						
CHIR				IAML		01 09 35.3	
	comp=E,386nm,2.3s						
CHIR	**Chirikof Islan**	**1.84**	**96**	P	**Pb**	**01 09 00.4**	**-1.5**
	baz=279						
CHIR				S	**Sb**	**01 09 24.6**	**-0.4**
	baz=279						
HAG	**Hague Volcano**	**1.87**	**248**		**Pb**	**01 09 01.0**	**-1.5**
PLK1	**Peulik 1**	**2.14**	**34**		**Pn**	**01 09 04.6**	**+0.6**
PLK3	**Peulik 3**	**2.17**	**40**		**Pb**	**01 09 05.8**	**-1.8**
PLK5	**Peulik 5**	**2.23**	**28**		**Pb**	**01 09 06.2**	**-2.3**
SII	**Sitkinak Islan**	**2.66**	**77**		**Pn**	**01 09 12.0**	**+0.9**
SII	**Sitkinak Islan**	**2.66**	**77**	IAML		01 09 60.0	
	comp=N,232nm,2.0s						
SII	**Sitkinak Islan**	**2.66**	**77**	P	**Pn**	**01 09 12.0**	**+0.9**
	baz=261						
CAHL	**Cahill**	**2.79**	**43**		**Pn**	**01 09 14.0**	**+1.0**
FALS	**False Pass**	**2.86**	**247**		**Sn**	**01 09 50.8**	**+2.6**
FALS	**False Pass**	**2.86**	**247**	S	**Sn**	**01 09 50.8**	**+2.6**
	baz=63						
KELA	**Mount Kelaz**	**2.93**	**34**		**Pn**	**01 09 15.5**	**+0.6**
ISLZ	**Isanotski Laza**	**3.07**	**246**		**Pn**	**01 09 17.1**	**+0.4**
ISLZ					**Sn**	**01 09 54.5**	**+1.0**
SSLS	**Shishaldin Sou**	**3.22**	**247**		**Pn**	**01 09 19.5**	**+0.6**
OHAK	**Old Harbor**	**3.30**	**67**		**Pn**	**01 09 20.6**	**+0.8**
OHAK					**Sn**	**01 09 59.9**	**+0.9**
OHAK	**Old Harbor**	**3.30**	**67**	IAML		01 11 26.2	
	comp=N,103nm,3.3s						
OHAK	**Old Harbor**	**3.30**	**67**	P	**Pn**	**01 09 20.6**	**+0.8**
	baz=252						
OHAK				S	**Sn**	**01 09 59.9**	**+0.9**
	baz=252						
WESE	**West Dahl East**	**3.64**	**246**		**Pn**	**01 09 25.3**	**+0.7**
KDAK	**Kodiak Island**	**3.85**	**61**		**Pn**	**01 09 28.5**	**+1.0**
KDAK					**Sn**	**01 10 14.1**	**+1.3**
KDAK	**Kodiak Island**	**3.85**	**61**	IAML		01 11 49.8	
	comp=N,79nm,3.8s						
KDAK				IAML		01 12 00.9	
	comp=N,93nm,4.2s						
P18K	**Big Mountain,**	**3.87**	**29**		**Pn**	**01 09 28.5**	**+0.7**
P18K	**Big Mountain,**	**3.87**	**29**		**Sn**	**01 10 15.0**	**+1.7**
P18K	**Big Mountain,**	**3.87**	**29**	P	**Pn**	**01 09 28.5**	**+0.7**
	baz=212						
P18K				S	**Sn**	**01 10 15.0**	**+1.7**
	baz=212						
Q19K	**Cape Douglas,**	**4.03**	**42**		**Pn**	**01 09 31.1**	**+1.2**
Q19K	**Cape Douglas,**	**4.03**	**42**	P	**Pn**	**01 09 31.1**	**+1.2**
	baz=227						
MSW	**Makushin Switc**	**5.04**	**248**		**Pn**	**01 09 44.3**	**+0.5**
IVE	**Iliamna Volcan**	**5.04**	**36**		**Pn**	**01 09 44.9**	**+1.0**
N19K	**Bonanza Creek**	**5.29**	**24**		**Pn**	**01 09 48.7**	**+1.3**
N19K	**Bonanza Creek**	**5.29**	**24**	IAML		01 11 33.0	
	comp=E,34nm,3.6s						
N19K	**Bonanza Creek**	**5.29**	**24**	P	**Pn**	**01 09 48.7**	**+1.3**
	baz=208						
SVW2	**Sparrevohn**	**5.34**	**17**	Pn	**Pn**	**01 09 48.5**	**+0.6**
SVW2				IAML		01 13 08.1	
	comp=N,26nm,4.4s						
SVW2				IAML		01 13 11.8	
	comp=E,29nm,3.7s						
CNPM	**China Poot**	**5.36**	**46**		**Pn**	**01 09 50.0**	**+1.8**
RSO	**Redoubt South**	**5.47**	**34**	Pn	**Pn**	**01 09 48.7**	**-1.2**
BRLK	**Bradley Lake**	**5.65**	**46**		**Pn**	**01 09 53.4**	**+1.3**
BRSE	**Bradley Lake S**	**5.69**	**46**		**Pn**	**01 09 54.1**	**+1.3**
BRSE	**Bradley Lake S**	**5.69**	**46**	P	**Pn**	**01 09 54.1**	**+1.3**
	baz=233						
M19K	**Big River Lodg**	**6.30**	**20**		**Pn**	**01 10 02.3**	**+1.2**
M19K	**Big River Lodg**	**6.30**	**20**	P	**Pn**	**01 10 02.3**	**+1.2**
	baz=204						
SLKM	**Skilak Lake**	**6.38**	**42**		**Pn**	**01 10 04.1**	**+1.9**
SEW	**Seward**	**6.43**	**47**		**Pn**	**01 10 05.0**	**+2.1**
SEW	**Seward**	**6.43**	**47**	P	**Pn**	**01 10 05.0**	**+2.1**
	baz=235						
L19K	**White Mountain**	**6.48**	**17**		**Pn**	**01 10 04.6**	**+1.0**
L19K	**White Mountain**	**6.48**	**17**	P	**Pn**	**01 10 04.6**	**+1.0**
	baz=200						
L20K	**Farewell, AK**	**6.93**	**20**		**Pn**	**01 10 10.9**	**+1.2**
L20K	**Farewell, AK**	**6.93**	**20**	P	**Pn**	**01 10 10.9**	**+1.2**
	baz=204						
RC01	**Rabbit Creek A**	**6.94**	**40**	Pn	**Pn**	**01 10 10.2**	**+0.4**
TT01	**Tatalina**	**7.02**	**11**		**Pn**	**01 10 11.5**	**+0.6**
TTA	**Tatalina**	**7.04**	**11**	Pn	**Pn**	**01 10 11.6**	**+0.3**
PWL	**Port Wells**	**7.32**	**45**		**Pn**	**01 10 16.2**	**+1.0**
PWL	**Port Wells**	**7.32**	**45**	P	**Pn**	**01 10 16.2**	**+1.0**
	baz=234						
KNK	**Knik Glacier**	**7.62**	**41**		**Pn**	**01 10 20.5**	**+1.3**
KNK	**Knik Glacier**	**7.62**	**41**	P	**Pn**	**01 10 20.5**	**+1.3**
	baz=230						
PPLA	**Purkeypile**	**7.65**	**24**		**Pn**	**01 10 21.6**	**+1.9**
PPLA	**Purkeypile**	**7.65**	**24**	P	**Pn**	**01 10 21.6**	**+1.9**
	baz=209						
GHO	**Glory Hole Cre**	**7.70**	**38**		**Pn**	**01 10 22.4**	**+2.2**
FID	**Port Fidalgo**	**8.02**	**49**		**Pn**	**01 10 24.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**8.24**	**52**		**Pn**	**01 10 28.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**8.24**	**52**	P	**Pn**	**01 10 28.3**	**+0.6**
	baz=243						
SCM	**Sheep Creek Mo**	**8.30**	**41**		**Pn**	**01 10 29.8**	**+1.1**
SCM	**Sheep Creek Mo**	**8.30**	**41**	P	**Pn**	**01 10 29.8**	**+1.1**
	baz=231						
J20K	**Nowinta River**	**8.48**	**14**	Pn	**Pn**	**01 10 32.1**	**+1.2**
KLU	**Klutina**	**8.64**	**46**		**Pn**	**01 10 34.4**	**+1.1**
KLU	**Klutina**	**8.64**	**46**	P	**Pn**	**01 10 34.4**	**+1.1**
	baz=237						
GOAT	**Goat Mountain**	**8.71**	**53**		**Pn**	**01 10 34.9**	**+0.8**
KHIT	**Khitrov Hills**	**9.32**	**55**		**Pn**	**01 10 43.4**	**+0.7**
WAX	**Waxell Ridge**	**9.51**	**56**		**Pn**	**01 10 46.1**	**+0.9**

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*IDC **12** 01:10:27.4±0.9, 7°.74S×125°.79E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.0/39, mbtmp4.3/16, ML4.4/2, MS3.7/23, Ms1 3.7/23, ms1mx3.4/63, Error ellipse: s-maj=28.9km s-min=20.5km az=59.0*
*DJA **12** 01:10:28.6±0.3, 8°S±4°×12°6E±°, h10km, M4.5/12, mB5.0/5, mb4.7/12, MLv4.5/8, Mw(mB)4.3/5*
*NEIC **12** 01:10:29.5±1.3, 7°.98S±0°.07×125°.87E±0°.07, h17km±5km, mb4.5/23, Error ellipse: s-maj=11.2km s-min=10.0km az=216.0*
ISC 12 01:10:28.6±0.4**, 7°.97S**±0°.05×**125°.78E**±0°.06**, h10**km**, n102,** σ**1ˢ.76**/89**, mb4.4**/29**, MS3.7**/19**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.57**	**259**	Pn	**Pn**	**01 11 25.2**	**+1.1**
MMRI	**Maumere**	**3.57**	**259**	P	**Pn**	**01 11 26.3**	**+2.2**
BBSI	**Bau Bau**	**4.03**	**308**	P	**Pn**	**01 11 29.7**	**-0.7**
SAUI	**Saumlaki**	**5.47**	**91**	Pn	**Pn**	**01 11 49.1**	**-1.1**
BSSI	**Bau Bau, Buton**	**5.55**	**289**	P	**Pn**	**01 11 49.9**	**-1.5**
	0.2nm728nm51nm,1.1s						
BASI	**Baing, Sumba**	**5.60**	**246**	P	**Pn**	**01 11 53.5**	**+1.4**
	0.5nm1μm156nm,0.9s						
BKSI	**Bulukumba**	**6.21**	**295**	P	**Pn**	**01 12 00.5**	**+0.2**
	0.5nm2μm137nm,1.1s						
BNSI	**Bone**	**6.66**	**302**	P	**Pn**	**01 12 06.5**	**-0.1**
	0.5nm1μm144nm,0.9s						
KAPI	**Kappang**	**6.67**	**296**	Pn	**Pn**	**01 12 07.6**	**+0.9**
	6.9nm,0.3s,baz=125,slow=9.7,SNR=12						
KAPI				Sn	**Sn**	**01 13 20.5**	**-2.4**
	3.0nm,0.3s,baz=47,slow=23,SNR=2.8						
KAPI	**Kappang**	**6.67**	**296**	Pn	**Pn**	**01 12 06.4**	**-0.3**
KAPI	**Kappang**	**6.67**	**296**	P	**Pn**	**01 12 08.7**	**+2.0**
DRS	**Darwin Rock St**	**6.71**	**132**	P	**Pn**	**01 12 11.4**	**+4.1**
SPSI	**Sidrap Palu**	**7.18**	**303**	P	**Pn**	**01 12 13.2**	**-0.5**
	0.2nm49nm,0.6s						
LUWI	**Luwuk**	**7.51**	**336**	Pn	**Pn**	**01 12 18.1**	**0.0**
PLAI	**Plampang**	**7.96**	**263**	P	**Pn**	**01 12 26.6**	**+2.1**
	43nm,0.7s						
PLAI	**Plampang**	**7.96**	**263**	P	**Pn**	**01 12 28.4**	**+3.9**
KNRA	**Kununurra**	**8.20**	**159**	Pn	**Pn**	**01 12 26.9**	**-0.8**
KNRA	**Kununurra**	**8.20**	**159**	P	**Pn**	**01 12 30.4**	**+2.7**
FITZ	**Fitzroy Crossi**	**10.07**	**181**	Pn	**Pn**	**01 12 54.8**	**+1.4**
	2.1nm,0.3s,baz=16,slow=11,SNR=78						
FITZ				Sn	**Sn**	**01 14 44.6**	**-1.9**
	5.9nm,0.3s,baz=14,slow=17,SNR=11						
MPSI	**Mapaga**	**10.12**	**324**	P	**Pn**	**01 12 53.5**	**-0.6**
	20nm,1.0s						
TOLI2	**Tolitoli**	**10.30**	**331**	Pn	**Pn**	**01 12 56.7**	**0.0**
WB0	**Warramunga Arr**	**14.40**	**145**		**Pn**	**01 13 51.3**	**-1.3**
PCJI	**Pacitan**	**14.46**	**268**	P	**Pn**	**01 13 54.1**	**+0.6**
	22nm,0.8s						
WRAB	**Tennant Creek**	**14.51**	**146**		**Pn**	**01 13 52.5**	**-1.7**
WRA	**Warramunga Arr**	**14.51**	**146**	Pn	**Pn**	**01 13 52.0**	**-2.1**
	0.7nm,0.3s,baz=318,slow=14,SNR=45						
WRA				Sn	**Sn**	**01 16 30.3**	**-4.9**
	3.1nm,0.3s,baz=324,slow=24,SNR=12						
WRA				LR	LR	01 19 52.8	
	comp=Z,278nm,21.1s,baz=7.5,slow=38						
WRA	**Warramunga Arr**	**14.51**	**146**		**Pn**	**01 13 51.3**	**-2.8**
WB2	**Warramunga Arr**	**14.51**	**146**		**Pn**	**01 13 52.5**	**-1.7**
WR0	**Warramunga Arr**	**14.63**	**145**		**Pn**	**01 13 54.5**	**-1.3**
PSA00	**Pilbara Seismi**	**14.69**	**202**	Pn	**Pn**	**01 13 55.5**	**-1.1**
DAV	**Davao City (W)**	**14.94**	**359**	LR	LR	01 19 44.4	
	comp=Z,194nm,20.9s,baz=323,slow=38						
WRKA	**Warakurna**	**17.14**	**172**	P	**Pn**	**01 14 29.2**	**+0.7**
AS31	**Alice Springs**	**17.44**	**154**		**Pn**	**01 14 31.5**	**-0.7**
ASAR	**Alice Springs**	**17.45**	**154**	P	**Pn**	**01 14 31.7**	**-0.5**
	0.5nm,0.3s,baz=319,slow=11,SNR=24						
ASAR				LR	LR	01 22 32.5	
	comp=Z,477nm,18.4s,baz=334,slow=41						
ASAR	**Alice Springs**	**17.45**	**154**		**Pn**	**01 14 32.6**	**+0.4**
LEM	**Lembang**	**18.05**	**272**	LR	LR	01 22 29.4	
	comp=Z,429nm,20.3s,baz=95,slow=40						
COEN	**Coen**	**18.08**	**111**		**Pn**	**01 14 37.6**	**-2.5**
COEN	**Coen**	**18.08**	**111**	P	**P**	**01 14 41.8**	**+1.3**
QIS	**Mount Isa**	**18.31**	**135**	P	**P**	**01 14 46.9**	**+3.8**
MEEK	**Meekatharra**	**19.78**	**199**	P	**Pn**	**01 15 01.4**	**+0.8**
PMG	**Port Moresby**	**21.18**	**95**	LR	LR	01 24 50.1	
	comp=Z,228nm,18.4s,baz=267,slow=41						
PMG	**Port Moresby**	**21.18**	**95**	P	**P**	**01 15 12.7**	**-1.7**
PMG				IAmb	IAmb	01 15 32.8	
	comp=Z,19nm,1.1s						
OOD	**Oodnadatta**	**21.83**	**156**	P	**P**	**01 15 24.2**	**+2.9**
FORT	**Forrest**	**22.79**	**175**	P	**P**	**01 15 30.4**	**-1.1**
FORT				IAmb	IAmb	01 15 55.4	
	comp=Z,15nm,0.7s						
FORT	**Forrest**	**22.79**	**175**	P	**P**	**01 15 33.5**	**+2.0**
MORW	**Morawa**	**22.91**	**202**	P	**P**	**01 15 32.9**	**+0.2**
MORW				IAmb	IAmb	01 15 53.4	
	comp=Z,17nm,1.1s						
MULG	**Mulgathing**	**23.52**	**162**	P	**P**	**01 15 42.3**	**+3.4**
LCRK	**Leigh Creek**	**25.21**	**154**	P	**P**	**01 15 58.4**	**+3.8**
STKA	**Stephens Creek**	**27.98**	**150**	P	**P**	**01 16 22.4**	**+2.8**
	comp=Z,2.3nm,0.7s,baz=321,slow=11,SNR=6.6						
STKA				LR	LR	01 29 33.5	
	comp=Z,196nm,20.8s,baz=331,slow=41						
STKA	**Stephens Creek**	**27.98**	**150**	P	**P**	**01 16 17.8**	**-1.8**
PSI	**Prapat**	**28.85**	**291**	P	**P**	**01 16 27.7**	**0.0**
	comp=Z,4.1nm,0.6s,baz=60,slow=6.9,SNR=3.6						
PSI				LR	LR	01 28 48.9	
	comp=Z,251nm,18.9s,baz=123,slow=38						
CMSA	**Cobar Meteorol**	**29.91**	**144**	P	**P**	**01 16 41.5**	**+4.8**
CMAR	**Chiang Mai Arr**	**37.29**	**315**	P	**P**	**01 17 41.1**	**0.0**
	comp=Z,2.0nm,0.3s,baz=142,slow=7.1,SNR=9.5						
CMAR				LR	LR	01 35 35.4	
	comp=Z,102nm,19.1s,baz=145,slow=41						
CHTO	**Chiang Mai**	**37.53**	**315**	P	**P**	**01 17 43.5**	**+0.4**
CHTO				IAmb	IAmb	01 17 54.0	
	comp=Z,9.4nm,1.4s						
WHN	**Wuhan**	**39.83**	**345**	P	**P**	**01 18 05.8**	**+3.5**
DZM	**Mont Dzumac**	**41.55**	**114**	LR	LR	01 35 37.6	
	comp=Z,147nm,21.2s,baz=309,slow=36						
MJAR	**Matsushiro Arr**	**45.79**	**14**	P	**P**	**01 18 48.4**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=201,slow=9.1,SNR=2.4						
MJAR				LR	LR	01 36 33.0	
	comp=Z,35nm,20.7s,baz=178,slow=34						
MJAR	**Matsushiro Arr**	**45.79**	**14**	IAmb	IAmb	01 19 00.1	
	comp=Z,8.6nm,1.3s						
PALK	**Pallekele**	**47.43**	**287**	LR	LR	01 40 06.4	
	comp=Z,99nm,18.5s,baz=217,slow=38						
RAMN	**Ramite**	**51.45**	**314**	*e*P	**P**	**01 19 34.7**	**+0.1**
	comp=Z,11nm,0.5s						
MDJ	**Mudanjiang**	**52.45**	**3**	P	**P**	**01 19 41.3**	**-0.2**
GUN	**Gumba**	**52.53**	**314**	*e*P	**P**	**01 19 41.7**	**-1.1**
PKI	**Pulchoki**	**52.67**	**314**	*e*P	**P**	**01 19 43.0**	**-0.8**
	comp=Z,6.2nm,0.4s						
GTA	**Gaotai**	**52.93**	**335**	*e*P	**P**	**01 19 47.4**	**+2.1**
GTA				pP	sP	01 19 51.4	+1.8
GTA				PcP	PcP	01 21 05.8	+12
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
RPZ	**Rata Peaks**	**53.11**	**140**	LR	LR	01 42 21.4	
	comp=Z,110nm,19.5s,baz=292,slow=36						
ASAJ	**Asahikawa**	**54.03**	**15**	LR	LR	01 43 10.0	
	comp=Z,21nm,19.6s,baz=150,slow=36						
KOLN	**Koldanda**	**54.09**	**313**	*e*P	**P**	**01 19 53.2**	**-0.9**
	comp=Z,9.8nm,0.5s						
DANN	**Dangsing**	**54.30**	**313**	*e*P	**P**	**01 19 54.7**	**-1.1**
	comp=Z,15nm,0.6s						

PYUN	**Piuthan**	**54.72**	**313**	*eP*		**P**	**01 19 57.8**	**-0.9**
URZ	**Urewera**	**55.10**	**131**	LR		LR	01 43 39.4	
	comp=Z,69nm,20.5s,baz=205,slow=36							
ULN	**Ulaanbaatar**	**58.01**	**345**	P		**P**	**01 20 21.3**	**-0.4**
ULN				IAmb		IAmb	01 20 27.9	
	comp=Z,3.6nm,0.9s							
SONM	**Songino Array**	**58.15**	**345**	P		**P**	**01 20 21.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=164,slow=7.4,SNR=5.5							
SONM	**Songino Array**	**58.15**	**345**	P		**P**	**01 20 22.3**	**-0.4**
NIL	**Nilore**	**64.74**	**313**	P		**P**	**01 21 06.9**	**-0.6**
KSH	**Kashi**	**65.97**	**320**	P		**P**	**01 21 16.2**	**+0.8**
PETK	**Petropavlovsk-**	**66.61**	**20**	P		**P**	**01 21 19.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=199,slow=5.7,SNR=5.7							
MK31	**Makanchi Array**	**66.82**	**329**	P		**P**	**01 21 20.5**	**-0.1**
MKAR	**Makanchi Array**	**66.82**	**329**	P		**P**	**01 21 19.9**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=128,slow=7.7,SNR=27							
MAKZ	**Makanchi**	**66.99**	**329**	P		**P**	**01 21 21.8**	**+0.2**
MAKZ				IAmb		IAmb	01 21 24.0	
	comp=Z,2.4nm,0.8s							
BOOM	**Boomskoye usch**	**67.68**	**322**	P		**P**	**01 21 25.2**	**-1.1**
KBL	**Kabul**	**68.24**	**312**	P		**P**	**01 21 29.1**	**-1.0**
KBL				IAmb		IAmb	01 21 33.7	
	comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**68.64**	**322**	P		**P**	**01 21 31.6**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=138,slow=5.3,SNR=9.2							
AAK				LR		LR	01 57 32.0	
	comp=Z,22nm,19.0s,baz=98,slow=41							
AAK	**Ala-Archa**	**68.64**	**322**	P		**P**	**01 21 32.0**	**-0.3**
AAK				IAmb		IAmb	01 21 38.0	
	comp=Z,3.0nm,0.8s							
YAK	**Yakutsk**	**69.85**	**2**	LR		LR	01 55 31.5	
	comp=Z,18nm,18.0s,baz=244,slow=39							
MA2	**Magadan**	**70.22**	**13**	P		**P**	**01 21 42.6**	**+1.0**
MA2				IAmb		IAmb	01 21 43.6	
	comp=Z,3.7nm,0.8s							
ZAA0	**Zalesovo Array**	**70.67**	**336**	P		**P**	**01 21 42.8**	**-1.6**
ZAA0				IAmb		IAmb	01 21 45.1	
	comp=Z,6.5nm,1.2s							
ZALV	**Zalesovo Beam**	**70.67**	**336**	P		**P**	**01 21 42.3**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=122,slow=5.4,SNR=12							
KURBB	**Kurchatov Arra**	**71.21**	**330**	P		**P**	**01 21 46.4**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=140,slow=5.3,SNR=15							
KURK	**Kurchatov**	**71.23**	**331**	P		**P**	**01 21 47.0**	**-0.8**
KKAR	**Karatay Array**	**71.37**	**321**	P		**P**	**01 21 48.0**	**-0.9**
VNDA	**Vanda**	**72.03**	**172**	LR		LR	01 52 27.6	
	comp=Z,81nm,18.9s,baz=302,slow=35							
HRA	**Herat**	**73.29**	**309**	P		**P**	**01 22 00.6**	**-0.2**
SEY	**Seymchan**	**73.58**	**12**	P		**P**	**01 22 01.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=230,slow=5.7,SNR=7.2							
BVAR	**Borovoye Array**	**76.70**	**329**	P		**P**	**01 22 19.3**	**-0.5**
	comp=Z,2.7nm,1.1s,baz=62,slow=17,SNR=11							
BRVK	**Borovoye**	**76.77**	**329**	P		**P**	**01 22 20.0**	**-0.3**
BRVK				IAmb		IAmb	01 22 21.9	
	comp=Z,6.7nm,1.4s							
TIXI	**Tiksi**	**79.48**	**1**	P		**P**	**01 22 34.2**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=95,slow=22,SNR=2.8							
ABKAR	**Akbulak array**	**80.70**	**323**	P		**P**	**01 22 41.4**	**-0.6**
AKTO	**Aktyubinsk**	**82.31**	**323**	P		**P**	**01 22 49.9**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=99,slow=6.9,SNR=4.0							
AKTO				LR		LR	02 06 04.8	
	comp=Z,17nm,18.1s,baz=115,slow=41							
PPT	**Papeete**	**82.50**	**107**	LR		LR	01 53 44.1	
	comp=Z,47nm,21.6s,baz=248,slow=31							
GNI	**Garni**	**88.29**	**311**	LR		LR	02 10 38.1	
	comp=Z,13nm,19.5s,baz=94,slow=41							
LSZ	**Lusaka**	**95.18**	**254**	LR		LR	02 00 21.7	
	comp=Z,28nm,18.4s,baz=147,slow=31							
LBTB	**Lobatse**	**95.80**	**244**	LR		LR	02 03 16.1	
	comp=Z,38nm,19.2s,baz=144,slow=33							
SUR	**Sutherland**	**98.23**	**236**	LR		LR	02 02 58.6	
	comp=Z,30nm,18.8s,baz=132,slow=32							

*VAO **12** 01:50:06.7±0.8,20°.25S×69°.07W,h116km,mb4.1*
*NEIC **12** 01:50:07.5±2.0,20°.43S±0°.05×68°.89W±0°.08,h107km±7km, mb4.2/4,ML4.0(GUC),Error ellipse: s-maj=10.5km s-min=7.7km az=98.0*
*IDC **12** 01:50:08.9±1.4,20°.48S×68°.57W,h115km±14km,mb3.6/4, mb1 3.8/7,mb1mx3.5/39,mbtmp4.1/7,MS2.3/1,Ms1 2.3/1, ms1mx2.2/52,Error ellipse: s-maj=36.0km s-min=14.2km az=106.0*
*GUC **12** 01:50:08.7±0.6,20°.43S×68°.90W,h101km±6km,ML4.0*

ISC 12 01:50:07.0±0.7,20°.41S±0°.04×68°.97W±0°.07,h114km±7km, n52,σ1°9.16/57,mb3.8/3,3C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.77**	**344**		**Pn**	**01 50 27.2**	**+0.3**
GO01	**Chusmiza**	**0.77**	**344**	⇓*iP*	**Pn**	**01 50 27.5**	**+0.6**
GO01				*i* S	**Sn**	**01 50 42.2**	**+0.4**
GO01				IAML		01 50 46.9	
	comp=E,4μm,0.2s						
HMBC	**Humberstone**	**0.88**	**279**	⇑*iP*	**Pn**	**01 50 27.8**	**+0.4**
HMBC				*eS*	**Sn**	**01 50 43.0**	**+0.2**
HMBC				IAML		01 50 46.4	
	comp=N,5μm,0.3s						
TA02	**Huaiquique**	**1.10**	**277**		**Pn**	**01 50 30.3**	**+0.8**
TA02	**Huaiquique**	**1.10**	**277**	*i* P	**Pn**	**01 50 30.4**	**+0.8**
TA02				*eS*	**Sn**	**01 50 47.5**	**+0.9**
TA01	**Diego Aracena**	**1.15**	**262**	Pn	**Pn**	**01 50 30.8**	**+0.7**
TA01	**Diego Aracena**	**1.15**	**262**	⇑*iP*	**Pn**	**01 50 30.6**	**+0.6**
TA01				*eS*	**Sn**	**01 50 47.7**	**+0.2**
PATCX	**Punta Patache**	**1.19**	**250**		**Pn**	**01 50 31.2**	**+0.7**
PATCX	**Punta Patache**	**1.19**	**250**	⇑*iP*	**Pn**	**01 50 31.2**	**+0.7**
PATCX				*eS*	**Sn**	**01 50 48.9**	**+0.5**
PB16	**IPOC Station P**	**2.13**	**346**		**Pn**	**01 50 44.3**	**+1.9**
PB16	**IPOC Station P**	**2.13**	**346**	*i* P	**Pn**	**01 50 44.4**	**+2.0**
LVC	**Limon Verde**	**2.19**	**179**	P	**Pn**	**01 50 44.2**	**+1.2**
	comp=N,55nm,0.3s,baz=24,slow=10,SNR=167						
LVC				S	**Sn**	**01 51 11.9**	**+1.5**
	comp=N,40nm,0.3s,baz=112,slow=22,SNR=21						
LVC				LR	LR	01 52 02.8	
	comp=N,73nm,20.2s,baz=220,slow=53						
LVC	**Limon Verde**	**2.19**	**179**		**Pn**	**01 50 44.5**	**+1.5**
LVC	**Limon Verde**	**2.19**	**179**	*i* P	**Pn**	**01 50 44.1**	**+1.1**
LVC				*eS*	**Sn**	**01 51 11.0**	**+0.6**
LVC	**Limon Verde**	**2.19**	**179**	*eP*	**Pn**	**01 50 44.4**	**+1.5**
PB12	**IPOC Station P**	**2.20**	**324**		**Pn**	**01 50 43.6**	**+0.7**
PB12	**IPOC Station P**	**2.20**	**324**	*i* P	**Pn**	**01 50 43.4**	**+0.6**
PB12				*eS*	**Sn**	**01 51 10.2**	**-0.1**
PB12				IAML		01 51 19.0	
	comp=E,1μm,0.4s						
AP01	**Chacalluta**	**2.41**	**327**	Pn	**Pn**	**01 50 45.8**	**+0.4**
PB10	**IPOC Station P**	**3.42**	**205**	Pn	**Pn**	**01 50 57.9**	**-0.8**
PB10	**IPOC Station P**	**3.42**	**205**	*eP*	**Pn**	**01 50 58.1**	**-0.6**
LPAZ	**La Paz**	**4.18**	**11**	P	**Pn**	**01 51 12.5**	**+3.1**
	comp=E,5.1nm,0.3s,baz=196,slow=5.7,SNR=94						
LPAZ	**La Paz**	**4.18**	**11**		**Pn**	**01 51 11.1**	**+1.7**
AC01	**Pan de Azucar**	**5.90**	**194**	Pn	**Pn**	**01 51 30.3**	**-1.8**
AC02	**Maricunga**	**6.40**	**181**	Pn	**Pn**	**01 51 38.8**	**-0.4**
SIV	**San Ignacio**	**8.69**	**61**	P	**Pn**	**01 52 07.2**	**-2.8**
	comp=E,5.2nm,0.3s,baz=248,slow=10,SNR=124						
LCO	**Las Campanas**	**8.71**	**190**	Pn	**Pn**	**01 52 08.3**	**-2.0**
ETMB	**Extrema**	**10.86**	**15**	*eP*	**Pn**	**01 52 37.9**	**-1.4**
VILB	**Vilhena**	**11.20**	**50**	*eP*	**Pn**	**01 52 43.0**	**-0.9**
AQDB	**Aquidauana**	**12.44**	**93**	*eP*	**Pn**	**01 53 01.3**	**+1.1**
PDRB	**Porto dos Gac**	**14.65**	**55**	*eP*	**Pn**	**01 53 28.3**	**-0.5**
CLDB	**Colider**	**15.82**	**55**	*eP*	**Pn**	**01 53 42.7**	**-0.8**
PTGB	**Pitanga**	**16.18**	**108**	*eP*	**P**	**01 53 50.4**	**+1.3**
PCMB	**Pacaembu**	**16.57**	**97**	*eP*	**P**	**01 53 53.8**	**+0.5**
ARAG	**Araguaiana, MT**	**16.96**	**77**	*eP*	**P**	**01 53 57.9**	**+0.2**
ITRB	**Iturama**	**17.50**	**91**	*eP*	**Pn**	**01 54 04.8**	**+0.8**
FRTB	**Fartura**	**18.24**	**103**	*eP*	**Pn**	**01 54 13.2**	**+0.2**
NPGB	**Novo Progresso**	**18.72**	**47**	*eP*	**P**	**01 54 15.5**	**-1.4**
SNDB	**Serra Nova Dou**	**18.92**	**66**	*eP*	**P**	**01 54 18.6**	**-0.4**
IPMB	**Ipameri, GO**	**19.75**	**86**	*eP*	**P**	**01 54 27.5**	**-0.6**
PLCA	**Paso Flores**	**20.30**	**183**	P	Pn	01 54 35.6	-1.4
	comp=E,2.7nm,1.0s,baz=349,slow=13,SNR=3.7						
PLCA	**Paso Flores**	**20.30**	**183**	IAmb	IAmb	01 54 39.5	
	comp=Z,5.0nm,1.1s						
ITTB	**Itaituba**	**20.50**	**41**	*eP*	**P**	**01 54 34.9**	**-1.3**
SMTB	**Santa Maria do**	**23.62**	**64**	*eP*	**P**	**01 55 07.8**	**-0.1**
JANB	**Januaria**	**24.07**	**81**	*eP*	**P**	**01 55 11.8**	**-0.2**
DBIC	**Dimbokro**	**68.48**	**74**	P	**P**	**02 00 57.3**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=239,slow=3.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.04**	**71**	P	**P**	**02 01 48.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=253,slow=4.2,SNR=19						
TORD	**Torodi Ar. Bea**	**77.04**	**71**	IAmb	IAmb	02 01 48.5	
	comp=Z,1.4nm,0.9s						
YKA	**Yellowknife Ar**	**90.15**	**341**	P	**P**	**02 02 55.7**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=138,slow=4.7,SNR=9.5						
WRA	**Warramunga Arr**	**133.86**	**211**	PKP	**PKiKP**	**02 09 14.3**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=146,slow=1.4,SNR=2.0						
WRA	**Warramunga Arr**	**133.86**	**211**		**PKPdf**	**02 09 10.4**	**-1.1**
BRVK	**Borovoye**	**134.85**	**34**	PKPdf	**PKPdf**	**02 09 11.8**	**-0.5**
MKAR	**Makanchi Array**	**144.78**	**35**	PKPdf	**PKPdf**	**02 09 31.3**	**+0.8**

*IDC **12** 01:54:37.1±3.3,5°.83S×146°.87E,h95km±25km,mb3.8/4, mb1 4.0/6,mb1mx3.5/45,mbtmp4.2/6,MS3.3/2,Ms1 3.3/2, ms1mx2.5/51,Error ellipse: s-maj=37.0km s-min=24.7km az=103.0*
*NEIC **12** 01:54:37.5±1.6,5°.77S±0°.07×147°.0E±0°.1,h106km±8km, mb4.2/10,Error ellipse: s-maj=17.7km s-min=8.6km az=107.0*

ISC 12 01:54:36.5±0.8,5°.78S±0°.06×146°.9E±0°.1,h100km,n21, σ0°.93/20,mb4.2/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.61**	**176**	P	**Pn**	**01 55 30.1**	**-0.3**
	7.4nm,0.3s,baz=353,slow=8.1,SNR=12						
PMG				S	**Sn**	**01 56 12.2**	**+0.1**
	9.5nm,0.3s,baz=247,slow=22,SNR=11						
PMG	**Port Moresby**	**3.61**	**176**		**Pn**	**01 55 30.2**	**-0.2**
MANU	**Manus Island**	**3.74**	**7**	Pn	**Pn**	**01 55 33.3**	**+1.1**
RABL	**Rabaul**	**5.46**	**73**	Pn	**Pn**	**01 55 55.7**	**+0.2**
COEN	**Coen**	**8.92**	**204**	Pn	**Pn**	**01 56 43.0**	**+0.5**
WB0	**Warramunga Arr**	**18.48**	**220**	P	**P**	**01 58 44.4**	**-0.4**
WB0				IAmb	IAmb	01 58 47.6	
	comp=Z,5.0nm,0.7s						
WR0	**Warramunga Arr**	**18.53**	**219**	P	**P**	**01 58 45.7**	**+0.4**
WR0				IAmb	IAmb	01 58 48.1	
	comp=Z,6.4nm,0.8s						
WRAB	**Tennant Creek**	**18.63**	**220**	P	**P**	**01 58 45.4**	**-1.0**
WRAB				IAmb	IAmb	01 58 49.7	
	comp=Z,9.7nm,0.7s						
WRA	**Warramunga Arr**	**18.65**	**220**	P	**P**	**01 58 46.7**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=36,slow=12,SNR=91						
AS31	**Alice Springs**	**21.75**	**214**		**P**	**01 59 20.2**	**+0.1**
ASAR	**Alice Springs**	**21.75**	**214**	P	**P**	**01 59 20.4**	**+0.4**
	comp=Z,8.9nm,0.6s,baz=52,slow=8.6,SNR=77						
ASAR				S	**S**	**02 03 16.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=37,slow=20,SNR=5.4						
ASAR				LR	LR	02 07 56.3	
	comp=Z,77nm,21.3s,baz=196,slow=37						
ASAR	**Alice Springs**	**21.75**	**214**		**P**	**01 59 20.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.11**	**238**	P	**P**	**01 59 43.5**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=49,slow=11,SNR=22						
FITZ	**Fitzroy Crossi**	**24.11**	**238**	IAmb	IAmb	02 00 27.7	
	comp=Z,12nm,1.5s						
ARMA	**Armidale**	**24.90**	**170**	P	**P**	**01 59 50.6**	**+0.2**
STKA	**Stephens Creek**	**26.43**	**190**	P	**P**	**02 00 05.8**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=354,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**26.43**	**190**	IAmb	IAmb	02 00 10.6	
	comp=Z,3.2nm,1.8s						
MDJ	**Mudanjiang**	**52.53**	**344**	P	**P**	**02 03 37.7**	**-1.8**
MDJ				IAmb	IAmb	02 04 26.3	
	comp=Z,4.4nm,0.6s						
ULN	**Ulaanbaatar**	**63.88**	**331**	P	**P**	**02 04 56.8**	**-1.9**
ULN				IAmb	IAmb	02 07 17.2	
	comp=Z,3.9nm,1.3s						
PALK	**Pallekele**	**67.33**	**280**	LR	LR	02 37 26.8	
	comp=Z,18nm,18.7s,baz=261,slow=38						
VNDA	**Vanda**	**72.13**	**177**	P	**P**	**02 05 50.3**	**+0.6**
	comp=Z,5.1nm,1.2s,baz=359,slow=6.1,SNR=5.0						

*TUL **12** 01:55:02.2±1.0,36°.37N±0°.02×97°.72W±0°.02,h7km±7km, ML3.4,mb_Lg3.1/80(NEIC),Error ellipse: s-maj=2.6km s-min=1.9km az=215.0*

NEIC 12 01:55:02.1±0.9,36°.37N±0°.01×97°.72W±0°.02,h1km±7km, Error ellipse: s-maj=2.5km s-min=1.9km az=57.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.98**	**167**		Pg	01 55 20.8	-0.1
OKCSW	**OKLAHOMA CITY**	**0.99**	**167**	Pg	Pg	01 55 21.0	-0.1
U32A	**Winter Ranch,**	**1.03**	**271**	Pg	Pg	01 55 21.6	-0.4
T35A	**Sooner Cattle**	**1.11**	**60**	Pg	Pg	01 55 23.2	-0.3
FNO	**Franklin**	**1.14**	**167**	Pg	Pg	01 55 23.5	-0.5
W35A	**Tecumseh**	**1.40**	**150**	Pn	Pn	01 55 27.8	-1.0
TUL1	**Leonard**	**1.63**	**106**		Pn	01 55 32.0	+0.1
TUL1				IAmb	Lg	01 55 54.8	
	comp=Z,121nm,0.8s						
X34A	**Smith Ranch, M**	**1.77**	**183**		Pn	01 55 34.6	+0.7
WMOK	**Wichita Mounta**	**1.84**	**208**		Pn	01 55 34.9	0.0
R32A	**Long Quarter,**	**2.20**	**339**		Pn	01 55 40.3	+0.5
X37A	**Clayton**	**2.61**	**132**	Pn	Pn	01 55 46.0	+0.5
X37A				IAmb	Lg	01 56 30.5	
	comp=Z,52nm,0.8s						
KSU1	**Kansas State U**	**2.87**	**18**		Pn	01 55 49.3	+0.3
KSU1				IAmb	Lg	01 56 39.3	
	comp=Z,40nm,0.8s						
CBKS	**Cedar Bluff**	**2.92**	**327**		Pn	01 55 50.4	+0.6
HHAR	**Hobbs**	**3.05**	**91**		Pn	01 55 52.2	+0.6
Z35A	**Perchaven, San**	**3.06**	**173**		Pn	01 55 52.0	+0.4
W39A	**Magazine**	**3.41**	**109**		Pn	01 55 57.4	+1.0
W39A				IAmb	Lg	01 56 59.0	
	comp=Z,77nm,0.8s						
AMTX	**Amarillo**	**3.55**	**246**		Pn	01 55 58.9	+0.4
AMTX				IAmb	Lg	01 56 54.7	
	comp=Z,35nm,0.9s						
S39A	**Bolivar**	**3.76**	**68**	Pn	Pn	01 56 01.4	+0.1
Z38A	**Mt. Pleasant**	**3.83**	**143**		Pn	01 56 01.7	-0.6
Z38A				IAmb	Lg	01 57 11.9	
	comp=Z,68nm,1.0s						
U40A	**Yellville**	**3.93**	**89**		Pn	01 56 03.5	-0.1
U40A				IAmb	Lg	01 57 10.5	
	comp=Z,64nm,0.7s						
ABTX	**Abilene, Hawle**	**4.06**	**204**	Pn	Pn	01 56 06.0	+0.6
WHTX	**Lake Whitney,**	**4.37**	**177**		Pn	01 56 09.2	-0.5
X40A	**Basin Creek Fa**	**4.41**	**114**	Pn	Pn	01 56 10.7	+0.5
MGMO	**Mountain Grove**	**4.45**	**78**		Pn	01 56 10.9	+0.1
MGMO				IAmb	Lg	01 57 32.8	
	comp=Z,31nm,1.1s						
WHAR	**Wooly Hollow**	**4.54**	**102**	Pn	Pn	01 56 11.5	-0.6
WHAR				IAmb	Lg	01 57 34.8	
	comp=Z,35nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.55**	**94**	Pn	Pn	01 56 12.1	-0.1
W41B	**Gary Mavity, V**	**4.61**	**103**	Pn	Pn	01 56 13.1	+0.2
W41B				IAmb	Lg	01 57 35.7	
	comp=Z,28nm,0.8s						
WLAR	**White Oak Lake**	**4.63**	**124**	Pn	Pn	01 56 12.7	-0.5
WLAR				IAmb	Lg	01 57 33.1	
	comp=Z,27nm,0.8s						
P38A	**Dawn**	**4.64**	**44**	Pn	Pn	01 56 12.9	-0.4
KSCO	**Kaye Shedlock'**	**4.70**	**306**	IAmb	Lg	01 57 39.8	
	comp=Z,25nm,0.8s						
R40A	**Maddies Statio**	**4.75**	**65**		Pn	01 56 14.5	-0.4
N35A	**Tabor**	**4.77**	**19**	Pn	Pn	01 56 15.5	+0.3
BGNE	**Belgrade**	**5.04**	**356**	Pn	Pn	01 56 18.2	-0.8
Z41A	**Richland Creek**	**5.10**	**126**	IAmb	Lg	01 57 52.9	
	comp=Z,29nm,0.8s						
LCAR	**Lake Charles**	**5.32**	**91**	Pn	Pn	01 56 22.9	+0.2
LCAR				IAmb	Lg	01 57 52.6	
	comp=Z,22nm,0.8s						
T25A	**Trinidad**	**5.43**	**280**	Pn	Pn	01 56 24.1	-0.3
T25A				IAmb	Lg	01 57 56.0	
	comp=Z,24nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**70**	Pn	Pn	01 56 24.2	-0.1
P40A	**Paris**	**5.48**	**53**	IAmb	Lg	01 57 55.5	
	comp=Z,26nm,0.7s						
435B	**Jarrell**	**5.57**	**179**		Sg	01 57 59.0	-2.2
N38A	**Joes South For**	**5.64**	**37**	Pn	Pn	01 56 27.0	-0.2
OGNE	**Ogallala**	**5.68**	**325**	Pn	Pn	01 56 27.0	-0.8
OGNE				IAmb	Lg	01 58 10.8	
	comp=Z,22nm,0.8s						
L34A	**Svendsen Farm,**	**5.69**	**10**	Pn	Pn	01 56 27.0	-0.7
PBMO	**Poplar Bluff**	**5.88**	**84**	IAmb	Lg	01 58 10.6	
	comp=Z,28nm,0.8s						
FVM	**French Village**	**6.04**	**72**	Pn	Pn	01 56 31.7	-0.9
FVM				IAmb	Lg	01 58 14.9	
	comp=Z,20nm,0.8s						
SLM	**Saint Louis**	**6.37**	**67**	IAmb	Lg	01 58 21.3	
	comp=Z,21nm,0.8s						
PARMO	**Parma**	**6.42**	**85**	IAmb	Lg	01 58 28.2	
	comp=Z,36nm,0.8s						
GLAT	**Glass**	**6.81**	**88**	IAmb	Lg	01 58 41.5	
	comp=Z,35nm,0.7s						
S44A	**Carbondale**	**6.90**	**76**	IAmb	Lg	01 58 39.0	
	comp=Z,18nm,0.8s						
N41A	**Harden Midland**	**6.91**	**49**	IAmb	Lg	01 58 54.8	
	comp=Z,29nm,0.8s						
SIUC	**Southern Illin**	**6.93**	**76**	IAmb	Lg	01 58 42.9	
	comp=Z,20nm,0.8s						
OXF	**Oxford**	**7.03**	**103**	IAmb	Lg	01 58 56.9	
	comp=Z,25nm,0.9s						
W45A	**Hickory Valley**	**7.04**	**97**	IAmb	Lg	01 59 05.4	
	comp=Z,22nm,0.8s						
ISCO	**Idaho Springs**	**7.10**	**301**	IAmb	Lg	01 58 56.5	
	comp=Z,14nm,0.9s						
Y45A	**Yeager Farm, C**	**7.15**	**108**	IAmb	Lg	01 59 04.0	
	comp=Z,22nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.25**	**61**	IAmb	Lg	01 59 02.2	
	comp=Z,22nm,0.7s						
L40A	**Anamosa**	**7.60**	**40**	IAmb	Lg	01 59 08.7	
	comp=Z,20nm,0.8s						
PHWY	**Pilot Hill**	**7.79**	**312**	IAmb	Lg	01 59 18.9	
	comp=Z,16nm,0.9s						
N23A	**Red Feather La**	**7.86**	**308**	IAmb	Lg	01 59 17.6	
	comp=Z,13nm,0.9s						
833A	**Chaparral WMA,**	**8.15**	**190**	IAmb	Lg	01 59 28.0	
	comp=Z,13nm,1.0s						
L42A	**Oliver, Polo**	**8.41**	**46**	IAmb	Lg	01 59 31.1	
	comp=Z,22nm,1.0s						
JFWS	**Jewell Farm**	**8.71**	**39**	IAmb	Lg	01 59 50.4	
	comp=Z,22nm,0.7s						
K22A	**Casper**	**9.25**	**315**	IAmb	Lg	02 00 20.5	
	comp=Z,14nm,1.1s						
SPMN	**Marine on St.**	**9.60**	**21**	IAmb	Lg	02 00 15.1	
	comp=Z,12nm,0.9s						

*IDC **12** 02:01:23.3±2.9,36°.15N×70°.22E,h184km±25km,mb3.3/10, mb1 3.4/16,mb1mx3.1/49,mbtmp3.8/16,Error ellipse: s-maj=21.5km s-min=15.9km az=173.0*
*SOME **12** 02:01:24.4,37°.65N×70°.53E,h0km*
*NNC **12** 02:01:25.4±2.4,37°.13N×69°.80E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=24.8km s-min=12.5km az=156.0*
*NEIC **12** 02:01:26.9±2.1,36°.41N±0°.03×70°.30E±0°.10,h212km±6km, mb4.1/9,Error ellipse: s-maj=11.8km s-min=4.5km az=79.0*

ISC 12 02:01:25.8±0.5,36°.47N±0°.05×70°.23E±0°.05,h200km,n61, σ1°.93/70,mb3.6/10,6C-8D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.15**	**207**		**Pn**	**02 02 08.3**	**+2.0**
CEP	**Cherat**	**2.98**	**152**	P	**Pn**	**02 02 17.5**	**+2.1**
CEP				S	**Sn**	**02 02 55.0**	**+0.9**
BTK	**Batken**	**3.61**	**7**	Pn	**Pn**	**02 02 25.3**	**+2.5**
CHCP	**Chirah Chowk**	**3.75**	**138**	P	**Pn**	**02 02 26.7**	**+2.1**
NIL	**Nilore**	**3.75**	**138**	Pn	**Pn**	**02 02 26.8**	**+2.2**
THW	**Thamme Wali**	**3.87**	**161**	P	**Pn**	**02 02 27.8**	**+1.7**
TAS	**Tashkent**	**4.90**	**352**	Pn	**Pn**	**02 02 40.7**	**+1.8**
SARP	**Sargodha**	**4.97**	**155**	P	**Pn**	**02 02 40.6**	**+0.7**
JMU	**Jammu**	**5.37**	**133**	*eP*	**Pn**	**02 02 49.7**	**+4.7**
JMU				*eS*	**Sn**	**02 03 44.1**	**-3.3**
IUG	**Iuzhnay**	**5.67**	**359**	*eP*	**Pn**	**02 02 50.3**	**+1.4**
	50nm,0.4s						
IUG				*eS*	**Sn**	**02 03 51.4**	**-3.2**
	165nm,0.7s						
CHM	**Chimkent**	**5.86**	**355**	*eP*	**Pn**	**02 02 54.0**	**+2.8**
	161nm,0.3s						
CHM				*eS*	**Sn**	**02 03 57.4**	**-1.5**
	248nm,0.2s						
THN	**Thein Dam**	**6.06**	**130**	*eP*	**Pn**	**02 02 55.0**	**+1.1**
THN				*eS*	**Sn**	**02 04 02.4**	**-1.1**
DHRM	**DHARAMSHALA**	**6.55**	**128**	*eP*	**Pn**	**02 03 00.7**	**+0.2**
DHRM				*eS*	**Sn**	**02 04 12.9**	**-2.5**
DHRM				IAML		02 04 16.3	
	comp=N,115nm,0.7s						
DHRM				IAML		02 04 17.6	
	comp=E,83nm,0.6s						
KKAR	**Karatay Array**	**6.63**	**2**	Pn	**Pn**	**02 03 01.5**	**+

SEY	**Seymchan**	**54.79**	**34**	P		**P**	**02 10 37.1**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=252,slow=11,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**65.09**	**268**	P		**P**	**02 11 45.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**65.09**	**268**	P		**P**	**02 11 44.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=47,slow=6.2,SNR=7.2							
TORD	**Torodi Ar. Bea**	**65.09**	**268**	IAmb		IAmb	02 12 43.0	
	comp=Z,9.4nm,1.9s							
YKA	**Yellowknife Ar**	**81.30**	**2**	P		**P**	**02 13 19.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=348,slow=5.1,SNR=15							
WRA	**Warramunga Arr**	**82.50**	**121**	P		**P**	**02 13 24.4**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=304,slow=9.0,SNR=6.5							
ASAR	**Alice Springs**	**84.75**	**124**	P		**P**	**02 13 35.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=314,slow=5.2,SNR=6.8							

MEX ***12*** *02:34:17.7±0.7, 14°.47N×93°.45W, h120km±23km, MD3.9*
IDC ***12*** *02:34:17.5±13.0, 14°.90N×92°.34W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/37, mbtmp3.5/3, ML3.3/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/60, Error ellipse: s-maj=323.9km s-min=112.1km az=27.0*

ISC 12 02:34:18.0±2.6, 14°.6N±0°.1×93°.46W±0°.06, h3km±13km, n12, σ1s54/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.14**	**12**	*e*P	**Pn**	**02 34 41.0**	**+0.1**
THIG		**1.20**	**74**	*e*P	**Pg**	**02 34 40.4**	**-0.5**
THIG				*e*S	**Sn**	**02 34 58.0**	**-0.5**
PATR	**El Naranjo**	**1.29**	**66**	*e*P	**Pn**	**02 34 42.0**	**-1.3**
PATR				*e*S	**Sn**	**02 35 01.6**	**+0.3**
PAVE	**Pavencul**	**1.38**	**64**	*e*P	**Pn**	**02 34 43.4**	**-0.9**
PAVE				*e*S	**Sn**	**02 35 02.9**	**-0.3**
CCIG	**Comitan**	**2.11**	**37**	*e*P	**Pg**	**02 34 57.5**	**-1.0**
CCIG				*e*S	**Sg**	**02 35 27.8**	**+1.8**
TGIG		**2.20**	**8**	*e*P	**Pb**	**02 34 57.9**	**-0.6**
TGIG				*e*S	**Sb**	**02 35 26.7**	**+0.4**
CMIG	**Matias Romero**	**2.84**	**331**	*e*P	**Pn**	**02 35 04.8**	**+0.4**
CMIG				*i* S	**Sn**	**02 35 35.6**	**-3.6**
TXAR	**Lajitas Array**	**17.45**	**329**	P		**P**	**02 38 26.1**	**+2.2**
	0.0nm,0.3s,baz=150,slow=13,SNR=5.7							
TXAR					LR	LR	02 46 17.8	
	comp=Z,26nm,19.2s,baz=222,slow=40							
LPIG	**La Paz**	**18.49**	**303**	LR		LR	02 46 32.8	
	comp=Z,54nm,21.3s,baz=192,slow=38							
ANMO	**Albuquerque**	**23.41**	**332**	LR		LR	02 51 12.9	
	comp=Z,30nm,19.3s,baz=140,slow=43							
PDAR	**Pinedale Array**	**31.32**	**337**	P		**P**	**02 40 41.2**	**+1.3**
	0.3nm,0.8s,baz=161,slow=5.7,SNR=2.3							
YKA	**Yellowknife Ar**	**50.14**	**347**	P		**P**	**02 43 13.9**	**-0.6**
	1.2nm,0.6s,baz=154,slow=7.3,SNR=20							

NEIC ***12*** *02:39:21.0±3.1, 51°.34N±0°.02×174°.20W±0°.04, h10km±1km, Error ellipse: s-maj=5.5km s-min=2.8km az=131.0*
AEIC ***12*** *02:39:21.6±2.9, 51°.40N±0°.04×174°.12W±0°.08, h5km±5km, ML3.4/17, Error ellipse: s-maj=7.2km s-min=5.9km az=71.0*
IDC ***12*** *02:39:24.9±9.0, 51°.65N×173°.99W, h44km±86km, mb3.5/9, mb1 3.6/10, mb1mx3.4/44, mbtmp3.7/10, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/61, Error ellipse: s-maj=50.1km s-min=21.2km az=177.0*

ISC 12 02:39:23.3±0.9, 51°.43N±0°.10×174°.06W±0°.05, h35km, n33, σ1s39/28, mb3.8/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.78**	**354**		**Pn**	**02 39 37.5**	**-0.2**
ATKA					**Sn**	**02 39 50.7**	**+2.5**
KOFP	**Korovin Flat P**	**0.85**	**358**		**Pn**	**02 39 39.0**	**+0.2**
KOKL	**Mount Kliuchef**	**0.90**	**354**		**Pn**	**02 39 39.9**	**+0.5**
GSMY	**Great Sitkin M**	**1.39**	**297**		**Pn**	**02 39 46.9**	**+0.8**
GSTR	**Great Sitkin T**	**1.41**	**299**		**Pn**	**02 39 45.1**	**-1.4**
GSCK	**Great Sitkin C**	**1.43**	**295**		**Pn**	**02 39 47.3**	**+0.5**
GSTD	**Great Sitkin T**	**1.44**	**297**		**Pn**	**02 39 47.5**	**+0.6**
GSTD					**Sn**	**02 40 07.6**	**+2.9**
ADK	**Adak**	**1.70**	**287**		**Pn**	**02 39 51.0**	**+0.7**
ADK	**Adak**	**1.70**	**287**		**Sn**	**02 40 10.8**	**-0.1**
KIWB	**Kanaga Island**	**1.97**	**284**		**Pn**	**02 39 53.1**	**-1.1**
KIKV	**Kanaga Island**	**1.99**	**284**		**Pn**	**02 39 55.2**	**+0.8**
TAPA	**Tanaga Point A**	**2.37**	**281**		**Pn**	**02 40 00.7**	**+1.0**
TAFP	**Tanaga Falls P**	**2.49**	**282**		**Pn**	**02 40 02.0**	**+0.7**
TAFP					**Sn**	**02 40 33.9**	**+3.5**
TASE	**Tanaga Southea**	**2.51**	**281**		**Pn**	**02 40 02.4**	**+0.8**
NIKH	**Nikolski High**	**3.55**	**62**		**Pn**	**02 40 18.4**	**+2.5**
ILAR	**Eielson Array**	**19.39**	**36**	P	**P**	**02 43 44.8**	**-1.0**
	0.3nm,0.3s,baz=224,slow=8.2,SNR=6.8						
INK	**Inuvik**	**25.73**	**34**	P	**P**	**02 44 49.4**	**-0.6**
	1.3nm,0.6s,baz=183,slow=4.2,SNR=5.1						
YKA	**Yellowknife Ar**	**33.03**	**47**	P	**P**	**02 45 53.0**	**-1.8**
	0.1nm,0.4s,baz=270,slow=8.8,SNR=4.6						
KLR	**Kul'dur**	**34.01**	**288**	LR	LR	03 00 05.4	
	comp=Z,28nm,19.1s,baz=281,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.00**	**212**	T	T	03 24 28.1	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**35.01**	**212**	T	T	03 24 29.8	
	baz=21,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**35.02**	**212**	T	T	03 24 33.0	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	03 25 40.7	
	baz=18,slow=74						
H11S2	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	03 25 33.0	
	baz=18,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	03 25 37.9	
	baz=18						
USRK	**Ussuriysk Ar.**	**36.22**	**280**	P	**P**	**02 46 22.8**	**+0.2**
	2.3nm,0.5s,baz=70,slow=8.7,SNR=4.8						
PDAR	**Pinedale Array**	**43.44**	**75**	P	**P**	**02 47 22.9**	**0.0**
	0.2nm,0.5s,baz=278,slow=4.3,SNR=1.7						
SONM	**Songino Array**	**49.25**	**299**	P	**P**	**02 48 08.6**	**+0.4**
	0.7nm,0.7s,baz=47,slow=6.9,SNR=6.6						
ANMO	**Albuquerque**	**50.16**	**82**	LR	LR	03 08 09.8	
	comp=Z,28nm,18.1s,baz=20,slow=34						
TXAR	**Lajitas Array**	**55.70**	**85**	P	**P**	**02 48 56.2**	**0.0**
	0.4nm,1.0s,baz=305,slow=4.4,SNR=2.4						
FINES	**FINESS Array B**	**66.33**	**350**	P	**P**	**02 50 06.2**	**-1.4**
	2.5nm,0.9s,baz=19,slow=10,SNR=3.8						
AKASG	**Malin Array Be**	**76.34**	**345**	P	**P**	**02 51 07.6**	**-0.6**
	0.7nm,0.5s,baz=18,slow=6.3,SNR=4.3						
BRTR	**Keskin Array B**	**86.05**	**339**	P	**P**	**02 52 00.5**	**+0.2**
	0.7nm,0.9s,baz=348,slow=5.2,SNR=3.6						

IDC 12 02:50:46.4±5.3, 55°.88S×142°.43W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/27, mbtmp3.6/2, MS3.3/1, Ms1 3.4/1, ms1mx2.8/45, Error ellipse: s-maj=703.3km s-min=114.6km az=167.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.91**	**202**	LR	LR	03 05 55.9	
	comp=Z,62nm,20.2s,baz=256,slow=32						
H03S2	**Juan Fernandez**	**48.16**	**90**	T	T	03 51 03.9	
	baz=221,SNR=12						
H03S1	**Juan Fernandez**	**48.16**	**90**	T	T	03 51 06.2	
	baz=221,SNR=11						
H03S3	**Juan Fernandez**	**48.17**	**90**	T	T	03 51 07.6	
	baz=221,SNR=14						
H03N3	**Juan Fernandez**	**48.44**	**90**	T	T	03 51 23.6	
	baz=223,slow=72,SNR=39						
H03N2	**Juan Fernandez**	**48.45**	**90**	T	T	03 51 23.4	
	baz=223,slow=72,SNR=36						
H03N1	**Juan Fernandez**	**48.45**	**90**	T	T	03 51 21.8	
	baz=223,slow=72,SNR=39						
ASAR	**Alice Springs**	**67.25**	**261**	P	P	03 01 42.5	-0.1
	0.6nm,0.7s,baz=142,slow=6.6,SNR=8.3						
H01W1	**Cape Leeuwin H**	**68.72**	**239**	T	T	04 17 08.5	
	baz=144,slow=75,SNR=4.0						
H01W2	**Cape Leeuwin H**	**68.72**	**239**	T	T	04 17 10.3	
	baz=144,slow=75,SNR=3.7						
H01W3	**Cape Leeuwin H**	**68.73**	**239**	T	T	04 17 09.9	
	baz=144,slow=75,SNR=4.6						
WRA	**Warramunga Arr**	**69.96**	**264**	P	P	03 01 59.7	+0.1
	0.4nm,0.7s,baz=143,slow=5.6,SNR=6.0						
MKAR	**Makanchi Array**	**151.08**	**271**	PKPbc	PKPbc	03 10 40.2	-0.3
	0.2nm,0.6s,baz=104,slow=6.1,SNR=2.9						

FUNV ***12*** *02:52:49.8, 10°.81N×61°.89W, h22km, MW3.5*
TRN ***12*** *02:52:51.2, 11°.02N×62°.00W, h96km, MD3.1*

ISC 12 02:52:48.9±1.6, 10°.95N±0°.05×62°.06W±0°.06, h105km±16km, n17, σ1s67/27, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.71**	**115**	⇑*i*P	**Pn**	**02 53 08.6**	**+1.7**
TRN	**Trinidad (W)**	**0.71**	**115**	*e*	Pn	02 53 15.6	+8.7
TRN				*e*S	**Sn**	**02 53 20.7**	**+0.3**
GRFF	**Grenada Fort F**	**1.14**	**16**	*e*P	**Pn**	**02 53 11.9**	**+0.6**
GRFF				*e*S	**Sn**	**02 53 27.4**	**-0.6**
CRUV	**Carupano**	**1.19**	**257**	⇓*i*P	**Pn**	**02 53 13.3**	**+1.6**
CRUV				*e*S	**Sn**	**02 53 29.0**	**0.0**
GRGR	**Grenville**	**1.24**	**19**	*e*P	**Pn**	**02 53 12.6**	**+0.2**
GRGR				*e*S	**Sn**	**02 53 29.2**	**-1.0**
GRHS	**Sauteurs**	**1.33**	**18**	*e*P	**Pn**	**02 53 14.7**	**+1.3**
GRHS				*e*S	**Sn**	**02 53 31.8**	**-0.1**
TOSP	**Speyside**	**1.54**	**77**	*e*P	**Pn**	**02 53 16.2**	**+0.3**
TOSP				*e*S	**Sn**	**02 53 36.1**	**-0.3**
GCMP	**Grenada, Carri**	**1.65**	**22**	*e*P	**Pn**	**02 53 17.2**	**0.0**
GCMP				*e*S	**Sn**	**02 53 37.2**	**-1.6**
SVB	**Belmont**	**2.44**	**19**	*e*P	**Pn**	**02 53 28.9**	**+1.5**
SVB				*e*S	**Sn**	**02 53 55.4**	**-1.6**
PCRV	**Puerto La Cruz**	**2.65**	**253**	*e*P	**Pn**	**02 53 31.3**	**+1.1**
SLBI	**Saint Lucia, B**	**3.23**	**19**	*e*P	**Pn**	**02 53 39.8**	**+1.9**
SLBI				*e*S	**Sn**	**02 54 13.9**	**-1.9**
PRGV	**PARIAGUAN**	**3.35**	**230**	*e*P	**Pn**	**02 53 40.0**	**+0.5**
PRGV				*e*S	**Sn**	**02 54 17.6**	**-1.0**
MPOM	**Morne Pois Mar**	**3.67**	**19**	*e*P	**Pn**	**02 53 44.8**	**+1.1**
MPOM				*e*S	**Sn**	**02 54 24.8**	**-1.4**
BIRV	**Birongo**	**4.16**	**264**	*e*P	**Pn**	**02 53 53.1**	**+2.7**
BENV	**Beln**	**5.53**	**260**	*e*S	**Sn**	**02 55 11.5**	**+0.1**
CACV	**CAICARA DEL OR**	**5.55**	**233**	*e*P	Pn	02 54 04.7	-4.5
CACV				*e*S	Sn	02 55 00.7	-11
PAYV	**Puerto Ayacuch**	**7.80**	**226**	*e*P	**Pn**	**02 54 39.5**	**-0.3**
PAYV				*e*S	**Sn**	**02 56 01.2**	**-5.3**

BJI ***12*** *03:14:09.6±0.0, 34°.93N×110°.83E, h10km, mb4.5/27, mB4.6/19, ML4.8/29, Ms4.5/48, Ms7 4.2/44*
IDC ***12*** *03:14:10.2±0.4, 35°.03N×111°.08E, h8km±2km, mb4.4/21, mb1 4.5/24, mb1mx4.4/37, mbtmp4.4/24, ML4.2/3, MS3.7/30, Ms1 3.7/30, ms1mx3.5/85, Error ellipse: s-maj=14.7km s-min=9.8km az=49.0*
MOS ***12*** *03:14:10.7±1.2, 34°.94N×111°.20E, h20km, mb4.9/42, Error ellipse: s-maj=8.0km s-min=4.7km az=117.3*
NEIC ***12*** *03:14:11.2±1.7, 34°.96N±0°.07×111°.2E±0°.1, h10km±1km, mb4.8/85, Error ellipse: s-maj=15.0km s-min=11.5km az=117.0*
BGR ***12*** *03:14:14.0±0.0, 34°.61N×111°.44E, h33km, mb4.8, Ms4.1*

ISC 12 03:14:10.4±0.4, 34°.96N±0°.03×111°.04E±0°.02, h4km±2km, h4km:pP-P, n322, σ1s59/341, mb4.8/114, MS3.7/32, 31C-18D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYN	**LuoYang**	**1.25**	**109**	⇑Pn	**Pn**	**03 14 35.1**	**+0.5**
LYN				Pg	**Pg**	**03 14 36.0**	**+1.8**
LYN				Sn	**Sn**	**03 14 52.9**	**+1.0**
LYN				Sg	**Sb**	**03 14 54.8**	**+3.9**
LYN				smax	smax		
	comp=N,11μm,0.7s						
LYN				smax	smax		
	comp=E,8μm,0.4s						
XAN	**Xi'an**	**1.98**	**243**	Pn	**Pn**	**03 14 42.3**	**-2.5**
XAN				Pg	**Pb**	**03 14 44.9**	**-2.1**
XAN				Sn	**Sn**	**03 15 09.2**	**-0.9**
XAN				Sg	**Sb**	**03 15 15.2**	**+3.1**
XAN				smax	smax		
	comp=N,9μm,0.7s						
XAN				smax	smax		
	comp=E,6μm,0.9s						
TIY	**Taiyuan**	**2.96**	**22**	*e*Pn	**Pn**	**03 14 59.2**	**+0.9**
TIY				Pg	**Pg**	**03 15 05.5**	**-1.7**
TIY				Sg	**Sb**	**03 15 40.8**	**+0.3**
TIY				smax	smax		
	comp=N,2μm,1.2s						
TIY				smax	smax		
	comp=E,2μm,0.8s						
HNS	**HongShan**	**3.83**	**50**	⇑Pn	**Pn**	**03 15 07.9**	**-2.3**
HNS				Pg	**Pb**	**03 15 19.8**	**+1.2**
HNS				Sg	**Sg**	**03 16 10.2**	**-3.3**
HNS				smax	smax		
	comp=N,3μm,1.2s						
HNS				smax	smax		
	comp=E,3μm,0.8s						
ENH	**Enshi**	**4.86**	**196**	Pn	**Pn**	**03 15 23.6**	**-0.8**
TIA	**Tai'an**	**5.11**	**74**	Pn	**Pn**	**03 15 28.3**	**+0.5**
TIA				Sg	**Sg**	**03 16 49.7**	**-4.8**
TIA				smax	smax		
	comp=N,1μm,0.7s						
TIA				smax	smax		
	comp=E,510nm,0.8s						
WHN	**Wuhan**	**5.21**	**147**	⇑Pn	**Pn**	**03 15 29.2**	**0.0**
WHN				Pg	**Pg**	**03 15 46.7**	**-3.6**
WHN				Sn	**Sn**	**03 16 31.7**	**+1.9**
WHN				Sg	**Sg**	**03 16 56.0**	**-1.9**
WHN				smax	smax		
	comp=N,3μm,0.9s						
WHN				smax	smax		
	comp=E,2μm,0.7s						
LZH	**Lanzhou**	**5.97**	**283**	Pn	**Pn**	**03 15 39.8**	**0.0**
LZH				Pg	**Pb**	**03 15 55.1**	**-0.1**
LZH				Sg	**Sb**	**03 17 09.6**	**+2.4**
LZH				smax	smax		
	comp=N,810nm,1.5s						
LZH				smax	smax		
	comp=E,890nm,1.5s						
LZH				LR	LR		
	comp=N,6μm,7.1s						
LZH				LR	LR		
	comp=E,3μm,7.0s						
LZH				LR	LR		
	comp=Z,2μm,7.6s						
BJT	**Baijiatuan**	**6.48**	**37**	P	**Pn**	**03 15 45.3**	**-1.3**
BJT	**Baijiatuan**	**6.48**	**37**	Pn	**Pn**	**03 15 45.3**	**-1.3**
BJI	**Beijing**	**6.50**	**37**	Pn	**Pn**	**03 15 47.0**	**+0.1**
BJI				Sn	**Sn**	**03 17 04.8**	**+3.3**
BJI				Sg	**Sg**	**03 17 44.2**	**+5.0**
BJI				smax	smax		
	comp=N,440nm,1.1s						
BJI				smax	smax		
	comp=E,590nm,1.0s						
BJI				LR	LR		
	comp=N,2μm,6.5s						
BJI				LR	LR		
	comp=E,2μm,5.5s						
BJI				LR	LR		
	comp=Z,2μm,6.0s						
NJ2	**Nanjing**	**7.14**	**112**	*e*Pn	**Pn**	**03 15 56.1**	**+0.4**
NJ2				Sn	**Sn**	**03 17 18.5**	**+1.2**
NJ2				smax	smax		
	comp=N,240nm,1.0s						
NJ2				smax	smax		
	comp=E,210nm,0.9s						
NJ2				LR	LR		
	comp=N,1μm,5.5s						
NJ2				LR	LR		
	comp=E,3μm,9.8s						
NJ2				LR	LR		
	comp=Z,4μm,9.2s						
CD2	**Chengdu**	**7.34**	**239**	Pn	**Pn**	**03 15 56.3**	**-2.1**
CD2				Sg	Sb	03 17 57.1	+11
CD2				smax	smax		
	comp=N,120nm,1.1s						
CD2				smax	smax		
	comp=E,1μm,0.9s						
CD2				LR	LR		
	comp=E,3μm,7.3s						
CD2				LR	LR		
	comp=Z,2μm,12.0s						
GYA	**Guiyang**	**9.28**	**205**	⇓*i*P	**Pn**	**03 16 24.6**	**-0.5**
GYA				S	**Sn**	**03 18 08.6**	**-1.4**
GYA				pmax	pmax		
	comp=Z,140nm,3.5s						
GYA				LR	LR		
	comp=N,970nm,5.9s						
GYA				LR	LR		
	comp=E,920nm,4.6s						
GYA				LR	LR		
	comp=Z,1μm,7.3s						
DL2	**Dalian**	**9.34**	**62**	*e*P	Pn	03 16 33.5	+7.7
DL2				S	Sn	03 18 26.8	+15
DL2				pmax	pmax		
	comp=Z,18nm,1.1s						
DL2				LR	LR		
	comp=N,740nm,8.6s						
DL2				LR	LR		
	comp=E,570nm,9.7s						
DL2				LR	LR		
	comp=Z,570nm,9.2s						
SSE	**Sheshan**	**9.35**	**112**	P	**Pn**	**03 16 23.5**	**-2.4**
SSE				S	**Sn**	**03 18 08.2**	**-3.4**
SSE				pmax	pmax		
	comp=Z,16nm,0.6s						
SSE				pmax	pmax		
	comp=Z,64nm,3.3s						
SSE				LR	LR		
	comp=N,1μm,13.6s						
SSE				LR	LR		
	comp=E,490nm,13.2s						
GULI	**GuiLin**	**9.66**	**184**	⇓P	**Pn**	**03 16 27.6**	**-2.6**
GULI				LR	LR		
	comp=E,2μm,7.5s						
GULI				LR	LR		
	comp=E,730nm,4.6s						
GULI				LR	LR		
	comp=E,2μm,8.2s						
XLT	**XiLinHaoTe**	**9.73**	**22**	*e*P	**Pn**	**03 16 34.3**	**+3.0**
XLT				pP		03 16 39.4	
XLT				sP		03 16 42.4	
XLT				S	**Sn**	**03 18 26.7**	**+5.6**
XLT				sS		03 18 30.9	
XLT				pmax	pmax		
	comp=E,13nm,0.8s						
XLT				pmax	pmax		
	comp=E,100nm,4.3s						
XLT				LR	LR		
	comp=E,5μm,10.7s						
XLT				LR	LR		
	comp=E,2μm,9.3s						
GTA	**Gaotai**	**9.99**	**300**	*e*P	**Pn**	**03 16 32.6**	**-2.3**
GTA				pP		03 16 36.8	
GTA				sP		03 16 39.9	
GTA				S	**Sn**	**03 18 23.6**	**-4.0**
GTA				pmax	pmax		
	comp=E,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=E,93nm,4.0s						
GTA				smax	smax		
	comp=E,160nm,1.5s						
GTA				smax	smax		
	comp=E,130nm,1.1s						
GTA				LR	LR		
	comp=E,3μm,12.0s						
GTA				LR	LR		
	comp=E,1μm,13.1s						
GTA				LR	LR		
	comp=E,1μm,10.9s						
PZH	**PanZhiHua**	**11.62**	**226**	P	**Pn**	**03 16 54.7**	**-2.5**
PZH				sP		03 17 05.9	
PZH				S	**Sn**	**03 19 12.0**	**+4.5**
PZH				pmax	pmax		
	comp=E,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,100nm,6.3s						
PZH				LR	LR		
	comp=E,560nm,7.7s						
PZH				LR	LR		
	comp=E,760nm,6.9s						
PZH				LR	LR		
	comp=E,680nm,7.6s						
SNY	**Shenyang**	**11.98**	**51**	⇑P	**Pn**	**03 17 01.9**	**0.0**
SNY				S	**Sn**	**03 19 18.6**	**+2.6**
SNY				pmax	pmax		
	comp=E,4.0nm,0.5s						
SNY				pmax	pmax		
	comp=E,120nm,3.9s						
SNY				LR	LR		
	comp=E,800nm,9.0s						
SNY				LR	LR		
	comp=E,350nm,8.3s						
SNY				LR	LR		
	comp=E,650nm,13.4s						
KMI	**Kunming**	**12.15**	**218**	⇑P	**Pn**	**03 17 08.7**	**+4.1**
KMI				sP		03 17 14.0	
KMI				PP	**PnPn**	**03 17 16.8**	**+4.4**
KMI				S	**Sn**	**03 19 24.4**	**+3.6**
KMI				pmax	pmax		
	comp=E,23nm,0.8s						
KMI				pmax	pmax		
	comp=E,130nm,3.5s						
KMI				LR	LR		
	comp=E,2μm,12.5s						
KMI				LR	LR		
	comp=E,2μm,11.8s						
KMI				LR	LR		
	comp=E,740nm,7.7s						
ULN	**Ulaanbaatar**	**13.23**	**348**	*c i*P	**Pn**	**03 17 19.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**13.23**	**348**	Pn	**Pn**	**03 17 18.1**	**-1.1**
GOMU	**GeErMu**	**13.27**	**280**	P	**Pn**	**03 17 17.9**	**-2.0**
GOMU				S	**Sn**	**03 19 49.5**	**+1.4**
SONM	**Songino Array**	**13.32**	**346**	Pn	**Pn**	**03 17 19.9**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=165,slow=11,SNR=47						
SONM				Sn	**Sn**	**03 19 43.3**	**-5.6**
	comp=Z,0.6nm,0.3s,baz=159,slow=26,SNR=2.8						
SONM				Lg	Lg	03 21 06.2	
	comp=Z,0.8nm,0.3s,baz=162,slow=30,SNR=3.5						
SONM				LR	LR	03 23 05.4	
	comp=Z,269nm,20.2s,baz=158,slow=40						
SONM	**Songino Array**	**13.32**	**346**	P	**Pn**	**03 17 20.3**	**-0.1**
SONM	**Songino Array**	**13.32**	**346**	Pn	**Pn**	**03 17 20.2**	**-0.1**
KS19	**Wonju Array Si**	**13.82**	**75**	Pn	**Pn**	**03 17 24.4**	**-2.6**
KSRS	**Korea Array**	**13.86**	**75**	Pn	**Pn**	**03 17 26.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=268,slow=14,SNR=2.0						
KSRS				Lg	Lg	03 21 27.8	
	comp=Z,0.2nm,0.3s,baz=267,slow=24,SNR=2.7						
CN2	**Changchun**	**14.20**	**47**	*e*P	**Pn**	**03 17 32.6**	**+0.4**
CN2				eS	**Sn**	**03 20 09.3**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,12.0s						
CN2				LR	LR		
	comp=E,700nm,12.0s						
CN2				LR	LR		
	comp=Z,800nm,13.1s						
HIA	**Hailar**	**15.66**	**22**	P	**Pn**	**03 17 50.0**	**-1.9**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HIA	**Hailar**	**15.66**	**22**	Pn	**Pn**	**03 17 50.0**	**-1.9**
QIZ	**Qiongzhong**	**15.91**	**184**	P	**Pn**	**03 17 55.5**	**+0.3**
QIZ				S	**Sn**	**03 20 53.3**	**+1.2**
QIZ				LR	LR		
	comp=Z,1μm,6.9s						
QIZ				LR	LR		
	comp=Z,1μm,15.9s						
QIZ				LR	LR		
	comp=Z,1μm,8.6s						
ZAK	**Zakamensk**	**16.42**	**342**	*e*P	**Pn**	**03 18 00.0**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,33nm,1.3s						
BNX	**BinXian**	**16.44**	**44**	⇑P	**P**	**03 18 06.8**	**+2.1**
MDJ	**Mudanjiang**	**17.18**	**50**	Pn	**Pn**	**03 18 08.2**	**-3.0**
MDJ	**Mudanjiang**	**17.18**	**50**	P	P	03 18 19.8	+6.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.1s						
MDJ				LR	LR		
	comp=N,520nm,14.2s						
MDJ				LR	LR		
	comp=E,500nm,12.1s						
MDJ				LR	LR		
	comp=Z,520nm,15.0s						
LSA	**Lhasa**	**17.60**	**258**	P	**Pn**	**03 18 17.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.

comp=Z,167nm,21.7s,baz=244,slow=40
SHL Shillong 18.99 246 P **P** **03 18 31.7 -1.5**
SHL pmax pmax
comp=Z,14nm,0.8s
SHL Shillong 18.99 246 P **P** **03 18 31.7 -1.5**
CHTO Chiang Mai 19.34 217 P **P** **03 18 35.8 -1.1**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 19.34 217 P **P** **03 18 35.8 -1.1**
CM31 Chiang Mai Arr 19.64 216 P **P** **03 18 40.4 +0.2**
CMAR Chiang Mai Arr 19.64 216 P **P** **03 18 40.5 +0.3**
comp=Z,0.9nm,0.3s,baz=22,slow=9.4,SNR=19
CMAR LR LR 03 26 36.2
comp=Z,101nm,19.6s,baz=35,slow=38
CMAR Chiang Mai Arr 19.64 216*ce*P **Pn** **03 18 43.7 +2.1**
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 19.64 216 P **P** **03 18 39.4 -0.9**
WMQ Urumqi 20.04 303 *e*P **P** **03 18 46.1 +1.6**
WMQ pP sP 03 18 52.6 +6.3
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,100nm,3.8s
WMQ LR LR
comp=Z,840nm,12.5s
WMQ LR LR
comp=Z,620nm,12.5s
WMQ LR LR
comp=Z,270nm,16.3s
UBPT Khong Chiam 20.23 196 P **P** **03 18 46.9 +0.3**
KLR Kul'dur 20.86 41 pP **pP** **03 18 54.8 +0.3**
comp=Z,3.5nm,0.5s,baz=257,slow=10,SNR=12
KLR LR LR 03 28 13.3
comp=Z,262nm,19.3s,baz=232,slow=40
TAPN Taplejung 21.33 256 *e*P **P** **03 18 57.6 -1.2**
comp=Z,33nm,0.8s
ODAN Odare 21.81 255 *e*P **P** **03 19 02.0 -1.9**
ZEA Zeya 21.96 26 *e*P **P** **03 19 08.7 +3.6**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=N,600nm,9.0s
ZEA MLR MLR
comp=Z,400nm,8.0s
MJAR Matsushiro Arr 22.08 78 P **P** **03 19 05.4 -1.1**
comp=Z,3.0nm,0.8s,baz=278,slow=11,SNR=6.8
MJAR LR LR 03 27 55.6
comp=Z,146nm,18.1s,baz=274,slow=38
RAMN Ramite 22.39 256 *e*P **P** **03 19 07.5 -2.7**
comp=Z,13nm,0.5s
JIRN Jiri 22.41 258 *e*P **P** **03 19 08.5 -2.0**
comp=Z,67nm,0.9s
GUN Gumba 22.56 259 *e*P **P** **03 19 10.1 -1.9**
comp=Z,222nm,1.1s
BOD Bodaibo 22.95 4 *e*P **P** **03 19 17.3 +1.8**
BOD pmax pmax
comp=Z,10.0nm,1.8s
DMN Daman 23.30 259 *e*P **P** **03 19 17.6 -2.1**
JHJ Hachijo jima 2 23.86 86 LR LR 03 28 59.1
comp=Z,156nm,18.6s,baz=276,slow=37
DANN Dangsing 24.10 262 *e*P **P** **03 19 26.0 -1.5**
comp=Z,33nm,0.5s
KOLN Koldanda 24.45 261 *e*P **P** **03 19 28.6 -2.1**
comp=Z,33nm,0.7s
MK31 Makanchi Array 24.60 307*d i*P **P** **03 19 32.3 +0.6**
MK31 Makanchi Array 24.60 307 P **P** **03 19 31.6 0.0**
MKAR Makanchi Array 24.60 307 P **P** **03 19 29.9 -1.8**
comp=Z,9.8nm,0.8s,baz=105,slow=11,SNR=63
MKAR pP **pP** **03 19 32.4 -0.6**
comp=Z,9.9nm,0.8s,baz=110,slow=9.5,SNR=54
MKAR LR LR 03 29 59.8
comp=Z,227nm,20.1s,baz=108,slow=39
MKAR Makanchi Array 24.60 307 P **P** **03 19 31.4 -0.3**
MAKZ Makanchi 24.81 307 P **P** **03 19 33.8 +0.3**
MAKZ pmax pmax
comp=Z,20nm,0.8s
MAKZ Makanchi 24.81 307 P **P** **03 19 33.8 +0.3**
MAKZ IAmb IAmb 03 19 35.6
comp=Z,20nm,0.8s
PYUN Piuthan 24.82 262 *e*P **P** **03 19 33.1 -0.9**
ASAJ Asahikawa 25.86 60 LR LR 03 30 51.9
comp=Z,128nm,18.0s,baz=102,slow=39
ZAA0 Zalesovo Array 26.41 324 P **P** **03 19 48.0 +0.1**
ZALV Zalesovo Beam 26.41 324 P **P** **03 19 46.5 -1.3**
comp=Z,3.2nm,0.5s,baz=121,slow=9.3,SNR=20
ZALV pP **pP** **03 19 48.2 -1.0**
comp=Z,3.1nm,0.5s,baz=120,slow=9.3,SNR=15
ZALV LR LR 03 29 34.5
comp=Z,87nm,18.3s,baz=132,slow=35
ZALV Zalesovo Beam 26.41 324 *i* P **P** **03 19 48.5 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
TARG Taragay, Kyrgy 26.81 295 IAmb IAmb 03 19 59.0
comp=Z,12nm,0.8s
KDJ Kajisay 27.30 295 P **P** **03 19 57.7 +1.4**
KDJ pmax pmax
comp=Z,16nm,1.2s
KDJ Kajisay 27.30 295 P **P** **03 19 57.7 +1.4**
KDJ IAmb IAmb 03 19 59.2
comp=Z,16nm,1.1s
MDOK Medeo 27.49 298 P **P** **03 19 59.2 +1.2**
KSH Kashi 28.17 290 P P 03 20 08.9 +4.8
KSH S **S** **03 24 51.4 +1.2**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,280nm,15.1s
KSH LR LR
comp=Z,450nm,13.7s
KSH LR LR
comp=Z,460nm,13.1s
KURK Kurchatov 28.22 314⇑ *i*P **P** **03 20 05.3 +1.1**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 28.22 314 P **P** **03 20 04.5 +0.2**
KURBB Kurchatov Arra 28.24 314 P **P** **03 20 03.9 -0.5**
comp=Z,2.7nm,0.9s,baz=115,slow=9.7,SNR=17
KURBB pP **pP** **03 20 05.1 -0.6**
comp=Z,1.8nm,0.6s,baz=114,slow=8.5,SNR=16
KURBB PcP **PcP** **03 23 16.4 -1.3**
comp=Z,0.9nm,0.5s,baz=115,slow=2.6,SNR=5.1
KURBB pPcP 03 23 19.2
comp=Z,0.9nm,0.5s,baz=113,slow=2.3,SNR=3.6
KURBB Kurchatov Arra 28.24 314 P **P** **03 20 04.3 -0.1**
TKM2 Tokmak 2 28.53 297 P **P** **03 20 06.4 -0.9**
AAK Ala-Archa 29.32 296 pP **P** **03 20 16.3 +2.0**
comp=Z,4.8nm,0.9s,baz=145,slow=5.3,SNR=7.0
AAK Ala-Archa 29.32 296*d i*P **P** **03 20 15.8 +1.5**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 29.32 296 P **P** **03 20 15.8 +1.5**
YAK Yakutsk 29.54 18 LR LR 03 33 05.7
comp=Z,166nm,21.0s,baz=263,slow=38
DAV Davao City (W) 30.82 151 LR LR 03 33 18.0
comp=Z,136nm,21.2s,baz=344,slow=37
OTUK Ortayu 31.49 307 P **P** **03 20 34.4 +1.2**
KKAR Karatay Array 32.26 297 P **P** **03 20 40.6 +0.5**
KKAR Karatay Array 32.26 297 P **P** **03 20 40.6 +0.5**
KSM Kuching 33.33 181 P **P** **03 20 49.9 +0.4**
KSM IAmb IAmb 03 20 51.8
comp=Z,17nm,1.4s
BVAR Borovoye Array 33.80 315 pP **P** **03 20 54.4 +1.0**
comp=Z,5.8nm,0.7s,baz=69,slow=22,SNR=19
BRVK Borovoye 33.87 315 P **P** **03 20 54.1 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 33.87 315 P **P** **03 20 54.1 +0.2**
BRVK IAmb IAmb 03 20 56.0
comp=Z,7.8nm,0.8s
PSI Prapat 33.93 202 LR LR 03 34 25.3
comp=Z,77nm,20.4s,baz=0.5,slow=36
KBL Kabul 34.33 282 P **P** **03 21 00.6 +2.2**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 34.33 282 P **P** **03 21 00.6 +2.2**
MA2 Magadan 35.65 34 LR LR 03 35 27.8
comp=Z,36nm,19.0s,baz=264,slow=36
MA2 Magadan 35.65 34⇑ *e*P **P** **03 21 11.4 +2.1**
MA2 pmax pmax
comp=Z,8.0nm,1.7s
NRIK Noril'sk 36.80 346 pP **pP** **03 21 20.6 +0.3**
comp=Z,3.9nm,0.6s,baz=143,slow=7.7,SNR=4.4
NRIK LR LR 03 39 18.7
comp=Z,37nm,20.1s,baz=126,slow=41
NRIK Noril'sk 36.80 346*c i*P **P** **03 21 20.2 +1.2**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 36.80 346 P **P** **03 21 19.5 +0.5**
PETK Petropavlovsk- 37.34 46 LR LR 03 38 26.7
comp=Z,135nm,19.5s,baz=249,slow=39
SEY Seymchan 37.87 29 pP **P** **03 21 28.7 +0.6**
comp=Z,1.6nm,0.8s,baz=277,slow=6.7,SNR=5.2
SEY Seymchan 37.87 29⇓ *e*P **P** **03 21 28.4 +0.3**
SEY pmax pmax
comp=Z,11nm,3.1s
TIXI Tiksi 37.93 9 P **P** **03 21 27.4 -1.2**
comp=Z,9.3nm,0.7s,baz=88,slow=22,SNR=22
TIXI pP **pP** **03 21 30.2 +0.4**
comp=Z,9.3nm,0.7s,baz=271,slow=22,SNR=18
TIXI LR LR 03 38 47.5
comp=Z,124nm,18.2s,baz=184,slow=39
TIXI Tiksi 37.93 9⇓ *i*P **P** **03 21 27.3 -1.2**
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 37.93 9 P **P** **03 21 27.3 -1.2**
TIXI IAmb IAmb 03 21 30.8
comp=Z,13nm,0.8s
PALK Pallekele 39.20 232 LR LR 03 41 23.9
comp=Z,35nm,18.4s,baz=176,slow=42
AB31 Akbulak array 39.74 307 *i* P **P** **03 21 45.2 +1.2**
ABKAR Akbulak array 39.74 307 P **P** **03 21 45.1 +1.1**
SVE Sverdlovsk 40.15 319 *e*P **P** **03 21 49.0 +1.7**
SVE pmax pmax
comp=Z,21nm,1.0s
AKTO Aktyubinsk 41.02 309 P **P** **03 21 55.4 +0.8**
comp=Z,3.1nm,0.5s,baz=96,slow=13,SNR=16
AKTO LR LR 03 39 30.7
comp=Z,95nm,18.4s,baz=95,slow=37
AKTO Aktyubinsk 41.02 309 P **P** **03 21 55.1 +0.5**
ARU Arti 41.22 318 P **P** **03 21 55.4 -0.6**
comp=Z,6.0nm,0.7s,baz=99,slow=4.5,SNR=28
ARU pP **pP** **03 21 57.5 +0.1**
comp=Z,6.0nm,0.7s,baz=104,slow=4.2,SNR=6.5
ARU LR LR 03 41 14.0
comp=Z,94nm,18.1s,baz=92,slow=39
ARU Arti 41.22 318*d i*P **P** **03 21 57.0 +0.9**
ARU 03 23 51.5
ARU S **S** **03 28 12.6 +2.4**
ARU SS **SS** **03 31 08.7 -4.0**
ARU pmax pmax
comp=Z,20nm,0.8s
ARU Arti 41.22 318 P **P** **03 21 56.1 0.0**
ARU IAmb IAmb 03 21 58.1
comp=Z,18nm,0.7s
GEYT Alibeck 42.20 290 pP pP 03 22 07.0 +1.1
comp=Z,8.2nm,0.7s,baz=71,slow=20,SNR=6.4
GEYT Alibeck 42.20 290 IAmb IAmb 03 22 07.7
comp=Z,7.8nm,0.7s
BILL Bilibino 45.19 26⇓ *e*P **P** **03 22 28.2 +0.1**
BILL pmax pmax
comp=Z,7.0nm,2.0s
KIRV Kirov 46.34 320 LR LR 03 43 39.3
comp=Z,169nm,18.7s,baz=99,slow=38
SHEM Shemya Is, Ala 47.22 48 LR LR 03 42 34.7
comp=Z,45nm,20.4s,baz=202,slow=36
PRGR Permogore 48.36 324 *e*P **P** **03 22 52.2 -0.8**
LKRN Lenkeran, Azer 49.13 294 P P **03 23 01.0 +1.8**
SEKA Sheki 49.64 297 P P **03 23 04.0 +0.8**
MNGR Mingechevir, A 49.84 297 P P **03 23 06.4 +1.8**
GROC Groznyy 50.16 300 *e*P **P** **03 23 08.6 +1.6**
GROC *e* 03 24 28.9
GROC pmax pmax
comp=Z,31nm,1.3s
GANJ Ganja 50.43 297 P **P** **03 23 11.1 +2.0**
VRH Novokhopyorsk 51.25 311 *e*P **P** **03 23 15.5 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 51.33 324 *e*P **P** **03 23 14.7 -0.8**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 51.33 324 *e*P **P** **03 23 14.8 -0.8**
KLMR AMP 03 23 16.9
comp=Z,7.0nm,0.6s
NAX Nakhchivan 51.45 295 P **P** **03 23 18.6 +1.7**
ZEI Tsey 51.61 300 *e*P **P** **03 23 17.6 -0.6**
ZEI pmax pmax
comp=Z,11nm,1.4s
GOF Gofitskoye 51.65 303⇑ *e*P **P** **03 23 20.5 +2.3**
GOF pmax pmax
comp=Z,31nm,0.6s
GNI Garni 51.73 297 LR LR 03 48 13.1
comp=Z,64nm,18.8s,baz=72,slow=40
GNI Garni 51.73 297⇑ *e*P **P** **03 23 21.7 +2.6**
GNI pmax pmax
comp=Z,15nm,1.4s
GNI Garni 51.73 297 P **P** **03 23 20.1 +1.0**
GNI IAmb IAmb 03 23 36.3
comp=Z,23nm,1.5s
ONI Oni 51.98 300 IAmb IAmb 03 23 24.6
comp=Z,8.2nm,1.1s
KBZ Nabaz 52.08 301 pP **P** **03 23 23.3 +1.9**
comp=Z,5.1nm,1.0s,baz=87,slow=8.0,SNR=11
KBZ LR LR 03 50 15.4
comp=Z,35nm,18.5s,baz=62,slow=42
KIV Kislovodsk 52.17 302 *e*P **P** **03 23 24.7 +2.5**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,65nm,17.0s
KIV Kislovodsk 52.17 302 P **P** **03 23 23.0 +0.8**
KIV IAmb IAmb 03 23 25.8
comp=Z,13nm,1.0s
LPSR Galich'ya Gora 52.70 313 *e*P **P** **03 23 26.2 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORR Voronezh 52.71 312 *e*P **P** **03 23 26.3 +0.3**
VORR pmax pmax
comp=Z,50nm,0.4s
VORD Divnogorie 52.80 311 *e*P **P** **03 23 26.4 -0.2**
VORD pmax pmax
comp=Z,4.0nm,0.5s
MOS Moscow 52.91 317 *e*P **P** **03 23 28.2 +0.8**
OBN Obninsk 53.61 317⇓ *e*P **P** **03 23 33.0 +0.5**
OBN *e* 03 25 33.7
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,110nm,17.0s
ARCES ARCESS Array B 56.19 335 pP **P** **03 23 52.6 +1.6**
comp=Z,6.5nm,0.9s,baz=80,slow=8.1,SNR=3.0
ARCES LR LR 03 50 29.9
comp=Z,130nm,18.1s,baz=106,slow=39
ARCES ARCESS Array B 56.19 335 P **P** **03 23 52.6 +1.6**
ARCES pmax pmax
comp=Z,26nm,1.5s
SOCY Socotra 56.19 261 P **P** **03 23 51.3 -0.7**
FINES FINESS Array B 57.66 325 P **P** **03 24 00.4 -1.1**
comp=Z,1.6nm,0.4s,baz=71,slow=6.8,SNR=25
FINES pP **pP** **03 24 03.1 +0.2**
comp=Z,2.2nm,0.5s,baz=76,slow=7.2,SNR=5.5
FINES LR LR 03 51 12.1
comp=Z,130nm,21.8s,baz=59,slow=39
VSU Vasula 58.12 322⇓ *e*P **P** **03 24 06.5 +1.7**
VSU pmax pmax
comp=Z,60nm,1.5s
VSU Vasula 58.12 322 *e*P **P** **03 24 02.1 -2.7**
MNK Minsk 58.64 317 *i* P **P** **03 24 07.2 -1.2**
MNK *i* 03 24 57.1
MNK *i* 03 26 20.1
MNK *i* S **S** **03 32 12.4 -0.9**
MNK *i* 03 33 57.1
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,11nm,1.0s
MNK MLR MLR
comp=Z,82nm,17.0s
MNK MLR MLR
comp=E,15nm,17.0s
MNK MLR MLR
comp=N,73nm,17.0s
MNK Minsk 58.64 317 *i* P **P** **03 24 07.3 -1.2**
comp=E,1.0nm,1.0s
MNK *i* P **P** **03 24 07.3 -1.2**
comp=N,6.0nm,0.8s
MNK *i* P **P** **03 24 07.3 -1.2**
comp=Z,11nm,1.0s,baz=73
MNK *i* PP **PP** **03 26 20.2 +2.3**
MNK *i* PPP PPP 03 27 37.1
MNK *i* S **S** **03 32 12.4 -0.9**
MNK *i* SS SS 03 36 53.5 +48
MNK *i* SSS SSS 03 39 09.9
MNK *i* LQ LQ 03 45 13.1
MNK *i* LR LR 03 46 57.1
MNK *i* LRM MLR 03 51 17.0
comp=Z,82nm,16.6s
MNK *i* LRM MLR 03 51 55.2
comp=E,15nm,16.9s
MNK *i* LRM MLR 03 51 56.6
comp=N,73nm,16.9s
WB0 Warramunga Arr 58.78 154 P **P** **03 24 08.2 -1.6**
WRAB Tennant Creek 58.91 154*ce*P **P** **03 24 09.7 -1.1**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 58.91 154 P **P** **03 24 09.5 -1.3**
WRA Warramunga Arr 58.92 154 P **P** **03 24 09.8 -1.0**
comp=Z,11nm,0.8s,baz=345,slow=7.7,SNR=86
WRA pP **pP** **03 24 13.0 +0.8**
comp=Z,11nm,0.9s,baz=346,slow=7.7,SNR=23
WB2 Warramunga Arr 58.92 154 P **P** **03 24 09.8 -1.1**
IDID Didziasalis 59.02 318 *e*P **P** **03 24 11.5 +0.3**
AKASG Malin Array Be 59.03 313 P **P** **03 24 09.8 -1.5**
comp=Z,1.1nm,0.4s,baz=59,slow=6.8,SNR=16
AKASG pP **pP** **03 24 12.8 +0.1**
comp=Z,1.9nm,0.4s,baz=61,slow=6.8,SNR=11
AKASG Malin Array Be 59.03 313*ce*P **P** **03 24 12.1 +0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 59.03 313 IAmb IAmb 03 24 14.1
comp=Z,5.4nm,1.1s
AKBB Malin Array Si 59.03 313 P **P** **03 24 12.3 +1.0**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 59.03 313 P **P** **03 24 12.2 +1.0**
AKBB IAmb IAmb 03 24 13.7
comp=Z,7.2nm,0.8s
NACGM Naroch 59.12 318 *i* P **P** **03 24 11.2 -0.7**
IIGN Ignalina 59.29 319 *e*P **P** **03 24 13.5 +0.4**
BR131 Keskin Array S 59.91 300 IAmb IAmb 03 24 20.2
comp=Z,6.9nm,1.0s
BRTR Keskin Array B 59.91 300 P **P** **03 24 17.2 -0.6**
comp=Z,2.8nm,0.8s,baz=98,slow=6.5,SNR=18
BRTR pP **pP** **03 24 19.3 +0.1**
comp=Z,2.9nm,0.8s,baz=74,slow=4.1,SNR=14
BRTR LR LR 03 53 31.1
comp=Z,50nm,20.1s,baz=62,slow=39
BRTR Keskin Array B 59.91 300 P **P** **03 24 18.4 +0.6**
SORM Soroca 60.42 310⇓ P **P** **03 24 21.8 +0.8**
H21K Melozitna Rive 61.14 28 IAmb IAmb 03 24 30.4
comp=Z,7.5nm,1.1s
SUW Suwalki 61.41 318 *e*P **P** **03 24 28.8 +1.2**
SUW Suwalki 61.41 318 *e*P **P** **03 24 27.9 +0.3**
TPGR Topolog 61.57 307⇑ P **P** **03 24 29.6 +0.7**
CFR Carcaliu 61.64 307⇑ P **P** **03 24 30.6 +1.4**
AS31 Alice Springs 62.21 156 P **P** **03 24 32.5 -0.8**
ASAR Alice Springs 62.21 156 P **P** **03 24 32.5 -0.8**
comp=Z,9.0nm,0.8s,baz=342,slow=7.2,SNR=80
ASAR Alice Springs 62.21 156 P **P** **03 24 31.9 -1.3**
VRI Vrincioaia 62.29 308⇑ P **P** **03 24 34.6 +0.9**
PLOR Plostina 62.35 308⇑ P **P** **03 24 35.0 +0.9**
LVV L'vov 62.46 313 *e*P **P** **03 24 35.6 +0.9**
BURAR Bucovina Array 62.58 311⇑ P **P** **03 24 36.9 +1.2**
BURAR Bucovina Array 62.58 311 P **P** **03 24 36.5 +0.8**
BURAR IAmb IAmb 03 24 38.8
comp=Z,5.4nm,0.8s
COVR Voineasa-Covas 62.64 308⇑ P **P** **03 24 36.2 +0.2**
MLR Muntele Rosu 62.94 308⇓ P **P** **03 24 39.1 +0.9**
MLR Muntele Rosu 62.94 308 P **P** **03 24 37.8 -0.4**
MLR pmax pmax
comp=Z,11nm,1.3s
MLR Muntele Rosu 62.94 308 P **P** **03 24 37.8 -0.4**
MLR IAmb IAmb 03 24 41.0
comp=Z,11nm,1.3s
VIKU Vikbolandet 63.07 324 *e*P **P** **03 24 38.8 +0.2**
DOPR Dopca 63.11 309⇑ P **P** **03 24 39.4 +0.2**
KWP Kalwaria Pacla 63.32 313 *e*P **P** **03 24 39.4 -1.1**
COLA College 63.36 28⇓ *e*P **P** **03 24 41.9 +1.5**
COLA pmax pmax
comp=Z,24nm,2.0s
BMAR Burnt Mountain 63.41 25 P **P** **03 24 40.9 0.0**
VOIR 63.54 308⇓ P **P** **03 24 41.8 -0.3**
ILAR Eielson Array 63.78 28 P **P** **03 24 41.6 -1.6**
comp=Z,1.4nm,0.9s,baz=287,slow=4.6,SNR=14
ILAR pP **pP** **03 24 44.6 0.0**
comp=Z,1.4nm,0.9s,baz=286,slow=4.5,SNR=6.6
ILAR LR LR 03 52 38.2
comp=Z,82nm,20.7s,baz=278,slow=36
ILAR Eielson Array 63.78 28 P **P** **03 24 42.8 -0.4**
HFS Hagfors 63.81 326 LR LR 03 54 19.7
comp=Z,131nm,18.1s,baz=36,slow=38
ARR Arges 63.84 308⇓ P **P** **03 24 44.3 +0.3**
KOLS Kolonicke sedl 63.86 313 *e*P **P** **03 24 45.7 +1.6**
KOLS Kolonicke sedl 63.86 313 *e*P **P** **03 24 45.7 +1.6**
HUMR Humele 63.96 307⇑ P **P** **03 24 44.8 +0.1**
TRPA Tarpa 64.03 312⇑ P **P** **03 24 45.7 +0.6**
LOT Lotru 64.36 309⇓ P **P** **03 24 48.4 +0.9**
DRGR 64.47 310⇓ P **P** **03 24 48.8 +0.6**
DRGR 64.47 310 P **P** **03 24 50.3 +2.1**
NB2 NORSAR Subarra 64.52 328 P **P** **03 24 45.9 -2.3**
comp=Z,7.1nm,0.6s,baz=64,slow=6.9
NOA NORSAR Array B 64.52 328 P **P** **03 24 46.1 -2.1**
comp=Z,6.5nm,0.6s,baz=328,slow=13,SNR=56
NOA pP **pP** **03 24 48.7 -0.9**
comp=Z,0.9nm,0.5s,baz=73,slow=5.6,SNR=5.6
NOA LR LR 03 55 12.0
comp=Z,72nm,19.1s,baz=55,slow=38
OJC Ojcow 64.80 315 *e*P **P** **03 24 51.4 +1.2**
RIDG Independent Ri 65.05 28 P **P** **03 24 51.0 -0.6**
SCRK Sand Creek 65.27 28 IAmb IAmb 03 24 55.7
comp=Z,6.1nm,1.0s
SIRR Siria 65.35 310⇓ P **P** **03 24 54.8 +1.0**
BZS Buzias 65.66 310⇑ P **P** **03 24 56.7 +0.9**
PSZ Piszkesteto 65.73 312 P **P** **03 24 58.1 +1.8**
PSZ pmax pmax
comp=Z,10.0nm,1.3s
PSZ Piszkesteto 65.73 312 P **P** **03 24 58.1 +1.8**
PSZ IAmb IAmb 03 25 05.0
comp=Z,9.9nm,1.3s
VTS Vitosha 65.92 306⇑ P **P** **03 24 58.7 +1.0**
VTS Vitosha 65.92 306 IAmb IAmb 03 25 00.8
comp=Z,8.4nm,1.0s
VYHS Vyhne 66.11 313 *e*P **P** **03 25 01.2 +2.5**
VYHS Vyhne 66.11 313 *e*P **P** **03 25 01.2 +2.5**
MORC Moravsky Berou 66.31 315⇑ P **P** **03 24 59.5 -0.4**
MORC Moravsky Berou 66.31 315 IAmb IAmb 03 25 02.3
comp=Z,7.5nm,1.1s
MORC Moravsky Berou 66.31 315 *e*P **P** **03 25 01.6 +1.6**
KOLL Kolacno 66.33 314 *e*P **P** **03 25 02.3 +2.2**
A36M Sachs Harbour 66.40 16 IAmb IAmb 03 25 03.6
comp=Z,7.3nm,0.8s
INK Inuvik 66.52 21 P **P** **03 24 59.8 -1.1**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 66.52 21 P **P** **03 24 59.8 -1.1**
INK IAmb IAmb 03 25 03.2
comp=Z,7.2nm,1.1s
KSP Ksiaz 66.54 316 *e*P **P** **03 25 01.3 -0.1**
KRLC Kraliky 66.61 316 *e*P **P** **03 25 01.0 -0.9**
KRLC *e* 03 25 03.4
KRLC Kraliky 66.61 316 *e*P **P** **03 25 01.0 -0.9**
KRLC *e*pP **pP** **03 25 03.4 +0.1**
JAVC Velka Javorina 66.64 314 *e*P **P** **03 25 04.9 +2.7**
OSTC Ostas 66.72 316 *e*P **P** **03 25 00.2 -2.4**
DPC Dobruska-Polom 66.75 316 *e*P **P** **03 25 01.8 -1.0**
DPC *e* 03 25 04.9
DPC Dobruska-Polom 66.75 316 *e*P **P** **03 25 01.8 -1.0**
DPC *e*pP **pP** **03 25 04.9 +0.7**
CHVC Chvalec 66.79 316 *e*P **P** **03 25 02.1 -1.0**
UPC Upice 66.85 316 *e*P **P** **03 25 03.6 +0.2**
UPC Upice 66.85 316 *e*P **P** **03 25 03.6 +0.2**
FRGS Fruska Gora 67.00 310⇑ P **P** **03 25 05.0 +0.5**
VRAC Vranov 67.07 315⇑ P **P** **03 25 04.5 -0.3**
VRAC Vranov 67.07 315 *e*P **P** **03 25 06.8 +2.0**
KRUC Moravsky 67.30 315 *e*P **P** **03 25 08.1 +1.9**
FORT Forrest 67.33 164 P **P** **03 25 05.8 -0.6**
DIVS Divibare 67.37 309 IAmb IAmb 03 25 08.8
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 67.85 317 *e*P **P** **03 25 11.2 +1.5**
BRG Amp 03 25 13.3
comp=Z,6.3nm,1.2s
BRG Berggiesshubel 67.85 317 *e*P **P** **03 25 11.1 +1.5**
BRG pmax pmax
comp=Z,6.0nm,1.2s

BRG	**Berggiesshubel**	**67.85**	**317**	*eP*		**P**		**03 25 11.2**	**+1.5**
	comp=Z,6.3nm,1.2s,baz=64,slow=5.7								
PRU	**Pruhonice**	**67.93**	**316**	*eP*		**P**		**03 25 11.2**	**+1.0**
PRU	**Pruhonice**	**67.93**	**316**	*eP*		**P**		**03 25 11.2**	**+1.0**
CONA	**Conrad Observa**	**68.14**	**314**	*eP*		**P**		**03 25 13.9**	**+2.2**
	comp=Z,10nm,1.2s,SNR=5.7								
CLL	**Collm**	**68.16**	**318**	*eP*		**P**		**03 25 13.0**	**+1.4**
CLL				*e*				03 25 19.0	
CLL					pmax		pmax		
	comp=Z,10.0nm,1.0s								
CLL	**Collm**	**68.16**	**318**		IAmb		IAmb	03 25 13.5	
	comp=Z,8.1nm,0.9s								
CLL	**Collm**	**68.16**	**318**	*eP*		**P**		**03 25 13.0**	**+1.4**
	comp=Z,10.0nm,1.0s								
CLL				*ex*		x		03 25 19.0	
CLL	**Collm**	**68.16**	**318**	*eP*		**P**		**03 25 12.6**	**+0.9**
	comp=Z,9.8nm,1.0s,baz=64,slow=5.7								
BSEG	**Bad Segeberg**	**68.30**	**321**	*eP*		**P**		**03 25 14.5**	**+2.1**
	comp=Z,8.5nm,1.0s,baz=64,slow=5.7								
BSEG				*eL*		L		03 56 34.3	
	comp=Z,150nm,19.7s								
C36M	**Paulatuk**	**68.49**	**18**	P		**P**		**03 25 11.8**	**-1.6**
C36M					IAmb		IAmb	03 25 14.9	
	comp=Z,9.6nm,1.4s								
FLTG	**Flechtingen**	**68.62**	**320**	*eP*		**P**		**03 25 15.6**	**+1.1**
	comp=Z,8.8nm,1.1s,baz=64,slow=5.7								
CKRC	**Cesky Krumlov**	**68.62**	**315**	*eP*		**P**		**03 25 14.4**	**-0.2**
KHC	**Kasperske Hory**	**68.89**	**316**	*eP*		**P**		**03 25 15.2**	**-1.1**
KHC				*e*				03 25 17.8	
KHC	**Kasperske Hory**	**68.89**	**316**	*eP*		**P**		**03 25 15.2**	**-1.1**
KHC				*epP*		**pP**		**03 25 17.8**	**+0.1**
KHC	**Kasperske Hory**	**68.89**	**316**		IAmb		IAmb	03 25 18.3	
	comp=Z,6.9nm,1.2s								
GEC2	**GERESS Array S**	**68.96**	**315**		IAmb		IAmb	03 25 19.1	
	comp=Z,5.4nm,0.9s								
GEC2	**GERESS Array S**	**68.96**	**315**	*eP*		**P**		**03 25 18.2**	**+1.3**
	comp=Z,7.7nm,1.1s,baz=64,slow=5.7								
GERES	**GERESS Array B**	**68.96**	**315**	P		**P**		**03 25 15.5**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=55,slow=7.4,SNR=16								
GERES				pP		**pP**		**03 25 18.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=264,slow=40,SNR=3.1								
GERES				LR		LR		03 55 29.6	
	comp=Z,102nm,21.5s,baz=356,slow=36								
GERES	**GERESS Array B**	**68.96**	**315**	P		**P**		**03 25 17.4**	**+0.6**
GUNZ	**Gunzen**	**68.99**	**317**	*eP*		**P**		**03 25 18.5**	**+1.6**
	comp=Z,9.8nm,1.2s,baz=64,slow=5.7								
MOA	**Molln**	**69.12**	**314**	*eP*		**P**		**03 25 19.7**	**+2.0**
	comp=Z,5.7nm,0.8s,SNR=4.7								
NRDL	**Niedersach Rie**	**69.13**	**320**	*eP*		**P**		**03 25 19.7**	**+2.1**
	comp=Z,9.1nm,1.2s,baz=64,slow=5.7								
SOKA	**Soboth**	**69.24**	**313**	*eP*		**P**		**03 25 20.0**	**+1.5**
	comp=Z,4.9nm,0.6s,SNR=6.5								
MOX	**Moxa**	**69.25**	**318**	*eP*		**P**		**03 25 19.9**	**+1.4**
	comp=Z,10.0nm,1.6s,baz=64,slow=5.7								
MOX				*eL*		L		03 57 44.1	
	comp=Z,63nm,18.7s								
RES	**Resolute Bay**	**69.29**	**7**	P		**P**		**03 25 17.7**	**-0.6**
RES					pmax		pmax		
	comp=Z,5.0nm,1.0s								
RES	**Resolute Bay**	**69.29**	**7**	P		**P**		**03 25 17.7**	**-0.6**
RES					IAmb		IAmb	03 25 21.0	
	comp=Z,5.2nm,0.9s								
CLZ	**Clausthal**	**69.32**	**319**	*eP*		**P**		**03 25 20.8**	**+1.8**
	comp=Z,7.7nm,0.9s,baz=64,slow=5.7								
ROTZ	**Rotzenmuhle**	**69.36**	**317**	*eP*		**P**		**03 25 21.0**	**+1.8**
	comp=Z,3.0nm,1.3s,baz=64,slow=5.7								
BIOA	**Bad Ischl, Aus**	**69.57**	**314**	*i P*		**P**		**03 25 22.5**	**+2.0**
	comp=Z,2.5nm,0.5s								
GRF	**Grafenberg Arr**	**69.95**	**317**	*eP*		**P**		**03 25 24.0**	**+1.2**
	comp=Z,16nm,1.3s,baz=64,slow=5.7								
GRF				*eL*		L		03 56 19.1	
	comp=Z,90nm,19.3s								
GRFO	**Grafenberg**	**69.95**	**317**	P		**P**		**03 25 22.7**	**-0.1**
GRFO					pmax		pmax		
	comp=Z,13nm,1.1s								
GRFO	**Grafenberg**	**69.95**	**317**	P		**P**		**03 25 22.7**	**-0.1**
KBA	**Koelnbreinsper**	**70.05**	**314**	*eP*		**P**		**03 25 25.3**	**+1.6**
	comp=Z,9.8nm,0.6s								
FUR	**Furstenfeldbru**	**70.70**	**316**	*eP*		**P**		**03 25 29.2**	**+1.7**
	comp=Z,16nm,1.0s,baz=64,slow=5.7								
ABTA	**Abfaltersbach**	**70.70**	**314**	*i P*		**P**		**03 25 28.3**	**+0.7**
	comp=Z,4.1nm,0.7s								
WATA	**Walderalm**	**70.95**	**315**	*eP*		**P**		**03 25 30.4**	**+1.3**
	comp=Z,9.8nm,1.3s,SNR=4.9								
WTTA	**Wattenberg**	**70.96**	**315**	*i P*		**P**		**03 25 30.7**	**+1.5**
	comp=Z,11nm,0.9s,SNR=6.2								
BUG	**Bochum--Univer**	**71.18**	**320**	*eP*		**P**		**03 25 32.0**	**+1.8**
	baz=64,slow=5.7								
MOTA	**Moosalm**	**71.22**	**315**	*i P*		**P**		**03 25 31.9**	**+1.1**
	comp=Z,7.6nm,1.1s								
SQTA	**Sankt Quirin**	**71.23**	**315**	*i P*		**P**		**03 25 31.0**	**+0.2**
	comp=Z,3.2nm,0.6s								
RETA	**Reutte**	**71.35**	**315**	*eP*		**P**		**03 25 32.9**	**+1.4**
	comp=Z,1.2nm,0.5s								
CTI	**Castel Tesino**	**71.58**	**314**	P		**P**		**03 25 33.5**	**+0.6**
CTI					pmax		pmax		
	comp=Z,11nm,1.3s								
CTI	**Castel Tesino**	**71.58**	**314**	P		**P**		**03 25 33.5**	**+0.6**
CTI					IAmb		IAmb	03 25 34.7	
	comp=Z,11nm,1.3s								
FETA	**Feichten**	**71.61**	**315**	*i P*		**P**		**03 25 34.3**	**+1.2**
	comp=Z,5.8nm,0.9s								
UBR	**Ueberruh**	**71.62**	**316**	*eP*		**P**		**03 25 34.2**	**+1.1**
	comp=Z,12nm,1.1s,baz=64,slow=5.7								
STKA	**Stephens Creek**	**72.43**	**153**	P		**P**		**03 25 37.3**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=339,slow=7.6,SNR=7.6								
STKA				pP		**pP**		**03 25 40.5**	**+1.3**
	comp=Z,4.6nm,0.8s,baz=340,slow=6.1,SNR=8.7								
STKA	**Stephens Creek**	**72.43**	**153**	P		**P**		**03 25 36.2**	**-1.6**
STKA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
STKA	**Stephens Creek**	**72.43**	**153**	P		**P**		**03 25 36.2**	**-1.6**
TUE	**Stuetta**	**72.71**	**315**		IAmb		IAmb	03 25 41.3	
	comp=Z,7.7nm,0.8s								
ECH	**Echery**	**73.00**	**317**		IAmb		IAmb	03 25 43.9	
	comp=Z,6.4nm,1.2s								
YKA	**Yellowknife Ar**	**76.19**	**20**	P		**P**		**03 25 57.7**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=325,slow=5.0,SNR=27								
YKA				pP		**pP**		**03 26 00.4**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=325,slow=4.8,SNR=22								
YKA	**Yellowknife Ar**	**76.19**	**20**	*eP*		**P**		**03 26 00.7**	**+1.2**
YKA					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KMBO	**Kilima Mbogo**	**77.40**	**260**	P		**P**		**03 26 07.4**	**0.0**
KMBO					pmax		pmax		
	comp=Z,4.0nm,1.0s								
KMBO	**Kilima Mbogo**	**77.40**	**260**	P		**P**		**03 26 07.3**	**0.0**
FCC	**Fort Churchill**	**84.30**	**13**		IAmb		IAmb	03 26 45.2	
	comp=Z,5.6nm,1.0s								
ESDC	**Sonseca Array**	**84.56**	**315**	P		**P**		**03 26 44.4**	**-0.6**
	comp=Z,4.5nm,1.0s,baz=37,slow=4.9,SNR=20								
ESDC				pP		**PcP**		**03 26 47.1**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=37,slow=5.2,SNR=15								
ESDC	**Sonseca Array**	**84.56**	**315**		IAmb		IAmb	03 26 47.7	
	comp=Z,3.5nm,0.9s								
FFC	**Flin Flon**	**86.26**	**18**	P		**P**		**03 26 51.6**	**-1.5**
FFC					pmax		pmax		
	comp=Z,3.0nm,0.8s								
FFC	**Flin Flon**	**86.26**	**18**	P		**P**		**03 26 51.6**	**-1.5**
FFC					IAmb		IAmb	03 26 55.1	
	comp=Z,3.5nm,0.8s								
NEW	**Newport**	**86.65**	**30**	P		**P**		**03 26 54.8**	**-0.5**
NEW					pmax		pmax		
	comp=Z,6.0nm,1.3s								
NEW	**Newport**	**86.65**	**30**	P		**P**		**03 26 54.8**	**-0.5**
NEW					IAmb		IAmb	03 26 57.0	
	comp=Z,6.3nm,1.3s								
JTMT	**Jette**	**88.21**	**29**		IAmb		IAmb	03 27 08.1	
	comp=Z,5.6nm,1.1s								
F10A	**Beach Ranch, E**	**88.42**	**31**		IAmb		IAmb	03 27 08.4	
	comp=Z,5.0nm,0.8s								
SCHQ	**Schefferville**	**90.55**	**359**	P		**P**		**03 27 12.3**	**-1.3**
	comp=Z,5.7nm,0.8s,baz=303,slow=4.8,SNR=9.9								
SCHQ				pP		**pP**		**03 27 15.4**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=41,slow=5.5,SNR=7.3								
SCHQ	**Schefferville**	**90.55**	**359**		IAmb		IAmb	03 27 16.0	
	comp=Z,7.7nm,0.9s								
HLID	**Hailey**	**91.55**	**31**	P		**P**		**03 27 18.1**	**-0.5**
HLID					IAmb		IAmb	03 27 23.1	
	comp=Z,3.8nm,1.0s								
ULM	**Lac du Bonnet**	**91.88**	**17**	P		**P**		**03 27 18.4**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=341,slow=5.5,SNR=5.4								
LKWY	**Lake**	**92.36**	**28**		IAmb		IAmb	03 27 30.4	
	comp=Z,3.0nm,0.9s								
H17A	**Grant Village**	**92.43**	**28**		IAmb		IAmb	03 27 28.0	
	comp=Z,4.4nm,1.1s								
PDAR	**Pinedale Array**	**94.20**	**29**	P		**P**		**03 27 30.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=35,slow=3.6,SNR=3.7								
RSSD	**Black Hills**	**95.07**	**25**	P		**P**		**03 27 34.2**	**-0.7**
RSSD					pmax		pmax		
	comp=Z,5.0nm,0.9s								
RSSD	**Black Hills**	**95.07**	**25**	P		**P**		**03 27 34.2**	**-0.7**
RSSD					IAmb		IAmb	03 27 40.5	
	comp=Z,4.9nm,0.9s								

IDC 12 03:37:11.9±2.1, 7°85S×125°90E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.1/31, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=105.1km s-min=29.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.19**	**181**	Pn	Pn	03 39 39.8	+0.2
	0.3nm,0.3s,baz=14,slow=15,SNR=11						
WRA	**Warramunga Arr**	**14.54**	**147**	Pn	Pn	03 40 37.7	-1.4
	0.1nm,0.3s,baz=318,slow=13,SNR=6.8						
ASAR	**Alice Springs**	**17.50**	**155**	P	P	03 41 18.5	-0.4
	0.1nm,0.3s,baz=338,slow=13,SNR=13						
MKAR	**Makanchi Array**	**66.77**	**329**	P	P	03 48 05.2	0.0
	0.1nm,0.5s,baz=120,slow=5.8,SNR=1.6						

IDC 12 03:38:17.7±1.2, 7°80S×125°98E, h0km, mb4.3/6, mb1 4.4/10, mb1mx4.0/31, mbtmp4.3/10, ML4.1/4, MS3.7/4, Ms1 3.7/4, ms1mx3.2/63, Error ellipse: s-maj=36.5km s-min=22.0km az=65.0

NEIC 12 03:38:20.3±1.3, 7°85S±0°10×125°82E±0°10, h10km±1km, mb4.5/16, Error ellipse: s-maj=19.4km s-min=12.8km az=44.0

DJA 12 03:38:21.2±1.1, 8°S±2°×12°6E±°, h13km±9km, M4.4/5, mb4.5/5, mB4.8/1, MLv4.4/5, Mw(mB)4.1/1

ISC 12 03:38:19.6±0.5, 7°99S±0°06×125°80E±0°07, h10km, n60, σ1°83/60, mb4.5/20, MS3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.59**	**259**		**Pn**	**03 39 15.6**	**+0.2**
BBSI	**Bau Bau**	**4.06**	**308**	P	**Pn**	**03 39 23.3**	**+1.5**
BBSI				S	**Sn**	**03 40 05.3**	**-4.2**
BKSI	**Bulukumba**	**6.23**	**295**	P	**Pn**	**03 39 49.7**	**-2.0**
WBSI	**Waikabubak, Su**	**6.55**	**255**	P	**Pn**	**03 39 57.3**	**+1.2**
	0.2nm60nm,0.9s						
BNSI	**Bone**	**6.69**	**302**	P	**Pn**	**03 39 57.5**	**-0.5**
KAPI	**Kappang**	**6.70**	**296**	Pn	**Pn**	**03 39 59.2**	**+1.1**
	1.9nm,0.3s,baz=128,slow=9.9,SNR=8.6						
KAPI				Sn	**Sn**	**03 41 13.3**	**-1.2**
	2.5nm,0.3s,baz=8.8,slow=21,SNR=3.4						
KAPI	**Kappang**	**6.70**	**296**	Pn	**Pn**	**03 39 57.4**	**-0.7**
SPSI	**Sidrap Palu**	**7.21**	**303**	P	**Pn**	**03 40 03.8**	**-1.3**
TTSI	**Tana Toraja**	**7.72**	**309**	P	**Pn**	**03 40 16.2**	**+4.1**
PLAI	**Plampang**	**7.99**	**263**	P	**Pn**	**03 40 15.8**	**0.0**
APSI	**Ampana**	**8.16**	**329**	P	**Pn**	**03 40 16.5**	**-1.7**
	0.1nm28nm,0.8s						
KNRA	**Kununurra**	**8.17**	**160**	Pn	**Pn**	**03 40 21.8**	**+3.4**
FITZ	**Fitzroy Crossi**	**10.05**	**181**	Pn	**Pn**	**03 40 46.1**	**+2.0**
	1.9nm,0.3s,baz=11,slow=8.4,SNR=17						
FITZ				Sn	**Sn**	**03 42 35.7**	**-1.4**
	4.5nm,0.3s,baz=85,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**10.05**	**181**	Pn	**Pn**	**03 40 47.2**	**+3.0**
MPSI	**Mapaga**	**10.15**	**324**	P	**Pn**	**03 40 43.1**	**-2.4**
WB0	**Warramunga Arr**	**14.37**	**145**	Pn	**Pn**	**03 41 44.7**	**+1.4**
WRAB	**Tennant Creek**	**14.48**	**146**		**Pn**	**03 41 46.0**	**+1.2**
WRA	**Warramunga Arr**	**14.48**	**146**	Pn	**Pn**	**03 41 44.1**	**-0.7**
	0.8nm,0.3s,baz=321,slow=15,SNR=22						
WRA				Sn	**Sn**	**03 44 20.8**	**-4.7**
	0.6nm,0.3s,baz=323,slow=25,SNR=5.2						
WB2	**Warramunga Arr**	**14.49**	**146**	Pn	**Pn**	**03 41 46.6**	**+1.7**
WR0	**Warramunga Arr**	**14.61**	**145**		**Pn**	**03 41 46.3**	**-0.2**
AS31	**Alice Springs**	**17.42**	**154**		**Pn**	**03 42 24.9**	**+2.0**
ASAR	**Alice Springs**	**17.42**	**154**	P	**Pn**	**03 42 24.2**	**+1.2**
	0.5nm,0.3s,baz=332,slow=10,SNR=33						
ASAR				S	**Sn**	**03 45 32.2**	**-4.8**
	0.2nm,0.3s,baz=321,slow=16,SNR=2.4						
ASAR	**Alice Springs**	**17.42**	**154**		**P**	**03 42 26.0**	**+1.8**
COEN	**Coen**	**18.05**	**111**		**Pn**	**03 42 31.5**	**+0.7**
LEM	**Lembang**	**18.07**	**272**	LR	LR	03 50 22.1	
	comp=Z,321nm,20.0s,baz=104,slow=40						
PMG	**Port Moresby**	**21.16**	**95**	LR	LR	03 52 58.5	
	comp=Z,143nm,18.9s,baz=314,slow=42						
PMG	**Port Moresby**	**21.16**	**95**	P	**P**	**03 43 05.0**	**-0.2**
PMG				IAmb	IAmb	03 43 13.7	
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**22.77**	**175**	P	**P**	**03 43 23.9**	**+1.6**
FORT				IAmb	IAmb	03 43 36.2	
	comp=Z,17nm,0.9s						
CTA	**Charters Tower**	**23.17**	**123**	LR	LR	03 54 00.3	
	comp=Z,141nm,19.0s,baz=280,slow=41						
STKA	**Stephens Creek**	**27.95**	**150**	LR	LR	03 57 24.8	
	comp=Z,212nm,18.0s,baz=344,slow=41						
RPSI	**Rantau Prapat**	**28.84**	**291**	P	**P**	**03 44 18.6**	**+0.2**
PSI	**Prapat**	**28.88**	**291**	P	**P**	**03 44 18.6**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=116,slow=11,SNR=5.4						
CMAR	**Chiang Mai Arr**	**37.32**	**315**	P	**P**	**03 45 31.9**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=134,slow=6.4,SNR=1.8						
CHTO	**Chiang Mai**	**37.56**	**315**	P	**P**	**03 45 34.2**	**-0.2**
NJ2	**Nanjing**	**40.36**	**351**	*eP*	**P**	**03 45 58.1**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH	**PanZhiHua**	**41.48**	**327**	P	**P**	**03 46 09.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
MJAR	**Matsushiro Arr**	**45.80**	**14**	P	**P**	**03 46 39.6**	**-2.1**
	comp=Z,4.1nm,0.9s,baz=198,slow=8.8,SNR=4.1						
LZH	**Lanzhou**	**48.46**	**336**	*eP*	**P**	**03 47 05.9**	**+3.2**
LZH				pP	pwP	03 47 10.2	+4.4
LZH				sP	sP	03 47 13.6	+6.6
LZH				pmax	pmax		
	comp=Z,14nm,1.4s						
HHC	**Hu-ho-hao-te**	**50.33**	**346**	*eP*	P	03 47 25.3	+8.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,8.4s						
GTA	**Gaotai**	**52.96**	**335**	*eP*	**P**	**03 47 39.2**	**+2.7**
GTA				sP	pwP	03 47 46.2	+6.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**58.03**	**345**	P	**P**	**03 48 12.2**	**-0.7**
ULN				IAmb	IAmb	03 48 14.0	
	comp=Z,4.8nm,1.1s						
SONM	**Songino Array**	**58.17**	**345**	P	**P**	**03 48 12.8**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=169,slow=8.2,SNR=4.7						
SONM	**Songino Array**	**58.17**	**345**	P	**P**	**03 48 12.9**	**-0.9**
WMQ	**Urumqi**	**62.04**	**330**	*eP*	**P**	**03 48 42.0**	**+1.6**
WMQ				LR	LR		
	comp=N,700nm,16.1s						
WMQ				LR	LR		
	comp=E,430nm,17.5s						
WMQ				LR	LR		
	comp=Z,230nm,23.1s						
PETK	**Petropavlovsk-**	**66.62**	**20**	P	**P**	**03 49 11.5**	**+1.4**
	comp=Z,5.2nm,1.0s,baz=203,slow=7.2,SNR=4.2						
MK31	**Makanchi Array**	**66.84**	**329**	P	**P**	**03 49 10.8**	**-0.9**
MK31				IAmb	IAmb	03 49 18.1	
	comp=Z,4.1nm,1.0s						
MKAR	**Makanchi Array**	**66.84**	**329**	P	**P**	**03 49 11.6**	**-0.2**
	comp=Z,4.4nm,1.0s,baz=129,slow=7.0,SNR=20						
MKAR	**Makanchi Array**	**66.84**	**329**	P	**P**	**03 49 12.1**	**+0.3**
AAK	**Ala-Archa**	**68.67**	**322**	P	**P**	**03 49 23.3**	**-0.3**
MA2	**Magadan**	**70.23**	**13**	P	**P**	**03 49 32.5**	**-0.2**
ZAA0	**Zalesovo Array**	**70.69**	**336**	P	**P**	**03 49 34.5**	**-1.0**
ZAA0				IAmb	IAmb	03 49 38.5	
	comp=Z,4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**70.69**	**336**	P	**P**	**03 49 34.1**	**-1.5**
	comp=Z,4.1nm,0.9s,baz=131,slow=4.1,SNR=12						
ZALV	**Zalesovo Beam**	**70.69**	**336**	P	**P**	**03 49 33.9**	**-1.6**
KURK	**Kurchatov**	**71.25**	**330**	P	**P**	**03 49 38.6**	**-0.4**
KKAR	**Karatay Array**	**71.39**	**321**	P	**P**	**03 49 40.5**	**+0.4**
BRVK	**Borovoye**	**76.80**	**329**	P	**P**	**03 50 11.3**	**-0.1**
BRVK				IAmb	IAmb	03 50 14.0	
	comp=Z,4.8nm,1.1s						
TIXI	**Tiksi**	**79.49**	**1**	P	**P**	**03 50 25.8**	**-0.2**
TIXI				IAmb	IAmb	03 50 36.1	
	comp=Z,7.4nm,1.4s						
ABKAR	**Akbulak array**	**80.73**	**323**	P	**P**	**03 50 33.0**	**-0.2**
NRIK	**Noril'sk**	**81.55**	**347**	P	**P**	**03 50 36.6**	**-0.4**
NRIK				IAmb	IAmb	03 50 39.0	
	comp=Z,3.9nm,1.1s						
RAYN	**Ar Rayn**	**84.35**	**295**	P	**P**	**03 50 51.9**	**-0.8**

MDD 12 03:48:33.2±0.3, 35°68N×3°63W, h0km, mb_Lg2.5/19, Error ellipse: s-maj=2.9km s-min=2.3km az=169.0

CNRM 12 03:48:33.2, 35°68N×3°55W, h19km, ml2.4

SFS 12 03:48:33.0, 35°67N×3°64W, ML2.5, ALBORAN SUR

ISC 12 03:48:31.3±1.2, 35°68N±0°02×3°63W±0°02, h6km±10km, n43, σ1°33/80, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**209**	P	**Pn**	**03 48 44.0**	**+1.0**
PALE	**Palemas**	**0.52**	**209**	P	**Pb**	**03 48 44.0**	**+1.0**
PALE				S	**Sb**	**03 48 51.6**	**+0.8**
EMEL	**Melilla**	**0.67**	**124**	Pg	**Pb**	**03 48 45.7**	**+0.4**
EMEL				Sg	**Sb**	**03 48 54.4**	**-0.4**
ELGU	**Los Guajares,**	**1.19**	**0**	Pg	**Pg**	**03 48 54.0**	**-0.1**
ELGU				Sg	**Sg**	**03 49 09.2**	**-0.4**
ELGU				*i* Vmb_Lg		03 49 15.1	
EMAL	**Malaga-Limoner**	**1.26**	**329**	P	**Pg**	**03 48 55.0**	**-0.5**
EMAL				S	**Sg**	**03 49 11.2**	**-0.8**
EMIJ	**Mijas**	**1.28**	**314**	Pg	**Pg**	**03 48 55.3**	**-0.6**
EMIJ				Sg	**Sg**	**03 49 12.1**	**-0.4**
EMIJ				*i* Vmb_Lg		03 49 13.0	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**03 48 56.0**	**-0.3**
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**03 48 56.0**	**-0.3**
TAF				S	**Sg**	**03 49 12.7**	**-1.0**
EBER	**Berja**	**1.36**	**26**	Pg	**Pn**	**03 48 56.5**	**-0.5**
EBER				Sn	**Sb**	**03 49 15.1**	**+0.1**
EBER				*i* Vmb_Lg		03 49 16.6	
SMIR	**Smir Dam**	**1.43**	**271**	P	**Pn**	**03 48 56.5**	**-1.3**
SMIR				S	**Sb**	**03 49 16.0**	**-0.8**
CEU	**Ceuta**	**1.44**	**279**	P	**Pn**	**03 48 56.4**	**-1.5**
CEU				S	**Sb**	**03 49 12.2**	**-4.8**
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pb**	**03 48 59.1**	**-0.3**
EGOR				Sn	**Sg**	**03 49 20.6**	**+1.6**
EGOR				*i* Vmb_Lg		03 49 26.2	
CHEFC	**Chefchaouen**	**1.51**	**248**	P	**Pg**	**03 49 00.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.51**	**248**	P	**Pg**	**03 49 00.5**	**+0.2**
CHEFC				S	**Sg**	**03 49 21.2**	**+1.4**
EQUE	**Quentar**	**1.53**	**6**	Pn	**Pg**	**03 49 01.0**	**+0.2**
EQUE				Sn	**Sn**	**03 49 19.3**	**-0.3**
EQUE				*i* Vmb_Lg		03 49 25.0	
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**03 48 59.6**	**-0.7**
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**03 48 59.8**	**-0.5**
JBK				S	**Sn**	**03 49 18.9**	**-2.4**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pg	**Pb**	**03 49 02.1**	**-0.6**
EJIF				Sn	**Sn**	**03 49 22.9**	**-0.2**
ENIJ	**Nijar**	**1.73**	**41**	Pn	**Pb**	**03 49 03.2**	**-0.3**
ENIJ				Sn	**Sn**	**03 49 23.0**	**-1.3**
ENIJ				*i* Vmb_Lg		03 49 31.9	
ESPR	**Espera**	**2.16**	**304**	Pn	**Pb**	**03 49 10.5**	**-0.3**
ESPR				Sn	**Sn**	**03 49 35.1**	**+0.2**
ESPR				*i* Vmb_Lg		03 49 42.5	
EQES	**Quesada**	**2.17**	**12**	Pn	**Pb**	**03 49 10.6**	**-0.4**
EQES				Sn	**Sn**	**03 49 36.7**	**+1.4**
EQES				*i* Vmb_Lg		03 49 40.5	
LCRM	**LCR**	**2.23**	**207**	P	**Pn**	**03 49 09.4**	**+0.4**
LCRM				S	**Sn**	**03 49 37.7**	**+0.8**
IFR	**Ifrane**	**2.48**	**210**	P	**Pn**	**03 49 13.1**	**+0.6**
IFR				S	**Sn**	**03 49 42.2**	**-1.0**
EADA	**Adamuz**	**2.60**	**343**	Pn	**Pn**	**03 49 15.7**	**+1.7**
EADA				Sn	**Sn**	**03 49 46.9**	**+1.0**
EADA				*i* Vmb_Lg		03 49 57.0	
EZAR	**Zarzadilla de**	**2.69**	**35**	Pn	**Pn**	**03 49 16.4**	**+1.2**
EZAR

FORT	**Forrest**	**22.75**	**175**	P	**P**	**03 56 31.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**37.31**	**315**	P	**P**	**03 58 40.6**	**+0.5**
CHTO	**Chiang Mai**	**37.55**	**315**	P	**P**	**03 58 43.1**	**+1.1**
CHTO				IAmb	IAmb	03 59 00.3	
	comp=Z,3.4nm,1.1s						
MJAR	**Matsushiro Arr**	**45.83**	**14**	P	**P**	**03 59 50.7**	**+1.1**
MJAR				IAmb	IAmb	03 59 52.7	
	comp=Z,3.5nm,1.2s						
MK31	**Makanchi Array**	**66.85**	**329**	P	**P**	**04 02 19.4**	**+0.1**
MK31				IAmb	IAmb	04 02 25.9	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**66.85**	**329**	P	**P**	**04 02 18.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=134,slow=6.9,SNR=14						
KBL	**Kabul**	**68.26**	**312**	P	**P**	**04 02 28.0**	**-0.7**
ZAA0	**Zalesovo Array**	**70.70**	**336**	P	**P**	**04 02 43.5**	**+0.4**
ZAA0				IAmb	IAmb	04 02 48.1	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**70.70**	**336**	P	**P**	**04 02 43.3**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=123,slow=5.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**70.70**	**336**	P	**P**	**04 02 44.4**	**+1.3**
KURK	**Kurchatov**	**71.26**	**331**	P	**P**	**04 02 47.4**	**+0.9**
KURK				IAmb	IAmb	04 02 51.2	
	comp=Z,4.3nm,1.1s						
BRVK	**Borovoye**	**76.80**	**329**	P	**P**	**04 03 19.9**	**+1.0**
BRVK				IAmb	IAmb	04 03 24.2	
	comp=Z,2.9nm,1.1s						

IDC 12 03:56:00.3±1.4, 39.81S×45.78E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/31, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/64, Error ellipse: s-maj=83.6km s-min=38.2km az=36.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUM	**Tsumeb**	**31.78**	**302**	LR	LR	04 14 47.7	
	comp=Z,44nm,18.3s,baz=160,slow=36						
H01W2	**Cape Leeuwin H**	**53.36**	**108**	T	T	05 02 36.1	
	baz=243,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**53.37**	**108**	T	T	05 02 36.8	
	baz=243,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**53.38**	**108**	T	T	05 02 37.4	
	baz=243,slow=75,SNR=18						
TORD	**Torodi Ar. Bea**	**66.74**	**312**	P	P	04 06 53.1	-0.3
	0.1nm,0.5s,baz=133,slow=4.5,SNR=1.0						
ASAR	**Alice Springs**	**73.88**	**107**	P	P	04 07 37.2	-0.1
	1.0nm,0.8s,baz=223,slow=4.6,SNR=4.6						
BRTR	**Keskin Array B**	**79.93**	**351**	P	P	04 08 11.2	+0.2
	1.0nm,1.0s,baz=172,slow=7.1,SNR=6.0						
TXAR	**Lajitas Array**	**152.88**	**257**	PKPbc	PKiKP	04 15 59.7	0.0
	0.5nm,0.8s,baz=124,slow=4.8,SNR=5.4						

*NEIC **12** 04:00:27.5±2.0, 18°.20N±0°.05×120°.18E±0°.07, h10km±1km, mb5.6/323, Ms_20 4.9/72, Mww5.4, Error ellipse: s-maj=11.3km s-min=8.5km az=268.0*

*BJI **12** 04:00:27.7±0.0, 18°.46N×120°.16E, h5km, mb5.2/87, mB5.4/64, ML5.0/3, Ms5.1/94, Ms7 5.1/88*

*MOS **12** 04:00:28.8±0.9, 18°.16N×120°.35E, h37km, mb5.5/85, MS4.9/30, Error ellipse: s-maj=6.7km s-min=3.7km az=113.4*

*BGR **12** 04:00:28.1±0.0, 17°.99N×120°.81E, h33km, mb5.3, Ms5.1*

*MAN **12** 04:00:28.7, 18°.25N×120°.10E, h23km, mb4.9, ML5.0, MS5.5*

MAN INTENSITY V - LAOAG CITY, PASUQUIN, SARRAT & PAOAY, ILOCOS NORTE; BURGOS, ILOCOS SUR; INTENSITY IV - VIGAN, ILOCOS SUR; INTENSITY III - SINAIT, ILOCOS SUR; PAMPLONA, CAGAYAN.

*GCMT **12** 04:00:29.5±0.1, 18°.31N±0°.01×120°.01E±0°.01, h38km, MW5.4/132, Moment Tensor Solution. s132,c216; s130,c238; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.32±.03; Mθθ-0.63±.02; Mϕϕ-0.69±.02; Mrθ-0.80±.02; Mrϕ-0.93±.01; Mθϕ-0.28±.02; Best double couple: M0 1.69500×10^17 NP1:ϕs28.0000°, δ33.00000°, λ63.00000°. NP2:ϕs239.00000°, δ61.00000°, λ107.00000°. Principal axes: T 1.6090, Plg70.0000°, Azm184.0000°; N 0.1710, Plg14.0000°, Azm50.0000°; P -1.7820, Plg14.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **12** 04:00:31.2±1.6, 18°.14N×120°.36E, h47km±15km, mb4.8/28, mb1 5.0/30, mb1mx4.8/38, mbtmp5.1/30, ML5.5/2, MS4.8/56, Ms1 4.8/56, ms1mx4.7/80 Error ellipse: s-maj=13.4km s-min=8.4km az=75.0*

*NEIC **12** 04:00:34, 18°.17N×120°.07E, h24km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10^17 Nm; Mrr1.24; Mθθ-0.65; Mϕϕ-0.59; Mrθ-1.02; Mθϕ-0.89; Mϕr-0.44; Fault plane solution: M0 1.78000×10^17 NP1: ϕs29.00000°, δ28.00000°, λ62.00000°. NP2:ϕs240.00000°, δ65.00000°, λ104.00000°. Principal axes: T 1.6842, Plg67.0000°, Azm176.0000°; N 0.1792, Plg13.0000°, Azm54.0000°; P -1.8635, Plg19.0000°, Azm320.0000°;*

*KLM **12** 04:00:35, 18°.11N×120°.26E, h81km, mb5.7*

ISC 12 04:00:29.2±0.4, 18°.11N±0°.02×120°.25E±0°.03, h28km±2km, h28km:pP-P, n1375, σ1s53/1338, mb5.5/397, MS4.9/122, 228C-183D, Fault plane solution: NP1:ϕs233.36110°, δ67.37975°, λ92.97442°. **NP2:**ϕs45.66737°, δ22.80479°, λ82.90128°. **Principal axes:** T Plg67.4883°, Azm148.8604°; N Plg2.7454°, Azm52.2162°; P Plg22.3253°, Azm321.0879°; **Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.98**	**105**	*i*P	**Pb**	**04 00 48.7**	**+1.1**
SAMP	**Sagada Mountai**	**1.20**	**149**	*i*P	**Pb**	**04 00 52.2**	**+0.9**
SGCP	**Gonzaga**	**1.72**	**85**	*e*P	**Pb**	**04 00 59.4**	**-0.7**
BOLP	**Bolinao**	**1.75**	**191**	*e*P	**Pn**	**04 00 59.0**	**+1.2**
SMPP	**San Manuel, Pa**	**2.00**	**168**	*e*P	**Pb**	**04 01 03.6**	**-1.2**
SCZP	**Santa Cruz**	**2.35**	**188**	*e*P	**Pn**	**04 01 08.2**	**+2.3**
BALP	**Baler**	**2.68**	**151**	*e*P	**Pb**	**04 01 14.3**	**-2.3**
BBP	**Basco**	**2.83**	**35**	*e*P	**Pn**	**04 01 12.6**	**+0.2**
QVP	**Quezon City--P**	**3.55**	**168**	*e*P	**Pn**	**04 01 26.5**	**+4.1**
MACP	**Maragondon, Ca**	**3.86**	**173**	*e*P	**Pn**	**04 01 30.4**	**+3.8**
TGY	**Tagaytay City**	**4.04**	**170**	P	**Pn**	**04 01 31.4**	**+2.1**
	103nm,0.3s,baz=331,slow=3.4,SNR=50						
TGY				S	**Sn**	**04 02 18.6**	**+2.8**
	493nm,0.3s,baz=161,slow=23,SNR=3.2						
TGY	**Tagaytay City**	**4.04**	**170**	*e*P	Pb	04 01 35.3	-4.5
TGY				eS	**Sb**	**04 02 28.1**	**-0.2**
LQP	**Lukban**	**4.17**	**162**	*e*P	**Pn**	**04 01 35.0**	**+3.8**
PGP	**Puerto Galera**	**4.64**	**171**	*e*P	**Pn**	**04 01 41.2**	**+3.8**
GQP	**Guinayangan**	**4.69**	**153**	*e*P	**Pn**	**04 01 41.8**	**+3.7**
GQP				eS	**Sn**	**04 02 35.3**	**+3.6**
TWG	**Pinlang**	**4.75**	**9**		**Pn**	**04 01 37.8**	**-1.1**
BOAC	**Boac**	**4.88**	**161**	*e*P	Pn	04 01 45.6	+4.9
TPUB	**Ta-pu**	**5.17**	**4**		**Pn**	**04 01 43.2**	**-1.6**
TPUB	**Ta-pu**	**5.17**	**4**	P	**Pn**	**04 01 43.6**	**-1.2**
YULB	**Yu-li**	**5.34**	**10**		**Pn**	**04 01 46.0**	**-1.1**
SJMP	**San Jose**	**5.68**	**171**	*e*P	Pn	04 01 56.9	+5.1
SSLB	**Suanglung**	**5.68**	**7**	Pn	**Pn**	**04 01 50.8**	**-1.1**
SSLB	**Suanglung**	**5.68**	**7**	P	**Pn**	**04 01 51.1**	**-0.7**
PVCP	**Virac**	**5.86**	**140**	*e*P	**Pn**	**04 01 57.3**	**+3.1**
NACB	**Ninganchiao**	**6.16**	**12**		**Pn**	**04 01 57.9**	**-0.4**
KNMB	**Chin-men Tao**	**6.55**	**345**	Pn	**Pn**	**04 02 01.4**	**-2.3**
YHNB	**Yeheng**	**6.61**	**9**	Pn	**Pn**	**04 02 04.9**	**+0.4**
YHNB	**Yeheng**	**6.61**	**9**	P	**Pn**	**04 02 05.9**	**+1.4**
YOJ	**Yonaguni jima**	**6.82**	**22**	P	**Pn**	**04 02 06.9**	**-0.5**
YOJ	**Yonaguni jima**	**6.82**	**22**	Pn	**Pn**	**04 02 06.9**	**-0.5**
YOJ	**Yonaguni jima**	**6.82**	**22**	P	**Pn**	**04 02 08.6**	**+1.2**
TATO	**Taipei**	**6.92**	**9**		**Pn**	**04 02 09.0**	**+0.2**
TATO	**Taipei**	**6.92**	**9**	P	**Pn**	**04 02 12.0**	**+3.2**
RCP	**Roxas**	**6.95**	**159**	*e*P	Pn	04 02 15.5	+6.3
QZH	**Quanzhou**	**6.97**	**348**	*i*Pn	**Pn**	**04 02 07.0**	**-2.4**
QZH				Sn	**Sn**	**04 03 20.3**	**-7.4**
QZH				smax	smax		
	comp=N,330nm,0.4s						
QZH				smax	smax		
	comp=E,680nm,0.4s						
QZH				LR	LR		
	comp=N,8μm,17.5s						
QZH				LR	LR		
	comp=E,5μm,15.6s						
QZH				LR	LR		
	comp=Z,10μm,17.9s						
HKPS	**Hong Kong Po S**	**7.07**	**307**	Pn	**Pn**	**04 02 08.9**	**-1.9**
CUYO	**Cuyo Island**	**7.26**	**174**	*e*P	Pn	04 02 19.7	+6.2
LLP	**Lapu-Lapu**	**8.55**	**155**	*e*P	Pn	04 02 41.9	+11
CNOP	**Candoni, Negro**	**8.56**	**164**	*e*P	**Pn**	**04 02 36.1**	**+4.8**
TBP	**Tagbilaran**	**9.08**	**157**	*e*P	**Pn**	**04 02 42.7**	**+4.3**
MSLP	**Maasin**	**9.11**	**150**	*e*P	Pn	04 02 44.4	+5.6
SNPH	**Sibulan**	**9.19**	**161**	*e*P	**Pn**	**04 02 44.8**	**+4.8**
QIZ	**Qiongzhong**	**9.91**	**277**	Pn	**Pn**	**04 02 47.7**	**-2.1**
QIZ	**Qiongzhong**	**9.91**	**277**	P	**Pn**	**04 02 47.6**	**-2.2**
QIZ				S	**Sn**	**04 04 35.8**	**-4.3**
QIZ				pmax	pmax		
	comp=Z,370nm,0.7s						
QIZ				LR	LR		
	comp=N,4μm,20.7s						
QIZ				LR	LR		
	comp=E,5μm,18.7s						
QIZ				LR	LR		
	comp=Z,6μm,18.6s						
JOW	**Kunigami**	**11.41**	**39**	Pn	**Pn**	**04 03 09.4**	**-0.9**
JOW	**Kunigami**	**11.41**	**39**	P	**Pn**	**04 03 10.1**	**-0.3**
GULI	**GuiLin**	**11.63**	**310**	P	**Pn**	**04 03 12.0**	**-1.3**
GULI				S	**Sn**	**04 05 14.5**	**-7.8**
GULI				LR	LR		
	comp=N,6μm,16.3s						
GULI				LR	LR		
	comp=E,4μm,18.4s						
GULI				LR	LR		
	comp=Z,9μm,17.3s						
DAV	**Davao City (W)**	**12.15**	**154**	P	**Pn**	**04 03 21.4**	**+1.0**
	79nm,0.3s,baz=3.4,slow=5.2,SNR=1.8						
DAV				LR	LR	04 08 53.6	
	comp=Z,7μm,20.9s,baz=12,slow=41						
KKM	**Kota Kinabalu**	**12.63**	**199**	Pn	**Pn**	**04 03 27.9**	**+0.8**
KKM	**Kota Kinabalu**	**12.63**	**199**	P	**Pn**	**04 03 29.9**	**+2.8**
DLV	**T Lat**	**12.91**	**243**	Pn	**Pn**	**04 03 30.7**	**-0.3**
DLV	**T Lat**	**12.91**	**243**	P	**Pn**	**04 03 34.0**	**+3.0**
SSE	**Sheshan**	**12.95**	**4**	P	**Pn**	**04 03 30.4**	**-1.0**
SSE				S	**Sn**	**04 05 56.6**	**+2.0**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SSE				LR	LR		
	comp=N,2μm,16.3s						
SSE				LR	LR		
	comp=E,1μm,16.3s						
MYLDM	**Lahad Datu**	**12.97**	**188**	Pn	**Pn**	**04 03 34.8**	**+3.1**
WHN	**Wuhan**	**13.49**	**338**	P	**Pn**	**04 03 35.9**	**-2.8**
WHN				pP	**P**	**04 03 43.4**	**-4.2**
WHN				sP		04 03 50.6	
WHN				S	**Sn**	**04 06 00.6**	**-7.0**
WHN				sS	S	04 06 14.0	-17
WHN				pmax	pmax		
	comp=Z,130nm,0.9s						
WHN				LR	LR		
	comp=N,15μm,15.7s						
WHN				LR	LR		
	comp=E,5μm,12.5s						
WHN				LR	LR		
	comp=Z,20μm,16.7s						
SPMM	**Sapulut**	**13.83**	**196**	P	**P**	**04 03 48.0**	**-3.5**
NJ2	**Nanjing**	**13.94**	**355**	P	**Pn**	**04 03 44.6**	**-0.2**
NJ2				pP	**P**	**04 03 48.2**	**-4.4**
NJ2				sP		04 03 52.0	
NJ2				PP	**PnPn**	**04 03 55.7**	**+2.7**
NJ2				S	**Sn**	**04 06 20.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,92nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,830nm,3.8s						
NJ2				LR	LR		
	comp=N,6μm,19.6s						
NJ2				LR	LR		
	comp=E,7μm,17.7s						
NJ2				LR	LR		
	comp=Z,9μm,18.6s						
UBPT	**Khong Chiam**	**14.43**	**261**		**Pn**	**04 03 51.9**	**+0.2**
GYA	**Guiyang**	**15.06**	**306**	P	**Pn**	**04 03 59.4**	**-0.8**
GYA				S	**Sn**	**04 06 46.9**	**+0.7**
GYA				PcP	**PcP**	**04 09 07.6**	**+0.1**
GYA				pmax	pmax		
	comp=Z,99nm,0.9s						
GYA				pmax	pmax		
	comp=Z,2μm,3.5s						
GYA				LR	LR		
	comp=N,5μm,15.1s						
GYA				LR	LR		
	comp=E,4μm,19.2s						
GYA				LR	LR		
	comp=Z,7μm,16.8s						
SGSI	**Sangihe**	**15.24**	**160**	P	**Pn**	**04 03 56.6**	**-6.0**
ENH	**Enshi**	**15.57**	**323**	Pn	**Pn**	**04 04 05.1**	**-1.7**
JSU	**Suzuyama**	**16.22**	**33**	Pn	**Pn**	**04 04 13.7**	**-1.5**
TOLI2	**Tolitoli**	**16.91**	**178**	Pn	**Pn**	**04 04 24.4**	**+0.5**
TOLI2				IAmb	IAmb	04 04 29.4	
	comp=Z,340nm,1.0s						
TOLI2	**Tolitoli**	**16.91**	**178**	P	**Pn**	**04 04 24.2**	**+0.3**
SBUM	**Sibu**	**17.44**	**208**		**P**	**04 04 31.6**	**-0.1**
SBUM	**Sibu**	**17.44**	**208**	P	**P**	**04 04 33.0**	**+1.4**
GTOI	**Gorontalo**	**17.58**	**171**	P	**Pn**	**04 04 31.7**	**-0.6**
	comp=Z,2μmcomp=Z,886nmcomp=Z,74nm,1.3s						
MRSI	**Marisa**	**17.61**	**174**	P	**P**	**04 04 35.8**	**+2.4**
	comp=Z,3μmcomp=Z,136nm,1.1s						
MPSI	**Mapaga**	**17.67**	**181**	P	**P**	**04 04 35.9**	**+1.8**
	comp=Z,4μmcomp=Z,2μmcomp=Z,69nm,1.1s						
KMI	**Kunming**	**17.70**	**296**	P	**P**	**04 04 35.0**	**+0.3**
KMI				pP	Pn	04 04 38.5	+4.6
KMI				pmax	pmax		
	comp=Z,150nm,1.3s						
KMI				pmax	pmax		
	comp=Z,1μm,3.6s						
KMI				LR	LR		
	comp=Z,2μm,13.0s						
KMI				LR	LR		
	comp=Z,6μm,13.5s						
KMI				LR	LR		
	comp=Z,6μm,16.2s						
JNU	**Nakatsue**	**17.74**	**31**	Pn	**Pn**	**04 04 32.7**	**-1.5**
JNU	**Nakatsue**	**17.74**	**31**	P	**Pn**	**04 04 34.2**	**0.0**
LYN	**LuoYang**	**17.78**	**339**	*i*P	**Pn**	**04 04 35.2**	**+0.6**
LYN				PP	**sP**	**04 04 51.4**	**+5.3**
LYN				S	**Sn**	**04 07 51.3**	**-0.7**
LYN				pmax	pmax		
	comp=Z,180nm,1.8s						
LYN				pmax	pmax		
	comp=Z,1μm,4.3s						
LYN				LR	LR		
	comp=Z,4μm,17.9s						
LYN				LR	LR		
	comp=Z,3μm,15.6s						
LYN				LR	LR		
	comp=Z,5μm,17.6s						
KMSI	**Cibinong**	**17.81**	**168**	P	**P**	**04 04 37.9**	**+2.2**
	comp=Z,7μmcomp=Z,429nm,0.9s						
TIA	**Tai'an**	**18.24**	**352**	P	**Pn**	**04 04 41.4**	**+1.1**
TIA				pmax	pmax		
	comp=Z,2μm,3.5s						
TIA				LR	LR		
	comp=Z,4μm,22.7s						
TIA				LR	LR		
	comp=Z,1μm,13.0s						
TIA				LR	LR		
	comp=Z,5μm,19.8s						
TNTI	**Ternate**	**18.60**	**157**	P	**P**	**04 04 44.0**	**-0.3**
TNTI				IAmb	IAmb	04 04 55.1	
	comp=Z,341nm,1.3s						
TNTI	**Ternate**	**18.60**	**157**	P	Pn	04 04 53.8	+9.0
TNTI	**Ternate**	**18.60**	**157**	P	**Pn**	**04 04 45.8**	**+1.0**
XAN	**Xi'an**	**18.82**	**330**	P	**Pn**	**04 04 47.7**	**+0.3**
XAN				pmax	pmax		
	comp=Z,270nm,1.5s						
XAN				pmax	pmax		
	comp=Z,4μm,4.3s						
XAN				LR	LR		
	comp=Z,4μm,17.6s						
XAN				LR	LR		
	comp=Z,4μm,17.2s						
XAN				LR	LR		
	comp=Z,7μm,16.8s						
APSI	**Ampana**	**18.96**	**176**	P	**Pn**	**04 04 51.3**	**+2.2**
	comp=Z,3μmcomp=Z,3μmcomp=Z,269nm,1.2s						
PZH	**PanZhiHua**	**19.03**	**299**	P	**Pn**	**04 04 51.5**	**+1.4**
PZH				pP	**P**	**04 04 53.4**	**+4.2**
PZH				sP	**pP**	**04 04 57.1**	**+1.2**
PZH				pmax	pmax		
	comp=Z,180nm,1.3s						
PZH				pmax	pmax		
	comp=Z,2μm,4.1s						
PZH				LR	LR		
	comp=Z,3μm,15.5s						
PZH				LR	LR		
	comp=Z,4μm,15.8s						
PZH				LR	LR		
	comp=Z,3μm,15.9s						
LUWI	**Luwuk**	**19.20**	**172**	P	**Pn**	**04 04 51.7**	**-0.3**
LUWI				IAmb	IAmb	04 05 04.5	
	comp=Z,467nm,1.1s						
LUWI	**Luwuk**	**19.20**	**172**	P	**Pn**	**04 04 53.2**	**+1.2**
	comp=Z,5μmcomp=Z,6μmcomp=Z,410nm,1.2s						
LUWI	**Luwuk**	**19.20**	**172**	P	**Pn**	**04 04 53.1**	**+1.1**
	comp=Z,407nm,1.2s						
KSM	**Kuching**	**19.20**	**212**	P	**Pn**	**04 04 52.2**	**+0.1**
KSM	**Kuching**	**19.20**	**212**	P	**Pn**	**04 04 53.0**	**+0.9**
KSM	**Kuching**	**19.20**	**212**	P	**Pn**	**04 04 51.9**	**-0.2**
TJN	**Taejon**	**19.25**	**18**	*de*P	**P**	**04 04 51.2**	**-0.2**
TJN	**Taejon**	**19.25**	**18**	P	**P**	**04 04 50.0**	**-1.4**
TJN				IAmb	IAmb	04 05 02.0	
	comp=Z,312nm,1.0s						
TJN	**Taejon**	**19.25**	**18**	P	**P**	**04 04 51.7**	**+0.3**
	comp=Z,326nm,0.9s						
BKB	**Balikpapan**	**19.53**	**190**	P	**P**	**04 04 54.5**	**-0.1**
BKB	**Balikpapan**	**19.53**	**190**	P	**P**	**04 04 54.2**	**-0.4**
CD2	**Chengdu**	**19.65**	**313**	P	**P**	**04 04 56.7**	**+0.8**
CD2				pP	Pn	04 04 58.1	+0.7
CD2				S	**S**	**04 08 36.7**	**+0.6**
CD2				pmax	pmax		
	comp=Z,550nm,1.2s						
CD2				pmax	pmax		
	comp=Z,2μm,4.3s						
CD2				LR	LR		
	comp=Z,7μm,16.7s						
CD2				LR	LR		
	comp=Z,8μm,16.7s						
MTKI	**Muara Teweh, K**	**19.66**	**196**	P	**Pn**	**04 04 57.9**	**+0.4**
	comp=Z,3μmcomp=Z,19μmcomp=Z,365nm,2.1s						
JMN	**Monobe**	**19.77**	**36**	P	**P**	**04 04 56.6**	**-0.5**
HNS	**HongShan**	**19.82**	**347**	P	**Pn**	**04 04 59.3**	**0.0**
HNS				pmax	pmax		
	comp=Z,310nm,1.5s						
HNS				LR	LR		
	comp=Z,5μm,15.9s						
HNS				LR	LR		
	comp=Z,6μm,15.9s						
STKI	**Sintang**	**19.90**	**207**	P	**Pn**	**04 05 00.7**	**+0.3**
	comp=Z,12μmcomp=Z,554nm,1.1s						
LBMI	**Labuha**	**19.95**	**158**	P	**Pn**	**04 05 00.6**	**-0.4**
	comp=Z,3μmcomp=Z,227nm,1.2s						
INCN	**Inchon**	**20.09**	**15**	P	**P**	**04 04 59.4**	**-1.2**
INCN				pmax	pmax		
	comp=Z,150nm,1.2s						
INCN				MLR	MLR		
	comp=Z,2μm,20.0s						
INCN	**Inchon**	**20.09**	**15**	P	**P**	**04 04 59.4**	**-1.2**
INCN	**Inchon**	**20.09**	**15**	P	Pn	04 05 02.1	-0.5
INCN	**Inchon**	**20.09**	**15**	P	**P**	**04 05 00.9**	**+0.3**
CHTO	**Chiang Mai**	**20.22**	**275**	P	**P**	**04 05 03.0**	**+0.8**
CHTO					**PcP**	**04 09 16.1**	**+0.2**
CHTO	**Chiang Mai**	**20.22**	**275**	P	**P**	**04 05 03.3**	**+1.2**
CHTO	**Chiang Mai**	**20.22**	**275**	P	Pn	04 05 03.6	-0.6
CM31	**Chiang Mai Arr**	**20.23**	**274**	P	**P**	**04 05 02.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.23**	**274**	P	Pn	04 05 04.4	+0.1
	comp=Z,62nm,1.0s,baz=85,slow=8.7,SNR=81						
CMAR				PcP	**PcP**	**04 09 16.8**	**+0.9**
	comp=Z,15nm,0.7s,baz=38,slow=0.5,SNR=27						
CMAR				LR	LR	04 13 19.1	
	comp=Z,1μm,18.2s,baz=95,slow=38						
KSAR	**Wonju Array Be**	**20.39**	**18**	P	**P**	**04 05 03.1**	**-0.7**
KSAR						04 09 15.2	
KSAR	**Wonju Array Be**	**20.39**	**18**	P	**P**	**04 05 03.1**	**-0.7**
KSAR					**PcP**	**04 09 15.2**	**-0.6**
KSRS	**Korea Array**	**20.41**	**18**	P	**P**	**04 05 03.7**	**-0.3**
	comp=Z,39nm,0.8s,baz=200,slow=11,SNR=91						
KSRS				PcP	**PcP**	**04 09 15.7**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=207,slow=2.0,SNR=7.6						
KSRS				LR	LR	04 14 14.3	
	comp=Z,3μm,18.5s,baz=205,slow=40						
HJU	**Haeju**	**20.43**	**12**	P	**P**	**04 05 04.2**	**0.0**
HJU				sP	**pP**	**04 05 14.3**	**+2.8**
HJU				S	Sn	04 08 56.9	+1.1
HJU				AmB			
	comp=Z,659nm,1.8s						
HJU				AMS	AMS		
	comp=N,386nm,2.6s						
HJU				AMS	AMS		
	comp=E,259nm,1.8s						
HJU				AMS	AMS		
	comp=Z,336nm,2.3s						
KS19	**Wonju Array Si**	**20.44**	**18**	P	**P**	**04 05 03.3**	**-1.1**
TIY	**Taiyuan**	**20.69**	**342**	*i*P	**P**	**04 05 08.6**	**+1.4**
TIY				S	**S**	**04 08 59.4**	**+2.4**
TIY				pmax	pmax		
	comp=Z,95nm,0.7s						
TIY				LR	LR		
	comp=Z,4μm,16.1s						
TIY				LR	LR		
	comp=Z,3μm,15.8s						
TIY				LR	LR		
	comp=Z,4μm,17.9s						
DL2	**Dalian**	**20.75**	**3**	*i*P	**P**	**04 05 09.0**	**+1.3**
DL2				sP	**sP**	**04 05 21.3**	**+2.5**
DL2				S	**S**	**04 09 00.0**	**+2.1**
DL2				pmax	pmax		
	comp=Z,79nm,1.2s						
DL2				pmax	pmax		
	comp=Z,650nm,3.8s						
DL2				LR	LR		
	comp=Z,4μm,16.8s						
DL2				LR	LR		
	comp=Z,2μm,15.6s						
DL2				LR	LR		
	comp=Z,5μm,15.9s						
SANI	**Sanana**	**20.82**	**164**	P	**P**	**04 05 05.7**	**-2.9**
SANI	**Sanana**	**20.82**	**164**	P	**P**	**04 05 08.0**	**-0.6**
TTSI	**Tana Toraja**	**21.03**	**181**	P	**P**	**04 05 12.8**	**+1.9**
	comp=Z,2μmcomp=Z,161nm,1.3s						
PYAG	**Pyongyang**	**21.41**	**12**	P	**P**	**04 05 21.0**	**+6.3**
PYAG				pP	**sP**	**04 05 26.6**	**+0.8**
PYAG				S	Sn	04 09 17.7	-1.6
PYAG				AmB			
	comp=Z,350nm,2.0s						
PYAG				AMS	AMS		
	comp=N,246nm,3.8s						
PYAG				AMS	AMS		
	comp=E,213nm,3.3s						
PYAG				AMS	AMS		
	comp=Z,87nm,1.4s						
SWI	**Sorong**	**21.75**	**149**	P	**P**	**04 05 19.9**	**+1.3**
	comp=Z,4μmcomp=Z,2μmcomp=Z,106nm,1.1s						
SIJI	**Sorong**	**21.78**	**149**	P	**P**	**04 05 19.3**	**+0.6**
	comp=Z,51nm,0.8s,baz=283,slow=23,SNR=4.3						
SIJI				PcP	**PcP**	**04 09 18.0**	**-0.9**
	comp=Z,16nm,0.8s,baz=145,slow=3.1,SNR=3.8						
SPSI	**Sidrap Palu**	**21.94**	**181**	P	**P**	**04 05 22.8**	**+2.1**
	comp=Z,4μmcomp=Z,3μmcomp=Z,221nm,1.1s						
BJT	**Baijiatuao**	**22.11**	**352**	P	**P**	**04 05 21.4**	**-0.9**
BJT				pmax	pmax		
	comp=Z,234nm,1.2s						
BJT	**Baijiatuao**

comp=Z,9µmcomp=Z,852nm,1.1s
BNSI Bone 22.37 180 P **P** **04 05 27.4 +2.1**
comp=Z,3µmcomp=Z,151nm,1.5s
JRMM Jerantut 22.42 233 P **P** **04 05 27.0 +1.2**
HHU Hamhung 22.63 15 P **P** **04 05 28.2 +0.3**
HHU pP **pP** **04 05 33.4 -1.9**
HHU S **S** **04 09 32.9 -1.2**
HHU AmB
comp=Z,637nm,2.1s
HHU AMS AMS
comp=N,437nm,3.0s
HHU AMS AMS
comp=E,588nm,4.0s
HHU AMS AMS
comp=Z,684nm,4.7s
INU Inuyama 22.72 38 P **P** **04 05 29.3 +0.4**
MYKOM Kota Tinggi 22.85 227 P **P** **04 05 30.8 +0.4**
MYKOM IAMs_20 IAMs_20 04 13 21.1
comp=Z,4µm,20.0s
KAPI Kappang 22.99 181 P **P** **04 05 32.8 +1.0**
comp=Z,100nm,0.9s,baz=14,slow=7.2,SNR=24
KAPI PcP **PcP** **04 09 21.8 +0.5**
comp=Z,5.7nm,0.4s,baz=289,slow=1.9,SNR=3.6
KAPI LR LR 04 15 09.6
comp=Z,3µm,19.8s,baz=358,slow=38
KAPI Kappang 22.99 181 P **P** **04 05 31.4 -0.4**
KAPI pmax pmax
comp=Z,206nm,1.2s
KAPI MLR MLR
comp=Z,2µm,20.0s
KAPI Kappang 22.99 181 P **P** **04 05 31.4 -0.4**
KAPI IAmb IAmb 04 05 36.4
comp=Z,206nm,1.1s
KAPI Kappang 22.99 181 P **P** **04 05 32.4 +0.7**
KAPI Kappang 22.99 181 P **P** **04 05 33.2 +1.4**
KULM Kulim 23.00 239 P **P** **04 05 33.0 +1.0**
TPRI Tanjung Pinang 23.03 224 P **P** **04 05 33.0 +0.7**
comp=Z,8µmcomp=Z,343nm,0.9s
AAI Ambon 23.04 159 P **P** **04 05 33.4 +1.1**
comp=Z,2µmcomp=Z,190nm,1.3s
JHJ Hachijo jima 2 23.04 46 LR LR 04 15 35.8
comp=Z,689nm,18.3s,baz=260,slow=39
LZH Lanzhou 23.04 324 ||P **P** **04 05 33.3 +0.9**
LZH pP pP 04 05 37.9 -1.4
LZH PP **PnPn** **04 06 01.8 +4.0**
LZH PcP **PcP** **04 09 22.6 +1.2**
LZH S **S** **04 09 42.7 +1.1**
LZH SS **SnSn** **04 10 17.4 +2.3**
LZH ScS **ScS** **04 16 42.9 -0.6**
LZH pmax pmax
comp=Z,310nm,1.5s
LZH pmax pmax
comp=Z,2µm,4.9s
LZH LR LR
comp=Z,4µm,14.1s
LZH LR LR
comp=Z,4µm,14.6s
LZH LR LR
comp=Z,8µm,14.6s
IPM Ipoh 23.18 237 P **P** **04 05 33.7 -0.1**
IPM **PcP** **04 09 21.1 -0.7**
IPM Ipoh 23.18 237 P **P** **04 05 34.6 +0.8**
SNY Shenyang 23.81 6 P **P** **04 05 39.7 +0.1**
SNY S **S** **04 09 52.6 -0.9**
SNY pmax pmax
comp=Z,17nm,0.6s
SNY pmax pmax
comp=Z,330nm,3.5s
SNY LR LR
comp=Z,2µm,18.3s
SNY LR LR
comp=Z,1µm,16.4s
SNY LR LR
comp=Z,4µm,16.2s
HHC Hu-ho-hao-te 23.86 344 *e*P **P** **04 05 41.4 +1.1**
HHC sP pwP 04 05 51.1 +0.5
HHC S **S** **04 09 57.0 +2.3**
HHC pmax pmax
comp=Z,190nm,1.5s
HHC pmax pmax
comp=Z,2µm,5.1s
HHC LR LR
comp=Z,5µm,17.1s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,6µm,16.5s
FAKI Fak Fak 24.02 149 P **P** **04 05 41.0 -0.8**
FAKI IAmb IAmb 04 06 05.1
comp=Z,167nm,1.3s
FAKI Fak Fak 24.02 149 P **P** **04 05 41.7 -0.1**
DSRI Dabo 24.06 221 P **P** **04 05 42.7 +0.4**
comp=Z,3µmcomp=Z,232nm,1.4s
BTO Baotou 24.08 341 *e*P **P** **04 05 44.2 +1.8**
BTO LR LR
comp=Z,10µm,17.5s
BTO LR LR
comp=Z,8µm,16.7s
GUMO Guam 24.10 97 LR LR 04 13 34.5
comp=Z,3µm,19.7s,baz=284,slow=33
GUMO Guam 24.10 97 IAMs_20 IAMs_20 04 13 03.1
comp=Z,3µm,20.0s
BSSI Bau Bau, Buton 24.10 179 P **P** **04 05 44.9 +2.3**
comp=Z,2µmcomp=Z,104nm,1.6s
TPI Tanjungpandan 24.17 212 P **P** **04 05 43.9 +0.7**
comp=Z,3µmcomp=Z,214nm,1.4s
MAJO Matsushiro 24.25 37||*e*P **P** **04 05 41.7 -2.1**
MAJO Matsushiro 24.25 37 P **P** **04 05 43.0 -0.8**
MAJO Matsushiro 24.25 37 P **P** **04 05 43.7 -0.1**
MJAR Matsushiro Arr 24.25 37 P **P** **04 05 42.5 -1.4**
comp=Z,9.2nm,1.0s,baz=228,slow=9.0,SNR=10
MJAR PcP **PcP** **04 09 24.0 +0.3**
comp=Z,5.7nm,0.8s,baz=188,slow=0.8,SNR=4.7
MJB9 Matsu-Tunnel 24.25 37 P **P** **04 05 43.1 -0.8**
BNDI Bandanaira 24.43 156 P **P** **04 05 47.6 +2.0**
comp=Z,630nm,1.2s
PPBI Pangkal Pinang 24.48 216 P **P** **04 05 46.7 +0.6**
comp=Z,13µmcomp=Z,233nm,1.5s
BWJI Bawean 24.96 198 P **P** **04 05 57.0 +6.6**
JMBI JAMBI 25.54 221 P **P** **04 05 58.6 +2.9**
comp=Z,6µmcomp=Z,513nm,1.0s
TSI Tuntungan 25.73 238 P **P** **04 05 59.5 +2.1**
comp=Z,207nm,0.5s
KMMI Kalianget 25.76 194 P **P** **04 05 58.8 +1.1**
PSI Prapat 25.85 236 P **P** **04 05 59.7 +0.9**
comp=Z,145nm,1.0s,baz=38,slow=6.2,SNR=102
PSI PcP **PcP** **04 09 27.8 0.0**
comp=Z,40nm,0.9s,baz=22,slow=1.1,SNR=11
PSI LR LR 04 15 48.0
comp=Z,2µm,19.4s,baz=60,slow=35
BKNI Bangkinang 25.86 229 IAMs_20 IAMs_20 04 15 52.8
comp=Z,3µm,18.0s
BKNI Bangkinang 25.86 229 P **P** **04 05 59.3 +0.6**
comp=Z,7µmcomp=Z,820nm,1.1s
BKNI Bangkinang 25.86 229 P **P** **04 06 00.8 +2.1**
PMBI Palembang 25.88 218 P **P** **04 05 59.6 +0.9**
PMBI Palembang 25.88 218 P **P** **04 06 00.4 +1.6**
comp=Z,430nm,0.5s
PMBI Palembang 25.88 218 P **P** **04 06 01.4 +2.6**
XLT XiLinHaoTe 25.95 353 ||*i*P **P** **04 05 59.7 +0.5**
XLT pP pP 04 06 05.2 -1.5
XLT sP pwP 04 06 09.0 -1.0
XLT PP **PnPn** **04 06 42.0 +4.6**
XLT PcP **PcP** **04 09 28.3 +0.9**
XLT S **S** **04 10 28.3 +0.4**
XLT sS pS 04 10 39.0 +3.2
XLT pmax pmax
comp=Z,160nm,1.3s
XLT pmax pmax
comp=Z,650nm,3.6s
XLT LR LR
comp=Z,260nm,17.8s
XLT LR LR
comp=Z,2µm,16.3s
XLT LR LR
comp=Z,3µm,18.3s
CN2 Changchun 25.98 9 *e*P **P** **04 05 59.5 0.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,3µm,17.0s
GRJI Gresik 26.02 198 P **P** **04 06 02.2 +2.1**
comp=Z,3µmcomp=Z,417nm,1.1s
UWJI Ujung Watu 26.05 201 P **P** **04 06 01.9 +1.6**
comp=Z,4µmcomp=Z,243nm,1.2s
LHMI Lhok Sumawe 26.12 243 P **P** **04 06 01.7 +0.7**
LHMI Lhok Sumawe 26.12 243 P **P** **04 06 03.0 +2.0**
comp=Z,5µmcomp=Z,494nm,1.1s
LHMI Lhok Sumawe 26.12 243 P **P** **04 06 03.0 +2.0**
comp=Z,491nm,1.1s
TBJI Tambak Boyo 26.12 199 P **P** **04 06 02.9 +1.9**
comp=Z,6µmcomp=Z,481nm,1.3s
KCSI Kotacane, Aceh 26.36 239 P **P** **04 06 02.6 -0.6**
comp=Z,52µmcomp=Z,3µmcomp=Z,349nm,1.0s
ABJI Asem Bagus 26.42 193 P **P** **04 06 05.1 +1.5**
comp=Z,4µmcomp=Z,215nm,1.1s
SRBI Singaraja 26.50 191 P **P** **04 06 06.1 +1.7**
comp=Z,2µmcomp=Z,193nm,1.0s
BLJI Banyuglugur 26.52 195 P **P** **04 06 05.5 +1.0**
comp=Z,2µmcomp=Z,200nm,1.3s
MMRI Maumere 26.65 176 P **P** **04 06 06.2 +0.5**
MMRI IAmb IAmb 04 06 08.8
comp=Z,194nm,1.4s
MMRI Maumere 26.65 176 P **P** **04 06 07.2 +1.4**
comp=Z,3µmcomp=Z,73nm,1.1s
MMRI Maumere 26.65 176 P **P** **04 06 07.9 +2.1**
TEZP TEZPUR 26.71 293 *e*P **P** **04 06 06.5 +0.3**
TEZP IAmb IAmb 04 06 10.1
comp=Z,160nm,1.2s
DGPR DIGLIPUR 26.74 263 *e*P **P** **04 06 06.9 +0.3**
SMRI Semarang 26.81 202 P **P** **04 06 09.5 +2.3**
comp=Z,4µmcomp=Z,310nm,1.1s
SMRI Semarang 26.81 202 P **P** **04 06 09.5 +2.3**
comp=Z,311nm,1.1s
PLAI Plampang 26.88 185 P **P** **04 06 08.6 +0.8**
comp=Z,3µmcomp=Z,4µmcomp=Z,240nm,1.1s
PLAI Plampang 26.88 185 P **P** **04 06 08.6 +0.8**
comp=Z,240nm,1.1s
GMJI Gumukmas 27.07 195 P **P** **04 06 09.8 +0.3**
comp=Z,2µmcomp=Z,190nm,1.4s
DNP Denpasar 27.08 191 P **P** **04 06 11.9 +2.3**
JAGI Jajag, Banyuwa 27.09 193 P **P** **04 06 09.7 0.0**
JAGI IAmb IAmb 04 06 11.3
comp=Z,127nm,1.1s
JAGI PcP **PcP** **04 09 29.2 -1.3**
JAGI Jajag, Banyuwa 27.09 193 P **P** **04 06 10.5 +0.8**
comp=Z,2µmcomp=Z,114nm,1.1s
JAGI Jajag, Banyuwa 27.09 193 P **P** **04 06 10.5 +0.8**
comp=Z,114nm,1.1s
IGBI Denpasar 27.23 191 P **P** **04 06 12.5 +1.6**
comp=Z,3µmcomp=Z,144nm,1.2s
PWJI Pagerwojo 27.27 198 P **P** **04 06 11.7 +0.4**
comp=Z,3µmcomp=Z,279nm,1.0s
SHL Shillong 27.31 291 P **P** **04 06 12.3 +0.4**
SHL pmax pmax
comp=Z,191nm,1.3s
SHL Shillong 27.31 291 P **P** **04 06 12.3 +0.4**
SHL IAmb IAmb 04 06 25.3
comp=Z,191nm,1.3s
SHL Shillong 27.31 291 *e*P **P** **04 06 11.7 -0.2**
SHL Shillong 27.31 291 P **P** **04 06 12.8 +0.9**
SNR=60
PBA Port Blair 27.32 260 P **P** **04 06 11.0 -0.9**
KLSI 27.34 215 P **P** **04 06 13.0 +1.0**
comp=Z,1µmcomp=Z,133nm,1.1s
KLI Kotabumi 27.42 215 P **P** **04 06 13.9 +1.2**
comp=Z,147nm,0.5s
MDJ Mudanjiang 27.56 15 P **P** **04 06 13.8 +0.1**
MDJ IAmb IAmb 04 06 26.4
comp=Z,139nm,1.4s
MDJ IAMs_20 IAMs_20 04 17 59.8
comp=Z,3µm,19.0s
MDJ Mudanjiang 27.56 15 P **P** **04 06 14.5 +0.8**
MDJ S **S** **04 10 55.4 +2.2**
MDJ pmax pmax
comp=Z,33nm,1.1s
MDJ pmax pmax
comp=Z,110nm,3.5s
MDJ LR LR
comp=Z,2µm,17.8s
MDJ LR LR
comp=Z,2µm,17.1s
MDJ LR LR
comp=Z,3µm,19.2s
MDJ Mudanjiang 27.56 15 P **P** **04 06 14.5 +0.8**
comp=Z,72nm,1.3s
YOGI Yogyakarta 27.57 202 P **P** **04 06 16.3 +2.2**
comp=Z,4µmcomp=Z,132nm,1.0s
UGM Wanagama 27.59 201 P **P** **04 06 14.9 +0.7**
UGM Wanagama 27.59 201 P **P** **04 06 15.6 +1.4**
comp=Z,5µmcomp=Z,314nm,1.5s
UGM Wanagama 27.59 201 P **P** **04 06 15.6 +1.4**
comp=Z,312nm,1.5s
MASI Maura Aman, Be 27.59 222 P **P** **04 06 15.5 +1.3**
comp=Z,5µmcomp=Z,401nm,0.9s
WBSI Waikabubak, Su 27.59 182 P **P** **04 06 13.9 -0.3**
comp=Z,2µmcomp=Z,170nm,0.9s
GUWA GUWAHATI 27.60 292 *e*P **P** **04 06 14.4 +0.2**
GUWA IAmb IAmb 04 06 25.4
comp=Z,31nm,0.7s
PCJI Pacitan 27.63 200 P **P** **04 06 16.0 +1.5**
comp=Z,3µmcomp=Z,319nm,1.0s
KPJI Karang Pucung 27.64 205 P **P** **04 06 16.4 +1.8**
comp=Z,2µmcomp=Z,156nm,0.9s
GTA Gaotai 27.64 324 ||P **P** **04 06 15.4 +0.7**
GTA PcP **PcP** **04 09 32.1 +0.5**
GTA S **S** **04 10 52.9 -2.1**
GTA PcS **PcS** **04 13 12.9 -0.7**
GTA ScS **ScS** **04 16 59.6 -2.8**
GTA pmax pmax
comp=Z,31nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,1µm,15.6s
GTA LR LR
comp=Z,2µm,15.6s
GTA LR LR
comp=Z,2µm,15.3s
LEM Lembang 27.74 208 P **P** **04 06 16.9 +1.1**
comp=Z,50nm,0.8s,baz=52,slow=6.0,SNR=13
LEM LR LR 04 17 32.6
comp=Z,1µm,21.0s,baz=26,slow=37
USA0B Ussuriysk Arra 27.82 18 P **P** **04 06 16.6 +0.6**
USA0B pmax pmax
comp=Z,51nm,1.3s
USA0B Ussuriysk Arra 27.82 18 P **P** **04 06 16.6 +0.6**
USRK Ussuriysk Ar. 27.82 18 P **P** **04 06 16.0 0.0**
comp=Z,9.3nm,0.8s,baz=210,slow=8.2,SNR=8.1
USRK PcP **PcP** **04 09 31.2 -0.5**
comp=Z,2.6nm,0.5s,baz=270,slow=1.3,SNR=5.6
USRK LR LR 04 18 51.3
comp=Z,975nm,18.2s,baz=196,slow=40
GSI Gunungsitoli 27.83 236 P **P** **04 06 15.4 -1.0**
GSI IAMs_20 IAMs_20 04 16 59.7
comp=Z,2µm,20.0s
GSI Gunungsitoli 27.83 236 P **P** **04 06 16.0 -0.4**
comp=Z,4µmcomp=Z,242nm,1.1s
GSI Gunungsitoli 27.83 236 P **P** **04 06 16.0 -0.4**
comp=Z,245nm,0.9s
DBJI Dramaga 27.90 210 P **P** **04 06 19.2 +2.2**
comp=Z,7µmcomp=Z,172nm,1.3s
LWLI Liwa 27.99 216 P **P** **04 06 16.8 -1.1**
KASI Kota Agung 28.16 215 P **P** **04 06 20.9 +1.6**
CMJI Cimerak 28.25 205 P **P** **04 06 22.3 +2.3**
comp=Z,1µmcomp=Z,102nm,0.9s
CNJI Cibinong 28.39 208 P **P** **04 06 21.9 +0.6**
comp=Z,2µmcomp=Z,228nm,1.3s
SISI Saibi 28.41 229 P **P** **04 06 21.4 -0.1**
comp=Z,2µmcomp=Z,194nm,1.3s
CGJI Cibinong 28.46 212 P **P** **04 06 23.0 +1.0**
comp=Z,2µmcomp=Z,64nm,1.3s
PPSI Pulau Pagai 28.77 226 P **P** **04 06 27.6 +2.8**
comp=Z,3µmcomp=Z,152nm,0.9s
GOMU GeErMu 28.78 314 P **P** **04 06 26.6 +1.4**
GOMU pP pP 04 06 30.0 -2.7
GOMU sP pwP 04 06 33.9 -2.0
GOMU S **S** **04 11 19.8 +6.4**
GOMU pmax pmax
comp=Z,25nm,1.4s
GOMU LR LR
comp=Z,3µm,17.7s
GOMU LR LR
comp=Z,3µm,18.3s
GOMU LR LR
comp=Z,4µm,18.5s
JTM Tenmabayashi 28.83 34 P **P** **04 06 23.1 -1.9**
JTM IAmb IAmb 04 06 47.4
comp=Z,109nm,1.1s
LSA Lhasa 28.91 299 P **P** **04 06 27.2 +0.7**
LSA 04 09 35.7
LSA pmax pmax
comp=Z,79nm,1.1s
LSA MLR MLR
comp=Z,2µm,22.0s
LSA Lhasa 28.91 299 P **P** **04 06 27.2 +0.7**
LSA IAmb IAmb 04 06 30.3
comp=Z,79nm,1.1s
LSA PcP **PcP** **04 09 35.7 +0.3**
LSA Lhasa 28.91 299 P **P** **04 06 28.5 +2.0**
LSA S **S** **04 11 16.9 +1.2**
LSA pmax pmax
comp=Z,81nm,1.2s
LSA Lhasa 28.91 299 P **P** **04 06 28.8 +2.3**
TEY Ternei 30.12 23 *e*P **P** **04 06 38.1 +1.7**
TEY *e* 04 11 29.3
GTK Tadong 30.52 293 *e*P **P** **04 06 42.7 +2.3**
GTK IAmb IAmb 04 06 44.2
comp=Z,51nm,0.7s
ERM Erimo 30.81 35 IAMs_20 IAMs_20 04 20 39.7
comp=Z,2µm,18.0s
HIA Hailar 31.08 359 *d*/P **P** **04 06 44.1 -0.8**
HIA pmax pmax
comp=Z,25nm,1.1s
HIA Hailar 31.08 359 P **P** **04 06 44.5 -0.4**
TAPN Taplejung 31.31 293 *e*P **P** **04 06 49.2 +1.7**
ODAN Odare 31.51 292 *e*P **P** **04 06 50.6 +1.4**
ULN Ulaanbaatar 31.57 343 *d*/P **P** **04 06 50.1 +0.7**
ULN pmax pmax
comp=Z,38nm,1.7s
ULN Ulaanbaatar 31.57 343 P **P** **04 06 49.0 -0.4**
ULN Ulaanbaatar 31.57 343 IAMs_20 IAMs_20 04 21 38.2
comp=Z,3µm,18.0s
ULN Ulaanbaatar 31.57 343 P **P** **04 06 50.6 +1.2**
SONM Songino Array 31.73 342 P **P** **04 06 51.3 +0.5**
comp=Z,13nm,0.9s,baz=158,slow=8.8,SNR=48
SONM PcP **PcP** **04 09 41.8 -0.1**
comp=Z,6.3nm,0.8s,baz=164,slow=3.3,SNR=6.3
SONM LR LR 04 20 56.2
comp=Z,2µm,18.1s,baz=156,slow=39
SONM Songino Array 31.73 342 P **P** **04 06 51.1 +0.3**
XMI Christmas Isla 31.81 208 P **P** **04 06 51.2 -0.4**
comp=Z,176nm,0.9s
XMIS Christmas Isla 31.86 208 P **P** **04 06 51.2 -0.8**
XMIS Christmas Isla 31.86 208 P **P** **04 06 51.5 -0.5**
comp=Z,142nm,1.3s
ASAJ Asahikawa 32.01 31 LR LR 04 20 11.2
comp=Z,1µm,19.7s,baz=200,slow=37
DRS Darwin Rock St 32.12 160 P **P** **04 06 53.5 -0.8**
comp=Z,15nm,0.7s
RAMN Ramite 32.22 292 *e*P **P** **04 06 57.1 +1.6**
comp=Z,87nm,0.8s
KLR Kul'dur 32.40 14 LR LR 04 21 31.2
comp=Z,2µm,18.6s,baz=195,slow=39
JIRN Jiri 32.69 293 *e*P **P** **04 07 01.2 +1.5**
KDU Kakadu 32.90 158 P **P** **04 06 59.9 -1.2**
comp=Z,31nm,0.8s
GUN Gumba 33.00 293 *e*P **P** **04 07 03.8 +1.3**
comp=Z,324nm,1.1s
PKI Pulchoki 33.36 293 *e*P **P** **04 07 06.5 +0.9**
PKIN Phulchoki 33.37 293 *e*P **P** **04 07 06.2 +0.6**
KKN Kakani 33.51 293 *e*P **P** **04 07 08.2 +1.5**
DMN Daman 33.63 293 *e*P **P** **04 07 09.4 +1.6**
comp=Z,168nm,1.1s
GKN Gorkha 34.10 293 *e*P **P** **04 07 12.5 +0.7**
comp=Z,210nm,1.0s
YSS Yuzh-Sakhalins 34.21 28 ||*i*P **P** **04 07 12.7 +0.5**
YSS *e*S **S** **04 12 39.1 +2.0**
YSS 04 17 27.0
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,300nm,3.6s
YSS MLR MLR
comp=Z,1µm,20.0s
YSS MLR MLR
comp=N,1µm,18.0s
YSS MLR MLR
comp=E,800nm,20.0s
YSS Yuzh-Sakhalins 34.21 28 P **P** **04 07 11.6 -0.7**
YSS IAMs_20 IAMs_20 04 20 28.4
comp=Z,2µm,21.0s
YSS Yuzh-Sakhalins 34.21 28 P **P** **04 07 12.0 -0.2**
CIT Chita 34.24 353 *e*P **P** **04 07 13.4 +0.8**
CIT *e* 04 07 26.0
KNRA Kununurra 34.61 165 P **P** **04 07 14.2 -1.8**
KNRA **PcP** **04 09 50.3 +0.1**
KNRA Kununurra 34.61 165 P **P** **04 07 15.5 -0.5**
comp=Z,44nm,0.8s
VLK Valmikinagar 34.68 292 *e*P **P** **04 07 20.9 +4.3**
RAGD RAYAGADA 34.83 278 *e*P **P** **04 07 17.9 -0.1**
DANN Dangsing 34.92 294 *e*P **P** **04 07 20.5 +1.4**
comp=Z,414nm,1.4s
ZAK Zakamensk 34.94 341 *e*P **P** **04 07 18.7 0.0**
ZAK *e* 04 09 50.5
ZAK pmax pmax
comp=Z,45nm,1.4s
ZAK pmax pmax
comp=Z,30nm,1.4s
KOLN Koldanda 34.98 293 *e*P **P** **04 07 21.0 +1.6**
comp=Z,234nm,1.1s
GRNR Gornyy 35.04 18 ||*i*P P 04 07 24.5 +5.1
GRNR pmax pmax
comp=N,3.0nm,1.1s
GRNR pmax pmax
comp=Z,8.0nm,0.8s
GRNR MLR MLR
comp=N,920nm,15.0s
GRNR MLR MLR
comp=E,300nm,15.0s
GRNR MLR MLR
comp=Z,1µm,15.0s
PYUN Piuthan 35.56 293 *e*P **P** **04 07 25.6 +1.2**
comp=Z,239nm,1.0s
UGL Uglegorsk 35.57 25 *e*P **P** **04 07 27.9 +3.9**
UGL pmax pmax
comp=Z,60nm,1.1s
UGL pmax pmax
comp=Z,430nm,4.0s
ZEA Zeya 35.97 7 *e*P **P** **04 07 28.0 +0.7**
ZEA *e*S **S** **04 13 03.6 -0.4**
ZEA pmax pmax
comp=Z,200nm,2.5s
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,50nm,1.5s
ZEA smax smax
comp=N,400nm,13.1s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
IRK Irkutsk 36.30 343 *e*P **P** **04 07 30.2 0.0**
IRK *e* 04 08 48.8
IRK *e*S **S** **04 13 13.1 +3.9**
IRK pmax pmax
comp=Z,109nm,2.4s
MOY Mondy 36.78 340 *e*P **P** **04 07 35.3 +0.9**
MOY pmax pmax
comp=Z,89nm,1.1s
KNGR Kungurtug, Tuv 37.14 336||*e*P **P** **04 07 38.4 +0.8**
TYV Tymovskoe 37.23 24 *e*P **P** **04 07 39.2 +1.1**
TYV *e*S **S** **04 13 30.4 +7.1**
TYV pmax pmax
comp=Z,11nm,1.6s
TYV pmax pmax
comp=Z,100nm,3.7s
TYV smax smax
comp=N,300nm,5.6s
TYV smax smax
comp=E,100nm,5.6s
WMQ Urumqi 37.49 320 *e*P **P** **04 07 42.7 +2.2**
WMQ sP pP 04 07 50.3 +2.2
WMQ PP **PnPn** **04 09 10.9 +3.7**
WMQ PcP **PcP** **04 09 58.8 +0.3**
WMQ S **S** **04 13 31.3 +3.7**
WMQ PcS **PcS** **04 13 49.4 +2.4**

WMQ ScS **ScS** **04 17 51.5 -0.8**
WMQ pmax pmax
comp=E,34nm,1.5s
WMQ pmax pmax
comp=E,100nm,3.8s
WMQ LR LR
comp=E,4μm,14.9s
WMQ LR LR
comp=E,3μm,19.1s
WMQ LR LR
comp=E,1μm,17.3s
COCO West Island 37.95 219 P **P** **04 07 44.4 -0.2**
COCO pmax pmax
comp=Z,532nm,1.5s
COCO West Island 37.95 219 P **P** **04 07 44.4 -0.2**
PMG Port Moresby 38.13 134 P **P** **04 07 44.7 -1.4**
comp=Z,10.0nm,0.7s,baz=351,slow=8.1,SNR=11
PMG Port Moresby 38.13 134*d* iP **P** **04 07 45.2 -0.9**
PMG pmax pmax
comp=Z,58nm,1.7s
PMG Port Moresby 38.13 134 P **P** **04 07 44.5 -1.6**
PMG Port Moresby 38.13 134 P **P** **04 07 46.9 +0.8**
comp=Z,41nm,1.4s
RABL Rabaul 38.49 122 P **P** **04 07 48.7 -0.5**
RABL Rabaul 38.49 122 P **P** **04 07 50.4 +1.1**
MDRS Chennai 38.80 268 *e*P **P** **04 07 53.1 +1.3**
COEN Coen 39.08 143 P **P** **04 07 52.4 -1.6**
COEN PcP **PcP** **04 10 03.8 0.0**
COEN Coen 39.08 143 P **P** **04 07 54.4 +0.3**
comp=Z,33nm,1.0s
JHNI Jhansi 39.29 288 *e*P **P** **04 07 53.7 -2.1**
PSA00 Pilbara Seismi 39.44 181 P **P** **04 07 55.5 -1.5**
PSA00 IAmb IAmb 04 07 57.3
comp=Z,118nm,1.1s
PSA00 PcP **PcP** **04 10 05.2 +0.5**
PSA00 Pilbara Seismi 39.44 181 P **P** **04 07 56.0 -1.0**
comp=Z,190nm,1.2s
HYB Hyderabad 39.65 276 *e*P **P** **04 07 59.3 +0.3**
HYBB Hyderabad (bro 39.65 276 *e*P **P** **04 07 59.1 +0.1**
HYBB IVmB_BB 04 08 08.6
comp=Z,190nm,3.1s
BOD Bodaibo 39.91 355 *e*P **P** **04 07 59.5 -1.1**
BOD pmax pmax
comp=Z,57nm,2.2s
PALK Pallekele 39.97 260 LR LR 04 23 38.8
comp=Z,1μm,20.6s,baz=167,slow=35
PALK Pallekele 39.97 260 P **P** **04 08 02.0 +0.3**
PALK PcP **PcP** **04 10 07.3 +0.5**
PALK Pallekele 39.97 260 IAMs_20 IAMs_20 04 23 17.1
comp=Z,1μm,20.0s
PALK Pallekele 39.97 260 P **P** **04 08 02.1 +0.5**
WB0 Warramunga Arr 40.12 159 P **P** **04 08 00.3 -2.4**
DDI Dehra Dun 40.13 296 *e*P **P** **04 08 03.2 +0.3**
DDI IAmb IAmb 04 08 06.8
comp=Z,53nm,1.0s
WRAB Tennant Creek 40.27 159*ce*P **P** **04 08 01.1 -2.8**
WRAB pmax pmax
comp=Z,56nm,0.8s
WRAB Tennant Creek 40.27 159 P **P** **04 08 01.5 -2.4**
WRAB PcP **PcP** **04 10 06.8 -0.6**
WRAB Tennant Creek 40.27 159 P **P** **04 08 02.7 -1.2**
WRA Warramunga Arr 40.27 159 P **P** **04 08 01.7 -2.3**
comp=Z,36nm,0.9s,baz=338,slow=9.2,SNR=67
WRA PcP **PcP** **04 10 07.7 +0.2**
comp=Z,27nm,0.9s,baz=344,slow=3.4,SNR=18
WRA S S 04 13 58.8 -11
comp=Z,3.5nm,0.9s,baz=334,slow=16,SNR=9.9
WRA Warramunga Arr 40.27 159 *i* P **P** **04 08 01.2 -2.8**
WRA pmax pmax
comp=Z,41nm,0.9s
BHPL Bhopal 40.28 285 *e*P **P** **04 08 04.0 -0.2**
BHPL IAmb IAmb 04 08 06.5
comp=Z,23nm,0.5s
WR0 Warramunga Arr 40.35 159 P **P** **04 08 02.3 -2.3**
WR0 PcP **PcP** **04 10 06.7 -1.0**
SMLA Simla 41.00 297 *e*P **P** **04 08 10.9 +1.0**
SMLA IAmb IAmb 04 08 22.8
comp=Z,66nm,2.0s
SALM Salem 41.07 267 *e*P **P** **04 08 11.6 +0.9**
ZSN Zaisan 41.13 323*d* iP **P** **04 08 11.9 +1.1**
ZSN *i* S **S** **04 14 25.7 +3.6**
ZSN Zaisan 41.13 323⇓ *i*P **P** **04 08 11.9 +1.1**
baz=323
ZSN *i* S **S** **04 14 25.8 +3.6**
baz=323
DHRM DHARAMSHALA 41.90 298 *e*P **P** **04 08 17.9 +0.3**
DHRM IAmb IAmb 04 08 21.3
comp=Z,90nm,1.5s
DHRM IAmb IAmb 04 08 28.2
comp=Z,198nm,1.4s
KOD Kodaikanal 42.13 265 *e*P **P** **04 08 20.4 +0.7**
MK31 Makanchi Array 42.29 321⇓ *e*P **P** **04 08 20.7 +0.4**
MKAR Makanchi Array 42.29 321 P **P** **04 08 21.4 +1.1**
comp=Z,23nm,0.9s,baz=115,slow=8.6,SNR=120
MKAR PcP **PcP** **04 10 13.4 -0.4**
comp=Z,23nm,0.7s,baz=104,slow=5.1,SNR=9.9
MKAR S **S** **04 14 40.7 +1.4**
comp=Z,3.3nm,1.2s,baz=112,slow=16,SNR=2.3
MKAR LR LR 04 27 08.9
comp=Z,999nm,19.1s,baz=115,slow=38
MKAR Makanchi Array 42.29 321*ce*P **P** **04 08 21.7 +1.4**
MKAR pmax pmax
comp=Z,23nm,0.9s
SHLS Shalkode 42.47 315*d* iP **P** **04 08 21.4 -0.6**
SHLS *i* S **S** **04 14 43.1 +0.7**
SHLS pmax pmax
comp=Z,38nm,1.4s
SHLS Shalkode 42.47 315⇓ *i*P **P** **04 08 21.5 -0.6**
comp=Z,38nm,1.4s,baz=315
SHLS *i* S **S** **04 14 43.1 +0.7**
baz=315
MAKZ Makanchi 42.48 321 P **P** **04 08 23.2 +1.3**
MAKZ pmax pmax
comp=Z,77nm,1.3s
MAKZ MLR MLR
comp=Z,900nm,21.0s
MAKZ Makanchi 42.48 321 P **P** **04 08 23.2 +1.3**
UZB Uzynbulak 42.77 315*d* iP **P** **04 08 26.1 +1.7**
UZB pmax pmax
comp=Z,51nm,1.2s
UZB Uzynbulak 42.77 315⇓ *i*P **P** **04 08 26.1 +1.7**
comp=Z,51nm,1.2s,baz=315
AJM Ajmer 42.83 290 *e*P **P** **04 08 24.7 -0.3**
QIS Mount Isa 42.87 153 P **P** **04 08 25.9 +0.7**
comp=Z,26nm,0.7s
MTSU Mount Surprise 43.10 145 P **P** **04 08 28.3 +1.1**
comp=Z,23nm,0.8s
KPKS Kokpek 43.12 315*d* iP **P** **04 08 28.6 +1.4**
KPKS pmax pmax
comp=Z,39nm,1.3s
KPKS Kokpek 43.12 315⇓ *i*P **P** **04 08 28.6 +1.4**
comp=Z,39nm,1.3s,baz=315
SATY Saty 43.15 314 *e*P **P** **04 08 29.1 +1.6**
SATY pmax pmax
comp=Z,34nm,0.9s
SATY Saty 43.15 314 *e*P **P** **04 08 29.1 +1.6**
comp=Z,34nm,0.9s,baz=314
ZHN Zhinishke 43.17 315 *e*P **P** **04 08 29.0 +1.3**
ZHN Zhinishke 43.17 315 *e*P **P** **04 08 29.0 +1.3**
baz=315
SKR Severo-Kuril's 43.22 33 *e*P **P** **04 08 32.4 +4.7**
SKR *e*S **S** **04 14 59.3 +6.5**
SKR pmax pmax
comp=Z,100nm,3.7s
SKR MLR MLR
comp=Z,500nm,20.0s
WRKA Warakurna 43.60 169 P **P** **04 08 30.0 -1.1**
comp=Z,107nm,1.2s
ASAR Alice Springs 43.62 162 P **P** **04 08 29.7 -1.6**
comp=Z,27nm,0.5s,baz=338,slow=6.7,SNR=200
ASAR PcP **PcP** **04 10 18.6 +0.2**
comp=Z,4.6nm,0.6s,baz=343,slow=3.4,SNR=4.3
ASAR S **S** **04 14 52.2 -7.0**
comp=Z,5.9nm,1.1s,baz=352,slow=25,SNR=8.8
ASAR Alice Springs 43.62 162 P **P** **04 08 29.4 -1.9**
KDJ Kajisay 43.67 313 P **P** **04 08 32.8 +1.0**
KDJ pmax pmax
comp=Z,48nm,0.9s
KDJ Kajisay 43.67 313 P **P** **04 08 32.8 +1.0**
KSH Kashi 43.73 309 P **P** **04 08 35.3 +3.1**
KSH pP pP 04 08 40.2 +0.3
KSH PP **PcP** **04 10 20.2 +1.3**
KSH PcS **PcS** **04 14 11.6 -0.2**
KSH S **S** **04 15 06.2 +5.3**
KSH ScS **ScS** **04 18 31.0 +1.1**

KSH pmax pmax
comp=Z,64nm,1.0s
KSH pmax pmax
comp=Z,320nm,4.0s
KSH LR LR
comp=Z,2μm,22.1s
KSH LR LR
comp=Z,1μm,18.9s
KSH LR LR
comp=Z,3μm,17.2s
TDK Taldyqorghan 43.91 317 *e*P **P** **04 08 34.9 +1.5**
TDK pmax pmax
comp=Z,82nm,1.2s
TDK Taldyqorghan 43.91 317 *e*P **P** **04 08 35.0 +1.5**
comp=Z,82nm,1.2s,baz=317
POO Poona 43.95 278 *e*P **P** **04 08 34.0 -0.2**
ARXS Arharly 43.98 316 P **P** **04 08 35.0 +0.9**
MDOK Medeo 44.12 314 *i* P **P** **04 08 36.7 +1.4**
MDOK *i* S **S** **04 15 11.4 +4.9**
MDOK Medeo 44.12 314 *i* P **P** **04 08 36.8 +1.4**
baz=314
MDOK *i* S **S** **04 15 11.4 +4.9**
baz=314
TNSS Tian-Shan 44.14 314 *e*P **P** **04 08 37.8 +2.0**
baz=314
AAA Alma-Ata 44.22 314 *e*P **P** **04 08 38.1 +2.0**
AAA pmax pmax
comp=Z,52nm,0.9s
AAA Alma-Ata 44.22 314 *e*P **P** **04 08 38.1 +2.0**
comp=Z,52nm,0.9s,baz=314
ULHL Ulahol 44.36 312 P **P** **04 08 39.7 +2.3**
SNR=34
YAK Yakutsk 44.37 6 LR LR 04 28 09.2
comp=Z,1μm,20.2s,baz=206,slow=37
YAK Yakutsk 44.37 6 *e*P **P** **04 08 36.1 -0.7**
YAK *e**PP **pP** **04 08 44.2 -1.0**
YAK *e* 04 10 19.9
YAK *e*S **S** **04 15 07.5 -1.8**
YAK *e**SS **sS** **04 15 22.9 0.0**
YAK *e*SS **SS** **04 18 19.8 -8.7**
YAK *e* 04 18 28.3
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=N,21nm,1.1s
YAK smax smax
comp=N,198nm,2.7s
YAK smax smax
comp=E,64nm,3.1s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=N,759nm,16.0s
YAK MLR MLR
comp=E,504nm,14.0s
YAK Yakutsk 44.37 6 P **P** **04 08 36.0 -0.7**
YAK IAmb IAmb 04 08 46.2
comp=Z,128nm,1.2s
YAK IAMs_20 IAMs_20 04 27 47.7
comp=Z,1μm,21.0s
CHKK Chushkaly 44.40 315 *e*P **P** **04 08 38.2 +0.8**
baz=315
MEEK Meekatharra 44.51 182 P **P** **04 08 37.2 -1.2**
comp=Z,185nm,1.1s
NIL Nilore 44.64 300 P **P** **04 08 39.8 +0.3**
NIL pmax pmax
comp=Z,124nm,0.9s
NIL Nilore 44.64 300 P **P** **04 08 39.8 +0.3**
NIL Nilore 44.64 300 P **P** **04 08 40.3 +0.8**
BOOM Boomskoye usch 44.65 313 P **P** **04 08 40.2 +0.5**
BOOM PcP **PcP** **04 10 21.9 -0.2**
KUU Kurty 44.86 315*d* iP **P** **04 08 42.5 +1.5**
KUU pmax pmax
comp=Z,112nm,1.1s
KUU Kurty 44.86 315⇓ *i*P **P** **04 08 42.6 +1.5**
comp=Z,112nm,1.1s,baz=315
ZAA0 Zalesovo Array 44.98 331 P **P** **04 08 41.8 0.0**
ZALV Zalesovo Beam 44.98 331 P **P** **04 08 42.2 +0.4**
comp=Z,20nm,0.9s,baz=121,slow=7.3,SNR=28
ZALV PcP **PcP** **04 10 21.4 -1.3**
comp=Z,5.9nm,0.7s,baz=106,slow=4.8,SNR=2.2
ZALV LR LR 04 28 23.5
comp=Z,1μm,18.9s,baz=130,slow=37
TKM2 Tokmak 2 45.03 313 P **P** **04 08 44.4 +1.7**
SNR=33
SEM Semipalatinsk 45.28 325 *e*P **P** **04 08 46.0 +1.5**
SEM pmax pmax
comp=Z,49nm,1.4s
SEM Semipalatinsk 45.28 325 *e*P **P** **04 08 46.0 +1.5**
comp=Z,49nm,1.4s,baz=325
KBK Karagaybulak 45.40 313 P **P** **04 08 47.9 +2.3**
SNR=20
PEA0B Petropavlovsk- 45.43 31 IAmb IAmb 04 08 54.8
comp=Z,66nm,1.1s
PETK Petropavlovsk- 45.43 31 P **P** **04 08 44.5 -0.9**
comp=Z,18nm,0.8s,baz=206,slow=5.8,SNR=31
PETK PcP **PcP** **04 10 24.0 -0.2**
comp=Z,11nm,0.8s,baz=234,slow=1.3,SNR=3.2
PETK Petropavlovsk- 45.43 31 P **P** **04 08 45.4 -0.1**
UCH Uchtor 45.58 312 P **P** **04 08 49.7 +2.3**
SNR=82
CHMS Chumysh 45.65 313 P **P** **04 08 49.3 +1.9**
SNR=18
AAK Ala-Archa 45.71 312 LR LR 04 29 26.0
comp=Z,3μm,20.9s,baz=106,slow=38
AAK Ala-Archa 45.71 312*d* iP **P** **04 08 50.0 +2.0**
AAK pmax pmax
comp=Z,34nm,1.1s
AAK Ala-Archa 45.71 312 P **P** **04 08 49.2 +1.1**
AAK Ala-Archa 45.71 312 P **P** **04 08 50.2 +2.2**
AAK Ala-Archa 45.71 312 *i* P **P** **04 08 50.7 +2.6**
SNR=11
CTA Charters Tower 45.74 145 P **P** **04 08 49.0 +0.7**
comp=Z,25nm,1.0s
PET Petropavlovsk 45.86 32 *e*P **P** **04 08 48.5 -0.3**
PET *e*S **S** **04 15 28.1 -2.9**
PET pmax pmax
comp=Z,55nm,0.8s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,900nm,17.0s
PET Petropavlovsk 45.86 32 P **P** **04 08 48.6 -0.1**
PET IAmb IAmb 04 09 03.1
comp=Z,49nm,1.1s
PET Petropavlovsk 45.86 32 P **P** **04 08 48.7 -0.1**
comp=Z,191nm,1.4s
SGDS Sogindy 45.87 314⇓ *i*P **P** **04 08 50.6 +1.4**
comp=Z,19nm,1.6s,baz=314
SGDS *e*S **S** **04 15 36.8 +5.0**
baz=314
USP Ospenovka 45.91 313 P **P** **04 08 51.4 +2.0**
SNR=24
AML Almayashu 46.13 311 P **P** **04 08 54.1 +2.4**
SNR=61
AML Almayashu 46.13 311 P **P** **04 08 53.6 +2.0**
AML Almayashu 46.13 311 *i* P **P** **04 08 53.8 +2.2**
SNR=62
EKS2 Erkin-Say 46.22 312 P **P** **04 08 54.3 +2.2**
SNR=27
KURK Kurchatov 46.33 324*d* iP **P** **04 08 53.3 +0.7**
KURK pmax pmax
comp=Z,222nm,1.7s
KURK Kurchatov 46.33 324 P **P** **04 08 52.7 +0.1**
KURK Kurchatov 46.33 324 IAMs_20 IAMs_20 04 30 34.5
comp=Z,2μm,18.0s
KURK Kurchatov 46.33 324 P **P** **04 08 53.7 +1.1**
KURBB Kurchatov Arra 46.34 324 LR LR 04 30 55.0
comp=Z,1μm,18.0s,baz=104,slow=39
KURBB Kurchatov Arra 46.34 324 P **P** **04 08 53.4 +0.8**
BTLS Baital 46.79 315*d* iP **P** **04 08 57.5 +1.2**
BTLS pmax pmax
comp=Z,23nm,1.3s
BTLS Baital 46.79 315⇓ *i*P **P** **04 08 57.6 +1.2**
comp=Z,23nm,1.3s,baz=315
MA2 Magadan 46.92 21 LR LR 04 31 40.9
comp=Z,455nm,18.6s,baz=222,slow=40
MA2 Magadan 46.92 21*c* iP **P** **04 08 56.7 -0.4**
MA2 pmax pmax
comp=Z,22nm,1.0s
MA2 Magadan 46.92 21 P **P** **04 08 56.7 -0.4**
MA2 IAmb IAmb 04 09 05.9
comp=Z,57nm,1.2s
MA2 Magadan 46.92 21 P **P** **04 08 56.9 -0.2**

comp=Z,47nm,1.3s
MORW Morawa 47.08 185 P **P** **04 08 58.2 -0.4**
MORW Morawa 47.08 185 P **P** **04 08 58.1 -0.5**
comp=Z,229nm,1.2s
BTK Batken 47.71 308 IAmb IAmb 04 09 31.9
comp=Z,33nm,0.9s
HNR Honiara 47.80 122 LR LR 04 26 54.6
comp=Z,996nm,21.2s,baz=250,slow=33
DZA Taraz 48.02 312 *e*P **P** **04 09 07.5 +1.6**
DZA pmax pmax
comp=Z,42nm,1.1s
DZA Taraz 48.02 312 *e*P **P** **04 09 07.5 +1.6**
comp=Z,42nm,1.1s,baz=312
OOD Oodnadatta 48.03 162 P **P** **04 09 04.8 -1.2**
comp=Z,79nm,0.8s
KBL Kabul 48.22 300 P **P** **04 09 08.9 +1.1**
KBL pmax pmax
comp=Z,112nm,1.4s
KBL Kabul 48.22 300 P **P** **04 09 08.9 +1.1**
KBL Kabul 48.22 300 P **P** **04 09 08.8 +1.1**
SNR=40
BLDU Ballidu 48.57 184 P **P** **04 09 09.1 -1.0**
comp=Z,143nm,1.1s
KKAR Karatay Array 48.65 312 P **P** **04 09 11.5 +0.7**
KKAR Karatay Array 48.65 312 P **P** **04 09 11.5 +0.7**
IUG Iuzhnay 48.76 311*d* iP **P** **04 09 13.3 +1.5**
IUG Iuzhnay 48.76 311⇓ *i*P **P** **04 09 13.4 +1.6**
baz=311
OTUK Ortayu 49.01 319 P **P** **04 09 14.8 +1.4**
FORT Forrest 49.19 171 P **P** **04 09 14.1 -0.8**
FORT Forrest 49.19 171 P **P** **04 09 13.9 -1.0**
comp=Z,339nm,1.0s
BRZS Berezniki 49.44 321*d* iP **P** **04 09 18.0 +1.4**
BRZS pmax pmax
comp=Z,39nm,1.7s
BRZS Berezniki 49.44 321⇓ *i*P **P** **04 09 18.1 +1.4**
comp=Z,39nm,1.7s,baz=321
KLBR Kellerberrin 49.48 183 P **P** **04 09 16.3 -0.8**
comp=Z,374nm,0.9s
KAAM Kaadhehdhoo 49.59 255 IAMs_20 IAMs_20 04 30 45.7
comp=Z,1μm,18.0s
KAAM Kaadhehdhoo 49.59 255 P **P** **04 09 16.9 -1.5**
INKA Innaminka 49.72 156 P **P** **04 09 20.2 +1.2**
comp=Z,118nm,1.1s
MULG Mulgathing 49.92 164 P **P** **04 09 19.3 -1.2**
comp=Z,91nm,1.4s
MTKN Mount Kenneth 49.95 185 P **P** **04 09 21.7 +1.1**
MUN Mundaring 49.96 184 P **P** **04 09 20.5 -0.2**
comp=Z,148nm,1.2s
SEY Seymchan 49.97 19*c* iP **P** **04 09 21.0 +0.5**
SEY pmax pmax
comp=Z,15nm,1.0s
QLP Quilpie 50.17 152 P **P** **04 09 21.5 -0.9**
comp=Z,52nm,0.8s
LCRK Leigh Creek 51.29 160 P **P** **04 09 30.3 -0.5**
comp=Z,126nm,1.1s
BRVK Borovoye 52.00 324*d* iP **P** **04 09 37.0 +1.1**
BRVK pmax pmax
comp=Z,73nm,1.7s
BRVK Borovoye 52.00 324 P **P** **04 09 36.3 +0.4**
BRVK Borovoye 52.00 324 IAMs_20 IAMs_20 04 32 28.5
comp=Z,919nm,20.0s
BRVK Borovoye 52.00 324 P **P** **04 09 37.5 +1.6**
RMQ Roma 52.27 147 P **P** **04 09 39.2 +1.0**
comp=Z,14nm,1.1s
RKGY Rocky Gully 52.52 183 P **P** **04 09 40.3 +0.4**
comp=Z,228nm,1.0s
BBOO Buckleboo 52.85 163 P **P** **04 09 41.3 -1.1**
BBOO Buckleboo 52.85 163 P **P** **04 09 41.4 -1.0**
comp=Z,144nm,1.2s
WHYH Whyalla 53.49 162 P **P** **04 09 46.9 -0.1**
comp=Z,28nm,1.1s
STKA Stephens Creek 53.76 157 P **P** **04 09 48.1 -0.9**
comp=Z,61nm,0.9s,baz=333,slow=7.8,SNR=90
STKA Stephens Creek 53.76 157 P **P** **04 09 48.8 -0.3**
STKA pmax pmax
comp=Z,14nm,1.0s
STKA Stephens Creek 53.76 157 P **P** **04 09 48.8 -0.3**
STKA Stephens Creek 53.76 157 P **P** **04 09 48.3 -0.8**
comp=Z,19nm,1.0s
TIXI Tiksi 53.77 3 LR LR 04 33 35.4
comp=Z,1μm,21.9s,baz=181,slow=37
TIXI Tiksi 53.77 3*c* iP **P** **04 09 47.9 -0.8**
TIXI pmax pmax
comp=Z,41nm,1.0s
TIXI Tiksi 53.77 3 P **P** **04 09 47.5 -1.2**
TIXI IAMs_20 IAMs_20 04 36 14.3
comp=Z,1μm,20.0s
NAPP Napperby 53.80 161 P **P** **04 09 49.2 -0.2**
comp=Z,73nm,1.0s
HTT Hallett 54.27 161 P **P** **04 09 52.4 -0.5**
comp=Z,80nm,1.4s
NRIK Noril'sk 55.04 346 P **P** **04 09 58.4 +0.5**
comp=Z,48nm,0.8s,baz=130,slow=6.9,SNR=37
NRIK LR LR 04 35 09.1
comp=Z,3μm,18.6s,baz=150,slow=38
NRIK Noril'sk 55.04 346*c* iP **P** **04 09 58.3 +0.4**
NRIK pmax pmax
comp=Z,51nm,0.8s
CMSA Cobar Meteorol 55.08 153 P **P** **04 09 59.0 +0.3**
comp=Z,48nm,1.6s
TWOA Tennyson Woods 55.65 162 P **P** **04 10 02.6 -0.1**
comp=Z,73nm,1.0s
JLN Jalan Bani Buh 56.94 285 P **P** **04 10 12.0 -0.3**
SANVU Saraoutou 57.03 123 P **P** **04 10 14.9 +2.0**
SANVU IAmb IAmb 04 10 18.6
comp=Z,86nm,1.5s
AB31 Akbulak array 57.17 317 *i* P **P** **04 10 13.9 +0.4**
ABKAR Akbulak array 57.17 317 P **P** **04 10 13.2 -0.3**
GEYT Alibeck 57.27 304 P **P** **04 10 15.8 +1.3**
comp=Z,23nm,1.0s,baz=69,slow=8.3,SNR=17
GEYT LR LR 04 38 28.4
comp=Z,2μm,19.2s,baz=88,slow=40
GYA0B ALIBECK ARRAY 57.27 304 P **P** **04 10 15.1 +0.7**
GYA0B IAmb IAmb 04 10 18.7
comp=Z,51nm,1.1s
BILL Bilibino 57.67 19*d* iP **P** **04 10 16.3 -0.4**
BILL *i* 04 10 24.6
BILL *e* 04 12 24.7
BILL *e*S **S** **04 18 18.4 +5.2**
BILL pmax pmax
comp=Z,34nm,1.7s
BILL MLR MLR
comp=Z,691nm,16.0s
BILL Bilibino 57.67 19 P **P** **04 10 16.5 -0.3**
BILL IAMs_20 IAMs_20 04 38 45.1
comp=Z,624nm,18.0s
KOUNC Koumac, New Ca 57.80 130 P **P** **04 10 18.7 +0.4**
BIDO Bidbid 57.94 287 P **P** **04 10 19.6 +0.2**
SNR=5.9
SMDO Samad 58.07 286 P **P** **04 10 19.9 -0.5**
JMDO Jabal Madar 58.11 285 P **P** **04 10 20.2 -0.4**
ARPS Mount Arapiles 58.27 160 P **P** **04 10 20.7 -0.6**
comp=Z,73nm,1.2s
MHTO MHTO 58.44 284 P **P** **04 10 22.1 -0.8**
SVE Sverdlovsk 58.49 326*ce*P **P** **04 10 23.6 +1.0**
SVE *e*S **S** **04 18 29.6 +5.4**
SVE pmax pmax
comp=Z,118nm,1.4s
SVE MLR MLR
comp=Z,1μm,21.0s
AKTO Aktyubinsk 58.60 318 LR LR 04 37 28.6
comp=Z,1μm,18.1s,baz=104,slow=38
AKTO Aktyubinsk 58.60 318 P **P** **04 10 23.7 +0.1**
HOQ Hoqain 58.67 287 P **P** **04 10 24.3 -0.2**
SNR=8.2
BSY Bisya 58.88 286 P **P** **04 10 25.8 -0.2**
DQM DQM 59.00 283 P **P** **04 10 26.3 -0.5**
BANOM Banah 59.30 290 P **P** **04 10 29.3 +0.5**
BANOM Banah 59.30 290 *i* P **P** **04 10 29.5 +0.6**
SNR=8.7
SOHO SOHO 59.30 288 P **P** **04 10 28.8 -0.1**
SOHO SOHO 59.30 288 *i* P **P** **04 10 28.3 -0.6**
SNR=6.3
ARQ Araqi 59.42 287 P **P** **04 10 29.5 -0.2**
SHME Shamm 59.43 290 P **P** **04 10 30.2 +0.5**
ARU Arti 59.50 325 LR LR 04 38 31.2
comp=Z,1μm,18.1s,baz=87,slow=38
ARU Arti 59.50 325*c* iP **P** **04 10 29.5 -0.1**
ARU 04 12 38.3
ARU S **S** **04 18 43.1 +5.8**
ARU SS **SS** **04 22 29.5 -3.0**
ARU SSS SSS 04 25 07.1
ARU pmax pmax
comp=Z,37nm,1.1s
ARU MLR MLR

comp=Z,1µm,17.0s
ARU Arti 59.50 325 P **P** **04 10 29.2 -0.4**
ARU IAmb IAmb 04 10 40.7
comp=Z,84nm,1.4s
ARU IAMs_20 IAMs_20 04 38 26.9
comp=Z,1µm,18.0s
UOSS Minazif 59.50 289 P **P** **04 10 30.2 -0.1**
UOSS Minazif 59.50 289 P **P** **04 10 30.0 -0.3**
HATD Hatta, Dubai 59.58 289 P **P** **04 10 31.3 +0.5**
SNR=6.5
HATD Hatta, Dubai 59.58 289 P **P** **04 10 31.5 +0.7**
ASHO Ashiyiah 59.66 288 P **P** **04 10 31.8 +0.4**
SNR=11
ASHO Ashiyiah 59.66 288 *i* P **P** **04 10 31.5 +0.1**
SNR=9.3
BRAT Ballarat 59.69 158 P **P** **04 10 31.7 +0.6**
comp=Z,16nm,1.1s
CAN Canberra 59.74 153 P **P** **04 10 32.1 +0.5**
CAN pmax pmax
comp=Z,19nm,0.9s
CAN Canberra 59.74 153 P **P** **04 10 32.0 +0.5**
CAN Canberra 59.74 153 P **P** **04 10 32.2 +0.6**
comp=Z,61nm,1.6s
CNB Canberra Magne 59.89 153 P **P** **04 10 33.1 +0.5**
comp=Z,59nm,1.1s
UMQ Umm Al-Quwin 59.92 289 P **P** **04 10 34.1 +1.1**
UMQ Umm Al-Quwin 59.92 289 P **P** **04 10 34.2 +1.1**
ALNE Al Ain 60.02 288 P **P** **04 10 34.2 +0.4**
SNR=8.2
ALNE Al Ain 60.02 288 *i* P **P** **04 10 33.8 0.0**
SNR=6.4
FAQ Al Faqa, Dubai 60.08 289 P **P** **04 10 34.2 0.0**
TOO Toolangi 60.27 157 P **P** **04 10 35.8 +0.6**
TOO pmax pmax
comp=Z,58nm,0.8s
TOO Toolangi 60.27 157 P **P** **04 10 35.8 +0.6**
TOO Toolangi 60.27 157 P **P** **04 10 35.6 +0.4**
comp=Z,90nm,1.4s
DZM Mont Dzumac 60.32 130 *e*S **S** **04 18 50.9 +2.0**
comp=Z,366nm,28.0s
DZM *e*LR LR 04 28 23.6
comp=Z,500nm,27.9s
ASUD Al Ashush, Dub 60.33 288 P **P** **04 10 36.4 +0.5**
ASUD Al Ashush, Dub 60.33 288 P **P** **04 10 36.6 +0.7**
GEXS Deakin Univers 60.40 158 P **P** **04 10 35.1 -0.8**
UMZA Um Al Zommool 60.75 286 P **P** **04 10 38.4 -0.4**
MZWR Madinat Zayed 61.76 288 P **P** **04 10 45.2 -0.4**
DMTO DMTO 61.82 281 P **P** **04 10 46.0 -0.1**
MZR Muzera 62.24 287 P **P** **04 10 48.6 -0.3**
SNR=7.9
MZR Muzera 62.24 287 P **P** **04 10 47.8 -1.1**
DOK Doka 62.41 282 P **P** **04 10 49.4 -0.6**
SNR=6.3
RBK Rabkut 62.55 281 P **P** **04 10 50.9 -0.2**
WHFO Wadi Hawf 62.88 281 P **P** **04 10 52.2 -1.0**
SNR=8.0
ABTO Aybut 63.43 281 P **P** **04 10 56.3 -0.7**
SNR=13
SOCY Socotra 63.95 275 P **P** **04 10 59.1 -1.3**
SOCY Socotra 63.95 275 P **P** **04 10 59.1 -1.3**
SNR=9.0
TRNA Turayna 64.02 289 P **P** **04 11 00.7 0.0**
GAMB Gambell 64.23 27 IAmb IAmb 04 11 17.5
comp=Z,30nm,1.0s
GAMB Gambell 64.23 27 P **P** **04 11 01.9 +0.6**
baz=258
SAKB Bahrain 64.44 291 P **P** **04 11 03.6 +0.2**
KIRV Kirov 64.73 327 LR LR 04 41 38.6
comp=Z,2µm,18.3s,baz=98,slow=38
MAK Makhachkala 65.36 310 *e*P P 04 11 03.0 -6.0
MAK *e*S **S** **04 19 47.4 -4.0**
MAK *e*SS **SS** **04 23 58.4 -6.2**
MAK pmax pmax
comp=Z,12nm,0.3s
MAK MLR MLR
comp=Z,696nm,14.0s
TAU Tasmania Unive 65.64 158 P **P** **04 11 11.7 +1.0**
TAU pmax pmax
comp=Z,59nm,1.2s
TAU Tasmania Unive 65.64 158 P **P** **04 11 11.7 +1.0**
TAU IAmb IAmb 04 11 12.0
comp=Z,59nm,1.2s
TAU Tasmania Unive 65.64 158 P **P** **04 11 10.8 +0.1**
TNA Tin City 66.15 26 IAmb IAmb 04 11 24.7
comp=Z,41nm,1.5s
TNA Tin City 66.15 26 P **P** **04 11 14.5 +0.8**
baz=261
GROC Groznyy 66.59 310 *e*P **P** **04 11 17.2 +0.2**
GROC *e* 04 11 47.5
GROC *e*S **S** **04 20 07.6 +1.1**
GROC *e* 04 21 11.0
GROC pmax pmax
comp=Z,41nm,1.1s
GROC MLR MLR
comp=Z,315nm,11.0s
PRGR Permogore 66.92 330 *e*P **P** **04 11 16.9 -1.8**
MSVF Nonsavu 67.08 119 LR LR 04 38 46.8
comp=Z,746nm,19.0s,baz=336,slow=34
MSVF Nonsavu 67.08 119 P **P** **04 11 21.9 +1.3**
MSVF pmax pmax
comp=Z,83nm,1.1s
MSVF Nonsavu 67.08 119 P **P** **04 11 21.9 +1.3**
MSVF Nonsavu 67.08 119 P **P** **04 11 21.3 +0.7**
ANM Nome 67.09 27 IAmb IAmb 04 11 30.1
comp=Z,51nm,1.4s
ANM Nome 67.09 27 P **P** **04 11 20.7 +0.9**
baz=264
GNI Garni 67.61 307 *c i* P **P** **04 11 24.6 +0.9**
GNI pmax pmax
comp=Z,62nm,1.3s
GNI Garni 67.61 307 P **P** **04 11 24.4 +0.7**
GNI IAmb IAmb 04 11 30.8
comp=Z,68nm,1.2s
GNI Garni 67.61 307 P **P** **04 11 24.8 +1.0**
GNI Garni 67.61 307 P **P** **04 11 25.1 +1.3**
MSEY Mahe Island 67.72 257 P **P** **04 11 24.5 -0.2**
MSEY pmax pmax
comp=Z,98nm,1.5s
MSEY MLR MLR
comp=Z,600nm,18.0s
MSEY Mahe Island 67.72 257 P **P** **04 11 24.5 -0.2**
MSEY Mahe Island 67.72 257 IAMs_20 IAMs_20 04 42 14.0
comp=Z,556nm,18.0s
MSEY Mahe Island 67.72 257 P **P** **04 11 24.0 -0.7**
MSEY Mahe Island 67.72 257 P **P** **04 11 24.9 +0.2**
ZEI Tsey 68.01 310 *e*P **P** **04 11 25.6 -0.7**
ZEI pmax pmax
comp=Z,52nm,1.4s
NCK Nalchik 68.18 310 ⇑ *e*P **P** **04 11 27.6 +0.5**
ONI Oni 68.36 309 IAmb IAmb 04 11 48.3
comp=Z,35nm,1.0s
RDOG Red Dog Mine 68.42 23 IAmb IAmb 04 11 38.9
comp=Z,42nm,1.3s
RDOG Red Dog Mine 68.42 23 P **P** **04 11 28.9 +0.8**
baz=265
AKH Akhalkalaki 68.44 308 ⇑P **P** **04 11 29.2 +0.3**
GOF Gofitskoye 68.45 312 ⇑ *e*P **P** **04 11 29.5 +0.8**
GOF pmax pmax
comp=Z,23nm,1.4s
KBZ Khabaz 68.66 311 P **P** **04 11 30.1 0.0**
comp=Z,21nm,1.0s,baz=97,slow=3.3,SNR=44
KBZ LR LR 04 45 04.4
comp=Z,1µm,18.7s,baz=84,slow=39
KIV Kislovodsk 68.79 311 ⇓P **P** **04 11 31.3 +0.3**
KIV Kislovodsk 68.79 311 *e*P **P** **04 11 31.1 +0.1**
KIV *e* 04 14 03.3
KIV *e*S **S** **04 20 36.4 +3.3**
KIV *e*SS **SS** **04 25 03.7 +5.7**
KIV pmax pmax
comp=Z,46nm,1.1s
KIV pmax pmax
comp=Z,17nm,2.9s
KIV MLR MLR
comp=Z,1µm,17.0s
KIV Kislovodsk 68.79 311 P **P** **04 11 31.0 -0.1**
KIV IAmb IAmb 04 11 34.7
comp=Z,42nm,1.0s
KIV Kislovodsk 68.79 311 P **P** **04 11 31.4 +0.3**
KIV Kislovodsk 68.79 311 *i* P **P** **04 11 31.2 +0.3**
SNR=17
NEY Neytrino 68.83 310 ⇓ *e*P **P** **04 11 31.4 0.0**
NEY pmax pmax
comp=Z,6.0nm,0.9s
GEVA Gevas 69.10 305 IAmb IAmb 04 11 39.1
comp=Z,55nm,1.2s

CHVG Ch'k'valeri 69.35 310 ⇑P **P** **04 11 35.2 +0.8**
CHVG Ch'k'valeri 69.35 310 ⇑P **P** **04 11 35.2 +0.8**
RAYN Ar Rayn 69.37 289 P **P** **04 11 34.5 -0.4**
RAYN pmax pmax
comp=Z,44nm,1.0s
RAYN MLR MLR
comp=Z,500nm,21.0s
RAYN Ar Rayn 69.37 289 P **P** **04 11 34.5 -0.4**
RAYN IAmb IAmb 04 11 36.1
comp=Z,44nm,1.0s
RAYN Ar Rayn 69.37 289 IAMs_20 IAMs_20 04 46 03.4
comp=Z,492nm,21.0s
RAYN Ar Rayn 69.37 289 P **P** **04 11 35.1 +0.2**
RAYN Ar Rayn 69.37 289 *i* P **P** **04 11 35.0 +0.2**
SNR=12
KLMR Klimovskoe 69.85 329 *e*P **P** **04 11 35.1 -2.0**
KLMR *e* 04 14 09.0
KLMR *e*PPP PPP 04 15 51.8
KLMR pmax pmax
comp=Z,56nm,1.5s
KLMR Klimovskoe 69.85 329 *e*P **P** **04 11 35.1 -2.0**
KLMR AMP 04 11 49.1
comp=Z,56nm,1.5s
KLMR *e*PP **PP** **04 14 09.0 -2.5**
KLMR *e*PPP PPP 04 15 51.8
KLMR LQ LQ 04 36 41.4
KLMR LQ LQ 04 36 41.4
KLMR LR LR 04 42 15.3
GURO Guroymak-BITLI 69.87 305 IAmb IAmb 04 11 41.7
comp=Z,36nm,1.1s
CHGN Chignik 70.34 36 P **P** **04 11 39.1 -1.1**
baz=273
VORR Voronezh 70.48 319 ⇓ *i*P **P** **04 11 41.0 -0.1**
VORR pmax pmax
comp=Z,40nm,1.4s
GCSA Galena City Sc 70.75 27 P **P** **04 11 43.6 +1.2**
baz=272,SNR=13
A21K Barrow 70.78 20 IAmb IAmb 04 11 52.6
comp=Z,70nm,1.0s
A21K Barrow 70.78 20 P **P** **04 11 43.3 +0.8**
baz=270
SOC Sochi 70.97 311 *e*P **P** **04 11 43.1 -1.2**
SOC *e* 04 14 19.8
SOC *e*PPP PPP 04 16 03.3
SOC *e*S **S** **04 21 00.5 +2.1**
SOC *e*SS **SS** **04 25 29.1 -2.3**
SOC pmax pmax
comp=Z,23nm,0.7s
SOC MLR MLR
comp=Z,1µm,18.0s
MOS Moscow 71.10 324 *e*P **P** **04 11 43.2 -1.6**
MOS *e* 04 12 03.1
MOS pmax pmax
comp=Z,36nm,1.2s
TTA Tatalina 71.20 29 P **P** **04 11 45.2 -0.2**
TTA pmax pmax
comp=Z,46nm,1.3s
TTA Tatalina 71.20 29 P **P** **04 11 45.2 -0.2**
TTA IAmb IAmb 04 11 47.3
comp=Z,46nm,1.3s
TTA Tatalina 71.20 29 P **P** **04 11 46.0 +0.6**
baz=273,SNR=13
SVW2 Sparrevohn 71.52 31 IAmb IAmb 04 12 04.0
comp=Z,43nm,1.2s
OBN Obninsk 71.75 323 LR LR 04 45 25.2
comp=Z,254nm,19.0s,baz=66,slow=38
OBN Obninsk 71.75 323 ⇓ *i*P **P** **04 11 48.3 -0.4**
OBN *i* 04 11 58.6
OBN *e* 04 14 27.3
OBN *e*S **S** **04 21 12.7 +5.7**
OBN *e*SS **SS** **04 25 42.8 +0.1**
OBN pmax pmax
comp=Z,30nm,1.0s
OBN MLR MLR
comp=Z,882nm,17.0s
OBN Obninsk 71.75 323 P **P** **04 11 48.4 -0.4**
OBN IAmb IAmb 04 11 52.5
comp=Z,23nm,0.6s
L19K White Mountain 71.78 29 IAmb IAmb 04 11 51.1
comp=Z,81nm,1.2s
L19K White Mountain 71.78 29 P **P** **04 11 50.0 +1.1**
baz=274,SNR=14
P18K Big Mountain, 71.82 32 IAmb IAmb 04 11 60.0
comp=Z,69nm,1.2s
P18K Big Mountain, 71.82 32 P **P** **04 11 49.6 +0.5**
baz=275
J20K Nowinta River 71.96 27 IAmb IAmb 04 11 52.2
comp=Z,84nm,1.4s
J20K Nowinta River 71.96 27 P **P** **04 11 51.0 +1.1**
baz=274
M19K Big River Lodg 72.03 30 IAmb IAmb 04 12 04.1
comp=Z,44nm,1.1s
M19K Big River Lodg 72.03 30 P **P** **04 11 51.5 +1.2**
baz=275
K20K Telida 72.06 28 IAmb IAmb 04 11 52.9
comp=Z,72nm,1.4s
K20K Telida 72.06 28 P **P** **04 11 51.6 +1.1**
baz=275
N19K Bonanza Creek 72.07 31 IAmb IAmb 04 12 01.8
comp=Z,82nm,1.3s
N19K Bonanza Creek 72.07 31 P **P** **04 11 51.5 +0.8**
baz=275
O19K Port Alsworth 72.21 32 P **P** **04 11 52.3 +1.0**
O19K IAmb IAmb 04 11 53.2
comp=Z,63nm,0.9s
O19K Port Alsworth 72.21 32 P **P** **04 11 52.4 +1.0**
baz=275,SNR=10.0
APA Apatity 72.21 336 ⇓ *i*P **P** **04 11 50.4 -0.9**
APA *i* 04 12 03.4
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,2µm,17.0s
L20K Farewell, AK 72.22 29 P **P** **04 11 52.5 +1.0**
baz=275
H21K Melozitna Rive 72.41 26 IAmb IAmb 04 11 55.4
comp=Z,80nm,1.1s
H21K Melozitna Rive 72.41 26 P **P** **04 11 53.6 +1.1**
baz=275
ANN Anapa 72.44 312 *e*P **P** **04 11 50.4 -2.7**
ANN *e* 04 12 02.3
ANN *e*S **S** **04 21 13.3 -1.9**
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=N,1µm,17.0s
ANN MLR MLR
comp=Z,840nm,18.0s
SII Sitkinak Islan 72.66 35 P **P** **04 11 54.6 +0.4**
baz=277
CHUM Lake Minchumin 72.79 28 P **P** **04 11 55.8 +1.1**
baz=276,SNR=17
I21K Tanana 72.80 26 IAmb IAmb 04 11 57.2
comp=Z,68nm,1.1s
I21K Tanana 72.80 26 P **P** **04 11 56.1 +1.2**
baz=276,SNR=26
CAST Castle Rocks 72.94 28 P **P** **04 11 56.5 +0.7**
baz=276,SNR=40
PPLA Purkeypile 72.95 29 IAmb IAmb 04 12 16.3
comp=Z,86nm,1.3s
PPLA Purkeypile 72.95 29 P **P** **04 11 56.7 +0.7**
baz=276,SNR=6.3
OHAK Old Harbor 73.07 35 IAmb IAmb 04 11 57.4
comp=Z,53nm,0.8s
OHAK Old Harbor 73.07 35 P **P** **04 11 56.6 0.0**
baz=277
SPCR Spurr Chakacha 73.14 30 P **P** **04 11 57.5 +0.5**
baz=277,SNR=7.1
COLD Coldfoot 73.29 24 P **P** **04 11 58.5 +0.8**
baz=277,SNR=7.2
MLY Manley 73.34 26 IAmb IAmb 04 12 00.1
comp=Z,70nm,1.1s
MLY Manley 73.34 26 P **P** **04 11 59.0 +0.9**
baz=277,SNR=61
BPAW Bear Paw Mtn. 73.34 27 P **P** **04 11 58.8 +0.7**
baz=277,SNR=42
TOLK Toolik Lake Re 73.36 22 IAmb IAmb 04 11 60.0
comp=Z,41nm,0.9s
TOLK Toolik Lake Re 73.36 22 P **P** **04 11 58.9 +0.7**
baz=277,SNR=27
KDAK Kodiak Island 73.38 34 LR LR 04 43 25.1
comp=Z,188nm,21.8s,baz=274,slow=35
KDAK Kodiak Island 73.38 34 P **P** **04 11 58.7 +0.3**
KDAK pmax pmax
comp=Z,52nm,0.9s
KDAK Kodiak Island 73.38 34 P **P** **04 11 58.7 +0.3**

KDAK IAmb IAmb 04 12 01.6
comp=Z,52nm,0.8s
KDAK Kodiak Island 73.38 34 P **P** **04 11 58.3 0.0**
baz=278
KTH Kantishna Hill 73.44 28 IAmb IAmb 04 12 01.1
comp=Z,43nm,1.0s
H23K Yukon River 73.73 25 P **P** **04 12 01.6 +1.2**
baz=278
TRF Thorofare Moun 73.74 28 IAmb IAmb 04 12 28.6
comp=Z,56nm,1.2s
TRF Thorofare Moun 73.74 28 P **P** **04 12 01.8 +1.1**
baz=278
CUT Chulitna 73.89 29 P **P** **04 12 01.1 -0.2**
baz=278,SNR=8.6
I23K Minto, Yukon-K 73.90 26 IAmb IAmb 04 12 03.8
comp=Z,59nm,1.1s
I23K Minto, Yukon-K 73.90 26 P **P** **04 12 02.0 +0.7**
baz=278,SNR=30
BRLK Bradley Lake 73.98 32 P **P** **04 12 02.3 +0.4**
BRLK IAmb IAmb 04 12 03.5
comp=Z,38nm,0.9s
BWN Browne 74.00 27 IAmb IAmb 04 12 04.8
comp=Z,66nm,0.9s
BRSE Bradley Lake S 74.05 32 P **P** **04 12 01.9 -0.5**
baz=278
M22K Willow 74.06 30 P **P** **04 12 02.1 -0.2**
baz=278,SNR=14
NEA2 Nenana 74.10 27 IAmb IAmb 04 12 04.0
comp=Z,61nm,1.0s
NEA2 Nenana 74.10 27 P **P** **04 12 03.0 +0.5**
baz=279,SNR=36
MCK McKinley 74.29 28 P **P** **04 12 03.6 -0.1**
baz=279,SNR=37
RC01 Rabbit Creek A 74.34 30 P **P** **04 12 03.8 -0.2**
baz=279
H24K Noodor Dome 74.41 25 IAmb IAmb 04 12 06.5
comp=Z,53nm,1.1s
H24K Noodor Dome 74.41 25 P **P** **04 12 05.3 +1.0**
baz=279,SNR=39
O22K Cooper Landing 74.44 31 P **P** **04 12 04.3 -0.2**
baz=279
PUL Pulkovo 74.50 328 ⇓ *e*P **P** **04 12 05.1 +0.2**
PUL pmax pmax
comp=Z,51nm,0.4s
WRH Wood River Hil 74.54 27 IAmb IAmb 04 12 07.1
comp=Z,47nm,1.0s
PMR Palmer 74.55 30 IAmb IAmb 04 12 05.8
comp=Z,58nm,1.0s
PMR Palmer 74.55 30 P **P** **04 12 04.7 -0.4**
baz=279,SNR=13
TCOL CIGO, UAF Yank 74.57 26 IAmb IAmb 04 12 07.7
comp=Z,43nm,1.1s
TCOL CIGO, UAF Yank 74.57 26 P **P** **04 12 05.2 0.0**
baz=280,SNR=5.9
COLA College 74.58 26 ⇑P **P** **04 12 05.1 -0.1**
COLA College 74.58 26 P **P** **04 12 05.2 -0.1**
COLA IAmb IAmb 04 12 07.6
comp=Z,36nm,0.9s
BNN Bunyan 74.60 306 IAmb IAmb 04 12 20.0
comp=Z,47nm,1.1s
GHO Glory Hole Cre 74.61 30 IAmb IAmb 04 12 06.6
comp=Z,57nm,1.1s
SEW Seward 74.64 31 IAmb IAmb 04 12 11.2
comp=Z,61nm,1.1s
SEW Seward 74.64 31 P **P** **04 12 05.5 -0.1**
baz=280
POKR Poker Plat Res 74.71 26 IAmb IAmb 04 12 08.4
comp=Z,48nm,1.0s
POKR Poker Plat Res 74.71 26 P **P** **04 12 06.3 +0.2**
baz=280,SNR=23
ARA0 ARCESS Array S 74.83 339 *e*P **P** **04 12 07.2 +0.5**
ARCES ARCESS Array B 74.83 339 P **P** **04 12 05.5 -1.2**
comp=Z,5.0nm,0.6s,baz=72,slow=7.0,SNR=18
ARCES LR LR 04 50 14.1
comp=Z,692nm,18.8s,baz=82,slow=40
SML Sawmill 74.89 29 P **P** **04 12 07.5 +0.3**
baz=280,SNR=12
KNK Knik Glacier 74.89 30 IAmb IAmb 04 12 08.4
comp=Z,94nm,1.1s
KNK Knik Glacier 74.89 30 P **P** **04 12 07.5 +0.3**
baz=280,SNR=10
ILAR Eielson Array 75.00 26 P **P** **04 12 06.4 -1.4**
comp=Z,13nm,0.9s,baz=281,slow=4.4,SNR=46
WAT6 Susitna Watana 75.02 29 P **P** **04 12 08.1 0.0**
baz=280,SNR=26
HDA Harding Lake 75.04 27 IAmb IAmb 04 12 08.2
comp=Z,42nm,1.0s
HDA Harding Lake 75.04 27 P **P** **04 12 07.1 -0.8**
baz=280,SNR=20
PWL Port Wells 75.05 30 P **P** **04 12 08.1 0.0**
baz=280,SNR=7.6
DHY Denali Highway 75.10 28 P **P** **04 12 08.6 +0.1**
baz=280,SNR=8.5
SPB2 Spitsbergen Ar 75.20 348 IAmb IAmb 04 12 37.2
comp=Z,97nm,1.1s
SPA0 Spitsbergen Ar 75.20 348 *e*P **P** **04 12 09.0 +0.3**
SPITS Spitsbergen Ar 75.20 348 LR LR 04 49 50.2
comp=Z,1µm,18.3s,baz=230,slow=39
FYU Fort Yukon 75.33 24 IAmb IAmb 04 12 11.7
comp=Z,79nm,1.2s
SCM Sheep Creek Mo 75.35 29 P **P** **04 12 10.3 +0.4**
baz=281,SNR=15
BZK Bozkurt 75.38 310 ⇓P **P** **04 12 10.1 -0.2**
PRP Porcupine Dome 75.42 25 P **P** **04 12 10.2 -0.1**
baz=282
J25K Salcha River, 75.67 26 P **P** **04 12 10.4 -1.3**
baz=282,SNR=12
KTK1 Kautokeino 75.73 338 *e*P **P** **04 12 11.7 -0.2**
ILGA Ilgaz 75.78 309 P **P** **04 12 13.4 +0.4**
ILGA IAmb IAmb 04 12 19.3
comp=Z,52nm,1.4s
M24K Tolsona, Glenn 75.83 29 P **P** **04 12 13.8 +1.2**
baz=282,SNR=13
PAX Paxson 75.97 28 IAmb IAmb 04 12 14.9
comp=Z,39nm,1.0s
PAX Paxson 75.97 28 P **P** **04 12 13.6 +0.1**
baz=282,SNR=16
KLU Klutina 76.08 30 IAmb IAmb 04 12 15.4
comp=Z,44nm,1.0s
KLU Klutina 76.08 30 P **P** **04 12 14.3 +0.2**
baz=282,SNR=9.3
RIDG Independent Ri 76.08 27 P **P** **04 12 13.7 -0.3**
baz=282,SNR=26
BRTR Keskin Array B 76.11 308 P **P** **04 12 13.9 -0.8**
comp=Z,2.0nm,0.7s,baz=132,slow=6.8,SNR=20
BRTR Keskin Array B 76.11 308 P **P** **04 12 14.0 -0.8**
DIV Divide 76.22 30 IAmb IAmb 04 12 16.4
comp=Z,61nm,1.0s
FINES FINESS Array B 76.24 330 P **P** **04 12 14.3 -0.6**
comp=Z,12nm,0.7s,baz=54,slow=5.7,SNR=44
FINES PKiKP **PKiKP** **04 17 58.5 -1.4**
comp=Z,0.7nm,0.7s,baz=119,slow=5.1,SNR=3.8
FINES LR LR 04 48 30.4
comp=Z,814nm,20.2s,baz=74,slow=38
FINES FINESS Array B 76.24 330 P **P** **04 12 14.1 -0.8**
FINES FINESS Array B 76.24 330 P **P** **04 12 14.1 -0.8**
DCZ Deep Cove 76.25 148 P **P** **04 12 16.4 +1.4**
DCZ IAmb IAmb 04 12 17.2
comp=Z,66nm,1.1s
EYAK Cordova Ski Ar 76.36 30 P **P** **04 12 15.9 +0.3**
baz=282
GHAJ Ghor Haditha 76.39 299 IAmb IAmb 04 12 18.2
comp=Z,102nm,1.5s
GHAJ IAMs_20 IAMs_20 04 50 27.6
comp=Z,598nm,21.0s
SCRK Sand Creek 76.40 27 IAmb IAmb 04 12 16.9
comp=Z,49nm,1.3s
SCRK Sand Creek 76.40 27 P **P** **04 12 15.7 -0.2**
baz=283,SNR=21
DOT Dot Lake 76.44 27 IAmb IAmb 04 12 17.0
comp=Z,46nm,1.0s
J26L Joseph Creek 76.46 26 P **P** **04 12 15.8 -0.4**
baz=284
VSU Vasula 76.57 327 *c i* P **P** **04 12 16.3 -0.5**
VSU pmax pmax
comp=Z,167nm,1.1s
VSU Vasula 76.57 327 *e*P **P** **04 12 16.7 -0.1**
JETT Jettan, Norway 76.57 339 *e*P **P** **04 12 17.9 +1.2**
N25K Chitina, Valde 76.67 29 IAmb IAmb 04 12 19.2
comp=Z,68nm,1.2s
N25K Chitina, Valde 76.67 29 P **P** **04 12 18.0 +0.5**
baz=283,SNR=12
ANTO Ankara 76.71 308 P **P** **04 12 18.4 +0.3**
ANTO pmax pmax
comp=Z,25nm,1.3s
ANTO Ankara 76.71 308 P **P** **04 12 18.4 +0.3**
MENT Mentasta 76.76 28 IAmb IAmb 04 12 19.6

comp=Z,48nm,1.1s
MNK Minsk 76.81 323 *i* P **P** **04 12 19.0 +0.8**
MNK *i* 04 12 28.7
MNK *i* 04 15 11.9
MNK *i* PPP PPP 04 16 59.0
MNK *i* S **S** **04 22 08.0 +4.2**
MNK *i* 04 22 57.6
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,21nm,0.8s
MNK MLR MLR
comp=Z,540nm,16.0s
MNK MLR MLR
comp=N,300nm,16.0s
MNK MLR MLR
comp=E,73nm,16.0s
MNK Minsk 76.81 323 *i* P **P** **04 12 19.1 +0.8**
comp=E,3.0nm,0.8s
MNK *i* P **P** **04 12 19.1 +0.8**
comp=N,16nm,0.8s
MNK *i* P **P** **04 12 19.1 +0.8**
comp=Z,21nm,0.8s,baz=77
MNK *i* PP **PP** **04 15 12.0 +1.1**
MNK *i* PPP PPP 04 16 59.0
MNK *i* S **S** **04 22 08.1 +4.2**
MNK *i* SS SS 04 27 16.3 +17
MNK *i* SSS SSS 04 29 58.9
MNK *i* LO LO 04 41 24.9
MNK *i* LR LR 04 44 54.8
MNK *i* LRM MLR 04 48 06.6
comp=Z,540nm,16.3s
MNK *i* LRM MLR 04 48 11.0
comp=E,73nm,16.3s
MNK *i* LRM MLR 04 48 11.0
comp=N,300nm,16.3s
BMRM Bremner River 76.81 30 IAmb IAmb 04 12 19.7
comp=Z,86nm,1.1s
BMRM Bremner River 76.81 30 P **P** **04 12 18.7 +0.5**
baz=283,SNR=9.1
AKASG Malin Array Be 76.84 319 P **P** **04 12 17.3 -1.1**
comp=Z,9.9nm,0.8s,baz=62,slow=5.5,SNR=35
AKASG LR LR 04 47 52.5
comp=Z,530nm,18.5s,baz=60,slow=37
AKASG Malin Array Be 76.84 319 *ce*P **P** **04 12 17.2 -1.3**
AKASG pmax pmax
comp=Z,14nm,0.9s
L26K Log Cabin Wild 76.90 28 IAmb IAmb 04 12 20.5
comp=Z,40nm,0.9s
L26K Log Cabin Wild 76.90 28 P **P** **04 12 19.3 +0.7**
baz=284,SNR=17
GLB Gilahina Butte 77.07 29 IAmb IAmb 04 12 21.3
comp=Z,88nm,1.2s
IDID Didziasalis 77.27 324 *e*P **P** **04 12 20.9 +0.1**
EIL Elat 77.28 297 LR LR 04 52 11.5
comp=Z,463nm,18.3s,baz=82,slow=40
VRDI Verde Repeater 77.29 30 IAmb IAmb 04 12 22.5
comp=Z,42nm,1.1s
NACGM Naroch 77.34 324 *i* P **P** **04 12 20.3 -0.9**
CSS Mathiatis 77.39 303 P **P** **04 12 21.2 -0.7**
CSS IAmb IAmb 04 12 33.4
comp=Z,42nm,0.9s
CSS IAMs_20 IAMs_20 04 51 45.7
comp=Z,477nm,22.0s
EGAK Eagle 77.39 26 IAmb IAmb 04 12 22.4
comp=Z,46nm,0.9s
EGAK Eagle 77.39 26 P **P** **04 12 21.3 0.0**
baz=286
IZAR Zarasai 77.44 325 *e*P **P** **04 12 21.7 -0.1**
MCARA McCarthy VSAT 77.45 29 IAmb IAmb 04 12 24.7
comp=Z,60nm,0.9s
MCARA McCarthy VSAT 77.45 29 P **P** **04 12 22.3 +0.6**
baz=285,SNR=14
BKZ Black Stump Fm 77.50 139 P **P** **04 12 22.6 +0.2**
IIGN Ignalina 77.55 324 *e*P **P** **04 12 22.5 +0.1**
ISAL Salakas 77.55 325 *e*P **P** **04 12 22.3 -0.1**
L27K Beaver Creek, 77.56 28 IAmb IAmb 04 12 24.6
comp=Z,63nm,0.9s
L27K Beaver Creek, 77.56 28 P **P** **04 12 23.5 +1.1**
baz=285
M27K Edge Creek, AK 77.73 28 IAmb IAmb 04 12 25.1
comp=Z,43nm,0.9s
M27K Edge Creek, AK 77.73 28 P **P** **04 12 24.1 +0.6**
baz=285,SNR=11
MDUB Mudurnu 77.77 309 P **P** **04 12 23.7 -0.4**
WAX Waxell Ridge 77.78 30 IAmb IAmb 04 12 25.4
comp=Z,66nm,0.9s
MILM Milestii Mici 77.95 316 ⇓P **P** **04 12 22.0 -2.8**
MILM Milestii Mici 77.95 316 ⇓P **P** **04 12 22.0 -2.8**
SORM Soroca 77.97 317 ⇑P **P** **04 12 23.7 -1.2**
SORM Soroca 77.97 317 ⇑P **P** **04 12 23.7 -1.2**
MTSE Matsula 77.99 328 *e*P **P** **04 12 24.6 -0.1**
BVCY Beaver Creek 78.17 28 P **P** **04 12 26.7 +0.9**
baz=286,SNR=17
PLWZ Palliser 78.17 141 P **P** **04 12 26.6 +0.5**
BFZ Birch Farm 78.24 140 P **P** **04 12 26.8 +0.4**
NOR Nord 78.26 354 *i* P **P** **04 12 24.5 -1.4**
NOR IAmb IAmb 04 12 29.3
comp=Z,7.6nm,0.7s
DAWY Dawson 78.33 26 IAmb IAmb 04 12 28.1
comp=Z,51nm,1.0s
DAWY Dawson 78.33 26 P **P** **04 12 27.1 +0.5**
baz=287,SNR=33
CTG Chitna Glacier 78.35 30 P **P** **04 12 28.1 +1.2**
baz=286,SNR=26
TLCR 78.36 314 ⇑P **P** **04 12 25.8 -1.3**
TLCR 78.36 314 ⇑P **P** **04 12 25.8 -1.3**
I29M Ogilvie Camp, 78.38 25 IAmb IAmb 04 12 28.3
comp=Z,43nm,1.0s
I29M Ogilvie Camp, 78.38 25 P **P** **04 12 27.1 +0.2**
baz=288,SNR=16
BORA Eskisehir 78.46 308 P **P** **04 12 27.5 -0.4**
YUK3 Moose Creek 78.53 29 P **P** **04 12 28.7 +0.7**
baz=287,SNR=20
EPYK Eagle Plains 78.68 24 IAmb IAmb 04 12 29.3
comp=Z,62nm,0.8s
EPYK Eagle Plains 78.68 24 P **P** **04 12 28.4 -0.1**
baz=289,SNR=29
J29M Klondike Camp 78.70 26 P **P** **04 12 29.8 +1.1**
baz=288,SNR=24
VASR Vaslui 78.70 315 ⇓P **P** **04 12 28.8 -0.2**
VLDR Vladesti 78.70 315 ⇑P **P** **04 12 29.2 +0.3**
TPGR Topolog 78.72 314 ⇓P **P** **04 12 29.1 0.0**
PABE Paberze 78.76 325 P **P** **04 12 29.0 0.0**
PABE IAmb IAmb 04 12 52.7
comp=Z,84nm,1.2s
PABE IAMs_20 IAMs_20 04 53 41.1
comp=Z,659nm,20.0s
PABE Paberze 78.76 325 *e*P **P** **04 12 29.1 0.0**
SCTR Scanteiesti 78.80 314 ⇑P **P** **04 12 29.9 +0.4**
CFR Carcaliu 78.83 314 ⇑P **P** **04 12 29.2 -0.4**
VARL Varlezi 78.85 315 ⇑P **P** **04 12 29.8 +0.1**
STEI Steigen 78.87 338 *e*P **P** **04 12 28.1 -1.3**
ISP Isparta 78.91 306 IAMs_20 IAMs_20 04 52 41.7
comp=Z,487nm,20.0s
AIN Ainahou 78.98 73 P **P** **04 12 31.0 -0.2**
FAUS Fauske 79.05 338 *e*P **P** **04 12 29.7 -0.7**
SLIT Slitere, Latvi 79.06 327 *e*P **P** **04 12 30.0 -0.7**
HARR Harsova 79.09 313 ⇓P **P** **04 12 31.3 +0.1**
HARR Harsova 79.09 313 ⇓P **P** **04 12 31.3 +0.1**
PINM Pinnacle 79.12 30 P **P** **04 12 32.2 +1.1**
baz=287
INK Inuvik 79.16 21 PKKP 04 31 08.0
comp=Z,2.5nm,1.1s,baz=106,slow=2.8,SNR=5.6
INK LR LR 04 51 42.6
comp=Z,231nm,18.9s,baz=302,slow=39
INK Inuvik 79.16 21 IAmb IAmb 04 12 31.9
comp=Z,63nm,1.0s
INK Inuvik 79.16 21 P **P** **04 12 30.9 -0.1**
baz=292,SNR=50
ISK Istanbul-Kandi 79.20 310 P **P** **04 12 30.7 -1.1**
FURI Furi 79.32 276 IAMs_20 IAMs_20 04 49 18.2
comp=Z,468nm,18.0s
PANC Panciu 79.33 315 ⇑P **P** **04 12 32.6 +0.2**
ICOR Ion Corvin 79.33 313 ⇓P **P** **04 12 32.2 -0.2**
ODBI Odobesti 79.42 315 ⇑P **P** **04 12 34.0 +1.1**
AAL Aland 79.45 330 *e*P **P** **04 12 31.9 -0.8**
YUK4 Talbot Arm 79.49 29 P **P** **04 12 34.1 +0.9**
baz=288,SNR=17
TESR Tescani 79.50 315 ⇑P **P** **04 12 33.1 -0.3**
SUW Suwalki 79.61 323 *e*P **P** **04 12 32.9 -0.8**
SUW Suwalki 79.61 323 *e*P **P** **04 12 33.1 -0.6**
VRI Vrincioaia 79.61 315 ⇑P **P** **04 12 34.3 +0.3**
VRI Vrincioaia 79.61 315 ⇑P **P** **04 12 34.3 +0.3**
PNL Peninsula 79.66 30 P **P** **04 12 34.6 +0.7**
baz=288
PLOR Plostina 79.67 315 ⇑P **P** **04 12 34.5 +0.2**
PLOR Plostina 79.67 315 ⇑P **P** **04 12 34.5 +0.2**
PBUR Paburge 79.72 326 *e*P **P** **04 12 34.3 +0.1**
YUK6 Outpost Mounta 79.75 29 P **P** **04 12 36.1 +1.4**
baz=289,SNR=11
PRD Provadia 79.85 312 P **P** **04 12 35.3 0.0**
M30M Minto, Yukon 79.91 27 P **P** **04 12 36.4 +1.1**
M30M IAmb IAmb 04 12 37.6
comp=Z,99nm,1.2s
M30M Minto, Yukon 79.91 27 P **P** **04 12 36.4 +1.1**
baz=290
COVR Voineasa-Covas 79.97 315 ⇓P **P** **04 12 35.7 -0.3**
NEHR Nehoiu 80.02 314 ⇓P **P** **04 12 36.5 +0.3**
BURAR Bucovina Array 80.14 317 ⇑P **P** **04 12 36.8 -0.1**
BURAR Bucovina Array 80.14 317 ⇑P **P** **04 12 36.8 -0.1**
BURAR Bucovina Array 80.14 317 P **P** **04 12 36.7 -0.2**
KULA Kula-Manisa 80.15 307 P **P** **04 12 35.8 -1.4**
A36M Sachs Harbour 80.16 17 P **P** **04 12 36.2 -0.1**
baz=299,SNR=97
HYT Haines Junctio 80.18 29 IAmb IAmb 04 12 39.2
comp=Z,79nm,1.1s
HYT Haines Junctio 80.18 29 P **P** **04 12 38.1 +1.2**
baz=289,SNR=21
OZUR 80.18 315 ⇑P **P** **04 12 37.4 +0.2**
MLR Muntele Rosu 80.24 315 ⇑P **P** **04 12 37.2 -0.4**
MLR Muntele Rosu 80.24 315 LR LR 04 51 59.5
comp=Z,946nm,21.9s,baz=66,slow=38
MLR Muntele Rosu 80.24 315 ⇑P **P** **04 12 37.2 -0.4**
SULR 80.25 314 ⇓P **P** **04 12 38.5 +1.0**
SECR 80.28 314 ⇑P **P** **04 12 39.4 +1.8**
LVV L'vov 80.28 319 *e*P **P** **04 12 36.8 -0.7**
FETY Fethiye 80.32 305 P **P** **04 12 36.0 -2.0**
DOPR Dopeca 80.49 315 ⇓P **P** **04 12 38.7 0.0**
ABPO Ambohimpanom 80.64 246 P **P** **04 12 40.2 +0.1**
ABPO pmax pmax
comp=Z,39nm,1.2s
ABPO Ambohimpanom 80.64 246 P **P** **04 12 40.2 +0.1**
EDRB Edirne 80.68 311 P **P** **04 12 38.3 -1.5**
UPP Uppsala 80.68 330 *e*P **P** **04 12 38.8 -0.6**
N31M Braeburn, Yuko 80.74 28 IAmb IAmb 04 12 42.0
comp=Z,68nm,0.9s
N31M Braeburn, Yuko 80.74 28 P **P** **04 12 41.0 +1.2**
baz=291,SNR=17
SZH Strazhica 80.86 312 P **P** **04 12 40.6 -0.2**
VOIR 80.86 315 ⇑P **P** **04 12 40.3 -0.5**
VOIR 80.86 315 ⇑P **P** **04 12 40.3 -0.5**
EUNU Eureka 80.99 5 IAmb IAmb 04 12 51.5
comp=Z,97nm,1.4s
STFAR Stefanesti-Arg 81.08 314 ⇑P **P** **04 12 42.1 +0.1**
M31M Drury Creek, Y 81.09 27 IAmb IAmb 04 12 43.1
comp=Z,40nm,0.9s
M31M Drury Creek, Y 81.09 27 P **P** **04 12 42.2 +0.6**
baz=292,SNR=21
KWP Kalwaria Pacla 81.16 319 *e*P **P** **04 12 42.2 0.0**
ARR Arges 81.16 315 ⇑P **P** **04 12 41.9 -0.6**
HUMR Humele 81.17 314 ⇑P **P** **04 12 42.0 -0.3**
NSS Namsos 81.39 335 *e*P **P** **04 12 42.3 -0.8**
ENEZ Enez 81.41 310 P **P** **04 12 43.0 -0.7**
ALN Alexandroupoli 81.45 310 P **P** **04 12 42.8 -1.1**
WHY Whitehorse 81.45 29 IAmb IAmb 04 12 45.8
comp=Z,56nm,0.9s
WHY Whitehorse 81.45 29 P **P** **04 12 44.8 +1.1**
baz=292,SNR=19
CJR Cluj-Napoca 81.46 316 ⇑P **P** **04 12 44.4 +0.5**
CJR Cluj-Napoca 81.46 316 ⇑P **P** **04 12 44.4 +0.5**
CBBR Cluj-Babes-Bol 81.48 316 ⇑P **P** **04 12 44.4 +0.4**
DIM Dimitrovgrad 81.49 311 P **P** **04 12 44.0 -0.1**
FARO Faro, Yukon 81.53 27 P **P** **04 12 44.7 +0.7**
baz=293,SNR=27
VIKU Vikbolandet 81.60 329 *e*P **P** **04 12 43.8 -0.6**
BEL Belsk 81.64 322 *e*P **P** **04 12 45.1 +0.5**
KOLS Kolonicke sedl 81.64 319 *e*P **P** **04 12 45.0 +0.2**
KOLS Kolonicke sedl 81.64 319 *e*P **P** **04 12 45.0 +0.2**
SKAG Skagway 81.68 30 IAmb IAmb 04 12 47.1
comp=Z,80nm,1.1s
SKAG Skagway 81.68 30 P **P** **04 12 46.0 +1.3**
baz=292,SNR=14
KDZ Kurdzhali 81.69 311 P **P** **04 12 44.6 -0.6**
TRPA Tarpa 81.72 318 ⇑P **P** **04 12 44.7 -0.5**
TRPA Tarpa 81.72 318 P **P** **04 12 44.5 -0.6**
LOT Lotru 81.72 315 ⇓P **P** **04 12 45.3 -0.2**
UZH Uzhgorod 81.72 316 ⇓*i*P **P** **04 12 43.7 -1.5**
UZH *i* 04 13 04.0
RDO Rodhopi 81.74 310 P **P** **04 12 43.8 -1.6**
PRK Paraskevi 81.75 308 P **P** **04 12 45.5 0.0**
MESR Meseseni 81.75 317 ⇑P **P** **04 12 45.8 +0.4**
C36M Paulatuk 81.80 19 P **P** **04 12 44.7 -0.4**
C36M Paulatuk 81.80 19 P **P** **04 12 44.8 -0.4**
baz=300,SNR=53
DRGR 82.02 317 ⇑P **P** **04 12 47.0 +0.1**
DRGR 82.02 317 ⇑P **P** **04 12 47.0 +0.1**
VOI Vohitsoka 82.13 244 IAmb IAmb 04 12 50.0
comp=Z,35nm,1.1s
VOI Vohitsoka 82.13 244 P **P** **04 12 48.0 +0.1**
SNR=5.9
VOI Vohitsoka 82.13 244 P **P** **04 12 48.3 +0.4**
CRVS Cervenica-Dubn 82.16 319 *e*P **P** **04 12 47.9 +0.4**
CRVS pmax pmax
comp=Z,42nm,1.3s
CRVS Cervenica-Dubn 82.16 319 *e*P **P** **04 12 47.9 +0.4**
DEV Deva 82.17 316 ⇓P **P** **04 12 48.5 +0.9**
DEV Deva 82.17 316 ⇓P **P** **04 12 48.5 +0.9**
RZN Rozhen 82.18 311 P **P** **04 12 47.3 -0.7**
DAG Danmarks Havn 82.20 351 *i* P **P** **04 12 45.0 -2.2**
DAG IAmb IAmb 04 12 48.0
comp=Z,14nm,0.9s
BESE Bessie Mountai 82.23 31 IAmb IAmb 04 12 58.5
comp=Z,84nm,1.2s
MMPY Sheldon Lake, 82.27 26 P **P** **04 12 48.5 +0.6**
baz=294,SNR=12
PGB Panagyurishte 82.31 312 P **P** **04 12 48.3 -0.2**
SRE Strehaia 82.34 314 ⇑P **P** **04 12 49.0 +0.5**
SRE Strehaia 82.34 314 ⇑P **P** **04 12 49.0 +0.5**
MPEP Malo Peshtene 82.37 313 P **P** **04 12 48.8 +0.1**
HFS Hagfors 82.42 331 LR LR 04 52 00.7
comp=Z,959nm,20.9s,baz=61,slow=38
THAS Thassos island 82.49 310 P **P** **04 12 48.2 -1.2**
KAVA Kavala 82.53 311 P **P** **04 12 48.5 -1.1**
P33M Teslin, Yukon 82.56 29 IAmb IAmb 04 12 51.4
comp=Z,56nm,1.1s
P33M Teslin, Yukon 82.56 29 P **P** **04 12 50.3 +0.8**
baz=294
SIT Sitka 82.57 32 P **P** **04 12 50.0 +0.6**
SIT pmax pmax
comp=Z,91nm,0.9s
SIT Sitka 82.57 32 P **P** **04 12 50.0 +0.6**
SIT Sitka 82.57 32 P **P** **04 12 50.7 +1.2**
baz=292
JIS Juneau Island 82.58 31 IAmb IAmb 04 12 51.9
comp=Z,67nm,1.0s
TBLU Trondheim 82.62 335 *e*P **P** **04 12 48.5 -1.0**
OJC Ojcow 82.76 320 *e*P **P** **04 12 50.2 -0.4**
OJC Ojcow 82.76 320 IAmb IAmb 04 13 13.8
comp=Z,31nm,1.0s
HERR Herculane 82.81 315 ⇓P **P** **04 12 51.2 +0.3**
SIRR Siria 82.87 316 ⇓P **P** **04 12 51.0 -0.3**
NVR Nevrokopi 82.89 311 P **P** **04 12 50.3 -1.2**
KECS Kecovo 82.91 319 *e*P **P** **04 12 51.9 +0.5**
KECS Kecovo 82.91 319 *e*P **P** **04 12 51.9 +0.5**
NC405 NORSAR Array S 82.91 332 IAmb IAmb 04 12 51.7
comp=Z,50nm,0.8s
MMB Musomiste 82.91 311 P **P** **04 12 50.1 -1.5**
VTS Vitosha 82.95 312 ⇓P **P** **04 12 51.8 -0.1**
VTS Vitosha 82.95 312 ⇓P **P** **04 12 51.8 -0.1**
VTS Vitosha 82.95 312 IAmb IAmb 04 12 53.3
comp=Z,50nm,1.1s
VTS Vitosha 82.95 312 P **P** **04 12 51.8 -0.1**
NC303 NORSAR Array S 83.02 333 IAmb IAmb 04 12 52.2
comp=Z,30nm,0.9s
BZS Buzias 83.11 316 ⇑P **P** **04 12 51.7 -0.8**
BZS Buzias 83.11 316 ⇑P **P** **04 12 51.7 -0.8**
NB2 NORSAR Subarra 83.16 332 P **P** **04 12 50.6 -1.9**
comp=Z,11nm,0.7s,baz=65,slow=4.8
NB2 NORSAR Subarra 83.16 332 P **P** **04 12 50.6 -1.9**
baz=65,slow=4.8
NOA NORSAR Array B 83.16 332 P **P** **04 12 51.1 -1.4**
comp=Z,9.7nm,0.8s,baz=64,slow=5.0,SNR=43
NOA LR LR 04 53 26.3
comp=Z,1μm,18.2s,baz=65,slow=38
GKP Gorka Klasztor 83.19 324 *e*P **P** **04 12 52.5 -0.3**
GKP Gorka Klasztor 83.19 324 *e*P **P** **04 12 52.7 0.0**
NC204 NORSAR Array S 83.26 333 IAmb IAmb 04 13 07.6
comp=Z,55nm,1.1s
KKB Krupnik 83.29 312 P **P** **04 12 52.7 -0.8**
KIBK Kibwezi 83.31 265 P **P** **04 12 55.1 +0.9**
KIBK IAmb IAmb 04 12 56.5
comp=Z,38nm,1.0s
KIBK Kibwezi 83.31 265 P **P** **04 12 55.4 +1.2**
SNR=7.3
MDVR Moldovita 83.31 315 ⇑P **P** **04 12 53.7 0.0**
LANS Liptovska Anna 83.32 320 *e*P **P** **04 12 54.6 +1.0**
LANS Liptovska Anna 83.32 320 *e*P **P** **04 12 54.6 +1.0**
NBO00 NORSAR Array S 83.36 332 *e*P **P** **04 12 54.1 +0.6**
NAO01 NORSAR Array S 83.39 332 IAmb IAmb 04 13 08.0
comp=Z,61nm,1.2s
PSZ Piszkesteto 83.47 318 ⇓P **P** **04 12 54.4 0.0**
PSZ Piszkesteto 83.47 318 ⇓P **P** **04 12 54.4 0.0**
PSZ Piszkesteto 83.47 318 P **P** **04 12 53.6 -0.8**
KNT Kendrikon 83.64 311 P **P** **04 12 53.7 -1.7**
DOMB Dombas 83.65 334 *e*P **P** **04 12 54.0 -1.0**
HORT Hortiatis 83.67 311 P **P** **04 12 53.8 -1.8**
KMBO Kilima Mbogo 83.69 267 P **P** **04 12 56.1 -0.3**
KMBO pmax pmax
comp=Z,43nm,1.2s
KMBO MLR MLR
comp=Z,400nm,18.0s
KMBO Kilima Mbogo 83.69 267 P **P** **04 12 56.1 -0.3**
KMBO IAmb IAmb 04 12 58.9
comp=Z,43nm,1.1s
KMBO Kilima Mbogo 83.69 267 IAMs_20 IAMs_20 04 51 32.2
comp=Z,435nm,18.0s
KMBO Kilima Mbogo 83.69 267 P **P** **04 12 57.0 +0.6**
BSD Bornholm Skovb 83.77 326 *i* P **P** **04 12 54.2 -1.5**
BSD IAmb IAmb 04 12 59.1
comp=Z,15nm,0.9s
BSD Bornholm Skovb 83.77 326 *e*P **P** **04 12 55.0 -0.7**
DEL Delary 83.78 328 *e*P **P** **04 12 55.0 -0.7**
VAY Valandovo 83.82 311 ⇑*i*P **P** **04 12 55.3 -1.0**
OSL Oslo 83.86 331 *e*P **P** **04 12 55.6 -0.4**
VYHS Vyhne 83.94 319 *e*P **P** **04 12 56.9 +0.2**
VYHS pmax pmax
comp=Z,19nm,1.7s
VYHS Vyhne 83.94 319 *e*P **P** **04 12 56.9 +0.2**
STIP Stip 83.98 312 ⇑*i*P **P** **04 12 55.1 -2.0**
TGTN Hyland Airport 84.01 27 P **P** **04 12 57.8 +0.9**
baz=297
GRG Griva 84.06 311 P **P** **04 12 55.9 -1.6**
LODK Lodwar 84.09 272 IAmb IAmb 04 13 00.7
comp=Z,30nm,1.2s
LODK IAMs_20 IAMs_20 04 48 48.9
comp=Z,486nm,20.0s
LODK Lodwar 84.09 272 P **P** **04 12 59.4 +1.2**
SNR=9.7
BUD Budapest 84.17 318 P **P** **04 12 58.2 +0.3**
KOLL Kolacno 84.18 319 *e*P **P** **04 12 58.8 +0.9**
LIT Litokhoron 84.27 310 P **P** **04 12 56.3 -2.3**
LIT Litokhoron 84.27 310 IAmb IAmb 04 12 59.1
comp=Z,64nm,1.3s
MORC Moravsky Berou 84.28 321 ⇑P **P** **04 12 58.7 +0.2**
MORC Moravsky Berou 84.28 321 ⇑P **P** **04 12 58.7 +0.2**
MORC Moravsky Berou 84.28 321 *e*P **P** **04 12 58.3 -0.2**
CRAG Craig 84.32 33 P **P** **04 12 59.6 +1.2**
baz=294
WRAK Wrangell Islan 84.33 32 IAmb IAmb 04 13 00.5
comp=Z,54nm,1.1s
WRAK Wrangell Islan 84.33 32 P **P** **04 12 59.3 +0.8**
baz=294
ATAL Atalanti 84.33 309 P **P** **04 12 56.0 -2.9**
LKR Lokris 84.36 309 P **P** **04 12 56.2 -2.9**
DBG Daneborg 84.39 350 *i* P **P** **04 12 56.8 -1.7**
DBG IAmb IAmb 04 12 58.0
comp=Z,13nm,0.7s
SKO Skopje 84.42 312 ⇑*i*P **P** **04 12 58.7 -0.6**
WTLY Watson Lake, Y 84.43 28 P **P** **04 13 00.0 +1.0**
baz=297
JMIC Jan Mayen 84.44 345 LR LR 04 53 39.3
comp=Z,749nm,20.5s,baz=83,slow=38
AKN Aaknes 84.45 334 *e*P **P** **04 12 58.9 -0.2**
FRGS Fruska Gora 84.46 316 ⇑P **P** **04 12 58.3 -1.2**
FRGS Fruska Gora 84.46 316 ⇑*i*P **P** **04 12 57.8 -1.7**
SRO2 Moca 84.47 318 *e*P **P** **04 12 58.5 -0.9**
SRO2 Moca 84.47 318 *e*P **P** **04 12 58.5 -0.9**
KONO Kongsberg 84.50 331 ⇓*e*P **P** **04 12 59.1 -0.2**
KONO pmax pmax
comp=Z,52nm,2.5s
KONO Kongsberg 84.50 331 P **P** **04 12 59.3 0.0**
KONO IAmb IAmb 04 12 59.9
comp=Z,36nm,1.2s
NEEM North Greenlan 84.50 358 *i* P **P** **04 12 58.7 -0.7**
NEEM IAmb IAmb 04 12 60.0
comp=Z,60nm,0.6s
SRO Srobarova 84.51 319 *e*P **P** **04 12 59.8 +0.2**
SRO Srobarova 84.51 319 *e*P **P** **04 12 59.8 +0.2**
JAVC Valka Javorina 84.53 320 *e*P **P** **04 13 01.0 +1.2**
SKAR Skarsila 84.60 333 *e*P **P** **04 13 00.1 +0.2**
DLBC Dease Lake 84.61 30 LR LR 04 51 23.6
comp=Z,255nm,20.4s,baz=302,slow=36
KRLC Kraliky 84.63 321 *e*P **P** **04 13 00.0 -0.2**
KRLC MLR MLR
comp=Z,600nm,16.7s
KRLC Kraliky 84.63 321 *e*P **P** **04 13 00.0 -0.2**
KRLC AMS AMS 04 57 00.0
comp=Z,600nm,16.7s
KSP Ksiaz 84.63 322 *e*P **P** **04 13 00.1 -0.1**
CSKK Cskako 84.70 318 P **P** **04 13 00.5 -0.1**
DIVS Divibare 84.70 315 IAmb IAmb 04 13 01.5
comp=Z,24nm,1.0s
DIVS Divibare 84.70 315 ⇑*i*P **P** **04 12 59.5 -1.3**
KZN Kozani 84.72 311 P **P** **04 12 57.7 -3.3**
AGG Agios Georgios 84.73 309 IAmb IAmb 04 12 59.8
comp=Z,29nm,1.1s
RODP Rodopos 84.76 306 P **P** **04 13 00.9 -0.3**
RES Resolute Bay 84.76 9 LR LR 04 56 37.3
comp=Z,200nm,18.1s,baz=298,slow=40
OSTC Ostas 84.78 322 *e*P **P** **04 13 01.2 +0.2**
OSTC AMS AMS 04 57 20.0
comp=Z,900nm,19.8s
DPC Dobruska-Polom 84.80 321 *e*P **P** **04 13 01.2 +0.1**
DPC MLR MLR
comp=Z,800nm,16.2s
DPC Dobruska-Polom 84.80 321 *e*P **P** **04 13 01.2 +0.1**
DPC AMS AMS 04 53 40.0
comp=Z,800nm,16.2s
SMOL Smolenice 84.81 319 *e*P **P** **04 13 02.0 +0.9**
SMOL pmax pmax
comp=Z,8.0nm,1.3s
SMOL Smolenice 84.81 319 *e*P **P** **04 13 02.0 +0.9**
FNA Florina 84.85 311 P **P** **04 12 59.7 -1.9**
FNA Florina 84.85 311 P **P** **04 13 00.2 -1.4**
FNA pmax pmax
comp=Z,29nm,1.0s
FNA Florina 84.85 311 P **P** **04 13 00.2 -1.4**
FNA IAmb IAmb 04 13 00.9
comp=Z,29nm,1.0s
MORH Mrgy, Hungar 84.86 317 ⇑*i*P **P** **04 13 00.9 -0.5**
MORH Mrgy, Hungar 84.86 317 P **P** **04 13 00.7 -0.7**
UPC Upice 84.92 322 *e*P **P** **04 13 01.9 +0.2**
UPC MLR MLR
comp=Z,800nm,19.8s
UPC Upice 84.92 322 *e*P **P** **04 13 01.9 +0.2**
UPC AMS AMS 04 57 20.0
comp=Z,800nm,19.8s
VRAC Vranov 85.03 320 ⇓P **P** **04 13 02.5 +0.3**
VRAC Vranov 85.03 320 LR LR 04 53 05.8
comp=Z,540nm,18.5s,baz=67,slow=37
VRAC Vranov 85.03 320 ⇓P **P** **04 13 02.5 +0.3**
VRAC Vranov 85.03 320 *e*P **P** **04 13 02.4 +0.2**
ZST Bratislava 85.12 319 *e*P **P** **04 13 03.2 +0.5**
ZST Bratislava 85.12 319 *e*P **P** **04 13 03.2 +0.5**
EVR Evrytania 85.15 309 P **P** **04 13 00.5 -2.7**
OHR Ohrid 85.15 312 ⇑*i*P **P** **04 13 01.7 -1.4**
BBLS Lazići 85.18 315 ⇑*i*P **P** **04 13 03.0 -0.2**
KLV Kalavryta, Ach 85.19 308 P **P** **04 13 00.4 -2.9**
PHP Peshkopia 85.21 312 P **P** **04 13 01.8 -1.6**
MPLH Magyarpolny 85.23 318 P **P** **04 13 03.2 -0.1**
KRUC Moravsky 85.24 320 *e*P **P** **04 13 03.4 +0.1**
KOVH Kovagotottos 85.26 317 P **P** **04 13 03.1 -0.3**
EGYH Egyhazaskeszo 85.27 318 P **P** **04 13 02.8 -0.6**
RUDO Rudo 85.29 314 ⇑*i*P **P** **04 13 03.0 -0.7**
KBN Korca 85.33 311 IAmb IAmb 04 13 03.5
comp=Z,46nm,1.2s
TULEG Thule 85.39 2 *i* P **P** **04 13 01.2 -2.3**
TULEG IAmb IAmb 04 13 03.5
comp=Z,24nm,0.7s
TULEG Thule 85.39 2 IAmb IAmb 04 13 04.1

RUE Ruedersdorf 85.43 324 eP P 04 13 04.6 +0.4
RUE Ruedersdorf 85.43 324 eP P 04 13 04.3 +0.1
comp=Z,109nm,1.4s,baz=64,slow=4.7
HOMB Homborsund 85.63 331 eP P 04 13 04.2 -0.8
SOP Sopron 85.66 319 P P 04 13 05.3 0.0
TREC Trest 85.70 321 eP P 04 13 05.9 +0.3
TREC Trest 85.70 321 eP P 04 13 05.9 +0.3
TIR Tirane 85.74 312 ⇑P P 04 13 05.0 -0.9
TIR Tirane 85.74 312 ⇑P P 04 13 05.0 -0.9
TIR Tirane 85.74 312 IAMs_20 IAMs_20 04 55 44.7
comp=Z,403nm,21.0s
PVCC Panska Ves 85.76 322 eP P 04 13 06.1 +0.3
PVCC Panska Ves 85.76 322 eP P 04 13 06.1 +0.3
PDG Podgorica 85.78 313 ⇓P P 04 13 05.2 -0.8
PDG Podgorica 85.78 313 IAmb IAmb 04 13 06.6
comp=Z,43nm,1.2s
PDG Podgorica 85.78 313⇑ iP P 04 13 05.3 -0.8
GOET G??ttrup 85.86 329 i P P 04 13 04.3 -1.8
GOET IAmb IAmb 04 13 06.5
comp=Z,37nm,0.8s
DRME Dracevica, Mon 85.92 313⇑ iP P 04 13 06.2 -0.6
BEHE Becsehely 85.97 318⇑ iP P 04 13 07.1 +0.1
BRG Berggiesshubel 85.99 322⇑ iP P 04 13 06.8 -0.1
BRG Amp 04 13 08.3
comp=Z,42nm,1.2s
BRG ex x 04 13 17.8
BRG Amp 04 13 19.1
comp=Z,18nm,1.0s
BRG ex x 04 13 26.5
BRG Amp 04 13 28.7
comp=Z,37nm,1.3s
BRG PKPPKP P'P'df 04 39 21.3 +4.4
BRG Amp 04 39 22.5
comp=Z,10nm,1.7s
BRG Berggiesshubel 85.99 322⇑ iP P 04 13 06.8 -0.1
BRG e 04 13 17.7
BRG e 04 13 26.5
BRG pmax pmax
comp=Z,42nm,1.2s
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,37nm,1.3s
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG Berggiesshubel 85.99 322 eP P 04 13 06.6 -0.3
comp=Z,41nm,1.2s,baz=64,slow=4.7
PRU Pruhonice 85.99 321 eP P 04 13 06.9 -0.1
PRU MLR MLR
comp=Z,700nm,20.5s
PRU Pruhonice 85.99 321 eP P 04 13 06.9 -0.1
PRU AMS AMS 04 58 00.0
comp=Z,700nm,20.5s
CONA Conrad Observa 86.00 319 eP P 04 13 07.3 +0.1
comp=Z,38nm,1.6s,SNR=18
BLS5 Blasjo 86.02 332 eP P 04 13 05.9 -1.1
BRY Bratogost 86.11 314⇑ iP P 04 13 06.9 -1.0
MUD Monsted U'grnd 86.15 329 i P P 04 13 06.6 -1.0
MUD IAmb IAmb 04 13 10.8
comp=Z,12nm,1.0s
SNART Snartemo 86.20 331 eP P 04 13 06.8 -1.0
RUBB Prince Rupert 86.30 34 P P 04 13 08.9 +0.5
RUBB IAmb IAmb 04 13 10.2
comp=Z,53nm,1.0s
HCY Herceg Novi 86.31 313⇑ iP P 04 13 08.1 -0.6
FBE Freiberg 86.31 323 eP P 04 13 08.6 +0.1
comp=Z,56nm,1.2s,baz=64,slow=4.7
KOGS Kog 86.32 318 eP P 04 13 08.1 -0.6
BLY Banja Luka 86.35 316⇑ iP P 04 13 08.4 -0.5
CLL Collm 86.35 323⇑ iP P 04 13 08.2 -0.5
CLL i 04 13 19.0
CLL eS S 04 23 37.0 -5.6
CLL pmax pmax
comp=Z,27nm,1.0s
CLL Collm 86.35 323⇑ iP P 04 13 08.2 -0.5
comp=Z,27nm,1.0s
CLL i x x 04 13 19.0
CLL i x x 04 13 25.1
CLL ePP PP 04 16 35.0 +5.4
CLL eSKSac S 04 23 37.0 -5.6
CLL ePS PnS 04 24 43.0 +0.3
CLL eSS SS 04 29 24.0 +2.3
CLL eSSS SSS 04 32 54.0
CLL ex x 04 34 12.0
CLL eSSSS 04 35 42.0
CLL Collm 86.35 323 eP P 04 13 08.2 -0.5
comp=Z,27nm,1.1s,baz=64,slow=4.7
CLL eL L 04 58 15.5
comp=Z,848nm,18.1s
ARSA Arzberg 86.47 319 i P P 04 13 08.4 -1.1
comp=Z,17nm,1.0s,SNR=9.2
MGRS Mrkonjic Grad 86.54 316 eP P 04 13 10.6 +0.7
CKRC Cesky Krumlov 86.60 320 eP P 04 13 10.1 0.0
CKRC AMS AMS 04 55 10.0
comp=Z,500nm,15.7s
GRNB Grenville Isla 86.67 34 IAmb IAmb 04 13 20.6
comp=Z,60nm,1.0s
STON Ston 86.70 314⇑ iP P 04 13 09.1 -1.5
BSEG Bad Segeberg 86.70 326 eP P 04 13 10.2 -0.1
comp=Z,49nm,1.7s,baz=64,slow=4.7
BSEG eL L 04 54 42.8
comp=Z,1μm,18.8s
ZAG Zagreb 86.72 317⇑ iP P 04 13 10.9 +0.2
KHC Kasperske Hory 86.91 321 eP P 04 13 11.0 -0.6
KHC e 04 13 28.5
KHC MLR MLR
comp=Z,1μm,19.1s
KHC Kasperske Hory 86.91 321 eP P 04 13 11.0 -0.6
KHC ex x 04 13 28.5
KHC AMS AMS 04 58 40.0
comp=Z,1μm,19.1s
GCIS Gornji Cirnik 86.94 317 eP P 04 13 11.5 -0.2
GEC2 GERESS Array S 86.96 321 P P 04 13 10.9 -0.9
GEC2 GERESS Array S 86.96 321 eP P 04 13 11.5 -0.4
comp=Z,20nm,1.1s,baz=64,slow=4.7
GEC2 eL L 04 57 47.1
comp=Z,452nm,19.8s
GERES GERESS Array B 86.96 321 P P 04 13 11.6 -0.4
comp=Z,4.0nm,0.8s,baz=57,slow=4.9,SNR=35
GERES PKKPbc PKKPbc 04 31 03.6 -2.2
comp=Z,0.6nm,0.7s,baz=27,slow=0.6,SNR=6.3
GERES LR LR 04 55 26.0
comp=Z,312nm,18.1s,baz=64,slow=38
SOKA Soboth 87.00 318 iP P 04 13 11.7 -0.4
comp=Z,18nm,0.9s,SNR=7.5
MOA Molln 87.02 320 i P P 04 13 12.1 0.0
comp=Z,50nm,1.3s,SNR=17
TANN Tannenbergstha 87.04 322 eP P 04 13 11.7 -0.5
comp=Z,19nm,1.4s,baz=64,slow=4.7
CRES Cresnjev 87.07 317⇑ iP P 04 13 12.2 -0.2
NEUB Neuenburg 87.09 323 eP P 04 13 11.8 -0.6
comp=Z,54nm,1.7s,baz=64,slow=4.7
NKC Novy Kostel 87.12 322 eP P 04 13 12.3 -0.3
NKC MLR MLR
comp=Z,1μm,21.3s
NKC Novy Kostel 87.12 322 eP P 04 13 12.3 -0.3
NKC AMS AMS 04 54 50.0
comp=Z,1μm,21.3s
GUNZ Gunzen 87.14 322 eP P 04 13 12.4 -0.3
comp=Z,31nm,1.5s,baz=64,slow=4.7
WERN Wernitzgruen 87.14 322 eP P 04 13 12.4 -0.3
comp=Z,30nm,1.5s,baz=64,slow=4.7
PLN Plauen 87.18 323 eP P 04 13 12.4 -0.4
comp=Z,34nm,1.7s,baz=64,slow=4.7
WET Wettzell 87.33 321 eP P 04 13 13.4 -0.2
comp=Z,31nm,1.6s,baz=64,slow=4.7
WET eL L 04 55 33.6
comp=Z,624nm,20.1s
OBKA Obir 87.38 318 i P P 04 13 12.6 -1.3
comp=Z,21nm,1.1s
MANZ Manzenberg 87.43 322 eP P 04 13 13.8 -0.2
comp=Z,12nm,2.1s,baz=64,slow=4.7
MOX Moxa 87.43 323 eP P 04 13 13.6 -0.5
comp=Z,21nm,1.6s,baz=64,slow=4.7
MOX eL L 04 55 29.9
comp=Z,707nm,19.4s
NRDL Niedersach Rie 87.46 325 eP P 04 13 14.0 0.0
comp=Z,76nm,2.4s,baz=64,slow=4.7
ROTZ Rotzenmuhle 87.46 322 eP P 04 13 14.0 -0.2
comp=Z,12nm,2.0s,baz=64,slow=4.7
BIOA Bad Ischl, Aus 87.47 320 i P P 04 13 14.1 -0.2
comp=Z,12nm,1.2s
RAR Rarotonga 87.52 113 LR LR 04 44 13.4
comp=Z,248nm,21.0s,baz=278,slow=30

LJU Ljubljana 87.58 318⇑ iP P 04 13 14.1 -0.7
LJU Ljubljana 87.58 318 eP P 04 13 14.3 -0.5
CLZ Clausthal 87.61 324 eP P 04 13 14.6 -0.3
comp=Z,11nm,0.9s,baz=64,slow=4.7
RETH Rethem/Aller, 87.75 325 eP P 04 13 15.1 -0.4
comp=Z,11nm,1.0s,baz=64,slow=4.7
CEY Cerknica 87.76 318⇑ iP P 04 13 15.2 -0.6
KBA Koelnbreinsper 87.90 319 i P P 04 13 15.2 -1.4
comp=Z,17nm,1.2s,SNR=6.6
GTTG Gottingen 87.97 324 eP P 04 13 16.2 -0.3
comp=Z,17nm,0.9s,baz=64,slow=4.7
RJOB Jochberg 87.97 320 eP P 04 13 16.3 -0.4
comp=Z,23nm,1.1s,baz=64,slow=4.7
GRF Grafenberg Arr 88.07 322 eL L 04 55 51.7
comp=Z,1μm,18.7s
SKDS Skadanscina 88.11 318⇑ iP P 04 13 16.3 -1.1
UBBA Unterbreizbach 88.27 323 eP P 04 13 17.4 -0.5
comp=Z,32nm,1.9s,baz=64,slow=4.7
ABTA Abfaltersbach 88.56 319 i P P 04 13 18.3 -1.3
comp=Z,25nm,1.2s,SNR=7.1
FUR Furstenfeldbru 88.70 321 eP P 04 13 20.2 0.0
comp=Z,41nm,1.2s,baz=64,slow=4.7
FUR eL L 05 00 17.0
comp=Z,678nm,18.3s
TIP Timpagrande 88.74 311 ⇓P P 04 13 20.3 -0.3
TIP Timpagrande 88.74 311 P P 04 13 20.1 -0.4
IBBN Ibbenburen 88.82 325 eP P 04 13 20.3 -0.3
comp=Z,39nm,1.5s,baz=64,slow=4.7
WTTA Wattenberg 88.88 320 i P P 04 13 20.6 -0.7
comp=Z,33nm,0.9s,SNR=13
YKA Yellowknife Ar 88.88 22 P P 04 13 20.8 +0.2
comp=Z,41nm,0.9s,baz=313,slow=4.4,SNR=410
YKA PKiKP PKiKP 04 18 19.1 -0.8
comp=Z,0.4nm,0.6s,baz=326,slow=1.8,SNR=5.7
YKA PKKP PKKPdf 04 30 57.7 +2.4
comp=Z,1.3nm,0.7s,baz=129,slow=2.5,SNR=16
YKA LR LR 04 59 19.3
comp=Z,203nm,18.7s,baz=319,slow=40
YKA Yellowknife Ar 88.88 22 eP P 04 13 20.7 +0.1
YKA pmax pmax
comp=Z,41nm,0.9s
WATA Walderalm 88.88 320 i P P 04 13 20.3 -0.9
comp=Z,33nm,1.5s,SNR=9.2
KASTN Kahler Asten 88.98 324 eP P 04 13 21.1 -0.4
comp=Z,9.7nm,1.0s,baz=64,slow=4.7
SQTA Sankt Quirin 89.16 320 i P P 04 13 21.8 -0.7
comp=Z,31nm,1.1s,SNR=11
MOTA Moosalm 89.17 320 i P P 04 13 21.7 -0.8
comp=Z,28nm,1.1s,SNR=9.4
UPNV Upernavik 89.29 359 i P P 04 13 19.7 -2.7
UPNV IAmb IAmb 04 13 26.6
comp=Z,21nm,0.7s
RETA Reutte 89.31 320 i P P 04 13 22.4 -0.7
comp=Z,9.2nm,1.1s
CTI Castel Tesino 89.40 319 IAmb IAmb 04 13 23.9
comp=Z,33nm,1.5s
TNS Taunus Mts 89.43 323 eP P 04 13 23.3 -0.2
comp=Z,17nm,1.3s,baz=64,slow=4.7
TNS eL L 04 56 28.8
comp=Z,634nm,19.4s
BUG Bochum--Univer 89.50 325 eP P 04 13 23.2 -0.6
comp=Z,20nm,1.1s,baz=64,slow=4.7
FETA Feichten 89.54 320 i P P 04 13 23.8 -0.5
comp=Z,35nm,1.2s,SNR=9.9
UBR Ueberruh 89.62 321 eP P 04 13 24.1 -0.4
comp=Z,30nm,1.0s,baz=64,slow=4.7
MBAR Mbarara 89.72 269 LR LR 04 52 20.5
comp=Z,282nm,20.1s,baz=63,slow=35
MBAR Mbarara 89.72 269 IAMs_20 IAMs_20 04 51 30.2
comp=Z,434nm,21.0s
AQU L'Aquila 89.82 315 IAmb IAmb 04 13 26.5
comp=Z,27nm,0.9s
AQU L'Aquila 89.82 315⇑ iP P 04 13 25.0 -0.6
DAVA Damuels 89.94 320 eP P 04 13 25.0 -1.2
comp=Z,20nm,1.1s,SNR=5.3
MURB Monte Urbino 90.03 316 IAmb IAmb 04 13 28.4
comp=Z,42nm,0.9s
AHRW Bad Neuenahr-A 90.05 324 eP P 04 13 25.7 -0.7
comp=Z,29nm,1.5s,baz=64,slow=4.7
DAVOX Davos/Dischmat 90.17 320 LR LR 04 58 46.6
comp=Z,728nm,18.4s,baz=50,slow=39
BFO Black Forest 90.39 322 P P 04 13 27.7 -0.3
BFO pmax pmax
comp=Z,12nm,1.2s
BFO MLR MLR
comp=Z,900nm,20.0s
BFO Black Forest 90.39 322 P P 04 13 27.7 -0.3
BFO Black Forest 90.39 322 eP P 04 13 27.2 -0.8
comp=Z,21nm,1.5s,baz=64,slow=4.7
BFO eL L 04 57 10.8
comp=Z,720nm,18.5s
MEM Membach 90.61 324 dP P 04 13 28.2 -0.8
BSTI Sart Tilman 90.86 325 dP P 04 13 29.8 -0.4
comp=Z,2.6nm,1.0s
WLF Walferdange 91.00 324 P P 04 13 30.9 +0.1
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 91.00 324 P P 04 13 30.9 +0.1
WLF IAmb IAmb 04 13 32.1
comp=Z,25nm,1.1s
WLF Walferdange 91.00 324 eP P 04 13 30.8 +0.1
comp=Z,40nm,1.4s,baz=64,slow=4.7
WLF Walferdange 91.00 324 dP P 04 13 30.6 -0.2
comp=Z,10.0nm,1.0s
BCLA Clavier 91.09 325 dP P 04 13 31.0 -0.2
VAE Valguarnera 91.10 310 LR LR 05 00 37.6
comp=Z,155nm,20.9s,baz=74,slow=40
BGES Gesves 91.23 325 dP P 04 13 32.0 +0.1
RCHB Rochefort 91.27 324 dP P 04 13 31.5 -0.5
comp=Z,6.4nm,1.0s
SOEG Soedalen 91.48 350 i P P 04 13 31.8 -0.9
SOEG IAmb IAmb 04 13 32.6
comp=Z,14nm,0.7s
SNF Seneffe 91.61 325 dP P 04 13 33.4 -0.2
comp=Z,12nm,0.9s
DOU Dourbes 91.65 324 bP P 04 13 33.1 -0.7
ICESG Greenland Ices 91.84 353 i P P 04 13 33.6 -1.2
ICESG IAmb IAmb 04 13 35.0
comp=Z,10.0nm,0.9s
SENIN Lac Senin/Sane 91.94 320 IAmb IAmb 04 13 36.2
comp=Z,22nm,1.1s
BORG Borgarnes 92.32 345 LR LR 04 59 50.3
comp=Z,495nm,18.1s,baz=22,slow=39
EKA Eskdalemuir Ar 92.61 331 LR LR 05 01 04.1
comp=Z,976nm,19.6s,baz=43,slow=39
BNI Bardonecchia 92.95 319 P P 04 13 40.1 -0.1
BNI pmax pmax
comp=Z,29nm,0.9s
BNI Bardonecchia 92.95 319 P P 04 13 40.1 -0.1
BNI IAmb IAmb 04 13 46.1
comp=Z,29nm,0.9s
D03D Eldon 93.55 37 P P 04 13 44.5 +1.9
baz=302
B05A Bryant 93.73 36 P P 04 13 43.9 +0.5
baz=302
D04E Lakebay 93.92 38 P P 04 13 46.4 +2.0
baz=302
B06A Marblemount 93.94 36 IAmb IAmb 04 13 46.1
comp=Z,40nm,1.1s
CLF Chambon-Foret 94.04 324 IAmb IAmb 04 13 45.4
comp=Z,25nm,1.0s
E04D Cinebar 94.37 38 P P 04 13 47.9 +1.4
baz=302
F04A Amboy 94.79 38 IAmb IAmb 04 13 50.2
comp=Z,31nm,1.0s
SFJD Kangerlussuaq 94.87 356 LR LR 04 57 43.2
comp=Z,316nm,21.6s,baz=5.5,slow=36
SFJD Kangerlussuaq 94.87 356 P P 04 13 47.8 -0.5
SFJD pmax pmax
comp=Z,31nm,1.0s
SFJD Kangerlussuaq 94.87 356 i P P 04 13 46.3 -1.9
SFJD IAmb IAmb 04 13 47.6
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 94.87 356 P P 04 13 47.8 -0.5
SFJD IAmb IAmb 04 13 48.4
comp=Z,30nm,1.0s
DY2G Dye2 95.06 355 i P P 04 13 48.5 -0.9
DY2G IAmb IAmb 04 13 51.8
comp=Z,8.6nm,0.7s
LTY Liberty 95.09 37 IAmb IAmb 04 13 51.4
comp=Z,28nm,1.5s
MAW Mawson 95.10 199 LR LR 04 52 55.3
comp=Z,114nm,19.0s,baz=57,slow=33
B08A Colville Reser 95.22 35 IAmb IAmb 04 13 52.0
comp=Z,24nm,1.1s
H04D Lebanon 95.34 40 P P 04 13 52.0 +1.1
baz=302

F05D White Salmon 95.38 38 IAmb IAmb 04 14 01.8
comp=Z,34nm,1.5s
PPT Papeete 95.48 107 LR LR 04 51 02.0
comp=Z,145nm,19.2s,baz=279,slow=32
PPT2 Papeete2 95.49 107 eS S 04 25 07.3 -0.1
comp=Z,345nm,24.5s
PPT2 Papeete2 95.49 107 eLR LR 04 44 40.1
comp=Z,758nm,27.0s,baz=289
HOOD Mount Hood Mea 95.57 39 P P 04 13 53.3 +1.2
H04A Detroit Lake 95.59 39 IAmb IAmb 04 13 53.1
comp=Z,43nm,1.4s
I04A Tendick Farm, 95.92 40 P P 04 13 53.8 +0.2
baz=302
E07A Sunnyside 95.94 37 IAmb IAmb 04 14 05.9
comp=Z,25nm,1.2s
C09A Chrisman Ranch 96.12 35 IAmb IAmb 04 14 04.9
comp=Z,25nm,1.3s
D08A Wollman Farm, 96.19 36 IAmb IAmb 04 13 56.5
comp=Z,15nm,1.0s
HAWA Hanford 96.22 37 IAmb IAmb 04 14 07.1
comp=Z,31nm,1.5s
F07A Phinny Hill Vi 96.27 38 IAmb IAmb 04 13 58.0
comp=Z,13nm,1.0s
E08A Dider Farm, El 96.43 37 IAmb IAmb 04 14 06.4
comp=Z,16nm,1.3s
NEW Newport 96.47 34 LR LR 04 59 51.7
comp=Z,157nm,19.4s,baz=326,slow=37
NEW Newport 96.47 34 IAmb IAmb 04 13 57.7
comp=Z,18nm,1.2s
NEW Newport 96.47 34 P P 04 13 56.3 +0.2
baz=306
LSZ Lusaka 96.54 256 P P 04 13 56.1 -0.9
LSZ pmax pmax
comp=Z,48nm,1.5s
LSZ Lusaka 96.54 256 P P 04 13 56.0 -0.9
YBH Yreka Blue Hor 96.82 42 P P 04 13 58.4 +0.6
YBH pmax pmax
comp=Z,16nm,1.3s
YBH Yreka Blue Hor 96.82 42 P P 04 13 58.4 +0.6
YBH IAmb IAmb 04 14 08.2
comp=Z,16nm,1.2s
L04D Klamath Falls 96.82 42 P P 04 13 58.6 +0.7
baz=302
J05D Fort Rock, OR 96.92 40 P P 04 13 59.4 +1.0
baz=303
E09A Wood Farm, Sta 96.94 36 IAmb IAmb 04 14 00.1
comp=Z,21nm,1.2s
G08A Pilot Rock 97.17 38 P Pdif 04 13 59.6 +0.1
M04C Macdoel 97.35 42 P Pdif 04 14 00.7 +0.3
baz=302
I07A Izee 97.53 39 IAmb IAmb 04 14 02.5
comp=Z,17nm,1.4s
WALA Waterton Lakes 97.67 33 IAmb IAmb 04 14 03.6
comp=Z,19nm,1.1s
F10A Beach Ranch, E 97.77 36 IAmb IAmb 04 14 13.4
comp=Z,18nm,1.4s
FRB Frobisher Bay 98.12 4 LR LR 05 01 60.0
comp=Z,391nm,21.0s,baz=359,slow=38
O03E Paynes Creek 98.16 43 P Pdif 04 14 04.2 +0.3
baz=302
MOD Modoc Plateau 98.25 41 IAmb IAmb 04 14 06.1
comp=Z,20nm,1.2s
JTMT Jette 98.30 34 IAmb IAmb 04 14 15.4
comp=Z,13nm,1.2s
FCC Fort Churchill 98.37 17 P P 04 14 02.7 -1.6
FCC pmax pmax
comp=Z,10.0nm,1.1s
FCC Fort Churchill 98.37 17 P P 04 14 02.7 -1.6
FCC IAmb IAmb 04 14 04.0
comp=Z,10.0nm,1.1s
VNDA Vanda 98.45 172 P Pdif 04 14 04.8 +0.6
comp=Z,8.0nm,1.1s,baz=282,slow=2.9,SNR=5.1
VNDA PKKPbc PKKPbc 04 30 35.2 -2.2
comp=Z,4.3nm,1.1s,baz=149,slow=3.6,SNR=3.6
VNDA Vanda 98.45 172 P P 04 14 03.6 -0.5
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 98.45 172 P P 04 14 03.5 -0.5
J08A Circle Bar Ran 98.56 39 IAmb IAmb 04 14 17.0
comp=Z,16nm,1.3s
ORV Oroville 98.75 44 IAmb IAmb 04 14 07.9
comp=Z,21nm,1.4s
PLID Pearl Lake 98.99 37 IAMs_20 IAMs_20 05 03 11.2
comp=Z,567nm,22.0s
FFC Flin Flon 99.02 23 P Pdif 04 14 06.4 -1.0
FFC pmax pmax
comp=Z,17nm,1.3s
FFC Flin Flon 99.02 23 Pdif 04 14 06.4 -1.0
FFC IAmb IAmb 04 14 16.6
comp=Z,17nm,1.3s
MSO Missoula 99.06 34 Pdiff Pdif 04 14 08.0 +0.2
baz=309
BEKR Beckworth 99.32 43 Pdif 04 14 09.1 -0.1
BEKR IAmb IAmb 04 14 10.9
comp=Z,13nm,1.1s
MFID Camas Ranch 100.09 38 Pdif Pdif 04 14 11.2 -1.3
DLMT Dillon 100.71 35 IAMs_20 IAMs_20 04 56 20.0
comp=Z,344nm,18.0s
HLID Hailey 100.82 37 Pdif Pdif 04 14 16.6 +0.7
HLID Hailey 100.82 37 Pdiff Pdif 04 14 17.1 +1.3
baz=308
BOZ Bozeman (W) 101.08 34 Pdiff Pdif 04 14 17.3 +0.4
baz=310
NVAR Mina Array Bea 101.45 43 P Pdif 04 14 19.7 +0.9
comp=Z,3.1nm,0.8s,baz=281,slow=4.3,SNR=14
NVAR PKKPbc PKKPbc 04 30 28.1 +0.4
comp=Z,0.8nm,0.9s,baz=154,slow=4.1,SNR=4.0
TAOE Nuku Hiva Isla 101.78 96 eLR LR 04 47 33.0
comp=Z,923nm,23.6s,baz=289
CART Cartagena 101.78 316 IAMs_20 IAMs_20 05 03 59.0
comp=Z,322nm,19.0s
ESDC Sonseca Array 102.48 319 PP PP 04 18 33.2 -2.4
comp=Z,1.8nm,1.2s,baz=62,slow=7.0,SNR=3.9
ESDC PKKPbc PKKPbc 04 30 23.7 -0.7
comp=Z,1.1nm,1.0s,baz=242,slow=2.4,SNR=4.3
SYO Syowa Base 103.45 201⇑ ePdiff Pdif 04 14 28.8 +2.3
TPNV Topopah Spring 103.63 43 IAMs_20 IAMs_20 04 51 30.5
comp=Z,283nm,20.0s
PDAR Pinedale Array 104.06 35 PP PKiKP 04 18 44.0 -3.6
comp=Z,0.6nm,0.9s,baz=347,slow=3.7,SNR=4.1
PDAR PKKPbc PKKPbc 04 30 18.4 -1.7
comp=Z,2.4nm,0.9s,baz=134,slow=4.3,SNR=11
SCHQ Schefferville 107.10 4 PKKPbc PKKPbc 04 30 08.1 -3.0
comp=Z,4.6nm,1.1s,baz=201,slow=9.9,SNR=3.5
SDCO Great Sand Dun 109.74 37 PKiKP PKiKP 04 18 58.3 0.0
baz=314
ECSD EROS Data Cent 109.80 28 PKiKP PKiKP 04 18 57.2 -0.7
baz=323
ANMO Albuquerque 111.07 40 PKiKP PKiKP 04 19 01.2 +0.4
baz=312
121A Cookes Peak, D 111.83 43 PKiKP PKiKP 04 19 03.2 +0.9
baz=310
TORD Torodi Ar. Bea 111.90 293 PKiKP PKiKP 04 19 01.6 -0.9
comp=Z,7.5nm,0.8s,baz=36,slow=1.7,SNR=32
TORD PKKPbc PKKPbc 04 29 54.3 -0.2
comp=Z,2.1nm,0.8s,baz=266,slow=2.9,SNR=12
JFWS Jewell Farm 113.10 24 PKiKP PKiKP 04 19 02.9 -1.3
baz=328
MNTX Cornudas Mount 113.91 42 PKiKP PKiKP 04 19 06.1 +0.1
baz=312,SNR=8.4
AMTX Amarillo 113.94 37 PKiKP PKiKP 04 19 06.4 +0.3
baz=316
MSTX Muleshoe 113.95 38 PKiKP PKiKP 04 19 06.0 -0.2
baz=315
WMOK Wichita Mounta 115.67 35 P PKiKP 04 19 08.3 -1.1
baz=318,SNR=5.9
S39A Bolivar 116.14 29 PKiKP 04 19 09.2 -1.0
KOWA Kowa 116.21 297 PKPdf 04 19 09.7 -1.1
TUL1 Leonard 116.35 32 P PKPdf 04 19 10.1 -0.5
baz=322
SFIN Lafayette 116.48 23 P PKPdf 04 19 09.6 -1.0
baz=331
TXAR Lajitas Array 116.59 43 PKP PKPdf 04 19 11.2 -0.2
comp=Z,5.2nm,0.7s,baz=239,slow=0.7,SNR=55
TXAR PKKPbc PKKPbc 04 29 37.1 -2.0
comp=Z,1.3nm,0.8s,baz=134,slow=3.6,SNR=8.7
ABTX Abilene, Hawle 116.74 37 P PKiKP 04 19 11.6 +0.1
baz=317,SNR=7.3
CCM Cathedral Cave 116.78 28 P PKPdf 04 19 10.2 -1.1
baz=326
HPIG 116.84 46 PKPdf PKPdf 04 19 11.9 -0.1
O48B Farmland 117.29 22 P PKPdf 04 19 11.1 -1.2
baz=333
U40A Yellville 117.44 30 P PKPdf 04 19 11.8 -0.9
baz=324,SNR=15
Z35A Perchaven, San 117.56 35 PKPdf PKPdf 04 19 12.8 -0.2
M53A WI Miller and 117.66 18 P PKPdf 04 19 11.7 -1.3

baz=338
M54A Oil Creek Stat 117.88 17 P PKPdf 04 19 12.6 -0.8
baz=339
W39A Magazine 117.92 31 P PKPdf 04 19 13.0 -0.6
baz=323
ACSO Alum Creek Sta 118.05 20 P PKPdf 04 19 13.1 -0.7
baz=335,SNR=6.3
BINY Binghamton 118.14 14 P PKPdf 04 19 13.4 -0.5
baz=342
PBMO Poplar Bluff 118.20 28 PKPdf 04 19 12.2 -1.9
JCT Junction City 118.20 39 P PKPdf 04 19 14.4 +0.1
baz=316
WHTX Lake Whitney, 118.45 36 P PKiKP 04 19 14.9 +0.1
baz=319
W41B Gary Mavity, V 118.68 30 P PKPdf 04 19 13.9 -1.1
baz=324
P52A Corning 118.87 20 P PKPdf 04 19 14.2 -1.1
baz=336,SNR=6.7
X40A Basin Creek Fa 118.95 31 P PKiKP 04 19 15.8 +0.2
baz=324
SSPA Standing Stone 119.17 16 P PKPdf 04 19 15.0 -0.9
baz=340
O56A Blue Knob Stat 119.33 16 P PKPdf 04 19 15.6 -0.6
baz=340
WVT Waverly 119.86 26 PKIKP PKPdf 04 19 16.5 -0.8
WVT Waverly 119.86 26 PKPdf PKPdf 04 19 16.5 -0.8
WVT Waverly 119.86 26 P PKPdf 04 19 16.8 -0.5
baz=329
833A Chaparral WMA, 119.99 40 PKPdf PKiKP 04 19 18.2 +0.4
833A Chaparral WMA, 119.99 40 P PKiKP 04 19 18.6 +0.7
baz=316
DBIC Dimbokro 120.50 289 PKP PKPdf 04 19 17.9 -1.2
comp=Z,17nm,0.8s,baz=95,slow=1.9,SNR=18
KIC Kosan Boka 120.53 289 *e*PKIKP PKPdf 04 19 17.8 -1.4
comp=Z,44nm,0.7s
OXF Oxford 120.54 28 P PKPdf 04 19 18.1 -0.6
baz=327
TIC Toumodi 120.66 289 *e*PKIKP PKPdf 04 19 18.1 -1.3
LIC Lamto 120.85 289 *e*PKIKP PKPdf 04 19 18.1 -1.7
comp=Z,78nm,0.8s
HKT Hockley 120.90 37 PKIKP PKPdf 04 19 18.9 -0.5
HKT MLR MLR
comp=Z,300nm,20.0s
HKT Hockley 120.90 37 PKPdf PKPdf 04 19 18.9 -0.5
HKT Hockley 120.90 37 IAMs_20 IAMs_20 05 12 48.1
comp=Z,336nm,20.0s
TZTN Tazewell 121.17 22 P PKPdf 04 19 19.5 -0.4
baz=333
BLA Blacksburg 121.62 19 P PKPdf 04 19 19.8 -1.0
baz=337
ZAIG Zacatecas 121.67 47 PKPdf PKiKP 04 19 22.3 +0.6
VBMS Vicksburg 121.92 31 PKPdf 04 19 20.7 -0.6
VBMS Vicksburg 121.92 31 P PKPdf 04 19 21.4 0.0
baz=325
LRAL Lakeview Retre 122.86 27 PKPdf 04 19 21.7 -1.4
LRAL Lakeview Retre 122.86 27 P PKPdf 04 19 22.7 -0.4
baz=329
KMSC Kings Mountain 123.21 21 P PKPdf 04 19 23.3 -0.5
baz=335
GOGA Godfrey 123.98 24 P PKPdf 04 19 25.2 -0.1
baz=333
BRAL Brewton 124.42 28 P PKiKP 04 19 26.8 +0.3
baz=328
TIGA Tifton 125.67 25 P PKPdf 04 19 28.5 -0.1
baz=332
CCIG Comitan 133.25 45 PKPdf PKiKP 04 19 45.1 +0.4
USHA Ushuaia 142.75 172 PKP PKPdf 04 19 57.1 -2.5
comp=Z,15nm,0.8s,baz=114,slow=1.2,SNR=3.6
MTP Monte Pirata 143.57 9 PKPdf PKPab 04 19 58.9 +0.3
SRBA San Rafael, Bu 144.20 43 PKPbc 04 20 02.2 +0.5
BRU2 Volcan 144.96 42 *e*P PKPab 04 20 03.5 -0.6
MG05 Puerto Natales 145.02 166 PKPdf 04 20 03.8 +0.1
PAYG Puerto Ayora 145.36 63 PKPbc PKPab 04 20 06.5 +1.0
CBE Ff, Capester 145.98 3 PKPab 04 20 07.6 0.0
EFI East Falkland 146.49 182 PKP2 PKPbc 04 20 08.0 +0.4
EFI East Falkland 146.49 182 PKPbc PKPbc 04 20 08.0 +0.4
UPA Univ. de Panam 146.74 38 *e*P PKPdf 04 20 07.5 -0.3
CACAO El Cacao, Vera 147.23 41 *e*P PKPdf 04 20 07.9 -0.7
UPD2 Meteti 147.96 36 *e*P PKPdf 04 20 09.4 -0.4
SJCC San Jacinto, C 148.27 30 *e*P PKPbc 04 20 12.2 -1.5
CRJC Cerrejon, Guaj 148.28 25 *e*P PKPdf 04 20 08.5 -1.9
MOTC Monteria, Cord 149.00 32 *e*P PKPdf 04 20 11.7 +0.2
DABV Dabajuro 149.21 21 *e*P PKPdf 04 20 14.0 +2.1
PTAC Punta Ardita, 149.22 37 *e*P PKPdf 04 20 12.3 +0.4
UREC San Jos de Ur 149.95 33 *e*P PKPdf 04 20 13.9 +0.8
DBBC Dabeiba 150.21 34 *e*P PKPdf 04 20 11.9 -1.6
ZARC Zaragoza, Cauc 150.51 32 *e*P PKPdf 04 20 13.7 -0.2
OCAC Ocana 150.59 28 *e*P PKPbc 04 20 18.9 -0.7
COYC Coyhaique 150.76 162 PKPdf PKPdf 04 20 13.0 -0.3
COYC PKPbc PKiKP 04 20 20.2 +0.6
SDV Santo Domingo 151.10 23 PKPbc PKPdf 04 20 15.1 0.0
comp=Z,14nm,0.7s,baz=114,slow=0.6,SNR=2.8
SDV Santo Domingo 151.10 23 *e*P PKPdf 04 20 16.3 +1.2
SDV Santo Domingo 151.10 23 *e*P PKPdf 04 20 14.4 -0.6
HELC Santa Helena 151.27 34 *e*P PKPdf 04 20 18.4 +2.9
CBOC Ciudad Bolivar 151.28 35 *e*P PKPbc 04 20 18.9 -2.4
PCRV Puerto La Cruz 151.48 10 PKPbc PKPbc 04 20 19.6 -1.9
comp=Z,62nm,0.6s,baz=70,slow=1.6,SNR=7.2
PLCV Puerto La Cruz 151.50 10 PKPbc 04 20 19.6 -1.9
PTBC PUERTO BERRIO 151.53 32 *e*P PKPdf 04 20 13.3 -2.2
SOCV Socops 151.57 24 *e*P PKPdf 04 20 18.8 +3.2
PAMC Pamplona, Colo 151.66 28 *e*P PKPbc 04 20 21.3 -1.2
PLMC San Jos del P 151.91 37 *e*P PKPdf 04 20 15.6 -0.6
BARC Barichara 152.10 30 *e*P PKPbc 04 20 20.8 -2.4
NORC Norcasia 152.14 34 *e*P PKPdf 04 20 12.1 -4.4
GUY2C Guyana, Caldas 152.16 35 *e*P PKPdf 04 20 19.6 +2.6
GR1C Gorgona, Isla 152.26 43 *e*P PKPbc 04 20 20.8 -2.5
SPBC San Pablo de B 152.48 32 *e*P PKPbc 04 20 21.9 -2.0
YOTC Yotoco, Valle 152.62 38 *e*P PKPdf 04 20 14.3 -3.0
ANIL Santa Ana 152.75 36 *e*P PKPbc 04 20 23.5 -1.3
RUSC La Rusia 152.76 30 *e*P PKPdf 04 20 16.5 -1.5
TAMC Tame, Arauca 152.87 27 *e*P PKPdf 04 20 12.1 -5.5
LL02 Futaleuf 152.99 160 PKPdf 04 20 16.4 -0.4
LL02 PKPbc PKiKP 04 20 24.3 +0.1
ROSC El Rosal 153.04 34 PKP PKPdf 04 20 15.1 -3.1
comp=Z,15nm,0.9s,baz=128,slow=4.2,SNR=9.9
ROSC PKPbc PKiKP 04 20 26.1 +0.4
comp=Z,21nm,0.5s,baz=58,slow=9.6,SNR=15
ROSC El Rosal 153.04 34 *e*P PKPdf 04 20 16.8 -1.5
ORTC Ortega, Tolima 153.31 36 *e*P PKPbc 04 20 23.0 -2.7
NBPV Pedro Velho 153.46 293 *e*P PKPdf 04 20 18.5 +0.2
CHIC Chingaza 153.53 33 *e*P PKPdf 04 20 16.3 -2.7
POPC Popayan, Colom 153.56 41 *e*P PKPdf 04 20 15.7 -3.1
RCBR Riachuelo 153.71 295 PKP PKPdf 04 20 18.0 -0.7
comp=Z,11nm,0.8s,baz=178,slow=2.8,SNR=5.3
RCBR PKPbc PKPbc 04 20 26.3 -0.3
comp=Z,28nm,1.0s,baz=113,slow=2.5,SNR=7.3
RCBR Riachuelo 153.71 295 PKPdf PKPdf 04 20 19.0 +0.3
RCBR Riachuelo 153.71 295 *e*P PKPdf 04 20 18.5 -0.2
MARP Paez Belalcaza 153.76 39 *e*P PKPdf 04 20 17.5 -1.7
PAC1 Pacto, Paraso 153.84 48 *e*P PKPbc 04 20 24.0 -3.0
PCON Cinco Dias 153.90 41 *e*P PKPdf 04 20 18.3 -1.4
SOTA Rioblanco 153.91 41 *e*P PKPdf 04 20 22.5 +2.9
VILC Villavicencio, 153.99 33 *e*P PKPbc 04 20 24.3 -3.0
OTAV Otavalo 154.10 47 *e*P PKPdf 04 20 20.0 +0.1
GCUF Volcan Galeras 154.13 44 *e*P PKPdf 04 20 17.9 -2.0
NBRF Rio Formoso - 154.30 288 *e*P PKPdf 04 20 19.7 +0.2
GARC Garzon, Huila 154.56 39 *e*P PKPbc 04 20 25.2 -3.5
FLOC Florencia 154.94 40 *e*P PKPdf 04 20 17.9 -2.6
MACC Macarena, Meta 155.55 36 *e*P PKPdf 04 20 21.8 +0.5
PLCA Paso Flores 155.62 160 PKP PKPdf 04 20 20.2 -0.4
comp=Z,4.8nm,1.1s,baz=11,slow=18,SNR=3.3
PLCA PKPbc **pPKPdf** 04 20 30.2 +0.3
comp=Z,22nm,0.9s,baz=221,slow=3.0,SNR=21
PLCA PP PP 04 24 23.2 +0.6
comp=Z,3.8nm,1.0s,baz=180,slow=9.7,SNR=2.9
NBAN Anadia - AL 155.73 287 *e*P PKPdf 04 20 22.6 +1.2
MDP Montagnes des 155.89 342 PKP PKPdf 04 20 21.1 -0.6
comp=Z,11nm,0.8s,baz=90,slow=2.0,SNR=2.3
MDP PKPab sPKPbc 04 20 45.8 +2.5
comp=Z,35nm,1.1s,baz=79,slow=5.7,SNR=4.1
PTLC Puerto Leguiza 156.57 41 *e*P PKPdf 04 20 31.6 +9.0
NBPB Pedra_Branca-C 156.57 300 *e*P PKPdf 04 20 22.6 -0.1
LC01 Cunco 156.76 155 PKPdf PKPdf 04 20 22.3 +0.2
LC01 PKPab PKPab 04 20 52.1 +0.6
NBMA Muriti-CE 156.94 295 *e*P PKPdf 04 20 21.5 -1.6
NBPS Pedro II - PI 157.49 305 *e*P PKPdf 04 20 22.1 -1.8
NBLA Lagarto - SE 157.61 285 *e*P PKPdf 04 20 22.6 -1.2
ROSB Rosrio 158.47 313 *e*P PKPdf 04 20 24.7 -0.3
ATAH Atahualpa 158.81 61 PKP PKPdf 04 20 25.5 -0.4
comp=Z,19nm,1.0s,baz=327,slow=1.0,SNR=17
ATAH PKPab PKPab 04 20 59.5 -2.1
comp=Z,28nm,1.1s,baz=325,slow=4.8,SNR=6.0
BOAV Boa Vista 159.61 2 *e*P PKPdf 04 20 26.4 +0.1
NBPN Ponto Novo - B 159.75 288 *e*P PKPdf 04 20 25.9 -0.6
GDU01 Guandu, BA 160.11 280 *e*P PKPdf 04 20 26.1 -0.6
NBIT Itapeh - BA 160.26 276 *e*P PKPdf 04 20 26.7 -0.2
CMC01 Camacan, BA 160.43 275 *e*P PKPdf 04 20 27.3 +0.2
TMAB Tom-Au,PA,Br 160.62 323 *e*P PKPdf 04 20 27.6 +0.2
BO02 Sierra Bellavi 160.70 152 PKPdf PKPdf 04 20 25.7 -1.3
BO02 PKPab PKPab 04 21 10.2 +1.4
MCPB Macapa, AP 160.80 336 *e*P PKPdf 04 20 27.3 -0.3
BO01 Tunca 160.89 150 PKPdf 04 20 25.9 -1.2
BO01 PKPab 04 21 10.5 +1.0
GUA01 Guaratinga, BA 160.90 272 *e*P PKPdf 04 20 27.6 0.0
MT01 Popeta 161.24 149 PKPdf 04 20 26.2 -1.3
MT01 PKPab 04 21 12.2 +1.1
NAN01 Guarapari, ES 161.32 268 *e*P PKPdf 04 20 27.9 -0.1
RIB01 Linhares ES 161.62 263 *e*P PKPdf 04 20 28.5 +0.2
ALF01 Guarapari-ES 161.87 259 *e*P PKPdf 04 20 28.8 +0.3
SJMB Sao Joao De Ma 162.37 265 *e*P PKPdf 04 20 28.8 -0.3
TBTG Tabatinga, AM 162.96 37 *e*P PKPdf 04 20 29.5 -0.3
TBTG Tabatinga, AM 162.96 37 *e*P PKPdf 04 20 29.7 -0.2
CO03 El Pedregal 163.91 144 PKPdf PKPdf 04 20 31.0 +0.6
CO03 PKPab PKPab 04 21 23.3 +0.3
PEXB Peixe 167.43 297 *e*P PKPdf 04 20 32.9 -0.7
NPGB Novo Progresso 168.19 338 *e*P PKPdf 04 20 33.5 -0.7
BDFB Brasilia 168.50 281 PKP PKPdf 04 20 33.2 -1.1
comp=Z,13nm,0.9s,baz=49,slow=2.2,SNR=14
BDFB PKPab **PKPab** 04 21 43.0 -0.9
comp=Z,6.6nm,0.9s,baz=119,slow=5.6,SNR=5.2
ITAB Concordia 168.52 216 PKPab 04 21 43.3 0.0
BB19B Bebedouro 169.02 253 *e*P PKPdf 04 20 33.5 -1.0
IPMB Ipameri, GO 169.02 269 *e*P PKPdf 04 20 33.2 -1.4
ETMB Extrema 169.64 38 *e*P PKPdf 04 20 34.6 -0.4
SNDB Serra Nova Dou 169.80 306 *e*P PKPdf 04 20 34.9 -0.2
LVC Limon Verde 170.32 119 PKP PKPdf 04 20 34.8 -0.8
comp=Z,14nm,1.0s,baz=215,slow=0.5,SNR=13
LVC Limon Verde 170.32 119 *e*P PKPdf 04 20 36.7 +1.0
CPUP Villa Florida 171.52 195 PKP PKPdf 04 20 35.1 -0.6
comp=Z,7.8nm,1.1s,baz=55,slow=1.4,SNR=4.9
CPUP PKPab **PKPab** 04 21 55.7 -0.8
comp=Z,14nm,1.0s,baz=176,slow=3.8,SNR=9.1
LPAZ La Paz 171.79 78 PKP PKPdf 04 20 36.8 -0.1
comp=Z,14nm,0.9s,baz=23,slow=3.2,SNR=34
LPAZ PKPab **PKPab** 04 21 58.1 -0.9
comp=Z,3.6nm,0.8s,baz=311,slow=2.8,SNR=8.2
LPAZ PP PP 04 25 48.8 -1.6
comp=Z,1.3nm,0.3s,baz=303,slow=11,SNR=10
VILB Vilhena 174.85 5 *e*P PKPdf 04 20 37.3 -0.1
PP1B Ponte de Pedra 175.33 276 *e*P PKPdf 04 20 36.7 -0.7
AQDB Aquidauana 175.51 238 PKPdf 04 20 35.6 -1.7
AQDB PKPab 04 22 14.6 0.0
AQDB Aquidauana 175.51 238 *e*P PKPdf 04 20 36.7 -0.7
SALV Santo Antonio 175.53 299 *e*P PKPdf 04 20 36.7 -0.8
PTLB Pontes e Lacer 177.28 347 *e*P PKPdf 04 20 37.6 -0.2
SIV San Ignacio 177.54 31 PKP PKPdf 04 20 37.2 -0.7
comp=Z,23nm,1.0s,baz=130,slow=0.6,SNR=60
SIV PKPab PKPab 04 22 22.6 -0.9
comp=Z,13nm,0.9s,baz=322,slow=3.3,SNR=13
SIV PP **PP** 04 26 11.2 -4.5
comp=Z,1.9nm,0.8s,baz=295,slow=3.4,SNR=4.6

NNC ***12*** *04:11:17.5±0.5, 43.02N×77.25E, h0km, mb2.4, mpv2.6*
Error ellipse: s-maj=4.0km s-min=2.4km az=19.0
KRNET ***12*** *04:11:18.9±0.1, 43.07N×77.18E, h22km, mb2.4*
SOME ***12*** *04:11:19.2, 43.07N×77.17E, h15km*
ISC 12 04:11:19.1±0.8, 43.07N±0.02×77.18E±0.02, h16km±5km, n41, σ0.947/82, 19C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.13**	**316**		*e*P		**Pg**	**04 11 23.2**	**+0.1**
MDOK	baz=15				*e*S		**Sg**	**04 11 26.3**	**+0.6**
MDOK	**Medeo**	**0.13**	**316**		*e*P		**Pg**	**04 11 23.2**	**+0.1**
MDOK	4.5nm,0.1s				*e*S		**Sg**	**04 11 26.3**	**+0.6**
MDOK	**Medeo**	**0.13**	**316**		⇑P		**Pg**	**04 11 21.5**	**-1.6**
MDOK	21nm,0.2s				⇑S		**Sg**	**04 11 24.8**	**-1.0**
TNSS	**Tian-Shan**	**0.17**	**260**		⇓*e*P		**Pg**	**04 11 23.8**	**0.0**
TNSS	7.5nm,0.4s baz=61				⇓*e*S		**Sg**	**04 11 27.1**	**+0.3**
TNSS	**Tian-Shan**	**0.17**	**260**		⇓*e*P		**Pg**	**04 11 23.8**	**0.0**
TNSS	7.7nm,0.1s 17nm,0.1s				*e*S		**Sg**	**04 11 27.2**	**+0.3**
TNSS	**Tian-Shan**	**0.17**	**260**		P		**Pg**	**04 11 23.8**	**0.0**
TNSS	7.7nm,0.1s 17nm,0.1s				S		**Sg**	**04 11 27.2**	**+0.3**
KOTS	**Kotyrbulak**	**0.17**	**345**		⇓*e*P		**Pg**	**04 11 23.9**	**+0.3**
KOTS	baz=44				⇓*e*S		**Sg**	**04 11 27.5**	**+0.9**
KOTS	**Kotyrbulak**	**0.17**	**345**		⇓*e*P		**Pg**	**04 11 23.9**	**+0.3**
KOTS	15nm,0.2s 43nm,0.2s				*e*S		**Sg**	**04 11 27.6**	**+0.9**
KOTS	**Kotyrbulak**	**0.17**	**345**		P		**Pg**	**04 11 23.9**	**+0.3**
KOTS	15nm,0.2s 43nm,0.2s				S		**Sg**	**04 11 27.6**	**+0.9**
KNDC	**Almaty**	**0.21**	**314**		⇑P		**Pg**	**04 11 23.1**	**-1.1**
KNDC	13nm,0.4s 14nm,0.2s				⇑S		**Sg**	**04 11 27.2**	**-0.4**
IZV	**Izvestkoviy**	**0.41**	**266**		*e*P		**Pg**	**04 11 27.7**	**+0.1**
IZV	baz=66				*e*S		**Sg**	**04 11 33.8**	**+0.5**
IZV	**Izvestkoviy**	**0.41**	**266**		*e*P		**Pg**	**04 11 27.7**	**+0.1**
IZV	1.4nm,0.2s 12nm,0.2s				*e*S		**Sg**	**04 11 33.7**	**+0.5**
ANVS	**Anan'yevo**	**0.46**	**128**		⇑*i*P		**Pg**	**04 11 28.3**	**-0.1**
ANVS	baz=28 baz=28				⇑*i*S		**Sg**	**04 11 34.9**	**+0.2**
MTBS	**Maitube**	**0.55**	**277**		*e*P		**Pg**	**04 11 30.0**	**-0.1**
MTBS	baz=77 baz=77				*e*S		**Sg**	**04 11 37.7**	**+0.3**
MTBS	**Maitube**	**0.55**	**277**		*e*P		**Pg**	**04 11 30.0**	**-0.1**
MTBS	0.2nm,0.1s 3.9nm,0.3s				*e*S		**Sg**	**04 11 37.7**	**+0.3**
MTBS	**Maitube**	**0.55**	**277**		P		**Pg**	**04 11 30.0**	**-0.1**
MTBS	0.2nm,0.1s 3.9nm,0.3s				S		**Sg**	**04 11 37.7**	**+0.3**
KTBS	**Karatobe**	**0.74**	**331**		*e*P		**Pb**	**04 11 33.1**	**-0.6**
KTBS	baz=31				*e*S		**Sb**	**04 11 43.1**	**-0.4**
KTBS	**Karatobe**	**0.74**	**331**		*e*P		**Pb**	**04 11 33.1**	**-0.6**
KTBS	0.9nm,0.1s 25nm,0.2s				*e*S		**Sb**	**04 11 43.1**	**-0.4**
KTBS	**Karatobe**	**0.74**	**331**		P		**Pb**	**04 11 33.1**	**-0.6**
KTBS	0.9nm,0.1s 25nm,0.2s				S		**Sb**	**04 11 43.1**	**-0.4**
CHKK	**Chushkaly**	**0.80**	**350**		*e*P		**Pb**	**04 11 34.3**	**-0.4**
CHKK	baz=51				*e*S		**Sb**	**04 11 45.1**	**-0.2**
CHKK	**Chushkaly**	**0.80**	**350**		*e*P		**Pb**	**04 11 34.3**	**-0.4**
CHKK	3.2nm,0.1s 18nm,0.2s				*e*S		**Sb**	**04 11 45.0**	**-0.2**
CHKK	**Chushkaly**	**0.80**	**350**		P		**Pb**	**04 11 34.3**	**-0.4**
CHKK	3.2nm,0.1s 18nm,0.2s				S		**Sb**	**04 11 45.1**	**-0.2**
SATY	**Saty**	**0.90**	**90**		*e*P		**Pb**	**04 11 35.9**	**-0.6**
SATY	baz=90 baz=90				*e*S		**Sb**	**04 11 47.8**	**-0.5**
SATY	**Saty**	**0.90**	**90**		*e*P		**Pb**	**04 11 35.9**	**-0.6**
SATY	1.2nm,0.2s 5.5nm,0.2s				*e*S		**Sb**	**04 11 47.8**	**-0.5**
KDJ	**Kajisay**	**0.94**	**180**		⇑*i*P		**Pb**	**04 11 36.8**	**-0.3**
KDJ	baz=79				⇑*i*S		**Sb**	**04 11 49.2**	**-0.1**
DGS	**Degeres**	**1.04**	**280**		*e*P		**Pb**	**04 11 38.3**	**-0.6**
DGS	baz=80				*e*S		**Sb**	**04 11 52.0**	**-0.4**
DGS	**Degeres**	**1.04**	**280**		*e*P		**Pb**	**04 11 38.3**	**-0.6**
DGS	0.4nm,0.1s 3.7nm,0.3s				*e*S		**Sb**	**04 11 51.9**	**-0.4**
DGS	**Degeres**	**1.04**	**280**		P		**Pb**	**04 11 38.3**	**-0.6**
DGS	0.4nm,0.1s 3.7nm,0.3s				S		**Sb**	**04 11 51.9**	**-0.4**
ULHL	**Ulahol**	**1.07**	**220**		⇑*i*P		**Pb**	**04 11 39.0**	**-0.4**
ULHL	baz=20 baz=20				⇑*i*S		**Sb**	**04 11 53.3**	**0.0**
BOOM	**Boomskoye usch**	**1.08**	**238**		⇑*i*P		**Pb**	**04 11 39.2**	**-0.3**
BOOM	baz=38 baz=38				⇑*i*S		**Sb**	**04 11 53.6**	**+0.2**
TKM2	**Tokmak 2**	**1.17**	**263**		⇑*i*P		**Pn**	**04 11 41.1**	**+0.1**
TKM2	baz=63 baz=63				⇑*i*S		**Sb**	**04 11 56.6**	**+0.6**
TKM2	**Tokmak 2**	**1.17**	**263**		⇑P		**Pn**	**04 11 41.0**	**+0.1**
TKM2	12nm,1.4s 3.7nm,0.7s				⇑S		**Sg**	**04 11 57.5**	**+0.5**
ARXS	**Arharly**	**1.24**	**22**		*e*P		**Pn**	**04 11 41.9**	**0.0**
ARXS	1.2nm,0.1s 2.6nm,0.1s				*e*S		**Sb**	**04 11 58.5**	**+0.5**
ARXS	**Arharly**	**1.24**	**22**		P		**Pn**	**04 11 41.9**	**0.0**
ARXS	1.2nm,0.1s 2.6nm,0.1s				S		**Sb**	**04 11 58.5**	**+0.5**
KRBS	**Karabastau**	**1.26**	**300**		*e*P		**Pn**	**04 11 42.3**	**+0.1**
KRBS	baz=0.0 baz=0.0				*e*S		**Sb**	**04 11 58.7**	**0.0**
KRBS	**Karabastau**	**1.26**	**300**		*e*P		**Pn**	**04 11 42.3**	**+0.1**
KRBS	1.3nm,0.1s 6.9nm,0.2s				*e*S		**Sb**	**04 11 58.6**	**0.0**
KRBS	**Karabastau**	**1.26**	**300**		P		**Pn**	**04 11 42.3**	**+0.1**
KRBS	1.3nm,0.1s 6.9nm,0.2s				S		**Sb**	**04 11 58.6**	**0.0**
BLB	**Baldybastay**	**1.40**	**42**		*e*P		**Pn**	**04 11 44.6**	**+0.5**
BLB	3.3nm,0.1s 5.7nm,0.2s				*e*S		**Sn**	**04 12 02.8**	**+0.5**
BLB	**Baldybastay**	**1.40**	**42**		P		**Pn**	**04 11 44.6**	**+0.5**
BLB	3.3nm,0.1s 5.7nm,0.2s				S		**Sn**	**04 12 02.8**	**+0.5**
TARG	**Taragay, Kyrgy**	**1.42**	**161**		⇑*i*P		**Pn**	**04 11 44.7**	**+0.1**
TARG	baz=61 baz=61				⇑*i*S		**Sb**	**04 12 03.5**	**+0.1**
PDGK	**Podgornoye**	**1.71**	**80**		⇓P		**Pn**	**04 11 47.8**	**-0.7**
PDGK	4.0nm,1.1s 12nm,1.4s				⇑S		**Sn**	**04 12 10.4**	**+0.3**

IDC ***12*** *04:25:53.9±2.2, 20.01S×70.59W, h0km, mb4.0/2,*
mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, ML3.3/1, MS4.1/2,
Ms1 4.1/2, ms1mx3.1/55, Error ellipse: s-maj=90.8km
s-min=18.4km az=64.0
GUC ***12*** *04:25:56.8±0.4, 20.19S×70.86W, h32km±3km, ML3.4*
ISC 12 04:25:56.0±1.8, 20.08S±0.04×70.71W±0.08, h17km±11km, n24, σ1.904/18, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.58**	**109**		*e*P		**Pn**	**04 26 08.8**	**-0.6**
TA02					*e*S		**Sn**	**04 26 18.3**	**-0.1**
TA01	**Diego Aracena**	**0.69**	**134**		⇓*i*P		**Pb**	**04 26 09.7**	**+0.1**
TA01					*i* S		**Sb**	**04 26 19.3**	**+0.5**
TA01	comp=N,3μm,0.5s				IAML			04 26 21.8	
HMBC	**Humberstone**	**0.80**	**104**		⇓*i*P		**Pn**	**04 26 12.7**	**+0.1**
HMBC	comp=N,3μm,0.3s				IAML			04 26 27.1	
PATCX	**Punta Patache**	**0.90**	**144**		*i* P		**Pg**	**04 26 12.5**	**-1.1**
PATCX					*e*S		**Sb**	**04 26 24.5**	**-0.5**
PATCX	comp=E,2μm,0.6s				IAML			04 26 30.6	
GO01	**Chusmiza**	**1.49**	**74**		*e*P		**Pg**	**04 26 24.4**	**-0.3**
GO01					*e*S		**Sg**	**04 26 46.3**	**+2.1**
PB12	**IPOC Station P**	**1.51**	**14**		*e*P		**Pb**	**04 26 23.7**	**+0.2**
PB12	comp=E,638nm,0.6s				IAML			04 26 58.1	
AP01	**Chacalluta**	**1.74**	**12**		*e*P		**Pg**	**04 26 29.7**	**+0.3**
PB16	**IPOC Station P**	**2.08**	**33**		*e*P		**Pb**	**04 26 33.0**	**-0.5**
LVC	**Limon Verde**	**3.02**	**147**	Pn		Pn	**Pn**	**04 26 44.2**	**+0.8**
LVC	comp=E,3.8nm,0.3s,baz=300,slow=9.5,SNR=21				Sn		**Sn**	**04 27 19.8**	**+0.4**
LVC	comp=E,8.7nm,0.3s,baz=95,slow=18,SNR=6.6				LR		LR	04 27 24.1	
LVC	comp=E,67nm,21.7s,baz=318,slow=30				Lg		Lg	04 27 30.0	
LPAZ	**La Paz**	**4.50**	**33**	Pn			**Pb**	**04 27 12.2**	**-2.7**
H03N1	comp=E,0.9nm,0.3s,baz=180,slow=7.1,SNR=22 **Juan Fernandez**	**15.18**	**207**	T		T		04 45 11.6	
H03N2	baz=33,slow=72,SNR=33 **Juan Fernandez**	**15.18**	**207**	T		T		04 44 56.5	
H03N3	baz=33,slow=72,SNR=18 **Juan Fernandez**	**15.19**	**207**	T		T		04 45 03.5	
SNAA	baz=33,slow=72,SNR=28 **Sanae**	**64.16**	**161**	LR		LR		05 05 06.0	
TORD	comp=E,266nm,18.9s,baz=178,slow=37 **Torodi Ar. Bea**	**78.49**	**71**	P		**P**		**04 37 56.7**	**0.0**
YKA	comp=E,1.8nm,1.0s,baz=252,slow=6.3,SNR=5.4 **Yellowknife Ar**	**89.30**	**341**	P		**P**		**04 38 51.1**	**+0.3**
INK	comp=E,0.8nm,1.1s,baz=131,slow=4.4,SNR=6.2 **Inuvik**	**99.05**	**340**	LR		LR		05 26 45.4	
H11S2	comp=E,38nm,19.9s,baz=2.0,slow=37 **WAKE ISLAND Hyl**	**126.01**	**279**	T		T		07 03 34.1	
H11S1	baz=101,slow=74,SNR=17 **WAKE ISLAND Hyl**	**126.02**	**279**	T		T		07 03 32.9	
H11S3	baz=101,slow=74,SNR=6.8 **WAKE ISLAND Hyl**	**126.03**	**279**	T		T		07 03 34.1	
H11N3	baz=101,slow=74,SNR=7.3 **WAKE ISLAND Hyl**	**126.06**	**280**	T		T		07 03 40.7	
H11N2	baz=102 **WAKE ISLAND Hyl**	**126.08**	**280**	T		T		07 03 45.1	
H11N1	baz=102 **WAKE ISLAND Hyl**	**126.08**	**280**	T		T		07 03 38.4	
MKAR	baz=102 **Makanchi Array**	**145.43**	**33**	PKPbc		**PKPbc**		**04 45 33.1**	**+0.1**
	comp=E,0.7nm,0.8s,baz=329,slow=4.2,SNR=5.2								

IDC ***12*** *04:25:57.3±0.5, 7.79S×125.69E, h0km, mb4.7/23,*
mb1 4.7/27, mb1mx4.6/43, mbtmp4.7/27, ML4.6/4, MS4.3/46,
Ms1 4.3/46, ms1mx4.3/60, Error ellipse: s-maj=16.7km
s-min=12.2km az=64.0
MOS ***12*** *04:25:57.1±1.1, 7.87S×125.71E, h14km, mb5.1/48, Error*
ellipse: s-maj=10.4km s-min=5.3km az=115.1
NEIC ***12*** *04:25:58.7±1.8, 7.88S±0.05×125.80E±0.06, h10km±1km,*
mb5.0/65, Error ellipse: s-maj=10.5km s-min=8.4km
az=231.0
GCMT ***12*** *04:25:59.7±0.2, 7.66S±0.01×125.87E±0.01, h16km,*
MW5.2/138, Moment Tensor Solution. s75,c90;
s138,c220; Duration: 1s0 Moment tensor: Scale 10¹⁶
Nm; Mrr-0.41±.14; Mθθ-4.81±.13; Mϕϕ5.22±.14;
Mrθ-4.41±.54; Mrϕ-3.70±.11; Mθϕ-3.79±.52; Best double
couple: Mo8.34500×10¹⁶ NP1:ϕs122.00000°, δ51.00000°,
λ-172.00000°. NP2:ϕs27.00000°, δ84.00000°,
λ-39.00000°. Principal axes: T 7.3240, Plg21.0000°,
Azm81.0000°; N 2.0440, Plg50.0000°, Azm199.0000°; P
-9.3670, Plg32.0000°, Azm337.0000°; nsta1 refers to
*body waves, cutoff=40s. nsta2 refers to

ISC 12 04:25:58.4±0.3, 7°92S±0.0′04×125°77E±0.0′04, h10km, n354, σ1°75/340, mb5.0/108, MS4.4/53, 9C-14D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**3.56**	**258**	Pn	**Pn**	**04 26 54.7**	**+0.8**
MMRI	**Maumere**	**3.56**	**258**	P	**Pn**	**04 26 54.5**	**+0.7**
MMRI	**Maumere**	**3.56**	**258**	P	**Pn**	**04 26 55.6**	**+1.8**
BBSI	**Bau Bau**	**3.99**	**307**	P	**Pn**	**04 26 58.1**	**-1.6**
SAUI	**Saumlaki**	**5.48**	**91**	Pn	**Pn**	**04 27 19.5**	**-0.7**
BSSI	**Bau Bau, Buton**	**5.53**	**288**	P	**Pn**	**04 27 20.9**	**+0.1**
	0.6nm2μm152nm,0.6s						
BASI	**Baing, Sumba**	**5.61**	**246**	P	**Pn**	**04 27 23.2**	**+1.2**
	2.1nm6μm437nm,1.3s						
SANI	**Sanana**	**5.84**	**2**	P	**Pn**	**04 27 22.1**	**-3.0**
SANI	**Sanana**	**5.84**	**2**	P	**Pn**	**04 27 22.5**	**-2.6**
BKSI	**Bulukumba**	**6.17**	**294**	P	**Pn**	**04 27 29.5**	**-0.2**
	1.0nm3μm300nm,0.9s						
WBSI	**Waikabubak, Su**	**6.53**	**254**	P	**Pn**	**04 27 36.4**	**+1.8**
	1.0nm4μm308nm,0.9s						
BNSI	**Bone**	**6.63**	**302**	P	**Pn**	**04 27 36.6**	**+0.7**
	1.7nm5μm357nm,1.0s						
KAPI	**Kappang**	**6.64**	**295**	Pn	**Pn**	**04 27 35.7**	**-0.4**
	6.9nm,0.3s,baz=124,slow=10,SNR=29						
KAPI				Sn	**Sn**	**04 28 51.0**	**-0.9**
	9.5nm,0.3s,baz=196,slow=23,SNR=1.6						
KAPI	**Kappang**	**6.64**	**295**	Pn	**Pn**	**04 27 36.0**	**-0.1**
KAPI	**Kappang**	**6.64**	**295**	P	**Pn**	**04 27 36.5**	**+0.4**
DRS	**Darwin Rock St**	**6.75**	**132**	P	**Pn**	**04 27 39.6**	**+1.9**
SPSI	**Sidrap Palu**	**7.14**	**303**	P	**Pn**	**04 27 42.5**	**-0.6**
	0.7nm2μm132nm,0.6s						
LBMI	**Labuha**	**7.44**	**14**	P	**Pn**	**04 27 47.6**	**+0.4**
	0.4nm2μm99nm,1.5s						
LUWI	**Luwuk**	**7.46**	**336**	Pn	**Pn**	**04 27 45.8**	**-1.6**
LUWI	**Luwuk**	**7.46**	**336**	P	**Pn**	**04 27 47.4**	**0.0**
	1.0nm3μm137nm,0.9s						
TTSI	**Tana Toraja**	**7.65**	**309**	P	**Pn**	**04 27 50.1**	**+0.1**
	0.5nm2μm148nm,0.8s						
PLAI	**Plampang**	**7.96**	**263**	P	**Pn**	**04 27 55.7**	**+1.5**
	1.1nm5μm4μm343nm,0.8s						
PLAI	**Plampang**	**7.96**	**263**	P	**Pn**	**04 27 56.5**	**+2.3**
APSI	**Ampana**	**8.09**	**329**	P	**Pn**	**04 27 55.0**	**-1.0**
	1μm112nm,0.9s						
KDU	**Kakadu**	**8.12**	**126**	P	**Pn**	**04 27 56.9**	**+0.4**
	baz=8.2,SNR=13						
KDU	**Kakadu**	**8.12**	**126**	P	**Pn**	**04 27 58.2**	**+1.7**
FAKI	**Fak Fak**	**8.15**	**53**	Pn	**Pn**	**04 27 55.8**	**-1.0**
KNRA	**Kununurra**	**8.24**	**159**	P	**Pn**	**04 27 59.6**	**+1.5**
	baz=8.4,SNR=45						
KNRA	**Kununurra**	**8.24**	**159**		**Pn**	**04 27 58.8**	**+0.6**
KNRA	**Kununurra**	**8.24**	**159**	P	**Pn**	**04 27 59.9**	**+1.7**
TNTI	**Ternate**	**8.79**	**11**	Pn	**Pn**	**04 28 04.9**	**-0.7**
SIJI	**Sorong**	**8.90**	**38**	Pn	**Pn**	**04 28 06.0**	**-1.2**
	2.8nm,0.3s,baz=156,slow=6.4,SNR=8.2						
SIJI				LR	LR	04 32 02.2	
	comp=Z,2μm,20.3s,baz=209,slow=41						
SWI	**Sorong**	**8.90**	**38**	P	**Pn**	**04 28 08.3**	**+1.1**
	0.3nm2μm82nm,0.9s						
GTOI	**Gorontalo**	**8.94**	**342**	P	**Pn**	**04 28 08.7**	**+1.0**
	466nm25nm,1.0s						
MRSI	**Marisa**	**9.18**	**335**	P	**Pn**	**04 28 09.2**	**-1.8**
	1μm48nm,1.6s						
MPSI	**Mapaga**	**10.08**	**324**	P	**Pn**	**04 28 22.0**	**-1.4**
	1μm76nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.11**	**181**	Pn	**Pn**	**04 28 24.0**	**+0.1**
	7.4nm,0.3s,baz=14,slow=9.4,SNR=58						
FITZ				Sn	**Sn**	**04 30 14.7**	**-2.7**
	baz=63,slow=4.5						
FITZ				LR	LR	04 32 55.5	
	comp=Z,1μm,18.1s,baz=3.5,slow=41						
FITZ	**Fitzroy Crossi**	**10.11**	**181**	P	**Pn**	**04 28 23.9**	**+0.1**
	baz=10						
TOLI2	**Tolitoli**	**10.26**	**331**	Pn	**Pn**	**04 28 25.6**	**-0.3**
ABJI	**Asem Bagus**	**11.43**	**270**	P	**Pn**	**04 28 42.4**	**+0.6**
	3μm117nm,1.1s						
JAGI	**Jajag, Banyuwa**	**11.51**	**266**		**Pn**	**04 28 43.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**11.51**	**266**	P	**Pn**	**04 28 44.7**	**+1.7**
	1μm43nm,1.9s						
BLJI	**Banyuglugur**	**12.06**	**270**	P	**Pn**	**04 28 51.5**	**+1.0**
	2μm40nm,1.3s						
GMJI	**Gumukmas**	**12.20**	**268**	P	**Pn**	**04 28 53.6**	**+1.1**
	28nm,1.1s						
BAKI	**Biak**	**12.28**	**58**	P	**Pn**	**04 28 55.6**	**+2.0**
PWJI	**Pagerwojo**	**13.83**	**269**	P	**Pn**	**04 29 14.3**	**-0.4**
	2μm42nm,1.9s						
SMPI	**Sarmi**	**14.18**	**66**	P	**Pn**	**04 29 20.1**	**+0.7**
	48nm,1.4s						
WB0	**Warramunga Arr**	**14.44**	**145**	Pn	**Pn**	**04 29 20.9**	**-2.1**
PCJI	**Pacitan**	**14.45**	**268**	P	**Pn**	**04 29 22.3**	**-0.9**
	64nm,0.8s						
WRAB	**Tennant Creek**	**14.55**	**146**	*d* *i* P	**Pn**	**04 29 20.8**	**-3.7**
WRAB	**Tennant Creek**	**14.55**	**146**		**Pn**	**04 29 20.9**	**-3.7**
WRA	**Warramunga Arr**	**14.55**	**146**	Pn	**Pn**	**04 29 22.1**	**-2.5**
	2.0nm,0.3s,baz=317,slow=12,SNR=80						
WRA				Sn	**Sn**	**04 31 58.3**	**-7.8**
	7.0nm,0.3s,baz=321,slow=25,SNR=8.8						
WRA				LR	LR	04 35 22.2	
	comp=Z,2μm,20.7s,baz=332,slow=38						
WRA	**Warramunga Arr**	**14.55**	**146**	*i* P	Pn	04 29 20.3	-4.3
WRA				pmax	pmax		
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**14.56**	**146**	P	**Pn**	**04 29 21.5**	**-3.2**
	baz=15						
WB2	**Warramunga Arr**	**14.56**	**146**	Pn	**Pn**	**04 29 21.0**	**-3.7**
PSA00	**Pilbara Seismi**	**14.72**	**202**	Pn	**Pn**	**04 29 25.6**	**-1.3**
PSA00	**Pilbara Seismi**	**14.72**	**202**	P	**Pn**	**04 29 30.8**	**+3.9**
DAV	**Davao City (W)**	**14.90**	**359**	LR	LR	04 35 15.0	
	comp=Z,2μm,21.3s,baz=163,slow=38						
UGM	**Wanagama**	**15.10**	**269**	P	**Pn**	**04 29 34.1**	**+2.1**
	comp=Z,66nm,2.0s						
UGM	**Wanagama**	**15.10**	**269**	P	**Pn**	**04 29 33.0**	**+1.0**
SMRI	**Semarang**	**15.22**	**272**	Pn	**Pn**	**04 29 34.0**	**+0.4**
SMRI	**Semarang**	**15.22**	**272**	P	**Pn**	**04 29 34.2**	**+0.6**
	comp=Z,140nm,1.0s						
GENI	**Genyem**	**15.28**	**70**	P	**Pn**	**04 29 35.2**	**+0.7**
	comp=Z,3μmcomp=Z,99nm,1.6s						
KPJI	**Karang Pucung**	**16.70**	**271**	P	**Pn**	**04 29 53.3**	**+0.6**
	comp=Z,24nm,0.7s						
KKM	**Kota Kinabalu**	**16.83**	**325**	Pn	**Pn**	**04 29 51.9**	**-2.6**
CMJI	**Cimerak**	**17.16**	**269**	P	**Pn**	**04 29 58.7**	**+0.2**
	comp=Z,22nm,0.9s						
WRKA	**Warakurna**	**17.19**	**172**	P	**Pn**	**04 29 57.8**	**-1.1**
	baz=17,SNR=55						
AS31	**Alice Springs**	**17.49**	**154**	Pn	**Pn**	**04 30 01.8**	**-0.9**
ASPA	**Alice Springs**	**17.49**	**154**	P	**Pn**	**04 30 02.2**	**-0.5**
	baz=18						
ASAR	**Alice Springs**	**17.49**	**154**	P	**Pn**	**04 30 01.1**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=320,slow=9.9,SNR=46						
ASAR				S	**Sn**	**04 33 13.2**	**-4.4**
	comp=Z,1.6nm,0.3s,baz=321,slow=17,SNR=4.7						
ASAR				LR	LR	04 37 30.2	
	comp=Z,4μm,20.3s,baz=338,slow=39						
ASAR	**Alice Springs**	**17.49**	**154**	P	**Pn**	**04 30 01.2**	**-1.4**
ASAR	**Alice Springs**	**17.49**	**154**	Pn	**Pn**	**04 30 01.2**	**-1.4**
KSM	**Kuching**	**18.02**	**301**	Pn	**Pn**	**04 30 06.2**	**-3.0**
LEM	**Lembang**	**18.03**	**272**	P	**Pn**	**04 30 09.4**	**-0.1**
	comp=Z,4.6nm,0.3s,baz=91,slow=8.3,SNR=3.7						
LEM				LR	LR	04 37 59.4	
	comp=Z,4μm,20.9s,baz=98,slow=40						
COEN	**Coen**	**18.11**	**111**	Pn	**Pn**	**04 30 08.3**	**-2.0**
COEN	**Coen**	**18.11**	**111**	P	**Pn**	**04 30 10.0**	**-0.3**
QIS	**Mount Isa**	**18.36**	**135**	P	**Pn**	**04 30 12.3**	**-1.0**
	baz=18,SNR=24						
QIS	**Mount Isa**	**18.36**	**135**	P	**P**	**04 30 14.6**	**+1.2**
GIRL	**Giralia**	**18.36**	**216**	P	**Pn**	**04 30 16.3**	**+3.0**
CNJI	**Cibinong**	**18.48**	**271**	P	**P**	**04 30 14.2**	**-0.6**
	comp=Z,2μmcomp=Z,131nm,1.2s						
TPI	**Tanjungpandan**	**18.74**	**285**	P	**Pn**	**04 30 19.0**	**+0.9**
MEEK	**Meekatharra**	**19.81**	**199**	P	**Pn**	**04 30 31.1**	**+0.2**
	baz=20,SNR=16						
MEEK	**Meekatharra**	**19.81**	**199**	P	**Pn**	**04 30 31.2**	**+0.3**
CGJI	**Cibinong**	**19.95**	**272**	P	**Pn**	**04 30 32.8**	**+0.2**
	comp=Z,1μmcomp=Z,49nm,1.2s						
XMIS	**Christmas Isla**	**20.02**	**261**	P	**P**	**04 30 30.4**	**-1.2**
XMIS				IAmb	IAmb	04 30 36.7	
	comp=Z,55nm,0.8s						
PPBI	**Pangkal Pinang**	**20.37**	**285**	P	**P**	**04 30 36.4**	**+1.0**
	comp=Z,14μmcomp=Z,49nm,0.9s						
MTSU	**Mount Surprise**	**20.71**	**121**	P	**P**	**04 30 39.8**	**+0.7**
	baz=21,SNR=19						
PMG	**Port Moresby**	**21.20**	**96**	P	**P**	**04 30 46.3**	**+1.9**
	comp=Z,45nm,0.8s,baz=279,slow=8.6,SNR=19						
PMG				LR	LR	04 40 00.6	
	comp=Z,2μm,20.2s,baz=268,slow=40						
PMG	**Port Moresby**	**21.20**	**96**	P	**P**	**04 30 43.6**	**-0.9**
PMG				pmax	pmax		
	comp=Z,52nm,0.9s						
PMG	**Port Moresby**	**21.20**	**96**	P	**P**	**04 30 43.6**	**-0.9**
PMG				IAmb	IAmb	04 30 52.5	
	comp=Z,52nm,0.8s						
OOD	**Oodnadatta**	**21.88**	**156**	P	**P**	**04 30 53.3**	**+1.7**
MANU	**Manus Island**	**22.29**	**76**	P	**P**	**04 30 54.5**	**-1.7**
MANU				IAmb	IAmb	04 31 05.1	
	comp=Z,58nm,1.4s						
FORT	**Forrest**	**22.84**	**175**	P	**P**	**04 31 02.4**	**+0.5**
	baz=23,SNR=19						
FORT	**Forrest**	**22.84**	**175**	P	**P**	**04 31 01.4**	**-0.4**
FORT	**Forrest**	**22.84**	**175**	P	**P**	**04 31 02.3**	**+0.5**
MORW	**Morawa**	**22.94**	**202**	P	**P**	**04 31 02.6**	**-0.3**
	baz=23,SNR=15						
MORW	**Morawa**	**22.94**	**202**	P	**P**	**04 31 02.4**	**-0.5**
MORW				IAmb	IAmb	04 31 13.5	
	comp=Z,55nm,1.1s						
MORW	**Morawa**	**22.94**	**202**	P	**P**	**04 31 03.7**	**+0.8**
CTA	**Charters Tower**	**23.23**	**123**	P	**P**	**04 31 07.3**	**+1.3**
	comp=Z,15nm,0.8s,baz=310,slow=11,SNR=12						
MULG	**Mulgathing**	**23.56**	**162**	P	**P**	**04 31 10.7**	**+1.5**
BLDU	**Ballidu**	**24.11**	**199**	P	**P**	**04 31 15.1**	**+0.6**
	baz=24,SNR=12						
BLDU	**Ballidu**	**24.11**	**199**	P	**P**	**04 31 15.1**	**+0.6**
KLBR	**Kellerberrin**	**24.70**	**197**	P	**P**	**04 31 20.3**	**+0.4**
	baz=25,SNR=12						
KLBR	**Kellerberrin**	**24.70**	**197**	P	**P**	**04 31 21.3**	**+1.4**
LCRK	**Leigh Creek**	**25.26**	**154**	P	**P**	**04 31 26.3**	**+1.4**
MUN	**Mundaring**	**25.53**	**199**	P	**P**	**04 31 28.8**	**+1.4**
	baz=26,SNR=5.8						
QLP	**Quilpie**	**25.54**	**139**	P	**P**	**04 31 28.7**	**+1.3**
	baz=26,SNR=13						
QLP	**Quilpie**	**25.54**	**139**	P	**P**	**04 31 28.9**	**+1.4**
MTKN	**Mount Kenneth**	**25.64**	**200**	P	**P**	**04 31 29.6**	**+1.3**
BKNI	**Bangkinang**	**25.98**	**287**	P	**P**	**04 31 31.7**	**+0.1**
BBOO	**Buckleboo**	**26.54**	**160**	P	**P**	**04 31 38.3**	**+1.8**
	baz=27,SNR=9.3						
BBOO	**Buckleboo**	**26.54**	**160**	P	**P**	**04 31 36.5**	**0.0**
BBOO				IAmb	IAmb	04 31 47.0	
	comp=Z,27nm,0.9s						
BBOO	**Buckleboo**	**26.54**	**160**	P	**P**	**04 31 38.0**	**+1.5**
IPM	**Ipoh**	**27.59**	**296**	P	**P**	**04 31 45.6**	**-0.5**
IPM				IAmb	IAmb	04 32 02.1	
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**28.02**	**150**	P	**P**	**04 31 51.2**	**+1.4**
	comp=Z,12nm,0.9s,baz=304,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**28.02**	**150**	P	**P**	**04 31 52.0**	**+2.1**
	baz=28,SNR=15						
STKA	**Stephens Creek**	**28.02**	**150**	P	**P**	**04 31 50.5**	**+0.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**28.02**	**150**	P	**P**	**04 31 50.5**	**+0.7**
STKA	**Stephens Creek**	**28.02**	**150**	P	**P**	**04 31 51.1**	**+1.3**
HTT	**Hallett**	**28.15**	**156**	P	**P**	**04 31 52.9**	**+1.9**
	baz=28,SNR=16						
HTT	**Hallett**	**28.15**	**156**	P	**P**	**04 31 52.6**	**+1.6**
PSI	**Prapat**	**28.82**	**291**	P	**P**	**04 31 55.0**	**-2.3**
	comp=Z,14nm,0.8s,baz=122,slow=5.6,SNR=17						
PSI				LR	LR	04 44 18.5	
	comp=Z,2μm,19.5s,baz=126,slow=38						
PSI	**Prapat**	**28.82**	**291**	P	**P**	**04 31 55.0**	**-2.3**
CMSA	**Cobar Meteorol**	**29.95**	**144**	P	**P**	**04 32 08.9**	**+1.9**
	baz=30,SNR=6.5						
CMSA	**Cobar Meteorol**	**29.95**	**144**	P	**P**	**04 32 08.7**	**+1.7**
KCSI	**Kotacane, Aceh**	**30.15**	**291**	P	**P**	**04 32 09.9**	**+0.9**
	comp=Z,118mcomp=Z,34nm,1.2s						
LHMI	**Lhok Sumawe**	**31.58**	**294**	P	**P**	**04 32 21.3**	**-0.2**
ARPS	**Mount Arapiles**	**32.23**	**155**	P	**P**	**04 32 29.5**	**+2.5**
	baz=32,SNR=25						
ARPS	**Mount Arapiles**	**32.23**	**155**	P	**P**	**04 32 28.5**	**+1.5**
HNR	**Honiara**	**33.82**	**95**	LR	LR	04 48 25.6	
	comp=Z,1μm,19.3s,baz=238,slow=40						
TOO	**Toolangi**	**34.51**	**152**	P	**P**	**04 32 50.8**	**+3.8**
	baz=35,SNR=5.1						
TOO	**Toolangi**	**34.51**	**152**	P	**P**	**04 32 47.4**	**+0.5**
TOO				pmax	pmax		
	comp=Z,32nm,1.2s						
TOO	**Toolangi**	**34.51**	**152**	P	**P**	**04 32 47.4**	**+0.5**
TOO				IAmb	IAmb	04 32 56.1	
	comp=Z,32nm,1.2s						
CAN	**Canberra**	**34.59**	**145**	P	**P**	**04 32 48.9**	**+1.2**
CAN				pmax	pmax		
	comp=Z,20nm,1.2s						
CAN	**Canberra**	**34.59**	**145**	P	**P**	**04 32 48.9**	**+1.2**
CAN				IAmb	IAmb	04 33 04.1	
	comp=Z,20nm,1.2s						
CM31	**Chiang Mai Arr**	**37.25**	**315**	P	**P**	**04 33 11.1**	**+0.5**
CM31				IAmb	IAmb	04 33 15.7	
	comp=Z,26nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.25**	**315**	P	**P**	**04 33 09.7**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=141,slow=7.3,SNR=12						
CMAR				LR	LR	04 50 55.8	
	comp=Z,847nm,18.6s,baz=130,slow=40						
CMAR	**Chiang Mai Arr**	**37.25**	**315**	*i* P	**P**	**04 33 11.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.25**	**315**	P	**P**	**04 33 10.1**	**-0.6**
CHTO	**Chiang Mai**	**37.49**	**315**	P	**P**	**04 33 12.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,20nm,1.0s						
CHTO	**Chiang Mai**	**37.49**	**315**	P	**P**	**04 33 12.6**	**0.0**
CHTO				IAmb	IAmb	04 33 17.6	
	comp=Z,20nm,1.0s						
GYA	**Guiyang**	**38.88**	**332**	⇓P	**P**	**04 33 28.4**	**+4.0**
GYA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**39.77**	**326**	⇓P	P	04 33 37.1	+5.1
KMI				pmax	pmax		
	comp=Z,23nm,1.1s						
KMI				LR	LR		
	comp=Z,350nm,14.1s						
KMI				LR	LR		
	comp=Z,680nm,16.3s						
KMI				LR	LR		
	comp=Z,620nm,35.1s						
WHN	**Wuhan**	**39.79**	**345**	P	**P**	**04 33 33.4**	**+1.7**
WHN				S	**S**	**04 39 40.0**	**+4.0**
NJ2	**Nanjing**	**40.30**	**351**	*e*P	**P**	**04 33 37.3**	**+1.4**
NJ2				pP	**pP**	**04 33 39.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
SANVU	**Saraoutou**	**41.20**	**104**	P	**P**	**04 33 44.1**	**+0.3**
SANVU				IAmb	IAmb	04 33 46.9	
	comp=Z,34nm,0.8s						
PZH	**PanZhiHua**	**41.41**	**327**	P	**P**	**04 33 46.8**	**+1.4**
PZH				sP	**sP**	**04 33 54.8**	**+6.5**
PZH				S	**S**	**04 40 01.8**	**+1.1**
PZH				ScS	**ScS**	**04 43 42.4**	**-7.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,410nm,5.8s						
PZH				LR	LR		
	comp=Z,910nm,15.7s						
PZH				LR	LR		
	comp=Z,1μm,16.1s						
PZH				LR	LR		
	comp=Z,1μm,15.8s						
DZM	**Mont Dzumac**	**41.58**	**114**	LR	LR	04 52 04.9	
	comp=Z,881nm,18.2s,baz=284,slow=38						
DZM	**Mont Dzumac**	**41.58**	**114**	*e*P	**P**	**04 33 44.4**	**-2.5**
	comp=Z,53nm,1.3s						
DZM	**Mont Dzumac**	**41.58**	**114**	*e*LR	LR	04 45 15.7	
	comp=Z,2μm,23.8s						
CD2	**Chengdu**	**44.00**	**332**	P	**P**	**04 34 07.2**	**+0.9**
INU	**Inuyama**	**44.33**	**13**	P	**P**	**04 34 08.3**	**-0.5**
INU				IAmb	IAmb	04 34 12.7	
	comp=Z,20nm,0.9s						
JGF	**Kuroka**	**44.65**	**13**	P	**P**	**04 34 11.7**	**+0.2**
XAN	**Xi'an**	**44.69**	**340**	P	**P**	**04 34 12.0**	**+0.3**
XAN				pP	sP	04 34 19.2	+3.1
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSAR	**Wonju Array Be**	**45.17**	**2**	P	**P**	**04 34 14.7**	**-0.7**
KSAR	**Wonju Array Be**	**45.17**	**2**	P	**P**	**04 34 14.7**	**-0.7**
KSRS	**Korea Array**	**45.19**	**2**	P	**P**	**04 34 14.2**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=297,slow=38,SNR=2.7						
KSRS				LR	LR	04 55 50.5	
	comp=Z,118nm,18.2s,baz=180,slow=40						
MAJO	**Matsushiro**	**45.75**	**14**	*de*P	**P**	**04 34 19.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,24nm,0.9s						
MAJO	**Matsushiro**	**45.75**	**14**	P	**P**	**04 34 19.0**	**-1.1**
MAJO				IAmb	IAmb	04 34 23.1	
	comp=Z,20nm,0.8s						
MJAR	**Matsushiro Arr**	**45.75**	**14**	P	**P**	**04 34 18.5**	**-1.6**
	comp=Z,14nm,0.8s,baz=190,slow=8.8,SNR=17						
MJAR				LR	LR	04 50 54.4	
	comp=Z,307nm,20.9s,baz=176,slow=33						
MJB9	**Matsu-Tunnel**	**45.75**	**14**	P	**P**	**04 34 19.2**	**-0.9**
MJB9				IAmb	IAmb	04 34 23.1	
	comp=Z,20nm,0.9s						
HNS	**HongShan**	**46.26**	**348**	⇑P	**P**	**04 34 24.7**	**+0.7**
HNS				pmax	pmax		
	comp=Z,24nm,1.3s						
SHL	**Shillong**	**46.84**	**316**	P	**P**	**04 34 30.2**	**+1.1**
SHL				pmax	pmax		
	comp=Z,11nm,0.9s						
SHL	**Shillong**	**46.84**	**316**	P	**P**	**04 34 30.1**	**+1.1**
SHL				IAmb	IAmb	04 34 34.4	
	comp=Z,11nm,0.9s						
PALK	**Pallekele**	**47.40**	**287**	LR	LR	04 57 19.7	
	comp=Z,353nm,18.5s,baz=221,slow=40						
LZH	**Lanzhou**	**48.39**	**336**	⇓P	**P**	**04 34 44.7**	**+3.8**
LZH				pP	sP	04 34 50.2	+6.4
LZH				sP	pP	04 34 52.8	+10
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				LR	LR		
	comp=Z,510nm,17.4s						
LZH				LR	LR		
	comp=Z,440nm,17.8s						
LZH				LR	LR		
	comp=Z,370nm,19.3s						
BJI	**Beijing**	**48.54**	**350**	P	**P**	**04 34 41.9**	**+0.1**
BJI				sP	**sP**	**04 34 49.0**	**+2.9**
BJI				S	**S**	**04 41 40.0**	**-3.3**
BJI				pmax	pmax		
	comp=Z,14nm,0.9s						
BJI				pmax	pmax		
	comp=Z,230nm,5.4s						
BJI				LR	LR		
	comp=Z,240nm,19.5s						
BJI				LR	LR		
	comp=Z,230nm,19.4s						
BJI				LR	LR		
	comp=Z,240nm,20.6s						
HHC	**Hu-ho-hao-te**	**50.26**	**346**	*e*P	P	04 35 01.7	+6.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.3s						
ODAN	**Odare**	**50.79**	**314**	*e*P	**P**	**04 34 58.6**	**-0.9**
	comp=Z,38nm,0.8s						
VLA	**Vladivostok**	**51.10**	**6**	*d* *i* P	**P**	**04 35 01.9**	**+0.7**
VLA				pmax	pmax		
	comp=Z,21nm,0.8s						
RAMN	**Ramite**	**51.41**	**314**	*e*P	**P**	**04 35 02.9**	**-1.2**
	comp=Z,54nm,0.5s						
CN2	**Changchun**	**51.48**	**360**	*e*P	**P**	**04 35 03.4**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JIRN	**Jiri**	**52.12**	**314**	*e*P	**P**	**04 35 08.5**	**-1.1**
	comp=Z,52nm,0.9s						
USA0B	**Ussuriysk Arra**	**52.19**	**6**	P	**P**	**04 35 09.5**	**+0.2**
USA0B				pmax	pmax		
	comp=Z,7.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**52.19**	**6**	P	**P**	**04 35 09.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**52.19**	**6**	P	**P**	**04 35 07.9**	**-1.4**
	comp=Z,4.3nm,0.7s,baz=146,slow=3.7,SNR=4.5						
USRK				LR	LR	04 56 11.6	
	comp=Z,110nm,21.1s,baz=178,slow=35						
XLT	**XiLinHaoTe**	**52.32**	**351**	*e*P	**P**	**04 35 10.6**	**+0.1**
XLT				pP	sP	04 35 15.0	+0.2
XLT				sP	pP	04 35 19.7	+6.1
XLT				S	**S**	**04 42 27.3**	**-8.7**
XLT				pmax	pmax		
	comp=Z,15nm,1.1s						
XLT				pmax	pmax		
	comp=Z,240nm,5.3s						
XLT				LR	LR		
	comp=Z,270nm,17.1s						
XLT				LR	LR		
	comp=Z,290nm,15.5s						
MDJ	**Mudanjiang**	**52.41**	**3**	P	**P**	**04 35 12.3**	**+1.3**
MDJ				S	**S**	**04 42 40.7**	**+3.7**
MDJ				pmax	pmax		
	comp=Z,13nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.1s						
GUN	**Gumba**	**52.49**	**314**	*e*P	**P**	**04 35 11.8**	**-0.6**
	comp=Z,90nm,0.8s						
PKI	**Pulchoki**	**52.62**	**314**	*e*P	**P**	**04 35 12.3**	**-1.0**
	comp=Z,24nm,0.5s						
PKIN	**Phulchoki**	**52.64**	**314**	*e*P	**P**	**04 35 11.9**	**-1.5**
	comp=Z,26nm,0.5s						
GOMU	**GeErMu**	**52.66**	**328**	P	**P**	**04 35 14.6**	**+1.2**
GOMU				pP	sP	04 35 17.9	+1.6
GOMU				sP	pP	04 35 21.4	+5.9
GOMU				S	**S**	**04 42 37.8**	**-3.6**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.2s						

SONM	**Songino Array**	**58.10**	**345**	P	**P**	**04 35 52.5**	**+0.3**
SONM				IAmb	IAmb	04 36 01.2	
	comp=Z,15nm,1.4s						
GRNR	**Gornyy**	**59.18**	**8**⇑	*i*P	**P**	**04 36 01.2**	**+1.7**
GRNR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,290nm,19.0s						
GRNR				MLR	MLR		
	comp=N,90nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,150nm,13.0s						
TYV	**Tymovskoe**	**60.35**	**12**	*e*P	**P**	**04 36 09.6**	**+2.1**
TYV				*e*S	S	04 44 30.9	+8.9
TYV				pmax	pmax		
	comp=Z,400nm,3.9s						
TYV				pmax	pmax		
	comp=Z,13nm,1.1s						
TYV				smax	smax		
	comp=N,400nm,6.7s						
TYV				smax	smax		
	comp=E,400nm,6.7s						
ZAK	**Zakamensk**	**61.27**	**344**	*e*P	**P**	**04 36 15.1**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ZEA	**Zeya**	**61.44**	**1**	*e*P	**P**	**04 36 17.5**	**+2.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AFI	**Afiamalu**	**61.48**	**101**	LR	LR	05 01 14.7	
	comp=Z,184nm,19.8s,baz=274,slow=34						
WMQ	**Urumqi**	**61.97**	**330**	*e*P	**P**	**04 36 21.6**	**+2.8**
WMQ				pP	sP	04 36 26.5	+4.9
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				LR	LR		
	comp=Z,280nm,18.1s						
WMQ				LR	LR		
	comp=Z,350nm,9.5s						
WMQ				LR	LR		
	comp=Z,220nm,29.2s						
IRK	**Irkutsk**	**62.70**	**345**	*e*P	**P**	**04 36 21.2**	**-2.2**
IRK				pmax	pmax		
	comp=Z,54nm,2.9s						
MOY	**Mondy**	**63.06**	**343**	*e*P	**P**	**04 36 26.8**	**+0.8**
MOY				pmax	pmax		
	comp=Z,33nm,2.1s						
KNGR	**Kungurtug, Tuv**	**63.23**	**340**⇓	*e*P	**P**	**04 36 25.7**	**-1.4**
SKR	**Severo-Kuril's**	**64.02**	**21**⇓	*e*P	**P**	**04 36 32.9**	**+0.8**
NIL	**Nilore**	**64.70**	**313**	P	**P**	**04 36 35.6**	**-1.5**
NIL				pmax	pmax		
	comp=Z,15nm,0.7s						
NIL	**Nilore**	**64.70**	**313**	P	**P**	**04 36 35.6**	**-1.5**
KSH	**Kashi**	**65.93**	**320**	P	**P**	**04 36 45.5**	**+0.5**
KSH				pP	sP	04 36 49.4	+1.5
KSH				PcP	**PcP**	**04 37 17.7**	**+1.9**
KSH				S	**S**	**04 45 31.7**	**-1.0**
KSH				pmax	pmax		
	comp=Z,14nm,0.9s						
ZSN	**Zaisan**	**65.95**	**331**	*e*P	**P**	**04 36 44.4**	**-0.4**
ZSN	**Zaisan**	**65.95**	**331**	*e*P	**P**	**04 36 44.5**	**-0.4**
	baz=331						
SHLS	**Shalkode**	**65.96**	**325**	*e*P	**P**	**04 36 42.3**	**-2.8**
SHLS	**Shalkode**	**65.96**	**325**	*e*P	**P**	**04 36 42.4**	**-2.8**
	baz=325						
TARG	**Taragay, Kyrgy**	**66.06**	**323**	IAmb	IAmb	04 36 57.4	
	comp=Z,7.4nm,0.8s						
UZB	**Uzunbulak**	**66.20**	**324**	*e*P	**P**	**04 36 46.0**	**-0.7**
UZB				pmax	pmax		
	comp=Z,23nm,1.7s						
UZB	**Uzunbulak**	**66.20**	**324**	*e*P	**P**	**04 36 46.1**	**-0.7**
	comp=Z,23nm,1.7s,baz=324						
BOD	**Bodaibo**	**66.22**	**353**	*e*P	**P**	**04 36 47.2**	**+0.9**
BOD				pmax	pmax		
	comp=Z,136nm,1.7s						
SATY	**Saty**	**66.51**	**324**	*e*P	**P**	**04 36 48.2**	**-0.4**
SATY				pmax	pmax		
	comp=Z,27nm,1.6s						
SATY	**Saty**	**66.51**	**324**	*e*P	**P**	**04 36 48.3**	**-0.4**
	comp=Z,26nm,1.6s,baz=324						
PEA0B	**Petropavlovsk-**	**66.58**	**20**	P	**P**	**04 36 49.1**	**+0.4**
PEA0B				pmax	pmax		
	comp=Z,31nm,1.0s						
PEA0B	**Petropavlovsk-**	**66.58**	**20**	P	**P**	**04 36 49.1**	**+0.4**
PETK	**Petropavlovsk-**	**66.58**	**20**	P	**P**	**04 36 49.6**	**+0.9**
	comp=Z,16nm,0.8s,baz=200,slow=7.9,SNR=11						
PETK	**Petropavlovsk-**	**66.58**	**20**	P	**P**	**04 36 48.6**	**-0.1**
PETK	**Petropavlovsk-**	**66.58**	**20**	P	**P**	**04 36 48.6**	**-0.1**
KPKS	**Kokpek**	**66.59**	**324**	*e*P	**P**	**04 36 48.3**	**-0.8**
KPKS				pmax	pmax		
	comp=Z,21nm,1.3s						
KPKS	**Kokpek**	**66.59**	**324**	*e*P	**P**	**04 36 48.3**	**-0.8**
	comp=Z,21nm,1.3s,baz=324						
KDJ	**Kajisay**	**66.68**	**323**	P	**P**	**04 36 49.4**	**-0.4**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KDJ	**Kajisay**	**66.68**	**323**	P	**P**	**04 36 49.4**	**-0.4**
KDJ				IAmb	IAmb	04 36 57.1	
	comp=Z,7.2nm,0.7s						
MK31	**Makanchi Array**	**66.77**	**329**	P	**P**	**04 36 49.0**	**-1.2**
MK31				pmax	pmax		
	comp=Z,17nm,1.1s						
MK31	**Makanchi Array**	**66.77**	**329**	P	**P**	**04 36 49.0**	**-1.2**
MK31				IAmb	IAmb	04 36 56.4	
	comp=Z,17nm,1.1s						
MKAR	**Makanchi Array**	**66.77**	**329**	P	**P**	**04 36 49.3**	**-0.8**
	comp=Z,8.9nm,0.7s,baz=130,slow=7.5,SNR=61						
MKAR				LR	LR	05 08 13.1	
	comp=Z,134nm,21.5s,baz=124,slow=38						
MKAR	**Makanchi Array**	**66.77**	**329**	*i* P	**P**	**04 36 48.5**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PET	**Petropavlovsk**	**66.84**	**21**	*e*P	**P**	**04 36 49.7**	**-0.6**
PET				*e*S	**S**	**04 45 40.3**	**-2.5**
PET				pmax	pmax		
	comp=Z,42nm,1.2s						
PET	**Petropavlovsk**	**66.84**	**21**	P	**P**	**04 36 50.8**	**+0.5**
MAKZ	**Makanchi**	**66.94**	**329**	P	**P**	**04 36 51.6**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,13nm,1.1s						
MAKZ	**Makanchi**	**66.94**	**329**	P	**P**	**04 36 51.6**	**+0.4**
MAKZ				IAmb	IAmb	04 36 57.4	
	comp=Z,13nm,1.1s						
TNSS	**Tian-Shan**	**67.35**	**323**	*e*P	**P**	**04 36 53.7**	**-0.7**
	baz=323						
MDOK	**Medeo**	**67.36**	**323**	P	**P**	**04 36 54.4**	**+0.2**
MDOK	**Medeo**	**67.36**	**323**	*e*P	**P**	**04 36 53.6**	**-0.5**
	baz=324						
BOOM	**Boomskoye usch**	**67.64**	**322**	P	**P**	**04 36 55.6**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,11nm,0.8s						
BOOM	**Boomskoye usch**	**67.64**	**322**	P	**P**	**04 36 55.6**	**-0.3**
BOOM				IAmb	IAmb	04 37 01.3	
	comp=Z,11nm,0.8s						
CHKK	**Chushkaly**	**67.81**	**324**	*e*P	**P**	**04 36 56.2**	**-0.6**
	baz=324						
KBL	**Kabul**	**68.20**	**312**	P	**P**	**04 36 58.8**	**-0.9**
KBL				pmax	pmax		
	comp=Z,16nm,0.8s						
KBL	**Kabul**	**68.20**	**312**	P	**P**	**04 36 58.8**	**-0.9**
KUU	**Kurty**	**68.21**	**324**	*e*P	**P**	**04 36 57.8**	**-1.5**
KUU	**Kurty**	**68.21**	**324**	*e*P	**P**	**04 36 57.9**	**-1.5**
	baz=324						
AAK	**Ala-Archa**	**68.60**	**322**	LR	LR	05 11 09.0	
	comp=Z,156nm,19.4s,baz=128,slow=40						
AAK	**Ala-Archa**	**68.60**	**322**	*de*P	**P**	**04 37 01.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,27nm,1.7s						
AAK	**Ala-Archa**	**68.60**	**322**	P	**P**	**04 37 01.6**	**-0.4**
SGDS	**Segindy**	**68.97**	**323**	*e*P	**P**	**04 37 02.6**	**-1.6**
	comp=Z,8.3nm,1.4s,baz=323						
BTK	**Batken**	**69.58**	**318**	IAmb	IAmb	04 37 15.0	
	comp=Z,26nm,1.5s						
YAK	**Yakutsk**	**69.81**	**2**	P	**P**	**04 37 08.5**	**-0.3**
	comp=Z,13nm,0.5s,baz=169,slow=2.1,SNR=6.1						
YAK				LR	LR	05 07 40.6	
	comp=Z,125nm,21.8s,baz=262,slow=36						
YAK	**Yakutsk**	**69.81**	**2**	*e*P	**P**	**04 37 09.2**	**+0.4**
YAK				*e**PP	**pP**	**04 37 12.3**	**+0.4**
YAK				*e*		04 37 31.4	
YAK				*e*S	**S**	**04 46 19.5**	**+1.6**
YAK				*e*		04 47 09.8	
YAK				*e*SS	**SS**	**04 50 53.2**	**+6.3**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax	smax		
	comp=N,316nm,5.4s						
YAK				smax	smax		
	comp=E,134nm,5.1s						
YAK	**Yakutsk**	**69.81**	**2**	IAmb	IAmb	04 37 10.3	
	comp=Z,37nm,0.7s						
MA2	**Magadan**	**70.18**	**13**	P	**P**	**04 37 10.3**	**-0.9**
	comp=Z,16nm,0.9s,baz=188,slow=5.2,SNR=23						
MA2	**Magadan**	**70.18**	**13**⇑	*e*P	**P**	**04 37 10.5**	**-0.7**
MA2				pmax	pmax		
	comp=Z,56nm,1.7s						
MA2	**Magadan**	**70.18**	**13**	P	**P**	**04 37 10.7**	**-0.5**
SEM	**Semipalatinsk**	**70.19**	**331**	*e*P	**P**	**04 37 09.9**	**-1.8**
SEM	**Semipalatinsk**	**70.19**	**331**	*e*P	**P**	**04 37 10.0**	**-1.8**
	baz=331						
BTLS	**Baital**	**70.22**	**324**	*i* P	**P**	**04 37 10.1**	**-1.5**
BTLS				pmax	pmax		
	comp=Z,16nm,1.8s						
BTLS	**Baital**	**70.22**	**324**	*i* P	**P**	**04 37 10.2**	**-1.5**
	comp=Z,16nm,1.8s,baz=324						
ZAA0	**Zalesovo Array**	**70.62**	**336**	P	**P**	**04 37 13.0**	**-1.0**
ZAA0				IAmb	IAmb	04 37 18.2	
	comp=Z,17nm,0.9s						
ZALV	**Zalesovo Beam**	**70.62**	**336**	P	**P**	**04 37 11.9**	**-2.0**
	comp=Z,9.7nm,0.7s,baz=131,slow=4.7,SNR=19						
ZALV				LR	LR	05 11 09.1	
	comp=Z,115nm,18.6s,baz=144,slow=38						
ZALV	**Zalesovo Beam**	**70.62**	**336**	*i* P	**P**	**04 37 11.8**	**-2.1**
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
IUG	**Iuzhnay**	**71.14**	**320**	*e*P	**P**	**04 37 17.1**	**-0.4**
IUG	**Iuzhnay**	**71.14**	**320**	*e*P	**P**	**04 37 17.1**	**-0.4**
	baz=320						
KURBB	**Kurchatov Arra**	**71.17**	**330**	P	**P**	**04 37 16.2**	**-1.1**
KURK	**Kurchatov**	**71.18**	**331**	*ce*P	**P**	**04 37 16.4**	**-1.0**
KURK				pmax	pmax		
	comp=Z,39nm,1.7s						
KURK	**Kurchatov**	**71.18**	**331**	P	**P**	**04 37 16.0**	**-1.4**
TAS	**Tashkent**	**71.22**	**318**	P	**P**	**04 37 17.7**	**-0.2**
TAS				pmax	pmax		
	comp=Z,87nm,0.3s						
TAS	**Tashkent**	**71.22**	**318**	P	**P**	**04 37 17.7**	**-0.2**
KKAR	**Karatay Array**	**71.32**	**321**	P	**P**	**04 37 17.3**	**-1.2**
KKAR	**Karatay Array**	**71.32**	**321**	P	**P**	**04 37 17.3**	**-1.2**
VNDA	**Vanda**	**72.07**	**172**	P	**P**	**04 37 23.1**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=324,slow=7.9,SNR=8.6						
VNDA				LR	LR	05 09 03.6	
	comp=Z,967nm,18.5s,baz=336,slow=36						
MAW	**Mawson**	**72.58**	**201**	LR	LR	05 06 57.2	
	comp=Z,141nm,20.1s,baz=54,slow=34						
OTUK	**Ortayu**	**72.98**	**326**	P	**P**	**04 37 28.6**	**+0.3**
SHEM	**Shemya Is, Ala**	**73.04**	**28**	LR	LR	05 06 24.5	
	comp=Z,85nm,19.5s,baz=229,slow=33						
HRA	**Herat**	**73.25**	**309**	P	**P**	**04 37 29.7**	**-0.8**
SEY	**Seymchan**	**73.54**	**12**	P	**P**	**04 37 30.6**	**-0.7**
	comp=Z,13nm,0.8s,baz=219,slow=4.3,SNR=50						
SEY	**Seymchan**	**73.54**	**12**⇑	*e*P	**P**	**04 37 30.5**	**-0.7**
SEY				pmax	pmax		
	comp=Z,25nm,0.9s						
BRZS	**Berezniki**	**73.77**	**327**	*e*P	**P**	**04 37 31.0**	**-1.9**
BRZS				pmax	pmax		
	comp=Z,17nm,1.7s						
BRZS	**Berezniki**	**73.77**	**327**	*e*P	**P**	**04 37 31.1**	**-1.9**
	comp=Z,17nm,1.7s,baz=328						
SOCY	**Socotra**	**74.09**	**285**	P	**P**	**04 37 34.4**	**-1.2**
SOCY				IAmb	IAmb	04 37 39.1	
	comp=Z,20nm,1.0s						
UOSS	**Minazif**	**75.13**	**298**	P	**P**	**04 37 40.4**	**-0.9**
BRVK	**Borovoye**	**76.73**	**329**	*c i*P	**P**	**04 37 49.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK	**Borovoye**	**76.73**	**329**	P	**P**	**04 37 49.4**	**-0.4**
GEYT	**Alibeck**	**77.64**	**312**	LR	LR	05 17 39.6	
	comp=Z,184nm,20.7s,baz=147,slow=40						
TIXI	**Tiksi**	**79.43**	**1**	LR	LR	05 17 33.6	
	comp=Z,110nm,18.1s,baz=182,slow=39						
TIXI	**Tiksi**	**79.43**	**1**⇓	*i*P	**P**	**04 38 03.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,44nm,2.5s						
TIXI	**Tiksi**	**79.43**	**1**	P	**P**	**04 38 03.4**	**-1.1**
TIXI				IAmb	IAmb	04 38 06.0	
	comp=Z,35nm,1.5s						
AB31	**Akbulak array**	**80.66**	**323**	*i* P	**P**	**04 38 10.1**	**-1.5**
ABKAR	**Akbulak array**	**80.66**	**323**	P	**P**	**04 38 10.1**	**-1.5**
BILL	**Bilibino**	**81.00**	**14**⇓	*e*P	**P**	**04 38 13.8**	**+0.8**
BILL				pmax	pmax		
	comp=Z,11nm,2.3s						
SYO	**Syowa Base**	**81.28**	**201**⇓	*e*P	**P**	**04 38 16.2**	**+1.6**
NRIK	**Noril'sk**	**81.48**	**347**	P	**P**	**04 38 15.6**	**+0.1**
	comp=Z,8.9nm,0.9s,baz=141,slow=4.1,SNR=12						
NRIK				LR	LR	05 17 31.9	
	comp=Z,135nm,20.3s,baz=161,slow=38						
NRIK	**Noril'sk**	**81.48**	**347**	*i*P	**P**	**04 38 16.0**	**+0.5**
NRIK				pmax	pmax		
	comp=Z,19nm,1.2s						
NRIK	**Noril'sk**	**81.48**	**347**	IAmb	IAmb	04 38 17.2	
	comp=Z,21nm,1.2s						
QSPA	**South Pole Qui**	**82.06**	**180**	LR	LR	05 15 30.7	
	comp=Z,260nm,18.3s,baz=350,slow=36						
QSPA	**South Pole Qui**	**82.06**	**180**	P	**P**	**04 38 19.4**	**+0.5**
QSPA				IAmb	IAmb	04 38 24.4	
	comp=Z,13nm,0.9s						
TBI	**Tubuai**	**82.13**	**112**	*e*LR	LR	05 04 03.3	
	comp=Z,589nm,27.2s						
AKTO	**Aktyubinsk**	**82.27**	**323**	LR	LR	05 18 52.7	
	comp=Z,70nm,18.6s,baz=127,slow=39						
AKTO	**Aktyubinsk**	**82.27**	**323**	P	**P**	**04 38 18.3**	**-1.8**
PPT2	**Papeete2**	**82.58**	**107**	*e*LQ	LQ	05 00 46.0	
	comp=Z,956nm,35.8s						
PPT2				*e*LR	LR	05 04 11.1	
	comp=Z,594nm,28.8s						
PPT	**Papeete**	**82.58**	**107**	LR	LR	05 10 44.9	
	comp=Z,170nm,21.1s,baz=256,slow=32						
SVE	**Sverdlovsk**	**83.42**	**330**	*e*P	**P**	**04 38 25.9**	**0.0**
SVE				pmax	pmax		
	comp=Z,19nm,1.3s						
RAYN	**Ar Rayn**	**84.29**	**295**	P	**P**	**04 38 30.9**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RAYN	**Ar Rayn**	**84.29**	**295**	P	**P**	**04 38 30.9**	**-0.3**
RAYN				IAmb	IAmb	04 38 35.4	
	comp=Z,10nm,1.0s						
ARU	**Arti**	**84.30**	**329**	*c i*P	**P**	**04 38 28.9**	**-1.5**
ARU						04 41 38.5	
ARU				S	**S**	**04 48 52.2**	**-3.8**
ARU				SS	**SS**	**04 54 20.3**	**-5.6**
ARU				pmax	pmax		
	comp=Z,24nm,1.8s						
ARU	**Arti**	**84.30**	**329**	P	**P**	**04 38 30.2**	**-0.3**
ATD	**Arta Tunnel**	**84.69**	**282**	LR	LR	05 14 46.0	
	comp=Z,139nm,18.8s,baz=60,slow=35						
GAMB	**Gambell**	**85.39**	**23**	P	**P**	**04 38 35.6**	**-0.1**
GAMB				IAmb	IAmb	04 38 37.2	
	comp=Z,13nm,1.2s						
GNI	**Garni**	**88.25**	**311**	LR	LR	05 25 24.6	
	comp=Z,72nm,20.1s,baz=97,slow=40						
KMBO	**Kilima Mbogo**	**88.37**	**269**	LR	LR	05 18 40.2	
	comp=Z,170nm,18.1s,baz=94,slow=36						
GEVA	**Gevas**	**89.18**	**309**	P	**P**	**04 38 54.4**	**-0.5**
ZEI	**Tsey**	**89.40**	**313**	*e*P	**P**	**04 39 00.1**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
ONI	**Oni**	**89.69**	**313**	P	**P**	**04 38 57.3**	**+0.2**
ONI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ONI	**Oni**	**89.69**	**313**	P	**P**	**04 38 57.3**	**+0.2**
KBZ	**Khabaz**	**90.30**	**314**	P	**P**	**04 39 01.2**	**+1.5**
	comp=Z,2.3nm,0.9s,baz=155,slow=2.8,SNR=7.7						
KBZ				LR	LR	05 28 06.9	
	comp=Z,111nm,18.0s,baz=91,slow=41						
RDOG	**Red Dog Mine**	**90.44**	**21**	P	**P**	**04 38 59.6**	**-0.4**
KIV	**Kislovodsk**	**90.49**	**314**	*e*P	**P**	**04 38 57.9**	**-2.9**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TAOE	**Nuku Hiva Isla**	**92.80**	**99**	*e*LR	LR	05 09 00.3	
	comp=Z,310nm,24.3s						
SNAA	**Sanae**	**93.76**	**194**	P	**P**	**04 39 16.5**	**+1.1**
	comp=Z,11nm,1.0s,baz=226,slow=15,SNR=2.2						
MMAI	**Mount Meron Ar**	**94.56**	**303**	LR	LR	05 27 21.9	
	comp=Z,245nm,18.8s,baz=256,slow=39						
EIL	**Elat**	**94.57**	**299**	LR	LR	05 26 38.4	
	comp=Z,142nm,19.4s,baz=96,slow=39						
MBAR	**Mbarara**	**94.90**	**269**	LR	LR	05 21 36.0	
	comp=Z,132nm,18.3s,baz=78,slow=35						
NEA2	**Nenana**	**95.02**	**26**	P	**P**	**04 39 20.2**	**-1.0**
KLMR	**Klimovskoe**	**95.03**	**331**	*e*P	**P**	**04 39 24.4**	**+3.2**
KLMR				pmax	pmax		
	comp=Z,14nm,1.5s						
KLMR	**Klimovskoe**	**95.03**	**331**	*e*P	**P**	**04 39 24.5**	**+3.2**
KLMR				AMP		04 39 26.0	
	comp=Z,14nm,1.5s						
BOSA	**Boshof**	**95.37**	**240**	LR	LR	05 16 56.4	
	comp=Z,95nm,20.7s,baz=69,slow=32						
MOS	**Moscow**	**95.44**	**325**	*e*P	P	04 39 33.8	+11
LBTB	**Lobatse**	**95.80**	**244**	LR	LR	05 18 16.4	
	comp=Z,250nm,19.7s,baz=94,slow=33						
ILAR	**Eielson Array**	**95.97**	**25**	P	**P**	**04 39 25.6**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=238,slow=5.2,SNR=1.7						
ILAR	**Eielson Array**	**95.97**	**25**	P	**P**	**04 39 24.8**	**-0.7**
BRTR	**Keskin Array B**	**96.63**	**309**	P	**P**	**04 39 30.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=90,slow=2.9,SNR=3.6						
BRTR				LR	LR	05 28 04.0	
	comp=Z,116nm,21.8s,baz=112,slow=39						
BMAR	**Burnt Mountain**	**97.12**	**23**	P	**P**	**04 39 29.0**	**-1.8**
SUR	**Sutherland**	**98.24**	**236**	LR	LR	05 19 00.3	
	comp=Z,194nm,20.5s,baz=84,slow=32						
AKASG	**Malin Array Be**	**100.22**	**320**	P	**Pdif**	**04 39 46.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=75,slow=4.3,SNR=4.8						
PDAR	**Pinedale Array**	**120.51**	**45**	PKP	**PKiKP**	**04 44 51.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=215,slow=1.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**124.86**	**280**	PKP	**PKPdf**	**04 44 58.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=75,slow=1.9,SNR=3.6						
TXAR	**Lajitas Array**	**129.00**	**59**	PKP	**PKPdf**	**04 45 07.5**	**0.0**
	comp=Z,0.4nm,0.9s,baz=270,slow=5.0,SNR=2.1						
AC02	**Maricunga**	**142.55**	**158**		**PKPdf**	**04 45 30.6**	**-2.6**
CPUP	**Villa Florida**	**145.82**	**175**	PKPbc	**PKPab**	**04 45 40.9**	**+1.8**
	comp=Z,9.8nm,0.8s,baz=166,slow=2.8,SNR=7.1						
CPUP	**Villa Florida**	**145.82**	**175**	PKIKP	**PKPdf**	**04 45 36.3**	**-2.0**
CPUP	**Villa Florida**	**145.82**	**175**		**PKPdf**	**04 45 36.3**	**-2.0**
GO01	**Chusmiza**	**148.87**	**152**	PKPbc	**PKPdf**	**04 45 46.1**	**+2.0**
JTS	**Las Juntas de**	**149.59**	**83**	PKP2	**PKPbc**	**04 45 47.5**	**-1.9**
JTS	**Las Juntas de**	**149.59**	**83**	PKPbc	**PKPbc**	**04 45 47.5**	**-1.9**
PB16	**IPOC Station P**	**149.87**	**150**	PKPbc	**PKPdf**	**04 45 48.2**	**+2.4**
LPAZ	**La Paz**	**152.29**	**150**	PKPbc	**PKiKP**	**04 45 57.3**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=154,slow=0.8,SNR=9.2						

IDC ***12*** *04:35:04.8±1.6, 36°.31N×142°.08E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.5/39, mbtmpg3.7/9, ML3.2/4, Error ellipse: s-maj=32.5km s-min=23.7km az=83.0*
JMA ***12*** *04:35:10.4±0.2, 36°.29N×141°.64E, h42km±4km, M3.4*
ISC 12 04:35:07.5±1.2, 36°.30N±0°.05×142°.0E±0°.1, h19km, n25, σ1§50/21, mb3.7/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.07**	**237**	P		P	**Pb**	**04 35 26.1**	**-1.4**
JHVU	**Hitachinakayam**	**1.11**	**273**	⇓P		P	**Pb**	**04 35 26.0**	**-2.1**
JHO	**Hitachi**	**1.17**	**286**	⇓P		P	**Pb**	**04 35 27.3**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.24**	**311**	⇓P		P	**Pb**	**04 35 28.9**	**-1.4**
JFK	**Kawauchi**	**1.38**	**321**	P		P	**Pb**	**04 35 31.4**	**-1.4**
JFT	**Otama**	**1.79**	**314**	P		P	**Pn**	**04 35 37.2**	**-0.2**
BSO1	**Boso 1**	**1.82**	**206**	P		P	**Pn**	**04 35 37.8**	**+0.4**
JMM	**Marumori**	**1.83**	**329**	P		P	**Pb**	**04 35 38.2**	**-2.1**
BSO3	**Boso 3**	**1.90**	**219**	⇓P		P	**Pn**	**04 35 38.9**	**+0.2**
JAG	**Ashikaga**	**2.03**	**274**	P		P	**Pn**	**04 35 39.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.04**	**276**	Pn		Pn	**Pn**	**04 35 55.2**	**+0.6**
	2.6nm,0.3s,baz=88,slow=9.9,SNR=36								
MJAR				Sn			**Sn**	**04 36 32.2**	**+1.8**
	0.7nm,0.3s,baz=82,slow=22,SNR=4.7								
JHJ	**Hachijo jima 2**	**3.64**	**210**	Pn			**Pn**	**04 36 03.1**	**+0.2**
	18nm,0.3s,baz=338,slow=21,SNR=9.4								
JHJ				Sn			**Sn**	**04 36 42.5**	**-2.8**
	45nm,0.3s,baz=126,slow=23,SNR=7.7								
ASAJ	**Asahikawa**	**7.83**	**3**	Pn			**Pn**	**04 36 57.8**	**-2.6**
	0.2nm,0.3s,baz=228,slow=16,SNR=1.3								
KSRS	**Korea Array**	**11.31**	**280**	Pn			**Pn**	**04 37 48.8**	**+0.7**
	0.4nm,0.3s,baz=95,slow=14,SNR=1.5								
H11N2	**WAKE ISLAND Hy**	**27.39**	**120**	T		T		05 09 45.4	
	baz=312,slow=75,SNR=6.0								
H11N1	**WAKE ISLAND Hy**	**27.40**	**120**	T		T		05 09 44.2	
	baz=312,slow=75,SNR=7.4								
H11N3	**WAKE ISLAND Hy**	**27.41**	**120**	T		T		05 09 46.0	
	baz=312,slow=75,SNR=5.7								
H11S1	**WAKE ISLAND Hy**	**28.09**	**123**	T		T		05 11 06.3	
	baz=313,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**28.09**	**123**	T		T		05 10 44.9	
	baz=313,slow=75,SNR=8.2								
H11S2	**WAKE ISLAND Hy**	**28.10**	**123**	T		T		05 10 58.8	
	baz=313,slow=75,SNR=7.5								
SONM	**Songino Array**	**28.57**	**305**	P		P	**Pn**	**04 41 03.3**	**+1.0**
	0.9nm,0.7s,baz=105,slow=8.9,SNR=4.3								
ZALV	**Zalesovo Beam**	**42.74**	**313**	P		P	**Pn**	**04 43 03.6**	**+0.3**
	1.1nm,0.6s,baz=93,slow=12,SNR=4.4

	0.3nm,0.3s,baz=354,slow=13,SNR=13						
WRA				S	Sn	05 01 51.5	-8.3
	1.1nm,0.3s,baz=290,slow=14,SNR=10						
ASAR	**Alice Springs**	**17.77**	**170**	P	Pn	05 00 08.7	+1.5
	0.4nm,0.3s,baz=358,slow=10,SNR=17						
ASAR				S	Sn	05 03 21.2	-3.9
	0.3nm,0.3s,baz=360,slow=28,SNR=6.8						
MKAR	**Makanchi Array**	**67.83**	**326**	P	P	05 06 54.1	-0.1
	1.5nm,0.6s,baz=122,slow=8.0,SNR=23						

MDD ***12*** *05:04:04.8±0.4,35°.64N×3°.70W, h0km, mb_Lg2.3/17, Error ellipse: s-maj=3.3km s-min=2.6km az=6.0*
CNRM ***12*** *05:04:04.1,35°.71N×3°.55W, h25km, ml2.0*
SFS ***12*** *05:04:04.0,35°.62N×3°.71W, ML2.5, ALBORAN SUR*
ISC 12 05:04:03.5±1.2, 35°.65N±0°.02×3°.60W±0°.03, h12km±10km, n28,σ1§36/55, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**213**	P		**Pb**	**05 04 15.1**	**+0.7**
PALE				S		**Sn**	**05 04 23.1**	**+1.5**
EALB	**Alboran**	**0.55**	**58**	Pg		**Pn**	**05 04 16.7**	**-0.3**
EALB				Sg		**Sn**	**05 04 25.8**	**-0.3**
EALB				*i*	Vmb_Lg		05 04 25.9	
EMEL	**Melilla**	**0.63**	**123**	Pg		**Pn**	**05 04 17.3**	**-0.9**
EMEL				Sg		**Sn**	**05 04 26.4**	**-1.8**
ELGU	**Los Guajares,**	**1.22**	**359**	Pg		**Pn**	**05 04 25.9**	**-0.6**
ELGU				Sg		**Sn**	**05 04 43.1**	**+0.3**
ELGU				*i*	Vmb_Lg		05 04 46.6	
TAF	**Taforalt**	**1.28**	**130**	P		**Pg**	**05 04 27.7**	**-0.4**
TAF				S		**Sb**	**05 04 42.7**	**-1.2**
EMAL	**Malaga-Limoner**	**1.30**	**329**	P		**Pn**	**05 04 27.1**	**-0.3**
EMAL				S		**Sb**	**05 04 42.0**	**-2.4**
EMIJ	**Mijas**	**1.32**	**314**	Pg		**Pn**	**05 04 27.0**	**-0.7**
EMIJ				Sg		**Sb**	**05 04 44.1**	**-0.9**
EMIJ				*i*	Vmb_Lg		05 04 48.2	
EBER	**Berja**	**1.38**	**25**	Pn		**Pn**	**05 04 28.7**	**0.0**
EBER				Sn		**Sg**	**05 04 48.4**	**+0.5**
EBER				*i*	Vmb_Lg		05 04 59.5	
SMIR	**Smir Dam**	**1.45**	**272**	P		**Pn**	**05 04 27.7**	**-1.7**
SMIR				S		**Sn**	**05 04 45.0**	**-3.3**
CHEFC	**Chefchaouen**	**1.52**	**250**	P		**Pn**	**05 04 31.2**	**+0.7**
CHEFC				S		**Sg**	**05 04 53.6**	**+1.3**
EGOR	**Sierra Gorda,**	**1.52**	**345**	Pn		**Pb**	**05 04 31.3**	**-0.3**
EGOR				Sn		**Sg**	**05 04 52.5**	**+0.1**
EGOR				*i*	Vmb_Lg		05 05 00.0	
EQUE	**Quentar**	**1.56**	**5**	Pn		**Pg**	**05 04 32.8**	**-0.7**
EQUE				Sn		**Sn**	**05 04 51.3**	**0.0**
EQUE				*i*	Vmb_Lg		05 04 54.5	
JBK	**JBK**	**1.56**	**147**	P		**Pn**	**05 04 31.2**	**0.0**
JBK				S		**Sn**	**05 04 49.0**	**-2.4**
EJIF	**Jimena Fronter**	**1.71**	**299**	Pn		**Pn**	**05 04 33.1**	**0.0**
EJIF				Sn		**Sb**	**05 04 56.1**	**-0.2**
ESPR	**Espera**	**2.19**	**304**	Pn		**Pn**	**05 04 38.8**	**-0.9**
ESPR				*i*	Vmb_Lg		05 04 49.3	
ESPR				Sn		**Sn**	**05 05 07.0**	**+0.3**
EQES	**Quesada**	**2.19**	**11**	Pn		**Pb**	**05 04 42.7**	**-0.5**
EQES				Sn		**Sb**	**05 05 10.0**	**-0.3**
EQES				*i*	Vmb_Lg		05 05 12.3	
IFR	**Ifrane**	**2.47**	**211**	P		**Pn**	**05 04 40.3**	**-3.4**
IFR				S		**Sn**	**05 05 13.4**	**-0.4**
EADA	**Adamuz**	**2.63**	**343**	Pn		**Pn**	**05 04 47.3**	**+1.5**
EADA				*i*	Vmb_Lg		05 04 51.3	
EADA				Sn		**Sn**	**05 05 19.5**	**+1.8**
ECAB	**El Cabril**	**2.83**	**330**	Pn		**Pn**	**05 04 50.1**	**+1.6**
ECAB				Sn		**Sn**	**05 05 21.2**	**-1.2**
ECAB				*i*	Vmb_Lg		05 05 33.9	
CZD	**Col de Zad**	**2.87**	**205**	P		**Pn**	**05 04 50.8**	**+1.5**
CZD				S		**Sn**	**05 05 24.7**	**+1.0**
MD31	**MD31**	**2.93**	**199**	P		**Pn**	**05 04 51.3**	**+1.4**
MD31				S		**Sn**	**05 05 26.5**	**+1.3**
MDT	**Midelt**	**2.94**	**197**	P		**Pn**	**05 04 50.2**	**+0.1**
MDT				S		**Sn**	**05 05 28.2**	**+2.7**
EMIN	**Mina Concepcio**	**3.25**	**312**	Pn		**Pn**	**05 04 54.3**	**0.0**
EMIN				Sn		**Sn**	**05 05 32.6**	**-0.2**
EMIN				*i*	Vmb_Lg		05 05 39.7	
ETOB	**Tobarra**	**3.41**	**28**	Pn		**Pn**	**05 04 59.0**	**+2.4**
ETOB				Sn		**Sn**	**05 05 39.4**	**+2.4**
ETOB				*i*	Vmb_Lg		05 06 16.8	
EGRO	**El Granado**	**3.65**	**302**	Pn		**Pn**	**05 05 00.5**	**+0.9**
EGRO				Sn		**Sn**	**05 05 41.5**	**-1.0**
EGRO				*i*	Vmb_Lg		05 07 00.4	
PVAQ	**Vaqueiros**	**3.75**	**299**	P		**Pn**	**05 05 02.3**	**+1.2**
PAB	**San Pablo**	**3.94**	**352**	Pn		**Pn**	**05 05 05.1**	**+1.4**
PAB				*i*	Vmb_Lg		05 05 41.5	
PAB				Sn		**Sn**	**05 05 51.0**	**+1.0**
EBAD	**Badajoz**	**4.13**	**320**	Pn		**Pn**	**05 05 07.1**	**+0.8**
EBAD				Sn		**Sn**	**05 05 54.3**	**-0.1**
EBAD				*i*	Vmb_Lg		05 05 55.3	

IDC ***12*** *05:10:05.9±1.6,54°.39N×162°.83E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.5/55, mbtmp3.6/10, ML4.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/87, Error ellipse: s-maj=35.0km s-min=20.2km az=179.0*
KRSC ***12*** *05:10:06.7±1.1,54°.22N×162°.86E, h30km±21km, ML4.1*
ISC 12 05:10:05.9±3.5, 54°.25N±0°.04×162°.86E±0°.05, h4km±22km, n50,σ1§11/79, mb3.7/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.73**	**295**	*i* P		**Pb**	**05 10 20.4**	**-0.7**
MKZ				*e*S		**Sb**	**05 10 29.7**	**-1.8**
TUMD	**Tumrok D**	**1.72**	**305**	*e*P		**Pn**	**05 10 35.7**	**-0.9**
TUMD				*e*S		**Sn**	**05 10 56.7**	**-2.3**
TUMR	**Tumrok**	**1.88**	**304**	*i* P		**Pn**	**05 10 39.0**	**+0.1**
TUMR				*e*S		**Sn**	**05 11 01.8**	**-1.4**
KBTR	**Krutoberegovo**	**1.96**	**359**	*i* P		**Pn**	**05 10 39.7**	**-0.2**
KBG	**Krutoberegovo**	**2.01**	**357**	*e*P		**Pn**	**05 10 40.1**	**-0.4**
KBG				*e*S		**Sn**	**05 11 04.6**	**-1.5**
KII	**Karymskiy**	**2.02**	**265**	*e*P		**Pn**	**05 10 40.5**	**-0.3**
KII				*e*S		**Sn**	**05 11 04.7**	**-1.8**
BKI	**Bering**	**2.04**	**61**	*e*P		**Pn**	**05 10 42.3**	**+1.4**
BKI				*e*S		**Sn**	**05 11 06.7**	**-0.1**
SPN	**Mys Shipunski**	**2.05**	**237**	*e*P		**Pn**	**05 10 40.9**	**-0.2**
SPN				*e*S		**Sn**	**05 11 05.4**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**2.10**	**324**	*e*P		**Pn**	**05 10 43.0**	**+1.1**
BZGR				*e*S		**Sn**	**05 11 09.2**	**+0.7**
ZLN	**Zelenaya**	**2.13**	**327**	*e*P		**Pn**	**05 10 43.3**	**+1.0**
ZLN				*e*S		**Sn**	**05 11 10.3**	**+1.1**
KMNR	**Kamenistaya**	**2.13**	**316**	*e*P		**Pn**	**05 10 43.3**	**+0.9**
KMNR				*e*S		**Sn**	**05 11 09.8**	**+0.4**
LGNR	**Loginova**	**2.22**	**327**	*e*P		**Pn**	**05 10 44.8**	**+1.1**
LGNR				*e*S		**Sn**	**05 11 13.2**	**+1.5**
KIRR	**Kirishev**	**2.24**	**321**	*e*P		**Pn**	**05 10 44.1**	**+0.3**
KIRR				*e*S		**Sn**	**05 11 12.1**	**+0.1**
KPT	**Kopyto**	**2.29**	**320**	*e*P		**Pn**	**05 10 45.4**	**+0.9**
KRSR	**Krestovskiy**	**2.37**	**327**	*e*P		**Pn**	**05 10 46.0**	**+0.4**
KRSR				*e*S		**Sn**	**05 11 15.3**	**+0.2**
KLY	**Klyuchi**	**2.42**	**329**	*e*P		**Pn**	**05 10 45.6**	**-0.6**
KLY				*e*S		**Sn**	**05 11 14.6**	**-1.7**
SMKR	**Semkarok**	**2.47**	**342**	*e*P		**Pn**	**05 10 47.6**	**+0.7**
SMKR				*e*S		**Sn**	**05 11 16.8**	**-0.7**
KOZ	**Kozyrevsk**	**2.49**	**318**	*e*P		**Pn**	**05 10 48.4**	**+1.2**
KOZ				*e*S		**Sn**	**05 11 18.7**	**+0.6**
BDR	**Baidarnaya**	**2.50**	**339**	*e*P		**Pn**	**05 10 48.4**	**+0.9**
BDR				*e*S		**Sn**	**05 11 19.5**	**+1.0**
SDLR	**Sedlovina**	**2.56**	**249**	*i* P		**Pn**	**05 10 49.1**	**+0.9**
SDLR				*e*S		**Sn**	**05 11 19.9**	**+0.1**
SRKR	**Sorokina**	**2.59**	**339**	*e*P		**Pn**	**05 10 49.4**	**+0.7**
SMAR	**Somma**	**2.61**	**249**	*i* P		**Pn**	**05 10 50.0**	**+1.0**
SMAR				*e*S		**Sn**	**05 11 20.9**	**-0.3**
UGLR	**Uglovaya**	**2.62**	**248**	*i* P		**Pn**	**05 10 50.2**	**+1.2**
UGLR				*e*S		**Sn**	**05 11 21.5**	**+0.2**
KRER	**Koryakskii**	**2.62**	**250**	*i* P		**Pn**	**05 10 50.4**	**+1.2**
KRER				*e*S		**Sn**	**05 11 21.6**	**+0.1**
AVH	**Avacha**	**2.64**	**250**	*i* P		**Pn**	**05 10 50.7**	**+1.4**
AVH				*e*S		**Sn**	**05 11 22.0**	**+0.2**
KOK	**Koryaka**	**2.69**	**251**	*i* P		**Pn**	**05 10 50.9**	**+0.9**
KOK				*e*S		**Sn**	**05 11 23.0**	**0.0**
DALK	**Dalny**	**2.74**	**245**	*e*P		**Pn**	**05 10 51.1**	**+0.6**
DALK				*e*S		**Sn**	**05 11 23.0**	**-1.0**
PET	**Petropavlovsk**	**2.79**	**246**	*i* P		**Pn**	**05 10 52.7**	**+1.4**
PET				*e*S		**Sn**	**05 11 25.3**	**-0.1**
ESO	**Esso**	**2.92**	**307**	*e*P		**Pn**	**05 10 55.4**	**+2.3**
ESO				*e*S		**Sn**	**05 11 29.4**	**+0.7**
GNL	**Ganaly**	**2.96**	**261**	*e*P		**Pn**	**05 10 55.0**	**+1.3**
GNL				*e*S		**Sn**	**05 11 29.3**	**-0.4**
KRMR	**Karymshinskiy**	**3.16**	**245**	*e*P		**Pn**	**05 10 57.6**	**+1.2**
KRMR				*e*S		**Sn**	**05 11 34.3**	**-0.3**
RUS	**Russkaya**	**3.18**	**237**	*i* P		**Pn**	**05 10 57.8**	**+1.1**
RUS				*e*S		**Sn**	**05 11 33.1**	**-1.9**
PETK	**Petropavlovsk-**	**3.28**	**252**	Pn		**Pn**	**05 10 58.9**	**+0.9**
	7.2nm,0.3s,baz=74,slow=17,SNR=86							
PETK				Sn		**Sn**	**05 11 39.0**	**+1.6**
	7.3nm,0.3s,baz=349,slow=23,SNR=8.3							
MTVR	**Mutnovka**	**3.32**	**240**	*i* P		**Pn**	**05 11 00.2**	**+1.5**
MTVR				*e*S		**Sn**	**05 11 37.5**	**-1.1**
GRL	**Gorelyy**	**3.34**	**241**	*i* P		**Pn**	**05 11 00.7**	**+1.8**
GRL				*e*S		**Sn**	**05 11 38.8**	**-0.2**
APC	**Apacha**	**3.65**	**251**	*e*P		**Pn**	**05 11 05.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**3.79**	**232**	*e*P		**Pn**	**05 11 06.2**	**+1.2**
KDTR				*e*S		**Sn**	**05 11 48.1**	**-1.8**
MA2	**Magadan**	**8.49**	**314**	Pn		**Pn**	**05 12 11.4**	**+1.9**
	0.5nm,0.3s,baz=110,slow=11,SNR=8.0							
KLR	**Kul'dur**	**19.81**	**268**	LR		LR	05 22 37.9	
	comp=Z,111nm,18.1s,baz=216,slow=38							
ILAR	**Eielson Array**	**26.82**	**47**	P		**P**	**05 15 47.8**	**+0.9**
	0.2nm,0.7s,baz=276,slow=8.1,SNR=1.7							
H11N2	**WAKE ISLAND Hy**	**34.60**	**173**	T		T	05 54 22.1	
	baz=355,slow=76,SNR=29							
H11N3	**WAKE ISLAND Hy**	**34.61**	**173**	T		T	05 54 24.0	
	baz=355,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**34.62**	**173**	T		T	05 54 24.1	
	baz=355,slow=76,SNR=32							
MKAR	**Makanchi Array**	**49.13**	**296**	P		**P**	**05 18 55.3**	**+1.0**
	0.1nm,0.4s,baz=43,slow=8.7,SNR=2.2							
ARCES	**ARCESS Array B**	**52.69**	**343**	P		**P**	**05 19 20.3**	**-0.5**
	4.3nm,0.9s,baz=29,slow=7.7,SNR=2.0							
FINES	**FINESS Array B**	**59.69**	**338**	P		**P**	**05 20 10.8**	**-0.1**
	1.5nm,0.5s,baz=31,slow=8.4,SNR=24							
NOA	**NORSAR Array B**	**62.87**	**345**	P		**P**	**05 20 32.3**	**-0.2**
	0.3nm,0.5s,baz=18,slow=6.7,SNR=4.6							
HFS	**Hagfors**	**63.33**	**343**	P		**P**	**05 20 34.2**	**-1.2**
	0.6nm,0.4s,baz=54,slow=2.5,SNR=1.4							
TXAR	**Lajitas Array**	**68.67**	**69**	P		**P**	**05 21 09.9**	**-0.5**
	0.3nm,1.0s,baz=310,slow=4.6,SNR=2.3							
BRTR	**Keskin Array B**	**76.75**	**322**	P		**P**	**05 21 58.8**	**+0.4**
	0.3nm,0.5s,baz=42,slow=4.5,SNR=1.9							

IDC ***12*** *05:20:30.6±1.2,35°.66N×3°.67W, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=32.5km s-min=12.9km az=97.0*
SFS ***12*** *05:20:32.0,35°.60N×3°.60W, ML3.7, ALBORAN SUR*
IGIL ***12*** *05:20:32.6,35°.65N×3°.66W, h0km, ML3.1*
MDD ***12*** *05:20:32.4±0.3,35°.66N×3°.67W, h0km, mb_Lg3.4/25, Error ellipse: s-maj=2.8km s-min=2.1km az=173.0*
CNRM ***12*** *05:20:32.9,35°.69N×3°.63W, h37km, ml3.3*
LDG ***12*** *05:20:33.2±0.3,35°.56N×3°.60W, h10km, Ml2.8/3, Error ellipse: s-maj=6.1km s-min=3.2km az=173.0*
INMG ***12*** *05:20:33.2±1.6,35°.67N×3°.77W, h1km±5km, ML3.0, Error ellipse: s-maj=3.3km s-min=3.2km az=123.0*
ISC 12 05:20:33.2±1.1, 35°.62N±0°.02×3°.62W±0°.02, h23km±10km, n107,σ1§78/183, mb3.6/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.48**	**213**	P		**Pb**	**05 20 43.0**	**0.0**
PALE				S		**Sn**	**05 20 52.2**	**-0.2**
EALB	**Alboran**	**0.57**	**56**	Pg		**Pb**	**05 20 43.6**	**-1.1**
EALB				Sg		**Sb**	**05 20 52.2**	**-0.3**
EALB				*i*	Vmb_Lg		05 20 53.3	
EMEL	**Melilla**	**0.63**	**120**	Pg		**Pb**	**05 20 44.9**	**-0.7**
EMEL				Sg		**Sb**	**05 20 53.9**	**-0.1**
ELGU	**Los Guajares,**	**1.24**	**360**	Pg		**Pn**	**05 20 53.3**	**-2.0**
ELGU				Sg		**Sn**	**05 21 09.2**	**-2.2**
ELGU				*i*	Vmb_Lg		05 21 13.1	
TAF	**Taforalt**	**1.28**	**129**	P		**Pn**	**05 20 54.8**	**-0.9**
TAF				S		**Sn**	**05 21 11.5**	**-0.7**
EMAL	**Malaga-Limoner**	**1.31**	**330**	P		**Pn**	**05 20 54.5**	**-1.7**
EMAL				S		**Sn**	**05 21 09.6**	**-3.3**
EMIJ	**Mijas**	**1.32**	**316**	Pg		**Pn**	**05 20 54.6**	**-1.7**
EMIJ				Sg		**Sn**	**05 21 10.9**	**-2.3**
EMIJ				*i*	Vmb_Lg		05 21 11.9	
EBER	**Berja**	**1.41**	**25**	Pn		**Pn**	**05 20 56.0**	**-1.6**
EBER				Sn		**Sn**	**05 21 14.4**	**-1.1**
EBER				*i*	Vmb_Lg		05 21 16.3	
SMIR	**Smir Dam**	**1.43**	**273**	P		**Pn**	**05 20 55.1**	**-2.7**
SMIR				S		**Sn**	**05 21 13.8**	**-2.1**
CEU	**Ceuta**	**1.45**	**282**	P		**Pn**	**05 20 55.3**	**-2.7**
CEU				S		**Sn**	**05 21 12.6**	**-3.7**
CHEFC	**Chefchaouen**	**1.49**	**250**	P		**Pn**	**05 20 58.7**	**0.0**
CHEFC				S		**Sn**	**05 21 16.7**	**-0.8**
EGOR	**Sierra Gorda,**	**1.54**	**345**	Pn		**Pn**	**05 20 58.1**	**-1.3**
EGOR				Sn		**Sn**	**05 21 19.1**	**+0.4**
EGOR				*i*	Vmb_Lg		05 21 23.7	
JBK	**JBK**	**1.55**	**146**	P		**Pn**	**05 20 58.7**	**-0.9**
JBK				S		**Sn**	**05 21 17.0**	**-2.0**
EQUE	**Quentar**	**1.59**	**5**	Pn		**Pn**	**05 20 59.6**	**-0.4**
EQUE				Sn		**Sn**	**05 21 19.1**	**-0.8**
EJIF	**Jimena Fronter**	**1.71**	**300**	Pn		**Pn**	**05 21 01.0**	**-0.7**
EJIF				Sn		**Sb**	**05 21 24.1**	**-1.0**
ENIJ	**Nijar**	**1.77**	**40**	Pn		**Pn**	**05 21 00.7**	**-1.8**
ENIJ				Sn		**Sn**	**05 21 21.6**	**-2.6**
ENIJ				*i*	Vmb_Lg		05 21 24.7	
LIJA	**Lijar**	**1.93**	**312**	P		**Pb**	**05 21 08.1**	**+0.3**
LIJA				S		**Sb**	**05 21 37.0**	**+5.5**
LCRM	**LCR**	**2.18**	**208**	P		**Pn**	**05 21 08.5**	**+0.3**
LCRM				S		**Sb**	**05 21 38.3**	**-0.5**
ESPR	**Espera**	**2.19**	**305**	Pn		**Pn**	**05 21 09.6**	**+1.3**
ESPR				Sn		**Sn**	**05 21 35.7**	**+1.1**
ESPR				*i*	Vmb_Lg		05 21 44.1	
EQES	**Quesada**	**2.22**	**11**	Pn		**Pn**	**05 21 10.1**	**+1.3**
EQES				Sn		**Sn**	**05 21 37.3**	**+1.8**
EQES				*i*	Vmb_Lg		05 21 39.8	
IFR	**Ifrane**	**2.44**	**211**	P		**Pn**	**05 21 12.2**	**+0.4**
IFR				S		**Sn**	**05 21 41.1**	**+0.2**
EADA	**Adamuz**	**2.65**	**344**	Pn		**Pn**	**05 21 15.2**	**+0.5**
EADA				Sn		**Sn**	**05 21 46.1**	**+0.1**
EADA				*i*	Vmb_Lg		05 21 55.1	
EZAR	**Zarzadilla de**	**2.73**	**34**	Pn		**Pn**	**05 21 15.1**	**-0.7**
EZAR				Sn		**Sn**	**05 21 48.1**	**0.0**
CZD	**Col de Zad**	**2.84**	**205**	P		**Pn**	**05 21 18.7**	**+1.3**
CZD				S		**Sn**	**05 21 53.0**	**+2.0**
ECAB	**El Cabril**	**2.84**	**330**	Pn		**Pn**	**05 21 18.1**	**+0.9**
ECAB				Sn		**Sn**	**05 21 50.5**	**-0.2**
ECAB				*i*	Vmb_Lg		05 22 01.0	
CART	**Cartagena**	**2.88**	**46**	P		**Pn**	**05 21 17.6**	**-0.1**
CART				S		**Sn**	**05 21 47.8**	**-3.8**
CART	**Cartagena**	**2.88**	**46**	P		**Pn**	**05 21 15.7**	**-2.0**
CART				S		**Sn**	**05 21 49.0**	**-2.6**
TDRA	**Tendrara**	**2.89**	**152**	P		**Pn**	**05 21 19.3**	**+1.2**
TDRA				S		**Sn**	**05 21 52.0**	**-0.2**
MD31	**MD31**	**2.90**	**199**	P		**Pn**	**05 21 19.3**	**+1.2**
MD31				S		**Sn**	**05 21 53.9**	**+1.6**
MDT	**Midelt**	**2.92**	**197**	Pn		**Pn**	**05 21 19.1**	**+0.8**
	1.2nm,0.3s,baz=182,slow=7.4,SNR=56							
MDT				Sn		**Sn**	**05 21 54.1**	**+1.5**
	6.3nm,0.3s,baz=18,slow=8.1,SNR=6.2							
MDT				Lg		Lg	05 22 04.0	
	6.1nm,0.3s,baz=302,slow=10,SNR=6.7							
MDT	**Midelt**	**2.92**	**197**	P		**Pn**	**05 21 18.8**	**+0.5**
MDT				S		**Sn**	**05 21 54.3**	**+1.6**
EMIN	**Mina Concepcio**	**3.25**	**312**	Pn		**Pn**	**05 21 22.4**	**-0.4**
EMIN				Sn		**Sn**	**05 21 59.7**	**-1.1**
ETOB	**Tobarra**	**3.44**	**28**	Pn		**Pn**	**05 21 26.5**	**+1.0**
ETOB				Sn		**Sn**	**05 22 06.8**	**+1.2**
ETOB				*i*	Vmb_Lg		05 22 28.7	
EGRO	**El Granado**	**3.65**	**303**	Pn		**Pn**	**05 21 28.0**	**-0.3**
EGRO				Sn		**Sn**	**05 22 08.5**	**-2.0**
EGRO				*i*	Vmb_Lg		05 22 12.6	
PBAR	**Barrancos**	**3.74**	**314**	*e*Pn		**Pn**	**05 21 29.2**	**-0.3**
PBAR				*e*Sn		**Sn**	**05 22 11.3**	**-1.5**
PBAR				A		A	05 22 12.8	
	22nm,0.5s							
PVAQ	**Vaqueiros**	**3.75**	**300**	*e*Pn		**Pn**	**05 21 29.1**	**-0.5**
PVAQ				*e*Sn		**Sn**	**05 22 11.5**	**-1.5**
PVAQ				A		A	05 22 20.6	
	24nm,0.4s							
PVAQ	**Vaqueiros**	**3.75**	**300**	P		**Pn**	**05 21 29.1**	**-0.5**
PVAQ	**Vaqueiros**	**3.75**	**300**	P		**Pn**	**05 21 29.1**	**-0.5**
PVAQ				S		**Sn**	**05 22 10.6**	**-2.4**
PBDV	**Barranco-do-Ve**	**3.83**	**296**	*e*Pn		**Pn**	**05 21 30.3**	**-0.5**
PBDV				*e*Sn		**Sn**	**05 22 13.1**	**-2.0**
PBDV				A		A	05 22 17.3	
	24nm,0.5s							
AVE	**Averroes**	**3.90**	**235**	P		**Pn**	**05 21 32.5**	**+0.9**
AVE				S		**Sn**	**05 22 16.5**	**-0.2**
AVE	**Averroes**	**3.90**	**235**	P		**Pn**	**05 21 32.1**	**+0.4**
AVE				S		**Sn**	**05 22 14.9**	**-1.8**
AFON	**Font Roja**	**3.91**	**38**	Pn		**Pn**	**05 21 33.5**	**+1.5**
AFON				*i*	Vmb_Lg		05 21 42.2	
PAB	**San Pablo**	**3.96**	**352**	P		**Pn**	**05 21 34.1**	**+1.5**
PAB	**San Pablo**	**3.96**	**352**	P		**Pn**	**05 21 32.9**	**+0.3**
PAB				Sn		**Sn**	**05 22 17.8**	**-0.6**
PAB				*i*	Vmb_Lg		05 22 33.8	
ESDC	**Sonseca Array**	**4.05**	**356**	Pn		**Pn**	**05 21 34.5**	**+0.6**
	1.2nm,0.3s,baz=179,slow=12,SNR=95							
ESDC				Sn		**Sn**	**05 22 21.3**	**+0.6**
	1.2nm,0.3s,baz=176,slow=23,SNR=4.3							
ESDC				Lg		Lg	05 22 37.4	
	2.4nm,0.3s,baz=176,slow=28,SNR=7.0							
PCVE	**Castro Verde**	**4.08**	**301**	*e*Pn		**Pn**	**05 21 33.8**	**-0.4**
PCVE				*e*Sn		**Sn**	**05 22 20.0**	**-1.2**
PCVE				A		A	05 22 22.9	
	26nm,0.3s							
EBAD	**Badajoz**	**4.14**	**320**	Pn		**Pn**	**05 21 35.0**	**0.0**
EBAD				Sn		**Sn**	**05 22 20.7**	**-1.9**
EBAD				*i*	Vmb_Lg		05 22 25.0	
EVIV	**Cofrentes, Val**	**4.15**	**28**	Pn		**Pn**	**05 21 37.0**	**+1.8**
PBEJ	**Beja**	**4.17**	**306**	*e*Pn		**Pn**	**05 21 35.6**	**+0.2**
PBEJ				*e*Sn		**Sn**	**05 22 21.6**	**-1.7**
PBEJ				A		A	05 22 32.0	
	12nm,0.4s							
MORF	**Marmelete**	**4.39**	**294**	*e*P		**Pn**	**05 21 37.8**	**-0.6**
MORF				*e*S		**Sn**	**05 22 25.8**	**-3.1**
MORF				IAML			05 22 30.2	
	comp=N,34nm,0.3s							
MORF	**Marmelete**	**4.39**	**294**	*e*Pn		**Pn**	**05 21 37.8**	**-0.6**
MORF				*e*Sn		**Sn**	**05 22 26.6**	**-2.3**
MORF				A		A	05 22 33.9	
	comp=N,13nm,0.4s							
PFVI	**Vila Bisbo**	**4.46**	**291**	*e*Pn		**Pn**	**05 21 39.1**	**-0.3**
PFVI				*e*Sn		**Sn**	**05 22 28.3**	**-2.3**
PFVI				A		A	05 22 39.4	
	comp=N,13nm,0.5s							
PFVI	**Vila Bisbo**	**4.46**	**291**	P		**Pn**	**05 21 39.4**	**-0.1**
ECHE	**Chera**	**4.49**	**27**	Pn		**Pn**	**05 21 40.4**	**+0.5**
ECHE				*i*	Vmb_Lg		05 23 50.8	
PESTR	**Estremoz**	**4.53**	**317**	*e*Pn		**Pn**	**05 21 40.5**	**+0.2**
PESTR				*e*Sn		**Sn**	**05 22 30.1**	**-2.2**
PESTR				A		A	05 22 40.2	
	comp=N,12nm,0.5s							
PESTR	**Estremoz**	**4.53**	**317**	P		**Pn**	**05 21 40.6**	**+0.2**
PTEO	**Sao Teotonio**	**4.53**	**297**	*e*Pn		**Pn**	**05 21 39.4**	**-1.0**
PTEO				*e*Sn		**Sn**	**05 22 31.4**	**-0.9**
PTEO				A		A	05 22 37.1	
	comp=N,21nm,0.5s							
EVO	**Evora**	**4.56**	**311**	P		**Pn**	**05 21 40.6**	**-0.1**
EVO				S		**Sn**	**05 22 30.4**	**-2.5**
EVO	**Evora**	**4.56**	**311**	*e*Pn		**Pn**	**05 21 40.9**	**+0.2**
EVO				*e*Sn		**Sn**	**05 22 30.5**	**-2.5**
EVO				A		A	05 22 34.4	
	comp=N,18nm,0.6s							
PNCL	**Nicolau / Gran**	**4.65**	**304**	*e*Pn		**Pn**	**05 21 41.9**	**-0.1**
PNCL				*e*Sn

QUIF	**Quistinic**	**12.29**	**1**	*e*Pn		**Pn**	**05 23 24.6**	**-2.1**
SGMF	**Saint Gilles**	**12.65**	**3**	*e*Pn		**Pn**	**05 23 30.2**	**-1.4**
ROSF	**Rostrenen**	**12.71**	**1**	*e*Pn		**Pn**	**05 23 29.8**	**-2.6**
CLL	**Collm**	**19.71**	**32**	*e*P		**Pn**	**05 25 04.0**	**+1.6**
TORD	**Torodi Ar. Bea**	**22.89**	**167**	P		**P**	**05 25 36.6**	**+1.4**
	comp=N,0.8nm,1.0s,baz=343,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**62.54**	**51**	P		**P**	**05 30 55.8**	**+0.7**
	comp=N,0.4nm,0.7s,baz=298,slow=5.4,SNR=5.7							
YKA	**Yellowknife Ar**	**67.78**	**332**	P		**P**	**05 31 29.7**	**+0.9**
	comp=N,0.3nm,0.6s,baz=60,slow=6.5,SNR=6.8							

IDC 12 05:26:06.9±1.9, 7.77S×126.18E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.3/31, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=101.1km s-min=27.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.28**	**183**	Pn	Pn	05 28 34.6	-1.1
	0.5nm,0.3s,baz=3.1,slow=11,SNR=15						
FITZ				Sn	Sn	05 30 23.8	-8.0
	1.3nm,0.3s,baz=233,slow=20,SNR=9.1						
WRA	**Warramunga Arr**	**14.46**	**148**	Pn	Pn	05 29 32.5	-0.5
	0.2nm,0.3s,baz=323,slow=13,SNR=11						
WRA				Sn	Sn	05 32 07.5	-6.6
	0.1nm,0.3s,baz=316,slow=28,SNR=1.7						
ASAR	**Alice Springs**	**17.46**	**156**	P	P	05 30 13.3	0.0
	0.1nm,0.3s,baz=334,slow=11,SNR=4.0						
ASAR				S	Sn	05 33 19.0	-8.2
	0.1nm,0.3s,baz=317,slow=20,SNR=1.7						
MKAR	**Makanchi Array**	**66.85**	**329**	P	P	05 37 00.8	+0.1
	0.4nm,0.6s,baz=130,slow=5.8,SNR=7.1						

GUC 12 05:43:42.0±0.7, 30.67S×71.54W, h32km±2km, ML3.6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.08**	**268**	↑*i*P		05 43 48.2	+0.7
CO06				*e*S	Sb	05 43 51.9	+0.6
CO06				IAML		05 43 52.7	
	comp=E,24μm,0.1s						
CO02	**Combarbal**	**0.71**	**139**	↓*i*P	Pb	05 43 56.7	+0.7
CO02				*e*S	Sn	05 44 07.2	+1.4
CO02				IAML		05 44 10.8	
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**0.75**	**103**	↓*i*P	Pb	05 43 57.5	+0.8
CO03				*i* S	Sn	05 44 08.7	+1.8
CO03				IAML		05 44 09.5	
	comp=N,3μm,0.1s						
CO05	**La Serena**	**0.79**	**19**	*e*P	Pb	05 43 57.5	+0.1
CO05				*i* S	Sb	05 44 09.0	+1.1
CO05				IAML		05 44 12.2	
	comp=E,2μm,0.4s						
GO04	**Tololo Observa**	**0.81**	**52**	↓*i*P	Pb	05 43 58.6	+0.8
GO04				*i* S	Sb	05 44 10.9	+2.4
LCO	**Las Campanas**	**1.81**	**24**	*e*P	Pn	05 44 12.7	+1.5
LCO				*e*S	Sb	05 44 35.3	-1.7
VA06	**Catapilco**	**1.90**	**174**	*e*P	Pn	05 44 13.4	+1.3
VA06				IAML		05 44 45.6	
	comp=E,640nm,0.5s						
VA03	**San Esteban**	**2.25**	**158**	*e*P	Pb	05 44 20.1	-1.9
VA03				*i* S	Sb	05 44 49.3	-0.2
VA03				IAML		05 44 54.9	
	comp=E,512nm,0.4s						
ROCH	**El Roble**	**2.34**	**169**	*e*P	Pb	05 44 20.2	-3.5
ROCH				*e*P	Pn	05 44 18.3	-0.2
ROCH				*e*S	Sb	05 44 49.4	-2.7
ROCH				IAML		05 44 57.5	
	comp=N,466nm,0.5s						
VA01	**Torpederas**	**2.35**	**182**	*e*P	Pb	05 44 21.2	-2.4
AC04	**Llanos de Chal**	**2.49**	**10**	*e*P	Pn	05 44 21.1	+0.7
AC04				IAML		05 45 08.1	
	comp=N,195nm,0.6s						
PEL	**Peldehue**	**2.57**	**164**	*e*P	Pn	05 44 23.3	+1.8
PEL				IAML		05 45 04.7	
	comp=E,173nm,0.4s						
MT02	**Curacav**	**2.60**	**173**	*e*P	Pn	05 44 24.6	+2.7
MT05	**Renca**	**2.80**	**166**	*e*P	Pn	05 44 24.8	+0.2
MT05				IAML		05 45 12.5	
	comp=N,285nm,0.5s						
FCH	**Farellones**	**2.85**	**158**	*e*P	Pb	05 44 29.2	-3.2
FCH				IAML		05 45 12.8	
	comp=E,143nm,0.2s						
MT03	**Universidad Ad**	**2.95**	**163**	*e*P	Pn	05 44 29.2	+2.5
MT03				IAML		05 45 20.0	
	comp=N,313nm,0.3s						
VA05	**Santo Domingo**	**2.98**	**181**	*e*P	Pn	05 44 27.9	+0.9
VA05				IAML		05 45 14.2	
	comp=E,301nm,0.4s						
MT09	**Talagante**	**3.13**	**172**	*e*P	Pn	05 44 31.2	+1.9
MT09				IAML		05 45 20.6	
	comp=N,178nm,0.4s						
MT01	**Popeta**	**3.19**	**176**	*e*P	Pn	05 44 31.1	+1.1
GO03	**Copiap**	**3.27**	**21**	*e*P	Pn	05 44 32.4	+1.2
GO03				IAML		05 45 29.4	
	comp=N,219nm,0.5s						
LMEL	**Las Melosas**	**3.36**	**161**	*e*P	Pn	05 44 35.9	+3.4
LMEL				IAML		05 45 25.7	
	comp=N,166nm,0.4s						
BO04	**La Punta**	**3.40**	**167**	*e*P	Pn	05 44 35.1	+2.2
BO04				IAML		05 45 36.1	
	comp=E,99nm,0.5s						
AC06	**Mina Casimiro**	**3.46**	**18**	*e*P	Pn	05 44 34.7	+1.0
AC06				IAML		05 45 30.6	
	comp=E,107nm,0.3s						
BO01	**Tunca**	**3.73**	**174**	*e*P	Pn	05 44 39.4	+2.0
BO03	**Pichilemu**	**3.83**	**185**	*e*P	Pn	05 44 37.9	-0.8
BO02	**Sierra Bellavi**	**4.16**	**171**	*e*P	Pn	05 44 45.1	+1.7
GO05	**Huala**	**4.34**	**184**	*e*P	Pn	05 44 45.0	-0.8
AC02	**Maricunga**	**4.37**	**30**	*e*P	Pn	05 44 48.7	+2.0

CNRM 12 05:53:39.5, 35.68N×3.82W, h2km, ml2.0
MDD 12 05:53:41.5±0.4, 35.45N×3.84W, h0km, mb_Lg2.4/20, Error ellipse: s-maj=3.7km s-min=2.5km az=176.0
SFS 12 05:53:41.0, 35.44N×3.84W, ML2.5, ALBORAN SUR

ISC 12 05:53:42.5±1.1, 35.47N±0.02×3.76W±0.02, h19km±3km, n38, σ1s71/68, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**210**	P	**Pb**	**05 53 47.6**	**-1.3**
PALE				S	**Sb**	**05 53 53.3**	**+0.1**
EMEL	**Melilla**	**0.68**	**104**	Pg	**Pb**	**05 53 54.9**	**-0.7**
EMEL				Sg	**Sg**	**05 54 05.8**	**+0.8**
EALB	**Alboran**	**0.76**	**51**	Pg	**Pb**	**05 53 54.8**	**-2.3**
EALB				Sg	**Sb**	**05 54 06.9**	**-0.1**
EALB				*i* Vmb_Lg		05 54 07.1	
TAF	**Taforalt**	**1.28**	**120**	P	**Pg**	**05 54 07.0**	**-0.3**
TAF	**Taforalt**	**1.28**	**120**	P	**Pn**	**05 54 01.9**	**-3.5**
TAF				S	**Sn**	**05 54 19.1**	**-3.0**
SMIR	**Smir Dam**	**1.34**	**280**	P	**Pn**	**05 54 04.0**	**-2.0**
SMIR	**Smir Dam**	**1.34**	**280**	P	**Pn**	**05 54 03.8**	**-2.2**
SMIR				S	**Sg**	**05 54 24.8**	**-1.0**
CHEFC	**Chefchaouen**	**1.34**	**255**	P	**Pn**	**05 54 06.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.34**	**255**	P	**Pn**	**05 54 05.2**	**-0.9**
CHEFC				S	**Sg**	**05 54 26.2**	**+0.4**
EMIJ	**Mijas**	**1.37**	**324**	Pg	**Pn**	**05 54 05.6**	**-1.0**
EMIJ				Sg	**Sn**	**05 54 22.7**	**-1.5**
EMIJ				*i* Vmb_Lg		05 54 28.6	
CEU	**Ceuta**	**1.38**	**289**	P	**Pn**	**05 54 03.5**	**-3.1**
CEU				S	**Sn**	**05 54 18.4**	**-5.9**
EMAL	**Malaga-Limoner**	**1.40**	**338**	P	**Pg**	**05 54 09.6**	**+0.1**
EMAL				S	**Sn**	**05 54 24.9**	**0.0**
ELGU	**Los Guajares,**	**1.40**	**4**	Pn	**Pn**	**05 54 06.8**	**-0.2**
ELGU				Sn	**Sb**	**05 54 25.9**	**+0.2**
ELGU				*i* Vmb_Lg		05 54 26.9	
JBK	**JBK**	**1.50**	**139**	P	**Pb**	**05 54 10.0**	**+0.3**
JBK	**JBK**	**1.50**	**139**	P	**Pn**	**05 54 07.6**	**-0.8**
JBK				S	**Sn**	**05 54 24.8**	**-2.7**
EBER	**Berja**	**1.59**	**26**	Pn	**Pn**	**05 54 09.3**	**-0.5**
EBER				Sn	**Sn**	**05 54 30.3**	**+0.4**
EBER				*i* Vmb_Lg		05 54 42.2	
EGOR	**Sierra Gorda,**	**1.66**	**350**	Pn	**Pn**	**05 54 09.9**	**-0.8**
EGOR				Sn	**Sb**	**05 54 32.4**	**-0.7**
EGOR				*i* Vmb_Lg		05 54 41.9	
EJIF	**Jimena Fronter**	**1.70**	**306**	Pn	**Pn**	**05 54 11.4**	**+0.4**
EJIF				Sn	**Sn**	**05 54 31.0**	**-1.2**
EQUE	**Quentar**	**1.75**	**8**	Sn	**Sb**	**05 54 34.9**	**-0.9**
EQUE				*i* Vmb_Lg		05 54 42.7	

SICH	**Sidi Chahed**	**1.87**	**224**	P		**Pn**	**05 54 14.3**	**+1.0**
SICH				S		**Sb**	**05 54 38.6**	**-0.2**
ENIJ	**Nijar**	**1.96**	**40**	Sn		**Sn**	**05 54 36.1**	**-2.7**
ENIJ				*i* Vmb_Lg			05 54 37.3	
ESPR	**Espera**	**2.20**	**310**	Pn		**Pn**	**05 54 17.0**	**-0.9**
ESPR				Sn		**Sn**	**05 54 44.0**	**-0.5**
ESPR				*i* Vmb_Lg			05 54 54.8	
IFR	**Ifrane**	**2.25**	**210**	P		**Pn**	**05 54 18.4**	**-0.4**
IFR				S		**Sn**	**05 54 44.8**	**-1.3**
EQES	**Quesada**	**2.40**	**13**	Pn		**Pn**	**05 54 22.6**	**+1.8**
EQES				Sn		**Sn**	**05 54 51.6**	**+2.0**
EQES				*i* Vmb_Lg			05 54 53.8	
CZD	**Col de Zad**	**2.65**	**204**	P		**Pn**	**05 54 24.3**	**-0.1**
CZD				S		**Sn**	**05 54 55.8**	**-0.3**
MD31	**MD31**	**2.72**	**198**	P		**Pn**	**05 54 24.8**	**-0.4**
MD31				S		**Sn**	**05 54 56.8**	**-0.8**
MDT	**Midelt**	**2.74**	**195**	P		**Pn**	**05 54 26.4**	**+1.0**
MDT	**Midelt**	**2.74**	**195**	P		**Pn**	**05 54 26.4**	**+1.0**
MDT				S		**Sn**	**05 54 58.2**	**+0.2**
EADA	**Adamuz**	**2.77**	**347**	Pn		**Pn**	**05 54 26.1**	**+0.2**
EADA				Sn		**Sn**	**05 54 59.0**	**+0.1**
EADA				*i* Vmb_Lg			05 55 13.7	
ECAB	**El Cabril**	**2.92**	**333**	Pn		**Pn**	**05 54 28.5**	**+0.6**
ECAB				Sn		**Sn**	**05 55 02.9**	**+0.3**
ECAB				*i* Vmb_Lg			05 55 20.9	
EMIN	**Mina Concepcio**	**3.28**	**315**	Pn		**Pn**	**05 54 32.6**	**-0.2**
EMIN				*i* Vmb_Lg			05 55 05.4	
EMIN				Sn		**Sn**	**05 55 09.0**	**-2.2**
ETOB	**Tobarra**	**3.63**	**29**	Pn		**Pn**	**05 54 39.6**	**+1.9**
ETOB				Sn		**Sn**	**05 55 20.0**	**-0.1**
ETOB				*i* Vmb_Lg			05 55 32.3	
EGRO	**El Granado**	**3.64**	**306**	Pn		**Pn**	**05 54 36.2**	**-1.5**
EGRO				Sn		**Sn**	**05 55 17.1**	**-3.0**
EGRO				*i* Vmb_Lg			05 55 23.8	
PVAQ	**Vaqueiros**	**3.73**	**302**	P		**Pn**	**05 54 37.7**	**-1.3**
PVAQ				S		**Sn**	**05 55 19.6**	**-2.7**
PAB	**San Pablo**	**4.10**	**354**	Pn		**Pn**	**05 54 44.2**	**+0.1**
PAB				*i* Vmb_Lg			05 56 13.8	
EBAD	**Badajoz**	**4.19**	**323**	Pn		**Pn**	**05 54 45.1**	**-0.1**
EBAD				Sn		**Sn**	**05 55 32.8**	**-0.8**
EBAD				*i* Vmb_Lg			05 55 35.9	
ESDC	**Sonseca Array**	**4.20**	**358**	Pn		**Pn**	**05 54 46.0**	**+0.4**
ESDC				Sn		**Sn**	**05 55 33.3**	**-0.9**
ESDC				*i* Vmb_Lg			05 55 51.4	
OUZM	**OUZ**	**5.19**	**210**	P		**Pn**	**05 54 59.6**	**+0.4**
OUZM				S		**Sn**	**05 56 04.5**	**+5.8**

NNC 12 05:57:16.6±4.0, 53.72N×90.75E, h0km, mb3.7, mpv3.4, 7C-3D, Error ellipse: s-maj=29.0km s-min=21.8km az=53.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.52**	**276**	↑Pg	Pb	05 58 19.4	-0.4
	3.6nm,0.8s						
ZAA0				↑Lg	Lg	05 59 09.8	
	12nm,0.8s						
KURK	**Kurchatov**	**8.03**	**253**	↑Pn	Pn	05 59 15.5	+1.0
	3.6nm,0.8s						
KURK				↑Sn	Sn	06 00 48.7	+2.8
	14nm,1.0s						
KURK				↑Lg	Lg	06 01 31.6	
	32nm,1.0s						
KURBB	**Kurchatov Arra**	**8.12**	**252**	↑Sn	Sn	06 00 49.2	+1.0
	32nm,0.8s						
KURBB				↑Lg	Lg	06 01 32.6	
	34nm,0.8s						
MK31	**Makanchi Array**	**8.79**	**221**	↓Pn	Pn	05 59 26.1	+1.2
	1.1nm,0.7s,baz=41,slow=13,SNR=4.0						
MK31				↓Sn	Sn	06 01 04.5	-0.2
	7.7nm,1.0s,baz=46,slow=22,SNR=5.8						
MK31				↓Lg	Lg	06 01 54.7	
	28nm,1.2s,baz=36,slow=26,SNR=4.3						

GUC 12 06:06:26.3±0.9, 30.67S×71.55W, h33km±3km, ML3.9, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.08**	**268**	↑*i*P	Pb	06 06 32.6	+0.7
CO06				*i* S	Sb	06 06 36.4	+0.5
CO06				IAML		06 06 37.1	
	comp=E,36μm,0.3s						
CO02	**Combarbal**	**0.71**	**139**	↓*i*P	Pb	06 06 41.1	+0.7
CO02				*i* S	Sn	06 06 51.6	+1.7
CO02				IAML		06 06 55.4	
	comp=N,11μm,0.4s						
CO03	**El Pedregal**	**0.76**	**103**	↓*i*P	Pb	06 06 41.9	+0.8
CO03				*i* S	Sb	06 06 52.8	+1.6
CO03				IAML		06 06 53.9	
	comp=N,5μm,0.1s						
CO05	**La Serena**	**0.80**	**20**	*e*P	Pb	06 06 41.9	+0.1
CO05				*i* S	Sb	06 06 53.3	+1.1
GO04	**Tololo Observa**	**0.81**	**53**	↓*i*P	Pb	06 06 43.0	+0.7
GO04				*i* S	Sb	06 06 55.3	+2.3
LCO	**Las Campanas**	**1.81**	**24**	*e*P	Pn	06 06 57.0	+1.6
LCO				*e*S	Sb	06 07 19.8	-1.6
VA06	**Catapilco**	**1.90**	**174**	*e*P	Pn	06 06 57.7	+1.4
VA06				*i* S	Sn	06 07 21.2	+2.1
VA06				IAML		06 07 30.8	
	comp=N,1μm,0.5s						
VA03	**San Esteban**	**2.25**	**158**	*e*P	Pb	06 07 04.1	-2.3
VA03				*e*S	Sb	06 07 33.8	-0.1
VA03				IAML		06 07 37.4	
	comp=E,1μm,0.1s						
ROCH	**El Roble**	**2.34**	**169**	*e*P	Pb	06 07 04.4	-3.5
ROCH				*e*P	Pn	06 07 02.7	0.0
ROCH				*e*S	Sb	06 07 34.0	-2.5
ROCH				*e*S	Sn	06 07 34.3	+3.9
ROCH				IAML		06 07 41.5	
	comp=N,1μm,0.2s						
AC04	**Llanos de Chal**	**2.49**	**10**	*e*P	Pn	06 07 05.3	+0.8
AC04				IAML		06 07 51.8	
	comp=E,325nm,0.2s						
PEL	**Peldehue**	**2.57**	**164**	*e*P	Pn	06 07 08.0	+2.3
PEL				IAML		06 07 50.2	
	comp=N,395nm,0.3s						
MT02	**Curacav**	**2.60**	**172**	*e*P	Pn	06 07 07.1	+1.0
MT05	**Renca**	**2.80**	**166**	*e*P	Pn	06 07 11.2	+2.4
MT05				IAML		06 08 00.8	
	comp=E,817nm,0.2s						
FCH	**Farellones**	**2.85**	**158**	*e*P	Pn	06 07 12.8	+2.9
FCH				IAML		06 07 57.7	
	comp=E,290nm,0.3s						
MT03	**Universidad Ad**	**2.95**	**163**	*e*P	Pn	06 07 13.5	+2.6
MT03				IAML		06 08 04.5	
	comp=N,877nm,0.1s						
VA05	**Santo Domingo**	**2.98**	**181**	*e*P	Pn	06 07 11.9	+0.7
VA05				IAML		06 08 00.4	
	comp=N,578nm,0.5s						
MT09	**Talagante**	**3.13**	**171**	*e*P	Pn	06 07 15.6	+2.1
MT01	**Popeta**	**3.19**	**176**	*e*P	Pn	06 07 15.3	+1.1
GO03	**Copiap**	**3.27**	**21**	*e*P	Pn	06 07 16.7	+1.3
GO03				IAML		06 08 13.8	
	comp=N,350nm,0.5s						
LMEL	**Las Melosas**	**3.37**	**161**	*e*P	Pn	06 07 20.3	+3.6
LMEL				IAML		06 08 10.1	
	comp=N,290nm,0.2s						
BO04	**La Punta**	**3.40**	**167**	*e*P	Pn	06 07 19.4	+2.2
BO04				IAML		06 08 12.2	
	comp=E,270nm,0.5s						
AC06	**Mina Casimiro**	**3.46**	**18**	*e*P	Pn	06 07 19.0	+1.0
AC06				IAML		06 08 15.0	
	comp=E,169nm,0.5s						
BO01	**Tunca**	**3.73**	**174**	*e*P	Pn	06 07 22.8	+1.2
BO03	**Pichilemu**	**3.83**	**185**	*e*P	Pn	06 07 22.4	-0.6
BO02	**Sierra Bellavi**	**4.16**	**171**	*e*P	Pn	06 07 29.4	+1.9
AC02	**Maricunga**	**4.37**	**30**	*e*P	Pn	06 07 33.1	+2.2

IDC 12 06:07:01.0±3.7, 20.22N×119.66E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/46, mbtmp3.5/3, Error ellipse: s-maj=331.6km s-min=28.6km az=60.0

ISC 12 06:07:04.6±2.5, 19.5N±0.7×111.8E±*, h10km, n7, σ2s91/7, mb3.5/3, 4C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**4.07**	**157**	↑*e*P	**Sn**	**06 08 55.9**	**+1.2**
MACP	**Maragondon, Ca**	**5.76**	**155**	↑*e*P	**Pb**	**06 08 44.8**	**-0.4**
PGP	**Puerto Galera**	**6.54**	**156**	↑*e*P		**Pn**	**06 08 44.8**	**+3.8**
PGP				*i* S		Pg	06 09 06.5	-3.5
SJMP	**San Jose**	**7.56**	**158**	↑*e*P		**Pn**	**06 08 51.2**	**-3.8**
MKAR	**Makanchi Array**	**39.99**	**321**	P		**P**	**06 14 40.0**	**+0.6**
	0.2nm,0.6s,baz=109,slow=7.0,SNR=1.2							
WRA	**Warramunga Arr**	**42.29**	**157**	P		**P**	**06 14 56.9**	**-1.8**
	0.8nm,0.8s,baz=340,slow=8.5,SNR=14							
ASAR	**Alice Springs**	**45.58**	**160**	P		**P**	**06 15 25.2**	**+0.2**
	0.5nm,0.4s,baz=335,slow=7.3,SNR=17							

IDC 12 06:16:00.1±4.1, 37.42N×32.07W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.3/50, mbtmp3.3/5, MS3.3/4, Ms1 3.2/4, ms1mx2.8/51, Error ellipse: s-maj=117.3km s-min=44.7km az=171.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**22.89**	**93**	LR	LR	06 27 43.3	
	comp=Z,74nm,20.4s,baz=286,slow=31						
SCHQ	**Schefferville**	**29.32**	**318**	LR	LR	06 32 08.3	
	comp=Z,75nm,21.1s,baz=110,slow=33						
SADO	**Sadowa**	**35.81**	**297**	LR	LR	06 36 52.7	
	comp=Z,32nm,20.0s,baz=8.5,slow=35						
DBIC	**Dimbokro**	**39.36**	**134**	LR	LR	06 38 41.5	
	comp=Z,36nm,19.3s,baz=10.0,slow=35						
YKA	**Yellowknife Ar**	**54.27**	**325**	P		**P**	06 25 26.7	-0.8
	0.2nm,0.6s,baz=73,slow=7.3,SNR=3.1							
PDAR	**Pinedale Array**	**57.56**	**302**	P		**P**	06 25 50.9	-0.8
	0.4nm,0.8s,baz=83,slow=9.3,SNR=2.8							
TXAR	**Lajitas Array**	**59.04**	**285**	P		**P**	06 26 02.4	+0.3
	0.1nm,0.6s,baz=74,slow=6.7,SNR=2.1							
ILAR	**Eielson Array**	**66.21**	**335**	P		**P**	06 26 50.4	+1.2
	0.4nm,0.8s,baz=52,slow=6.3,SNR=3.0							
MKAR	**Makanchi Array**	**77.65**	**40**	P		**P**	06 27 58.1	-0.2
	0.3nm,0.8s,baz=316,slow=6.0,SNR=2.8							

IDC 12 06:31:36.8±2.2, 14.18N×88.42W, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=133.8km s-min=30.3km az=53.0
INET 12 06:31:40.9±0.4, 13.09N×89.26W, h17km±6km, MW3.4
SNET 12 06:31:41.1±0.9, 13.18N×89.29W, h51km±6km, ML4.1
UCR 12 06:31:41.2±1.0, 13.18N×89.29W, h51km±7km, ML4.1, mb4.0(NEIC)
NEIC 12 06:31:42.9±2.0, 13.31N±0.09×89.12W±0.09, h44km±8km, mb4.0/2, Md4.1(SNET), Error ellipse: s-maj=17.2km s-min=6.7km az=47.0
GCG 12 06:31:43.2±0.3, 13.27N×89.31W, h32km±8km, MD4.0

ISC 12 06:31:42.0±1.1, 13.16N±0.05×89.25W±0.04, h43km±9km, n108, σ0s70/120, 4C-40D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.33**	**348**	↓*i*P		**Pn**	**06 31 50.7**	**-0.1**
LALI				*e*S		**Sn**	**06 31 57.4**	**+0.3**
LALI	**Alcalda de L**	**0.33**	**348**	↓*i*P		**Pn**	**06 31 50.7**	**-0.1**
LALI				*e*S		**Sn**	**06 31 57.4**	**+0.3**
LALI	**Alcalda de L**	**0.33**	**348**	*e*P		**Pn**	**06 31 50.7**	**-0.1**
LALI				*e*S		**Sn**	**06 31 57.4**	**+0.3**
LFRS	**El Faro**	**0.49**	**22**	↓*i*P		**Pn**	**06 31 52.7**	**-0.2**
LFRS	**El Faro**	**0.49**	**22**	↓*i*P		**Pn**	**06 31 52.7**	**-0.2**
SNET	**Serv Nac Est T**	**0.52**	**2**			**Pn**	**06 31 52.6**	**-0.7**
SNET	**Serv Nac Est T**	**0.52**	**2**	↓*i*P		**Pn**	**06 31 52.9**	**-0.4**
SNET				IAML			06 32 03.1	
	comp=Z,10μm,0.3s							
SNET	**Serv Nac Est T**	**0.52**	**2**	↓*i*P		**Pn**	**06 31 52.9**	**-0.4**
SNET				IAML			06 32 03.1	
	comp=Z,10μm,0.3s							
SNET	**Serv Nac Est T**	**0.52**	**2**	*e*P		**Pn**	**06 31 52.9**	**-0.4**
SNET				*e*S		**Sn**	**06 32 02.2**	**+1.0**
JAYA	**Jayaque - finc**	**0.52**	**338**	↓*i*P		**Pn**	**06 31 52.7**	**-0.7**
JAYA				*e*S		**Sn**	**06 32 00.9**	**-0.4**
JAYA				IAML			06 32 02.4	
	comp=Z,30μm,0.2s							
JAYA	**Jayaque - finc**	**0.52**	**338**	↓*i*P		**Pn**	**06 31 52.7**	**-0.7**
JAYA				*e*S		**Sn**	**06 32 00.9**	**-0.4**
JAYA				IAML			06 32 02.4	
	comp=Z,30μm,0.2s							
UTEC	**Universidad Te**	**0.54**	**5**	*i* P		**Pn**	**06 31 53.3**	**-0.1**
UTEC	**Universidad Te**	**0.54**	**5**	*i* P		**Pn**	**06 31 53.3**	**-0.1**
SEMO	**Seminario San**	**0.54**	**3**	*e*P		**Pn**	**06 31 53.0**	**-0.4**
AEIL	**Aeropuerto Ilo**	**0.55**	**14**	↓*i*P		**Pn**	**06 31 53.6**	**+0.1**
AEIL	**Aeropuerto Ilo**	**0.55**	**14**	↓*i*P		**Pn**	**06 31 53.6**	**+0.1**
PMON	**Piamonte**	**0.55**	**354**	↓*i*P		**Pn**	**06 31 53.3**	**-0.4**
PMON	**Piamonte**	**0.55**	**354**	↓*i*P		**Pn**	**06 31 53.3**	**-0.4**
UEES	**Universidad Ev**	**0.55**	**1**	↓*i*P		**Pn**	**06 31 53.3**	**-0.3**
UEES				IAML			06 32 03.9	
	comp=Z,11μm,0.2s							
UEES	**Universidad Ev**	**0.55**	**1**	↓*i*P		**Pn**	**06 31 53.3**	**-0.3**
UEES				IAML			06 32 03.9	
	comp=Z,11μm,0.2s							
UESS	**Universidad de**	**0.56**	**5**	↑*i*P		**Pn**	**06 31 53.6**	**-0.1**
UESS				IAML			06 32 08.0	
	comp=Z,5μm,0.2s							
UESS	**Universidad de**	**0.56**	**5**	↑*i*P		**Pn**	**06 31 53.6**	**-0.1**
UESS				IAML			06 32 08.0	
	comp=Z,5μm,0.2s

CNRM	**Centro Naciona**	**1.10**	**74**	*e*P		**Pn**	**06 32 00.6**	**-0.2**
CNRM	**Centro Naciona**	**1.10**	**74**	*e*P		**Pn**	**06 32 00.6**	**-0.2**
MTO3	**Montecristo**	**1.23**	**355**			**Pn**	**06 32 02.2**	**-0.7**
MTO3	**Montecristo**	**1.23**	**355**	ǁ *i*P		**Pn**	**06 32 02.3**	**-0.7**
MTO3	**Montecristo**	**1.23**	**355**	ǁ *i*P		**Pn**	**06 32 02.3**	**-0.7**
MTO3	**Montecristo**	**1.23**	**355**	ǁ *e*P		**Pn**	**06 32 02.3**	**-0.6**
LCND	**La Caada**	**1.33**	**84**	*e*P		**Pn**	**06 32 03.9**	**-0.2**
LCND	**La Caada**	**1.33**	**84**	*e*P		**Pn**	**06 32 03.9**	**-0.2**
CSGN	**Cosiguina Volc**	**1.66**	**96**	*e*P		**Pn**	**06 32 08.3**	**-0.4**
NBG	**Las Nubes**	**1.77**	**323**	*e*P		**Pn**	**06 32 11.0**	**+0.6**
MRL	**Marmol**	**1.95**	**348**	*e*P		**Pn**	**06 32 13.4**	**+0.6**
FUG	**Fuego 3**	**2.00**	**310**	*e*P		**Pn**	**06 32 14.0**	**+0.5**
FUG				*e*S		**Sn**	**06 32 38.1**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.12**	**65**		Pn	**Pn**	**06 32 14.6**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.12**	**65**	*e*P		**Pn**	**06 32 14.6**	**-0.5**
CRIN	**San Cristobal**	**2.19**	**102**			**Pn**	**06 32 15.5**	**-0.5**
CNGN	**Cerro Negro**	**2.58**	**105**			**Pn**	**06 32 19.4**	**-1.8**
MATN	**Matagalpa**	**3.25**	**94**			**Pn**	**06 32 28.8**	**-1.8**
BOAB	**BOACO BROADBAN**	**3.57**	**101**			**Pn**	**06 32 33.0**	**-1.8**
ACON	**Acoyapa**	**4.15**	**106**		Pn	**Pn**	**06 32 43.3**	**+0.4**
CCIG	**Comitan**	**4.17**	**318**		Pn	**Pn**	**06 32 45.3**	**+2.0**
HZTE	**Horizontes, Gu**	**4.33**	**124**		Pn	**Pn**	**06 32 46.1**	**+0.8**
ORTG	**Ortega, Santa**	**4.64**	**126**		Pn	**Pn**	**06 32 49.5**	**-0.2**
DUNO	**Dulce Nombre,**	**4.79**	**129**			**Pn**	**06 32 52.2**	**+0.5**
JTS	**Las Juntas de**	**5.09**	**124**		Pn	**Pn**	**06 32 55.7**	**0.0**
	comp=Z,0.7nm,0.3s,baz=0.0,slow=20,SNR=13							
JTS					Sn	**Sn**	**06 33 51.0**	**-2.2**
	baz=13,slow=18,SNR=1.1							
JTS	**Las Juntas de**	**5.09**	**124**			**Pn**	**06 32 55.9**	**+0.2**
CAO2	**Cobano, Puntar**	**5.33**	**130**		Pn	**Pn**	**06 32 59.1**	**0.0**
JACO	**JACO, Garabito**	**5.69**	**127**		Pn	**Pn**	**06 33 05.9**	**+1.9**
RIMA	**Rio Macho**	**6.27**	**122**			**Pn**	**06 33 13.1**	**+1.0**
SRBA	**San Rafael, Bu**	**6.98**	**123**		Pn	**Pn**	**06 33 23.1**	**+1.3**
DRK0	**Durika**	**7.05**	**123**		Pn	**Pn**	**06 33 23.5**	**+0.6**
TXAR	**Lajitas Array**	**20.93**	**323**		P	**P**	**06 36 19.1**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=142,slow=11,SNR=8.0							
TXAR	**Lajitas Array**	**20.93**	**323**		P	**P**	**06 36 20.6**	**-0.6**
TX31	**Lajitas Ar. Si**	**20.93**	**323**		P	**P**	**06 36 21.0**	**-0.1**
TX31					IAmb	IAmb	06 36 41.5	
	comp=Z,23nm,1.9s							
TX32	**Lajitas Array**	**20.93**	**323**		P	**P**	**06 36 21.1**	**0.0**
TX32					IAmb	IAmb	06 36 41.5	
	comp=Z,8.2nm,1.9s							
YKA	**Yellowknife Ar**	**52.48**	**345**		P	P	06 40 45.0	-5.2
	comp=Z,0.8nm,0.8s,baz=146,slow=7.5,SNR=8.3							
WRA	**Warramunga Arr**	**137.77**	**255**		PKP	**PKPdf**	**06 51 03.6**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=88,slow=2.9,SNR=3.5							

IDC ***12*** *06:53:42.8±2.5, 1.66S×77.61W, h189km±30km, mb3.1/5, mb1 3.3/8, mb1mx3.2/34, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=30.8km s-min=20.9km az=60.0*

ISC 12 06:53:42.3±0.8, 1.63S±0.08×77.6W±0.2, h181km, n10, σ0s78/9, mb3.1/5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**5.52**	**188**	P	**Pn**	**06 55 04.1**	**+0.6**
	4.1nm,0.3s,baz=21,slow=8.1,SNR=45						
ATAH				S	**Sn**	**06 56 06.8**	**-0.5**
	1.2nm,0.3s,baz=130,slow=19,SNR=4.5						
NNA	**Nana**	**10.32**	**176**	S	Sn	06 57 52.8	-8.2
	1.7nm,0.3s,baz=272,slow=21,SNR=2.2						
SDV	**Santo Domingo**	**12.55**	**34**	P	**Pn**	**06 56 35.6**	**+0.5**
	0.3nm,0.3s,baz=180,slow=20,SNR=2.0						
LPAZ	**La Paz**	**17.30**	**148**	P	**Pn**	**06 57 34.1**	**+0.2**
	0.2nm,0.3s,baz=330,slow=12,SNR=3.1						
MDP	**Montagnes des**	**25.83**	**75**	LR	LR	07 09 44.0	
	comp=Z,46nm,19.2s,baz=182,slow=37						
TXAR	**Lajitas Array**	**39.61**	**323**	P	**P**	**07 00 57.7**	**+1.2**
	0.1nm,0.7s,baz=150,slow=9.2,SNR=2.0						
PDAR	**Pinedale Array**	**52.73**	**331**	P	**P**	**07 02 38.1**	**-0.7**
	0.2nm,0.5s,baz=105,slow=13,SNR=2.1						
ULM	**Lac du Bonnet**	**54.00**	**346**	P	**P**	**07 02 47.0**	**-0.6**
	2.4nm,0.5s,baz=154,slow=4.8,SNR=4.5						
YKA	**Yellowknife Ar**	**69.78**	**343**	P	**P**	**07 04 32.3**	**-0.3**
	0.2nm,0.5s,baz=140,slow=5.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**79.96**	**76**	P	**P**	**07 05 31.5**	**-0.5**
	0.5nm,0.3s,baz=270,slow=4.6,SNR=11						

IDC ***12*** *06:59:29.4±2.1, 21.31S×169.44E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/25, mbtmp3.8/6, ML3.0/1, MS3.6/16, Ms1 3.6/16, ms1mx3.3/52, Error ellipse: s-maj=101.7km s-min=26.7km az=156.0*

ISC 12 06:59:33.1±1.8, 21.3S±0.6×169.3E±0.3, h21km, n19, σ1s57/10, mb3.9/5, MS3.6/12, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.75**	**253**	Pn	**Pn**	**07 00 15.3**	**-0.8**
	2.3nm,0.3s,baz=94,slow=4.5,SNR=25						
DZM				LR	LR	07 00 43.4	
	comp=Z,386nm,19.6s,baz=82,slow=26						
DZM				Sn	**Sn**	**07 00 47.6**	**-1.3**
	17nm,0.3s,baz=301,slow=23,SNR=6.1						
DZM	**Mont Dzumac**	**2.75**	**253**	*e*Pn	**Pn**	**07 00 15.5**	**-0.6**
	28nm,0.2s						
DZM				*e*Sn	**Sn**	**07 00 47.8**	**-1.0**
	56nm,0.2s						
DZM				*e*LR	LR	07 14 08.8	
	comp=Z,185nm,25.1s						
MSVF	**Nonsavu**	**8.99**	**68**	LR	LR	07 04 24.4	
	comp=Z,606nm,18.7s,baz=195,slow=33						
URZ	**Urewera**	**18.23**	**160**	LR	LR	07 09 45.9	
	comp=Z,130nm,19.6s,baz=36,slow=34						
AFI	**Afiamalu**	**19.48**	**71**	LR	LR	07 09 58.7	
	comp=Z,119nm,20.8s,baz=268,slow=32						
CTA	**Charters Tower**	**21.57**	**269**	P	**P**	**07 04 23.8**	**+2.3**
	4.0nm,0.7s,baz=118,slow=13,SNR=3.8						
CTA				LR	LR	07 11 58.4	
	comp=Z,109nm,18.3s,baz=87,slow=34						
STKA	**Stephens Creek**	**26.85**	**241**	P	**P**	**07 05 14.7**	**+2.4**
	2.3nm,0.8s,baz=92,slow=12,SNR=3.2						
STKA				LR	LR	07 15 24.0	
	comp=Z,116nm,18.4s,baz=32,slow=35						
WRA	**Warramunga Arr**	**32.69**	**266**	P	**P**	**07 06 04.5**	**+0.2**
	0.5nm,0.7s,baz=99,slow=7.7,SNR=9.6						
WRA				LR	LR	07 18 23.7	
	comp=Z,131nm,20.2s,baz=20,slow=35						
ASAR	**Alice Springs**	**32.73**	**259**	P	**P**	**07 06 03.9**	**-0.7**
	1.7nm,0.9s,baz=88,slow=8.8,SNR=11						
ASAR				LR	LR	07 20 16.0	
	comp=Z,89nm,18.5s,baz=142,slow=38						
VNDA	**Vanda**	**56.41**	**182**	LR	LR	07 29 48.2	
	comp=Z,53nm,20.2s,baz=312,slow=32						
PSI	**Prapat**	**72.80**	**280**	LR	LR	07 46 16.6	
	comp=Z,45nm,18.3s,baz=212,slow=38						
SHEM	**Shemya Is, Ala**	**73.81**	**3**	LR	LR	07 37 02.3	
	comp=Z,65nm,20.3s,baz=109,slow=30						
SEY	**Seymchan**	**84.98**	**352**	LR	LR	07 43 16.8	
	comp=Z,25nm,20.5s,baz=77,slow=31						
YBH	**Yreka Blue Hor**	**88.73**	**4**	LR	LR	07 45 41.8	
	comp=Z,18nm,19.8s,baz=268,slow=31						
NVAR	**Mina Array Bea**	**90.11**	**48**	P	**P**	**07 12 30.7**	**-1.3**
	0.5nm,0.7s,baz=245,slow=7.0,SNR=4.0						
LPIG	**La Paz**	**90.26**	**64**	LR	LR	07 48 28.4	
	comp=Z,28nm,18.2s,baz=202,slow=33						
ANMO	**Albuquerque**	**97.42**	**56**	LR	LR	07 49 01.6	
	comp=Z,22nm,20.3s,baz=278,slow=30						
TXAR	**Lajitas Array**	**97.70**	**62**	LR	LR	07 50 55.9	
	comp=Z,19nm,18.1s,baz=288,slow=32						
GERES	**GERESS Array B**	**146.28**	**331**	PKPbc	**PKPbc**	**07 19 12.3**	**+0.1**
	0.2nm,0.2s,baz=72,slow=4.3,SNR=6.3						

TRN 12 07:03:28.1, 10.92N×61.98W, h56km, MD3.5, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.62**	**116**	ǁ *i*P	Pn	07 03 42.0	+0.8
TRN				*e*S	Sn	07 03 51.3	+0.5
GRFF	**Grenada Fort F**	**1.15**	**12**	*e*P	Pn	07 03 48.0	0.0
GRFF				*e*S	Sn	07 04 02.4	-0.3
GRGR	**Grenville**	**1.24**	**15**	*e*P	Pn	07 03 49.4	+0.1
GRGR				*e*S	Sn	07 04 05.0	-0.1
GRHS	**Sauteurs**	**1.34**	**14**	*e*P	Pn	07 03 50.5	0.0
GRHS				*e*S	Sn	07 04 07.0	-0.2
GRSS	**Sisters**	**1.41**	**15**	*e*P	Pn	07 03 52.4	+0.8
GRSS				*e*S	Sn	07 04 09.8	+0.7
TOSP	**Speyside**	**1.46**	**75**	*e*P	Pn	07 03 52.0	-0.2
TOSP				*e*S	Sn	07 04 10.1	-0.2
GCMP	**Grenada, Carri**	**1.65**	**19**	*e*P	Pn	07 03 54.7	-0.1
GCMP				*e*S	Sn	07 04 14.2	-0.6
SVB	**Belmont**	**2.44**	**17**	*e*P	Pn	07 04 05.8	+0.2
SVB				*e*S	Sn	07 04 34.4	+0.1
MCLT	**Moule a Chique**	**2.95**	**20**	*e*P	Pn	07 04 12.4	-0.1
MCLT				*e*S	Sn	07 04 45.9	-0.8
SLBI	**Saint Lucia, B**	**3.23**	**17**	*e*P	Pn	07 04 16.8	+0.4
SLBI				*e*S	Sn	07 04 53.3	-0.4
MPOM	**Morne Pois Mar**	**3.67**	**17**	*e*P	Pn	07 04 22.9	+0.5
MPOM				*e*S	Sn	07 05 03.6	-0.8
DSLB	**Salisbury**	**4.52**	**7**	*e*P	Pn	07 04 35.2	+1.0
DSLB	**Salisbury**	**4.52**	**7**	*e*S	Sn	07 05 23.5	-2.0
TDBA	**Terre de Bas,**	**4.91**	**4**	*e*S	Sn	07 05 32.5	-2.4
MAGL	**Barre de l'Ile**	**5.04**	**8**	*e*P	Pn	07 04 41.7	+0.4
CBE	**Ff, Capester**	**5.13**	**4**	*e*S	Sn	07 05 38.2	-2.2
ANBD	**Bethesda, Anti**	**6.09**	**2**	*e*P	Pn	07 04 56.7	+1.1
ANBD	**Bethesda, Anti**	**6.09**	**2**	*e*S	Sn	07 06 01.4	-2.6

NEIC ***12*** *07:05:31.9±0.9, 5.5S±0.1×154.5E±0.1, h69km±4km, mb4.3/15, Error ellipse: s-maj=18.3km s-min=10.9km az=46.0*

IDC ***12*** *07:05:32.4±3.0, 5.62S×154.49E, h80km±30km, mb3.9/14, mb1 4.1/16, mb1mx3.9/34, mbtmp4.2/16, MS3.2/7, Ms1 3.2/7, ms1mx2.8/55, Error ellipse: s-maj=22.0km s-min=14.1km az=172.0*

ISC 12 07:05:29.7±0.5, 5.46S±0.08×154.52E±0.07, h50km, n45, σ1s29/35, mb4.3/20, MS3.1/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.67**	**298**		**Pn**	**07 06 11.7**	**+1.5**
HNR	**Honiara**	**6.67**	**127**	P	**Pn**	**07 07 07.2**	**+2.1**
	7.8nm,0.3s,baz=24,slow=20,SNR=1.9						
HNR				S	**Sn**	**07 08 19.5**	**-0.3**
	23nm,0.3s,baz=31,slow=20,SNR=5.8						
PMG	**Port Moresby**	**8.28**	**241**	P	**Pn**	**07 07 28.0**	**+0.8**
	1.9nm,0.3s,baz=44,slow=8.8,SNR=4.4						
PMG				S	**Sn**	**07 09 02.5**	**+3.0**
	1.4nm,0.3s,baz=162,slow=23,SNR=6.1						
PMG	**Port Moresby**	**8.28**	**241**		**Pn**	**07 07 28.9**	**+1.6**
LIFNC	**LIFOU**	**19.60**	**142**	P	**P**	**07 09 53.9**	**0.0**
DZM	**Mont Dzumac**	**20.14**	**146**	P	**P**	**07 09 59.7**	**-0.1**
	8.1nm,0.6s,baz=246,slow=7.9,SNR=7.8						
DZM				LR	LR	07 16 23.1	
	comp=Z,156nm,20.1s,baz=320,slow=32						
DZM	**Mont Dzumac**	**20.14**	**146**	IAmb	IAmb	07 10 09.6	
	comp=Z,38nm,1.3s						
MARNC	**Mare, Loyalty**	**20.61**	**142**	P	**P**	**07 10 06.1**	**+1.2**
GUMO	**Guam**	**21.22**	**333**	LR	LR	07 16 57.1	
	comp=Z,42nm,21.7s,baz=124,slow=32						
WR0	**Warramunga Arr**	**24.19**	**232**	P	**P**	**07 10 41.1**	**-0.6**
WR0				IAmb	IAmb	07 10 42.0	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**24.20**	**232**	P	**P**	**07 10 41.0**	**-0.8**
WB0				IAmb	IAmb	07 10 42.1	
	comp=Z,9.7nm,1.0s						
WRAB	**Tennant Creek**	**24.33**	**232**	P	**P**	**07 10 42.1**	**-0.8**
WRAB				IAmb	IAmb	07 10 43.2	
	comp=Z,6.9nm,0.8s						
WRA	**Warramunga Arr**	**24.34**	**232**	P	**P**	**07 10 42.3**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=53,slow=9.7,SNR=29						
WRA	**Warramunga Arr**	**24.34**	**232**	P	**P**	**07 10 42.1**	**-0.9**
MSVF	**Nonsavu**	**26.03**	**120**	LR	LR	07 20 08.7	
	comp=Z,42nm,21.4s,baz=256,slow=34						
H11S3	**WAKE ISLAND Hy**	**26.66**	**26**	T	T	07 38 47.3	
	baz=207,slow=76,SNR=138						
H11S2	**WAKE ISLAND Hy**	**26.66**	**27**	T	T	07 38 44.5	
	baz=207,slow=76,SNR=120						
H11S1	**WAKE ISLAND Hy**	**26.68**	**26**	T	T	07 38 44.6	
	baz=207,slow=76,SNR=118						
AS31	**Alice Springs**	**26.86**	**226**	P	**P**	**07 11 05.0**	**-0.9**
ASAR	**Alice Springs**	**26.86**	**226**	P	**P**	**07 11 04.2**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=58,slow=8.8,SNR=19						
ASAR	**Alice Springs**	**26.86**	**226**	P	**P**	**07 11 05.0**	**-1.0**
STKA	**Stephens Creek**	**28.93**	**203**	P	**P**	**07 11 22.7**	**-1.5**
	comp=Z,2.3nm,1.0s,baz=355,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**30.87**	**244**	P	**P**	**07 11 40.6**	**-1.0**
FITZ				IAmb	IAmb	07 11 40.9	
	comp=Z,4.3nm,0.9s						
DAV	**Davao City (W)**	**31.45**	**293**	LR	LR	07 23 40.9	
	comp=Z,30nm,21.9s,baz=130,slow=35						
MYLDM	**Lahad Datu**	**37.49**	**286**	P	**P**	**07 12 37.7**	**-1.3**
BKZ	**Black Stump Fm**	**39.00**	**152**	P	**P**	**07 12 50.5**	**-0.8**
BKZ				IAmb	IAmb	07 13 10.4	
	comp=Z,16nm,1.4s						
LTZ	**Lake Taylor**	**40.36**	**160**	P	**P**	**07 13 02.3**	**-0.3**
RPZ	**Rata Peaks**	**40.79**	**162**	LR	LR	07 29 44.2	
	comp=Z,50nm,18.4s,baz=319,slow=36						
LEM	**Lembang**	**46.64**	**266**	LR	LR	07 36 23.4	
	comp=Z,43nm,19.1s,baz=214,slow=40						
ASAJ	**Asahikawa**	**50.51**	**349**	LR	LR	07 33 23.0	
	comp=Z,22nm,21.9s,baz=90,slow=33						
PETK	**Petropavlovsk-**	**58.41**	**2**	P	**P**	**07 15 21.7**	**+1.7**
	comp=Z,2.2nm,0.4s,baz=156,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**59.71**	**295**	P	**P**	**07 15 29.8**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=104,slow=4.5,SNR=6.5						
CHTO	**Chiang Mai**	**59.82**	**295**	P	**P**	**07 15 30.1**	**-0.3**
CHTO				IAmb	IAmb	07 15 32.3	
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**67.80**	**327**	P	**P**	**07 16 22.3**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=146,slow=5.3,SNR=5.3						
SONM	**Songino Array**	**67.80**	**327**	IAmb	IAmb	07 16 24.2	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**81.95**	**319**	P	**P**	**07 17 43.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=102,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**07 17 44.5**	**-0.2**
	comp=Z,3.6nm,1.1s,baz=247,slow=5.5,SNR=12						
ZALV	**Zalesovo Beam**	**82.66**	**326**	P	**P**	**07 17 46.4**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=121,slow=5.7,SNR=3.8						
QSPA	**South Pole Qui**	**84.50**	**180**	P	**P**	**07 17 56.0**	**-1.2**
QSPA				IAmb	IAmb	07 18 00.7	
	comp=Z,6.2nm,1.2s						
KURK	**Kurchatov**	**85.34**	**322**	P	**P**	**07 17 59.5**	**-1.9**
KURK	**Kurchatov**	**85.34**	**322**	IAmb	IAmb	07 18 01.3	
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**85.38**	**322**	P	**P**	**07 17 59.5**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=117,slow=3.2,SNR=6.9						
NVAR	**Mina Array Bea**	**91.15**	**52**	P	**P**	**07 18 31.1**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=260,slow=7.2,SNR=5.1						
YKA	**Yellowknife Ar**	**95.21**	**28**	P	**P**	**07 18 49.0**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=267,slow=4.8,SNR=11						
PDAR	**Pinedale Array**	**98.03**	**48**	P	**P**	**07 19 00.1**	**-1.0**
	comp=Z,1.0nm,1.1s,baz=221,slow=1.6,SNR=4.1						

IDC 12 07:10:23.0±2.2, 7.56S×126.47E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/34, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=268.2km s-min=33.0km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.48**	**149**	Pn	Pn	07 13 47.6	-1.9
	0.1nm,0.3s,baz=321,slow=14,SNR=6.3						
WRA				Sn	Sn	07 16 24.1	-6.8
	0.1nm,0.3s,baz=22,slow=15,SNR=1.6						
ASAR	**Alice Springs**	**17.53**	**157**	P	P	07 14 30.4	+0.1
	0.1nm,0.3s,baz=342,slow=14,SNR=12						
ASAR				S	Sn	07 17 37.3	-7.8
	0.0nm,0.3s,baz=243,slow=16,SNR=1.0						
MKAR	**Makanchi Array**	**66.83**	**329**	P	P	07 21 16.7	0.0
	0.1nm,0.5s,baz=118,slow=7.0,SNR=2.0						

IDC 12 07:19:20.8±1.7, 19.98S×177.23W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/32, mbtmp3.6/4, Error ellipse: s-maj=45.2km s-min=43.4km az=178.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.35**	**256**	P	P	07 27 41.3	+0.2
	0.2nm,0.7s,baz=94,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**45.39**	**261**	P	P	07 27 41.1	-0.4
	0.2nm,0.7s,baz=97,slow=8.4,SNR=4.6						
QSPA	**South Pole Qui**	**70.09**	**180**	P	P	07 30 34.8	+0.1
	1.8nm,0.9s,baz=117,slow=11,SNR=7.4						
ILAR	**Eielson Array**	**87.64**	**13**	P	P	07 32 10.6	0.0
	0.3nm,0.5s,baz=224,slow=6.2,SNR=1.8						

NNC ***12*** *07:22:01.8±0.5, 50.01N×78.73E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=7.1km s-min=2.4km az=82.0, Suspected Mining explosion.*

IDC ***12*** *07:22:02.6±1.0, 50.05N×78.71E, h0km, mb1 2.9/2, mb1mx2.8/35, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=13.1km s-min=6.3km az=67.0*

ISC 12 07:22:02.7±0.9, 50.05N±0.05×78.74E±0.05, h0km, n19, σ1s26/32, 19C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.55**	**345**	⇑P	**Pg**	**07 22 13.4**	**+0.2**
KUR07				⇓S	**Sb**	**07 22 22.2**	**-1.5**
KUR06	**Kurchatov Arra**	**0.57**	**346**	⇑P	**Pg**	**07 22 13.8**	**+0.2**
KUR06				⇓S	**Sb**	**07 22 22.7**	**-1.5**
KUR14	**Kurchatov Arra**	**0.57**	**350**	⇑P	**Pg**	**07 22 13.8**	**+0.1**
KUR14				⇓S	**Sb**	**07 22 22.9**	**-1.4**
KUR15	**Kurchatov Arra**	**0.58**	**349**	⇓P	**Pg**	**07 22 13.8**	**0.0**
KUR15				⇑S	**Sb**	**07 22 23.0**	**-1.4**
KURBB	**Kurchatov Arra**	**0.59**	**347**	Pg	**Pg**	**07 22 13.8**	**-0.2**
	2.1nm,0.3s,baz=167,slow=17,SNR=216						
KURBB				Lg	Lg	07 22 22.6	
	2.3nm,0.3s,baz=166,slow=32,SNR=15						
KURBB	**Kurchatov Arra**	**0.59**	**347**	⇑P	**Pg**	**07 22 14.1**	**+0.1**
	9.7nm,0.3s						
KURBB				⇓S	**Sb**	**07 22 23.1**	**-1.7**
	146nm,1.0s						
KUR16	**Kurchatov Arra**	**0.59**	**345**	⇑P	**Pg**	**07 22 14.2**	**0.0**
KUR16				⇑S	**Sb**	**07 22 23.8**	**-1.2**
KUR05	**Kurchatov Arra**	**0.60**	**348**	⇑P	**Pg**	**07 22 14.5**	**+0.2**
KUR05				⇓S	**Sb**	**07 22 23.7**	**-1.5**
KUR17	**Kurchatov Arra**	**0.60**	**343**	⇑P	**Pg**	**07 22 14.4**	**+0.1**
KUR17				⇑S	**Sb**	**07 22 24.3**	**-0.9**
KUR04	**Kurchatov Arra**	**0.62**	**348**	⇓P	**Pg**	**07 22 14.9**	**+0.2**
KUR04				⇑S	**Sb**	**07 22 24.3**	**-1.5**
KURK	**Kurchatov**	**0.67**	**353**	⇑P	**Pg**	**07 22 15.5**	**0.0**
	6.6nm,0.5s						
KURK				⇑S	**Sb**	**07 22 25.8**	**-1.3**
	87nm,0.9s						
MK31	**Makanchi Array**	**4.03**	**143**	⇓Pn	**Pn**	**07 23 06.3**	**+0.6**
	0.4nm,0.5s,baz=325,slow=10,SNR=15						
MK31				Pg	**Pb**	**07 23 14.2**	**-0.3**
	0.3nm,0.3s,baz=323,slow=14,SNR=16						
MK31				⇑Lg	Lg	07 24 08.8	
	1.7nm,0.4s,baz=321,slow=27,SNR=17						
MKAR	**Makanchi Array**	**4.03**	**143**	Pn	**Pn**	**07 23 06.0**	**+0.3**
	0.4nm,0.3s,baz=329,slow=12,SNR=14						
MKAR				Pg	**Pb**	**07 23 12.3**	**-2.3**
	0.6nm,0.3s,baz=325,slow=15,SNR=14						
MKAR				Sn	**Sn**	**07 23 55.0**	**+1.5**
	0.3nm,0.3s,baz=327,slow=31,SNR=1.0						
MKAR				Lg	Lg	07 24 05.8	
	1.1nm,0.3s,baz=332,slow=26,SNR=13						
OTUK	**Ortayu**	**4.58**	**249**	⇑Pn	**Pn**	**07 23 13.1**	**-0.1**
	1.0nm,0.3s						
OTUK				⇑Pg	**Pb**	**07 23 25.4**	**+1.6**
	0.7nm,0.3s						
OTUK				⇑Lg	Lg	07 24 27.7	
	4.5nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.41**	**42**	*i*		07 54 50.0	
	baz=222,slow=320,SNR=0.9						
ZALV	**Zalesovo Beam**	**5.41**	**42**	Pn	**Pn**	**07 23 26.0**	**+1.4**
	0.9nm,0.3s,baz=231,slow=15,SNR=8.1						
ZALV				Sn	**Sn**	**07 24 30.3**	**+2.7**
	0.1nm,0.3s,baz=210,slow=37,SNR=1.0						
ZALV				Lg	Lg	07 24 57.0	
	0.2nm,0.3s,baz=194,slow=24,SNR=1.7						
BVAR	**Borovoye Array**	**6.00**	**303**	Pg	Pb	07 23 42.1	-6.0
	0.3nm,0.3s,baz=114,slow=9.9,SNR=4.5						
BVAR				Sn	**Sn**	**07 24 39.6**	**-2.5**
	0.6nm,0.3s,baz=158,slow=25,SNR=6.5						
BVAR				Lg	Lg	07 25

baz=301
MURC S Sn 07 28 24.7 -0.1
baz=301
BBRC Big Bear Solar 1.82 96 P Pb 07 28 03.5 -1.7
baz=279
BBRC S Sb 07 28 26.7 -0.9
baz=279
VOG Valley Oaks Go 1.86 353 P Pn 07 28 03.1 0.0
baz=172,SNR=14
VOG S Sn 07 28 25.9 -0.1
baz=172
MPMC Manual Prospec 2.06 39 Pn Pn 07 28 05.6 -0.6
baz=221,SNR=60
MPMC Pb Pb 07 28 09.2 -0.2
baz=221
MPMC Sb Sb 07 28 35.8 +1.2
baz=221
GSC Goldstone, Bar 2.06 66 Pn Pn 07 28 05.2 -0.8
GSC IAML 07 28 43.6
comp=N,194nm,0.8s
GSC Goldstone, Bar 2.06 66 Pb Pb 07 28 10.0 +0.7
baz=248,SNR=18
GSC Sb Sb 07 28 36.8 +2.3
baz=248
CWC Cottonwood Cre 2.13 23 Pb Pb 07 28 09.3 -1.3
baz=203
CWC Sb Sb 07 28 36.9 +0.2
baz=203
HELL Mitchell Peak, 2.20 2 Pn 07 28 08.3 +0.3
PMPB Monarch Peak 2.23 322 Pn Pn 07 28 07.8 -0.5
PMPB IAML 07 28 41.7
comp=E,205nm,2.6s
109C Camp Elliot, M 2.30 133 S Sn 07 28 35.2 -1.6
baz=315
HEC Hector,Ludlow 2.31 80 Sb Sb 07 28 43.9 +2.3
baz=263
PFO Pinyon Flats O 2.36 111 Pn 07 28 10.4 +0.2
PFO Pinyon Flats O 2.36 111 S Sn 07 28 39.3 +0.8
baz=294
QSM Queen of Sheba 2.36 50 Pn 07 28 08.9 -1.2
QSM IAML 07 28 49.9
comp=N,216nm,0.7s
QSM IAML 07 28 52.5
comp=E,165nm,0.7s
GWY Greenwater Val 2.62 49 Pn 07 28 12.7 -1.2
GWY IAML 07 28 56.9
comp=N,75nm,0.7s
GWY IAML 07 29 07.9
comp=E,97nm,0.8s
TIN Tinemaha, Big 2.67 15 Sb Sb 07 28 53.4 +1.3
baz=195
FURC Furnace Creek, 2.70 42 Pb Pb 07 28 22.3 +2.1
baz=223
BAR Barrett 2.70 131 Pn 07 28 14.4 -0.5
BAR IAML 07 28 48.3
comp=E,69nm,0.3s
BAR IAML 07 28 52.7
comp=N,54nm,0.2s
MONP2 Monument Peak 2.73 125 S Sn 07 28 48.3 +0.4
baz=307
TUQ Turquoise Moun 2.78 69 Sb Sb 07 28 58.9 +3.6
baz=251
GMRC Granite Mounta 2.85 83 Pn Pn 07 28 17.2 +0.2
baz=266,SNR=11
GMRC Pb Pb 07 28 22.5 -0.4
baz=266
GMRC Sb Sb 07 28 59.9 +2.4
baz=266
MLAC Mammoth, Mammo 3.16 4 Sb Sb 07 29 08.3 +2.1
baz=184
IRM Iron Mountain 3.29 94 Pn Pn 07 28 22.1 -0.8
baz=278
IRM Pb Pb 07 28 32.6 +2.3
baz=278,SNR=8.5
TPNV Topopah Spring 3.39 42 Pn 07 28 24.0 -0.3
TPNV Topopah Spring 3.39 42 P Pn 07 28 24.5 +0.2
baz=224
CMB Columbia Colle 3.70 344 Pn Pn 07 28 28.8 +0.2
CMB IAML 07 29 28.1
comp=E,49nm,0.6s
CMB IAML 07 29 28.4
comp=N,33nm,0.7s
NEE2 Needles Airpor 3.71 84 P Pn 07 28 28.3 -0.3
baz=267
TPH Tonopah 3.90 22 Pn 07 28 29.8 -1.7
W13A Hualapai Mount 4.34 80 Pn Pn 07 28 37.2 -0.3
W13A IAML 07 29 50.9
comp=N,19nm,0.8s
W13A IAML 07 29 56.5
comp=E,12nm,1.5s

IDC ***12*** *07:49:56.9±0.8,35°.40N×23°.53E,h0km,mb3.8/15, mb1 3.9/23,mb1mx3.8/47,mbtmp3.8/23,ML3.8/8,MS3.2/6, Ms1 3.2/6,ms1mx2.7/93,Error ellipse: s-maj=15.3km s-min=9.5km az=16.0*
THE ***12*** *07:49:58.9,35°.37N×23°.55E,h2km,ML3.9/13,Error ellipse: s-maj=1.0km s-min=0.3km az=212.0*
ISK ***12*** *07:49:58.5,35°.37N×23°.56E,h12km,ML3.9/17*
DDA ***12*** *07:49:59.9±0.0,35°.48N×23°.49E,h5km±5km,MW3.9*
ATH ***12*** *07:49:59.1,35°.38N×23°.54E,h11km±3km,ML3.9/10,Error ellipse: s-maj=3.3km s-min=1.0km az=45.0*
HLW ***12*** *07:50:05.6,35°.09N×24°.26E,h5km±12km,Md4.0*
ISC 12 07:49:59.4±0.7,35°.35N±0°.03×23°.54E±0°.03,h16km±4km, n136,σ1ł93/172,mb3.9/16,4C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RODP	**Rodopos**	**0.28**	**39**	**P**	**Pg**	**07 50 04.5**	**-0.8**
RODP				S	Sg	07 50 08.5	-1.0
	25μm,0.3s						
RODP	**Rodopos**	**0.28**	**39**	PG	**Pg**	**07 50 04.3**	**-1.0**
RODP				SG	Sg	07 50 08.4	-1.0
IMMV	**Iera Moni Meta**	**0.38**	**72**	P	**Pg**	**07 50 06.0**	**-1.1**
IMMV				S	Sg	07 50 12.0	-0.3
IMMV				AML	AML	07 50 12.6	
	comp=E,57644μm,0.2s						
IMMV				AML	AML	07 50 12.7	
	comp=N,83096μm,0.3s						
IMMV	**Iera Moni Meta**	**0.38**	**72**	P	**Pg**	**07 50 05.9**	**-1.1**
IMMV				S	Sg	07 50 11.5	-0.7
	comp=N,36μm,0.3s						
IMMV	**Iera Moni Meta**	**0.38**	**72**	PG	**Pg**	**07 50 05.9**	**-1.1**
IMMV				SG	Sg	07 50 11.6	-0.7
VAM	**Vamos**	**0.54**	**84**	P	**Pg**	**07 50 08.9**	**-1.2**
VAM				S	Sg	07 50 17.4	+0.1
VAM				AML	AML	07 50 18.1	
	comp=N,92646μm,0.3s						
VAM				AML	AML	07 50 18.8	
	comp=E,61948μm,0.7s						
VAM	**Vamos**	**0.54**	**84**	P	**Pg**	**07 50 09.0**	**-1.1**
VAM				S	Sg	07 50 16.9	-0.4
	comp=E,43μm,0.5s						
ANKY	**Antikythira Is**	**0.56**	**339**	P	**Pg**	**07 50 09.1**	**-1.3**
ANKY				S	Sg	07 50 16.8	-1.0
ANKY				AML	AML	07 50 17.9	
	comp=N,20437μm,0.3s						
ANKY				AML	AML	07 50 20.5	
	comp=E,16208μm,0.5s						
ANKY	**Antikythira Is**	**0.56**	**339**	P	**Pg**	**07 50 09.1**	**-1.3**
ANKY				S	Sg	07 50 17.0	-0.8
	comp=E,9μm,0.4s						
GVD	**Gavdhos**	**0.68**	**139**	P	**Pg**	**07 50 12.6**	**-0.1**
GVD				AML	AML	07 50 25.5	
	comp=N,44558μm,0.4s						
GVD				AML	AML	07 50 28.0	
	comp=E,46487μm,0.4s						
GVD	**Gavdhos**	**0.68**	**139**	P	**Pg**	**07 50 12.2**	**-0.4**
GVD				S	Sb	07 50 22.8	+0.9
	comp=E,23μm,0.4s						
GVD	**Gavdhos**	**0.68**	**139**	PG	**Pg**	**07 50 12.3**	**-0.4**
PRNS	**Prines Rethymn**	**0.78**	**88**	P	**Pg**	**07 50 12.1**	**-2.5**
PRNS				S	Sg	07 50 23.1	-1.9
	comp=E,7μm,0.4s						
KTHA	**Kythira Island**	**0.99**	**337**	P	**Pg**	**07 50 17.1**	**-1.4**
KTHA				S	Sg	07 50 30.7	-0.8
KTHA				AML	AML	07 50 34.2	
	comp=N,6960μm,0.5s						
KTHA				AML	AML	07 50 34.7	
	comp=E,16381μm,0.7s						
KTHA	**Kythira Island**	**0.99**	**337**	P	**Pg**	**07 50 17.0**	**-1.5**
KTHA				S	Sb	07 50 31.2	+0.2
	comp=E,6μm,0.6s						
KTHR	**Kythira**	**1.01**	**334**	P	**Pg**	**07 50 17.2**	**-1.8**
KTHR				S	Sb	07 50 31.7	+0.1
	comp=E,3μm,0.5s						
IDI	**Anoyia**	**1.10**	**93**	⇑P	**Pg**	**07 50 18.8**	**-1.9**
IDI	**Anoyia**	**1.10**	**93**	Pg	**Pg**	**07 50 18.8**	**-1.9**
	comp=E,64nm,0.3s,baz=272,slow=18,SNR=154						
IDI				Lg	Lg	07 50 33.5	
	comp=E,649nm,0.3s,baz=9.5,slow=23,SNR=24						
IDI				LR	LR	07 50 55.5	
	comp=E,634nm,18.6s,baz=252,slow=53						
IDI	**Anoyia**	**1.10**	**93**	P	**Pg**	**07 50 18.5**	**-2.2**
IDI				AML	AML	07 50 37.5	
	comp=N,15621μm,0.7s						
IDI				AML	AML	07 50 41.1	
	comp=E,8705μm,0.5s						
IDI	**Anoyia**	**1.10**	**93**	P	**Pg**	**07 50 18.8**	**-1.9**
IDI				S	Sb	07 50 35.3	+1.0
	comp=E,6μm,0.6s						
IDI	**Anoyia**	**1.10**	**93**	PN	**Pg**	**07 50 18.9**	**-1.8**
KSTL	**Kastelli Herak**	**1.25**	**92**	P	**Pn**	**07 50 25.7**	**+3.5**
KSTL				S	Sn	07 50 45.3	+6.6
HRKL	**Herakleio**	**1.27**	**91**	P	**Pg**	**07 50 22.9**	**-1.0**
HRKL				S	Sb	07 50 40.4	+1.3
	comp=E,9μm,0.7s						
HRKL	**Herakleio**	**1.27**	**91**	PN	**Pg**	**07 50 22.6**	**-1.3**
VLI	**Veliai**	**1.45**	**340**	P	**Pn**	**07 50 25.1**	**+0.1**
VLI				AML	AML	07 50 47.9	
	comp=E,3369μm,0.9s						
VLI				AML	AML	07 50 52.1	
	comp=N,4168μm,0.8s						
VLI	**Veliai**	**1.45**	**340**	P	**Pn**	**07 50 25.2**	**+0.2**
VLI				S	Sg	07 50 45.1	-1.2
	comp=N,2μm,0.8s						
MHLO	**Agia Marina, M**	**1.51**	**27**	P	**Pn**	**07 50 25.8**	**0.0**
MHLO				AML	AML	07 50 50.2	
	comp=E,21315μm,0.6s						
MHLO				AML	AML	07 50 51.8	
	comp=N,26688μm,0.5s						
MHLO	**Agia Marina, M**	**1.51**	**27**	P	**Pn**	**07 50 25.8**	**0.0**
MHLO				S	Sg	07 50 46.7	-1.4
NPS	**Neapolis**	**1.69**	**92**	P	**Pb**	**07 50 30.0**	**-0.2**
NPS				AML	AML	07 51 05.2	
	comp=N,4746μm,0.6s						
NPS				AML	AML	07 51 05.9	
	comp=E,4298μm,0.6s						
NPS	**Neapolis**	**1.69**	**92**	P	**Pn**	**07 50 29.1**	**+0.8**
NPS				S	Sn	07 50 51.3	+1.6
	comp=E,3μm,0.6s						
THR6	**Thira Island,**	**1.81**	**56**	P	**Pn**	**07 50 30.1**	**+0.2**
THR5	**Thira Island,**	**1.81**	**53**	P	**Pn**	**07 50 30.3**	**+0.4**
SAP3	**Santorini-Thir**	**1.82**	**53**	P	**Pn**	**07 50 30.1**	**0.0**
SAP3				S	Sn	07 50 53.9	+1.1
THR3	**Thira Island,**	**1.84**	**54**	P	**Pn**	**07 50 30.7**	**+0.4**
CMBO	**Columbo, Santo**	**1.88**	**53**	P	**Pn**	**07 50 31.7**	**+0.8**
CMBO				S	Sn	07 50 56.1	+1.8
	comp=E,7μm,0.5s						
THR2	**Thira island,**	**1.89**	**54**	P	**Pn**	**07 50 31.6**	**+0.6**
THR8	**Santorini-Mono**	**1.89**	**56**	P	**Pn**	**07 50 31.3**	**+0.3**
KRND	**KRANIDI**	**2.06**	**351**	P	**Pn**	**07 50 34.0**	**+0.7**
KRND				S	Sn	07 50 59.3	+0.7
PYL	**PYLOS**	**2.12**	**317**	P	**Pn**	**07 50 35.4**	**+1.2**
ZKR	**Zakros**	**2.20**	**95**	P	**Pb**	**07 50 38.3**	**-0.5**
ZKR				AML	AML	07 51 12.9	
	comp=N,789μm,0.4s						
ZKR				AML	AML	07 51 25.0	
	comp=E,2778μm,0.7s						
ZKR	**Zakros**	**2.20**	**95**	PN	**Pn**	**07 50 35.9**	**+0.6**
ITM	**Ithomi**	**2.25**	**325**	P	**Pn**	**07 50 38.1**	**+2.2**
ITM	**Ithomi**	**2.25**	**325**	P	**Pn**	**07 50 37.1**	**+1.2**
ITM	**Ithomi**	**2.25**	**325**	PN	**Pn**	**07 50 36.0**	**+0.1**
APE	**Apeiranthos**	**2.35**	**43**	⇑P	**Pn**	**07 50 37.7**	**+0.3**
APE	**Apeiranthos**	**2.35**	**43**	PN	**Pn**	**07 50 37.7**	**+0.3**
LTK	**Loutraki**	**2.71**	**350**	P	**Pn**	**07 50 43.2**	**+0.9**
DION	**Dionisos Attik**	**2.74**	**6**	P	**Pn**	**07 50 42.7**	**-0.1**
KARY	**Karystos**	**2.77**	**15**	P	**Pn**	**07 50 43.0**	**-0.2**
VILL	**Villia**	**2.82**	**356**	P	**Pn**	**07 50 44.0**	**+0.2**
KLV	**Kalavryta, Ach**	**2.91**	**338**	P	**Pn**	**07 50 46.5**	**+1.3**
KLV				S	Sn	07 51 21.9	+2.0
KARP	**Karpathos**	**2.96**	**85**	P	**Pn**	**07 50 47.2**	**+1.4**
KARP	**Karpathos**	**2.96**	**85**	PN	**Pn**	**07 50 46.8**	**+1.0**
KOSK	**Kos Island**	**3.12**	**62**	PN	**Pn**	**07 50 48.6**	**+0.8**
LKR	**Lokris**	**3.33**	**353**	P	**Pn**	**07 50 51.2**	**+0.5**
ATAL	**Atalanti**	**3.37**	**353**	P	**Pn**	**07 50 52.1**	**+0.8**
BODT	**Bodrum**	**3.49**	**60**	PN	**Pn**	**07 50 53.9**	**+0.8**
DAT	**Datca**	**3.55**	**66**	PN	**Pn**	**07 50 54.8**	**+0.9**
DAT	**Datca**	**3.55**	**66**	P	**Pn**	**07 50 53.8**	**-0.1**
DAT				S	Sn	07 51 35.0	-0.6
DAT				*i* AML	AML	07 51 45.0	
	comp=E,48nm,0.4s						
DAT				*i* AML	AML	07 51 54.0	
	comp=E,22nm,0.6s						
DAT				*i* AML	AML	07 51 58.0	
	comp=E,45nm,0.8s						
SMG	**Samos**	**3.55**	**47**	P	**Pn**	**07 50 54.1**	**+0.3**
BDRM	**Kayabasi**	**3.59**	**60**	P	**Pn**	**07 50 55.4**	**+1.0**
BDRM				*i* AML	AML	07 52 01.0	
	comp=E,62nm,1.4s						
BDRM				*i* AML	AML	07 52 02.0	
	comp=E,34nm,0.7s						
BDRM				*i* AML	AML	07 52 05.0	
	comp=E,44nm,0.8s						
CHOS	**Chios island**	**3.64**	**33**	P	**Pn**	**07 50 55.8**	**+0.6**
CHOS	**Chios island**	**3.64**	**33**	PN	**Pn**	**07 50 56.0**	**+0.8**
DDIM	**Aydin, Didim**	**3.65**	**54**	P	**Pn**	**07 50 55.7**	**+0.5**
DDIM				*i* AML	AML	07 52 09.0	
	comp=E,114nm,0.9s						
DDIM				*i* AML	AML	07 52 15.0	
	comp=E,185nm,0.9s						
DDIM				*i* AML	AML	07 52 28.0	
	comp=E,116nm,1.5s						
ZEYE	**Izmir, Urla-Ze**	**3.74**	**39**	P	**Pn**	**07 50 56.1**	**-0.2**
ZEYE				*i* AML	AML	07 52 02.0	
	comp=E,92nm,1.1s						
ZEYE				*i* AML	AML	07 52 09.0	
	comp=E,51nm,0.6s						
ZEYE				*i* AML	AML	07 52 17.0	
	comp=E,67nm,0.7s						
GCAM	**G?zelcami?**	**3.79**	**51**	P	**Pg**	**07 51 09.1**	**-2.8**
AGG	**Agios Georgios**	**3.79**	**346**	P	**Pn**	**07 50 58.8**	**+1.5**
AGG	**Agios Georgios**	**3.79**	**346**	PN	**Pn**	**07 50 58.7**	**+1.5**
DGB	**zmir**	**3.81**	**44**	P	**Pg**	**07 51 09.2**	**-3.0**
URLA	**Izmir**	**3.88**	**38**	P	**Pn**	**07 50 58.7**	**+0.4**
URLA				S	Sn	07 51 44.4	+0.8
URLA				*i* AML	AML	07 52 09.0	
	comp=E,118nm,0.8s						
URLA				*i* AML	AML	07 52 11.0	
	comp=E,66nm,0.6s						
URLA				*i* AML	AML	07 52 17.0	
	comp=E,247nm,0.9s						
TURN	**Turunc**	**4.07**	**68**	P	**Pn**	**07 51 00.8**	**-0.2**
TURN				S	Sn	07 51 50.3	+2.1
TURN				*i* AML	AML	07 51 56.0	
	comp=E,52nm,0.9s						
TURN				*i* AML	AML	07 52 02.0	
	comp=E,43nm,0.6s						
TURN				*i* AML	AML	07 52 03.0	
	comp=E,68nm,1.1s						
SLUM	**Salum**	**4.09**	**160**	P	**Pn**	**07 51 02.7**	**+1.4**
	baz=167						
SLUM				S	Sn	07 51 44.3	-4.5
	baz=167						
AYDN	**Tasoluk**	**4.19**	**55**	P	**Pn**	**07 51 03.9**	**+1.3**
AYDN				*i* AML	AML	07 52 03.0	
	comp=E,18nm,0.7s						
AYDN				*i* AML	AML	07 52 23.0	
	comp=E,36nm,1.0s						
AYDN				*i* AML	AML	07 52 24.0	
	comp=E,36nm,0.7s						
YER	**Yerkesik**	**4.22**	**64**	PN	**Pn**	**07 51 04.3**	**+1.1**
SIGR	**SIGRI**	**4.27**	**25**	PN	**Pn**	**07 51 04.7**	**+0.9**
MULA	**Mugla, Merkez-**	**4.30**	**62**	P	**Pn**	**07 51 07.3**	**+3.1**
MULA				S	Sn	07 51 59.1	+4.9
MULA				*i* AML	AML	07 52 02.0	
	comp=E,19nm,0.6s						
MULA				*i* AML	AML	07 52 07.0	
	comp=E,38nm,0.8s						
MULA				*i* AML	AML	07 52 45.0	
	comp=E,22nm,0.7s						
DALY	**Dalyan (Mula)**	**4.39**	**69**	PN	**Pn**	**07 51 06.7**	**+1.3**
FETY	**Fethiye**	**4.67**	**72**	PN	**Pn**	**07 51 11.0**	**+1.7**
FETY	**Fethiye**	**4.67**	**72**	P	**Pn**	**07 51 11.6**	**+2.3**
FETY				S	Sn	07 52 04.9	+1.7
FETY				*i* AML	AML	07 52 15.0	
	comp=E,51nm,0.9s						
FETY				*i* AML	AML	07 52 15.0	
	comp=E,42nm,0.6s						
FETY				*i* AML	AML	07 52 19.0	
	comp=E,29nm,1.2s						
TAVA	**DENIZLI_Tavas**	**4.82**	**62**	P	**Pn**	**07 51 13.2**	**+1.9**
TAVA				S	Sn	07 52 14.2	+7.3
TAVA				*i* AML	AML	07 52 33.0	
	comp=E,21nm,1.5s						
TAVA				*i* AML	AML	07 52 34.0	
	comp=E,24nm,1.3s						
TAVA				*i* AML	AML	07 52 50.0	
	comp=E,15nm,0.9s						
CAME	**Cameli-Denizli**	**4.92**	**69**	PN	**Pn**	**07 51 14.3**	**+1.4**
OUR	**Ouranopolis**	**4.99**	**4**	PN	**Pn**	**07 51 15.8**	**+2.2**
CAEL	**Denizli, Camel**	**4.99**	**68**	P	Pn	07 51 18.6	+4.8
CAEL				S	**Sn**	**07 52 16.1**	**+4.8**
CAEL				*i* AML	AML	07 52 39.0	
	comp=E,173nm,0.9s						
CAEL				*i* AML	AML	07 52 40.0	
	comp=E,147nm,0.8s						
CAEL				*i* AML	AML	07 52 41.0	
	comp=E,111nm,1.0s						
AKAS	**Kas**	**5.01**	**78**	P	**Pn**	**07 51 16.2**	**+2.2**
AKAS				S	**Sn**	**07 52 06.4**	**-5.1**
AKAS				*i* AML	AML	07 52 23.0	
	comp=E,36nm,0.9s						
AKAS				*i* AML	AML	07 52 23.0	
	comp=E,74nm,0.5s						
AKAS				*i* AML	AML	07 52 27.0	
	comp=E,102nm,0.6s						
MANT	**Manisa**	**5.10**	**51**	P	**Pn**	**07 51 19.2**	**+3.9**
MANT				*i* AML	AML	07 52 49.0	
	comp=E,15nm,0.7s						
MANT				*i* AML	AML	07 52 56.0	
	comp=E,13nm,1.8s						
MANT				*i* AML	AML	07 52 56.0	
	comp=E,14nm,0.9s						
GOLH	**Golhisar**	**5.21**	**67**	P	**Pn**	**07 51 20.2**	**+3.5**
GOLH				S	**Sn**	**07 52 17.3**	**+0.6**
GOLH				*i* AML	AML	07 52 30.0	
	comp=E,80nm,1.6s						
GOLH				*i* AML	AML	07 52 30.0	
	comp=E,39nm,0.8s						
GOLH				*i* AML	AML	07 52 44.0	
	comp=E,36nm,1.1s						
AKUM	**Antalya-Kumluc**	**5.61**	**78**	P	**Pn**	**07 51 24.7**	**+2.6**
AKUM				S	**Sn**	**07 52 26.1**	**-0.1**
AKUM				*i* AML	AML	07 52 41.0	
	comp=E,21nm,0.6s						
AKUM				*i* AML	AML	07 52 42.0	
	comp=E,44nm,1.0s						
AKUM				*i* AML	AML	07 52 43.0	
	comp=E,20nm,0.5s						
KORT	**Korkueli**	**5.75**	**71**	P	**Pn**	**07 51 27.3**	**+3.1**
KORT				S	**Sn**	**07 52 30.4**	**+0.5**
KORT				*i* AML	AML	07 52 41.0	
	comp=E,39nm,0.5s						
KORT				*i* AML	AML	07 52 42.0	
	comp=E,34nm,0.7s						
KORT				*i* AML	AML	07 52 43.0	
	comp=E,20nm,0.6s						
SWA2		**6.30**	**165**	P	**Pn**	**07 51 32.3**	**+0.7**
	baz=169						
STIP	**Stip**	**6.42**	**351**	*e*Pn	**Pn**	**07 51 36.9**	**+3.6**
TIP	**Timpagrande**	**6.62**	**307**	⇓P	**Pn**	**07 51 36.7**	**+0.6**
KEPZ	**Antalya-Kepez**	**6.71**	**74**	P	**Pn**	**07 51 40.2**	**+3.0**
KEPZ				S	**Sn**	**07 52 52.2**	**-1.1**
KEPZ				*i* AML	AML	07 52 58.0	
	comp=E,16nm,0.9s						
KEPZ				*i* AML	AML	07 53 02.0	
	comp=E,8.7nm,0.6s						
KEPZ				*i* AML	AML	07 53 09.0	
	comp=E,14nm,0.7s						
GAZI	**Gazipasa**	**7.18**	**80**	P	**Pn**	**07 51 42.9**	**-0.9**
VTS	**Vitosha**	**7.26**	**358**	⇑P	**Pn**	**07 51 48.0**	**+3.0**
VAE	**Valguarnera**	**7.66**	**289**	Sn	**Sn**	**07 53 20.4**	**+3.4**
	comp=E,1.5nm,0.3s,baz=135,slow=15,SNR=1.7						
PDG	**Podgorica**	**7.82**	**336**	P	**Pn**	**07 51 53.6**	**+1.1**
RYAN	**Fayoum**	**8.46**	**136**	P	**Pn**	**07 52 01.1**	**-0.1**
	baz=138						
BRTR	**Keskin Array B**	**9.13**	**58**	Pn	**Pn**	**07 52 12.8**	**+2.2**
	comp=E,0.4nm,0.3s,baz=231,slow=15,SNR=15						
ARR	**Arges**	**10.04**	**4**	⇑P	**Pn**	**07 52 26.8**	**+3.8**
MMAI	**Mount Meron Ar**	**10.10**	**100**	Pn	**Pn**	**07 52 22.9**	**-0.9**
	comp=E,2.1nm,0.3s,baz=121,slow=18,SNR=6.1						
MMAI				Sn	**Sn**	**07 54 11.3**	**-5.4**
	comp=E,1.4nm,0.3s,baz=295,slow=30,SNR=1.9						
VOIR		**10.14**	**6**	⇓P	**Pn**	**07 52 28.1**	**+3.7**
MLR	**Muntele Rosu**	**10.29**	**9**	⇓P	**Pn**	**07 52 27.2**	**+0.7**
MLR	**Muntele Rosu**	**10.29**	**9**	Pn	**Pn**	**07 52 27.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=196,slow=16,SNR=4.4						
MLR				LR	LR	07 57 07.0	
	comp=E,118nm,19.0s,baz=247,slow=42						
CFR	**Carcaliu**	**10.42**	**18**	⇓P	**Pn**	**07 52 30.7**	**+2.6**
GRB	**Gharib**	**10.56**	**129**	P	**Pn**	**07 52 32.4**	**+2.3**
	baz=130						
HDK1	**Dakhla**	**11.00**	**151**	P	**Pn**	**07 52 35.4**	**-0.7**
	baz=153						
EIL	**Elat**	**11.17**	**117**	Pn	**Pn**	**07 52 36.7**	**-1.7**
	comp=E,1.0nm,0.3s,baz=234,slow=2.3,SNR=8.6						
EIL				Sn	**Sn**	**07 54 36.4**	**-6.6**
	comp=E,0.7nm,0.3s,baz=53,slow=20,SNR=1.9						
HHRG	**Al Ghardaqah**	**11.79**	**131**	P	**Pn**	**07 52 46.8**	**-0.2**
	baz=132						
VRAC	**Vranov**	**14.86**	**342**	Pn	**Pn**	**07 53 26.6**	**-2.1**
	comp=E,0.2nm,0.3s,baz=219,slow=17,SNR=1.6						
VRAC				LR	LR	08 01 12.3	
	comp=E,92nm,18.7s,baz=176,slow=46						
GERES	**GERESS Array B**	**15.32**	**335**	Pn	**Pn**	**07 53 34.2**	**-0.8**
	comp=E,0.1nm,0.3s,baz=135,slow=11,SNR=2.5						
DAVOX	**Davos/Dischmat**	**15.36**	**322**	LR	LR	08 01 11.3	
	comp=E,69nm,18.2s,baz=23,slow=44						
KRLC	**Kraliky**	**15.52**	**344**	*e*P	**P**	**07 53 43.7**	**+1.8**
KHC	**Kasperske Hory**	**15.61**	**335**	*e*P	**Pn**	**07 53 39.8**	**+1.2**
KHC				*e*pP	**sP**	**07 53 50.5**	**+1.9**
AKASG	**Malin Array Be**	**15.89**	**13**	Pn	**Pn**	**07 53 41.5**	**-0.7**
	comp=E,1.0nm,0.3s,baz=203,slow=11,SNR=4.9						
DPC	**Dobruska-Polom**	**15.89**	**343**	*e*P	**P**	**07 53 48.7**	**+2.8**
CHVC	**Chvalec**	**16.17**	**343**	*e*P	**P**	**07 53 51.4**	**+2.3**
KBZ	**Khabaz**	**17.09**	**55**	Pn	**P**	**07 54 01.0**	**+1.9**
	comp=E,0.2nm,0.3s,baz=229,slow=6.6,SNR=9.3						
GNI	**Garni**	**17.43**	**68**	LR	LR	08 02 12.8	
	comp=E,37nm,18.1s,baz=288,slow=42						
ESDC	**Sonseca Array**	**22.20**	**289**	P	**P**	**07 54 54.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=90,slow=11,SNR=3.1						
HFS	**Hagfors**	**25.61**	**349**	P	**P**	**07 55 27.5**	**-0.2**
	comp=E,1.0nm,0.5s,baz=170,slow=10,SNR=1.9						
FINES	**FINESS Array B**	**26.16**	**3**	P	**P**	**07 55 30.9**	**-1.8**
	comp=E,2.4nm,1.1s,baz=160,slow=12,SNR=6.2						
NB2	**NORSAR Subarra**	**26.90**	**347**	P	**P**	**07 55 40.4**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**26.90**	**347**	P	**P**	**07 55 39.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=146,slow=8.4,SNR=2.7						
NOA				LR	LR	08 06 50.2	
	comp=Z,46nm,18.9s,baz=290,slow=38						
EKA	**Eskdalemuir Ar**	**27.13**	**326**	P	**P**	**07 55 41.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=130,slow=7.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**29.62**	**227**	P	**P**	**07 56 04.3**	**+0.3**
	comp=Z,17nm,1.0s,baz=30,slow=9.3,SNR=6.3						
ARCES	**ARCESS Array B**	**34.26**	**1**	P	**P**	**07 56 43.8**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=174,slow=10.0,SNR=5.9						
KMBO	**Kilima Mbogo**	**38.48**	**158**	P	**P**	**07 57 22.1**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=68,slow=19,SNR=1.5						
DBIC	**Dimbokro**	**38.67**	**229**	P	**P**	**07 57 23.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=91,slow=8.4,SNR=1.8						
MKAR	**Makanchi Array**	**44.77**	**57**	P	**P**	**07 58 11

σ2§15/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**1.23**	**231**	*e*Pg	**Pb**	**07 59 35.0**	**-1.6**
	baz=52						
IKRK				*e*Sg	**Sn**	**07 59 53.0**	**-0.2**
IKRK				AML	AML	07 59 55.5	
	comp=E,299nm,0.5s						
IKRK				AML	AML	08 00 03.1	
	comp=N,363nm,0.5s						
ORD	**Ordubad**	**2.77**	**8**	P	**Pb**	**08 00 01.8**	**-1.2**
ORD				S	**Sb**	**08 00 38.6**	**+1.6**
NAX	**Nakhchivan**	**2.99**	**360**	P	**Pb**	**08 00 05.1**	**-1.5**
NAX				S	**Sb**	**08 00 46.2**	**+2.9**
IBDR	**Badra**	**3.08**	**173**	*e*Pn	**Pn**	**08 00 03.0**	**+1.0**
IBDR				*e*Sn	**Sn**	**08 00 40.0**	**+1.1**
SBZ	**Shahbuz**	**3.21**	**1**	P	**Pb**	**08 00 10.5**	**0.0**
SBZ				S	**Sb**	**08 00 52.4**	**+2.7**
LRK	**Lerik**	**3.34**	**42**	P	**Pb**	**08 00 12.8**	**+0.2**
LRK				S	**Sg**	**08 00 57.4**	**-3.1**
YRD	**Yardimli**	**3.49**	**38**	P	**Pb**	**08 00 13.7**	**-1.6**
YRD				S	**Sb**	**08 01 00.6**	**+2.8**
ASTR	**Astara**	**3.53**	**47**	P	**Pb**	**08 00 15.9**	**0.0**
ASTR				S	**Sg**	**08 01 03.0**	**-3.7**

IDC 12 08:06:46.2±3.9, 3°.94S×138°.96E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.3/35, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=123.4km s-min=32.5km az=91.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.54**	**195**	Pn	Pn	08 10 40.5	+0.9
	0.5nm,0.3s,baz=16,slow=13,SNR=5.3						
WRA				Sn	Sn	08 13 32.8	-11
	0.1nm,0.3s,baz=14,slow=22,SNR=1.8						
FITZ	**Fitzroy Crossi**	**19.19**	**222**	P	P	08 11 11.7	0.0
	0.1nm,0.3s,baz=23,slow=13,SNR=1.2						
ASAR	**Alice Springs**	**20.21**	**194**	P	P	08 11 22.5	-0.4
	1.8nm,0.8s,baz=20,slow=11,SNR=13						
MKAR	**Makanchi Array**	**70.91**	**323**	P	P	08 18 05.4	+0.1
	0.2nm,0.6s,baz=126,slow=7.3,SNR=1.8						

*IDC **12** 08:12:58.3±4.3, 6°.20S×128°.74E, h362km±47km, mb2.4/1, mb1 3.0/4, mb1mx2.6/35, mbtmp3.7/4, Error ellipse: s-maj=61.5km s-min=16.6km az=71.0*

ISC 12 08:12:56.5±1.6, 6°.2S±0°.1×128°.9E±0°.2, h350km, n4, σ1§42/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.30**	**195**	P	**Pn**	**08 15 41.0**	**-0.8**
	0.1nm,0.3s,baz=37,slow=10,SNR=1.3						
FITZ				S	**S**	**08 17 57.7**	**-0.3**
	0.2nm,0.3s,baz=190,slow=16,SNR=1.4						
WRA	**Warramunga Arr**	**14.67**	**160**	P	**Pn**	**08 16 08.2**	**-1.5**
	0.6nm,0.3s,baz=339,slow=12,SNR=18						
WRA				S	**S**	**08 18 45.7**	**-0.4**
	0.1nm,0.3s,baz=327,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**18.05**	**165**	P	**P**	**08 16 45.6**	**+1.5**
	0.5nm,0.3s,baz=346,slow=11,SNR=37						
ASAR				S	**S**	**08 19 54.5**	**+1.7**
	0.0nm,0.3s,baz=344,slow=19,SNR=9.1						
MKAR	**Makanchi Array**	**66.95**	**327**	P	**P**	**08 23 12.5**	**+0.1**
	0.1nm,0.3s,baz=134,slow=4.2,SNR=1.7						

IDC 12 08:35:32.8±1.9, 8°.01S×125°.67E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/31, mbtmp3.6/4, ML3.2/3, MS2.9/2, Ms1 3.0/2, ms1mx2.4/45, Error ellipse: s-maj=91.3km s-min=25.0km az=71.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.03**	**180**	Pn	Pn	08 37 58.4	+0.2
	0.1nm,0.3s,baz=4.2,slow=13,SNR=2.7						
FITZ				Sn	Sn	08 39 51.5	0.0
	0.7nm,0.3s,baz=278,slow=24,SNR=9.5						
WRA	**Warramunga Arr**	**14.54**	**146**	Pn	Pn	08 38 58.3	-1.6
	0.1nm,0.3s,baz=318,slow=13,SNR=6.9						
WRA				Sn	Sn	08 41 38.1	-3.8
	0.1nm,0.3s,baz=315,slow=20,SNR=5.5						
ASAR	**Alice Springs**	**17.46**	**154**	P	P	08 39 39.4	+0.2
	0.2nm,0.3s,baz=338,slow=13,SNR=12						
ASAR				S	Sn	08 42 48.7	-4.3
	0.1nm,0.3s,baz=317,slow=20,SNR=3.1						
LEM	**Lembang**	**17.94**	**273**	LR	LR	08 49 07.9	
	comp=Z,35nm,20.6s,baz=210,slow=45						
CMAR	**Chiang Mai Arr**	**37.24**	**315**	LR	LR	09 00 42.4	
	comp=Z,18nm,18.6s,baz=200,slow=40						
MKAR	**Makanchi Array**	**66.80**	**329**	P	P	08 46 26.2	-0.1
	0.3nm,0.6s,baz=127,slow=5.5,SNR=6.0						

*IASPEI **12** 08:36:44.0±0.9, 47°.73N±0°.02×122°.63W±0°.02, h33km±1km, Error ellipse: s-maj=2.7km s-min=2.4km az=157.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ANF **12** 08:36:43.9±0.4, 47°.75N×122°.62W, h25km±5km, ML2.6/8, Error ellipse: s-maj=7.1km s-min=2.4km az=120.0*

*NEIC **12** 08:36:44.0±2.0, 47°.72N±0°.03×122°.64W±0°.03, h34km±8km, Error ellipse: s-maj=3.7km s-min=3.4km az=184.0*

*SEA **12** 08:36:44.8±2.1, 47°.71N±0°.02×122°.61W±0°.03, h25km±6km, ML2.4/108, ML2.3/16(NEIC), Error ellipse: s-maj=3.3km s-min=3.1km az=188.0*

ISC 12 08:36:43.9±0.9, 47°.73N±0°.02×122°.63W±0°.02, h33km±1km, n99, σ0§73/128, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KINR	**Kitsap County**	**0.03**	**341**		**Pb**	**08 36 48.9**	**-0.6**
KINR					**Sb**	**08 36 52.5**	**-0.7**
KITP	**Kitsap County**	**0.05**	**180**		**Pb**	**08 36 49.1**	**-0.3**
KITP					**Sb**	**08 36 53.0**	**-0.2**
BABE	**Bainbridge Sch**	**0.14**	**152**		**Pb**	**08 36 51.9**	**+2.0**
BABE					**Sb**	**08 36 54.9**	**+0.9**
PSNS	**PSNS Bremerton**	**0.17**	**183**		**Pb**	**08 36 49.5**	**-0.6**
PSNS					**Sb**	**08 36 53.4**	**-1.0**
MNWA	**Manchester**	**0.17**	**158**		**Pn**	**08 36 49.7**	**+0.4**
MNWA					**Sb**	**08 36 54.1**	**-0.8**
LAWT	**Lawton Element**	**0.18**	**113**		**Pb**	**08 36 50.2**	**0.0**
LAWT					**Sb**	**08 36 55.2**	**+0.6**
SCCW	**Shoreline CC**	**0.18**	**82**		**Pb**	**08 36 50.1**	**-0.2**
SCCW					**Sb**	**08 36 54.7**	**0.0**
GMW	**Gold Mountain**	**0.21**	**211**		**Pn**	**08 36 49.8**	**-0.2**
GMW					**Sb**	**08 36 53.7**	**-1.4**
ALKI	**Alki Wastewate**	**0.21**	**136**		**Pb**	**08 36 50.7**	**+0.2**
ALKI					**Sn**	**08 36 53.1**	**+0.6**
GNW	**Green Mountain**	**0.21**	**220**		**Pn**	**08 36 49.9**	**-0.1**
GNW					**Sb**	**08 36 53.9**	**-1.2**
B013	**Quilcene**	**0.21**	**295**		**Pn**	**08 36 50.1**	**0.0**
B013					**Sb**	**08 36 54.2**	**-0.9**
HOLY	**Holy Rosary Sc**	**0.23**	**134**		**Pn**	**08 36 49.6**	**-1.0**
HOLY					**Sb**	**08 36 54.8**	**-0.7**
C04A	**Brinnon**	**0.23**	**268**		**Pb**	**08 36 51.6**	**+0.8**
BRKS	**Brookside Elem**	**0.23**	**82**		**Pn**	**08 36 50.7**	**+0.1**
BRKS					**Sb**	**08 36 55.8**	**+0.3**
KIMR	**Kitsap County**	**0.24**	**203**		**Pn**	**08 36 50.4**	**-0.3**
KIMR					**Sb**	**08 36 55.0**	**-0.7**
LYNC	**Lynnwood City**	**0.25**	**66**		**Pn**	**08 36 50.7**	**-0.2**
LYNC					**Sb**	**08 36 55.6**	**-0.2**
NOWS	**NOAA--Sand Poi**	**0.26**	**98**		**Pb**	**08 36 51.3**	**+0.3**
NOWS					**Sb**	**08 36 57.1**	**+1.2**
NIHS	**Ingelmoor High**	**0.28**	**86**		**Pn**	**08 36 51.5**	**+0.1**
HDW	**Hoodsport**	**0.30**	**255**		**Pn**	**08 36 51.5**	**-0.4**
HDW					**Sn**	**08 36 56.4**	**-0.2**
BSFP	**Boeing Fire Pr**	**0.30**	**132**		**Sb**	**08 36 58.5**	**+1.6**
SP2	**Seward Park 2**	**0.31**	**123**		**Pb**	**08 36 51.9**	**+0.2**
SP2					**Sb**	**08 36 57.9**	**+0.9**
BEVT	**Boeing Everett**	**0.31**	**51**		**Pb**	**08 36 51.9**	**+0.1**
BEVT					**Sb**	**08 36 57.7**	**+0.5**
SWID	**South Whidbey**	**0.32**	**27**		**Pb**	**08 36 52.0**	**+0.1**
SWID					**Sb**	**08 36 58.1**	**+0.8**
VVHS	**Vashon High Sc**	**0.32**	**158**		**Pb**	**08 36 51.7**	**-0.3**
VVHS					**Sb**	**08 36 57.5**	**+0.1**
LEOT	**Leota Junior H**	**0.35**	**83**		**Pb**	**08 36 52.4**	**+0.1**
LEOT					**Sb**	**08 36 58.7**	**+0.7**
D03D	**Eldon**	**0.36**	**239**		**Pb**	**08 36 52.2**	**-0.3**
D03D					**Sn**	**08 36 58.0**	**-0.6**
D03D	**Eldon**	**0.36**	**239**	P	**Pb**	**08 36 52.2**	**-0.3**
	baz=62,SNR=190						
D03D				S	**Sn**	**08 36 58.1**	**-0.6**
	baz=62						
BLN	**Blyn Mountain**	**0.36**	**321**		**Pb**	**08 36 52.5**	**-0.1**
EARN	**East Ridge Ele**	**0.40**	**88**		**Pb**	**08 36 53.0**	**+0.1**
ALCT	**Alcott Element**	**0.41**	**101**		**Pb**	**08 36 53.4**	**+0.3**
SQM	**Sequim**	**0.45**	**321**		**Pn**	**08 36 54.1**	**+0.1**
D04E	**Lakebay**	**0.56**	**190**		**Pb**	**08 36 55.7**	**+0.3**
D04E	**Lakebay**	**0.56**	**190**	P	**Pb**	**08 36 55.7**	**+0.3**
	baz=11,SNR=26						
D04E				S	**Sn**	**08 37 04.9**	**+1.5**
	baz=11						
ELW	**Echo Lake**	**0.56**	**114**		**Sn**	**08 37 03.1**	**-0.6**
PAYL	**Puyallup Schoo**	**0.57**	**158**		**Pn**	**08 36 55.5**	**-0.2**
PAYL					**Sb**	**08 37 04.5**	**+0.8**
HTW	**Haystack Looko**	**0.59**	**82**		**Pn**	**08 36 55.4**	**-0.5**
RATT	**Rattlesnake La**	**0.64**	**118**		**Pn**	**08 36 56.2**	**-0.3**
RATT					**Sn**	**08 37 05.0**	**-0.5**
TTW	**Tolt Reservoir**	**0.64**	**92**		**Pn**	**08 36 56.1**	**-0.5**
TTW					**Sn**	**08 37 04.1**	**-1.4**
C05A	**Tolt Reservoir**	**0.64**	**92**		**Pn**	**08 36 56.0**	**-0.6**
B05A	**Bryant**	**0.65**	**33**		**Pn**	**08 36 56.5**	**-0.2**
B05A	**Bryant**	**0.65**	**33**	P	**Pn**	**08 36 56.5**	**-0.2**
	baz=212,SNR=38						
B05A				S	**Sn**	**08 37 05.1**	**-0.7**
	baz=212						
B04A	**Port Angeles**	**0.68**	**300**		**Pb**	**08 36 57.2**	**-0.1**
B04A	**Port Angeles**	**0.68**	**300**		**Pb**	**08 36 57.3**	**-0.1**
D05A	**Enumclaw**	**0.69**	**141**		**Pn**	**08 36 57.6**	**+0.3**
D05A	**Enumclaw**	**0.69**	**141**	IAML		08 37 08.0	
	comp=N,99nm,0.5s						
GHW	**Garrison Hill**	**0.72**	**160**		**Pn**	**08 36 57.4**	**-0.4**
OSD	**Olympics--Snow**	**0.73**	**278**		**Pb**	**08 36 59.2**	**+0.8**
PCFR	**Pierce County**	**0.75**	**170**		**Pn**	**08 36 58.0**	**-0.1**
GSM	**Green Mountain**	**0.77**	**132**		**Pn**	**08 36 58.6**	**+0.1**
B941	**Kapowsin**	**0.79**	**159**		**Pn**	**08 36 58.2**	**-0.4**
STW	**Striped Peak**	**0.82**	**302**		**Pb**	**08 36 59.7**	**0.0**
OLQ	**Olympics--Lake**	**0.82**	**256**		**Pb**	**08 37 02.3**	**+2.5**
VGZ	**Gonzales**	**0.83**	**326**		**Pn**	**08 36 59.3**	**0.0**
RVC	**Mount Rainier-**	**0.90**	**150**		**Pn**	**08 37 00.4**	**+0.1**
NLWA	**Neilton Lookou**	**0.90**	**249**		**Pb**	**08 37 01.2**	**0.0**
NLWA				IAML		08 37 18.5	
	comp=N,93nm,0.8s						
NLWA				IAML		08 37 19.0	
	comp=N,74nm,0.4s						
B017	**Montesano**	**0.96**	**221**		**Pb**	**08 37 02.4**	**+0.3**
MCW	**Mount Constitu**	**0.96**	**352**		**Pb**	**08 37 02.3**	**+0.1**
OBSR	**Observation Ro**	**0.99**	**146**		**Pn**	**08 37 03.3**	**+0.5**
FMW	**Mount Fremont**	**1.03**	**140**		**Pn**	**08 37 02.4**	**+0.3**
RPW	**Rockport**	**1.04**	**46**		**Pb**	**08 37 03.2**	**-0.3**
RCS	**Mount Rainier-**	**1.05**	**144**		**Pb**	**08 37 03.3**	**-0.5**
REMR	**Mount Rainier-**	**1.05**	**149**		**Pn**	**08 37 02.7**	**+0.2**
B011	**North Saanich**	**1.08**	**330**		**Pn**	**08 37 03.2**	**+0.6**
PGC	**Sidney**	**1.08**	**330**		**Pb**	**08 37 03.4**	**-0.6**
PGC	**Sidney**	**1.08**	**330**	IAML		08 37 18.2	
	comp=E,51nm,0.4s						
PGC				IAML		08 37 22.8	
	comp=N,69nm,0.8s						
GPW	**Glacier Peak**	**1.08**	**68**		**Pb**	**08 37 03.8**	**-0.4**
B06A	**Marblemount**	**1.10**	**44**		**Pn**	**08 37 03.6**	**+0.6**
LON	**Longmire**	**1.12**	**150**		**Pn**	**08 37 03.7**	**+0.4**
MBW	**Mount Baker**	**1.17**	**24**		**Pb**	**08 37 05.5**	**-0.1**
E04D	**Cinebar**	**1.17**	**178**		**Pn**	**08 37 04.3**	**+0.4**
E04D				IAML		08 37 25.2	
	comp=E,56nm,0.3s						
E04D	**Cinebar**	**1.17**	**178**	P	**Pn**	**08 37 04.8**	**+0.8**
	baz=358,SNR=82						
E04D				S	**Sb**	**08 37 20.6**	**+0.2**
	baz=358						
C06D	**Leavenworth**	**1.19**	**80**	P	**Pn**	**08 37 05.3**	**+1.1**
	baz=260						
C06D				S	**Sn**	**08 37 20.0**	**+0.8**
	baz=260						
B019	**Raymond**	**1.28**	**213**		**Pb**	**08 37 07.5**	**+0.1**
SHUK	**Shuksan-Mt. Ba**	**1.30**	**29**		**Pb**	**08 37 07.6**	**-0.2**
VDB	**Vedder Mountai**	**1.35**	**15**		**Pb**	**08 37 08.3**	**-0.3**
LTY	**Liberty**	**1.41**	**109**		**Pb**	**08 37 08.9**	**-0.8**
LTY				IAML		08 37 27.6	
	comp=N,65nm,0.5s						
ERK	**Elk Rock**	**1.43**	**172**		**Pn**	**08 37 08.8**	**+1.1**
B201	**Coldwater, Mou**	**1.44**	**170**		**Pn**	**08 37 09.0**	**+1.3**
JRO	**Jston Ridge Ob**	**1.48**	**169**		**Pb**	**08 37 10.1**	**-0.8**
TBM	**Table Mountain**	**1.49**	**111**		**Pb**	**08 37 11.2**	**+0.3**
SOSW	**Source of Smit**	**1.52**	**167**		**Pb**	**08 37 10.4**	**-1.1**
FL2	**Flat Top 2**	**1.54**	**173**		**Pn**	**08 37 10.6**	**+1.4**
VALT	**Mount Saint He**	**1.54**	**169**		**Pb**	**08 37 11.0**	**-0.9**
BOLM	**Sugar Bowl**	**1.54**	**168**		**Pb**	**08 37 11.3**	**-0.6**
B203	**Quarry, Mount**	**1.57**	**172**		**Pb**	**08 37 11.0**	**-1.3**
NAC	**Naches**	**1.58**	**128**		**Pb**	**08 37 12.1**	**-0.5**
NLW	**Nelson Butte**	**1.58**	**76**		**Pb**	**08 37 13.0**	**+0.4**
EBG	**Ellensburg**	**1.62**	**119**		**Pb**	**08 37 13.2**	**0.0**
B023	**Clatskanie**	**1.64**	**191**		**Pb**	**08 37 12.3**	**-1.2**
CDFW	**Cedar Flats**	**1.66**	**166**		**Pb**	**08 37 12.8**	**-1.0**
F04D	**Rainier, OR**	**1.66**	**189**	Sb	**Sb**	**08 37 36.7**	**+2.2**
	baz=9.4						
MTMW	**Mount Mitchell**	**1.72**	**170**		**Pb**	**08 37 13.9**	**-1.1**
F05D	**White Salmon**	**2.01**	**156**		**Pb**	**08 37 19.1**	**-0.7**
F05D	**White Salmon**	**2.01**	**156**	IAML		08 37 47.7	
	comp=E,28nm,0.3s						
F05D	**White Salmon**	**2.01**	**156**	Pb	**Pb**	**08 37 19.0**	**-0.8**
	baz=337						
F05D				S	**Sb**	**08 37 44.3**	**-0.1**
	baz=337						
BENWA	**Benson Ranch**	**2.33**	**120**		**Pb**	**08 37 24.7**	**-0.5**
SNIWA	**Snively Ranch**	**2.39**	**121**		**Pb**	**08 37 25.7**	**-0.6**
RSW	**Rattlesnake Hi**	**2.47**	**122**		**Pb**	**08 37 26.8**	**-0.8**
G05D	**Wamic, OR**	**2.64**	**159**	Pb	**Pb**	**08 37 29.6**	**-1.0**
	baz=341,SNR=6.9						

*IDC **12** 08:42:38.0±0.9, 34°.55N×118°.96W, h0km, mb4.0/11, mb1 4.1/19, mb1mx3.9/41, mbtmp3.9/19, ML3.6/8, MS3.3/9, Ms1 3.3/9, ms1mx2.9/79, Error ellipse: s-maj=15.8km s-min=8.5km az=47.0*

*NEIC **12** 08:42:39.1±2.0, 34°.51N±0°.05×119°.10W±0°.05, h11km±4km, Error ellipse: s-maj=8.8km s-min=4.2km az=212.0*

*ANF **12** 08:42:39.7±0.2, 34°.50N×119°.07W, h23km±2km, ML4.2/36, Error ellipse: s-maj=1.7km s-min=1.6km az=67.0*

*NEIC **12** 08:42:40.3, 34°.53N×119°.07W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr1.18; Mθθ-1.33; Mφφ0.15; Mrθ1.39; Mrφ0.22; Mθφ-0.46; Fault plane solution: M0 1.94000×10^15^ NP1:ϕ1=268.00000°, δ21.00000°, λ73.00000°. NP2:ϕ2=106.00000°, δ70.00000°, λ97.00000°. Principal axes: T 1.8616, Plg65.0000°, Azm27.0000°; N 0.1543, Plg6.0000°, Azm284.0000°; P -2.0159, Plg24.0000°, Azm191.0000°.;*

*PAS **12** 08:42:40.3±2.1, 34°.52N±0°.05×119°.08W±0°.03, h19km±4km, Mwr4.1/4, mb4.3/16(NEIC), ML4.0/60(NEIC) Error ellipse: s-maj=7.7km s-min=3.2km az=201.0*

ISC 12 08:42:37.6±1.2, 34°.49N±0°.02×119°.07W±0°.02, h1km±8km, n121, σ1§11/161, mb4.2/14, MS3.3/4, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSI	**Osito Audit: C**	**0.31**	**67**	P	**Pb**	**08 42 46.6**	**+0.5**
	baz=252,SNR=511						
OSI				S	**Sb**	**08 42 51.6**	**-0.1**
	baz=252						
BCW	**Bitter Crk WRg**	**0.53**	**328**		**Pb**	**08 42 50.0**	**+0.2**
SBC	**Santa Barbara**	**0.53**	**265**	P	**Pn**	**08 42 50.9**	**-1.4**
	baz=81,SNR=259						
SBC				S	**Sb**	**08 42 59.1**	**+1.2**
	baz=81						
DJJ	**Donna J Jenkin**	**0.64**	**127**		**Pb**	**08 42 52.0**	**+0.4**
DJJ					**Sb**	**08 43 01.0**	**0.0**
DECC	**Green Verdugo**	**0.66**	**111**	P	**Pb**	**08 42 52.6**	**+0.8**
	baz=294,SNR=84						
DECC				S	**Sb**	**08 43 02.3**	**+0.8**
	baz=294						
ARVC	**Arvin**	**0.67**	**17**	P	**Pb**	**08 42 52.1**	**+0.1**
	baz=198,SNR=914						
ARVC				S	**Sb**	**08 43 00.9**	**-0.9**
	baz=198						
PASC	**Pasadena Art C**	**0.80**	**113**		**Pb**	**08 42 54.7**	**+0.4**
PASC				IAML		08 43 08.9	
	comp=E,3μm,0.7s						
PASC	**Pasadena Art C**	**0.80**	**113**		**Sb**	**08 43 06.0**	**+0.4**
GVRC	**Garvey Reservo**	**0.91**	**119**		**Pb**	**08 42 56.9**	**+0.8**
EDW2	**Edwards Air Fo**	**0.97**	**66**	P	**Pb**	**08 42 57.7**	**+0.4**
	baz=248,SNR=290						
EDW2				S	**Sb**	**08 43 10.6**	**-0.1**
	baz=248						
FMP	**Fort Macarthur**	**1.01**	**140**	P	**Pn**	**08 42 58.6**	**-0.3**
	baz=322,SNR=20						
FMP				S	**Sb**	**08 43 12.6**	**+1.0**
	baz=322						
CCAC	**Calif City Air**	**1.09**	**53**		**Pn**	**08 42 59.7**	**-0.4**
CCAC				IAML		08 43 17.3	
	comp=E,5μm,0.6s						
SMMC	**Simmler**	**1.12**	**318**	P	**Pn**	**08 43 00.1**	**-0.3**
	baz=136,SNR=183						
SMMC				S	**Sn**	**08 43 15.3**	**-1.2**
	baz=136						
BFSC	**Mount Baldy Ra**	**1.20**	**102**	P	**Pg**	**08 43 01.1**	**+0.6**
	baz=284,SNR=239						
BFSC				S	**Sb**	**08 43 17.9**	**+0.7**
	baz=284						
CIS	**Catalina Islan**	**1.22**	**153**	P	**Pg**	**08 43 00.9**	**0.0**
	baz=334,SNR=46						
CIS				S	**Sn**	**08 43 18.6**	**-0.2**
	baz=334						
ISA	**Isabella, Lake**	**1.27**	**23**		**Pb**	**08 43 01.9**	**-0.4**
ISA				IAML		08 43 21.9	
	comp=N,1μm,0.7s						
ISA				IAML		08 43 22.5	
	comp=E,2μm,0.6s						
ISA	**Isabella, Lake**	**1.27**	**23**	P	**Pb**	**08 43 02.0**	**-0.4**
	baz=204,SNR=468						
ISA				S	**Sn**	**08 43 19.3**	**-1.0**
	baz=204						
SNCC	**San Nicolas Is**	**1.29**	**197**		**Pg**	**08 43 01.8**	**-0.6**
SNCC				IAML		08 43 20.9	
	comp=E,2μm,0.2s						
SNCC				IAML		08 43 24.7	
	comp=N,2μm,0.4s						
SNCC	**San Nicolas Is**	**1.29**	**197**	P	**Pg**	**08 43 01.9**	**-0.4**
	baz=16,SNR=33						
SNCC				S	**Sg**	**08 43 19.1**	**-0.1**
	baz=16						
VES	**Vestal, Richgr**	**1.35**	**360**	P	**Pg**	**08 43 02.9**	**-0.5**
	baz=180,SNR=517						
VES				S	**Sg**	**08 43 20.4**	**-0.4**
	baz=180						
LRMC	**Laurel Mtn Rad**	**1.51**	**49**	P	**Pn**	**08 43 05.6**	**-0.3**
	baz=230,SNR=48						
LRMC				S	**Sg**	**08 43 26.4**	**+0.3**
	baz=230						
PAGB	**Antelope Grade**	**1.57**	**322**		**Pn**	**08 43 06.0**	**-0.6**
PAGB				IAML		08 43 32.1	
	comp=N,3μm,0.7s						
ELS	**Elsinore Mount**	**1.60**	**121**		**Pn**	**08 43 06.5**	**-0.7**
RRX	**Edison Barstow**	**1.75**	**77**	Pn	**Pn**	**08 43 08.8**	**-0.3**
	baz=259,SNR=25						
RRX				Pb	**Pg**	**08 43 11.5**	**+0.3**
	baz=259						
RRX				Sb	**Sg**	**08 43 34.8**	**+0.9**
	baz=259						
MURC	**Murrieta**	**1.79**	**119**	Pn	**Pn**	**08 43 09.5**	**-0.2**
	baz=301,SNR=38						
MURC				Pb	**Pg**	**08 43 12.2**	**+0.2**
	baz=301						
MURC				S	**Sn**	**08 43 32.7**	**-0.5**
	baz=301						
BBRC	**Big Bear Solar**	**1.80**	**97**	Pb	**Pb**	**08 43 11.1**	**-0.3**
	baz=279,SNR=23						
BBRC				Sb	**Sb**	**08 43 34.8**	**+0.3**
	baz=279						
VOG	**Valley Oaks Go**	**1.84**	**352**	P	**Pn**	**08 43 10.1**	**-0.2**
	baz=172,SNR=76						
VOG				S	**Sn**	**08 43 33.7**	**-0.6**
	baz=172						
MPMC	**Manual Prospec**	**2.03**	**39**	Pn	**Pn**	**08 43 12.9**	**-0.2**
	baz=221,SNR=467						
MPMC				Pb	**Pg**	**08 43 16.6**	**+0.1**
	baz=221						
MPMC				Sb	**Sg**	**08 43 43.2**	**+0.4**
	baz=221						
GSC	**Goldstone, Bar**	**2.03**	**66**		**Pn**	**08 43 12.6**	**-0.4**
GSC				IAML		08 43 51.2	
	comp=N,2μm,1.1s						
GSC	**Goldstone, Bar**	**2.03**	**66**	Pn	**Pn**	**08 43 12.7**	**-0.3**
	baz=248,SNR=119						
GSC				Pb	**Pg**	**08 43 17.2**	**+0.7**
	baz=248						
GSC				Sb	**Sg**	**08 43 44.0**	**+1.1**
	baz=248						
CWC	**Cottonwood Cre**	**2.11**	**22**	Pb	**Pb**	**08 43 16.8**	**+0.1**
	baz=203						
CWC				Sb	**Sg**	**08 43 44.2**	**-1.1**
	baz=203						
PMPB	**Monarch Peak**	**2.23**	**321**	Pn	**Pn**	**08 43 15.0**	**-0.7**
HEC	**Hector,Ludlow**	**2.28**	**81**	Sb	**Sg**	**08 43 51.4**	**+0.5**
	baz=263						
109C	**Camp Elliot, M**	**2.29**	**134**		**Pn**	**08 43 15.3**	**-1.2**
109C	**Camp Elliot, M**	**2.29**	**134**	P	**Pn**	**08 43 15.7**	**-0.8**
	baz=315						
109C				S	**Sn**	**08 43 42.8**	**-2.6**
	baz=315						
QSM	**Queen of Sheba**	**2.33**	**50**		**Pn**	**08 43 16.1**	**-0.9**
QSM				IAML		08 43 60.0	
	comp=E,966nm,0.7s						
PFO	**Pinyon Flats O**	**2.34**	**111**	Pn	**Pn**	**08 43 17.6**	**+0.3**
	comp=E,16nm,0.3s,baz=292,slow=13,SNR=61						
PFO				Sn	**Sn**	**08 43 46.6**	**-0.2**
	comp=E,18nm,0.3s,baz=152,slow=10.0,SNR=11						
PFO	**Pinyon Flats O**	**2.34**	**111**		**Pn**	**08 43 17.3**	**-0.1**
PFO	**Pinyon Flats O**	**2.34**	**111**	Pn	**Pn**	**08 43 17.8**	**+0.5**
	baz=294,SNR=22						
PFO				Pb	**Pb**	**08 43 21.2**	**+0.6**
	baz=294

TPNV Pb **Pg** **08 43 41.5 -0.5**
baz=224
TPNV Sb **Sg** **08 44 27.9 +2.4**
baz=224
NEE2 Needles Airpor 3.68 84 P **Pn** **08 43 35.8 +0.2**
baz=267,SNR=32
CMB Columbia Colle 3.69 344 Pn **Pn** **08 43 36.3 +0.5**
CMB IAML 08 44 35.5
comp=E,448nm,0.6s
CMB IAML 08 44 35.9
comp=N,286nm,0.7s
SHPR Sheep Range 3.77 57 Pn **Pn** **08 43 37.1 0.0**
SHPR IAML 08 44 47.3
comp=E,160nm,1.1s
BLYC Blythe 3.85 100 Pn **Pn** **08 43 36.8 -1.1**
BLYC IAML 08 44 54.5
comp=N,183nm,1.1s
BLYC IAML 08 44 55.8
comp=E,122nm,0.7s
NVAR Mina Array Bea 3.98 9 Pn **Pn** **08 43 41.4 +1.4**
comp=E,1.6nm,0.3s,baz=194,slow=15,SNR=32
NVAR Lg Lg 08 44 41.5
comp=E,32nm,0.3s,baz=303,slow=18,SNR=8.3
NVAR LR LR 08 45 16.1
comp=E,426nm,18.2s,baz=166,slow=40
PDMCI Parker Dam,Lak 4.08 91 P **Pn** **08 43 41.1 0.0**
baz=274,SNR=23
W13A Hualapai Mount 4.31 80 Pn **Pn** **08 43 44.4 -0.2**
W13A IAML 08 45 00.6
comp=N,131nm,1.8s
W13A IAML 08 45 05.2
comp=E,81nm,1.0s
PRN Pahroc Range 4.37 47 **Pn** **08 43 45.6 +0.4**
PNTR Pine Nut 4.61 355 Pn **Pn** **08 43 50.0 +1.4**
R11A Troy Canyon, C 4.77 35 Pn **Pn** **08 43 52.0 +1.3**
baz=217
R11A Pb **Pg** **08 44 07.6 -1.3**
baz=217
R11A Sb **Sg** **08 45 09.1 -1.6**
baz=217
Y14A Wickenburg 5.06 95 Pn **Pn** **08 43 54.2 -0.5**
Y14A IAML 08 45 32.3
comp=E,59nm,0.9s
Y14A IAML 08 45 45.7
comp=N,75nm,1.2s
PAHR Pah Rah Range 5.21 357 Pn **Pn** **08 43 58.4 +1.6**
PAHR IAML 08 45 26.8
comp=E,116nm,1.5s
PAHR IAML 08 45 31.6
comp=N,117nm,1.3s
LCMT Little Creek M 5.37 60 **Pn** **08 43 59.8 +0.9**
LCMT IAML 08 45 34.5
comp=E,38nm,2.2s
ORV Oroville 5.41 340 **Pn** **08 44 00.4 +1.0**
ORV IAML 08 45 31.1
comp=E,102nm,1.1s
ORV IAML 08 45 37.2
comp=N,57nm,1.2s
BEKR Beckworth 5.46 350 Pn **Pn** **08 44 02.0 +1.8**
KNB Kanab 5.67 62 Pn **Pn** **08 44 04.2 +1.0**
SZCU Shurtz Canyon 5.75 56 **Pn** **08 44 05.4 +1.1**
PSUT Pine Spring 5.83 45 **Pn** **08 44 06.3 +1.0**
U15A North Rim 5.86 69 Pn **Pn** **08 44 06.8 +1.0**
O03E Paynes Creek 6.19 340 Sb **Sb** **08 45 47.4 +6.7**
baz=159
X16A Lo Mia Camp, P 6.31 89 Pn **Pn** **08 44 12.0 +0.1**
MTPU Mount Pierson 6.60 56 **Pn** **08 44 17.8 +1.8**
MSU Marysvale 6.85 52 **Pn** **08 44 20.7 +1.3**
ELK Elko 6.94 25 Pn **Pn** **08 44 23.0 +2.3**
comp=N,0.6nm,0.3s,baz=220,slow=9.6,SNR=14
ELK Lg Lg 08 46 16.4
comp=N,1.6nm,0.3s,baz=316,slow=6.4,SNR=7.5
ELK Elko 6.94 25 Pn **Pn** **08 44 22.7 +2.0**
X18A Snowflake 7.53 87 **Pn** **08 44 29.5 +0.8**
DUG Dugway, Tooele 7.57 39 Pb **Pg** **08 45 01.1 -1.4**
baz=223
DUG Sb **Sg** **08 46 36.2 -4.3**
baz=223
YBH Yreka Blue Hor 7.78 339 Pn **Pn** **08 44 34.8 +2.8**
comp=N,0.2nm,0.3s,baz=156,slow=7.2,SNR=13
YBH Lg Lg 08 46 34.4
comp=N,0.1nm,0.3s,baz=117,slow=14,SNR=3.0
ANMO Albuquerque 10.40 84 Pn **Pn** **08 45 07.6 -0.4**
comp=N,0.1nm,0.3s,baz=106,slow=10,SNR=1.9
ANMO Lg Lg 08 48 00.8
comp=N,0.1nm,0.3s,baz=192,slow=16,SNR=1.3
ANMO LR LR 08 49 07.2
comp=N,82nm,21.0s,baz=278,slow=38
ANMO Albuquerque 10.40 84 **Pn** **08 45 08.3 +0.3**
H04A Detroit Lake 10.46 348 Pn **Pn** **08 45 07.3 -1.4**
PDAR Pinedale Array 11.11 39 Pn **Pn** **08 45 18.1 +0.2**
comp=N,0.1nm,0.3s,baz=233,slow=8.6,SNR=7.6
PDAR Lg Lg 08 48 27.2
comp=N,0.1nm,0.3s,baz=198,slow=26,SNR=1.2
PDAR LR LR 08 49 59.2
comp=N,96nm,18.5s,baz=218,slow=40
MOOW Moose Ponds 11.28 32 Pn **Pn** **08 45 19.5 -0.5**
YHH Holmes Hill 12.07 29 Pn **Pn** **08 45 29.4 -1.6**
D08A Wollman Farm, 12.55 0 Pn **Pn** **08 45 37.2 -0.1**
NEW Newport 13.84 5 Pn **Pn** **08 45 56.2 +1.4**
comp=N,0.1nm,0.3s,baz=177,slow=10,SNR=4.6
NEW LR LR 08 51 31.0
comp=N,131nm,21.1s,baz=174,slow=39
TXAR Lajitas Array 14.06 107 Pn **Pn** **08 45 58.1 +0.1**
comp=N,0.1nm,0.3s,baz=292,slow=13,SNR=13
TXAR LR LR 08 51 47.9
comp=N,95nm,18.8s,baz=297,slow=39
DGMT Dagmar 17.82 34 **Pn** **08 46 45.7 -1.1**
ECSD EROS Data Cent 19.67 55 P **P** **08 47 07.2 -0.7**
MDND Maddock 19.75 42 P **P** **08 47 08.0 -0.8**
F33A 5 Mile Ranch, 20.70 50 P **P** **08 47 17.7 -1.4**
F33A IAmb IAmb 08 47 20.3
comp=Z,6.6nm,0.7s
D32A Dogwood Acres, 20.85 46 P **P** **08 47 20.0 -0.7**
DIB Dawson Inlet, 20.99 337 P **P** **08 47 22.6 +0.4**
AGMN Agassiz Nation 22.10 44 P **P** **08 47 33.0 -1.2**
F36A Milaca 22.49 52 P **P** **08 47 38.1 -0.2**
F36A IAmb IAmb 08 47 41.2
comp=Z,6.7nm,0.8s
SPMN Marine on St. 22.74 54 P **P** **08 47 40.4 -0.6**
SPMN IAmb IAmb 08 47 44.0
comp=Z,20nm,1.4s
ULM Lac du Bonnet 23.13 40 P **P** **08 47 44.3 -0.8**
comp=Z,2.5nm,0.5s,baz=237,slow=8.2,SNR=5.3
ULM Lac du Bonnet 23.13 40 P **P** **08 47 44.2 -0.9**
ULM IAmb IAmb 08 47 46.5
comp=Z,7.8nm,1.1s
FFC Flin Flon 23.49 25 P **P** **08 47 48.5 -0.2**
DLBC Dease Lake 25.05 346 P **P** **08 48 04.5 +1.3**
comp=Z,5.1nm,0.7s,baz=146,slow=9.9,SNR=6.9
DLBC LR LR 08 58 44.2
comp=Z,131nm,21.2s,baz=122,slow=39
YKA Yellowknife Ar 28.16 4 PcP **PcP** **08 51 44.4 -0.5**
comp=Z,0.3nm,0.7s,baz=188,slow=2.5,SNR=5.5
SADO Sadowa 32.14 59 LR LR 09 01 55.3
comp=Z,52nm,19.8s,baz=196,slow=36
ILAR Eielson Array 34.67 339 P **P** **08 49 29.6 +1.2**
comp=Z,0.9nm,0.7s,baz=155,slow=8.2,SNR=19
ILAR PcP **PcP** **08 52 01.5 -0.9**
comp=Z,1.0nm,1.1s,baz=160,slow=2.9,SNR=2.5
INK Inuvik 34.85 351 P **P** **08 49 30.6 +0.8**
comp=Z,2.0nm,0.8s,baz=167,slow=6.9,SNR=8.3
INK Inuvik 34.85 351 IAmb IAmb 08 49 31.9
comp=Z,5.2nm,1.1s
A36M Sachs Harbour 37.70 357 P **P** **08 49 53.0 -1.2**
A36M IAmb IAmb 08 49 56.1
comp=Z,6.8nm,1.0s
JTS Las Juntas de 39.38 120 LR LR 09 05 43.9
comp=Z,44nm,21.5s,baz=320,slow=35
SCHQ Schefferville 41.20 44 P **P** **08 50 23.2 -0.4**
comp=Z,2.2nm,0.9s,baz=264,slow=12,SNR=4.0
SCHQ LR LR 09 07 56.3
comp=Z,62nm,18.8s,baz=98,slow=37
SEY Seymchan 59.28 328 P **P** **08 52 40.8 +0.3**
comp=Z,0.6nm,0.4s,baz=60,slow=7.7,SNR=7.5
PETK Petropavlovsk- 59.44 316 P **P** **08 52 41.4 -0.3**
comp=Z,1.9nm,0.8s,baz=89,slow=12,SNR=2.8
MA2 Magadan 61.05 324 P **P** **08 52 52.6 0.0**
comp=Z,1.5nm,0.2s,baz=140,slow=23,SNR=4.3
MA2 Magadan 61.05 324 IAmb IAmb 08 52 60.0
comp=Z,1.7nm,0.8s
FINES FINESS Array B 80.29 16 P **P** **08 54 50.1 +0.3**
comp=Z,2.2nm,0.8s,baz=348,slow=4.7,SNR=5.4
ESDC Sonseca Array 84.96 45 P **P** **08 55 15.0 +0.3**
comp=Z,0.8nm,0.8s,baz=303,slow=5.7,SNR=5.1
SONM Songino Array 88.49 331 P **P** **08 55 32.6 +0.7**
comp=Z,0.4nm,0.6s,baz=46,slow=4.2,SNR=2.9
SONM Songino Array 88.49 331 IAmb IAmb 08 55 52.2
comp=Z,1.9nm,1.4s

IDC 12 08:42:59.5±1.8, 7.91S×125.67E, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.5/32, mbtmp3.8/5, ML3.6/4, Error ellipse: s-maj=59.9km s-min=23.3km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.55**	**296**	Pn	Pn	08 44 38.4	+1.3
	1.1nm,0.3s,baz=117,slow=14,SNR=2.6						
KAPI				Sn	Sn	08 45 52.2	-0.4
	0.8nm,0.3s,baz=24,slow=20,SNR=1.2						
FITZ	**Fitzroy Crossi**	**10.13**	**180**	Pn	Pn	08 45 27.3	+1.0
	0.7nm,0.3s,baz=3.5,slow=8.9,SNR=25						
FITZ				Sn	Sn	08 47 16.5	-4.2
	1.7nm,0.3s,baz=133,slow=5.7,SNR=13						
WRA	**Warramunga Arr**	**14.62**	**146**	Pn	Pn	08 46 25.7	-2.0
	0.2nm,0.3s,baz=315,slow=14,SNR=12						
WRA				Sn	Sn	08 48 59.6	-11
	0.2nm,0.3s,baz=343,slow=17,SNR=5.3						
ASAR	**Alice Springs**	**17.55**	**154**	P	Pn	08 47 06.0	+0.3
	0.2nm,0.3s,baz=330,slow=11,SNR=22						
ASAR				S	Sn	08 50 15.5	-6.3
	0.1nm,0.3s,baz=312,slow=21,SNR=5.4						
MKAR	**Makanchi Array**	**66.71**	**329**	P	P	08 53 52.2	-0.2
	0.5nm,0.6s,baz=142,slow=6.9,SNR=5.7						

KRNET ***12*** *08:50:53.6±0.1, 39.55N×72.97E, h16km, mb3.2*
ISU ***12*** *08:50:56, 39.73N×72.89E, h5km*
NNC ***12*** *08:51:01.7±2.4, 39.91N×73.12E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=18.0km s-min=9.6km az=178.0*
SOME ***12*** *08:51:08.6, 40.22N×72.60E, h20km*

ISC 12 08:50:57.2±1.4, 39.60N±0.05×72.78E±0.03, h3km±11km, n46, σ2=06/73, 21C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.77**	**261**	↑*i*P	**Pb**	**08 51 11.0**	**-2.4**
	baz=66						
DRK				↑*i*S	**Sb**	**08 51 23.6**	**-0.8**
	baz=66						
OHH	**Osh**	**0.92**	**0**	↑*i*P	**Pb**	**08 51 12.2**	**-3.7**
	baz=52						
OHH				↑*i*S	**Sb**	**08 51 26.1**	**-2.6**
	baz=52						
OHH	**Osh**	**0.92**	**0**	*e*P	**Pb**	**08 51 12.0**	**-3.9**
OHH				*e*S	**Sb**	**08 51 26.0**	**-2.6**
FRG	**Fergana**	**1.09**	**316**	*e*P	**Pb**	**08 51 17.0**	**-1.7**
FRG				*e*S	**Sb**	**08 51 33.0**	**-0.4**
CHMI	**Chimion**	**1.18**	**305**	*e*P	**Pn**	**08 51 19.0**	**-1.6**
CHMI				*e*S	**Sg**	**08 51 37.0**	**+1.9**
BTK	**Batken**	**1.58**	**287**	↓*i*P	**Pn**	**08 51 25.8**	**-0.4**
	baz=88						
BTK				↓*i*S	**Sg**	**08 51 49.4**	**+1.4**
	baz=88						
BTK	**Batken**	**1.58**	**287**	*e*P	**Pn**	**08 51 26.0**	**-0.2**
BTK				*e*S	**Sg**	**08 51 50.0**	**+2.0**
MINT	**Mingtut**	**1.64**	**303**	*e*P	**Pb**	**08 51 29.0**	**+1.0**
MINT				*e*S	**Sg**	**08 51 53.0**	**+3.2**
GAR	**Garm**	**2.00**	**253**	↑*i*P	**Pn**	**08 51 32.2**	**+0.1**
	baz=56						
GAR				↑*i*S	**Sb**	**08 52 00.4**	**+0.6**
	baz=56						
ARK	**Arkit**	**2.28**	**344**	↑*i*P	**Pn**	**08 51 35.8**	**-0.1**
	baz=42						
ARK				↑*i*S	**Sb**	**08 52 06.3**	**-1.5**
	baz=42						
TRKS	**Terek-Say**	**2.30**	**328**	↑*i*P	**Pn**	**08 51 35.3**	**-0.9**
	baz=25						
TRKS				↑*i*S	**Sn**	**08 52 05.6**	**+0.5**
	baz=25						
ARLS	**Aral**	**2.54**	**27**	↑*i*P	**Pn**	**08 51 37.5**	**-2.0**
	baz=24						
ARLS				↑*i*S	**Sn**	**08 52 09.9**	**-1.2**
	baz=24						
UCH	**Uchtor**	**2.94**	**26**	↑*e*P	**Pn**	**08 51 43.2**	**-2.0**
	baz=23						
UCH				↑*i*S	**Sn**	**08 52 20.0**	**-1.2**
	baz=23						
YBZ	**Yangibazar**	**2.97**	**306**	*e*P	**Pb**	**08 51 52.0**	**+1.1**
YBZ				*e*S	**Sb**	**08 52 24.0**	**-3.6**
TGS	**TashGRES**	**3.08**	**307**	*e*S	**Sg**	**08 52 38.0**	**+1.8**
EKS2	**Erkin-Say**	**3.15**	**13**	↑*i*P	**Pn**	**08 51 46.6**	**-1.2**
	baz=11						
EKS2				↑*i*S	**Sn**	**08 52 25.3**	**-0.7**
	baz=11						
MRKS	**Merke**	**3.16**	**6**	*e*P	**Pg**	**08 51 57.7**	**-0.1**
	17nm,0.4s						
MRKS				*e*S	**Sb**	**08 52 33.2**	**+0.2**
	37nm,0.4s						
MRKS	**Merke**	**3.16**	**6**	Pg	**Pb**	**08 51 54.6**	**+0.5**
	17nm,0.4s						
MRKS				Lg	Lg	08 52 36.8	
	37nm,0.4s						
IUG	**luzhnay**	**3.29**	**322**	*e*P	**Pb**	**08 51 56.6**	**+0.3**
	287nm,0.3s						
IUG				*e*S	**Sn**	**08 52 31.3**	**+1.8**
	61nm,0.3s						
IUG	**luzhnay**	**3.29**	**322**	Pg	**Pn**	**08 51 51.6**	**+1.8**
	93nm,0.2s						
IUG				Lg	Lg	08 52 31.3	
	61nm,0.3s						
AAK	**Ala-Archa**	**3.30**	**23**	↑Pg	**Pb**	**08 51 53.4**	**-3.1**
	5.5nm,0.4s						
AAK				Lg	Lg	08 52 31.0	
	21nm,0.5s						
BOOM	**Boomskoye usch**	**3.75**	**39**	↑*i*P	**Pn**	**08 51 54.0**	**-2.1**
	baz=36						
BOOM				↑*i*S	**Sn**	**08 52 38.2**	**-2.6**
	baz=36						
KK09	**Karatay Array**	**3.92**	**335**	↓Pn	**Pn**	**08 51 59.4**	**+1.1**
	2.6nm,0.6s,baz=139,slow=13						
KK09				↑Sn	**Sn**	**08 52 47.0**	**+2.3**
	7.7nm,0.5s,baz=144,slow=22						
KK09				↓Lg	Lg	08 52 59.3	
	5.7nm,0.5s,baz=139,slow=28						
TKM2	**Tokmak 2**	**3.94**	**32**	↓Pg	**Pb**	**08 52 05.3**	**-2.1**
	2.0nm,0.4s						
TKM2				↑Lg	Lg	08 52 51.8	
	8.4nm,0.7s						
SGDS	**Sogindy**	**4.09**	**19**	*e*P	**Pg**	**08 52 14.8**	**-0.8**
	2.5nm,0.4s						
SGDS				*e*S	**Sb**	**08 53 02.6**	**+2.9**
	9.6nm,0.6s						
SGDS	**Sogindy**	**4.09**	**19**	Pg	**Pb**	**08 52 10.2**	**+0.3**
	4.2nm,0.4s						
SGDS				Lg	Lg	08 53 02.7	
	9.6nm,0.6s						
DGS	**Degeres**	**4.28**	**31**	*e*P	**Pg**	**08 52 17.8**	**-1.4**
	5.7nm,0.7s						
DGS				*e*S	**Sb**	**08 53 07.7**	**+2.5**
	19nm,0.7s						
DGS	**Degeres**	**4.28**	**31**	Pg	**Pb**	**08 52 12.8**	**-0.3**
	5.6nm,0.6s						
DGS				Lg	Lg	08 53 07.7	
	19nm,0.7s						
MTBS	**Maitube**	**4.47**	**37**	*e*P	**Pg**	**08 52 20.9**	**-1.9**
	3.2nm,1.6s						
MTBS				*e*S	**Sb**	**08 53 13.0**	**+2.3**
	11nm,0.6s						
MTBS	**Maitube**	**4.47**	**37**	Pg	**Pb**	**08 52 16.1**	**-0.2**
	3.1nm,0.6s						
MTBS				Lg	Lg	08 53 13.0	
	11nm,0.6s						
IZV	**Izvestkoviy**	**4.48**	**39**	*e*P	**Pg**	**08 52 21.6**	**-1.5**
	2.1nm,0.5s						
IZV				*e*S	**Sb**	**08 53 13.9**	**+2.7**
	21nm,0.7s						
IZV	**Izvestkoviy**	**4.48**	**39**	Pg	**Pb**	**08 52 16.5**	**-0.1**
	4.8nm,0.3s						
IZV				Lg	Lg	08 53 13.8	
	21nm,0.7s						
KRBS	**Karabastau**	**4.63**	**27**	Pg	**Pb**	**08 52 19.0**	**-0.1**
	1.8nm,0.4s						
KRBS				Lg	Lg	08 53 17.9	
	8.3nm,0.5s						
TNSS	**Tian-Shan**	**4.65**	**41**	*e*P	**Pg**	**08 52 25.0**	**-1.3**
	2.6nm,0.3s						
TNSS				*e*S	**Sb**	**08 53 19.9**	**+3.8**
	6.6nm,0.9s						
TNSS	**Tian-Shan**	**4.65**	**41**	Pg	**Pb**	**08 52 20.3**	**+0.7**
	4.3nm,0.5s						
TNSS				Lg	Lg	08 53 20.0	
	6.6nm,0.6s						
MDOK	**Medeo**	**4.79**	**41**	Pg	**Pb**	**08 52 22.0**	**+0.1**
	2.7nm,0.5s						
MDOK				Lg	Lg	08 53 23.0	
	11nm,0.5s						
KOTS	**Kotyrbulak**	**4.88**	**40**	*e*P	**Pg**	**08 52 28.8**	**-1.9**
	3.2nm,0.4s						
KOTS				*e*S	**Sb**	**08 53 26.7**	**+4.2**
	30nm,0.4s						
KOTS	**Kotyrbulak**	**4.88**	**40**	Pg	**Pb**	**08 52 23.7**	**+0.4**
	3.8nm,0.5s						
KOTS				Lg	Lg	08 53 26.1	
	31nm,0.9s						
KTBS	**Karatobe**	**5.04**	**34**	*e*P	**Pg**	**08 52 31.4**	**-2.4**
	0.8nm,0.3s						
KTBS				*e*S	**Sb**	**08 53 31.0**	**+3.9**
	14nm,0.6s						
KTBS	**Karatobe**	**5.04**	**34**	Pg	**Pb**	**08 52 26.6**	**+0.5**
	2.3nm,0.5s						
KTBS				Lg	Lg	08 53 30.9	
	14nm,0.6s						
KUU	**Kurty**	**5.05**	**31**	Pg	**Pb**	**08 52 26.2**	**0.0**
	1.5nm,0.4s						
KUU				Lg	Lg	08 53 30.2	
	16nm,0.8s						
SATY	**Saty**	**5.46**	**49**	Pg	**Pb**	**08 52 33.9**	**+0.5**
	2.2nm,0.5s						
SATY				Lg	Lg	08 53 43.2	
	4.5nm,0.4s						
BTLS	**Baital**	**5.52**	**9**	*e*P	**Pg**	**08 52 40.7**	**-2.2**
	0.8nm,0.6s						
BTLS				*e*S	**Sb**	**08 53 46.7**	**+6.0**
	3.4nm,0.8s						
UZB	**Uzynbulak**	**5.88**	**51**	Pg	**Pb**	**08 52 41.0**	**+0.5**
	4.3nm,0.4s						
UZB				Lg	Lg	08 53 55.4	
	3.7nm,0.4s						
ARXS	**Arharly**	**5.95**	**38**	Pg	**Pb**	**08 52 41.7**	**+0.1**
	1.7nm,0.4s						
ARXS				Lg	Lg	08 53 57.8	
	6.2nm,0.6s						
PDGK	**Podgornoye**	**6.27**	**51**	Pg	**Pb**	**08 52 49.7**	**+2.7**
	0.5nm,0.4s						
PDGK				Lg	Lg	08 54 10.3	
	1.9nm,0.7s						

IDC ***12*** *08:56:16.3±0.9, 62.64S×158.36W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.1/23, mbtmp4.0/6, ML3.9/1, MS4.2/40, Ms1 4.2/40, ms1mx4.2/44, Error ellipse: s-maj=32.6km s-min=24.8km az=16.0*
NEIC ***12*** *08:56:18.3±1.4, 62.84S±0.09×158.5W±0.2, h10km±1km, mb4.8/20, Error ellipse: s-maj=24.1km s-min=4.9km az=231.0*
GCMT ***12*** *08:56:23.3±0.2, 62.96S±0.01×158.14W±0.03, h19km±1km, MW5.1/112, Moment Tensor Solution. s54,c77; s112,c171; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.23±.18; Mθθ7.30±.21; Mϕϕ-5.07±.13; Mrθ-0.24±.31; Mθϕ1.41±.12; Mϕr1.19±.30; Best double couple: Mo6.55800×10^16 NP1:ϕs220.00000°, δ76.00000°, λ-166.00000°. NP2:ϕs127.00000°, δ77.00000°, λ-14.00000°. Principal axes: T 7.4600, Plg1.0000°, Azm174.0000°; N -1.8040, Plg71.0000°, Azm265.0000°; P -5.6550, Plg19.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 08:56:18.1±0.7, 62.9S±0.1×158.5W±0.1, h10km, n76, σ1=03/27, mb4.8/13, MS4.2/42, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**18.51**	**202**	P	**Pn**	**09 00 34.4**	**+0.3**
SBA				IAmb	IAmb	09 00 57.1	
	comp=Z,98nm,1.4s						
VNDA	**Vanda**	**19.24**	**205**	P	**Pn**	**09 00 45.9**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=76,slow=16,SNR=14						
VNDA				LR	LR	09 06 12.8	
	comp=Z,925nm,20.9s,baz=64,slow=31						
VNDA	**Vanda**	**19.24**	**205**	P	**Pn**	**09 00 42.8**	**-0.1**
MCQ	**Macquarie Isla**	**23.23**	**271**	P	**P**	**09 01 24.3**	**-0.6**
ODZ	**Otahua Downs**	**25.06**	**301**	P	**P**	**09 01 41.6**	**-0.6**
ODZ				IAmb	IAmb	09 02 00.2	
	comp=Z,33nm,1.5s						
WKZ	**Wanaka**	**25.88**	**299**	P	**P**	**09 01 50.5**	**+0.7**
WKZ				IAmb	IAmb	09 02 13.8	
	comp=Z,49nm,1.3s						
RPZ	**Rata Peaks**	**26.01**	**303**	LR	LR	09 10 31.6	
	comp=Z,261nm,18.6s,baz=134,slow=33						
FOZ	**Fox Glacier**	**26.65**	**302**	P	**P**	**09 01 56.9**	**+0.3**
FOZ				IAmb	IAmb	09 02 04.5	
	comp=Z,36nm,1.2s						
QSPA	**South Pole Qui**	**27.26**	**180**	P	**P**	**09 02 03.2**	**+1.0**
	comp=Z,7.4nm,0.9s,baz=59,slow=5.3,SNR=13						
QSPA				LR	LR	09 10 55.7	
	comp=Z,567nm,21.7s,baz=54,slow=32						
QSPA	**South Pole Qui**	**27.26**	**180**	P	**P**	**09 02 02.1**	**-0.1**
URZ	**Urewera**	**28.73**	**317**	LR	LR	09 10 38.7	
	comp=Z,626nm,21.9s,baz=179,slow=30						
BELA	**Belgrano 2**	**35.47**	**162**	P	**P**	**09 03 13.3**	**-0.7**
BELA				IAmb	IAmb	09 03 15.1	
	comp=Z,20nm,1.5s						
CASY	**Casey**	**35.95**	**224**	P	**P**	**09 03 18.1**	**-0.1**
PMSA	**Palmer Station**	**38.04**	**136**	LR	LR	09 16 43.5	
	comp=Z,516nm,18.3s,baz=208,slow=32						
TBI	**Tubuai**	**39.96**	**13**	*e*S	S	09 09 43.7	-14
	comp=Z,194nm,29.8s						
TBI				*e*LQ	LQ	09 12 54.8	
	comp=Z,729nm,33.8s						
TBI				*e*LR	LR	09 14 35.7	
	comp=Z,1μm,27.8s,baz=186						
TBI	**Tubuai**	**39.96**	**13**	*e*T	T	09 46 03.8	
	comp=Z,34nm,0.4s						
LHI	**Lord Howe Isla**	**41.28**	**299**	P	**P**	**09 04 03.1**	**-0.2**
USHA	**Ushuaia**	**43.58**	**123**	LR	LR	09 17 27.8	
	comp=Z,160nm,19.1s,baz=231,slow=29						
MG05	**Puerto Natales**	**44.34**	**117**	P	**P**	**09 04 28.4**	**+0.6**
SNAA	**Sanae**	**44.71**	**169**	LR	LR	09 21 49.0	
	comp=Z,372nm,20.3s,baz=179,slow=34						
TVO	**Taravao**	**45.48**	**12**	*e*T	T	09 52 57.6	
	comp=Z,0.4nm,0.2s						
PAE	**Paea**	**45.57**	**12**	*e*T	T	09 53 04.1	
	comp=Z,5.0nm,0.4s						
PPT2	**Papeete2**	**45.64**	**12**	*e*S	S	09 11 08.1	-13
	comp=Z,237nm,25.8s						
PPT2				*e*LR	LR	09 17 12.4	
	comp=Z,1μm,27.5s,baz=197						
PPT2	**Papeete2**	**45.64**	**12**	*e*T	T	09 53 09.7	
	comp=Z,5.9nm,0.3s						
PPT	**Papeete**	**45.66**	**12**	LR	LR	09 18 19.9	
	comp=Z,344nm,20.8s,baz=180,slow=29						
MAW	**Mawson**	**46.46**	**200**	LR	LR	09 22 32.7	
	comp=Z,231nm,18.9s,baz=162,slow=34						
MAW	**Mawson**	**46.46**	**200**	P	**P**	**09 04 44.9**	**+0.5**
MAW				IAmb	IAmb	09 04 46.4	
	comp=Z,11nm,1.2s						
DZM	**Mont Dzumac**	**47.13**	**313**	LR	LR	09 21 03.1	
	comp=Z,354nm,21.9s,baz=134,slow=32						
DZM	**Mont Dzumac**	**47.13**	**313**	*e*LR	LR	09 17 49.0	
	comp=Z,593nm,22.6s						
SYO	**Syowa Base**	**47.80**	**189**	↓*i*P	**P**	**09 04 52.4**	**-2.4**
RPN	**Rapa Nui**	**47.91**	**65**	LR	LR	09 20 34.7	
	comp=Z,149nm,19.5s,baz=185,slow=30						
VAH	**Vaihoa**	**48.17**	**14**	*e*T	T	09 56 18.5	
	comp=Z,76nm,0.2s						
STKA	**Stephens Creek**	**48.49**	**281**	LR	LR	09 22 48.8	
	comp=Z,189nm,18.4s,baz=162,slow=33						
AFI	**Afiamalu**	**49.77**	**343**	LR	LR	09 20 45.6	
	comp=Z,208nm,21.0s,baz=168,slow=30						
PLCA	**Paso Flores**	**53.84**	**110**	P	**P**	**09 05 39.0**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=211,slow=7.8,SNR=3.9						
PLCA				LR	LR	09 22 41.5	
	comp=Z,203nm,21.6s,baz=213,slow=29						
TAOE	**Nuku Hiva Isla**	**55.52**	**22**	*e*S	S	09 13 24.8	-14
	comp=Z,159nm,29.7s						
TAOE				*e*LR	LR	09 21 46.9	
	comp=Z,552nm,27.9s						
H03S2	**Juan Fernandez**	**55.84**	**98**	T	T	10 06 21.4	
	baz=213						
H03S1	**Juan Fernandez**	**55.84**	**98**	T	T	10 06 22.8	
	baz=213						
H03S3	**Juan Fernandez**	**55.85**	**98**	T	T	10 06 11.4	
	baz=213						

H03N3	**Juan Fernandez**	**56.16**	**98**	T		T	10 06 37.5	
	baz=215,slow=77							
H03N2	**Juan Fernandez**	**56.17**	**98**	T		T	10 06 33.5	
	baz=215,slow=77							
H03N1	**Juan Fernandez**	**56.17**	**98**	T		T	10 06 33.5	
	baz=215,slow=77							
CTA	**Charters Tower**	**56.69**	**292**	LR		LR	09 27 30.9	
	comp=Z,204nm,19.4s,baz=146,slow=33							
GO05	**Huala**	**58.00**	**105**	P		**P**	**09 06 10.3**	**-0.3**
GO05				IAmb		IAmb	09 06 16.4	
	comp=Z,26nm,1.4s							
ASAR	**Alice Springs**	**59.00**	**279**	P		**P**	**09 06 16.6**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=147,slow=7.1,SNR=5.5							
ASAR				LR		LR	09 27 36.7	
	comp=Z,344nm,21.5s,baz=152,slow=32							
BO04	**La Punta**	**59.44**	**105**	P		**P**	**09 06 21.2**	**+0.5**
BO04				IAmb		IAmb	09 06 26.6	
	comp=Z,8.9nm,1.2s							
LMEL	**Las Melosas**	**59.74**	**106**	P		**P**	**09 06 23.0**	**+0.1**
LMEL				IAmb		IAmb	09 06 31.4	
	comp=Z,5.7nm,1.0s							
WRA	**Warramunga Arr**	**62.04**	**281**	P		**P**	**09 06 39.1**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=159,slow=5.7,SNR=3.0							
WRA				LR		LR	09 30 35.5	
	comp=Z,168nm,18.3s,baz=73,slow=33							
PMG	**Port Moresby**	**65.91**	**299**	LR		LR	09 33 52.7	
	comp=Z,127nm,18.4s,baz=109,slow=34							
FITZ	**Fitzroy Crossi**	**67.60**	**274**	LR		LR	09 32 42.1	
	comp=Z,90nm,22.0s,baz=138,slow=32							
LVC	**Limon Verde**	**69.96**	**100**	LR		LR	09 30 16.9	
	comp=Z,80nm,21.8s,baz=212,slow=29							
NNA	**Nana**	**75.62**	**88**	LR		LR	09 32 32.4	
	comp=Z,118nm,19.5s,baz=206,slow=29							
LPAZ	**La Paz**	**75.83**	**98**	P		**P**	**09 08 05.2**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=182,slow=2.6,SNR=6.3							
LPAZ				LR		LR	09 34 29.3	
	comp=Z,62nm,20.9s,baz=208,slow=30							
LPAZ	**La Paz**	**75.83**	**98**	P		**P**	**09 08 04.8**	**-0.2**
TRCB	**Terra Rica**	**76.91**	**114**	P		**P**	**09 08 10.9**	**+0.5**
ATAH	**Atahualpa**	**79.18**	**84**	LR		LR	09 34 31.1	
	comp=Z,171nm,21.6s,baz=217,slow=29							
SIV	**San Ignacio**	**79.27**	**104**	LR		LR	09 37 48.8	
	comp=Z,93nm,19.0s,baz=268,slow=31							
SIJI	**Sorong**	**80.30**	**287**	LR		LR	09 44 33.4	
	comp=Z,74nm,18.1s,baz=172,slow=36							
KAPI	**Kappang**	**81.79**	**275**	LR		LR	09 41 37.1	
	comp=Z,159nm,20.6s,baz=148,slow=33							
SUR	**Sutherland**	**85.10**	**179**	LR		LR	09 42 33.3	
	comp=Z,483nm,21.3s,baz=172,slow=33							
BDFB	**Brasilia**	**85.22**	**115**	LR		LR	09 44 02.5	
	comp=Z,290nm,19.6s,baz=162,slow=34							
LEM	**Lembang**	**85.75**	**263**	LR		LR	09 42 08.8	
	comp=Z,118nm,18.8s,baz=164,slow=32							
BOSA	**Boshof**	**88.80**	**183**	LR		LR	09 44 30.4	
	comp=Z,226nm,21.6s,baz=187,slow=32							
DAV	**Davao City (W)**	**89.88**	**286**	LR		LR	09 49 20.9	
	comp=Z,50nm,18.6s,baz=148,slow=35							
ROSC	**El Rosal**	**91.61**	**83**	LR		LR	09 42 22.2	
	comp=Z,117nm,21.0s,baz=196,slow=30							
JTS	**Las Juntas de**	**91.72**	**71**	LR		LR	09 42 50.8	
	comp=Z,73nm,19.0s,baz=263,slow=30							
LBTB	**Lobatse**	**92.38**	**184**	LR		LR	09 46 15.7	
	comp=Z,211nm,21.9s,baz=180,slow=32							
LPIG	**La Paz**	**94.67**	**43**	LR		LR	09 43 38.6	
	comp=Z,60nm,18.8s,baz=197,slow=30							
MATP	**Matopo**	**96.82**	**187**	LR		LR	09 49 25.1	
	comp=Z,270nm,20.7s,baz=158,slow=33							
SDV	**Santo Domingo**	**96.87**	**84**	LR		LR	09 46 53.9	
	comp=Z,116nm,20.3s,baz=168,slow=31							
TSUM	**Tsumeb**	**98.16**	**176**	LR		LR	09 52 55.5	
	comp=Z,121nm,18.1s,baz=154,slow=35							
PSI	**Prapat**	**98.21**	**260**	LR		LR	09 48 46.5	
	comp=Z,37nm,18.3s,baz=143,slow=32							
RCBR	**Riachuelo**	**98.99**	**122**	LR		LR	09 51 45.1	
	comp=Z,82nm,18.7s,baz=328,slow=34							
ILAR	**Eielson Array**	**127.61**	**6**	PKP		**PKiKP**	**09 15 22.3**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=178,slow=1.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**146.98**	**284**	PKPbc		**PKPdf**	**09 15 57.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=147,slow=2.9,SNR=2.2							
ESDC	**Sonseca Array**	**152.21**	**135**	PKPbc		**PKiKP**	**09 16 14.7**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=210,slow=1.0,SNR=2.1							

IDC 12 09:13:59.7±4.6, 62.18S×158.32W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/22, mbtmp3.7/3, ML3.4/1, MS3.6/14, Ms1 3.5/14, ms1mx3.3/46, Error ellipse: s-maj=116.3km s-min=52.4km az=79.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.89**	**204**	P	P	09 18 32.2	+0.1
	0.1nm,0.3s,baz=72,slow=16,SNR=2.0						
VNDA				LR	LR	09 24 15.8	
	comp=Z,155nm,18.2s,baz=61,slow=31						
QSPA	**South Pole Qui**	**27.94**	**180**	LR	LR	09 28 18.1	
	comp=Z,123nm,21.5s,baz=79,slow=31						
URZ	**Urewera**	**28.30**	**316**	LR	LR	09 29 04.4	
	comp=Z,96nm,19.8s,baz=208,slow=32						
TBI	**Tubuai**	**39.28**	**13**	*e*LR	LR	09 32 20.8	
	comp=Z,149nm,24.5s						
TBI	**Tubuai**	**39.28**	**13**	*e*T	T	10 03 47.2	
	26nm,0.3s						
TVO	**Taravao**	**44.80**	**12**	*e*T	T	10 10 40.5	
	0.4nm,0.2s						
PAE	**Paea**	**44.89**	**12**	*e*T	T	10 10 47.4	
	3.5nm,0.3s						
PPT2	**Papeete2**	**44.96**	**12**	*e*LR	LR	09 34 57.8	
	comp=Z,155nm,25.5s						
PPT2	**Papeete2**	**44.96**	**12**	*e*T	T	10 10 52.8	
	6.6nm,0.4s						
SNAA	**Sanae**	**45.36**	**169**	LR	LR	09 38 35.5	
	comp=Z,130nm,20.1s,baz=179,slow=32						
DZM	**Mont Dzumac**	**46.73**	**313**	LR	LR	09 38 35.4	
	comp=Z,124nm,19.1s,baz=129,slow=32						
MAW	**Mawson**	**47.12**	**200**	LR	LR	09 39 12.7	
	comp=Z,66nm,20.4s,baz=234,slow=32						
MSVF	**Nonsavu**	**47.39**	**329**	LR	LR	09 42 29.3	
	comp=Z,17nm,18.2s,baz=128,slow=36						
VAH	**Vaihoa**	**47.49**	**14**	*e*T	T	10 14 03.5	
	118nm,0.2s						
RPN	**Rapa Nui**	**47.55**	**66**	LR	LR	09 38 04.2	
	comp=Z,34nm,19.4s,baz=197,slow=30						
STKA	**Stephens Creek**	**48.46**	**280**	LR	LR	09 40 13.6	
	comp=Z,47nm,18.4s,baz=202,slow=32						
AFI	**Afiamalu**	**49.15**	**343**	LR	LR	09 37 54.5	
	comp=Z,28nm,20.5s,baz=116,slow=29						
PLCA	**Paso Flores**	**53.99**	**110**	LR	LR	09 41 57.6	
	comp=Z,45nm,18.9s,baz=192,slow=31						
H03S2	**Juan Fernandez**	**55.85**	**99**	T	T	10 24 03.5	
	baz=211						
H03S1	**Juan Fernandez**	**55.86**	**99**	T	T	10 24 05.3	
	baz=211						
H03S3	**Juan Fernandez**	**55.87**	**99**	T	T	10 24 05.3	
	baz=211						
ASAR	**Alice Springs**	**58.99**	**278**	P	P	09 24 01.3	+0.4
	1.0nm,0.9s,baz=150,slow=6.0,SNR=6.9						
ASAR				LR	LR	09 45 18.1	
	comp=Z,74nm,20.0s,baz=148,slow=32						
WRA	**Warramunga Arr**	**62.00**	**281**	P	P	09 24 20.8	-0.6
	1.1nm,1.1s,baz=159,slow=6.4,SNR=3.9						
NNA	**Nana**	**75.51**	**88**	LR	LR	09 49 52.8	
	comp=Z,40nm,19.6s,baz=224,slow=28						
BOSA	**Boshof**	**89.48**	**183**	LR	LR	10 04 48.7	
	comp=Z,44nm,18.3s,baz=188,slow=34						
KURBB	**Kurchatov Arra**	**147.59**	**276**	PKPbc	PKPbc	09 33 43.8	-0.7
	0.7nm,0.9s,baz=135,slow=2.1,SNR=4.6						

*IDC **12** 09:19:57.4±0.8, 35.69N×3.69W, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.6/58, mbtmp3.7/10, ML3.8/4, MS3.5/6, Ms1 3.5/6, ms1mx2.8/93, Error ellipse: s-maj=28.4km s-min=11.0km az=99.0*

*LDG **12** 09:19:57.4±0.2, 35.59N×3.67W, h10km, Ml3.0/1, Error ellipse: s-maj=5.8km s-min=3.8km az=9.0*

*CRAAG **12** 09:19:59.5, 35.59N×3.66W, Ml3.5*

*IGIL **12** 09:19:59.5, 35.55N×3.61W, h7km, ML3.5*

*MDD **12** 09:20:00.0±0.5, 35.59N×3.63W, h13km±4km, mb_Lg3.4/28, Error ellipse: s-maj=4.0km s-min=2.2km az=177.0*

*INMG **12** 09:20:00.0±1.7, 35.52N×3.68W, h17km±9km, ML3.3, Error ellipse: s-maj=6.0km s-min=4.6km az=161.0*

*CNRM **12** 09:20:00.4, 35.66N×3.58W, h27km, ml3.9*

*SFS **12** 09:20:00.0, 35.50N×3.60W, h23km, ML3.7, ALBORAN SUR*

ISC 12 09:19:59.1±1.1, 35.70N±0.02×3.59W±0.02, h11km±8km, n129, σ1s74/217, mb4.2/6, MS3.7/5, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**62**	⇑Pg	**Pb**	**09 20 10.4**	**+0.4**
EALB				Sg	**Sb**	**09 20 19.2**	**+1.7**
EALB				*i* Vmb_Lg		09 20 21.3	
PALE	**Palemas**	**0.56**	**211**	P	**Pg**	**09 20 10.0**	**-0.1**
PALE				S	**Sb**	**09 20 19.2**	**+0.2**
EMEL	**Melilla**	**0.66**	**128**	⇓Pg	**Pg**	**09 20 11.7**	**-0.2**
EMEL				Sg	**Sg**	**09 20 20.2**	**-0.2**
GOG	**Mont Gurugu**	**0.68**	**135**	P	**Pg**	**09 20 12.1**	**-0.3**
GOG				S	**Sb**	**09 20 22.6**	**0.0**
ELGU	**Los Guajares,**	**1.16**	**359**	Pg	**Pn**	**09 20 20.2**	**-1.2**
ELGU				Sg	**Sb**	**09 20 35.9**	**-0.5**
ELGU				*i* Vmb_Lg		09 20 37.1	
EMAL	**Malaga-Limoner**	**1.25**	**328**	P	**Pn**	**09 20 21.5**	**-1.1**
EMAL				S	**Sb**	**09 20 37.6**	**-1.4**
EMIJ	**Mijas**	**1.29**	**312**	Pg	**Pn**	**09 20 21.2**	**-1.9**
EMIJ				Sg	**Sb**	**09 20 37.7**	**-2.3**
EMIJ				*i* Vmb_Lg		09 20 41.5	
TAF	**Taforalt**	**1.31**	**132**	P	**Pn**	**09 20 22.0**	**-1.4**
TAF				S	**Sb**	**09 20 39.5**	**-1.1**
EBER	**Berja**	**1.32**	**25**	Pg	**Pn**	**09 20 22.8**	**-0.9**
EBER				Sg	**Sb**	**09 20 40.7**	**-0.4**
EBER				*i* Vmb_Lg		09 20 44.6	
SMIR	**Smir Dam**	**1.46**	**270**	P	**Pn**	**09 20 22.9**	**-2.5**
SMIR				S	**Sn**	**09 20 42.5**	**-2.0**
CEU	**Ceuta**	**1.46**	**278**	P	**Pn**	**09 20 22.2**	**-3.2**
CEU				S	**Sn**	**09 20 39.6**	**-5.0**
EGOR	**Sierra Gorda,**	**1.47**	**344**	Pn	**Pn**	**09 20 24.8**	**-0.9**
EGOR				Sn	**Sb**	**09 20 46.2**	**+1.0**
EGOR				*i* Vmb_Lg		09 20 49.9	
EQUE	**Quentar**	**1.50**	**5**	Pn	**Pn**	**09 20 25.6**	**-0.6**
EQUE				Sn	**Sn**	**09 20 45.9**	**+0.1**
EQUE				*i* Vmb_Lg		09 20 49.9	
CHEFC	**Chefchaouen**	**1.55**	**248**	P	**Pn**	**09 20 26.0**	**-0.8**
CHEFC				S	**Sb**	**09 20 47.1**	**-0.4**
JBK	**JBK**	**1.60**	**148**	P	**Pn**	**09 20 25.7**	**-1.8**
JBK				S	**Sn**	**09 20 45.8**	**-2.6**
ENIJ	**Nijar**	**1.69**	**41**	Pn	**Pn**	**09 20 27.5**	**-1.1**
ENIJ				Sn	**Sn**	**09 20 48.8**	**-1.5**
EJIF	**Jimena Fronter**	**1.69**	**297**	Pn	**Pn**	**09 20 27.8**	**-0.9**
EJIF				Sn	**Sn**	**09 20 48.5**	**-1.9**
ALJ	**Aljibe**	**1.86**	**297**	P	**Pg**	**09 20 35.2**	**+0.4**
LIJA	**Lijar**	**1.89**	**310**	P	**Pg**	**09 20 35.3**	**-0.1**
CNIL	**Conil**	**2.10**	**289**	P	**Pb**	**09 20 37.6**	**+0.3**
EQES	**Quesada**	**2.14**	**11**	Pn	**Pb**	**09 20 36.9**	**-1.0**
EQES				Sn	**Sb**	**09 21 04.4**	**-0.1**
SICH	**Sidi Chahed**	**2.14**	**222**	P	**Pg**	**09 20 44.0**	**+3.9**
SICH	**Sidi Chahed**	**2.14**	**222**	P	**Pn**	**09 20 33.5**	**-1.2**
SICH				S	**Sn**	**09 21 00.1**	**-1.2**
ESPR	**Espera**	**2.17**	**303**	Pn	**Pn**	**09 20 36.6**	**+1.4**
ESPR				Sn	**Sb**	**09 21 04.8**	**-0.5**
ESPR				Sg	**Sg**	**09 21 08.5**	**-0.3**
ESPR				*i* Vmb_Lg		09 21 11.7	
SFS	**San Fernando**	**2.25**	**291**	P	**Pb**	**09 20 41.0**	**+1.2**
SFS				S	**Sb**	**09 21 08.6**	**+0.9**
LCRM	**LCR**	**2.27**	**208**	P	**Pb**	**09 20 41.0**	**+0.8**
LCRM	**LCR**	**2.27**	**208**	P	**Pb**	**09 20 39.5**	**-0.7**
LCRM				S	**Sb**	**09 21 08.4**	**+0.1**
OTSS	**Djebel Tessala**	**2.32**	**100**	P	**Pb**	**09 20 41.0**	**0.0**
USTO	**Oran**	**2.47**	**88**	P	**Pg**	**09 20 46.0**	**-0.5**
IFR	**Ifrane**	**2.52**	**211**	P	**Pn**	**09 20 39.1**	**-1.1**
IFR				S	**Sn**	**09 21 08.9**	**-2.2**
EADA	**Adamuz**	**2.58**	**342**	Pn	**Pn**	**09 20 42.0**	**+1.1**
EADA				Sn	**Sn**	**09 21 12.4**	**+0.1**
EADA				Sg	**Sb**	**09 21 18.7**	**+1.4**
EADA				*i* Vmb_Lg		09 21 21.4	
EZAR	**Zarzadilla de**	**2.65**	**35**	Pn	**Pn**	**09 20 41.9**	**+0.1**
EZAR				Sn	**Sn**	**09 21 15.2**	**+1.2**
ECAB	**El Cabril**	**2.78**	**329**	Pn	**Pn**	**09 20 44.7**	**+1.0**
ECAB				Sn	**Sn**	**09 21 16.4**	**-0.9**
ECAB				Sg	**Sg**	**09 21 26.3**	**-2.2**
ECAB				*i* Vmb_Lg		09 21 29.1	
CART	**Cartagena**	**2.81**	**47**	P	**Pn**	**09 20 43.2**	**-0.7**
CART				S	**Sn**	**09 21 12.7**	**-5.1**
CART	**Cartagena**	**2.81**	**47**	P	**Pn**	**09 20 44.0**	**+0.1**
CART				S	**Sn**	**09 21 16.0**	**-1.7**
ODJA	**Bouhanifia**	**2.83**	**97**	P	**Pb**	**09 20 48.0**	**-1.7**
ARNO	**Arenosillo**	**2.89**	**300**	P	**Pn**	**09 20 46.0**	**+0.9**
ARNO				S	**Sn**	**09 21 20.6**	**+0.8**
CZD	**Col de Zad**	**2.92**	**205**	P	**Pn**	**09 20 46.0**	**+0.1**
CZD				S	**Sn**	**09 21 19.0**	**-2.1**
TDRA	**Tendrara**	**2.95**	**154**	P	**Pn**	**09 20 46.0**	**-0.2**
MD31	**MD31**	**2.99**	**199**	P	**Pn**	**09 20 46.8**	**+0.2**
MD31				S	**Sn**	**09 21 22.3**	**-0.2**
MDT	**Midelt**	**3.00**	**197**	Pn	**Pn**	**09 20 46.0**	**-0.8**
	5.6nm,0.3s,baz=186,slow=8.8,SNR=68						
MDT				Pg	**Pb**	**09 20 51.8**	**-0.9**
	12nm,0.3s,baz=160,slow=15,SNR=25						
MDT				Sn	**Sn**	**09 21 23.5**	**+0.7**
	16nm,0.3s,baz=35,slow=4.6,SNR=5.4						
MDT				Lg	Lg	09 21 31.8	
	10nm,0.3s,baz=119,slow=11,SNR=7.1						
MDT				LR	LR	09 22 08.2	
	comp=Z,246nm,20.1s,baz=54,slow=44						
MDT	**Midelt**	**3.00**	**197**	P	**Pb**	**09 20 53.8**	**+1.1**
MDT	**Midelt**	**3.00**	**197**	P	**Pn**	**09 20 46.0**	**-0.8**
MDT				S	**Sn**	**09 21 23.0**	**+0.2**
EMIN	**Mina Concepcio**	**3.22**	**311**	Pn	**Pn**	**09 20 49.5**	**-0.2**
EMIN				Sn	**Sn**	**09 21 26.5**	**-1.5**
EMIN				*i* Vmb_Lg		09 21 28.0	
ETOB	**Tobarra**	**3.36**	**28**	Pn	**Pn**	**09 20 53.4**	**+1.7**
ETOB				Sn	**Sn**	**09 21 30.8**	**-0.7**
ZHG	**ZHG**	**3.38**	**229**	P	**Pn**	**09 20 51.0**	**-0.9**
ZHG	**ZHG**	**3.38**	**229**	P	**Pn**	**09 20 51.0**	**-0.9**
ZHG				S	**Sn**	**09 21 32.3**	**+0.3**
EGRO	**El Granado**	**3.63**	**301**	Pn	**Pn**	**09 20 54.7**	**-0.5**
EGRO				Sn	**Sn**	**09 21 36.1**	**-1.9**
EGRO				*i* Vmb_Lg		09 21 40.2	
PBAR	**Barrancos**	**3.70**	**313**	⇓*e*Pn	**Pn**	**09 20 56.3**	**0.0**
PBAR				*e*Sn	**Sn**	**09 21 38.9**	**-1.0**
PBAR				A	A	09 21 40.0	
	36nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**298**	*e*Pn	**Pn**	**09 20 56.0**	**-0.7**
PVAQ				*e*Sn	**Sn**	**09 21 38.6**	**-2.0**
PVAQ				A	A	09 21 45.3	
	58nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**298**	P	**Pn**	**09 20 56.8**	**+0.1**
PVAQ				S	**Sn**	**09 21 42.9**	**+2.3**
PBDV	**Barranco-do-Ve**	**3.82**	**295**	*e*Pn	**Pn**	**09 20 57.5**	**-0.4**
PBDV				*e*Sn	**Sn**	**09 21 41.4**	**-1.5**
PBDV				A	A	09 21 45.2	
	54nm,0.4s						
AFON	**Font Roja**	**3.83**	**39**	Pn	**Pn**	**09 21 00.1**	**+2.0**
AFON				Sn	**Sn**	**09 21 43.1**	**-0.1**
AFON				*i* Vmb_Lg		09 21 56.3	
PAB	**San Pablo**	**3.88**	**351**	P	**Pn**	**09 21 00.5**	**+1.7**
PAB	**San Pablo**	**3.88**	**351**	Pn	**Pn**	**09 21 00.0**	**+1.2**
PAB				Sn	**Sn**	**09 21 44.8**	**+0.3**
PAB				*i* Vmb_Lg		09 22 21.9	
AVE	**Averroes**	**3.96**	**234**	P	**Pn**	**09 20 59.2**	**-0.7**
AVE				S	**Sn**	**09 21 44.4**	**-2.0**
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**09 21 01.2**	**+1.2**
	2.8nm,0.3s,baz=178,slow=12,SNR=78						
ESDC				Sn	**Sn**	**09 21 48.1**	**+1.4**
	1.9nm,0.3s,baz=189,slow=23,SNR=3.7						
ESDC				Lg	Lg	09 22 02.6	
	3.4nm,0.3s,baz=178,slow=27,SNR=12						
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**09 21 01.5**	**+1.4**
ESDC				Sn	**Sn**	**09 21 45.7**	**-1.0**
EBEN2	**Beniarda presa**	**4.02**	**41**	Pn	**Pn**	**09 21 01.3**	**+0.7**
EBEN2				Sn	**Sn**	**09 21 46.0**	**-1.8**
EBEN2				*i* Vmb_Lg		09 21 48.7	
PCVE	**Castro Verde**	**4.06**	**300**	*e*Pn	**Pn**	**09 21 00.8**	**-0.4**
PCVE				*e*Sn	**Sn**	**09 21 47.6**	**-1.2**
PCVE				A	A	09 21 55.5	
	49nm,0.7s						
EVIV	**Cofrentes, Val**	**4.06**	**28**	Pn	**Pn**	**09 21 02.3**	**+1.0**
EBAD	**Badajoz**	**4.09**	**319**	Pn	**Pn**	**09 21 01.7**	**+0.1**
EBAD				Sn	**Sn**	**09 21 47.6**	**-1.9**
EBAD				*i* Vmb_Lg		09 21 50.9	
PBEJ	**Beja**	**4.14**	**305**	*e*Pn	**Pn**	**09 21 02.1**	**-0.2**
PBEJ				*e*Sn	**Sn**	**09 21 48.5**	**-2.2**
PBEJ				A	A	09 21 59.0	
	24nm,0.4s						
MORF	**Marmelete**	**4.38**	**293**	*e*P	**Pn**	**09 21 05.4**	**-0.3**
MORF				*e*S	**Sn**	**09 21 53.2**	**-3.5**
MORF				IAML		09 21 58.0	
	comp=N,83nm,0.1s						
MORF	**Marmelete**	**4.38**	**293**	*e*Pn	**Pn**	**09 21 05.7**	**+0.1**
MORF				*e*Sn	**Sn**	**09 21 56.6**	**-0.1**
MORF				A	A	09 22 02.7	
	comp=N,34nm,0.2s						
ECHE	**Chera**	**4.40**	**27**	Pn	**Pn**	**09 21 06.8**	**+0.8**
ECHE				*i* Vmb_Lg		09 22 31.0	
PFVI	**Vila Bisbo**	**4.46**	**290**	*e*Pn	**Pn**	**09 21 06.0**	**-0.7**
PFVI				*e*Sn	**Sn**	**09 21 55.7**	**-2.8**
PFVI				A	A	09 22 11.4	
	comp=N,29nm,0.5s						
PESTR	**Estremoz**	**4.49**	**316**	*e*Pn	**Pn**	**09 21 07.7**	**+0.6**
PESTR				*e*Sn	**Sn**	**09 21 57.7**	**-1.6**
PESTR				A	A	09 22 11.3	
	comp=N,22nm,0.3s						
PESTR	**Estremoz**	**4.49**	**316**	P	**Pn**	**09 21 10.4**	**+3.3**
PTEO	**Sao Teotonio**	**4.52**	**296**	*e*Pn	**Pn**	**09 21 07.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**09 22 00.1**	**0.0**
PTEO				A	A	09 22 05.0	
	comp=N,38nm,0.8s						
EVO	**Evora**	**4.52**	**310**	P	**Pn**	**09 21 07.7**	**+0.2**
EVO				S	**Sn**	**09 21 57.5**	**-2.7**
EVO	**Evora**	**4.52**	**310**	*e*Pn	**Pn**	**09 21 07.8**	**+0.2**
EVO				*e*Sn	**Sn**	**09 21 58.1**	**-2.0**
EVO				A	A	09 22 00.9	
	comp=N,37nm,0.4s						
UCM	**Universidad Co**	**4.61**	**3**	P	**Pn**	**09 21 10.6**	**+1.8**
UCM				S	**Sn**	**09 22 02.0**	**-0.2**
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**09 21 08.7**	**-0.3**
PNCL				*e*Sn	**Sn**	**09 22 00.7**	**-2.1**
PNCL				A	A	09 22 02.7	
	comp=N,22nm,0.3s						
EPLA	**Plasencia**	**4.78**	**336**	Pn	**Pn**	**09 21 12.3**	**+1.2**
EPLA				Sn	**Sn**	**09 22 04.7**	**-1.8**
EPLA				*i* Vmb_Lg		09 22 10.2	
PMRV	**Marv??o**	**4.79**	**322**	*e*Pn	**Pn**	**09 21 12.1**	**+0.9**
PMRV				*e*Sn	**Sn**	**09 22 05.8**	**-0.9**
PMRV				A	A	09 22 31.9	
	comp=N,32nm,0.6s						
GUD	**Guadarrama**	**4.95**	**355**	Pn	**Pn**	**09 21 14.9**	**+1.3**
GUD				*i* Vmb_Lg		09 22 52.0	
PMTG	**Montargil**	**4.99**	**314**	*e*Pn	**Pn**	**09 21 14.4**	**+0.4**
PMTG				*e*Sn	**Sn**	**09 22 09.5**	**-2.1**
PMTG				A	A	09 22 23.8	
	comp=N,18nm,0.3s						
PCBR	**Castelo Branco**	**5.15**	**324**	*e*Pn	**Pn**	**09 21 17.7**	**+1.5**
PCBR				*e*Sn	**Sn**	**09 22 13.6**	**-2.0**
PCBR				A	A	09 22 15.8	
	comp=N,31nm,0.4s						
TZRR	**Tazzarine**	**5.18**	**199**	P	**Pn**	**09 21 17.3**	**+0.7**
TZRR				S	**Sn**	**09 22 18.7**	**+2.3**
PACT	**Alcochete**	**5.18**	**308**	*e*Pn	**Pn**	**09 21 17.3**	**+0.7**
PACT				*e*Sn	**Sn**	**09 22 14.6**	**-1.7**
PACT				A	A	09 22 17.1	
	comp=N,36nm,0.4s						
ETOR	**Torete**	**5.25**	**13**	Pn	**Pn**	**09 21 19.2**	**+1.6**
ETOR				Sn	**Sn**	**09 22 20.7**	**+2.6**
ETOR				*i* Vmb_Lg		09 23 12.4	
LIS	**Lisbon**	**5.36**	**306**	*e*Pn	**Pn**	**09 21 20.1**	**+1.1**
PMST	**Lisbon--Monsan**	**5.39**	**306**	*e*Pn	**Pn**	**09 21 18.7**	**-0.8**
PMST				*e*Sn	**Sn**	**09 22 21.3**	**-0.3**
OUZM	**OUZ**	**5.47**	**210**	P	**Pn**	**09 21 21.0**	**+0.3**
OUZM	**OUZ**	**5.47**	**210**	P	**Pn**	**09 21 21.0**	**+0.3**
OUZM				S	**Sn**	**09 22 23.7**	**+0.1**
PMAFR	**Mafra**	**5.58**	**307**	*e*Pn	**Pn**	**09 21 22.9**	**+0.9**
PMAFR				*e*Sn	**Sn**	**09 22 24.0**	**-2.1**
PMAFR				A	A	09 22 25.5	
	comp=N,55nm,0.4s						
PSBE	**So Bento**	**5.62**	**314**	*e*Pn	**Pn**	**09 21 23.4**	**+0.8**
PSBE				*e*Sn	**Sn**	**09 22 24.6**	**-2.5**
PSBE				A	A	09 22 43.3	
	comp=N,22nm,0.5s						
MTE	**Manteigas**	**5.63**	**328**	*e*Pn	**Pn**	**09 21 24.6**	**+1.8**
MTE				*e*Sn	**Sn**	**09 22 25.6**	**-1.9**
MTE				A	A	09 23 00.3	
	comp=N,38nm,0.8s						
OUK	**Oukaimeden**	**5.73**	**220**	P	**Pn**	**09 21 26.3**	**+1.8**
OUK				S	**Sn**	**09 22 28.7**	**-1.8**
PCAS	**Casmilo, Conde**	**5.82**	**320**	*e*Pn	**Pn**	**09 21 26.3**

IDC ***12*** *09:39:31.2±1.2,9.95N×92.01E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.7/60, mbtmp3.9/8, ML4.2/2, MS3.7/4, Ms1 3.7/4, ms1mx2.8/85, Error ellipse: s-maj=36.3km s-min=19.1km az=61.0*
NDI ***12*** *09:39:33.7±1.6, 10.72N×91.84E, h33km, ML3.5, mb4.2(NEIC)*
NEIC ***12*** *09:39:37.7±1.2, 10.39N±0.07×92.5E±0.1, h28km±7km, mb4.2/8, Error ellipse: s-maj=15.0km s-min=9.5km az=84.0*

ISC 12 09:39:37.1±0.8, 10.41N±0.07×92.45E±0.10, h29km, n34, σ1§87/27, mb4.1/10, MS3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.27**	**13**		**Pn**	**09 39 55.3**	**-3.6**
PBA				Sn	**Sn**	**09 40 13.4**	**-1.6**
PBA	**Port Blair**	**1.27**	**13**	*e*P	**Pn**	**09 39 55.2**	**-3.8**
PBA				*e*S	**Sn**	**09 40 13.0**	**-2.0**
PBA				IAML		09 40 15.1	
	comp=N,2μm,0.2s						
PBA				IAML		09 40 15.8	
	comp=E,2μm,0.1s						
DGPR	**DIGLIPUR**	**2.79**	**10**	*e*P	Pn	09 40 14.0	-5.8
DGPR				*ex*	x	09 40 19.4	
DGPR				*ex*	x	09 40 25.0	
DGPR				IAML		09 40 33.2	
	comp=E,107nm,0.2s						
DGPR				IAML		09 40 33.8	
	comp=N,122nm,0.5s						
KULM	**Kulim**	**9.58**	**121**	Pn	**Pn**	**09 41 52.9**	**-0.3**
CM31	**Chiang Mai Arr**	**10.17**	**37**	Pn	**Pn**	**09 42 03.4**	**+2.1**
CMAR	**Chiang Mai Arr**	**10.17**	**37**	Pn	**Pn**	**09 42 06.0**	**+4.7**
	comp=N,1.0nm,0.3s,baz=237,slow=20,SNR=7.1						
CMAR	**Chiang Mai Arr**	**10.17**	**37**		**Pn**	**09 42 01.9**	**+0.6**
PALK	**Pallekele**	**12.02**	**256**	Pn	Pn	09 42 16.2	-10
	comp=N,0.8nm,0.3s,baz=164,slow=11,SNR=2.8						
PALK				Sn	Sn	09 44 09.6	-30
	comp=N,2.1nm,0.3s,baz=93,slow=17,SNR=4.2						
PALK	**Pallekele**	**12.02**	**256**		**Pn**	**09 42 26.1**	**-0.5**
H08S3	**Diego Garcia H**	**26.76**	**229**	T	T	10 12 51.8	
	baz=48,slow=75,SNR=63						
H08S2	**Diego Garcia H**	**26.77**	**229**	T	T	10 12 56.5	
	baz=48,slow=75,SNR=70						
H08S1	**Diego Carcia H**	**26.78**	**229**	T	T	10 12 56.0	
	baz=48,slow=75,SNR=46						
KAPI	**Kappang**	**31.21**	**118**	LR	LR	09 58 44.0	
	comp=N,32nm,18.6s,baz=159,slow=37						
AAK	**Ala-Archa**	**35.73**	**337**	P	**P**	**09 46 33.7**	**+0.2**
	comp=N,0.7nm,0.4s,baz=226,slow=17,SNR=3.6						
MK31	**Makanchi Array**	**37.27**	**348**	P	**P**	**09 46 47.6**	**+1.2**
MKAR	**Makanchi Array**	**37.27**	**348**	P	**P**	**09 46 47.8**	**+1.4**
	comp=N,2.8nm,0.6s,baz=167,slow=8.5,SNR=37						
KKAR	**Karatay Array**	**37.76**	**333**	P	**P**	**09 46 50.6**	**0.0**
SONM	**Songino Array**	**39.11**	**15**	P	**P**	**09 47 05.0**	**+3.0**
	comp=N,0.4nm,0.8s,baz=205,slow=9.7,SNR=3.7						
PSA00	**Pilbara Seismi**	**41.64**	**140**	P	**P**	**09 47 22.1**	**-1.0**
PSA00				IAmb	IAmb	09 47 37.2	
	comp=Z,5.5nm,1.2s						
FITZ	**Fitzroy Crossi**	**43.31**	**131**	P	**P**	**09 47 36.2**	**-0.6**
FITZ				IAmb	IAmb	09 47 48.2	
	comp=Z,8.3nm,1.4s						
ZALV	**Zalesovo Beam**	**43.85**	**353**	P	**P**	**09 47 42.6**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=175,slow=7.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.85**	**353**	P	**P**	**09 47 41.8**	**+1.2**
ABKAR	**Akbulak array**	**47.22**	**331**	P	**P**	**09 48 07.7**	**+0.3**
WB0	**Warramunga Arr**	**51.04**	**126**	P	**P**	**09 48 36.6**	**-0.4**
WRA	**Warramunga Arr**	**51.09**	**126**	P	**P**	**09 48 36.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=308,slow=7.8,SNR=19						
WRA	**Warramunga Arr**	**51.09**	**126**	P	**P**	**09 48 37.1**	**-0.3**
WRAB	**Tennant Creek**	**51.09**	**126**	P	**P**	**09 48 37.5**	**0.0**
WRAB				IAmb	IAmb	09 48 46.6	
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**51.10**	**126**	P	**P**	**09 48 37.5**	**0.0**
WR0	**Warramunga Arr**	**51.26**	**126**	P	**P**	**09 48 38.5**	**-0.2**
WR0				IAmb	IAmb	09 48 48.2	
	comp=Z,3.9nm,0.9s						
ASAR	**Alice Springs**	**52.82**	**130**	P	**P**	**09 48 49.2**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=306,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**52.82**	**130**	P	**P**	**09 48 49.5**	**-0.8**
IDI	**Anoyia**	**65.77**	**304**	LR	LR	10 25 15.6	
	comp=Z,53nm,18.5s,baz=249,slow=42						
HFS	**Hagfors**	**75.44**	**330**	LR	LR	10 25 52.9	
	comp=Z,113nm,21.8s,baz=338,slow=37						
MSVF	**Nonsavu**	**88.99**	**108**	LR	LR	10 35 14.6	
	comp=Z,37nm,18.2s,baz=182,slow=38						

IPEC ***12*** *09:47:30.6±0.2,50.17N×18.99E, h1km, ML2.3/3, Error ellipse: s-maj=2.4km s-min=1.0km az=166.0*
PRU ***12*** *09:47:30.8±0.0,50.23N×18.92E, h0km*
VIE ***12*** *09:47:30.6±0.3,50.28N×18.96E, h0km, mb2.2/3, ml2.7/2, Error ellipse: s-maj=3.9km s-min=1.7km az=176.0 4 km NNW of Katowice Suspected Mining induced.*

ISC 12 09:47:30.7±0.8, 50.20N±0.04×18.93E±0.02, h0km, n24, σ0§69/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.56**	**88**	*e*Pg	**Pg**	**09 47 40.8**	**-0.5**
OJC				*e*Sg	**Sg**	**09 47 48.0**	**-0.5**
OKC	**Ostrava-Krasne**	**0.62**	**235**	*e*PG	**Pb**	**09 47 44.3**	**-0.1**
OKC				*e*SG	**Sg**	**09 47 50.4**	**-0.2**
	comp=Z,41nm,0.4s						
MORC	**Moravsky Berou**	**0.99**	**245**	*e*Pg	**Pg**	**09 47 50.1**	**+0.4**
	baz=67						
MORC				*e*Sg	**Sg**	**09 48 02.3**	**-0.2**
	44nm,0.4s,baz=67						
LANS	**Liptovska Anna**	**1.11**	**161**	*e*PG	**Pb**	**09 47 52.6**	**-0.1**
LANS				*e*SG	**Sb**	**09 48 07.7**	**0.0**
LANS				*e*LG	Lg	09 48 11.5	
NIE	**Niedzica**	**1.18**	**131**	*e*Pg	**Pb**	**09 47 53.9**	**-0.1**
NIE				*e*Sg	**Sb**	**09 48 09.6**	**-0.3**
KRLC	**Kraliky**	**1.39**	**266**	*e*PG	**Pg**	**09 47 56.7**	**-0.6**
KRLC				*e*SG	**Sg**	**09 48 15.4**	**+0.1**
	comp=Z,36nm,0.5s						
JAVC	**Velka Javorina**	**1.57**	**212**	*e*Pn	**Pn**	**09 47 59.6**	**-0.3**
	baz=33						
JAVC	**Velka Javorina**	**1.57**	**212**	*e*PN	**Pn**	**09 47 59.7**	**-0.2**
DPC	**Dobruska-Polom**	**1.68**	**276**	*e*PG	**Pn**	**09 48 01.3**	**-0.1**
DPC				*e*SG	**Sg**	**09 48 24.7**	**+0.1**
	comp=Z,36nm,0.6s						
VYHS	**Vyhne**	**1.71**	**182**	*e*PN	**Pn**	**09 48 01.9**	**+0.2**
VYHS				*e*SN	**Sn**	**09 48 23.8**	**-0.5**
VRAC	**Vranov**	**1.76**	**240**	*e*Pn	**Pn**	**09 48 02.1**	**-0.3**
	baz=60						
VRAC				*e*Sg	**Sb**	**09 48 26.3**	**-0.1**
	21nm,0.3s,baz=60						
OSTC	**Ostas**	**1.77**	**283**	*e*PG	**Pn**	**09 48 03.0**	**+0.4**
OSTC				*e*SG	**Sg**	**09 48 27.9**	**+0.2**
	comp=Z,18nm,0.6s						
KSP	**Ksiaz**	**1.80**	**292**	*e*Pb	**Pn**	**09 48 02.7**	**-0.3**
KSP				*e*Pg	**Pg**	**09 48 05.1**	**-0.1**
KSP				*e*Sg	**Sg**	**09 48 29.4**	**+0.8**
CHVC	**Chvalec**	**1.88**	**283**	*e*PG	**Pn**	**09 48 04.1**	**0.0**
CHVC				*e*SG	**Sb**	**09 48 29.4**	**-0.6**
	comp=Z,12nm,0.5s						
UPC	**Upice**	**1.90**	**280**	*e*PG	**Pb**	**09 48 06.0**	**-0.1**
UPC				*e*SG	**Sg**	**09 48 31.6**	**+0.1**
	comp=Z,20nm,0.4s						
KECS	**Kecovo**	**2.00**	**149**	*e*PN	**Pb**	**09 48 06.9**	**-0.9**
KECS				*e*SN	**Sn**	**09 48 29.7**	**-1.6**
KRUC	**Moravsky**	**2.00**	**236**	*e*Pn	**Pn**	**09 48 05.6**	**-0.2**
	baz=56						
KRUC				*e*Sg	**Sb**	**09 48 33.8**	**+0.3**
	19nm,0.4s,baz=56						
CRVS	**Cervenica-Dubn**	**2.10**	**127**	*e*PN	**Pb**	**09 48 09.9**	**+0.3**
KOLS	**Kolonicke sedl**	**2.52**	**119**	*e*PN	**Pn**	**09 48 14.1**	**+1.3**
KOLS				*e*PG	**Pg**	**09 48 20.0**	**+1.1**
PRU	**Pruhonice**	**2.83**	**267**	*e*SG	**Sg**	**09 49 00.8**	**-0.9**
	comp=Z,10nm,0.4s						
CONA	**Conrad Observa**	**3.04**	**223**	*i* Pn	**Pn**	**09 48 20.5**	**+0.4**
	0.7nm,0.3s						
CONA				*i* Sn	**Sn**	**09 48 57.8**	**+0.5**
	2.2nm,0.4s						
BRG	**Berggiesshubel**	**3.25**	**284**	Pg	**Pg**	**09 48 31.8**	**-1.2**
BRG				Sg	**Sg**	**09 49 15.5**	**+0.4**
BRG				Amp		09 49 18.1	
	comp=Z,6.6nm,0.6s						
KHC	**Kasperske Hory**	**3.64**	**255**	*e*PN	**Pn**	**09 48 30.0**	**+1.7**
KHC				*e*PG	**Pb**	**09 48 37.1**	**+1.2**
KHC				*e*SG	**Sg**	**09 49 26.2**	**-1.3**
	comp=Z,11nm,0.5s						
MOA	**Molln**	**3.87**	**234**	*i* Sn	**Sn**	**09 49 18.5**	**+0.9**
	comp=Z,1.6nm,0.4s						

WEL 12 10:00:28.3,39°S±2°×17°5E±°, h14km±3km, ML1.3/12, ML1.6/22, MLv1.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=105.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.07**	**179**	P	Pg	10 00 31.6	+0.3
PKVZ				S	Sg	10 00 34.0	+0.8
FWVZ	**Far West T-bar**	**0.17**	**102**	P	Pb	10 00 33.1	-0.1
FWVZ				S	Sb	10 00 36.2	-0.3
TRVZ	**Turoa**	**0.18**	**116**	P	Pb	10 00 33.2	-0.3
DRZ	**Dome Shelter**	**0.18**	**108**	P	Pb	10 00 33.4	-0.1
DRZ				S	Sb	10 00 36.8	-0.2
MTVZ	**Mangateitei**	**0.19**	**149**	P	Pg	10 00 33.0	+0.2
WHVZ	**Whangaehu Hut**	**0.20**	**108**	P	Pb	10 00 33.6	-0.3
NGZ	**Ngauruhoe**	**0.20**	**77**	P	Pb	10 00 33.7	-0.2
NGZ				S	Sb	10 00 37.3	-0.3
WTVZ	**West Tongariro**	**0.22**	**61**	P	Pb	10 00 33.9	-0.2
WNVZ	**Wahianoa**	**0.22**	**118**	P	Pb	10 00 33.8	-0.4
NNVZ	**North Ngauruho**	**0.23**	**67**	P	Pb	10 00 34.1	-0.2
SNVZ	**South Ngauruho**	**0.23**	**82**	P	Pb	10 00 34.2	-0.2
OTVZ	**Oturere**	**0.26**	**77**	P	Pb	10 00 34.5	-0.2
KRVZ	**Karewarewa**	**0.26**	**61**	P	Pb	10 00 34.5	-0.3
NTVZ	**North Tongarir**	**0.29**	**65**	P	Pb	10 00 34.9	-0.4
ETVZ	**East Tongariro**	**0.30**	**73**	P	Pb	10 00 35.2	-0.2
TMVZ	**Te Maari**	**0.30**	**69**	P	Pb	10 00 35.5	0.0
KATZ	**Kakaramea**	**0.37**	**48**	P	Pb	10 00 36.3	-0.4
MOVZ	**Moawhango**	**0.37**	**120**	P	Pg	10 00 35.8	0.0
VRZ	**Vera Road**	**0.47**	**282**	P	Pg	10 00 37.7	+0.1
WATZ	**Wairara**	**0.59**	**31**	P	Pg	10 00 40.2	+0.2
WAZ	**Wanganui**	**0.60**	**207**	P	Pg	10 00 39.8	-0.3
BHHZ	**Black Hill Sta**	**0.62**	**116**	P	Pg	10 00 40.5	0.0
HIZ	**Hauiti**	**0.80**	**332**	P	Pg	10 00 43.7	-0.2
KUTZ	**Kaahu Road**	**0.82**	**27**	P	Pg	10 00 43.9	-0.3
KWHZ	**Kaweka Forest**	**0.86**	**104**	P	Pn	10 00 45.5	-0.5
TLZ	**Tolley Road**	**0.90**	**10**	P	Pb	10 00 44.7	-1.0
WPRZ	**Whakapapatarin**	**0.95**	**43**	P	Pn	10 00 50.0	+2.9
TSZ	**Takapari Road**	**0.96**	**151**	P	Pb	10 00 46.7	0.0
MRZ	**Mangatainoka R**	**1.45**	**173**	P	Pb	10 00 55.2	+0.2
TOZ	**Tahuroa Road**	**1.49**	**5**	P	Pn	10 00 54.5	-0.1
KIW	**Kapiti Island**	**1.67**	**191**	P	Pb	10 00 58.0	-0.8
CAW	**Cannon Point**	**1.90**	**186**	P	Pb	10 01 02.3	-0.3

NOU ***12*** *10:01:29.6, 43.82S×173.11E, h23km, MLv4.9/9, Off E. Coast of S. Island, N.Z.*
IDC ***12*** *10:01:30.9±0.8, 43.27S×172.68E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.9/36, mbtmp4.2/5, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/40, Error ellipse: s-maj=26.4km s-min=14.0km az=155.0*
WEL ***12*** *10:01:31.2, 44.35S×177.3E±°, h19km±6km, M4.4/30, ML4.6/30, MLv4.4/30, Error ellipse: s-maj=0.0km s-min=0.0km az=96.7*
NEIC ***12*** *10:01:32.7±0.8, 43.48S±0.04×172.79E±0.07, h11km±4km, Error ellipse: s-maj=9.3km s-min=3.3km az=52.0*

ISC 12 10:01:32.0±1.0, 43.48S±0.03×172.85E±0.03, h13km±6km, n193, σ1§11/199, mb4.3/10, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.27**	**212**	Pg	**Pg**	**10 01 37.8**	**+0.1**
MQZ				Sg	**Sg**	**10 01 41.5**	**0.0**
MQZ	**McQueen's Vall**	**0.27**	**212**	P	**Pg**	**10 01 37.7**	**+0.1**
MQZ				S	**Sg**	**10 01 41.6**	**+0.1**
OKCZ	**Okains Bay**	**0.29**	**149**	P	**Pb**	**10 01 39.5**	**+0.5**
AMCZ	**Amberley**	**0.33**	**334**	P	**Pb**	**10 01 39.3**	**-0.5**
AKCZ	**Akaroa Harbour**	**0.40**	**174**	P	**Pb**	**10 01 41.0**	**+0.1**
GVZ	**Greta Valley S**	**0.52**	**15**	P	**Pb**	**10 01 43.7**	**+0.6**
GVZ				S	**Sn**	**10 01 53.0**	**-1.0**
RACZ	**Rakaia**	**0.58**	**244**	P	**Pg**	**10 01 43.4**	**+0.1**
OXZ	**Oxford**	**0.61**	**284**		**Pg**	**10 01 43.6**	**-0.3**
OXZ				Sg	**Sg**	**10 01 51.4**	**-0.6**
OXZ	**Oxford**	**0.61**	**284**	P	**Pg**	**10 01 43.6**	**-0.3**
LTZ	**Lake Taylor**	**0.81**	**328**	Pg	**Pb**	**10 01 48.0**	**-0.1**
LTZ	**Lake Taylor**	**0.81**	**328**	P	**Pb**	**10 01 48.0**	**-0.1**
LTZ				S	**Sb**	**10 01 58.8**	**-0.2**
WACZ	**Wakanui South**	**0.87**	**237**	P	**Pg**	**10 01 49.0**	**+0.2**
MHCZ	**Mount Hutt**	**0.94**	**266**	P	**Pb**	**10 01 49.9**	**-0.2**
KHZ	**Kahutara**	**1.17**	**26**	P	**Pb**	**10 01 54.0**	**-0.1**
KHZ	**Kahutara**	**1.17**	**26**	P	**Pg**	**10 01 54.2**	**-0.3**
INZ	**Inchbonnie**	**1.28**	**306**	P	**Pn**	**10 01 54.5**	**-1.0**
ARCZ	**Arundel**	**1.30**	**248**	P	**Pn**	**10 01 54.7**	**-1.3**
RPZ	**Rata Peaks**	**1.33**	**259**	Pg	**Pn**	**10 01 55.0**	**-1.3**
	250nm,0.3s,baz=88,slow=1.8,SNR=562						
RPZ				Lg	Lg	10 02 10.8	
	306nm,0.3s,baz=332,slow=22,SNR=15						
RPZ				LR	LR	10 02 31.7	
	comp=Z,977nm,18.3s,baz=352,slow=48						
RPZ	**Rata Peaks**	**1.33**	**259**	P	**Pn**	**10 01 55.0**	**-1.3**
RPZ	**Rata Peaks**	**1.33**	**259**	P	**Pn**	**10 01 55.0**	**-1.3**
WVZ	**Waitaha Valley**	**1.60**	**284**	P	**Pn**	**10 01 59.3**	**-0.7**
TMZ	**Timaru**	**1.61**	**235**	P	**Pn**	**10 01 59.3**	**-0.9**
THZ	**Tophouse**	**1.71**	**1**	P	**Pn**	**10 02 01.3**	**-0.2**
THZ				S	**Sn**	**10 02 22.7**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**1.85**	**274**	P	**Pn**	**10 02 02.3**	**-0.2**
GCSZ				S	**Sn**	**10 02 25.5**	**-0.4**
DSZ	**Denniston Nort**	**1.90**	**336**	P	**Pn**	**10 02 03.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.91**	**24**	P	**Pn**	**10 02 04.4**	**+0.1**
CMWZ	**Cape Campbell**	**2.00**	**31**	P	**Pn**	**10 02 05.9**	**+0.5**
MRNZ	**Matariki Terra**	**2.08**	**358**	P	**Pn**	**10 02 06.9**	**+0.4**
LBZ	**Lake Benmore**	**2.13**	**244**	P	**Pn**	**10 02 06.8**	**-0.6**
TUWZ	**Tuamarina**	**2.20**	**22**	P	**Pn**	**10 02 07.9**	**-0.3**
FOZ	**Fox Glacier**	**2.21**	**267**	P	**Pn**	**10 02 08.7**	**+0.4**
ODZ	**Otahua Downs**	**2.23**	**225**	P	**Pn**	**10 02 07.8**	**-0.8**
NNZ	**Nelson**	**2.29**	**10**	P	**Pn**	**10 02 09.6**	**+0.1**
TKNZ	**Takaka Hill**	**2.44**	**2**	P	**Pn**	**10 02 12.3**	**+0.7**
TCW	**Tory Channel**	**2.50**	**25**	P	**Pn**	**10 02 11.6**	**-0.7**
BHW	**Baring Head**	**2.55**	**37**	P	**Pn**	**10 02 12.4**	**-0.6**
SNZO	**South Karori**	**2.56**	**33**		**Pn**	**10 02 12.7**	**-0.5**
SNZO	**South Karori**	**2.56**	**33**	P	**Pn**	**10 02 12.5**	**-0.7**
PLWZ	**Palliser**	**2.60**	**44**	P	**Pn**	**10 02 12.9**	**-0.9**
WEL	**Wellington**	**2.61**	**34**	P	**Pn**	**10 02 13.3**	**-0.5**
QRZ	**Quartz Range**	**2.66**	**355**	P	**Pn**	**10 02 14.2**	**-0.3**
QRZ	**Quartz Range**	**2.66**	**355**	P	**Pn**	**10 02 15.7**	**+1.2**
MSWZ	**Moikau Station**	**2.72**	**42**	P	**Pn**	**10 02 14.3**	**-1.0**
DUWZ	**D'Urville Isla**	**2.79**	**17**	P	**Pn**	**10 02 16.0**	**-0.3**
PAWZ	**Paruwai Farm**	**2.83**	**43**	P	**Pn**	**10 02 15.8**	**-1.1**
CAW	**Cannon Point**	**2.88**	**35**	P	**Pn**	**10 02 16.8**	**-0.8**
HHSZ	**Highcliff Hill**	**2.90**	**213**	P	**Pn**	**10 02 17.1**	**-0.7**
TRWZ	**Traveller**	**2.95**	**46**	P	**Pn**	**10 02 17.5**	**-1.0**
JCZ	**Jackson Bay**	**3.01**	**257**	P	**Pn**	**10 02 19.2**	**-0.2**
KIW	**Kapiti Island**	**3.03**	**31**	P	**Pn**	**10 02 19.0**	**-0.6**
MTW	**Mount Morrison**	**3.04**	**41**	P	**Pn**	**10 02 18.6**	**-1.1**
WKZ	**Wanaka**	**3.07**	**243**	P	**Pn**	**10 02 19.2**	**-1.0**
EAZ	**Earnscleugh**	**3.09**	**234**	P	**Pn**	**10 02 19.6**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.25**	**38**	P	**Pn**	**10 02 21.5**	**-1.1**
TMWZ	**Te Maipa**	**3.27**	**45**	P	**Pn**	**10 02 21.8**	**-1.1**
TUZ	**Tuapeka**	**3.38**	**222**	P	**Pn**	**10 02 23.6**	**-0.8**
MRZ	**Mangatainoka R**	**3.47**	**37**	P	**Pn**	**10 02 24.4**	**-1.3**
TIWZ	**Tintock**	**3.52**	**41**	P	**Pn**	**10 02 25.0**	**-1.3**
PRWZ	**Pori Road**	**3.73**	**40**	P	**Pn**	**10 02 28.1**	**-1.2**
MSZ	**Milford Sound**	**3.75**	**250**	P	**Pn**	**10 02 28.7**	**-0.7**
OHWZ	**Ohakea**	**3.75**	**30**	P	**Pn**	**10 02 30.1**	**+0.6**
BFZ	**Birch Farm**	**3.76**	**43**	P	**Pn**	**10 02 28.2**	**-1.5**
BFZ	**Birch Farm**	**3.76**	**43**	P	**Pn**	**10 02 28.6**	**-1.1**
POWZ	**Post Office Ro**	**3.77**	**36**	P	**Pn**	**10 02 29.1**	**-0.7**
MLZ	**Mavora Lakes**	**3.88**	**239**	P	**Pn**	**10 02 30.0**	**-1.4**
DVHZ	**Dannevirke**	**4.02**	**39**	P	**Pn**	**10 02 31.5**	**-1.8**
SYZ	**Scrubby Hill**	**4.04**	**219**	P	**Pn**	**10 02 32.9**	**-0.5**
ANWZ	**Angora Road**	**4.04**	**43**	P	**Pn**	**10 02 32.2**	**-1.4**
WAZ	**Wanganui**	**4.05**	**24**	P	**Pn**	**10 02 34.7**	**+1.1**
TSZ	**Takapari Road**	**4.13**	**35**	P	**Pn**	**10 02 33.2**	**-1.6**
NMEZ	**Namu Road**	**4.13**	**11**	P	**Pn**	**10 02 36.1**	**+1.4**
LREZ	**Lake Rotokare**	**4.18**	**17**	P	**Pn**	**10 02 36.8**	**+1.4**
PREZ	**Palmer Road**	**4.24**	**14**	P	**Pn**	**10 02 37.9**	**+1.6**
WHZ	**Wether Hill Ro**	**4.25**	**234**	P	**Pn**	**10 02 34.5**	**-2.0**
KHEZ	**Kahui Hut**	**4.27**	**12**	P	**Pn**	**10 02 38.1**	**+1.3**
NBEZ	**Newall Road No**	**4.27**	**11**	P	**Pn**	**10 02 37.6**	**+0.9**
PRHZ	**Porangahau**	**4.27**	**43**	P	**Pn**	**10 02 36.2**	**-0.6**
NEZ	**North Egmont**	**4.30**	**13**	P	**Pn**	**10 02 38.5**	**+1.2**
WPHZ	**Waipukurau**	**4.34**	**39**	P	**Pn**	**10 02 36.7**	**-0.9**
PNHZ	**Pukenui**	**4.35**	**36**	P	**Pn**	**10 02 36.1**	**-1.7**
PKE	**Pukeiti**	**4.36**	**12**	P	**Pn**	**10 02 38.9**	**+1.0**
DREZ	**Durham Road**	**4.40**	**14**	P	**Pn**	**10 02 39.8**	**+1.4**
MHEZ	**Mangahewa**	**4.53**	**15**	P	**Pn**	**10 02 41.9**	**+1.6**
MTVZ	**Mangateitei**	**4.54**	**27**	P	**Pn**	**10 02 41.2**	**+0.8**
DCZ	**Deep Cove**	**4.54**	**242**	P	**Pn**	**10 02 39.3**	**-1.1**
PXZ	**Pawanui**	**4.56**	**42**	P	**Pn**	**10 02 40.1**	**-0.6**
VRZ	**Vera Road**	**4.58**	**19**	P	**Pn**	**10 02 41.7**	**+0.8**
PKVZ	**Pokaka**	**4.58**	**25**	P	**Pn**	**10 02 41.3**	**+0.3**
MOVZ	**Moawhango**	**4.61**	**29**	P	**Pn**	**10 02 41.2**	**-0.2**
WNVZ	**Wahianoa**	**4.63**	**27**	P	**Pn**	**10 02 41.6**	**-0.1**
TRVZ	**Turoa**	**4.64**	**27**	P	**Pn**	**10 02 41.8**	**-0.2**
KRHZ	**Kereru**	**4.65**	**36**	P	**Pn**	**10 02 39.9**	**-2.1**
BHHZ	**Black Hill Sta**	**4.66**	**32**	P	**Pn**	**10 02 41.5**	**-0.5**
DRZ	**Dome Shelter**	**4.67**	**27**	P	**Pn**	**10 02 43.7**	**+1.3**
WHVZ	**Whangaehu Hut**	**4.67**	**27**	P	**Pn**	**10 02 43.3**	**+1.0**
FWVZ	**Far West T-bar**	**4.68**	**27**	P	**Pn**	**10 02 42.3**	**-0.2**
TUVZ	**Tukino**	**4.70**	**28**	P	**Pn**	**10 02 42.9**	**+0.2**
KAHZ	**Kahuranaki**	**4.75**	**41**	P	**Pn**	**10 02 41.7**	**-1.7**
NGZ	**Ngauruhoe**	**4.77**	**27**	P	**Pn**	**10 02 43.6**	**-0.1**
SNVZ	**South Ngauruho**	**4.77**	**27**	P	**Pn**	**10 02 43.7**	**0.0**
OTVZ	**Oturere**	**4.80**	**27**	P	**Pn**	**10 02 43.8**	**-0.4**
APZ	**The Paps**	**4.81**	**224**	P	**Pn**	**10 02 43.2**	**-0.8**
NNVZ	**North Ngauruho**	**4.81**	**27**	P	**Pn**	**10 02 44.4**	**+0.1**
WTVZ	**West Tongariro**	**4.82**	**26**	P	**Pn**	**10 02 43.8**	**-0.5**
ETVZ	**East Tongariro**	**4.84**	**27**	P	**Pn**	**10 02 44.4**	**-0.3**
KRVZ	**Karewarewa**	**4.85**	**27**	P	**Pn**	**10 02 45.3**	**+0.5**
KWHZ	**Kaweka Forest**	**4.86**	**35**	P	**Pn**	**10 02 43.3**	**-1.4**
TMVZ	**Te Maari**	**4.86**	**27**	P	**Pn**	**10 02 44.5**	**-0.4**
NTVZ	**North Tongariro**	**4.86**	**27**	P	**Pn**	**10 02 44.8**	**-0.2**
MCHZ	**McNeill Hill**	**4.96**	**37**	P	**Pn**	**10 02 45.4**	**-0.7**
KATZ	**Kakaramea**	**4.98**	**26**	P	**Pn**	**10 02 46.9**	**+0.3**
RITZ	**Rihia Road**	**5.03**	**28**	P	**Pn**	**10 02 47.4**	**+0.2**
BKZ	**Black Stump Fm**	**5.10**	**34**	P	**Pn**	**10 02 45.8**	**-2.4**
BKZ	**Black Stump Fm**	**5.10**	**34**	P	**Pn**	**10 02 47.2**	**-1.0**
RATZ	**Rangitukua**	**5.10**	**27**	P	**Pn**	**10 02 48.2**	**+0.4**
PYZ	**Puysegur Point**	**5.15**	**236**	P	**Pn**	**10 02 48.2**	**-0.5**
HIZ	**Hauiti**	**5.18**	**18**	P	**Pn**	**10 02 49.5**	**+0.3**
HIZ	**Hauiti**	**5.18**	**18**	P	**Pn**	**10 02 49.7**	**+0.5**
HATZ	**Hinemaiaia**	**5.19**	**29**	P	**Pn**	**10 02 48.6**	**-0.7**
NMHZ	**Naumai**	**5.29**	**36**	P	**Pn**	**10 02 50.0**	**-0.8**
MRHZ	**Matea Rd**	**5.36**	**31**	P	**Pn**	**10 02 49.6**	**-2.1**
KUTZ	**Kaahu Road**	**5.46**	**25**	P	**Pn**	**10 02 52.9**	**-0.2**
MTHZ	**Maungataniwha**	**5.51**	**34**	P	**Pn**	**10 02 52.4**	**-1.4**
TLZ	**Tolley Road**	**5.53**	**22**	P	**Pn**	**10 02 53.7**	**-0.3**
WPRZ	**Whakapapatarin**	**5.55**	**28**	P	**Pn**	**10 02 53.6**	**-0.7**
RAHZ	**Arahi**	**5.56**	**36**	P	**Pn**	**10 02 53.7**	**-0.7**

	baz=272							
NTC				S	Sb	10 07 46.4	+0.8	
	baz=272							
SXI1	**Grass Mountain**	**0.73**	**292**	P	Pg	10 07 35.0	+0.4	
	baz=292							
SXI1				S	Sb	10 07 46.2	+0.1	
	baz=292							
TWC	**Suao**	**0.73**	**254**	*i* P	Pb	10 07 35.8	0.0	
	baz=253							
TWC				*i* S	Sb	10 07 46.6	+0.5	
	baz=253							
TIPB	**Shuangxi**	**0.74**	**282**	*e*P	Pb	10 07 36.0	+0.2	
	baz=281							
TIPB				S	Sb	10 07 47.7	+1.4	
	baz=281							
ILA	**Ilan**	**0.79**	**266**	P	Pb	10 07 36.7	-0.1	
	baz=266							
ILA				S	Sb	10 07 48.7	+0.8	
	baz=266							
NWF	**Wu-fen Shan**	**0.80**	**288**	P	Pb	10 07 36.9	-0.1	
	baz=288							
NWF				S	Sb	10 07 49.3	+1.1	
	baz=288							
WFSB	**Wu-fen Shan**	**0.80**	**288**	P	Pb	10 07 37.1	+0.1	
	baz=288							
WFSB				S	Sn	10 07 49.9	-0.9	
	baz=288							
NDS	**Dongshan**	**0.84**	**258**	*e*P	Pb	10 07 38.3	+0.6	
	baz=257							
NDS				S	Sn	10 07 50.7	-1.1	
	baz=257							
EWUT	**Wuta**	**0.85**	**244**	*e*P	Pn	10 07 38.5	-0.6	
	baz=244							
EWUT				*e*S	Sb	10 07 50.4	+0.9	
	baz=244							
TWE	**Neicheng**	**0.87**	**264**	P	Pb	10 07 38.2	0.0	
	baz=263							
TWE				S	Sb	10 07 51.2	+1.1	
	baz=263							
ENA	**Nanau**	**0.89**	**244**	*i* P	Pb	10 07 38.6	+0.2	
	baz=243							
ENA				*i* S	Sb	10 07 51.0	+0.4	
	baz=243							
FUSB	**Fushanzhiwuyua**	**0.94**	**267**	P	Pb	10 07 39.5	+0.2	
	baz=266							
FUSB				*e*S	Sn	10 07 53.5	-0.8	
	baz=266							
PCYT	**Pengchaiyu**	**0.95**	**328**	*e*P	Pn	10 07 40.5	0.0	
	baz=328							
PCYT				S	Sn	10 07 53.5	-0.9	
	baz=328							
ENTT	**Nioudou**	**0.97**	**260**	*e*P	Pg	10 07 39.1	-0.2	
	baz=259							
ENTT				*e*S	Sb	10 07 53.8	+0.7	
	baz=259							
NHDH	**Xindian Distri**	**1.00**	**278**	*e*S	Sn	10 07 55.6	-0.2	
	baz=278							
YM01	**YM01**	**1.01**	**289**	P	Pb	10 07 40.4	-0.1	
	baz=288							
YM01				S	Sb	10 07 54.6	+0.6	
	baz=288							
NWLT	**Wulai**	**1.02**	**268**	*e*P	Pb	10 07 41.0	+0.4	
	baz=267							
NWLT				*e*S	Sn	10 07 56.1	0.0	
	baz=267							
NDT	**Datong Townshi**	**1.03**	**258**	*e*P	Pb	10 07 40.7	-0.2	
	baz=257							
NDT				*e*S	Sn	10 07 55.9	-0.5	
	baz=257							
TWY	**Chenhua**	**1.03**	**296**	*e*P	Pb	10 07 40.9	0.0	
	baz=296							
TWY				*e*S	Sb	10 07 55.0	+0.4	
	baz=296							
LATG	**Datong**	**1.03**	**254**	P	Pb	10 07 41.2	+0.2	
	baz=254							
LATG				*e*S	Sn	10 07 56.2	-0.5	
	baz=254							
TAP	**Taipei**	**1.03**	**282**	*e*P	Pb	10 07 41.0	+0.1	
	baz=282							
ANP	**Anpu**	**1.06**	**290**	*e*P	Pb	10 07 41.6	+0.2	
	baz=290							
ANP				*e*S	Sn	10 07 57.3	-0.1	
	baz=290							
NACB	**Ninganchiao**	**1.13**	**236**	P	Pg	10 07 42.3	0.0	
	baz=235							
NACB				S	Sn	10 07 59.2	+0.2	
	baz=235							
YHNB	**Yeheng**	**1.14**	**263**	*e*P	Pg	10 07 42.1	-0.3	
	baz=262							
YHNB				*e*S	Sn	10 07 60.0	+0.7	
	baz=262							
NSK	**Sanguang**	**1.16**	**263**	*e*P	Pn	10 07 43.4	0.0	
	baz=262							
TWD	**Chiawan**	**1.19**	**232**	*e*S	Sn	10 07 59.8	-0.5	
	baz=231							
NNSB	**Datong**	**1.19**	**251**	*e*P	Pn	10 07 44.1	+0.2	
	baz=250							
NNSB				*e*S	Sn	10 08 01.6	+1.0	
	baz=250							
NNS	**Nan Shan**	**1.20**	**252**	*e*P	Pn	10 07 44.0	0.0	
	baz=251							
NNS				*e*S	Sn	10 08 00.4	-0.3	
	baz=251							
ETLH	**Xiulin Townshi**	**1.20**	**240**	*e*P	Pb	10 07 43.9	+0.1	
	baz=239							
ETLH				*e*S	Sn	10 08 00.9	+0.1	
	baz=239							
FUSS	**Fushou**	**1.38**	**246**	*e*P	Pg	10 07 47.2	+0.2	
	baz=245							
NFF	**Wufeng Townshi**	**1.38**	**263**	*e*P	Pg	10 07 48.1	+1.1	
	baz=262							
WHF	**Hehuan Shan**	**1.41**	**242**	*e*P	Pg	10 07 47.7	+0.1	
	baz=241							
LIOB	**Emei**	**1.47**	**264**	*e*P	Pn	10 07 47.2	-0.5	
	baz=263							
CHGB	**Renai**	**1.52**	**240**	*e*P	Pb	10 07 49.5	+0.2	
	baz=240							
OWD	**Renai**	**1.57**	**237**	*e*P	Pb	10 07 50.3	+0.1	
	baz=236							
WUSB	**Renai**	**1.60**	**239**	*e*P	Pb	10 07 50.9	+0.3	
	baz=238							
HGSD	**Ruisui**	**1.71**	**220**	*e*P	Pn	10 07 51.2	+0.1	
	baz=219							
VWDT	**VWDT**	**1.72**	**232**	*e*P	Pb	10 07 51.8	-0.7	
	baz=231							
EHY	**Hungye**	**1.77**	**222**	*e*P	Pn	10 07 52.4	+0.6	
	baz=221							
YULB	**Yu-li**	**1.86**	**221**	*e*P	Pn	10 07 53.3	+0.1	
	baz=220							
YULB				*e*S	Sn	10 08 17.5	+0.4	
	baz=220							
FULB	**Fuli**	**2.02**	**217**	*e*P	Pn	10 07 55.5	+0.3	
	baz=216							

TAP 12 10:07:45.7, 24.27N × 120.68E, h27km, ML2.5, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WDJ	**Dajia District**	**0.09**	**336**	⇑*i*P		Pb	10 07 50.7	+0.2
	baz=336							
WDJ				S		Sb	10 07 54.1	+0.4
	baz=336							
TWQ1	**Liyutan**	**0.12**	**48**	*e*P		Pb	10 07 51.0	+0.2
	baz=254							
TWQ1	**Liyutan**	**0.12**	**48**	*i* P		Pb	10 07 51.1	+0.4
	baz=48							
TWQ1				*i* S		Sb	10 07 55.1	+1.0
	baz=48							
TCU	**Taichung**	**0.12**	**181**	*e*P		Pb	10 07 50.5	-0.3
	baz=177							
TCU				*e*S		Sb	10 07 55.3	+1.1
	baz=177							
NSY	**Sanyi**	**0.16**	**27**	*i* P		Pb	10 07 51.8	+0.6
	baz=30							
NSY				*i* S		Sb	10 07 56.3	+1.4
	baz=30							
WCHH	**Zhanghua**	**0.22**	**210**	*e*P		Pb	10 07 52.0	+0.2
	baz=209							
WCHH				*e*S		Sb	10 07 56.8	+0.9
	baz=209							
WWF	**Wufeng**	**0.23**	**175**	P		Pb	10 07 52.2	+0.4
	baz=175							
WWF				S		Sb	10 07 57.4	+1.3
	baz=175							
WHP	**Taichung City**	**0.24**	**88**	*i* P		Pb	10 07 52.5	+0.3
	baz=88							
WHP				*i* S		Sb	10 07 57.0	+0.4
	baz=88							
NMLH	**Miaoli**	**0.28**	**21**	*e*P		Pn	10 07 53.6	-0.6
	baz=21							
NMLH				*e*S		Sb	10 07 58.5	+1.0
	baz=21							
WCS	**Beigang Elemen**	**0.30**	**135**	*e*P		Pb	10 07 53.4	+0.5
	baz=134							
WCS				*e*S		Sn	10 07 58.9	-1.1
	baz=134							
WYL	**Yuanlin Townsh**	**0.32**	**196**	*e*P		Pb	10 07 53.5	+0.3
	baz=196							
WYL				*e*S		Sn	10 07 59.6	-0.8
	baz=196							
DPDB	**Guoxing**	**0.33**	**136**	P		Pb	10 07 53.9	+0.6
	baz=136							
DPDB				S		Sn	10 07 59.8	-0.9
	baz=136							
WNT1	**Nantou City**	**0.36**	**180**	P		Pn	10 07 54.5	-0.7
	baz=179							
WNT1				S		Sn	10 08 00.9	-0.5
	baz=179							
WNT	**Mingjian**	**0.39**	**179**	*i* P		Pb	10 07 54.9	+0.7
	baz=178							
WNT				*i* S		Sn	10 08 01.6	-0.5
	baz=178							
TYC	**Yuchr**	**0.40**	**156**	*i* P		Pb	10 07 55.0	+0.6
	baz=154							
TYC				*i* S		Sn	10 08 01.3	-1.0
	baz=154							
SMLT	**Sun Moon Lake**	**0.43**	**152**	*i* P		Pb	10 07 55.7	+0.6
	baz=151							
SMLT				*i* S		Sn	10 08 02.8	-0.7
	baz=151							
WJS	**Zhushan**	**0.45**	**174**	P		Pn	10 07 55.8	-0.6
	baz=174							
WJS				S		Sn	10 08 03.1	-0.6
	baz=174							
TWT	**Tachien**	**0.46**	**92**	*e*P		Pb	10 07 55.3	-0.1
	baz=92							
TWT				S		Sn	10 08 03.0	-1.0
	baz=92							
WRL	**Guolierlin Hig**	**0.46**	**217**	*e*P		Pn	10 07 56.1	-0.5
	baz=216							
WRL				*e*S		Sb	10 08 02.4	+0.5
	baz=216							
NSTT	**Nanjuang**	**0.47**	**39**	P		Pb	10 07 55.5	+0.1
	baz=40							
NSTT				S		Sn	10 08 03.4	-0.6
	baz=40							
LIOB	**Emei**	**0.48**	**39**	*i* P		Pn	10 07 56.5	-0.5
	baz=39							
LIOB				*i* S		Sn	10 08 04.2	-0.3
	baz=39							
WUSB	**Renai**	**0.49**	**124**	P		Pn	10 07 56.6	-0.5
	baz=124							
WUSB				S		Sn	10 08 04.0	-0.8
	baz=124							
CHGB	**Renai**	**0.50**	**115**	*e*P		Pb	10 07 56.2	+0.1
	baz=114							
CHGB				*e*S		Sn	10 08 04.9	-0.3
	baz=114							
FUSS	**Fushou**	**0.52**	**92**	*e*P		Pb	10 07 56.9	+0.5
	baz=92							
FUSS				*e*S		Sn	10 08 05.3	-0.3
	baz=92							
FUSS	**Fushou**	**0.52**	**92**	*e*S		Sn	10 08 05.3	-0.3
	baz=245							
NFF	**Wufeng Townshi**	**0.54**	**48**	P		Pb	10 07 57.1	+0.4
	baz=48							
NFF				S		Sn	10 08 05.1	-0.8
	baz=48							
NFF	**Wufeng Townshi**	**0.54**	**48**	*e*S		Sb	10 08 05.0	+0.9
	baz=262							
SSLB	**Suanglung**	**0.54**	**152**	P		Pb	10 07 56.9	+0.2
	baz=152							
SSLB				S		Sb	10 08 05.0	+0.8
	baz=152							
WTCT	**Ta-ch'eng**	**0.54**	**222**	*e*P		Pb	10 07 56.7	0.0
	baz=221							
WTCT				*e*S		Sn	10 08 05.1	-0.8
	baz=221							
WHF	**Hehuan Shan**	**0.55**	**103**	P		Pn	10 07 58.6	+0.4
	baz=103							
WHF				S		Sn	10 08 06.1	-0.6
	baz=103							
WHF	**Hehuan Shan**	**0.55**	**103**	*e*S		Sn	10 08 06.4	-0.3
	baz=241							
OWD	**Renai**	**0.55**	**125**	*i* P		Pn	10 07 57.9	-0.1
	baz=124							
OWD				S		Sn	10 08 05.9	-0.5
	baz=124							
HSN	**Hsinchu**	**0.59**	**27**	*e*S		Sn	10 08 08.2	+1.0
	baz=28							
WDLH	**Douliu**	**0.59**	**192**	*e*P		Pn	10 07 58.4	0.0
	baz=192							
WDLH				*e*S		Sn	10 08 06.9	-0.3
	baz=192							
WTK	**Tuku**	**0.64**	**205**	*e*P		Pb	10 07 58.5	+0.3
	baz=204							
WTK				*e*S		Sb	10 08 07.5	+0.7
	baz=204							
NNS	**Nan Shan**	**0.66**	**75**	*e*P		Pb	10 07 59.0	+0.3
	baz=75							
NNS				*e*S		Sn	10 08 09.0	+0.1
	baz=75							
NNSB	**Datong**	**0.66**	**76**	*e*P		Pb	10 07 59.1	+0.3
	baz=76							
NNSB				*e*S		Sn	10 08 08.7	-0.3
	baz=76							
VWDT	**VWDT**	**0.67**	**140**	P		Pb	10 07 58.8	0.0
	baz=140							
VWDT				S		Sn	10 08 09.3	+0.3
	baz=140							
CHN5	**Tsauling**	**0.67**	**180**	P		Pn	10 07 59.2	-0.3
	baz=180							
CHN5				S		Sn	10 08 08.9	-0.3
	baz=180							
NSK	**Sanguang**	**0.74**	**57**	*e*P		Pb	10 08 00.1	+0.1
	baz=57							
NSK	**Sanguang**	**0.74**	**57**	S		Pb	10 07 59.8	-0.2
	baz=262							
WSF	**Szhu**	**0.76**	**214**	*e*S		Sn	10 08 11.1	0.0
	baz=213							
ALS	**Alishan**	**0.77**	**171**	*i* P		Pn	10 08 01.0	0.0
	baz=170							
ALS				*i* S		Sn	10 08 11.9	0.0
	baz=170							
YUS	**Yu-Shan**	**0.82**	**162**	*e*P		Pb	10 08 01.0	-0.6
	baz=161							
ESL	**Shilin**	**0.83**	**123**	*e*S		Sn	10 08 13.9	+0.9
	baz=123							
NACB	**Ninganchiao**	**0.84**	**96**	*e*S		Sn	10 08 13.4	0.0
	baz=96							
WSL	**Shuilin Townsh**	**0.85**	**209**	*e*P		Pn	10 08 02.0	0.0
	baz=208							
WSL				*e*S		Sn	10 08 13.9	+0.4
	baz=208							
NWLT	**Wulai**	**0.91**	**56**	*e*P		Pn	10 08 02.6	-0.1
	baz=56							
EGFH	**Guangfu**	**0.91**	**131**	*e*P		Pn	10 08 02.2	-0.5
	baz=131							
EGFH				*e*S		Sn	10 08 15.8	+0.8
	baz=131							
CHN4	**Tsaushan**	**0.92**	**185**	P		Pb	10 08 03.5	+0.4
	baz=184							
CHN4				S		Sn	10 08 15.2	-0.1
	baz=184							
EHY	**Hungye**	**0.96**	**142**	*e*P		Pb	10 08 04.2	+0.5
	baz=141							
EHY				*e*S		Sn	10 08 17.5	+1.2
	baz=141							
TPUB	**Ta-pu**	**0.97**	**183**	P		Pb	10 08 03.8	0.0
	baz=182							
TPUB				S		Sn	10 08 16.9	+0.5
	baz=182							
ICHU	**Yijhu**	**0.98**	**202**	*e*P		Pb	10 08 03.9	-0.1
	baz=201							
ICHU				*e*S		Sn	10 08 17.4	+0.8
	baz=201							
TWK	**Hsinying**	**1.01**	**190**	P		Pb	10 08 04.9	+0.2
	baz=189							
TWK				*e*S		Sn	10 08 17.9	+0.2
	baz=189							
WTP	**Ta-pu**	**1.02**	**183**	P		Pn	10 08 04.3	0.0
	baz=182							
WTP				*e*S		Sn	10 08 18.2	+0.4
	baz=182							
YULB	**Yu-li**	**1.04**	**147**	*e*P		Pb	10 08 05.3	+0.2
	baz=147							
YULB				*e*S		Sb	10 08 19.1	+0.7
	baz=147							
TWS1	**Kuangyinshan**	**1.07**	**39**	*e*P		Pb	10 08 05.5	0.0
	baz=39							
TWS1				*e*S		Sn	10 08 18.6	-0.2
	baz=39							
CHN1	**Nanshi**	**1.09**	**187**	P		Pn	10 08 05.6	+0.3
	baz=187							
CHN1				*e*S		Sb	10 08 21.0	+1.2
	baz=187							
SGST	**Jiashian**	**1.19**	**184**	*e*P		Pn	10 08 06.5	0.0
	baz=183							
SGST				*e*S		Sn	10 08 21.6	-0.2
	baz=183							
PNG	**Penghu**	**1.24**	**236**	*e*P		Pn	10 08 07.7	+0.4
	baz=235							
PNG				*e*S		Sn	10 08 23.6	+0.4
	baz=235							
PHUB	**P'eng-hu**	**1.26**	**234**	*e*S		Sb	10 08 24.4	-0.3
	baz=233							

SOME ***12*** *10:15:31.5, 44.40N × 82.90E, h15km*
NNC ***12*** *10:15:32.8 ± 1.0, 44.40N × 82.76E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.8km s-min=3.1km az=124.0*
ISC 12 10:15:31.1 ± 1.3, 44.41N ± 0.05 × 82.82E ± 0.06, h10km, n41, σ 1.8 85/59, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KTMS	**Ketmen**	**2.03**	**243**	*e*P		Pg	**10 16 09.9**	**0.0**
	36nm,0.2s							
KTMS				*e*S		Sg	**10 16 37.2**	**+1.0**
	89nm,0.2s							
KTMS	**Ketmen**	**2.03**	**243**	Pg		Pg	**10 16 09.3**	**-0.6**
	36nm,0.2s							
KTMS				Lg		Lg	10 16 36.0	
	89nm,0.2s							
DJR	**Jarkent**	**2.18**	**269**	*e*P		Pg	**10 16 13.0**	**+0.2**
	18nm,0.5s							
DJR				*e*S		Sg	**10 16 42.6**	**+1.7**
	27nm,0.3s							
DJR	**Jarkent**	**2.18**	**269**	Pg		Pg	**10 16 12.9**	**+0.1**
	22nm,0.2s							
DJR				Lg		Lg	10 16 42.5	
	27nm,0.3s							
MK31	**Makanchi Array**	**2.42**	**351**	Pn		Pb	**10 16 13.1**	**-1.6**
	5.7nm,0.4s,baz=173,slow=15,SNR=173							
MK31				⇓Sn		Sb	**10 16 45.3**	**+0.8**
	10nm,0.3s,baz=180,slow=23,SNR=29							
MAKZ	**Makanchi**	**2.47**	**346**	⇑Pn		Pb	**10 16 14.1**	**-1.5**
	5.4nm,0.6s							
MAKZ				⇑Sn		Sb	**10 16 46.0**	**-0.2**
	11nm,0.4s							
KNOS	**Konyrlen**	**2.61**	**270**	*e*P		Pg	**10 16 20.3**	**-0.8**
	20nm,0.3s							
KNOS				*e*S		Sg	**10 16 54.4**	**-0.6**
	16nm,1.1s							
KAPS	**Kapalarasan**	**2.62**	**291**	*e*P		Pg	**10 16 21.4**	**+0.2**
KAPS				*e*S		Sg	**10 16 56.9**	**+1.8**
KAPS	**Kapalarasan**	**2.62**	**291**	Pg		Pg	**10 16 21.4**	**+0.2**
KAPS				Lg		Lg	10 16 56.9	
PDGK	**Podgornoye**	**2.64**	**247**	Pg		Pb	**10 16 19.6**	**+1.1**
	3.3nm,0.1s							
PDGK				Lg		Lg	10 16 53.5	
	21nm,0.5s							
PDGK	**Podgornoye**	**2.64**	**247**	⇓Pg		Pb	**10 16 19.1**	**+0.6**
	2.5nm,0.4s							
PDGK				⇑Lg		Lg	10 16 55.4	
	22nm,0.4s							
SHLS	**Shalkode**	**2.73**	**244**	*e*P		Pn	**10 16 17.2**	**+2.1**
	18nm,0.3s							
SHLS				*e*S		Sn	**10 16 49.9**	**+1.5**
	99nm,0.3s							
SHLS	**Shalkode**	**2.73**	**244**	Pg		Pn	**10 16 16.9**	**+1.7**
	22nm,0.5s							
SHLS				Lg		Lg	10 16 49.1	
	110nm,0.5s							
UZB	**Uzynbulak**	**3.03**	**247**	*e*P		Pb	**10 16 26.7**	**+1.6**
	5.9nm,0.2s							
UZB				*e*S		Sg	**10 17 05.8**	**-2.4**
	9.8nm,0.2s							
UZB	**Uzynbulak**	**3.03**	**247**	Pg		Pb	**10 16 26.7**	**+1.6**
	5.9nm,0.2s							
UZB				Lg		Lg	10 17 05.8	
	9.8nm,0.2s							
KPKS	**Kokpek**	**3.13**	**254**	*e*P		Pg	**10 16 29.5**	**-1.6**
	9.7nm,0.1s							
KPKS				*e*S		Sg	**10 17 10.6**	**-1.1**
	47nm,0.4s							
TDK	**Taldyqorghan**	**3.20**	**282**	*e*P		Pg	**10 16 32.2**	**-0.2**
	32nm,0.2s							
TDK				*e*S		Sg	**10 17 14.9**	**+1.0**
	68nm,0.2s							
ZSN	**Zaisan**	**3.36**	**24**	*e*P		Pb	**10 16 30.7**	**-0.1**
	3.2nm,0.2s							
ZSN				*e*S		Sb	**10 17 12.4**	**+0.8**
	28nm,0.4s							
ZSN	**Zaisan**	**3.36**	**24**	Pg		Pb	**10 16 31.1**	**+0.4**
	3.7nm,0.2s							
ZSN				Lg		Lg	10 17 12.9	
	30nm,0.4s							
ZHN	**Zhinishke**	**3.41**	**250**	*e*P		Pg	**10 16 34.9**	**-1.5**
	22nm,0.3s							
ZHN				*e*S		Sg	**10 17 19.4**	**-1.1**
	32nm,0.2s							
ZHN	**Zhinishke**	**3.41**	**250**	Pg		Pg	**10 16 34.9**	**-1.5**
	22nm,0.3s							
ZHN				Lg		Lg	10 17 19.4	
	32nm,0.2s							
SATY	**Saty**	**3.47**	**249**	*e*P		Pg	**10 16 35.6**	**-2.0**
	8.1nm,0.2s							
SATY				*e*S		Sg	**10 17 20.6**	**-1.9**
	19nm,0.2s							
SATY	**Saty**	**3.47**	**249**	Pg		Pg	**10 16 35.6**	**-2.0**
	8.1nm,0.2s							
SATY				Lg		Lg	10 17 20.6	
	19nm,0.2s							
KURS	**Kuram**	**3.48**	**256**	*e*P		Pg	**10 16 36.4**	**-1.3**
	8.1nm,0.7s							
KURS				*e*S		Sg	**10 17 22.8**	**-0.1**
	13nm,0.7s							
KURS	**Kuram**	**3.48**	**256**	Pg		Pg	**10 16 36.4**	**-1.3**
	8.1nm,0.7s							
KURS				Lg		Lg	10 17 22.8	
	13nm,0.7s							
MDOK	**Medeo**	**4.36**	**255**	*e*P		Pg	**10 16 52.8**	**-1.8**
	10nm,0.5s							
MDOK				*e*S		Sg	**10 17 50.8**	**-0.3**
	3.5nm,0.2s							
MDOK	**Medeo**	**4.36**	**255**	⇑Pg		Pg	**10 16 52.0**	**-2.6**
	7.4nm,0.5s							
MDOK				Lg		Lg	10 17 49.7	
	6.4nm,0.6s							
MDOK	**Medeo**	**4.36**	**255**	Pg		Pg	**10 16 52.8**	**-1.8**
	10nm,0.5s							
MDOK				Lg		Lg	10 17 50.8	
	3.5nm,0.2s							
TNSS	**Tian-Shan**	**4.47**	**254**	*e*P		Pg	**10 16 54.1**	**-2.7**
	3.8nm,0.5s							
TNSS				*e*S		Sg	**10 17 52.7**	**-1.9**
	3.1nm,0.5s							
TNSS	**Tian-Shan**	**4.47**	**254**	Pg		Pg	**10 16 54.1**	**-2.7**
	3.8nm,0.5s							
TNSS				Lg		Lg	10 17 52.7	
	3.1nm,0.5s							
KTBS	**Karatobe**	**4.48**	**263**	*e*P		Pg	**10 16 55.2**	**-1.7**
	1.9nm,0.2s							
KTBS				*e*S		Sg	**10 17 54.6**	**-0.2**
	14nm,0.4s							
KTBS	**Karatobe**	**4.48**	**263**	Pg		Pg	**10 16 55.2**	**-1.7**
	1.9nm,0.2s							
KTBS				Lg		Lg	10 17 54.6	
	14nm,0.4s							
KUU	**Kurty**	**4.69**	**266**	*e*P		Pg	**10 16 57.5**	**-3.4**
	2.9nm,0.6s							
KUU				*e*S		Sg	**10 17 58.3**	**-3.4**
	13nm,0.3s							
KUU	**Kurty**	**4.69**	**266**	Pg		Pg	**10 16 57.6**	**-3.4**
	2.9nm,0.6s							
KUU				Lg		Lg	10 17 58.3	
	13nm,0.3s							
MTBS	**Maitube**	**4.80**	**257**	*e*P		Pg	**10 17 00.2**	**-2.8**
	4.3nm,0.3s							
MTBS				*e*S		Sg	**10 18 03.1**	**-2.2**
	10nm,0.3s							
MTBS	**Maitube**	**4.80**	**257**	Pg		Pg	**10 17 00.2**	**-2.8**
	4.3nm,0.3s							

MTBS			Lg	Lg	10 18 03.1	
	10nm,0.3s					
KRBS	**Karabastau**	**5.20 265**	*e*P	**Pg**	**10 17 07.5**	**-3.1**
	2.4nm,0.4s					
KRBS			*e*S	**Sg**	**10 18 15.4**	**-2.5**
	2.9nm,0.3s					
KRBS	**Karabastau**	**5.20 265**	Pg	**Pg**	**10 17 07.4**	**-3.3**
	3.0nm,0.4s					
KRBS			Lg	Lg	10 18 15.5	
	5.9nm,0.3s					
TKM2	**Tokmak 2**	**5.45 257**	⇑Pg	**Pg**	**10 17 12.2**	**-3.2**
	2.5nm,0.5s					
TKM2			⇓Lg	Lg	10 18 23.2	
	2.9nm,0.6s					
KURBB	**Kurchatov Arra**	**6.86 336**	⇑Lg	Lg	10 19 10.0	
	7.4nm,0.7s					
KURK	**Kurchatov**	**6.92 337**	⇓Lg	Lg	10 19 10.7	
	4.0nm,0.7s					

NEIC ***12*** *10:47:24.2±2.0,30°.68N×0°.05×50°.00E±0°.09,h10km±1km, Error ellipse: s-maj=14.6km s-min=6.3km az=237.0*
TEH ***12*** *10:47:25.3,30.65N×50.04E,h14km, ML4.0*
MOS ***12*** *10:47:25.4±1.9,30.58N×49.89E,h40km, mb4.2/7, Error ellipse: s-maj=11.3km s-min=6.5km az=98.4*
IDC ***12*** *10:47:30.3±4.5,30.75N×49.80E,h61km±38km, mb3.6/16, mb1 3.7/19,mb1mx3.6/44,mbtmp3.9/19, ML3.5/3, MS3.2/6, Ms1 3.2/6,ms1mx2.8/75, Error ellipse: s-maj=35.8km s-min=15.5km az=170.0*
DSN ***12*** *10:47:31.5±2.1,29°.84N×50°.03E,h10km, ML3.8/5, Error ellipse: s-maj=28.1km s-min=10.6km az=4.0*
OMAN ***12*** *10:47:31.4±1.9,30°.16N×50°.33E,h10km, mb5.5/18, ms3.0/1, Error ellipse: s-maj=15.9km s-min=12.7km az=14.0*

ISC 12 10:47:25.4±0.5,30°.55N±0°.05×50°.02E±0°.05,h25km,n177,σ1s89/193,mb4.0/26,MS3.5/3,4C-1D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ABEH	**Behbahan**	**0.21**	**77**	*e*Pg		Pb	10 47 29.8	-1.4
AMIS	**Naft Sefid**	**1.27**	**331**	*e*Pg		**Pn**	**10 47 47.8**	**+0.2**
AMIS				*e*Sg		**Sb**	**10 48 05.2**	**+0.5**
AHWZ	**Ahwaz**	**1.41**	**304**	*e*Pg		**Pb**	**10 47 51.5**	**+0.5**
AHWZ				*e*Sg		**Sb**	**10 48 10.7**	**+2.1**
KLNJ	**Kolanjah**	**1.43**	**71**	*e*Pg		**Pn**	**10 47 51.3**	**+1.2**
KLNJ				*e*			10 48 18.5	
	comp=Z,19μm,0.4s							
KAZ1	**Kazerun**	**1.68**	**123**	*e*Pg		**Pn**	**10 47 57.3**	**+4.0**
KAZ1				*e*			10 48 42.9	
	comp=Z,14μm,0.4s							
IBRJ	**Brojen**	**1.72**	**38**	*e*Pg		**Pn**	**10 47 55.8**	**+1.8**
IBRJ				*e*			10 48 24.2	
	comp=Z,12μm,0.5s							
SHK1	**Shahrekord**	**1.92**	**23**	*e*Pn		**Pn**	**10 47 58.4**	**+1.7**
SHK1				*e*			10 48 26.9	
	comp=Z,11μm,1.0s							
AHBU	**AHRAM**	**2.02**	**146**	*e*Pn		**Pn**	**10 48 00.7**	**+2.9**
IPIR	**Pirpir**	**2.25**	**19**	*e*Pn		**Pn**	**10 48 03.0**	**+1.7**
IPIR				*e*			10 48 45.1	
	comp=Z,9μm,1.0s							
SHI	**Shiraz**	**2.35**	**112**	*e*Pn		**Pn**	**10 48 05.6**	**+3.1**
IRAM	**Ramesheh**	**2.38**	**58**	*e*Pn		**Pn**	**10 48 05.5**	**+2.4**
IRAM				*e*			10 48 50.6	
	comp=Z,3μm,0.6s							
IGAR	**Gharneh**	**2.53**	**43**	*e*Pn		**Pn**	**10 48 06.2**	**+1.1**
IZEF	**Zefreh**	**3.05**	**40**	*e*Pn		**Pn**	**10 48 13.8**	**+1.4**
IKLH	**Kolahrood**	**3.06**	**25**	*e*Pn		**Pn**	**10 48 14.1**	**+1.7**
IKLH				*e*			10 49 16.5	
	comp=Z,4μm,0.7s							
KHMZ	**Khomeyn**	**3.18**	**359**	*e*Pn		**Pn**	**10 48 15.4**	**+1.4**
NASN	**Na'in**	**3.27**	**46**	*e*Pn		**Pn**	**10 48 16.8**	**+1.5**
QAMS	**Qamsar**	**3.38**	**20**	*e*Pn		**Pn**	**10 48 18.8**	**+2.0**
ISAD	**Sadrabad**	**3.42**	**66**	*e*Pn		**Pn**	**10 48 19.6**	**+2.2**
ISAD				*e*			10 48 39.9	
	comp=Z,2μm,0.5s							
IKFM	**Kafar-mosalman**	**3.49**	**329**	*e*Pn		**Pn**	**10 48 19.6**	**+1.6**
IDOB	**Doab**	**3.58**	**335**	*e*Pn		**Pn**	**10 48 20.4**	**+0.8**
KRSH	**Karshahi**	**3.85**	**27**	*e*Pn		**Pn**	**10 48 25.1**	**+1.9**
ASAO	**Ashtian**	**3.98**	**0**	*e*Pn		**Pn**	**10 48 26.9**	**+1.8**
IMEH	**Mehriz**	**4.03**	**77**	*e*Pn		**Pn**	**10 48 28.3**	**+2.5**
GHVR	**GHOM**	**4.06**	**15**	*e*Pn		**Pn**	**10 48 27.8**	**+1.8**
ANAR	**Anarak**	**4.11**	**49**	*e*Pn		**Pn**	**10 48 29.3**	**+2.6**
ISFB	**Sefidab**	**4.23**	**26**	*e*Pn		**Pn**	**10 48 29.7**	**+1.4**
YZKH	**Yazd**	**4.32**	**64**	*e*Pn		**Pn**	**10 48 31.5**	**+2.0**
HAGD	**Aghdareh**	**4.32**	**350**	*e*Pn		**Pn**	**10 48 31.0**	**+1.3**
IQOM	**Qom**	**4.37**	**11**	*e*Pn		**Pn**	**10 48 31.4**	**+1.0**
KCHF	**Cheshme Sefid,**	**4.48**	**327**	*e*Pn		**Pn**	**10 48 34.8**	**+2.9**
KER	**Kermanshah**	**4.53**	**328**	*e*Pn		**Pn**	**10 48 33.8**	**+1.3**
IVRN	**Varamin**	**4.66**	**18**	*e*Pn		**Pn**	**10 48 35.2**	**+1.1**
SHMA	**Al-Shehemyia**	**4.75**	**170**	P		**Pn**	**10 48 37.8**	**+2.3**
SHMA				S		**Sn**	**10 49 33.2**	**+3.4**
IGHG	**Ghaleghazi**	**4.76**	**323**	*e*Pn		**Pn**	**10 48 36.6**	**+0.8**
IRAZ	**Razeghan**	**4.84**	**359**	*e*Pn		**Pn**	**10 48 38.1**	**+1.3**
IRAZ				*e*			10 50 20.0	
	comp=Z,2μm,0.9s							
KHOR	**Al-Khor Airpor**	**5.09**	**165**	P		**Pn**	**10 48 42.7**	**+2.7**
KHOR				S		**Sn**	**10 49 42.0**	**+4.0**
IDHR	**Dehrash**	**5.14**	**324**	*e*Pn		**Pn**	**10 48 41.0**	**0.0**
IDHR				*e*			10 49 42.3	
	comp=Z,2μm,0.3s							
IMHD	**Mahdasht**	**5.15**	**6**	*e*Pn		**Pn**	**10 48 41.5**	**+0.5**
QABG	**Abgarm-Qazvin**	**5.15**	**356**	*e*Pn		**Pn**	**10 48 40.5**	**-0.7**
IDMV	**Damavand**	**5.29**	**18**	*e*Pn		**Pn**	**10 48 44.1**	**+1.0**
DAMV	**Damavand**	**5.32**	**17**	*e*Pn		**Pn**	**10 48 44.9**	**+1.4**
ILAS	**Lasjerd**	**5.41**	**26**	*e*Pn		**Pn**	**10 48 45.9**	**+1.2**
CHTH	**Charan**	**5.42**	**10**	*e*Pn		**Pn**	**10 48 46.6**	**+1.7**
IFIR	**Firoozkooh**	**5.57**	**24**	*e*Pn		**Pn**	**10 48 47.9**	**+1.0**
IGZV	**Ghazvin**	**5.82**	**2**	*e*Pn		**Pn**	**10 48 51.2**	**+0.9**
KRBR	**Kerman**	**5.86**	**94**	*e*Pn		**Pn**	**10 48 52.9**	**+1.9**
QALM	**Alamut, Qazvin**	**5.89**	**5**	*e*Pn		**Pn**	**10 48 51.9**	**+0.7**
NGRK	**Negar Kerman**	**5.89**	**97**	*e*Pn		**Pn**	**10 48 54.3**	**+2.9**
NGRK				*e*			10 48 59.5	
	comp=Z,710nm,0.2s							
TRNA	**Turayna**	**5.89**	**169**	P		**Pn**	**10 48 53.4**	**+2.3**
TRNA				S		**Sn**	**10 50 00.1**	**+2.3**
ISHM	**Shahmirzad**	**5.91**	**27**	*e*Pn		**Pn**	**10 48 52.2**	**+0.5**
IPRN	**Peran**	**6.00**	**18**	*e*Pn		**Pn**	**10 48 54.1**	**+1.5**
TPRV	**Parvadeh(Tabas**	**6.19**	**65**	*e*Pn		**Pn**	**10 48 59.9**	**+1.6**
ZNJK	**Zanjan**	**6.20**	**350**	*e*Pn		**Pn**	**10 48 57.0**	**+1.4**
GENO	**Geno**	**6.24**	**119**	*e*Pn		**Pn**	**10 48 57.3**	**+1.2**
TNSJ	**Nastanj**	**6.54**	**57**	*e*Pn		**Pn**	**10 49 01.7**	**+1.6**
SLWR	**Sila**	**6.63**	**167**	P		**Pn**	**10 49 03.4**	**+2.2**
SLWR				S		**Sn**	**10 50 16.5**	**+0.5**
IGLO	**Ghaloghah**	**6.73**	**27**	*e*Pn		**Pn**	**10 49 05.0**	**+2.2**
TKDS	**Koohdasht(Taba**	**6.76**	**61**	*e*Pn		**Pn**	**10 49 04.6**	**+1.5**
TABS	**Tabas**	**6.77**	**61**	*e*Pn		**Pn**	**10 49 05.1**	**+1.8**
SHME	**Shamm**	**7.02**	**128**	P		**Pn**	**10 49 08.3**	**+1.7**
SHME				S		**Sn**	**10 50 25.0**	**-0.7**
BANOM	**Banah**	**7.21**	**128**	P		**Pn**	**10 49 10.3**	**+1.0**
	SNR=11							
BANOM				S		**Sn**	**10 50 28.6**	**-1.8**
BANOM	**Banah**	**7.21**	**128**	P		**Pn**	**10 49 09.9**	**+0.6**
SHRO	**Shahrood**	**7.38**	**41**	*e*Pn		**Pn**	**10 49 13.5**	**+1.8**
AJN	**Ajban**	**7.42**	**142**	P		**Pn**	**10 49 13.3**	**+1.2**
AJN				S		**Sn**	**10 50 35.0**	**-0.5**
KBAM	**BAM**	**7.46**	**99**	*e*Pn		**Pn**	**10 49 14.1**	**+1.3**
NAZ	**Nazwa, Dubai**	**7.46**	**137**	P		**Pn**	**10 49 14.6**	**+1.9**
NAZ				S		**Sn**	**10 50 36.2**	**-0.5**
NAZ	**Nazwa, Dubai**	**7.46**	**137**	P		**Pn**	**10 49 14.9**	**+2.1**
ASUD	**Al Ashush, Dub**	**7.55**	**140**	P		**Pn**	**10 49 15.8**	**+1.9**
	SNR=8.8							
ASUD				S		**Sn**	**10 50 38.5**	**-0.3**
ASUD	**Al Ashush, Dub**	**7.55**	**140**	P		**Pn**	**10 49 13.6**	**-0.3**
FAQ	**Al Faqa, Dubai**	**7.61**	**138**	S		**Sn**	**10 50 39.3**	**-0.9**
UOSS	**Minazif**	**7.83**	**134**	Pn		**Pn**	**10 49 19.7**	**+2.0**
UOSS	**Minazif**	**7.83**	**134**	P		**Pn**	**10 49 21.5**	**+3.8**
UOSS				S		**Sn**	**10 50 43.1**	**-2.5**
UOSS	**Minazif**	**7.83**	**134**	P		**Pn**	**10 49 19.3**	**+1.6**
HATD	**Hatta, Dubai**	**7.87**	**135**	P		**Pn**	**10 49 22.0**	**+3.7**
HATD				S		**Sn**	**10 50 44.1**	**-2.5**
BSRN	**Basiran**	**7.92**	**77**	*e*Pn		**Pn**	**10 49 21.0**	**+1.9**
ASHO	**Ashiyiah**	**7.93**	**136**	P		**Pn**	**10 49 21.0**	**+1.8**
ASHO				S		**Sn**	**10 50 46.9**	**-1.2**
ASHO	**Ashiyiah**	**7.93**	**136**	P		**Pn**	**10 49 20.2**	**+1.0**
ASHO				S		**Sn**	**10 50 44.9**	**-3.2**
RAYN	**Ar Rayn**	**8.08**	**211**	P		**Pn**	**10 49 21.1**	**-0.1**
RAYN	**Ar Rayn**	**8.08**	**211**			**Pn**	**10 49 21.1**	**-0.1**
RAYN	**Ar Rayn**	**8.08**	**211**	P		**Pn**	**10 49 21.1**	**-0.1**
RAYN	**Ar Rayn**	**8.08**	**211**	P		**Pn**	**10 49 20.2**	**-1.0**
MZR	**Muzera**	**8.13**	**157**	P		**Pn**	**10 49 23.9**	**+2.0**
	SNR=9.9							
MZR				S		**Sn**	**10 50 52.5**	**-0.6**
MZR	**Muzera**	**8.13**	**157**	P		**Pn**	**10 49 22.5**	**+0.6**
GRMI	**Germi**	**8.42**	**349**	*e*Pn		**Pn**	**10 49 28.0**	**+2.1**
SOHO	**SOHO**	**8.63**	**136**	P		**Pn**	**10 49 30.3**	**+1.6**
MRVT	**Maraveh tapeh**	**8.69**	**34**	*e*Pn		**Pn**	**10 49 31.3**	**+1.7**
UMZA	**Um Al Zommool**	**9.06**	**148**	P		**Pn**	**10 49 35.4**	**+0.7**
UMZA				S		**Sn**	**10 51 12.6**	**-3.3**
ARQ	**Araqi**	**9.24**	**140**	P		**Pn**	**10 49 41.1**	**+4.0**
ARQ				S		**Sn**	**10 51 17.8**	**-2.4**
SHRT	**Shahrakht**	**9.24**	**68**	*e*Pn		**Pn**	**10 49 38.2**	**+1.0**
ISFR	**Sfrayin**	**9.28**	**44**	*e*Pn		**Pn**	**10 49 40.3**	**+2.5**
BJRD	**Bojnurd**	**9.39**	**39**	*e*Pn		**Pn**	**10 49 41.6**	**+2.3**
GEVA	**Gevas**	**9.64**	**325**			**Pn**	**10 49 41.8**	**-0.8**
GEYT	**Alibeck**	**9.95**	**40**	P		**Pn**	**10 49 49.6**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=237,slow=18,SNR=3.5							
GEYT	**Alibeck**	**9.95**	**40**	Pn		**Pn**	**10 49 45.5**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**9.95**	**40**	Pn		Pn	10 49 44.0	-2.8
BSY	**Bisya**	**10.08**	**139**	P		**Pn**	**10 49 50.7**	**+2.0**
BSY				S		**Sn**	**10 51 36.8**	**-4.3**
MARD	**Mardin**	**10.21**	**314**	Pn		**Pn**	**10 49 50.7**	**+0.2**
GURO	**Guroymak-BITLI**	**10.34**	**323**	Pn		**Pn**	**10 49 51.6**	**-0.7**
SMDO	**Samad**	**10.35**	**134**	P		**Pn**	**10 49 55.7**	**+3.3**
SMDO				S		**Sn**	**10 51 44.7**	**-3.0**
GNI	**Garni**	**10.49**	**337**	LR		LR	10 54 03.7	
	comp=Z,44nm,20.9s,baz=128,slow=38							
JLN	**Jalan Bani Buh**	**11.87**	**133**	P		**Pn**	**10 50 15.1**	**+2.0**
JLN				S		Sn	10 52 19.8	-4.9
MHTO	**MHTO**	**11.91**	**141**	P		**Pn**	**10 50 14.3**	**+0.6**
	SNR=8.3							
MHTO				S		Sn	10 52 19.9	-6.0
DOK	**Doka**	**12.46**	**162**	P		**Pn**	**10 50 21.9**	**+0.7**
	SNR=10.0							
DOK				S		**Sn**	**10 52 33.9**	**-5.3**
MMAI	**Mount Meron Ar**	**12.67**	**285**	LR		LR	10 56 39.8	
	comp=Z,57nm,20.1s,baz=272,slow=44							
WHFO	**Wadi Hawf**	**13.04**	**164**	P		**Pn**	**10 50 27.4**	**-1.7**
	SNR=9.6							
WHFO				S		**Sn**	**10 52 50.0**	**-3.4**
EIL	**Elat**	**13.07**	**270**	LR		LR	10 56 38.7	
	comp=Z,100nm,18.1s,baz=89,slow=43							
ZEI	**Tsey**	**13.15**	**340**	*e*P		**Pn**	**10 50 32.7**	**+1.9**
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.5s							
ABTO	**Aybut**	**13.48**	**166**	P		**Pn**	**10 50 33.4**	**-1.7**
DMTO	**DMTO**	**13.55**	**160**	P		**Pn**	**10 50 34.4**	**-1.6**
	SNR=6.9							
NEY	**Neytrino**	**13.94**	**337**	⇑*e*P		**Pn**	**10 50 38.0**	**-3.5**
NEY				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**14.31**	**339**	P		**Pn**	**10 50 48.4**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=160,slow=8.1,SNR=7.1							
SHA1	**Shidzhatmaz**	**14.40**	**338**	⇑*e*P		**Pn**	**10 50 44.5**	**-3.3**
KIV	**Kislovodsk**	**14.59**	**339**	*e*P		**Pn**	**10 50 52.2**	**+2.0**
KIV				pmax	pmax			
	comp=Z,18nm,1.1s							
KIV	**Kislovodsk**	**14.59**	**339**			**Pn**	**10 50 48.1**	**-2.1**
BR131	**Keskin Array S**	**16.20**	**309**	P		**Pn**	**10 51 10.3**	**-1.2**
BR131				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BR131	**Keskin Array S**	**16.20**	**309**			**Pn**	**10 51 10.3**	**-1.2**
BR131				IAmb	IAmb		10 51 19.4	
	comp=Z,10.0nm,1.1s							
BRTR	**Keskin Array B**	**16.20**	**309**	P		**Pn**	**10 51 12.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=126,slow=10,SNR=12							
BRTR	**Keskin Array B**	**16.20**	**309**	P		**Pn**	**10 51 11.0**	**-0.5**
BRTR	**Keskin Array B**	**16.20**	**309**	Pn		**Pn**	**10 51 11.0**	**-0.5**
ABKAR	**Akbulak array**	**20.14**	**19**	P		**P**	**10 51 55.2**	**-2.3**
ABKAR	**Akbulak array**	**20.14**	**19**	P		**P**	**10 51 55.7**	**-1.8**
ABKAR				IAmb	IAmb		10 52 07.8	
	comp=Z,2.5nm,0.7s							
KKAR	**Karatay Array**	**20.57**	**47**	P		**P**	**10 52 00.0**	**-2.4**
KKAR	**Karatay Array**	**20.57**	**47**	P		**P**	**10 51 60.0**	**-2.4**
AKTO	**Aktyubinsk**	**20.75**	**15**	P		**P**	**10 52 03.5**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=226,slow=9.5,SNR=7.4							
IDI	**Anoyia**	**21.59**	**289**	P		**P**	**10 52 12.7**	**-0.7**
	comp=Z,12nm,0.7s,baz=95,slow=12,SNR=2.3							
IDI	**Anoyia**	**21.59**	**289**	P		**P**	**10 52 12.4**	**-1.0**
AAK	**Ala-Archa**	**22.97**	**52**	P		**P**	**10 52 31.4**	**+3.3**
	comp=Z,1.9nm,0.9s,baz=226,slow=11,SNR=2.9							
AAK				LR		LR	11 01 34.7	
	comp=Z,52nm,19.4s,baz=260,slow=37							
MLR	**Muntele Rosu**	**24.00**	**315**	P		**P**	**10 52 36.7**	**-1.4**
	comp=Z,5.0nm,0.9s,baz=141,slow=13,SNR=5.2							
MLR	**Muntele Rosu**	**24.00**	**315**	P		**P**	**10 52 38.8**	**+0.6**
MLR				IAmb	IAmb		10 52 41.7	
	comp=Z,9.6nm,1.2s							
AGG	**Agios Georgios**	**24.19**	**298**	P		**P**	**10 52 40.0**	**+0.1**
AGG				pmax	pmax			
	comp=Z,22nm,1.3s							
AGG	**Agios Georgios**	**24.19**	**298**	P		**P**	**10 52 40.0**	**+0.1**
AKASG	**Malin Array Be**	**25.42**	**328**	P		**P**	**10 52 49.4**	**-1.4**
	comp=Z,8nm,0.6s,baz=135,slow=8.7,SNR=17							
AKASG	**Malin Array Be**	**25.42**	**328**	*i* P		**P**	**10 52 49.7**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**25.42**	**328**	P		**P**	**10 52 49.2**	**-1.7**
AKBB	**Malin Array Si**	**25.42**	**328**	P		**P**	**10 52 50.0**	**-0.8**
AKBB				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AKBB	**Malin Array Si**	**25.42**	**328**	P		**P**	**10 52 50.0**	**-0.8**
AKBB				IAmb	IAmb		10 52 54.7	
	comp=Z,4.9nm,0.7s							
BURAR	**Bucovina Array**	**25.54**	**319**	P		**P**	**10 52 52.0**	**-0.1**
BURAR				IAmb	IAmb		10 52 58.7	
	comp=Z,3.4nm,0.7s							
BUR08	**Bucovina Ar. S**	**25.57**	**319**	P		**P**	**10 52 52.3**	**-0.1**
BUR08				IAmb	IAmb		10 53 06.5	
	comp=Z,8.8nm,1.1s							
OBN	**Obninsk**	**26.36**	**342**	P		**P**	**10 52 58.4**	**-0.9**
	comp=Z,5.5nm,0.3s,baz=156,slow=12,SNR=2.2							
OBN	**Obninsk**	**26.36**	**342**	⇑*e*P		**P**	**10 53 00.1**	**+0.8**
OBN				pmax	pmax			
	comp=Z,11nm,0.5s							
OBN	**Obninsk**	**26.36**	**342**	P		**P**	**10 52 58.2**	**-1.1**
ARU	**Arti**	**26.56**	**11**	P		**P**	**10 53 07.3**	**+6.2**
ARU							10 53 47.5	
ARU				SS			10 58 49.2	
BRVK	**Borovoye**	**26.91**	**28**	⇑*e*P		**P**	**10 53 07.5**	**+3.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**26.93**	**28**	P		**P**	**10 53 04.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=131,slow=8.8,SNR=4.3							
KOLS	**Kolonicke sedl**	**27.91**	**319**	*e*P		**P**	**10 53 14.9**	**+1.6**
KOLS	**Kolonicke sedl**	**27.91**	**319**	*e*P		**P**	**10 53 14.9**	**+1.6**
KURBB	**Kurchatov Arra**	**29.22**	**39**	P		**P**	**10 53 25.6**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=242,slow=9.4,SNR=6.1							
KURK	**Kurchatov**	**29.32**	**38**	⇓*e*P		**P**	**10 53 27.1**	**+1.3**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KURK	**Kurchatov**	**29.32**	**38**	P		**P**	**10 53 26.6**	**+0.8**
KURK				IAmb	IAmb		10 53 27.9	
	comp=Z,2.7nm,0.9s							
MAKZ	**Makanchi**	**29.50**	**48**	P		**P**	**10 53 26.3**	**-1.3**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MAKZ	**Makanchi**	**29.50**	**48**	P		**P**	**10 53 26.3**	**-1.3**
MAKZ				IAmb	IAmb		10 53 26.6	
	comp=Z,4.8nm,0.6s							
MK31	**Makanchi Array**	**29.70**	**48**	P		**P**	**10 53 30.0**	**+0.7**
MK31				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MK31	**Makanchi Array**	**29.70**	**48**	P		**P**	**10 53 30.0**	**+0.7**
MKAR	**Makanchi Array**	**29.70**	**48**	P		**P**	**10 53 30.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=233,slow=7.0,SNR=8.7							
MKAR	**Makanchi Array**	**29.70**	**48**	P		**P**	**10 53 29.6**	**+0.3**
MKAR	**Makanchi Array**	**29.70**	**48**	P		**P**	**10 53 29.6**	**+0.3**
KLMR	**Klimovskoe**	**31.10**	**350**	*e*P		**P**	**10 53 38.0**	**-3.4**
KLMR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KLMR	**Klimovskoe**	**31.10**	**350**	*e*P		**P**	**10 53 38.1**	**-3.4**
KLMR				AMP			10 53 42.6	
	comp=Z,10.0nm,0.9s							
ZALV	**Zalesovo Beam**	**34.24**	**37**	P		**P**	**10 54 09.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=248,slow=7.8,SNR=6.9							
ZALV	**Zalesovo Beam**	**34.24**	**37**	*i* P		**P**	**10 54 09.3**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**34.24**	**37**	P		**P**	**10 54 09.6**	**+0.6**
CLL	**Collm**	**34.30**	**318**	*e*P		**P**	**10 54 09.0**	**-0.6**
CLL	**Collm**	**34.30**	**318**	*e*P		**P**	**10 54 09.0**	**-0.6**
FINES	**FINESS Array B**	**34.67**	**340**	P		**P**	**10 54 11.1**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=138,slow=12,SNR=8.4							
FINES	**FINESS Array B**	**34.67**	**340**	P		**P**	**10 54 11.5**	**-1.1**
FINES	**FINESS Array B**	**34.67**	**340**	P		**P**	**10 54 11.5**	**-1.1**
NB2	**NORSAR Subarra**	**39.73**	**332**	P		**P**	**10 54 53.7**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=123,slow=8.6							
NOA	**NORSAR Array B**	**39.73**	**332**	P		**P**	**10 54 53.6**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=122,slow=8.4,SNR=7.3							
NOA				LR		LR	11 13 01.7	
	comp=Z,60nm,18.1s,baz=300,slow=39							
GTA	**Gaotai**	**41.30**	**64**	*e*P		**P**	**10 55 11.0**	**+1.9**
GTA				pP		pP	10 55 15.8	-0.9
GTA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ARCES	**ARCESS Array B**	**41.45**	**347**	P		**P**	**10 55 09.1**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=151,slow=10.0,SNR=0.8							
LZH	**Lanzhou**	**44.84**	**68**	*e*P		**P**	**10 55 36.6**	**-1.2**
LZH				pP		pP	10 55 42.2	-3.3
LZH				pmax	pmax			
	comp=Z,16nm,1.4s							
SONM	**Songino Array**	**45.92**	**51**	P		**P**	**10 55 47.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=266,slow=7.1,SNR=3.1							
SONM	**Songino Array**	**45.92**	**51**	P		**P**	**10 55 47.0**	**+0.8**
ULN	**Ulaanbaatar**	**46.37**	**51**	*i* P		**P**	**10 55 50.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**47.70**	**260**	P		**P**	**10 55 59.3**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=54,slow=9.1,SNR=8.0							
LSZ	**Lusaka**	**50.18**	**208**	LR		LR	11 18 14.6	
	comp=Z,65nm,20.9s,baz=210,slow=37							
ILAR	**Eielson Array**	**84.07**	**7**	P		**P**	**10 59 54.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=320,slow=4.1,SNR=4.8							

ASRS ***12*** *11:05:56.0±0.2,50°.1N×1°.8E±°,h5km, MLh4.3/16, Error ellipse: s-maj=3.2km s-min=2.2km az=66.7, confirmed*
BJI ***12*** *11:05:56.5±0.0,50°.30N×87°.30E,h5km, mb4.2/6, mB4.3/2, ML4.2/4, Ms4.1/2*
NNC ***12*** *11:05:56.9±1.2,50°.28N×87°.38E,h0km, mb4.4, mpv4.2, Error ellipse: s-maj=10.5km s-min=6.0km az=97.0*
SOME ***12*** *11:05:56.1,50°.85N×86°.02E,h0km*
IDC ***12*** *11:05:57.7±0.9,50°.25N×87°.28E,h0km, mb3.6/7, mb1 3.9/15,mb1mx3.7/41,mbtmp3.8/15, ML3.4/7, MS3.2/3, Ms1 3.2/3,ms1mx2.5/86, Error ellipse: s-maj=11.5km s-min=10.1km az=120.0*
NEIC ***12*** *11:05:58.7±2.4,50°.35N±0°.08×87°.4E±0°.2,h15km±5km, mb4.2/14, Error ellipse: s-maj=17.1km s-min=10.4km az=105.0*

ISC 12 11:05:57.5±0.7,50°.30N±0°.03×87°.48E±0°.03,h10km±4km, n85,σ2s17/128,mb3.6/10,20C-16D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHBI	**Chibit, Altay**	**0.02**	**35**	⇓Pg		**Pg**	**11 05 59

	13nm,0.6s							
PDGK					⇓Sn		Sn	11 09 49.4 +3.9
	18nm,0.6s							
PDGK					⇑Lg		Lg	11 10 36.0
	53nm,0.9s							
MDOK	**Medeo**	**10.10**	**229**		⇓Pn		**Pn**	**11 08 21.5 -1.2**
	2.1nm,0.4s							
MDOK					Sn		**Sn**	**11 10 15.6 -0.5**
	9.6nm,0.6s							
MDOK					Lg		Lg	11 11 15.5
	74nm,1.3s							
OTUK	**Ortayu**	**10.11**	**264**		⇑Pn		**Pn**	**11 08 20.3 -2.4**
	3.2nm,0.5s							
OTUK					⇓Sn		**Sn**	**11 10 18.4 +2.4**
	10nm,0.8s							
OTUK					⇑Lg		Lg	11 11 16.5
	78nm,1.1s							
KDJ	**Kajisay**	**10.84**	**225**				**Pn**	**11 08 32.6 -0.1**
TARG	**Taragay, Kyrgy**	**10.88**	**222**				**Pn**	**11 08 35.1 +1.5**
BVAR	**Borovoye Array**	**10.96**	**291**		Pn		**Pn**	**11 08 32.8 -1.4**
	1.1nm,0.3s,baz=130,slow=47,SNR=15							
BVAR					Sn		**Sn**	**11 10 33.1 -3.8**
	2.8nm,0.3s,baz=90,slow=13,SNR=5.2							
TKM2	**Tokmak 2**	**11.00**	**232**		⇑Pn		**Pn**	**11 08 34.6 -0.4**
	2.6nm,0.6s							
TKM2					⇓Sn		**Sn**	**11 10 39.9 +1.8**
	4.2nm,0.5s							
TKM2					⇑Lg		Lg	11 11 46.7
	20nm,0.9s							
BRVK	**Borovoye**	**11.03**	**291**		Pn		**Pn**	**11 08 33.7 -1.5**
BRVK	**Borovoye**	**11.03**	**291**		⇓Pn		**Pn**	**11 08 33.5 -1.7**
	4.0nm,0.8s							
BRVK					⇑Sn		**Sn**	**11 10 40.4 +1.9**
	13nm,0.9s							
BOOM	**Boomskoye usch**	**11.15**	**230**		Pn		**Pn**	**11 08 36.9 0.0**
AAK	**Ala-Archa**	**11.77**	**234**		Pn		**Pn**	**11 08 44.7 -0.7**
	0.4nm,0.3s,baz=95,slow=11,SNR=3.9							
AAK					Sn		**Sn**	**11 10 51.8 -5.1**
	0.4nm,0.3s,baz=100,slow=23,SNR=2.0							
AAK					Lg		Lg	11 12 02.0
	0.1nm,0.3s,baz=320,slow=23,SNR=3.7							
AAK	**Ala-Archa**	**11.77**	**234**				**Pn**	**11 08 45.0 -0.5**
SONM	**Songino Array**	**12.64**	**94**		Pn		**Pn**	**11 08 55.8 -1.5**
	0.2nm,0.3s,baz=289,slow=15,SNR=4.2							
SONM					Lg		Lg	11 12 33.9
	0.2nm,0.3s,baz=286,slow=27,SNR=4.5							
SONM					LR		LR	11 14 07.2
	comp=Z,55nm,19.6s,baz=150,slow=38							
KSH	**Kashi**	**13.50**	**221**		P		**P**	**11 09 20.0 +1.7**
KKAR	**Karatay Array**	**13.67**	**245**		Pn		**Pn**	**11 09 10.1 -1.2**
KK08	**Karatay Array**	**13.68**	**245**		⇓Pn		**Pn**	**11 09 10.8 -0.7**
	1.9nm,0.6s							
KK08					⇓Sn		**Sn**	**11 11 46.2 +2.8**
	4.1nm,0.8s							
KK08					⇑Lg		Lg	11 13 12.5
	14nm,0.8s							
GAR	**Garm**	**16.59**	**234**				**Pn**	**11 09 50.6 +0.5**
GAR					IAmb		IAmb	11 09 57.8
	comp=Z,15nm,0.5s							
ABKAR	**Akbulak array**	**17.78**	**277**				**Pn**	**11 10 03.2 -1.7**
ARU	**Arti**	**18.23**	**301**		P		**Pn**	**11 10 10.0 -0.3**
	comp=Z,0.0nm,0.3s,baz=96,slow=15,SNR=4.0							
ARU					Sn		**Sn**	**11 13 25.7 -7.9**
	comp=Z,0.0nm,0.3s,baz=288,slow=14,SNR=1.2							
ARU	**Arti**	**18.23**	**301**		P		**Pn**	**11 10 09.6 -0.7**
AKTO	**Aktyubinsk**	**18.75**	**282**		P		**P**	**11 10 14.9 -1.3**
	comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=11							
NRIK	**Noril'sk**	**19.11**	**0**				**Pn**	**11 10 22.4 +1.5**
	comp=Z,0.3nm,0.3s,baz=172,slow=9.6,SNR=4.3							
NRIK	**Noril'sk**	**19.11**	**0**				**P**	**11 10 19.9 -0.1**
NRIK					IAmb		IAmb	11 10 25.8
	comp=Z,4.4nm,0.7s							
NIL	**Nilore**	**19.65**	**218**		P		**P**	**11 10 25.6 -0.7**
NIL					IAmb		IAmb	11 10 32.1
	comp=Z,6.9nm,1.0s							
TIXI	**Tiksi**	**28.34**	**26**		LR		LR	11 23 33.0
	comp=Z,42nm,19.6s,baz=222,slow=37							
FINES	**FINESS Array B**	**34.88**	**312**		P		**P**	**11 12 48.6 +0.1**
	comp=Z,0.7nm,0.8s,baz=94,slow=6.1,SNR=1.5							
FINES	**FINESS Array B**	**34.88**	**312**		P		**P**	**11 12 47.8 -0.7**
AKASG	**Malin Array Be**	**36.23**	**294**		P		**P**	**11 13 01.6 +1.4**
	comp=Z,0.3nm,0.3s,baz=62,slow=8.2,SNR=3.0							
BR131	**Keskin Array S**	**38.72**	**275**		P		**P**	**11 13 22.6 +1.0**
BR131					IAmb		IAmb	11 13 25.7
	comp=Z,4.4nm,0.8s							
BRTR	**Keskin Array B**	**38.72**	**275**		P		**P**	**11 13 21.2 -0.4**
	comp=Z,2.3nm,0.7s,baz=71,slow=7.1,SNR=13							
BRTR	**Keskin Array B**	**38.72**	**275**		P		**P**	**11 13 22.0 +0.3**
NC405	**NORSAR Array S**	**41.65**	**315**		P		**P**	**11 13 46.3 +0.8**
NB2	**NORSAR Subarra**	**41.90**	**315**		P		**P**	**11 13 48.0 +0.4**
	comp=Z,2.7nm,1.0s,baz=64,slow=7.9							
NOA	**NORSAR Array B**	**41.90**	**315**		P		**P**	**11 13 47.1 -0.5**
	comp=Z,1.0nm,1.0s,baz=68,slow=7.2,SNR=1.8							
SOCY	**Socotra**	**46.85**	**228**		P		**P**	**11 14 26.2 -1.5**
IDI	**Anoyia**	**46.94**	**276**		LR		LR	11 37 25.0
	comp=Z,46nm,18.2s,baz=249,slow=40							
BMAR	**Burnt Mountain**	**56.25**	**21**		P		**P**	**11 15 37.7 +0.3**
ILAR	**Eielson Array**	**57.79**	**24**		P		**P**	**11 15 51.7 +3.4**
	comp=Z,0.5nm,0.8s,baz=317,slow=4.3,SNR=4.5							
RAGM	**Ragged Mountai**	**61.93**	**26**		P		**P**	**11 16 18.4 +1.5**
YKA	**Yellowknife Ar**	**66.20**	**11**		P		**P**	**11 16 43.2 -1.6**
	comp=Z,0.2nm,0.7s,baz=341,slow=6.9,SNR=3.5							
SCHQ	**Schefferville**	**73.06**	**345**		P		**P**	**11 17 26.6 -0.6**
SCHQ					IAmb		IAmb	11 17 43.5
	comp=Z,7.2nm,1.2s							
COEN	**Coen**	**80.38**	**126**		P		**P**	**11 18 07.9 -1.1**
COEN					IAmb		IAmb	11 18 11.4
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Ar**	**81.23**	**136**		P		**P**	**11 18 16.0 +2.6**
	comp=Z,0.4nm,0.7s,baz=339,slow=5.9,SNR=2.8							
ASAR	**Alice Springs**	**84.31**	**138**		P		**P**	**11 18 33.1 +3.7**
	comp=Z,0.2nm,0.7s,baz=331,slow=4.6,SNR=4.1							

*PRE **12** 11:14:19.4±1.3,26°.98S×26°.80E,h2km,ML2.7*
ISC 12 11:14:20.1±1.2,26°.97S±0°.03×26°.82E±0°.03,h12km±9km,
n21,σ2s15/38,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.49**	**85**	*eP*		**Pg**	**11 14 29.4**	**-0.3**
PRYS				*eS*		**Sg**	**11 14 36.6**	**+0.3**
PRYS				IAML			11 14 41.3	
	comp=Z,344nm,1.0s							
KSR	**Koster**	**1.12**	**4**	*eP*		**Pg**	**11 14 41.4**	**-0.2**
KSR				*eS*		**Sg**	**11 14 56.3**	**+0.1**
KSR				IAML			11 15 00.5	
	comp=Z,704nm,0.1s							
SWZ	**Schweizer**	**1.34**	**261**	*eP*		**Pb**	**11 14 44.9**	**-0.3**
SWZ				*eS*		**Sb**	**11 15 02.5**	**+0.1**
SWZ				IAML			11 15 07.1	
	comp=Z,237nm,0.1s							
SNKL	**Senekal, Frees**	**1.55**	**147**	*eP*		**Pg**	**11 14 49.8**	**-0.2**
SNKL				*eS*		**Sg**	**11 15 09.8**	**-0.3**
SNKL				IAML			11 15 14.7	
	comp=Z,91nm,0.1s							
SLR	**Silverton**	**1.80**	**47**	*eP*		**Pb**	**11 14 53.3**	**+0.2**
SLR				*eS*		**Sb**	**11 15 17.2**	**+1.5**
SLR				IAML			11 15 19.4	
	comp=Z,119nm,0.6s							
BOSA	**Boshof**	**2.14**	**220**	*eP*		**Pn**	**11 14 57.1**	**+1.4**
BOSA				*eS*		**Sb**	**11 15 24.8**	**-0.7**
BOSA				IAML			11 15 29.8	
	comp=Z,33nm,0.3s							
NWCL	**Newcastle**	**2.84**	**106**	*eP*		**Pn**	**11 15 06.9**	**+1.6**
NWCL				*eS*		**Sn**	**11 15 40.7**	**+1.1**
NWCL				IAML			11 15 53.8	
	comp=Z,43nm,0.4s							
HVD	**Gariep Dam**	**3.80**	**197**	*eP*		**Pn**	**11 15 19.0**	**+0.4**
HVD				*eS*		**Sn**	**11 16 03.4**	**+0.1**
HVD				IAML			11 16 28.5	
	comp=Z,14nm,0.4s							
POGA	**Pongola**	**4.37**	**96**	*eP*		**Pn**	**11 15 27.9**	**+1.6**
POGA				*eS*		**Sn**	**11 16 17.5**	**+0.3**
POGA				IAML			11 16 40.1	
	comp=Z,25nm,0.5s							
CNG	**Changalane**	**4.86**	**83**	*i* P		**Pn**	**11 15 35.3**	**+2.4**
CNG				*i* Sg		**Sg**	**11 16 52.1**	**-4.0**
CNG	**Changalane**	**4.86**	**83**	*i* P		**Pn**	**11 15 35.3**	**+2.4**
CNG				*i* Sg		**Sg**	**11 16 52.1**	**-4.0**
UPI	**Upington**	**5.12**	**253**	*eP*		**Pn**	**11 15 38.9**	**+2.2**
UPI				*eS*		**Sn**	**11 16 34.6**	**-1.2**
UPI				IAML			11 17 06.9	
	comp=Z,23nm,4.9s							
MOPA	**Mopani**	**5.39**	**51**	*eP*		**Pn**	**11 15 42.5**	**+2.1**
MOPA				*eS*		**Sn**	**11 16 41.6**	**-0.7**
MOPA				IAML			11 17 15.2	
	comp=Z,9.9nm,2.8s							
MOPA	**Mopani**	**5.39**	**51**	*i* P		**Pn**	**11 15 42.2**	**+1.9**
MOPA	**Mopani**	**5.39**	**51**	*i* P		**Pn**	**11 15 42.2**	**+1.9**
MSNA	**Messina**	**5.45**	**33**	*eP*		**Pn**	**11 15 43.8**	**+2.5**
MSNA				*eS*		**Sn**	**11 16 40.0**	**-3.9**
MSNA	**Messina**	**5.45**	**33**	*eP*		**Pn**	**11 15 43.8**	**+2.5**
MSNA				*eS*		**Sn**	**11 16 40.0**	**-3.9**
MATP	**Matopo**	**6.70**	**14**	*i* P		**Pn**	**11 16 01.9**	**+3.5**
MATP				*i* S		**Sn**	**11 17 13.5**	**-1.2**
MATP	**Matopo**	**6.70**	**14**	*i* P		**Pn**	**11 16 01.9**	**+3.5**
MATP				*i* S		**Sn**	**11 17 13.5**	**-1.2**
BLWY	**Bulawayo**	**7.00**	**14**	*i* P		**Pn**	**11 16 05.1**	**+2.6**
BLWY	**Bulawayo**	**7.00**	**14**	*i* P		**Pn**	**11 16 05.1**	**+2.6**

*IDC **12** 11:35:31.2±1.2,54°.59N×162°.92E,h0km,mb3.4/4,*
mb1 3.8/6,mb1mx3.4/41,mbtmp3.6/6,ML3.4/2,MS2.4/2,
Ms1 2.4/2,ms1mx2.2/61,Error ellipse: s-maj=76.9km
s-min=22.1km az=139.0
*KRSC **12** 11:35:35.8±0.6,54°.99N×162°.03E,h61km±11km,ML4.3*
*MOS **12** 11:35:36.7±0.6,55°.02N×162°.08E,h60km,mb4.0/2,Error*
ellipse: s-maj=8.7km s-min=4.4km az=79.5
ISC 12 11:35:36.6±0.8,55°.01N±0°.02×162°.02E±0°.03,h56km±8km,
n104,σ1s90/155,mb3.6/5,6C,Near east coast of
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.49**	**201**	PN		**Pn**	**11 35 48.9**	**+0.9**
MKZ				S		**Sn**	**11 35 57.2**	**+0.9**
MKZ	**Mys Kozlova**	**0.49**	**201**	*i* P		**Pn**	**11 35 48.9**	**+0.9**
MKZ				*eS*		**Sn**	**11 35 57.2**	**+0.9**
TUMD	**Tumrok D**	**0.95**	**282**	*eP*		**Pn**	**11 35 54.4**	**+0.6**
TUMD				*eS*		**Sn**	**11 36 06.8**	**+0.2**
TUMR	**Tumrok**	**1.11**	**285**	PN		**Pn**	**11 35 54.7**	**-1.6**
TUMR				S		**Sn**	**11 36 06.8**	**-3.6**
TUMR	**Tumrok**	**1.11**	**285**	*i* P		**Pn**	**11 35 57.1**	**+1.1**
TUMR				*eS*		**Sn**	**11 36 11.2**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.20**	**321**	PN		**Pn**	**11 35 58.5**	**+1.3**
BZGR				S		**Sn**	**11 36 13.4**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.20**	**321**	*eP*		**Pn**	**11 35 58.5**	**+1.3**
BZGR				*eS*		**Sn**	**11 36 13.4**	**+0.9**
ZLN	**Zelenaya**	**1.22**	**326**	PN		**Pn**	**11 35 59.1**	**+1.6**
ZLN				S		**Sn**	**11 36 15.2**	**+2.1**
ZLN	**Zelenaya**	**1.22**	**326**	*eP*		**Pn**	**11 35 59.1**	**+1.6**
ZLN				*eS*		**Sn**	**11 36 15.2**	**+2.1**
KMNR	**Kamenistaya**	**1.26**	**307**	PN		**Pn**	**11 35 59.2**	**+1.2**
KMNR				S		**Sn**	**11 36 14.4**	**+0.3**
KMNR	**Kamenistaya**	**1.26**	**307**	*i* P		**Pn**	**11 35 59.2**	**+1.2**
KMNR				*eS*		**Sn**	**11 36 14.4**	**+0.3**
KBTR	**Krutoberegovo**	**1.28**	**20**	PN		**Pn**	**11 35 59.7**	**+1.5**
KBTR				S		**Sn**	**11 36 17.2**	**+2.9**
KBTR	**Krutoberegovo**	**1.28**	**20**	*i* P		**Pn**	**11 35 59.7**	**+1.5**
KBTR				*eS*		**Sn**	**11 36 17.2**	**+2.9**
BZWR	**Bezymyannyi-We**	**1.29**	**318**	PN		**Pn**	**11 35 59.6**	**+1.1**
BZWR				S		**Sn**	**11 36 16.8**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.29**	**318**	*eP*		**Pn**	**11 35 59.6**	**+1.1**
BZWR				*eS*		**Sn**	**11 36 16.8**	**+2.0**
KBG	**Krutoberegovo**	**1.30**	**17**	PN		**Pn**	**11 36 00.1**	**+1.6**
KBG	**Krutoberegovo**	**1.30**	**17**	*eP*		**Pn**	**11 36 00.1**	**+1.6**
LGNR	**Loginova**	**1.31**	**325**	PN		**Pn**	**11 36 00.6**	**+1.7**
LGNR				S		**Sn**	**11 36 17.7**	**+2.2**
LGNR	**Loginova**	**1.31**	**325**	*i* P		**Pn**	**11 36 00.6**	**+1.7**
LGNR				*eS*		**Sn**	**11 36 17.7**	**+2.2**
CIRR	**Tsirk**	**1.32**	**327**	PN		**Pn**	**11 36 00.2**	**+1.3**
CIRR	**Tsirk**	**1.32**	**327**	*eP*		**Pn**	**11 36 00.2**	**+1.3**
KIRR	**Kirishev**	**1.34**	**315**	PN		**Pn**	**11 36 00.3**	**+1.1**
KIRR				S		**Sn**	**11 36 17.8**	**+1.7**
KIRR	**Kirishev**	**1.34**	**315**	*eP*		**Pn**	**11 36 00.3**	**+1.1**
KIRR				*eS*		**Sn**	**11 36 17.8**	**+1.7**
KPT	**Kopyto**	**1.40**	**314**	PN		**Pn**	**11 36 01.2**	**+1.3**
KPT				S		**Sn**	**11 36 18.2**	**+0.8**
KPT	**Kopyto**	**1.40**	**314**	*eP*		**Pn**	**11 36 01.2**	**+1.3**
KPT				*eS*		**Sn**	**11 36 18.2**	**+0.8**
KRSR	**Krestovskiy**	**1.46**	**326**	PN		**Pn**	**11 36 01.5**	**+0.8**
KRSR				S		**Sn**	**11 36 18.9**	**0.0**
KRSR	**Krestovskiy**	**1.46**	**326**	*eP*		**Pn**	**11 36 01.5**	**+0.8**
KRSR				*eS*		**Sn**	**11 36 18.9**	**0.0**
KLY	**Klyuchi**	**1.52**	**330**	PN		**Pn**	**11 36 01.9**	**+0.6**
KLY				S		**Sn**	**11 36 20.4**	**+0.4**
KLY	**Klyuchi**	**1.52**	**330**	*eP*		**Pn**	**11 36 01.9**	**+0.6**
KLY				*eS*		**Sn**	**11 36 20.4**	**+0.4**
SMKR	**Semkarok**	**1.60**	**349**	PN		**Pn**	**11 36 04.4**	**+1.8**
SMKR	**Semkarok**	**1.60**	**349**	*eP*		**Pn**	**11 36 04.4**	**+1.8**
KOZ	**Kozyrevsk**	**1.61**	**311**	PN		**Pn**	**11 36 04.4**	**+1.8**
KOZ				S		**Sn**	**11 36 24.7**	**+2.4**
KOZ	**Kozyrevsk**	**1.61**	**311**	*eP*		**Pn**	**11 36 04.7**	**+1.8**
KOZ				*eS*		**Sn**	**11 36 24.7**	**+2.4**
BDR	**Baidarnaya**	**1.63**	**344**	PN		**Pn**	**11 36 05.0**	**+2.1**
BDR				S		**Sn**	**11 36 24.7**	**+1.9**
BDR	**Baidarnaya**	**1.63**	**344**	*eP*		**Pn**	**11 36 05.0**	**+2.1**
BDR				*eS*		**Sn**	**11 36 24.7**	**+1.9**
SRKR	**Sorokina**	**1.71**	**344**	PN		**Pn**	**11 36 05.9**	**+1.8**
SRKR	**Sorokina**	**1.71**	**344**	*eP*		**Pn**	**11 36 05.9**	**+1.8**
KII	**Karymskiy**	**1.79**	**238**	PN		**Pn**	**11 36 06.4**	**+1.2**
KII				S		**Sn**	**11 36 28.9**	**+2.1**
KII	**Karymskiy**	**1.79**	**238**	*eP*		**Pn**	**11 36 06.4**	**+1.2**
KII				*eS*		**Sn**	**11 36 28.9**	**+2.1**
ESO	**Esso**	**2.10**	**297**	PN		**Pn**	**11 36 12.0**	**+2.7**
ESO				S		**Sn**	**11 36 36.5**	**+2.2**
ESO	**Esso**	**2.10**	**297**	*eP*		**Pn**	**11 36 12.0**	**+2.7**
ESO				*eS*		**Sn**	**11 36 36.5**	**+2.2**
SPN	**Mys Shipunski**	**2.25**	**212**	PN		**Pn**	**11 36 12.2**	**+0.8**
SPN	**Mys Shipunski**	**2.25**	**212**	*eP*		**Pn**	**11 36 12.2**	**+0.8**
BKI	**Bering**	**2.28**	**84**	PN		**Pn**	**11 36 12.9**	**+1.2**
BKI				S		**Sn**	**11 36 38.2**	**-0.3**
BKI	**Bering**	**2.28**	**84**	*eP*		**Pn**	**11 36 12.9**	**+1.2**
BKI				*eS*		**Sn**	**11 36 38.2**	**-0.3**
NLC	**Nalytchevo**	**2.43**	**222**	PN		**Pn**	**11 36 15.2**	**+1.5**
NLC				S		**Sn**	**11 36 44.3**	**+2.1**
NLC	**Nalytchevo**	**2.43**	**222**	*eP*		**Pn**	**11 36 15.2**	**+1.5**
NLC				*eS*		**Sn**	**11 36 44.3**	**+2.1**
SDLR	**Sedlovina**	**2.54**	**228**	PN		**Pn**	**11 36 17.1**	**+1.7**
SDLR				S		**Sn**	**11 36 46.6**	**+1.5**
SDLR	**Sedlovina**	**2.54**	**228**	*i* P		**Pn**	**11 36 17.1**	**+1.7**
SDLR				*eS*		**Sn**	**11 36 46.6**	**+1.5**
KRER	**Koryakskii**	**2.58**	**230**	PN		**Pn**	**11 36 18.1**	**+2.1**
KRER				S		**Sn**	**11 36 49.1**	**+2.9**
KRER	**Koryakskii**	**2.58**	**230**	*i* P		**Pn**	**11 36 18.1**	**+2.1**
KRER				*eS*		**Sn**	**11 36 49.1**	**+2.9**
SMAR	**Somma**	**2.58**	**229**	PN		**Pn**	**11 36 17.9**	**+1.8**
SMAR				S		**Sn**	**11 36 47.8**	**+1.5**
SMAR	**Somma**	**2.58**	**229**	*i* P		**Pn**	**11 36 17.9**	**+1.8**
SMAR				*eS*		**Sn**	**11 36 47.8**	**+1.5**
AVH	**Avacha**	**2.61**	**229**	PN		**Pn**	**11 36 18.3**	**+2.0**
AVH	**Avacha**	**2.61**	**229**	*i* P		**Pn**	**11 36 18.3**	**+2.0**
UGLR	**Uglovaya**	**2.61**	**227**	PN		**Pn**	**11 36 18.2**	**+1.8**
UGLR				S		**Sn**	**11 36 48.8**	**+1.9**
UGLR	**Uglovaya**	**2.61**	**227**	*i* P		**Pn**	**11 36 18.2**	**+1.8**
UGLR				*eS*		**Sn**	**11 36 48.8**	**+1.9**
KOK	**Koryaka**	**2.63**	**231**	PN		**Pn**	**11 36 18.6**	**+1.9**
KOK	**Koryaka**	**2.63**	**231**	*i* P		**Pn**	**11 36 18.6**	**+1.9**
GNL	**Ganaly**	**2.73**	**243**	PN		**Pn**	**11 36 20.0**	**+2.0**
GNL	**Ganaly**	**2.73**	**243**	*eP*		**Pn**	**11 36 20.0**	**+2.0**
DALK	**Dalny**	**2.77**	**226**	PN		**Pn**	**11 36 20.2**	**+1.8**
DALK				S		**Sn**	**11 36 51.6**	**+1.0**
DALK	**Dalny**	**2.77**	**226**	*eP*		**Pn**	**11 36 20.2**	**+1.8**
DALK				*eS*		**Sn**	**11 36 51.6**	**+1.0**
PET	**Petropavlovsk**	**2.81**	**226**	*eP*		**Pn**	**11 36 20.8**	**+1.8**
PET				*eS*		**Sn**	**11 36 54.4**	**+2.7**
PET				pmax	pmax			
	comp=Z,220nm,0.6s							
PET				smax	smax			
	comp=E,595nm,0.4s							
PET				smax	smax			
	comp=N,520nm,0.5s							
PET	**Petropavlovsk**	**2.81**	**226**	*i* P		**Pn**	**11 36 21.0**	**+2.0**
PET				*eS*		**Sn**	**11 36 53.9**	**+2.2**
KRMR	**Karymshinskiy**	**3.17**	**228**	PN		**Pn**	**11 36 25.8**	**+1.8**
KRMR				S		**Sn**	**11 37 02.2**	**+1.6**
KRMR	**Karymshinskiy**	**3.17**	**228**	*eP*		**Pn**	**11 36 25.8**	**+1.8**
KRMR				*eS*		**Sn**	**11 37 02.2**	**+1.6**
PETK	**Petropavlovsk-**	**3.18**	**235**	Pn		**Pn**	**11 36 25.4**	**+1.3**
	comp=N,6.6nm,0.3s,baz=64,slow=18,SNR=95							
PETK				Sn		**Sn**	**11 37 04.3**	**+3.5**
	comp=N,7.1nm,0.3s,baz=85,slow=21,SNR=5.2							
PETK				LR		LR	11 37 51.1	
	comp=N,61nm,21.2s,baz=112,slow=41							
RUS	**Russkaya**	**3.32**	**220**	PN		**Pn**	**11 36 27.6**	**+1.6**
RUS	**Russkaya**	**3.32**	**220**	*i* P		**Pn**	**11 36 27.6**	**+1.6**
GRL	**Gorelyy**	**3.40**	**225**	PN		**Pn**	**11 36 29.9**	**+2.7**
GRL	**Gorelyy**	**3.40**	**225**	*i* P		**Pn**	**11 36 29.9**	**+2.7**
MTVR	**Mutnovka**	**3.41**	**224**	PN		**Pn**	**11 36 29.8**	**+2.5**
MTVR				S		**Sn**	**11 37 09.4**	**+2.9**
MTVR	**Mutnovka**	**3.41**	**224**	*i* P		**Pn**	**11 36 29.8**	**+2.5**
MTVR				*eS*		**Sn**	**11 37 09.4**	**+2.9**
APC	**Apacha**	**3.55**	**236**	PN		**Pn**	**11 36 32.2**	**+3.1**
APC				S		**Sn**	**11 37 13.3**	**+3.5**
APC	**Apacha**	**3.55**	**236**	*eP*		**Pn**	**11 36 32.2**	**+3.1**
APC				*eS*		**Sn**	**11 37 13.3**	**+3.5**
KDTR	**Khodutka, Kamc**	**3.98**	**218**	PN		**Pn**	**11 36 36.5**	**+1.5**
KDTR				S		**Sn**	**11 37 20.6**	**+0.2**
KDTR	**Khodutka, Kamc**	**3.98**	**218**	*eP*		**Pn**	**11 36 36.5**	**+1.5**
KDTR				*eS*		**Sn**	**11 37 20.6**	**+0.2**
OSSR	**Ossora**	**4.29**	**7**	PN		**Pn**	**11 36 40.2**	**+1.1**
OSSR	**Ossora**	**4.29**	**7**	*eP*		**Pn**	**11 36 40.2**	**+1.1**
PAU	**Pauzhetka**	**4.73**	**224**	PN		**Pn**	**11 36 49.1**	**+3.8**
PAU	**Pauzhetka**	**4.73**	**224**	*eP*		**Pn**	**11 36 49.1**	**+3.8**
SKR	**Severo-Kuril's**	**5.62**	**222**	*eP*	N	**Pn**	**11 36 55.3**	**-2.2**
TILK	**Tilichiki**	**5.88**	**20**	PN		**Pn**	**11 37 03.0**	**+2.1**
TILK	**Tilichiki**	**5.88**	**20**	*eP*		**Pn**	**11 37 03.0**	**+2.1**
MA2	**Magadan**	**7.62**	**311**	LR		LR	11 40 48.5	
	comp=N,30nm,22.0s,baz=116,slow=38							
YSS	**Yuzh-Sakhalins**	**14.54**	**244**	*eP*		**Pn**	**11 38 56.2**	**-2.7**
YSS				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ASAJ	**Asahikawa**	**16.60**	**237**	Pn		**P**	**11 39 28.6**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=67,slow=8.9,SNR=6.0							
ERM	**Erimo**	**17.96**	**231**	*eP*		**P**	**11 39 39.1**	**-2.9**
YAK	**Yakutsk**	**18.13**	**306**	*eP*		**P**	**11 39 42.5**	**-1.3**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**26.67**	**48**	P		**P**	**11 41 10.9**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=263,slow=8.7,SNR=2.8							
ILAR	**Eielson Array**	**26.67**	**48**	P		**P**	**11 41 11.0**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**35.42**	**172**	T		T	12 19 50.4	
	baz=355,slow=76,SNR=85							
H11N3	**WAKE ISLAND Hy**	**35.43**	**172**	T		T	12 19 53.8	
	baz=355,slow=76,SNR=65							
H11N1	**WAKE ISLAND Hy**	**35.43**	**172**	T		T	12 19 54.0	
	baz=355,slow=76,SNR=100							
H11S1	**WAKE ISLAND Hy**	**36.61**	**173**	T		T	12 21 21.3	
	baz=352,slow=76,SNR=3.2							
H11S3	**WAKE ISLAND Hy**	**36.63**	**173**	T		T	12 21 21.1	
	baz=352,slow=76,SNR=2.4							
H11S2	**WAKE ISLAND Hy**	**36.63**	**173**	T		T	12 21 27.3	
	baz=352,slow=76,SNR=2.7							
YKA	**Yellowknife Ar**	**40.98**	**45**	P		**P**	**11 43 14.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=298,slow=7.9,SNR=2.6							
BRVK	**Borovoye**	**50.12**	**308**	*i* P		**P**	**11 44 22.0**	**-3

comp=Z,6.1nm,1.2s
AS31 Alice Springs 44.17 256 P **P** **11 58 53.9 +0.8**
ASAR Alice Springs 44.17 256 P **P** **11 58 53.9 +0.8**
comp=Z,1.9nm,0.6s,baz=86,slow=8.0,SNR=46
ASAR Alice Springs 44.17 256 P **P** **11 58 53.6 +0.6**
WB2 Warramunga Arr 44.17 261 P **P** **11 58 53.8 +0.7**
WB2 IAmb IAmb 11 58 54.9
comp=Z,7.2nm,1.4s
WRA Warramunga Arr 44.18 261 P **P** **11 58 53.9 +0.7**
comp=Z,0.9nm,0.3s,baz=97,slow=7.5,SNR=44
WRA Warramunga Arr 44.18 261 P **P** **11 58 54.0 +0.8**
FORT Forrest 49.09 246 P **P** **11 59 29.8 +0.2**
FORT IAmb IAmb 11 59 42.5
comp=Z,12nm,0.8s
KNRA Kununurra 50.19 266 P **P** **11 59 39.7 +1.9**
KNRA IAmb IAmb 12 00 06.8
comp=Z,13nm,1.3s
FITZ Fitzroy Crossi 52.60 262 P **P** **11 59 54.5 -0.6**
VNDA Vanda 58.54 185 P **P** **12 00 35.3 +0.4**
QSPA South Pole Qui 70.25 180 P **P** **12 01 49.8 +1.1**
QSPA IAmb IAmb 12 01 50.0
comp=Z,2.5nm,0.7s
BELA Belgrano 2 80.30 173 P **P** **12 02 44.1 +0.3**

JMA ***12*** *11:54:03.1±0.4, 44.°03N×148.°18E, h0km, M3.7*
SKHL ***12*** *11:54:04.3±0.3, 44.°40N×148.°40E, h44km±4km, mb4.3/3*
ISC 12 11:54:02.0±3.5, 44.°35N±0.°10×148.°6E±0.°2, h50km, n16, σ1§40/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.01**	**331**	*i* P			**Pn**	**11 54 20.0**	**+0.1**
KUR						AMB	AMB	11 54 20.6	
	140nm,0.3s								
KUR				*e*S			**Sn**	**11 54 31.9**	**-1.1**
KUR				A			A	11 54 33.2	
	400nm,0.3s								
KUR				A			A	11 54 33.2	
	420nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.96**	**262**	*i* P			**Pn**	**11 54 33.3**	**+0.5**
YUK						AMB	AMB	11 54 34.4	
	60nm,0.2s								
YUK				*i* S			**Sn**	**11 54 54.4**	**-1.9**
YUK				A			A	11 55 01.4	
	160nm,0.2s								
YUK				A			A	11 55 01.4	
	260nm,0.2s								
NEM2	**Nemuro 2**	**2.26**	**245**	P			**Pn**	**11 54 37.0**	**+0.1**
NEM2				*e*S			**Sn**	**11 55 01.6**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.27**	**245**	*i* P			**Pn**	**11 54 37.1**	**+0.1**
NMR				*i* S			**Sn**	**11 55 01.6**	**-2.2**
GLVR	**Golovnino**	**2.27**	**255**	*e*P			**Pn**	**11 54 38.7**	**+1.6**
GLVR						AMB	AMB	11 54 39.9	
	70nm,0.4s								
GLVR				*e*S			**Sn**	**11 55 04.5**	**+0.6**
GLVR				A			A	11 55 09.5	
	170nm,0.3s								
GLVR				A			A	11 55 09.5	
	250nm,0.3s								
JRA	**Rausu**	**2.51**	**262**	P			**Pn**	**11 54 41.9**	**+1.6**
JNSB	**Nemuroshibetsu**	**2.62**	**259**	P			**Pn**	**11 54 43.2**	**+1.3**
JKHN	**Kushirohamanak**	**2.77**	**244**	P			**Pn**	**11 54 44.5**	**+0.6**
JNK	**Nakash**	**2.88**	**256**	P			**Pn**	**11 54 46.6**	**+1.3**
JNK				*e*S			**Sn**	**11 55 17.7**	**-1.0**
AKK	**Akkeshi**	**3.01**	**245**	*i* P			**Pn**	**11 54 47.7**	**+0.6**
AKK				*e*S			**Sn**	**11 55 20.0**	**-1.9**
JAK	**Akkeshi**	**3.11**	**246**	P			**Pn**	**11 54 49.2**	**+0.6**
JAK				*e*S			**Sn**	**11 55 22.4**	**-2.1**
JAR	**Ashorobuto**	**3.62**	**255**	P			**Pn**	**11 54 57.6**	**+2.0**
JAR				*e*S			**Sn**	**11 55 38.0**	**+1.0**
JCH	**Churui**	**4.16**	**247**	P			**Pn**	**11 55 03.9**	**+1.0**
JCH				*e*S			**Sn**	**11 55 49.0**	**-1.3**
JNBK	**Urakawa-nobuka**	**4.71**	**246**	P			**Pn**	**11 55 11.8**	**+1.3**
JKB	**Kayabe**	**6.03**	**249**	P			**Pn**	**11 55 30.3**	**+1.7**
JKB				*e*S			**Sn**	**11 56 35.2**	**-1.1**
JOT	**Ohata**	**6.26**	**244**	P			**Pn**	**11 55 33.0**	**+1.2**

AEIC ***12*** *11:55:51.4±2.5, 51.°45N±0.°07×174.°06W±0.°07, h21km±4km, Error ellipse: s-maj=10.7km s-min=6.4km az=176.0*
MOS ***12*** *11:55:51.6±0.9, 51.°63N×174.°00W, h41km, mb4.8/37, Error ellipse: s-maj=8.0km s-min=5.8km az=95.0*
NEIC ***12*** *11:55:52.7±2.1, 51.°50N±0.°05×174.°03W±0.°08, h38km±6km, mb4.5/175, ML4.1(AEIC), Error ellipse: s-maj=8.3km s-min=6.1km az=145.0*
BGR ***12*** *11:55:53.3±0.0, 51.°46N×174.°01W, h33km, mb4.9, Ms4.1*
IDC ***12*** *11:55:53.6±0.6, 51.°63N×174.°01W, h46km±4km, mb4.0/38, mb1 4.1/40, mb1mx4.1/70, mbtmp4.2/40, MS3.6/28, Ms1 3.6/28, ms1mx3.3/96, Error ellipse: s-maj=16.4km s-min=8.5km az=172.0*
ISC 12 11:55:51.4±0.5, 51.°54N±0.°06×174.°04W±0.°03, h29km±3km, h29km:pP-P, n532, σ1§12/534, mb4.6/137, MS3.7/27, 28C-13D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.67**	**352**				**Pb**	**11 56 05.7**	**+1.0**
ATKA							**Sn**	**11 56 16.6**	**+2.0**
KOFP	**Korovin Flat P**	**0.74**	**357**				**Pn**	**11 56 07.0**	**+1.0**
KOWE	**Korovin West**	**0.84**	**351**				**Pn**	**11 56 09.1**	**+1.7**
GSMY	**Great Sitkin M**	**1.35**	**293**				**Pn**	**11 56 14.9**	**+0.5**
GSTR	**Great Sitkin T**	**1.37**	**295**				**Pn**	**11 56 15.6**	**+0.9**
GSCK	**Great Sitkin C**	**1.40**	**291**				**Pn**	**11 56 15.4**	**+0.3**
GSTD	**Great Sitkin T**	**1.41**	**292**				**Pn**	**11 56 15.6**	**+0.4**
GSTD							**Sb**	**11 56 35.3**	**+0.6**
ADAG	**Mount Adagdak**	**1.66**	**287**				**Pn**	**11 56 19.7**	**+1.2**
ADK	**Adak**	**1.68**	**283**	P			**Pn**	**11 56 19.3**	**+0.4**
ADK								11 56 40.3	
ADK	**Adak**	**1.68**	**283**	Pn			**Pn**	**11 56 19.3**	**+0.4**
KIWB	**Kanaga Island**	**1.96**	**280**	Pn			**Pn**	**11 56 23.4**	**+0.6**
KIKV	**Kanaga Island**	**1.98**	**281**				**Pn**	**11 56 24.0**	**+1.0**
KIMD	**Kanaga Island**	**2.01**	**278**				**Pn**	**11 56 23.9**	**+0.6**
TAPA	**Tanaga Point A**	**2.37**	**278**				**Pn**	**11 56 29.5**	**+1.1**
TAFP	**Tanaga Falls P**	**2.48**	**280**				**Pn**	**11 56 31.4**	**+1.5**
TAFP							**Sb**	**11 57 02.8**	**-2.7**
TASE	**Tanaga Southea**	**2.51**	**278**				**Pn**	**11 56 31.6**	**+1.3**
GALAA	**Gareloi Lava P**	**2.96**	**276**				**Pn**	**11 56 37.6**	**+1.1**
NIKH	**Nikolski High**	**3.49**	**64**	Pn			**Pn**	**11 56 44.8**	**+1.1**
NIKH	**Nikolski High** baz=246	**3.49**	**64**	P			**Pn**	**11 56 44.8**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**4.11**	**61**				**Pn**	**11 56 53.1**	**+0.9**
MSW	**Makushin Switc**	**5.01**	**59**				**Pn**	**11 57 06.0**	**+1.4**
UNV	**Unalaska Valle**	**5.13**	**60**	Pn			**Pn**	**11 57 08.7**	**+2.5**
UNV	**Unalaska Valle** baz=245	**5.13**	**60**	P			**Pn**	**11 57 07.7**	**+1.5**
AKBBA	**Akutan Broad B**	**5.54**	**59**				**Pn**	**11 57 13.8**	**+1.9**
AKUT	**Akutan**	**5.64**	**59**	Pn			**Pn**	**11 57 14.8**	**+1.6**
AKSA	**Akutan Strait**	**5.68**	**59**				**Pn**	**11 57 15.1**	**+1.3**
SPIA	**Saint Paul Isl**	**6.07**	**20**	Pn			**Pn**	**11 57 22.7**	**+3.6**
SPIA	**Saint Paul Isl** baz=203	**6.07**	**20**	P			**Pn**	**11 57 22.9**	**+3.8**
SHEM	**Shemya Is, Ala** 2.4nm,0.3s,baz=318,slow=12,SNR=1.3	**7.40**	**284**	P			Pn	11 57 41.6	+4.2
SHEM						LR	LR	12 00 57.0	
	comp=Z,359nm,18.2s,baz=86,slow=41								
SMY	**Shemya**	**7.40**	**284**	P			**Pn**	**11 57 40.1**	**+2.7**
SMY	**Shemya**	**7.40**	**284**	Pn			**Pn**	**11 57 40.1**	**+2.7**
SDPT	**Sand Point**	**8.95**	**59**	Pn			**Pn**	**11 58 00.4**	**+1.9**
CHGN	**Chignik**	**10.37**	**57**	Pn			**Pn**	**11 58 19.5**	**+1.5**
CHIR	**Chirikof Islan**	**11.72**	**61**	Pn			**Pn**	**11 58 38.0**	**+1.4**
GAMB	**Gambell**	**12.34**	**5**	Pn			**Pn**	**11 58 49.1**	**+4.3**
GAMB	**Gambell** baz=187,SNR=9.1	**12.34**	**5**	P			**Pn**	**11 58 48.7**	**+3.9**
ANM	**Nome**	**13.82**	**16**	P			Pn	11 59 10.2	+5.0
ANM	**Nome**	**13.82**	**16**	Pn			Pn	11 59 10.2	+5.0
ANM	**Nome** baz=203,SNR=12	**13.82**	**16**	P			Pn	11 59 09.9	+4.7
KDAK	**Kodiak Island** 0.7nm,0.3s,baz=262,slow=2.3,SNR=10	**13.87**	**55**	P			**Pn**	**11 59 03.3**	**-2.4**
KDAK						S	**Sn**	**12 01 36.3**	**-2.3**
	0.3nm,0.3s,baz=193,slow=8.9,SNR=2.3								
KDAK						LR	LR	12 04 29.0	
	comp=Z,276nm,20.2s,baz=257,slow=37								
KDAK	**Kodiak Island**	**13.87**	**55**	P			**Pn**	**11 59 03.0**	**-2.8**
KDAK	**Kodiak Island**	**13.87**	**55**				**Pn**	**11 59 03.0**	**-2.8**
KDAK	**Kodiak Island** baz=252	**13.87**	**55**	P			**P**	**11 59 14.3**	**+0.6**
SVW2	**Sparrevohn**	**13.97**	**40**				**Pn**	**11 59 11.0**	**+3.9**
N19K	**Bonanza Creek**	**14.26**	**42**				**Pn**	**11 59 12.8**	**+1.6**
N19K	**Bonanza Creek** baz=238	**14.26**	**42**	P			**Pn**	**11 59 13.3**	**+2.1**
TNA	**Tin City**	**14.41**	**10**				**Pn**	**11 59 16.9**	**+3.8**
TNA	**Tin City** baz=195,SNR=9.3	**14.41**	**10**	P			**Pn**	**11 59 16.8**	**+3.8**
L19K	**White Mountain**	**14.89**	**37**				**P**	**11 59 26.3**	**+1.2**
L19K	**White Mountain** baz=233	**14.89**	**37**	P			**P**	**11 59 23.7**	**-1.4**
M19K	**Big River Lodg**	**14.90**	**38**	P			**P**	**11 59 24.4**	**-0.8**
M19K	**Big River Lodg** baz=234	**14.90**	**38**	P			**P**	**11 59 25.6**	**+0.4**
TTA	**Tatalina**	**14.95**	**33**				**P**	**11 59 26.8**	**+1.0**
TTA	**Tatalina**	**14.95**	**33**				**P**	**11 59 26.8**	**+1.0**
TTA	**Tatalina** baz=228,SNR=7.4	**14.95**	**33**	P			**P**	**11 59 27.2**	**+1.4**
BRLK	**Bradley Lake**	**15.38**	**49**	P			**Pn**	**11 59 28.7**	**+2.6**
BRLK						IAmb	IAmb	11 59 40.2	
	comp=Z,34nm,1.2s								
L20K	**Farewell, AK** baz=234	**15.43**	**37**	P			**P**	**11 59 32.0**	**+0.9**
SPU	**Mount Spurr**	**15.46**	**43**	P			**P**	**11 59 31.1**	**-0.4**
K20K	**Telida**	**15.90**	**34**	P			**Pn**	**11 59 35.6**	**+2.8**
K20K						IAmb	IAmb	11 59 46.2	
	comp=Z,28nm,1.4s								
K20K	**Telida** baz=231	**15.90**	**34**	P			**Pn**	**11 59 35.8**	**+2.9**
GCSA	**Galena City Sc** baz=222	**15.96**	**27**	P			**P**	**11 59 36.7**	**-0.1**
SEW	**Seward**	**16.17**	**48**	P			**Pn**	**11 59 37.1**	**+0.8**
SEW						IAmb	IAmb	12 00 02.1	
	comp=Z,26nm,0.8s								
O22K	**Cooper Landing**	**16.19**	**47**	P			**Pn**	**11 59 39.1**	**+2.6**
O22K	**Cooper Landing** baz=247	**16.19**	**47**	P			**Pn**	**11 59 38.9**	**+2.4**
PPLA	**Purkeypile**	**16.31**	**37**	P			**P**	**11 59 41.8**	**+0.8**
PPLA						IAmb	IAmb	12 00 06.2	
	comp=Z,22nm,1.0s								
PPLA	**Purkeypile** baz=236	**16.31**	**37**	P			**P**	**11 59 42.4**	**+1.4**
J20K	**Nowinta River**	**16.40**	**32**	P			**Pn**	**11 59 40.0**	**+0.8**
J20K	**Nowinta River** baz=229	**16.40**	**32**	P			**P**	**11 59 43.2**	**+1.4**
RC01	**Rabbit Creek A**	**16.43**	**45**	P			**Pn**	**11 59 39.6**	**0.0**
RC01						IAmb	IAmb	11 59 54.3	
	comp=Z,32nm,1.4s								
CAST	**Castle Rocks**	**16.65**	**36**	P			**P**	**11 59 46.3**	**+1.7**
CAST	**Castle Rocks** baz=234,SNR=7.4	**16.65**	**36**	P			**P**	**11 59 46.3**	**+1.7**
CHUM	**Lake Minchumin** baz=233	**16.84**	**34**	P			**P**	**11 59 49.2**	**+2.6**
PMR	**Palmer**	**16.91**	**44**	P			**Pn**	**11 59 45.7**	**+0.1**
PMR						pmax	pmax		
	comp=Z,18nm,1.4s								
PMR	**Palmer**	**16.91**	**44**	P			**Pn**	**11 59 45.6**	**+0.1**
PWL	**Port Wells**	**16.96**	**47**	P			**Pn**	**11 59 46.2**	**-0.2**
PWL	**Port Wells** baz=248	**16.96**	**47**	P			**Pn**	**11 59 47.0**	**+0.6**
KNK	**Knik Glacier**	**17.12**	**45**	P			**Pn**	**11 59 47.8**	**-0.6**
KNK	**Knik Glacier** baz=246	**17.12**	**45**	P			**Pn**	**11 59 48.1**	**-0.2**
KTH	**Kantishna Hill**	**17.15**	**37**				**Pn**	**11 59 50.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**17.31**	**286**	P			**P**	**11 59 52.4**	**+0.5**
PEA0B						pmax	pmax		
	comp=Z,15nm,1.1s								
PEA0B	**Petropavlovsk-**	**17.31**	**286**	P			**P**	**11 59 52.4**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,0.4nm,0.3s,baz=96,slow=15,SNR=18	**17.31**	**286**	P			**Pn**	**11 59 51.4**	**+0.7**
PETK						LR	LR	12 05 50.7	
	comp=Z,134nm,21.9s,baz=96,slow=34								
PETK	**Petropavlovsk-**	**17.31**	**286**	P			**Pn**	**11 59 51.6**	**+0.9**
PETK	**Petropavlovsk-**	**17.31**	**286**	P			**Pn**	**11 59 51.6**	**+0.9**
TRF	**Thorofare Moun**	**17.33**	**37**	P			**Pn**	**11 59 52.5**	**+1.3**
TRF	**Thorofare Moun** baz=237	**17.33**	**37**	P			**Pn**	**11 59 52.7**	**+1.6**
SML	**Sawmill**	**17.34**	**44**	P			**Pn**	**11 59 50.9**	**-0.2**
SML	**Sawmill** baz=245	**17.34**	**44**	P			**Pn**	**11 59 51.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**17.44**	**35**	P			**Pn**	**11 59 53.2**	**+0.9**
BPAW	**Bear Paw Mtn.** baz=234,SNR=10	**17.44**	**35**	P			**P**	**11 59 54.7**	**+1.4**
IMAR	**Indian Mountai**	**17.76**	**28**	P			**P**	**11 59 58.3**	**+1.5**
I21K	**Tanana**	**17.76**	**31**	P			**P**	**11 59 58.6**	**+1.7**
I21K	**Tanana** baz=230,SNR=9.9	**17.76**	**31**	P			**P**	**11 59 58.5**	**+1.7**
SCM	**Sheep Creek Mo**	**17.79**	**44**	P			**Pn**	**11 59 55.6**	**-1.1**
SCM						pmax	pmax		
	comp=Z,22nm,1.0s								
SCM	**Sheep Creek Mo**	**17.79**	**44**	P			**Pn**	**11 59 55.6**	**-1.1**
SCM						IAmb	IAmb	12 00 19.5	
	comp=Z,22nm,1.0s								
SCM	**Sheep Creek Mo** baz=246	**17.79**	**44**	P			**Pn**	**11 59 56.1**	**-0.6**
H21K	**Melozitna Rive**	**17.82**	**29**	P			**P**	**11 59 59.2**	**+1.7**
H21K	**Melozitna Rive** baz=227	**17.82**	**29**	P			**P**	**11 59 58.9**	**+1.5**
RND	**Reindeer**	**17.86**	**39**	P			**Pn**	**11 59 57.3**	**-0.3**
RND						pmax	pmax		
	comp=Z,7.0nm,0.7s								
RND	**Reindeer**	**17.86**	**39**	P			**Pn**	**11 59 57.3**	**-0.3**
WAT6	**Susitna Watana** baz=244	**17.92**	**42**	P			**Pn**	**11 59 58.2**	**-0.3**
MCK	**McKinley**	**18.00**	**38**	P			**Pn**	**11 59 58.9**	**-0.3**
MCK						pmax	pmax		
	comp=Z,22nm,1.1s								
MCK	**McKinley**	**18.00**	**38**	P			**Pn**	**11 59 58.9**	**-0.3**
MCK	**McKinley** baz=239,SNR=8.1	**18.00**	**38**	P			**Pn**	**11 59 58.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**18.06**	**49**	P			**Pn**	**11 59 58.3**	**-1.6**
EYAK						IAmb	IAmb	12 00 19.9	
	comp=Z,28nm,1.4s								
MLY	**Manley**	**18.08**	**33**	P			**Pn**	**12 00 01.4**	**+1.2**
MLY						IAmb	IAmb	12 00 05.6	
	comp=Z,24nm,0.9s								
MLY	**Manley** baz=232,SNR=19	**18.08**	**33**	P			**Pn**	**12 00 01.5**	**+1.3**
DIV	**Divide**	**18.23**	**47**	P			**Pn**	**12 00 01.3**	**-0.8**
DIV						IAmb	IAmb	12 00 05.8	
	comp=Z,26nm,1.3s								
KLU	**Klutina**	**18.28**	**46**	P			**P**	**12 00 02.1**	**-0.7**
KLU						IAmb	IAmb	12 00 11.9	
	comp=Z,28nm,1.4s								
KLU	**Klutina** baz=250	**18.28**	**46**	P			**P**	**12 00 02.0**	**-0.7**
DHY	**Denali Highway**	**18.30**	**41**	P			**P**	**12 00 03.1**	**+0.2**
DHY	**Denali Highway** baz=243	**18.30**	**41**	P			**P**	**12 00 02.8**	**-0.1**
M24K	**Tolsona, Glenn**	**18.40**	**44**	P			**P**	**12 00 03.3**	**-0.6**
M24K						IAmb	IAmb	12 00 10.8	
	comp=Z,92nm,1.5s								
M24K	**Tolsona, Glenn** baz=247	**18.40**	**44**	P			**P**	**12 00 04.8**	**+0.9**
NEA2	**Nenana**	**18.41**	**35**	P			**P**	**12 00 03.1**	**-0.9**
NEA2	**Nenana** baz=236,SNR=7.2	**18.41**	**35**	P			**P**	**12 00 03.1**	**-0.9**
RAGM	**Ragged Mountai**	**18.52**	**50**				**P**	**12 00 05.5**	**+0.2**
RAGM						IAmb	IAmb	12 00 27.5	
	comp=Z,38nm,1.1s								
KAIM	**Kayak Island**	**18.53**	**52**	P			**Pn**	**12 00 07.3**	**+1.7**
I23K	**Minto, Yukon-K**	**18.62**	**34**	P			**P**	**12 00 07.2**	**+1.0**
I23K						IAmb	IAmb	12 00 19.6	
	comp=Z,24nm,0.9s								
I23K	**Minto, Yukon-K** baz=234,SNR=16	**18.62**	**34**	P			**P**	**12 00 07.0**	**+0.8**
WRH	**Wood River Hil**	**18.70**	**36**	P			**P**	**12 00 06.0**	**-1.2**
SKR	**Severo-Kuril's**	**18.70**	**279**	*e*P			**Pn**	**12 00 09.6**	**+1.8**
HMT	**Hamilton**	**18.71**	**50**	P			**P**	**12 00 06.7**	**-0.7**
HMT						IAmb	IAmb	12 00 35.5	
	comp=Z,54nm,1.3s								
BMRM	**Bremner River**	**18.72**	**48**	P			**P**	**12 00 07.2**	**-0.2**
CCB	**Clear Creek Bu**	**18.90**	**36**	P			**P**	**12 00 08.1**	**-1.2**
MDM	**Murphy Dome**	**18.91**	**35**	P			**P**	**12 00 08.8**	**-0.7**
N25K	**Chitina, Valde**	**18.92**	**46**	P			**P**	**12 00 09.7**	**0.0**
N25K	**Chitina, Valde** baz=251	**18.92**	**46**	P			**P**	**12 00 09.3**	**-0.4**
H23K	**Yukon River**	**18.96**	**32**	P			**P**	**12 00 11.3**	**+1.2**
H23K	**Yukon River** baz=233	**18.96**	**32**	P			**P**	**12 00 11.2**	**+1.2**
TCOL	**CIGO, UAF Yank** baz=238	**19.00**	**35**	P			**P**	**12 00 12.0**	**+1.6**
COLA	**College**	**19.00**	**35**	*e*P			**P**	**12 00 09.9**	**-0.5**
COLA						pmax	pmax		
	comp=Z,4.0nm,0.8s								
COLA	**College**	**19.00**	**35**	P			**Pn**	**12 00 13.0**	**+1.7**
PAX	**Paxson**	**19.04**	**42**	P			**P**	**12 00 11.7**	**+0.7**
PAX						pmax	pmax		
	comp=Z,6.0nm,0.6s								
PAX	**Paxson**	**19.04**	**42**				**P**	**12 00 11.7**	**+0.7**
PAX	**Paxson** baz=246	**19.04**	**42**	P			**P**	**12 00 11.6**	**+0.7**
HDA	**Harding Lake**	**19.09**	**37**	P			**P**	**12 00 11.0**	**-0.5**
HDA						IAmb	IAmb	12 00 12.5	
	comp=Z,36nm,1.2s								
HDA	**Harding Lake** baz=240,SNR=16	**19.09**	**37**	P			**P**	**12 00 11.0**	**-0.5**
BILL	**Bilibino**	**19.12**	**337**	*ce*P			**Pn**	**12 00 13.6**	**+0.8**
BILL						pmax	pmax		
	comp=Z,27nm,1.7s								
BILL						MLR	MLR		
	comp=Z,108nm,17.0s								
BILL	**Bilibino**	**19.12**	**337**				**P**	**12 00 13.2**	**+1.4**
BILL						IAmb	IAmb	12 00 19.8	
	comp=Z,28nm,1.0s								
GLB	**Gilahina Butte**	**19.23**	**47**	P			**P**	**12 00 13.3**	**+0.3**
POKR	**Poker Plat Res**	**19.28**	**35**	P			**P**	**12 00 14.8**	**+1.3**
POKR						IAmb	IAmb	12 00 23.4	
	comp=Z,13nm,0.8s								
IL31		**19.30**	**36**	P			**P**	**12 00 11.7**	**-2.0**
IL31						IAmb	IAmb	12 00 31.7	
	comp=Z,10nm,0.5s								
ILAR	**Eielson Array** comp=Z,2.2nm,0.3s,baz=219,slow=9.9,SNR=59	**19.30**	**36**	P			**P**	**12 00 11.4**	**-2.3**
ILAR						LR	LR	12 08 15.0	
	comp=Z,150nm,19.6s,baz=265,slow=39								
ILAR	**Eielson Array**	**19.30**	**36**	P			**P**	**12 00 13.8**	**+0.1**
ILAR	**Eielson Array**	**19.30**	**36**	P			**P**	**12 00 13.8**	**+0.1**
VRDI	**Verde Repeater**	**19.33**	**48**	P			**P**	**12 00 13.3**	**-1.0**
WAX	**Waxell Ridge**	**19.41**	**51**	P			**P**	**12 00 14.9**	**-0.2**
WAX						IAmb	IAmb	12 00 28.9	
	comp=Z,18nm,0.8s								
H24K	**Noodor Dome**	**19.52**	**33**	P			**P**	**12 00 16.5**	**+0.3**
H24K						IAmb	IAmb	12 00 24.3	
	comp=Z,28nm,1.1s								
H24K	**Noodor Dome** baz=235	**19.52**	**33**	P			**P**	**12 00 16.6**	**+0.3**
MCARA	**McCarthy VSAT**	**19.57**	**48**	P			**P**	**12 00 17.9**	**+1.2**
RIDG	**Independent Ri**	**19.61**	**40**	P			**P**	**12 00 16.9**	**-0.3**
RIDG						IAmb	IAmb	12 00 24.5	
	comp=Z,13nm,0.6s								
RIDG	**Independent Ri** baz=245,SNR=10	**19.61**	**40**	P			**P**	**12 00 17.5**	**+0.3**
COLD	**Coldfoot**	**19.65**	**28**	P			**P**	**12 00 19.0**	**+1.5**
COLD	**Coldfoot** baz=228,SNR=8.6	**19.65**	**28**	P			**P**	**12 00 18.9**	**+1.4**
ISLE	**Juniper Island**	**19.70**	**50**				**P**	**12 00 19.3**	**+1.0**
ISLE						IAmb	IAmb	12 00 25.6	
	comp=Z,44nm,1.4s								
MENT	**Mentasta**	**19.76**	**43**	P			**P**	**12 00 19.8**	**+1.0**
J25K	**Salcha River,**	**19.79**	**38**	P			**P**	**12 00 17.7**	**-1.5**
J25K						IAmb	IAmb	12 00 19.8	
	comp=Z,66nm,1.2s								
J25K	**Salcha River,** baz=242,SNR=42	**19.79**	**38**	P			**P**	**12 00 18.4**	**-0.8**
DOT	**Dot Lake**	**19.89**	**41**	P			**P**	**12 00 19.8**	**-0.4**
DOT						IAmb	IAmb	12 00 37.3	
	comp=Z,12nm,0.7s								
L26K	**Log Cabin Wild**	**19.95**	**43**	P			**P**	**12 00 21.2**	**+0.4**
L26K	**Log Cabin Wild** baz=249	**19.95**	**43**	P			**P**	**12 00 22.4**	**+1.5**
SCRK	**Sand Creek**	**20.05**	**40**	P			**P**	**12 00 21.1**	**-1.0**
SCRK						IAmb	IAmb	12 00 44.5	
	comp=Z,20nm,0.7s								
SCRK	**Sand Creek** baz=246,SNR=20	**20.05**	**40**	P			**P**	**12 00 21.2**	**-0.9**
BARN	**Barnard Glacie**	**20.13**	**49**	P			**P**	**12 00 22.9**	**-0.1**
PRP	**Porcupine Dome**	**20.18**	**35**	P			**P**	**12 00 23.1**	**-0.3**
PRP						IAmb	IAmb	12 00 51.7	
	comp=Z,7.9nm,0.6s								
PRP	**Porcupine Dome** baz=240	**20.18**	**35**	P			**P**	**12 00 23.1**	**-0.3**
TABL	**Table Mountain**	**20.24**	**51**	P			**P**	**12 00 24.5**	**+0.3**
TABL						IAmb	IAmb	12 00 42.1	
	comp=Z,32nm,1.1s								
CTG	**Chitna Glacier** baz=257	**20.26**	**50**	P			**P**	**12 00 26.1**	**+1.7**
CTGM	**Chitina Glacie**	**20.26**	**50**	P			**P**	**12 00 23.9**	**-0.5**
CTGM						IAmb	IAmb	12 00 51.3	
	comp=Z,18nm,1.0s								
M27K	**Edge Creek, AK**	**20.37**	**45**	P			**P**	**12 00 27.6**	**+2.0**
M27K						IAmb	IAmb	12 00 30.7	
	comp=Z,12nm,0.9s								
M27K	**Edge Creek, AK** baz=252	**20.37**	**45**	P			**P**	**12 00 27.9**	**+2.3**
LOGN	**Logan Glacier**	**20.39**	**50**	P			**P**	**12 00 25.0**	**-0.7**
LOGN						IAmb	IAmb	12 00 33.7	
	comp=Z,31nm,1.3s								
J26L	**Joseph Creek** baz=245	**20.44**	**39**	P			**P**	**12 00 25.3**	**-1.0**
PCA	**Pinnacle**	**20.61**	**52**	P			**P**	**12 00 28.3**	**+0.2**
PCA						IAmb	IAmb	12 00 53.1	
	comp=Z,22nm,0.9s								
L27K	**Beaver Cre

TGTN Hyland Airport 26.59 50 P P 12 01 27.0 +0.2
baz=269
BBB Bella Bella 28.01 70 LR LR 12 11 51.9
comp=Z,54nm,18.3s,baz=308,slow=34
YSS Yuzh-Sakhalins 28.26 278 eP P 12 01 43.2 +1.4
YSS e 12 02 00.0
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS pmax pmax
comp=Z,100nm,4.1s
YSS MLR MLR
comp=Z,200nm,19.0s
C36M Paulatuk 29.23 34 P P 12 01 49.4 -0.8
C36M Paulatuk 29.23 34 P P 12 01 49.1 -1.1
baz=258
A36M Sachs Harbour 29.51 28 P P 12 01 52.7 0.0
A36M IAmb IAmb 12 02 00.6
comp=Z,5.2nm,0.6s
A36M Sachs Harbour 29.51 28 P P 12 01 52.3 -0.4
baz=252
ASAJ Asahikawa 29.68 273 P P 12 01 55.0 +0.5
comp=Z,7.7nm,0.9s,baz=76,slow=8.3,SNR=2.8
ASAJ LR LR 12 14 12.4
comp=Z,53nm,20.4s,baz=51,slow=37
ERM Erimo 30.43 269⇑ eP P 12 02 02.7 +1.6
ERM pmax pmax
comp=Z,7.0nm,0.7s
YAK Yakutsk 31.55 311 LR LR 12 15 15.0
comp=Z,235nm,18.9s,baz=88,slow=37
YAK Yakutsk 31.55 311⇑ eP P 12 02 11.7 +0.9
YAK pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 31.98 330 P P 12 02 13.6 -0.9
comp=Z,1.1nm,0.4s,baz=269,slow=22,SNR=6.0
TIXI PcP PcP 12 05 03.9 +0.2
comp=Z,5.0nm,0.2s,baz=84,slow=22,SNR=10
TIXI LR LR 12 16 13.4
comp=Z,78nm,18.6s,baz=178,slow=38
TIXI Tiksi 31.98 330 ceP P 12 02 13.8 -0.6
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TIXI Tiksi 31.98 330 P P 12 02 14.1 -0.4
YKA Yellowknife Ar 32.95 47 P P 12 02 22.1 -1.0
comp=Z,0.7nm,0.4s,baz=272,slow=8.6,SNR=22
YKA PcP PcP 12 05 06.8 +0.4
comp=Z,0.8nm,0.6s,baz=285,slow=2.8,SNR=8.8
KLR Kul'dur 33.99 288 P P 12 02 31.2 -1.0
comp=Z,3.6nm,0.5s,baz=72,slow=6.5,SNR=24
KLR LR LR 12 16 34.4
comp=Z,58nm,19.4s,baz=36,slow=36
KLR Kul'dur 33.99 288⇓ eP P 12 02 31.2 -1.0
KLR pmax pmax
comp=Z,6.0nm,1.3s
H11N2 WAKE ISLAND Hy 35.10 212 T T 12 40 40.9
baz=20,slow=76,SNR=33
H11N3 WAKE ISLAND Hy 35.11 212 T T 12 40 49.3
baz=20,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 35.12 212 T T 12 40 34.3
baz=20,slow=76,SNR=36
D08A Wollman Farm, 35.50 75 P P 12 02 46.3 +1.0
D08A IAmb IAmb 12 03 00.2
comp=Z,5.2nm,0.6s
NEW Newport 36.02 72 P P 12 02 49.9 +0.2
comp=Z,1.3nm,0.5s,baz=309,slow=6.5,SNR=2.3
NEW LR LR 12 17 52.7
comp=Z,25nm,18.1s,baz=310,slow=37
USRK Ussuriysk Ar. 36.22 280 P P 12 02 51.4 -0.1
comp=Z,12nm,0.6s,baz=56,slow=9.8,SNR=17
USA0B Ussuriysk Arra 36.22 280 P P 12 02 51.6 +0.1
USA0B pmax pmax
comp=Z,12nm,0.7s
USA0B Ussuriysk Arra 36.22 280 P P 12 02 51.6 +0.1
H11S1 WAKE ISLAND Hy 36.30 212 T T 12 42 09.2
baz=20,slow=76,SNR=63
H11S2 WAKE ISLAND Hy 36.32 212 T T 12 42 05.0
baz=20,slow=76,SNR=68
H11S3 WAKE ISLAND Hy 36.32 212 T T 12 42 09.1
baz=20,slow=76,SNR=22
MAJO Matsushiro 36.76 265⇑ eP P 12 02 57.4 +1.2
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 36.76 265 P P 12 02 55.7 -0.5
MAJO IAmb IAmb 12 03 13.6
comp=Z,8.4nm,0.9s
MJAR Matsushiro Arr 36.76 265 P P 12 02 56.3 +0.1
comp=Z,1.1nm,0.5s,baz=38,slow=6.9,SNR=6.2
MJAR LR LR 12 17 16.4
comp=Z,68nm,19.2s,baz=87,slow=35
MJAR Matsushiro Arr 36.76 265 P P 12 02 55.9 -0.3
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 36.76 265 P P 12 02 55.9 -0.3
VLA Vladivostok 36.85 279⇓ eP P 12 02 58.8 +1.9
VLA pmax pmax
comp=Z,23nm,0.9s
F10A Beach Ranch, E 37.05 76 P P 12 02 58.1 -0.5
F10A IAmb IAmb 12 03 15.0
comp=Z,3.9nm,0.8s
WALA Waterton Lakes 37.55 69 P P 12 03 04.6 +1.7
WALA IAmb IAmb 12 03 21.9
comp=Z,6.4nm,0.8s
JTMT Jette 37.94 71 P P 12 03 05.6 -0.7
JTMT IAmb IAmb 12 03 20.8
comp=Z,5.6nm,0.8s
WVOR Wild Horse Val 38.04 81 P P 12 03 08.4 +1.3
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 38.04 81 P P 12 03 08.4 +1.3
WVOR IAmb IAmb 12 03 26.5
comp=Z,4.4nm,0.8s
RES Resolute Bay 38.35 25 P P 12 03 08.1 -1.1
comp=Z,0.4nm,0.4s,baz=293,slow=12,SNR=6.2
RES PcP PcP 12 05 22.8 +0.6
comp=Z,1.8nm,0.8s,baz=269,slow=4.6,SNR=5.6
RES LR LR 12 22 38.5
comp=Z,62nm,18.5s,baz=295,slow=42
RES Resolute Bay 38.35 25 P P 12 03 08.4 -0.8
RES pmax pmax
comp=Z,5.0nm,1.5s
RES Resolute Bay 38.35 25 P P 12 03 08.4 -0.8
MSO Missoula 38.59 73 P P 12 03 12.6 +0.9
MSO IAmb IAmb 12 03 26.1
comp=Z,5.3nm,0.8s
MSO Missoula 38.59 73 P P 12 03 13.3 +1.5
baz=300
PAHR Pah Rah Range 39.13 86 P P 12 03 17.2 +0.9
PAHR IAmb IAmb 12 03 35.0
comp=Z,7.0nm,1.0s
HRY Holter Researc 39.91 72 P P 12 03 24.6 +1.9
HLID Hailey 40.01 77 P P 12 03 23.7 0.0
HLID Hailey 40.01 77 P P 12 03 25.0 +1.3
baz=303
MCMT McKenzie Canyo 40.28 75 P P 12 03 26.9 +0.9
CN2 Changchun 40.43 284 eP P 12 03 27.0 +0.1
CN2 eS S 12 09 31.4 -1.8
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,16.0s
CN2 LR LR
comp=E,100nm,16.0s
CN2 LR LR
comp=Z,100nm,14.4s
EGMT Eagleton 40.47 69 P P 12 03 28.9 +1.6
EGMT IAmb IAmb 12 03 42.4
comp=Z,9.2nm,0.7s
EGMT Eagleton 40.47 69 P P 12 03 27.3 +0.1
baz=300
NVAR Mina Array Bea 40.57 86 P P 12 03 28.1 -0.3
comp=Z,1.4nm,1.0s,baz=292,slow=9.6,SNR=2.7
BOZ Bozeman (W) 40.60 73 P P 12 03 29.0 +0.5
BOZ pmax pmax
comp=Z,10.0nm,0.6s
BOZ Bozeman (W) 40.60 73 P P 12 03 29.0 +0.5
BOZ IAmb IAmb 12 03 42.8
comp=Z,9.9nm,0.6s
BOZ Bozeman (W) 40.60 73 P P 12 03 29.0 +0.5
baz=302
ELK Elko 41.09 81 LR LR 12 18 54.3
comp=Z,75nm,18.3s,baz=272,slow=34
YMR Madison River 41.50 74 P 12 03 34.7 -1.3
YMR IAmb IAmb 12 03 51.0
comp=Z,7.0nm,0.6s
YHH Holmes Hill 41.50 74 P P 12 03 37.1 +1.0
YHH IAmb IAmb 12 03 50.5
comp=Z,11nm,0.6s
FFC Flin Flon 41.60 56 P P 12 03 36.6 +0.2
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 41.60 56 P P 12 03 36.6 +0.2
FFC IAmb IAmb 12 03 56.2
comp=Z,4.8nm,0.8s
HVU Hansel Valley 42.01 78 P P 12 03 41.9 +1.8
HVU pmax pmax
comp=Z,4.0nm,0.8s
HVU Hansel Valley 42.01 78 P P 12 03 41.9 +1.8
RLMT Red Lodge 42.27 72 P P 12 03 43.6 +1.4
RLMT IAmb IAmb 12 03 57.5
comp=Z,9.1nm,0.8s
RLMT Red Lodge 42.27 72 P P 12 03 44.1 +1.9
baz=303
R11A Troy Canyon, C 42.31 84 P P 12 03 43.6 +0.9
baz=308
KSRS Korea Array 42.61 274 P P 12 03 45.8 +1.0
comp=Z,5.0nm,0.9s,baz=54,slow=8.5,SNR=13
KSRS pP pwP 12 03 58.2 +0.2
comp=Z,4.2nm,0.8s,baz=57,slow=7.8,SNR=6.6
KSRS LR LR 12 20 57.7
comp=Z,24nm,19.8s,baz=55,slow=35
KSAR Wonju Array Be 42.64 274 P P 12 03 45.6 +0.5
KSAR Wonju Array Be 42.64 274 P P 12 03 45.6 +0.5
DUG Dugway, Tooele 42.91 80 P P 12 03 48.2 +0.7
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway, Tooele 42.91 80 P P 12 03 48.2 +0.7
DUG Dugway, Tooele 42.91 80 P P 12 03 47.9 +0.4
baz=306
PRN Pahroc Range 43.23 85 P P 12 03 50.6 +0.6
PRN IAmb IAmb 12 04 05.8
comp=Z,7.0nm,0.8s
BW06 Boulder Array 43.40 75 P P 12 03 52.8 +1.3
BW06 IAmb IAmb 12 04 05.9
comp=Z,8.8nm,0.6s
BW06 Boulder Array 43.40 75 P P 12 03 51.5 0.0
baz=305
PD31 Pinedale Array 43.40 75 P P 12 03 51.8 +0.3
PD31 IAmb IAmb 12 04 05.9
comp=Z,7.7nm,0.6s
PDAR Pinedale Array 43.40 75 P P 12 03 51.5 -0.1
comp=Z,1.1nm,0.5s,baz=302,slow=2.6,SNR=13
PDAR pP pwP 12 04 03.7 -1.1
comp=Z,6.6nm,0.6s,baz=314,slow=2.2,SNR=20
PDAR LR LR 12 21 39.1
comp=Z,46nm,18.8s,baz=326,slow=36
PDAR Pinedale Array 43.40 75 P P 12 03 51.9 +0.4
NLU North Lily Min 43.51 80 P P 12 03 52.9 +0.5
FCC Fort Churchill 43.67 48 P P 12 03 52.6 -0.5
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 43.67 48 P P 12 03 52.6 -0.5
SRU San Rafael Swe 44.98 80 P P 12 04 04.7 +0.6
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 44.98 80 P P 12 04 04.7 +0.6
SRU IAmb IAmb 12 04 20.1
comp=Z,4.8nm,0.8s
O20A White River Ci 45.75 77 P P 12 04 11.2 +0.9
O20A IAmb IAmb 12 04 39.1
comp=Z,11nm,1.1s
O20A White River Ci 45.75 77 P P 12 04 11.6 +1.3
baz=307
NRIK Noril'sk 45.76 331 P P 12 04 09.5 -0.1
comp=Z,1.6nm,0.6s,baz=68,slow=8.9,SNR=4.2
NRIK Noril'sk 45.76 331⇓ eP P 12 04 09.6 0.0
NRIK pmax pmax
comp=Z,10.0nm,3.0s
PV11 David Mesa, Pa 46.49 80 P P 12 04 17.2 +1.2
PV11 IAmb IAmb 12 04 31.9
comp=Z,7.2nm,0.6s
PV13 Radium Mtn., P 46.61 80 P P 12 04 18.0 +1.0
PV13 IAmb IAmb 12 04 39.8
comp=Z,7.7nm,0.8s
ULM Lac du Bonnet 47.07 59 P P 12 04 19.9 -0.3
comp=Z,3.3nm,0.4s,baz=303,slow=6.9,SNR=7.8
ULM pP pwP 12 04 32.4 -0.2
comp=Z,2.8nm,0.5s,baz=302,slow=8.6,SNR=4.1
ULM Lac du Bonnet 47.07 59 P P 12 04 19.1 -1.1
ULM IAmb IAmb 12 04 26.6
comp=Z,9.9nm,1.3s
AGMN Agassiz Nation 48.18 61 P P 12 04 28.8 0.0
baz=305
ULN Ulaanbaatar 48.83 299⇓ eP P 12 04 34.1 +0.1
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 48.83 299 P P 12 04 33.3 -0.7
ULN IAmb IAmb 12 04 35.3
comp=Z,5.2nm,0.9s
SONM Songino Array 49.21 299 P P 12 04 37.0 +0.1
comp=Z,3.5nm,0.6s,baz=48,slow=7.8,SNR=30
SONM PcP PcP 12 05 59.9 +0.2
comp=Z,1.1nm,0.8s,baz=47,slow=3.8,SNR=2.7
SONM LR LR 12 26 43.4
comp=Z,121nm,18.7s,baz=53,slow=38
SONM Songino Array 49.21 299 P P 12 04 36.4 -0.5
SONM IAmb IAmb 12 04 37.9
comp=Z,3.1nm,0.8s
B35A Bob, Littlefor 49.30 60 P P 12 04 37.2 -0.2
B35A IAmb IAmb 12 04 44.8
comp=Z,5.7nm,0.8s
ZAK Zakamensk 49.39 303 eP P 12 04 38.5 +0.3
ZAK e 12 04 52.6
ZAK e 12 05 58.6
ZAK pmax pmax
comp=Z,11nm,1.1s
ZAK pmax pmax
comp=Z,9.0nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.1s
T25A Trinidad 49.96 78 P P 12 04 43.5 +0.6
baz=310
ANMO Albuquerque 50.13 82⇑ eP P 12 04 44.2 0.0
ANMO pmax pmax
comp=Z,4.0nm,2.5s
SPITS Spitsbergen Ar 50.39 357 P P 12 04 45.4 +0.1
comp=Z,12nm,0.9s,baz=98,slow=2.9,SNR=7.9
DAG Danmarks Havn 51.01 7 i P P 12 04 51.0 +1.1
NJ2 Nanjing 51.78 275 eP P 12 04 55.2 -1.1
NJ2 pmax pmax
comp=Z,12nm,0.6s
N38A Joes South For 54.26 67 P P 12 05 15.1 +0.5
SFJD Kangerlussuaq 54.34 24 LR LR 12 30 22.1
comp=Z,72nm,20.0s,baz=318,slow=38
WMOK Wichita Mounta 54.98 77 P P 12 05 20.5 +0.7
baz=312
TX31 Lajitas Ar. Si 55.67 85 P P 12 05 25.7 +0.7
TX31 IAmb IAmb 12 05 52.8
comp=Z,8.7nm,0.9s
TX32 Lajitas Array 55.68 85 P P 12 05 25.6 +0.6
TX32 IAmb IAmb 12 05 52.8
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 55.68 85 P P 12 05 24.4 -0.6
comp=Z,0.7nm,0.7s,baz=309,slow=5.7,SNR=8.4
TXAR Lajitas Array 55.68 85 P P 12 05 25.1 +0.1
TXAR Lajitas Array 55.68 85 P P 12 05 25.1 +0.1
P40A Paris 55.78 68 P P 12 05 25.4 -0.1
W35A Tecumseh 55.85 75 P P 12 05 26.2 +0.2
W35A IAmb IAmb 12 05 40.2
comp=Z,7.7nm,0.7s
ABTX Abilene, Hawle 55.89 79 P P 12 05 26.9 +0.5
baz=313
ZALV Zalesovo Beam 56.04 316 PcP PcP 12 06 25.8 +0.7
comp=Z,1.4nm,0.6s,baz=72,slow=4.7,SNR=5.2
ZALV LR LR 12 30 57.9
comp=Z,54nm,18.4s,baz=44,slow=38
R40A Maddies Statio 56.47 69 P P 12 05 29.0 -1.5
XAN Xi'an 56.53 284 P P 12 05 31.2 +0.2
XAN pP pwP 12 05 45.5 +1.0
XAN pmax pmax
comp=Z,9.0nm,1.2s
U40A Yellville 57.44 71 P P 12 05 36.2 -1.2
U40A IAmb IAmb 12 05 50.0
comp=Z,5.4nm,0.6s
U40A Yellville 57.44 71 P P 12 05 35.9 -1.5
baz=313
FVM French Village 57.75 68 P P 12 05 39.7 +0.2
FVM pmax pmax
comp=Z,7.0nm,0.7s
FVM French Village 57.75 68 P P 12 05 39.7 +0.2
FVM IAmb IAmb 12 05 52.1
comp=Z,7.0nm,0.7s
VLDQ Val d'Or 57.88 52 P P 12 05 38.5 -1.7
VLDQ IAmb IAmb 12 05 59.2
comp=Z,11nm,1.1s
SCHQ Schefferville 57.99 41 P P 12 05 39.9 -1.1
comp=Z,1.8nm,0.7s,baz=318,slow=7.5,SNR=5.3
LZH Lanzhou 58.17 289 eP P 12 05 57.0 +14
LZH pP pwP 12 06 01.7 +5.4
LZH pmax pmax
comp=Z,14nm,1.3s
FCAR Ozark Folk Cen 58.19 71 P P 12 05 42.2 -0.4
GTA Gaotai 58.24 295 ⇓P P 12 05 43.3 +0.2
GTA sP pwP 12 05 57.0 +0.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,89nm,4.7s
GTA LR LR
comp=N,83nm,15.6s
GTA LR LR
comp=E,120nm,16.0s
GTA LR LR
comp=Z,78nm,17.4s
MIAR Mount Ida 58.24 73 P P 12 05 42.8 -0.2
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 58.24 73 P P 12 05 42.8 -0.2
MIAR Mount Ida 58.24 73 P P 12 05 43.9 +0.8
baz=314
ARCES ARCESS Array B 58.39 352 P P 12 05 42.0 -1.5
comp=Z,0.5nm,0.2s,baz=21,slow=8.7,SNR=17
ARCES PcP PcP 12 06 33.9 -0.2
comp=Z,2.9nm,0.6s,baz=15,slow=5.0,SNR=7.5
ARCES ARCESS Array B 58.39 352 P P 12 05 43.3 -0.3
ARCES pmax pmax
comp=Z,23nm,1.5s
ARCES ARCESS Array B 58.39 352 P P 12 05 43.3 -0.3
SIUC Southern Illin 58.64 68 P P 12 05 45.6 -0.1
O48B Farmland 59.20 63 P P 12 05 48.2 -1.4
baz=313
SADO Sadowa 59.32 56 LR LR 12 33 09.7
comp=Z,81nm,18.2s,baz=206,slow=38
DELO Deloro Mine 60.28 55 P P 12 05 57.9 +1.0
T47A Sharon Grove 60.35 67 P P 12 05 59.4 +1.9
TRQ Mont Tremblant 60.62 52 P P 12 05 59.1 -0.2
M53A WI Miller and 60.83 59 P P 12 06 00.7 -0.1
baz=314
ALLY Alegheny Colle 60.97 59 P P 12 06 02.0 +0.3
KURK Kurchatov 61.02 316 deP P 12 06 01.5 -0.4
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 61.02 316 P P 12 06 01.5 -0.4
KURBB Kurchatov Arra 61.13 316 P P 12 06 01.9 -0.7
comp=Z,2.9nm,0.4s,baz=44,slow=6.6,SNR=18
KURBB PcP PcP 12 06 45.6 +0.3
comp=Z,1.6nm,0.5s,baz=46,slow=3.9,SNR=5.1
KURBB LR LR 12 34 28.5
comp=Z,97nm,18.0s,baz=31,slow=38
O52A Adamsville 61.13 61 P P 12 06 02.8 0.0
PLAL Pickwick Lake 61.19 69 P P 12 06 03.3 0.0
N54A Moraine State 61.53 59 P P 12 06 05.4 -0.1
N54A Moraine State 61.53 59 P P 12 06 05.3 -0.2
baz=315
WMQ Urumqi 61.72 306 eP P 12 06 09.1 +2.3
LONY Lake Ozonia 61.74 53 P P 12 06 06.4 -0.5
LONY Lake Ozonia 61.74 53 P P 12 06 06.0 -0.9
baz=316
J57A Williamstown 61.89 55 P P 12 06 08.0 +0.2
L56A Greenwood 61.99 57 P P 12 06 08.5 -0.1
MK31 Makanchi Array 62.22 311 ceP P 12 06 09.3 -0.8
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 62.22 311 P P 12 06 09.0 -1.1
MK31 IAmb IAmb 12 06 11.2
comp=Z,1.9nm,0.9s
MKAR Makanchi Array 62.22 311 P P 12 06 09.1 -1.0
comp=Z,1.7nm,0.4s,baz=48,slow=6.2,SNR=40
MKAR pP pwP 12 06 23.5 +0.9
comp=Z,0.7nm,0.5s,baz=63,slow=8.5,SNR=4.5
MKAR Makanchi Array 62.22 311 ceP P 12 06 09.3 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.4s
J58A Remsen 62.29 55 P P 12 06 11.1 +0.5
Q54A Coxs Mills 62.48 61 P P 12 06 12.2 +0.3
Q54A IAmb IAmb 12 06 33.2
comp=Z,9.1nm,1.0s
BVAR Borovoye Array 62.64 322 P P 12 06 12.6 -0.2
comp=Z,2.0nm,0.4s,baz=126,slow=29,SNR=27
BVAR PcP PcP 12 06 51.8 +0.4
comp=Z,3.1nm,0.7s,baz=48,slow=18,SNR=8.8
BRVK Borovoye 62.66 322⇑ eP P 12 06 13.2 +0.3
BRVK pmax pmax
comp=Z,3.0nm,1.7s
BINY Binghamton 62.76 56 P P 12 06 13.9 +0.1
BINY Binghamton 62.76 56 P P 12 06 14.3 +0.5
baz=316
SSPA Standing Stone 62.89 58 P P 12 06 14.7 +0.1
SSPA Standing Stone 62.89 58 P P 12 06 14.7 +0.1
baz=316
FPAL Fort Paine 62.94 68 P P 12 06 16.0 +0.9
L59A Walton 63.26 55 P P 12 06 17.8 +0.7
G62A West of Eustis 63.29 50 P P 12 06 16.9 -0.3
GOMU GeErMu 63.32 295 P P 12 06 15.2 -2.8
GOMU pP pP 12 06 18.5 -6.9
GOMU sP sP 12 06 22.4 -5.9
GOMU pmax pmax
comp=Z,59nm,4.8s
N59A State Game Lan 63.80 57 P P 12 06 21.7 +1.0
baz=316
ARU Arti 63.98 331 P P 12 06 20.9 -0.7
comp=Z,0.9nm,0.4s,baz=76,slow=8.3,SNR=5.1
ARU LR LR 12 37 21.1
comp=Z,88nm,20.2s,baz=351,slow=39
ARU Arti 63.98 331 ci P P 12 06 20.8 -0.8
ARU S S 12 14 54.7 -0.7
ARU SS SS 12 18 58.5 -4.7
ARU pmax pmax
comp=Z,9.0nm,1.7s
LUPA Lehigh Univers 64.24 57 P P 12 06 24.1 +0.6
PAL Palisades 64.70 55 P P 12 06 26.7 +0.2
baz=317
KLMR Klimovskoe 64.77 343 eP P 12 06 24.8 -1.8
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 64.77 343 eP P 12 06 24.9 -1.7
KLMR AMP 12 06 26.4
comp=Z,10.0nm,1.2s
GOGA Godfrey 64.99 67 P P 12 06 28.2 -0.3
GOGA pmax pmax
comp=Z,7.0nm,0.8s
GOGA Godfrey 64.99 67 P P 12 06 28.2 -0.3
GOGA IAmb IAmb 12 06 42.0
comp=Z,7.2nm,0.8s
HODGE Hodges 65.08 66 P P 12 06 29.2 +0.1
HODGE IAmb IAmb 12 06 42.8
comp=Z,7.6nm,0.7s
OTUK Ortayu 65.57 318 P P 12 06 32.1 0.0
PDGK Podgornoye 66.12 310 P P 12 06 35.2 -0.7
FINES FINESS Array B 66.23 350 P P 12 06 34.8 -1.2
comp=Z,1.6nm,0.4s,baz=14,slow=8.3,SNR=15
FINES pP pwP 12 06 48.0 -0.9
comp=Z,1.3nm,0.6s,baz=44,slow=5.8,SNR=2.7
FINES PcP PcP 12 07 05.8 -0.2
comp=Z,1.6nm,0.5s,baz=58,slow=3.4,SNR=7.9
FINES FINESS Array B 66.23 350 P P 12 06 35.2 -0.8
PZH PanZhiHua 66.23 283 P P 12 06 37.1 +0.3
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,4.7s
NB2 NORSAR Subarra 67.69 357 P P 12 06 45.3 -0.2
comp=Z,0.6nm,0.4s,baz=6.6,slow=6.2
NOA NORSAR Array B 67.69 357 P P 12 06 45.3 -0.2
comp=Z,0.5nm,0.8s,baz=6.9,slow=6.8,SNR=9.4
AAL Aland 68.06 352 eP P 12 06 46.5 -1.2
TARG Taragay, Kyrgy 68.15 310 P P 12 06 50.0 +0.9
TARG IAmb IAmb 12 06 52.5
comp=Z,3.1nm,0.6s
BOOM Boomskoye usch 68.44 312 P P 12 06 50.9 +0.2
BOOM pmax pmax
comp=Z,15nm,1.1s
BOOM Boomskoye usch 68.44 312 P P 12 06 50.9 +0.2
UPP Uppsala 68.56 354 eP P 12 06 50.7 -0.1
AAK Ala-Archa 69.00 313 P P 12 06 53.9 -0.2
comp=Z,2.8nm,0.5s,baz=115,slow=7.1,SNR=9.9
AAK LR LR 12 40 02.4

comp=Z,53nm,18.4s,baz=26,slow=38
AAK Ala-Archa 69.00 313⇑*e*P P 12 06 54.3 +0.2
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 69.00 313 P P **12 06 54.6 +0.5**
AAK IAmb IAmb 12 06 55.6
comp=Z,3.7nm,0.8s
VSU Vasula 69.06 348 *e*P P **12 06 53.7 -0.2**
MTSE Matsula 69.15 350 *e*P P **12 06 54.0 -0.5**
AKTO Aktyubinsk 69.22 327 P P **12 06 55.1 0.0**
comp=Z,6.1nm,0.5s,baz=54,slow=6.8,SNR=24
AB31 Akbulak array 69.55 326 *i*P P **12 06 56.9 -0.3**
ABKAR Akbulak array 69.55 326 P P **12 06 56.9 -0.3**
ABKAR Akbulak array 69.55 326 P P **12 06 57.2 0.0**
ABKAR IAmb IAmb 12 06 59.0
comp=Z,3.5nm,0.5s
VIKU Vikbolandet 69.97 354 *e*P P **12 06 59.0 -0.5**
KKAR Karatay Array 70.42 315 P P **12 07 02.4 -0.2**
KKAR Karatay Array 70.42 315 P P **12 07 02.4 -0.2**
KSH Kashi 70.75 310 P P **12 07 07.8 +3.0**
KSH pP pwP 12 07 15.8 -1.5
KSH S S **12 16 19.6 +2.2**
KSH pmax pmax
comp=Z,6.0nm,0.6s
PPT Papeete 72.06 155 LR LR 12 33 05.0
comp=Z,88nm,20.9s,baz=336,slow=31
IIGN Ignalina 72.16 348 *e*P P **12 07 12.9 +0.1**
DEL Delary 72.16 355 *i*P P **12 07 12.0 -0.8**
DEL Delary 72.16 355 *e*P P **12 07 12.3 -0.5**
BLEU Blekinge 72.22 354 *i*P P **12 07 12.2 -0.9**
PABE Paberze 72.28 349 P P **12 07 12.7 -0.8**
PABE Paberze 72.28 349 *e*P P **12 07 13.5 0.0**
GAR Garm 73.81 313 P P **12 07 22.6 -0.5**
TAPN Taplejung 73.91 294 *e*P P **12 07 24.6 +0.5**
comp=Z,35nm,0.8s
CMAR Chiang Mai Arr 73.94 279 P P **12 07 25.6 +1.5**
comp=Z,4.0nm,0.8s,baz=25,slow=6.3,SNR=20
CMAR pP **pwP 12 07 38.0 +0.3**
comp=Z,6.5nm,0.9s,baz=24,slow=7.0,SNR=9.3
CMAR Chiang Mai Arr 73.94 279*ce*P P **12 07 26.0 +2.0**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 73.94 279 P P **12 07 24.5 +0.5**
GUN Gumba 74.52 295 *e*P P **12 07 28.5 +0.8**
comp=Z,40nm,0.4s
JIRN Jiri 74.54 295 *e*P P **12 07 28.8 +1.0**
comp=Z,39nm,0.5s
CHGR Chuyangaron 74.61 314 P P **12 07 28.1 +0.3**
RAMN Ramite 74.85 294 *e*P P **12 07 30.0 +0.5**
comp=Z,36nm,0.5s
PKIN Phulchoki 75.05 295 *e*P P **12 07 30.9 +0.2**
GKN Gorkha 75.15 296 *e*P P **12 07 31.5 +0.4**
comp=Z,24nm,0.4s
DZM Mont Dzumac 75.27 199 LR LR 12 38 15.1
comp=Z,89nm,20.1s,baz=322,slow=34
DANN Dangsing 75.37 297 *e*P P **12 07 33.1 +0.5**
comp=Z,69nm,0.7s
KOLN Koldanda 75.91 297 *e*P P **12 07 35.8 +0.3**
PYUN Piuthan 75.99 297 *e*P P **12 07 36.2 +0.2**
AKASG Malin Array Be 76.24 345 P P **12 07 35.6 -1.2**
comp=Z,3.2nm,0.4s,baz=17,slow=5.9,SNR=16
AKASG Malin Array Be 76.24 345 P P **12 07 35.9 -0.9**
AKBB Malin Array Si 76.24 345 P P **12 07 36.0 -0.8**
AKBB pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 76.24 345 P P **12 07 36.0 -0.8**
FLTG Flechtingen 76.41 357 *e*P P **12 07 37.4 -0.3**
comp=Z,15nm,1.4s,baz=3.2,slow=4.8
NIL Nilore 76.73 308 P P **12 07 40.6 +0.7**
NIL pmax pmax
comp=Z,18nm,1.0s
NIL Nilore 76.73 308 P P **12 07 40.6 +0.7**
CLZ Clausthal 76.93 357 *e*P P **12 07 41.4 +0.7**
comp=Z,15nm,1.3s,baz=3.2,slow=4.8
CLL Collm 77.36 355 *e*P P **12 07 43.0 0.0**
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 77.36 355 P P **12 07 42.8 -0.3**
CLL IAmb IAmb 12 07 43.6
comp=Z,5.2nm,0.7s
CLL Collm 77.36 355 *e*P P **12 07 43.0 0.0**
comp=Z,11nm,1.3s
CLL Collm 77.36 355 *e*P P **12 07 42.9 -0.1**
comp=Z,11nm,1.3s,baz=3.2,slow=4.8
CLL *e*L L 12 45 24.9
comp=Z,78nm,18.8s
FBE Freiberg 77.72 355 *e*P P **12 07 45.5 +0.4**
comp=Z,8.0nm,0.7s,baz=3.2,slow=4.8
BRG Berggiesshubel 77.74 355 *e*P P **12 07 45.0 -0.2**
BRG Amp 12 07 47.1
comp=Z,6.0nm,0.7s
BRG *ex* x 12 07 59.6
BRG Amp 12 08 00.7
comp=Z,6.3nm,1.0s
BRG Berggiesshubel 77.74 355 *e*P P **12 07 45.0 -0.2**
BRG *e* 12 07 59.6
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 77.74 355 *e*P P **12 07 45.2 0.0**
comp=Z,6.0nm,0.7s,baz=3.2,slow=4.8
CHVC Chvalec 77.89 353 *e*P P **12 07 45.8 -0.3**
OSTC Ostas 77.91 353 *e*P P **12 07 46.2 0.0**
UPC Upice 77.97 353 *e*P P **12 07 46.6 +0.1**
UPC Upice 77.97 353 *e*P P **12 07 46.6 +0.1**
KBL Kabul 78.03 311 P P **12 07 46.7 -0.7**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 78.03 311 P P **12 07 46.7 -0.7**
KBL IAmb IAmb 12 07 48.0
comp=Z,8.9nm,0.9s
MOX Moxa 78.08 356 *e*P P **12 07 47.2 +0.1**
comp=Z,8.9nm,1.3s,baz=3.2,slow=4.8
MOX *e*L L 12 41 10.7
comp=Z,84nm,20.5s
KWP Kalwaria Pacla 78.20 349 P P **12 07 47.5 -0.3**
KWP pmax pmax
comp=Z,61nm,0.8s
KWP Kalwaria Pacla 78.20 349 P P **12 07 47.5 -0.3**
KRLC Kraliky 78.35 353 *e*P P **12 07 47.9 -0.7**
KRLC Kraliky 78.35 353 *e*P P **12 07 47.9 -0.7**
WERN Wernitzgruen 78.41 356 *e*P P **12 07 49.3 +0.3**
comp=Z,10nm,0.9s,baz=3.2,slow=4.8
NKC Novy Kostel 78.46 356 *e*P P **12 07 49.7 +0.5**
NKC Novy Kostel 78.46 356 *e*P P **12 07 49.7 +0.5**
PRU Pruhonice 78.59 354 *e*P P **12 07 50.1 +0.2**
PRU Pruhonice 78.59 354 *e*P P **12 07 50.1 +0.2**
SORM Soroca 78.87 345 ⇓P P **12 07 50.9 -0.6**
SORM Soroca 78.87 345 ⇓P P **12 07 50.9 -0.6**
PBCC Pribram 78.92 355 *e*P P **12 07 51.8 0.0**
GRA1 Grafenberg Arr 79.05 357 P P **12 07 52.9 +0.4**
GRF Grafenberg Arr 79.05 357 P P **12 07 52.9 +0.4**
GRF pmax pmax
comp=Z,13nm,0.9s
GRF Grafenberg Arr 79.05 357 *e*P P **12 07 53.0 +0.4**
comp=Z,21nm,1.3s,baz=3.2,slow=4.8
GRFO Grafenberg 79.05 357 P P **12 07 53.5 +1.1**
GRFO pmax pmax
comp=Z,12nm,0.9s
GRFO Grafenberg 79.05 357 P P **12 07 53.5 +1.1**
VRAC Vranov 79.12 353 ⇓P P **12 07 53.4 +0.5**
VRAC Vranov 79.12 353 ⇓P P **12 07 53.4 +0.5**
WLF Walferdange 79.17 360 *e*L L 12 42 41.1
comp=Z,112nm,18.0s
KHC Kasperske Hory 79.50 355 *e*P P **12 07 55.6 +0.6**
KHC Kasperske Hory 79.50 355 *e*P P **12 07 55.6 +0.6**
KHC Kasperske Hory 79.50 355 P P **12 07 55.0 0.0**
KHC IAmb IAmb 12 07 57.5
comp=Z,8.1nm,1.2s
CKRC Cesky Krumlov 79.77 354 *e*P P **12 07 56.7 +0.3**
GEC2 GERESS Array S 79.78 355 P P **12 07 56.0 -0.6**
GEC2 IAmb IAmb 12 07 57.0
comp=Z,4.0nm,0.9s
GERES GERESS Array B 79.78 355 P P **12 07 56.6 +0.1**
comp=Z,1.8nm,0.7s,baz=17,slow=7.0,SNR=17
GERES GERESS Array B 79.78 355 P P **12 07 56.4 -0.2**
BUR08 Bucovina Ar. S 79.83 347 P P **12 07 56.6 -0.2**
BUR08 IAmb IAmb 12 07 57.5
comp=Z,3.4nm,0.6s
BURAR Bucovina Array 79.85 347 ⇑P P **12 07 57.2 +0.2**
BURAR Bucovina Array 79.85 347 ⇑P P **12 07 57.2 +0.2**
BURAR Bucovina Array 79.85 347 P P **12 07 56.8 -0.2**
BURAR IAmb IAmb 12 07 57.9
comp=Z,4.0nm,0.7s
KBZ Khabaz 79.86 334 P P **12 07 57.3 +0.4**
comp=Z,0.7nm,0.3s,baz=332,slow=1.5,SNR=4.5
ZEI Tsey 80.45 333 *e*P P **12 07 59.5 -0.9**
ZEI pmax pmax
comp=Z,3.0nm,1.0s
CONA Conrad Observa 80.55 353 *e*P P **12 08 01.2 +0.5**
comp=Z,7.0nm,1.3s
ECH Echery 80.62 359 P P **12 08 00.9 -0.1**
ECH pmax pmax
comp=Z,7.0nm,0.8s
ECH Echery 80.62 359 P P **12 08 00.9 -0.1**
ECH IAmb IAmb 12 08 02.6
comp=Z,6.5nm,0.8s
BIOA Bad Ischl, Aus 80.93 355 *e*P P **12 08 03.6 +0.8**
comp=Z,6.8nm,0.8s
ARSA Arzberg 81.25 353 *i*P P **12 08 05.5 +1.1**
comp=Z,4.8nm,1.4s
WATA Walderalm 81.39 356 *i*P P **12 08 06.4 +1.1**
comp=Z,4.9nm,0.6s
MOTA Moosalm 81.40 356 *i*P P **12 08 06.5 +1.2**
comp=Z,7.1nm,1.1s
DOPR Dopca 81.44 346 ⇓P P **12 08 06.5 +1.0**
WTTA Wattenberg 81.46 356 *i*P P **12 08 06.1 +0.4**
comp=Z,5.0nm,0.7s
DAVA Damuels 81.50 357 *e*P P **12 08 06.0 +0.1**
comp=Z,6.9nm,1.2s
SQTA Sankt Quirin 81.52 356 *i*P P **12 08 05.4 -0.5**
comp=Z,3.0nm,0.6s
KBA Koelnbreinsper 81.56 355 *i*P P **12 08 07.0 +0.8**
comp=Z,10.0nm,0.8s
TLCR 81.65 344 ⇑P P **12 08 07.4 +0.9**
TLCR 81.65 344 ⇑P P **12 08 07.4 +0.9**
FETA Feichten 81.73 357 *i*P P **12 08 07.9 +0.8**
comp=Z,6.6nm,1.1s
MLR Muntele Rosu 81.82 346 ⇑P P **12 08 09.2 +1.6**
MLR Muntele Rosu 81.82 346 ⇑P P **12 08 09.2 +1.6**
MLR Muntele Rosu 81.82 346 P P **12 08 07.9 +0.3**
MLR IAmb IAmb 12 08 10.2
comp=Z,5.7nm,1.0s
SOKA Soboth 81.85 354 *i*P P **12 08 08.0 +0.3**
comp=Z,9.8nm,1.2s
ABTA Abfaltersbach 81.93 355 *i*P P **12 08 09.0 +0.9**
comp=Z,8.5nm,1.3s
VOIR 82.01 347 ⇑P P **12 08 10.0 +1.5**
VOIR 82.01 347 ⇑P P **12 08 10.0 +1.5**
TPGR Topolog 82.04 344 ⇓P P **12 08 09.2 +0.6**
OBKA Obir 82.05 354 *i*P P **12 08 09.5 +0.7**
comp=Z,3.4nm,0.6s
HARR Harsova 82.29 344 ⇑P P **12 08 09.1 -0.7**
HARR Harsova 82.29 344 ⇑P P **12 08 09.1 -0.7**
TUE Stuetta 82.33 358 P P **12 08 10.2 -0.1**
TUE IAmb IAmb 12 08 11.9
comp=Z,7.1nm,0.9s
TIRR Tirgusor 82.43 344 ⇑P P **12 08 11.7 +1.1**
TIRR Tirgusor 82.43 344 ⇑P P **12 08 11.7 +1.1**
GNI Garni 82.62 331⇑*e*P P **12 08 11.0 -0.9**
GNI pmax pmax
comp=Z,9.0nm,0.7s
WR0 Warramunga Arr 84.19 228 P P **12 08 20.0 +0.2**
WR0 IAmb IAmb 12 08 48.6
comp=Z,5.9nm,1.4s
WB2 Warramunga Arr 84.26 228 P P **12 08 19.3 -0.9**
WB2 IAmb IAmb 12 08 40.7
comp=Z,3.8nm,1.0s
WRA Warramunga Arr 84.26 228 P P **12 08 18.9 -1.3**
comp=Z,0.5nm,0.7s,baz=32,slow=5.7,SNR=5.9
WRA pP **pwP 12 08 33.3 -0.8**
comp=Z,0.7nm,0.6s,baz=32,slow=5.6,SNR=5.6
BRTR Keskin Array B 85.95 339 P P **12 08 28.6 -0.2**
comp=Z,2.3nm,1.0s,baz=48,slow=2.1,SNR=6.1
ASAR Alice Springs 87.69 226 P P **12 08 35.6 -1.5**
comp=Z,0.7nm,0.8s,baz=28,slow=4.7,SNR=5.7
ASAR Alice Springs 87.69 226 P P **12 08 35.0 -2.1**
ESDC Sonseca Array 88.75 8 P P **12 08 41.6 -0.6**
comp=Z,1.6nm,0.9s,baz=347,slow=4.3,SNR=9.4
ESDC Sonseca Array 88.75 8 P P **12 08 41.4 -0.8**
ESDC IAmb IAmb 12 08 43.1
comp=Z,2.2nm,1.0s
RPZ Rata Peaks 95.75 191 LR LR 12 47 16.1
comp=Z,35nm,19.0s,baz=18,slow=32
H03N2 Juan Fernandez 118.35 109 T T 14 24 11.9
baz=317,slow=78,SNR=5.1
H03N1 Juan Fernandez 118.36 109 T T 14 24 12.7
baz=317,slow=78,SNR=6.1
H03N3 Juan Fernandez 118.36 109 T T 14 24 12.1
baz=317,slow=78,SNR=4.6
BOSA Boshof 152.92 320 PKPbc **PKPbc 12 15 45.2 -0.4**
comp=Z,2.0nm,0.5s,baz=20,slow=4.0,SNR=3.0
BOSA Boshof 152.92 320 PKPdf **PKPdf 12 15 36.5 -1.9**
BOSA **sPKPdf 12 15 47.2 -1.9**
BOSA PKPab **PKPab 12 15 57.1 +0.2**

*KOLA **12** 11:58:37.8, 67.°59N×33.°97E, h0km, ML2.1*
*HEL **12** 11:58:39.6±0.3, 67.°69N×33.°66E, h0km, ML2.1, Explosion*
*IDC **12** 11:58:43.2±2.4, 67.°43N×32.°56E, h0km, mb1 3.0/2,*
mb1mx2.8/55, mbtmp2.9/2, ML2.2/2, Error ellipse:
s-maj=24.3km s-min=10.3km az=86.0
ISC 12 11:58:37.4±0.9, 67.°64N±0.°04×33.°94E±0.°04, h0km, n24,
σ1s22/36, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.22**	**251**	P	**Pg**	**11 58 41.5**	**0.0**
APA				S	**Sg**	**11 58 44.5**	**+0.2**
APA0	**Apatity Array**	**0.36**	**265**	P	**Pg**	**11 58 44.4**	**0.0**
APA0				S	**Sg**	**11 58 49.5**	**+0.5**
LVZ	**Lovozero**	**0.37**	**46**	P	**Pg**	**11 58 45.1**	**+0.6**
LVZ				S	**Sg**	**11 58 50.4**	**+1.1**
TERR	**Teriberka**	**1.62**	**15**	P	**Pn**	**11 59 07.2**	**0.0**
TERR				S	**Sn**	**11 59 28.1**	**-0.6**
VRF	**Varrio**	**1.66**	**276**	PG	**Pn**	**11 59 07.4**	**-0.3**
baz=86							
VRF				MSG		11 59 26.0	
comp=Z,18nm,0.2s							
VRF				SN	**Sn**	**11 59 28.4**	**-1.2**
PRVG	**Vayda Guba**	**2.21**	**344**	P	**Pb**	**11 59 16.9**	**-1.2**
PRVG				S	**Sb**	**11 59 45.3**	**-0.7**
KU6	**Riekki**	**2.28**	**226**	PN	**Pn**	**11 59 17.5**	**+1.3**
KU6				MSG		11 59 45.9	
comp=Z,6.6nm,0.2s							
KU6				SB	**Sb**	**11 59 47.5**	**-0.5**
MSF	**Maaselka**	**2.61**	**230**	PB	**Pb**	**11 59 23.7**	**-1.2**
MSF				SG	**Sb**	**11 59 58.0**	**+0.6**
SGF	**Sodankyl**	**2.85**	**269**	PG	**Pb**	**11 59 28.5**	**-0.6**
SGF				SG	**Sb**	**12 00 03.8**	**-0.8**
RNF	**Rovaniemi**	**3.27**	**255**	PN	**Pn**	**11 59 30.8**	**+1.1**
baz=66							
RNF				SN	**Sn**	**12 00 09.6**	**+0.3**
KEV	**Kevo**	**3.30**	**313**	PN	**Pn**	**11 59 31.2**	**+1.0**
baz=129							
KEV				SN	**Sn**	**12 00 09.6**	**-0.6**
KEV				MSG		12 00 13.4	
comp=Z,5.1nm,0.2s							
ARA0	**ARCESS Array S**	**3.63**	**305**	PN	**Pn**	**11 59 34.5**	**-0.2**
baz=122							
ARCES	**ARCESS Array B**	**3.63**	**305**	Pn	**Pn**	**11 59 34.9**	**+0.1**
baz=121,slow=14,SNR=51							
ARCES				Sn	**Sn**	**12 00 17.8**	**-0.4**
baz=116,slow=27,SNR=9.3							
ARCES				Lg	Lg	12 00 29.0	
baz=116,slow=35,SNR=4.1							
ARCES	**ARCESS Array B**	**3.63**	**305**	P	**Pn**	**11 59 34.8**	**+0.1**
ARCES				S	**Sn**	**12 00 17.1**	**-1.1**
KLF	**Kolari**	**3.87**	**269**	PG	**Pb**	**11 59 47.3**	**+0.9**
baz=74							
HEF	**Hetta**	**3.94**	**286**	*e*P	Pn	11 59 28.9	-10
HEF	**Hetta**	**3.94**	**286**	PG	**Pb**	**11 59 48.6**	**+1.0**
baz=101							
TOF	**Tornio**	**4.11**	**252**	PG	**Pb**	**11 59 51.3**	**+0.9**
OUL	**Oulu**	**4.13**	**235**	PG	**Pb**	**11 59 52.9**	**+2.1**
baz=46							
PAJU	**Pajala**	**4.24**	**267**	PN	**Pn**	**11 59 43.6**	**+0.6**
KALU	**Kalix**	**4.56**	**252**	PG	**Pb**	**12 00 00.7**	**+2.6**
ERTU	**Ertsjaerv**	**4.72**	**262**	SN	**Sn**	**12 00 44.1**	**-0.9**
I37NO	**I37NO**	**5.85**	**291**	*i*		12 31 30.0	
baz=102,slow=325,SNR=10							
FINES	**FINESS Array B**	**7.08**	**212**	Pn	**Pn**	**12 00 21.3**	**-0.8**
comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=1.8							
FINES				Sn	**Sn**	**12 01 38.7**	**-4.4**
comp=Z,0.1nm,0.3s,baz=43,slow=23,SNR=2.2							
FINES				Lg	Lg	12 02 13.3	
comp=Z,0.3nm,0.3s,baz=29,slow=25,SNR=6.4							

ISK 12 12:05:59.4, 39.°15N×37.°31E, h8km, ML2.2/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARPR	**Arapgir-MALATY**	**0.80**	**93**	PG	Pg	12 06 15.1	+0.3
ARPR				SG	Sb	12 06 26.8	+0.2
SARI	**SarD1z-Kayseri**	**1.02**	**224**	PG	Pg	12 06 18.8	-0.1
SARI				SG	Sn	12 06 34.1	-0.6
ILIC	**ilic-Erzincan**	**1.02**	**72**	PG	Pg	12 06 19.2	+0.2
ILIC				SG	Sn	12 06 34.1	-0.6
BNN	**Bunyan**	**1.18**	**256**	PN	Pn	12 06 22.6	+0.3
BNN				SN	Sn	12 06 39.1	+0.4
SVRC	**Sivrice-ELAZID**	**1.74**	**116**	PN	Pn	12 06 30.8	+0.8
KOZT	**Kozan**	**2.03**	**216**	PN	Pn	12 06 34.9	+0.9
CORM	**Corum**	**2.31**	**297**	PN	Pn	12 06 38.9	+1.0
CMRD	**Camardi-Nigde**	**2.35**	**232**	PN	Pn	12 06 39.3	+0.9

*IDC **12** 12:07:37.4±4.7, 17.°91N×105.°16W, h0km, mb3.5/5,*
mb1 3.9/7, mb1mx3.7/28, mbtmp3.5/7, ML3.5/2, MS3.5/2,
Ms1 3.4/2, ms1mx2.7/48, Error ellipse: s-maj=81.8km
s-min=49.5km az=5.0
*MEX **12** 12:07:45.2±1.9, 18.°53N×105.°32W, h16km±999km, MD4.1*
*NEIC **12** 12:07:47.3±1.6, 18.°61N±0.°09×105.°17W±0.°09,*
h25km±11km, mb4.2/36, Md4.1/43(MEX), Error ellipse:
s-maj=15.9km s-min=7.1km az=222.0
ISC 12 12:07:43.5±3.4, 18.°53N±0.°06×105.°19W±0.°06,
h10km±22km, n81, σ1s59/102, mb4.1/14, Off coast of
Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.98**	**8**	*i*P	**Pb**	**12 08 00.5**	**-2.1**
CJM				*e*S	**Sb**	**12 08 12.5**	**-3.1**
CDAR	**Ciudad de Arme**	**1.19**	**70**	*i*P	**Pn**	**12 08 04.7**	**-1.5**
CDAR				*i*S	**Sb**	**12 08 20.1**	**-1.6**
R15V		**1.31**	**61**	*e*P	**Pn**	**12 08 07.0**	**-1.0**
R15V				*e*S	**Sb**	**12 08 23.8**	**-1.4**
COIG	**Colima**	**1.56**	**65**	*e*P	**Pn**	**12 08 10.5**	**-1.0**
COIG				*e*S	**Sn**	**12 08 31.1**	**-0.8**
COMA	**Comala**	**1.57**	**59**	*e*P	**Pn**	**12 08 11.0**	**-0.5**
COMA				*i*S	**Sn**	**12 08 31.2**	**-0.7**
MNGA	**Volcan de Coli**	**1.75**	**58**	*e*P	**Pn**	**12 08 14.5**	**+0.2**
MNGA				*i*S	**Sb**	**12 08 37.8**	**-0.4**
MMIG	**Aquila**	**1.77**	**97**		**Pn**	**12 08 13.2**	**-1.0**
MMIG					**Sn**	**12 08 35.0**	**-1.7**
MMIG	**Aquila**	**1.77**	**97**	*e*P	**Pn**	**12 08 13.2**	**-1.0**
MMIG				*e*S	**Sn**	**12 08 35.0**	**-1.7**
EZ5V		**1.78**	**58**		**Sn**	**12 08 36.6**	**-0.7**
EZ5V		**1.78**	**58**	*e*P	**Pn**	**12 08 14.8**	**+0.2**
EZ5V				*i*S	**Sn**	**12 08 36.6**	**-0.7**
INCO	**Volcan de Coli**	**1.80**	**56**	*e*P	**Pn**	**12 08 15.4**	**+0.4**
INCO				*i*S	**Sb**	**12 08 39.6**	**0.0**
JUBC	**Volcan de Coli**	**1.82**	**57**	*e*P	**Pn**	**12 08 15.9**	**+0.7**
JUBC				*e*S	**Sn**	**12 08 38.6**	**+0.1**
PUVA	**Puert Vallarta**	**2.09**	**359**		**Sn**	**12 08 42.1**	**-2.6**
PUVA	**Puert Vallarta**	**2.09**	**359**	*e*S	**Sn**	**12 08 42.1**	**-2.6**
ANIG	**Ahuacatlan**	**2.59**	**14**		**Pn**	**12 08 25.3**	**-0.3**
ANIG					**Sn**	**12 08 56.4**	**-0.9**
ANIG	**Ahuacatlan**	**2.59**	**14**	*i*P	**Pn**	**12 08 25.3**	**-0.3**
ANIG				*e*S	**Sn**	**12 08 56.4**	**-0.9**
ZIIG	**Zihuatanejo**	**3.66**	**104**		**Pn**	**12 08 40.9**	**+0.6**
ZIIG					**Sn**	**12 09 19.5**	**-3.9**
ZIIG	**Zihuatanejo**	**3.66**	**104**	*e*P	**Pn**	**12 08 40.9**	**+0.6**
ZIIG				*i*S	**Sn**	**12 09 19.5**	**-3.9**
MOIG	**Morelia**	**3.95**	**73**	Pn	**Pn**	**12 08 46.7**	**+2.2**
ARIG	**Puente Sto Nin**	**4.61**	**92**		**Pn**	**12 08 55.4**	**+2.1**
ARIG					**Sn**	**12 09 48.5**	**+1.7**
ARIG	**Puente Sto Nin**	**4.61**	**92**	*e*P	**Pn**	**12 08 55.4**	**+2.1**
ARIG				*e*S	**Sn**	**12 09 48.5**	**+1.7**
ZAIG	**Zacatecas**	**4.88**	**30**		**Pn**	**12 08 58.3**	**+1.0**
CAIG	**El Cayaco**	**4.92**	**107**		**Pn**	**12 08 59.0**	**+1.5**
CAIG					**Sn**	**12 09 53.0**	**-1.5**
CAIG	**El Cayaco**	**4.92**	**107**	*e*P	**Pn**	**12 08 59.0**	**+1.5**
CAIG				*e*S	**Sn**	**12 09 53.0**	**-1.5**
MEIG	**Mezcala**	**5.33**	**96**		**Pn**	**12 09 05.7**	**+2.4**
MEIG					**Sn**	**12 10 01.8**	**-3.0**
MEIG	**Mezcala**	**5.33**	**96**	*e*P	**Pn**	**12 09 05.7**	**+2.4**
MEIG				*i*S	**Sn**	**12 10 01.8**	**-3.0**
PLIG	**Platanillo**	**5.40**	**91**		**Pn**	**12 09 06.8**	**+2.6**
PLIG					**Sn**	**12 10 03.8**	**-2.8**
PLIG	**Platanillo**	**5.40**	**91**	*e*P	**Pn**	**12 09 06.8**	**+2.6**
PLIG				*i*S	**Sn**	**12 10 03.8**	**-2.8**
YAIG	**Yautepec**	**5.81**	**86**		**Pn**	**12 09 13.0**	**+3.0**
YAIG					**Sn**	**12 10 14.4**	**-2.5**
YAIG	**Yautepec**	**5.81**	**86**	*e*P	**Pn**	**12 09 13.0**	**+3.0**
YAIG				*i*S	**Sn**	**12 10 14.4**	**-2.5**
TLIG	**Tlapa**	**6.37**	**98**		**Pn**	**12 09 20.9**	**+3.3**
SLBS	**Sierra La Lagu**	**6.78**	**320**	Pn	**Pn**	**12 09 23.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**10.85**	**7**		**Pn**	**12 10 19.7**	**+0.7**
TX32	**Lajitas Array**	**10.85**	**7**		**Pn**	**12 10 18.8**	**-0.2**
TXAR	**Lajitas Array**	**10.85**	**7**	Pn	**Pn**	**12 10 23.2**	**+4.2**
0.1nm,0.3s,baz=185,slow=13,SNR=9.5							
TXAR				LR	LR	12 14 44.4	
comp=Z,104nm,20.0s,baz=180,slow=37							
TXAR	**Lajitas Array**	**10.85**	**7**	Pn	**Pn**	**12 10 19.3**	**+0.2**
ABTX	**Abilene, Hawle**	**14.90**	**18**	P	**P**	**12 11 20.8**	**+0.7**
WHTX	**Lake Whitney,**	**15.11**	**26**	P	**P**	**12 11 22.9**	**+0.5**
MSTX	**Muleshoe**	**15.53**	**8**	P	**P**	**12 11 27.8**	**+0.6**
MSTX				IAmb	IAmb	12 11 30.4	
comp=Z,26nm,1.5s							
237A	**Washetta, Mont**	**15.86**	**30**	P	**P**	**12 11 30.8**	**+0.1**
237A				IAmb	IAmb	12 11 32.8	
comp=Z,29nm,1.2s							
NATX	**Nacogdoches**	**16.25**	**34**	P	**P**	**12 11 36.0**	**+1.0**
NATX				IAmb	IAmb	12 11 37.8	
comp=Z,31nm,1.1s							
Z35A	**Perchaven, San**	**16.37**	**24**	P	**P**	**12 11 35.9**	**-0.5**
Z35A				IAmb	IAmb	12 11 38.0	
comp=Z,18nm,0.6s							
ANMO	**Albuquerque**	**16.39**	**356**	Pn	**P**	**12 11 38.2**	**+1.4**
comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=5.4							
ANMO	**Albuquerque**	**16.39**	**356**	P	**P**	**12 11 37.1**	**+0.3**
AMTX	**Amarillo**	**16.59**	**10**	P	**P**	**12 11 38.7**	**-0.2**
AMTX				IAmb	IAmb	12 11 42.0	
comp=Z,16nm,0.9s							
WMOK	**Wichita Mounta**	**17.12**	**18**	P	**P**	**12 11 45.6**	**+0.9**
X34A	**Smith Ranch, M**	**17.30**	**21**	P	**P**	**12 11 47.3**	**+0.7**
X34A				IAmb	IAmb	12 11 49.7	
comp=Z,15nm,1.0s							
W35A	**Tecumseh**	**18.13**	**22**		**Pn**	**12 11 55.6**	**+0.1**
W35A				IAmb	IAmb	12 11 57.3	
comp=Z,10nm,0.6s							
MIAR	**Mount Ida**	**19.01**	**31**	P	**Pn**	**12 12 06.8**	**+0.5**
SDCO	**Great Sand Dun**	**19.15**	**359**	P	**P**	**12 12 07.3**	**0.0**
T35A	**Sooner Cattle**	**19.85**	**21**		**P**	**12 12 14.7**	**+0.1**
MTPU	**Mount Pierson**	**20.38**	**344**	P	**P**	**12 12 20.5**	**-0.4**
CBKS	**Cedar Bluff**	**20.76**	**12**	P	**P**	**12 12 25.4**	**+0.8**
FCAR	**Ozark Folk Cen**	**20.80**	**31**	P	**P**	**12 12 25.1**	**+0.1**
U40A	**Yellville**	**20.83**	**29**	P	**P**	**12 12 25.2**	**-0.2**
ISCO	**Idaho Springs**	**21.20**	**359**	P	**P**	**12 12 29.2**	**-0.4**
TMUT	**Trail Mountain**	**21.34**	**347**	P	**P**	**12 12 32.5**	**+1.3**
TMUT				IAmb	IAmb	12 12 35.8	
comp=Z,4.1nm,0.8s							
LCAR	**Lake Charles**	**21.43**	**33**	P	**P**	**12 12 32.4**	**+0.7**
LCAR				IAmb	IAmb	12 12 36.6	
comp=Z,4.5nm,0.7s							
NVAR	**Mina Array Bea**	**22.89**	**333**	P	**P**	**12 12 48.5**	**+0.8**
comp=Z,0.6nm,0.8s,baz=156,slow=10,SNR=5.3							
CCM	**Cathedral Cave**	**22.95**	**29**	P	**P**	**12 12 49.6**	**+1.5**
FPAL	**Fort Paine**	**23.62**	**44**	P	**P**	**12 12 54.8**	**-0.1**
FPAL				IAmb	IAmb	12 13 02.7	
comp=Z,7.3nm,1.1s							
GOGA	**Godfrey**	**24.45**	**48

M54A	**Oil Creek Stat**	**31.61**	**38**	P	**P**	**12 14 06.2**	**-0.5**
SSPA	**Standing Stone**	**32.16**	**41**	P	**P**	**12 14 11.9**	**+0.4**
SSPA				IAmb	IAmb	12 14 12.4	
	comp=Z,4.2nm,0.8s						
ULM	**Lac du Bonnet**	**32.52**	**11**	LR	LR	12 28 05.0	
	comp=Z,160nm,20.1s,baz=329,slow=37						
NCB	**Newcomb**	**36.30**	**39**	P	**P**	**12 14 48.1**	**+0.8**
FCC	**Fort Churchill**	**40.99**	**9**	P	**P**	**12 15 26.8**	**+0.4**
FCC				IAmb	IAmb	12 15 29.3	
	comp=Z,6.7nm,1.2s						
YKA	**Yellowknife Ar**	**44.41**	**354**	P	**P**	**12 15 54.5**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=168,slow=7.0,SNR=12						
GBN	**Guysborough**	**44.96**	**44**	P	**P**	**12 16 00.1**	**+1.3**
INK	**Inuvik**	**52.87**	**347**	P	**P**	**12 16 59.8**	**+0.7**
	baz=156,slow=5.2						
ILAR	**Eielson Array**	**53.91**	**339**	P	**P**	**12 17 05.6**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=144,slow=7.8,SNR=1.2						
H03N2	**Juan Fernandez**	**57.44**	**154**	T	T	13 19 40.9	
	baz=334						
H03N1	**Juan Fernandez**	**57.44**	**154**	T	T	13 19 41.0	
	baz=334,slow=74,SNR=4.6						
H03N3	**Juan Fernandez**	**57.45**	**154**	T	T	13 19 41.0	
	baz=334,slow=74,SNR=4.7						

PGC 12 12:19:34.9±11.0, **50.62N**×**130.46W**, **h10**km, **MLSn2.8**/17, **Mw3.5**/17, **214km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.48**	**88**	Pn	Pn	12 19 58.7	-3.0
HG4B	**Hotspring**	**1.74**	**345**	Pn	Pn	12 20 02.8	-2.4
HG4B				Sn	Sn	12 20 23.8	-3.5
BPBC	**Brooks Peninsu**	**1.78**	**104**	Pn	Pn	12 20 02.8	-3.0
PACB	**Port Alice, BC**	**1.90**	**94**	Pn	Pn	12 20 05.3	-2.0
PACB				Sn	Sn	12 20 25.9	-5.4
PHC	**Port Hardy**	**1.93**	**86**	Pn	Pn	12 20 05.7	-2.0
PHC				Sn	Sn	12 20 27.4	-4.5
MAYB	**Maynard**	**2.11**	**95**	Pn	Pn	12 20 08.7	-1.7
BNB	**Barry Inlet**	**2.12**	**338**	Pn	Pn	12 20 08.2	-2.2
BNB				Sn	Sn	12 20 33.3	-3.5
BBB	**Bella Bella**	**2.15**	**42**	Pn	Pn	12 20 09.1	-1.6
BBB				Sn	Sn	12 20 32.8	-4.6
WOSB	**Woss**	**2.53**	**99**	Pn	Pn	12 20 14.8	-1.3
MOBC	**Moresby Island**	**2.70**	**340**	Pn	Pn	12 20 16.6	-1.8
BNKB	**Banks Island**	**2.74**	**7**	Pn	Pn	12 20 17.0	-1.9
BUTB	**Butedale**	**2.74**	**26**	Pn	Pn	12 20 17.9	-1.2
BUTB				Sn	Sn	12 20 48.9	-3.3
NCRB	**Newcastle Ridg**	**2.82**	**93**	Pn	Pn	12 20 17.9	-2.3
DIB	**Dawson Inlet,**	**2.87**	**335**	Pn	Pn	12 20 19.4	-1.3
GDR	**Gold River**	**2.97**	**105**	Pn	Pn	12 20 19.5	-2.5
HWKB	**Hawksbury Isla**	**3.09**	**15**	Pn	Pn	12 20 22.3	-1.5
HWKB				Sn	Sn	12 20 58.0	-2.7
SPLB	**Strathcona Par**	**3.17**	**101**	Pn	Pn	12 20 23.9	-0.9
GRNB	**Grenville Isla**	**3.25**	**5**	Pn	Pn	12 20 24.1	-1.7
KITB	**Kitimat**	**3.64**	**17**	Pn	Pn	12 20 29.9	-1.3
KITB				Sn	Sn	12 21 10.8	-3.4
RUBB	**Prince Rupert**	**3.71**	**2**	Pn	Pn	12 20 31.1	-1.1
TXB	**Texada**	**3.98**	**101**	Pn	Pn	12 20 35.4	-0.6
SHB	**Sechelt**	**4.36**	**101**	Pn	Pn	12 20 40.6	-0.7
UBRB	**Upper Baezaeko**	**4.57**	**58**	Pn	Pn	12 20 44.6	+0.5
UBRB				Sn	Sn	12 21 35.7	-1.5
FSB	**Fort Saint Jam**	**5.38**	**42**	Pn	Pn	12 20 55.1	0.0
VDB	**Vedder Mountai**	**5.64**	**103**	Pn	Pn	12 20 59.0	+0.2
NBC5	**NorthernBC 5**	**8.29**	**30**	Pn	Pn	12 21 36.3	+1.2
PRDA	**Priddis**	**10.25**	**82**	Pn	Pn	12 22 00.8	-1.3

IDC ***12*** *12:29:59.7±2.6, 15.°90S×178.°29E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/44, mbtmp3.4/6, Error ellipse: s-maj=217.8km s-min=24.5km az=154.0*

ISC 12 12:30:02.3±2.2, **16.°S**±1.°×**178.°3E**±0.°5, **h17**km, **n7**, σ**1s29**/6, **mb3.5**/6, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.79**	**187**	LR	LR	12 31 07.1	
	comp=Z,85nm,20.4s,baz=176,slow=36						
WRA	**Warramunga Arr**	**41.91**	**258**	P	**P**	**12 37 52.5**	**+0.2**
	0.2nm,0.6s,baz=90,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**42.32**	**252**	P	**P**	**12 37 55.7**	**0.0**
	0.7nm,0.3s,baz=86,slow=8.5,SNR=35						
NVAR	**Mina Array Bea**	**80.26**	**45**	P	**P**	**12 42 13.9**	**+1.3**
	0.4nm,0.7s,baz=223,slow=8.7,SNR=3.0						
TXAR	**Lajitas Array**	**87.66**	**59**	P	**P**	**12 42 50.7**	**+0.3**
	0.1nm,0.7s,baz=227,slow=4.8,SNR=2.0						
PDAR	**Pinedale Array**	**88.15**	**45**	P	**P**	**12 42 50.9**	**-1.8**
	0.2nm,0.6s,baz=208,slow=3.6,SNR=2.0						
YKA	**Yellowknife Ar**	**93.91**	**25**	P	**P**	**12 43 18.5**	**-0.1**
	0.1nm,0.5s,baz=253,slow=5.6,SNR=3.6						

IDC ***12*** *12:40:04.7±1.2, 51.°60N×173.°93W, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.8/60, mbtmp3.8/18, ML3.4/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/93, Error ellipse: s-maj=35.2km s-min=14.6km az=180.0*

AEIC ***12*** *12:40:07.2±2.1, 51.°33N±0.°05×173.°88W±0.°07, h26km±4km, Error ellipse: s-maj=7.2km s-min=6.0km az=200.0*

NEIC ***12*** *12:40:07.7±1.9, 51.°35N±0.°01×173.°92W±0.°07, h22km±6km, mb4.0/69, ML3.6(AEIC), Error ellipse: s-maj=6.1km s-min=1.1km az=77.0*

ISC 12 12:40:09.3±0.6, **51.°39N**±0.°08×**173.°95W**±0.°04, **h35**km, **n129**, σ**1s04**/121, **mb3.9**/22, **1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.83**	**349**		**Pn**	**12 40 23.6**	**-1.0**
ATKA					**Sn**	**12 40 35.3**	**-0.3**
KOFP	**Korovin Flat P**	**0.90**	**354**		**Pn**	**12 40 25.1**	**-0.4**
KOWE	**Korovin West**	**1.00**	**349**		**Pn**	**12 40 26.9**	**0.0**
GSMY	**Great Sitkin M**	**1.47**	**298**		**Pn**	**12 40 32.9**	**-0.4**
GSTR	**Great Sitkin T**	**1.49**	**299**		**Pn**	**12 40 33.5**	**-0.1**
GSCK	**Great Sitkin C**	**1.52**	**295**		**Pn**	**12 40 33.4**	**-0.5**
GSTD	**Great Sitkin T**	**1.52**	**297**		**Pn**	**12 40 33.5**	**-0.6**
GSTD					**Sn**	**12 40 53.9**	**+1.2**
ADAG	**Mount Adagdak**	**1.76**	**291**		**Pn**	**12 40 37.1**	**-0.1**
ADK	**Adak**	**1.78**	**287**		**Pn**	**12 40 37.1**	**-0.4**
KIWB	**Kanaga Island**	**2.05**	**284**		**Pn**	**12 40 41.4**	**+0.1**
KIMD	**Kanaga Island**	**2.09**	**282**		**Pn**	**12 40 41.7**	**0.0**
TAFP	**Tanaga Falls P**	**2.57**	**283**		**Pn**	**12 40 49.2**	**+0.9**
NIKH	**Nikolski High**	**3.52**	**61**		**Pn**	**12 41 01.3**	**-0.1**
NIKH					**Sn**	**12 41 41.5**	**-0.2**
MSW	**Makushin Switc**	**5.04**	**57**		**Pn**	**12 41 22.1**	**-0.3**
UNV	**Unalaska Valle**	**5.16**	**59**		**Pn**	**12 41 23.9**	**-0.1**
AKUT	**Akutan**	**5.68**	**58**	Pn	**Pn**	**12 41 33.4**	**+2.4**
SPIA	**Saint Paul Isl**	**6.19**	**19**	Pn	**Pn**	**12 41 39.9**	**+1.8**
SHEM	**Shemya Is, Ala**	**7.49**	**285**	LR	LR	12 44 42.3	
	comp=Z,79nm,19.2s,baz=94,slow=37						
GAMB	**Gambell**	**12.48**	**5**	Pn	**Pn**	**12 43 06.2**	**+2.0**
KDAK	**Kodiak Island**	**13.91**	**54**	Pn	**Pn**	**12 43 20.8**	**-2.8**
	0.4nm,0.3s,baz=200,slow=5.8,SNR=8.1						
ANM	**Nome**	**13.96**	**15**	Pn	**Pn**	**12 43 28.1**	**+3.8**
N19K	**Bonanza Creek**	**14.33**	**41**	Pn	**Pn**	**12 43 31.2**	**+1.7**
L19K	**White Mountain**	**14.98**	**36**	P	**P**	**12 43 44.1**	**+0.9**
M19K	**Big River Lodg**	**14.98**	**38**	P	**P**	**12 43 42.5**	**-0.8**
M19K					IAmb	IAmb	12 43 44.9	
	comp=Z,9.3nm,1.2s						
TTA	**Tatalina**	**15.04**	**33**	P	**P**	**12 43 43.3**	**-0.7**
CNPM	**China Poot**	**15.18**	**49**	P	**P**	**12 43 45.6**	**+0.1**
BRLK	**Bradley Lake**	**15.44**	**48**		**Pn**	**12 43 46.1**	**+1.9**
K20K	**Telida**	**15.99**	**34**	P	**P**	**12 43 55.6**	**+1.1**
K20K					IAmb	IAmb	12 43 56.8	
	comp=Z,22nm,1.4s						
SEW	**Seward**	**16.23**	**48**	P	**Pn**	**12 43 55.8**	**+1.4**
O22K	**Cooper Landing**	**16.25**	**47**	P	**P**	**12 43 57.0**	**-0.3**
PPLA	**Purkeypile**	**16.40**	**37**	P	**P**	**12 43 58.4**	**-0.7**
PPLA					IAmb	IAmb	12 44 24.3	
	comp=Z,31nm,1.5s						
RC01	**Rabbit Creek A**	**16.50**	**45**	P	**Pn**	**12 43 58.0**	**+0.3**
RC01					IAmb	IAmb	12 44 24.8	
	comp=Z,28nm,1.3s						
J20K	**Nowinta River**	**16.50**	**31**	P	**P**	**12 43 59.7**	**-0.3**
CAST	**Castle Rocks**	**16.74**	**36**	P	**P**	**12 44 03.2**	**+0.5**
GHO	**Glory Hole Cre**	**17.14**	**43**	P	**Pn**	**12 44 06.5**	**+0.6**
GHO					IAmb	IAmb	12 44 07.0	
	comp=Z,32nm,1.4s						
KNK	**Knik Glacier**	**17.19**	**44**	P	**Pn**	**12 44 06.2**	**-0.3**
KNK					IAmb	IAmb	12 44 22.2	
	comp=Z,10nm,1.1s						
KTH	**Kantishna Hill**	**17.24**	**36**	P	**Pn**	**12 44 06.9**	**-0.2**
KTH					IAmb	IAmb	12 44 27.2	
	comp=Z,29nm,1.5s						
PETK	**Petropavlovsk-**	**17.40**	**287**	P	**P**	**12 44 09.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=97,slow=14,SNR=6.6						
PETK				LR	LR	12 50 17.8	
	comp=Z,39nm,19.1s,baz=77,slow=35						
SML	**Sawmill**	**17.41**	**43**	P	**P**	**12 44 09.9**	**-0.3**
SML				IAmb	IAmb	12 44 19.6	
	comp=Z,9.3nm,1.0s						
TRF	**Thorofare Moun**	**17.42**	**37**	P	**Pn**	**12 44 09.7**	**+0.3**
TRF				IAmb	IAmb	12 44 35.9	
	comp=Z,11nm,1.3s						
BPAW	**Bear Paw Mtn.**	**17.54**	**35**	P	**P**	**12 44 12.3**	**+0.8**
FID	**Port Fidalgo**	**17.84**	**48**	P	**Pn**	**12 44 12.9**	**-1.6**
SCM	**Sheep Creek Mo**	**17.86**	**44**	P	**Pn**	**12 44 13.8**	**-1.0**
SCM				IAmb	IAmb	12 44 42.8	
	comp=Z,17nm,1.1s						
IMAR	**Indian Mountai**	**17.87**	**27**	P	**P**	**12 44 16.3**	**+1.1**
H21K	**Melozitna Rive**	**17.92**	**29**	P	**P**	**12 44 17.9**	**+2.1**
RND	**Reindeer**	**17.95**	**38**	P	**Pn**	**12 44 14.9**	**-0.9**
RND				IAmb	IAmb	12 44 15.8	
	comp=Z,16nm,1.4s						
BWN	**Browne**	**18.12**	**36**		**P**	**12 44 19.3**	**+1.3**
BWN				IAmb	IAmb	12 44 41.7	
	comp=Z,13nm,1.0s						
MLY	**Manley**	**18.18**	**32**	P	**Pn**	**12 44 19.7**	**+1.1**
KLU	**Klutina**	**18.35**	**46**	P	**P**	**12 44 18.1**	**-2.5**
KLU				IAmb	IAmb	12 44 40.0	
	comp=Z,17nm,1.4s						
DHY	**Denali Highway**	**18.38**	**40**	P	**P**	**12 44 20.3**	**-0.6**
M24K	**Tolsona, Glenn**	**18.47**	**44**	P	**Pn**	**12 44 22.4**	**+0.2**
M24K				IAmb	IAmb	12 44 24.8	
	comp=Z,8.4nm,0.6s						
NEA2	**Nenana**	**18.50**	**35**	P	**P**	**12 44 21.1**	**-1.1**
I23K	**Minto, Yukon-K**	**18.72**	**33**	P	**Pn**	**12 44 25.2**	**+0.1**
I23K				IAmb	IAmb	12 44 28.2	
	comp=Z,9.3nm,1.1s						
WRH	**Wood River Hil**	**18.79**	**36**	P	**P**	**12 44 24.0**	**-1.3**
WRH				IAmb	IAmb	12 44 29.1	
	comp=Z,16nm,1.5s						
N25K	**Chitina, Valde**	**18.98**	**46**	P	**P**	**12 44 26.8**	**-0.7**
CCB	**Clear Creek Bu**	**18.99**	**36**	P	**P**	**12 44 26.0**	**-1.5**
MDM	**Murphy Dome**	**19.01**	**35**	P	**P**	**12 44 27.0**	**-0.7**
H23K	**Yukon River**	**19.06**	**31**	P	**Pn**	**12 44 30.7**	**+1.4**
HDA	**Harding Lake**	**19.18**	**37**	P	**P**	**12 44 29.0**	**-0.6**
HDA				IAmb	IAmb	12 44 45.0	
	comp=Z,14nm,1.3s						
GLB	**Gilahina Butte**	**19.29**	**47**	P	**Pn**	**12 44 31.6**	**-0.4**
GLB				IAmb	IAmb	12 44 58.5	
	comp=Z,16nm,1.4s						
IL31		**19.39**	**36**	P	**P**	**12 44 31.6**	**-0.2**
IL31				IAmb	IAmb	12 44 32.2	
	comp=Z,8.0nm,1.3s						
ILAR	**Eielson Array**	**19.39**	**36**	P	**P**	**12 44 28.9**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=237,slow=9.4,SNR=43						
ILAR	**Eielson Array**	**19.39**	**36**	P	**P**	**12 44 31.3**	**-0.6**
VRDI	**Verde Repeater**	**19.39**	**48**	P	**P**	**12 44 31.7**	**-0.4**
VRDI				IAmb	IAmb	12 44 54.8	
	comp=Z,20nm,1.4s						
H24K	**Noodor Dome**	**19.62**	**33**	P	**P**	**12 44 34.6**	**+0.2**
H24K				IAmb	IAmb	12 44 36.4	
	comp=Z,6.5nm,1.1s						
RIDG	**Independent Ri**	**19.69**	**40**	P	**P**	**12 44 35.8**	**+0.6**
RIDG				IAmb	IAmb	12 44 42.6	
	comp=Z,11nm,2.2s						
COLD	**Coldfoot**	**19.76**	**28**	P	**P**	**12 44 35.9**	**+0.1**
COLD				IAmb	IAmb	12 44 57.8	
	comp=Z,7.6nm,1.4s						
MENT	**Mentasta**	**19.84**	**43**	P	**P**	**12 44 36.8**	**0.0**
J25K	**Salcha River,**	**19.88**	**37**	P	**P**	**12 44 36.1**	**-1.2**
DOT	**Dot Lake**	**19.97**	**41**	P	**P**	**12 44 38.3**	**+0.1**
DOT				IAmb	IAmb	12 44 38.8	
	comp=Z,7.7nm,1.2s						
L26K	**Log Cabin Wild**	**20.03**	**43**	P	**P**	**12 44 39.7**	**+0.8**
L26K				IAmb	IAmb	12 44 40.9	
	comp=Z,11nm,1.4s						
SCRK	**Sand Creek**	**20.14**	**40**	P	**P**	**12 44 38.8**	**-1.4**
SCRK				IAmb	IAmb	12 44 40.2	
	comp=Z,5.8nm,0.4s						
M27K	**Edge Creek, AK**	**20.44**	**45**	P	**P**	**12 44 44.0**	**+0.5**
L27K	**Beaver Creek,**	**20.69**	**43**	P	Pn	12 44 47.7	-0.8
TOLK	**Toolik Lake Re**	**20.90**	**25**	P	**P**	**12 44 48.7**	**+0.5**
TOLK				IAmb	IAmb	12 44 49.2	
	comp=Z,6.6nm,0.7s						
SEY	**Seymchan**	**21.32**	**316**	P	**P**	**12 44 52.1**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=131,slow=19,SNR=41						
MA2	**Magadan**	**21.38**	**306**	LR	LR	12 53 18.9	
	comp=Z,44nm,18.1s,baz=130,slow=37						
EGAK	**Eagle**	**21.59**	**39**	P	**P**	**12 44 55.0**	**-0.5**
BMAR	**Burnt Mountain**	**21.61**	**31**	P	**P**	**12 44 57.7**	**+1.8**
DAWY	**Dawson**	**22.05**	**42**	P	**P**	**12 45 01.5**	**+0.9**
DAWY				IAmb	IAmb	12 45 19.7	
	comp=Z,9.5nm,1.4s						
HYT	**Haines Junctio**	**22.13**	**51**	P	**P**	**12 45 00.8**	**-0.8**
INK	**Inuvik**	**25.74**	**34**	P	**P**	**12 45 35.4**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=239,slow=7.6,SNR=19						
INK	**Inuvik**	**25.74**	**34**	P	**P**	**12 45 36.1**	**+0.2**
INK				IAmb	IAmb	12 45 41.3	
	comp=Z,5.4nm,1.3s						
DLBC	**Dease Lake**	**25.81**	**57**	P	**P**	**12 45 37.0**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=260,slow=6.2,SNR=4.4						
DLBC	**Dease Lake**	**25.81**	**57**	P	**P**	**12 45 39.4**	**+2.5**
DLBC				IAmb	IAmb	12 45 48.0	
	comp=Z,6.9nm,1.4s						
A36M	**Sachs Harbour**	**29.62**	**28**	P	**P**	**12 46 12.0**	**+1.3**
A36M				IAmb	IAmb	12 46 36.8	
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**32.14**	**330**	P	**P**	**12 46 31.8**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=90,slow=20,SNR=3.7						
YKA	**Yellowknife Ar**	**33.01**	**47**	P	**P**	**12 46 39.7**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=273,slow=9.3,SNR=7.3						
YKA				PcP	**PcP**	**12 49 23.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=271,slow=2.5,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**35.00**	**213**	T	T	13 25 03.0	
	baz=21,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**35.01**	**213**	T	T	13 25 00.8	
	baz=21,slow=76,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**35.02**	**213**	T	T	13 25 05.3	
	baz=21,slow=76,SNR=4.7						
EDM	**Edmonton**	**36.13**	**63**	P	**P**	**12 47 08.6**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**36.20**	**212**	T	T	13 26 25.3	
	baz=20,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	13 26 23.2	
	baz=20,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	13 26 18.5	
	baz=20,slow=75,SNR=6.6						
USA0B	**Ussuriysk Arra**	**36.30**	**280**	P	**P**	**12 47 09.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**36.30**	**280**	P	**P**	**12 47 09.0**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=54,slow=9.6,SNR=5.9						
USRK	**Ussuriysk Ar.**	**36.30**	**280**	P	**P**	**12 47 09.3**	**+0.1**
MCMT	**McKenzie Canyo**	**40.27**	**75**	P	**P**	**12 47 43.6**	**+0.7**
NVAR	**Mina Array Bea**	**40.52**	**86**	P	**P**	**12 47 46.2**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=305,slow=6.5,SNR=2.5						
KSRS	**Korea Array**	**42.67**	**274**	P	**P**	**12 48 03.7**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=51,slow=8.6,SNR=2.0						
BW06	**Boulder Array**	**43.39**	**75**	P	**P**	**12 48 08.2**	**-0.2**
BW06				IAmb	IAmb	12 48 23.6	
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**43.39**	**75**	P	**P**	**12 48 08.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=308,slow=5.5,SNR=3.7						
PDAR	**Pinedale Array**	**43.39**	**75**	P	**P**	**12 48 07.6**	**-0.8**
FCC	**Fort Churchill**	**43.73**	**48**	P	**P**	**12 48 10.1**	**-0.5**
FCC				IAmb	IAmb	12 48 10.9	
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**49.33**	**299**	P	**P**	**12 48 54.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=54,slow=7.7,SNR=9.5						
SONM	**Songino Array**	**49.33**	**299**	P	**P**	**12 48 55.4**	**+0.5**
EYMN	**Ely**	**50.78**	**59**	P	**P**	**12 49 06.4**	**+0.6**
TXAR	**Lajitas Array**	**55.63**	**85**	P	**P**	**12 49 40.7**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=305,slow=4.7,SNR=2.4						
TXAR	**Lajitas Array**	**55.63**	**85**	P	**P**	**12 49 41.7**	**0.0**
GTA	**Gaotai**	**58.36**	**295**	⇓P	**P**	**12 50 01.1**	**+0.2**
GTA				pP	sP	12 50 14.1	+0.5
GTA				sP	pwP	12 50 18.7	+2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**61.17**	**316**	P	**P**	**12 50 20.1**	**+0.3**
LONY	**Lake Ozonia**	**61.79**	**53**	P	**P**	**12 50 23.6**	**-0.6**
L56A	**Greenwood**	**62.03**	**57**	P	**P**	**12 50 25.8**	**-0.1**
MKAR	**Makanchi Array**	**62.37**	**311**	P	**P**	**12 50 27.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=60,slow=3.5,SNR=0.6						
J59A	**Piesco**	**62.66**	**54**	P	**P**	**12 50 29.9**	**-0.2**
FIA1	**FINESS Array S**	**66.39**	**350**	P	**P**	**12 50 53.1**	**-0.9**
FINES	**FINESS Array B**	**66.39**	**350**	P	**P**	**12 50 52.5**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=16,slow=7.2,SNR=1.7						
FINES	**FINESS Array B**	**66.39**	**350**	P	**P**	**12 50 53.1**	**-0.9**
NB201	**NORSAR Array S**	**67.84**	**357**	P	**P**	**12 51 03.0**	**-0.4**
HFS	**Hagfors**	**68.67**	**356**	P	**P**	**12 51 07.5**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=24,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**69.38**	**327**	P	**P**	**12 51 12.6**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=68,slow=6.7,SNR=6.0						
ABKAR	**Akbulak array**	**69.71**	**326**	P	**P**	**12 51 15.6**	**+0.5**
GERES	**GERESS Array B**	**79.94**	**355**	P	**P**	**12 52 14.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=11,slow=7.5,SNR=3.5						
BUR08	**Bucovina Ar. S**	**79.99**	**347**	P	**P**	**12 52 14.8**	**+0.1**
BURAR	**Bucovina Array**	**80.02**	**347**	P	**P**	**12 52 15.2**	**+0.3**
BURAR				IAmb	IAmb	12 52 15.7	
	comp=Z,1.1nm,0.7s						
H03N2	**Juan Fernandez**	**118.25**	**109**	T	T	15 08 31.4	
	baz=318						
H03N1	**Juan Fernandez**	**118.26**	**109**	T	T	15 08 32.7	
	baz=318						
H03N3	**Juan Fernandez**	**118.26**	**109**	T	T	15 08 33.7	
	baz=318						

HLW ***12*** *12:40:34.4, 35.°73N×23.°86E, h8km±18km, Md4.4, Ml4.5*

IDC ***12*** *12:40:37.4±0.5, 35.°37N×23.°67E, h0km, mb4.4/34, mb1 4.5/45, mb1mx4.5/62, mbtmp4.4/45, ML4.3/10, MS3.9/29, Ms1 3.9/29, ms1mx3.6/91, Error ellipse: s-maj=11.8km s-min=7.7km az=8.0*

BJI ***12*** *12:40:37.0±0.0, 35.°20N×23.°50E, h10km, mb4.6/45, mB4.9/19, Ms4.6/7, Ms7 4.1/5*

DDA ***12*** *12:40:38.2±0.0, 35.°40N×23.°30E, h9km±6km, MW4.6*

MOS ***12*** *12:40:38.8±1.3, 35.°35N×23.°62E, h16km, mb4.8/35, Error ellipse: s-maj=5.4km s-min=3.1km az=79.9*

ISK ***12*** *12:40:38.5, 35.°37N×23.°56E, h14km, ML4.7/18*

ATH ***12*** *12:40:39.1, 35.°36N×23.°55E, h12km, Mw4.5, Moment Tensor Solution. s8 Moment tensor: Mrr=0.60; Mθθ-4.06; Mφφ4.66; Mrθ3.59; Mθφ-2.45; Mφr-0.63; Fault plane solution: NP1:φs206.00000°, δ57.00000°, λ-11.00000°. NP2:φs302.00000°, δ81.00000°, λ-147.00000°.*

MED_RC ***12*** *12:40:39.0±0.8, 35.°27N×23.°62E, h28km±1km, MW4.8/27, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s27,c34; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-0.35±.12; Mθθ-1.19±.08; Mφφ1.53±.08; Mrθ0.45±.11; Mθφ-0.83±.07; Mφr0.07±.12; Best double couple: M0 1.68000×10^16 NP1:φs301.00000°, δ77.00000°, λ-164.00000°. NP2:φs208.00000°, δ75.00000°, λ-13.00000°. Principal axes: T 1.7700, Plg2.0000°, Azm74.0000°; N -0.1800, Plg70.0000°, Azm340.0000°; P -1.5900, Plg20.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***12*** *12:40:39.9±2.1, 35.°33N±0.°08×23.°52E±0.°07, h10km±1km, mb4.7/97, ML4.9(THE) Error ellipse: s-maj=13.5km s-min=9.2km az=205.0*

THE ***12*** *12:40:39.1, 35.°37N×23.°57E, h1km±1km, ML4.9/11, Error ellipse: s-maj=1.3km s-min=0.4km az=233.0*

PDG ***12*** *12:40:39.4±0.5, 35.°40N×23.°58E, h17km±1km, ML4.6/12, Error ellipse: s-maj=1.4km s-min=1.4km az=0.0*

GII ***12*** *12:40:44.6±0.0, 35.°00N×24.°11E, h8km, mb4.8/6, MD4.8/6, Mm4.9/4*

BGR ***12*** *12:41:05.3±0.0, 38.°13N×24.°58E, h33km, mb4.3, Ms3.6*

ISC 12 12:40:39.6±0.6, **35.°35N**±0.°02×**23.°57E**±0.°02, **h14**km±3km, **n682**, σ**2s14**/747, **mb4.6**/119, **MS3.9**/26, **36C-34D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.26**	**36**	P	**Pg**	**12 40 44.8**	**-0.4**
RODP				S	**Sg**	**12 40 48.6**	**-0.4**
	177µm,0.4s						
RODP	**Rodopos**	**0.26**	**36**

THR3	Thira Island,	1.82	54	P		Pn	12 41 10.9	+0.4
CMBO	Columbo, Santo	1.86	53	P		Pn	12 41 11.4	+0.3
THR2	Thira island,	1.87	54	P		Pn	12 41 10.6	-0.6
THR8	Santorini-Mono	1.88	55	P		Pn	12 41 11.6	+0.4
KRND	KRANIDI	2.06	351	P		Pn	12 41 13.8	0.0
PYL	PYLOS	2.14	317	P		Pn	12 41 15.9	+1.0
ZKR	Zakros	2.18	95	P		Pb	12 41 18.3	-0.5
ZKR	Zakros	2.18	95	PN		Pn	12 41 16.4	+1.0
ITM	Ithomi	2.26	324	P		Pb	12 41 18.7	-1.5
ITM	Ithomi	2.26	324	P		Pn	12 41 17.6	+1.0
ITM	Ithomi	2.26	324	Pn		Pb	12 41 19.5	-0.7
APE	Apeiranthos	2.34	42	P		Pn	12 41 17.3	-0.3
APE	Apeiranthos	2.34	42	*c*	*iP*	Pn	12 41 17.1	-0.5
APE	Apeiranthos	2.34	42	PN		Pn	12 41 17.0	-0.3
ATH	Athens Observa	2.62	3	P		Pn	12 41 21.6	+0.1
PTL	Penteli	2.71	5	P		Pn	12 41 22.8	+0.1
LTK	Loutraki	2.71	350	P		Pn	12 41 23.2	+0.4
DION	Dionisos Attik	2.74	6	P		Pn	12 41 22.9	-0.3
KLV	Kalavryta, Ach	2.92	337	P		Pn	12 41 26.8	+1.1
KARP	Karpathos	2.94	85	P		Pn	12 41 27.1	+1.2
KARP	Karpathos	2.94	85	PN		Pn	12 41 26.7	+0.8
KARP	Karpathos	2.94	85	Pn		Pn	12 41 26.9	+1.0
KOSK	Kos Island	3.10	62	PN		Pn	12 41 28.3	+0.3
LAKA	Lakka	3.16	337	P		Pn	12 41 30.4	+1.5
KYMI	Kymi, Euboea I	3.31	7	P		Pn	12 41 30.7	-0.2
LKR	Lokris	3.33	352	P		Pn	12 41 31.2	0.0
EFP	Efpalio	3.35	337	P		Pn	12 41 32.6	+1.1
BODT	Bodrum	3.47	59	PN		Pn	12 41 33.7	+0.4
BDRM	Kayabasi	3.57	60	P		Pn	12 41 35.6	+1.0
BDRM				S		Sb	12 42 22.2	-3.5
CHOS	Chios island	3.63	33	PN		Pn	12 41 35.3	-0.1
DDIM	Aydin, Didim	3.63	54	P		Pn	12 41 36.1	+0.7
DDIM				S		Sg	12 42 31.9	-4.3
ZEYE	Izmir, Urla-Ze	3.72	38	P		Pn	12 41 35.9	-0.7
ZEYE				S		Sb	12 42 32.9	+2.8
GCAM	G?zelcaml?	3.77	50	PN		Pn	12 41 37.7	+0.4
GCAM	G?zelcaml?	3.77	50	P		Pn	12 41 37.3	0.0
GCAM				S		Sg	12 42 36.5	-4.1
DGB	zmir	3.79	44	P		Pn	12 41 37.2	-0.3
DGB				S		Sb	12 42 32.2	+0.2
AGG	Agios Georgios	3.80	345	P		Pn	12 41 38.7	+1.0
AGG	Agios Georgios	3.80	345	P		Pn	12 41 39.0	+1.3
AGG	Agios Georgios	3.80	345	PN		Pn	12 41 38.6	+0.9
AGG	Agios Georgios	3.80	345	Pn		Pn	12 41 39.0	+1.3
EVR	Evrytania	3.83	339	P		Pn	12 41 39.7	+1.5
URLA	Izmir	3.86	38	PN		Pn	12 41 38.3	-0.3
URLA	Izmir	3.86	38	P		Pn	12 41 38.3	-0.3
MLSB	Milas	3.91	59	PN		Pn	12 41 40.1	+0.8
TURN	Turunc	4.04	68	PN		Pn	12 41 41.9	+0.8
TURN	Turunc	4.04	68	P		Pn	12 41 42.2	+1.2
TURN				S		Sn	12 42 32.1	+3.9
SLUM	Salum	4.08	160	P		Pn	12 41 42.9	+1.3
	baz=164							
AYDN	Tasoluk	4.17	55	P		Pn	12 41 44.1	+1.2
AYDN				S		Sg	12 42 48.8	-4.6
YER	Yerkesik	4.21	64	PN		Pn	12 41 44.0	+0.7
SIGR	SIGRI	4.26	25	PN		Pn	12 41 44.1	0.0
MULA	Mugla, Merkez-	4.28	62	P		Pn	12 41 46.7	+2.3
MULA				S		Sn	12 42 36.7	+2.5
DALY	Dalyan (Mula)	4.37	69	PN		Pn	12 41 46.9	+1.4
ZEDA	zmir-Bergama	4.57	37	P		Pn	12 41 47.5	-0.8
KOCA	Canakkale, Ayv	4.62	25	P		Pn	12 41 48.6	-0.4
FETY	Fethiye	4.65	72	PN		Pn	12 41 50.8	+1.4
FETY	Fethiye	4.65	72	P		Pn	12 41 51.1	+1.6
FETY				S		Sn	12 42 43.1	+0.6
AYVA	Ayvalik	4.67	31	P		Pn	12 41 48.5	-1.1
TAVA	DENIZLI_Tavas	4.80	62	P		Pn	12 41 54.0	+2.5
TAVA				S		Sn	12 42 53.6	+6.6
LIT	Litokhoron	4.82	350	P		Pn	12 41 53.4	+1.6
LIT	Litokhoron	4.82	350	Pn		Pn	12 41 53.4	+1.6
AKHS	Akhisar	4.89	43	P		Pn	12 41 54.6	+1.9
BOZC	Bozcaada	4.90	23	P		Pn	12 41 48.6	-4.2
CAME	Cameli-Denizli	4.90	69	PN		Pn	12 41 54.2	+1.2
CAEL	Denizli, Camel	4.97	67	P		Pn	12 41 57.2	+3.2
CAEL				S		Sb	12 42 58.9	-7.3
EZN	Ezine	4.98	25	PN		Pn	12 41 54.9	+1.1
BAYC	CANAKKALE_Bayr	4.98	27	P		Pn	12 41 53.8	-0.1
AKAS	Kas	4.98	78	PN		Pn	12 41 55.8	+1.7
AKAS	Kas	4.98	78	Pn		Pn	12 41 55.2	+1.1
AKAS	Kas	4.98	78	P		Pn	12 41 55.6	+1.5
AKAS				S		Sn	12 42 49.7	-1.9
OUR	Ouranopolis	4.99	4	PN		Pn	12 41 54.9	+0.9
BUHA	Balikesir, Bur	5.00	33	P		Pn	12 41 54.3	+0.2
MANT	Manisa	5.08	50	Pn		Pn	12 41 58.2	+2.7
MANT	Manisa	5.08	50	P		Pn	12 41 57.3	+1.8
MANT				S		Sb	12 43 14.3	+4.9
KULA	Kula-Manisa	5.16	51	PN		Pn	12 41 57.9	+1.4
GADA	Gvkgeada	5.17	20	PN		Pn	12 41 57.5	+0.9
GOLH	Golhisar	5.19	67	P		Pn	12 42 00.6	+3.7
GOLH				S		Sn	12 42 59.4	+2.7
STEP	BALIKESIR_Sava	5.20	38	P		Pn	12 41 58.6	+1.6
HORT	Hortiatis	5.25	356	PN		Pn	12 41 58.9	+1.1
ELL	Elmali	5.32	73	P		Pn	12 41 01.8	+3.0
ELL	Elmali	5.32	73	PN		Pn	12 41 59.9	+1.2
ELL	Elmali	5.32	73	Pn		Pn	12 42 01.8	+3.0
BALY	Balya	5.44	35	P		Pn	12 42 02.9	+2.6
SOH	Sokhos	5.47	358	P		Pn	12 42 03.1	+2.4
USAK	Uak-Merkez	5.50	51	P		Pn	12 42 03.1	+2.0
DEMI	Demirci	5.52	47	P		Pn	12 42 04.4	+2.9
AKUM	Antalya-Kumluc	5.59	78	P		Pn	12 42 03.2	+0.9
AKUM				S		Sn	12 42 02.7	-3.6
PASA	Karahalli, USA	5.61	56	P		Pn	12 42 04.8	+2.2
PASA				S		Sb	12 43 30.3	+5.8
GRG	Griva	5.67	351	P		Pn	12 42 05.1	+1.6
FNA	Florina	5.70	343	P		Pn	12 42 05.7	+1.9
FNA	Florina	5.70	343			Pn	12 42 05.7	+1.9
KBN	Korca	5.71	338	P		Pn	12 42 05.1	+1.1
KBN	Korca	5.71	338			Pn	12 42 05.1	+1.1
KORT	Korkueli	5.73	71	P		Pn	12 42 06.3	+2.0
KORT				S		Sn	12 43 12.5	+2.6
BRDR	BURDUR-Merkez	5.73	64	P		Pn	12 42 06.7	+2.5
BRDR				S		Sg	12 43 49.9	+6.5
SRS	Serrai	5.76	0	P		Pn	12 42 07.0	+2.3
DURS	Dursunbey	5.76	41	P		Pn	12 42 05.6	+0.8
ALN	Alexandroupoli	5.87	19	P		Pn	12 42 07.9	+1.7
ALN	Alexandroupoli	5.87	19	Pn		Pn	12 42 07.9	+1.7
BUCA	Burdur, Bucak-	5.98	69	P		Pn	12 42 10.0	+2.3
BUCA				S		Sn	12 43 16.5	+0.6
KZIL	AFYON_Kizioren	6.02	59	P		Pn	12 42 11.6	+3.2
ISP	Isparta	6.11	64	*d*	*iP*	Pn	12 42 13.0	+3.4
ISP	Isparta	6.11	64	Pn		Pn	12 42 13.1	+3.4
SCTE	Santa Cesarea	6.21	321	Pn		Pn	12 42 12.6	+1.8
SWA2		6.29	165	P		Pn	12 42 12.8	+0.8
	baz=167							
BAGO	Egridir - ISPA	6.37	63	P		Pn	12 42 15.5	+2.4
AFYO	Afyonkarahisar	6.38	55	P		Pn	12 42 17.6	+4.4
RZN	Rozhen	6.39	8	P		Pn	12 42 15.2	+1.7
KDZ	Kurdzhali	6.46	12	P		Pn	12 42 15.8	+1.6
YYLC	Yaylacik	6.46	38	P		Pn	12 42 18.9	+4.7
ULDT	Uludag	6.51	41	P		Pn	12 42 17.1	+2.0
KKB	Krupnik	6.52	357	P		Pn	12 42 16.2	+1.1
ANDZ	Kutahya, Merke	6.53	49	P		Pn	12 42 19.1	+3.8
STBT	Saitabat	6.56	41	P		Pn	12 42 17.2	+1.5
TIP	Timpagrande	6.64	307	⇑P		Pn	12 42 16.9	+0.1
TIP	Timpagrande	6.64	307	Pn		Pn	12 42 16.5	-0.3
TIR	Tirane	6.66	335	P		Pn	12 42 18.9	+1.9
TIR	Tirane	6.66	335			Pn	12 42 18.9	+1.9
ESNK	Esenk]y	6.78	37	P		Pn	12 42 22.1	+3.4
PLD	Plovdiv	6.80	7	P		Pn	12 42 22.3	+3.3
YVAC	Isparta, Yalva	6.81	62	P		Pn	12 42 22.9	+3.8
DIM	Dimitrovgrad	6.87	12	P		Pn	12 42 22.9	+3.1
KURT	Yalova, Merkez	6.87	39	P		Pn	12 42 22.6	+2.7
SEDI	Konya, Seydise	6.93	70	P		Pn	12 42 22.9	+2.1
DOGA	KONYA_Doganhis	7.06	65	P		Pn	12 42 26.2	+3.6
BORA	Eskisehir	7.09	48	Pn		Pn	12 42 25.0	+2.0
BORA	Eskisehir	7.09	48	P		Pn	12 42 26.7	+3.7
GAZI	Gazipasa	7.16	80	P		Pn	12 42 23.9	0.0
PGB	Panagyurishte	7.21	4	P		Pn	12 42 26.8	+2.2
VTS	Vitosha	7.26	358	⇑P		Pn	12 42 26.3	+0.8
VTS	Vitosha	7.26	358	P		Pn	12 42 27.2	+1.8
VTS	Vitosha	7.26	358	Pn		Pn	12 42 27.2	+1.8
VTS	Vitosha	7.26	358	P		Pn	12 42 27.4	+2.0
ULC	Ulcinj	7.42	334	⇓	*j*Pn	Pn	12 42 27.3	-0.2
ULC					*i* Sn	Sn	12 43 47.5	-4.0
KMER	Konya-Meram	7.48	69	P		Pn	12 42 31.3	+2.9
JMB	Yambol	7.49	17	P		Pn	12 42 31.2	+2.9
KONT	Konya--Tatoy	7.53	67	P		Pn	12 42 29.5	+0.6
KDHN	Kadinhani	7.54	63	P		Pn	12 42 31.5	+2.3
DRME	Dracevica, Mon	7.64	335	*e*	Pn	Pn	12 42 29.2	-1.2
DRME	Dracevica, Mon	7.64	335	⇓	*j*Pn	Pn	12 42 30.0	-0.4
DRME					*i* Sn	Sn	12 43 52.8	-4.0
VAE	Valguarnera	7.69	289	Pn		Pn	12 42 33.5	+2.3
	comp=E,2.6nm,0.3s,baz=218,slow=5.1,SNR=2.7							
VAE					Sn	Sn	12 43 59.9	+1.9
	comp=E,4.8nm,0.3s,baz=232,slow=10,SNR=2.5							
PVY	Plav	7.76	340	⇓	*j*Pn	Pn	12 42 31.8	-0.5
PVY					*i* Sn	Sn	12 43 55.9	-4.1
KKBE	Karaman, Kazim	7.79	73	P		Pn	12 42 34.5	+1.9
PDG	Podgorica	7.83	336	⇑P		Pn	12 42 33.3	+0.5
PDG	Podgorica	7.83	336	Pn		Pn	12 42 33.2	+0.2
PDG	Podgorica	7.83	336	*e*	Pn	Pn	12 42 31.9	-1.1
TTG	Podgorica	7.83	336	⇑	*j*Pn	Pn	12 42 32.9	-0.1
TTG					*i* Sn	Sn	12 43 57.3	-4.1
BUM	Brajici-Budva	7.84	334	⇑	*j*Pn	Pn	12 42 32.9	-0.4
BUM					*i* Sn	Sn	12 43 57.5	-4.4
BTAS	Taskesti	7.85	46	P		Pn	12 42 38.0	+4.6
MDUB	Mudurnu	7.90	47			Pn	12 42 37.2	+3.1
MPEP	Malo Peshtene	8.00	1	P		Pn	12 42 37.2	+1.8
CSS	Mathiatis	8.00	90			Pn	12 42 34.9	-0.6
IVA	Berane	8.04	340	⇑	*j*Pn	Pn	12 42 35.8	-0.2
IVA					*i* Sn	Sn	12 44 02.6	-4.1
CEME	Cevo	8.05	335	⇓	*j*Pn	Pn	12 42 34.9	-1.2
CEME					*i* Sn	Sn	12 44 02.8	-4.2
HCY	Herceg Novi	8.12	332	*e*	Pn	Pn	12 42 34.1	-2.9
HCY	Herceg Novi	8.12	332	⇓	*j*Pn	Pn	12 42 37.0	0.0
HCY					*i* Sn	Sn	12 44 04.1	-4.4
KOME	Kolasin	8.13	338	⇑	*j*Pn	Pn	12 42 36.9	-0.3
KOME					*i* Sn	Sn	12 44 04.8	-4.1
GULN	MERSIN_Gulnar	8.15	81	P		Pn	12 42 38.8	+1.4
NKME	Niksic	8.23	336	⇓	*j*Pn	Pn	12 42 38.4	-0.2
NKME					*i* Sn	Sn	12 44 07.0	-4.4
PRD	Provadia	8.38	20	P		Pn	12 42 43.2	+2.6
TREB	Trebinje	8.40	333	*e*	Pn	Pn	12 42 38.3	-2.6
DBRK	Dubrovnik	8.44	332	*e*	Pn	Pn	12 42 40.0	-1.4
DBRK					Sn	Sn	12 44 10.3	-6.2
BRY	Bratogost	8.49	334	*e*	Pn	Pn	12 42 42.6	+0.3
BRY	Bratogost	8.49	334	⇑	*i* Pn	Pn	12 42 42.3	0.0
BRY					*i* Sn	Sn	12 44 13.0	-5.0
RAZG	Razgrad	8.52	15	⇓	P	Pn	12 42 44.4	+1.9
BR231	Keskin MP Arra	8.57	56			Pn	12 42 47.2	+3.9
ANTO	Ankara	8.60	56	P		Pn	12 42 47.3	+3.7
ANTO	Ankara	8.60	56			Pn	12 42 47.3	+3.7
PLE	Pljevlja	8.60	339	⇓	*j*Pn	Pn	12 42 43.4	-0.4
PLE					*i* Sn	Sn	12 44 15.8	-4.8
UPM	Unac-Piva	8.64	337	*e*	Pn	Pn	12 42 44.3	0.0
UPM	Unac-Piva	8.64	337	⇓	*j*Pn	Pn	12 42 44.3	0.0
UPM					*i* Sn	Sn	12 44 16.5	-5.1
KERG	Konya-Eregli	8.76	73	P		Pn	12 42 47.1	+1.2
STON	Ston	8.79	331	*e*	Pn	Pn	12 42 43.8	-2.3
STON	Ston	8.79	331	*e*	Pn	Pn	12 42 45.5	-0.7
HSAF	As Saff	8.84	128	P		Pn	12 42 44.3	-2.6
	baz=131							
SGRT	San Giovanni R	8.86	319			Pn	12 42 45.9	-1.3
RUDO	Rudo	8.87	340	*e*	Pn	Pn	12 42 46.6	-0.8
LSTV	Lastovo	9.05	327	*e*	Pn	Pn	12 42 47.9	-1.9
PAOL	Paolisi	9.08	311		Pn	Pn	12 42 49.9	-0.3
BBLS	Lazići	9.09	341	*e*	Pn	Pn	12 42 49.4	-1.0
BRTR	Keskin Array B	9.11	58		Pn	Pn	12 42 53.0	+2.2
	comp=E,2.6nm,0.3s,baz=228,slow=11,SNR=128							
BRTR					LR	LR	12 47 15.8	
	comp=E,793nm,19.4s,baz=251,slow=44							
BRTR	Keskin Array B	9.11	58	*c*	*e*P	Pn	12 42 53.7	+2.9
BRTR					pmax	pmax		
	comp=Z,61nm,1.0s							
BRTR	Keskin Array B	9.11	58		Pn	Pn	12 42 53.6	+2.9
BR131	Keskin Array S	9.11	58		P	Pn	12 42 53.4	+2.6
BR131	Keskin Array S	9.11	58		Pn	Pn	12 42 53.4	+2.6
DIVS	Divibare	9.16	344		Pn	Pn	12 42 51.9	+0.5
DIVS	Divibare	9.16	344	*e*	Pn	Pn	12 42 50.4	-1.0
HUMR	Humele	9.23	6	⇑	P	Pn	12 42 53.0	+0.7
NBNS	Bani Suef	9.38	134	P		Pn	12 42 53.9	-0.5
	baz=136							
RICI	Ricice	9.54	330	*e*	Pn	Pn	12 42 55.3	-1.2
RICI					Sn	Sn	12 44 39.6	-3.8
HERR	Herculane	9.56	355	⇑	P	Pn	12 42 58.4	+1.6
HVAR	Hvar	9.57	327	*e*	Pn	Pn	12 42 56.7	-0.2
ILGA	Ilgaz	9.80	51		Pn	Pn	12 43 03.0	+2.6
TIRR	Tirgusor	9.83	21	⇑	P	Pn	12 43 02.5	+2.1
TIRR	Tirgusor	9.83	21		P	Pn	12 43 01.5	+1.1
TIRR	Tirgusor	9.83	21		Pn	Pn	12 43 01.5	+1.1
OFRI	`Ofer	9.86	103		Pn	Pn	12 43 00.0	-1.0
OFRI					Sn	Sn	12 44 45.9	-5.6
HARR	Harsova	9.91	18	⇑	P	Pn	12 43 04.2	+2.7
SRKY	Kupres RS	10.01	332	*e*	Pn	Pn	12 43 02.7	-0.3
SLTI	Sal'it	10.03	105		Pn	Pn	12 43 02.0	-1.3
SLTI					Sn	Sn	12 44 49.9	-5.8
DQRL	Deir Qamar	10.04	96	*e*	P	Pn	12 43 02.5	-0.9
ARR	Arges	10.04	4	⇑	P	Pn	12 43 04.5	+1.0
MMA0B	Mount Meron ar	10.07	100		Pn	Pn	12 43 02.7	-1.2
MMA0B					Sn	Sn	12 44 51.4	-5.4
MMAI	Mount Meron Ar	10.07	100		Pn	Pn	12 43 01.9	-2.0
	comp=Z,7.9nm,0.3s,baz=264,slow=15,SNR=8.4							
MMAI					Sn	Sn	12 44 52.6	-4.2
	comp=Z,17nm,0.3s,baz=275,slow=17,SNR=5.1							
KZIT	Kziot	10.10	113		Pn	Pn	12 43 02.6	-1.6
KZIT					Sn	Sn	12 44 51.1	-6.2
VOIR		10.14	6	⇑	P	Pn	12 43 05.2	+0.4
TPGR	Topolog	10.20	20	⇑	P	Pn	12 43 07.7	+2.2
FRGS	Fruska Gora	10.21	345	*e*	Pn	Pn	12 43 02.9	-2.8
AMAZ	Amatzia	10.21	109		Pn	Pn	12 43 03.7	-2.1
AMAZ					Sn	Sn	12 44 53.6	-6.5
GEM	Giv'at Ha'Em	10.23	99		Pn	Pn	12 43 05.7	-0.3
GEM					Sn	Sn	12 44 54.9	-5.6
HWQ	Hawqa	10.23	92	*e*	P	Pn	12 43 04.7	-1.4
KIJV	Kijevo	10.25	330	*e*	Pn	Pn	12 43 04.5	-1.8
MMLI	Mount Malkishu	10.27	103		Pn	Pn	12 43 06.1	-0.4
MMLI					Sn	Sn	12 44 55.4	-6.1
NATI	Neve Ativ	10.28	98		Pn	Pn	12 43 05.9	-0.7
NATI					Sn	Sn	12 44 56.1	-5.5
NEHR	Nehoiu	10.28	11	⇑	P	Pn	12 43 07.9	+1.2
MLR	Muntele Rosu	10.29	9	⇑	P	Pn	12 43 08.7	+1.8
MLR	Muntele Rosu	10.29	9	Pn		Pn	12 43 08.8	+1.8
	comp=Z,1.1nm,0.3s,baz=163,slow=17,SNR=20							
MLR	Muntele Rosu	10.29	9	Pn		Pn	12 43 08.7	+1.8
RCY	Rachaya	10.30	97	*e*	P	Pn	12 43 04.8	-2.3
ZIRJ	Zirje	10.31	326	*e*	Pn	Pn	12 43 07.0	0.0
MGRS	Mrkonjic Grad	10.33	333	*e*	Pn	Pn	12 43 03.7	-3.7
BZS	Buzias	10.37	352	P		Pn	12 43 13.0	+5.2
BNN	Bunyan	10.41	67			Pn	12 43 11.2	+2.6
HMDT	Nahal Hemdat	10.41	104		Pn	Pn	12 43 07.5	-1.0
HMDT					Sn	Sn	12 44 59.6	-5.4
CFR	Carcaliu	10.42	18	⇓	P	Pn	12 43 10.2	+1.8
YTIR	Yattir	10.44	109		Pn	Pn	12 43 07.5	-1.4
YTIR					Sn	Sn	12 44 59.1	-6.7
MORI	Morici	10.44	327	*e*	Pn	Pn	12 43 07.9	-0.9
BZK	Bozkurt	10.49	48			Pn	12 43 12.3	+2.8
GRB	Gharib	10.54	129	P		Pn	12 43 07.7	-2.7
	baz=132							
DSI	Dead Sea	10.56	108		Pn	Pn	12 43 09.7	-0.8
DSI					Sn	Sn	12 45 02.9	-5.6
BLY	Banja Luka	10.59	334	*e*	Pn	Pn	12 43 09.5	-1.3
COVR	Voineasa-Covas	10.68	10	⇑	P	Pn	12 43 14.6	+2.5
KRMI	Paran Flat	10.74	116		Pn	Pn	12 43 11.3	-1.7
KRMI					Sn	Sn	12 45 05.6	-7.5
PLOR	Plostina	10.75	12	⇓	P	Pn	12 43 14.8	+1.8
VRI	Vrincioaia	10.78	12	⇑	P	Pn	12 43 14.1	+0.7
PRNI	Paran	10.83	114		Pn	Pn	12 43 13.2	-1.0
PRNI					Sn	Sn	12 45 07.9	-7.3
DUGI	Dugi Otok	10.84	325	*e*	Pn	Pn	12 43 15.2	+1.0
ZFRI	Zfri	10.86	113		Pn	Pn	12 43 12.7	-1.9
ZFRI					Sn	Sn	12 45 09.4	-6.4
A252A	Venje	10.98	338	*e*	Pn	Pn	12 43 16.3	+0.1
HDK1	Dakhla	10.99	151	P		Pn	12 43 16.1	-0.3
	baz=153							
HRFI	Mount Harif	11.01	116		Pn	Pn	12 43 15.8	-1.0
HRFI					Sn	Sn	12 45 13.1	-6.7
NRCA	Norcia	11.03	316		Pn	Pn	12 43 17.9	+0.8
MBRI	Mt Berech	11.05	117		Pn	Pn	12 43 15.8	-1.5
MBRI					Sn	Sn	12 45 14.1	-6.7
EIL	Elat	11.15	117		Pn	Pn	12 43 17.2	-1.3
	comp=Z,5.1nm,0.3s,baz=254,slow=3.6,SNR=26							
EIL					Sn	Sn	12 45 14.3	-8.7
	comp=Z,11nm,0.3s,baz=296,slow=21,SNR=8.5							
EIL	Elat	11.15	117		Pn	Pn	12 43 17.2	-1.3
EIL					Sn	Sn	12 45 15.1	-7.9
HKAT	Jabal Katrina	11.16	125	P		Pn	12 43 16.3	-2.6
	baz=127							
A251A	Rujevac	11.25	333	*e*	Pn	Pn	12 43 19.0	-0.8
PLIT	Plitvice	11.29	330	*e*	Pn	Pn	12 43 19.5	-1.0
NVLJ	Novalja	11.36	327	*i*	Pn	Pn	12 43 20.9	-0.5
TESR	Tescani	11.39	11	⇑	P	Pn	12 43 24.1	+2.3
MORH	Mrgy, Hungar	11.48	343	*e*	Pn	Pn	12 43 21.3	-1.7
MORH	Mrgy, Hungar	11.48	343		PN	Pn	12 43 21.1	-1.9
KOVH	Kovagotottos	11.50	341		PN	Pn	12 43 19.3	-4.0
KOVH	Kovagotottos	11.50	341		SN	Sn	12 45 27.3	-4.2
ASF	Jabal al Asfar	11.53	102		Pn	Pn	12 43 21.9	-2.1
	comp=Z,1.3nm,0.3s,baz=248,slow=19,SNR=2.2							
ASF					Sn	Sn	12 45 27.2	-5.4
	comp=Z,2.3nm,0.3s,baz=8.1,slow=15,SNR=2.4							
RABC	Rab	11.55	327	*e*	Pn	Pn	12 43 23.2	-0.7
A250A	Rusevo Krmpots	11.76	328	*e*	Pn	Pn	12 43 26.4	-0.5
PTJ	Puntijarka	12.02	334	*e*	Pn	Pn	12 43 28.2	-2.2
KALN	Kalnik	12.04	336	*e*	Pn	Pn	12 43 28.2	-2.6
RIY	Rijeka	12.13	328	*e*	Pn	Pn	12 43 31.9	0.0
CRES	Cresnjev	12.14	332	*e*	Pn	Pn	12 43 30.0	-2.1
BEHE	Becsehely	12.24	337	*e*	Pn	Pn	12 43 31.9	-1.5
BEHE	Becsehely	12.24	337	PN		Pn	12 43 31.3	-2.1
BUR08	Bucovina Ar. S	12.35	5	Pn		Pn	12 43 36.9	+1.9
CEY	Cerknica	12.48	329	*e*	Pn	Pn	12 43 36.7	-0.1
SKDS	Skadanscina	12.51	327	*e*	Pn	Pn	12 43 33.1	-4.0
MPLH	Magyarpolny	12.65	341	PN		Pn	12 43 37.7	-1.3
LJU	Ljubljana	12.69	330	*e*	Pn	Pn	12 43 38.9	-0.7
TRPA	Tarpa	12.80	357	PN		Pn	12 43 43.9	+2.9
PSZ	Piszkesteto	12.86	349	P		Pn	12 43 42.7	+0.8
PSZ	Piszkesteto	12.86	349			Pn	12 43 42.7	+0.8
PSZ	Piszkesteto	12.86	349	PN		Pn	12 43 46.4	+4.5
SOKA	Soboth	13.02	333	*i*	Pn	Pn	12 43 43.9	-0.2
	comp=Z,3.4nm,0.4s							
SOKA				*e*	Sn	Sn	12 46 08.2	-0.5
	comp=Z,3.1nm,0.6s							
OBKA	Obir	13.06	331	*e*	Pn	Pn	12 43 45.8	+1.1
	comp=Z,3.8nm,0.4s							
OBKA				*i*	Sn	Sn	12 46 05.0

DPC AMS AMS 12 51 50.0
comp=Z,1μm,12.8s
ARXR Arkhyz 15.92 54⇓ *e*P **P** **12 44 25.7 -1.3**
PBCC Pribram 15.95 337 *e*P **P** **12 44 25.9 -1.2**
PRU Pruhonice 16.05 339 *e*P **P** **12 44 28.9 +0.8**
PRU MLR MLR
comp=Z,600nm,15.4s
PRU Pruhonice 16.05 339 *e*P **P** **12 44 28.9 +0.8**
PRU AMS AMS 12 52 00.0
comp=Z,600nm,15.4s
OSTC Ostas 16.11 343 *e*P **P** **12 44 29.6 +0.8**
OSTC AMS AMS 12 51 50.0
comp=Z,1μm,12.0s
UPC Upice 16.12 342 *e*P **P** **12 44 30.3 +1.4**
UPC Upice 16.12 342 *e*P **P** **12 44 30.3 +1.4**
KARS Kars 16.25 65 P **P** **12 44 30.3 -0.3**
KARS pmax pmax
comp=Z,323nm,1.0s
KARS Kars 16.25 65 P **P** **12 44 30.3 -0.3**
KSP Ksiaz 16.36 343 *e*P **P** **12 44 32.0 +0.4**
SENIN Lac Senin/Sane 16.48 317 P **P** **12 44 33.9 +0.8**
PVCC Panska Ves 16.52 339 AMS AMS 12 52 20.0
comp=Z,700nm,14.9s
SLE Schleitheim 16.73 322 P **P** **12 44 37.2 +1.4**
NEY Neytrino 16.77 56⇓ *e*P **P** **12 44 35.9 -0.5**
NEY pmax pmax
comp=Z,8.0nm,0.7s
SHA1 Shidzhatmaz 16.91 55 *de*P **P** **12 44 37.6 -0.4**
GRA1 Grafenberg Arr 16.95 332 P **P** **12 44 39.6 +1.5**
GRA1 IAmb IAmb 12 44 55.4
comp=Z,100nm,1.3s
GRF Grafenberg Arr 16.95 332 P **P** **12 44 39.6 +1.5**
GRF pmax pmax
comp=Z,100nm,1.3s
GRF Grafenberg Arr 16.95 332 *e*P **P** **12 44 40.5 +2.4**
comp=Z,74nm,1.3s,baz=135,slow=11
GRF *e*L L 12 52 14.7
comp=Z,492nm,18.8s
GRFO Grafenberg 16.95 332 P **P** **12 44 40.6 +2.5**
GRFO pmax pmax
comp=Z,83nm,1.2s
GRFO Grafenberg 16.95 332 P **P** **12 44 40.6 +2.5**
GRFO IAmb IAmb 12 44 55.3
comp=Z,83nm,1.2s
BRG Berggiesshubel 17.01 339 *e*P **P** **12 44 37.7 -1.1**
BRG Amp 12 44 42.0
comp=Z,14nm,0.8s
BRG Berggiesshubel 17.01 339 *e*P **P** **12 44 37.7 -1.1**
BRG pmax pmax
comp=Z,14nm,0.8s
KIV Kislovodsk 17.02 54 *e*P **P** **12 44 40.7 +1.7**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,142nm,14.0s
KIV Kislovodsk 17.02 54 P **P** **12 44 38.7 -0.4**
KIV IAmb IAmb 12 44 44.0
comp=Z,41nm,0.8s
ONI Oni 17.05 59 P **P** **12 44 39.0 -0.3**
ONI pmax pmax
comp=Z,19nm,0.8s
ONI Oni 17.05 59 P **P** **12 44 39.0 -0.3**
KBZ Khabaz 17.07 55 Pn **P** **12 44 39.3 -0.1**
comp=Z,0.9nm,0.3s,baz=247,slow=10,SNR=41
KBZ LR LR 12 52 28.2
comp=Z,295nm,20.1s,baz=261,slow=42
STU Stuttgart 17.10 326 P **Pn** **12 44 38.7 +0.6**
STU pmax pmax
comp=Z,19nm,0.9s
STU Stuttgart 17.10 326 P **Pn** **12 44 38.7 +0.6**
BFO Black Forest 17.20 324 P **Pn** **12 44 39.7 +0.3**
BFO pmax pmax
comp=Z,22nm,1.1s
BFO Black Forest 17.20 324 P **Pn** **12 44 39.7 +0.3**
BFO Black Forest 17.20 324 *e*L L 12 52 36.8
comp=Z,294nm,20.4s
GNI Garni 17.41 68 P **P** **12 44 42.6 -0.8**
comp=Z,1.0nm,0.3s,baz=221,slow=2.4,SNR=11
GNI LR LR 12 52 35.2
comp=Z,593nm,19.4s,baz=278,slow=41
GNI Garni 17.41 68 *de*P **P** **12 44 45.4 +2.0**
GNI pmax pmax
comp=Z,62nm,1.7s
GNI Garni 17.41 68 P **P** **12 44 44.2 +0.8**
GNI IAmb IAmb 12 45 00.1
comp=Z,34nm,0.8s
ZEI Tsey 17.42 59 *e*P **Pn** **12 44 42.5 +0.1**
ZEI pmax pmax
comp=Z,29nm,1.2s
MOX Moxa 17.58 334 P **P** **12 44 47.3 +2.3**
MOX Moxa 17.58 334 *e*L L 12 52 00.6
comp=Z,470nm,19.7s
CLL Collm 17.68 338 *i* P **P** **12 44 47.7 +1.6**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL MLR MLR
comp=Z,500nm,20.8s
CLL Collm 17.68 338 P **P** **12 44 46.7 +0.5**
CLL Collm 17.68 338 *i* P **P** **12 44 47.7 +1.6**
comp=Z,13nm,1.3s
CLL *i* (sP) **sP** **12 44 53.9 +2.1**
comp=Z,18nm,1.0s
CLL LmV 12 52 00.0
comp=Z,500nm,20.8s
CLL Collm 17.68 338 *e*L L 12 52 17.7
comp=Z,480nm,20.8s
ECH Echery 17.70 322 P **Pn** **12 44 45.4 -0.2**
ECH pmax pmax
comp=Z,16nm,1.2s
ECH Echery 17.70 322 P **Pn** **12 44 45.4 -0.2**
GOF Gofitskoye 17.72 51⇑ *e*P **P** **12 44 47.7 +1.1**
GOF pmax pmax
comp=Z,33nm,0.6s
TNS Taunus Mts 18.50 328 *e*L L 12 53 44.6
comp=Z,281nm,19.2s
SUW Suwalki 18.66 359 *e*P **Pn** **12 44 56.9 -0.4**
SUW Suwalki 18.66 359 P **Pn** **12 44 57.2 -0.1**
SUW pmax pmax
comp=Z,88nm,0.9s
SUW Suwalki 18.66 359 P **Pn** **12 44 57.2 -0.1**
SUW Suwalki 18.66 359 *e*P **Pn** **12 44 57.5 +0.2**
GROC Groznyy 18.87 59 *e*P **Pn** **12 45 01.4 +1.4**
GROC pmax pmax
comp=Z,21nm,0.6s
GROC MLR MLR
comp=Z,390nm,12.0s
WLF Walferdange 19.16 324 *d*P **Pn** **12 45 08.5 +5.1**
VORD Divnogorie 19.30 31 *e*P **Pn** **12 45 05.8 +0.7**
VORD pmax pmax
comp=Z,40nm,0.6s
MNK Minsk 19.39 8 *i* P **P** **12 45 02.6 -2.3**
MNK *i* S **Sn** **12 48 42.0 -1.1**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=Z,38nm,0.9s
MNK MLR MLR
comp=E,61nm,17.0s
MNK MLR MLR
comp=Z,222nm,15.0s
MNK MLR MLR
comp=N,408nm,16.0s
MNK Minsk 19.39 8 *i* P **P** **12 45 02.6 -2.3**
comp=E,1.0nm,0.9s
MNK *i* P **P** **12 45 02.6 -2.3**
comp=N,17nm,0.9s
MNK *i* P **P** **12 45 02.6 -2.3**
comp=Z,38nm,0.9s,baz=191
MNK *i* PP **PnPn** **12 45 17.3 -1.8**
MNK *i* S **Sn** **12 48 42.1 -1.1**
MNK *i* LQ LQ 12 50 52.5
MNK *i* LR LR 12 51 45.6
MNK *i* LRM MLR 12 52 29.3
comp=E,61nm,16.7s
MNK *i* LRM MLR 12 52 55.8
comp=Z,222nm,15.4s
MNK *i* LRM MLR 12 53 28.3
comp=N,408nm,16.4s
NACGM Naroch 19.68 6 *i* P **P** **12 45 06.7 -1.4**
BHOU Houvegnez 19.69 325 *d*P **Pn** **12 45 14.3 +4.6**
BTNL Ternell 19.79 326 *dx* x 12 45 13.3
VORR Voronezh 19.80 30 *e*P **P** **12 45 08.8 -0.6**
VORR pmax pmax
comp=Z,30nm,1.3s
MEM Membach 19.87 326 *d*P **Pn** **12 45 11.1 -0.7**
RCHB Rochefort 19.93 324 *d*P **Pn** **12 45 14.2 +1.6**
MAK Makhachkala 20.01 60 *e*P **P** **12 45 08.1 -3.7**
MAK *e*S **S** **12 48 54.0 -2.4**
MAK pmax pmax
comp=Z,287nm,1.2s
BSTI Sart Tilman 20.05 325 *d*P Pn 12 45 17.2 +3.3
BCLA Clavier 20.07 324 *d*P **P** **12 45 12.4 0.0**
IIGN Ignalina 20.09 4 *e*P Pn 12 45 13.8 -0.6
IIGN IAmb IAmb 12 45 29.4
comp=Z,10nm,0.5s
IDID Didziasalis 20.09 5 *e*P Pn 12 45 13.9 -0.5
BGES Gesves 20.15 324 *d*P **P** **12 45 13.5 +0.3**
comp=Z,7.6nm,0.9s
PABE Paberze 20.16 1 P **P** **12 45 13.1 -0.2**
PABE Paberze 20.16 1 *e*P **P** **12 45 12.9 -0.4**
DOU Dourbes 20.20 323 *d*P Pn 12 45 14.8 -1.0
comp=Z,38nm,0.9s
CLF Chambon-Foret 20.26 315 P **P** **12 45 12.4 -2.0**
ISAL Salakas 20.30 4 *e*P Pn 12 45 16.1 -0.7
LPSR Galich'ya Gora 20.41 28 *e*P **P** **12 45 15.1 -0.9**
LPSR pmax pmax
comp=Z,70nm,1.0s
IZAR Zarasai 20.49 4 IAmb IAmb 12 45 26.8
comp=Z,6.0nm,0.5s
VRH Novokhopyorsk 20.55 34 *e*P **P** **12 45 17.4 -0.1**
VRH pmax pmax
comp=Z,70nm,0.8s
SNF Seneffe 20.62 323 *d*P Pn 12 45 22.8 +2.2
BSD Bornholm Skovb 20.65 346 *i* P **P** **12 45 19.0 +0.4**
BSD IAmb IAmb 12 45 27.2
comp=Z,7.8nm,0.5s
BSD Bornholm Skovb 20.65 346 *e*P Pn 12 45 20.5 -0.4
PBUR Paburge 20.71 357 *e*P Pn 12 45 20.4 -1.2
BSEG Bad Segeberg 20.78 338 *e*P **P** **12 45 20.1 +0.1**
comp=Z,20nm,1.0s,baz=135,slow=11
BSEG *e*L L 12 55 15.1
comp=Z,463nm,19.1s
LLD Lille Linde 21.47 342 *i* P **P** **12 45 30.0 +2.6**
LLD IAmb IAmb 12 45 31.7
comp=Z,29nm,0.7s
OBN Obninsk 21.71 20 P **P** **12 45 30.3 +0.3**
comp=Z,7.1nm,0.5s,baz=199,slow=8.4,SNR=6.6
OBN LR LR 12 54 08.1
comp=Z,64nm,20.4s,baz=198,slow=37
OBN Obninsk 21.71 20⇑ *e*P **P** **12 45 30.7 +0.7**
OBN *e* 12 45 52.3
OBN *e*S **S** **12 49 29.4 -0.4**
OBN *e*SS **SnSn** **12 49 58.1 +3.8**
OBN pmax pmax
comp=Z,21nm,0.5s
OBN MLR MLR
comp=Z,294nm,14.0s
DEL Delary 22.14 346 *i* P **P** **12 45 34.0 -0.6**
DEL Delary 22.14 346 *e*P **P** **12 45 34.9 +0.3**
ESBB Sonseca Array 22.23 289 P **P** **12 45 35.9 +0.1**
ESDC Sonseca Array 22.23 289 P **P** **12 45 37.5 +1.7**
comp=Z,2.4nm,0.9s,baz=86,slow=9.9,SNR=11
ESDC LR LR 12 54 15.8
comp=Z,88nm,19.3s,baz=97,slow=37
ESDC Sonseca Array 22.23 289 P **P** **12 45 36.5 +0.7**
RAYN Ar Rayn 22.39 116 P **P** **12 45 39.6 +1.9**
RAYN pmax pmax
comp=Z,13nm,1.0s
RAYN Ar Rayn 22.39 116 P **P** **12 45 39.6 +1.9**
PAB San Pablo 22.52 289 P **P** **12 45 41.1 +2.1**
PAB pmax pmax
comp=Z,40nm,1.5s
PAB San Pablo 22.52 289 P **P** **12 45 41.1 +2.1**
PAB IAmb IAmb 12 45 51.4
comp=Z,40nm,1.5s
MOS Moscow 22.56 21 *e*P **P** **12 45 39.8 +0.7**
MOS *e* 12 46 05.7
MOS *e*S **S** **12 49 41.3 -4.5**
MOS pmax pmax
comp=Z,86nm,1.2s
MOS MLR MLR
comp=Z,300nm,13.0s
VSU Vasula 23.22 4⇑ *e*P **P** **12 45 46.2 +0.3**
VSU pmax pmax
comp=Z,39nm,1.0s
VSU Vasula 23.22 4 *e*P **P** **12 45 47.2 +1.3**
MUD Monsted U'grnd 23.27 340 *i* P **P** **12 45 46.0 -0.5**
MTSE Matsula 23.38 0 *e*P **P** **12 45 47.0 -0.5**
MDT Midelt 23.45 272 P **P** **12 45 51.2 +2.6**
comp=Z,4.2nm,0.9s,baz=90,slow=13,SNR=8.1
MDT LR LR 12 57 54.7
comp=Z,124nm,18.1s,baz=92,slow=44
VIKU Vikbolandet 23.61 351 *e*P **P** **12 45 49.5 -0.3**
BELG Belogornoye 24.13 38 LR LR 12 56 50.6
comp=Z,226nm,18.9s,baz=146,slow=40
PBRG Braganca 24.48 294 *e*P **P** **12 46 04.1 +5.8**
comp=Z,26nm,1.6s
PBAR Barrancos 24.63 286 *e*P **P** **12 46 02.4 +2.8**
comp=Z,20nm,1.5s
MVO Moncorvo 24.64 293 *e*P **P** **12 46 06.2 +6.4**
comp=Z,26nm,1.8s
UPP Uppsala 24.83 353 *e*P **P** **12 46 03.1 +2.0**
PMRV Marv??o 24.87 289 *e*P **P** **12 46 03.4 +1.6**
comp=Z,31nm,1.6s
PCBR Castelo Branco 24.94 290 *e*P P 12 46 12.0 +10
comp=Z,20nm,1.8s
AAL Aland 24.95 356 *e*P **P** **12 46 03.7 +1.5**
PESTR Estremoz 25.04 287 *e*P **P** **12 46 07.3 +4.0**
comp=Z,17nm,1.3s
PVRL Vila Real 25.17 293 *e*P P 12 46 12.0 +7.5
comp=Z,22nm,1.8s
PVAQ Vaqueiros 25.22 284 *e*P P 12 46 12.2 +7.3
comp=Z,17nm,1.6s
POLO Lamas de Olo 25.23 293 *e*P **P** **12 46 08.3 +3.2**
comp=Z,17nm,1.4s
PVIS Viseu 25.28 292 *e*P **P** **12 46 09.2 +3.7**
comp=Z,33nm,1.8s
EVO Evora 25.38 287 *e*P **P** **12 46 10.3 +3.9**
comp=Z,15nm,1.8s
PBDV Barranco-do-Ve 25.40 284 *e*P **P** **12 46 08.7 +2.1**
comp=Z,31nm,1.3s
PCVE Castro Verde 25.46 285 *e*P **P** **12 46 09.4 +2.3**
comp=Z,21nm,1.5s
HFS Hagfors 25.62 349 P **P** **12 46 07.5 -0.8**
comp=Z,6.2nm,0.4s,baz=160,slow=14,SNR=86
HFS LR LR 12 56 30.7
comp=Z,315nm,20.7s,baz=164,slow=37
PGAV Gavieira, Arco 25.63 295 *e*P P 12 46 18.6 +10
comp=Z,24nm,1.6s
FINES FINESS Array B 26.16 3 P **P** **12 46 11.2 -2.1**
comp=Z,7.1nm,0.7s,baz=159,slow=11,SNR=19
FINES PcP **PcP** **12 49 38.4 -1.5**
comp=Z,0.5nm,0.3s,baz=165,slow=5.8,SNR=1.4
FINES LR LR 12 58 09.1
comp=Z,209nm,18.3s,baz=185,slow=40
FINES FINESS Array B 26.16 3 P **P** **12 46 12.1 -1.1**
FIA1 FINESS Array S 26.16 3 P **P** **12 46 13.9 +0.7**
FIA1 IAmb IAmb 12 46 15.3
comp=Z,13nm,0.9s
NC602 NORSAR Array S 26.56 347 P **P** **12 46 17.9 +1.1**
NB2 NORSAR Subarra 26.90 347 P **P** **12 46 20.0 0.0**
comp=Z,15nm,1.2s,baz=156,slow=9.3
NOA NORSAR Array B 26.90 347 P **P** **12 46 19.0 -1.0**
comp=Z,1.1nm,0.5s,baz=151,slow=9.7,SNR=24
NOA LR LR 12 58 19.9
comp=Z,398nm,18.5s,baz=165,slow=40
NOA NORSAR Array B 26.90 347 P **P** **12 46 19.0 -1.0**
EKA Eskdalemuir Ar 27.14 326 P **P** **12 46 24.0 +1.9**
comp=Z,6.3nm,0.4s,baz=125,slow=8.1,SNR=21
EKA LR LR 12 59 30.2
comp=Z,352nm,18.2s,baz=132,slow=42
KLMR Klimovskoe 27.50 17 *e*P **P** **12 46 22.2 -3.0**
KLMR pmax pmax
comp=Z,21nm,0.9s
KLMR Klimovskoe 27.50 17 *e*P **P** **12 46 22.3 -3.0**
KLMR AMP 12 46 29.8
comp=Z,21nm,0.9s
GEYT Alibeck 27.75 74 P **P** **12 46 28.6 +0.8**
comp=Z,4.4nm,0.5s,baz=271,slow=9.9,SNR=5.1
GEYT Alibeck 27.75 74 P **P** **12 46 29.9 +2.1**
GEYT IAmb IAmb 12 46 45.5
comp=Z,16nm,0.9s
GYA0B ALIBECK ARRAY 27.75 74 P **P** **12 46 29.6 +1.8**
GYA0B IAmb IAmb 12 46 53.2
comp=Z,23nm,1.0s
KIRV Kirov 28.84 28 LR LR 12 58 55.5
comp=Z,218nm,20.2s,baz=227,slow=38
KIRV Kirov 28.84 28⇑ *e*P **P** **12 46 38.3 +1.1**
AKTO Aktyubinsk 29.08 48 P **P** **12 46 39.4 -0.1**
comp=Z,2.6nm,0.6s,baz=256,slow=12,SNR=7.1
TOA0 Torodi Ar. Sit 29.64 227 P **P** **12 46 45.0 +0.3**
TOA0 IAmb IAmb 12 47 00.4
comp=Z,8.6nm,0.8s
TORD Torodi Ar. Bea 29.64 227 P **P** **12 46 45.5 +0.8**
comp=Z,5.2nm,0.5s,baz=31,slow=9.1,SNR=32
TORD PcP **PcP** **12 49 49.3 +0.2**
comp=Z,0.8nm,0.7s,baz=34,slow=1.8,SNR=2.3
PRGR Permogore 29.79 21 *e*P **P** **12 46 41.6 -4.0**
UOSS Minazif 29.94 101 P **P** **12 46 48.8 +1.4**
UOSS IAmb IAmb 12 46 59.9
comp=Z,13nm,0.9s
AB31 Akbulak array 29.96 51 *i* P **P** **12 46 46.7 -0.6**
ABKAR Akbulak array 29.96 51 P **P** **12 46 47.9 +0.6**
ABKAR Akbulak array 29.96 51 P **P** **12 46 47.7 +0.4**
HRA Herat 31.61 80 P **P** **12 47 03.9 +1.6**
ARU Arti 31.68 37 LR LR 13 01 20.3
comp=Z,224nm,18.1s,baz=216,slow=39
ARU Arti 31.68 37 *c* *i*P **P** **12 47 00.6 -1.8**
ARU 12 48 04.5
ARU S **S** **12 52 10.5 -0.7**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 31.68 37 P **P** **12 47 03.4 +0.9**
ARU IAmb IAmb 12 47 08.7
comp=Z,18nm,1.2s
KOWA Kowa 32.33 237 LR LR 13 00 44.1
comp=Z,165nm,20.1s,baz=32,slow=37
SVE Sverdlovsk 32.89 38 *e*P **P** **12 47 11.6 -1.4**
ARCES ARCESS Array B 34.26 1 P **P** **12 47 22.8 -1.9**
comp=Z,4.8nm,0.7s,baz=175,slow=8.1,SNR=23
ARCES PcP **PcP** **12 50 00.6 -0.2**
comp=Z,2.5nm,0.9s,baz=159,slow=2.8,SNR=1.3
ARCES LR LR 13 02 34.1
comp=Z,408nm,18.5s,baz=179,slow=38
ARCES ARCESS Array B 34.26 1 P **P** **12 47 23.8 -1.0**
KEV Kevo 34.52 2 P **P** **12 47 26.5 -0.4**
KEV pmax pmax
comp=Z,37nm,1.5s
KEV Kevo 34.52 2 P **P** **12 47 26.5 -0.4**
SOCY Socotra 35.89 122 P **P** **12 47 38.4 -1.2**
SOCY IAmb IAmb 12 47 44.0
comp=Z,15nm,0.9s
CHGR Chuyangaron 36.27 71 P **P** **12 47 43.0 +0.4**
KKAR Karatay Array 36.78 63 P **P** **12 47 46.5 -0.3**
KKAR Karatay Array 36.78 63 P **P** **12 47 46.5 -0.3**
KBL Kabul 37.03 78 P **P** **12 47 50.2 +1.0**
KBL pmax pmax
comp=Z,12nm,1.1s
KBL Kabul 37.03 78 P **P** **12 47 50.2 +1.0**
KBL IAmb IAmb 12 47 54.0
comp=Z,12nm,1.1s
BRVK Borovoye 37.10 47 *de*P **P** **12 47 48.6 -0.8**
BRVK pmax pmax
comp=Z,17nm,1.7s
BRVK Borovoye 37.10 47 P **P** **12 47 48.9 -0.5**
GAR Garm 37.11 70 P **P** **12 47 50.3 +0.5**
BTK Batken 37.33 68 P **P** **12 47 52.4 +0.8**
BTK pmax pmax
comp=Z,8.0nm,1.0s
BTK Batken 37.33 68 P **P** **12 47 52.4 +0.8**
OTUK Ortayu 37.95 55 P **P** **12 47 55.3 -1.3**
KMBO Kilima Mbogo 38.47 158 LR LR 13 03 11.6
comp=Z,80nm,19.4s,baz=82,slow=35
KMBO Kilima Mbogo 38.47 158 *i* P **P** **12 48 03.9 +2.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 38.69 229 P **P** **12 48 03.4 +0.3**
comp=Z,15nm,0.9s,baz=47,slow=9.2,SNR=12
DBIC LR LR 13 06 16.9
comp=Z,133nm,18.1s,baz=44,slow=40
DBIC Dimbokro 38.69 229 P **P** **12 48 03.0 -0.1**
DBIC IAmb IAmb 12 48 09.5
comp=Z,15nm,0.9s
TIC Toumodi 38.81 229 *e*PKP1 **P** **12 48 04.2 +0.1**
KIC Kosan Boka 38.86 229 *e*PKP1 **P** **12 48 04.8 +0.3**
comp=Z,32nm,1.0s
LIC Lamto 39.14 229 *e*PKP1 **P** **12 48 04.2 -2.7**
comp=Z,58nm,0.9s
JMIC Jan Mayen 39.54 344 LR LR 13 06 23.8
comp=Z,67nm,18.7s,baz=241,slow=39
AAK Ala-Archa 39.74 64 LR LR 13 06 47.6
comp=Z,93nm,18.1s,baz=286,slow=40
AAK Ala-Archa 39.74 64 *de*P **P** **12 48 12.1 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 39.74 64 P **P** **12 48 12.8 +0.9**
AAK IAmb IAmb 12 48 28.2
comp=Z,8.6nm,0.7s
BORG Borgarnes 39.77 332 LR LR 13 06 53.2
comp=Z,192nm,19.1s,baz=169,slow=40
TKM2 Tokmak 2 40.51 63 P **P** **12 48 17.1 -1.2**
NIL Nilore 40.63 78 P **P** **12 48 20.1 +0.8**
NIL pmax pmax
comp=Z,49nm,0.9s
NIL Nilore 40.63 78 P **P** **12 48 20.1 +0.8**
KSH Kashi 41.34 68 P **P** **12 48 24.0 -1.1**
KSH sP sP 12 48 34.2 +2.8
KSH pmax pmax
comp=Z,10.0nm,0.8s
MDOK Medeo 41.53 62 P **P** **12 48 22.6 -4.1**
KDJ Kajisay 41.78 64 P **P** **12 48 29.3 +0.6**
KDJ pmax pmax
comp=Z,14nm,0.8s
KDJ Kajisay 41.78 64 P **P** **12 48 29.3 +0.6**
KDJ IAmb IAmb 12 48 44.2
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 42.02 51 P **P** **12 48 29.5 -0.8**
KURK Kurchatov 42.07 51 *d* *i*P **P** **12 48 29.7 -1.1**
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 42.07 51 P **P** **12 48 30.3 -0.5**
KURK IAmb IAmb 12 48 48.4
comp=Z,8.6nm,0.8s
TARG Taragay, Kyrgy 42.31 64 P **P** **12 48 33.5 +0.2**
TARG IAmb IAmb 12 48 48.1
comp=Z,14nm,1.3s
MAKZ Makanchi 44.54 57 P **P** **12 48 50.5 -0.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 44.54 57 P **P** **12 48 50.5 -0.3**
MK31 Makanchi Array 44.76 57 *d* *i*P **P** **12 48 51.5 -1.0**
MK31 Makanchi Array 44.76 57 P **P** **12 48 52.1 -0.4**
MK31 IAmb IAmb 12 49 05.2
comp=Z,8.6nm,0.6s
MKAR Makanchi Array 44.76 57 P **P** **12 48 51.4 -1.1**
comp=Z,8.7nm,0.7s,baz=269,slow=7.6,SNR=82
MKAR PcP **PcP** **12 50 34.4 -0.1**
comp=Z,2.2nm,0.6s,baz=268,slow=4.0,SNR=1.9
MKAR ScP **ScP** **12 54 25.2 -1.3**
comp=Z,0.4nm,0.8s,baz=263,slow=4.7,SNR=2.0
MKAR Makanchi Array 44.76 57 P **P** **12 48 51.5 -1.0**
ZAA0 Zalesovo Array 45.81 46 P **P** **12 48 59.5 -1.3**
ZALV Zalesovo Beam 45.81 46 P **P** **12 48 59.1 -1.7**
comp=Z,4.5nm,0.3s,baz=270,slow=7.5,SNR=25
NRIK Noril'sk 48.26 25 P **P** **12 49 19.3 -0.4**
comp=Z,2.6nm,0.4s,baz=317,slow=13,SNR=2.8
NRIK LR LR 13 11 09.1
comp=Z,138nm,20.4s,baz=240,slow=38
NRIK Noril'sk 48.26 25⇑ *e*P **P** **12 49 19.2 -0.4**
NRIK pmax pmax
comp=Z,2.0nm,0.6s
NRIK Noril'sk 48.26 25 P **P** **12 49 19.9 +0.2**
NRIK IAmb IAmb 12 49 46.5
comp=Z,5.7nm,1.0s
WMQ Urumqi 49.03 60 *e*P **P** **12 49 27.5 +1.4**
WMQ pP sP 12 49 31.1 -1.3
WMQ pmax pmax
comp=Z,11nm,1.1s
PYUN Piuthan 50.41 81 *e*P **P** **12 49 37.5 +0.6**
comp=Z,55nm,0.7s
LSZ Lusaka 50.54 174 P **P** **12 49 38.7 +1.0**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ Lusaka 50.54 174 P **P** **12 49 38.7 +1.0**
LSZ IAmb IAmb 12 49 44.2
comp=Z,6.0nm,0.8s
DANN Dangsing 50.93 80 *e*P **P** **12 49 41.3 +0.3**
comp=Z,149nm,0.7s
KOLN Koldanda 51.04 81 *e*P **P** **12 49 41.9 +0.2**
comp=Z,31nm,0.7s
GKN Gorkha 51.78 80 *e*P **P** **12 49 47.0 -0.2**
comp=Z,37nm,0.7s
DMN Daman 52.32 80 *e*P **P** **12 49 51.6 +0.3**
PKIN Phulchoki 52.57 80 *e*P **P** **12 49 52.9 -0.3**

	comp=Z,50nm,0.8s								
PKI	**Pulchoki**	**52.58**	**80**	*e*P		**P**		**12 49 53.2**	**-0.1**
	comp=Z,45nm,0.8s								
GUN	**Gumba**	**52.81**	**80**	*e*P		**P**		**12 49 55.0**	**-0.1**
	comp=Z,34nm,0.6s								
JIRN	**Jiri**	**53.17**	**80**	*e*P		**P**		**12 49 58.0**	**+0.2**
TSUM	**Tsumeb**	**54.55**	**187**	LR		LR		13 16 13.7	
	comp=Z,317nm,18.7s,baz=334,slow=39								
LSA	**Lhasa**	**56.28**	**75**	P		**P**		**12 50 20.4**	**0.0**
LSA				pmax		pmax			
	comp=Z,16nm,1.0s								
LSA	**Lhasa**	**56.28**	**75**	P		**P**		**12 50 20.4**	**0.0**
GOMU	**GeErMu**	**56.55**	**67**	P		**P**		**12 50 22.8**	**+0.7**
GOMU				pP		sP		12 50 26.4	-2.1
GOMU				sP		pP		12 50 30.7	+4.0
GOMU				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GOMU				pmax		pmax			
	comp=Z,100nm,5.5s								
ZAK	**Zakamensk**	**57.59**	**48**	*e*P		**P**		**12 50 27.5**	**-1.5**
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.4s								
SHL	**Shillong**	**58.66**	**79**	P		**P**		**12 50 36.9**	**0.0**
SHL				pmax		pmax			
	comp=Z,25nm,1.1s								
SHL	**Shillong**	**58.66**	**79**	P		**P**		**12 50 36.9**	**0.0**
EUNU	**Eureka**	**58.76**	**349**	P		**P**		**12 50 39.5**	**+2.8**
GTA	**Gaotai**	**59.02**	**61**	⇓P		**P**		**12 50 38.5**	**-0.6**
GTA				pP		sP		12 50 43.3	-2.2
GTA				sP		pP		12 50 46.4	+2.6
GTA				pmax		pmax			
	comp=Z,4.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,41nm,5.6s								
GTA				LR		LR			
	comp=Z,83nm,17.1s								
GTA				LR		LR			
	comp=Z,70nm,17.8s								
PALK	**Pallekele**	**59.16**	**104**	LR		LR		13 17 12.6	
	comp=Z,54nm,20.9s,baz=22,slow=37								
LBTB	**Lobatse**	**60.06**	**178**	LR		LR		13 20 28.3	
	comp=Z,111nm,20.3s,baz=4.0,slow=40								
SONM	**Songino Array**	**60.37**	**50**	P		**P**		**12 50 47.4**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=280,slow=7.6,SNR=18								
SONM	**Songino Array**	**60.37**	**50**	P		**P**		**12 50 49.2**	**+0.9**
SONM				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**60.37**	**50**	P		**P**		**12 50 49.1**	**+0.9**
ULN	**Ulaanbaatar**	**60.77**	**50**⇑	*e*P		**P**		**12 50 50.8**	**-0.3**
ULN				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ULN	**Ulaanbaatar**	**60.77**	**50**	P		**P**		**12 50 52.1**	**+1.0**
ULN				IAmb		IAmb		12 51 02.6	
	comp=Z,5.0nm,0.7s								
BOD	**Bodaibo**	**61.10**	**38**	*e*P		**P**		**12 50 52.4**	**-0.5**
BOD				pmax		pmax			
	comp=Z,8.0nm,0.8s								
TIXI	**Tiksi**	**61.45**	**20**	P		**P**		**12 50 54.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=275,slow=22,SNR=7.1								
TIXI	**Tiksi**	**61.45**	**20**⇑	*e*P		**P**		**12 50 55.4**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.8s								
TIXI	**Tiksi**	**61.45**	**20**	P		**P**		**12 50 56.9**	**+1.9**
SCHQ	**Schefferville**	**62.20**	**319**	P		**P**		**12 51 00.6**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=66,slow=6.1,SNR=11								
SCHQ	**Schefferville**	**62.20**	**319**	P		**P**		**12 51 01.1**	**+0.7**
RES	**Resolute Bay**	**63.15**	**345**	P		**P**		**12 51 07.7**	**+1.3**
RES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
RES	**Resolute Bay**	**63.15**	**345**	P		**P**		**12 51 07.7**	**+1.3**
RES				IAmb		IAmb		12 51 16.8	
	comp=Z,3.6nm,0.9s								
LZH	**Lanzhou**	**63.28**	**63**	*e*P		**P**		**12 51 09.5**	**+1.4**
LZH				pP		sP		12 51 17.8	+3.2
LZH				pmax		pmax			
	comp=Z,13nm,1.4s								
LZH				LR		LR			
	comp=Z,160nm,15.1s								
LZH				LR		LR			
	comp=Z,120nm,15.8s								
LZH				LR		LR			
	comp=Z,170nm,16.2s								
BOSA	**Boshof**	**63.64**	**178**	P		**P**		**12 51 10.1**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=6.4,slow=8.0,SNR=7.0								
BOSA				LR		LR		13 21 16.3	
	comp=Z,108nm,19.6s,baz=3.0,slow=38								
BOSA	**Boshof**	**63.64**	**178**	P		**P**		**12 51 10.4**	**+0.1**
BOSA				pmax		pmax			
	comp=Z,13nm,1.4s								
BOSA	**Boshof**	**63.64**	**178**	P		**P**		**12 51 10.4**	**+0.1**
BATG	**Bathurst New B**	**64.83**	**311**	P		**P**		**12 51 18.8**	**+0.9**
CD2	**Chengdu**	**65.53**	**69**	P		**P**		**12 51 24.1**	**+1.3**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
PZH	**PanZhiHua**	**66.06**	**74**	P		**P**		**12 51 28.6**	**+2.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PZH				pmax		pmax			
	comp=Z,100nm,5.2s								
YAK	**Yakutsk**	**66.36**	**30**⇓	*e*P		**P**		**12 51 27.2**	**-0.3**
YAK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
D62A	**Allapoint, All**	**66.74**	**312**	P		**P**		**12 51 30.7**	**+0.5**
SUR	**Sutherland**	**67.42**	**183**	LR		LR		13 24 50.8	
	comp=Z,206nm,18.0s,baz=352,slow=39								
CHTO	**Chiang Mai**	**67.66**	**82**	P		**P**		**12 51 38.7**	**+2.2**
CHTO				pmax		pmax			
	comp=Z,11nm,1.3s								
CHTO	**Chiang Mai**	**67.66**	**82**	P		**P**		**12 51 38.7**	**+2.2**
CHTO				IAmb		IAmb		12 51 43.5	
	comp=Z,11nm,1.2s								
CMAR	**Chiang Mai Arr**	**67.84**	**83**	P		**P**		**12 51 36.9**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=297,slow=8.0,SNR=18								
CMAR	**Chiang Mai Arr**	**67.84**	**83**	P		**P**		**12 51 38.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**67.84**	**83**	P		**P**		**12 51 38.1**	**+0.5**
A36M	**Sachs Harbour**	**70.75**	**350**	P		**P**		**12 51 56.0**	**+1.2**
C36M	**Paulatuk**	**72.93**	**349**	P		**P**		**12 52 08.7**	**+0.8**
C36M				IAmb		IAmb		12 52 16.7	
	comp=Z,4.1nm,0.6s								
BILL	**Bilibino**	**73.20**	**14**⇑	*e*P		**P**		**12 52 09.1**	**-0.4**
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BILL	**Bilibino**	**73.20**	**14**	P		**P**		**12 52 10.3**	**+0.8**
BILL				IAmb		IAmb		12 52 27.0	
	comp=Z,14nm,1.5s								
SEY	**Seymchan**	**73.87**	**22**	P		**P**		**12 52 13.0**	**-0.6**
	comp=Z,4.6nm,0.3s,baz=29,slow=0.8,SNR=19								
SEY	**Seymchan**	**73.87**	**22**⇓	*e*P		**P**		**12 52 13.5**	**-0.1**
SEY				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CN2	**Changchun**	**74.01**	**47**	*e*P		**P**		**12 52 15.1**	**+0.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KLR	**Kul'dur**	**74.47**	**40**⇓	*e*P		**P**		**12 52 17.3**	**0.0**
KLR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
INK	**Inuvik**	**75.24**	**351**	P		**P**		**12 52 22.2**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=37,slow=4.6,SNR=7.0								
INK	**Inuvik**	**75.24**	**351**	P		**P**		**12 52 21.6**	**+0.2**
MA2	**Magadan**	**75.86**	**25**	P		**P**		**12 52 24.6**	**-0.6**
	comp=Z,8.2nm,0.6s,baz=343,slow=4.1,SNR=20								
MA2	**Magadan**	**75.86**	**25**	P		**P**		**12 52 24.8**	**-0.4**
MA2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MA2	**Magadan**	**75.86**	**25**	P		**P**		**12 52 24.8**	**-0.4**
MA2				IAmb		IAmb		12 52 28.9	
	comp=Z,9.6nm,0.8s								
NJ2	**Nanjing**	**76.10**	**61**	*e*P		**P**		**12 52 27.4**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
CBN	**Corbin Frederi**	**76.56**	**307**	P		**P**		**12 52 31.0**	**+1.5**
RDOG	**Red Dog Mine**	**76.80**	**2**	P		**P**		**12 52 31.3**	**+0.9**
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**		**12 52 30.1**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=33,slow=5.3,SNR=22								
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**		**12 52 31.5**	**+0.7**
YKA	**Yellowknife Ar**	**76.86**	**341**	P		**P**		**12 52 31.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**77.62**	**44**	P		**P**		**12 52 34.9**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=294,slow=5.3,SNR=8.1								
I29M	**Ogilvie Camp,**	**78.63**	**352**	P		**P**		**12 52 40.6**	**0.0**
I29M				IAmb		IAmb		12 52 49.6	
	comp=Z,7.8nm,1.0s								
FFC	**Flin Flon**	**78.85**	**331**	P		**P**		**12 52 43.7**	**+1.7**
FFC				pmax		pmax			
	comp=Z,5.0nm,0.9s								
FFC	**Flin Flon**	**78.85**	**331**	P		**P**		**12 52 43.7**	**+1.7**
FFC				IAmb		IAmb		12 53 05.2	
	comp=Z,5.4nm,0.9s								
KS19	**Wonju Array Si**	**79.13**	**52**	P		**P**		**12 52 44.2**	**+0.4**
KS19				IAmb		IAmb		12 52 59.2	
	comp=Z,14nm,1.1s								
KSAR	**Wonju Array Be**	**79.17**	**52**	P		**P**		**12 52 44.6**	**+0.5**
KSAR	**Wonju Array Be**	**79.17**	**52**	P		**P**		**12 52 44.6**	**+0.5**
KSRS	**Korea Array**	**79.19**	**52**	P		**P**		**12 52 43.5**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=306,slow=4.3,SNR=16								
H21K	**Melozitna Rive**	**79.28**	**358**	P		**P**		**12 52 46.0**	**+1.8**
H21K				IAmb		IAmb		12 53 02.6	
	comp=Z,17nm,1.2s								
ULM	**Lac du Bonnet**	**79.42**	**325**	P		**P**		**12 52 47.4**	**+2.2**
	comp=Z,5.0nm,0.8s,baz=87,slow=4.7,SNR=4.2								
ULM	**Lac du Bonnet**	**79.42**	**325**	P		**P**		**12 52 46.9**	**+1.7**
ULM				IAmb		IAmb		12 52 54.7	
	comp=Z,11nm,1.2s								
I21K	**Tanana**	**79.74**	**358**	P		**P**		**12 52 45.7**	**-0.9**
I21K				IAmb		IAmb		12 52 52.5	
	comp=Z,15nm,1.2s								
MDM	**Murphy Dome**	**79.82**	**356**	P		**P**		**12 52 47.9**	**+0.8**
MDM				IAmb		IAmb		12 53 02.6	
	comp=Z,7.5nm,1.1s								
MLY	**Manley**	**79.85**	**358**	P		**P**		**12 52 48.6**	**+1.3**
MLY				IAmb		IAmb		12 52 52.0	
	comp=Z,8.4nm,1.1s								
COLA	**College**	**79.88**	**356**⇑	*e*P		**P**		**12 52 48.6**	**+1.2**
COLA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ILAR	**Eielson Array**	**79.93**	**356**	P		**P**		**12 52 48.7**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=359,slow=4.0,SNR=12								
ILAR	**Eielson Array**	**79.93**	**356**	P		**P**		**12 52 49.0**	**+1.3**
ILAR	**Eielson Array**	**79.93**	**356**	P		**P**		**12 52 49.0**	**+1.3**
DAWY	**Dawson**	**80.00**	**352**	P		**P**		**12 52 49.3**	**+1.1**
DAWY				IAmb		IAmb		12 52 58.8	
	comp=Z,5.3nm,0.8s								
ANM	**Nome**	**80.17**	**4**	P		**P**		**12 52 49.3**	**+0.3**
ANM				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ANM	**Nome**	**80.17**	**4**	P		**P**		**12 52 49.2**	**+0.3**
HDA	**Harding Lake**	**80.29**	**356**	P		**P**		**12 52 51.5**	**+1.9**
HDA				IAmb		IAmb		12 52 58.5	
	comp=Z,17nm,1.3s								
WRH	**Wood River Hil**	**80.30**	**356**	P		**P**		**12 52 50.1**	**+0.5**
WRH				IAmb		IAmb		12 52 59.6	
	comp=Z,11nm,0.9s								
BPAW	**Bear Paw Mtn.**	**80.79**	**358**	P		**P**		**12 52 52.2**	**-0.2**
BPAW				IAmb		IAmb		12 52 58.9	
	comp=Z,8.3nm,1.0s								
J20K	**Nowinta River**	**80.79**	**359**	P		**P**		**12 52 53.4**	**+1.1**
J20K				IAmb		IAmb		12 52 58.1	
	comp=Z,11nm,1.2s								
DOT	**Dot Lake**	**80.85**	**354**	P		**P**		**12 52 54.1**	**+1.4**
DOT				IAmb		IAmb		12 53 03.1	
	comp=Z,5.4nm,0.9s								
BCAR	**Beaver Creek A**	**81.22**	**353**	P		**P**		**12 52 55.8**	**+1.1**
L27K	**Beaver Creek,**	**81.23**	**353**	P		**P**		**12 52 55.2**	**+0.4**
L27K				IAmb		IAmb		12 53 01.2	
	comp=Z,5.7nm,1.0s								
KTH	**Kantishna Hill**	**81.34**	**358**	P		**P**		**12 52 55.9**	**+0.5**
KTH				IAmb		IAmb		12 53 14.9	
	comp=Z,5.6nm,1.0s								
CAST	**Castle Rocks**	**81.51**	**358**	P		**P**		**12 52 57.0**	**+0.8**
CAST				IAmb		IAmb		12 53 19.0	
	comp=Z,12nm,1.3s								
YSS	**Yuzh-Sakhalins**	**81.58**	**37**	*e*P		**P**		**12 52 56.4**	**-0.4**
YSS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PPLA	**Purkeypile**	**82.03**	**358**	P		**P**		**12 52 59.9**	**+0.8**
PETK	**Petropavlovsk-**	**83.32**	**26**	P		**P**		**12 53 06.1**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=228,slow=3.8,SNR=3.8								
PETK	**Petropavlovsk-**	**83.32**	**26**	P		**P**		**12 53 06.6**	**+0.8**
PETK	**Petropavlovsk-**	**83.32**	**26**	P		**P**		**12 53 06.6**	**+0.8**
ECSD	**EROS Data Cent**	**84.33**	**321**	P		**P**		**12 53 11.2**	**0.0**
ECSD				IAmb		IAmb		12 53 18.6	
	comp=Z,6.1nm,0.9s								
MJAR	**Matsushiro Arr**	**86.16**	**47**	P		**P**		**12 53 20.9**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=306,slow=4.8,SNR=6.0								
MJAR	**Matsushiro Arr**	**86.16**	**47**	P		**P**		**12 53 20.4**	**-0.1**
MJAR				IAmb		IAmb		12 53 36.5	
	comp=Z,4.9nm,1.1s								
LAO	**LASA Array**	**86.70**	**328**	P		**P**		**12 53 25.0**	**+2.0**
NEW	**Newport**	**89.67**	**335**	P		**P**		**12 53 38.4**	**+1.4**
	comp=Z,2.1nm,1.0s,baz=254,slow=22,SNR=2.4								
PDAR	**Pinedale Array**	**91.25**	**327**	P		**P**		**12 53 44.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=67,slow=5.0,SNR=3.2								
NVAR	**Mina Array Bea**	**98.54**	**331**	P		Pdif		12 54 19.4	+1.2
	comp=Z,0.4nm,0.8s,baz=59,slow=4.3,SNR=1.9								
TXAR	**Lajitas Array**	**98.70**	**315**	P		Pdif		12 54 20.3	+1.4
	comp=Z,0.2nm,0.8s,baz=74,slow=7.6,SNR=2.4								
TXAR	**Lajitas Array**	**98.70**	**315**	P		**P**		**12 54 18.7**	**-0.3**
WRA	**Warramunga Arr**	**117.90**	**96**	PKP		**PKPdf**		**12 59 25.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=312,slow=1.7,SNR=8.5								
WRA	**Warramunga Arr**	**117.90**	**96**	PKIKP		**PKPdf**		**12 59 25.4**	**-0.8**
WRA	**Warramunga Arr**	**117.90**	**96**	PKP		**PKPdf**		**12 59 25.4**	**-0.8**
ASAR	**Alice Springs**	**119.36**	**99**	PKP		**PKPdf**		**12 59 27.7**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=323,slow=1.1,SNR=8.3								
STKA	**Stephens Creek**	**129.01**	**105**	PKP		**PKiKP**		**12 59 47.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=315,slow=2.9,SNR=1.5								

*IDC **12** 12:46:28.3±5.1, 1°.28N×127°.14E, h142km±57km, mb3.3/4, mb1 3.3/6, mb1mx3.1/41, mbtmp3.7/6, Error ellipse: s-maj=76.2km s-min=19.7km az=74.0*

ISC 12 12:46:28.9±1.4, **1°.3N**±0°.2×**127°.2E**±0°.2, **h150**km, **n6, σ0§46/6, mb3.7/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.58**	**118**	P	**Pn**	**12 47 37.0**	**+0.2**
	0.5nm,0.3s,baz=127,slow=24,SNR=2.2						
SIJI				S	Sn	12 48 17.5	-12
	1.7nm,0.3s,baz=32,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**19.36**	**185**	P	**P**	**12 50 43.1**	**+0.1**
	0.1nm,0.3s,baz=358,slow=11,SNR=0.9						
WRA	**Warramunga Arr**	**22.25**	**162**	P	**P**	**12 51 13.3**	**-0.4**
	1.5nm,0.4s,baz=340,slow=11,SNR=28						
ASAR	**Alice Springs**	**25.67**	**166**	P	**P**	**12 51 45.6**	**+0.5**
	0.2nm,0.5s,baz=354,slow=7.4,SNR=5.3						
STKA	**Stephens Creek**	**35.71**	**159**	P	**P**	**12 53 12.8**	**-0.4**
	0.6nm,0.4s,baz=331,slow=10,SNR=1.4						
MKAR	**Makanchi Array**	**59.81**	**326**	P	**P**	**12 56 18.4**	**0.0**
	0.5nm,0.4s,baz=121,slow=7.9,SNR=13						

*SFS **12** 12:58:31.0, 35°.66N×3°.64W, h21km, ML2.5, ALBORAN SUR*

*MDD **12** 12:58:31.2±0.6, 35°.72N×3°.63W, h4km±4km, mb_Lg2.3/9, Error ellipse: s-maj=4.9km s-min=3.5km az=11.0*

*CNRM **12** 12:58:32.3, 35°.69N×3°.61W, h25km, ml2.0*

ISC 12 12:58:31.8±1.2, **35.72N**±0°.02×**3°.59W**±0°.03, **h23**km±14km, **n23, σ1§27/46, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.50**	**64**	Pg	**Pb**	**12 58 42.4**	**+0.3**
EALB				Sg	**Sb**	**12 58 49.4**	**+0.4**
EALB				*i* Vmb_Lg		12 58 51.5	
PALE	**Palemas**	**0.57**	**210**	P	**Pb**	**12 58 43.7**	**+0.4**
PALE				S	**Sn**	**12 58 52.2**	**-1.2**
EMEL	**Melilla**	**0.67**	**129**	Pg	**Pb**	**12 58 43.9**	**-0.9**
EMEL				Sg	**Sb**	**12 58 52.6**	**-1.0**
GOG	**Mont Gurugu**	**0.69**	**135**	P	**Pb**	**12 58 44.7**	**-0.7**
GOG				S	**Sb**	**12 58 54.7**	**+0.2**
ELGU	**Los Guajares,**	**1.15**	**359**	Pg	**Pb**	**12 58 53.0**	**-0.1**
ELGU				Sg	**Sn**	**12 59 07.9**	**+0.2**
ELGU				*i* Vmb_Lg		12 59 12.1	
EMAL	**Malaga-Limoner**	**1.24**	**327**	P	**Pn**	**12 58 52.8**	**-1.0**
EMAL				S	**Sb**	**12 59 11.1**	**+0.9**
EMIJ	**Mijas**	**1.28**	**312**	Pg	**Pn**	**12 58 53.9**	**-0.4**
EMIJ				Sg	**Sn**	**12 59 10.2**	**-0.6**
EMIJ				*i* Vmb_Lg		12 59 16.2	
EBER	**Berja**	**1.31**	**26**	Pn	**Pn**	**12 58 54.6**	**-0.3**
EBER				Sn	**Sn**	**12 59 11.0**	**-0.8**
EBER				*i* Vmb_Lg		12 59 21.4	
TAF	**Taforalt**	**1.32**	**133**	P	**Pn**	**12 58 54.7**	**-0.3**
TAF				S	**Sb**	**12 59 14.2**	**+1.7**
EGOR	**Sierra Gorda,**	**1.45**	**343**	Pn	**Pn**	**12 58 57.0**	**+0.2**
EGOR				Sn	**Sn**	**12 59 14.1**	**-1.1**
EGOR				*i* Vmb_Lg		12 59 22.6	
SMIR	**Smir Dam**	**1.46**	**269**	P	**Pn**	**12 58 55.9**	**-0.9**
SMIR				S	**Sn**	**12 59 14.2**	**-1.0**
CHEFC	**Chefchaouen**	**1.55**	**247**	P	**Pn**	**12 58 56.1**	**-2.1**
CHEFC				S	**Sn**	**12 59 15.4**	**-2.3**
JBK	**JBK**	**1.62**	**148**	P	**Pn**	**12 58 58.3**	**-0.8**
JBK				S	**Sn**	**12 59 18.3**	**-1.1**
EQES	**Quesada**	**2.12**	**11**	Pn	**Pn**	**12 59 06.7**	**+0.6**
EQES				Sn	**Sn**	**12 59 32.4**	**+0.6**
EQES				*i* Vmb_Lg		12 59 38.7	
LCRM	**LCR**	**2.28**	**208**	P	**Pb**	**12 59 11.3**	**-1.1**
LCRM				S	**Sb**	**12 59 39.3**	**-0.9**
EADA	**Adamuz**	**2.57**	**342**	Pn	**Pn**	**12 59 11.6**	**-0.6**
EADA				Sn	**Sn**	**12 59 44.1**	**+1.4**
EADA				*i* Vmb_Lg		12 59 56.5	
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pn**	**12 59 14.4**	**-0.5**
ECAB				Sn	**Sn**	**12 59 46.5**	**-1.2**
ECAB				*i* Vmb_Lg		13 00 06.2	
MD31	**MD31**	**3.00**	**199**	P	**Pn**	**12 59 19.1**	**+0.9**
MD31				S	**Sn**	**12 59 54.4**	**+1.0**
MDT	**Midelt**	**3.02**	**196**	P	**Pn**	**12 59 20.0**	**+1.7**
MDT				S	**Sn**	**12 59 55.2**	**+1.4**
EMIN	**Mina Concepcio**	**3.21**	**310**	Pn	**Pn**	**12 59 20.0**	**-0.9**
EMIN				Sn	**Sn**	**12 59 58.6**	**+0.2**
ZHG	**ZHG**	**3.39**	**229**	P	**Pn**	**12 59 25.2**	**+1.8**
ZHG				S	**Sn**	**13 00 06.2**	**+3.3**
EGRO	**El Granado**	**3.62**	**301**	Pn	**Pn**	**12 59 25.5**	**-1.0**
EGRO				Sn	**Sn**	**13 00 08.1**	**-0.4**
PVAQ	**Vaqueiros**	**3.72**	**298**	P	**Pn**	**12 59 29.6**	**+1.6**
PVAQ				S	**Sn**	**13 00 14.5**	**+3.4**

IDC 12 13:13:01.1±2.1, **7°.81S**×**125°.88E, h0**km, **mb3.3/1, mb1 3.7/4, mb1mx3.2/50, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=111.5km s-min=28.7km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.23**	**181**	Pn	Pn	13 15 29.2	-0.1
	0.6nm,0.3s,baz=5.4,slow=11,SNR=18						
FITZ				Sn	Sn	13 17 20.4	-4.4
	0.5nm,0.3s,baz=1.2,slow=0.3,SNR=12						
WRA	**Warramunga Arr**	**14.58**	**147**	Pn	Pn	13 16 26.8	-2.2
	0.1nm,0.3s,baz=320,slow=14,SNR=8.5						
WRA				Sn	Sn	13 19 04.6	-6.8
	0.2nm,0.3s,baz=322,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**17.54**	**155**	P	P	13 17 08.9	+0.4
	0.2nm,0.3s,baz=338,slow=13,SNR=26						
ASAR				S	Sn	13 20 16.4	-7.0
	0.0nm,0.3s,baz=316,slow=20,SNR=2.1						
MKAR	**Makanchi Array**	**66.74**	**329**	P	P	13 23 54.2	0.0
	0.3nm,0.8s,baz=133,slow=6.3,SNR=3.2						

*BJI **12** 13:23:36.9±0.0, 51°.79N×174°.09W, h13km, mb5.4/86, mB5.6/70, Ms5.6/91, Ms7 5.5/83*

*MOS **12** 13:23:37.1±1.0, 51°.58N×173°.98W, h14km, mb5.7/71, MS5.2/41, Error ellipse: s-maj=6.7km s-min=4.4km az=99.8*

*NEIC **12** 13:23:38.2±2.2, 51°.45N±0°.05×173°.97W±0°.07, h13km±3km, mb5.6/389, Ms_20 5.3/267, Mwb5.4/98, Mww5.6, ML5.1(AEIC), Error ellipse: s-maj=7.3km s-min=6.4km az=184.0*

*AEIC **12** 13:23:40±2.2, 51°.43N±0°.07×174°.01W±0°.06, h26km±3km, Error ellipse: s-maj=10.2km s-min=5.5km az=174.0*

*NEIC **12** 13:23:41.5, 51°.55N×173°.98W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.10; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-0.32; $M_{r\theta}$1.07; $M_{r\phi}$-0.31; $M_{\theta\phi}$0.54; Fault plane solution: M_o1.58000×10^{17} NP1:φ242.65000°, δ20.13000°, λ89.48000°. NP2:φ63.20000°, δ69.87000°, λ90.19000°. Principal axes: T 1.6513, Plg65.0000°, Azm334.0000°; N -0.1599, Plg0.0000°, Azm243.0000°; P -1.4915, Plg25.0000°, Azm153.0000°;*

*IDC **12** 13:23:42.2±1.3, 51°.58N×174°.02W, h35km±9km, mb4.9/42, mb1 5.0/45, mb1mx5.0/52, mbtmp5.1/45, ML4.6/3, MS5.1/84, Ms1 5.1/84, ms1mx5.1/100 Error ellipse: s-maj=12.4km s-min=7.4km az=175.0*

*GCMT **12** 13:23:42.2±0.1, 51°.46N±0°.01×173°.94W±0°.01, h16km, MW5.7/159, Moment Tensor Solution. s142, c262; s159, c327; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.33±.04; $M_{\theta\theta}$-2.14±.03; $M_{r\theta}$-0.18±.02; $M_{r\phi}$2.62±.10; $M_{\theta\phi}$-0.79±.02; $M_{\phi\phi}$1.09±.08; Best double couple: M_o3.70100×10^{17} NP1:φ253.00000°, δ20.00000°, λ95.00000°. NP2:φ68.00000°

SHEM Lg 13 27 30.1
SMY Shemya 7.45 284 P Pn 13 25 32.4 +5.3
SMY Shemya 7.45 284 Pn 13 25 32.4 +5.3
SDPT Sand Point 8.93 59 **Pn** **13 25 48.3 +1.1**
SDPT Sand Point 8.93 59 P **Pn** **13 25 47.7 +0.4**
baz=250
CHGN Chignik 10.35 56 **Pn** **13 26 07.7 +0.9**
CHGN Chignik 10.35 56 P **Pn** **13 26 07.4 +0.7**
baz=249
CHIR Chirikof Islan 11.70 61 Pn **Pn** **13 26 24.6 -0.6**
CHIR Chirikof Islan 11.70 61 P **Pn** **13 26 25.2 0.0**
baz=256
GAMB Gambell 12.37 5 Pn Pn 13 26 39.1 +4.9
GAMB Gambell 12.37 5 P **Pn** **13 26 38.7 +4.5**
baz=187,SNR=59
SII Sitkinak Islan 12.66 59 **Pn** **13 26 39.0 +0.6**
SII Sitkinak Islan 12.66 59 P **Pn** **13 26 38.8 +0.4**
baz=255
P18K Big Mountain, 13.21 46 **Pn** **13 26 42.5 -3.4**
P18K Big Mountain, 13.21 46 P **Pn** **13 26 48.1 +2.3**
baz=241
OHAK Old Harbor 13.32 56 **Pn** **13 26 45.9 -1.4**
OHAK Old Harbor 13.32 56 P **Pn** **13 26 45.9 -1.4**
baz=253
ANM Nome 13.85 16 P **P** **13 26 59.1 -3.6**
ANM Nome 13.85 16 Pn **P** **13 26 59.1 -3.6**
ANM Nome 13.85 16 P **P** **13 26 58.6 -4.1**
baz=203,SNR=105
KDAK Kodiak Island 13.85 55 Pn **Pn** **13 26 53.0 -1.5**
3.7nm,0.3s,baz=267,slow=7.7,SNR=38
KDAK Kodiak Island 13.85 55 P **Pn** **13 26 53.3 -1.3**
KDAK Kodiak Island 13.85 55 **Pn** **13 26 53.3 -1.3**
KDAK Kodiak Island 13.85 55 P **Pn** **13 26 52.6 -1.9**
baz=252
SVW2 Sparrevohn 13.96 39 **Pn** **13 26 59.1 +3.0**
O19K Port Alsworth 14.00 44 P **P** **13 27 00.7 -3.8**
baz=240,SNR=16
P19K Oil Pt 14.23 47 P **P** **13 27 06.2 -0.9**
baz=244
N19K Bonanza Creek 14.25 42 P **Pn** **13 27 03.1 +3.0**
baz=238,SNR=30
TNA Tin City 14.44 10 **Pn** **13 27 05.0 +2.5**
TNA Tin City 14.44 10 P **P** **13 27 06.4 -2.8**
baz=195,SNR=70
O20K Slope Mountain 14.70 46 P **P** **13 27 10.7 -1.6**
baz=244
RSO Redoubt South 14.81 45 **P** **13 27 10.7 -3.0**
L19K White Mountain 14.89 37 **P** **13 27 12.3 -2.0**
L19K White Mountain 14.89 37 P **P** **13 27 12.2 -2.2**
baz=233,SNR=31
M19K Big River Lodg 14.90 38 P **P** **13 27 12.4 -2.1**
baz=234
TTA Tatalina 14.95 33 P **P** **13 27 13.3 -1.8**
TTA Tatalina 14.95 33 **P** **13 27 13.2 -1.8**
TTA Tatalina 14.95 33 P **Pn** **13 27 11.3 +1.7**
baz=228,SNR=96
HOM Homer 14.97 48 **P** **13 27 13.0 -2.2**
HOM IAmb IAmb 13 27 36.1
comp=Z,375nm,0.8s
HOM Homer 14.97 48 P **P** **13 27 13.8 -1.4**
baz=247
CNPM China Poot 15.11 49 IAmb IAmb 13 27 33.0
comp=Z,301nm,1.3s
BRLK Bradley Lake 15.37 48 Pn **Pn** **13 27 15.1 0.0**
BRLK IAmb IAmb 13 27 38.8
comp=Z,249nm,1.2s
SPCR Spurr Chakacha 15.40 43 P **P** **13 27 19.0 -1.2**
baz=241,SNR=5.6
BRSE Bradley Lake S 15.43 49 P **Pn** **13 27 16.5 +0.7**
baz=248,SNR=9.8
L20K Farewell, AK 15.43 37 P **P** **13 27 19.1 -1.3**
baz=234
SPU Mount Spurr 15.46 43 P **P** **13 27 19.8 -1.0**
K20K Telida 15.90 34 P **P** **13 27 23.9 -1.7**
K20K IAmb IAmb 13 27 46.9
comp=Z,371nm,1.2s
K20K Telida 15.90 34 P **P** **13 27 24.2 -1.3**
baz=231,SNR=78
GCSA Galena City Sc 15.97 27 P **P** **13 27 25.5 -0.7**
baz=222,SNR=45
SEW Seward 16.16 48 **Pn** **13 27 23.5 -1.8**
SEW Seward 16.16 48 P **Pn** **13 27 23.3 -2.0**
baz=249,SNR=8.0
O22K Cooper Landing 16.18 47 **Pn** **13 27 24.6 -1.0**
O22K IAmb IAmb 13 27 39.9
comp=Z,322nm,0.6s
O22K Cooper Landing 16.18 47 P **Pn** **13 27 24.3 -1.2**
baz=247,SNR=29
PPLA Purkeypile 16.31 37 P **P** **13 27 30.2 0.0**
PPLA IAmb IAmb 13 27 57.1
comp=Z,460nm,1.3s
PPLA Purkeypile 16.31 37 P **P** **13 27 30.7 +0.5**
baz=236,SNR=26
J20K Nowinta River 16.41 32 P **P** **13 27 30.5 -0.7**
J20K Nowinta River 16.41 32 P **P** **13 27 30.1 -1.1**
baz=229
RC01 Rabbit Creek A 16.42 45 Pn **Pn** **13 27 28.8 +0.2**
RC01 Rabbit Creek A 16.42 45 P **Pn** **13 27 27.4 -1.2**
baz=245,SNR=8.2
M22K Willow 16.55 42 P **P** **13 27 31.8 -0.9**
baz=242
CAST Castle Rocks 16.65 36 P **Pn** **13 27 32.2 +0.7**
CAST Castle Rocks 16.65 36 P **P** **13 27 33.7 -0.2**
baz=234,SNR=60
PET Petropavlovsk 16.80 286 *d* *i*P **Pn** **13 27 34.0 +0.6**
PET *e*S **Sn** **13 30 38.4 -0.9**
PET pmax pmax
comp=Z,2μm,11.0s
PET pmax pmax
comp=Z,2μm,11.3s
PET pmax pmax
comp=Z,131nm,1.2s
PET MLR MLR
comp=Z,7μm,19.0s
PET MLR MLR
comp=Z,6μm,16.0s
PET Petropavlovsk 16.80 286 P **Pn** **13 27 33.4 +0.1**
CUT Chulitna 16.80 40 P **P** **13 27 35.1 -0.4**
CUT Chulitna 16.80 40 P **P** **13 27 34.9 -0.5**
baz=240
CHUM Lake Minchumin 16.84 34 P **P** **13 27 36.2 +0.2**
baz=233,SNR=47
PMR Palmer 16.90 44 P **Pn** **13 27 34.8 +0.2**
PMR pmax pmax
comp=Z,27nm,0.8s
PMR Palmer 16.90 44 P **Pn** **13 27 34.8 +0.2**
PMR Palmer 16.90 44 P **Pn** **13 27 35.3 +0.7**
baz=244,SNR=12
PWL Port Wells 16.96 47 **Pn** **13 27 33.8 -1.6**
PWL Port Wells 16.96 47 P **Pn** **13 27 33.6 -1.8**
baz=248,SNR=16
GHO Glory Hole Cre 17.07 43 **Pn** **13 27 35.1 -1.8**
KNK Knik Glacier 17.12 45 P **Pn** **13 27 36.3 -1.1**
KNK Knik Glacier 17.12 45 P **Pn** **13 27 36.0 -1.4**
baz=246,SNR=20
KTH Kantishna Hill 17.16 36 P **P** **13 27 40.1 +0.6**
SML Sawmill 17.34 44 **Pn** **13 27 40.2 0.0**
SML Sawmill 17.34 44 P **Pn** **13 27 39.8 -0.4**
baz=245,SNR=20
TRF Thorofare Moun 17.34 37 P **P** **13 27 41.1 -0.5**
TRF Thorofare Moun 17.34 37 P **P** **13 27 41.9 +0.3**
baz=237
PEA0B Petropavlovsk- 17.36 286 P **P** **13 27 41.2 -0.6**
PEA0B pmax pmax
comp=Z,157nm,1.0s
PEA0B Petropavlovsk- 17.36 286 P **P** **13 27 41.2 -0.6**
PETK Petropavlovsk- 17.36 286 P **P** **13 27 41.3 -0.4**
comp=Z,1.2nm,0.3s,baz=98,slow=16,SNR=37
PETK LR LR 13 34 03.9
comp=Z,5μm,21.5s,baz=95,slow=36
PETK ScP **ScP** **13 35 53.0 -2.5**
comp=Z,0.0nm,0.3s,baz=143,slow=5.0,SNR=3.1
PETK Petropavlovsk- 17.36 286 **P** **13 27 41.1 -0.6**
BPAW Bear Paw Mtn. 17.44 35 **P** **13 27 43.6 +0.9**
BPAW Bear Paw Mtn. 17.44 35 P **P** **13 27 43.8 +1.1**
baz=234,SNR=100
RDOG Red Dog Mine 17.46 14 P **P** **13 27 45.5 +2.8**
baz=204,SNR=18
GLI Glacier Island 17.53 47 **Pn** **13 27 41.0 -1.5**
GLI Glacier Island 17.53 47 P **Pn** **13 27 40.9 -1.6**
baz=250
I21K Tanana 17.77 31 P **Pn** **13 27 45.4 -0.1**
I21K Tanana 17.77 31 P **P** **13 27 47.6 +1.5**
baz=230
FID Port Fidalgo 17.77 48 **Pn** **13 27 42.3 -3.2**
IMAR Indian Mountai 17.77 28 P **P** **13 27 47.8 +1.5**

SCM Sheep Creek Mo 17.78 44 P **Pn** **13 27 45.2 -0.6**
SCM pmax pmax
comp=Z,174nm,0.6s
SCM Sheep Creek Mo 17.78 44 P **Pn** **13 27 45.1 -0.6**
SCM Sheep Creek Mo 17.78 44 P **Pn** **13 27 45.1 -0.7**
baz=246,SNR=29
H21K Melozitna Rive 17.83 29 P **P** **13 27 48.4 +1.6**
H21K Melozitna Rive 17.83 29 P **P** **13 27 48.5 +1.7**
baz=228,SNR=56
RND Reindeer 17.86 39 P **Pn** **13 27 46.5 -0.2**
RND pmax pmax
comp=Z,89nm,0.8s
RND Reindeer 17.86 39 **Pn** **13 27 46.5 -0.2**
WAT6 Susitna Watana 17.92 42 P **Pn** **13 27 46.0 -1.5**
baz=244,SNR=14
MCK McKinley 18.00 38 P **Pn** **13 27 48.4 +0.1**
MCK pmax pmax
comp=Z,238nm,1.0s
MCK McKinley 18.00 38 P **Pn** **13 27 48.4 +0.1**
MCK McKinley 18.00 38 P **Pn** **13 27 48.2 -0.1**
baz=239
BWN Browne 18.04 36 P **Pn** **13 27 48.8 +0.1**
BWN IAmb IAmb 13 28 16.1
comp=Z,518nm,1.2s
EYAK Cordova Ski Ar 18.05 49 P **Pn** **13 27 47.0 -1.9**
EYAK Cordova Ski Ar 18.05 49 P **Pn** **13 27 47.1 -1.7**
baz=252
MLY Manley 18.09 33 P **P** **13 27 49.8 +0.1**
MLY Manley 18.09 33 P **P** **13 27 51.1 +1.4**
baz=232,SNR=303
DIV Divide 18.22 47 P **Pn** **13 27 49.2 -1.9**
KLU Klutina 18.28 46 P **Pn** **13 27 51.0 -0.8**
KLU Klutina 18.28 46 P **Pn** **13 27 50.1 -1.7**
baz=250,SNR=20
DHY Denali Highway 18.29 40 P **Pn** **13 27 51.5 -0.6**
DHY Denali Highway 18.29 40 P **Pn** **13 27 51.3 -0.8**
baz=243,SNR=38
M24K Tolsona, Glenn 18.39 44 P **Pn** **13 27 53.1 0.0**
M24K Tolsona, Glenn 18.39 44 P **P** **13 27 52.4 -0.8**
baz=247,SNR=31
NEA2 Nenana 18.41 35 P **P** **13 27 52.8 -0.6**
NEA2 Nenana 18.41 35 P **P** **13 27 52.7 -0.6**
baz=236,SNR=48
RAGM Ragged Mountai 18.51 50 P **Pn** **13 27 55.0 +0.3**
KAIM Kayak Island 18.52 51 P **P** **13 27 54.4 -0.1**
KAIM Kayak Island 18.52 51 P **Pn** **13 27 55.4 +0.7**
baz=256,SNR=5.4
I23K Minto, Yukon-K 18.63 33 P **Pn** **13 27 56.4 +0.5**
I23K Minto, Yukon-K 18.63 33 P **Pn** **13 27 56.5 +0.6**
baz=234,SNR=144
HMT Hamilton 18.70 50 P **Pn** **13 27 57.3 +0.4**
WRH Wood River Hil 18.70 36 P **P** **13 27 56.3 -0.1**
BMRM Bremner River 18.71 48 P **P** **13 27 56.5 -0.1**
BMRM Bremner River 18.71 48 P **P** **13 27 55.5 -1.1**
baz=253,SNR=9.2
SKR Severo-Kuril's 18.75 279 *e*P **Pn** **13 27 57.5 -0.1**
SKR *e*S **Sn** **13 31 26.0 -0.7**
SKR pmax pmax
comp=Z,1μm,9.5s
SKR pmax pmax
comp=Z,195nm,0.8s
SKR MLR MLR
comp=Z,6μm,21.0s
CCB Clear Creek Bu 18.90 36 P **P** **13 27 57.6 -1.0**
N25K Chitina, Valde 18.91 46 P **P** **13 27 58.0 -0.9**
N25K Chitina, Valde 18.91 46 P **P** **13 27 58.7 -0.2**
baz=251,SNR=18
MDM Murphy Dome 18.91 35 P **P** **13 27 58.6 -0.2**
H23K Yukon River 18.97 32 P **Pn** **13 28 00.5 +0.4**
baz=233
TCOL CIGO, UAF Yank 19.00 35 P **P** **13 27 59.0 -0.7**
TCOL CIGO, UAF Yank 19.00 35 P **P** **13 27 59.2 -0.5**
baz=238,SNR=26
COLA College 19.00 35 *ij* *i*P **P** **13 27 58.5 -1.2**
COLA pmax pmax
comp=Z,65nm,1.0s
COLA College 19.00 35 P **P** **13 27 58.5 -1.2**
PAX Paxson 19.03 42 P **P** **13 28 00.2 0.0**
PAX pmax pmax
comp=Z,58nm,0.9s
PAX Paxson 19.03 42 P **P** **13 28 00.2 0.0**
PAX Paxson 19.03 42 P **Pn** **13 28 00.5 -0.5**
baz=246,SNR=20
HDA Harding Lake 19.10 37 P **P** **13 28 00.1 -0.7**
HDA IAmb IAmb 13 28 21.8
comp=Z,344nm,1.1s
HDA Harding Lake 19.10 37 P **P** **13 27 59.9 -0.9**
baz=240,SNR=168
BILL Bilibino 19.17 337 *de*P **Pn** **13 28 03.1 +0.6**
BILL pmax pmax
comp=Z,126nm,1.7s
BILL MLR MLR
comp=Z,6μm,19.0s
BILL Bilibino 19.17 337 P **Pn** **13 28 02.9 +0.3**
BILL IAmb IAmb 13 28 30.3
comp=Z,447nm,1.3s
GLB Gilahina Butte 19.22 47 P **P** **13 28 00.9 -1.3**
POKR Poker Plat Res 19.29 35 P **P** **13 28 02.1 -0.8**
POKR Poker Plat Res 19.29 35 P **P** **13 28 01.9 -0.9**
baz=238,SNR=19
IL31 19.30 36 P **P** **13 28 01.6 -1.4**
ILAR Eielson Array 19.30 36 P **P** **13 28 01.7 -1.3**
comp=Z,8.0nm,0.3s,baz=234,slow=8.4,SNR=119
ILAR Sn **Sn** **13 31 33.9 -6.0**
comp=Z,0.1nm,0.3s,baz=192,slow=26,SNR=1.6
ILAR ScP **ScP** **13 35 57.5 -2.0**
baz=300,slow=3.6,SNR=4.5
ILAR LR LR 13 36 13.0
comp=Z,8μm,18.2s,baz=242,slow=39
ILAR P3KPbc 14 02 27.4
baz=38,slow=4.7,SNR=3.6
VRDI Verde Repeater 19.32 48 P **P** **13 28 02.4 -1.1**
SNH Sunshine Point 19.35 51 P **P** **13 28 03.2 -0.4**
SNH IAmb IAmb 13 28 17.9
comp=Z,298nm,1.0s
WAX Waxell Ridge 19.40 50 P **Pn** **13 28 05.1 -0.3**
H24K Noodor Dome 19.53 33 P **P** **13 28 05.4 -0.2**
H24K IAmb IAmb 13 28 29.3
comp=Z,478nm,1.1s
H24K Noodor Dome 19.53 33 P **P** **13 28 06.1 +0.5**
baz=235
MCARA McCarthy VSAT 19.56 48 P **P** **13 28 05.8 0.0**
MCARA McCarthy VSAT 19.56 48 P **P** **13 28 05.9 0.0**
baz=254,SNR=9.1
RIDG Independent Ri 19.61 40 P **P** **13 28 06.0 -0.4**
RIDG IAmb IAmb 13 28 21.2
comp=Z,113nm,0.5s
RIDG Independent Ri 19.61 40 P **P** **13 28 06.0 -0.4**
baz=245,SNR=69
COLD Coldfoot 19.66 28 **Pn** **13 28 08.4 0.0**
COLD Coldfoot 19.66 28 P **Pn** **13 28 08.4 0.0**
baz=228,SNR=131
ISLE Juniper Island 19.69 50 P **P** **13 28 07.7 +0.3**
MENT Mentasta 19.76 43 P **Pn** **13 28 08.8 -0.8**
J25K Salcha River, 19.79 38 P **P** **13 28 07.4 -1.1**
J25K Salcha River, 19.79 38 P **P** **13 28 07.1 -1.4**
baz=242,SNR=394
DOT Dot Lake 19.89 41 P **P** **13 28 09.3 -0.2**
L26K Log Cabin Wild 19.95 43 P **P** **13 28 10.4 +0.3**
L26K Log Cabin Wild 19.95 43 P **P** **13 28 09.0 -1.2**
baz=249,SNR=67
SCRK Sand Creek 20.05 40 P **P** **13 28 11.0 -0.4**
SCRK IAmb IAmb 13 28 12.6
comp=Z,122nm,0.5s
SCRK IAMs_20 IAMs_20 13 36 20.9
comp=Z,12μm,19.0s
SCRK Sand Creek 20.05 40 P **P** **13 28 10.7 -0.7**
baz=246,SNR=123
BARN Barnard Glacie 20.12 49 P **P** **13 28 11.2 -0.9**
PRP Porcupine Dome 20.18 35 P **P** **13 28 12.0 -0.7**
PRP IAMs_20 IAMs_20 13 36 37.7
comp=Z,11μm,18.0s
PRP Porcupine Dome 20.18 35 P **P** **13 28 10.6 -2.2**
baz=240,SNR=53
TABL Table Mountain 20.23 51 P **P** **13 28 13.6 +0.2**
TABL IAmb IAmb 13 28 37.1
comp=Z,406nm,1.2s
TABL IAMs_20 IAMs_20 13 37 12.0
comp=Z,13μm,19.0s
CTG Chitna Glacier 20.25 49 P **P** **13 28 13.2 -0.3**
baz=257,SNR=29
CTGM Chitina Glacie 20.25 49 P **P** **13 28 12.8 -0.7**
CTGM IAmb IAmb 13 28 36.1
comp=Z,178nm,0.8s
M27K Edge Creek, AK 20.37 45 IAMs_20 IAMs_20 13 36 26.4
comp=Z,15μm,20.0s
M27K Edge Creek, AK 20.37 45 P **P** **13 28 13.8 -1.0**
baz=252
LOGN Logan Glacier 20.38 50 IAMs_20 IAMs_20 13 37 15.5
comp=Z,9μm,20.0s
J26L Joseph Creek 20.44 39 P **P** **13 28 14.8 -0.8**
baz=245
PCA Pinnacle 20.60 52 IAmb IAmb 13 28 37.8
comp=Z,375nm,1.1s
PINM Pinnacle 20.60 52 P **P** **13 28 17.7 +0.4**
baz=260
L27K Beaver Creek, 20.61 43 IAMs_20 IAMs_20 13 37 04.8
comp=Z,14μm,18.0s
L27K Beaver Creek, 20.61 43 P **P** **13 28 17.3 0.0**
baz=251
BCAR Beaver Creek A 20.63 43 P **P** **13 28 18.6 +1.0**
TOLK Toolik Lake Re 20.79 25 P **P** **13 28 19.8 +0.5**
TOLK IAmb IAmb 13 28 21.6
comp=Z,281nm,0.8s
TOLK Toolik Lake Re 20.79 25 P **P** **13 28 20.0 +0.7**
baz=227,SNR=322
FYU Fort Yukon 20.83 33 P **P** **13 28 19.5 0.0**
FYU IAmb IAmb 13 28 39.0
comp=Z,208nm,1.0s
FYU IAMs_20 IAMs_20 13 37 07.1
comp=Z,9μm,18.0s
BVCY Beaver Creek 20.84 46 P **P** **13 28 19.8 0.0**
baz=254,SNR=49
YUK3 Moose Creek 20.85 48 P **P** **13 28 19.1 -1.0**
baz=256,SNR=21
BCPM Bancas Point 20.89 53 P **P** **13 28 20.5 +0.2**
BCPM IAmb IAmb 13 28 42.9
comp=Z,182nm,0.8s
PNL Peninsula 20.96 54 P **P** **13 28 21.7 +0.5**
baz=262,SNR=18
SEY Seymchan 21.23 316 P **P** **13 28 25.1 +1.2**
comp=Z,30nm,0.8s,baz=107,slow=10,SNR=60
SEY PcP **PcP** **13 32 26.5 -1.8**
comp=Z,9.7nm,0.8s,baz=52,slow=18,SNR=2.7
SEY ScP **ScP** **13 36 02.5 -1.5**
comp=Z,3.0nm,0.9s,baz=175,slow=3.9,SNR=3.9
SEY LR LR 13 37 06.6
comp=Z,12μm,18.0s,baz=106,slow=38
SEY Seymchan 21.23 316 *ij* *i*P **P** **13 28 24.7 +0.8**
SEY pmax pmax
comp=Z,37nm,0.9s
MA2 Magadan 21.30 306 P **P** **13 28 25.4 +0.7**
comp=Z,33nm,0.7s,baz=93,slow=9.9,SNR=34
MA2 ScP **ScP** **13 36 02.1 -2.2**
comp=Z,4.3nm,0.8s,baz=129,slow=4.0,SNR=6.3
MA2 LR LR 13 36 33.9
comp=Z,9μm,19.2s,baz=108,slow=36
MA2 Magadan 21.30 306 *ce*P **P** **13 28 25.6 +0.8**
MA2 pmax pmax
comp=Z,104nm,2.5s
MA2 MLR MLR
comp=Z,9μm,17.0s
MA2 Magadan 21.30 306 P **P** **13 28 25.1 +0.3**
MA2 IAMs_20 IAMs_20 13 36 13.2
comp=Z,9μm,20.0s
A21K Barrow 21.38 15 P **P** **13 28 26.1 +0.7**
A21K IAmb IAmb 13 28 50.1
comp=Z,418nm,1.1s
A21K IAMs_20 IAMs_20 13 37 36.2
comp=Z,15μm,19.0s
A21K Barrow 21.38 15 P **P** **13 28 26.1 +0.7**
baz=211,SNR=8.8
EGAK Eagle 21.50 39 P **P** **13 28 26.9 0.0**
EGAK IAMs_20 IAMs_20 13 37 04.6
comp=Z,10μm,20.0s
EGAK Eagle 21.50 39 P **P** **13 28 26.9 0.0**
baz=248,SNR=444
BMAR Burnt Mountain 21.51 31 P **P** **13 28 28.4 +1.4**
YUK4 Talbot Arm 21.60 49 P **P** **13 28 28.8 +0.6**
baz=259,SNR=11
YUK6 Outpost Mounta 21.67 50 P **P** **13 28 29.1 +0.2**
baz=260,SNR=13
DAWY Dawson 21.97 42 P **P** **13 28 31.5 -0.4**
DAWY Dawson 21.97 42 P **P** **13 28 31.3 -0.7**
baz=251,SNR=66
HYT Haines Junctio 22.06 51 P **P** **13 28 32.4 -0.6**
HYT Haines Junctio 22.06 51 P **P** **13 28 32.4 -0.6**
baz=261,SNR=18
J29M Klondike Camp 22.58 41 P **P** **13 28 39.0 +0.5**
baz=252,SNR=17
M30M Minto, Yukon 22.71 46 IAMs_20 IAMs_20 13 37 59.2
comp=Z,8μm,18.0s
M30M Minto, Yukon 22.71 46 P **P** **13 28 39.9 +0.1**
baz=258
I29M Ogilvie Camp, 22.84 39 P **P** **13 28 39.6 -1.6**
I29M IAMs_20 IAMs_20 13 39 02.8
comp=Z,9μm,20.0s
I29M Ogilvie Camp, 22.84 39 P **P** **13 28 39.9 -1.3**
baz=250,SNR=135
N31M Braeburn, Yuko 22.99 49 P **P** **13 28 43.4 +0.7**
N31M IAMs_20 IAMs_20 13 38 22.6
comp=Z,8μm,20.0s
N31M Braeburn, Yuko 22.99 49 P **P** **13 28 45.3 +2.5**
baz=262
SIT Sitka 23.00 61 P **P** **13 28 43.6 +0.8**
SIT pmax pmax
comp=Z,236nm,1.2s
SIT Sitka 23.00 61 P **P** **13 28 43.6 +0.8**
SIT IAmb IAmb 13 28 54.9
comp=Z,236nm,1.2s
SIT Sitka 23.00 61 P **P** **13 28 45.0 +2.2**
baz=272
SKAG Skagway 23.01 55 P **P** **13 28 42.2 -0.7**
SKAG IAmb IAmb 13 29 09.4
comp=Z,136nm,0.8s
SKAG Skagway 23.01 55 P **P** **13 28 43.7 +0.8**
baz=267,SNR=12
BESE Bessie Mountai 23.22 57 P **P** **13 28 44.9 -0.3**
WHY Whitehorse 23.32 52 P **P** **13 28 46.7 +0.5**
baz=264,SNR=9.4
MIDW Midway 23.40 188 P **P** **13 28 44.0 -3.1**
MIDW IAmb IAmb 13 28 54.1
comp=Z,153nm,1.1s
MIDW IAMs_20 IAMs_20 13 35 25.2
comp=Z,7μm,18.0s
M31M Drury Creek, Y 23.74 48 P **P** **13 28 49.7 -0.5**
M31M IAMs_20 IAMs_20 13 38 24.6
comp=Z,10μm,21.0s
M31M Drury Creek, Y 23.74 48 P **P** **13 28 49.8 -0.5**
baz=261,SNR=14
FARO Faro, Yukon 24.23 48 P **P** **13 28 54.7 -0.2**
baz=262,SNR=6.8
P33M Teslin, Yukon 24.31 53 P **P** **13 28 54.9 -0.7**
P33M Teslin, Yukon 24.31 53 P **P** **13 28 56.7 +1.1**
baz=267,SNR=31
CRAG Craig 24.36 65 P **P** **13 28 59.0 +2.9**
baz=278,SNR=7.8
WRAK Wrangell Islan 24.68 62 P **P** **13 29 00.9 +2.0**
WRAK IAmb IAmb 13 29 21.6
comp=Z,212nm,1.1s
WRAK Wrangell Islan 24.68 62 P **P** **13 29 01.6 +2.6**
baz=276,SNR=12
DIB Dawson Inlet, 25.15 70 P **P** **13 29 02.3 -0.8**
DIB IAmb IAmb 13 29 19.7
comp=Z,114nm,1.0s
MMPY Sheldon Lake, 25.24 47 P **P** **13 29 04.5 +0.5**
baz=264,SNR=69
INK Inuvik 25.64 34 P **P** **13 29 07.2 -0.3**
comp=Z,35nm,0.6s,baz=238,slow=8.3,SNR=184
INK ScP **ScP** **13 36 14.4 -1.3**
comp=Z,4.2nm,0.9s,baz=162,slow=3.2,SNR=3.1
INK LR LR 13 40 20.1
comp=Z,7μm,18.1s,baz=224,slow=39
INK Inuvik 25.64 34 P **P** **13 29 06.6 -0.9**
INK pmax pmax
comp=Z,149nm,1.1s
INK Inuvik 25.64 34 P **P** **13 29 06.6 -0.9**
INK IAmb IAmb 13 29 29.4
comp=Z,149nm,1.1s
INK Inuvik 25.64 34 P **P** **13 29 06.8 -0.7**
baz=250,SNR=87
DLBC Dease Lake 25.76 57 P **P** **13 29 10.9 +2.1**
comp=Z,54nm,0.8s,baz=264,slow=7.2,SNR=60
DLBC LR LR 13 39 41.8
comp=Z,5μm,19.7s,baz=290,slow=37
DLBC Dease Lake 25.76 57 P **P** **13 29 10.4 +1.6**
DLBC IAmb IAmb 13 29 33.5
comp=Z,130nm,1.1s
KUR Kuril'sk 25.90 271 *e*P **P** **13 29 10.0 0.0**
KUR *e*PPP PPP 13 29 55.3
KUR *i* S **S** **13 33 40.9 +1.9**
KUR pmax pmax

comp=Z,2µm,8.8s
KUR pmax pmax
comp=Z,656nm,1.3s
KUR pmax pmax
comp=E,453nm,1.1s
KUR pmax pmax
comp=N,188nm,2.1s
KUR MLR MLR
comp=Z,2µm,18.0s
RUBB Prince Rupert 26.20 66 P **P** **13 29 14.7 +2.0**
RUBB IAmb IAmb 13 29 42.5
comp=Z,210nm,1.3s
TGTN Hyland Airport 26.57 50 P **P** **13 29 16.8 +0.7**
baz=269,SNR=35
TYV Tymovskoe 26.91 286 *e*P **P** **13 29 20.1 +1.0**
TYV *e*S **S** **13 33 59.4 +4.5**
TYV pmax pmax
comp=Z,36nm,1.0s
TYV pmax pmax
comp=Z,500nm,5.3s
TYV smax smax
comp=N,900nm,9.9s
TYV smax smax
comp=E,500nm,9.9s
TYV MLR MLR
comp=Z,5µm,20.0s
YUK Yuzh-Kuril'sk 27.73 270*d i*P **P** **13 29 25.9 -0.6**
YUK *e*PPP PPP 13 30 19.9
YUK *i* S **S** **13 34 09.5 +1.6**
YUK *e*SS **SnSn** **13 35 19.5 -0.7**
YUK pmax pmax
comp=Z,264nm,1.3s
YUK pmax pmax
comp=N,56nm,1.0s
YUK pmax pmax
comp=Z,349nm,3.4s
UGL Uglegorsk 27.88 283⇑ *i*P **P** **13 29 29.4 +1.6**
UGL pmax pmax
comp=Z,1µm,3.0s
UGL pmax pmax
comp=Z,160nm,0.9s
UGL MLR MLR
comp=E,6µm,20.0s
UGL MLR MLR
comp=N,8µm,18.0s
UGL MLR MLR
comp=Z,5µm,18.0s
BBB Bella Bella 27.98 70 P **P** **13 29 29.9 +1.3**
comp=Z,40nm,1.1s,baz=280,slow=6.6,SNR=3.1
BBB LR LR 13 39 12.0
comp=Z,3µm,19.6s,baz=288,slow=33
BBB Bella Bella 27.98 70 P **P** **13 29 27.9 -0.7**
BBB IAmb IAmb 13 29 48.4
comp=Z,98nm,1.0s
YSS Yuzh-Sakhalins 28.31 278 *e*P **P** **13 29 33.1 +1.4**
YSS *e**PP **pwP** **13 29 43.4 +1.8**
YSS *e* 13 30 35.2
YSS *e*S **S** **13 34 18.8 +1.8**
YSS pmax pmax
comp=Z,130nm,1.0s
YSS pmax pmax
comp=Z,1µm,3.6s
YSS MLR MLR
comp=Z,6µm,19.0s
YSS MLR MLR
comp=N,3µm,16.0s
YSS MLR MLR
comp=E,4µm,18.0s
YSS Yuzh-Sakhalins 28.31 278 IAMs_20 IAMs_20 13 40 05.3
comp=Z,9µm,21.0s
C36M Paulatuk 29.23 34 P **P** **13 29 38.6 -1.0**
C36M IAMs_20 IAMs_20 13 42 59.6
comp=Z,6µm,18.0s
C36M Paulatuk 29.23 34 P **P** **13 29 38.9 -0.7**
baz=258,SNR=26
A36M Sachs Harbour 29.52 28 P **P** **13 29 42.0 -0.2**
A36M IAMs_20 IAMs_20 13 43 25.4
comp=Z,6µm,19.0s
A36M Sachs Harbour 29.52 28 P **P** **13 29 42.3 +0.1**
baz=252,SNR=48
JKA Kamikawa-asahi 29.73 273 P **P** **13 29 44.2 -0.1**
JKA IAmb IAmb 13 30 03.8
comp=Z,206nm,1.2s
ASAJ Asahikawa 29.73 273 P **P** **13 29 45.4 +1.1**
comp=Z,61nm,0.9s,baz=29,slow=5.4,SNR=29
ASAJ LR LR 13 42 22.2
comp=Z,3µm,19.9s,baz=74,slow=38
ASAJ Asahikawa 29.73 273 P **P** **13 29 44.2 -0.1**
ASAJ pmax pmax
comp=Z,206nm,1.2s
ERM Erimo 30.47 269*ce*P **P** **13 29 51.3 +0.4**
ERM pmax pmax
comp=Z,40nm,0.9s
ERM Erimo 30.47 269 P **P** **13 29 51.3 +0.4**
ERM IAmb IAmb 13 30 10.8
comp=Z,114nm,1.2s
GRNR Gornyy 30.66 288⇑ *i*P **P** **13 29 52.7 +0.2**
GRNR *e*S **S** **13 34 57.2 +3.2**
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=E,3µm,18.0s
GRNR MLR MLR
comp=N,2µm,16.0s
GRNR MLR MLR
comp=Z,2µm,17.0s
YAK Yakutsk 31.61 312 LR LR 13 43 14.8
comp=Z,11µm,18.3s,baz=104,slow=37
YAK Yakutsk 31.61 312 *e*P **P** **13 29 58.7 -2.0**
YAK *e**PP **pP** **13 30 02.3 -2.4**
YAK *e* 13 31 01.8
YAK *e* 13 32 52.1
YAK *e*S **S** **13 35 06.8 -1.6**
YAK *e**SS **sS** **13 35 13.2 -1.9**
YAK *e*SS **SnSn** **13 36 51.9 -2.2**
YAK *e* 13 40 28.9
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,158nm,2.5s
YAK pmax pmax
comp=E,128nm,2.3s
YAK pmax pmax
comp=N,28nm,2.3s
YAK smax smax
comp=N,129nm,3.2s
YAK smax smax
comp=E,117nm,2.8s
YAK MLR MLR
comp=Z,11µm,18.0s
YAK MLR MLR
comp=E,8µm,18.0s
YAK MLR MLR
comp=N,3µm,19.0s
YAK Yakutsk 31.61 312 P **P** **13 29 59.6 -1.0**
YAK IAmb IAmb 13 30 05.8
comp=Z,45nm,0.8s
TIXI Tiksi 32.03 330 P **P** **13 30 04.0 -0.4**
comp=Z,8.5nm,0.6s,baz=91,slow=22,SNR=47
TIXI PcP **PcP** **13 32 53.7 +0.3**
comp=Z,22nm,0.8s,baz=92,slow=20,SNR=8.1
TIXI LR LR 13 44 13.1
comp=Z,3µm,18.7s,baz=177,slow=38
TIXI Tiksi 32.03 330*ce*P **P** **13 30 03.9 -0.4**
TIXI pmax pmax
comp=Z,16nm,0.8s
TIXI MLR MLR
comp=Z,4µm,16.0s
TIXI Tiksi 32.03 330 P **P** **13 30 03.4 -0.9**
TIXI PcP **PcP** **13 32 53.8 +0.3**
LLLB Lillooet 32.18 71 P **P** **13 30 07.3 +1.4**
LLLB IAmb IAmb 13 30 22.4
comp=Z,72nm,0.9s
D03D Eldon 32.72 77 P **P** **13 30 12.9 +2.3**
baz=296
YKA Yellowknife Ar 32.94 47 P **P** **13 30 11.9 -0.4**
comp=Z,23nm,0.9s,baz=274,slow=10,SNR=170
YKA PcP **PcP** **13 32 56.5 +0.5**
comp=Z,9.9nm,0.8s,baz=285,slow=2.8,SNR=8.0
YKA ScP **ScP** **13 36 37.6 -1.5**
comp=Z,2.5nm,0.8s,baz=292,slow=3.2,SNR=3.5
YKA LR LR 13 45 25.9
comp=Z,10µm,18.1s,baz=274,slow=40
YKA P3KPbc 14 01 36.5
comp=Z,0.4nm,0.8s,baz=98,slow=5.0,SNR=4.5
YKA Yellowknife Ar 32.94 47 P **P** **13 30 11.7 -0.7**
YKA PcP **PcP** **13 32 56.8 +0.8**
TEY Ternei 33.00 279⇑ *e*P **P** **13 30 13.0 -0.1**
TEY *e*S **S** **13 35 26.0 -4.4**
TEY pmax pmax
comp=E,400nm,2.6s
TEY pmax pmax
comp=Z,600nm,2.4s
TEY pmax pmax
comp=E,100nm,1.0s
TEY pmax pmax
comp=Z,170nm,1.0s
TEY pmax pmax
comp=N,40nm,1.0s
TEY smax smax
comp=N,200nm,5.7s
TEY smax smax
comp=E,500nm,9.8s
TEY MLR MLR
comp=E,1µm,18.0s
TEY MLR MLR
comp=N,1µm,15.0s
TEY MLR MLR
comp=Z,1µm,22.0s
E04D Cinebar 33.48 78 P **P** **13 30 19.0 +1.8**
baz=298,SNR=9.9
KLR Kul'dur 34.04 288 LR LR 13 44 25.4
comp=Z,4µm,20.1s,baz=71,slow=37
KLR Kul'dur 34.04 288*c i*P **P** **13 30 21.6 -0.5**
KLR pmax pmax
comp=Z,50nm,1.4s
KLR MLR MLR
comp=Z,3µm,17.0s
H04D Lebanon 34.36 81 P **P** **13 30 26.8 +1.8**
baz=300
JMM Marumori 34.37 265 P **P** **13 30 24.9 -0.1**
JMM IAmb IAmb 13 30 43.9
comp=Z,122nm,1.1s
B08A Colville Reser 34.62 73 P **P** **13 30 27.5 +0.3**
K02D Willamette Mer 34.74 84 P **P** **13 30 29.8 +1.4**
baz=302
ZEA Zeya 34.88 297 *e*P **P** **13 30 28.5 -0.8**
ZEA *e* 13 31 49.9
ZEA *e*S **S** **13 35 53.5 -5.9**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA pmax pmax
comp=Z,200nm,14.6s
ZEA smax smax
comp=E,200nm,14.4s
ZEA MLR MLR
comp=E,1µm,18.0s
ZEA MLR MLR
comp=N,2µm,17.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
G05D Wamic, OR 34.88 79 P **P** **13 30 30.8 +1.3**
baz=300
I04A Tendick Farm, 34.94 82 P **P** **13 30 31.4 +1.3**
baz=301
H11N2 WAKE ISLAND Hy 35.09 212 T T 14 08 24.6
baz=21,slow=76,SNR=655
H11N3 WAKE ISLAND Hy 35.10 212 T T 14 08 25.8
baz=21,slow=76,SNR=655
H11N1 WAKE ISLAND Hy 35.11 212 T T 14 08 25.8
baz=21,slow=76,SNR=543
E07A Sunnyside 35.13 76 P **P** **13 30 31.1 -0.5**
I05D Terrebonne, OR 35.32 81 P **P** **13 30 34.9 +1.6**
baz=301
F07A Phinny Hill Vi 35.41 77 P **P** **13 30 35.5 +1.6**
F07A IAmb IAmb 13 30 51.3
comp=Z,64nm,0.9s
HAWA Hanford 35.41 76 P **P** **13 30 35.0 +1.1**
HAWA IAmb IAmb 13 30 50.6
comp=Z,113nm,1.0s
J04D Umpqua Nationa 35.42 83 IAMs_20 IAMs_20 13 45 50.3
comp=Z,4µm,18.0s
C09A Chrisman Ranch 35.51 73 P **P** **13 30 35.1 +0.3**
C09A IAmb IAmb 13 30 50.5
comp=Z,111nm,0.9s
JSD Sado 35.84 267 P **P** **13 30 38.1 +0.4**
JSD IAmb IAmb 13 30 48.9
comp=Z,55nm,0.8s
L04D Klamath Falls 35.84 84 P **P** **13 30 39.6 +1.7**
baz=303
YBH Yreka Blue Hor 35.86 85 P **P** **13 30 40.1 +2.1**
comp=Z,7.8nm,0.8s,baz=14,slow=12,SNR=13
YBH LR LR 13 42 31.6
comp=Z,µm,20.1s,baz=310,slow=32
J05D Fort Rock, OR 35.94 82 P **P** **13 30 40.2 +1.5**
baz=302
M02C Callahan 35.96 86 P **P** **13 30 41.3 +2.5**
baz=304
NEW Newport 35.98 72 P **P** **13 30 40.4 +1.4**
comp=Z,22nm,0.9s,baz=297,slow=7.3,SNR=38
NEW LR LR 13 45 22.7
comp=Z,2µm,18.0s,baz=306,slow=36
NEW Newport 35.98 72 P **P** **13 30 40.0 +1.1**
NEW pmax pmax
comp=Z,137nm,0.9s
NEW MLR MLR
comp=Z,3µm,18.0s
NEW Newport 35.98 72 P **P** **13 30 40.0 +1.1**
NEW IAmb IAmb 13 30 54.9
comp=Z,137nm,0.9s
NEW Newport 35.98 72 IAMs_20 IAMs_20 13 46 19.3
comp=Z,3µm,18.0s
NEW Newport 35.98 72 P **P** **13 30 40.2 +1.3**
baz=297,SNR=26
USA0B Ussuriysk Arra 36.27 280 P **P** **13 30 41.2 -0.1**
USA0B pmax pmax
comp=Z,107nm,0.9s
USA0B Ussuriysk Arra 36.27 280 P **P** **13 30 41.2 -0.1**
USA0B IAmb IAmb 13 30 43.3
comp=Z,107nm,0.8s
USRK Ussuriysk Ar. 36.27 280 P **P** **13 30 41.0 -0.3**
comp=Z,125nm,0.8s,baz=58,slow=7.7,SNR=79
USRK PcP **PcP** **13 33 06.0 0.0**
comp=Z,12nm,0.9s,baz=75,slow=1.6,SNR=5.2
USRK LR LR 13 44 35.6
comp=Z,4µm,21.4s,baz=56,slow=35
USRK Ussuriysk Ar. 36.27 280 P **P** **13 30 40.9 -0.4**
N02D Trinity Center 36.29 86 P **P** **13 30 43.5 +1.8**
baz=305
H11S1 WAKE ISLAND Hy 36.30 212 T T 14 09 57.2
baz=20,slow=76,SNR=1526
H11S2 WAKE ISLAND Hy 36.31 212 T T 14 09 56.6
baz=20,slow=76,SNR=968
H11S3 WAKE ISLAND Hy 36.31 212 T T 14 09 55.8
baz=20,slow=76,SNR=413
M04C Macdoel 36.37 85 P **P** **13 30 44.6 +2.1**
baz=304,SNR=6.7
O02D Mt. Diablo Mer 36.69 87 P **P** **13 30 47.2 +2.1**
baz=305
MJAR Matsushiro Arr 36.80 265 P **P** **13 30 46.8 +0.8**
comp=Z,19nm,0.9s,baz=45,slow=7.2,SNR=40
MJAR PcP **PcP** **13 33 07.8 0.0**
comp=Z,9.2nm,0.9s,baz=22,slow=0.8,SNR=4.3
MJAR LR LR 13 44 46.3
comp=Z,3µm,20.7s,baz=52,slow=34
MAJO Matsushiro 36.80 265*c i*P **P** **13 30 46.4 +0.4**
MAJO pmax pmax
comp=Z,44nm,1.1s
MAJO MLR MLR
comp=Z,4µm,20.0s
MAJO Matsushiro 36.80 265 P **P** **13 30 46.9 +0.8**
MAJO IAmb IAmb 13 31 07.3
comp=Z,92nm,1.0s
MAJO Matsushiro 36.80 265 IAMs_20 IAMs_20 13 44 35.2
comp=Z,4µm,20.0s
MJB9 Matsu-Tunnel 36.80 265 P **P** **13 30 46.8 +0.8**
MJB9 IAmb IAmb 13 31 07.2
comp=Z,91nm,1.0s
VLA Vladivostok 36.90 279*c i*P **P** **13 30 47.1 +0.4**
VLA pmax pmax
comp=Z,298nm,1.0s
HOPS Hopland Field 37.21 89 IAMs_20 IAMs_20 13 45 52.8
comp=Z,5µm,18.0s
O03E Paynes Creek 37.24 87 P **P** **13 30 51.2 +1.5**
baz=305,SNR=7.6
MOD Modoc Plateau 37.26 83 IAMs_20 IAMs_20 13 47 08.1
comp=Z,4µm,18.0s
WALA Waterton Lakes 37.52 69 P **P** **13 30 51.2 -0.8**
WALA IAmb IAmb 13 31 08.2
comp=Z,99nm,0.9s
MDJ Mudanjiang 37.52 282 P **P** **13 30 51.6 -0.4**
MDJ pP pP 13 30 54.8 -1.3
MDJ PP **PnPn** **13 32 19.6 +1.3**
MDJ pmax pmax
comp=Z,49nm,0.9s
MDJ pmax pmax
comp=Z,510nm,7.6s
MDJ LR LR
comp=Z,3µm,18.5s
MDJ LR LR
comp=Z,6µm,19.2s
MDJ LR LR
comp=Z,10µm,19.9s
MCCM Marconi Confer 37.84 90 IAMs_20 IAMs_20 13 46 33.5
comp=Z,4µm,19.0s
JTMT Jette 37.91 71 P **P** **13 30 54.8 -0.7**
JTMT IAmb IAmb 13 31 22.4
comp=Z,82nm,1.1s
WVOR Wild Horse Val 38.00 81 P **P** **13 30 55.7 -0.6**
WVOR pmax pmax
comp=Z,74nm,1.0s
WVOR Wild Horse Val 38.00 81 P **P** **13 30 55.7 -0.6**
WVOR IAmb IAmb 13 31 25.0
comp=Z,74nm,1.0s
JHJ Hachijo jima 2 38.07 259 LR LR 13 44 29.3
comp=Z,1µm,21.5s,baz=62,slow=33
RES Resolute Bay 38.37 25 LR LR 13 51 50.2
comp=Z,5µm,18.4s,baz=280,slow=44
RES Resolute Bay 38.37 25 P **P** **13 30 58.1 -0.7**
RES pmax pmax
comp=Z,23nm,1.4s
RES Resolute Bay 38.37 25 P **P** **13 30 58.1 -0.7**
MSO Missoula 38.56 73 P **P** **13 31 01.6 +0.7**
baz=300,SNR=21
PAHR Pah Rah Range 39.09 86 P **P** **13 31 06.6 +1.2**
EUNU Eureka 39.34 16 P **P** **13 31 07.0 0.0**
CMB Columbia Colle 39.47 88 IAMs_20 IAMs_20 13 47 43.5
comp=Z,3µm,18.0s
SAO San Andreas Ge 39.59 91 IAMs_20 IAMs_20 13 46 15.8
comp=Z,3µm,18.0s
HRY Holter Researc 39.88 72 P **P** **13 31 12.9 +1.0**
LRM Limekiln Ridge 39.96 73 P **P** **13 31 13.4 +0.7**
HLID Hailey 39.98 77 P **P** **13 31 13.7 +0.8**
baz=303,SNR=8.7
MCMT McKenzie Canyo 40.25 75 P **P** **13 31 15.4 +0.2**
BOD Bodaibo 40.31 308 *e*P **P** **13 31 13.6 -1.5**
BOD pmax pmax
comp=Z,56nm,1.6s
EGMT Eagleton 40.44 69 P **P** **13 31 16.8 +0.3**
EGMT IAmb IAmb 13 31 35.3
comp=Z,244nm,1.1s
EGMT IAMs_20 IAMs_20 13 49 55.1
comp=Z,4µm,18.0s
EGMT Eagleton 40.44 69 P **P** **13 31 17.3 +0.8**
baz=300,SNR=28
CN2 Changchun 40.48 284 *e*P **P** **13 31 16.7 0.0**
CN2 PP **PnPn** **13 32 54.2 +0.5**
CN2 *e*S **S** **13 37 32.4 +7.9**
CN2 pmax pmax
comp=Z,60nm,1.7s
CN2 pmax pmax
comp=Z,900nm,3.3s
CN2 LR LR
comp=Z,5µm,21.0s
CN2 LR LR
comp=Z,4µm,21.0s
CN2 LR LR
comp=Z,7µm,22.0s
NVAR Mina Array Bea 40.53 86 P **P** **13 31 18.9 +1.3**
comp=Z,12nm,0.9s,baz=292,slow=7.8,SNR=57
NVAR PcP **PcP** **13 33 20.4 +0.7**
comp=Z,9.8nm,0.9s,baz=274,slow=2.6,SNR=4.4
NVAR ScP **ScP** **13 37 06.2 -1.8**
comp=Z,3.9nm,0.8s,baz=270,slow=4.2,SNR=8.4
NVAR LR LR 13 45 34.8
comp=Z,1µm,19.9s,baz=302,slow=32
NVAR PKPPKP P'P'df 14 03 19.8 -20
comp=Z,0.9nm,0.9s,baz=101,slow=3.0,SNR=4.7
NVAR Mina Array Bea 40.53 86 P **P** **13 31 18.2 +0.7**
BOZ Bozeman (W) 40.57 73 P **P** **13 31 18.0 +0.3**
BOZ pmax pmax
comp=Z,98nm,1.0s
BOZ MLR MLR
comp=Z,2µm,18.0s
BOZ Bozeman (W) 40.57 73 P **P** **13 31 18.0 +0.3**
BOZ IAmb IAmb 13 31 33.0
comp=Z,98nm,0.9s
BOZ IAMs_20 IAMs_20 13 49 27.6
comp=Z,2µm,18.0s
BOZ Bozeman (W) 40.57 73 P **P** **13 31 18.1 +0.4**
baz=302,SNR=44
HIA Hailar 41.02 294 IAMs_20 IAMs_20 13 51 20.7
comp=Z,3µm,18.0s
ELK Elko 41.06 81 P **P** **13 31 23.0 +1.2**
comp=Z,6.1nm,0.7s,baz=304,slow=9.1,SNR=32
ELK LR LR 13 46 04.7
comp=Z,2µm,20.1s,baz=310,slow=33
ELK Elko 41.06 81 IAMs_20 IAMs_20 13 49 34.6
comp=Z,3µm,18.0s
FFC Flin Flon 41.59 56 P **P** **13 31 25.9 +0.1**
FFC pmax pmax
comp=Z,67nm,1.0s
FFC MLR MLR
comp=Z,4µm,19.0s
FFC Flin Flon 41.59 56 P **P** **13 31 25.9 +0.1**
FFC Flin Flon 41.59 56 IAMs_20 IAMs_20 13 48 21.3
comp=Z,4µm,19.0s
VES Vestal, Richgr 41.65 90 P **P** **13 31 27.2 +0.7**
baz=310,SNR=6.2
H17A Grant Village 41.85 74 P **P** **13 31 30.9 +2.6**
baz=303,SNR=17
CWC Cottonwood Cre 41.90 89 P **P** **13 31 29.9 +1.2**
baz=309
GRAC Grapevine Rang 42.00 87 P **P** **13 31 30.8 +1.5**
baz=309,SNR=5.9
ISA Isabella, Lake 42.15 90 P **P** **13 31 31.1 +0.5**
baz=310,SNR=8.1
RLMT Red Lodge 42.23 72 P **P** **13 31 32.6 +1.1**
baz=303,SNR=47
R11A Troy Canyon, C 42.27 85 P **P** **13 31 31.9 +0.1**
R11A Troy Canyon, C 42.27 85 P **P** **13 31 32.4 +0.6**
baz=308,SNR=17
MPMC Manual Prospec 42.51 89 P **P** **13 31 34.8 +1.0**
baz=310,SNR=8.8
FURC Furnace Creek, 42.64 88 P **P** **13 31 35.9 +1.4**
baz=309,SNR=9.9
KSRS Korea Array 42.65 274 P **P** **13 31 35.7 +1.1**
comp=Z,53nm,0.9s,baz=57,slow=7.6,SNR=70
KSRS PcP **PcP** **13 33 26.7 +0.3**
comp=Z,9.0nm,0.9s,baz=69,slow=3.7,SNR=2.9
KSRS LR LR 13 48 48.1
comp=Z,2µm,20.2s,baz=60,slow=35
SNY Shenyang 42.72 282⇑ P **P** **13 31 36.1 +1.0**
SNY pP **pwP** **13 31 43.1 -2.0**
SNY S **S** **13 37 56.6 -1.1**
SNY SS **SS** **13 41 00.5 -7.6**
SNY ScS **ScS** **13 41 36.0 +0.9**
SNY pmax pmax
comp=Z,220nm,1.2s
SNY pmax pmax
comp=Z,2µm,3.5s
SNY LR LR
comp=Z,5µm,19.1s
SNY LR LR
comp=Z,3µm,20.1s
SNY LR LR
comp=Z,5µm,22.4s
TPNV Topopah Spring 42.72 87 P **P** **13 31 36.0 +0.5**
TPNV pmax pmax
comp=Z,49nm,0.9s
TPNV Topopah Spring 42.72 87 P **P** **13 31 36.0 +0.5**
TPNV Topopah Spring 42.72 87 P **P** **13 31 36.3 +0.9**
baz=309,SNR=16
HWUT Hardware Ranch 42.82 78 P **P** **13 31 35.8 -0.3**
DUG Dugway, Tooele 42.88 80 IAMs_20 IAMs_20 13 50 52.7
comp=Z,2µm,18.0s
DUG Dugway, Tooele 42.88 80 P **P** **13 31 37.5 +0.9**
baz=306,SNR=29
EDW2 Edwards Air Fo 42.95 90 P **P** **13 31 37.6 +0.4**

baz=311
LAO LASA Array 43.18 69 IAMs_20 IAMs_20 13 51 05.7
comp=Z,3µm,18.0s
LAO LASA Array 43.18 69 P **P** **13 31 40.3 +1.4**
baz=302,SNR=10
BW06 Boulder Array 43.37 75 P **P** **13 31 41.1 +0.4**
BW06 IAmb IAmb 13 31 56.0
comp=Z,93nm,0.9s
BW06 Boulder Array 43.37 75 P **P** **13 31 41.2 +0.5**
baz=305,SNR=26
PD31 Pinedale Array 43.37 75 P **P** **13 31 41.3 +0.6**
PD31 IAmb IAmb 13 31 56.0
comp=Z,84nm,0.9s
PDAR Pinedale Array 43.37 75 P **P** **13 31 41.0 +0.3**
comp=Z,9.8nm,0.7s,baz=305,slow=4.4,SNR=82
PDAR ScP **ScP** **13 37 17.1 -2.2**
comp=Z,1.5nm,0.9s,baz=264,slow=1.6,SNR=3.4
PDAR LR LR 13 49 53.1
comp=Z,2µm,18.4s,baz=307,slow=36
PDAR Pinedale Array 43.37 75 P **P** **13 31 41.0 +0.3**
DGMT Dagmar 43.41 65 P **P** **13 31 41.1 +0.4**
DGMT IAmb IAmb 13 31 55.4
comp=Z,202nm,1.3s
DGMT Dagmar 43.41 65 IAMs_20 IAMs_20 13 52 06.6
comp=Z,4µm,18.0s
DGMT Dagmar 43.41 65 P **P** **13 31 41.3 +0.6**
baz=301,SNR=15
GSC Goldstone, Bar 43.42 89 P **P** **13 31 41.8 +0.8**
baz=310,SNR=15
INCN Inchon 43.44 275 P **P** **13 31 41.6 +0.5**
INCN P **P** **13 31 41.6 +0.5**
BFSC Mount Baldy Ra 43.58 91 P **P** **13 31 43.4 +1.1**
baz=311,SNR=6.8
JNU Nakatsue 43.60 267 IAmb IAmb 13 32 02.0
comp=Z,154nm,1.1s
TJN Taejon 43.68 273*c i* P **P** **13 31 43.7 +0.8**
TJN Taejon 43.68 273 P **P** **13 31 43.5 +0.6**
TULEG Thule 43.90 19 IAMs_20 IAMs_20 13 51 37.1
comp=Z,3µm,21.0s
BBRC Big Bear Solar 44.02 90 P **P** **13 31 47.4 +1.4**
baz=311
109C Camp Elliot, M 44.82 92 P **P** **13 31 52.9 +0.9**
baz=312
IRM Iron Mountain 45.20 89 P **P** **13 31 55.8 +0.6**
baz=311,SNR=5.9
K22A Casper 45.26 74 P **P** **13 31 55.8 +0.1**
baz=306,SNR=8.0
BC3 Big Chuckawall 45.34 90 P **P** **13 31 56.4 0.0**
baz=312
RWWY Rawlins 45.41 75 IAMs_20 IAMs_20 13 52 38.8
comp=Z,3µm,18.0s
U15A North Rim 45.52 84 IAmb IAmb 13 32 27.4
comp=Z,109nm,1.2s
IKP In-Ko-Pah, Jac 45.60 91 P **P** **13 31 57.7 -0.7**
baz=312
DL2 Dalian 45.66 280⇑*i* P **P** **13 31 58.9 +0.2**
DL2 sP **pwP** **13 32 12.3 +3.6**
DL2 S **S** **13 38 39.5 -1.0**
DL2 pmax pmax
comp=Z,160nm,1.0s
DL2 pmax pmax
comp=Z,560nm,6.1s
DL2 LR LR
comp=Z,2µm,19.8s
DL2 LR LR
comp=Z,1µm,20.8s
DL2 LR LR
comp=Z,2µm,16.2s
O20A White River Ci 45.72 77 IAmb IAmb 13 32 21.1
comp=Z,112nm,0.9s
O20A White River Ci 45.72 77 P **P** **13 31 59.7 +0.3**
baz=307,SNR=19
PDMCI Parker Dam,Lak 45.73 88 P **P** **13 31 60.0 +0.6**
baz=311,SNR=6.2
NRIK Noril'sk 45.81 331 P **P** **13 31 59.5 0.0**
comp=Z,25nm,0.7s,baz=77,slow=9.0,SNR=26
NRIK PcP **PcP** **13 33 35.9 -0.7**
comp=Z,17nm,0.7s,baz=86,slow=5.2,SNR=4.8
NRIK Noril'sk 45.81 331*c i* P **P** **13 31 59.3 -0.2**
NRIK pmax pmax
comp=Z,26nm,0.9s
NRIK Noril'sk 45.81 331 IAmb IAmb 13 32 20.1
comp=Z,70nm,1.4s
BLYC Blythe 45.86 89 P **P** **13 32 00.4 +0.1**
RSSD Black Hills 45.89 70 P **P** **13 32 01.0 +0.2**
baz=305
XLT XiLinHaoTe 46.03 289*e* P **P** **13 32 01.9 +0.2**
XLT pP pwP 13 32 08.5 -3.3
XLT sP sP 13 32 11.0 +3.5
XLT PcP **PcP** **13 33 39.8 +1.8**
XLT PP **PP** **13 33 51.5 +2.0**
XLT S **S** **13 38 45.7 -0.3**
XLT sS sS 13 39 00.3 +7.4
XLT ScS **ScS** **13 41 52.0 -4.3**
XLT pmax pmax
comp=Z,44nm,1.1s
XLT pmax pmax
comp=Z,610nm,8.6s
XLT LR LR
comp=Z,3µm,17.4s
XLT LR LR
comp=Z,3µm,18.8s
GLA Glamis 46.13 90 P **P** **13 32 03.0 +0.4**
baz=312
PV10 Paradox Valley 46.31 80 P **P** **13 32 05.3 +1.1**
PV10 IAmb IAmb 13 32 26.7
comp=Z,92nm,1.1s
MDND Maddock 46.34 64 P **P** **13 32 04.5 +0.5**
baz=304,SNR=12
NEEM North Greenlan 46.58 15*i* P **P** **13 32 04.3 -1.5**
NEEM IAmb IAmb 13 32 07.3
comp=Z,87nm,0.8s
NOR Nord 46.58 4*i* P **P** **13 32 03.6 -1.9**
NOR IAmb IAmb 13 32 09.8
comp=Z,6.1nm,0.9s
N23A Red Feather La 46.65 75 P **P** **13 32 07.6 +0.8**
baz=307,SNR=13
WUAZ Wupatki 46.67 85 IAMs_20 IAMs_20 13 52 49.2
comp=Z,3µm,18.0s
WUAZ Wupatki 46.67 85 P **P** **13 32 07.5 +0.6**
baz=310,SNR=14
ULM Lac du Bonnet 47.05 59 P **P** **13 32 09.2 -0.4**
comp=Z,20nm,0.4s,baz=304,slow=8.0,SNR=38
ULM LR LR 13 51 15.3
comp=Z,3µm,20.8s,baz=316,slow=35
ULM Lac du Bonnet 47.05 59 IAmb IAmb 13 32 36.1
comp=Z,138nm,1.4s
MVCO Mesa Verde 47.37 81 P **P** **13 32 12.7 +0.2**
baz=310
ISCO Idaho Springs 47.52 76 IAMs_20 IAMs_20 13 55 59.6
comp=Z,4µm,18.0s
ISCO Idaho Springs 47.52 76 P **P** **13 32 14.1 +0.4**
baz=308
IRK Irkutsk 47.88 305*e* P **P** **13 32 13.8 -2.2**
IRK *e* 13 42 07.3
IRK pmax pmax
comp=Z,139nm,1.9s
W18A Petrified Fore 47.95 84 P **P** **13 32 17.7 +0.8**
baz=311,SNR=8.9
AGMN Agassiz Nation 48.16 61 P **P** **13 32 18.1 0.0**
AGMN IAMs_20 IAMs_20 13 55 25.2
comp=Z,3µm,18.0s
AGMN Agassiz Nation 48.16 61 P **P** **13 32 18.1 0.0**
baz=305,SNR=42
BJI Beijing 48.28 285 P **P** **13 32 20.1 +0.9**
BJI pP **pP** **13 32 22.8 -0.5**
BJI sP **sP** **13 32 24.8 -0.2**
BJI PcP **PcP** **13 33 45.9 0.0**
BJI PP **PP** **13 34 10.9 -0.5**
BJI S **S** **13 39 16.6 -1.4**
BJI pmax pmax
comp=Z,51nm,1.0s
BJI pmax pmax
comp=Z,780nm,4.1s
BJI LR LR
comp=Z,4µm,20.3s
BJI LR LR
comp=Z,4µm,19.4s
BJI LR LR
comp=Z,6µm,20.6s
Q24A Divide 48.32 77 P **P** **13 32 20.2 +0.3**
baz=309
SUSD Miller 48.66 67 P **P** **13 32 22.4 +0.3**
baz=306,SNR=6.2
UPNV Upernavik 48.83 20*i* P **P** **13 32 22.6 -0.4**
UPNV IAmb IAmb 13 32 24.7
comp=Z,28nm,0.7s
SDCO Great Sand Dun 48.87 78 P **P** **13 32 24.4 +0.2**
SDCO Great Sand Dun 48.87 78 P **P** **13 32 24.7 +0.6**
baz=310,SNR=16
ULN Ulaanbaatar 48.89 299*c i* P **P** **13 32 23.8 -0.2**
ULN pmax pmax
comp=Z,70nm,1.0s
ULN MLR MLR
comp=Z,5µm,18.0s
ULN Ulaanbaatar 48.89 299 P **P** **13 32 23.7 -0.2**
ULN IAmb IAmb 13 32 39.0
comp=Z,66nm,0.9s
ULN Ulaanbaatar 48.89 299 P **P** **13 32 23.5 -0.5**
ULN P **P** **13 32 23.5 -0.5**
OGNE Ogallala 48.97 73 P **P** **13 32 24.5 -0.1**
OGNE Ogallala 48.97 73 P **P** **13 32 26.0 +1.3**
baz=308
TUC Tucson 49.16 87 P **P** **13 32 26.6 +0.5**
TUC pmax pmax
comp=Z,31nm,1.1s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 49.16 87 P **P** **13 32 26.6 +0.5**
TUC Tucson 49.16 87 IAMs_20 IAMs_20 13 53 31.0
comp=Z,2µm,18.0s
TUC Tucson 49.16 87 P **P** **13 32 26.7 +0.6**
baz=313
SONM Songino Array 49.27 299 P **P** **13 32 27.5 +0.7**
comp=Z,38nm,0.8s,baz=48,slow=8.6,SNR=225
SONM PcP **PcP** **13 33 50.1 +0.7**
comp=Z,7.9nm,0.8s,baz=56,slow=3.6,SNR=1.7
SONM ScP **ScP** **13 37 41.4 -2.3**
comp=Z,3.7nm,1.0s,baz=48,slow=3.3,SNR=4.2
SONM LR LR 13 54 25.2
comp=Z,6µm,19.1s,baz=58,slow=38
SONM Songino Array 49.27 299 P **P** **13 32 26.7 -0.2**
SONM IAmb IAmb 13 32 28.4
comp=Z,48nm,0.8s
B35A Bob, Littlefor 49.28 60 IAmb IAmb 13 32 27.6
comp=Z,49nm,0.7s
ZAK Zakamensk 49.45 303*e* P **P** **13 32 28.5 +0.4**
ZAK *e* 13 33 50.2
ZAK pmax pmax
comp=Z,114nm,1.2s
ZAK pmax pmax
comp=Z,41nm,1.3s
KBS Kingsbay 49.78 359 IAMs_20 IAMs_20 13 53 58.9
comp=Z,3µm,19.0s
KSCO Kaye Shedlock' 49.82 75 P **P** **13 32 31.8 +0.6**
baz=309
MOY Mondy 49.88 306*e* P **P** **13 32 32.2 +0.8**
MOY pmax pmax
comp=Z,81nm,2.6s
T25A Trinidad 49.93 78 P **P** **13 32 33.0 +0.9**
baz=310,SNR=35
ANMO Albuquerque 50.09 82 LR LR 13 51 37.0
comp=Z,1µm,21.1s,baz=303,slow=33
ANMO Albuquerque 50.09 82*de* P **P** **13 32 34.0 +0.6**
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 50.09 82 P **P** **13 32 32.3 -1.1**
ANMO Albuquerque 50.09 82 P **P** **13 32 33.8 +0.4**
baz=311
TIA Tai'an 50.13 281⇑ P **P** **13 32 33.7 +0.3**
TIA PP **PP** **13 34 26.4 -2.0**
TIA S **S** **13 39 46.2 +2.2**
TIA pmax pmax
comp=Z,77nm,1.4s
TIA pmax pmax
comp=Z,670nm,3.5s
TIA LR LR
comp=Z,1µm,17.3s
TIA LR LR
comp=Z,2µm,17.2s
TIA LR LR
comp=Z,3µm,21.2s
Y22D IRIS PASSCAL I 50.38 83 IAMs_20 IAMs_20 13 51 37.4
comp=Z,3µm,20.0s
SPITS Spitsbergen Ar 50.43 357 LR LR 13 53 45.5
comp=Z,3µm,20.5s,baz=295,slow=36
SPB2 Spitsbergen Ar 50.43 357 IAmb IAmb 13 32 37.8
comp=Z,59nm,1.0s
ECSD EROS Data Cent 50.44 67 P **P** **13 32 35.1 -0.6**
ECSD IAmb IAmb 13 32 49.0
comp=Z,82nm,1.1s
ECSD EROS Data Cent 50.44 67 IAMs_20 IAMs_20 13 55 43.6
comp=Z,3µm,19.0s
ECSD EROS Data Cent 50.44 67 P **P** **13 32 34.9 -0.7**
baz=308,SNR=32
HHC Hu-ho-hao-te 50.54 289*e* P **P** **13 32 37.5 +0.9**
HHC S **S** **13 39 50.9 +1.1**
HHC ScS **ScS** **13 42 25.8 -0.7**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,880nm,7.7s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,4µm,15.2s
HHC LR LR
comp=Z,3µm,16.5s
EYMN Ely 50.73 59 IAmb IAmb 13 32 44.6
comp=Z,59nm,0.9s
EYMN Ely 50.73 59 IAMs_20 IAMs_20 13 57 28.3
comp=Z,4µm,18.0s
EYMN Ely 50.73 59 P **P** **13 32 37.7 -0.2**
baz=307,SNR=17
HNS HongShan 50.84 283⇓ P **P** **13 32 39.6 +0.9**
HNS PP **PP** **13 34 37.8 +3.0**
HNS S **S** **13 39 53.9 +0.1**
HNS pmax pmax
comp=Z,280nm,1.1s
HNS LR LR
comp=Z,1µm,22.0s
HNS LR LR
comp=Z,3µm,19.6s
HNS LR LR
comp=Z,3µm,19.8s
121A Cookes Peak, D 50.88 85 P **P** **13 32 39.8 +0.6**
baz=313,SNR=6.4
BGNE Belgrade 50.98 70 P **P** **13 32 40.2 +0.4**
baz=309
DAG Danmarks Havn 51.04 7*i* P **P** **13 32 38.8 -0.9**
DAG IAmb IAmb 13 32 40.5
comp=Z,17nm,0.8s
FRB Frobisher Bay 51.30 33 LR LR 13 55 52.3
comp=Z,6µm,19.5s,baz=300,slow=38
E38A The Farm, Brul 51.51 61 IAmb IAmb 13 32 44.3
comp=Z,78nm,1.0s
BTO Baotou 51.60 289*e* P **P** **13 32 45.1 +0.6**
BTO S **S** **13 40 07.3 +2.8**
BTO LR LR
comp=Z,11µm,17.3s
BTO LR LR
comp=Z,16µm,17.5s
SPMN Marine on St. 51.67 63 IAmb IAmb 13 32 58.8
comp=Z,76nm,1.1s
SPMN Marine on St. 51.67 63 P **P** **13 32 44.9 +0.1**
baz=308,SNR=11
CBKS Cedar Bluff 51.68 73 P **P** **13 32 45.8 +0.7**
baz=310,SNR=9.3
NJ2 Nanjing 51.82 275⇑ P **P** **13 32 46.2 +0.1**
NJ2 pP **sP** **13 32 52.0 +0.1**
NJ2 sP **pwP** **13 32 54.5 -1.6**
NJ2 PP **PP** **13 34 45.8 +2.0**
NJ2 S **S** **13 40 09.8 +2.3**
NJ2 sS **sS** **13 40 13.1 -1.3**
NJ2 pmax pmax
comp=Z,51nm,1.2s
NJ2 pmax pmax
comp=Z,1µm,3.6s
NJ2 LR LR
comp=Z,1µm,19.1s
NJ2 LR LR
comp=Z,2µm,18.1s
NJ2 LR LR
comp=Z,1µm,19.6s
TIY Taiyuan 52.02 285*e* P **P** **13 32 49.2 +1.6**
TIY S **S** **13 40 14.8 +4.6**
TIY pmax pmax
comp=Z,76nm,1.0s
TIY LR LR
comp=Z,2µm,16.5s
TIY LR LR
comp=Z,3µm,20.3s
TIY LR LR
comp=Z,3µm,19.6s
R32A Long Quarter, 52.55 73 IAmb IAmb 13 33 06.2
comp=Z,82nm,0.8s
D41A Chassel 52.85 59 IAmb IAmb 13 33 14.1
comp=Z,108nm,1.2s
MNTX Cornudas Mount 52.94 84 P **P** **13 32 54.9 +0.4**
baz=313,SNR=15
MSTX Muleshoe 53.02 80 IAmb IAmb 13 33 19.6
comp=Z,83nm,1.2s
MSTX Muleshoe 53.02 80 P **P** **13 32 55.2 +0.1**
baz=312,SNR=13
AMTX Amarillo 53.08 78 P **P** **13 32 55.6 +0.1**
baz=312
COWI Conover 53.14 60 IAmb IAmb 13 33 21.2
comp=Z,97nm,1.3s
COWI IAMs_20 IAMs_20 13 58 54.0
comp=Z,3µm,18.0s
DBG Daneborg 53.23 9*i* P **P** **13 32 53.8 -2.2**
DBG IAmb IAmb 13 32 55.3
comp=Z,11nm,0.5s
K38A Parkersburg 53.31 65 IAmb IAmb 13 33 10.7
comp=Z,96nm,1.1s
KSU1 Kansas State U 53.36 71 IAmb IAmb 13 33 11.6
comp=Z,126nm,1.0s
KSU1 Kansas State U 53.36 71 P **P** **13 32 57.2 -0.2**
baz=311,SNR=7.8
SCIA State Center 53.53 66 IAmb IAmb 13 33 12.7
comp=Z,142nm,1.1s
SCIA IAMs_20 IAMs_20 13 57 48.4
comp=Z,3µm,18.0s
SCIA State Center 53.53 66 P **P** **13 32 58.8 +0.1**
baz=310,SNR=5.5
U32A Winter Ranch, 53.71 75 IAmb IAmb 13 33 15.0
comp=Z,94nm,0.9s
I40A Norwalk 53.73 63 IAmb IAmb 13 33 13.8
comp=Z,77nm,1.1s
F42A Maple Grove Fa 53.90 60 IAmb IAmb 13 33 02.5
comp=Z,66nm,0.8s
LYN LuoYang 54.08 282⇑*i* P **P** **13 33 03.4 +0.6**
LYN pP pwP 13 33 09.7 -3.1
LYN PP **PP** **13 35 07.5 +3.4**
LYN S **S** **13 40 33.1 -5.1**
LYN sS sS 13 40 44.6 -0.6
LYN pmax pmax
comp=Z,90nm,0.9s
LYN pmax pmax
comp=Z,540nm,3.8s
LYN LR LR
comp=Z,2µm,19.6s
LYN LR LR
comp=Z,2µm,22.8s
SFJD Kangerlussuaq 54.36 24 LR LR 13 59 58.3
comp=Z,2µm,19.1s,baz=312,slow=40
SFJD Kangerlussuaq 54.36 24 P **P** **13 33 03.4 -0.9**
SFJD pmax pmax
comp=Z,63nm,1.5s
SFJD Kangerlussuaq 54.36 24*i* P **P** **13 33 02.8 -1.5**
SFJD IAmb IAmb 13 33 05.9
comp=Z,6.7nm,0.5s
SFJD Kangerlussuaq 54.36 24 P **P** **13 33 03.4 -0.9**
SFJD IAmb IAmb 13 33 19.8
comp=Z,63nm,1.4s
JFWS Jewell Farm 54.56 64 P **P** **13 33 05.4 -0.8**
baz=310,SNR=12
L40A Anamosa 54.56 65 P **P** **13 33 05.7 -0.5**
L40A IAmb IAmb 13 33 19.5
comp=Z,134nm,1.4s
I42A Draeger Farm, 54.67 62 IAmb IAmb 13 33 20.7
comp=Z,80nm,0.9s
T35A Sooner Cattle 54.85 73 IAmb IAmb 13 33 22.6
comp=Z,76nm,0.9s
H43A Windswept, Lux 54.92 61 IAmb IAmb 13 33 09.6
comp=Z,72nm,0.8s
WMOK Wichita Mounta 54.94 77 IAmb IAmb 13 33 31.1
comp=Z,60nm,1.2s
WMOK Wichita Mounta 54.94 77 IAMs_20 IAMs_20 13 56 57.0
comp=Z,2µm,20.0s
WMOK Wichita Mounta 54.94 77 P **P** **13 33 09.1 0.0**
baz=312,SNR=24
ICESG Greenland Ices 55.12 18*i* P **P** **13 33 08.9 -1.4**
ICESG IAmb IAmb 13 33 09.9
comp=Z,21nm,0.6s
TATO Taipei 55.14 267 IAMs_20 IAMs_20 13 55 47.6
comp=Z,2µm,20.0s
LPIG La Paz 55.22 94 LR LR 13 54 13.5
comp=Z,1µm,18.1s,baz=308,slow=33
FNO Franklin 55.43 75 IAmb IAmb 13 33 27.6
comp=Z,98nm,1.2s
YHNB Yeheng 55.43 267 IAMs_20 IAMs_20 13 54 37.5
comp=Z,2µm,21.0s
L42A Oliver, Polo 55.48 64 IAmb IAmb 13 33 26.4
comp=Z,74nm,1.0s
E46A Sault Ste Mari 55.55 57 IAmb IAmb 13 33 14.2
comp=Z,55nm,0.8s
TX32 Lajitas Array 55.63 85 IAmb IAmb 13 33 41.7
comp=Z,54nm,1.2s
TXAR Lajitas Array 55.64 85 P **P** **13 33 14.0 -0.2**
comp=Z,7.3nm,0.8s,baz=297,slow=4.8,SNR=70
TXAR ScP **ScP** **13 38 09.2 -2.3**
comp=Z,2.9nm,0.9s,baz=272,slow=3.2,SNR=4.7
TXAR LR LR 13 56 27.6
comp=Z,966nm,18.4s,baz=312,slow=35
TXAR PKP2bc 14 03 28.7
comp=Z,2.4nm,1.2s,baz=160,slow=4.0,SNR=4.7
WHN Wuhan 55.66 277⇓ P **P** **13 33 15.0 +0.8**
WHN S **S** **13 41 00.3 +0.9**
WHN pmax pmax
comp=Z,150nm,1.2s
WHN pmax pmax
comp=Z,2µm,3.4s
WHN LR LR
comp=Z,2µm,15.9s
WHN LR LR
comp=Z,4µm,16.6s
WHN LR LR
comp=Z,3µm,13.9s
P40A Paris 55.75 68 P **P** **13 33 14.3 -0.4**
SLBS Sierra La Lagu 55.75 94 P **P** **13 33 15.1 0.0**
SLBS IAMs_20 IAMs_20 13 55 34.7
comp=Z,2µm,19.0s
K43A Burlington 55.77 63 P **P** **13 33 13.6 -1.3**
K43A IAmb IAmb 13 33 28.2
comp=Z,111nm,1.1s
W35A Tecumseh 55.82 75 P **P** **13 33 15.5 +0.2**
DY2G Dye2 55.84 23*i* P **P** **13 33 14.2 -1.1**
DY2G IAmb IAmb 13 33 22.0
comp=Z,9.5nm,0.6s
ABTX Abilene, Hawle 55.85 79 P **P** **13 33 15.8 +0.1**
baz=313,SNR=10
TUL1 Leonard 55.96 74 IAMs_20 IAMs_20 13 57 59.9
comp=Z,2µm,19.0s
TUL1 Leonard 55.96 74 P **P** **13 33 16.2 -0.1**
baz=312
ZALV Zalesovo Beam 56.10 316 P **P** **13 33 16.2 -0.8**
comp=Z,2.4nm,0.4s,baz=51,slow=7.2,SNR=17
ZALV PcP **PcP** **13 34 15.4 +0.5**
comp=Z,5.9nm,0.4s,baz=45,slow=4.4,SNR=10
ZALV ScP **ScP** **13 38 10.7 -2.3**
comp=Z,1.4nm,0.7s,baz=20,slow=4.6,SNR=2.1
ZALV LR LR 13 58 57.9
comp=Z,3µm,18.2s,baz=52,slow=38
ZALV Zalesovo Beam 56.10 316*i* P **P** **13 33 17.0 -0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 56.10 316 P **P** **13 33 16.0 -1.0**
SSLB Suanglung 56.34 267 IAMs_20 IAMs_20 13 57 44.4
comp=Z,2µm,20.0s
L44A Lake County Fo 56.35 63 P **P** **13 33 18.9 -0.1**
baz=312,SNR=7.2
GLMI Grayling 56.40 59 IAMs_20 IAMs_20 13 58 20.1
comp=Z,3µm,20.0s
GLMI Grayling 56.40 59 P **P** **13 33 19.5 +0.2**
baz=311,SNR=7.7
YULB Yu-li 56.41 266 IAmb IAmb 13 33 33.4
comp=Z,78nm,1.0s
R40A Maddies Statio 56.45 69 IAmb IAmb 13 33 32.8
comp=Z,39nm,0.6s
XAN Xi'an 56.59 284 P **P** **13 33 21.1 +0.2**

XAN PP **PP** **13 35 27.9 +1.3**
XAN S **S** **13 41 10.8 -1.1**
XAN pmax pmax
comp=Z,110nm,1.3s
XAN pmax pmax
comp=Z,940nm,4.3s
XAN LR LR
comp=Z,3µm,17.8s
XAN LR LR
comp=Z,2µm,20.6s
XAN LR LR
comp=Z,4µm,20.0s
HDIL Hopedale 56.65 65 P **P** **13 33 20.7 -0.5**
baz=312,SNR=12
SCO Scoresbysund 56.65 11 *i* P **P** **13 33 20.0 -0.8**
SCO IAmb IAmb 13 33 20.5
comp=Z,7.6nm,0.6s
M44A Midewin, Midew 56.80 64 IAmb IAmb 13 33 35.9
comp=Z,108nm,1.0s
HHAR Hobbs 56.81 72 IAmb IAmb 13 33 36.1
comp=Z,43nm,0.9s
TPUB Ta-pu 56.89 266 IAMs_20 IAMs_20 13 58 03.2
comp=Z,2µm,21.0s
QZH Quanzhou 56.97 269⇑ *i* P **P** **13 33 24.6 +0.9**
QZH S **S** **13 41 18.8 +1.8**
QZH pmax pmax
comp=Z,72nm,0.9s
QZH pmax pmax
comp=Z,600nm,4.1s
QZH LR LR
comp=Z,520nm,20.4s
QZH LR LR
comp=Z,340nm,18.5s
QZH LR LR
comp=Z,800nm,16.6s
X37A Clayton 57.10 74 IAmb IAmb 13 33 39.6
comp=Z,96nm,1.0s
CCM Cathedral Cave 57.20 69 P **P** **13 33 23.7 -1.4**
CCM pmax pmax
comp=Z,106nm,1.4s
CCM MLR MLR
comp=Z,2µm,18.0s
CCM Cathedral Cave 57.20 69 P **P** **13 33 23.7 -1.4**
CCM IAmb IAmb 13 33 38.5
comp=Z,106nm,1.4s
CCM Cathedral Cave 57.20 69 IAMs_20 IAMs_20 13 59 41.7
comp=Z,2µm,18.0s
CCM Cathedral Cave 57.20 69 P **P** **13 33 24.1 -1.1**
baz=313
MGMO Mountain Grove 57.21 70 P **P** **13 33 23.9 -1.4**
MGMO IAmb IAmb 13 33 38.7
comp=Z,82nm,0.9s
JCT Junction City 57.23 81 IAMs_20 IAMs_20 13 57 38.8
comp=Z,2µm,18.0s
JCT Junction City 57.23 81 P **P** **13 33 25.3 -0.3**
baz=314
J47A Sunmer 57.34 60 P **P** **13 33 25.6 -0.4**
J47A IAmb IAmb 13 33 28.0
comp=Z,38nm,0.8s
JMIC Jan Mayen 57.37 6 LR LR 13 58 21.2
comp=Z,740nm,20.2s,baz=312,slow=36
SOEG Soedalen 57.41 16 *i* P **P** **13 33 25.1 -1.0**
SOEG IAmb IAmb 13 33 26.8
comp=Z,17nm,0.7s
U40A Yellville 57.41 71 IAmb IAmb 13 33 40.1
comp=Z,83nm,0.9s
U40A IAMs_20 IAMs_20 13 59 27.2
comp=Z,3µm,19.0s
U40A Yellville 57.41 71 P **P** **13 33 25.4 -1.2**
baz=313,SNR=26
HAMF Hammerfest 57.50 353 *e*P **P** **13 33 27.0 +0.2**
WHTX Lake Whitney, 57.62 78 P **P** **13 33 28.6 +0.4**
baz=314,SNR=5.9
W39A Magazine 57.64 73 IAMs_20 IAMs_20 13 59 10.5
comp=Z,2µm,20.0s
W39A Magazine 57.64 73 P **P** **13 33 28.0 -0.3**
baz=313,SNR=9.1
FVM French Village 57.73 68 IAmb IAmb 13 33 42.7
comp=Z,77nm,0.8s
VLDQ Val d'Or 57.87 52 IAmb IAmb 13 33 29.3
comp=Z,81nm,0.9s
SCHQ Schefferville 57.98 41 P **P** **13 33 29.8 -0.6**
comp=Z,24nm,0.8s,baz=323,slow=7.2,SNR=34
SCHQ LR LR 14 00 53.7
comp=Z,5µm,18.4s,baz=318,slow=38
SFIN Lafayette 58.01 64 P **P** **13 33 30.7 -0.1**
baz=313,SNR=20
KEV Kevo 58.09 352 P **P** **13 33 30.3 -0.6**
KEV pmax pmax
comp=Z,52nm,0.9s
KEV MLR MLR
comp=Z,2µm,18.0s
KEV Kevo 58.09 352 P **P** **13 33 30.3 -0.6**
KEV IAmb IAmb 13 33 31.4
comp=Z,52nm,0.9s
KEV IAMs_20 IAMs_20 14 01 26.0
comp=Z,2µm,18.0s
MIAR Mount Ida 58.21 73 IAMs_20 IAMs_20 13 59 17.6
comp=Z,2µm,20.0s
MIAR Mount Ida 58.21 73 P **P** **13 33 32.3 -0.1**
baz=314
LZH Lanzhou 58.23 289 ⇑P **P** **13 33 33.6 +1.0**
LZH pP pwP 13 33 45.1 +2.4
LZH sP sP 13 33 46.3 +7.9
LZH S **S** **13 41 26.7 -6.9**
LZH SS **SS** **13 45 24.0 -0.9**
LZH pmax pmax
comp=Z,140nm,1.5s
LZH pmax pmax
comp=Z,320nm,4.3s
LZH LR LR
comp=Z,3µm,18.4s
LZH LR LR
comp=Z,5µm,18.4s
LZH LR LR
comp=Z,7µm,18.4s
GTA Gaotai 58.30 295 ⇑P **P** **13 33 32.9 -0.1**
GTA S **S** **13 41 35.8 +1.4**
GTA ScS **ScS** **13 43 17.8 -4.0**
GTA SS **SS** **13 45 24.6 -1.2**
GTA pmax pmax
comp=Z,73nm,1.0s
GTA pmax pmax
comp=Z,450nm,5.5s
GTA LR LR
comp=Z,3µm,17.1s
GTA LR LR
comp=Z,3µm,17.1s
GTA LR LR
comp=Z,4µm,18.5s
435B Jarrell 58.39 79 IAMs_20 IAMs_20 13 57 36.3
comp=Z,2µm,21.0s
L48A N Adams 58.42 61 P **P** **13 33 33.5 -0.2**
L48A IAmb IAmb 13 34 00.2
comp=Z,108nm,1.3s
ARA0 ARCESS Array S 58.44 352 *e*P **P** **13 33 33.3 -0.1**
ARCES ARCESS Array B 58.44 352 P **P** **13 33 32.8 -0.6**
comp=Z,24nm,0.7s,baz=19,slow=7.5,SNR=92
ARCES PcP **PcP** **13 34 24.1 +0.2**
comp=Z,72nm,0.8s,baz=15,slow=5.0,SNR=20
ARCES ScP **ScP** **13 38 20.5 -2.6**
comp=Z,3.8nm,0.8s,baz=23,slow=4.1,SNR=3.8
ARCES LR LR 13 58 45.8
comp=Z,2µm,21.6s,baz=5.0,slow=36
ARCES ARCESS Array B 58.44 352 IAmb IAmb 13 33 33.9
comp=Z,40nm,0.9s
W41B Gary Mavity, V 58.57 72 IAmb IAmb 13 33 48.8
comp=Z,66nm,0.9s
W41B Gary Mavity, V 58.57 72 P **P** **13 33 34.0 -0.8**
baz=314,SNR=14
AAM Ann Arbor 58.60 60 IAMs_20 IAMs_20 13 59 29.6
comp=Z,3µm,20.0s
AAM Ann Arbor 58.60 60 P **P** **13 33 34.8 -0.1**
baz=313
LCAR Lake Charles 58.60 70 IAmb IAmb 13 33 47.6
comp=Z,82nm,1.4s
SIUC Southern Illin 58.61 68 IAmb IAmb 13 33 48.7
comp=Z,69nm,0.9s
X40A Basin Creek Fa 58.70 73 IAmb IAmb 13 33 50.1
comp=Z,64nm,0.9s
X40A IAMs_20 IAMs_20 13 59 43.4
comp=Z,2µm,20.0s
X40A Basin Creek Fa 58.70 73 P **P** **13 33 35.6 -0.1**
baz=314,SNR=9.6
JETT Jettan, Norway 58.80 354 *e*P **P** **13 33 37.3 +1.3**
TRO Tromso 58.81 355 *e*P **P** **13 33 36.1 +0.2**
833A Chaparral WMA, 59.00 82 P **P** **13 33 37.9 0.0**
baz=315,SNR=9.1
LVZ Lovozero 59.01 348 *c i* P **P** **13 33 36.4 -1.0**
LVZ pmax pmax
comp=Z,147nm,1.0s
LVZ Lovozero 59.01 348 P **P** **13 33 36.2 -1.2**
LVZ IAMs_20 IAMs_20 14 03 52.4
comp=Z,2µm,21.0s
WLAR White Oak Lake 59.08 74 P **P** **13 33 37.3 -1.1**
KTK1 Kautokeino 59.13 353 *e*P **P** **13 33 38.3 +0.1**
O48B Farmland 59.18 63 P **P** **13 33 38.4 -0.5**
baz=313,SNR=22
N49A Columbus Grove 59.26 62 IAmb IAmb 13 33 53.1
comp=Z,74nm,1.1s
SADO Sadowa 59.31 56 P **P** **13 33 40.0 +0.3**
comp=Z,33nm,0.8s,baz=304,slow=4.0,SNR=27
SADO LR LR 14 00 58.9
comp=Z,4µm,18.1s,baz=355,slow=38
SADO Sadowa 59.31 56 IAmb IAmb 13 33 40.6
comp=Z,73nm,1.2s
APA Apatity 59.48 348⇑ *i* P **P** **13 33 38.9 -1.7**
APA pmax pmax
comp=Z,14nm,0.9s
NATX Nacogdoches 59.49 76 IAMs_20 IAMs_20 14 00 28.4
comp=Z,2µm,18.0s
P49A Miami Univ. Ec 59.92 63 IAmb IAmb 13 33 57.2
comp=Z,65nm,0.8s
P49A Miami Univ. Ec 59.92 63 P **P** **13 33 43.6 -0.5**
baz=314,SNR=14
WCI Wyatte Cave 59.93 65 P **P** **13 33 44.1 0.0**
baz=314
HKT Hockley 60.05 79⇑ *e*P **P** **13 33 43.0 -2.0**
HKT pmax pmax
comp=Z,11nm,1.3s
HKT Hockley 60.05 79 IAMs_20 IAMs_20 14 01 21.9
comp=Z,2µm,18.0s
N51A Ashland 60.25 61 P **P** **13 33 46.0 -0.3**
DELO Deloro Mine 60.27 55 P **P** **13 33 47.0 +0.7**
ACSO Alum Creek Sta 60.40 62 P **P** **13 33 46.6 -0.8**
ACSO IAmb IAmb 13 34 01.2
comp=Z,42nm,0.8s
ACSO Alum Creek Sta 60.40 62 P **P** **13 33 47.4 +0.1**
baz=314,SNR=11
WVT Waverly 60.51 68 P **P** **13 33 47.7 -0.4**
WVT Waverly 60.51 68 P **P** **13 33 47.7 -0.4**
WVT IAmb IAmb 13 34 02.0
comp=Z,79nm,1.1s
WVT Waverly 60.51 68 IAMs_20 IAMs_20 14 01 44.1
comp=Z,3µm,18.0s
WVT Waverly 60.51 68 P **P** **13 33 47.9 -0.3**
baz=314
LOF Lofoten 60.55 357 *e*P **P** **13 33 50.9 +3.0**
ZSN Zaisan 60.59 310 *c i* P **P** **13 33 48.1 -0.4**
ZSN pmax pmax
comp=Z,13nm,0.8s
ZSN Zaisan 60.59 310⇑ *i* P **P** **13 33 48.2 -0.4**
comp=Z,13nm,0.8s,baz=310
TRQ Mont Tremblant 60.60 52 P **P** **13 33 48.1 -0.6**
J54A Appleton 60.61 57 P **P** **13 33 48.7 0.0**
J54A IAmb IAmb 13 33 50.0
comp=Z,39nm,0.7s
STEI Steigen 60.69 356 *e*P **P** **13 33 48.9 0.0**
ERPA Erie 60.70 58 P **P** **13 33 49.0 -0.4**
ERPA IAMs_20 IAMs_20 13 59 46.1
comp=Z,2µm,20.0s
ERPA Erie 60.70 58 P **P** **13 33 50.0 +0.6**
baz=314,SNR=14
OXF Oxford 60.71 70 IAMs_20 IAMs_20 14 03 19.6
comp=Z,2µm,18.0s
OXF Oxford 60.71 70 P **P** **13 33 49.4 -0.1**
baz=315,SNR=15
M53A WI Miller and 60.81 59 IAmb IAmb 13 33 51.6
comp=Z,85nm,0.9s
M53A IAMs_20 IAMs_20 14 01 07.0
comp=Z,2µm,20.0s
M53A WI Miller and 60.81 59 P **P** **13 33 50.4 +0.2**
baz=314,SNR=17
J55A Hilton 61.04 56 IAmb IAmb 13 33 54.2
comp=Z,66nm,0.8s
KURK Kurchatov 61.08 316 *c i* P **P** **13 33 51.2 -0.6**
KURK pmax pmax
comp=Z,47nm,0.7s
KURK Kurchatov 61.08 316 P **P** **13 33 50.4 -1.3**
KURK IAmb IAmb 13 33 53.0
comp=Z,56nm,0.8s
KURK Kurchatov 61.08 316 P **P** **13 33 51.7 0.0**
O52A Adamsville 61.11 61 P **P** **13 33 51.4 -0.8**
PLAL Pickwick Lake 61.16 69 P **P** **13 33 52.0 -0.6**
PLAL IAMs_20 IAMs_20 14 03 22.6
comp=Z,2µm,18.0s
KURBB Kurchatov Arra 61.18 316 LR LR 14 02 19.1
comp=Z,6µm,18.1s,baz=31,slow=38
KURBB Kurchatov Arra 61.18 316 P **P** **13 33 51.6 -0.9**
WVNY West Valley, N 61.23 57 P **P** **13 33 53.4 +0.4**
WVNY IAmb IAmb 13 34 20.3
comp=Z,62nm,1.0s
FAUS Fauske 61.23 356 *e*P **P** **13 33 52.8 +0.2**
P52A Corning 61.28 62 IAMs_20 IAMs_20 14 00 32.5
comp=Z,3µm,19.0s
P52A Corning 61.28 62 P **P** **13 33 53.3 -0.1**
baz=315,SNR=6.3
M54A Oil Creek Stat 61.30 59 IAmb IAmb 13 33 54.9
comp=Z,60nm,0.9s
M54A IAMs_20 IAMs_20 14 01 49.0
comp=Z,2µm,19.0s
M54A Oil Creek Stat 61.30 59 P **P** **13 33 53.9 +0.4**
baz=315,SNR=21
O53A New Philadelph 61.35 61 IAmb IAmb 13 33 54.9
comp=Z,63nm,0.9s
O53A New Philadelph 61.35 61 P **P** **13 33 53.8 -0.1**
baz=315,SNR=17
MMNY Mt. Morris Dam 61.37 57 IAmb IAmb 13 34 10.3
comp=Z,50nm,1.0s
U49A Red Boiling Sp 61.42 66 IAmb IAmb 13 34 08.1
comp=Z,68nm,1.2s
N54A Moraine State 61.51 59 IAMs_20 IAMs_20 14 01 28.6
comp=Z,3µm,20.0s
N54A Moraine State 61.51 59 P **P** **13 33 55.3 +0.4**
baz=315,SNR=21
T50A Nancy 61.60 65 IAmb IAmb 13 34 10.1
comp=Z,77nm,1.1s
VBMS Vicksburg 61.66 73 IAMs_20 IAMs_20 14 01 56.0
comp=Z,2µm,21.0s
Q52A Bidwell 61.68 62 IAmb IAmb 13 34 09.9
comp=Z,83nm,1.1s
HKPS Hong Kong Po S 61.70 271 IAMs_20 IAMs_20 14 05 46.3
comp=Z,1µm,20.0s
LONY Lake Ozonia 61.73 53 P **P** **13 33 56.0 -0.3**
baz=316,SNR=42
WMQ Urumqi 61.77 306 *e*P **P** **13 33 57.8 +1.1**
WMQ pP pwP 13 34 05.4 -1.5
WMQ sP sP 13 34 11.0 +8.4
WMQ ScP **ScP** **13 38 37.0 -1.4**
WMQ S **S** **13 42 21.2 +2.4**
WMQ ScS **ScS** **13 43 48.0 +0.6**
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,630nm,4.5s
WMQ LR LR
comp=Z,6µm,20.7s
WMQ LR LR
comp=Z,5µm,21.7s
WMQ LR LR
comp=Z,3µm,23.7s
S51A Beattyville 61.87 64 IAmb IAmb 13 34 11.2
comp=Z,48nm,0.9s
CD2 Chengdu 61.89 285 ⇑P **P** **13 33 58.3 +0.7**
CD2 S **S** **13 42 21.8 +1.3**
CD2 SS **SS** **13 46 24.7 +2.5**
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,740nm,10.7s
CD2 LR LR
comp=Z,3µm,17.2s
CD2 LR LR
comp=Z,3µm,19.2s
FRNY Flat Rock 62.07 52 IAmb IAmb 13 33 59.0
comp=Z,47nm,1.1s
MK31 Makanchi Array 62.28 311 *i* P **P** **13 33 58.9 -1.1**
MKAR Makanchi Array 62.28 311 P **P** **13 33 59.1 -0.9**
comp=Z,16nm,0.5s,baz=46,slow=6.1,SNR=229
MKAR LR LR 14 01 40.6
comp=Z,3µm,20.1s,baz=42,slow=37
MKAR PKP2ab 14 03 25.2
comp=Z,1.7nm,1.0s,baz=224,slow=3.3,SNR=5.0
NCB Newcomb 62.37 53 IAmb IAmb 13 34 01.9
comp=Z,56nm,0.8s
MOR8 Moi Rana 62.48 356 *e*P **P** **13 33 59.9 -1.2**
MCWV Mont Chateau 62.51 60 P **P** **13 34 02.1 +0.5**
baz=315,SNR=15
D62A Allapoint, All 62.62 48 IAmb IAmb 13 34 03.4
comp=Z,82nm,1.2s
TZTN Tazewell 62.67 65 P **P** **13 34 03.0 +0.2**
baz=315,SNR=10
BRVK Borovoye 62.71 322 P **P** **13 34 02.6 -0.2**
BRVK pmax pmax
comp=Z,18nm,0.6s
BRVK MLR MLR
comp=Z,7µm,19.0s
BRVK Borovoye 62.71 322 P **P** **13 34 02.6 -0.2**
BRVK IAmb IAmb 13 34 04.1
comp=Z,18nm,0.6s
BRVK Borovoye 62.71 322 P **P** **13 34 02.8 0.0**
E62A Clayton Lake 62.74 49 IAmb IAmb 13 34 03.4
comp=Z,31nm,0.9s
BINY Binghamton 62.75 56 P **P** **13 34 03.9 +0.7**
baz=316,SNR=39
M57A Sunshine Farm, 62.77 57 P **P** **13 34 03.4 +0.1**
M57A IAmb IAmb 13 34 10.2
comp=Z,100nm,1.2s
O56A Blue Knob Stat 62.77 59 IAmb IAmb 13 34 04.5
comp=Z,48nm,0.9s
O56A Blue Knob Stat 62.77 59 P **P** **13 34 03.4 0.0**
baz=316,SNR=19
SSPA Standing Stone 62.87 58 P **P** **13 34 04.2 +0.2**
SSPA IAmb IAmb 13 34 05.5
comp=Z,69nm,0.9s
SSPA Standing Stone 62.87 58 P **P** **13 34 04.4 +0.4**
baz=316
PRGR Permogore 62.88 340 *e*P **P** **13 34 01.4 -2.3**
CPCT Cooper Cave 62.89 67 P **P** **13 34 03.3 -1.0**
CPCT IAmb IAmb 13 34 18.3
comp=Z,67nm,1.2s
FPAL Fort Paine 62.91 68 P **P** **13 34 03.8 -0.7**
SVE Sverdlovsk 63.06 330 *d i* P **P** **13 34 05.2 +0.2**
SVE *e*S **S** **13 42 41.0 +6.5**
SVE pmax pmax
comp=Z,67nm,0.9s
SVE MLR MLR
comp=Z,5µm,18.0s
ACCN Adirondack Com 63.08 54 P **P** **13 34 05.6 +0.3**
TKL Tuckaleechee C 63.17 66 LR LR 14 00 23.8
comp=Z,2µm,21.0s,baz=327,slow=35
LRAL Lakeview Retre 63.17 70 IAMs_20 IAMs_20 14 04 09.7
comp=Z,2µm,20.0s
LRAL Lakeview Retre 63.17 70 P **P** **13 34 05.6 -0.5**
baz=316
GYA Guiyang 63.30 280 ⇓P **P** **13 34 08.0 +0.8**
GYA pP sP 13 34 14.0 +0.9
GYA PP **PP** **13 36 30.5 +4.3**
GYA S **S** **13 42 38.7 +0.1**
GYA pmax pmax
comp=Z,50nm,2.0s
GYA pmax pmax
comp=Z,810nm,3.5s
GYA LR LR
comp=Z,720nm,21.3s
GYA LR LR
comp=Z,820nm,24.3s
GYA LR LR
comp=Z,810nm,22.2s
Q56A Snyder Ridge, 63.31 60 IAmb IAmb 13 34 27.1
comp=Z,49nm,1.1s
LBNH Lisbon 63.32 52 IAmb IAmb 13 34 08.2
comp=Z,78nm,1.1s
LBNH IAMs_20 IAMs_20 14 00 58.2
comp=Z,3µm,21.0s
LBNH Lisbon 63.32 52 P **P** **13 34 07.2 +0.2**
baz=317,SNR=16
KSPA Keystone Colle 63.32 56 IAmb IAmb 13 34 09.2
comp=Z,82nm,1.1s
N58A Sunbury 63.34 57 IAmb IAmb 13 34 08.8
comp=Z,44nm,0.8s
R55A Marlinton 63.34 61 IAmb IAmb 13 34 21.9
comp=Z,68nm,0.9s
GOMU GeErMu 63.37 295 P **P** **13 34 07.7 -0.2**
GOMU pP pP 13 34 11.6 -0.5
GOMU sP sP 13 34 14.6 +0.9
GOMU SS SS 13 46 47.4 +1.6
GOMU pmax pmax
comp=Z,45nm,0.9s
GOMU pmax pmax
comp=Z,240nm,5.4s
GOMU LR LR
comp=Z,2µm,18.8s
GOMU LR LR
comp=Z,2µm,17.9s
GOMU LR LR
comp=Z,800nm,19.0s
F63A Nahmakanta, Br 63.61 49 P **P** **13 34 07.9 -0.9**
F63A IAmb IAmb 13 34 09.8
comp=Z,50nm,0.9s
TGY Tagaytay City 63.62 259 P **P** **13 34 09.2 -0.1**
comp=Z,146nm,0.4s,baz=307,slow=10,SNR=6.5
N59A State Game Lan 63.78 57 P **P** **13 34 10.9 +0.8**
baz=316,SNR=36
PKME Peaks-Kenny Pk 63.84 50 P **P** **13 34 10.3 0.0**
baz=318,SNR=7.0
F64A Sherman 63.84 49 IAmb IAmb 13 34 10.7
comp=Z,45nm,0.7s
I62A Tamworth 63.88 52 IAmb IAmb 13 34 11.2
comp=Z,53nm,1.1s
BLA Blacksburg 63.95 62 P **P** **13 34 11.8 +0.6**
baz=316,SNR=16
ARU Arti 64.04 331 LR LR 14 06 01.9
comp=Z,4µm,18.1s,baz=43,slow=40
ARU Arti 64.04 331 *c i* P **P** **13 34 11.1 -0.3**
ARU 13 34 45.1
ARU 13 36 28.1
ARU S **S** **13 42 48.3 +1.7**
ARU 13 44 05.1
ARU SS **SS** **13 46 58.2 +3.8**
ARU pmax pmax
comp=Z,34nm,0.9s
ARU MLR MLR
comp=Z,4µm,19.0s
I63A Otisfield 64.12 51 P **P** **13 34 12.1 -0.1**
BG3 Lake Jocassee 64.13 66 P **P** **13 34 11.7 -0.8**
BRZS Berezniki 64.14 319 *i* P **P** **13 34 10.0 -2.2**
baz=319
MVL Millersville 64.14 58 P **P** **13 34 13.0 +0.6**
MVL IAmb IAmb 13 34 14.2
comp=Z,46nm,0.7s
NSS Namsos 64.21 357 *e*P **P** **13 34 12.6 +0.1**
LUPA Lehigh Univers 64.22 57 P **P** **13 34 13.7 +0.7**
L61B Northampton 64.25 54 IAmb IAmb 13 34 14.5
comp=Z,70nm,0.9s
L61B IAMs_20 IAMs_20 14 02 20.9
comp=Z,3µm,20.0s
L61B Northampton 64.25 54 P **P** **13 34 13.6 +0.4**
baz=317,SNR=17
S57A Dark Hollow, R 64.36 61 P **P** **13 34 13.5 -0.4**
S57A IAmb IAmb 13 34 28.7
comp=Z,45nm,0.9s
PAL Palisades 64.69 56 IAMs_20 IAMs_20 14 04 36.4
comp=Z,3µm,18.0s
PAL Palisades 64.69 56 P **P** **13 34 16.7 +0.7**
baz=315,SNR=28
G65A Princeton 64.71 49 IAmb IAmb 13 34 17.2
comp=Z,61nm,1.1s
KIRV Kirov 64.72 337 LR LR 14 06 31.2
comp=Z,3µm,18.3s,baz=30,slow=40
KIRV Kirov 64.72 337 *c i* P **P** **13 34 15.9 0.0**
HNR Honiara 64.74 209 IAMs_20 IAMs_20 13 57 35.4
comp=Z,1µm,19.0s
T57A Hurt 64.75 62 IAmb IAmb 13 34 31.2
comp=Z,53nm,0.8s
HRV Adam Dziewonsk 64.77 53 P **P** **13 34 15.5 -1.0**
HRV pmax pmax
comp=Z,83nm,1.0s
HRV MLR MLR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 64.77 53 P **P** **13 34 15.5 -1.0**
HRV Adam Dziewonsk 64.77 53 P **P** **13 34 16.9 +0.4**
baz=318
R58B Mineral 64.80 60 P **P** **13 34 15.9 -0.9**
R58B IAmb IAmb 13 34 31.4
comp=Z,56nm,0.9s
CPNY Central Park 64.81 56 P **P** **13 34 16.0 -0.8**
KLMR Klimovskoe 64.82 343 *e*P **P** **13 34 14.8 -1.7**
KLMR pmax pmax

comp=Z,106nm,1.4s
KLMR Klimovskoe 64.82 343 *e*P P **13 34 14.9 -1.6**
KLMR AMP 13 34 32.3
comp=Z,106nm,1.4s
KLMR LQ LQ 13 57 27.5
KLMR LQ LQ 13 57 27.5
KLMR LR LR 14 01 52.2
CBN Corbin Frederi 64.90 60 P P **13 34 18.2 +0.8**
baz=317,SNR=6.2
KMSC Kings Mountain 64.93 65 P P **13 34 17.9 +0.2**
baz=316,SNR=23
GOGA Godfrey 64.96 67 P P **13 34 17.2 -0.7**
baz=316,SNR=12
GGN Saint George 65.11 48 IAmb IAmb 13 34 19.6
comp=Z,75nm,1.1s
AFI Afiamalu 65.16 178 LR LR 14 01 07.9
comp=Z,1µm,18.1s,baz=358,slow=34
TDK Taldyqorghan 65.43 312 *e*P P **13 34 20.9 +0.2**
TDK pmax pmax
comp=Z,17nm,0.7s
TDK Taldyqorghan 65.43 312 *e*P P **13 34 20.9 +0.2**
comp=Z,17nm,0.7s,baz=312
LMN Caledonia Moun 65.49 47 IAmb IAmb 13 34 22.2
comp=Z,69nm,0.9s
TBLU Trondheim 65.54 358 *e*P P **13 34 20.8 -0.3**
OTUK Ortayu 65.63 318 P P **13 34 20.6 -1.4**
UNM Universidad Na 65.69 89 IAMs_20 IAMs_20 14 00 56.9
comp=Z,1µm,18.0s
M65A Busby, Falmout 65.93 53 IAMs_20 IAMs_20 14 03 31.3
comp=Z,3µm,20.0s
DRLN Deer Lake 65.97 40 P P **13 34 23.5 -0.6**
DRLN IAmb IAmb 13 34 45.0
comp=Z,42nm,1.0s
MOL Molde 66.27 359 *e*P P **13 34 25.9 +0.1**
FIA1 FINESS Array S 66.27 350 IAmb IAmb 13 34 26.2
comp=Z,44nm,0.8s
FINES FINESS Array B 66.27 350 P P **13 34 24.4 -1.4**
comp=Z,33nm,0.7s,baz=9.6,slow=8.1,SNR=96
FINES PcP **PcP 13 34 55.9 +0.1**
comp=Z,23nm,0.6s,baz=61,slow=3.2,SNR=11
FINES PKP2ab 14 03 09.7
comp=Z,1.4nm,0.7s,baz=186,slow=5.7,SNR=4.3
FINES LR LR 14 08 51.2
comp=Z,2µm,18.2s,baz=12,slow=41
PZH PanZhiHua 66.29 283 ⇑P P **13 34 27.3 +0.6**
PZH pP **sP 13 34 33.2 +0.6**
PZH sP **pwP 13 34 36.8 0.0**
PZH PP **PP 13 36 54.3 +1.9**
PZH S **S 13 43 15.9 +0.6**
PZH sS **sS 13 43 23.0 +0.6**
PZH ScS **SKSac 13 44 20.2 -2.0**
PZH pmax pmax
comp=Z,100nm,1.4s
PZH pmax pmax
comp=Z,290nm,4.2s
PZH LR LR
comp=Z,1µm,21.6s
PZH LR LR
comp=Z,920nm,20.8s
PZH LR LR
comp=Z,1µm,21.3s
SHLS Shalkode 66.33 310 *i* P P **13 34 25.6 -1.1**
SHLS pmax pmax
comp=Z,13nm,0.6s
SHLS Shalkode 66.33 310 *i* P P **13 34 25.6 -1.1**
comp=Z,13nm,0.6s,baz=310
DAV Davao City (W) 66.34 251 LR LR 13 59 11.3
comp=Z,1µm,21.1s,baz=85,slow=32
KPKS Kokpek 66.46 311*c i*P P **13 34 27.7 +0.2**
KPKS pmax pmax
comp=Z,10.0nm,0.5s
KPKS Kokpek 66.46 311⇑ *i*P P **13 34 27.7 +0.2**
comp=Z,10nm,0.5s,baz=311
UZB Uzunbulak 66.54 310*c i*P P **13 34 28.1 0.0**
UZB pmax pmax
comp=Z,9.0nm,0.8s
UZB Uzunbulak 66.54 310⇑ *i*P P **13 34 28.2 0.0**
comp=Z,9.4nm,0.8s,baz=310
KMI Kunming 66.69 281 ⇑P P **13 34 30.1 +0.7**
KMI pP pwP 13 34 40.3 +0.8
KMI sP sP 13 34 43.8 +8.5
KMI PP **PP 13 36 57.5 +1.5**
KMI S **S 13 43 19.5 -0.9**
KMI SKS **ScS 13 44 26.0 +0.1**
KMI pmax pmax
comp=Z,36nm,0.8s
KMI pmax pmax
comp=Z,820nm,4.6s
KMI LR LR
comp=Z,1µm,16.1s
KMI LR LR
comp=Z,760nm,16.1s
KMI LR LR
comp=Z,1µm,13.8s
DOMB Dombas 66.78 358 *e*P P **13 34 29.1 0.0**
QIZ Qiongzhong 66.79 272 P P **13 34 30.8 +1.0**
QIZ S **S 13 43 23.3 +2.0**
QIZ pmax pmax
comp=Z,580nm,8.4s
QIZ LR LR
comp=Z,770nm,21.5s
QIZ LR LR
comp=Z,1µm,20.7s
QIZ LR LR
comp=Z,750nm,15.7s
ZHN Zhinishke 66.81 311 *e*P P **13 34 29.8 +0.1**
ZHN Zhinishke 66.81 311 *e*P P **13 34 29.8 +0.1**
baz=311
TAOE Nuku Hiva Isla 66.81 143 *e*S **S 13 43 25.2 +3.6**
comp=Z,869nm,24.9s
TAOE Nuku Hiva Isla 66.81 143 *e*LR LR 13 54 36.1
comp=Z,2µm,22.8s,baz=352
TAOE Nuku Hiva Isla 66.81 143 *e*T T 14 47 09.2
comp=Z,25nm,0.2s
SATY Saty 66.90 311*c i*P P **13 34 30.6 +0.2**
SATY pmax pmax
comp=Z,62nm,2.0s
SATY Saty 66.90 311⇑ *i*P P **13 34 30.7 +0.2**
comp=Z,62nm,2.0s,baz=311
CHKK Chushkaly 66.96 312 *e*P P **13 34 29.2 -1.4**
baz=312
NHSC New Hope 67.06 65 P P **13 34 32.4 +1.0**
baz=318
KUU Kurty 67.23 312 *e*P P **13 34 31.9 -0.4**
KUU Kurty 67.23 312 *e*P P **13 34 32.0 -0.4**
baz=312
PUL Pulkovo 67.35 347‖ *e*P P **13 34 32.9 +0.1**
PUL pmax pmax
comp=Z,105nm,0.9s
BTLS Baital 67.38 315 *e*P P **13 34 33.1 -0.1**
BTLS Baital 67.38 315 *e*P P **13 34 33.1 -0.1**
baz=315
MDOK Medeo 67.46 311 *i*P P **13 34 33.6 -0.4**
MDOK Medeo 67.46 311 *i*P P **13 34 33.7 -0.4**
baz=312
AAA Alma-Ata 67.49 312 *e*P P **13 34 34.1 +0.1**
AAA pmax pmax
comp=Z,18nm,0.6s
AAA Alma-Ata 67.49 312 *e*P P **13 34 34.1 +0.1**
comp=Z,18nm,0.6s,baz=312
NC204 NORSAR Array S 67.51 358 IAmb IAmb 13 34 51.5
comp=Z,73nm,1.1s
NC303 NORSAR Array S 67.54 357 IAmb IAmb 13 34 51.2
comp=Z,34nm,0.9s
TNSS Tian-Shan 67.61 311 *e*P P **13 34 34.9 -0.3**
baz=312
HYA Hoyanger 67.68 360 *e*P P **13 34 35.6 +0.9**
NB2 NORSAR Subarra 67.73 357 P P **13 34 34.4 -0.9**
comp=Z,5.0nm,0.7s,baz=0.4,slow=6.2
NB2 NORSAR Subarra 67.73 357 P P **13 34 34.4 -0.9**
baz=0.4,slow=6.2
NOA NORSAR Array B 67.73 357 P P **13 34 34.3 -0.9**
comp=Z,9.2nm,0.8s,baz=7.5,slow=6.7,SNR=37
NOA PKP2ab 14 03 03.4
comp=Z,2.1nm,1.1s,baz=176,slow=3.3,SNR=3.3
NOA LR LR 14 05 12.7
comp=Z,1µm,18.6s,baz=350,slow=37
AAL Aland 68.11 353 *e*P P **13 34 37.1 -0.4**
SKAR Skarslia 68.15 359 *e*P P **13 34 38.5 +0.6**
KDJ Kajisay 68.19 311 IAmb IAmb 13 35 05.3
comp=Z,38nm,1.1s
TARG Taragay, Kyrgy 68.21 310 IAmb IAmb 13 34 41.8
comp=Z,68nm,1.5s
TKM2 Tokmak 2 68.33 312 P P **13 34 39.6 +0.2**
SNR=20
TKM2 Tokmak 2 68.33 312 P P **13 34 39.2 -0.3**
SGDS Sogindy 68.36 313⇑ *i*P P **13 34 39.7 +0.2**
comp=Z,42nm,1.6s,baz=313
BOOM Boomskoye usch 68.50 312 P P **13 34 40.9 +0.4**
BOOM pmax pmax
comp=Z,32nm,0.6s
BOOM Boomskoye usch 68.50 312 P P **13 34 40.9 +0.4**
BOOM IAmb IAmb 13 34 42.2
comp=Z,32nm,0.6s
HFS Hagfors 68.55 356 LR LR 14 05 35.2
comp=Z,932nm,18.9s,baz=12,slow=37
USP Ospenovka 68.56 313 P P **13 34 40.8 +0.1**
SNR=42
UPP Uppsala 68.60 354 *e*P P **13 34 40.5 0.0**
CHMS Chumysh 68.66 313 P P **13 34 42.0 +0.7**
SNR=11
KBK Karagaybulak 68.83 312 P P **13 34 43.3 +0.7**
SNR=14
OSL Oslo 68.85 357 *e*P P **13 34 44.0 +1.9**
ODD1 Odda 68.94 360 *e*P P **13 34 42.7 -0.1**
AAK Ala-Arcka 69.06 313 P P **13 34 44.6 +0.6**
comp=Z,23nm,0.5s,baz=120,slow=3.5,SNR=78
AAK LR LR 14 07 35.6
comp=Z,3µm,18.5s,baz=45,slow=38
AAK Ala-Archa 69.06 313*c i*P P **13 34 44.3 +0.3**
AAK pmax pmax
comp=Z,28nm,0.7s
AAK Ala-Archa 69.06 313 P P **13 34 44.3 +0.3**
AAK IAmb IAmb 13 34 46.0
comp=Z,33nm,0.9s
AAK Ala-Archa 69.06 313 P P **13 34 44.3 +0.3**
AAK Ala-Archa 69.06 313 *i*P P **13 34 43.6 -0.4**
SNR=52
VSU Vasula 69.10 349*c i*P P **13 34 43.4 -0.3**
VSU pmax pmax
comp=Z,391nm,0.9s
VSU Vasula 69.10 349 *e*P P **13 34 43.7 0.0**
KONO Kongsberg 69.17 358‖ *e*P P **13 34 44.7 +0.6**
KONO pmax pmax
comp=Z,63nm,2.5s
KONO Kongsberg 69.17 358 P P **13 34 44.4 +0.3**
KONO IAmb IAmb 13 35 04.5
comp=Z,34nm,0.9s
KONO Kongsberg 69.17 358 *e*P P **13 34 45.1 +1.0**
MTSE Matsula 69.19 350 *e*P P **13 34 44.2 0.0**
AKTO Aktyubinsk 69.27 327 LR LR 14 08 48.5
comp=Z,3µm,18.6s,baz=35,slow=39
MSVF Nonsavu 69.29 188 LR LR 14 01 56.2
comp=Z,2µm,18.9s,baz=0.9,slow=33
PMG Port Moresby 69.31 221 P P **13 34 45.9 +0.4**
comp=Z,4.7nm,0.9s,baz=68,slow=14,SNR=3.3
PMG LR LR 13 59 57.4
comp=Z,957nm,21.8s,baz=44,slow=31
PMG Port Moresby 69.31 221⇑ *e*P P **13 34 44.9 -0.6**
PMG pmax pmax
comp=Z,15nm,1.4s
EKS2 Erkin-Say 69.36 313 P P **13 34 46.5 +0.6**
SNR=58
UCH Uchtor 69.37 312 P P **13 34 46.7 +0.4**
SNR=14
BLS5 Blasjo 69.43 360 *e*P P **13 34 46.4 +0.6**
AB31 Akbulak array 69.61 326 *i*P P **13 34 47.0 0.0**
ABKAR Akbulak array 69.61 326 P P **13 34 46.9 -0.2**
ABKAR IAmb IAmb 13 35 11.5
comp=Z,39nm,0.9s
ABKAR Akbulak array 69.61 326 P P **13 34 46.8 -0.2**
DIBR DIBRUGARH 69.68 289⇑ *i*P P **13 34 49.5 +1.6**
STRU Stroemstad 69.74 357 *i*P P **13 34 47.1 -0.5**
AML Almayashu 69.82 313 P P **13 34 50.1 +1.1**
SNR=38
AML Almayashu 69.82 313 P P **13 34 49.4 +0.4**
AML Almayashu 69.82 313 *i*P P **13 34 49.0 0.0**
SNR=5.7
MOS Moscow 69.96 342 *e*P P **13 34 48.2 -0.9**
MOS *e* 13 35 10.5
MOS pmax pmax
comp=Z,77nm,0.8s
VIKU Vikbolandet 70.01 354 *e*P P **13 34 49.2 -0.1**
PMOR Pomariorio Ree 70.02 153 *e*T T 14 51 43.9
comp=Z,11nm,0.2s
DWPF Disney Wildern 70.03 70 IAMs_20 IAMs_20 14 09 00.5
comp=Z,2µm,18.0s
LSA Lhasa 70.22 293 IAMs_20 IAMs_20 14 08 16.6
comp=Z,2µm,20.0s
LSA Lhasa 70.22 293 P P **13 34 53.1 +1.4**
DZA Taraz 70.28 315 *e*P P **13 34 51.2 -0.1**
DZA Taraz 70.28 315 *e*P P **13 34 51.3 -0.1**
baz=315
VAH Vaihoa 70.31 153 *e*P P **13 34 54.0 +2.4**
comp=Z,138nm,1.1s
SLIT Slitere, Latvi 70.42 351 *e*P P **13 34 51.5 -0.3**
SNART Snartemo 70.51 359 *i*P P **13 34 52.0 -0.4**
SNART Snartemo 70.51 359 *e*P P **13 34 53.3 +0.8**
HOMB Homborsund 70.57 359 *i*P P **13 34 52.0 -0.7**
HOMB Homborsund 70.57 359 *e*P P **13 34 53.1 +0.4**
ITAN ITANAGAR 70.62 289⇑ *i*P P **13 34 55.4 +1.8**
ITAN *i* pP **pwP 13 35 08.7 +4.8**
BELG Belogornoye 70.71 334 LR LR 14 10 55.0
comp=Z,2µm,18.4s,baz=33,slow=40
TJOU Tjoern 70.73 357 *i*P P **13 34 52.7 -1.1**
OBN Obninsk 70.76 342 LR LR 14 09 48.4
comp=Z,390nm,20.9s,baz=9.0,slow=39
OBN Obninsk 70.76 342*c i*P P **13 34 53.2 -0.7**
OBN *i* S **SKiKP 13 44 28.6 -6.8**
OBN pmax pmax
comp=Z,88nm,1.3s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 70.76 342 IAMs_20 IAMs_20 14 09 38.1
comp=Z,2µm,21.0s
KSH Kashi 70.80 310 P P **13 34 58.3 +3.6**
KSH PcP **PcP 13 35 18.3 +2.9**
KSH S **S 13 44 14.2 +5.5**
KSH pmax pmax
comp=Z,91nm,0.9s
KSH pmax pmax
comp=Z,660nm,4.3s
KSH LR LR
comp=Z,4µm,19.4s
KSH LR LR
comp=Z,3µm,16.2s
KSH LR LR
comp=Z,4µm,20.9s
BORU Boraas 71.08 356 *i*P P **13 34 55.4 -0.6**
ONAU Onsala 71.36 357 *i*P P **13 34 56.4 -1.1**
IUG Iuzhnay 71.45 315*c i*P P **13 34 58.9 +0.4**
IUG Iuzhnay 71.45 315⇑ *i*P P **13 34 59.0 +0.4**
baz=315
KOHI KOHIMA 71.46 288⇑ *i*P P **13 34 60.0 +1.1**
TEZP TEZPUR 71.56 290⇑ *i*P P **13 34 59.7 +0.4**
TEZP *i* pP **pwP 13 35 13.0 +3.5**
FABU Falkenberg 71.72 356 *i*P P **13 34 59.1 -0.7**
ISAL Salakas 72.00 348 *e*P P **13 35 01.4 -0.1**
PPT2 Papeete2 72.03 156 *e*S **S 13 44 25.6 +2.7**
comp=Z,3µm,26.2s
PPT2 Papeete2 72.03 156 *e*LR LR 13 57 03.5
comp=Z,2µm,21.0s,baz=341
PPT2 Papeete2 72.03 156 *e*T T 14 54 24.5
comp=Z,8.1nm,0.3s
PBUR Paburge 72.03 351 *e*P P **13 35 01.4 -0.3**
IDID Didziasalis 72.17 348 *e*P P **13 35 02.3 -0.2**
DEL Delary 72.20 355 *i*P P **13 35 01.0 -1.6**
DEL Delary 72.20 355 *e*P P **13 35 02.3 -0.3**
IGN Ignalina 72.20 348 *e*P P **13 35 02.6 -0.1**
BLEU Blekinge 72.25 354 *i*P P **13 35 01.8 -1.2**
PABE Paberze 72.32 349 P P **13 35 02.8 -0.6**
PABE IAMs_20 IAMs_20 14 08 57.4
comp=Z,2µm,19.0s
PABE Paberze 72.32 349 *e*P P **13 35 03.4 0.0**
MUD Monsted U'grnd 72.38 358 *i*P P **13 35 04.0 +0.3**
GUWA GUWAHATI 72.53 290⇑ *i*P P **13 35 05.4 +0.3**
GUWA *i* x x 13 35 18.6
NACGM Naroch 72.56 348 *i*P P **13 35 04.6 -0.2**
LPSR Galich'ya Gora 72.63 340 *e*P P **13 35 04.9 -0.4**
LPSR pmax pmax
comp=Z,100nm,1.0s
LPSR MLR MLR
comp=Z,2µm,19.0s
MNK Minsk 72.80 347 *i*P P **13 35 05.0 -1.2**
MNK *i* 13 35 21.9
MNK *i* 13 37 46.8
MNK *i* PPP PPP 13 39 31.1
MNK *i* S **S 13 44 29.3 -1.6**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,105nm,0.9s
MNK pmax pmax
comp=N,53nm,0.9s
MNK Minsk 72.80 347 *i*P P **13 35 05.0 -1.2**
comp=E,2.0nm,0.8s
MNK *i*P P **13 35 05.0 -1.2**
comp=N,53nm,0.8s
MNK *i*P P **13 35 05.0 -1.2**
comp=Z,105nm,0.8s,baz=14
MNK *i* PcP **PcP 13 35 22.0 -1.4**
MNK *i* PP **PP 13 37 46.8 -0.7**
MNK *i* PPP PPP 13 39 31.1
MNK *i* S **S 13 44 29.4 -1.6**
MNK *i* SS SS 13 49 39.0 +29
MNK *i* SSS SSS 13 52 30.6
MNK *i* LQ LQ 14 03 05.2
MNK *i* LR LR 14 07 39.1
MNK *i* LRM MLR 14 12 41.0
comp=E,116nm,17.2s
MNK *i* LRM MLR 14 13 47.0
comp=Z,2µm,17.4s
MNK *i* LRM MLR 14 13 52.8
comp=N,2µm,17.4s
SHL Shillong 72.89 290⇑ *i*P P **13 35 07.7 +0.2**
SHL *i* x x 13 35 20.8
SHL Shillong 72.89 290 P P **13 35 07.8 +0.3**
SNR=65
VRH Novokhopyorsk 73.30 337 *e*P P **13 35 08.2 -1.1**
VRH pmax pmax
comp=Z,100nm,0.8s
VRH MLR MLR
comp=Z,1µm,17.0s
LLD Lille Linde 73.41 356 *i*P P **13 35 09.2 -0.7**
LLD IAmb IAmb 13 35 10.3
comp=Z,38nm,0.6s
VORR Voronezh 73.44 339⇑ *i*P P **13 35 10.4 +0.3**
VORR S **SKSac 13 45 14.9 -0.4**
VORR pmax pmax
comp=Z,94nm,1.6s
RAR Rarotonga 73.47 166 LR LR 14 03 47.0
comp=Z,2µm,18.4s,baz=353,slow=33
GTK Tadong 73.48 293⇑ *i*P P **13 35 11.9 +1.0**
BSD Bornholm Skovb 73.50 355 *i*P P **13 35 09.0 -1.3**
BSD IAmb IAmb 13 35 10.5
comp=Z,20nm,0.5s
BSD Bornholm Skovb 73.50 355 *e*P P **13 35 10.2 -0.2**
CHTO Chiang Mai 73.72 280 P P **13 35 12.4 +0.1**
CHTO pmax pmax
comp=Z,61nm,1.3s
CHTO MLR MLR
comp=Z,1µm,20.0s
CHTO Chiang Mai 73.72 280 P P **13 35 12.3 +0.1**
CHTO IAmb IAmb 13 35 27.2
comp=Z,61nm,1.2s
CHTO Chiang Mai 73.72 280 IAMs_20 IAMs_20 14 08 04.7
comp=Z,1µm,20.0s
CHTO Chiang Mai 73.72 280 P P **13 35 12.5 +0.1**
GAR Garm 73.86 313 P P **13 35 13.1 +0.1**
SUW Suwalki 73.88 350 *e*P P **13 35 11.6 -1.0**
SUW *e*L L 14 08 06.8
comp=Z,1µm,23.2s
SUW Suwalki 73.88 350 P P **13 35 11.7 -0.9**
SUW pmax pmax
comp=Z,189nm,1.0s
SUW MLR MLR
comp=Z,2µm,19.0s
SUW Suwalki 73.88 350 P P **13 35 11.7 -0.9**
SUW IAMs_20 IAMs_20 14 11 41.6
comp=Z,2µm,19.0s
SUW Suwalki 73.88 350 *e*P P **13 35 12.2 -0.4**
TAPN Taplejung 73.96 294 *e*P P **13 35 14.9 +0.9**
comp=Z,347nm,0.8s
CMAR Chiang Mai Arr 73.99 280 P P **13 35 14.3 +0.4**
comp=Z,30nm,0.8s,baz=27,slow=6.3,SNR=73
CMAR PKP2ab 14 02 37.5
comp=Z,0.6nm,0.3s,baz=228,slow=3.9,SNR=4.9
CMAR LR LR 14 12 20.9
comp=Z,1µm,18.4s,baz=50,slow=40
VORD Divnogorie 74.08 339 *e*P P **13 35 13.6 -0.3**
VORD pmax pmax
comp=Z,60nm,0.5s
RGN Rugen 74.14 356 P P **13 35 13.8 -0.3**
RGN IAMs_20 IAMs_20 14 08 55.5
comp=Z,1µm,20.0s
RGN Rugen 74.14 356 *e*P P **13 35 14.4 +0.3**
ODAN Odare 74.52 294 *e*P P **13 35 17.8 +0.7**
comp=Z,139nm,0.9s
AGT Agartala 74.54 289⇑ *i*P P **13 35 18.1 +1.1**
GUN Gumba 74.58 295 *e*P P **13 35 18.6 +1.0**
JIRN Jiri 74.59 295 *e*P P **13 35 18.9 +1.2**
CHGR Chuyangaron 74.67 314 P P **13 35 17.4 -0.2**
BSEG Bad Segeberg 74.87 357 *e*P P **13 35 19.1 +0.8**
comp=Z,71nm,0.9s,baz=4.0,slow=5.6
BSEG *e*L L 14 13 16.6
comp=Z,1µm,18.6s
RAMN Ramite 74.90 294 *e*P P **13 35 20.3 +0.9**
comp=Z,323nm,0.6s
BELO BELONIA 74.91 288⇑ *i*P P **13 35 19.7 +0.6**
KKN Kakani 75.01 296 *e*P P **13 35 20.8 +0.9**
comp=Z,210nm,0.8s
PKI Pulchoki 75.10 295 *e*P P **13 35 21.1 +0.5**
PKIN Phulchoki 75.11 295 *e*P P **13 35 21.1 +0.5**
GKP Gorka Klasztor 75.18 353 *e*P P **13 35 20.3 +0.1**
GKP *e*L L 14 06 40.9
comp=Z,2µm,22.7s
GKP Gorka Klasztor 75.18 353 *e*P P **13 35 19.8 -0.3**
GKN Gorkha 75.20 296 *e*P P **13 35 21.7 +0.7**
comp=Z,336nm,0.7s
DMN Daman 75.25 296 *e*P P **13 35 22.3 +1.0**
comp=Z,316nm,1.0s
DZM Mont Dzumac 75.25 199 LR LR 14 06 06.6
comp=Z,2µm,18.4s,baz=30,slow=34
DZM Mont Dzumac 75.25 199 *e*P P **13 35 23.0 +2.0**
comp=Z,110nm,1.4s
DZM *e*S **S 13 45 01.7 +2.5**
comp=Z,1µm,25.9s
DZM Mont Dzumac 75.25 199 *e*LR LR 13 58 30.3
comp=Z,1µm,20.3s,baz=35
DANN Dangsing 75.43 297 *e*P P **13 35 23.3 +0.9**
comp=Z,726nm,0.8s
KOLN Koldanda 75.96 297 *e*P P **13 35 26.0 +0.6**
comp=Z,336nm,0.9s
BBSR BB Station 76.03 55 IAMs_20 IAMs_20 14 08 33.8
comp=Z,1µm,20.0s
PYUN Piuthan 76.05 298 *e*P P **13 35 26.5 +0.6**
comp=Z,447nm,0.9s
RETH Rethem/Aller, 76.09 358 *e*P P **13 35 26.1 +0.7**
comp=Z,50nm,1.0s,baz=4.0,slow=5.6
SNET Serv Nac Est T 76.16 85 IAMs_20 IAMs_20 14 04 45.2
comp=Z,993nm,20.0s
RUE Ruedersdorf 76.19 355 *e*P P **13 35 26.9 +0.9**
RUE Ruedersdorf 76.19 355 *e*P P **13 35 26.5 +0.6**
comp=Z,128nm,1.2s,baz=4.0,slow=5.6
BEL Belsk 76.28 351 *e*P P **13 35 26.7 +0.2**
BEL *e*L L 14 08 58.5
comp=Z,2µm,22.4s
AKASG Malin Array Be 76.29 345 P P **13 35 25.3 -1.2**
comp=Z,41nm,0.5s,baz=17,slow=6.0,SNR=72
AKASG LR LR 14 13 15.3
comp=Z,1µm,19.8s,baz=11,slow=39
AKASG Malin Array Be 76.29 345 *i*P P **13 35 25.2 -1.4**
AKASG pmax pmax
comp=Z,41nm,0.5s
AKASG Malin Array Be 76.29 345 IAmb IAmb 13 35 26.7
comp=Z,68nm,1.1s
NRDL Niedersach Rie 76.32 357 *e*P P **13 35 27.1 +0.5**
comp=Z,44nm,0.8s,baz=4.0,slow=5.6
DHRM DHARAMSHALA 76.37 305⇑ *i*P P **13 35 27.7 +0.1**
DHRM IAmb IAmb 13 35 29.4
comp=Z,54nm,0.6s
FLTG Flechtingen 76.45 357 *e*P P **13 35 27.7 +0.2**
comp=Z,71nm,0.6s,baz=4.0,slow=5.6
IBBN Ibbenburen 76.55 359 *e*P P **13 35 28.9 +0.9**
comp=Z,134nm,1.2s,baz=4.0,slow=5.6
ASSE Asse, Remlinge 76.67 357 *e*P P **13 35 29.2 +0.6**
comp=Z,57nm,1.2s,baz=4.0,slow=5.6
NIL Nilore 76.78 308 P P **13 35 29.5 -0.2**
NIL pmax pmax
comp=Z,214nm,1.0s
NIL MLR MLR
comp=Z,2µm,21.0s
NIL Nilore 76.78 308 P P **13 35 29.5 -0.2**
NIL Nilore 76.78 308 P P **13 35 30.6 +0.9**
SMLA Simla 76.81 304⇑ *i*P P **13 35 29.9 0.0**
CLZ Clausthal 76.97 357 *e*P P **13 35 31.3 +0.8**
comp=Z,83nm,0.8s,baz=4.0,slow=5.6

DDI **Dehra Dun** **76.98 302**⇑ *i*P **P** **13 35 31.0 +0.1**
GTTG **Gottingen** **77.27 357** *e*P **P** **13 35 33.0 +0.9**
comp=Z,124nm,1.2s,baz=4.0,slow=5.6
CLL **Collm** **77.39 356**⇑ *i*P **P** **13 35 32.8 0.0**
CLL pmax pmax
comp=Z,62nm,0.7s
CLL MLR MLR
comp=Z,1μm,18.1s
CLL **Collm** **77.39 356** IAmb IAmb 13 35 33.5
comp=Z,49nm,0.7s
CLL IAMs_20 IAMs_20 14 16 18.5
comp=Z,1μm,18.0s
CLL **Collm** **77.39 356**⇑ *i*P **P** **13 35 32.8 0.0**
comp=Z,62nm,0.7s
CLL *e*PP **PP** **13 38 30.0 +3.6**
CLL *e*S **S** **13 45 24.0 +1.9**
CLL *e*PS **PnS** **13 46 03.0 +1.3**
CLL *ex* x 13 47 19.0
CLL *e*SS **SS** **13 50 24.0 +4.8**
CLL *ex* x 13 54 42.0
CLL *e*(SSSS) 13 55 30.0
CLL Lm MLR 14 16 00.0
comp=N,1μm,19.0s
CLL Lm MLR 14 16 00.0
comp=E,900nm,18.5s
CLL Lm MLR 14 16 00.0
comp=Z,1μm,18.1s
CLL **Collm** **77.39 356** *e*P **P** **13 35 33.0 +0.2**
comp=Z,62nm,0.7s,baz=4.0,slow=5.6
CLL *e*L L 14 11 59.5
comp=Z,1μm,20.3s
BUG **Bochum-Univer** **77.43 359** *e*P **P** **13 35 33.4 +0.4**
comp=Z,42nm,1.0s,baz=4.0,slow=5.6
NEUB **Neuenburg** **77.55 356** *e*P **P** **13 35 34.2 +0.6**
comp=Z,172nm,1.1s,baz=4.0,slow=5.6
TBI **Tubuai** **77.58 157** *e*S **S** **13 45 25.5 +1.1**
comp=Z,1μm,28.8s
TBI **Tubuai** **77.58 157** *e*LR LR 13 59 29.8
comp=Z,2μm,22.0s,baz=341
TBI **Tubuai** **77.58 157** *e*T T 15 01 16.5
comp=Z,12nm,0.3s
KASTN **Kahler Asten** **77.65 358** *e*P **P** **13 35 34.9 +0.6**
comp=Z,53nm,1.3s,baz=4.0,slow=5.6
KSP **Ksiaz** **77.66 353** *e*P **P** **13 35 34.3 0.0**
KSP *e*L L 14 06 12.6
comp=Z,1μm,24.0s
BOK **Bokaro** **77.74 293**⇑ *i*P **P** **13 35 36.1 +0.9**
BOK IAmb IAmb 13 35 38.0
comp=Z,35nm,0.7s
FBE **Freiberg** **77.76 355** *e*P **P** **13 35 35.5 +0.6**
comp=Z,112nm,0.9s,baz=4.0,slow=5.6
BRG **Berggiesshubel** **77.78 355**⇑ *i*P **P** **13 35 35.0 +0.1**
BRG Amp 13 35 36.7
comp=Z,88nm,1.0s
BRG *ex* x 13 35 48.0
BRG Amp 13 35 51.7
comp=Z,149nm,1.6s
BRG **Berggiesshubel** **77.78 355**⇑ *i*P **P** **13 35 35.0 +0.1**
BRG *e* 13 35 48.0
BRG pmax pmax
comp=Z,88nm,1.0s
BRG pmax pmax
comp=Z,149nm,1.6s
BRG **Berggiesshubel** **77.78 355** *e*P **P** **13 35 35.1 +0.1**
comp=Z,88nm,1.0s,baz=4.0,slow=5.6
LVV **L'vov** **77.90 348** *e*P **P** **13 35 34.9 -0.8**
LVV *e* 13 38 35.6
LVV *e*PPP PPP 13 40 24.1
LVV *e*S **S** **13 45 28.4 +0.8**
LVV *e*PS **PnS** **13 46 02.7 -5.5**
LVV *e*SS **SS** **13 50 35.7 +8.8**
LVV pmax pmax
comp=Z,100nm,1.1s
LVV MLR MLR
comp=N,1μm,18.0s
LVV MLR MLR
comp=E,1μm,18.0s
CHVC **Chvalec** **77.93 353** *e*P **P** **13 35 36.3 +0.4**
CHVC AMS AMS 14 15 20.0
comp=E,2μm,17.0s
OSTC **Ostas** **77.95 353** AMS AMS 14 15 30.0
comp=E,2μm,19.7s
OJC **Ojcow** **77.98 351** *e*P **P** **13 35 35.0 -1.1**
OJC *e*L L 14 10 12.9
comp=E,2μm,22.9s
OJC **Ojcow** **77.98 351** IAmb IAmb 13 35 37.3
comp=Z,43nm,1.1s
UBBA **Unterbreizbach** **78.00 357** *e*P **P** **13 35 36.6 +0.5**
comp=Z,47nm,1.4s,baz=4.0,slow=5.6
UPC **Upice** **78.01 354** *e*P **P** **13 35 36.8 +0.5**
UPC MLR MLR
comp=Z,2μm,19.3s
UPC **Upice** **78.01 354** *e*P **P** **13 35 36.8 +0.5**
UPC AMS AMS 14 15 20.0
comp=Z,2μm,19.3s
BEBN **Eben Emael** **78.08 0** *d*P **P** **13 35 37.0 +0.4**
PVCC **Panska Ves** **78.09 354** *e*P **P** **13 35 37.3 +0.6**
PVCC MLR MLR
comp=Z,2μm,17.9s
PVCC **Panska Ves** **78.09 354** *e*P **P** **13 35 37.3 +0.6**
PVCC AMS AMS 14 16 00.0
comp=Z,2μm,17.9s
KBL **Kabul** **78.09 311** P **P** **13 35 36.4 -0.9**
KBL pmax pmax
comp=Z,82nm,0.9s
KBL **Kabul** **78.09 311** P **P** **13 35 36.4 -0.9**
KBL IAmb IAmb 13 35 37.9
comp=Z,82nm,0.9s
KBL **Kabul** **78.09 311** P **P** **13 35 36.6 -0.6**
SNR=41
MOX **Moxa** **78.12 356** *e*P **P** **13 35 37.3 +0.5**
comp=Z,63nm,0.9s,baz=4.0,slow=5.6
MOX *e*L L 14 13 44.0
comp=Z,1μm,19.5s
DPC **Dobruska-Polom** **78.15 353** *e*P **P** **13 35 37.8 +0.7**
DPC MLR MLR
comp=Z,2μm,17.6s
DPC **Dobruska-Polom** **78.15 353** *e*P **P** **13 35 37.8 +0.7**
DPC AMS AMS 14 15 30.0
comp=Z,2μm,17.6s
KWP **Kalwaria Pacla** **78.25 349** *e*P **P** **13 35 37.7 +0.1**
KWP **Kalwaria Pacla** **78.25 349** P **P** **13 35 37.7 +0.1**
KWP pmax pmax
comp=Z,797nm,0.8s
KWP **Kalwaria Pacla** **78.25 349** P **P** **13 35 37.7 +0.1**
PLN **Plauen** **78.26 356** *e*P **P** **13 35 38.0 +0.4**
comp=Z,46nm,1.0s,baz=4.0,slow=5.6
MEM **Membach** **78.27 0** *d*P **P** **13 35 38.1 +0.4**
comp=Z,27nm,1.0s
WERD **Werda** **78.29 356** *e*P **P** **13 35 38.3 +0.5**
comp=Z,54nm,1.1s,baz=4.0,slow=5.6
BTNL **Ternell** **78.29 360** *d*P **P** **13 35 38.1 +0.3**
comp=Z,28nm,1.0s
BSTI **Sart Tilman** **78.29 0** *d*P **P** **13 35 38.4 +0.5**
TANN **Tannenbergstha** **78.31 356** *e*P **P** **13 35 38.6 +0.5**
comp=Z,54nm,1.1s,baz=4.0,slow=5.6
AHRW **Bad Neuenahr-A** **78.33 359** *e*P **P** **13 35 38.9 +0.9**
comp=Z,56nm,0.9s,baz=4.0,slow=5.6
SNF **Seneffe** **78.35 1** *d*P **P** **13 35 38.5 +0.4**
comp=Z,22nm,0.9s
GUNZ **Gunzen** **78.37 356** *e*P **P** **13 35 39.0 +0.7**
comp=Z,55nm,1.0s,baz=4.0,slow=5.6
KRLC **Kraliky** **78.39 353** *e*P **P** **13 35 38.9 +0.5**
KRLC MLR MLR
comp=Z,2μm,18.8s
KRLC **Kraliky** **78.39 353** *e*P **P** **13 35 38.9 +0.5**
KRLC AMS AMS 14 21 10.0
comp=Z,2μm,18.8s
WERN **Wernitzgruen** **78.44 356** *e*P **P** **13 35 39.5 +0.8**
comp=Z,110nm,1.0s,baz=4.0,slow=5.6
BCLA **Clavier** **78.45 0** *d*P **P** **13 35 38.9 +0.2**
comp=Z,17nm,1.1s
BGES **Gesves** **78.49 1** *d*P **P** **13 35 39.1 +0.2**
NKC **Novy Kostel** **78.49 356** *e*P **P** **13 35 39.7 +0.7**
NKC MLR MLR
comp=Z,1μm,13.4s
NKC **Novy Kostel** **78.49 356** *e*P **P** **13 35 39.7 +0.7**
NKC AMS AMS 14 16 40.0
comp=Z,1μm,13.4s
OKC **Ostrava-Krasne** **78.51 352** AMS AMS 14 16 20.0
comp=Z,2μm,18.1s
BHOU **Houvegnez** **78.52 0** *d*P **P** **13 35 39.5 +0.3**
comp=Z,13nm,0.0s
MORC **Moravsky Berou** **78.62 352** ⇓P **P** **13 35 40.3 +0.6**
MORC **Moravsky Berou** **78.62 352** P **P** **13 35 39.5 -0.2**
MORC pmax pmax
comp=Z,37nm,1.0s
MORC **Moravsky Berou** **78.62 352** P **P** **13 35 39.5 -0.2**
MORC **Moravsky Berou** **78.62 352** *e*P **P** **13 35 39.5 -0.2**
STHS **Stebnicka Huta** **78.62 350** *e*P **P** **13 35 40.0 +0.3**
STHS **Stebnicka Huta** **78.62 350** *e*P **P** **13 35 40.0 +0.3**
PRU **Pruhonice** **78.63 354** *e*P **P** **13 35 40.0 +0.3**
PRU MLR MLR
comp=Z,2μm,18.0s
PRU **Pruhonice** **78.63 354** *e*P **P** **13 35 40.0 +0.3**
PRU AMS AMS 14 16 10.0
comp=Z,2μm,18.0s
TNS **Taunus Mts** **78.63 358** *e*P **P** **13 35 40.4 +0.6**
comp=Z,66nm,0.9s,baz=4.0,slow=5.6
TNS *e*L L 14 11 20.9
comp=Z,898nm,20.1s
GOF **Gofitskoye** **78.64 334**⇑ *i*P **P** **13 35 40.1 +0.2**
GOF *e*S **S** **13 45 37.2 +1.4**
GOF pmax pmax
comp=Z,188nm,1.1s
GOF smax smax
comp=N,46nm,1.1s
RCHB **Rochefort** **78.72 1** *d*P **P** **13 35 40.2 +0.1**
comp=Z,22nm,1.0s
NIE **Niedzica** **78.72 351** *e*P **P** **13 35 41.0 +0.7**
NIE *e*L L 14 10 51.0
comp=Z,1μm,22.5s
MANZ **Manzenberg** **78.76 356** *e*P **P** **13 35 40.9 +0.4**
comp=Z,82nm,2.6s,baz=4.0,slow=5.6
DOU **Dourbes** **78.77 1** *d*P **P** **13 35 40.6 +0.1**
comp=Z,26nm,0.9s
SORM **Soroca** **78.92 345** ⇓P **P** **13 35 41.1 -0.2**
PBCC **Pribram** **78.96 355** *e*P **P** **13 35 41.9 +0.3**
ROTZ **Rotzenmuhle** **78.97 356** *e*P **P** **13 35 42.3 +0.7**
comp=Z,12nm,0.8s,baz=4.0,slow=5.6
KOLS **Kolonicke sedl** **78.98 349** *e*P **P** **13 35 42.3 +0.6**
KOLS **Kolonicke sedl** **78.98 349** *e*P **P** **13 35 42.3 +0.6**
LANS **Liptovska Anna** **79.07 351** *e*P **P** **13 35 43.5 +1.3**
LANS pmax pmax
comp=Z,29nm,0.8s
LANS **Liptovska Anna** **79.07 351** *e*P **P** **13 35 43.5 +1.3**
GRA1 **Grafenberg Arr** **79.09 357** P **P** **13 35 41.9 -0.3**
GRF **Grafenberg Arr** **79.09 357** P **P** **13 35 41.9 -0.3**
GRF pmax pmax
comp=Z,161nm,1.0s
GRF **Grafenberg Arr** **79.09 357** *e*P **P** **13 35 43.3 +1.1**
comp=Z,34nm,1.1s,baz=4.0,slow=5.6
GRF *e*L L 14 14 12.7
comp=Z,855nm,20.0s
GRFO **Grafenberg** **79.09 357** P **P** **13 35 42.0 -0.2**
GRFO pmax pmax
comp=Z,151nm,1.0s
GRFO **Grafenberg** **79.09 357** P **P** **13 35 42.0 -0.2**
CRVS **Cervenica-Dubn** **79.11 350** *e*P **P** **13 35 42.4 0.0**
CRVS pmax pmax
comp=Z,33nm,1.0s
CRVS **Cervenica-Dubn** **79.11 350** *e*P **P** **13 35 42.4 0.0**
VRAC **Vranov** **79.16 353** LR LR 14 12 27.5
comp=Z,574nm,20.5s,baz=11,slow=37
VRAC **Vranov** **79.16 353** *e*P **P** **13 35 43.0 +0.3**
WLF **Walferdange** **79.21 360** *e*P **P** **13 35 43.9 +1.0**
comp=Z,52nm,1.1s,baz=4.0,slow=5.6
WLF **Walferdange** **79.21 360** *d*P **P** **13 35 43.6 +0.7**
comp=Z,28nm,1.0s
TREC **Trest** **79.26 354** *e*P **P** **13 35 43.6 +0.4**
TREC MLR MLR
comp=Z,2μm,18.5s
TREC **Trest** **79.26 354** *e*P **P** **13 35 43.6 +0.4**
TREC AMS AMS 14 21 00.0
comp=Z,2μm,18.5s
MAK **Makhachkala** **79.27 330** *e*P P 13 35 37.1 -6.2
MAK *e* 13 38 37.4
MAK *e*S S 13 45 33.3 -9.1
MAK *e*SS **SS** **13 50 45.6 -2.1**
MAK pmax pmax
comp=Z,148nm,1.9s
UZH **Uzhgorod** **79.28 349** *e*P **P** **13 35 40.4 -2.9**
UZH *i* 13 35 42.3
UZH *i* 13 35 56.0
CTA **Charters Tower** **79.34 218** P **P** **13 35 42.8 -1.1**
comp=Z,7.5nm,0.9s,baz=3.8,slow=3.5,SNR=4.2
CTA LR LR 14 06 34.0
comp=Z,322nm,19.2s,baz=21,slow=32
KRUC **Moravsky** **79.42 353** *e*P **P** **13 35 44.1 0.0**
KAPI **Kappang** **79.47 248** LR LR 14 08 31.6
comp=Z,261nm,19.9s,baz=34,slow=34
KAPI **Kappang** **79.47 248** P **P** **13 35 45.5 +0.8**
JAVC **Velka Javorina** **79.52 352** *e*P **P** **13 35 45.8 +1.1**
KHC **Kasperske Hory** **79.54 355** *c* *i*P **P** **13 35 45.2 +0.4**
KHC pmax pmax
comp=Z,140nm,1.0s
KHC **Kasperske Hory** **79.54 355** *e*P **P** **13 35 45.5 +0.7**
KHC *ex* x 13 35 55.6
KHC AMS AMS 14 24 00.0
comp=Z,2μm,18.6s
KHC **Kasperske Hory** **79.54 355** P **P** **13 35 44.9 +0.1**
KHC IAmb IAmb 13 35 46.7
comp=Z,107nm,1.2s
WET **Wettzell** **79.56 355** *e*P **P** **13 35 45.5 +0.6**
comp=Z,44nm,1.2s,baz=4.0,slow=5.6
WET *e*L L 14 16 58.7
comp=Z,1μm,20.8s
IZAB **Izabela** **79.62 351** *e*P **P** **13 35 45.9 +0.7**
KECS **Kecovo** **79.63 350** *e*P **P** **13 35 45.6 +0.4**
KECS **Kecovo** **79.63 350** *e*P **P** **13 35 45.6 +0.4**
TRPA **Tarpa** **79.74 349** ⇓P **P** **13 35 45.9 +0.1**
TRPA **Tarpa** **79.74 349** P **P** **13 35 45.7 -0.1**
KIV **Kislovodsk** **79.76 334** ⇑P **P** **13 35 46.1 0.0**
KIV **Kislovodsk** **79.76 334** *e*P **P** **13 35 46.1 0.0**
KIV *e*S **S** **13 45 48.2 +0.3**
KIV *e*SS **SS** **13 50 57.8 +2.5**
KIV pmax pmax
comp=Z,40nm,1.1s
KIV pmax pmax
comp=Z,143nm,4.7s
KIV MLR MLR
comp=Z,911nm,19.0s
KIV **Kislovodsk** **79.76 334** IAMs_20 IAMs_20 14 14 45.5
comp=Z,937nm,20.0s
KIV **Kislovodsk** **79.76 334** P **P** **13 35 46.2 0.0**
KIV **Kislovodsk** **79.76 334** *i* P **P** **13 35 45.8 -0.4**
SNR=9.3
VYHS **Vyhne** **79.78 351** *e*P **P** **13 35 46.1 0.0**
VYHS **Vyhne** **79.78 351** *e*P **P** **13 35 46.1 0.0**
CKRC **Cesky Krumlov** **79.81 354** *e*P **P** **13 35 46.4 +0.2**
CKRC AMS AMS 14 16 30.0
comp=Z,2μm,21.8s
GEC2 **GERESS Array S** **79.82 355** P **P** **13 35 46.3 0.0**
GEC2 IAmb IAmb 13 35 47.7
comp=Z,45nm,0.9s
GEC2 **GERESS Array S** **79.82 355** *e*P **P** **13 35 46.7 +0.3**
comp=Z,48nm,0.9s,baz=4.0,slow=5.6
GEC2 *e*L L 14 12 20.3
comp=Z,1μm,20.9s
GERES **GERESS Array B** **79.82 355** P **P** **13 35 46.4 0.0**
comp=Z,26nm,0.8s,baz=23,slow=7.2,SNR=167
GERES PKPPKP P'P'df 14 02 33.7 -9.3
comp=Z,0.1nm,0.3s,baz=122,slow=1.3,SNR=1.9
BUR08 **Bucovina Ar. S** **79.87 347** P **P** **13 35 46.5 -0.2**
BUR08 IAmb IAmb 13 35 47.9
comp=Z,37nm,0.8s
SMOL **Smolenice** **79.89 352** *e*P **P** **13 35 47.7 +1.1**
SMOL pmax pmax
comp=Z,25nm,1.0s
SMOL **Smolenice** **79.89 352** *e*P **P** **13 35 47.7 +1.1**
BURAR **Bucovina Array** **79.90 347** ⇑P **P** **13 35 46.7 -0.1**
KBZ **Khabaz** **79.91 334** P **P** **13 35 47.3 +0.5**
comp=Z,22nm,0.9s,baz=31,slow=3.0,SNR=59
KBZ LR LR 14 15 34.9
comp=Z,1μm,19.9s,baz=26,slow=39
GEYT **Alibeck** **79.97 321** P **P** **13 35 48.0 +0.6**
comp=Z,26nm,1.0s,baz=279,slow=2.0,SNR=25
GEYT LR LR 14 15 56.4
comp=Z,4μm,18.5s,baz=48,slow=39
MILM **Milestii Mici** **80.02 344** ⇑P **P** **13 35 47.1 -0.3**
STU **Stuttgart** **80.07 358** IAMs_20 IAMs_20 14 16 46.2
comp=Z,940nm,18.0s
STU **Stuttgart** **80.07 358** *e*P **P** **13 35 48.2 +0.6**
comp=Z,154nm,0.7s,baz=4.0,slow=5.6
ZST **Bratislava** **80.23 353** *e*P **P** **13 35 49.7 +1.3**
ZST pmax pmax
comp=Z,105nm,0.8s
ZST **Bratislava** **80.23 353** *e*P **P** **13 35 49.7 +1.3**
PSZ **Piszkesteto** **80.25 351** ⇑P **P** **13 35 49.2 +0.6**
PSZ **Piszkesteto** **80.25 351** P **P** **13 35 48.4 -0.2**
PSZ pmax pmax
comp=Z,48nm,1.2s
PSZ MLR MLR
comp=Z,2μm,22.0s
PSZ **Piszkesteto** **80.25 351** P **P** **13 35 48.4 -0.2**
PSZ **Piszkesteto** **80.25 351** P **P** **13 35 48.9 +0.3**
ANN **Anapa** **80.31 338** *e*P **P** **13 35 47.6 -1.3**
ANN pmax pmax
comp=Z,38nm,0.8s
VASR **Vaslui** **80.46 345** ⇓P **P** **13 35 50.0 +0.3**
RAO **Raoul Island** **80.48 184** LR LR 14 07 36.6
comp=Z,2μm,19.0s,baz=64,slow=33
ZEI **Tsey** **80.50 333** *e*P **P** **13 35 47.9 -2.4**
ZEI pmax pmax
comp=Z,27nm,0.9s
SRO **Srobarova** **80.50 352** *e*P **P** **13 35 51.0 +1.1**
SRO **Srobarova** **80.50 352** *e*P **P** **13 35 51.0 +1.1**
BFO **Black Forest** **80.53 358** P **P** **13 35 50.3 +0.2**
BFO pmax pmax
comp=Z,57nm,1.0s
BFO MLR MLR
comp=Z,1μm,20.0s
BFO **Black Forest** **80.53 358** P **P** **13 35 50.3 +0.2**
BFO IAmb IAmb 13 36 08.9
comp=Z,57nm,1.0s
BFO IAMs_20 IAMs_20 14 13 23.3
comp=Z,1μm,20.0s
BFO **Black Forest** **80.53 358** *e*P **P** **13 35 50.5 +0.4**
comp=Z,52nm,0.9s,baz=4.0,slow=5.6
BFO *e*L L 14 13 24.1
comp=Z,1μm,20.1s
ARCR **ARCALIA** **80.54 347** ⇓P **P** **13 35 51.4 +1.3**
SRO2 **Moca** **80.55 352** *e*P **P** **13 35 49.7 -0.4**
SRO2 **Moca** **80.55 352** *e*P **P** **13 35 49.7 -0.4**
CONA **Conrad Observa** **80.59 353** *i* P **P** **13 35 51.2 +0.7**
comp=Z,52nm,0.9s,SNR=23
FUR **Furstenfeldbru** **80.61 356** *e*P **P** **13 35 51.1 +0.6**
comp=Z,74nm,0.8s,baz=4.0,slow=5.6
FUR *e*L L 14 19 41.1
comp=Z,850nm,19.3s
ECH **Echery** **80.66 359** P **P** **13 35 51.0 +0.2**
ECH pmax pmax
comp=Z,78nm,0.9s
ECH **Echery** **80.66 359** P **P** **13 35 51.0 +0.2**
ECH IAmb IAmb 13 35 52.4
comp=Z,78nm,0.9s
BUD **Budapest** **80.76 351** P **P** **13 35 52.2 +0.9**
TESR **Tescani** **80.76 346** ⇓P **P** **13 35 51.4 0.0**
MOA **Molln** **80.78 354** *i* P **P** **13 35 51.8 +0.3**
comp=Z,16nm,0.9s,SNR=6.6
SOP **Sopron** **80.78 353** P **P** **13 35 52.1 +0.7**
BSZH **Besenyszg** **80.82 350** P **P** **13 35 52.8 +1.2**
SOC **Sochi** **80.89 336** *c* *i*P **P** **13 35 51.5 -0.6**
SOC *e* 13 38 52.2
SOC *e*PPP PPP 13 40 44.8
SOC *e*S **S** **13 46 01.8 +2.3**
SOC *e*SSS SSS 13 54 40.4
SOC pmax pmax
comp=Z,36nm,0.8s
CSKK **Cskako** **80.95 352** P **P** **13 35 53.2 +0.8**
RJOB **Jochberg** **80.97 355** *e*P **P** **13 35 53.1 +0.5**
comp=Z,34nm,0.8s,baz=4.0,slow=5.6
BIOA **Bad Ischl, Aus** **80.97 355** *e*P **P** **13 35 53.0 +0.5**
comp=Z,70nm,1.1s
EGYH **Egyhazaskeszo** **80.98 352** P **P** **13 35 53.9 +1.5**
CJR **Cluj-Napoca** **81.00 348** ⇓P **P** **13 35 53.4 +0.7**
DRGR **81.04 348** ⇓P **P** **13 35 53.2 +0.3**
GRTK **Grand Turk** **81.07 67** IAMs_20 IAMs_20 14 13 47.6
comp=Z,2μm,20.0s
CHVG **Ch'k'valeri** **81.07 334** ⇑P **P** **13 35 54.3 +1.2**
GHRR **81.08 345** ⇑P **P** **13 35 53.9 +0.8**
UBR **Ueberruh** **81.13 357** *e*P **P** **13 35 54.0 +0.6**
comp=Z,63nm,1.3s,baz=4.0,slow=5.6
VARL **Varlezi** **81.17 345** ⇓P **P** **13 35 54.7 +1.2**
VLDR **Vladesti** **81.19 345** ⇑P **P** **13 35 54.2 +0.6**
MPLH **Magyarpolny** **81.21 352** P **P** **13 35 54.2 +0.5**
ARSA **Arzberg** **81.29 353** *i* P **P** **13 35 55.0 +0.8**
comp=Z,32nm,0.7s,SNR=15
OZUR **81.30 346** ⇑P **P** **13 35 54.8 +0.5**
RETA **Reutte** **81.31 357** *i* P **P** **13 35 54.7 +0.4**
comp=Z,30nm,0.9s,SNR=10
PANC **Panciu** **81.31 345** ⇑P **P** **13 35 55.1 +0.8**
SCTR **Scanteiesti** **81.36 345** ⇑P **P** **13 35 54.0 -0.6**
VRI **Vrincioaia** **81.38 346** ⇑P **P** **13 35 55.0 +0.4**
PLOR **Plostina** **81.41 346** ⇑P **P** **13 35 55.1 +0.3**
JTS **Las Juntas de** **81.42 84** LR LR 14 09 33.0
comp=Z,322nm,21.9s,baz=14,slow=34
JTS **Las Juntas de** **81.42 84**⇑ *e*P **P** **13 35 54.0 -1.3**
JTS pmax pmax
comp=Z,25nm,1.1s
WATA **Waldermm** **81.43 356** *i* P **P** **13 35 55.5 +0.5**
comp=Z,70nm,1.0s,SNR=21
ODBI **Odobesti** **81.43 345** ⇓P **P** **13 35 56.4 +1.5**
MOTA **Moosalm** **81.44 357** *i* P **P** **13 35 55.5 +0.4**
comp=Z,64nm,1.1s,SNR=24
COVR **Voineasa-Covas** **81.48 346** ⇓P **P** **13 35 56.4 +1.1**
SLCR **Slobozia Conac** **81.48 345** ⇓P **P** **13 35 56.3 +1.2**
DOPR **Dopca** **81.48 346** ⇑P **P** **13 35 56.2 +0.9**
WTTA **Wattenberg** **81.50 356** *i* P **P** **13 35 56.2 +0.7**
comp=Z,65nm,1.0s,SNR=29
IZVR **Izvoarele** **81.53 345** ⇓P **P** **13 35 56.7 +1.2**
DAVA **Damuels** **81.53 357** *i* P **P** **13 35 56.0 +0.4**
comp=Z,30nm,0.9s,SNR=9.9
SQTA **Sankt Quirin** **81.56 356** *i* P **P** **13 35 56.3 +0.6**
comp=Z,51nm,0.8s,SNR=21
SCHL **Schela** **81.56 345** ⇓P **P** **13 35 55.5 -0.1**
KBA **Koelnbreinsper** **81.60 355** *i* P **P** **13 35 57.0 +1.0**
comp=Z,98nm,0.7s,SNR=46
SIRR **Siria** **81.68 349** ⇑P **P** **13 35 56.3 +0.1**
BISRR **Bisoca** **81.69 345** ⇑P **P** **13 35 55.4 -1.0**
TLCR **81.70 344** ⇑P **P** **13 35 56.8 +0.5**
AMBH **Ambrzfalva** **81.71 350** ⇑P **P** **13 35 57.8 +1.4**
AMBH **Ambrzfalva** **81.71 350** P **P** **13 35 57.2 +0.9**
DGPR **DIGLIPUR** **81.73 281**⇑ *i*P **P** **13 35 57.0 +0.1**
FETA **Feichten** **81.77 357** *i* P **P** **13 35 57.6 +0.7**
comp=Z,77nm,1.0s,SNR=31
GRER **81.82 345** ⇓P **P** **13 35 58.7 +1.8**
CFR **Carcaliu** **81.82 344** ⇑P **P** **13 35 57.3 +0.3**
MLR **Muntele Rosu** **81.87 346** ⇑P **P** **13 35 58.9 +1.5**
MLR **Muntele Rosu** **81.87 346** LR LR 14 18 03.8
comp=Z,2μm,18.4s,baz=28,slow=40
MLR **Muntele Rosu** **81.87 346** IAmb IAmb 13 36 00.5
comp=Z,53nm,0.9s
AKH **Akhalkalaki** **81.89 332** ⇑P **P** **13 35 59.3 +1.7**
SOKA **Soboth** **81.89 354** *i* P **P** **13 35 58.0 +0.5**
comp=Z,93nm,1.1s,SNR=29
PERS **Pernice** **81.93 354** *e*P **P** **13 35 58.1 +0.5**
BEHE **Becsehely** **81.97 353** P **P** **13 35 57.8 0.0**
ABTA **Abfaltersbach** **81.97 356** *i* P **P** **13 35 58.0 +0.2**
comp=Z,65nm,1.4s,SNR=15
MYKA **Terra Mystica** **82.03 355** *i* P **P** **13 35 58.0 -0.2**
comp=Z,24nm,1.1s,SNR=5.7
KOGS **Kog** **82.03 353** *e*P **P** **13 35 58.2 +0.1**
DAVOX **Davos/Dischmat** **82.04 357** LR LR 14 16 26.8
comp=Z,563nm,18.1s,baz=42,slow=39
VOIR **82.05 347** ⇑P **P** **13 35 58.8 +0.5**
MORH **Mrgy, Hungar** **82.06 351** ⇑P **P** **13 35 57.8 -0.4**
MORH **Mrgy, Hungar** **82.06 351**⇑ *i*P **P** **13 35 57.5 -0.7**
MORH **Mrgy, Hungar** **82.06 351** P **P** **13 35 57.3 -0.8**
GROS **Grobnik** **82.08 353** *e*P **P** **13 35 58.5 +0.1**
TPGR **Topolog** **82.09 344** ⇑P **P** **13 35 59.0 +0.6**
OBKA **Obir** **82.09 354** *i* P **P** **13 35 58.7 +0.2**
comp=Z,36nm,0.8s,SNR=7.2
JURR **Jurilovca** **82.10 344** ⇓P **P** **13 35 59.2 +0.8**
ARR **Arges** **82.18 347** ⇑P **P** **13 35 59.5 +0.6**
LOT **Lotru** **82.22 348** ⇓P **P** **13 35 59.0 -0.2**
KOVH **Kovagotottos** **82.23 352** P **P** **13 35 58.7 -0.4**
SECR **82.29 346** ⇑P **P** **13 36 00.4 +0.9**
BZS **Buzias** **82.33 349** ⇑P **P** **13 35 59.4 -0.2**
HARR **Harsova** **82.33 344** ⇑P **P** **13 36 00.3 +0.6**
KALN **Kalnik** **82.33 353** *i* P **P** **13 35 59.6 -0.1**
TUE **Stuetta** **82.36 358** IAMs_20 IAMs_20 14 13 28.9
comp=Z,1μm,22.0s
TLBR **Topalu** **82.45 344** ⇓P **P** **13 36 01.3 +1.0**
TIRR **Tirgusor** **82.47 344** ⇓P **P** **13 36 01.0 +0.6**
AMRR **Amara** **82.51 345** ⇓P **P** **13 36 01.8 +1.2**
PTJ **Puntijarka** **82.59 353** P **P** **13 36 00.8 -0.4**
SULR **82.61 346** ⇓P **P** **13 36 02.3 +1.2**
CVDA **Cernavoda** **82.66 344** ⇑P **P** **13 36 02.8 +1.4**
GNI **Garni** **82.68 331** LR LR 14 19 26.3
comp=Z,2μm,18.6s,baz=14,slow=40
GNI **Garni** **82.68 331** *c* *i*P **P** **13 36 02.7 +0.9**
GNI pmax pmax
comp=Z,61nm,1.7s
GNI **Garni** **82.68 331** P **P** **13 36 02.9 +1.1**

GNI Garni 82.68 331 P **P** 13 36 02.5 +0.8
CTI Castel Tesino 82.71 356 P **P** 13 36 01.1 -0.7
CTI pmax pmax
comp=Z,83nm,1.4s
CTI Castel Tesino 82.71 356 P **P** 13 36 01.1 -0.7
CTI IAmb IAmb 13 36 23.3
comp=Z,83nm,1.4s
CRES Cresnjev 82.71 353⇑ *i*P **P** 13 36 01.2 -0.5
MOSL Moslavina 82.82 352 *i*P **P** 13 36 02.0 -0.2
CEY Cerknica 82.87 354⇑*i*P **P** 13 36 02.0 -0.5
BHPL Bhopal 82.95 299⇑*i*P **P** 13 36 03.0 -0.3
BHPL IAmb IAmb 13 36 04.2
comp=Z,154nm,0.7s
HUMR Humele 82.95 346 ⇑P **P** 13 36 03.2 +0.3
HERR Herculane 82.96 348 ⇑P **P** 13 36 02.6 -0.3
SDDR Presa de Saban 82.96 68 IAMs_20 IAMs_20 14 13 33.8
comp=Z,1µm,20.0s
FRGS Fruska Gora 82.99 350 ⇑P **P** 13 36 02.1 -1.0
FRGS Fruska Gora 82.99 350⇑*i*P **P** 13 36 01.7 -1.4
KULM Kulim 83.02 270 P **P** 13 36 01.6 -2.1
KULM IAmb IAmb 13 36 23.3
comp=Z,64nm,1.4s
MANR Mangalia 83.07 344 ⇓P **P** 13 36 05.0 +1.5
SRE Strehaia 83.07 348 ⇑P **P** 13 36 03.9 +0.4
SKDS Skadanscina 83.09 354⇑*i*P **P** 13 36 02.5 -1.1
SGRR Singureni 83.10 346 ⇓P **P** 13 36 04.0 +0.3
MDVR Moldovita 83.14 349 ⇓P **P** 13 36 04.3 +0.3
PSN Preselentsi 83.27 344 P P 13 35 59.4 -5.1
COPA Copaceanca 83.30 346 ⇓P **P** 13 36 04.9 +0.2
TEOL Teolo 83.39 356 P **P** 13 36 05.0 -0.1
IPM Ipoh 83.41 269 IAMs_20 IAMs_20 14 16 01.8
comp=Z,913nm,20.0s
SMRN Sveta Marina 83.58 354 *i*P **P** 13 36 05.7 -0.4
SSB Saint Sauveur 83.59 1 P **P** 13 36 06.3 +0.1
SSB pmax pmax
comp=Z,30nm,0.9s
SSB Saint Sauveur 83.59 1 P **P** 13 36 06.3 +0.1
SSB IAmb IAmb 13 36 07.7
comp=Z,30nm,0.9s
BNI Bardonecchia 83.82 360 IAMs_20 IAMs_20 14 15 13.5
comp=Z,1µm,21.0s
PRD Provadia 83.87 344 P **P** 13 36 08.5 +0.9
UDBI Udbina 83.98 353 *i*P **P** 13 36 07.8 -0.5
MGRS Mrkonjic Grad 83.98 352 *e*P **P** 13 36 09.2 +0.9
NVLJ Novalja 84.01 354 *i*P **P** 13 36 08.0 -0.3
DIVS Divibare 84.01 350 P **P** 13 36 08.3 -0.2
DIVS IAmb IAmb 13 36 10.5
comp=Z,36nm,0.9s
DIVS IAMs_20 IAMs_20 14 13 57.6
comp=Z,2µm,22.0s
DIVS Divibare 84.01 350⇑*i*P **P** 13 36 08.2 -0.3
SZH Strazhica 84.04 346 P **P** 13 36 08.7 +0.2
WB0 Warramunga Arr 84.09 228 P **P** 13 36 08.1 -0.9
WB0 IAmb IAmb 13 36 26.6
comp=Z,62nm,1.4s
PVL Pavlikeni 84.18 346 P **P** 13 36 09.6 +0.4
WR0 Warramunga Arr 84.19 228 P **P** 13 36 08.1 -1.3
WR0 IAmb IAmb 13 36 27.0
comp=Z,64nm,1.5s
WRAB Tennant Creek 84.26 228*c* *i*P **P** 13 36 08.7 -1.1
WRAB pmax pmax
comp=Z,14nm,1.3s
WRAB Tennant Creek 84.26 228 P **P** 13 36 08.4 -1.4
WRAB IAmb IAmb 13 36 29.1
comp=Z,42nm,1.2s
WB2 Warramunga Arr 84.27 228 P **P** 13 36 07.7 -2.1
WB2 IAmb IAmb 13 36 27.6
comp=Z,72nm,1.4s
BOVS Bovan 84.27 349 ⇓P **P** 13 36 09.6 -0.1
WRA Warramunga Arr 84.27 228 P **P** 13 36 08.9 -0.9
comp=Z,2.8nm,0.6s,baz=33,slow=5.7,SNR=38
WRA LR LR 14 08 30.5
comp=Z,639nm,22.0s,baz=35,slow=32
WRA Warramunga Arr 84.27 228 *i*P **P** 13 36 08.8 -1.1
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 84.27 228 P **P** 13 36 08.1 -1.8
MPEP Malo Peshtene 84.28 347 P **P** 13 36 09.5 -0.3
BBLS Lazići 84.31 350⇑*i*P **P** 13 36 10.5 +0.5
SRKY Kupres RS 84.32 352⇑*i*P **P** 13 36 09.9 -0.2
KIJV Kijevo 84.45 353 *i*P **P** 13 36 10.0 -0.7
MSSA Maissana 84.51 357 P **P** 13 36 10.6 -0.4
MSSA IAmb IAmb 13 36 11.4
comp=Z,30nm,0.8s
RUDO Rudo 84.56 350⇑*i*P **P** 13 36 11.0 -0.2
DUGI Dugi Otok 84.56 353 *i*P **P** 13 36 10.4 -0.8
MORI Morici 84.64 353 *i*P **P** 13 36 10.7 -0.9
JMB Yambol 84.72 345 P **P** 13 36 12.4 +0.4
PLE Pljevlja 84.84 350⇑*i*P **P** 13 36 13.3 +0.6
ZIRJ Zirje 84.86 353 *i*P **P** 13 36 11.7 -0.9
RICI Ricice 84.89 352 P **P** 13 36 11.9 -1.0
KDZE Karadeniz Ereo 84.95 341 ⇑P **P** 13 36 13.8 +0.7
PGB Panagyurishte 85.01 347 P **P** 13 36 13.9 +0.4
UPM Unac-Piva 85.01 351⇑*i*P **P** 13 36 13.4 -0.3
UPM Unac-Piva 85.01 351⇑*i*P **P** 13 36 13.4 -0.3
VTS Vitosha 85.07 347 ⇓P **P** 13 36 14.0 +0.1
VTS Vitosha 85.07 347 IAmb IAmb 13 36 15.3
comp=Z,69nm,1.0s
VTS Vitosha 85.07 347 P **P** 13 36 14.1 +0.1
MAKA Makarska 85.11 352 *i*P **P** 13 36 12.5 -1.4
IVA Berane 85.24 350⇑*i*P **P** 13 36 14.7 0.0
HVAR Hvar 85.27 352 *i*P **P** 13 36 13.6 -1.1
DIM Dimitrovgrad 85.29 346 P **P** 13 36 16.1 +1.2
EDRB Edirne 85.30 345 P **P** 13 36 13.9 -1.0
KOME Kolasin 85.30 350⇑*i*P **P** 13 36 14.6 -0.4
BRY Bratogost 85.35 351⇑*i*P **P** 13 36 15.0 -0.4
BRY Bratogost 85.35 351⇑*i*P **P** 13 36 14.9 -0.4
PLD Plovdiv 85.37 346 P **P** 13 36 15.6 +0.4
NKME Niksic 85.44 350⇑*i*P **P** 13 36 15.2 -0.5
STON Ston 85.46 351⇑*i*P **P** 13 36 14.6 -1.0
STON Ston 85.46 351 *i*P **P** 13 36 14.4 -1.3
TREB Trebinje 85.55 351⇑*i*P **P** 13 36 15.0 -1.1
DBRK Dubrovnik 85.62 351 *i*P **P** 13 36 15.9 -0.6
LSTV Lastovo 85.64 352 *i*P **P** 13 36 14.4 -2.2
ISK Istanbul-Kandi 85.65 343 P **P** 13 36 16.1 -0.5
CEME Cevo 85.66 350⇑*i*P **P** 13 36 16.2 -0.6
KDZ Kurdzhali 85.70 346 P **P** 13 36 17.7 +0.8
PDG Podgorica 85.74 350 ⇑P **P** 13 36 17.1 0.0
PDG Podgorica 85.74 350⇑*i*P **P** 13 36 16.8 -0.3
TTG Podgorica 85.74 350⇑*i*P **P** 13 36 16.9 -0.2
RZN Rozhen 85.77 346 P **P** 13 36 18.3 +0.8
HCY Herceg Novi 85.80 351⇑*i*P **P** 13 36 16.7 -0.7
HCY Herceg Novi 85.80 351⇑*i*P **P** 13 36 16.8 -0.7
KKB Krupnik 85.83 347 P **P** 13 36 18.4 +0.8
BUM Brajici-Budva 85.91 350⇑*i*P **P** 13 36 17.7 -0.3
DRME Dracevica, Mon 85.99 350⇑*i*P **P** 13 36 18.2 -0.1
DRME Dracevica, Mon 85.99 350⇑*i*P **P** 13 36 18.3 -0.1
BRTR Keskin Array B 86.00 339 P **P** 13 36 18.8 +0.1
comp=Z,24nm,0.9s,baz=47,slow=2.4,SNR=87
BRTR PP **PP** 13 39 38.2 +0.5
comp=Z,2.4nm,0.8s,baz=20,slow=5.3,SNR=3.7
BRTR PKPPKP **P'P'df** 14 02 26.2 -5.0
comp=Z,0.6nm,0.7s,baz=182,slow=3.7,SNR=3.7
BRTR LR LR 14 19 10.8
comp=Z,818nm,20.2s,baz=34,slow=39
BRTR Keskin Array B 86.00 339 *i*P **P** 13 36 18.7 +0.1
BRTR pmax pmax
comp=Z,25nm,0.9s
BRTR Keskin Array B 86.00 339 P **P** 13 36 18.2 -0.4
PSI Prapat 86.02 269 P **P** 13 36 18.8 -0.2
comp=Z,12nm,0.6s,baz=349,slow=5.1,SNR=8.3
PSI LR LR 14 20 48.6
comp=Z,377nm,18.0s,baz=22,slow=40
PGAV Gavieira, Arco 86.08 11 *e*LR LR 14 11 39.5
comp=Z,1µm,16.0s
RDO Rodhopi 86.17 345 P **P** 13 36 19.7 +0.5
ULC Ulcinj 86.20 350⇑*i*P **P** 13 36 19.0 -0.4
NVR Nevrokopi 86.23 347 P **P** 13 36 19.9 +0.3
AQU L'Aquila 86.30 355 IAMs_20 IAMs_20 14 19 10.2
comp=Z,1µm,20.0s
AQU L'Aquila 86.30 355⇑*i*P **P** 13 36 20.2 +0.2
ALN Alexandroupoli 86.34 345 P **P** 13 36 19.6 -0.4
ALN Alexandroupoli 86.34 345 IAmb IAmb 13 36 22.0
comp=Z,26nm,0.8s
PHP Peshkopia 86.35 349 P **P** 13 36 19.7 -0.5
PCAB Cabril 86.36 11 *e*P **P** 13 36 20.6 +0.4
comp=Z,45nm,1.2s
PBRG Braganca 86.41 10 *e*P **P** 13 36 20.2 -0.3
comp=Z,45nm,2.0s
PBRG *i* LQ LQ 13 36 34.9
ENEZ Enez 86.48 345 P **P** 13 36 20.7 0.0
KAVA Kavala 86.48 346 P **P** 13 36 20.8 0.0
SRS Serrai 86.50 347 P **P** 13 36 20.3 -0.6
BORA Eskisehir 86.53 341 IAmb IAmb 13 36 23.3
comp=Z,44nm,0.8s
KNT Kendrikon 86.55 347 P **P** 13 36 21.7 +0.6
SJG San Juan 86.60 65 LR LR 14 18 38.6
comp=Z,744nm,18.1s,baz=315,slow=38
POLO Lamas de Olo 86.72 10 *e*P **P** 13 36 22.1 0.0
comp=Z,24nm,1.7s
POLO *i* LQ LQ 13 36 37.7
KOKK Kokkinochori, 86.73 346 P **P** 13 36 21.3 -0.7
TIR Tirane 86.75 350 ⇑P **P** 13 36 22.1 +0.1
TIR Tirane 86.75 350 P **P** 13 36 22.3 +0.2
GRG Griva 86.82 348 P **P** 13 36 21.7 -0.8
SOH Sokhos 86.82 347 P **P** 13 36 22.4 -0.1
PVRL Vila Real 86.83 10 *e*P **P** 13 36 23.1 +0.6
comp=Z,39nm,1.7s
SMTH Samothraki Isl 86.84 345 P **P** 13 36 21.9 -0.6
HYBB Hyderabad (bro 86.96 294 *e*P **P** 13 36 22.3 -1.2
HYB Hyderabad 86.96 294⇑*i*P **P** 13 36 23.1 -0.5
HYB *i* x x 13 36 36.4
FITZ Fitzroy Crossi 86.98 236 LR LR 14 11 44.9
comp=Z,363nm,20.3s,baz=52,slow=33
MVO Moncorvo 87.01 10 *e*P **P** 13 36 23.6 +0.1
comp=Z,51nm,1.0s
MVO *i* LQ LQ 13 36 39.4
MVO Moncorvo 87.01 10 *e*LR LR 14 06 08.0
comp=Z,1µm,18.0s
MVO *e*LQ LQ 14 08 13.0
BHUJ Bhuj 87.08 304⇑*i*P **P** 13 36 23.8 -0.2
FNA Florina 87.12 348 P **P** 13 36 22.5 -1.5
OUR Ouranopolis 87.21 346 P **P** 13 36 23.9 -0.4
PVIS Viseu 87.36 11 *e*P **P** 13 36 25.4 +0.3
comp=Z,55nm,1.0s
KTI Kastanea 87.41 348 P **P** 13 36 26.0 +0.5
LIT Litokhoron 87.65 347 P **P** 13 36 26.0 -0.5
ASAR Alice Springs 87.69 226 P **P** 13 36 26.4 -0.4
comp=Z,6.1nm,0.8s,baz=31,slow=4.6,SNR=53
ASAR LR LR 14 12 06.0
comp=Z,576nm,19.8s,baz=32,slow=33
MTE Manteigas 87.71 10 *e*P **P** 13 36 27.0 +0.2
comp=Z,52nm,1.1s
MTE *i* LQ LQ 13 36 43.1
MTE Manteigas 87.71 10 *e*LR LR 14 09 10.0
comp=Z,910nm,18.0s
MTE Manteigas 87.71 10 IAMs_20 IAMs_20 14 21 03.4
comp=Z,1µm,18.0s
MATE Matera 87.75 352 ⇓P **P** 13 36 27.5 +0.6
COI Coimbra 87.80 11 *e*P **P** 13 36 27.6 +0.4
comp=Z,68nm,0.9s
COI Coimbra 87.80 11 IAMs_20 IAMs_20 14 23 27.8
comp=Z,1µm,20.0s
PRK Paraskevi 87.91 344 P **P** 13 36 28.2 +0.5
PCAS Casmilo, Conde 87.94 11 *e*P **P** 13 36 27.9 0.0
comp=Z,65nm,2.3s
LEM Lembang 88.14 257 LR LR 14 11 25.1
comp=Z,236nm,21.8s,baz=29,slow=32
KULA Kula-Manisa 88.19 342 P **P** 13 36 28.3 -0.9
THL Klokotos Trika 88.24 348 P **P** 13 36 28.2 -1.1
PCBR Castelo Branco 88.27 10 *e*P **P** 13 36 29.0 -0.4
comp=Z,33nm,1.1s
JAN Janina 88.30 349 P **P** 13 36 29.0 -0.6
NEO Neokhori 88.33 347 P **P** 13 36 28.9 -0.8
MOTC Monteria, Cord 88.33 78 *e*P **P** 13 36 34.3 +4.2
KEK Kerkira 88.37 349 P **P** 13 36 29.8 -0.1
PSBE So Bento 88.44 11 *e*P **P** 13 36 30.4 +0.1
ISP Isparta 88.50 341 IAMs_20 IAMs_20 14 22 09.1
comp=Z,906nm,20.0s
PMRV Marv??o 88.69 10 *e*P **P** 13 36 30.9 -0.5
comp=Z,33nm,1.6s
PMRV Marv??o 88.69 10 *e*LR LR 14 06 37.0
comp=Z,818nm,20.0s
POO Poona 88.70 299⇑*i*P **P** 13 36 31.9 +0.1
POO IAmb IAmb 13 36 32.3
comp=Z,79nm,0.6s
AGG Agios Georgios 88.73 347 IAmb IAmb 13 36 32.8
comp=Z,31nm,1.0s
ESBB Sonseca Array 88.78 8 P **P** 13 36 30.7 -1.2
ESBB IAmb IAmb 13 36 32.9
comp=Z,23nm,0.9s
ESDC Sonseca Array 88.78 8 P **P** 13 36 31.8 -0.2
comp=Z,18nm,0.9s,baz=347,slow=4.6,SNR=108
ESDC PKPPKP **P'P'df** 14 02 25.4 -0.7
comp=Z,0.4nm,0.9s,baz=169,slow=5.7,SNR=2.2
ESDC Sonseca Array 88.78 8 P **P** 13 36 31.4 -0.5
PAB San Pablo 88.88 8 P **P** 13 36 30.5 -1.9
PAB pmax pmax
comp=Z,13nm,1.0s
PAB MLR MLR
comp=Z,900nm,19.0s
PAB San Pablo 88.88 8 P **P** 13 36 30.4 -1.9
PAB San Pablo 88.88 8 IAMs_20 IAMs_20 14 19 38.3
comp=Z,863nm,19.0s
SEUS St. Eustatius 88.88 63 IAMs_20 IAMs_20 14 20 58.4
comp=Z,2µm,19.0s
EVR Evrytania 88.90 348 P **P** 13 36 31.6 -1.0
PMAFR Mafra 88.93 12 *e*P **P** 13 36 32.5 0.0
comp=Z,90nm,1.6s
PMTG Montargil 88.94 11 *e*P **P** 13 36 31.8 -0.8
comp=Z,27nm,1.2s
PMTG *i* LQ LQ 13 36 46.4
PMST Lisbon--Monsan 89.15 12 *e*P **P** 13 36 31.1 -2.5
comp=Z,105nm,1.0s
PACT Alcochete 89.17 12 *e*P **P** 13 36 33.8 +0.2
comp=Z,96nm,1.4s
TIP Timpagrande 89.21 352 ⇑P **P** 13 36 33.7 -0.3
TIP Timpagrande 89.21 352 IAMs_20 IAMs_20 14 18 45.1
comp=Z,1µm,21.0s
PESTR Estremoz 89.22 11 *e*P **P** 13 36 33.4 -0.5
comp=Z,40nm,1.2s
PESTR *i* LQ LQ 13 36 48.1
PESTR Estremoz 89.22 11 P **P** 13 36 32.5 -1.5
EVO Evora 89.50 11 *e*P **P** 13 36 34.8 -0.4
comp=Z,18nm,2.0s
EVO *i* LQ LQ 13 36 52.7
LTK Loutraki 89.62 347 P **P** 13 36 34.2 -1.6
DABV Dabajuro 89.69 73 *e*P **P** 13 36 37.1 +0.7
KLV Kalavryta, Ach 89.72 347 P **P** 13 36 35.9 -0.4
URZ Urewera 89.73 187 LR LR 14 12 58.3
comp=Z,1µm,19.2s,baz=30,slow=33
RLS Riolos of Patr 89.80 348 P **P** 13 36 36.8 +0.2
ZARC Zaragoza, Cauc 89.83 78 *e*P **P** 13 36 36.2 -0.9
PNCL Nicolau / Gran 89.85 11 *e*P **P** 13 36 36.7 -0.2
comp=Z,25nm,1.5s
PBAR Barrancos 89.97 10 *e*P **P** 13 36 37.1 -0.3
comp=Z,56nm,1.6s
PBAR *i* LQ LQ 13 36 51.5
PBEJ Beja 90.02 11 *e*P **P** 13 36 37.5 -0.2
comp=Z,18nm,1.6s
CEL Celeste 90.20 352 IAMs_20 IAMs_20 14 24 26.2
comp=Z,792nm,19.0s
PCVE Castro Verde 90.39 11 *e*P **P** 13 36 39.3 -0.1
comp=Z,37nm,1.7s
PCVE *i* LQ LQ 13 36 48.1
PTEO Sao Teotonio 90.39 12 *e*P **P** 13 36 39.4 0.0
comp=Z,46nm,1.7s
MORF Marmelete 90.63 12 *e*P **P** 13 36 40.4 -0.3
MORF IAmb IAmb 13 36 41.3
comp=Z,23nm,1.0s
MORF Marmelete 90.63 12 *e*P **P** 13 36 40.6 0.0
comp=Z,50nm,1.6s
MORF Marmelete 90.63 12 *e*P **P** 13 36 40.3 -0.3
PVAQ Vaqueiros 90.65 11 *e*P **P** 13 36 40.6 0.0
comp=Z,28nm,1.7s
PVAQ Vaqueiros 90.65 11 *e*LR LR 14 11 52.4
comp=Z,1µm,18.0s
PBDV Barranco-do-Ve 90.78 11 *e*P **P** 13 36 41.6 +0.3
comp=Z,54nm,1.6s
PTBC PUERTO BERRIO, 90.82 79 *e*P **P** 13 36 41.0 -0.8
CART Cartagena 91.07 6 IAMs_20 IAMs_20 14 23 08.3
comp=Z,1µm,18.0s
VAE Valguarnera 91.09 353 LR LR 14 21 09.3
comp=Z,1µm,19.0s,baz=93,slow=38
SHME Shamm 91.13 316 P **P** 13 36 42.1 -1.0
SHME Shamm 91.13 316 *i*P **P** 13 36 42.0 -1.0
SNR=5.8
BANOM Banah 91.17 316 P **P** 13 36 42.6 -0.7
BANOM Banah 91.17 316 *i*P **P** 13 36 42.5 -0.7
SNR=5.6
GOA Goa 91.18 297⇑*i*P **P** 13 36 42.8 -0.6
GOA IAmb IAmb 13 36 46.0
comp=Z,22nm,0.5s
PAMC Pamplona, Colo 91.26 77 *e*P **P** 13 36 45.9 +1.5
GUY2C Guyana, Caldas 91.29 80 *e*P **P** 13 36 44.8 +0.3
SDV Santo Domingo 91.30 74 LR LR 14 17 36.6
comp=Z,619nm,21.7s,baz=340,slow=35
SDV Santo Domingo 91.30 74 IAMs_20 IAMs_20 14 25 44.1
comp=Z,1µm,19.0s
NORC Norcasia 91.33 79 *e*P **P** 13 36 44.8 +0.6
BARC Barichara 91.56 77 *e*P **P** 13 36 46.7 +1.2
SOCV Socops 91.64 75 *e*P **P** 13 36 43.8 -1.7
SFS San Fernando 91.75 10 IAMs_20 IAMs_20 14 19 40.3
comp=Z,1µm,19.0s
SPBC San Pablo de B 91.75 79 *e*P **P** 13 36 45.7 -0.4
STKA Stephens Creek 91.75 217 P **P** 13 36 45.7 +0.2
comp=Z,7.3nm,0.9s,baz=350,slow=6.3,SNR=14
STKA LR LR 14 15 38.4
comp=Z,1µm,19.3s,baz=22,slow=34
UMQ Umm Al-Quwin 91.79 316 P **P** 13 36 45.6 -0.5
IDI Anoyia 92.00 345 LR LR 14 22 14.3
comp=Z,660nm,19.9s,baz=63,slow=38
IDI Anoyia 92.00 345 IAMs_20 IAMs_20 14 21 53.2
comp=Z,1µm,18.0s
UOSS Minazif 92.06 316 P **P** 13 36 44.8 -2.6
UOSS IAmb IAmb 13 37 01.8
comp=Z,44nm,1.1s
UOSS Minazif 92.06 316 IAMs_20 IAMs_20 14 23 06.0
comp=Z,1µm,20.0s
UOSS Minazif 92.06 316 P **P** 13 36 46.2 -1.2
UOSS Minazif 92.06 316 *i*P **P** 13 36 45.9 -1.5
SNR=12
FDF Fort de France 92.13 63 IAMs_20 IAMs_20 14 18 46.7
comp=Z,2µm,20.0s
HATD Hatta, Dubai 92.20 316 P **P** 13 36 47.1 -0.9
SNR=8.5
HATD Hatta, Dubai 92.20 316 *i*P **P** 13 36 46.9 -1.1
SNR=9.0
NAZ Nazwa, Dubai 92.26 316 P **P** 13 36 47.4 -0.9
SNR=5.7
NAZ Nazwa, Dubai 92.26 316 *i*P **P** 13 36 47.0 -1.3
SNR=6.3
ASHO Ashiyiah 92.36 316 P **P** 13 36 47.8 -1.0
SNR=7.5
ASHO Ashiyiah 92.36 316 *i*P **P** 13 36 47.5 -1.3
SNR=14
ORTC Ortega, Tolima 92.39 81 *e*P **P** 13 36 47.6 -1.4
BIDO Bidbid 92.45 314 P **P** 13 36 48.9 -0.3
FAQ Al Faqa, Dubai 92.50 316 P **P** 13 36 48.2 -1.2
FAQ Al Faqa, Dubai 92.50 316 *i*P **P** 13 36 48.2 -1.2
SNR=7.2
SOHO SOHO 92.63 315 P **P** 13 36 48.7 -1.3
SOHO SOHO 92.63 315 *i*P **P** 13 36 48.2 -1.8
SNR=12
QRZ Quartz Range 92.70 190 IAMs_20 IAMs_20 14 15 00.3
comp=Z,1µm,20.0s
ASUD Al Ashush, Dub 92.72 316 P **P** 13 36 51.0 +0.6
SNR=6.0
ASUD Al Ashush, Dub 92.72 316 *i*P **P** 13 36 49.7 -0.7
SNR=16
HOQ Hoqain 92.76 314 P **P** 13 36 49.6 -1.1
SNR=9.0
SMDO Samad 92.88 313 P **P** 13 36 50.6 -0.8
SNR=11
AJN Ajban 92.93 317 P **P** 13 36 50.2 -1.2
AJN Ajban 92.93 317 P **P** 13 36 50.1 -1.2
ALNE Al Ain 93.04 316 P **P** 13 36 51.2 -0.7
SNR=10
JLN Jalan Bani Buh 93.04 312 P **P** 13 36 51.8 -0.1
SNR=7.6
ARQ Araqi 93.33 315 P **P** 13 36 52.8 -0.5
SNR=19
KHOR Al-Khor Airpor 93.44 320 P **P** 13 36 53.1 -0.6
SHMA Al-Shehemyia 93.45 320 P **P** 13 36 52.9 -0.8
JMDO Jabal Madar 93.45 313 P **P** 13 36 53.3 -0.5
SNR=14
SAKB Bahrain 93.51 321 P **P** 13 36 53.2 -0.8
BSY Bisya 93.54 314 P **P** 13 36 53.9 -0.3
SNR=17
PMOZ Porto Moniz, M 93.58 19 *e*LR LR 14 11 49.5
comp=Z,948nm,20.0s
PALK Pallekele 93.77 286 P **P** 13 36 53.5 -1.9
comp=Z,6.8nm,0.7s,baz=234,slow=2.9,SNR=4.2
PALK LR LR 14 22 12.4
comp=Z,700nm,20.9s,baz=137,slow=38
PALK Pallekele 93.77 286 IAMs_20 IAMs_20 14 22 41.8
comp=Z,786nm,20.0s
FLOC Florencia 93.95 83 *e*P **P** 13 36 54.9 -1.3
GRGR Grenville 93.96 65 IAMs_20 IAMs_20 14 21 02.2
comp=Z,2µm,20.0s
TRNA Turayna 94.35 320 P **P** 13 36 56.9 -1.0
GHWR Ruwais 94.35 318 P **P** 13 36 57.0 -0.9
UMZA Um Al Zommool 94.47 316 P **P** 13 36 57.5 -1.0
MHTO MHTO 94.72 312 P **P** 13 36 59.3 -0.3
SNR=22
SLWR Sila 94.75 319 P **P** 13 36 58.9 -0.8
MZR Muzera 94.94 317 P **P** 13 37 00.2 -0.5
SNR=9.9
MZR Muzera 94.94 317 *i*P **P** 13 36 59.9 -0.8
SNR=11
EIL Elat 95.26 335 LR LR 14 27 48.8
comp=Z,1µm,18.1s,baz=49,slow=40
MDT Midelt 95.53 9 LR LR 14 22 03.0
comp=Z,449nm,19.4s,baz=4.0,slow=37
RPZ Rata Peaks 95.72 191 LR LR 14 15 17.9
comp=Z,2µm,19.9s,baz=15,slow=32
DQM DQM 95.83 312 P **P** 13 37 03.9 -0.8
RPN Rapa Nui 96.62 126 LR LR 14 15 49.9
comp=Z,745nm,18.1s,baz=314,slow=32
RAYN Ar Rayn 97.65 324 P **P** 13 37 12.8 -0.2
RAYN Ar Rayn 97.65 324 *i*P **P** 13 37 12.6 -0.4
SNR=16
HMDM Hanimaadhoo 98.61 292 IAMs_20 IAMs_20 14 28 59.5
comp=Z,1µm,20.0s
SOCY Socotra 104.22 311 IAMs_20 IAMs_20 14 30 38.5
comp=Z,814nm,20.0s
KOWA Kowa 113.70 11 IAMs_20 IAMs_20 14 33 41.8
comp=Z,1µm,20.0s
TORD Torodi Ar. Bea 115.51 5 PKP **PKiKP** 13 42 19.0 -1.4
comp=Z,1.3nm,0.6s,baz=360,slow=2.9,SNR=6.7
TORD PKKPbc **PKKPbc** 13 52 52.9 +1.3
comp=Z,1.4nm,0.8s,baz=180,slow=2.2,SNR=4.7
MSEY Mahe Island 117.92 301 IAMs_20 IAMs_20 14 34 34.0
comp=Z,744nm,20.0s
H03N2 Juan Fernandez 118.29 109 T T 15 52 02.6
baz=317,slow=78,SNR=54
H03N1 Juan Fernandez 118.31 109 T T 15 52 03.9
baz=317,slow=78,SNR=57
H03N3 Juan Fernandez 118.31 109 T T 15 52 03.3
baz=317,slow=78,SNR=68
NBPB Pedra_Branca-C 120.67 56 *e*P **PKPdf** 13 42 30.3 0.0
DBIC Dimbokro 121.31 13 PKP **PKPdf** 13 42 30.7 -0.8
comp=Z,1.8nm,0.5s,baz=360,slow=3.4,SNR=1.9
KMBO Kilima Mbogo 123.34 322 PKP **PKPdf** 13 42 35.2 -0.5
comp=Z,3.2nm,0.7s,baz=358,slow=3.4,SNR=9.6
KMBO Kilima Mbogo 123.34 322 P **PKiKP** 13 42 36.3 +0.3
MBAR Mbarara 125.17 329 IAMs_20 IAMs_20 14 43 03.4
comp=Z,781nm,20.0s
JANB Januaria 125.94 67 *e*P **PKPdf** 13 42 40.3 0.0
CPUP Villa Florida 126.57 87 PKP **PKPdf** 13 42 40.5 -0.6
comp=Z,1.8nm,0.5s,baz=257,slow=5.0,SNR=4.2
PCMB Pacaembu 126.87 78 *e*P **PKiKP** 13 42 45.1 +2.7
PLCA Paso Flores 128.14 110 PKP **PKPdf** 13 42 43.5 -0.3
comp=Z,6.9nm,0.9s,baz=283,slow=3.2,SNR=9.8
PLCA Paso Flores 128.14 110 PKiKP **PKPdf** 13 42 44.1 +0.3
PLCA Paso Flores 128.14 110 PKPdf **PKPdf** 13 42 44.1 +0.3
GUA01 Guaratinga, BA 129.72 63 *e*P **PKiKP** 13 42 49.7 +1.5
SJMB Sao Joao De Ma 130.63 66 *e*P **PKPdf** 13 42 48.7 -0.4
QSPA South Pole Qui 141.26 180 PKhKP PKPpre 13 43 00.7
comp=Z,10.0nm,0.9s,baz=284,slow=1.0,SNR=20
BLWY Bulawayo 144.04 322 *i*P PKPbc 13 43 12.6 +0.7
BLWY Bulawayo 144.04 322 *i*P PKPbc 13 43 12.6 +0.7
MATP Matopo 144.35 322 *i*P **PKPdf** 13 43 13.8 -0.7
MATP Matopo 144.35 322 *i*P **PKPdf** 13 43 13.8 -0.7
MSNA Messina 145.46 318 *i*P **PKPab** 13 43 16.6 +0.1
MSNA Messina 145.46 318 *i*P **PKPab** 13 43 16.6 +0.1
MOPA Mopani 145.91 315 *i*P **PKPab** 13 43 18.4 +0.4
MOPA Mopani 145.91 315 *i*P **PKPab** 13 43 18.4 +0.4
CNG Changalane 147.95 312 *i*P **PKPbc** 13 43 23.5 +0.2
CNG Changalane 147.95 312 *i*P **PKPbc** 13 43 23.5 +0.2
MAW Mawson 148.43 218 PKPbc **PKPbc** 13 43 23.7 +0.5
comp=Z,38nm,0.9s,baz=58,slow=2.6,SNR=14
MAW Mawson 148.43 218 PKPbc **PKiKP** 13 43 24.0 -0.8
LBTB Lobatse 149.61 323 PKP **PKPdf** 13 43 23.3 +0.2
comp=Z,27nm,1.0s,baz=29,slow=1.7,SNR=4.9
LBTB PKPbc **sPKPdf** 13 43 27.9 -1.3
comp=Z,47nm,0.8s,baz=16,slow=1.9,SNR=41
LBTB Lobatse 149.61 323 PKPbc **PKiKP** 13 43 28.5 -0.2
LBTB Lobatse 149.61 323 *i*P **PKPdf** 13 43 24.4 +1.3
LBTB Lobatse 149.61 323 *i*P **PKPdf** 13 43 24.4 +1.3
BELA Belgrano 2 149.68 164 **PKPbc** 13 43 25.5 -0.7
BOSA Boshof 152.97 320 PKPbc **PKPbc** 13 43 35.4 -0.1
comp=Z,15nm,0.6s,baz=17,slow=2.8,SNR=24
BOSA PKPab **PKPab** 13 43 46.2 -0.5

comp=Z,62nm,0.9s,baz=37,slow=4.3,SNR=25
BOSA Boshof 152.97 320 PKPbc **PKiKP 13 43 35.6 0.0**
BOSA Boshof 152.97 320 *i* P **PKPbc 13 43 31.9 -3.6**
BOSA Boshof 152.97 320 *i* P **PKPbc 13 43 31.9 -3.6**
SYO Syowa Base 156.32 210⇓*es*PKPdf sPKPdf 13 43 38.6 +1.3
SNAA Sanae 159.37 172 PKPab **PKPab 13 44 13.0 0.0**
comp=Z,13nm,0.9s,baz=251,slow=8.5,SNR=3.8
SNAA Sanae 159.37 172 PKP2 **PKPab 13 44 13.0 0.0**

KRNET ***12*** *13:25:12.3±0.1, 40.4°N×73.7°E, h22km, mb3.4*
NNC ***12*** *13:25:14.6±1.5, 40.5°N×73.8°E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=10.6km s-min=7.3km az=175.0*
SOME ***12*** *13:25:21.2, 40.7°N×73.8°E, h15km*
ISC 12 13:25:12.6±1.3, 40°48N±0.04×73°52E±0.03, h5km±10km, n59, σ1s63/87, 29C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.56**	**275**	⇓*i*P	**Pb**	**13 25 25.0**	**0.0**
	baz=78						
OHH				⇓*i*S	**Sn**	**13 25 34.2**	**-2.9**
	baz=78						
ARLS	**Aral**	**1.51**	**23**	⇑*i*P	**Pn**	**13 25 39.3**	**-1.2**
	baz=20						
ARLS				⇑*i*S	**Sn**	**13 25 59.9**	**-0.7**
	baz=20						
DRK	**Karamyk**	**1.66**	**234**	⇑*i*P	**Pb**	**13 25 43.5**	**-0.3**
	baz=37						
DRK				⇑*i*S	**Sg**	**13 26 06.1**	**+0.3**
	baz=37						
AML	**Almayashu**	**1.66**	**4**	P	**Pb**	**13 25 43.4**	**-0.5**
	SNR=82						
ARK	**Arkit**	**1.77**	**319**	⇑*i*P	**Pg**	**13 25 45.5**	**-1.0**
	baz=17						
ARK				⇑*i*S	**Sg**	**13 26 09.6**	**+0.2**
	baz=17						
UCH	**Uchtor**	**1.90**	**23**	P	**Pn**	**13 25 46.8**	**+0.6**
	SNR=104						
UCH	**Uchtor**	**1.90**	**23**	⇑*i*P	**Pn**	**13 25 46.3**	**+0.1**
	baz=20						
UCH				⇑*i*S	**Sn**	**13 26 10.7**	**0.0**
	baz=20						
TRKS	**Terek-Say**	**2.09**	**301**	⇓*i*P	**Pb**	**13 25 49.1**	**-1.9**
	baz=99						
TRKS				⇓*i*S	**Sb**	**13 26 16.0**	**-1.3**
	baz=99						
BTK	**Batken**	**2.11**	**259**	⇑*i*P	**Pb**	**13 25 50.2**	**-1.2**
	baz=61						
BTK				⇑*i*S	**Sb**	**13 26 17.8**	**-0.1**
	baz=61						
EKS2	**Erkin-Say**	**2.19**	**5**	P	**Pb**	**13 25 52.1**	**-0.7**
	SNR=22						
EKS2	**Erkin-Say**	**2.19**	**5**	⇓*i*P	**Pn**	**13 25 50.2**	**+0.4**
	baz=2.0						
EKS2				⇓*i*S	**Sb**	**13 26 18.2**	**-2.1**
	baz=2.0						
MRKS	**Merke**	**2.28**	**355**	*e*P	**Pg**	**13 26 00.0**	**+3.8**
	22nm,0.3s						
MRKS				*e*S	**Sg**	**13 26 28.1**	**+2.3**
	66nm,0.3s						
MRKS	**Merke**	**2.28**	**355**	Pg	**Pg**	**13 25 57.0**	**+0.8**
	50nm,0.4s						
MRKS				Lg	Lg	13 26 28.1	
	66nm,0.3s						
AAK	**Ala-Archa**	**2.28**	**18**	P	**Pb**	**13 25 52.9**	**-1.4**
	SNR=50						
AAK	**Ala-Archa**	**2.28**	**18**	⇓*i*P	**Pn**	**13 25 51.3**	**+0.2**
	baz=16						
AAK				⇓*i*S	**Sn**	**13 26 19.7**	**+0.1**
	baz=16						
AAK	**Ala-Archa**	**2.28**	**18**	Pg	**Pb**	**13 25 52.8**	**-1.6**
	27nm,0.7s						
AAK				⇑Lg	Lg	13 26 23.1	
	146nm,1.0s						
KBK	**Karagaybulak**	**2.43**	**26**	P	**Pb**	**13 25 56.4**	**-0.5**
	SNR=51						
KBK	**Karagaybulak**	**2.43**	**26**	⇑*i*P	**Pn**	**13 25 53.3**	**+0.2**
	baz=23						
KBK				⇑*i*S	**Sn**	**13 26 22.8**	**-0.5**
	baz=23						
FRU1	**Bishkek**	**2.48**	**19**	⇑*i*P	**Pn**	**13 25 54.4**	**+0.7**
	baz=16						
FRU1				⇑*i*S	**Sn**	**13 26 24.5**	**+0.2**
	baz=16						
CHMS	**Chumysh**	**2.68**	**20**	⇓*i*P	**Pn**	**13 25 56.8**	**+0.3**
	baz=17						
CHMS				⇓*i*S	**Sn**	**13 26 29.3**	**-0.1**
	baz=17						
ULHL	**Ulahol**	**2.71**	**48**	P	**Pn**	**13 25 58.8**	**+1.8**
	SNR=8.1						
ULHL	**Ulahol**	**2.71**	**48**	⇓*i*P	**Pn**	**13 25 56.6**	**-0.4**
	baz=46						
ULHL				⇓*i*S	**Sn**	**13 26 28.5**	**-1.7**
	baz=46						
BOOM	**Boomskoye usch**	**2.71**	**41**	⇑*i*P	**Pn**	**13 25 56.6**	**-0.4**
	baz=39						
BOOM				⇑*i*S	**Sn**	**13 26 29.1**	**-1.2**
	baz=39						
GAR	**Garm**	**2.88**	**240**	⇑*i*P	**Pn**	**13 26 00.7**	**+1.5**
	baz=42						
GAR				⇑*i*S	**Sn**	**13 26 35.6**	**+1.3**
	baz=42						
USP	**Ospenovka**	**2.88**	**14**	P	**Pn**	**13 26 01.2**	**+2.0**
	SNR=17						
USP	**Ospenovka**	**2.88**	**14**	⇓*i*P	**Pn**	**13 25 59.8**	**+0.6**
	baz=12						
USP				⇓*i*S	**Sn**	**13 26 34.3**	**0.0**
	baz=12						
TKM2	**Tokmak 2**	**2.90**	**32**	P	**Pn**	**13 26 00.8**	**+1.2**
	SNR=8.4						
TKM2	**Tokmak 2**	**2.90**	**32**	⇓*i*P	**Pn**	**13 25 59.6**	**0.0**
	baz=30						
TKM2				⇓*i*S	**Sn**	**13 26 34.0**	**-0.9**
	baz=30						
TKM2	**Tokmak 2**	**2.90**	**32**	⇑Pg	**Pn**	**13 26 02.0**	**+2.5**
	11nm,0.9s						
TKM2				⇓Lg	Lg	13 26 39.9	
	27nm,0.6s						
DZA	**Taraz**	**2.92**	**327**	*e*P	Pg	13 26 13.4	+4.9
	52nm,0.3s						
DZA				*e*S	**Sg**	**13 26 50.9**	**+4.6**
	120nm,0.3s						
SGDS	**Sogindy**	**3.09**	**15**	*e*P	**Pg**	**13 26 11.2**	**-0.6**
	6.8nm,0.3s						
SGDS				*e*S	**Sb**	**13 26 47.2**	**+1.2**
	23nm,0.8s						
SGDS	**Sogindy**	**3.09**	**15**	Pg	**Pb**	**13 26 08.2**	**+0.1**
	7.3nm,0.6s						
SGDS				Lg	Lg	13 26 47.2	
	23nm,0.8s						
KDJ	**Kajisay**	**3.21**	**58**	⇑*i*P	**Pn**	**13 26 02.9**	**-1.0**
	baz=57						
KDJ				⇑*i*S	**Sn**	**13 26 40.2**	**-2.5**
	baz=57						
DGS	**Degeres**	**3.23**	**31**	*e*P	**Pg**	**13 26 14.8**	**+0.2**
	9.4nm,0.5s						
DGS				*e*S	**Sg**	**13 26 53.5**	**-3.0**
	34nm,0.7s						
DGS	**Degeres**	**3.23**	**31**	Pg	**Pb**	**13 26 11.9**	**+1.3**
DGS				Lg	Lg	13 26 53.5	
	34nm,0.7s						
MTBS	**Maitube**	**3.43**	**38**	Pg	**Pb**	**13 26 14.7**	**+0.8**
	8.7nm,0.5s						
MTBS				Lg	Lg	13 26 58.3	
	17nm,0.5s						
KK09	**Karatay Array**	**3.48**	**320**	⇑Pg	**Pg**	**13 26 17.1**	**-2.1**
	6.3nm,0.7s,baz=130,slow=15						
KK09				⇑Lg	Lg	13 27 05.8	
	8.9nm,0.4s,baz=133,slow=28						
KRBS	**Karabastau**	**3.59**	**26**	Pg	**Pb**	**13 26 18.5**	**+1.8**
	6.3nm,0.5s						
KRBS				Lg	Lg	13 27 04.9	
	21nm,0.6s						
TNSS	**Tian-Shan**	**3.62**	**44**	*e*P	**Pb**	**13 26 19.6**	**+2.2**
	6.6nm,0.4s						
TNSS				*e*S	**Sb**	**13 27 02.0**	**+0.3**
	14nm,0.6s						
TNSS	**Tian-Shan**	**3.62**	**44**	Pg	**Pb**	**13 26 16.3**	**-1.0**
	8.6nm,0.4s						
TNSS				Lg	Lg	13 27 01.3	
	14nm,0.6s						
MDOK	**Medeo**	**3.76**	**43**	⇓Pg	**Pb**	**13 26 18.2**	**-1.5**
	4.9nm,0.4s						
MDOK				Lg	Lg	13 27 07.9	
	29nm,0.8s						
MDOK	**Medeo**	**3.76**	**43**	Pg	**Pb**	**13 26 19.8**	**+0.1**
	6.7nm,0.7s						
MDOK				Lg	Lg	13 27 07.0	
	24nm,1.2s						
CHGR	**Chuyangaron**	**3.83**	**243**	⇑*e*P	**Pn**	**13 26 13.5**	**+1.2**
	baz=44						
CHGR				⇑*i*S	**Sn**	**13 26 58.4**	**+0.6**
	baz=44						
KOTS	**Kotyrbulak**	**3.84**	**43**	*e*P	**Pg**	**13 26 25.3**	**-1.0**
	8.3nm,0.4s						
KOTS				*e*S	**Sb**	**13 27 11.4**	**+3.5**
	59nm,0.7s						
KOTS	**Kotyrbulak**	**3.84**	**43**	Pg	**Pb**	**13 26 22.0**	**+1.0**
	7.9nm,0.6s						
KOTS				Lg	Lg	13 27 10.8	
	59nm,0.8s						
ANVS	**Anan'yevo**	**3.87**	**52**	⇑*i*P	**Pn**	**13 26 12.4**	**-0.5**
	baz=51						
ANVS				⇑*i*S	**Sn**	**13 26 56.2**	**-2.7**
	baz=51						
KTBS	**Karatobe**	**4.00**	**35**	*e*P	**Pg**	**13 26 28.5**	**-0.7**
	5.0nm,0.5s						
KTBS				*e*S	**Sb**	**13 27 16.4**	**+4.2**
	28nm,0.8s						
KTBS	**Karatobe**	**4.00**	**35**	Pg	**Pb**	**13 26 25.4**	**+1.9**
	3.9nm,0.6s						
KTBS				Lg	Lg	13 27 16.8	
	27nm,0.6s						
KUU	**Kurty**	**4.00**	**31**	*e*P	**Pg**	**13 26 28.5**	**-0.8**
	4.3nm,0.5s						
KUU				*e*S	**Sg**	**13 27 16.7**	**-4.5**
	14nm,0.6s						
KUU	**Kurty**	**4.00**	**31**	Pg	**Pb**	**13 26 25.1**	**+1.4**
	3.4nm,0.3s						
KUU				Lg	Lg	13 27 16.2	
	18nm,0.8s						
CHKK	**Chushkaly**	**4.25**	**36**	Pg	**Pb**	**13 26 29.7**	**+1.9**
	1.3nm,0.1s						
CHKK				Lg	Lg	13 27 23.9	
	15nm,0.4s						
SATY	**Saty**	**4.47**	**53**	Pg	**Pb**	**13 26 32.1**	**+0.4**
	2.5nm,0.4s						
SATY				Lg	Lg	13 27 28.1	
	19nm,0.8s						
BTLS	**Baital**	**4.58**	**5**	*e*P	**Pg**	**13 26 40.9**	**+0.6**
	3.0nm,1.2s						
BTLS				*e*S	**Sg**	**13 27 38.5**	**-1.1**
	6.7nm,0.8s						
BTLS	**Baital**	**4.58**	**5**	Pg	**Pg**	**13 26 38.1**	**-2.2**
	4.1nm,0.5s						
BTLS				Lg	Lg	13 27 38.5	
	6.7nm,0.8s						
UZB	**Uzynbulak**	**4.90**	**55**	Pg	**Pb**	**13 26 39.9**	**+0.9**
	4.9nm,0.4s						
UZB				Lg	Lg	13 27 41.5	
	14nm,0.4s						
ARXS	**Arharly**	**4.91**	**39**	Pg	**Pb**	**13 26 40.7**	**+1.6**
	3.6nm,0.6s						
ARXS				Lg	Lg	13 27 42.8	
	16nm,0.8s						
BLB	**Baldybastay**	**5.16**	**44**	Pg	**Pb**	**13 26 44.9**	**+1.5**
	5.3nm,0.4s						
BLB				Lg	Lg	13 27 50.2	
	20nm,0.6s						
PDGK	**Podgornoye**	**5.29**	**55**	Pg	**Pb**	**13 26 46.0**	**+0.4**
	0.7nm,0.6s						
PDGK				Lg	Lg	13 27 52.2	
	4.4nm,0.7s						
PDGK	**Podgornoye**	**5.29**	**55**	⇓Pg	**Pb**	**13 26 47.4**	**+1.8**
	2.9nm,0.7s						
PDGK				⇑Lg	Lg	13 27 54.3	
	6.8nm,0.7s						

IDC 12 13:35:12.8±11.0, 10°69N×93°31E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.5/3, MS4.3/1, Ms1 4.3/1, ms1mx3.1/67, Error ellipse: s-maj=643.7km s-min=30.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.59**	**230**	T	T	14 08 21.8	
	baz=50,slow=74,SNR=3.1						
H08S2	**Diego Garcia H**	**27.59**	**230**	T	T	14 08 21.8	
	baz=50,slow=74,SNR=3.4						
H08S1	**Diego Garcia H**	**27.60**	**230**	T	T	14 08 21.2	
	baz=50						
MKAR	**Makanchi Array**	**37.18**	**347**	P	P	13 42 25.5	-0.1
	1.0nm,0.8s,baz=168,slow=8.5,SNR=4.1						
SIJI	**Sorong**	**39.46**	**105**	LR	LR	14 03 34.2	
	comp=Z,384nm,18.6s,baz=356,slow=43						
WRA	**Warramunga Arr**	**50.58**	**127**	P	P	13 44 13.9	+0.2
	0.8nm,1.1s,baz=305,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**52.36**	**131**	P	P	13 44 26.6	-0.4
	0.2nm,0.5s,baz=308,slow=7.0,SNR=4.7						

MOS ***12*** *13:52:05.8±1.1, 36.5°N×70.2°E, h218km, mb3.7/8, Error ellipse: s-maj=11.6km s-min=5.0km az=76.7*
IDC ***12*** *13:52:05.6±0.8, 36.3°N×70.2°E, h218km±7km, mb3.4/16, mb1 3.5/22, mb1mx3.3/54, mbtmp4.1/22, Error ellipse: s-maj=12.8km s-min=10.7km az=162.0*
BJI ***12*** *13:52:05.6±0.0, 36.5°N×70.3°E, h211km, mb4.3/12, mB4.8/3*
NEIC ***12*** *13:52:05.6±1.6, 36.8°N±0.07°×70.17°E±0.08, h222km±8km, mb4.1/6, Error ellipse: s-maj=11.2km s-min=9.3km az=154.0*
SOME ***12*** *13:52:06.9, 37.75°N×71.50°E, h0km, MS4.0*
NNC ***12*** *13:52:08.3±2.5, 37.21°N×70.66°E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=20.3km s-min=14.6km az=1.0*
ISC 12 13:52:04.9±0.4, 36°46N±0.04×70°41E±0.04, h204km, n137, σ2s70/168, mb3.6/18, 13C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.21**	**211**	PN	**Pn**	**13 52 47.7**	**+1.5**
KBL	**Kabul**	**2.21**	**211**	Pn	**Pn**	**13 52 47.7**	**+1.5**
CHGR	**Chuyangaron**	**2.41**	**336**	Pn	**Pn**	**13 52 49.0**	**+0.9**
GAR	**Garm**	**2.54**	**358**		**Pn**	**13 52 51.3**	**+1.8**
CEP	**Cherat**	**2.90**	**155**	P	**Pn**	**13 52 57.0**	**+3.3**
CEP				S	**S**	**13 53 35.0**	**+3.7**
DRK	**Karamyk**	**3.21**	**20**		**Pn**	**13 53 00.1**	**+2.7**
BTK	**Batken**	**3.61**	**5**	PN	**Pn**	**13 53 04.6**	**+2.6**
BTK	**Batken**	**3.61**	**5**	Pn	**Pn**	**13 53 04.6**	**+2.6**
CHCP	**Chirah Chowk**	**3.64**	**139**	P	**Pn**	**13 53 05.9**	**+3.4**
NIL	**Nilore**	**3.64**	**139**	PN	**Pn**	**13 53 06.2**	**+3.8**
NIL	**Nilore**	**3.64**	**139**	Pn	**Pn**	**13 53 06.2**	**+3.8**
THW	**Thamme Wali**	**3.81**	**163**	P	**Pn**	**13 53 07.1**	**+2.5**
SARP	**Sargodha**	**4.89**	**157**	P	**Pn**	**13 53 19.9**	**+1.8**
KSH	**Kashi**	**5.35**	**54**	P	**Pn**	**13 53 21.5**	**-2.4**
KSH				S	**S**	**13 54 19.7**	**-6.3**
IUG	**Iuzhnay**	**5.69**	**357**	*e*PN	**Pn**	**13 53 29.5**	**+1.3**
IUG	**Iuzhnay**	**5.69**	**357**	*e*P	**Pn**	**13 53 31.1**	**+2.9**
	1μm,0.6s						
IUG				*e*S	**S**	**13 54 31.8**	**-2.1**
	631nm,1.1s						
CHM	**Chimkent**	**5.89**	**354**	*e*P	**Pn**	**13 53 33.9**	**+3.2**
	131nm,0.1s						
CHM				*e*S	**S**	**13 54 36.5**	**-1.9**
	931nm,0.5s						
AML	**Almayashu**	**6.21**	**23**	P	**Pn**	**13 53 36.6**	**+1.4**
	SNR=321						
DHRM	**DHARAMSHALA**	**6.43**	**129**	*e*P	**Pn**	**13 53 40.4**	**+2.5**
DHRM				*e*S	**S**	**13 54 52.9**	**+1.5**
DZA	**Taraz**	**6.47**	**6**	*e*P	**Pn**	**13 53 41.7**	**+3.6**
	80nm,0.1s						
DZA				*e*S	**S**	**13 54 50.2**	**-1.8**
	862nm,1.0s						
UCH	**Uchtor**	**6.58**	**28**	P	**Pn**	**13 53 41.6**	**+1.6**
	SNR=89						
KKAR	**Karatay Array**	**6.64**	**1**	PN	**Pn**	**13 53 40.6**	**+0.2**
KKAR	**Karatay Array**	**6.64**	**1**	Pn	**Pn**	**13 53 40.6**	**+0.2**
MRKS	**Merke**	**6.65**	**18**	*e*P	Pn	13 53 46.5	+5.9
	36nm,0.2s						
MRKS				*e*S	**S**	**13 54 58.2**	**+2.0**
	162nm,0.6s						
KK09	**Karatay Array**	**6.66**	**1**	⇓Pn	**Pn**	**13 53 37.7**	**-2.9**
	12nm,0.3s,baz=178,slow=12						
KK09				⇑Sn	S	13 54 45.8	-11
	32nm,0.5s						
KK09				⇑Lg	Lg	13 55 15.5	
	37nm,0.6s,baz=175,slow=29						
EKS2	**Erkin-Say**	**6.72**	**22**	P	**Pn**	**13 53 43.2**	**+1.7**
	SNR=110						
AAK	**Ala-Archa**	**6.93**	**26**	P	**Pn**	**13 53 45.9**	**+1.6**
	8.3nm,0.3s,baz=186,slow=7.2,SNR=75						
AAK				S	**S**	**13 55 02.1**	**-1.0**
	6.7nm,0.3s,baz=158,slow=19,SNR=14						
AAK	**Ala-Archa**	**6.93**	**26**	*de*PN	**Pn**	**13 53 45.8**	**+1.5**
AAK	**Ala-Archa**	**6.93**	**26**	Pn	**Pn**	**13 53 45.8**	**+1.5**
HRA	**Herat**	**6.98**	**255**		**Pn**	**13 53 43.9**	**-1.1**
KBK	**Karagaybulak**	**7.11**	**28**	P	**Pn**	**13 53 49.0**	**+2.4**
	SNR=25						
ULHL	**Ulahol**	**7.33**	**36**	P	**Pn**	**13 53 52.2**	**+2.6**
	SNR=22						
CHMS	**Chumysh**	**7.34**	**26**	P	**Pn**	**13 53 51.9**	**+2.5**
	SNR=9.5						
BOOM	**Boomskoye usch**	**7.39**	**34**	PN	**Pn**	**13 53 52.0**	**+1.8**
BOOM	**Boomskoye usch**	**7.39**	**34**	Pn	**Pn**	**13 53 52.0**	**+1.8**
USP	**Ospenovka**	**7.49**	**24**	P	**Pn**	**13 53 53.2**	**+1.8**
	SNR=26						
TKM2	**Tokmak 2**	**7.59**	**30**	P	**Pn**	**13 53 54.5**	**+1.6**
	SNR=36						
TKM2	**Tokmak 2**	**7.59**	**30**	*i* PN	**Pn**	**13 53 54.3**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,42nm,0.8s						
TKM2	**Tokmak 2**	**7.59**	**30**	⇓Pn	**Pn**	**13 53 51.1**	**-1.8**
	comp=Z,42nm,0.8s						
TKM2				⇑Sn	**S**	**13 55 11.5**	**-7.3**
	comp=Z,29nm,0.7s						
SGDS	**Sogindy**	**7.70**	**24**	*e*PN	**Pn**	**13 53 54.8**	**+0.6**
SGDS	**Sogindy**	**7.70**	**24**	*e*P	Pn	13 53 59.9	+5.8
	comp=Z,6.2nm,0.3s						
SGDS				*e*S	**S**	**13 55 21.0**	**-0.2**
	comp=Z,17nm,0.6s						
KDJ	**Kajisay**	**7.72**	**41**	PN	**Pn**	**13 53 56.3**	**+1.7**
KDJ	**Kajisay**	**7.72**	**41**	Pn	**Pn**	**13 53 56.3**	**+1.7**
SMLA	**Simla**	**7.73**	**131**	*e*P	**Pn**	**13 53 56.3**	**+1.7**
SMLA				*e*S	**S**	**13 55 21.1**	**-0.9**
SMLA				IAML		13 55 24.2	
	comp=E,456nm,0.5s						
TARG	**Taragay, Kyrgy**	**7.79**	**45**		**Pn**	**13 53 56.0**	**+0.2**
MDOK	**Medeo**	**8.42**	**35**	Pn	**Pn**	**13 54 00.7**	**-2.9**
	comp=E,14nm,0.7s						
MDOK				⇓Sn	**S**	**13 55 31.3**	**-7.2**
	comp=E,17nm,0.8s						
MDOK				Lg	Lg	13 56 14.0	
	comp=E,54nm,1.2s						
DDI	**Dehra Dun**	**8.84**	**132**	*e*P	**Pn**	**13 54 11.8**	**+2.7**
DDI				*e*S	**S**	**13 55 47.6**	**-1.0**
DDI				IAML		13 55 50.3	
	comp=N,333nm,0.3s						
DDI				IAML		13 55 50.8	
	comp=E,124nm,0.6s						
BTLS	**Baital**	**9.01**	**17**	*e*PN	**Pn**	**13 54 12.3**	**+1.3**
ARXS	**Arharly**	**9.59**	**34**	*e*P	**Pn**	**13 54 19.9**	**+1.2**
PDGK	**Podgornoye**	**9.78**	**43**	*i* P	**Pn**	**13 54 23.3**	**+2.1**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PDGK	**Podgornoye**	**9.78**	**43**	⇓Pn	**Pn**	**13 54 23.0**	**+1.7**
	comp=Z,8.9nm,0.8s						
PDGK				⇑Sn	**S**	**13 56 04.0**	**-6.9**
	comp=Z,32nm,1.1s						
GEYT	**Alibeck**	**9.92**	**282**	P	**Pn**	**13 54 20.8**	**-2.2**
	comp=Z,1.6nm,0.3s,baz=127,slow=9.6,SNR=14						
GEYT	**Alibeck**	**9.92**	**282**	Pn	**Pn**	**13 54 19.1**	**-3.8**
GYA0B	**ALIBECK ARRAY**	**9.92**	**282**		**Pn**	**13 54 18.9**	**-4.1**
OTUK	**Ortayu**	**11.87**	**6**	P	**Pn**	**13 54 45.9**	**-1.9**
OTUK	**Ortayu**	**11.87**	**6**	⇓Pn	**Pn**	**13 54 47.5**	**-0.3**
	comp=Z,13nm,1.0s						
OTUK				⇓Sn	**S**	**13 56 55.4**	**-4.2**
	comp=Z,19nm,0.9s						
MAKZ	**Makanchi**	**13.47**	**36**	P	**Pn**	**13 55 07.8**	**-0.1**
MAKZ	**Makanchi**	**13.47**	**36**	Pn	**Pn**	**13 55 07.8**	**-0.1**
PYUN	**Piuthan**	**13.50**	**125**	*e*Pn	**Pn**	**13 55 09.2**	**+0.5**
PYUN				*e*Sn	**S**	**13 57 33.6**	**-5.4**
	comp=Z,66nm,0.5s						
MK31	**Makanchi Array**	**13.61**	**37**	*ce*P	**P**	**13 55 10.6**	**-1.3**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**13.61**	**37**	P	**P**	**13 55 10.7**	**-1.2**
MK31	**Makanchi Array**	**13.61**	**37**	⇓Pn	**P**	**13 55 10.6**	**-1.3**
	comp=Z,5.3nm,0.8s,baz=217,slow=13,SNR=41						
MKAR	**Makanchi Array**	**13.61**	**37**	P	**P**	**13 55 10.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=219,slow=11,SNR=24						
MKAR	**Makanchi Array**	**13.61**	**37**	Pn	**Pn**	**13 55 09.9**	**+0.3**
BRZS	**Berezniki**	**13.62**	**6**	*e*P	**P**	**13 55 13.6**	**+1.6**
DANN	**Dangsing**	**13.86**	**122**	*e*Pn	**Pn**	**13 55 13.8**	**+0.5**
DANN				*e*Sn	**S**	**13 57 41.6**	**-5.9**
	comp=Z,61nm,0.5s						
KOLN	**Koldanda**	**14.13**	**124**	*e*Pn	**Pn**	**13 55 17.5**	**+1.1**
KOLN				*e*Sn	**S**	**13 57 48.7**	**-4.8**
	comp=Z,67nm,0.7s						
BHPL	**Bhopal**	**14.50**	**153**	*e*P	**P**	**13 55 22.6**	**+0.6**
BHPL				IAmb	IAmb	13 55 24.1	
	comp=Z,10nm,0.4s						
BHPL				*e*S	**S**	**13 57 58.9**	**-3.0**
BHPL				IAML		13 58 04.2	
	comp=N,20nm,0.7s						
BHPL				IAML		13 58 05.4	
	comp=E,20nm,0.5s						
GKN	**Gorkha**	**14.68**	**121**	*e*Pn	**Pn**	**13 55 24.3**	**+1.1**
GKN				*e*Sn	**S**	**13 58 00.3**	**-5.9**
	comp=E,40nm,0.4s						
AB31	**Akbulak array**	**14.90**	**332**	P	**Pn**	**13 55 23.8**	**-1.7**
AB31	**Akbulak array**	**14.90**	**332**	Pn	P	13 55 30.8	+4.7
	comp=E,5.1nm,0.5s,baz=147,slow=12,SNR=264						
AB31				⇑Sn	**S**	**13 58 12.6**	**+2.1**
	comp=E,5.5nm,0.8s						
ABKAR	**Akbulak array**	**14.90**	**332**		**Pn**	**13 55 23.8**	**-1.6**
ABKAR	**Akbulak array**	**14.90**	**332**	P	**Pn**	**13 55 24.1**	**-1.4**
WMQ	**Urumqi**	**15.11**	**56**	*e*P	**P**	**13 55 31.0**	**+2.3**
WMQ				sP	sP	13 56 29.0	-0.5
WMQ				pmax	pmax		
	comp=E,16nm,1.1s						
DMN	**Daman**	**15.25**	**121**	*e*Pn	**P**	**13 55 31.6**	**+1.0**
DMN				*e*Sn	**S**	**13 58 13.9**	**-5.7**
	comp=E,114nm,0.9s						
KKN	**Kakani**	**15.26**	**120**	*e*Pn	**P**	**13 55 31.6**	**+1.0**
KKN				*e*Sn	**S**	**13 58 13.9**	**-5.8**
	comp=E,50nm,0.6s						
KURBB	**Kurchatov Arra**	**15.32**	**20**	P	**P**	**13 55 30.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=210,slow=11,SNR=22						
KURBB	**Kurchatov Arra**	**15.32**	**20**	P	**Pn**	**13 55 26.8**	**-3.8**
KURBB	**Kurchatov Arra**	**15.32**	**20**	⇑Pn	**P**	**13 55 36.3**	**+5.5**
	comp=E,6.6nm,0.8s						
KURK	**Kurchatov**	**15.43**	**20**	⇑*e*P	**P**	**13 55 31.5**	**-0.5**
KURK				pmax	pmax		

	comp=Z,38nm,0.6s									
BOK	**Bokaro**		**18.36**	**129**	*e*P		**Pn**	**13 56 07.6**	**+0.6**	
BOK					IAmb		IAmb	13 56 08.8		
	comp=Z,5.9nm,0.6s									
GOMU	**GeErMu**		**19.66**	**83**	P		**Pn**	**13 56 21.4**	**-1.2**	
GOMU					pP		P	13 56 24.4	+5.8	
GOMU					pmax	pmax				
	comp=Z,1.0nm,0.4s									
GOMU					pmax	pmax				
	comp=Z,73nm,6.3s									
ZAA0	**Zalesovo Array**		**20.15**	**25**	P		**P**	**13 56 23.1**	**-0.2**	
ZAA0					IAmb		IAmb	13 56 41.9		
	comp=Z,3.8nm,0.6s									
ZALV	**Zalesovo Beam**		**20.15**	**25**	P		**P**	**13 56 24.4**	**+1.1**	
	comp=Z,3.4nm,0.4s,baz=216,slow=11,SNR=16									
ZALV	**Zalesovo Beam**		**20.15**	**25**	P		**P**	**13 56 23.9**	**+0.6**	
GNI	**Garni**		**20.46**	**288**	P		**P**	**13 56 24.9**	**-2.0**	
	comp=Z,5.3nm,0.5s,baz=136,slow=2.6,SNR=8.0									
GNI	**Garni**		**20.46**	**288**	*e*P		Pn	13 56 28.6	-3.6	
ARU	**Arti**		**21.52**	**342**	P		**P**	**13 56 38.6**	**+0.9**	
	comp=Z,1.0nm,0.4s,baz=121,slow=3.3,SNR=3.2									
ARU	**Arti**		**21.52**	**342**	*c i*P		**P**	**13 56 38.5**	**+0.8**	
ARU								13 57 18.6		
ARU					S		**S**	**14 00 24.7**	**+2.2**	
ARU					pmax	pmax				
	comp=Z,3.0nm,0.7s									
KIV	**Kislovodsk**		**22.39**	**298**	*e*P		**P**	**13 56 45.6**	**-0.7**	
KIV					pmax	pmax				
	comp=Z,5.0nm,1.0s									
GTA	**Gaotai**		**23.33**	**74**	⇑P		**P**	**13 56 59.3**	**+4.4**	
GTA					pP		PP	13 57 44.2	-8.1	
GTA					pmax	pmax				
	comp=Z,4.0nm,1.1s									
KNGR	**Kungurtug, Tuv**		**24.04**	**45**	‖*e*P		**P**	**13 57 04.4**	**+3.2**	
SONM	**Songino Array**		**28.75**	**55**	P		**P**	**13 57 45.8**	**+2.4**	
	comp=Z,0.7nm,0.5s,baz=268,slow=9.9,SNR=7.1									
SONM					pP		**pP**	**13 58 29.9**	**+3.9**	
	comp=Z,0.5nm,0.7s,baz=264,slow=7.8,SNR=2.8									
BRTR	**Keskin Array B**		**29.00**	**288**	P		**P**	**13 57 45.3**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=119,slow=5.1,SNR=4.0									
BRTR	**Keskin Array B**		**29.00**	**288**	*e*P		**P**	**13 57 46.5**	**+0.8**	
BRTR					pmax	pmax				
	comp=Z,1.0nm,0.6s									
ULN	**Ulaanbaatar**		**29.19**	**55**	‖*e*P		**P**	**13 57 46.2**	**-1.1**	
CMAR	**Chiang Mai Arr**		**30.85**	**118**	P		**P**	**13 58 03.6**	**+1.5**	
	comp=Z,1.0nm,0.6s,baz=297,slow=8.1,SNR=6.1									
CMAR	**Chiang Mai Arr**		**30.85**	**118**	*e*P		**P**	**13 58 04.2**	**+2.1**	
CMAR					pmax	pmax				
	comp=Z,1.0nm,0.3s									
FINES	**FINESS Array B**		**37.26**	**326**	P		**P**	**13 58 56.5**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=116,slow=9.9,SNR=6.1									
FINES	**FINESS Array B**		**37.26**	**326**	*i* P		**P**	**13 58 59.7**	**+3.1**	
FINES					pmax	pmax				
	comp=Z,1.0nm,0.8s									
HIA	**Hailar**		**37.70**	**54**	⇑*e*P		**P**	**13 59 00.9**	**+0.3**	
HIA					pmax	pmax				
	comp=Z,3.0nm,0.8s									
ARCES	**ARCESS Array B**		**41.01**	**338**	P		**P**	**13 59 27.3**	**-0.2**	
	comp=Z,1.6nm,0.9s,baz=98,slow=8.7,SNR=6.6									
ARCES	**ARCESS Array B**		**41.01**	**338**	*e*P		**P**	**13 59 28.9**	**+1.4**	
ARCES					pmax	pmax				
	comp=Z,2.0nm,0.9s									
NB2	**NORSAR Subarra**		**44.13**	**323**	P		**P**	**13 59 52.0**	**-0.8**	
	comp=Z,0.8nm,0.5s,baz=99,slow=7.9									
NOA	**NORSAR Array B**		**44.13**	**323**	P		**P**	**13 59 51.9**	**-0.8**	
	comp=Z,1.4nm,0.8s,baz=96,slow=7.9,SNR=6.2									
NOA	**NORSAR Array B**		**44.13**	**323**	*e*P		**P**	**13 59 52.0**	**-0.8**	
NOA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
TIXI	**Tiksi**		**45.99**	**22**	⇑*e*P		**P**	**14 00 09.2**	**+2.0**	
TIXI					*i* *PP		**pP**	**14 00 55.0**	**+2.6**	
TIXI					pmax	pmax				
	comp=Z,1.0nm,1.0s									
KMBO	**Kilima Mbogo**		**48.45**	**227**	P		**P**	**14 00 25.9**	**-1.3**	
	comp=Z,2.8nm,0.6s,baz=36,slow=12,SNR=8.9									
KMBO	**Kilima Mbogo**		**48.45**	**227**	*i* P		**P**	**14 00 28.3**	**+1.1**	
KMBO					pmax	pmax				
	comp=Z,3.0nm,0.5s									
TORD	**Torodi Ar. Bea**		**65.24**	**268**	P		**P**	**14 02 21.7**	**-3.2**	
	comp=Z,2.7nm,1.1s,baz=46,slow=5.7,SNR=6.0									
TORD					pP		**pP**	**14 03 13.7**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=35,slow=6.4,SNR=2.1									
C36M	**Paulatuk**		**73.97**	**5**	P		**P**	**14 03 16.1**	**-1.1**	
C36M					IAmb		IAmb	14 03 17.8		
	comp=Z,3.3nm,0.8s									
INK	**Inuvik**		**74.02**	**9**	P		**P**	**14 03 17.6**	**0.0**	
	comp=Z,1.6nm,0.5s,baz=333,slow=5.7,SNR=12									
INK	**Inuvik**		**74.02**	**9**	P		**P**	**14 03 18.1**	**+0.5**	
INK					pmax	pmax				
	comp=Z,1.0nm,0.8s									
INK	**Inuvik**		**74.02**	**9**	P		**P**	**14 03 18.1**	**+0.5**	
ILAR	**Eielson Array**		**74.95**	**16**	P		**P**	**14 03 22.6**	**-0.5**	
	comp=Z,0.6nm,0.9s,baz=332,slow=5.6,SNR=5.3									
YKA	**Yellowknife Ar**		**81.31**	**2**	P		**P**	**14 03 57.8**	**-0.1**	
	comp=Z,1.8nm,0.9s,baz=347,slow=5.1,SNR=18									
YKA					pP		**pP**	**14 04 49.6**	**+1.8**	
	comp=Z,1.3nm,0.6s,baz=350,slow=5.4,SNR=12									
YKA	**Yellowknife Ar**		**81.31**	**2**	P		**P**	**14 03 57.5**	**-0.5**	
WRA	**Warramunga Arr**		**82.37**	**122**	P		**P**	**14 04 02.1**	**-2.1**	
	comp=Z,0.7nm,0.8s,baz=327,slow=4.8,SNR=6.2									
ASAR	**Alice Springs**		**84.62**	**124**	P		**P**	**14 04 13.9**	**-1.7**	
	comp=Z,0.5nm,0.8s,baz=309,slow=6.0,SNR=5.6									
PLCA	**Paso Flores**		**149.37**	**250**	PKPbc		**PKPbc**	**14 11 28.1**	**-1.3**	
	comp=Z,1.7nm,0.9s,baz=234,slow=8.0,SNR=3.3									

*IDC **12** 14:14:30.4±1.9, 36°.30N×22°.57E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/30, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=170.9km s-min=26.4km az=142.0*
*ATH **12** 14:14:35.1, 35°.42N×23°.61E, h16km±1km, ML3.3/11, Error ellipse: s-maj=2.3km s-min=1.0km az=50.0*
*THE **12** 14:14:35.4, 35°.38N×23°.57E, h10km±1km, ML3.5/6, Error ellipse: s-maj=1.8km s-min=0.6km az=56.0*

ISC 12 14:14:35.4±1.0, 35°.40N±0°.03×23°.59E±0°.04, h16km±7km, n36, σ1°57/53, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.21**	**41**	P	**Pg**	**14 14 40.3**	**-0.1**
RODP				S	**Sg**	**14 14 44.5**	**+0.6**
IMMV	**Iera Moni Meta**	**0.33**	**79**	P	**Pg**	**14 14 41.8**	**-0.5**
IMMV				S	**Sg**	**14 14 47.3**	**+0.2**
IMMV				AML	AML	14 14 48.0	
	comp=N,17474μm,0.3s						
IMMV				AML	AML	14 14 53.2	
	comp=E,13301μm,0.5s						
IMMV	**Iera Moni Meta**	**0.33**	**79**	P	**Pg**	**14 14 41.8**	**-0.5**
IMMV				S	**Sg**	**14 14 47.3**	**+0.2**
	comp=E,8μm,0.4s						
VAM	**Vamos**	**0.50**	**89**	P	**Pg**	**14 14 44.7**	**-0.7**
VAM				S	**Sg**	**14 14 51.2**	**-1.0**
VAM				AML	AML	14 14 54.5	
	comp=N,15093μm,0.2s						
VAM				AML	AML	14 14 54.7	
	comp=E,13179μm,0.2s						
VAM	**Vamos**	**0.50**	**89**	P	**Pg**	**14 14 44.7**	**-0.7**
VAM				S	**Sb**	**14 14 53.2**	**+0.3**
	comp=E,7μm,0.2s						
ANKY	**Antikythira Is**	**0.52**	**334**	P	**Pb**	**14 14 45.6**	**-0.6**
ANKY				S	**Sg**	**14 14 51.6**	**-1.2**
ANKY				AML	AML	14 14 55.1	
	comp=N,2722μm,0.3s						
ANKY				AML	AML	14 14 58.0	
	comp=E,2556μm,0.4s						
ANKY	**Antikythira Is**	**0.52**	**334**	P	**Pb**	**14 14 45.5**	**-0.7**
ANKY				S	**Sb**	**14 14 53.2**	**-0.3**
GVDS	**Gavdos**	**0.69**	**143**	P	**Pg**	**14 14 48.3**	**-0.6**
GVDS				S	**Sg**	**14 14 58.4**	**+0.3**
GVD	**Gavdhos**	**0.69**	**143**	P	**Pg**	**14 14 48.1**	**-0.9**
GVD				S	**Sb**	**14 14 59.4**	**+1.0**
GVD				AML	AML	14 15 00.8	
	comp=N,21938μm,0.3s						
GVD				AML	AML	14 15 01.0	
	comp=E,17870μm,0.2s						
GVD	**Gavdhos**	**0.69**	**143**	P	**Pg**	**14 14 48.1**	**-0.9**
GVD				S	**Sb**	**14 14 59.4**	**+1.0**
	comp=E,10μm,0.3s						
PRNS	**Prines Rethymn**	**0.75**	**92**	P	**Pg**	**14 14 48.0**	**-2.0**
PRNS				S	**Sg**	**14 14 58.8**	**-1.2**
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pb**	**14 14 53.4**	**-0.2**
KTHA				AML	AML	14 15 13.6	
	comp=E,2524μm,0.3s						
KTHA				AML	AML	14 15 16.0	
	comp=N,1500μm,0.8s						
KTHA	**Kythira Island**	**0.96**	**334**	P	**Pb**	**14 14 53.6**	**0.0**
KTHA				S	**Sn**	**14 15 07.2**	**-0.3**
	comp=N,1μm,0.6s						
KTHR	**Kythira**	**0.98**	**331**	P	**Pb**	**14 14 53.9**	**-0.1**
IDI	**Anoyia**	**1.07**	**95**	P	**Pg**	**14 14 54.8**	**-1.3**
IDI				S	**Sg**	**14 15 08.9**	**-1.3**
IDI				AML	AML	14 15 12.2	
	comp=N,2600μm,0.6s						
IDI				AML	AML	14 15 23.1	
	comp=E,1748μm,0.6s						
IDI	**Anoyia**	**1.07**	**95**	P	**Pg**	**14 14 54.8**	**-1.3**
IDI				S	**Sb**	**14 15 10.6**	**+1.2**
	comp=E,1μm,0.6s						
SIVA	**Sivas**	**1.07**	**110**	P	**Pg**	**14 14 54.5**	**-1.7**
SIVA				S	**Sb**	**14 15 10.8**	**+1.5**
SIVA				AML	AML	14 15 23.9	
	comp=E,8319μm,0.7s						
SIVA				AML	AML	14 15 34.1	
	comp=N,5186μm,0.6s						
IACM	**Heraklion**	**1.22**	**94**	P	**Pn**	**14 14 58.0**	**+0.3**
VLI	**Veliai**	**1.42**	**338**	P	**Pb**	**14 15 01.2**	**-0.3**
VLI				AML	AML	14 15 33.3	
	comp=N,898μm,1.0s						
VLI				AML	AML	14 15 51.4	
	comp=E,661μm,0.9s						
MHLO	**Agia Marina, M**	**1.45**	**27**	P	**Pn**	**14 15 01.5**	**+0.6**
MHLO				S	**Sg**	**14 15 21.4**	**-0.8**
MHLO				AML	AML	14 15 27.6	
	comp=E,4465μm,0.4s						
MHLO				AML	AML	14 15 28.8	
	comp=N,3304μm,0.5s						
MHLO	**Agia Marina, M**	**1.45**	**27**	P	**Pn**	**14 15 01.5**	**+0.6**
MHLO				S	**Sg**	**14 15 21.7**	**-0.5**
	comp=N,2μm,0.4s						
NPS	**Neapolis**	**1.66**	**94**	P	**Pb**	**14 15 05.7**	**+0.1**
NPS				AML	AML	14 15 38.6	
	comp=N,1438μm,0.7s						
NPS				AML	AML	14 15 39.4	
	comp=E,1236μm,0.4s						
THR6	**Thira Island,**	**1.75**	**56**	P	**Pb**	**14 15 07.2**	**0.0**
THR3	**Thira Island,**	**1.79**	**55**	P	**Pn**	**14 15 06.5**	**+0.9**
THR3	**Thira Island,**	**1.79**	**55**	P	**Pn**	**14 15 06.6**	**+1.1**
ZKR	**Zakros**	**2.17**	**97**	P	**Pb**	**14 15 13.5**	**-0.8**
ZKR				AML	AML	14 16 02.6	
	comp=E,803μm,0.8s						
ZKR				AML	AML	14 16 08.2	
	comp=N,386μm,1.0s						
APE	**Apeiranthos**	**2.29**	**43**	P	**Pn**	**14 15 13.2**	**+0.6**
VLY	**Voula,Athens**	**2.46**	**4**	P	**Pb**	**14 15 17.0**	**-2.1**
DION	**Dionisos Attik**	**2.69**	**6**	P	**Pn**	**14 15 18.9**	**+0.9**
KLV	**Kalavryta, Ach**	**2.88**	**337**	P	**Pn**	**14 15 23.3**	**+2.6**
KARP	**Karpathos**	**2.92**	**86**	P	**Pn**	**14 15 22.7**	**+1.5**
BRTR	**Keskin Array B**	**9.07**	**59**	Pn	**Pn**	**14 16 48.9**	**+3.1**
	comp=N,0.1nm,0.3s,baz=246,slow=12,SNR=8.5						
KHC	**Kasperske Hory**	**15.57**	**335**	*e*P	**P**	**14 18 25.5**	**+7.1**
TORD	**Torodi Ar. Bea**	**29.68**	**227**	P	**P**	**14 20 38.4**	**-2.2**
	comp=N,0.5nm,0.6s,baz=29,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**44.72**	**57**	P	**P**	**14 22 47.0**	**-0.7**
	comp=N,0.3nm,0.6s,baz=280,slow=6.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**45.77**	**46**	P	**P**	**14 22 52.8**	**-3.1**
	comp=N,0.3nm,0.3s,baz=282,slow=7.1,SNR=1.8						

*IDC **12** 14:15:28.0±0.8, 51°.47N×174°.01W, h0km, mb3.9/22, mb1 4.1/24, mb1mx4.0/37, mbtmp3.9/24, ML3.6/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/95, Error ellipse: s-maj=24.1km s-min=12.9km az=165.0*
*NEIC **12** 14:15:31.5±2.6, 51°.33N±0°.09×173°.92W±0°.09, h27km±8km, mb4.0/41, ML3.7(AEIC), Error ellipse: s-maj=13.3km s-min=7.7km az=171.0*
*AEIC **12** 14:15:31±2.8, 51°.36N±0°.07×173°.97W±0°.09, h22km±3km, Error ellipse: s-maj=9.8km s-min=7.8km az=157.0*

ISC 12 14:15:33.0±0.6, 51°.38N±0°.08×173°.96W±0°.04, h35km, n108, σ1°21/106, mb3.9/25, 1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.84**	**350**		**Pn**	**14 15 47.6**	**-0.6**
ATKA					**Sn**	**14 16 01.0**	**+1.7**
KOFP	**Korovin Flat P**	**0.90**	**355**		**Pn**	**14 15 48.9**	**-0.2**
KOKL	**Mount Kliuchef**	**0.96**	**351**		**Pn**	**14 15 49.8**	**-0.1**
KOWE	**Korovin West**	**1.00**	**350**		**Pn**	**14 15 50.8**	**+0.2**
GSMY	**Great Sitkin M**	**1.46**	**298**		**Pn**	**14 15 56.9**	**0.0**
GSTR	**Great Sitkin T**	**1.49**	**300**		**Pn**	**14 15 57.3**	**+0.1**
GSCK	**Great Sitkin C**	**1.51**	**296**		**Pn**	**14 15 57.4**	**-0.1**
GSTD	**Great Sitkin T**	**1.52**	**297**		**Pn**	**14 15 57.7**	**+0.1**
GSTD					**Sn**	**14 16 17.6**	**+1.4**
ADK	**Adak**	**1.77**	**288**	Pn	**Pn**	**14 16 00.8**	**-0.2**
KIWB	**Kanaga Island**	**2.04**	**285**	Pn	**Pn**	**14 16 05.5**	**+0.6**
KIKV	**Kanaga Island**	**2.06**	**285**		**Pn**	**14 16 06.3**	**+1.2**
KIMD	**Kanaga Island**	**2.08**	**282**		**Pn**	**14 16 05.6**	**+0.3**
KICM	**Kanaga Island**	**2.09**	**286**		**Pn**	**14 16 06.2**	**+0.8**
TAPA	**Tanaga Point A**	**2.44**	**282**		**Pn**	**14 16 11.2**	**+0.9**
TAFP	**Tanaga Falls P**	**2.56**	**283**		**Pn**	**14 16 12.4**	**+0.4**
TASE	**Tanaga Southea**	**2.58**	**282**		**Pn**	**14 16 13.2**	**+1.0**
NIKH	**Nikolski High**	**3.52**	**61**		**Pn**	**14 16 25.9**	**+0.7**
NIKH					**Sn**	**14 17 06.6**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**4.14**	**59**		**Pn**	**14 16 34.9**	**+1.1**
MSW	**Makushin Switc**	**5.05**	**57**		**Pn**	**14 16 47.3**	**+1.1**
UNV	**Unalaska Valle**	**5.17**	**59**		**Pn**	**14 16 48.9**	**+1.1**
SPIA	**Saint Paul Isl**	**6.20**	**19**		**Pn**	**14 17 03.0**	**+1.2**
WECS	**Westdahl Cape**	**6.38**	**57**		**Pn**	**14 17 06.0**	**+1.5**
SSLS	**Shishaldin Sou**	**6.87**	**57**		**Pn**	**14 17 12.3**	**+1.1**
KDAK	**Kodiak Island**	**13.92**	**54**	Pn	**Pn**	**14 18 44.3**	**-3.2**
	0.7nm,0.3s,baz=291,slow=9.8,SNR=11						
KDAK	**Kodiak Island**	**13.92**	**54**	P	**P**	**14 18 54.5**	**-0.6**
ANM	**Nome**	**13.96**	**16**		**Pn**	**14 18 51.3**	**+3.3**
SVW2	**Sparrevohn**	**14.06**	**39**	P	**P**	**14 18 53.9**	**-2.8**
L19K	**White Mountain**	**14.99**	**36**	P	**P**	**14 19 06.9**	**-0.1**
M19K	**Big River Lodg**	**14.99**	**38**	P	**P**	**14 19 06.5**	**-0.6**
M19K				IAmb	IAmb	14 19 28.9	
	comp=Z,6.1nm,0.9s						
K20K	**Telida**	**16.00**	**34**	P	**Pn**	**14 19 16.5**	**+1.4**
K20K				IAmb	IAmb	14 19 38.6	
	comp=Z,13nm,1.2s						
SEW	**Seward**	**16.24**	**48**	Pn	**Pn**	**14 19 15.4**	**-2.8**
RC01	**Rabbit Creek A**	**16.51**	**45**	Pn	**Pn**	**14 19 20.8**	**-0.7**
RC01				IAmb	IAmb	14 19 26.7	
	comp=Z,9.8nm,0.9s						
CAST	**Castle Rocks**	**16.75**	**36**	P	**P**	**14 19 27.1**	**+0.6**
CAST				IAmb	IAmb	14 19 44.5	
	comp=Z,17nm,1.3s						
PMR	**Palmer**	**16.99**	**43**		**Pn**	**14 19 27.5**	**0.0**
PWL	**Port Wells**	**17.04**	**46**	Pn	**Pn**	**14 19 26.4**	**-1.8**
KTH	**Kantishna Hill**	**17.25**	**36**	P	**P**	**14 19 32.8**	**+0.7**
PETK	**Petropavlovsk-**	**17.40**	**287**	P	**Pn**	**14 19 32.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=95,slow=15,SNR=11						
TRF	**Thorofare Moun**	**17.43**	**37**	P	**P**	**14 19 34.5**	**+0.2**
TRF				IAmb	IAmb	14 19 49.8	
	comp=Z,20nm,1.5s						
SCM	**Sheep Creek Mo**	**17.87**	**44**	P	**Pn**	**14 19 37.5**	**-1.0**
SCM				IAmb	IAmb	14 19 39.6	
	comp=Z,10nm,0.8s						
I21K	**Tanana**	**17.87**	**31**	P	**Pn**	**14 19 37.0**	**-1.5**
I21K				IAmb	IAmb	14 19 42.8	
	comp=Z,8.8nm,0.9s						
RND	**Reindeer**	**17.96**	**38**	P	**Pn**	**14 19 38.4**	**-1.2**
MCK	**McKinley**	**18.10**	**37**	P	**Pn**	**14 19 40.0**	**-1.3**
MCK				IAmb	IAmb	14 19 41.8	
	comp=Z,12nm,1.1s						
MLY	**Manley**	**18.19**	**32**	P	**P**	**14 19 43.2**	**+0.8**
MLY				IAmb	IAmb	14 19 46.4	
	comp=Z,11nm,1.0s						
KLU	**Klutina**	**18.36**	**46**	P	**P**	**14 19 42.0**	**-2.3**
KLU				IAmb	IAmb	14 19 52.8	
	comp=Z,11nm,1.2s						
M24K	**Tolsona, Glenn**	**18.48**	**44**	P	**P**	**14 19 44.9**	**-0.7**
NEA2	**Nenana**	**18.51**	**35**	P	**P**	**14 19 44.5**	**-1.4**
I23K	**Minto, Yukon-K**	**18.73**	**33**	P	**P**	**14 19 48.4**	**+0.2**
I23K				IAmb	IAmb	14 19 52.2	
	comp=Z,12nm,1.1s						
WRH	**Wood River Hil**	**18.80**	**36**	P	**P**	**14 19 47.0**	**-2.0**
N25K	**Chitina, Valde**	**19.00**	**46**	P	**P**	**14 19 49.9**	**-1.5**
CCB	**Clear Creek Bu**	**19.00**	**36**	P	**P**	**14 19 49.7**	**-1.5**
MDM	**Murphy Dome**	**19.02**	**35**	P	**P**	**14 19 50.2**	**-1.2**
H23K	**Yukon River**	**19.07**	**31**	P	**Pn**	**14 19 52.6**	**-0.4**
H23K				IAmb	IAmb	14 20 06.8	
	comp=Z,11nm,1.3s						
HDA	**Harding Lake**	**19.19**	**37**	P	**P**	**14 19 51.7**	**-1.7**
HDA				IAmb	IAmb	14 19 54.6	
	comp=Z,9.0nm,0.8s						
BILL	**Bilibino**	**19.29**	**337**		**P**	**14 19 53.7**	**-0.6**
BILL				IAmb	IAmb	14 20 17.2	
	comp=Z,16nm,1.5s						
IL31		**19.40**	**36**	P	**P**	**14 19 53.6**	**-2.0**
IL31				IAmb	IAmb	14 20 11.2	
	comp=Z,20nm,1.5s						
ILAR	**Eielson Array**	**19.40**	**36**	P	**P**	**14 19 53.4**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=237,slow=9.2,SNR=50						
ILAR	**Eielson Array**	**19.40**	**36**	P	**P**	**14 19 53.2**	**-2.4**
H24K	**Noodor Dome**	**19.63**	**33**	P	**P**	**14 19 57.7**	**-0.5**
H24K				IAmb	IAmb	14 20 02.6	
	comp=Z,15nm,1.2s						
RIDG	**Independent Ri**	**19.70**	**40**	P	**P**	**14 19 57.8**	**-1.1**
RIDG				IAmb	IAmb	14 20 05.2	
	comp=Z,15nm,1.2s						
COLD	**Coldfoot**	**19.77**	**28**	P	**P**	**14 19 59.6**	**0.0**
MENT	**Mentasta**	**19.85**	**43**	P	**P**	**14 20 00.1**	**-0.4**
J25K	**Salcha River,**	**19.89**	**37**	P	**P**	**14 19 58.9**	**-2.1**
DOT	**Dot Lake**	**19.98**	**41**	P	**P**	**14 20 01.2**	**-0.8**
SCRK	**Sand Creek**	**20.15**	**40**	P	**P**	**14 20 02.5**	**-1.4**
SCRK				IAmb	IAmb	14 20 21.9	
	comp=Z,9.8nm,1.1s						
BCAR	**Beaver Creek A**	**20.72**	**43**	P	**P**	**14 20 09.6**	**-0.4**
TOLK	**Toolik Lake Re**	**20.90**	**25**	P	**P**	**14 20 12.3**	**+0.4**
SEY	**Seymchan**	**21.32**	**316**	P	**P**	**14 20 15.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=58,slow=23,SNR=4.3						
SEY				LR	LR	14 28 21.7	
	comp=Z,435nm,19.5s,baz=334,slow=36						
MA2	**Magadan**	**21.38**	**306**	P	**P**	**14 20 16.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=155,slow=15,SNR=2.2						
MA2				LR	LR	14 27 33.8	
	comp=Z,247nm,18.7s,baz=67,slow=34						
EGAK	**Eagle**	**21.60**	**39**	P	**P**	**14 20 18.9**	**-0.4**
BMAR	**Burnt Mountain**	**21.62**	**31**	P	**P**	**14 20 20.6**	**+1.0**
DAWY	**Dawson**	**22.06**	**42**	P	**P**	**14 20 25.9**	**+1.5**
DAWY				IAmb	IAmb	14 20 40.3	
	comp=Z,13nm,1.4s						
INK	**Inuvik**	**25.75**	**34**	P	**P**	**14 20 59.0**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=233,slow=7.3,SNR=16						
INK	**Inuvik**	**25.75**	**34**	P	**P**	**14 20 59.4**	**-0.4**
INK				IAmb	IAmb	14 21 16.1	
	comp=Z,8.8nm,1.4s						
DLBC	**Dease Lake**	**25.82**	**57**	P	**P**	**14 21 02.3**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=241,slow=6.3,SNR=4.9						
YKA	**Yellowknife Ar**	**33.02**	**47**	P	**P**	**14 22 04.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=273,slow=9.2,SNR=11						
YKA				PcP	**PcP**	**14 24 46.3**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=290,slow=3.3,SNR=4.5						
YKA	**Yellowknife Ar**	**33.02**	**47**	P	**P**	**14 22 03.5**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**34.99**	**213**	T	T	15 00 13.5	
	baz=20,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**35.00**	**213**	T	T	15 00 11.3	
	baz=20,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**35.01**	**213**	T	T	15 00 13.5	
	baz=20,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**36.19**	**212**	T	T	15 01 43.6	
	baz=20,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	15 01 44.8	
	baz=20,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	15 01 44.2	
	baz=20,slow=76,SNR=11						
USRK	**Ussuriysk Ar.**	**36.29**	**280**	P	**P**	**14 22 32.7**	**-0.1**
	comp=Z,8.5nm,0.7s,baz=67,slow=11,SNR=8.8						
MJAR	**Matsushiro Arr**	**36.79**	**265**	P	**P**	**14 22 36.8**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=49,slow=8.2,SNR=2.8						
RES	**Resolute Bay**	**38.48**	**25**	P	**P**	**14 22 50.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=285,slow=0.5,SNR=4.3						
NVAR	**Mina Array Bea**	**40.53**	**86**	P	**P**	**14 23 10.1**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=297,slow=6.5,SNR=3.8						
KSRS	**Korea Array**	**42.67**	**274**	P	**P**	**14 23 26.2**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=60,slow=8.8,SNR=5.5						
PDAR	**Pinedale Array**

INMG ***12*** *14:34:59.4±1.0,32.°42N×7.°76W,h10km,ML2.1,Error ellipse: s-maj=6.6km s-min=3.5km az=117.0*

IGIL ***12*** *14:34:59.6,32.°47N×7.°73W,h0km*

ISC 12 14:34:55.0±1.1,**32°27N**±0°.03×**7°86W**±0°.09,**h10**km,**n18,** σ1°62/24,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRHM	**Skhour des Reh**	**0.20**	**350**	S	**Sg**	**14 35 00.1**	**-2.1**
OUK	**Oukaimeden**	**1.06**	**180**	P	**Pn**	**14 35 17.0**	**+0.7**
ZHG	**ZHG**	**1.55**	**41**	P	**Pg**	**14 35 25.0**	**+0.1**
OUZM	**OUZ**	**1.65**	**145**	P	**Pg**	**14 35 27.0**	**+0.4**
TTIG	**Tnine Tigouga,**	**1.79**	**196**	P	**Pn**	**14 35 26.1**	**0.0**
TTIG				S	**Sn**	**14 35 49.0**	**0.0**
TZRR	**Tazzarine**	**2.45**	**127**	S	**Sg**	**14 36 13.0**	**-0.9**
PFVI	**Vila Bisbo**	**4.91**	**351**	*e*Pn	**Pn**	**14 36 11.2**	**+2.3**
PBDV	**Barranco-do-Ve**	**4.96**	**359**	*e*Pn	**Pn**	**14 36 11.4**	**+1.8**
MORF	**Marmelete**	**5.06**	**353**	*e*P	**Pn**	**14 36 12.2**	**+1.2**
MORF	**Marmelete**	**5.06**	**353**	*e*Pn	**Pn**	**14 36 12.4**	**+1.4**
PVAQ	**Vaqueiros**	**5.12**	**1**	*e*Pn	**Pn**	**14 36 13.1**	**+1.4**
PVAQ				*e*Sn	**Sn**	**14 37 09.3**	**-1.6**
PVAQ				A	A	14 37 11.7	
	2.0nm,0.8s						
PVAQ	**Vaqueiros**	**5.12**	**1**	P	**Pn**	**14 36 13.3**	**+1.6**
PTEO	**Sao Teotonio**	**5.31**	**353**	*e*Pn	**Pn**	**14 36 15.9**	**+1.6**
PTEO				*e*Sn	**Sn**	**14 37 16.7**	**+1.2**
PCVE	**Castro Verde**	**5.35**	**358**	*e*Pn	**Pn**	**14 36 16.5**	**+1.6**
PCVE				*e*Sn	**Sn**	**14 37 14.2**	**-2.3**
PNCL	**Nicolau / Gran**	**5.85**	**355**	*e*Pn	**Pn**	**14 36 23.5**	**+1.7**
PNCL				*e*Sn	**Sn**	**14 37 27.0**	**-1.9**
PNCL				A	A	14 37 34.1	
	0.8nm,0.9s						
PBAR	**Barrancos**	**5.93**	**6**	*e*Pn	**Pn**	**14 36 24.4**	**+1.6**
PBAR				*e*Sn	**Sn**	**14 37 28.8**	**-2.0**
PBAR				A	A	14 37 33.6	
	0.9nm,0.6s						
PESTR	**Estremoz**	**6.58**	**2**	*e*Pn	**Pn**	**14 36 33.9**	**+2.0**
PMRV	**Marv??o**	**7.15**	**3**	*e*Pn	**Pn**	**14 36 40.9**	**+1.3**

IDC ***12*** *14:37:11.8±1.8,35.°40N×23.°48E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/29,mbtmp3.4/4,ML2.7/1,Error ellipse: s-maj=227.1km s-min=27.0km az=141.0*

THE ***12*** *14:37:15.4,35.°37N×23.°57E,h1km±1km,ML3.2/11,Error ellipse: s-maj=1.8km s-min=0.5km az=224.0*

ATH ***12*** *14:37:15.0,35.°39N×23.°57E,h19km±1km,ML3.3/8,Error ellipse: s-maj=2.2km s-min=0.9km az=223.0*

ISC 12 14:37:14.9±1.1,**35°39N**±0°.04×**23°56E**±0°.04,**h17**km±7km, **n35,** σ0°99/52,**mb3.4**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.23**	**44**	P	**Pg**	**14 37 20.8**	**+0.5**
RODP				S	**Sg**	**14 37 24.6**	**+0.6**
	6μm,0.4s						
IMMV	**Iera Moni Meta**	**0.35**	**78**	P	**Pb**	**14 37 22.4**	**-0.3**
IMMV				S	**Sb**	**14 37 27.2**	**-0.7**
IMMV				AML	AML	14 37 28.2	
	comp=E,12489μm,0.5s						
IMMV				AML	AML	14 37 32.7	
	comp=N,9463μm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**78**	P	**Pb**	**14 37 22.2**	**-0.5**
IMMV				S	**Sb**	**14 37 27.5**	**-0.4**
	comp=N,6μm,0.5s						
ANKY	**Antikythira Is**	**0.52**	**336**	P	**Pb**	**14 37 25.7**	**+0.2**
ANKY				S	**Sb**	**14 37 32.6**	**-0.2**
ANKY				AML	AML	14 37 34.7	
	comp=E,4504μm,0.8s						
ANKY				AML	AML	14 37 34.8	
	comp=N,5794μm,0.4s						
ANKY	**Antikythira Is**	**0.52**	**336**	P	**Pb**	**14 37 25.8**	**+0.2**
ANKY				S	**Sb**	**14 37 33.3**	**+0.5**
	comp=N,3μm,0.6s						
VAM	**Vamos**	**0.52**	**88**	P	**Pb**	**14 37 25.2**	**-0.4**
VAM				S	**Sb**	**14 37 32.9**	**0.0**
VAM				AML	AML	14 37 34.5	
	comp=E,8579μm,0.2s						
VAM				AML	AML	14 37 35.2	
	comp=N,11065μm,0.4s						
VAM	**Vamos**	**0.52**	**88**	P	**Pb**	**14 37 25.2**	**-0.4**
VAM				S	**Sb**	**14 37 32.9**	**0.0**
	comp=N,5μm,0.3s						
GVDS	**Gavdos**	**0.70**	**141**	P	**Pb**	**14 37 28.4**	**-0.2**
GVDS				S	**Sb**	**14 37 37.6**	**-0.3**
	comp=N,4μm,0.2s						
GVD	**Gavdhos**	**0.70**	**142**	P	**Pb**	**14 37 28.7**	**+0.1**
GVD				S	**Sb**	**14 37 37.7**	**-0.2**
GVD				AML	AML	14 37 41.6	
	comp=N,6891μm,0.4s						
GVD				AML	AML	14 37 43.1	
	comp=E,6808μm,0.4s						
GVD	**Gavdhos**	**0.70**	**142**	P	**Pb**	**14 37 28.9**	**+0.3**
GVD				S	**Sb**	**14 37 39.1**	**+1.2**
	comp=E,3μm,0.4s						
PRNS	**Prines Rethymn**	**0.77**	**92**	P	**Pg**	**14 37 28.5**	**-1.4**
PRNS				S	**Sg**	**14 37 38.8**	**-1.3**
	comp=E,672nm,0.4s						
KTHA	**Kythira Island**	**0.95**	**335**	P	**Pn**	**14 37 33.7**	**+0.2**
KTHA				AML	AML	14 37 50.8	
	comp=E,3940μm,0.3s						
KTHA				AML	AML	14 37 52.0	
	comp=N,1282μm,0.3s						
KTHA	**Kythira Island**	**0.95**	**335**	P	**Pn**	**14 37 33.6**	**+0.1**
KTHA				S	**Sn**	**14 37 47.8**	**+1.1**
	comp=N,1μm,0.3s						
KTHR	**Kythira**	**0.98**	**333**	P	**Pn**	**14 37 33.8**	**0.0**
KTHR				S	**Sn**	**14 37 49.2**	**+1.9**
	comp=N,900nm,0.3s						
SIVA	**Sivas**	**1.09**	**110**	P	**Pb**	**14 37 34.9**	**-0.3**
SIVA				AML	AML	14 37 56.1	
	comp=E,3809μm,0.7s						
SIVA				AML	AML	14 38 03.4	
	comp=N,2874μm,0.8s						
IDI	**Anoyia**	**1.09**	**95**	P	**Pn**	**14 37 35.3**	**-0.1**
IDI				S	**Sn**	**14 37 50.5**	**+0.3**
IDI				AML	AML	14 38 00.1	
	comp=N,1434μm,0.5s						
IDI				AML	AML	14 38 04.8	
	comp=E,892μm,0.5s						
IDI	**Anoyia**	**1.09**	**95**	P	**Pn**	**14 37 35.3**	**-0.1**
IDI				S	**Sn**	**14 37 51.1**	**+0.9**
	comp=E,588nm,0.7s						
IACM	**Heraklion**	**1.24**	**93**	P	**Pg**	**14 37 39.1**	**+0.3**
VLI	**Veliai**	**1.42**	**339**	P	**Pg**	**14 37 41.3**	**-0.9**
VLI	**Veliai**	**1.42**	**339**	P	**Pg**	**14 37 41.8**	**-0.4**
MHLO	**Agia Marina, M**	**1.47**	**28**	P	**Pg**	**14 37 42.3**	**-0.8**
MHLO				S	**Sg**	**14 38 02.9**	**+0.7**
MHLO				AML	AML	14 38 06.2	
	comp=E,3744μm,1.0s						
MHLO				AML	AML	14 38 09.6	
	comp=N,4301μm,0.5s						
MHLO	**Agia Marina, M**	**1.47**	**28**	P	**Pg**	**14 37 42.4**	**-0.7**
MHLO				S	**Sg**	**14 38 03.0**	**+0.7**
	comp=N,2μm,0.8s						
NPS	**Neapolis**	**1.68**	**94**	P	**Pg**	**14 37 46.1**	**-1.2**
KRND	**KRANIDI**	**2.02**	**351**	P	**Pn**	**14 37 49.2**	**+1.1**
ZKR	**Zakros**	**2.19**	**96**	P	**Pb**	**14 37 53.5**	**-0.5**
APE	**Apeiranthos**	**2.31**	**43**	P	**Pn**	**14 37 53.8**	**+1.6**
VLY	**Voula,Athens**	**2.46**	**4**	P	**Pb**	**14 37 56.8**	**-1.9**
DION	**Dionisos Attik**	**2.70**	**6**	P	**Pn**	**14 37 59.0**	**+1.5**
KARY	**Karystos**	**2.73**	**15**	P	**Pn**	**14 37 59.2**	**+1.3**
KLV	**Kalavryta, Ach**	**2.88**	**337**	P	**Pb**	**14 38 03.1**	**-2.7**
KARP	**Karpathos**	**2.94**	**86**	P	**Pn**	**14 38 03.0**	**+2.1**
BRTR	**Keskin Array B**	**9.10**	**59**	Pn	**Pn**	**14 39 27.6**	**+2.2**
	comp=N,0.1nm,0.3s,baz=240,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.66**	**227**	P	**P**	**14 43 19.0**	**-0.7**
	comp=N,0.3nm,0.6s,baz=33,slow=9.4,SNR=1.8						
MKAR	**Makanchi Array**	**44.74**	**57**	P	**P**	**14 45 27.3**	**+0.1**
	comp=N,0.2nm,0.4s,baz=265,slow=9.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.79**	**46**	P	**P**	**14 45 34.7**	**-0.6**
	comp=N,0.4nm,0.5s,baz=255,slow=10.0,SNR=1.8						

IDC 12 14:53:22.4±2.3,**6°42S**×**129°47E,h0**km,**mb3.0**/**1, mb1 3.5**/**4,mb1mx3.1**/40,**mbtmp3.3**/**4,ML3.3**/**3,Error ellipse: s-maj=88.5km s-min=29.8km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**198**	Pn	Pn	14 56 18.1	+0.6
	0.1nm,0.3s,baz=11,slow=14,SNR=11						
FITZ				Sn	Sn	14 58 16.3	-18
	0.1nm,0.3s,baz=46,slow=4.5,SNR=2.3						
WRA	**Warramunga Arr**	**14.25**	**161**	Pn	Pn	14 56 45.6	0.0
	0.2nm,0.3s,baz=339,slow=14,SNR=18						
WRA				Sn	Sn	14 59 09.0	-16
	0.1nm,0.3s,baz=329,slow=22,SNR=1.6						
ASAR	**Alice Springs**	**17.67**	**166**	P	Pn	14 57 29.7	-0.4
	0.2nm,0.3s,baz=343,slow=10,SNR=32						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	15 04 20.1	0.0
	0.1nm,0.3s,baz=122,slow=7.0,SNR=1.7						

BJI ***12*** *15:04:02.9±0.0,35.°89N×3.°69W,h6km,mb5.1/60, mB5.2/30,Ms4.8/16,Ms7 4.4/14*

MOS ***12*** *15:04:03.6±0.9,35.°64N×3.°54W,h10km,mb5.3/57, MS4.5/10,Error ellipse: s-maj=6.9km s-min=3.6km az=57.2*

IDC ***12*** *15:04:04.2±0.3,35.°68N×3.°61W,h0km,mb4.8/44, mb1 4.9/49,mb1mx4.9/56,mbtmp4.8/49,ML4.7/4,MS4.1/30, Ms1 4.1/30,ms1mx3.8/94,Error ellipse: s-maj=11.1km s-min=7.4km az=115.0*

CNRM ***12*** *15:04:04.7,35.°67N×3.°62W,h0km,ml5.4*

CRAAG ***12*** *15:04:05.6,35.°66N×3.°68W,Mb4.9*

SFS ***12*** *15:04:05.0,35.°60N×3.°60W,ML4.8,ALBORAN SUR*

MED_RC ***12*** *15:04:05.0±0.5,35.°57N×3.°71W,h10km,MW4.8/30, Moment Tensor Solution. Body waves: s2,c4;Mantle waves: s30,c45; Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr2.10±.06; Mθθ-2.08±.05; Mϕϕ-0.02±.07; Mrθ0.79±.23; Mϕθ-0.66±.05; Mϕr-0.19±.25; Best double couple: Mo2.34000×10^16 NP1:ϕs84.00000°,δ55.00000°, λ103.00000°. NP2:ϕs243.00000°,δ37.00000°,λ73.00000°. Principal axes: T 2.2900, Plg76.0000°, Azm35.0000°; N 0.1000, Plg10.0000°, Azm257.0000°; P -2.3900, Plg9.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NEIC ***12*** *15:04:05.4±1.6,35.°62N±0.°08×3.°58W±0.°07,h10km±1km, mb5.2/127,Mww4.8 Error ellipse: s-maj=13.1km s-min=9.9km az=164.0*

IGIL ***12*** *15:04:05.8,35.°50N×3.°63W,h10km,ML4.6*

GCMT ***12*** *15:04:06.4±0.3,35.°54N±0.°02×3.°78W±0.°04,h12km±1km, MW4.9/107,Moment Tensor Solution. s26,c28; s107,c152; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.47±.17; Mθθ-2.43±.12; Mϕϕ-0.04±.09; Mrθ0.97±.29; Mθϕ-0.49±.06; Mθr-1.41±.37; Best double couple: Mo2.97200×10^16 NP1:ϕs238.00000°,δ42.00000°, λ51.00000°. NP2:ϕs105.00000°,δ59.00000°,λ119.00000°. Principal axes: T 3.3080, Plg64.0000°, Azm65.0000°; N -0.6740, Plg25.0000°, Azm269.0000°; P -2.6370, Plg9.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

INMG ***12*** *15:04:06.4±0.3,35.°66N×3.°73W,h0km,ML4.4 Error ellipse: s-maj=4.4km s-min=3.4km az=155.0*

MDD ***12*** *15:04:07.6±0.3,35.°57N×3.°60W,h22km,mb_Lg4.9/31, Error ellipse: s-maj=1.8km s-min=2.7km az=175.0*

LDG ***12*** *15:04:08.7±0.6,35.°68N×3.°78W,h10km,Ml4.6/31,Error ellipse: s-maj=11.9km s-min=10.0km az=28.0*

NEIC ***12*** *15:04:09,35.°68N×3.°55W,h12km,Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^16Nm; Mrr1.90; Mθθ-1.63; Mϕϕ-0.27; Mrθ-0.46; Mϕθ-0.68; Mθr0.51; Fault plane solution: Mo2.03000×10^16 NP1:ϕs51.00000°, δ44.00000°,λ65.00000°. NP2:ϕs264.00000°,δ51.00000°, λ112.00000°. Principal axes: T 2.1145, Plg73.0000°, Azm237.0000°; N -0.1885, Plg17.0000°, Azm70.0000°; P -1.9260, Plg4.0000°, Azm339.0000°;*

BGR ***12*** *15:04:39.3±0.0,36.°98N×0.°19E,h33km,mb4.8,Ms3.5*

ISC 12 15:04:06.0±0.5,**35°70N**±0°.02×**3°58W**±0°.02,**h14**km±3km, **h14**km:**pP-P,n1061,**σ1°66/1164,**mb5.1**/164,**MS4.3**/37, **53C-55D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**62**	Pg	**Pb**	**15 04 16.9**	**+0.2**
EALB				Sg	**Sb**	**15 04 25.5**	**+1.5**
EALB				*i* Vmb_Lg		15 04 26.6	
PALE	**Palemas**	**0.56**	**211**	P	**Pg**	**15 04 16.2**	**-0.9**
PALE				S	**Sg**	**15 04 24.1**	**-0.5**
EMEL	**Melilla**	**0.65**	**128**	Pg	**Pg**	**15 04 18.2**	**-0.5**
EMEL				Sg	**Sg**	**15 04 26.9**	**-0.4**
GOG	**Mont Gurugu**	**0.68**	**135**	P	**Pg**	**15 04 18.2**	**-1.0**
GOG				S	**Sg**	**15 04 27.2**	**-0.9**
ELGU	**Los Guajares,**	**1.16**	**358**	Pg	**Pb**	**15 04 26.6**	**-1.4**
ELGU				Sg	**Sn**	**15 04 44.9**	**+1.1**
ELGU				*i* Vmb_Lg		15 04 51.8	
AKLM	**AKL**	**1.21**	**191**	P	**Pn**	**15 04 27.5**	**-1.1**
AKLM				S	**Sb**	**15 04 43.2**	**-1.1**
EMAL	**Malaga-Limoner**	**1.26**	**327**	P	**Pn**	**15 04 28.0**	**-1.3**
EMAL				S	**Sb**	**15 04 45.0**	**-0.7**
EMIJ	**Mijas**	**1.29**	**312**	Pg	**Pn**	**15 04 27.5**	**-2.2**
EMIJ				Sn	**Sb**	**15 04 44.7**	**-1.9**
EMIJ				*i* Vmb_Lg		15 04 45.6	
TAF	**Taforalt**	**1.30**	**132**	P	**Pn**	**15 04 28.3**	**-1.7**
TAF				S	**Sg**	**15 04 52.7**	**+4.6**
EBER	**Berja**	**1.32**	**25**	Pg	**Pn**	**15 04 29.1**	**-1.1**
EBER				Sg	**Sn**	**15 04 48.1**	**+0.3**
EBER				*i* Vmb_Lg		15 05 00.1	
SMIR	**Smir Dam**	**1.46**	**270**	P	**Pn**	**15 04 29.0**	**-3.1**
SMIR				S	**Sn**	**15 04 42.5**	**-8.6**
EGOR	**Sierra Gorda,**	**1.47**	**343**	Pn	**Pn**	**15 04 31.3**	**-1.0**
EGOR				Sn	**Sb**	**15 04 52.3**	**+0.5**
EGOR				*i* Vmb_Lg		15 05 01.6	
CEU	**Ceuta**	**1.47**	**278**	P	**Pn**	**15 04 28.9**	**-3.2**
CEU				S	**Sn**	**15 04 44.8**	**-6.3**
EQUE	**Quentar**	**1.50**	**4**	Pn	**Pn**	**15 04 32.9**	**+0.2**
EQUE				Pg	**Pg**	**15 04 34.9**	**0.0**
EQUE				Sn	**Sb**	**15 04 53.8**	**+1.0**
EQUE				*i* Vmb_Lg		15 04 58.5	
CHEFC	**Chefchaouen**	**1.55**	**248**	P	**Pn**	**15 04 32.3**	**-1.1**
CHEFC				S	**Sn**	**15 04 52.5**	**-0.9**
JBK	**JBK**	**1.60**	**148**	P	**Pn**	**15 04 32.1**	**-2.0**
JBK				S	**Sb**	**15 04 56.1**	**+0.5**
ENIJ	**Nijar**	**1.69**	**41**	Pn	**Pn**	**15 04 33.7**	**-1.4**
ENIJ				Pg	**Pg**	**15 04 38.4**	**+0.1**
ENIJ				*i* Vmb_Lg		15 05 17.1	
EJIF	**Jimena Fronter**	**1.70**	**297**	Pn	**Pn**	**15 04 34.0**	**-1.3**
LIJA	**Lijar**	**1.90**	**310**	P	**Pn**	**15 04 39.0**	**+0.9**
LIJA				S	**Sb**	**15 05 04.0**	**-0.2**
CNIL	**Conil**	**2.11**	**289**	P	**Pn**	**15 04 42.0**	**+1.0**
CNIL				S	**Sn**	**15 05 08.0**	**+1.0**
EQES	**Quesada**	**2.14**	**11**	Pn	**Pb**	**15 04 43.5**	**-1.1**
EQES				Sn	**Sb**	**15 05 11.4**	**+0.3**
EQES				*i* Vmb_Lg		15 05 15.1	
SICH	**Sidi Chahed**	**2.14**	**222**	P	**Pn**	**15 04 42.0**	**+0.6**
ESPR	**Espera**	**2.17**	**303**	Pn	**Pn**	**15 04 43.1**	**+1.3**
ESPR				Sn	**Sn**	**15 05 08.7**	**+0.1**
ESPR				Sg	**Sg**	**15 05 14.6**	**-1.4**
ESPR				*i* Vmb_Lg		15 05 16.7	
SFS	**San Fernando**	**2.26**	**291**	P	**Pn**	**15 04 44.3**	**+1.3**
SFS				S	**Sn**	**15 05 08.0**	**-2.6**
SFS	**San Fernando**	**2.26**	**291**	P	**Pn**	**15 04 44.3**	**+1.3**
SFS	**San Fernando**	**2.26**	**291**	Pn	**Pn**	**15 04 44.3**	**+1.3**
SFS	**San Fernando**	**2.26**	**291**	P	**Pn**	**15 04 44.5**	**+1.5**
LCRM	**LCR**	**2.27**	**208**	P	**Pn**	**15 04 43.0**	**-0.3**
LCRM				S	Sg	15 05 28.0	+9.0
OTSS	**Djebel Tessala**	**2.31**	**100**	P	**Pn**	**15 04 41.0**	**-2.9**
IFR	**Ifrane**	**2.52**	**211**	P	**Pn**	**15 04 45.6**	**-1.2**
IFR				S	**Sn**	**15 05 14.4**	**-3.1**
EADA	**Adamuz**	**2.59**	**342**	Pn	**Pn**	**15 04 48.0**	**+0.4**
EADA				Sn	**Sn**	**15 05 20.5**	**+1.6**
EADA				*i* Vmb_Lg		15 05 26.6	
EZAR	**Zarzadilla de**	**2.65**	**34**	Pn	**Pn**	**15 04 48.1**	**-0.3**
EZAR				Sn	**Sb**	**15 05 25.4**	**-0.3**
ECAB	**El Cabril**	**2.79**	**329**	Pn	**Pn**	**15 04 50.6**	**+0.2**
ECAB				Sn	**Sn**	**15 05 25.9**	**+2.0**
ECAB				*i* Vmb_Lg		15 05 36.5	
CART	**Cartagena**	**2.80**	**47**	P	**Pn**	**15 04 48.0**	**-2.4**
CART				S	**Sn**	**15 04 18.6**	**-5.4**
CART	**Cartagena**	**2.80**	**47**	Pn	**Pn**	**15 04 48.6**	**-1.9**
CART	**Cartagena**	**2.80**	**47**	P	**Pn**	**15 04 52.2**	**+1.8**
CART	**Cartagena**	**2.80**	**47**	P	**Pn**	**15 04 49.2**	**-1.2**
CART				S	**Sn**	**15 05 21.4**	**-2.7**
ODJA	**Bouhanifia**	**2.83**	**97**	P	**Pn**	**15 04 48.0**	**-2.8**
ARNO	**Arenosillo**	**2.90**	**300**	P	**Pn**	**15 04 52.0**	**+0.2**
ARNO				S	**Sn**	**15 05 27.5**	**+1.1**
CZD	**Col de Zad**	**2.92**	**205**	P	**Pn**	**15 04 52.0**	**-0.4**
CZD	**Col de Zad**	**2.92**	**205**	P	**Pn**	**15 04 52.0**	**-0.4**
TDRA	**Tendrara**	**2.95**	**154**	P	**Pn**	**15 04 52.6**	**-0.1**
TDRA	**Tendrara**	**2.95**	**154**	P	**Pn**	**15 04 52.0**	**-0.7**
MD31	**MD31**	**2.99**	**199**	P	**Pn**	**15 04 52.2**	**-0.9**
MDT	**Midelt**	**3.00**	**197**	Pn	**Pn**	**15 04 52.3**	**-1.0**
	34nm,0.3s,baz=160,slow=6.7,SNR=152						
MDT				Pg	**Pb**	**15 05 00.4**	**+1.0**
	197nm,0.3s,baz=132,slow=16,SNR=36						
MDT				Sn	**Sn**	**15 05 26.8**	**-2.4**
	102nm,0.3s,baz=350,slow=22,SNR=4.3						
MDT				Lg		15 05 38.2	
	189nm,0.3s,baz=5.1,slow=11,SNR=7.3						
MDT				LR	LR	15 06 14.1	
	comp=Z,6μm,19.2s,baz=30,slow=44						
MDT	**Midelt**	**3.00**	**197**	P	**Pn**	**15 04 52.6**	**-0.7**
MDT	**Midelt**	**3.00**	**197**	P	**Pn**	**15 04 52.3**	**-1.0**
OJBR	**Djebel Berber**	**3.20**	**91**	P	**Pn**	**15 04 54.0**	**-2.0**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**15 04 55.9**	**-0.4**
EMIN				Sn	**Sn**	**15 05 33.1**	**-1.4**
EMIN				*i* Vmb_Lg		15 05 49.1	
ETRV	**Los Montesinos**	**3.23**	**44**	Pn	**Pn**	**15 04 57.4**	**+1.0**
ETRV				Sn	**Sb**	**15 05 39.1**	**-3.4**
ETRV				*i* Vmb_Lg		15 06 11.8	
ETOB	**Tobarra**	**3.36**	**28**	Pn	**Pn**	**15 04 59.3**	**+1.2**
ETOB				Sn	**Sn**	**15 05 39.5**	**+1.6**
ETOB				*i* Vmb_Lg		15 06 17.1	
ZHG	**ZHG**	**3.38**	**229**	P	**Pn**	**15 04 57.2**	**-1.3**
PTAV	**Tavira**	**3.58**	**295**	*e*Pn	**Pn**	**15 05 01.3**	**+0.2**
PTAV				*e*Sn	**Sn**	**15 05 41.6**	**-1.6**
EGRO	**El Granado**	**3.63**	**301**	Pn	**Pn**	**15 05 01.1**	**-0.8**
EGRO				Sn	**Sn**	**15 05 42.8**	**-1.8**
EGRO				*i* Vmb_Lg		15 05 50.2	
PBAR	**Barrancos**	**3.71**	**313**	*e*Pn	**Pn**	**15 05 02.7**	**-0.2**
PBAR				*e*Sn	**Sn**	**15 05 44.9**	**-1.6**
PBAR				A	A	15 05 50.4	
	614nm,0.4s						
PVAQ	**Vaqueiros**	**3.74**	**298**	*e*Pn	**Pn**	**15 05 02.5**	**-0.8**
PVAQ				*e*Sn	**Sn**	**15 05 45.1**	**-2.1**
PVAQ				A	A	15 05 49.7	
	443nm,0.7s						
PVAQ	**Vaqueiros**	**3.74**	**298**		**Pn**	**15 05 02.4**	**-1.0**
PVAQ	**Vaqueiros**	**3.74**	**298**	P	**Pn**	**15 05 03.2**	**-0.1**
PVAQ	**Vaqueiros**	**3.74**	**298**	P	**Pn**	**15 05 02.3**	**-1.0**
PVAQ				S	**Sn**	**15 05 49.8**	**+2.6**
PFARO	**Faro**	**3.74**	**292**	*e*Pn	**Pn**	**15 05 03.7**	**+0.3**
PFARO				*e*Sn	**Sn**	**15 05 46.1**	**-1.2**
EANR	**'Ain N'Sour**	**3.81**	**85**	P	**Pn**	**15 05 03.7**	**-0.7**
AFON	**Font Roja**	**3.83**	**38**	Pn	**Pn**	**15 05 06.0**	**+1.3**
AFON				Sn	**Sn**	**15 05 53.2**	**+3.7**
AFON				*i* Vmb_Lg		15 06 29.9	
PBDV	**Barranco-do-Ve**	**3.83**	**295**	*e*Pn	**Pn**	**15 05 03.9**	**-0.7**
PBDV				*e*Sn	**Sn**	**15 05 47.1**	**-2.3**
PBDV				A	A	15 05 51.2	
	392nm,0.6s						
PAB	**San Pablo**	**3.88**	**351**	P	**Pn**	**15 05 06.3**	**+0.8**
PAB	**San Pablo**	**3.88**	**351**	Pn	**Pn**	**15 05 06.2**	**+0.8**
PAB	**San Pablo**	**3.88**	**351**	P	**Pn**	**15 05 06.3**	**+0.8**
PAB	**San Pablo**	**3.88**	**351**	Pn	**Pn**	**15 05 06.6**	**+1.2**
PAB				Sn	**Sn**	**15 05 52.9**	**+1.9**
PAB				*i* Vmb_Lg		15 06 24.0	
AVE	**Averroes**	**3.97**	**234**	P	**Pn**	**15 05 05.7**	**-0.8**
AVE				S	**Sn**	**15 05 50.5**	**-2.4**
AVE	**Averroes**	**3.97**	**234**	P	**Pn**	**15 05 05.8**	**-0.8**
AVE	**Averroes**	**3.97**	**234**	P	**Pn**	**15 05 05.8**	**-0.8**
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**15 05 07.0**	**+0.4**
	36nm,0.3s,baz=179,slow=12,SNR=1042						
ESDC				Sn	**Sn**	**15 05 54.8**	**+1.6**
	39nm,0.3s,baz=185,slow=24,SNR=2.1						
ESDC				Lg	Lg	15 06 05.7	
	41nm,0.3s,baz=178,slow=22,SNR=1.4						
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**15 05 07.7**	**+1.0**
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**15 05 07.9**	**+1.3**
ESDC				Sn	**Sn**	**15 05 55.5**	**+2.3**
ESDC				*i* Vmb_Lg		15 06 15.1	
ESBB	**Sonseca Array**	**3.98**	**356**		**Pn**	**15 05 07.6**	**+0.9**
PALBU	**Albufeira**	**4.01**	**292**	*e*Pn	**Pn**	**15 05 08.2**	**+1.1**
PALBU				*e*Sn	**Sn**	**15 05 52.1**	**-1.8**
EBEN2	**Beniarda presa**	**4.02**	**41**	Pn	**Pn**	**15 05 08.0**	**+0.8**
EBEN2				Sn	**Sn**	**15 05 58.0**	**+3.9**
EBEN2				*i* Vmb_Lg		15 06 39.0	
ECHA	**Ech Chlef**	**4.04**	**82**	P	**Pn**	**15 05 07.5**	**0.0**
EVIV	**Cofrentes, Val**	**4.06**	**28**	Pn	**Pn**	**15 05 08.7**	**+0.9**
PCVE	**Castro Verde**	**4.07**	**300**	*e*Pn	**Pn**	**15 05 07.1**	**-0.8**
PCVE				*e*Sn	**Sn**	**15 05 54.4**	**-0.9**
PCVE				A	A	15 05 56.6	
	418nm,0.8s						
EBAD	**Badajoz**	**4.10**	**319**	Pn	**Pn**	**15 05 07.8**	**-0.5**
EBAD				Sn	**Sn**	**15 05 54.9**	**-1.2**
E

PCBR eSn Sn 15 06 20.5 -1.6
PCBR A A 15 06 59.0
comp=N,411nm,0.7s
TZRR Tazzarine 5.18 199 P Pn 15 05 23.4 +0.1
TZRR Tazzarine 5.18 199 P Pn 15 05 23.4 +0.1
PACT Alcochete 5.19 308 ePn Pn 15 05 23.7 +0.5
PACT eSn Sn 15 06 21.8 -1.1
PACT A A 15 07 22.2
comp=N,552nm,0.8s
ETOR Torete 5.25 13 Pn Pn 15 05 26.2 +2.0
ETOR Sn Sb 15 06 47.5 +6.9
ETOR i Vmb_Lg 15 07 12.6
LIS Lisbon 5.37 306 eP Pn 15 05 24.9 -0.8
LIS eS Sn 15 06 22.9 -4.4
LIS IAML 15 06 47.6
comp=N,1µm,0.9s
LIS Lisbon 5.37 306 ePn Pn 15 05 26.4 +0.7
LIS eSn Sn 15 06 26.1 -1.2
LIS A A 15 07 05.3
comp=N,330nm,0.6s
LIS Lisbon 5.37 306 eP Pn 15 05 24.9 -0.8
LIS eS Sn 15 06 22.9 -4.4
ECOL Islas Columbre 5.38 38 Pn Pn 15 05 28.0 +2.1
PMST Lisbon--Monsan 5.40 306 ePn Pn 15 05 26.5 +0.3
PMST eSn Sn 15 06 26.7 -1.4
PMST A A 15 07 01.2
comp=N,299nm,0.7s
OUZM OUZ 5.47 210 P Pn 15 05 28.0 +0.7
OUZM OUZ 5.47 210 P Pn 15 05 27.0 -0.3
PMAFR Mafra 5.58 307 ePn Pn 15 05 28.8 +0.1
PMAFR eSn Sn 15 06 29.9 -2.8
PMAFR A A 15 07 23.2
comp=N,408nm,0.6s
PSBE So Bento 5.62 314 ePn Pn 15 05 29.7 +0.5
PSBE eSn Sn 15 06 31.5 -2.2
PSBE A A 15 07 15.0
comp=N,295nm,0.7s
MTE Manteigas 5.64 328 ePn Pn 15 05 30.8 +1.3
MTE eSn Sn 15 06 33.0 -1.1
MTE A A 15 07 12.4
comp=N,906nm,0.7s
MTE Manteigas 5.64 328 Pn Pn 15 05 29.5 0.0
OUK Oukaimeden 5.74 220 P Pn 15 05 31.0 -0.1
OUK Oukaimeden 5.74 220 P Pn 15 05 31.0 -0.1
ZGR Zagora 5.83 198 P Pn 15 05 34.0 +1.8
PCAS Casmilo, Conde 5.83 320 ePn Pn 15 05 32.5 +0.4
PCAS eSn Sn 15 06 36.0 -2.7
PCAS A A 15 07 23.6
comp=N,414nm,0.6s
COI Coimbra 5.90 321 ePn Pn 15 05 34.1 +1.1
COI eSn Sn 15 06 38.2 -2.2
COI A A 15 07 38.6
comp=N,507nm,0.7s
COI Coimbra 5.90 321 P Pn 15 05 33.6 +0.6
COI Coimbra 5.90 321 Pn Pn 15 05 33.6 +0.6
PVIS Viseu 6.05 327 ePn Pn 15 05 36.1 +1.0
PVIS eSn Sn 15 06 41.1 -3.1
PVIS A A 15 07 17.8
comp=N,207nm,0.6s
MVO Moncorvo 6.09 335 ePn Pn 15 05 36.7 +1.0
MVO eSn Sn 15 06 43.1 -2.1
MVO A A 15 07 27.4
comp=N,401nm,0.6s
EAH EAH 6.43 233 P Pn 15 05 40.0 -0.4
EAH EAH 6.43 233 P Pn 15 05 40.0 -0.4
PVRL Vila Real 6.44 331 ePn Pn 15 05 41.7 +1.2
PVRL eSn Sn 15 06 50.9 -2.9
PVRL A A 15 06 55.6
comp=N,290nm,0.5s
POLO Lamas de Olo 6.55 331 ePn Pn 15 05 43.5 +1.4
POLO eSn Sn 15 06 53.6 -3.1
POLO A A 15 07 38.9
comp=N,142nm,0.6s
TTIG Tnine Tigouga, 6.56 220 P Pn 15 05 41.0 -1.3
TTIG Tnine Tigouga, 6.56 220 P Pn 15 05 41.0 -1.3
PBRG Braganca 6.57 339 ePn Pn 15 05 43.2 +0.9
PBRG eSn Sn 15 06 53.3 -3.8
PBRG A A 15 07 39.8
comp=N,316nm,0.7s
PTO Porto 6.71 326 ePn Pn 15 05 45.5 +1.4
PTO eSn Sn 15 06 56.6 -3.7
PTO A A 15 07 01.0
comp=N,314nm,0.7s
EPOB Poblet 6.72 32 Pn Pn 15 05 45.3 +1.0
EPOB i Vmb_Lg 15 08 22.6
PCAB Cabril 6.93 331 ePn Pn 15 05 48.3 +1.1
PCAB eSn Sn 15 07 02.5 -3.4
PCAB A A 15 07 44.9
comp=N,256nm,0.6s
ELOB Lobios 7.08 332 Pn Pn 15 05 49.9 +0.6
ELOB Sn Sn 15 07 05.6 -4.0
ELOB i Vmb_Lg 15 07 59.7
EARA Aranguren 7.23 12 Pn Pn 15 05 54.2 +2.9
EARA i Vmb_Lg 15 08 19.7
PGAV Gavieira, Arco 7.24 331 ePn Pn 15 05 52.5 +0.9
PGAV eSn Sn 15 07 11.0 -2.7
PGAV A A 15 08 12.3
comp=N,215nm,0.7s
CGR Cap Guir 7.31 228 P Pn 15 05 53.0 +0.6
CGR Cap Guir 7.31 228 P Pn 15 05 53.0 +0.6
EMIR Miracle 7.37 31 Pn Pn 15 05 56.6 +3.2
EMIR i Vmb_Lg 15 07 02.0
EORO Oroz-Betelu 7.39 13 Pn Pn 15 05 55.9 +2.3
EORO i Vmb_Lg 15 08 26.9
ELAN Lanestosa 7.52 1 Pn Pn 15 05 57.0 +1.7
ELAN Sn Sn 15 07 20.8 +0.4
ELAN i Vmb_Lg 15 08 21.6
ECHI Chisagues Biel 7.54 22 Pn Pn 15 05 57.4 +1.7
ECHI i Vmb_Lg 15 08 55.4
ETSF Etsaut 7.56 17 ePn Pn 15 05 57.5 +1.6
ETSF Etsaut 7.56 17 eP Pn 15 05 59.6 +3.7
ETSF eSn Sn 15 07 18.7 -2.7
ETSF eSg Sg 15 08 05.0 -3.5
comp=N,1µm,1.4s
EZAM Zamans 7.57 330 Pn Pn 15 05 57.0 +1.0
EZAM Sn Sn 15 07 18.6 -2.9
EZAM i Vmb_Lg 15 08 27.9
SJPF Ste Jean 7.62 13 ePn Pn 15 05 58.7 +2.0
SJPF eSn Sn 15 07 21.9 -1.0
SJPF eSg Sg 15 08 03.6 -6.9
comp=N,1µm,1.3s
EALK Alkurruntz 7.68 11 Pn Pn 15 06 00.2 +2.7
EALK Sn Sn 15 07 22.2 -2.2
EARI Arriondas 7.69 351 Pn Pn 15 05 58.7 +1.0
EARI Sn Sn 15 07 21.4 -3.2
EARI i Vmb_Lg 15 08 30.8
EAGO Agolada(Pontev 7.90 335 Pn Pn 15 06 02.2 +1.7
EAGO Sn Sn 15 07 26.4 -3.4
EAGO i Vmb_Lg 15 08 28.4
EPF Esparros 7.92 21 ePn Pn 15 06 02.3 +1.4
EPF eSn Sn 15 07 29.8 -0.5
EPF eSg Sg 15 08 17.4 -2.8
comp=N,226nm,0.9s
EMAZ Mazaricos 8.36 332 Pn Pn 15 06 08.1 +1.3
EMAZ Sn Sn 15 07 35.2 -5.7
EMAZ i Vmb_Lg 15 08 50.8
MTLF Montolieu 8.85 29 ePn Pn 15 06 14.1 +0.6
MTLF eSn Sn 15 07 51.6 -1.3
comp=N,5.2nm,0.3s
MTLF eSg Sg 15 08 43.4 -6.3
comp=N,164nm,1.1s
TANT Tantan 9.74 224 P Pn 15 06 24.0 -1.9
LFF La Frestale 9.80 18 ePn Pn 15 06 27.2 +0.7
LFF eSn Sn 15 08 09.7 -6.6
LFF eSg 15 09 11.1
comp=N,123nm,1.1s
LASF Ste Croix 10.12 32 ePn Pn 15 06 32.4 +1.4
LASF eSn Sn 15 08 22.2 -2.2
LASF eSg 15 09 23.7
comp=N,345nm,1.6s
CAF Calviac 10.17 23 ePn Pn 15 06 32.5 +0.9
CAF eSn Sn 15 08 17.7 -7.8
CAF eSg 15 09 24.6
comp=N,42nm,0.8s
RJF Les Rejaudoux 10.35 20 ePn Pn 15 06 34.0 0.0
RJF Les Rejaudoux 10.35 20 eP Pn 15 06 37.6 +3.6
RJF eSn Sn 15 08 24.1 -5.6
RJF eSg 15 09 32.3
comp=N,573nm,1.8s
SMRF Simiane la Rot 10.85 38 ePn Pn 15 06 41.3 +0.4
PMPST Porto Santo, M 10.86 260 eP Pn 15 06 36.8 -4.2
PMPST eS Sn 15 08 30.7 -12

PMPS Porto Santo 10.86 260 eP Pn 15 06 37.5 -3.6
PMPS eS Sn 15 08 31.3 -11
LMR La Mourre 10.89 43 ePn Pn 15 06 43.1 +1.6
LMR eSn Sn 15 08 38.5 -4.7
comp=N,2.8nm,0.3s
VSL Villasalto 10.96 66 Pn Pn 15 06 43.4 +1.0
VIVF Saint-Julien-l 11.10 32 ePn Pn 15 06 45.3 +0.9
VIVF eSg 15 09 55.5
comp=N,55nm,1.1s
FRF La Foret Royal 11.12 42 ePn Pn 15 06 46.8 +2.2
FRF eSn Sn 15 08 45.0 -3.7
comp=N,2.4nm,0.3s
MFF Saint Martin d 11.19 12 ePn Pn 15 06 45.4 -0.2
MFF eSn Sn 15 08 41.6 -8.9
comp=N,55nm,0.9s
PMAR Madeira 11.43 259 eP Pn 15 06 46.1 -3.0
PMAR eS Sn 15 08 44.6 -12
PMAR Madeira 11.43 259 P Pn 15 06 46.8 -2.2
FUL Funchal 11.44 258 eP Pn 15 06 46.4 -2.6
TCF Toulx Ste Croi 11.44 21 ePn Pn 15 06 48.1 -0.9
TCF Toulx Ste Croi 11.44 21 eP Pn 15 06 57.8 +8.8
PMOZ Porto Moniz, M 11.62 260 eP Pn 15 06 49.9 -1.8
PMOZ eS Sn 15 08 52.1 -9.2
PMOZ Porto Moniz, M 11.62 260 Pn Pn 15 06 49.3 -2.3
PMOZ Porto Moniz, M 11.62 260 P Pn 15 06 49.3 -2.3
ORIF Oris-en-Rattie 11.69 35 ePn Pn 15 06 56.7 +4.2
SBF Sospel 11.75 43 ePn Pn 15 06 55.8 +2.5
SBF eSn Sn 15 09 01.0 -3.3
comp=N,1.4nm,0.2s
BGF Bois d'Agland 11.87 22 ePn Pn 15 06 55.1 +0.2
BGF eSn Sn 15 08 59.1 -8.1
PGF Pioggiola 11.92 51 ePn Pn 15 06 57.3 +1.7
PGF eSn Sn 15 09 05.6 -2.8
comp=N,3.2nm,0.4s
MBDF Montbardon 11.99 38 ePn Pn 15 07 00.8 +4.2
BNI Bardonecchia 12.17 37 P Pn 15 06 55.6 -3.5
BNI Bardonecchia 12.17 37 Pn Pn 15 06 55.6 -3.5
QUIF Quistinic 12.21 1 ePn Pn 15 06 59.8 +0.3
QUIF eSn Sn 15 09 09.0 -6.3
comp=N,30nm,0.5s
AVF Avril sur Loir 12.24 23 ePn Pn 15 06 58.4 -1.5
AVF eSn Sn 15 09 12.4 -3.7
AVF eSg 15 10 30.4
comp=N,264nm,1.6s
SMF Signal de Mont 12.27 25 ePn Pn 15 06 59.5 -0.9
SMF Signal de Mont 12.27 25 eP Pn 15 07 04.4 +4.0
SMF eSg 15 10 30.8
HYF Humbligny 12.46 20 ePn Pn 15 07 04.7 +1.8
SSF Saint Saulge 12.53 23 ePn Pn 15 07 03.7 -0.1
SSF Saint Saulge 12.53 23 eP Pn 15 07 07.9 +4.1
SSF eSn Sn 15 09 17.2 -6.0
SSF eSg 15 10 41.5
comp=N,181nm,1.4s
LPG La Plagne 12.54 36 ePn Pn 15 07 06.5 +2.3
LPL La Plagne 12.54 35 ePn Pn 15 07 09.8 +5.6
SGMF Saint Gilles 12.57 3 ePn Pn 15 07 04.0 -0.3
SGMF Saint Gilles 12.57 3 eP Pn 15 07 08.9 +4.6
SGMF eSn Sn 15 09 12.6 -11
comp=N,46nm,0.8s
ROSF Rostrenen 12.63 1 ePn Pn 15 07 05.3 +0.1
ROSF Rostrenen 12.63 1 eP Pn 15 07 09.8 +4.6
ROSF eSn Sn 15 09 16.5 -9.1
comp=N,40nm,0.6s
LOR Lormes 12.82 23 ePn Pn 15 07 08.2 +0.3
baz=212
LOR Lormes 12.82 23 eP P 15 07 16.9 -1.9
baz=202
GRR Gorron 12.84 8 ePn Pn 15 07 07.6 -0.4
GRR eSn Sn 15 09 20.6 -10
comp=N,28nm,0.7s
CLF Chambon-Foret 13.05 18 Pn 15 07 11.7 +0.7
CABF La Chapelle 13.10 31 ePn Pn 15 07 10.5 -1.2
CABF La Chapelle 13.10 31 eP P 15 07 19.8 -2.1
CABF eSg S 15 11 02.3 +60
comp=N,510nm,1.9s
LDF La Druitiere 13.13 10 ePn Pn 15 07 12.6 +0.5
LDF La Druitiere 13.13 10 eP Pn 15 07 16.1 +4.0
LDF eSn Sn 15 09 28.3 -10
comp=N,20nm,0.7s
CASP Castiglione de 13.24 53 Pn Pn 15 07 12.9 -0.6
FLN La Foliniere 13.25 9 ePn Pn 15 07 13.6 -0.1
baz=193
FLN La Foliniere 13.25 9 eP Pn 15 07 18.0 +4.3
FLN eSn Sn 15 09 32.6 -8.2
FLN eSg S 15 11 05.1 +60
comp=N,55nm,1.1s
SENIN Lac Senin/Sane 13.44 34 Pn 15 07 16.5 +0.1
SFTF Sexfontaines 14.03 24 ePn Pn 15 07 27.6 +3.2
ZCCA Zocca 14.09 48 P P 15 07 31.5 -1.5
MEZF Maizieres J'vi 14.29 24 ePn Pn 15 07 30.2 +2.3
MEZF eSg 15 11 36.4
HAU Haudompre 14.33 28 ePn Pn 15 07 26.7 -1.8
HAU eSg 15 11 39.5
HINF Hinteralfeld 14.38 29 ePn Pn 15 07 28.6 -0.5
HINF eSg 15 11 40.4
SAVF Savonnieres en 14.41 24 ePn Pn 15 07 31.4 +1.8
baz=208
SALO Salr 14.56 43 Pn 15 07 31.2 -0.5
PAGF Fort de Pagny 14.57 25 ePn Pn 15 07 31.8 +0.1
PAGF eSg 15 11 45.3
comp=N,628nm,2.0s
VAE Valguarnera 14.57 78 Pn P 15 07 36.1 -2.2
comp=N,0.4nm,0.3s,baz=271,slow=15,SNR=1.9
NRCA Norcia 14.75 56 Pn 15 07 32.5 -1.8
DAVOX Davos/Dischmat 14.98 38 Pn Pn 15 07 38.7 +1.2
baz=330,slow=16
DAVOX LR LR 15 13 02.7
comp=N,409nm,21.6s,baz=252,slow=36
CDF Champ du Feu 15.02 29 ePn Pn 15 07 39.6 +1.6
TEOL Teolo 15.06 46 Pn 15 07 39.1 +0.6
DAVA Damuels 15.33 37 eP P 15 07 44.6 -2.1
comp=N,64nm,1.1s,SNR=12
BFO Blek Forest 15.39 31 eL L 15 12 54.3
comp=N,467nm,19.6s
BAIF Baives 15.43 19 ePn Pn 15 07 42.1 -1.1
BAIF Baives 15.43 19 eP P 15 07 49.8 +2.1
DOU Dourbes 15.57 20 dPn Pn 15 07 44.9 -0.2
DOU dPnPn pP 15 07 52.6 -0.1
FETA Feichten 15.57 39 eP P 15 07 48.0 -1.5
comp=N,79nm,1.1s,SNR=16
GIVF Givet 15.64 20 ePn Pn 15 07 46.4 +0.5
WLF Walferdange 15.66 24 eP P 15 07 50.4 +0.1
comp=N,78nm,1.1s,baz=216,slow=12
WLF Walferdange 15.66 24 dP P 15 07 48.7 -1.6
comp=Z,44nm,1.0s
UBR Ueberruh 15.71 36 eP Pn 15 07 48.8 +1.8
comp=Z,74nm,1.2s,baz=216,slow=12
RCHB Rochefort 15.80 21 dPn Pn 15 07 48.2 +0.2
RCHB dP P 15 07 50.5 -1.3
comp=Z,41nm,1.1s
RETA Reutte 15.90 38 eP Pn 15 07 51.1 +1.7
comp=Z,49nm,1.0s,SNR=11
SQTA Sankt Quirin 15.95 39 eP P 15 07 52.1 -1.5
comp=Z,102nm,1.2s,SNR=38
BGES Gesves 15.97 21 dPn Pn 15 07 50.7 +0.5
BGES dP P 15 07 53.0 -0.7
MOTA Moosalm 15.98 39 eP Pn 15 07 51.0 +0.6
comp=Z,59nm,1.8s,SNR=5.7
BCLA Clavier 16.06 21 dP P 15 07 53.8 -1.0
comp=Z,25nm,1.2s
WTTA Wattenberg 16.20 40 eP Pn 15 07 54.2 +0.9
comp=Z,95nm,1.4s,SNR=29
BHOU Houvegnez 16.21 22 dPn Pn 15 07 54.0 +0.7
BHOU dP P 15 07 55.5 -0.9
comp=Z,16nm,1.1s
WATA Walderalm 16.21 40 eP P 15 07 55.3 -1.3
comp=Z,77nm,1.4s,SNR=16
RSBS Rosebush, Pemb 16.27 357 eP P 15 07 56.2 -0.8
BSTI Sart Tilman 16.28 21 dPn Pn 15 07 54.9 +0.6
MCH1 Michaelchurch 16.30 1 eP Pn 15 07 55.4 +1.0
MCH1 IAmb IAmb 15 08 01.5
comp=Z,96nm,1.3s
ABTA Abfaltersbach 16.35 43 eP P 15 07 58.1 +0.1
comp=Z,49nm,1.0s,SNR=16
MEM Membach 16.44 22 dP P 15 07 58.1 -0.8
BTNL Ternell 16.46 22 dP P 15 07 58.6 -0.6
comp=Z,11nm,0.9s
TIP Timpagrande 16.52 72 P Pn 15 07 58.7 +1.3
FUR Furstenfeldbru 16.61 37 eL L 15 14 04.2
comp=Z,328nm,20.8s
HLM1 Long Mynd 16.82 1 eP P 15 08 04.2 +1.1
CEY Cerknica 16.90 48 ⇑iP Pn 15 08 00.2 -2.0
MYKA Terra Mystica 16.91 45 eP P 15 08 07.2 +2.9
comp=Z,24nm,1.1s

TNS Taunus Mts 16.94 27 eP P 15 08 04.6 0.0
comp=Z,44nm,1.5s,baz=216,slow=12
TNS eL L 15 12 04.9
comp=Z,93nm,21.3s
KBA Koelnbreinsper 17.00 43 eP P 15 08 05.7 +0.3
comp=Z,38nm,1.6s,SNR=6.4
CWF Charnwood Fore 17.11 5 eP P 15 08 06.7 +0.4
CWF IAmb IAmb 15 08 08.8
comp=Z,23nm,0.7s
LJU Ljubljana 17.12 47 ⇑iP P 15 08 07.8 +1.3
FOEL Foel Wylfa 17.19 1 eP P 15 08 07.2 0.0
FOEL IAmb IAmb 15 08 10.7
comp=Z,48nm,1.1s
WACR West Acre 17.28 9 eP P 15 08 08.3 +0.2
OBKA Obir 17.37 46 eP P 15 08 11.5 +2.1
comp=Z,48nm,1.6s
YLL Llanberis 17.44 359 eP P 15 08 12.4 +2.4
BIOA Bad Ischl, Aus 17.53 42 eP Pn 15 08 10.3 +0.3
comp=Z,25nm,1.3s
BUG Bochum--Univer 17.56 23 eP P 15 08 14.1 +2.8
comp=Z,93nm,1.4s,baz=216,slow=12
YRC Rhoscolyn 17.56 358 eP P 15 08 14.2 +2.9
CRES Cresnjev 17.57 49 eP P 15 08 12.2 +0.7
GRF Grafenberg Arr 17.67 33 eP P 15 08 14.5 +1.9
comp=Z,91nm,1.3s,baz=216,slow=12
GRF eL L 15 14 04.5
comp=Z,436nm,21.2s
WPS Cemaes, Angles 17.71 358 eP P 15 08 15.9 +3.0
KASTN Kahler Asten 17.74 25 eP P 15 08 17.3 +4.0
comp=Z,41nm,1.4s,baz=216,slow=12
SOKA Soboth 17.75 46 eP P 15 08 14.9 +1.4
comp=Z,37nm,1.2s,SNR=9.0
LBWR Ladybower, Pea 17.75 4 eP P 15 08 16.0 +2.7
LBWR IAmb IAmb 15 08 18.7
comp=Z,53nm,0.9s
MOA Molln 17.96 42 eP P 15 08 16.5 +0.7
comp=Z,15nm,0.9s
MGRS Mrkonjic Grad 18.02 55 ⇑iP P 15 08 19.9 +3.4
WET Wettzell 18.06 37 eP Pn 15 08 16.0 -0.5
comp=Z,29nm,1.2s,baz=216,slow=12
WET eL L 15 14 56.8
comp=Z,369nm,19.3s
ROTZ Rotzenmuhle 18.17 34 eP P 15 08 19.0 +0.9
comp=Z,8.3nm,1.2s,baz=216,slow=12
GEC2 GERESS Array S 18.28 39 P Pn 15 08 19.0 -0.2
GEC2 GERESS Array S 18.28 39 eP Pn 15 08 18.5 -0.8
comp=Z,61nm,1.3s,baz=216,slow=12
GEC2 eL L 15 15 06.6
comp=Z,320nm,20.3s
GERES GERESS Array B 18.28 39 P Pn 15 08 19.1 -0.1
comp=Z,0.5nm,0.3s,baz=224,slow=9.3,SNR=30
GERES PcP PcP 15 12 51.0 0.0
comp=Z,0.1nm,0.3s,baz=101,slow=1.4,SNR=7.8
GERES LR LR 15 15 27.3
comp=Z,309nm,19.6s,baz=252,slow=37
GERES GERESS Array B 18.28 39 Pn 15 08 19.4 +0.1
GERES PcP 15 12 50.7 -0.3
MANZ Manzenberg 18.28 34 eP P 15 08 20.7 +1.4
comp=Z,6.6nm,1.1s,baz=216,slow=12
HPK Haverah Park 18.31 4 eP P 15 08 21.9 +2.4
HPK IAmb IAmb 15 08 23.5
comp=Z,40nm,0.8s
ARSA Arzberg 18.33 45 eP P 15 08 21.9 +2.0
comp=Z,13nm,0.9s
TREB Trebinje 18.36 61 eP P 15 08 22.7 +2.5
KHC Kasperske Hory 18.40 38 eP P 15 08 20.3 -0.3
KHC MLR MLR
comp=Z,1µm,11.1s
KHC Kasperske Hory 18.40 38 eP P 15 08 20.3 -0.3
KHC epP sP 15 08 29.4 +3.4
KHC AMS AMS 15 16 10.0
comp=Z,1µm,11.1s
KHC Kasperske Hory 18.40 38 P P 15 08 20.2 -0.3
BRY Bratogost 18.54 60 eP Pn 15 08 23.0 +0.4
BRY Bratogost 18.54 60 ||iP Pn 15 08 22.9 +0.4
MOX Moxa 18.54 32 eP Pn 15 08 23.6 +1.2
comp=Z,35nm,1.1s,baz=216,slow=12
MOX eL L 15 15 02.8
comp=Z,284nm,19.3s
CKRC Cesky Krumlov 18.57 40 eP P 15 08 22.4 -0.1
NKC Novy Kostel 18.61 34 eP Pn 15 08 24.9 +1.7
NKC MLR MLR
comp=Z,2µm,9.4s
NKC Novy Kostel 18.61 34 eP Pn 15 08 24.9 +1.7
NKC AMS AMS 15 16 10.0
comp=Z,2µm,9.4s
WERN Wernitzgruen 18.62 34 eP Pn 15 08 24.4 +1.1
comp=Z,187nm,3.0s,baz=216,slow=12
GUNZ Gunzen 18.65 33 eP Pn 15 08 24.6 +0.9
comp=Z,47nm,1.5s,baz=216,slow=12
PLN Plauen 18.66 33 eP Pn 15 08 24.6 +0.8
comp=Z,59nm,1.7s,baz=216,slow=12
CEME Cevo 18.72 62 ||iP Pn 15 08 25.7 +1.1
TANN Tannenbergstha 18.75 33 eP Pn 15 08 25.8 +0.9
comp=Z,55nm,1.3s,baz=216,slow=12
NKME Niksic 18.80 61 ||iP Pn 15 08 25.6 0.0
ULC Ulcinj 18.82 64 ||iP Pn 15 08 26.9 +1.0
DRME Dracevica, Mon 18.83 63 ⇑iP Pn 15 08 26.7 +0.8
DRME Dracevica, Mon 18.83 63 ||iP Pn 15 08 27.5 +1.6
UPM Unac-Piva 18.88 60 eP Pn 15 08 27.6 +0.9
UPM Unac-Piva 18.88 60 ||iP Pn 15 08 27.4 +0.7
KESW Keswick, Cumbr 18.89 1 eP Pn 15 08 28.5 +1.9
KESW IAmb IAmb 15 08 29.1
comp=Z,57nm,0.9s
CONA Conrad Observa 18.89 44 eP P 15 08 25.9 -0.2
comp=Z,17nm,1.0s
PDG Podgorica 18.93 62 ⇑P Pn 15 08 27.6 +0.4
PDG Podgorica 18.93 62 P P 15 08 25.4 -1.1
PDG Podgorica 18.93 62 ⇑iP Pn 15 08 27.6 +0.4
TTG Podgorica 18.93 62 ||iP Pn 15 08 28.2 +1.0
PBCC Pribram 18.97 37 eP Pn 15 08 28.2 +0.7
CLZ Clausthal 18.97 27 eP Pn 15 08 29.9 +2.4
comp=Z,26nm,1.1s,baz=216,slow=12
NEUB Neuenburg 19.03 31 eP Pn 15 08 30.6 +2.4
comp=Z,81nm,1.3s,baz=216,slow=12
SOP Sopron 19.16 45 P Pn 15 08 31.1 +1.2
EDMD Edmundbyers 19.16 3 eP Pn 15 08 31.4 +1.6
EDMD IAmb IAmb 15 08 32.0
comp=Z,50nm,0.8s
GAL1 Galloway 19.18 358 eP Pn 15 08 30.6 +0.6
KOME Kolasin 19.22 61 ||iP Pn 15 08 31.6 +0.9
ASSE Asse, Remlinge 19.31 27 eP Pn 15 08 33.4 +1.9
comp=Z,67nm,1.7s,baz=216,slow=12
RUDO Rudo 19.32 59 eP P 15 08 30.4 -0.3
KOVH Kovagotottos 19.34 51 P Pn 15 08 32.2 +0.2
RETH Rethem/Aller, 19.34 24 eP Pn 15 08 35.2 +3.2
comp=Z,271nm,2.2s,baz=216,slow=12
BBLS Lazići 19.41 58 eP P 15 08 31.6 -0.3
NEWG New Galloway 19.42 359 eP Pn 15 08 33.4 +0.5
NEWG IAmb IAmb 15 08 39.8
comp=Z,30nm,0.8s
PRU Pruhonice 19.43 37 eP Pn 15 08 33.1 0.0
PRU MLR MLR
comp=Z,1µm,8.4s
PRU Pruhonice 19.43 37 eP P 15 08 33.1 0.0
PRU epP sP 15 08 37.2 -0.1
PRU AMS AMS 15 17 40.0
comp=Z,1µm,8.4s
EGYH Egyhazaskeszo 19.48 47 P Pn 15 08 34.7 +1.1
PVY Plav 19.48 62 ||iP Pn 15 08 34.3 +0.4
MPLH Magyarpolny 19.48 48 P Pn 15 08 34.4 +0.7
IVA Berane 19.49 61 ||iP Pn 15 08 34.1 +0.1
FBE Freiberg 19.50 34 eP Pn 15 08 34.5 +0.6
comp=Z,31nm,1.1s,baz=216,slow=12
ESK Eskdalemuir 19.62 1 eP Pn 15 08 35.9 +0.6
ESK IAmb IAmb 15 08 38.1
comp=Z,28nm,0.7s
ESK Eskdalemuir 19.62 1 P Pn 15 08 35.4 +0.1
ESK pmax pmax
comp=Z,140nm,1.7s
ESK Eskdalemuir 19.62 1 P Pn 15 08 35.4 +0.1
CLL Collm 19.63 32 iP Pn 15 08 36.0 +0.6
CLL eS Sn 15 12 21.0 +5.6
CLL pmax pmax
comp=Z,100nm,1.1s
CLL Collm 19.63 32 iP Pn 15 08 36.0 +0.6
comp=Z,100nm,1.1s
CLL ex x 15 08 43.0
CLL eS Sn 15 12 21.0 +5.6
CLL Lmax 15 18 00.0
CLL Collm 19.63 32 eP Pn 15 08 36.0 +0.6
comp=Z,100nm,1.1s,baz=216,slow=12
CLL eL L 15 14 58.0
comp=Z,395nm,21.3s
EKA Eskdalemuir Ar 19.64 1 Pn Pn 15 08 36.2 +0.8

baz=178,slow=11,SNR=74
EKA LR LR 15 16 27.3
comp=Z,616nm,19.6s,baz=189,slow=38
FLTG Flechtingen 19.68 28 *eP* **Pn 15 08 36.8 +0.8**
comp=Z,34nm,1.3s,baz=216,slow=12
MORH Mrgy, Hungar 19.74 51 ⇑P **P 15 08 36.0 +0.7**
MORH Mrgy, Hungar 19.74 51 *eP* **P 15 08 35.9 +0.7**
MORH Mrgy, Hungar 19.74 51 P **P 15 08 35.8 +0.6**
ZST Bratislava 19.74 44 *eP* **Pn 15 08 37.0 +0.2**
ZST Bratislava 19.74 44 *eP* **Pn 15 08 37.0 +0.2**
BRG Berggiesshubel 19.74 34 ⇓*i*P **Pn 15 08 36.7 -0.1**
BRG Amp 15 08 39.9
comp=Z,84nm,1.4s
BRG Amp 15 17 15.0
comp=Z,0.8nm,11.5s
BRG Amp 15 17 18.0
comp=N,1.2nm,11.6s
BRG Amp 15 17 22.0
comp=E,0.7nm,13.1s
BRG Berggiesshubel 19.74 34 ⇓*i*P **Pn 15 08 36.6 -0.1**
BRG pmax pmax
comp=Z,84nm,1.4s
BRG MLR MLR
comp=Z,837nm,11.5s
BRG MLR MLR
comp=N,1μm,11.6s
BRG MLR MLR
comp=E,699nm,13.1s
BRG Berggiesshubel 19.74 34 *eP* **Pn 15 08 36.7 -0.1**
comp=E,83nm,1.4s,baz=216,slow=12
PVCC Panska Ves 19.80 36 *eP* **Pn 15 08 37.5 0.0**
PVCC MLR MLR
comp=Z,1μm,9.9s
PVCC Panska Ves 19.80 36 *eP* **Pn 15 08 37.5 0.0**
PVCC AMS AMS 15 17 10.0
comp=Z,1μm,9.9s
KRUC Moravsky 19.82 42 *eP* **P 15 08 36.3 +0.1**
DIVS Divibare 19.89 58 P **P 15 08 35.8 -1.2**
DIVS Divibare 19.89 58 ⇑*i*P **P 15 08 36.8 -0.2**
CSKK Cskako 20.00 48 P Pn 15 08 40.1 +0.2
VRAC Vranov 20.07 41 P Pn 15 08 40.1 -0.6
comp=Z,13nm,0.8s,baz=248,slow=12,SNR=20
VRAC Vranov 20.07 41 *eP* **P 15 08 39.2 +0.3**
EBL Broad Law 20.08 1 *eP* Pn 15 08 41.3 +0.6
SMOL Smolenice 20.09 44 *eP* Pn 15 08 41.2 +0.2
SMOL Smolenice 20.09 44 *eP* Pn 15 08 41.2 +0.2
FRGS Fruska Gora 20.10 55 ⇑*i*P **P 15 08 37.9 -1.4**
PGBU Glenifferbraes 20.12 359 *eP* Pn 15 08 42.2 +1.0
PGBU IAmb IAmb 15 08 43.2
comp=Z,81nm,0.9s
HLG Helgoland 20.14 20 *eP* Pn 15 08 45.5 +4.1
comp=Z,272nm,1.1s,baz=216,slow=12
FNA Florina 20.22 68 P **P 15 08 39.3 -1.4**
FNA pmax pmax
comp=Z,44nm,1.1s
FNA Florina 20.22 68 P **P 15 08 39.3 -1.4**
EDI Edinburgh 20.23 1 *eP* Pn 15 08 43.3 +0.9
EDI IAmb IAmb 15 08 47.1
comp=Z,85nm,1.0s
ESY Stoneypath 20.23 2 *eP* Pn 15 08 42.5 0.0
SRO Srobarova 20.25 47 *eP* Pn 15 08 42.8 0.0
SRO Srobarova 20.25 47 *eP* Pn 15 08 42.8 0.0
SRO2 Moca 20.27 47 *eP* **P 15 08 42.1 +1.0**
SRO2 Moca 20.27 47 *eP* **P 15 08 42.1 +1.0**
JAVC Velka Javorina 20.41 43 *eP* **P 15 08 43.4 +0.8**
UPC Upice 20.49 38 *eP* **P 15 08 44.5 +1.1**
UPC Upice 20.49 38 *eP* **P 15 08 44.5 +1.1**
BUD Budapest 20.52 48 P Pn 15 08 45.3 -0.7
DPC Dobruska-Polom 20.55 38 *eP* **P 15 08 45.0 +0.9**
DPC MLR MLR
comp=Z,1μm,10.1s
DPC Dobruska-Polom 20.55 38 *eP* **P 15 08 45.0 +0.9**
DPC AMS AMS 15 18 30.0
comp=Z,1μm,10.1s
ITM Ithomi 20.56 78 P **P 15 08 43.6 -0.8**
ITM IAmb IAmb 15 08 58.2
comp=Z,145nm,1.2s
CHVC Chvalec 20.56 38 *eP* **P 15 08 45.3 +1.0**
LAWE Loch Awe, Argy 20.60 357 *eP* **P 15 08 45.4 +0.9**
LAWE IAmb IAmb 15 08 51.2
comp=Z,38nm,0.8s
KRLC Kraliky 20.62 40 *eP* Pn 15 08 46.2 -1.0
KRLC MLR MLR
comp=Z,700nm,10.2s
KRLC Kraliky 20.62 40 *eP* Pn 15 08 46.2 -1.0
KRLC AMS AMS 15 18 10.0
comp=Z,700nm,10.2s
OSTC Ostas 20.62 38 *eP* **P 15 08 46.1 +1.2**
BSEG Bad Segeberg 20.66 24 *eP* Pn 15 08 47.6 +0.1
comp=Z,193nm,1.1s,baz=216,slow=12
BSEG *eL* L 15 16 22.4
comp=Z,901nm,19.7s
RUE Ruedersdorf 20.81 31 *eP* P 15 08 37.9 -9.0
RUE Ruedersdorf 20.81 31 *eP* Pn 15 08 49.1 -0.1
comp=Z,345nm,1.2s,baz=216,slow=12
AGG Agios Georgios 20.84 73 P **P 15 08 47.8 +0.4**
AGG pmax pmax
comp=Z,128nm,1.2s
AGG Agios Georgios 20.84 73 P **P 15 08 47.8 +0.4**
AGG IAmb IAmb 15 08 52.6
comp=Z,128nm,1.2s
KSP Ksiaz 20.84 37 *eP* **P 15 08 48.5 +1.2**
MORC Moravsky Berou 20.84 41 ⇓P Pn 15 08 49.7 -0.1
MORC Moravsky Berou 20.84 41 P **P 15 08 48.2 +0.8**
MORC pmax pmax
comp=Z,45nm,1.2s
MORC Moravsky Berou 20.84 41 P **P 15 08 48.2 +0.8**
MORC Moravsky Berou 20.84 41 *eP* **P 15 08 47.8 +0.5**
EDU Dundee 20.85 1 *eP* Pn 15 08 48.6 -1.2
VYHS Vyhne 20.89 45 *eP* Pn 15 08 49.4 -0.9
VYHS Vyhne 20.89 45 *eP* Pn 15 08 49.4 -0.9
LIT Litokhoron 21.01 70 P **P 15 08 48.5 -0.7**
LIT pmax pmax
comp=Z,107nm,1.2s
LIT Litokhoron 21.01 70 P **P 15 08 48.5 -0.7**
LIT IAmb IAmb 15 08 53.4
comp=Z,107nm,1.2s
AMBH Ambrzfalva 21.12 52 P P 15 08 58.2 +7.9
KOWA Kowa 21.12 181 P **P 15 08 49.7 -0.7**
comp=Z,35nm,0.8s,baz=356,slow=6.1,SNR=42
KOWA LR LR 15 17 56.6
comp=Z,1μm,18.2s,baz=16,slow=40
KOWA Kowa 21.12 181 P **P 15 08 48.7 -1.8**
BSZH Besenyszg 21.20 50 P **P 15 08 56.2 +5.0**
DRUM Mains of Drumt 21.23 2 *eP* **P 15 08 53.5 +2.2**
DRUM IAmb IAmb 15 08 54.0
comp=Z,278μm,11.7s
PSZ Piszkesteto 21.24 48 ⇑P **P 15 08 52.5 +0.8**
PSZ Piszkesteto 21.24 48 P **P 15 08 49.8 -1.8**
PSZ pmax pmax
comp=Z,96nm,1.6s
PSZ Piszkesteto 21.24 48 P **P 15 08 49.8 -1.8**
PSZ Piszkesteto 21.24 48 P **P 15 08 52.4 +0.8**
MDVR Moldovita 21.26 57 ⇑P **P 15 08 52.7 +0.8**
IZAB Izabela 21.43 46 *eP* **P 15 08 54.7 +1.1**
BZS Buzias 21.45 55 ⇓P **P 15 08 54.6 +0.8**
LANS Liptovska Anna 21.57 44 *eP* **P 15 08 56.3 +1.1**
LANS Liptovska Anna 21.57 44 *eP* **P 15 08 56.3 +1.1**
KKB Krupnik 21.63 65 P **P 15 08 57.5 +1.7**
SIRR Siria 21.70 53 ⇓P **P 15 08 57.5 +1.1**
HERR Herculane 21.77 57 ⇑P **P 15 08 58.1 +0.8**
KECS Kecovo 21.85 47 *eP* **P 15 09 00.2 +2.1**
KECS Kecovo 21.85 47 *eP* **P 15 09 00.2 +2.1**
VTS Vitosha 21.86 63 ⇓P **P 15 08 58.0 -0.5**
VTS Vitosha 21.86 63 P **P 15 08 57.9 -0.5**
VTS pmax pmax
comp=Z,132nm,2.0s
VTS Vitosha 21.86 63 P **P 15 08 57.9 -0.5**
VTS Vitosha 21.86 63 P **P 15 08 58.7 +0.3**
MCD Coleburn Disti 21.89 0 *eP* **P 15 08 59.6 +1.2**
MMB Musomiste 22.08 66 P **P 15 09 00.3 -0.3**
NIE Niedzica 22.18 44 *eP* **P 15 09 03.6 +1.9**
RGN Rugen 22.20 27 *eP* P 15 08 50.7 -11
SRE Strehaia 22.26 58 ⇓P **P 15 09 05.3 +2.8**
OJC Ojcow 22.31 42 *eP* **P 15 09 02.8 -0.2**
OJC *ePcP* **PcP 15 12 58.6 +0.3**
OJC Ojcow 22.31 42 P **P 15 09 02.9 -0.1**
OJC pmax pmax
comp=Z,57nm,1.3s
OJC Ojcow 22.31 42 P **P 15 09 02.9 -0.1**
MPEP Malo Peshtene 22.35 62 P **P 15 09 05.3 +1.8**
LLD Lille Linde 22.44 24 *i*P **P 15 09 04.5 +0.3**
LLD IAmb IAmb 15 09 06.4
comp=Z,25nm,0.7s

LINV Loch Inver, As 22.48 358 *eP* **P 15 09 06.3 +1.6**
LINV IAmb IAmb 15 09 07.7
comp=Z,159nm,1.3s
MUD Monsted U'grnd 22.49 19 *i*P **P 15 09 05.4 +0.6**
MUD IAmb IAmb 15 09 08.0
comp=Z,31nm,0.5s
DRGR 22.56 53 ⇑P **P 15 09 07.6 +1.9**
CRVS Cervenica-Dubn 22.61 47 *eP* **P 15 09 08.2 +1.9**
CRVS Cervenica-Dubn 22.61 47 *eP* **P 15 09 08.2 +1.9**
COP Copenhagen 22.80 24 *i*P **P 15 09 08.4 +0.3**
COP IAmb IAmb 15 09 10.9
comp=Z,288nm,0.7s
GKP Gorka Klasztor 22.86 33 *eP* **P 15 09 10.1 +1.3**
GKP Gorka Klasztor 22.86 33 *eP* P 15 09 00.4 -8.4
TRPA Tarpa 22.94 49 ⇓P **P 15 09 10.3 +0.5**
TRPA Tarpa 22.94 49 P **P 15 09 09.6 -0.1**
TOA0 Torodi Ar. Sit 22.96 167 P **P 15 09 08.4 -1.7**
TORD Torodi Ar. Bea 22.96 167 P **P 15 09 09.2 -0.9**
comp=Z,14nm,0.7s,baz=348,slow=7.9,SNR=46
TORD Torodi Ar. Bea 22.96 167 P **P 15 09 08.9 -1.2**
UZH Uzhgorod 22.99 48 ⇓*i*P **P 15 09 09.0 -1.3**
UZH *e* 15 09 16.4
UZH *e* 15 09 38.7
UZH MLR MLR
comp=Z,100nm,14.0s
GOET G??ttrup 23.02 18 *i*P **P 15 09 12.3 +1.9**
GOET IAmb IAmb 15 09 13.8
comp=Z,31nm,0.7s
KOLS Kolonicke sedl 23.11 47 *eP* **P 15 09 12.7 +1.2**
KOLS Kolonicke sedl 23.11 47 *eP* **P 15 09 12.7 +1.2**
IDI Anoyia 23.16 83 P **P 15 09 13.9 +1.8**
comp=Z,99nm,1.1s,baz=280,slow=16,SNR=5.6
IDI Anoyia 23.16 83 P **P 15 09 12.9 +0.8**
BSD Bornholm Skovb 23.22 28 *i*P **P 15 09 13.2 +0.7**
BSD IAmb IAmb 15 09 14.3
comp=Z,11nm,0.8s
BSD Bornholm Skovb 23.22 28 *eP* P 15 09 03.3 -9.2
BMR Baia Mare 23.37 51 ⇑P **P 15 09 15.2 +1.2**
ARR Arges 23.41 57 ⇓P **P 15 09 15.4 +0.7**
APE Apeiranthos 23.44 78 ⇑*eP* **P 15 09 14.5 -0.5**
APE pmax pmax
comp=Z,15nm,0.8s
KWP Kalwaria Pacla 23.67 46 *eP* **P 15 09 17.6 +0.6**
BEL Belsk 23.70 40 *eP* **P 15 09 18.6 +1.3**
VOIR 23.72 57 ⇓P **P 15 09 18.4 +0.8**
SNART Snartemo 23.75 14 *i*P **P 15 09 18.0 +0.3**
DEL Delary 23.91 24 *i*P **P 15 09 20.0 +0.8**
DEL Delary 23.91 24 *eP* P 15 09 10.3 -8.9
HOMB Homborsund 23.96 16 *eP* **P 15 09 20.5 +0.8**
DOPR Dopca 24.08 56 ⇓P **P 15 09 21.7 +0.7**
KMY Karmoy 24.23 11 *eP* **P 15 09 22.8 +0.6**
MLR Muntele Rosu 24.34 57 ⇑P **P 15 09 24.7 +1.1**
MLR ⇑P **P 15 09 26.0 +2.4**
MLR Muntele Rosu 24.34 57 P **P 15 09 24.7 +1.1**
comp=Z,58nm,1.0s,baz=250,slow=5.2,SNR=43
MLR Muntele Rosu 24.34 57 P **P 15 09 23.7 +0.2**
MLR pmax pmax
comp=Z,98nm,1.2s
MLR Muntele Rosu 24.34 57 P **P 15 09 23.7 +0.2**
MLR IAmb IAmb 15 09 28.3
comp=Z,98nm,1.2s
OZUR 24.38 56 ⇓P **P 15 09 24.9 +1.1**
BUR08 Bucovina Ar. S 24.44 52 P **P 15 09 25.4 +1.0**
BURAR Bucovina Array 24.44 52 ⇑P **P 15 09 25.6 +1.2**
BURAR Bucovina Array 24.44 52 P **P 15 09 24.3 -0.1**
LVV L'vov 24.52 46 *eP* **P 15 09 24.2 -0.8**
NEHR Nehoiu 24.57 58 ⇑P **P 15 09 27.6 +2.1**
COVR Voineasa-Covas 24.60 57 ⇑P **P 15 09 26.8 +1.0**
BLS5 Blasjo 24.63 12 *eP* **P 15 09 26.7 +0.8**
BISRR Bisoca 24.88 57 ⇓P **P 15 09 30.8 +2.4**
PLOR Plostina 24.90 57 ⇓P **P 15 09 28.8 +0.2**
KARP Karpathos 24.94 81 P **P 15 09 27.1 -1.9**
VRI Vrincioaia 24.96 57 ⇓P **P 15 09 29.3 +0.3**
TESR Tescani 25.06 55 ⇓P **P 15 09 30.3 +0.3**
BER Bergen 25.36 10 *eP* **P 15 09 33.7 +1.3**
KONO Kongsberg 25.45 16 *deP* **P 15 09 34.2 +0.9**
KONO pmax pmax
comp=Z,66nm,1.7s
KONO Kongsberg 25.45 16 P **P 15 09 33.1 -0.2**
KONO IAmb IAmb 15 09 36.0
comp=Z,55nm,1.3s
KONO Kongsberg 25.45 16 *eP* **P 15 09 34.7 +1.4**
HARR Harsova 25.56 60 ⇑P **P 15 09 34.2 -0.2**
SCTR Scanteiesti 25.79 58 ⇑P **P 15 09 36.1 -0.4**
CFR Carcaliu 25.79 59 ⇓P **P 15 09 34.7 -1.7**
VASR Vaslui 25.86 55 ⇓P **P 15 09 37.3 +0.2**
TPGR Topolog 25.93 60 ⇓P **P 15 09 37.2 -0.7**
OSL Oslo 25.97 17 *eP* **P 15 09 39.3 +1.4**
SUW Suwalki 26.11 37 *eP* **P 15 09 38.0 -1.4**
SUW *ePcP* **PcP 15 13 06.7 +0.2**
SUW Suwalki 26.11 37 *eP* **P 15 09 32.6 -6.7**
SKAR Skarslia 26.14 13 *eP* **P 15 09 41.2 +1.6**
VIKU Vikbolandet 26.45 24 *eP* P 15 09 34.6 -7.7
SORM Soroca 26.61 52 ⇓P **P 15 09 42.3 -1.6**
PBUR Paburge 26.72 33 *eP* P 15 09 37.5 -7.3
AKAS Kas 26.80 79 P **P 15 09 44.5 -1.3**
AKAS IAmb IAmb 15 09 59.4
comp=Z,118nm,1.4s
NAO01 NORSAR Array S 26.81 16 P **P 15 09 45.7 +0.1**
NAO01 IAmb IAmb 15 09 47.4
comp=Z,70nm,1.1s
NAO01 NORSAR Array S 26.81 16 *eP* **P 15 09 45.6 0.0**
NC602 NORSAR Array S 26.86 16 P **P 15 09 46.5 +0.4**
HFS Hagfors 26.88 19 P **P 15 09 46.6 +0.4**
comp=Z,35nm,0.9s,baz=215,slow=13,SNR=33
HFS PcP **PcP 15 13 07.3 -0.9**
comp=Z,5.2nm,0.7s,baz=177,slow=10,SNR=6.0
HFS LR LR 15 20 51.6
comp=Z,473nm,20.6s,baz=211,slow=37
NBO00 NORSAR Array S 26.96 15 P **P 15 09 45.5 -1.4**
NBO00 IAmb IAmb 15 09 48.3
comp=Z,77nm,1.1s
NB2 NORSAR Subarra 27.06 16 P **P 15 09 48.4 +0.5**
comp=Z,38nm,1.0s,baz=205,slow=9.3
NB2 NORSAR Subarra 27.06 16 P **P 15 09 48.4 +0.5**
baz=205,slow=9.3
NOA NORSAR Array B 27.06 16 P **P 15 09 48.8 +0.9**
comp=Z,20nm,0.9s,baz=206,slow=8.9,SNR=24
NOA PcP **PcP 15 13 08.4 -0.2**
comp=Z,4.8nm,0.9s,baz=211,slow=2.6,SNR=7.6
NOA LR LR 15 22 14.3
comp=Z,999nm,18.8s,baz=205,slow=40
NB201 NORSAR Array S 27.09 16 P **P 15 09 47.1 -1.0**
NB201 IAmb IAmb 15 09 50.0
comp=Z,92nm,1.1s
AKN Aaknes 27.32 11 *eP* **P 15 09 52.0 +1.9**
PABE Paberze 27.34 35 *eP* **P 15 09 43.5 -6.8**
DOMB Dombas 27.54 13 *eP* **P 15 09 52.8 +0.6**
UPP Uppsala 27.81 23 *eP* P 15 09 46.7 -7.8
AKASG Malin Array Be 27.94 47 P **P 15 09 53.4 -2.4**
comp=Z,2.6nm,0.7s,baz=246,slow=10,SNR=8.5
AKASG PcP **PcP 15 13 10.3 -0.5**
comp=Z,0.9nm,0.5s,baz=281,slow=2.3,SNR=6.3
AKASG LR LR 15 20 16.4
comp=Z,104nm,21.0s,baz=322,slow=35
AKASG Malin Array Be 27.94 47 *i*P **P 15 09 53.4 -2.4**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
IIGN Ignalina 28.32 37 *eP* P 15 09 52.5 -6.7
NACGM Naroch 28.37 38 *i*P **P 15 10 00.2 +0.6**
AAL Aland 28.83 24 *eP* P 15 09 55.9 -7.7
DBIC Dimbokro 28.92 183 P **P 15 10 04.2 -0.5**
comp=Z,19nm,0.8s,baz=20,slow=8.9,SNR=14
DBIC LR LR 15 22 16.6
comp=Z,913nm,18.2s,baz=5.5,slow=38
DBIC Dimbokro 28.92 183 P **P 15 10 02.8 -1.9**
DBIC IAmb IAmb 15 10 06.2
comp=Z,131nm,1.9s
MTSE Matsula 29.23 29 *eP* P 15 10 00.0 -7.1
BRTR Keskin Array B 29.58 71 P **P 15 10 11.1 +0.4**
comp=Z,0.9nm,0.8s,baz=278,slow=8.6,SNR=4.0
VSU Vasula 30.28 32 *deP* **P 15 10 15.9 -0.6**
VSU pmax pmax
comp=Z,46nm,0.9s
VSU Vasula 30.28 32 *eP* P 15 10 09.5 -7.0
NSS Namsos 30.36 13 *eP* **P 15 10 19.1 +2.1**
BNN Bunyan 31.37 72 P **P 15 10 23.6 -2.8**
FINES FINESS Array B 31.86 27 P **P 15 10 30.3 -0.1**
FINES PcP **PcP 15 13 20.6 -0.2**
comp=Z,10nm,0.7s,baz=163,slow=2.0,SNR=17
FINES LR LR 15 23 24.6
comp=Z,349nm,18.4s,baz=227,slow=36

FINES FINESS Array B 31.86 27 P **P 15 10 29.8 -0.5**
FIA1 FINESS Array S 31.86 27 P **P 15 10 28.7 -1.6**
FIA1 IAmb IAmb 15 10 56.5
comp=Z,42nm,1.4s
MOR8 Moi Rana 32.29 14 *eP* **P 15 10 34.0 -0.1**
ANN Anapa 32.31 61 *eP* **P 15 10 33.0 -1.5**
ANN pmax pmax
comp=Z,39nm,1.3s
KONS Konsvik 32.34 12 *eP* **P 15 10 36.4 +1.8**
FAUS Fauske 33.52 13 *eP* **P 15 10 46.5 +1.6**
OBN Obninsk 33.60 42 ⇑*eP* **P 15 10 44.8 -0.8**
OBN *e* 15 11 56.8
OBN pmax pmax
comp=Z,36nm,1.4s
OBN MLR MLR
comp=Z,157nm,13.0s
SOC Sochi 33.95 63 *eP* **P 15 10 48.0 -0.8**
SOC *e* 15 11 59.0
SOC *e*PPP PPP 15 12 13.8
SOC *e*S **S 15 16 14.6 +1.4**
SOC *e*SS **SnSn 15 18 21.5 +2.2**
SOC pmax pmax
comp=Z,17nm,0.7s
SOC MLR MLR
comp=Z,90nm,14.0s
STEI Steigen 34.00 13 *eP* **P 15 10 50.5 +1.5**
LPSR Galich'ya Gora 34.27 47 *eP* **P 15 10 49.9 -1.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 34.37 41 *eP* **P 15 10 51.3 -1.0**
MOS *e* 15 13 27.8
JMIC Jan Mayen 35.45 357 LR LR 15 25 37.9
comp=Z,352nm,18.7s,baz=134,slow=36
VRH Novokhopyorsk 35.73 50 *eP* **P 15 11 02.6 -1.5**
VRH pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 36.08 62 *eP* **P 15 11 07.0 -0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
TRO Tromso 36.15 13 *eP* **P 15 11 08.6 +1.1**
SCO Scoresbysund 36.22 350 P **P 15 11 07.5 -0.5**
SCO pmax pmax
comp=Z,35nm,1.0s
SCO Scoresbysund 36.22 350 P **P 15 11 07.5 -0.5**
SCO IAmb IAmb 15 11 12.5
comp=Z,35nm,1.0s
KBZ Khabaz 36.24 63 P **P 15 11 09.2 +0.5**
comp=Z,3.9nm,1.0s,baz=295,slow=6.9,SNR=10
GOF Gofitskoye 36.29 61 ⇑*eP* **P 15 11 09.5 +0.5**
GOF pmax pmax
comp=Z,119nm,1.7s
JETT Jettan, Norway 36.37 14 *eP* **P 15 11 12.1 +2.6**
KTK1 Kautokeino 36.52 16 *eP* **P 15 11 10.8 +0.1**
ZEI Tsey 37.05 64 *eP* **P 15 11 14.0 -1.8**
ZEI pmax pmax
comp=Z,11nm,1.6s
KLMR Klimovskoe 37.10 34 *eP* **P 15 11 13.0 -2.7**
KLMR *e* 15 13 33.6
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 37.10 34 *eP* **P 15 11 13.1 -2.7**
KLMR AMP 15 11 17.7
comp=Z,21nm,1.1s
KLMR *ePcP* **PcP 15 13 33.6 -2.3**
KLMR LQ LQ 15 23 04.2
KLMR LQ LQ 15 23 04.2
ARA0 ARCESS Array S 37.44 16 *eP* **P 15 11 19.9 +1.4**
ARCES ARCESS Array B 37.44 16 P **P 15 11 19.2 +0.7**
comp=Z,7.7nm,0.7s,baz=204,slow=6.6,SNR=22
ARCES PcP **PcP 15 13 36.2 -0.6**
comp=Z,2.5nm,0.6s,baz=205,slow=2.3,SNR=6.7
ARCES LR LR 15 28 26.4
comp=Z,531nm,18.4s,baz=223,slow=39
ARCES ARCESS Array B 37.44 16 P **P 15 11 18.9 +0.4**
ARCES pmax pmax
comp=Z,68nm,1.8s
ARCES ARCESS Array B 37.44 16 P **P 15 11 18.9 +0.4**
ARCES IAmb IAmb 15 11 27.0
comp=Z,68nm,1.8s
HAMF Hammerfest 37.91 14 *eP* **P 15 11 24.2 +1.8**
GNI Garni 38.01 68 ⇓*eP* **P 15 11 22.0 -1.9**
GNI pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 38.01 68 P **P 15 11 21.2 -2.7**
APA Apatity 38.19 22 ⇓*i*P **P 15 11 27.9 +3.1**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,800nm,13.0s
LVZ Lovozero 38.77 22 *deP* **P 15 11 30.6 +0.9**
LVZ pmax pmax
comp=Z,75nm,2.5s
LVZ Lovozero 38.77 22 P **P 15 11 28.8 -0.9**
ICESG Greenland Ices 38.88 340 *i*P **P 15 11 31.4 +0.3**
ICESG IAmb IAmb 15 11 42.4
comp=Z,5.1nm,0.9s
DY2G Dye2 39.44 335 *i*P **P 15 11 34.8 -0.9**
DY2G IAmb IAmb 15 11 37.1
comp=Z,4.8nm,0.7s
DBG Daneborg 39.53 353 *i*P **P 15 11 37.5 +1.5**
DBG IAmb IAmb 15 11 39.2
comp=Z,6.7nm,0.7s
PRGR Permogore 40.15 34 *eP* **P 15 11 38.6 -2.7**
PRGR *e* 15 13 42.1
KIRV Kirov 41.28 39 P **P 15 11 49.7 -0.9**
comp=Z,12nm,0.6s,baz=268,slow=12,SNR=7.4
KIRV PcP **PcP 15 13 48.7 -0.4**
comp=Z,10nm,0.7s,baz=199,slow=3.8,SNR=3.6
KIRV LR LR 15 31 03.9
comp=Z,126nm,19.5s,baz=258,slow=39
KIRV Kirov 41.28 39 *ceP* **P 15 11 49.5 -1.1**
DAG Danmarks Havn 41.72 355 *i*P **P 15 11 55.2 +1.1**
DAG IAmb IAmb 15 11 56.8
comp=Z,15nm,0.7s
HSPB Hornsund (broa 42.27 6 *eP* **P 15 12 00.1 +1.6**
ILULI Ilulissat 42.36 337 P **P 15 11 58.7 -0.6**
ILULI pmax pmax
comp=Z,87nm,1.6s
ILULI **Ilulissat 42.36 337** P **P 15 11 58.7 -0.6**
ILULI IAmb IAmb 15 12 21.0
comp=Z,87nm,1.6s
SPITS Spitsbergen Ar 43.43 6 LR LR 15 30 39.6
comp=Z,147nm,21.2s,baz=90,slow=37
KBS Kingsbay 43.81 4 P **P 15 12 11.3 +0.3**
KBS pmax pmax
comp=Z,61nm,1.2s
KBS Kingsbay 43.81 4 P **P 15 12 11.3 +0.3**
KBS IAmb IAmb 15 13 51.3
comp=Z,61nm,1.1s
RAYN Ar Rayn 43.96 92 *i*P **P 15 12 14.3 +1.4**
SNR=8.7
GBN Guysborough 44.21 301 P **P 15 12 14.2 -0.4**
GBN IAmb IAmb 15 12 16.2
comp=Z,50nm,0.9s
ARU Arti 46.02 43 P **P 15 12 28.9 +0.1**
comp=Z,9.2nm,0.5s,baz=274,slow=7.7,SNR=54
ARU PcP **PcP 15 14 05.3 +0.1**
comp=Z,4.4nm,0.6s,baz=286,slow=4.9,SNR=5.0
ARU LR LR 15 32 25.1
comp=Z,141nm,18.0s,baz=266,slow=37
ARU Arti 46.02 43 *ciP* **P 15 12 28.7 -0.2**
ARU 15 14 04.3
ARU 15 14 14.8
ARU S **S 15 19 16.8 +3.3**
ARU SS **SS 15 22 34.0 -4.1**
ARU pmax pmax
comp=Z,23nm,0.6s
ARU Arti 46.02 43 P **P 15 12 28.5 -0.4**
AKTO Aktyubinsk 46.03 51 P **P 15 12 29.6 +0.6**
comp=Z,25nm,1.0s,baz=275,slow=7.6,SNR=40
AKTO Aktyubinsk 46.03 51 P **P 15 12 29.2 +0.1**
NOR Nord 46.27 357 *i*P **P 15 12 30.8 +0.3**
NOR IAmb IAmb 15 12 34.7
comp=Z,5.1nm,0.7s
LMN Caledonia Moun 46.42 302 P **P 15 12 32.3 +0.1**
NEEM North Greenlan 46.59 347 *i*P **P 15 12 34.0 +0.6**
NEEM IAmb IAmb 15 12 35.9
comp=Z,22nm,0.8s
SCHQ Schefferville 46.70 315 P **P 15 12 34.9 +0.6**
comp=Z,5.2nm,0.4s,baz=84,slow=5.3,SNR=35
SCHQ Schefferville 46.70 315 P **P 15 12 34.4 +0.1**
BATG Bathurst New B 47.03 304 P **P 15 12 36.7 -0.3**
BATG IAmb IAmb 15 12 38.2
comp=Z,27nm,1.0s
SVE Sverdlovsk 47.16 42 ⇑*eP* **P 15 12 38.2 +0.4**

SVE pmax pmax
comp=Z,23nm,1.2s
SVE MLR MLR
comp=Z,342nm,12.0s
AB31 Akbulak array 47.42 53 *i* P **P 15 12 40.4 +0.5**
ABKAR Akbulak array 47.42 53 P **P 15 12 40.3 +0.4**
GGN Saint George 47.97 302 P **P 15 12 43.5 -0.7**
GGN IAmb IAmb 15 12 57.4
comp=Z,47nm,1.4s
G65A Princeton 48.45 302 P **P 15 12 48.1 +0.2**
GEYT Alibeck 48.64 68 P **P 15 12 49.6 0.0**
comp=Z,2.2nm,0.5s,baz=316,slow=6.2,SNR=5.1
GEYT PcP **PcP 15 14 15.6 +0.7**
comp=Z,2.8nm,0.7s,baz=224,slow=8.2,SNR=3.7
F64A Sherman 48.85 303 P **P 15 12 51.1 +0.1**
PKME Peaks-Kenny Pk 49.62 302 P **P 15 12 57.8 +0.9**
baz=77
TULEG Thule 49.86 344 P **P 15 12 57.1 -1.2**
TULEG IAmb IAmb 15 13 00.1
comp=Z,24nm,1.2s
BBSR BB Station 50.04 285 P **P 15 12 58.5 -1.7**
MZR Muzera 50.69 88 *i* P **P 15 13 06.0 +0.7**
SNR=18
I63A Otisfield 50.81 301 P **P 15 13 05.8 -0.2**
I63A IAmb IAmb 15 13 08.2
comp=Z,38nm,1.2s
RCBR Riachuelo 51.27 223 LR LR 15 32 31.5
comp=Z,180nm,19.3s,baz=206,slow=33
NBCL Cascavel-CE 51.33 227 *eP* **P 15 13 12.0 +1.8**
NBPV Pedro Velho 51.42 222 *eP* **P 15 13 10.5 -0.3**
ASUD Al Ashush, Dub 51.45 85 P **P 15 13 11.9 +0.9**
BANOM Banah 51.66 83 P **P 15 13 12.6 0.0**
LBNH Lisbon 51.70 302 P **P 15 13 12.9 +0.3**
LBNH pmax pmax
comp=Z,25nm,0.9s
LBNH Lisbon 51.70 302 P **P 15 13 12.9 +0.3**
LBNH IAmb IAmb 15 13 14.9
comp=Z,25nm,0.9s
LBNH Lisbon 51.70 302 P **P 15 13 14.2 +1.5**
baz=75,SNR=5.7
HRV Adam Dziewonsk 51.92 299 P **P 15 13 15.3 +1.0**
baz=74
HATD Hatta, Dubai 52.01 85 *i* P **P 15 13 15.4 +0.2**
SNR=5.7
ASHO Ashiyiah 52.01 85 *i* P **P 15 13 15.2 -0.1**
SNR=6.4
UOSS Minazif 52.01 84 P **P 15 13 14.8 -0.5**
UOSS Minazif 52.01 84 P **P 15 13 14.7 -0.5**
ALNE Al Ain 52.05 86 P **P 15 13 16.0 +0.5**
MNTQ Montreal, Queb 52.52 304 P **P 15 13 17.6 -1.1**
MNTQ IAmb IAmb 15 13 20.5
comp=Z,24nm,0.8s
L61B Northampton 52.73 300 P **P 15 13 21.9 +1.6**
baz=73,SNR=6.1
KMBO Kilima Mbogo 52.82 125 P **P 15 13 23.5 +1.9**
comp=Z,6.1nm,0.8s,baz=337,slow=6.9,SNR=15
KMBO Kilima Mbogo 52.82 125 P **P 15 13 19.5 -2.1**
KMBO pmax pmax
comp=Z,25nm,1.3s
KMBO Kilima Mbogo 52.82 125 P **P 15 13 19.5 -2.1**
KMBO Kilima Mbogo 52.82 125 *i* P **P 15 13 24.0 +2.4**
SNR=8.6
BRVK Borovoye 53.15 46*c i* P **P 15 13 23.6 +0.3**
BRVK pmax pmax
comp=Z,49nm,1.7s
BRVK Borovoye 53.15 46 P **P 15 13 23.5 +0.2**
BRVK IAmb IAmb 15 13 27.8
comp=Z,58nm,1.6s
NBPB Pedra_Branca-C 53.15 227 *eP* **P 15 13 24.8 +1.1**
NBPS Pedro II - PI 53.38 230 *eP* **P 15 13 26.6 +1.1**
LONY Lake Ozonia 53.42 303 P **P 15 13 26.5 +1.1**
baz=74
EUNU Eureka 53.86 348 P **P 15 13 29.6 +1.5**
PAL Palisades 54.05 298 P **P 15 13 30.9 +0.9**
baz=71
NBMA Muriti-CE 54.14 225 *eP* **P 15 13 31.4 +0.5**
MDP Montagnes des 54.37 248 P **P 15 13 33.9 +1.2**
comp=Z,11nm,0.7s,baz=69,slow=2.9,SNR=6.4
GDSD La Dsirade Is 54.39 265 P **P 15 13 30.6 -2.2**
NBAN Anadia - AL 54.66 221 *eP* **P 15 13 35.9 +1.1**
BINY Binghamton 55.13 300 P **P 15 13 36.5 -1.5**
BINY IAmb IAmb 15 13 40.9
comp=Z,39nm,1.2s
BINY Binghamton 55.13 300 P **P 15 13 39.4 +1.4**
baz=71,SNR=7.0
K57A Scipio Center 55.33 301 P **P 15 13 38.2 -1.2**
K57A IAmb IAmb 15 13 41.6
comp=Z,28nm,1.1s
BRZS Berezniki 55.35 50*c i* P **P 15 13 39.6 +0.2**
BRZS pmax pmax
comp=Z,44nm,1.0s
BRZS Berezniki 55.35 50⇑ *i* P **P 15 13 39.7 +0.2**
comp=Z,44nm,1.0s,baz=50
N59A State Game Lan 55.41 299 P **P 15 13 41.6 +1.7**
baz=70
DELO Deloro Mine 55.52 303 P **P 15 13 39.6 -1.1**
DELO IAmb IAmb 15 13 42.6
comp=Z,21nm,1.2s
OTUK Ortayu 55.63 52 P **P 15 13 41.6 +0.1**
IUG luzhnay 56.00 59*c i* P **P 15 13 44.4 +0.1**
IUG luzhnay 56.00 59⇑ *i* P **P 15 13 44.5 +0.1**
baz=59
KKAR Karatay Array 56.02 58 P **P 15 13 44.8 +0.5**
KKAR Karatay Array 56.02 58 P **P 15 13 44.8 +0.5**
TMAB Tom-Au,PA,Br 56.22 237 *eP* **P 15 13 46.7 +0.7**
M57A Sunshine Farm, 56.23 300 P **P 15 13 45.7 -0.1**
M57A IAmb IAmb 15 13 48.3
comp=Z,26nm,0.9s
RES Resolute Bay 56.28 341 P **P 15 13 46.1 +0.5**
RES pmax pmax
comp=Z,26nm,1.1s
RES Resolute Bay 56.28 341 P **P 15 13 46.1 +0.5**
RES IAmb IAmb 15 13 47.9
comp=Z,26nm,1.1s
SADO Sadowa 56.47 304 P **P 15 13 46.5 -1.0**
NBLA Lagarto - SE 56.57 221 *eP* **P 15 13 48.9 +0.5**
DZA Taraz 56.66 58 *eP* **P 15 13 48.7 -0.1**
DZA Taraz 56.66 58 *eP* **P 15 13 48.8 -0.1**
baz=58
SSPA Standing Stone 57.01 299 P **P 15 13 50.6 -0.8**
SSPA IAmb IAmb 15 13 53.6
comp=Z,27nm,1.1s
SSPA Standing Stone 57.01 299 P **P 15 13 52.8 +1.5**
baz=69
NRIK Noril'sk 57.49 25 P **P 15 13 55.8 +1.5**
comp=Z,7.5nm,0.9s,baz=284,slow=4.2,SNR=11
NRIK Noril'sk 57.49 25*ceP* **P 15 13 55.6 +1.3**
NRIK pmax pmax
comp=Z,20nm,1.3s
NRIK Noril'sk 57.49 25 P **P 15 13 53.3 -1.0**
NRIK IAmb IAmb 15 13 56.9
comp=Z,22nm,1.3s
MCPB Macapa, AP 57.59 242 *eP* **P 15 13 56.8 +1.0**
O56A Blue Knob Stat 57.63 299 P **P 15 13 57.3 +1.5**
baz=69,SNR=6.4
BTLS Baital 57.77 55*c i* P **P 15 13 57.1 +0.5**
BTLS pmax pmax
comp=Z,29nm,1.7s
BTLS Baital 57.77 55⇑ *i* P **P 15 13 57.2 +0.5**
comp=Z,29nm,1.7s,baz=55
NBPN Ponto Novo - B 57.78 224 *eP* **P 15 13 57.7 +0.6**
CELP Cerrillos 57.95 270 P **P 15 13 57.4 -0.9**
M54A Oil Creek Stat 57.95 301 P **P 15 13 57.5 -0.6**
M54A IAmb IAmb 15 13 59.7
comp=Z,21nm,1.1s
M54A Oil Creek Stat 57.95 301 P **P 15 13 59.5 +1.5**
baz=69
ERPA Erie 57.96 301 P **P 15 13 59.5 +1.4**
baz=69
OBIP Obispado Ponce 57.98 270 P **P 15 13 57.0 -1.5**
TSUM Tsumeb 58.17 156 P **P 15 14 00.3 +0.5**
comp=Z,9.6nm,0.9s,baz=360,slow=6.9,SNR=10
TSUM LR LR 15 39 57.7
comp=Z,387nm,19.0s,baz=332,slow=37
EKS2 Erkin-Say 58.42 58 P **P 15 14 02.3 +0.9**
SNR=35
AML Almayashu 58.56 58 P **P 15 14 03.6 +0.9**
SNR=12
AML Almayashu 58.56 58 *i* P **P 15 14 03.3 +0.6**
SNR=12
M53A Wt Miller and 58.68 301 P **P 15 14 04.4 +1.3**
baz=68
USP Ospenovka 58.70 57 P **P 15 14 03.5 +0.3**
SNR=6.6
SGDS Sogindy 58.72 57⇑ *i* P **P 15 14 03.2 -0.2**
baz=56
KURBB Kurchatov Arra 58.73 48 LR LR 15 40 27.1
comp=Z,121nm,18.9s,baz=274,slow=37
KURBB Kurchatov Arra 58.73 48 P **P 15 14 02.7 -0.6**
KURK Kurchatov 58.76 47*ceP* **P 15 14 03.5 +0.1**
KURK pmax pmax
comp=Z,89nm,1.1s
KURK Kurchatov 58.76 47 P **P 15 14 03.5 +0.1**
MCWV Mont Chateau 58.77 299 P **P 15 14 05.2 +1.5**
baz=68
AAK Ala-Archa 58.92 57 P **P 15 14 05.7 +0.8**
comp=Z,6.1nm,0.7s,baz=248,slow=2.9,SNR=29
AAK Ala-Archa 58.92 57*c i* P **P 15 14 05.6 +0.6**
AAK pmax pmax
comp=Z,30nm,1.7s
AAK Ala-Archa 58.92 57 P **P 15 14 04.9 -0.1**
AAK IAmb IAmb 15 14 09.7
comp=Z,29nm,1.4s
AAK Ala-Archa 58.92 57 *i* P **P 15 14 05.7 +0.8**
SNR=16
CHMS Chumysh 58.97 57 P **P 15 14 05.8 +0.6**
SNR=13
UCH Uchtor 59.09 58 P **P 15 14 07.3 +0.8**
SNR=16
O53A New Philadelph 59.51 300 P **P 15 14 07.8 -1.1**
O53A IAmb IAmb 15 14 13.2
comp=Z,21nm,1.1s
O53A New Philadelph 59.51 300 P **P 15 14 10.4 +1.5**
baz=67
TKM2 Tokmak 2 59.57 57 P **P 15 14 10.3 +0.8**
SNR=13
TKM2 Tokmak 2 59.57 57 P **P 15 14 09.1 -0.4**
KUU Kurty 59.71 56 *eP* **P 15 14 10.6 +0.4**
KUU Kurty 59.71 56 *eP* **P 15 14 10.6 +0.4**
baz=56
GDU01 Guandu, BA 59.80 221 *eP* **P 15 14 11.5 +0.5**
SEM Semipalatinsk 59.84 47 *eP* **P 15 14 11.4 +0.2**
SEM pmax pmax
comp=Z,33nm,1.2s
SEM Semipalatinsk 59.84 47 *eP* **P 15 14 11.4 +0.2**
comp=Z,33nm,1.2s,baz=47
BLA Blacksburg 60.14 296 P **P 15 14 14.6 +1.3**
baz=66
PRPB Parauapebas 60.15 236 *eP* **P 15 14 14.6 +1.1**
CHKK Chushkaly 60.16 55 *eP* **P 15 14 13.0 -0.3**
baz=55
MALB Monte Alegre 60.21 243 *eP* **P 15 14 14.8 +0.8**
AAA Alma-Ata 60.36 56 *eP* **P 15 14 15.5 +0.8**
AAA Alma-Ata 60.36 56 *eP* **P 15 14 15.5 +0.8**
baz=56
P52A Corning 60.40 299 P **P 15 14 14.2 -0.8**
P52A Corning 60.40 299 P **P 15 14 16.3 +1.3**
baz=67,SNR=14
TNSS Tian-Shan 60.44 56 *eP* **P 15 14 16.2 +0.5**
baz=56
MDOK Medeo 60.46 56 *i* P **P 15 14 16.2 +0.7**
MDOK Medeo 60.46 56 *i* P **P 15 14 16.2 +0.7**
baz=56
FCC Fort Churchill 60.52 323 P **P 15 14 15.9 +0.5**
FCC pmax pmax
comp=Z,26nm,1.2s
FCC Fort Churchill 60.52 323 P **P 15 14 15.9 +0.5**
FCC IAmb IAmb 15 14 17.0
comp=Z,26nm,1.1s
TDK Taldyqorghan 60.66 54 *eP* **P 15 14 16.9 +0.2**
TDK Taldyqorghan 60.66 54 *eP* **P 15 14 17.0 +0.2**
baz=54
SMTB Santa Maria do 60.69 232 *eP* **P 15 14 18.3 +1.1**
NBIT Itapeh - BA 60.73 220 *eP* **P 15 14 16.4 -0.9**
ACSO Alum Creek Sta 60.76 300 P **P 15 14 18.7 +1.3**
baz=66,SNR=8.1
KDJ Kajisay 60.96 57 P **P 15 14 19.8 +0.8**
KDJ pmax pmax
comp=Z,19nm,0.7s
KDJ Kajisay 60.96 57 P **P 15 14 19.8 +0.8**
KDJ IAmb IAmb 15 14 21.4
comp=Z,19nm,0.7s
CMC01 Camacan, BA 61.13 220 *eP* **P 15 14 21.4 +1.3**
KSH Kashi 61.16 60 P **P 15 14 20.2 -0.1**
KSH pP sP 15 14 25.7 -0.3
KSH sP pP 15 14 28.6 +4.1
KSH PP **PP 15 16 36.4 +1.6**
KSH pmax pmax
comp=Z,40nm,1.1s
ZAA0 Zalesovo Array 61.18 42 P **P 15 14 20.2 +0.1**
ZAA0 IAmb IAmb 15 14 21.6
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 61.18 42 P **P 15 14 20.4 +0.3**
comp=Z,11nm,0.7s,baz=295,slow=7.1,SNR=48
ZALV LR LR 15 41 38.3
comp=Z,59nm,19.7s,baz=289,slow=37
ZALV Zalesovo Beam 61.18 42 P **P 15 14 20.1 +0.1**
ZHN Zhinishke 61.40 56 *eP* **P 15 14 21.8 0.0**
ZHN Zhinishke 61.40 56 *eP* **P 15 14 21.9 0.0**
baz=56
SATY Saty 61.42 56*c i* P **P 15 14 22.3 +0.3**
SATY pmax pmax
comp=Z,21nm,1.5s
SATY Saty 61.42 56⇑ *i* P **P 15 14 22.3 +0.3**
comp=Z,21nm,1.5s,baz=56
KPKS Kokpek 61.45 55 *eP* **P 15 14 22.2 +0.1**
KPKS pmax pmax
comp=Z,13nm,0.8s
KPKS Kokpek 61.45 55 *eP* **P 15 14 22.3 +0.1**
comp=Z,13nm,0.8s,baz=55
KMSC Kings Mountain 61.68 295 P **P 15 14 25.3 +1.5**
baz=65
SDBA SAO DESIDERIO 61.76 227 *eP* **P 15 14 25.4 +0.9**
UZB Uzynbulak 61.80 55 *eP* **P 15 14 24.4 -0.2**
UZB pmax pmax
comp=Z,18nm,1.4s
UZB Uzynbulak 61.80 55 *eP* **P 15 14 24.5 -0.2**
comp=Z,18nm,1.4s,baz=56
SHLS Shalkode 62.09 55*c i* P **P 15 14 29.0 +2.5**
SHLS Shalkode 62.09 55⇑ *i* P **P 15 14 29.1 +2.5**
baz=55
BOAV Boa Vista 62.11 251 *eP* **P 15 14 27.6 +0.8**
MAKZ Makanchi 62.26 51 P **P 15 14 28.2 +0.8**
MAKZ pmax pmax
comp=Z,53nm,0.9s
MAKZ Makanchi 62.26 51 P **P 15 14 28.2 +0.8**
P49A Miami Univ. Ec 62.27 300 P **P 15 14 28.2 +0.6**
baz=65
O48B Farmland 62.27 301 P **P 15 14 28.3 +0.6**
baz=66
GUA01 Guaratinga, BA 62.30 220 *eP* **P 15 14 28.7 +0.7**
N47A Urbana 62.39 302 P **P 15 14 27.6 -0.8**
MK31 Makanchi Array 62.46 51 *i* P **P 15 14 28.7 -0.1**
MKAR Makanchi Array 62.46 51 P **P 15 14 29.5 +0.7**
comp=Z,48nm,0.8s,baz=287,slow=5.9,SNR=463
TZTN Tazewell 62.70 297 P **P 15 14 31.9 +1.3**
baz=64
P48A Milroy 62.80 300 P **P 15 14 30.9 -0.2**
P48A IAmb IAmb 15 14 32.3
comp=Z,27nm,1.0s
ITTB Itaituba 63.00 242 *eP* **P 15 14 33.4 +0.6**
EYMN Ely 63.26 311 P **P 15 14 33.8 -0.3**
EYMN IAmb IAmb 15 14 38.0
comp=Z,22nm,1.1s
EYMN Ely 63.26 311 P **P 15 14 34.7 +0.6**
baz=66,SNR=8.9
L44A Lake County Fo 63.36 304 P **P 15 14 35.3 +0.5**
baz=65
JANB Januaria 63.52 225 *eP* **P 15 14 36.7 +0.6**
NAN01 Guarapari, ES 63.52 219 *eP* **P 15 14 37.0 +1.0**
SFIN Lafayette 63.57 302 P **P 15 14 36.7 +0.4**
baz=65
PEXB Peixe 63.60 230 *eP* **P 15 14 37.6 +0.9**
ZSN Zaisan 63.79 49*c i* P **P 15 14 38.5 +0.9**
ZSN Zaisan 63.79 49⇑ *i* P **P 15 14 38.6 +0.9**
baz=49
GOGA Godfrey 64.02 294 P **P 15 14 40.9 +1.5**
baz=63
NPGB Novo Progresso 64.59 240 *eP* **P 15 14 43.7 +0.5**
JFWS Jewell Farm 64.60 306 P **P 15 14 43.5 +0.5**
baz=64
SJMB Sao Joao De Ma 64.78 220 *eP* **P 15 14 45.2 +0.9**
ULM Lac du Bonnet 64.88 315 P **P 15 14 44.8 +0.1**
comp=Z,12nm,0.9s,baz=68,slow=5.2,SNR=15
ULM Lac du Bonnet 64.88 315 P **P 15 14 44.0 -0.7**
ULM pmax pmax
comp=Z,33nm,1.2s
ULM Lac du Bonnet 64.88 315 P **P 15 14 44.0 -0.7**
ULM IAmb IAmb 15 14 45.5
comp=Z,32nm,1.2s
HDIL Hopedale 65.00 303 P **P 15 14 46.2 +0.6**
baz=64
A36M Sachs Harbour 65.22 343 P **P 15 14 48.0 +1.6**
A36M Sachs Harbour 65.22 343 P **P 15 14 48.2 +1.8**
baz=50,SNR=61
SPMN Marine on St. 65.24 309 P **P 15 14 47.8 +0.6**
baz=64,SNR=5.7
SNDB Serra Nova Dou 65.41 233 *eP* **P 15 14 49.5 +1.0**
AGMN Agassiz Nation 65.74 313 P **P 15 14 51.0 +0.7**
baz=63,SNR=8.6
DIAM Diamantina, MG 65.78 222 *eP* **P 15 14 52.4 +1.4**
MACA Manacapuru-AM 65.82 247 *eP* **P 15 14 52.4 +1.1**
WVT Waverly 65.98 298 P **P 15 14 52.1 +0.1**
WVT pmax pmax
comp=Z,8.0nm,1.0s
WVT Waverly 65.98 298 P **P 15 14 52.1 +0.1**
WVT Waverly 65.98 298 P **P 15 14 51.8 -0.2**
baz=62
FFC Flin Flon 66.15 321 P **P 15 14 53.0 +0.1**
FFC pmax pmax
comp=Z,28nm,1.2s
FFC Flin Flon 66.15 321 P **P 15 14 53.0 +0.1**
FFC IAmb IAmb 15 14 54.4
comp=Z,28nm,1.1s
BDFB Brasilia 66.15 228 P **P 15 14 53.9 +0.5**
comp=Z,17nm,1.0s,baz=40,slow=8.8,SNR=14
LBTB Lobatse 66.39 151 P **P 15 14 54.9 +0.1**
LBTB pmax pmax
comp=Z,47nm,0.6s
LBTB Lobatse 66.39 151 P **P 15 14 54.9 +0.1**
C36M Paulatuk 66.63 341 P **P 15 14 56.6 +1.0**
C36M Paulatuk 66.63 341 P **P 15 14 56.8 +1.2**
baz=50,SNR=17
LRAL Lakeview Retre 66.82 295 P **P 15 14 58.3 +0.8**
baz=62,SNR=5.8
WMQ Urumqi 67.19 52 P **P 15 15 01.2 +1.5**
WMQ pP pP 15 15 03.9 0.0
WMQ sP sP 15 15 08.4 +2.9
WMQ pmax pmax
comp=Z,69nm,1.1s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=Z,260nm,13.1s
WMQ LR LR
comp=Z,410nm,19.1s
WMQ LR LR
comp=Z,150nm,17.7s
CCM Cathedral Cave 67.49 301 P **P 15 15 00.9 -0.7**
CCM pmax pmax
comp=Z,23nm,0.8s
CCM Cathedral Cave 67.49 301 P **P 15 15 00.9 -0.7**
CCM Cathedral Cave 67.49 301 P **P 15 15 01.8 +0.2**
baz=62
CLDB Colider 67.61 237 *eP* **P 15 15 03.3 +0.7**
YKA Yellowknife Ar 67.73 332 P **P 15 15 02.9 +0.1**
comp=Z,39nm,0.8s,baz=59,slow=6.4,SNR=396
YKA PKPPKP **P'P'df 15 43 23.9 -7.7**
comp=Z,1.1nm,1.1s,baz=209,slow=2.8,SNR=5.0
YKA Yellowknife Ar 67.73 332 P **P 15 15 02.8 +0.1**
TIXI Tiksi 67.85 15 P **P 15 15 04.2 +1.0**
comp=Z,3.2nm,0.6s,baz=271,slow=23,SNR=18
TIXI LR LR 15 50 22.5
comp=Z,218nm,18.9s,baz=357,slow=41
TIXI Tiksi 67.85 15*de* **P 15 15 04.3 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 67.85 15 P **P 15 15 03.8 +0.5**
TIXI IAmb IAmb 15 15 04.9
comp=Z,17nm,1.4s
OXF Oxford 67.88 297 P **P 15 15 03.2 -1.0**
baz=61,SNR=5.5
IPMB Ipameri, GO 68.10 226 *eP* **P 15 15 06.2 +0.6**
MDND Maddock 68.17 314 P **P 15 15 06.0 +0.2**
baz=61
DUB01 Friburgo-RJ 68.21 219 *eP* **P 15 15 07.2 +1.0**
MSEY Mahe Island 68.28 113 P **P 15 15 08.7 +1.8**
Y45A Yeager Farm, C 68.29 297 P **P 15 15 05.7 -1.0**
P38A Dawn 68.31 304 P **P 15 15 06.5 -0.3**
ECSD EROS Data Cent 68.34 309 P **P 15 15 07.1 +0.2**
ECSD IAmb IAmb 15 15 07.9
comp=Z,30nm,1.4s
ECSD EROS Data Cent 68.34 309 P **P 15 15 07.2 +0.2**
baz=61,SNR=13
ARAG Araguaiana, MT 68.54 231 *eP* **P 15 15 09.7 +1.4**
BSCB Bom Sucesso 68.57 221 *eP* **P 15 15 08.7 +0.1**
PDRB Porto dos Gac 68.77 237 *eP* **P 15 15 10.6 +0.7**
VAS01 Vassouras-RJ 68.92 220 *eP* **P 15 15 11.5 +0.8**
S39A Bolivar 69.11 302 P **P 15 15 11.6 -0.2**
U40A Yellville 69.44 300 P **P 15 15 14.1 +0.2**
U40A Yellville 69.44 300 P **P 15 15 14.2 +0.4**
baz=60,SNR=28
BOSA Boshof 69.51 153 P **P 15 15 13.7 -0.5**
comp=Z,8.1nm,0.8s,baz=346,slow=7.6,SNR=9.6
BOSA Boshof 69.51 153 P **P 15 15 13.8 -0.5**
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 69.51 153 P **P 15 15 13.8 -0.5**
BOSA IAmb IAmb 15 17 08.5
comp=Z,16nm,0.9s
WHAR Wooly Hollow 69.56 299 P **P 15 15 14.7 0.0**
W41B Gary Mavity, V 69.59 299 P **P 15 15 14.7 -0.1**
baz=60,SNR=10
MAN01 Angra dos Reis 69.67 220 *eP* **P 15 15 16.6 +1.2**
INK Inuvik 69.81 342 P **P 15 15 15.6 0.0**
comp=Z,12nm,1.0s,baz=26,slow=9.4,SNR=28
INK Inuvik 69.81 342 P **P 15 15 16.2 +0.6**
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 69.81 342 P **P 15 15 16.2 +0.6**
INK IAmb IAmb 15 15 17.1
comp=Z,19nm,1.1s
INK Inuvik 69.81 342 P **P 15 15 16.4 +0.8**
baz=42,SNR=16
X40A Basin Creek Fa 70.35 299 P **P 15 15 19.6 +0.1**
baz=60,SNR=30
BGNE Belgrade 70.48 307 P **P 15 15 20.7 +0.4**
baz=59,SNR=9.7
DGMT Dagmar 70.50 316 P **P 15 15 21.4 +1.1**
baz=58,SNR=7.0
KSU1 Kansas State U 70.64 305 P **P 15 15 21.5 +0.3**
baz=60,SNR=9.9
W39A Magazine 70.67 300 P **P 15 15 21.9 +0.4**
W39A Magazine 70.67 300 P **P 15 15 21.9 +0.4**
baz=60,SNR=16
ITRB Iturama 70.70 227 *eP* **P 15 15 22.8 +1.1**
BB19B Bebedouro 70.70 224 *eP* **P 15 15 22.8 +1.1**
MIAR Mount Ida 70.85 299 P **P 15 15 23.0 +0.4**
baz=60
MOY Mondy 70.91 40 *eP* **P 15 15 24.2 +1.4**
MOY pmax pmax
comp=Z,25nm,1.3s
PARB Paraibuna 70.93 221 *eP* **P 15 15 24.8 +1.8**
Z41A Richland Creek 70.95 298 P **P 15 15 23.8 +0.6**
baz=59,SNR=5.4
SALV Santo Antonio 71.17 233 *eP* **P 15 15 25.6 +1.0**
RCLB Rio Claro- Sao 71.22 223 *eP* **P 15 15 26.3 +1.5**
VAO Valinhos 71.38 222 *eP* **P 15 15 27.2 +1.4**
SUR Sutherland 71.48 158 P **P 15 15 26.5 +0.1**
comp=Z,12nm,0.9s,baz=31,slow=6.2,SNR=6.0
SUR Sutherland 71.48 158 P **P 15 15 25.0 -1.4**
ROSC El Rosal 71.56 263 LR LR 15 44 44.2
comp=Z,142nm,20.1s,baz=61,slow=34
PYUN Piuthan 71.63 68 *eP* **P 15 15 27.8 +0.2**
comp=Z,105nm,0.7s
TUL1 Leonard 71.71 301 P **P 15 15 27.9 +0.1**
baz=59,SNR=15
PP1B Ponte de Pedra 71.89 232 *eP* **P 15 15 30.3 +1.4**
VILB Vilhena 72.11 239 *eP* **P 15 15 31.9 +1.6**
IRK Irkutsk 72.26 38 *eP* **P 15 15 28.3 -2.5**
IRK pmax pmax
comp=Z,30nm,1.6s
KOLN Koldanda 72.26 68 *eP* **P 15 15 30.6 -0.8**
LAO LASA Array 72.61 315 P **P 15 15 34.3 +1.2**
baz=56,SNR=12
PCMB Pacaembu 72.71 226 *eP* **P 15 15 35.3 +1.6**
RSSD Black Hills 72.74 312 P **P 15 15 34.5 +0.5**
RSSD pmax pmax
comp=Z,37nm,1.3s
RSSD Black Hills 72.74 312 P **P 15 15 34.5 +0.5**
RSSD IAmb IAmb 15 15 36.3
comp=Z,37nm,1.2s
RSSD Black Hills 72.74 312 P **P 15 15 34.8 +0.8**
baz=57
ZAK Zakamensk 72.83 40 *eP* **P 15 15 34.8 +0.5**

ZAK pmax pmax
comp=Z,19nm,1.4s
CBKS Cedar Bluff 72.87 306 P **P** **15 15 35.5 +0.8**
baz=58,SNR=12
GKN Gorkha 72.92 68 *eP* **P** **15 15 34.7 -0.6**
comp=Z,77nm,1.0s
TOLK Toolik Lake Re 72.94 348 P **P** **15 15 35.2 +0.6**
TOLK IAmb IAmb 15 15 37.2
comp=Z,29nm,1.2s
TOLK Toolik Lake Re 72.94 348 P **P** **15 15 36.3 +1.7**
baz=28,SNR=15
BMAR Burnt Mountain 73.04 345 P **P** **15 15 36.4 +1.2**
NATX Nacogdoches 73.07 297 P **P** **15 15 36.9 +1.0**
baz=58
FRTB Fartura 73.09 224 *eP* **P** **15 15 37.5 +1.5**
PTLB Pontes e Lacer 73.13 236 *eP* **P** **15 15 37.5 +1.1**
BOD Bodaibo 73.20 30 *eP* **P** **15 15 35.4 -0.8**
BOD pmax pmax
comp=Z,13nm,1.0s
OGNE Ogallala 73.22 308 P **P** **15 15 37.7 +0.9**
baz=57,SNR=5.2
TGTN Hyland Airport 73.27 336 P **P** **15 15 38.5 +1.8**
baz=44,SNR=7.4
I29M Ogilvie Camp, 73.30 342 P **P** **15 15 38.1 +1.3**
baz=37,SNR=13
MMPY Sheldon Lake, 73.43 338 P **P** **15 15 40.0 +2.4**
baz=42,SNR=12
DMN Daman 73.48 68 *eP* **P** **15 15 38.7 0.0**
KKN Kakani 73.52 67 *eP* **P** **15 15 38.5 -0.4**
comp=Z,30nm,0.7s
PKIN Phulchoki 73.72 68 *eP* **P** **15 15 39.6 -0.5**
PKI Pulchoki 73.73 68 *eP* **P** **15 15 39.5 -0.8**
EGMT Eagleton 73.83 318 P **P** **15 15 41.2 +1.0**
baz=54,SNR=21
GUN Gumba 73.90 67 *eP* **P** **15 15 41.1 -0.2**
JIRN Jiri 74.27 67 *eP* **P** **15 15 43.2 -0.3**
COLD Coldfoot 74.30 347 P **P** **15 15 42.9 +0.4**
COLD Coldfoot 74.30 347 P **P** **15 15 43.9 +1.4**
baz=28,SNR=15
ETMB Extrema 74.31 245 *eP* **P** **15 15 44.2 +0.8**
FARO Faro, Yukon 74.37 338 P **P** **15 15 45.3 +2.2**
baz=40,SNR=12
WMOK Wichita Mounta 74.41 302 P **P** **15 15 44.6 +0.8**
baz=57,SNR=29
TRCB Terra Rica 74.43 226 *eP* **P** **15 15 45.7 +1.8**
EGAK Eagle 74.48 343 P **P** **15 15 44.9 +1.3**
baz=35,SNR=9.3
AQDB Aquidauana 74.54 230 *eP* **P** **15 15 45.9 +1.4**
DAWY Dawson 74.62 341 P **P** **15 15 46.0 +1.6**
DAWY IAmb IAmb 15 15 46.9
comp=Z,20nm,0.9s
DAWY Dawson 74.62 341 P **P** **15 15 46.1 +1.6**
baz=36,SNR=15
KSCO Kaye Shedlock' 74.66 307 P **P** **15 15 46.1 +0.8**
baz=56
M31M Drury Creek, Y 74.70 338 P **P** **15 15 46.2 +1.2**
M31M IAmb IAmb 15 15 47.9
comp=Z,14nm,0.8s
M31M Drury Creek, Y 74.70 338 P **P** **15 15 47.2 +2.2**
baz=40,SNR=11
SIV San Ignacio 74.83 237 P **P** **15 15 47.2 +0.8**
comp=Z,32nm,0.7s,baz=72,slow=5.8,SNR=135
PRP Porcupine Dome 74.87 345 P **P** **15 15 47.3 +1.3**
PRP IAmb IAmb 15 15 48.8
comp=Z,17nm,0.8s
PRP Porcupine Dome 74.87 345 P **P** **15 15 48.2 +2.1**
baz=31,SNR=17
HKT Hockley 74.88 296 *de*P **P** **15 15 47.7 +1.3**
HKT pmax pmax
comp=Z,26nm,1.0s
WHTX Lake Whitney, 74.95 299 P **P** **15 15 47.6 +0.6**
baz=57,SNR=9.6
K22A Casper 75.06 312 P **P** **15 15 47.9 +0.3**
baz=55,SNR=11
H24K Noodor Dome 75.08 346 P **P** **15 15 48.7 +1.6**
baz=29
M30M Minto, Yukon 75.11 340 P **P** **15 15 48.8 +1.5**
baz=38
RLMT Red Lodge 75.25 315 P **P** **15 15 49.6 +0.8**
baz=54,SNR=8.1
J26L Joseph Creek 75.29 343 P **P** **15 15 50.1 +1.7**
baz=33,SNR=18
H23K Yukon River 75.42 346 P **P** **15 15 50.5 +1.4**
baz=28
WALA Waterton Lakes 75.43 320 P **P** **15 15 49.5 -0.1**
WALA IAmb IAmb 15 15 50.9
comp=Z,31nm,1.0s
YAK Yakutsk 75.56 21 P **P** **15 15 50.0 +0.2**
comp=Z,10nm,0.4s,baz=148,slow=0.3,SNR=7.2
YAK LR LR 15 54 02.7
comp=Z,179nm,20.4s,baz=287,slow=40
YAK Yakutsk 75.56 21 *eP* **P** **15 15 50.0 +0.2**
YAK *e* 15 16 03.8
YAK *eS* **S** **15 25 28.9 -1.0**
YAK *e* 15 26 05.8
YAK *eSS* **SS** **15 30 20.6 +1.0**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=E,98nm,4.7s
YAK MLR MLR
comp=Z,389nm,23.0s
YAK MLR MLR
comp=N,366nm,21.0s
YAK MLR MLR
comp=E,259nm,20.0s
PTGB Pitanga 75.58 225 *eP* **P** **15 15 52.2 +1.7**
J25K Salcha River, 75.61 344 P **P** **15 15 51.8 +1.6**
baz=31
POKR Poker Plat Res 75.62 345 P **P** **15 15 52.1 +1.9**
baz=30,SNR=7.3
N31M Braeburn, Yuko 75.68 338 P **P** **15 15 51.9 +1.2**
N31M IAmb IAmb 15 15 53.6
comp=Z,19nm,1.0s
N31M Braeburn, Yuko 75.68 338 P **P** **15 15 51.8 +1.2**
baz=38,SNR=5.9
435B Jarrell 75.70 298 P **P** **15 15 52.0 +0.7**
baz=57
N23A Red Feather La 75.71 310 P **P** **15 15 52.9 +1.3**
baz=55,SNR=15
P33M Teslin, Yukon 75.74 336 P **P** **15 15 52.6 +1.5**
P33M IAmb IAmb 15 15 53.4
comp=Z,23nm,0.9s
P33M Teslin, Yukon 75.74 336 P **P** **15 15 52.7 +1.6**
baz=41,SNR=11
GOMU GeErMu 75.79 56 P **P** **15 15 51.7 -0.5**
GOMU sP sP 15 15 58.8 +0.9
GOMU S **S** **15 25 31.4 -2.8**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,110nm,5.9s
GOMU LR LR
comp=Z,72nm,9.7s
GOMU LR LR
comp=Z,62nm,8.3s
GOMU LR LR
comp=Z,54nm,9.1s
ILAR Eielson Array 75.81 345 P **P** **15 15 52.5 +1.2**
comp=Z,2.8nm,0.7s,baz=16,slow=4.5,SNR=29
ILAR LR LR 15 51 01.6
comp=Z,85nm,20.2s,baz=14,slow=37
ILAR Eielson Array 75.81 345 P **P** **15 15 52.2 +0.9**
SCRK Sand Creek 75.83 343 P **P** **15 15 52.9 +1.4**
SCRK IAmb IAmb 15 15 54.4
comp=Z,19nm,1.0s
SCRK Sand Creek 75.83 343 P **P** **15 15 53.7 +2.1**
baz=32,SNR=13
COLA College 75.92 345⇑ *eP* **P** **15 15 53.7 +1.9**
COLA pmax pmax
comp=Z,7.0nm,1.1s
I23K Minto, Yukon-K 75.99 346 P **P** **15 15 53.8 +1.5**
baz=28,SNR=6.8
SONM Songino Array 76.00 41 P **P** **15 15 53.3 +0.5**
comp=Z,4.6nm,0.8s,baz=288,slow=6.5,SNR=43
SONM LR LR 15 52 46.7
comp=Z,163nm,18.4s,baz=324,slow=38
SONM Songino Array 76.00 41 P **P** **15 15 53.5 +0.7**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 76.00 41 P **P** **15 15 53.5 +0.7**
IMAR Indian Mountai 76.05 348 P **P** **15 15 54.2 +1.6**
WHY Whitehorse 76.05 338 P **P** **15 15 54.0 +1.1**
baz=39,SNR=8.6

L27K Beaver Creek, 76.07 342 P **P** **15 15 54.9 +2.0**
baz=34
DLBC Dease Lake 76.12 334 P **P** **15 15 55.1 +1.8**
DLBC IAmb IAmb 15 15 55.9
comp=Z,19nm,0.8s
ISCO Idaho Springs 76.13 309 P **P** **15 15 55.0 +1.0**
baz=55,SNR=23
HDA Harding Lake 76.13 345 P **P** **15 15 54.5 +1.3**
baz=30,SNR=13
ABTX Abilene, Hawle 76.16 300 P **P** **15 15 54.2 +0.4**
baz=56,SNR=15
H21K Melozitna Rive 76.18 347 P **P** **15 15 55.2 +1.8**
baz=25
RIDG Independent Ri 76.24 343 P **P** **15 15 55.9 +2.1**
baz=32,SNR=11
BILL Bilibino 76.29 4⇑ *iP* **P** **15 15 54.5 +0.5**
BILL *i* 15 16 01.9
BILL *e* 15 18 47.6
BILL pmax pmax
comp=Z,16nm,1.7s
BILL Bilibino 76.29 4 P **P** **15 15 54.0 +0.1**
BOZ Bozeman (W) 76.31 317 P **P** **15 15 56.0 +1.3**
baz=53,SNR=25
Q24A Divide 76.31 308 P **P** **15 15 55.8 +0.8**
baz=55,SNR=5.1
AMTX Amarillo 76.32 303 P **P** **15 15 55.8 +1.0**
baz=56
WRH Wood River Hil 76.32 345 P **P** **15 15 54.8 +0.6**
ULN Ulaanbaatar 76.33 40 *ce*P **P** **15 15 55.1 +0.4**
ULN pmax pmax
comp=Z,27nm,1.7s
BVCY Beaver Creek 76.36 341 P **P** **15 15 56.4 +1.9**
baz=35,SNR=6.8
MLY Manley 76.36 346 P **P** **15 15 55.6 +1.2**
baz=27
NEA2 Nenana 76.42 345 P **P** **15 15 55.5 +0.8**
baz=28,SNR=5.9
JTMT Jette 76.43 320 P **P** **15 15 55.3 0.0**
H17A Grant Village 76.44 315 P **P** **15 15 57.6 +2.0**
baz=53,SNR=7.1
I21K Tanana 76.46 347 P **P** **15 15 56.6 +1.6**
baz=26,SNR=12
L26K Log Cabin Wild 76.48 342 P **P** **15 15 57.3 +2.1**
baz=33,SNR=13
YUK4 Talbot Arm 76.63 340 P **P** **15 15 57.5 +1.2**
baz=36,SNR=5.3
M27K Edge Creek, AK 76.67 341 P **P** **15 15 57.9 +1.5**
baz=34
HYT Haines Junctio 76.71 339 P **P** **15 15 58.4 +1.7**
baz=37,SNR=5.9
YUK3 Moose Creek 76.78 340 P **P** **15 15 58.6 +1.5**
baz=35,SNR=6.5
PDAR Pinedale Array 76.81 313 P **P** **15 15 57.6 0.0**
comp=Z,11nm,0.9s,baz=64,slow=6.6,SNR=54
PDAR Pinedale Array 76.81 313 P **P** **15 15 57.3 -0.4**
BW06 Boulder Array 76.81 313 P **P** **15 15 57.7 0.0**
baz=54,SNR=19
MSO Missoula 76.82 319 P **P** **15 15 57.9 +0.4**
baz=52,SNR=11
LSA Lhasa 76.82 63 P **P** **15 15 59.1 +0.9**
YUK6 Outpost Mounta 76.87 339 P **P** **15 15 59.7 +2.0**
baz=36,SNR=6.5
T25A Trinidad 76.88 306 P **P** **15 15 59.1 +1.0**
baz=55,SNR=7.5
MOOW Moose Ponds 76.92 315 P **P** **15 15 58.0 -0.3**
TER01 Tubaro-SC 76.97 220 *eP* **P** **15 16 00.5 +2.3**
MCK McKinley 77.15 345 P **P** **15 15 59.8 +0.8**
baz=28
GTA Gaotai 77.22 51⇑ P **P** **15 16 00.5 +0.6**
GTA pP pP 15 16 04.6 +0.5
GTA sP sP 15 16 08.0 +2.3
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,140nm,5.1s
GTA LR LR
comp=Z,160nm,17.4s
GTA LR LR
comp=Z,130nm,17.8s
GTA LR LR
comp=Z,100nm,17.8s
SDCO Great Sand Dun 77.24 307 P **P** **15 16 00.9 +0.7**
baz=55,SNR=16
DHY Denali Highway 77.39 344 P **P** **15 16 01.8 +1.3**
baz=30,SNR=5.0
RND Reindeer 77.42 345 P **P** **15 16 00.6 +0.1**
RND pmax pmax
comp=Z,39nm,1.7s
RND Reindeer 77.42 345 P **P** **15 16 00.6 +0.1**
RND IAmb IAmb 15 16 02.5
comp=Z,39nm,1.7s
JCT Junction City 77.46 298 P **P** **15 16 02.1 +0.8**
baz=56,SNR=13
O20A White River Ci 77.58 311 P **P** **15 16 02.3 +0.3**
baz=54
MSTX Muleshoe 77.58 303 P **P** **15 16 02.9 +0.9**
baz=55,SNR=6.8
NEW Newport 77.58 321 P **P** **15 16 02.0 +0.3**
baz=50,SNR=5.6
OTAV Otavalo 77.59 261 *eP* **P** **15 16 04.3 +1.6**
TRF Thorofare Moun 77.69 345 P **P** **15 16 02.6 +0.5**
baz=27
CTG Chitna Glacier 77.69 340 P **P** **15 16 04.0 +1.9**
baz=34,SNR=5.0
CHUM Lake Minchumin 77.70 346 P **P** **15 16 03.0 +1.1**
baz=26
GCSA Galena City Sc 77.71 349 P **P** **15 16 03.4 +1.5**
baz=22
J20K Nowinta River 77.77 347 P **P** **15 16 03.5 +1.2**
baz=24
MCARA McCarthy VSAT 77.79 341 P **P** **15 16 04.4 +1.9**
baz=33
CZSB Cruzeiro do Su 77.89 251 *eP* **P** **15 16 04.2 +0.4**
WAT6 Susitna Watana 77.91 344 P **P** **15 16 04.2 +0.9**
baz=29,SNR=9.1
N25K Chitina, Valde 78.00 342 P **P** **15 16 05.8 +2.0**
baz=32
VRDI Verde Repeater 78.03 341 P **P** **15 16 04.7 +0.6**
VRDI IAmb IAmb 15 16 06.8
comp=Z,22nm,1.0s
CAST Castle Rocks 78.07 346 P **P** **15 16 04.8 +0.8**
baz=26
PINM Pinnacle 78.11 339 P **P** **15 16 06.0 +1.6**
baz=35
PNL Peninsula 78.21 339 P **P** **15 16 06.8 +1.9**
baz=35
TNA Tin City 78.33 353 P **P** **15 16 06.1 +0.8**
baz=13,SNR=6.4
833A Chaparral WMA, 78.37 296 P **P** **15 16 07.4 +1.1**
baz=56,SNR=8.7
KLU Klutina 78.43 343 P **P** **15 16 07.8 +1.6**
baz=30
SCM Sheep Creek Mo 78.47 343 P **P** **15 16 08.1 +1.7**
baz=29
K20K Telida 78.51 347 P **P** **15 16 07.1 +0.6**
baz=24
BMRM Bremner River 78.55 342 P **P** **15 16 07.9 +1.1**
baz=32,SNR=8.4
ANM Nome 79.04 352 P **P** **15 16 09.9 +0.6**
baz=15,SNR=6.8
KNK Knik Glacier 79.09 344 P **P** **15 16 10.5 +0.7**
baz=28
P18A Preston Nutter 79.12 311 P **P** **15 16 10.4 -0.2**
P18A IAmb IAmb 15 16 12.9
comp=Z,29nm,1.3s
HLID Hailey 79.13 316 P **P** **15 16 11.8 +1.3**
baz=51,SNR=15
M22K Willow 79.17 345 P **P** **15 16 11.4 +1.4**
baz=27
TTA Tatalina 79.25 348 P **P** **15 16 12.0 +1.4**
baz=22
MVCO Mesa Verde 79.48 308 P **P** **15 16 13.8 +1.2**
baz=53,SNR=10
ANMO Albuquerque 79.50 305 *de*P **P** **15 16 14.0 +1.3**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 79.50 305 P **P** **15 16 14.0 +1.3**
baz=54
SEY Seymchan 79.83 11 LR LR 15 56 58.1
comp=Z,96nm,18.8s,baz=10.0,slow=40
SEY Seymchan 79.83 11⇑ *eP* **P** **15 16 13.8 +0.1**
SEY pmax pmax
comp=Z,2.0nm,0.9s
CPUP Villa Florida 79.88 227 P **P** **15 16 14.8 +0.4**
comp=Z,36nm,1.0s,baz=47,slow=5.4,SNR=23
CPUP Villa Florida 79.88 227 P **P** **15 16 14.5 +0.1**
CPUP pmax pmax
comp=Z,36nm,1.0s
CPUP Villa Florida 79.88 227 P **P** **15 16 14.5 +0.1**
CPUP IAmb IAmb 15 16 15.5
comp=Z,36nm,0.9s
CPUP Villa Florida 79.88 227 *eP* **P** **15 16 14.5 +0.1**
BMO Blue Mountains 79.89 319 P **P** **15 16 14.8 +0.3**
BMO pmax pmax
comp=Z,26nm,1.4s
BMO Blue Mountains 79.89 319 P **P** **15 16 14.8 +0.3**
M19K Big River Lodg 79.90 346 P **P** **15 16 14.6 +0.5**
baz=24
LPAZ La Paz 79.98 242 P **P** **15 16 15.5 -0.4**
comp=Z,5.6nm,0.7s,baz=38,slow=2.6,SNR=19
LPAZ La Paz 79.98 242 P **P** **15 16 15.5 -0.4**
LPAZ La Paz 79.98 242 *eP* **P** **15 16 16.0 +0.1**
DUG Dugway, Tooele 80.32 313 P **P** **15 16 17.7 +0.7**
baz=51,SNR=9.6
GAMB Gambell 80.41 355 P **P** **15 16 17.2 +0.5**
baz=9.8,SNR=9.8
MNTX Cornudas Mount 80.68 302 P **P** **15 16 19.1 +0.2**
baz=54
CPSB Cacapava Do Su 80.75 222 *eP* **P** **15 16 20.1 +1.2**
TXAR Lajitas Array 80.87 299 P **P** **15 16 20.9 +0.9**
comp=Z,3.4nm,0.9s,baz=73,slow=5.9,SNR=34
TXAR Lajitas Array 80.87 299 P **P** **15 16 20.5 +0.5**
ZEA Zeya 81.30 27 *eP* **P** **15 16 22.6 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 81.76 51⇑ P **P** **15 16 25.6 +0.9**
LZH pP pP 15 16 29.0 0.0
LZH sP PcP 15 16 31.4 +0.9
LZH pmax pmax
comp=Z,41nm,1.5s
LZH LR LR
comp=Z,150nm,17.5s
LZH LR LR
comp=Z,140nm,13.9s
LZH LR LR
comp=Z,140nm,18.2s
121A Cookes Peak, D 81.82 304 P **P** **15 16 26.9 +1.7**
baz=53,SNR=11
PLTB Pedras Altas 81.89 221 *eP* **P** **15 16 26.4 +1.4**
ITQB Itaqui 81.97 225 *eP* **P** **15 16 26.5 +1.1**
PB16 IPOC Station P 82.32 241 P **P** **15 16 28.8 +0.6**
WUAZ Wupatki 82.35 308 P **P** **15 16 29.3 +1.5**
baz=51
BTO Baotou 82.61 45 *eP* **P** **15 16 28.2 -0.8**
MA2 Magadan 82.72 13 LR LR 15 59 43.1
comp=Z,137nm,18.4s,baz=330,slow=40
MA2 Magadan 82.72 13⇓ *eP* **P** **15 16 30.1 +1.0**
MA2 pmax pmax
comp=Z,20nm,1.7s
R11A Troy Canyon, C 83.15 313 P **P** **15 16 33.0 +1.0**
baz=49,SNR=18
XLT XiLinHaoTe 83.67 39 *eP* **P** **15 16 34.5 +0.1**
XLT pP PcP 15 16 38.4 -0.2
XLT sP sP 15 16 42.0 +1.8
XLT SS SS 15 32 23.3 +1.2
XLT pmax pmax
comp=Z,11nm,1.4s
XLT pmax pmax
comp=Z,91nm,6.2s
XLT LR LR
comp=Z,22nm,15.5s
XLT LR LR
comp=Z,220nm,17.5s
XLT LR LR
comp=Z,250nm,13.1s
TUC Tucson 83.96 306 P **P** **15 16 38.0 +1.9**
baz=51
KVN Kaiserville 84.17 315 P **P** **15 16 36.8 -0.4**
KVN pmax pmax
comp=Z,41nm,1.9s
KVN Kaiserville 84.17 315 P **P** **15 16 36.8 -0.4**
KVN IAmb IAmb 15 16 38.8
comp=Z,41nm,1.9s
TPNV Topopah Spring 84.47 312 P **P** **15 16 40.2 +1.5**
baz=49
NVAR Mina Array Bea 84.70 314 P **P** **15 16 40.6 +0.6**
comp=Z,1.4nm,0.8s,baz=49,slow=4.6,SNR=9.4
LVC Limon Verde 84.73 237 P **P** **15 16 40.7 +0.4**
comp=Z,15nm,0.8s,baz=58,slow=4.7,SNR=16
LVC Limon Verde 84.73 237 P **P** **15 16 39.8 -0.5**
LVC pmax pmax
comp=Z,22nm,0.9s
LVC Limon Verde 84.73 237 P **P** **15 16 39.8 -0.5**
LVC IAmb IAmb 15 16 41.8
comp=Z,22nm,0.9s
LVC Limon Verde 84.73 237 *eP* **P** **15 16 41.0 +0.7**
PDMCI Parker Dam,Lak 84.88 309 P **P** **15 16 42.1 +1.6**
baz=50,SNR=11
CD2 Chengdu 84.92 55 P **P** **15 16 41.7 +0.7**
CD2 pmax pmax
comp=Z,40nm,0.8s
GRAC Grapevine Rang 85.11 313 P **P** **15 16 44.3 +2.5**
baz=48
FURC Furnace Creek, 85.15 312 P **P** **15 16 44.1 +2.2**
baz=49
214A Organ Pipe Nat 85.52 306 P **P** **15 16 45.8 +1.9**
baz=50
GMRC Granite Mounta 85.52 310 P **P** **15 16 46.2 +2.3**
baz=49
GSC Goldstone, Bar 85.89 311 P **P** **15 16 48.4 +2.7**
baz=48
PZH PanZhiHua 86.27 60⇓ P **P** **15 16 48.4 +0.6**
PZH pP **PcP** **15 16 49.9 -0.5**
PZH sP **pP** **15 16 51.0 -1.1**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.2s
XAN Xi'an 86.27 50 P **P** **15 16 48.6 +1.0**
XAN pP sP 15 16 57.3 +3.9
XAN pmax pmax
comp=Z,37nm,1.2s
BJI Beijing 86.44 42 P **P** **15 16 46.1 -2.1**
BJI sP **pP** **15 16 51.8 -0.7**
KLR Kul'dur 86.60 27 P **P** **15 16 48.8 -0.1**
comp=Z,2.2nm,0.8s,baz=320,slow=9.0,SNR=7.0
KLR LR LR 15 59 56.0
comp=Z,61nm,21.7s,baz=10,slow=39
HNS HongShan 87.47 45⇑ P **P** **15 16 53.8 +0.5**
HNS pmax pmax
comp=Z,33nm,1.0s
KMI Kunming 87.83 61⇑ P **P** **15 16 55.4 -0.1**
KMI pmax pmax
comp=Z,14nm,1.0s
CN2 Changchun 88.30 34 *eP* **P** **15 16 55.4 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CMAR Chiang Mai Arr 89.12 68 P **P** **15 17 01.6 +0.1**
comp=Z,6.8nm,1.0s,baz=302,slow=6.1,SNR=41
TIA Tai'an 89.68 44⇑ P **P** **15 17 04.2 +0.4**
TIA pmax pmax
comp=Z,21nm,1.1s
GYA Guiyang 89.72 57⇓ P **P** **15 17 03.0 -1.3**
GYA pmax pmax
comp=Z,7.0nm,0.5s
AC04 Llanos de Chal 89.89 235 P **P** **15 17 04.2 -0.5**
AC04 IAmb IAmb 15 17 05.9
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 90.07 11 LR LR 16 05 24.6
comp=Z,99nm,18.5s,baz=329,slow=41
LCO Las Campanas 90.18 234 P **P** **15 17 06.6 +0.2**
LCO pmax pmax
comp=Z,13nm,1.0s
LCO Las Campanas 90.18 234 P **P** **15 17 06.6 +0.2**
LCO IAmb IAmb 15 17 07.3
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 90.83 30 P **P** **15 17 07.9 -1.1**
USRK Ussuriysk Ar. 90.83 30 P **P** **15 17 07.9 -1.1**
NJ2 Nanjing 93.66 46 *eP* **P** **15 17 20.6 -1.7**
NJ2 pmax pmax
comp=Z,13nm,0.6s
BO02 Sierra Bellavi 94.04 230 P **P** **15 17 22.5 -1.4**
KSRS Korea Array 94.44 37 P **P** **15 17 25.2 -0.6**
comp=Z,3.1nm,0.9s,baz=330,slow=4.4,SNR=9.6
ASAJ Asahikawa 94.82 24 LR LR 16 05 08.4
comp=Z,140nm,18.6s,baz=359,slow=39
PLCA Paso Flores 97.80 225 P **P** **15 17 40.6 -0.2**
comp=Z,3.4nm,0.7s,baz=55,slow=4.7,SNR=14
PLCA Paso Flores 97.80 225 *eP* Pdif 15 17 41.4 +0.5
MJAR Matsushiro Arr 99.82 30 LR LR 16 05 57.6
comp=Z,75nm,19.4s,baz=358,slow=37
WRA Warramunga Arr 139.94 78 PKhKP PKPpre 15 23 24.8
comp=Z,0.8nm,0.9s,baz=312,slow=2.6,SNR=8.5

WRA				PP	**PP**	**15 26 29.8**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=315,slow=6.0,SNR=9.3						
WB2	**Warramunga Arr**	**139.94**	**78**	PKPpre	PKPpre	15 23 25.1	
ASAR	**Alice Springs**	**141.44**	**84**	PKhKP	PKPpre	15 23 29.6	
	comp=Z,1.9nm,0.6s,baz=300,slow=2.7,SNR=30						
ASAR				PP	**PP**	**15 26 39.0**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=318,slow=7.3,SNR=5.2						
ASAR	**Alice Springs**	**141.44**	**84**	PKHKP	PKPpre	15 23 29.4	
ASAR	**Alice Springs**	**141.44**	**84**	PKPpre	PKPpre	15 23 29.4	
PMG	**Port Moresby**	**142.65**	**53**	PKP	**PKPdf**	**15 23 39.7**	**+0.3**
	comp=Z,9.2nm,1.0s,baz=45,slow=8.3,SNR=3.5						
BBOO	**Buckleboo**	**146.68**	**97**		**PKPbc**	**15 23 47.1**	**-0.4**
CTA	**Charters Tower**	**149.29**	**68**	PKPbc	**PKPbc**	**15 23 54.8**	**-0.1**
	comp=Z,9.2nm,0.8s,baz=294,slow=4.6,SNR=6.7						

IDC ***12*** *15:17:10.4±0.3,35°.73N×3°.66W, h0km, mb4.8/42, mb1 4.9/47, mb1mx4.8/56, mbtmp4.8/47, ML4.7/4, MS4.2/39, Ms1 4.2/39, ms1mx3.9/90, Error ellipse: s-maj=10.4km s-min=7.5km az=109.0*

BJI ***12*** *15:17:10.8±0.0, 36°.13N×3°.66W, h10km, mb5.1/60, mB5.2/33, Ms4.9/17, Ms7 4.4/14*

MOS ***12*** *15:17:10.3±0.9, 35°.69N×3°.57W, h13km, mb5.2/56, MS4.5/6, Error ellipse: s-maj=7.0km s-min=3.7km az=58.6*

MDD ***12*** *15:17:11.5±0.4, 35°.63N×3°.65W, h2km±2km, mb_Lg4.9/30, Error ellipse: s-maj=2.7km s-min=1.7km az=174.0*

SFS ***12*** *15:17:11.0, 35°.60N×3°.60W, ML4.8, ALBORAN SUR*

INMG ***12*** *15:17:11.9±2.1, 35°.66N×3°.70W, h0km, MD4.3, ML4.6, Error ellipse: s-maj=3.3km s-min=2.7km az=145.0*

GCMT ***12*** *15:17:12.0±0.3, 35°.57N±0°.02×3°.67W±0°.03, h12km, MW4.9/104, Moment Tensor Solution. s25,c27; s104,c144; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.66±.06; Mθθ-2.18±.06; Mφφ-0.48±.06; Mrθ 0.78±.25; Mθφ-0.91±.05; Mφr-0.16±.27; Best double couple: M=2.73100×10^16 NP1:φ≈238.00000°, δ39.00000°, λ76.00000°. NP2:φ≈76.00000°, δ53.00000°, λ101.00000°. Principal axes: T 2.8100, Plg79.0000°, Azm29.0000°; N -0.1580, Plg9.0000°, Azm249.0000°; P -2.6530, Plg7.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *15:17:12.0±1.3, 35°.66N±0°.02×3°.59W±0°.07, h10km±1km, mb5.2/118, Mww4.9 Error ellipse: s-maj=10.3km s-min=4.2km az=86.0*

IGIL ***12*** *15:17:12.7, 35°.61N×3°.68W, h9km, ML4.8*

CRAAG ***12*** *15:17:12.5, 35°.72N×3°.68W, Mb4.8*

MED_RC ***12*** *15:17:12.0±0.8, 35°.66N×3°.74W, h10km, MW4.9/24, Moment Tensor Solution. Body waves: s3,c3;Mantle waves: s24,c40; Duration: 1s1 Moment tensor: Scale 10^16 Nm; Mrr2.04±.07; Mθθ-1.90±.05; Mφφ-0.15±.08; Mrθ 1.29±.22; Mθφ-0.80±.05; Mφr 0.04±.27; Best double couple: M=2.49000×10^16 NP1:φ≈79.00000°, δ61.00000°, λ101.00000°. NP2:φ≈238.00000°, δ31.00000°, λ72.00000°. Principal axes: T 2.4400, Plg72.0000°, Azm14.0000°; N 0.0900, Plg9.0000°, Azm254.0000°; P -2.5400, Plg15.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

LDG ***12*** *15:17:13.6±0.2, 35°.65N×3°.62W, h10km, Ml4.6/44 Error ellipse: s-maj=5.0km s-min=4.0km az=147.0*

CNRM ***12*** *15:17:14.7, 36°.06N×3°.41W, h0km, ml5.8*

NEIC ***12*** *15:17:15, 35°.62N×3°.48W, h12km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^16 Nm; Mrr2.59; Mθθ-1.92; Mφφ-0.67; Mrθ -0.29; Mθφ-0.22; Mφr 1.17; Fault plane solution: M=2.63000×10^16 NP1:φ≈64.00000°, δ46.00000°, λ64.00000°. NP2:φ≈279.00000°, δ49.00000°, λ114.00000°. Principal axes: T 2.9917, Plg72.0000°, Azm257.0000°; N -1.0302, Plg18.0000°, Azm82.0000°; P -1.9615, Plg2.0000°, Azm352.0000°;*

BGR ***12*** *15:17:45.2±0.0, 37°.11N×0°.12W, h33km, mb4.7, Ms3.4*

ISC 12 15:17:12.3±0.5, 35°.73N±0°.02×3°.63W±0°.02, h13km±3km, h14km; pP-P, n947, σ1≈57/1052, mb5.1/175, MS4.3/46, 141C-100D, Fault plane solution: NP1:φ≈77.62483°, δ43.56748°, λ132.23465°. NP2:φ≈206.21860°, δ59.31694°, λ57.40636°. Principal axes: T Plg60.8294°, Azm64.8224°; N Plg27.5979°, Azm224.2882°; P Plg8.7147°, Azm318.8842°; Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
EALB	**Alboran**	**0.53**	**66**	Pg	**Pg**	**15 17 23.5**	**+0.8**
EALB				Sg	**Sg**	**15 17 31.5**	**+1.8**
EMEL	**Melilla**	**0.70**	**128**	Pg	**Pg**	**15 17 24.4**	**-1.4**
EMEL				Sg	**Sg**	**15 17 33.1**	**-1.9**
ELGU	**Los Guajares,**	**1.14**	**0**	Pg	**Pb**	**15 17 32.7**	**-1.1**
ELGU				Sg	**Sg**	**15 17 50.9**	**+1.8**
EMAL	**Malaga-Limoner**	**1.22**	**328**	P	**Pn**	**15 17 33.9**	**-1.1**
EMAL				S	**Sb**	**15 17 49.7**	**-1.1**
EMIJ	**Mijas**	**1.25**	**312**	Pg	**Pn**	**15 17 33.5**	**-1.9**
EMIJ				Sg	**Sb**	**15 17 50.4**	**-1.3**
EBER	**Berja**	**1.31**	**27**	Pn	**Pn**	**15 17 35.6**	**-0.8**
EBER				Sn	**Sb**	**15 17 53.9**	**+0.3**
EBER				*i* Vmb_Lg		15 17 55.6	
CEU	**Ceuta**	**1.43**	**277**	P	**Pn**	**15 17 35.2**	**-2.7**
CEU				S	**Sn**	**15 17 50.4**	**-6.1**
EGOR	**Sierra Gorda,**	**1.43**	**344**	Pn	**Pn**	**15 17 37.3**	**-0.8**
EGOR				Sn	**Sb**	**15 17 59.3**	**+2.2**
EGOR				*i* Vmb_Lg		15 18 16.3	
EQUE	**Quentar**	**1.48**	**6**	Pn	**Pn**	**15 17 38.7**	**0.0**
EQUE				Sn	**Sn**	**15 17 59.6**	**+1.6**
EQUE				*i* Vmb_Lg		15 18 10.2	
EJIF	**Jimena Fronter**	**1.66**	**296**	Pn	**Pn**	**15 17 40.1**	**-0.9**
ENIJ	**Nijar**	**1.69**	**42**	Pn	**Pn**	**15 17 39.8**	**-1.7**
ENIJ				Sn	**Sn**	**15 18 00.9**	**-2.0**
ENIJ				*i* Vmb_Lg		15 18 16.0	
LIJA	**Lijar**	**1.85**	**310**	P	**Pn**	**15 17 44.2**	**+0.4**
LIJA				S	**Sb**	**15 18 10.0**	**+0.8**
EQES	**Quesada**	**2.12**	**12**	Pn	**Pn**	**15 17 49.2**	**+1.7**
EQES				Sn	**Sn**	**15 18 16.4**	**+2.7**
EQES				*i* Vmb_Lg		15 18 19.3	
ESPR	**Espera**	**2.13**	**303**	Pn	**Pn**	**15 17 48.1**	**+0.6**
ESPR				Sn	**Sn**	**15 18 16.1**	**+2.3**
ESPR				*i* Vmb_Lg		15 18 22.0	
SICH	**Sidi Chahed**	**2.13**	**221**	P	**Pn**	**15 17 48.0**	**+0.3**
SFS	**San Fernando**	**2.21**	**290**	P	**Pn**	**15 17 50.1**	**+1.4**
SFS				S	**Sn**	**15 18 17.6**	**+1.8**
SFS	**San Fernando**	**2.21**	**290**	P	**Pn**	**15 17 49.5**	**+0.8**
SFS	**San Fernando**	**2.21**	**290**		**Pn**	**15 17 49.5**	**+0.8**
SFS	**San Fernando**	**2.21**	**290**	P	**Pg**	**15 17 53.4**	**-1.3**
TLOR	**Lorca, Murcia**	**2.47**	**38**	Pn	**Pn**	**15 17 53.0**	**+0.7**
TLOR				Sn	**Sn**	**15 18 21.8**	**-0.6**
IFR	**Ifrane**	**2.53**	**210**	P	**Pn**	**15 17 51.8**	**-1.4**
IFR				S	**Sn**	**15 18 20.7**	**-3.3**
EADA	**Adamuz**	**2.55**	**343**	Pn	**Pn**	**15 17 54.4**	**+1.0**
EADA				Sn	**Sn**	**15 18 25.7**	**+1.4**
EADA				*i* Vmb_Lg		15 18 32.5	
EZAR	**Zarzadilla de**	**2.64**	**35**	Pn	**Pn**	**15 17 54.2**	**-0.5**
EZAR				Sn	**Sn**	**15 18 25.9**	**-0.8**
ECAB	**El Cabril**	**2.75**	**329**	Pn	**Pn**	**15 17 56.6**	**+0.5**
ECAB				Sn	**Sn**	**15 18 30.2**	**+1.1**
ECAB				*i* Vmb_Lg		15 18 40.6	
CART	**Cartagena**	**2.81**	**48**	P	**Pn**	**15 17 54.5**	**-2.3**
CART				S	Sn	15 18 23.2	-7.4
CART	**Cartagena**	**2.81**	**48**	Pn	**Pn**	**15 17 54.2**	**-2.6**
CART	**Cartagena**	**2.81**	**48**	P	**Pn**	**15 17 56.1**	**-0.8**
ARNO	**Arenosillo**	**2.85**	**300**	P	**Pn**	**15 17 58.1**	**+0.7**
ARNO				S	**Sn**	**15 18 33.6**	**+2.0**
MDT	**Midelt**	**3.02**	**196**	Pn	**Pn**	**15 17 58.5**	**-1.4**
	30nm,0.3s,baz=123,slow=5.6,SNR=106						
MDT				Pg	**Pg**	**15 18 06.8**	**-3.4**
	93nm,0.3s,baz=132,slow=17,SNR=30						
MDT				Sn	**Sn**	**15 18 36.2**	**+0.2**
	92nm,0.3s,baz=77,slow=8.5,SNR=4.3						
MDT				Lg	Lg	15 18 43.7	
	119nm,0.3s,baz=14,slow=20,SNR=6.4						
MDT				LR	LR	15 19 21.5	
	comp=Z,4μm,21.4s,baz=30,slow=44						
EMIN	**Mina Concepcio**	**3.18**	**311**	Pn	**Pn**	**15 18 01.4**	**-0.6**
EMIN				Sn	**Sn**	**15 18 38.2**	**-1.6**
ETRV	**Los Montesinos**	**3.24**	**44**	Pn	**Pn**	**15 18 03.6**	**+0.8**
ETRV				Sn	**Sn**	**15 18 38.0**	**-3.2**
ETRV				*i* Vmb_Lg		15 19 14.1	
ETOB	**Tobarra**	**3.35**	**29**	Pn	**Pn**	**15 18 05.7**	**+1.3**
ETOB				Sn	**Sn**	**15 18 46.0**	**+2.0**
ETOB				*i* Vmb_Lg		15 19 19.7	
PTAV	**Tavira**	**3.53**	**294**	*e*Pn	**Pn**	**15 18 06.8**	**0.0**
PTAV				*e*Sn	**Sn**	**15 18 47.7**	**-0.7**
EGRO	**El Granado**	**3.59**	**301**	Pn	**Pn**	**15 18 07.3**	**-0.3**
EGRO				Sn	**Sn**	**15 18 47.7**	**-2.1**
EGRO				*i* Vmb_Lg		15 18 51.5	
PBAR	**Barrancos**	**3.66**	**313**	*e*Pn	**Pn**	**15 18 08.5**	**-0.1**
PBAR				*e*Sn	**Sn**	**15 18 50.5**	**-1.2**
PBAR				A	A	15 18 52.4	
	885nm,0.4s						
PVAQ	**Vaqueiros**	**3.69**	**298**	*e*Pn	**Pn**	**15 18 08.6**	**-0.4**
PVAQ				*e*Sn	**Sn**	**15 18 51.1**	**-1.3**
PVAQ				A	A	15 18 55.3	
	796nm,0.8s						
PVAQ	**Vaqueiros**	**3.69**	**298**		**Pn**	**15 18 08.4**	**-0.6**
PFARO	**Faro**	**3.70**	**292**	*e*Pn	**Pn**	**15 18 09.9**	**+0.8**
PFARO				*e*Sn	**Sn**	**15 18 52.8**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.78**	**295**	*e*Pn	**Pn**	**15 18 09.7**	**-0.6**
PBDV				*e*Sn	**Sn**	**15 18 53.3**	**-1.3**
PBDV				A	A	15 18 58.4	
	765nm,0.6s						
AFON	**Font Roja**	**3.83**	**39**	Pn	**Pn**	**15 18 11.8**	**+0.8**
AFON				Sn	**Sn**	**15 18 58.5**	**+2.6**
EANR	**'Ain N'Sour**	**3.85**	**85**	P	**Pn**	**15 18 11.8**	**+0.6**
PAB	**San Pablo**	**3.85**	**352**	P	**Pn**	**15 18 11.9**	**+0.6**
PAB	**San Pablo**	**3.85**	**352**	Pn	**Pn**	**15 18 11.9**	**+0.6**
PAB	**San Pablo**	**3.85**	**352**	Pn	**Pn**	**15 18 12.5**	**+1.1**
PAB				Sn	**Sn**	**15 18 57.3**	**+0.9**
PAB				*i* Vmb_Lg		15 19 34.1	
ESDC	**Sonseca Array**	**3.95**	**356**	Pn	**Pn**	**15 18 13.5**	**+0.9**
	53nm,0.3s,baz=179,slow=12,SNR=1782						
ESDC				Sn	**Sn**	**15 18 59.5**	**+0.8**
	30nm,0.3s,baz=176,slow=20,SNR=4.4						
ESDC				LR	LR	15 19 14.7	
	comp=Z,789nm,18.4s,baz=227,slow=32						
ESDC				Lg	Lg	15 19 17.3	
	68nm,0.3s,baz=178,slow=28,SNR=14						
ESDC	**Sonseca Array**	**3.95**	**356**		**Pn**	**15 18 13.1**	**+0.5**
ESDC	**Sonseca Array**	**3.95**	**356**	Pn	**Pn**	**15 18 13.5**	**+0.9**
ESDC				Sn	**Sn**	**15 19 01.4**	**+2.6**
ESDC				*i* Vmb_Lg		15 19 36.0	
ESBB	**Sonseca Array**	**3.95**	**356**		**Pn**	**15 18 13.1**	**+0.5**
AVE	**Averroes**	**3.96**	**233**	P	**Pn**	**15 18 11.3**	**-1.4**
AVE				S	**Sn**	**15 18 56.0**	**-2.9**
AVE	**Averroes**	**3.96**	**233**	P	**Pb**	**15 18 20.6**	**-1.2**
PALBU	**Albufeira**	**3.97**	**291**	*e*Pn	**Pn**	**15 18 14.1**	**+1.3**
PALBU				*e*Sn	**Sn**	**15 18 59.7**	**+0.5**
EBEN2	**Beniarda presa**	**4.02**	**42**	Pn	**Pn**	**15 18 13.5**	**0.0**
EBEN2				Sn	**Sn**	**15 19 01.4**	**+0.9**
PCVE	**Castro Verde**	**4.02**	**299**	*e*Pn	**Pn**	**15 18 13.2**	**-0.4**
PCVE				*e*Sn	**Sn**	**15 19 00.6**	**+0.1**
PCVE				A	A	15 19 08.2	
	723nm,0.6s						
EBAD	**Badajoz**	**4.05**	**319**	Pn	**Pn**	**15 18 13.8**	**-0.1**
EBAD				Sn	**Sn**	**15 18 59.6**	**-1.6**
EBAD				*i* Vmb_Lg		15 19 02.6	
EVIV	**Cofrentes, Val**	**4.05**	**29**	Pn	**Pn**	**15 18 15.2**	**+1.1**
ECHA	**Ech Chlef**	**4.07**	**83**	P	**Pn**	**15 18 17.6**	**+3.3**
PBEJ	**Beja**	**4.10**	**305**	*e*Pn	**Pn**	**15 18 14.4**	**-0.2**
PBEJ				*e*Sn	**Sn**	**15 19 01.0**	**-1.4**
PBEJ				A	A	15 19 11.1	
	545nm,0.7s						
GOLM	**Goulmima**	**4.17**	**196**	P	**Pb**	**15 18 26.0**	**+0.5**
PPOR	**Portimao**	**4.20**	**291**	*e*Pn	**Pn**	**15 18 20.3**	**+4.4**
PPOR				*e*Sn	**Sn**	**15 19 07.4**	**+2.6**
EBNR	**Beni Rached**	**4.22**	**81**	P	**Pn**	**15 18 21.0**	**+4.7**
PLAGO	**Lagos**	**4.30**	**290**	*e*Pn	**Pn**	**15 18 19.0**	**+1.6**
PLAGO				*e*Sn	**Sn**	**15 19 10.1**	**+2.7**
MORF	**Marmelete**	**4.34**	**293**	*e*P	**Pn**	**15 18 17.1**	**-0.9**
MORF				*e*S	**Sn**	**15 19 04.2**	**-4.3**
MORF				IAML		15 19 13.9	
	comp=N,1μm,0.5s						
MORF	**Marmelete**	**4.34**	**293**	*e*Pn	**Pn**	**15 18 17.4**	**-0.6**
MORF				*e*Sn	**Sn**	**15 19 07.3**	**-1.2**
MORF				A	A	15 19 14.5	
	comp=N,415nm,0.6s						
MORF	**Marmelete**	**4.34**	**293**	*e*P	**Pn**	**15 18 17.1**	**-0.9**
MORF				*e*S	**Sn**	**15 19 04.1**	**-4.3**
ECHE	**Chera**	**4.39**	**28**	Pn	**Pn**	**15 18 20.0**	**+1.2**
ECHE				*i* Vmb_Lg		15 19 47.9	
PFVI	**Vila Bisbo**	**4.42**	**290**	*e*Pn	**Pn**	**15 18 18.1**	**-0.9**
PFVI				*e*Sn	**Sn**	**15 19 08.4**	**-1.9**
PFVI				A	A	15 19 17.1	
	comp=N,734nm,0.8s						
PFVI	**Vila Bisbo**	**4.42**	**290**	Pn	**Pn**	**15 18 17.6**	**-1.4**
PESTR	**Estremoz**	**4.45**	**316**	*e*Pn	**Pn**	**15 18 19.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**15 19 10.0**	**-1.0**
PESTR				A	A	15 19 49.3	
	comp=N,607nm,0.7s						
PESTR	**Estremoz**	**4.45**	**316**		**Pn**	**15 18 19.5**	**0.0**
PALJ	**Aljezur**	**4.46**	**292**	*e*Pn	**Pn**	**15 18 20.6**	**+1.1**
PALJ				*e*Sn	**Sn**	**15 19 10.3**	**-0.9**
PTEO	**Sao Teotonio**	**4.48**	**295**	*e*Pn	**Pn**	**15 18 19.7**	**-0.2**
PTEO				*e*Sn	**Sn**	**15 19 09.7**	**-2.1**
PTEO				A	A	15 19 20.4	
	comp=N,718nm,0.5s						
EVO	**Evora**	**4.48**	**310**	P	**Pn**	**15 18 20.2**	**+0.3**
EVO				S	**Sn**	**15 19 09.8**	**-2.1**
EVO	**Evora**	**4.48**	**310**	*e*Pn	**Pn**	**15 18 20.2**	**+0.3**
EVO				*e*Sn	**Sn**	**15 19 10.0**	**-1.9**
EVO				A	A	15 19 12.8	
	comp=N,730nm,0.5s						
PSVI	**Cabo S. Vicent**	**4.52**	**288**	*e*Pn	**Pn**	**15 18 23.3**	**+2.9**
PSVI				*e*Sn	**Sn**	**15 19 12.0**	**-0.8**
UCM	**Universidad Co**	**4.58**	**4**	P	**Pn**	**15 18 22.8**	**+1.5**
UCM				S	**Sn**	**15 19 14.0**	**-0.3**
PNCL	**Nicolau / Gran**	**4.59**	**303**	*e*Pn	**Pn**	**15 18 21.2**	**-0.2**
PNCL				*e*Sn	**Sn**	**15 19 13.1**	**-1.4**
PNCL				A	A	15 19 16.4	
	comp=N,471nm,0.7s						
EPLA	**Plasencia**	**4.74**	**337**	Pn	**Pn**	**15 18 24.5**	**+1.0**
EPLA				Sn	**Sn**	**15 19 18.1**	**-0.2**
EPLA				*i* Vmb_Lg		15 19 46.0	
PMRV	**Marv??o**	**4.75**	**322**	*e*Pn	**Pn**	**15 18 24.1**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 19 18.5**	**0.0**
PMRV				A	A	15 19 30.5	
	comp=N,726nm,0.5s						
GUD	**Guadarrama**	**4.92**	**355**	Pn	**Pn**	**15 18 27.1**	**+1.1**
GUD				Sn	**Sn**	**15 19 23.4**	**+0.5**
GUD				*i* Vmb_Lg		15 20 03.8	
PMTG	**Montargil**	**4.95**	**314**	*e*Pn	**Pn**	**15 18 26.3**	**0.0**
PMTG				*e*Sn	**Sn**	**15 19 21.0**	**-2.4**
PMTG				A	A	15 19 42.8	
	comp=N,507nm,0.5s						
PCBR	**Castelo Branco**	**5.11**	**325**	*e*Pn	**Pn**	**15 18 29.4**	**+0.9**
PCBR				*e*Sn	**Sn**	**15 19 25.4**	**-2.0**
PCBR				A	A	15 19 29.5	
	comp=N,624nm,0.7s						
PACT	**Alcochete**	**5.14**	**308**	*e*Pn	**Pn**	**15 18 29.7**	**+0.8**
PACT				*e*Sn	**Sn**	**15 19 27.4**	**-0.7**
PACT				A	A	15 20 27.5	
	comp=N,614nm,0.6s						
ETOR	**Torete**	**5.23**	**13**	Pn	**Pn**	**15 18 31.7**	**+1.4**
ETOR				*i* Vmb_Lg		15 20 17.7	
LIS	**Lisbon**	**5.32**	**306**	*e*P	**Pn**	**15 18 30.7**	**-0.7**
LIS				*e*S	**Sn**	**15 19 27.9**	**-4.6**
LIS				IAML		15 19 33.5	
	comp=N,2μm,0.7s						
LIS	**Lisbon**	**5.32**	**306**	*e*Pn	**Pn**	**15 18 32.1**	**+0.7**
LIS				*e*Sn	**Sn**	**15 19 31.5**	**-1.0**
LIS				A	A	15 20 14.2	
	comp=N,452nm,0.5s						
LIS	**Lisbon**	**5.32**	**306**	*e*P	**Pn**	**15 18 30.7**	**-0.7**
LIS				*e*S	**Sn**	**15 19 27.8**	**-4.6**
PMST	**Lisbon--Monsan**	**5.35**	**306**	*e*Pn	**Pn**	**15 18 32.2**	**+0.4**
PMST				*e*Sn	**Sn**	**15 19 31.9**	**-1.4**
PMST				A	A	15 19 45.6	
	comp=N,556nm,0.5s						
ECOL	**Islas Columbre**	**5.38**	**38**	Pn	**Pn**	**15 18 32.7**	**+0.5**
PMAFR	**Mafra**	**5.54**	**307**	*e*Pn	**Pn**	**15 18 34.6**	**+0.2**
PMAFR				*e*Sn	**Sn**	**15 19 35.8**	**-2.1**
PMAFR				A	A	15 19 38.1	
	comp=N,982nm,0.4s						
PSBE	**So Bento**	**5.58**	**314**	*e*Pn	**Pn**	**15 18 35.8**	**+0.9**
PSBE				*e*Sn	**Sn**	**15 19 36.3**	**-2.6**
PSBE				A	A	15 20 20.0	
	comp=N,416nm,0.6s						
MTE	**Manteigas**	**5.59**	**328**	*e*Pn	**Pn**	**15 18 36.3**	**+1.1**
MTE				*e*Sn	**Sn**	**15 19 37.5**	**-1.8**
MTE				A	A	15 20 12.9	
	comp=N,1μm,0.6s						
MTE	**Manteigas**	**5.59**	**328**		**Pn**	**15 18 35.5**	**+0.3**
PCAS	**Casmilo, Conde**	**5.78**	**320**	*e*Pn	**Pn**	**15 18 38.5**	**+0.7**
PCAS				*e*Sn	**Sn**	**15 19 41.6**	**-2.4**
PCAS				A	A	15 20 28.9	
	comp=N,698nm,0.6s						
COI	**Coimbra**	**5.85**	**321**	*e*Pn	**Pn**	**15 18 39.7**	**+1.0**
COI				*e*Sn	**Sn**	**15 19 43.5**	**-2.1**
COI				A	A	15 19 47.7	
	comp=N,810nm,0.5s						
COI	**Coimbra**	**5.85**	**321**	P	**Pn**	**15 18 39.5**	**+0.8**
COI	**Coimbra**	**5.85**	**321**	Pn	**Pn**	**15 18 39.5**	**+0.8**
PVIS	**Viseu**	**6.00**	**327**	*e*Pn	**Pn**	**15 18 41.8**	**+1.0**
PVIS				*e*Sn	**Sn**	**15 19 47.1**	**-2.3**
PVIS				A	A	15 19 51.4	
	comp=N,511nm,0.5s						
MVO	**Moncorvo**	**6.05**	**335**	*e*Pn	**Pn**	**15 18 42.8**	**+1.4**
MVO				*e*Sn	**Sn**	**15 19 48.4**	**-2.1**
MVO				A	A	15 20 37.2	
	comp=N,523nm,0.6s						
PVRL	**Vila Real**	**6.40**	**331**	*e*Pn	**Pn**	**15 18 47.3**	**+1.1**
PVRL				*e*Sn	**Sn**	**15 19 56.1**	**-3.0**
PVRL				A	A	15 20 43.1	
	comp=N,250nm,0.6s						
POLO	**Lamas de Olo**	**6.51**	**331**	*e*Pn	**Pn**	**15 18 48.9**	**+1.0**
POLO				*e*Sn	**Sn**	**15 19 58.9**	**-3.1**
POLO				A	A	15 20 36.9	
	comp=N,127nm,0.6s						
PBRG	**Braganca**	**6.54**	**339**	*e*Pn	**Pn**	**15 18 49.1**	**+1.0**
PBRG				*e*Sn	**Sn**	**15 20 02.5**	**0.0**
PBRG				A	A	15 20 45.1	
	comp=N,363nm,0.7s						
PTO	**Porto**	**6.66**	**326**	*e*Pn	**Pn**	**15 18 51.0**	**+1.2**
PTO				*e*Sn	**Sn**	**15 20 02.4**	**-3.1**
EPOB	**Poblet**	**6.72**	**32**	Pn	**Pn**	**15 18 51.6**	**+0.9**
PCAB	**Cabril**	**6.89**	**331**	*e*Pn	**Pn**	**15 18 54.0**	**+1.0**
PCAB				*e*Sn	**Sn**	**15 20 09.1**	**-2.1**
PCAB				A	A	15 21 05.0	
	comp=N,404nm,0.6s						
ELOB	**Lobios**	**7.04**	**332**	Pn	**Pn**	**15 18 56.2**	**+1.1**
ELOB				Sn	**Sn**	**15 20 11.4**	**-3.5**
ELOB				*i* Vmb_Lg		15 20 25.8	
PGAV	**Gavieira, Arco**	**7.20**	**331**	*e*Pn	**Pn**	**15 18 58.4**	**+1.1**
PGAV				*e*Sn	**Sn**	**15 20 15.7**	**-3.3**
PGAV				A	A	15 21 03.2	
	comp=N,309nm,0.7s						
EARA	**Aranguren**	**7.21**	**12**	Pn	**Pn**	**15 18 59.6**	**+2.2**
EARA				*i* Vmb_Lg		15 21 22.8	
EORO	**Oroz-Betelu**	**7.38**	**13**	Pn	**Pn**	**15 19 01.8**	**+2.1**
EORO				*i* Vmb_Lg		15 21 27.0	
ELAN	**Lanestosa**	**7.49**	**1**	Pn	**Pn**	**15 19 02.3**	**+1.0**
ELAN				*i* Vmb_Lg		15 21 33.6	
EZAM	**Zamans**	**7.53**	**330**	Pn	**Pn**	**15 19 03.0**	**+1.3**
EZAM				Sn	**Sn**	**15 20 20.7**	**-6.1**
EZAM				*i* Vmb_Lg		15 21 25.9	
ECHI	**Chisagues Biel**	**7.53**	**22**	Pn	**Pn**	**15 19 03.2**	**+1.3**
ETSF	**Etsaut**	**7.54**	**17**	*e*Pn	**Pn**	**15 19 03.4**	**+1.4**
ETSF	**Etsaut**	**7.54**	**17**	*e*P	**Pn**	**15 19 05.9**	**+3.9**
ETSF				*e*Sn	**Sn**	**15 20 24.3**	**-3.0**
ETSF				*e*Sg	**Sg**	**15 21 09.2**	**-5.1**
	comp=N,1μm,1.5s						
SJPF	**Ste Jean**	**7.60**	**13**	*e*Pn	**Pn**	**15 19 04.6**	**+1.8**
SJPF	**Ste Jean**	**7.60**	**13**	*e*P	**Pn**	**15 19 07.1**	**+4.3**
SJPF				*e*Sn	**Sn**	**15 20 23.8**	**-5.0**
SJPF				*e*Sg	**Sg**	**15 21 14.5**	**-1.7**
	comp=N,2μm,1.5s						
EALK	**Alkurruntz**	**7.66**	**12**	Pn	**Pn**	**15 19 05.3**	**+1.8**
EALK				Sn	**Sn**	**15 20 29.0**	**-1.2**
EARI	**Arriondas**	**7.66**	**351**	Pn	**Pn**	**15 19 04.7**	**+1.1**
EARI				Sn	**Sn**	**15 20 29.7**	**-0.5**
EARI				*i* Vmb_Lg		15 21 34.9	
EAGO	**Agolada(Pontev**	**7.86**	**335**	Pn	**Pn**	**15 19 08.0**	**+1.7**
EAGO				Sn	**Sn**	**15 20 30.3**	**-4.9**
EPF	**Esparros**	**7.91**	**22**	*e*Pn	**Pn**	**15 19 08.0**	**+1.0**
EPF	**Esparros**	**7.91**	**22**	*e*P	**Pn**	**15 19 10.6**	**+3.6**
EPF				*e*Sg	**Sg**	**15 21 22.8**	**-3.3**
	comp=N,144nm,0.9s						
EMAZ	**Mazaricos**	**8.31**	**332**	Pn	**Pn**	**15 19 14.4**	**+1.9**
EMAZ				Sn	**Sn**	**15 20 43.7**	**-2.5**
EMAZ				*i* Vmb_Lg		15 21 54.9	
MTLF	**Montolieu**	**8.84**	**29**	*e*Pn	**Pn**	**15 19 18.7**	**-1.0**
MTLF	**Montolieu**	**8.84**	**29**	*e*P	**Pn**	**15 19 23.8**	**+4.1**

LPL La Plagne 12.54 36 *e*Pn **Pn 15 20 13.2 +2.7**
LPL *e*Sg 15 23 49.5
comp=N,8.3nm,0.5s

SGMF Saint Gilles 12.54 3 *e*Pn **Pn 15 20 09.7 -0.6**
SGMF *e*Sn Sn 15 22 20.4 -9.4
comp=N,34nm,0.7s

ROSF Rostrenen 12.60 1 *e*Pn **Pn 15 20 10.8 -0.3**
ROSF *e*Sn Sn 15 22 21.3 -10
comp=N,44nm,0.7s

LOR Lormes 12.81 24 *e*Pn **Pn 15 20 12.7 -1.4**
baz=204
LOR *e*Sn Sn 15 22 29.1 -7.4
LOR *e*Sg 15 23 57.7
comp=N,122nm,1.5s

GRR Gorron 12.81 8 *e*Pn **Pn 15 20 14.3 +0.3**
GRR *e*Sn Sn 15 22 23.5 -13
comp=N,33nm,0.7s

GRR *e*Sg 15 23 54.2
comp=N,15nm,0.7s

CLF Chambon-Foret 13.04 18 Pn **Pn 15 20 16.9 -0.2**
CABF La Chapelle 13.09 31 *e*Pn **Pn 15 20 16.4 -1.5**
CABF *e*Sg S 15 24 05.6 +57
comp=N,59nm,1.1s

LDF La Druitiere 13.11 10 *e*Pn **Pn 15 20 17.6 -0.5**
LDF *e*Sn Sn 15 22 34.6 -9.1
comp=N,34nm,1.0s

LDF *e*Sg S 15 24 03.9 +55
comp=N,65nm,1.3s

FLN La Foliniere 13.23 9 *e*Pn **Pn 15 20 19.6 -0.1**
baz=194
FLN *e*Sn Sn 15 22 38.8 -7.8
comp=N,24nm,0.7s

FLN *e*Sg S 15 24 09.4 +58
OSSC Osservatorio P 13.84 51 Pn **Pn 15 20 30.3 +2.1**
SFTF Sexfontaines 14.02 25 *e*Pn **Pn 15 20 33.1 +2.6**
SFTF *e*Sn **Sn 15 22 59.7 -6.2**
SFTF *e*Sg S 15 24 28.0 +61
comp=N,4.0nm,0.4s

MEZF Maizieres J'vi 14.28 24 *e*Pn **Pn 15 20 36.2 +2.1**
MEZF *e*Sg 15 24 42.7
comp=N,144nm,1.6s

HAU Haudompre 14.32 28 *e*Pn **Pn 15 20 31.8 -2.9**
HAU Haudompre 14.32 28 *e*P **Pn 15 20 36.6 +1.9**
HAU *e*Sn Sn 15 23 01.2 -12
HAU *e*Sg 15 24 43.5
comp=N,14nm,0.6s

HINF Hinteralfeld 14.37 30 *e*Pn **Pn 15 20 33.8 -1.6**
HINF Hinteralfeld 14.37 30 *e*P **Pn 15 20 38.6 +3.2**
HINF *e*Sg 15 24 43.0
comp=N,1.4nm,0.4s

SAVF Savonnieres en 14.40 24 *e*Pn **Pn 15 20 38.3 +2.5**
baz=204
SAVF *e*Sn Sn 15 23 07.1 -8.1
SAVF *e*Sg 15 24 48.2
comp=N,43nm,1.0s

TUE Stuetta 14.50 38 Pn **Pn 15 20 39.3 +2.0**
PAGF Fort de Pagny 14.56 25 *e*Pn **Pn 15 20 35.7 -2.2**
baz=204
PAGF *e*Sn Sn 15 23 07.2 -12
PAGF *e*Sg 15 24 45.7
comp=N,232nm,1.7s

VAE Valguarnera 14.60 78 Pn **Pn 15 20 41.5 +3.0**
comp=N,2.2nm,0.3s,baz=157,slow=17,SNR=3.2
DAVOX Davos/Dischmat 14.98 38 Pn **Pn 15 20 45.7 +2.0**
comp=N,0.2nm,0.3s,baz=253,slow=14,SNR=3.3
DAVOX LR LR 15 26 25.7
comp=N,411nm,19.6s,baz=254,slow=37

CDF Champ du Feu 15.02 29 *e*Pn **Pn 15 20 45.1 +0.9**
CDF *e*Sn **Sn 15 23 23.3 -7.0**
CDF *e*Sg 15 25 04.5
DAVA Damuels 15.33 37 *e*P **Pn 15 20 50.7 +2.4**
comp=N,40nm,0.9s,SNR=9.5

BFO Black Forest 15.38 31 *e*L L 15 26 00.2
comp=N,235nm,21.1s

BAIF Baives 15.41 19 *e*Pn **Pn 15 20 49.6 +0.3**
BAIF *e*Sn **Sn 15 23 33.7 -6.1**
BAIF *e*Sg 15 25 20.8
CTI Castel Tesino 15.46 44 P **P 15 20 54.0 -0.5**
CTI pmax pmax
comp=Z,120nm,1.9s

CTI Castel Tesino 15.46 44 P **P 15 20 54.0 -0.5**
DOU Dourbes 15.55 20 *d*Pn **Pn 15 20 50.8 -0.4**
DOU *d*x x 15 20 53.6
FETA Feichten 15.57 39 *e*P **Pn 15 20 54.1 +2.5**
comp=Z,57nm,0.9s,SNR=16

GIVF Givet 15.62 21 *e*Pn **Pn 15 20 51.9 -0.2**
GIVF *e*Sn **Sn 15 23 36.3 -8.6**
GIVF *e*Sg 15 25 24.7
comp=Z,4.1nm,0.5s

WLF Walferdange 15.65 24 *e*P **P 15 20 56.3 -0.2**
comp=Z,83nm,1.2s,baz=217,slow=11
WLF Walferdange 15.65 24 *d*P **P 15 20 56.6 0.0**
WLF *dp*P **pP 15 20 59.2 -0.8**
UBR Ueberruh 15.71 36 *e*P **Pn 15 20 54.5 +1.2**
comp=Z,76nm,1.2s,baz=217,slow=11

RCHB Rochefort 15.79 21 *d*Pn **Pn 15 20 54.0 -0.2**
RCHB *dp*P **P 15 20 59.9 +1.8**
RCHB *d*PnPn **sP 15 21 03.0 0.0**
RCHB *d*PbPb **PbPb 15 21 49.8 +3.3**
SNF Seneffe 15.85 19 *d*Pn **Pn 15 20 55.6 +0.7**
SNF *d*PnPn **sP 15 21 03.9 +0.3**
RETA Reutte 15.90 38 *e*P **Pn 15 20 57.0 +1.2**
comp=Z,38nm,1.0s,SNR=8.0

SQTA Sankt Quirin 15.95 39 *e*P **Pn 15 20 58.4 +2.0**
comp=Z,97nm,1.1s,SNR=16

BGES Gesves 15.95 21 *d*Pn **Pn 15 20 56.4 +0.1**
BGES *d*x x 15 20 58.8
MOTA Moosalm 15.98 39 *e*P **Pn 15 20 58.1 +1.3**
comp=Z,36nm,1.1s,SNR=6.4

BCLA Clavier 16.05 21 *d*Pn **Pn 15 20 57.5 0.0**
BCLA *d*x x 15 20 59.6
STRD Stroud 16.07 3 *e*P **Pn 15 20 59.6 +1.7**
STRD IAmb IAmb 15 21 04.3
comp=Z,58nm,0.9s

WTTA Wattenberg 16.20 40 *e*P **Pn 15 20 60.0 +0.3**
comp=Z,66nm,1.2s,SNR=21

BHOU Houvegnez 16.20 23 *d*Pn **Pn 15 20 60.0 +0.5**
WATA Walderalm 16.21 40 *e*P **Pn 15 20 59.4 -0.4**
comp=Z,55nm,1.1s

RSBS Rosebush, Pemb 16.24 358 *e*P **Pn 15 21 01.5 +1.6**
MCH1 Michaelchurch 16.27 1 *e*P **Pn 15 21 02.3 +2.0**
MCH1 IAmb IAmb 15 21 10.1
comp=Z,82nm,1.2s

BSTI Sart Tilman 16.27 21 *d*Pn **Pn 15 21 00.5 +0.2**
BSTI *d*PnPn **sP 15 21 08.5 +0.1**
ABTA Abfaltersbach 16.35 43 *e*P **P 15 21 04.2 -0.2**
comp=Z,56nm,1.4s,SNR=8.6

MEM Membach 16.43 22 *d*Pn **Pn 15 21 03.2 +0.8**
BTNL Ternell 16.44 22 *d*Pn **Pn 15 21 03.3 +0.7**
BTNL *dp*P **pP 15 21 07.8 -0.9**
FUR Furstenfeldbru 16.61 37 *e*P **P 15 21 08.0 +0.7**
comp=Z,115nm,1.1s,baz=217,slow=11

FUR *e*L L 15 26 44.3
comp=Z,254nm,21.1s

ELMS Elmsett, Ipswi 16.69 10 *e*P **P 15 21 08.0 +0.1**
ELMS IAmb IAmb 15 21 12.1
comp=Z,91nm,0.9s

MYKA Terra Mystica 16.92 45 *i*P **P 15 21 12.6 +1.9**
comp=Z,21nm,1.4s

TNS Taunus Mts 16.93 27 *e*L L 15 28 07.9
comp=Z,134nm,19.2s

KBA Koelnbreinsper 17.01 43 *e*P **Pn 15 21 10.3 +0.4**
comp=Z,25nm,1.2s

CWF Charnwood Fore 17.08 5 *e*P **P 15 21 13.5 +1.1**
CWF IAmb IAmb 15 21 17.5
comp=Z,40nm,1.0s

FOEL Foel Wylfa 17.16 1 *e*P **Pn 15 21 13.0 +1.4**
FOEL IAmb IAmb 15 21 18.7
comp=Z,62nm,1.1s

WACR West Acre 17.26 9 *e*P **P 15 21 14.6 +0.3**
WACR IAmb IAmb 15 21 16.6
comp=Z,178nm,1.3s

OBKA Obir 17.38 46 *e*P **Pn 15 21 15.4 +0.9**
comp=Z,35nm,1.6s

BUG Bochum--Univer 17.54 23 *e*P **P 15 21 20.4 +3.0**
comp=Z,64nm,1.2s,baz=217,slow=11

GRF Grafenberg Arr 17.67 33 *e*P **P 15 21 20.4 +1.6**
comp=Z,82nm,1.3s,baz=217,slow=11
GRF *e*L L 15 27 09.5
comp=Z,264nm,21.3s

LBWR Ladybower, Pea 17.72 4 *e*P **P 15 21 21.2 +1.8**
LBWR IAmb IAmb 15 21 23.2
comp=Z,84nm,1.1s

KASTN Kahler Asten 17.73 26 *e*P **P 15 21 23.4 +3.9**
comp=Z,82nm,1.8s,baz=217,slow=11

SOKA Soboth 17.75 46 *e*P **Pn 15 21 19.8 +0.7**
comp=Z,36nm,1.2s,SNR=13

MOA Molln 17.97 42 *e*P **Pn 15 21 22.5 +0.8**
comp=Z,6.4nm,0.6s

WET Wettzell 18.06 37 *e*P **Pn 15 21 22.1 -0.8**
comp=Z,1µm,5.2s,baz=217,slow=11
WET *e*L L 15 28 01.4
comp=Z,252nm,19.1s

ROTZ Rotzenmuhle 18.17 35 *e*P **P 15 21 25.2 +0.9**
comp=Z,9.5nm,1.2s,baz=217,slow=11

GEC2 GERESS Array S 18.28 39 P **Pn 15 21 25.9 +0.4**
GEC2 GERESS Array S 18.28 39 *e*P **Pn 15 21 25.3 -0.2**
comp=Z,48nm,1.3s,baz=217,slow=11
GEC2 *e*L L 15 26 37.8
comp=Z,195nm,20.8s

GERES GERESS Array B 18.28 39 P **Pn 15 21 25.1 -0.5**
comp=Z,0.3nm,0.3s,baz=225,slow=7.4,SNR=28
GERES PcP **PcP 15 25 57.1 -0.3**
comp=Z,0.1nm,0.3s,baz=233,slow=0.7,SNR=8.2

GERES GERESS Array B 18.28 39 P **Pn 15 21 25.2 -0.3**
GERES GERESS Array B 18.28 39 P **Pn 15 21 25.2 -0.3**
GERES **PcP 15 25 57.0 -0.4**
MANZ Manzenberg 18.28 34 *e*P **P 15 21 26.7 +1.1**
comp=Z,75nm,2.9s,baz=217,slow=11

HPK Haverah Park 18.28 4 *e*P **P 15 21 27.7 +2.2**
HPK IAmb IAmb 15 21 31.0
comp=Z,106nm,1.4s

ARSA Arzberg 18.34 45 *e*P **P 15 21 26.1 -0.2**
comp=Z,7.4nm,0.7s

KHC Kasperske Hory 18.40 38⇓ *e*P **P 15 21 25.6 -1.4**
KHC pmax pmax
comp=Z,32nm,0.7s

KHC Kasperske Hory 18.40 38 *e*P **P 15 21 26.7 -0.3**
KHC AMS AMS 15 29 10.0
comp=Z,2µm,9.5s

KHC Kasperske Hory 18.40 38 P **P 15 21 27.6 +0.7**
IBBN Ibbenburen 18.45 23 *e*P **Pn 15 21 30.0 +2.5**
comp=Z,59nm,1.0s,baz=217,slow=11

MOX Moxa 18.54 32 *e*P **Pn 15 21 29.8 +1.1**
comp=Z,28nm,1.1s,baz=217,slow=11
MOX *e*L L 15 27 46.3
comp=Z,257nm,19.6s

CKRC Cesky Krumlov 18.57 40 *e*P **P 15 21 28.6 -0.3**
CKRC AMS AMS 15 29 30.0
comp=Z,700nm,8.2s

NKC Novy Kostel 18.61 34 *e*P **Pn 15 21 30.8 +1.3**
NKC MLR MLR
comp=Z,1µm,10.8s

NKC Novy Kostel 18.61 34 *e*P **Pn 15 21 30.8 +1.3**
NKC AMS AMS 15 29 20.0
comp=Z,1µm,10.8s

WERN Wernitzgruen 18.61 34 *e*P **P 15 21 30.1 +0.8**
comp=Z,173nm,2.6s,baz=217,slow=11

PLN Plauen 18.66 33 *e*P **Pn 15 21 31.0 +0.9**
comp=Z,33nm,1.3s,baz=217,slow=11

TANN Tannenbergstha 18.74 33 *e*P **Pn 15 21 32.1 +0.9**
comp=Z,37nm,1.1s,baz=217,slow=11

GDLE Glaisdale, N Y 18.79 5 *e*P **Pn 15 21 33.3 +1.6**
GDLE IAmb IAmb 15 21 38.9
comp=Z,104nm,1.1s

KESW Keswick, Cumbr 18.86 1 *e*P **Pn 15 21 34.2 +1.7**
KESW IAmb IAmb 15 21 41.1
comp=Z,55nm,0.9s

CONA Conrad Observa 18.90 44 *e*P **P 15 21 32.1 -0.4**
comp=Z,9.2nm,0.7s

PDG Podgorica 18.95 62 P **P 15 21 33.5 +0.4**
PBCC Pribram 18.97 37 *e*P **P 15 21 33.6 +0.4**
NEUB Neuenburg 19.02 31 *e*P **Pn 15 21 36.6 +2.1**
comp=Z,92nm,1.4s,baz=217,slow=11

EDMD Edmundbyers 19.14 3 *e*P **Pn 15 21 37.0 +1.2**
EDMD IAmb IAmb 15 21 41.0
comp=Z,44nm,0.7s

GAL1 Galloway 19.15 358 *e*P **Pn 15 21 36.5 +0.5**
SOP Sopron 19.16 45 P **Pn 15 21 36.8 +0.6**
ASSE Asse, Remlinge 19.30 27 *e*P **Pn 15 21 39.7 +1.9**
comp=Z,71nm,1.7s,baz=217,slow=11

RETH Rethem/Aller, 19.33 24 *e*P **Pn 15 21 41.3 +3.1**
comp=Z,340nm,2.3s,baz=217,slow=11

KOVH Kovagototos 19.35 51 P **P 15 21 38.2 +0.8**
NEWG New Galloway 19.39 359 *e*P **Pn 15 21 39.6 +0.7**
NEWG IAmb IAmb 15 21 44.1
comp=Z,64nm,1.2s

PRU Pruhonice 19.43 37 *e*P **P 15 21 38.9 +0.7**
PRU MLR MLR
comp=Z,1µm,8.4s

PRU Pruhonice 19.43 37 *e*P **P 15 21 38.9 +0.7**
PRU AMS AMS 15 30 50.0
comp=Z,1µm,8.4s

EGYH Egyhazaskeszo 19.48 47 P **Pn 15 21 41.4 +1.4**
MPLH Magyarpolny 19.49 48 P **P 15 21 39.7 +0.8**
FBE Freiberg 19.50 34 *e*P **Pn 15 21 40.8 +0.6**
comp=Z,90nm,1.2s,baz=217,slow=11

ESK Eskdalemuir 19.59 1 P **Pn 15 21 41.9 +0.7**
ESK pmax pmax
comp=Z,32nm,0.8s

ESK Eskdalemuir 19.59 1 P **Pn 15 21 41.9 +0.7**
EKA Eskdalemuir Ar 19.61 1 P **Pn 15 21 41.8 +0.4**
baz=177,slow=11,SNR=95
EKA LR LR 15 28 36.2
comp=Z,731nm,21.0s,baz=193,slow=35

CLL Collm 19.62 32⇑ *i*P **P 15 21 41.8 +1.5**
CLL *e*S **S 15 25 15.0 -6.3**
CLL pmax pmax
comp=Z,86nm,1.0s

CLL Collm 19.62 32⇑ *i*P **P 15 21 41.8 +1.5**
comp=Z,86nm,1.0s
CLL *e*S **S 15 25 15.0 -6.3**
CLL Lmax 15 31 00.0
CLL Collm 19.62 32 *e*P **Pn 15 21 41.9 +0.3**
comp=Z,86nm,1.1s,baz=217,slow=11
CLL *e*L L 15 28 41.8
comp=Z,172nm,19.0s

FLTG Flechtingen 19.67 28 *e*P **Pn 15 21 42.6 +0.4**
comp=Z,26nm,1.1s,baz=217,slow=11

BRG Berggiesshubel 19.74 34⇑ *i*P **P 15 21 43.0 +1.4**
BRG Amp 15 21 46.0
comp=Z,75nm,1.5s
BRG *i*x x 15 21 47.0
BRG Amp 15 21 48.7
comp=Z,79nm,1.4s
BRG *e*x x 15 22 08.1
BRG Amp 15 22 15.0
comp=Z,31nm,1.5s
BRG Amp 15 30 01.0
comp=Z,1.2nm,7.8s
BRG Amp 15 30 03.0
comp=E,0.8nm,15.9s
BRG Amp 15 30 04.0
comp=N,1.2nm,8.2s
BRG *e*x x 15 48 36.3
BRG Amp 15 48 36.8
comp=Z,3.4nm,0.6s

BRG Berggiesshubel 19.74 34⇑ *i*P **P 15 21 42.9 +1.4**
BRG pmax pmax
comp=Z,75nm,1.5s
BRG pmax pmax
comp=Z,79nm,1.4s
BRG pmax pmax
comp=Z,31nm,1.5s
BRG MLR MLR
comp=Z,1µm,7.8s
BRG MLR MLR
comp=E,780nm,15.9s
BRG MLR MLR
comp=N,1µm,8.2s

BRG Berggiesshubel 19.74 34 *e*P **P 15 21 43.0 +1.4**
comp=N,75nm,1.5s,baz=217,slow=11

ZST Bratislava 19.74 45 *e*P **P 15 21 43.0 +1.4**
ZST Bratislava 19.74 45 *e*P **P 15 21 43.0 +1.4**
MORH Mrgy, Hungar 19.75 51⇑P **P 15 21 42.3 +0.6**
MORH Mrgy, Hungar 19.75 51 P **P 15 21 41.8 +0.1**
PVCC Panska Ves 19.80 36 *e*P **P 15 21 43.6 +1.4**
PVCC Panska Ves 19.80 36 *e*P **P 15 21 43.6 +1.4**
KRUC Moravsky 19.82 42 *e*P **P 15 21 42.1 -0.4**
DIVS Divbare 19.90 58 P **P 15 21 43.5 -0.1**
CSKK Cskako 20.01 48 P **P 15 21 45.8 +1.2**
EBL Broad Law 20.05 1 *e*P Pn 15 21 47.1 +0.4
VRAC Vranov 20.07 41⇓P **P 15 21 45.8 +0.5**
VRAC Vranov 20.07 41 P **P 15 21 46.2 +1.0**
comp=N,14nm,0.7s,baz=236,slow=11,SNR=9.8

VRAC Vranov 20.07 41 *e*P **P 15 21 45.0 -0.3**
SMOL Smolenice 20.09 44 *e*P Pn 15 21 47.3 0.0
SMOL Smolenice 20.09 44 *e*P **P 15 21 47.2 +1.7**
EDI Edinburgh 20.20 1 *e*P Pn 15 21 48.9 +0.4
EDI IAmb IAmb 15 21 53.1
comp=Z,85nm,0.9s

ESY Stoneypath 20.20 2 *e*P Pn 15 21 48.7 +0.2
FNA Florina 20.25 68 P **P 15 21 47.4 +0.2**
FNA pmax pmax
comp=Z,32nm,1.0s

FNA Florina 20.25 68 P **P 15 21 47.4 +0.2**
JAVC Velka Javorina 20.41 43 *e*P **P 15 21 49.9 +0.9**
UPC Upice 20.49 38 *e*P **P 15 21 50.7 +0.9**
UPC Upice 20.49 38 *e*P **P 15 21 50.7 +0.9**
BUD Budapest 20.53 48 P **P 15 21 51.3 +1.1**
DPC Dobruska-Polom 20.55 39 *e*P **P 15 21 51.1 +0.6**
DPC MLR MLR
comp=Z,800nm,11.4s

DPC Dobruska-Polom 20.55 39 *e*P **P 15 21 51.1 +0.6**
DPC AMS AMS 15 31 40.0
comp=Z,800nm,11.4s

CHVC Chvalec 20.56 38 *e*P **P 15 21 51.0 +0.4**
LAWE Loch Awe, Argy 20.57 357 *e*P **P 15 21 51.8 +1.3**
LAWE IAmb IAmb 15 21 56.3
comp=Z,44nm,0.8s

ITM Ithomi 20.59 78 P **P 15 21 51.7 +0.7**
ITM IAmb IAmb 15 22 04.4
comp=Z,283nm,1.6s

KRLC Kraliky 20.62 40 *e*P **P 15 21 52.4 +1.2**
KRLC MLR MLR
comp=Z,800nm,8.4s

KRLC Kraliky 20.62 40 *e*P **P 15 21 52.4 +1.2**
KRLC AMS AMS 15 32 40.0
comp=Z,800nm,8.4s

OSTC Ostas 20.62 38 *e*P **P 15 21 52.2 +1.0**
BSEG Bad Segeberg 20.65 24 *e*P **P 15 21 53.5 +2.1**
comp=Z,193nm,1.2s,baz=217,slow=11
BSEG *e*L L 15 29 37.3
comp=Z,697nm,19.3s

KOLL Kolacno 20.68 45 *e*P **P 15 21 52.3 +0.4**
RUE Ruedersdorf 20.80 31 *e*P **P 15 21 54.7 +1.6**
RUE Ruedersdorf 20.80 31 *e*P **P 15 21 54.9 +1.8**
comp=Z,294nm,1.1s,baz=217,slow=11

KSP Ksiaz 20.84 37 *e*P **P 15 21 54.5 +1.0**
MORC Moravsky Berou 20.85 41⇓P **P 15 21 54.5 +0.8**
MORC Moravsky Berou 20.85 41 P **P 15 21 54.2 +0.5**
MORC pmax pmax
comp=Z,190nm,1.9s

MORC Moravsky Berou 20.85 41 P **P 15 21 54.2 +0.5**
MORC IAmb IAmb 15 21 59.4
comp=Z,190nm,1.9s

MORC Moravsky Berou 20.85 41 *e*P **P 15 21 54.0 +0.3**
VYHS Vyhne 20.89 45 *e*P **P 15 21 55.4 +1.2**
VYHS Vyhne 20.89 45 *e*P **P 15 21 55.4 +1.2**
AMBH Ambrzfalva 21.13 52 P **P 15 21 57.3 +0.6**
KOWA Kowa 21.15 181 P **P 15 21 55.4 -1.7**
comp=Z,42nm,1.1s,baz=19,slow=6.9,SNR=14
KOWA LR LR 15 30 55.3
comp=Z,1µm,20.0s,baz=23,slow=39

BSZH Besenyszg 21.21 50 P **P 15 21 59.8 +2.2**
PSZ Piszkesteto 21.25 48⇑P **P 15 21 58.3 +0.2**
PSZ Piszkesteto 21.25 48 P **P 15 21 57.0 -1.1**
PSZ pmax pmax
comp=Z,67nm,1.4s

PSZ Piszkesteto 21.25 48 P **P 15 21 57.0 -1.1**
PSZ Piszkesteto 21.25 48 P **P 15 21 58.4 +0.3**
MDVR Moldovita 21.28 57⇑P **P 15 21 58.7 +0.3**
BZS Buzias 21.46 55⇓P **P 15 22 00.6 +0.3**
LANS Liptovska Anna 21.58 44 *e*P **P 15 22 02.8 +1.2**
LANS Liptovska Anna 21.58 44 *e*P **P 15 22 02.8 +1.2**
KPL Plockton 21.66 357 *e*P **P 15 22 04.1 +1.8**
KPL IAmb IAmb 15 22 06.7
comp=Z,271nm,2.0s

SIRR Siria 21.71 53⇓P **P 15 22 03.6 +0.7**
MDO Dochfour 21.72 359 *e*P **P 15 22 04.4 +1.5**
HERR Herculane 21.79 57⇓P **P 15 22 03.5 -0.2**
KECS Kecovo 21.86 47 *e*P **P 15 22 05.6 +1.1**
KECS Kecovo 21.86 47 *e*P **P 15 22 05.6 +1.1**
MCD Coleburn Disti 21.86 1 *e*P **P 15 22 05.6 +1.2**
VTS Vitosha 21.88 64 P **P 15 22 02.8 -2.1**
VTS pmax pmax
comp=Z,117nm,2.0s

VTS Vitosha 21.88 64 P **P 15 22 02.8 -2.1**
NIE Niedzica 22.18 45 *e*P **P 15 22 09.8 +1.7**
LTVH Ltavrtes, Hu 22.27 51 P **P 15 22 09.4 +0.6**
OJC Ojcow 22.31 42 *e*P **P 15 22 09.5 +0.2**
OJC Ojcow 22.31 42 P **P 15 22 08.9 -0.5**
OJC pmax pmax
comp=Z,34nm,1.1s

OJC Ojcow 22.31 42 P **P 15 22 08.9 -0.5**
MUD Monsted U'grnd 22.48 19 *i*P **P 15 22 12.0 +1.0**
MUD *i*P **P 15 22 12.0 +1.0**
MUD IAmb IAmb 15 22 14.0
comp=Z,28nm,0.5s

CRVS Cervenica-Dubn 22.62 47 *e*P **P 15 22 14.3 +1.6**
CRVS Cervenica-Dubn 22.62 47 *e*P **P 15 22 14.3 +1.6**
GKP Gorka Klasztor 22.86 33 *e*P **P 15 22 16.1 +1.1**
GKP Gorka Klasztor 22.86 33 *e*P **P 15 22 16.2 +1.1**
LOT Lotru 22.86 56⇑P **P 15 22 16.1 +0.7**
TRPA Tarpa 22.95 49⇑P **P 15 22 16.2 0.0**
TRPA Tarpa 22.95 49 P **P 15 22 16.0 -0.1**
TOA0 Torodi Ar. Sit 22.99 167 P **P 15 22 17.2 +0.4**
TORD Torodi Ar. Bea 22.99 167 P **P 15 22 17.9 +1.1**
comp=Z,60nm,0.9s,baz=348,slow=9.3,SNR=23

UZH Uzhgorod 23.00 48⇓ *i*P **P 15 22 15.3 -1.4**
UZH *e* 15 22 24.7
UZH *e*S **S 15 26 19.0 -7.7**
GOET G??ttrup 23.00 18 *i*P **P 15 22 17.7 +1.1**
GOET IAmb IAmb 15 22 19.5
comp=Z,42nm,0.8s

KOLS Kolonicke sedl 23.12 47 *e*P **P 15 22 19.1 +1.2**
KOLS Kolonicke sedl 23.12 47 *e*P **P 15 22 19.1 +1.2**
IDI Anoyia 23.19 83 P **P 15 22 20.1 +1.3**
comp=Z,85nm,1.1s,baz=270,slow=20,SNR=3.8

BSD Bornholm Skovb 23.21 28 *e*P **P 15 22 20.3 +1.5**
ARR Arges 23.43 57⇑P **P 15 22 21.1 0.0**
KWP Kalwaria Pacla 23.68 46 *e*P **P 15 22 23.7 +0.2**
VOIR 23.73 57⇓P **P 15 22 24.4 +0.3**
SNART Snartemo 23.73 14 *i*P **P 15 22 23.0 -0.8**
SNART *i*P **pP 15 22 23.7 -3.8**
DEL Delary 23.90 24 *i*P **P 15 22 26.0 +0.6**
DEL *i*P **P 15 22 26.0 +0.6**
DEL Delary 23.90 24 *e*P **P 15 22 26.1 +0.6**
FABU Falkenberg 23.96 22 *i*P **P 15 22 26.4 +0.4**
ONAU Onsala 24.05 21 *i*P **P 15 22 27.7 +0.8**
DOPR Dopca 24.09 56⇑P **P 15 22 27.2 -0.3**
MLR Muntele Rosu 24.36 57⇑P **P 15 22 31.1 +1.0**
MLR Muntele Rosu 24.36 57 P **P 15 22 30.8 +0.8**
comp=Z,60nm,1.1s,baz=260,slow=5.1,SNR=31
MLR LR LR 15 32 20.5
comp=Z,219nm,18.0s,baz=228,slow=37

MLR Muntele Rosu 24.36 57 P **P 15 22 29.2 -0.8**
MLR pmax pmax
comp=Z,77nm,1.2s

MLR Muntele Rosu 24.36 57 P **P 15 22 29.2 -0.8**
MLR IAmb IAmb 15 22 34.3
comp=Z,77nm,1.2s

BLEU Blekinge 24.45 27 *i*P **P 15 22 30.1 -0.5**
BUR08 Bucovina Ar. S 24.45 52 P **P 15 22 30.2 -0.6**
BURAR Bucovina Array 24.45 52⇓P **P 15 22 31.2 +0.4**
BURAR Bucovina Array 24.45 52 P **P 15 22 30.7 -0.1**
BORU Boraas 24.50 21 *i*P **P 15 22 30.7 -0.4**
TJOU Tjoern 24.51 20 *i*P **P 15 22 31.5 +0.4**
LVV L'vov 24.53 46 *e*P **P 15 22 31.4 0.0**
NEHR Nehoiu 24.58 58⇑P **P 15 22 33.6 +1.6**
COVR Voineasa-Covas 24.61 57⇑P **P 15 22 32.8 +0.6**
VRI Vrincioaia 24.98 57⇓P **P 15 22 35.2 -0.2**
TESR Tescani 25.08 55⇓P **P 15 22 36.5 +0.2**
PANC Panciu 25.26 57⇑P **P 15 22 38.9 +0.9**
STRU Stroemstad 25.26 18 *i*P **P 15 22 37.2 -0.6**
KONO Kongsberg 25.44 16⇑ *e*P **P 15 22 40.9 +1.4**
KONO pmax pmax
comp=Z,21nm,1.3s

KONO Kongsberg 25.44 16 *e*P **P 15 22 38.6 -0.8**
CFR Carcaliu 25.81 59⇑P **P 15 22 43.6 +0.7**
TIRR Tirgusor 25.88 60 P **P 15 22 41.7 -2.0**
TIRR pmax pmax
comp=Z,51nm,1.2s

TIRR Tirgusor 25.88 60 P **P 15 22 41.7 -2.0**
TIRR IAmb IAmb 15 23 09.2
comp=Z,51nm,1.2s

OSL Oslo 25.95 17 *e*P **P 15 22 45.4 +1.3**
TPGR Topolog 25.95 60⇓P **P 15 22 43.4 -1.0**
SUW Suwalki 26.11 37 *e*P **P 15 22 44.4 -1.3**
SUW Suwalki 26.11 37 *e*P **P 15 22 44.8 -0.9**
SKAR Skarslia 26.12 13 *e*P **P 15 22 47.3 +1.6**
VIKU Vikbolandet 26.44 24 *e*P **P 15 22 48.8 +0.2**
SORM Soroca 26.62 52⇓P **P 15 22 48.3 -2.0**

PBUR **Paburge** 26.72 33 *e*P P 15 22 52.8 +1.7
NAO01 **NORSAR Array S** 26.80 16 P P 15 22 52.2 +0.5
NAO01 IAmb IAmb 15 22 56.1
comp=Z,104nm,1.2s
NAO01 **NORSAR Array S** 26.80 16 *e*P P 15 22 52.4 +0.6
NC602 **NORSAR Array S** 26.85 17 P P 15 22 52.9 +0.7
HFS **Hagfors** 26.86 19 P P 15 22 52.5 +0.1
comp=Z,48nm,1.1s,baz=206,slow=13,SNR=33
HFS PcP PcP 15 26 13.4 -1.0
comp=Z,3.8nm,0.7s,baz=155,slow=11,SNR=4.4
HFS LR LR 15 33 55.9
comp=Z,596nm,18.6s,baz=212,slow=37
NBO00 **NORSAR Array S** 26.94 16 P P 15 22 52.9 -0.2
NBO00 IAmb IAmb 15 22 54.9
comp=Z,75nm,1.1s
NB2 **NORSAR Subarra** 27.04 16 P P 15 22 54.5 +0.4
comp=Z,34nm,1.0s,baz=206,slow=9.3
NB2 **NORSAR Subarra** 27.04 16 P P 15 22 54.5 +0.4
baz=206,slow=9.3
NOA **NORSAR Array B** 27.04 16 P P 15 22 54.4 +0.4
comp=Z,16nm,0.9s,baz=205,slow=8.8,SNR=23
NOA PcP PcP 15 26 14.7 -0.2
comp=Z,3.9nm,0.9s,baz=212,slow=2.5,SNR=6.7
NOA LR LR 15 35 19.8
comp=Z,865nm,18.0s,baz=210,slow=40
NC204 **NORSAR Array S** 27.16 15 P P 15 22 56.0 +0.9
PABE **Paberze** 27.33 35 P P 15 22 55.6 -1.0
PABE **Paberze** 27.33 35 *e*P P 15 22 56.5 -0.1
DOMB **Dombas** 27.52 13 *e*P P 15 22 59.0 +0.7
UPP **Uppsala** 27.80 23 *e*P P 15 23 00.6 -0.1
AKASG **Malin Array Be** 27.95 47 P P 15 22 59.4 -2.8
comp=Z,4.1nm,0.9s,baz=246,slow=10,SNR=6.8
AKASG **Malin Array Be** 27.95 47 *i* P P 15 22 59.4 -2.8
AKASG pmax pmax
comp=Z,3.0nm,0.7s
IIGN **Ignalina** 28.32 37 *e*P P 15 23 06.3 +0.8
ISAL **Salakas** 28.39 36 *e*P P 15 23 07.4 +1.3
IDID **Didziasalis** 28.56 37 *e*P P 15 23 08.4 +0.8
AAL **Aland** 28.82 25 *e*P P 15 23 09.5 -0.3
DBIC **Dimbokro** 28.94 183 P P 15 23 10.2 -1.2
comp=Z,20nm,1.0s,baz=23,slow=7.5,SNR=6.2
DBIC LR LR 15 34 38.7
comp=Z,875nm,18.2s,baz=15,slow=36
DBIC **Dimbokro** 28.94 183 P P 15 23 09.6 -1.7
DBIC pmax pmax
comp=Z,50nm,1.2s
DBIC **Dimbokro** 28.94 183 P P 15 23 09.6 -1.7
DBIC IAmb IAmb 15 23 11.6
comp=Z,50nm,1.2s
TIC **Toumodi** 28.98 183 *e*PKP2 P 15 23 10.3 -1.3
TIC **Toumodi** 28.98 183 *e*P P 15 23 10.3 -1.3
MTSE **Matsula** 29.22 30 *e*P P 15 23 12.7 -0.7
KIC **Kosan Boka** 29.25 182 *e*PKP2 P 15 23 09.9 -4.1
comp=Z,54nm,1.2s
KIC **Kosan Boka** 29.25 182 *e*P P 15 23 12.7 -1.3
comp=Z,45nm,1.1s
LIC **Lamto** 29.39 183 *e*PKP2 P 15 23 11.2 -4.1
comp=Z,96nm,1.2s
LIC **Lamto** 29.39 183 *e*P P 15 23 11.2 -4.1
comp=Z,99nm,1.2s
BRTR **Keskin Array B** 29.60 71 P P 15 23 17.6 +0.3
comp=Z,0.5nm,0.7s,baz=269,slow=12,SNR=2.3
VSU **Vasula** 30.28 32 *d* iP P 15 23 21.8 -0.9
VSU pmax pmax
comp=Z,39nm,0.9s
VSU **Vasula** 30.28 32 *e*P P 15 23 21.8 -0.9
NSS **Namsos** 30.34 13 *e*P P 15 23 24.7 +1.5
BORG **Borgarnes** 30.94 345 LR LR 15 34 38.7
comp=Z,601nm,21.8s,baz=178,slow=34
FINES **FINESS Array B** 31.85 27 P P 15 23 36.1 -0.5
comp=Z,2.1nm,0.4s,baz=229,slow=7.7,SNR=18
FINES PcP PcP 15 26 26.6 -0.4
comp=Z,9.4nm,0.8s,baz=158,slow=2.1,SNR=13
FINES LR LR 15 38 24.2
comp=Z,182nm,18.6s,baz=226,slow=40
FINES **FINESS Array B** 31.85 27 P P 15 23 36.3 -0.3
FIA1 **FINESS Array S** 31.85 27 P P 15 23 36.4 -0.2
FIA1 IAmb IAmb 15 23 44.0
comp=Z,36nm,1.4s
MMAI **Mount Meron Ar** 32.19 83 P P 15 23 40.8 +0.8
comp=Z,5.4nm,0.7s,baz=268,slow=24,SNR=6.1
MOR8 **Moi Rana** 32.27 14 *e*P P 15 23 42.7 +2.4
ANN **Anapa** 32.32 61 *e*P P 15 23 38.5 -2.5
ANN pmax pmax
comp=Z,39nm,1.7s
KONS **Konsvik** 32.33 12 *e*P P 15 23 42.0 +1.3
EIL **Elat** 32.87 89 P P 15 23 46.7 +0.8
comp=Z,17nm,0.9s,baz=316,slow=2.3,SNR=11
FAUS **Fauske** 33.50 13 *e*P P 15 23 52.5 +1.5
OBN **Obninsk** 33.60 42 P P 15 23 51.3 -0.6
comp=Z,4.5nm,0.4s,baz=218,slow=19,SNR=2.7
OBN PcP PcP 15 26 32.0 0.0
comp=Z,3.7nm,0.4s,baz=111,slow=5.3,SNR=6.2
OBN LR LR 15 38 25.2
comp=Z,24nm,21.1s,baz=195,slow=38
OBN **Obninsk** 33.60 42⇓ *e*P P 15 23 50.4 -1.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
LOF **Lofoten** 33.87 11 *e*P P 15 23 55.9 +1.7
STEI **Steigen** 33.98 13 *e*P P 15 23 56.4 +1.3
MOS **Moscow** 34.37 41 *e*P P 15 23 56.7 -2.0
MOS *e* 15 26 33.4
JMIC **Jan Mayen** 35.41 357 LR LR 15 37 32.7
comp=Z,376nm,21.2s,baz=134,slow=34
KIF **Kilpisjarvi** 35.97 15 *e*P P 15 24 13.5 +1.2
KIV **Kislovodsk** 36.10 62 *e*P P 15 24 13.4 -0.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV **Kislovodsk** 36.10 62 P P 15 24 14.1 +0.3
HEF **Hetta** 36.12 17 *e*P P 15 24 14.0 +0.4
KBZ **Khabaz** 36.27 63 P P 15 24 15.4 +0.3
comp=Z,2.8nm,0.9s,baz=290,slow=6.6,SNR=6.9
GOF **Gofitskoye** 36.31 61⇑ *e*P P 15 24 14.6 -0.9
GOF pmax pmax
comp=Z,45nm,1.3s
JETT **Jettan, Norway** 36.35 14 *e*P P 15 24 18.0 +2.4
KTK1 **Kautokeino** 36.50 16 *e*P P 15 24 17.9 +1.1
ONI **Oni** 36.76 65 P P 15 24 19.4 0.0
ONI pmax pmax
comp=Z,19nm,1.4s
ONI **Oni** 36.76 65 P P 15 24 19.4 0.0
ZEI **Tsey** 37.07 64 *e*P P 15 24 22.5 +0.2
ZEI pmax pmax
comp=Z,10.0nm,1.6s
KLMR **Klimovskoe** 37.10 34 *e*P P 15 24 19.5 -2.5
KLMR *e* 15 26 40.3
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR **Klimovskoe** 37.10 34 *e*P P 15 24 19.6 -2.5
KLMR AMP 15 24 23.7
comp=Z,14nm,0.8s
KLMR *e*PcP PcP 15 26 40.3 -1.9
ARA0 **ARCESS Array S** 37.42 16 *e*P P 15 24 24.8 +0.1
ARCES **ARCESS Array B** 37.42 16 P P 15 24 24.6 -0.1
comp=Z,5.6nm,0.6s,baz=212,slow=4.3,SNR=33
ARCES PcP PcP 15 26 42.4 -0.6
comp=Z,1.6nm,0.6s,baz=222,slow=1.6,SNR=4.6
ARCES LR LR 15 40 25.9
comp=Z,379nm,19.1s,baz=227,slow=37
ARCES **ARCESS Array B** 37.42 16 P P 15 24 24.8 +0.1
ARCES IAmb IAmb 15 24 29.7
comp=Z,76nm,1.8s
HAMF **Hammerfest** 37.89 14 *e*P P 15 24 30.3 +1.7
KEV **Kevo** 37.94 17 P P 15 24 29.5 +0.5
KEV pmax pmax
comp=Z,162nm,2.0s
KEV **Kevo** 37.94 17 P P 15 24 29.5 +0.5
GNI **Garni** 38.03 68 P P 15 24 30.2 -0.2
comp=Z,3.9nm,0.5s,baz=304,slow=4.3,SNR=5.8
GNI **Garni** 38.03 68⇓ *e*P P 15 24 30.5 +0.1
GNI pmax pmax
comp=Z,23nm,1.7s
GNI **Garni** 38.03 68 P P 15 24 30.7 +0.4
APA **Apatity** 38.17 22⇓ *i*P P 15 24 30.8 -0.2
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,800nm,18.0s
LVZ **Lovozero** 38.75 22⇓ *e*P P 15 24 36.1 +0.2
LVZ pmax pmax
comp=Z,76nm,2.0s
LVZ **Lovozero** 38.75 22 P P 15 24 36.1 +0.2
LVZ IAmb IAmb 15 24 40.9
comp=Z,143nm,1.9s
DY2G **Dye2** 39.40 335 *i* P P 15 24 42.7 +1.1
DY2G IAmb IAmb 15 24 50.4
comp=Z,5.7nm,0.6s
DBG **Daneborg** 39.50 353 *i* P P 15 24 44.0 +1.9
DBG IAmb IAmb 15 24 47.6
comp=Z,6.8nm,0.7s
PRGR **Permogore** 40.15 34 *e*P P 15 24 46.6 -1.0
PRGR *e* 15 26 50.8
DRLN **Deer Lake** 41.11 306 P P 15 24 55.6 -0.1
DRLN IAmb IAmb 15 25 02.8
comp=Z,42nm,1.1s
SFJD **Kangerlussuaq** 41.17 334 LR LR 15 39 16.4
comp=Z,233nm,21.0s,baz=117,slow=32
SFJD **Kangerlussuaq** 41.17 334 P P 15 24 57.1 +1.1
SFJD pmax pmax
comp=Z,97nm,1.9s
SFJD **Kangerlussuaq** 41.17 334 P P 15 24 57.1 +1.1
SFJD IAmb IAmb 15 25 54.4
comp=Z,96nm,1.9s
KIRV **Kirov** 41.28 39 P P 15 24 55.6 -1.3
comp=Z,8.3nm,0.6s,baz=262,slow=13,SNR=5.3
KIRV LR LR 15 42 07.0
comp=Z,144nm,18.4s,baz=260,slow=36
KIRV **Kirov** 41.28 39⇓ *e*P P 15 24 55.8 -1.2
DAG **Danmarks Havn** 41.69 355 *i* P P 15 25 01.4 +1.3
DAG IAmb IAmb 15 25 02.7
comp=Z,15nm,0.7s
SPITS **Spitsbergen Ar** 43.40 6 P P 15 25 15.2 +1.2
comp=Z,4.6nm,0.7s,baz=193,slow=3.4,SNR=6.4
SPITS LR LR 15 43 07.6
comp=Z,205nm,18.5s,baz=98,slow=36
RAYN **Ar Rayn** 44.00 92 P P 15 25 20.7 +1.1
RAYN pmax pmax
comp=Z,6.0nm,1.0s
RAYN **Ar Rayn** 44.00 92 P P 15 25 20.7 +1.1
RAYN **Ar Rayn** 44.00 92 *i* P P 15 25 20.3 +0.8
SNR=5.1
GBN **Guysborough** 44.16 301 P P 15 25 21.1 +0.6
GBN IAmb IAmb 15 25 24.1
comp=Z,53nm,1.2s
ARU **Arti** 46.03 43 *c i*P P 15 25 34.5 -0.7
ARU 15 27 10.1
ARU 15 27 19.8
ARU S S 15 32 21.6 +1.7
ARU pmax pmax
comp=Z,19nm,0.7s
AKTO **Aktyubinsk** 46.05 51 P P 15 25 35.6 +0.2
comp=Z,20nm,1.0s,baz=281,slow=8.7,SNR=36
DESE **Dese** 46.14 111 *e*P P 15 25 40.8 +3.8
NOR **Nord** 46.24 357 *i* P P 15 25 37.1 +0.5
NOR IAmb IAmb 15 25 44.4
comp=Z,5.2nm,0.9s
LMN **Caledonia Moun** 46.37 302 P P 15 25 38.0 -0.2
LMN IAmb IAmb 15 25 48.5
comp=Z,30nm,0.9s
NEEM **North Greenlan** 46.55 347 *i* P P 15 25 40.0 +0.6
NEEM IAmb IAmb 15 25 41.9
comp=Z,19nm,0.8s
SCHQ **Schefferville** 46.65 315 P P 15 25 40.8 +0.6
comp=Z,6.9nm,0.5s,baz=88,slow=5.3,SNR=48
SCHQ LR LR 15 41 16.9
comp=Z,149nm,20.8s,baz=81,slow=31
SCHQ **Schefferville** 46.65 315 P P 15 25 40.8 +0.6
SCHQ IAmb IAmb 15 25 44.1
comp=Z,33nm,1.4s
AAE **Adis Abeba** 46.83 114 *e*P P 15 25 43.5 +1.1
FURI **Furi** 46.85 114 *e*P P 15 25 45.0 +2.4
BATG **Bathurst New B** 46.99 304 P P 15 25 43.5 +0.6
SVE **Sverdlovsk** 47.17 42⇓ *e*P P 15 25 44.1 -0.1
SVE pmax pmax
comp=Z,26nm,1.1s
ANKE **Ethiopia-Afar** 47.19 113 *e*P P 15 25 44.0 -1.3
AB31 **Akbulak array** 47.43 53 *i* P P 15 25 46.3 0.0
ABKAR **Akbulak array** 47.43 53 P P 15 25 46.5 +0.2
ABKAR **Akbulak array** 47.43 53 P P 15 25 46.5 +0.2
ABKAR IAmb IAmb 15 25 47.5
comp=Z,32nm,0.8s
FRB **Frobisher Bay** 47.62 327 LR LR 15 42 13.7
comp=Z,347nm,21.6s,baz=74,slow=32
GGN **Saint George** 47.92 302 P P 15 25 50.2 +0.1
GGN IAmb IAmb 15 25 54.2
comp=Z,22nm,0.9s
MBAR **Mbarara** 48.28 131 P P 15 25 54.6 +1.1
comp=Z,12nm,1.0s,baz=301,slow=6.3,SNR=14
ATD **Arta Tunnel** 48.35 108 LR LR 15 46 28.0
comp=Z,244nm,19.1s,baz=313,slow=36
G65A **Princeton** 48.40 302 P P 15 25 54.0 +0.1
GEYT **Alibeck** 48.66 68 P P 15 25 56.0 -0.2
comp=Z,3.3nm,0.8s,baz=42,slow=18,SNR=5.0
F64A **Sherman** 48.80 303 P P 15 25 57.8 +0.8
F64A IAmb IAmb 15 26 06.9
comp=Z,24nm,1.0s
D62A **Allapoint, All** 49.03 305 P P 15 25 59.1 +0.4
D62A IAmb IAmb 15 26 06.7
comp=Z,19nm,0.8s
F63A **Nahmakanta, Br** 49.35 303 P P 15 26 01.0 -0.2
F63A IAmb IAmb 15 26 05.4
comp=Z,28nm,1.4s
PKME **Peaks-Kenny Pk** 49.58 302 P P 15 26 02.7 -0.2
PKME IAmb IAmb 15 26 07.3
comp=Z,51nm,1.4s
PKME **Peaks-Kenny Pk** 49.58 302 P P 15 26 04.8 +1.9
baz=77
G62A **West of Eustis** 50.44 303 P P 15 26 09.8 +0.3
MZR **Muzera** 50.73 88 *i* P P 15 26 12.3 +0.4
SNR=9.5
I63A **Otisfield** 50.77 301 P P 15 26 12.0 0.0
I63A IAmb IAmb 15 26 56.3
comp=Z,73nm,1.6s
H62A **Milan** 51.03 302 P P 15 26 14.5 +0.5
NBCL **Cascavel-CE** 51.33 227 *e*P P 15 26 17.4 +1.0
NBPV **Pedro Velho** 51.41 222 *e*P P 15 26 17.9 +0.8
ASUD **Al Ashush, Dub** 51.48 85 P P 15 26 18.3 +0.7
NAZ **Nazwa, Dubai** 51.59 85 P P 15 26 19.1 +0.7
FAQ **Al Faqa, Dubai** 51.64 85 P P 15 26 19.8 +1.0
LBNH **Lisbon** 51.65 302 P P 15 26 19.4 +0.8
LBNH pmax pmax
comp=Z,19nm,0.9s
LBNH **Lisbon** 51.65 302 P P 15 26 19.4 +0.8
LBNH **Lisbon** 51.65 302 P P 15 26 20.2 +1.6
baz=75
BANOM **Banah** 51.69 83 P P 15 26 18.8 -0.4
HATD **Hatta, Dubai** 52.04 85 P P 15 26 21.6 -0.2
UOSS **Minazif** 52.05 84 P P 15 26 21.6 -0.2
UOSS **Minazif** 52.05 84 P P 15 26 20.9 -1.0
L61B **Northampton** 52.68 300 P P 15 26 26.9 +0.6
L61B **Northampton** 52.68 300 P P 15 26 27.7 +1.4
baz=73
KMBO **Kilima Mbogo** 52.87 125 P P 15 26 30.4 +2.2
comp=Z,10nm,1.1s,baz=328,slow=7.5,SNR=14
KMBO LR LR 15 51 09.9
comp=Z,510nm,18.8s,baz=288,slow=39
KMBO **Kilima Mbogo** 52.87 125 *i* P P 15 26 30.1 +1.9
SNR=9.5
NBPB **Pedra_Branca-C** 53.15 227 *e*P P 15 26 31.2 +1.2
BRVK **Borovoye** 53.16 46 *c e*P P 15 26 29.6 0.0
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK **Borovoye** 53.16 46 P P 15 26 29.9 +0.3
NCB **Newcomb** 53.31 302 P P 15 26 32.4 +1.4
NBPS **Pedro II - PI** 53.37 230 *e*P P 15 26 32.9 +1.1
LONY **Lake Ozonia** 53.38 303 P P 15 26 32.5 +1.1
baz=73
KSCT **Kent School, K** 53.47 299 P P 15 26 33.0 +0.9
KSCT IAmb IAmb 15 26 37.7
comp=Z,20nm,0.9s
EUNU **Eureka** 53.82 348 P P 15 26 35.8 +1.5
ROSB **Rosrio** 53.93 233 *e*P P 15 26 35.8 0.0
NBMA **Muriti-CE** 54.13 225 *e*P P 15 26 38.5 +1.2
MDP **Montagnes des** 54.34 248 P P 15 26 39.8 +1.0
comp=Z,14nm,0.7s,baz=49,slow=5.7,SNR=9.4
ODNJ **Ogdensburg** 54.48 299 P P 15 26 40.4 +0.9
BINY **Binghamton** 55.09 300 P P 15 26 45.5 +1.5
baz=71
N59A **State Game Lan** 55.36 299 P P 15 26 47.4 +1.5
baz=70
BRZS **Berezniki** 55.36 50 *c* iP P 15 26 45.7 -0.1
BRZS pmax pmax
comp=Z,29nm,0.8s
BRZS **Berezniki** 55.36 50⇑ *i*P P 15 26 45.8 -0.1
comp=Z,29nm,0.8s,baz=50
DELO **Deloro Mine** 55.48 303 P P 15 26 46.5 -0.2
DELO IAmb IAmb 15 26 51.2
comp=Z,28nm,1.3s
OTUK **Ortayu** 55.65 52 P P 15 26 47.8 -0.1
IUG **Iuzhnay** 56.02 59 *c i*P P 15 26 50.3 -0.4
IUG **Iuzhnay** 56.02 59⇑ *i*P P 15 26 50.4 -0.4
baz=59
KKAR **Karatay Array** 56.03 58 P P 15 26 50.6 -0.1
KKAR **Karatay Array** 56.03 58 P P 15 26 50.6 -0.1
RES **Resolute Bay** 56.24 341 P P 15 26 52.1 +0.5
comp=Z,13nm,1.0s,baz=77,slow=4.4,SNR=40
RES LR LR 15 51 05.5
comp=Z,89nm,19.5s,baz=67,slow=36
RES **Resolute Bay** 56.24 341 P P 15 26 52.5 +0.8
RES pmax pmax
comp=Z,22nm,1.1s
RES **Resolute Bay** 56.24 341 P P 15 26 52.5 +0.8
RES IAmb IAmb 15 26 53.9
comp=Z,22nm,1.1s
SADO **Sadowa** 56.42 304 LR LR 15 48 31.8
comp=Z,248nm,20.9s,baz=98,slow=33
SADO **Sadowa** 56.42 304 P P 15 26 53.5 0.0
SADO IAmb IAmb 15 26 57.9
comp=Z,23nm,1.2s
NBLA **Lagarto - SE** 56.57 221 *e*P P 15 26 54.6 -0.1
CHGR **Chuyangaron** 56.62 64 P P 15 26 53.5 -1.5
DZA **Taraz** 56.67 58 *c i*P P 15 26 54.6 -0.7
DZA **Taraz** 56.67 58⇑ *i*P P 15 26 54.6 -0.7
baz=58
SSPA **Standing Stone** 56.97 299 P P 15 26 58.5 +1.1
baz=69
GAR **Garm** 57.33 63 P P 15 27 00.5 +0.3
NRIK **Noril'sk** 57.48 25 P P 15 27 01.6 +1.0
comp=Z,7.2nm,1.0s,baz=279,slow=4.9,SNR=10
NRIK **Noril'sk** 57.48 25 *c e*P P 15 27 01.5 +1.0
NRIK pmax pmax
comp=Z,14nm,1.2s
SJG **San Juan** 57.54 270 LR LR 15 47 58.8
comp=Z,48nm,21.2s,baz=143,slow=32
MCPB **Macapa, AP** 57.57 242 *e*P P 15 27 02.1 +0.2
O56A **Blue Knob Stat** 57.58 299 P P 15 27 02.9 +1.1
baz=69
NBPN **Ponto Novo - B** 57.78 224 *e*P P 15 27 03.9 +0.6
BTLS **Baital** 57.78 55 *c i*P P 15 27 03.1 +0.1
BTLS pmax pmax
comp=Z,8.0nm,0.9s
BTLS **Baital** 57.78 55⇑ *i*P P 15 27 03.1 +0.1
comp=Z,7.6nm,0.9s,baz=55
M54A **Oil Creek Stat** 57.91 301 P P 15 27 04.5 +0.4
M54A IAmb IAmb 15 27 08.9
comp=Z,46nm,1.4s
M54A **Oil Creek Stat** 57.91 301 P P 15 27 05.1 +1.1
baz=69
ERPA **Erie** 57.91 301 P P 15 27 04.5 +0.5
baz=69
TSUM **Tsumeb** 58.21 156 LR LR 15 52 41.9
comp=Z,219nm,18.1s,baz=332,slow=37
EKS2 **Erkin-Say** 58.44 58 P P 15 27 08.4 +0.5
SNR=32
Q56A **Snyder Ridge,** 58.48 298 P P 15 27 09.4 +1.3
Q56A IAmb IAmb 15 27 13.1
comp=Z,42nm,1.5s
AML **Almayashu** 58.57 58 P P 15 27 09.7 +0.6
SNR=8.8
AML **Almayashu** 58.57 58 *i* P P 15 27 09.4 +0.2
SNR=8.7
M53A **WI Miller and** 58.64 301 P P 15 27 09.9 +0.8
baz=68
MCWV **Mont Chateau** 58.72 299 P P 15 27 11.9 +2.2
baz=68
SGDS **Sogindy** 58.73 57⇑ *i*P P 15 27 09.1 -0.7
baz=56
KURBB **Kurchatov Arra** 58.74 48 P P 15 27 09.4 -0.3
KURK **Kurchatov** 58.77 47 *c i*P P 15 27 09.6 -0.2
KURK pmax pmax
comp=Z,134nm,1.7s
KURK **Kurchatov** 58.77 47 P P 15 27 09.7 -0.1
AAK **Ala-Archa** 58.94 57 *c i*P P 15 27 11.5 +0.1
AAK pmax pmax
comp=Z,29nm,1.7s
AAK **Ala-Archa** 58.94 57 P P 15 27 11.3 -0.1
AAK IAmb IAmb 15 27 15.1
comp=Z,34nm,1.5s
AAK **Ala-Archa** 58.94 57 *i* P P 15 27 11.5 +0.1
SNR=18
CHMS **Chumysh** 58.98 57 P P 15 27 12.1 +0.5
SNR=12
UCH **Uchtor** 59.10 58 P P 15 27 13.4 +0.5
SNR=15
E46A **Sault Ste Mari** 59.29 307 P P 15 27 14.2 +0.6
E46A IAmb IAmb 15 27 26.5
comp=Z,48nm,1.6s
T57A **Hurt** 59.33 296 P P 15 27 15.1 +1.1
O53A **New Philadelph** 59.47 300 P P 15 27 16.2 +1.3
baz=67
TKM2 **Tokmak 2** 59.59 57 P P 15 27 16.0 0.0
SNR=8.4
TKM2 **Tokmak 2** 59.59 57 P P 15 27 15.3 -0.6
KUU **Kurty** 59.73 56 *c i*P P 15 27 16.7 +0.1
KUU pmax pmax
comp=Z,30nm,1.1s
KUU **Kurty** 59.73 56⇑ *i*P P 15 27 16.7 +0.1
comp=Z,30nm,1.1s,baz=56
GDU01 **Guandu, BA** 59.80 221 *e*P P 15 27 17.3 0.0
SEM **Semipalatinsk** 59.85 47 *c i*P P 15 27 17.3 -0.3
SEM pmax pmax
comp=Z,17nm,1.2s
SEM **Semipalatinsk** 59.85 47⇑ *i*P P 15 27 17.4 -0.3
comp=Z,17nm,1.2s,baz=47
PRPB **Parauapebas** 60.13 236 *e*P P 15 27 20.4 +0.7
CHKK **Chushkaly** 60.17 55 *e*P P 15 27 19.1 -0.6
baz=55
MALB **Monte Alegre** 60.19 243 *e*P P 15 27 20.8 +0.7
P52A **Corning** 60.36 299 P P 15 27 22.0 +1.0
baz=66
AAA **Alma-Ata** 60.37 56 *c i*P P 15 27 21.6 +0.5
AAA pmax pmax
comp=Z,19nm,0.7s
AAA **Alma-Ata** 60.37 56⇑ *i*P P 15 27 21.7 +0.5
comp=Z,19nm,0.7s,baz=56
TNSS **Tian-Shan** 60.46 56 *e*P P 15 27 22.6 +0.4
baz=56
FCC **Fort Churchill** 60.48 323 P P 15 27 21.9 +0.5
FCC pmax pmax
comp=Z,22nm,1.2s
FCC **Fort Churchill** 60.48 323 P P 15 27 21.9 +0.5
FCC IAmb IAmb 15 27 25.6
comp=Z,22nm,1.1s
MDOK **Medeo** 60.48 56 *i*P P 15 27 22.3 +0.3
MDOK **Medeo** 60.48 56 *i*P P 15 27 22.3 +0.3
baz=56
ARXS **Arharly** 60.60 55 *e*P P 15 27 21.8 -0.9
SMTB **Santa Maria do** 60.67 232 *e*P P 15 27 24.0 +0.6
TDK **Taldyqorghan** 60.68 54 *e*P P 15 27 22.9 -0.2
TDK pmax pmax
comp=Z,31nm,1.4s
TDK **Taldyqorghan** 60.68 54 *e*P P 15 27 22.9 -0.2
comp=Z,31nm,1.4s,baz=54
ACSO **Alum Creek Sta** 60.72 300 P P 15 27 24.5 +1.0
baz=66,SNR=8.6
NBIT **Itapeh - BA** 60.73 220 *e*P P 15 27 24.8 +1.1
CMC01 **Camacan, BA** 61.13 220 *e*P P 15 27 27.8 +1.4
KSH **Kashi** 61.18 60 P P 15 27 26.3 -0.5
KSH pP sP 15 27 31.6 -0.8
KSH PcP PcP 15 28 09.1 -0.4
KSH S S 15 35 43.5 -2.6
KSH pmax pmax
comp=Z,35nm,1.0s
ZAA0 **Zalesovo Array** 61.19 42 P P 15 27 26.6 +0.2
ZALV **Zalesovo Beam** 61.19 42 P P 15 27 26.3 -0.1
comp=Z,8.0nm,0.7s,baz=294,slow=6.9,SNR=36
ZALV **Zalesovo Beam** 61.19 42 *i* P P 15 27 26.2 -0.2
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV **Zalesovo Beam** 61.19 42 P P 15 27 25.9 -0.5
ZHN **Zhinishke** 61.41 56 *e*P P 15 27 27.9 -0.3
ZHN **Zhinishke** 61.41 56 *e*P P 15 27 28.0 -0.3
baz=56
SATY **Saty** 61.44 56 *c i*P P 15 27 28.5 +0.1
SATY pmax pmax
comp=Z,19nm,1.6s
SATY **Saty** 61.44 56⇑ *i*P P 15 27 28.6 +0.1
comp=Z,19nm,1.6s,baz=56
KPKS **Kokpek** 61.46 55 *c i*P P 15 27 28.5 0.0
KPKS pmax pmax
comp=Z,33nm,1.7s
KPKS **Kokpek** 61.46 55⇑ *i*P P 15 27 28.6 0.0
comp=Z,33nm,1.7s,baz=55
KMSC **Kings Mountain** 61.63 294 P P 15 27 31.0 +1.3
baz=65
SDBA **SAO DESIDERIO** 61.75 227 *e*P P 15 27 31.4 +0.6

UZB Uzynbulak 61.81 55 eP P 15 27 30.7 -0.3
UZB pmax pmax
comp=Z,20nm,1.7s
UZB Uzynbulak 61.81 55 eP P 15 27 30.7 -0.3
comp=Z,20nm,1.7s,baz=55
BOAV Boa Vista 62.09 251 eP P 15 27 33.8 +0.8
SHLS Shalkode 62.10 55c iP P 15 27 35.3 +2.4
SHLS pmax pmax
comp=Z,9.0nm,0.8s
SHLS Shalkode 62.10 55⇑iP P 15 27 35.4 +2.4
comp=Z,9.2nm,0.8s,baz=55
P49A Miami Univ. Ec 62.22 300 P P 15 27 34.1 +0.4
baz=65
O48B Farmland 62.23 301 P P 15 27 34.2 +0.6
baz=65,SNR=6.2
MAKZ Makanchi 62.27 51 P P 15 27 33.9 0.0
MAKZ pmax pmax
comp=Z,56nm,1.0s
MAKZ Makanchi 62.27 51 P P 15 27 33.9 0.0
GUA01 Guaratinga, BA 62.30 220 eP P 15 27 34.0 -0.2
N47A Urbana 62.34 302 P P 15 27 34.4 0.0
MK31 Makanchi Array 62.47 51c iP P 15 27 34.8 -0.4
MK31 pmax pmax
comp=Z,42nm,0.8s
MKAR Makanchi Array 62.47 51 P P 15 27 35.1 -0.1
comp=Z,41nm,0.8s,baz=286,slow=5.7,SNR=367
MKAR Makanchi Array 62.47 51 P P 15 27 35.2 0.0
TZTN Tazewell 62.66 297 P P 15 27 37.6 +0.9
baz=64
ITTB Itaituba 62.98 242 eP P 15 27 39.2 +0.3
TKL Tuckaleechee C 63.20 296 LR LR 15 52 16.8
comp=Z,136nm,20.8s,baz=92,slow=33
EYMN Ely 63.21 311 P P 15 27 40.3 +0.2
EYMN IAmb IAmb 15 27 44.1
comp=Z,29nm,1.1s
EYMN Ely 63.21 311 P P 15 27 40.6 +0.5
baz=66,SNR=12
JANB Januaria 63.51 225 eP P 15 27 42.8 +0.3
NAN01 Guarapari, ES 63.52 219 eP P 15 27 43.8 +1.5
SFIN Lafayette 63.52 302 P P 15 27 41.8 -0.5
SFIN IAmb IAmb 15 27 45.6
comp=Z,8.6nm,0.6s
PEXB Peixe 63.59 230 eP P 15 27 43.7 +0.7
ZSN Zaisan 63.80 49c iP P 15 27 44.8 +0.8
ZSN pmax pmax
comp=Z,17nm,0.9s
ZSN Zaisan 63.80 49⇑iP P 15 27 44.9 +0.8
comp=Z,17nm,0.9s,baz=49
GOGA Godfrey 63.98 294 P P 15 27 46.9 +1.5
baz=63
I40A Norwalk 64.37 307 P P 15 27 47.9 +0.1
I40A IAmb IAmb 15 27 53.3
comp=Z,17nm,1.0s
NPGB Novo Progresso 64.57 240 eP P 15 27 49.9 +0.5
SJMB Sao Joao De Ma 64.78 220 eP P 15 27 51.3 +0.7
ULM Lac du Bonnet 64.83 315 P P 15 27 50.8 +0.1
comp=Z,8.7nm,0.7s,baz=71,slow=6.9,SNR=9.2
ULM LR LR 15 52 28.4
comp=Z,132nm,20.0s,baz=67,slow=33
RIB01 Linhares ES 64.89 219 eP P 15 27 51.3 0.0
HDIL Hopedale 64.95 303 P P 15 27 51.7 +0.1
baz=64
TIGA Tifton 64.98 292 P P 15 27 53.8 +1.9
baz=62
A36M Sachs Harbour 65.18 343 P P 15 27 53.7 +1.2
A36M Sachs Harbour 65.18 343 P P 15 27 54.0 +1.5
baz=50,SNR=48
SPMN Marine on St. 65.19 309 P P 15 27 53.5 +0.4
baz=64
F36A Milaca 65.36 310 P P 15 27 53.7 -0.5
F36A IAmb IAmb 15 27 57.9
comp=Z,14nm,1.1s
SNDB Serra Nova Dou 65.40 233 eP P 15 27 55.8 +1.0
AGMN Agassiz Nation 65.69 313 P P 15 27 56.8 +0.5
baz=63,SNR=6.3
DIAM Diamantina, MG 65.77 222 eP P 15 27 58.2 +0.9
MACA Manacapuru-AM 65.80 247 eP P 15 27 57.9 +0.5
WVT Waverly 65.93 298 P P 15 27 57.7 -0.4
baz=62
Y49A Blount Mountai 65.95 295 P P 15 27 57.8 -0.5
Y49A IAmb IAmb 15 28 02.8
comp=Z,23nm,1.1s
BDFB Brasilia 66.14 227 P P 15 28 00.3 +0.6
comp=Z,20nm,1.1s,baz=32,slow=9.3,SNR=13
SDV Santo Domingo 66.22 264 P P 15 28 00.8 +0.4
SDV IAmb IAmb 15 28 02.6
comp=Z,21nm,1.1s
SDV Santo Domingo 66.22 264 eP P 15 28 01.6 +1.2
LBTB Lobatse 66.44 151 LR LR 15 57 50.1
comp=Z,509nm,20.6s,baz=336,slow=37
LBTB Lobatse 66.44 151 P P 15 28 01.5 +0.1
LBTB pmax pmax
comp=Z,18nm,1.1s
LBTB Lobatse 66.44 151 P P 15 28 01.5 +0.1
LBTB IAmb IAmb 15 28 01.7
comp=Z,18nm,1.1s
C36M Paulatuk 66.59 341 P P 15 28 02.3 +0.6
C36M Paulatuk 66.59 341 P P 15 28 02.4 +0.7
baz=50,SNR=20
LRAL Lakeview Retre 66.77 295 P P 15 28 03.6 +0.1
LRAL IAmb IAmb 15 28 07.8
comp=Z,15nm,1.1s
LRAL Lakeview Retre 66.77 295 P P 15 28 04.0 +0.5
baz=62
F33A 5 Mile Ranch, 67.09 311 P P 15 28 05.4 +0.1
F33A IAmb IAmb 15 28 08.6
comp=Z,34nm,1.4s
WMQ Urumqi 67.20 52 P P 15 28 06.5 +0.4
WMQ sP sP 15 28 17.5 +5.7
WMQ PcP PcP 15 28 32.6 -1.5
WMQ pmax pmax
comp=Z,44nm,1.5s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,430nm,12.3s
CCM Cathedral Cave 67.44 301 P P 15 28 07.6 -0.1
CCM pmax pmax
comp=Z,17nm,0.7s
CCM Cathedral Cave 67.44 301 P P 15 28 07.6 -0.1
CCM IAmb IAmb 15 28 08.2
comp=Z,17nm,0.7s
CCM Cathedral Cave 67.44 301 P P 15 28 07.6 -0.1
baz=62
CLDB Colider 67.59 237 eP P 15 28 09.4 +0.6
YKA Yellowknife Ar 67.69 332 P P 15 28 09.2 +0.4
comp=Z,33nm,0.8s,baz=59,slow=6.4,SNR=328
YKA LR LR 15 54 40.5
comp=Z,325nm,21.1s,baz=40,slow=33
YKA Yellowknife Ar 67.69 332 P P 15 28 09.0 +0.2
TIXI Tiksi 67.83 15⇑eP P 15 28 09.6 +0.1
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 67.83 15 P P 15 28 09.7 +0.1
IPMB Ipameri, GO 68.09 226 eP P 15 28 11.6 -0.4
DUB01 Friburgo-RJ 68.20 219 eP P 15 28 13.1 +0.5
Y45A Yeager Farm, C 68.24 297 P P 15 28 12.3 -0.5
ECSD EROS Data Cent 68.30 309 P P 15 28 13.2 +0.2
ECSD IAmb IAmb 15 28 16.0
comp=Z,39nm,1.6s
ECSD EROS Data Cent 68.30 309 P P 15 28 13.0 0.0
baz=61,SNR=17
ARAG Araguaiana, MT 68.53 230 eP P 15 28 15.5 +0.9
BSCB Bom Sucesso 68.57 221 eP P 15 28 14.8 -0.1
PDRB Porto dos Gac 68.75 237 eP P 15 28 16.6 +0.5
VAS01 Vassouras-RJ 68.92 219 eP P 15 28 17.8 +0.8
S39A Bolivar 69.06 302 P P 15 28 17.7 -0.1
S39A IAmb IAmb 15 28 18.9
comp=Z,28nm,1.0s
U40A Yellville 69.39 300 P P 15 28 19.9 0.0
U40A IAmb IAmb 15 28 24.2
comp=Z,26nm,0.9s
U40A Yellville 69.39 300 P P 15 28 19.9 0.0
baz=60,SNR=21
WHAR Wooly Hollow 69.52 299 P P 15 28 20.4 -0.3
WHAR IAmb IAmb 15 28 24.7
comp=Z,21nm,0.9s
W41B Gary Mavity, V 69.55 299 P P 15 28 20.6 -0.2
baz=60,SNR=8.3
BOSA Boshof 69.55 153 P P 15 28 22.5 +1.6
comp=Z,10nm,0.9s,baz=346,slow=6.1,SNR=9.1
BOSA Boshof 69.55 153 P P 15 28 19.1 -1.8
BOSA pmax pmax
comp=Z,13nm,0.9s
BOSA Boshof 69.55 153 P P 15 28 19.1 -1.8
BOSA IAmb IAmb 15 28 24.3
comp=Z,13nm,0.9s
MAN01 Angra dos Reis 69.67 220 eP P 15 28 22.2 +0.6
INK Inuvik 69.78 342 P P 15 28 22.1 +0.4
comp=Z,5.2nm,0.5s,baz=32,slow=7.7
INK Inuvik 69.78 342 P P 15 28 21.9 +0.2
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 69.78 342 P P 15 28 21.9 +0.2
INK IAmb IAmb 15 28 22.6
comp=Z,14nm,1.1s
INK Inuvik 69.78 342 P P 15 28 22.1 +0.4
baz=42,SNR=14
HHAR Hobbs 70.19 301 P P 15 28 24.6 -0.2
X40A Basin Creek Fa 70.31 299 P P 15 28 25.2 -0.3
baz=60,SNR=24
BGNE Belgrade 70.44 307 P P 15 28 26.3 0.0
baz=59
DGMT Dagmar 70.45 316 P P 15 28 27.4 +1.1
baz=58
KSU1 Kansas State U 70.59 305 P P 15 28 27.5 +0.2
baz=60,SNR=7.7
W39A Magazine 70.62 300 P P 15 28 27.6 +0.1
baz=60,SNR=12
ITRB Iturama 70.70 227 eP P 15 28 29.1 +1.1
BB19B Bebedouro 70.70 224 eP P 15 28 28.8 +0.8
MIAR Mount Ida 70.81 299 P P 15 28 28.8 +0.2
baz=60
Z41A Richland Creek 70.90 298 P P 15 28 29.5 +0.3
baz=59,SNR=5.6
MOY Mondy 70.92 40 eP P 15 28 29.4 +0.3
MOY pmax pmax
comp=Z,22nm,1.7s
PARB Paraibuna 70.93 221 eP P 15 28 30.6 +1.2
SALV Santo Antonio 71.16 233 eP P 15 28 31.6 +0.8
RCLB Rio Claro- Sao 71.22 223 eP P 15 28 32.7 +1.5
VAO Valinhos 71.38 222 eP P 15 28 32.7 +0.5
PYUN Piuthan 71.65 68 eP P 15 28 33.5 -0.6
comp=Z,86nm,0.8s
TUL1 Leonard 71.67 301 P P 15 28 33.8 0.0
baz=59,SNR=5.4
PP1B Ponte de Pedra 71.88 232 eP P 15 28 35.1 -0.1
VILB Vilhena 72.09 239 eP P 15 28 38.2 +1.7
IRK Irkutsk 72.26 38 eP P 15 28 36.4 -0.7
IRK pmax pmax
comp=Z,30nm,1.9s
KOLN Koldanda 72.28 68 eP P 15 28 36.7 -1.2
comp=Z,56nm,1.3s
LAO LASA Array 72.57 315 P P 15 28 39.3 +0.2
LAO IAmb IAmb 15 28 44.5
comp=Z,33nm,1.1s
LAO LASA Array 72.57 315 P P 15 28 39.9 +0.8
baz=56,SNR=12
PET01 Itanhaem-SP 72.58 221 eP P 15 28 40.0 +0.8
RSSD Black Hills 72.69 312 P P 15 28 40.5 +0.4
RSSD pmax pmax
comp=Z,32nm,1.3s
RSSD Black Hills 72.69 312 P P 15 28 40.5 +0.4
RSSD IAmb IAmb 15 28 45.1
comp=Z,32nm,1.2s
RSSD Black Hills 72.69 312 P P 15 28 40.5 +0.4
baz=57
PCMB Pacaembu 72.70 226 eP P 15 28 41.3 +1.3
CBKS Cedar Bluff 72.83 306 P P 15 28 41.2 +0.4
baz=58,SNR=8.8
ZAK Zakamensk 72.83 40 eP P 15 28 41.3 +0.6
ZAK pmax pmax
comp=Z,16nm,1.4s
TOLK Toolik Lake Re 72.90 348 P P 15 28 42.1 +1.4
TOLK IAmb IAmb 15 28 43.2
comp=Z,18nm,1.1s
TOLK Toolik Lake Re 72.90 348 P P 15 28 42.2 +1.6
baz=28,SNR=10
GKN Gorkha 72.94 68 eP P 15 28 40.8 -1.0
comp=Z,60nm,1.0s
BMAR Burnt Mountain 73.00 345 P P 15 28 42.4 +1.2
FRTB Fartura 73.08 224 eP P 15 28 43.3 +1.1
PTLB Pontes e Lacer 73.12 236 eP P 15 28 43.2 +0.6
OGNE Ogallala 73.17 308 P P 15 28 43.3 +0.5
baz=57
BOD Bodaibo 73.19 30 eP P 15 28 41.0 -1.5
BOD pmax pmax
comp=Z,22nm,1.5s
TGTN Hyland Airport 73.22 336 P P 15 28 44.2 +1.5
baz=44,SNR=7.2
I29M Ogilvie Camp, 73.26 342 P P 15 28 43.7 +0.9
baz=37,SNR=19
MMPY Sheldon Lake, 73.39 338 P P 15 28 45.6 +1.9
baz=42,SNR=12
TBTG Tabatinga, AM 73.49 252 eP P 15 28 49.4 +4.6
DMN Daman 73.50 68 eP P 15 28 44.6 -0.6
comp=Z,101nm,1.2s
KKN Kakani 73.54 67 eP P 15 28 44.3 -1.1
comp=Z,39nm,0.9s
PKIN Phulchoki 73.74 68 eP P 15 28 45.4 -1.2
comp=Z,56nm,1.2s
PKI Pulchoki 73.75 68 eP P 15 28 45.6 -1.1
X34A Smith Ranch, M 73.77 301 P P 15 28 47.2 +0.8
EGMT Eagleton 73.79 318 P P 15 28 47.0 +0.6
baz=54,SNR=17
FYU Fort Yukon 73.87 345 P P 15 28 48.1 +1.8
FYU IAmb IAmb 15 28 49.3
comp=Z,35nm,1.2s
GUN Gumba 73.92 67 eP P 15 28 47.0 -0.8
comp=Z,86nm,1.2s
COLD Coldfoot 74.27 347 P P 15 28 49.9 +1.3
baz=28,SNR=9.0
JIRN Jiri 74.29 67 eP P 15 28 49.1 -0.9
ETMB Extrema 74.29 245 eP P 15 28 50.0 +0.4
FARO Faro, Yukon 74.33 338 P P 15 28 51.0 +1.8
baz=40,SNR=10
WMOK Wichita Mounta 74.36 302 P P 15 28 50.2 +0.4
baz=57,SNR=21
TRCB Terra Rica 74.42 226 eP P 15 28 51.1 +0.9
EGAK Eagle 74.45 343 P P 15 28 50.8 +1.1
baz=35,SNR=7.5
AQDB Aquidauana 74.53 230 eP P 15 28 51.5 +0.7
DAWY Dawson 74.58 341 P P 15 28 50.3 -0.3
DAWY Dawson 74.58 341 P P 15 28 51.9 +1.3
baz=36,SNR=14
KSCO Kaye Shedlock' 74.61 307 P P 15 28 52.0 +0.6
baz=56
M31M Drury Creek, Y 74.66 338 P P 15 28 51.8 +0.7
M31M Drury Creek, Y 74.66 338 P P 15 28 52.7 +1.6
baz=40,SNR=6.9
PRP Porcupine Dome 74.83 345 P P 15 28 53.7 +1.5
PRP IAmb IAmb 15 28 54.8
comp=Z,18nm,1.0s
PRP Porcupine Dome 74.83 345 P P 15 28 54.0 +1.9
baz=31,SNR=19
HKT Hockley 74.83 296ceP P 15 28 52.9 +0.4
HKT pmax pmax
comp=Z,23nm,1.0s
WHTX Lake Whitney, 74.91 299 P P 15 28 53.8 +0.8
baz=57
K22A Casper 75.02 312 P P 15 28 53.9 +0.2
baz=55,SNR=7.9
H24K Noodor Dome 75.05 346 P P 15 28 54.8 +1.5
baz=29
M30M Minto, Yukon 75.07 340 P P 15 28 55.7 +2.2
baz=38
RLMT Red Lodge 75.21 315 P P 15 28 55.4 +0.6
baz=54,SNR=8.8
J26L Joseph Creek 75.25 343 P P 15 28 56.0 +1.5
baz=33
RDOG Red Dog Mine 75.36 352 P P 15 28 55.8 +0.8
baz=17
WALA Waterton Lakes 75.38 320 P P 15 28 55.6 -0.1
WALA IAmb IAmb 15 28 56.9
comp=Z,26nm,1.0s
H23K Yukon River 75.39 346 P P 15 28 56.3 +1.1
baz=28,SNR=12
YAK Yakutsk 75.55 21 eP P 15 28 55.8 -0.3
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
J25K Salcha River, 75.57 344 P P 15 28 56.9 +0.6
baz=31
PTGB Pitanga 75.57 225 eP P 15 28 58.1 +1.3
POKR Poker Plat Res 75.58 345 P P 15 28 57.7 +1.3
baz=30,SNR=7.6
ODAN Odare 75.62 67 eP P 15 28 56.1 -1.4
N31M Braeburn, Yuko 75.64 338 P P 15 28 56.9 +0.2
N31M IAmb IAmb 15 28 58.7
comp=Z,16nm,0.9s
N31M Braeburn, Yuko 75.64 338 P P 15 28 57.9 +1.2
baz=38
435B Jarrell 75.66 298 P P 15 28 57.8 +0.5
baz=57
N23A Red Feather La 75.67 310 P P 15 28 58.7 +1.1
baz=55,SNR=15
P33M Teslin, Yukon 75.70 336 P P 15 28 58.5 +1.3
P33M Teslin, Yukon 75.70 336 P P 15 28 58.4 +1.3
baz=41,SNR=9.5
ILAR Eielson Array 75.77 345 P P 15 28 58.0 +0.6
comp=Z,1.8nm,0.6s,baz=24,slow=4.9,SNR=13
ILAR Eielson Array 75.77 345 P P 15 28 58.0 +0.6
SCRK Sand Creek 75.80 343 P P 15 28 58.3 +0.6
SCRK Sand Creek 75.80 343 P P 15 28 59.4 +1.7
baz=32,SNR=9.8
GOMU GeErMu 75.80 56 P P 15 28 58.4 -0.2
GOMU sP sP 15 29 06.2 +1.9
GOMU S S 15 38 38.9 -1.8
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,46nm,4.5s
GOMU LR LR
comp=Z,110nm,14.9s
GOMU LR LR
comp=Z,55nm,14.1s
COLA College 75.88 345⇑eP P 15 28 58.9 +0.9
COLA pmax pmax
comp=Z,3.0nm,0.8s
I23K Minto, Yukon-K 75.95 346 P P 15 28 59.7 +1.3
baz=28,SNR=5.5
SONM Songino Array 76.00 41 P P 15 28 59.3 +0.1
comp=Z,4.2nm,0.8s,baz=287,slow=6.5,SNR=37
WHY Whitehorse 76.01 338 P P 15 29 00.0 +1.1
baz=39,SNR=6.0
IMAR Indian Mountai 76.01 348 P P 15 28 59.8 +1.1
L27K Beaver Creek, 76.03 342 P P 15 29 00.6 +1.7
baz=34
DLBC Dease Lake 76.08 334 LR LR 15 59 47.1
comp=Z,263nm,20.5s,baz=70,slow=34
ISCO Idaho Springs 76.08 309 P P 15 29 01.1 +1.1
baz=55,SNR=23
HDA Harding Lake 76.10 344 P P 15 29 00.4 +1.2
baz=30,SNR=10
ABTX Abilene, Hawle 76.11 300 P P 15 29 00.1 +0.2
baz=56,SNR=10
H21K Melozitna Rive 76.14 347 P P 15 29 00.6 +1.1
baz=25,SNR=8.5
RIDG Independent Ri 76.20 343 P P 15 29 01.7 +1.8
RIDG IAmb IAmb 15 29 02.9
comp=Z,27nm,1.0s
RIDG Independent Ri 76.20 343 P P 15 29 02.0 +2.0
baz=32,SNR=9.2
BOZ Bozeman (W) 76.26 317 P P 15 29 01.8 +1.1
baz=53,SNR=15
Q24A Divide 76.27 308 P P 15 29 01.6 +0.5
baz=55
BILL Bilibino 76.27 4⇑eP P 15 29 00.1 0.0
BILL *i* 15 29 10.1
BILL pmax pmax
comp=Z,14nm,1.7s
AMTX Amarillo 76.27 303 P P 15 29 01.6 +0.7
baz=56
WRH Wood River Hil 76.29 345 P P 15 29 00.6 +0.3
WRH IAmb IAmb 15 29 02.7
comp=Z,22nm,1.3s
BVCY Beaver Creek 76.32 341 P P 15 29 02.5 +1.9
baz=35
MLY Manley 76.33 346 P P 15 29 01.8 +1.2
baz=27
ULN Ulaanbaatar 76.33 40ceP P 15 29 01.1 0.0
ULN pmax pmax
comp=Z,21nm,1.7s
NEA2 Nenana 76.38 345 P P 15 29 01.7 +0.8
baz=28
H17A Grant Village 76.39 315 P P 15 29 04.5 +2.9
baz=53
I21K Tanana 76.43 347 P P 15 29 02.6 +1.5
baz=26
L26K Log Cabin Wild 76.45 342 P P 15 29 03.2 +1.9
baz=33,SNR=9.1
YUK4 Talbot Arm 76.59 339 P P 15 29 02.6 +0.3
baz=36
M27K Edge Creek, AK 76.63 341 P P 15 29 04.3 +1.7
baz=34
HYT Haines Junctio 76.67 339 P P 15 29 04.6 +1.9
baz=37
YUK3 Moose Creek 76.74 340 P P 15 29 04.1 +0.9
baz=35
PDAR Pinedale Array 76.77 313 P P 15 29 03.5 -0.3
comp=Z,8.7nm,0.8s,baz=65,slow=6.8,SNR=47
BW06 Boulder Array 76.77 313 P P 15 29 03.4 -0.4
baz=54,SNR=19
MSO Missoula 76.78 319 P P 15 29 04.0 +0.4
baz=52,SNR=8.9
T25A Trinidad 76.83 306 P P 15 29 05.2 +1.0
baz=55
YUK6 Outpost Mounta 76.83 339 P P 15 29 05.4 +1.6
baz=36
TER01 Tubaro-SC 76.97 220 eP P 15 29 08.8 +4.3
MCK McKinley 77.11 345 P P 15 29 06.2 +1.1
baz=28
SDCO Great Sand Dun 77.19 307 P P 15 29 06.8 +0.5
baz=55,SNR=15
GTA Gaotai 77.23 51 ⇑P P 15 29 06.5 +0.2
GTA pP pP 15 29 10.0 -0.2
GTA sP sP 15 29 13.8 +1.8
GTA pmax pmax
comp=Z,17nm,1.0s
GTA pmax pmax
comp=Z,110nm,4.7s
GTA LR LR
comp=Z,150nm,17.1s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,140nm,18.2s
DHY Denali Highway 77.35 344 P P 15 29 07.6 +1.1
baz=30
JCT Junction City 77.42 298 P P 15 29 08.1 +0.7
JCT pmax pmax
comp=Z,34nm,0.9s
JCT Junction City 77.42 298 P P 15 29 08.1 +0.7
JCT Junction City 77.42 298 P P 15 29 07.8 +0.4
baz=56,SNR=12
MCMT McKenzie Canyo 77.42 316 P P 15 29 07.5 +0.2
O20A White River Ci 77.53 311 P P 15 29 08.3 +0.2
baz=54
MSTX Muleshoe 77.53 303 P P 15 29 08.5 +0.4
baz=55
NEW Newport 77.54 321 LR LR 15 59 41.4
comp=Z,208nm,20.6s,baz=17,slow=33
NEW Newport 77.54 321 P P 15 29 07.8 0.0
baz=50,SNR=7.9
OTAV Otavalo 77.56 261 eP P 15 29 10.2 +1.4
ITAB Concordia 77.56 223 eP P 15 29 09.5 +1.5
TRF Thorofare Moun 77.65 345 P P 15 29 07.9 -0.3
baz=27
CTG Chitna Glacier 77.65 340 P P 15 29 09.6 +1.4
baz=34
CHUM Lake Minchumin 77.66 346 P P 15 29 08.3 +0.3
baz=26
J20K Nowinta River 77.73 347 P P 15 29 09.3 +0.9
baz=24
MCARA McCarthy VSAT 77.75 341 P P 15 29 10.1 +1.5
baz=33
CZSB Cruzeiro do Su 77.86 251 eP P 15 29 10.5 +0.5
WAT6 Susitna Watana 77.87 344 P P 15 29 10.6 +1.1
baz=29,SNR=6.5
N25K Chitina, Valde 77.96 342 P P 15 29 10.5 +0.6
N25K IAmb IAmb 15 29 57.3
comp=Z,51nm,1.9s
N25K Chitina, Valde 77.96 342 P P 15 29 11.2 +1.3
baz=32
CAST Castle Rocks 78.04 346 P P 15 29 11.2 +1.0
baz=26
TNA Tin City 78.30 353 P P 15 29 11.5 0.0
baz=13
833A Chaparral WMA, 78.33 296 P P 15 29 13.2 +0.8
baz=56,SNR=7.8
KLU Klutina 78.39 343 P P 15 29 13.6 +1.4
baz=30
SCM Sheep Creek Mo 78.43 343 P P 15 29 14.0 +1.6
baz=29
K20K Telida 78.47 347 P P 15 29 13.4 +0.8

baz=24
BMRM Bremner River 78.51 342 P P 15 29 14.4 +1.5
baz=32,SNR=7.0
ANM Nome 79.01 352 P P 15 29 15.6 +0.1
ANM pmax pmax
comp=Z,9.0nm,1.2s
ANM Nome 79.01 352 P P 15 29 15.6 +0.1
ANM Nome 79.01 352 P P 15 29 15.5 +0.1
baz=15,SNR=5.1
HLID Hailey 79.08 316 P P 15 29 18.1 +1.5
baz=51,SNR=16
TTA Tatalina 79.21 348 P P 15 29 17.9 +1.1
baz=23
MVCO Mesa Verde 79.43 308 P P 15 29 19.8 +1.2
baz=53,SNR=6.1
ANMO Albuquerque 79.45 305 LR LR 16 03 20.3
comp=Z,161nm,19.1s,baz=61,slow=35
ANMO Albuquerque 79.45 305⇓ *e*P P 15 29 19.5 +0.8
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 79.45 305 P P 15 29 19.2 +0.5
baz=54
SEY Seymchan 79.81 11⇓ *e*P P 15 29 20.2 +0.3
SEY pmax pmax
comp=Z,2.0nm,1.0s
BMO Blue Mountains 79.85 319 P P 15 29 20.6 0.0
BMO pmax pmax
comp=Z,18nm,1.2s
BMO Blue Mountains 79.85 319 P P 15 29 20.6 0.0
M19K Big River Lodg 79.86 346 P P 15 29 20.8 +0.5
baz=24
CPUP Villa Florida 79.88 227 P P 15 29 20.6 -0.1
comp=Z,18nm,0.7s,baz=37,slow=4.8,SNR=19
CPUP Villa Florida 79.88 227 P P 15 29 20.6 -0.1
CPUP IAmb IAmb 15 29 25.0
comp=Z,38nm,1.0s
CPUP Villa Florida 79.88 227 *e*P P 15 29 20.8 +0.1
BBB Bella Bella 79.95 329 LR LR 16 01 59.0
comp=Z,155nm,19.6s,baz=346,slow=34
LPAZ La Paz 79.96 242 P P 15 29 21.9 -0.2
comp=Z,5.0nm,0.8s,baz=66,slow=3.7,SNR=10
LPAZ La Paz 79.96 242 P P 15 29 21.2 -0.9
LPAZ pmax pmax
comp=Z,14nm,1.2s
LPAZ La Paz 79.96 242 P P 15 29 21.2 -0.9
LPAZ La Paz 79.96 242 *e*P P 15 29 21.7 -0.4
DUG Dugway, Tooele 80.27 313 P P 15 29 23.3 +0.3
baz=51,SNR=9.5
GAMB Gambell 80.38 355 P P 15 29 23.1 +0.2
baz=9.8
MNTX Cornudas Mount 80.64 302 P P 15 29 25.1 +0.1
baz=54
CPSB Cacapava Do Su 80.75 222 *e*P P 15 29 25.9 +0.6
TXAR Lajitas Array 80.82 299 P P 15 29 26.4 +0.3
comp=Z,2.3nm,0.8s,baz=79,slow=5.8,SNR=26
TXAR LR LR 16 04 45.8
comp=Z,131nm,19.8s,baz=46,slow=35
TXAR Lajitas Array 80.82 299 P P 15 29 26.3 +0.2
TXAR Lajitas Array 80.82 299 P P 15 29 26.3 +0.2
PALK Pallekele 81.21 87 LR LR 16 10 01.8
comp=Z,63nm,18.0s,baz=44,slow=39
ZEA Zeya 81.30 27 *e*P P 15 29 28.3 +0.3
ZEA pmax pmax
comp=Z,10.0nm,9.0s
ELK Elko 81.36 314 LR LR 16 03 29.7
comp=Z,112nm,19.1s,baz=64,slow=34
LZH Lanzhou 81.77 51 ⇑P P 15 29 31.6 +0.5
LZH pP PcP 15 29 37.7 +0.8
LZH sP sP 15 29 42.6 +5.7
LZH pmax pmax
comp=Z,43nm,1.5s
LZH pmax pmax
comp=Z,140nm,6.0s
LZH LR LR
comp=Z,150nm,17.5s
LZH LR LR
comp=Z,140nm,14.0s
LZH LR LR
comp=Z,140nm,18.2s
121A Cookes Peak, D 81.78 304 P P 15 29 33.2 +2.0
baz=53,SNR=11
PLTB Pedras Altas 81.89 221 *e*P P 15 29 31.5 +0.1
ITQB Itaqui 81.96 225 P P 15 29 31.5 -0.2
ITQB Itaqui 81.96 225 *e*P P 15 29 32.0 +0.2
PB16 IPOC Station P 82.30 241 P P 15 29 34.9 +0.4
MA2 Magadan 82.70 13 *ce*P P 15 29 35.7 +0.4
MA2 pmax pmax
comp=Z,19nm,1.7s
J05D Fort Rock, OR 83.00 319 P P 15 29 40.0 +2.6
baz=46
PB12 IPOC Station P 83.06 241 P P 15 29 37.2 -0.7
R11A Troy Canyon, C 83.11 313 P P 15 29 38.7 +0.6
baz=49,SNR=13
KDAK Kodiak Island 83.25 344 LR LR 16 10 43.2
comp=Z,115nm,18.3s,baz=52,slow=39
XLT XiLinHaoTe 83.67 39 *e*P P 15 29 40.3 -0.5
XLT pP pP 15 29 44.0 -0.7
XLT sP PcP 15 29 50.4 +5.5
XLT S S **15 40 01.6 -1.4**
XLT sS sS 15 40 10.1 +0.5
XLT pmax pmax
comp=Z,10.0nm,1.4s
XLT pmax pmax
comp=Z,180nm,4.6s
XLT LR LR
comp=Z,220nm,14.7s
XLT LR LR
comp=Z,240nm,17.9s
TUC Tucson 83.91 306 P P 15 29 43.5 +1.2
baz=51
KVN Kaiserville 84.13 315 P P 15 29 43.5 +0.2
KVN pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 84.13 315 P P 15 29 43.5 +0.2
NVAR Mina Array Bea 84.66 314 P P 15 29 46.3 +0.2
comp=Z,0.8nm,0.6s,baz=55,slow=5.9,SNR=9.0
LVC Limon Verde 84.71 237 P P 15 29 45.9 -0.7
LVC pmax pmax
comp=Z,23nm,1.1s
LVC Limon Verde 84.71 237 P P 15 29 45.9 -0.7
LVC IAmb IAmb 15 29 47.9
comp=Z,23nm,1.1s
LVC Limon Verde 84.71 237 *e*P P 15 29 47.2 +0.7
PDMCI Parker Dam,Lak 84.83 309 P P 15 29 48.0 +1.3
baz=50,SNR=7.0
YBH Yreka Blue Hor 84.86 319 LR LR 16 04 52.5
comp=Z,53nm,18.5s,baz=22,slow=34
CD2 Chengdu 84.94 55 P P 15 29 47.6 +0.2
CD2 pP pP 15 29 51.0 -0.6
CD2 pmax pmax
comp=Z,30nm,0.8s
214A Organ Pipe Nat 85.47 306 P P 15 29 51.6 +1.6
baz=50
GMRC Granite Mounta 85.47 310 P P 15 29 51.8 +1.7
baz=49
XAN Xi'an 86.28 50 P P 15 29 54.3 +0.3
XAN pP sP 15 29 58.2 -1.6
XAN pmax pmax
comp=Z,30nm,1.2s
PZH PanZhiHua 86.28 60 ⇑P P 15 29 53.9 -0.3
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.7s
BJI Beijing 86.44 42 P P 15 29 53.9 -0.7
BJI S S **15 40 29.6 -0.7**
BJI pmax pmax
comp=Z,2.0nm,0.7s
BJI pmax pmax
comp=Z,120nm,7.3s
BJI LR LR
comp=Z,190nm,18.3s
BJI LR LR
comp=Z,190nm,18.2s
BJI LR LR
comp=Z,130nm,20.0s
KLR Kul'dur 86.59 27 ⇑ *e*P P 15 29 54.2 -1.0
KLR pmax pmax
comp=Z,9.0nm,1.7s
PFO Pinyon Flats O 86.74 310 LR LR 16 08 09.7
comp=Z,52nm,18.4s,baz=90,slow=35
HNS HongShan 87.47 45 ⇑P P 15 30 00.2 +0.5
HNS pmax pmax
comp=Z,29nm,0.9s
KMI Kunming 87.84 61 ⇑P P 15 30 01.6 -0.4
KMI pmax pmax
comp=Z,14nm,1.0s
LYN LuoYang 88.12 48 ⇑P P 15 30 03.2 +0.4
LYN sP sP 15 30 10.7 +2.1
LYN S S **15 40 51.8 +5.1**
LYN pmax pmax
comp=Z,20nm,1.1s
LYN pmax pmax
comp=Z,50nm,4.2s
LYN LR LR
comp=Z,220nm,18.4s
LYN LR LR
comp=Z,170nm,19.7s
CN2 Changchun 88.30 34 *e*P P 15 30 02.1 -1.4
CN2 *e*S S **15 40 44.1 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,100nm,13.0s
PBA Port Blair 88.38 77 P P 15 30 05.3 +1.0
LPIG La Paz 88.70 299 LR LR 16 09 35.3
comp=Z,182nm,19.0s,baz=18,slow=36
CMAR Chiang Mai Arr 89.15 68 P P 15 30 08.0 +0.1
comp=Z,6.5nm,1.0s,baz=305,slow=6.4,SNR=36
TIA Tai'an 89.68 44 *e*P P 15 30 10.1 -0.1
TIA pmax pmax
comp=Z,18nm,0.8s
GYA Guiyang 89.73 57 ⇓P P 15 30 10.6 -0.1
GYA pmax pmax
comp=Z,11nm,0.8s
AC04 Llanos de Chal 89.88 235 P P 15 30 10.1 -0.8
AC04 IAmb IAmb 15 30 14.8
comp=Z,14nm,0.9s
LCO Las Campanas 90.17 234 P P 15 30 13.1 +0.4
LCO pmax pmax
comp=Z,15nm,1.0s
LCO Las Campanas 90.17 234 P P 15 30 13.1 +0.4
LCO IAmb IAmb 15 30 16.7
comp=Z,15nm,1.0s
WHN Wuhan 92.02 50 P P 15 30 19.7 -1.4
NJ2 Nanjing 93.67 46 *e*P P 15 30 28.5 -0.2
NJ2 pmax pmax
comp=Z,13nm,0.7s
BO02 Sierra Bellavi 94.03 229 P P 15 30 30.6 +0.5
KSRS Korea Array 94.44 37 P P 15 30 31.2 -0.9
comp=Z,2.8nm,0.8s,baz=337,slow=3.7,SNR=9.6
PLCA Paso Flores 97.79 225 P Pdif 15 30 47.7 +0.5
comp=Z,5.3nm,0.8s,baz=50,slow=4.7,SNR=16
PLCA Paso Flores 97.79 225 *e*P Pdif 15 30 47.4 +0.2
WRA Warramunga Arr 139.97 78 PKhKP PKPpre 15 36 31.6
comp=Z,0.5nm,0.7s,baz=291,slow=7.4,SNR=9.6
WRA PP **PP 15 39 35.8 -1.8**
comp=Z,0.7nm,0.7s,baz=315,slow=6.2,SNR=5.4
ASAR Alice Springs 141.48 84 PKhKP PKPpre 15 36 36.2
comp=Z,1.7nm,0.8s,baz=298,slow=2.8,SNR=16
ASAR PP **PP 15 39 45.3 -1.6**
comp=Z,0.9nm,0.9s,baz=313,slow=6.8,SNR=5.7
STKA Stephens Creek 150.94 93 PKPbc PKPbc 15 37 04.0 -0.8
comp=Z,21nm,0.9s,baz=330,slow=3.5,SNR=32
STKA Stephens Creek 150.94 93 PKIKP PKPbc 15 37 04.0 -0.8

*THE **12** 15:18:24.6, 35˚.38N×23˚.55E, h12km±2km, ML2.7/7 Error ellipse: s-maj=2.3km s-min=1.0km az=32.0*
*ATH **12** 15:18:24.6, 35˚.44N×23˚.64E, h15km±4km, ML2.7/6, Error ellipse: s-maj=4.3km s-min=1.0km az=43.0*
ISC 12 15:18:24.5±1.1, 35˚.42N±0˚.04×23˚.60E±0˚.04, h13km±8km, n16, σ0°69/29, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.19**	**41**	P	**Pg**	**15 18 29.1**	**+0.2**
RODP				S	**Sb**	**15 18 34.7**	**+1.1**
	1μm,0.3s						
IMMV	**Iera Moni Meta**	**0.31**	**82**	P	**Pg**	**15 18 30.5**	**-0.5**
IMMV				S	**Sg**	**15 18 35.4**	**+0.1**
IMMV				AML	AML	15 18 40.2	
	comp=E,3312μm,0.3s						
IMMV				AML	AML	15 18 41.0	
	comp=N,2817μm,0.3s						
IMMV	**Iera Moni Meta**	**0.31**	**82**	P	**Pg**	**15 18 31.3**	**+0.3**
IMMV				S	**Sb**	**15 18 37.8**	**+0.8**
	comp=N,2μm,0.3s						
VAM	**Vamos**	**0.49**	**91**	P	**Pg**	**15 18 32.8**	**-1.4**
VAM				S	**Sg**	**15 18 39.9**	**-0.8**
VAM				AML	AML	15 18 45.1	
	comp=E,3709μm,0.2s						
VAM				AML	AML	15 18 45.3	
	comp=N,5086μm,0.3s						
VAM	**Vamos**	**0.49**	**91**	P	**Pg**	**15 18 34.6**	**+0.4**
VAM				S	**Sb**	**15 18 42.8**	**+0.8**
	comp=N,2μm,0.3s						
ANKY	**Antikythira Is**	**0.51**	**332**	P	**Pg**	**15 18 33.9**	**-0.7**
ANKY				S	**Sg**	**15 18 42.1**	**+0.6**
ANKY				AML	AML	15 18 44.9	
	comp=N,1930μm,0.4s						
ANKY				AML	AML	15 18 48.5	
	comp=E,1181μm,0.4s						
ANKY	**Antikythira Is**	**0.51**	**332**	P	**Pg**	**15 18 34.0**	**-0.7**
ANKY				S	**Sb**	**15 18 43.2**	**+0.5**
	comp=E,840nm,0.5s						
GVD	**Gavdhos**	**0.70**	**145**	P	**Pb**	**15 18 38.1**	**-0.4**
GVD				S	**Sb**	**15 18 48.1**	**0.0**
GVD				AML	AML	15 18 50.9	
	comp=N,2759μm,0.3s						
GVD				AML	AML	15 18 57.7	
	comp=E,2418μm,0.3s						
GVD	**Gavdhos**	**0.70**	**145**	P	**Pb**	**15 18 38.4**	**-0.1**
GVD				S	**Sg**	**15 18 48.5**	**+1.2**
	comp=E,1μm,0.4s						
PRNS	**Prines Rethymn**	**0.74**	**94**	P	**Pb**	**15 18 38.4**	**-0.8**
PRNS				S	**Sb**	**15 18 48.4**	**-0.8**
	comp=E,282nm,0.3s						
KTHA	**Kythira Island**	**0.95**	**333**	P	**Pb**	**15 18 42.4**	**-0.4**
IDI	**Anoyia**	**1.06**	**96**	P	**Pb**	**15 18 43.6**	**-1.1**
IDI				S	**Sb**	**15 18 58.5**	**-0.1**
IDI				AML	AML	15 19 05.2	
	comp=E,509μm,0.3s						
IDI				AML	AML	15 19 12.7	
	comp=N,548μm,0.5s						
IDI	**Anoyia**	**1.06**	**96**	P	**Pn**	**15 18 45.3**	**+0.2**
IDI				S	**Sn**	**15 19 00.2**	**+0.4**
	comp=N,265nm,0.4s						
SIVA	**Sivas**	**1.07**	**111**	P	**Pn**	**15 18 45.1**	**0.0**
SIVA				S	**Sg**	**15 18 59.6**	**+0.7**
SIVA				AML	AML	15 19 07.3	
	comp=N,875μm,0.4s						
SIVA				AML	AML	15 19 10.5	
	comp=E,1234μm,0.7s						
VLI	**Velíai**	**1.41**	**338**	P	**Pg**	**15 18 51.5**	**-0.1**
NPS	**Neapolis**	**1.65**	**95**	P	**Pb**	**15 18 54.9**	**+0.1**

*IDC **12** 15:19:01.0±3.0, 40˚.52S×175˚.96E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.4/19, mbtmp3.2/4, ML2.8/2, Error ellipse: s-maj=73.6km s-min=24.0km az=129.0*
*NOU **12** 15:19:05.4, 40˚.65S×176˚.25E, h88km, MLv3.7/9, North Island, New Zealand*
*WEL **12** 15:19:08.8, 40˚.3S×176˚.6E, h48km±4km, M3.1/23, ML3.4/23, MLv3.1/23, Error ellipse: s-maj=0.0km s-min=0.0km az=92.1*
ISC 12 15:19:05.1±1.2, 40˚.56S±0˚.03×176˚.04E±0˚.04, h77km±5km, n140, σ2°00/151, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRWZ	**Pori Road**	**0.05**	**278**	P	**Pn**	**15 19 17.0**	**+0.9**
PRWZ				S	**Sn**	**15 19 22.6**	**-1.7**
BFZ	**Birch Farm**	**0.20**	**127**	P	**Pn**	**15 19 18.1**	**+1.6**
BFZ				S	**Sn**	**15 19 25.0**	**0.0**
BFZ	**Birch Farm**	**0.20**	**127**	P	**Pn**	**15 19 17.9**	**+1.4**
TIWZ	**Tintock**	**0.24**	**209**	P	**Pn**	**15 19 18.4**	**+1.6**
TIWZ				S	**Sn**	**15 19 25.5**	**+0.1**
POWZ	**Post Office Ro**	**0.27**	**309**	P	**Pn**	**15 19 17.0**	**+0.1**
POWZ				S	**Sn**	**15 19 22.7**	**-2.9**
DVHZ	**Dannevirke**	**0.28**	**20**	P	**Pn**	**15 19 17.3**	**+0.4**
ANWZ	**Angora Road**	**0.35**	**73**	P	**Pn**	**15 19 19.2**	**+1.9**
ANWZ				S	**Sn**	**15 19 27.2**	**+0.8**
MRZ	**Mangatainoka R**	**0.36**	**254**	P	**Pn**	**15 19 18.4**	**+1.0**
MRZ				S	**Sn**	**15 19 25.4**	**-1.3**
CPWZ	**Castlepoint**	**0.37**	**160**	P	**Pn**	**15 19 20.8**	**+3.3**
TSZ	**Takapari Road**	**0.51**	**353**	P	**Pn**	**15 19 19.1**	**+0.4**
TSZ				S	**Sn**	**15 19 26.3**	**-2.3**
HOWZ	**Holdsworth Sta**	**0.52**	**230**	P	**Pn**	**15 19 20.5**	**+1.7**
HOWZ				S	**Sn**	**15 19 29.1**	**+0.2**
PRHZ	**Porangahau**	**0.54**	**57**	P	**Pn**	**15 19 21.1**	**+2.1**
PRHZ				S	**Sn**	**15 19 30.5**	**+1.3**
TMWZ	**Te Maipa**	**0.56**	**192**	P	**Pn**	**15 19 21.9**	**+2.7**
WPHZ	**Waipukurau**	**0.58**	**32**	P	**Pn**	**15 19 20.8**	**+1.5**
WPHZ				S	**Sn**	**15 19 29.9**	**0.0**
OHWZ	**Ohakea**	**0.66**	**303**	P	**Pn**	**15 19 21.7**	**+1.7**
OHWZ				S	**Sn**	**15 19 31.2**	**0.0**
PNHZ	**Pukenui**	**0.66**	**11**	P	**Pn**	**15 19 21.2**	**+1.1**
OGWZ	**Otaki Gorge**	**0.71**	**249**	P	**Pn**	**15 19 22.3**	**+1.8**
OGWZ				S	**Sn**	**15 19 32.3**	**+0.2**
MTW	**Mount Morrison**	**0.72**	**214**	P	**Pn**	**15 19 23.1**	**+2.3**
PXZ	**Pawanui**	**0.82**	**50**	P	**Pn**	**15 19 24.1**	**+2.2**
TRWZ	**Traveller**	**0.88**	**198**	P	**Pn**	**15 19 25.5**	**+3.0**
KIW	**Kapiti Island**	**0.91**	**250**	P	**Pn**	**15 19 25.0**	**+2.1**
CAW	**Cannon Point**	**0.92**	**233**	P	**Pn**	**15 19 25.2**	**+2.2**
PAWZ	**Paruwai Farm**	**0.94**	**209**	P	**Pn**	**15 19 25.9**	**+2.6**
KRHZ	**Kereru**	**0.95**	**16**	P	**Pn**	**15 19 24.9**	**+1.5**
KAHZ	**Kahuranaki**	**1.00**	**40**	P	**Pn**	**15 19 26.2**	**+2.2**
MSWZ	**Moikau Station**	**1.04**	**215**	P	**Pn**	**15 19 26.8**	**+2.3**
BHHZ	**Black Hill Sta**	**1.07**	**1**	P	**Pn**	**15 19 26.5**	**+1.6**
WAZ	**Wanganui**	**1.14**	**315**	P	**Pn**	**15 19 28.3**	**+2.6**
PLWZ	**Palliser**	**1.17**	**210**	P	**Pn**	**15 19 28.4**	**+2.3**
KWHZ	**Kaweka Forest**	**1.17**	**15**	P	**Pn**	**15 19 27.9**	**+1.7**
MOVZ	**Moawhango**	**1.17**	**349**	P	**Pn**	**15 19 28.2**	**+2.0**
WEL	**Wellington**	**1.20**	**233**	P	**Pn**	**15 19 28.7**	**+2.2**
BHW	**Baring Head**	**1.22**	**226**	P	**Pn**	**15 19 28.9**	**+2.2**
MCHZ	**McNeill Hill**	**1.23**	**25**	P	**Pn**	**15 19 28.8**	**+2.1**
MTVZ	**Mangateitei**	**1.25**	**339**	P	**Pn**	**15 19 29.7**	**+2.5**
SNZO	**South Karori**	**1.26**	**233**	P	**Pn**	**15 19 29.4**	**+2.3**
WNVZ	**Wahianoa**	**1.28**	**344**	P	**Pn**	**15 19 29.8**	**+2.2**
TRVZ	**Turoa**	**1.32**	**343**	P	**Pn**	**15 19 30.7**	**+2.5**
WHVZ	**Whangaehu Hut**	**1.32**	**345**	P	**Pn**	**15 19 30.9**	**+2.7**
TUVZ	**Tukino**	**1.33**	**347**	P	**Pn**	**15 19 30.7**	**+2.5**
FWVZ	**Far West T-bar**	**1.36**	**344**	P	**Pn**	**15 19 31.1**	**+2.4**
PKVZ	**Pokaka**	**1.38**	**337**	P	**Pn**	**15 19 31.2**	**+2.5**
SNVZ	**South Ngauruho**	**1.41**	**347**	P	**Pn**	**15 19 31.7**	**+2.4**
NGZ	**Ngauruhoe**	**1.43**	**346**	P	**Pn**	**15 19 32.0**	**+2.6**
OTVZ	**Oturere**	**1.43**	**348**	P	**Pn**	**15 19 31.9**	**+2.4**
BKZ	**Black Stump Fm**	**1.44**	**14**	P	**Pn**	**15 19 31.2**	**+1.7**
BKZ	**Black Stump Fm**	**1.44**	**14**	P	**Pn**	**15 19 31.2**	**+1.7**
ETVZ	**East Tongariro**	**1.45**	**350**	P	**Pn**	**15 19 32.1**	**+2.3**
NNVZ	**North Ngauruho**	**1.47**	**347**	P	**Pn**	**15 19 32.5**	**+2.5**
TMVZ	**Te Maari**	**1.47**	**350**	P	**Pn**	**15 19 32.3**	**+2.3**
TCW	**Tory Channel**	**1.48**	**244**	P	**Pn**	**15 19 32.1**	**+2.1**
WTVZ	**West Tongariro**	**1.49**	**346**	P	**Pn**	**15 19 32.7**	**+2.5**
NTVZ	**North Tongariro**	**1.49**	**349**	P	**Pn**	**15 19 32.6**	**+2.4**
ARHZ	**Aropaoanui**	**1.49**	**30**	P	**Pn**	**15 19 32.4**	**+2.2**
KRVZ	**Karewarewa**	**1.50**	**348**	P	**Pn**	**15 19 33.1**	**+2.8**
TWVZ	**Taurewa**	**1.56**	**343**	P	**Pn**	**15 19 33.5**	**+2.3**
NMHZ	**Naumai**	**1.58**	**22**	P	**Pn**	**15 19 33.4**	**+2.1**
RITZ	**Rihia Road**	**1.59**	**355**	P	**Pn**	**15 19 34.0**	**+2.5**
KATZ	**Kakaramea**	**1.61**	**350**	P	**Pn**	**15 19 34.5**	**+2.7**
DUWZ	**D'Urville Isla**	**1.63**	**261**	P	**Pn**	**15 19 34.0**	**+2.1**
HATZ	**Hinemaiaia**	**1.67**	**1**	P	**Pn**	**15 19 34.4**	**+1.9**
LREZ	**Lake Rotokare**	**1.67**	**311**	P	**Pn**	**15 19 35.5**	**+3.0**
RATZ	**Rangitukua**	**1.71**	**353**	P	**Pn**	**15 19 35.4**	**+2.3**
VRZ	**Vera Road**	**1.74**	**325**	P	**Pn**	**15 19 36.1**	**+2.7**
WHHZ	**Waihua**	**1.75**	**32**	P	**Pn**	**15 19 36.4**	**+2.9**
MRHZ	**Matea Rd**	**1.75**	**10**	P	**Pn**	**15 19 35.4**	**+1.8**
TUWZ	**Tuamarina**	**1.81**	**241**	P	**Pn**	**15 19 36.1**	**+1.8**
MTHZ	**Maungatapiri Rd**	**1.82**	**20**	P	**Pn**	**15 19 36.2**	**+1.7**
CMWZ	**Cape Campbell**	**1.82**	**229**	P	**Pn**	**15 19 37.0**	**+2.5**
RAHZ	**Arahi**	**1.83**	**26**	P	**Pn**	**15 19 36.4**	**+1.7**
WATZ	**Wairara**	**1.87**	**353**	P	**Pn**	**15 19 37.2**	**+2.0**
PREZ	**Palmer Road**	**1.89**	**310**	P	**Pn**	**15 19 36.4**	**+1.0**
PREZ				P	**Pn**	**15 19 36.4**	**+1.0**
DREZ	**Durham Road**	**1.97**	**314**	P	**Pn**	**15 19 39.8**	**+3.4**
NEZ	**North Egmont**	**1.97**	**310**	P	**Pn**	**15 19 40.1**	**+3.5**
MHEZ	**Mangahewa**	**1.99**	**318**	P	**Pn**	**15 19 40.3**	**+3.6**
BSWZ	**Blackbirch Sta**	**2.00**	**234**	P	**Pn**	**15 19 38.9**	**+2.1**
KHEZ	**Kahui Hut**	**2.01**	**308**	P	**Pn**	**15 19 40.6**	**+3.5**
MHGZ	**Mahia Peninsul**	**2.01**	**46**	P	**Pn**	**15 19 39.2**	**+2.1**
NMEZ	**Namu Road**	**2.02**	**304**	P	**Pn**	**15 19 40.8**	**+3.7**
SNGZ	**Shannon Statio**	**2.04**	**30**	P	**Pn**	**15 19 39.1**	**+1.7**
RTZ	**Ruatahuna**	**2.08**	**21**	P	**Pn**	**15 19 39.5**	**+1.5**
KUTZ	**Kaahu Road**	**2.08**	**355**	P	**Pn**	**15 19 40.1**	**+2.1**
PRRZ	**Plateau Road**	**2.08**	**8**	P	**Pn**	**15 19 39.3**	**+1.4**
PKE	**Pukeiti**	**2.09**	**310**	P	**Pn**	**15 19 41.5**	**+3.4**
NBEZ	**Newall Road No**	**2.11**	**307**	P	**Pn**	**15 19 42.1**	**+3.8**
NNZ	**Nelson**	**2.12**	**251**	P	**Pn**	**15 19 40.7**	**+2.3**
MUGZ	**Murupara**	**2.16**	**15**	P	**Pn**	**15 19 40.3**	**+1.3**
PRGZ	**Paritu Road**	**2.17**	**42**	P	**Pn**	**15 19 41.2**	**+2.0**
HRRZ	**Handcock Road**	**2.18**	**5**	P	**Pn**	**15 19 41.2**	**+1.9**
GRRZ	**Galatos Road**	**2.21**	**1**	P	Pn	15 19 45.5	+5.8
HIZ	**Hauiti**	**2.24**	**336**	P	**Pn**	**15 19 42.9**	**+2.8**
HIZ	**Hauiti**	**2.24**	**336**	P	**Pn**	**15 19 43.1**	**+3.0**
RRRZ	**Republican Roa**	**2.25**	**10**	P	**Pn**	**15 19 41.7**	**+1.4**
HSRZ	**Hossack Road**	**2.25**	**4**	P	**Pn**	**15 19 40.9**	**+0.6**
TLZ	**Tolley Road**	**2.26**	**350**	P	**Pn**	**15 19 42.9**	**+2.4**
RIGZ	**Rimuhau**	**2.28**	**36**	P	**Pn**	**15 19 42.1**	**+1.4**
RAGZ	**Rawiri**	**2.32**	**28**	P	**Pn**	**15 19 42.6**	**+1.3**
TARZ	**Mount Tarawera**	**2.35**	**9**	P	**Pn**	**15 19 43.3**	**+1.6**
TKNZ	**Takaka Hill**	**2.38**	**258**	P	**Pn**	**15 19 44.4**	**+2.4**
URZ	**Urewera**	**2.44**	**20**	Pn	**Pn**	**15 19 43.6**	**+0.7**
	2.9nm,0.3s,baz=241,slow=4.2,SNR=31						
URZ				Sn	**Sn**	**15 20 11.5**	**-0.3**
	4.8nm,0.3s,baz=269,slow=3.7,SNR=17						
URZ	**Urewera**	**2.44**	**20**	P	**Pn**	**15 19 43.6**	**+0.7**
URZ	**Urewera**	**2.44**	**20**	P	**Pn**	**15 19 43.6**	**+0.7**
MWZ	**Matawai**	**2.51**	**28**	P	**Pn**	**15 19 44.7**	**+0.9**
TKGZ	**Te Karaka**	**2.54**	**34**	P	**Pn**	**15 19 45.3**	**+1.1**
MRNZ	**Matariki Terra**	**2.62**	**250**	P	**Pn**	**15 19 47.7**	**+2.5**
KHZ	**Kahutara**	**2.64**	**225**	P	**Pn**	**15 19 46.9**	**+1.5**
KHZ	**Kahutara**	**2.64**	**225**	P	**Pn**	**15 19 46.9**	**+1.5**
THZ	**Tophouse**	**2.65**	**242**	P	**Pn**	**15 19 47.3**	**+1.6**
CNGZ	**Carnagh Statio**	**2.67**	**40**	P	**Pn**	**15 19 47.3**	**+1.5**
QRZ	**Quartz Range**	**2.68**	**263**	P	**Pn**	**15 19 48.1**	**+2.0**
QRZ	**Quartz Range**	**2.68**	**263**	P	**Pn**	**15 19 48.0**	**+2.0**
OPRZ	**Ohinepanea**	**2.74**	**9**	P	**Pn**	**15 19 48.4**	**+1.5**
RUGZ	**Raukumara Rang**	**2.89**	**27**	P	**Pn**	**15 19 49.8**	**+0.8**
PUZ	**Puketiti**	**3.02**	**35**	P	**Pn**	**15 19 51.3**	**+0.5**
HAZ	**Te Kaha**	**3.11**	**26**	P	**Pn**	**15 19 53.2**	**+1.3**
GVZ	**Greta Valley S**	**3.29**	**222**	P	**Pn**	**15 19 55.6**	**+1.3**
WMGZ	**Waiomatatini S**	**3.30**	**35**	P	**Pn**	**15 19 55.6**	**+1.2**
DSZ	**Dennistoun Nort**	**3.41**	**248**	P	**Pn**	**15 19 57.6**	**+1.7**
LTZ	**Lake Taylor**	**3.59**	**231**	P	**Pn**	**15 19 59.5**	**+1.1**
OKCZ	**Okains Bay**	**3.86**	**214**	P	**Pn**	**15 20 03.2**	**+1.2**
MQZ	**McQueen's Vall**	**4.03**	**218**	P	**Pn**	**15 20 04.6**	**+0.3**
AKCZ	**Akaroa Harbour**	**4.04**	**214**	P	**Pn**	**15 20 05.7**	**+1.2**
INZ	**Inchbonnie**	**4.07**	**236**	P	**Pn**	**15 20 05.9**	**+1.1**
OXZ	**Oxford**	**4.07**	**226**	P	**Pn**	**15 20 04.9**	**+0.1**
RACZ	**Rakaia**	**4.29**	**221**	P	**Pn**	**15 20 08.7**	**+0.9**
WACZ	**Wakanui South**	**4.60**	**221**	P	**Pn**	**15 20 12.8**	**+0.7**
RPZ	**Rata Peaks**	**4.86**	**228**	Pn	**Pn**	**15 20 16.6**	**+0.9**
	0.3nm,0.3s,baz=282,slow=1.3,SNR=9.4						
RPZ				Sn	**Sn**	**15 21 08.1**	**-2.6**
	3.1nm,0.3s,baz=308,slow=23,SNR=34						
RPZ	**Rata Peaks**	**4.86**	**228**	P	**Pn**	**15 20 16.5**	**+0.7**
RPZ	**Rata Peaks**	**4.86**	**228**	P	**Pn**	**15 20 17.2**	**+1.5**
ARCZ	**Arundel**	**4.95**	**225**	P	**Pn**	**15 20 18.7**	**+1.8**
TMZ	**Timaru**	**5.33**	**223**	P	**Pn**	**15 20 23.2**	**+1.1**
FOZ	**Fox Glacier**	**5.50**	**235**	P	**Pn**	**15 20 24.7**	**+0.3**
LBZ	**Lake Benmore**	**5.77**	**227**	P	**Pn**	**15 20 28.8**	**+0.7**
ODZ	**Otahua Downs**	**5.98**	**220**	P	**Pn**	**15 20 31.8**	**+0.8**
ODZ	**Otahua Downs**	**5.98**	**220**	P	**Pn

MTVR	**Mutnovka**	**3.99**	**12**	*e*P		Pn	15 21 39.9	+3.4
RUS	**Russkaya**	**4.00**	**15**	*e*P		Pn	15 21 39.5	+3.2
RUS				*e*S		Sn	15 22 28.1	+4.7
GRL	**Gorelyy**	**4.04**	**11**	*e*P		Pn	15 21 41.2	+4.0
KRMR	**Karymshinskiy**	**4.33**	**11**	*e*P		Pn	15 21 45.0	+4.1
PET	**Petropavlovsk**	**4.59**	**14**	*e*S		Sn	15 22 43.9	+5.9
DALK	**Dalny**	**4.61**	**15**	*e*P		Pn	15 21 48.7	+3.9
DALK				*e*S		Sb	15 22 45.3	-6.3
UGLR	**Uglovaya**	**4.79**	**15**	*e*P		Pn	15 21 52.1	+4.7
AVH	**Avacha**	**4.83**	**14**	*e*P		Pn	15 21 53.2	+5.2
SMAR	**Somma**	**4.84**	**14**	*e*P		Pn	15 21 53.1	+4.9
KOK	**Koryaka**	**4.84**	**13**	*e*P		Pn	15 21 53.9	+5.8
SDLR	**Sedlovina**	**4.87**	**15**	*e*P		Pn	15 21 52.0	+3.5
SPN	**Mys Shipunski**	**4.95**	**23**	*e*P		Pn	15 21 53.7	+4.2
GNL	**Ganaly**	**5.16**	**8**	*e*P		Pn	15 21 57.4	+5.0

DDA ***12*** *15:22:17.8±0.0, 35°.08N×23°.38E, h6km±5km, ML4.1*
ATH ***12*** *15:22:23.2, 35°.37N×23°.58E, h19km±1km, ML3.9/15, Error ellipse: s-maj=2.2km s-min=0.8km az=43.0*
THE ***12*** *15:22:23.4, 35°.36N×23°.57E, h0km±1km, ML4.0/12, Error ellipse: s-maj=1.5km s-min=0.5km az=220.0*
HLW ***12*** *15:22:24.0, 35°.59N×23°.72E, h30km±17km, Md3.8*
ISK ***12*** *15:22:24.4, 35°.36N×23°.70E, h9km, ML4.0/19*
IDC ***12*** *15:22:29.8±1.0, 35°.42N×23°.98E, h49km±12km, mb3.7/14, mb1 3.8/23, mb1mx3.7/46, mbtmp3.9/23, ML3.7/8, MS3.8/5, Ms1 3.8/5, ms1mx3.1/89, Error ellipse: s-maj=16.9km s-min=14.4km az=1.0*

ISC 12 15:22:23.7±1.1, 35°.33N±0°.03×23°.58E±0°.02, h7km±7km, n140, σ1s60/172, mb4.0/14, MS4.2/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.27**	**32**	P	**Pg**	**15 22 29.0**	**-0.1**
RODP				S	**Sg**	**15 22 33.3**	**+0.7**
RODP	**Rodopos**	**0.27**	**32**	PG	**Pg**	**15 22 28.9**	**-0.1**
RODP				SG	**Sg**	**15 22 32.9**	**+0.3**
IMMV	**Iera Moni Meta**	**0.35**	**68**	P	**Pg**	**15 22 30.4**	**-0.2**
IMMV				S	**Sb**	**15 22 36.6**	**-1.5**
IMMV				AML	AML	15 22 37.2	
	comp=N,34298μm,0.2s						
IMMV				AML	AML	15 22 40.8	
	comp=E,30247μm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**68**	P	**Pg**	**15 22 30.3**	**-0.2**
IMMV				S	**Sb**	**15 22 36.5**	**-1.6**
	comp=E,17μm,0.2s						
IMMV	**Iera Moni Meta**	**0.35**	**68**	PG	**Pg**	**15 22 30.3**	**-0.2**
VAM	**Vamos**	**0.51**	**81**	P	**Pg**	**15 22 33.3**	**-0.3**
VAM				S	**Sg**	**15 22 40.3**	**+0.1**
VAM				AML	AML	15 22 43.8	
	comp=N,57207μm,0.2s						
VAM				AML	AML	15 22 43.8	
	comp=E,45555μm,0.2s						
VAM	**Vamos**	**0.51**	**81**	P	**Pg**	**15 22 33.3**	**-0.3**
VAM				S	**Sb**	**15 22 41.7**	**-1.0**
	comp=E,26μm,0.2s						
ANKY	**Antikythira Is**	**0.58**	**337**	P	**Pg**	**15 22 34.1**	**-0.8**
ANKY				S	**Sg**	**15 22 41.6**	**-0.9**
ANKY				AML	AML	15 22 43.3	
	comp=N,79267μm,0.3s						
ANKY				AML	AML	15 22 43.7	
	comp=E,56384μm,0.5s						
ANKY	**Antikythira Is**	**0.58**	**337**	P	**Pg**	**15 22 34.2**	**-0.7**
ANKY				S	**Sg**	**15 22 42.0**	**-0.5**
	comp=E,34μm,0.4s						
GVDS	**Gavdos**	**0.64**	**139**	P	**Pg**	**15 22 36.3**	**+0.2**
GVDS				S	**Sb**	**15 22 46.5**	**+0.1**
	comp=E,11μm,0.2s						
GVD	**Gavdhos**	**0.64**	**140**	P	**Pg**	**15 22 36.6**	**+0.6**
GVD				S	**Sb**	**15 22 45.7**	**-0.8**
GVD				AML	AML	15 22 50.2	
	comp=N,25545μm,0.4s						
GVD				AML	AML	15 22 51.4	
	comp=E,18213μm,0.5s						
GVD	**Gavdhos**	**0.64**	**140**	P	**Pg**	**15 22 36.4**	**+0.3**
GVD				S	**Sb**	**15 22 47.2**	**+0.7**
	comp=E,11μm,0.4s						
GVD	**Gavdhos**	**0.64**	**140**	PG	**Pg**	**15 22 36.7**	**+0.6**
PRNS	**Prines Rethymn**	**0.75**	**87**	P	**Pg**	**15 22 36.4**	**-1.8**
PRNS				S	**Sg**	**15 22 47.0**	**-0.9**
KTHA	**Kythira Island**	**1.01**	**335**	P	**Pg**	**15 22 42.3**	**-1.0**
KTHA				S	**Sg**	**15 22 55.3**	**-1.1**
KTHA				AML	AML	15 22 58.9	
	comp=E,46196μm,0.4s						
KTHA				AML	AML	15 22 59.6	
	comp=N,20079μm,0.3s						
KTHA	**Kythira Island**	**1.01**	**335**	P	**Pg**	**15 22 42.2**	**-1.0**
KTHA				S	**Sg**	**15 22 55.8**	**-0.6**
	comp=N,17μm,0.3s						
KTHR	**Kythira**	**1.04**	**333**	P	**Pg**	**15 22 42.5**	**-1.2**
KTHR				S	**Sg**	**15 22 56.6**	**-0.6**
	comp=N,13μm,0.3s						
SIVA	**Sivas**	**1.05**	**107**	P	**Pg**	**15 22 42.5**	**-1.4**
SIVA				AML	AML	15 23 06.1	
	comp=N,10145μm,0.4s						
SIVA				AML	AML	15 23 14.2	
	comp=E,15800μm,0.8s						
SIVA	**Sivas**	**1.05**	**107**	P	**Pg**	**15 22 43.1**	**-0.8**
SIVA				S	**Sn**	**15 22 59.5**	**-0.4**
	comp=E,7μm,0.8s						
IDI	**Anoyia**	**1.07**	**92**	P	**Pg**	**15 22 43.5**	**-0.7**
	comp=E,32nm,0.3s,baz=246,slow=12,SNR=129						
IDI				S	**Sg**	**15 22 56.3**	**-1.8**
	comp=E,200nm,0.3s,baz=297,slow=17,SNR=15						
IDI				LR	LR	15 23 20.0	
	comp=E,1μm,19.2s,baz=265,slow=66						
IDI	**Anoyia**	**1.07**	**92**	P	**Pg**	**15 22 43.0**	**-1.3**
IDI				S	**Sb**	**15 22 58.7**	**-0.2**
IDI				AML	AML	15 23 02.5	
	comp=N,8744μm,0.6s						
IDI				AML	AML	15 23 03.1	
	comp=E,4221μm,0.3s						
IDI	**Anoyia**	**1.07**	**92**	P	**Pg**	**15 22 43.1**	**-1.2**
IDI				S	**Sn**	**15 22 59.6**	**-0.8**
	comp=E,3μm,0.6s						
IDI	**Anoyia**	**1.07**	**92**	PG	**Pg**	**15 22 42.9**	**-1.3**
IDI				SG	**Sg**	**15 22 57.4**	**-0.7**
IACM	**Heraklion**	**1.22**	**91**	P	**Pg**	**15 22 46.3**	**-0.8**
HRKL	**Herakleio**	**1.24**	**91**	P	**Pg**	**15 22 47.5**	**0.0**
HRKL	**Herakleio**	**1.24**	**91**	PN	**Pb**	**15 22 47.1**	**-0.4**
VLI	**Veliai**	**1.48**	**339**	P	**Pn**	**15 22 50.6**	**-0.3**
VLI				AML	AML	15 23 17.4	
	comp=N,8813μm,0.6s						
VLI				AML	AML	15 23 18.2	
	comp=E,7498μm,0.5s						
VLI	**Veliai**	**1.48**	**339**	P	**Pn**	**15 22 50.5**	**-0.3**
VLI				S	**Sn**	**15 23 10.6**	**+0.2**
	comp=E,4μm,0.6s						
MHLO	**Agia Marina, M**	**1.51**	**26**	P	**Pn**	**15 22 50.9**	**-0.4**
MHLO				AML	AML	15 23 15.9	
	comp=N,26993μm,0.4s						
MHLO				AML	AML	15 23 19.9	
	comp=E,30443μm,0.5s						
MHLO	**Agia Marina, M**	**1.51**	**26**	P	**Pn**	**15 22 50.8**	**-0.4**
MHLO				S	**Sn**	**15 23 10.8**	**-0.4**
	comp=E,14μm,0.4s						
NPS	**Neapolis**	**1.66**	**92**	P	**Pb**	**15 22 54.5**	**-0.2**
NPS				AML	AML	15 23 24.0	
	comp=N,4417μm,0.9s						
NPS				AML	AML	15 23 34.5	
	comp=E,4314μm,1.0s						
NPS	**Neapolis**	**1.66**	**92**	P	**Pn**	**15 22 53.9**	**+0.6**
NPS				S	**Sb**	**15 23 16.2**	**+0.3**
	comp=E,2μm,0.9s						
THR6	**Thira Island,**	**1.79**	**55**	P	**Pn**	**15 22 55.3**	**+0.2**
THR6	**Thira Island,**	**1.79**	**55**	P	**Pn**	**15 22 54.9**	**-0.2**
THR5	**Thira Island,**	**1.80**	**52**	P	**Pn**	**15 22 55.0**	**-0.2**
THR5	**Thira Island,**	**1.80**	**52**	P	**Pn**	**15 22 55.2**	**0.0**
SAP3	**Santorini-Thir**	**1.81**	**52**	P	**Pn**	**15 22 55.5**	**+0.2**
SAP3				S	**Sn**	**15 23 18.7**	**+0.2**
THR3	**Thira Island,**	**1.83**	**53**	P	**Pn**	**15 22 56.1**	**+0.5**
THR8	**Santorini-Mono**	**1.88**	**55**	P	**Pn**	**15 22 55.9**	**-0.3**
THR8	**Santorini-Mono**	**1.88**	**55**	P	**Pn**	**15 22 55.9**	**-0.3**
KRND	**KRANIDI**	**2.08**	**350**	P	**Pn**	**15 22 59.4**	**+0.4**
KRND	**KRANIDI**	**2.08**	**350**	P	**Pn**	**15 22 59.5**	**+0.4**
PYL	**PYLOS**	**2.16**	**317**	P	**Pn**	**15 23 00.5**	**+0.3**
ZKR	**Zakros**	**2.17**	**95**	P	**Pn**	**15 23 01.6**	**+1.3**
ZKR				AML	AML	15 24 02.4	
	comp=N,769μm,0.9s						
ZKR				AML	AML	15 24 04.5	
	comp=E,2133μm,0.9s						
ZKR	**Zakros**	**2.17**	**95**	PN	**Pn**	**15 23 00.7**	**+0.4**
ITM	**Ithomi**	**2.28**	**324**	PN	**Pn**	**15 23 03.6**	**+1.8**
APE	**Apeiranthos**	**2.34**	**42**	P	**Pn**	**15 23 01.8**	**-0.9**
APE	**Apeiranthos**	**2.34**	**42**	P	**Pn**	**15 23 02.4**	**-0.3**
APE	**Apeiranthos**	**2.34**	**42**	PN	**Pn**	**15 23 02.9**	**+0.2**
VLY	**Voula,Athens**	**2.52**	**4**	P	**Pn**	**15 23 05.0**	**-0.2**
VLY				AML	AML	15 23 45.8	
	comp=E,3142μm,0.7s						
VLY				AML	AML	15 23 52.9	
	comp=N,2052μm,0.5s						
PTL	**Penteli**	**2.72**	**5**	P	**Pn**	**15 23 08.7**	**+0.8**
PTL				AML	AML	15 23 50.8	
	comp=N,1287μm,0.6s						
PTL				AML	AML	15 23 52.0	
	comp=E,1412μm,0.7s						
LTK	**Loutraki**	**2.73**	**350**	P	**Pn**	**15 23 08.3**	**+0.2**
DION	**Dionisos Attik**	**2.75**	**6**	P	**Pn**	**15 23 07.9**	**-0.5**
DION	**Dionisos Attik**	**2.75**	**6**	P	**Pn**	**15 23 07.9**	**-0.5**
KARY	**Karystos**	**2.78**	**14**	P	**Pn**	**15 23 07.8**	**-0.9**
KARP	**Karpathos**	**2.93**	**85**	P	**Pn**	**15 23 11.3**	**+0.5**
KARP				AML	AML	15 24 03.0	
	comp=N,1416μm,0.8s						
KARP				AML	AML	15 24 04.1	
	comp=E,1435μm,1.1s						
KARP	**Karpathos**	**2.93**	**85**	PN	**Pn**	**15 23 11.3**	**+0.5**
KLV	**Kalavryta, Ach**	**2.94**	**337**	P	**Pn**	**15 23 12.1**	**+1.1**
KLV				AML	AML	15 24 07.4	
	comp=N,1387μm,1.1s						
KLV				AML	AML	15 24 09.7	
	comp=E,1016μm,0.8s						
KYMI	**Kymi, Euboea I**	**3.32**	**7**	P	**Pn**	**15 23 16.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.32**	**7**	P	**Pn**	**15 23 16.5**	**+0.4**
BODT	**Bodrum**	**3.47**	**59**	PN	**Pn**	**15 23 18.6**	**+0.3**
DAT	**Datca**	**3.52**	**66**	PN	**Pn**	**15 23 19.4**	**+0.3**
DAT	**Datca**	**3.52**	**66**	P	**Pn**	**15 23 19.1**	**+0.1**
DAT				S	**Sb**	**15 24 10.8**	**+1.2**
BDRM	**Kayabasi**	**3.57**	**60**	P	**Pn**	**15 23 19.1**	**-0.5**
BDRM				S	**Sg**	**15 24 21.2**	**+2.8**
DDIM	**Aydin, Didim**	**3.63**	**53**	P	**Pn**	**15 23 21.3**	**+0.9**
DDIM				S	**Sg**	**15 24 20.1**	**-0.4**
DDIM				*i* AML	AML	15 24 40.0	
	comp=E,265nm,1.1s						
DDIM				*i* AML	AML	15 24 47.0	
	comp=E,152nm,2.2s						
CHOS	**Chios island**	**3.64**	**32**	PN	**Pn**	**15 23 21.5**	**+0.9**
DGB	**zmir**	**3.79**	**43**	P	**Pb**	**15 23 29.3**	**-1.7**
DGB				S	**Sb**	**15 24 14.9**	**-2.3**
URLA	**Izmir**	**3.87**	**38**	PN	**Pn**	**15 23 24.3**	**+0.6**
URLA	**Izmir**	**3.87**	**38**	P	**Pn**	**15 23 24.2**	**+0.6**
URLA				S	**Sn**	**15 24 12.6**	**+3.2**
URLA				*i* AML	AML	15 24 42.0	
	comp=E,268nm,1.1s						
SLUM	**Salum**	**4.07**	**160**	P	**Pn**	**15 23 27.5**	**+1.1**
	baz=162						
AYDN	**Tasoluk**	**4.17**	**55**	P	**Pn**	**15 23 29.0**	**+1.1**
AYDN				S	**Sb**	**15 24 26.7**	**-1.3**
YER	**Yerkesik**	**4.20**	**63**	PN	**Pn**	**15 23 29.4**	**+1.1**
SIGR	**SIGRI**	**4.28**	**24**	PN	**Pn**	**15 23 30.7**	**+1.5**
DALY	**Dalyan (Mula)**	**4.37**	**69**	PN	**Pn**	**15 23 31.8**	**+1.3**
ZEDA	**zmir-Bergama**	**4.58**	**37**	P	**Pg**	**15 23 54.6**	**+3.2**
FETY	**Fethiye**	**4.65**	**72**	PN	**Pn**	**15 23 35.5**	**+1.1**
FETY	**Fethiye**	**4.65**	**72**	P	**Pn**	**15 23 36.3**	**+1.9**
FETY				S	**Sn**	**15 24 29.5**	**+0.9**
CAEL	**Denizli, Camel**	**4.97**	**67**	P	**Pn**	**15 23 43.2**	**+4.3**
CAEL				S	**Sn**	**15 24 41.4**	**+4.6**
CAEL				*i* AML	AML	15 24 58.0	
	comp=E,181nm,1.3s						
CAEL				*i* AML	AML	15 25 05.0	
	comp=E,302nm,1.5s						
CAEL				*i* AML	AML	15 25 14.0	
	comp=E,192nm,1.1s						
AKAS	**Kas**	**4.98**	**78**	PN	**Pn**	**15 23 40.7**	**+1.7**
AKAS	**Kas**	**4.98**	**78**	P	**Pn**	**15 23 39.6**	**+0.6**
AKAS				S	**Sn**	**15 24 31.7**	**-5.2**
AKAS				*i* AML	AML	15 24 57.0	
	comp=E,132nm,1.0s						
BAYC	**CANAKKALE_Bayr**	**4.99**	**27**	P	**Pn**	**15 23 40.0**	**+0.9**
GOLH	**Golhisar**	**5.19**	**67**	P	**Pn**	**15 23 45.0**	**+3.1**
GOLH				S	**Sn**	**15 24 46.4**	**+4.3**
ELL	**Elmali**	**5.32**	**73**	PN	**Pn**	**15 23 45.6**	**+1.9**
AKUM	**Antalya-Kumluc**	**5.58**	**78**	P	**Pn**	**15 23 47.2**	**0.0**
AKUM				S	**Sn**	**15 24 49.6**	**-1.9**
PASA	**Karahalli, USA**	**5.61**	**56**	P	**Pn**	**15 23 49.6**	**+1.9**
KORT	**Korkueli**	**5.72**	**71**	PN	**Pn**	**15 23 51.2**	**+1.9**
KORT	**Korkueli**	**5.72**	**71**	P	**Pn**	**15 23 51.1**	**+1.8**
KORT				S	**Sn**	**15 24 58.4**	**+3.1**
BUCA	**Burdur, Bucak-**	**5.97**	**68**	P	**Pn**	**15 23 54.8**	**+2.1**
SWA2		**6.28**	**165**	P	**Pn**	**15 23 56.6**	**-0.1**
	baz=166						
SEDI	**Konya, Seydise**	**6.92**	**70**	P	**Pn**	**15 24 07.6**	**+1.8**
ERMK	**Ermenek**	**7.67**	**77**	P	Pn	15 24 07.9	-8.3
ERMK				*i* AML	AML	15 25 49.0	
	comp=E,30nm,1.2s						
ERMK				*i* AML	AML	15 25 59.0	
	comp=E,44nm,1.4s						
ERMK				*i* AML	AML	15 25 59.0	
	comp=E,38nm,0.9s						
VAE	**Valguarnera**	**7.70**	**289**	P	Pn	15 24 24.6	+8.3
	comp=E,0.8nm,0.3s,baz=56,slow=3.6,SNR=2.4						
VAE				S	**Sn**	**15 25 42.6**	**-1.2**
	comp=E,1.5nm,0.3s,baz=205,slow=12,SNR=3.7						
KKBE	**Karaman, Kazim**	**7.79**	**73**	P	**Pn**	**15 24 18.6**	**+1.0**
RYAN	**Fayoum**	**8.42**	**136**	P	**Pn**	**15 24 26.3**	**0.0**
	baz=137						
RYAN				S	**Sn**	**15 25 55.1**	**-6.5**
	baz=137						
DBRK	**Dubrovnik**	**8.46**	**332**	*e*Pn	**Pn**	**15 24 26.2**	**-0.4**
KERG	**Konya-Eregli**	**8.75**	**73**	P	**Pn**	**15 24 31.2**	**+0.4**
STON	**Ston**	**8.81**	**331**	*e*Pn	**Pn**	**15 24 30.9**	**-0.5**
GLL	**Jalalah**	**8.95**	**128**	P	**Pn**	**15 24 31.3**	**-2.1**
	baz=129						
BRTR	**Keskin Array B**	**9.11**	**58**	P	**Pn**	**15 24 36.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=303,slow=29,SNR=5.2						
NBNS	**Bani Suef**	**9.36**	**133**	P	**Pn**	**15 24 38.6**	**-0.5**
	baz=135						
MAKA	**Makarska**	**9.43**	**329**	*e*Pn	**Pn**	**15 24 39.6**	**-0.4**
RICI	**Ricice**	**9.55**	**330**	*e*Pn	**Pn**	**15 24 40.2**	**-1.5**
MMAI	**Mount Meron Ar**	**10.06**	**100**	P	**Pn**	**15 24 47.8**	**-1.0**
	comp=E,1.1nm,0.3s,baz=263,slow=20,SNR=1.2						
MMAI				S	**Sn**	**15 26 39.1**	**-2.9**
	comp=E,1.0nm,0.3s,baz=249,slow=23,SNR=1.8						
ZIRJ	**Zirje**	**10.32**	**326**	*e*Pn	**Pn**	**15 24 51.8**	**-0.4**
MORI	**Morici**	**10.46**	**327**	*e*Pn	**Pn**	**15 24 52.3**	**-1.8**
GRB	**Gharib**	**10.52**	**129**	P	**Pn**	**15 24 55.9**	**+0.8**
	baz=131						
DUGI	**Dugi Otok**	**10.86**	**325**	*e*Pn	**Pn**	**15 25 01.1**	**+1.6**
EIL	**Elat**	**11.13**	**117**	P	**Pn**	**15 25 02.2**	**-1.2**
	comp=E,0.2nm,0.3s,baz=61,slow=22,SNR=1.3						
HHRG	**Al Ghardaqah**	**11.76**	**131**	P	**Pn**	**15 25 12.7**	**+0.7**
	baz=132						
VRAC	**Vranov**	**14.88**	**342**	P	**Pn**	**15 25 56.9**	**+2.3**
	comp=E,0.3nm,0.3s,baz=194,slow=5.2,SNR=3.2						
CKRC	**Cesky Krumlov**	**15.12**	**336**	*e*P	**P**	**15 26 03.8**	**+0.8**
GERES	**GERESS Array B**	**15.35**	**335**	P	**P**	**15 26 03.9**	**-1.7**
	comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=3.5						
DAVOX	**Davos/Dischmat**	**15.39**	**322**	P	**P**	**15 26 07.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=86,slow=12,SNR=2.0						
KRLC	**Kraliky**	**15.55**	**343**	*e*P	**Pn**	**15 26 01.5**	**-1.9**
KHC	**Kasperske Hory**	**15.63**	**335**	*e*P	**P**	**15 26 11.8**	**+3.1**
AKASG	**Malin Array Be**	**15.90**	**13**	P	**Pn**	**15 26 07.8**	**-0.1**
	comp=E,1.3nm,0.3s,baz=202,slow=10,SNR=6.0						
DPC	**Dobruska-Polom**	**15.91**	**343**	*e*P	**Pn**	**15 26 02.3**	**-5.8**
DPC				*e*pP	**P**	**15 26 12.5**	**+0.7**
PRU	**Pruhonice**	**16.07**	**338**	*e*P	**P**	**15 26 15.0**	**+1.5**
OSTC	**Ostas**	**16.13**	**343**	*e*P	Pn	15 26 01.7	-9.2
KBZ	**Khabaz**	**17.07**	**55**	P	**Pn**	**15 26 22.5**	**-0.3**
	comp=E,0.0nm,0.3s,baz=273,slow=15,SNR=1.4						
KBZ				LR	LR	15 34 39.2	
	comp=E,124nm,19.0s,baz=290,slow=44						
GNI	**Garni**	**17.40**	**68**	LR	LR	15 34 57.3	
	comp=E,104nm,18.3s,baz=274,slow=44						
CLL	**Collm**	**17.70**	**338**	*e*Px	Px	15 26 34.0	
HFS	**Hagfors**	**25.63**	**349**	P	**P**	**15 27 54.4**	**+0.7**
	comp=E,1.8nm,0.6s,baz=149,slow=17,SNR=5.3						
FINES	**FINESS Array B**	**26.18**	**3**	P	**P**	**15 27 58.2**	**-0.4**
	comp=E,2.2nm,0.9s,baz=182,slow=9.5,SNR=5.2						
NB2	**NORSAR Subarra**	**26.92**	**347**	P	**P**	**15 28 08.6**	**+3.2**
	comp=Z,4.0nm,1.0s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**26.92**	**347**	P	**P**	**15 28 07.0**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=359,slow=12,SNR=4.5						
EKA	**Eskdalemuir Ar**	**27.16**	**326**	P	**P**	**15 28 08.6**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=124,slow=8.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**29.64**	**227**	P	**P**	**15 28 33.7**	**+3.7**
	comp=Z,1.9nm,0.6s,baz=34,slow=8.4,SNR=7.4						
ARCES	**ARCESS Array B**	**34.27**	**1**	P	**P**	**15 29 08.4**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=183,slow=2.1,SNR=6.6						
DBIC	**Dimbokro**	**38.69**	**229**	P	**P**	**15 29 51.4**	**+3.1**
	comp=Z,2.3nm,0.5s,baz=38,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**44.76**	**56**	P	**P**	**15 30 35.6**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=276,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**45.82**	**46**	P	**P**	**15 30 43.9**	**-2.2**
	comp=Z,1.5nm,0.5s,baz=260,slow=7.3,SNR=4.4						
NRIK	**Noril'sk**	**48.27**	**25**	LR	LR	15 53 19.4	
	comp=Z,298nm,20.8s,baz=314,slow=38						
MATP	**Matopo**	**55.65**	**174**	LR	LR	15 55 13.6	
	comp=Z,254nm,20.4s,baz=331,slow=35						
SONM	**Songino Array**	**60.37**	**50**	P	**P**	**15 32 32.6**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=284,slow=7.2,SNR=2.3						
SCHQ	**Schefferville**	**62.22**	**319**	P	**P**	**15 32 48.2**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=63,slow=11,SNR=1.5						
YKA	**Yellowknife Ar**	**76.88**	**341**	P	**P**	**15 34 14.8**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=33,slow=5.3,SNR=4.3						
USRK	**Ussuriysk Ar.**	**77.62**	**44**	LR	LR	16 14 19.3	
	comp=Z,78nm,19.1s,baz=345,slow=40						
KSRS	**Korea Array**	**79.19**	**52**	P	**P**	**15 34 27.6**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=318,slow=4.7,SNR=2.5						
ILAR	**Eielson Array**	**79.94**	**356**	P	**P**	**15 34 33.8**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=358,slow=3.9,SNR=2.9						

MDD ***12*** *15:26:45.0±0.7, 35°.66N×3°.70W, h11km±2km, mb_Lg2.6/6, Error ellipse: s-maj=4.6km s-min=4.0km az=159.0*
CNRM ***12*** *15:26:45.8, 35°.65N×3°.61W, h45km, ml2.2*
SFS ***12*** *15:26:46.0, 35°.66N×3°.64W, h25km, ML2.5, ALBORAN SUR*

ISC 12 15:26:45.8±1.1, 35°.66N±0°.03×3°.62W±0°.04, h29km±12km, n14, σ0s58/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.51**	**211**	P	**Pn**	**15 26 57.5**	**+0.4**
PALE				S	**Sn**	**15 27 05.8**	**+0.8**
EALB	**Alboran**	**0.55**	**59**	Pg	**Pb**	**15 26 57.4**	**+0.3**
EALB				Sg	**Sb**	**15 27 05.3**	**+0.6**
EALB				*i* Vmb_Lg		15 27 08.0	
EMEL	**Melilla**	**0.65**	**123**	Pg	**Pb**	**15 26 58.6**	**0.0**
EMEL				Sg	**Sb**	**15 27 07.0**	**-0.3**
GOG	**Mont Gurugu**	**0.67**	**130**	P	**Pb**	**15 26 58.6**	**-0.4**
GOG				S	**Sb**	**15 27 07.8**	**-0.3**
ELGU	**Los Guajares,**	**1.21**	**360**	Pg	**Pn**	**15 27 07.2**	**+0.4**
ELGU				Sg	**Sn**	**15 27 22.4**	**+0.1**
ELGU				*i* Vmb_Lg		15 27 27.0	
EMAL	**Malaga-Limoner**	**1.28**	**329**	P	**Pb**	**15 27 08.6**	**-0.7**
EMAL				S	**Sn**	**15 27 24.0**	**0.0**
TAF	**Taforalt**	**1.29**	**130**	P	**Pn**	**15 27 08.6**	**+0.6**
EMIJ	**Mijas**	**1.30**	**314**	Pg	**Pn**	**15 27 08.5**	**+0.4**
EMIJ				Sg	**Sn**	**15 27 24.6**	**+0.1**
EMIJ				*i* Vmb_Lg		15 27 26.4	
EBER	**Berja**	**1.37**	**25**	Pn	**Pn**	**15 27 09.2**	**0.0**
EBER				Sn	**Sn**	**15 27 26.0**	**-0.4**
EBER				*i* Vmb_Lg		15 27 30.1	
SMIR	**Smir Dam**	**1.44**	**272**	P	**Pn**	**15 27 10.3**	**+0.5**
SMIR				S	**Sn**	**15 27 27.1**	**-0.6**
EQUE	**Quentar**	**1.55**	**5**	Sn	**Sn**	**15 27 30.5**	**-0.3**
JBK	**JBK**	**1.57**	**146**	P	**Pn**	**15 27 12.3**	**+0.4**
JBK				S	**Sn**	**15 27 30.0**	**-1.5**
ENIJ	**Nijar**	**1.74**	**41**	Pn	**Pn**	**15 27 13.4**	**-0.7**
ENIJ				Sn	**Sn**	**15 27 36.0**	**+0.7**
ENIJ				*i* Vmb_Lg		15 27 40.0	
EQES	**Quesada**	**2.19**	**11**	Pg	**Pb**	**15 27 24.4**	**-0.4**
EQES				Sn	**Sn**	**15 27 47.1**	**+0.6**
EQES				*i* Vmb_Lg		15 27 53.4	

MDD ***12*** *15:29:01.2±0.5, 35°.67N×3°.60W, h0km, mb_Lg2.4/11, Error ellipse: s-maj=4.7km s-min=2.9km az=16.0*
CNRM ***12*** *15:29:01.8, 35°.62N×3°.51W, h8km, ml2.4*
SFS ***12*** *15:29:01.0, 35°.66N×3°.63W, ML2.7, ALBORAN SUR*

**ISC 12 15:29:00.5±1.

CHEFC	Chefchaouen	1.48	251	P	Pb	15 35 37.7	-0.8
EGOR	Sierra Gorda,	1.54	346	Pn	Pb	15 35 39.7	-0.1
EGOR				Sn	Sb	15 35 59.7	0.0
EGOR				*i* Vmb_Lg		15 36 06.2	
JBK	JBK	1.55	145	P	Pg	15 35 40.1	0.0
JBK				S	Sn	15 35 58.2	-1.3
EQUE	Quentar	1.60	6	Pn	Pg	15 35 41.6	+0.4
EQUE				Sn	Sb	15 36 01.1	0.0
EQUE				*i* Vmb_Lg		15 36 15.6	
EJIF	Jimena Fronter	1.71	300	Pn	Pg	15 35 42.8	-0.5
EJIF				Sn	Sg	15 36 05.0	-0.3
ENIJ	Nijar	1.78	40	Pn	Pb	15 35 43.4	-0.3
ENIJ				*i* Vmb_Lg		15 36 00.4	
ESPR	Espera	2.19	306	Sn	Sb	15 36 15.8	-2.3
ESPR				*i* Vmb_Lg		15 36 27.6	
EQES	Quesada	2.23	12	Pn	Pb	15 35 50.8	-0.6
EQES				Sn	Sn	15 36 17.0	+0.7
EQES				*i* Vmb_Lg		15 36 22.9	
EADA	Adamuz	2.66	344	Pn	Pb	15 35 56.2	-2.5
EADA				Sn	Sn	15 36 27.6	+0.9
EADA				*i* Vmb_Lg		15 36 39.3	
EZAR	Zarzadilla de	2.75	34	Sn	Sn	15 36 30.4	+1.5
ECAB	El Cabril	2.84	330	Pn	Pn	15 35 57.3	+0.7
ECAB				Sn	Sn	15 36 30.6	-0.7
ECAB				*i* Vmb_Lg		15 36 43.8	
TDRA	Tendrara	2.89	152	P	Pn	15 35 58.8	+1.4
TDRA				S	Sn	15 36 30.6	-2.0
MDT	Midelt	2.90	196	P	Pb	15 36 00.9	-2.0
EMIN	Mina Concepcio	3.25	312	Pn	Pn	15 36 03.5	+1.3
EMIN				Sn	Sn	15 36 40.3	-1.1
EMIN				*i* Vmb_Lg		15 36 41.7	
ZHG	ZHG	3.29	230	P	Pn	15 36 04.3	+1.5
ZHG				S	Sn	15 36 43.2	+0.9
ETOB	Tobarra	3.46	28	Pn	Pn	15 36 08.1	+3.0
ETOB				Sn	Sn	15 36 47.1	+0.7
EGRO	El Granado	3.64	303	Pn	Pn	15 36 08.4	+0.9
EGRO				Sn	Sn	15 36 51.7	+0.8
EGRO				*i* Vmb_Lg		15 36 59.2	
PVAQ	Vaqueiros	3.74	300	P	Pn	15 36 10.8	+1.8
EBAD	Badajoz	4.14	320	Pn	Pn	15 36 15.9	+1.6
EBAD				Sn	Sn	15 37 02.3	-0.8
EBAD				*i* Vmb_Lg		15 37 05.2	

IDC **12** *15:44:33.5±1.1,36°.53N×27°.94E,h70km±11km,mb3.7/18, mb1 3.8/25,mb1mx3.6/52,mbtmp4.0/25,MS3.6/1, Ms1 3.6/1,ms1mx2.6/89,Error ellipse: s-maj=13.5km s-min=7.6km az=152.0*

ISK **12** *15:44:33.9,36°.55N×27°.96E,h88km, ML4.1/36*

ATH **12** *15:44:33.7,36°.51N×28°.04E,h82km±5km, ML4.1/8, Error ellipse: s-maj=5.6km s-min=1.8km az=126.0*

DDA **12** *15:44:34.5±0.0,36°.59N×27°.98E,h52km±8km, MW4.2*

HLW **12** *15:44:34.3,36°.24N×27°.98E,h13km±11km, Md3.9*

NIC **12** *15:44:35.5±0.0,36°.19N×28°.16E, h97km±1km, Ml4.8/4*

NEIC **12** *15:44:35.1±2.3,36°.45N±0°.06×28°.06E±0°.07, h91km±8km, mb4.3/9, ML4.1(ISK), ML4.1(ATH), ML4.0(THE), Error ellipse: s-maj=8.8km s-min=7.1km az=148.0*

THE **12** *15:44:36.1,36°.52N×27°.99E, h79km±1km, ML4.0/8, Error ellipse: s-maj=1.9km s-min=0.6km az=2.0*

GII **12** *15:44:37.9±0.0,36°.06N×28°.34E, h20km, mb4.4/4, MD4.3/4, Mm4.3/3*

ISC 12 15:44:33.9±0.6**, 36°.46N**±0°.03×**28°.04E**±0°.03**, h79**km±5km**, n325**,σ1§**82**/402**, mb4.0**/23**, 4C-7D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAT	Datca	0.46	306	P		Pn		15 44 47.9	+0.6
DAT				S		Sn		15 44 57.0	-0.3
DAT	Datca	0.46	306	PG		Pn		15 44 47.9	+0.6
DAT	Datca	0.46	306	P		Pn		15 44 48.0	+0.6
DAT				S		Sn		15 44 56.9	-0.3
DAT				*i* AML	AML			15 44 57.0	
	comp=N,1μm,0.3s								
DALY	Dalyan (Mula)	0.61	54	PG		Pn		15 44 50.3	+1.8
YER	Yerkesik	0.70	16	P		Pn		15 44 50.8	+1.2
YER				S		Sn		15 45 01.9	+0.6
YER	Yerkesik	0.70	16	PG		Pn		15 44 50.8	+1.2
NISR	Nisiros	0.75	282	P		Pn		15 44 50.8	+0.8
NISR				AML	AML			15 45 02.7	
	comp=E,15635μm,0.4s								
NISR				AML	AML			15 45 09.8	
	comp=N,8650μm,0.6s								
NISR	Nisiros	0.75	282	P		Pn		15 44 50.8	+0.8
NISR				S		Sn		15 45 02.1	+0.2
	comp=N,6μm,0.5s								
BDRM	Kayabasi	0.77	322	P		Pn		15 44 50.7	+0.4
BDRM				S		Sn		15 45 01.5	-0.9
BDRM				*i* AML	AML			15 45 02.0	
	comp=N,2μm,0.4s								
BDRM				*i* AML	AML			15 45 02.0	
	comp=N,1μm,0.3s								
MULA	Mugla, Merkez-	0.83	16	P		Pn		15 44 52.1	+1.1
MULA				S		Sn		15 45 04.1	+0.4
BODT	Bodrum	0.84	316	P		Pn		15 44 51.5	+0.5
BODT				S		Sn		15 45 02.7	-1.1
BODT	Bodrum	0.84	316	PG		Pn		15 44 51.6	+0.5
BODT				SG		Sn		15 45 03.5	+0.3
FETY	Fethiye	0.86	78	P		Pn		15 44 52.7	+1.5
FETY				S		Sn		15 45 05.9	+1.7
FETY	Fethiye	0.86	78	PG		Pn		15 44 52.8	+1.5
FETY	Fethiye	0.86	78	P		Pn		15 44 52.8	+1.5
FETY				S		Sn		15 45 04.8	+0.6
FETY				*i* AML	AML			15 45 06.0	
	comp=N,5μm,0.3s								
FETY				*i* AML	AML			15 45 06.0	
	comp=N,6μm,0.2s								
MLSB	Milas	0.86	346	PG		Pn		15 44 52.1	+0.8
MLSB				SG		Sn		15 45 03.8	-0.5
KOSK	Kos Island	0.90	289	P		Pn		15 44 52.3	+0.6
KOSK	Kos Island	0.90	289	PG		Pn		15 44 52.3	+0.6
YKAV	Yalikavak-Bodr	0.90	318	PG		Pn		15 44 51.8	+0.1
DIDI	Didim-Aydin	1.12	325	PG		Pn		15 44 54.9	+0.6
CAME	Cameli-Denizli	1.13	64	PN		Pn		15 44 56.4	+1.8
KARP	Karpathos	1.15	218	P		Pn		15 44 56.4	+1.6
KARP				S		Sn		15 45 12.1	+1.7
KARP				AML	AML			15 45 12.6	
	comp=E,44292μm,0.6s								
KARP				AML	AML			15 45 12.8	
	comp=N,36689μm,0.2s								
KARP	Karpathos	1.15	218	P		Pn		15 44 56.4	+1.6
KARP				S		Sn		15 45 12.0	+1.6
	comp=N,20μm,0.4s								
KARP	Karpathos	1.15	218	PN		Pn		15 44 56.2	+1.4
KARP	Karpathos	1.15	218			Pn		15 44 56.2	+1.4
KARP	Karpathos	1.15	218	⇓*i*P		Pn		15 44 56.4	+1.6
KARP				S		Sn		15 45 12.2	+1.7
KARP				AML	AML			15 45 12.2	
	comp=N,44nm,0.6s								
KARP				AML	AML			15 45 12.2	
	comp=N,44nm,0.6s								
KARP				AML	AML			15 45 12.4	
	comp=N,37nm,0.2s								
KARP				AML	AML			15 45 12.4	
	comp=N,37nm,0.2s								
DDIM	Aydin, Didim	1.19	328	P		Pn		15 44 55.8	+0.6
DDIM				S		Sn		15 45 10.1	-0.9
AYDN	Tasoluk	1.21	354	P		Pn		15 44 56.3	+0.8
AYDN				S		Sn		15 45 10.3	-1.5
AYDN				*i* AML	AML			15 45 12.0	
	comp=N,4μm,0.4s								
CAEL	Denizli, Camel	1.23	57	P		Pn		15 44 57.7	+1.9
CAEL				S		Sn		15 45 13.9	+1.7
CAEL				*i* AML	AML			15 45 17.0	
	comp=N,5μm,0.9s								
CAEL				*i* AML	AML			15 45 22.0	
	comp=N,5μm,0.5s								
CAEL				*i* AML	AML			15 45 25.0	
	comp=N,5μm,0.6s								
TAVA	DENIZLI_Tavas	1.23	35	P		Pn		15 44 56.7	+0.9
TAVA				S		Sn		15 45 11.4	-0.8
TAVA				*i* AML	AML			15 45 13.0	
	comp=N,4μm,0.4s								
AKAS	Kas	1.28	100	PN		Pn		15 44 57.9	+1.4
AKAS	Kas	1.28	100			Pn		15 44 58.3	+1.8
AKAS	Kas	1.28	100	P		Pn		15 44 58.0	+1.4
AKAS				S		Sn		15 45 14.8	+1.3
AKAS				*i* AML	AML			15 45 18.0	
	comp=N,3μm,0.4s								
KSL	Kastellorizon	1.28	103	P		Pn		15 44 58.1	+1.7
KSL				S		Sn		15 45 14.0	+0.7
KSL				AML	AML			15 45 16.5	
	comp=E,12346μm,0.5s								
KSL				AML	AML			15 45 17.1	
	comp=N,6299μm,0.5s								
KSL	Kastellorizon	1.28	103	P		Pn		15 44 58.1	+1.7
KSL				S		Sn		15 45 15.4	+2.1
	comp=N,5μm,0.5s								
KSL	Kastellorizon	1.28	103	P		Pn		15 44 57.9	+1.5
KSL				S		Sn		15 45 15.0	+1.8
GCAM	G?zelcami?	1.40	333	PN		Pn		15 44 58.3	+0.5
GCAM	G?zelcami?	1.40	333	P		Pn		15 44 58.3	+0.5
GCAM				S		Sn		15 45 14.4	-1.5
GCAM				*i* AML	AML			15 45 15.0	
	comp=N,3μm,0.4s								
GOLH	Golhisar	1.45	57	P		Pn		15 45 00.8	+2.2
GOLH				S		Sn		15 45 17.9	+0.7
GOLH				*i* AML	AML			15 45 20.0	
	comp=N,5μm,0.3s								
GOLH				*i* AML	AML			15 45 22.0	
	comp=N,4μm,0.4s								
ELL	Elmali	1.53	78	PN		Pn		15 45 02.1	+2.4
ELL	Elmali	1.53	78			Pn		15 45 02.1	+2.4
ELL	Elmali	1.53	78	P		Pn		15 45 02.0	+2.4
ELL				S		Sn		15 45 23.1	+3.9
SMG	Samos	1.58	323	P		Pn		15 45 00.3	+0.1
SMG				S		Sn		15 45 19.3	-0.8
SMG				AML	AML			15 45 19.9	
	comp=N,4453μm,0.4s								
SMG				AML	AML			15 45 20.4	
	comp=E,3840μm,0.3s								
SMG	Samos	1.58	323	P		Pn		15 45 00.2	+0.1
SMG				S		Sn		15 45 19.3	-0.8
	comp=E,2μm,0.3s								
DGB	zmir	1.84	330	P		Pn		15 45 03.7	+0.1
DGB				S		Sn		15 45 22.9	-3.3
AKUM	Antalya-Kumluc	1.86	93	P		Pn		15 45 06.0	+2.1
AKUM				S		Sn		15 45 28.1	+1.3
AKUM				*i* AML	AML			15 45 31.0	
	comp=E,2μm,0.3s								
KORT	Korkueli	1.94	73	PN		Pn		15 45 07.7	+2.7
KORT	Korkueli	1.94	73	P		Pn		15 45 07.6	+2.6
KORT				S		Sn		15 45 29.4	+0.7
KORT				*i* AML	AML			15 45 35.0	
	comp=E,2μm,0.6s								
KORT				*i* AML	AML			15 45 38.0	
	comp=E,2μm,0.6s								
ZKR	Zakros	2.00	228	P		Pn		15 45 07.6	+2.0
ZKR				S		Sn		15 45 31.6	+1.7
ZKR				AML	AML			15 45 35.0	
	comp=N,2540μm,0.5s								
ZKR				AML	AML			15 45 35.9	
	comp=E,5496μm,0.4s								
ZKR	Zakros	2.00	228	P		Pn		15 45 07.5	+1.8
ZKR				S		Sn		15 45 31.0	+1.1
	comp=E,2μm,0.5s								
ZKR	Zakros	2.00	228	PN		Pn		15 45 07.7	+2.0
ZKR	Zakros	2.00	228	P		Pn		15 45 07.5	+1.8
BRDR	BURDUR-Merkez	2.04	52	P		Pn		15 45 07.9	+1.6
BRDR				S		Sn		15 45 30.7	-0.3
THR8	Santorini-Mono	2.06	269	P		Pn		15 45 07.7	+1.1
THR8	Santorini-Mono	2.06	269	P		Pn		15 45 07.7	+1.1
MANT	Manisa	2.07	11	Pn		Pn		15 45 07.0	+0.1
MANT	Manisa	2.07	11	P		Pn		15 45 07.1	+0.1
MANT				S		Sn		15 45 28.0	-4.1
THR2	Thira island,	2.10	271	P		Pn		15 45 08.4	+1.3
THR2	Thira island,	2.10	271	P		Pn		15 45 08.4	+1.3
APE	Apeiranthos	2.10	288	⇓P		Pn		15 45 08.4	+1.2
APE	Apeiranthos	2.10	288	P		Pn		15 45 08.4	+1.2
APE	Apeiranthos	2.10	288	P		Pn		15 45 08.4	+1.2
APE				S		Sn		15 45 32.6	0.0
APE	Apeiranthos	2.10	288	PN		Pn		15 45 08.4	+1.2
KULA	Kula-Manisa	2.11	13	P		Pn		15 45 07.6	+0.3
KULA				S		Sn		15 45 31.2	-1.7
KULA	Kula-Manisa	2.11	13	PN		Pn		15 45 07.7	+0.4
CMBO	Columbo, Santo	2.12	271	P		Pn		15 45 08.6	+1.3
CMBO	Columbo, Santo	2.12	271	P		Pn		15 45 08.6	+1.3
THR3	Thira Island,	2.13	270	P		Pn		15 45 08.8	+1.3
THR3	Thira Island,	2.13	270	P		Pn		15 45 08.7	+1.3
THR6	Thira Island,	2.13	268	P		Pn		15 45 08.9	+1.4
ANTB	Antalya	2.15	77	PN		Pn		15 45 10.1	+2.4
ZEYE	Izmir, Urla-Ze	2.16	326	P		Pn		15 45 07.9	0.0
ZEYE				S		Sn		15 45 31.8	-2.0
THR5	Thira Island,	2.17	270	P		Pn		15 45 09.4	+1.4
BASM	Basmaki-Afyon	2.17	47	PN		Pn		15 45 08.9	+0.8
BUCA	Burdur, Bucak-	2.20	66	P		Pn		15 45 10.8	+2.3
BUCA				S		Sn		15 45 37.2	+2.3
KHL	Karahalli	2.21	32	PN		Pn		15 45 09.5	+0.9
PASA	Karahalli, USA	2.21	31	P		Pn		15 45 09.4	+0.8
PASA				S		Sn		15 45 32.8	-2.5
URLA	Izmir	2.22	329	PN		Pn		15 45 08.7	0.0
URLA	Izmir	2.22	329	P		Pn		15 45 08.7	0.0
URLA				S		Sn		15 45 32.3	-3.0
BCK	Bucak	2.28	63	PN		Pn		15 45 11.7	+2.2
NPS	Neapolis	2.30	240	P		Pn		15 45 10.8	+1.0
NPS				AML	AML			15 45 39.8	
	comp=N,6290μm,0.3s								
NPS				AML	AML			15 45 40.4	
	comp=E,4587μm,0.3s								
NPS	Neapolis	2.30	240	P		Pn		15 45 10.8	+1.0
NPS				S		Sn		15 45 37.4	+0.1
	comp=E,3μm,0.3s								
FRMA	Ierapetra Chan	2.36	233	P		Pn		15 45 11.9	+1.3
FRMA				S		Sn		15 45 38.2	-0.5
	comp=E,1μm,0.4s								
USAK	Uak-Merkez	2.38	19	P		Pn		15 45 11.6	+0.6
USAK				S		Sn		15 45 38.1	-1.2
ISP	Isparta	2.41	55	PN		Pn		15 45 12.5	+1.2
ISP	Isparta	2.41	55	Pn		Pn		15 45 12.7	+1.4
AKHS	Akhisar	2.42	356	P		Pn		15 45 11.6	+0.1
AKHS				S		Sn		15 45 37.0	-3.2
AKS	Akhisar	2.43	356	PN		Pn		15 45 11.1	-0.4
KZIL	AFYON_Kizioren	2.46	42	P		Pn		15 45 12.7	+0.7
KZIL				S		Sn		15 45 41.3	+0.1
CHOS	Chios island	2.49	321	P		Pn		15 45 12.7	+0.3
CHOS	Chios island	2.49	321	P		Pn		15 45 12.7	+0.3
CHOS	Chios island	2.49	321	PN		Pn		15 45 12.8	+0.3
SUTC	Sutluce-Ispart	2.58	66	PN		Pn		15 45 15.6	+1.9
ZEDA	zmir-Bergama	2.62	343	P		Pn		15 45 14.3	+0.3
ZEDA				S		Sn		15 45 43.5	-1.4
DEMI	Demirci	2.64	12	P		Pn		15 45 14.8	+0.4
DEMI				S		Sn		15 45 43.0	-2.5
HRKL	Herakleio	2.64	245	P		Pn		15 45 15.4	+1.0
HRKL	Herakleio	2.64	245	PN		Pn		15 45 15.3	+0.9
IACM	Heraklion	2.67	245	P		Pn		15 45 15.5	+0.8
BAGO	Egridir - ISPA	2.68	54	P		Pn		15 45 15.3	+0.4
SIMA	Simav-Kutahya	2.73	16	PN		Pn		15 45 16.0	+0.4
SHAP	Saphane-Kutahy	2.73	20	PN		Pn		15 45 16.2	+0.6
DKL	Dikili	2.76	341	PN		Pn		15 45 16.3	+0.4
GEDZ	Gediz	2.80	22	PN		Pn		15 45 17.3	+0.7
IDI	Anoyia	2.81	246	⇓P		Pn		15 45 17.3	+0.6
IDI				⇓S		Sn		15 45 48.2	-1.4
IDI	Anoyia	2.81	246	P		Pn		15 45 17.4	+0.8
	comp=E,18nm,0.3s,baz=39,slow=6.6,SNR=61								
IDI				S		Sn		15 45 48.1	-1.5
	comp=E,59nm,0.3s,baz=296,slow=22,SNR=31								
IDI	Anoyia	2.81	246	P		Pn		15 45 17.8	+1.1
IDI				AML	AML			15 45 50.7	
	comp=N,2240μm,0.5s								
IDI				AML	AML			15 45 50.9	
	comp=E,2843μm,0.5s								
IDI	Anoyia	2.81	246	P		Pn		15 45 17.3	+0.6
IDI				S		Sn		15 45 49.5	-0.1
	comp=E,1μm,0.5s								
IDI	Anoyia	2.81	246	PN		Pn		15 45 17.5	+0.8
IDI	Anoyia	2.81	246	Pn		Pn		15 45 17.7	+1.1
GDZ	Gediz	2.87	23	P		Pn		15 45 18.1	+0.6
GDZ				S		Sn		15 45 48.7	-2.4
SHUT	Suhut-Afyon	2.89	43	PN		Pn		15 45 18.9	+1.0
KEPZ	Antalya-Kepez	2.90	80	P		Pn		15 45 20.2	+2.4
STEP	BALIKESIR_Sava	2.93	355	P		Pn		15 45 18.5	+0.2
STEP				S		Sn		15 45 50.8	-1.6
MHLO	Agia Marina, M	2.94	276	P		Pn		15 45 19.9	+1.6
AFYO	Afyonkarahisar	2.94	37	P		Pn		15 45 20.1	+1.6
SIVA	Sivas	2.99	242	P		Pn		15 45 21.8	+2.7
SIVA				AML	AML			15 46 01.5	
	comp=N,2517μm,0.4s								
SIVA				AML	AML			15 46 06.3	
	comp=E,3761μm,0.6s								
AYVA	Ayvalik	3.04	340	P		Pn		15 45 19.7	-0.1
AYVA				S		Sn		15 45 51.9	-3.1
PRK	Paraskevi	3.12	334	P		Pn		15 45 22.4	+1.7
PRK	Paraskevi	3.12	334	P		Pn		15 45 22.4	+1.7
YVAC	Isparta, Yalva	3.13	54	P		Pn		15 45 22.7	+1.7
BUHA	Balikesir, Bur	3.13	346	P		Pn		15 45 21.1	+0.1
BUHA				S		Sn		15 45 53.2	-4.1
SEDI	Konya, Seydise	3.14	70	P		Pn		15 45 23.6	+2.5
SEDI				*i* AML	AML			15 46 00.0	
	comp=E,555nm,0.7s								
DURS	Dursunbey	3.16	6	P		Pn		15 45 21.6	+0.2
DURS				S		Sn		15 45 54.5	-3.6
TVSB	Tavsanli	3.19	20	PN		Pn		15 45 22.7	+0.8
SIGR	SIGRI	3.25	329	P		Pn		15 45 23.1	+0.6
SIGR	SIGRI	3.25	329	PN		Pn		15 45 23.1	+0.6
KARY	Karystos	3.28	300	P		Pn		15 45 24.4	+1.5
BALY	Balya	3.30	354	P		Pn		15 45 23.4	+0.2
DOGA	KONYA_Doganhis	3.33	59	P		Pn		15 45 26.2	+2.4
ANDZ	Kutahya, Merke	3.38	25	P		Pn		15 45 25.5	+1.0
KOCA	Canakkale, Ayv	3.39	334	P		Pn		15 45 25.1	+0.6
IMMV	Iera Moni Meta	3.44	254	P		Pn		15 45 27.1	+2.0
GAZI	Gazipasa	3.46	92	P		Pn		15 45 26.3	+0.9
GAZI				*i* AML	AML			15 46 05.0	
	comp=E,871nm,0.6s								
GAZI				*i* AML	AML			15 46 05.0	
	comp=E,850nm,0.5s								
BAYC	CANAKKALE_Bayr	3.48	341	P		Pn		15 45 26.0	+0.2
GONE	Gonen-Balikesi	3.60	356	PN		Pn		15 45 27.3	0.0
GVD	Gavdhos	3.60	245	PN		Pn		15 45 28.9	+1.6
EZIN	Ezine	3.62	339	PN		Pn		15 45 28.1	+0.4
DION	Dionisos Attik	3.65	298	P		Pn		15 45 30.0	+1.9
VLY	Voula,Athens	3.67	294	P		Pn		15 45 30.1	+1.9
PTL	Penteli	3.69	297	P		Pn		15 45 30.5	+1.9
KMER	Konya-Meram	3.70	68	P		Pn		15 45 31.3	+2.5
ATHU	Athens Univers	3.72	295	P		Pn		15 45 30.7	+1.8
BOZC	Bozcaada	3.73	336	PN		Pn		15 45 29.4	+0.4
BOZC	Bozcaada	3.73	336	P		Pn		15 45 29.5	+0.4
KONT	Konya--Tatoy	3.76	65	P		Pn		15 45 32.1	+2.6
ATH	Athens Observa	3.77	295	P		Pn		15 45 31.8	+2.2
AKMS	Akamas	3.78	111	P		Pn		15 45 30.3	+0.5
AKMS				AML	AML			15 46 11.1	
	comp=E,5.6nm,0.3s								
AKMS				AML	AML			15 46 12.3	
	comp=E,5.9nm,0.3s								
ULDT	Uludag	3.78	13	P		Pn		15 45 30.6	+0.7
SGAZ	Eskisehir, Sey	3.78	35	P		Pn		15 45 31.0	+1.1
STBT	Saitabat	3.80	14	P		Pn		15 45 31.0	+0.9
KYMI	Kymi, Euboea I	3.81	306	P		Pn		15 45 31.7	+1.5
KDHN	Kadinhani	3.84	56	P		Pn		15 45 32.4	+1.7
EDC	Edincik	3.89	358	PN		Pn		15 45 31.4	+0.2
IGD	Bursa	3.91	13	P		Pn		15 45 31.8	+0.3
BORA	Eskisehir	3.91	28	Pn		Pn		15 45 32.8	+1.2
BORA	Eskisehir	3.91	28	P		Pn		15 45 32.5	+0.8
ALFC	Alefka	3.93	108	P		Pn		15 45 32.1	+0.3
ALFC				AML	AML			15 46 15.1	
	comp=E,3.3nm,0.2s								
ALFC				AML	AML			15 46 16.7	
	comp=E,5.0nm,0.3s								
ERMK	Ermenek	3.93	86	P		Pn		15 45 35.3	+3.3
ERMK				*i* AML	AML			15 46 24.0	
	comp=E,425nm,0.6s								
ERMK				*i* AML	AML			15 46 26.0	
	comp=E,470nm,0.3s								
AVDN	Avdancik/Bursa	3.93	13	P		Pn		15 45 32.3	+0.4
OSC1	CSNet OBS 1	3.97	137	P		Pn		15 45 32.6	+0.3
OSC1				S		Sn		15 46 15.7	-2.1
BILE	Bilecik/Merkez	3.97	21	P		Pn		15 45 33.2	+0.8
KRBG	Karabiga-Canak	3.97	352	PN		Pn		15 45 32.7	+0.3
KKBE	Karaman, Kazim	4.00	78	P		Pn		15 45 35.6	+2.7
NATA	Nata	4.05	113	P		Pn		15 45 34.1	+0.6
GOKA	anakkale-Gk	4.09	336	P		Pn		15 45 34.5	+0.6
GADA	Gvkgeada	4.09	336	P		Pn		15 45 34.6	+0.6
GADA	Gvkgeada	4.09	336	PN		Pn		15 45 34.1	+0.1
LIA	Limnos Island	4.11	328	P		Pn		15 45 35.2	+1.0
GELI	Tayfur-Gelibol	4.12	343	PN		Pn		15 45 34.6	+0.2
VILL	Villia	4.14	296	P		Pn		15 45 36.5	+1.8
SART	Tekirdag	4.28	351	P		Pn		15 45 36.5	-0.2
SZAC	Souni	4.29	112	P		Pn		15 45 37.6	+0.8
SZAC				AML	AML			15 46 26.5	
	comp=E,3.5nm,0.4s								
SZAC				AML	AML			15 46 27.1	
	comp=E,6.7nm,0.2s								
LTK	Loutraki	4.34	293	P		Pn		15 45 38.8	+1.4
GULN	MERSIN_Gulnar	4.45	92	P		Pn		15 45 40.5	+1.5
SMTH	Samothraki Isl	4.47	335	P		Pn		15 45 39.8	+0.7
CAVK	Edirne/Enez-Ca	4.48	341	P		Pn		15 45 39.5	+0.2
KESN	Edirne-Kesan	4.49	347	P		Pn		15 45 39.8	0.0
ATHAL	Athalassa	4.55	105	P		Pn		15 45 40.4	+0.2
CSS	Mathiatis	4.56	108	Pn		Pn	

2016 MAR

IDC ***12*** *15:47:34.9±1.2,63°.24N×150°.88W,h115km±14km, mb3.3/10,mb1 3.4/14,mb1mx3.2/36,mbtmp3.7/14,Error ellipse: s-maj=20.2km s-min=10.3km az=117.0*

NEIC ***12*** *15:47:36.7±1.0,63°.27N±0°.04×150°.62W±0°.08, h138km±5km,Error ellipse: s-maj=5.6km s-min=5.2km az=196.0*

AEIC ***12*** *15:47:37±1.1,63°.24N±0°.04×150°.58W±0°.05,h130km±5km, ML3.3,ML3.4/156(NEIC),Error ellipse: s-maj=5.3km s-min=3.2km az=167.0*

ISC 12 15:47:36.8±0.6,63°.26N±0°.03×150°.61W±0°.03, h137km±5km,n265,σ0s65/252,mb3.7/11,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.24**	**36**		**Pn**	**15 47 56.0**	**+0.3**
TRF					**Sn**	**15 48 09.9**	**-0.4**
TRF	**Thorofare Moun**	**0.24**	**36**	P	**Pn**	**15 47 56.0**	**+0.3**
	baz=213						
TRF				S	**Sn**	**15 48 09.9**	**-0.4**
	baz=213						
KTH	**Kantishna Hill**	**0.33**	**335**		**Sn**	**15 48 09.8**	**-0.7**
KTH	**Kantishna Hill**	**0.33**	**335**		**Pn**	**15 47 56.2**	**+0.2**
CAST	**Castle Rocks**	**0.69**	**285**		**Pn**	**15 47 57.8**	**0.0**
CAST					**Sn**	**15 48 12.7**	**-1.1**
CAST	**Castle Rocks**	**0.69**	**285**	P	**Pn**	**15 47 57.8**	**0.0**
	baz=103						
CAST				S	**Sn**	**15 48 12.7**	**-1.1**
	baz=103						
PPLA	**Purkeypile**	**0.80**	**244**		**Pn**	**15 47 59.2**	**+0.4**
PPLA					**Sn**	**15 48 15.7**	**+0.1**
PPLA	**Purkeypile**	**0.80**	**244**	P	**Pn**	**15 47 59.2**	**+0.4**
	baz=63						
PPLA				S	**Sn**	**15 48 15.7**	**+0.1**
	baz=63						
RND	**Reindeer**	**0.81**	**78**		**Pn**	**15 47 58.8**	**+0.1**
RND					**Sn**	**15 48 15.2**	**-0.3**
RND	**Reindeer**	**0.81**	**78**	IAML		15 48 15.7	
	comp=E,1μm,0.4s						
RND				IAML		15 48 16.6	
	comp=N,1μm,0.4s						
BPAW	**Bear Paw Mtn.**	**0.86**	**349**		**Pn**	**15 47 59.1**	**-0.1**
BPAW					**Sn**	**15 48 15.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**0.86**	**349**	P	**Pn**	**15 47 59.1**	**-0.1**
	baz=168						
BPAW				S	**Sn**	**15 48 15.5**	**-0.7**
	baz=168						
CUT	**Chulitna**	**0.87**	**169**		**Pn**	**15 47 59.3**	**+0.2**
CUT					**Sn**	**15 48 16.4**	**+0.3**
CUT	**Chulitna**	**0.87**	**169**	IAML		15 48 19.0	
	comp=E,2μm,0.3s						
CUT				IAML		15 48 21.0	
	comp=N,1μm,0.3s						
CUT	**Chulitna**	**0.87**	**169**	P	**Pn**	**15 47 59.3**	**+0.2**
	baz=351						
CUT				S	**Sn**	**15 48 16.4**	**+0.3**
	baz=351						
MCK	**McKinley**	**0.89**	**57**		**Pn**	**15 47 59.8**	**+0.4**
MCK					**Sn**	**15 48 16.0**	**-0.6**
MCK	**McKinley**	**0.89**	**57**	IAML		15 48 16.7	
	comp=E,657nm,0.4s						
MCK				IAML		15 48 17.3	
	comp=N,723nm,0.4s						
MCK	**McKinley**	**0.89**	**57**	P	**Pn**	**15 47 59.8**	**+0.4**
	baz=237						
MCK				S	**Sn**	**15 48 16.0**	**-0.6**
	baz=237						
CHUM	**Lake Minchumin**	**0.99**	**310**		**Pn**	**15 48 00.3**	**+0.2**
CHUM					**Sn**	**15 48 17.6**	**-0.4**
CHUM	**Lake Minchumin**	**0.99**	**310**	P	**Pn**	**15 48 00.3**	**+0.2**
	baz=128						
CHUM				S	**Sn**	**15 48 17.6**	**-0.4**
	baz=128						
BWN	**Browne**	**1.05**	**28**		**Pn**	**15 48 01.5**	**+0.8**
BWN					**Sn**	**15 48 19.6**	**+0.5**
BWN	**Browne**	**1.05**	**28**	IAML		15 48 20.2	
	comp=N,548nm,0.5s						
BWN				IAML		15 48 23.2	
	comp=E,351nm,0.7s						
WAT6	**Susitna Watana**	**1.48**	**116**		**Pn**	**15 48 04.9**	**-0.3**
WAT6					**Sn**	**15 48 26.1**	**-0.8**
WAT6	**Susitna Watana**	**1.48**	**116**	P	**Pn**	**15 48 04.9**	**-0.3**
	baz=299						
WAT6				S	**Sn**	**15 48 26.1**	**-0.8**
	baz=299						
DHY	**Denali Highway**	**1.48**	**96**		**Pn**	**15 48 05.5**	**+0.2**
DHY					**Sn**	**15 48 26.3**	**-0.7**
DHY	**Denali Highway**	**1.48**	**96**	IAML		15 48 27.4	
	comp=N,732nm,0.7s						
DHY				IAML		15 48 28.3	
	comp=E,667nm,0.3s						
DHY	**Denali Highway**	**1.48**	**96**	P	**Pn**	**15 48 05.5**	**+0.2**
	baz=278						
DHY				S	**Sn**	**15 48 26.3**	**-0.7**
	baz=278						
NEA2	**Nenana**	**1.51**	**26**		**Pn**	**15 48 05.1**	**-0.3**
NEA2	**Nenana**	**1.51**	**26**	IAML		15 48 27.2	
	comp=N,222nm,0.6s						
NEA2	**Nenana**	**1.51**	**26**	P	**Pn**	**15 48 05.1**	**-0.3**
	baz=207						
M22K	**Willow**	**1.52**	**171**		**Pn**	**15 48 05.8**	**+0.2**
M22K	**Willow**	**1.52**	**171**	P	**Pn**	**15 48 05.8**	**+0.2**
	baz=352						
K20K	**Telida**	**1.56**	**275**		**Pn**	**15 48 06.1**	**0.0**
K20K					**Sn**	**15 48 27.2**	**-1.2**
K20K	**Telida**	**1.56**	**275**	P	**Pn**	**15 48 06.1**	**0.0**
	baz=92						
K20K				S	**Sn**	**15 48 27.2**	**-1.2**
	baz=92						
WRH	**Wood River Hil**	**1.66**	**41**		**Pn**	**15 48 07.0**	**0.0**
GHO	**Glory Hole Cre**	**1.68**	**151**		**Pn**	**15 48 07.7**	**+0.2**
GHO	**Glory Hole Cre**	**1.68**	**151**	IAML		15 48 33.0	
	comp=E,502nm,0.5s						
GHO				IAML		15 48 37.0	
	comp=N,682nm,0.6s						
L20K	**Farewell, AK**	**1.69**	**244**		**Pn**	**15 48 07.6**	**+0.2**
L20K					**Sn**	**15 48 30.7**	**-0.2**
L20K	**Farewell, AK**	**1.69**	**244**	P	**Pn**	**15 48 07.6**	**+0.2**
	baz=61						
L20K				S	**Sn**	**15 48 30.7**	**-0.2**
	baz=61						
MLY	**Manley**	**1.78**	**358**		**Pn**	**15 48 08.7**	**+0.1**
MLY	**Manley**	**1.78**	**358**	P	**Pn**	**15 48 08.6**	**+0.1**
	baz=178						
SML	**Sawmill**	**1.80**	**143**		**Pn**	**15 48 08.4**	**-0.3**
SML					**Sn**	**15 48 33.1**	**-0.1**
SML	**Sawmill**	**1.80**	**143**	IAML		15 48 33.9	
	comp=N,412nm,0.4s						
SML				IAML		15 48 35.0	
	comp=E,498nm,0.6s						
SML	**Sawmill**	**1.80**	**143**	P	**Pn**	**15 48 08.4**	**-0.3**
	baz=326						
SML				S	**Sn**	**15 48 33.1**	**-0.1**
	baz=326						
PMR	**Palmer**	**1.81**	**157**		**Pn**	**15 48 08.5**	**-0.3**
PMR	**Palmer**	**1.81**	**157**	IAML		15 48 41.7	
	comp=N,322nm,0.4s						
PMR				IAML		15 48 42.8	
	comp=E,329nm,0.3s						
PMR	**Palmer**	**1.81**	**157**	P	**Pn**	**15 48 08.5**	**-0.3**
	baz=339						
J20K	**Nowinta River**	**1.83**	**302**		**Pn**	**15 48 09.2**	**+0.2**
J20K	**Nowinta River**	**1.83**	**302**	IAML		15 48 33.3	
	comp=E,133nm,0.7s						
J20K	**Nowinta River**	**1.83**	**302**	P	**Pn**	**15 48 09.2**	**+0.2**
	baz=119						
STLK	**Strandline Lak**	**1.85**	**198**		**Pn**	**15 48 09.5**	**+0.1**
CCB	**Clear Creek Bu**	**1.87**	**40**		**Pn**	**15 48 09.5**	**0.0**
I23K	**Minto, Yukon-K**	**1.98**	**16**		**Pn**	**15 48 10.9**	**+0.2**
I23K	**Minto, Yukon-K**	**1.98**	**16**	IAML		15 48 37.4	
	comp=N,132nm,0.9s						
I23K	**Minto, Yukon-K**	**1.98**	**16**	P	**Pn**	**15 48 10.9**	**+0.2**
	baz=196						
HDA	**Harding Lake**	**2.00**	**53**		**Pn**	**15 48 10.9**	**-0.1**
HDA	**Harding Lake**	**2.00**	**53**	IAML		15 48 42.0	
	comp=E,302nm,0.4s						
HDA				IAML		15 48 43.7	
	comp=N,224nm,0.3s						
HDA	**Harding Lake**	**2.00**	**53**	P	**Pn**	**15 48 10.9**	**-0.1**
	baz=236						
MDM	**Murphy Dome**	**2.00**	**30**		**Pn**	**15 48 11.2**	**0.0**
I21K	**Tanana**	**2.02**	**343**		**Pn**	**15 48 11.6**	**+0.3**
I21K	**Tanana**	**2.02**	**343**	P	**Pn**	**15 48 11.6**	**+0.3**
	baz=162						
TCOL	**CIGO, UAF Yank**	**2.03**	**35**		**Pn**	**15 48 11.5**	**+0.2**
	comp=N,287nm,0.5s						
TCOL				IAML		15 48 45.1	
	comp=E,238nm,0.6s						
TCOL	**CIGO, UAF Yank**	**2.03**	**35**	P	**Pn**	**15 48 11.5**	**+0.2**
	baz=217						
COLA	**College**	**2.03**	**36**		**Pn**	**15 48 11.5**	**+0.1**
COLA	**College**	**2.03**	**36**	IAML		15 48 40.5	
	comp=E,312nm,0.5s						
COLA				IAML		15 48 45.0	
	comp=E,252nm,0.6s						
SPCG	**Spurr Capps Gl**	**2.08**	**199**		**Pn**	**15 48 12.5**	**+0.4**
SCM	**Sheep Creek Mo**	**2.09**	**132**		**Pn**	**15 48 11.8**	**-0.4**
SCM	**Sheep Creek Mo**	**2.09**	**132**	IAML		15 48 42.4	
	comp=E,332nm,0.3s						
SCM				IAML		15 48 49.5	
	comp=N,348nm,0.5s						
SCM	**Sheep Creek Mo**	**2.09**	**132**	P	**Pn**	**15 48 11.8**	**-0.4**
	baz=315						
KNK	**Knik Glacier**	**2.10**	**151**		**Pn**	**15 48 12.4**	**+0.1**
KNK	**Knik Glacier**	**2.10**	**151**	IAML		15 48 42.0	
	comp=E,450nm,0.4s						
KNK				IAML		15 48 54.1	
	comp=N,308nm,0.5s						
KNK	**Knik Glacier**	**2.10**	**151**	P	**Pn**	**15 48 12.4**	**+0.1**
	baz=333						
PS08	**TAPS Pump Stn8**	**2.12**	**51**		**Pn**	**15 48 12.5**	**+0.1**
SPBG	**Spurr Blockage**	**2.17**	**203**		**Pn**	**15 48 13.9**	**+0.7**
SPWE	**Spurr West**	**2.19**	**205**		**Pn**	**15 48 14.0**	**+0.6**
SPU	**Mount Spurr**	**2.19**	**199**		**Pn**	**15 48 13.6**	**+0.2**
PS10	**TAPS Pump St10**	**2.19**	**83**		**Pn**	**15 48 14.6**	**+1.2**
SPCR	**Spurr Chakacha**	**2.19**	**201**		**Pn**	**15 48 14.0**	**+0.5**
SPCR	**Spurr Chakacha**	**2.19**	**201**	P	**Pn**	**15 48 14.0**	**+0.5**
	baz=20						
RC01	**Rabbit Creek A**	**2.21**	**169**		**Pn**	**15 48 13.5**	**-0.2**
RC01	**Rabbit Creek A**	**2.21**	**169**	IAML		15 48 44.7	
	comp=E,372nm,0.2s						
RC01				IAML		15 48 44.9	
	comp=N,470nm,0.3s						
RC01	**Rabbit Creek A**	**2.21**	**169**	P	**Pn**	**15 48 13.5**	**-0.2**
	baz=350						
M19K	**Big River Lodg**	**2.21**	**234**		**Pn**	**15 48 13.6**	**-0.1**
M19K	**Big River Lodg**	**2.21**	**234**	P	**Pn**	**15 48 13.6**	**-0.1**
	baz=51						
L19K	**White Mountain**	**2.23**	**243**		**Pn**	**15 48 14.0**	**+0.1**
L19K	**White Mountain**	**2.23**	**243**	P	**Pn**	**15 48 14.0**	**+0.1**
	baz=60						
IL31		**2.24**	**45**		**Pn**	**15 48 13.8**	**-0.1**
ILAR	**Eielson Array**	**2.24**	**45**	P	**Pn**	**15 48 13.8**	**-0.2**
	comp=N,25nm,0.3s,baz=227,slow=12,SNR=1739						
ILAR					S	**15 48 41.4**	**-1.2**
	comp=N,6.1nm,0.3s,baz=233,slow=17,SNR=10						
ILAR	**Eielson Array**	**2.24**	**45**	Pn	**Pn**	**15 48 13.2**	**-0.8**
PS07	**TAPS Pump Stn7**	**2.30**	**25**		**Pn**	**15 48 14.8**	**+0.1**
POKR	**Poker Plat Res**	**2.33**	**35**		**Pn**	**15 48 15.4**	**+0.3**
POKR	**Poker Plat Res**	**2.33**	**35**	P	**Pn**	**15 48 15.4**	**+0.3**
	baz=218						
M24K	**Tolsona, Glenn**	**2.35**	**117**		**Pn**	**15 48 15.8**	**+0.4**
M24K	**Tolsona, Glenn**	**2.35**	**117**	IAML		15 48 55.5	
	comp=N,437nm,0.7s						
M24K	**Tolsona, Glenn**	**2.35**	**117**	P	**Pn**	**15 48 15.8**	**+0.4**
	baz=302						
PAX	**Paxson**	**2.35**	**95**		**Pn**	**15 48 15.7**	**+0.2**
PAX	**Paxson**	**2.35**	**95**	P	**Pn**	**15 48 15.7**	**+0.2**
	baz=279						
TTA	**Tatalina**	**2.48**	**265**		**Pn**	**15 48 16.9**	**-0.1**
TTA	**Tatalina**	**2.48**	**265**	P	**Pn**	**15 48 16.9**	**-0.1**
	baz=80						
TT01	**Tatalina**	**2.49**	**264**		**Pn**	**15 48 16.9**	**-0.2**
CAPN	**Captain Cook N**	**2.51**	**186**		**Pn**	**15 48 19.1**	**+1.8**
CAPN	**Captain Cook N**	**2.51**	**186**	P	**Pn**	**15 48 19.1**	**+1.8**
	baz=6.0						
H21K	**Melozitna Rive**	**2.59**	**339**		**Pn**	**15 48 18.4**	**+0.1**
H21K	**Melozitna Rive**	**2.59**	**339**	IAML		15 48 50.7	
	comp=N,64nm,1.0s						
H21K	**Melozitna Rive**	**2.59**	**339**	P	**Pn**	**15 48 18.4**	**+0.1**
	baz=157						
H23K	**Yukon River**	**2.62**	**10**		**Pn**	**15 48 19.1**	**+0.4**
H23K	**Yukon River**	**2.62**	**10**	P	**Pn**	**15 48 19.1**	**+0.4**
	baz=190						
RIDG	**Independent Ri**	**2.63**	**77**		**Pn**	**15 48 19.0**	**+0.1**
RIDG	**Independent Ri**	**2.63**	**77**	IAML		15 48 57.1	
	comp=E,238nm,0.7s						
RIDG				IAML		15 48 57.1	
	comp=N,167nm,0.5s						
RIDG	**Independent Ri**	**2.63**	**77**	P	**Pn**	**15 48 19.0**	**+0.1**
	baz=262						
PWL	**Port Wells**	**2.63**	**155**		**Pn**	**15 48 18.6**	**-0.3**
PWL	**Port Wells**	**2.63**	**155**	IAML		15 48 52.2	
	comp=E,353nm,0.5s						
PWL	**Port Wells**	**2.63**	**155**	P	**Pn**	**15 48 18.6**	**-0.3**
	baz=337						
PS06	**TAPS Pump Stn6**	**2.64**	**8**		**Pn**	**15 48 19.4**	**+0.5**
PS11	**TAPS Pump St11**	**2.65**	**114**		**Pn**	**15 48 19.6**	**+0.5**
J25K	**Salcha River,**	**2.69**	**57**		**Pn**	**15 48 19.6**	**0.0**
J25K	**Salcha River,**	**2.69**	**57**	IAML		15 48 53.2	
	comp=E,182nm,0.6s						
J25K				IAML		15 48 53.9	
	comp=N,136nm,0.5s						
J25K	**Salcha River,**	**2.69**	**57**	P	**Pn**	**15 48 19.6**	**0.0**
	baz=242						
SLKM	**Skilak Lake**	**2.76**	**176**		**Pn**	**15 48 20.6**	**+0.1**
KLU	**Klutina**	**2.81**	**127**		**Pn**	**15 48 20.6**	**-0.6**
KLU	**Klutina**	**2.81**	**127**	IAML		15 48 55.3	
	comp=E,247nm,0.3s						
KLU	**Klutina**	**2.81**	**127**	P	**Pn**	**15 48 20.6**	**-0.6**
	baz=311						
O22K	**Cooper Landing**	**2.81**	**171**		**Pn**	**15 48 21.2**	**0.0**
O22K	**Cooper Landing**	**2.81**	**171**	P	**Pn**	**15 48 21.2**	**0.0**
	baz=352						
RDT	**Redoubt**	**2.82**	**198**		**Pn**	**15 48 22.0**	**+0.7**
DFR	**Drift River**	**2.85**	**201**		**Pn**	**15 48 22.3**	**+0.6**
H24K	**Noodor Dome**	**2.85**	**23**		**Pn**	**15 48 21.8**	**+0.1**
H24K	**Noodor Dome**	**2.85**	**23**	P	**Pn**	**15 48 21.7**	**+0.1**
	baz=205						
RDJH	**Redoubt Jeurge**	**2.87**	**202**		**Pn**	**15 48 22.8**	**+0.8**
GLI	**Glacier Island**	**2.90**	**144**		**Pn**	**15 48 21.3**	**-1.0**
GLI	**Glacier Island**	**2.90**	**144**	P	**Pn**	**15 48 21.3**	**-1.0**
	baz=327						
JPK	**Jack Peak**	**2.90**	**138**		**Pn**	**15 48 21.6**	**-0.7**
NCT	**North Crescent**	**2.92**	**203**		**Pn**	**15 48 23.5**	**+0.9**
DOT	**Dot Lake**	**2.97**	**79**		**Pn**	**15 48 22.9**	**-0.2**
RDWB	**Redoubt West**	**2.97**	**202**		**Pn**	**15 48 24.2**	**+0.9**
SCRK	**Sand Creek**	**3.05**	**73**		**Pn**	**15 48 24.0**	**-0.2**
SCRK	**Sand Creek**	**3.05**	**73**	IAML		15 49 04.8	
	comp=N,106nm,0.6s						
SCRK				IAML		15 49 04.8	
	comp=E,74nm,0.8s						
SCRK	**Sand Creek**	**3.05**	**73**	P	**Pn**	**15 48 24.0**	**-0.2**
	baz=259						
IM03		**3.06**	**335**		**Pn**	**15 48 24.3**	**+0.1**
IMAR	**Indian Mountai**	**3.06**	**335**	Pn	**Pn**	**15 48 24.2**	**0.0**
N19K	**Bonanza Creek**	**3.06**	**218**		**Pn**	**15 48 24.5**	**+0.2**
N19K	**Bonanza Creek**	**3.06**	**218**	IAML		15 49 22.3	
	comp=N,45nm,0.8s						
N19K	**Bonanza Creek**	**3.06**	**218**	P	**Pn**	**15 48 24.5**	**+0.2**
	baz=35						
DIV	**Divide**	**3.11**	**131**		**Pn**	**15 48 24.1**	**-1.0**
GCSA	**Galena City Sc**	**3.14**	**301**		**Pn**	**15 48 25.6**	**+0.3**
GCSA	**Galena City Sc**	**3.14**	**301**	P	**Pn**	**15 48 25.5**	**+0.3**
	baz=116						
MENT	**Mentasta**	**3.15**	**93**		**Pn**	**15 48 25.6**	**+0.1**
MENT				IAML		15 49 14.3	
	comp=E,219nm,0.6s						
PRP	**Porcupine Dome**	**3.17**	**42**		**Pn**	**15 48 25.6**	**-0.2**
PRP	**Porcupine Dome**	**3.17**	**42**	P	**Pn**	**15 48 25.6**	**-0.2**
	baz=226						
FID	**Port Fidalgo**	**3.18**	**140**		**Pn**	**15 48 25.2**	**-0.7**
SVW2	**Sparrevohn**	**3.18**	**229**		**Pn**	**15 48 25.9**	**0.0**
SVW2	**Sparrevohn**	**3.18**	**229**	IAML		15 49 21.7	
	comp=N,40nm,0.8s						
SVW2				IAML		15 49 31.8	
	comp=E,41nm,0.5s						
SEW	**Seward**	**3.21**	**170**		**Pn**	**15 48 26.1**	**-0.1**
SEW	**Seward**	**3.21**	**170**	P	**Pn**	**15 48 26.1**	**-0.1**
	baz=351						
N25K	**Chitina, Valde**	**3.25**	**118**		**Pn**	**15 48 27.0**	**+0.1**
N25K	**Chitina, Valde**	**3.25**	**118**	IAML		15 49 07.4	
	comp=N,160nm,0.7s						
N25K				IAML		15 49 08.4	
	comp=E,127nm,0.7s						
N25K	**Chitina, Valde**	**3.25**	**118**	P	**Pn**	**15 48 27.0**	**+0.1**
	baz=303						
L26K	**Log Cabin Wild**	**3.31**	**91**		**Pn**	**15 48 27.8**	**+0.3**
L26K	**Log Cabin Wild**	**3.31**	**91**	IAML		15 49 25.7	

GLL	**Jalalah**	**7.52**	**155**	P	**Pn**	**15 46 21.3**	**+0.4**
	baz=153						
AMAZ	**Amatzia**	**7.53**	**129**	Pn	**Pn**	**15 46 20.7**	**-0.3**
AMAZ				Sn	**Sn**	**15 47 41.3**	**-3.5**
KZIT	**Kziot**	**7.66**	**134**	Pn	**Pn**	**15 46 23.2**	**+0.4**
KZIT				Sn	**Sn**	**15 47 44.1**	**-3.9**
YTIR	**Yattir**	**7.77**	**129**	Pn	**Pn**	**15 46 24.1**	**-0.2**
YTIR				Sn	**Sn**	**15 47 47.9**	**-2.9**
DSI	**Dead Sea**	**7.80**	**127**	Pn	**Pn**	**15 46 24.7**	**0.0**
NBNS	**Bani Suef**	**8.28**	**160**	P	**Pn**	**15 46 31.8**	**+0.5**
	baz=158						
NBNS				S	**Sn**	**15 47 58.0**	**-5.2**
	baz=158						
ZFRI	**Zfri**	**8.38**	**133**	Pn	**Pn**	**15 46 32.7**	**+0.2**
ZFRI				Sn	**Sn**	**15 48 02.1**	**-3.3**
PRNI	**Paran**	**8.42**	**134**	Pn	**Pn**	**15 46 33.3**	**+0.1**
PRNI				Sn	**Sn**	**15 48 02.4**	**-4.2**
KRMI	**Paran Flat**	**8.44**	**137**	Pn	**Pn**	**15 46 33.2**	**-0.2**
KRMI				Sn	**Sn**	**15 48 03.1**	**-4.0**
ASF	**Jabal al Asfar**	**8.48**	**118**	P	**Pn**	**15 46 34.5**	**+0.4**
	comp=E,4.2nm,0.3s,baz=63,slow=23,SNR=15						
HRFI	**Mount Harif**	**8.68**	**136**	Pn	**Pn**	**15 46 37.1**	**+0.4**
HRFI				Sn	**Sn**	**15 48 08.6**	**-4.3**
CFR	**Carcaliu**	**8.71**	**0**	⇑P	**Pn**	**15 46 37.2**	**+0.2**
MBRI	**Mt Berech**	**8.79**	**137**	Pn	**Pn**	**15 46 38.2**	**-0.1**
MBRI				Sn	**Sn**	**15 48 11.9**	**-3.9**
EIL	**Elat**	**8.91**	**137**	P	**Pn**	**15 46 39.6**	**-0.1**
	comp=E,8.3nm,0.3s,baz=241,slow=2.0,SNR=49						
EIL				S	**Sn**	**15 48 11.7**	**-6.8**
	comp=E,16nm,0.3s,baz=81,slow=12,SNR=9.7						
EIL	**Elat**	**8.91**	**137**	Pn	**Pn**	**15 46 39.7**	**-0.1**
EIL				Sn	**Sn**	**15 48 14.2**	**-4.3**
TAMRE	**El Minia**	**9.08**	**164**	P	**Pn**	**15 46 42.0**	**-0.2**
	baz=162						
MLR	**Muntele Rosu**	**9.16**	**351**	⇑P	**Pn**	**15 46 45.5**	**+2.2**
MLR	**Muntele Rosu**	**9.16**	**351**	P	**Pn**	**15 46 44.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=6,slow=6.1,SNR=10						
ARR	**Arges**	**9.27**	**345**	⇓P	**Pn**	**15 46 46.7**	**+2.1**
HFRF	**Wahat Farafira**	**9.28**	**178**	P	**Pn**	**15 46 45.4**	**+0.5**
	baz=178						
HFRF				S	**Sn**	**15 48 20.6**	**-7.0**
	baz=178						
TIP	**Timpagrande**	**9.33**	**290**	⇓P	**Pn**	**15 46 48.2**	**+2.7**
DBRK	**Dubrovnik**	**9.84**	**312**	*e*Pn	**Pn**	**15 46 56.7**	**+4.3**
TESR	**Tescani**	**10.10**	**355**	⇑P	**Pn**	**15 46 57.6**	**+1.6**
STON	**Ston**	**10.22**	**312**	*e*Pn	**Pn**	**15 47 01.1**	**+3.5**
STON				Sn	**Sn**	**15 48 53.4**	**+3.1**
BZS	**Buzias**	**10.35**	**334**	⇑P	**Pn**	**15 47 01.4**	**+2.0**
LSTV	**Lastovo**	**10.66**	**310**	*e*Pn	**Pn**	**15 47 06.5**	**+2.9**
MAKA	**Makarska**	**10.87**	**312**	*e*Pn	**Pn**	**15 47 10.2**	**+3.9**
RICI	**Ricice**	**10.92**	**313**	*e*Pn	**Pn**	**15 47 11.5**	**+4.3**
HDK1	**Dakhla**	**10.94**	**173**	P	**Pn**	**15 47 08.0**	**+0.4**
	baz=173						
VAE	**Valguarnera**	**10.95**	**279**	S	**Sn**	**15 49 00.1**	**-8.3**
	comp=E,1.9nm,0.3s,baz=140,slow=21,SNR=2.3						
KIJV	**Kijevo**	**11.65**	**314**	*e*Pn	Pn	15 47 21.8	+4.8
ZIRJ	**Zirje**	**11.90**	**311**	*e*Pn	**Pn**	**15 47 23.2**	**+2.7**
MORI	**Morici**	**11.98**	**312**	*e*Pn	**Pn**	**15 47 25.6**	**+4.1**
UDBI	**Udbina**	**12.33**	**315**	*e*Pn	**P**	**15 47 31.3**	**-4.1**
DUGI	**Dugi Otok**	**12.44**	**311**	*e*Pn	**Pn**	**15 47 30.5**	**+2.7**
NVLJ	**Novalja**	**12.87**	**313**	*e*Pn	**Pn**	**15 47 36.0**	**+2.4**
KBZ	**Khabaz**	**13.48**	**53**	P	**P**	**15 47 47.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=15,slow=16,SNR=3.8						
GNI	**Garni**	**13.62**	**69**	LR	LR	15 54 30.1	
	comp=E,264nm,18.9s,baz=219,slow=44						
AKASG	**Malin Array Be**	**14.27**	**3**	P	**Pn**	**15 47 52.9**	**+1.0**
	comp=E,0.2nm,0.3s,baz=189,slow=10,SNR=1.6						
KBA	**Koelnbreinsper**	**15.23**	**319**	*i* P	**P**	**15 48 09.0**	**+1.3**
	comp=E,2.3nm,0.6s						
VRAC	**Vranov**	**15.32**	**331**	P	**P**	**15 48 10.2**	**+1.7**
	comp=E,0.4nm,0.3s,baz=85,slow=7.3,SNR=4.4						
BIOA	**Bad Ischl, Aus**	**15.47**	**321**	*i* P	**P**	**15 48 12.2**	**+1.9**
	comp=E,1.7nm,0.4s						
ABTA	**Abfaltersbach**	**15.48**	**316**	*e*P	**P**	**15 48 11.5**	**+1.1**
	comp=E,2.1nm,0.5s						
CTI	**Castel Tesino**	**15.59**	**313**		**P**	**15 48 12.2**	**+0.6**
CTI				IAmb	IAmb	15 48 14.5	
	comp=Z,7.6nm,0.6s						
GERES	**GERESS Array B**	**16.23**	**324**	P	**P**	**15 48 19.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=19						
GERES	**GERESS Array B**	**16.23**	**324**	P	**P**	**15 48 20.1**	**+1.4**
WTTA	**Wattenberg**	**16.27**	**317**	*e*P	**P**	**15 48 21.8**	**+2.5**
	comp=Z,4.8nm,0.8s						
WATA	**Walderalm**	**16.35**	**317**	*e*P	**P**	**15 48 22.5**	**+2.4**
	comp=Z,6.8nm,0.6s						
SQTA	**Sankt Quirin**	**16.49**	**316**	*i* P	**P**	**15 48 24.3**	**+2.7**
	comp=Z,4.7nm,0.5s						
KHC	**Kasperske Hory**	**16.49**	**325**	*e*P	**P**	**15 48 23.5**	**+2.0**
MOTA	**Moosalm**	**16.61**	**316**	*e*P	**P**	**15 48 25.4**	**+2.3**

comp=N,177nm,0.4s
L26K Log Cabin Wild 3.31 91 P Pn 15 48 27.8 +0.3
baz=277
O20K Slope Mountain 3.33 198 Pn 15 48 28.3 +0.5
O20K Slope Mountain 3.33 198 P Pn 15 48 28.3 +0.5
baz=16
J26L Joseph Creek 3.36 65 P Pn 15 48 28.7 +0.4
baz=251
IVE Iliamna Volcan 3.45 201 Pn 15 48 29.5 0.0
BRLK Bradley Lake 3.51 182 Pn 15 48 30.5 +0.4
BRSE Bradley Lake S 3.53 181 Pn 15 48 30.5 +0.1
BRSE Bradley Lake S 3.53 181 P Pn 15 48 30.5 +0.1
baz=1.3
O19K Port Alsworth 3.54 212 Pn 15 48 30.8 +0.3
O19K Port Alsworth 3.54 212 IAML 15 49 07.8
comp=E,140nm,0.5s
O19K IAML 15 49 31.0
comp=N,121nm,0.5s
O19K Port Alsworth 3.54 212 P Pn 15 48 30.8 +0.3
baz=28
EYAK Cordova Ski Ar 3.56 138 Pn 15 48 30.7 -0.1
EYAK Cordova Ski Ar 3.56 138 P Pn 15 48 30.7 -0.1
baz=322
BMRM Bremner River 3.64 126 Pn 15 48 31.2 -0.8
BMRM IAML 15 49 16.8
comp=E,123nm,0.4s
BMRM IAML 15 49 19.7
comp=N,138nm,0.4s
BMRM Bremner River 3.64 126 P Pn 15 48 31.1 -0.8
baz=312
HOM Homer 3.64 188 Pn 15 48 33.2 +1.3
HOM Homer 3.64 188 P Pn 15 48 33.2 +1.3
baz=7.7
GLB Gilahina Butte 3.66 117 Pn 15 48 32.1 0.0
GLB Gilahina Butte 3.66 117 IAML 15 49 15.5
comp=N,122nm,1.2s
GLB IAML 15 49 16.4
comp=E,116nm,0.7s
CNPM China Poot 3.75 185 Pn 15 48 33.6 +0.2
OPT Oil Point 3.83 200 Pn 15 48 35.4 +1.0
OPT Oil Point 3.83 200 P Pn 15 48 35.4 +1.0
baz=18
P19K Oil Pt 3.83 200 Pn 15 48 35.1 +0.7
P19K Oil Pt 3.83 200 P Pn 15 48 35.1 +0.7
baz=18
GOAT Goat Mountain 3.86 131 Pn 15 48 34.5 -0.4
VRDI Verde Repeater 3.92 118 Pn 15 48 35.5 -0.2
VRDI Verde Repeater 3.92 118 IAML 15 49 23.2
comp=E,59nm,0.8s
VRDI IAML 15 49 24.8
comp=N,83nm,1.1s
L27K Beaver Creek, 3.99 89 Pn 15 48 36.0 -0.5
L27K Beaver Creek, 3.99 89 IAML 15 49 22.7
comp=E,21nm,0.7s
L27K IAML 15 49 39.7
comp=N,21nm,0.6s
L27K Beaver Creek, 3.99 89 P Pn 15 48 36.0 -0.5
baz=277
COLD Coldfoot 3.99 2 Pn 15 48 36.9 +0.4
COLD Coldfoot 3.99 2 P Pn 15 48 36.8 +0.4
baz=182
MCARA McCarthy VSAT 4.01 115 Pn 15 48 37.1 +0.5
MCARA McCarthy VSAT 4.01 115 IAML 15 49 26.3
comp=E,120nm,0.4s
MCARA McCarthy VSAT 4.01 115 P Pn 15 48 37.1 +0.5
baz=301
BC03 4.01 89 Pn 15 48 36.3 -0.3
BCAR Beaver Creek A 4.01 89 Pn 15 48 36.0 -0.7
RAGM Ragged Mountai 4.03 133 Pn 15 48 36.7 -0.3
FYU Fort Yukon 4.04 32 Pn 15 48 37.2 +0.2
FYU Fort Yukon 4.04 32 IAML 15 49 53.0
comp=E,65nm,4.3s
FYU IAML 15 50 55.4
comp=N,53nm,3.8s
M27K Edge Creek, AK 4.11 99 Pn 15 48 38.5 +0.4
M27K Edge Creek, AK 4.11 99 IAML 15 49 53.5
comp=E,31nm,1.1s
M27K IAML 15 49 54.8
comp=N,47nm,1.1s
M27K Edge Creek, AK 4.11 99 P Pn 15 48 38.5 +0.4
baz=286
HMT Hamilton 4.20 131 Pn 15 48 38.9 -0.4
PTPK Patty Peak 4.34 115 Pn 15 48 41.5 +0.3
BERG Berg Lake 4.36 128 Pn 15 48 40.9 -0.4
MID Middleton Isla 4.36 150 Pn 15 48 42.0 +0.7
NICHA Nichawak Mount 4.38 131 Pn 15 48 41.2 -0.4
EGAK Eagle 4.43 66 Pn 15 48 42.0 -0.3
EGAK Eagle 4.43 66 IAML 15 49 49.0
comp=N,64nm,0.7s
EGAK IAML 15 52.0
comp=N,57nm,1.1s
EGAK Eagle 4.43 66 P Pn 15 48 42.0 -0.3
baz=254
KAIM Kayak Island 4.46 136 Pn 15 48 41.7 -1.0
KAIM Kayak Island 4.46 136 P Pn 15 48 41.7 -1.0
baz=321
P18K Big Mountain, 4.47 212 Pn 15 48 43.1 +0.3
P18K Big Mountain, 4.47 212 IAML 15 49 24.8
comp=E,35nm,3.0s
P18K IAML 15 50 11.9
comp=N,40nm,4.0s
P18K Big Mountain, 4.47 212 P Pn 15 48 43.1 +0.3
baz=28
BALM Baldy 4.47 116 Pn 15 48 42.6 -0.3
KHIT Khitrov Hills 4.49 126 Pn 15 48 43.5 +0.4
KIAG Kiagna River 4.53 117 Pn 15 48 43.1 -0.7
WAX Waxell Ridge 4.63 124 Pn 15 48 45.1 +0.2
ISLE Juniper Island 4.73 121 Pn 15 48 45.7 -0.7
ISLE Juniper Island 4.73 121 IAML 15 50 04.3
comp=E,64nm,0.5s
BARN Barnard Glacie 4.74 114 Pn 15 48 47.1 +0.6
BARN Barnard Glacie 4.74 114 IAML 15 49 44.3
comp=N,33nm,1.0s
BARN IAML 15 50 07.4
comp=E,30nm,0.8s
YUK2 White River 4.76 104 Pn 15 48 47.7 +0.9
SNH Sunshine Point 4.81 126 Pn 15 48 47.4 0.0
BM03 Burnt Mountain 4.88 28 Pn 15 48 48.1 -0.1
BMAR Burnt Mountain 4.89 28 Pn Pn 15 48 48.1 -0.3
YUK3 Moose Creek 4.93 103 Pn 15 48 49.7 +0.6
YUK3 Moose Creek 4.93 103 P Pn 15 48 49.7 +0.6
baz=292
DAWY Dawson 5.06 76 Pn 15 48 50.5 -0.3
DAWY Dawson 5.06 76 IAML 15 50 09.9
comp=N,22nm,0.7s
DAWY IAML 15 50 10.3
comp=E,16nm,0.7s
DAWY Dawson 5.06 76 P Pn 15 48 50.5 -0.3
baz=266
TABL Table Mountain 5.30 118 Pn 15 48 53.5 -0.5
TABL Table Mountain 5.30 118 IAML 15 50 23.3
comp=E,37nm,3.7s
TABL IAML 15 52 23.6
comp=N,38nm,3.8s
TOLK Toolik Lake Re 5.43 4 Pn 15 48 56.7 +1.1
TOLK Toolik Lake Re 5.43 4 P Pn 15 48 56.7 +1.1
baz=185
KDAK Kodiak Island 5.58 191 P Pn 15 48 56.6 -1.0
comp=N,1.8nm,0.3s,baz=81,slow=7.5,SNR=49
KDAK S Sn 15 49 56.2 -4.3
comp=N,4.0nm,0.3s,baz=147,slow=23,SNR=16
J29M Klondike Camp 5.61 72 P Pn 15 48 58.5 +0.4
baz=263
I29M Ogilvie Camp, 5.75 63 Pn 15 48 59.5 -0.4
PCA Pinnacle 5.86 118 Pn 15 49 01.6 +0.2
PINM Pinnacle 5.86 118 P Pn 15 49 01.6 +0.2
baz=307
OHAK Old Harbor 6.20 194 Pn 15 49 04.5 -1.3
OHAK Old Harbor 6.20 194 P Pn 15 49 04.5 -1.3
baz=11
M30M Minto, Yukon 6.35 90 Pn 15 49 07.5 -0.4
M30M Minto, Yukon 6.35 90 P Pn 15 49 07.5 -0.4
baz=282
PNL Peninsula 6.46 119 Pn 15 49 08.9 -0.6
PNL Peninsula 6.46 119 P Pn 15 49 08.9 -0.6
baz=309
ANM Nome 6.64 288 Pn Pn 15 49 12.6 +0.8
CHGN Chignik 8.00 213 Pn Pn 15 49 28.5 -1.6
INK Inuvik 8.64 47 P Pn 15 49 38.5 0.0
comp=N,0.1nm,0.3s,baz=234,slow=16,SNR=5.0
C36M Paulatuk 12.21 49 Pn Pn 15 50 22.6 -3.2
A36M Sachs Harbour 12.91 37 Pn Pn 15 50 33.4 -1.4
YKA Yellowknife Ar 16.30 76 P Pn 15 51 17.4 0.0
comp=N,0.1nm,0.3s,baz=291,slow=14,SNR=8.0
RES Resolute Bay 21.96 36 P P 15 52 20.0 +1.1
comp=N,0.3nm,0.4s,baz=260,slow=18,SNR=5.6
SEY Seymchan 25.08 295 P P 15 52 47.7 -0.3
comp=N,0.7nm,0.4s,baz=266,slow=2.6,SNR=22
YAK Yakutsk 34.45 305 P P 15 54 10.0 -0.7
comp=N,7.3nm,0.5s,baz=153,slow=1.3,SNR=4.4
NRIK Noril'sk 41.49 333 P P 15 55 10.8 +1.2
comp=N,0.7nm,0.3s,baz=49,slow=9.3,SNR=2.2
TXAR Lajitas Array 45.22 116 P P 15 55 42.1 +2.1
comp=N,0.2nm,0.7s,baz=327,slow=6.5,SNR=2.1
ARCES ARCESS Array B 47.46 2 P P 15 55 57.4 +0.4
comp=N,1.4nm,0.6s,baz=3.3,slow=8.5,SNR=4.7
SONM Songino Array 53.81 306 P P 15 56 45.2 +0.3
comp=N,0.2nm,0.4s,baz=262,slow=29,SNR=3.6
ZALV Zalesovo Beam 55.42 324 P P 15 56 55.6 -0.6
comp=N,0.9nm,0.5s,baz=15,slow=8.6,SNR=5.4
FINES FINESS Array B 55.59 2 P P 15 56 57.4 +0.1
comp=N,1.0nm,0.9s,baz=26,slow=9.9,SNR=1.3
MKAR Makanchi Array 62.58 322 P P 15 57 45.4 -0.3
comp=N,0.5nm,0.4s,baz=39,slow=6.8,SNR=11
AKASG Malin Array Be 66.39 0 P P 15 58 10.3 0.0
comp=N,0.3nm,0.3s,baz=0.1,slow=5.9,SNR=3.4

*KRSC **12** 16:00:23.8±0.7,54.03N×159.67E,h141km±7km, ML3.7*
*IDC **12** 16:00:25.4±1.1,54.18N×159.21E,h140km±14km,mb3.2/9, mb1 3.4/9,mb1mx3.1/33,mbtmp3.6/9,Error ellipse: s-maj=23.8km s-min=17.6km az=173.0*
ISC 12 16:00:24.9±0.7,54.04N±0.04×159.57E±0.05,h139km±6km, n50,σ0.84/65,mb3.5/9,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.07**	**265**	*eP*	**Pn**	**16 00 43.7**	**0.0**
SDLR	**Sedlovina**	**0.87**	**208**	*eP*	**Pn**	**16 00 47.9**	**+0.3**
SDLR				*eS*	**Sn**	**16 01 05.6**	**+0.7**
NLC	**Nalytchevo**	**0.88**	**189**	*eP*	**Pn**	**16 00 47.6**	**0.0**
NLC				*eS*	**Sn**	**16 01 05.3**	**+0.5**
KRER	**Koryakskii**	**0.89**	**214**	*eP*	**Pn**	**16 00 48.4**	**+0.5**
KRER				*eS*	**Sn**	**16 01 06.2**	**+0.9**
SMAR	**Somma**	**0.90**	**211**	*eP*	**Pn**	**16 00 48.4**	**+0.3**
SMAR				*eS*	**Sn**	**16 01 06.2**	**+0.6**
AVH	**Avacha**	**0.92**	**213**	*eP*	**Pn**	**16 00 48.6**	**+0.6**
AVH				*eS*	**Sn**	**16 01 06.4**	**+0.8**
KOK	**Koryaka**	**0.93**	**217**	*eP*	**Pn**	**16 00 48.6**	**+0.4**
KOK				*eS*	**Sn**	**16 01 06.8**	**+1.0**
UGLR	**Uglovaya**	**0.94**	**208**	*eP*	**Pn**	**16 00 48.7**	**+0.4**
UGLR				*eS*	**Sn**	**16 01 06.7**	**+0.7**
SPN	**Mys Shipunski**	**0.98**	**164**	*eP*	**Pn**	**16 00 48.0**	**-0.5**
SPN				*eS*	**Sn**	**16 01 05.5**	**-0.9**
GNL	**Ganaly**	**1.02**	**251**	*eP*	**Pn**	**16 00 48.6**	**-0.3**
GNL				*eS*	**Sn**	**16 01 07.1**	**-0.1**
DALK	**Dalny**	**1.12**	**206**	*eP*	**Pn**	**16 00 49.9**	**+0.2**
DALK				*eS*	**Sn**	**16 01 08.5**	**-0.1**
PET	**Petropavlovsk**	**1.16**	**208**	*eP*	**Pn**	**16 00 50.3**	**+0.3**
PET				*eS*	**Sn**	**16 01 09.5**	**+0.3**
TUMD	**Tumrok D**	**1.26**	**22**	*eP*	**Pn**	**16 00 51.1**	**0.0**
TUMR	**Tumrok**	**1.29**	**15**	*eP*	**Pn**	**16 00 51.8**	**+0.3**
MKZ	**Mys Kozlova**	**1.37**	**67**	*eP*	**Pn**	**16 00 52.0**	**-0.1**
MKZ				*eS*	**Sn**	**16 01 11.8**	**-1.2**
PETK	**Petropavlovsk-**	**1.45**	**231**	P	**Pn**	**16 00 52.1**	**-1.1**
	14nm,0.3s,baz=66,slow=16,SNR=59						
PETK				S	**Sn**	**16 01 14.8**	**+0.2**
	2.2nm,0.3s,baz=284,slow=41,SNR=2.6						
KRMR	**Karymshinskiy**	**1.49**	**216**	*eP*	**Pn**	**16 00 53.5**	**0.0**
KRMR				*eS*	**Sn**	**16 01 15.1**	**-0.1**
RUS	**Russkaya**	**1.73**	**202**	*eP*	**Pn**	**16 00 56.0**	**-0.2**
RUS				*eS*	**Sn**	**16 01 19.3**	**-0.8**
GRL	**Gorelyy**	**1.74**	**212**	*eP*	**Pn**	**16 00 57.3**	**+0.9**
KMNR	**Kamenistaya**	**1.76**	**12**	*eP*	**Pn**	**16 00 57.4**	**+0.8**
KMNR				*eS*	**Sn**	**16 01 22.3**	**+1.3**
MTVR	**Mutnovka**	**1.77**	**209**	*eP*	**Pn**	**16 00 57.8**	**+1.0**
MTVR				*eS*	**Sn**	**16 01 23.4**	**+2.3**
APC	**Apacha**	**1.82**	**233**	*eP*	**Pn**	**16 00 57.6**	**+0.4**
ESO	**Esso**	**1.95**	**346**	*eP*	**Pn**	**16 00 59.8**	**+1.1**
KPT	**Kopyto**	**1.96**	**11**	*eP*	**Pn**	**16 00 59.0**	**0.0**
KIRR	**Kirishev**	**1.97**	**13**	*eP*	**Pn**	**16 00 59.5**	**+0.4**
KIRR				*eS*	**Sn**	**16 01 25.7**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.00**	**15**	*eP*	**Pn**	**16 00 59.8**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.01**	**18**	*eP*	**Pn**	**16 01 00.1**	**+0.6**
KOZ	**Kozyrevsk**	**2.03**	**5**	*eP*	**Pn**	**16 00 59.4**	**-0.2**
KRSK	**Krestovskiy**	**2.25**	**14**	*eP*	**Pn**	**16 01 02.7**	**+0.2**
KLY	**Klyuchi**	**2.36**	**15**	*eP*	**Pn**	**16 01 04.2**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.41**	**203**	*eP*	**Pn**	**16 01 04.0**	**-0.3**
SMKR	**Semkarok**	**2.77**	**22**	*eP*	**Pn**	**16 01 09.5**	**+0.6**
SRKR	**Sorokina**	**2.77**	**19**	*eP*	**Pn**	**16 01 09.7**	**+0.8**
KBG	**Krutoberegovo**	**2.86**	**38**	*eP*	**Pn**	**16 01 09.8**	**-0.1**
KBTR	**Krutoberegovo**	**2.86**	**39**	*eP*	**Pn**	**16 01 10.2**	**+0.2**
PAU	**Pauzhetka**	**3.08**	**214**	*eP*	**Pn**	**16 01 13.9**	**+1.2**
BKI	**Bering**	**3.90**	**70**	*eP*	**Pn**	**16 01 23.1**	**-0.3**
SKR	**Severo-Kuril's**	**3.97**	**214**	*eP*	**Pn**	**16 01 25.0**	**+0.6**
TIXI	**Tiksi**	**22.09**	**335**	P	**P**	**16 05 06.4**	**-1.8**
	0.6nm,0.3s,baz=90,slow=23,SNR=7.0						
ILAR	**Eielson Array**	**28.39**	**46**	P	**P**	**16 06 06.0**	**+0.4**
	0.1nm,0.4s,baz=263,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**33.39**	**281**	P	**P**	**16 06 48.5**	**-1.3**
	0.3nm,0.5s,baz=80,slow=10.0,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**34.71**	**168**	T	T	16 44 21.6	
	baz=354,slow=74,SNR=1.3						
H11N3	**WAKE ISLAND Hy**	**34.72**	**168**	T	T	16 44 21.6	
	baz=354						
H11N1	**WAKE ISLAND Hy**	**34.73**	**168**	T	T	16 44 21.6	
	baz=354,slow=74,SNR=1.6						
MKAR	**Makanchi Array**	**47.47**	**295**	P	**P**	**16 08 42.5**	**-2.7**
	0.5nm,0.5s,baz=60,slow=7.5,SNR=8.5						
ARCES	**ARCESS Array B**	**52.29**	**341**	P	**P**	**16 09 21.5**	**+0.2**
	2.0nm,1.0s,baz=40,slow=16,SNR=1.0						
NVAR	**Mina Array Bea**	**55.72**	**70**	P	**P**	**16 09 48.1**	**+1.2**
	0.2nm,0.5s,baz=304,slow=8.6,SNR=2.1						
PDAR	**Pinedale Array**	**57.34**	**61**	P	**P**	**16 09 59.4**	**+1.1**
	0.5nm,0.6s,baz=336,slow=3.7,SNR=5.2						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**16 11 26.1**	**+1.4**
	0.3nm,0.4s,baz=295,slow=5.3,SNR=8.3						
ASAR	**Alice Springs**	**80.50**	**204**	P	**P**	**16 12 21.9**	**+0.7**
	0.3nm,0.7s,baz=15,slow=5.0,SNR=5.3						

*MOS **12** 16:05:08.9±1.2,30.24S×71.65W,h0km,mb5.3/16,Error ellipse: s-maj=13.5km s-min=9.0km az=97.1*
*SJA **12** 16:05:12.1±0.8,30.27S×71.69W,h30km±2km, ML5.4, MW5.2*
*VAO **12** 16:05:12.8±0.3,30.25S×71.37W,h10km, mb5.0*
*NEIC **12** 16:05:15.2±2.6,30.25S±0.03×71.65W±0.07,h37km±4km, mb5.2/46,Mwr5.1/66,Mww5.1,Mwr5.2(GUC),Error ellipse: s-maj=9.5km s-min=1.1km az=112.0*
*GUC **12** 16:05:15.0±0.7,30.31S×71.54W,h45km±2km, MW5.2*
*NEIC **12** 16:05:15,30.31S×71.54W,h44km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.57; Mθθ-0.98; Mφφ-3.59; Mrθ0.98; Mrφ0.45; Mθφ-2.78; Fault plane solution: M₀5.13000×10¹⁶ NP1:φs165.10000°, δ62.76000°,λ86.22000°. NP2:φs353.32000°,δ27.48000°, λ97.30000°. Principal axes: T 5.5288, Plg72.0000°, Azm66.0000°; N -0.9336, Plg3.0000°, Azm167.0000°; P -4.5953, Plg18.0000°, Azm258.0000°;*
*IDC **12** 16:05:16.8±2.3,30.28S×71.37W,h46km±20km,mb4.3/14, mb1 4.5/18,mb1mx4.4/25,mbtmp4.6/18,ML4.7/4,MS4.4/45, Ms1 4.4/45,ms1mx4.3/56 Error ellipse: s-maj=18.8km s-min=13.4km az=82.0*
*NEIC **12** 16:05:17,30.24S×71.71W,h46km,Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10¹⁶Nm; Mrr4.80; Mθθ0.02; Mφφ-4.82; Mrθ1.72; Mθφ0.59; Mφr-1.12; Fault plane solution: M₀5.26000×10¹⁶ NP1:φs9.00000°, δ40.00000°,λ115.00000°. NP2:φs157.00000°,δ55.00000°, λ70.00000°. Principal axes: T 5.4304, Plg72.0000°, Azm16.0000°; N -0.3565, Plg16.0000°, Azm168.0000°; P -5.0739, Plg8.0000°, Azm261.0000°;*
*GCMT **12** 16:05:19.2±0.2,30.22S±0.01×71.73W±0.02,h37km, MW5.1/93,Moment Tensor Solution. s78,c98; s93,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.56±.15; Mθθ-0.09±.11; Mφφ-5.47±.13; Mrθ1.90±.11; Mφφ-0.28±.10; Mφr-2.30±.16; Best double couple: M₀6.25200×10¹⁶ NP1:φs18.00000°,δ36.00000°,λ117.00000°. NP2: φs166.00000°,δ58.00000°,λ72.00000°. Principal axes: T 6.5730, Plg71.0000°, Azm34.0000°; N -0.6410, Plg16.0000°, Azm176.0000°; P -5.9320, Plg11.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 16:05:15.0±0.3,30.25S±0.03×71.67W±0.04,h38km±1km, n427,σ1s74/442,mb5.1/37,MS4.5/46,14C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.42**	**175**		**Pn**	**16 05 24.3**	**-0.2**
CO06	**Fray Jorge**	**0.42**	**175**	*iP*	**Pn**	**16 05 24.3**	**-0.2**
CO06				*i S*	**Sn**	**16 05 30.7**	**-0.6**
CO05	**La Serena**	**0.50**	**49**		**Pn**	**16 05 25.3**	**-0.5**
CO05				Sn	**Sn**	**16 05 33.8**	**+0.5**
CO05	**La Serena**	**0.50**	**49**	*iP*	**Pn**	**16 05 25.2**	**-0.5**
CO05				*i S*	**Sn**	**16 05 33.0**	**-0.2**
GO04	**Tololo Observa**	**0.76**	**84**	Sn	**Sn**	**16 05 39.2**	**-0.6**
GO04	**Tololo Observa**	**0.76**	**84**	*iP*	**Pn**	**16 05 28.3**	**-1.2**
GO04				*i S*	**Sn**	**16 05 38.3**	**-1.6**
GO04	**Tololo Observa**	**0.76**	**84**	*eP*	**Pn**	**16 05 28.4**	**-1.2**
GO04				*eS*	**Sn**	**16 05 39.2**	**-0.6**
CO03	**El Pedregal**	**1.03**	**125**	Pn	**Pn**	**16 05 31.8**	**-1.2**
CO03	**El Pedregal**	**1.03**	**125**	*iP*	**Pn**	**16 05 31.6**	**-1.4**
CO03				*i S*	**Sn**	**16 05 43.9**	**-2.4**
CO03	**El Pedregal**	**1.03**	**125**	*eP*	Pn	16 05 27.6	-5.4
CO03				*eP*		16 05 31.7	
CO02	**Combarbal**	**1.11**	**149**		**Pn**	**16 05 33.5**	**-0.6**
CO02				Sn	**Sn**	**16 05 47.7**	**-0.6**
CO02	**Combarbal**	**1.11**	**149**	*eP*	**Pn**	**16 05 33.7**	**-0.5**
CO02				*i S*	**Sn**	**16 05 47.4**	**-0.9**
CO02	**Combarbal**	**1.11**	**149**	*eP*	**Pn**	**16 05 33.8**	**-0.4**
CO02				*eS*	**Sn**	**16 05 49.1**	**+0.8**
CO02				IAML		16 05 49.9	
	comp=Z,260μm,1.9s						
LCO	**Las Campanas**	**1.50**	**35**	*eP*	**Pn**	**16 05 39.6**	**-0.1**
LCO	**Las Campanas**	**1.50**	**35**	Pn	**Pn**	**16 05 39.6**	**-0.1**
LCO	**Las Campanas**	**1.50**	**35**	*eP*	**Pn**	**16 05 39.4**	**-0.3**
LCO	**Las Campanas**	**1.50**	**35**	*eP*	**Pn**	**16 05 39.5**	**-0.1**
LCO				*eS*	**Sn**	**16 06 00.0**	**+1.9**
ARDD	**Rodeo**	**1.91**	**88**	*eP*	**Pn**	**16 05 48.2**	**+0.9**
AC04	**Llanos de Chal**	**2.11**	**15**	Pn	**Pn**	**16 05 48.2**	**+0.5**
AC04	**Llanos de Chal**	**2.11**	**15**	*iP*	**Pn**	**16 05 48.2**	**+0.5**
AC04	**Llanos de Chal**	**2.11**	**15**	*eP*	Pn	16 05 30.6	-17
AC04				*eS*	**Sn**	**16 06 14.2**	**+1.4**
ACDV	**Cuesta del Vie**	**2.21**	**88**	*eP*	Pn	16 05 40.1	-9.2
ACDV				*eS*	**Sn**	**16 06 18.9**	**+3.3**
ACDV				IAML		16 06 19.9	
	comp=Z,18μm,0.4s						
VA06	**Catapilco**	**2.32**	**172**		**Pn**	**16 05 51.3**	**+0.6**
VA06	**Catapilco**	**2.32**	**172**	*eP*	**Pn**	**16 05 50.8**	**+0.1**
VA06				*i S*	**Sn**	**16 06 18.9**	**+0.9**
VA03	**San Esteban**	**2.68**	**159**		**Pn**	**16 05 57.2**	**+1.5**
VA03	**San Esteban**	**2.68**	**159**	*eP*	**Pn**	**16 05 57.1**	**+1.5**
VA03				*i S*	**Sn**	**16 06 27.6**	**+0.7**
VA03	**San Esteban**	**2.68**	**159**	*eP*	**Pn**	**16 05 57.2**	**+1.5**
VA03				*eS*	**Sn**	**16 06 27.6**	**+0.7**
VA03				IAML		16 06 40.8	
	comp=Z,14μm,1.0s						
VA01	**Torpederas**	**2.76**	**180**	Pn	**Pn**	**16 05 56.8**	**+0.1**
VA01	**Torpederas**	**2.76**	**180**	*eP*	**Pn**	**16 05 56.8**	**+0.1**
VA01	**Torpederas**	**2.76**	**180**	*eP*	**Pn**	**16 05 56.8**	**+0.1**
VA01				*eS*	**Sn**	**16 06 34.1**	**+5.4**
ROCH	**El Roble**	**2.77**	**168**	*eP*		16 05 57.6	
ROCH				*eP*	**Pn**	**16 05 55.8**	**-1.3**
ROCH				*i S*	**Sn**	**16 06 32.7**	**+3.4**
ROCH				*i S*		16 06 33.6	
ROC1	**El Roble**	**2.77**	**168**		**Pn**	**16 05 56.0**	**-1.1**
ROC1	**El Roble**	**2.77**	**168**	*eP*	**Pn**	**16 05 55.9**	**-1.3**
ROC1				*eS*	**Sn**	**16 06 30.4**	**+1.0**
AUSP	**Uspallata**	**2.77**	**136**	*eP*	**Pn**	**16 05 59.6**	**+2.4**
ZON	**Zonda**	**2.88**	**117**	P	**Pn**	**16 06 00.2**	**+1.8**
ZON	**Zonda**	**2.88**	**117**	Pn	**Pn**	**16 06 00.1**	**+1.8**
ZON	**Zonda**	**2.88**	**117**	*eP*	**Pn**	**16 05 55.1**	**-3.2**
ZON				*eP*		16 06 00.3	
ZON				*eS*	**Sn**	**16 06 37.1**	**+5.3**
ZON				IAML		16 06 40.6	
	comp=Z,7μm,0.5s						
GO03	**Copiap**	**2.94**	**26**	Pn	**Pn**	**16 05 59.8**	**+0.6**
GO03	**Copiap**	**2.94**	**26**	*eP*	**Pn**	**16 05 59.6**	**+0.4**
GO03				*i S*	**Sn**	**16 06 34.9**	**+1.6**
GO03	**Copiap**	**2.94**	**26**	*eP*	**Pn**	**16 05 59.8**	**+0.6**
GO03				*eS*	**Sn**	**16 06 37.1**	**+3.9**
GO03				*eS*		16 06 43.4	
RTLL	**Cerro Villicun**	**2.95**	**112**	*eP*	**Pn**	**16 06 00.9**	**+1.5**
RTLL				*eS*	**Sn**	**16 06 40.3**	**+6.7**
PEL	**Peldehue**	**3.00**	**164**	P	**Pn**	**16 06 01.1**	**+1.0**
PEL	**Peldehue**	**3.00**	**164**	Pn	**Pn**	**16 06 01.1**	**+1.0**
MT02	**Curacav**	**3.03**	**171**		**Pn**	**16 06 00.8**	**+0.3**
MT02	**Curacav**	**3.03**	**171**	*eP*	**Pn**	**16 06 00.9**	**+0.5**
MT02				*i S*	**Sn**	**16 06 36.2**	**+0.7**
MT02	**Curacav**	**3.03**	**171**	*eP*	**Pn**	**16 06 00.7**	**+0.3**
MT02				*eS*	**Sn**	**16 06 35.6**	**+0.2**
MT02				IAML		16 06 53.8	
	comp=Z,6μm,0.7s						
RTCV	**Cerro Valdivia**	**3.13**	**122**	*eP*	**Pn**	**16 06 04.0**	**+2.1**
RTCV				*eS*	**Sn**	**16 06 35.6**	**-2.4**
RTCV				*eS*		16 06 45.6	
MT05	**Renca**	**3.23**	**166**		**Pn**	**16 06 04.2**	**+1.0**
MT05	**Renca**	**3.23**	**166**	*eP*	**Pn**	**16 06 04.5**	**+1.3**
MT05	**Renca**	**3.23**	**166**	*eP*	**Pn**	**16 06 04.3**	**+1.1**
MT05				*eS*	**Sn**	**16 06 45.6**	**+5.2**
MT05				IAML		16 06 58.5	
	comp=Z,14μm,2.0s						
FCH	**Farellones**	**3.28**	**159**	*eP*	**Pn**	**16 06 06.3**	**+2.1**
MT03	**Universidad Ad**	**3.38**	**163**		**Pn**	**16 06 06.9**	**+1.5**
MT03	**Universidad Ad**	**3.38**	**163**	*eP*	**Pn**	**16 06 06.8**	**+1.5**
MT03				*eS*	**Sn**	**16 06 48.6**	**+4.5**
MT03				IAML		16 07 05.5	
	comp=Z,9μm,0.5s						
VCA	**Vinchina**	**3.38**	**64**	*eP*	**Pn**	**16 06 03.1**	**-2.3**
VCA				*eP*		16 06 03.6	
VCA				*eP*		16 06 08.7	
VCA				*eS*	**Sn**	**16 06 46.6**	**+2.3**
VCA				IAML		16 06 58.9	
	comp=Z,17μm,0.7s						
VA05	**Santo Domingo**	**3.39**	**179**		**Pn**	**16 06 05.5**	**+0.1**
MT09	**Talagante**	**3.56**	**171**		**Pn**	**16 06 08.7**	**+0.8**
MT09	**Talagante**	**3.56**	**171**	*eP*	**Pn**	**16 06 08.6**	**+0.8**
MT01	**Popeta**	**3.62**	**174**		**Pn**	**16 06 09.1**	**+0.6**
MT01	**Popeta**	**3.62**	**174**	*eP*	Pn	16 06 03.6	-4.9
MT01				*eP*		16 06 09.0	
MT01				*eS*	**Sn**	**16 06 52.1**	**+2.2**
MT01				IAML		16 07 09.7	
	comp=Z,5μm,0.5s						
AVFE	**Valle Fertil**	**3.66**	**97**	*eP*	**Pn**	**16 06 10.6**	**+1.3**
AVFE				*eS*	**Sn**	**16 06 52.1**	**+0.9**
AVFE				*eS*		16 06 55.1	
AVFE				IAML		16 07 05.4	
	comp=Z,5μm,0.5s						
LMEL	**Las Melosas**	**3.79**	**161**		**Pn**	**16 06 12.1**	**+1.0**
**B

baz=113,slow=19,SNR=1196
H03N2 S Sn 16 08 06.3 -5.2
baz=338,slow=79,SNR=6.5
H03N2 T T 16 13 57.6
baz=70,slow=72,SNR=3124
H03N3 Juan Fernandez 6.94 241 P Pn 16 06 54.0 +0.1
baz=113,slow=19,SNR=1848
H03N3 S Sn 16 08 05.9 -5.7
baz=338,slow=79,SNR=5.7
H03N3 T T 16 13 56.6
baz=70,slow=72,SNR=1897
H03S3 Juan Fernandez 7.10 238 P Pn 16 06 55.7 -0.4
H03S3 S Sn 16 08 10.7 -4.7
SNR=48
H03S3 T T 16 14 26.6
SNR=24
H03S1 Juan Fernandez 7.11 238 P Pn 16 06 55.5 -0.7
H03S1 S Sn 16 08 10.3 -5.2
SNR=41
H03S1 T T 16 14 19.4
SNR=24
H03S2 Juan Fernandez 7.12 238 P Pn 16 06 55.7 -0.6
H03S2 S Sn 16 08 10.6 -5.2
SNR=9.5
H03S2 T T 16 14 24.1
SNR=29
PB06 IPOC Station P 7.75 15 *e*P Pn 16 07 03.1 -2.3
PB06 *e*S Sn 16 08 30.1 -2.0
LVC Limon Verde 8.01 19 P Pn 16 07 06.9 -2.3
comp=Z,2.1nm,0.3s,baz=163,slow=12,SNR=16
LVC S Sn 16 08 35.8 -2.8
comp=Z,17nm,0.3s,baz=170,slow=4.1,SNR=3.6
LVC LR LR 16 10 08.8
comp=Z,4µm,19.8s,baz=210,slow=37
LVC Limon Verde 8.01 19 *e*P Pn 16 07 06.0 -3.1
LVC Limon Verde 8.01 19 Pn Pn 16 07 07.0 -2.2
LVC Limon Verde 8.01 19 *e*P Pn 16 07 07.6 -1.5
LC01 Cunco 8.62 181 Pn Pn 16 07 16.1 -1.1
LR04 Corral 9.71 180 Pn Pn 16 07 30.9 -1.2
PLCA Paso Flores 10.49 175 P Pn 16 07 43.1 +0.2
comp=Z,0.6nm,0.3s,baz=335,slow=13,SNR=16
PLCA S Sn 16 09 41.0 +1.7
comp=Z,0.7nm,0.3s,baz=21,slow=12,SNR=1.6
PLCA LR LR 16 12 20.9
comp=Z,2µm,18.6s,baz=349,slow=41
PLCA Paso Flores 10.49 175 Pn Pn 16 07 42.9 0.0
PLCA Paso Flores 10.49 175 *e*P Pn 16 07 43.2 +0.3
LL04 Puerto Octay 10.65 183 Pn Pn 16 07 43.1 -1.8
GO01 Chusmiza 10.78 13 Pn Pn 16 07 44.6 -2.7
LL03 Petrohue 10.88 183 Pn Pn 16 07 47.1 -1.0
PB16 IPOC Station P 12.03 10 Pn Pn 16 08 07.4 +2.9
LPA La Plata 12.48 115 *e*P Pn 16 08 07.3 -2.7
LPA pP P 16 08 16.8 -4.3
LPA sP 16 08 21.2
LPA pPP 16 08 23.2
LPA S Sn 16 10 34.6 +6.9
LPA SS S 16 10 49.8 -4.3
LPA SSS SSS 16 11 02.6
LPA PCP PcP 16 13 49.8 +1.7
LPA SCS ScS 16 20 54.3 0.0
LPA PKIKP PKiKP 16 21 48.8 +3.2
LPA SKIKP 16 25 12.3
LPA PKIKS 16 25 17.4
LPA SKIKS 16 28 46.4
LL02 Futaleuf 12.91 181 Pn Pn 16 08 16.4 +0.5
ITQB Itaqui 13.06 91 Pn Pn 16 08 15.5 -2.5
ITQB Itaqui 13.06 91 *e*P Pn 16 08 15.2 -2.8
CPUP Villa Florida 13.23 76 P Pn 16 08 18.1 -2.2
comp=Z,1.4nm,0.3s,baz=256,slow=12,SNR=15
CPUP LR LR 16 14 03.3
comp=Z,2µm,20.7s,baz=258,slow=41
CPUP Villa Florida 13.23 76 P Pn 16 08 18.4 -1.9
CPUP Villa Florida 13.23 76 Pn Pn 16 08 18.4 -1.9
CPUP Villa Florida 13.23 76 *e*P Pn 16 08 17.3 -3.0
AY01 Puyuhuapi 14.16 183 Pn Pn 16 08 32.0 -0.8
LPAZ La Paz 14.28 14 P Pn 16 08 36.9 +1.7
comp=Z,3.0nm,0.3s,baz=201,slow=6.1,SNR=56
LPAZ LR LR 16 14 39.1
comp=Z,2µm,18.4s,baz=183,slow=40
LPAZ La Paz 14.28 14 *e*P Pn 16 08 38.1 +2.9
LPAZ La Paz 14.28 14 P Pn 16 08 38.1 +2.9
LPAZ La Paz 14.28 14 *e*P Pn 16 08 35.9 +0.8
PLTB Pedras Altas 15.57 100 Pn Pn 16 08 50.0 -1.8
PLTB Pedras Altas 15.57 100 *e*P Pn 16 08 48.6 -3.1
CPSB Cacapava Do Su 15.75 95 *e*P Pn 16 08 51.9 -2.1
SIV San Ignacio 17.20 37 P Pn 16 09 11.2 -1.3
comp=Z,3.3nm,0.3s,baz=219,slow=11,SNR=84
SIV LR LR 16 17 08.7
comp=Z,3µm,20.4s,baz=222,slow=42
AQDB Aquidauana 17.39 60 Pn Pn 16 09 14.6 -0.2
AQDB Aquidauana 17.39 60 *e*P Pn 16 09 13.2 -1.7
ITAB Concordia 17.40 85 P P 16 09 15.3 -0.6
ITAB IAmb IAmb 16 09 27.7
comp=Z,183nm,1.1s
ITAB Concordia 17.40 85 *e*P Pn 16 09 12.5 -2.4
PTGB Pitanga 18.24 77 *e*P P 16 09 24.6 -0.6
TRCB Terra Rica 18.57 71 *e*P P 16 09 27.5 -1.3
PTLB Pontes e Lacer 18.70 41 *e*P P 16 09 29.9 -0.3
NNA Nana 18.80 344 LR LR 16 15 13.5
comp=Z,893nm,21.9s,baz=163,slow=32
TER01 Tubaro-SC 19.72 91 *e*P P 16 09 40.4 -0.9
PP1B Ponte de Pedra 19.82 54 *e*P P 16 09 42.3 -0.3
VILB Vilhena 20.23 34 *e*P P 16 09 46.5 -0.5
PCMB Pacaembu 20.25 70 *e*P P 16 09 46.4 -0.8
SALV Santo Antonio 20.46 49 *e*P P 16 09 48.4 -1.1
TIJ01 Guaruva-PR 20.64 82 *e*P P 16 09 49.7 -1.7
FRTB Fartura 20.88 76 *e*P P 16 09 51.8 -2.2
ETMB Extrema 20.96 15 *e*P P 16 09 55.8 +0.9
ITRB Iturama 21.95 66 *e*P P 16 10 03.6 -1.9
CZSB Cruzeiro do Su 22.43 357 *e*P P 16 10 11.8 +1.2
PET01 Itanhaem-SP 22.46 81 *e*P P 16 10 09.3 -1.7
MG02 Cerro Sombrero 22.58 176 P P 16 10 10.7 -1.2
BB19B Bebedouro 22.75 72 *e*P P 16 10 13.2 -0.8
RCLB Rio Claro- Sao 22.97 76 *e*P P 16 10 15.2 -1.1
PDRB Porto dos Gac 23.17 40 *e*P P 16 10 18.1 -0.2
VAO Valinhos 23.21 78 *e*P P 16 10 16.7 -2.1
ARAG Araguaiana, MT 23.27 56 *e*P P 16 10 18.8 -0.5
MG03 Isla Dawson 23.59 178 P P 16 10 21.4 -0.7
MG03 IAmb IAmb 16 10 33.6
comp=Z,128nm,1.2s
EFI East Falkland 23.66 159⇓ *e*P P 16 10 21.5 -1.3
EFI pmax pmax
comp=Z,136nm,1.4s
DSPA Despedida 23.81 175 P P 16 10 21.2 -2.9
ATAH Atahualpa 23.85 343 P P 16 10 28.1 +2.8
comp=Z,1.6nm,0.4s,baz=230,slow=8.6,SNR=4.2
ATAH LR LR 16 17 60.0
comp=Z,581nm,21.0s,baz=179,slow=32
PARB Paraibuna 24.22 80 *e*P P 16 10 27.9 -0.5
CLDB Colider 24.29 41 *e*P P 16 10 29.3 +0.4
IPMB Ipameri, GO 24.59 66 *e*P P 16 10 30.4 -1.4
USHA Ushuaia 24.67 176 P P 16 10 33.2 +1.2
comp=Z,28nm,0.8s,baz=352,slow=10,SNR=13
USHA LR LR 16 20 51.0
comp=Z,2µm,18.1s,baz=0.5,slow=38
MAN01 Angra dos Reis 25.81 80 *e*P P 16 10 41.6 -1.2
BSCB Bom Sucesso 25.89 75 *e*P P 16 10 42.4 -1.1
TBTG Tabatinga, AM 25.98 4 *e*P P 16 10 46.4 +2.1
BDFB Brasilia 26.12 61 P P 16 10 44.8 -0.9
comp=Z,36nm,0.7s,baz=233,slow=7.6,SNR=22
BDFB LR LR 16 22 59.2
comp=Z,249nm,21.3s,baz=217,slow=41
BDFB Brasilia 26.12 61 P P 16 10 44.2 -1.5
SNDB Serra Nova Dou 26.23 50 *e*P P 16 10 46.9 +0.3
VAS01 Vassouras-RJ 26.48 79 *e*P P 16 10 48.2 -0.7
NPGB Novo Progresso 27.71 37 *e*P P 16 10 58.8 -1.1
DIAM Diamantina, MG 28.08 71 *e*P P 16 11 02.6 -0.8
CAM01 Campos-RJ 28.18 80 *e*P P 16 11 05.0 +1.0
PEXB Peixe 28.20 55 *e*P P 16 11 03.6 -0.7
MACA Manacapuru-AM 28.89 23 *e*P P 16 11 10.6 +0.3
JANB Januaria 29.33 65 *e*P P 16 11 12.9 -1.5
ALF01 Guarapari-ES 29.47 78 *e*P P 16 11 14.8 -0.7
SJMB Sao Joao De Ma 29.94 74 *e*P P 16 11 18.5 -1.2
RIB01 Linhares ES 30.32 76 *e*P P 16 11 22.8 -0.3
SDBA SAO DESIDERIO 30.49 60 *e*P P 16 11 23.2 -1.3
SMTB Santa Maria do 30.98 52 *e*P P 16 11 28.6 -0.3
OTAV Otavalo 31.00 347 *e*P P 16 11 32.0 +2.4
NAN01 Guarapari, ES 31.24 74 *e*P P 16 11 29.8 -1.3
PRPB Parauapebas 31.57 45 *e*P P 16 11 32.9 -1.1
GUA01 Guaratinga, BA 32.13 72 *e*P P 16 11 37.8 -1.2
SOTA Rioblanco 32.55 351 *e*P P 16 11 47.2 +4.0
PCON Cinco Dias 32.71 351 *e*P P 16 11 41.5 -3.2
MALB Monte Alegre 32.72 34 *e*P P 16 11 43.1 -1.1

CMC01 Camacan, BA 33.00 71 *e*P P 16 11 45.7 -0.9
RPN Rapa Nui 33.09 266 LR LR 16 21 36.3
comp=Z,946nm,19.5s,baz=107,slow=29
NBIT Itapeh - BA 33.30 70 *e*P P 16 11 48.8 -0.4
GDU01 Guandu, BA 33.85 68 *e*P P 16 11 52.7 -1.3
BOAV Boa Vista 34.17 20 *e*P P 16 11 56.9 +0.2
VILC Villavicencio, 34.23 356 *e*P P 16 11 59.5 +2.1
PMSA Palmer Station 34.87 174 LR LR 16 25 59.2
comp=Z,1µm,20.1s,baz=344,slow=36
NBPN Ponto Novo - B 35.05 63 *e*P P 16 12 03.1 -1.3
MCPB Macapa, AP 35.10 36 *e*P P 16 12 04.1 -0.7
GUY2C Guyana, Caldas 35.45 354 *e*P P 16 12 10.9 +2.6
NORC Norcasia 35.74 355⇑ *e*P P 16 12 15.6 +5.3
RUSC La Rusia 35.97 358 *e*P P 16 12 13.7 +1.0
CBOC Ciudad Bolivar 36.15 353 *e*P P 16 12 14.7 +0.7
HELC Santa Helena 36.42 354 *e*P P 16 12 13.7 -2.8
PTBC PUERTO BERRIO, 36.68 355⇑ *e*P P 16 12 18.5 +0.2
NBLA Lagarto - SE 36.84 66 *e*P P 16 12 17.9 -1.9
ZARC Zaragoza, Cauc 37.65 355 P P 16 12 25.8 -0.8
ZARC Zaragoza, Cauc 37.65 355 *e*P P 16 12 28.0 +1.4
NBMA Muriti-CE 38.34 60 *e*P P 16 12 31.8 -0.7
NBPS Pedro II - PI 38.41 54 *e*P P 16 12 32.5 -0.6
NBAN Anadia - AL 38.82 66 *e*P P 16 12 34.9 -1.7
SDV Santo Domingo 38.93 2 LR LR 16 30 19.4
comp=Z,430nm,18.1s,baz=184,slow=39
SDV Santo Domingo 38.93 2 *e*P P 16 12 39.0 +1.5
NBPB Pedra_Branca-C 38.94 57 *e*P P 16 12 37.1 -0.4
MDP Montagnes des 39.60 31 LR LR 16 31 05.0
comp=Z,730nm,18.2s,baz=208,slow=39
NBRF Rio Formoso - 40.32 65 *e*P P 16 12 49.3 +0.3
RCBR Riachuelo 41.49 61 LR LR 16 31 39.0
comp=Z,859nm,18.6s,baz=5.0,slow=38
RCBR Riachuelo 41.49 61 P P 16 12 56.3 -2.4
RCBR pmax pmax
comp=Z,40nm,1.4s
RCBR Riachuelo 41.49 61 P P 16 12 56.3 -2.4
RCBR Riachuelo 41.49 61 *e*P P 16 12 58.7 0.0
NBPV Pedro Velho 41.59 63 *e*P P 16 12 59.3 -0.1
JTS Las Lantas de 42.29 340 LR LR 16 27 05.2
comp=Z,206nm,21.7s,baz=200,slow=31
TDBA Terre de Bas, 46.84 13 P P 16 13 38.1 -3.2
ICMP Isla Caja de M 48.12 7 P P 16 13 49.7 -1.5
MLPR Magueyes Islan 48.15 6 P P 16 13 50.8 -0.6
CRPR Cabo Rojo, PR 48.18 6 P P 16 13 50.5 -1.2
CRPR IAmb IAmb 16 14 17.5
comp=Z,34nm,1.1s
OBIP Obispado Ponce 48.26 6 P P 16 13 49.8 -2.6
CELP Cerrillos 48.30 6 P P 16 13 52.5 -0.1
DR12 Loma Pena Alta 48.81 3 P P 16 13 55.1 -1.5
BELA Belgrano 2 50.51 171 P P 16 14 09.1 +0.3
BELA IAmb IAmb 16 14 10.7
comp=Z,44nm,1.3s
VNA2 Neumayer--Watz 53.35 158 P P 16 14 29.9 -0.2
baz=279,slow=9.0
SNAA Sanae 54.94 159 P P 16 14 41.6 -0.2
SNAA Sanae 54.94 159 LR LR 16 38 01.4
comp=Z,274nm,18.8s,baz=358,slow=36
SNAA Sanae 54.94 159*ce*P P 16 14 42.0 +0.2
SNAA pmax pmax
comp=Z,39nm,1.1s
SNAA Sanae 54.94 159 P P 16 14 41.5 -0.2
QSPA South Pole Qui 59.97 180 LR LR 16 41 19.0
comp=Z,333nm,19.5s,baz=176,slow=36
833A Chaparral WMA, 63.98 333 P P 16 15 44.0 -0.5
833A Chaparral WMA, 63.98 333 P P 16 15 47.1 +2.6
baz=154
HKT Hockley 64.14 337⇑ *e*P P 16 15 45.8 +0.4
HKT pmax pmax
comp=Z,7.0nm,1.1s
LRAL Lakeview Retre 64.60 346 P P 16 15 48.8 +0.4
baz=165
LPIG La Paz 65.54 321 LR LR 16 38 12.6
comp=Z,81nm,19.8s,baz=175,slow=30
JCT Junction City 66.06 334 P P 16 16 00.3 +2.2
baz=154
W50A Signal Mountai 66.36 348 P P 16 15 59.4 -0.5
W50A IAmb IAmb 16 16 14.3
comp=Z,17nm,1.0s
SWET Sewanee 66.49 347 P P 16 16 01.6 +1.0
SWET IAmb IAmb 16 16 02.3
comp=Z,14nm,0.7s
TKL Tuckaleechee C 66.55 349 P P 16 15 58.9 -2.1
TKL pmax pmax
comp=Z,37nm,1.4s
TKL Tuckaleechee C 66.55 349 P P 16 15 58.9 -2.1
TKL IAmb IAmb 16 16 16.6
comp=Z,37nm,1.4s
OXF Oxford 66.56 344 P P 16 16 01.8 +0.7
baz=163,SNR=5.2
TXAR Lajitas Array 66.64 330 P P 16 16 03.9 +2.0
comp=Z,2.6nm,0.7s,baz=153,slow=8.7,SNR=36
TXAR LR LR 16 41 11.8
comp=Z,217nm,18.4s,baz=144,slow=32
TXAR Lajitas Array 66.64 330 P P 16 16 03.2 +1.3
V52A Sevierville 66.70 349 P P 16 16 02.0 +0.1
V52A IAmb IAmb 16 16 16.1
comp=Z,19nm,1.1s
TAOE Nuku Hiva Isla 67.02 273 *e*LR LR 16 36 29.3
comp=Z,304nm,28.1s
T59A Double "B" Far 67.10 355 P P 16 16 04.4 -0.1
T59A IAmb IAmb 16 16 22.9
comp=Z,20nm,1.1s
TZTN Tazewell 67.38 350 P P 16 16 07.1 +0.9
baz=169
CLTN Cedars of Leba 67.42 347 P P 16 16 06.9 +0.4
CLTN IAmb IAmb 16 16 07.7
comp=Z,19nm,1.2s
MIAR Mount Ida 67.69 341 P P 16 16 09.6 +1.4
baz=160
U49A Red Boiling Sp 67.72 348 P P 16 16 08.5 +0.1
U49A IAmb IAmb 16 16 24.4
comp=Z,35nm,1.6s
WVT Waverly 67.76 346 P P 16 16 09.1 +0.5
WVT pmax pmax
comp=Z,21nm,1.1s
WVT Waverly 67.76 346 P P 16 16 09.1 +0.5
WVT IAmb IAmb 16 16 23.0
comp=Z,21nm,1.1s
WVT Waverly 67.76 346 P P 16 16 09.3 +0.7
baz=165
VNDA Vanda 67.83 191 LR LR 16 41 06.0
comp=Z,126nm,20.8s,baz=172,slow=32
W41B Gary Mavity, V 67.91 342 P P 16 16 10.8 +1.3
baz=161
ABTX Abilene, Hawle 67.92 335 P P 16 16 11.7 +1.9
baz=154
W39A Magazine 68.35 341 P P 16 16 14.4 +2.0
baz=160,SNR=8.1
TBI Tubuai 68.54 255 *e*LR LR 16 37 08.0
comp=Z,421nm,28.5s
TBI Tubuai 68.54 255 *e*T T 17 30 54.0
comp=Z,18nm,0.3s
R55A Marlinton 68.64 353 P P 16 16 14.7 +0.5
R55A IAmb IAmb 16 16 16.9
comp=Z,67nm,2.0s
U40A Yellville 69.18 342 P P 16 16 18.6 +1.1
baz=161,SNR=6.6
SYO Syowa Base 69.23 159⇓ *i*P P 16 16 17.4 -0.1
Q54A Coxs Mills 69.41 352 P P 16 16 19.1 +0.3
Q54A IAmb IAmb 16 16 57.6
comp=Z,66nm,1.9s
MNTX Cornudas Mount 69.43 330 P P 16 16 20.0 +0.9
baz=149
WMOK Wichita Mounta 69.52 336 P P 16 16 20.7 +1.1
baz=155
TUL1 Leonard 69.61 339 P P 16 16 21.5 +1.4
baz=158
MSTX Muleshoe 70.31 333 P P 16 16 26.3 +1.6
baz=152
CCM Cathedral Cave 70.38 344 P P 16 16 24.8 0.0
CCM pmax pmax
comp=Z,26nm,1.2s
CCM Cathedral Cave 70.38 344 P P 16 16 24.8 0.0
CCM IAmb IAmb 16 16 37.5
comp=Z,26nm,1.1s
CCM Cathedral Cave 70.38 344 P P 16 16 26.0 +1.2
baz=162
O56A Blue Knob Stat 70.46 354 P P 16 16 26.9 +1.6
baz=174
P49A Miami Univ. Ec 70.48 349 P P 16 16 25.8 +0.3
baz=168
AMTX Amarillo 70.70 334 P P 16 16 29.1 +2.1
baz=153
ACSO Alum Creek Sta 70.91 351 P P 16 16 29.0 +0.9
baz=170

N59A State Game Lan 70.92 357 P P 16 16 30.0 +2.0
baz=176
PPT2 Papeete2 71.12 260 *e*LR LR 16 38 22.9
comp=Z,516nm,24.0s
PPT Papeete 71.13 260 LR LR 16 41 45.6
comp=Z,98nm,19.6s,baz=114,slow=31
121A Cookes Peak, D 71.21 328 P P 16 16 33.0 +2.8
baz=148
O48B Farmland 71.26 349 P P 16 16 30.6 +0.4
baz=168
N54A Moraine State 71.28 353 P P 16 16 31.8 +1.5
baz=172
TUC Tucson 72.43 326 P P 16 16 39.8 +2.3
baz=145
ANMO Albuquerque 72.67 331 LR LR 16 44 41.4
comp=Z,250nm,19.2s,baz=154,slow=32
ANMO Albuquerque 72.67 331⇓ *e*P P 16 16 41.1 +2.1
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 72.67 331 P P 16 16 41.7 +2.8
baz=149
214A Organ Pipe Nat 73.15 324 P P 16 16 44.3 +2.6
baz=144
LIC Lamto 73.32 72 *e*P P 16 16 42.1 -1.0
comp=Z,25nm,0.8s
CBKS Cedar Bluff 73.53 337 P P 16 16 45.7 +2.0
baz=155
TIC Toumodi 73.56 72 *e*P P 16 16 43.7 -0.8
KIC Kosan Boka 73.63 72 *e*P P 16 16 43.9 -1.0
comp=Z,10nm,0.6s
DBIC Dimbokro 73.71 72 P P 16 16 45.1 -0.2
comp=Z,4.6nm,0.5s,baz=234,slow=6.1,SNR=7.4
DBIC LR LR 16 47 05.1
comp=Z,430nm,19.2s,baz=236,slow=34
DBIC Dimbokro 73.71 72 P P 16 16 44.4 -0.9
DBIC IAmb IAmb 16 16 46.0
comp=Z,28nm,1.2s
T25A Trinidad 73.72 333 P P 16 16 47.8 +2.6
baz=151,SNR=8.1
W18A Petrified Fore 74.25 328 P P 16 16 51.0 +2.7
baz=146
SDCO Great Sand Dun 74.68 333 P P 16 16 53.2 +2.3
baz=150,SNR=8.9
KSCO Kaye Shedlock' **74.70 335** P P 16 16 52.9 +2.1
baz=153
JFWS Jewell Farm 74.78 346 P P 16 16 51.6 +0.6
baz=164
MVCO Mesa Verde 75.46 330 P P 16 16 57.5 +2.2
baz=148
Q24A Divide 75.60 334 P P 16 16 58.6 +2.4
baz=151,SNR=5.4
PFO Pinyon Flats O 76.33 323 LR LR 16 44 37.7
comp=Z,154nm,18.4s,baz=162,slow=31
SUR Sutherland 76.38 120 LR LR 16 46 56.5
comp=Z,205nm,19.7s,baz=216,slow=33
ISCO Idaho Springs 76.50 334 P P 16 17 03.5 +2.2
baz=150,SNR=5.4
MAW Mawson 76.67 164 P P 16 17 02.1 +0.6
comp=Z,5.8nm,0.6s,baz=74,slow=2.5,SNR=6.1
MAW LR LR 16 53 57.1
comp=Z,326nm,18.2s,baz=238,slow=38
MAW Mawson 76.67 164 P P 16 17 01.5 -0.1
GMRC Granite Mounta 76.84 324 P P 16 17 05.7 +2.6
baz=142
ECSD EROS Data Cent 77.09 342 P P 16 17 04.5 +0.4
ECSD IAmb IAmb 16 17 17.0
comp=Z,40nm,1.2s
ECSD EROS Data Cent 77.09 342 P P 16 17 05.4 +1.3
baz=158
TUQ Turquoise Moun 77.48 324 P P 16 17 08.9 +2.2
baz=142,SNR=5.7
GSC Goldstone, Bar 77.83 324 P P 16 17 10.8 +2.3
baz=141
CCUT Cedar City 77.92 327 P P 16 17 10.5 +1.3
CCUT IAmb IAmb 16 17 23.9
comp=Z,22nm,1.0s
RAR Rarotonga 78.05 252 LR LR 16 43 15.0
comp=Z,169nm,22.0s,baz=115,slow=29
KOWA Kowa 78.82 66 LR LR 16 51 30.0
comp=Z,361nm,19.5s,baz=206,slow=35
TPNV Topopah Spring 78.83 325 P P 16 17 16.9 +2.8
baz=142,SNR=5.7
ISA Isabella, Lake 78.97 323 P P 16 17 17.6 +2.8
baz=140
K22A Casper 79.31 335 P P 16 17 18.9 +2.2
baz=150,SNR=5.2
CWC Cottonwood Cre 79.36 324 P P 16 17 19.6 +2.5
baz=140
VES Vestal, Richgr 79.42 323 P P 16 17 19.5 +2.3
baz=140
R11A Troy Canyon, C 79.61 326 P P 16 17 20.9 +2.5
baz=142,SNR=6.2
RSSD Black Hills 79.71 337 P P 16 17 20.2 +1.3
baz=152
DUG Dugway, Tooele 79.81 329 P P 16 17 21.6 +2.2
baz=145
TSUM Tsumeb 79.95 106 LR LR 16 49 37.8
comp=Z,244nm,18.1s,baz=222,slow=33
BW06 Boulder Array 80.58 333 P P 16 17 25.1 +1.5
baz=148
PDAR Pinedale Array 80.58 333 P P 16 17 24.8 +1.2
comp=Z,0.6nm,0.7s,baz=141,slow=5.0,SNR=6.6
PDAR LR LR 16 49 52.0
comp=Z,136nm,20.7s,baz=165,slow=33
NVAR Mina Array Bea 81.00 325 P P 16 17 28.1 +2.2
comp=Z,1.5nm,0.7s,baz=161,slow=6.4,SNR=14
AGMN Agassiz Nation 81.15 344 P P 16 17 27.0 +0.9
baz=159
ELK Elko 81.35 328 LR LR 16 49 22.2
comp=Z,213nm,19.9s,baz=145,slow=32
ELK Elko 81.35 328 P P 16 17 28.3 +0.6
ELK pmax pmax
comp=Z,16nm,1.1s
ELK Elko 81.35 328 P P 16 17 28.3 +0.6
BOSA Boshof 81.54 118 P P 16 17 28.6 -0.6
comp=Z,10nm,0.8s,baz=241,slow=5.1,SNR=16
BOSA LR LR 16 52 16.0
comp=Z,189nm,18.1s,baz=224,slow=35
BOSA Boshof 81.54 118 P P 16 17 29.3 +0.2
BOSA pmax pmax
comp=Z,31nm,0.8s
BOSA Boshof 81.54 118 P P 16 17 29.3 +0.2
BOSA IAmb IAmb 16 17 41.1
comp=Z,31nm,0.8s
RLMT Red Lodge 82.45 334 P P 16 17 35.4 +2.0
baz=148
TOA0 Torodi Ar. Sit 82.65 70 P P 16 17 34.4 -0.5
TOA0 IAmb IAmb 16 17 35.6
comp=Z,25nm,1.1s
TORD Torodi Ar. Bea 82.65 70 P P 16 17 34.4 -0.4
comp=Z,13nm,0.9s,baz=265,slow=5.1,SNR=43
TORD Torodi Ar. Bea 82.65 70 P P 16 17 33.5 -1.3
ULM Lac du Bonnet 82.98 345 P P 16 17 36.1 +0.4
comp=Z,1.6nm,0.4s,baz=129,slow=3.4,SNR=3.6
HLID Hailey 83.24 330 P P 16 17 39.6 +2.1
baz=144
LBTB Lobatse 83.60 115 LR LR 16 51 52.1
comp=Z,234nm,18.3s,baz=233,slow=34
LBTB Lobatse 83.60 115 P P 16 17 39.3 -0.6
LBTB pmax pmax
comp=Z,52nm,0.9s
LBTB Lobatse 83.60 115 P P 16 17 39.3 -0.6
DGMT Dagmar 83.61 339 P P 16 17 41.2 +2.2
baz=152
SCHQ Schefferville 84.84 3 P P 16 17 46.1 +1.0
comp=Z,3.8nm,1.1s,baz=204,slow=7.7,SNR=3.8
SCHQ LR LR 16 56 16.2
comp=Z,68nm,20.6s,baz=218,slow=36
SCHQ Schefferville 84.84 3 P P 16 17 44.5 -0.6
SCHQ IAmb IAmb 16 18 02.9
comp=Z,48nm,1.9s
URZ Urewera 86.41 227 LR LR 16 47 08.6
comp=Z,248nm,21.8s,baz=209,slow=29
RPZ Rata Peaks 86.69 220 LR LR 16 49 59.8
comp=Z,228nm,18.2s,baz=124,slow=31
NEW Newport 88.13 332 LR LR 16 55 32.0
comp=Z,205nm,18.1s,baz=160,slow=34
MATP Matopo 88.25 113 LR LR 16 52 57.9
comp=Z,187nm,21.5s,baz=238,slow=32
MDT Midelt 89.22 51 LR LR 16 55 36.3
comp=Z,149nm,21.6s,baz=220,slow=34
FCC Fort Churchill 90.63 349 P P 16 18 12.8 0.0
FCC pmax pmax
comp=Z,19nm,1.4s
FCC Fort Churchill 90.63 349 P P 16 18 12.8 0.0
FCC IAmb IAmb 16 18 25.1
comp=Z,19nm,1.4s

LSZ	**Lusaka**	**90.67**	**108**	LR	LR	16 56 35.6			
	comp=Z,162nm,18.1s,baz=243,slow=34								
AFI	**Afiamalu**	**91.58**	**253**	LR	LR	16 49 09.9			
	comp=Z,261nm,21.2s,baz=112,slow=29								
FRB	**Frobisher Bay**	**93.71**	**1**	LR	LR	17 03 40.6			
	comp=Z,89nm,19.4s,baz=185,slow=37								
ESDC	**Sonseca Array**	**93.75**	**46**	P	**P**	**16 18 26.8**	**-1.0**		
	comp=Z,1.4nm,1.0s,baz=270,slow=4.3,SNR=6.2								
ESDC				LR	LR	17 00 45.4			
	comp=Z,241nm,18.1s,baz=208,slow=36								
MSVF	**Nonsavu**	**97.70**	**244**	LR	LR	16 55 59.6			
	comp=Z,62nm,18.5s,baz=155,slow=31								
SFJD	**Kangerlussuaq**	**98.26**	**8**	LR	LR	17 04 59.0			
	comp=Z,75nm,19.1s,baz=210,slow=36								
YKA	**Yellowknife Ar**	**98.62**	**341**	P	Pdif	16 18 49.6	+0.3		
	comp=Z,0.3nm,0.6s,baz=144,slow=4.3,SNR=6.3								
DZM	**Mont Dzumac**	**103.69**	**234**	*e*LR	LR	16 53 19.5			
	comp=Z,481nm,24.4s								
CLL	**Collm**	**109.87**	**42**	*e*PKiKP	**PKiKP**	**16 23 42.0**	**+0.4**		
CLL				*e*PS	**PS**	**16 33 42.0**	**-1.6**		
CLL				LmV		17 08 00.0			
	comp=Z,200nm,18.1s								
MMAI	**Mount Meron Ar**	**119.03**	**67**	PKP	**PKiKP**	**16 24 00.8**	**+0.9**		
	comp=Z,1.2nm,0.5s,baz=173,slow=15,SNR=2.2								
AKASG	**Malin Array Be**	**119.40**	**46**	PKP	**PKPdf**	**16 23 59.0**	**-0.9**		
	comp=Z,1.0nm,0.5s,baz=264,slow=2.5,SNR=6.8								
BRTR	**Keskin Array B**	**119.69**	**59**	PKP	**PKPdf**	**16 24 00.8**	**-0.3**		
	comp=Z,0.9nm,0.8s,baz=194,slow=4.6,SNR=5.7								
FINES	**FINESS Array B**	**119.72**	**33**	PKP	**PKiKP**	**16 24 00.4**	**+0.2**		
	comp=Z,0.5nm,0.6s,baz=150,slow=7.9,SNR=5.6								
ASAR	**Alice Springs**	**121.03**	**208**	PKP	**PKPdf**	**16 24 03.2**	**-0.8**		
	comp=Z,0.5nm,0.4s,baz=125,slow=1.6,SNR=18								
ASAR				PKKPbc	**PKKPbc**	**16 34 06.9**	**+0.4**		
	comp=Z,0.5nm,0.5s,baz=334,slow=3.2,SNR=10								
ASAR	**Alice Springs**	**121.03**	**208**	PKPdf	**PKPdf**	**16 24 03.6**	**-0.5**		
ANN	**Anapa**	**123.62**	**54**	*i* PKiKP	PKiKP	16 24 17.2	+8.8		
ANN				pmax	pmax				
	comp=Z,12nm,0.7s								
WRA	**Warramunga Arr**	**124.17**	**210**	PKP	**PKPdf**	**16 24 09.8**	**-0.4**		
	comp=Z,1.2nm,0.5s,baz=151,slow=1.5,SNR=17								
WRA				PKKPbc	**PKKPbc**	**16 33 55.4**	**+1.0**		
	comp=Z,0.5nm,0.5s,baz=335,slow=4.3,SNR=8.2								
WRA	**Warramunga Arr**	**124.17**	**210**	PKPdf	**PKPdf**	**16 24 09.5**	**-0.7**		
OBN	**Obninsk**	**124.47**	**41**	||*i* PKiKP	**PKPdf**	**16 24 09.1**	**-0.4**		
OBN				*e*		16 25 54.1			
OBN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
VORR	**Voronezh**	**125.75**	**46**	*e*PKiKP	**PKPdf**	**16 24 10.3**	**-1.8**		
VORR				pmax	pmax				
	comp=Z,30nm,0.4s								
H11S2	**WAKE ISLAND Hyl**	**126.06**	**272**	T	T	18 43 04.3			
	baz=114,slow=75,SNR=443								
H11S1	**WAKE ISLAND Hyl**	**126.07**	**272**	T	T	18 43 05.4			
	baz=114,slow=75,SNR=485								
H11S3	**WAKE ISLAND Hyl**	**126.07**	**272**	T	T	18 43 01.4			
	baz=114,slow=75,SNR=425								
KLMR	**Klimovskoe**	**126.17**	**34**	*e*PKiKP	**PKPdf**	**16 24 11.4**	**-1.2**		
KLMR				pmax	pmax				
	comp=Z,31nm,1.1s								
KLMR	**Klimovskoe**	**126.17**	**34**	*e*PKPdf	**PKPdf**	**16 24 11.4**	**-1.2**		
KLMR				AMP		16 24 25.2			
	comp=Z,31nm,1.1s								
KIV	**Kislovodsk**	**127.19**	**56**	*i* PKiKP	**PKiKP**	**16 24 15.6**	**-0.1**		
KIV				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,77nm,23.0s								
KBZ	**Khabaz**	**127.31**	**56**	PKP	**PKiKP**	**16 24 16.3**	**+0.5**		
	comp=Z,1.6nm,0.8s,baz=266,slow=1.6,SNR=6.3								
KBZ				PKKP	**PKKPdf**	**16 34 34.9**	**+5.9**		
	comp=Z,0.6nm,0.3s,baz=176,slow=0.1,SNR=7.6								
ZEI	**Tsey**	**127.90**	**57**	*i* PKiKP	**PKPdf**	**16 24 16.3**	**-0.5**		
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GNI	**Garni**	**128.10**	**61**	||*i* PKiKP	**PKPdf**	**16 24 16.1**	**-1.1**		
PRGR	**Permogore**	**129.05**	**33**	*e*PKiKP	PKiKP	16 24 27.8	+9.1		
BILL	**Bilibino**	**129.59**	**336**	||*i* PKiKP	**PKiKP**	**16 24 20.5**	**+0.8**		
BILL				pmax	pmax				
	comp=Z,12nm,2.5s								
KIRV	**Kirov**	**131.38**	**37**	||*i* PKiKP	**PKiKP**	**16 24 23.5**	**0.0**		
ARU	**Arti**	**136.66**	**38**	PKP	**PKPdf**	**16 24 33.2**	**+0.6**		
	comp=Z,0.6nm,0.4s,baz=332,slow=7.1,SNR=5.2								
ARU	**Arti**	**136.66**	**38**	*i* PKiKP	**PKiKP**	**16 24 33.7**	**-0.6**		
ARU						16 27 13.2			
SEY	**Seymchan**	**136.91**	**332**	||*i* PKiKP	**PKiKP**	**16 24 34.6**	**0.0**		
PET	**Petropavlovsk**	**137.16**	**317**	||*i* PKiKP	**PKiKP**	**16 24 35.8**	**+0.4**		
AKTO	**Aktyubinsk**	**137.63**	**47**	PKiKP	**PKiKP**	**16 24 40.4**	**+3.9**		
PETK	**Petropavlovsk-**	**137.70**	**317**	PKP	**PKiKP**	**16 24 36.6**	**0.0**		
	comp=Z,2.4nm,0.9s,baz=143,slow=5.0,SNR=2.8								
AB31	**Akbulak array**	**139.05**	**48**	*i* PKiKP	**PKPdf**	**16 24 36.8**	**-0.4**		
NRIK	**Noril'sk**	**139.10**	**11**	||*i* PKiKP	**PKiKP**	**16 24 38.0**	**-0.9**		
MA2	**Magadan**	**139.16**	**328**	||*i* PKiKP	**PKiKP**	**16 24 38.4**	**-0.9**		
MA2				pmax	pmax				
	comp=Z,9.0nm,2.5s								
BRVK	**Borovoye**	**144.19**	**39**	*de*PKiKP	**PKPdf**	**16 24 45.8**	**-0.5**		
BVAR	**Borovoye Array**	**144.26**	**39**	PKP	PKPbc	16 24 45.6	+0.9		
	comp=Z,2.7nm,0.7s,baz=143,slow=28,SNR=16								
YAK	**Yakutsk**	**145.29**	**342**	*e*PKiKP	**PKPbc**	**16 24 47.6**	**-0.1**		
YAK				*e*		16 28 08.1			
YAK				pmax	pmax				
	comp=Z,57nm,1.4s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,47nm,3.4s								
YAK				pmax	pmax				
	comp=N,11nm,2.2s								
YAK				pmax	pmax				
	comp=E,18nm,2.9s								
YAK	**Yakutsk**	**145.29**	**342**		**PKPdf**	**16 24 48.8**	**+0.9**		
PALK	**Pallekele**	**145.45**	**126**	PKPbc	**PKPbc**	**16 24 49.4**	**-0.3**		
	comp=E,1.3nm,0.4s,baz=354,slow=4.8,SNR=3.8								
OTUK	**Ortayu**	**147.23**	**47**	PKiKP	**PKPdf**	**16 24 52.8**	**+1.1**		
KKAR	**Karatay Array**	**147.35**	**56**	PKP2	**PKPbc**	**16 24 55.1**	**+0.6**		
KKAR	**Karatay Array**	**147.35**	**56**	PKPbc	**PKPbc**	**16 24 55.1**	**+0.6**		
YSS	**Yuzh-Sakhalins**	**148.66**	**312**	*e*PKP2	**PKPbc**	**16 24 58.3**	**+0.5**		
ASAJ	**Asahikawa**	**149.63**	**307**	PKPbc	**PKPbc**	**16 25 00.9**	**+0.6**		
	comp=E,10nm,1.0s,baz=76,slow=33,SNR=6.5								
EKS2	**Erkin-Say**	**149.79**	**56**	P	**PKiKP**	**16 25 01.7**	**-0.2**		
	SNR=18								
AML	**Almayashu**	**149.84**	**57**	P	**PKPbc**	**16 25 02.0**	**+0.6**		
	SNR=14								
KURBB	**Kurchatov Arra**	**149.85**	**39**	PKPbc	**PKPbc**	**16 25 01.0**	**+0.4**		
	comp=E,5.2nm,0.4s,baz=304,slow=3.2,SNR=46								
KURBB	**Kurchatov Arra**	**149.85**	**39**	PKP2	**PKiKP**	**16 25 01.2**	**-0.4**		
KURK	**Kurchatov**	**149.85**	**39**	||*e*PKHKP	PKPpre	16 24 56.5			
KURK	**Kurchatov**	**149.85**	**39**	PKPbc	**PKiKP**	**16 25 01.6**	**0.0**		
HYBB	**Hyderabad (bro**	**150.02**	**108**	*e*PKPdf	**PKPdf**	**16 24 54.4**	**-2.7**		
NIL	**Nílore**	**150.13**	**74**	PKiKP	**PKPbc**	**16 25 02.1**	**+0.2**		
NIL	**Nilore**	**150.13**	**74**	PKPbc	**PKPbc**	**16 25 02.1**	**+0.2**		
USP	**Ospenovka**	**150.16**	**55**	P	**PKiKP**	**16 25 02.4**	**-0.1**		
	SNR=21								
AAK	**Ala-Archa**	**150.31**	**56**	PKP	**PKPdf**	**16 24 57.8**	**+0.8**		
	comp=E,3.0nm,1.0s,baz=186,slow=5.8,SNR=4.5								
AAK				PKPbc	**PKiKP**	**16 25 03.1**	**+0.1**		
	comp=E,25nm,0.9s,baz=230,slow=2.4,SNR=74								
AAK	**Ala-Archa**	**150.31**	**56**	PKPbc	**PKiKP**	**16 25 03.6**	**+0.6**		
CHMS	**Chumysh**	**150.41**	**55**	P	**PKiKP**	**16 25 03.5**	**+0.5**		
	SNR=14								
UCH	**Uchtor**	**150.42**	**57**	P	**PKiKP**	**16 25 04.0**	**+0.4**		
	SNR=33								
KBK	**Karagaybulak**	**150.63**	**56**	P	**PKiKP**	**16 25 03.9**	**+0.2**		
	SNR=17								
GRNR	**Gornyy**	**150.69**	**322**	||*i* PKiKP	**PKiKP**	**16 25 03.5**	**+0.2**		
GRNR				pmax	pmax				
	comp=Z,8.0nm,1.3s								
GRNR				MLR	MLR				
	comp=E,50nm,17.0s								
ZAA0	**Zalesovo Array**	**150.85**	**29**	PKPbc	**PKiKP**	**16 25 03.8**	**+0.3**		
ZALV	**Zalesovo Beam**	**150.85**	**29**	PKP	**PKPdf**	**16 24 58.3**	**+1.0**		
	comp=E,18nm,1.2s,baz=268,slow=3.1,SNR=10								
ZALV				PKPbc	**PKPbc**	**16 25 03.2**	**+0.3**		
	comp=E,26nm,0.6s,baz=308,slow=3.3,SNR=72								
ZALV				PKPab	**pPKPbc**	**16 25 14.8**	**-0.3**		
	comp=E,101nm,0.8s,baz=293,slow=2.2,SNR=32								
ZALV	**Zalesovo Beam**	**150.85**	**29**	PKPbc	**PKiKP**	**16 25 03.8**	**+0.3**		
TKM2	**Tokmak 2**	**151.03**	**55**	P	**PKiKP**	**16 25 04.6**	**0.0**		
	SNR=18								
TKM2	**Tokmak 2**	**151.03**	**55**	PKIKP	**PKPbc**	**16 25 03.9**	**-0.1**		
PSI	**Prapat**	**151.28**	**160**	PKPbc	**PKPbc**	**16 25 03.4**	**-1.9**		
	comp=E,5.2nm,0.8s,baz=217,slow=12,SNR=4.0								
MDOK	**Medeo**	**151.98**	**54**	PKIKP	**PKiKP**	**16 25 06.9**	**+0.4**		
KSH	**Kashi**	**152.02**	**62**	PKPbc	**PKPdf**	**16 24 59.9**	**+0.2**		
KSH				sPKP		16 25 14.9			
BOD	**Bodaibo**	**152.16**	**353**	*e*PKIKP	**PKPdf**	**16 25 02.5**	**+3.4**		
BOD				pmax	pmax				
	comp=Z,33nm,1.7s								
ZEA	**Zeya**	**152.81**	**335**	*e*PKIKP	**PKPdf**	**16 25 00.7**	**+0.5**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.6s								
MK31	**Makanchi Array**	**153.95**	**43**	*i* PKIKP	**PKPbc**	**16 25 09.5**	**-0.7**		
MKAR	**Makanchi Array**	**153.95**	**43**	PKP	**PKPdf**	**16 25 02.2**	**+0.1**		
	comp=Z,1.3nm,0.9s,baz=282,slow=2.4,SNR=7.7								
MKAR				PKPbc	**PKiKP**	**16 25 10.4**	**+0.2**		
	comp=Z,3.1nm,0.7s,baz=287,slow=2.0,SNR=22								
MKAR				PKPab	**pPKPbc**	**16 25 21.2**	**-1.2**		
	comp=Z,9.0nm,0.9s,baz=300,slow=2.7,SNR=21								
MJAR	**Matsushiro Arr**	**154.34**	**292**	PKP	**PKPdf**	**16 25 04.3**	**+1.3**		
	comp=Z,1.5nm,1.0s,baz=348,slow=2.9,SNR=4.4								
MJAR				PKPbc	**PKiKP**	**16 25 13.2**	**+1.9**		
	comp=Z,2.9nm,1.0s,baz=146,slow=1.1,SNR=5.0								
MJAR				PKPab	**sPKPbc**	**16 25 26.8**	**-0.4**		
	comp=Z,3.0nm,0.7s,baz=89,slow=2.8,SNR=9.8								
USRK	**Ussuriysk Ar.**	**156.68**	**313**	PKP	**PKPdf**	**16 25 06.4**	**+0.5**		
	comp=Z,1.0nm,0.8s,baz=81,slow=12,SNR=4.6								
WMQ	**Urumqi**	**158.75**	**45**	*e*PKP	**PKPdf**	**16 25 08.6**	**0.0**		
WMQ				LR	LR				
	comp=Z,150nm,21.1s								
ZAK	**Zakamensk**	**159.54**	**9**	*e*PKP2	**PKPab**	**16 25 47.7**	**+0.2**		
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.7s								
SONM	**Songino Array**	**162.38**	**4**	PKP	**PKPdf**	**16 25 12.5**	**+0.1**		
	comp=Z,0.5nm,0.9s,baz=358,slow=35,SNR=2.8								
SONM				PKPab	**PKPab**	**16 26 00.6**	**+0.6**		
	comp=Z,1.0nm,0.7s,baz=340,slow=3.6,SNR=5.5								
SONM				PP	**PP**	**16 29 43.5**	**-0.2**		
	comp=Z,0.6nm,0.9s,baz=298,slow=3.2,SNR=5.2								
CMAR	**Chiang Mai Arr**	**165.48**	**142**	PKP	**PKPdf**	**16 25 15.8**	**-0.2**		
	comp=Z,0.6nm,0.3s,baz=232,slow=2.5,SNR=7.0								
CMAR				PKPab	**PKPab**	**16 26 15.8**	**+1.6**		
	comp=Z,0.5nm,0.3s,baz=231,slow=4.4,SNR=2.4								
GOMU	**GeErMu**	**167.23**	**59**	PKP	**PKPdf**	**16 25 18.0**	**+0.6**		
GOMU				LR	LR				
	comp=Z,96nm,21.0s								
GOMU				LR	LR				
	comp=Z,90nm,19.6s								
GOMU				LR	LR				
	comp=Z,120nm,19.2s								
GTA	**Gaotai**	**168.50**	**35**	⇑PKP	**PKPdf**	**16 25 18.3**	**+0.5**		
GTA				pPKP	pPKPdf	16 25 30.2	+0.5		
GTA				sPKP		16 25 33.4			
GTA				PKPab	**PKPab**	**16 26 27.6**	**+0.3**		
GTA				PP	**PP**	**16 30 16.8**	**+0.7**		
GTA				AMB	AMB				
	comp=Z,82nm,7.3s								
GTA				LR	LR				
	comp=Z,120nm,21.1s								
GTA				LR	LR				
	comp=Z,120nm,21.1s								
GTA				LR	LR				
	comp=Z,180nm,20.0s								
HHC	**Hu-ho-hao-te**	**169.11**	**347**	*e*PKP	**PKPdf**	**16 25 12.2**	**-5.9**		
HHC				AMB	AMB				
	comp=Z,110nm,6.3s								
BTO	**Baotou**	**169.58**	**353**	*e*P	PKPdf	16 25 30.1	+12		
NJ2	**Nanjing**	**170.80**	**284**	*e*PKP	**PKPdf**	**16 25 18.5**	**-0.7**		
HNS	**HongShan**	**171.12**	**325**	⇑PKP	**PKPdf**	**16 25 19.7**	**+0.5**		
PZH	**PanZhiHua**	**173.10**	**121**	PKP	**PKPdf**	**16 25 20.1**	**-0.6**		

*IDC **12** 16:09:19.7±1.4, 7.°11S×127.°79E, h0km, mb4.1/2, mb1 4.6/4, mb1mx3.8/37, mbtmp4.4/4, ML4.8/2, Error ellipse: s-maj=192.6km s-min=23.4km az=67.0*
ISC 12 16:09:21.6±0.9, 7.°1S±0.°1×127.°7E±0.°1, h10km, n31, σ1s03/27, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.69**	**104**	P	**Pg**		**16 10 32.3**	**-0.1**
DRS	**Darwin Rock St**	**6.17**	**149**	P	Pn		16 10 59.1	+6.3
KDU	**Kakadu**	**7.28**	**140**	P	Pn		16 11 15.0	+6.9
KNRA	**Kununurra**	**8.58**	**173**	P	Pn		16 11 31.7	+5.7
PLAI	**Plampang**	**9.95**	**259**	P	Pn		16 11 58.1	+13
WRAB	**Tennant Creek**	**14.30**	**154**	P	**Pn**		**16 12 46.0**	**+1.7**
WRA	**Warramunga Arr**	**14.30**	**154**	Pn	**Pn**		**16 12 44.1**	**-0.2**
	5.4nm,0.3s,baz=332,slow=9.9,SNR=112							
WRA				Sn	Sn		16 15 06.0	-17
	2.5nm,0.3s,baz=333,slow=22,SNR=11							
PSA00	**Pilbara Seismi**	**16.25**	**207**	P	**P**		**16 13 14.0**	**+0.8**
COEN	**Coen**	**16.68**	**115**	P	**P**		**16 13 19.7**	**+1.7**
ASAR	**Alice Springs**	**17.52**	**161**	P	**P**		**16 13 26.9**	**-0.4**
	3.0nm,0.3s,baz=341,slow=11,SNR=256							
ASAR				S	Sn		16 16 25.0	-16
	0.5nm,0.3s,baz=330,slow=18,SNR=4.8							
QIS	**Mount Isa**	**17.67**	**140**	P	**P**		**16 13 29.0**	**0.0**
WRKA	**Warakurna**	**17.84**	**178**	P	**P**		**16 13 32.0**	**+1.2**
MTSU	**Mount Surprise**	**19.57**	**126**	P	**Pn**		**16 13 51.0**	**-0.2**
MEEK	**Meekatharra**	**21.25**	**203**	P	**P**		**16 14 08.8**	**+0.7**
OOD	**Oodnadatta**	**21.93**	**161**	P	**P**		**16 14 14.9**	**-0.4**
FORT	**Forrest**	**23.55**	**179**	P	**P**		**16 14 31.4**	**-0.9**
MULG	**Mulgathing**	**23.82**	**166**	P	**P**		**16 14 34.0**	**-0.9**
INKA	**Innaminka**	**23.97**	**150**	P	**P**		**16 14 35.6**	**-0.7**
MORW	**Morawa**	**24.45**	**205**	P	**P**		**16 14 41.4**	**+0.6**
QLP	**Quilpie**	**24.96**	**143**	P	**P**		**16 14 45.1**	**-1.0**
LCRK	**Leigh Creek**	**25.24**	**158**	P	**P**		**16 14 46.4**	**-1.5**
BLDU	**Ballidu**	**25.55**	**202**	P	**P**		**16 14 50.6**	**-0.1**
BBOO	**Buckleboo**	**26.73**	**164**	P	**P**		**16 15 00.0**	**-1.4**
RK1H	**Rockhampton Ha**	**27.25**	**129**	P	**P**		**16 15 05.1**	**-1.1**
STKA	**Stephens Creek**	**27.86**	**154**	P	**P**		**16 15 09.6**	**-1.9**
	1.2nm,0.4s,baz=321,slow=11,SNR=7.0							
HTT	**Hallett**	**28.19**	**160**	P	**P**		**16 15 13.2**	**-1.3**
CMSA	**Cobar Meteorol**	**29.56**	**148**	P	**P**		**16 15 25.4**	**-1.3**
ARPS	**Mount Arapiles**	**32.23**	**158**	P	**P**		**16 15 49.3**	**-0.9**
NOUC	**Port Laguerre**	**40.09**	**116**	P	**P**		**16 16 58.0**	**+0.3**
	27nm,1.3s							
SONM	**Songino Array**	**57.85**	**343**	P	**P**		**16 19 13.6**	**0.0**
	0.1nm,0.4s,baz=163,slow=8.6,SNR=1.4							
ZALV	**Zalesovo Beam**	**70.68**	**335**	P	**P**		**16 20 37.7**	**+0.2**
	0.6nm,0.6s,baz=132,slow=4.3,SNR=2.7							

*TEH **12** 16:10:24.6, 32.°48N×47.°86E, h18km, ML3.2*
ISN 12 16:10:23.3±0.3, 32.°47N×47.°94E, h12km±8km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**1.72**	**245**	*e*Pn	Pb		16 10 55.0	+0.2
RAFI				*e*Sn	Sg		16 11 18.0	-0.6
RAFI				AML	AML		16 11 23.2	
	comp=E,268nm,0.4s							
IBDR	**Badra**	**1.81**	**291**	*e*Pn	Pb		16 10 56.0	-0.4
IBDR				*e*Sn	Sb		16 11 20.0	+1.0
IBDR				AML	AML		16 11 27.0	
	comp=E,149nm,0.6s							
IBDR				AML	AML		16 11 27.2	
	comp=N,161nm,0.4s							
BHD	**Baghdad**	**3.10**	**286**	*e*Pn	Pn		16 11 14.0	+2.0
BHD				*e*Sn	Sn		16 11 51.0	+2.0
IKRK	**Kirkuk**	**4.18**	**315**	*e*Pn	Pn		16 11 29.0	+2.1
IKRK				*e*Sn	Sn		16 12 17.0	+1.2

*IDC **12** 16:15:09.0±1.5, 26.°87N×89.°07E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/57, mbtmp3.5/6, Error ellipse: s-maj=58.6km s-min=21.0km az=65.0*
*NEIC **12** 16:15:12.2±3.0, 26.°8N±0.°1×89.°1E±0.°1, h15km±7km, mb3.9/9, Error ellipse: s-maj=18.3km s-min=11.9km az=220.0*
*NDI **12** 16:15:13.0±2.8, 26.°85N×89.°13E, h10km, ML4.0, mb3.9(NEIC)*
ISC 12 16:15:12.2±0.6, 26.°96N±0.°05×89.°24E±0.°04, h17km, n29, σ1s25/34, mb3.9/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.67**	**302**	*e*P	**Pb**		**16 15 25.7**	**+0.2**
GTK				*e*S	**Sg**		**16 15 34.4**	**0.0**
DHUB	**DHUBRI**	**1.16**	**144**	*e*P	**Pg**		**16 15 34.2**	**-0.3**
DHUB				*e*S	**Sn**		**16 15 49.0**	**+0.1**
DHUB				IAML			16 15 52.1	
	comp=N,8μm,0.2s							
DHUB				IAML			16 15 52.3	
	comp=E,7μm,0.4s							
TURI	**Tura**	**1.71**	**145**	*e*P	**Pb**		**16 15 42.6**	**-0.6**
TURI				*e*S	**Sn**		**16 16 03.1**	**+0.3**
TURI				IAML			16 16 05.0	
	comp=E,5μm,0.2s							
TURI				IAML			16 16 05.2	
	comp=N,4μm,0.2s							
GUWA	**GUWAHATI**	**2.32**	**109**	*e*P	**Pb**		**16 15 52.8**	**-0.8**
GUWA				IAML			16 15 54.2	
	comp=E,132nm,0.0s							
GUWA				*e*S	**Sb**		**16 16 22.4**	**+0.4**
SHL	**Shillong**	**2.75**	**120**	Pn	**Pn**		**16 15 56.8**	**+1.1**
SHL	**Shillong**	**2.75**	**120**	*e*P	**Pn**		**16 15 57.2**	**+1.5**
SHL				*i* x	x		16 16 05.4	
SHL				IAML			16 16 35.5	
	comp=N,608nm,0.1s							
SHL				IAML			16 16 35.6	
	comp=E,726nm,0.4s							
TEZP	**TEZPUR**	**3.20**	**95**	*ex*	**Pn**		**16 16 02.7**	**+1.1**
TEZP				*ex*	**Sb**		**16 16 47.8**	**+0.6**
TEZP				IAML			16 16 53.8	
	comp=E,585nm,0.0s							
TEZP				IAML			16 16 54.1	
	comp=N,1μm,0.4s							
LSA	**Lhasa**	**3.21**	**31**	Pn	**Pb**		**16 16 06.9**	**-2.0**
ITAN	**ITANAGAR**	**4.00**	**86**	*e*P	**Pn**		**16 16 14.6**	**+1.9**
ITAN				*e*S	**Sg**		**16 17 19.4**	**-1.2**
ITAN				IAML			16 17 27.7	
	comp=E,711nm,0.3s							
BOK	**Bokaro**	**4.38**	**225**	*e*P	**Pn**		**16 16 19.1**	**+1.2**
BOK				IAML			16 17 31.2	
	comp=N,314nm,1.0s							
BOK				IAML			16 17 31.3	
	comp=E,202nm,0.3s							
KOHI	**KOHIMA**	**4.54**	**105**	*e*S	**Sn**		**16 17 16.7**	**+4.0**
KOHI				IAML			16 17 41.5	
	comp=E,629nm,0.5s							
KOHI				IAML			16 17 42.1	
	comp=N,323nm,0.6s							
RAGD	**RAYAGADA**	**9.34**	**216**	*e*P	**Pn**		**16 17 26.1**	**0.0**
RAGD				*ex*	x		16 19 22.3	
HYBB	**Hyderabad (bro**	**13.71**	**228**	*e*P	**Pn**		**16 18 23.1**	**-2.9**
NIL	**Nílore**	**15.33**	**300**		**Pn**		**16 18 48.5**	**+0.7**
NIL				IAmb	IAmb		16 19 08.6	
	comp=Z,5.2nm,0.9s							
UBPT	**Khong Chiam**	**19.06**	**124**	P	**P**		**16 19 33.7**	**-0.1**
UBPT				IAmb	IAmb		16 19 36.2	
	comp=Z,9.5nm,1.5s							
GAR	**Garm**	**19.86**	**312**	P	**P**		**16 19 42.6**	**+0.1**
GAR				IAmb	IAmb		16 20 06.3	
	comp=Z,6.7nm,1.1s							
BTK	**Batken**	**20.11**	**315**	P	Pn		16 19 46.5	-0.7
BTK				IAmb	IAmb		16 20 04.4	
	comp=Z,8.2nm,1.4s							
MK31	**Makanchi Array**	**20.55**	**346**	P	**P**		**16 19 49.5**	**-0.3**
MKAR	**Makanchi Array**	**20.55**	**346**	P	**P**		**16 19 49.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=168,slow=10,SNR=4.4							
MKAR	**Makanchi Array**	**20.55**	**346**	P	**P**		**16 19 49.6**	**-0.2**
SONM	**Songino Array**	**24.79**	**28**	P	**P**		**16 20 34.3**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=218,slow=10,SNR=18							
SONM	**Songino Array**	**24.79**	**28**	P	**P**		**16 20 33.7**	**+0.4**
SONM				IAmb	IAmb		16 20 36.2	
	comp=Z,3.1nm,1.1s							
KURBB	**Kurchatov Arra**	**25.01**	**344**	P	**P**		**16 20 35.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=162,slow=9.0,SNR=4.5							
KURK	**Kurchatov**	**25.07**	**344**	P	**P**		**16 20 37.3**	**+1.7**
ULN	**Ulaanbaatar**	**25.09**	**29**	P	**P**		**16 20 37.0**	**+0.9**
ABKAR	**Akbulak array**	**31.72**	**322**	P	**P**		**16 21 34.9**	**-0.1**
FINES	**FINESS Array B**	**53.91**	**328**	P	**P**		**16 24 33.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=124,slow

comp=E,5286µm,0.3s

GVD	**Gavdhos**	**0.66**	**143**	P	**Pg**	**16 26 39.4**	**0.0**
GVD				S	**Sb**	**16 26 49.5**	**+0.4**

comp=E,3µm,0.3s

PRNS	**Prines Rethymn**	**0.73**	**90**	P	**Pg**	**16 26 39.5**	**-1.3**
PRNS				S	**Sg**	**16 26 49.2**	**-1.2**

comp=E,602nm,0.3s

KTHA	**Kythira Island**	**0.99**	**334**	P	**Pg**	**16 26 44.5**	**-1.0**
KTHA				S	**Sb**	**16 26 58.7**	**+0.4**
KTHA				AML	AML	16 27 03.2	

comp=E,1517µm,0.6s

KTHA				AML	AML	16 27 09.7	

comp=N,816µm,0.4s

KTHA	**Kythira Island**	**0.99**	**334**	P	**Pg**	**16 26 44.6**	**-1.0**
KTHA				S	**Sb**	**16 26 58.5**	**+0.1**

comp=N,552nm,0.4s

KTHR	**Kythira**	**1.01**	**331**	P	**Pg**	**16 26 44.8**	**-1.2**
KTHR				S	**Sb**	**16 26 59.7**	**+0.6**

comp=N,592nm,0.3s

SIVA	**Sivas**	**1.05**	**109**	P	**Pg**	**16 26 45.4**	**-1.3**
SIVA				AML	AML	16 27 10.0	

comp=N,1928µm,0.5s

SIVA				AML	AML	16 27 14.5	

comp=E,2474µm,0.7s

IDI	**Anoyia**	**1.06**	**94**	P	**Pg**	**16 26 45.5**	**-1.4**
IDI				S	**Sg**	**16 26 59.1**	**-1.5**
IDI				AML	AML	16 27 03.5	

comp=N,1061µm,0.5s

IDI				AML	AML	16 27 04.6	

comp=E,798µm,0.5s

IDI	**Anoyia**	**1.06**	**94**	P	**Pg**	**16 26 45.9**	**-1.0**
IDI				S	**Sb**	**16 27 01.2**	**+0.8**

comp=E,468nm,0.5s

IACM	**Heraklion**	**1.20**	**93**	P	**Pb**	**16 26 49.4**	**+0.3**
VLI	**Veliai**	**1.45**	**338**	P	**Pb**	**16 26 52.9**	**-0.4**
VLI	**Veliai**	**1.45**	**338**	P	**Pb**	**16 26 52.9**	**-0.4**
MHLO	**Agia Marina, M**	**1.47**	**26**	P	**Pn**	**16 26 53.0**	**+0.4**
MHLO				AML	AML	16 27 18.4	

comp=E,2493µm,0.4s

MHLO				AML	AML	16 27 18.9	

comp=N,1920µm,0.5s

MHLO	**Agia Marina, M**	**1.47**	**26**	P	**Pb**	**16 26 53.9**	**+0.3**
MHLO				S	**Sg**	**16 27 14.4**	**+0.7**

comp=N,1µm,0.5s

NPS	**Neapolis**	**1.65**	**93**	P	**Pb**	**16 26 56.8**	**+0.1**
KRND	**KRANIDI**	**2.04**	**350**	P	**Pb**	**16 27 02.3**	**-1.1**
PYL	**PYLOS**	**2.14**	**316**	P	**Pn**	**16 27 03.2**	**+1.2**
ZKR	**Zakros**	**2.16**	**96**	P	**Pb**	**16 27 04.9**	**-0.5**
LTK	**Loutraki**	**2.69**	**349**	P	**Pn**	**16 27 10.4**	**+0.8**
DION	**Dionisos Attik**	**2.71**	**6**	P	**Pn**	**16 27 10.7**	**+0.8**
KLV	**Kalavryta, Ach**	**2.91**	**337**	P	**Pn**	**16 27 14.3**	**+1.8**

KRSC 12 17:07:43.4±3.5, 48°.89N×156°.95E, h16km±14km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.88**	**343**	*eP*	Pn	17 08 12.2	-2.7
PAU	**Pauzhetka**	**2.58**	**358**	*eP*	Pn	17 08 26.1	+1.5
PAU				*eS*	Sn	17 08 56.2	+0.6
KDTR	**Khodutka, Kamc**	**3.01**	**13**	*eP*	Pb	17 08 34.1	-2.5
MTVR	**Mutnovka**	**3.68**	**12**	*eP*	Pb	17 08 44.0	-4.2
RUS	**Russkaya**	**3.68**	**15**	*eP*	Pn	17 08 43.2	+3.5
GRL	**Gorelyy**	**3.73**	**11**	*eP*	Pn	17 08 44.5	+4.0
KRMR	**Karymshinskiy**	**4.01**	**10**	*eP*	Pn	17 08 48.8	+4.5
PET	**Petropavlovsk**	**4.28**	**14**	*eP*	Pn	17 08 51.9	+4.1
DALK	**Dalny**	**4.30**	**15**	*eP*	Pn	17 08 52.4	+4.2
DALK				*eS*	Sb	17 09 44.5	-5.7
UGLR	**Uglovaya**	**4.48**	**15**	*eP*	Pn	17 08 55.8	+5.0
AVH	**Avacha**	**4.52**	**14**	*eP*	Pn	17 08 56.5	+5.2
SMAR	**Somma**	**4.53**	**14**	*eP*	Pn	17 08 56.3	+4.7
KOK	**Koryaka**	**4.53**	**13**	*eP*	Pn	17 08 56.8	+5.3
SDLR	**Sedlovina**	**4.56**	**15**	*eP*	Pn	17 08 55.9	+4.0
SPN	**Mys Shipunski**	**4.64**	**24**	*eP*	Pn	17 08 58.1	+5.3
MKZ	**Mys Kozlova**	**6.40**	**26**	*eP*	Pn	17 09 20.9	+3.9

*IDC **12** 17:26:13.0±2.9, 6°.28S×129°.87E, h104km±31km, mb3.4/4, mb1 3.6/8, mb1mx3.2/47, mbtmp4.0/8, Error ellipse: s-maj=36.8km s-min=18.1km az=75.0*

ISC 12 17:26:16.5±0.7, 6°.55S±0°.07×129°.96E±0°.10, h146km, n24, σ2$19/25, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.01**	**358**	P	**Pn**	**17 26 49.7**	**-1.9**
SIJI	**Sorong**	**5.79**	**13**	P	Pn	17 27 33.0	-7.5

19nm,0.3s,baz=243,slow=22,SNR=143

SIJI				S	Sn	17 28 29.7	-16

10nm,0.3s,baz=175,slow=23,SNR=13

DRS	**Darwin Rock St**	**5.92**	**171**	P	**Pn**	**17 27 43.4**	**+1.3**
SANI	**Sanana**	**5.97**	**318**	P	**Pn**	**17 27 43.8**	**+1.0**
KDJ	**Kakadu**	**6.58**	**158**	P	**Pn**	**17 27 51.3**	**+0.3**
KNRA	**Kununurra**	**9.15**	**187**	P	**Pn**	**17 28 26.9**	**+1.6**
FITZ	**Fitzroy Crossi**	**12.23**	**200**	P	**Pn**	**17 29 06.5**	**+0.6**

0.9nm,0.3s,baz=21,slow=9.7,SNR=47

FITZ				S	**Sn**	**17 31 17.7**	**-3.4**

1.8nm,0.3s,baz=65,slow=20,SNR=8.8

PLAI	**Plampang**	**12.28**	**259**	P	**P**	**17 29 12.5**	**-0.4**
WRAB	**Tennant Creek**	**13.97**	**163**	P	**Pn**	**17 29 30.0**	**+1.7**
WRA	**Warramunga Arr**	**13.98**	**163**	P	**Pn**	**17 29 27.2**	**-1.2**

0.4nm,0.3s,baz=334,slow=13,SNR=33

WRA				S	Sn	17 31 56.0	-7.3

1.9nm,0.3s,baz=342,slow=18,SNR=12

COEN	**Coen**	**14.94**	**121**	P	**Pn**	**17 29 39.7**	**-0.8**
QIS	**Mount Isa**	**16.78**	**147**	P	**Pn**	**17 30 03.9**	**+0.9**
PMG	**Port Moresby**	**17.27**	**101**	P	**Pn**	**17 30 10.3**	**+1.3**

0.4nm,0.3s,baz=207,slow=7.2,SNR=1.6

ASAR	**Alice Springs**	**17.44**	**168**	P	**Pn**	**17 30 12.7**	**+1.7**

0.9nm,0.3s,baz=344,slow=10,SNR=146

ASAR				S	**S**	**17 33 18.8**	**-5.5**

0.2nm,0.3s,baz=351,slow=26,SNR=6.0

PSA00	**Pilbara Seismi**	**17.85**	**212**	P	**Pn**	**17 30 19.7**	**+3.8**
MTSU	**Mount Surprise**	**18.13**	**131**	P	**Pn**	**17 30 18.6**	**-0.6**
WRKA	**Warakurna**	**18.45**	**185**	P	**Pn**	**17 30 24.9**	**+1.9**
OOD	**Oodnadatta**	**21.82**	**166**	P	**P**	**17 30 58.8**	**+1.6**
MULG	**Mulgathing**	**23.92**	**171**	P	**P**	**17 31 20.2**	**+3.1**
LCRK	**Leigh Creek**	**25.01**	**163**	P	**P**	**17 31 28.8**	**+1.9**
STKA	**Stephens Creek**	**27.45**	**158**	P	**P**	**17 31 51.3**	**+2.5**

1.1nm,0.6s,baz=332,slow=17,SNR=1.7

CMAR	**Chiang Mai Arr**	**39.41**	**310**	P	**P**	**17 33 31.4**	**-1.0**

0.5nm,0.6s,baz=135,slow=7.0,SNR=6.6

SONM	**Songino Array**	**58.00**	**341**	P	**P**	**17 35 52.5**	**-1.5**

0.3nm,0.7s,baz=164,slow=10.0,SNR=2.5

MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**17 36 58.1**	**-0.7**

0.7nm,0.4s,baz=110,slow=8.5,SNR=17

NOU 12 17:51:51.3, 15°.08S×167°.87E, h156km, mb3.9/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.74**	**240**	P	Pn	17 52 15.5	+0.8
DVP	**Devils Point**	**2.65**	**173**	P	Pn	17 52 35.0	+0.5
RTV	**Rentapao**	**2.75**	**169**	P	Pn	17 52 35.5	-0.3
KOUNC	**Koumac, New Ca**	**6.42**	**212**	P	Pn	17 53 23.4	-0.3
YATNC	**Mamie plateau,**	**7.00**	**187**	P	Pn	17 53 30.5	-0.9
DZM	**Mont Dzumac**	**7.08**	**191**	P	Pn	17 53 32.8	+0.2
NOUC	**Port Laguerre**	**7.14**	**192**	P	Pn	17 53 33.7	+0.5
ONTNC	**Ouen Toro**	**7.31**	**190**	P	Pn	17 53 36.0	+0.5

*BGR **12** 18:01:01.0±0.0, 50°.67N×174°.99W, h33km, mb4.9, Ms6.1*
*AEIC **12** 18:01:01±3.5, 51°.39N±0°.07×174°.01W±0°.06, h15km±4km, Error ellipse: s-maj=10.5km s-min=5.4km az=178.0*
*BJI **12** 18:01:02.9±0.0, 52°.15N×174°.32W, h30km, mb4.6/50, mB4.9/18, Ms5.5/1, Ms7 5.4/2*
*NEIC **12** 18:01:05.2±2.4, 51°.74N±0°.06×174°.13W±0°.06, h51km±3km, mb4.6/175, ML3.9(AEIC), Error ellipse: s-maj=8.9km s-min=5.4km az=181.0*
*IDC **12** 18:01:05.4±0.6, 51°.61N×174°.02W, h49km±4km, mb4.0/37, mb1 4.1/39, mb1mx4.1/59, mbtmp4.3/39, Error ellipse: s-maj=16.2km s-min=8.9km az=173.0*

ISC 12 18:01:03.4±0.4, 51°.58N±0°.07×174°.02W±0°.04, h36km±1km, h37km:pP-P, n364, σ1$45/379, mb4.6/117, 7C-9D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.64**	**350**		**Pn**	**18 01 17.1**	**+1.1**
ATKA					**Sn**	**18 01 29.2**	**+4.4**
KOFP	**Korovin Flat P**	**0.70**	**356**		**Pn**	**18 01 18.8**	**+1.9**
KOKL	**Mount Kliuchef**	**0.76**	**351**		**Pn**	**18 01 19.8**	**+2.2**
GSMY	**Great Sitkin M**	**1.35**	**291**		**Pn**	**18 01 26.3**	**+0.6**
GSTR	**Great Sitkin T**	**1.37**	**293**		**Pn**	**18 01 26.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.40**	**289**		**Pn**	**18 01 26.8**	**+0.4**
GSTD	**Great Sitkin T**	**1.41**	**291**		**Pn**	**18 01 27.2**	**+0.7**
GSTD					**Sn**	**18 01 47.4**	**+3.6**
ADAG	**Mount Adagdak**	**1.66**	**285**		**Pn**	**18 01 31.4**	**+1.5**
ADK	**Adak**	**1.69**	**281**		**Pn**	**18 01 30.7**	**+0.4**
ADK				Sn	**Sn**	**18 01 49.7**	**-0.9**
KIWB	**Kanaga Island**	**1.97**	**279**	Pn	**Pn**	**18 01 33.5**	**-0.7**
KIKV	**Kanaga Island**	**1.98**	**280**		**Pn**	**18 01 35.4**	**+1.0**
KIMD	**Kanaga Island**	**2.01**	**276**		**Pn**	**18 01 35.3**	**+0.6**
TAPA	**Tanaga Point A**	**2.37**	**277**		**Pn**	**18 01 41.0**	**+1.2**
TAFP	**Tanaga Falls P**	**2.49**	**279**		**Pn**	**18 01 42.8**	**+1.4**
TAFP					**Sn**	**18 02 13.2**	**+2.7**
TASE	**Tanaga Southea**	**2.51**	**277**		**Pn**	**18 01 43.2**	**+1.5**
GANO	**Gareloi North**	**2.99**	**277**		**Pn**	**18 01 48.8**	**+0.5**
NIKH	**Nikolski High**	**3.46**	**64**		**Pn**	**18 01 55.7**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**4.08**	**61**		**Pn**	**18 02 05.1**	**+1.9**
OKFG	**Magazine Ridge**	**4.16**	**61**		**Pn**	**18 02 06.2**	**+2.0**
MSW	**Makushin Switc**	**4.98**	**59**		**Pn**	**18 02 17.7**	**+2.2**
UNV	**Unalaska Valle**	**5.10**	**61**	Pn	**Pn**	**18 02 17.0**	**-0.2**
AKBBA	**Akutan Broad B**	**5.51**	**60**		**Pn**	**18 02 24.9**	**+2.0**
AKUT	**Akutan**	**5.61**	**60**	Pn	**Pn**	**18 02 25.6**	**+1.4**
SPIA	**Saint Paul Isl**	**6.03**	**20**	Pn	**Pn**	**18 02 28.6**	**-1.3**
SSLS	**Shishaldin Sou**	**6.79**	**59**		**Pn**	**18 02 41.8**	**+1.3**
ISLZ	**Isanotski Laza**	**6.95**	**59**		**Pn**	**18 02 44.5**	**+1.8**
FALS	**False Pass**	**7.16**	**59**	Pn	**Pn**	**18 02 46.3**	**+0.9**
SDPT	**Sand Point**	**8.91**	**60**	Pn	**Pn**	**18 03 10.0**	**+0.5**
CHGN	**Chignik**	**10.34**	**57**	Pn	**Pn**	**18 03 28.2**	**-0.7**
CHIR	**Chirikof Islan**	**11.69**	**62**	Pn	**Pn**	**18 03 46.5**	**-0.9**
GAMB	**Gambell**	**12.29**	**5**	Pn	**Pn**	**18 03 54.9**	**-0.7**
SII	**Sitkinak Islan**	**12.65**	**59**	Pn	**Pn**	**18 03 59.6**	**-1.0**
OHAK	**Old Harbor**	**13.31**	**57**	Pn	**Pn**	**18 04 06.1**	**-3.4**
ANM	**Nome**	**13.78**	**16**	Pn	**Pn**	**18 04 17.0**	**+1.0**
KDAK	**Kodiak Island**	**13.83**	**55**	P	**Pn**	**18 04 13.8**	**-2.8**

0.8nm,0.3s,baz=280,slow=1.2,SNR=11

KDAK				S	**S**	**18 07 03.7**	**-6.3**

0.2nm,0.3s,baz=326,slow=19,SNR=1.0

SVW2	**Sparrevohn**	**13.93**	**40**		Pn	18 04 13.1	-4.9
N19K	**Bonanza Creek**	**14.22**	**42**		**Pn**	**18 04 20.5**	**-1.5**
TNA	**Tin City**	**14.37**	**10**	Pn	**Pn**	**18 04 20.2**	**-3.7**
L19K	**White Mountain**	**14.85**	**37**		**Pn**	**18 04 27.5**	**-3.0**
M19K	**Big River Lodg**	**14.86**	**38**		**Pn**	**18 04 28.5**	**-2.1**
TTA	**Tatalina**	**14.91**	**33**	Pn	**Pn**	**18 04 27.7**	**-3.6**
CNPM	**China Poot**	**15.09**	**49**	Pn	**Pn**	**18 04 30.6**	**-3.0**
CNPM				IAmb	IAmb	18 04 59.3	

comp=E,86nm,1.4s

BRLK	**Bradley Lake**	**15.34**	**49**	Pn	**Pn**	**18 04 33.3**	**-3.7**
BRLK				IAmb	IAmb	18 04 59.5	

comp=Z,23nm,0.9s

K20K	**Telida**	**15.86**	**34**		**Pn**	**18 04 39.6**	**-4.0**
SEW	**Seward**	**16.14**	**49**	Pn	**Pn**	**18 04 44.3**	**-2.9**
SEW				IAmb	IAmb	18 05 37.6	

comp=Z,54nm,1.3s

O22K	**Cooper Landing**	**16.15**	**47**		**Pn**	**18 04 45.1**	**-2.2**
O22K				IAmb	IAmb	18 04 56.4	

comp=Z,46nm,0.6s

PPLA	**Purkeypile**	**16.27**	**37**		**Pn**	**18 04 45.6**	**-3.4**
J20K	**Nowinta River**	**16.36**	**32**		**Pn**	**18 04 46.2**	**-3.8**
RC01	**Rabbit Creek A**	**16.39**	**45**	Pn	**Pn**	**18 04 48.2**	**-2.2**
CAST	**Castle Rocks**	**16.61**	**36**		**Pn**	**18 04 51.6**	**-1.6**
PET	**Petropavlovsk**	**16.74**	**286**	Pn	**Pn**	**18 04 53.2**	**-1.7**
PMR	**Palmer**	**16.87**	**44**	Pn	**Pn**	**18 04 52.9**	**-3.5**
PWL	**Port Wells**	**16.93**	**47**	Pn	**Pn**	**18 04 53.7**	**-3.4**
PWL				IAmb	IAmb	18 05 23.8	

comp=Z,51nm,1.5s

KNK	**Knik Glacier**	**17.09**	**45**		**Pn**	**18 04 58.0**	**-1.2**
KTH	**Kantishna Hill**	**17.11**	**37**		**Pn**	**18 04 58.5**	**-1.1**
TRF	**Thorofare Moun**	**17.30**	**37**		**Pn**	**18 04 58.6**	**-3.2**
SML	**Sawmill**	**17.30**	**44**	Pn	**Pn**	**18 04 59.4**	**-3.5**
PEA0B	**Petropavlovsk-**	**17.31**	**286**	Pn	**Pn**	**18 04 57.9**	**-4.0**
PEA0B				IAmb	IAmb	18 05 08.8	

comp=Z,44nm,1.4s

PETK	**Petropavlovsk-**	**17.31**	**286**	P	**P**	**18 05 02.6**	**-0.4**

comp=Z,0.4nm,0.3s,baz=79,slow=15,SNR=14

PETK	**Petropavlovsk-**	**17.31**	**286**		**Pn**	**18 04 58.1**	**-3.9**
BPAW	**Bear Paw Mtn.**	**17.40**	**35**	P	**Pn**	**18 05 01.0**	**-2.1**
BPAW				IAmb	IAmb	18 05 07.4	

comp=Z,42nm,1.4s

IMAR	**Indian Mountai**	**17.72**	**28**	P	**Pn**	**18 05 03.2**	**-3.8**
I21K	**Tanana**	**17.72**	**31**	P	**Pn**	**18 05 05.2**	**-1.7**
I21K				IAmb	IAmb	18 05 18.6	

comp=Z,23nm,0.9s

FID	**Port Fidalgo**	**17.74**	**48**	P	**Pn**	**18 05 04.6**	**-2.7**
FID				IAmb	IAmb	18 05 44.3	

comp=Z,54nm,1.5s

SCM	**Sheep Creek Mo**	**17.75**	**44**	P	**Pn**	**18 05 06.7**	**-0.7**
SCM				IAmb	IAmb	18 05 09.3	

comp=Z,28nm,1.0s

H21K	**Melozitna Rive**	**17.78**	**29**	P	**Pn**	**18 05 05.6**	**-2.0**
RND	**Reindeer**	**17.82**	**39**		**Pn**	**18 05 07.8**	**-0.5**
MCK	**McKinley**	**17.96**	**38**	P	**Pn**	**18 05 10.5**	**+0.5**
BWN	**Browne**	**17.99**	**36**	P	**Pn**	**18 05 10.8**	**+0.5**
BWN				IAmb	IAmb	18 05 37.1	

comp=Z,48nm,1.2s

EYAK	**Cordova Ski Ar**	**18.02**	**49**		**Pn**	**18 05 09.8**	**-0.9**
EYAK				IAmb	IAmb	18 05 59.9	

comp=Z,28nm,1.2s

MLY	**Manley**	**18.04**	**33**	P	**P**	**18 05 12.3**	**+1.2**
MLY				IAmb	IAmb	18 05 16.6	

comp=Z,42nm,1.1s

DIV	**Divide**	**18.19**	**47**	P	**P**	**18 05 12.1**	**-0.7**
KLU	**Klutina**	**18.25**	**46**	P	**P**	**18 05 11.9**	**-1.6**
DHY	**Denali Highway**	**18.26**	**41**	P	**P**	**18 05 12.7**	**-0.9**
M24K	**Tolsona, Glenn**	**18.36**	**44**	P	**P**	**18 05 14.4**	**-0.2**
M24K				IAmb	IAmb	18 05 17.7	

comp=Z,54nm,1.4s

NEA2	**Nenana**	**18.37**	**35**	P	**P**	**18 05 12.8**	**-1.9**
RAGM	**Ragged Mountai**	**18.49**	**50**	P	**P**	**18 05 15.5**	**-0.5**
RAGM				IAmb	IAmb	18 05 57.4	

comp=Z,39nm,1.2s

I23K	**Minto, Yukon-K**	**18.58**	**34**	P	**Pn**	**18 05 18.4**	**+1.0**
I23K				IAmb	IAmb	18 05 21.9	

comp=Z,29nm,1.1s

WRH	**Wood River Hil**	**18.66**	**36**	P	**P**	**18 05 15.6**	**-2.3**
HMT	**Hamilton**	**18.67**	**50**		**P**	**18 05 16.3**	**-1.8**
HMT				IAmb	IAmb	18 05 38.0	

comp=Z,24nm,0.8s

BMRM	**Bremner River**	**18.68**	**48**	P	**P**	**18 05 16.5**	**-1.7**
CCB	**Clear Creek Bu**	**18.86**	**36**	P	**P**	**18 05 19.5**	**-0.5**
MDM	**Murphy Dome**	**18.87**	**35**	P	**P**	**18 05 19.3**	**-0.9**
N25K	**Chitina, Valde**	**18.88**	**47**	P	**P**	**18 05 19.9**	**-0.5**
H23K	**Yukon River**	**18.92**	**32**	P	**Pn**	**18 05 21.9**	**+0.3**
PAX	**Paxson**	**19.00**	**42**	P	**P**	**18 05 21.8**	**+0.1**
HDA	**Harding Lake**	**19.06**	**37**	P	**P**	**18 05 21.7**	**-0.5**
HDA				IAmb	IAmb	18 05 24.0	

comp=Z,38nm,1.1s

GLB	**Gilahina Butte**	**19.19**	**47**	P	**P**	**18 05 22.3**	**-1.5**
IL31		**19.26**	**36**	P	**P**	**18 05 22.9**	**-1.5**
ILAR	**Eielson Array**	**19.26**	**36**	P	**P**	**18 05 23.3**	**-1.2**

comp=Z,1.3nm,0.3s,baz=218,slow=9.5,SNR=46

ILAR	**Eielson Array**	**19.26**	**36**	P	**P**	**18 05 22.8**	**-1.7**
H24K	**Noodor Dome**	**19.48**	**33**	P	**P**	**18 05 26.7**	**-0.2**
H24K				IAmb	IAmb	18 05 29.6	

comp=Z,25nm,1.0s

RIDG	**Independent Ri**	**19.57**	**40**	P	**P**	**18 05 27.6**	**-0.4**
RIDG				IAmb	IAmb	18 05 34.1	

comp=Z,23nm,1.2s

COLD	**Coldfoot**	**19.61**	**28**		**P**	**18 05 26.6**	**-1.6**
J25K	**Salcha River,**	**19.75**	**38**	P	**P**	**18 05 28.3**	**-1.6**
J25K				IAmb	IAmb	18 05 30.8	

comp=Z,46nm,0.8s

DOT	**Dot Lake**	**19.85**	**41**	P	**P**	**18 05 30.9**	**0.0**
DOT				IAmb	IAmb	18 05 37.2	

comp=Z,10nm,0.6s

L26K	**Log Cabin Wild**	**19.92**	**43**	P	**P**	**18 05 32.3**	**+0.6**
SCRK	**Sand Creek**	**20.02**	**40**	P	**P**	**18 05 31.7**	**-1.1**
SCRK				IAmb	IAmb	18 05 57.8	

comp=Z,17nm,0.8s

PRP	**Porcupine Dome**	**20.14**	**35**	P	**P**	**18 05 33.2**	**-0.9**
CTGM	**Chitina Glacie**	**20.23**	**50**	P	**P**	**18 05 34.6**	**-0.5**
CTGM				IAmb	IAmb	18 05 58.0	

comp=Z,13nm,0.8s

M27K	**Edge Creek, AK**	**20.34**	**46**	P	Pn	18 05 38.3	-0.3
M27K				IAmb	IAmb	18 05 42.3	

comp=Z,14nm,0.9s

LOGN	**Logan Glacier**	**20.35**	**50**	P	**P**	**18 05 38.0**	**+1.5**
LOGN				IAmb	IAmb	18 05 54.8	

comp=Z,22nm,1.1s

L27K	**Beaver Creek,**	**20.58**	**44**	P	**P**	**18 05 40.0**	**+1.2**
TOLK	**Toolik Lake Re**	**20.74**	**25**	P	**P**	**18 05 40.4**	**-0.1**
TOLK				IAmb	IAmb	18 05 43.0	

comp=Z,29nm,0.7s

FYU	**Fort Yukon**	**20.78**	**33**	P	**P**	**18 05 39.0**	**-1.9**
FYU				IAmb	IAmb	18 05 48.0	

comp=Z,32nm,1.3s

SEY	**Seymchan**	**21.15**	**315**	P	**P**	**18 05 46.1**	**+1.2**

comp=Z,3.1nm,0.9s,baz=101,slow=10,SNR=14

MA2	**Magadan**	**21.23**	**306**	P	**P**	**18 05 47.2**	**+1.4**

comp=Z,2.8nm,0.5s,baz=97,slow=10,SNR=11

EGAK	**Eagle**	**21.46**	**39**	P	**P**	**18 05 48.1**	**-0.2**
BMAR	**Burnt Mountain**	**21.47**	**31**	P	**P**	**18 05 48.6**	**+0.3**
DAWY	**Dawson**	**21.93**	**42**	P	**P**	**18 05 54.1**	**+0.7**
HYT	**Haines Junctio**	**22.04**	**51**	P	**P**	**18 05 56.8**	**+2.2**
I29M	**Ogilvie Camp,**	**22.80**	**39**	P	**P**	**18 06 01.8**	**-0.8**
I29M				IAmb	IAmb	18 06 04.7	

comp=Z,22nm,1.0s

WHY	**Whitehorse**	**23.30**	**52**	P	**P**	**18 06 07.1**	**-0.7**
P33M	**Teslin, Yukon**	**24.29**	**53**	P	**P**	**18 06 17.2**	**+0.1**
CRAG	**Craig**	**24.36**	**65**	P	**P**	**18 06 18.5**	**+0.9**
INK	**Inuvik**	**25.60**	**34**	P	**P**	**18 06 26.8**	**-1.9**

comp=Z,6.0nm,0.5s,baz=255,slow=6.7,SNR=5.7

INK	**Inuvik**	**25.60**	**34**	P	**P**	**18 06 26.0**	**-2.8**
INK				IAmb	IAmb	18 06 36.0	

comp=Z,9.1nm,0.9s

DLBC	**Dease Lake**	**25.75**	**57**	P	**P**	**18 06 32.6**	**+2.4**

comp=Z,8.5nm,1.0s,baz=270,slow=8.7,SNR=9.1

DLBC	**Dease Lake**	**25.75**	**57**	IAmb	IAmb	18 06 53.6	

comp=Z,12nm,1.1s

A36M	**Sachs Harbour**	**29.47**	**28**	P	**P**	**18 07 00.5**	**-2.9**
ASAJ	**Asahikawa**	**29.69**	**273**	P	**P**	**18 07 06.5**	**+0.8**

comp=Z,12nm,0.9s,baz=85,slow=5.0,SNR=5.8

ASAJ				pP	**pwP**	**18 07 20.6**	**+1.6**

comp=Z,6.4nm,0.8s
SONM Songino Array 49.20 299 P **P** 18 09 48.6 +0.7
comp=Z,4.7nm,0.7s,baz=48,slow=8.1,SNR=46
SONM PcP **PcP** 18 11 11.4 +0.9
comp=Z,1.4nm,0.9s,baz=64,slow=3.4,SNR=4.7
SONM Songino Array 49.20 299 P **P** 18 09 47.6 -0.2
SONM IAmb IAmb 18 09 49.5
comp=Z,5.4nm,0.8s
SONM **PcP** 18 11 10.5 0.0
B35A Bob, Littlefor 49.27 60 P **P** 18 09 47.2 -1.0
B35A IAmb IAmb 18 09 48.9
comp=Z,7.5nm,0.7s
ECSD EROS Data Cent 50.44 67 P **P** 18 09 56.2 -0.9
ECSD IAmb IAmb 18 10 06.6
comp=Z,4.1nm,0.9s
HNS HongShan 50.79 283 ⇑P **P** 18 10 01.3 +1.5
HNS pmax pmax
comp=Z,33nm,1.0s
F36A Milaca 50.88 63 P **P** 18 10 00.1 -0.3
F36A IAmb IAmb 18 10 02.5
comp=Z,2.9nm,0.7s
E38A The Farm, Brul 51.51 61 P **P** 18 10 04.4 -0.7
E38A IAmb IAmb 18 10 06.1
comp=Z,8.4nm,0.8s
CBKS Cedar Bluff 51.69 73 **P** 18 10 07.2 +0.6
NJ2 Nanjing 51.78 275 *eP* **P** 18 10 08.1 +0.8
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
G40A Rib Lake 53.08 61 P **P** 18 10 16.5 -0.3
G40A IAmb IAmb 18 10 17.5
comp=Z,8.2nm,1.1s
P38A Dawn 54.83 69 P **P** 18 10 28.7 -0.9
TX31 Lajitas Ar. Si 55.66 85 P **P** 18 10 35.7 -0.2
TX32 Lajitas Array 55.66 85 P **P** 18 10 35.4 -0.5
TX32 IAmb IAmb 18 11 03.8
comp=Z,6.8nm,1.4s
TXAR Lajitas Array 55.66 85 P **P** 18 10 35.7 -0.2
comp=Z,0.5nm,0.6s,baz=289,slow=3.8,SNR=6.1
P40A Paris 55.75 68 P **P** 18 10 35.5 -0.8
W35A Tecumseh 55.83 75 P **P** 18 10 36.6 -0.3
ZALV Zalesovo Beam 56.02 316 P **P** 18 10 38.2 +0.2
comp=Z,0.6nm,0.6s,baz=34,slow=3.6,SNR=2.1
ZALV PcP **PcP** 18 11 37.1 +1.2
comp=Z,2.4nm,0.8s,baz=59,slow=3.6,SNR=7.2
ZALV Zalesovo Beam 56.02 316 P **P** 18 10 36.9 -1.1
ZALV **PcP** 18 11 37.0 +1.1
S39A Bolivar 56.23 70 P **P** 18 10 40.6 +0.8
S39A IAmb IAmb 18 10 54.1
comp=Z,12nm,1.6s
XAN Xi'an 56.54 284 P **P** 18 10 42.6 +0.6
XAN pP pP 18 10 49.4 -2.3
XAN pmax pmax
comp=Z,11nm,0.9s
MGMO Mountain Grove 57.22 70 P **P** 18 10 48.0 +1.2
MGMO IAmb IAmb 18 11 00.2
comp=Z,8.7nm,1.1s
U40A Yellville 57.41 71 **P** 18 10 47.1 -1.1
W39A Magazine 57.65 73 P **P** 18 10 49.7 -0.1
SCHQ Schefferville 57.95 41 P **P** 18 10 51.7 +0.1
comp=Z,3.7nm,1.0s,baz=324,slow=7.5,SNR=4.0
FCAR Ozark Folk Cen 58.16 71 P **P** 18 10 52.2 -1.2
LZH Lanzhou 58.17 289 *eP* **P** 18 10 54.8 +1.1
LZH pP pP 18 11 00.3 -3.1
LZH sP sP 18 11 04.2 -4.5
LZH pmax pmax
comp=Z,16nm,1.4s
MIAR Mount Ida 58.22 73 P **P** 18 10 56.8 +3.0
GTA Gaotai 58.24 295 ⇓P **P** 18 10 54.7 +0.7
GTA pP pP 18 10 59.7 -4.0
GTA sP sP 18 11 03.2 -5.6
GTA pmax pmax
comp=Z,11nm,1.0s
ARCES ARCESS Array B 58.36 352 P **P** 18 10 54.1 -0.2
comp=Z,2.7nm,0.7s,baz=35,slow=4.4,SNR=5.4
ARCES PcP **PcP** 18 11 45.7 +0.9
comp=Z,7.4nm,0.8s,baz=20,slow=3.9,SNR=9.0
ARCES pPcP 18 11 59.4
comp=Z,5.1nm,0.7s,baz=4.6,slow=6.1,SNR=5.4
ARCES ARCESS Array B 58.36 352 P **P** 18 10 53.7 -0.6
ARCES ARCESS Array B 58.36 352 IAmb IAmb 18 11 54.2
comp=Z,26nm,1.3s
DELO Deloro Mine 60.25 55 P **P** 18 11 08.2 +0.5
TRQ Mont Tremblant 60.58 52 P **P** 18 11 09.5 -0.6
ALLY Alegheny Colle 60.94 59 P **P** 18 11 11.7 -0.7
PECO Prince Edward 60.98 55 P **P** 18 11 13.8 +1.2
KURK Kurchatov 61.00 316 P **P** 18 11 10.9 -1.8
O52A Adamsville 61.10 61 P **P** 18 11 11.4 -2.1
KURBB Kurchatov Arra 61.11 316 P **P** 18 11 13.7 +0.2
comp=Z,3.7nm,0.4s,baz=40,slow=7.0,SNR=12
KURBB pP **pwP** 18 11 27.9 +0.9
comp=Z,2.3nm,0.6s,baz=40,slow=7.2,SNR=3.3
KURBB PcP **PcP** 18 11 57.1 +1.0
comp=Z,1.6nm,0.3s,baz=38,slow=3.9,SNR=5.5
PLAL Pickwick Lake 61.17 69 P **P** 18 11 13.4 -0.7
PLAL IAmb IAmb 18 11 28.2
comp=Z,6.4nm,0.8s
WMQ Urumqi 61.70 306 *eP* **P** 18 11 19.1 +1.4
LONY Lake Ozonia 61.71 53 P **P** 18 11 17.1 -0.5
CD2 Chengdu 61.84 285 P **P** 18 11 19.9 +1.2
CD2 pP pwP 18 11 33.4 -0.1
CD2 pmax pmax
comp=Z,20nm,0.5s
O54A Avella 61.84 60 P **P** 18 11 18.5 -0.1
J57A Williamstown 61.86 55 P **P** 18 11 18.1 -0.6
L56A Greenwood 61.96 57 P **P** 18 11 19.6 +0.2
MK31 Makanchi Array 62.21 311 P **P** 18 11 17.9 -3.0
MKAR Makanchi Array 62.21 311 P **P** 18 11 20.6 -0.4
comp=Z,2.6nm,0.7s,baz=48,slow=5.7,SNR=36
MKAR Makanchi Array 62.21 311 P **P** 18 11 17.9 -3.0
J58A Remsen 62.26 55 P **P** 18 11 21.4 +0.1
J59A Piesco 62.58 54 P **P** 18 11 23.1 -0.4
BVAR Borovoye Array 62.62 322 P **P** 18 11 24.1 +0.5
comp=Z,2.0nm,0.4s,baz=20,slow=4.1,SNR=23
BVAR PcP **PcP** 18 12 03.2 +1.0
comp=Z,4.4nm,0.7s,baz=35,slow=5.3,SNR=11
BVAR pPcP 18 12 16.3
comp=Z,3.5nm,0.7s,baz=48,slow=18,SNR=6.9
SSPA Standing Stone 62.86 58 P **P** 18 11 24.6 -0.8
S54A Dingess, Beckl 63.03 63 P **P** 18 11 26.7 +0.1
ACCN Adirondack Com 63.06 54 P **P** 18 11 26.6 0.0
L59A Walton 63.22 55 P **P** 18 11 28.4 +0.6
GOMU GeErMu 63.31 295 P **P** 18 11 28.9 0.0
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,36nm,4.5s
J61A Chester 63.64 53 P **P** 18 11 30.3 -0.2
N59A State Game Lan 63.77 57 P **P** 18 11 31.4 -0.1
ARU Arti 63.95 331 P **P** 18 11 32.4 0.0
comp=Z,1.0nm,0.5s,baz=4.8,slow=6.6,SNR=8.7
ARU PcP **PcP** 18 12 07.9 +0.3
comp=Z,0.9nm,0.6s,baz=65,slow=5.9,SNR=3.6
ARU Arti 63.95 331 P **P** 18 11 30.4 -2.0
ARU IAmb IAmb 18 11 33.4
comp=Z,3.2nm,0.7s
MVL Millersville 64.13 58 P **P** 18 11 33.7 0.0
MVL IAmb IAmb 18 11 35.9
comp=Z,9.7nm,0.9s
LUPA Lehigh Univers 64.21 57 P **P** 18 11 33.4 -0.9
SDMD Soldier's Deli 64.30 59 P **P** 18 11 35.1 +0.2
SDMD IAmb IAmb 18 11 36.6
comp=Z,5.2nm,0.9s
PAL Palisades 64.67 56 P **P** 18 11 37.2 0.0
WSPT Westport, CT 64.84 55 P **P** 18 11 38.9 +0.5
KMSC Kings Mountain 64.92 65 P **P** 18 11 38.1 -0.9
KMSC IAmb IAmb 18 13 57.4
comp=Z,14nm,1.1s
M63A Gales Ferry 65.32 54 P **P** 18 11 41.6 +0.1
FINES FINESS Array B 66.19 350 P **P** 18 11 46.4 -0.3
comp=Z,3.4nm,0.7s,baz=13,slow=8.1,SNR=11
FINES pP **sP** 18 12 00.1 -2.0
comp=Z,1.8nm,0.6s,baz=18,slow=8.7,SNR=3.1
FINES PcP **PcP** 18 12 17.3 +0.6
comp=Z,2.2nm,0.6s,baz=80,slow=3.0,SNR=7.9
FINES pPcP 18 12 30.6
comp=Z,1.2nm,0.7s,baz=58,slow=4.7,SNR=4.5
FINES FINESS Array B 66.19 350 P **P** 18 11 45.7 -1.0
PZH PanZhiHua 66.24 283 P **P** 18 11 49.3 +1.5
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.8s
NB2 NORSAR Subarra 67.66 357 P **P** 18 11 56.7 +0.5
comp=Z,1.2nm,0.9s,baz=4.2,slow=6.9
NOA NORSAR Array B 67.66 357 P **P** 18 11 56.7 +0.5
comp=Z,0.7nm,0.9s,baz=15,slow=6.6,SNR=6.0
AAL Aland 68.03 353 *eP* **P** 18 11 57.7 -0.7
UPP Uppsala 68.52 354 *eP* **P** 18 12 00.9 -0.5
AAK Ala-Archa 68.98 313 P **P** 18 12 05.8 +0.9
comp=Z,4.3nm,0.7s,baz=110,slow=4.4,SNR=12
AAK Ala-Archa 68.98 313 P **P** 18 12 04.2 -0.7
AAK IAmb IAmb 18 12 07.1
comp=Z,3.7nm,0.7s
VSU Vasula 69.02 348 *eP* **P** 18 12 04.7 +0.1
MTSE Matsula 69.11 350 *eP* **P** 18 12 04.8 -0.4
AKTO Aktyubinsk 69.19 327 P **P** 18 12 06.3 +0.4
comp=Z,6.4nm,0.6s,baz=43,slow=7.7,SNR=24
ABKAR Akbulak array 69.53 326 P **P** 18 12 06.9 -1.0
VIKU Vikbolandet 69.93 354 *eP* **P** 18 12 10.0 -0.2
LSA Lhasa 70.16 293 P **P** 18 12 14.3 +1.6
KSH Kashi 70.73 310 P **P** 18 12 19.3 +3.6
KSH sP pwP 18 12 32.8 +1.8
KSH PcP **PcP** 18 12 40.0 +3.6
KSH PP PP 18 15 00.2 +8.2
KSH pmax pmax
comp=Z,11nm,1.1s
ISAL Salakas 71.92 348 *eP* **P** 18 12 22.6 +0.3
IDID Didziasalis 72.09 348 *eP* **P** 18 12 23.6 +0.2
IIGN Ignalina 72.12 348 *eP* **P** 18 12 23.6 0.0
DEL Delary 72.12 355 *eP* **P** 18 12 23.4 -0.2
PABE Paberze 72.24 349 *eP* **P** 18 12 24.1 -0.2
BTK Batken 72.71 313 P **P** 18 12 26.4 -1.1
BTK IAmb IAmb 18 12 30.1
comp=Z,6.7nm,1.0s
GAR Garm 73.79 313 P **P** 18 12 33.9 -0.1
GAR IAmb IAmb 18 12 35.9
comp=Z,16nm,1.0s
TAPN Taplejung 73.90 294 *eP* **P** 18 12 36.3 +1.3
comp=Z,45nm,0.8s
CMAR Chiang Mai Arr 73.95 279 P **P** 18 12 35.6 +0.6
comp=Z,2.5nm,0.8s,baz=24,slow=6.9,SNR=17
CMAR pP **PcP** 18 12 49.6 -0.6
comp=Z,7.3nm,0.8s,baz=26,slow=7.0,SNR=19
CMAR Chiang Mai Arr 73.95 279 P **P** 18 12 36.0 +1.0
RGN Rugen 74.07 356 *eL* L 18 50 50.8
comp=Z,9μm,20.5s
ODAN Odare 74.46 294 *eP* **P** 18 12 39.1 +0.9
GUN Gumba 74.52 295 *eP* **P** 18 12 39.9 +1.3
comp=Z,44nm,0.5s
JIRN Jiri 74.53 295 *eP* **P** 18 12 40.1 +1.4
CHGR Chuyangaron 74.59 314 P **P** 18 12 38.6 0.0
BSEG Bad Segeberg 74.80 357 *eL* L 18 53 45.0
comp=Z,9μm,21.9s
RAMN Ramite 74.84 294 *eP* **P** 18 12 41.4 +1.0
comp=Z,42nm,0.6s
KKN Kakani 74.94 296 *eP* **P** 18 12 42.0 +1.1
PKI Pulchoki 75.04 295 *eP* **P** 18 12 42.5 +0.9
comp=Z,43nm,1.0s
PKIN Phulchoki 75.04 295 *eP* **P** 18 12 42.4 +0.8
GKN Gorkha 75.14 296 *eP* **P** 18 12 42.9 +0.9
comp=Z,28nm,0.6s
DMN Daman 75.18 296 *eP* **P** 18 12 43.4 +1.0
KOLN Koldanda 75.90 297 *eP* **P** 18 12 47.1 +0.7
PYUN Piuthan 75.98 297 *eP* **P** 18 12 47.8 +0.9
comp=Z,68nm,0.9s
AKASG Malin Array Be 76.20 345 P **P** 18 12 47.0 -0.4
comp=Z,3.8nm,0.5s,baz=17,slow=6.0,SNR=27
AKASG pP **sP** 18 13 00.6 -2.3
comp=Z,2.8nm,0.5s,baz=17,slow=6.0,SNR=7.0
AKASG Malin Array Be 76.20 345 P **P** 18 12 46.2 -1.2
AKBB Malin Array Si 76.20 345 P **P** 18 12 46.8 -0.7
AKBB IAmb IAmb 18 12 48.0
comp=Z,7.0nm,0.6s
FLTG Flechtingen 76.37 357 *eP* **P** 18 12 49.0 +0.7
baz=5.0,slow=4.8
IBBN Ibbenburen 76.48 359 *eP* **P** 18 12 50.1 +1.2
baz=5.0,slow=4.8
NIL Nilore 76.71 308 P **P** 18 12 50.3 -0.4
CLZ Clausthal 76.89 357 *eP* **P** 18 12 52.8 +1.4
comp=Z,13nm,1.1s,baz=5.0,slow=4.8
CLL Collm 77.32 355 P **P** 18 12 52.4 -1.3
CLL IAmb IAmb 18 12 55.2
comp=Z,6.2nm,0.7s
CLL Collm 77.32 355 *eP* **P** 18 12 54.0 +0.3
comp=Z,8.0nm,0.8s
CLL *ep*P **sP** 18 13 08.0 -1.2
CLL Collm 77.32 355 *eP* **P** 18 12 54.3 +0.5
comp=Z,7.9nm,0.8s,baz=5.0,slow=4.8
CLL *eL* L 18 53 37.0
comp=Z,9μm,19.8s
NEUB Neuenburg 77.47 356 *eP* **P** 18 12 55.7 +1.1
comp=Z,22nm,1.1s,baz=5.0,slow=4.8
BRG Berggiesshubel 77.70 355 *eP* **P** 18 12 56.5 +0.7
BRG Amp 18 12 58.1
comp=Z,7.8nm,1.0s
BRG *ex* x 18 13 10.5
BRG Amp 18 13 12.3
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 77.70 355 *eP* **P** 18 12 56.6 +0.7
comp=Z,7.8nm,1.0s,baz=5.0,slow=4.8
CHVC Chvalec 77.85 353 *eP* **P** 18 12 57.6 +0.8
OSTC Ostas 77.87 353 *eP* **P** 18 12 57.7 +0.8
UPC Upice 77.94 353 *eP* **P** 18 12 58.0 +0.8
KBL Kabul 78.01 311 P **P** 18 12 57.4 -0.8
KBL IAmb IAmb 18 12 59.5
comp=Z,9.3nm,0.9s
MOX Moxa 78.04 356 *eP* **P** 18 12 58.8 +1.0
comp=Z,9.6nm,1.1s,baz=5.0,slow=4.8
MOX *eL* L 18 56 53.3
comp=Z,10μm,20.5s
DPC Dobruska-Polom 78.07 353 *eP* **P** 18 12 59.3 +1.3
KWP Kalwaria Pacla 78.17 349 P **P** 18 12 57.9 -0.6
KRLC Kraliky 78.31 353 *eP* **P** 18 13 00.3 +0.9
KRLC *ep*P **pwP** 18 13 14.1 +1.4
WERN Wernitzgruen 78.37 356 *eP* **P** 18 13 00.8 +1.1
comp=Z,9.0nm,0.9s,baz=5.0,slow=4.8
NKC Novy Kostel 78.42 356 *eP* **P** 18 13 01.2 +1.3
MORC Moravsky Berou 78.54 352 P **P** 18 13 00.1 -0.6
MORC IAmb IAmb 18 13 02.1
comp=Z,2.8nm,0.8s
MORC Moravsky Berou 78.54 352 *eP* **P** 18 13 01.1 +0.4
PRU Pruhonice 78.55 354 *eP* **P** 18 13 01.5 +0.9
TNS Taunus Mts 78.56 358 *eP* **P** 18 13 01.7 +1.0
comp=Z,7.9nm,0.8s,baz=5.0,slow=4.8
TNS *eL* L 18 53 00.8
comp=Z,7μm,21.7s
SORM Soroca 78.83 345 ⇓P **P** 18 13 01.9 -0.3
PBCC Pribram 78.88 355 *eP* **P** 18 13 03.1 +0.6
GRF Grafenberg Arr 79.01 357 *eP* **P** 18 13 04.8 +1.6
comp=Z,19nm,0.9s,baz=5.0,slow=4.8
GRF *eL* L 18 57 11.8
comp=Z,8μm,19.8s
VRAC Vranov 79.08 353 ⇓P **P** 18 13 04.6 +1.0
VRAC Vranov 79.08 353 *eP* **P** 18 13 04.1 +0.5
KRUC Moravsky 79.34 353 *eP* **P** 18 13 05.6 +0.6
JAVC Velka Javorina 79.44 352 *eP* **P** 18 13 07.4 +1.8
KHC Kasperske Hory 79.46 355 *eP* **P** 18 13 07.0 +1.3
KHC *ep*P **pwP** 18 13 21.8 +2.8
KHC Kasperske Hory 79.46 355 P **P** 18 13 06.0 +0.3
KHC IAmb IAmb 18 13 07.8
comp=Z,8.4nm,1.0s
WET Wettzell 79.48 355 *eL* L 19 00 08.9
comp=Z,9μm,21.7s
TRPA Tarpa 79.66 349 ⇓P **P** 18 13 07.8 +1.1
CKRC Cesky Krumlov 79.73 354 *eP* **P** 18 13 07.9 +0.8
CKRC *ex* x 18 13 21.3
GEC2 GERESS Array S 79.74 355 P **P** 18 13 07.2 -0.1
GEC2 IAmb IAmb 18 13 09.3
comp=Z,4.6nm,1.0s
GEC2 GERESS Array S 79.74 355 *eL* L 19 00 09.8
comp=Z,9μm,21.5s
GERES GERESS Array B 79.74 355 P **P** 18 13 08.1 +0.8
comp=Z,2.3nm,0.7s,baz=26,slow=7.4,SNR=18
GERES GERESS Array B 79.74 355 P **P** 18 13 07.4 +0.1
BUR08 Bucovina Ar. S 79.79 347 P **P** 18 13 07.0 -0.6
BUR08 IAmb IAmb 18 13 09.1
comp=Z,4.1nm,0.7s
BUR01 Bucovina Ar. S 79.82 347 ⇑P **P** 18 13 08.5 +0.8
BURAR Bucovina Array 79.82 347 P **P** 18 13 07.8 0.0
BURAR IAmb IAmb 18 13 09.5
comp=Z,6.8nm,0.7s
KBZ Khabaz 79.83 334 P **P** 18 13 08.2 +0.5
comp=Z,1.4nm,0.8s,baz=56,slow=5.2,SNR=5.2
KBZ pP **sP** 18 13 22.0 -1.2
comp=Z,2.1nm,0.9s,baz=47,slow=7.6,SNR=3.8
GEYT Alibeck 79.90 321 P **P** 18 13 09.7 +1.5
comp=Z,1.8nm,0.5s,baz=49,slow=4.8,SNR=2.5
BFO Black Forest 80.45 358 P **P** 18 13 09.8 -1.2
BFO IAmb IAmb 18 13 12.8
comp=Z,4.1nm,0.8s
BFO Black Forest 80.45 358 *eL* L 18 55 38.3
comp=Z,9μm,20.9s
CONA Conrad Observa 80.51 353 *eP* **P** 18 13 13.0 +1.5
comp=Z,4.9nm,0.7s,SNR=7.0
FUR Furstenfeldbru 80.53 356 *eL* L 18 58 17.5
comp=Z,8μm,20.3s
ECH Echery 80.58 359 P **P** 18 13 11.4 -0.3
ECH IAmb IAmb 18 13 14.1
comp=Z,10nm,0.9s
BIOA Bad Ischl, Aus 80.89 355 *eP* **P** 18 13 14.5 +1.1
comp=Z,3.3nm,0.6s
VRI Vrincioaia 81.30 346 ⇓P **P** 18 13 16.9 +1.3
WATA Walderalm 81.35 356 *eP* **P** 18 13 17.3 +1.3
comp=Z,5.3nm,0.7s
MOTA Moosalm 81.36 356 *i* P **P** 18 13 17.3 +1.3
comp=Z,9.9nm,1.1s
COVR Voineasa-Covas 81.40 346 ⇑P **P** 18 13 17.2 +1.0
DOPR Dopca 81.40 346 ⇑P **P** 18 13 17.2 +1.1
WTTA Wattenberg 81.42 356 *i* P **P** 18 13 18.3 +1.8
comp=Z,8.7nm,1.2s
DAVA Damuels 81.46 357 *eP* **P** 18 13 18.3 +1.7
comp=Z,7.1nm,1.3s
SQTA Sankt Quirin 81.48 356 *eP* **P** 18 13 18.0 +1.4
comp=Z,6.8nm,0.8s
KBA Koelnbreinsper 81.52 355 *i* P **P** 18 13 18.6 +1.7
comp=Z,11nm,0.7s
TLCR 81.62 344 ⇓P **P** 18 13 18.4 +1.1
FETA Feichten 81.70 357 *eP* **P** 18 13 19.3 +1.4
comp=Z,8.2nm,0.9s,SNR=5.4
CFR Carcaliu 81.74 344 ⇓P **P** 18 13 18.6 +0.7
MLR Muntele Rosu 81.79 346 ⇑P **P** 18 13 20.4 +2.1
SOKA Soboth 81.81 354 *eP* **P** 18 13 20.0 +1.7
comp=Z,11nm,1.2s,SNR=4.4
VOIR 81.97 347 ⇑P **P** 18 13 20.5 +1.3
TPGR Topolog 82.01 344 ⇓P **P** 18 13 20.7 +1.4
ARR Arges 82.10 347 ⇑P **P** 18 13 20.7 +0.8
BZS Buzias 82.25 349 ⇓P **P** 18 13 20.8 +0.2
TUE Stuetta 82.29 358 P **P** 18 13 20.9 -0.2
TUE IAmb IAmb 18 13 23.4
comp=Z,8.8nm,0.9s
WRA Warramunga Arr 84.30 228 P **P** 18 13 30.0 -1.3
comp=Z,0.3nm,0.5s,baz=31,slow=5.4,SNR=9.1
VTS Vitosha 84.99 347 P **P** 18 13 33.5 -1.4
VTS IAmb IAmb 18 13 36.5
comp=Z,8.4nm,1.1s
BR131 Keskin Array S 85.92 339 P **P** 18 13 38.2 -1.3
BR131 IAmb IAmb 18 13 41.3
comp=Z,7.6nm,1.2s
BRTR Keskin Array B 85.92 339 P **P** 18 13 40.8 +1.2
comp=Z,1.9nm,0.8s,baz=38,slow=2.9,SNR=11
BRTR Keskin Array B 85.92 339 P **P** 18 13 38.2 -1.3
PSI Prapat 85.99 269 P **P** 18 13 41.7 +1.5
comp=Z,2.4nm,0.4s,baz=135,slow=4.7,SNR=3.7
BNN Bunyan 86.24 337 P **P** 18 13 38.9 -2.3
ASAR Alice Springs 87.72 226 P **P** 18 13 47.6 -0.6
comp=Z,0.8nm,0.7s,baz=21,slow=5.1,SNR=14
ESDC Sonseca Array 88.71 8 P **P** 18 13 53.1 +0.2
comp=Z,2.3nm,0.9s,baz=352,slow=4.9,SNR=9.7
ESDC Sonseca Array 88.71 8 P **P** 18 13 52.6 -0.3
ESDC IAmb IAmb 18 13 54.6
comp=Z,2.3nm,1.0s
RAYN Ar Rayn 97.57 324 P **P** 18 14 33.6 -0.3
RAYN IAmb IAmb 18 14 35.0
comp=Z,3.6nm,1.0s
QSPA South Pole Qui 141.34 180 PKhKP PKPpre 18 20 22.0
comp=Z,1.6nm,0.9s,baz=112,slow=5.4,SNR=2.1
BOSA Boshof 152.90 320 PKPbc **PKiKP** 18 20 56.6 -0.1
comp=Z,2.3nm,0.6s,baz=16,slow=3.0,SNR=6.3

IDC ***12*** *18:04:24.7±2.7,36°.41N×70°.45E,h200km±27km,mb3.3/8, mb1 3.4/14,mb1mx3.1/56,mbtmp3.9/14,Error ellipse: s-maj=20.8km s-min=16.3km az=10.0*
SOME ***12*** *18:04:28.6,37°.78N×72°.22E,h20km*
NNC ***12*** *18:04:38.2±7.4,37°.52N×71°.26E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=55.8km s-min=45.3km az=7.0*
ISC 12 18:04:24.8±0.9,36°.55N±0°.07×70°.3E±0°.1,h200km,n38,
σ1°78/36,mb3.5/7,4C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.59**	**358**	*eP*		Pn	18 05 51.9	+5.1
	204nm,0.3s							
IUG				*eS*		**Sn**	**18 06 52.4**	**+0.7**
	116nm,0.5s							
AML	**Almayashu**	**6.16**	**24**	P		**Pn**	**18 05 55.5**	**+1.1**
	SNR=160							
DZA	**Taraz**	**6.38**	**7**	*eP*		Pn	18 06 02.9	+6.0
	20nm,0.1s							
DZA				*eS*		**Sn**	**18 07 11.1**	**+1.1**
	119nm,0.3s							
UCH	**Uchtor**	**6.53**	**29**	P		**Pn**	**18 06 00.9**	**+1.6**
	SNR=77							
KK09	**Karatay Array**	**6.56**	**1**	⇑Pn		**Pn**	**18 06 01.1**	**+1.8**
	1.4nm,0.3s,baz=171,slow=12							
KK09				⇓Pg			18 06 19.4	
	3.8nm,0.6s							
KK09				⇓Sn		**Sn**	**18 07 07.7**	**-6.5**
	8.2nm,0.7s							
KK09				⇓Lg		Lg	18 07 39.1	
	5.6nm,0.5s,baz=168,slow=32							
MRKS	**Merke**	**6.58**	**19**	*eP*		Pn	18 06 05.5	+5.9
	11nm,0.4s							
MRKS				*eS*		**Sn**	**18 07 15.0**	**+0.3**
	26nm,0.7s							
EKS2	**Erkin-Say**	**6.66**	**23**	P		**Pn**	**18 06 02.6**	**+1.9**
	SNR=19							
AAK	**Ala-Archa**	**6.88**	**27**	P		**Pn**	**18 06 05.4**	**+1.8**
	4.0nm,0.3s,baz=195,slow=6.2,SNR=94							
AAK					S	**Sn**	**18 07 20.9**	**-1.0**
	1.9nm,0.3s,baz=334,slow=21,SNR=4.2							
AAK	**Ala-Archa**	**6.88**	**27**	P		**Pn**	**18 06 05.3**	**+1.8**
	SNR=24							
AAK	**Ala-Archa**	**6.88**	**27**	⇑Pn		**Pn**	**18 06 04.9**	**+1.3**
	7.7nm,0.5s							
AAK					Sn	Sn	18 07 13.3	-8.6
	24nm,0.7s							
KBK	**Karagaybulak**	**7.07**	**29**	P		**Pn**	**18 06 07.4**	**+1.5**
	SNR=15							
CHMS	**Chumysh**	**7.29**	**27**	P		**Pn**	**18 06 10.7**	**+2.0**
	SNR=10							
ULHL	**Ulahol**	**7.30**	**37**	P		**Pn**	**18 06 10.3**	**+1.2**
	SNR=12							
USP	**Ospenovka**	**7.44**	**24**	P		**Pn**	**18 06 11.6**	**+0.9**
	SNR=9.0							
TKM2	**Tokmak 2**	**7.55**	**31**	P		**Pn**	**18 06 13.6**	**+1.3**
	SNR=45							
TKM2	**Tokmak 2**	**7.55**	**31**	⇑Pn		**Pn**	**18 06 13.4**	**+1.1**
	19nm,0.7s							
TKM2					⇓Sn	Sn	18 07 28.9	-8.9
	7.6nm,0.8s							
SGDS	**Sogindy**	**7.64**	**24**	*eP*		Pn	18 06 18.5	+5.1
	2.0nm,0.2s							
SGDS				*eS*		**Sn**	**18 07 38.1**	**-1.7**
	4.2nm,0.5s							
MDOK	**Medeo**	**8.39**	**36**	⇑Pn		**Pn**	**18 06 24.4**	**+1.2**
	7.6nm,0.4s							
GEYT	**Alibeck**	**9.82**	**282**	P		Pn	18 06 43.5	+1.8
	0.8nm,0.3s,baz=106,slow=11,SNR=5.4							
MKAR	**Makanchi Array**	**13.58**	**37**	P		**P**	**18 07 29.8**	**-2.0**
	0.3nm,0.3s,baz=217,slow=15,SNR=9.8							
GKN	**Gorkha**	**14.80**	**121**	*eP*		**P**	**18 07 45.1**	**-0.6**
	19nm,0.4s							
KURBB	**Kurchatov Arra**	**15.26**	**20**	P		**P**	**18 07 49.0**	**-1.3**
	0.1nm,0.3s,baz=209,slow=11,SNR=2.2							
DMN	**Daman**	**15.37**	**121**	*eP*		**P**	**18 07 52.6**	**+0.5**
	5.3nm,0.3s							
KKN	**Kakani**	**15.38**	**120**	*eP*		**P**	**18 07 52.5**	**+0.4**
	7.1nm,0.4s							
PKIN	**Phulchoki**	**15.59**	**121**	*eP*		**P**	**18 07 54.8**	**+0.3**
	8.6nm,0.3s							
PKI	**Pulchoki**	**15.61**	**121**	*eP*		**P**	**18 07 54.8**	**+0.1**
	5.6nm,0.3s							
GUN	**Gumba**	**15.72**	**119**	*eP*		**Pn**	**18 07 58.3**	**+2.1**
	6.9nm,0.3s							
JIRN	**Jiri**	**16.09**	**119**	*eP*		**Pn**	**18 08 01.5**	**+0.8**
	12nm,0.3s							
AKTO	**Aktyubinsk**	**16.46**	**331**	P		**Pn**	**18 08 06.3**	**+1.8**
	0.8nm,0.3s,baz=132,slow=7.7,SNR=12							
BVAR	**Borovoye Array**	**16.47**	**0**	P		**Pn**	**18 08 05.0**	**+0.4**
	0.3nm,0.3s,baz=188,slow=14,SNR=1.6							
ZALV	**Zalesovo Beam**	**20.10**	**26**	P		Pn	18 08 44.4	-3.1
	1.1nm,0.3s,baz=224,slow=10.0,SNR=9.9							
CMAR	**Chiang Mai Arr**	**30.97**	**118**	P		**P**	**18 10 23.5**	**+0.1**
	0.4nm,0.6s,baz=298,slow=6.9,SNR=5.2							
NRIK	**Noril'sk**	**34.18**	**11**	P		**P**	**18 10 52.4**	**+1.7**
	2.0nm,0.8s,baz=214,slow=5.4,SNR=3.5							

NOA	**NORSAR Array B**	**44.01**	**323**	P		P	18 12 14.0	+1.9	
	0.3nm,0.5s,baz=97,slow=7.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P		**P**	**18 14 43.9**	**-0.9**	
	0.2nm,0.4s,baz=36,slow=5.1,SNR=2.3								
BOSA	**Boshof**	**77.43**	**220**	P		P	18 15 58.6	+0.7	
	2.4nm,1.1s,baz=22,slow=5.4,SNR=1.3								
WRA	**Warramunga Arr**	**82.49**	**121**	P		**P**	**18 16 23.4**	**-1.8**	
	0.4nm,0.4s,baz=322,slow=5.0,SNR=10.0								
ASAR	**Alice Springs**	**84.74**	**124**	P		**P**	**18 16 34.9**	**-1.6**	
	0.6nm,0.6s,baz=316,slow=4.7,SNR=19								

BJI **12** *18:06:41.2±0.0,51.˙62N×173.˙99W,h10km,mb5.9/76, mB6.2/68,Ms6.5/97,Ms7 6.4/90*

MOS **12** *18:06:42.4±0.9,51.˙57N×173.˙90W,h16km,mb6.0/58, MS6.1/113,Error ellipse: s-maj=5.6km s-min=5.1km az=86.5*

IDC **12** *18:06:42.6±0.3,51.˙60N×173.˙91W,h0km,mb5.6/47, mb1 5.7/49,mb1mx5.6/55,mbtmp5.6/49,ML4.8/2,MS6.1/78, Ms1 6.1/78,ms1mx6.0/98,Error ellipse: s-maj=8.5km s-min=7.2km az=172.0*

NEIC **12** *18:06:44.8±1.8,51.˙57N±0.˙04×173.˙94W±0.˙05,h19km±1km, mb6.1/888,Ms_20 6.3/383,Mwb6.2/86,Mwc6.3/91,Mww6.3, ML5.7(AEIC),Error ellipse: s-maj=6.3km s-min=5.6km az=338.0*

NEIC **12** *18:06:45.6,51.˙58N×174.˙01W,h23km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.49; Mθθ-1.11; Mϕϕ-0.37; Mrθ1.55; Mθϕ-0.54; Mϕr0.83; Fault plane solution: M₀2.28000×10¹⁸ NP1:ϕs242.36000°, δ19.69000°,λ90.35000°. NP2:ϕs61.99000°,δ70.31000°, λ89.87000°. Principal axes: T 2.3170, Plg65.0000°, Azm332.0000°; N -0.0840, Plg0.0000°, Azm62.0000°; P -2.2330, Plg25.0000°, Azm152.0000°;*

AEIC **12** *18:06:47±2.1,51.˙43N±0.˙03×173.˙97W±0.˙07,h41km±3km Error ellipse: s-maj=6.2km s-min=4.8km az=111.0*

GCMT **12** *18:06:49.8±0.0,51.˙38N×173.˙82W,h16km,MW6.4/168, Moment Tensor Solution. s168,c407; s167,c698; Duration: 3s8 Moment tensor: Scale 10¹⁸Nm; Mrr2.96±.02; Mθθ-2.82±.01; Mϕϕ-0.13±.01; Mrθ3.22±.05; Mθϕ-0.94±.01; Mϕr1.32±.04; Best double couple: M₀4.62000×10¹⁸ NP1:ϕs257.00000°,δ21.00000°, λ97.00000°. NP2:ϕs69.00000°,δ69.00000°,λ87.00000°. Principal axes: T 4.5480, Plg65.0000°, Azm334.0000°; N 0.1440, Plg3.0000°, Azm70.0000°; P -4.6910, Plg24.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR **12** *18:06:51.1±0.0,51.˙80N×174.˙80W,h33km,mb6.2, mB_BB6.3,Ms6.0*

NEIC **12** *18:06:55,51.˙42N×173.˙84W,h20km,Moment Tensor Solution. Duration: 18s0 Moment tensor: Scale 10¹⁸Nm; Mrr2.40; Mθθ-1.99; Mϕϕ-0.41; Mrθ2.87; Mθϕ-0.62; Mϕr1.07; Fault plane solution: M₀3.84000×10¹⁸ NP1: ϕs252.00000°,δ18.00000°,λ92.00000°. NP2:ϕs70.00000°, δ72.00000°,λ89.00000°. Principal axes: T 3.9296, Plg63.0000°, Azm339.0000°; N -0.1931, Plg1.0000°, Azm70.0000°; P -3.7365, Plg27.0000°, Azm160.0000°;*

NEIC **12** *18:07:04.7,51.˙29N×174.˙20W,h26km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.65; Mθθ-3.20; Mϕϕ-0.45; Mrθ1.52; Mθϕ-0.90; Mϕr0.25; Fault plane solution: M₀3.88000×10¹⁸ NP1:ϕs250.95000°, δ33.46000°,λ85.62000°. NP2:ϕs76.20000°,δ56.65000°, λ92.89000°. Principal axes: T 3.9738, Plg78.0000°, Azm356.0000°; N -0.1907, Plg2.0000°, Azm255.0000°; P -3.7831, Plg12.0000°, Azm164.0000°;*

ISC 12 18:06:45.1±0.3,51.˙48N±0.˙03×173.˙93W±0.˙02,h17km±1km, h16km:pP-P,n2601,σ1991/2997,mb6.1/699,MS6.3/361, 157C-66D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.74**	**347**		**Pn**	**18 07 02.2**	**+1.4**
ATKA					**Sn**	**18 07 13.2**	**+1.5**
ATKA	**Atka Island**	**0.74**	**347**	P	**Pn**	**18 07 02.3**	**+1.4**
KOFP	**Korovin Flat P**	**0.81**	**353**		**Pn**	**18 07 02.7**	**+0.9**
KOWE	**Korovin West**	**0.91**	**348**		**Pn**	**18 07 05.0**	**+1.8**
GSMY	**Great Sitkin M**	**1.44**	**294**		**Pb**	**18 07 10.9**	**-0.5**
GSTR	**Great Sitkin T**	**1.46**	**296**		**Pn**	**18 07 09.6**	**-1.1**
GSCK	**Great Sitkin C**	**1.49**	**292**		**Pn**	**18 07 11.6**	**+0.5**
GSTD	**Great Sitkin T**	**1.49**	**294**		**Pb**	**18 07 12.0**	**-0.4**
ADK	**Adak**	**1.76**	**284**	Pn	**Pn**	**18 07 14.8**	**0.0**
ADK					**Sn**	**18 07 37.3**	**+0.5**
ADK	**Adak**	**1.76**	**284**	P	**Pb**	**18 07 16.0**	**-0.9**
KIWB	**Kanaga Island**	**2.04**	**282**	Pn	**Pn**	**18 07 19.2**	**+0.5**
KIKV	**Kanaga Island**	**2.06**	**283**		**Pn**	**18 07 20.0**	**+1.0**
KICM	**Kanaga Island**	**2.08**	**284**		**Pn**	**18 07 20.4**	**+1.2**
KIMD	**Kanaga Island**	**2.08**	**279**		**Pn**	**18 07 19.9**	**+0.6**
TAPA	**Tanaga Point A**	**2.44**	**279**		**Pn**	**18 07 25.3**	**+1.1**
TAFP	**Tanaga Falls P**	**2.56**	**281**		**Pn**	**18 07 27.2**	**+1.4**
TASE	**Tanaga Southea**	**2.58**	**280**		**Pn**	**18 07 27.5**	**+1.4**
GAEA	**Gareloi East**	**3.02**	**278**		**Pn**	**18 07 33.6**	**+1.5**
GALAA	**Gareloi Lava P**	**3.03**	**277**		**Pn**	**18 07 32.9**	**+0.6**
NIKH	**Nikolski High**	**3.46**	**62**	Pn	**Pn**	**18 07 38.0**	**-0.2**
NIKH	**Nikolski High**	**3.46**	**62**		**Sb**	**18 08 24.7**	**-2.9**
NIKH	**Nikolski High** baz=248,SNR=188	**3.46**	**62**	P	**Pn**	**18 07 39.9**	**+1.7**
OKSP	**Okmok Steeple**	**3.89**	**61**		**Pn**	**18 07 46.3**	**+2.2**
OKFG	**Magazine Ridge**	**4.16**	**60**		**Pn**	**18 07 49.2**	**+1.4**
OKFG					**Sb**	**18 08 42.0**	**-5.8**
MREP	**Makushin Rep't**	**4.96**	**59**		**Pn**	**18 08 00.5**	**+1.7**
MSW	**Makushin Switc**	**4.99**	**58**		**Pn**	**18 08 01.2**	**+2.0**
MTBL	**Makushin Table**	**5.07**	**58**		**Pn**	**18 08 03.3**	**+3.0**
UNV	**Unalaska Valle**	**5.10**	**59**	Pn	**Pn**	**18 08 03.1**	**+2.4**
UNV	**Unalaska Valle** baz=246,SNR=60	**5.10**	**59**	P	**Pn**	**18 08 02.7**	**+2.0**
ZRO	**Akutan Zero**	**5.49**	**58**		**Pn**	**18 08 07.9**	**+1.8**
AKBBA	**Akutan Broad B**	**5.52**	**58**		**Pn**	**18 08 09.3**	**+2.9**
AKGG	**Akutan Green G**	**5.53**	**57**		**Pn**	**18 08 08.6**	**+2.0**
AKUT	**Akutan**	**5.62**	**59**	Pn	**Pn**	**18 08 11.5**	**+3.7**
AKUT				Sn	**Sn**	**18 09 11.9**	**0.0**
AKSA	**Akutan Strait**	**5.66**	**59**		**Pn**	**18 08 10.2**	**+1.9**
SPIA	**Saint Paul Isl**	**6.10**	**19**	Pn	**Pn**	**18 08 18.7**	**+4.3**
SPIA	**Saint Paul Isl** baz=203,SNR=22	**6.10**	**19**	P	**Pn**	**18 08 18.7**	**+4.3**
WECS	**Westdahl Cape**	**6.31**	**57**		**Pn**	**18 08 21.1**	**+3.7**
WESE	**West Dahl East**	**6.39**	**58**		**Pn**	**18 08 20.7**	**+2.2**
SSLS	**Shishaldin Sou**	**6.80**	**58**		**Pn**	**18 08 27.1**	**+3.0**
SSLN	**Shishaldin Nor**	**6.84**	**57**		**Pn**	**18 08 28.6**	**+4.0**
BRPK	**Brown Peak**	**6.91**	**59**		**Pn**	**18 08 29.2**	**+3.6**
ISLZ	**Isanotski Laza**	**6.96**	**58**		**Pn**	**18 08 29.6**	**+3.4**
ISNN	**Isanotski Nort**	**6.97**	**57**		**Pn**	**18 08 30.1**	**+3.7**
FALS	**False Pass**	**7.17**	**58**	Pn	**Pn**	**18 08 32.4**	**+3.4**
FALS	**False Pass** baz=247,SNR=53	**7.17**	**58**	P	**Pn**	**18 08 32.9**	**+3.9**
FALS	**False Pass**	**7.17**	**58**	P	Pn	18 08 33.8	+4.8
SHEM	**Shemya Is, Ala** 21nm,0.3s,baz=35,slow=2.4,SNR=16	**7.48**	**284**	Pn	**Pn**	**18 08 36.0**	**+2.7**
SHEM					Sn	Sb 18 10 12.5	-11
	17nm,0.3s,baz=290,slow=20,SNR=1.3						
SMY	**Shemya**	**7.48**	**284**		**Pn**	**18 08 34.9**	**+1.5**
SMY					**Sn**	**18 09 55.5**	**-2.2**
BLHA	**Black Hill**	**8.23**	**54**		**Pn**	**18 08 46.9**	**+3.3**
SDPT	**Sand Point**	**8.92**	**59**	Pn	**Pn**	**18 08 53.6**	**+0.6**
SDPT	**Sand Point** baz=250,SNR=41	**8.92**	**59**	P	**Pn**	**18 08 53.8**	**+0.8**
CHGN	**Chignik**	**10.35**	**56**		**Pn**	**18 09 12.8**	**+0.2**
CHGN	**Chignik** baz=249,SNR=23	**10.35**	**56**	P	**Pn**	**18 09 12.7**	**+0.2**
CHIR	**Chirikof Isln**	**11.69**	**61**		**Pn**	**18 09 31.2**	**+0.2**
CHIR	**Chirikof Isln** baz=256	**11.69**	**61**	P	**Pn**	**18 09 31.1**	**+0.1**
GAMB	**Gambell**	**12.39**	**5**	Pn	**Pn**	**18 09 44.0**	**+3.5**
GAMB	**Gambell** baz=187,SNR=269	**12.39**	**5**	P	**Pn**	**18 09 44.3**	**+3.9**
SII	**Sitkinak Islan**	**12.66**	**59**		**Pn**	**18 09 44.0**	**-0.2**
SII	**Sitkinak Islan** baz=255,SNR=8.4	**12.66**	**59**	P	**Pn**	**18 09 44.4**	**+0.2**
SII	**Sitkinak Islan**	**12.66**	**59**	P	**Pn**	**18 09 45.4**	**+1.2**
P18K	**Big Mountain,**	**13.21**	**46**		**Pn**	**18 09 54.2**	**+2.4**
P18K	**Big Mountain,** baz=242	**13.21**	**46**	P	**Pn**	**18 09 54.7**	**+2.9**
OHAK	**Old Harbor**	**13.32**	**56**		**Pn**	**18 09 51.1**	**-2.0**
OHAK	**Old Harbor** baz=254,SNR=7.2	**13.32**	**56**	P	**Pn**	**18 09 52.7**	**-0.4**
KDAK	**Kodiak Island** 9.1nm,0.3s,baz=196,slow=3.0,SNR=44	**13.85**	**55**	Pn	**Pn**	**18 09 59.2**	**-1.2**
KDAK					Sn	S	18 12 46.4	-9.2
	10nm,0.3s,baz=10,slow=22,SNR=3.5							
KDAK					ScP	**ScP**	**18 18 50.5**	**-4.4**
	1.6nm,0.3s,baz=290,slow=4.2,SNR=11							
KDAK	**Kodiak Island**	**13.85**	**55**		**Pn**	**18 09 58.4**	**-2.0**
KDAK	**Kodiak Island** baz=252	**13.85**	**55**	P	**Pn**	**18 09 59.4**	**-1.0**
ANM	**Nome**	**13.86**	**16**	P	**Pn**	**18 10 03.0**	**+2.4**
ANM	**Nome**	**13.86**	**16**		**Pn**	**18 10 03.0**	**+2.4**
ANM	**Nome** baz=203,SNR=421	**13.86**	**16**	P	**Pn**	**18 10 04.2**	**+3.6**
SVW2	**Sparrevohn**	**13.97**	**39**		**Pn**	**18 10 04.7**	**+2.6**
O19K	**Port Alsworth**	**14.01**	**44**		**Pn**	**18 10 03.9**	**+1.4**
O19K	**Port Alsworth** baz=240,SNR=31	**14.01**	**44**	P	**Pn**	**18 10 05.5**	**+3.0**
P19K	**Oil Pt**	**14.24**	**47**		**Pn**	**18 10 06.2**	**+0.4**
P19K	**Oil Pt** baz=244	**14.24**	**47**	P	**Pn**	**18 10 09.1**	**+3.4**
N19K	**Bonanza Creek**	**14.26**	**42**		**Pn**	**18 10 05.5**	**-0.6**
N19K	**Bonanza Creek** baz=238	**14.26**	**42**	P	**Pn**	**18 10 08.5**	**+2.4**
TNA	**Tin City**	**14.46**	**10**	Pn	**Pn**	**18 10 08.4**	**-0.3**
TNA	**Tin City** baz=196,SNR=190	**14.46**	**10**	P	**P**	**18 10 12.0**	**-3.3**
O20K	**Slope Mountain** baz=244,SNR=13	**14.70**	**46**	P	**Pn**	**18 10 14.9**	**+2.8**
RSO	**Redoubt South**	**14.82**	**44**		**Pn**	**18 10 12.3**	**-1.6**
L19K	**White Mountain**	**14.90**	**37**		**Pn**	**18 10 15.7**	**+1.0**
L19K	**White Mountain** baz=233,SNR=62	**14.90**	**37**	P	**Pn**	**18 10 16.6**	**+1.9**
L19K					S	**S**	**18 13 08.2**	**-8.9**
	baz=233							
M19K	**Big River Lodg**	**14.90**	**38**		**Pn**	**18 10 15.6**	**+0.8**
M19K	**Big River Lodg** baz=235,SNR=144	**14.90**	**38**	P	**P**	**18 10 18.1**	**-2.3**
M19K					S	**S**	**18 13 10.3**	**-7.0**
	baz=235							
TTA	**Tatalina**	**14.96**	**33**	P	**Pn**	**18 10 15.4**	**-0.2**
TTA	**Tatalina**	**14.96**	**33**		**Pn**	**18 10 15.4**	**-0.2**
TTA	**Tatalina** baz=228,SNR=170	**14.96**	**33**	P	**Pn**	**18 10 17.1**	**+1.4**
TTA					S	**S**	**18 13 13.6**	**-5.0**
	baz=228							
HOM	**Homer**	**14.97**	**48**		**Pn**	**18 10 14.1**	**-1.6**
HOM	**Homer** baz=247,SNR=7.7	**14.97**	**48**	P	**Pn**	**18 10 17.8**	**+2.1**
CNPM	**China Poot**	**15.11**	**49**		**Pn**	**18 10 15.8**	**-1.8**
BRLK	**Bradley Lake**	**15.37**	**48**		**Pn**	**18 10 18.9**	**-2.0**
BRLK					IAmb	IAmb	18 10 51.2	
	comp=Z,1μm,1.3s							
SPCR	**Spurr Chakacha** baz=241,SNR=45	**15.41**	**42**	P	**P**	**18 10 24.9**	**-1.2**
SPCR					S	**S**	**18 13 30.4**	**+2.7**
	baz=241							
BRSE	**Bradley Lake S** baz=248,SNR=23	**15.43**	**49**	P	**Pn**	**18 10 21.8**	**0.0**
L20K	**Farewell, AK** baz=234	**15.44**	**37**	P	**P**	**18 10 25.8**	**-0.6**
L20K					S	**S**	**18 13 20.4**	**-7.9**
	baz=234							
SPU	**Mount Spurr**	**15.46**	**43**		**Pn**	**18 10 21.9**	**-0.4**
CAPN	**Captain Cook N**	**15.66**	**45**		**Pn**	**18 10 25.3**	**+0.6**
CAPN					IAmb	IAmb	18 10 48.4	
	comp=Z,768nm,0.8s							
CAPN	**Captain Cook N** baz=244	**15.66**	**45**	P	**P**	**18 10 30.5**	**+1.8**
K20K	**Telida**	**15.91**	**34**	P	**Pn**	**18 10 29.4**	**+1.4**
K20K	**Telida** baz=231	**15.91**	**34**	P	**P**	**18 10 30.4**	**-1.2**
K20K					S	**S**	**18 13 31.0**	**-6.9**
	baz=231							
GCSA	**Galena City Sc** baz=222,SNR=84	**15.98**	**27**	P	**P**	**18 10 31.4**	**-0.9**
GCSA					S	**S**	**18 13 38.2**	**-0.9**
	baz=222							
SEW	**Seward**	**16.16**	**48**		**Pn**	**18 10 29.2**	**-1.9**
SEW	**Seward** baz=249,SNR=56	**16.16**	**48**	P	**Pn**	**18 10 29.4**	**-1.8**
O22K	**Cooper Landing**	**16.18**	**47**		**Pn**	**18 10 29.9**	**-1.5**
O22K					IAmb	IAmb	18 10 58.8	
	comp=Z,1μm,0.6s							
O22K	**Cooper Landing** baz=247,SNR=60	**16.18**	**47**	P	**Pn**	**18 10 31.5**	**+0.1**
PPLA	**Purkeypile**	**16.32**	**37**	P	**Pn**	**18 10 32.7**	**-0.6**
PPLA					IAmb	IAmb	18 11 10.8	
	comp=Z,3μm,1.6s							
PPLA	**Purkeypile** baz=236,SNR=64	**16.32**	**37**	P	**P**	**18 10 36.4**	**+0.2**
PPLA					S	**S**	**18 13 42.4**	**-4.0**
	baz=236							
J20K	**Nowinta River**	**16.42**	**32**		**P**	**18 10 35.9**	**-1.2**
J20K	**Nowinta River** baz=229	**16.42**	**32**	P	**P**	**18 10 36.1**	**-1.0**
J20K					S	**S**	**18 13 44.7**	**-3.5**
	baz=229							
RC01	**Rabbit Creek A**	**16.42**	**45**	P	**Pn**	**18 10 33.0**	**-1.6**
RC01	**Rabbit Creek A** baz=245,SNR=19	**16.42**	**45**	P	**Pn**	**18 10 34.2**	**-0.4**
M22K	**Willow**	**16.55**	**42**	P	**Pn**	**18 10 35.4**	**-0.8**
M22K					IAmb	IAmb	18 11 24.3	
	comp=Z,2μm,1.2s							
CAST	**Castle Rocks**	**16.66**	**36**	P	**Pn**	**18 10 36.6**	**-0.9**
CAST	**Castle Rocks** baz=235,SNR=196	**16.66**	**36**	P	**P**	**18 10 39.0**	**-0.8**
CAST					S	**S**	**18 13 52.4**	**-0.7**
	baz=235							
CUT	**Chulitna**	**16.81**	**40**	P	**Pn**	**18 10 40.2**	**+0.8**
CUT					IAmb	IAmb	18 11 01.9	
	comp=Z,1μm,1.1s							
CUT	**Chulitna** baz=241,SNR=12	**16.81**	**40**	P	**P**	**18 10 42.7**	**+1.3**
PET	**Petropavlovsk**	**16.82**	**286**	*c*	*i*P	**Pn**	**18 10 38.1**	**-1.5**
PET					*e*S	**Sn**	**18 13 42.0**	**-4.0**
PET					pmax	pmax		
	comp=Z,18μm,16.3s							
PET					pmax	pmax		
	comp=Z,293nm,1.2s							
PET					pmax	pmax		
	comp=Z,14μm,12.6s							
PET					MLR	MLR		
	comp=Z,64μm,19.0s							
PET					MLR	MLR		
	comp=Z,53μm,19.0s							
PET	**Petropavlovsk**	**16.82**	**286**		P	**Pn**	**18 10 37.2**	**-2.4**
PET	**Petropavlovsk** comp=Z,1μm,2.0s	**16.82**	**286**		P	**P**	**18 10 42.6**	**+0.9**
CHUM	**Lake Minchumin** baz=233,SNR=106	**16.85**	**34**		P	**P**	**18 10 41.5**	**-0.5**
CHUM					S	**S**	**18 13 58.2**	**+1.2**
	baz=233							
PMR	**Palmer**	**16.90**	**44**		P	**Pn**	**18 10 39.8**	**-0.8**
PMR					pmax	pmax		
	comp=Z,387nm,1.4s							
PMR	**Palmer**	**16.90**	**44**		P	**Pn**	**18 10 39.8**	**-0.8**
PMR	**Palmer** baz=245,SNR=35	**16.90**	**44**		P	**Pn**	**18 10 40.7**	**+0.1**
PMR					S	**S**	**18 13 55.7**	**-2.4**
	baz=245							
PWL	**Port Wells**	**16.96**	**46**		P	**Pn**	**18 10 38.3**	**-3.0**
PWL	**Port Wells** baz=248,SNR=53	**16.96**	**46**		P	**Pn**	**18 10 38.6**	**-2.7**
GHO	**Glory Hole Cre**	**17.07**	**43**		P	**Pn**	**18 10 40.6**	**-2.2**
KNK	**Knik Glacier**	**17.12**	**45**		P	**Pn**	**18 10 38.7**	**-4.6**
KNK					IAmb	IAmb	18 11 14.5	
	comp=Z,2μm,1.7s							
KNK	**Knik Glacier** baz=246,SNR=107	**17.12**	**45**		P	**Pn**	**18 10 41.4**	**-2.0**
KTH	**Kantishna Hill**	**17.16**	**36**		P	**Pn**	**18 10 42.8**	**-1.1**
SML	**Sawmill**	**17.34**	**44**		P	**Pn**	**18 10 45.0**	**-1.1**
SML	**Sawmill** baz=245,SNR=66	**17.34**	**44**		P	**Pn**	**18 10 45.4**	**-0.7**
TRF	**Thorofare Moun**	**17.34**	**37**		P	**Pn**	**18 10 44.3**	**-2.0**
TRF					IAmb	IAmb	18 11 32.2	
	comp=Z,2μm,1.8s							
TRF	**Thorofare Moun** baz=238,SNR=66	**17.34**	**37**	P	P	**18 10 47.1**	**-0.5**
TRF					S	**S**	**18 14 07.5**	**+0.2**
	baz=238							
PEA0B	**Petropavlovsk-**	**17.39**	**287**		P	**Pn**	**18 10 44.9**	**-1.8**
PEA0B					pmax	pmax		
	comp=Z,1μm,1.3s							
PEA0B	**Petropavlovsk-**	**17.39**	**287**		P	**Pn**	**18 10 44.9**	**-1.8**
PETK	**Petropavlovsk-** comp=Z,6.3nm,0.3s,baz=110,slow=12,SNR=61	**17.39**	**287**		P	**Pn**	**18 10 46.1**	**-0.7**
PETK					PcP	**PcP**	**18 15 29.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=69,slow=5.0,SNR=2.9							
PETK					LR	LR	18 17 43.9	
	comp=Z,23μm,18.8s,baz=96,slow=38							
PETK					ScP	**ScP**	**18 19 01.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=92,slow=8.9,SNR=3.7							
PETK	**Petropavlovsk-**	**17.39**	**287**		P	**Pn**	**18 10 44.5**	**-2.2**
PETK						**PcP**	**18 15 27.0**	**-0.6**
PETK						**ScP**	**18 19 00.0**	**-1.6**
Q23K	**Middleton Isla**	**17.44**	**52**	P		**Pn**	**18 10 47.1**	**-0.2**
Q23K	**Middleton Isla** baz=255	**17.44**	**52**	P		**Pn**	**18 10 47.8**	**+0.4**
MID	**Middleton Isla**	**17.45**	**52**	P		**Pn**	**18 10 47.1**	**-0.3**
MID				pmax		pmax		
	comp=Z,671nm,0.8s							
MID	**Middleton Isla**	**17.45**	**52**	P		**Pn**	**18 10 47.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**17.45**	**35**	P		**Pn**	**18 10 46.5**	**-1.0**
BPAW	**Bear Paw Mtn.** baz=235,SNR=243	**17.45**	**35**	P		**P**	**18 10 48.4**	**-0.2**
BPAW				S		**S**	**18 14 07.6**	**-1.6**
	baz=235							
RDOG	**Red Dog Mine**	**17.48**	**14**	P		**P**	**18 10 50.0**	**+1.1**
RDOG	**Red Dog Mine** baz=204,SNR=50	**17.48**	**14**	P		**P**	**18 10 52.6**	**+3.8**
RDOG				S		**S**	**18 14 13.7**	**+4.0**
	baz=204							
FID	**Port Fidalgo**	**17.77**	**48**	P		**Pn**	**18 10 48.2**	**-3.2**
I21K	**Tanana**	**17.78**	**31**	P		**Pn**	**18 10 49.6**	**-1.9**
I21K	**Tanana** baz=230	**17.78**	**31**	P		**P**	**18 10 53.0**	**+0.8**
I21K				S		**S**	**18 14 15.4**	**-0.4**
	baz=230							
IMAR	**Indian Mountai**	**17.78**	**28**	P		**Pn**	**18 10 51.6**	**0.0**
SCM	**Sheep Creek Mo**	**17.79**	**44**	P		**Pn**	**18 10 50.3**	**-1.4**
SCM				pmax		pmax		
	comp=Z,431nm,0.6s							
SCM	**Sheep Creek Mo**	**17.79**	**44**	P		**Pn**	**18 10 50.3**	**-1.4**
SCM	**Sheep Creek Mo** baz=247,SNR=119	**17.79**	**44**	P		**Pn**	**18 10 50.8**	**-0.9**
H21K	**Melozitna Rive**	**17.84**	**29**	P		**Pn**	**18 10 51.6**	**-0.6**
H21K	**Melozitna Rive** baz=228	**17.84**	**29**	P		**P**	**18 10 53.6**	**+0.7**
H21K				S		**S**	**18 14 19.9**	**+2.8**
	baz=228							
RND	**Reindeer**	**17.87**	**38**	P		**Pn**	**18 10 51.2**	**-1.5**
RND				pmax		pmax		
	comp=Z,679nm,1.2s							
RND	**Reindeer**	**17.87**	**38**	P		**Pn**	**18 10 51.2**	**-1.5**
WAT6	**Susitna Watana** baz=244,SNR=39	**17.93**	**42**	P		**Pn**	**18 10 52.8**	**-0.7**
WAT6				S		**S**	**18 14 21.3**	**+2.1**
	baz=244							
MCK	**McKinley**	**18.01**	**37**	P		**Pn**	**18 10 53.3**	**-1.0**
MCK				pmax		pmax		
	comp=Z,542nm,1.0s							
MCK	**McKinley**	**18.01**	**37**	P		**Pn**	**18 10 53.3**	**-1.0**
MCK	**McKinley** baz=239,SNR=263	**18.01**	**37**	P		**Pn**	**18 10 53.4**	**-0.9**
MCK				S		**S**	**18 14 20.6**	**+0.1**
	baz=239							
BWN	**Browne**	**18.04**	**36**	P		**Pn**	**18 10 53.6**	**-1.1**
BWN				IAmb		IAmb	18 11 16.3	
	comp=Z,1μm,1.0s							
EYAK	**Cordova Ski Ar**	**18.05**	**49**	P		**Pn**	**18 10 52.6**	**-2.2**
EYAK	**Cordova Ski Ar** baz=253,SNR=14	**18.05**	**49**	P		**P**	**18 10 55.2**	**0.0**
EYAK				S		**Sn**	**18 14 16.1**	**+0.5**
	baz=253							
MLY	**Manley**	**18.10**	**33**	P		**Pn**	**18 10 54.0**	**-1.5**
MLY	**Manley** baz=235,SNR=803	**18.10**	**33**	P		**P**	**18 10 56.0**	**+0.3**
MLY				S		**Sn**	**18 14 17.4**	**+0.6**
	baz=233							
DIV	**Divide**	**18.22**	**47**	P		**Pn**	**18 10 55.3**	**-1.8**
KLU	**Klutina**	**18.28**	**46**	P		**Pn**	**18 10 55.8**	**-2.0**
KLU	**Klutina** baz=250,SNR=37	**18.28**	**46**	P		**Pn**	**18 10 56.9**	**-0.8**
DHY	**Denali Highway**	**18.30**	**40**	P		**Pn**	**18 10 55.1**	**-2.9**
DHY	**Denali Highway** baz=243,SNR=96	**18.30**	**40**	P		**Pn**	**18 10 56.4**	**-1.7**
M24K	**Tolsona, Glenn**	**18.39**	**44**	P		**P**	**18 10 57.7**	**-1.4**
M24K	**Tolsona, Glenn** baz=248,SNR=64	**18.39**	**44**	P		**P**	**18 10 58.4**	**-0.7**
NEA2	**Nenana**	**18.42**	**35**	P		**P**	**18 10 58.1**	**-1.2**
NEA2	**Nenana** baz=237,SNR=90	**18.42**	**35**	P		**P**	**18 10 58.2**	**-1.0**
NEA2				S		**S**	**18 14 28.3**	**-0.6**
	baz=237							
RAGM	**Ragged Mountai**	**18.51**	**50**	P		**P**	**18 10 58.6**	**-1.7**
KAIM	**Kayak Island**	**18.52**	**51**			**P**	**18 10 59.5**	**-0.9**
KAIM					IAmb	IAmb	18 11 11.3	
	comp=Z,794nm,0.8s							
KAIM	**Kayak Island** baz=256,SNR=20	**18.52**	**51**	P		**Pn**	**18 11 01.7**	**+1.1**
I23K	**Minto, Yukon-K**	**18.64**	**33**	P		**P**	**18 11 00.9**	**-0.7**
I23K					IAmb	IAmb	18 11 14.1	
	comp=Z,3μm,1.5s							
I23K	**Minto, Yukon-K** baz=235,SNR=363	**18.64**	**33**	P		**P**	**18 11 01.6**	**+0.1**
I23K				S		**S**	**18 14 33.3**	**+0.2**
	baz=235							
HMT	**Hamilton**	**18.70**	**50**	P		**P**	**18 11 00.5**	**-1.9**
BMRM	**Bremner River**	**18.71**	**48**	P		**P**	**18 10 59.6**	**-2.9**
BMRM	**Bremner River** baz=253,SNR=46	**18.71**	**48**	P		**P**	**18 11 02.4**	**-0.1**
WRH	**Wood River Hil**	**18.71**	**36**	P		**P**	**18 11 00.2**	**-2.2**
SKR	**Severo-Kuril's**	**18.78**	**279**	*de*	P	**Pn**	**18 11 05.2**	**+1.4**
SUCK	**Suckling Hills**	**18.86**

ILAR ScP **ScP** **18 19 03.7 -1.9**
comp=Z,0.1nm,0.3s,baz=266,slow=2.7,SNR=4.3
ILAR ScS **ScS** **18 22 43.5 -3.5**
comp=Z,0.0nm,0.3s,baz=114,slow=17,SNR=1.8
ILAR P3KPbc 18 45 35.7
comp=Z,0.1nm,0.3s,baz=105,slow=2.1,SNR=11
ILAR Eielson Array 19.31 36 P **P** **18 11 05.6 -3.4**
VRDI Verde Repeater 19.32 48 P **P** **18 11 06.2 -3.2**
SNH Sunshine Point 19.35 51 P **P** **18 11 09.0 -0.5**
SNH IAmb IAmb 18 11 18.8
comp=Z,764nm,0.9s
WAX Waxell Ridge 19.40 50 P **P** **18 11 08.6 -1.5**
WAX IAmb IAmb 18 11 17.9
comp=Z,627nm,0.9s
H24K Noodor Dome 19.54 33 P **P** **18 11 11.0 -0.6**
H24K IAmb IAmb 18 11 33.3
comp=Z,964nm,1.1s
H24K Noodor Dome 19.54 33 P **P** **18 11 11.7 +0.1**
baz=236,SNR=668
H24K S **Sn** **18 14 54.3 +2.7**
baz=236
MCARA McCarthy VSAT 19.57 48 P **P** **18 11 09.4 -2.4**
MCARA McCarthy VSAT 19.57 48 P **P** **18 11 11.5 -0.3**
baz=254,SNR=39
RIDG Independent Ri 19.61 40 P **P** **18 11 11.3 -1.1**
baz=245,SNR=208
RIDG S **Sn** **18 14 59.0 +5.6**
baz=245
COLD Coldfoot 19.67 28 **P** **18 11 11.4 -1.5**
COLD Coldfoot 19.67 28 P **Pn** **18 11 14.4 0.0**
baz=229,SNR=81
COLD S **Sn** **18 15 00.9 +6.3**
baz=229
ISLE Juniper Island 19.68 50 P **P** **18 11 11.5 -1.8**
MENT Mentasta 19.76 43 P **P** **18 11 12.0 -2.0**
J25K Salcha River, 19.80 37 P **P** **18 11 11.2 -3.2**
J25K IAmb IAmb 18 11 37.3
comp=Z,1μm,0.8s
J25K Salcha River, 19.80 37 P **P** **18 11 12.4 -2.1**
baz=242,SNR=1000
DOT Dot Lake 19.89 41 P **P** **18 11 12.5 -2.9**
L26K Log Cabin Wild 19.95 43 P **P** **18 11 14.0 -2.0**
L26K Log Cabin Wild 19.95 43 P **P** **18 11 15.5 -0.6**
baz=249,SNR=64
L26K S **Sn** **18 15 04.7 +3.1**
baz=249
SCRK Sand Creek 20.06 40 P **P** **18 11 14.7 -2.6**
SCRK Sand Creek 20.06 40 P **P** **18 11 15.9 -1.4**
baz=246,SNR=490
BARN Barnard Glacie 20.12 49 P **P** **18 11 16.7 -1.4**
BARN IAMs_20 IAMs_20 18 19 38.4
comp=Z,91μm,20.0s
PRP Porcupine Dome 20.19 35 P **P** **18 11 16.2 -2.5**
PRP Porcupine Dome 20.19 35 P **P** **18 11 16.9 -1.8**
baz=240,SNR=175
PRP S **S** **18 15 02.9 -1.7**
baz=240
TABL Table Mountain 20.23 51 P **P** **18 11 17.1 -2.2**
TABL IAmb IAmb 18 11 38.9
comp=Z,1μm,1.3s
TABL IAMs_20 IAMs_20 18 20 20.3
comp=Z,142μm,20.0s
CTG Chitna Glacier 20.25 49 P **P** **18 11 18.6 -0.8**
baz=257,SNR=130
CTG S **S** **18 15 07.1 +1.3**
baz=257
CTGM Chitina Glacie 20.25 49 P **P** **18 11 17.3 -2.2**
CTGM IAMs_20 IAMs_20 18 19 41.8
comp=Z,93μm,21.0s
M27K Edge Creek, AK 20.37 45 P **P** **18 11 18.2 -2.6**
M27K IAMs_20 IAMs_20 18 19 35.0
comp=Z,167μm,20.0s
M27K Edge Creek, AK 20.37 45 P **P** **18 11 20.2 -0.6**
baz=253,SNR=183
LOGN Logan Glacier 20.38 50 P **P** **18 11 18.8 -2.0**
LOGN IAmb IAmb 18 11 30.3
comp=Z,792nm,1.2s
LOGN IAMs_20 IAMs_20 18 20 24.2
comp=Z,116μm,20.0s
J26L Joseph Creek 20.45 39 P **P** **18 11 19.9 -1.6**
baz=245
J26L S Sn 18 15 13.4 -0.1
baz=245
PCA Pinnacle 20.60 52 P **P** **18 11 20.9 -2.3**
PCA IAmb IAmb 18 11 44.3
comp=Z,574nm,0.8s
PINM Pinnacle 20.60 52 P **P** **18 11 23.1 -0.1**
baz=261
PINM S Sn 18 15 15.2 -2.0
baz=261
L27K Beaver Creek, 20.61 43 P **P** **18 11 21.8 -1.5**
L27K IAMs_20 IAMs_20 18 20 23.4
comp=Z,97μm,20.0s
L27K Beaver Creek, 20.61 43 P **P** **18 11 22.7 -0.6**
baz=251
L27K S Sn 18 15 18.7 +1.2
baz=251
TOLK Toolik Lake Re 20.81 25 P **P** **18 11 24.1 -1.2**
TOLK IAmb IAmb 18 11 36.9
comp=Z,894nm,0.9s
TOLK Toolik Lake Re 20.81 25 P **P** **18 11 25.7 +0.4**
baz=227,SNR=859
TOLK S Sn 18 15 21.2 -0.8
baz=227
FYU Fort Yukon 20.84 33 P **P** **18 11 23.3 -2.3**
FYU IAmb IAmb 18 11 37.5
comp=Z,731nm,0.9s
BVCY Beaver Creek 20.84 46 P **P** **18 11 25.6 -0.1**
baz=254,SNR=94
BVCY S Sn 18 15 21.8 -1.1
baz=254
YUK3 Moose Creek 20.85 47 P **P** **18 11 24.2 -1.8**
baz=256,SNR=58
YUK3 S Sn 18 15 21.0 -2.5
baz=256
BCPM Bancas Point 20.88 53 P **P** **18 11 23.1 -3.1**
BCPM IAmb IAmb 18 11 44.7
comp=Z,495nm,0.8s
BCPM IAMs_20 IAMs_20 18 20 06.7
comp=Z,84μm,20.0s
PNL Peninsula 20.96 54 P **P** **18 11 27.2 +0.2**
baz=263,SNR=68
PNL S Sn 18 15 25.3 -0.5
baz=263
SEY Seymchan 21.26 316 P **P** **18 11 30.4 +0.2**
comp=Z,50nm,0.7s,baz=111,slow=10,SNR=54
SEY PcP **PcP** **18 15 35.1 +0.9**
comp=Z,32nm,0.8s,baz=66,slow=8.5,SNR=2.9
SEY ScP **ScP** **18 19 09.5 -0.7**
comp=Z,15nm,0.8s,baz=82,slow=5.6,SNR=5.2
SEY LR LR 18 20 08.5
comp=Z,99μm,19.3s,baz=106,slow=38
SEY P3KPbc 18 45 25.1
comp=Z,0.3nm,0.3s,baz=249,slow=23,SNR=3.7
SEY Seymchan 21.26 316*c iP* **P** **18 11 30.2 0.0**
SEY pmax pmax
comp=Z,97nm,0.9s
SEY MLR MLR
comp=Z,90μm,19.0s
MA2 Magadan 21.34 306 P **P** **18 11 30.9 -0.1**
comp=Z,44nm,0.8s,baz=88,slow=11,SNR=50
MA2 ScP **ScP** **18 19 08.6 -1.9**
comp=Z,11nm,0.9s,baz=117,slow=4.9,SNR=4.1
MA2 LR LR 18 19 44.6
comp=Z,77μm,19.6s,baz=108,slow=37
MA2 P3KPbc 18 45 27.4
comp=Z,0.7nm,0.2s,baz=247,slow=6.1,SNR=4.3
MA2 Magadan 21.34 306*c iP* **P** **18 11 31.2 +0.2**
MA2 pmax pmax
comp=Z,70nm,1.0s
MA2 MLR MLR
comp=Z,101μm,17.0s
MA2 Magadan 21.34 306 P **P** **18 11 29.4 -1.6**
MA2 IAMs_20 IAMs_20 18 19 24.4
comp=Z,81μm,19.0s
MA2 Magadan 21.34 306 P **P** **18 11 37.3 +6.3**
A21K Barrow 21.40 15 P **P** **18 11 29.9 -1.7**
A21K IAMs_20 IAMs_20 18 20 54.8
comp=Z,120μm,20.0s
A21K Barrow 21.40 15 P **P** **18 11 31.6 0.0**
baz=211,SNR=31
A21K S Sn 18 15 32.7 -3.3
baz=211
EGAK Eagle 21.51 39 P **P** **18 11 31.4 -1.4**
EGAK IAMs_20 IAMs_20 18 21 04.9
comp=Z,103μm,18.0s
EGAK Eagle 21.51 39 P **P** **18 11 31.7 -1.1**
baz=248,SNR=1000
EGAK S **S** **18 15 33.6 +3.1**
baz=248
BMAR Burnt Mountain 21.52 31 P **P** **18 11 31.5 -1.6**
YUK4 Talbot Arm 21.60 49 P **P** **18 11 34.4 +0.3**
baz=259,SNR=39
YUK4 S Sn 18 15 39.7 -1.8
baz=259
YUK6 Outpost Mounta 21.66 50 P **P** **18 11 35.8 +1.0**
baz=260,SNR=47
YUK6 S Sn 18 15 41.2 -1.8
baz=260
DAWY Dawson 21.97 42 P **P** **18 11 35.4 -2.5**
DAWY IAmb IAmb 18 11 60.0
comp=Z,665nm,1.3s
DAWY Dawson 21.97 42 P **P** **18 11 36.8 -1.1**
baz=252,SNR=216
DAWY S **S** **18 15 43.2 +3.6**
baz=252
HYT Haines Junctio 22.06 51 P **P** **18 11 37.6 -1.3**
HYT Haines Junctio 22.06 51 P **P** **18 11 38.8 -0.1**
baz=262,SNR=82
HYT S Sn 18 15 47.0 -5.4
baz=262
J29M Klondike Camp 22.58 41 P **P** **18 11 44.3 -0.1**
baz=252,SNR=131
J29M S **S** **18 15 56.1 +5.1**
baz=252
M30M Minto, Yukon 22.71 46 P **P** **18 11 44.3 -1.5**
M30M IAMs_20 IAMs_20 18 20 58.9
comp=Z,101μm,19.0s
M30M Minto, Yukon 22.71 46 P **P** **18 11 45.1 -0.7**
baz=258
M30M S **S** **18 15 57.9 +4.6**
baz=258
I29M Ogilvie Camp, 22.85 39 IAMs_20 IAMs_20 18 22 05.3
comp=Z,83μm,18.0s
I29M Ogilvie Camp, 22.85 39 P **P** **18 11 46.0 -1.2**
baz=250,SNR=70
I29M S **S** **18 15 57.7 +2.1**
baz=250
N31M Braeburn, Yuko 22.99 49 P **P** **18 11 46.7 -2.0**
N31M IAMs_20 IAMs_20 18 21 50.2
comp=Z,100μm,19.0s
N31M Braeburn, Yuko 22.99 49 P **P** **18 11 51.4 +2.7**
baz=262,SNR=19
N31M S **S** **18 16 01.3 +3.2**
baz=262
SIT Sitka 22.99 61 P **P** **18 11 47.5 -1.1**
SIT pmax pmax
comp=Z,537nm,1.1s
SIT Sitka 22.99 61 P **P** **18 11 47.5 -1.1**
SIT IAmb IAmb 18 12 13.9
comp=Z,537nm,1.1s
SIT Sitka 22.99 61 P **P** **18 11 50.5 +1.9**
baz=273,SNR=27
SIT S **S** **18 16 00.9 +2.8**
baz=273
SKAG Skagway 23.00 55 P **P** **18 11 48.3 -0.4**
SKAG IAmb IAmb 18 12 37.6
comp=Z,636nm,1.3s
SKAG Skagway 23.00 55 P **P** **18 11 50.0 +1.3**
baz=267,SNR=32
SKAG S **S** **18 15 56.3 -2.0**
baz=267
BESE Bessie Mountai 23.22 57 P **P** **18 11 49.5 -1.6**
BESE IAmb IAmb 18 12 19.0
comp=Z,386nm,0.8s
WHY Whitehorse 23.32 52 P **P** **18 11 51.3 -0.8**
WHY Whitehorse 23.32 52 P **P** **18 11 53.6 +1.5**
baz=265,SNR=21
WHY S **S** **18 16 10.6 +6.7**
baz=265
MIDW Midway 23.38 188 P **P** **18 11 53.6 +0.8**
MIDW IAmb IAmb 18 12 03.1
comp=Z,449nm,0.9s
JIS Juneau Island 23.47 58 P **P** **18 11 52.8 -0.6**
JIS IAmb IAmb 18 12 27.3
comp=Z,444nm,1.0s
JIS IAMs_20 IAMs_20 18 22 31.1
comp=Z,66μm,19.0s
M31M Drury Creek, Y 23.74 48 P **P** **18 11 54.5 -1.7**
M31M IAMs_20 IAMs_20 18 21 33.2
comp=Z,123μm,22.0s
M31M Drury Creek, Y 23.74 48 P **P** **18 11 57.0 +0.9**
baz=262,SNR=24
M31M S **S** **18 16 14.8 +4.3**
baz=262
FARO Faro, Yukon 24.23 48 P **P** **18 12 01.4 +0.6**
baz=263,SNR=19
FARO S **S** **18 16 23.4 +5.1**
baz=263
P33M Teslin, Yukon 24.31 53 P **P** **18 12 00.1 -1.4**
P33M IAMs_20 IAMs_20 18 23 02.3
comp=Z,79μm,18.0s
P33M Teslin, Yukon 24.31 53 P **P** **18 12 02.2 +0.7**
baz=268,SNR=114
P33M S **S** **18 16 26.5 +6.8**
baz=268
CRAG Craig 24.36 64 P **P** **18 12 01.6 -0.2**
CRAG Craig 24.36 64 P **P** **18 12 05.8 +3.9**
baz=278,SNR=17
CRAG S **S** **18 16 26.3 +6.0**
baz=278
WRAK Wrangell Islan 24.68 62 P **P** **18 12 03.7 -1.1**
WRAK IAmb IAmb 18 12 28.7
comp=Z,452nm,1.0s
WRAK Wrangell Islan 24.68 62 IAMs_20 IAMs_20 18 23 27.3
comp=Z,66μm,19.0s
WRAK Wrangell Islan 24.68 62 P **P** **18 12 07.2 +2.4**
baz=276,SNR=53
WRAK S **S** **18 16 31.4 +6.0**
baz=276
DIB Dawson Inlet, 25.14 70 P **P** **18 12 08.9 0.0**
DIB IAmb IAmb 18 12 16.3
comp=Z,329nm,1.0s
H02S1 DAWSON INLET T 25.14 70 P **P** **18 12 10.1 +1.2**
SNR=82
MMPY Sheldon Lake, 25.24 47 P **P** **18 12 09.7 -0.3**
baz=264,SNR=182
MMPY S **S** **18 16 40.2 +5.7**
baz=264
INK Inuvik 25.65 34 P **P** **18 12 12.2 -1.3**
comp=Z,115nm,0.6s,baz=235,slow=9.4,SNR=90
INK PcP **PcP** **18 15 44.4 +0.9**
comp=Z,30nm,0.9s,baz=223,slow=7.3,SNR=2.6
INK S **S** **18 16 47.0 +6.3**
comp=Z,9.9nm,0.8s,baz=285,slow=28,SNR=0.6
INK ScP **ScP** **18 19 19.8 -2.0**
comp=Z,7.7nm,0.9s,baz=252,slow=3.2,SNR=2.0
INK ScS **ScS** **18 23 07.5 -3.0**
comp=Z,1.9nm,0.3s,baz=325,slow=30,SNR=5.3
INK P3KPbc 18 45 08.5
comp=Z,1.0nm,0.3s,baz=360,slow=4.4,SNR=1.5
INK Inuvik 25.65 34 P **P** **18 12 11.9 -1.6**
INK IAmb IAmb 18 12 25.6
comp=Z,532nm,1.2s
INK Inuvik 25.65 34 P **P** **18 12 12.8 -0.7**
baz=250,SNR=68
INK S S 18 16 56.7 +16
baz=250
DLBC Dease Lake 25.75 57 P **P** **18 12 15.9 +1.2**
comp=Z,267nm,1.0s,baz=262,slow=8.1,SNR=68
DLBC LR LR 18 21 52.3
comp=Z,62μm,21.1s,baz=292,slow=35
DLBC Dease Lake 25.75 57 P **P** **18 12 14.3 -0.4**
DLBC IAmb IAmb 18 12 36.9
comp=Z,326nm,0.9s
KUR Kuril'sk 25.92 271 *eP* **P** **18 12 14.4 -1.7**
KUR *eS* **S** **18 16 45.1 -0.3**
KUR *eSS* **SnSn** **18 17 42.5 +0.6**
KUR pmax pmax
comp=Z,2μm,1.1s
KUR pmax pmax
comp=E,878nm,2.1s
KUR pmax pmax
comp=N,648nm,0.8s
KUR pmax pmax
comp=Z,8μm,18.7s
KUR MLR MLR
comp=E,22μm,16.0s
KUR MLR MLR
comp=Z,21μm,16.0s
KUR MLR MLR
comp=N,19μm,14.0s
HG4B Hotspring 26.11 71 P **P** **18 12 19.6 +1.8**
HG4B IAmb IAmb 18 12 58.1
comp=Z,486nm,1.6s
RUBB Prince Rupert 26.18 66 P **P** **18 12 19.0 +0.5**
RUBB IAmb IAmb 18 12 39.1
comp=Z,561nm,1.1s
WTLY Watson Lake, Y 26.32 53 P **P** **18 12 22.3 +2.6**
baz=271,SNR=10
WTLY S S 18 17 10.4 +19
baz=271
TGTN Hyland Airport 26.57 50 P **P** **18 12 21.9 -0.1**
baz=269,SNR=116
TGTN S **S** **18 17 04.1 +8.4**
baz=269
TYV Tymovskoe 26.94 286 *eP* **P** **18 12 27.4 +2.1**
TYV *eS* **S** **18 17 07.8 +6.4**
TYV pmax pmax
comp=Z,137nm,0.9s
TYV pmax pmax
comp=Z,4μm,7.8s
TYV smax smax
comp=N,12nm,1.7s
TYV smax smax
comp=N,1μm,6.5s
TYV MLR MLR
comp=E,40μm,23.0s
TYV MLR MLR
comp=Z,46μm,23.0s
NKL Nikolayevsk 27.45 292 *eP* **P** **18 12 28.4 -1.4**
NKL *eS* **S** **18 17 09.4 0.0**
NKL pmax pmax
comp=E,3.0nm,0.5s
NKL pmax pmax
comp=N,307nm,0.8s
NKL pmax pmax
comp=Z,131nm,0.8s
NKL smax smax
comp=N,843nm,0.8s
NKL smax smax
comp=E,2.0nm,0.8s
NKL MLR MLR
comp=E,28nm,14.0s
NKL MLR MLR
comp=N,9μm,19.0s
NKL MLR MLR
comp=Z,26μm,19.0s
YUK Yuzh-Kuril'sk 27.75 270*d iP* **P** **18 12 31.6 -1.0**
YUK *i* PPP PPP 18 13 25.4
YUK *i* S **S** **18 17 15.9 +1.6**
YUK *e*SSS SSS 18 18 39.4
YUK pmax pmax
comp=Z,989nm,1.2s
YUK pmax pmax
comp=E,912nm,1.4s
YUK pmax pmax
comp=N,520nm,1.2s
YUK MLR MLR
comp=E,32μm,18.0s
YUK MLR MLR
comp=N,22μm,16.0s
YUK MLR MLR
comp=E,17μm,16.0s
UGL Uglegorsk 27.91 283⇑ *iP* **P** **18 12 34.8 +0.8**
UGL *eS* **S** **18 17 08.1 -8.6**
UGL pmax pmax
comp=Z,400nm,1.2s
UGL pmax pmax
comp=Z,3μm,4.3s
UGL smax smax
comp=E,24μm,18.0s
UGL smax smax
comp=N,6μm,15.0s
UGL MLR MLR
comp=E,31μm,20.0s
UGL MLR MLR
comp=N,30μm,17.0s
UGL MLR MLR
comp=Z,28μm,18.0s
BBB Bella Bella 27.96 70 P **P** **18 12 35.5 +1.1**
comp=Z,102nm,1.0s,baz=283,slow=8.5,SNR=8.1
BBB LR LR 18 22 09.9
comp=Z,33μm,20.0s,baz=290,slow=33
BBB Bella Bella 27.96 70 P **P** **18 12 36.3 +1.8**
YSS Yuzh-Sakhalins 28.34 278α *iP* **P** **18 12 38.7 +0.9**
YSS *e*PPP PPP 18 13 46.5
YSS *eS* **S** **18 17 25.8 +2.3**
YSS *e*SS SS 18 19 06.3 -17
YSS pmax pmax
comp=Z,440nm,0.9s
YSS pmax pmax
comp=Z,4μm,3.3s
YSS MLR MLR
comp=N,24μm,19.0s
YSS MLR MLR
comp=Z,70μm,19.0s
YSS MLR MLR
comp=E,42μm,20.0s
YSS Yuzh-Sakhalins 28.34 278 P **P** **18 12 38.1 +0.3**
YSS IAmb IAmb 18 12 56.9
comp=Z,633nm,1.1s
YSS IAMs_20 IAMs_20 18 23 55.5
comp=Z,89μm,20.0s
YSS Yuzh-Sakhalins 28.34 278 P **P** **18 12 40.9 +3.1**
C36M Paulatuk 29.24 34 P **P** **18 12 43.8 -1.8**
C36M Paulatuk 29.24 34 P **P** **18 12 44.2 -1.4**
baz=258,SNR=68
C36M S S 18 17 51.9 +15
baz=258
A36M Sachs Harbour 29.54 28 P **P** **18 12 46.6 -1.6**
A36M Sachs Harbour 29.54 28 P **P** **18 12 47.7 -0.5**
baz=252,SNR=122
A36M S S 18 17 54.5 +13
baz=252
JKA Kamikawa-asahi 29.75 273 P **P** **18 12 49.8 -0.6**
JKA IAmb IAmb 18 13 00.9
comp=Z,284nm,0.8s
ASAJ Asahikawa 29.75 273 P **P** **18 12 51.1 +0.6**
comp=Z,339nm,1.0s,baz=40,slow=4.5,SNR=48
ASAJ S **S** **18 17 49.2 +3.5**
comp=Z,17nm,1.2s,baz=234,slow=10,SNR=1.4
ASAJ ScP **ScP** **18 19 36.0 +1.2**
comp=Z,13nm,1.1s,baz=17,slow=2.3,SNR=2.6
ASAJ LR LR 18 25 42.3
comp=Z,37μm,20.1s,baz=74,slow=38
CBB Campbell River 30.31 73 P **P** **18 12 56.2 +0.8**
ERM Erimo 30.50 269*de iP* **P** **18 12 58.9 +1.9**
ERM pmax pmax
comp=Z,255nm,0.9s
ERM Erimo 30.50 269 P **P** **18 12 56.5 -0.5**
ERM IAmb IAmb 18 13 02.6
comp=Z,256nm,0.9s
ERM Erimo 30.50 269 IAMs_20 IAMs_20 18 27 19.2
comp=Z,43μm,19.0s
ERM Erimo 30.50 269 P **P** **18 12 59.6 +2.6**
GRNR Gornyy 30.69 289⇑ *iP* **P** **18 12 58.3 -0.4**
GRNR *eS* **S** **18 18 02.3 +1.8**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=N,6.0nm,0.8s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=N,11μm,17.0s
GRNR MLR MLR
comp=E,10μm,17.0s
GRNR MLR MLR
comp=Z,17μm,17.0s
JEW Eniwo 31.12 272 P **P** **18 13 01.7 -0.9**
YAK Yakutsk 31.64 312 LR LR 18 26 16.2
comp=Z,85μm,19.3s,baz=105,slow=37
YAK Yakutsk 31.64 312*c iP* **P** **18 13 04.6 -2.3**
YAK *e**PP **pwP** **18 13 14.9 -1.6**
YAK *e* 18 14 06.0
YAK *e* 18 15 59.1
YAK *eS* **S** **18 18 11.0 -4.0**
YAK *e* 18 23 36.4
YAK pmax pmax
comp=Z,96nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,47nm,1.3s
YAK pmax pmax
comp=Z,177nm,1.4s
YAK pmax pmax
comp=E,166nm,1.5s

YAK smax smax
comp=E,18µm,19.2s
YAK smax smax
comp=N,7µm,20.0s
YAK MLR MLR
comp=Z,83µm,19.0s
YAK MLR MLR
comp=N,62µm,20.0s
YAK MLR MLR
comp=E,65µm,19.0s
YAK Yakutsk 31.64 312 P **P** **18 13 04.0 -2.9**
YAK IAmb IAmb 18 13 11.6
comp=Z,120nm,0.7s
YAK IAMs_20 IAMs_20 18 25 54.6
comp=Z,83µm,20.0s
TIXI Tiksi 32.07 330 P **P** **18 13 09.4 -1.2**
comp=Z,35nm,0.6s,baz=90,slow=23,SNR=42
TIXI PcP **PcP** **18 16 00.8 +1.3**
comp=Z,99nm,1.0s,baz=271,slow=23,SNR=9.9
TIXI LR LR 18 27 24.1
comp=Z,24µm,19.1s,baz=175,slow=39
TIXI Tiksi 32.07 330*ce* P **P** **18 13 09.6 -0.9**
TIXI pmax pmax
comp=Z,67nm,1.0s
TIXI MLR MLR
comp=Z,33µm,21.0s
TIXI Tiksi 32.07 330 P **P** **18 13 08.2 -2.3**
LLLB Lilllooet 32.17 71 P **P** **18 13 11.2 -0.5**
LLLB IAmb IAmb 18 13 31.4
comp=Z,212nm,1.3s
NLWA Neilton Lookou 32.29 77 IAMs_20 IAMs_20 18 24 02.7
comp=Z,39µm,20.0s
A04D Lummi Island 32.43 74 S **S** **18 18 31.7 +4.2**
baz=295
KIP Kipapa 32.47 152⇑ *e*P **P** **18 13 13.8 -0.7**
KIP pmax pmax
comp=Z,65nm,1.0s
KIP MLR MLR
comp=Z,33µm,16.0s
KIP Kipapa 32.47 152 P **P** **18 13 14.6 +0.1**
KIP IAmb IAmb 18 13 24.4
comp=Z,276nm,1.2s
KIP Kipapa 32.47 152 IAMs_20 IAMs_20 18 24 24.9
comp=Z,43µm,19.0s
JTM Tenmabayashi 32.48 269 P **P** **18 13 13.6 -0.9**
JTM IAmb IAmb 18 13 37.7
comp=Z,294nm,1.2s
D03D Eldon 32.70 77 P **P** **18 13 19.6 +3.2**
baz=296
D03D S **S** **18 18 35.3 +3.4**
baz=296
E03A Lebam 32.86 78 P **P** **18 13 15.9 -1.8**
E03A IAmb IAmb 18 13 42.9
comp=Z,263nm,1.1s
YKA Yellowknife Ar 32.94 47 P **P** **18 13 16.9 -1.4**
comp=Z,82nm,0.9s,baz=272,slow=9.9,SNR=147
YKA PcP **PcP** **18 16 02.5 +0.5**
comp=Z,32nm,0.8s,baz=289,slow=2.9,SNR=8.7
YKA ScP **ScP** **18 19 44.9 -0.3**
comp=Z,7.7nm,0.7s,baz=282,slow=3.3,SNR=5.2
YKA LR LR 18 28 25.2
comp=Z,92µm,19.9s,baz=274,slow=40
YKA P3KPbc 18 44 35.7
comp=Z,1.0nm,0.8s,baz=102,slow=5.2,SNR=9.4
YKA P3KP 18 45 53.0
comp=Z,0.9nm,1.0s,baz=56,slow=3.1,SNR=4.5
YKA P4KP 18 54 57.5
comp=Z,0.1nm,0.4s,baz=275,slow=7.0,SNR=4.2
YKA Yellowknife Ar 32.94 47 *i* P **P** **18 13 17.3 -1.0**
YKA pmax pmax
comp=Z,82nm,0.9s
YKA Yellowknife Ar 32.94 47 P **P** **18 13 16.5 -1.7**
B05A Bryant 32.99 75 P **P** **18 13 21.9 +3.0**
baz=296,SNR=27
B05A S **S** **18 18 37.3 +1.0**
baz=296
TEY Ternei 33.02 279⇑ *i*P **P** **18 13 19.1 -0.1**
TEY *e* 18 13 21.4
TEY *e* 18 18 45.0
TEY pmax pmax
comp=Z,120nm,2.3s
TEY pmax pmax
comp=N,30nm,2.1s
TEY MLR MLR
comp=E,12µm,16.0s
TEY MLR MLR
comp=N,8µm,21.0s
TEY MLR MLR
comp=Z,19µm,20.0s
D04E Lakebay 33.06 77 P **P** **18 13 23.2 +3.7**
baz=297
B06A Marblemount 33.25 74 P **P** **18 13 20.0 -1.1**
F04D Rainier, OR 33.42 79 P **P** **18 13 25.5 +2.9**
baz=298
F04D S **S** **18 18 45.6 +2.6**
baz=298
E04D Cinebar 33.47 78 P **P** **18 13 21.8 -1.3**
E04D Cinebar 33.47 78 P **P** **18 13 26.3 +3.2**
baz=298,SNR=6.2
E04D S **S** **18 18 47.1 +3.3**
baz=298
D05A Enumclaw 33.53 76 P **P** **18 13 23.1 -0.5**
G03D McMinnville, O 33.68 80 P **P** **18 13 28.8 +3.9**
baz=300
G03D S **S** **18 18 50.8 +3.8**
baz=300
F04A Amboy 33.85 79 P **P** **18 13 24.3 -2.1**
F04A IAmb IAmb 18 13 50.6
comp=Z,120nm,0.8s
C06D Leavenworth 33.86 75 P **P** **18 13 30.7 +4.2**
baz=296
I02E Swisshome, OR 33.87 82 S **S** **18 18 53.3 +3.3**
baz=301
KLR Kul'dur 34.07 288 P **P** **18 13 27.0 -1.2**
comp=Z,147nm,0.5s,baz=73,slow=8.6,SNR=163
KLR LR LR 18 27 45.5
comp=Z,35µm,20.1s,baz=71,slow=37
KLR Kul'dur 34.07 288*c i*P **P** **18 13 27.1 -1.2**
KLR pmax pmax
comp=Z,102nm,0.5s
KLR MLR MLR
comp=Z,40µm,21.0s
LTY Liberty 34.30 76 P **P** **18 13 28.6 -1.8**
J01E Myrtle Point 34.31 84 P **P** **18 13 34.1 +3.7**
baz=302
J01E S **S** **18 18 59.8 +3.0**
baz=302
H04D Lebanon 34.35 81 P **P** **18 13 31.7 +1.0**
H04D IAmb IAmb 18 14 07.3
comp=Z,200nm,1.0s
H04D Lebanon 34.35 81 P **P** **18 13 33.7 +2.9**
baz=300
H04D S **S** **18 19 00.5 +3.1**
baz=300
JMM Marumori 34.38 265 P **P** **18 13 30.1 -1.0**
JMM IAmb IAmb 18 13 39.0
comp=Z,218nm,1.0s
I03D Drain, OR 34.39 83 P **P** **18 13 34.7 +3.6**
baz=301
I03D S **S** **18 19 00.7 +2.7**
baz=301
F05D White Salmon 34.46 78 P **P** **18 13 34.8 +3.0**
baz=299
F05D S **S** **18 19 01.9 +2.7**
baz=299
HPAH Hawaii Prepara 34.49 149 P **P** **18 13 31.3 -1.0**
HPAH IAmb IAmb 18 13 54.1
comp=Z,262nm,1.0s
H04A Detroit Lake 34.61 81 P **P** **18 13 33.3 +0.2**
H04A IAmb IAmb 18 13 51.5
comp=Z,293nm,1.1s
B08A Colville Reser 34.61 73 P **P** **18 13 33.7 +0.6**
B08A IAmb IAmb 18 13 52.9
comp=Z,406nm,1.2s
K02D Willamette Mer 34.72 84 P **P** **18 13 37.4 +3.3**
baz=303
K02D S **S** **18 19 07.3 +3.9**
baz=303
POHA Pohakuloa 34.80 149 P **P** **18 13 35.8 +0.6**
POHA IAmb IAmb 18 13 43.7
comp=Z,276nm,1.0s
POHA Pohakuloa 34.80 149 IAMs_20 IAMs_20 18 26 47.7
comp=Z,36µm,20.0s
POHA Pohakuloa 34.80 149 P **P** **18 13 37.8 +2.7**
G05D Wamic, OR 34.86 79 P **P** **18 13 38.1 +2.9**
baz=300
G05D S **S** **18 19 06.6 +1.1**
baz=300
ZEA Zeya 34.91 297 *e*P **P** **18 13 33.7 -1.8**
ZEA *e* 18 15 07.1
ZEA *e*S **S** **18 18 58.0 -7.9**
ZEA pmax pmax
comp=E,1µm,18.8s
ZEA pmax pmax
comp=Z,2µm,15.6s
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=E,50nm,1.1s
ZEA pmax pmax
comp=Z,140nm,1.1s
ZEA smax smax
comp=E,2µm,19.3s
I04A Tendick Farm, 34.92 82 P **P** **18 13 38.7 +2.9**
baz=302,SNR=8.6
I04A S **S** **18 19 08.5 +2.1**
baz=302
L02E Cave Junction 35.05 85 P **P** **18 13 36.0 -0.9**
L02E IAmb IAmb 18 13 56.7
comp=Z,431nm,1.2s
L02E Cave Junction 35.05 85 P **P** **18 13 40.3 +3.5**
baz=303,SNR=7.7
L02E S **S** **18 19 12.9 +4.6**
baz=303
H11N2 WAKE ISLAND Hy 35.08 213 T T 18 51 40.9
baz=21,slow=76,SNR=4410
H11N3 WAKE ISLAND Hy 35.09 213 T T 18 51 42.7
baz=21,slow=76,SNR=1681
H11N1 WAKE ISLAND Hy 35.10 213 T T 18 51 39.1
baz=21,slow=76,SNR=2870
E07A Sunnyside 35.12 76 P **P** **18 13 36.1 -1.3**
AIN Ainahou 35.19 149 P **P** **18 13 37.3 -1.1**
AIN IAmb IAmb 18 13 50.8
comp=Z,273nm,1.1s
HUMO Hull Mountain 35.21 84 P **P** **18 13 36.4 -1.9**
PUH Pauahi 35.26 148 P **P** **18 13 38.2 -0.8**
PUH IAmb IAmb 18 13 43.8
comp=Z,230nm,0.9s
I05D Terrebonne, OR 35.30 80 P **P** **18 13 41.8 +2.7**
baz=301,SNR=15
I05D S **S** **18 19 15.2 +2.9**
baz=301
HLP Hilina Pali 35.31 149 P **P** **18 13 38.3 -1.0**
F07A Phinny Hill Vi 35.39 77 P **P** **18 13 37.9 -1.8**
F07A IAmb IAmb 18 14 01.5
comp=Z,395nm,1.4s
HAWA Hanford 35.39 76 P **P** **18 13 38.2 -1.6**
HAWA IAmb IAmb 18 13 58.1
comp=Z,191nm,0.8s
J04D Umpqua Nationa 35.40 83 P **P** **18 13 38.1 -1.9**
J04D IAmb IAmb 18 13 59.0
comp=Z,406nm,1.1s
J04D Umpqua Nationa 35.40 83 P **P** **18 13 43.8 +3.7**
baz=302
J04D S **S** **18 19 16.7 +2.7**
baz=302
D08A Wollman Farm, 35.45 75 P **P** **18 13 39.7 -0.5**
D08A IAmb IAmb 18 13 59.1
comp=Z,162nm,1.0s
C09A Chrisman Ranch 35.49 73 P **P** **18 13 39.5 -1.2**
C09A IAmb IAmb 18 13 59.6
comp=Z,215nm,0.9s
E08A Dider Farm, El 35.63 76 P **P** **18 13 41.1 -0.7**
E08A IAmb IAmb 18 14 01.0
comp=Z,290nm,1.3s
KHMM Horse Mountain 35.68 87 P **P** **18 13 41.5 -1.0**
KHMM IAmb IAmb 18 14 03.4
comp=Z,436nm,1.2s
JYT Yasato 35.79 263 P **P** **18 13 42.5 -0.7**
L04D Klamath Falls 35.83 84 P **P** **18 13 40.7 -3.0**
L04D IAmb IAmb 18 14 03.3
comp=Z,430nm,1.4s
L04D Klamath Falls 35.83 84 P **P** **18 13 46.3 +2.7**
baz=303,SNR=6.8
L04D S **S** **18 19 22.7 +2.2**
baz=303
PINE Pine Mountain 35.83 81 P **P** **18 13 41.3 -2.5**
PINE IAmb IAmb 18 14 04.0
comp=Z,237nm,1.1s
YBH Yreka Blue Hor 35.84 85 P **P** **18 13 46.8 +3.1**
comp=Z,39nm,1.0s,baz=314,slow=4.8,SNR=20
YBH ScP **ScP** **18 19 54.6 -1.4**
comp=Z,6.2nm,1.0s,baz=170,slow=5.7,SNR=3.8
YBH LR LR 18 25 47.8
comp=Z,28µm,20.9s,baz=311,slow=32
YBH Yreka Blue Hor 35.84 85 P **P** **18 13 41.7 -2.1**
JSD Sado 35.86 267 P **P** **18 13 42.9 -0.9**
JSD IAmb IAmb 18 13 58.0
comp=Z,268nm,0.8s
J05D Fort Rock, OR 35.92 82 P **P** **18 13 47.3 +2.9**
baz=302,SNR=13
J05D S **S** **18 19 25.3 +3.4**
baz=302
M02C Callahan 35.94 86 P **P** **18 13 42.4 -2.2**
M02C IAmb IAmb 18 14 20.5
comp=Z,212nm,1.2s
M02C Callahan 35.94 86 P **P** **18 13 47.9 +3.3**
baz=304,SNR=7.4
M02C S **S** **18 19 26.3 +4.2**
baz=304
K04D Chiloquin, OR 35.95 83 P **P** **18 13 47.6 +2.9**
baz=303
K04D S **S** **18 19 26.3 +3.9**
baz=303
NEW Newport 35.97 72 LR LR 18 28 39.9
comp=Z,19µm,18.3s,baz=304,slow=37
NEW Newport 35.97 72 P **P** **18 13 43.0 -1.8**
NEW pmax pmax
comp=Z,300nm,1.2s
NEW MLR MLR
comp=Z,27µm,20.0s
NEW Newport 35.97 72 P **P** **18 13 43.0 -1.8**
NEW IAmb IAmb 18 14 04.1
comp=Z,300nm,1.2s
NEW Newport 35.97 72 P **P** **18 13 46.0 +1.3**
baz=297,SNR=78
NEW S **S** **18 19 21.9 -0.5**
baz=297
KMRM Mail Ridge 36.07 88 P **P** **18 13 44.6 -1.1**
KMRM IAmb IAmb 18 14 06.3
comp=Z,676nm,1.6s
E09A Wood Farm, Sta 36.18 75 P **P** **18 13 45.3 -1.1**
E09A IAmb IAmb 18 14 06.0
comp=Z,367nm,1.2s
N02D Trinity Center 36.27 86 P **P** **18 13 46.4 -1.1**
N02D IAmb IAmb 18 14 25.5
comp=Z,243nm,1.2s
N02D Trinity Center 36.27 86 P **P** **18 13 50.7 +3.2**
baz=305,SNR=7.3
N02D S **S** **18 19 31.6 +4.5**
baz=305
G08A Pilot Rock 36.28 78 P **P** **18 13 45.8 -1.7**
H11S1 WAKE ISLAND Hy 36.29 212 P **P** **18 13 47.9 +0.5**
baz=31,slow=5.2,SNR=8.2
H11S1 T T 18 53 01.5
baz=20,slow=76,SNR=7688
USA0B Ussuriysk Arra 36.29 280 P **P** **18 13 46.3 -1.1**
USA0B pmax pmax
comp=Z,526nm,0.8s
USA0B Ussuriysk Arra 36.29 280 P **P** **18 13 46.3 -1.1**
USRK Ussuriysk Ar. 36.29 280 P **P** **18 13 46.4 -1.1**
comp=Z,978nm,1.0s,baz=56,slow=6.9,SNR=98
USRK PcP **PcP** **18 16 13.2 +1.2**
comp=Z,55nm,0.9s,baz=63,slow=1.0,SNR=6.3
USRK ScS ScS 18 24 04.0 +0.6
comp=Z,3.6nm,0.7s,baz=137,slow=38,SNR=2.1
USRK LR LR 18 29 29.1
comp=Z,44µm,20.1s,baz=55,slow=38
H11S2 WAKE ISLAND Hy 36.30 212 P **P** **18 13 51.5 +4.0**
baz=31,slow=5.2,SNR=3.4
H11S2 T T 18 53 02.6
baz=20,slow=76,SNR=7302
H11S3 WAKE ISLAND Hy 36.30 212 P **P** **18 13 51.9 +4.4**
baz=31,slow=5.2,SNR=3.1
H11S3 T T 18 53 04.4
baz=20,slow=76,SNR=2540
M04C Macdoel 36.35 85 P **P** **18 13 46.1 -2.1**
M04C IAmb IAmb 18 14 07.3
comp=Z,327nm,1.2s
M04C Macdoel 36.35 85 P **P** **18 13 51.2 +2.9**
baz=304,SNR=12
M04C S **S** **18 19 32.5 +3.9**
baz=304
K05A Summer Lake 36.43 83 P **P** **18 13 47.2 -1.6**
K05A IAmb IAmb 18 14 09.3
comp=Z,366nm,1.1s
KCPM Cahto Peak 36.46 89 P **P** **18 13 47.2 -1.9**
KCPM IAmb IAmb 18 14 09.1
comp=Z,329nm,1.1s
I07A Izee 36.57 80 P **P** **18 13 50.6 +0.6**
O02D Mt. Diablo Mer 36.67 87 P **P** **18 13 53.8 +2.9**
baz=306,SNR=12
O02D S **S** **18 19 38.3 +5.0**
baz=306
MJAR Matsushiro Arr 36.82 265 P **P** **18 13 52.1 0.0**
comp=Z,70nm,0.9s,baz=47,slow=6.7,SNR=58
MJAR PcP **PcP** **18 16 14.5 +0.7**
comp=Z,62nm,1.0s,baz=26,slow=1.6,SNR=7.1
MJAR ScP **ScP** **18 19 57.5 -2.1**
comp=Z,8.1nm,1.1s,baz=1.6,slow=2.8,SNR=5.2
MJAR LR LR 18 27 24.1
comp=Z,49µm,21.4s,baz=54,slow=34
MJAR P3KP 18 45 43.8
comp=Z,0.8nm,0.4s,baz=142,slow=1.4,SNR=2.8
MJAR Matsushiro Arr 36.82 265 P **P** **18 13 51.0 -1.1**
MJAR **ScP** **18 19 56.9 -2.7**
MJB9 Matsu-Tunnel 36.82 265 P **P** **18 13 51.7 -0.4**
MJB9 IAmb IAmb 18 14 00.4
comp=Z,177nm,0.8s
MAJO Matsushiro 36.82 265*c i*P **P** **18 13 52.1 0.0**
MAJO pmax pmax
comp=Z,179nm,1.0s
MAJO MLR MLR
comp=Z,44µm,21.0s
MAJO Matsushiro 36.82 265 P **P** **18 13 51.7 -0.4**
MAJO IAmb IAmb 18 14 00.5
comp=Z,177nm,0.8s
MAJO Matsushiro 36.82 265 IAMs_20 IAMs_20 18 27 12.8
comp=Z,45µm,21.0s
MAJO Matsushiro 36.82 265 P **P** **18 13 54.8 +2.7**
VLA Vladivostok 36.93 279*c i*P **P** **18 13 53.0 +0.1**
VLA pmax pmax
comp=Z,1µm,1.1s
VLA MLR MLR
comp=Z,31µm,18.0s
F10A Beach Ranch, E 37.00 76 P **P** **18 13 53.3 -0.3**
HOPS Hopland Field 37.19 89 P **P** **18 13 53.0 -2.2**
HOPS IAmb IAmb 18 14 19.9
comp=Z,532nm,1.3s
HOPS IAMs_20 IAMs_20 18 29 15.1
comp=Z,46µm,18.0s
O03E Paynes Creek 37.22 87 P **P** **18 13 54.3 -1.2**
O03E IAmb IAmb 18 14 13.8
comp=Z,491nm,1.2s
O03E Paynes Creek 37.22 87 P **P** **18 13 57.7 +2.2**
baz=306,SNR=21
O03E S **S** **18 19 45.0 +3.3**
baz=306
MOD Modoc Plateau 37.24 83 P **P** **18 13 54.5 -1.3**
MOD IAmb IAmb 18 14 14.6
comp=Z,357nm,1.4s
WALA Waterton Lakes 37.50 69 P **P** **18 13 57.5 -0.4**
BMO Blue Mountains 37.52 77 P **P** **18 13 57.8 -0.2**
BMO pmax pmax
comp=Z,156nm,1.3s
BMO MLR MLR
comp=Z,28µm,21.0s
BMO Blue Mountains 37.52 77 P **P** **18 13 57.8 -0.2**
MDJ Mudanjiang 37.55 282 P **P** **18 13 56.5 -1.6**
MDJ Mudanjiang 37.55 282 P **P** **18 13 56.1 -2.0**
MDJ PP **PP** **18 15 23.2 -0.5**
MDJ S **S** **18 19 44.9 -1.5**
MDJ pmax pmax
comp=Z,44nm,0.4s
MDJ pmax pmax
comp=Z,3µm,11.9s
MDJ LR LR
comp=Z,26µm,19.2s
MDJ LR LR
comp=Z,59µm,19.9s
MDJ LR LR
comp=Z,101µm,19.9s
MDJ Mudanjiang 37.55 282 P **P** **18 14 00.0 +1.9**
J08A Circle Bar Ran 37.58 80 P **P** **18 13 57.0 -1.6**
MCCM Marconi Confer 37.82 90 IAMs_20 IAMs_20 18 29 30.8
comp=Z,37µm,18.0s
ORV Oroville 37.84 87 P **P** **18 14 00.2 -0.5**
ORV pmax pmax
comp=Z,79nm,1.1s
ORV MLR MLR
comp=Z,23µm,20.0s
ORV Oroville 37.84 87 P **P** **18 14 00.2 -0.5**
JTMT Jette 37.90 71 P **P** **18 13 59.2 -2.0**
JTMT IAmb IAmb 18 14 24.1
comp=Z,269nm,1.3s
JGF Kuroka 37.95 265 P **P** **18 14 01.4 -0.3**
WVOR Wild Horse Val 37.98 81 P **P** **18 14 00.3 -1.7**
WVOR pmax pmax
comp=Z,237nm,1.1s
WVOR MLR MLR
comp=Z,33µm,20.0s
WVOR Wild Horse Val 37.98 81 P **P** **18 14 00.3 -1.7**
WVOR IAmb IAmb 18 14 20.4
comp=Z,237nm,1.1s
WVOR IAMs_20 IAMs_20 18 27 11.5
comp=Z,33µm,20.0s
JHJ Hachijo jima 2 38.09 259 LR LR 18 27 39.3
comp=Z,20µm,21.9s,baz=54,slow=33
PLID Pearl Lake 38.19 76 P **P** **18 14 01.6 -2.3**
INU Inuyama 38.33 265 P **P** **18 14 03.0 -1.8**
INU Inuyama 38.33 265 P **P** **18 14 07.5 +2.7**
BEKR Beckworth 38.37 86 P **P** **18 14 04.2 -1.2**
RES Resolute Bay 38.38 25 LR LR 18 35 07.6
comp=Z,46µm,19.2s,baz=274,slow=45
RES Resolute Bay 38.38 25 P **P** **18 14 03.0 -1.8**
RES pmax pmax
comp=Z,31nm,0.8s
RES Resolute Bay 38.38 25 P **P** **18 14 03.0 -1.8**
MSO Missoula 38.55 73 P **P** **18 14 05.4 -1.3**
MSO IAmb IAmb 18 14 25.9
comp=Z,364nm,1.1s
MSO IAMs_20 IAMs_20 18 31 03.0
comp=Z,26µm,18.0s
MSO Missoula 38.55 73 P **P** **18 14 07.5 +0.7**
baz=300,SNR=79
MSO S **S** **18 20 02.5 +0.8**
baz=300
MPK Martis Peak 38.91 87 P **P** **18 14 07.7 -2.3**
MPK IAmb IAmb 18 14 47.2
comp=Z,313nm,1.1s
EMB Emerald Bay 39.06 87 P **P** **18 14 11.2 0.0**
PAHR Pah Rah Range 39.07 86 P **P** **18 14 10.3 -0.9**
PAHR **S** **18 20 08.0 -1.8**
VCNR Virginia City 39.15 86 P **P** **18 14 11.8 -0.1**
MFID Camas Ranch 39.18 78 P **P** **18 14 10.0 -2.0**
PNTR Pine Nut 39.30 87 P **P** **18 14 11.8 -1.4**
PNTR IAmb IAmb 18 14 30.8
comp=Z,260nm,0.7s
EUNU Eureka 39.36 16 P **P** **18 14 11.7 -1.4**
CMB Columbia Colle 39.45 88 P **P** **18 14 12.5 -1.7**
CMB pmax pmax
comp=Z,174nm,1.2s
CMB MLR MLR
comp=Z,28µm,18.0s
CMB Columbia Colle 39.45 88 P **P** **18 14 12.5 -1.7**
CMB IAMs_20 IAMs_20 18 30 48.8
comp=Z,29µm,18.0s
SAO San Andreas Ge 39.57 91 P **P** **18 14 14.4 -0.8**
SAO pmax pmax
comp=Z,145nm,1.0s
SAO MLR MLR
comp=Z,17µm,18.0s
SAO San Andreas Ge 39.57 91 P **P** **18 14 14.4 -0.8**
YERR Yerington 39.59 86 P **P** **18 14 13.7 -1.9**
YERR IAmb IAmb 18 14 31.3
comp=Z,592nm,1.8s
HRY Holter Researc 39.86 72 P **P** **18 14 16.9 -0.8**
BBGB Big Mountain B 39.94 91 P **P** **18 14 17.4 -1.1**
BBGB IAmb IAmb 18 14 38.4
comp=Z,643nm,1.0s
LRM Limekiln Ridge 39.95 73 P **P** **18 14 18.1 -0.5**
HLID Hailey 39.96 77 P **P** **18 14 17.0 -1.7**
HLID Hailey 39.96 77 P **P** **18 14 20.5 +1.9**
baz=303,SNR=49
HLID S **S** **18 20 23.0 -0.2**
baz=303
BMN Battle Mountai 39.99 83 P **P** **18 14 17.6 -1.3**
BMN pmax pmax
comp=Z,184nm,1.2s

BMN Battle Mountai 39.99 83 P P 18 14 17.6 -1.3
DLMT Dillon 40.10 74 P P 18 14 19.2 -0.5
BCYI Bear Canyon 40.17 76 P P 18 14 19.5 -0.9
MCMT McKenzie Canyo 40.23 75 P P 18 14 19.9 -1.1
RYN Ryan 40.25 86 P P 18 14 19.2 -1.9
KVN Kaiserville 40.26 85 P P 18 14 20.0 -1.2
KVN pmax pmax
comp=Z,127nm,1.2s
KVN Kaiserville 40.26 85 P P 18 14 20.0 -1.2
PMPB Monarch Peak 40.32 91 P P 18 14 21.7 +0.1
PMPB IAmb IAmb 18 15 09.5
comp=Z,315nm,1.2s
BOD Bodaibo 40.34 308 *e*P P 18 14 19.6 -1.7
BOD pmax pmax
comp=Z,145nm,1.4s
EGMT Eagleton 40.43 69 P P 18 14 21.4 -0.9
EGMT IAmb IAmb 18 14 43.2
comp=Z,503nm,0.9s
EGMT IAMs_20 IAMs_20 18 33 02.4
comp=Z,41µm,19.0s
EGMT Eagleton 40.43 69 P P 18 14 22.8 +0.5
baz=300,SNR=146
EGMT S S 18 20 30.1 +0.3
baz=300
LHV Little Huntoon 40.49 87 P P 18 14 22.0 -0.8
LHV IAmb IAmb 18 15 00.6
comp=Z,347nm,1.2s
CN2 Changchun 40.51 284 *e*P P 18 14 21.6 -1.3
CN2 S S 18 20 33.9 +3.0
CN2 pmax pmax
comp=Z,2µm,8.3s
CN2 LR LR
comp=Z,54µm,19.0s
CN2 LR LR
comp=Z,46µm,19.0s
CN2 LR LR
comp=Z,73µm,19.2s
NVAR Mina Array Bea 40.51 86 P P 18 14 23.4 +0.2
comp=Z,37nm,0.9s,baz=292,slow=7.9,SNR=106
NVAR PcP PcP 18 16 27.7 +2.2
comp=Z,24nm,0.8s,baz=290,slow=2.8,SNR=4.0
NVAR ScP ScP 18 20 13.6 -0.4
comp=Z,8.7nm,0.8s,baz=284,slow=4.3,SNR=6.6
NVAR LR LR 18 27 35.8
comp=Z,15µm,20.5s,baz=304,slow=31
NVAR Mina Array Bea 40.51 86 P P 18 14 22.3 -1.0
BOZ Bozeman (W) 40.56 73 P P 18 14 22.4 -1.1
BOZ pmax pmax
comp=Z,196nm,1.0s
BOZ MLR MLR
comp=Z,23µm,20.0s
BOZ Bozeman (W) 40.56 73 P P 18 14 22.4 -1.1
BOZ Bozeman (W) 40.56 73 P P 18 14 24.9 +1.4
baz=302,SNR=42
BOZ S S 18 20 30.9 -1.1
baz=302
NV11 Mina Array Sit 40.60 86 P P 18 14 22.8 -1.2
MLAC Mammoth, Mammo 40.66 88 P P 18 14 29.2 +4.6
baz=308
JCJ Chichijima 40.94 251 P P 18 14 24.7 -2.0
JCJ Chichijima 40.94 251 P P 18 14 31.9 +5.2
Q09A Carvers 40.96 85 P P 18 14 26.2 -0.8
PAGB Antelope Grade 40.97 91 P P 18 14 24.8 -2.1
PAGB IAmb IAmb 18 14 45.9
comp=Z,596nm,1.5s
JHS Saijyo 40.99 267 P P 18 14 25.6 -1.4
ELK Elko 41.04 81 LR LR 18 29 10.8
comp=Z,30µm,20.5s,baz=310,slow=33
ELK Elko 41.04 81 P P 18 14 25.9 -1.7
ELK pmax pmax
comp=Z,85nm,0.9s
ELK MLR MLR
comp=Z,30µm,20.0s
ELK Elko 41.04 81 P P 18 14 25.9 -1.7
ELK IAMs_20 IAMs_20 18 28 50.4
comp=Z,30µm,20.0s
HIA Hailar 41.05 294 P P 18 14 26.3 -1.1
HIA pmax pmax
comp=Z,206nm,0.8s
HIA MLR MLR
comp=Z,24µm,19.0s
HIA Hailar 41.05 294 P P 18 14 26.3 -1.1
HIA IAmb IAmb 18 14 31.1
comp=Z,206nm,0.8s
QLMT Earthquake Lak 41.08 74 P P 18 14 26.5 -1.4
JMN Monobe 41.34 265 P P 18 14 29.2 -0.7
SMMC Simmler 41.40 91 P P 18 14 32.7 +2.3
baz=310,SNR=7.5
SMMC S S 18 20 47.5 +3.1
baz=310
TPH Tonopah 41.40 86 P P 18 14 30.2 -0.4
TPH pmax pmax
comp=Z,2µm,1.7s
TPH Tonopah 41.40 86 P P 18 14 30.2 -0.4
TIN Tinemaha, Big 41.40 88 P P 18 14 33.5 +3.0
baz=309,SNR=14
TIN S S 18 20 47.1 +2.5
baz=309
HHU Hamhung 41.42 278 P P 18 14 30.6 +0.2
HHU pP pwP 18 14 40.1 -0.3
HHU S S 18 20 44.9 +0.3
HHU AmB
comp=Z,2µm,1.3s
HHU AMS AMS
comp=N,3µm,5.7s
HHU AMS AMS
comp=E,2µm,4.5s
HHU AMS AMS
comp=Z,4µm,8.2s
YMR Madison River 41.45 74 P P 18 14 30.6 -0.3
YMR IAmb IAmb 18 14 49.9
comp=Z,216nm,0.9s
YHH Holmes Hill 41.45 74 P P 18 14 30.0 -1.1
YHH IAmb IAmb 18 14 49.7
comp=Z,344nm,1.0s
FFC Flin Flon 41.58 56 P P 18 14 30.7 -0.9
FFC pmax pmax
comp=Z,191nm,1.0s
FFC MLR MLR
comp=Z,62µm,19.0s
FFC Flin Flon 41.58 56 P P 18 14 30.7 -0.9
YNR Norris Junctio 41.60 74 P P 18 14 30.3 -1.9
YNR IAmb IAmb 18 14 51.6
comp=Z,409nm,1.1s
GCMT Greycliff 41.62 72 P P 18 14 31.9 -0.4
VES Vestal, Richgr 41.63 90 P P 18 14 33.5 +1.3
baz=310,SNR=13
LCH Last Change Ra 41.65 87 P P 18 14 31.9 -0.7
YUF Upper Falls 41.70 73 P P 18 14 31.6 -1.5
H17A Grant Village 41.83 74 P P 18 14 32.9 -1.2
H17A IAmb IAmb 18 14 53.8
comp=Z,476nm,1.2s
H17A Grant Village 41.83 74 P P 18 14 37.2 +3.1
baz=303,SNR=62
H17A S S 18 20 56.8 +5.6
baz=303
LKWY Lake 41.85 74 P P 18 14 33.3 -0.9
LKWY pmax pmax
comp=Z,195nm,0.9s
LKWY Lake 41.85 74 P P 18 14 33.3 -0.9
CWC Cottonwood Cre 41.88 89 P P 18 14 36.6 +2.1
baz=309
CWC S S 18 20 54.1 +2.3
baz=309
YMP Mirror Lake Pl 41.90 73 P P 18 14 33.9 -0.8
FLWY Flagg Ranch 41.93 74 P P 18 14 34.0 -0.9
FLWY IAmb IAmb 18 14 58.4
comp=Z,308nm,1.1s
HVU Hansel Valley 41.96 78 P P 18 14 33.9 -1.2
HVU pmax pmax
comp=Z,139nm,1.0s
HVU Hansel Valley 41.96 78 P P 18 14 33.9 -1.2
GRAC Grapevine Rang 41.98 87 P P 18 14 34.9 -0.2
GRAC Grapevine Rang 41.98 87 P P 18 14 37.5 +2.3
baz=309,SNR=7.8
GRAC S S 18 20 56.0 +3.0
baz=309
BCW Bitter Crk WRg 42.00 91 P P 18 14 34.2 -1.2
BCW IAmb IAmb 18 14 56.0
comp=Z,285nm,1.1s
MOOW Moose Ponds 42.09 75 P P 18 14 34.7 -1.4
ECR Eagle Creek 42.09 76 P P 18 14 35.8 -0.5
TPAW Teton Pass 42.10 75 P P 18 14 34.6 -1.8
ISA Isabella, Lake 42.12 90 P P 18 14 35.9 -0.5
ISA pmax pmax
comp=Z,134nm,1.0s
ISA Isabella, Lake 42.12 90 P P 18 14 35.9 -0.5
ISA Isabella, Lake 42.12 90 P P 18 14 37.6 +1.2
baz=310,SNR=15
ISA S S 18 20 56.2 +0.9
baz=310
RLMT Red Lodge 42.22 72 P P 18 14 36.5 -0.7
RLMT IAmb IAmb 18 14 56.3
comp=Z,608nm,1.2s
RLMT Red Lodge 42.22 72 P P 18 14 37.9 +0.7
baz=303,SNR=164
RLMT S S 18 20 58.0 +1.2
baz=303
REDW Red Top Meadow 42.24 75 P P 18 14 36.1 -1.3
SNOW Snow King Moun 42.24 75 P P 18 14 35.7 -1.8
ARVC Arvin 42.25 91 P P 18 14 39.4 +2.1
baz=310
ARVC S S 18 20 56.6 -0.4
baz=310
LOHW Long Hollow 42.25 75 P P 18 14 36.2 -1.3
R11A Troy Canyon, C 42.25 85 P P 18 14 37.1 -0.4
R11A Troy Canyon, C 42.25 85 P P 18 14 37.7 +0.1
baz=308,SNR=80
R11A S S 18 20 59.0 +1.7
baz=308
BGU Big Grassy Mou 42.30 80 P P 18 14 38.1 +0.2
AHID Auburn Hatcher 42.42 76 P P 18 14 37.0 -1.8
MPMC Manual Prospec 42.49 89 P P 18 14 39.3 -0.2
baz=310,SNR=25
MPMC S S 18 21 04.6 +3.7
baz=310
S11A Rachel 42.58 85 P P 18 14 39.9 -0.3
S11A IAmb IAmb 18 15 39.1
comp=Z,353nm,1.3s
FURC Furnace Creek, 42.62 88 P P 18 14 42.8 +2.5
baz=309,SNR=7.8
FURC S S 18 21 05.8 +3.5
baz=309
OSI Osito Audit: C 42.65 91 P P 18 14 43.0 +2.4
baz=311
OSI S S 18 21 04.6 +1.7
baz=311
KSRS Korea Array 42.68 274 P P 18 14 40.3 -0.4
comp=Z,64nm,0.9s,baz=54,slow=7.4,SNR=8.6
KSRS PcP PcP 18 16 33.6 +1.2
comp=Z,42nm,1.0s,baz=59,slow=4.1,SNR=4.3
KSRS ScP ScP 18 20 21.7 -0.6
comp=Z,3.2nm,0.9s,baz=65,slow=3.8,SNR=3.6
KSRS LR LR 18 31 58.0
comp=Z,19µm,20.4s,baz=50,slow=36
KS19 Wonju Array Si 42.68 274 P P 18 14 40.0 -0.9
KS19 IAmb IAmb 18 14 47.5
comp=Z,300nm,1.0s
TPNV Topopah Spring 42.70 87 P P 18 14 40.4 -0.8
TPNV pmax pmax
comp=Z,130nm,0.9s
TPNV MLR MLR
comp=Z,17µm,18.0s
TPNV Topopah Spring 42.70 87 P P 18 14 40.4 -0.8
TPNV Topopah Spring 42.70 87 P P 18 14 41.2 0.0
baz=309,SNR=77
TPNV S S 18 21 06.7 +2.7
baz=309
KSAR Wonju Array Be 42.71 274 P P 18 14 40.5 -0.5
KSAR Wonju Array Be 42.71 274 P P 18 14 40.5 -0.5
LRMC Laurel Mtn Rad 42.74 89 P P 18 14 43.1 +1.7
baz=310
LRMC S S 18 21 04.7 +0.3
baz=310
CCAC Calif City Air 42.74 90 P P 18 14 40.2 -1.2
SNY Shenyang 42.75 282 ⇑P P 18 14 41.5 +0.2
SNY pP pwP 18 14 49.0 -2.2
SNY S S 18 21 07.5 +3.3
SNY ScS ScS 18 24 43.2 +1.8
SNY pmax pmax
comp=Z,240nm,1.7s
SNY pmax pmax
comp=Z,2µm,3.5s
SNY LR LR
comp=Z,44µm,20.0s
SNY LR LR
comp=Z,30µm,20.8s
SNY LR LR
comp=Z,58µm,20.0s
HWUT Hardware Ranch 42.80 78 P P 18 14 41.3 -0.7
DUG Dugway, Tooele 42.86 80 P P 18 14 41.8 -0.6
DUG pmax pmax
comp=Z,291nm,1.1s
DUG MLR MLR
comp=Z,26µm,20.0s
DUG Dugway, Tooele 42.86 80 P P 18 14 41.8 -0.6
DUG IAmb IAmb 18 15 01.7
comp=Z,291nm,1.1s
DUG IAMs_20 IAMs_20 18 30 07.5
comp=Z,26µm,20.0s
DUG Dugway, Tooele 42.86 80 P P 18 14 43.1 +0.6
baz=307,SNR=74
DUG S S 18 21 07.9 +1.7
baz=307
GWY Greenwater Val 42.92 88 P P 18 14 42.3 -0.6
EDW2 Edwards Air Fo 42.93 90 P P 18 14 44.6 +1.6
baz=311,SNR=15
EDW2 S S 18 21 08.7 +1.6
baz=311
QSM Queen of Sheba 42.94 88 P P 18 14 42.3 -0.6
SNCC San Nicolas Is 43.04 93 S S 18 21 12.2 +3.5
baz=312
PYAG Pyongyang 43.05 278 P P 18 14 44.5 +0.8
PYAG pP pwP 18 14 55.0 +1.4
PYAG S S 18 21 06.0 -2.6
PYAG AmB
comp=Z,2µm,1.4s
PYAG AMS AMS
comp=N,3µm,8.5s
PYAG AMS AMS
comp=E,2µm,4.3s
PYAG AMS AMS
comp=Z,3µm,8.9s
DECC Green Verdugo 43.12 91 P P 18 14 46.2 +1.7
baz=311
DECC S S 18 21 11.7 +1.8
baz=311
CIT Chita 43.15 300 *e*P P 18 14 43.4 -1.1
CIT *e* 18 14 52.0
CIT *e* 18 24 37.0
CIT pmax pmax
comp=Z,438nm,1.2s
PRN Pahroc Range 43.16 85 P P 18 14 43.7 -1.2
PRN IAmb IAmb 18 15 05.9
comp=Z,400nm,1.1s
LAO LASA Array 43.17 69 P P 18 14 44.8 0.0
LAO IAmb IAmb 18 15 24.7
comp=Z,308nm,1.1s
LAO IAMs_20 IAMs_20 18 33 17.1
comp=Z,38µm,20.0s
LAO LASA Array 43.17 69 P P 18 14 45.0 +0.3
baz=302,SNR=35
LAO S S 18 21 10.9 +0.4
baz=302
SUJ Sinuiju 43.20 280 P P 18 14 45.1 +0.2
SUJ pP pwP 18 14 53.5 -1.3
SUJ S S 18 21 15.3 +4.5
SUJ AmB
comp=Z,1µm,1.3s
SUJ AMS AMS
comp=N,571nm,9.2s
SUJ AMS AMS
comp=E,229nm,3.7s
SUJ AMS AMS
comp=Z,865nm,13.9s
PSUT Pine Spring 43.22 83 P P 18 14 44.1 -1.3
CTU Camp Tracy 43.22 79 P P 18 14 44.9 -0.5
PASC Pasadena Art C 43.27 91 P P 18 14 45.2 -0.4
PASC Pasadena Art C 43.27 91 IAMs_20 IAMs_20 18 32 22.2
comp=Z,23µm,18.0s
BW06 Boulder Array 43.35 75 P P 18 14 46.0 -0.4
BW06 IAmb IAmb 18 15 05.2
comp=Z,271nm,0.9s
BW06 Boulder Array 43.35 75 P P 18 14 46.3 -0.2
baz=305,SNR=140
BW06 S S 18 21 12.6 -0.9
baz=305
PD31 Pinedale Array 43.35 75 P P 18 14 46.4 -0.1
PD31 IAmb IAmb 18 15 05.2
comp=Z,243nm,0.9s
PDAR Pinedale Array 43.35 75 P P 18 14 46.0 -0.4
comp=Z,28nm,0.7s,baz=315,slow=3.0,SNR=112
PDAR ScP ScP 18 20 25.9 +0.7
comp=Z,0.6nm,0.7s,baz=311,slow=5.9,SNR=2.6
PDAR LR LR 18 32 50.5
comp=Z,16µm,18.9s,baz=302,slow=36
PDAR Pinedale Array 43.35 75 P P 18 14 45.4 -1.1
DGMT Dagmar 43.40 65 P P 18 14 47.1 +0.6
DGMT IAmb IAmb 18 15 08.2
comp=Z,764nm,1.6s
DGMT Dagmar 43.40 65 IAMs_20 IAMs_20 18 34 00.9
comp=Z,44µm,20.0s
DGMT Dagmar 43.40 65 P P 18 14 47.2 +0.6
baz=302,SNR=26
DGMT S S 18 21 14.0 +0.3
baz=302
GSC Goldstone, Bar 43.40 89 P P 18 14 47.1 +0.3
GSC pmax pmax
comp=Z,335nm,1.1s
GSC Goldstone, Bar 43.40 89 P P 18 14 47.1 +0.3
GSC IAmb IAmb 18 15 06.5
comp=Z,335nm,1.1s
GSC Goldstone, Bar 43.40 89 P P 18 14 47.4 +0.6
baz=310,SNR=53
GSC S S 18 21 15.5 +1.4
baz=310
JLU Jordanelle 43.46 79 P P 18 14 46.5 -0.9
NLU North Lily Min 43.46 80 P P 18 14 47.6 +0.3
INCN Inchon 43.46 275 P P 18 14 46.8 -0.3
INCN pmax pmax
comp=Z,960nm,1.2s
INCN MLR MLR
comp=Z,14µm,19.0s
INCN Inchon 43.46 275 P P 18 14 46.8 -0.3
INCN Inchon 43.46 275 P P 18 14 47.2 +0.1
INCN P P 18 14 47.2 +0.1
INCN P P 18 14 47.2 +0.1
FMP Fort Macarthur 43.50 92 S S 18 21 23.1 +7.7
baz=312
RRX Edison Barstow 43.55 90 S S 18 21 17.8 +1.6
baz=311
BFSC Mount Baldy Ra 43.56 91 P P 18 14 50.0 +1.9
baz=311,SNR=20
BFSC S S 18 21 18.1 +1.7
baz=311
JNU Nakatsue 43.62 267 P P 18 14 48.8 +0.4
JNU Nakatsue 43.62 267 P P 18 14 50.0 +1.5
CIS Catalina Islan 43.63 92 P P 18 14 50.3 +1.8
baz=312
CIS S S 18 21 16.9 -0.5
baz=312
SHPR Sheep Range 43.66 86 P P 18 14 51.0 +2.1
HJU Haeju 43.68 277 P P 18 14 49.3 +0.5
HJU pP pwP 18 14 58.4 -0.3
HJU S S 18 21 10.3 -7.6
HJU AmB
comp=Z,1µm,1.1s
HJU AMS AMS
comp=N,4µm,6.5s
HJU AMS AMS
comp=E,3µm,4.4s
HJU AMS AMS
comp=Z,4µm,7.6s
TJN Taejon 43.70 274 *ce*P P 18 14 49.7 +0.6
TJN Taejon 43.70 274 P P 18 14 49.7 +0.6
TJN Taejon 43.70 274 P P 18 14 51.9 +2.9
TUQ Turquoise Moun 43.87 88 P P 18 14 52.6 +2.0
baz=310,SNR=8.3
TUQ S S 18 21 23.0 +2.1
baz=310
TULEG Thule 43.91 19 *i* P P 18 14 50.0 -0.2
TULEG IAmb IAmb 18 15 06.1
comp=Z,45nm,0.8s
TULEG Thule 43.91 19 P P 18 14 49.1 -1.1
HEC Hector,Ludlow 44.00 89 P P 18 14 53.3 +1.8
baz=311,SNR=14
HEC S S 18 21 24.6 +1.8
baz=311
BBRC Big Bear Solar 44.00 90 S S 18 21 23.4 +0.2
baz=311
TCRU Three Creeks R 44.04 82 P P 18 14 54.9 +2.9
TCRU IAmb IAmb 18 15 10.5
comp=Z,254nm,1.3s
ELS Elsinore Mount 44.09 91 P P 18 14 54.0 +1.7
ELS IAmb IAmb 18 15 11.9
comp=Z,606nm,1.6s
CCUT Cedar City 44.13 84 P P 18 14 54.6 +1.8
CCUT IAmb IAmb 18 15 11.1
comp=Z,372nm,1.8s
MURC Murrieta 44.27 91 P P 18 14 55.1 +1.5
baz=312,SNR=11
MURC S S 18 21 27.5 +0.9
baz=312
MSU Marysvale 44.27 82 P P 18 14 53.6 -0.3
MSU Marysvale 44.27 82 P P 18 14 53.6 -0.3
SZCU Shurtz Canyon 44.27 84 P P 18 14 55.9 +2.0
TMUT Trail Mountain 44.39 80 P P 18 14 55.4 +0.5
TMUT IAmb IAmb 18 15 14.7
comp=Z,160nm,0.8s
GMRC Granite Mounta 44.45 89 P P 18 14 57.0 +1.7
baz=311,SNR=37
GMRC S S 18 21 32.1 +2.6
baz=311
LCMT Little Creek M 44.54 84 P P 18 14 56.4 +0.5
MTPU Mount Pierson 44.55 82 P P 18 14 56.9 +0.6
MTPU IAmb IAmb 18 15 32.6
comp=Z,291nm,1.5s
P17A Butcher Ranch, 44.57 80 P P 18 14 55.9 -0.3
RDMU Red Mountain 44.63 78 P P 18 14 57.0 +0.3
RDMU IAmb IAmb 18 15 15.8
comp=Z,296nm,1.0s
Q16A Castle Valley 44.64 81 P P 18 14 57.4 +0.6
Q16A IAmb IAmb 18 15 15.6
comp=Z,427nm,1.3s
PFO Pinyon Flats O 44.72 90 ScP ScP 18 20 30.0 -0.8
comp=Z,10nm,1.1s,baz=248,slow=2.3,SNR=4.2
PFO LR LR 18 30 00.1
comp=Z,11µm,19.7s,baz=293,slow=31
PFO Pinyon Flats O 44.72 90 P P 18 14 58.1 +0.7
PFO pmax pmax
comp=Z,103nm,1.1s
PFO MLR MLR
comp=Z,21µm,19.0s
PFO Pinyon Flats O 44.72 90 P P 18 14 58.1 +0.7
PFO Pinyon Flats O 44.72 90 P P 18 14 59.0 +1.6
baz=312,SNR=11
PFO S S 18 21 34.1 +0.7
baz=312
TPFO Pinon Flats 44.73 90 P P 18 14 59.0 +1.5
baz=312,SNR=11
BELC Belle Mtn. Jos 44.75 90 P P 18 14 58.3 +0.7
baz=311,SNR=13
BELC S S 18 21 34.5 +0.7
baz=311
P18A Preston Nutter 44.78 79 P P 18 14 58.4 +0.4
P18A IAmb IAmb 18 15 23.9
comp=Z,416nm,1.2s
109C Camp Elliot, M 44.79 92 P P 18 15 00.1 +2.3
109C IAmb IAmb 18 15 17.2
comp=Z,220nm,1.1s
109C Camp Elliot, M 44.79 92 P P 18 15 00.1 +2.3
baz=312,SNR=6.0
109C S S 18 21 36.1 +1.9
baz=312
KNB Kanab 44.80 84 P P 18 15 00.5 +2.5
KNB pmax pmax
comp=Z,237nm,1.2s
KNB Kanab 44.80 84 P P 18 15 00.5 +2.5
KNB IAmb IAmb 18 15 42.3
comp=Z,236nm,1.2s
PKCU Pink Cliffs 44.85 83 P P 18 15 01.1 +2.5
PKCU IAmb IAmb 18 15 34.9
comp=Z,224nm,1.4s
SRU San Rafael Swe 44.92 80 P P 18 15 00.1 +1.0
SRU pmax pmax
comp=Z,269nm,0.8s
SRU San Rafael Swe 44.92 80 P P 18 15 00.1 +1.0
SRU IAmb IAmb 18 15 19.4
comp=Z,269nm,0.8s
JSU Suzuyama 44.97 266 P P 18 14 58.5 -0.8
JSU IAmb IAmb 18 15 03.1
comp=Z,171nm,1.0s
NEE2 Needles Airpor 45.11 88 S S 18 21 41.2 +2.4
baz=311
IRM Iron Mountain 45.18 89 P P 18 15 02.3 +1.3
baz=311,SNR=17
IRM S S 18 21 40.2 +0.3

baz=311
BAR Barrett 45.20 92 P **P** **18 15 03.3 +2.1**
MONP2 Monument Peak 45.22 91 P **P** **18 15 03.5 +2.0**
baz=312,SNR=9.7
MONP2 S **S** **18 21 44.1 +3.2**
baz=312
K22A Casper 45.25 74 P **P** **18 15 02.7 +1.1**
K22A IAmb IAmb 18 15 22.5
comp=Z,174nm,0.9s
K22A Casper 45.25 74 P **P** **18 15 02.9 +1.3**
baz=306,SNR=32
K22A S **S** **18 21 40.8 -0.2**
baz=306
BC3 Big Chuckawall 45.32 90 P **P** **18 15 03.0 +0.9**
baz=312,SNR=12
BC3 S **S** **18 21 44.1 +2.0**
baz=312
W13A Hualapai Mount 45.35 87 P **P** **18 15 02.8 +0.2**
W13A IAmb IAmb 18 15 39.2
comp=Z,212nm,1.4s
RWWY Rawlins 45.40 75 P **P** **18 15 02.5 -0.4**
RWWY IAmb IAmb 18 15 20.2
comp=Z,184nm,1.0s
RWWY IAMs_20 IAMs_20 18 33 54.4
comp=Z,27µm,20.0s
CBX Cerro Bola 45.46 92 P **P** **18 15 03.0 -0.3**
U15A North Rim 45.50 84 P **P** **18 15 04.2 +0.4**
U15A IAmb IAmb 18 15 26.3
comp=Z,184nm,0.9s
SWSC Sam W. Stewart 45.57 91 P **P** **18 15 05.3 +1.3**
baz=312,SNR=5.5
SWSC S **S** **18 21 48.0 +2.5**
baz=312
IKP In-Ko-Pah, Jac 45.58 91 P **P** **18 15 05.8 +1.7**
baz=312,SNR=7.9
IKP S **S** **18 21 47.8 +2.1**
baz=312
DL2 Dalian 45.69 280⇑*i*P **P** **18 15 03.0 -1.8**
DL2 S **S** **18 21 47.9 +0.9**
DL2 pmax pmax
comp=Z,460nm,1.0s
DL2 pmax pmax
comp=Z,3µm,11.5s
DL2 LR LR
comp=Z,20µm,19.3s
DL2 LR LR
comp=Z,10µm,21.0s
DL2 LR LR
comp=Z,18µm,17.6s
YUH Yuha Desert 45.69 91 P **P** **18 15 06.5 +1.6**
O20A White River Ci 45.70 77 P **P** **18 15 05.0 -0.2**
O20A White River Ci 45.70 77 P **P** **18 15 05.0 -0.2**
baz=308,SNR=68
O20A S **S** **18 21 48.4 +0.8**
baz=308
PDMCI Parker Dam,Lak 45.71 88 P **P** **18 15 06.8 +1.7**
baz=311,SNR=28
PDMCI S **S** **18 21 48.3 +0.8**
baz=311
CCX Cicese 45.76 92 P **P** **18 15 06.1 +0.6**
BLYC Blythe 45.84 89 P **P** **18 15 07.5 +1.4**
BLYC IAmb IAmb 18 15 23.1
comp=Z,124nm,0.8s
NRIK Noril'sk 45.84 331 P **P** **18 15 05.0 -0.7**
comp=Z,62nm,0.6s,baz=73,slow=8.9,SNR=88
NRIK PcP **PcP** **18 16 45.0 +2.4**
comp=Z,74nm,1.0s,baz=27,slow=2.4,SNR=4.3
NRIK ScP **ScP** **18 20 37.8 +3.1**
comp=Z,16nm,0.8s,baz=90,slow=8.1,SNR=3.8
NRIK Noril'sk 45.84 331c *i*P **P** **18 15 04.9 -0.8**
NRIK Noril'sk 45.84 331 P **P** **18 15 05.0 -0.7**
RSSD Black Hills 45.88 70 P **P** **18 15 05.9 -0.7**
RSSD pmax pmax
comp=Z,212nm,1.2s
RSSD Black Hills 45.88 70 P **P** **18 15 05.9 -0.7**
RSSD IAmb IAmb 18 15 24.7
comp=Z,212nm,1.2s
RSSD Black Hills 45.88 70 P **P** **18 15 06.8 +0.2**
baz=305
RSSD S **S** **18 21 48.6 -1.5**
baz=305
XLT XiLinHaoTe 46.06 289⇑*i*P **P** **18 15 07.6 -0.3**
XLT pP sP 18 15 13.5 +0.4
XLT sP pwP 18 15 16.7 -1.1
XLT PP **PP** **18 16 59.3 +3.6**
XLT S **S** **18 21 49.1 -3.4**
XLT sS sS 18 22 02.8 +4.1
XLT pmax pmax
comp=Z,95nm,1.0s
XLT pmax pmax
comp=Z,4µm,7.2s
XLT LR LR
comp=Z,35µm,17.0s
XLT LR LR
comp=Z,35µm,18.2s
GLA Glamis 46.11 90 P **P** **18 15 07.1 -1.2**
GLA pmax pmax
comp=Z,229nm,1.4s
GLA Glamis 46.11 90 P **P** **18 15 07.1 -1.2**
GLA IAmb IAmb 18 15 44.3
comp=Z,229nm,1.4s
GLA Glamis 46.11 90 P **P** **18 15 10.0 +1.6**
baz=312,SNR=14
GLA S **S** **18 21 55.4 +2.1**
baz=312
PV23 Carpenter Ridg 46.26 80 P **P** **18 15 08.5 -1.3**
PV23 IAmb IAmb 18 15 32.4
comp=Z,142nm,0.8s
PV10 Paradox Valley 46.29 80 P **P** **18 15 08.2 -1.7**
MDND Maddock 46.33 64 P **P** **18 15 08.8 -1.1**
MDND Maddock 46.33 64 P **P** **18 15 10.7 +0.8**
baz=304,SNR=24
MDND S **S** **18 21 55.3 -0.7**
baz=304
E28A Huff 46.42 66 P **P** **18 15 10.4 -0.2**
PV11 David Mesa, Pa 46.44 80 P **P** **18 15 10.8 -0.3**
PV07 Paradox Valley 46.49 80 P **P** **18 15 12.1 +0.6**
PV07 IAmb IAmb 18 15 28.7
comp=Z,153nm,0.9s
PV13 Radium Mtn., P 46.56 80 P **P** **18 15 11.7 -0.4**
NEEM North Greenlan 46.59 15 *i*P **P** **18 15 11.3 -0.5**
NEEM IAmb IAmb 18 15 13.5
comp=Z,200nm,0.7s
NOR Nord 46.60 4 *i*P **P** **18 15 11.9 +0.4**
NOR IAmb IAmb 18 15 15.3
comp=Z,26nm,0.9s
N23A Red Feather La 46.64 75 P **P** **18 15 12.5 -0.1**
N23A IAmb IAmb 18 16 08.7
comp=Z,299nm,1.1s
N23A Red Feather La 46.64 75 P **P** **18 15 13.1 +0.4**
baz=307,SNR=29
N23A S **S** **18 22 01.0 -0.3**
baz=307
WUAZ Wupatki 46.65 85 P **P** **18 15 14.8 +2.1**
WUAZ IAmb IAmb 18 15 32.2
comp=Z,111nm,0.8s
WUAZ IAMs_20 IAMs_20 18 35 46.2
comp=Z,36µm,18.0s
WUAZ Wupatki 46.65 85 P **P** **18 15 14.7 +1.9**
baz=310,SNR=20
WUAZ S **S** **18 22 04.0 +2.7**
baz=310
PV15 Paradox Valley 46.65 80 P **P** **18 15 14.3 +1.5**
PV15 IAmb IAmb 18 15 30.5
comp=Z,164nm,0.9s
Y14A Wickenburg 46.66 87 P **P** **18 15 14.2 +1.5**
PHWY Pilot Hill 46.69 74 P **P** **18 15 12.4 -0.6**
113A Mohawk Valley, 46.96 89 P **P** **18 15 14.8 -0.2**
ULM Lac du Bonnet 47.05 59 P **P** **18 15 14.7 -0.8**
comp=Z,112nm,0.8s,baz=304,slow=8.2,SNR=61
ULM ScP **ScP** **18 20 37.2 -2.8**
comp=Z,8.3nm,0.9s,baz=313,slow=8.4,SNR=1.9
ULM S **S** **18 22 05.8 -0.5**
comp=Z,6.1nm,0.9s,baz=214,slow=22,SNR=1.9
ULM LR LR 18 37 37.9
comp=Z,36µm,18.8s,baz=313,slow=40
ULM Lac du Bonnet 47.05 59 P **P** **18 15 14.6 -0.8**
ULM pmax pmax
comp=Z,276nm,1.2s
ULM Lac du Bonnet 47.05 59 P **P** **18 15 14.6 -0.8**
ULM IAmb IAmb 18 15 32.1
comp=Z,276nm,1.1s
SMCO Snowmass 47.06 78 P **P** **18 15 15.2 -0.9**
X16A Lo Mia Camp, P 47.32 86 P **P** **18 15 20.2 +2.2**
MVCO Mesa Verde 47.35 81 P **P** **18 15 17.5 -0.8**
MVCO IAmb IAmb 18 16 10.0
comp=Z,519nm,1.8s
MVCO Mesa Verde 47.35 81 P **P** **18 15 18.3 +0.1**
baz=310,SNR=21
MVCO S **S** **18 22 11.8 +0.4**
baz=310
ISCO Idaho Springs 47.51 76 P **P** **18 15 19.3 -0.2**
ISCO pmax pmax
comp=Z,81nm,1.1s
ISCO MLR MLR
comp=Z,41µm,18.0s
ISCO Idaho Springs 47.51 76 P **P** **18 15 19.3 -0.2**
ISCO IAMs_20 IAMs_20 18 39 07.2
comp=Z,41µm,18.0s
ISCO Idaho Springs 47.51 76 P **P** **18 15 20.8 +1.3**
baz=308,SNR=38
ISCO S **S** **18 22 13.5 -0.2**
baz=308
IRK Irkutsk 47.91 305 *e*P **P** **18 15 20.3 -1.8**
IRK *e* 18 16 55.4
IRK *e* 18 25 08.6
IRK pmax pmax
comp=Z,298nm,1.4s
W18A Petrified Fore 47.93 84 P **P** **18 15 22.7 0.0**
W18A IAmb IAmb 18 15 42.1
comp=Z,122nm,0.9s
W18A Petrified Fore 47.93 84 P **P** **18 15 24.3 +1.6**
baz=311,SNR=15
W18A S **S** **18 22 21.9 +2.4**
baz=311
214A Organ Pipe Nat 48.10 89 P **P** **18 15 24.2 +0.3**
214A IAmb IAmb 18 16 00.5
comp=Z,182nm,1.3s
214A Organ Pipe Nat 48.10 89 P **P** **18 15 24.8 +0.9**
baz=313,SNR=15
214A S **S** **18 22 22.6 +0.9**
baz=313
AGMN Agassiz Nation 48.15 61 P **P** **18 15 22.8 -1.2**
AGMN IAmb IAmb 18 15 26.8
comp=Z,248nm,0.9s
AGMN IAMs_20 IAMs_20 18 34 25.1
comp=Z,37µm,22.0s
AGMN Agassiz Nation 48.15 61 P **P** **18 15 23.5 -0.5**
baz=305,SNR=153
AGMN S **S** **18 22 20.2 -1.8**
baz=305
D32A Dogwood Acres, 48.18 63 P **P** **18 15 24.3 +0.1**
D32A IAmb IAmb 18 15 30.7
comp=Z,232nm,1.1s
X18A Snowflake 48.18 85 P **P** **18 15 24.7 0.0**
Q24A Divide 48.31 77 P **P** **18 15 25.6 -0.1**
Q24A Divide 48.31 77 P **P** **18 15 27.4 +1.7**
baz=309,SNR=18
Q24A S **S** **18 22 24.8 -0.3**
baz=309
BJI Beijing 48.31 285 P **P** **18 15 24.9 -0.4**
BJI pP **pP** **18 15 27.5 -1.6**
BJI sP **sP** **18 15 31.2 +0.7**
BJI S **S** **18 22 22.4 -2.0**
BJI pmax pmax
comp=Z,42nm,1.2s
BJI pmax pmax
comp=Z,2µm,5.6s
BJI LR LR
comp=Z,41µm,19.4s
BJI LR LR
comp=Z,29µm,20.1s
BJI LR LR
comp=Z,62µm,20.1s
BJT Baijiatuau 48.33 285 P **P** **18 15 25.8 +0.3**
BJT pmax pmax
comp=Z,181nm,0.8s
BJT MLR MLR
comp=Z,56µm,20.0s
BJT Baijiatuau 48.33 285 P **P** **18 15 25.8 +0.3**
BJT IAmb IAmb 18 15 44.2
comp=Z,180nm,0.8s
SUSD Miller 48.65 67 P **P** **18 15 27.2 -0.7**
SUSD Miller 48.65 67 P **P** **18 15 27.9 0.0**
baz=307,SNR=27
SUSD S **S** **18 22 26.6 -2.6**
baz=307
SUSD S S 18 22 29.3 +0.1
baz=307
UPNV Upernavik 48.85 20 *i*P **P** **18 15 28.4 -0.6**
UPNV IAmb IAmb 18 15 37.5
comp=Z,105nm,0.6s
SDCO Great Sand Dun 48.86 78 P **P** **18 15 29.3 -0.6**
SDCO Great Sand Dun 48.86 78 P **P** **18 15 31.6 +1.6**
baz=310,SNR=70
SDCO S **S** **18 22 34.8 +2.0**
baz=310
ULN Ulaanbaatar 48.92 299c*e*P **P** **18 15 29.4 -0.8**
ULN pmax pmax
comp=Z,258nm,1.0s
ULN MLR MLR
comp=Z,43µm,18.0s
ULN Ulaanbaatar 48.92 299 P **P** **18 15 29.0 -1.1**
ULN IAmb IAmb 18 15 34.0
comp=Z,192nm,0.8s
ULN Ulaanbaatar 48.92 299 IAMs_20 IAMs_20 18 37 21.1
comp=Z,41µm,20.0s
ULN Ulaanbaatar 48.92 299 P **P** **18 15 29.3 -0.8**
ULN P **P** **18 15 29.3 -0.8**
ULN P **P** **18 15 29.3 -0.8**
OGNE Ogallala 48.96 73 P **P** **18 15 29.5 -1.0**
OGNE Ogallala 48.96 73 P **P** **18 15 32.1 +1.6**
baz=308,SNR=13
OGNE S **S** **18 22 32.8 -0.9**
baz=308
TUC Tucson 49.13 87 P **P** **18 15 33.6 +1.7**
TUC pmax pmax
comp=Z,128nm,1.2s
TUC MLR MLR
comp=Z,17µm,18.0s
TUC Tucson 49.13 87 P **P** **18 15 33.6 +1.7**
TUC Tucson 49.13 87 P **P** **18 15 33.6 +1.7**
baz=313
TUC S **S** **18 22 39.0 +2.6**
baz=313
B35A Bob, Littlefor 49.28 60 P **P** **18 15 31.4 -1.2**
B35A IAmb IAmb 18 15 53.9
comp=Z,191nm,0.8s
SONM Songino Array 49.30 299 P **P** **18 15 32.6 -0.4**
comp=Z,118nm,0.7s,baz=54,slow=8.2,SNR=149
SONM PcP **PcP** **18 16 58.0 +2.4**
comp=Z,38nm,0.9s,baz=69,slow=4.7,SNR=2.3
SONM ScP **ScP** **18 20 50.4 +0.6**
comp=Z,7.6nm,0.9s,baz=82,slow=3.1,SNR=4.6
SONM ScS **ScS** **18 25 20.6 -3.4**
comp=Z,0.3nm,0.6s,baz=245,slow=43,SNR=1.4
SONM LR LR 18 37 35.9
comp=Z,52µm,19.9s,baz=59,slow=38
SONM P4KPbc 18 53 11.5
comp=Z,0.7nm,0.6s,baz=39,slow=3.6,SNR=5.1
SONM Songino Array 49.30 299 P **P** **18 15 32.1 -0.9**
SONM pmax pmax
comp=Z,323nm,1.3s
SONM Songino Array 49.30 299 P **P** **18 15 32.1 -0.9**
SONM IAmb IAmb 18 15 52.1
comp=Z,322nm,1.3s
F33A 5 Mile Ranch, 49.34 64 P **P** **18 15 31.6 -1.5**
F33A IAmb IAmb 18 15 53.6
comp=Z,176nm,1.2s
ZAK Zakamensk 49.48 303 *e*P **P** **18 15 34.9 +0.6**
ZAK pmax pmax
comp=Z,575nm,1.4s
JOW Kunigami 49.60 263 P **P** **18 15 35.1 -0.3**
JOW IAmb IAmb 18 15 58.0
comp=Z,229nm,1.1s
JOW Kunigami 49.60 263 P P 18 15 42.2 +6.8
KSCO Kaye Shedlock' 49.81 75 P **P** **18 15 38.3 +1.3**
KSCO Kaye Shedlock' 49.81 75 P **P** **18 15 38.0 +1.0**
baz=309,SNR=15
KSCO S **S** **18 22 45.4 -0.4**
baz=309
KBS Kingsbay 49.81 359⇑*e*P **P** **18 15 37.1 +0.8**
KBS pmax pmax
comp=Z,95nm,0.9s
KBS MLR MLR
comp=Z,20µm,19.0s
KBS Kingsbay 49.81 359 *i*P **P** **18 15 37.3 +1.0**
KBS Kingsbay 49.81 359 P **P** **18 15 38.6 +2.3**
KBS IAmb IAmb 18 17 01.7
comp=Z,206nm,1.2s
KBS Kingsbay 49.81 359 IAMs_20 IAMs_20 18 36 39.7
comp=Z,21µm,20.0s
KBS Kingsbay 49.81 359 *e*P **P** **18 15 38.1 +1.8**
K31A O'Neill 49.87 69 P **P** **18 15 36.6 -0.7**
T25A Trinidad 49.91 78 P **P** **18 15 38.0 +0.1**
T25A Trinidad 49.91 78 P **P** **18 15 39.7 +1.8**
baz=310,SNR=104
T25A S **S** **18 22 48.8 +1.4**
baz=310
MOY Mondy 49.91 306 *e*P **P** **18 15 37.6 0.0**
MOY pmax pmax
comp=Z,240nm,1.9s
ANMO Albuquerque 50.08 82 LR LR 18 34 44.1
comp=Z,22µm,21.0s,baz=302,slow=34
ANMO Albuquerque 50.08 82*de*P **P** **18 15 40.5 +1.3**
ANMO pmax pmax
comp=Z,33nm,1.3s
ANMO MLR MLR
comp=Z,32µm,16.0s
ANMO Albuquerque 50.08 82 P **P** **18 15 39.5 +0.3**
ANMO Albuquerque 50.08 82 IAMs_20 IAMs_20 18 40 18.6
comp=Z,24µm,18.0s
ANMO Albuquerque 50.08 82 P **P** **18 15 40.6 +1.5**
baz=311
ANMO S **S** **18 22 50.2 +0.5**
baz=311
TIA Tai'an 50.16 281⇑P **P** **18 15 38.9 -0.6**
TIA S **S** **18 22 54.1 +3.6**
TIA pmax pmax
comp=Z,170nm,0.9s
TIA LR LR
comp=Z,13µm,21.8s
TIA LR LR
comp=Z,22µm,20.4s
TIA LR LR
comp=Z,27µm,23.0s
GUMO Guam 50.23 236 P **P** **18 15 40.8 +0.6**
GUMO pmax pmax
comp=Z,503nm,0.9s
GUMO Guam 50.23 236 P **P** **18 15 40.8 +0.6**
GUMO Guam 50.23 236 P P 18 15 45.5 +5.3
LENM Lemitar 50.27 83 P **P** **18 15 43.5 +2.9**
Y22D IRIS PASSCAL I 50.36 83 IAMs_20 IAMs_20 18 38 13.3
comp=Z,38µm,18.0s
Y22D IRIS PASSCAL I 50.36 83 S **S** **18 22 58.4 +4.8**
baz=312
NUUG Nuugaatsiaq 50.37 21 *i*P **P** **18 15 39.9 -0.7**
NUUG IAmb IAmb 18 15 49.1
comp=Z,34nm,0.7s
ECSD EROS Data Cent 50.42 67 P **P** **18 15 40.6 -0.8**
ECSD IAmb IAmb 18 16 03.6
comp=Z,139nm,0.9s
ECSD EROS Data Cent 50.42 67 IAMs_20 IAMs_20 18 38 50.9
comp=Z,36µm,20.0s
ECSD EROS Data Cent 50.42 67 P **P** **18 15 40.1 -1.4**
baz=308,SNR=126
ECSD S **S** **18 22 51.8 -2.3**
baz=308
SPA0 Spitsbergen Ar 50.46 357 *e*P **P** **18 15 42.2 +0.9**
SPA0 IVmB_BB 18 15 45.9
comp=Z,1µm,1.6s
SPA0 *e*S **S** **18 22 57.9 +4.3**
SPA0 IVMs_BB IVMs_BB 18 36 52.4
comp=Z,10µm,22.2s
SPITS Spitsbergen Ar 50.46 357 LR LR 18 37 05.3
comp=Z,29µm,20.3s,baz=294,slow=36
SPITS Spitsbergen Ar 50.46 357 P **P** **18 15 41.0 -0.2**
SPITS pmax pmax
comp=Z,121nm,1.0s
SPB2 Spitsbergen Ar 50.46 357 P **P** **18 15 40.4 -0.9**
BNM Barren Site 50.49 83 P **P** **18 15 42.7 +0.3**
HHC Hu-ho-hao-te 50.57 289 *e*P **P** **18 15 42.9 +0.2**
HHC S **S** **18 23 03.4 +7.1**
HHC pmax pmax
comp=Z,78nm,1.3s
HHC pmax pmax
comp=Z,4µm,6.7s
HHC LR LR
comp=Z,34µm,18.4s
HHC LR LR
comp=Z,27µm,17.8s
HHC LR LR
comp=Z,42µm,17.8s
319A Douglas 50.71 87 P **P** **18 15 45.5 +1.6**
319A IAmb IAmb 18 16 20.5
comp=Z,285nm,1.6s
EYMN Ely 50.73 59 P **P** **18 15 42.6 -1.1**
EYMN IAmb IAmb 18 16 00.8
comp=Z,345nm,1.3s
EYMN Ely 50.73 59 IAMs_20 IAMs_20 18 40 26.2
comp=Z,34µm,19.0s
EYMN Ely 50.73 59 P **P** **18 15 42.8 -0.9**
baz=307,SNR=76
EYMN S **S** **18 22 54.2 -3.9**
baz=307
121A Cookes Peak, D 50.86 85 P **P** **18 15 45.2 +0.1**
121A Cookes Peak, D 50.86 85 P **P** **18 15 46.9 +1.8**
baz=313,SNR=15
121A S **S** **18 23 01.1 +0.5**
baz=313
HNS HongShan 50.87 283⇑P **P** **18 15 45.3 +0.5**
HNS PP **PP** **18 17 44.2 +3.3**
HNS S **S** **18 22 55.8 -4.4**
HNS SS **SS** **18 26 34.7 +0.1**
HNS pmax pmax
comp=Z,900nm,1.0s
HNS LR LR
comp=Z,14µm,21.0s
HNS LR LR
comp=Z,25µm,20.6s
HNS LR LR
comp=Z,34µm,20.2s
F36A Milaca 50.88 63 P **P** **18 15 43.3 -1.5**
BGNE Belgrade 50.97 70 P **P** **18 15 44.6 -1.1**
BGNE Belgrade 50.97 70 P **P** **18 15 46.8 +1.1**
baz=309,SNR=24
BGNE S **S** **18 22 59.9 -1.8**
baz=309
SSE Sheshan 51.04 273 P **P** **18 15 45.5 -0.7**
SSE pP **sP** **18 15 50.9 -0.5**
SSE S **S** **18 23 01.3 -1.5**
SSE pmax pmax
comp=Z,1µm,6.7s
SSE LR LR
comp=Z,4µm,17.9s
DAG Danmarks Havn 51.06 7 *i*P **P** **18 15 44.0 -1.8**
DAG IAmb IAmb 18 15 48.1
comp=Z,42nm,1.1s
TARA Tarawa 51.16 197 IAMs_20 IAMs_20 18 33 38.9
comp=Z,25µm,19.0s
FRB Frobisher Bay 51.31 33 PKP2bc 18 46 38.8
comp=Z,3.5nm,1.0s,baz=43,slow=2.2,SNR=3.4
FRB P4KPbc 18 53 18.2
comp=Z,4.6nm,0.9s,baz=224,slow=1.5,SNR=3.1
E38A The Farm, Brul 51.51 61 P **P** **18 15 48.1 -1.4**
E38A IAmb IAmb 18 15 52.0
comp=Z,215nm,0.9s
BTO Baotou 51.63 290 *e*P **P** **18 15 50.7 0.0**
BTO S **S** **18 23 11.7 +0.7**
BTO LR LR
comp=Z,75µm,17.3s
BTO LR LR
comp=Z,90µm,20.8s
HSPB Hornsund (broa 51.65 357 *e*P **P** **18 15 50.4 +0.2**
HSPB *e*S **S** **18 23 11.1 +1.0**
HSPB *e*L L 18 36 57.1
HSPB Hornsund (broa 51.65 357 *e*P **P** **18 15 50.8 +0.6**
HSPB IVmB_BB 18 15 51.5
comp=Z,1µm,2.3s
HSPB *e*S **S** **18 23 11.5 +1.4**
HSPB IVMs_BB IVMs_BB 18 37 40.2
comp=Z,11µm,19.9s
L34A Svendsen Farm, 51.66 68 P **P** **18 15 49.7 -1.1**
SPMN Marine on St. 51.67 63 P **P** **18 15 49.4 -1.3**
SPMN IAmb IAmb 18 16 11.6
comp=Z,678nm,1.9s
SPMN Marine on St. 51.67 63 P **P** **18 15 50.6 -0.1**
baz=308,SNR=32
SPMN S **S** **18 23 07.8 -3.3**
baz=308
CBKS Cedar Bluff 51.67 73 P **P** **18 15 50.2 -0.7**
CBKS pmax pmax
comp=Z,621nm,1.1s
CBKS Cedar Bluff 51.67 73 P **P** **18 15 50.2 -0.7**
CBKS Cedar Bluff 51.67 73 P **P** **18 15 52.7 +1.8**
baz=310,SNR=46
CBKS S **S** **18 23 12.6 +1.2**
baz=310

HOPEN Hopen 51.71 354 *e*P **P** **18 15 49.1 -1.5**
HOPEN *e*S **S** **18 23 14.9 +4.0**
HOPEN IVMs_BB IVMs_BB 18 37 51.6
comp=Z,8μm,17.9s
N33A J Bar K, Exete 51.80 70 P **P** **18 15 50.8 -1.1**
NJ2 Nanjing 51.85 275 ⇑*i*P **P** **18 15 51.7 -0.5**
NJ2 pP **sP** **18 15 58.4 +1.0**
NJ2 sP **pwP** **18 16 00.6 -1.6**
NJ2 PP **PP** **18 17 50.3 +0.4**
NJ2 S **S** **18 23 11.5 -2.4**
NJ2 sS **sS** **18 23 22.4 +2.4**
NJ2 ScS **ScS** **18 25 38.2 -3.4**
NJ2 SS **SS** **18 26 50.5 +0.3**
NJ2 pmax pmax
comp=Z,100nm,1.1s
NJ2 pmax pmax
comp=Z,2μm,3.7s
NJ2 LR LR
comp=Z,14μm,19.1s
NJ2 LR LR
comp=Z,17μm,19.1s
NJ2 LR LR
comp=Z,16μm,21.1s
TIY Taiyuan 52.04 285 ⇑P **P** **18 15 54.6 +0.8**
TIY pP **pwP** **18 16 02.9 -0.8**
TIY S **S** **18 23 21.9 +5.3**
TIY pmax pmax
comp=Z,220nm,1.1s
TIY LR LR
comp=Z,23μm,19.9s
TIY LR LR
comp=Z,29μm,19.9s
TIY LR LR
comp=Z,38μm,20.3s
I37A Lemond, Waseca 52.08 64 P **P** **18 15 52.8 -1.1**
I37A IAmb IAmb 18 15 56.4
comp=Z,286nm,0.8s
KNGR Kungurtug, Tuv 52.31 306*d i*P **P** **18 15 55.7 +0.1**
R32A Long Quarter, 52.54 73 P **P** **18 15 55.7 -1.6**
R32A IAmb IAmb 18 16 15.5
comp=Z,373nm,1.1s
ILULI Ilulissat 52.56 22 P **P** **18 15 55.8 -1.3**
ILULI pmax pmax
comp=Z,110nm,1.1s
ILULI MLR MLR
comp=Z,26μm,20.0s
ILULI Ilulissat 52.56 22 *i*P **P** **18 15 55.7 -1.3**
ILULI IAmb IAmb 18 16 02.6
comp=Z,26nm,0.7s
ILULI Ilulissat 52.56 22 P **P** **18 15 55.8 -1.3**
ILULI IAMs_20 IAMs_20 18 40 38.3
comp=Z,26μm,20.0s
N35A Tabor 52.78 69 P **P** **18 15 57.9 -1.2**
D41A Chassel 52.84 59 P **P** **18 15 58.9 -0.5**
D41A IAmb IAmb 18 16 23.5
comp=Z,331nm,1.2s
JMJ Miyako jima 2 52.91 264 P P 18 16 07.1 +6.9
MNTX Cornudas Mount 52.92 84 P **P** **18 15 59.6 -0.6**
MNTX IAmb IAmb 18 16 19.1
comp=Z,186nm,1.2s
MNTX Cornudas Mount 52.92 84 P **P** **18 16 02.0 +1.8**
baz=313,SNR=26
MNTX S **S** **18 23 30.6 +2.0**
baz=313
MSTX Muleshoe 53.00 80 P **P** **18 15 59.9 -1.1**
MSTX IAmb IAmb 18 16 37.4
comp=Z,387nm,1.2s
MSTX Muleshoe 53.00 80 P **P** **18 16 02.2 +1.2**
baz=312,SNR=40
MSTX S **S** **18 23 31.1 +1.2**
baz=312
AMTX Amarillo 53.06 78 P **P** **18 15 59.6 -1.8**
AMTX IAMs_20 IAMs_20 18 42 43.3
comp=Z,19μm,18.0s
AMTX Amarillo 53.06 78 P **P** **18 16 02.6 +1.3**
baz=312
AMTX S **S** **18 23 31.9 +1.3**
baz=312
G40A Rib Lake 53.08 61 P **P** **18 16 00.0 -1.2**
COWI Conover 53.13 60 P **P** **18 16 00.3 -1.4**
COWI IAMs_20 IAMs_20 18 37 26.9
comp=Z,30μm,21.0s
DBG Daneborg 53.26 9 *i*P **P** **18 16 01.1 -1.0**
DBG IAmb IAmb 18 16 02.9
comp=Z,40nm,0.6s
K38A Parkersburg 53.30 65 P **P** **18 16 01.5 -1.4**
K38A IAmb IAmb 18 16 25.7
comp=Z,175nm,0.8s
KSU1 Kansas State U 53.35 71 P **P** **18 16 02.0 -1.3**
KSU1 IAmb IAmb 18 16 20.9
comp=Z,372nm,1.1s
KSU1 Kansas State U 53.35 71 IAMs_20 IAMs_20 18 42 25.5
comp=Z,21μm,18.0s
KSU1 Kansas State U 53.35 71 P **P** **18 16 04.2 +0.8**
baz=311,SNR=22
KSU1 S **S** **18 23 31.9 -2.4**
baz=311
SCIA State Center 53.52 66 P **P** **18 16 03.4 -1.2**
SCIA IAmb IAmb 18 16 26.4
comp=Z,263nm,0.8s
SCIA IAMs_20 IAMs_20 18 40 55.7
comp=Z,33μm,19.0s
SCIA State Center 53.52 66 P **P** **18 16 03.7 -0.8**
baz=310,SNR=42
SCIA S **S** **18 23 34.5 -2.0**
baz=310
U32A Winter Ranch, 53.70 75 **P** **18 16 04.6 -1.4**
U32A IAmb IAmb 18 16 24.2
comp=Z,239nm,1.0s
I40A Norwalk 53.72 63 P **P** **18 16 04.7 -1.2**
I40A IAmb IAmb 18 16 26.6
comp=Z,459nm,1.6s
F42A Maple Grove Fa 53.89 60 P **P** **18 16 05.9 -1.3**
F42A IAmb IAmb 18 16 09.7
comp=Z,187nm,0.8s
BJO1 Bjornoya 54.01 356 *e*P **P** **18 16 07.7 +0.1**
BJO1 *e*PP **PP** **18 18 09.3 +0.8**
BJO1 *e*S **S** **18 23 41.3 -0.9**
BJO1 *e*SS **SS** **18 27 29.2 +6.5**
BJO1 IVMs_BB IVMs_BB 18 39 45.0
comp=Z,5μm,16.0s
LYN LuoYang 54.11 282 ⇑*i*P **P** **18 16 09.0 +0.1**
LYN sP sP 18 16 15.9 +1.8
LYN PP **PP** **18 18 14.7 +4.4**
LYN S **S** **18 23 46.6 +2.0**
LYN pmax pmax
comp=Z,80nm,1.8s
LYN LR LR
comp=Z,20μm,21.4s
LYN LR LR
comp=Z,16μm,20.2s
LYN LR LR
comp=Z,14μm,22.1s
E43A Lone Tree Farm 54.11 59 P **P** **18 16 07.7 -1.1**
N38A Joes South For 54.23 67 P **P** **18 16 08.3 -1.4**
SFJD Kangerlussuaq 54.37 24 LR LR 18 44 08.2
comp=Z,25μm,19.3s,baz=312,slow=41
SFJD PKPPKP 18 46 18.7
comp=Z,4.6nm,0.8s,baz=325,slow=8.6,SNR=2.4
SFJD Kangerlussuaq 54.37 24 P **P** **18 16 08.9 -1.4**
SFJD pmax pmax
comp=Z,98nm,1.0s
SFJD MLR MLR
comp=Z,24μm,19.0s
SFJD Kangerlussuaq 54.37 24 *i*P **P** **18 16 09.0 -1.4**
SFJD IAmb IAmb 18 16 26.0
comp=Z,27nm,0.6s
SFJD Kangerlussuaq 54.37 24 P **P** **18 16 08.9 -1.4**
SFJD Kangerlussuaq 54.37 24 IAMs_20 IAMs_20 18 43 47.1
comp=Z,24μm,19.0s
JFWS Jewell Farm 54.55 64 P **P** **18 16 10.5 -1.5**
JFWS Jewell Farm 54.55 64 P **P** **18 16 10.5 -1.5**
JFWS IAmb IAmb 18 16 14.7
comp=Z,146nm,0.9s
JFWS Jewell Farm 54.55 64 P **P** **18 16 12.3 +0.2**
baz=310,SNR=46
JFWS S **S** **18 23 45.7 -4.7**
baz=310
L40A Anamosa 54.55 65 P **P** **18 16 10.0 -2.1**
L40A IAmb IAmb 18 16 14.5
comp=Z,120nm,0.8s
YOJ Yonaguni jima 54.58 265 P **P** **18 16 11.1 -1.3**
YOJ pmax pmax
comp=Z,371nm,0.8s
YOJ Yonaguni jima 54.58 265 P **P** **18 16 11.1 -1.3**
YOJ Yonaguni jima 54.58 265 P **P** **18 16 15.8 +3.4**
I42A Draeger Farm, 54.66 62 P **P** **18 16 10.4 -2.4**
I42A IAmb IAmb 18 16 16.1
comp=Z,134nm,0.7s
P38A Dawn 54.81 69 P **P** **18 16 12.2 -1.8**
T35A Sooner Cattle 54.84 73 **P** **18 16 12.0 -2.2**
T35A IAmb IAmb 18 16 31.3
comp=Z,252nm,1.2s
H43A Windswept, Lux 54.92 61 P **P** **18 16 12.7 -2.0**
H43A IAmb IAmb 18 16 16.8
comp=Z,208nm,0.8s
WMOK Wichita Mounta 54.93 77 P **P** **18 16 13.4 -1.5**
WMOK pmax pmax
comp=Z,181nm,1.2s
WMOK MLR MLR
comp=Z,23μm,19.0s
WMOK Wichita Mounta 54.93 77 P **P** **18 16 13.4 -1.5**
WMOK IAmb IAmb 18 16 42.3
comp=Z,181nm,1.1s
WMOK Wichita Mounta 54.93 77 IAMs_20 IAMs_20 18 39 53.6
comp=Z,23μm,19.0s
WMOK Wichita Mounta 54.93 77 P **P** **18 16 14.3 -0.6**
baz=313,SNR=61
WMOK S **S** **18 23 55.8 +0.1**
baz=313
ICESG Greenland Ices 55.14 18 *i*P **P** **18 16 15.2 -1.1**
ICESG IAmb IAmb 18 17 19.4
comp=Z,132nm,0.7s
TATO Taipei 55.16 267 IAMs_20 IAMs_20 18 38 35.2
comp=Z,31μm,22.0s
LPIG La Paz 55.20 94 LR LR 18 37 01.7
comp=Z,8μm,18.1s,baz=301,slow=33
OKCFA Oklahoma City 55.28 75 P **P** **18 16 16.2 -1.2**
OKCFA IAmb IAmb 18 16 43.3
comp=Z,122nm,0.8s
FNO Franklin 55.41 75 **P** **18 16 16.6 -1.8**
FNO IAmb IAmb 18 16 44.5
comp=Z,148nm,0.9s
YHNB Yeheng 55.45 267 P **P** **18 16 19.0 +0.1**
YHNB IAmb IAmb 18 16 41.0
comp=Z,122nm,0.9s
YHNB IAMs_20 IAMs_20 18 38 10.1
comp=Z,23μm,22.0s
YHNB Yeheng 55.45 267 P **P** **18 16 21.3 +2.4**
L42A Oliver, Polo 55.47 64 P **P** **18 16 16.2 -2.5**
L42A IAmb IAmb 18 16 39.4
comp=Z,146nm,0.9s
E46A Sault Ste Mari 55.54 57 P **P** **18 16 17.3 -1.8**
TX31 Lajitas Ar. Si 55.62 85 P **P** **18 16 18.2 -1.8**
TX32 Lajitas Array 55.62 85 P **P** **18 16 18.4 -1.7**
TX32 IAmb IAmb 18 16 41.8
comp=Z,218nm,1.3s
TXAR Lajitas Array 55.62 85 P **P** **18 16 19.0 -1.0**
comp=Z,21nm,0.7s,baz=297,slow=5.5,SNR=108
TXAR ScP **ScP** **18 21 17.1 -0.4**
comp=Z,8.4nm,0.9s,baz=271,slow=2.6,SNR=5.5
TXAR PKP2bc 18 46 41.6
comp=Z,2.9nm,1.0s,baz=145,slow=4.6,SNR=4.7
TXAR P4KPbc 18 53 39.1
comp=Z,0.3nm,0.9s,baz=215,slow=6.2,SNR=2.7
TXAR Lajitas Array 55.62 85 P **P** **18 16 18.2 -1.8**
TXAR **ScP** **18 21 16.1 -1.4**
N41A Harden Midland 55.65 66 P **P** **18 16 18.5 -1.5**
N41A IAmb IAmb 18 16 41.4
comp=Z,256nm,1.1s
NACB Ninganchiao 55.67 266 P **P** **18 16 18.0 -2.3**
NACB IAMs_20 IAMs_20 18 39 07.0
comp=Z,19μm,21.0s
WHN Wuhan 55.68 277 ⇑P **P** **18 16 19.7 -0.6**
WHN pP **pP** **18 16 24.6 +0.5**
WHN sP **sP** **18 16 26.6 +1.1**
WHN S **S** **18 24 07.1 +1.3**
WHN sS **sS** **18 24 15.6 +3.6**
WHN pmax pmax
comp=Z,120nm,1.0s
WHN pmax pmax
comp=Z,5μm,5.2s
WHN LR LR
comp=Z,33μm,18.9s
WHN LR LR
comp=Z,26μm,17.4s
WHN LR LR
comp=Z,34μm,17.6s
G45A Suttons Bay 55.69 59 P **P** **18 16 18.4 -1.8**
G45A IAmb IAmb 18 16 42.2
comp=Z,208nm,0.8s
SLBS Sierra La Lagu 55.73 94 P **P** **18 16 19.7 -1.1**
SLBS IAmb IAmb 18 16 40.3
comp=Z,143nm,1.1s
SLBS IAMs_20 IAMs_20 18 38 50.3
comp=Z,24μm,18.0s
P40A Paris 55.74 68 P **P** **18 16 18.9 -1.8**
K43A Burlington 55.76 63 P **P** **18 16 18.9 -1.8**
K43A IAmb IAmb 18 16 55.6
comp=Z,319nm,1.2s
W35A Tecumseh 55.80 75 **P** **18 16 19.0 -2.2**
ABTX Abilene, Hawle 55.83 79 P **P** **18 16 19.1 -2.3**
ABTX IAmb IAmb 18 16 57.2
comp=Z,228nm,1.1s
ABTX Abilene, Hawle 55.83 79 P **P** **18 16 22.2 +0.7**
baz=314,SNR=43
ABTX S **S** **18 24 07.0 -0.9**
baz=314
DY2G Dye2 55.85 23 *i*P **P** **18 16 21.8 +0.4**
DY2G IAmb IAmb 18 16 31.2
comp=Z,45nm,0.6s
TUL1 Leonard 55.94 74 IAMs_20 IAMs_20 18 44 48.4
comp=Z,17μm,18.0s
TUL1 Leonard 55.94 74 P **P** **18 16 22.1 0.0**
baz=313,SNR=22
TUL1 S **S** **18 24 06.6 -2.6**
baz=313
I45A Fountain 56.04 60 P **P** **18 16 20.9 -1.8**
HPIG 56.06 88 P **P** **18 16 22.0 -1.4**
ZAA0 Zalesovo Array 56.13 316 P **P** **18 16 21.3 -2.0**
ZALV Zalesovo Beam 56.13 316 P **P** **18 16 21.8 -1.4**
comp=Z,10nm,0.6s,baz=47,slow=6.7,SNR=29
ZALV PcP **PcP** **18 17 22.8 +1.8**
comp=Z,82nm,1.0s,baz=44,slow=3.8,SNR=11
ZALV ScP **ScP** **18 21 20.9 +1.7**
comp=Z,14nm,1.0s,baz=64,slow=3.4,SNR=5.0
ZALV LR LR 18 42 54.2
comp=Z,25μm,19.2s,baz=54,slow=39
ZALV PKPPKP **P'P'df** **18 46 28.4 +0.1**
comp=Z,0.4nm,0.3s,baz=222,slow=1.9,SNR=4.2
ZALV P4KPbc 18 53 39.3
comp=Z,1.0nm,0.7s,baz=67,slow=5.0,SNR=4.4
ZALV Zalesovo Beam 56.13 316 P **P** **18 16 20.1 -3.1**
S39A Bolivar 56.22 70 P **P** **18 16 21.3 -2.8**
L44A Lake County Fo 56.34 63 P **P** **18 16 22.4 -2.5**
L44A IAmb IAmb 18 16 46.2
comp=Z,292nm,1.1s
L44A Lake County Fo 56.34 63 P **P** **18 16 24.1 -0.8**
baz=312,SNR=27
L44A S **S** **18 24 10.9 -3.5**
baz=312
SSLB Suanglung 56.36 267 P **P** **18 16 23.6 -1.7**
SSLB IAMs_20 IAMs_20 18 40 43.0
comp=Z,20μm,21.0s
SSLB Suanglung 56.36 267 P **P** **18 16 27.3 +2.0**
GLMI Grayling 56.39 59 P **P** **18 16 24.5 -0.7**
GLMI IAMs_20 IAMs_20 18 43 19.9
comp=Z,27μm,19.0s
GLMI Grayling 56.39 59 P **P** **18 16 25.1 -0.1**
baz=312,SNR=22
GLMI S **S** **18 24 13.8 -1.2**
baz=312
YULB Yu-li 56.43 266 P **P** **18 16 23.4 -2.3**
YULB IAMs_20 IAMs_20 18 38 46.0
comp=Z,19μm,22.0s
R40A Maddies Statio 56.44 69 P **P** **18 16 22.9 -2.8**
R40A IAmb IAmb 18 16 48.3
comp=Z,87nm,0.6s
XAN Xi'an 56.61 284 P **P** **18 16 26.6 -0.4**
XAN pP pwP 18 16 35.1 -1.9
XAN S **S** **18 24 22.4 +4.1**
XAN pmax pmax
comp=Z,92nm,1.8s
XAN pmax pmax
comp=Z,3μm,6.2s
XAN LR LR
comp=Z,13μm,19.3s
XAN LR LR
comp=Z,36μm,19.2s
XAN LR LR
comp=Z,40μm,20.2s
HDIL Hopedale 56.64 65 P **P** **18 16 25.2 -1.8**
HDIL IAmb IAmb 18 16 29.0
comp=Z,213nm,0.8s
HDIL IAMs_20 IAMs_20 18 39 47.2
comp=Z,31μm,20.0s
HDIL Hopedale 56.64 65 P **P** **18 16 26.5 -0.5**
baz=312,SNR=30
HDIL S **S** **18 24 15.4 -2.9**
baz=312
SCO Scoresbysund 56.67 11 *i*P **P** **18 16 26.2 -0.6**
SCO *i*Pg **pP** **18 16 26.7 -4.0**
SCO IAmb IAmb 18 16 28.5
comp=Z,23nm,0.6s
SCO Scoresbysund 56.67 11 IAMs_20 IAMs_20 18 43 23.8
comp=Z,15μm,20.0s
M44A Midewin, Midew 56.79 64 P **P** **18 16 26.4 -1.7**
M44A IAmb IAmb 18 16 49.5
comp=Z,343nm,1.1s
HHAR Hobbs 56.80 72 P **P** **18 16 26.5 -1.8**
HHAR IAmb IAmb 18 16 44.8
comp=Z,133nm,1.0s
Z35A Perchaven, San 56.81 77 P **P** **18 16 26.5 -1.9**
Z35A IAmb IAmb 18 17 03.1
comp=Z,146nm,0.9s
TPUB Ta-pu 56.91 266 P **P** **18 16 28.1 -1.1**
TPUB IAMs_20 IAMs_20 18 39 56.8
comp=Z,25μm,22.0s
TPUB Ta-pu 56.91 266 P **P** **18 16 32.0 +2.8**
TWG Pinlang 56.99 266 P **P** **18 16 28.9 -0.8**
QZH Quanzhou 56.99 269 ⇑*i*P **P** **18 16 29.9 +0.2**
QZH S **S** **18 24 25.3 +2.0**
QZH pmax pmax
comp=Z,170nm,1.5s
QZH pmax pmax
comp=Z,3μm,12.0s
QZH LR LR
comp=Z,8μm,21.8s
QZH LR LR
comp=Z,3μm,15.7s
QZH LR LR
comp=Z,10μm,20.6s
P43A Skaggs, Pawnee 57.12 66 P **P** **18 16 28.7 -1.8**
CCM Cathedral Cave 57.19 69 P **P** **18 16 28.6 -2.4**
CCM pmax pmax
comp=Z,258nm,1.3s
CCM MLR MLR
comp=Z,26μm,21.0s
CCM Cathedral Cave 57.19 69 P **P** **18 16 28.6 -2.4**
CCM IAmb IAmb 18 16 49.9
comp=Z,258nm,1.3s
CCM Cathedral Cave 57.19 69 IAMs_20 IAMs_20 18 41 14.1
comp=Z,27μm,21.0s
CCM Cathedral Cave 57.19 69 P **P** **18 16 30.7 -0.3**
baz=313
CCM S **S** **18 24 20.1 -5.5**
baz=313
MGMO Mountain Grove 57.20 70 P **P** **18 16 28.6 -2.5**
MGMO IAmb IAmb 18 16 47.5
comp=Z,262nm,1.1s
JCT Junction City 57.22 81 P **P** **18 16 30.4 -0.9**
JCT pmax pmax
comp=Z,118nm,0.8s
JCT MLR MLR
comp=Z,22μm,18.0s
JCT Junction City 57.22 81 P **P** **18 16 30.4 -0.9**
JCT IAmb IAmb 18 16 52.2
comp=Z,118nm,0.8s
JCT IAMs_20 IAMs_20 18 42 16.6
comp=Z,22μm,18.0s
JCT Junction City 57.22 81 P **P** **18 16 31.6 +0.3**
baz=315,SNR=24
JCT S **S** **18 24 23.2 -3.1**
baz=315
J47A Sunmer 57.33 60 P **P** **18 16 30.8 -1.1**
J47A IAmb IAmb 18 16 54.2
comp=Z,176nm,0.9s
L46A Eue Claire 57.35 62 P **P** **18 16 30.2 -1.8**
O44A Mansfield 57.38 65 P **P** **18 16 29.8 -2.5**
O44A IAmb IAmb 18 16 55.7
comp=Z,142nm,1.1s
SLM Saint Louis 57.38 68 P **P** **18 16 30.6 -1.8**
SLM pmax pmax
comp=Z,235nm,0.8s
SLM Saint Louis 57.38 68 P **P** **18 16 30.6 -1.8**
SLM IAmb IAmb 18 16 53.7
comp=Z,235nm,0.8s
U40A Yellville 57.39 71 P **P** **18 16 30.0 -2.5**
U40A IAmb IAmb 18 16 49.4
comp=Z,360nm,1.2s
U40A IAMs_20 IAMs_20 18 42 25.6
comp=Z,28μm,20.0s
U40A Yellville 57.39 71 P **P** **18 16 30.6 -1.9**
baz=313,SNR=88
U40A S **S** **18 24 22.4 -6.1**
baz=313
JMIC Jan Mayen 57.40 6 LR LR 18 41 31.5
comp=Z,6μm,20.4s,baz=343,slow=36
JMIC Jan Mayen 57.40 6 *e*P **P** **18 16 31.7 -0.2**
JMIC *e*SS **SS** **18 28 16.1 +0.1**
JMIC IVMs_BB IVMs_BB 18 45 09.1
comp=Z,6μm,4.6s
SOEG Soedalen 57.42 16 *i*P **P** **18 16 32.9 +0.7**
SOEG IAmb IAmb 18 16 37.2
comp=Z,31nm,0.6s
KNMB Chin-men Tao 57.47 269 P **P** **18 16 32.1 -1.0**
KNMB IAmb IAmb 18 16 53.5
comp=Z,239nm,1.0s
HAMF Hammerfest 57.53 353 *e*P **P** **18 16 32.9 0.0**
HAMF IVmB_BB 18 16 33.4
comp=Z,1μm,2.1s
HAMF *e*S **S** **18 24 32.2 +3.0**
HAMF *e*SS **SS** **18 28 22.5 +4.4**
HAMF IVMs_BB IVMs_BB 18 39 47.4
comp=Z,6μm,25.4s
WHTX Lake Whitney, 57.61 78 P **P** **18 16 31.6 -2.4**
WHTX Lake Whitney, 57.61 78 P **P** **18 16 31.4 -2.7**
baz=314,SNR=11
WHTX S **S** **18 24 30.6 -0.7**
baz=314
W39A Magazine 57.63 73 P **P** **18 16 31.8 -2.3**
W39A IAMs_20 IAMs_20 18 42 08.0
comp=Z,18μm,21.0s
W39A Magazine 57.63 73 P **P** **18 16 33.6 -0.5**
baz=313,SNR=29
W39A S **S** **18 24 28.5 -3.0**
baz=313
FVM French Village 57.71 68 P **P** **18 16 31.7 -3.0**
FVM pmax pmax
comp=Z,202nm,0.9s
FVM French Village 57.71 68 P **P** **18 16 31.7 -3.0**
FVM IAmb IAmb 18 16 51.9
comp=Z,202nm,0.8s
VLDQ Val d'Or 57.87 52 P **P** **18 16 32.2 -3.4**
VLDQ IAmb IAmb 18 16 38.8
comp=Z,202nm,0.9s
Q44A Meyer Farm, Va 57.91 67 P **P** **18 16 34.1 -1.9**
Q44A IAmb IAmb 18 16 59.5
comp=Z,389nm,1.2s
I49A Point Hope 57.94 58 P **P** **18 16 35.3 -0.8**
I49A IAmb IAmb 18 16 58.6
comp=Z,174nm,0.8s
SCHQ Schefferville 57.99 41 P **P** **18 16 35.1 -1.3**
comp=Z,55nm,0.8s,baz=322,slow=7.8,SNR=60
SCHQ LR LR 18 43 51.9
comp=Z,46μm,19.1s,baz=318,slow=38
SCHQ PKPPKP **P'P'df** **18 46 20.0 -5.8**
comp=Z,3.3nm,0.8s,baz=46,slow=1.3,SNR=3.7
SCHQ Schefferville 57.99 41 P **P** **18 16 34.4 -2.1**
SFIN Lafayette 58.00 64 P **P** **18 16 35.3 -1.4**
SFIN Lafayette 58.00 64 P **P** **18 16 35.7 -1.0**
baz=313,SNR=79
SFIN S **S** **18 24 33.0 -3.2**
baz=313
KEV Kevo 58.12 352 P **P** **18 16 34.8 -2.2**
KEV pmax pmax
comp=Z,264nm,1.4s
KEV MLR MLR
comp=Z,14μm,20.0s
KEV Kevo 58.12 352 P **P** **18 16 34.8 -2.2**
KEV IAmb IAmb 18 16 40.4
comp=Z,264nm,1.4s
FCAR Ozark Folk Cen 58.14 71 P **P** **18 16 35.4 -2.3**
MIAR Mount Ida 58.20 73 P **P** **18 16 36.3 -1.9**
MIAR pmax pmax
comp=Z,634nm,1.2s
MIAR MLR MLR

comp=Z,14µm,21.0s
MIAR Mount Ida 58.20 73 P P 18 16 36.2 -1.9
MIAR Mount Ida 58.20 73 P P 18 16 37.4 -0.8
baz=314,SNR=80
MIAR S **S** **18 24 38.7 -0.3**
baz=314
Z38A Mt. Pleasant 58.24 75 P P 18 16 37.7 -0.7
Z38A IAmb IAmb 18 16 49.9
comp=Z,148nm,0.8s
LZH Lanzhou 58.26 289 ⇑P **P 18 16 39.1 +0.4**
LZH pP sP 18 16 45.4 +1.4
LZH sP pwP 18 16 50.0 +1.3
LZH S **S** **18 24 42.4 +2.3**
LZH ScS **ScS** **18 26 27.8 +0.1**
LZH pmax pmax
comp=Z,340nm,1.4s
LZH pmax pmax
comp=Z,3µm,4.3s
LZH LR LR
comp=Z,17µm,14.6s
LZH LR LR
comp=Z,18µm,15.2s
LZH LR LR
comp=Z,31µm,14.6s
ISOG Isortoq, Green 58.29 20 *i* P **P 18 16 37.0 -1.3**
GTA Gaotai 58.33 295 ⇑P **P 18 16 38.4 -0.8**
GTA pP sP 18 16 43.7 -0.7
GTA sP pwP 18 16 46.5 -2.4
GTA S **S** **18 24 38.8 -2.0**
GTA sS sS 18 24 49.7 +2.5
GTA ScS **ScS** **18 26 26.9 -1.2**
GTA pmax pmax
comp=Z,47nm,1.4s
GTA pmax pmax
comp=Z,2µm,5.8s
GTA LR LR
comp=Z,20µm,20.0s
GTA LR LR
comp=Z,32µm,18.5s
GTA LR LR
comp=Z,35µm,20.0s
435B Jarrell 58.37 79 P **P 18 16 37.7 -1.7**
435B IAmb IAmb 18 17 15.3
comp=Z,172nm,1.1s
435B IAMs_20 IAMs_20 18 40 53.0
comp=Z,17µm,20.0s
435B Jarrell 58.37 79 P **P 18 16 40.6 +1.2**
baz=315
435B S **S** **18 24 41.5 +0.2**
baz=315
L48A N Adams 58.42 61 P **P 18 16 37.8 -1.8**
L48A IAmb IAmb 18 16 42.9
comp=Z,149nm,0.8s
N47A Urbana 58.44 63 P **P 18 16 37.0 -2.8**
N47A IAmb IAmb 18 16 42.5
comp=Z,202nm,0.9s
P46A Rosedale 58.45 65 P **P 18 16 37.9 -1.9**
P46A IAmb IAmb 18 17 01.5
comp=Z,387nm,1.4s
WHAR Wooly Hollow 58.46 72 P **P 18 16 37.9 -2.0**
ARA0 ARCESS Array S 58.46 352 *eP* **P 18 16 39.1 -0.4**
ARA0 IVmB_BB 18 16 42.2
comp=Z,926nm,1.4s
ARA0 *eS* **S** **18 24 42.4 +0.9**
ARA0 *eSS* **SS** **18 28 36.3 +3.4**
ARA0 IVMs_BB IVMs_BB 18 46 22.9
comp=Z,8µm,18.1s
ARCES ARCESS Array B 58.46 352 P **P 18 16 38.2 -1.3**
comp=Z,39nm,0.6s,baz=21,slow=6.5,SNR=90
ARCES PcP **PcP** **18 17 30.5 +0.6**
comp=Z,198nm,0.8s,baz=18,slow=4.2,SNR=18
ARCES ScP **ScP** **18 21 33.0 +3.8**
comp=Z,9.7nm,0.7s,baz=352,slow=5.4,SNR=6.4
ARCES ScS **ScS** **18 26 24.9 -3.0**
comp=Z,3.9nm,0.9s,baz=71,slow=17,SNR=3.8
ARCES LR LR 18 41 55.3
comp=Z,23µm,21.9s,baz=10.0,slow=36
ARCES PKPPKP P'P'df 18 46 17.0 -9.2
comp=Z,2.0nm,0.8s,baz=151,slow=0.1,SNR=6.1
ARCES PKP2bc 18 46 41.5
comp=Z,12nm,1.0s,baz=267,slow=2.2,SNR=5.6
ARCES ARCESS Array B 58.46 352 P **P 18 16 37.2 -2.2**
ARCES IAmb IAmb 18 17 32.7
comp=Z,155nm,0.8s
ARCES **ScP** **18 21 28.5 -0.8**
ANGG Ammassalik, Gr 58.52 20 *i* P **P 18 16 38.8 -1.1**
ANGG IAmb IAmb 18 16 53.6
comp=Z,39nm,0.7s
ANGG Ammassalik, Gr 58.52 20 P **P 18 16 38.4 -1.4**
ANGG IAmb IAmb 18 17 03.2
comp=Z,265nm,1.5s
PBMO Poplar Bluff 58.53 69 P **P 18 16 37.8 -2.6**
PBMO IAmb IAmb 18 16 56.8
comp=Z,332nm,1.1s
OLIL Olney 58.55 66 P **P 18 16 38.7 -1.8**
W41B Gary Mavity, V 58.56 72 P **P 18 16 38.8 -1.9**
W41B IAmb IAmb 18 16 58.5
comp=Z,265nm,1.1s
W41B Gary Mavity, V 58.56 72 P **P 18 16 40.8 +0.2**
baz=314,SNR=71
W41B S **S** **18 24 39.8 -3.9**
baz=314
S44A Carbondale 58.59 68 P **P 18 16 39.3 -1.5**
S44A IAmb IAmb 18 17 03.0
comp=Z,207nm,0.9s
LCAR Lake Charles 58.59 70 P **P 18 16 38.5 -2.3**
SIUC Southern Illin 58.60 68 P **P 18 16 38.8 -2.1**
SIUC IAmb IAmb 18 16 58.0
comp=Z,173nm,0.9s
AAM Ann Arbor 58.60 60 P **P 18 16 39.0 -1.8**
AAM pmax pmax
comp=Z,84nm,0.8s
AAM MLR MLR
comp=Z,28µm,21.0s
AAM Ann Arbor 58.60 60 P **P 18 16 39.0 -1.8**
AAM IAMs_20 IAMs_20 18 42 27.5
comp=Z,28µm,21.0s
AAM Ann Arbor 58.60 60 P **P 18 16 40.3 -0.5**
baz=313,SNR=11
AAM S **S** **18 24 42.3 -1.7**
baz=313
237A Washetta, Mont 58.61 77 P **P 18 16 41.7 +0.7**
237A IAmb IAmb 18 17 02.6
comp=Z,183nm,0.9s
X40A Basin Creek Fa 58.68 73 P **P 18 16 38.9 -2.6**
X40A IAmb IAmb 18 16 59.3
comp=Z,171nm,1.0s
X40A IAMs_20 IAMs_20 18 42 50.8
comp=Z,21µm,21.0s
X40A Basin Creek Fa 58.68 73 P **P 18 16 42.0 +0.5**
baz=314,SNR=56
X40A S **S** **18 24 42.7 -2.6**
baz=314
JETT Jettan, Norway 58.82 354 *eP* **P 18 16 43.1 +1.1**
JETT *eS* **S** **18 24 51.5 +5.3**
JETT IVMs_BB IVMs_BB 18 39 37.9
comp=Z,4µm,27.5s
K50A Casco 58.84 59 P **P 18 16 40.9 -1.5**
K50A IAmb IAmb 18 16 44.9
comp=Z,111nm,0.8s
TRO Tromso 58.84 355 *eP* **P 18 16 42.3 +0.3**
TRO IVmB_BB 18 16 47.4
comp=Z,2µm,1.4s
TRO *ePP* **PP** **18 18 53.2 +1.7**
TRO *eS* **S** **18 24 46.9 +0.6**
TRO IVMs_BB IVMs_BB 18 40 29.2
comp=Z,5µm,18.9s
ENH Enshi 58.87 281 P **P 18 16 41.6 -1.4**
833A Chaparral WMA, 58.98 83 P **P 18 16 42.5 -1.1**
833A IAmb IAmb 18 17 02.5
comp=Z,272nm,1.1s
833A Chaparral WMA, 58.98 83 P **P 18 16 44.9 +1.2**
baz=316,SNR=17
833A S **S** **18 24 47.3 -2.0**
baz=316
PARMO Parma 59.01 69 P **P 18 16 42.9 -0.8**
LVZ Lovozero 59.04 348 *eP* **P 18 16 41.9 -1.7**
LVZ pmax pmax
comp=Z,324nm,1.0s
LVZ Lovozero 59.04 348 P **P 18 16 41.8 -1.7**
LVZ IAMs_20 IAMs_20 18 45 55.4
comp=Z,15µm,19.0s
WLAR White Oak Lake 59.07 74 P **P 18 16 42.7 -1.5**
BLO Bloomington 59.14 65 P **P 18 16 42.6 -2.1**
BLO pmax pmax
comp=Z,207nm,0.9s
BLO Bloomington 59.14 65 P **P 18 16 42.6 -2.1**
BLO IAmb IAmb 18 16 46.7
comp=Z,206nm,0.9s
KTK1 Kautokeino 59.16 353 *eP* **P 18 16 43.8 -0.5**
KTK1 *ePP* **PP** **18 18 53.6 -0.9**
KTK1 *eS* **S** **18 24 52.0 +1.4**
KTK1 *eSS* **SS** **18 28 49.5 +5.7**
KTK1 IVMs_BB IVMs_BB 18 40 52.5
comp=Z,5µm,18.2s
O48B Farmland 59.17 63 P **P 18 16 43.6 -1.2**
baz=314,SNR=71
O48B S **S** **18 24 47.5 -4.0**
baz=314
HBAR Harrisburg 59.24 70 P **P 18 16 43.3 -2.0**
N49A Columbus Grove 59.25 62 P **P 18 16 43.3 -2.1**
N49A IAmb IAmb 18 16 48.6
comp=Z,119nm,0.8s
SADO Sadowa 59.30 56 LR LR 18 44 27.7
comp=Z,26µm,18.3s,baz=354,slow=38
SADO PKPPKP 18 46 17.0
comp=Z,8.2nm,0.9s,baz=226,slow=3.5,SNR=1.3
SADO PKP2bc 18 46 39.1
comp=Z,12nm,1.1s,baz=278,slow=2.9,SNR=3.7
SADO Sadowa 59.30 56 P **P 18 16 44.3 -1.4**
SADO IAmb IAmb 18 16 50.1
comp=Z,125nm,0.8s
USIN University of 59.32 66 P **P 18 16 44.1 -1.8**
PEBM Pemiscott Bayo 59.32 69 P **P 18 16 44.0 -1.9**
GNAR Gosnell 59.33 70 P **P 18 16 44.5 -1.5**
GNAR IAmb IAmb 18 17 03.5
comp=Z,247nm,1.1s
HICK Hickman 59.40 69 P **P 18 16 44.9 -1.5**
T45A Paducah 59.41 68 P **P 18 16 44.4 -2.0**
NATX Nacogdoches 59.47 76 P **P 18 16 45.4 -1.6**
NATX IAMs_20 IAMs_20 18 41 00.0
comp=Z,19µm,21.0s
NATX Nacogdoches 59.47 76 P **P 18 16 48.2 +1.2**
baz=315,SNR=5.9
NATX S **S** **18 24 55.0 -0.6**
baz=315
APA Apatity 59.51 348 ⇓ *i* P **P 18 16 44.6 -2.1**
APA *i* 18 17 36.0
APA *i* S S 18 24 46.0 -9.1
APA *i* PS **PnS** **18 25 01.0 -6.8**
APA *i* 18 26 26.0
APA pmax pmax
comp=Z,48nm,1.1s
LNXT Lenox 59.55 69 P **P 18 16 45.6 -1.9**
M50A Fremont 59.55 61 P **P 18 16 45.5 -1.9**
M50A IAmb IAmb 18 16 49.5
comp=Z,99nm,0.8s
GLAT Glass 59.55 69 P **P 18 16 46.4 -1.1**
Z41A Richland Creek 59.55 74 P **P 18 16 46.6 -0.9**
Z41A IAmb IAmb 18 17 42.5
comp=Z,214nm,1.2s
Z41A Richland Creek 59.55 74 P **P 18 16 47.4 -0.2**
baz=314
Z41A S **S** **18 24 54.8 -1.8**
baz=314
P48A Milroy 59.56 64 P **P 18 16 44.9 -2.7**
735A Kenedy 59.59 81 P **P 18 16 47.0 -0.9**
735A IAmb IAmb 18 17 08.6
comp=Z,176nm,0.9s
O49A Covington 59.67 63 P **P 18 16 46.3 -2.0**
O49A IAmb IAmb 18 17 08.8
comp=Z,250nm,1.4s
CCAR Cane Creek 59.71 73 P **P 18 16 47.2 -1.5**
UTMT University of 59.75 69 P **P 18 16 47.2 -1.7**
HALT Halls 59.77 69 P **P 18 16 47.1 -1.9**
P49A Miami Univ. Ec 59.91 63 P **P 18 16 47.8 -2.1**
P49A Miami Univ. Ec 59.91 63 P **P 18 16 48.6 -1.4**
baz=314,SNR=39
P49A S **S** **18 24 56.8 -4.3**
baz=314
WCI Wyandotte Cave 59.92 65 P **P 18 16 48.2 -1.8**
WCI pmax pmax
comp=Z,247nm,1.0s
WCI MLR MLR
comp=Z,33µm,19.0s
WCI Wyandotte Cave 59.92 65 P **P 18 16 48.2 -1.8**
WCI IAmb IAmb 18 17 12.2
comp=Z,247nm,1.0s
WCI Wyandotte Cave 59.92 65 P **P 18 16 50.1 +0.1**
baz=314
WCI S **S** **18 24 59.7 -1.5**
baz=314
HKT Hockley 60.03 79 *deP* **P 18 16 52.0 +1.2**
HKT pmax pmax
comp=Z,34nm,1.3s
HKT Hockley 60.03 79 P **P 18 16 49.5 -1.3**
HKT IAmb IAmb 18 17 40.1
comp=Z,301nm,1.6s
HKT Hockley 60.03 79 IAMs_20 IAMs_20 18 42 03.6
comp=Z,16µm,21.0s
N51A Ashland 60.25 61 P **P 18 16 50.5 -1.7**
DELO Deloro Mine 60.26 55 P **P 18 16 50.4 -1.8**
T47A Sharon Grove 60.32 67 P **P 18 16 51.2 -1.5**
M52A Chesterland 60.37 60 P **P 18 16 51.5 -1.6**
M52A IAmb IAmb 18 16 55.5
comp=Z,146nm,0.8s
W45A Hickory Valley 60.38 70 P **P 18 16 52.0 -1.2**
ACSO Alum Creek Sta 60.39 62 P **P 18 16 52.4 -0.9**
ACSO IAmb IAmb 18 16 56.7
comp=Z,106nm,0.8s
ACSO Alum Creek Sta 60.39 62 P **P 18 16 52.8 -0.4**
baz=314,SNR=31
ACSO S **S** **18 25 04.8 -2.4**
baz=314
NRS Narsarsuaq 60.42 26 P **P 18 16 52.3 -0.7**
NRS pmax pmax
comp=Z,77nm,1.1s
NRS MLR MLR
comp=Z,52µm,20.0s
NRS Narsarsuaq 60.42 26 P **P 18 16 52.3 -0.7**
KVTX Kingsville 60.47 82 IAMs_20 IAMs_20 18 47 32.8
comp=Z,18µm,19.0s
WVT Waverly 60.49 68 P **P 18 16 52.2 -1.8**
WVT pmax pmax
comp=Z,415nm,1.7s
WVT MLR MLR
comp=Z,28µm,19.0s
WVT Waverly 60.49 68 P **P 18 16 52.2 -1.8**
WVT IAmb IAmb 18 17 15.1
comp=Z,415nm,1.6s
WVT Waverly 60.49 68 IAMs_20 IAMs_20 18 44 51.5
comp=Z,28µm,19.0s
WVT Waverly 60.49 68 P **P 18 16 53.6 -0.3**
baz=314
WVT S **S** **18 25 06.0 -2.6**
baz=314
R49A Shelbyville 60.52 65 P **P 18 16 52.7 -1.4**
R49A IAmb IAmb 18 17 15.8
comp=Z,143nm,1.2s
LOF Lofoten 60.58 357 *eP* **P 18 16 53.6 -0.4**
LOF *eS* **S** **18 25 10.3 +1.5**
LOF IVMs_BB IVMs_BB 18 39 20.1
comp=Z,3µm,5.4s
TRQ Mont Tremblant 60.60 52 P **P 18 16 52.6 -2.1**
J54A Appleton 60.60 57 P **P 18 16 53.9 -0.7**
J54A IAmb IAmb 18 16 59.6
comp=Z,158nm,0.7s
ZSN Zaisan 60.62 310 *i* P **P 18 16 53.7 -1.0**
ZSN *eS* **S** **18 25 09.0 -0.9**
ZSN pmax pmax
comp=Z,157nm,2.6s
ZSN Zaisan 60.62 310 *i* P **P 18 16 53.8 -1.0**
comp=Z,157nm,2.6s,baz=310
ZSN *eS* **S** **18 25 09.1 -0.9**
baz=310
SEM Semipalatinsk 60.62 315 *c i* P **P 18 16 52.9 -2.0**
SEM MLR MLR
comp=Z,7µm,17.0s
SEM Semipalatinsk 60.62 315 ⇑ *i* P **P 18 16 53.0 -2.0**
baz=315
SEM LR LR 18 42 52.0
comp=Z,7µm,17.4s,baz=315
ERPA Erie 60.70 58 P **P 18 16 54.2 -1.1**
ERPA Erie 60.70 58 P **P 18 16 55.4 +0.1**
baz=315,SNR=53
ERPA S **S** **18 25 09.8 -1.3**
baz=315
OXF Oxford 60.70 70 P **P 18 16 53.9 -1.5**
OXF pmax pmax
comp=Z,1µm,1.2s
OXF MLR MLR
comp=Z,16µm,18.0s
OXF Oxford 60.70 70 P **P 18 16 53.9 -1.5**
OXF IAMs_20 IAMs_20 18 47 56.1
comp=Z,16µm,18.0s
OXF Oxford 60.70 70 P **P 18 16 56.0 +0.6**
baz=315,SNR=48
OXF S **S** **18 25 09.4 -1.9**
baz=315
STEI Steigen 60.72 356 *eP* **P 18 16 54.3 -0.6**
STEI *ePP* **PP** **18 19 12.4 +4.2**
STEI *eS* **S** **18 25 11.6 +1.1**
STEI *eSS* **SS** **18 29 11.8 +3.6**
STEI IVMs_BB IVMs_BB 18 45 25.8
comp=Z,4µm,16.6s
MEDO Medina 60.77 57 P **P 18 16 54.9 -0.8**
MEDO IAmb IAmb 18 17 13.2
comp=Z,184nm,0.9s
143A Socs Landing, 60.78 73 P **P 18 16 54.4 -1.6**
M53A WI Miller and 60.80 59 P **P 18 16 54.9 -1.2**
M53A IAMs_20 IAMs_20 18 44 26.8
comp=Z,26µm,21.0s
M53A WI Miller and 60.80 59 P **P 18 16 55.5 -0.5**
baz=315,SNR=78
M53A S **S** **18 25 09.6 -2.9**
baz=315
P51A Williamsport 60.87 62 P **P 18 16 55.4 -1.1**
P51A IAmb IAmb 18 17 17.1
comp=Z,283nm,1.5s
ALLY Allegheny Colle 60.94 59 P **P 18 16 56.1 -0.9**
PECO Prince Edward 60.99 55 P **P 18 16 56.2 -1.0**
R50A Paris 61.00 64 P **P 18 16 56.4 -1.0**
R50A IAmb IAmb 18 17 19.5
comp=Z,301nm,1.3s
ZAIG Zacatecas 61.01 89 P **P 18 16 58.6 +0.7**
Q51A Peebles 61.03 63 P **P 18 16 56.7 -0.9**
J55A Hilton 61.04 56 P **P 18 16 57.1 -0.4**
Y45A Yeager Farm, C 61.07 71 P **P 18 16 57.1 -0.8**
O52A Adamsville 61.10 61 P **P 18 16 56.6 -1.4**
KURK Kurchatov 61.11 316 *ceP* **P 18 16 57.3 -0.6**
KURK pmax pmax
comp=Z,78nm,0.6s
KURK MLR MLR
comp=Z,46µm,17.0s
KURK Kurchatov 61.11 316 P **P 18 16 56.9 -1.0**
KURK **PcP** **18 17 41.5 +0.7**
KURK IAmb IAmb 18 17 58.7
comp=Z,142nm,0.9s
KURK Kurchatov 61.11 316 P **P 18 16 56.5 -1.4**
KURK P **P** **18 16 56.5 -1.4**
KURK P **P** **18 16 56.5 -1.4**
PLAL Pickwick Lake 61.15 69 P **P 18 16 56.1 -2.4**
PLAL IAMs_20 IAMs_20 18 46 15.0
comp=Z,24µm,18.0s
342A Flagon Creek P 61.16 75 P **P 18 16 57.1 -1.5**
342A IAmb IAmb 18 17 17.4
comp=Z,190nm,1.1s
N53A Lisbon 61.16 60 P **P 18 16 56.8 -1.7**
N53A IAmb IAmb 18 17 00.9
comp=Z,207nm,1.1s
KURBB Kurchatov Arra 61.22 316 P **P 18 16 58.8 +0.1**
comp=Z,86nm,0.7s,baz=45,slow=6.5,SNR=98
KURBB PcP **PcP** **18 17 42.8 +1.5**
comp=Z,86nm,0.9s,baz=44,slow=4.9,SNR=7.6
KURBB S **S** **18 25 17.5 0.0**
comp=Z,1.0nm,0.9s,baz=52,slow=44,SNR=2.5
KURBB ScS **SKKSac** **18 26 46.7 -2.1**
comp=Z,3.4nm,1.1s,baz=73,slow=22,SNR=4.1
KURBB LR LR 18 45 39.6
comp=Z,37µm,18.8s,baz=33,slow=38
KURBB Kurchatov Arra 61.22 316 P **P 18 16 57.7 -1.0**
WVNY West Valley, N 61.23 57 P **P 18 16 57.5 -1.5**
WVNY IAmb IAmb 18 17 16.2
comp=Z,220nm,1.1s
FAUS Fauske 61.26 356 *eP* **P 18 16 58.4 -0.3**
FAUS IVmB_BB 18 16 58.7
comp=Z,2µm,4.0s
FAUS *eS* **S** **18 25 19.1 +1.6**
FAUS *eSS* **SS** **18 29 22.3 +5.6**
FAUS IVMs_BB IVMs_BB 18 49 55.3
comp=Z,5µm,17.8s
P52A Corning 61.27 62 P **P 18 16 58.2 -1.0**
P52A IAmb IAmb 18 17 19.9
comp=Z,315nm,1.5s
P52A Corning 61.27 62 P **P 18 16 59.5 +0.2**
baz=315,SNR=23
P52A S **S** **18 25 15.4 -3.1**
baz=315
M54A Oil Creek Stat 61.30 59 P **P 18 16 58.5 -0.9**
M54A IAmb IAmb 18 17 02.0
comp=Z,166nm,0.8s
M54A Oil Creek Stat 61.30 59 P **P 18 16 59.0 -0.5**
baz=315,SNR=61
M54A S **S** **18 25 17.3 -1.5**
baz=315
O53A New Philadelph 61.35 61 P **P 18 16 58.6 -1.1**
O53A IAmb IAmb 18 17 02.1
comp=Z,217nm,1.0s
O53A New Philadelph 61.35 61 P **P 18 16 58.9 -0.8**
baz=315,SNR=84
O53A S **S** **18 25 16.6 -2.8**
baz=315
V48A Smith Brothers 61.35 68 P **P 18 16 58.4 -1.4**
V48A IAmb IAmb 18 17 17.4
comp=Z,190nm,1.1s
MMNY Mt. Morris Dam 61.37 57 P **P 18 16 57.7 -2.1**
MMNY IAmb IAmb 18 17 17.5
comp=Z,278nm,1.2s
CLTN Cedars of Leba 61.39 67 P **P 18 16 58.5 -1.5**
CLTN IAmb IAmb 18 17 23.7
comp=Z,204nm,0.9s
U49A Red Boiling Sp 61.41 66 P **P 18 16 58.7 -1.5**
U49A IAmb IAmb 18 17 22.0
comp=Z,129nm,1.1s
N54A Moraine State 61.51 59 P **P 18 16 60.0 -0.9**
N54A IAmb IAmb 18 17 03.4
comp=Z,231nm,1.0s
N54A IAMs_20 IAMs_20 18 44 38.5
comp=Z,25µm,21.0s
N54A Moraine State 61.51 59 P **P 18 17 00.2 -0.6**
baz=315,SNR=79
N54A S **S** **18 25 19.4 -2.0**
baz=315
J56A Wolcott 61.52 56 P **P 18 16 58.3 -2.5**
MNTQ Montreal, Queb 61.57 52 P **P 18 16 58.6 -2.5**
MNTQ IAmb IAmb 18 17 02.9
comp=Z,171nm,0.8s
T50A Nancy 61.59 65 P **P 18 16 59.3 -2.1**
T50A IAmb IAmb 18 17 19.3
comp=Z,181nm,1.1s
GZH Guangzhou 61.62 272 P **P 18 16 57.6 -4.2**
GZH S **S** **18 25 15.8 -7.5**
GZH LR LR
comp=Z,5µm,19.2s
GZH LR LR
comp=Z,9µm,19.4s
VBMS Vicksburg 61.65 73 P **P 18 16 60.0 -1.9**
VBMS IAMs_20 IAMs_20 18 44 55.5
comp=Z,18µm,19.0s
VBMS Vicksburg 61.65 73 P **P 18 17 02.7 +0.8**
baz=315,SNR=12
VBMS S **S** **18 25 21.2 -2.2**
baz=315
Q52A Bidwell 61.67 62 P **P 18 17 00.5 -1.4**
LMQ La Malbaie 61.68 48 P **P 18 16 59.5 -2.5**
LMQ IAmb IAmb 18 17 18.6
comp=Z,107nm,0.9s
HKPS Hong Kong Po S 61.72 271 IAMs_20 IAMs_20 18 42 24.8
comp=Z,17µm,22.0s
LONY Lake Ozonia 61.73 53 P **P 18 17 00.1 -2.2**
LONY IAMs_20 IAMs_20 18 44 02.8
comp=Z,27µm,20.0s
LONY Lake Ozonia 61.73 53 P **P 18 17 01.3 -0.9**
baz=316,SNR=105
NBB30 Finnes 61.73 357 *eP* **P 18 17 03.4 +1.5**
P53A Whipple 61.79 61 P **P 18 17 00.9 -1.8**
M55A Ridgway 61.80 58 P **P 18 17 01.6 -1.2**
WMQ Urumqi 61.80 306 P **P 18 17 02.6 -0.3**
WMQ pP sP 18 17 10.0 +1.9
WMQ PcP **PcP** **18 17 44.7 +0.9**
WMQ S **S** **18 25 26.0 +0.7**
WMQ ScS **ScS** **18 26 53.8 +0.1**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,2µm,7.5s

WMQ LR LR
comp=Z,62µm,23.5s
WMQ LR LR
comp=Z,36µm,25.3s
WMQ LR LR
comp=Z,23µm,19.9s
O54A Avella 61.85 60 P P 18 17 01.7 -1.4
S51A Beattyville 61.86 64 P P 18 17 02.1 -1.1
S51A IAmb IAmb 18 17 25.5
comp=Z,134nm,0.8s
J57A Williamstown 61.87 55 P P 18 17 02.2 -1.0
CD2 Chengdu 61.92 285 ⇑P P 18 17 03.9 +0.1
CD2 pP sP 18 17 09.3 +0.3
CD2 sP pwP 18 17 13.8 0.0
CD2 S **S 18 25 24.6 -2.4**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,4µm,10.0s
CD2 LR LR
comp=Z,31µm,19.1s
CD2 LR LR
comp=Z,24µm,20.0s
L56A Greenwood 61.97 57 P P 18 17 02.7 -1.2
344A Westbrook Farm 62.06 74 P P 18 17 03.9 -0.8
344A IAmb IAmb 18 17 26.5
comp=Z,191nm,0.9s
FRNY Flat Rock 62.07 52 P P 18 17 02.8 -1.7
FRNY IAmb IAmb 18 17 07.3
comp=Z,112nm,0.8s
K57A Scipio Center 62.09 56 P P 18 17 03.0 -1.7
X48A Hartselle 62.13 69 P P 18 17 02.7 -2.4
X48A IAmb IAmb 18 17 21.7
comp=Z,143nm,0.9s
146A Union 62.23 72 P P 18 17 03.7 -2.1
KONS Konsvik 62.23 357 eP P 18 17 06.1 +0.9
SWET Sewanee 62.23 68 P P 18 17 03.3 -2.6
SWET IAmb IAmb 18 17 23.0
comp=Z,135nm,1.0s
J58A Remsen 62.27 55 P P 18 17 04.0 -1.9
R53A Hurricane 62.29 63 P P 18 17 04.3 -1.9
MK31 Makanchi Array 62.31 311 i P P 18 17 04.9 -1.3
MK31 Makanchi Array 62.31 311 P P 18 17 03.5 -2.7
MKAR Makanchi Array 62.31 311 P P 18 17 04.3 -1.9
comp=Z,67nm,0.6s,baz=51,slow=6.1,SNR=148
MKAR S **S 18 25 31.3 -0.2**
comp=Z,3.7nm,1.0s,baz=52,slow=7.9,SNR=4.2
MKAR ScS **SKKSac 18 26 56.2 -1.2**
comp=Z,1.5nm,0.9s,baz=39,slow=8.3,SNR=1.5
MKAR LR LR 18 44 50.9
comp=Z,27µm,20.5s,baz=40,slow=37
MKAR PKPPKP **P'P'df 18 46 13.2 -5.2**
comp=Z,2.3nm,0.9s,baz=257,slow=1.8,SNR=7.5
MKAR PKP2bc 18 46 26.8
comp=Z,3.6nm,1.0s,baz=228,slow=2.9,SNR=7.9
MKAR P4KPbc 18 54 05.6
comp=Z,1.2nm,0.9s,baz=21,slow=3.1,SNR=7.5
MKAR Makanchi Array 62.31 311 P P 18 17 03.9 -2.2
NCB Newcomb 62.37 53 P P 18 17 04.4 -2.2
NCB IAmb IAmb 18 17 08.7
comp=Z,151nm,0.8s
STOK Stokkvaagen 62.40 357 eP P 18 17 05.7 -0.6
Z47A Carrollton 62.41 71 P P 18 17 05.3 -1.6
Q54A Coxs Mills 62.45 61 P P 18 17 05.2 -2.0
MAKZ Makanchi 62.45 311 P P 18 17 05.4 -1.7
MAKZ pmax pmax
comp=Z,51nm,0.7s
MAKZ MLR MLR
comp=Z,25µm,20.0s
MAKZ Makanchi 62.45 311 P P 18 17 05.4 -1.7
MAKZ IAMs_20 IAMs_20 18 44 43.4
comp=Z,25µm,20.0s
MOR8 Moi Rana 62.51 356 eP P 18 17 05.4 -1.7
MOR8 eS **S 18 25 35.1 +1.8**
MOR8 IVMs_BB IVMs_BB 18 40 56.4
comp=Z,4µm,27.8s
MCWV Mont Chateau 62.51 60 P P 18 17 05.4 -2.1
MCWV Mont Chateau 62.51 60 P P 18 17 07.4 -0.2
baz=316,SNR=70
MCWV S **S 18 25 33.0 -1.1**
baz=316
RABL Rabaul 62.55 219 P P 18 17 07.6 -0.4
RABL IAmb IAmb 18 17 26.8
comp=Z,166nm,1.3s
J59A Piesco 62.59 54 P P 18 17 05.2 -2.9
W50A Signal Mountai 62.60 67 P P 18 17 06.8 -1.5
D62A Allapoint, All 62.62 48 P P 18 17 06.1 -2.0
D62A IAmb IAmb 18 17 10.2
comp=Z,116nm,0.8s
TZTN Tazewell 62.66 65 P P 18 17 07.9 -0.7
TZTN IAmb IAmb 18 17 42.1
comp=Z,204nm,1.0s
TZTN Tazewell 62.66 65 P P 18 17 09.2 +0.5
baz=316,SNR=40
TZTN S **S 18 25 34.9 -1.2**
baz=316
V51A Loudon 62.73 66 P P 18 17 07.0 -2.1
V51A IAmb IAmb 18 17 31.3
comp=Z,150nm,0.9s
BVAR Borovoye Array 62.73 322 P P 18 17 08.4 -0.4
comp=Z,68nm,0.6s,baz=40,slow=4.7,SNR=94
BVAR PcP **PcP 18 17 49.4 +2.1**
comp=Z,130nm,0.7s,baz=49,slow=8.9,SNR=12
BVAR S **S 18 25 41.7 +5.2**
comp=Z,2.2nm,0.9s,baz=90,slow=5.9,SNR=1.9
BVAR PKPPKP **P'P'df 18 46 11.2 -7.0**
comp=Z,1.8nm,0.7s,baz=292,slow=24,SNR=4.8
BVAR PKP2bc 18 46 20.5
comp=Z,2.0nm,0.8s,baz=45,slow=12,SNR=5.8
E62A Clayton Lake 62.74 49 P P 18 17 07.5 -1.5
E62A IAmb IAmb 18 17 14.0
comp=Z,206nm,1.4s
BINY Binghamton 62.74 56 P P 18 17 08.2 -0.9
BINY IAMs_20 IAMs_20 18 43 34.9
comp=Z,28µm,22.0s
BINY Binghamton 62.74 56 P P 18 17 09.1 0.0
baz=316,SNR=117
BINY S **S 18 25 38.6 +1.5**
baz=316
BRVK Borovoye 62.75 322 P P 18 17 07.7 -1.2
BRVK pmax pmax
comp=Z,111nm,0.8s
BRVK MLR MLR
comp=Z,74µm,19.0s
BRVK Borovoye 62.75 322 P P 18 17 07.7 -1.2
BRVK IAmb IAmb 18 17 50.5
comp=Z,111nm,0.8s
BRVK Borovoye 62.75 322 P P 18 17 08.2 -0.7
BRVK P **P 18 17 08.2 -0.7**
BRVK P **P 18 17 08.2 -0.7**
M57A Sunshine Farm, 62.76 57 P P 18 17 08.1 -1.2
O56A Blue Knob Stat 62.76 59 P P 18 17 08.1 -1.2
O56A IAmb IAmb 18 17 11.7
comp=Z,134nm,0.8s
O56A IAMs_20 IAMs_20 18 47 56.6
comp=Z,22µm,18.0s
O56A Blue Knob Stat 62.76 59 P P 18 17 08.8 -0.5
baz=316,SNR=60
O56A S **S 18 25 35.7 -1.7**
baz=316
VT1 Waterbury 62.84 52 P P 18 17 08.7 -1.0
VT1 IAmb IAmb 18 17 26.7
comp=Z,283nm,1.2s
SSPA Standing Stone 62.86 58 P P 18 17 08.9 -1.0
SSPA IAmb IAmb 18 17 12.7
comp=Z,192nm,0.8s
SSPA Standing Stone 62.86 58 P P 18 17 09.4 -0.5
baz=316
SSPA S **S 18 25 37.4 -1.2**
baz=316
346A Big Creek Wild 62.87 73 P P 18 17 09.1 -0.9
346A IAmb IAmb 18 17 31.5
comp=Z,212nm,1.0s
CPCT Cooper Cave 62.88 67 P P 18 17 09.1 -1.0
CPCT IAmb IAmb 18 17 27.0
comp=Z,116nm,1.0s
FPAL Fort Paine 62.90 68 P P 18 17 08.3 -2.0
PRGR Permogore 62.91 340 eP P 18 17 07.5 -2.3
PRGR e 18 19 31.3
PRGR eS **S 18 25 34.7 -3.8**
PRGR e 18 26 54.0
PRGR pmax pmax
comp=Z,257nm,0.6s
Y49A Blount Mountai 62.92 69 P P 18 17 08.4 -2.0
Y49A IAmb IAmb 18 17 27.1
comp=Z,164nm,1.1s
S54A Dingess, Beckl 63.02 63 P P 18 17 09.9 -1.2
ACCN Adirondack Com 63.07 54 P P 18 17 10.1 -1.2
SVE Sverdlovsk 63.09 330 d iP P 18 17 10.9 -0.3
SVE e 18 19 37.8
SVE eS **S 18 25 44.6 +3.7**
SVE pmax pmax
comp=Z,3µm,20.5s
SVE pmax pmax
comp=Z,156nm,1.0s
SVE MLR MLR
comp=E,26µm,19.0s
SVE MLR MLR
comp=Z,35µm,19.0s
V52A Sevierville 63.13 66 P P 18 17 10.1 -1.7
V52A IAmb IAmb 18 17 33.8
comp=Z,226nm,1.1s
LRAL Lakeview Retre 63.16 70 P P 18 17 09.6 -2.4
LRAL IAmb IAmb 18 17 28.5
comp=Z,92nm,0.9s
LRAL IAMs_20 IAMs_20 18 47 29.1
comp=Z,20µm,20.0s
LRAL Lakeview Retre 63.16 70 P P 18 17 11.4 -0.6
baz=316,SNR=29
LRAL S **S 18 25 38.1 -4.3**
baz=316
TKL Tuckaleechee C 63.16 66 LR LR 18 43 21.5
comp=Z,26µm,21.5s,baz=324,slow=35
TKL Tuckaleechee C 63.16 66 P P 18 17 10.5 -1.4
TKL pmax pmax
comp=Z,220nm,1.0s
TKL Tuckaleechee C 63.16 66 P P 18 17 10.5 -1.4
TKL IAmb IAmb 18 17 29.6
comp=Z,220nm,1.0s
L59A Walton 63.24 55 P P 18 17 11.6 -0.8
G62A West of Eustis 63.28 50 P P 18 17 11.6 -1.1
Q56A Snyder Ridge, 63.30 60 P P 18 17 11.7 -1.2
Q56A IAmb IAmb 18 18 08.1
comp=Z,169nm,1.1s
KSPA Keystone Colle 63.32 56 P P 18 17 11.7 -1.2
KSPA IAmb IAmb 18 17 17.9
comp=Z,237nm,1.1s
X51A Calhoun 63.32 67 P P 18 17 11.9 -1.1
LBNH Lisbon 63.32 52 P P 18 17 11.1 -1.8
LBNH pmax pmax
comp=Z,185nm,1.0s
LBNH MLR MLR
comp=Z,49µm,19.0s
LBNH Lisbon 63.32 52 P P 18 17 11.1 -1.8
LBNH IAmb IAmb 18 17 15.5
comp=Z,185nm,1.0s
LBNH Lisbon 63.32 52 P P 18 17 12.3 -0.6
baz=317,SNR=37
LBNH S **S 18 25 42.9 -1.2**
baz=317
GYA Guiyang 63.33 280 ⇓P P 18 17 13.6 +0.3
GYA sP pwP 18 17 24.1 +0.7
GYA S **S 18 25 43.6 -1.3**
GYA SKS **ScS 18 27 03.1 -2.8**
GYA pmax pmax
comp=Z,3µm,10.4s
GYA LR LR
comp=Z,7µm,21.9s
GYA LR LR
comp=Z,7µm,22.3s
GYA LR LR
comp=Z,8µm,21.7s
N58A Sunbury 63.34 57 P P 18 17 12.4 -0.6
N58A IAmb IAmb 18 17 15.9
comp=Z,158nm,0.9s
R55A Marlinton 63.34 61 P P 18 17 12.1 -1.1
R55A IAmb IAmb 18 17 36.3
comp=Z,246nm,1.1s
GOMU GeErMu 63.40 295 P P 18 17 13.4 -0.6
GOMU sP sP 18 17 20.8 +1.6
GOMU S **S 18 25 47.4 +1.3**
GOMU pmax pmax
comp=Z,94nm,0.9s
GOMU LR LR
comp=Z,10µm,16.9s
GOMU LR LR
comp=Z,26µm,17.5s
GOMU LR LR
comp=Z,17µm,16.7s
PQI Presque Isle 63.40 48 P P 18 17 11.8 -1.6
H62A Milan 63.45 51 P P 18 17 12.6 -1.2
W52A Murphy 63.48 66 P P 18 17 12.9 -1.2
W52A IAmb IAmb 18 17 45.2
comp=Z,140nm,0.9s
HNH Hanover 63.53 53 P P 18 17 13.2 -1.0
HNH IAmb IAmb 18 17 17.1
comp=Z,151nm,1.0s
TRY Troy 63.55 54 P P 18 17 13.4 -1.0
TRY IAMs_20 IAMs_20 18 45 28.1
comp=Z,25µm,19.0s
F63A Nahmakanta, Br 63.61 49 P P 18 17 13.4 -1.3
F63A IAmb IAmb 18 17 16.6
comp=Z,130nm,0.9s
P57A Homestead Farm 63.62 59 P P 18 17 14.2 -0.7
TGY Tagaytay City 63.63 259 LR LR 18 48 54.7
comp=Z,3µm,18.0s,baz=33,slow=40
U54A Nelsons Funny 63.65 64 P P 18 17 14.2 -1.1
J61A Chester 63.66 53 P P 18 17 14.1 -1.0
V53A Saluda 63.70 65 P P 18 17 13.4 -2.2
V53A IAmb IAmb 18 17 38.4
comp=Z,133nm,0.9s
PAGS Pennsylvania G 63.77 58 P P 18 17 14.9 -1.0
N59A State Game Lan 63.78 57 P P 18 17 15.2 -0.8
N59A State Game Lan 63.78 57 P P 18 17 15.8 -0.2
baz=317,SNR=100
N59A S **S 18 25 50.0 0.0**
baz=317
PKME Peaks-Kenny Pk 63.84 50 P P 18 17 15.5 -0.7
PKME IAmb IAmb 18 17 18.3
comp=Z,112nm,0.9s
PKME Peaks-Kenny Pk 63.84 50 P P 18 17 15.8 -0.5
baz=318,SNR=17
F64A Sherman 63.84 49 P P 18 17 14.8 -1.4
F64A IAmb IAmb 18 17 18.1
comp=Z,121nm,0.8s
I62A Tamworth 63.88 52 P P 18 17 15.4 -1.2
I62A IAmb IAmb 18 17 19.0
comp=Z,86nm,0.8s
BLA Blacksburg 63.94 63 P P 18 17 15.9 -1.2
BLA pmax pmax
comp=Z,222nm,0.9s
BLA Blacksburg 63.94 63 P P 18 17 15.9 -1.2
BLA Blacksburg 63.94 63 P P 18 17 17.6 +0.5
baz=316,SNR=67
BLA S **S 18 25 51.7 -0.5**
baz=316
FFD Franklin Falls 64.02 52 P P 18 17 16.6 -0.9
FFD IAmb IAmb 18 17 21.2
comp=Z,180nm,0.9s
Z51A Franklin 64.03 69 P P 18 17 17.3 -0.4
Z51A IAmb IAmb 18 17 34.7
comp=Z,183nm,0.8s
ARU Arti 64.07 331 P P 18 17 16.6 -1.0
comp=Z,24nm,0.6s,baz=26,slow=4.2,SNR=85
ARU PcP **PcP 18 17 54.7 +2.0**
comp=Z,15nm,0.5s,baz=61,slow=3.0,SNR=5.2
ARU S **S 18 25 54.1 +1.1**
comp=Z,0.6nm,0.4s,baz=277,slow=21,SNR=1.5
ARU PKPPKP P'P'df 18 46 06.0 -10
comp=Z,0.3nm,0.3s,baz=24,slow=6.5,SNR=3.5
ARU PKP2bc 18 46 16.4
comp=Z,1.9nm,0.8s,baz=235,slow=3.9,SNR=6.2
ARU LR LR 18 48 54.0
comp=Z,32µm,19.8s,baz=46,slow=40
ARU Arti 64.07 331 c iP P 18 17 16.8 -0.8
ARU 18 17 51.4
ARU S **S 18 25 54.7 +1.6**
ARU 18 27 09.3
ARU SS **SS 18 30 00.8 -0.2**
ARU pmax pmax
comp=Z,191nm,1.7s
ARU pmax pmax
comp=Z,5µm,22.4s
ARU smax smax
comp=N,9µm,27.0s
ARU MLR MLR
comp=Z,36µm,20.0s
ARU Arti 64.07 331 P P 18 17 16.4 -1.2
ARU IAmb IAmb 18 17 27.6
comp=Z,90nm,0.8s
I63A Otisfield 64.12 51 P P 18 17 16.7 -1.4
BG3 Lake Jocassee 64.12 66 P P 18 17 16.4 -1.9
BG3 IAmb IAmb 18 17 36.3
comp=Z,221nm,1.0s
MVL Millersville 64.14 58 P P 18 17 17.9 -0.4
MVL IAmb IAmb 18 17 21.5
comp=Z,172nm,0.9s
BRZS Berezniki 64.17 319 c iP P 18 17 17.2 -1.2
BRZS pmax pmax
comp=Z,96nm,3.0s
BRZS Berezniki 64.17 319 ⇑i P 18 17 17.3 -1.2
comp=Z,96nm,3.0s,baz=319
LUPA Lehigh Univers 64.22 57 P P 18 17 18.4 -0.5
NSS Namsos 64.24 357 eP P 18 17 18.3 -0.3
NSS eS **S 18 25 55.8 +0.9**
NSS eSS **SS 18 30 06.3 +3.1**
NSS IVMs_BB IVMs_BB 18 46 28.8
comp=Z,5µm,23.2s
L61B Northampton 64.25 54 P P 18 17 17.6 -1.5
L61B IAmb IAmb 18 17 21.7
comp=Z,161nm,0.9s
L61B Northampton 64.25 54 P P 18 17 18.9 -0.1
baz=317,SNR=62
L61B S **S 18 25 54.8 -1.0**
baz=317
ODNJ Ogdensburg 64.26 56 P P 18 17 17.3 -1.9
Y52A Lilburn 64.28 67 P P 18 17 17.9 -1.4
Y52A IAmb IAmb 18 17 37.0
comp=Z,192nm,1.0s
SDMD Soldier's Deli 64.30 59 P P 18 17 17.8 -1.6
SDMD IAmb IAmb 18 17 22.5
comp=Z,151nm,1.0s
K62A Royalston 64.32 53 P P 18 17 17.7 -1.7
250A Grady 64.35 70 P P 18 17 18.1 -1.7
S57A Dark Hollow, R 64.35 61 P P 18 17 17.9 -1.9
KSCT Kent School, K 64.37 55 P P 18 17 17.9 -1.9
KSCT IAmb IAmb 18 17 37.0
comp=Z,200nm,0.9s
TRNY Table Rock, Ra 64.42 56 P P 18 17 18.8 -1.3
TRNY IAmb IAmb 18 17 24.8
comp=Z,176nm,1.1s
BRAL Brewton 64.47 72 P P 18 17 19.6 -0.9
BRAL IAMs_20 IAMs_20 18 50 18.9
comp=Z,22µm,18.0s
BRAL Brewton 64.47 72 P P 18 17 21.6 +1.0
baz=316
BRAL S **S 18 25 58.4 -0.3**
baz=316
V55A Taylorsville 64.47 64 P P 18 17 19.3 -1.3
V55A IAmb IAmb 18 17 43.5
comp=Z,172nm,0.9s
QUA2 Belchertown 64.54 54 P P 18 17 18.8 -2.1
QUA2 IAmb IAmb 18 17 24.3
comp=Z,173nm,1.0s
BRNJ Basking Ridge 64.58 56 P P 18 17 20.0 -1.1
WUPA West Chester U 64.58 57 P P 18 17 20.2 -1.0
U56A King 64.58 63 P P 18 17 19.7 -1.6
U56A IAmb IAmb 18 17 41.9
comp=Z,371nm,1.6s
PAL Palisades 64.68 56 P P 18 17 20.0 -1.8
PAL pmax pmax
comp=Z,424nm,1.0s
PAL MLR MLR
comp=Z,25µm,19.0s
PAL Palisades 64.68 56 P P 18 17 20.0 -1.8
PAL IAMs_20 IAMs_20 18 45 37.2
comp=Z,25µm,19.0s
PAL Palisades 64.68 56 P P 18 17 21.8 0.0
baz=317,SNR=70
PAL S **S 18 26 00.8 -0.2**
baz=317
G65A Princeton 64.71 49 P P 18 17 19.8 -2.1
G65A IAmb IAmb 18 17 23.9
comp=Z,98nm,0.8s
HNR Honiara 64.72 209 P P 18 17 23.8 +1.5
comp=Z,43nm,0.9s,baz=333,slow=4.5,SNR=2.4
HNR LR LR 18 41 24.4
comp=Z,10µm,20.0s,baz=12,slow=32
HNR PKPPKP **P'P'df 18 46 09.7 +7.3**
comp=Z,8.8nm,0.3s,baz=112,slow=13,SNR=1.4
HNR Honiara 64.72 209 P P 18 17 22.5 +0.2
HNR pmax pmax
comp=Z,210nm,1.0s
HNR MLR MLR
comp=Z,10µm,20.0s
HNR Honiara 64.72 209 P P 18 17 22.5 +0.2
HNR IAmb IAmb 18 18 14.9
comp=Z,210nm,1.0s
T57A Hurt 64.74 62 P P 18 17 21.1 -1.2
T57A IAmb IAmb 18 17 24.9
comp=Z,103nm,0.8s
KIRV Kirov 64.75 337 P P 18 17 21.4 -0.7
comp=Z,146nm,0.5s,baz=31,slow=3.3,SNR=71
KIRV PcP **PcP 18 17 56.1 +0.7**
comp=Z,109nm,0.5s,baz=52,slow=3.8,SNR=7.2
KIRV Kirov 64.75 337 c iP P 18 17 21.5 -0.5
152A Waverly Hall 64.76 69 P P 18 17 20.6 -1.8
152A IAmb IAmb 18 17 38.9
comp=Z,131nm,1.0s
HRV Adam Dziewonsk 64.77 53 P P 18 17 21.4 -1.0
HRV pmax pmax
comp=Z,184nm,1.0s
HRV MLR MLR
comp=Z,34µm,20.0s
HRV Adam Dziewonsk 64.77 53 P P 18 17 21.4 -1.0
HRV IAmb IAmb 18 17 25.3
comp=Z,184nm,0.9s
HRV Adam Dziewonsk 64.77 53 P P 18 17 22.6 +0.2
baz=318
HRV S **S 18 26 00.6 -1.5**
baz=318
R58B Mineral 64.79 60 P P 18 17 20.9 -1.7
R58B IAmb IAmb 18 17 45.3
comp=Z,176nm,1.1s
CPNY Central Park 64.81 56 P P 18 17 21.0 -1.7
KLMR Klimovskoe 64.85 343 eP P 18 17 19.1 -3.5
KLMR eS **S 18 25 59.6 -2.9**
KLMR eSS **SS 18 30 11.9 -0.9**
KLMR pmax pmax
comp=Z,258nm,1.1s
KLMR Klimovskoe 64.85 343 eP P 18 17 19.1 -3.5
KLMR AMP 18 17 26.4
comp=Z,258nm,1.1s
KLMR ePP **PP 18 19 39.2 -5.4**
KLMR eS **S 18 25 59.7 -2.8**
KLMR eS **S 18 25 59.7 -2.8**
KLMR eSS **SS 18 30 12.0 -0.9**
KLMR eSS **SS 18 30 12.0 -0.9**
KLMR LQ LQ 18 40 51.8
KLMR LQ LQ 18 40 51.8
KLMR LR LR 18 45 51.1
KLMR AMP 18 53 46.3
comp=Z,21µm,17.7s
WSPT Westport, CT 64.86 55 P P 18 17 22.0 -1.0
PAULI Pauline 64.88 65 P P 18 17 21.4 -1.8
PAULI IAmb IAmb 18 17 45.8
comp=Z,212nm,1.0s
CBN Corbin Frederi 64.89 60 P P 18 17 22.7 -0.6
CBN IAmb IAmb 18 17 27.2
comp=Z,196nm,0.8s
CBN Corbin Frederi 64.89 60 P P 18 17 25.2 +2.0
baz=317,SNR=18
CBN S **S 18 26 04.5 +0.8**
baz=317
KMSC Kings Mountain 64.92 65 S S 18 26 03.1 -1.1
baz=317
GOGA Godfrey 64.95 67 P P 18 17 21.6 -2.1
GOGA pmax pmax
comp=Z,255nm,1.1s
GOGA MLR MLR
comp=Z,28µm,18.0s
GOGA Godfrey 64.95 67 P P 18 17 21.6 -2.1
GOGA IAmb IAmb 18 17 41.0
comp=Z,255nm,1.1s
GOGA Godfrey 64.95 67 P P 18 17 22.9 -0.8
baz=317,SNR=35
GOGA S **S 18 25 59.9 -4.6**
baz=317
YLE Yale 64.95 55 P P 18 17 22.7 -0.9
YLE IAmb IAmb 18 17 41.1
comp=Z,178nm,1.1s
YLE IAMs_20 IAMs_20 18 48 44.3
comp=Z,21µm,19.0s
UCCT U. Connecticut 64.96 54 P P 18 17 22.4 -1.3
N62A Caumsett State 64.96 55 P P 18 17 22.8 -0.9
WES Weston 64.98 53 P P 18 17 21.6 -2.1

WES pmax pmax
comp=Z,268nm,0.8s
WES MLR MLR
comp=Z,36µm,20.0s
WES Weston 64.98 53 P **P** **18 17 21.6 -2.1**
JSRW J. Sargeant Re 64.99 61 P **P** **18 17 22.8 -1.1**
HODGE Hodges 65.05 66 P **P** **18 17 22.9 -1.4**
HODGE IAmb IAmb 18 17 42.2
comp=Z,207nm,0.9s
BCX Boston College 65.09 53 P **P** **18 17 23.3 -1.2**
BCX IAmb IAmb 18 17 30.0
comp=Z,207nm,1.5s
GGN Saint George 65.11 48 P **P** **18 17 23.5 -1.0**
GGN IAmb IAmb 18 17 26.4
comp=Z,112nm,0.8s
EMMW East Machias 65.13 49 P **P** **18 17 22.9 -1.7**
EMMW IAmb IAmb 18 17 26.5
comp=Z,150nm,0.8s
AFI Afiamalu 65.14 178 LR LR 18 44 52.2
comp=Z,15µm,18.2s,baz=359,slow=35
AFI Afiamalu 65.14 178 IAMs_20 IAMs_20 18 44 12.7
comp=Z,16µm,19.0s
BRYW Bryant College 65.22 53 P **P** **18 17 23.6 -1.8**
M63A Gales Ferry 65.34 54 P **P** **18 17 24.5 -1.6**
TDK Taldyqorghan 65.46 312*c iP* **P** **18 17 26.1 -0.8**
TDK *eS* **S** **18 26 09.4 -1.2**
TDK pmax pmax
comp=Z,461nm,2.8s
TDK MLR MLR
comp=Z,17µm,18.0s
TDK Taldyqorghan 65.46 312⇑*iP* **P** **18 17 26.1 -0.8**
comp=Z,460nm,2.8s,baz=312
TDK *eS* **S** **18 26 09.4 -1.2**
baz=312
TDK LR LR 18 47 34.1
comp=Z,17µm,17.5s,baz=312
LMN Caledonia Moun 65.49 47 P **P** **18 17 25.8 -1.2**
352A Blakely 65.49 70 P **P** **18 17 26.6 -0.7**
L64A Middleborough 65.55 53 P **P** **18 17 26.0 -1.4**
L64A IAmb IAmb 18 17 29.7
comp=Z,108nm,0.9s
TBLU Trondheim 65.57 358 *eP* **P** **18 17 26.5 -0.8**
TBLU *eS* **S** **18 26 09.4 -1.9**
TBLU IVMs_BB IVMs_BB 18 53 31.0
comp=Z,6µm,19.2s
JSC Jenkinsville 65.58 65 P **P** **18 17 27.0 -0.8**
JSC pmax pmax
comp=Z,230nm,1.0s
JSC Jenkinsville 65.58 65 P **P** **18 17 26.9 -0.8**
JSC IAmb IAmb 18 17 45.9
comp=Z,230nm,1.0s
OTUK Ortayu 65.66 318 P **P** **18 17 26.6 -1.6**
W57A Gilead 65.67 64 P **P** **18 17 26.6 -1.7**
W57A IAmb IAmb 18 17 55.8
comp=Z,230nm,1.4s
UNM Universidad Na 65.67 89 IAMs_20 IAMs_20 18 44 45.2
comp=Z,17µm,19.0s
T59A Double "B" Far 65.69 61 P **P** **18 17 27.7 -0.7**
T59A IAmb IAmb 18 17 51.7
comp=Z,181nm,0.8s
154A Montrose 65.73 68 P **P** **18 17 27.7 -1.1**
BIRD Birdtown, Kers 65.77 64 P **P** **18 17 27.9 -1.1**
BIRD IAmb IAmb 18 17 47.0
comp=Z,153nm,1.0s
R61A Willards 65.89 58 P **P** **18 17 28.9 -0.9**
DRLN Deer Lake 65.97 40 P **P** **18 17 28.8 -1.3**
DRLN IAmb IAmb 18 17 51.5
comp=Z,85nm,0.9s
U59A Littleton 66.01 61 P **P** **18 17 29.4 -1.1**
T60A Surry 66.01 60 P **P** **18 17 29.5 -1.0**
S61A Accomac 66.19 59 P **P** **18 17 30.5 -1.1**
Y57A Sumter 66.27 65 P **P** **18 17 30.2 -2.0**
MOL Molde 66.29 359 *eP* **P** **18 17 32.8 +0.9**
MOL *ePP* **PP** **18 19 56.9 -0.2**
MOL *eS* **S** **18 26 24.2 +4.1**
MOL *eSS* **SS** **18 30 43.7 +8.5**
MOL IVMs_BB IVMs_BB 18 49 08.7
comp=Z,5µm,15.0s
FIA1 FINESS Array S 66.30 350 P **P** **18 17 30.0 -1.9**
FIA1 IAmb IAmb 18 17 35.2
comp=Z,112nm,0.8s
FINES FINESS Array B 66.30 350 P **P** **18 17 30.1 -1.8**
comp=Z,74nm,0.6s,baz=17,slow=5.5,SNR=126
FINES PcP **PcP** **18 18 04.0 +2.2**
comp=Z,45nm,0.6s,baz=28,slow=4.0,SNR=9.9
FINES PKPPKP P'P'df 18 46 00.7 -12
comp=Z,2.0nm,0.8s,baz=186,slow=4.1,SNR=4.5
FINES LR LR 18 51 59.8
comp=Z,13µm,18.2s,baz=16,slow=41
FINES P4KPbc 18 54 22.8
comp=Z,2.5nm,1.0s,baz=321,slow=4.9,SNR=4.5
FINES FINESS Array B 66.30 350*i P* **P** **18 17 30.5 -1.5**
FINES pmax pmax
comp=Z,74nm,0.6s
FINES FINESS Array B 66.30 350 P **P** **18 17 30.0 -1.9**
TIGA Tifton 66.31 69 P **P** **18 17 30.7 -1.8**
TIGA IAmb IAmb 18 17 48.8
comp=Z,278nm,1.4s
TIGA Tifton 66.31 69 P **P** **18 17 32.7 +0.2**
baz=317
TIGA S **S** **18 26 16.5 -4.7**
baz=317
PZH PanZhiHua 66.31 283 ⇑P **P** **18 17 32.8 0.0**
PZH pP **sP** **18 17 37.6 -0.4**
PZH sP **pwP** **18 17 40.1 -2.7**
PZH PcP **PcP** **18 17 59.9 -2.8**
PZH PP **PP** **18 20 02.4 +3.9**
PZH PcS 18 22 08.4
PZH S **S** **18 26 19.2 -2.5**
PZH sS **sS** **18 26 28.2 +0.2**
PZH SKS **SKSac** **18 27 21.0 -7.5**
PZH SS **SS** **18 30 36.1 -1.5**
PZH pmax pmax
comp=Z,250nm,1.2s
PZH pmax pmax
comp=Z,3µm,5.7s
PZH LR LR
comp=Z,7µm,16.7s
PZH LR LR
comp=Z,8µm,16.5s
PZH LR LR
comp=Z,8µm,16.3s
ARXS Arharly 66.33 312 *eP* **P** **18 17 31.7 -0.9**
DAV Davao City (W) 66.35 251 LR LR 18 42 09.2
comp=Z,16µm,21.8s,baz=69,slow=32
SHLS Shalkode 66.36 310*c iP* **P** **18 17 31.0 -1.8**
SHLS pmax pmax
comp=Z,82nm,1.7s
SHLS Shalkode 66.36 310⇑*iP* **P** **18 17 31.0 -1.8**
comp=Z,82nm,1.7s,baz=310
KPKS Kokpek 66.49 311*c iP* **P** **18 17 33.0 -0.6**
KPKS pmax pmax
comp=Z,276nm,2.5s
KPKS Kokpek 66.49 311⇑*iP* **P** **18 17 33.1 -0.6**
comp=Z,276nm,2.5s,baz=311
UZB Uzynbulak 66.58 310*c iP* **P** **18 17 33.5 -0.7**
UZB *eS* **S** **18 26 24.0 -0.5**
UZB pmax pmax
comp=Z,88nm,1.6s
UZB Uzynbulak 66.58 310⇑*iP* **P** **18 17 33.6 -0.7**
comp=Z,88nm,1.6s,baz=310
UZB *eS* **S** **18 26 24.0 -0.5**
baz=310
255A Hazlehurst 66.60 68 P **P** **18 17 32.8 -1.5**
AKN Aaknes 66.69 360 *eP* **P** **18 17 36.0 +1.5**
AKN *eS* **S** **18 26 23.4 -1.7**
KMI Kunming 66.71 281 ⇑P **P** **18 17 35.5 0.0**
KMI sP pwP 18 17 46.3 +0.8
KMI PP **PP** **18 20 03.9 +1.7**
KMI S **S** **18 26 28.3 +1.5**
KMI SKS **SKSac** **18 27 28.4 -3.4**
KMI pmax pmax
comp=Z,140nm,1.1s
KMI pmax pmax
comp=Z,3µm,12.5s
KMI LR LR
comp=Z,11µm,22.7s
KMI LR LR
comp=Z,8µm,21.7s
KMI LR LR
comp=Z,11µm,17.9s
553A Crawfordville 66.72 70 P **P** **18 17 34.1 -1.1**
553A IAmb IAmb 18 17 53.4
comp=Z,216nm,0.9s
Y58A Scranton 66.76 65 P **P** **18 17 35.3 0.0**

CNNC Cliffs of the 66.77 62 P **P** **18 17 34.9 -0.6**
CNNC IAmb IAmb 18 17 53.8
comp=Z,120nm,1.0s
CNNC Cliffs of the 66.77 62 S **S** **18 26 27.6 +0.9**
baz=318
TAOE Nuku Hiva Isla 66.78 143 *eP* **P** **18 17 36.5 +0.8**
comp=Z,272nm,1.0s
TAOE *eS* **S** **18 26 27.8 +0.6**
comp=Z,12µm,24.8s
TAOE Nuku Hiva Isla 66.78 143 *e*LR LR 18 37 36.4
comp=Z,18µm,20.6s,baz=353
TAOE Nuku Hiva Isla 66.78 143 *e*T T 19 30 26.9
comp=Z,94nm,0.4s
DOMB Dombas 66.80 358 *eP* **P** **18 17 34.9 -0.3**
DOMB IVmB_BB 18 17 53.3
comp=Z,2µm,4.1s
DOMB *eS* **S** **18 26 28.8 +2.4**
DOMB IVMs_BB IVMs_BB 18 46 04.3
comp=Z,4µm,14.3s
QIZ Qiongzhong 66.81 272⇑*iP* **P** **18 17 36.9 +1.0**
QIZ sP **pwP** **18 17 47.9 +2.0**
QIZ S **S** **18 26 30.6 +3.0**
QIZ SS **SS** **18 30 48.6 +3.2**
QIZ pmax pmax
comp=Z,3µm,13.3s
QIZ LR LR
comp=Z,10µm,22.3s
QIZ LR LR
comp=Z,12µm,18.3s
QIZ LR LR
comp=Z,8µm,21.5s
QIZ Qiongzhong 66.81 272 P P 18 17 41.6 +5.7
ZHN Zhinishke 66.84 311*i* P **P** **18 17 34.6 -1.3**
ZHN Zhinishke 66.84 311*i* P **P** **18 17 34.7 -1.3**
baz=311
HAL Halifax 66.97 47 P **P** **18 17 35.3 -1.2**
HAL pmax pmax
comp=Z,88nm,0.8s
HAL Halifax 66.97 47 P **P** **18 17 35.3 -1.2**
HAL IAmb IAmb 18 17 38.5
comp=Z,88nm,0.8s
CHKK Chushkaly 66.99 312⇑*iP* **P** **18 17 35.6 -1.1**
baz=312
NHSC New Hope 67.06 65 P **P** **18 17 37.1 -0.1**
NHSC New Hope 67.06 65 P **P** **18 17 39.1 +1.9**
baz=318,SNR=17
NHSC S **S** **18 26 29.5 -0.7**
baz=318
V61A Roper 67.09 61 P **P** **18 17 35.7 -1.7**
Y59A Loris 67.14 64 P **P** **18 17 36.6 -1.1**
Y59A IAmb IAmb 18 17 56.4
comp=Z,142nm,0.8s
KUU Kurty 67.27 312*c iP* **P** **18 17 37.2 -1.3**
KUU pmax pmax
comp=Z,282nm,2.7s
KUU MLR MLR
comp=Z,14µm,19.0s
KUU Kurty 67.27 312⇑*iP* **P** **18 17 37.2 -1.3**
comp=Z,282nm,2.7s,baz=312
KUU LR LR 18 47 10.7
comp=Z,14µm,18.6s,baz=312
GBN Guysborough 67.31 45 P **P** **18 17 37.7 -0.9**
GBN IAmb IAmb 18 17 44.3
comp=Z,198nm,1.2s
TLIG Tlapa 67.37 90 P **P** **18 17 39.1 -0.5**
TLIG IAmb IAmb 18 18 37.5
comp=Z,120nm,1.3s
PUL Pulkovo 67.38 347*de*P **P** **18 17 38.2 -0.7**
PUL pmax pmax
comp=Z,354nm,1.0s
PUL MLR MLR
comp=Z,20µm,20.0s
PUL Pulkovo 67.38 347 *eP* **P** **18 17 38.9 0.0**
257A Skidaway Islan 67.40 67 P **P** **18 17 37.5 -2.0**
BTLS Baital 67.42 315*c iP* **P** **18 17 38.4 -0.9**
BTLS pmax pmax
comp=Z,71nm,2.1s
BTLS Baital 67.42 315⇑*iP* **P** **18 17 38.5 -0.9**
comp=Z,71nm,2.1s,baz=315
KNDC Almaty 67.49 312 P **P** **18 17 38.9 -1.1**
MDOK Medeo 67.50 312*i* P **P** **18 17 39.4 -0.7**
MDOK *eS* **S** **18 26 35.0 -0.6**
MDOK MLR MLR
comp=Z,9µm,17.0s
MDOK Medeo 67.50 312*i* P **P** **18 17 39.4 -0.7**
baz=312
MDOK *eS* **S** **18 26 35.0 -0.6**
baz=312
MDOK LR LR 18 46 58.4
comp=Z,9µm,17.1s,baz=312
Y60A Bolivia 67.50 63 P **P** **18 17 39.9 -0.2**
Y60A IAmb IAmb 18 17 59.7
comp=Z,210nm,0.9s
AAA Alma-Ata 67.52 312 *eP* **P** **18 17 40.2 0.0**
AAA MLR MLR
comp=Z,14µm,17.0s
AAA Alma-Ata 67.52 312 *eP* **P** **18 17 40.2 0.0**
baz=312
AAA LR LR 18 47 41.2
comp=Z,14µm,17.4s,baz=312
NC204 NORSAR Array S 67.53 358 P **P** **18 17 37.8 -2.2**
NC303 NORSAR Array S 67.57 357 P **P** **18 17 36.9 -3.2**
NC303 IAmb IAmb 18 18 00.9
comp=Z,109nm,1.1s
TNSS Tian-Shan 67.64 311 *eP* **P** **18 17 40.7 -0.7**
baz=312
NC405 NORSAR Array S 67.67 357 P **P** **18 17 38.8 -2.0**
NC405 IAmb IAmb 18 18 01.8
comp=Z,304nm,1.2s
HYA Hoyanger 67.71 360 *eP* **P** **18 17 43.1 +2.3**
456A Hilliard 67.74 68 P **P** **18 17 39.5 -2.1**
NB201 NORSAR Array S 67.75 357 P **P** **18 17 39.4 -1.9**
NB201 IAmb IAmb 18 18 02.1
comp=Z,218nm,1.1s
NB2 NORSAR Subarra 67.76 357 P **P** **18 17 40.6 -0.8**
comp=Z,65nm,1.0s,baz=5.8,slow=6.9
NB2 NORSAR Subarra 67.76 357 P **P** **18 17 40.6 -0.8**
baz=5.8,slow=6.9
NOA NORSAR Array B 67.76 357 P **P** **18 17 40.5 -0.8**
comp=Z,2.1nm,0.4s,baz=4.9,slow=6.7,SNR=100
NOA PKPPKP P'P'df 18 45 59.0 -12
comp=Z,4.5nm,1.0s,baz=177,slow=3.2,SNR=4.9
NOA LR LR 18 48 13.9
comp=Z,7µm,18.9s,baz=5.0,slow=37
NBO00 NORSAR Array S 67.78 358 P **P** **18 17 40.4 -1.0**
NBO00 IAmb IAmb 18 17 59.7
comp=Z,241nm,1.5s
SUE Sulen 67.81 1 *eP* **P** **18 17 40.8 -0.8**
SUE *eS* **S** **18 26 42.1 +3.7**
SUE *eSS* **SS** **18 30 57.7 -1.0**
SUE IVMs_BB IVMs_BB 18 49 05.5
comp=Z,5µm,21.1s
NAO01 NORSAR Array S 67.96 357 P **P** **18 17 40.6 -2.0**
NAO01 IAmb IAmb 18 18 09.9
comp=Z,125nm,1.2s
NAO01 NORSAR Array S 67.96 357 *eP* **P** **18 17 42.4 -0.2**
NC602 NORSAR Array S 68.05 357 P **P** **18 17 40.9 -2.2**
NC602 IAmb IAmb 18 17 50.6
comp=Z,207nm,1.2s
AAL Aland 68.13 353 *eP* **P** **18 17 42.5 -1.1**
SKAR Skarslia 68.18 359 *eP* **P** **18 17 44.2 +0.2**
SKAR *eS* **S** **18 26 45.9 +2.9**
SKAR *eSS* **SS** **18 31 05.1 +0.5**
SKAR IVMs_BB IVMs_BB 18 44 44.1
comp=Z,3µm,33.2s
KDJ Kajisay 68.23 311 P **P** **18 17 42.4 -2.4**
KDJ pmax pmax
comp=Z,225nm,1.3s
KDJ Kajisay 68.23 311 P **P** **18 17 42.4 -2.4**
KDJ IAmb IAmb 18 18 03.6
comp=Z,225nm,1.3s
TARG Taragay, Kyrgy 68.24 310 P **P** **18 17 43.8 -1.3**
TARG IAmb IAmb 18 17 50.5
comp=Z,86nm,0.5s
TKM2 Tokmak 2 68.36 312 P **P** **18 17 45.2 -0.5**
SNR=99
TKM2 Tokmak 2 68.36 312 P **P** **18 17 43.4 -2.2**
ASK Askoy 68.39 0 *eP* **P** **18 17 46.6 +1.4**
ASK *eS* **S** **18 26 45.3 -0.1**
SGDS Sogindy 68.39 313 *eP* **P** **18 17 45.2 -0.4**
SGDS pmax pmax
comp=Z,176nm,2.5s
SGDS Sogindy 68.39 313⇑*iP* **P** **18 17 45.0 -0.7**
comp=Z,95nm,1.6s,baz=313
SGDS *eS* **S** **18 26 45.7 -0.5**
baz=313

656A Willston 68.44 70 P **P** **18 17 45.3 -0.7**
656A IAmb IAmb 18 18 04.0
comp=Z,217nm,1.1s
BER Bergen 68.49 0 *eP* **P** **18 17 48.3 +2.5**
BER *eS* **S** **18 26 47.9 +1.4**
BOOM Boomskoye usch 68.53 312 P **P** **18 17 46.2 -0.5**
BOOM pmax pmax
comp=Z,111nm,0.6s
BOOM Boomskoye usch 68.53 312 P **P** **18 17 46.2 -0.5**
BOOM IAmb IAmb 18 17 50.0
comp=Z,111nm,0.6s
HFS Hagfors 68.57 356 LR LR 18 50 42.1
comp=Z,9µm,18.1s,baz=9.0,slow=39
ULHL Ulahol 68.58 311 P **P** **18 17 47.9 +0.9**
SNR=11
LRW Lerwick 68.59 4 *eP* **P** **18 17 47.2 +0.8**
USP Ospenovka 68.59 313 P **P** **18 17 47.0 +0.1**
SNR=151
UPP Uppsala 68.63 354 *eP* **P** **18 17 46.1 -0.5**
SANVU Saraoutou 68.65 200 IAMs_20 IAMs_20 18 44 43.2
comp=Z,18µm,19.0s
CHMS Chumysh 68.69 313 P **P** **18 17 48.2 +0.7**
SNR=48
KBK Karagaybulak 68.86 312 P **P** **18 17 48.7 0.0**
SNR=118
OSL Oslo 68.88 357 *eP* **P** **18 17 49.4 +1.2**
OSL *eS* **S** **18 26 51.5 +0.3**
OSL *eSS* **SS** **18 31 25.1 +10**
FRU1 Bishkek 68.89 313 P **P** **18 17 48.6 -0.2**
FRU1 pmax pmax
comp=Z,224nm,0.9s
FRU1 Bishkek 68.89 313 P **P** **18 17 48.6 -0.2**
ODD1 Odda 68.97 360 *eP* **P** **18 17 49.5 +0.6**
ODD1 *eS* **S** **18 26 49.7 -2.7**
AAK Ala-Archa 69.09 313 S **S** **18 26 56.0 +1.3**
comp=Z,2.3nm,0.9s,baz=86,slow=23,SNR=2.1
AAK ScS **ScS** **18 27 51.4 +1.3**
comp=Z,1.4nm,0.8s,baz=322,slow=22,SNR=1.5
AAK LR LR 18 50 57.3
comp=Z,24µm,19.6s,baz=41,slow=38
AAK Ala-Archa 69.09 313*c iP* **P** **18 17 49.8 -0.3**
AAK pmax pmax
comp=Z,185nm,1.3s
AAK MLR MLR
comp=Z,22µm,19.0s
AAK Ala-Archa 69.09 313 P **P** **18 17 49.5 -0.6**
AAK IAmb IAmb 18 18 09.0
comp=Z,178nm,1.1s
AAK Ala-Archa 69.09 313 IAMs_20 IAMs_20 18 50 34.9
comp=Z,22µm,20.0s
AAK Ala-Archa 69.09 313 P **P** **18 17 49.9 -0.2**
AAK P **P** **18 17 49.9 -0.2**
AAK P **P** **18 17 49.9 -0.2**
AAK Ala-Archa 69.09 313*i P* **P** **18 17 50.0 -0.2**
SNR=214
VSU Vasula 69.13 349*c iP* **P** **18 17 48.9 -0.9**
VSU pmax pmax
comp=Z,821nm,0.9s
VSU MLR MLR
comp=Z,37µm,21.0s
VSU Vasula 69.13 349 *eP* **P** **18 17 49.4 -0.5**
KONO Kongsberg 69.19 358⇓*eP* **P** **18 17 50.2 0.0**
KONO pmax pmax
comp=Z,232nm,2.5s
KONO MLR MLR
comp=Z,11µm,20.0s
KONO Kongsberg 69.19 358 P **P** **18 17 49.4 -0.8**
KONO IAmb IAmb 18 18 11.4
comp=Z,137nm,1.2s
KONO Kongsberg 69.19 358 IAMs_20 IAMs_20 18 48 24.6
comp=Z,11µm,20.0s
KONO Kongsberg 69.19 358 *eP* **P** **18 17 51.1 +0.9**
MTSE Matsula 69.22 350 *eP* **P** **18 17 49.9 -0.5**
MSVF Nonsavu 69.27 188 P **P** **18 17 51.9 +0.7**
comp=Z,21nm,1.0s,baz=73,slow=6.1,SNR=6.3
MSVF LR LR 18 45 41.6
comp=Z,23µm,18.7s,baz=348,slow=34
MSVF PKPPKP P'P'df 18 46 03.1 +9.1
comp=Z,11nm,1.0s,baz=171,slow=9.1,SNR=4.1
MSVF Nonsavu 69.27 188⇑*eP* **P** **18 17 52.2 +1.0**
MSVF pmax pmax
comp=Z,56nm,1.3s
MSVF Nonsavu 69.27 188 P **P** **18 17 51.1 -0.1**
PMG Port Moresby 69.30 221 LR LR 18 45 05.1
comp=Z,7µm,19.8s,baz=24,slow=33
PMG PKPPKP 18 45 59.1
comp=Z,5.9nm,0.9s,baz=239,slow=15,SNR=2.4
PMG Port Moresby 69.30 221*de*P **P** **18 17 52.6 +1.2**
PMG pmax pmax
comp=Z,55nm,1.2s
PMG MLR MLR
comp=Z,6µm,18.0s
PMG Port Moresby 69.30 221 P **P** **18 17 49.9 -1.5**
AKTO Aktyubinsk 69.31 327 P **P** **18 17 50.5 -0.6**
comp=Z,156nm,0.5s,baz=49,slow=6.4,SNR=200
AKTO S **S** **18 26 58.5 +1.9**
comp=Z,3.5nm,1.1s,baz=68,slow=24,SNR=6.4
AKTO PKPPKP P'P'df 18 45 55.5 -12
comp=Z,1.8nm,0.9s,baz=204,slow=9.6,SNR=3.9
AKTO LR LR 18 51 49.6
comp=Z,28µm,19.6s,baz=39,slow=39
EKS2 Erkin-Say 69.40 313 P **P** **18 17 52.5 +0.5**
SNR=18
UCH Uchtor 69.40 312 P **P** **18 17 53.0 +0.6**
SNR=22
BLS5 Blasjo 69.46 360 *eP* **P** **18 17 52.0 +0.1**
BLS5 IVmB_BB 18 18 10.7
comp=Z,3µm,4.0s
BLS5 *eS* **S** **18 26 59.2 +1.1**
BLS5 IVMs_BB IVMs_BB 18 47 00.5
comp=Z,4µm,21.2s
AB31 Akbulak array 69.64 326*i* P **P** **18 17 53.0 -0.2**
ABKAR Akbulak array 69.64 326 P **P** **18 17 52.0 -1.2**
ABKAR Akbulak array 69.64 326 P **P** **18 17 51.7 -1.5**
ABKAR IAmb IAmb 18 17 57.1
comp=Z,99nm,0.6s
KMY Karmoy 69.67 0 *eP* **P** **18 17 54.1 +1.0**
STRU Stroemstad 69.77 357*i* P **P** **18 17 54.8 +1.0**
AML Almayashu 69.85 313 P **P** **18 17 54.2 -1.0**
SNR=51
AML Almayashu 69.85 313 P **P** **18 17 54.6 -0.6**
AML Almayashu 69.85 313*i* P **P** **18 17 54.4 -0.8**
SNR=114
PMOR Pomariorio Ree 69.98 153 *eP* **P** **18 17 56.2 +0.7**
comp=Z,148nm,0.9s
PMOR Pomariorio Ree 69.98 153 *eT* T 19 34 53.4
comp=Z,51nm,0.2s
MOS Moscow 69.99 342 *eP* **P** **18 17 53.7 -1.5**
MOS *e* 18 20 31.8
MOS *eS* **S** **18 27 05.7 +1.3**
MOS pmax pmax
comp=Z,246nm,0.6s
DWPF Disney Wildern 70.02 70 P **P** **18 17 54.7 -1.1**
DWPF Disney Wildern 70.02 70 IAMs_20 IAMs_20 18 53 13.9
comp=Z,11µm,18.0s
DWPF Disney Wildern 70.02 70 P **P** **18 17 57.7 +1.8**
baz=319
VIKU Vikbolandet 70.04 354 *eP* **P** **18 17 54.8 -0.6**
LSA Lhasa 70.25 293 P **P** **18 17 56.5 -1.3**
LSA pmax pmax
comp=Z,400nm,0.8s
LSA MLR MLR
comp=Z,21µm,20.0s
LSA Lhasa 70.25 293 P **P** **18 17 56.5 -1.3**
LSA IAMs_20 IAMs_20 18 51 37.3
comp=Z,21µm,20.0s
LSA Lhasa 70.25 293 P **P** **18 17 59.1 +1.3**
LSA pP **sP** **18 18 04.6 +1.5**
LSA PP **PP** **18 20 28.5 -4.4**
LSA S **S** **18 27 11.3 +2.1**
LSA pmax pmax
comp=Z,850nm,1.9s
LSA LR LR
comp=Z,15µm,19.9s
LSA LR LR
comp=Z,12µm,21.4s
LSA LR LR
comp=Z,13µm,21.4s
LSA Lhasa 70.25 293 P **P** **18 17 59.5 +1.7**
VAH Vaihoa 70.28 153 *eP* **P** **18 17 57.7 +0.3**
comp=Z,213nm,1.0s
DZA Taraz 70.31 315 *eP* **P** **18 17 55.6 -1.9**
DZA Taraz 70.31 315 *eP* **P** **18 17 55.7 -1.8**
baz=315
SLIT Slitere, Latvi 70.44 351 *eP* **P** **18 17 57.3 -0.6**

KKAR Karatay Array 70.51 316 P **P** **18 17 57.4 -1.3**
KKAR Karatay Array 70.51 316 P **P** **18 17 57.4 -1.3**
SNART Snartemo 70.54 359 *i* P **P** **18 17 58.0 -0.5**
SNART Snartemo 70.54 359 *e*P **P** **18 17 58.8 +0.3**
SNART *e*S **S** **18 27 13.3 +2.5**
HOMB Homborsund 70.59 359 *i* P **P** **18 17 58.7 -0.2**
HOMB Homborsund 70.59 359 *e*P **P** **18 17 59.0 +0.2**
HOMB IVmB_BB 18 18 00.1
comp=Z,1µm,2.3s
HOMB *e*S **S** **18 27 14.3 +2.9**
HOMB *e*SS **SS** **18 31 51.4 +10**
HOMB IVMs_BB IVMs_BB 18 50 52.5
comp=Z,4µm,21.4s
BELG Belogornoye 70.74 334 LR LR 18 54 05.3
comp=Z,12µm,18.7s,baz=38,slow=40
TJOU Tjoern 70.76 357 *i* P **P** **18 18 00.6 +0.7**
OBN Obninsk 70.79 342 LR LR 18 53 09.1
comp=Z,3µm,20.7s,baz=17,slow=39
OBN Obninsk 70.79 342 *ce*P **P** **18 17 58.7 -1.4**
OBN *i* 18 18 17.6
OBN *e*SS SS 18 31 52.5 +7.8
OBN pmax pmax
comp=Z,242nm,1.0s
OBN MLR MLR
comp=Z,15µm,21.0s
OBN Obninsk 70.79 342 P **P** **18 17 58.1 -1.9**
OBN IAmb IAmb 18 18 01.6
comp=Z,163nm,0.8s
OBN IAMs_20 IAMs_20 18 52 44.2
comp=Z,15µm,21.0s
KSH Kashi 70.83 310 P **P** **18 18 03.8 +3.0**
KSH sP pwP 18 18 12.9 +2.2
KSH PcP **PcP** **18 18 22.5 +1.0**
KSH PP **PP** **18 20 42.7 +5.4**
KSH S **S** **18 27 20.2 +5.1**
KSH SS **SS** **18 31 51.3 +4.7**
KSH pmax pmax
comp=Z,330nm,1.3s
KSH pmax pmax
comp=Z,4µm,8.3s
KSH LR LR
comp=Z,35µm,19.0s
KSH LR LR
comp=Z,35µm,19.0s
KSH LR LR
comp=Z,42µm,21.9s
MCD Coleburn Disti 71.03 5 *e*P **P** **18 18 02.1 +0.5**
MDO Dochfour 71.11 6 *e*P **P** **18 18 03.8 +1.8**
BORU Boraas 71.11 356 *i* P **P** **18 18 02.5 +0.5**
ONAU Onsala 71.38 357 *i* P **P** **18 18 03.1 -0.6**
IUG luzhnay 71.49 315 *c i*P **P** **18 18 04.5 -0.2**
IUG luzhnay 71.49 315 ⇑*i*P **P** **18 18 04.5 -0.2**
baz=315
LBMI Labuha 71.49 244 P **P** **18 18 09.4 +4.5**
comp=Z,6µmcomp=Z,3µmcomp=Z,155nm,1.3s
OVD Ostervraa, Den 71.52 358 *i* P **P** **18 18 05.5 +1.0**
OVD IAmb IAmb 18 18 25.3
comp=Z,67nm,0.8s
FABU Falkenberg 71.75 356 *i* P **P** **18 18 05.5 -0.4**
GOET G??ttrup 71.82 358 *i* P **P** **18 18 07.2 +0.9**
GOET IAmb IAmb 18 18 15.0
comp=Z,54nm,0.6s
PPT Papeete 71.98 156 LR LR 18 45 56.4
comp=Z,20µm,18.9s,baz=324,slow=33
PPT2 Papeete2 72.00 156 *e*P **P** **18 18 08.3 +0.5**
PPT2 comp=Z,89nm,1.4s
*e*S **S** **18 27 29.4 +0.8**
comp=Z,45µm,25.5s
PPT2 Papeete2 72.00 156 *e*LR LR 18 40 06.6
comp=Z,20µm,20.8s,baz=341
PPT2 Papeete2 72.00 156 *e*T T 19 37 24.7
comp=Z,27nm,0.3s
ISAL Salakas 72.03 348 *e*P **P** **18 18 07.1 -0.5**
PBUR Paburge 72.06 351 *e*P **P** **18 18 07.4 -0.4**
PAE Paea 72.07 156 *e*P **P** **18 18 08.6 +0.5**
comp=Z,19nm,1.2s
PAE Paea 72.07 156 *e*T T 19 37 31.6
comp=Z,9.6nm,0.4s
MYLDM Lahad Datu 72.08 255 P **P** **18 18 07.4 -1.0**
IDID Didziasalis 72.20 348 *e*P **P** **18 18 07.9 -0.6**
LAWE Loch Awe, Argy 72.21 7 *e*P **P** **18 18 10.1 +1.4**
LAWE IAmb IAmb 18 18 13.4
comp=Z,93nm,1.1s
LAWE IAMs_20 IAMs_20 18 58 06.3
comp=Z,15µm,16.2s
DEL Delary 72.22 355 *i* P **P** **18 18 08.0 -0.7**
DEL Delary 72.22 355 *e*P **P** **18 18 08.4 -0.4**
IIGN Ignalina 72.23 348 *e*P **P** **18 18 08.6 -0.2**
BLEU Blekinge 72.28 354 *i* P **P** **18 18 07.3 -1.8**
CCIG Comitan 72.35 86 P **P** **18 18 10.0 -0.3**
PABE Paberze 72.35 349 P **P** **18 18 07.7 -1.8**
PABE IAMs_20 IAMs_20 18 55 06.3
comp=Z,15µm,18.0s
PABE Paberze 72.35 349 *e*P **P** **18 18 09.0 -0.5**
UBPT Khong Chiam 72.37 272 P **P** **18 18 08.4 -1.8**
UBPT IAmb IAmb 18 18 27.3
comp=Z,230nm,1.2s
MUD Monsted U'grnd 72.40 358 *i* P **P** **18 18 09.0 -0.8**
MUD IAmb IAmb 18 18 30.1
comp=Z,44nm,1.0s
TAS Tashkent 72.47 315 P **P** **18 18 09.4 -1.2**
TAS pmax pmax
comp=Z,219nm,0.9s
TAS Tashkent 72.47 315 P **P** **18 18 09.4 -1.2**
TAS IAmb IAmb 18 18 16.8
comp=Z,219nm,0.9s
KMSI Cibinong 72.51 248 P **P** **18 18 13.0 +2.0**
comp=Z,4µmcomp=Z,344nm,0.8s
NACGM Naroch 72.59 348 *i* P **P** **18 18 09.9 -1.1**
LPSR Galich'ya Gora 72.67 340 *e*P **P** **18 18 10.7 -0.7**
LPSR *e* 18 18 12.0
LPSR *e*S **S** **18 27 35.1 -0.4**
LPSR pmax pmax
comp=Z,230nm,0.9s
LPSR pmax pmax
comp=Z,340nm,1.1s
LPSR smax smax
comp=N,5µm,15.2s
LPSR MLR MLR
comp=Z,16µm,19.0s
PGBU Glenifferbraes 72.72 6 *e*P **P** **18 18 13.2 +1.5**
PGBU IAmb IAmb 18 18 16.9
comp=Z,578nm,2.1s
PGBU IAMs_20 IAMs_20 18 56 01.5
comp=Z,13µm,19.2s
KKM Kota Kinabalu 72.79 258 P **P** **18 18 11.6 -1.2**
KKM IAmb IAmb 18 18 31.9
comp=Z,245nm,1.0s
KKM IAMs_20 IAMs_20 18 46 15.1
comp=Z,13µm,21.0s
BTK Batken 72.82 313 P **P** **18 18 11.9 -0.8**
BTK pmax pmax
comp=Z,368nm,1.2s
BTK Batken 72.82 313 P **P** **18 18 11.9 -0.8**
BTK IAmb IAmb 18 18 34.5
comp=Z,368nm,1.2s
DRK Karamyk 72.83 312 P **P** **18 18 11.9 -1.1**
DRK IAmb IAmb 18 18 33.2
comp=Z,316nm,1.1s
MNK Minsk 72.83 347 *i* P **P** **18 18 11.7 -0.7**
MNK *i* 18 18 28.9
MNK *i* 18 20 53.0
MNK *i* PPP PPP 18 22 37.5
MNK *i* S **S** **18 27 34.4 -2.9**
MNK *i* 18 28 15.9
MNK pmax pmax
comp=Z,270nm,0.9s
MNK pmax pmax
comp=N,162nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK MLR MLR
comp=Z,14µm,19.0s
MNK MLR MLR
comp=N,9µm,20.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK Minsk 72.83 347 *i* P **P** **18 18 11.7 -0.7**
comp=E,12nm,0.9s
MNK *i* P **P** **18 18 11.7 -0.7**
comp=N,162nm,0.9s
MNK *i* P **P** **18 18 11.7 -0.7**
comp=Z,270nm,0.9s,baz=14
MNK *i* PP **PP** **18 20 53.0 -0.7**
MNK *i* PPP PPP 18 22 37.5
MNK *i* S **S** **18 27 34.4 -2.9**
MNK *i* SS SS 18 32 34.9 +19
MNK *i* SSS SSS 18 36 07.4
MNK *i* LQ LQ 18 46 21.3
MNK *i* LR LR 18 47 40.7
MNK *i* LRM MLR 18 51 39.6
comp=Z,14µm,19.2s
MNK *i* LRM MLR 18 53 18.8
comp=N,9µm,19.5s
MNK *i* LRM MLR 18 53 21.1
comp=E,1µm,19.5s
SHL Shillong 72.92 290 P **P** **18 18 12.0 -1.6**
SHL pmax pmax
comp=Z,1µm,1.4s
SHL Shillong 72.92 290 P **P** **18 18 12.0 -1.6**
SHL Shillong 72.92 290 ⇑*i*P **P** **18 18 13.0 -0.7**
SHL Shillong 72.92 290 P **P** **18 18 13.2 -0.4**
SNR=206
DLV T Lat 73.02 268 P **P** **18 18 12.3 -2.0**
GTOI Gorontalo 73.03 249 P **P** **18 18 15.4 +1.3**
comp=Z,4µmcomp=Z,917nmcomp=Z,77nm,1.2s
SOR Soroa 73.07 75 P **P** **18 18 13.3 -1.0**
SOR pmax pmax
comp=Z,107nm,1.1s
SOR Soroa 73.07 75 P **P** **18 18 13.2 -1.0**
COP Copenhagen 73.07 356 *i* P **P** **18 18 14.7 +0.9**
COP IAmb IAmb 18 18 16.9
comp=Z,722nm,0.6s
EKA Eskdalemuir Ar 73.28 5 PKPPKP
comp=Z,3.3nm,1.0s,baz=1.1,slow=17,SNR=3.6 18 45 54.0
ESK Eskdalemuir 73.30 6 *e*P **P** **18 18 16.1 +0.9**
ESK Eskdalemuir 73.30 6 P **P** **18 18 13.6 -1.5**
ESK pmax pmax
comp=Z,47nm,1.0s
ESK MLR MLR
comp=Z,14µm,19.0s
ESK Eskdalemuir 73.30 6 P **P** **18 18 13.6 -1.5**
ESK Eskdalemuir 73.30 6 IAMs_20 IAMs_20 18 56 39.1
comp=Z,14µm,19.0s
VRH Novokhopyorsk 73.33 337 *e*P **P** **18 18 14.7 -0.7**
VRH *e* 18 18 15.5
VRH *e*S **S** **18 27 38.9 -4.2**
VRH pmax pmax
comp=Z,390nm,0.7s
VRH pmax pmax
comp=Z,640nm,1.3s
VRH smax smax
comp=E,1µm,11.4s
VRH MLR MLR
comp=Z,13µm,20.0s
LLD Lille Linde 73.44 356 *i* P **P** **18 18 17.3 +1.4**
LLD IAmb IAmb 18 18 19.1
comp=Z,91nm,0.6s
RAR Rarotonga 73.44 166 P **P** **18 18 16.6 +0.5**
comp=Z,42nm,0.8s,baz=196,slow=6.4,SNR=5.4
RAR LR LR 18 47 30.8
comp=Z,23µm,18.3s,baz=0.5,slow=33
RAR Rarotonga 73.44 166 P **P** **18 18 15.9 -0.3**
VORR Voronezh 73.47 339 *e*P **P** **18 18 16.3 +0.1**
VORR pmax pmax
comp=Z,241nm,1.6s
SANI Sanana 73.50 245 P **P** **18 18 16.2 -0.7**
comp=Z,9µmcomp=Z,3µmcomp=Z,208nm,1.3s
SANI Sanana 73.50 245 P **P** **18 18 19.4 +2.5**
BSD Bornholm Skovb 73.52 355 *i* P **P** **18 18 16.1 -0.4**
BSD IAmb IAmb 18 18 18.9
comp=Z,57nm,0.6s
BSD Bornholm Skovb 73.52 355 *e*P **P** **18 18 15.6 -0.8**
GAL1 Galloway 73.64 6 *e*P **P** **18 18 18.6 +1.5**
GAL1 IAMs_20 IAMs_20 18 58 40.6
comp=Z,14µm,17.7s
CHTO Chiang Mai 73.75 280 P **P** **18 18 17.2 -1.2**
CHTO pmax pmax
comp=Z,347nm,1.2s
CHTO MLR MLR
comp=Z,14µm,21.0s
CHTO Chiang Mai 73.75 280 P **P** **18 18 17.1 -1.2**
CHTO IAmb IAmb 18 18 36.3
comp=Z,347nm,1.2s
CHTO Chiang Mai 73.75 280 IAMs_20 IAMs_20 18 51 13.9
comp=Z,14µm,21.0s
CHTO Chiang Mai 73.75 280 P **P** **18 18 18.0 -0.3**
CHTO P **P** **18 18 18.0 -0.3**
CHTO Chiang Mai 73.75 280 P **P** **18 18 23.1 +4.7**
MRSI Marisa 73.78 250 P **P** **18 18 18.6 +0.1**
comp=Z,10µmcomp=Z,6µmcomp=Z,624nm,1.2s
LIFNC LIFOU 73.82 198 IAMs_20 IAMs_20 18 46 54.3
comp=Z,18µm,19.0s
EDMD Edmundbyers 73.85 5 *e*P **P** **18 18 19.4 +1.0**
GAR Garm 73.90 313 P **P** **18 18 17.7 -1.4**
SUW Suwalki 73.91 350 *e*P **P** **18 18 17.4 -1.4**
SUW *e*PcP **PcP** **18 18 35.9 +1.8**
SUW *e*L L 18 51 28.9
comp=Z,15µm,22.6s
SUW Suwalki 73.91 350 P **P** **18 18 16.1 -2.7**
SUW pmax pmax
comp=Z,470nm,0.9s
SUW MLR MLR
comp=Z,16µm,19.0s
SUW Suwalki 73.91 350 P **P** **18 18 16.1 -2.7**
SUW IAMs_20 IAMs_20 18 55 44.5
comp=Z,16µm,19.0s
SUW Suwalki 73.91 350 *e*P **P** **18 18 18.0 -0.7**
TOLI2 Tolitoli 73.95 251 P **P** **18 18 16.7 -2.8**
TOLI2 Tolitoli 73.95 251 P **P** **18 18 21.3 +1.8**
TAPN Taplejung 74.00 294 *e*P **P** **18 18 20.5 +0.4**
CM31 Chiang Mai Arr 74.02 280 P **P** **18 18 18.6 -1.4**
CMAR Chiang Mai Arr 74.02 280 P **P** **18 18 19.6 -0.4**
comp=Z,18nm,0.8s,baz=26,slow=5.8,SNR=94
CMAR PKPPKP P'P'df 18 45 44.5 -11
comp=Z,0.9nm,0.3s,baz=225,slow=2.4,SNR=4.3
CMAR LR LR 18 51 33.3
comp=Z,12µm,21.8s,baz=50,slow=36
CMAR Chiang Mai Arr 74.02 280 P **P** **18 18 19.2 -0.8**
VORD Divnogorie 74.12 339 *e*P **P** **18 18 19.1 -0.9**
VORD pmax pmax
comp=Z,480nm,0.6s
RGN Rugen 74.17 356 P **P** **18 18 18.9 -1.4**
RGN Rugen 74.17 356 *e*P **P** **18 18 19.9 -0.4**
RGN Rugen 74.17 356 *e*P **P** **18 18 22.0 +1.7**
comp=Z,270nm,0.8s,baz=3.8,slow=5.5
WIM Isle of Man 74.36 7 *e*P **P** **18 18 22.2 +0.8**
LUWI Luwuk 74.52 248 P **P** **18 18 18.9 -3.9**
LUWI Luwuk 74.52 248 P **P** **18 18 24.6 +1.8**
comp=Z,10µmcomp=Z,9µmcomp=Z,1µm,1.2s
LUWI Luwuk 74.52 248 P **P** **18 18 26.1 +3.3**
ODAN Odare 74.55 294 *e*P **P** **18 18 23.4 +0.1**
GUN Gumba 74.61 295 *e*P **P** **18 18 24.2 +0.5**
comp=Z,2µm,0.8s
JIRN Jiri 74.62 295 *e*P **P** **18 18 24.5 +0.7**
comp=Z,1µm,0.7s
CHGR Chuyangaron 74.70 314 P **P** **18 18 22.2 -1.5**
HPK Haverah Park 74.74 5 *e*P **P** **18 18 23.5 -0.1**
HPK IAMs_20 IAMs_20 19 00 25.4
comp=Z,14µm,19.7s
BSEG Bad Segeberg 74.90 357 *e*P **P** **18 18 24.5 0.0**
comp=Z,206nm,0.9s,baz=3.8,slow=5.5
RAMN Ramite 74.94 294 *e*P **P** **18 18 26.2 +0.7**
comp=Z,944nm,0.5s
KKN Kakani 75.04 296 *e*P **P** **18 18 26.3 +0.3**
comp=Z,435nm,0.7s
COEN Coen 75.06 223 P **P** **18 18 24.3 -1.6**
COEN Coen 75.06 223 P **P** **18 18 29.4 +3.5**
APSI Ampana 75.07 249 P **P** **18 18 27.9 +1.9**
comp=Z,7µmcomp=Z,3µmcomp=Z,230nm,1.3s
MPSI Mapaga 75.09 251 P **P** **18 18 25.7 -0.5**
comp=Z,10µmcomp=Z,5µmcomp=Z,494nm,1.1s
PKI Pulchoki 75.13 295 *e*P **P** **18 18 26.8 +0.1**
comp=Z,1µm,1.0s
PKIN Phulchoki 75.14 296 *e*P **P** **18 18 26.6 -0.1**
comp=Z,927nm,1.1s
GKP Gorka Klasztor 75.20 353 *e*P **P** **18 18 25.7 -0.6**
GKP *e*L L 18 49 52.2
comp=Z,19µm,22.8s
GKP Gorka Klasztor 75.20 353 *e*P **P** **18 18 25.6 -0.7**
DZM Mont Dzumac 75.23 199 LR LR 18 49 14.4
comp=Z,31µm,18.5s,baz=27,slow=34
DZM Mont Dzumac 75.23 199 *e*P **P** **18 18 27.6 +0.8**
comp=Z,190nm,1.2s
DZM *e*S **S** **18 28 05.0 0.0**
comp=Z,8µm,24.1s
DZM Mont Dzumac 75.23 199 *e*LQ LQ 18 38 12.4
comp=Z,19µm,28.2s
DZM *e*LR LR 18 41 34.8
comp=Z,18µm,20.4s
DZM Mont Dzumac 75.23 199 P **P** **18 18 26.5 -0.3**
GKN Gorkha 75.24 296 *e*P **P** **18 18 27.2 +0.1**
comp=Z,814nm,0.7s
DMN Daman 75.28 296 *e*P **P** **18 18 27.8 +0.3**
comp=Z,1µm,1.0s
LBWR Ladybower, Pea 75.29 5 *e*P **P** **18 18 27.3 +0.5**
LBWR IAmb IAmb 18 18 31.6
comp=Z,95nm,0.9s
LBWR IAMs_20 IAMs_20 19 00 30.3
comp=Z,14µm,19.1s
NOUC Port Laguerre 75.29 199 P **P** **18 18 31.3 +4.3**
MTO3 Montecristo 75.51 85 P **P** **18 18 28.1 -0.8**
SAUI Saumlaki 75.54 237 P **P** **18 18 28.3 -0.3**
STNC Stoke 75.57 5 *e*P **P** **18 18 28.9 +0.5**
STNC IAmb IAmb 18 18 33.6
comp=Z,106nm,0.8s
STNC IAMs_20 IAMs_20 19 00 16.1
comp=Z,12µm,18.2s
CWF Charnwood Fore 75.97 5 *e*P **P** **18 18 30.6 0.0**
KOLN Koldanda 76.00 297 *e*P **P** **18 18 31.6 +0.1**
comp=Z,1µm,0.9s
BBSR BB Station 76.03 55 P **P** **18 18 30.7 -0.7**
BBSR IAmb IAmb 18 18 39.6
comp=Z,132nm,0.8s
BBSR BB Station 76.03 55 IAMs_20 IAMs_20 18 52 03.6
comp=Z,12µm,20.0s
WACR West Acre 76.07 3 *e*P **P** **18 18 31.8 +0.6**
WACR IAmb IAmb 18 18 35.8
comp=Z,347nm,0.9s
PYUN Piuthan 76.08 298 *e*P **P** **18 18 32.2 +0.2**
comp=Z,2µm,0.9s
HLM1 Long Mynd 76.10 6 *e*P **P** **18 18 32.1 +0.6**
HLM1 IAMs_20 IAMs_20 18 56 56.8
comp=Z,13µm,18.7s
RETH Rethem/Aller, 76.12 358 *e*P **P** **18 18 31.7 +0.2**
comp=Z,341nm,1.6s,baz=3.8,slow=5.5
SNET Serv Nac Est T 76.14 85 IAMs_20 IAMs_20 18 56 53.3
comp=Z,9µm,19.0s
VLK Valmikinagar 76.20 296 ⇑*i*P **P** **18 18 31.8 -0.6**
RUE Ruedersdorf 76.21 355 *e*P **P** **18 18 31.6 -0.4**
RUE Ruedersdorf 76.21 355 *e*P **P** **18 18 32.0 0.0**
comp=Z,410nm,1.2s,baz=3.8,slow=5.5
BEL Belsk 76.31 351 *e*P **P** **18 18 32.0 -0.7**
BEL *e*L L 18 52 19.5
comp=Z,21µm,22.5s
AKASG Malin Array Be 76.32 345 P **P** **18 18 30.9 -1.8**
comp=Z,107nm,0.6s,baz=18,slow=6.2,SNR=138
AKASG S **S** **18 28 12.3 -4.1**
comp=Z,2.8nm,1.0s,baz=16,slow=12,SNR=5.5
AKASG PKPPKP P'P'df 18 45 44.0 -11
comp=Z,0.2nm,0.3s,baz=230,slow=1.0,SNR=4.1
AKASG LR LR 18 57 37.9
comp=Z,15µm,19.4s,baz=10,slow=40
AKASG Malin Array Be 76.32 345 P **P** **18 18 30.4 -2.3**
AKASG P'P'df 18 45 42.1 -13
AKBB Malin Array Si 76.32 345 P **P** **18 18 30.8 -1.9**
AKBB pmax pmax
comp=Z,349nm,1.3s
AKBB Malin Array Si 76.32 345 P **P** **18 18 30.8 -1.9**
AKBB IAmb IAmb 18 18 35.7
comp=Z,349nm,1.3s
NRDL Niedersach Rie 76.35 357 *e*P **P** **18 18 32.7 0.0**
comp=Z,129nm,1.2s,baz=3.8,slow=5.5
DHRM DHARAMSHALA 76.40 305 ⇑*i*P **P** **18 18 33.4 -0.4**
PTH Pithoragarh 76.47 300 *e*P **P** **18 18 32.7 -1.4**
FLTG Flechtingen 76.47 357 *e*P **P** **18 18 33.0 -0.5**
comp=Z,229nm,1.2s,baz=3.8,slow=5.5
RSBS Rosebush, Pemb 76.54 7 *e*P **P** **18 18 34.3 +0.4**
RSBS IAmb IAmb 18 18 39.3
comp=Z,197nm,1.5s
RSBS IAMs_20 IAMs_20 18 56 26.3
comp=Z,15µm,17.7s
THN Thein Dam 76.55 305 ⇑*i*P **P** **18 18 34.0 -0.3**
IBBN Ibbenburen 76.58 359 *e*P **P** **18 18 34.5 +0.4**
comp=Z,281nm,1.2s,baz=3.8,slow=5.5
MCH1 Michaelchurch 76.61 6 *e*P **P** **18 18 35.2 +0.9**
MCH1 IAmb IAmb 18 18 38.1
comp=Z,68nm,1.0s
MCH1 IAMs_20 IAMs_20 18 57 20.6
comp=Z,10µm,19.4s
ASSE Asse, Remlinge 76.69 357 *e*P **P** **18 18 34.7 0.0**
comp=Z,131nm,1.1s,baz=3.8,slow=5.5
JMU Jammu 76.74 306 *e*P **P** **18 18 35.8 +0.4**
NIL Nilore 76.82 308 P **P** **18 18 35.0 -0.9**
NIL pmax pmax
comp=Z,548nm,0.9s
NIL MLR MLR
comp=Z,27µm,19.0s
NIL Nilore 76.82 308 P **P** **18 18 35.0 -0.9**
NIL Nilore 76.82 308 P **P** **18 18 36.1 +0.2**
NIL P **P** **18 18 36.1 +0.2**
SMLA Simla 76.84 304 ⇑*i*P **P** **18 18 35.5 -0.4**
STRD Stroud 76.89 5 *e*P **P** **18 18 35.6 -0.3**
STRD IAmb IAmb 18 18 39.8
comp=Z,232nm,1.1s
STRD IAMs_20 IAMs_20 18 57 22.3
comp=Z,11µm,19.9s
CLZ Clausthal 76.99 357 *e*P **P** **18 18 36.9 +0.3**
comp=Z,283nm,1.1s,baz=3.8,slow=5.5
DDI Dehra Dun 77.01 302 ⇑*i*P **P** **18 18 36.5 -0.5**
TGUH Tegucigalpa,Un 77.07 84 P **P** **18 18 38.0 +0.4**
SWN1 Swindon 77.17 5 *e*P **P** **18 18 37.7 +0.3**
SWN1 IAMs_20 IAMs_20 19 01 04.1
comp=Z,13µm,18.4s
GTTG Gottingen 77.30 358 *e*P **P** **18 18 38.6 +0.4**
comp=Z,399nm,1.3s,baz=3.8,slow=5.5
CLL Collm 77.42 356 ⇑*i*P **P** **18 18 38.3 -0.6**
CLL *i* *PP **sP** **18 18 45.0 +0.6**
CLL *e*S **S** **18 28 28.0 -0.4**
CLL *e* 18 28 50.0
CLL pmax pmax
comp=Z,166nm,0.7s
CLL MLR MLR
comp=Z,12µm,18.9s
CLL Collm 77.42 356 P **P** **18 18 37.6 -1.3**
CLL IAmb IAmb 18 18 42.4
comp=Z,136nm,0.7s
CLL IAMs_20 IAMs_20 18 59 25.3
comp=Z,12µm,19.0s
CLL Collm 77.42 356 ⇑*i*P **P** **18 18 38.3 -0.6**
comp=Z,135nm,0.7s
CLL *i* Pmax 18 18 41.8
comp=Z,166nm,0.7s
CLL *e*Pmax 18 18 42.0
CLL *e*Plp 18 18 43.0
comp=Z,3µm,21.8s
CLL *i* pP **sP** **18 18 45.0 +0.6**
CLL *e*sP **pwP** **18 18 48.0 -0.8**
CLL *e*PP **PP** **18 21 36.0 +3.5**
CLL *e*PPP PPP 18 23 24.0
CLL *e*S **S** **18 28 28.0 -0.4**
CLL *e*SKSac **SKSac** **18 28 50.0 -1.0**
CLL *e*PS **PnS** **18 29 10.0 +2.1**
CLL *e*SS **SS** **18 33 29.0 +3.4**
CLL *e*SSS SSS 18 36 54.0
CLL *e*(SSSS) 18 38 36.0
CLL Lm MLR 18 59 00.0
comp=N,10µm,20.0s
CLL Lm MLR 18 59 00.0
comp=E,6µm,19.4s
CLL Lm MLR 18 59 00.0
comp=Z,12µm,18.9s
CLL Lmax 18 59 00.0
CLL Collm 77.42 356 *e*P **P** **18 18 38.6 -0.4**
comp=Z,166nm,0.7s,baz=3.8,slow=5.5
BUG Bochum--Univer 77.45 359 *e*P **P** **18 18 38.9 -0.1**
comp=Z,254nm,1.3s,baz=3.8,slow=5.5
TBI Tubuai 77.55 157 *e*S **S** **18 28 30.5 +0.4**
comp=Z,19µm,28.5s
TBI Tubuai 77.55 157 *e*LR LR 18 42 32.2
comp=Z,21µm,21.5s,baz=343
TBI Tubuai 77.55 157 *e*T T 19 43 36.9
comp=Z,32nm,0.3s
NEUB Neuenburg 77.58 356 *e*P **P** **18 18 39.8 0.0**
comp=Z,470nm,1.0s,baz=3.8,slow=5.5
KASTN Kahler Asten 77.68 358 *e*P **P** **18 18 40.2 -0.2**
comp=Z,94nm,1.0s,baz=3.8,slow=5.5
KSP Ksiaz 77.69 353 *e*P **P** **18 18 39.9 -0.5**
KSP *e*S **S** **18 28 32.0 +0.7**
KSP *e*L L 18 49 22.1
comp=Z,10µm,23.5s
BOK Bokaro 77.77 293 ⇑*i*P **P** **18 18 41.4 +0.1**
FBE Freiberg 77.79 355 *e*P **P** **18 18 41.0 0.0**
comp=Z,299nm,0.9s,baz=3.8,slow=5.5
BRG Berggiesshubel 77.81 355 ⇑*i*P **P** **18 18 40.5 -0.6**

BRG Amp 18 18 43.6
comp=Z,246nm,1.1s
BRG Berggiesshubel 77.81 355 SS SS 18 33 34.0 +2.5
BRG PKPPKP 18 45 47.2
BRG Amp 18 45 49.8
comp=Z,14nm,1.5s
BRG Amp 19 00 18.0
comp=E,10.0nm,18.6s
BRG Amp 19 00 23.0
comp=N,6.7nm,18.1s
BRG Amp 19 00 29.0
comp=Z,10nm,19.4s
BRG Berggiesshubel 77.81 355⇑*i*P **P 18 18 40.5 -0.6**
BRG S **S 18 28 33.0 +0.4**
BRG S **SS 18 33 34.0 +2.5**
BRG pmax pmax
comp=Z,246nm,1.1s
BRG pmax pmax
comp=Z,14nm,1.5s
BRG MLR MLR
comp=E,10μm,18.6s
BRG MLR MLR
comp=N,7μm,18.1s
BRG MLR MLR
comp=Z,10μm,19.4s
BRG Berggiesshubel 77.81 355 *e*P **P 18 18 40.8 -0.3**
comp=Z,247nm,1.1s,baz=3.8,slow=5.5
TTSI Tana Toraja 77.86 249 P **P 18 18 43.6 +1.8**
comp=Z,9μmcomp=Z,4μmcomp=Z,415nm,1.2s
HMNX Herstmonceux 77.92 4 *e*P **P 18 18 42.5 +0.9**
LVV L'vov 77.93 348 *e*P **P 18 18 41.2 -0.6**
LVV *e* 18 21 44.3
LVV *e*PPP PPP 18 23 31.2
LVV *e*S **S 18 28 31.2 -2.8**
LVV pmax pmax
comp=Z,300nm,1.2s
LVV MLR MLR
comp=N,4μm,18.0s
LVV MLR MLR
comp=E,6μm,18.0s
LVV MLR MLR
comp=Z,9μm,18.0s
CHVC Chvalec 77.96 354 *e*P **P 18 18 41.7 -0.3**
CHVC AMS AMS 18 58 30.0
comp=Z,16μm,19.2s
OSTC Ostas 77.98 353⇑*e*P **P 18 18 41.8 -0.3**
OSTC AMS AMS 18 58 30.0
comp=Z,17μm,19.4s
OJC Ojcow 78.01 351 *e*P **P 18 18 41.6 -0.6**
OJC *e*S **S 18 28 28.4 -6.5**
OJC *e*L L 18 53 23.5
comp=Z,21μm,22.6s
OJC Ojcow 78.01 351 P **P 18 18 40.9 -1.3**
OJC pmax pmax
comp=Z,118nm,1.0s
OJC Ojcow 78.01 351 P **P 18 18 40.9 -1.3**
OJC IAmb IAmb 18 18 46.8
comp=Z,118nm,1.0s
UBBA Unterbreizbach 78.03 357 *e*P **P 18 18 42.2 +0.1**
comp=Z,209nm,1.6s,baz=3.8,slow=5.5
UBBA *e*L L 18 51 51.4
comp=Z,7μm,21.1s
UPC Upice 78.04 354 *e*P **P 18 18 42.0 -0.4**
UPC MLR MLR
comp=Z,17μm,18.9s
UPC Upice 78.04 354⇑*e*P **P 18 18 42.0 -0.4**
UPC AMS AMS 18 58 30.0
comp=Z,17μm,18.9s
SBUM Sibu 78.06 259 P **P 18 18 41.3 -1.7**
UCC Uccle 78.09 1 P **P 18 18 41.6 -1.0**
UCC pmax pmax
comp=Z,32nm,1.3s
UCC Uccle 78.09 1 P **P 18 18 41.6 -1.0**
BEBN Eben Emael 78.10 0 *d*P **P 18 18 42.5 -0.2**
comp=Z,84nm,0.9s
PVCC Panska Ves 78.11 354 *e*P **P 18 18 42.8 0.0**
PVCC MLR MLR
comp=Z,14μm,19.5s
PVCC Panska Ves 78.11 354⇑*e*P **P 18 18 42.8 0.0**
PVCC AMS AMS 18 58 50.0
comp=Z,14μm,19.5s
KBL Kabul 78.12 311 P **P 18 18 41.3 -2.1**
KBL pmax pmax
comp=Z,304nm,0.9s
KBL Kabul 78.12 311 P **P 18 18 41.2 -2.1**
KBL Kabul 78.12 311 P **P 18 18 42.1 -1.3**
SNR=259
KBL P **P 18 18 42.1 -1.3**
SNR=259
MOX Moxa 78.14 356 *e*P **P 18 18 42.8 -0.1**
comp=Z,259nm,1.2s,baz=3.8,slow=5.5
DPC Dobruska-Polom 78.17 353⇑*i*P **P 18 18 42.9 -0.3**
DPC MLR MLR
comp=Z,15μm,19.0s
DPC Dobruska-Polom 78.17 353⇑*i*P **P 18 18 42.9 -0.3**
DPC AMS AMS 18 58 40.0
comp=Z,15μm,19.0s
VAR Varanasi 78.24 296 *e*P **P 18 18 42.0 -1.8**
BBSI Bau Bau 78.25 245 P P 18 18 49.3 +5.3
KWP Kalwaria Pacla 78.28 349 *e*P **P 18 18 43.2 -0.5**
KWP *e*S **S 18 28 36.6 -1.1**
KWP Kalwaria Pacla 78.28 349 P **P 18 18 41.8 -1.9**
KWP pmax pmax
comp=Z,4μm,1.2s
KWP MLR MLR
comp=Z,134μm,20.0s
KWP Kalwaria Pacla 78.28 349 P **P 18 18 41.8 -1.9**
PLN Plauen 78.28 356 *e*P **P 18 18 43.8 +0.1**
comp=Z,152nm,1.0s,baz=3.8,slow=5.5
MEM Membach 78.29 0 *d*P **P 18 18 43.4 -0.4**
comp=Z,87nm,1.1s
RAC Raciborz 78.29 352 *e*P **P 18 18 42.8 -1.0**
RAC *e*S **S 18 28 36.0 -1.9**
RAC LMZ LR 18 59 24.7
comp=Z,19nm,18.9s
RAC Raciborz 78.29 352 *e*P **P 18 18 42.8 -1.0**
RAC *e*S **S 18 28 36.0 -1.9**
RAC MLR MLR
comp=Z,19μm,18.9s
BTNL Ternell 78.31 360 *d*P **P 18 18 43.5 -0.4**
comp=Z,79nm,1.1s
WERD Werda 78.31 356 *e*P **P 18 18 43.9 0.0**
comp=Z,147nm,1.1s,baz=3.8,slow=5.5
BSTI Sart Tilman 78.31 0 *d*P **P 18 18 43.7 -0.1**
comp=Z,19nm,1.0s
MTSU Mount Surprise 78.33 220 P **P 18 18 46.6 +2.3**
TANN Tannenbergstha 78.34 356 *e*P **P 18 18 44.0 -0.1**
comp=Z,311nm,1.6s,baz=3.8,slow=5.5
AHRW Bad Neuenahr-A 78.36 359 *e*P **P 18 18 44.4 +0.3**
comp=Z,160nm,1.0s,baz=3.8,slow=5.5
SNF Seneffe 78.38 1 *d*P **P 18 18 44.2 0.0**
comp=Z,70nm,0.9s
GUNZ Gunzen 78.40 356 *e*P **P 18 18 44.6 +0.2**
comp=Z,151nm,1.1s,baz=3.8,slow=5.5
KRLC Kraliky 78.41 353 *e*P **P 18 18 44.1 -0.4**
KRLC *e*S S 18 28 50.6 +11
KRLC MLR MLR
comp=Z,15μm,17.9s
KRLC Kraliky 78.41 353⇑*e*P **P 18 18 44.1 -0.4**
KRLC *e*S S 18 28 50.6 +11
KRLC AMS AMS 19 04 10.0
comp=Z,15μm,17.9s
WERN Wernitzgruen 78.47 356 *e*P **P 18 18 45.1 +0.3**
comp=Z,277nm,1.0s,baz=3.8,slow=5.5
BCLA Clavier 78.48 1 *d*P **P 18 18 44.1 -0.7**
comp=Z,48nm,1.1s
BGES Gesves 78.51 1 *d*P **P 18 18 44.1 -0.9**
comp=Z,41nm,1.2s
NKC Novy Kostel 78.52 356 *e*P **P 18 18 45.0 -0.1**
NKC *e*S **S 18 28 46.3 +5.9**
NKC MLR MLR
comp=Z,12μm,18.0s
NKC Novy Kostel 78.52 356⇑*e*P **P 18 18 45.0 -0.1**
NKC *e*S **S 18 28 46.3 +5.9**
NKC AMS AMS 19 06 50.0
comp=Z,12μm,18.0s
OKC Ostrava-Krasne 78.54 352 *e*P **P 18 18 45.5 +0.4**
OKC MLR MLR
comp=Z,13μm,18.2s
OKC Ostrava-Krasne 78.54 352⇑*e*P **P 18 18 45.5 +0.4**
OKC AMS AMS 18 59 20.0
comp=Z,13μm,18.2s
BHOU Houvegnez 78.55 0 *d*P **P 18 18 44.8 -0.4**
comp=Z,41nm,1.2s
SPSI Sidrap Palu 78.63 249 P **P 18 18 47.5 +1.4**
comp=Z,11μmcomp=Z,3μmcomp=Z,198nm,1.4s

MORC Moravsky Berou 78.65 352⇓P **P 18 18 45.7 -0.1**
MORC Moravsky Berou 78.65 352 P **P 18 18 44.6 -1.2**
MORC pmax pmax
comp=Z,136nm,1.2s
MORC Moravsky Berou 78.65 352 P **P 18 18 44.6 -1.2**
MORC Moravsky Berou 78.65 352⇑*i*P **P 18 18 45.2 -0.6**
MORC *e*S **S 18 28 43.4 +1.5**
STHS Stebnicka Huta 78.65 350 *e*P **P 18 18 48.2 +2.4**
STHS Stebnicka Huta 78.65 350 *e*P **P 18 18 48.2 +2.4**
PRU Pruhonice 78.65 354 *e*P **P 18 18 45.7 -0.1**
PRU *e*S **S 18 28 44.8 +3.0**
PRU MLR MLR
comp=Z,15μm,19.4s
PRU Pruhonice 78.65 354⇑*e*P **P 18 18 45.7 -0.1**
PRU *e*S **S 18 28 44.8 +3.0**
PRU AMS AMS 18 59 10.0
comp=Z,15μm,19.4s
TNS Taunus Mts 78.66 358 *e*P **P 18 18 46.0 +0.1**
comp=Z,207nm,0.9s,baz=3.8,slow=5.5
GOF Gofitskoye 78.68 334⇑*i*P **P 18 18 45.6 -0.4**
GOF *e*S **S 18 28 44.1 +1.9**
GOF pmax pmax
comp=Z,788nm,1.1s
GOF smax smax
comp=N,64nm,1.1s
GOF smax smax
comp=E,112nm,1.3s
RCHB Rochefort 78.74 1 *d*P **P 18 18 45.7 -0.5**
comp=Z,65nm,1.1s
NIE Niedzica 78.75 351 *e*P **P 18 18 46.8 +0.4**
NIE *e*S **S 18 28 42.8 -0.1**
NIE *e*L L 18 54 12.2
comp=Z,12μm,22.4s
NDI New Delhi 78.75 302⇑*i*P **P 18 18 44.5 -2.2**
MATN Matagalpa 78.77 83 P **P 18 18 44.9 -2.1**
BNSI Bone 78.78 248 P **P 18 18 48.9 +2.0**
comp=Z,3μmcomp=Z,200nm,1.1s
MANZ Manzenberg 78.78 356 *e*P **P 18 18 46.5 0.0**
comp=Z,526nm,3.5s,baz=3.8,slow=5.5
DOU Dourbes 78.80 1 *d*P **P 18 18 46.3 -0.3**
comp=Z,73nm,1.0s
ALBI Allahabad 78.91 297⇑*i*P **P 18 18 46.2 -1.4**
SORM Soroca 78.95 345⇓P **P 18 18 47.5 +0.1**
PBCC Pribram 78.99 355⇑*e*P **P 18 18 47.6 0.0**
ROTZ Rotzenmuhle 79.00 356 *e*P **P 18 18 47.8 +0.1**
comp=Z,29nm,0.9s,baz=3.8,slow=5.5
LANS Liptovska Anna 79.10 351 *e*P **P 18 18 49.0 +0.7**
LANS pmax pmax
comp=Z,83nm,0.9s
LANS Liptovska Anna 79.10 351 *e*P **P 18 18 49.0 +0.7**
MTKI Muara Teweh, K 79.10 255 P **P 18 18 48.8 +0.1**
comp=Z,7μmcomp=Z,3μmcomp=Z,167nm,1.1s
GRA1 Grafenberg Arr 79.11 357 P **P 18 18 47.4 -0.9**
GRF Grafenberg Arr 79.11 357 P **P 18 18 47.4 -0.9**
GRF pmax pmax
comp=Z,494nm,1.1s
GRF MLR MLR
comp=Z,9μm,20.0s
GRF Grafenberg Arr 79.11 357 *e*P **P 18 18 48.7 +0.3**
comp=Z,517nm,1.2s,baz=3.8,slow=5.5
GRF *e*L L 18 57 21.7
comp=Z,9μm,20.2s
GRFO Grafenberg 79.11 357 P **P 18 18 47.7 -0.6**
GRFO pmax pmax
comp=Z,478nm,1.1s
GRFO MLR MLR
comp=Z,9μm,20.0s
GRFO Grafenberg 79.11 357 P **P 18 18 47.7 -0.6**
GRFO IAms_20 IAms_20 18 57 21.0
comp=Z,9μm,20.0s
CRVS Cervenica-Dubn 79.14 350 *e*P **P 18 18 48.2 -0.3**
CRVS pmax pmax
comp=Z,91nm,0.9s
CRVS Cervenica-Dubn 79.14 350 *e*P **P 18 18 48.2 -0.3**
CRVS Cervenica-Dubn 79.14 350 *e*S S 18 28 59.6 +13
DRBR Darabani 79.15 346⇓P **P 18 18 49.3 +0.8**
VRAC Vranov 79.19 353⇑P **P 18 18 48.7 -0.1**
VRAC Vranov 79.19 353 S **S 18 28 48.5 +1.0**
comp=Z,2.7nm,0.9s,baz=159,slow=6.7,SNR=2.0
VRAC LR LR 18 57 15.1
comp=Z,5μm,18.9s,baz=16,slow=38
VRAC Vranov 79.19 353⇑*i*P **P 18 18 48.4 -0.4**
VRAC *e*S **S 18 28 48.4 +0.8**
WLF Walferdange 79.24 360 P **P 18 18 47.8 -1.2**
WLF pmax pmax
comp=Z,132nm,1.1s
WLF MLR MLR
comp=Z,8μm,20.0s
WLF Walferdange 79.24 360 P **P 18 18 47.8 -1.2**
WLF Walferdange 79.24 360 *e*P **P 18 18 49.4 +0.5**
comp=Z,2μm,3.2s,baz=3.8,slow=5.5
WLF Walferdange 79.24 360 *d*P **P 18 18 49.3 +0.3**
comp=Z,60nm,0.9s
TREC Trest 79.28 354 *e*P **P 18 18 49.2 -0.1**
TREC MLR MLR
comp=Z,15μm,18.2s
TREC Trest 79.28 354⇑*e*P **P 18 18 49.2 -0.1**
TREC AMS AMS 19 04 40.0
comp=Z,15μm,18.2s
MAK Makhachkala 79.30 330 *e*P P 18 18 44.4 -5.0
MAK *e* 18 21 43.7
MAK *e*S **S 18 28 40.4 -8.4**
MAK pmax pmax
comp=Z,310nm,1.3s
BOAB BOACO BROADBAN 79.30 84 P **P 18 18 48.8 -1.0**
BOAB IAmb IAmb 18 19 08.3
comp=Z,339nm,1.6s
BOAB IAMs_20 IAMs_20 18 56 40.0
comp=Z,14μm,22.0s
UZH Uzhgorod 79.31 349⇓*i*P **P 18 18 47.6 -1.8**
UZH *i* 18 18 51.1
UZH *i* 18 18 57.7
UZH *e*S **S 18 28 43.0 -5.8**
UZH *i* 18 29 25.0
UZH *i* 18 29 56.6
UZH MLR MLR
comp=E,3μm,17.0s
CTA Charters Tower 79.33 218 P **P 18 18 53.2 +3.4**
KRUC Moravsky 79.45 353⇑*i*P **P 18 18 49.8 -0.4**
KRUC Moravsky 79.45 353 *e*S **S 18 28 50.5 +0.2**
JSA Saint Aubin 79.47 5 *e*P **P 18 18 50.9 +0.7**
KAPI Kappang 79.48 248 LR LR 18 53 01.7
comp=E,2μm,19.3s,baz=34,slow=35
KAPI Kappang 79.48 248 P **P 18 18 50.0 -0.8**
KAPI pmax pmax
comp=Z,297nm,1.4s
KAPI Kappang 79.48 248 P **P 18 18 50.0 -0.8**
KAPI IAmb IAmb 18 19 13.8
comp=Z,297nm,1.4s
KAPI Kappang 79.48 248 P **P 18 18 50.7 -0.1**
KAPI P **P 18 18 50.7 -0.1**
KAPI Kappang 79.48 248 P **P 18 18 54.4 +3.6**
DRS Darwin Rock St 79.51 235 P **P 18 18 55.0 +4.2**
comp=Z,92nm,0.9s
BKSI Bulukumba 79.52 248 P **P 18 18 52.2 +1.3**
comp=Z,8μmcomp=Z,4μmcomp=Z,425nm,1.2s
JAVC Velka Javorina 79.55 352⇑*i*P **P 18 18 51.4 +0.6**
JAVC Velka Javorina 79.55 352 *e*S **S 18 28 58.9 +7.4**
KHC Kasperske Hory 79.56 355⇑*i*P **P 18 18 50.8 0.0**
KHC *e*S S 18 29 03.4 +12
KHC MLR MLR
comp=Z,16μm,18.5s
KHC Kasperske Hory 79.56 355⇑*i*P **P 18 18 50.8 0.0**
KHC *ex* x 18 19 07.5
KHC *e*SKS S 18 29 03.4 +12
KHC AMS AMS 19 07 20.0
comp=Z,16μm,18.5s
KHC Kasperske Hory 79.56 355 P **P 18 18 50.2 -0.7**
KHC IAmb IAmb 18 19 13.3
comp=Z,236nm,1.1s
KUDL Kundal 79.57 302 *e*P **P 18 18 50.4 -0.7**
WET Wettzell 79.59 355 *e*P **P 18 18 50.9 0.0**
comp=Z,235nm,1.6s,baz=3.8,slow=5.5
GROC Groznyy 79.60 332 *e*P **P 18 18 50.5 -0.5**
GROC *e* 18 18 59.1
GROC *e* 18 21 57.2
GROC *e*S **S 18 28 52.7 +0.7**
GROC pmax pmax
comp=Z,63nm,1.1s
IZAB Izabela 79.65 351 *e*P **P 18 18 52.7 +1.4**
IZAB *e* 18 18 53.6
IZAB pmax pmax
comp=Z,42nm,0.8s
KECS Kecovo 79.66 350 *e*P **P 18 18 52.5 +1.2**

KECS pmax pmax
comp=Z,111nm,1.1s
KECS Kecovo 79.66 350 *e*P **P 18 18 52.5 +1.2**
KOLL Kolacno 79.77 352 *e*P **P 18 18 52.6 +0.7**
TRPA Tarpa 79.77 349 P **P 18 18 51.8 -0.1**
KIV Kislovodsk 79.79 334 *e*P **P 18 18 52.0 -0.3**
KIV *e* 18 21 53.2
KIV *e*PPP PPP 18 23 41.9
KIV *e*S **S 18 28 53.9 -0.4**
KIV *e*SS **SS 18 34 03.5 +1.7**
KIV pmax pmax
comp=Z,229nm,1.1s
KIV pmax pmax
comp=Z,262nm,3.7s
KIV MLR MLR
comp=Z,7μm,19.0s
KIV Kislovodsk 79.79 334 P **P 18 18 50.3 -1.9**
KIV IAmb IAmb 18 18 57.6
comp=Z,206nm,1.0s
KIV Kislovodsk 79.79 334 P **P 18 18 52.0 -0.3**
KIV P **P 18 18 52.0 -0.3**
KIV Kislovodsk 79.79 334 *i*P **P 18 18 51.5 -0.7**
SNR=85
VYHS Vyhne 79.81 351 *e*P **P 18 18 52.8 +0.7**
VYHS pmax pmax
comp=Z,34nm,0.9s
VYHS Vyhne 79.81 351 *e*P **P 18 18 52.8 +0.7**
CKRC Cesky Krumlov 79.83 354⇑*i*P **P 18 18 51.7 -0.6**
CKRC *e*S **S 18 29 02.1 +7.7**
CKRC AMS AMS 18 59 30.0
comp=Z,16μm,20.2s
MTDJ Mount Denham 79.84 74 IAMs_20 IAMs_20 18 58 15.3
comp=Z,13μm,19.0s
GEC2 GERESS Array S 79.84 355 P **P 18 18 51.0 -1.5**
GEC2 GERESS Array S 79.84 355 *e*P **P 18 18 52.1 -0.4**
comp=Z,159nm,1.2s,baz=3.8,slow=5.5
GERES GERESS Array B 79.84 355 P **P 18 18 51.5 -0.9**
comp=Z,64nm,0.9s,baz=23,slow=7.2,SNR=128
GERES S **S 18 28 55.8 +1.1**
comp=Z,0.1nm,0.3s,baz=332,slow=39,SNR=2.3
GERES PKKPbc **PKKPbc 18 37 36.0 -0.3**
comp=Z,0.2nm,0.4s,baz=159,slow=8.4,SNR=1.9
GERES PKKPab 18 38 45.5
comp=Z,0.5nm,0.3s,baz=70,slow=28,SNR=5.3
GERES PKPPKP P'P'df 18 45 40.9 -8.2
comp=Z,0.7nm,0.8s,baz=190,slow=2.7,SNR=6.0
GERES GERESS Array B 79.84 355 P **P 18 18 51.1 -1.3**
BUR08 Bucovina Ar. S 79.90 347 P **P 18 18 51.3 -1.5**
BUR08 IAmb IAmb 18 18 56.8
comp=Z,116nm,0.8s
SMOL Smolenice 79.91 352 *e*P **P 18 18 53.7 +1.0**
SMOL pmax pmax
comp=Z,77nm,1.2s
SMOL Smolenice 79.91 352 *e*P **P 18 18 53.7 +1.0**
BURAR Bucovina Array 79.93 347⇓P **P 18 18 52.6 -0.3**
BURAR Bucovina Array 79.93 347 P **P 18 18 51.7 -1.2**
BURAR IAmb IAmb 18 18 57.2
comp=Z,144nm,0.8s
KBZ Khabaz 79.94 334 P **P 18 18 52.0 -0.8**
comp=Z,117nm,0.9s,baz=41,slow=3.3,SNR=90
KBZ S **S 18 28 58.5 +2.9**
comp=Z,1.5nm,1.0s,baz=54,slow=22,SNR=1.6
KBZ PKKPbc **PKKPbc 18 37 33.7 -2.1**
comp=Z,2.2nm,1.1s,baz=203,slow=14,SNR=3.1
KBZ LR LR 18 58 35.8
comp=Z,11μm,20.4s,baz=29,slow=39
KIS Kishinev 79.97 344⇑P **P 18 18 52.9 -0.1**
KSM Kuching 80.00 260 P **P 18 18 52.5 -1.1**
KSM IAmb IAmb 18 19 11.6
comp=Z,258nm,1.3s
KSM Kuching 80.00 260 P **P 18 18 57.7 +4.1**
GEYT Alibeck 80.01 321 P **P 18 18 53.5 +0.1**
comp=Z,102nm,1.0s,baz=45,slow=6.3,SNR=64
GEYT S **S 18 28 59.2 +2.6**
comp=Z,1.6nm,0.5s,baz=187,slow=36,SNR=1.5
GEYT LR LR 18 59 17.0
comp=Z,28μm,19.3s,baz=49,slow=40
GEYT Alibeck 80.01 321 P **P 18 18 53.2 -0.2**
GYA0B ALIBECK ARRAY 80.01 321 P **P 18 18 52.9 -0.5**
GYA0B IAmb IAmb 18 19 12.9
comp=Z,320nm,1.2s
MILM Milestii Mici 80.05 344⇑P **P 18 18 53.4 0.0**
STU Stuttgart 80.09 358 P **P 18 18 52.9 -0.8**
STU pmax pmax
comp=Z,242nm,1.1s
STU MLR MLR
comp=Z,7μm,19.0s
STU Stuttgart 80.09 358 P **P 18 18 52.9 -0.8**
STU IAmb IAmb 18 18 58.0
comp=Z,242nm,1.1s
STU Stuttgart 80.09 358 *e*P **P 18 18 53.8 +0.1**
comp=Z,532nm,1.2s,baz=3.8,slow=5.5
BMR Baia Mare 80.10 348⇓P **P 18 18 53.9 +0.1**
ZST Bratislava 80.26 353 *e*P **P 18 18 55.8 +1.3**
ZST pmax pmax
comp=Z,436nm,1.1s
ZST Bratislava 80.26 353 *e*P **P 18 18 55.8 +1.3**
PSZ Piszkesteto 80.28 351 P **P 18 18 53.5 -1.3**
PSZ pmax pmax
comp=Z,164nm,1.1s
PSZ MLR MLR
comp=Z,20μm,22.0s
PSZ Piszkesteto 80.28 351 P **P 18 18 53.5 -1.3**
PSZ IAmb IAmb 18 19 14.8
comp=Z,164nm,1.1s
PSZ IAMs_20 IAMs_20 18 54 48.9
comp=Z,20μm,22.0s
PSZ Piszkesteto 80.28 351 P **P 18 18 54.5 -0.3**
ANN Anapa 80.34 338 *e*P **P 18 18 54.0 -1.0**
ANN *e**PP **sP 18 19 00.5 0.0**
ANN *e* 18 21 56.7
ANN *e*S **S 18 28 58.8 -0.9**
ANN *e* 18 29 09.7
ANN pmax pmax
comp=N,34nm,0.6s
ANN pmax pmax
comp=Z,123nm,0.8s
ANN pmax pmax
comp=E,34nm,0.7s
ANN MLR MLR
comp=N,29μm,18.0s
ANN MLR MLR
comp=Z,14μm,17.0s
ANN MLR MLR
comp=E,6μm,17.0s
ESPN Las Esperanzas 80.34 83 P **P 18 18 54.6 -0.9**
ESPN IAmb IAmb 18 19 14.2
comp=Z,473nm,1.7s
STKI Sintang 80.38 258 P **P 18 18 56.7 +1.0**
comp=Z,3μmcomp=Z,54nm,1.4s
NEY Neytrino 80.44 334*de*P **P 18 18 56.1 +0.3**
NEY pmax pmax
comp=Z,11nm,1.2s
RAO Raoul Island 80.45 184 LR LR 18 51 31.6
comp=Z,20μm,18.8s,baz=10.0,slow=33
VASR Vaslui 80.49 345⇑P **P 18 18 55.4 -0.4**
ZEI Tsey 80.53 333 *e*P **P 18 18 53.3 -3.1**
ZEI pmax pmax
comp=Z,176nm,1.0s
SRO Srobarova 80.53 352 *e*P **P 18 18 56.7 +0.7**
SRO pmax pmax
comp=Z,130nm,1.2s
SRO Srobarova 80.53 352 *e*P **P 18 18 56.7 +0.7**
BFO Black Forest 80.55 358 P **P 18 18 54.2 -2.0**
BFO pmax pmax
comp=Z,186nm,1.1s
BFO MLR MLR
comp=Z,9μm,21.0s
BFO Black Forest 80.55 358 P **P 18 18 54.2 -2.0**
BFO IAmb IAmb 18 19 17.7
comp=Z,186nm,1.1s
BFO IAMs_20 IAMs_20 19 01 43.1
comp=Z,9μm,21.0s
BFO Black Forest 80.55 358 *e*P **P 18 18 56.2 0.0**
comp=Z,237nm,1.4s,baz=3.8,slow=5.5
JHSG JHARSUGUGA 80.57 293 *e*P **P 18 18 56.0 -0.6**
SRO2 Moca 80.58 352 *e*P **P 18 18 56.5 +0.3**
SRO2 pmax pmax
comp=Z,67nm,0.7s
SRO2 Moca 80.58 352 *e*P **P 18 18 56.5 +0.3**
LEOM Leova 80.58 345⇓P **P 18 18 57.0 +0.7**
LTVH Ltavrtes, Hu 80.58 349 P **P 18 18 56.7 +0.5**
JHNI Jhansi 80.60 299⇑*i*P **P 18 18 55.0 -1.7**
CONA Conrad Observa 80.62 353 *i*P **P 18 18 56.4 -0.2**
comp=Z,92nm,0.6s,SNR=82

FUR Furstenfeldbru 80.64 356 *e*P **P 18 18 56.5 -0.1**
comp=Z,211nm,1.1s,baz=3.8,slow=5.5
ECH Echery 80.68 359 P **P 18 18 55.8 -1.1**
ECH pmax pmax
comp=Z,235nm,0.9s
ECH MLR MLR
comp=Z,9µm,20.0s
ECH Echery 80.68 359 P **P 18 18 55.8 -1.1**
ECH IAmb IAmb 18 19 01.8
comp=Z,235nm,0.9s
ECH IAMs_20 IAMs_20 18 59 31.5
comp=Z,9µm,20.0s
MESR Meseseni 80.69 348 ⇑P **P 18 18 57.7 +0.8**
BUD Budapest 80.79 351 P **P 18 18 57.1 -0.3**
TESR Tescani 80.79 346 ⇓P **P 18 18 57.1 -0.4**
MOA Molln 80.80 354 *i* P **P 18 18 57.2 -0.4**
comp=Z,116nm,1.2s,SNR=22
SOP Sopron 80.81 353 P **P 18 18 57.9 +0.4**
CLF Chambon-Foret 80.82 3 P **P 18 18 56.8 -0.8**
CLF IAmb IAmb 18 19 02.5
comp=Z,300nm,1.0s
CLF IAMs_20 IAMs_20 19 01 54.3
comp=Z,10µm,19.0s
BSZH Besenyszg 80.85 350 ⇑P **P 18 18 59.4 +1.7**
BSZH Besenyszg 80.85 350 P **P 18 19 00.1 +2.4**
BIR Birlad 80.88 345 ⇓P **P 18 18 59.4 +1.5**
BORR Bors 80.89 349 ⇓P **P 18 18 57.6 -0.3**
SOC Sochi 80.92 336 *e*P **P 18 18 56.9 -1.3**
SOC *e**PP **sP 18 19 02.9 -0.8**
SOC *e**SP **PcP 18 19 05.8 +1.1**
SOC *e* 18 22 01.6
SOC *e*PPP PPP 18 23 48.3
SOC *e*S **S 18 29 06.2 +0.3**
SOC pmax pmax
comp=Z,133nm,0.8s
SOC MLR MLR
comp=Z,17µm,20.0s
SIM Simferopol' 80.94 340 P **P 18 18 57.1 -1.2**
SIM pmax pmax
comp=Z,309nm,1.1s
SIM MLR MLR
comp=Z,3µm,25.0s
CSKK Cskako 80.98 352 P **P 18 18 58.3 -0.1**
CBBR Cluj-Babes-Bol 80.98 348 ⇓P **P 18 18 59.1 +0.6**
RJOB Jochberg 81.00 355 *e*P **P 18 18 58.5 -0.1**
comp=Z,500nm,2.4s,baz=3.8,slow=5.5
BIOA Bad Ischl, Aus 81.00 355 *e*P **P 18 18 58.5 -0.1**
comp=Z,194nm,1.2s
MMRI Maumere 81.01 244 P **P 18 18 56.8 -2.1**
MMRI IAmb IAmb 18 19 32.6
comp=Z,237nm,1.2s
EGYH Egyhazaskeszo 81.01 352 P **P 18 18 59.0 +0.4**
CJR Cluj-Napoca 81.03 348 ⇓P **P 18 19 00.8 +2.0**
ORTG Ortega, Santa 81.03 85 P **P 18 18 57.6 -1.6**
ORTG IAmb IAmb 18 19 17.7
comp=Z,197nm,1.6s
DRGR 81.07 349 ⇓P **P 18 18 59.0 0.0**
GHRR 81.11 345 ⇓P **P 18 18 59.9 +0.8**
SRIT Nakonsritamara 81.14 273 P **P 18 18 59.0 -0.7**
SRIT IAmb IAmb 18 19 20.3
comp=Z,242nm,1.3s
UBR Ueberruh 81.16 357 *e*P **P 18 18 59.4 -0.1**
comp=Z,253nm,1.4s,baz=3.8,slow=5.5
VARL Varlezi 81.20 345 ⇑P **P 18 19 00.3 +0.7**
VLDR Vladesti 81.22 345 ⇓P **P 18 18 60.0 +0.3**
MPLH Magyarpolny 81.24 352 P **P 18 18 59.8 0.0**
ARSA Arzberg 81.32 354 *i* P **P 18 19 00.0 -0.2**
comp=Z,73nm,0.7s,SNR=24
HRA Herat 81.33 316 P **P 18 19 00.2 -0.5**
HRA IAmb IAmb 18 19 19.5
comp=Z,321nm,1.2s
OZUR 81.33 346 ⇓P **P 18 19 01.2 +0.8**
RETA Reutte 81.33 357 *i* P **P 18 19 00.3 -0.1**
comp=Z,152nm,1.1s,SNR=42
PANC Panciu 81.34 345 ⇓P **P 18 19 00.9 +0.5**
SCTR Scanteiesti 81.39 345 ⇑P **P 18 19 01.6 +0.9**
VRI Vrincioaia 81.41 346 ⇓P **P 18 19 00.9 +0.1**
PLOR Plostina 81.44 346 ⇓P **P 18 19 01.1 +0.2**
WATA Walderalm 81.45 356 *i* P **P 18 19 01.1 0.0**
comp=Z,215nm,1.1s,SNR=55
ODBI Odobesti 81.46 345 ⇑P **P 18 19 02.6 +1.6**
TATR Tatarca 81.46 345 ⇑P **P 18 19 01.9 +0.9**
MOTA Moosalm 81.46 357 *i* P **P 18 19 01.0 -0.2**
comp=Z,287nm,1.1s,SNR=95
TIH Tihany 81.48 352 P **P 18 19 00.8 -0.3**
COVR Voineasa-Covas 81.51 346 ⇑P **P 18 19 02.6 +1.2**
SLCR Slobozia Conac 81.51 345 ⇓P **P 18 19 01.9 +0.7**
DOPR Dopca 81.52 347 ⇓P **P 18 19 02.0 +0.7**
WTTA Wattenberg 81.52 356 *i* P **P 18 19 01.7 +0.1**
comp=Z,231nm,1.1s,SNR=50
IZVR Izvoarele 81.56 345 ⇓P **P 18 19 03.7 +2.2**
DAVA Damuels 81.56 357 *i* P **P 18 19 01.4 -0.4**
comp=Z,119nm,0.9s,SNR=49
SQTA Sankt Quirin 81.58 356 *e*P **P 18 19 01.9 +0.1**
comp=Z,199nm,1.1s,SNR=56
SCHL Schela 81.59 345 ⇑P **P 18 19 02.7 +1.1**
JBP Jabalpur 81.62 297 *e*P **P 18 19 01.5 -0.7**
JBP IAmb IAmb 18 19 05.8
comp=Z,556nm,1.1s
JBP *e*S **S 18 29 16.6 +2.9**
KBA Koelnbreinsper 81.62 355 *i* P **P 18 19 02.4 +0.3**
comp=Z,410nm,0.8s,SNR=150
SIRR Siria 81.71 349 ⇑P **P 18 19 02.3 -0.1**
AMBH Ambrzfalva 81.74 350 P **P 18 19 01.9 -0.5**
DGPR DIGLIPUR 81.75 281 *e*P **P 18 19 02.4 -0.6**
DGPR IAmb IAmb 18 19 11.3
comp=Z,298nm,0.7s
CAO2 Cobano, Puntar 81.77 85 P **P 18 19 02.5 -0.6**
FETA Feichten 81.80 357 *i* P **P 18 19 03.2 +0.2**
comp=Z,292nm,1.0s,SNR=132
CFR Carcaliu 81.85 344 ⇓P **P 18 19 03.2 +0.2**
AJM Ajmer 81.88 303 ⇑*i*P **P 18 19 03.1 -0.5**
MLR Muntele Rosu 81.90 346 ⇑P **P 18 19 04.9 +1.4**
MLR Muntele Rosu 81.90 346 S **S 18 29 20.8 +4.5**
comp=Z,4.0nm,1.1s,baz=91,slow=23,SNR=1.7
MLR LR LR 19 02 04.0
comp=Z,10µm,18.3s,baz=34,slow=41
MLR Muntele Rosu 81.90 346 P **P 18 19 03.5 0.0**
MLR pmax pmax
comp=Z,166nm,0.9s
MLR Muntele Rosu 81.90 346 P **P 18 19 03.5 0.0**
MLR IAmb IAmb 18 19 08.5
comp=Z,166nm,0.9s
MLR IAMs_20 IAMs_20 19 02 18.9
comp=Z,13µm,20.0s
NEHR Nehoiu 81.91 346 ⇓P **P 18 19 05.3 +1.9**
AKH Akhalkalaki 81.92 333 ⇑P **P 18 19 04.7 +1.0**
SOKA Soboth 81.92 354 *e*P **P 18 19 03.5 0.0**
comp=Z,190nm,0.9s,SNR=48
PERS Pernice 81.96 354 *e*P **P 18 19 03.7 0.0**
ABTA Abfaltersbach 82.00 356 *e*P **P 18 19 04.1 +0.1**
comp=Z,100nm,0.8s,SNR=34
MYKA Terra Mystica 82.06 355 *i* P **P 18 19 04.1 -0.2**
comp=Z,77nm,1.3s,SNR=11
DAVOX Davos/Dischmat 82.07 357 S **S 18 29 15.7 -2.4**
comp=Z,2.3nm,0.8s,baz=180,slow=16,SNR=2.2
DAVOX PKPPKP 18 45 41.2
comp=Z,0.8nm,0.3s,baz=209,slow=10,SNR=3.0
DAVOX LR LR 18 54 38.2
comp=Z,5µm,21.7s,baz=26,slow=35
JACO JACO, Garabito 82.07 85 P **P 18 19 03.7 -1.0**
JACO IAmb IAmb 18 19 46.8
comp=Z,137nm,1.1s
VOIR 82.08 347 ⇓P **P 18 19 04.8 +0.4**
MORH Mrgy, Hungar 82.09 351 ⇑*i*P **P 18 19 03.2 -1.1**
MORH Mrgy, Hungar 82.09 351 P **P 18 19 03.0 -1.3**
GROS Grobnik 82.10 353 *i* P **P 18 19 04.2 -0.3**
OBKA Obir 82.12 354 *i* P **P 18 19 04.5 -0.1**
comp=Z,72nm,0.6s,SNR=20
JURR Jurilovca 82.13 344 ⇑P **P 18 19 05.3 +0.8**
LOT Lotru 82.25 348 ⇑P **P 18 19 06.0 +0.7**
KOVH Kovagotottos 82.26 352 P **P 18 19 04.2 -1.0**
PGOR Pogoanele 82.31 345 ⇓P **P 18 19 06.8 +1.3**
SECR 82.32 346 ⇑P **P 18 19 05.9 +0.3**
BZS Buzias 82.36 349 ⇑P **P 18 19 05.4 -0.4**
KALN Kalnik 82.36 353 *i* P **P 18 19 05.1 -0.7**
HARR Harsova 82.36 344 ⇓P **P 18 19 05.8 +0.1**
LOBO Lobor 82.37 353 *i* P **P 18 19 05.3 -0.5**
TUE Stuetta 82.39 358 P **P 18 19 05.4 -0.8**
TUE IAMs_20 IAMs_20 18 56 27.7
comp=Z,10µm,22.0s
PBKI Pangkalan Bun 82.45 256 P **P 18 19 08.4 +1.8**
CADS Cadrg 82.45 355 *e*P **P 18 19 05.1 -1.2**
CADS *e* 18 35 14.8

QIS Mount Isa 82.46 223 P **P 18 19 10.1 +3.7**
EIDS Eidsvold 82.47 212 P **P 18 19 07.5 +1.1**
EIDS Eidsvold 82.47 212 P **P 18 19 09.8 +3.4**
TIRR Tirgusor 82.51 344 ⇓P **P 18 19 07.1 +0.6**
TIRR Tirgusor 82.51 344 P **P 18 19 05.8 -0.7**
TIRR pmax pmax
comp=Z,761nm,0.7s
TIRR MLR MLR
comp=Z,46µm,21.0s
TIRR Tirgusor 82.51 344 P **P 18 19 05.8 -0.7**
SENIN Lac Senin/Sane 82.53 359 P **P 18 19 06.5 -0.4**
SENIN IAMs_20 IAMs_20 19 02 22.5
comp=Z,9µm,18.0s
AMRR Amara 82.54 345 ⇓P **P 18 19 07.2 +0.5**
LJU Ljubljana 82.58 354 *e*P **P 18 19 07.3 +0.4**
LJU Ljubljana 82.58 354 *e*S **S 18 29 26.5 +3.4**
LJU *e* 18 30 30.2
LJU *e* 18 35 14.2
SULR 82.64 346 ⇑P **P 18 19 07.9 +0.7**
STFAR Stefanesti-Arg 82.66 347 ⇓P **P 18 19 07.9 +0.6**
ZAG Zagreb 82.70 353 *e*P **P 18 19 08.9 +1.4**
GNI Garni 82.71 331 P **P 18 19 08.2 +0.3**
comp=Z,44nm,1.0s,baz=12,slow=6.2,SNR=26
GNI S **S 18 29 30.4 +5.5**
comp=Z,2.9nm,0.3s,baz=133,slow=17,SNR=1.2
GNI LR LR 19 02 47.3
comp=Z,17µm,19.8s,baz=10.0,slow=41
GNI Garni 82.71 331 P **P 18 19 07.9 0.0**
GNI IAmb IAmb 18 19 42.2
comp=Z,370nm,1.4s
GNI Garni 82.71 331 P **P 18 19 08.6 +0.7**
GNI P **P 18 19 08.6 +0.7**
GNI Garni 82.71 331 P **P 18 19 07.8 -0.1**
RAGD RAYAGADA 82.72 292 *e*P **P 18 19 07.8 -0.2**
CTI Castel Tesino 82.73 356 P **P 18 19 06.3 -1.5**
CTI pmax pmax
comp=Z,184nm,1.3s
CTI Castel Tesino 82.73 356 P **P 18 19 06.3 -1.5**
CTI IAmb IAmb 18 19 29.4
comp=Z,184nm,1.3s
CRES Cresnjev 82.74 353 ⇑*i*P **P 18 19 06.7 -1.0**
LEHL Lehliu 82.75 345 ⇑P **P 18 19 08.9 +1.1**
KARS Kars 82.76 332 P **P 18 19 07.6 -0.5**
KARS pmax pmax
comp=Z,638nm,1.3s
KARS Kars 82.76 332 P **P 18 19 07.6 -0.5**
CEY Cerknica 82.90 354 ⇑*i*P **P 18 19 07.5 -1.1**
ICOR Ion Corvin 82.94 344 P **P 18 19 10.0 +1.2**
OZLJ Ozalj 82.95 353 *i* P **P 18 19 09.4 +0.7**
SDDR Presa de Saban 82.95 68 IAMs_20 IAMs_20 18 56 52.2
comp=Z,15µm,21.0s
RASA Rasa 82.95 345 ⇑P **P 18 19 09.4 +0.6**
TRI Trieste 82.97 355 P **P 18 19 08.1 -0.8**
TRI pmax pmax
comp=Z,81nm,1.1s
TRI Trieste 82.97 355 P **P 18 19 08.1 -0.8**
BHPL Bhopal 82.98 299 ⇑*i*P **P 18 19 08.5 -0.9**
BHPL IAmb IAmb 18 19 11.9
comp=Z,417nm,0.8s
HERR Herculane 82.98 348 ⇓P **P 18 19 08.7 -0.3**
BUC1 Bucharest 83.00 346 P **P 18 19 09.9 +0.8**
FRGS Fruska Gora 83.02 350 ⇑P **P 18 19 08.4 -0.8**
FRGS Fruska Gora 83.02 350 ⇑*i*P **P 18 19 07.3 -1.9**
KULM Kulim 83.04 270 P **P 18 19 08.5 -1.2**
KULM IAmb IAmb 18 19 27.9
comp=Z,97nm,0.9s
PBA Port Blair 83.05 280 P **P 18 19 07.7 -2.0**
PBA Port Blair 83.05 280 *e*P **P 18 19 07.9 -1.8**
PBA Port Blair 83.05 280 P **P 18 19 08.5 -1.3**
SNR=44
MANR Mangalia 83.10 344 ⇓P **P 18 19 10.7 +1.1**
SRE Strehaia 83.10 348 P **P 18 19 10.0 +0.4**
SKDS Skadanscina 83.11 354 *e*P **P 18 19 08.0 -1.7**
SGRR Singureni 83.13 346 ⇑P **P 18 19 09.8 0.0**
MDVR Moldovita 83.17 349 ⇑P **P 18 19 09.6 -0.4**
SALO Salr 83.21 357 P **P 18 19 09.1 -1.1**
SALO IAmb IAmb 18 19 14.6
comp=Z,177nm,0.9s
SRBA San Rafael, Bu 83.21 84 P **P 18 19 08.8 -2.0**
DRK0 Durika 83.26 84 P **P 18 19 09.3 -1.8**
PSN Preselentsi 83.30 344 P **P 18 19 11.0 +0.4**
RIY Rijeka 83.30 354 ⇑*i*P **P 18 19 09.8 -0.8**
RIY Rijeka 83.30 354 P **P 18 19 11.5 +0.8**
COPA Copaceanca 83.33 346 P **P 18 19 10.0 -0.8**
KTUT Trabzon 83.34 335 P **P 18 19 11.0 +0.1**
KNRA Kununurra 83.35 235 P **P 18 19 09.6 -1.5**
KNRA Kununurra 83.35 235 P **P 18 19 15.4 +4.3**
TEOL Teolo 83.42 356 P **P 18 19 09.6 -1.7**
IPM Ipoh 83.43 269 P **P 18 19 09.9 -1.8**
IPM IAmb IAmb 18 19 29.4
comp=Z,110nm,0.9s
IPM IAMs_20 IAMs_20 18 58 52.3
comp=Z,8µm,20.0s
IPM Ipoh 83.43 269 P **P 18 19 15.7 +3.9**
BLJ Bijeljina 83.44 351 *e*P **P 18 19 11.9 +0.6**
PUNG Punghina 83.51 348 P **P 18 19 11.4 -0.3**
H07N1 FLORES T-PHASE 83.57 28 P **P 18 19 12.6 +0.5**
VLAD Vladila 83.58 347 P **P 18 19 12.6 +0.5**
SMRN Sveta Marina 83.61 354 *i* P **P 18 19 10.9 -1.3**
SSB Saint Sauveur 83.61 1 P **P 18 19 10.8 -1.5**
SSB pmax pmax
comp=Z,134nm,1.3s
SSB MLR MLR
comp=Z,11µm,19.0s
SSB Saint Sauveur 83.61 1 P **P 18 19 10.8 -1.5**
SSB IAmb IAmb 18 19 19.9
comp=Z,134nm,1.3s
SSB Saint Sauveur 83.61 1 IAMs_20 IAMs_20 19 03 49.2
comp=Z,11µm,19.0s
BLY Banja Luka 83.67 352 ⇑*i*P **P 18 19 11.7 -0.9**
PLAI Plampang 83.71 247 P **P 18 19 12.9 -0.1**
comp=Z,8µmcomp=Z,2µmcomp=Z,192nm,1.4s
PLAI Plampang 83.71 247 P **P 18 19 15.6 +2.5**
BAIL Bailesti 83.71 348 ⇓P **P 18 19 12.8 +0.1**
MYKOM Kota Tinggi 83.75 265 P **P 18 19 12.3 -1.0**
MYKOM IAMs_20 IAMs_20 18 55 34.1
comp=Z,9µm,21.0s
BRJN Brijuni 83.77 355 *i* P **P 18 19 12.2 -0.8**
BZK Bozkurt 83.82 339 P **P 18 19 14.9 +1.5**
BZK Bozkurt 83.82 339 P **P 18 19 12.5 -0.9**
H07S1 FLORES T-PHASE 83.84 28 P **P 18 19 14.6 +1.1**
SNR=27
BNI Bardonecchia 83.85 360 P **P 18 19 12.2 -1.4**
BNI pmax pmax
comp=Z,650nm,1.6s
BNI MLR MLR
comp=Z,9µm,19.0s
BNI Bardonecchia 83.85 360 P **P 18 19 12.2 -1.4**
BNI IAMs_20 IAMs_20 19 03 47.3
comp=Z,9µm,19.0s
RABC Rab 83.86 354 *i* P **P 18 19 14.3 +0.8**
PRD Provadia 83.90 344 P **P 18 19 14.0 +0.3**
UDBI Udbina 84.01 353 *i* P **P 18 19 14.4 0.0**
MGRS Mrkonjic Grad 84.01 352 *e*P **P 18 19 16.2 +1.9**
NVLJ Novalja 84.04 354 *i* P **P 18 19 13.8 -0.5**
DIVS Divibare 84.04 350 P **P 18 19 13.3 -1.2**
DIVS IAmb IAmb 18 19 21.6
comp=Z,191nm,1.1s
DIVS IAMs_20 IAMs_20 18 57 18.6
comp=Z,17µm,22.0s
DIVS Divibare 84.04 350 ⇑*i*P **P 18 19 14.0 -0.6**
PRMA PARMA 84.07 357 P **P 18 19 13.3 -1.2**
SZH Strazhica 84.07 346 P **P 18 19 14.0 -0.6**
WB0 Warramunga Arr 84.09 228 P **P 18 19 12.2 -2.7**
WB0 IAmb IAmb 18 19 32.8
comp=Z,189nm,1.6s
WR0 Warramunga Arr 84.19 228 P **P 18 19 12.7 -2.7**
WR0 IAmb IAmb 18 19 33.2
comp=Z,180nm,1.6s
DR12 Loma Pena Alta 84.20 67 P **P 18 19 13.6 -2.2**
WRAB Tennant Creek 84.26 228 *de*P **P 18 19 16.2 +0.5**
WRAB pmax pmax
comp=Z,54nm,1.4s
WRAB Tennant Creek 84.26 228 P **P 18 19 13.3 -2.4**
WRAB IAmb IAmb 18 19 33.6
comp=Z,114nm,1.3s
WRAB Tennant Creek 84.26 228 P **P 18 19 18.0 +2.3**
WB2 Warramunga Arr 84.27 228 P **P 18 19 13.1 -2.7**
WB2 IAmb IAmb 18 19 33.7
comp=Z,142nm,1.4s
WRA Warramunga Arr 84.27 228 P **P 18 19 13.7 -2.1**
comp=Z,14nm,0.9s,baz=35,slow=5.7,SNR=42
WRA S **S 18 29 39.4 -1.1**
comp=Z,1.0nm,1.2s,baz=346,slow=4.8,SNR=1.6
WRA LR LR 18 52 11.8
comp=Z,5µm,21.3s,baz=30,slow=32
WRA Warramunga Arr 84.27 228 *i* P **P 18 19 13.8 -2.0**
WRA pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 84.27 228 P **P 18 19 13.2 -2.5**
RMQ Roma 84.28 213 P **P 18 19 18.1 +2.4**
comp=Z,107nm,1.1s
BOVS Bovan 84.30 349 P **P 18 19 15.2 -0.6**
BBLS Lazići 84.33 350 ⇑*i*P **P 18 19 15.8 -0.3**
ZCCA Zocca 84.46 356 P **P 18 19 14.1 -2.6**
KIJV Kijevo 84.48 353 *i* P **P 18 19 16.7 0.0**
KMMI Kalianget 84.51 252 P **P 18 19 18.3 +1.1**
MSSA Maissana 84.54 358 P **P 18 19 14.3 -2.8**
MSSA IAmb IAmb 18 19 19.0
comp=Z,116nm,0.8s
RUDO Rudo 84.58 350 ⇑*i*P **P 18 19 16.5 -0.7**
DUGI Dugi Otok 84.59 353 *i* P **P 18 19 16.7 -0.6**
MORI Morici 84.67 353 *i* P **P 18 19 17.3 -0.3**
ILGA Ilgaz 84.75 339 P **P 18 19 17.6 -0.8**
JMB Yambol 84.75 345 P **P 18 19 17.0 -1.1**
TOKA Tokat 84.80 337 P **P 18 19 16.9 -1.5**
TOKA IAmb IAmb 18 19 23.5
comp=Z,206nm,1.0s
PLE Pljevlja 84.87 350 ⇑*i*P **P 18 19 18.8 0.0**
ZIRJ Zirje 84.89 353 *i* P **P 18 19 18.1 -0.6**
GEVA Gevas 84.91 332 P **P 18 19 17.7 -1.4**
RICI Ricice 84.92 352 P **P 18 19 18.2 -0.7**
KDZE Karadeniz Ereo 84.98 341 ⇓P **P 18 19 20.8 +1.5**
GURO Guroymak-BITLI 84.99 332 P **P 18 19 18.1 -1.4**
GURO IAmb IAmb 18 19 42.5
comp=Z,156nm,1.3s
PGB Panagyurishte 85.04 347 P **P 18 19 19.0 -0.6**
UPM Unac-Piva 85.04 351 *e*P **P 18 19 21.0 +1.2**
UPM Unac-Piva 85.04 351 ⇑*i*P **P 18 19 19.6 -0.2**
VTS Vitosha 85.10 347 ⇓P **P 18 19 19.9 -0.2**
VTS Vitosha 85.10 347 P **P 18 19 17.5 -2.6**
VTS pmax pmax
comp=Z,187nm,1.0s
VTS Vitosha 85.10 347 P **P 18 19 17.4 -2.6**
VTS IAmb IAmb 18 19 24.3
comp=Z,187nm,1.0s
VTS Vitosha 85.10 347 P **P 18 19 19.0 -1.1**
MAKA Makarska 85.14 352 *i* P **P 18 19 18.6 -1.4**
AKL Akola 85.23 297 ⇑*i*P **P 18 19 20.0 -0.8**
IVA Berane 85.27 350 ⇑*i*P **P 18 19 20.2 -0.6**
OSSC Osservatorio P 85.27 356 P **P 18 19 19.3 -1.4**
HVAR Hvar 85.29 352 *i* P **P 18 19 20.4 -0.3**
DIM Dimitrovgrad 85.32 346 P **P 18 19 22.0 +1.1**
EDRB Edirne 85.33 345 P **P 18 19 20.8 -0.2**
KOME Kolasin 85.33 350 ⇑*i*P **P 18 19 20.3 -0.8**
BRY Bratogost 85.38 351 ⇑*i*P **P 18 19 21.2 -0.2**
BRY Bratogost 85.38 351 ⇑*i*P **P 18 19 20.4 -1.0**
LHMI Lhok Sumawe 85.40 273 P **P 18 19 33.2 +11**
LHMI Lhok Sumawe 85.40 273 P **P 18 19 25.3 +3.6**
NKME Niksic 85.47 351 ⇑*i*P **P 18 19 20.8 -0.9**
MURB Monte Urbino 85.47 355 P **P 18 19 19.9 -1.9**
STON Ston 85.49 351 ⇑*i*P **P 18 19 20.3 -1.4**
STON Ston 85.49 351 *i* P **P 18 19 20.6 -1.1**
PVY Plav 85.53 350 ⇑*i*P **P 18 19 21.3 -0.9**
JAGI Jajag, Banyuwa 85.54 251 P **P 18 19 19.7 -2.6**
JAGI IAmb IAmb 18 20 04.2
comp=Z,103nm,1.1s
TREB Trebinje 85.58 351 ⇑*i*P **P 18 19 22.8 +0.6**
DBRK Dubrovnik 85.65 351 *i* P **P 18 19 21.2 -1.4**
LSTV Lastovo 85.66 352 *i* P **P 18 19 21.3 -1.4**
ISK Istanbul-Kandi 85.68 343 P **P 18 19 22.2 -0.5**
CEME Cevo 85.69 351 ⇑*i*P **P 18 19 22.1 -0.8**
BCI Bajram Curri 85.75 350 *i* P **P 18 19 23.0 -0.1**
PDG Podgorica 85.77 350 ⇓P **P 18 19 22.9 -0.2**
PDG Podgorica 85.77 350 P **P 18 19 21.1 -2.1**
PDG IAMs_20 IAMs_20 19 01 01.3
comp=Z,14µm,20.0s
PDG Podgorica 85.77 350 ⇑*i*P **P 18 19 22.3 -0.9**
TTG Podgorica 85.77 350 ⇑*i*P **P 18 19 22.6 -0.6**
RZN Rozhen 85.80 346 P **P 18 19 21.0 -2.6**
HCY Herceg Novi 85.83 351 ⇑*i*P **P 18 19 23.6 +0.1**
HCY Herceg Novi 85.83 351 ⇑*i*P **P 18 19 23.2 -0.3**
MDUB Mudurnu 85.84 341 P **P 18 19 22.8 -0.9**
KKB Krupnik 85.86 347 P **P 18 19 23.0 -0.7**
NRCA Norcia 85.87 355 P **P 18 19 22.0 -1.8**
BJM Brajici-Budva 85.94 350 ⇑*i*P **P 18 19 24.0 -0.1**
SKO Skopje 85.97 349 *i* P **P 18 19 24.3 +0.1**
SKO *i* S S 18 30 12.3 +15
CASP Castiglione de 86.02 356 P **P 18 19 22.7 -1.7**
CASP IAmb IAmb 18 19 27.7
comp=Z,165nm,1.1s
DRME Dracevica, Mon 86.02 350 ⇑*i*P **P 18 19 23.9 -0.5**
DRME Dracevica, Mon 86.02 350 ⇑*i*P **P 18 19 24.0 -0.5**
BR131 Keskin Array S 86.03 339 P **P 18 19 23.5 -1.2**
BR131 pmax pmax
comp=Z,288nm,1.2s
BR131 Keskin Array S 86.03 339 P **P 18 19 23.5 -1.2**
BRTR Keskin Array B 86.03 339 P **P 18 19 24.3 -0.5**
comp=Z,75nm,0.8s,baz=27,slow=0.8,SNR=104
BRTR PP **PP 18 22 43.2 -0.7**
comp=Z,9.3nm,0.9s,baz=22,slow=6.4,SNR=4.1
BRTR PKKPbc **PKKPbc 18 37 22.3 +0.1**
comp=Z,1.8nm,1.0s,baz=178,slow=4.7,SNR=5.6
BRTR PKPPKP P'P'df 18 45 19.8 -17
comp=Z,2.6nm,1.1s,baz=141,slow=50,SNR=6.0
BRTR LR LR 19 00 39.1
comp=Z,8µm,21.9s,baz=27,slow=38
BRTR Keskin Array B 86.03 339 *i* P **P 18 19 24.1 -0.6**
BRTR pmax pmax
comp=Z,75nm,0.8s
BRTR Keskin Array B 86.03 339 P **P 18 19 23.5 -1.2**
MMB Musomiste 86.04 347 P **P 18 19 24.0 -0.6**
PSI Prapat 86.04 270 LR LR 19 03 49.6
comp=Z,4µm,18.0s,baz=26,slow=40
AOPR Arecibo Observ 86.06 65 P **P 18 19 24.0 -1.0**
AOPR IAmb IAmb 18 19 42.6
comp=Z,128nm,0.8s
AOPR Arecibo Observ 86.06 65 *e*P P 18 19 16.4 -8.6
ANTO Ankara 86.08 340 P **P 18 19 24.5 -0.4**
ANTO pmax pmax
comp=Z,174nm,1.2s
ANTO MLR MLR
comp=Z,10µm,22.0s
ANTO Ankara 86.08 340 P **P 18 19 24.4 -0.4**
ANTO IAmb IAmb 18 19 29.9
comp=Z,174nm,1.1s
ANTO IAMs_20 IAMs_20 19 01 13.0
comp=Z,11µm,22.0s
PGAV Gavieira, Arco 86.10 11 *e*P **P 18 19 25.7 +0.7**
comp=Z,70nm,1.8s
PGAV Gavieira, Arco 86.10 11 *e*S **S 18 29 59.1 +0.6**
PGAV Gavieira, Arco 86.10 11 *e*LR LR 18 54 51.9
comp=Z,11µm,20.0s
BR231 Keskin MP Arra 86.11 340 P **P 18 19 24.7 -0.3**
BR231 IAmb IAmb 18 19 30.1
comp=Z,169nm,1.1s
CRPR Cabo Rojo, PR 86.13 66 P **P 18 19 24.2 -1.1**
CRPR IAmb IAmb 18 19 45.8
comp=Z,108nm,1.1s
STIP Stip 86.15 348 *i* P **P 18 19 24.1 -1.0**
STIP *i* S **S 18 29 50.6 -8.2**
RDO Rodhopi 86.21 345 P **P 18 19 25.2 -0.1**
ULC Ulcinj 86.23 350 ⇑*i*P **P 18 19 25.3 -0.2**
AQU L'Aquila 86.33 355 P **P 18 19 25.1 -0.9**
AQU pmax pmax
comp=Z,226nm,0.9s
AQU MLR MLR
comp=Z,8µm,21.0s
AQU L'Aquila 86.33 355 P **P 18 19 25.1 -0.9**
AQU L'Aquila 86.33 355 ⇑*i*P **P 18 19 26.3 +0.3**
BNN Bunyan 86.35 337 P **P 18 19 25.2 -1.1**
ALN Alexandroupoli 86.37 345 P **P 18 19 25.2 -0.9**
ALN Alexandroupoli 86.37 345 P **P 18 19 24.9 -1.2**
ALN pmax pmax
comp=Z,152nm,1.1s
ALN Alexandroupoli 86.37 345 P **P 18 19 24.9 -1.2**
ALN IAmb IAmb 18 19 33.3
comp=Z,152nm,1.1s
CELP Cerrillos 86.38 65 P **P 18 19 25.8 -0.7**
CELP IAmb IAmb 18 19 49.6
comp=Z,192nm,1.2s
PHP Peshkopia 86.38 349 P **P 18 19 25.2 -1.1**
PHP Peshkopia 86.38 349 *i* P **P 18 19 26.8 +0.5**
PCAB Cabril 86.38 11 *e*P **P 18 19 27.0 +0.7**
comp=Z,79nm,1.4s
OBIP Obispado Ponce 86.39 66 P **P 18 19 26.1 -0.4**

PBRG **Braganca** 86.43 10 *e*P P 18 19 26.2 -0.3
comp=Z,96nm,1.3s
VAY **Valandovo** 86.47 348 *i* P P 18 19 26.7 +0.1
VAY *i* S S 18 30 04.4 +2.5
GCPR **Guaynabo City** 86.47 65 P P 18 19 25.3 -1.7
GCPR IAmb IAmb 18 19 44.8
comp=Z,206nm,1.0s
MARD **Mardin** 86.50 333 P P 18 19 26.2 -0.8
ENEZ **Enez** 86.51 345 P P 18 19 26.3 -0.5
KAVA **Kavala** 86.51 346 P P 18 19 26.0 -0.8
SRS **Serrai** 86.53 347 P P 18 19 26.3 -0.7
PAYG **Puerto Ayora** 86.55 95 IAMs_20 IAMs_20 18 53 26.3
comp=Z,11µm,18.0s
ICMP **Isla Caja de M** 86.56 66 P P 18 19 26.3 -1.1
BORA **Eskisehir** 86.56 341 P P 18 19 26.4 -0.9
KNT **Kendrikon** 86.58 347 P P 18 19 26.9 -0.3
SJG **San Juan** 86.59 65 LR LR 18 58 00.7
comp=Z,10µm,21.5s,baz=312,slow=36
SJG **San Juan** 86.59 65 P P 18 19 27.2 -0.4
SJG pmax pmax
comp=Z,203nm,1.3s
SJG MLR MLR
comp=Z,18µm,20.0s
SJG **San Juan** 86.59 65 P P 18 19 27.1 -0.4
SJG IAmb IAmb 18 19 48.3
comp=Z,203nm,1.3s
SJG **San Juan** 86.59 65 *e*P P 18 19 31.7 +4.1
SMRI **Semarang** 86.62 254 P P 18 19 26.6 -1.2
SMRI IAmb IAmb 18 20 11.9
comp=Z,134nm,1.0s
BKNI **Bangkinang** 86.64 266 P P 18 19 26.2 -1.6
POLO **Lamas de Olo** 86.74 10 *e*P P 18 19 27.9 -0.2
comp=Z,43nm,1.0s
KOKK **Kokkinochori,** 86.76 346 P P 18 19 26.9 -1.2
SGRT **San Giovanni R** 86.77 353 P P 18 19 26.4 -1.8
SGRT **San Giovanni R** 86.77 353 *i* P P 18 19 27.1 -1.1
TIR **Tirane** 86.77 350 ‖P P 18 19 28.5 +0.3
TIR **Tirane** 86.77 350 P P 18 19 27.4 -0.7
TIR **Tirane** 86.77 350 P P 18 19 27.6 -0.6
TIR pmax pmax
comp=Z,550nm,1.1s
TIR MLR MLR
comp=Z,20µm,22.0s
TIR **Tirane** 86.77 350 P P 18 19 27.6 -0.6
TIR **Tirane** 86.77 350 *i* P P 18 19 28.2 +0.1
PVRL **Vila Real** 86.85 10 *e*P P 18 19 28.7 +0.1
comp=Z,85nm,1.1s
GRG **Griva** 86.85 348 P P 18 19 28.2 -0.4
SOH **Sokhos** 86.85 347 P P 18 19 27.4 -1.2
THAS **Thassos island** 86.86 346 P P 18 19 27.7 -0.8
SMTH **Samothraki Isl** 86.87 345 P P 18 19 27.6 -1.0
PTO **Porto** 86.88 11 *e*P P 18 19 29.0 +0.4
comp=Z,98nm,1.1s
OHR **Ohrid** 86.90 349 *i* P P 18 19 28.6 -0.2
OHR *i* S S 18 29 54.8 -11
CMLA **Cha da Macela** 86.92 25 IAMs_20 IAMs_20 18 56 53.1
comp=Z,12µm,20.0s
MTP **Monte Pirata** 86.94 65 P P 18 19 28.6 -0.7
FITZ **Fitzroy Crossi** 86.98 236 LR LR 18 54 53.6
comp=Z,4µm,21.2s,baz=52,slow=33
HYB **Hyderabad** 86.99 294 *e*P P 18 19 28.1 -1.5
HYB IAmb IAmb 18 19 33.1
comp=Z,160nm,0.8s
HYBB **Hyderabad (bro** 86.99 294 *e*P P 18 19 28.3 -1.3
HYBB *e* 18 19 43.5
HYBB IVmB_BB 18 19 46.3
comp=Z,2µm,1.4s
HYBB *e*SKSac **SKSac** 18 29 50.4 -5.9
ARMA **Armidale** 87.00 209 P P 18 19 27.9 -1.3
ARMA IAmb IAmb 18 19 50.1
comp=Z,90nm,1.1s
ARMA **Armidale** 87.00 209 P P 18 19 32.8 +3.6
OUZ **Omahuta** 87.02 190 P P 18 19 28.0 -1.0
OUZ IAMs_20 IAMs_20 18 54 16.2
comp=Z,10µm,20.0s
MVO **Moncorvo** 87.03 10 *e*P P 18 19 29.4 -0.1
comp=Z,122nm,1.1s
MVO **Moncorvo** 87.03 10 *e*S S 18 30 07.3 -0.2
MVO **Moncorvo** 87.03 10 *e*LR LR 18 53 05.8
comp=Z,10µm,18.0s
STVI **Saint Thomas** 87.07 64 P P 18 19 28.2 -1.7
HORT **Hortiatis** 87.11 347 P P 18 19 28.4 -1.5
FNA **Florina** 87.15 348 P P 18 19 29.2 -0.9
FNA **Florina** 87.15 348 P P 18 19 28.2 -1.9
FNA pmax pmax
comp=Z,240nm,0.8s
FNA **Florina** 87.15 348 P P 18 19 28.1 -1.9
FNA **Florina** 87.15 348 *i* P P 18 19 28.8 -1.3
OUR **Ouranopolis** 87.24 346 P P 18 19 29.3 -1.1
UGM **Wanagama** 87.25 254 P P 18 19 34.7 +3.9
PLG **Polygyros** 87.28 347 P P 18 19 29.1 -1.6
EZN **Ezine** 87.37 345 P P 18 19 29.7 -1.3
PVIS **Viseu** 87.38 11 *e*P P 18 19 30.8 -0.4
comp=Z,99nm,0.9s
KBN **Korca** 87.38 349 P P 18 19 27.6 -3.6
KBN **Korca** 87.38 349 P P 18 19 29.0 -2.2
KBN pmax pmax
comp=Z,323nm,1.0s
KBN **Korca** 87.38 349 P P 18 19 29.0 -2.2
KBN **Korca** 87.38 349 *i* P P 18 19 28.8 -2.4
MRVN **Minervino Murg** 87.42 352 *i* P P 18 19 29.3 -2.0
KTI **Kastanea** 87.44 348 P P 18 19 33.0 +1.4
LIA **Limnos Island** 87.48 345 P P 18 19 29.0 -2.6
NEST **Nestorio** 87.56 349 P P 18 19 30.8 -1.3
KZN **Kozani** 87.57 348 P P 18 19 30.9 -1.2
PAOL **Paolisi** 87.57 354 P P 18 19 30.2 -1.9
PAOL IAmb IAmb 18 19 37.3
comp=Z,162nm,1.1s
CDVI **St. Croix** 87.66 64 *e*P P 18 19 41.1 +8.3
LIT **Litokhoron** 87.68 347 P P 18 19 31.4 -1.2
LIT **Litokhoron** 87.68 347 P P 18 19 30.7 -1.9
LIT pmax pmax
comp=Z,148nm,1.0s
LIT **Litokhoron** 87.68 347 P P 18 19 30.7 -1.9
LIT IAmb IAmb 18 19 36.4
comp=Z,148nm,1.0s
PAIG **Paliouri** 87.68 347 P P 18 19 31.2 -1.3
VLO **Vlora** 87.68 350 *i* P P 18 19 39.1 +6.5
AS31 **Alice Springs** 87.69 226 P P 18 19 31.2 -1.5
ASAR **Alice Springs** 87.69 226 P P 18 19 31.7 -1.0
comp=Z,31nm,1.0s,baz=30,slow=4.4,SNR=53
ASAR S S 18 30 01.6 -12
comp=Z,0.8nm,0.9s,baz=318,slow=3.0,SNR=1.7
ASAR PKKPbc **PKKPbc** 18 37 19.5 +0.3
comp=Z,1.1nm,0.7s,baz=194,slow=2.4,SNR=5.0
ASAR PKPPKP **P'P'df** 18 45 30.8 +6.8
comp=Z,0.9nm,1.0s,baz=202,slow=5.7,SNR=4.7
ASAR LR LR 18 54 22.8
comp=Z,5µm,21.5s,baz=34,slow=33
ASAR **Alice Springs** 87.69 226 P P 18 19 31.6 -1.1
MTE **Manteigas** 87.73 10 *e*P P 18 19 32.8 -0.1
comp=Z,128nm,1.0s
MTE **Manteigas** 87.73 10 *e*S S 18 30 14.4 +0.1
MTE **Manteigas** 87.73 10 *e*LQ LQ 18 43 08.9
MTE *e*LR LR 18 49 18.4
comp=Z,9µm,18.0s
MTE **Manteigas** 87.73 10 P P 18 19 30.7 -2.2
MTE IAmb IAmb 18 19 36.7
comp=Z,92nm,0.9s
MTE IAMs_20 IAMs_20 19 04 12.1
comp=Z,11µm,19.0s
SJCC **San Jacinto, C** 87.74 77 P P 18 19 31.0 -2.3
SJCC IAmb IAmb 18 19 51.1
comp=Z,101nm,1.3s
MATE **Matera** 87.78 352 ‖P P 18 19 32.9 -0.1
COI **Coimbra** 87.82 11 IAMs_20 IAMs_20 19 06 29.4
comp=Z,12µm,18.0s
PRK **Paraskevi** 87.94 344 P P 18 19 33.6 -0.2
PCAS **Casmilo, Conde** 87.96 11 *e*P P 18 19 33.6 -0.3
comp=Z,120nm,1.1s
KPRO **Kipourio** 87.97 348 P P 18 19 32.9 -1.1
SIGR **SIGRI** 88.04 345 P P 18 19 32.6 -1.7
GSI **Gunungsitoli** 88.05 270 P P 18 19 32.9 -1.8
GSI **Gunungsitoli** 88.05 270 P P 18 19 40.5 +5.9
SCTE **Santa Cesarea** 88.19 351 P P 18 19 32.8 -2.1
SRN **Sarande** 88.21 349 P P 18 19 34.4 -0.6
SRN **Sarande** 88.21 349 *i* P P 18 19 34.6 -0.4
KULA **Kula-Manisa** 88.23 342 P P 18 19 34.2 -1.1
UCM **Universidad Co** 88.23 7 P P 18 19 32.5 -2.8
UCM S **SKSac** 18 30 08.5 +5.3
CRJC **Cerrejon, Guaj** 88.25 75 *e*P P 18 19 26.9 -8.8
MANT **Manisa** 88.27 343 P P 18 19 32.5 -3.1
MANT IAmb IAmb 18 19 38.8
comp=Z,93nm,1.1s

THL **Klokotos Trika** 88.27 348 P P 18 19 33.8 -1.5
PCBR **Castelo Branco** 88.29 10 *e*P P 18 19 34.8 -0.7
comp=Z,76nm,1.0s
XOR **Xorichti** 88.30 347 P P 18 19 34.4 -1.2
MOTC **Monteria, Cord** 88.31 78 *e*P P 18 19 36.5 +0.6
JAN **Janina** 88.33 349 P P 18 19 33.5 -2.2
SMRT **St. Maarten** 88.37 63 P P 18 19 35.4 -0.8
SMRT IAmb IAmb 18 19 53.4
comp=Z,111nm,0.8s
SMRT IAMs_20 IAMs_20 19 01 04.0
comp=Z,15µm,20.0s
SMRT **St. Maarten** 88.37 63 *e*P P 18 19 28.2 -8.0
INKA **Innaminka** 88.37 219 P P 18 19 39.0 +3.3
KEK **Kerkira** 88.40 349 P P 18 19 35.8 -0.2
PSBE **So Bento** 88.46 11 *e*P P 18 19 37.0 +0.7
comp=Z,125nm,1.1s
IGT **Igoumenitsa** 88.51 349 P P 18 19 35.9 -0.6
IGT **Igoumenitsa** 88.51 349 *i* P P 18 19 35.9 -0.6
ISP **Isparta** 88.53 341 P P 18 19 35.1 -1.7
ISP pmax pmax
comp=Z,121nm,1.0s
ISP MLR MLR
comp=Z,8µm,21.0s
ISP **Isparta** 88.53 341 P P 18 19 35.1 -1.7
ISP IAmb IAmb 18 19 41.1
comp=Z,121nm,1.0s
ISP IAMs_20 IAMs_20 19 05 08.2
comp=Z,8µm,21.0s
PMRV **Marv??o** 88.71 10 *e*P P 18 19 37.2 -0.3
comp=Z,70nm,1.3s
PMRV **Marv??o** 88.71 10 *e*S S 18 30 22.4 -1.1
PMRV **Marv??o** 88.71 10 *e*LR LR 18 49 44.7
comp=Z,10µm,20.0s
POO **Poona** 88.73 299 *e*P P 18 19 37.3 -0.6
AGG **Agios Georgios** 88.76 347 P P 18 19 35.9 -1.9
AGG **Agios Georgios** 88.76 347 P P 18 19 35.8 -1.9
AGG pmax pmax
comp=Z,65nm,0.9s
AGG **Agios Georgios** 88.76 347 P P 18 19 35.8 -1.9
AGG IAmb IAmb 18 19 40.0
comp=Z,65nm,0.9s
MAKR **Makrakomi, Fth** 88.80 348 P P 18 19 36.5 -1.4
ESBB **Sonseca Array** 88.80 8 P P 18 19 36.1 -1.9
ESDC **Sonseca Array** 88.80 8 P P 18 19 37.1 -0.8
comp=Z,43nm,0.9s,baz=348,slow=3.7,SNR=107
ESDC PKKPbc **PKKPbc** 18 37 16.2 +0.8
comp=Z,1.6nm,1.0s,baz=134,slow=0.6,SNR=6.0
ESDC PKPPKP **P'P'df** 18 45 25.7 -6.4
comp=Z,1.4nm,0.9s,baz=180,slow=2.0,SNR=7.1
ESDC **Sonseca Array** 88.80 8 P P 18 19 36.6 -1.3
CHOS **Chios island** 88.81 344 P P 18 19 36.9 -1.2
SEUS **St. Eustatius** 88.87 63 IAMs_20 IAMs_20 19 01 10.3
comp=Z,12µm,21.0s
SEUS **St. Eustatius** 88.87 63 *e*P P 18 19 30.5 -7.9
KYMI **Kymi, Euboea I** 88.89 346 P P 18 19 37.0 -1.3
PAB **San Pablo** 88.90 8 P P 18 19 37.2 -1.2
PAB pmax pmax
comp=Z,42nm,1.2s
PAB MLR MLR
comp=Z,9µm,19.0s
PAB **San Pablo** 88.90 8 P P 18 19 37.2 -1.2
PAB **San Pablo** 88.90 8 IAMs_20 IAMs_20 19 05 37.9
comp=Z,9µm,19.0s
PAB **San Pablo** 88.90 8 P P 18 19 38.0 -0.4
EVR **Evrytania** 88.93 348 P P 18 19 37.7 -0.9
PMAFR **Mafra** 88.95 12 *e*P P 18 19 38.3 -0.3
comp=Z,237nm,1.1s
PMTG **Montargil** 88.97 11 *e*P P 18 19 37.9 -0.8
comp=Z,52nm,1.3s
ATAL **Atalanti** 88.99 347 P P 18 19 36.1 -2.7
LL6C **La Loma 6 Bece** 89.02 76 *e*P P 18 19 40.3 +1.1
LKR **Lokris** 89.03 347 P P 18 19 36.9 -2.1
TSLK **Tsoukalades, L** 89.17 349 P P 18 19 38.8 -0.8
PMST **Lisbon--Monsan** 89.17 12 *e*P P 18 19 41.5 +1.9
comp=Z,142nm,1.2s
PACT **Alcochete** 89.19 12 *e*P P 18 19 40.6 +0.9
comp=Z,253nm,1.5s
LIS **Lisbon** 89.20 12 *e*P P 18 19 39.5 -0.3
LIS *e*SKSac **SKSac** 18 30 07.8 -1.0
LIS *e*SS **SS** 18 36 22.3 +2.1
LIS IAMs_20 IAMs_20 19 07 48.1
comp=Z,14µm,19.1s
LIS **Lisbon** 89.20 12 *e*P P 18 19 39.4 -0.3
LIS *e* 18 30 07.8
LIS *e*SS SS 18 36 22.2 +2.0
LKD2 **Lefkada island** 89.21 349 P P 18 19 40.3 +0.5
TIP **Timpagrande** 89.24 352 ‖P P 18 19 40.3 +0.2
TIP **Timpagrande** 89.24 352 P P 18 19 38.9 -1.1
TIP IAmb IAmb 18 19 51.0
comp=Z,158nm,1.2s
TIP IAMs_20 IAMs_20 19 01 55.0
comp=Z,10µm,22.0s
PESTR **Estremoz** 89.24 11 *e*P P 18 19 38.8 -1.2
comp=Z,93nm,1.2s
PESTR **Estremoz** 89.24 11 P P 18 19 38.1 -1.8
PESTR **Estremoz** 89.24 11 P P 18 19 39.3 -0.7
NYDR **Nydri-Lefkada** 89.28 349 P P 18 19 37.6 -2.5
DBBC **Dabeiba** 89.35 80 *e*P P 18 19 41.3 +0.4
VSL **Villasalto** 89.36 357 P P 18 19 38.6 -1.9
VSL IAmb IAmb 18 19 44.5
comp=Z,93nm,1.0s
VSL IAMs_20 IAMs_20 19 06 49.1
comp=Z,8µm,20.0s
EVGI **Lefkada island** 89.37 349 P P 18 19 41.9 +1.3
ANWB **Willy Bob** 89.39 62 *e*P P 18 19 34.4 -6.6
EFP **Efpalio** 89.40 348 P P 18 19 42.1 +1.4
KARY **Karystos** 89.42 346 P P 18 19 35.2 -5.6
DION **Dionisos Attik** 89.46 346 P P 18 19 40.7 -0.3
VILL **Villia** 89.46 346 P P 18 19 40.8 -0.3
MDRS **Chennai** 89.48 290 *e*P P 18 19 40.5 -0.9
EVO **Evora** 89.52 11 P P 18 19 34.6 -6.7
EVO S **SKSac** 18 30 08.3 -2.4
EVO **Evora** 89.52 11 *e*P P 18 19 40.7 -0.6
comp=Z,54nm,1.5s
KAD **Karad** 89.54 298 *e*P P 18 19 39.6 -2.1
LAKA **Lakka** 89.58 348 P P 18 19 43.5 +1.9
YER **Yerkesik** 89.64 342 P P 18 19 40.7 -1.2
LTK **Loutraki** 89.65 347 P P 18 19 41.9 0.0
DABV **Dabajuro** 89.68 73 *e*P P 18 19 46.1 +3.8
HATO **Hato, Curacao** 89.68 71 IAMs_20 IAMs_20 19 00 34.8
comp=Z,16µm,21.0s
THAL **Thalero** 89.68 347 P P 18 19 41.7 -0.3
ELL **Elmali** 89.69 341 P P 18 19 41.2 -1.1
ELL pmax pmax
comp=Z,130nm,0.8s
ELL **Elmali** 89.69 341 P P 18 19 41.2 -1.1
ELL IAmb IAmb 18 19 58.2
comp=Z,130nm,0.8s
URZ **Urewera** 89.71 187 P P 18 19 42.1 +0.4
comp=Z,17nm,0.8s,baz=349,slow=5.2,SNR=5.9
URZ LR LR 18 56 15.7
comp=Z,13µm,19.1s,baz=30,slow=33
URZ **Urewera** 89.71 187 P P 18 19 41.6 -0.1
KLV **Kalavryta, Ach** 89.75 347 P P 18 19 41.5 -0.9
MGCD **Mangrove Creek** 89.75 209 P P 18 19 45.7 +3.6
KEF4 **Livadi, Kephal** 89.76 349 P P 18 19 43.0 +0.6
ZARC **Zaragoza, Cauc** 89.81 78 P P 18 19 42.5 -0.5
ZARC **Zaragoza, Cauc** 89.81 78 *e*P P 18 19 43.2 +0.2
KEF3 **Kipouria, Keph** 89.82 349 P P 18 19 43.4 +0.7
PNCL **Nicolau / Gran** 89.87 11 *e*P P 18 19 43.6 +0.7
comp=Z,81nm,1.8s
DRO **Drossia** 89.90 348 P P 18 19 43.7 +0.6
ANBD **Bethesda, Anti** 89.91 62 *e*P P 18 19 47.0 +3.6
CMSA **Cobar Meteorol** 89.96 214 P P 18 19 47.5 +4.4
PBAR **Barrancos** 89.99 10 *e*P P 18 19 42.8 -0.7
comp=Z,121nm,1.7s
PBEJ **Beja** 90.04 11 *e*P P 18 19 44.5 +0.8
comp=Z,42nm,1.4s
HIZ **Hauiti** 90.15 189 P P 18 19 42.8 -1.0
HIZ IAMs_20 IAMs_20 18 55 37.1
comp=Z,12µm,20.0s
OCAC **Ocana** 90.17 77 P P 18 19 42.7 -2.1
OCAC **Ocana** 90.17 77 *e*P P 18 19 47.0 +2.2
CEL **Celeste** 90.22 352 P P 18 19 42.6 -2.0
CEL IAmb IAmb 18 19 46.4
comp=Z,101nm,0.7s
LTHK **Lithakia** 90.25 348 P P 18 19 45.1 +0.4
AKAS **Kas** 90.25 341 P P 18 19 42.5 -2.4
AKAS IAmb IAmb 18 20 03.3
comp=Z,129nm,1.1s
KSL **Kastellorizon** 90.33 341 P P 18 19 44.0 -1.1
CBOC **Ciudad Bolivar** 90.37 80 *e*P P 18 19 48.0 +2.2
PCVE **Castro Verde** 90.41 11 *e*P P 18 19 44.6 -0.8
comp=Z,63nm,1.4s

PTEO **Sao Teotonio** 90.41 12 *e*P P 18 19 46.6 +1.2
comp=Z,83nm,1.6s
OOD **Oodnadatta** 90.50 223 P P 18 19 47.3 +1.6
ABD **La Joyeuse, An** 90.52 62 *e*P P 18 19 33.3 -13
ITM **Ithomi** 90.63 347 P P 18 19 44.8 -1.7
MORF **Marmelete** 90.65 12 *e*P P 18 19 46.3 -0.4
MORF *e*PP **PP** 18 23 21.5 +0.7
MORF *e*SKSac **SKSac** 18 30 16.6 -0.9
MORF *e*SS **SS** 18 36 43.5 +2.1
MORF IAMs_20 IAMs_20 19 06 05.0
comp=Z,14µm,18.3s
MORF **Marmelete** 90.65 12 *e*P P 18 19 47.3 +0.7
comp=Z,94nm,1.4s
MORF **Marmelete** 90.65 12 *e*P P 18 19 46.2 -0.4
MORF *e* 18 23 21.4
MORF *e* 18 30 16.6
MORF *e*SS SS 18 36 43.4 +2.0
CSS **Mathiatis** 90.66 338 P P 18 19 45.1 -1.5
PVAQ **Vaqueiros** 90.67 11 *e*P P 18 19 46.6 0.0
comp=Z,75nm,1.7s
PVAQ **Vaqueiros** 90.67 11 *e*S S 18 30 38.5 -3.2
PVAQ **Vaqueiros** 90.67 11 *e*LR LR 18 55 01.3
comp=Z,13µm,18.0s
PVAQ **Vaqueiros** 90.67 11 P P 18 19 44.4 -2.2
PVAQ **Vaqueiros** 90.67 11 P P 18 19 47.3 +0.6
CBE **Ff, Capester** 90.79 63 *e*P P 18 19 55.8 +8.2
PFVI **Vila Bisbo** 90.80 12 *e*P P 18 19 44.8 -2.5
comp=Z,142nm,1.6s
PFVI **Vila Bisbo** 90.80 12 P P 18 19 44.1 -3.2
PFVI IAmb IAmb 18 19 52.6
comp=Z,85nm,1.0s
PTBC **PUERTO BERRIO,** 90.80 79⇑ *e*P P 18 19 48.0 +0.4
PBDV **Barranco-do-Ve** 90.80 11 *e*P P 18 19 48.4 +1.1
comp=Z,78nm,1.4s
TDBA **Terre de Bas,** 90.95 63 *e*P P 18 19 57.2 +9.0
PLMC **San Jos del P** 90.95 81 *e*P P 18 19 49.9 +1.5
MAGL **Barre de l'ile** 91.06 63 *e*P P 18 19 47.7 -1.0
ARNO **Arenosillo** 91.08 10 P P 18 19 46.3 -2.2
ARNO S **SKSac** 18 30 20.5 +0.7
BHL **Bhannes** 91.09 336 *e*P P 18 19 48.2 -0.6
CART **Cartagena** 91.09 6 P P 18 19 43.9 -4.7
CART S **SKSac** 18 30 15.2 -4.7
CART **Cartagena** 91.09 6 P P 18 19 45.8 -2.7
CART IAMs_20 IAMs_20 19 08 04.0
comp=Z,11µm,19.0s
SHME **Shamm** 91.16 316 P P 18 19 47.6 -1.5
SNR=24
SHME P P 18 19 47.6 -1.5
SNR=24
SHME **Shamm** 91.16 316 *i* P P 18 19 47.4 -1.8
SNR=17
BANOM **Banah** 91.20 316 P P 18 19 47.8 -1.6
SNR=10
BANOM P P 18 19 47.8 -1.6
SNR=10
BANOM **Banah** 91.20 316 *i* P P 18 19 47.9 -1.5
SNR=22
GOA **Goa** 91.21 297⇑ *i* P P 18 19 48.1 -1.3
PAMC **Pamplona, Colo** 91.25 77 *e*P P 18 19 51.8 +1.6
GUY2C **Guyana, Caldas** 91.27 80 *e*P P 18 19 51.8 +1.5
SDV **Santo Domingo** 91.28 74 LR LR 19 02 29.8
comp=Z,7µm,21.2s,baz=346,slow=37
SDV **Santo Domingo** 91.28 74 P P 18 19 47.7 -2.3
SDV IAmb IAmb 18 20 12.2
comp=Z,73nm,1.0s
SDV **Santo Domingo** 91.28 74 IAMs_20 IAMs_20 19 08 50.6
comp=Z,12µm,19.0s
SDV **Santo Domingo** 91.28 74 *e*P P 18 19 51.8 +1.8
SDV **Santo Domingo** 91.28 74 *e*P P 18 19 51.6 +1.5
DQRL **Deir Qamar** 91.30 336 *e*P P 18 19 50.0 +0.2
NORC **Norcasia** 91.31 79 *e*P P 18 19 50.9 +0.9
KARP **Karpathos** 91.39 343 P P 18 19 47.1 -3.0
KARP IAMs_20 IAMs_20 19 07 28.2
comp=Z,9µm,21.0s
DSLB **Salisbury** 91.40 63 *e*P P 18 19 50.8 +0.5
WRKA **Warakurna** 91.48 230 P P 18 19 52.6 +2.2
MDN **Morne-Daniel** 91.52 63 *e*P P 18 19 53.3 +2.5
BARC **Barichara** 91.54 78 *e*P P 18 19 53.7 +2.4
DLPL **La Plaine** 91.58 63 *e*P P 18 19 51.3 +0.1
SHBL **Chebaa** 91.60 336 *e*P P 18 19 49.4 -1.9
SOCV **Socops** 91.62 75 *e*P P 18 19 52.8 +1.4
YOTC **Yotoco, Valle** 91.63 82 *e*P P 18 19 52.8 +1.2
EMAL **Malaga-Limoner** 91.65 8 P P 18 19 48.4 -2.8
EMAL S **SKSac** 18 30 24.3 +1.2
SPBC **San Pablo de B** 91.73 79 *e*P P 18 19 53.7 +1.7
STKA **Stephens Creek** 91.74 217 P P 18 19 50.6 -0.8
comp=Z,38nm,1.0s,baz=17,slow=5.7,SNR=28
STKA S **SKSac** 18 30 20.1 -3.0
comp=Z,1.7nm,1.0s,baz=15,slow=16,SNR=1.2
STKA LR LR 18 58 06.4
comp=Z,12µm,19.7s,baz=22,slow=34
STKA **Stephens Creek** 91.74 217 P P 18 19 49.7 -1.7
STKA **Stephens Creek** 91.74 217 P P 18 19 53.1 +1.7
comp=Z,17nm,1.1s
SFS **San Fernando** 91.77 10 P P 18 19 50.3 -1.4
SFS S **SKSac** 18 30 24.0 +0.3
LCRK **Leigh Creek** 91.78 220 P P 18 19 55.1 +3.5
SALM **Salem** 91.80 291 *e*P P 18 19 50.9 -1.3
ANIL **Santa Ana** 91.82 81 *e*P P 18 19 58.5 +5.9
UMQ **Umm Al-Quwin** 91.83 317 P P 18 19 53.7 +1.5
UMQ P P 18 19 53.7 +1.5
UMQ **Umm Al-Quwin** 91.83 317 P P 18 19 51.2 -1.0
ZKR **Zakros** 91.98 344 P P 18 19 52.4 -0.4
MMAI **Mount Meron Ar** 92.00 336 P P 18 19 52.8 -0.2
comp=Z,27nm,0.9s,baz=41,slow=6.7,SNR=22
MMAI LR LR 19 08 56.9
comp=Z,4µm,18.1s,baz=198,slow=41
IMMV **Iera Moni Meta** 92.01 345 P P 18 19 52.9 0.0
IDI **Anoyia** 92.03 345 LR LR 19 07 17.8
comp=Z,7µm,19.0s,baz=18,slow=40
IDI **Anoyia** 92.03 345 IAMs_20 IAMs_20 19 07 06.3
comp=Z,9µm,20.0s
UOSS **Minazif** 92.10 316 P P 18 19 50.6 -2.8
UOSS IAmb IAmb 18 19 56.4
comp=Z,137nm,1.0s
UOSS **Minazif** 92.10 316 IAMs_20 IAMs_20 19 03 32.9
comp=Z,12µm,21.0s
UOSS **Minazif** 92.10 316 P P 18 19 51.1 -2.3
UOSS P P 18 19 51.1 -2.3
UOSS **Minazif** 92.10 316 *i* P P 18 19 51.2 -2.3
SNR=16
FDF **Fort de France** 92.12 63 *e*P P 18 19 54.5 +0.7
RUSC **La Rusia** 92.15 78 *e*P P 18 19 53.7 -0.7
ROSC **El Rosal** 92.21 79 P P 18 19 58.1 +3.5
comp=Z,6.9nm,0.4s,baz=118,slow=18,SNR=4.4
HATD **Hatta, Dubai** 92.23 316 P P 18 19 52.2 -1.9
SNR=24
HATD P P 18 19 52.2 -1.9
SNR=24
HATD **Hatta, Dubai** 92.23 316 *i* P P 18 19 51.8 -2.3
SNR=29
ILAM **Ilet Lapin Mar** 92.25 63 IAMs_20 IAMs_20 19 03 07.8
comp=Z,14µm,21.0s
ILAM **Ilet Lapin Mar** 92.25 63 *e*P P 18 19 52.0 -2.2
NAZ **Nazwa, Dubai** 92.30 316 P P 18 19 52.9 -1.5
SNR=17
NAZ P P 18 19 52.9 -1.5
SNR=17
NAZ **Nazwa, Dubai** 92.30 316 *i* P P 18 19 52.4 -1.9
SNR=30
BIM **Bigot** 92.34 63 P P 18 19 52.3 -2.5
BIM **Bigot** 92.34 63 *e*P P 18 19 54.2 -0.5
CAN **Canberra** 92.35 210 P P 18 19 53.4 -0.8
CAN pmax pmax
comp=Z,94nm,1.5s
CAN MLR MLR
comp=Z,7µm,19.0s
CAN **Canberra** 92.35 210 P P 18 19 53.4 -0.8
CAN IAmb IAmb 18 20 14.9
comp=Z,94nm,1.5s
CAN IAMs_20 IAMs_20 19 07 32.0
comp=Z,7µm,19.0s
ORTC **Ortega, Tolima** 92.37 81 *e*P P 18 19 55.1 +0.2
ASHO **Ashiyiah** 92.39 316 P P 18 19 53.3 -1.5
SNR=26
ASHO P P 18 19 53.3 -1.5
SNR=26
ASHO **Ashiyiah** 92.39 316 *i* P P 18 19 52.7 -2.2
SNR=51
ASF **Jabal al Asfar** 92.40 334 P P 18 19 54.5 -0.4
comp=Z,77nm,0.9s,baz=40,slow=5.3,SNR=13
CEU **Ceuta** 92.42 9 P P 18 19 53.2 -1.5
CEU S **SKSac** 18 30 22.8 -4.6
BIDO **Bidbid** 92.48 314 P P 18 19 54.3 -0.9

SNR=14
BIDO P P 18 19 54.3 -0.9
SNR=14
MPOM Morne Pois Mar 92.52 63 *e*P P 18 19 51.7 -3.8
FAQ Al Faqa, Dubai 92.54 316 P P 18 19 53.9 -1.6
SNR=12
FAQ P P 18 19 53.9 -1.6
SNR=12
FAQ Al Faqa, Dubai 92.54 316 *i* P P 18 19 53.6 -1.9
SNR=29
H05S1 Guadeloupe/Mar 92.55 63 P P 18 19 56.8 +1.2
SNR=3.5
POPC Popayan, Colom 92.55 83 *e*P P 18 19 57.6 +1.6
SMIR Smir Dam 92.63 9 P P 18 19 57.0 +1.2
QRZ Quartz Range 92.68 190 IAMs_20 IAMs_20 19 05 30.0
comp=Z,14µm,18.0s
CHIC Chingaza 92.74 79 *e*P P 18 19 57.6 +0.5
ASUD Al Ashush, Dub 92.76 316 P P 18 19 55.4 -1.2
SNR=21
ASUD P P 18 19 55.4 -1.2
SNR=21
ASUD Al Ashush, Dub 92.76 316 *i* P P 18 19 54.9 -1.6
SNR=7.8
MARP Paez Belalcaza 92.76 82 *e*P P 18 19 57.6 +0.6
HOQ Hoqain 92.80 314 P P 18 19 55.3 -1.4
SNR=21
HOQ P P 18 19 55.3 -1.4
SNR=21
SLBI Saint Lucia, B 92.80 63 *e*P P 18 19 49.2 -7.6
PCON Cinco Dias 92.89 83 *i* Pg P 18 20 00.4 +2.5
PSA00 Pilbara Seismi 92.90 239 P P 18 19 55.5 -1.5
PSA00 IAmb IAmb 18 20 13.5
comp=Z,73nm,1.1s
PSA00 Pilbara Seismi 92.90 239 P P 18 19 55.3 -1.7
PSA00 IAmb IAmb 18 20 15.0
comp=Z,156nm,1.6s
SMDO Samad 92.92 313 P P 18 19 56.5 -0.9
SNR=33
SMDO P P 18 19 56.5 -0.9
SNR=33
AJN Ajban 92.96 317 P P 18 19 55.7 -1.7
SNR=11
AJN P P 18 19 55.7 -1.7
SNR=11
AJN Ajban 92.96 317 *i* P P 18 19 55.5 -1.9
SNR=7.8
NNZ Nelson 92.98 190 IAMs_20 IAMs_20 19 00 12.9
comp=Z,13µm,19.0s
ALNE Al Ain 93.07 316 P P 18 19 56.7 -1.3
SNR=41
ALNE P P 18 19 56.7 -1.3
SNR=41
ALNE Al Ain 93.07 316 *i* P P 18 19 56.2 -1.8
SNR=58
MCLT Moule a Chique 93.07 64 *e*P P 18 20 02.1 +4.0
JLN Jalan Bani Buh 93.08 312 P P 18 19 57.5 -0.5
SNR=24
JLN P P 18 19 57.5 -0.5
SNR=24
CHEFC Chefchaouen 93.20 9 P P 18 19 60.0 +1.4
OTAV Otavalo 93.24 86 *e*P P 18 20 01.6 +2.2
GOG Mont Gurugu 93.30 7 P P 18 19 60.0 +1.0
MULG Mulgathing 93.36 223 P P 18 20 03.5 +4.6
ARQ Araqi 93.36 315 P P 18 19 58.2 -1.1
SNR=69
ARQ P P 18 19 58.2 -1.1
SNR=69
KOD Kodaikanal 93.36 291 *e*P P 18 19 57.3 -2.5
KHOR Al-Khor Airpor 93.47 320 P P 18 19 58.5 -1.3
SHMA Al-Shehemyia 93.48 320 P P 18 19 58.6 -1.2
JMDO Jabal Madar 93.49 313 P P 18 19 59.1 -0.8
SNR=45
JMDO P P 18 19 59.1 -0.8
SNR=45
SAKB Bahrain 93.54 321 P P 18 19 59.3 -0.8
THZ Tophouse 93.57 190 IAMs_20 IAMs_20 19 03 14.5
comp=Z,13µm,18.0s
BSY Bisya 93.57 314 P P 18 19 59.2 -1.1
SNR=58
BSY P P 18 19 59.2 -1.1
SNR=58
PMOZ Porto Moniz, M 93.60 19 *e*S S 18 30 53.9 -15
PMOZ Porto Moniz, M 93.60 19 *e*LR LR 18 55 16.4
comp=Z,9µm,20.0s
PMOZ Porto Moniz, M 93.60 19 P P 18 19 57.3 -3.1
TAF Taforalt 93.75 7 P P 18 20 02.0 +0.9
GCMP Grenada, Carri 93.79 65 *e*P P 18 20 00.8 -0.6
PALK Pallekele 93.80 287 P P 18 20 00.8 -0.7
comp=Z,40nm,1.0s,baz=94,slow=4.5,SNR=18
PALK LR LR 19 05 11.3
comp=Z,8µm,21.4s,baz=148,slow=37
PALK Pallekele 93.80 287 P P 18 19 59.1 -2.4
PALK pmax pmax
comp=Z,212nm,1.2s
PALK MLR MLR
comp=Z,8µm,22.0s
PALK Pallekele 93.80 287 P P 18 19 59.1 -2.4
PALK Pallekele 93.80 287 IAMs_20 IAMs_20 19 05 41.7
comp=Z,8µm,22.0s
PALK Pallekele 93.80 287 P P 18 20 00.8 -0.7
PALK P P 18 20 00.8 -0.7
PCRV Puerto La Cruz 93.81 69 LR LR 19 02 00.1
comp=Z,16µm,21.2s,slow=35
GRGR Grenville 93.95 65 *e*P P 18 19 57.6 -4.5
MZWR Madinat Zayed 94.14 317 P P 18 20 01.7 -1.2
MZWR P P 18 20 01.7 -1.2
HTT Hallett 94.14 218 P P 18 20 07.2 +4.7
KHZ Kahutara 94.15 189 IAMs_20 IAMs_20 19 01 44.9
comp=Z,13µm,19.0s
JBK JBK 94.22 7 P P 18 20 04.0 +0.6
BBGH Gun Hill 94.31 63 *e*P P 18 20 08.8 +5.0
TRNA Turayna 94.38 320 P P 18 20 02.0 -1.9
GHWR Ruwais 94.38 318 P P 18 20 02.4 -1.6
GHWR P P 18 20 02.4 -1.6
UMZA Um Al Zommool 94.51 316 P P 18 20 02.9 -1.7
UMZA P P 18 20 02.9 -1.7
ZHG ZHG 94.70 11 P P 18 20 07.0 +1.5
MHTO MHTO 94.75 312 P P 18 20 04.7 -1.0
SNR=65
MHTO P P 18 20 04.7 -1.0
SNR=65
AVE Averroes 94.76 11 P P 18 20 03.3 -2.2
AVE S **SKSac** 18 30 40.6 +0.3
SLWR Sila 94.78 319 P P 18 20 04.1 -1.7
SLWR P P 18 20 04.1 -1.7
IFR Ifrane 94.80 9 P P 18 20 03.4 -2.6
IFR S **SKSac** 18 30 41.7 +0.8
MZR Muzera 94.98 317 P P 18 20 05.8 -1.0
SNR=28
MZR P P 18 20 05.8 -1.0
SNR=28
MZR Muzera 94.98 317 *i* P P 18 20 05.5 -1.3
SNR=79
CZD Col de Zad 95.29 9 P P 18 20 09.0 +0.6
EIL Elat 95.30 335 LR LR 19 11 09.2
comp=Z,5µm,18.1s,baz=46,slow=41
MQZ McQueen's Vall 95.52 190 IAMs_20 IAMs_20 18 59 22.0
comp=Z,11µm,20.0s
TOO Toolangi 95.53 211 P P 18 20 07.1 -1.6
TOO pmax pmax
comp=Z,11nm,0.9s
TOO Toolangi 95.53 211 P P 18 20 07.1 -1.6
TOO Toolangi 95.53 211 P P 18 20 13.0 +4.3
TDRA Tendrara 95.54 7 P P 18 20 11.0 +1.5
MDT Midelt 95.55 9 PKKPbc PKKPbc 18 36 57.9 -0.5
comp=Z,2.8nm,0.9s,baz=163,slow=6.3,SNR=5.3
MDT Midelt 95.55 9 P P 18 20 09.1 -0.3
RPZ Rata Peaks 95.70 191 P P 18 20 09.8 +0.5
comp=Z,7.9nm,0.9s,baz=297,slow=14,SNR=2.8
RPZ LR LR 18 59 42.6
comp=Z,18µm,19.0s,baz=5.0,slow=33
RPZ Rata Peaks 95.70 191 P P 18 20 09.1 -0.2
DQM DQM 95.86 312 P P 18 20 09.8 -1.0
SNR=6.4
DQM P P 18 20 09.8 -1.0
SNR=6.4
FORT Forrest 96.44 227 P 18 20 12.2 -0.8
RPN Rapa Nui 96.59 126 LR LR 18 58 56.4
comp=Z,11µm,18.0s,baz=333,slow=32
GOLM Goulmima 96.61 9 P P 18 20 16.0 +1.7
OUK Oukaimeden 96.76 12 P P 18 20 16.0 +0.8
WKZ Wanaka 97.05 192 IAMs_20 IAMs_20 18 58 03.7
comp=Z,11µm,20.0s
OUZM OUZ 97.19 11 P Pdif 18 20 18.0 +1.0
TZRR Tazzarine 97.45 10 P Pdif 18 20 19.0 +0.9

RAYN Ar Rayn 97.68 324 P P 18 20 16.7 -2.4
RAYN pmax pmax
comp=Z,60nm,1.0s
RAYN MLR MLR
comp=Z,19µm,19.0s
RAYN Ar Rayn 97.68 324 P P 18 20 16.7 -2.4
RAYN IAmb IAmb 18 20 21.0
comp=Z,60nm,1.0s
RAYN Ar Rayn 97.68 324 P P 18 20 18.0 -1.1
RAYN Ar Rayn 97.68 324 *i* P P 18 20 18.1 -1.0
SNR=91
MLZ Mavora Lakes 97.70 193 IAMs_20 IAMs_20 19 03 19.9
comp=Z,11µm,19.0s
DCZ Deep Cove 97.94 193 IAMs_20 IAMs_20 19 05 13.0
comp=Z,11µm,19.0s
ZGR Zagora 98.11 10 P Pdif 18 20 22.0 +1.0
WHZ Wether Hill Ro 98.24 193 IAMs_20 IAMs_20 18 59 06.1
comp=Z,9µm,20.0s
SHAO Shalim 98.40 313 P Pdif 18 20 22.8 +0.5
SHAO P Pdif 18 20 22.8 +0.5
SHAO Shalim 98.40 313 P Pdif 18 20 23.1 +0.7
DOK Doka 98.56 314 P P 18 20 21.5 -1.5
DOK P P 18 20 21.5 -1.5
HMDM Hanimaadhoo 98.63 292 P P 18 20 19.5 -3.9
HMDM IAMs_20 IAMs_20 19 12 19.3
comp=Z,11µm,20.0s
HMDM Hanimaadhoo 98.63 292 P Pdif 18 20 25.0 +1.6
PYZ Puysegur Point 98.69 193 IAMs_20 IAMs_20 19 08 14.0
comp=Z,9µm,18.0s
DMTO DMTO 98.98 313 P Pdif 18 20 25.1 +0.2
WHFO Wadi Hawf 99.33 314 P **Pdif** 18 20 27.0 +0.5
SNR=12
WHFO P **Pdif** 18 20 27.0 +0.5
SNR=12
RBK Rabkut 99.50 314 P **Pdif** 18 20 27.7 +0.4
RBK P **Pdif** 18 20 27.7 +0.4
TAU Tasmania Unive 99.85 208 IAMs_20 IAMs_20 19 06 55.4
comp=Z,8µm,19.0s
ABTO Aybut 100.04 315 P **Pdif** 18 20 28.3 -1.4
SNR=6.7
ABTO P **Pdif** 18 20 28.3 -1.4
SNR=6.7
NNA Nana 103.68 92 IAMs_20 IAMs_20 19 02 55.0
comp=Z,6µm,19.0s
KAAM Kaadhehdhoo 103.79 289 IAMs_20 IAMs_20 19 17 05.4
comp=Z,7µm,19.0s
SOCY Socotra 104.25 312 IAMs_20 IAMs_20 19 13 00.5
comp=Z,7µm,21.0s
TEND Ethiopian Broa 110.09 323 *e*P **Pdif** 18 21 13.8 -0.6
DGAR Diego Garcia 110.39 284 IAMs_20 IAMs_20 19 19 46.7
comp=Z,6µm,21.0s
HARA HARA 111.50 320 *e*P **Pdif** 18 21 07.8 -13
LPAZ La Paz 112.40 88 PKiKP **PKiKP** 18 25 22.0 +1.1
comp=Z,1.4nm,0.8s,baz=347,slow=8.4,SNR=2.1
LPAZ PKKPbc **PKKPbc** 18 36 11.1 +2.3
comp=Z,1.2nm,0.8s,baz=70,slow=4.3,SNR=2.1
LPAZ PKKPab **PKKPab** 18 36 19.8 +1.3
comp=Z,1.5nm,0.6s,baz=86,slow=4.0,SNR=5.0
LPAZ La Paz 112.40 88 **PKiKP** 18 25 18.4 -2.5
ANKE Ethiopia-Afar 112.59 324 *e*P **Pdif** 18 21 25.8 -0.2
AAE Adis Abeba 113.47 324 *e*P **Pdif** 18 21 17.8 -12
FURI Furi 113.62 324 IAMs_20 IAMs_20 19 19 21.4
comp=Z,6µm,20.0s
FURI Furi 113.62 324 *e*P **Pdif** 18 21 25.8 -4.7
KOWA Kowa 113.72 11 PKKPab PKKPab 18 36 10.0 -5.3
comp=Z,2.7nm,0.6s,baz=224,slow=6.3,SNR=3.4
KOWA PKKP **PKKPdf** 18 36 25.1 +1.1
comp=Z,14nm,1.1s,baz=289,slow=3.2,SNR=6.2
TOA0 Torodi Ar. Sit 115.53 5 **PKiKP** 18 25 23.7 -2.6
TORD Torodi Ar. Bea 115.53 5 Pdiff **Pdif** 18 21 42.2 +3.6
comp=Z,2.0nm,1.0s,baz=355,slow=4.7,SNR=6.2
TORD PKP **PKiKP** 18 25 24.9 -1.5
comp=Z,3.4nm,0.6s,baz=347,slow=3.0,SNR=11
TORD PP **PP** 18 26 33.6 +6.5
comp=Z,8.2nm,1.0s,baz=13,slow=6.3,SNR=4.3
TORD PKKPbc **PKKPbc** 18 35 59.8 +2.4
comp=Z,5.4nm,1.0s,baz=236,slow=0.6,SNR=7.7
TORD PKKPab **PKKPab** 18 36 08.8 +1.5
comp=Z,6.2nm,0.9s,baz=170,slow=2.2,SNR=8.4
TORD SKKP 18 39 55.6
comp=Z,3.9nm,0.9s,baz=191,slow=2.8,SNR=5.7
TORD Torodi Ar. Bea 115.53 5 PKPdf **PKiKP** 18 25 24.1 -2.2
DILA Dilla 116.04 324 *e*P **Pdif** 18 21 43.7 +2.6
MSEY Mahe Island 117.95 301 IAMs_20 IAMs_20 19 17 54.4
comp=Z,7µm,20.0s
MSEY Mahe Island 117.95 301 P **PKiKP** 18 25 32.7 +1.6
H03N2 Juan Fernandez 118.27 109 T T 20 35 09.2
baz=317,slow=78,SNR=559
H03N1 Juan Fernandez 118.28 109 T T 20 35 10.8
baz=317,slow=78,SNR=399
H03N3 Juan Fernandez 118.28 109 T T 20 35 09.0
baz=317,slow=78,SNR=397
LODK Lodwar 119.88 326 *e*P **Pdif** 18 21 53.7 -4.4
LCO Las Campanas 120.12 100 PKiKP **PKPdf** 18 25 34.1 -0.9
LCO MLR MLR
comp=Z,7µm,18.0s
LCO Las Campanas 120.12 100 PKPdf **PKPdf** 18 25 34.1 -0.9
LCO Las Campanas 120.12 100 IAMs_20 IAMs_20 19 18 23.1
comp=Z,7µm,18.0s
NBPB Pedra_Branca-C 120.66 56 *e*P **PKiKP** 18 25 37.6 +1.3
PEXB Peixe 121.26 68 *e*P **PKiKP** 18 25 37.9 +0.5
DBIC Dimbokro 121.33 13 PKP **PKPdf** 18 25 36.9 -0.6
comp=Z,6.2nm,0.6s,baz=36,slow=2.0,SNR=16
DBIC PKKPbc **PKKPbc** 18 35 36.6 -0.9
comp=Z,2.8nm,0.7s,baz=170,slow=5.8,SNR=2.4
DBIC Dimbokro 121.33 13 PKPdf **PKPdf** 18 25 35.7 -1.8
TIC Toumodi 121.33 13 *e*PKP1 **PKPdf** 18 25 36.4 -1.1
CO03 El Pedregal 121.42 101 PKPdf **PKPdf** 18 25 36.9 -0.3
CO02 Combarbal 121.48 102 **PKPdf** 18 25 36.3 -1.0
PP1B Ponte de Pedra 121.61 78 *e*P **PKiKP** 18 25 39.2 +1.2
KIC Kosan Boka 121.65 13 *e*PKP1 **PKPdf** 18 25 37.2 -0.9
comp=Z,9.4nm,0.5s
LIC Lamto 121.74 13 *e*PKP1 **PKPdf** 18 25 37.4 -0.9
comp=Z,129nm,1.5s
ARAG Araguaiana, MT 122.02 74 *e*P **PKiKP** 18 25 40.7 +1.9
NBMA Muriti-CE 122.63 56 *e*P **PKiKP** 18 25 41.2 +0.9
ROC1 El Roble 122.70 103 **PKPdf** 18 25 37.1 -2.7
RCBR Riachuelo 122.77 52 *e*P **PKiKP** 18 25 41.8 +1.3
VA03 San Esteban 122.83 103 **PKPdf** 18 25 37.7 -2.2
PEL Peldehue 123.01 103 IAMs_20 IAMs_20 19 11 47.0
comp=Z,5µm,18.0s
MT09 Talagante 123.26 104 **PKPdf** 18 25 39.0 -1.7
AQDB Aquidauana 123.28 81 PKPdf **PKPdf** 18 25 38.6 -2.4
AQDB Aquidauana 123.28 81 *e*P **PKPdf** 18 25 40.6 -0.4
KMBO Kilima Mbogo 123.38 322 PKP **PKPdf** 18 25 41.8 0.0
comp=Z,25nm,1.0s,baz=11,slow=3.1,SNR=38
KMBO Kilima Mbogo 123.38 322 *e*P **PKPdf** 18 25 41.6 -0.1
KMBO IAMs_20 IAMs_20 19 14 17.5
comp=Z,284nm,4.5s
KMBO Kilima Mbogo 123.38 322 PKPdf **PKPdf** 18 25 39.2 -2.5
KMBO Kilima Mbogo 123.38 322 IAMs_20 IAMs_20 19 26 45.3
comp=Z,8µm,19.0s
KMBO Kilima Mbogo 123.38 322 *i* P **PKiKP** 18 25 42.9 +0.9
SNR=29
SDBA SAO DESIDERIO 123.46 65 *e*P **PKiKP** 18 25 41.9 +0.1
NBPV Pedro Velho 123.58 52 *e*P **PKiKP** 18 25 42.4 +0.3
KIBK Kibwezi 124.17 320 IAMs_20 IAMs_20 19 24 52.0
comp=Z,10µm,21.0s
BDFB Brasilia 124.23 71 PKP **PKPdf** 18 25 43.1 0.0
comp=Z,8.7nm,0.9s,baz=351,slow=1.1,SNR=6.6
BDFB Brasilia 124.23 71 **PKPdf** 18 25 40.2 -2.8
NBPN Ponto Novo - B 124.79 60 *e*P **PKiKP** 18 25 45.0 +0.6
MBAR Mbarara 125.20 329 IAMs_20 IAMs_20 19 28 33.9
comp=Z,7µm,19.0s
MBAR Mbarara 125.20 329 *e*P **Pdif** 18 22 21.6 -0.2
NBRF Rio Formoso - 125.61 53 *e*P **PKiKP** 18 25 47.1 +1.1
NBAN Anadia - AL 125.87 55 *e*P **PKiKP** 18 25 46.7 +0.1
JANB Januaria 125.93 67 *e*P **PKiKP** 18 25 46.9 +0.3
IPMB Ipameri, GO 125.94 73 *e*P **PKPdf** 18 25 46.0 -0.3
ITRB Iturama 125.97 76 *e*P **PKiKP** 18 25 50.0 +3.4
LC01 Cunco 126.15 109 PKPdf **PKPdf** 18 25 44.0 -1.9
NBLA Lagarto - SE 126.20 57 *e*P **PKiKP** 18 25 47.9 +0.7
CPUP Villa Florida 126.55 87 PKP **PKPdf** 18 25 45.7 -1.3
comp=Z,20nm,1.1s,baz=320,slow=1.9,SNR=13
CPUP Villa Florida 126.55 87 PKPdf **PKPdf** 18 25 44.7 -2.3
PCMB Pacaembu 126.86 78 *e*P **PKiKP** 18 25 48.6 +0.3
LL04 Puerto Octay 127.14 111 PKPdf **PKPdf** 18 25 47.0 -0.7
GDU01 Guandu, BA 127.50 61 *e*P **PKiKP** 18 25 49.8 0.0
PLCA Paso Flores 128.11 110 PKP **PKPdf** 18 25 49.1 -0.6
comp=Z,33nm,1.0s,baz=291,slow=2.5,SNR=32
PLCA SKPbc SKiKP 18 29 11.0 -14
comp=Z,4.9nm,1.0s,baz=307,slow=3.5,SNR=2.9
PLCA SKP 18 29 22.6
comp=Z,8.9nm,0.9s,baz=310,slow=5.4,SNR=4.2
PLCA Paso Flores 128.11 110 PKPdf **PKPdf** 18 25 48.9 -0.8

PLCA Paso Flores 128.11 110 *e*P **PKiKP** 18 25 51.0 +0.7
BB19B Bebedouro 128.11 75 *e*P **PKiKP** 18 25 53.1 +2.3
NBIT Itapeh - BA 128.57 62 *e*P **PKiKP** 18 25 52.3 +0.4
DIAM Diamantina, MG 128.86 69 *e*P **PKiKP** 18 25 53.3 +0.7
CMC01 Camacan, BA 128.88 62 *e*P **PKiKP** 18 25 53.0 +0.6
LL02 Futaleuf 128.90 113 **PKPdf** 18 25 49.6 -1.5
FRTB Fartura 129.19 78 *e*P **PKiKP** 18 25 54.0 +1.0
AY01 Puyuhuapi 129.19 115 PKPdf **PKPdf** 18 25 50.9 -0.6
ITQB Itaqui 129.35 90 PKPdf **PKPdf** 18 25 50.8 -1.5
ITQB Itaqui 129.35 90 *e*P **PKiKP** 18 25 53.6 +0.6
VNDA Vanda 129.61 187 PKP **PKPdf** 18 25 51.0 -0.4
comp=Z,8.9nm,1.2s,baz=344,slow=1.6,SNR=4.5
VNDA SKPbc SKPbc 18 29 14.6 +2.2
comp=Z,5.0nm,0.8s,baz=309,slow=7.1,SNR=4.3
VNDA Vanda 129.61 187 PKIKP **PKiKP** 18 25 51.8 -0.3
VNDA Vanda 129.61 187 **PKiKP** 18 25 51.8 -0.3
SBA Scott Base 129.61 185 IAMs_20 IAMs_20 19 22 15.6
comp=Z,8µm,18.0s
GUA01 Guaratinga, BA 129.71 63 *e*P **PKiKP** 18 25 54.7 +0.6
RCLB Rio Claro- Sao 129.74 76 *e*P **PKiKP** 18 25 57.1 +3.0
COYC Coyhaique 130.21 116 PKPdf **PKPdf** 18 25 52.4 -1.1
COYC Coyhaique 130.21 116 IAMs_20 IAMs_20 19 19 22.9
comp=Z,7µm,18.0s
VAO Valinhos 130.52 76 *e*P **PKiKP** 18 25 56.9 +1.2
NAN01 Guarapari, ES 130.54 65 *e*P **PKiKP** 18 25 56.1 +0.4
CASY Casey 130.57 211 IAMs_20 IAMs_20 19 17 47.0
comp=Z,5µm,19.0s
SJMB Sao Joao De Ma 130.62 66 *e*P **PKiKP** 18 25 56.1 +0.2
RIB01 Linhares ES 131.56 66 *e*P **PKiKP** 18 25 57.7 -0.1
CPSB Cacapava Do Su 131.84 88 *e*P **PKiKP** 18 25 59.0 +1.0
LPA La Plata 132.06 96 PKIKP **PKiKP** 18 26 01.9 +3.6
LPA PP PP 18 28 09.5 -10
LPA pPP 18 28 24.7
LPA SKP 18 29 19.3
LPA PKS **PKSdf** 18 29 26.7 -6.9
LPA PPP PPP 18 31 10.2
LPA SKIKS 18 33 06.9
LPA SDIFF 18 36 30.6
LPA PS **PS** 18 38 35.1 +1.0
LPA PSP PSP 18 40 14.9
LPA SS **SS** 18 46 00.8 +4.9
LPA SSS SSS 18 50 57.2
VAS01 Vassouras-RJ 132.09 72 *e*P **PKiKP** 18 25 59.2 +0.4
PLTB Pedras Altas 132.67 89 *e*P **PKiKP** 18 26 00.3 +0.6
OPO Ambohidratompo 133.94 300 PKP **PKPdf** 18 26 00.3 -1.2
comp=Z,15nm,1.0s,baz=53,slow=4.0,SNR=11
OPO PP **PP** 18 28 33.4 +1.9
comp=Z,4.9nm,1.0s,baz=106,slow=0.5,SNR=2.4
OPO SKPbc **SKPab** 18 29 33.3 +0.9
comp=Z,13nm,1.0s,baz=30,slow=4.8,SNR=3.9
ABPO Ambohimpanom 134.28 300 IAMs_20 IAMs_20 19 29 22.4
comp=Z,5µm,19.0s
VOI Vohitsoka 136.85 298 PKPdf **PKPdf** 18 26 05.7 -1.2
VOI IAMs_20 IAMs_20 19 30 28.4
comp=Z,5µm,20.0s
VOI Vohitsoka 136.85 298 PKP **PKiKP** 18 26 10.3 +1.7
LSZ Lusaka 139.77 326 SKPbc **SKPbc** 18 29 48.2 +1.1
comp=Z,10nm,0.9s,baz=46,slow=5.5,SNR=3.8
LSZ SKPab **SKPab** 18 30 00.6 +2.5
comp=Z,14nm,0.8s,baz=89,slow=8.8,SNR=3.4
LSZ Lusaka 139.77 326 PKPpre 18 26 05.8
QSPA South Pole Qui 141.24 180 PKhKP PKPpre 18 26 06.3
comp=Z,39nm,1.0s,baz=206,slow=0.8,SNR=35
QSPA South Pole Qui 141.24 180 PKPpre 18 26 06.6
PMSA Palmer Station 142.77 138 *e*P **PKiKP** 18 26 21.1 +1.9
SHEL Horse Pasture 143.33 19 IAMs_20 IAMs_20 19 30 07.3
comp=Z,6µm,20.0s
BLWY Bulawayo 144.08 322 *e*P PKPbc 18 26 17.9 0.0
BLWY IAmb IAmb 18 26 20.5
comp=Z,875nm,0.8s
BLWY IAMs_20 IAMs_20 19 38 48.4
comp=Z,41µm,19.4s
BLWY Bulawayo 144.08 322 *i* P PKPbc 18 26 18.2 +0.3
BLWY Bulawayo 144.08 322 *i* P PKPbc 18 26 18.2 +0.3
MATP Matopo 144.38 322 PKP **PKPab** 18 26 18.6 +0.1
comp=Z,492nm,1.0s,baz=24,slow=5.0
MATP Matopo 144.38 322 *i* P PKPbc 18 26 19.4 +0.5
MATP Matopo 144.38 322 *i* P PKPbc 18 26 19.4 +0.5
MSNA Messina 145.50 318 *e*P **PKPab** 18 26 22.6 0.0
MSNA IAMs_20 IAMs_20 19 45 38.1
comp=Z,301nm,4.3s
MSNA Messina 145.50 318 *i* P **PKPab** 18 26 22.5 0.0
MSNA Messina 145.50 318 *i* P **PKPab** 18 26 22.5 0.0
MOPA Mopani 145.94 315 *e*P **PKPdf** 18 26 22.4 -0.5
MOPA Mopani 145.94 315 *i* P **PKiKP** 18 26 25.6 -1.4
MOPA Mopani 145.94 315 *i* P **PKiKP** 18 26 25.6 -1.4
TSUM Tsumeb 146.54 340 PKPbc **PKPbc** 18 26 25.4 -0.2
baz=11,slow=3.5
TSUM Tsumeb 146.54 340 *e*P **PKPbc** 18 26 25.5 -0.2
TSUM Tsumeb 146.54 340 IAMs_20 IAMs_20 19 37 24.6
comp=Z,7µm,20.0s
CNG Changalane 147.98 312 *e*P **PKPbc** 18 26 28.3 -1.0
CNG IAMs_20 IAMs_20 20 24 15.9
comp=Z,126nm,3.9s
CNG Changalane 147.98 312 *i* P **PKPbc** 18 26 29.3 0.0
CNG Changalane 147.98 312 *i* P **PKPbc** 18 26 29.3 0.0
MAW Mawson 148.43 218 PKPbc **PKPbc** 18 26 29.8 +0.6
comp=Z,237nm,1.0s,baz=140,slow=1.0,SNR=40
MAW Mawson 148.43 218 PKPdf **PKPdf** 18 26 26.9 +1.3
CRLN Carolina, Mapu 148.71 315 *e*P **PKPbc** 18 26 31.9 +0.4
POGA Pongola 149.10 311 *e*P **PKPbc** 18 26 31.4 -0.8
SLR Silverton 149.22 318 *e*P **PKPdf** 18 26 29.6 +1.1
SLR IAMs_20 IAMs_20 19 26 13.4
comp=Z,490nm,3.9s
LBTB Lobatse 149.64 323 PKP **PKPdf** 18 26 28.5 -0.6
comp=Z,21nm,0.6s,baz=33,slow=2.0,SNR=15
LBTB PKPbc **PKPbc** 18 26 33.8 0.0
comp=Z,212nm,1.0s,baz=31,slow=1.7,SNR=73
LBTB Lobatse 149.64 323 *i* P **PKPbc** 18 26 32.5 -1.2
LBTB IAMs_20 IAMs_20 20 12 49.4
comp=Z,464nm,4.3s
LBTB Lobatse 149.64 323 PKPdf **PKPdf** 18 26 27.7 -1.4
LBTB PKPbc **pPKPdf** 18 26 33.4 +0.2
LBTB Lobatse 149.64 323 *e*P **PKPdf** 18 26 29.8 +0.7
LBTB Lobatse 149.64 323 *e*P **PKPdf** 18 26 29.8 +0.7
BELA Belgrano 2 149.65 164 PKPdf **PKPdf** 18 26 26.6 -0.8
BELA PKPbc **PKPbc** 18 26 31.8 -0.3
KSR Koster 149.89 320 *e*P **PKPbc** 18 26 34.4 0.0
KSR IAMs_20 IAMs_20 19 53 33.0
comp=Z,291nm,4.2s
CRZF Crozet Islands 149.90 261 IAMs_20 IAMs_20 19 39 27.4
comp=Z,4µm,20.0s
WDLM Western Deep L 150.19 319 *e*P **PKPbc** 18 26 33.4 -1.8
WDLM IAMs_20 IAMs_20 19 53 01.4
comp=Z,268nm,4.2s
NWCL Newcastle 150.27 314 *e*P **PKPdf** 18 26 31.5 +1.5
NWCL IAMs_20 IAMs_20 19 37 54.3
comp=Z,422nm,4.2s
PRYS Parys 150.66 319 *e*P **PKPdf** 18 26 30.4 -0.3
PRYS IAMs_20 IAMs_20 19 48 26.2
comp=Z,493nm,4.2s
SNKL Senekal, Frees 151.67 317 *e*P **PKPbc** 18 26 37.8 -0.7
SWZ Schweizer 151.70 322 *e*P **PKPdf** 18 26 32.7 +0.4
SWZ IAMs_20 IAMs_20 20 01 08.3
comp=Z,454nm,4.8s
BOSA Boshof 153.01 320 PKP **PKPdf** 18 26 34.8 +0.6
comp=Z,6.5nm,1.0s,baz=56,slow=2.8,SNR=4.6
BOSA PKPbc **PKiKP** 18 26 42.8 +1.2
comp=Z,39nm,0.6s,baz=39,slow=1.5,SNR=26
BOSA PKPab **PKPab** 18 26 51.9 -0.9
comp=Z,192nm,0.9s,baz=41,slow=4.5,SNR=22
BOSA Boshof 153.01 320 *i* P **PKiKP** 18 26 43.1 +1.4
BOSA IAMs_20 IAMs_20 19 45 28.7
comp=Z,11µm,21.4s
BOSA Boshof 153.01 320 **PKPdf** 18 26 31.6 -2.6
BOSA PKPbc **sPKPdf** 18 26 40.2 +0.6
BOSA PKPab **PKPab** 18 26 51.2 -1.6
BOSA Boshof 153.01 320 *e*P **PKPdf** 18 26 36.4 +2.2
BOSA Boshof 153.01 320 *e*P **PKPdf** 18 26 36.4 +2.2
UPI Upington 154.25 328 *e*P **PKPdf** 18 26 36.2 +0.4
UPI IAMs_20 IAMs_20 19 56 19.7
comp=Z,369nm,4.7s
KEIM Keimoes 154.66 328 *e*P **PKPdf** 18 26 40.5 +4.1
HVD Gariep Dam 154.66 318 *e*P **PKiKP** 18 26 49.4 +4.3
HVD IAMs_20 IAMs_20 20 28 14.9
comp=Z,566nm,3.9s
AUGR Augrabies 154.76 329 *e*P **PKPdf** 18 26 35.9 -0.7
SYO Syowa Base 156.31 210 *e*PKPdf **PKPdf** 18 26 38.0 +0.8
GRAN Grantham 157.49 322 *e*P **PKPdf** 18 26 41.8 +1.8
CVNA Calvinia 157.61 328 *e*P **PKPdf** 18 26 43.5 +3.2
SUR Sutherland 158.07 325 PKP **PKPdf** 18 26 42.5 +1.6
comp=Z,10nm,1.0s,baz=354,slow=2.1,SNR=2.7
SUR PKPbc **sPKPdf** 18 26 54.2 +7.8
comp=Z,18nm,1.1s,baz=259,slow=19,SNR=2.4

SUR			PKPab	**PKPab**	**18 27 15.2**	**+0.8**
	comp=Z,44nm,1.1s,baz=32,slow=2.7,SNR=10							
ROSN	**Rosenhof**	**158.08 315**	*eP*	**PKPab**	**18 27 14.8**	**+0.6**
VNA3	**Neumayer Olymp**	**158.92 166**	PKPdf	**PKPdf**	**18 26 40.6**	**+0.1**
SNAA	**Sanae**	**159.34 172**	PKPab	**PKPab**	**18 27 18.8**	**0.0**
	comp=Z,26nm,1.0s,baz=212,slow=8.4,SNR=2.1							
VNA2	**Neumayer--Watz**	**159.54 167**	PKPdf	**PKPdf**	**18 26 40.5**	**-0.7**
	baz=121,slow=2.4							

CNRM ***12*** *18:09:18.8, 35˚.71N×3˚.55W, h22km, ml3.0*
MDD ***12*** *18:09:19.4±0.3, 35˚.60N×3˚.70W, h0km, mb_Lg2.6/7, Error ellipse: s-maj=3.3km s-min=2.4km az=15.0*

ISC 12 18:09:19.0±1.1, 35˚.66N±0˚.02×3˚.63W±0˚.03, h12km±10km, n29, σ1§46/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**210**	P		**Pb**	**18 09 29.9**	**+0.1**
PALE				S		**Sb**	**18 09 38.4**	**+1.2**
EALB	**Alboran**	**0.56**	**60**	Pg		**Pg**	**18 09 30.3**	**+0.4**
EALB				Sg		**Sb**	**18 09 38.8**	**+0.1**
EMEL	**Melilla**	**0.66**	**123**	Pg		**Pg**	**18 09 31.7**	**0.0**
EMEL				Sg		**Sg**	**18 09 40.6**	**+0.2**
GOG	**Mont Gurugu**	**0.68**	**130**	P		**Pg**	**18 09 32.4**	**+0.2**
GOG				S		**Sg**	**18 09 41.2**	**+0.2**
ELGU	**Los Guajares,**	**1.21**	**0**	Pg		**Pn**	**18 09 40.4**	**-1.4**
ELGU				Sg		**Sn**	**18 09 58.5**	**+0.4**
EMIJ	**Mijas**	**1.29**	**315**	Pg		**Pn**	**18 09 41.7**	**-1.2**
EMIJ				Sg		**Sb**	**18 09 58.2**	**-1.6**
TAF	**Taforalt**	**1.30**	**130**	P		**Pn**	**18 09 41.9**	**-1.2**
EBER	**Berja**	**1.38**	**26**	Pn		**Pn**	**18 09 42.7**	**-1.5**
EBER				Sn		**Sb**	**18 10 00.6**	**-1.7**
EBER				*i* Vmb_Lg			18 10 12.7	
SMIR	**Smir Dam**	**1.43**	**272**	P		**Pn**	**18 09 42.4**	**-2.2**
CHEFC	**Chefchaouen**	**1.50**	**249**	P		**Pn**	**18 09 46.3**	**+0.5**
EGOR	**Sierra Gorda,**	**1.50**	**345**	Pn		**Pn**	**18 09 45.5**	**-0.3**
EGOR				Sn		**Sg**	**18 10 07.1**	**-0.3**
EGOR				*i* Vmb_Lg			18 10 13.8	
EQUE	**Quentar**	**1.55**	**6**	Pn		**Pb**	**18 09 48.1**	**+0.4**
EQUE				Sn		**Sn**	**18 10 06.5**	**-0.1**
JBK	**JBK**	**1.58**	**146**	P		**Pn**	**18 09 45.6**	**-1.4**
JBK				S		**Sn**	**18 10 04.7**	**-2.8**
EJIF	**Jimena Fronter**	**1.69**	**299**	Pn		**Pn**	**18 09 48.6**	**+0.3**
ESPR	**Espera**	**2.17**	**305**	Pn		**Pn**	**18 09 55.9**	**+1.0**
ESPR				Sn		**Sb**	**18 10 24.0**	**-1.0**
EQES	**Quesada**	**2.19**	**12**	Pn		**Pn**	**18 09 56.9**	**+1.6**
EQES				Sn		**Sb**	**18 10 25.0**	**-0.7**
EQES				*i* Vmb_Lg			18 10 30.8	
LCRM	**LCR**	**2.21**	**208**	P		**Pg**	**18 10 02.2**	**+0.8**
EADA	**Adamuz**	**2.62**	**343**	Pn		**Pn**	**18 10 03.0**	**+1.9**
EADA				Sn		**Sb**	**18 10 38.8**	**+0.9**
EADA				*i* Vmb_Lg			18 10 43.9	
EZAR	**Zarzadilla de**	**2.71**	**35**	Pn		**Pn**	**18 10 01.5**	**-0.9**
ECAB	**El Cabril**	**2.81**	**330**	Pn		**Pb**	**18 10 06.7**	**-2.4**
ECAB				Sn		**Sb**	**18 10 40.8**	**-2.6**
MD31	**MD31**	**2.94**	**199**	P		**Pn**	**18 10 06.6**	**+1.1**
MD31				S		**Sn**	**18 10 42.5**	**+1.8**
MDT	**Midelt**	**2.95**	**196**	P		**Pn**	**18 10 06.7**	**+0.9**
EMIN	**Mina Concepcio**	**3.23**	**312**	Pn		**Pn**	**18 10 09.4**	**0.0**
EMIN				Sn		**Sn**	**18 10 47.3**	**-0.5**
ETOB	**Tobarra**	**3.42**	**29**	Pn		**Pn**	**18 10 12.8**	**+0.7**
ETOB				Sn		**Sn**	**18 10 54.1**	**+1.6**
ETOB				*i* Vmb_Lg			18 10 59.3	
EGRO	**El Granado**	**3.62**	**302**	Pn		**Pn**	**18 10 14.8**	**-0.1**
EGRO				Sn		**Sn**	**18 10 55.5**	**-2.1**
PVAQ	**Vaqueiros**	**3.72**	**299**	P		**Pn**	**18 10 16.7**	**+0.4**
PAB	**San Pablo**	**3.92**	**352**	Pn		**Pn**	**18 10 21.1**	**+2.0**
PAB				Sn		**Sn**	**18 11 08.4**	**+3.3**
ESDC	**Sonseca Array**	**4.02**	**356**	Pn		**Pn**	**18 10 23.4**	**+3.0**
ESDC				Sn		**Sn**	**18 11 10.2**	**+2.7**
EBAD	**Badajoz**	**4.11**	**320**	Pn		**Pn**	**18 10 21.7**	**+0.2**
EBAD				Sn		**Sn**	**18 11 09.9**	**+0.5**

FUNV ***12*** *18:38:09.2, 8˚.37N×71˚.40W, h5km, MW3.8*

ISC 12 18:38:08.6±1.1, 8˚.43N±0˚.03×71˚.36W±0˚.02, h9km±9km, n32, σ1§69/61, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.52**	**106**	*eP*		**Pg**	**18 38 19.4**	**+0.6**
SOCV				*eS*		**Sg**	**18 38 26.6**	**+0.9**
SDV	**Santo Domingo**	**0.85**	**58**	*eP*		**Pg**	**18 38 25.1**	**+0.1**
SDV				*eS*		**Sg**	**18 38 37.5**	**+1.3**
CAPV	**Capacho**	**1.10**	**239**	*eP*		**Pg**	**18 38 31.0**	**-1.6**
CAPV				*eS*		**Sg**	**18 38 43.1**	**-0.9**
PAMC	**Pamplona, Colo**	**1.71**	**231**	*eP*		**Pn**	**18 38 39.9**	**+0.9**
PAMC				*eS*		**Sb**	**18 39 02.3**	**0.0**
OCAC	**Ocana**	**1.94**	**264**	*eP*		**Pn**	**18 38 41.7**	**-0.1**
OCAC				*eS*		**Sn**	**18 39 07.0**	**+0.5**
MCQV	**Machiques**	**1.98**	**324**	*eP*		**Pn**	**18 38 42.5**	**+0.2**
MCQV				*eS*		**Sn**	**18 39 08.9**	**+1.7**
TAMC	**Tame, Arauca**	**2.03**	**192**	*eP*		**Pb**	**18 38 45.7**	**+0.1**
TAMC				*eS*		**Sg**	**18 39 13.8**	**0.0**
SANV	**Sanarito**	**2.10**	**59**	*eP*		**Pn**	**18 38 45.3**	**+1.4**
SANV				*eS*		**Sn**	**18 39 11.7**	**+1.5**
LL6C	**La Loma 6 Bece**	**2.29**	**305**	*eP*		**Pn**	**18 38 46.6**	**+0.2**
LL6C				*eS*		**Sn**	**18 39 13.5**	**-1.2**
ELOV	**Elorza**	**2.34**	**127**	*eP*		**Pn**	**18 38 48.2**	**+1.0**
ELOV				*eS*		**Sn**	**18 39 16.7**	**+0.6**
LL1C	**La Loma 1 Cana**	**2.43**	**297**	*eP*		**Pn**	**18 38 50.5**	**+2.1**
LL1C				*eS*		**Sn**	**18 39 20.1**	**+1.9**
BARC	**Barichara**	**2.57**	**225**	*eP*		**Pb**	**18 38 54.1**	**-0.9**
BARC				*eS*		**Sb**	**18 39 29.1**	**+2.4**
DABV	**Dabajuro**	**2.58**	**16**	*eP*		**Pn**	**18 38 51.3**	**+0.8**
DABV				*eS*		**Sn**	**18 39 23.2**	**+1.3**
SIQV	**Siquisique**	**2.68**	**35**	*eP*		**Pn**	**18 38 53.6**	**+1.6**
SIQV				*eS*		**Sn**	**18 39 26.2**	**+1.5**
CRJC	**Cerrejon, Guaj**	**2.98**	**330**	*eP*		**Pn**	**18 38 54.9**	**-1.1**
CRJC				*eS*		**Sn**	**18 39 30.2**	**-1.7**
RUSC	**La Rusia**	**3.05**	**214**	*eP*		**Pn**	**18 38 59.2**	**+1.9**
RUSC				*eS*		**Sn**	**18 39 35.4**	**+1.2**
MAPV	**Macapo**	**3.19**	**64**	*eP*		**Pn**	**18 38 59.7**	**+0.8**
MAPV				*eS*		**Sn**	**18 39 37.4**	**+0.4**
ZARC	**Zaragoza, Cauc**	**3.58**	**255**	*eP*		**Pn**	**18 39 04.8**	**+0.4**
ZARC				*eS*		**Sn**	**18 39 51.1**	**+4.3**
PTBC	**PUERTO BERRIO,**	**3.60**	**239**	*eP*		**Pn**	**18 39 04.3**	**-0.2**
PTBC				*eS*		**Sb**	**18 39 52.4**	**-3.8**
SPBC	**San Pablo de B**	**3.85**	**224**	*eP*		**Pn**	**18 39 09.8**	**+1.7**
SPBC				*eS*		**Sn**	**18 39 56.6**	**+3.0**
TURV	**Turiamo**	**4.01**	**60**	*eP*		**Pn**	**18 39 11.4**	**+1.2**
TURV				*eS*		**Sn**	**18 39 57.2**	**-0.2**
BENV	**Beln**	**4.02**	**67**	*eP*		**Pn**	**18 39 11.8**	**+1.4**
BENV				*eS*		**Sn**	**18 39 56.2**	**-1.4**
SJCC	**San Jacinto, C**	**4.04**	**291**	*eP*		**Pn**	**18 39 11.6**	**+1.0**
SJCC				*eS*		**Sn**	**18 39 58.0**	**-0.1**
UREC	**San Jos de Ur**	**4.18**	**261**	*eP*		**Pn**	**18 39 13.0**	**+0.4**
MOTC	**Monteria, Cord**	**4.27**	**275**	*eP*		**Pn**	**18 39 14.0**	**+0.3**
MOTC				*eS*		**Sn**	**18 40 04.0**	**+0.3**
CHIC	**Chingaza**	**4.45**	**212**	*eP*		**Pn**	**18 39 18.3**	**+1.7**
CHIC				*eS*		**Sn**	**18 40 07.9**	**-0.8**
PAYV	**Puerto Ayacuch**	**4.74**	**129**	*eP*		**Pn**	**18 39 19.9**	**-0.4**
PAYV				*eS*		**Sn**	**18 40 11.7**	**-3.7**
CACV	**CAICARA DEL OR**	**4.85**	**100**	*eP*		Pb	18 39 28.9	-4.9
CACV				*eS*		**Sb**	**18 40 28.7**	**-3.7**
GUY2C	**Guyana, Caldas**	**5.09**	**232**	*eP*		**Pn**	**18 39 26.1**	**+0.6**
GUY2C				*eS*		**Sn**	**18 40 26.5**	**+1.8**
BIRV	**Birongo**	**5.42**	**68**	*eP*		**Pn**	**18 39 30.3**	**+0.7**
BIRV				*eS*		**Sn**	**18 40 28.6**	**-3.5**
ANIL	**Santa Ana**	**5.61**	**226**	*eP*		**Pn**	**18 39 36.1**	**+3.7**
ORTC	**Ortega, Tolima**	**5.92**	**221**	*eP*		**Pn**	**18 39 37.5**	**+0.9**
ORTC				*eS*		**Sn**	**18 40 44.8**	**+0.2**

IDC ***12*** *18:53:17.6±1.2, 1˚.68N×168˚.83E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.7/35, mbtmp3.6/9, Error ellipse: s-maj=49.6km s-min=21.2km az=128.0*

ISC 12 18:53:19.1±1.1, 1˚.7N±0˚.2×168˚.9E±0˚.3, h10km, n9, σ1§15/9, mb3.5/9, Gilbert Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.08**	**236**	P		**P**	**19 00 54.8**	**-0.4**
	0.8nm,0.7s,baz=60,slow=7.8,SNR=7.3							
STKA	**Stephens Creek**	**42.20**	**215**	P		**P**	**19 01 13.1**	**+0.7**
	1.4nm,0.7s,baz=46,slow=13,SNR=3.5							
ASAR	**Alice Springs**	**42.29**	**231**	P		**P**	**19 01 12.9**	**-0.4**
	0.3nm,0.5s,baz=57,slow=9.3,SNR=11							
CMAR	**Chiang Mai Arr**	**70.42**	**289**	P		**P**	**19 04 34.5**	**+0.2**
	0.3nm,0.5s,baz=100,slow=4.9,SNR=6.3							
ILAR	**Eielson Array**	**70.56**	**18**	P		**P**	**19 04 35.9**	**+1.8**
	0.2nm,0.8s,baz=232,slow=5.2,SNR=1.3							
SONM	**Songino Array**	**70.56**	**321**	P		**P**	**19 04 33.8**	**-0.9**
	0.1nm,0.5s,baz=132,slow=6.0,SNR=3.9							
YKA	**Yellowknife Ar**	**82.33**	**27**	P		**P**	**19 05 41.2**	**+0.4**
	0.4nm,0.7s,baz=262,slow=5.7,SNR=5.9							
PDAR	**Pinedale Array**	**82.69**	**47**	P		**P**	**19 05 41.9**	**-1.7**
	0.3nm,0.7s,baz=263,slow=7.2,SNR=1.0							
MKAR	**Makanchi Array**	**86.43**	**317**	P		**P**	**19 06 02.2**	**0.0**
	0.2nm,0.7s,baz=104,slow=3.0,SNR=2.2							

IDC ***12*** *19:01:38.3±2.7, 51˚.05N×173˚.80W, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/41, mbtmp3.6/10, ML3.2/2, Error ellipse: s-maj=68.4km s-min=21.6km az=176.0*
NEIC ***12*** *19:01:42.0±2.0, 51˚.32N±0˚.06×173˚.89W±0˚.05, h10km±1km, Error ellipse: s-maj=9.9km s-min=4.7km az=172.0*
AEIC ***12*** *19:01:42±1.9, 51˚.32N±0˚.06×173˚.81W±0˚.09, h15km±5km, ML3.3, mb4.0/18(NEIC), Error ellipse: s-maj=9.5km s-min=7.5km az=156.0*

ISC 12 19:01:41.3±0.8, 51˚.32N±0˚.09×173˚.81W±0˚.05, h10km, n53, σ1§34/57, mb4.0/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.91**	**345**			**Pn**	**19 02 00.5**	**+0.3**
ATKA						**Sn**	**19 02 13.3**	**-0.2**
KOFP	**Korovin Flat P**	**0.97**	**350**			**Pn**	**19 02 01.8**	**+0.7**
KOKL	**Mount Kliuchef**	**1.03**	**347**			**Pn**	**19 02 02.8**	**+0.9**
GSMY	**Great Sitkin M**	**1.57**	**298**			**Pn**	**19 02 09.6**	**+0.3**
GSTR	**Great Sitkin T**	**1.60**	**300**			**Pn**	**19 02 10.3**	**+0.7**
GSCK	**Great Sitkin C**	**1.62**	**296**			**Pn**	**19 02 10.3**	**+0.4**
GSTD	**Great Sitkin T**	**1.63**	**298**			**Pn**	**19 02 10.5**	**+0.4**
GSTD						**Sn**	**19 02 30.7**	**-0.4**
ADAG	**Mount Adagdak**	**1.86**	**292**			**Pb**	**19 02 14.5**	**-0.9**
ADK	**Adak**	**1.88**	**289**			**Pn**	**19 02 13.6**	**+0.2**
ADK						**Sn**	**19 02 36.1**	**-1.0**
KIWB	**Kanaga Island**	**2.15**	**286**			**Pn**	**19 02 18.0**	**+0.8**
KIKV	**Kanaga Island**	**2.17**	**286**			**Pn**	**19 02 18.5**	**+1.1**
KIMD	**Kanaga Island**	**2.18**	**283**			**Pn**	**19 02 18.4**	**+0.8**
TAPA	**Tanaga Point A**	**2.54**	**283**			**Pn**	**19 02 24.0**	**+1.3**
TAFP	**Tanaga Falls P**	**2.66**	**284**			**Pn**	**19 02 25.7**	**+1.4**
TASE	**Tanaga Southea**	**2.69**	**283**			**Pn**	**19 02 25.9**	**+1.3**
UNV	**Unalaska Valle**	**5.12**	**58**	Pn		**Pn**	**19 03 01.2**	**+3.2**
CHGN	**Chignik**	**10.37**	**55**	Pn		**Pn**	**19 04 11.3**	**+1.3**
GAMB	**Gambell**	**12.54**		Pn		**Pn**	**19 04 39.8**	**+0.3**
KDAK	**Kodiak Island**	**13.88**	**54**	Pn		**Pn**	**19 04 57.2**	**-0.6**
	0.2nm,0.3s,baz=175,slow=11,SNR=1.2							
KDAK					Sn	**S**	**19 07 48.5**	**-5.5**
	0.2nm,0.3s,baz=302,slow=14,SNR=2.4							
KDAK	**Kodiak Island**	**13.88**	**54**			**Pn**	**19 04 58.5**	**+0.7**
ANM	**Nome**	**13.99**	**15**	Pn		**Pn**	**19 05 02.2**	**+2.8**
CNPM	**China Poot**	**15.16**	**48**	Pn		**Pn**	**19 05 17.4**	**+2.2**
PETK	**Petropavlovsk-**	**17.50**	**287**	P		**P**	**19 05 46.2**	**-0.2**
	0.1nm,0.3s,baz=96,slow=15,SNR=1.7							
ILAR	**Eielson Array**	**19.39**	**36**	P		**P**	**19 06 08.5**	**+1.4**
	0.3nm,0.3s,baz=214,slow=11,SNR=11							
M27K	**Edge Creek, AK**	**20.43**	**45**	P		**P**	**19 06 18.3**	**-0.3**
M27K				IAmb		IAmb	19 06 47.2	
	comp=Z,4.2nm,1.1s							
PCA	**Pinnacle**	**20.64**	**52**	P		**P**	**19 06 20.6**	**-0.2**
L27K	**Beaver Creek,**	**20.68**	**43**	P		**P**	**19 06 22.4**	**+1.2**
TOLK	**Toolik Lake Re**	**20.92**	**25**	P		**P**	**19 06 24.8**	**+1.1**
TOLK				IAmb		IAmb	19 06 26.2	
	comp=Z,7.2nm,0.9s							
SEY	**Seymchan**	**21.43**	**316**	P		**P**	**19 06 30.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=158,slow=15,SNR=1.4							
EGAK	**Eagle**	**21.58**	**39**	P		**P**	**19 06 31.3**	**+0.5**
EGAK				IAmb		IAmb	19 06 34.0	
	comp=Z,5.9nm,0.8s							
BMAR	**Burnt Mountain**	**21.62**	**31**	P		**P**	**19 06 34.0**	**+2.8**
HYT	**Haines Junctio**	**22.10**	**50**	P		**P**	**19 06 38.9**	**+2.3**
HYT				IAmb		IAmb	19 06 52.7	
	comp=Z,10nm,1.5s							
INK	**Inuvik**	**25.74**	**34**	P		**P**	**19 07 12.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=248,slow=8.7,SNR=6.7							
INK	**Inuvik**	**25.74**	**34**	P		**P**	**19 07 11.8**	**+0.3**
YKA	**Yellowknife Ar**	**32.99**	**47**	P		**P**	**19 08 17.0**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=273,slow=8.6,SNR=3.4							
PDAR	**Pinedale Array**	**43.32**	**75**	P		**P**	**19 09 42.5**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=1.7							
SONM	**Songino Array**	**49.44**	**299**	P		**P**	**19 10 31.5**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=51,slow=7.5,SNR=6.9							
SONM	**Songino Array**	**49.44**	**299**	P		**P**	**19 10 30.2**	**-1.1**
TXAR	**Lajitas Array**	**55.56**	**85**	P		**P**	**19 11 17.1**	**+0.2**
LVZ	**Lovozero**	**59.21**	**348**	P		**P**	**19 11 40.9**	**-1.1**
MK31	**Makanchi Array**	**62.47**	**311**	P		**P**	**19 12 04.0**	**-0.5**
MKAR	**Makanchi Array**	**62.47**	**311**	P		**P**	**19 12 04.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=49,slow=5.8,SNR=7.1							
FIA1	**FINESS Array S**	**66.46**	**350**	P		**P**	**19 12 29.4**	**-1.0**
FINES	**FINESS Array B**	**66.47**	**350**	P		**P**	**19 12 29.6**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=19,slow=8.8,SNR=5.6							
FINES	**FINESS Array B**	**66.47**	**350**	P		**P**	**19 12 29.3**	**-1.0**
AAK	**Ala-Archa**	**69.25**	**313**	P		**P**	**19 12 49.0**	**+0.6**
AAK				IAmb		IAmb	19 13 11.6	
	comp=Z,1.4nm,1.0s							
ABKAR	**Akbulak array**	**69.81**	**326**	P		**P**	**19 12 51.0**	**-0.6**
ABKAR	**Akbulak array**	**69.81**	**326**	P		**P**	**19 12 51.4**	**-0.2**
ABKAR				IAmb		IAmb	19 12 53.0	
	comp=Z,2.5nm,1.4s							
KKAR	**Karatay Array**	**70.67**	**316**	P		**P**	**19 12 57.0**	**+0.1**
AKASG	**Malin Array Se**	**76.48**	**345**	P		**P**	**19 13 30.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=16,slow=5.7,SNR=7.6							
AKBB	**Malin Array Si**	**76.49**	**345**	P		**P**	**19 13 30.3**	**-0.7**
AKBB				IAmb		IAmb	19 13 49.8	
	comp=Z,6.0nm,1.4s							
BUR08	**Bucovina Ar. S**	**80.07**	**347**	P		**P**	**19 13 51.3**	**+0.3**
BUR08				IAmb		IAmb	19 13 52.0	
	comp=Z,0.8nm,0.7s							
BURAR	**Bucovina Array**	**80.10**	**347**	P		**P**	**19 13 51.7**	**+0.5**
BURAR				IAmb		IAmb	19 13 52.4	
	comp=Z,0.8nm,0.6s							

DJA ***12*** *19:13:42.4±0.9, 6˚S±3˚×107˚4E±˚, h18km±7km, M4.2/12, mb4.4/2, MLv4.1/12*
IDC ***12*** *19:13:45.4±7.3, 6˚.05S×103˚.98E, h75km±57km, mb3.2/5, mb1 3.3/6, mb1mx3.0/38, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=76.3km s-min=19.7km az=55.0*

ISC 12 19:13:42.2±0.8, 6˚.20S±0˚.07×104˚.00E±0˚.07, h42km, n31, σ2§36/31, mb3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.83**	**37**	P		**Pn**	**19 13 56.8**	**-0.7**
KASI				S		**Sn**	**19 14 05.6**	**-3.0**
LWLI	**Liwa**	**1.17**	**3**	P		**Pn**	**19 14 03.8**	**+1.5**
BLSI	**Bandar Lampung**	**1.49**	**57**	P		**Pn**	**19 14 05.4**	**-1.1**
KLI	**Kotabumi**	**1.58**	**33**	P		**Pn**	**19 14 08.1**	**+0.4**
KLI				S		**Sn**	**19 14 25.7**	**-1.2**
KLSI		**1.66**	**26**	P		**Pn**	**19 14 09.4**	**+0.5**
CGJI	**Cibinong**	**1.74**	**104**	P		**Pn**	**19 14 09.4**	**-0.5**
MNAI	**Manna**	**2.10**	**330**	P		**Pn**	**19 14 18.5**	**+3.6**
MNAI	**Manna**	**2.10**	**330**	P		**Pn**	**19 14 19.1**	**+4.2**
CBJI	**Citeko**	**2.84**	**95**	P		**Pn**	**19 14 25.1**	**0.0**
CNJI	**Cibinong**	**3.30**	**110**	P		**Pn**	**19 14 31.3**	**-0.1**
LEM	**Lembang**	**3.65**	**100**	P		**Pn**	**19 14 40.1**	**+3.7**
	4.4nm,0.3s,baz=324,slow=19,SNR=4.3							
LEM				S		**Sn**	**19 15 23.4**	**+5.1**
	6.4nm,0.3s,baz=165,slow=23,SNR=2.0							
XMI	**Christmas Isla**	**4.55**	**158**	P		**Pn**	**19 14 46.8**	**-1.8**
XMIS	**Christmas Isla**	**4.56**	**159**	P		**Pn**	**19 14 47.5**	**-1.3**
CMJI	**Cimerak**	**4.69**	**110**	P		**Pn**	**19 14 51.5**	**+1.0**
TPI	**Tanjungpandan**	**5.00**	**47**	P		**Pn**	**19 14 53.8**	**-0.9**
PPSI	**Pulau Pagai**	**5.24**	**310**	P		**Pn**	**19 15 02.1**	**+4.1**
	0.7nm41nm,0.7s							
UGM	**Wanagama**	**6.70**	**105**	P		**Pn**	**19 15 21.3**	**+3.2**
SISI	**Saibi**	**6.88**	**314**	P		**Pn**	**19 15 23.2**	**+2.6**
GSI	**Gunungsitoli**	**9.83**	**319**	P		**Pn**	**19 16 01.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.32**	**103**	P		**Pn**	**19 16 09.6**	**+1.8**
LHMI	**Lhok Sumawe**	**13.35**	**328**	P		**Pn**	**19 16 52.4**	**+3.1**
	38nm,1.0s							
PLAI	**Plampang**	**13.91**	**102**	P		**P**	**19 17 02.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**25.00**	**349**	P		**P**	**19 19 00.3**	**-1.9**
	0.8nm,0.6s,baz=178,slow=9.9,SNR=7.4							
H08S2	**Diego Garcia H**	**31.30**	**265**	T	T		19 53 33.6	
	baz=93,slow=74,SNR=5.4							
H08S3	**Diego Garcia H**	**31.31**	**266**	T	T		19 53 34.2	
	baz=93,slow=74,SNR=6.9							
H08S1	**Diego Carcia H**	**31.32**	**265**	T	T		19 53 39.5	
	baz=93							
ASAR	**Alice Springs**	**33.59**	**124**	P		**P**	**19 20 19.0**	**+0.2**
	0.4nm,0.8s,baz=294,slow=7.0,SNR=4.2							
STKA	**Stephens Creek**	**43.40**	**131**	P		**P**	**19 21 42.1**	**+1.1**
	0.6nm,0.4s,baz=315,slow=7.1,SNR=4.6							
SONM	**Songino Array**	**53.84**	**2**	P		**P**	**19 23 00.1**	**-0.9**
	0.5nm,0.7s,baz=174,slow=8.6,SNR=4.8							
MKAR	**Makanchi Array**	**56.17**	**342**	P		**P**	**19 23 16.9**	**-0.9**
	0.4nm,0.7s,baz=159,slow=8.5,SNR=6.1							
TXAR	**Lajitas Array**	**145.20**	**45**	PKPbc		**PKPbc**	**19 33 13.2**	**-2.6**
	0.3nm,0.6s,baz=284,slow=1.0,SNR=4.8							

NEIC ***12*** *19:26:11.7±1.7, 18˚.0S±0˚.1×178˚.0W±0˚.2, h616km±9km, mb4.4/32, Error ellipse: s-maj=21.2km s-min=16.5km az=70.0*
IDC ***12*** *19:26:12.8±1.5, 18˚.16S×178˚.18W, h629km±17km, mb3.1/9, mb1 3.3/11, mb1mx3.1/26, mbtmp4.1/11, Error ellipse: s-maj=21.3km s-min=16.3km az=137.0*

ISC 12 19:26:09.2±0.6, 17˚.93S±0˚.10×178˚.1W±0˚.1, h590km, n60, σ1§27/62, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.72**	**272**	P		P	19 27 38.3	+6.2
	1.4nm,0.3s,baz=142,slow=12,SNR=7.5							
MSVF	**Nonsavu**	**3.72**	**272**	P		**P**	**19 27 36.6**	**+4.5**
DZM	**Mont Dzumac**	**15.14**	**252**	P		**P**	**19 29 20.9**	**+1.8**
	0.3nm,0.3s,baz=133,slow=19,SNR=1.4							
DZM	**Mont Dzumac**	**15.14**	**252**	P		**P**	**19 29 20.4**	**+1.2**
DZM				IAmb		IAmb	19 29 38.3	
	comp=Z,36nm,1.4s							
URZ	**Urewera**	**20.69**	**191**	P		**P**	**19 30 08.1**	**-1.4**
	comp=Z,5.1nm,0.6s,baz=5.2,slow=11,SNR=2.9							
URZ	**Urewera**	**20.69**	**191**	P		**P**	**19 30 07.8**	**-1.6**
URZ				IAmb		IAmb	19 30 08.9	
	comp=Z,17nm,1.2s							
RPZ	**Rata Peaks**	**27.30**	**197**	P		**P**	**19 31 05.8**	**-2.1**
	comp=Z,2.2nm,0.3s,baz=44,slow=8.8,SNR=1.9							
EIDS	**Eidsvold**	**29.58**	**250**	P		**P**	**19 31 28.5**	**+0.6**
ARMA	**Armidale**	**30.22**	**240**	P		**P**	**19 31 34.5**	**+0.9**
ARMA				IAmb		IAmb	19 31 42.1	
	comp=Z,19nm,1.4s							
CAN	**Canberra**	**33.96**	**233**	P		**P**	**19 32 05.1**	**+0.1**
CAN				IAmb		IAmb	19 32 13.7	
	comp=Z,21nm,1.5s							
PMG	**Port Moresby**	**34.80**	**279**	P		**P**	**19 32 13.7**	**+1.4**
PMG				IAmb		IAmb	19 32 14.7	
	comp=Z,18nm,1.1s							
COEN	**Coen**	**37.45**	**270**	P		**P**	**19 32 35.3**	**+1.3**

SMIR	**Smir Dam**	**1.39**	**271**	P		**Pn**	**19 47 24.2**	**-1.8**
CHEFC	**Chefchaouen**	**1.48**	**248**	P		**Pb**	**19 47 28.0**	**-0.2**
EGOR	**Sierra Gorda,**	**1.48**	**346**	Pn		**Pn**	**19 47 27.7**	**+0.3**
EGOR				Sn		**Sn**	**19 47 47.0**	**+0.3**
EGOR				*i* Vmb_Lg			19 47 54.9	
EQUE	**Quentar**	**1.54**	**7**	Pn		**Pb**	**19 47 29.1**	**-0.2**
EQUE				Sn		**Sn**	**19 47 48.6**	**+0.4**
EQUE				*i* Vmb_Lg			19 47 57.9	
JBK	**JBK**	**1.61**	**146**	P		**Pn**	**19 47 28.0**	**-1.3**
JBK				S		**Sn**	**19 47 46.5**	**-3.8**
ESPR	**Espera**	**2.13**	**305**	Pn		**Pb**	**19 47 38.1**	**-1.2**
ESPR				Sn		**Sn**	**19 48 03.5**	**+0.8**
ESPR				*i* Vmb_Lg			19 48 14.5	
EQES	**Quesada**	**2.18**	**13**	Pn		**Pn**	**19 47 38.6**	**+1.6**
EQES				Sn		**Sn**	**19 48 04.7**	**+0.7**
EQES				*i* Vmb_Lg			19 48 09.2	
TLOR	**Lorca, Murcia**	**2.54**	**38**	Pn		**Pn**	**19 47 41.5**	**-0.4**
TLOR				Sn		**Sn**	**19 48 13.8**	**+1.0**
EADA	**Adamuz**	**2.59**	**344**	Pn		**Pn**	**19 47 43.7**	**+1.1**
EADA				Sn		**Sn**	**19 48 15.5**	**+1.4**
EADA				*i* Vmb_Lg			19 48 27.6	
ECAB	**El Cabril**	**2.77**	**330**	Pn		**Pn**	**19 47 45.4**	**+0.2**
ECAB				Sn		**Sn**	**19 48 19.4**	**+0.8**
ECAB				*i* Vmb_Lg			19 48 30.7	
MD31	**MD31**	**2.94**	**198**	P		**Pn**	**19 47 49.1**	**+1.6**
MDT	**Midelt**	**2.96**	**195**	P		**Pn**	**19 47 50.1**	**+2.4**
MDT				S		**Sn**	**19 48 23.7**	**+0.5**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn		**Pn**	**19 47 50.1**	**-0.8**
EMIN				Sn		**Sn**	**19 48 28.7**	**-0.1**
EMIN				*i* Vmb_Lg			19 48 29.7	
ETOB	**Tobarra**	**3.42**	**29**	Pn		**Pn**	**19 47 55.0**	**+1.0**
ETOB				Sn		**Sn**	**19 48 35.4**	**+0.9**
EGRO	**El Granado**	**3.58**	**302**	Pn		**Pn**	**19 47 57.0**	**+0.8**
EGRO				Sn		**Sn**	**19 48 39.0**	**+0.4**
PVAQ	**Vaqueiros**	**3.69**	**299**	P		**Pn**	**19 47 57.9**	**+0.2**
PVAQ				S		**Sn**	**19 48 38.1**	**-2.9**
PAB	**San Pablo**	**3.90**	**352**	Pn		**Pn**	**19 48 01.4**	**+0.7**
PAB				Sn		**Sn**	**19 48 46.8**	**+0.3**
ESDC	**Sonseca Array**	**4.00**	**357**	Pn		**Pn**	**19 48 03.3**	**+1.3**
ESDC				Sn		**Sn**	**19 48 48.9**	**0.0**
EBAD	**Badajoz**	**4.07**	**320**	Pn		**Pn**	**19 48 03.4**	**+0.5**
EBAD				Sn		**Sn**	**19 48 49.9**	**-0.7**
EBAD				*i* Vmb_Lg			19 48 53.0	

NEIC ***12*** *19:50:18.6±2.5,51°.32N±0°.06×173°.9W±0°.1, h10km±1km, mb3.7/36, ML3.1(AEIC), Error ellipse: s-maj=11.5km s-min=10.1km az=223.0*
AEIC ***12*** *19:50:21±3.1,51°.43N±0°.09×174°.0W±0°.1, h15km±5km, Error ellipse: s-maj=12.5km s-min=9.1km az=178.0*
IDC ***12*** *19:50:35.3±7.6,53°.28N×174°.94W, h46km±63km, mb3.2/6, mb1 3.5/8, mb1mx3.1/63, mbtmp3.5/8, ML3.8/2, Error ellipse: s-maj=67.2km s-min=27.6km az=16.0*
ISC 12 19:50:22.9±1.0, 51°.5N±0°.1×173°.91W±0°.08, h35km, n72, σ1ᵎ15/64, mb3.4/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.76**	**347**		**Pn**	**19 50 35.8**	**-1.3**
KOFP	**Korovin Flat P**	**0.82**	**352**		**Pn**	**19 50 37.7**	**-0.3**
GSMY	**Great Sitkin M**	**1.46**	**294**		**Pn**	**19 50 46.6**	**-0.1**
GSTR	**Great Sitkin T**	**1.48**	**296**		**Pn**	**19 50 47.3**	**+0.3**
GSCK	**Great Sitkin C**	**1.50**	**292**		**Pn**	**19 50 47.3**	**0.0**
GSTD	**Great Sitkin T**	**1.51**	**294**		**Pn**	**19 50 47.5**	**0.0**
ADK	**Adak**	**1.78**	**285**		**Pn**	**19 50 50.4**	**-0.7**
KIWB	**Kanaga Island**	**2.06**	**282**		**Pn**	**19 50 54.8**	**-0.1**
KIKV	**Kanaga Island**	**2.07**	**283**		**Pn**	**19 50 54.8**	**-0.4**
KIMD	**Kanaga Island**	**2.10**	**280**		**Pn**	**19 50 55.0**	**-0.5**
TAFP	**Tanaga Falls P**	**2.57**	**281**		**Pn**	**19 51 02.4**	**+0.3**
TASE	**Tanaga Southea**	**2.60**	**280**		**Pn**	**19 51 02.6**	**+0.2**
UNV	**Unalaska Valle**	**5.10**	**59**	Pn	**Pn**	**19 51 36.5**	**-0.2**
CHGN	**Chignik**	**10.34**	**56**	Pn	**Pn**	**19 52 49.5**	**+0.9**
OHAK	**Old Harbor**	**13.31**	**56**	Pn	**Pn**	**19 53 31.6**	**+2.5**
KDAK	**Kodiak Island**	**13.84**	**55**	P	**P**	**19 53 43.8**	**-0.4**
	1.1nm,0.3s,baz=290,slow=13,SNR=10						
KDAK	**Kodiak Island**	**13.84**	**55**	Pn	**Pn**	**19 53 38.0**	**+1.6**
ANM	**Nome**	**13.87**	**16**	Pn	**Pn**	**19 53 39.2**	**+2.5**
L19K	**White Mountain**	**14.90**	**37**		**P**	**19 53 55.4**	**-0.5**
M19K	**Big River Lodg**	**14.91**	**38**		**P**	**19 53 54.7**	**-1.3**
M19K				IAmb	IAmb	19 54 16.5	
	comp=Z,6.0nm,1.2s						
CNPM	**China Poot**	**15.11**	**49**		**P**	**19 53 56.5**	**-1.7**
BRLK	**Bradley Lake**	**15.37**	**48**		**Pn**	**19 53 59.4**	**+2.5**
SEW	**Seward**	**16.16**	**48**		**Pn**	**19 54 08.8**	**+1.8**
J20K	**Nowinta River**	**16.42**	**32**		**P**	**19 54 12.8**	**+0.1**
J20K				IAmb	IAmb	19 54 13.6	
	comp=Z,6.7nm,1.4s						
CAST	**Castle Rocks**	**16.66**	**36**		**P**	**19 54 16.8**	**+1.3**
PWL	**Port Wells**	**16.96**	**46**		**P**	**19 54 19.1**	**+0.3**
KTH	**Kantishna Hill**	**17.17**	**36**		**Pn**	**19 54 20.5**	**+0.8**
TRF	**Thorofare Moun**	**17.35**	**37**		**Pn**	**19 54 22.3**	**+0.2**
TRF				IAmb	IAmb	19 54 23.3	
	comp=Z,5.5nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.46**	**35**		**Pn**	**19 54 23.8**	**+0.5**
I21K	**Tanana**	**17.79**	**31**		**P**	**19 54 29.3**	**+1.5**
I21K				IAmb	IAmb	19 54 45.3	
	comp=Z,4.9nm,1.1s						
H21K	**Melozitna Rive**	**17.84**	**29**		**P**	**19 54 30.0**	**+1.5**
RND	**Reindeer**	**17.87**	**38**		**P**	**19 54 29.4**	**+0.5**
RND				IAmb	IAmb	19 54 47.8	
	comp=Z,6.6nm,1.2s						
MLY	**Manley**	**18.10**	**33**		**P**	**19 54 32.6**	**+1.3**
DHY	**Denali Highway**	**18.30**	**40**	P	**P**	**19 54 33.6**	**-0.1**
I23K	**Minto, Yukon-K**	**18.64**	**33**	P	**P**	**19 54 36.6**	**-0.6**
I23K				IAmb	IAmb	19 54 46.4	
	comp=Z,10nm,1.5s						
WRH	**Wood River Hil**	**18.71**	**36**	P	**P**	**19 54 35.8**	**-2.2**
WRH				IAmb	IAmb	19 54 52.8	
	comp=Z,6.6nm,1.4s						
CCB	**Clear Creek Bu**	**18.91**	**36**	P	**P**	**19 54 37.7**	**-2.5**
MDM	**Murphy Dome**	**18.93**	**35**	P	**P**	**19 54 39.7**	**-0.7**
MDM				IAmb	IAmb	19 54 48.4	
	comp=Z,4.6nm,1.3s						
HDA	**Harding Lake**	**19.11**	**37**	P	**P**	**19 54 41.5**	**-0.9**
HDA				IAmb	IAmb	19 54 52.7	
	comp=Z,2.7nm,0.9s						
IL31		**19.31**	**36**	P	**P**	**19 54 43.2**	**-1.3**
ILAR	**Eielson Array**	**19.31**	**36**	P	**P**	**19 54 43.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=235,slow=9.2,SNR=10.0						
ILAR	**Eielson Array**	**19.31**	**36**	P	**P**	**19 54 43.3**	**-1.4**
H24K	**Noodor Dome**	**19.54**	**33**	P	**P**	**19 54 46.6**	**-0.6**
H24K				IAmb	IAmb	19 55 02.6	
	comp=Z,5.3nm,1.3s						
RIDG	**Independent Ri**	**19.62**	**40**	P	**P**	**19 54 47.0**	**-1.0**
RIDG				IAmb	IAmb	19 55 00.9	
	comp=Z,2.8nm,0.8s						
J25K	**Salcha River,**	**19.80**	**37**	P	**P**	**19 54 48.3**	**-1.8**
J25K				IAmb	IAmb	19 54 59.2	
	comp=Z,3.3nm,0.9s						
DOT	**Dot Lake**	**19.90**	**41**	P	**P**	**19 54 49.8**	**-1.2**
DOT				IAmb	IAmb	19 55 16.2	
	comp=Z,7.8nm,1.4s						
SCRK	**Sand Creek**	**20.06**	**40**	P	**P**	**19 54 51.4**	**-1.5**
SCRK				IAmb	IAmb	19 55 06.0	
	comp=Z,5.3nm,1.2s						
PRP	**Porcupine Dome**	**20.19**	**35**	P	**P**	**19 54 53.2**	**-1.1**
L27K	**Beaver Creek,**	**20.62**	**43**	P	**P**	**19 54 58.6**	**-0.2**
L27K				IAmb	IAmb	19 55 11.2	
	comp=Z,4.6nm,1.4s						
BCAR	**Beaver Creek A**	**20.64**	**43**	P	**P**	**19 55 00.4**	**+1.4**
EGAK	**Eagle**	**21.51**	**39**	P	**P**	**19 55 06.8**	**-1.6**
EGAK				IAmb	IAmb	19 55 18.7	
	comp=Z,6.0nm,1.1s						
BMAR	**Burnt Mountain**	**21.53**	**31**	P	**P**	**19 55 09.1**	**+0.5**
DAWY	**Dawson**	**21.98**	**42**	P	**P**	**19 55 11.8**	**-1.7**
INK	**Inuvik**	**25.66**	**34**	P	**P**	**19 55 49.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=225,slow=5.7,SNR=1.3						
INK	**Inuvik**	**25.66**	**34**	P	**P**	**19 55 48.9**	**+0.1**
INK				IAmb	IAmb	19 56 02.9	
	comp=Z,2.4nm,1.3s						
A36M	**Sachs Harbour**	**29.54**	**28**	P	**P**	**19 56 24.0**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**35.08**	**213**	T	T	20 35 36.3	
	baz=21,slow=75,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**35.09**	**213**	T	T	20 35 35.7	
	baz=21,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**35.10**	**213**	T	T	20 35 35.7	
	baz=21,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**36.28**	**212**	T	T	20 36 47.7	
	baz=20,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**36.30**	**212**	T	T	20 36 47.5	
	baz=20,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**36.30**	**212**	T	T	20 36 47.6	
	baz=20,slow=76,SNR=7.4						
BMN	**Battle Mountai**	**39.98**	**83**	P	**P**	**19 57 53.2**	**-0.8**
BMN				IAmb	IAmb	19 58 14.6	
	comp=Z,1.4nm,0.5s						
PDAR	**Pinedale Array**	**43.35**	**75**	P	P	19 58 33.7	+12
	comp=Z,0.2nm,0.5s,baz=355,slow=3.3,SNR=4.8						
PDAR	**Pinedale Array**	**43.35**	**75**	P	**P**	**19 58 20.8**	**-0.8**
TXAR	**Lajitas Array**	**55.60**	**85**	P	P	20 00 10.2	+15
	comp=Z,0.1nm,0.6s,baz=264,slow=3.6,SNR=1.6						
KURBB	**Kurchatov Arra**	**61.24**	**316**	P	**P**	**20 00 33.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**62.33**	**311**	P	**P**	**20 00 40.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=47,slow=5.4,SNR=1.6						
FINES	**FINESS Array B**	**66.31**	**350**	P	**P**	**20 01 07.2**	**+0.1**
	comp=Z,2.8nm,1.2s,baz=1.6,slow=9.7,SNR=1.5						
ABKAR	**Akbulak array**	**69.66**	**326**	P	**P**	**20 01 28.6**	**+0.2**
ABKAR	**Akbulak array**	**69.66**	**326**	P	**P**	**20 01 28.5**	**+0.1**
ABKAR				IAmb	IAmb	20 01 41.2	
	comp=Z,1.5nm,1.2s						
GAR	**Garm**	**73.92**	**313**	P	**P**	**20 01 54.3**	**0.0**

NNC ***12*** *19:51:51.2±7.2,38°.02N×72°.22E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=55.7km s-min=37.5km az=168.0*
ISC 12 19:51:51.2±3.6, 37.7N±0°.2×72.2E±0°.1, h100km, n10, σ1ᵎ38/14, 2C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.58**	**14**	P	**Pn**	**19 52 59.2**	**+0.6**
	SNR=41						
UCH	**Uchtor**	**4.87**	**20**	P	**Pn**	**19 53 03.1**	**+0.6**
	SNR=8.5						
AAK	**Ala-Archa**	**5.24**	**19**	⇑P	**Pn**	**19 53 08.4**	**+1.0**
	SNR=7.9						
AAK	**Ala-Archa**	**5.24**	**19**	⇑P	**Pn**	**19 53 08.0**	**+0.7**
	5.7nm,0.4s						
AAK				⇓S	**Sn**	**19 54 06.9**	**+0.3**
	37nm,0.9s						
KK09	**Karatay Array**	**5.59**	**347**	⇓P	**Pn**	**19 53 11.3**	**-0.6**
	5.5nm,0.4s,baz=156,slow=14						
KK09				⇓S	**Sn**	**19 54 12.3**	**-2.5**
	14nm,0.5s,baz=160,slow=23						
CHMS	**Chumysh**	**5.65**	**19**	P	**Pn**	**19 53 13.4**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**5.83**	**25**	P	**Pn**	**19 53 13.6**	**-1.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**5.83**	**25**	⇑P	**Pn**	**19 53 12.9**	**-2.5**
	4.4nm,0.7s						
TKM2				⇓S	**Sn**	**19 54 21.1**	**+0.2**
	4.7nm,0.7s						
USP	**Ospenovka**	**5.84**	**17**	P	**Pn**	**19 53 15.6**	**+0.3**
	SNR=5.2						
AB31	**Akbulak array**	**14.59**	**326**	P	**Pn**	**19 55 12.7**	**+0.2**
	0.6nm,0.6s,baz=169,slow=9.9,SNR=16						
AB31				S	**Sn**	**19 57 54.5**	**+1.4**
	0.8nm,0.5s,baz=153,slow=22,SNR=5.0						

DJA ***12*** *19:56:59.9±0.4,9°.S±6°×11°.8E±°, h106km±5km, M4.0/15, mb4.1/2, MLv4.0/15*
IDC ***12*** *19:56:59.7±3.2,8°.83S×117°.60E, h137km±27km, mb3.1/6, mb1 3.3/9, mb1mx3.0/58, mbtmp3.7/9, Error ellipse: s-maj=34.1km s-min=11.6km az=60.0*
ISC 12 19:56:58.4±0.8, 8°.92S±0°.06×117°.66E±0°.05, h123km±7km, n26, σ1ᵎ48/30, mb3.4/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.15**	**53**	P	**Pn**	**19 57 15.7**	**+0.4**
PLAI				S	**Sn**	**19 57 27.2**	**-0.8**
WBSI	**Waikabubak, Su**	**1.86**	**113**	P	**Pn**	**19 57 31.0**	**+0.7**
DNP	**Denpasar**	**2.43**	**275**	P	**Pn**	**19 57 39.8**	**+2.4**
IGBI	**Denpasar**	**2.48**	**272**	P	**Pn**	**19 57 39.3**	**+1.2**
SRBI	**Singaraja**	**2.56**	**289**	P	**Pn**	**19 57 39.6**	**+0.6**
BASI	**Baing, Sumba**	**3.16**	**114**	P	**Pn**	**19 57 48.9**	**+2.0**
JAGI	**Jajag, Banyuwa**	**3.50**	**277**	P	**Pn**	**19 57 51.4**	**+0.1**
ABJI	**Asem Bagus**	**3.57**	**288**	P	**Pn**	**19 57 53.0**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.93**	**46**	P	**Pn**	**19 57 58.3**	**+1.1**
KMMI	**Kalianget**	**4.10**	**297**	P	**Pn**	**19 58 00.7**	**+1.3**
BLJI	**Banyuglugur**	**4.19**	**286**	P	**Pn**	**19 58 01.6**	**+1.1**
GMJI	**Gumukmas**	**4.22**	**278**	P	**Pn**	**19 58 01.1**	**+0.2**
BKSI	**Bulukumba**	**4.33**	**35**	P	**Pn**	**19 58 03.7**	**+1.3**
KAPI	**Kappang**	**4.40**	**28**	P	**Pn**	**19 58 04.4**	**+1.1**
	0.9nm,0.3s,baz=246,slow=5.4,SNR=2.8						
KAPI				S	**Sn**	**19 58 54.6**	**+0.8**
	2.0nm,0.3s,baz=95,slow=21,SNR=1.6						
MMRI	**Maumere**	**4.54**	**87**	P	**Pn**	**19 58 06.9**	**+1.7**
PCJI	**Pacitan**	**6.45**	**276**	P	**Pn**	**19 58 31.5**	**+0.5**
	0.2nm28nm,1.4s						
UGM	**Wanagama**	**7.13**	**278**	P	**Pn**	**19 58 40.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.98**	**140**	P	**Pn**	**19 59 46.0**	**+0.7**
	0.6nm,0.3s,baz=344,slow=7.8,SNR=23						
FITZ				S	**Sn**	**20 01 52.7**	**-4.5**
	0.6nm,0.3s,baz=161,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**19.50**	**126**	P	**Pn**	**20 01 18.3**	**-0.3**
	1.0nm,0.3s,baz=300,slow=12,SNR=156						
WRA				S	**S**	**20 04 51.1**	**+1.2**
	0.1nm,0.3s,baz=306,slow=25,SNR=2.3						
ASAR	**Alice Springs**	**21.37**	**135**	P	**P**	**20 01 38.2**	**+2.0**
	0.6nm,0.4s,baz=308,slow=9.5,SNR=13						
STKA	**Stephens Creek**	**31.87**	**139**	P	**P**	**20 03 13.1**	**+1.1**
	1.3nm,0.9s,baz=325,slow=17,SNR=3.4						
KSRS	**Korea Array**	**47.12**	**11**	P	**P**	**20 05 18.2**	**+0.1**
	0.6nm,0.7s,baz=184,slow=8.8,SNR=2.7						
SONM	**Songino Array**	**57.38**	**351**	P	**P**	**20 06 33.2**	**-0.8**
	0.2nm,0.4s,baz=164,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**63.79**	**334**	P	**P**	**20 07 16.2**	**-1.2**
	0.4nm,0.5s,baz=148,slow=6.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**68.31**	**334**	P	**P**	**20 07 44.4**	**-1.7**
	0.3nm,0.6s,baz=143,slow=5.7,SNR=4.1						
YKA	**Yellowknife Ar**	**114.65**	**24**	PKP	**PKiKP**	**20 15 23.5**	**-0.3**
	0.2nm,0.4s,baz=294,slow=2.0,SNR=3.1						

NEIC ***12*** *19:59:05.3±2.0,51°.31N±0°.04×173°.89W±0°.08, h10km±1km, mb4.0/68, ML3.6(AEIC), Error ellipse: s-maj=8.5km s-min=6.8km az=56.0*
AEIC ***12*** *19:59:07±3.0,51°.44N±0°.04×173°.96W±0°.03, h9km±4km, Error ellipse: s-maj=6.3km s-min=2.2km az=193.0*
IDC ***12*** *19:59:11.6±0.8,51°.53N×173°.90W, h50km±5km, mb3.4/21, mb1 3.6/22, mb1mx3.4/65, mbtmp3.7/22, Error ellipse: s-maj=25.4km s-min=11.3km az=6.0*
ISC 12 19:59:06.4±0.5, 51°.38N±0°.06×173°.87W±0°.04, h10km, n138, σ1ᵎ72/141, mb3.9/28, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.84**	**346**		**Pg**	**19 59 23.0**	**+0.3**
ATKA					**Sg**	**19 59 34.8**	**+1.1**
KOFP	**Korovin Flat P**	**0.90**	**351**		**Pb**	**19 59 24.2**	**0.0**
KOKL	**Mount Kliuchef**	**0.96**	**348**		**Pg**	**19 59 24.9**	**0.0**
GSMY	**Great Sitkin M**	**1.51**	**297**		**Pn**	**19 59 33.0**	**-0.6**
GSTR	**Great Sitkin T**	**1.53**	**298**		**Pb**	**19 59 34.0**	**-1.0**
GSCK	**Great Sitkin C**	**1.56**	**295**		**Pn**	**19 59 33.5**	**-0.6**
GSTD	**Great Sitkin T**	**1.56**	**296**		**Pn**	**19 59 33.9**	**-0.4**
GSTD					**Sb**	**19 59 54.8**	**-0.6**
ADK	**Adak**	**1.82**	**287**		**Pn**	**19 59 37.4**	**-0.4**
ADK					**Sn**	**20 00 00.6**	**-0.3**
KIWB	**Kanaga Island**	**2.10**	**284**		**Pn**	**19 59 42.1**	**+0.5**
KIKV	**Kanaga Island**	**2.11**	**285**		**Pn**	**19 59 42.3**	**+0.5**
KIMD	**Kanaga Island**	**2.13**	**282**		**Pn**	**19 59 42.5**	**+0.5**
KICM	**Kanaga Island**	**2.14**	**286**		**Pn**	**19 59 42.6**	**+0.5**
TAPA	**Tanaga Point A**	**2.50**	**282**		**Pn**	**19 59 47.9**	**+0.9**
TAFL	**Tanaga Flats**	**2.54**	**280**		**Pn**	**19 59 48.5**	**+0.8**
TAFP	**Tanaga Falls P**	**2.61**	**283**		**Pn**	**19 59 49.9**	**+1.2**
TAFP					**Sn**	**20 00 21.9**	**+1.5**
TASE	**Tanaga Southea**	**2.64**	**281**		**Pn**	**19 59 50.3**	**+1.3**
NIKH	**Nikolski High**	**3.47**	**61**		**Pn**	**20 00 02.6**	**+2.2**
UNV	**Unalaska Valle**	**5.12**	**58**		**Pn**	**20 00 25.1**	**+2.1**
SPIA	**Saint Paul Isl**	**6.18**	**19**	Pn	**Pn**	**20 00 39.2**	**+1.6**
SDPT	**Sand Point**	**8.94**	**58**	Pn	**Pn**	**20 01 16.9**	**+1.5**
CHGN	**Chignik**	**10.37**	**56**	Pn	**Pn**	**20 01 35.4**	**+0.4**
GAMB	**Gambell**	**12.48**	**4**	Pn	**Pn**	**20 02 03.8**	**0.0**
KDAK	**Kodiak Island**	**13.87**	**54**	P	**Pn**	**20 02 19.7**	**-3.2**
	0.6nm,0.3s,baz=226,slow=2.8,SNR=9.4						
KDAK				S	S	20 05 09.4	-9.5
	0.3nm,0.3s,baz=158,slow=22,SNR=2.2						
KDAK	**Kodiak Island**	**13.87**	**54**		**Pn**	**20 02 21.2**	**-1.6**
ANM	**Nome**	**13.94**	**15**	Pn	**Pn**	**20 02 25.2**	**+1.4**
SVW2	**Sparrevohn**	**14.02**	**39**	Pn	**Pn**	**20 02 27.3**	**+2.4**
N19K	**Bonanza Creek**	**14.30**	**41**	Pn	**Pn**	**20 02 29.1**	**+0.3**
L19K	**White Mountain**	**14.95**	**36**		**P**	**20 02 40.8**	**-2.4**
L19K				IAmb	IAmb	20 03 01.7	
	comp=Z,7.0nm,1.2s						
M19K	**Big River Lodg**	**14.96**	**38**	Pn	**Pn**	**20 02 39.4**	**+1.8**
M19K				IAmb	IAmb	20 02 55.9	
	comp=Z,8.3nm,1.2s						
TTA	**Tatalina**	**15.02**	**33**	Pn	**Pn**	**20 02 40.9**	**+2.4**
TTA				IAmb	IAmb	20 03 06.5	
	comp=Z,5.4nm,1.0s						
CNPM	**China Poot**	**15.14**	**49**	Pn	**Pn**	**20 02 41.6**	**+1.4**
BRLK	**Bradley Lake**	**15.40**	**48**	Pn	**Pn**	**20 02 43.4**	**-0.1**
K20K	**Telida**	**15.97**	**34**		**Pn**	**20 02 52.2**	**+1.3**
SEW	**Seward**	**16.20**	**48**	Pn	**Pn**	**20 02 53.7**	**-0.1**
O22K	**Cooper Landing**	**16.22**	**46**	Pn	**Pn**	**20 02 53.9**	**-0.2**
PPLA	**Purkeypile**	**16.37**	**37**		**P**	**20 02 57.5**	**-1.6**
RC01	**Rabbit Creek A**	**16.46**	**45**	Pn	**Pn**	**20 02 56.0**	**-1.3**
RC01				IAmb	IAmb	20 03 05.9	
	comp=Z,8.7nm,1.0s						
J20K	**Nowinta River**	**16.48**	**31**		**P**	**20 02 58.8**	**-1.3**
CAST	**Castle Rocks**	**16.71**	**35**	P	**P**	**20 03 01.9**	**-0.8**
CAST				IAmb	IAmb	20 03 20.7	
	comp=Z,13nm,1.3s						
GHO	**Glory Hole Cre**	**17.11**	**43**	Pn	**Pn**	**20 03 04.5**	**-1.1**
GHO				IAmb	IAmb	20 03 24.1	
	comp=Z,11nm,1.2s						
KNK	**Knik Glacier**	**17.16**	**44**	Pn	**Pn**	**20 03 04.4**	**-1.7**
KNK				IAmb	IAmb	20 03 30.1	
	comp=Z,21nm,1.4s						
KTH	**Kantishna Hill**	**17.22**	**36**		**P**	**20 03 07.3**	**-1.0**
KTH				IAmb	IAmb	20 03 32.7	
	comp=Z,16nm,1.4s						
SML	**Sawmill**	**17.38**	**43**	Pn	**Pn**	**20 03 06.9**	**-1.9**
SML				IAmb	IAmb	20 03 31.6	
	comp=Z,12nm,1.2s						
TRF	**Thorofare Moun**	**17.39**	**37**		**Pn**	**20 03 09.0**	**-0.1**
TRF				IAmb	IAmb	20 03 32.9	
	comp=Z,12nm,1.5s						
PETK	**Petropavlovsk-**	**17.45**	**287**	P	**P**	**20 03 11.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=82,slow=11,SNR=2.3						
PETK	**Petropavlovsk-**	**17.45**	**287**	P	**P**	**20 03 11.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**17.51**	**35**		**P**	**20 03 10.8**	**-0.7**
I21K	**Tanana**	**17.84**	**31**	P	**P**	**20 03 15.2**	**+0.1**
I21K				IAmb	IAmb	20 03 34.5	
	comp=Z,7.5nm,0.9s						
IMAR	**Indian Mountai**	**17.85**	**27**		**P**	**20 03 15.7**	**+0.5**
H21K	**Melozitna Rive**	**17.90**	**29**	P	**P**	**20 03 15.5**	**-0.4**
MCK	**McKinley**	**18.06**	**37**		**Pn**	**20 03 15.8**	**-1.4**
MCK				IAmb	IAmb	20 03 41.6	
	comp=Z,10nm,1.3s						
BWN	**Browne**	**18.10**	**36**		**P**	**20 03 18.3**	**+0.4**
BWN				IAmb	IAmb	20 03 36.5	
	comp=Z,11nm,0.7s						
MLY	**Manley**	**18.16**	**32**	P	**P**	**20 03 18.4**	**-0.2**
DHY	**Denali Highway**	**18.35**	**40**	P	**Pn**	**20 03 19.1**	**-1.7**
M24K	**Tolsona, Glenn**	**18.44**	**44**	P	**P**	**20 03 21.0**	**-0.8**
RAGM	**Ragged Mountai**	**18.54**	**50**	P	**P**	**20 03 22.4**	**-0.6**
RAGM				IAmb	IAmb	20 03 27.3	
	comp=Z,15nm,1.0s						
I23K	**Minto, Yukon-K**	**18.69**	**33**	P	**P**	**20 03 24.1**	**-0.4**
BMRM	**Bremner River**	**18.75**	**48**	P	**P**	**20 03 24.3**	**-0.9**
BMRM				IAmb	IAmb	20 03 49.8	
	comp=Z,20nm,1.3s						
WRH	**Wood River Hil**	**

SONM				pP		**pwP**	**20 08 09.0**	**+5.2**
	comp=Z,0.3nm,0.6s,baz=54,slow=4.8,SNR=2.2							
SONM	**Songino Array**	**49.37**	**299**	IAmb		IAmb	20 07 57.4	
	comp=Z,1.2nm,1.3s							
ECSD	**EROS Data Cent**	**50.43**	**67**	P		**P**	**20 08 02.3**	**-1.6**
ECSD				IAmb		IAmb	20 08 16.2	
	comp=Z,1.6nm,0.7s							
EYMN	**Ely**	**50.74**	**59**	P		**P**	**20 08 04.8**	**-1.4**
E43A	**Lone Tree Farm**	**54.13**	**59**	P		**P**	**20 08 30.2**	**-1.1**
TXAR	**Lajitas Array**	**55.59**	**85**	P		**P**	**20 08 41.5**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=310,slow=5.4,SNR=4.8							
TXAR				pP		**pwP**	**20 08 55.8**	**+5.7**
	comp=Z,0.8nm,0.7s,baz=295,slow=5.2,SNR=5.6							
TXAR	**Lajitas Array**	**55.59**	**85**	P		**P**	**20 08 41.3**	**-0.9**
ARCES	**ARCESS Array B**	**58.56**	**352**	P		**P**	**20 09 00.4**	**-2.1**
	comp=Z,3.6nm,1.0s,baz=21,slow=7.7,SNR=1.9							
KURK	**Kurchatov**	**61.20**	**316**	P		**P**	**20 09 19.6**	**-1.4**
KURBB	**Kurchatov Arra**	**61.31**	**316**	P		**P**	**20 09 20.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=42,slow=7.0,SNR=10							
KURBB				pP		**pwP**	**20 09 34.1**	**+4.5**
	comp=Z,0.7nm,0.5s,baz=44,slow=6.7,SNR=6.7							
M54A	**Oil Creek Stat**	**61.32**	**59**	P		**P**	**20 09 20.8**	**-1.1**
MK31	**Makanchi Array**	**62.40**	**311**	P		**P**	**20 09 27.6**	**-1.5**
MK31				IAmb		IAmb	20 09 40.3	
	comp=Z,1.9nm,1.4s							
MKAR	**Makanchi Array**	**62.40**	**311**	P		**P**	**20 09 27.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=47,slow=6.0,SNR=8.9							
MKAR				pP		**pwP**	**20 09 41.2**	**+4.1**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.8,SNR=4.5							
BVAR	**Borovoye Array**	**62.83**	**322**	P		**P**	**20 09 31.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=34,slow=4.4,SNR=4.9							
BVAR				pP		**pwP**	**20 09 45.3**	**+5.5**
	comp=Z,0.5nm,0.4s,baz=49,slow=6.2,SNR=2.3							
SSPA	**Standing Stone**	**62.88**	**58**	P		**P**	**20 09 31.8**	**-0.7**
S54A	**Dingess, Becki**	**63.03**	**63**	P		**P**	**20 09 32.8**	**-0.7**
FINES	**FINESS Array B**	**66.40**	**350**	P		**P**	**20 09 52.8**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=15,slow=7.9,SNR=3.8							
FINES	**FINESS Array B**	**66.40**	**350**	P		**P**	**20 09 52.3**	**-2.6**
AAK	**Ala-Archa**	**69.18**	**313**	P		**P**	**20 10 13.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=117,slow=4.5,SNR=2.7							
AAK	**Ala-Archa**	**69.18**	**313**	P		**P**	**20 10 12.2**	**-0.9**
AAK				IAmb		IAmb	20 10 16.7	
	comp=Z,1.7nm,1.1s							
AKTO	**Aktyubinsk**	**69.40**	**327**	P		**P**	**20 10 13.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=61,slow=14,SNR=4.3							
ABKAR	**Akbulak array**	**69.74**	**326**	P		**P**	**20 10 14.7**	**-1.5**
ABKAR	**Akbulak array**	**69.74**	**326**	P		**P**	**20 10 14.8**	**-1.4**
ABKAR				IAmb		IAmb	20 10 15.8	
	comp=Z,0.9nm,0.8s							
KKAR	**Karatay Array**	**70.60**	**316**	P		**P**	**20 10 20.1**	**-1.5**
GAR	**Garm**	**73.99**	**313**	P		**P**	**20 10 41.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**74.07**	**280**	P		P	20 10 46.5	+3.9
	comp=Z,0.4nm,0.3s,baz=34,slow=6.7,SNR=1.7							
CMAR				pP		**PcP**	**20 10 56.4**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=23,slow=7.3,SNR=3.3							
BUR08	**Bucovina Ar. S**	**80.00**	**347**	P		**P**	**20 11 14.0**	**-1.8**
BUR08				IAmb		IAmb	20 11 38.8	
	comp=Z,3.0nm,1.3s							
BURAR	**Bucovina Array**	**80.03**	**347**	P		**P**	**20 11 14.4**	**-1.4**
WRA	**Warramunga Arr**	**84.24**	**228**	P		**P**	**20 11 36.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=28,slow=6.0,SNR=2.5							
ASAR	**Alice Springs**	**87.66**	**226**	P		**P**	**20 11 54.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=53,slow=4.8,SNR=1.9							
QSPA	**South Pole Qui**	**141.14**	**180**	PKhKP		PKPpre	20 18 28.4	
	comp=Z,0.6nm,0.8s,baz=219,slow=6.5,SNR=1.3							
BOSA	**Boshof**	**153.10**	**320**	PKPbc		**PKiKP**	**20 19 03.4**	**-0.9**
	comp=Z,3.2nm,1.1s,baz=12,slow=3.0,SNR=1.6							

IDC ***12*** *20:03:13.2±2.4, 6.02N×126.72E, h106km±20km, mb3.0/4, mb1 3.2/5, mb1mx2.8/55, mbtmp3.4/5, Error ellipse: s-maj=77.0km s-min=18.0km az=58.0*
MAN ***12*** *20:03:16.7, 6.05N×126.37E, h5km, mb4.5, ML3.4, MS3.2*
ISC 12 20:03:13.6±1.1, 5.5N±0.1×126.3E±0.2, h66km, n8, σ1s29/9, mb3.2/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GSPH	**General Santos**	**1.45**	**292**	⇑ *eP*		**Pn**	**20 03 37.7**	**-0.2**
DAV	**Davao City (W)**	**1.68**	**335**	P		**Pn**	**20 03 40.4**	**-0.5**
	58nm,0.3s,baz=101,slow=16,SNR=4.4							
DAV				S		**Sn**	**20 04 00.8**	**-0.7**
	101nm,0.3s,baz=84,slow=5.0,SNR=2.7							
KCP	**Kidapawan**	**1.89**	**321**	⇓ *eP*		**Pn**	**20 03 45.8**	**+2.0**
KCP				*i* S		**Sn**	**20 04 06.4**	**-0.3**
SIJI	**Sorong**	**8.07**	**142**	P		**Pn**	**20 05 08.9**	**+0.7**
	0.3nm,0.3s,baz=342,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**23.50**	**182**	P		**P**	**20 08 18.9**	**+1.1**
	1.7nm,1.0s,baz=11,slow=16,SNR=1.9							
WRA	**Warramunga Arr**	**26.53**	**163**	P		**P**	**20 08 44.7**	**-0.6**
	0.4nm,0.8s,baz=343,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**29.96**	**166**	P		**P**	**20 09 14.2**	**-1.7**
	0.2nm,0.5s,baz=344,slow=7.3,SNR=5.3							
MKAR	**Makanchi Array**	**55.84**	**325**	P		P	20 12 38.4	-5.9
	0.1nm,0.4s,baz=123,slow=8.2,SNR=2.1							

IDC ***12*** *20:19:09.2±1.8, 43.29N×105.09W, h0km, mb2.4/1, mb1 3.4/5, mb1mx3.3/35, mbtmp3.2/5, ML2.9/3, Error ellipse: s-maj=28.7km s-min=9.9km az=154.0*
NEIC ***12*** *20:19:12.5±1.1, 43.63N±0.05×105.18W±0.04, h0km±1km, ML3.5/62, Error ellipse: s-maj=9.0km s-min=4.7km az=162.0*
ISC 12 20:19:12.1±0.9, 43.60N±0.06×105.23W±0.06, h0km, n55, σ1s02/55, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**1.00**	**59**			**Pg**	**20 19 31.0**	**-0.3**
K22A	**Casper**	**1.35**	**225**			**Pg**	**20 19 36.5**	**-1.4**
K22A				IAML			20 20 03.5	
	comp=N,428nm,0.3s							
K22A				IAML			20 20 04.7	
	comp=E,488nm,0.9s							
PHWY	**Pilot Hill**	**2.31**	**184**			**Pn**	**20 19 52.0**	**+0.4**
PHWY				IAML			20 20 28.2	
	comp=E,156nm,0.8s							
RWWY	**Rawlins**	**2.41**	**218**			**Pn**	**20 19 53.6**	**+0.6**
N23A	**Red Feather La**	**2.76**	**191**	Pn		**Pn**	**20 19 58.8**	**+1.0**
N23A				IAML			20 20 42.8	
	comp=E,209nm,0.7s							
N23A				IAML			20 20 43.1	
	comp=N,232nm,0.7s							
LAO	**LASA Array**	**3.16**	**347**			**Pn**	**20 20 03.3**	**0.0**
RLMT	**Red Lodge**	**3.27**	**299**			**Pn**	**20 20 05.0**	**+0.2**
RLMT				IAML			20 21 01.1	
	comp=N,105nm,0.7s							
RLMT				IAML			20 21 03.1	
	comp=N,92nm,0.4s							
BW06	**Boulder Array**	**3.28**	**257**			**Pn**	**20 20 05.6**	**+0.7**
BW06				IAML			20 21 02.5	
	comp=N,68nm,0.7s							
PD31	**Pinedale Array**	**3.28**	**257**			**Pn**	**20 20 05.2**	**+0.3**
PDAR	**Pinedale Array**	**3.28**	**257**	Pn		**Pn**	**20 20 05.0**	**0.0**
	comp=N,4.9nm,0.3s,baz=75,slow=15,SNR=27							
PDAR				Sn		**Sn**	**20 20 46.7**	**+1.9**
	comp=N,4.2nm,0.3s,baz=88,slow=19,SNR=4.8							
PDAR				Lg		Lg	20 20 53.1	
	comp=N,18nm,0.3s,baz=67,slow=29,SNR=6.3							
PDAR	**Pinedale Array**	**3.28**	**257**			**Pn**	**20 20 05.5**	**+0.6**
OGNE	**Ogallala**	**3.56**	**137**			**Pn**	**20 20 09.2**	**+0.5**
YMP	**Mirror Lake Pl**	**3.73**	**289**			**Pn**	**20 20 11.7**	**+0.6**
ISCO	**Idaho Springs**	**3.81**	**184**	Pn		**Pn**	**20 20 13.2**	**+0.8**
GCMT	**Greycliff**	**3.85**	**306**			**Pn**	**20 20 13.1**	**+0.5**
LKWY	**Lake**	**3.85**	**286**			**Pn**	**20 20 13.3**	**+0.5**
LKWY				IAML			20 21 21.1	
	comp=N,86nm,1.2s							
LKWY				IAML			20 21 40.9	
	comp=N,58nm,1.1s							
LOHW	**Long Hollow**	**3.91**	**272**			**Pn**	**20 20 14.3**	**+0.8**
LOHW				IAML			20 21 44.8	
	comp=N,42nm,1.4s							
H17A	**Grant Village**	**3.94**	**283**			**Pn**	**20 20 15.5**	**+1.4**
H17A				IAML			20 21 19.4	
	comp=N,85nm,1.1s							
H17A				IAML			20 21 21.9	
	comp=E,67nm,1.1s							
FLWY	**Flagg Ranch**	**3.99**	**279**			**Pn**	**20 20 16.1**	**+1.4**
FLWY				IAML			20 21 51.0	
	comp=E,66nm,1.4s							
MOOW	**Moose Ponds**	**4.01**	**274**			**Pn**	**20 20 16.6**	**+1.7**
SNOW	**Snow King Moun**	**4.02**	**270**	Pn		**Pn**	**20 20 17.1**	**+1.9**
YNR	**Norris Junctio**	**4.08**	**288**			**Pn**	**20 20 16.8**	**+0.8**
REDW	**Red Top Meadow**	**4.10**	**269**	Pn		**Pn**	**20 20 17.5**	**+1.2**
REDW				IAML			20 21 32.2	
	comp=E,96nm,0.7s							
O20A	**White River Ci**	**4.13**	**214**			**Pn**	**20 20 17.6**	**+1.0**
O20A				IAML			20 22 03.4	
	comp=E,70nm,1.3s							
TPAW	**Teton Pass**	**4.16**	**270**			**Pn**	**20 20 17.5**	**+0.3**
TPAW				IAML			20 22 00.4	
	comp=E,40nm,1.6s							
TPAW				IAML			20 22 03.4	
	comp=E,64nm,1.0s							
YHH	**Holmes Hill**	**4.21**	**288**	Pn		**Pn**	**20 20 18.1**	**+0.2**
YHH				IAML			20 21 40.6	
	comp=N,36nm,1.2s							
E28A	**Huff**	**4.37**	**46**			**Pn**	**20 20 19.7**	**0.0**
AHID	**Auburn Hatcher**	**4.38**	**261**			**Pn**	**20 20 21.0**	**+1.0**
AHID				IAML			20 21 36.1	
	comp=N,65nm,0.9s							
AHID				IAML			20 21 49.8	
	comp=N,53nm,1.1s							
RDMU	**Red Mountain**	**4.43**	**228**	Pn		**Pn**	**20 20 22.2**	**+1.5**
RDMU				IAML			20 21 53.4	
	comp=N,39nm,0.9s							
Q24A	**Divide**	**4.64**	**179**			**Pn**	**20 20 25.5**	**+1.8**
DGMT	**Dagmar**	**4.92**	**8**			**Pn**	**20 20 28.2**	**+0.9**
BOZ	**Bozeman (W)**	**4.99**	**296**	Pn		**Pn**	**20 20 28.9**	**+0.5**
BOZ				IAML			20 21 58.1	
	comp=N,18nm,0.9s							
BOZ				IAML			20 22 00.8	
	comp=N,24nm,1.6s							
KSCO	**Kaye Shedlock'**	**4.99**	**156**			**Pn**	**20 20 28.2**	**-0.1**
HWUT	**Hardware Ranch**	**5.09**	**249**			**Pn**	**20 20 30.1**	**+0.4**
HWUT				IAML			20 22 20.1	
	comp=N,47nm,1.1s							
HWUT				IAML			20 22 29.5	
	comp=N,48nm,1.1s							
EGMT	**Eagleton**	**5.44**	**326**			**Pn**	**20 20 34.5**	**+0.1**
P18A	**Preston Nutter**	**5.47**	**225**	Pn		**Pn**	**20 20 35.1**	**0.0**
LRM	**Limekiln Ridge**	**5.61**	**296**			**Pn**	**20 20 37.4**	**+0.5**
HRY	**Holter Researc**	**5.61**	**306**			**Pn**	**20 20 36.3**	**-0.5**
CTU	**Camp Tracy**	**5.66**	**241**	Pn		**Pn**	**20 20 37.0**	**-0.5**
PV15	**Paradox Valley**	**5.80**	**206**	Pn		**Pn**	**20 20 39.8**	**+0.1**
P17A	**Butcher Ranch,**	**5.84**	**227**			**Pn**	**20 20 39.7**	**-0.5**
HVU	**Hansel Valley**	**5.86**	**254**			**Pn**	**20 20 40.3**	**0.0**
SDCO	**Great Sand Dun**	**5.86**	**182**			**Pn**	**20 20 40.1**	**-0.3**
ECSD	**EROS Data Cent**	**6.25**	**86**			**Pn**	**20 20 44.9**	**-0.7**
T25A	**Trinidad**	**6.49**	**174**			**Pn**	**20 20 50.5**	**+1.5**
DUG	**Dugway, Tooele**	**6.61**	**242**			**Pn**	**20 20 50.5**	**-0.1**
HLID	**Hailey**	**6.67**	**273**			**Pn**	**20 20 52.9**	**+1.4**
JTMT	**Jette**	**7.58**	**306**	Pn		**Pn**	**20 21 04.6**	**+0.8**
ELK	**Elko**	**7.97**	**252**	Pn		**Pn**	**20 21 09.5**	**+0.1**
	comp=N,0.2nm,0.3s,baz=63,slow=12,SNR=2.5							
ELK				Lg		Lg	20 23 24.3	
	comp=N,0.1nm,0.3s,baz=279,slow=10,SNR=2.5							
WALA	**Waterton Lakes**	**8.11**	**315**	Pn		**Pn**	**20 21 10.2**	**-1.0**
I10CA	**LAC DU BONNET**	**9.12**	**40**	*i*			21 13 50.0	
	baz=224,slow=320,SNR=4.6							
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		**Pn**	**20 21 23.9**	**-2.3**
	comp=N,0.5nm,0.3s,baz=230,slow=15,SNR=2.1							
ULM				Pg			20 21 56.7	
	comp=N,0.4nm,0.3s,baz=221,slow=6.9,SNR=1.7							
ULM				Sn		**Sn**	**20 23 13.2**	**+2.5**
	comp=N,0.5nm,0.3s,baz=172,slow=18,SNR=3.2							
ULM				Lg		Lg	20 23 58.9	
	comp=N,0.3nm,0.3s,baz=311,slow=19,SNR=4.2							
NEW	**Newport**	**9.51**	**303**	Pn		**Pn**	**20 21 31.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=85,slow=12,SNR=1.8							
NEW				Lg		Lg	20 24 09.2	
	comp=N,0.1nm,0.3s,baz=330,slow=12,SNR=2.9							
TXAR	**Lajitas Array**	**14.30**	**174**	Pg		P	20 23 37.2	+54
	comp=N,0.0nm,0.3s,baz=358,slow=6.8,SNR=3.2							
TXAR				Lg		Lg	20 26 30.8	
	comp=N,0.1nm,0.3s,baz=10.0,slow=26,SNR=1.5							
YKA	**Yellowknife Ar**	**19.70**	**347**	P		**P**	**20 23 41.5**	**-1.2**
	comp=N,0.1nm,0.4s,baz=157,slow=11,SNR=2.4							
YKA				Lg		Lg	20 29 31.2	
	comp=N,0.4nm,0.7s,baz=155,slow=28,SNR=3.6							

IDC ***12*** *20:35:30.9±7.4, 34.65N×23.41E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.3/32, mbtmp3.4/6, ML3.3/3, MS4.2/1, Ms1 4.2/1, ms1mx3.5/64, Error ellipse: s-maj=126.7km s-min=37.3km az=21.0*
THE ***12*** *20:35:37.6, 35.36N×23.58E, h4km±1km, ML3.2/11, Error ellipse: s-maj=2.0km s-min=0.5km az=86.0*
ATH ***12*** *20:35:37.7, 35.38N×23.58E, h13km±2km, ML3.2/5, Error ellipse: s-maj=2.9km s-min=1.0km az=57.0*
ISK ***12*** *20:35:38.4, 35.39N×23.68E, h4km, ML3.3/10*
ISC 12 20:35:37.7±1.1, 35.36N±0.03×23.56E±0.03, h7km±9km, n45, σ1s06/66, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RODP	**Rodopos**	**0.25**	**39**	P		**Pg**	**20 35 42.9**	**+0.2**
RODP				S		**Sg**	**20 35 46.4**	**+0.3**
	7μm,0.4s							
RODP	**Rodopos**	**0.25**	**39**	PG		**Pg**	**20 35 42.9**	**+0.2**
RODP				SG		**Sg**	**20 35 45.8**	**-0.3**
IMMV	**Iera Moni Meta**	**0.36**	**74**	P		**Pg**	**20 35 44.0**	**-0.6**
IMMV				S		**Sg**	**20 35 49.9**	**+0.5**
IMMV				AML		AML	20 35 51.3	
	comp=E,13695μm,0.3s							
IMMV				AML		AML	20 35 52.2	
	comp=N,10178μm,0.2s							
IMMV	**Iera Moni Meta**	**0.36**	**74**	P		**Pg**	**20 35 44.1**	**-0.6**
IMMV				S		**Sg**	**20 35 49.6**	**+0.3**
	comp=N,6μm,0.5s							
IMMV	**Iera Moni Meta**	**0.36**	**74**	PG		**Pg**	**20 35 44.3**	**-0.3**
IMMV				SG		**Sg**	**20 35 48.6**	**-0.7**
VAM	**Vamos**	**0.52**	**85**	P		**Pg**	**20 35 47.0**	**-0.8**
VAM				S		**Sg**	**20 35 54.8**	**+0.2**
VAM				AML		AML	20 35 59.1	
	comp=N,9733μm,0.3s							
VAM				AML		AML	20 35 59.6	
	comp=E,8897μm,0.3s							
VAM	**Vamos**	**0.52**	**85**	P		**Pg**	**20 35 47.1**	**-0.7**
VAM				S		**Sg**	**20 35 55.0**	**+0.4**
	comp=E,5μm,0.3s							
ANKY	**Antikythira Is**	**0.55**	**337**	P		**Pg**	**20 35 48.0**	**-0.2**
ANKY				S		**Sg**	**20 35 55.4**	**0.0**
ANKY				AML		AML	20 35 57.7	
	comp=N,2643μm,0.2s							
ANKY				AML		AML	20 36 02.4	
	comp=E,2598μm,0.3s							
ANKY	**Antikythira Is**	**0.55**	**337**	P		**Pg**	**20 35 48.0**	**-0.2**
ANKY				S		**Sg**	**20 35 56.0**	**+0.6**
	comp=E,2μm,0.6s							
GVDS	**Gavdos**	**0.68**	**140**	P		**Pg**	**20 35 50.1**	**-0.6**
GVDS				S		**Sg**	**20 36 00.4**	**+0.9**
	comp=E,5μm,0.5s							
GVD	**Gavdhos**	**0.68**	**140**	P		**Pg**	**20 35 50.4**	**-0.3**
GVD				S		**Sg**	**20 36 00.6**	**+1.1**
GVD				AML		AML	20 36 03.1	
	comp=N,9458μm,0.4s							
GVD				AML		AML	20 36 03.2	
	comp=E,8098μm,0.3s							
GVD	**Gavdhos**	**0.68**	**140**	P		**Pg**	**20 35 50.4**	**-0.3**
GVD				S		**Sb**	**20 36 01.3**	**-0.1**
	comp=E,4μm,0.4s							
GVD	**Gavdhos**	**0.68**	**140**	PG		**Pb**	**20 35 51.4**	**-0.4**
GVD				SG		**Sb**	**20 36 00.9**	**-0.5**
PRNS	**Prines Rethymn**	**0.77**	**90**	P		**Pg**	**20 35 50.3**	**-2.1**
PRNS				S		**Sg**	**20 36 00.8**	**-1.6**
KTHA	**Kythira Island**	**0.98**	**336**	P		**Pg**	**20 35 55.8**	**-0.7**
KTHA	**Kythira Island**	**0.98**	**336**	P		**Pg**	**20 35 55.9**	**-0.7**
KTHA				S		**Sb**	**20 36 11.0**	**+0.8**
	comp=E,755nm,0.6s							
KTHR	**Kythira**	**1.00**	**333**	P		**Pg**	**20 35 56.1**	**-0.9**
KTHR				S		**Sb**	**20 36 10.9**	**0.0**
	comp=E,678nm,0.4s							
TMBK	**Timbaki Herakl**	**1.03**	**106**	P		**Pg**	**20 35 55.8**	**-1.6**
TMBK				S		**Sb**	**20 36 12.0**	**+0.5**
	comp=E,1μm,0.5s							
IDI	**Anoyia**	**1.09**	**94**	P		**Pg**	**20 35 56.9**	**-1.7**
IDI				S		**Sg**	**20 36 12.1**	**-0.6**
IDI				AML		AML	20 36 15.5	
	comp=E,1404μm,0.3s							
IDI				AML		AML	20 36 17.7	
	comp=N,2033μm,0.4s							
IDI	**Anoyia**	**1.09**	**94**	P		**Pg**	**20 35 57.0**	**-1.6**
IDI				S		**Sb**	**20 36 13.0**	**-0.3**
	comp=N,862nm,0.3s							
IDI	**Anoyia**	**1.09**	**94**	PG		**Pg**	**20 35 57.8**	**-0.8**
HRKL	**Herakleio**	**1.26**	**92**	P		**Pg**	**20 36 01.5**	**-0.3**
HRKL	**Herakleio**	**1.26**	**92**	PN		**Pg**	**20 36 01.0**	**-0.8**
VLI	**Veliai**	**1.45**	**340**	P		**Pn**	**20 36 04.0**	**-0.3**
VLI	**Veliai**	**1.45**	**340**	P		**Pn**	**20 36 04.1**	**-0.2**
VLI				S		**Sg**	**20 36 23.9**	**-0.3**
MHLO	**Agia Marina, M**	**1.49**	**27**	P		**Pn**	**20 36 04.7**	**-0.2**
MHLO	**Agia Marina, M**	**1.49**	**27**	P		**Pn**	**20 36 04.9**	**0.0**
MHLO				S		**Sb**	**20 36 24.7**	**-0.1**
	comp=N,2μm,0.5s							
NPS	**Neapolis**	**1.68**	**93**	P		**Pn**	**20 36 08.1**	**+0.6**
ZKR	**Zakros**	**2.19**	**96**	PN		**Pn**	**20 36 15.5**	**+1.0**
ITM	**Ithomi**	**2.24**	**324**	PN		**Pb**	**20 36 18.1**	**-0.5**
APE	**Apeiranthos**	**2.33**	**42**	P		**Pn**	**20 36 15.8**	**-0.7**
APE	**Apeiranthos**	**2.33**	**42**	PN		**Pn**	**20 36 17.5**	**+1.0**
KARP	**Karpathos**	**2.94**	**85**	PN		**Pn**	**20 36 25.7**	**+0.8**
BODT	**Bodrum**	**3.47**	**60**	PN		**Pn**	**20 36 33.6**	**+1.4**
CHOS	**Chios Island**	**3.62**	**33**	PN		**Pn**	**20 36 35.6**	**+1.3**
DALY	**Dalyan (Mula)**	**4.37**	**69**	PN		**Pn**	**20 36 46.4**	**+1.9**
FETY	**Fethiye**	**4.65**	**73**	PN		**Pn**	**20 36 50.9**	**+2.5**
CAME	**Cameli-Denizli**	**4.91**	**70**	PN		**Pn**	**20 36 53.9**	**+1.9**
AKAS	**Kas**	**4.99**	**78**	PN		**Pn**	**20 36 55.2**	**+2.1**
BRTR	**Keskin Array B**	**9.11**	**58**	Pn		**Pn**	**20 37 53.3**	**+3.6**
	comp=N,0.1nm,0.3s,baz=236,slow=13,SNR=5.4							
BRTR				LR		LR	20 42 58.1	
	comp=N,1μm,18.5s,baz=206,slow=47							
GERES	**GERESS Array B**	**15.31**	**335**	Pn		**P**	**20 39 19.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=151,slow=12,SNR=2.0							
KBZ	**Khabaz**	**17.07**	**55**	Pn		**P**	**20 39 39.8**	**+1.3**
	comp=N,0.1nm,0.3s,baz=246,slow=18,SNR=2.7							
FINES	**FINESS Array B**	**26.15**	**3**	P		**P**	**20 41 11.4**	**-0.8**
	comp=N,0.8nm,0.8s,baz=199,slow=15,SNR=1.5							
ARCES	**ARCESS Array B**	**34.24**	**1**	P		**P**	**20 42 24.2**	**+0.4**
	comp=N,0.8nm,0.7s,baz=166,slow=8.0,SNR=0.9							
MKAR	**Makanchi Array**	**44.75**	**57**	P		**P**	**20 43 50.2**	**-1.5**
	comp=N,0.2nm,0.3s,baz=274,slow=7.2,SNR=6.0							

UPA 12 20:43:13.2±1.8, 7.18N×78.16W, h16km±60km, MD4.1, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DBBC	**Dabeiba**	**1.94**	**95**	*eP*		Pn	20 43 45.4	-0.2
DBBC				*eS*		Sn	20 44 08.2	-1.5
LCBC	**Los crdobas,**	**2.43**	**47**	*eP*		Pn	20 43 53.3	+1.0
LCBC				*eS*		Sn	20 44 20.6	-1.0
BCIP	**Isla Barro Col**	**2.58**	**320**	⇓ *iP*		Pn	20 43 51.6	-2.7
BCIP				*eS*		Sn	20 44 25.9	+0.5
HELC	**Santa Helena**	**2.79**	**110**	*eP*		Pn	20 43 58.0	+0.5
HELC				*eS*		Sn	20 44 31.8	+0.8
MONA	**Monteria**	**2.93**	**57**	*eP*		Pn	20 43 58.8	-0.4
MONA				*eS*		Sn	20 44 34.0	-0.2

RSNC 12 20:43:29.6±1.1, 6.88N×76.32W, h12km±7km, ML1.4, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DBBC	**Dabeiba**	**0.17**	**39**	⇑ *iP*		Pg	20 43 32.9	-0.7
DBBC				*eS*		Sg	20 43 36.3	0.0
CBOC	**Ciudad Bolivar**	**1.06**	**163**	*eP*		Pb	20 43 48.6	-1.4
CBOC				*eS*		Sg	20 44 02.8	-1.0
CBOC				*i*			20 44 06.4	
	comp=Z,5.2nm,0.5s							
UREC	**San Jos de Ur**	**1.17**	**42**	*eP*		Pb	20 43 50.7	-1.1
UREC				*eS*		Sb	20 44 06.7	-0.2
UREC				*i*			20 44 08.5	
	comp=Z,7.5nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.57**	**67**	*eP*		Pn	20 43 56.0	-1.4
ZARC				*eS*		Sn	20 44 16.5	-1.3
ZARC				*i*			20 44 19.4	
	comp=Z,4.1nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.88**	**100**	*eP*		Pn	20 44 00.6	-1.1
PTBC				*eS*		Sn	20 44 24.4	-1.0
PTBC				*i*			20 44

PB06				IAML			20 49 28.0	
	comp=Z,2µm,0.3s							
LVC	**Limon Verde**	**1.95**	**141**	P		**Pn**	**20 49 08.7**	**+1.1**
	comp=Z,84nm,0.3s,baz=17,slow=8.0,SNR=918							
LVC				S		**Sn**	**20 49 32.4**	**+0.9**
	comp=Z,351nm,0.3s,baz=132,slow=14,SNR=71							
LVC	**Limon Verde**	**1.95**	**141**	Pn		**Pn**	**20 49 08.8**	**+1.1**
LVC				Sn		**Sn**	**20 49 32.3**	**+0.7**
LVC	**Limon Verde**	**1.95**	**141**	*eP*		**Pn**	**20 49 08.2**	**+0.6**
LVC				*i* S		**Sn**	**20 49 32.5**	**+0.9**
LVC	**Limon Verde**	**1.95**	**141**	*eP*		**Pn**	**20 49 08.8**	**+1.1**
LVC	**Limon Verde**	**1.95**	**141**	*eP*		**Pn**	**20 49 08.8**	**+1.1**
LVC				*eS*		**Sn**	**20 49 32.3**	**+0.7**
PB15	**IPOC Station P**	**2.23**	**162**	*eP*		**Pn**	**20 49 11.6**	**+0.5**
PB15				*eS*		**Sn**	**20 49 38.5**	**+0.6**
PB15				IAML			20 49 47.3	
	comp=Z,3µm,0.3s							
PB10	**IPOC Station P**	**2.43**	**187**	Pn		**Pn**	**20 49 13.6**	**-0.2**
PB10	**IPOC Station P**	**2.43**	**187**	*i*P		**Pn**	**20 49 13.8**	**+0.1**
PB10				IAML			20 49 43.3	
	comp=E,469nm,0.3s							
PB10	**IPOC Station P**	**2.43**	**187**	*eP*		**Pn**	**20 49 13.9**	**+0.2**
PB10				*eS*		**Sn**	**20 49 43.7**	**+1.2**
PB12	**IPOC Station P**	**2.46**	**358**			**Pn**	**20 49 15.4**	**+1.2**
PB12	**IPOC Station P**	**2.46**	**358**	*i*P		**Pn**	**20 49 15.0**	**+0.8**
PB12				*i* S		**Sn**	**20 49 42.4**	**-1.0**
PB12	**IPOC Station P**	**2.46**	**358**	*eP*		**Pn**	**20 49 15.1**	**+0.8**
PB12				*eS*		**Sn**	**20 49 43.5**	**0.0**
PB12				IAML			20 49 44.2	
	comp=Z,579nm,0.2s							
AP01	**Chacalluta**	**2.70**	**358**	Pn		**Pn**	**20 49 18.5**	**+1.1**
AP01	**Chacalluta**	**2.70**	**358**	*eP*		**Pn**	**20 49 18.6**	**+1.2**
AP01	**Chacalluta**	**2.70**	**358**	*eP*		**Pn**	**20 49 19.0**	**+1.6**
AP01				IAML			20 49 55.2	
	comp=Z,532nm,0.2s							
PB16	**IPOC Station P**	**2.82**	**14**			**Pn**	**20 49 21.0**	**+1.5**
PB16	**IPOC Station P**	**2.82**	**14**	*i*P		**Pn**	**20 49 20.9**	**+1.3**
PB16				IAML			20 50 13.6	
	comp=E,278nm,0.5s							
PB16	**IPOC Station P**	**2.82**	**14**	*eP*		**Pn**	**20 49 20.7**	**+1.1**
PB16				*eP*			20 49 21.0	
PB16				*eS*		**Sn**	**20 49 54.2**	**+1.4**
AC01	**Pan de Azucar**	**5.05**	**184**	Pn		**Pn**	**20 49 47.6**	**-1.7**
LPAZ	**La Paz**	**5.17**	**23**	P		**Pn**	**20 49 55.2**	**+3.6**
	comp=E,2.0nm,0.3s,baz=173,slow=4.4,SNR=24							
LPAZ	**La Paz**	**5.17**	**23**			**Pn**	**20 49 55.0**	**+3.3**
LPAZ	**La Paz**	**5.17**	**23**	*eP*		**Pn**	**20 49 55.1**	**+3.5**
AC02	**Maricunga**	**5.81**	**170**	Pn		**Pn**	**20 50 00.3**	**+0.2**
AC02	**Maricunga**	**5.81**	**170**	*eP*		**Pn**	**20 50 00.7**	**+0.5**
AC02				*eS*		**Sn**	**20 51 07.6**	**+1.9**
GO03	**Copiap**	**6.48**	**180**	Pn		**Pn**	**20 50 07.2**	**-1.7**
AC04	**Llanos de Chal**	**7.13**	**186**	Pn		**Pn**	**20 50 14.1**	**-3.6**
AHML	**Horco Molle**	**7.23**	**143**	*eP*		**Pn**	**20 50 21.0**	**+1.9**
VCA	**Vinchina**	**7.83**	**167**	*eP*		**Pn**	**20 50 29.0**	**+1.5**
VCA				*eS*		**Sn**	**20 51 54.6**	**-0.1**
CO03	**El Pedregal**	**9.72**	**182**	Pn		Pn	20 50 48.7	-4.5
SIV	**San Ignacio**	**10.06**	**61**	P		**Pn**	**20 50 55.3**	**-2.5**
	comp=E,1.5nm,0.3s,baz=243,slow=13,SNR=15							
NNA	**Nana**	**11.04**	**324**	S		**Sn**	**20 53 14.1**	**+1.1**
	comp=E,3.7nm,0.3s,baz=267,slow=6.3,SNR=2.8							
ETMB	**Extrema**	**11.86**	**20**	*eP*		**Pn**	**20 51 24.9**	**+2.6**
MT02	**Curacav**	**12.15**	**184**	Pn		**Pn**	**20 51 22.7**	**-3.5**
MT01	**Popeta**	**12.76**	**184**	Pn		**Pn**	**20 51 33.3**	**-1.1**
AQUB	**Aquidaana**	**13.61**	**90**	*eP*		**P**	**20 51 49.6**	**-2.5**
BO02	**Sierra Bellavi**	**13.66**	**182**	Pn		**Pn**	**20 51 46.4**	**-0.1**
H03N1	**Juan Fernandez**	**14.51**	**210**	T		T	21 06 56.4	
	baz=35,slow=72,SNR=40							
H03N2	**Juan Fernandez**	**14.52**	**210**	T		T	21 06 55.8	
	baz=35,slow=72,SNR=33							
H03N3	**Juan Fernandez**	**14.53**	**210**	T		T	21 06 55.2	
	baz=35,slow=72,SNR=29							
SALV	**Santo Antonio**	**14.72**	**72**	*eP*		**P**	**20 52 04.6**	**0.0**
PP1B	**Ponte de Pedra**	**14.90**	**79**	*eP*		**P**	**20 52 07.0**	**+0.5**
PDRB	**Porto dos Gac**	**16.01**	**56**	*eP*		**P**	**20 52 09.5**	**+0.6**
TRCB	**Terra Rica**	**16.42**	**99**	*eP*		**P**	**20 52 24.1**	**+0.8**
TBTG	**Tabatinga, AM**	**16.80**	**1**	*eP*		**Pn**	**20 52 27.2**	**+0.6**
ITAB	**Concordia**	**17.61**	**114**	P		**Pn**	**20 52 35.4**	**-1.1**
ITAB				IAmb		IAmb	20 53 02.7	
	comp=Z,36nm,1.4s							
PCMB	**Pacaembu**	**17.69**	**95**	*eP*		**Pn**	**20 52 38.6**	**+1.2**
ARAG	**Araguaiana, MT**	**18.28**	**76**	*eP*		**Pn**	**20 52 45.6**	**+1.0**
ITRB	**Iturama**	**18.68**	**89**	*eP*		**P**	**20 52 48.7**	**+0.4**
FRTB	**Fartura**	**19.27**	**101**	*eP*		**P**	**20 52 55.3**	**+0.6**
PLCA	**Paso Flores**	**19.59**	**181**	P		**Pn**	**20 53 00.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=335,slow=9.0,SNR=6.4							
PLCA	**Paso Flores**	**19.59**	**181**	P		**P**	**20 52 59.2**	**+1.2**
NPGB	**Novo Progresso**	**20.05**	**48**	*eP*		**Pn**	**20 53 04.8**	**-0.9**
SNDB	**Serra Nova Dou**	**20.28**	**66**	*eP*		**P**	**20 53 05.3**	**-0.3**
LL05	**Los Muermos**	**20.44**	**187**	P		**P**	**20 53 04.5**	**-2.7**
IPMB	**Ipameri, GO**	**20.98**	**85**	*eP*		**P**	**20 53 13.3**	**0.0**
RCLB	**Rio Claro- Sao**	**21.19**	**98**	*eP*		**P**	**20 53 13.2**	**+0.9**
VAO	**Valinhos**	**21.65**	**99**	*eP*		**P**	**20 53 20.8**	**+0.4**
BDFB	**Brasilia**	**21.77**	**79**	P		**P**	**20 53 22.1**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=232,slow=8.1,SNR=4.7							
BDFB	**Brasilia**	**21.77**	**79**	P		**P**	**20 53 22.4**	**+0.6**
BDFB				IAmb		IAmb	20 53 34.1	
	comp=Z,4.0nm,0.9s							
PEXB	**Peixe**	**22.82**	**70**	*eP*		**P**	**20 53 33.4**	**+0.5**
MALB	**Monte Alegre**	**24.66**	**41**	*eP*		**P**	**20 53 50.0**	**+0.2**
VAS01	**Vassouras-RJ**	**24.92**	**98**	*eP*		**P**	**20 53 51.7**	**-0.4**
SMTB	**Santa Maria do**	**24.98**	**64**	*eP*		**P**	**20 53 54.4**	**+1.5**
DIAM	**Diamantina, MG**	**25.15**	**88**	*eP*		**P**	**20 53 54.4**	**-0.1**
BOAV	**Boa Vista**	**25.20**	**23**	*eP*		**P**	**20 53 55.5**	**+0.8**
JANB	**Januaria**	**25.35**	**81**	*eP*		**P**	**20 53 55.8**	**-0.3**
SDBA	**SAO DESIDERIO**	**25.72**	**74**	*eP*		**P**	**20 53 59.3**	**-0.2**
NAN01	**Guarapari, ES**	**26.55**	**89**	*eP*		**P**	**20 54 24.5**	**-0.4**
GUA01	**Guaratinga, BA**	**29.12**	**86**	*eP*		**P**	**20 54 29.1**	**-0.8**
NBPS	**Pedro II - PI**	**32.52**	**63**	*eP*		**P**	**20 54 59.2**	**-0.7**
NBLA	**Lagarto - SE**	**32.70**	**77**	*eP*		**P**	**20 54 59.5**	**-1.9**
NBPB	**Pedra_Branca-C**	**33.49**	**67**	*eP*		**P**	**20 55 08.6**	**+0.2**
PMSA	**Palmer Station**	**43.86**	**176**	P		P	20 56 30.4	-4.0
	comp=Z,45nm,0.5s,baz=27,slow=11,SNR=6.7							
TXAR	**Lajitas Array**	**59.59**	**326**	P		**P**	**20 58 31.3**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=156,slow=4.7,SNR=2.4							
TXAR	**Lajitas Array**	**59.59**	**326**	P		**P**	**20 58 34.3**	**+2.1**
QSPA	**South Pole Qui**	**69.10**	**180**	P		**P**	**20 59 35.7**	**+1.9**
TOA0	**Torodi Ar. Sit**	**78.39**	**71**	P		**P**	**21 00 29.0**	**+0.2**
TOA0				IAmb		IAmb	21 00 29.9	
	comp=Z,2.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**78.39**	**71**	P		**P**	**21 00 29.1**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=253,slow=5.0,SNR=8.8							
YKA	**Yellowknife Ar**	**90.39**	**341**	P		**P**	**21 01 25.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=132,slow=4.8,SNR=2.9							
YKA				pP		**pP**	**21 01 48.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=135,slow=4.8,SNR=4.1							
YKA				sP		**sP**	**21 01 57.9**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=137,slow=4.8,SNR=2.7							
H11S2	**WAKE ISLAND Hy**	**126.60**	**278**	T		T	23 26 51.1	
	baz=103,slow=75,SNR=57							
H11S1	**WAKE ISLAND Hy**	**126.61**	**278**	T		T	23 26 52.0	
	baz=103,slow=75,SNR=52							
H11S3	**WAKE ISLAND Hy**	**126.61**	**278**	T		T	23 26 53.8	
	baz=103,slow=75,SNR=58							
H11N3	**WAKE ISLAND Hy**	**126.67**	**279**	T		T	23 27 03.1	
	baz=103,slow=74,SNR=40							
H11N2	**WAKE ISLAND Hy**	**126.69**	**279**	T		T	23 27 02.7	
	baz=103,slow=74,SNR=38							
H11N1	**WAKE ISLAND Hy**	**126.69**	**279**	T		T	23 27 05.7	
	baz=103,slow=74,SNR=32							
MKAR	**Makanchi Array**	**146.01**	**35**	PKPbc		**PKPdf**	**21 08 03.2**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=336,slow=3.2,SNR=2.5							
MKAR				pPKPbc		pPKPbc	21 08 29.7	+0.8
	comp=Z,0.4nm,0.4s,baz=321,slow=2.8,SNR=4.7							

*IDC **12** 21:01:45.8±3.0, 7.°22S×129.°24E, h144km±38km, mb3.3/2, mb1 3.6/6, mb1mx3.1/48, mbtmp3.9/6, Error ellipse: s-maj=65.2km s-min=21.1km az=90.0*

ISC 12 21:01:45.5±0.8, **7.°20S**±0.°06×**128.°94E**±0.°10, **h150**km, **n15, σ3$14/18, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.46**	**109**	P	**Pn**	**21 02 27.7**	**+1.5**
KDU	**Kakadu**	**6.47**	**148**	P	**Pn**	**21 03 18.8**	**+0.3**
SIJI	**Sorong**	**6.70**	**20**	P	**Pn**	**21 03 21.3**	**-0.3**
	0.5nm,0.3s,baz=244,slow=22,SNR=1.5						
SIJI				S	**Sn**	**21 04 31.4**	**-5.5**
	0.8nm,0.3s,baz=253,slow=23,SNR=1.8						
KNRA	**Kununurra**	**8.43**	**181**	P	**Pn**	**21 03 46.0**	**+1.3**
PLAI	**Plampang**	**11.18**	**261**	P	**P**	**21 04 29.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.30**	**196**	P	**Pn**	**21 04 23.4**	**+0.6**
	1.3nm,0.3s,baz=17,slow=12,SNR=22						
FITZ				S	**Sn**	**21 06 22.7**	**-5.1**
	0.5nm,0.3s,baz=115,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**13.71**	**158**	P	**Pn**	**21 04 52.1**	**-1.8**
	1.5nm,0.3s,baz=345,slow=13,SNR=40						
WRA				S	Sn	21 07 13.9	-12
	0.7nm,0.3s,baz=338,slow=22,SNR=3.0						
COEN	**Coen**	**15.51**	**117**	P	**P**	**21 05 18.8**	**+1.3**
QIS	**Mount Isa**	**16.83**	**143**	P	**Pn**	**21 05 33.5**	**+1.1**
ASAR	**Alice Springs**	**17.06**	**164**	P	**Pn**	**21 05 35.5**	**+0.4**
	0.5nm,0.3s,baz=338,slow=9.3,SNR=35						
ASAR				S	**S**	**21 08 38.0**	**-6.9**
	0.2nm,0.3s,baz=346,slow=26,SNR=4.1						
WRKA	**Warakurna**	**17.75**	**182**	P	**Pn**	**21 05 45.8**	**+2.3**
OOD	**Oodnadatta**	**21.46**	**163**	P	**P**	**21 06 24.4**	**+2.2**
MULG	**Mulgathing**	**23.46**	**169**	P	**P**	**21 06 45.5**	**+4.0**
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**21 12 29.5**	**+2.1**
	0.2nm,0.3s,baz=127,slow=8.0,SNR=12						
KURBB	**Kurchatov Arra**	**72.13**	**329**	P	**P**	**21 12 55.5**	**+1.9**
	0.5nm,0.5s,baz=125,slow=4.8,SNR=7.8						

*IDC **12** 21:08:56.0±1.3, 37.°20S×176.°93E, h281km±17km, mb3.1/2, mb1 3.3/3, mb1mx2.8/25, mbtmp3.7/3, Error ellipse: s-maj=58.6km s-min=33.0km az=172.0*
*WEL **12** 21:08:59.7±0.9, 37.°5S×17.°7E, h257km±9km, M3.0/24, MLv3.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=167.0*
*NOU **12** 21:09:38.7, 39.°77S×174.°11E, h181km, MLv3.8/4, North Island, New Zealand*

ISC 12 21:08:56.6±1.1, **37.°21S**±0.°07×**176.°64E**±0.°07, **h286**km±7km, **n123, σ1$35/140, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.33**	**258**	P	**Pn**	**21 09 33.7**	**+0.4**
TGRZ	**Tauranga**	**0.60**	**210**	P	**Pn**	**21 09 34.3**	**+0.4**
OPRZ	**Ohinepanea**	**0.64**	**186**	P	**Pn**	**21 09 34.4**	**+0.4**
KARZ	**Kaharoa**	**0.87**	**201**	P	**Pn**	**21 09 36.1**	**+1.2**
KUZ	**Kuaotunu**	**0.87**	**302**	P	**Pn**	**21 09 34.8**	**-0.2**
OMRZ	**Omania**	**0.92**	**194**	P	**Pn**	**21 09 36.2**	**+1.0**
TARZ	**Mount Tarawera**	**1.03**	**186**	P	**Pn**	**21 09 37.4**	**+1.7**
TOZ	**Tahuroa Road**	**1.05**	**240**	P	**Pn**	**21 09 37.0**	**+1.3**
HAZ	**Te Kaha**	**1.06**	**121**	P	**Pn**	**21 09 35.2**	**-0.5**
HAZ				S	**S**	**21 10 04.4**	**-2.4**
URZ	**Urewera**	**1.11**	**161**	P	**Pn**	**21 09 35.9**	**-0.1**
	18nm,0.3s,baz=258,slow=4.1,SNR=183						
URZ				S	**S**	**21 10 05.4**	**-1.9**
	40nm,0.3s,baz=245,slow=15,SNR=24						
URZ	**Urewera**	**1.11**	**161**	P	**Pn**	**21 09 35.9**	**-0.1**
URZ				S	**S**	**21 10 05.6**	**-1.7**
RUGZ	**Raukumara Rang**	**1.11**	**133**	P	**Pn**	**21 09 35.4**	**-0.8**
RUGZ				S	**S**	**21 10 04.8**	**-2.8**
RRRZ	**Republican Roa**	**1.13**	**185**	P	**Pn**	**21 09 37.4**	**+1.2**
HRRZ	**Handcock Road**	**1.21**	**194**	P	**Pn**	**21 09 38.2**	**+1.6**
MUGZ	**Murupara**	**1.27**	**176**	P	**Pn**	**21 09 37.5**	**+0.5**
MUGZ				S	**S**	**21 09 38.6**	**+0.7**
WIAZ	**Waiheke Island**	**1.28**	**289**	P	**Pn**	**21 09 37.4**	**+0.4**
MWZ	**Matawai**	**1.32**	**148**	P	**Pn**	**21 09 37.5**	**+0.2**
MWZ				S	**S**	**21 10 08.1**	**-1.5**
PKGZ	**Pakihiroa**	**1.32**	**121**	P	**Pn**	**21 09 37.6**	**+0.2**
PKGZ				S	**S**	**21 10 07.7**	**-2.0**
GRZ	**Great Barrier**	**1.35**	**315**	P	**Pn**	**21 09 37.0**	**-0.5**
WPRZ	**Whakapapatarin**	**1.36**	**196**	P	**Pn**	**21 09 39.2**	**+1.6**
ALRZ	**Allen Road**	**1.37**	**190**	P	**Pn**	**21 09 38.8**	**+1.2**
MXZ	**Matakaoa Point**	**1.37**	**105**	P	**Pn**	**21 09 37.3**	**-0.2**
MXZ				S	**S**	**21 10 07.7**	**-2.4**
RAGZ	**Rawiri**	**1.42**	**155**	P	**Pn**	**21 09 38.8**	**+0.8**
RAGZ				S	**S**	**21 10 09.3**	**-1.5**
RTZ	**Ruatahuna**	**1.43**	**169**	P	**Pn**	**21 09 38.6**	**+0.6**
RTZ				S	**S**	**21 10 09.8**	**-1.1**
TWGZ	**Tauwhareparae**	**1.43**	**133**	P	**Pn**	**21 09 38.9**	**+0.9**
TWGZ				S	**S**	**21 10 10.6**	**-0.3**
MBAZ	**Motutapu North**	**1.47**	**287**	P	**Pn**	**21 09 38.9**	**+0.7**
WMGZ	**Waiomatatini S**	**1.53**	**114**	P	**Pn**	**21 09 39.0**	**+0.4**
WMGZ				S	**S**	**21 10 10.9**	**-1.0**
PUZ	**Puketiti**	**1.54**	**124**	P	**Pn**	**21 09 39.0**	**+0.3**
PUZ				S	**S**	**21 10 09.8**	**-2.3**
TKGZ	**Te Karaka**	**1.55**	**142**	P	**Pn**	**21 09 39.4**	**+0.7**
TKGZ				S	**S**	**21 10 11.1**	**-1.0**
AWAZ	**Awhitu Peninsu**	**1.61**	**275**	P	**Pn**	**21 09 40.0**	**+0.8**
MTHZ	**Maungataniwha**	**1.65**	**175**	P	**Pn**	**21 09 40.3**	**+0.8**
MTHZ				S	**S**	**21 10 13.3**	**-0.2**
WATZ	**Wairara**	**1.66**	**205**	P	**Pn**	**21 09 41.4**	**+1.9**
SNGZ	**Shannon Statio**	**1.66**	**161**	P	**Pn**	**21 09 40.8**	**+1.2**
SNGZ				S	**S**	**21 10 12.7**	**-1.0**
RIGZ	**Rimuhau**	**1.73**	**150**	P	**Pn**	**21 09 41.5**	**+1.4**
RAHZ	**Arahi**	**1.74**	**169**	P	**Pn**	**21 09 41.6**	**+1.5**
CNGZ	**Carnagh Statio**	**1.77**	**136**	P	**Pn**	**21 09 41.7**	**+1.3**
CNGZ				S	**S**	**21 10 12.9**	**-2.2**
RATZ	**Rangitukua**	**1.79**	**202**	P	**Pn**	**21 09 42.1**	**+1.5**
RITZ	**Rihia Road**	**1.87**	**199**	P	**Pn**	**21 09 42.8**	**+2.2**
NMHZ	**Naumai**	**1.89**	**176**	P	**Pn**	**21 09 43.2**	**+1.9**
WHHZ	**Waihua**	**1.92**	**166**	P	**Pn**	**21 09 43.8**	**+2.3**
HIZ	**Hauiti**	**1.92**	**227**	P	**Pn**	**21 09 43.8**	**+2.3**
BKZ	**Black Stump Fm**	**1.96**	**183**	P	**Pn**	**21 09 42.9**	**+1.1**
PRGZ	**Paritu Road**	**1.97**	**151**	P	**Pn**	**21 09 43.1**	**+1.2**
KNZ	**Kokohu**	**1.98**	**156**	P	**Pn**	**21 09 43.0**	**+1.1**
NTVZ	**North Tongarir**	**2.03**	**202**	P	**Pn**	**21 09 44.3**	**+1.7**
TMVZ	**Te Maari**	**2.04**	**201**	P	**Pn**	**21 09 44.3**	**+1.7**
ETVZ	**East Tongariro**	**2.06**	**201**	P	**Pn**	**21 09 44.2**	**+1.5**
ARHZ	**Aropaoanui**	**2.07**	**172**	P	**Pn**	**21 09 44.3**	**+1.6**
WTVZ	**West Tongariro**	**2.07**	**203**	P	**Pn**	**21 09 44.7**	**+1.8**
NNVZ	**North Ngauruho**	**2.08**	**203**	P	**Pn**	**21 09 45.3**	**+2.3**
TWVZ	**Taurewa**	**2.09**	**207**	P	**Pn**	**21 09 44.5**	**+1.6**
OTVZ	**Oturere**	**2.10**	**201**	P	**Pn**	**21 09 44.7**	**+1.6**
SNVZ	**South Ngauruho**	**2.12**	**202**	P	**Pn**	**21 09 45.2**	**+1.8**
NGZ	**Ngauruhoe**	**2.13**	**202**	P	**Pn**	**21 09 45.5**	**+2.2**
MHGZ	**Mahia Peninsul**	**2.18**	**153**	P	**Pn**	**21 09 45.0**	**+1.4**
TUVZ	**Tukino**	**2.20**	**200**	P	**Pn**	**21 09 45.5**	**+1.6**
FWVZ	**Far West T-bar**	**2.21**	**203**	P	**Pn**	**21 09 45.6**	**+1.4**
KWHZ	**Kaweka Forest**	**2.22**	**184**	P	**Pn**	**21 09 45.5**	**+1.5**
WHVZ	**Whangaehu Hut**	**2.23**	**202**	P	**Pn**	**21 09 46.1**	**+1.8**
MCHZ	**McNeill Hill**	**2.23**	**179**	P	**Pn**	**21 09 45.8**	**+1.8**
WCZ	**Waipu Caves**	**2.25**	**304**	P	**Pn**	**21 09 44.4**	**+0.1**
TRVZ	**Turoa**	**2.26**	**202**	P	**Pn**	**21 09 46.1**	**+1.5**
WNVZ	**Wahianoa**	**2.27**	**201**	P	**Pn**	**21 09 46.0**	**+1.4**
MOVZ	**Moawhango**	**2.30**	**197**	P	**Pn**	**21 09 45.9**	**+1.1**
PKVZ	**Pokaka**	**2.31**	**206**	P	**Pn**	**21 09 46.5**	**+1.6**
BHHZ	**Black Hill Sta**	**2.32**	**191**	P	**Pn**	**21 09 46.1**	**+1.1**
MTVZ	**Mangateitei**	**2.36**	**203**	P	**Pn**	**21 09 46.9**	**+1.6**
KRHZ	**Kereru**	**2.44**	**185**	P	**Pn**	**21 09 47.2**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.47**	**172**	P	**Pn**	**21 09 48.0**	**+1.8**
KAHZ	**Kahuranaki**	**2.58**	**176**	P	**Pn**	**21 09 48.9**	**+1.5**
PNHZ	**Pukenui**	**2.72**	**187**	P	**Pn**	**21 09 49.7**	**+1.0**
PXZ	**Pawanui**	**2.82**	**177**	P	**Pn**	**21 09 50.7**	**+1.2**
WAZ	**Wanganui**	**2.85**	**207**	P	**Pn**	**21 09 50.9**	**+1.0**
WPHZ	**Waipukurau**	**2.85**	**183**	P	**Pn**	**21 09 50.2**	**+0.3**
PKE	**Pukeiti**	**2.88**	**226**	P	**Pn**	**21 09 53.5**	**+3.3**
TSZ	**Takapari Road**	**2.89**	**190**	P	**Pn**	**21 09 51.3**	**+1.0**
PRHZ	**Porangahau**	**3.05**	**180**	P	**Pn**	**21 09 53.2**	**+1.3**
DVHZ	**Dannevirke**	**3.10**	**187**	P	**Pn**	**21 09 53.6**	**+1.2**
OUZ	**Omahuta**	**3.17**	**308**	P	**Pn**	**21 09 53.2**	**0.0**
ANWZ	**Angora Road**	**3.25**	**182**	P	**Pn**	**21 09 55.3**	**+1.4**
POWZ	**Post Office Ro**	**3.25**	**192**	P	**Pn**	**21 09 55.1**	**+1.2**
PRWZ	**Pori Road**	**3.38**	**189**	P	**Pn**	**21 09 56.9**	**+1.6**
BFZ	**Birch Farm**	**3.48**	**185**	P	**Pn**	**21 09 57.2**	**+0.9**
MRZ	**Mangatainoka R**	**3.54**	**193**	P	**Pn**	**21 09 57.6**	**+0.5**
TIWZ	**Tintock**	**3.61**	**189**	P	**Pn**	**21 09 59.2**	**+1.5**
OGWZ	**Otaki Gorge**	**3.78**	**197**	P	**Pn**	**21 10 00.3**	**+0.7**
HOWZ	**Holdsworth Sta**	**3.78**	**193**	P	**Pn**	**21 10 00.3**	**+0.6**
KIW	**Kapiti Island**	**3.89**	**200**	P	**Pn**	**21 10 01.4**	**+0.6**
TMWZ	**Te Maipa**	**3.93**	**188**	P	**Pn**	**21 10 02.6**	**+1.2**
MTW	**Mount Morrison**	**4.04**	**192**	P	**Pn**	**21 10 02.8**	**+0.3**
CAW	**Cannon Point**	**4.08**	**197**	P	**Pn**	**21 10 03.8**	**+0.8**
DUWZ	**D'Urville Isla**	**4.17**	**210**	P	**Pn**	**21 10 04.5**	**+0.5**
TRWZ	**Traveller**	**4.25**	**190**	P	**Pn**	**21 10 06.0**	**+1.1**
MSWZ	**Moikau Station**	**4.34**	**194**	P	**Pn**	**21 10 06.1**	**+0.2**
TCW	**Tory Channel**	**4.40**	**204**	P	**Pn**	**21 10 07.2**	**+0.7**
PLWZ	**Palliser**	**4.48**	**193**	P	**Pn**	**21 10 07.8**	**+0.3**
TUWZ	**Tuamarina**	**4.70**	**206**	P	**Pn**	**21 10 10.6**	**+0.5**
NNZ	**Nelson**	**4.74**	**211**	P	**Pn**	**21 10 10.4**	**0.0**
TKNZ	**Takaka Hill**	**4.77**	**216**	P	**Pn**	**21 10 10.5**	**-0.4**
QRZ	**Quartz Range**	**4.83**	**220**	P	**Pn**	**21 10 11.2**	**-0.3**
QRZ	**Quartz Range**	**4.83**	**220**	P	**Pn**	**21 10 11.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**4.98**	**205**	P	**Pn**	**21 10 14.1**	**+0.8**
MRNZ	**Matariki Terra**	**5.15**	**215**	P	**Pn**	**21 10 16.2**	**+0.8**
THZ	**Tophouse**	**5.39**	**211**	P	**Pn**	**21 10 18.5**	**+0.4**
KHZ	**Kahutara**	**5.72**	**204**	P	**Pn**	**21 10 23.1**	**+1.1**
KHZ	**Kahutara**	**5.72**	**204**	P	**Pn**	**21 10 23.5**	**+1.4**
DSZ	**Denniston Nort**	**5.87**	**218**	P	**Pn**	**21 10 24.0**	**0.0**
GVZ	**Greta Valley S**	**6.38**	**205**	P	**Pn**	**21 10 30.6**	**+0.6**
LTZ	**Lake Taylor**	**6.50**	**210**	P	**Pn**	**21 10 31.5**	**-0.1**
INZ	**Inchbonnie**	**6.80**	**214**	P	**Pn**	**21 10 35.4**	**+0.2**
OXZ	**Oxford**	**7.05**	**209**	P	**Pn**	**21 10 37.9**	**-0.4**
MQZ	**McQueen's Vall**	**7.16**	**204**	P	**Pn**	**21 10 39.5**	**-0.2**
RPZ	**Rata Peaks**	**7.77**	**212**	P	**Pn**	**21 10 47.4**	**+0.3**
	0.4nm,0.3s,baz=356,slow=17,SNR=1.5						
RPZ				S	**S**	**21 12 11.0**	**-5.5**
	1.3nm,0.3s,baz=317,slow=23,SNR=8.1						
RPZ	**Rata Peaks**	**7.77**	**212**	P	**Pn**	**21 10 46.8**	**-0.3**
ARCZ	**Arundel**	**7.91**	**210**	P	**Pn**	**21 10 48.7**	**-0.2**
TMZ	**Timaru**	**8.34**	**209**	P	**Pn**	**21 10 54.5**	**+0.3**
ODZ	**Otahua Downs**	**9.04**	**208**	P	**Pn**	**21 11 03.7**	**+1.0**
ODZ	**Otahua Downs**	**9.04**	**208**	P	**Pn**	**21 11 03.8**	**+1.0**
JCZ	**Jackson Bay**	**9.09**	**219**	P	**Pn**	**21 11 03.9**	**+0.3**
ASAR	**Alice Springs**	**38.92**	**278**	P	**P**	**21 15 57.4**	**+1.9**
	0.8nm,0.5s,baz=120,slow=8.1,SNR=21						
WRA	**Warramunga Arr**	**40.57**	**283**	P	**P**	**21 16 10.2**	**+1.2**
	0.5nm,0.4s,baz=121,slow=7.9,

n256,σ1°03/256, mb4.4/79, 5C-7D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.91	351		Pg	21 29 35.4	+0.7
ATKA					Sb	21 29 48.0	+0.8
KOFP	Korovin Flat P	0.97	355		Pb	21 29 36.7	+0.6
KOKL	Mount Kliuchef	1.03	352		Pb	21 29 37.7	+0.6
KOWE	Korovin West	1.07	350		Pg	21 29 38.5	+0.7
GSMY	Great Sitkin M	1.50	300		Pn	21 29 44.3	+0.1
GSTR	Great Sitkin T	1.52	302		Pn	21 29 45.0	+0.4
GSCK	Great Sitkin C	1.54	298		Pn	21 29 44.9	+0.2
GSTD	Great Sitkin T	1.55	300		Pn	21 29 45.4	+0.4
GSTD					Sn	21 30 05.0	-0.1
ADK	Adak	1.79	290		Pn	21 29 48.6	+0.4
ADK	Adak	1.79	290		Sn	21 30 10.6	-0.4
KIWB	Kanaga Island	2.06	287		Pn	21 29 53.1	+1.2
KIKV	Kanaga Island	2.08	287		Pn	21 29 53.3	+1.1
KIMD	Kanaga Island	2.10	284		Pn	21 29 53.3	+1.0
KICM	Kanaga Island	2.11	288		Pn	21 29 53.8	+1.3
TAPA	Tanaga Point A	2.46	283		Pn	21 29 58.9	+1.5
TAFP	Tanaga Falls P	2.58	285		Pn	21 30 00.7	+1.7
TAFP					Sn	21 30 30.9	+0.5
TASE	Tanaga Southea	2.60	283		Pn	21 30 01.2	+1.9
GALAA	Gareloi Lava P	3.04	280		Pn	21 30 07.7	+2.4
GANO	Gareloi North	3.07	281		Pn	21 30 07.7	+2.0
NIKH	Nikolski High	3.56	60		Pn	21 30 14.0	+1.6
NIKH					Sn	21 30 54.8	+0.3
MSW	Makushin Switc	5.09	56		Pn	21 30 35.8	+2.2
UNV	Unalaska Valle	5.21	58		Pn	21 30 37.4	+2.4
AKUT	Akutan	5.72	57	Pn	Pn	21 30 45.3	+3.2
SPIA	Saint Paul Isl	6.27	19		Pn	21 30 51.2	+1.6
ISLZ	Isanotski Laza	7.07	57		Pn	21 31 02.5	+1.9
FALS	False Pass	7.27	57		Pn	21 31 06.9	+3.4
SDPT	Sand Point	9.02	58	Pn	Pn	21 31 29.4	+2.0
CHGN	Chignik	10.46	55	Pn	Pn	21 31 48.6	+1.6
GAMB	Gambell	12.56	5	Pn	Pn	21 32 18.1	+2.4
KDAK	Kodiak Island	13.96	54	Pn	Pn	21 32 32.1	-2.7
	0.4nm,0.3s,baz=223,slow=3.9,SNR=14						
KDAK	Kodiak Island	13.96	54		Pn	21 32 32.8	-2.0
ANM	Nome	14.03	15	Pn	Pn	21 32 38.2	+2.4
SVW2	Sparrevohn	14.11	39	Pn	Pn	21 32 38.8	+1.9
N19K	Bonanza Creek	14.39	41	Pn	Pn	21 32 43.1	+2.1
TNA	Tin City	14.63	10		Pn	21 32 45.0	+1.1
RSO	Redoubt South	14.95	44	Pn	Pn	21 32 49.9	+1.3
L19K	White Mountain	15.04	36		P	21 32 54.8	-0.2
M19K	Big River Lodg	15.05	38	Pn	Pn	21 32 52.6	+2.9
TTA	Tatalina	15.11	33		P	21 32 54.0	-1.8
TTA				IAmb	IAmb	21 33 18.2	
	comp=Z,13nm,1.1s						
CNPM	China Poot	15.23	49	Pn	Pn	21 32 54.0	+1.8
CNPM				IAmb	IAmb	21 33 01.1	
	comp=Z,24nm,1.2s						
BRLK	Bradley Lake	15.49	48	Pn	Pn	21 32 55.7	+0.1
BRLK				IAmb	IAmb	21 33 10.9	
	comp=Z,21nm,1.1s						
K20K	Telida	16.06	34	P	Pn	21 33 04.5	+1.7
SEW	Seward	16.29	48	Pn	Pn	21 33 06.3	+0.6
PPLA	Purkeypile	16.46	37		Pn	21 33 09.8	+1.7
J20K	Nowinta River	16.57	31	P	P	21 33 11.1	-0.8
CAST	Castle Rocks	16.80	35	P	P	21 33 14.5	0.0
PWL	Port Wells	17.09	46	Pn	Pn	21 33 14.8	-1.2
GHO	Glory Hole Cre	17.21	43		Pn	21 33 17.1	-0.3
KNK	Knik Glacier	17.25	44	Pn	Pn	21 33 17.7	-0.3
KNK				IAmb	IAmb	21 33 43.6	
	comp=Z,20nm,1.3s						
KTH	Kantishna Hill	17.31	36	P	Pn	21 33 19.7	+1.0
PEA0B	Petropavlovsk-	17.42	287		P	21 33 21.0	-0.4
PETK	Petropavlovsk-	17.42	287	P	P	21 33 21.0	-0.3
	comp=Z,0.3nm,0.3s,baz=93,slow=21,SNR=7.3						
PETK	Petropavlovsk-	17.42	287	P	P	21 33 20.7	-0.7
SML	Sawmill	17.47	43	Pn	Pn	21 33 19.6	-1.1
SML				IAmb	IAmb	21 33 38.8	
	comp=Z,36nm,1.5s						
TRF	Thorofare Moun	17.49	37		Pn	21 33 21.9	+0.8
BPAW	Bear Paw Mtn.	17.60	35	P	P	21 33 23.3	0.0
SCM	Sheep Creek Mo	17.92	44	Pn	Pn	21 33 25.1	-1.2
SCM				IAmb	IAmb	21 33 47.5	
	comp=Z,25nm,1.1s						
I21K	Tanana	17.93	31	P	Pn	21 33 26.9	+0.5
IMAR	Indian Mountai	17.94	27		P	21 33 27.2	+0.2
H21K	Melozitna Rive	17.99	29	P	P	21 33 28.2	+0.6
RND	Reindeer	18.01	38		Pn	21 33 26.6	-0.8
MCK	McKinley	18.15	37	P	Pn	21 33 28.5	-0.6
MLY	Manley	18.25	32	P	Pn	21 33 30.6	+0.3
DHY	Denali Highway	18.44	40	P	P	21 33 32.2	-0.5
I23K	Minto, Yukon-K	18.79	33	P	P	21 33 36.4	+0.1
HMT	Hamilton	18.82	50	P	P	21 33 36.6	-0.2
HMT				IAmb	IAmb	21 33 59.3	
	comp=Z,58nm,1.4s						
WRH	Wood River Hil	18.86	36	P	P	21 33 35.6	-1.5
N25K	Chitina, Valde	19.04	46	P	P	21 33 38.7	-0.6
MDM	Murphy Dome	19.07	34	P	P	21 33 38.0	-1.5
BERG	Berg Lake	19.10	50	P	P	21 33 38.8	-1.0
BERG				IAmb	IAmb	21 33 51.8	
	comp=Z,44nm,1.3s						
H23K	Yukon River	19.13	31	P	P	21 33 39.4	-0.8
HDA	Harding Lake	19.25	37	P	P	21 33 40.6	-0.8
HDA				IAmb	IAmb	21 34 01.5	
	comp=Z,21nm,1.2s						
BILL	Bilibino	19.36	337		P	21 33 42.5	-0.1
BILL				IAmb	IAmb	21 33 49.4	
	comp=Z,12nm,1.0s						
IL31		19.46	36	P	P	21 33 42.3	-1.3
IL31				IAmb	IAmb	21 34 04.3	
	comp=Z,6.7nm,0.6s						
ILAR	Eielson Array	19.46	36	P	P	21 33 40.7	-3.0
	comp=Z,1.0nm,0.3s,baz=243,slow=9.2,SNR=35						
ILAR	Eielson Array	19.46	36	P	P	21 33 41.7	-1.9
H24K	Noodor Dome	19.69	32	P	P	21 33 46.3	0.0
H24K				IAmb	IAmb	21 33 54.1	
	comp=Z,11nm,0.8s						
RIDG	Independent Ri	19.75	40	P	P	21 33 46.1	-0.9
J25K	Salcha River,	19.95	37	P	P	21 33 47.1	-2.0
J25K				IAmb	IAmb	21 34 05.5	
	comp=Z,19nm,0.7s						
DOT	Dot Lake	20.03	40	P	P	21 33 49.2	-0.8
DOT				IAmb	IAmb	21 33 55.4	
	comp=Z,5.8nm,0.6s						
SCRK	Sand Creek	20.20	40	P	P	21 33 50.4	-1.5
SCRK				IAmb	IAmb	21 33 58.5	
	comp=Z,9.2nm,0.6s						
PRP	Porcupine Dome	20.34	35	P	P	21 33 51.9	-1.5
M27K	Edge Creek, AK	20.50	45	P	P	21 33 56.0	+0.7
M27K				IAmb	IAmb	21 33 59.9	
	comp=Z,10nm,1.0s						
L27K	Beaver Creek,	20.75	43	P	P	21 33 57.6	-0.2
BCAR	Beaver Creek A	20.77	43	P	P	21 33 59.1	+1.1
TOLK	Toolik Lake Re	20.97	25	P	P	21 34 00.2	+0.1
TOLK				IAmb	IAmb	21 34 01.1	
	comp=Z,14nm,0.8s						
SEY	Seymchan	21.37	316	P	P	21 34 04.2	-0.2
	comp=Z,2.0nm,0.9s,baz=123,slow=9.3,SNR=8.5						
MA2	Magadan	21.42	306	P	P	21 34 04.5	-0.5
	comp=Z,1.3nm,0.3s,baz=127,slow=21,SNR=2.9						
MA2				LR	LR	21 41 53.6	
	comp=Z,462nm,18.6s,baz=105,slow=36						
MA2	Magadan	21.42	306		P	21 34 05.6	+0.6
MA2				IAmb	IAmb	21 34 16.9	
	comp=Z,8.1nm,1.1s						
EGAK	Eagle	21.65	39	P	P	21 34 06.5	-0.9
BMAR	Burnt Mountain	21.68	31	P	P	21 34 08.1	+0.4
DAWY	Dawson	22.11	42	P	P	21 34 12.5	+0.1
DAWY				IAmb	IAmb	21 34 39.9	
	comp=Z,13nm,1.4s						
INK	Inuvik	25.80	34	P	P	21 34 47.1	-0.9
	comp=Z,3.6nm,0.6s,baz=224,slow=7.7,SNR=4.4						
DLBC	Dease Lake	25.86	57	P	P	21 34 49.8	+1.0
	comp=Z,3.7nm,0.9s,baz=265,slow=11,SNR=4.4						
DLBC	Dease Lake	25.86	57	P	P	21 34 50.0	+1.3
DLBC				IAmb	IAmb	21 35 08.6	
	comp=Z,9.4nm,1.1s						
A36M	Sachs Harbour	29.69	28	P	P	21 35 23.2	+0.5
A36M				IAmb	IAmb	21 35 40.9	
	comp=Z,4.8nm,1.1s						
ERM	Erimo	30.48	269	P	P	21 35 31.4	+1.5
TIXI	Tiksi	32.20	330	P	P	21 35 43.4	-1.5
	comp=Z,1.3nm,0.3s,baz=270,slow=24,SNR=5.3						
TIXI	Tiksi	32.20	330	P	P	21 35 44.2	-0.6
YKA	Yellowknife Ar	33.07	47	P	P	21 35 51.8	-0.7
	comp=Z,0.3nm,0.4s,baz=273,slow=9.7,SNR=8.9						
YKA				PcP	PcP	21 38 36.4	+0.8
	comp=Z,0.2nm,0.3s,baz=279,slow=3.0,SNR=5.4						
YKA	Yellowknife Ar	33.07	47	P	P	21 35 52.4	-0.2
KLR	Kul'dur	34.10	288	P	P	21 36 01.4	-0.3
	comp=Z,2.8nm,0.5s,baz=70,slow=6.9,SNR=22						
B08A	Colville Reser	34.67	73	P	P	21 36 06.1	-0.7
H11N2	WAKE ISLAND Hy	34.93	213	T	T	22 14 01.7	
	baz=21,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	34.94	213	T	T	22 14 17.3	
	baz=21,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	34.95	213	T	T	22 14 07.9	
	baz=21,slow=76,SNR=23						
NEW	Newport	36.04	72	P	P	21 36 17.6	-0.9
	comp=Z,0.4nm,0.3s,baz=68,slow=7.6,SNR=1.7						
H11S1	WAKE ISLAND Hy	36.13	212	T	T	22 15 37.6	
	baz=20,slow=76,SNR=32						
H11S2	WAKE ISLAND Hy	36.15	212	T	T	22 15 31.7	
	baz=20,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	36.15	212	T	T	22 15 25.1	
	baz=20,slow=76,SNR=13						
EDM	Edmonton	36.17	63	P	P	21 36 20.3	+0.7
USA0B	Ussuriysk Arra	36.30	280	P	P	21 36 21.0	+0.3
USRK	Ussuriysk Ar.	36.30	280	P	P	21 36 20.9	+0.2
	comp=Z,8.8nm,0.6s,baz=55,slow=9.7,SNR=16						
USRK	Ussuriysk Ar.	36.30	280	P	P	21 36 20.8	+0.1
MJAR	Matsushiro Arr	36.79	265	P	P	21 36 25.7	+0.7
	comp=Z,1.6nm,0.9s,baz=46,slow=7.2,SNR=4.4						
MJAR	Matsushiro Arr	36.79	265	P	P	21 36 25.1	+0.1
MJAR				IAmb	IAmb	21 36 36.6	
	comp=Z,4.5nm,1.3s						
MAJO	Matsushiro	36.79	265	P	P	21 36 25.3	+0.3
MAJO				IAmb	IAmb	21 36 46.9	
	comp=Z,14nm,1.4s						
RES	Resolute Bay	38.54	25	P	P	21 36 37.7	-1.6
	comp=Z,0.5nm,0.8s,baz=240,slow=12,SNR=1.8						
RES	Resolute Bay	38.54	25	P	P	21 36 39.1	-0.2
NVAR	Mina Array Bea	40.54	86	P	P	21 36 58.1	+1.5
	comp=Z,0.1nm,0.3s,baz=306,slow=7.7,SNR=1.9						
NVAR	Mina Array Bea	40.54	86	P	P	21 36 56.6	-0.1
FFC	Flin Flon	41.69	56	P	P	21 37 05.9	+0.3
FFC				IAmb	IAmb	21 37 07.6	
	comp=Z,5.3nm,1.2s						
REDW	Red Top Meadow	42.30	75	P	P	21 37 10.7	-0.4
REDW				IAmb	IAmb	21 37 27.9	
	comp=Z,7.0nm,1.4s						
KSRS	Korea Array	42.67	274	P	P	21 37 14.8	+0.9
	comp=Z,2.9nm,0.9s,baz=57,slow=8.7,SNR=8.4						
PDAR	Pinedale Array	43.42	75	P	P	21 37 20.7	+0.6
	comp=Z,0.3nm,0.5s,baz=297,slow=4.0,SNR=5.0						
PDAR	Pinedale Array	43.42	75	P	P	21 37 20.4	+0.3
JNU	Nakatsue	43.59	267	P	P	21 37 22.0	+0.6
JNU				IAmb	IAmb	21 37 36.6	
	comp=Z,8.8nm,1.0s						
FCC	Fort Churchill	43.79	48	P	P	21 37 21.9	-0.6
FCC				IAmb	IAmb	21 37 23.7	
	comp=Z,3.1nm,1.0s						
U15A	North Rim	45.53	84		P	21 37 38.9	+1.7
U15A				IAmb	IAmb	21 37 52.8	
	comp=Z,8.3nm,1.5s						
PV13	Radium Mtn., P	46.61	80	P	P	21 37 45.5	-0.1
PV13				IAmb	IAmb	21 38 01.5	
	comp=Z,4.6nm,0.7s						
ULM	Lac du Bonnet	47.15	59	P	P	21 37 49.3	0.0
	comp=Z,1.3nm,0.4s,baz=317,slow=5.6,SNR=3.5						
ULM	Lac du Bonnet	47.15	59	P	P	21 37 49.6	+0.2
ULM				IAmb	IAmb	21 37 54.2	
	comp=Z,2.5nm,0.9s						
AGMN	Agassiz Nation	48.25	61	P	P	21 37 57.7	-0.2
AGMN				IAmb	IAmb	21 37 59.9	
	comp=Z,4.3nm,0.8s						
ULN	Ulaanbaatar	48.98	299	P	P	21 38 03.1	-0.6
ULN				IAmb	IAmb	21 38 04.8	
	comp=Z,3.4nm,0.9s						
SONM	Songino Array	49.36	299	P	P	21 38 06.9	+0.2
	comp=Z,2.5nm,0.6s,baz=49,slow=7.9,SNR=28						
SONM				PcP	PcP	21 39 29.0	-0.1
	comp=Z,0.5nm,0.7s,baz=61,slow=3.4,SNR=2.6						
SONM	Songino Array	49.36	299	P	P	21 38 06.3	-0.3
SONM				IAmb	IAmb	21 38 07.4	
	comp=Z,1.9nm,0.7s						
B35A	Bob, Littlefor	49.38	60	P	P	21 38 06.1	-0.5
B35A				IAmb	IAmb	21 38 26.5	
	comp=Z,3.4nm,0.7s						
EYMN	Ely	50.83	59	P	P	21 38 17.7	+0.1
EYMN				IAmb	IAmb	21 38 38.6	
	comp=Z,2.9nm,0.7s						
F36A	Milaca	50.97	63	P	P	21 38 18.4	-0.3
F36A				IAmb	IAmb	21 38 34.9	
	comp=Z,2.1nm,0.7s						
COWI	Conover	53.23	60	P	P	21 38 35.2	-0.3
COWI				IAmb	IAmb	21 38 44.0	
	comp=Z,7.0nm,1.2s						
E43A	Lone Tree Farm	54.22	58	P	P	21 38 42.3	-0.4
E43A				IAmb	IAmb	21 38 44.2	
	comp=Z,5.7nm,0.9s						
TXAR	Lajitas Array	55.65	85	P	P	21 38 54.3	+0.8
	comp=Z,0.2nm,0.6s,baz=298,slow=3.9,SNR=1.5						
TXAR	Lajitas Array	55.65	85	P	P	21 38 54.1	+0.6
ZALV	Zalesovo Beam	56.24	316	PcP	PcP	21 39 54.3	-0.4
	comp=Z,0.8nm,0.7s,baz=50,slow=4.5,SNR=4.9						
SSLB	Suanglung	56.33	267	P	P	21 38 58.6	+0.4
R40A	Maddies Statio	56.51	69	P	P	21 38 57.9	-1.5
R40A				IAmb	IAmb	21 39 12.3	
	comp=Z,2.7nm,0.7s						
SCHQ	Schefferville	58.13	41	P	P	21 39 09.0	-1.6
	comp=Z,1.3nm,0.8s,baz=353,slow=12,SNR=1.6						
FCAR	Ozark Folk Cen	58.22	71	P	P	21 39 12.2	+0.8
ARCES	ARCESS Array B	58.63	352	P	P	21 39 12.9	-1.0
	comp=Z,2.1nm,0.7s,baz=9.5,slow=3.7,SNR=9.7						
ARCES				PcP	PcP	21 40 03.8	0.0
	comp=Z,5.9nm,0.8s,baz=16,slow=4.8,SNR=6.3						
ARCES	ARCESS Array B	58.63	352	P	P	21 39 12.8	-1.0
LVZ	Lovozero	59.20	348	P	P	21 39 16.5	-1.3
KURK	Kurchatov	61.22	316	P	P	21 39 31.1	-0.8
U49A	Red Boiling Sp	61.49	66	P	P	21 39 33.5	-0.5
MK31	Makanchi Array	62.41	311	P	P	21 39 39.3	-0.7
MK31				IAmb	IAmb	21 39 39.7	
	comp=Z,1.5nm,0.9s						
MKAR	Makanchi Array	62.41	311	P	P	21 39 39.0	-1.0
	comp=Z,1.1nm,0.3s,baz=47,slow=6.2,SNR=34						
MKAR	Makanchi Array	62.41	311	P	P	21 39 39.2	-0.8
NCB	Newcomb	62.49	53	P	P	21 39 40.3	-0.2
MAKZ	Makanchi	62.55	311	P	P	21 39 40.1	-0.8
MAKZ				IAmb	IAmb	21 39 55.8	
	comp=Z,1.6nm,1.1s						
BRVK	Borovoye	62.87	322	P	P	21 39 43.0	+0.1
BRVK				IAmb	IAmb	21 40 07.0	
	comp=Z,1.8nm,0.8s						
L59A	Walton	63.35	55	P	P	21 39 46.5	+0.2
ARU	Arti	64.21	331	P	P	21 39 50.9	-0.8
ARU				IAmb	IAmb	21 40 05.3	
	comp=Z,2.3nm,0.8s						
FIA1	FINESS Array S	66.46	350	P	P	21 40 04.8	-1.4
FINES	FINESS Array B	66.46	350	P	P	21 40 04.8	-1.4
	comp=Z,2.2nm,0.7s,baz=3.6,slow=7.9,SNR=11						
NC303	NORSAR Array S	67.73	357	P	P	21 40 13.8	-0.6
NOA	NORSAR Array B	67.92	357	P	P	21 40 14.3	-1.2
	comp=Z,0.3nm,0.7s,baz=10,slow=5.1,SNR=6.1						
AAL	Aland	68.30	353	eP	P	21 40 16.6	-1.2
KDJ	Kajisay	68.33	311	P	P	21 40 18.7	+0.1
KDJ				IAmb	IAmb	21 40 43.9	
	comp=Z,4.7nm,1.1s						
TARG	Taragay, Kyrgy	68.33	310	P	P	21 40 19.3	+0.4
TARG				IAmb	IAmb	21 40 23.9	
	comp=Z,1.8nm,0.8s						
BOOM	Boomskoye usch	68.63	312	P	P	21 40 21.0	+0.5
BOOM				IAmb	IAmb	21 40 21.7	
	comp=Z,2.9nm,0.6s						
UPP	Uppsala	68.79	354	eP	P	21 40 20.3	-0.6
AAK	Ala-Archa	69.19	313	P	P	21 40 24.0	+0.1
AAK				IAmb	IAmb	21 40 24.8	
	comp=Z,2.3nm,0.6s						
VSU	Vasula	69.29	349	eP	P	21 40 22.9	-1.1
MTSE	Matsula	69.38	350	eP	P	21 40 23.6	-0.9
ABKAR	Akbulak array	69.77	326	P	P	21 40 26.8	-0.4
ABKAR				IAmb	IAmb	21 40 28.9	
	comp=Z,8.1nm,1.5s						
ABKAR	Akbulak array	69.77	326	P	P	21 40 26.6	-0.6
VIKU	Vikbolandet	70.20	354	eP	P	21 40 29.0	-0.7
LSA	Lhasa	70.29	293	P	P	21 40 32.5	+1.2
KKAR	Karatay Array	70.61	316	P	P	21 40 32.1	-0.5
FABU	Falkenberg	71.91	356	iP	P	21 40 39.0	-1.0
IIGN	Ignalina	72.39	348	eP	P	21 40 43.3	+0.3
DEL	Delary	72.39	355	iP	P	21 40 42.0	-0.9
DEL	Delary	72.39	355	eP	P	21 40 42.1	-0.9
PABE	Paberze	72.52	349	P	P	21 40 42.8	-0.8
PABE	Paberze	72.52	349	eP	P	21 40 42.6	-1.0
BTK	Batken	72.92	313	P	P	21 40 46.4	-0.1
BTK				IAmb	IAmb	21 41 02.4	
	comp=Z,7.9nm,1.5s						
SHL	Shillong	72.96	290	P	P	21 40 46.1	-0.9
GAR	Garm	74.00	313	P	P	21 40 52.8	-0.1
CMAR	Chiang Mai Arr	74.03	280	P	P	21 40 53.6	+0.4
	comp=Z,1.7nm,0.7s,baz=26,slow=6.4,SNR=5.4						
CMAR	Chiang Mai Arr	74.03	280	P	P	21 40 54.1	+0.9
TAPN	Taplejung	74.05	294	eP	P	21 40 54.4	+0.8
	comp=Z,24nm,0.7s						
GUN	Gumba	74.66	295	eP	P	21 40 58.0	+0.8
	comp=Z,23nm,0.4s						
JIRN	Jiri	74.68	295	eP	P	21 40 58.2	+0.8
CHGR	Chuyangaron	74.81	314	P	P	21 40 57.1	-0.5
RAMN	Ramite	74.99	294	eP	P	21 40 59.5	+0.5
	comp=Z,24nm,0.6s						
KKN	Kakani	75.09	296	eP	P	21 41 00.2	+0.6
	comp=Z,11nm,0.6s						
GKN	Gorkha	75.29	296	eP	P	21 41 01.0	+0.4
	comp=Z,14nm,0.4s						
DMN	Daman	75.33	296	eP	P	21 41 01.6	+0.6
DANN	Dangsing	75.52	297	eP	P	21 41 02.6	+0.5
KOLN	Koldanda	76.06	297	eP	P	21 41 05.5	+0.4
PYUN	Piuthan	76.14	298	eP	P	21 41 05.8	+0.2
AKASG	Malin Array Be	76.47	345	P	P	21 41 05.5	-1.3
	comp=Z,3.0nm,0.5s,baz=17,slow=6.0,SNR=9.5						
AKASG	Malin Array Be	76.47	345	P	P	21 41 05.7	-1.1
AKBB	Malin Array Si	76.47	345	P	P	21 41 05.6	-1.1
AKBB				IAmb	IAmb	21 41 06.0	
	comp=Z,3.6nm,0.5s						
FLTG	Flechtingen	76.64	357	eP	P	21 41 07.1	-0.6
	comp=Z,5.4nm,0.5s,baz=1.3,slow=4.8						
NIL	Nilore	76.91	308	P	P	21 41 09.9	+0.3
CLZ	Clausthal	77.16	357	eP	P	21 41 10.9	+0.2
	comp=Z,118nm,2.9s,baz=1.3,slow=4.8						
CLL	Collm	77.59	356	P	P	21 41 12.5	-0.5
CLL				IAmb	IAmb	21 41 13.2	
	comp=Z,4.0nm,0.7s						
CLL	Collm	77.59	356	iP	P	21 41 12.5	-0.5
	comp=Z,11nm,1.4s						
CLL	Collm	77.59	356	eP	P	21 41 12.5	-0.5
	comp=Z,2.5nm,0.6s,baz=1.3,slow=4.8						
NEUB	Neuenburg	77.74	356	eP	P	21 41 13.6	-0.3
	comp=Z,9.7nm,0.9s,baz=1.3,slow=4.8						
BRG	Berggiesshubel	77.97	355	iP	P	21 41 15.0	-0.2
BRG				Amp		21 41 16.2	
	comp=Z,5.8nm,1.1s						
BRG	Berggiesshubel	77.97	355	eP	P	21 41 14.8	-0.4
	comp=Z,5.8nm,1.1s,baz=1.3,slow=4.8						
OSTC	Ostas	78.14	353	eP	P	21 41 16.5	+0.3
OJC	Ojcow	78.17	351	P	P	21 41 16.2	-0.1
OJC				IAmb	IAmb	21 41 21.2	
	comp=Z,3.1nm,0.5s						
MOX	Moxa	78.31	356	eP	P	21 41 17.0	-0.1
	comp=Z,5.0nm,1.2s,baz=1.3,slow=4.8						
MOX				eL	L	22 22 17.7	
	comp=Z,211nm,20.2s						
DPC	Dobruska-Polom	78.34	353	eP	P	21 41 17.2	-0.1
KWP	Kalwaria Pacla	78.44	349	P	P	21 41 17.4	-0.4
KRLC	Kraliky	78.58	353	eP	P	21 41 18.6	0.0
NKC	Novy Kostel	78.69	356	eP	P	21 41 19.3	+0.1
PRU	Pruhonice	78.82	354	eP	P	21 41 19.5	-0.4
SORM	Soroca	79.10	345	⇓P	P	21 41 20.6	-0.9
GRF	Grafenberg Arr	79.28	357	eP	P	21 41 22.7	+0.3
	comp=Z,8.1nm,0.5s,baz=1.3,slow=4.8						
GRF				eL	L	22 19 33.7	
	comp=Z,179nm,19.1s						
VRAC	Vranov	79.36	353	⇑P	P	21 41 22.5	-0.4
KHC	Kasperske Hory	79.73	355	eP	P	21 41 24.9	-0.1
TRPA	Tarpa	79.93	349	⇑P	P	21 41 25.7	-0.3
CKRC	Cesky Krumlov	80.00	354	eP	P	21 41 26.3	-0.1
GERES	GERESS Array B	80.01	355	P	P	21 41 26.3	-0.2
	comp=Z,2.3nm,0.8s,baz=32,slow=7.8,SNR=11						
GERES	GERESS Array B	80.01	355	P	P	21 41 25.9	-0.6
BUR08	Bucovina Ar. S	80.06	347	P	P	21 41 26.4	-0.4
BUR08				IAmb	IAmb	21 41 27.8	
	comp=Z,6.1nm,1.4s						
BURAR	Bucovina Array	80.09	347	⇑P	P	21 41 26.2	-0.8
BURAR	Bucovina Array	80.09	347	P	P	21 41 26.6	-0.4
BURAR				IAmb	IAmb	21 41 27.5	
	comp=Z,2.3nm,0.7s						
ARCR	ARCALIA	80.73	347	⇑P	P	21 41 34.1	+3.7
CONA	Conrad

1.2nm,0.6s,baz=116,slow=6.7,SNR=4.4
SEY Seymchan 85.07 347 P **P 21 52 47.9 -0.3**
1.2nm,0.5s,baz=140,slow=7.9,SNR=9.1
ARCES ARCESS Array B 127.59 350 PKP **PKPdf 21 59 13.2 -0.3**
4.3nm,1.1s,baz=11,slow=1.8,SNR=3.9
BRTR Keskin Array B 146.10 314 PKPbc **PKPdf 21 59 49.8 +1.4**
0.4nm,0.6s,baz=129,slow=4.3,SNR=3.3

IDC ***12*** *21:57:53.2±1.2, 60°.35N×152°.54W, h80km±13km, mb4.1/30, mb1 4.3/35, mb1mx4.3/39, mbtmp4.5/35, MS3.6/3, Ms1 3.6/3, ms1mx2.9/89, Error ellipse: s-maj=10.6km s-min=8.3km az=22.0*

MOS ***12*** *21:57:53.4±0.7, 60°.33N×152°.39W, h100km, mb4.4/14, Error ellipse: s-maj=9.9km s-min=5.5km az=92.8*

NEIC ***12*** *21:57:54.9, 60°.27N×152°.34W, h92km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.11; Mθθ=1.18; Mφφ 1.08; Mrθ=0.46; Mθφ=0.48; Mφr=0.18; Fault plane solution: M₀1.33000×10¹⁶ NP1:φs234.93000°, δ74.01000°, λ-9.17000°. NP2:φs327.48000°, δ81.19000°, λ-163.82000°. Principal axes: T 1.1819, Plg5.0000°, Azm100.0000°; N 0.2552, Plg72.0000°, Azm355.0000°; P -1.4371, Plg18.0000°, Azm192.0000°;*

NEIC ***12*** *21:57:54.9±1.5, 60°.27N±0°.03×152°.29W±0°.05, h99km±3km Error ellipse: s-maj=4.2km s-min=3.6km az=167.0*

AEIC ***12*** *21:57:55±1.6, 60°.26N±0°.03×152°.30W±0°.06, h100km±3km, ML4.8, mb5.0/137(NEIC), ML5.0/146(NEIC), Mwr4.7/27(NEIC), Mww4.7(NEIC), Error ellipse: s-maj=4.5km s-min=4.2km az=74.0*

NEIC ***12*** *21:57:57, 60°.16N×152°.31W, h90km, Moment Tensor Solution. Duration: 69 Moment tensor: Scale 10¹⁶Nm; Mrr=0.14; Mθθ=1.37; Mφφ 1.22; Mrθ=0.22; Mθφ 0.58; Mφr=0.25; Fault plane solution: M₀1.47000×10¹⁶ NP1: φs237.00000°, δ77.00000°, λ0.00000°. NP2:φs147.00000°, δ90.00000°, λ167.00000°. Principal axes: T 1.3821, Plg9.0000°, Azm101.0000°; N 0.1540, Plg77.0000°, Azm326.0000°; P -1.5361, Plg9.0000°, Azm193.0000°;*

ISC 12 21:57:54.7±0.4, 60°.29N±0°.03×152°.29W±0°.03, h100km±3km, n677, σ1 9 02/698, mb4.8/136, 170C-103D, Fault plane solution: NP1:φs236.80261°, δ79.25675°, λ-13.58069°. **NP2:**φs329.38092°, δ76.66178°, λ-168.95523°. **Principal axes:** T Plg1.7947°, Azm283.3564°; N Plg72.7467°, Azm19.1468°; P Plg17.1539°, Azm192.8022°; **Fault plane solution: NP1:**φs231.49387°, δ52.70239°, λ16.36035°. **NP2:** φs131.40721°, δ77.05156°, λ141.55483°. **Principal axes:** T Plg35.9387°, Azm84.5653°; N Plg49.7549°, Azm295.6453°; P Plg15.6661°, Azm186.2953°; **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.27**	**219**		**Pn**	**21 58 09.6**	**+0.4**
O20K					**Sn**	**21 58 20.9**	**+0.8**
O20K	**Slope Mountain** baz=40,SNR=390	**0.27**	**219**	P	**Pn**	**21 58 09.7**	**+0.4**
RSO	**Redoubt South**	**0.29**	**307**	Pn	**Pn**	**21 58 09.8**	**+0.3**
RDT	**Redoubt**	**0.29**	**349**		**Pn**	**21 58 09.6**	**+0.2**
RDWB	**Redoubt West**	**0.34**	**307**		**Pn**	**21 58 09.6**	**0.0**
RDWB					**Sn**	**21 58 20.9**	**0.0**
DFR	**Drift River**	**0.36**	**327**		**Pn**	**21 58 10.0**	**+0.3**
DFR					**Sn**	**21 58 20.8**	**-0.2**
RDJH	**Redoubt Jeurge**	**0.40**	**320**		**Pn**	**21 58 10.1**	**+0.2**
RDJH					**Sn**	**21 58 21.4**	**0.0**
NCT	**North Crescent**	**0.42**	**311**		**Pn**	**21 58 10.0**	**-0.1**
NCT					**Sn**	**21 58 22.2**	**+0.6**
IVE	**Iliamna Volcan**	**0.45**	**233**		**Pn**	**21 58 10.2**	**-0.1**
IVE					**Sn**	**21 58 22.1**	**+0.1**
HOM	**Homer**	**0.71**	**152**		**Pn**	**21 58 12.7**	**+0.5**
HOM	comp=E,66μm,0.9s			IAML		21 58 27.2	
HOM	comp=N,39μm,0.4s			IAML		21 58 27.5	
HOM	**Homer**	**0.71**	**152**		**Sn**	**21 58 26.3**	**+1.0**
HOM	**Homer** baz=332,SNR=71	**0.71**	**152**	P	**Pn**	**21 58 12.8**	**+0.5**
CAPN	**Captain Cook N**	**0.74**	**49**		**Pn**	**21 58 14.6**	**+2.3**
CAPN	comp=N,125μm,1.0s			IAML		21 58 31.2	
CAPN	comp=E,95μm,0.6s			IAML		21 58 31.4	
CAPN	**Captain Cook N** baz=229,SNR=461	**0.74**	**49**	P	**Pn**	**21 58 14.7**	**+2.3**
OPT	**Oil Point**	**0.79**	**217**		**Pn**	**21 58 13.2**	**+0.2**
P19K	**Oil Pt**	**0.79**	**217**		**Pn**	**21 58 13.2**	**+0.2**
P19K					**Sn**	**21 58 27.2**	**+0.5**
P19K	**Oil Pt** comp=E,31μm,0.4s	**0.79**	**217**	IAML		21 58 27.6	
P19K	comp=N,47μm,0.8s			IAML		21 58 27.7	
P19K	**Oil Pt** baz=36	**0.79**	**217**	P	**Pn**	**21 58 13.2**	**+0.2**
BRLK	**Bradley Lake**	**0.88**	**126**		**Pn**	**21 58 13.8**	**-0.1**
BRLK				Sn	**Sn**	**21 58 28.1**	**-0.1**
BRLK	comp=E,34μm,0.6s			IAML		21 58 29.3	
SPU	**Mount Spurr**	**0.91**	**7**	Pn	**Pn**	**21 58 14.7**	**+0.6**
SPCR	**Spurr Chakacha**	**0.92**	**2**		**Pn**	**21 58 14.7**	**+0.4**
SPCR					**Sn**	**21 58 30.1**	**+1.1**
SPCR	**Spurr Chakacha** baz=183,SNR=1000	**0.92**	**2**	P	**Pn**	**21 58 14.9**	**+0.6**
CNPM	**China Poot**	**0.93**	**145**	Pn	**Pn**	**21 58 14.4**	**0.0**
CNPM	comp=E,35μm,0.5s			IAML		21 58 29.6	
CNPM	comp=N,30μm,0.5s			IAML		21 58 30.2	
CNPM	**China Poot**	**0.93**	**145**		**Sn**	**21 58 29.0**	**-0.2**
BRSE	**Bradley Lake S**	**0.95**	**124**		**Pn**	**21 58 14.5**	**-0.1**
BRSE					**Sn**	**21 58 29.3**	**-0.3**
BRSE	**Bradley Lake S** baz=304,SNR=267	**0.95**	**124**	P	**Pn**	**21 58 14.6**	**-0.1**
SPBG	**Spurr Blockage**	**0.98**	**358**		**Pn**	**21 58 15.7**	**+0.7**
SPCG	**Spurr Capps Gl**	**1.02**	**7**		**Pn**	**21 58 16.0**	**+0.6**
O19K	**Port Alsworth**	**1.02**	**266**	Pn	**Pn**	**21 58 15.1**	**-0.2**
O19K	**Port Alsworth** baz=85,SNR=1000	**1.02**	**266**	P	**Pn**	**21 58 15.3**	**0.0**
SLKM	**Skilak Lake**	**1.05**	**77**		**Pn**	**21 58 16.1**	**+0.4**
AU22	**Augustine Moun**	**1.07**	**211**		**Pn**	**21 58 15.8**	**0.0**
AUL	**Augustine Lava**	**1.08**	**213**		**Pn**	**21 58 16.1**	**+0.2**
AUL					**Sn**	**21 58 32.2**	**+0.2**
AUH	**Augustine H**	**1.09**	**213**		**Pn**	**21 58 16.3**	**+0.1**
AUQ	**Augustine Qik'**	**1.09**	**212**		**Pn**	**21 58 16.3**	**+0.1**
N19K	**Bonanza Creek**	**1.21**	**297**		**Pn**	**21 58 17.4**	**0.0**
N19K	comp=N,13μm,0.8s			IAML		21 58 35.2	
N19K	**Bonanza Creek** baz=116,SNR=1000	**1.21**	**297**	P	**Pn**	**21 58 17.5**	**0.0**
STLK	**Strandline Lak**	**1.24**	**10**		**Pn**	**21 58 18.6**	**+0.8**
O22K	**Cooper Landing**	**1.29**	**80**		**Pn**	**21 58 18.2**	**-0.1**
O22K	**Cooper Landing** baz=262,SNR=318	**1.29**	**80**	P	**Pn**	**21 58 18.8**	**+0.4**
FIS	**Fire Island**	**1.33**	**49**		**Pn**	**21 58 20.5**	**+1.7**
FIS	comp=N,40μm,0.8s			IAML		21 58 40.8	
FIS	comp=E,34μm,0.5s			IAML		21 58 43.6	
SEW	**Seward**	**1.43**	**96**	Pn	**Pn**	**21 58 19.5**	**-0.5**
SEW	**Seward** baz=278,SNR=277	**1.43**	**96**	P	**Pn**	**21 58 19.8**	**-0.2**
RC01	**Rabbit Creek A**	**1.49**	**56**		**Pn**	**21 58 21.4**	**+0.7**
RC01				Sn	**Sn**	**21 58 40.7**	**+0.1**
RC01	**Rabbit Creek A** baz=238,SNR=911	**1.49**	**56**	P	**Pn**	**21 58 21.5**	**+0.7**
P18K	**Big Mountain,**	**1.73**	**240**		**Pn**	**21 58 23.5**	**-0.3**
P18K	**Big Mountain,** baz=58	**1.73**	**240**	P	**Pn**	**21 58 23.6**	**-0.3**
M22K	**Willow**	**1.81**	**35**		**Pn**	**21 58 25.8**	**+1.1**
M22K				Sn	**Sn**	**21 58 49.4**	**+1.7**
M22K	**Willow** baz=216,SNR=1000	**1.81**	**35**	P	**Pn**	**21 58 25.8**	**+1.1**
SVW2	**Sparrevohn**	**1.81**	**298**	Pn	**Pn**	**21 58 24.7**	**-0.1**
SVW2				Sn	**Sn**	**21 58 46.6**	**-1.1**
M19K	**Big River Lodg**	**1.92**	**329**	Pn	**Pn**	**21 58 26.9**	**+0.8**
M19K				Sn	**Sn**	**21 58 50.6**	**+0.5**
M19K	comp=E,8μm,0.8s			IAML		21 58 51.5	
M19K	**Big River Lodg** baz=148,SNR=589	**1.92**	**329**	P	**Pn**	**21 58 26.9**	**+0.8**
PMR	**Palmer**	**2.02**	**48**	P	**Pn**	**21 58 27.5**	**0.0**
PMR	**Palmer**	**2.02**	**48**	Pn	**Pn**	**21 58 27.5**	**0.0**
PMR	comp=E,12μm,0.3s			IAML		21 58 52.8	
PMR	comp=N,13μm,0.4s			IAML		21 58 54.4	
PMR	**Palmer** baz=231,SNR=541	**2.02**	**48**	P	**Pn**	**21 58 27.5**	**0.0**
PWL	**Port Wells**	**2.04**	**72**	Pn	**Pn**	**21 58 27.1**	**-0.6**
PWL	comp=E,18μm,0.6s			IAML		21 58 55.2	
PWL	**Port Wells** baz=255,SNR=216	**2.04**	**72**	P	**Pn**	**21 58 27.1**	**-0.6**
KNK	**Knik Glacier**	**2.19**	**57**		**Pn**	**21 58 29.6**	**-0.1**
KNK	comp=E,18μm,0.3s			IAML		21 58 57.5	
KNK	comp=N,16μm,0.7s			IAML		21 59 04.1	
KNK	**Knik Glacier** baz=240,SNR=563	**2.19**	**57**	P	**Pn**	**21 58 29.6**	**-0.1**
GHO	**Glory Hole Cre**	**2.21**	**46**		**Pn**	**21 58 30.2**	**+0.1**
L19K	**White Mountain**	**2.27**	**328**		**Pn**	**21 58 31.5**	**+0.7**
L19K	**White Mountain** baz=146,SNR=807	**2.27**	**328**	P	**Pn**	**21 58 31.5**	**+0.7**
L20K	**Farewell, AK**	**2.33**	**342**		**Pn**	**21 58 32.5**	**+1.0**
L20K	**Farewell, AK** baz=161	**2.33**	**342**	P	**Pn**	**21 58 32.2**	**+0.7**
CUT	**Chulitna**	**2.34**	**24**		**Pn**	**21 58 32.2**	**+0.6**
CUT	comp=N,17μm,0.4s			IAML		21 59 06.2	
CUT	comp=E,13μm,0.4s			IAML		21 59 07.1	
CUT	**Chulitna** baz=206,SNR=1000	**2.34**	**24**	P	**Pn**	**21 58 32.2**	**+0.6**
SML	**Sawmill**	**2.46**	**50**		**Pn**	**21 58 33.2**	**+0.1**
SML	comp=E,13μm,0.9s			IAML		21 59 05.2	
SML	**Sawmill** baz=233,SNR=435	**2.46**	**50**	P	**Pn**	**21 58 33.3**	**+0.1**
KDAK	**Kodiak Island** baz=52,slow=11	**2.52**	**184**	P	**Pn**	**21 58 32.7**	**-1.3**
KDAK	comp=E,306nm,0.3s,baz=227,slow=22,SNR=5.8			S	**Sn**	**21 59 02.0**	**-2.1**
KDAK	comp=E,534nm,19.1s,baz=290,slow=34			LR	LR	21 59 20.2	
KDAK	**Kodiak Island**	**2.52**	**184**	Pn	**Pn**	**21 58 32.6**	**-1.3**
KDAK	**Kodiak Island** baz=3.1	**2.52**	**184**	P	**Pn**	**21 58 32.7**	**-1.3**
KELA	**Mount Kelaz**	**2.56**	**225**		**Pn**	**21 58 34.5**	**-0.1**
ACHA	**Angle Creek He**	**2.60**	**218**		**Pn**	**21 58 35.4**	**+0.2**
PPLA	**Purkeypile**	**2.62**	**1**	Pn	**Pn**	**21 58 36.5**	**+1.1**
PPLA	**Purkeypile** baz=181,SNR=700	**2.62**	**1**	P	**Pn**	**21 58 36.5**	**+1.1**
ANCK	**Angle Creek**	**2.66**	**220**		**Pn**	**21 58 36.3**	**+0.3**
SCM	**Sheep Creek Mo**	**2.87**	**55**	P	**Pn**	**21 58 38.6**	**-0.1**
SCM	**Sheep Creek Mo**	**2.87**	**55**		**Pn**	**21 58 38.6**	**-0.1**
SCM	comp=E,9μm,0.8s			IAML		21 59 23.5	
SCM	**Sheep Creek Mo** baz=239,SNR=348	**2.87**	**55**	P	**Pn**	**21 58 38.6**	**-0.1**
JPK	**Jack Peak**	**2.91**	**72**		**Pn**	**21 58 38.1**	**-1.1**
FID	**Port Fidalgo**	**2.91**	**78**		**Pn**	**21 58 37.2**	**-2.0**
FID	comp=N,8μm,0.7s			IAML		21 59 11.6	
FID	comp=E,8μm,0.4s			IAML		21 59 12.2	
VMT	**TAPS Tl Valdez**	**3.02**	**72**		**Pn**	**21 58 40.0**	**-0.6**
OHAK	**Old Harbor**	**3.12**	**190**	Pn	**Pn**	**21 58 40.1**	**-1.9**
OHAK	**Old Harbor** baz=9.0,SNR=32	**3.12**	**190**	P	**Pn**	**21 58 40.1**	**-1.9**
Q23K	**Middleton Isla**	**3.12**	**103**		**Pn**	**21 58 41.7**	**-0.2**
Q23K	comp=N,4μm,0.7s			IAML		21 59 20.2	
Q23K	comp=E,3μm,0.8s			IAML		21 59 20.4	
Q23K	**Middleton Isla** baz=288,SNR=28	**3.12**	**103**	P	**Pn**	**21 58 41.6**	**-0.4**
MID	**Middleton Isla**	**3.12**	**103**	P	**Pn**	**21 58 41.8**	**-0.2**
MID	**Middleton Isla**	**3.12**	**103**	Pn	**Pn**	**21 58 41.8**	**-0.2**
MID	comp=N,4μm,0.7s			IAML		21 59 20.2	
MID	comp=E,3μm,0.7s			IAML		21 59 20.4	
CAST	**Castle Rocks**	**3.14**	**2**		**Pn**	**21 58 42.6**	**+0.3**
CAST	**Castle Rocks** baz=182,SNR=810	**3.14**	**2**	P	**Pn**	**21 58 42.7**	**+0.4**
WAT6	**Susitna Watana**	**3.17**	**42**		**Pn**	**21 58 43.1**	**+0.2**
WAT6	**Susitna Watana** baz=225,SNR=1000	**3.17**	**42**	P	**Pn**	**21 58 43.1**	**+0.2**
TT01	**Tatalina**	**3.17**	**327**		**Pn**	**21 58 43.1**	**+0.4**
TTA	**Tatalina**	**3.19**	**328**	P	**Pn**	**21 58 43.3**	**+0.3**
TTA	**Tatalina**	**3.19**	**328**	Pn	**Pn**	**21 58 43.2**	**+0.3**
TTA	**Tatalina** baz=145,SNR=296	**3.19**	**328**	P	**Pn**	**21 58 43.4**	**+0.3**
K20K	**Telida**	**3.19**	**345**	Pn	**Pn**	**21 58 43.7**	**+0.8**
K20K	**Telida** baz=164	**3.19**	**345**	P	**Pn**	**21 58 43.8**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.25**	**83**		**Pn**	**21 58 42.3**	**-1.4**
EYAK	**Cordova Ski Ar** baz=268,SNR=33	**3.25**	**83**	P	**Pn**	**21 58 42.2**	**-1.6**
PLK5	**Peulik 5**	**3.29**	**228**		**Pn**	**21 58 44.9**	**+0.6**
TRF	**Thorofare Moun**	**3.31**	**16**		**Pn**	**21 58 44.6**	**-0.1**
TRF	comp=E,3μm,0.5s			IAML		21 59 28.2	
TRF	comp=N,2μm,0.5s			IAML		21 59 30.1	
TRF	**Thorofare Moun** baz=198,SNR=676	**3.31**	**16**	P	**Pn**	**21 58 44.8**	**+0.1**
DIV	**Divide**	**3.31**	**72**	Pn	**Pn**	**21 58 43.7**	**-0.9**
PLK3	**Peulik 3**	**3.32**	**220**		**Pn**	**21 58 45.1**	**+0.4**
KLU	**Klutina**	**3.34**	**66**		**Pn**	**21 58 44.6**	**-0.4**
KLU	**Klutina** baz=251,SNR=380	**3.34**	**66**	P	**Pn**	**21 58 44.6**	**-0.4**
KTH	**Kantishna Hill**	**3.34**	**11**		**Pn**	**21 58 45.2**	**+0.2**
KTH	comp=E,2μm,0.6s			IAML		21 59 30.1	
KTH	comp=N,1μm,0.8s			IAML		21 59 44.9	
PLK1	**Peulik 1**	**3.34**	**224**		**Pn**	**21 58 45.4**	**+0.5**
M24K	**Tolsona, Glenn**	**3.48**	**56**		**Pn**	**21 58 47.3**	**+0.5**
M24K	**Tolsona, Glenn** baz=241,SNR=339	**3.48**	**56**	P	**Pn**	**21 58 47.2**	**+0.3**
PLBL	**Peulik Blue Cr**	**3.50**	**224**		**Pn**	**21 58 47.6**	**+0.6**
RND	**Reindeer**	**3.53**	**26**	P	**Pn**	**21 58 47.5**	**0.0**
RND	**Reindeer**	**3.53**	**26**		**Pn**	**21 58 47.5**	**0.0**
RND	comp=N,2μm,0.6s			IAML		21 59 30.4	
RND	comp=E,1μm,0.4s			IAML		21 59 33.1	
CHUM	**Lake Minchumin**	**3.61**	**360**		**Pn**	**21 58 48.7**	**+0.2**
CHUM	**Lake Minchumin** baz=180,SNR=493	**3.61**	**360**	P	**Pn**	**21 58 48.7**	**+0.2**
DHY	**Denali Highway**	**3.65**	**38**		**Pn**	**21 58 49.8**	**+0.6**
DHY	**Denali Highway** baz=222,SNR=1000	**3.65**	**38**	P	**Pn**	**21 58 49.6**	**+0.4**
PS12	**TAPS Pump St12**	**3.69**	**68**		**Pn**	**21 58 49.0**	**-0.6**
PS11	**TAPS Pump St11**	**3.76**	**58**		**Pn**	**21 58 50.8**	**+0.3**
GOAT	**Goat Mountain**	**3.76**	**82**		**Pn**	**21 58 49.2**	**-1.4**
RAGM	**Ragged Mountai**	**3.79**	**85**		**Pn**	**21 58 49.4**	**-1.6**
RAGM	comp=E,4μm,0.4s			IAML		21 59 38.8	
MCK	**McKinley**	**3.80**	**23**	P	**Pn**	**21 58 51.5**	**+0.4**
MCK	**McKinley**	**3.80**	**23**	Pn	**Pn**	**21 58 51.5**	**+0.4**
MCK	comp=N,2μm,0.6s			IAML		21 59 43.4	
MCK	comp=E,2μm,0.5s			IAML		21 59 45.0	
MCK	**McKinley** baz=206,SNR=1000	**3.80**	**23**	P	**Pn**	**21 58 51.3**	**+0.2**
BMRM	**Bremner River**	**3.85**	**76**		**Pn**	**21 58 50.5**	**-1.3**
BMRM	comp=E,3μm,0.4s			IAML		21 59 36.8	
BMRM	comp=N,4μm,0.4s			IAML		21 59 37.4	
BMRM	**Bremner River** baz=263,SNR=64	**3.85**	**76**	P	**Pn**	**21 58 50.5**	**-1.3**
SII	**Sitkinak Islan**	**3.87**	**196**		**Pn**	**21 58 50.2**	**-1.8**
SII	comp=N,1μm,1.1s			IAML		21 59 43.9	
SII	**Sitkinak Islan** baz=14,SNR=36	**3.87**	**196**	P	**Pn**	**21 58 50.3**	**-1.8**
BPAW	**Bear Paw Mtn.**	**3.88**	**9**		**Pn**	**21 58 51.6**	**-0.5**
BPAW	**Bear Paw Mtn.** baz=190,SNR=704	**3.88**	**9**	P	**Pn**	**21 58 51.4**	**-0.7**
KAIM	**Kayak Island**	**3.96**	**92**		**Pn**	**21 58 52.0**	**-1.2**
KAIM	comp=E,2μm,0.5s			IAML		21 59 44.2	
KAIM	comp=N,2μm,0.5s			IAML		21 59 45.2	
KAIM	**Kayak Island** baz=278,SNR=22	**3.96**	**92**	P	**Pn**	**21 58 53.2**	**0.0**
N25K	**Chitina, Valde**	**3.98**	**67**		**Pn**	**21 58 53.2**	**-0.3**
N25K	comp=E,4μm,0.6s			IAML		21 59 40.0	
N25K	**Chitina, Valde** baz=254,SNR=117	**3.98**	**67**	P	**Pn**	**21 58 53.1**	**-0.5**
HMT	**Hamilton**	**4.00**	**86**		**Pn**	**21 58 53.6**	**-0.2**
HMT	comp=N,4μm,0.4s			IAML		21 59 44.0	
J20K	**Nowinta River**	**4.00**	**348**		**Pn**	**21 58 54.3**	**+0.5**
J20K	**Nowinta River** baz=167	**4.00**	**348**	P	**Pn**	**21 58 54.4**	**+0.7**
BWN	**Browne**	**4.12**	**18**		**Pn**	**21 58 56.2**	**+0.8**
BWN	comp=E,2μm,1.0s			IAML		22 00 20.4	
BWN	comp=N,2μm,0.8s			IAML		22 00 21.3	
NICHA	**Nichawak Mount**	**4.15**	**87**		**Pn**	**21 58 55.5**	**-0.3**
PAX	**Paxson**	**4.22**	**47**	P	**Pn**	**21 58 57.5**	**+0.6**
PAX	**Paxson**	**4.22**	**47**	Pn	**Pn**	**21 58 57.5**	**+0.6**
PAX	**Paxson** baz=233,SNR=426	**4.22**	**47**	P	**Pn**	**21 58 57.5**	**+0.6**
SUCK	**Suckling Hills**	**4.26**	**89**		**Pn**	**21 58 57.4**	**+0.2**
SUCK	comp=N,1μm,0.4s			IAML		21 59 46.7	
SUCK	comp=E,871nm,0.6s			IAML		21 59 54.2	
BERG	**Berg Lake**	**4.27**	**85**		**Pn**	**21 58 57.1**	**-0.3**
BERG	**Berg Lake** comp=N,3μm,0.5s	**4.27**	**85**	IAML		21 59 52.2	
GLB	**Gilahina Butte**	**4.30**	**71**		**Pn**	**21 58 57.2**	**-0.7**
GLB	comp=N,2μm,0.8s			IAML		21 59 46.4	
GLB	comp=E,3μm,0.4s			IAML		21 59 50.1	
PS10	**TAPS Pump St10**	**4.41**	**42**		**Pn**	**21 59 00.6**	**+1.2**
VRDI	**Verde Repeater**	**4.44**	**74**	Pn	**Pn**	**21 58 58.8**	**-1.0**
VRDI	comp=N,2μm,0.4s			IAML		21 59 52.0	
VRDI	comp=E,1μm,0.4s			IAML		21 59 52.0	
GRIN	**Grindle Hills**	**4.47**	**86**		**Pn**	**21 58 59.7**	**-0.4**
KHIT	**Khitrov Hills**	**4.49**	**84**		**Pn**	**21 59 00.1**	**-0.4**
BGLC	**Bering Glacier**	**4.50**	**88**		**Pn**	**21 59 00.9**	**+0.4**
BGLC	**Bering Glacier** baz=276	**4.50**	**88**	P	**Pn**	**21 59 01.4**	**+1.0**
NEA2	**Nenana**	**4.57**	**18**		**Pn**	**21 59 00.9**	**-0.6**
NEA2	comp=N,635nm,1.1s			IAML		21 59 54.5	
NEA2	comp=E,573nm,0.6s			IAML		21 59 56.9	
NEA2	**Nenana** baz=201,SNR=638	**4.57**	**18**	P	**Pn**	**21 59 00.5**	**-1.0**
WRH	**Wood River Hil**	**4.63**	**23**	Pn	**Pn**	**21 59 01.9**	**-0.3**
WRH	comp=E,775nm,0.6s			IAML		21 59 54.9	
WRH	comp=N,1μm,0.8s			IAML		21 59 55.8	
MCARA	**McCarthy VSAT**	**4.67**	**72**		**Pn**	**21 59 02.0**	**-0.8**
MCARA	**McCarthy VSAT** baz=260,SNR=93	**4.67**	**72**	P	**Pn**	**21 59 01.9**	**-0.8**
WAX	**Waxell Ridge**	**4.69**	**84**		**Pn**	**21 59 01.4**	**-1.7**
WAX	comp=E,2μm,0.5s			IAML		21 59 57.2	
SNH	**Sunshine Point**	**4.71**	**87**		**Pn**	**21 59 03.9**	**+0.4**
SNH	comp=E,1μm,0.6s			IAML		22 00 00.2	
SNH	comp=N,1μm,0.3s			IAML		22 00 00.5	
CHIR	**Chirikof Islan**	**4.81**	**203**	Pn	**Pn**	**21 59 03.0**	**-1.8**
CHIR	comp=N,539nm,0.4s			IAML		21 59 55.8	
CHIR	**Chirikof Islan** baz=20	**4.81**	**203**	P	**Pn**	**21 59 03.0**	**-1.8**
MLY	**Manley**	**4.81**	**8**		**Pn**	**21 59 04.3**	**-0.6**
MLY	**Manley** baz=189,SNR=931	**4.81**	**8**	P	**Pn**	**21 59 04.1**	**-0.7**
HDA	**Harding Lake**	**4.83**	**29**		**Pn**	**21 59 05.1**	**+0.2**
HDA	**Harding Lake** baz=213,SNR=1000	**4.83**	**29**	P	**Pn**	**21 59 05.1**	**+0.2**
CCB	**Clear Creek Bu**	**4.84**	**24**	Pn	**Pn**	**21 59 04.7**	**-0.4**
CCB	comp=E,770nm,0.6s			IAML		22 00 02.3	
CCB	comp=N,636nm,0.5s			IAML		22 00 03.9	
MENT	**Mentasta**	**4.88**	**53**		**Pn**	**21 59 05.7**	**0.0**
CYK	**Cape Yakataga**	**4.90**	**88**		**Pn**	**21 59 06.6**	**+0.7**
PTPK	**Patty Peak**	**4.91**	**75**		**Pn**	**21 59 05.7**	**-0.6**
I21K	**Tanana**	**4.91**	**2**		**Pn**	**21 59 05.9**	**-0.2**
I21K	**Tanana** baz=182,SNR=1000	**4.91**	**2**	P	**Pn**	**21 59 05.5**	**-0.6**
RIDG	**Independent Ri**	**4.93**	**42**	Pn	**Pn**	**21 59 07.5**	**+1.1**
RIDG	**Independent Ri** baz=229,SNR=848	**4.93**	**42**	P	**Pn**	**21 59 07.1**	**+0.8**
KIAG	**Kiagna River**	**4.94**	**78**		**Pn**	**21 59 05.5**	**-1.1**
ISLE	**Juniper Island**	**4.94**	**82**		**Pn**	**21 59 04.9**	**-1.7**
BALM	**Baldy**	**4.95**	**77**		**Pn**	**21 59 05.5**	**-1.2**
GCSA	**Galena City Sc**	**4.95**	**337**		**Pn**	**21 59 07.5**	**+0.9**
GCSA	**Galena City Sc** baz=153,SNR=163	**4.95**	**337**	P	**Pn**	**21 59 07.5**	**+0.9**
PS08	**TAPS Pump Stn8**	**4.97**	**28**		**Pn**	**21 59 07.2**	**+0.3**
TCOL	**CIGO, UAF Yank**	**5.04**	**22**		**Pn**	**21 59 07.8**	**0.0**
TCOL	**CIGO, UAF Yank** baz=206,SNR=200	**5.04**	**22**	P	**Pn**	**21 59 08.4**	**+0.6**
COLA	**College**	**5.04**	**22**	*d iP*	**Pn**	**21 59 07.9**	**+0.1**
COLA	**College**	**5.04**	**22**		**Pn**	**21 59 07.8**	**+0.1**
MDM	**Murphy Dome**	**5.05**	**20**		**Pn**	**21 59 07.9**	**-0.1**
MDM	comp=N,640nm,1.1s			IAML		22 00 06.3	
MDM	comp=E,484nm,0.6s			IAML		22 00 34.5	
I23K	**Minto, Yukon-K**	**5.06**	**14**		**Pn**	**21 59 08.2**	**+0.2**
I23K	comp=N,612nm,0.8s			IAML		22 00 40.9	
I23K	**Minto, Yukon-K** baz=197,SNR=1000	**5.06**	**14**	P	**Pn**	**21 59 08.9**	**+0.8**
BAGL	**Bagley Icefiel**	**5.07**	**83**		**Pn**	**21 59 08.5**	**+0.4**
L26K	**Log Cabin Wild**	**5.07**	**53**		**Pn**	**21 59 08.7**	**+0.5**
L26K	comp=E,2μm,0.5s			IAML		22 00 25.6	
L26K	comp=N,2μm,0.4s			IAML		22 00 28.1	
L26K	**Log Cabin Wild** baz=241,SNR=131	**5.07**	**53**	P	**Pn**	**21 59 08.5**	**+0.3**
CHGN	**Chignik**	**5.14**	**222**		**Pn**	**21 59 08.7**	**-0.4**
CHGN	**Chignik** baz=36,SNR=19	**5.14**	**222**	P	**Pn**	**21 59 08.8**	**-0.4**
DOT	**Dot Lake**	**5.14**	**45**		**Pn**	**21 59 09.5**	**+0.3**
IL31		**5.15**	**27**		**Pn**	**21 59 09.3**	**+0.1**
ILAR	**Eielson Array**	**5.15**	**27**	P	**Pn**	**21 59 08.9**	**-0.4**
ILAR	comp=N,102nm,0.3s,baz=211,slow=14,SNR=2779			S	**Sn**	**22 00 06.8**	**-0.6**
BARN	**Barnard Glacie**	**5.28**	**77**		**Pn**	**21 59 10.5**	**-0.8**
BARN	comp=N,1μm,0.5s			IAML		22 00 15.1	
BARN	comp=E,1μm,0.4s			IAML		22 00 15.1	
POKR	**Poker Plat Res**	**5.34**	**23**		**Pn**	**21 59 11.8**	**-0.1**
PO

CTG **Chitna Glacier** 5.43 78 P Pn 21 59 14.1 +0.8
baz=267,SNR=437
CTGM **Chitina Glacie** 5.44 78 Pn 21 59 13.0 -0.4
TABL **Table Mountain** 5.54 84 Pn 21 59 14.7 0.0
LOGN **Logan Glacier** 5.60 80 Pn 21 59 15.8 +0.2
H23K **Yukon River** 5.70 11 Pn 21 59 17.0 +0.2
H23K **Yukon River** 5.70 11 P Pn 21 59 17.1 +0.4
baz=194,SNR=1000
L27K **Beaver Creek,** 5.71 56 Pn 21 59 16.8 -0.1
L27K **Beaver Creek,** 5.71 56 P Pn 21 59 16.9 0.0
baz=245,SNR=69
PS06 **TAPS Pump Stn6** 5.71 11 Pn 21 59 17.8 +0.9
BC03 5.72 56 Pn 21 59 17.2 +0.2
BCAR **Beaver Creek A** 5.72 56 Pn 21 59 17.1 -0.1
IM03 5.76 354 Pn 21 59 17.4 -0.1
IMAR **Indian Mountai** 5.76 354 Pn P 21 59 17.4 -0.1
YUK2 **White River** 5.76 70 Pn 21 59 17.6 -0.1
J26L **Joseph Creek** 5.86 40 P Pn 21 59 19.1 +0.1
baz=228,SNR=440
BVCY **Beaver Creek** 5.90 64 Pn 21 59 19.3 -0.2
BVCY **Beaver Creek** 5.90 64 P Pn 21 59 20.0 +0.5
baz=254,SNR=23
H24K **Noodor Dome** 5.92 18 Pn 21 59 20.1 +0.3
H24K **Noodor Dome** 5.92 18 P Pn 21 59 20.2 +0.4
baz=202
YUK3 **Moose Creek** 5.94 70 Pn 21 59 20.1 -0.1
YUK3 **Moose Creek** 5.94 70 P Pn 21 59 20.1 -0.1
baz=260,SNR=252
PCA **Pinnacle** 6.01 87 Pn 21 59 21.4 +0.3
PINM **Pinnacle** 6.01 87 P Pn 21 59 21.3 +0.3
baz=277
PRP **Porcupine Dome** 6.09 28 Pn Pn 21 59 22.4 +0.2
PRP **Porcupine Dome** 6.09 28 P Pn 21 59 22.3 +0.2
baz=214,SNR=1000
BCPM **Bancas Point** 6.34 88 Pn 21 59 25.6 +0.1
PNL **Peninsula** 6.50 90 Pn 21 59 27.4 -0.4
PNL **Peninsula** 6.50 90 P Pn 21 59 27.3 -0.4
baz=281,SNR=100
PS05 **TAPS Pump Stn5** 6.59 6 Pn 21 59 29.6 +0.7
SDPT **Sand Point** 6.60 225 Pn Pn 21 59 27.5 -1.6
SDPT **Sand Point** 6.60 225 P Pn 21 59 27.6 -1.4
baz=38
YUK4 **Talbot Arm** 6.76 75 P Pn 21 59 31.9 +0.5
baz=266,SNR=78
EGAK **Eagle** 6.84 44 Pn 21 59 32.1 -0.1
EGAK **Eagle** 6.84 44 P Pn 21 59 32.1 -0.1
baz=234,SNR=215
YUK6 **Outpost Mounta** 6.89 78 Pn 21 59 33.0 -0.1
YUK6 **Outpost Mounta** 6.89 78 P Pn 21 59 33.2 +0.1
baz=270,SNR=92
YUK7 **Dusty Glacier** 7.01 82 Pn 21 59 34.7 -0.1
COLD **Coldfoot** 7.03 7 Pn 21 59 35.4 +0.7
COLD **Coldfoot** 7.03 7 P Pn 21 59 35.4 +0.7
baz=189,SNR=57
FYU **Fort Yukon** 7.05 24 Pn Pn 21 59 35.0 0.0
DAWY **Dawson** 7.12 52 Pn Pn 21 59 36.3 +0.2
DAWY **Dawson** 7.12 52 P Pn 21 59 36.4 +0.3
baz=244,SNR=100
YUK5 **Granite Creek** 7.13 77 Pn 21 59 36.1 -0.3
HYT **Haines Junctio** 7.31 79 Pn Pn 21 59 38.8 0.0
HYT **Haines Junctio** 7.31 79 P Pn 21 59 38.7 0.0
baz=272,SNR=76
ANM **Nome** 7.43 311 P Pn 21 59 40.8 +0.6
ANM **Nome** 7.43 311 Pn Pn 21 59 40.8 +0.6
ANM **Nome** 7.43 311 P Pn 21 59 40.6 +0.4
baz=120,SNR=69
J29M **Klondike Camp** 7.75 51 P Pn 21 59 45.8 +1.1
baz=244,SNR=16
M30M **Minto, Yukon** 7.77 66 Pn 21 59 44.5 -0.5
M30M **Minto, Yukon** 7.77 66 P Pn 21 59 44.7 -0.3
baz=260,SNR=32
BM03 **Burnt Mountain** 7.92 22 Pn 21 59 46.0 -0.9
BMAR **Burnt Mountain** 7.93 22 Pn 21 59 46.1 -1.0
FALS **False Pass** 8.08 233 Pn Pn 21 59 48.4 -0.7
FALS **False Pass** 8.08 233 P Pn 21 59 49.1 -0.1
baz=43
N31M **Braeburn, Yuko** 8.14 74 Pn Pn 21 59 49.5 -0.4
N31M **Braeburn, Yuko** 8.14 74 P Pn 21 59 49.6 -0.4
baz=269,SNR=56
I29M **Ogilvie Camp,** 8.16 46 Pn 21 59 49.9 -0.4
I29M **Ogilvie Camp,** 8.16 46 P Pn 21 59 50.3 0.0
baz=238,SNR=113
ISLZ **Isanotski Laza** 8.29 233 Pn 21 59 52.0 -0.1
SSLS **Shishaldin Sou** 8.42 234 Pn 21 59 53.2 -0.6
TOLK **Toolik Lake Re** 8.47 7 Pn Pn 21 59 56.0 +1.6
TOLK **Toolik Lake Re** 8.47 7 P Pn 21 59 55.9 +1.6
baz=189,SNR=233
SKAG **Skagway** 8.57 88 Pn Pn 21 59 55.1 -0.7
SKAG **Skagway** 8.57 88 P Pn 21 59 55.1 -0.7
baz=283,SNR=20
WHY **Whitehorse** 8.61 80 Pn 21 59 55.9 -0.5
WHY **Whitehorse** 8.61 80 P Pn 21 59 55.9 -0.5
baz=275,SNR=92
WESE **West Dahl East** 8.83 234 Pn 21 59 59.2 -0.1
M31M **Drury Creek, Y** 8.84 70 Pn Pn 21 59 59.2 -0.1
M31M **Drury Creek, Y** 8.84 70 P Pn 21 59 59.3 -0.1
baz=265,SNR=37
TNA **Tin City** 8.86 313 Pn Pn 22 00 00.6 +0.9
TNA **Tin City** 8.86 313 P Pn 22 00 00.4 +0.7
baz=120,SNR=41
BESE **Bessie Mountai** 9.05 93 Pn Pn 22 00 01.2 -1.0
RDOG **Red Dog Mine** 9.05 334 Pn Pn 22 00 03.4 +1.1
RDOG **Red Dog Mine** 9.05 334 P Pn 22 00 04.3 +2.1
baz=144,SNR=11
FARO **Faro, Yukon** 9.32 70 P Pn 22 00 05.9 -0.1
baz=266,SNR=32
JIS **Juneau Island** 9.38 95 Pn 22 00 05.8 -1.0
SIT **Sitka** 9.41 103 P Pn 22 00 06.2 -0.9
SIT **Sitka** 9.41 103 Pn Pn 22 00 06.2 -0.9
SIT **Sitka** 9.41 103 P Pn 22 00 06.7 -0.4
baz=297,SNR=8.5
AKUT **Akutan** 9.55 236 Pn Pn 22 00 08.4 -0.7
P33M **Teslin, Yukon** 9.68 82 Pn Pn 22 00 09.9 -0.9
P33M **Teslin, Yukon** 9.68 82 P Pn 22 00 10.0 -0.9
baz=279,SNR=20
GAMB **Gambell** 9.75 299 Pn Pn 22 00 13.1 +1.3
GAMB **Gambell** 9.75 299 P Pn 22 00 13.0 +1.3
baz=102,SNR=17
UNV **Unalaska Valle** 10.06 236 Pn Pn 22 00 14.8 -1.2
UNV **Unalaska Valle** 10.06 236 P Pn 22 00 15.3 -0.8
baz=44
MMPY **Sheldon Lake,** 10.32 68 P Pn 22 00 19.7 +0.1
baz=266,SNR=38
WRAK **Wrangell Islan** 11.16 102 Pn 22 00 31.2 +0.4
WRAK **Wrangell Islan** 11.16 102 P Pn 22 00 31.4 +0.6
baz=298,SNR=16
A21K **Barrow** 11.22 353 Pn 22 00 30.6 -1.0
A21K **Barrow** 11.22 353 P Pn 22 00 30.2 -1.3
baz=169,SNR=11
CRAG **Craig** 11.27 107 Pn Pn 22 00 31.9 -0.5
CRAG **Craig** 11.27 107 P Pn 22 00 32.3 -0.1
baz=303
INK **Inuvik** 11.39 37 P Pn 22 00 33.3 -0.6
comp=N,5.6nm,0.3s,baz=228,slow=17,SNR=34
INK S Sn 22 02 34.0 -5.0
comp=N,0.6nm,0.3s,baz=300,slow=3.1,SNR=1.9
INK **Inuvik** 11.39 37 P Pn 22 00 32.4 -1.5
INK **Inuvik** 11.39 37 Pn Pn 22 00 32.4 -1.5
INK **Inuvik** 11.39 37 P Pn 22 00 33.3 -0.6
baz=234,SNR=43
DLBC **Dease Lake** 11.49 90 P Pn 22 00 36.2 +0.7
comp=N,5.3nm,0.3s,baz=287,slow=5.4,SNR=61
DLBC S Sn 22 02 38.6 -3.1
comp=N,8.9nm,0.3s,baz=195,slow=22,SNR=8.5
DLBC LR LR 22 04 28.1
comp=N,171nm,18.4s,baz=252,slow=34
DLBC **Dease Lake** 11.49 90 Pn Pn 22 00 34.4 -1.1
TGTN **Hyland Airport** 11.74 74 P Pn 22 00 39.0 +0.3
baz=274,SNR=30
DIB **Dawson Inlet,** 12.95 114 Pn Pn 22 00 53.3 -1.3
RUBB **Prince Rupert** 13.29 107 Pn 22 00 59.5 +0.5
GRNB **Grenville Isla** 13.71 108 Pn 22 01 05.2 +0.6
C36M **Paulatuk** 14.89 41 Pn Pn 22 01 17.1 -2.5
C36M **Paulatuk** 14.89 41 P Pn 22 01 17.2 -2.5
baz=246,SNR=89
BBB **Bella Bella** 15.62 111 P P 22 01 30.5 -0.5
comp=N,1.4nm,0.3s,baz=304,slow=11,SNR=8.7
A36M **Sachs Harbour** 15.83 31 Pn 22 01 30.4 -1.0
A36M **Sachs Harbour** 15.83 31 P Pn 22 01 30.5 -0.9
baz=236,SNR=216
ADK **Adak** 15.92 249 P Pn 22 01 33.1 +0.4
ADK pmax pmax
comp=Z,93nm,1.2s
ADK **Adak** 15.92 249 Pn 22 01 33.1 +0.4
ADK IAmb IAmb 22 02 08.1
comp=Z,93nm,1.1s
KIWB **Kanaga Island** 16.16 250 Pn 22 01 35.9 +0.3
YKA **Yellowknife Ar** 18.01 67 P Pn 22 01 58.1 -0.1
comp=Z,7.0nm,0.3s,baz=283,slow=12,SNR=383
YKA S S 22 05 14.9 -3.4
comp=Z,0.1nm,0.3s,baz=273,slow=22,SNR=2.5
YKA ScP ScP 22 09 52.8 0.0
comp=Z,0.1nm,0.3s,baz=284,slow=2.2,SNR=9.6
YKA **Yellowknife Ar** 18.01 67 *i* P Pn 22 01 58.0 -0.1
YKA pmax pmax
comp=Z,25nm,0.5s
BILL **Bilibino** 19.29 311 *c i* P P 22 02 11.8 +0.6
BILL pmax pmax
comp=Z,14nm,1.3s
BILL **Bilibino** 19.29 311 P P 22 02 10.8 -0.3
PGC **Sidney** 20.22 112 P P 22 02 22.0 +0.6
B04A **Port Angeles** 20.62 113 P Pn 22 02 28.2 -0.8
B04A IAmb IAmb 22 02 29.7
comp=Z,82nm,1.0s
NLWA **Neilton Lookou** 20.95 115 P Pn 22 02 31.9 -1.0
NLWA IAmb IAmb 22 02 44.7
comp=Z,249nm,2.0s
B05A **Bryant** 21.12 111 P P 22 02 33.9 +2.8
baz=316,SNR=14
D03D **Eldon** 21.20 114 P P 22 02 35.0 +3.1
baz=318
E04D **Cinebar** 22.17 115 P P 22 02 45.6 +3.4
baz=319
EDM **Edmonton** 22.21 91 P P 22 02 43.3 +0.7
EDM pmax pmax
comp=Z,48nm,0.9s
EDM **Edmonton** 22.21 91 P P 22 02 43.3 +0.7
EDM IAmb IAmb 22 02 46.3
comp=Z,48nm,0.9s
G03D **McMinnville, O** 22.89 118 P P 22 02 52.2 +2.5
G03D IAmb IAmb 22 03 13.3
comp=Z,141nm,1.5s
G03D **McMinnville, O** 22.89 118 P P 22 02 52.7 +3.0
baz=322
NEW **Newport** 23.48 105 P P 22 02 57.0 +1.9
comp=Z,30nm,1.1s,baz=324,slow=7.2,SNR=21
NEW **Newport** 23.48 105 P P 22 02 56.0 +0.8
NEW pmax pmax
comp=Z,36nm,1.2s
NEW **Newport** 23.48 105 P P 22 02 56.0 +0.8
NEW IAmb IAmb 22 02 58.5
comp=Z,36nm,1.1s
NEW **Newport** 23.48 105 P P 22 02 57.1 +1.9
baz=314,SNR=19
HAWA **Hanford** 23.68 111 P P 22 02 58.6 +1.6
HAWA IAmb IAmb 22 03 00.7
comp=Z,25nm,0.8s
WALA **Waterton Lakes** 24.50 100 P P 22 03 05.6 +1.2
K02D **Willamette Mer** 24.74 122 P P 22 03 10.1 +3.4
baz=325
RES **Resolute Bay** 24.87 32 P P 22 03 08.4 +1.0
comp=Z,4.3nm,0.8s,baz=249,slow=12,SNR=19
RES **Resolute Bay** 24.87 32 P P 22 03 08.0 +0.6
RES pmax pmax
comp=Z,15nm,0.7s
RES **Resolute Bay** 24.87 32 P P 22 03 08.0 +0.6
JTMT **Jette** 25.21 103 P P 22 03 12.4 +1.5
JTMT IAmb IAmb 22 03 15.9
comp=Z,22nm,1.0s
J05D **Fort Rock, OR** 25.31 118 P P 22 03 15.0 +3.1
baz=323
SEY **Seymchan** 25.75 300 P P 22 03 14.6 -0.9
comp=Z,2.9nm,0.8s,baz=242,slow=1.6,SNR=10
SEY **Seymchan** 25.75 300 ‖ *e* P 22 03 14.0 -1.5
SEY *i* *PP pP 22 03 37.6 -0.3
SEY pmax pmax
comp=Z,2.0nm,0.7s
BMO **Blue Mountains** 25.87 111 P P 22 03 18.8 +1.9
BMO pmax pmax
comp=Z,26nm,0.9s
BMO **Blue Mountains** 25.87 111 P P 22 03 18.8 +1.9
BMO IAmb IAmb 22 03 20.1
comp=Z,26nm,0.8s
YBH **Yreka Blue Hor** 25.94 122 P P 22 03 20.6 +3.1
comp=Z,5.8nm,0.9s,baz=302,slow=4.9,SNR=6.8
MSO **Missoula** 26.02 104 P P 22 03 19.2 +1.0
PLID **Pearl Lake** 26.31 109 P P 22 03 22.1 +1.2
FFC **Flin Flon** 27.02 79 P P 22 03 27.4 +0.4
FFC pmax pmax
comp=Z,29nm,1.7s
FFC **Flin Flon** 27.02 79 P P 22 03 27.4 +0.4
PETK **Petropavlovsk-** 27.77 278 P P 22 03 33.4 -0.3
comp=Z,1.2nm,0.3s,baz=78,slow=36,SNR=2.6
PETK **Petropavlovsk-** 27.77 278 P P 22 03 33.3 -0.4
MA2 **Magadan** 27.79 294 P P 22 03 33.7 -0.1
comp=Z,5.8nm,0.6s,baz=75,slow=9.0,SNR=16
MA2 **Magadan** 27.79 294 ‖ *e* P 22 03 33.2 -0.6
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 **Magadan** 27.79 294 P P 22 03 33.7 -0.1
BOZ **Bozeman (W)** 28.02 103 P P 22 03 35.0 -1.2
baz=316
BCYI **Bear Canyon** 28.12 107 P P 22 03 37.9 +0.7
HLID **Hailey** 28.20 109 P P 22 03 39.8 +2.0
baz=320,SNR=14
FCC **Fort Churchill** 28.74 67 P P 22 03 43.5 +1.3
FCC pmax pmax
comp=Z,25nm,0.9s
FCC **Fort Churchill** 28.74 67 P P 22 03 43.5 +1.3
FCC IAmb IAmb 22 03 44.4
comp=Z,24nm,0.8s
ELK **Elko** 30.02 114 P P 22 03 56.9 +2.8
comp=Z,12nm,0.8s,baz=322,slow=8.8,SNR=51
HVU **Hansel Valley** 30.35 110 P P 22 03 58.9 +2.1
HVU pmax pmax
comp=Z,38nm,1.1s
HVU **Hansel Valley** 30.35 110 P 22 03 58.9 +2.1
HVU IAmb IAmb 22 04 00.7
comp=Z,38nm,1.1s
NVAR **Mina Array Bea** 30.56 120 P P 22 04 01.5 +2.7
comp=Z,5.5nm,0.8s,baz=309,slow=9.0,SNR=31
NVAR **Mina Array Bea** 30.56 120 P 22 04 00.1 +1.4
NV11 **Mina Array Sit** 30.62 120 P 22 04 01.3 +2.1
BW06 **Boulder Array** 31.12 105 P P 22 04 05.5 +1.8
PDAR **Pinedale Array** 31.12 105 P P 22 04 05.6 +1.9
comp=Z,7.0nm,0.8s,baz=338,slow=4.0,SNR=12
TIXI **Tiksi** 31.46 323 P P 22 04 06.0 -0.1
comp=Z,1.3nm,0.5s,baz=89,slow=21,SNR=12
TIXI **Tiksi** 31.46 323 ‖ *e* P P 22 04 06.1 0.0
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TIXI **Tiksi** 31.46 323 P P 22 04 06.4 +0.3
DUG **Dugway, Tooele** 31.58 112 P P 22 04 10.0 +2.3
baz=323,SNR=14
R11A **Troy Canyon, C** 31.81 117 P P 22 04 11.9 +2.2
baz=326,SNR=9.8
ULM **Lac du Bonnet** 32.68 82 P P 22 04 18.1 +1.1
comp=Z,13nm,0.4s,baz=309,slow=8.6,SNR=26
ULM **Lac du Bonnet** 32.68 82 P P 22 04 18.1 +1.1
ULM pmax pmax
comp=Z,17nm,0.5s
ULM **Lac du Bonnet** 32.68 82 P P 22 04 18.1 +1.1
ULM IAmb IAmb 22 04 18.5
comp=Z,17nm,0.5s
TPNV **Topopah Spring** 32.68 119 P P 22 04 19.9 +2.5
baz=327,SNR=5.4
RSSD **Black Hills** 32.81 97 P P 22 04 20.4 +1.9
baz=317
MPMC **Manual Prospec** 32.90 122 P P 22 04 22.0 +2.7
baz=328,SNR=7.1
O20A **White River Ci** 33.78 107 P P 22 04 29.1 +2.2
baz=322
AGMN **Agassiz Nation** 33.96 85 P P 22 04 29.2 +1.0
AGMN IAmb IAmb 22 04 30.1
comp=Z,29nm,0.7s
AGMN **Agassiz Nation** 33.96 85 P P 22 04 29.3 +1.1
baz=312,SNR=15
PKCU **Pink Cliffs** 34.03 114 P P 22 04 31.1 +1.8
PKCU IAmb IAmb 22 04 33.3
comp=Z,49nm,1.7s
NEEM **North Greenlan** 34.42 22 *i* P P 22 04 31.8 -0.4
NEEM IAmb IAmb 22 04 32.9
comp=Z,9.9nm,0.5s
B35A **Bob, Littlefor** 34.98 83 P P 22 04 37.3 +0.3
B35A IAmb IAmb 22 04 38.7
comp=Z,15nm,0.6s
YAK **Yakutsk** 35.57 308 P P 22 04 40.8 -1.0
comp=Z,9.1nm,0.6s,baz=223,slow=2.3,SNR=11
YAK **Yakutsk** 35.57 308 *e* P P 22 04 40.9 -0.9
YAK *e**PP pP 22 05 05.1 +0.3
YAK *e* 22 06 04.8
YAK *e* 22 07 10.9
YAK *e*S S 22 10 09.4 -0.4
YAK *e**SS sS 22 10 49.1 +0.1
YAK *e*SS SnSn 22 12 38.6 -1.9
YAK *e* 22 14 47.8
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,35nm,2.7s
YAK pmax pmax
comp=N,26nm,3.3s
YAK smax smax
comp=N,62nm,4.1s
YAK smax smax
comp=E,32nm,4.4s
YAK **Yakutsk** 35.57 308 P P 22 04 40.8 -1.0
YAK IAmb IAmb 22 04 42.3
comp=Z,19nm,0.8s
MVCO **Mesa Verde** 35.98 110 P P 22 04 47.8 +1.9
baz=324,SNR=8.7
WUAZ **Wupatki** 36.04 115 P P 22 04 48.7 +2.4
WUAZ IAmb IAmb 22 04 49.9
comp=Z,22nm,0.8s
WUAZ **Wupatki** 36.04 115 P P 22 04 49.1 +2.7
baz=326,SNR=5.8
NOR **Nord** 36.36 10 *i* P P 22 04 52.5 +4.2
NOR IAmb IAmb 22 04 55.5
comp=Z,0.8nm,0.7s
EYMN **Ely** 36.36 82 P P 22 04 49.9 +1.1
EYMN **Ely** 36.36 82 P P 22 04 49.9 +1.1
baz=313,SNR=29
ECSD **EROS Data Cent** 36.78 91 P P 22 04 52.6 +0.3
ECSD IAmb IAmb 22 04 54.0
comp=Z,34nm,1.4s
ECSD **EROS Data Cent** 36.78 91 P P 22 04 53.1 +0.7
baz=317
SDCO **Great Sand Dun** 36.97 106 P P 22 04 56.7 +2.3
SDCO IAmb IAmb 22 04 57.8
comp=Z,19nm,0.8s
SDCO **Great Sand Dun** 36.97 106 P P 22 04 57.0 +2.6
baz=323,SNR=17
KSCO **Kaye Shedlock'** 37.36 102 P P 22 04 59.8 +2.4
baz=321
SPMN **Marine on St.** 37.61 86 P P 22 05 00.9 +1.6
baz=315,SNR=8.4
BGNE **Belgrade** 37.73 95 P P 22 05 01.7 +1.2
BGNE **Belgrade** 37.73 95 P P 22 05 02.0 +1.5
baz=319,SNR=5.5
T25A **Trinidad** 37.98 106 P P 22 05 05.2 +2.4
baz=323,SNR=7.0
ANMO **Albuquerque** 38.78 110 *ce* P P 22 05 11.5 +2.1
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO **Albuquerque** 38.78 110 P P 22 05 11.6 +2.1
ANMO IAmb IAmb 22 05 12.1
comp=Z,6.2nm,0.6s
ANMO **Albuquerque** 38.78 110 P P 22 05 11.7 +2.3
baz=325
CBKS **Cedar Bluff** 38.93 99 P P 22 05 12.6 +2.1
baz=321
TUC **Tucson** 39.00 117 P P 22 05 13.9 +2.7
baz=328
N35A **Tabor** 39.39 93 P P 22 05 15.4 +1.2
R32A **Long Quarter,** 39.74 99 P P 22 05 18.0 +0.8
SCIA **State Center** 39.82 90 P P 22 05 18.1 +0.3
SCIA IAmb IAmb 22 05 19.8
comp=Z,48nm,1.4s
SCIA **State Center** 39.82 90 P P 22 05 19.1 +1.3
baz=318
DAG **Danmarks Havn** 40.13 15 *i* P P 22 05 19.1 -0.9
DAG IAmb IAmb 22 05 21.9
comp=Z,2.9nm,0.4s
121A **Cookes Peak, D** 40.17 113 P P 22 05 22.3 +1.4
121A IAmb IAmb 22 05 24.7
comp=Z,15nm,0.9s
121A **Cookes Peak, D** 40.17 113 P P 22 05 23.9 +2.9
baz=327,SNR=5.3
KSU1 **Kansas State U** 40.25 96 P P 22 05 22.0 +0.6
KSU1 **Kansas State U** 40.25 96 P P 22 05 22.6 +1.2
baz=320,SNR=7.8
I42A **Draeger Farm,** 40.50 84 P P 22 05 24.2 +0.8
I42A IAmb IAmb 22 05 25.5
comp=Z,23nm,0.8s
JFWS **Jewell Farm** 40.55 87 P P 22 05 24.2 +0.4
JFWS pmax pmax
comp=Z,48nm,0.7s
JFWS **Jewell Farm** 40.55 87 P P 22 05 24.2 +0.4
JFWS **Jewell Farm** 40.55 87 P P 22 05 24.6 +0.7
baz=318,SNR=22
N38A **Joes South For** 40.64 91 P P 22 05 24.5 -0.1
N38A IAmb IAmb 22 05 26.1
comp=Z,28nm,0.7s
H43A **Windswept, Lux** 40.64 83 P P 22 05 25.4 +0.9
H43A IAmb IAmb 22 05 26.1
comp=Z,25nm,0.6s
HMH **Humu'ula Sheep** 40.70 185 P P 22 05 26.9 +1.3
MLH **Mauna Loa** 40.81 184 P P 22 05 27.4 +1.0
AIN **Ainahou** 40.93 185 P P 22 05 28.4 +1.0
AMTX **Amarillo** 41.10 105 P P 22 05 30.2 +1.6
AMTX IAmb IAmb 22 05 31.6
comp=Z,30nm,0.8s
AMTX **Amarillo** 41.10 105 P P 22 05 30.8 +2.3
baz=324
MSTX **Muleshoe** 41.32 107 P P 22 05 31.9 +1.6
MSTX **Muleshoe** 41.32 107 P P 22 05 32.3 +1.9
baz=325,SNR=10
P38A **Dawn** 41.38 93 P P 22 05 31.0 +0.4
P38A IAmb IAmb 22 05 32.2
comp=Z,57nm,1.5s
SPITS **Spitsbergen Ar** 41.60 4 P P 22 05 31.4 -0.7
SPITS pmax pmax
comp=Z,94nm,1.5s
SPB2 **Spitsbergen Ar** 41.61 3 P P 22 05 31.4 -0.7
ZEA **Zeya** 41.71 298 *e* P P 22 05 32.9 -0.2
ZEA pmax pmax
comp=Z,10.0nm,1.3s
GLMI **Grayling** 41.94 80 P P 22 05 36.0 +0.9
GLMI **Grayling** 41.94 80 P P 22 05 36.7 +1.5
baz=316
DBG **Daneborg** 41.97 18 *i* P P 22 05 34.2 -0.8
DBG IAmb IAmb 22 05 36.4
comp=Z,2.4nm,0.6s
MNTX **Cornudas Mount** 41.97 111 P P 22 05 38.2 +2.6
baz=327,SNR=9.5
L44A **Lake County Fo** 42.26 85 P P 22 05 38.6 +0.8
baz=318,SNR=5.3
ERM **Erimo** 42.46 275 P P 22 05 39.7 +0.3
ERM pmax pmax
comp=Z,20nm,1.1s
ERM **Erimo** 42.46 275 P P 22 05 39.7 +0.3
ERM IAmb IAmb 22 07 13.6
comp=Z,20nm,1.1s
WMOK **Wichita Mounta** 42.62 102 P P 22 05 41.9 +1.1
WMOK pmax pmax
comp=Z,22nm,0.8s
WMOK **Wichita Mounta** 42.62 102 P P 22 05 41.9 +1.1
WMOK IAmb IAmb 22 05 43.3
comp=Z,22nm,0.8s
WMOK **Wichita Mounta** 42.62 102 P P 22 05 42.4 +1.5
baz=324,SNR=26
KLR **Kul'dur** 42.78 291 ‖ *e* P P 22 05 41.2 -0.7
KLR pmax pmax
comp=Z,4.0nm,1.7s
HDIL **Hopedale** 42.78 88 P P 22 05 42.2 +0.2
HDIL **Hopedale** 42.78 88 P P 22 05 42.7 +0.7
baz=319,SNR=9.2
VLDQ **Val d'Or** 43.04 71 P P 22 05 43.0 -1.0
VLDQ IAmb IAmb 22 05 43.9
comp=Z,24nm,1.1s
SCHQ **Schefferville** 43.11 58 P P 22 05 44.8 +0.4
comp=Z,4.3nm,0.5s,baz=316,slow=7.0,SNR=28
SCHQ **Schefferville** 43.11 58 P P 22 05 44.9 +0.4
TUL1 **Leonard** 43.15 98 P P 22 05 45.4 +0.4
TUL1 IAmb IAmb 22 05 46.7
comp=Z,19nm,0.8s
TUL1 **Leonard** 43.15 98 P P 22 05 45.8 +0.7
baz=323,SNR=7.4
CCM **Cathedral Cave** 43.73 92 P P 22 05 49.6 -0.1
CCM pmax pmax
comp=Z,11nm,0.9s
CCM **Cathedral Cave** 43.73 92 P P 22 05 49.5 -0.1
CCM IAmb IAmb 22 05 50.5

comp=Z,10nm,0.9s
CCM Cathedral Cave 43.73 92 P P 22 05 49.6 -0.1
baz=321
HHAR Hobbs 43.77 96 P P
HHAR IAmb IAmb 22 05 50.4
comp=Z,15nm,0.6s
NRIK Noril'sk 43.79 334 P P 22 05 49.6 -0.2
comp=Z,4.1nm,0.6s,baz=44,slow=7.0,SNR=10
NRIK Noril'sk 43.79 334 *deP* P 22 05 49.9 +0.1
NRIK Noril'sk 43.79 334 P P 22 05 50.0 +0.2
MGMO Mountain Grove 43.92 94 P P 22 05 50.9 -0.4
MGMO IAmb IAmb 22 05 51.9
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 43.92 105 P P 22 05 52.7 +1.4
baz=325,SNR=15
SFIN Lafayette 44.01 86 P P 22 05 52.9 +1.0
baz=320,SNR=14
U40A Yellville 44.25 95 P P 22 05 54.0 0.0
baz=322,SNR=6.6
AAM Ann Arbor 44.27 82 P P 22 05 55.1 +1.2
baz=318
SADO Sadowa 44.65 76 LR LR 22 25 14.7
comp=Z,166nm,18.8s,baz=184,slow=37
SADO Sadowa 44.65 76 P P 22 05 56.6 -0.3
SADO IAmb IAmb 22 05 58.5
comp=Z,38nm,1.6s
W39A Magazine 44.71 97 P P 22 05 57.9 +0.3
baz=323,SNR=5.2
TX31 Lajitas Ar. Si 44.75 111 P P 22 05 59.6 +1.5
TXAR Lajitas Array 44.75 111 P P 22 06 00.1 +2.0
comp=Z,9.2nm,0.8s,baz=332,slow=6.3,SNR=83
TXAR Lajitas Array 44.75 111 P P 22 05 59.9 +1.9
TXAR Lajitas Array 44.75 111 P P 22 05 59.9 +1.9
O48B Farmland 45.07 85 P P 22 06 00.4 +0.1
baz=320,SNR=20
PBMO Poplar Bluff 45.13 93 P P 22 06 00.7 -0.1
BLO Bloomington 45.22 87 P P 22 06 01.5 0.0
BLO pmax pmax
comp=Z,31nm,0.7s
BLO Bloomington 45.22 87 P P 22 06 01.5 0.0
MIAR Mount Ida 45.33 97 P P 22 06 03.0 +0.6
MIAR pmax pmax
comp=Z,17nm,0.8s
MIAR Mount Ida 45.33 97 P P 22 06 03.0 +0.6
MIAR IAmb IAmb 22 06 04.1
comp=Z,17nm,0.8s
MIAR Mount Ida 45.33 97 P P 22 06 03.2 +0.8
baz=323,SNR=14
W41B Gary Mavity, V 45.49 96 P P 22 06 04.2 +0.5
baz=323
WHTX Lake Whitney, 45.50 103 P P 22 06 05.2 +1.4
baz=325,SNR=8.0
DELO Deloro Mine 45.57 75 P P 22 06 04.6 +0.4
DELO IAmb IAmb 22 06 05.9
comp=Z,29nm,1.5s
JCT Junction City 45.61 107 P P 22 06 06.5 +1.7
JCT pmax pmax
comp=Z,148nm,0.8s
JCT Junction City 45.61 107 P P 22 06 06.5 +1.7
JCT Junction City 45.61 107 P P 22 06 06.7 +1.9
baz=326,SNR=92
X40A Basin Creek Fa 45.75 97 P P 22 06 06.0 +0.3
baz=323
TRQ Mont Tremblant 45.77 71 P P 22 06 05.7 -0.1
TRQ IAmb IAmb 22 06 07.0
comp=Z,15nm,1.1s
P49A Miami Univ. Ec 45.84 85 P P 22 06 06.2 -0.2
baz=320
J54A Appleton 46.00 77 P P 22 06 08.6 +1.0
WCI Wyandotte Cave 46.06 88 P P 22 06 09.0 +0.9
baz=321
ACSO Alum Creek Sta 46.16 83 P P 22 06 09.4 +0.5
ACSO IAmb IAmb 22 06 10.3
comp=Z,24nm,0.8s
ACSO Alum Creek Sta 46.16 83 P P 22 06 09.5 +0.6
baz=320,SNR=9.3
USRK Ussuriysk Ar. 46.31 285 P P 22 06 09.2 -0.8
comp=Z,1.9nm,0.5s,baz=48,slow=8.5,SNR=6.0
M53A WI Miller and 46.38 80 P P 22 06 11.4 +0.8
M53A WI Miller and 46.38 80 P P 22 06 11.8 +1.2
baz=319,SNR=16
435B Jarrell 46.43 104 P P 22 06 13.2 +2.1
baz=326
ALLY Alegheny Colle 46.49 80 P P 22 06 12.3 +0.9
WVNY West Valley, N 46.67 78 P P 22 06 13.7 +0.8
WVNY IAmb IAmb 22 06 14.7
comp=Z,32nm,0.8s
N53A Lisbon 46.78 81 P P 22 06 14.3 +0.5
M54A Oil Creek Stat 46.83 79 P P 22 06 15.1 +1.0
baz=319,SNR=18
WVT Waverly 46.93 91 P P 22 06 15.7 +0.7
baz=322
O53A New Philadelph 47.02 82 P P 22 06 16.1 +0.4
baz=320,SNR=6.4
P52A Corning 47.04 83 P P 22 06 16.0 +0.2
baz=320,SNR=12
N54A Moraine State 47.08 80 P P 22 06 17.0 +0.9
baz=320,SNR=12
M55A Ridgway 47.30 79 P P 22 06 18.7 +0.9
OXF Oxford 47.43 94 P P 22 06 19.7 +0.9
OXF pmax pmax
comp=Z,101nm,0.7s
OXF Oxford 47.43 94 P P 22 06 19.7 +0.9
OXF Oxford 47.43 94 P P 22 06 19.9 +1.1
baz=323,SNR=24
D62A Allapoint, All 47.70 67 P P 22 06 21.3 +0.6
D62A IAmb IAmb 22 07 49.7
comp=Z,22nm,1.3s
HKT Hockley 47.96 103⇑ *eP* P 22 06 23.6 +0.7
BINY Binghamton 48.09 76 P P 22 06 24.7 +0.9
BINY IAmb IAmb 22 06 25.3
comp=Z,18nm,0.6s
BINY Binghamton 48.09 76 P P 22 06 24.8 +0.9
baz=320,SNR=8.9
MCWV Mont Chateau 48.15 81 P P 22 06 25.0 +0.6
baz=320,SNR=8.5
HIA Hailar 48.19 299 P P 22 06 24.3 -0.2
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 48.19 299 P P 22 06 24.3 -0.2
O56A Blue Knob Stat 48.31 80 P P 22 06 26.2 +0.5
baz=320,SNR=7.5
SSPA Standing Stone 48.36 79 P P 22 06 26.7 +0.7
SSPA IAmb IAmb 22 06 27.7
comp=Z,50nm,1.4s
SSPA Standing Stone 48.36 79 P P 22 06 26.9 +0.9
baz=320
L59A Walton 48.55 75 P P 22 06 28.0 +0.6
L59A IAmb IAmb 22 06 29.1
comp=Z,37nm,1.2s
SWET Sewanee 48.60 90 P P 22 06 28.0 +0.1
SWET IAmb IAmb 22 06 28.6
comp=Z,16nm,0.7s
KSPA Keystone Colle 48.69 76 P P 22 06 29.2 +0.8
KSPA IAmb IAmb 22 06 30.2
comp=Z,23nm,0.9s
TZTN Tazewell 48.74 87 P P 22 06 29.6 +0.7
TZTN IAmb IAmb 22 06 30.7
comp=Z,21nm,0.8s
TZTN Tazewell 48.74 87 P P 22 06 29.9 +0.9
baz=322,SNR=8.8
S54A Dingess, Beckl 48.87 84 P P 22 06 30.1 +0.1
S54A IAmb IAmb 22 06 31.2
comp=Z,24nm,0.8s
BATG Bathurst New B 48.90 64 P P 22 06 30.2 +0.2
BATG IAmb IAmb 22 07 49.8
comp=Z,70nm,2.0s
MAJO Matsushiro 49.12 274 P P 22 06 32.2 +0.4
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MAJO Matsushiro 49.12 274 P P 22 06 32.2 +0.4
MJAR Matsushiro Arr 49.12 274 P P 22 06 32.1 +0.3
comp=Z,1.8nm,0.7s,baz=354,slow=9.8,SNR=7.4
N59A State Game Lan 49.18 77 P P 22 06 33.0 +0.7
baz=390,SNR=8.0
PAGS Pennsylvania G 49.24 78 P P 22 06 33.2 +0.5
FPAL Fort Paine 49.29 90 P P 22 06 33.7 +0.5
MVL Millersville 49.60 78 P P 22 06 35.8 +0.4
MVL IAmb IAmb 22 06 36.7
comp=Z,15nm,0.8s
CN2 Changchun 49.71 290 *eP* P 22 06 35.6 -0.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
BLA Blacksburg 49.77 84 P P 22 06 37.4 +0.6
BLA pmax pmax
comp=Z,29nm,0.7s
BLA Blacksburg 49.77 84 P P 22 06 37.4 +0.6
BLA Blacksburg 49.77 84 P P 22 06 37.5 +0.8
baz=322,SNR=8.9
LRAL Lakeview Retre 49.81 93 P P 22 06 36.8 -0.2
LRAL IAmb IAmb 22 07 49.2
comp=Z,35nm,1.8s
LRAL Lakeview Retre 49.81 93 P P 22 06 37.1 0.0
baz=324
PAL Palisades 50.01 75 P P 22 06 39.4 +0.9
baz=320
ARCES ARCESS Array B 50.46 1 P P 22 06 40.6 -1.0
comp=Z,1.6nm,0.6s,baz=357,slow=7.8,SNR=13
ARCES ARCESS Array B 50.46 1 P P 22 06 40.5 -1.0
ARCES pmax pmax
comp=Z,80nm,2.0s
ARCES ARCESS Array B 50.46 1 P P 22 06 40.5 -1.0
Y52A Lilburn 50.60 89 P P 22 06 43.2 +0.2
Y52A IAmb IAmb 22 06 45.0
comp=Z,19nm,0.9s
KMSC Kings Mountain 50.95 86 P P 22 06 46.3 +0.7
baz=323
PAULI Pauline 50.96 87 P P 22 06 46.1 +0.4
PAULI IAmb IAmb 22 06 47.2
comp=Z,14nm,0.9s
DRLN Deer Lake 51.11 57 P P 22 06 46.5 -0.2
HODGE Hodges 51.21 88 P P 22 06 47.8 +0.2
HODGE IAmb IAmb 22 06 49.0
comp=Z,13nm,0.9s
T59A Double "B" Far 51.37 81 P P 22 06 49.1 +0.3
T59A IAmb IAmb 22 06 50.0
comp=Z,11nm,0.7s
BIRD Birdtown, Kers 51.77 86 P P 22 06 52.0 +0.2
BIRD IAmb IAmb 22 06 53.3
comp=Z,18nm,0.9s
NHSC New Hope 53.15 87 P P 22 07 03.1 +1.2
baz=324
KSRS Korea Array 53.46 283 P P 22 07 05.3 +1.1
comp=Z,5.4nm,0.8s,baz=36,slow=6.9,SNR=18
KSAR Wonju Array Be 53.49 283 P P 22 07 04.3 -0.1
KSAR Wonju Array Be 53.49 283 P P 22 07 04.3 -0.1
ULN Ulaanbaatar 54.62 306 *deP* P 22 07 13.6 +0.9
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 54.62 306 P P 22 07 13.1 +0.4
ULN IAmb IAmb 22 07 14.6
comp=Z,8.1nm,0.7s
SONM Songino Array 54.91 306 P P 22 07 15.6 +0.9
comp=Z,13nm,0.8s,baz=39,slow=6.8,SNR=96
SONM Songino Array 54.91 306 P P 22 07 15.8 +1.1
SONM pmax pmax
comp=Z,12nm,0.8s
SONM Songino Array 54.91 306 P P 22 07 15.8 +1.1
SONM IAmb IAmb 22 07 17.2
comp=Z,12nm,0.8s
KNGR Kungurtug, Tuv 56.03 314 *c iP* P 22 07 24.5 +1.8
ZAA0 Zalesovo Array 57.35 324 P P 22 07 32.0 +0.1
ZAA0 IAmb IAmb 22 07 32.7
comp=Z,6.7nm,0.8s
ZALV Zalesovo Beam 57.35 324 P P 22 07 31.9 +0.1
comp=Z,5.7nm,0.6s,baz=31,slow=7.1,SNR=29
NC405 NORSAR Array S 58.30 9 P P 22 07 38.4 0.0
NB2 NORSAR Subarra 58.33 9 P P 22 07 37.5 -1.1
comp=Z,0.6nm,0.6s,baz=350,slow=6.9
NOA NORSAR Array B 58.33 9 P P 22 07 37.8 -0.8
comp=Z,0.6nm,0.6s,baz=351,slow=7.2,SNR=4.8
FIA1 FINESS Array S 58.59 1 P P 22 07 39.4 -0.9
FIA1 IAmb IAmb 22 08 18.4
comp=Z,20nm,1.4s
FINES FINESS Array B 58.59 1 P P 22 07 39.7 -0.7
comp=Z,2.0nm,0.6s,baz=14,slow=9.8,SNR=13
AAL Aland 59.72 4 *eP* P 22 07 48.5 +0.4
ARU Arti 61.09 341 *d iP* P 22 07 57.5 0.0
ARU *PP pP 22 08 23.3 +0.7
ARU 22 08 39.3
ARU S S 22 16 09.3 +1.0
ARU SS SS 22 20 04.2 -4.3
ARU pmax pmax
comp=Z,4.0nm,0.9s
VIKU Vikbolandet 61.23 7 *eP* P 22 07 59.2 +0.7
MTSE Matsula 61.30 2 *eP* P 22 07 59.0 +0.1
BRVK Borovoye 61.97 332⇑ *eP* P 22 08 03.3 -0.2
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 61.97 332 P P 22 08 03.1 -0.4
KURK Kurchatov 61.99 326 *ceP* P 22 08 03.4 -0.3
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 61.99 326 P P 22 08 03.4 -0.3
KURK IAmb IAmb 22 08 04.3
comp=Z,6.2nm,0.9s
ESK Eskdalemuir 62.15 19 P P 22 08 04.6 0.0
ESK pmax pmax
comp=Z,87nm,1.9s
ESK Eskdalemuir 62.15 19 P P 22 08 04.6 0.0
NJ2 Nanjing 62.20 286 *eP* P 22 08 03.6 -1.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
DEL Delary 63.07 9 *eP* P 22 08 11.5 +0.7
LYN LuoYang 63.13 293 *eP* P 22 08 20.0 +8.5
LYN pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 64.43 322 *deP* P 22 08 19.3 -0.6
MK31 Makanchi Array 64.43 322 P P 22 08 19.3 -0.6
MKAR Makanchi Array 64.43 322 P P 22 08 19.3 -0.6
comp=Z,2.4nm,0.7s,baz=45,slow=6.4,SNR=30
MKAR Makanchi Array 64.43 322 P P 22 08 19.1 -0.8
MAKZ Makanchi 64.51 322 P P 22 08 20.1 -0.3
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 64.51 322 P P 22 08 20.1 -0.3
PABE Paberze 64.52 2 P P 22 08 20.1 -0.1
PABE IAmb IAmb 22 08 54.9
comp=Z,31nm,1.3s
GTA Gaotai 64.55 305 ⇑P P 22 08 20.8 -0.1
GTA pP pP 22 08 48.6 +2.5
GTA sP sP 22 08 59.4 +2.2
GTA pmax pmax
comp=Z,15nm,0.9s
GTA LR LR
comp=N,110nm,16.4s
GTA LR LR
comp=E,110nm,17.8s
GTA LR LR
comp=Z,160nm,16.0s
WMQ Urumqi 65.30 316 *eP* P 22 08 26.3 +0.7
WMQ pP PcP 22 08 55.3 -1.8
WMQ pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 65.68 300 ⇓P P 22 08 28.4 +0.1
LZH pP pP 22 08 52.6 -1.0
LZH sP PcP 22 09 01.0 +2.1
LZH pmax pmax
comp=Z,30nm,1.4s
LZH LR LR
comp=N,190nm,16.4s
LZH LR LR
comp=E,130nm,15.8s
LZH LR LR
comp=Z,170nm,16.0s
ABKAR Akbulak array 67.73 338 P P 22 08 40.2 -0.7
ABKAR Akbulak array 67.73 338 P P 22 08 41.0 +0.1
ABKAR IAmb IAmb 22 08 42.2
comp=Z,3.1nm,0.8s
CLL Collm 68.13 10 *e*(pP) pP 22 09 08.0 -0.4
CLL *i* sP sP 22 09 15.7 -3.6
comp=Z,6.0nm,1.0s
CHVC Chvalec 69.08 8 *eP* P 22 08 49.6 +0.3
CHVC *ex* x 22 09 22.6
CHVC *ex* x 22 09 22.9
OSTC Ostas 69.12 8 *eP* P 22 08 50.2 +0.6
GOMU GeErMu 69.32 307 P P 22 08 52.0 +0.5
GOMU pP PcP 22 08 55.2 -19
GOMU sP pP 22 08 59.2 -18
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU pmax pmax
comp=Z,27nm,4.4s
DPC Dobruska-Polom 69.33 8 *eP* P 22 08 51.5 +0.6
DPC *e* 22 09 21.5
DPC Dobruska-Polom 69.33 8 *eP* P 22 08 51.5 +0.6
DPC *ex* x 22 09 21.5
AKASG Malin Array Be 69.36 359 P P 22 08 50.0 -1.0
comp=Z,1.1nm,0.3s,baz=5.5,slow=6.1,SNR=14
AKASG Malin Array Be 69.36 359 P P 22 08 51.2 +0.2
AKASG pmax pmax
comp=Z,3.0nm,1.6s
AKASG Malin Array Be 69.36 359 P P 22 08 51.2 +0.2
AKBB Malin Array Si 69.36 359 P P 22 08 51.6 +0.6
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 69.36 359 P P 22 08 51.6 +0.6
KRLC Kraliky 69.64 7 *eP* P 22 08 53.3 +0.5
KRLC *e* 22 09 23.7
KRLC Kraliky 69.64 7 *eP* P 22 08 53.3 +0.5
KRLC *ex* x 22 09 23.7
MORC Moravsky Berou 69.98 7 ⇑P P 22 08 53.5 -1.4
CD2 Chengdu 70.12 298 P P 22 08 56.3 +0.2
CD2 pmax pmax
comp=Z,20nm,0.5s
BOOM Boomskoye usch 70.24 324 P P 22 08 56.8 0.0
BOOM pmax pmax
comp=Z,2.0nm,0.8s
BOOM Boomskoye usch 70.24 324 P P 22 08 56.8 0.0
KHC Kasperske Hory 70.34 10⇑ *eP* P 22 08 57.7 +0.6
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 70.34 10 *eP* P 22 08 57.3 +0.2
KHC *ex* x 22 09 27.6
KHC Kasperske Hory 70.34 10 P P 22 08 57.1 0.0
VRAC Vranov 70.39 8 ⇑P P 22 08 57.8 +0.4
AAK Ala-Archa 70.52 325 ⇓ *eP* P 22 08 59.1 +0.6
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 70.52 325 P P 22 08 58.1 -0.3
GERES GERESS Array B 70.63 10 P P 22 08 58.7 -0.2
comp=Z,0.6nm,0.6s,baz=356,slow=5.4,SNR=4.3
LANS Liptovska Anna 70.71 6 *eP* P 22 09 00.4 +1.0
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 70.71 6 *eP* P 22 09 00.4 +1.0
KKAR Karatay Array 71.17 328 P P 22 09 01.6 -0.6
KKAR Karatay Array 71.17 328 P P 22 09 01.6 -0.6
ZST Bratislava 71.53 7 *eP* P 22 09 05.1 +0.9
ZST Bratislava 71.53 7 *eP* P 22 09 05.1 +0.9
MOA Molln 71.67 9 *eP* P 22 09 05.4 +0.3
comp=Z,5.5nm,1.9s
CONA Conrad Observa 71.71 8 *eP* P 22 09 06.2 +0.8
comp=Z,3.9nm,0.7s
BIOA Bad Ischl, Aus 71.77 10 *eP* P 22 09 06.1 +0.4
comp=Z,1.7nm,0.6s
TRPA Tarpa 71.86 4 ⇑P P 22 09 06.7 +0.6
WATA Walderalm 71.93 11 *eP* P 22 09 07.5 +0.7
comp=Z,3.3nm,0.9s
SORM Soroca 71.93 360 ⇓P P 22 09 05.9 -0.7
SORM Soroca 71.93 360 ⇓P P 22 09 05.9 -0.7
SQTA Sankt Quirin 72.01 12 *eP* P 22 09 08.5 +1.2
comp=Z,4.1nm,0.9s
WTTA Wattenberg 72.01 11 *i* P P 22 09 07.6 +0.3
comp=Z,3.9nm,0.8s
FETA Feichten 72.16 12 *eP* P 22 09 09.5 +1.3
comp=Z,4.6nm,1.1s
KBA Koelnbreinsper 72.35 10 *eP* P 22 09 10.5 +1.1
comp=Z,5.7nm,0.7s
BUR08 Bucovina Ar. S 72.41 2 P P 22 09 09.4 -0.2
BURAR Bucovina Array 72.44 2 ⇓P P 22 09 09.3 -0.5
BURAR Bucovina Array 72.44 2 ⇓P P 22 09 09.3 -0.5
BURAR Bucovina Array 72.44 2 P P 22 09 09.2 -0.6
TUE Stuetta 72.55 13 P P 22 09 11.3 +0.7
SOKA Soboth 72.89 9 *eP* P 22 09 13.6 +1.2
comp=Z,3.4nm,0.7s
ARCR ARCALIA 72.95 2 ⇓P P 22 09 03.7 -9.0
OBKA Obir 73.02 9 *i* P P 22 09 13.6 +0.4
comp=Z,13nm,0.7s
BZS Buzias 74.34 4 ⇑P P 22 09 20.2 -0.6
BZS Buzias 74.34 4 ⇑P P 22 09 20.2 -0.6
MLR Muntele Rosu 74.57 1 ⇓P P 22 09 11.9 -10
MLR Muntele Rosu 74.57 1 P P 22 09 23.3 +0.9
MLR pmax pmax
comp=Z,4.0nm,1.0s
MLR Muntele Rosu 74.57 1 P P 22 09 23.3 +0.9
PZH PanZhiHua 74.81 297 P P 22 09 24.0 0.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.8s
KIV Kislovodsk 75.39 349 ⇑P P 22 09 25.1 -2.0
KIV Kislovodsk 75.39 349 *eP* P 22 09 26.7 -0.4
KIV pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 75.60 349 P P 22 09 28.7 +0.6
comp=Z,0.9nm,1.0s,baz=353,slow=5.8,SNR=5.7
LSA Lhasa 76.49 307 P P 22 09 34.7 +0.7
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 76.49 307 P P 22 09 34.7 +0.7
ESBB Sonseca Array 77.05 25 P P 22 09 36.6 +0.2
ESBB IAmb IAmb 22 11 13.1
comp=Z,26nm,1.9s
ESDC Sonseca Array 77.05 25 P P 22 09 37.2 +0.8
comp=Z,2.1nm,0.8s,baz=342,slow=5.3,SNR=17
ESDC Sonseca Array 77.05 25 P P 22 09 36.9 +0.4
PDG Podgorica 77.41 6 ⇓P P 22 09 38.1 -0.3
OCAC Ocana 77.42 95 P P 22 09 38.2 -0.7
FNA Florina 79.15 5 P P 22 09 47.6 -0.4
FNA pmax pmax
comp=Z,64nm,2.0s
FNA Florina 79.15 5 P P 22 09 47.6 -0.4
FNA IAmb IAmb 22 10 10.5
comp=Z,64nm,2.0s
NIL Nilore 79.21 323 P P 22 09 48.8 +0.3
NIL pmax pmax
comp=Z,7.0nm,1.2s
NIL Nilore 79.21 323 P P 22 09 48.8 +0.3
SHL Shillong 79.86 304 P P 22 09 51.4 -0.8
SHL pmax pmax
comp=Z,4.0nm,1.1s
SHL Shillong 79.86 304 P P 22 09 51.4 -0.8
BRTR Keskin Array B 80.22 355 P P 22 09 53.8 -0.2
comp=Z,0.8nm,0.9s,baz=35,slow=4.5,SNR=4.9
BRTR Keskin Array B 80.22 355 P P 22 09 53.6 -0.4
AGG Agios Georgios 80.94 4 P P 22 09 57.5 -0.2
AGG pmax pmax
comp=Z,64nm,1.6s
AGG Agios Georgios 80.94 4 P P 22 09 57.5 -0.2
AGG IAmb IAmb 22 12 46.0
comp=Z,64nm,1.6s
BNN Bunyan 80.99 354 P P 22 09 57.9 -0.2
BNN IAmb IAmb 22 10 38.1
comp=Z,11nm,0.8s
OTAV Otavalo 81.82 104 P P 22 10 02.6 -0.5
OTAV pmax pmax
comp=Z,4.0nm,0.8s
OTAV Otavalo 81.82 104 P P 22 10 02.6 -0.5
CMAR Chiang Mai Arr 83.06 295 P P 22 10 08.6 -0.4
comp=Z,2.2nm,0.7s,baz=12,slow=5.9,SNR=13
CMAR Chiang Mai Arr 83.06 295 P P 22 10 08.2 -0.8
BOSA Boshof 148.29 4 PKPbc PKPbc 22 17 28.2 -0.6
comp=Z,5.1nm,0.6s,baz=20,slow=3.3,SNR=19
BOSA Boshof 148.29 4 PKP2 PKPbc 22 17 28.1 -0.7
BOSA Boshof 148.29 4 PKPbc 22 17 28.1 -0.7

NEIC **12** *22:30:50.4±1.9,51°.24N±0°.06×173°.82W±0°.09,h10km±1km, mb3.7/35,ML3.1(AEIC) Error ellipse: s-maj=11.0km s-min=9.8km az=189.0*
AEIC **12** *22:30:53±3.2,51°.39N±0°.06×173°.93W±0°.09,h8km±5km, Error ellipse: s-maj=8.4km s-min=8.1km az=204.0*
IDC **12** *22:30:54.4±1.8,52°.19N×174°.50W,h0km,mb3.6/8, mb1 3.7/9,mb1mx3.5/43,mbtmp3.5/9,ML3.9/1,Error ellipse: s-maj=52.4km s-min=21.8km az=0.0*
ISC 12 22:30:49.8±1.0,51°.2N±0°.1×173°.87W±0°.06,h10km,n75,
σ1s07/66,mb3.7/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
ATKA	Atka Island	1.04	349		Pg	22 31 09.2	-0.6
KOFP	Korovin Flat P	1.10	353		Pg	22 31 10.6	-0.4
GSMY	Great Sitkin M	1.61	303		Pb	22 31 19.9	+0.2
GSTR	Great Sitkin T	1.64	305		Pb	22 31 20.3	+0.1
GSCK	Great Sitkin C	1.66	301		Pn	22 31 20.2	+1.3
GSTD	Great Sitkin T	1.67	303		Pn	22 31 20.1	+1.0
ADK	Adak	1.89	293		Pn	22 31 23.7	+1.6
KIWB	Kanaga Island	2.16	289	Pn	Pn	22 31 28.0	+2.2
KIKV	Kanaga Island	2.18	290		Pb	22 31 28.6	-0.7
KIMD	Kanaga Island	2.19	287		Pn	22 31 28.4	+2.3
TAFP	Tanaga Falls P	2.67	287		Pn	22 31 35.1	+2.3
TASE	Tanaga Southea	2.69	286		Pn	22 31 35.5	+2.4
UNV	Unalaska Valle	5.23	56	Pn	Pn	22 32 10.0	+2.1

SPIA	Saint Paul Isl	6.37	18	Pn		Pn	22 32 25.7	+2.1
KDAK	Kodiak Island	13.99	54	Pn		Pn	22 34 08.1	+0.3
	0.2nm,0.3s,baz=292,slow=14,SNR=1.7							
ANM	Nome	14.14	15	Pn		Pn	22 34 11.7	+1.9
TNA	Tin City	14.74	10	Pn		Pn	22 34 18.6	+0.6
TTA	Tatalina	15.19	32			P	22 34 28.3	-0.9
TTA				IAmb		IAmb	22 34 42.4	
	comp=Z,5.7nm,1.4s							
CNPM	China Poot	15.28	48			P	22 34 29.3	-0.9
BRLK	Bradley Lake	15.53	48			P	22 34 31.4	-1.7
BRLK				IAmb		IAmb	22 34 32.0	
	comp=Z,4.0nm,0.8s							
K20K	Telida	16.13	33			P	22 34 40.3	+0.6
SEW	Seward	16.33	47			P	22 34 41.6	-0.2
PPLA	Purkeypile	16.53	36			P	22 34 44.3	+0.1
J20K	Nowinta River	16.65	31			P	22 34 45.0	-0.3
J20K				IAmb		IAmb	22 35 08.1	
	comp=Z,7.6nm,1.5s							
CAST	Castle Rocks	16.88	35			P	22 34 47.5	-0.4
GHO	Glory Hole Cre	17.26	43			Pn	22 34 51.1	+0.4
GHO				IAmb		IAmb	22 35 07.0	
	comp=Z,9.5nm,1.2s							
KNK	Knik Glacier	17.30	44	Pn		Pn	22 34 50.7	-0.5
KNK				IAmb		IAmb	22 34 59.3	
	comp=Z,15nm,1.4s							
KTH	Kantishna Hill	17.38	36			P	22 34 53.5	0.0
KTH				IAmb		IAmb	22 35 01.2	
	comp=Z,6.7nm,1.3s							
TRF	Thorofare Moun	17.55	37			P	22 34 55.1	-0.4
TRF				IAmb		IAmb	22 34 59.1	
	comp=Z,8.5nm,1.4s							
BPAW	Bear Paw Mtn.	17.67	34			P	22 34 57.8	+1.1
SCM	Sheep Creek Mo	17.97	43			P	22 34 59.8	-0.3
SCM				IAmb		IAmb	22 35 01.5	
	comp=Z,12nm,1.1s							
IMAR	Indian Mountai	18.03	27			P	22 35 01.8	+1.2
MCK	McKinley	18.22	37			Pn	22 35 01.9	-0.6
MCK				IAmb		IAmb	22 35 12.6	
	comp=Z,7.8nm,1.4s							
MLY	Manley	18.32	32			Pn	22 35 03.1	-0.7
DHY	Denali Highway	18.50	40	P		P	22 35 05.7	-0.2
BMRM	Bremner River	18.88	47	P		Pn	22 35 11.5	+0.9
WRH	Wood River Hil	18.93	36	P		P	22 35 09.2	-1.3
WRH				IAmb		IAmb	22 35 31.1	
	comp=Z,5.1nm,1.2s							
CCB	Clear Creek Bu	19.13	35	P		P	22 35 11.1	-1.5
CCB				IAmb		IAmb	22 35 28.9	
	comp=Z,6.0nm,1.5s							
MDM	Murphy Dome	19.14	34	P		P	22 35 12.6	-0.2
HDA	Harding Lake	19.32	36	P		P	22 35 14.2	-0.6
HDA				IAmb		IAmb	22 35 28.9	
	comp=Z,8.9nm,1.4s							
IL31		19.53	36	P		P	22 35 16.7	-0.2
ILAR	Eielson Array	19.53	36	P		P	22 35 17.0	0.0
	comp=Z,0.4nm,0.3s,baz=234,slow=9.2,SNR=18							
ILAR	Eielson Array	19.53	36	P		P	22 35 16.2	-0.8
H24K	Noodor Dome	19.77	32	P		P	22 35 20.0	+0.3
H24K				IAmb		IAmb	22 35 34.4	
	comp=Z,5.7nm,1.2s							
RIDG	Independent Ri	19.82	40	P		P	22 35 19.1	-1.1
RIDG				IAmb		IAmb	22 35 39.5	
	comp=Z,7.7nm,1.2s							
J25K	Salcha River,	20.01	37	P		P	22 35 21.4	-1.0
J25K				IAmb		IAmb	22 35 35.2	
	comp=Z,3.6nm,0.9s							
DOT	Dot Lake	20.09	40	P		P	22 35 22.8	-0.5
SCRK	Sand Creek	20.26	39	P		P	22 35 24.7	-0.5
SCRK				IAmb		IAmb	22 35 45.4	
	comp=Z,4.5nm,1.2s							
BCAR	Beaver Creek A	20.82	43	P		Pn	22 35 32.3	-1.3
TOLK	Toolik Lake Re	21.06	25	P		P	22 35 33.0	-0.7
TOLK				IAmb		IAmb	22 35 44.0	
	comp=Z,2.6nm,0.9s							
EGAK	Eagle	21.71	39	P		P	22 35 40.2	-0.4
EGAK				IAmb		IAmb	22 36 00.0	
	comp=Z,3.6nm,0.8s							
BMAR	Burnt Mountain	21.76	31	P		P	22 35 40.8	-0.4
H11N2	WAKE ISLAND Hy	34.86	213	T		T	23 16 01.4	
	baz=21,slow=76,SNR=3.9							
H11N3	WAKE ISLAND Hy	34.87	213	T		T	23 16 05.2	
	baz=21,slow=76,SNR=4.6							
H11N1	WAKE ISLAND Hy	34.88	213	T		T	23 16 02.8	
	baz=21,slow=76,SNR=4.8							
H11S1	WAKE ISLAND Hy	36.06	212	T		T	23 17 16.8	
	baz=20,slow=75,SNR=15							
H11S2	WAKE ISLAND Hy	36.07	212	T		T	23 17 18.0	
	baz=20,slow=75,SNR=13							
H11S3	WAKE ISLAND Hy	36.08	212	T		T	23 17 18.1	
	baz=20,slow=75,SNR=5.2							
USA0B	Ussuriysk Arra	36.38	281	P		P	22 37 55.0	+1.1
USRK	Ussuriysk Ar.	36.38	281	P		P	22 37 55.7	+1.7
	comp=Z,0.7nm,0.4s,baz=56,slow=9.5,SNR=6.9							
USRK	Ussuriysk Ar.	36.38	281	P		P	22 37 55.0	+1.1
PDAR	Pinedale Array	43.39	75	P		P	22 38 57.9	+5.4
	comp=Z,0.2nm,0.5s,baz=328,slow=3.3,SNR=1.9							
PDAR	Pinedale Array	43.39	75	P		P	22 38 52.7	+0.2
SONM	Songino Array	49.48	299	P		P	22 39 37.9	-2.2
	comp=Z,0.2nm,0.6s,baz=34,slow=11,SNR=1.7							
TXAR	Lajitas Array	55.60	85	P		P	22 40 35.3	+10
	comp=Z,0.1nm,0.5s,baz=330,slow=5.2,SNR=1.5							
ARCES	ARCESS Array B	58.76	352	P		P	22 40 46.4	-0.9
	comp=Z,3.4nm,0.9s,baz=30,slow=7.3,SNR=2.2							
KURK	Kurchatov	61.35	316	P		P	22 41 05.9	+0.6
KURBB	Kurchatov Arra	61.46	316	P		P	22 41 05.8	-0.2
	comp=Z,0.1nm,0.3s,baz=43,slow=6.7,SNR=4.1							
MK31	Makanchi Array	62.54	311	P		P	22 41 13.0	-0.4
MKAR	Makanchi Array	62.54	311	P		P	22 41 13.5	0.0
	comp=Z,0.2nm,0.3s,baz=51,slow=6.8,SNR=6.7							
MKAR	Makanchi Array	62.54	311	P		P	22 41 13.1	-0.3
FINES	FINESS Array B	66.60	350	P		P	22 41 39.0	-0.6
	comp=Z,1.0nm,0.7s,baz=10,slow=8.5,SNR=3.6							
ABKAR	Akbulak array	69.91	326	P		P	22 41 59.8	-0.8
ABKAR	Akbulak array	69.91	326	P		P	22 41 59.9	-0.8
ABKAR				IAmb		IAmb	22 42 02.8	
	comp=Z,0.9nm,0.7s							
KKAR	Karatay Array	70.75	316	P		P	22 42 05.9	0.0

NEIC ***12*** *22:42:31.9±2.4,51.5°N±0.1°×173.92W±0.08,h10km±2km, Error ellipse: s-maj=22.0km s-min=8.0km az=180.0*
AEIC ***12*** *22:42:32±1.6,51.4°N±0.1°×173.79W±0.08,h18km±6km, ML3.3,mb3.7/35(NEIC),Error ellipse: s-maj=15.0km s-min=6.9km az=183.0*
IDC ***12*** *22:42:39.4±2.3,52.92°N×174.93W,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/49,mbtmp3.4/4,ML3.8/1,Error ellipse: s-maj=74.4km s-min=29.2km az=5.0*

ISC 12 22:42:31.6±1.0,51.5N±0.1°×173.93W±0.05,h10km,n63, σ0.9s93/63,mb3.6/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.74	347		Pn	22 42 48.6	+0.5
KOFP	Korovin Flat P	0.80	353		Pn	22 42 50.0	+1.0
KOKL	Mount Kliuchef	0.86	349		Pn	22 42 50.5	+0.7
GSMY	Great Sitkin M	1.44	294		Pb	22 42 58.8	+0.4
GSTR	Great Sitkin T	1.46	296		Pg	22 42 59.6	+0.1
GSTR				Sn	Sn	22 43 15.3	-1.8
GSCK	Great Sitkin C	1.49	292		Pg	22 43 00.1	+0.1
GSTD	Great Sitkin T	1.49	294		Pb	22 42 59.9	+0.5
ADK	Adak	1.76	284		Pn	22 43 03.1	+1.0
ADK	Adak	1.76	284	Sn	Sb	22 43 26.1	0.0
KIWB	Kanaga Island	2.04	282		Pn	22 43 07.0	+1.1
KIKV	Kanaga Island	2.06	282		Pn	22 43 07.4	+1.2
TASE	Tanaga Southea	2.58	279		Pn	22 43 15.4	+1.9
NIKH	Nikolski High	3.46	62	Pn	Pn	22 43 26.7	+1.3
UNV	Unalaska Valle	5.10	59	Pn	Pn	22 43 49.2	+1.3
SDPT	Sand Point	8.92	59	Pn	Pn	22 44 41.2	+1.0
ANM	Nome	13.86	16	Pn	Pn	22 45 50.7	+2.9
N19K	Bonanza Creek	14.25	42		P	22 45 59.6	-1.1
L19K	White Mountain	14.89	37		P	22 46 07.5	-0.1
M19K	Big River Lodg	14.90	38	P	P	22 46 06.8	-1.0
CNPM	China Poot	15.11	49		P	22 46 09.0	-1.1
BRLK	Bradley Lake	15.36	48	Pn	Pn	22 46 09.7	+1.5
K20K	Telida	15.90	34		P	22 46 17.6	-1.4
SEW	Seward	16.16	48	Pn	Pn	22 46 18.9	+0.5
PPLA	Purkeypile	16.31	37	Pn	Pn	22 46 20.6	+0.1
PPLA				IAmb	IAmb	22 46 46.6	
	comp=Z,7.9nm,1.2s						
J20K	Nowinta River	16.41	32	Pn	Pn	22 46 20.7	-0.9
J20K				IAmb	IAmb	22 46 36.1	
	comp=Z,5.8nm,1.2s						
CAST	Castle Rocks	16.65	36	P	P	22 46 28.2	+1.0
KTH	Kantishna Hill	17.16	36		P	22 46 32.3	-0.5
KTH				IAmb	IAmb	22 46 43.7	
	comp=Z,13nm,1.4s						
TRF	Thorofare Moun	17.34	37	Pn	Pn	22 46 32.7	-0.9
TRF				IAmb	IAmb	22 46 38.4	
	comp=Z,7.3nm,1.3s						
BPAW	Bear Paw Mtn.	17.45	35	Pn	Pn	22 46 34.4	-0.4
BPAW				IAmb	IAmb	22 46 43.9	
	comp=Z,5.3nm,1.1s						
SCM	Sheep Creek Mo	17.78	44		Pn	22 46 39.1	+0.1
H21K	Melozitna Rive	17.83	29		P	22 46 40.8	+0.6
RND	Reindeer	17.87	38		Pn	22 46 39.8	-0.1
RND				IAmb	IAmb	22 46 46.8	
	comp=Z,4.5nm,1.1s						
MLY	Manley	18.09	33		P	22 46 43.3	+0.2
WRH	Wood River Hil	18.71	36	P	P	22 46 48.2	-1.6
WRH				IAmb	IAmb	22 46 55.1	
	comp=Z,7.7nm,1.5s						
CCB	Clear Creek Bu	18.90	36	P	P	22 46 50.2	-1.7
CCB				IAmb	IAmb	22 46 57.0	
	comp=Z,5.2nm,1.3s						
N25K	Chitina, Valde	18.91	46	P	P	22 46 51.2	-0.9
N25K				IAmb	IAmb	22 47 09.5	
	comp=Z,11nm,1.3s						
MDM	Murphy Dome	18.92	35	P	P	22 46 51.3	-0.9
H23K	Yukon River	18.97	32	P	Pn	22 46 53.0	-0.4
HDA	Harding Lake	19.10	37	P	P	22 46 53.9	-0.2
HDA				IAmb	IAmb	22 47 01.2	
	comp=Z,2.8nm,0.8s						
IL31		19.31	36	P	P	22 46 56.1	-0.2
IL31				IAmb	IAmb	22 47 14.0	
	comp=Z,8.9nm,1.5s						
ILAR	Eielson Array	19.31	36	P	P	22 46 56.3	-0.1
	comp=Z,0.3nm,0.3s,baz=234,slow=8.7,SNR=12						
ILAR	Eielson Array	19.31	36	P	P	22 46 56.1	-0.3
H24K	Noodor Dome	19.54	33	P	P	22 46 59.1	+0.2
RIDG	Independent Ri	19.61	40	P	P	22 46 59.6	-0.2
RIDG				IAmb	IAmb	22 47 10.1	
	comp=Z,12nm,1.5s						
J25K	Salcha River,	19.80	37	P	P	22 47 00.7	-1.1
J25K				IAmb	IAmb	22 47 13.1	
	comp=Z,5.2nm,1.0s						
DOT	Dot Lake	19.89	41	P	P	22 47 02.0	-0.8
SCRK	Sand Creek	20.05	40	P	P	22 47 04.0	-0.7
SCRK				IAmb	IAmb	22 47 21.2	
	comp=Z,6.2nm,1.4s						
PRP	Porcupine Dome	20.18	35	P	P	22 47 05.8	-0.2
M27K	Edge Creek, AK	20.37	45	P	P	22 47 08.2	+0.1
L27K	Beaver Creek,	20.61	43	P	P	22 47 10.4	-0.2
L27K				IAmb	IAmb	22 47 19.7	
	comp=Z,2.7nm,1.1s						
EGAK	Eagle	21.50	39	P	P	22 47 19.5	-0.7
EGAK				IAmb	IAmb	22 47 38.2	
	comp=Z,5.1nm,0.8s						
BMAR	Burnt Mountain	21.52	31	P	P	22 47 20.0	-0.4
DAWY	Dawson	21.97	42	P	P	22 47 24.7	-0.5
SONM	Songino Array	49.30	299	P	P	22 51 21.0	+0.6
	comp=Z,0.2nm,0.4s,baz=54,slow=7.3,SNR=2.4						
TXAR	Lajitas Array	55.62	85	P	P	22 52 20.6	+13
	comp=Z,0.4nm,0.8s,baz=305,slow=4.4,SNR=4.8						
TXAR	Lajitas Array	55.62	85	P	P	22 52 07.7	+0.2
KURK	Kurchatov	61.11	316	P	P	22 52 44.1	-1.3
MKAR	Makanchi Array	62.31	311	P	P	22 52 53.3	-0.4
	comp=Z,0.2nm,0.5s,baz=44,slow=6.4,SNR=6.6						
MKAR	Makanchi Array	62.31	311	P	P	22 52 52.9	-0.8
ABKAR	Akbulak array	69.64	326	P	P	22 53 40.2	-0.5
ABKAR	Akbulak array	69.64	326	P	P	22 53 40.1	-0.6
ABKAR				IAmb	IAmb	22 53 55.5	
	comp=Z,0.9nm,0.8s						
BUR08	Bucovina Ar. S	79.90	347	P	P	22 54 39.4	-0.9
BURAR	Bucovina Array	79.92	347	P	P	22 54 40.2	-0.2
BURAR				IAmb	IAmb	22 54 47.4	
	comp=Z,0.8nm,1.2s						

NEIC ***12*** *22:48:49.7±1.7,43.76N±0.05°×105.34W±0.07,h0km±2km, ML3.1/34,Error ellipse: s-maj=9.9km s-min=7.6km az=324.0*
IDC ***12*** *22:48:49.8±2.1,43.71N×105.51W,h0km,mb3.7/1, mb1 3.4/4,mb1mx3.2/41,mbtmp3.2/4,ML3.2/3,Error ellipse: s-maj=42.7km s-min=14.2km az=150.0*

ISC 12 22:48:49.7±1.0,43.78N±0.05°×105.35W±0.07,h0km,n29, σ0.98/28,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.01	70		Pg	22 49 09.1	+0.1
K22A	Casper	1.42	218	Pn	Pn	22 49 15.3	-1.6
K22A				IAML		22 49 37.7	
	comp=E,290nm,1.1s						
PHWY	Pilot Hill	2.48	182	Pn	Pn	22 49 31.9	+0.3
PHWY				IAML		22 50 09.7	
	comp=E,63nm,1.0s						
RWWY	Rawlins	2.50	214	Pn	Pn	22 49 30.6	-1.3
N23A	Red Feather La	2.92	189	Pn	Pn	22 49 37.1	-0.5
N23A				IAML		22 50 27.8	
	comp=E,80nm,0.9s						
N23A				IAML		22 50 31.1	
	comp=N,62nm,1.1s						
LAO	LASA Array	2.97	348	Pn	Pn	22 49 37.0	-1.2
RLMT	Red Lodge	3.11	297		Pn	22 49 40.9	+0.7
RLMT				IAML		22 50 37.4	
	comp=N,40nm,0.8s						
RLMT				IAML		22 50 38.9	
	comp=N,49nm,0.8s						
BW06	Boulder Array	3.24	253	Pn	Pn	22 49 40.6	-1.4
BW06				IAML		22 50 46.3	
	comp=N,33nm,1.0s						
PD31	Pinedale Array	3.24	253	Pn	Pn	22 49 42.1	+0.2
PDAR	Pinedale Array	3.24	253	Pn	Pn	22 49 43.0	+1.1
	comp=N,0.6nm,0.3s,baz=76,slow=17,SNR=24						
PDAR				Lg	Lg	22 50 26.1	
	comp=N,5.6nm,0.3s,baz=78,slow=30,SNR=13						
PDAR	Pinedale Array	3.24	253	Pn	Pn	22 49 42.1	+0.2
LOHW	Long Hollow	3.81	269		Pn	22 49 51.0	+1.1
LOHW				IAML		22 50 57.0	
	comp=N,18nm,1.0s						
LOHW				IAML		22 50 57.4	
	comp=N,20nm,0.8s						
H17A	Grant Village	3.82	281	Pn	Pn	22 49 50.4	+0.5
H17A				IAML		22 50 55.8	
	comp=N,29nm,1.3s						
MOOW	Moose Ponds	3.91	271		Pn	22 49 51.4	+0.2
SNOW	Snow King Moun	3.94	267		Pn	22 49 50.3	-1.3
ISCO	Idaho Springs	3.98	183		Pn	22 49 51.6	-0.6
ISCO				IAML		22 51 00.0	
	comp=N,25nm,1.2s						
TPAW	Teton Pass	4.08	268		Pn	22 49 52.9	-0.7
TPAW				IAML		22 51 17.4	
	comp=N,20nm,1.0s						
TPAW				IAML		22 51 17.6	
	comp=N,29nm,1.1s						
BOZ	Bozeman (W)	4.83	294		Pn	22 50 05.1	+1.3
BOZ				IAML		22 51 23.4	
	comp=N,16nm,4.1s						
BOZ				IAML		22 51 26.1	
	comp=N,13nm,0.8s						
HWUT	Hardware Ranch	5.07	247		Pn	22 50 06.2	-0.9
KSCO	Kaye Shedlock'	5.18	156		Pn	22 50 09.2	+0.5
HRY	Holter Researc	5.43	305		Pn	22 50 12.4	+0.4
MCMT	McKenzie Canyo	5.48	284		Pn	22 50 12.6	-0.3
P18A	Preston Nutter	5.54	223		Pn	22 50 14.4	+0.8
PV07	Paradox Valley	5.89	206		Pn	22 50 17.8	-0.6
ECSD	EROS Data Cent	6.33	87	Pn	Pn	22 50 23.7	-0.5
ULM	Lac du Bonnet	9.15	42	Pg	Pn	22 51 35.4	+33
	comp=N,0.2nm,0.3s,baz=221,slow=16,SNR=3.7						
ULM				Lg	Lg	22 53 34.3	
	comp=N,0.1nm,0.3s,baz=304,slow=20,SNR=2.2						
NVAR	Mina Array Bea	11.14	246	Pn	Pn	22 51 32.8	+2.5
	comp=N,0.1nm,0.3s,baz=62,slow=14,SNR=2.2						
YKA	Yellowknife Ar	19.51	347	P	Pn	22 53 19.4	0.0
	comp=N,0.1nm,0.3s,baz=156,slow=12,SNR=4.3						
MKAR	Makanchi Array	89.56	355	P	P	23 01 48.7	-0.1
	comp=N,0.3nm,0.8s,baz=18,slow=4.3,SNR=4.3						

NNC ***12*** *22:52:24.8±0.5,42.27N×76.20E,h0km,mb3.4,mpv3.2, Error ellipse: s-maj=3.5km s-min=1.6km az=173.0*
KNET ***12*** *22:52:24.9±0.4,42.26N×76.12E,h0km,ml2.4,Error ellipse: s-maj=4.7km s-min=2.1km az=13.0*
SOME ***12*** *22:52:25.3,42.27N×76.23E,h15km*

ISC 12 22:52:25.3±1.1,42.28N±0.03×76.18E±0.02,h1km±11km, n59,σ1.9s03/104,14C-18D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.06	123	⇓P	Pg	22 52 26.5	0.0
	2μm,0.1s						
ULHL				⇓S	Sg	22 52 27.8	+0.5
	3μm,0.1s						
TKM2	Tokmak 2	0.77	327	⇓P	Pg	22 52 40.4	+0.3
	15nm,0.1s,SNR=142						
TKM2				⇑S	Sg	22 52 51.4	+1.2
	94nm,0.1s						
TKM2	Tokmak 2	0.77	327	⇓P	Pg	22 52 40.2	+0.1
	6.9nm,0.4s						
TKM2				⇑S	Sg	22 52 51.3	+1.0
	13nm,0.2s						
MTBS	Maitube	0.87	12	eP	Pg	22 52 41.9	-0.1
	10nm,0.2s						
MTBS				eS	Sg	22 52 53.8	+0.4
	96nm,0.2s						
MTBS	Maitube	0.87	12	P	Pg	22 52 41.9	-0.1
	10nm,0.2s						
MTBS				S	Sg	22 52 53.8	+0.4
	96nm,0.2s						
TNSS	Tian-Shan	0.95	36	⇓eP	Pg	22 52 43.1	-0.4
	10nm,0.1s						
TNSS				eS	Sg	22 52 56.1	+0.3
	25nm,0.3s						
TNSS	Tian-Shan	0.95	36	P	Pg	22 52 43.1	-0.4
	10nm,0.1s						
TNSS				S	Sg	22 52 56.1	+0.3
	25nm,0.3s						
KBK	Karagaybulak	0.99	293	⇓P	Pg	22 52 44.5	+0.3
	20nm,0.1s,SNR=30						
KBK				⇑S	Sb	22 52 58.5	-0.3
	104nm,0.2s						
DGS	Degeres	1.01	343	⇓eP	Pg	22 52 44.7	0.0
	5.4nm,0.1s						
DGS				eS	Sg	22 52 58.6	+0.8
	81nm,0.2s						
DGS	Degeres	1.01	343	P	Pg	22 52 44.7	0.0
	5.4nm,0.1s						
DGS				S	Sg	22 52 58.6	+0.8
	81nm,0.2s						
AAA	Alma-Ata	1.08	30	eP	Pb	22 52 46.1	-0.7
	16nm,0.1s						
AAA				eS	Sb	22 53 00.8	-0.6
	76nm,0.3s						
AAA	Alma-Ata	1.08	30	P	Pb	22 52 46.1	-0.7
	16nm,0.1s						
AAA				S	Sb	22 53 00.9	-0.6
	76nm,0.3s						
MDOK	Medeo	1.09	36	eP	Pg	22 52 45.6	-0.7
	4.1nm,0.2s						
MDOK				eS	Sg	22 53 00.1	-0.4
	13nm,0.5s						
MDOK	Medeo	1.09	36	⇑P	Pg	22 52 45.5	-0.8
	3.2nm,0.6s						
MDOK				⇓S	Sg	22 52 59.9	-0.5
	7.1nm,0.4s						
MDOK	Medeo	1.09	36	Pg	Pg	22 52 45.6	-0.7
	4.1nm,0.2s						
MDOK				Lg	Lg	22 53 00.1	
	13nm,0.5s						
KNDC	Almaty	1.10	31	⇑P	Pg	22 52 46.5	0.0
	7.3nm,0.3s						
KNDC				⇓S	Sb	22 53 01.5	-0.7
	54nm,0.3s						
KOTS	Kotyrbulak	1.18	35	eP	Pg	22 52 47.5	-0.4
	6.0nm,0.1s						
KOTS				eS	Sb	22 53 03.5	-0.9
	64nm,0.3s						
KOTS	Kotyrbulak	1.18	35	P	Pg	22 52 47.5	-0.4
	6.0nm,0.1s						
KOTS				S	Sb	22 53 03.5	-0.9
	64nm,0.3s						
UCH	Uchtor	1.24	268	⇓P	Pg	22 52 48.3	-0.7
	8.3nm,0.2s,SNR=14						
UCH				⇑S	Sg	22 53 05.4	+0.3
	11nm,0.2s						
CHMS	Chumysh	1.28	305	⇓P	Pg	22 52 49.2	-0.6
	5.6nm,0.1s,SNR=8.0						
CHMS				⇑S	Sg	22 53 07.0	+0.7
	34nm,0.2s						
AAK	Ala-Archa	1.30	287	⇑P	Pg	22 52 49.5	-0.7
	4.9nm,0.1s,SNR=19						
AAK				⇑S	Sg	22 53 07.2	+0.2
	43nm,0.3s						
AAK	Ala-Archa	1.30	287	⇓P	Pg	22 52 49.3	-0.9
	2.7nm,0.3s						
AAK				⇑S	Sg	22 53 07.1	+0.2
	29nm,0.7s						
KRBS	Karabastau	1.47	346	eP	Pn	22 52 52.8	-0.1
	6.6nm,0.2s						
KRBS				eS	Sg	22 53 12.4	0.0
	38nm,0.2s						
KRBS	Karabastau	1.47	346	P	Pn	22 52 52.8	-0.1
	6.6nm,0.2s						
KRBS				S	Sg	22 53 12.4	0.0
	38nm,0.2s						
KTBS	Karatobe	1.48	14	eP	Pg	22 52 53.3	-0.4
	7.3nm,0.1s						
KTBS				eS	Sn	22 53 13.4	+0.2
	94nm,0.3s						
KTBS	Karatobe	1.48	14	P	Pg	22 52 53.3	-0.4
	7.3nm,0.1s						
KTBS				S	Sn	22 53 13.4	+0.2
	94nm,0.3s						
USP	Ospenovka	1.58	309	⇓P	Pn	22 52 54.7	+0.1
	17nm,0.2s,SNR=26						
USP				⇓S	Sg	22 53 16.7	+0.5
	31nm,0.1s						
KUU	Kurty	1.62	4	eP	Pb	22 52 55.7	-0.4
	10nm,0.2s						
KUU				eS	Sg	22 53 17.1	-0.3
	48nm,0.3s						
KUU	Kurty	1.62	4	P	Pb	22 52 55.7	-0.4
	10nm,0.2s						
KUU				S	Sg	22 53 17.1	-0.3
	48nm,0.3s						
SGDS	Sogindy	1.64	316	eP	Pn	22 52 55.6	+0.3
	10nm,0.3s						
SGDS				eS	Sb	22 53 17.6	+0.1
	31nm,0.3s						
SGDS	Sogindy	1.64	316	P	Pn	22 52 55.6	+0.3
	10nm,0.3s						
SGDS				S	Sb	22 53 17.6	+0.1
	31nm,0.3s						
CHK

ARXS					*e*S		**Sb**	**22 53 36.7**	**+0.7**		
	79nm,0.5s										
ARXS	**Arharly**	**2.28**	**31**		Pg		**Pb**	**22 53 06.7**	**-0.6**		
	26nm,0.2s										
ARXS					Lg		Lg	22 53 36.7			
	79nm,0.5s										
BLB	**Baldybastay**	**2.48**	**42**		*e*P		**Pb**	**22 53 09.8**	**-1.0**		
	25nm,0.3s										
BLB					*e*S		**Sb**	**22 53 42.1**	**+0.3**		
	39nm,0.4s										
BLB	**Baldybastay**	**2.48**	**42**		Pg		**Pb**	**22 53 09.7**	**-1.0**		
	25nm,0.3s										
BLB					Lg		Lg	22 53 42.1			
	39nm,0.4s										
SHLS	**Shalkode**	**2.58**	**69**		*e*P		**Pg**	**22 53 17.0**	**+2.3**		
	2.5nm,0.3s										
SHLS					*e*S		**Sg**	**22 53 54.4**	**+6.3**		
	20nm,0.3s										
SHLS	**Shalkode**	**2.58**	**69**		Pg		**Pg**	**22 53 15.1**	**+0.4**		
	2.1nm,0.3s										
SHLS					Lg		Lg	22 53 51.2			
	20nm,0.3s										
PDGK	**Podgornoye**	**2.66**	**66**		Pg		**Pb**	**22 53 12.0**	**-1.7**		
	1.5nm,0.2s										
PDGK					Lg		Lg	22 53 45.7			
	7.7nm,0.5s										
PDGK	**Podgornoye**	**2.66**	**66**	⇑	Pg		**Pb**	**22 53 11.2**	**-2.5**		
	4.4nm,0.7s										
PDGK				⇑	Lg		Lg	22 53 47.9			
	17nm,0.6s										
BTLS	**Baital**	**3.17**	**331**		*e*P		**Pb**	**22 53 22.8**	**+0.4**		
	1.9nm,0.2s										
BTLS					*e*S		**Sb**	**22 54 04.2**	**+2.8**		
	8.5nm,0.2s										
BTLS	**Baital**	**3.17**	**331**		Pg		**Pb**	**22 53 22.8**	**+0.4**		
	1.9nm,0.2s										
BTLS					Lg		Lg	22 54 04.2			
	8.5nm,0.2s										
TDK	**Taldyqorghan**	**3.17**	**30**		*e*P		**Pb**	**22 53 21.8**	**-0.6**		
	21nm,0.5s										
TDK					*e*S		**Sb**	**22 54 02.9**	**+1.4**		
	25nm,0.5s										
KTMS	**Ketmen**	**3.28**	**68**		*e*P		**Pb**	**22 53 23.9**	**-0.5**		
	0.9nm,0.2s										
KTMS					*e*S		**Sb**	**22 54 05.6**	**+0.6**		
	12nm,0.2s										
KTMS	**Ketmen**	**3.28**	**68**		Pg		**Pb**	**22 53 23.3**	**-1.1**		
	0.7nm,0.2s										
KTMS					Lg		Lg	22 54 05.0			
	12nm,0.2s										
DJR	**Jarkent**	**3.34**	**51**		*e*P		**Pb**	**22 53 25.4**	**0.0**		
	1.1nm,0.2s										
DJR					*e*S		**Sb**	**22 54 08.6**	**+2.0**		
	15nm,0.7s										
DJR	**Jarkent**	**3.34**	**51**		Pg		**Pb**	**22 53 25.4**	**0.0**		
	1.1nm,0.2s										
DJR					Lg		Lg	22 54 08.6			
	15nm,0.7s										
KK09	**Karatay Array**	**4.27**	**283**	⇓	Pg		**Pg**	**22 53 44.8**	**-2.3**		
	2.8nm,0.6s,baz=97,slow=15										
KK09				⇓	Lg		Lg	22 54 42.7			
	3.0nm,0.5s,baz=100,slow=28										
MK31	**Makanchi Array**	**6.28**	**42**	⇑	Pn		**Pn**	**22 53 58.4**	**-0.6**		
	0.2nm,0.3s										
MK31				⇓	Lg		Lg	22 55 44.6			
	0.2nm,0.4s,baz=221,slow=24,SNR=3.7										

IDC 12 23:01:32.2±1.8,28°.05N×44°.37W,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.6/30,mbtmp3.7/7,MS3.6/17, Ms1 3.6/17,ms1mx3.2/87,Error ellipse: s-maj=62.5km s-min=24.1km az=3.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.31**	**248**	LR	LR	23 13 17.5	
	comp=Z,35nm,21.7s,baz=76,slow=32						
SADO	**Sadowa**	**32.27**	**310**	LR	LR	23 18 32.5	
	comp=Z,102nm,21.4s,baz=163,slow=32						
TKL	**Tuckaleechee C**	**34.14**	**293**	LR	LR	23 20 40.4	
	comp=Z,55nm,20.1s,baz=96,slow=34						
MDT	**Midelt**	**34.47**	**72**	LR	LR	23 18 54.6	
	comp=Z,46nm,22.0s,baz=278,slow=30						
ESDC	**Sonseca Array**	**35.23**	**60**	P	P	23 08 26.9	-1.5
	1.0nm,1.1s,baz=262,slow=7.6,SNR=3.5						
FRB	**Frobisher Bay**	**38.96**	**343**	LR	LR	23 23 39.4	
	comp=Z,134nm,18.1s,baz=204,slow=34						
KOWA	**Kowa**	**39.76**	**101**	LR	LR	23 24 48.3	
	comp=Z,114nm,18.2s,baz=325,slow=35						
DBIC	**Dimbokro**	**43.01**	**112**	LR	LR	23 24 59.0	
	comp=Z,72nm,18.4s,baz=276,slow=33						
BDFB	**Brasilia**	**43.58**	**185**	LR	LR	23 26 17.8	
	comp=Z,112nm,18.5s,baz=170,slow=34						
TORD	**Torodi Ar. Bea**	**45.33**	**99**	P	P	23 09 51.5	-0.8
	1.8nm,1.0s,baz=309,slow=6.6,SNR=5.4						
H10N2	**ASCENSION HYDR**	**45.90**	**137**	T	T	23 58 05.6	
	baz=322,slow=75,SNR=97						
H10N3	**ASCENSION HYDR**	**45.90**	**137**	T	T	23 58 05.7	
	baz=322,slow=75,SNR=140						
H10N1	**ASCENSION HYDR**	**45.92**	**137**	T	T	23 58 07.0	
	baz=322,slow=75,SNR=99						
TXAR	**Lajitas Array**	**51.53**	**286**	P	P	23 10 39.7	-0.5
	0.4nm,0.9s,baz=96,slow=8.3,SNR=2.9						
TXAR				LR	LR	23 31 01.8	
	comp=Z,16nm,21.6s,baz=329,slow=34						
ANMO	**Albuquerque**	**52.65**	**294**	LR	LR	23 32 29.0	
	comp=Z,56nm,18.3s,baz=337,slow=35						
PDAR	**Pinedale Array**	**53.87**	**304**	P	P	23 10 57.6	+0.2
	0.6nm,0.7s,baz=88,slow=6.8,SNR=4.9						
FINES	**FINESS Array B**	**56.47**	**33**	P	P	23 11 13.6	-2.0
	2.1nm,1.0s,baz=272,slow=6.8,SNR=4.3						
ELK	**Elko**	**58.38**	**303**	LR	LR	23 36 32.5	
	comp=Z,74nm,18.1s,baz=340,slow=36						
NEW	**Newport**	**58.45**	**312**	LR	LR	23 35 58.3	
	comp=Z,118nm,18.4s,baz=299,slow=35						
AKASG	**Malin Array Be**	**58.68**	**46**	P	P	23 11 32.7	+1.3
	0.3nm,0.4s,baz=275,slow=6.4,SNR=1.9						
LPIG	**La Paz**	**58.71**	**282**	LR	LR	23 36 57.4	
	comp=Z,42nm,19.4s,baz=26,slow=36						
PFO	**Pinyon Flats O**	**61.01**	**295**	LR	LR	23 37 46.6	
	comp=Z,51nm,18.4s,baz=349,slow=36						
YBH	**Yreka Blue Hor**	**63.64**	**305**	LR	LR	23 39 45.0	
	comp=Z,61nm,18.2s,baz=353,slow=36						
BRTR	**Keskin Array B**	**63.94**	**57**	P	P	23 12 09.4	+2.0
	1.0nm,0.8s,baz=269,slow=6.0,SNR=6.3						
AKTO	**Aktyubinsk**	**76.21**	**40**	LR	LR	23 44 04.1	
	comp=Z,30nm,18.1s,baz=338,slow=34						
KMBO	**Kilima Mbogo**	**83.13**	**95**	LR	LR	23 50 24.3	
	comp=Z,34nm,19.5s,baz=76,slow=35						

*JMA **12** 23:28:21.2±0.6,45°.35N×150°.18E,h30km,M4.1*
SKHL 12 23:28:21.3±0.2,45°.20N×150°.30E,h55km±4km,mb4.3/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.72**	**272**	*e*P	Pn	23 28 47.7	-1.1
KUR				AMB	AMB	23 28 49.7	
	90nm,0.5s						
KUR				*e*S	Sn	23 29 07.4	-2.3
KUR				A	A	23 29 09.3	
	330nm,0.4s						
KUR				A	A	23 29 09.3	
	230nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**251**	*i* P	Pn	23 29 12.1	+0.6
YUK				AMB	AMB	23 29 15.3	
	40nm,0.3s						
YUK				*i* S	Sn	23 29 50.2	-0.1
YUK				A	A	23 30 01.8	
	120nm,0.5s						
YUK				A	A	23 30 01.8	
	170nm,0.5s						
GLVR	**Golovnino**	**3.72**	**249**	*e*P	Pn	23 29 16.9	+0.7
GLVR				AMB	AMB	23 29 18.2	
	30nm,0.3s						
GLVR				*e*S	Sn	23 29 58.4	-0.3
GLVR				A	A	23 30 03.9	
	70nm,0.4s						
GLVR				A	A	23 30 03.9	
	110nm,0.4s						
NEM2	**Nemuro 2**	**3.75**	**242**	P	Pn	23 29 15.9	-0.7
NEM2				*e*S	Sn	23 29 56.6	-2.9
NMR	**Nemuro--Hokkai**	**3.76**	**242**	*e*P	Pn	23 29 15.8	-0.9
NMR				*e*S	Sn	23 29 57.5	-2.1
JRA	**Rausu**	**3.91**	**253**	P	Pn	23 29 20.5	+1.7
JNK	**Nakash**	**4.31**	**250**	P	Pn	23 29 25.3	+1.0
JNK				*e*S	Sn	23 30 13.8	+0.5
AKK	**Akkeshi**	**4.50**	**243**	*e*P	Pn	23 29 26.6	-0.2
AKK				*e*S	Sn	23 30 15.6	-2.2
JAK	**Akkeshi**	**4.60**	**243**	P	Pn	23 29 27.6	-0.6
JAK				*e*S	Sn	23 30 17.6	-2.7
JAR	**Ashorobuto**	**5.06**	**250**	P	Pn	23 29 36.2	+1.6
JAR				*e*S	Sn	23 30 32.2	+0.5
JMP	**Maruseppu**	**5.10**	**259**	P	Pn	23 29 37.1	+2.0
JOB	**Onbets**	**5.19**	**246**	P	Pn	23 29 36.9	+0.5
JKK2	**Kamakawa 2**	**5.56**	**259**	P	Pn	23 29 44.1	+2.7
JCH	**Churui**	**5.64**	**245**	P	Pn	23 29 42.4	-0.1
JNBK	**Urakawa-nobuka**	**6.20**	**245**	P	Pn	23 29 49.3	-0.8
JBT2	**Biratori 2**	**6.22**	**250**	P	Pn	23 29 51.1	+0.7
JNB	**Noboribetsu**	**7.23**	**251**	P	Pn	23 30 05.2	+0.9
JKB	**Kayabe**	**7.50**	**247**	P	Pn	23 30 07.8	-0.2
JKB				*e*S	Sn	23 31 26.9	-4.7
JANG	**Nango**	**8.06**	**236**	*e*S	Sn	23 31 36.4	-8.9

*ISK **12** 23:32:14.9,34°.94N×33°.23E,h62km±1km,ML3.3/20*
*DDA **12** 23:32:17.0±0.0,35°.17N×33°.18E,h30km±1km,ML2.9*
*NIC **12** 23:32:17.6±0.0,35°.12N×33°.25E,h43km±1km,MI3.3/8*
ISC 12 23:32:17.9±1.2,35°.04N±0°.03×33°.27E±0°.03,h48km±5km, n69,σ1°.21/98,3C-4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.09**	**147**	PG	**Pn**	**23 32 24.4**	**-1.0**
CSS	**Mathiatis**	**0.09**	**147**	⇑*i*P	**Pn**	**23 32 25.0**	**-0.4**
CSS				S	**Sn**	**23 32 31.0**	**+0.2**
ATHAL	**Athalassa**	**0.15**	**43**	P	**Pn**	**23 32 25.3**	**-0.3**
ATHAL				S	**Sn**	**23 32 30.7**	**-0.5**
ATHAL				AML	AML	23 32 32.1	
	15nm,0.5s						
ATHAL				AML	AML	23 32 32.1	
	15nm,0.5s						
ATHAL				AML	AML	23 32 34.4	
	8.7nm,0.4s						
ATHAL				AML	AML	23 32 34.4	
	8.7nm,0.4s						
AKIN	**Akıncılar- Kıb**	**0.16**	**97**	PG	**Pn**	**23 32 24.9**	**-0.8**
ASGA	**Asgata**	**0.25**	**185**	⇑*i*P	**Pn**	**23 32 25.8**	**-0.6**
ASGA				AML	AML	23 32 32.5	
	14nm,0.6s						
ASGA				AML	AML	23 32 32.5	
	14nm,0.6s						
ASGA				AML	AML	23 32 32.6	
	12nm,0.5s						
ASGA				AML	AML	23 32 32.6	
	12nm,0.5s						
ASGA				S	**Sn**	**23 32 33.1**	**+0.7**
MVOU	**Mavrovouni**	**0.29**	**94**	⇑*i*P	**Pn**	**23 32 26.3**	**-0.4**
MVOU				AML	AML	23 32 33.2	
	5.8nm,0.3s						
MVOU				AML	AML	23 32 33.2	
	5.8nm,0.3s						
MVOU				AML	AML	23 32 33.2	
	6.3nm,0.4s						
MVOU				AML	AML	23 32 33.2	
	6.3nm,0.4s						
MVOU				S	**Sn**	**23 32 33.3**	**+0.3**
LFK	**Lefkose**	**0.32**	**41**	PG	**Pn**	**23 32 26.8**	**-0.3**
LFK				SG	**Sn**	**23 32 35.6**	**+1.9**
AKDN	**Akdeniz- Kıbrı**	**0.36**	**316**	PG	**Pn**	**23 32 27.1**	**-0.3**
AKDN				SG	**Sn**	**23 32 35.4**	**+1.2**
SZAC	**Souni**	**0.43**	**229**	⇓*e*P	**Pn**	**23 32 27.9**	**-0.3**
SZAC				S	**Sn**	**23 32 36.2**	**+0.8**
SZAC				AML	AML	23 32 36.6	
	16nm,0.3s						
SZAC				AML	AML	23 32 36.6	
	16nm,0.3s						
SZAC				AML	AML	23 32 37.2	
	14nm,0.4s						
SZAC				AML	AML	23 32 37.2	
	14nm,0.4s						
ALFC	**Alefka**	**0.57**	**283**	⇓*e*P	**Pn**	**23 32 28.8**	**-1.1**
ALFC				S	**Sn**	**23 32 37.4**	**-1.1**
ALFC				AML	AML	23 32 38.5	
	6.5nm,0.5s						
ALFC				AML	AML	23 32 38.5	
	6.5nm,0.5s						
ALFC				AML	AML	23 32 39.3	
	7.4nm,0.3s						
ALFC				AML	AML	23 32 39.3	
	7.4nm,0.3s						
PARAL	**Paralimni**	**0.63**	**93**	P	**Pn**	**23 32 30.7**	**0.0**
PARAL				AML	AML	23 32 43.5	
	3.7nm,1.0s						
PARAL				AML	AML	23 32 44.5	
	5.0nm,0.6s						
NATA	**Nata**	**0.63**	**246**	⇓*e*P	**Pn**	**23 32 30.5**	**-0.2**
NATA				S	**Sn**	**23 32 41.0**	**+1.1**
NATA				AML	AML	23 32 41.7	
	10nm,0.5s						
NATA				AML	AML	23 32 41.7	
	10nm,0.5s						
NATA				AML	AML	23 32 42.2	
	7.4nm,0.3s						
NATA				AML	AML	23 32 42.2	
	7.4nm,0.3s						
AKMS	**Akamas**	**0.77**	**269**	⇓*i*P	**Pn**	**23 32 32.1**	**-0.4**
AKMS				AML	AML	23 32 45.8	
	2.6nm,0.5s						
AKMS				AML	AML	23 32 47.1	
	2.7nm,0.3s						
EREN	**Erenkoy**	**0.88**	**56**	PG	**Pn**	**23 32 33.5**	**-0.5**
EREN	**Erenkoy**	**0.88**	**56**	P	**Pn**	**23 32 34.3**	**+0.3**
EREN				S	**Sn**	**23 32 47.1**	**+1.3**
EREN				*i* AML	AML	23 32 51.0	
	comp=N,311nm,0.8s						
EREN				*i* AML	AML	23 32 56.0	
	comp=Z,296nm,0.5s						
BOZY	**Bozyazi-Mersin**	**1.10**	**347**	PN	**Pn**	**23 32 36.4**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.11**	**353**	PN	**Pn**	**23 32 36.3**	**-0.8**
AKK2	**Akkuyu-Mersin**	**1.12**	**11**	PN	**Pn**	**23 32 36.4**	**-0.8**
AKK1	**Akkuyu-Mersin**	**1.13**	**11**	PN	**Pn**	**23 32 36.8**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.14**	**11**	PN	**Pn**	**23 32 36.8**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.17**	**11**	P	**Pn**	**23 32 36.8**	**-1.1**
GULN				S	**Sn**	**23 32 51.4**	**-1.2**
TISA	**Tisan-Mersin**	**1.17**	**16**	PN	**Pn**	**23 32 37.8**	**-0.1**
OREN	**Orenkoy-Mersin**	**1.18**	**7**	PN	**Pn**	**23 32 36.9**	**-1.1**
TEPK	**Tepekoy-MERSIN**	**1.21**	**10**	PN	**Pn**	**23 32 37.8**	**-0.6**
KARG	**Kargicak-Mersi**	**1.22**	**17**	PN	**Pn**	**23 32 38.2**	**-0.4**
IKL	**Isikli**	**1.25**	**15**	PN	**Pn**	**23 32 38.5**	**-0.4**
BERE	**Bereket-Mersin**	**1.31**	**358**	PN	**Pn**	**23 32 39.4**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.41**	**6**	PN	**Pn**	**23 32 40.9**	**-0.3**
GAZI	**Gazipasa**	**1.43**	**327**	PN	**Pn**	**23 32 40.6**	**-0.8**
GAZI	**Gazipasa**	**1.43**	**327**	P	**Pn**	**23 32 40.7**	**-0.8**
GAZI				S	**Sn**	**23 32 56.7**	**-2.4**
GAZI				*i* AML	AML	23 32 58.0	
	comp=N,230nm,0.5s						
GAZI				*i* AML	AML	23 32 59.0	
	comp=E,333nm,0.7s						
SLFK	**Silifke-Mersin**	**1.46**	**22**	PN	**Pn**	**23 32 41.8**	**0.0**
ERMK	**Ermenek**	**1.63**	**350**	P	**Pn**	**23 32 44.5**	**+0.1**
ERMK				S	**Sn**	**23 33 04.9**	**+0.6**
HDMB	**Hadim**	**2.03**	**342**	PN	**Pn**	**23 32 49.3**	**-0.5**
MERS	**Mersin**	**2.09**	**29**	PN	**Pn**	**23 32 50.5**	**0.0**
OSC2	**CSNet OBS 4**	**2.13**	**203**	P	**Pn**	**23 32 52.1**	**+1.2**
OSC2				S	**Sn**	**23 33 18.9**	**+2.8**
KRMN	**Karaman**	**2.13**	**360**	PN	**Pn**	**23 32 51.0**	**-0.2**
KKBE	**Karaman, Kazim**	**2.20**	**353**	P	**Pn**	**23 32 53.0**	**+1.0**
KKBE				S	**Sn**	**23 33 19.1**	**+1.1**
KKBE				*i* AML	AML	23 33 21.0	
	comp=E,79nm,0.7s						
OSC1	**CSNet OBS 1**	**2.25**	**228**	S	**Sn**	**23 33 20.1**	**+0.8**
BHL	**Bhannes**	**2.27**	**119**	*e*P	**Pn**	**23 32 51.0**	**-2.0**
DED	**Mersin**	**2.29**	**32**	P	**Pn**	**23 32 53.8**	**+0.6**
DED				S	**Sn**	**23 33 20.0**	**-0.1**
KEPZ	**Antalya-Kepez**	**2.30**	**324**	P	**Pn**	**23 32 53.5**	**+0.1**
KEPZ				S	**Sn**	**23 33 19.1**	**-1.4**
DQRL	**Deir Qamar**	**2.32**	**124**	*e*P	**Pn**	**23 32 51.4**	**-2.2**
HWQ	**Hawqa**	**2.33**	**108**	*e*P	**Pn**	**23 32 53.0**	**-0.9**
ASUZ	**Hatay-Arsuz**	**2.40**	**58**	P	**Pn**	**23 32 56.7**	**+2.1**
ASUZ				S	**Sn**	**23 33 24.1**	**+1.2**
KERG	**Konya-Eregli**	**2.47**	**16**	P	**Pn**	**23 32 57.0**	**+1.1**
KERG				S	**Sn**	**23 33 25.8**	**+0.9**
KERG				*i* AML	AML	23 33 29.0	
	comp=Z,52nm,0.3s						
KERG				*i* AML	AML	23 33 29.0	
	comp=N,86nm,0.4s						
KERG				*i* AML	AML	23 33 32.0	
	comp=E,61nm,0.4s						
QRWL	**Qaraoun**	**2.48**	**126**	*e*P	**Pn**	**23 32 54.8**	**-1.1**
YAYL	**Yayladag**	**2.52**	**66**	PN	**Pn**	**23 32 56.3**	**-0.1**
YAYL	**Yayladag**	**2.52**	**66**	P	**Pn**	**23 32 58.1**	**+1.6**
YAYL				S	**Sn**	**23 33 25.8**	**-0.2**
YAYL				*i* AML	AML	23 33 32.0	
	comp=N,58nm,0.8s						
YURE	**YUREGIR**	**2.62**	**46**	P	**Pn**	**23 32 57.7**	**0.0**
YURE				S	**Sn**	**23 33 26.0**	**-2.3**
SHBL	**Chebaa**	**2.65**	**129**	*e*P	**Pn**	**23 32 57.0**	**-1.3**
SEDI	**Konya, Seydise**	**2.71**	**333**	P	**Pn**	**23 33 00.8**	**+1.7**
SEDI				S	**Sn**	**23 33 32.3**	**+1.7**
KMER	**Konya-Meram**	**2.82**	**345**	P	**Pn**	**23 33 01.5**	**+0.9**
KMER				S	**Sn**	**23 33 34.2**	**+0.7**
AKO	**Adana**	**2.99**	**35**	P	**Pn**	**23 33 03.3**	**+0.5**
AKO				S	**Sn**	**23 33 36.9**	**-0.5**
KONT	**Konya--Tatoy**	**3.00**	**346**	P	**Pn**	**23 33 04.0**	**+1.1**
KONT				S	**Sn**	**23 33 39.5**	**+1.8**
NIDE	**Nigde/Merkez-G**	**3.20**	**22**	P	**Pn**	**23 33 07.9**	**+2.1**
NIDE				*i* AML	AML	23 33 48.0	
	comp=E,41nm,0.2s						
ALIN	**Konya, Altinte**	**3.27**	**355**	P	**Pn**	**23 33 07.2**	**+0.4**
DOGA	**KONYA_Doganhis**	**3.33**	**338**	P	**Pn**	**23 33 08.0**	**+0.4**
DOGA				S	**Sn**	**23 33 46.3**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**3.49**	**28**	P	**Pn**	**23 33 11.1**	**+1.4**
YAHY				S	**Sn**	**23 33 50.7**	**+0.9**
KAMA	**Osmaniye**	**3.49**	**51**	P	**Pn**	**23 33 09.1**	**-0.6**
KAMA				S	**Sn**	**23 33 46.6**	**-3.2**
KUZU	**Kuzuini**	**3.54**	**60**	P	**Pn**	**23 33 09.9**	**-0.5**
KUZU				*i* AML	AML	23 34 04.0	
	comp=E,31nm,0.5s						
BAGO	**Egridir - ISPA**	**3.56**	**327**	P	**Pn**	**23 33 12.2**	**+1.5**
KDHN	**Kadinhani**	**3.60**	**345**	P	**Pn**	**23 33 11.7**	**+0.4**
YVAC	**Isparta, Yalva**	**3.62**	**334**	P	**Pn**	**23 33 12.6**	**+1.0**
GOLH	**Golhisar**	**3.72**	**307**	P	**Pn**	**23 33 14.5**	**+1.6**
GOLH				*i* AML	AML	23 34 19.0	
	comp=E,26nm,1.9s						
GOLH				*i* AML	AML	23 34 35.0	
	comp=Z,20nm,2.0s						
FETY	**Fethiye**	**3.76**	**296**	P	**Pn**	**23 33 12.7**	**-0.7**
CAEL	**Denizli, Camel**	**3.82**	**304**	P	**Pn**	**23 33 14.1**	**-0.2**
CAEL				*i* AML	AML	23 34 13.0	
	comp=E,46nm,1.7s						
CAEL				*i* AML	AML	23 34 30.0	
	comp=Z,24nm,1.5s						
CAEL				*i* AML	AML	23 35 13.0	
	comp=N,47nm,2.1s						
KKUL	**Konya-Kulu**	**4.14**	**356**	P	**Pn**	**23 33 19.4**	**+0.8**
TAVA	**DENIZLI_Tavas**	**4.28**	**306**	P	**Pn**	**23 33 20.3**	**-0.3**
TAVA				S	**Sn**	**23 34 04.1**	**-5.1**
TAVA				*i* AML	AML	23 34 25.0	
	comp=E,14nm,0.7s						
USAK	**Uak-Merkez**	**5.01**	**318**	P	**Pn**	**23 33 30.3**	**-0.3**
USAK				*i* AML	AML	23 34 24.0	
	comp=N,12nm,1.2s						

*THE **12** 23:35:25.9,36°.79N×21°.45E,h0km±3km,ML2.9/6,Error ellipse: s-maj=4.8km s-min=1.1km az=201.0*
*ATH **12** 23:35:27.0,36°.86N×21°.47E,h10km±31km,ML2.8/5,Error ellipse: s-maj=31.6km s-min=1.5km az=0.0*
*IDC **12** 23:35:27.8±1.5,37.21N×21°.96E,h0km,mb3.5/5, mb1 3.5/5,mb1mx3.3/29,mbtmp3.5/5,Error ellipse: s-maj=57.4km s-min=27.2km az=125.0*
ISC 12 23:35:26.1±1.6,36°.81N±0°.07×21°.46E±0°.05,h13km±8km, n30,σ0°.83/38,mb3.5/5,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.25**	**69**	P	**Pg**	**23 35 31.2**	**-0.1**
PYL				S	**Sg**	**23 35 34.7**	**-0.1**
PYL				AML	AML	23 35 35.0	
	comp=E,10749μm,0.5s						
PYL				AML	AML	23 35 35.2	
	comp=N,6049μm,0.5s						
PYL	**PYLOS**	**0.25**	**69**	P	**Pg**	**23 35 31.2**	**-0.1**
PYL				S	**Sg**	**23 35 34.6**	**-0.3**
	comp=N,5μm,0.6s						
ITM	**Ithomi**	**0.53**	**45**	P	**Pg**	**23 35 35.7**	**-0.9**
ITM				S	**Sg**	**23 35 43.2**	**-0.4**
ITM				AML	AML	23 35 44.2	
	comp=N,3882μm,0.5s						
ITM				AML	AML	23 35 44.6	
	comp=E,3156μm,0.4s						
ITM	**Ithomi**	**0.53**	**45**	P	**Pg**	**23 35 35.7**	**-0.9**
ITM				S	**Sg**	**23 35 43.8**	**+0.2**
	comp=E,2μm,0.4s						
LTHK	**Lithakia**	**1.03**	**332**	P	**Pg**	**23 35 45.3**	**-0.6**
LTHK	**Lithakia**	**1.03**	**332**	P	**Pg**	**23 35 45.4**	**-0.5**
LTHK				S	**Sn**	**23 36 01.5**	**+1.0**
DRO	**Drossia**	**1.16**	**10**	P	**Pn**	**23 35 47.5**	**-0.7**
DRO				AML	AML	23 36 11.9	
	comp=N,1750μm,0.6s						
DRO				AML	AML	23 36 15.4	
	comp=E,2199μm,0.7s						
DRO	**Drossia**	**1.16**	**10**	P	**Pn**	**23 35 47.6**	**-0.5**
DRO				S	**Sg**	**23 36 05.5**	**+1.9**
	comp=E,992nm,0.6s						
VLI	**Veliai**	**1.19**	**94**	P	**Pg**	**23 35 49.1**	**0.0**
VLI	**Veliai**	**1.19**	**94**	P	**Pg**	**23 35 49.5**	**+0.4**
RLS	**Riolos of Patr**	**1.25**	**0**	P	**Pn**	**23 35 49.2**	**-0.2**
RLS				AML	AML	23 36 13.3	
	comp=E,438μm,0.3s						
RLS				AML	AML	23 36 19.9	
	comp=N,751μm,0.5s						
RLS	**Riolos of Patr**	**1.25**	**0**	P	**Pn**	**23 35 49.1**	**-0.2**
RLS				S	**Sg**	**23 36 08.2**	**+1.8**
	comp=N,298nm,0.4s						
KLV	**Kalavryta, Ach**	**1.35**	**24**	P	**Pn**	**23 35 50.6**	**-0.2**
KLV				AML	AML	23 36 15.5	
	comp=E,472μm,0.6s						
KLV				AML	AML

KELA						Sn	23 54 22.2	-0.3	
ANPB	Aniakchak Plen	1.38	224			Pn	23 54 10.3	-0.2	
P18K	Big Mountain,	1.73	23			Pn	23 54 14.8	+0.6	
P18K						Sn	23 54 38.8	+0.1	
P18K	Big Mountain,	1.73	23	P		Pn	23 54 14.8	+0.6	
	baz=203								
P18K				S		Sn	23 54 38.8	+0.1	
	baz=203								
SII	Sitkinak Islan	1.79	133			Pn	23 54 15.1	+0.1	
SII						Sn	23 54 39.4	-0.4	
SII	Sitkinak Islan	1.79	133	P		Pn	23 54 15.1	+0.1	
	baz=315								
SII				S		Sn	23 54 39.4	-0.4	
	baz=315								
CHGN	Chignik	1.82	215			Pn	23 54 14.9	-0.3	
CHGN	Chignik	1.82	215	IAML			23 54 40.1		
	comp=E,359nm,0.4s								
CHGN				IAML			23 54 41.0		
	comp=N,243nm,0.4s								
CHGN	Chignik	1.82	215	P		Pn	23 54 14.9	-0.3	
	baz=34								
OHAK	Old Harbor	1.85	107			Pn	23 54 15.7	+0.1	
OHAK						Sn	23 54 40.5	-0.4	
OHAK	Old Harbor	1.85	107	IAML			23 54 40.9		
	comp=N,390nm,0.3s								
OHAK				IAML			23 54 41.4		
	comp=E,264nm,0.2s								
OHAK	Old Harbor	1.85	107	P		Pn	23 54 15.7	+0.1	
	baz=289								
OHAK				S		Sn	23 54 40.6	-0.4	
	baz=289								
CHIR	Chirikof Islan	2.05	165			Pn	23 54 17.3	-0.6	
CHIR						Sn	23 54 43.4	-1.8	
CHIR	Chirikof Islan	2.05	165	IAML			23 54 44.2		
	comp=E,226nm,1.0s								
CHIR				IAML			23 54 44.8		
	comp=N,265nm,0.4s								
CHIR	Chirikof Islan	2.05	165	P		Pn	23 54 17.3	-0.6	
	baz=346								
CHIR				S		Sn	23 54 43.4	-1.8	
	baz=346								
KDAK	Kodiak Island	2.12	89	P		Pn	23 54 19.2	+0.5	
	comp=N,26nm,0.3s,baz=265,slow=3.4,SNR=3.9								
KDAK				S		Sn	23 54 46.2	-0.4	
	comp=N,28nm,0.3s,baz=67,slow=24,SNR=3.5								
KDAK	Kodiak Island	2.12	89	IAML			23 54 47.9		
	comp=N,454nm,0.5s								
KDAK	Kodiak Island	2.12	89	S		Sn	23 54 46.2	-0.4	
	baz=272								
VNHG	Veniaminof 1	2.14	223			Pn	23 54 19.3	+0.3	
VNFG	Fog Glacier, M	2.24	228			Pn	23 54 20.5	+0.2	
VNFG	Fog Glacier, M	2.24	228	P		Pn	23 54 20.5	+0.2	
	baz=46								
AUL	Augustine Lava	2.27	45			Pn	23 54 21.6	+1.1	
P19K	Oil Pt	2.53	42			Pn	23 54 24.4	+0.7	
P19K	Oil Pt	2.53	42	IAML			23 54 57.9		
	comp=N,165nm,0.6s								
P19K				IAML			23 54 58.0		
	comp=E,190nm,0.6s								
P19K	Oil Pt	2.53	42	P		Pn	23 54 24.4	+0.7	
	baz=224								
O19K	Port Alsworth	2.66	25			Pn	23 54 25.9	+0.7	
O19K	Port Alsworth	2.66	25	IAML			23 55 22.3		
	comp=E,110nm,0.5s								
O19K	Port Alsworth	2.66	25	P		Pn	23 54 25.9	+0.7	
	baz=206								
IVE	Iliamna Volcan	2.88	38			Pn	23 54 28.7	+0.7	
O20K	Slope Mountain	3.06	40			Pn	23 54 31.3	+1.0	
O20K	Slope Mountain	3.06	40	P		Pn	23 54 31.3	+1.0	
	baz=223								
HOM	Homer	3.16	52			Sn	23 55 09.4	-0.2	
HOM	Homer	3.16	52	S		Sn	23 55 09.4	-0.2	
	baz=236								
N19K	Bonanza Creek	3.20	18			Pn	23 54 33.0	+0.9	
N19K	Bonanza Creek	3.20	18	P		Pn	23 54 33.0	+0.9	
	baz=200								
RED	Redoubt Volcan	3.27	35			Pn	23 54 33.6	+0.6	
CNPM	China Poot	3.27	56			Pn	23 54 33.7	+0.8	
CNPM	China Poot	3.27	56	IAML			23 55 12.2		
	comp=N,103nm,0.4s								
CNPM				IAML			23 55 13.6		
	comp=E,85nm,0.4s								
SDPT	Sand Point	3.29	223			Pn	23 54 32.5	-0.7	
SDPT	Sand Point	3.29	223	IAML			23 55 04.9		
	comp=N,105nm,3.2s								
SDPT				IAML			23 55 45.8		
	comp=E,130nm,3.5s								
SDPT	Sand Point	3.29	223	P		Pn	23 54 32.5	-0.7	
	baz=40								
RSO	Redoubt South	3.30	35	Pn		Pn	23 54 34.1	+0.5	
NCT	North Crescent	3.33	32			Pn	23 54 34.6	+0.7	
SVW2	Sparrevohn	3.34	8			Pn	23 54 34.4	+0.5	
DFR	Drift River	3.43	34			Pn	23 54 35.8	+0.7	
RDT	Redoubt	3.50	36			Pn	23 54 37.1	+1.1	
BRLK	Bradley Lake	3.54	54			Pn	23 54 36.6	+0.1	
BRLK	Bradley Lake	3.54	54	IAML			23 55 17.3		
	comp=E,96nm,0.3s								
BRSE	Bradley Lake S	3.59	55			Pn	23 54 37.5	+0.3	
BRSE	Bradley Lake S	3.59	55	P		Pn	23 54 37.4	+0.3	
	baz=239								
CAPN	Captain Cook N	4.06	41	Pn		Pn	23 54 45.1	+2.0	
SPCR	Spurr Chakacha	4.06	31			Pn	23 54 44.6	+1.3	
SPCR	Spurr Chakacha	4.06	31	P		Pn	23 54 44.6	+1.3	
	baz=214								
SPBG	Spurr Blockage	4.07	30			Pn	23 54 44.7	+1.3	
SPU	Mount Spurr	4.09	32			Pn	23 54 44.6	+1.0	
SLKM	Skilak Lake	4.24	48			Pn	23 54 46.3	+0.7	
M19K	Big River Lodg	4.25	14			Pn	23 54 46.8	+1.1	
M19K	Big River Lodg	4.25	14	P		Pn	23 54 46.8	+1.1	
	baz=196								
SEW	Seward	4.34	55			Pn	23 54 47.8	+1.0	
SEW	Seward	4.34	55	P		Pn	23 54 47.8	+1.0	
	baz=241								
STLK	Strandline Lak	4.41	31			Pn	23 54 48.7	+0.8	
O22K	Cooper Landing	4.42	50			Pn	23 54 48.6	+0.7	
O22K	Cooper Landing	4.42	50	P		Pn	23 54 48.6	+0.7	
	baz=235								
L19K	White Mountain	4.47	10			Pn	23 54 49.5	+0.8	
L19K	White Mountain	4.47	10	IAML			23 56 32.2		
	comp=N,22nm,4.5s								
L19K				IAML			23 56 59.6		
	comp=E,27nm,3.8s								
L19K	White Mountain	4.47	10	P		Pn	23 54 49.5	+0.8	
	baz=192								
RC01	Rabbit Creek A	4.79	44			Pn	23 54 52.8	0.0	
RC01	Rabbit Creek A	4.79	44	P		Pn	23 54 52.8	0.0	
	baz=229								
FALS	False Pass	4.83	235	Pn		Pn	23 54 53.4	0.0	
L20K	Farewell, AK	4.87	15			Pn	23 54 55.2	+1.2	
L20K	Farewell, AK	4.87	15	P		Pn	23 54 55.2	+1.2	
	baz=197								
ISLZ	Isanotski Laza	5.05	235			Pn	23 54 56.3	0.0	
TT01	Tatalina	5.13	3			Pn	23 54 58.0	+0.7	
TTA	Tatalina	5.15	3			Pn	23 54 58.2	+0.6	
TTA	Tatalina	5.15	3	IAML			23 57 14.3		
	comp=E,21nm,5.0s								
TTA				IAML			23 58 22.9		
	comp=N,19nm,3.4s								
TTA	Tatalina	5.15	3	P		Pn	23 54 58.2	+0.6	
	baz=183								
PWL	Port Wells	5.20	50			Pn	23 54 57.7	-0.6	
PWL	Port Wells	5.20	50	P		Pn	23 54 57.7	-0.6	
	baz=237								
PMR	Palmer	5.34	42	Pn		Pn	23 54 59.5	-0.5	
PMR				IAML			23 55 58.3		
	comp=E,33nm,0.2s								
PMR				IAML			23 56 00.1		
	comp=N,34nm,0.3s								
KNK	Knik Glacier	5.47	45			Pn	23 55 00.8	-1.1	
KNK	Knik Glacier	5.47	45	P		Pn	23 55 00.8	-1.1	
	baz=232								
GHO	Glory Hole Cre	5.53	41			Pn	23 55 01.6	-1.2	
PPLA	Purkeypile	5.55	21			Pn	23 55 04.8	+1.8	
PPLA	Purkeypile	5.55	21	P		Pn	23 55 04.8	+1.8	
	baz=205								
K20K	Telida	5.70	11			Pn	23 55 05.9	+1.0	
K20K	Telida	5.70	11	P		Pn	23 55 05.9	+1.0	
	baz=193								
SML	Sawmill	5.77	42			Pn	23 55 04.5	-1.3	
SML	Sawmill	5.77	42	P		Pn	23 55 04.5	-1.3	
	baz=229								
FID	Port Fidalgo	5.94	56			Pn	23 55 07.3	-0.8	
CAST	Castle Rocks	6.04	19			Pn	23 55 10.6	+1.1	
CAST	Castle Rocks	6.04	19	P		Pn	23 55 10.6	+1.1	
	baz=203								

SCM	Sheep Creek Mo	6.16	45			Pn	23 55 10.3	-0.8	
SCM	Sheep Creek Mo	6.16	45	P		Pn	23 55 10.3	-0.8	
	baz=233								
EYAK	Cordova Ski Ar	6.19	59			Pn	23 55 11.3	-0.1	
EYAK	Cordova Ski Ar	6.19	59	P		Pn	23 55 11.3	-0.1	
	baz=248								
KTH	Kantishna Hill	6.39	23			Pn	23 55 14.2	+0.1	
DIV	Divide	6.42	54			Pn	23 55 14.8	+0.2	
CHUM	Lake Minchumin	6.44	17			Pn	23 55 16.0	+1.3	
CHUM	Lake Minchumin	6.44	17	P		Pn	23 55 16.0	+1.3	
	baz=200								
TRF	Thorofare Moun	6.44	26			Pn	23 55 15.0	0.0	
TRF	Thorofare Moun	6.44	26	P		Pn	23 55 15.0	0.0	
	baz=211								
WAT6	Susitna Watana	6.49	39			Pn	23 55 14.2	-1.4	
WAT6	Susitna Watana	6.49	39	P		Pn	23 55 14.2	-1.4	
	baz=226								
J20K	Nowinta River	6.50	9			Pn	23 55 15.9	+0.4	
J20K	Nowinta River	6.50	9	P		Pn	23 55 15.9	+0.4	
	baz=191								
KLU	Klutina	6.53	51			Pn	23 55 15.6	-0.4	
KLU	Klutina	6.53	51	P		Pn	23 55 15.6	-0.4	
	baz=240								
KAIM	Kayak Island	6.64	66			Pn	23 55 18.2	+0.7	
KAIM	Kayak Island	6.64	66	P		Pn	23 55 18.2	+0.7	
	baz=256								
RAGM	Ragged Mountai	6.64	62	Pn		Pn	23 55 17.9	+0.4	
GOAT	Goat Mountain	6.68	60			Pn	23 55 18.3	+0.3	
M24K	Tolsona, Glenn	6.76	46			Pn	23 55 18.7	-0.4	
M24K	Tolsona, Glenn	6.76	46	P		Pn	23 55 18.7	-0.4	
	baz=235								
RND	Reindeer	6.77	31			Pn	23 55 18.5	-0.8	
HMT	Hamilton	6.82	63	Pn		Pn	23 55 20.3	+0.4	
BPAW	Bear Paw Mtn.	6.87	21			Pn	23 55 19.6	-0.8	
BPAW	Bear Paw Mtn.	6.87	21	P		Pn	23 55 20.2	-0.3	
	baz=206								
UNV	Unalaska Valle	6.87	239			Pn	23 55 19.9	-0.6	
UNV	Unalaska Valle	6.87	239	P		Pn	23 55 19.9	-0.6	
	baz=51								
BMRM	Bremner River	6.87	58			Pn	23 55 20.8	+0.2	
BMRM	Bremner River	6.87	58	P		Pn	23 55 20.8	+0.2	
	baz=248								
NICHA	Nichawak Mount	6.94	64			Pn	23 55 21.6	+0.2	
DHY	Denali Highway	6.96	37			Pn	23 55 20.6	-1.3	
DHY	Denali Highway	6.96	37	P		Pn	23 55 20.6	-1.3	
	baz=224								
SUCK	Suckling Hills	6.99	66	Pn		Pn	23 55 23.0	+0.9	
MCK	McKinley	7.01	29			Pn	23 55 21.6	-0.8	
MCK	McKinley	7.01	29	P		Pn	23 55 21.6	-0.8	
	baz=215								
BERG	Berg Lake	7.10	63			Pn	23 55 23.3	-0.3	
N25K	Chitina, Valde	7.14	53			Pn	23 55 24.3	+0.1	
N25K	Chitina, Valde	7.14	53	P		Pn	23 55 24.3	+0.1	
	baz=243								
GRIN	Grindle Hills	7.26	64			Pn	23 55 26.6	+0.8	
KHIT	Khitrov Hills	7.33	63			Pn	23 55 27.6	+0.8	
GLB	Gilahina Butte	7.41	55			Pn	23 55 28.2	+0.4	
SNH	Sheep Creek Hill	7.47	66	Pn		Pn	23 55 29.1	+0.6	
VRDI	Verde Repeater	7.49	57			Pn	23 55 29.2	+0.2	
WAX	Waxell Ridge	7.53	64			Pn	23 55 29.6	+0.3	
PAX	Paxson	7.54	42			Pn	23 55 28.8	-0.7	
PAX	Paxson	7.54	42	P		Pn	23 55 28.8	-0.7	
	baz=231								
NEA2	Nenana	7.70	25			Pn	23 55 30.2	-1.4	
NEA2	Nenana	7.70	25	P		Pn	23 55 30.2	-1.4	
	baz=211								
I21K	Tanana	7.71	14			Pn	23 55 32.2	+0.5	
MCARA	McCarthy VSAT	7.74	57	Pn		Pn	23 55 33.0	+0.9	
MLY	Manley	7.76	19			Pn	23 55 31.6	-0.9	
MLY	Manley	7.76	19	P		Pn	23 55 32.5	+0.1	
	baz=204								
ISLE	Juniper Island	7.81	63			Pn	23 55 33.8	+0.6	
WRH	Wood River Hil	7.83	28			Pn	23 55 31.5	-1.8	
KIAG	Kiagna River	7.89	61			Pn	23 55 34.6	+0.3	
PTPK	Patty Peak	7.92	59			Pn	23 55 35.4	+0.6	
BALM	Baldy	7.93	60			Pn	23 55 35.4	+0.6	
CCB	Clear Creek Bu	8.05	28			Pn	23 55 34.4	-1.8	
H21K	Melozitna Rive	8.08	11			Pn	23 55 37.7	+1.1	
HDA	Harding Lake	8.08	31			Pn	23 55 35.4	-1.3	
HDA	Harding Lake	8.08	31	P		Pn	23 55 35.4	-1.3	
	baz=219								
I23K	Minto, Yukon-K	8.12	22			Pn	23 55 36.5	-0.7	
MDM	Murphy Dome	8.21	26			Pn	23 55 36.8	-1.5	
RIDG	Independent Ri	8.25	39			Pn	23 55 38.1	-0.8	
RIDG	Independent Ri	8.25	39	P		Pn	23 55 38.6	-0.4	
	baz=229								
IMAR	Indian Mountai	8.31	8	Pn		Pn	23 55 40.6	+0.9	
L26K	Log Cabin Wild	8.36	46			Pn	23 55 40.9	+0.5	
IL31		8.38	30			Pn	23 55 39.0	-1.6	
ILAR	Eielson Array	8.38	30	P		Pn	23 55 38.8	-1.9	
	comp=N,1.0nm,0.3s,baz=218,slow=13,SNR=52								
ILAR				S		Sn	23 57 08.8	-4.9	
	comp=N,0.9nm,0.3s,baz=219,slow=20,SNR=15								
ILAR	Eielson Array	8.38	30	Pn		Pn	23 55 39.3	-1.4	
POKR	Poker Plat Res	8.53	27	Pn		Pn	23 55 41.8	-0.8	
J25K	Salcha River,	8.69	34	Pn		Pn	23 55 43.1	-1.8	
SCRK	Sand Creek	8.69	39	Pn		Pn	23 55 43.4	-1.6	
L27K	Beaver Creek,	8.97	48			Pn	23 55 48.6	0.0	
L27K	Beaver Creek,	8.97	48	P		Pn	23 55 49.1	+0.5	
	baz=240								
BCAR	Beaver Creek A	8.99	48	Pn		Pn	23 55 48.9	+0.1	
H24K	Noodor Dome	9.03	23	Pn		Pn	23 55 48.1	-1.3	
PRP	Porcupine Dome	9.33	29	Pn		Pn	23 55 51.1	-2.3	
DAWY	Dawson	10.42	46	Pn		Pn	23 56 07.8	+0.1	
BMAR	Burnt Mountain	11.09	25	Pn		Pn	23 56 16.1	-0.5	
WHY	Whitehorse	11.44	66	Pn		Pn	23 56 22.9	+1.6	
DLBC	Dease Lake	14.00	76	S		Sn	23 59 32.2	+3.3	
	comp=N,0.1nm,0.3s,baz=171,slow=15,SNR=1.9								
YKA	Yellowknife Ar	21.10	60	P		P	23 58 13.2	-1.7	
	comp=N,0.3nm,0.5s,baz=274,slow=9.8,SNR=7.7								
ARCES	ARCESS Array B	52.95	359	P		P	00 02 42.8	-0.1	
	comp=N,4.4nm,1.0s,baz=8.0,slow=14,SNR=2.4								
SONM	Songino Array	54.56	305	P		P	00 02 55.3	+0.3	
	comp=N,0.6nm,0.5s,baz=49,slow=6.1,SNR=11								
MKAR	Makanchi Array	64.95	320	P		P	00 04 07.2	+1.3	
	comp=N,0.1nm,0.5s,baz=23,slow=7.8,SNR=2.5								

AEIC ***12*** *23:56:05.5±2.1,51.3N±0.1×174.01W±0.09,h13km±6km, ML3.4,mb3.9/49(NEIC),Error ellipse: s-maj=18.5km s-min=7.7km az=176.0*

NEIC ***12*** *23:56:07.6±1.9,51.5N±0.1×173.99W±0.09,h25km±8km, Error ellipse: s-maj=17.0km s-min=7.8km az=172.0*

IDC ***12*** *23:56:10.9±1.0,52.95N×174.65W,h0km,mb3.7/13, mb1 3.9/15,mb1mx3.7/36,mbtmp3.7/15,ML3.6/2, Error ellipse: s-maj=30.8km s-min=17.8km az=168.0*

ISC 12 23:56:03.9±1.0,51.3N±0.1×173.94W±0.06,h10km,n96,
σ1§09/89,mb3.9/20,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.97	351		Pb	23 56 22.6	-0.1
KOFP	Korovin Flat P	1.03	355		Pb	23 56 24.5	+0.7
KOWE	Korovin West	1.14	350		Pb	23 56 25.8	+0.2
GSMY	Great Sitkin M	1.54	302		Pn	23 56 31.4	+0.1
GSTR	Great Sitkin T	1.57	304		Pn	23 56 31.8	0.0
GSCK	Great Sitkin C	1.58	300		Pn	23 56 32.3	+0.4
GSTD	Great Sitkin T	1.59	301		Pn	23 56 31.7	-0.5
ADK	Adak	1.83	291		Pn	23 56 35.0	-0.3
ADK	Adak	1.83	291	Sn	Sn	23 56 58.0	-0.5
KIWB	Kanaga Island	2.09	288		Pn	23 56 39.9	+0.9
KIKV	Kanaga Island	2.11	289		Pn	23 56 40.0	+0.8
KIMD	Kanaga Island	2.12	285		Pn	23 56 40.3	+1.0
TAPA	Tanaga Point A	2.48	285		Pn	23 56 45.9	+1.5
TAFP	Tanaga Falls P	2.61	286		Pn	23 56 47.7	+1.6
TASE	Tanaga Southea	2.62	285		Pn	23 56 48.2	+1.9
NIKH	Nikolski High	3.58	59	Pn	Pn	23 57 00.0	+0.6
UNV	Unalaska Valle	5.23	57	Pn	Pn	23 57 23.6	+1.5
SDPT	Sand Point	9.05	58	Pn	Pn	23 58 15.6	+1.3
CHGN	Chignik	10.48	55	Pn	Pn	23 58 35.6	+1.6
KDAK	Kodiak Island	13.99	54	Pn	Pn	23 59 21.9	0.0
	0.2nm,0.3s,baz=307,slow=14,SNR=1.6						
ANM	Nome	14.09	15	Pn	Pn	23 59 24.9	+1.7
SVW2	Sparrevohn	14.15	39	Pn	Pn	23 59 27.3	+3.2
N19K	Bonanza Creek	14.44	41	Pn	Pn	23 59 29.9	+1.8
TNA	Tin City	14.69	10	Pn	Pn	23 59 32.5	+1.1
L19K	White Mountain	15.09	36		Pn	23 59 40.2	+3.4
L19K				IAmb	IAmb	23 59 45.3	
	comp=Z,7.9nm,1.2s						
M19K	Big River Lodg	15.09	37	Pn	Pn	23 59 37.9	+1.0
M19K				IAmb	IAmb	23 59 44.9	
	comp=Z,4.3nm,1.0s						

TTA	Tatalina	15.16	33	Pn		Pn	23 59 39.0	+1.1	
CNPM	China Poot	15.27	48	Pn		Pn	23 59 39.8	+0.6	
BRLK	Bradley Lake	15.53	48	Pn		Pn	23 59 43.0	+0.4	
SEW	Seward	16.32	48	Pn		Pn	23 59 53.3	+0.5	
RC01	Rabbit Creek A	16.59	44	Pn		Pn	23 59 56.4	+0.1	
RC01				IAmb		IAmb	23 59 56.9		
	comp=Z,8.7nm,1.1s								
CAST	Castle Rocks	16.85	35			P	00 00 02.7	+1.0	
CAST				IAmb		IAmb	00 00 10.0		
	comp=Z,9.2nm,1.4s								
GHO	Glory Hole Cre	17.24	43	Pn		Pn	00 00 04.5	0.0	
GHO				IAmb		IAmb	00 00 23.6		
	comp=Z,13nm,1.3s								
KNK	Knik Glacier	17.29	44			Pn	00 00 06.2	+1.1	
KNK				IAmb		IAmb	00 00 14.5		
	comp=Z,18nm,1.5s								
KTH	Kantishna Hill	17.35	36	Pn		Pn	00 00 06.5	+0.6	
KTH				IAmb		IAmb	00 00 25.8		
	comp=Z,9.9nm,1.3s								
SML	Sawmill	17.51	43	Pn		Pn	00 00 08.0	+0.1	
SML				IAmb		IAmb	00 00 32.9		
	comp=Z,10nm,1.1s								
BPAW	Bear Paw Mtn.	17.65	34			Pn	00 00 10.2	+0.7	
FID	Port Fidalgo	17.93	47			Pn	00 00 12.2	-0.8	
SCM	Sheep Creek Mo	17.96	44	Pn		Pn	00 00 12.6	-0.8	
SCM				IAmb		IAmb	00 00 30.2		
	comp=Z,17nm,1.3s								
RND	Reindeer	18.05	38	Pn		Pn	00 00 13.9	-0.8	
MLY	Manley	18.29	32	P		Pn	00 00 18.0	+0.5	
KLU	Klutina	18.44	45	P		Pn	00 00 17.7	-1.6	
KLU				IAmb		IAmb	00 00 36.9		
	comp=Z,14nm,1.5s								
M24K	Tolsona, Glenn	18.56	43	P		P	00 00 19.6	-1.0	
I23K	Minto, Yukon-K	18.83	33	P		P	00 00 23.4	0.0	
WRH	Wood River Hil	18.90	36	P		P	00 00 22.7	-1.5	
CCB	Clear Creek Bu	19.10	35	P		P	00 00 24.7	-1.7	
MDM	Murphy Dome	19.12	34	P		P	00 00 25.0	-1.6	
MDM				IAmb		IAmb	00 00 30.8		
	comp=Z,6.5nm,1.4s								
BERG	Berg Lake	19.13	50	P		P	00 00 27.2	+0.4	
BERG				IAmb		IAmb	00 00 49.9		
	comp=Z,8.8nm,0.8s								
HDA	Harding Lake	19.29	37	P		P	00 00 27.8	-0.7	
IL31		19.50	36	P		P	00 00 30.1	-0.6	
ILAR	Eielson Array	19.50	36	P		P	00 00 28.6	-2.2	
	comp=Z,0.3nm,0.3s,baz=216,slow=9.9,SNR=19								
ILAR	Eielson Array	19.50	36	P		P	00 00 29.7	-1.1	
H24K	Noodor Dome	19.74	32	P		P	00 00 33.2	-0.2	
H24K				IAmb		IAmb	00 00 40.9		
	comp=Z,6.0nm,1.2s								
J25K	Salcha River,	19.99	37	P		P	00 00 34.9	-1.3	
J25K				IAmb		IAmb	00 00 42.1		
	comp=Z,3.6nm,0.8s								
DOT	Dot Lake	20.07	40	P		P	00 00 36.9	-0.2	
DOT				IAmb		IAmb	00 00 39.8		
	comp=Z,5.3nm,1.2s								
SCRK	Sand Creek	20.24	40	P		P	00 00 38.1	-0.9	
SCRK				IAmb		IAmb	00 00 39.7		
	comp=Z,7.1nm,1.3s								
L27K	Beaver Creek,	20.79	43	P		P	00 00 46.4	+1.5	
BCAR	Beaver Creek A	20.81	43	P		P	00 00 46.1	+1.1	
TOLK	Toolik Lake Re	21.02	25	P		P	00 00 47.0	-0.4	
TOLK				IAmb		IAmb	00 00 48.2		
	comp=Z,3.6nm,0.6s								
EGAK	Eagle	21.69	39	P		P	00 00 54.0	-0.5	
EGAK				IAmb		IAmb	00 01 16.6		
	comp=Z,6.1nm,1.0s								
BMAR	Burnt Mountain	21.73	31	P		P	00 00 55.0	+0.1	
DAWY	Dawson	22.15	41	P		P	00 00 59.1	-0.4	
DAWY				IAmb		IAmb	00 01 15.5		
	comp=Z,5.5nm,1.4s								
YKA	Yellowknife Ar	33.10	47	P		P	00 02 39.3	-0.2	
	comp=Z,0.1nm,0.4s,baz=274,slow=8.6,SNR=2.3								
H11S1	WAKE ISLAND Hy	36.09	212	T		T	00 42 27.2		
	baz=20,slow=76,SNR=11								
H11S2	WAKE ISLAND Hy	36.10	212	T		T	00 42 28.5		
	baz=20,slow=76,SNR=5.7								
H11S3	WAKE ISLAND Hy	36.11	212	T		T	00 42 25.9		
	baz=20,slow=76,SNR=2.8								
USRK	Usuriysk Ar,	36.33	281	P		P	00 03 08.0	+0.5	
	comp=Z,2.3nm,0.5s,baz=46,slow=11,SNR=4.7								
PDAR	Pinedale Array	43.42	75	P	

IGHG	**Ghaleghazi**	**1.80**	**335**	*e*Pn		**Pn**	**00 26 38.5**	**+0.8**
IGHG				*e*			00 27 21.3	
	comp=Z,4μm,0.7s							
AMIS	**Naft Sefid**	**1.83**	**124**	*e*Pg		**Pb**	**00 26 39.3**	**-1.5**
IDHR	**Dehrash**	**2.19**	**335**	*e*Pn		**Pn**	**00 26 44.1**	**+0.9**
IDHR				*e*			00 27 23.5	
	comp=Z,2μm,0.4s							
IALM	**Almabolaq**	**2.22**	**14**	*e*Pn		**Pn**	**00 26 45.2**	**+1.6**
KHMZ	**Khomeyn**	**2.30**	**63**	*e*Pn		**Pb**	**00 26 46.0**	**-2.9**
SNGE	**Sanandaj**	**2.38**	**357**	*e*Pn		**Pn**	**00 26 46.4**	**+0.6**
HAGD	**Aghdareh**	**2.51**	**32**	*e*Pn		**Pn**	**00 26 48.6**	**+1.0**
HAGD				*e*			00 27 29.2	
	comp=Z,998nm,0.6s							
BHD	**Baghdad**	**2.68**	**283**	*e*Pn		**Pn**	**00 26 50.0**	**+0.3**
BHD				*e*Sn		**Sn**	**00 27 24.0**	**+2.6**
ASAO	**Ashtian**	**2.79**	**48**	*e*Pn		**Pn**	**00 26 52.7**	**+1.2**
IPIR	**Pirpir**	**2.86**	**90**	*e*Pn		**Pn**	**00 26 53.4**	**+1.0**
IPIR				*e*			00 27 43.4	
	comp=Z,643nm,0.5s							
QABG	**Abgarm-Qazvin**	**3.46**	**29**	*e*Pn		**Pn**	**00 27 00.4**	**-0.1**
IKLH	**Kolahrood**	**3.48**	**79**	*e*			00 27 04.6	
	comp=Z,358nm,0.3s							
IKLH				*e*Pn		**Pn**	**00 27 02.3**	**+1.4**
GHVR	**GHOM**	**3.63**	**60**	*e*Pn		**Pn**	**00 27 03.4**	**+0.7**
IKRK	**Kirkuk**	**3.76**	**317**	*e*Pn		**Pn**	**00 27 05.0**	**+0.6**
IKRK				*e*Sn		**Sn**	**00 27 51.0**	**+3.0**
IGAR	**Gharneh**	**3.85**	**93**	*e*			00 27 12.6	
	comp=Z,208nm,0.1s							
IGAR				*e*Pn		**Pn**	**00 27 06.1**	**+0.2**
KLNJ	**Kolanjah**	**3.87**	**115**	*e*Pn		**Pn**	**00 27 06.5**	**+0.2**
IZEF	**Zefreh**	**4.07**	**86**	*e*Pn		**Pn**	**00 27 10.3**	**+1.3**
IZEF				*e*			00 27 22.2	
	comp=Z,142nm,0.4s							
ZNJK	**Zanjan**	**4.07**	**14**	*e*Pn		**Pn**	**00 27 09.7**	**+0.7**
KRSH	**Karshahi**	**4.08**	**71**	*e*Pn		**Pn**	**00 27 09.8**	**+0.8**
KRSH				*e*			00 28 24.5	
	comp=Z,308nm,0.6s							
IVRN	**Varamin**	**4.19**	**56**	*e*Pn		**Pn**	**00 27 11.4**	**+0.9**
IGZV	**Ghazvin**	**4.30**	**31**	*e*Pn		**Pn**	**00 27 12.8**	**+0.6**
QALM	**Alamut, Qazvin**	**4.53**	**34**	*e*Pn		**Pn**	**00 27 16.8**	**+1.4**
DAMV	**Damavand**	**4.71**	**51**	*e*Pn		**Pn**	**00 27 19.1**	**+1.2**
LHJ2	**Lahijan - Gila**	**4.92**	**25**	*e*Pn		**Pn**	**00 27 21.6**	**+1.2**
IFIR	**Firoozkooh**	**5.25**	**55**	*e*Pn		**Pn**	**00 27 25.8**	**+0.6**
ANAR	**Anarak**	**5.26**	**83**	*e*Pn		**Pn**	**00 27 25.0**	**-0.2**
ILAS	**Lasjerd**	**5.26**	**58**	*e*Pn		**Pn**	**00 27 26.8**	**+1.5**
IANJ	**Anjilo**	**5.99**	**61**	*e*Pn		**Pn**	**00 27 35.3**	**-0.1**
YZKH	**Yazd**	**6.00**	**91**	*e*Pn		**Pn**	**00 27 37.4**	**+2.1**

SFS ***13*** *00:26:47.0, 35°.60N×3°.50W, ML3.4, ALBORAN SUR*
IGIL ***13*** *00:26:50.8, 35°.31N×3°.29W, h0km*
MDD ***13*** *00:26:57.7±0.4, 35°.62N×3°.53W, h0km, mb_Lg3.2/9, Error ellipse: s-maj=3.2km s-min=2.4km az=172.0*
IDC ***13*** *00:26:57.2±1.4, 35°.79N×4°.59W, h0km, mb3.4/3, mb1 3.3/5, mb1mx3.1/43, mbtmp3.1/5, ML2.5/2, MS2.8/3, Ms1 2.8/3, ms1mx2.5/52, Error ellipse: s-maj=44.0km s-min=19.0km az=90.0*
CNRM ***13*** *00:26:58.5, 35°.74N×3°.39W, h18km, ml3.7*
INMG ***13*** *00:27:05.5±1.9, 35°.86N×3°.71W, h0km, ML3.1, Error ellipse: s-maj=7.4km s-min=6.3km az=156.0*

ISC 13 00:26:59.8±1.0, **35°.65N**±0°.02×**3°.42W**±0°.02, **h14**km±8km, **n90,σ2s37**/142, **mb3.3**/3, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.42**	**48**	Pg	**Pg**	**00 27 08.0**	**-0.3**
EALB				Sg	**Sb**	**00 27 15.6**	**+0.2**
EALB				*i* Vmb_Lg		00 27 23.4	
EMEL	**Melilla**	**0.52**	**133**	Pg	**Pg**	**00 27 09.1**	**-0.9**
EMEL				Sg	**Sg**	**00 27 15.5**	**-1.4**
GOG	**Mont Gurugu**	**0.55**	**141**	P	**Pg**	**00 27 09.2**	**-1.5**
GOG				S	**Sg**	**00 27 18.0**	**0.0**
GOG	**Mont Gurugu**	**0.55**	**141**	P	**Pg**	**00 27 09.2**	**-1.5**
GOG				S	**Sg**	**00 27 18.0**	**0.0**
PALE	**Palemas**	**0.61**	**224**	P	**Pb**	**00 27 13.4**	**+1.1**
PALE				S	**Sg**	**00 27 20.1**	**+0.3**
TAF	**Taforalt**	**1.17**	**135**	P	**Pn**	**00 27 20.1**	**-1.8**
TAF	**Taforalt**	**1.17**	**135**	P	**Pn**	**00 27 19.0**	**-2.9**
ELGU	**Los Guajares,**	**1.22**	**352**	Pg	**Pg**	**00 27 23.6**	**+0.2**
ELGU				Sg	**Sb**	**00 27 37.2**	**-1.3**
EBER	**Berja**	**1.31**	**19**	Pn	**Pg**	**00 27 26.5**	**+1.4**
EBER				Sn	**Sb**	**00 27 40.1**	**-1.1**
EMAL	**Malaga-Limoner**	**1.38**	**324**	P	Pn	00 27 17.8	-6.8
EMAL				S	**Sn**	**00 27 40.1**	**-2.5**
EMIJ	**Mijas**	**1.42**	**310**	Pn	**Pn**	**00 27 24.9**	**-0.4**
EMIJ				Sn	**Sn**	**00 27 40.9**	**-3.0**
JBK	**JBK**	**1.49**	**152**	P	**Pn**	**00 27 23.0**	**-3.4**
EQUE	**Quentar**	**1.55**	**359**	Pn	**Pg**	**00 27 30.4**	**+0.8**
EQUE				Sn	**Sn**	**00 27 45.1**	**-1.9**
EGOR	**Sierra Gorda,**	**1.56**	**339**	Pn	**Pg**	**00 27 30.1**	**+0.4**
EGOR				Sn	**Sn**	**00 27 43.7**	**-3.6**
SMIR	**Smir Dam**	**1.60**	**272**	P	**Pn**	**00 27 25.0**	**-2.7**
SMIR	**Smir Dam**	**1.60**	**272**	P	**Pg**	**00 27 32.0**	**+1.5**
CEU	**Ceuta**	**1.61**	**279**	P	Pn	00 27 19.1	-8.6
CEU				S	**Sn**	**00 27 41.2**	**-7.1**
ENIJ	**Nijar**	**1.64**	**36**	Pn	**Pg**	**00 27 33.1**	**+1.8**
ENIJ				Sn	**Sn**	**00 27 49.6**	**+0.4**
CHEFC	**Chefchaouen**	**1.66**	**251**	P	Pn	00 27 23.0	-5.7
CHEFC	**Chefchaouen**	**1.66**	**251**	P	**Pg**	**00 27 32.0**	**+0.2**
EJIF	**Jimena Fronter**	**1.84**	**296**	Pn	Pn	00 27 25.5	-5.5
LIJA	**Lijar**	**2.03**	**309**	P	**Pb**	**00 27 36.0**	**-0.6**
LIJA				S	**Sg**	**00 28 06.0**	**+0.8**
EQES	**Quesada**	**2.16**	**7**	Pn	**Pn**	**00 27 34.3**	**-1.2**
EQES				Sn	**Sn**	**00 28 02.5**	**+0.3**
SICH	**Sidi Chahed**	**2.20**	**226**	P	Pg	00 27 50.0	+8.0
LCRM	**LCR**	**2.29**	**212**	P	**Pb**	**00 27 41.6**	**+0.5**
ESPR	**Espera**	**2.31**	**302**	Pn	**Pn**	**00 27 33.7**	**-3.8**
ESPR				Sn	**Sn**	**00 28 03.1**	**-2.6**
ESPR				*i* Vmb_Lg		00 28 13.3	
SFS	**San Fernando**	**2.40**	**291**	S	**Sg**	**00 28 14.8**	**-2.1**
IFR	**Ifrane**	**2.56**	**214**	P	Pn	00 27 36.1	-4.9
IFR				S	**Sn**	**00 28 11.7**	**-0.3**
EZAR	**Zarzadilla de**	**2.61**	**31**	Pn	**Pn**	**00 27 39.3**	**-2.4**
EZAR				Sn	**Sn**	**00 28 13.3**	**0.0**
EADA	**Adamuz**	**2.67**	**340**	Pn	**Pn**	**00 27 39.3**	**-3.3**
EADA				Sn	**Sn**	**00 28 12.5**	**-2.2**
EADA				*i* Vmb_Lg		00 28 24.5	
CART	**Cartagena**	**2.74**	**45**	P	**Pn**	**00 27 43.6**	**+0.2**
CART				S	**Sn**	**00 28 17.0**	**+0.7**
TDRA	**Tendrara**	**2.85**	**156**	P	**Pn**	**00 27 46.7**	**+1.6**
TDRA				S	**Sn**	**00 28 18.7**	**-0.6**
ECAB	**El Cabril**	**2.90**	**327**	Pn	**Pn**	**00 27 42.6**	**-3.1**
ECAB				Sn	**Sn**	**00 28 18.5**	**-1.8**
ECAB				*i* Vmb_Lg		00 28 34.2	
CZD	**Col de Zad**	**2.94**	**208**	P	**Pn**	**00 27 49.0**	**+2.6**
CZD	**Col de Zad**	**2.94**	**208**	P	**Pn**	**00 27 49.0**	**+2.6**
MD31	**MD31**	**2.99**	**202**	P	**Pn**	**00 27 48.4**	**+1.5**
MDT	**Midelt**	**3.00**	**199**	Pn	**Pn**	**00 27 43.9**	**-3.1**
	0.3nm,0.3s,baz=298,slow=7.0,SNR=18						
MDT				Sn	**Sn**	**00 28 25.0**	**+2.2**
	6.8nm,0.3s,baz=50,slow=12,SNR=6.1						
MDT				LR	LR	00 29 10.7	
	comp=Z,66nm,21.1s,baz=87,slow=45						
MDT	**Midelt**	**3.00**	**199**	P	**Pn**	**00 27 44.2**	**-2.8**
MDT	**Midelt**	**3.00**	**199**	P	**Pn**	**00 27 49.5**	**+2.4**
ARNO	**Arenosillo**	**3.04**	**299**	P	**Pn**	**00 27 49.5**	**+2.0**
ARNO				S	**Sn**	**00 28 22.4**	**-1.2**
ETOB	**Tobarra**	**3.34**	**26**	Pn	**Pn**	**00 27 51.0**	**-0.7**
ETOB				Sn	**Sn**	**00 28 29.4**	**-1.8**
EMIN	**Mina Concepcio**	**3.36**	**310**	Pn	Pn	00 27 46.0	-5.9
EMIN				Sn	**Sn**	**00 28 28.8**	**-2.8**
EGRO	**El Granado**	**3.77**	**301**	Pn	Pn	00 27 51.6	-6.0
EGRO				Sn	**Sn**	**00 28 38.0**	**-3.7**
PBAR	**Barrancos**	**3.84**	**312**	*e*Pn	**Pn**	**00 27 59.6**	**+1.1**
PBAR				*e*Sn	**Sn**	**00 28 41.1**	**-2.3**
PBAR				A	A	00 28 42.2	
	23nm,0.4s						
PVAQ	**Vaqueiros**	**3.88**	**298**	*e*Pn	**Pn**	**00 28 00.1**	**+1.1**
PVAQ				*e*Sn	**Sn**	**00 28 42.4**	**-1.9**
PVAQ				A	A	00 28 46.3	
	32nm,0.3s						
PVAQ	**Vaqueiros**	**3.88**	**298**	P	**Pn**	**00 27 56.4**	**-2.6**
PAB	**San Pablo**	**3.95**	**350**	P	**Pn**	**00 27 57.1**	**-3.0**
PAB	**San Pablo**	**3.95**	**350**	P	**Pn**	**00 27 57.1**	**-3.0**
PAB	**San Pablo**	**3.95**	**350**	Pn	**Pn**	**00 27 57.4**	**-2.8**
PAB				Sn	**Sn**	**00 28 44.6**	**-1.7**
PAB				*i* Vmb_Lg		00 29 16.7	
PBDV	**Barranco-do-Ve**	**3.97**	**295**	*e*Pn	**Pn**	**00 28 01.5**	**+1.2**
PBDV				*e*Sn	**Sn**	**00 28 44.2**	**-2.4**
PBDV				A	A	00 28 50.4	
	23nm,0.4s						
ESDC	**Sonseca Array**	**4.04**	**354**	Pn	**Pn**	**00 27 58.3**	**-2.9**
	0.2nm,0.3s,baz=179,slow=12,SNR=13						
ESDC				Sn	**Sn**	**00 28 47.0**	**-1.4**
	0.9nm,0.3s,baz=190,slow=28,SNR=4.5						
ESDC				LR	LR	00 29 54.4	
	comp=Z,63nm,20.1s,baz=137,slow=45						
ESDC	**Sonseca Array**	**4.04**	**354**	Pn	**Pn**	**00 27 58.4**	**-2.9**
ESDC				Sn	**Sn**	**00 28 48.0**	**-0.3**
ESDC				*i* Vmb_Lg		00 29 09.4	
AVE	**Averroes**	**4.05**	**236**	P	**Pn**	**00 28 02.9**	**+1.5**
AVE				S	**Sn**	**00 28 46.7**	**-2.0**
PCVE	**Castro Verde**	**4.21**	**299**	*e*Pn	**Pn**	**00 28 05.7**	**+2.2**
PCVE				*e*Sn	**Sn**	**00 28 51.3**	**-1.2**
PCVE				A	A	00 28 52.9	
	30nm,0.7s						
EBAD	**Badajoz**	**4.22**	**318**	Pn	Pn	00 27 58.3	-5.4
EBAD				Sn	**Sn**	**00 28 47.0**	**-5.8**
PBEJ	**Beja**	**4.28**	**305**	*e*Pn	**Pn**	**00 28 07.0**	**+2.4**
PBEJ				*e*Sn	**Sn**	**00 28 51.9**	**-2.4**
PBEJ				A	A	00 28 54.8	
	18nm,0.4s						
MORF	**Marmelete**	**4.53**	**293**	*e*P	Pn	00 28 01.7	-6.3
MORF	**Marmelete**	**4.53**	**293**	*e*Pn	**Pn**	**00 28 08.9**	**+0.9**
MORF				*e*Sn	**Sn**	**00 28 59.2**	**-1.3**
MORF				A	A	00 29 01.7	
	16nm,0.2s						
PFVI	**Vila Bisbo**	**4.61**	**290**	*e*Pn	**Pn**	**00 28 09.0**	**0.0**
PFVI				*e*Sn	**Sn**	**00 29 00.5**	**-1.8**
PFVI				A	A	00 29 09.5	
	17nm,0.6s						
PESTR	**Estremoz**	**4.62**	**315**	*e*Pn	**Pn**	**00 28 11.2**	**+1.9**
PESTR				*e*Sn	**Sn**	**00 29 00.5**	**-2.2**
PESTR				A	A	00 29 25.5	
	24nm,0.4s						
UCM	**Universidad Co**	**4.65**	**2**	P	Pn	**00 28 09.8**	**+0.2**
UCM				S	**Sn**	**00 29 02.8**	**-0.6**
EVO	**Evora**	**4.66**	**309**	P	Pn	00 28 04.6	-5.2
EVO				S	**Sn**	**00 29 00.1**	**-3.6**
EVO	**Evora**	**4.66**	**309**	*e*Pn	**Pn**	**00 28 11.3**	**+1.5**
EVO				*e*Sn	**Sn**	**00 29 01.6**	**-2.1**
EVO				A	A	00 29 02.5	
	39nm,0.3s						
PTEO	**Sao Teotonio**	**4.67**	**295**	*e*Pn	**Pn**	**00 28 11.7**	**+1.8**
PTEO				*e*Sn	**Sn**	**00 29 02.5**	**-1.3**
PTEO				A	A	00 29 07.1	
	22nm,0.8s						
PNCL	**Nicolau / Gran**	**4.77**	**302**	*e*Pn	**Pn**	**00 28 12.2**	**+0.9**
PNCL				*e*Sn	**Sn**	**00 29 04.5**	**-2.0**
PNCL				A	A	00 29 12.0	
	14nm,0.7s						
EPLA	**Plasencia**	**4.88**	**335**	Pn	**Pn**	**00 28 10.0**	**-2.9**
EPLA				Sn	**Sn**	**00 29 04.6**	**-4.5**
PMRV	**Marv??o**	**4.92**	**321**	*e*Pn	**Pn**	**00 28 15.9**	**+2.6**
PMRV				*e*Sn	**Sn**	**00 29 08.7**	**-1.3**
PMRV				A	A	00 29 43.4	
	17nm,0.6s						
PMTG	**Montargil**	**5.12**	**313**	*e*Pn	**Pn**	**00 28 18.6**	**+2.4**
PMTG				*e*Sn	**Sn**	**00 29 12.1**	**-3.0**
PMTG				A	A	00 29 49.8	
	16nm,0.6s						
ETOR	**Torete**	**5.27**	**11**	Pn	**Pn**	**00 28 18.1**	**-0.1**
ETOR				Sn	**Sn**	**00 29 17.7**	**-1.0**
ETOR				*i* Vmb_Lg		00 29 52.3	
PCBR	**Castelo Branco**	**5.27**	**324**	*e*Pn	**Pn**	**00 28 21.0**	**+2.8**
PCBR				*e*Sn	**Sn**	**00 29 17.1**	**-1.6**
PCBR				A	A	00 29 20.3	
	23nm,0.6s						
PACT	**Alcochete**	**5.32**	**307**	*e*Pn	**Pn**	**00 28 21.2**	**+2.4**
PACT				*e*Sn	**Sn**	**00 29 18.5**	**-1.4**
PACT				A	A	00 29 34.2	
	26nm,0.7s						
OUZM	**OUZ**	**5.50**	**212**	P	**Pn**	**00 28 24.0**	**+2.6**
PMST	**Lisbon--Monsan**	**5.54**	**305**	*e*Pn	**Pn**	**00 28 23.6**	**+1.8**
PMST				*e*Sn	**Sn**	**00 29 23.4**	**-1.8**
PMAFR	**Mafra**	**5.72**	**307**	*e*Pn	**Pn**	**00 28 25.8**	**+1.5**
PMAFR				*e*Sn	**Sn**	**00 29 26.4**	**-3.4**
PMAFR				A	A	00 29 28.4	
	28nm,0.5s						
MTE	**Manteigas**	**5.75**	**327**	*e*Pn	**Pn**	**00 28 27.3**	**+2.5**
MTE				*e*Sn	**Sn**	**00 29 28.6**	**-2.0**
MTE				A	A	00 30 08.1	
	32nm,0.6s						
PSBE	**So Bento**	**5.75**	**314**	*e*Pn	**Pn**	**00 28 27.2**	**+2.4**
PSBE				*e*Sn	**Sn**	**00 29 27.2**	**-3.4**
PSBE				A	A	00 29 40.3	
	15nm,0.5s						
PCAS	**Casmilo, Conde**	**5.95**	**319**	*e*Pn	**Pn**	**00 28 29.9**	**+2.4**
PCAS				*e*Sn	**Sn**	**00 29 32.1**	**-3.4**
PCAS				A	A	00 30 11.9	
	18nm,0.5s						
COI	**Coimbra**	**6.02**	**321**	*e*Pn	**Pn**	**00 28 31.1**	**+2.7**
COI				*e*Sn	**Sn**	**00 29 33.3**	**-3.8**
COI				A	A	00 29 40.2	
	31nm,0.5s						
PVIS	**Viseu**	**6.16**	**326**	*e*Pn	**Pn**	**00 28 32.7**	**+2.3**
PVIS				*e*Sn	**Sn**	**00 29 38.2**	**-2.5**
PVIS				A	A	00 29 46.5	
	13nm,0.6s						
MVO	**Moncorvo**	**6.19**	**334**	*e*Pn	**Pn**	**00 28 33.5**	**+2.7**
MVO				*e*Sn	**Sn**	**00 29 39.0**	**-2.4**
MVO				A	A	00 30 20.9	
	20nm,0.5s						
PVRL	**Vila Real**	**6.55**	**330**	*e*Pn	**Pn**	**00 28 38.6**	**+2.9**
PVRL				*e*Sn	**Sn**	**00 29 47.5**	**-2.7**
PVRL				A	A	00 29 52.0	
	20nm,1.0s						
POLO	**Lamas de Olo**	**6.66**	**330**	*e*Pn	**Pn**	**00 28 40.0**	**+2.7**
POLO				*e*Sn	**Sn**	**00 29 51.2**	**-1.9**
POLO				A	A	00 30 33.7	
	5.0nm,0.5s						
PBRG	**Braganca**	**6.67**	**338**	*e*Pn	**Pn**	**00 28 41.0**	**+3.6**
PTO	**Porto**	**6.82**	**325**	*e*Pn	**Pn**	**00 28 41.6**	**+2.2**
PTO				*e*Sn	**Sn**	**00 29 52.9**	**-4.0**
PCAB	**Cabril**	**7.04**	**331**	*e*Pn	**Pn**	**00 28 45.6**	**+3.1**
PCAB				*e*Sn	**Sn**	**00 30 00.5**	**-1.8**
PGAV	**Gavieira, Arco**	**7.35**	**330**	*e*Pn	**Pn**	**00 28 51.1**	**+4.3**
PGAV				*e*Sn	**Sn**	**00 30 07.8**	**-2.3**
TORD	**Torodi Ar. Bea**	**22.88**	**167**	P	**P**	**00 32 07.2**	**+4.1**
	0.6nm,0.6s,baz=354,slow=9.0,SNR=3.0						
FINES	**FINESS Array B**	**31.84**	**27**	LR	LR	00 47 15.9	
	comp=Z,99nm,18.8s,baz=321,slow=38						
MKAR	**Makanchi Array**	**52.39**	**51**	P	**P**	**00 37 25.4**	**+3.3**
	0.6nm,0.8s,baz=284,slow=5.8,SNR=7.5						
YKA	**Yellowknife Ar**	**67.83**	**332**	P	**P**	**00 37 53.9**	**-3.2**
	0.1nm,0.5s,baz=58,slow=5.8,SNR=2.2						

SFS ***13*** *00:30:22.0, 35°.60N×3°.60W, ML3.0, ALBORAN SUR*
CNRM ***13*** *00:30:23.4, 35°.70N×3°.58W, h24km, ml3.0*
MDD ***13*** *00:30:23.0±0.3, 35°.71N×3°.60W, h0km, mb_Lg2.8/13, Error ellipse: s-maj=2.7km s-min=1.9km az=176.0*
IGIL ***13*** *00:30:24.9, 35°.65N×3°.64W, h12km, ML2.6*

ISC 13 00:30:22.9±1.2, **35°.71N**±0°.02×**3°.61W**±0°.03, **h15**km±10km, **n43,σ1s56**/73, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.53**	**64**	Pg	**Pb**	**00 30 33.8**	**+0.1**
EALB				Sg	**Sb**	**00 30 41.8**	**+0.6**
PALE	**Palemas**	**0.56**	**209**	P	**Pb**	**00 30 35.0**	**+0.7**
PALE				S	**Sb**	**00 30 43.5**	**+1.4**
EMEL	**Melilla**	**0.67**	**127**	Pg	**Pg**	**00 30 36.0**	**0.0**
EMEL				Sg	**Sg**	**00 30 44.4**	**-0.5**
GOG	**Mont Gurugu**	**0.70**	**134**	P	**Pg**	**00 30 36.3**	**-0.2**
GOG				S	**Sg**	**00 30 44.5**	**-1.2**
ELGU	**Los Guajares,**	**1.16**	**359**	Pg	**Pb**	**00 30 43.6**	**-1.0**
ELGU				Sg	**Sb**	**00 30 59.8**	**+0.3**
EMAL	**Malaga-Limoner**	**1.24**	**328**	P	**Pn**	**00 30 45.2**	**-0.5**
EMAL				S	**Sb**	**00 30 59.5**	**-2.3**
EMIJ	**Mijas**	**1.27**	**313**	Pg	**Pn**	**00 30 45.2**	**-0.9**
EMIJ				Sg	**Sb**	**00 31 00.2**	**-2.5**
EMIJ				*i* Vmb_Lg		00 31 02.8	
EBER	**Berja**	**1.32**	**26**	Pg	**Pn**	**00 30 45.8**	**-1.2**
EBER				Sg	**Sb**	**00 31 03.2**	**-1.2**
EBER				*i* Vmb_Lg		00 31 06.0	
TAF	**Taforalt**	**1.33**	**132**	P	**Pn**	**00 30 46.0**	**-0.9**
SMIR	**Smir Dam**	**1.44**	**270**	P	**Pn**	**00 30 47.1**	**-1.3**
CEU	**Ceuta**	**1.44**	**278**	P	**Pn**	**00 30 46.0**	**-2.4**
CEU				S	**Sn**	**00 31 03.6**	**-3.5**
EGOR	**Sierra Gorda,**	**1.46**	**344**	Pn	**Pn**	**00 30 48.9**	**+0.1**
EGOR				Sn	**Sn**	**00 31 08.7**	**+1.0**
EGOR				*i* Vmb_Lg		00 31 13.2	
EQUE	**Quentar**	**1.50**	**5**	Pn	**Pn**	**00 30 49.9**	**+0.5**
CHEFC	**Chefchaouen**	**1.53**	**247**	P	**Pn**	**00 30 51.1**	**+1.3**
JBK	**JBK**	**1.62**	**148**	P	**Pn**	**00 30 50.1**	**-0.9**
EJIF	**Jimena Fronter**	**1.68**	**297**	Pn	**Pn**	**00 30 52.1**	**+0.5**
ENIJ	**Nijar**	**1.70**	**42**	Pn	**Pn**	**00 30 50.4**	**-1.5**
ENIJ				Sn	**Sn**	**00 31 10.5**	**-3.0**
LIJA	**Lijar**	**1.88**	**310**	P	**Pg**	**00 31 00.5**	**+1.6**
EQES	**Quesada**	**2.14**	**12**	Pn	**Pn**	**00 31 00.3**	**+2.2**
EQES				Sn	**Sn**	**00 31 26.2**	**+1.8**
EQES				*i* Vmb_Lg		00 31 29.0	
ESPR	**Espera**	**2.15**	**303**	Pn	**Pn**	**00 31 00.4**	**+2.3**
ESPR				Sn	**Sn**	**00 31 26.3**	**+1.7**
ESPR				*i* Vmb_Lg		00 31 32.7	
LCRM	**LCR**	**2.26**	**207**	P	**Pn**	**00 31 00.6**	**+0.7**
LCRM				S	**Sn**	**00 31 30.4**	**+2.8**
IFR	**Ifrane**	**2.52**	**210**	P	**Pn**	**00 31 04.0**	**+0.6**
IFR				S	**Sn**	**00 31 33.8**	**-0.1**
EADA	**Adamuz**	**2.57**	**343**	Pn	**Pn**	**00 31 05.5**	**+1.4**
EADA				Sn	**Sn**	**00 31 37.3**	**+2.2**
EADA				*i* Vmb_Lg		00 31 42.7	
EZAR	**Zarzadilla de**	**2.66**	**35**	Pn	**Pn**	**00 31 05.1**	**-0.2**
EZAR				Sn	**Sn**	**00 31 37.0**	**-0.2**
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pn**	**00 31 08.3**	**+1.6**
ECAB				Sn	**Sn**	**00 31 41.9**	**+1.9**
ECAB				*i* Vmb_Lg		00 31 50.5	
CZD	**Col de Zad**	**2.92**	**204**	P	**Pn**	**00 31 09.8**	**+0.9**
CZD				S	**Sn**	**00 31 41.6**	**-2.3**
TDRA	**Tendrara**	**2.97**	**153**	P	**Pn**	**00 31 09.6**	**0.0**
TDRA				S	**Sn**	**00 31 46.0**	**+1.0**
MD31	**MD31**	**2.99**	**199**	P	**Pn**	**00 31 11.3**	**+1.5**
MDT	**Midelt**	**3.00**	**196**	P	**Pn**	**00 31 10.7**	**+0.7**
EMIN	**Mina Concepcio**	**3.20**	**311**	Pn	**Pn**	**00 31 13.2**	**+0.6**
EMIN				Sn	**Sn**	**00 31 49.4**	**-1.1**
EMIN				*i* Vmb_Lg		00 31 52.1	
ETOB	**Tobarra**	**3.37**	**29**	Pn	**Pn**	**00 31 16.9**	**+1.9**
ETOB				Sn	**Sn**	**00 31 55.6**	**+1.0**
EGRO	**El Granado**	**3.61**	**302**	Pn	**Pn**	**00 31 19.0**	**+0.8**
EGRO				Sn	**Sn**	**00 31 59.4**	**-1.1**
EGRO				*i* Vmb_Lg		00 32 02.9	
PVAQ	**Vaqueiros**	**3.71**	**298**	P	**Pn**	**00 31 19.9**	**+0.2**
AFON	**Font Roja**	**3.84**	**39**	Pn	**Pn**	**00 31 23.4**	**+1.9**
AFON				Sn	**Sn**	**00 32 06.2**	**-0.2**
AFON				*i* Vmb_Lg		00 32 12.9	
PAB	**San Pablo**	**3.88**	**352**	Pn	**Pn**	**00 31 23.5**	**+1.5**
PAB				Sn	**Sn**	**00 32 07.3**	**+0.1**
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**00 31 25.1**	**+1.8**
ESDC				Sn	**Sn**	**00 32 07.8**	**-1.7**
ESDC				*i* Vmb_Lg		00 32 30.7	
EBAD	**Badajoz**	**4.08**	**319**	Pn	**Pn**	**00 31 25.5**	**+0.9**
EBAD				Sn	**Sn**	**00 32 11.3**	**-0.8**
MORF	**Marmelete**	**4.36**	**293**	*e*P	**Pn**	**00 31 29.2**	**+0.6**
MORF				*e*S	**Sn**	**00 32 16.0**	**-3.2**
MORF				IAML		00 32 21.6	
	comp=N,13nm,0.3s						
ECHE	**Chera**	**4.41**	**28**	Pn	**Pn**	**00 31 30.9**	**+1.6**
EVO	**Evora**	**4.51**	**310**	P	**Pn**	**00 31 31.5**	**+1.0**
EVO				S	**Sn**	**00 32 20.5**	**-2.2**
UCM	**Universidad Co**	**4.60**	**4**	P	**Pn**	**00 31 34.6**	**+2.7**
UCM				S	**Sn**	**00 32 22.8**	**-2.3**
EPLA	**Plasencia**	**4.77**	**337**	Pn	**Pn**	**00 31 36.1**	**+1.9**
ETOR	**Torete**	**5.25**	**13**	Pn	**Pn**

ILAR	Eielson Array	19.22	36	P	P	00 47 52.8	-0.5	
	comp=Z,0.6nm,0.3s,baz=239,slow=9.4,SNR=47							
ILAR	Eielson Array	19.22	36	P	P	00 47 52.4	-0.9	
H24K	Noodor Dome	19.45	33	P	P	00 47 56.5	+0.6	
H24K				IAmb	IAmb	00 48 01.3		
	comp=Z,9.2nm,1.3s							
RIDG	Independent Ri	19.53	40	P	P	00 47 55.7	-1.1	
RIDG				IAmb	IAmb	00 48 06.2		
	comp=Z,7.9nm,1.2s							
J25K	Salcha River,	19.71	38	P	P	00 47 57.4	-1.3	
J25K				IAmb	IAmb	00 47 58.8		
	comp=Z,8.2nm,0.7s							
SCRK	Sand Creek	19.98	40	P	P	00 48 00.1	-1.6	
SCRK				IAmb	IAmb	00 48 02.1		
	comp=Z,6.7nm,0.5s							
TOLK	Toolik Lake Re	20.71	25	P	P	00 48 09.8	+0.3	
TOLK				IAmb	IAmb	00 48 11.1		
	comp=Z,5.8nm,0.7s							
SEY	Seymchan	21.18	315	P	P	00 48 14.7	+0.1	
	comp=Z,1.3nm,0.2s,baz=27,slow=20,SNR=4.5							
MA2	Magadan	21.27	306	LR	LR	00 56 25.0		
	comp=Z,40nm,18.3s,baz=114,slow=36							
EGAK	Eagle	21.42	39	P	P	00 48 16.3	-0.8	
EGAK				IAmb	IAmb	00 48 18.7		
	comp=Z,9.4nm,0.6s							
BMAR	Burnt Mountain	21.43	31	P	P	00 48 18.3	+1.0	
DAWY	Dawson	21.89	42	P	P	00 48 21.7	-0.5	
DLBC	Dease Lake	25.70	57	P	P	00 48 59.3	+0.2	
DLBC				IAmb	IAmb	00 49 03.8		
	comp=Z,14nm,1.4s							
A36M	Sachs Harbour	29.44	28	P	P	00 49 33.0	+0.6	
A36M				IAmb	IAmb	00 49 42.9		
	comp=Z,2.3nm,0.9s							
YAK	Yakutsk	31.57	311	LR	LR	01 03 05.2		
	comp=Z,45nm,18.7s,baz=87,slow=37							
YKA	Yellowknife Ar	32.87	47	P	P	00 50 01.4	-1.3	
	comp=Z,0.1nm,0.4s,baz=272,slow=8.7,SNR=4.8							
YKA				PcP	PcP	00 52 47.0	+0.5	
	comp=Z,0.1nm,0.4s,baz=287,slow=3.3,SNR=2.9							
YKA	Yellowknife Ar	32.87	47	P	P	00 50 02.7	0.0	
H11N2	WAKE ISLAND Hy	35.17	212	T	T	01 28 04.0		
	baz=21,slow=76,SNR=4.0							
H11N3	WAKE ISLAND Hy	35.18	212	T	T	01 28 04.5		
	baz=21,slow=76,SNR=4.1							
H11N1	WAKE ISLAND Hy	35.19	212	T	T	01 28 04.0		
	baz=21,slow=76,SNR=4.1							
EDM	Edmonton	36.03	63	P	P	00 50 31.2	+1.0	
USRK	Ussuriysk Ar.	36.27	280	P	P	00 50 32.2	-0.1	
	comp=Z,3.1nm,0.5s,baz=57,slow=9.2,SNR=8.4							
USRK	Ussuriysk Ar.	36.27	280	P	P	00 50 32.0	-0.3	
USA0B	Ussuriysk Arra	36.27	280	P	P	00 50 32.3	0.0	
H11S1	WAKE ISLAND Hy	36.38	212	T	T	01 29 01.1		
	baz=17,slow=74,SNR=17							
H11S2	WAKE ISLAND Hy	36.39	212	T	T	01 29 01.1		
	baz=313,slow=74,SNR=15							
H11S3	WAKE ISLAND Hy	36.40	212	T	T	01 29 02.0		
	SNR=13							
RES	Resolute Bay	38.28	25	LR	LR	01 08 27.4		
	comp=Z,57nm,19.0s,baz=230,slow=39							
BOZ	Bozeman (W)	40.53	73	P	P	00 51 09.0	+0.8	
FFC	Flin Flon	41.52	56	P	P	00 51 16.2	+0.1	
FFC				IAmb	IAmb	00 51 22.1		
	comp=Z,4.5nm,1.4s							
KSRS	Korea Array	42.67	274	P	P	00 51 26.4	+0.8	
	comp=Z,1.3nm,0.7s,baz=61,slow=8.3,SNR=6.7							
PD31	Pinedale Array	43.33	75	P	P	00 51 31.1	-0.2	
PDAR	Pinedale Array	43.33	75	P	P	00 51 30.8	-0.4	
	comp=Z,0.3nm,0.5s,baz=323,slow=2.2,SNR=3.8							
PDAR				pP	sP	00 51 44.6	+0.8	
	comp=Z,0.5nm,0.5s,baz=315,slow=3.7,SNR=4.4							
PDAR	Pinedale Array	43.33	75	P	P	00 51 31.0	-0.2	
FCC	Fort Churchill	43.59	48	P	P	00 51 32.2	-0.5	
SONM	Songino Array	49.24	299	P	P	00 52 17.0	-0.5	
	comp=Z,0.7nm,0.5s,baz=55,slow=5.8,SNR=12							
SONM	Songino Array	49.24	299	P	P	00 52 17.4	-0.1	
SONM				IAmb	IAmb	00 52 18.4		
	comp=Z,1.5nm,1.0s							
EYMN	Ely	50.67	59	P	P	00 52 27.7	-0.5	
EYMN				IAmb	IAmb	00 52 34.6		
	comp=Z,3.4nm,1.2s							
TXAR	Lajitas Array	55.61	85	P	P	00 53 03.9	-1.0	
	comp=Z,0.1nm,0.4s,baz=294,slow=6.8,SNR=2.5							
TXAR				pP	pP	00 53 16.9	+2.8	
	comp=Z,0.5nm,0.7s,baz=289,slow=6.5,SNR=5.2							
ARCES	ARCESS Array B	58.35	352	P	P	00 53 22.5	-1.1	
	comp=Z,6.7nm,1.1s,baz=30,slow=7.6,SNR=6.2							
LVZ	Lovozero	58.93	348	P	P	00 53 27.0	-0.7	
KURK	Kurchatov	61.03	316	P	P	00 53 41.9	-0.3	
KURK				IAmb	IAmb	00 53 43.0		
	comp=Z,2.1nm,0.6s							
J57A	Williamstown	61.81	55	P	P	00 53 47.7	+0.1	
L56A	Greenwood	61.91	57	P	P	00 53 48.5	+0.1	
K57A	Scipio Center	62.03	56	P	P	00 53 49.2	+0.1	
MK31	Makanchi Array	62.24	311	P	P	00 53 50.2	-0.4	
MK31				IAmb	IAmb	00 53 51.2		
	comp=Z,1.9nm,1.4s							
MKAR	Makanchi Array	62.24	311	P	P	00 53 50.2	-0.3	
	comp=Z,0.5nm,0.3s,baz=46,slow=6.0,SNR=19							
MKAR	Makanchi Array	62.24	311	P	P	00 53 50.0	-0.5	
MAKZ	Makanchi	62.38	311	P	P	00 53 51.2	-0.2	
MAKZ				IAmb	IAmb	00 53 51.9		
	comp=Z,1.0nm,0.9s							
BINY	Binghamton	62.68	56	P	P	00 53 54.0	+0.5	
SSPA	Standing Stone	62.81	58	P	P	00 53 54.7	+0.4	
L59A	Walton	63.17	55	P	P	00 53 56.9	0.0	
R55A	Marlinton	63.29	62		P	00 53 57.6	0.0	
N59A	State Game Lan	63.72	57	P	P	00 54 00.8	+0.3	
ARU	Arti	63.97	331	P	P	00 54 01.0	-0.8	
ARU				IAmb	IAmb	00 54 24.8		
	comp=Z,4.0nm,1.2s							
FINES	FINESS Array B	66.19	350	P	P	00 54 15.3	-0.7	
	comp=Z,0.5nm,0.4s,baz=24,slow=5.5,SNR=9.2							
FINES	FINESS Array B	66.19	350	P	P	00 54 15.2	-0.9	
NC303	NORSAR Array S	67.46	357	P	P	00 54 24.1	-0.1	
NOA	NORSAR Array B	67.65	357	P	P	00 54 25.3	-0.1	
	comp=Z,0.2nm,0.4s,baz=5.8,slow=6.8,SNR=1.5							
BOOM	Boomskoye usch	68.46	312	P	P	00 54 30.5	-0.6	
BOOM				IAmb	IAmb	00 54 31.7		
	comp=Z,1.4nm,0.7s							
AAK	Ala-Archa	69.01	313	P	P	00 54 34.6	+0.1	
AAK				IAmb	IAmb	00 54 57.9		
	comp=Z,1.4nm,1.0s							
ABKAR	Akbulak array	69.55	326	P	P	00 54 37.0	-0.4	
ABKAR	Akbulak array	69.55	326	P	P	00 54 37.2	-0.2	
ABKAR				IAmb	IAmb	00 54 58.7		
	comp=Z,3.5nm,1.4s							
KKAR	Karatay Array	70.43	315	P	P	00 54 42.6	-0.4	
PABE	Paberze	72.25	349	P	P	00 54 52.8	-0.9	
GAR	Garm	73.82	313	P	P	00 55 03.3	-0.2	
GAR				IAmb	IAmb	00 55 05.4		
	comp=Z,6.8nm,1.2s							
TAPN	Taplejung	73.95	294	eP	P	00 55 05.3	+0.7	
	comp=Z,8.9nm,0.6s							
GUN	Gumba	74.56	295	eP	P	00 55 09.0	+0.8	
	comp=Z,17nm,0.3s							
JIRN	Jiri	74.58	295	eP	P	00 55 09.2	+0.9	
	comp=Z,18nm,0.4s							
CHGR	Chuyangaron	74.63	314	P	P	00 55 08.6	+0.5	
RAMN	Ramite	74.89	294	eP	P	00 55 10.5	+0.5	
	comp=Z,12nm,0.4s							
DANN	Dangsing	75.41	297	eP	P	00 55 13.6	+0.6	
	comp=Z,19nm,0.7s							
KOLN	Koldanda	75.94	297	eP	P	00 55 16.4	+0.4	
PYUN	Piuthan	76.03	298	eP	P	00 55 16.9	+0.4	
	comp=Z,8.4nm,0.5s							
AKASG	Malin Array Be	76.21	345	P	P	00 55 15.9	-0.9	
	comp=Z,1.2nm,0.4s,baz=20,slow=6.6,SNR=5.7							
AKASG	Malin Array Be	76.21	345	P	P	00 55 16.0	-0.9	
AKASG				IAmb	IAmb	00 55 21.0		
	comp=Z,1.9nm,1.4s							
CLL	Collm	77.31	356	P	P	00 55 22.9	-0.2	
CLL				IAmb	IAmb	00 55 23.8		
	comp=Z,2.1nm,0.6s							
KWP	Kalwaria Pacla	78.17	349	P	P	00 55 27.7	-0.1	
GERES	GERESS Array B	79.73	355	P	P	00 55 36.6	0.0	
	comp=Z,0.2nm,0.5s,baz=353,slow=6.1,SNR=2.3							
BUR08	Bucovina Ar. S	79.80	347	P	P	00 55 37.0	0.0	
BUR08				IAmb	IAmb	00 56 05.4		
	comp=Z,1.3nm,1.1s							
BURAR	Bucovina Array	79.82	347	P	P	00 55 37.0	-0.1	
BURAR				IAmb	IAmb	00 55 38.0		
	comp=Z,1.6nm,1.0s							
TIRR	Tirgusor	82.40	344	P	P	00 55 51.3	+0.6	
WRA	Warramunga Arr	84.34	228	P	P	00 55 58.5	-2.4	
	comp=Z,0.5nm,1.1s,baz=34,slow=5.9,SNR=0.9							
WRA				pP	pP	00 56 13.0	+2.5	
	comp=Z,0.5nm,0.9s,baz=31,slow=6.0,SNR=2.2							
BRTR	Keskin Array B	85.93	339	P	P	00 56 08.1	-0.9	
	comp=Z,0.9nm,0.7s,baz=51,slow=3.6,SNR=5.6							
BRTR	Keskin Array B	85.93	339	P	P	00 56 09.2	+0.3	
ASAR	Alice Springs	87.77	226	P	P	00 56 16.7	-1.1	
	comp=Z,0.1nm,0.4s,baz=26,slow=5.3,SNR=1.7							
ASAR				pP	pP	00 56 29.9	+2.5	
	comp=Z,0.5nm,0.8s,baz=39,slow=3.6,SNR=3.4							

KRNET ***13*** *01:29:58.9±0.1, 39.95N×69.02E, h15km, mb3.6*
SOME ***13*** *01:29:59.6, 39.92N×69.12E, h15km*
NNC ***13*** *01:30:00.4±1.6, 40.03N×68.93E, h10km±5km, mb4.1, mpv3.8, Error ellipse: s-maj=11.5km s-min=7.5km az=7.0*
ISU ***13*** *01:30:00, 39.93N×68.93E, h25km*

ISC 13 01:29:58.9±1.0, 39.95N±0.03×68.97E±0.02, h6km±9km, n50, σ1s95/71, 22C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZI	Dzhizak	0.90	281	eP			Pg	01 30 16.0	-0.1
DZI				eS			Sg	01 30 28.0	+0.3
YNGY	Yangiyul	1.16	3	eP			Pn	01 30 22.0	+0.3
YNGY				eP			Sn	01 30 40.0	+2.1
CHGR	Chuyangaron	1.30	173	⇑iP			Pn	01 30 23.3	-0.4
	baz=75								
CHGR				⇑iS			Sb	01 30 40.7	-0.1
	baz=75								
TAS	Tashkent	1.40	10	⇑eP			Pb	01 30 25.2	-0.2
	baz=9.0								
TAS				⇑eS			Sg	01 30 43.8	0.0
	baz=9.0								
TAS	Tashkent	1.40	10	iP			Pg	01 30 26.0	+0.3
TAS				eS			Sg	01 30 47.0	+3.2
GAR	Garm	1.41	132	⇑iP			Pn	01 30 24.8	-0.5
	baz=33								
GAR				⇑iS			Sn	01 30 43.2	-1.1
	baz=33								
BTK	Batken	1.43	85	⇑iP			Pn	01 30 25.0	-0.5
	baz=85								
BTK				⇑iS			Sn	01 30 43.5	-1.1
	baz=85								
YBZ	Yangibazar	1.43	19	iP			Pg	01 30 27.0	+0.6
YBZ				eP			Sn	01 30 47.0	+2.4
TGS	TashGRES	1.53	16	eP			Pn	01 30 27.0	+0.2
TGS				eS			Sg	01 30 48.0	-0.1
SAM	Samarkand	1.55	260	eP			Pb	01 30 29.0	+1.0
SAM				eS			Sg	01 30 51.0	+2.4
MINT	Mingtut	1.62	71	eP			Pg	01 30 31.0	+1.0
MINT				eS			Sg	01 30 53.0	+1.9
CHMG	Chimgan	1.78	26	iP			Pg	01 30 33.0	-0.1
CHMG				iS			Sg	01 30 56.0	-0.3
KTAB	Kitab	1.80	244	eP			Pb	01 30 33.0	+0.6
KTAB				eS			Sg	01 30 58.0	+1.1
CHRV	Charvak	1.85	24	eP			Pb	01 30 33.0	-0.2
CHRV				eS			Sg	01 30 58.0	-0.3
FRG	Fergana	2.20	78	eP			Pb	01 30 40.0	+0.8
FRG				eS			Sg	01 31 10.0	+0.3
DRK	Karamyk	2.24	101	⇓iP			Pn	01 30 38.5	+1.7
	baz=1.0								
DRK				⇓iS			Sn	01 31 06.6	+1.7
	baz=1.0								
TRKS	Terek-Say	2.28	46	⇑eP			Pn	01 30 38.1	+0.8
	baz=47								
TRKS				⇑iS			Sb	01 31 07.4	-1.8
	baz=47								
IUG	luzhnay	2.34	20	eP			Pg	01 30 43.1	-0.7
	1μm,0.4s								
IUG				eS			Sg	01 31 14.4	+0.4
	172nm,0.6s								
IUG	luzhnay	2.34	20		Pg		Pg	01 30 43.1	-0.7
	1μm,0.4s								
IUG					Lg		Lg	01 31 14.4	
	172nm,0.6s								
PKMR	Pachkamar	2.44	236	eP			Pn	01 30 42.0	+2.6
PKMR				eS			Sg	01 31 18.0	+0.5
NUT	Nurota	2.59	285	eP			Pn	01 30 42.0	+0.7
NUT				eS			Sg	01 31 22.0	0.0
ARK	Arkit	2.93	50	⇑iP			Pn	01 30 47.7	+1.6
	baz=49								
ARK				⇑iS			Sn	01 31 23.3	+1.6
	baz=49								
OHH	Osh	2.98	78	⇑eP			Pn	01 30 48.3	+1.5
	baz=78								
OHH				⇑iS			Sn	01 31 24.1	+1.2
	baz=78								
OHH	Osh	2.98	78	eS			Sn	01 31 23.0	+0.1
KK02	Karatay Array	3.36	20	⇑Pn			Pn	01 30 52.6	+0.6
	0.9nm,0.3s								
KK02				⇓Pg			Pb	01 31 01.1	+2.3
	24nm,0.5s								
KK02				⇓Lg			Lg	01 31 43.6	
	41nm,0.8s								
DZA	Taraz	3.44	30	eP			Pb	01 31 02.6	+2.4
	38nm,0.1s								
DZA				eS			Sg	01 31 47.8	-1.4
	158nm,0.2s								
DZA	Taraz	3.44	30		Pg		Pb	01 31 02.6	+2.4
	38nm,0.1s								
DZA					Lg		Lg	01 31 47.8	
	158nm,0.2s								
MRKS	Merke	4.25	48	eP			Pb	01 31 16.9	+2.8
	8.5nm,0.3s								
MRKS				eS			Sg	01 32 12.6	-2.9
	29nm,0.2s								
MRKS	Merke	4.25	48		Pg		Pb	01 31 16.9	+2.8
	8.5nm,0.3s								
MRKS					Lg		Lg	01 32 12.6	
	29nm,0.2s								
ARLS	Aral	4.49	63	⇓iP			Pn	01 31 08.4	+0.8
	baz=63								
ARLS				⇓iS			Sn	01 32 00.7	+0.5
	baz=63								
AAK	Ala-Archa	4.95	55	⇑Pn			Pn	01 31 15.7	+1.7
	2.0nm,0.5s								
AAK				⇑Pg			Pg	01 31 31.1	-2.8
	4.5nm,0.5s								
AAK				⇑Sn			Sn	01 32 13.9	+2.2
	9.5nm,0.7s								
AAK				⇑Lg			Lg	01 32 38.2	
	13nm,0.7s								
SGDS	Sogindy	5.50	49	eP			Pb	01 31 39.4	+4.0
	2.5nm,0.2s								
SGDS				eS			Sg	01 32 51.0	-4.4
	10nm,0.6s								
SGDS	Sogindy	5.50	49		Pg		Pb	01 31 39.3	+4.0
	2.5nm,0.2s								
SGDS					Lg		Lg	01 32 51.0	
	10nm,0.6s								
TKM2	Tokmak 2	5.80	57	⇑Pn			Pn	01 31 25.8	+0.1
	2.1nm,0.6s								
TKM2				⇑Sn			Sn	01 32 34.3	+1.6
	4.0nm,0.6s								
TKM2				⇓Lg			Lg	01 33 04.2	
	13nm,1.0s								
DGS	Degeres	6.07	55	eP			Pb	01 31 50.0	+4.8
	3.6nm,0.5s								
DGS				eS			Sg	01 33 09.3	-4.5
	8.7nm,0.3s								
DGS	Degeres	6.07	55		Pg		Pb	01 31 49.9	+4.8
	3.6nm,0.5s								
DGS					Lg		Lg	01 33 09.3	
	8.7nm,0.3s								
KRBS	Karabastau	6.25	51		Pg		Pb	01 31 53.8	+5.6
	2.9nm,0.6s								
KRBS					Lg		Lg	01 33 15.7	
	9.2nm,0.6s								
BTLS	Baital	6.32	35	eP			Pg	01 31 56.4	-3.6
	3.0nm,0.4s								
BTLS				eS			Sg	01 33 20.2	-1.6
	6.7nm,0.7s								
BTLS	Baital	6.32	35		Pg		Pg	01 31 56.3	-3.6
	3.0nm,0.4s								
BTLS					Lg		Lg	01 33 20.2	
	6.7nm,0.7s								
MTBS	Maitube	6.44	58		Pg		Pb	01 31 56.9	+5.5
	1.5nm,0.2s								
MTBS					Lg		Lg	01 33 21.2	
	6.5nm,0.2s								
TNSS	Tian-Shan	6.74	60		Pg		Pb	01 32 02.6	+5.9
	2.8nm,0.5s								
TNSS					Lg		Lg	01 33 31.3	
	2.0nm,0.6s								
MDOK	Medeo	6.86	59	⇓Pn			Pn	01 31 40.0	-0.2
	6.7nm,0.8s								
MDOK				⇓Lg			Lg	01 33 41.4	
	7.0nm,0.7s								
MDOK	Medeo	6.86	59	Pg			Pb	01 32 04.7	+6.1
	3.5nm,0.7s								
MDOK				Lg			Lg	01 33 34.5	
	6.9nm,0.7s								
KTBS	Karatobe	6.88	54	Pg			Pb	01 32 04.7	+5.9
	2.6nm,0.4s								
KTBS				Lg			Lg	01 33 34.7	
	10nm,0.4s								
KOTS	Kotyrbulak	6.93	59	Pg			Pb	01 32 06.4	+6.6
	2.8nm,0.5s								
KOTS				Lg			Lg	01 33 37.6	
	10nm,0.6s								
KURS	Kuram	7.74	60	Pg			Pb	01 32 20.9	+7.4
	1.8nm,0.3s								
KURS				Lg			Lg	01 34 02.4	
	2.7nm,0.5s								
ARXS	Arharly	7.84	54	Pg			Pb	01 32 22.6	+7.3
	1.7nm,0.6s								
ARXS				Lg			Lg	01 34 05.3	
	7.2nm,0.5s								
BLB	Baldybastay	8.20	57	Pg			Pb	01 32 29.1	+7.6
	2.1nm,0.1s								
BLB				Lg			Lg	01 34 16.7	
	4.2nm,0.4s								
PDGK	Podgornoye	8.57	63	⇑Lg			Lg	01 34 33.3	
	3.8nm,0.9s								
AB31	Akbulak array	11.30	328	Pn			Pn	01 32 38.5	-2.3
	0.4nm,0.3s,baz=136,slow=15,SNR=25								
AB31				⇓Sn			Sn	01 34 42.6	-4.8
	1.4nm,0.5s,baz=151,slow=23,SNR=6.0								

IDC ***13*** *01:33:33.7±1.6, 51.37N×173.91W, h0km, mb3.4/8, mb1 3.7/10, mb1mx3.5/51, mbtmp3.5/10, ML3.6/2, Error ellipse: s-maj=46.6km s-min=18.1km az=175.0*
AEIC ***13*** *01:33:36.1±8.1, 51.14N±0.1×173.72W±0.2, h26km±10km, Error ellipse: s-maj=21.1km s-min=10.9km az=131.0*
NEIC ***13*** *01:33:45.2±0.8, 51.19N±0.1×174.14W±0.3, h29km±32km, ML3.1(AEIC), Error ellipse: s-maj=31.6km s-min=19.5km az=97.0*

ISC 13 01:33:39.8±0.9, 51.16N±0.1×173.89W±0.08, h35km, n25, σ0s91/25, mb3.5/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.67	344				Pn	01 33 52.9	+0.1
KOFP	Korovin Flat P	0.72	350				Pn	01 33 54.2	+0.6
KOKL	Mount Kliuchef	0.79	346				Pn	01 33 55.1	+0.7
GSMY	Great Sitkin M	1.43	290				Pn	01 34 03.9	+0.7
GSTR	Great Sitkin T	1.45	292				Pn	01 34 04.3	+0.8
GSCK	Great Sitkin C	1.48	289				Pn	01 34 04.4	+0.4
GSTD	Great Sitkin T	1.48	290				Pn	01 34 04.1	+0.1
ADK	Adak	1.77	282				Pn	01 34 07.9	0.0
KIWB	Kanaga Island	2.05	279				Pn	01 34 12.5	+0.7
KIKV	Kanaga Island	2.06	280				Pn	01 34 12.9	+0.9
KIMD	Kanaga Island	2.09	277				Pn	01 34 13.2	+0.9
TAPA	Tanaga Point A	2.46	277				Pn	01 34 18.1	+0.7
TAFP	Tanaga Falls P	2.57	279				Pn	01 34 20.5	+1.6
TASE	Tanaga Soushea	2.59	278				Pn	01 34 20.9	+1.6
GANO	Gareloi North	3.07	277				Pn	01 34 26.9	+1.1
KDAK	Kodiak Island	13.78	55	Pn			Pn	01 36 53.2	+0.8
	0.3nm,0.3s,baz=225,slow=4.3,SNR=2.0								
ILAR	Eielson Array	19.23	36	P			P	01 38 00.5	-0.1
	0.2nm,0.3s,baz=238,slow=8.4,SNR=8.0								
SEY	Seymchan	21.22	315	P			P	01 38 23.4	+1.2
	0.9nm,0.3s,baz=61,slow=19,SNR=11								
INK	Inuvik	25.57	34	P			P	01 39 06.5	+1.5
	0.3nm,0.4s,baz=260,slow=7.1,SNR=6.8								
KLR	Kul'dur	34.06	288	P			P	01 40 19.6	-0.8
	0.6nm,0.6s,baz=54,slow=14,SNR=1.9								
KSRS	Korea Array	42.70	274	P			P	01 41 32.6	-0.4
	1.0nm,0.7s,baz=64,slow=11,SNR=2.1								
PDAR	Pinedale Array	43.31	75	P			P	01 41 38.2	-0.1
	0.1nm,0.4s,baz=308,slow=4.4,SNR=1.7								
SONM	Songino Array	49.28	299	P			P	01 42 23.8	-1.1
	0.4nm,0.7s,baz=52,slow=7.5,SNR=2.9								
TXAR	Lajitas Array	55.58	85	P			P	01 43 11.4	-0.4
	0.3nm,0.9s,baz=309,slow=9.1,SNR=2.7								
MKAR	Makanchi Array	62.28	311	P			P	01 43 57.3	-0.7
	0.2nm,0.5s,baz=52,slow=6.1,SNR=5.6								

CNRM ***13*** *01:34:36.0, 35.78N×3.60W, h19km, ml2.5*
SFS ***13*** *01:34:36.0, 35.69N×3.68W, h10km, ML2.5, ALBORAN SUR*
MDD ***13*** *01:34:36.7±0.3, 35.69N×3.63W, h0km, mb_Lg2.2/14, Error ellipse: s-maj=3.1km s-min=2.2km az=178.0*

ISC 13 01:34:36.0±1.6, 35.71N±0.02×3.64W±0.03, h11km±12km, n36, σ1s23/63, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.54	64	Pg			Pb	01 34 47.6	+0.1
EALB				Sg			Sb	01 34 55.0	-0.3
EALB				i Vmb_Lg				01 34 57.2	
PALE	Palemas	0.55	207	P			Pb	01 34 48.4	+0.8
EMEL	Melilla	0.69	126	Pg			Pb	01 34 49.7	-0.3
EMEL				Sg			Sg	01 34 58.4	0.0
GOG	Mont Gurugu	0.71	132	P			Pb	01 34 50.0	-0.5
GOG				S			Sg	01 34 58.8	-0.4
ELGU	Los Guajares,	1.16	0	Pg			Pb	01 34 57.2	-1.0
ELGU				Sg			Sg	01 35 14.0	+0.5
ELGU				i Vmb_Lg				01 35 15.7	
EMAL	Malaga-Limoner	1.23	329	P			Pn	01 34 58.7	-0.5
EMAL				S			Sb

ESDC	**Sonseca Array**	**3.97**	**356**	Pn		**Pn**	**01 35 38.3**	**+1.4**
ESDC				Sn		**Sn**	**01 36 23.8**	**+0.3**
EBAD	**Badajoz**	**4.07**	**320**	Pn		**Pn**	**01 35 39.4**	**+1.2**
EBAD				Sn		**Sn**	**01 36 25.2**	**-0.5**
EVIV	**Cofrentes, Val**	**4.08**	**29**	Pn		**Pn**	**01 35 39.0**	**+0.6**
EVIV				Sn		**Sn**	**01 36 25.6**	**-0.6**

*IDC **13** 01:38:38.8±7.1,51°.43N×173°.92W,h0km,mb3.2/3, mb1 3.5/5,mb1mx3.3/48,mbtmp3.4/5,ML3.4/2,Error ellipse: s-maj=190.1km s-min=26.9km az=166.0*
*AEIC **13** 01:38:42±1.1,51°.4N±0°.1×174°.0W±0°.2,h18km±9km,Error ellipse: s-maj=17.7km s-min=13.3km az=134.0*
*NEIC **13** 01:38:47.3±0.7,51°.69N±0°.06×174°.49W±0°.07,h10km±2km, ML2.9(AEIC),Error ellipse: s-maj=12.1km s-min=4.5km az=146.0*
ISC 13 01:38:42.1±2.6,51°.4N±0°.2×174°.2W±0°.1,h10km,n19, σ1§30/16,mb3.5/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.84**	**360**			**Pg**	**01 38 58.5**	**+0.2**
KOFP	**Korovin Flat P**	**0.92**	**4**			**Pg**	**01 38 59.7**	**-0.1**
KOKL	**Mount Kliuchef**	**0.96**	**360**			**Pg**	**01 39 00.0**	**-0.6**
GSMY	**Great Sitkin M**	**1.34**	**301**			**Pb**	**01 39 07.4**	**0.0**
GSTR	**Great Sitkin T**	**1.37**	**303**			**Pb**	**01 39 07.9**	**0.0**
GSCK	**Great Sitkin C**	**1.39**	**299**			**Pg**	**01 39 08.0**	**-0.7**
GSTD	**Great Sitkin T**	**1.40**	**301**			**Pg**	**01 39 08.0**	**-0.9**
ETKA	**Kagalaska Isla**	**1.47**	**291**			**Pb**	**01 39 09.9**	**+0.5**
ADAG	**Mount Adagdak**	**1.62**	**293**			**Pn**	**01 39 12.0**	**+1.2**
ADK	**Adak**	**1.64**	**290**			**Pn**	**01 39 11.8**	**+0.8**
KIWB	**Kanaga Island**	**1.91**	**286**			**Pn**	**01 39 16.4**	**+1.8**
KIKV	**Kanaga Island**	**1.93**	**287**			**Pn**	**01 39 16.6**	**+1.7**
TAFP	**Tanaga Falls P**	**2.42**	**284**			**Pn**	**01 39 23.8**	**+2.0**
TASE	**Tanaga Southea**	**2.44**	**283**			**Pn**	**01 39 24.2**	**+2.1**
KDAK	**Kodiak Island**	**14.05**	**54**	Pn		Pn	01 41 59.4	-1.5
	0.3nm,0.3s,baz=319,slow=1.1,SNR=2.2							
ILAR	**Eielson Array**	**19.50**	**36**	P		P	01 43 05.3	-3.8
	0.1nm,0.3s,baz=237,slow=9.1,SNR=6.6							
YKA	**Yellowknife Ar**	**33.14**	**47**	P		P	01 45 15.1	-2.9
	0.1nm,0.3s,baz=274,slow=7.3,SNR=2.2							
SONM	**Songino Array**	**49.21**	**299**	P		**P**	**01 47 29.9**	**-0.4**
	0.3nm,0.6s,baz=58,slow=8.2,SNR=2.9							
MKAR	**Makanchi Array**	**62.26**	**311**	P		**P**	**01 49 02.3**	**-1.6**
	0.1nm,0.3s,baz=50,slow=6.0,SNR=5.5							

*MDD **13** 01:48:54.0±0.5,43°.05N×7°.66W,h22km±3km,mb_Lg2.9/7, Error ellipse: s-maj=3.5km s-min=2.2km az=165.0*
*LDG **13** 01:48:54.0±0.1,43°.07N×7°.71W,h22km,Ml2.6/16,Error ellipse: s-maj=3.7km s-min=2.2km az=119.0*
*INMG **13** 01:48:54.2±2.2,43°.17N×7°.72W,h16km±6km,ML2.5,Error ellipse: s-maj=5.3km s-min=4.3km az=88.0*
ISC 13 01:48:51.3±0.9,43°.21N±0°.03×7°.67W±0°.02,h15km±5km, n60,σ2§57/106,1C,Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EAGO	**Agolada(Pontev**	**0.51**	**217**		Pg	**Pg**	**01 49 01.4**	**-0.1**
EAGO					Sg	**Sg**	**01 49 08.3**	**-0.1**
EAGO					*i* Vmb_Lg		01 49 12.5	
EMAZ	**Mazaricos**	**0.99**	**255**		Pg	**Pb**	**01 49 11.1**	**+0.8**
EMAZ					Sg	**Sb**	**01 49 24.3**	**+1.1**
EMAZ					*i* Vmb_Lg		01 49 25.9	
EZAM	**Zamans**	**1.31**	**216**		Pg	**Pn**	**01 49 14.7**	**-0.4**
EZAM					Sg	**Sb**	**01 49 31.4**	**-0.8**
EZAM					*i* Vmb_Lg		01 49 34.1	
PGAV	**Gavieira, Arco**	**1.32**	**200**		*e*P	**Pn**	**01 49 16.7**	**+1.3**
PGAV					*e*S	**Sb**	**01 49 33.2**	**+0.4**
PGAV					A	A	01 49 34.7	
	113nm,0.4s							
ELOB	**Lobios**	**1.38**	**192**		Pg	**Pn**	**01 49 17.7**	**+1.6**
ELOB					Sg	**Sn**	**01 49 34.4**	**+0.3**
PCAB	**Cabril**	**1.52**	**190**	⇑	*e*Pg	**Pn**	**01 49 20.5**	**+2.4**
PCAB					*e*Sg	**Sn**	**01 49 39.4**	**+1.7**
PCAB					A	A	01 49 40.1	
	104nm,0.2s							
PBRG	**Braganca**	**1.56**	**154**		*e*Pg	**Pn**	**01 49 21.2**	**+2.5**
PBRG					*e*Sg	**Sn**	**01 49 40.7**	**+2.0**
PBRG					A	A	01 49 41.8	
	31nm,0.3s							
EARI	**Arriondas**	**1.80**	**86**		Pg	**Pn**	**01 49 24.3**	**+2.5**
EARI					Sg	**Sb**	**01 49 49.6**	**+3.2**
POLO	**Lamas de Olo**	**1.84**	**183**		*e*Pg	**Pb**	**01 49 26.1**	**+1.3**
POLO					*e*Sg	**Sb**	**01 49 49.2**	**+1.5**
POLO					A	A	01 49 51.2	
	11nm,0.3s							
PVRL	**Vila Real**	**1.94**	**181**		*e*Pn	**Pn**	**01 49 24.9**	**+1.1**
PVRL	**Vila Real**	**1.94**	**181**		*e*Pg	**Pb**	**01 49 28.2**	**+1.8**
PVRL					*e*Sg	**Sb**	**01 49 52.5**	**+2.1**
PVRL					A	A	01 49 53.3	
	28nm,0.1s							
MVO	**Moncorvo**	**2.10**	**167**		*e*Pn	**Pn**	**01 49 27.2**	**+1.1**
MVO	**Moncorvo**	**2.10**	**167**		*e*Pg	**Pb**	**01 49 31.1**	**+1.9**
MVO					*e*Sg	**Sb**	**01 49 58.5**	**+3.4**
MVO					A	A	01 50 03.0	
	16nm,0.3s							
PVIS	**Viseu**	**2.50**	**184**		*e*Pg	**Pg**	**01 49 39.9**	**+0.6**
PVIS					*e*Sn	**Sn**	**01 49 58.4**	**-3.4**
PVIS					*e*Sg	**Sb**	**01 50 09.9**	**+3.3**
PVIS					A	A	01 50 12.1	
	12nm,0.2s							
MTE	**Manteigas**	**2.81**	**178**		*e*Pn	**Pn**	**01 49 37.3**	**+1.4**
MTE	**Manteigas**	**2.81**	**178**		*e*Pg	**Pb**	**01 49 43.9**	**+2.6**
MTE					*e*Sg	**Sb**	**01 50 19.8**	**+4.2**
MTE					A	A	01 50 21.4	
	16nm,0.5s							
COI	**Coimbra**	**3.05**	**191**		*e*Sg	**Sg**	**01 50 28.6**	**-0.8**
COI					A	A	01 50 30.1	
	16nm,0.2s							
ELAN	**Lanestosa**	**3.10**	**88**		Pn	**Pn**	**01 49 42.8**	**+3.1**
ELAN					*i* Vmb_Lg		01 50 24.8	
ELAN					Sg	**Sb**	**01 50 30.7**	**+7.0**
PCAS	**Casmilo, Conde**	**3.22**	**191**		*e*Pn	**Pn**	**01 49 42.8**	**+1.4**
PCAS					*e*Sn	**Sn**	**01 50 19.0**	**-0.5**
PCAS					*e*Sg	**Sb**	**01 50 32.0**	**+4.8**
PCAS					A	A	01 50 37.9	
	8.6nm,0.6s							
EPLA	**Plasencia**	**3.36**	**159**		Pn	**Pn**	**01 49 44.2**	**+0.8**
EPLA					Pg	**Pb**	**01 49 53.5**	**+2.8**
EPLA					Sn	**Sn**	**01 50 20.7**	**-2.4**
EPLA					Sg	**Sb**	**01 50 35.8**	**+4.3**
EPLA					*i* Vmb_Lg		01 50 40.3	
PCBR	**Castelo Branco**	**3.37**	**178**		*e*Pn	**Pn**	**01 49 43.9**	**+0.4**
PCBR	**Castelo Branco**	**3.37**	**178**		*e*Pg	**Pb**	**01 49 54.6**	**+3.8**
PCBR					*e*Sn	**Sn**	**01 50 22.8**	**-0.5**
PCBR					*e*Sg	**Sb**	**01 50 36.8**	**+5.1**
PCBR					A	A	01 50 39.8	
	5.9nm,0.6s							
GUD	**Guadarrama**	**3.67**	**133**		Pn	**Pn**	**01 49 49.3**	**+1.6**
GUD					Pg	**Pb**	**01 50 00.2**	**+4.2**
GUD					Sg	**Sb**	**01 50 46.1**	**+5.8**
PMRV	**Marv??o**	**3.79**	**177**		*e*Pn	**Pn**	**01 49 49.9**	**+0.7**
PMRV	**Marv??o**	**3.79**	**177**		*e*Pg	**Pb**	**01 50 02.7**	**+4.8**
PMRV					*e*Sn	**Sn**	**01 50 33.0**	**-0.5**
PMRV					*e*Sg	**Sg**	**01 50 49.9**	**-3.0**
PMRV					A	A	01 50 53.3	
	8.2nm,0.4s							
PSBE	**So Bento**	**3.79**	**193**		*e*Pn	**Pn**	**01 49 50.2**	**+0.9**
PSBE					*e*Sn	**Sn**	**01 50 32.5**	**-1.1**
PSBE					*e*Sg	**Sg**	**01 50 52.1**	**-1.0**
PSBE					A	A	01 50 58.8	
	8.1nm,0.6s							
PMTG	**Montargil**	**4.16**	**186**		*e*Pn	**Pn**	**01 49 55.0**	**+0.7**
PMTG					*e*Sg	**Sg**	**01 51 01.9**	**-3.0**
PMTG					A	A	01 51 07.2	
	4.0nm,0.9s							
PESTR	**Estremoz**	**4.34**	**179**		*e*Pn	**Pn**	**01 49 57.7**	**+0.9**
PESTR					*e*Sn	**Sn**	**01 50 46.1**	**-1.1**
PESTR					*e*Sg	**Sg**	**01 51 07.3**	**-3.4**
PESTR					A	A	01 51 11.3	
	4.1nm,0.5s							
UCM	**Universidad Co**	**4.40**	**130**		P	**Pg**	**01 50 15.4**	**-0.3**
UCM					S	**Sg**	**01 51 10.3**	**-2.3**
PMAFR	**Mafra**	**4.42**	**197**		*e*Pn	Pn	01 50 02.3	+4.3
PAB	**San Pablo**	**4.43**	**145**		Pn	**Pn**	**01 49 59.1**	**+1.0**
PAB					Pg	Pb	01 50 13.8	+4.8
PAB					Sn	**Sn**	**01 50 48.0**	**-1.5**
PAB					Sg	**Sg**	**01 51 10.7**	**-3.0**
PAB					*i* Vmb_Lg		01 51 13.2	
EBAD	**Badajoz**	**4.48**	**173**		Pn	**Pn**	**01 49 58.7**	**0.0**
EBAD					Pg	**Pb**	**01 50 13.6**	**+3.9**
EBAD					Sg	**Sb**	**01 51 10.1**	**+6.5**
EBAD					*i* Vmb_Lg		01 51 17.6	
ESDC	**Sonseca Array**	**4.50**	**141**		Pg	Pb	01 50 15.3	+5.2
ESDC					Sg	**Sg**	**01 51 12.5**	**-3.3**
EALK	**Alkurruntz**	**4.50**	**88**		Pn	**Pn**	**01 50 00.9**	**+1.8**
EALK					Sn	**Sn**	**01 50 50.8**	**-0.4**
EVO	**Evora**	**4.68**	**183**		*e*Pn	**Pn**	**01 50 02.2**	**+0.7**
EVO					*e*Sg	**Sg**	**01 51 17.7**	**-4.0**
EVO					A	A	01 51 31.2	
	4.5nm,0.5s							
SJPF	**Ste Jean**	**4.71**	**89**		*e*Pn	**Pn**	**01 50 02.6**	**+0.7**
SJPF					*e*Sn	**Sn**	**01 50 53.6**	**-2.8**
	2.1nm,0.5s							
ETOR	**Torete**	**4.82**	**118**		Pn	**Pn**	**01 50 03.7**	**+0.3**
ETOR					Sg	**Sg**	**01 51 25.1**	**-0.9**
PBAR	**Barrancos**	**5.06**	**174**		*e*Pn	**Pn**	**01 50 07.6**	**+1.0**
PBAR					*e*Sg	**Sg**	**01 51 29.2**	**-4.4**
PBAR					A	A	01 51 32.2	
	4.1nm,0.5s							
PNCL	**Nicolau / Gran**	**5.14**	**188**		*e*Pn	**Pn**	**01 50 08.1**	**+0.4**
ETSF	**Etsaut**	**5.22**	**91**		*e*Pn	**Pn**	**01 50 10.6**	**+1.7**
ETSF	**Etsaut**	**5.22**	**91**		*e*P	Pn	01 50 14.1	+5.2
ETSF					*e*Sn	**Sn**	**01 51 05.5**	**-3.4**
	7.8nm,0.7s							
QUIF	**Quistinic**	**5.67**	**32**		*e*Pn	**Pn**	**01 50 17.1**	**+2.1**
QUIF					*e*Sn	**Sn**	**01 51 16.3**	**-3.4**
	0.5nm,0.2s							
PVAQ	**Vaqueiros**	**5.80**	**180**		*e*Pn	**Pn**	**01 50 16.1**	**-0.8**
PVAQ					*e*Sg	**Sg**	**01 51 53.8**	**-3.8**
EPF	**Esparros**	**5.86**	**89**		*e*Pn	**Pn**	**01 50 18.6**	**+0.8**
EPF	**Esparros**	**5.86**	**89**		*e*P	Pn	01 50 23.0	+5.2
EPF					*e*Sn	**Sn**	**01 51 20.4**	**-4.3**
	1.0nm,0.4s							
ROSF	**Rostrenen**	**5.97**	**29**		*e*Pn	**Pn**	**01 50 21.3**	**+2.1**
ROSF					*e*Sn	**Sn**	**01 51 24.5**	**-2.8**
	0.5nm,0.2s							
LFF	**La Frestale**	**6.30**	**71**		*e*Pn	**Pn**	**01 50 25.5**	**+1.9**
MFF	**Saint Martin d**	**6.33**	**55**		*e*Pn	**Pn**	**01 50 25.1**	**+1.1**
MFF					*e*Sn	**Sn**	**01 51 33.8**	**-2.2**
	0.4nm,0.2s							
RJF	**Les Rejaudoux**	**6.92**	**69**		*e*Pn	**Pn**	**01 50 32.6**	**+0.4**
RJF					*e*Sn	**Sn**	**01 51 46.1**	**-4.5**
	1.1nm,0.3s							
CAF	**Calviac**	**7.22**	**73**		*e*Pn	**Pn**	**01 50 36.5**	**+0.2**
CAF	**Calviac**	**7.22**	**73**		*e*P	Pn	01 50 41.1	+4.8
CAF					*e*Sn	**Sn**	**01 51 54.0**	**-4.0**
	0.7nm,0.2s							
FLN	**La Foliniere**	**7.47**	**40**		*e*P	Pn	01 50 47.1	+7.4
	baz=214							
FLN					*e*Sn	**Sn**	**01 52 02.3**	**-1.9**
	0.4nm,0.2s,baz=214							
LDF	**La Druitiere**	**7.52**	**42**		*e*Pn	**Pn**	**01 50 42.5**	**+2.0**
LDF					*e*Sn	**Sn**	**01 52 03.8**	**-1.7**
	0.1nm,0.1s							
TCF	**Toulx Ste Croi**	**7.67**	**63**		*e*Pn	**Pn**	**01 50 43.5**	**+0.9**
TCF					*e*Sn	Sn	01 52 03.5	-5.7
	0.7nm,0.2s							
BGF	**Bois d'Agland**	**8.18**	**62**		*e*Pn	**Pn**	**01 50 50.1**	**+0.6**
BGF	**Bois d'Agland**	**8.18**	**62**		*e*P	Pn	01 50 56.0	+6.5
BGF					*e*Sn	**Sn**	**01 52 17.5**	**-4.1**
	0.4nm,0.2s							
AVF	**Avril sur Loir**	**8.59**	**62**		*e*Pn	**Pn**	**01 50 55.7**	**+0.6**
AVF					*e*Sn	Sn	01 52 25.1	-6.5
	0.2nm,0.2s							
SSF	**Saint Saulge**	**8.78**	**60**		*e*Pn	**Pn**	**01 50 58.0**	**+0.2**
SSF					*e*Sn	**Sn**	**01 52 32.4**	**-4.1**
	0.2nm,0.2s							
SMF	**Signal de Mont**	**8.86**	**63**		*e*Pn	**Pn**	**01 50 59.2**	**+0.4**
LOR	**Lormes**	**9.09**	**60**		*e*Pn	**Pn**	**01 51 01.6**	**-0.3**
	baz=252							

IDC 13 02:03:55.8±2.9,30°.32S×178°.23W,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.6/22,mbtmp3.6/4,ML2.8/1,Error ellipse: s-maj=68.8km s-min=43.3km az=125.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.81**	**205**		Pn	Pn	02 06 05.5	+1.2
	0.1nm,0.3s,baz=205,slow=23,SNR=1.3							
URZ					Sn	Sn	02 07 36.2	-8.1
	0.9nm,0.3s,baz=174,slow=23,SNR=12							
STKA	**Stephens Creek**	**34.30**	**257**	P		P	02 10 43.9	-0.1
	1.7nm,0.5s,baz=108,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**42.91**	**267**	P		P	02 11 55.5	-0.9
	0.3nm,0.6s,baz=107,slow=6.8,SNR=4.9							
WRA	**Warramunga Arr**	**43.89**	**272**	P		P	02 12 04.0	-0.4
	0.7nm,0.9s,baz=113,slow=7.5,SNR=8.4							
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc		PKPbc	02 23 33.5	-0.1
	0.7nm,0.4s,baz=62,slow=4.2,SNR=12							

*BJI **13** 02:07:36.4±0.0,41°.95N×142°.64E,h78km,mb4.6/34, mB4.8/11,Ms4.2/1*
*MOS **13** 02:07:36.2±1.1,42°.03N×142°.51E,h66km,mb4.7/28,Error ellipse: s-maj=6.6km s-min=5.0km az=106.7*
*BGR **13** 02:07:37.1±0.0,42°.25N×142°.54E,h33km,mb4.7,Ms3.7*
*JMA **13** 02:07:37.1±0.1,41°.98N×142°.57E,h62km±2km,M4.2 Broadband fault plane solution: P waves. NP1: ϕs17.00000°,δ83.00000°,λ93.00000°. NP2:ϕs174.00000°, δ8.00000°,λ67.00000°. Principal axes: T Plg52.0000°, Azm290.0000°; N Plg3.0000°, Azm196.0000°; P Plg38.0000°, Azm104.0000°;*
JMA Felt II J1.
*NEIC **13** 02:07:37.4±1.7,42°.02N±0°.06×142°.53E±0°.09,h58km±6km, mb4.6/68 Error ellipse: s-maj=11.2km s-min=7.0km az=121.0*
*NIED **13** 02:07:37.1,41°.98N×142°.57E,h62km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.44; Mθθ-0.63; Mϕϕ-1.81; Mrθ1.24; Mθϕ-0.89; Mϕr1.62; Fault plane solution: Mo3.12000×10¹⁵ NP1:ϕs34.00000°, δ65.00000°,λ.95.00000°. NP2:ϕs203.00000°,δ25.00000°, λ.80.00000°.*
*IDC **13** 02:07:37.8±1.9,42°.07N×142°.48E,h64km±16km,mb4.0/23, mb1 4.1/29,mb1mx4.0/46,mbtmp4.2/29,MS3.3/14, Ms1 3.3/14,ms1mx3.0/88 Error ellipse: s-maj=14.9km s-min=12.0km az=132.0*
ISC 13 02:07:37.6±0.6,41°.98N±0°.04×142°.57E±0°.03,h65km±4km, n278,σ1§03/280,mb4.5/89,51C-31D,Fault plane solution: NP1:ϕs28.43693°,δ88.43098°,λ94.16386°. NP2:ϕs139.04865°,δ4.44919°,λ20.66875°. Principal axes: T Plg46.4138°, Azm302.7076°; N Plg4.1623°, Azm208.3227°; P Plg43.2840°, Azm114.3926°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.33**	**24**		⇑P	**Pn**	**02 07 47.5**	**-1.0**
JNBK					*e*S	**Sn**	**02 07 55.5**	**-0.9**
ERM	**Erimo**	**0.44**	**85**	*c*	*i*PN	**Pn**	**02 07 48.7**	**-0.6**
ERM					pmax	pmax		
	comp=Z,2µm,0.7s							
ERM	**Erimo**	**0.44**	**85**			**Pn**	**02 07 49.0**	**-0.4**
ERM					Sn	**Sn**	**02 07 57.2**	**-0.7**
JEM	**Erimo**	**0.44**	**85**		⇑P	**Pn**	**02 07 48.9**	**-0.4**
JEM					*e*S	**Sn**	**02 07 57.5**	**-0.4**
JSHD	**Hidakashinhida**	**0.44**	**350**		⇓P	**Pn**	**02 07 48.8**	**-0.6**
JSHD					*e*S	**Sn**	**02 07 57.7**	**-0.3**
JTHR	**Tokachihiroo**	**0.63**	**60**		⇑P	**Pn**	**02 07 50.8**	**-0.5**
JTHR					*e*S	**Sn**	**02 08 01.2**	**-0.1**
JIAM	**Iburiatsuma**	**0.81**	**323**		⇓P	**Pn**	**02 07 53.5**	**+0.1**
JIAM					*e*S	**Sn**	**02 08 06.0**	**+1.0**
JBT2	**Biratori 2**	**0.81**	**349**		⇓P	**Pn**	**02 07 52.8**	**-0.7**
JBT2					*e*S	**Sn**	**02 08 04.6**	**-0.7**
JCH	**Churui**	**0.87**	**42**		⇑P	**Pn**	**02 07 53.6**	**-0.5**
JCH					*e*S	**Sn**	**02 08 05.5**	**-0.9**
JKB	**Kayabe**	**1.15**	**266**		⇓P	**Pn**	**02 07 56.9**	**-0.8**
JKB					*e*S	**Sn**	**02 08 11.6**	**-1.2**
JFR	**Furan**	**1.19**	**1**		⇓P	**Pn**	**02 07 57.5**	**-0.7**
JEW	**Eniwo**	**1.20**	**316**		⇓P	**Pn**	**02 07 58.0**	**-0.3**
JEW					*e*S	**Sn**	**02 08 13.2**	**-0.7**
JEW	**Eniwo**	**1.20**	**316**		Pn	**Pn**	**02 07 58.1**	**-0.3**
JNB	**Noboribetsu**	**1.24**	**294**		⇓P	**Pn**	**02 07 57.6**	**-1.3**
JNB					*e*S	**Sn**	**02 08 13.1**	**-1.8**
JOT	**Ohata**	**1.29**	**243**		⇓P	**Pn**	**02 07 58.9**	**-0.6**
JOT					*e*S	**Sn**	**02 08 15.1**	**-0.9**
JOB	**Onbets**	**1.32**	**45**		⇑P	**Pn**	**02 08 00.6**	**+0.7**
JOB					*e*S	**Sn**	**02 08 18.1**	**+1.4**
JAB	**Ashibetsu**	**1.55**	**351**		⇓P	**Pn**	**02 08 02.9**	**-0.1**
JISS	**Ishikarishitsu**	**1.55**	**327**		⇓P	**Pn**	**02 08 02.8**	**-0.2**
JISS					*e*S	**Sn**	**02 08 22.2**	**-0.1**
JAR	**Ashorobuto**	**1.59**	**33**		⇑P	**Pn**	**02 08 03.3**	**-0.3**
JTM	**Tenmabayashi**	**1.64**	**224**		P	**Pn**	**02 08 04.3**	**+0.1**
JTM					*e*S	**Sn**	**02 08 24.0**	**-0.4**
JTM	**Tenmabayashi**	**1.64**	**224**		Pn	**Pn**	**02 08 04.4**	**+0.1**
JYM2	**Yakumo 2**	**1.65**	**276**		⇓P	**Pn**	**02 08 03.5**	**-0.8**
JKA	**Kamikawa-asahi**	**2.14**	**1**		Pn	**Pn**	**02 08 10.7**	**-0.2**
ASAJ	**Asahikawa**	**2.14**	**0**		P	**Pn**	**02 08 10.7**	**-0.3**
	comp=Z,154nm,0.3s,baz=211,slow=9.8,SNR=324							
ASAJ					S	**Sn**	**02 08 37.5**	**+1.1**
	comp=Z,53nm,0.3s,baz=75,slow=28,SNR=13							
NMR	**Nemuro--Hokkai**	**2.71**	**58**	⇑	*i*PN	**Pn**	**02 08 17.6**	**-1.1**
NMR					*i* S	**Sn**	**02 08 47.1**	**-3.3**
GLVR	**Golovnino**	**2.79**	**50**		*e*PN	**Pn**	**02 08 20.5**	**+0.7**
GLVR					*e*S	**Sn**	**02 08 52.4**	**+0.1**
GLVR					pmax	pmax		
	comp=Z,236nm,0.3s							
GLVR					pmax	pmax		
	comp=E,67nm,0.4s							
GLVR					smax	smax		
	comp=E,2µm,1.2s							
GLVR					smax	smax		
	comp=N,1µm,1.1s							
GLVR					smax	smax		
	comp=E,1µm,0.3s							
GLVR					smax	smax		
	comp=N,490nm,0.2s							
RUSJ	**Misakicho**	**2.89**	**42**		*e*PN	**Pn**	**02 08 23.0**	**+1.8**
RUSJ					*e*S	**Sn**	**02 08 57.0**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**3.17**	**48**	⇑	*i*PN	**Pn**	**02 08 25.7**	**+0.7**
YUK					*i* S	**Sn**	**02 09 00.9**	**-0.7**
YUK					pmax	pmax		
	comp=N,53nm,0.2s							
YUK					pmax	pmax		
	comp=E,67nm,0.2s							
YUK					pmax	pmax		
	comp=Z,300nm,0.2s							
YUK					smax	smax		
	comp=E,397nm,0.6s							
YUK					smax	smax		
	comp=N,1µm,1.0s							
YUK					smax	smax		
	comp=N,383nm,0.4s							
YUK					smax	smax		
	comp=E,881nm,0.5s							
JMM	**Marumori**	**4.33**	**199**			**Pn**	**02 08 40.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.98**	**1**		*e*PN	**Pn**	**02 08 51.4**	**+1.7**
YSS					*e*S	**Sn**	**02 09 48.0**	**+2.2**
YSS					pmax	pmax		
	comp=Z,80nm,0.7s							
YSS					pmax	pmax		
	comp=E,80nm,0.8s							
YSS					smax	smax		
	comp=N,30nm,0.6s							
YSS					smax	smax		
	comp=E,20nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.98**	**1**		Pn	**Pn**	**02 08 50.1**	**+0.4**
KUR	**Kuril'sk**	**5.04**	**48**		*e*PN	**Pn**	**02 08 51.7**	**+1.2**
KUR					*e*S	**Sn**	**02 09 49.9**	**+2.6**
KUR					pmax	pmax		
	comp=Z,91nm,0.3s							
KUR					pmax	pmax		
	comp=E,39nm,0.6s							
KUR					pmax	pmax		
	comp=N,33nm,0.4s							
KUR					smax	smax		
	comp=N,106nm,0.5s							
KUR					smax	smax		
	comp=E,44nm,0.4s							
JSD	**Sado**	**5.14**	**221**		Pn	**Pn**	**02 08 52.8**	**+0.8**
TEY	**Ternei**	**5.31**	**307**	⇑	*e*PN	**Pn**	**02 08 53.9**	**-0.3**
TEY					pmax	pmax		
	comp=N,30nm,0.5s							
TEY					pmax	pmax		
	comp=E,30nm,0.5s							
TEY					pmax	pmax		
	comp=Z,30nm,0.5s							
JYT	**Yasato**	**6.03**	**199**		Pn	**Pn**	**02 09 03.3**	**-0.9**
MJB9	**Matsu-Tunnel**	**6.39**	**213**		Pn	**Pn**	**02 09 09.5**	**+0.3**
MAJO	**Matsushiro**	**6.40**	**213**	⇓	*e*PN	**Pn**	**02 09 11.4**	**+2.2**
MAJO					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MAJO	**Matsushiro**	**6.40**	**213**		Pn	**Pn**	**02 09 10.3**	**+1.1**
MJAR	**Matsushiro Arr**	**6.40**	**213**		P	**Pn**	**02 09 09.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=20,slow=15,SNR=6.5							
MJAR					LR	LR	02 12 09.7	
	comp=Z,81nm,21.3s,baz=21,slow=42							
MJAR	**Matsushiro Arr**	**6.40**	**213**		PN	**Pn**	**02 09 10.0**	**+0.8**
MJAR	**Matsushiro Arr**	**6.40**	**213**			**Pn**	**02 09 10.0**	**+0.8**
INU	**Inuyama**	**7.92**	**215**		Pn	**Pn**	**02 09 31.0**	**+1.1**
USA0B	**Ussuriysk Arra**	**8.06**	**290**		PN	**Pn**	**02 09 31.9**	**+0.1**
USA0B	**Ussuriysk Arra**	**8.06**	**290**			**

comp=N,61nm,4.1s
YAK pmax pmax
comp=E,46nm,3.2s
YAK smax smax
comp=E,93nm,3.8s
YAK smax smax
comp=N,52nm,3.7s
SEY Seymchan 21.77 12 P **P 02 12 21.3 -2.3**
comp=N,12nm,1.1s,baz=205,slow=8.7,SNR=32
SEY Seymchan 21.77 12⇑ *i*P **P 02 12 21.7 -1.9**
SEY pmax pmax
comp=Z,7.0nm,0.8s
BOD Bodaibo 24.03 321 *e*P **P 02 12 43.2 -2.9**
BOD pmax pmax
comp=Z,6.0nm,1.6s
ULN Ulaanbaatar 25.67 295⇓ *e*P **P 02 13 01.5 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 25.67 295 P **P 02 13 01.1 -0.3**
SONM Songino Array 26.11 295 P **P 02 13 04.3 -1.0**
comp=Z,4.4nm,0.7s,baz=79,slow=8.6,SNR=28
SONM Songino Array 26.11 295 P **P 02 13 05.5 +0.2**
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 26.11 295 P **P 02 13 05.5 +0.2**
ZAK Zakamensk 28.20 301 *e*P **P 02 13 23.1 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 29.05 18 *i* P **P 02 13 30.4 -0.8**
BILL *i* 02 13 51.6
BILL pmax pmax
comp=Z,2.0nm,1.3s
ADK Adak 29.18 56 P **P 02 13 32.9 +0.4**
ADK Adak 29.18 56 P **P 02 13 32.9 +0.4**
MOY Mondy 29.69 303 *e*P **P 02 13 37.8 +0.6**
H11N2 WAKE ISLAND Hy 30.27 130 T T 02 46 24.0
baz=321,slow=76,SNR=3.1
H11N1 WAKE ISLAND Hy 30.28 130 T T 02 46 25.6
baz=321,slow=76,SNR=5.7
H11N3 WAKE ISLAND Hy 30.29 130 T T 02 46 26.2
baz=321,slow=76,SNR=3.7
GTA Gaotai 32.28 280 *e*P **P 02 14 00.8 +0.7**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GOMU GeErMu 37.13 277 P **P 02 14 42.0 -0.3**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,51nm,3.9s
NRIK Noril'sk 39.22 333 P **P 02 14 57.5 -1.5**
comp=Z,2.4nm,0.4s,baz=84,slow=6.9,SNR=4.7
NRIK LR LR 02 31 54.4
comp=Z,107nm,19.8s,baz=65,slow=37
NRIK Noril'sk 39.22 333 *de*P **P 02 14 57.1 -1.9**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
NRIK Noril'sk 39.22 333 IAmb IAmb 02 14 58.4
comp=Z,5.6nm,1.2s
ZAA0 Zalesovo Array 39.41 308 P **P 02 15 00.2 -0.5**
ZAA0 IAmb IAmb 02 15 01.4
comp=Z,9.8nm,0.8s
ZALV Zalesovo Beam 39.41 308 P **P 02 14 59.6 -1.1**
comp=Z,9.3nm,0.7s,baz=86,slow=7.8,SNR=40
ZALV PcP **PcP 02 17 08.0 +0.4**
comp=Z,0.9nm,0.4s,baz=72,slow=4.8,SNR=3.8
ZALV LR LR 02 30 55.0
comp=Z,58nm,18.6s,baz=49,slow=36
ZALV Zalesovo Beam 39.41 308 *i* P **P 02 15 00.8 +0.1**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 39.41 308 P **P 02 15 00.4 -0.4**
MK31 Makanchi Array 42.43 298 P **P 02 15 25.6 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 42.43 298 P **P 02 15 25.6 -0.1**
MK31 IAmb IAmb 02 15 26.4
comp=Z,5.8nm,0.8s
MKAR Makanchi Array 42.43 298 P **P 02 15 25.5 -0.2**
comp=Z,6.7nm,0.8s,baz=83,slow=9.8,SNR=61
MKAR PcP **PcP 02 17 18.1 +0.4**
comp=Z,0.8nm,0.6s,baz=50,slow=3.4,SNR=3.6
MKAR LR LR 02 35 23.4
comp=Z,40nm,19.1s,baz=32,slow=39
MKAR Makanchi Array 42.43 298 P **P 02 15 25.3 -0.5**
MAKZ Makanchi 42.63 298 P **P 02 15 27.2 -0.2**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 42.63 298 P **P 02 15 27.2 -0.2**
MAKZ IAmb IAmb 02 15 28.1
comp=Z,8.4nm,0.9s
CHTO Chiang Mai 43.54 252 P **P 02 15 34.2 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 43.54 252 P **P 02 15 34.2 -0.8**
CHTO IAmb IAmb 02 15 41.5
comp=Z,6.6nm,0.6s
KURK Kurchatov 43.74 304 *de*P **P 02 15 36.0 -0.2**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 43.74 304 P **P 02 15 35.4 -0.8**
CMAR Chiang Mai Arr 43.78 251 P **P 02 15 36.9 0.0**
comp=Z,1.6nm,0.3s,baz=42,slow=6.8,SNR=5.4
CMAR Chiang Mai Arr 43.78 251 *ce*P **P 02 15 38.9 +2.0**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
KURBB Kurchatov Arra 43.81 304 P **P 02 15 36.0 -0.8**
NEA2 Nenana 43.96 35 P **P 02 15 38.0 +0.1**
NEA2 IAmb IAmb 02 15 39.0
comp=Z,5.1nm,0.7s
COLA College 44.47 35⇓ *e*P **P 02 15 41.6 -0.2**
COLA pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 44.89 35 P **P 02 15 45.2 +0.1**
comp=Z,1.6nm,0.7s,baz=259,slow=5.3,SNR=25
SCRK Sand Creek 46.23 36 P **P 02 15 55.4 -0.6**
TAPN Taplejung 46.67 270 *e*P **P 02 16 00.7 +0.6**
comp=Z,8.5nm,0.2s
MDOK Medeo 47.14 295 P **P 02 16 04.0 +0.6**
TARG Taragay, Kyrgy 47.17 293 IAmb IAmb 02 16 05.3
comp=Z,6.8nm,0.7s
BCAR Beaver Creek A 47.36 37 P **P 02 16 05.5 +0.9**
KDJ Kajisay 47.44 293 IAmb IAmb 02 16 06.7
comp=Z,6.7nm,0.7s
RAMN Ramite 47.71 270 *e*P **P 02 16 08.5 +0.4**
comp=Z,12nm,0.4s
GUN Gumba 47.73 272 *e*P **P 02 16 08.7 +0.3**
comp=Z,60nm,0.5s
BRVK Borovoye 48.07 309 *ce*P **P 02 16 10.2 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 48.07 309 P **P 02 16 09.8 -0.5**
BRVK IAmb IAmb 02 16 10.9
comp=Z,5.7nm,0.6s
BOOM Boomskoye usch 48.15 294 P **P 02 16 11.0 -0.3**
BOOM pmax pmax
comp=Z,14nm,0.7s
BOOM Boomskoye usch 48.15 294 P **P 02 16 11.0 -0.3**
TKM2 Tokmak 2 48.21 295 P **P 02 16 12.2 +0.5**
SNR=14
TKM2 Tokmak 2 48.21 295 P **P 02 16 11.6 -0.2**
PKI Pulchoki 48.26 272 *e*P **P 02 16 12.5 0.0**
PKIN Phulchoki 48.27 272 *e*P **P 02 16 12.1 -0.3**
comp=Z,8.2nm,0.4s
OTUK Ortayu 48.38 303 P **P 02 16 12.4 -0.4**
KBK Karagaybulak 48.76 295 P **P 02 16 16.3 +0.4**
SNR=7.9
USP Ospenovka 48.81 296 P **P 02 16 16.3 +0.1**
SNR=7.4
AAK Ala-Archa 49.07 295 LR LR 02 40 09.4
comp=Z,41nm,18.9s,baz=76,slow=40
AAK Ala-Archa 49.07 295 P **P 02 16 18.2 -0.1**
SNR=6.6
AAK Ala-Archa 49.07 295 *ce*P **P 02 16 18.1 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 49.07 295 P **P 02 16 17.5 -0.8**
AAK IAmb IAmb 02 16 18.9
comp=Z,4.1nm,0.8s
DANN Dangsing 49.07 274 *e*P **P 02 16 19.3 +0.7**
comp=Z,38nm,0.5s
KSH Kashi 49.35 291 P **P 02 16 24.0 +3.5**
KSH pP sP 02 16 44.7 +0.5
KSH pmax pmax
comp=Z,8.0nm,0.6s
KOLN Koldanda 49.50 273 *e*P **P 02 16 22.2 +0.4**
comp=Z,14nm,0.5s

EKS2 Erkin-Say 49.54 295 P **P 02 16 22.0 +0.1**
SNR=7.7
INK Inuvik 49.61 29 P **P 02 16 21.0 -0.8**
INK pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 49.61 29 P **P 02 16 20.9 -0.8**
PYUN Piuthan 49.78 274 *e*P **P 02 16 24.3 +0.4**
AML Almayashu 49.82 295 P **P 02 16 24.7 +0.5**
SNR=9.0
A36M Sachs Harbour 51.36 23 IAmb IAmb 02 16 43.1
comp=Z,3.8nm,0.8s
KKAR Karatay Array 51.54 297 P **P 02 16 35.4 -1.4**
KKAR Karatay Array 51.54 297 P **P 02 16 35.4 -1.4**
C36M Paulatuk 52.59 26 IAmb IAmb 02 16 44.5
comp=Z,3.0nm,0.5s
BTK Batken 52.67 294 IAmb IAmb 02 16 48.7
comp=Z,3.1nm,0.7s
ARU Arti 53.32 316 LR LR 02 43 23.3
comp=Z,62nm,20.0s,baz=36,slow=40
ARU Arti 53.32 316 *c i*P **P 02 16 49.4 -0.3**
ARU *PP **pP 02 17 05.3 -1.1**
ARU 02 18 48.8
ARU S **S 02 24 17.7 +1.4**
ARU SS **SKiKP 02 28 00.3 +0.6**
ARU pmax pmax
comp=Z,9.0nm,0.9s
NIL Nilore 54.04 285 P **P 02 16 54.9 -0.5**
NIL pmax pmax
comp=Z,7.0nm,0.7s
NIL Nilore 54.04 285 P **P 02 16 54.9 -0.5**
AB31 Akbulak array 55.52 308 *i* P **P 02 17 05.5 -0.3**
ABKAR Akbulak array 55.52 308 P **P 02 17 05.6 -0.1**
AKTO Aktyubinsk 56.11 310 LR LR 02 45 08.0
comp=Z,48nm,18.9s,baz=38,slow=40
AKTO Aktyubinsk 56.11 310 P **P 02 17 10.1 +0.1**
KBL Kabul 56.59 288 P **P 02 17 13.0 -0.9**
KBL pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 56.59 288 P **P 02 17 13.0 -0.9**
KBL IAmb IAmb 02 17 14.1
comp=Z,6.0nm,0.9s
RES Resolute Bay 57.60 15 IAmb IAmb 02 17 20.7
comp=Z,8.1nm,1.1s
YKA Yellowknife Ar 59.11 32 P **P 02 17 29.9 -0.9**
comp=Z,1.1nm,0.8s,baz=306,slow=6.4,SNR=24
YKA Yellowknife Ar 59.11 32 *ce*P **P 02 17 31.0 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 59.70 339 P **P 02 17 33.8 -1.1**
comp=Z,1.1nm,0.4s,baz=45,slow=7.9,SNR=14
ARCES ARCESS Array B 59.70 339 IAmb IAmb 02 17 57.8
comp=Z,9.5nm,1.2s
HRA Herat 61.43 292 P **P 02 17 47.0 -0.3**
HRA IAmb IAmb 02 17 48.4
comp=Z,3.9nm,0.8s
WRA Warramunga Arr 62.08 189 P **P 02 17 51.4 -0.1**
comp=Z,1.9nm,0.9s,baz=5.4,slow=6.8,SNR=14
GEYT Alibeck 62.30 297 P **P 02 17 51.7 -1.2**
comp=Z,2.3nm,0.8s,baz=71,slow=9.6,SNR=4.5
GYA0B ALIBECK ARRAY 62.30 297 P **P 02 17 52.6 -0.4**
GYA0B IAmb IAmb 02 17 53.7
comp=Z,3.3nm,0.8s
OBN Obninsk 64.70 322 *i* P **P 02 18 06.2 -2.2**
OBN *i* 02 18 44.2
OBN *i* 02 20 35.2
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 64.88 332 P **P 02 18 09.0 -0.4**
comp=Z,7.6nm,0.6s,baz=50,slow=7.3,SNR=74
FINES LR LR 02 48 36.4
comp=Z,77nm,18.8s,baz=16,slow=38
FINES FINESS Array B 64.88 332 P **P 02 18 08.6 -0.8**
ASAR Alice Springs 65.80 189 P **P 02 18 16.4 +0.5**
comp=Z,0.6nm,0.8s,baz=2,3,slow=7.8,SNR=6.1
VSU Vasula 66.67 329 *e*P **P 02 18 20.9 -0.1**
MTSE Matsula 67.59 330 *e*P **P 02 18 26.7 -0.1**
AAL Aland 67.88 333 *e*P **P 02 18 27.8 -0.8**
KIV Kislovodsk 68.38 310⇓ P **P 02 18 33.6 +1.4**
KIV Kislovodsk 68.38 310 *e*P **P 02 18 33.4 +1.2**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 68.38 310 P **P 02 18 32.4 +0.2**
ZEI Tsey 68.39 308 *e*P **P 02 18 31.5 -0.9**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 68.40 310 P **P 02 18 32.3 +0.2**
comp=Z,3.6nm,0.7s,baz=61,slow=1.7,SNR=17
IZAR Zarasai 68.74 327 *e*P **P 02 18 32.4 -1.7**
ISAL Salakas 68.91 327 *e*P **P 02 18 35.3 +0.2**
IIGN Ignalina 69.03 327 *e*P **P 02 18 36.3 +0.4**
FFC Flin Flon 69.09 34 P **P 02 18 35.8 -0.5**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 69.09 34 P **P 02 18 35.8 -0.5**
FFC IAmb IAmb 02 18 37.8
comp=Z,4.0nm,0.8s
GNI Garni 69.51 306 *de*P **P 02 18 40.8 +1.4**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 69.51 306 P **P 02 18 39.9 +0.6**
GNI IAmb IAmb 02 18 48.0
comp=Z,5.4nm,0.8s
PABE Paberze 69.82 328 *e*P **P 02 18 40.4 -0.4**
NB2 NORSAR Subarra 69.98 337 P **P 02 18 41.4 -0.4**
comp=Z,2.3nm,0.6s,baz=35,slow=6.5
NOA NORSAR Array B 69.98 337 P **P 02 18 41.2 -0.5**
comp=Z,4.4nm,0.7s,baz=36,slow=6.2,SNR=19
EGMT Eagleton 70.01 43 P **P 02 18 42.5 +0.3**
EGMT IAmb IAmb 02 19 01.9
comp=Z,7.9nm,1.3s
LRM Limekiln Ridge 70.03 46 P **P 02 18 43.1 +0.6**
VIKU Vikbolandet 70.26 333 *e*P **P 02 18 43.0 -0.4**
AKASG Malin Array Be 70.95 322 P **P 02 18 47.3 -0.5**
comp=Z,2.7nm,0.4s,baz=44,slow=6.0,SNR=26
AKBB Malin Array Si 70.95 322 P **P 02 18 47.6 -0.2**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 70.95 322 P **P 02 18 47.6 -0.2**
AKBB IAmb IAmb 02 18 48.1
comp=Z,6.5nm,0.8s
NVAR Mina Array Bea 71.36 55 P **P 02 18 51.9 +1.1**
comp=Z,1.3nm,0.7s,baz=296,slow=6.4,SNR=11
SORM Soroca 73.15 320⇑ P **P 02 19 00.2 -0.7**
SORM Soroca 73.15 320⇑ P **P 02 19 00.2 -0.7**
PDAR Pinedale Array 73.60 47 P **P 02 19 04.8 +0.8**
comp=Z,1.3nm,0.7s,baz=271,slow=1.9,SNR=18
PDAR Pinedale Array 73.60 47 P **P 02 19 05.1 +1.1**
MARD Mardin 73.70 306 P **P 02 19 05.1 +0.6**
KWP Kalwaria Pacla 74.64 324 *e*P **P 02 19 08.9 -0.8**
BUR08 Bucovina Ar. S 74.98 322 IAmb IAmb 02 19 12.8
comp=Z,4.2nm,0.7s
BURAR Bucovina Array 75.00 322⇑ P **P 02 19 12.2 +0.3**
BURAR Bucovina Array 75.00 322⇑ P **P 02 19 12.2 +0.3**
BURAR Bucovina Array 75.00 322 IAmb IAmb 02 19 13.3
comp=Z,6.1nm,0.7s
RDMU Red Mountain 75.08 49 IAmb IAmb 02 19 14.9
comp=Z,6.1nm,0.7s
TESR Tescani 75.12 320⇓ P **P 02 19 12.8 +0.3**
P17A Butcher Ranch, 75.16 50 P **P 02 19 13.7 +0.6**
P17A IAmb IAmb 02 19 15.4
comp=Z,3.3nm,0.6s
CFR Carcaliu 75.35 318⇑ P **P 02 19 13.6 -0.2**
CFR Carcaliu 75.35 318⇑ P **P 02 19 13.6 -0.2**
OJC Ojcow 75.44 326 *e*P **P 02 19 13.9 -0.3**
OJC Ojcow 75.44 326 P **P 02 19 13.7 -0.5**
OJC pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 75.44 326 P **P 02 19 13.7 -0.5**
OJC IAmb IAmb 02 19 15.5
comp=Z,9.1nm,1.0s
OZUR 75.83 320⇓ P **P 02 19 17.8 +1.1**
TRPA Tarpa 75.83 323⇓ P **P 02 19 17.3 +0.8**
NIE Niedzica 75.84 325 *e*P **P 02 19 17.5 +0.9**
BRTR Keskin Array B 76.25 311 P **P 02 19 19.6 +0.3**
comp=Z,1.6nm,0.6s,baz=78,slow=3.9,SNR=15
BRTR Keskin Array B 76.25 311 P **P 02 19 19.3 0.0**
BRTR Keskin Array B 76.25 311 P **P 02 19 19.3 0.0**
ICOR Ion Corvin 76.28 318⇑ P **P 02 19 19.3 +0.2**
KSP Ksiaz 76.37 328 *e*P **P 02 19 19.3 -0.2**
LANS Liptovska Anna 76.39 326 *e*P **P 02 19 21.0 +1.2**
LANS Liptovska Anna 76.39 326 *e*P **P 02 19 21.0 +1.2**
CHVC Chvalec 76.67 328 *e*P P 02 19 11.6 -10
VOIR 76.67 320⇑ P **P 02 19 22.7 +1.3**
VOIR 76.67 320⇑ P **P 02 19 22.7 +1.3**

MORC Moravsky Berou 76.71 327⇑ P **P 02 19 21.3 -0.2**
MORC Moravsky Berou 76.71 327⇑ P **P 02 19 21.3 -0.2**
MORC Moravsky Berou 76.71 327 *e*P **P 02 19 21.8 +0.3**
DPC Dobruska-Polom 76.75 328 *e*P **P 02 19 22.3 +0.6**
DPC Dobruska-Polom 76.75 328 *e*P **P 02 19 22.3 +0.6**
KRLC Kraliky 76.78 328 *e*P **P 02 19 22.0 +0.1**
KRLC Kraliky 76.78 328 *e*P **P 02 19 22.0 +0.1**
ARR Arges 76.92 320⇑ P **P 02 19 23.1 +0.3**
FLTG Flechtingen 77.06 332 *e*P **P 02 19 23.1 -0.3**
comp=Z,5.9nm,0.6s,baz=37,slow=4.9
CLL Collm 77.26 330 *i* P **P 02 19 24.2 -0.3**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 77.26 330 IAmb IAmb 02 19 24.7
comp=Z,4.5nm,0.6s
CLL Collm 77.26 330 *i* P **P 02 19 24.2 -0.3**
comp=Z,6.0nm,0.7s
B35A Bob, Littlefor 77.26 35 IAmb IAmb 02 19 25.4
comp=Z,6.3nm,0.8s
JAVC Velka Javorina 77.37 326 *e*P **P 02 19 26.6 +1.3**
RETH Rethem/Aller, 77.37 333 *e*P **P 02 19 25.3 +0.2**
comp=Z,7.9nm,0.8s,baz=37,slow=4.9
VRAC Vranov 77.46 327⇑ P **P 02 19 26.7 +1.0**
VRAC Vranov 77.46 327⇑ P **P 02 19 26.7 +1.0**
VRAC Vranov 77.46 327 *e*P **P 02 19 26.2 +0.5**
PRU Pruhonice 77.73 329 *e*P **P 02 19 27.2 0.0**
PRU Pruhonice 77.73 329 *e*P **P 02 19 27.2 0.0**
KRUC Moravsky 77.73 327 *e*P **P 02 19 27.6 +0.4**
CLZ Clausthal 77.77 332 *e*P **P 02 19 27.8 +0.4**
comp=Z,5.1nm,0.6s,baz=37,slow=4.9
MOX Moxa 78.31 331 *e*L L 02 54 22.2
comp=Z,39nm,20.3s
EYMN Ely 78.52 34 P **P 02 19 31.9 +0.3**
EYMN IAmb IAmb 02 19 32.5
comp=Z,5.8nm,0.8s
CKRC Cesky Krumlov 78.76 328 *e*P **P 02 19 33.0 +0.1**
KHC Kasperske Hory 78.80 329 *e*P **P 02 19 33.3 +0.2**
KHC Kasperske Hory 78.80 329 *e*P **P 02 19 33.3 +0.2**
CONA Conrad Observa 78.85 327 *i* P **P 02 19 34.4 +0.9**
comp=Z,0.2nm,0.2s
GEC2 GERESS Array S 78.98 328 *e*P **P 02 19 34.1 -0.1**
comp=Z,1.4nm,0.6s,baz=37,slow=4.9
GERES GERESS Array B 78.98 328 P **P 02 19 34.4 +0.1**
comp=Z,0.8nm,0.6s,baz=38,slow=6.8,SNR=10
GERES GERESS Array B 78.98 329 P **P 02 19 34.2 -0.1**
GERES GERESS Array B 78.98 328 P **P 02 19 34.2 -0.1**
GRF Grafenberg Arr 79.23 330 *e*P **P 02 19 36.3 +0.8**
comp=Z,4.2nm,0.6s,baz=37,slow=4.9
GRF *e*L L 02 56 15.6
comp=Z,32nm,18.8s
VTS Vitosha 79.64 319⇑ P **P 02 19 38.6 +0.6**
VTS Vitosha 79.64 319⇑ P **P 02 19 38.6 +0.6**
VTS Vitosha 79.64 319 IAmb IAmb 02 19 39.7
comp=Z,5.7nm,0.8s
SOKA Soboth 80.19 326 *e*P **P 02 19 41.3 +0.5**
comp=Z,6.6nm,0.6s
SCHQ Schefferville 80.35 17 P **P 02 19 41.7 +0.3**
comp=Z,3.2nm,0.7s,baz=342,slow=3.6,SNR=9.3
SCHQ Schefferville 80.35 17 IAmb IAmb 02 19 42.1
comp=Z,2.9nm,0.7s
OBKA Obir 80.52 327 *e*P **P 02 19 42.9 +0.3**
comp=Z,24nm,1.8s
ANMO Albuquerque 80.75 51⇑ *e*P **P 02 19 45.3 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
WATA Walderalm 81.04 329 *i* P **P 02 19 45.7 +0.3**
comp=Z,1.4nm,0.3s
WTTA Wattenberg 81.07 329 *e*P **P 02 19 45.8 +0.2**
comp=Z,2.5nm,0.6s
MOTA Moosalm 81.21 329 *i* P **P 02 19 46.5 +0.2**
comp=Z,2.5nm,0.5s,SNR=7.9
RETA Reutte 81.22 329 *e*P **P 02 19 46.5 +0.2**
comp=Z,3.4nm,0.8s
SQTA Sankt Quirin 81.27 329 *e*P **P 02 19 46.8 +0.2**
comp=Z,3.2nm,0.6s
FETA Feichten 81.62 329 *e*P **P 02 19 48.7 +0.1**
comp=Z,4.0nm,0.9s,SNR=4.2
DAVA Damuels 81.73 330 *e*P **P 02 19 48.8 -0.2**
comp=Z,2.8nm,0.6s
DAVOX Davos/Dischmat 82.15 329 LR LR 03 03 05.1
comp=Z,45nm,19.1s,baz=1.5,slow=41
TXAR Lajitas Array 86.42 53 P **P 02 20 14.2 +1.0**
comp=Z,0.7nm,0.7s,baz=279,slow=3.5,SNR=10
U40A Yellville 87.03 42 IAmb IAmb 02 20 17.0
comp=Z,4.4nm,0.8s
SIUC Southern Illin 87.70 39 P **P 02 20 19.8 +0.7**
WHAR Wooly Hollow 88.16 42 P **P 02 20 21.4 +0.1**
ESDC Sonseca Array 93.23 335 P **P 02 20 44.6 -0.3**
comp=Z,0.6nm,0.7s,baz=34,slow=4.4,SNR=4.3
ESDC Sonseca Array 93.23 335 IAmb IAmb 02 20 45.8
comp=Z,1.8nm,1.1s

MIRAS 13 02:17:00.2±0.0, 58°25N×59°58E, h2km, ML2.7/13, 11C,
Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PR7R	**Sarany**	**0.53**	**305**	*i* P		Pg	02 17 10.8	+0.5
	baz=305							
PR7R				*i* P		Pg	02 17 10.8	+0.5
	baz=305							
PR7R				*i* P		Pg	02 17 10.8	+0.5
	baz=305							
PR7R				*i* S		Sg	02 17 17.0	-0.2
	402nm,0.3s,baz=305							
PR7R				*i* S		Sg	02 17 17.0	-0.2
	386nm,0.2s,baz=305							
PR7R				*i* S		Sg	02 17 17.0	-0.2
	baz=305							
PR7R	**Sarany**	**0.53**	**305**	*i* P		Pg	02 17 10.8	+0.5
	baz=319							
PR7R				*e*S		Sg	02 17 16.9	-0.3
	baz=319							
PR7R				*e*S		Sg	02 17 16.9	-0.3
	402nm,0.3s,baz=319							
PR7R				*e*S		Sg	02 17 16.9	-0.3
	386nm,0.2s,baz=319							
PR0R	**Verkhnechusovs**	**1.29**	**269**⇑	*i* P		Pg	02 17 24.5	-0.4
	baz=269							
PR0R				⇑ *i* P		Pg	02 17 24.5	-0.4
	baz=269							
PR0R				⇑ *i* P		Pg	02 17 24.5	-0.4
	baz=269							
PR0R				*i* S		Sb	02 17 42.2	0.0
	66nm,0.2s,baz=269							
PR0R				*i* S		Sb	02 17 42.2	0.0
	baz=269							
PR0R				*i* S		Sb	02 17 42.2	0.0
	baz=269							
PR0R	**Verkhnechusovs**	**1.29**	**269**	*i* P		Pg	02 17 24.6	-0.3
	baz=270							
PR0R				*e*S		Sg	02 17 40.3	-1.3
	66nm,0.2s,baz=270							
PR0R				*e*S		Sg	02 17 40.3	-1.3
	baz=270							
PR0R				*e*S		Sg	02 17 40.3	-1.3
	baz=270							
PR3R	**Kungur**	**1.60**	**241**	*i* P		Pn	02 17 28.3	-1.1
	baz=241							
PR3R				*i* P		Pn	02 17 28.3	-1.1
	baz=241							
PR3R				*i* P		Pn	02 17 28.3	-1.1
	baz=241							
PR3R				*i* S		Sb	02 17 50.8	-0.2
	233nm,0.5s,baz=241							
PR3R				*i* S		Sb	02 17 50.8	-0.2
	baz=241							
PR3R				*i* S		Sb	02 17 50.8	-0.2
	105nm,0.4s,baz=241							
PR3R	**Kungur**	**1.60**	**241**	*i* P		Pn	02 17 28.3	-1.1
	baz=239							
PR3R				*e*S		Sn	02 17 47.9	-2.7
	baz=239							
PR3R				*e*S		Sn	02 17 47.9	-2.7
	105nm,0.4s,baz=239							
PR3R				*e*S		Sn	02 17 47.9	-2.7
	233nm,0.5s,baz=239							
PR1R	**Pomanovo**	**1.75**	**304**⇑	*i* P		Pb	02 17 32.3	-0.7
	baz=304							
PR1R				⇑ *i* P		Pb	02 17 32.3	-0.7
	baz=304							
PR1R				⇑ *i* P		Pb	02 17 32.3	-0.7
	baz=304							
PR1R				*i* S		Sn	02 17 54.9	+0.5
	66nm,0.2s,baz=304							
PR1R				*i* S		Sn	02 17 54.9	+0.5

	46nm,0.1s,baz=304								
PR1R				*i* S		Sn	02 17 54.9	+0.5	
	baz=304								
PR1R	**Pomanovo**	**1.75**	**304**	*i* P		Pn	02 17 31.6	+0.1	
	baz=307								
PR1R				*e*S		Sn	02 17 53.7	-0.7	
	baz=307								
PR1R				*e*S		Sn	02 17 53.7	-0.7	
	66nm,0.2s,baz=307								
PR1R				*e*S		Sn	02 17 53.7	-0.7	
	46nm,0.1s,baz=307								
ARU	**Arti**	**1.91**	**197**	*i* P		Pn	02 17 33.5	-0.1	
	baz=197								
ARU				*i* P		Pn	02 17 33.5	-0.1	
	baz=197								
ARU				*i* P		Pn	02 17 33.5	-0.1	
	baz=197								
ARU				*i* S		Sg	02 18 00.6	-0.7	
	34nm,0.5s,baz=197								
ARU				*i* S		Sg	02 18 00.6	-0.7	
	71nm,0.2s,baz=197								
ARU				*i* S		Sg	02 18 00.6	-0.7	
	baz=197								
ARU	**Arti**	**1.91**	**197**	*i* P		Pn	02 17 33.4	-0.3	
	baz=194								
ARU				*e*S		Sn	02 17 56.9	-1.3	
	34nm,0.5s,baz=194								
ARU				*e*S		Sn	02 17 56.9	-1.3	
	baz=194								
ARU				*e*S		Sn	02 17 56.9	-1.3	
	baz=194								
ARU				*e*S		Sn	02 17 56.9	-1.3	
	baz=194								
ARU				*e*S		Sn	02 17 56.9	-1.3	
	71nm,0.2s,baz=194								
SVUR	**Severouralsk**	**1.96**	**6⇑**	*i* P		Pn	02 17 34.3	-0.1	
	baz=5.8								
SVUR				⇑*i* P		Pn	02 17 34.3	-0.1	
	baz=5.8								
SVUR				*i* S		Sn	02 17 59.0	-0.7	
	12nm,0.4s,baz=5.8								
SVUR				*i* S		Sn	02 17 59.0	-0.7	
	16nm,0.4s,baz=5.8								
PR4R	**Vlasy**	**2.10**	**262⇑**	*i* P		Pn	02 17 36.6	+0.3	
	baz=262								
PR4R				⇑*i* P		Pn	02 17 36.6	+0.3	
	baz=262								
PR4R				⇑*i* P		Pn	02 17 36.6	+0.3	
	baz=262								
PR4R				*i* S		Sn	02 18 04.0	+1.1	
	100nm,0.2s,baz=262								
PR4R				*i* S		Sb	02 18 04.1	-1.3	
	184nm,0.3s,baz=262								
PR4R				*i* S		Sg	02 18 04.2	-3.4	
	baz=262								
PR4R	**Vlasy**	**2.10**	**262**	*i* P		Pn	02 17 35.4	-1.0	
	baz=263								
PR4R				*e*S		Sn	02 18 00.7	-2.3	
	baz=263								
PR4R				*e*S		Sn	02 18 00.7	-2.3	
	184nm,0.3s,baz=263								
PR4R				*e*S		Sn	02 18 00.7	-2.3	
	100nm,0.2s,baz=263								

DJA ***13*** *02:17:02.7±0.4,3°S±6°×10°2E±°, h182km±7km, M4.2/12, mb4.4/4, mB5.4/1, MLv4.1/12, Mw(mB)4.8/1*
IDC ***13*** *02:17:02.0±2.9,2°69S×102°43E, h170km±26km, mb3.7/12, mb1 3.8/13, mb1mx3.4/40, mbtmp4.2/13, Error ellipse: s-maj=33.3km s-min=12.0km az=52.0*
NEIC ***13*** *02:17:03.3±1.6,2°63S±0°08×102°44E±0°08, h175km±7km, mb4.1/10, Error ellipse: s-maj=11.9km s-min=10.4km az=52.0*

ISC 13 02:17:03.4±0.5,2°67S±0°07×102°47E±0°09, h187km, n54, σ1§07/58, mb4.1/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.52**	**206**	P	**Pn**	**02 17 28.5**	**-0.7**
MASI	**Maura Aman, Be**	**0.52**	**206**	P	**Pn**	**02 17 28.6**	**-0.7**
KRJI	**Kerinci**	**1.15**	**300**	P	**Pn**	**02 17 34.5**	**+1.3**
MNAI	**Manna**	**1.75**	**164**		**Pn**	**02 17 37.8**	**-0.6**
MNAI				Sn	**Sn**	**02 18 03.1**	**-2.7**
MNAI	**Manna**	**1.75**	**164**	P	**Pn**	**02 17 37.9**	**-0.6**
PMBI	**Palembang**	**2.32**	**96**	Pn	**Pn**	**02 17 43.3**	**-1.2**
PPSI	**Pulau Pagai**	**2.46**	**268**	P	**Pn**	**02 17 45.6**	**-0.4**
MDSI	**Maura Dua**	**2.49**	**137**	P	**Pn**	**02 17 46.7**	**+0.3**
LWLI	**Liwa**	**2.83**	**146**	P	**Pn**	**02 17 54.3**	**+3.8**
KLSI		**3.02**	**132**	P	**Pn**	**02 17 52.9**	**+0.2**
KLSI		**3.02**	**132**	P	**Pn**	**02 17 53.0**	**+0.2**
BKNI	**Bangkinang**	**3.30**	**334**		**Pn**	**02 17 55.0**	**-1.1**
BKNI	**Bangkinang**	**3.30**	**334**	P	**Pn**	**02 17 55.5**	**-0.5**
BKNI	**Bangkinang**	**3.30**	**334**	P	**Pn**	**02 17 55.6**	**-0.5**
KASI	**Kota Agung**	**3.49**	**145**	P	**Pn**	**02 17 57.2**	**-1.2**
KASI	**Kota Agung**	**3.49**	**145**	P	**Pn**	**02 17 57.6**	**-0.8**
SISI	**Saibi**	**3.63**	**291**	P	**Pn**	**02 17 58.9**	**-1.2**
SISI	**Saibi**	**3.63**	**291**	P	**Pn**	**02 17 59.2**	**-0.9**
MNSI	**Mandailing Nat**	**4.49**	**320**	P	**Pn**	**02 18 10.2**	**-0.8**
MNSI	**Mandailing Nat**	**4.49**	**320**	P	**Pn**	**02 18 09.9**	**-1.1**
GSI	**Gunungsitoli**	**6.28**	**309**		**Pn**	**02 18 32.5**	**-1.7**
GSI	**Gunungsitoli**	**6.28**	**309**	P	**Pn**	**02 18 32.6**	**-1.7**
	1.2nm6µm269nm,0.6s						
RPSI	**Rantau Prapat**	**6.39**	**326**		**Pn**	**02 18 35.1**	**-0.6**
PSI	**Prapat**	**6.48**	**327**	P	**Pn**	**02 18 35.1**	**-1.9**
	2.6nm,0.3s,baz=149,slow=12,SNR=14						
KULM	**Kulim**	**8.11**	**347**	Pn	**Pn**	**02 18 56.7**	**-1.5**
UGM	**Wanagama**	**9.56**	**123**	Pn	**Pn**	**02 19 16.5**	**-0.8**
PCJI	**Pacitan**	**10.26**	**123**	P	**Pn**	**02 19 25.3**	**-1.1**
	23nm,0.5s						
PWJI	**Pagerwojo**	**10.71**	**120**	P	**Pn**	**02 19 31.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.27**	**351**	P	**P**	**02 21 35.5**	**+0.1**
	1.1nm,0.3s,baz=183,slow=11,SNR=2.1						
CHTO	**Chiang Mai**	**21.62**	**351**	P	**P**	**02 21 38.1**	**-1.0**
WB0	**Warramunga Arr**	**35.51**	**121**	P	**P**	**02 23 43.7**	**+1.0**
WB0				IAmb	IAmb	02 24 04.6	
	comp=Z,7.1nm,1.2s						
WRA	**Warramunga Arr**	**35.54**	**121**	P	**P**	**02 23 42.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=297,slow=13,SNR=15						
WRA				PcP	**PcP**	**02 26 09.0**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=311,slow=2.1,SNR=9.4						
WR0	**Warramunga Arr**	**35.72**	**121**	P	**P**	**02 23 44.1**	**-0.3**
WR0				IAmb	IAmb	02 24 02.6	
	comp=Z,8.3nm,1.5s						
WR0				PcP	**PcP**	**02 26 08.3**	**-0.2**
AS31	**Alice Springs**	**36.88**	**127**	P	**P**	**02 23 54.5**	**+0.2**
ASAR	**Alice Springs**	**36.88**	**127**	P	**P**	**02 23 54.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=303,slow=8.2,SNR=13						
ASAR				PcP	**PcP**	**02 26 13.2**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=307,slow=2.6,SNR=11						
ASAR	**Alice Springs**	**36.88**	**127**	PcP	**PcP**	**02 26 13.0**	**+1.1**
NIL	**Nilore**	**45.43**	**325**	P	**P**	**02 25 03.2**	**-0.6**
NIL				IAmb	IAmb	02 25 05.4	
	comp=Z,4.7nm,0.5s						
SONM	**Songino Array**	**50.41**	**3**	P	**P**	**02 25 43.2**	**+1.4**
	comp=Z,3.2nm,0.7s,baz=182,slow=9.4,SNR=27						
SONM				PcP	**PcP**	**02 26 58.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=190,slow=4.2,SNR=5.0						
SONM	**Songino Array**	**50.41**	**3**	IAmb	IAmb	02 25 45.1	
	comp=Z,2.8nm,0.9s						
MK31	**Makanchi Array**	**52.36**	**343**	P	**P**	**02 25 56.6**	**+0.3**
MK31				IAmb	IAmb	02 25 57.6	
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**52.36**	**343**	P	**P**	**02 25 56.5**	**+0.2**
	comp=Z,2.0nm,0.4s,baz=155,slow=8.9,SNR=41						
USA0B	**Ussuriysk Arra**	**53.62**	**26**	P	**P**	**02 26 05.2**	**-0.3**
KKAR	**Karatay Array**	**53.89**	**331**	P	**P**	**02 26 07.7**	**+0.2**
ZALV	**Zalesovo Beam**	**58.30**	**348**	P	**P**	**02 26 38.5**	**0.0**
	comp=Z,3.0nm,0.4s,baz=174,slow=6.6,SNR=16						
ZALV	**Zalesovo Beam**	**58.30**	**348**	P	**P**	**02 26 39.2**	**+0.7**
ABKAR	**Akbulak array**	**63.42**	**330**	P	**P**	**02 27 12.9**	**-0.2**
ABKAR				IAmb	IAmb	02 27 14.2	
	comp=Z,1.9nm,0.6s						
KBZ	**Khabaz**	**70.43**	**318**	P	**P**	**02 27 57.5**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=92,slow=11,SNR=5.2						
NRIK	**Noril'sk**	**72.58**	**355**	P	**P**	**02 28 09.5**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=154,slow=6.0,SNR=3.5						
SEY	**Seymchan**	**75.33**	**21**	P	**P**	**02 28 27.1**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=238,slow=19,SNR=3.7						
BRTR	**Keskin Array B**	**75.59**	**312**	P	**P**	**02 28 27.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=143,slow=7.1,SNR=10						
FINES	**FINESS Array B**	**85.85**	**332**	P	**P**	**02 29 21.7**	**0.0**
	comp=Z,3.7nm,1.1s,baz=103,slow=6.1,SNR=3.4						
ARCES	**ARCESS Array B**	**87.94**	**340**	P	**P**	**02 29 32.2**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=103,slow=5.6,SNR=12						
JCT	**Junction City**	**145.22**	**35**	PKPbc	**PKPab**	**02 36 21.0**	**+1.2**
BDFB	**Brasilia**	**145.60**	**237**	PKPbc	**PKPab**	**02 36 22.4**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=161,slow=4.6,SNR=4.1						

IDC ***13*** *02:25:39.7±1.1,9°08N×138°55E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/46, mbtmp4.0/10, MS3.4/6, Ms1 3.4/6, ms1mx2.9/73, Error ellipse: s-maj=37.9km s-min=19.9km az=87.0*
NEIC ***13*** *02:25:42.2±1.9,9°1N±0°1×138°4E±0°1, h10km±1km, mb4.6/13, Error ellipse: s-maj=20.2km s-min=18.5km az=69.0*

ISC 13 02:25:41.7±0.8,9°1N±0°1×138°3E±0°1, h10km, n31, σ0§74/23, mb4.3/17, MS3.4/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.84**	**54**	Pn	**Pn**	**02 27 36.9**	**+1.0**
PMG	**Port Moresby**	**20.34**	**154**	LR	LR	02 37 33.1	
	comp=Z,95nm,18.8s,baz=289,slow=35						
KNRA	**Kununurra**	**26.34**	**201**	P	**P**	**02 31 17.6**	**-0.4**
KNRA				IAmb	IAmb	02 31 21.2	
	comp=Z,17nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**29.06**	**68**	T	T	03 02 01.6	
	baz=254,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.07**	**68**	T	T	03 02 01.5	
	baz=254,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**29.07**	**68**	T	T	03 02 14.6	
	baz=254,slow=75,SNR=6.3						
WRA	**Warramunga Arr**	**29.08**	**188**	P	**P**	**02 31 42.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=10,slow=9.6,SNR=2.6						
KSRS	**Korea Array**	**29.80**	**343**	P	**P**	**02 31 48.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=158,slow=8.9,SNR=2.0						
KSRS				LR	LR	02 41 56.6	
	comp=Z,22nm,22.0s,baz=350,slow=33						
ASAR	**Alice Springs**	**32.81**	**187**	P	**P**	**02 32 16.1**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=18,slow=13,SNR=6.0						
CMAR	**Chiang Mai Arr**	**39.30**	**288**	P	**P**	**02 33 12.2**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=100,slow=6.7,SNR=9.4						
CMAR				LR	LR	02 48 45.6	
	comp=Z,12nm,21.0s,baz=270,slow=35						
KLR	**Kul'dur**	**40.42**	**353**	P	**P**	**02 33 20.8**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=175,slow=6.2,SNR=30						
DZM	**Mont Dzumac**	**41.44**	**139**	LR	LR	02 48 40.8	
	comp=Z,67nm,19.0s,baz=218,slow=33						
SONM	**Songino Array**	**47.13**	**331**	P	**P**	**02 34 14.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=145,slow=8.5,SNR=9.5						
SONM	**Songino Array**	**47.13**	**331**	IAmb	IAmb	02 34 16.4	
	comp=Z,1.8nm,1.0s						
MK31	**Makanchi Array**	**60.48**	**319**	P	**P**	**02 35 52.3**	**+0.4**
MKAR	**Makanchi Array**	**60.48**	**319**	P	**P**	**02 35 52.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=97,slow=8.7,SNR=13						
MAKZ	**Makanchi**	**60.69**	**319**	P	**P**	**02 35 54.0**	**+0.7**
MAKZ				IAmb	IAmb	02 35 55.9	
	comp=Z,3.3nm,0.7s						
ZAA0	**Zalesovo Array**	**61.75**	**327**	P	**P**	**02 36 00.3**	**0.0**
ZAA0				IAmb	IAmb	02 36 00.6	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**61.75**	**327**	P	**P**	**02 35 59.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=105,slow=9.3,SNR=5.7						
KURK	**Kurchatov**	**64.06**	**322**	P	**P**	**02 36 15.8**	**0.0**
KURK				IAmb	IAmb	02 36 17.2	
	comp=Z,9.5nm,1.2s						
NIL	**Nilore**	**64.31**	**303**	P	**P**	**02 36 18.0**	**+0.1**
KKAR	**Karatay Array**	**67.69**	**313**	P	**P**	**02 36 39.7**	**+0.3**
BRVK	**Borovoye**	**69.66**	**323**	P	**P**	**02 36 50.8**	**-0.7**
BRVK				IAmb	IAmb	02 36 52.8	
	comp=Z,3.7nm,0.8s						
MLY	**Manley**	**73.83**	**25**	P	**P**	**02 37 16.1**	**-0.3**
MLY				IAmb	IAmb	02 37 18.5	
	comp=Z,3.7nm,0.9s						
MCK	**McKinley**	**74.31**	**26**	P	**P**	**02 37 18.1**	**-1.1**
ILAR	**Eielson Array**	**75.38**	**25**	P	**P**	**02 37 24.0**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=246,slow=5.8,SNR=9.5						
ABKAR	**Akbulak array**	**75.62**	**319**	P	**P**	**02 37 26.5**	**-0.5**
PPT	**Papeete**	**75.95**	**111**	LR	LR	03 07 06.0	
	comp=Z,72nm,19.4s,baz=0.5,slow=33						
ARU	**Arti**	**76.85**	**326**	LR	LR	03 10 31.1	
	comp=Z,72nm,20.8s,baz=8.0,slow=35						
A36M	**Sachs Harbour**	**83.44**	**18**	P	**P**	**02 38 09.0**	**-0.1**
A36M				IAmb	IAmb	02 38 10.9	
	comp=Z,7.5nm,1.1s						
FINES	**FINESS Array B**	**92.44**	**334**	P	**P**	**02 38 51.7**	**-1.0**
	comp=Z,4.2nm,1.1s,baz=159,slow=5.9,SNR=4.4						

BJI ***13*** *02:28:44.0±0.0,51°50N×174°00W, h10km, mb4.7/42, mB4.9/24, Ms4.5/10, Ms7 4.3/8*
MOS ***13*** *02:28:47.2±0.9,51°48N×173°98W, h22km, mb4.8/28, Error ellipse: s-maj=9.0km s-min=5.9km az=100.0*
NEIC ***13*** *02:28:47.3±1.9,51°45N±0°07×174°08W±0°08, h10km±1km, mb4.6/183, ML4.1(AEIC), Error ellipse: s-maj=11.9km s-min=7.7km az=164.0*
AEIC ***13*** *02:28:48.9±1.8,51°32N±0°07×173°97W±0°08, h26km±4km, Error ellipse: s-maj=10.7km s-min=6.9km az=168.0*
IDC ***13*** *02:28:51.8±0.6,51°55N×173°97W, h43km±4km, mb4.1/34, mb1 4.2/36, mb1mx4.2/43, mbtmp4.3/36, ML3.8/2, MS3.7/24, Ms1 3.7/24, ms1mx3.3/91, Error ellipse: s-maj=15.2km s-min=9.1km az=173.0*
BGR ***13*** *02:28:59.7±0.0,52°72N×175°07W, h33km, mb4.7*

ISC 13 02:28:48.9±0.6,51°42N±0°07×173°96W±0°04, h24km±3km, h24km:pP-P,n513, σ1§02/463, mb4.6/147, MS3.8/26, 31C-22D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.80**	**349**		**Pn**	**02 29 04.8**	**0.0**
KOFP	**Korovin Flat P**	**0.87**	**354**		**Pn**	**02 29 06.2**	**+0.5**
KOKL	**Mount Kliuchef**	**0.92**	**351**		**Pn**	**02 29 07.0**	**+0.5**
GSMY	**Great Sitkin M**	**1.45**	**297**		**Pn**	**02 29 13.9**	**+0.2**
GSTR	**Great Sitkin T**	**1.47**	**298**		**Pn**	**02 29 14.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.50**	**294**		**Pn**	**02 29 14.5**	**+0.2**
GSTD	**Great Sitkin T**	**1.50**	**296**		**Pn**	**02 29 14.8**	**+0.4**
ADAG	**Mount Adagdak**	**1.74**	**290**		**Pn**	**02 29 17.5**	**-0.1**
ADK	**Adak**	**1.76**	**287**	P	**Pn**	**02 29 17.9**	**0.0**
ADK	**Adak**	**1.76**	**287**		**Pn**	**02 29 17.9**	**0.0**
KIWB	**Kanaga Island**	**2.04**	**284**		**Pn**	**02 29 22.1**	**+0.4**
KIKV	**Kanaga Island**	**2.06**	**284**		**Pn**	**02 29 22.4**	**+0.4**
KIMD	**Kanaga Island**	**2.07**	**281**		**Pn**	**02 29 22.4**	**+0.2**
TAPA	**Tanaga Point A**	**2.44**	**281**		**Pn**	**02 29 28.3**	**+1.1**
TAFP	**Tanaga Falls P**	**2.55**	**283**		**Pn**	**02 29 29.6**	**+0.7**
TASE	**Tanaga Southea**	**2.58**	**281**		**Pn**	**02 29 30.2**	**+1.0**
GALA	**Gareloi Lava P**	**3.02**	**278**		**Pn**	**02 29 36.1**	**+0.8**
GANO	**Gareloi North**	**3.05**	**280**		**Pn**	**02 29 36.7**	**+1.0**
NIKH	**Nikolski High**	**3.51**	**62**		**Pn**	**02 29 43.8**	**+1.9**
NIKH	**Nikolski High**	**3.51**	**62**	P	**Pn**	**02 29 42.8**	**+0.9**
	baz=244						
OKTU	**Okmok Mt. Tuli**	**4.12**	**59**		**Pn**	**02 29 52.0**	**+1.6**
MSW	**Makushin Switc**	**5.03**	**57**		**Pn**	**02 30 04.2**	**+1.4**
UNV	**Unalaska Valle**	**5.15**	**59**	Pn	**Pn**	**02 30 07.8**	**+3.3**
AKRB	**Akutan Reef Bi**	**5.51**	**57**		**Pn**	**02 30 10.7**	**+1.4**
SPIA	**Saint Paul Isl**	**6.17**	**19**		**Pn**	**02 30 21.5**	**+3.1**
ISLZ	**Isanotski Laza**	**7.01**	**58**		**Pn**	**02 30 31.6**	**+1.6**
FALS	**False Pass**	**7.21**	**57**	Pn	**Pn**	**02 30 36.4**	**+3.6**
SHEM	**Shemya Is, Ala**	**7.48**	**285**	LR	LR	02 33 25.4	
	comp=Z,374nm,21.1s,baz=102,slow=37						
SMY	**Shemya**	**7.48**	**285**	P	**Pn**	**02 30 37.2**	**+0.8**
SMY	**Shemya**	**7.48**	**285**		**Pn**	**02 30 37.2**	**+0.8**
SDPT	**Sand Point**	**8.97**	**59**	Pn	**Pn**	**02 30 58.7**	**+1.9**
SDPT	**Sand Point**	**8.97**	**59**	P	**Pn**	**02 30 58.5**	**+1.7**
	baz=249						
CHGN	**Chignik**	**10.40**	**56**	Pn	**Pn**	**02 31 18.6**	**+2.2**
CHGN	**Chignik**	**10.40**	**56**	P	**Pn**	**02 31 17.5**	**+1.1**
	baz=248						
GAMB	**Gambell**	**12.45**	**5**	Pn	**Pn**	**02 31 44.9**	**+0.4**
GAMB	**Gambell**	**12.45**	**5**	P	**Pn**	**02 31 47.8**	**+3.4**
	baz=186						
KDAK	**Kodiak Island**	**13.90**	**54**	P	**Pn**	**02 32 01.7**	**-2.5**
	0.9nm,0.3s,baz=290,slow=8.6,SNR=9.6						
KDAK	**Kodiak Island**	**13.90**	**54**	P	**Pn**	**02 32 04.4**	**+0.3**
KDAK	**Kodiak Island**	**13.90**	**54**	Pn	**Pn**	**02 32 04.4**	**+0.3**
ANM	**Nome**	**13.93**	**16**	P	**Pn**	**02 32 04.8**	**+0.2**
ANM	**Nome**	**13.93**	**16**	Pn	**Pn**	**02 32 04.8**	**+0.2**
ANM	**Nome**	**13.93**	**16**	P	**P**	**02 32 08.5**	**-4.0**
	baz=203						
SVW2	**Sparrevohn**	**14.03**	**39**	P	**Pn**	**02 32 08.1**	**+2.1**
N19K	**Bonanza Creek**	**14.31**	**41**	P	**Pn**	**02 32 11.8**	**+1.8**
	baz=237						
TNA	**Tin City**	**14.52**	**10**		**Pn**	**02 32 12.4**	**-0.3**
TNA	**Tin City**	**14.52**	**10**	P	**P**	**02 32 15.9**	**-3.1**
	baz=195,SNR=6.3						
L19K	**White Mountain**	**14.96**	**37**		**Pn**	**02 32 18.8**	**+0.2**
L19K	**White Mountain**	**14.96**	**37**	P	**Pn**	**02 32 20.9**	**+2.3**
	baz=232						
M19K	**Big River Lodg**	**14.96**	**38**	Pn	**Pn**	**02 32 18.1**	**-0.6**
M19K	**Big River Lodg**	**14.96**	**38**	P	**P**	**02 32 22.3**	**-1.7**
	baz=234,SNR=6.1						
TTA	**Tatalina**	**15.02**	**33**	P	**Pn**	**02 32 20.3**	**+0.8**
TTA				pmax	pmax		
	comp=Z,25nm,1.0s						
TTA	**Tatalina**	**15.02**	**33**	Pn	**Pn**	**02 32 20.3**	**+0.8**
TTA				IAmb	IAmb	02 32 40.9	
	comp=Z,25nm,1.0s						
TTA	**Tatalina**	**15.02**	**33**	P	**P**	**02 32 23.6**	**-1.1**
	baz=228,SNR=8.5						
BRSE	**Bradley Lake S**	**15.48**	**48**	P	**P**	**02 32 28.2**	**-1.5**
	baz=247						
L20K	**Farewell, AK**	**15.50**	**37**	P	**P**	**02 32 28.8**	**-1.2**
	baz=233,SNR=5.4						
K20K	**Telida**	**15.97**	**34**	P	**P**	**02 32 34.1**	**-1.1**
	baz=230						
SEW	**Seward**	**16.22**	**48**		**Pn**	**02 32 34.0**	**-0.9**
SEW				IAmb	IAmb	02 32 41.2	
	comp=Z,20nm,0.6s						
SEW	**Seward**	**16.22**	**48**	P	**Pn**	**02 32 33.6**	**-1.3**
	baz=248						
O22K	**Cooper Landing**	**16.24**	**47**	P	**Pn**	**02 32 36.5**	**+1.3**
	baz=247						
PPLA	**Purkeypile**	**16.38**	**37**	Pn	**Pn**	**02 32 37.0**	**-0.1**
PPLA	**Purkeypile**	**16.38**	**37**	P	**P**	**02 32 40.1**	**+0.3**
	baz=235						
J20K	**Nowinta River**	**16.48**	**32**	P	**P**	**02 32 41.2**	**+0.4**
	baz=228						
RC01	**Rabbit Creek A**	**16.48**	**45**		**Pn**	**02 32 38.0**	**-0.3**
CAST	**Castle Rocks**	**16.72**	**36**		**Pn**	**02 32 41.3**	**0.0**
CAST	**Castle Rocks**	**16.72**	**36**	P	**P**	**02 32 43.3**	**-0.2**
	baz=234,SNR=10						
PET	**Petropavlovsk**	**16.82**	**286**	*e*P	**P**	**02 32 44.0**	**-0.6**
PET				*e*S	**Sn**	**02 35 48.7**	**0.0**
PET				pmax	pmax		
	comp=Z,18nm,1.2s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
CHUM	**Lake Minchumin**	**16.91**	**34**	P	**P**	**02 32 46.4**	**+0.9**
	baz=232						
PMR	**Palmer**	**16.96**	**43**	P	**Pn**	**02 32 45.0**	**+0.7**
	baz=244						
PWL	**Port Wells**	**17.01**	**46**	Pn	**Pn**	**02 32 45.0**	**0.0**
PWL	**Port Wells**	**17.01**	**46**	P	**Pn**	**02 32 43.5**	**-1.6**
	baz=248						
GHO	**Glory Hole Cre**	**17.13**	**43**	IAmb	IAmb	02 32 48.3	
	comp=Z,16nm,0.6s						
KNK	**Knik Glacier**	**17.18**	**45**	IAmb	IAmb	02 32 48.9	
	comp=Z,20nm,0.6s						
KNK	**Knik Glacier**	**17.18**	**45**	P	**Pn**	**02 32 46.1**	**-1.0**
	baz=246,SNR=5.4						
KTH	**Kantishna Hill**	**17.22**	**36**		**Pn**	**02 32 47.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**17.39**	**287⇑**	*e*P	**Pn**	**02 32 49.5**	**-0.2**
PETK	**Petropavlovsk-**	**17.39**	**287**	P	**Pn**	**02 32 49.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=91,slow=18,SNR=8.7						
PETK				LR	LR	02 39 21.3	
	comp=Z,101nm,19.8s,baz=95,slow=36						
SML	**Sawmill**	**17.40**	**43**	Pn	**Pn**	**02 32 49.8**	**0.0**
SML	**Sawmill**	**17.40**	**43**	P	**Pn**	**02 32 49.9**	**0.0**
	baz=245						
TRF	**Thorofare Moun**	**17.40**	**37**	P	**P**	**02 32 51.2**	**0.0**
	baz=237						
BPAW	**Bear Paw Mtn.**	**17.51**	**35**	IAmb	IAmb	02 33 08.2	
	comp=Z,29nm,1.0s						
BPAW	**Bear Paw Mtn.**	**17.51**	**35**	P	**P**	**02 32 53.4**	**+1.2**
	baz=234,SNR=12						
SCM	**Sheep Creek Mo**	**17.84**	**44**	IAmb	IAmb	02 32 56.5	
	comp=Z,24nm,0.9s						
SCM	**Sheep Creek Mo**	**17.84**	**44**	P	**Pn**	**02 32 54.8**	**-0.6**
	baz=246,SNR=8.4						
I21K	**Tanana**	**17.84**	**31**	P	**P**	**02 32 56.7**	**+0.9**
	baz=230						
IMAR	**Indian Mountai**	**17.85**	**27**		**Pn**	**02 32 55.1**	**-0.2**
H21K	**Melozitna Rive**	**17.90**	**29**	P	**P**	**02 32 57.6**	**+1.1**
	baz=227						
WAT6	**Susitna Watana**	**17.98**	**41**	P	**Pn**	**02 32 56.3**	**-0.9**
	baz=243				

CTGM	**Chitina Glacie**	**20.30**	**49**	IAmb	IAmb	02 33 52.7			
	comp=Z,14nm,0.8s								
M27K	**Edge Creek, AK**	**20.43**	**45**	IAmb	IAmb	02 33 52.9			
	comp=Z,24nm,1.2s								
M27K	**Edge Creek, AK**	**20.43**	**45**	P	Pn	02 33 25.6	-0.9		
	baz=252								
LOGN	**Logan Glacier**	**20.43**	**50**	IAmb	IAmb	02 33 46.5			
	comp=Z,25nm,1.0s								
J26L	**Joseph Creek**	**20.51**	**39**	P	**P**	**02 33 23.9**	**-1.2**		
	baz=245								
PINM	**Pinnacle**	**20.65**	**52**	P	**P**	**02 33 26.7**	**0.0**		
	baz=260								
L27K	**Beaver Creek,**	**20.67**	**43**	P	Pn	02 33 28.4	-0.9		
	baz=250								
TOLK	**Toolik Lake Re**	**20.87**	**25**	P	**P**	**02 33 28.3**	**-0.7**		
TOLK				IAmb	IAmb	02 33 30.3			
	comp=Z,31nm,0.7s								
TOLK	**Toolik Lake Re**	**20.87**	**25**	P	**P**	**02 33 29.5**	**+0.5**		
	baz=226,SNR=28								
BVCY	**Beaver Creek**	**20.90**	**45**	P	Pn	02 33 32.4	+0.6		
	baz=253,SNR=5.6								
FYU	**Fort Yukon**	**20.90**	**33**	IAmb	IAmb	02 33 58.6			
	comp=Z,21nm,1.0s								
YUK3	**Moose Creek**	**20.91**	**47**	P	Pn	02 33 32.1	0.0		
	baz=255								
PNL	**Peninsula**	**21.01**	**53**	P	**P**	**02 33 31.0**	**+0.5**		
	baz=262								
SEY	**Seymchan**	**21.30**	**316**	P	**P**	**02 33 33.5**	**+0.1**		
	comp=Z,3.0nm,0.7s,baz=121,slow=8.6,SNR=11								
SEY	**Seymchan**	**21.30**	**316**⇑	*eP*	**P**	**02 33 33.4**	**-0.1**		
SEY				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MA2	**Magadan**	**21.36**	**306**	P	**P**	**02 33 35.5**	**+1.3**		
	comp=Z,2.8nm,0.5s,baz=97,slow=11,SNR=9.1								
MA2				LR	LR	02 41 42.8			
	comp=Z,197nm,19.2s,baz=108,slow=36								
MA2	**Magadan**	**21.36**	**306**⇓	*eP*	**P**	**02 33 35.7**	**+1.5**		
MA2				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MA2	**Magadan**	**21.36**	**306**	P	**P**	**02 33 34.1**	**-0.1**		
A21K	**Barrow**	**21.46**	**15**	P	**P**	**02 33 35.8**	**+0.7**		
A21K				IAmb	IAmb	02 33 38.1			
	comp=Z,19nm,0.7s								
EGAK	**Eagle**	**21.57**	**39**	P	**P**	**02 33 35.9**	**-0.5**		
EGAK	**Eagle**	**21.57**	**39**	P	**P**	**02 33 36.3**	**-0.1**		
	baz=247,SNR=40								
BMAR	**Burnt Mountain**	**21.59**	**31**	P	**P**	**02 33 36.7**	**+0.1**		
YUK6	**Outpost Mounta**	**21.72**	**50**	P	**P**	**02 33 38.9**	**+0.6**		
	baz=260								
DAWY	**Dawson**	**22.03**	**42**	IAmb	IAmb	02 33 57.0			
	comp=Z,11nm,0.9s								
DAWY	**Dawson**	**22.03**	**42**	P	**P**	**02 33 40.9**	**-0.5**		
	baz=251,SNR=11								
HYT	**Haines Junctio**	**22.11**	**51**	P	**P**	**02 33 42.5**	**+0.1**		
HYT	**Haines Junctio**	**22.11**	**51**	P	**P**	**02 33 43.4**	**+1.0**		
	baz=261								
M31M	**Drury Creek, Y**	**23.80**	**48**	P	**P**	**02 33 59.2**	**-0.4**		
	baz=261								
P33M	**Teslin, Yukon**	**24.36**	**53**	P	**P**	**02 34 06.6**	**+1.8**		
	baz=267								
MMPY	**Sheldon Lake,**	**25.30**	**47**	P	**P**	**02 34 13.4**	**+0.1**		
	baz=263								
INK	**Inuvik**	**25.71**	**34**	P	**P**	**02 34 16.5**	**-0.4**		
	comp=Z,6.4nm,0.5s,baz=241,slow=8.6,SNR=68								
INK	**Inuvik**	**25.71**	**34**	IAmb	IAmb	02 34 30.6			
	comp=Z,11nm,0.8s								
INK	**Inuvik**	**25.71**	**34**	P	**P**	**02 34 16.2**	**-0.7**		
	baz=249,SNR=13								
DLBC	**Dease Lake**	**25.80**	**57**	P	**P**	**02 34 18.8**	**+0.9**		
	comp=Z,7.0nm,0.9s,baz=275,slow=16,SNR=14								
DLBC	**Dease Lake**	**25.80**	**57**	IAmb	IAmb	02 34 48.3			
	comp=Z,11nm,0.9s								
TGTN	**Hyland Airport**	**26.63**	**50**	P	**P**	**02 34 25.4**	**+0.1**		
	baz=268								
BBB	**Bella Bella**	**28.00**	**70**	P	**P**	**02 34 39.4**	**+1.8**		
	comp=Z,29nm,1.1s,baz=62,slow=5.5,SNR=5.2								
YSS	**Yuzh-Sakhalins**	**28.33**	**278**	*eP*	P	02 34 48.3	+7.7		
YSS				MLR	MLR				
	comp=Z,300nm,15.0s								
C36M	**Paulatuk**	**29.30**	**34**	P	**P**	**02 34 48.9**	**-0.1**		
	baz=258								
A36M	**Sachs Harbour**	**29.60**	**28**	IAmb	IAmb	02 34 59.5			
	comp=Z,6.8nm,0.8s								
A36M	**Sachs Harbour**	**29.60**	**28**	P	**P**	**02 34 51.5**	**-0.1**		
	baz=252								
YAK	**Yakutsk**	**31.67**	**312**	LR	LR	02 48 24.1			
	comp=Z,205nm,18.6s,baz=90,slow=37								
TIXI	**Tiksi**	**32.11**	**330**	P	**P**	**02 35 13.0**	**-0.8**		
	comp=Z,1.0nm,0.5s,baz=94,slow=19,SNR=5.0								
TIXI				PcP	**PcP**	**02 38 02.1**	**-0.1**		
	comp=Z,1.3nm,0.5s,baz=308,slow=8.3,SNR=3.6								
YKA	**Yellowknife Ar**	**32.99**	**47**	P	**P**	**02 35 21.2**	**-0.4**		
	comp=Z,0.7nm,0.5s,baz=268,slow=8.2,SNR=25								
YKA				PcP	**PcP**	**02 38 05.3**	**+0.5**		
	comp=Z,0.7nm,0.5s,baz=282,slow=2.9,SNR=6.8								
YKA				pPcP		02 38 19.3			
	comp=Z,0.8nm,0.6s,baz=285,slow=3.1,SNR=6.4								
YKA				LR	LR	02 50 34.9			
	comp=Z,231nm,21.5s,baz=288,slow=40								
KLR	**Kul'dur**	**34.07**	**288**	P	**P**	**02 35 30.7**	**-0.4**		
	comp=Z,8.0nm,0.6s,baz=66,slow=7.2,SNR=34								
KLR	**Kul'dur**	**34.07**	**288**	*ce*	P	**P**	**02 35 30.1**	**-1.0**	
KLR				pmax	pmax				
	comp=Z,7.0nm,0.6s								
B08A	**Colville Reser**	**34.64**	**73**	P	**P**	**02 35 36.7**	**+0.5**		
B08A				IAmb	IAmb	02 35 53.0			
	comp=Z,9.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**35.02**	**213**	T	T	03 13 50.9			
	baz=21,slow=76,SNR=9.5								
H11N3	**WAKE ISLAND Hy**	**35.03**	**213**	T	T	03 13 48.9			
	baz=21,slow=76,SNR=8.8								
H11N1	**WAKE ISLAND Hy**	**35.04**	**213**	T	T	03 13 37.1			
	baz=21,slow=76,SNR=5.7								
NEW	**Newport**	**36.01**	**72**	P	**P**	**02 35 47.7**	**-0.2**		
	comp=Z,1.9nm,0.7s,baz=302,slow=8.0,SNR=3.0								
NEW	**Newport**	**36.01**	**72**	IAmb	IAmb	02 36 04.2			
	comp=Z,6.7nm,0.8s								
NEW	**Newport**	**36.01**	**72**	P	**P**	**02 35 48.7**	**+0.8**		
	baz=297								
EDM	**Edmonton**	**36.12**	**63**	P	**P**	**02 35 49.3**	**+0.5**		
EDM				pmax	pmax				
	comp=Z,23nm,0.7s								
EDM	**Edmonton**	**36.12**	**63**	P	**P**	**02 35 49.2**	**+0.5**		
H11S1	**WAKE ISLAND Hy**	**36.23**	**212**	T	T	03 15 07.8			
	baz=20,slow=75,SNR=22								
H11S2	**WAKE ISLAND Hy**	**36.24**	**212**	T	T	03 15 04.5			
	baz=20,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**36.24**	**212**	T	T	03 15 04.6			
	baz=20,slow=75,SNR=11								
USA0B	**Ussuriysk Arra**	**36.29**	**280**	P	**P**	**02 35 49.6**	**-0.7**		
USA0B				pmax	pmax				
	comp=Z,16nm,0.6s								
USA0B	**Ussuriysk Arra**	**36.29**	**280**	P	**P**	**02 35 49.6**	**-0.7**		
USRK	**Ussuriysk Ar.**	**36.29**	**280**	P	**P**	**02 35 50.2**	**0.0**		
	comp=Z,15nm,0.6s,baz=54,slow=9.5,SNR=40								
USRK				pP	**pwP**	**02 36 03.5**	**+1.4**		
	comp=Z,14nm,0.9s,baz=57,slow=9.8,SNR=8.3								
USRK				LR	LR	02 49 54.9			
	comp=Z,88nm,21.6s,baz=56,slow=35								
USRK	**Ussuriysk Ar.**	**36.29**	**280**	P	**P**	**02 35 49.3**	**-1.0**		
MJAR	**Matsushiro Arr**	**36.80**	**265**	LR	LR	02 49 32.6			
	comp=Z,76nm,19.5s,baz=58,slow=34								
VLA	**Vladivostok**	**36.92**	**279**⇑	*eP*	**P**	**02 35 56.2**	**+0.6**		
VLA				pmax	pmax				
	comp=Z,26nm,1.0s								
JGF	**Kuroka**	**37.93**	**265**	P	**P**	**02 36 05.0**	**+0.7**		
JGF				IAmb	IAmb	02 36 33.0			
	comp=Z,9.6nm,1.0s								
RES	**Resolute Bay**	**38.45**	**25**	P	**P**	**02 36 07.3**	**-0.9**		
	comp=Z,0.5nm,0.5s,baz=283,slow=8.8,SNR=2.7								
RES				PcP	**PcP**	**02 38 21.3**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=304,slow=2.8,SNR=4.9								
RES				pPcP		02 38 34.9			
	comp=Z,2.4nm,0.7s,baz=353,slow=1.0,SNR=8.4								
RES				LR	LR	02 55 07.9			
	comp=Z,138nm,18.5s,baz=330,slow=41								
MSO	**Missoula**	**38.58**	**72**	P	**P**	**02 36 09.8**	**0.0**		
MSO				IAmb	IAmb	02 36 28.7			
	comp=Z,9.1nm,1.2s								
RYN	**Ryan**	**40.27**	**86**	P	**P**	**02 36 24.2**	**+0.2**		
RYN				IAmb	IAmb	02 36 44.7			
	comp=Z,6.4nm,0.9s								
EGMT	**Eagleton**	**40.47**	**69**	IAmb	IAmb	02 36 44.5			
	comp=Z,10nm,0.9s								
EGMT	**Eagleton**	**40.47**	**69**	P	**P**	**02 36 26.6**	**+1.1**		
	baz=300								
CN2	**Changchun**	**40.50**	**284**	*eP*	**P**	**02 36 24.9**	**-0.8**		
CN2				S	**S**	**02 42 32.0**	**-1.0**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CN2				LR	LR				
	comp=Z,200nm,21.0s								
CN2				LR	LR				
	comp=Z,100nm,21.0s								
CN2				LR	LR				
	comp=Z,200nm,19.0s								
NVAR	**Mina Array Bea**	**40.53**	**86**	P	**P**	**02 36 26.6**	**+0.4**		
	comp=Z,1.4nm,0.8s,baz=288,slow=8.4,SNR=9.3								
NVAR				PcP	**PcP**	**02 38 29.1**	**+0.7**		
	comp=Z,0.7nm,0.7s,baz=316,slow=3.8,SNR=2.7								
NVAR				pPcP		02 38 43.3			
	comp=Z,1.3nm,0.7s,baz=305,slow=2.9,SNR=4.5								
BOZ	**Bozeman (W)**	**40.59**	**73**	P	**P**	**02 36 27.0**	**+0.3**		
	baz=302								
HIA	**Hailar**	**41.06**	**294**⇓	*iP*	**P**	**02 36 29.7**	**-0.6**		
HIA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ELK	**Elko**	**41.07**	**81**	P	**P**	**02 36 30.8**	**+0.1**		
ELK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ELK	**Elko**	**41.07**	**81**	P	**P**	**02 36 30.8**	**+0.1**		
YHH	**Holmes Hill**	**41.49**	**73**	IAmb	IAmb	02 36 50.4			
	comp=Z,13nm,1.3s								
FFC	**Flin Flon**	**41.63**	**56**	P	**P**	**02 36 35.2**	**+0.3**		
FFC				pmax	pmax				
	comp=Z,7.0nm,0.8s								
FFC	**Flin Flon**	**41.63**	**56**	P	**P**	**02 36 35.2**	**+0.3**		
FFC				IAmb	IAmb	02 36 48.7			
	comp=Z,6.8nm,0.8s								
LKWY	**Lake**	**41.88**	**73**	P	**P**	**02 36 38.4**	**+1.1**		
LKWY				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LKWY	**Lake**	**41.88**	**73**	P	**P**	**02 36 38.4**	**+1.1**		
LKWY				IAmb	IAmb	02 36 53.7			
	comp=Z,7.2nm,0.8s								
RLMT	**Red Lodge**	**42.26**	**72**	IAmb	IAmb	02 36 56.4			
	comp=Z,16nm,1.1s								
R11A	**Troy Canyon, C**	**42.27**	**84**	P	**P**	**02 36 40.7**	**+0.2**		
R11A	**Troy Canyon, C**	**42.27**	**84**	P	**P**	**02 36 40.7**	**+0.2**		
	baz=308								
KSRS	**Korea Array**	**42.67**	**274**	P	**P**	**02 36 44.8**	**+1.3**		
	comp=Z,3.5nm,0.7s,baz=51,slow=7.8,SNR=12								
KSRS				LR	LR	02 54 25.2			
	comp=Z,24nm,20.4s,baz=15,slow=36								
KSAR	**Wonju Array Be**	**42.70**	**274**	P	**P**	**02 36 44.0**	**+0.3**		
KSAR	**Wonju Array Be**	**42.70**	**274**	P	**P**	**02 36 44.0**	**+0.3**		
TPNV	**Topopah Spring**	**42.72**	**87**	P	**P**	**02 36 45.5**	**+1.3**		
	baz=309								
DUG	**Dugway, Tooele**	**42.89**	**80**	IAmb	IAmb	02 37 10.8			
	comp=Z,8.3nm,1.1s								
DUG	**Dugway, Tooele**	**42.89**	**80**	P	**P**	**02 36 46.3**	**+0.9**		
	baz=306								
PRN	**Pahroc Range**	**43.19**	**85**	IAmb	IAmb	02 37 11.5			
	comp=Z,9.0nm,0.8s								
LAO	**LASA Array**	**43.21**	**69**	P	**P**	**02 36 49.4**	**+1.5**		
	baz=302								
BW06	**Boulder Array**	**43.39**	**75**	IAmb	IAmb	02 37 13.6			
	comp=Z,8.1nm,1.2s								
BW06	**Boulder Array**	**43.39**	**75**	P	**P**	**02 36 50.0**	**+0.5**		
	baz=305								
PDAR	**Pinedale Array**	**43.39**	**75**	P	**P**	**02 36 50.0**	**+0.4**		
	comp=Z,1.4nm,0.7s,baz=309,slow=3.6,SNR=15								
GSC	**Goldstone, Bar**	**43.42**	**89**	IAmb	IAmb	02 37 06.1			
	comp=Z,20nm,1.3s								
GSC	**Goldstone, Bar**	**43.42**	**89**	P	**P**	**02 36 50.3**	**+0.6**		
	baz=310								
FCC	**Fort Churchill**	**43.71**	**48**	P	**P**	**02 36 51.2**	**-0.5**		
FCC				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FCC	**Fort Churchill**	**43.71**	**48**	P	**P**	**02 36 51.1**	**-0.5**		
FCC				IAmb	IAmb	02 37 05.9			
	comp=Z,4.1nm,0.6s								
TMUT	**Trail Mountain**	**44.42**	**80**	IAmb	IAmb	02 37 18.6			
	comp=Z,5.7nm,0.8s								
RDMU	**Red Mountain**	**44.66**	**78**	IAmb	IAmb	02 37 25.3			
	comp=Z,11nm,1.0s								
P18A	**Preston Nutter**	**44.81**	**79**	IAmb	IAmb	02 37 31.6			
	comp=Z,9.1nm,1.1s								
SRU	**San Rafael Swe**	**44.95**	**80**	IAmb	IAmb	02 37 20.0			
	comp=Z,6.3nm,0.8s								
U15A	**North Rim**	**45.52**	**84**	IAmb	IAmb	02 37 25.5			
	comp=Z,4.7nm,0.9s								
O20A	**White River Ci**	**45.73**	**77**	IAmb	IAmb	02 37 24.3			
	comp=Z,9.2nm,0.8s								
O20A	**White River Ci**	**45.73**	**77**	P	**P**	**02 37 08.3**	**0.0**		
	baz=307								
NRIK	**Noril'sk**	**45.89**	**331**	P	**P**	**02 37 08.1**	**-0.7**		
	comp=Z,3.0nm,0.6s,baz=72,slow=9.6,SNR=6.2								
NRIK	**Noril'sk**	**45.89**	**331**	*de*	P	**P**	**02 37 08.5**	**-0.3**	
NRIK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
PV17	**East Wray Mesa**	**46.43**	**80**	P	**P**	**02 37 15.7**	**+1.9**		
PV17				IAmb	IAmb	02 37 26.6			
	comp=Z,7.5nm,0.7s								
WUAZ	**Wupatki**	**46.67**	**85**	P	**P**	**02 37 16.4**	**+0.7**		
WUAZ				IAmb	IAmb	02 37 35.5			
	comp=Z,6.1nm,1.1s								
ULM	**Lac du Bonnet**	**47.09**	**59**	P	**P**	**02 37 18.5**	**-0.1**		
	comp=Z,4.5nm,0.5s,baz=308,slow=8.8,SNR=9.7								
ULM	**Lac du Bonnet**	**47.09**	**59**	P	**P**	**02 37 18.7**	**+0.1**		
ULM				pmax	pmax				
	comp=Z,5µm,0.8s								
ULM	**Lac du Bonnet**	**47.09**	**59**	P	**P**	**02 37 18.7**	**+0.1**		
ULM				IAmb	IAmb	02 37 32.7			
	comp=Z,5.4nm,0.8s								
MVCO	**Mesa Verde**	**47.38**	**81**	P	**P**	**02 37 20.8**	**-0.5**		
	baz=309								
AGMN	**Agassiz Nation**	**48.19**	**61**	IAmb	IAmb	02 37 43.5			
	comp=Z,8.4nm,0.9s								
AGMN	**Agassiz Nation**	**48.19**	**61**	P	**P**	**02 37 27.1**	**-0.1**		
	baz=305								
SDCO	**Great Sand Dun**	**48.89**	**78**	P	**P**	**02 37 33.3**	**+0.3**		
	baz=309								
ULN	**Ulaanbaatar**	**48.93**	**299**	*de*	P	**P**	**02 37 33.1**	**+0.1**	
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULN	**Ulaanbaatar**	**48.93**	**299**	P	**P**	**02 37 32.6**	**-0.4**		
ULN				IAmb	IAmb	02 37 33.7			
	comp=Z,6.6nm,0.9s								
SONM	**Songino Array**	**49.31**	**299**	P	**P**	**02 37 36.2**	**+0.3**		
	comp=Z,5.5nm,0.6s,baz=48,slow=8.1,SNR=56								
SONM				PcP	**PcP**	**02 38 57.8**	**-0.5**		
	comp=Z,0.7nm,0.6s,baz=64,slow=4.2,SNR=1.8								
SONM	**Songino Array**	**49.31**	**299**	P	**P**	**02 37 36.1**	**+0.2**		
SONM				IAmb	IAmb	02 37 36.8			
	comp=Z,4.5nm,0.8s								
B35A	**Bob, Littlefor**	**49.32**	**60**	IAmb	IAmb	02 37 49.7			
	comp=Z,7.9nm,0.9s								
MOY	**Mondy**	**49.94**	**306**	*eP*	**P**	**02 37 40.8**	**+0.2**		
T25A	**Trinidad**	**49.94**	**78**	IAmb	IAmb	02 37 58.7			
	comp=Z,7.6nm,0.8s								
T25A	**Trinidad**	**49.94**	**78**	P	**P**	**02 37 42.0**	**+1.0**		
	baz=310								
TIA	**Tai'an**	**50.15**	**281**	P	P	02 37 55.4	+13		
TIA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
ECSD	**EROS Data Cent**	**50.47**	**66**	P	**P**	**02 37 44.0**	**-0.5**		
ECSD				IAmb	IAmb	02 37 58.3			
	comp=Z,3.3nm,0.8s								
ECSD	**EROS Data Cent**	**50.47**	**66**	P	**P**	**02 37 43.7**	**-0.9**		
	baz=308								
HHC	**Hu-ho-hao-te**	**50.57**	**289**	*eP*	**P**	**02 37 46.8**	**+1.3**		
HHC				pmax	pmax				
	comp=Z,9.0nm,1.1s								
HHC				pmax	pmax				
	comp=Z,150nm,5.6s								
EYMN	**Ely**	**50.77**	**59**	IAmb	IAmb	02 38 01.4			
	comp=Z,8.7nm,1.0s								
EYMN	**Ely**	**50.77**	**59**	P	**P**	**02 37 46.6**	**-0.2**		
	baz=307								
HNS	**HongShan**	**50.87**	**283**	⇑P	**P**	**02 37 48.6**	**+1.0**		
HNS				pmax	pmax				
	comp=Z,26nm,0.9s								
F36A	**Milaca**	**50.92**	**63**	IAmb	IAmb	02 37 49.3			
	comp=Z,3.0nm,0.8s								
BGNE	**Belgrade**	**51.01**	**70**	P	**P**	**02 37 48.7**	**0.0**		
NJ2	**Nanjing**	**51.84**	**275**	*eP*	**P**	**02 37 54.3**	**-0.6**		
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
KNGR	**Kungurtug, Tuv**	**52.33**	**306**⇑	*eP*	**P**	**02 37 59.7**	**+1.1**		
G40A	**Rib Lake**	**53.12**	**61**	IAmb	IAmb	02 38 20.1			
	comp=Z,4.4nm,0.7s								
COWI	**Conover**	**53.18**	**60**	IAmb	IAmb	02 38 05.5			
	comp=Z,8.7nm,1.4s								
LYN	**LuoYang**	**54.10**	**282**	⇓P	**P**	**02 38 12.8**	**+1.1**		
LYN				sP	pP	02 38 17.5	-0.1		
LYN				S	**S**	**02 45 53.3**	**+6.6**		
LYN				pmax	pmax				
	comp=Z,90nm,7.0s								
SFJD	**Kangerlussuaq**	**54.43**	**24**	LR	LR	03 06 00.1			
	comp=Z,110nm,18.1s,baz=315,slow=41								
I42A	**Draeger Farm,**	**54.71**	**62**	IAmb	IAmb	02 38 16.3			
	comp=Z,6.4nm,0.9s								
LPIG	**La Paz**	**55.21**	**94**	LR	LR	02 58 05.2			
	comp=Z,49nm,19.3s,baz=238,slow=32								
TX31	**Lajitas Ar. Si**	**55.64**	**85**	IAmb	IAmb	02 38 39.2			
	comp=Z,12nm,1.1s								
TX32	**Lajitas Array**	**55.64**	**85**	P	**P**	**02 38 23.0**	**0.0**		
TX32				IAmb	IAmb	02 38 39.2			
	comp=Z,4.2nm,1.1s								
TXAR	**Lajitas Array**	**55.64**	**85**	P	**P**	**02 38 22.9**	**-0.1**		
	comp=Z,0.9nm,0.7s,baz=295,slow=5.1,SNR=11								
TXAR				ScP	**ScP**	**02 43 18.5**	**-1.1**		
	comp=Z,0.3nm,0.8s,baz=248,slow=1.3,SNR=3.4								
WHN	**Wuhan**	**55.67**	**277**	⇑P	**P**	**02 38 19.1**	**-3.9**		
ZALV	**Zalesovo Beam**	**56.16**	**316**	P	**P**	**02 38 25.0**	**-1.3**		
	comp=Z,0.7nm,0.5s,baz=46,slow=8.4,SNR=2.8								
ZALV				PcP	**PcP**	**02 39 24.4**	**+0.6**		
	comp=Z,1.5nm,0.6s,baz=48,slow=3.9,SNR=7.1								
ZALV				pPcP		02 39 37.3			
	comp=Z,1.6nm,0.6s,baz=63,slow=3.6,SNR=6.2								
ZALV	**Zalesovo Beam**	**56.16**	**316**	P	**P**	**02 38 26.8**	**+0.5**		
R40A	**Maddies Statio**	**56.47**	**69**	IAmb	IAmb	02 38 41.5			
	comp=Z,6.2nm,0.6s								
XAN	**Xi'an**	**56.61**	**284**	P	**P**	**02 38 29.8**	**0.0**		
XAN				pmax	pmax				
	comp=Z,9.0nm,1.1s								
U40A	**Yellville**	**57.43**	**71**	IAmb	IAmb	02 38 48.8			
	comp=Z,5.2nm,0.9s								
U40A	**Yellville**	**57.43**	**71**	P	**P**	**02 38 34.1**	**-1.4**		
	baz=313								
W39A	**Magazine**	**57.66**	**73**	P	**P**	**02 38 36.1**	**-1.1**		
	baz=313								
SCHQ	**Schefferville**	**58.05**	**41**	P	**P**	**02 38 38.0**	**-1.5**		
	comp=Z,2.6nm,0.8s,baz=292,slow=7.7,SNR=6.4								
FCAR	**Ozark Folk Cen**	**58.18**	**71**	IAmb	IAmb	02 38 54.0			
	comp=Z,7.6nm,0.8s								
LZH	**Lanzhou**	**58.26**	**289**	*eP*	**P**	**02 38 42.3**	**+0.7**		
LZH				sP	pP	02 38 48.5	+1.0		
LZH				pmax	pmax				
	comp=Z,16nm,1.4s								
LZH				pmax	pmax				
	comp=Z,140nm,5.6s								
LZH				LR	LR				
	comp=Z,140nm,14.6s								
LZH				LR	LR				
	comp=Z,170nm,13.0s								
LZH				LR	LR				
	comp=Z,190nm,13.0s								
GTA	**Gaotai**	**58.34**	**295**	⇓P	**P**	**02 38 42.1**	**+0.1**		
GTA				sP	pwP	02 38 55.4	+1.3		
GTA				pmax	pmax				
	comp=Z,11nm,0.9s								
GTA				pmax	pmax				
	comp=Z,100nm,5.3s								
GTA				LR	LR				
	comp=Z,92nm,17.1s								
GTA				LR	LR				
	comp=Z,140nm,18.9s								
ARCES	**ARCESS Array B**	**58.52**	**352**	P	**P**	**02 38 40.8**	**-1.9**		
	comp=Z,3.0nm,0.6s,baz=57,slow=4.5,SNR=3.7								
ARCES				PcP	**PcP**	**02 39 33.4**	**+0.5**		
	comp=Z,5.6nm,0.7s,baz=12,slow=6.2,SNR=8.4								
ARCES				pPcP		02 39 45.9			
	comp=Z,4.0nm,0.7s,baz=22,slow=4.5,SNR=6.0								
ARCES				LR	LR	03 03 55.9			
	comp=Z,54nm,21.9s,baz=338,slow=36								
O48B	**Farmland**	**59.21**	**63**	P	**P**	**02 38 46.7**	**-1.2**		
	baz=313								
TRQ	**Mont Tremblant**	**60.65**	**52**	P	**P**	**02 38 57.8**	**0.0**		
M53A	**Wl Miller and**	**60.85**	**59**	P	**P**	**02 38 59.1**	**0.0**		
	baz=314								
ALLY	**Alegheny Colle**	**60.99**	**59**	P	**P**	**02 39 00.7**	**+0.6**		
KURK	**Kurchatov**	**61.14**	**316**	*ce*	P	**P**	**02 39 00.0**	**-0.9**	
KURK				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KURK	**Kurchatov**	**61.14**	**316**	P	**P**	**02 39 00.2**	**-0.8**		
KURBB	**Kurchatov Arra**	**61.25**	**316**	LR	LR	03 07 28.6			
	comp=Z,125nm,18.1s,baz=345,slow=38								
M54A	**Oil Creek Stat**	**61.34**	**59**	P	**P**	**02 39 02.7**	**+0.2**		
	baz=315								
O53A	**New Philadelph**	**61.39**	**61**	P	**P**	**02 39 02.4**	**-0.4**		
	baz=315								
N54A	**Moraine State**	**61.55**	**59**	P	**

NOA NORSAR Array B 67.82 357 P **P** **02 39 43.0 -1.5**
TARG Taragay, Kyrgy 68.27 310 IAmb IAmb 02 39 49.9
comp=Z,3.4nm,0.6s
HFS Hagfors 68.63 356 LR LR 03 10 20.6
comp=Z,37nm,19.3s,baz=350,slow=36
UPP Uppsala 68.69 354 *eP* **P** **02 39 49.2 -0.6**
AAK Ala-Archa 69.12 313 LR LR 03 12 27.3
comp=Z,48nm,18.9s,baz=42,slow=38
AAK Ala-Archa 69.12 313 *deP* **P** **02 39 53.3 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 69.12 313 P **P** **02 39 52.3 -0.8**
AAK IAmb IAmb 02 39 54.5
comp=Z,5.0nm,0.7s
VSU Vasula 69.19 349 *d iP* **P** **02 39 52.4 -0.5**
VSU Vasula 69.19 349 *eP* **P** **02 39 52.6 -0.4**
MTSE Matsula 69.28 350 *eP* **P** **02 39 53.1 -0.4**
ABKAR Akbulak array 69.68 326 P **P** **02 39 55.9 -0.3**
VIKU Vikbolandet 70.10 354 *eP* **P** **02 39 58.2 -0.3**
KKAR Karatay Array 70.54 315 P **P** **02 40 01.2 -0.4**
KKAR Karatay Array 70.54 315 P **P** **02 40 01.2 -0.4**
BELG Belogornoye 70.79 334 LR LR 03 15 26.0
comp=Z,67nm,18.7s,baz=320,slow=40
OBN Obninsk 70.84 342 *i* P **P** **02 39 59.3 -3.8**
OBN pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 70.86 310 P **P** **02 40 07.2 +3.4**
KSH sP pwP 02 40 15.3 -0.7
KSH pmax pmax
comp=Z,11nm,0.5s
BORU Boraas 71.17 356 *i* P **P** **02 40 04.2 -1.0**
ONAU Onsala 71.44 357 *i* P **P** **02 40 05.6 -1.1**
FABU Falkenberg 71.81 356 *i* P **P** **02 40 08.1 -0.8**
ISAL Salakas 72.08 348 *eP* **P** **02 40 10.7 0.0**
DEL Delary 72.28 355 *i* P **P** **02 40 11.0 -0.8**
DEL Delary 72.28 355 *eP* **P** **02 40 11.5 -0.3**
IIGN Ignalina 72.29 348 *eP* **P** **02 40 11.7 -0.2**
PABE Paberze 72.41 349 *eP* **P** **02 40 12.2 -0.4**
MUD Monsted U'grnd 72.46 358 *i* P **P** **02 40 12.0 -0.9**
MUD IAmb IAmb 02 40 13.5
comp=Z,3.8nm,0.6s
BTK Batken 72.85 313 IAmb IAmb 02 40 30.4
comp=Z,4.6nm,0.8s
MNK Minsk 72.89 347 *i* P **P** **02 40 14.5 -1.0**
MNK *i* 02 42 56.2
MNK *i* PPP PPP 02 44 40.6
MNK *i* S **S** **02 49 41.3 +1.4**
MNK *i* SS **SS** **02 54 21.9 +2.9**
MNK pmax pmax
comp=Z,21nm,1.4s
MNK pmax pmax
comp=E,3.0nm,1.3s
MNK pmax pmax
comp=N,16nm,1.1s
MNK MLR MLR
comp=Z,116nm,14.0s
MNK MLR MLR
comp=E,23nm,19.0s
MNK MLR MLR
comp=N,324nm,24.0s
MNK Minsk 72.89 347 *i* P **P** **02 40 14.5 -1.0**
comp=E,3.0nm,1.3s
MNK *i* P **P** **02 40 14.5 -1.0**
comp=N,16nm,1.1s
MNK *i* P **P** **02 40 14.5 -1.0**
comp=Z,21nm,1.4s,baz=194
MNK *i* PP **PP** **02 42 56.2 -0.8**
MNK *i* PPP PPP 02 44 40.6
MNK *i* S **S** **02 49 41.4 +1.4**
MNK *i* SS **SS** **02 54 22.0 +2.9**
MNK *i* SSS SSS 02 57 42.5
MNK *i* LQ LQ 03 07 18.9
MNK *i* LR LR 03 12 51.5
MNK *i* LRM MLR 03 16 45.0
comp=Z,116nm,14.3s
MNK *i* LRM MLR 03 16 45.4
comp=E,23nm,18.9s
MNK *i* LRM MLR 03 16 47.1
comp=N,324nm,24.2s
RAR Rarotonga 73.38 166 LR LR 03 11 01.7
comp=N,48nm,18.8s,baz=200,slow=34
VORR Voronezh 73.53 339 *eP* **P** **02 40 19.8 +0.5**
VORR pmax pmax
comp=Z,10.0nm,0.3s
CHTO Chiang Mai 73.74 280 P **P** **02 40 21.3 +0.2**
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CHTO Chiang Mai 73.74 280 P **P** **02 40 21.3 +0.2**
CHTO IAmb IAmb 02 40 36.1
comp=Z,9.3nm,1.4s
GAR Garm 73.93 313 P **P** **02 40 21.0 -1.0**
SUW Suwalki 73.97 350 *eP* **P** **02 40 20.5 -1.3**
SUW Suwalki 73.97 350 *eP* **P** **02 40 20.7 -1.1**
TAPN Taplejung 74.00 294 *eP* **P** **02 40 23.7 +0.8**
CMAR Chiang Mai Arr 74.01 280 P **P** **02 40 24.4 +1.7**
comp=Z,4.7nm,0.3s,baz=30,slow=7.2,SNR=9.7
CMAR pP **PcP** **02 40 37.0 -0.9**
comp=Z,2.3nm,0.4s,baz=27,slow=6.2,SNR=2.6
CMAR Chiang Mai Arr 74.01 280 *cePcP* **P** **02 40 25.3 +2.6**
CMAR pmax pmax
comp=Z,5.0nm,0.3s
CMAR Chiang Mai Arr 74.01 280 P **P** **02 40 22.9 +0.2**
GUN Gumba 74.62 295 *eP* **P** **02 40 27.3 +0.8**
JIRN Jiri 74.63 295 *eP* **P** **02 40 27.6 +1.0**
RAMN Ramite 74.94 294 *eP* **P** **02 40 28.9 +0.6**
comp=Z,34nm,0.6s
BSEG Bad Segeberg 74.96 357 *eP* **P** **02 40 28.1 +0.5**
comp=Z,6.4nm,0.8s,baz=3.9,slow=5.6
PKI Pulchoki 75.14 295 *eP* **P** **02 40 29.8 +0.2**
PKIN Phulchoki 75.15 296 *eP* **P** **02 40 29.4 -0.1**
DZM Mont Dzumac 75.17 199 LR LR 03 08 55.7
comp=Z,69nm,19.6s,baz=216,slow=32
GKN Gorkha 75.25 296 *eP* **P** **02 40 30.3 +0.4**
GKP Gorka Klasztor 75.26 353 *eP* **P** **02 40 29.2 -0.1**
GKP *ePcP* **pwP** **02 40 41.4 -0.2**
GKP Gorka Klasztor 75.26 353 *eP* **P** **02 40 29.3 -0.1**
DMN Daman 75.29 296 *eP* **P** **02 40 30.9 +0.6**
DANN Dangsing 75.47 297 *eP* **P** **02 40 32.0 +0.6**
comp=Z,78nm,0.8s
KOLN Koldanda 76.01 297 *eP* **P** **02 40 34.8 +0.5**
comp=Z,33nm,0.9s
PYUN Piuthan 76.09 298 *eP* **P** **02 40 35.2 +0.4**
comp=Z,53nm,0.9s
RETH Rethem/Aller, 76.18 358 *eP* **P** **02 40 34.9 +0.3**
baz=3.9,slow=5.6
AKASG Malin Array Be 76.37 345 P **P** **02 40 34.9 -0.9**
comp=Z,7.1nm,0.5s,baz=18,slow=6.2,SNR=30
AKASG pP **PcP** **02 40 47.6 +0.1**
comp=Z,3.5nm,0.6s,baz=18,slow=6.1,SNR=6.3
AKASG LR LR 03 18 33.7
comp=Z,47nm,18.7s,baz=342,slow=39
NRDL Niedersach Rie 76.41 357 *eP* **P** **02 40 36.1 +0.3**
comp=Z,4.0nm,0.7s,baz=3.9,slow=5.6
FLTG Flechtingen 76.53 357 *eP* **P** **02 40 36.4 -0.2**
comp=Z,7.4nm,0.5s,baz=3.9,slow=5.6
IBBN Ibbenburen 76.64 359 *eP* **P** **02 40 37.7 +0.4**
comp=Z,8.5nm,0.5s,baz=3.9,slow=5.6
NIL Nilore 76.84 308 P **P** **02 40 39.6 +0.8**
NIL pmax pmax
comp=Z,15nm,0.8s
NIL Nilore 76.84 308 P **P** **02 40 39.6 +0.8**
CLZ Clausthal 77.05 357 *eP* **P** **02 40 40.2 +0.5**
comp=Z,7.5nm,0.6s,baz=3.9,slow=5.6
CLL Collm 77.48 356 *i* P **P** **02 40 41.3 -0.7**
CLL *e* 02 40 54.0
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 77.48 356 *i* P **P** **02 40 41.3 -0.7**
comp=Z,7.0nm,0.7s
CLL *ePcP* **pwP** **02 40 54.0 -0.3**
CLL *ePP* **PP** **02 43 40.0 +4.1**
CLL Collm 77.48 356 *eP* **P** **02 40 41.9 -0.1**
comp=Z,6.2nm,0.6s,baz=3.9,slow=5.6
KASTN Kahler Asten 77.74 358 *eP* **P** **02 40 43.6 +0.1**
baz=3.9,slow=5.6
KSP Ksiaz 77.75 353 *eP* **P** **02 40 43.5 0.0**
BRG Berggiesshubel 77.87 355 *eP* **P** **02 40 44.0 -0.1**
BRG Amp 02 40 46.2
comp=Z,8.2nm,0.7s
BRG *ex* x 02 40 56.6
BRG Amp 02 40 57.6
comp=Z,5.6nm,0.8s
BRG Berggiesshubel 77.87 355 *eP* **P** **02 40 44.0 -0.1**
BRG *e* 02 40 56.6
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 77.87 355 *eP* **P** **02 40 44.0 -0.1**
comp=Z,6.5nm,0.5s,baz=3.9,slow=5.6
OSTC Ostas 78.04 353 *eP* **P** **02 40 44.5 -0.6**
OJC Ojcow 78.07 351 *eP* **P** **02 40 45.4 +0.1**
UBBA Unterbreizbach 78.09 357 *eL* L 03 20 05.0
comp=Z,67nm,19.2s
UPC Upice 78.10 354 *eP* **P** **02 40 45.4 -0.1**
UPC Upice 78.10 354 *eP* **P** **02 40 45.4 -0.1**
KBL Kabul 78.15 311 P **P** **02 40 45.9 -0.4**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 78.15 311 P **P** **02 40 45.9 -0.4**
PVCC Panska Ves 78.17 354 *eP* **P** **02 40 45.8 -0.1**
PVCC Panska Ves 78.17 354 *eP* **P** **02 40 45.8 -0.1**
MOX Moxa 78.21 356 *eP* **P** **02 40 46.2 +0.2**
comp=Z,4.8nm,0.6s,baz=3.9,slow=5.6
DPC Dobruska-Polom 78.23 353 *eP* **P** **02 40 46.4 +0.1**
DPC *e* 02 40 58.9
DPC Dobruska-Polom 78.23 353 *eP* **P** **02 40 46.4 +0.1**
DPC *ePCP* **pwP** **02 40 58.9 +0.3**
KWP Kalwaria Pacla 78.33 349 *eP* **P** **02 40 46.7 -0.1**
PLN Plauen 78.34 356 *eP* **P** **02 40 46.9 +0.1**
baz=3.9,slow=5.6
MEM Membach 78.35 0 *dP* **P** **02 40 45.6 -1.3**
WERD Werda 78.37 356 *eP* **P** **02 40 47.2 +0.2**
baz=3.9,slow=5.6
GUNZ Gunzen 78.46 356 *eP* **P** **02 40 47.8 +0.3**
baz=3.9,slow=5.6
KRLC Kraliky 78.47 353 *eP* **P** **02 40 47.1 -0.5**
KRLC *e* 02 40 59.6
KRLC Kraliky 78.47 353 *eP* **P** **02 40 47.1 -0.5**
KRLC *ePCP* **pwP** **02 40 59.6 -0.3**
WERN Wernitzgruen 78.53 356 *eP* **P** **02 40 48.2 +0.3**
baz=3.9,slow=5.6
NKC Novy Kostel 78.58 356 *eP* **P** **02 40 48.4 +0.2**
NKC Novy Kostel 78.58 356 *eP* **P** **02 40 48.4 +0.2**
MORC Moravsky Berou 78.71 352 P **P** **02 40 48.6 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 78.71 352 P **P** **02 40 48.6 -0.3**
MORC IAmb IAmb 02 40 49.7
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 78.71 352 *eP* **P** **02 40 48.7 -0.2**
PRU Pruhonice 78.72 354 *eP* **P** **02 40 48.6 -0.3**
PRU *e* 02 41 01.6
PRU Pruhonice 78.72 354 *eP* **P** **02 40 48.6 -0.3**
PRU *ePCP* **pwP** **02 41 01.6 +0.4**
TNS Taunus Mts 78.72 358 *eP* **P** **02 40 49.2 +0.3**
comp=Z,5.8nm,0.6s,baz=3.9,slow=5.6
GOF Gofitskoye 78.72 334 *eP* **P** **02 40 49.6 +0.6**
MANZ Manzenberg 78.84 356 *eP* **P** **02 40 49.6 0.0**
comp=Z,0.5nm,0.5s,baz=3.9,slow=5.6
SORM Soroca 79.00 345 P **P** **02 40 49.6 -0.8**
SORM Soroca 79.00 345 P **P** **02 40 49.6 -0.8**
PBCC Pribram 79.05 355 *eP* **P** **02 40 50.3 -0.4**
ROTZ Rotzenmuhle 79.06 356 *eP* **P** **02 40 51.1 +0.4**
comp=Z,0.8nm,0.5s,baz=3.9,slow=5.6
ROTZ *eL* L 03 18 48.2
comp=Z,14nm,19.9s
LANS Liptovska Anna 79.16 351 *eP* **P** **02 40 52.3 +0.9**
LANS Liptovska Anna 79.16 351 *eP* **P** **02 40 52.3 +0.9**
GRF Grafenberg Arr 79.17 357 *eP* **P** **02 40 52.2 +0.7**
comp=Z,16nm,0.6s,baz=3.9,slow=5.6
GRFO Grafenberg 79.17 357 P **P** **02 40 51.7 +0.3**
GRFO pmax pmax
comp=Z,16nm,0.7s
GRFO Grafenberg 79.17 357 P **P** **02 40 51.7 +0.3**
VRAC Vranov 79.25 353 *ıP* **P** **02 40 52.4 +0.6**
VRAC Vranov 79.25 353 *ıP* **P** **02 40 52.4 +0.6**
VRAC Vranov 79.25 353 *eP* **P** **02 40 52.0 +0.2**
TREC Trest 79.34 354 *eP* **P** **02 40 52.0 -0.4**
TREC Trest 79.34 354 *eP* **P** **02 40 52.0 -0.4**
KRUC Moravsky 79.51 353 *eP* **P** **02 40 53.1 -0.1**
JAVC Velka Javorina 79.61 352 *eP* **P** **02 40 54.7 +0.8**
KHC Kasperske Hory 79.62 355 *eP* **P** **02 40 54.0 +0.1**
KHC *e* 02 41 07.0
KHC Kasperske Hory 79.62 355 *eP* **P** **02 40 54.0 +0.1**
KHC *ex* x 02 41 07.0
KHC Kasperske Hory 79.62 355 IAmb IAmb 02 40 55.3
comp=Z,5.2nm,0.7s
TRPA Tarpa 79.83 349 *ıP* **P** **02 40 54.9 -0.1**
KIV Kislovodsk 79.84 334 *eP* **P** **02 40 55.5 +0.3**
KIV pmax pmax
comp=Z,3.0nm,1.1s
CKRC Cesky Krumlov 79.89 354 *eP* **P** **02 40 54.7 -0.6**
CKRC *ex* x 02 41 02.0
GEC2 GERESS Array S 79.90 355 IAmb IAmb 02 40 56.3
comp=Z,5.5nm,0.8s
GEC2 GERESS Array S 79.90 355 *eP* **P** **02 40 55.5 0.0**
comp=Z,3.6nm,0.7s,baz=3.9,slow=5.6
GERES GERESS Array B 79.90 355 P **P** **02 40 55.4 -0.2**
comp=Z,2.5nm,0.7s,baz=18,slow=6.0,SNR=28
GERES pP **pwP** **02 41 08.3 +0.5**
comp=Z,1.6nm,0.7s,baz=15,slow=5.8,SNR=5.9
GERES GERESS Array B 79.90 355 P **P** **02 40 55.9 +0.4**
BUR08 Bucovina Ar. S 79.96 347 IAmb IAmb 02 40 56.5
comp=Z,4.3nm,0.7s
BURAR Bucovina Array 79.98 347 *ıP* **P** **02 40 56.0 0.0**
BURAR Bucovina Array 79.98 347 *ıP* **P** **02 40 56.0 0.0**
KBZ Khabaz 79.99 334 P **P** **02 40 55.7 -0.2**
comp=Z,2.0nm,0.9s,baz=75,slow=3.7,SNR=7.1
GEYT Alibeck 80.05 321 P **P** **02 40 56.6 +0.2**
comp=Z,3.3nm,0.9s,baz=69,slow=16,SNR=3.8
GEYT Alibeck 80.05 321 P **P** **02 40 56.9 +0.5**
GEYT IAmb IAmb 02 40 57.9
comp=Z,5.3nm,1.1s
MILM Milestii Mici 80.11 344 *ıP* **P** **02 40 56.2 -0.3**
MILM Milestii Mici 80.11 344 *ıP* **P** **02 40 56.2 -0.3**
VASR Vaslui 80.54 345 *ıP* **P** **02 40 59.2 +0.3**
BFO Black Forest 80.61 358 P **P** **02 40 59.8 +0.5**
BFO pmax pmax
comp=Z,5.0nm,0.7s
BFO Black Forest 80.61 358 P **P** **02 40 59.8 +0.5**
BFO IAmb IAmb 02 41 00.3
comp=Z,4.7nm,0.7s
BFO Black Forest 80.61 358 *eP* **P** **02 40 59.4 +0.1**
comp=Z,3.9nm,0.7s,baz=3.9,slow=5.6
CONA Conrad Observa 80.68 353 *eP* **P** **02 40 60.0 +0.3**
comp=Z,2.8nm,0.5s
ECH Echery 80.74 359 IAmb IAmb 02 41 01.1
comp=Z,8.8nm,1.0s
RJOB Jochberg 81.06 355 *eP* **P** **02 41 01.9 +0.2**
comp=Z,3.8nm,0.7s,baz=3.9,slow=5.6
BIOA Bad Ischl, Aus 81.06 355 *eP* **P** **02 41 01.9 +0.2**
comp=Z,1.8nm,0.4s
VLDR Vladesti 81.27 345 *ıP* **P** **02 41 02.6 -0.1**
HRA Herat 81.36 316 IAmb IAmb 02 41 04.9
comp=Z,6.8nm,0.8s
ARSA Arzberg 81.38 353 *eP* **P** **02 41 03.9 +0.6**
comp=Z,2.5nm,0.6s
RETA Reutte 81.39 357 *eP* **P** **02 41 03.5 0.0**
comp=Z,2.1nm,0.5s
MOTA Moosalm 81.52 357 *eP* **P** **02 41 04.2 -0.1**
comp=Z,1.7nm,0.6s
COVR Voineasa-Covas 81.57 346 *ıP* **P** **02 41 05.1 +0.7**
WTTA Wattenberg 81.58 356 *eP* **P** **02 41 05.0 +0.4**
comp=Z,4.7nm,0.7s
IZVR Izvoarele 81.61 345 *ıP* **P** **02 41 05.7 +1.1**
DAVA Damuels 81.62 357 *eP* **P** **02 41 05.9 +1.1**
comp=Z,0.8nm,0.3s
SQTA Sankt Quirin 81.64 356 *eP* **P** **02 41 05.3 +0.5**
comp=Z,3.9nm,0.6s
KBA Koelnbreinsper 81.69 355 *eP* **P** **02 41 05.9 +0.7**
comp=Z,7.3nm,0.5s
TLCR 81.78 344 *ıP* **P** **02 41 06.3 +0.9**
TLCR 81.78 344 *ıP* **P** **02 41 06.3 +0.9**
FETA Feichten 81.86 357 *i* P **P** **02 41 06.5 +0.4**
comp=Z,3.8nm,0.7s
CFR Carcaliu 81.91 344 *ıP* **P** **02 41 06.2 +0.1**
CFR Carcaliu 81.91 344 *ıP* **P** **02 41 06.2 +0.1**
MLR Muntele Rosu 81.95 346 *ıP* **P** **02 41 07.4 +0.9**
MLR Muntele Rosu 81.95 346 *ıP* **P** **02 41 07.4 +0.9**
MLR Muntele Rosu 81.95 346 IAmb IAmb 02 41 08.7
comp=Z,5.2nm,0.7s
SOKA Soboth 81.98 354 *eP* **P** **02 41 06.8 +0.2**
comp=Z,4.7nm,0.7s
ABTA Abfaltersbach 82.06 356 *eP* **P** **02 41 06.9 -0.1**
comp=Z,1.6nm,0.6s
OBKA Obir 82.18 354 *eP* **P** **02 41 08.4 +0.7**
comp=Z,3.9nm,0.6s
ARR Arges 82.27 347 *ıP* **P** **02 41 08.8 +0.7**

HARR Harsova 82.42 344 *ıP* **P** **02 41 09.7 +0.9**
HARR Harsova 82.42 344 *ıP* **P** **02 41 09.7 +0.9**
TUE Stuetta 82.45 358 IAmb IAmb 02 41 12.1
comp=Z,7.5nm,0.8s
TIRR Tirgusor 82.56 344 *ıP* **P** **02 41 10.6 +1.1**
TIRR Tirgusor 82.56 344 *ıP* **P** **02 41 10.6 +1.1**
GNI Garni 82.75 331 LR LR 03 23 43.0
comp=Z,33nm,19.6s,baz=46,slow=40
SGRR Singureni 83.19 346 *ıP* **P** **02 41 12.8 0.0**
WRA Warramunga Arr 84.22 228 P **P** **02 41 17.0 -1.3**
comp=Z,0.5nm,0.6s,baz=32,slow=5.4,SNR=10
WRA pP **pwP** **02 41 30.4 -0.3**
comp=Z,1.4nm,1.0s,baz=32,slow=5.7,SNR=4.7
TOKA Tokat 84.85 337 P **P** **02 41 21.4 -0.1**
TOKA IAmb IAmb 02 41 23.1
comp=Z,6.8nm,0.9s
GURO Guroymak-BITLI 85.03 332 IAmb IAmb 02 41 27.4
comp=Z,2.9nm,1.3s
VTS Vitosha 85.16 347 *ıP* **P** **02 41 23.3 +0.2**
VTS Vitosha 85.16 347 *ıP* **P** **02 41 23.3 +0.2**
VTS Vitosha 85.16 347 IAmb IAmb 02 41 24.4
comp=Z,4.3nm,0.8s
SKO Skopje 86.03 349 *eP* **P** **02 41 27.6 +0.4**
BR131 Keskin Array S 86.08 339 IAmb IAmb 02 41 36.2
comp=Z,5.5nm,1.1s
BRTR Keskin Array B 86.08 339 P **P** **02 41 27.1 -0.7**
comp=Z,1.5nm,0.8s,baz=37,slow=1.8,SNR=11
BRTR Keskin Array B 86.08 339 *ceP* **P** **02 41 28.2 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
STIP Stip 86.21 348 *eP* **P** **02 41 28.1 -0.1**
VAY Valandovo 86.52 348 *eP* **P** **02 41 29.5 -0.2**
MARD Mardin 86.54 333 P **P** **02 41 30.3 +0.3**
ASAR Alice Springs 87.64 226 P **P** **02 41 34.7 -0.4**
comp=Z,1.0nm,0.8s,baz=32,slow=4.6,SNR=8.4
ASAR pP **pwP** **02 41 48.8 +1.2**
comp=Z,2.3nm,0.9s,baz=33,slow=5.0,SNR=9.7
ESDC Sonseca Array 88.87 8 P **P** **02 41 40.8 -0.2**
comp=Z,1.8nm,0.7s,baz=345,slow=4.6,SNR=18
ESDC Sonseca Array 88.87 8 P **P** **02 41 40.9 -0.1**
ESDC IAmb IAmb 02 41 50.7
comp=Z,2.4nm,1.3s
STKA Stephens Creek 91.68 217 P **P** **02 41 54.6 +0.7**
comp=Z,0.7nm,0.5s,baz=23,slow=8.7,SNR=2.8
STKA LR LR 03 16 50.8
comp=Z,33nm,21.8s,baz=202,slow=31
RAYN Ar Rayn 97.72 324 P **P** **02 42 20.9 -1.1**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
RAYN Ar Rayn 97.72 324 P **P** **02 42 20.9 -1.1**
RAYN IAmb IAmb 02 42 36.9
comp=Z,2.7nm,1.1s
TSUM Tsumeb 146.59 340 PKPbc **PKPdf** **02 48 27.0 0.0**
LBTB Lobatse 149.68 323 PKHKP **PKPbc** **02 48 33.9 -2.6**
LBTB Lobatse 149.68 323 PKPbc **PKPbc** **02 48 33.9 -2.6**
BOSA Boshof 153.04 320 PKPbc **PKPbc** **02 48 43.5 -0.7**
comp=Z,3.1nm,0.7s,baz=121,slow=2.7,SNR=7.5

SFS ***13*** *02:38:03.0, 35.°65N×3.°74W, h3km, ML2.5, ALBORAN SUR*
MDD ***13*** *02:38:05.2±0.4, 35.°66N×3.°68W, h0km, mb_Lg2.0/12, Error ellipse: s-maj=3.5km s-min=2.8km az=16.0*
CNRM ***13*** *02:38:05.5, 35.°65N×3.°55W, h25km, ml1.8*
ISC 13 02:38:04.6±2.0, 35.°68N±0.°02×3.°62W±0.°03, h17km±15km, n24, σ1=51/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.53**	**210**	P	**Pb**	**02 38 16.5**	**+1.0**
PALE				S	**Sb**	**02 38 23.7**	**+1.0**
EALB	**Alboran**	**0.54**	**61**	Pg	**Pn**	**02 38 16.4**	**-1.1**
EALB				Sg	**Sn**	**02 38 24.7**	**-1.5**
EALB				*i* Vmb_Lg		02 38 25.9	
EMEL	**Melilla**	**0.66**	**125**	Pg	**Pb**	**02 38 17.6**	**0.0**
EMEL				Sg	**Sb**	**02 38 26.2**	**-0.3**
GOG	**Mont Gurugu**	**0.68**	**132**	P	**Pb**	**02 38 17.6**	**-0.4**
GOG				S	**Sb**	**02 38 27.1**	**-0.1**
ELGU	**Los Guajares,**	**1.19**	**360**	Pg	**Pn**	**02 38 26.2**	**-0.3**
ELGU				Sg	**Sn**	**02 38 42.4**	**0.0**
ELGU				*i* Vmb_Lg		02 38 44.6	
EMAL	**Malaga-Limoner**	**1.27**	**329**	P	**Pn**	**02 38 27.1**	**-0.4**
EMAL				S	**Sb**	**02 38 41.8**	**-2.3**
EMIJ	**Mijas**	**1.29**	**314**	Pg	**Pn**	**02 38 27.4**	**-0.5**
EMIJ				Sg	**Sb**	**02 38 43.9**	**-0.8**
EMIJ				*i* Vmb_Lg		02 38 44.5	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**02 38 27.9**	**-0.2**
EBER	**Berja**	**1.35**	**26**	Pn	**Pn**	**02 38 28.3**	**-0.6**
EBER				Sn	**Sg**	**02 38 47.9**	**-0.5**
EBER				*i* Vmb_Lg		02 38 48.8	
SMIR	**Smir Dam**	**1.44**	**271**	P	**Pn**	**02 38 28.4**	**-1.4**
CEU	**Ceuta**	**1.45**	**279**	P	**Pn**	**02 38 27.4**	**-2.6**
CEU				S	**Sn**	**02 38 43.4**	**-5.1**
EGOR	**Sierra Gorda,**	**1.49**	**345**	Pn	**Pb**	**02 38 31.8**	**0.0**
EGOR				Sn	**Sb**	**02 38 50.9**	**+0.4**
EGOR				*i* Vmb_Lg		02 38 57.1	
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pn**	**02 38 31.6**	**+0.5**
JBK	**JBK**	**1.59**	**147**	P	**Pn**	**02 38 31.4**	**-0.7**
JBK				S	**Sn**	**02 38 50.0**	**-2.4**
EJIF	**Jimena Fronter**	**1.69**	**298**	Pn	**Pn**	**02 38 34.3**	**+1.0**
EJIF				Sn	**Sn**	**02 38 54.3**	**-0.3**
EQES	**Quesada**	**2.17**	**12**	Pn	**Pb**	**02 38 43.5**	**0.0**
EQES				Sn	**Sb**	**02 39 09.2**	**-0.9**
EQES				*i* Vmb_Lg		02 39 11.9	
IFR	**Ifrane**	**2.49**	**210**	P	**Pn**	**02 38 44.8**	**+0.3**
IFR				S	**Sn**	**02 39 14.3**	**-0.3**
ECAB	**El Cabril**	**2.80**	**329**	Pn	**Pn**	**02 38 50.5**	**+1.9**
ECAB				Sn	**Sn**	**02 39 24.1**	**+2.2**
ECAB				*i* Vmb_Lg		02 39 30.8	
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**02 38 51.9**	**+1.1**
MD31				S	**Sn**	**02 39 26.4**	**+0.4**
MDT	**Midelt**	**2.97**	**196**	P	**Pn**	**02 38 53.7**	**+2.6**
EMIN	**Mina Concepcio**	**3.22**	**311**	Pn	**Pn**	**02 38 55.5**	**+1.1**
EMIN				*i* Vmb_Lg		02 39 27.1	
EMIN				Sn	**Sn**	**02 39 32.5**	**+0.1**
ETOB	**Tobarra**	**3.39**	**29**	Pn	**Pn**	**02 38 59.6**	**+2.7**
ETOB				*i* Vmb_Lg		02 39 08.0	
ETOB				Sn	**Sn**	**02 39 39.5**	**+2.8**
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**02 39 00.4**	**+0.5**
EGRO				Sn	**Sn**	**02 39 42.1**	**-0.2**
EBAD	**Badajoz**	**4.10**	**320**	Pn	**Pn**	**02 39 07.9**	**+1.4**
EBAD				Sn	**Sn**	**02 39 54.6**	**+0.5**
EBAD				*i* Vmb_Lg		02 39 56.5	

IDC 13 02:50:35.8±5.8, 9.°33S×130.°72E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.2/45, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=67.9km s-min=49.8km az=155.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.02**	**209**	Pn	Pn	02 53 01.6	+0.6
	baz=180,slow=20						
FITZ				Sn	Sn	02 54 55.9	+1.6
	0.2nm,0.3s,baz=57,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**11.12**	**162**	Pn	Pn	02 53 14.6	-1.1
	0.2nm,0.3s,baz=330,slow=15,SNR=16						
WRA				Sn	Sn	02 55 23.2	+1.8
	0.3nm,0.3s,baz=344,slow=24,SNR=7.0						
ASAR	**Alice Springs**	**14.58**	**168**	Pn	Pn	02 54 03.1	-0.5
	0.1nm,0.3s,baz=338,slow=8.9,SNR=8.6						
ASAR				Sn	Sn	02 56 49.8	+3.7
	0.1nm,0.3s,baz=2.0,slow=24,SNR=3.2						
STKA	**Stephens Creek**	**24.60**	**157**	P	P	02 55 58.1	+0.3
	1.4nm,0.8s,baz=0.0,slow=7.1,SNR=2.8						

IDC ***13*** *03:03:16.5±1.5, 37.°08N×55.°35E, h0km, mb3.5/8, mb1 3.8/15, mb1mx3.6/52, mbtmp3.7/15, ML4.0/6, MS2.6/2, Ms1 2.6/2, ms1mx2.4/66, Error ellipse: s-maj=28.5km s-min=14.2km az=168.0*
TEH ***13*** *03:03:19.1, 37.°20N×55.°54E, h18km, ML4.0*
NNC ***13*** *03:03:25.7±1.5, 37.°85N×55.°99E, h1km±25km, mb3.9, Error ellipse: s-maj=30.3km s-min=5.0km az=31.0*
AZER ***13*** *03:03:28.4±0.6, 37.°32N×54.°73E, h10km, Error ellipse: s-maj=7.9km s-min=4.0km az=19.0*
ISC 13 03:03:19.6±0.8, 37.°29N±0.°05×55.°52E±0.°03, h23km±6km, n114, σ2=06/152, mb3.4/9, 7C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.10**	**253**	*e*Pg	**Pb**	**03 03 23.4**	**-0.5**
IMND				*e*Sg	**Sb**	**03 03 26.5**	**-0.3**
MRVT	**Maraveh tapeh**	**0.59**	**50**	*e*Pg	**Pb**	**03 03 31.8**	**+0.5**
SHRO	**Shahrood**	**1.35**	**163**	*e*Pg	**Pn**	**03 03 41.5**	**-1.7**
BJRD	**Bojnurd**	**1.56**	**74**	*e*Pg	**Pb**	**03 03 48.2**	**+0.4**
IGLO	**Ghaloghah**	**1.56**	**241**	*e*Pn	**Pb**	**03 03 47.7**	**-0.3**
IGLO				*e*		03 04 12.1	
	comp=Z,36μm,0.5s						
SBZV	**Sabzevar**	**1.90**	**117**	*e*Pn	**Pn**	**03 03 51.8**	**+0.9**
ISFR	**Sfrayin**	**1.99**	**96**	*e*Pn	**Pn**	**03 03 54.1**	**+1.9**
ISFR				*e*		03 04 29.3	
	comp=Z,22μm,0.4s						
GEYT	**Alibeck**	**2.16**	**72**	Pn	**Pb**	**03 03 57.0**	**-1.1**
	comp=Z,34nm,0.3s,baz=195,slow=4.0,SNR=366						
GEYT				Sn	**Sb**	**03 04 24.0**	**-0.4**
	comp=Z,34nm,0.3s,baz=262,slow=16,SNR=4.2						
GEYT				LR	LR	03 04 50.3	
	comp=Z,114nm,20.7s,baz=331,slow=40						
GYA0B	**ALIBECK ARRAY**	**2.16**	**72**	⇑P	**Pn**	**03 03 56.2**	**+1.9**
GYA0B				⇑S	**Sn**	**03 04 19.0**	**-1.3**
IANJ	**Anjan**	**2.23**	**216**	*e*Pn	**Pn**	**03 03 57.2**	**+1.8**
ISHM	**Shahmirzad**	**2.32**	**231**	*e*Pn	**Pb**	**03 03 59.4**	**-1.6**
ISHM				*e*		03 04 42.6	
	comp=Z,8μm,0.5s						
IAKL	**Akhelmad**	**2.68**	**104**	*e*		03 04 13.3	
	comp=Z,4μm,0.4s						
IAKL				*e*Pn	**Pn**	**03 04 02.9**	**+1.3**
IPRN	**Peran**	**2.76**	**249**	*e*Pn	**Pn**	**03 04 04.6**	**+2.0**
IPRN				*e*		03 04 50.3	
	comp=Z,12μm,0.8s						
IFIR	**Firoozkooh**	**2.77**	**234**	*e*Pn	**Pn**	**03 04 05.2**	**+2.4**
IFIR				*e*		03 04 60.0	
	comp=Z,4μm,0.8s						
ILAS	**Lasjerd**	**2.81**	**228**	*e*Pn	**Pn**	**03 04 05.6**	**+2.2**
ILAS				*e*		03 04 55.2	
	comp=Z,4μm,0.6s						
IKRD	**Kardeh**	**3.24**	**98**	*e*Pn	**Pn**	**03 04 11.3**	**+2.1**
IKRD				*e*		03 05 07.4	
	comp=Z,3μm,0.8s						
IMOG	**Moghan**	**3.29**	**110**	*e*Pn	**Pn**	**03 04 11.1**	**+1.1**
IMOG				*e*		03 04 11.8	
	comp=Z,4μm,0.2s						
IDMV	**Damavand**	**3.29**	**240**	*e*Pn	**Pn**	**03 04 11.3**	**+1.3**
IDMV				*e*		03 04 26.1	
	comp=Z,4μm,0.2s						
DAMV	**Damavand**	**3.30**	**241**	*e*Pn	**Pn**	**03 04 13.1**	**+2.9**
TNSJ	**Nastanj**	**3.43**	**165**	*e*Pn	**Pn**	**03 04 12.6**	**+0.8**
TNSJ				*e*		03 05 10.6	
	comp=Z,6μm,0.6s						
CHTH	**Charan**	**3.79**	**250**	*e*Pn	**Pn**	**03 04 20.1**	**+3.2**
IMYA	**Miami**	**3.79**	**103**	*e*Pn	**Pn**	**03 04 18.2**	**+1.3**
IVRN	**Varamin**	**3.83**	**234**	*e*Pn	**Pn**	**03 04 18.9**	**+1.7**
TKDS	**Koohdasht(Taba**	**3.89**	**160**	*e*Pn	**Pn**	**03 04 19.0**	**+0.9**
TKDS				*e*		03 05 28.8	
	comp=Z,2μm,1.0s						
ISFB	**Sefidab**	**3.96**	**223**	*e*Pn	**Pn**	**03 04 20.9**	**+1.9**
THKV	**Tehran--Karaj**	**3.98**	**251**	*e*Pn	**Pn**	**03 04 22.4**	**+3.0**
QALM	**Alamut, Qazvin**	**4.00**	**259**	*e*Pn	**Pn**	**03 04 20.8**	**+1.1**
JRKH	**Jarkhoshk**	**4.12**	**108**	*e*Pn	**Pn**	**03 04 22.2**	**+0.9**
KRSH	**Karshahi**	**4.31**	**221**	*e*Pn	**Pn**	**03 04 25.6**	**+1.7**
ANAR	**Anarak**	**4.34**	**200**	*e*Pn	**Pn**	**03 04 25.2**	**+0.9**
IGZV	**Ghazvin**	**4.35**	**260**	*e*Pn	**Pn**	**03 04 27.4**	**+2.9**
IGZV				*e*		03 05 53.2	
	comp=Z,1μm,0.8s						
IQOM	**Qom**	**4.35**	**237**	*e*Pn	**Pn**	**03 04 26.2**	**+1.6**
TPRV	**Parvadeh(Tabas**	**4.35**	**167**	*e*Pn	**Pn**	**03 04 25.2**	**+0.7**
TPRV				*e*		03 05 49.3	
	comp=Z,2μm,0.7s						
LHJ2	**Lahijan - Gila**	**4.36**	**270**	*e*Pn	**Pn**	**03 04 24.3**	**-0.1**
TBJM	**Torbat-e-JAM**	**4.38**	**116**	*e*Pn	**Pn**	**03 04 26.3**	**+1.5**
GHVR	**GHOM**	**4.43**	**232**	*e*Pn	**Pn**	**03 04 29.4**	**+3.9**
JIR1	**Jirandeh**	**4.61**	**265**	*e*Pn	**Pn**	**03 04 29.2**	**+1.1**
QAMS	**Qamsar**	**4.88**	**225**	*e*Pn	**Pn**	**03 04 33.5**	**+1.6**
IRAZ	**Razeghan**	**4.89**	**249**	*e*Pn	**Pn**	**03 04 33.9**	**+2.0**
IRAZ				*e*		03 06 08.9	
	comp=Z,683nm,0.7s						
YZKH	**Yazd**	**4.94**	**189**	*e*Pn	**Pn**	**03 04 33.9**	**+1.3**
QABG	**Abgarm-Qazvin**	**5.04**	**254**	*e*Pn	**Pn**	**03 04 35.7**	**+1.7**
IZEF	**Zefreh**	**5.10**	**212**	*e*Pn	**Pn**	**03 04 36.5**	**+1.6**
IKLH	**Kolahrood**	**5.10**	**220**	*e*Pn	**Pn**	**03 04 36.8**	**+1.9**
ICHK	**Chekchek**	**5.11**	**191**	*e*Pn	**Pn**	**03 04 35.9**	**+0.9**
ITEG	**Tejag**	**5.12**	**148**	*e*Pn	**Pn**	**03 04 36.2**	**+1.2**
ITEG				*e*		03 04 40.4	
	comp=Z,1μm,0.3s						
ASAO	**Ashtian**	**5.23**	**240**	*e*Pn	**Pn**	**03 04 39.0**	**+2.4**
IMON	**Monand**	**5.31**	**139**	*e*Pn	**Pn**	**03 04 38.7**	**+1.0**
IMON				*e*		03 04 39.0	
	comp=Z,1μm,0.3s						
NDR	**Nardaran**	**5.42**	**309**	P	**Pn**	**03 04 43.0**	**+3.9**
	SNR=12						
NDR				S	**Sn**	**03 05 41.8**	**+1.1**
ASTR	**Astara**	**5.47**	**285**	P	**Pn**	**03 04 40.6**	**+0.9**
	SNR=4.8						
ASTR				S	**Sn**	**03 05 39.3**	**-2.6**
GOBA	**Gobu**	**5.49**	**306**	P	**Pn**	**03 04 43.0**	**+3.1**
GOBA				S	**Sn**	**03 05 43.0**	**+0.8**
ZNJK	**Zanjan**	**5.51**	**266**	*e*Pn	**Pn**	**03 04 42.7**	**+2.2**
LKRN	**Lenkeran, Azer**	**5.51**	**287**	P	**Pn**	**03 04 41.2**	**+1.0**
	SNR=4.4						
LKRN				S	**Sn**	**03 05 40.0**	**-2.9**
ISAD	**Sadrabad**	**5.57**	**196**	*e*Pn	**Pn**	**03 04 42.1**	**+0.8**
IKOO	**Kooshah**	**5.63**	**148**	*e*Pn	**Pn**	**03 04 43.1**	**+0.9**
ALIB	**Äli-Bayra**	**5.76**	**300**	P	Pn	03 04 48.6	+5.0
	SNR=5.3						
ALIB				S	**Sn**	**03 05 53.6**	**+4.7**
IDAH	**Dahanechah**	**5.77**	**141**	*e*Pn	**Pn**	**03 04 45.0**	**+0.9**
LRK	**Lerik**	**5.83**	**286**	P	**Pn**	**03 04 45.6**	**+0.8**
	SNR=27						
LRK				S	**Sn**	**03 05 48.5**	**-2.6**
GLBA	**Clilabad**	**5.94**	**291**	P	**Pn**	**03 04 47.4**	**+1.2**
	SNR=8.6						
GLBA				S	**Sn**	**03 05 51.8**	**-1.7**
YRD	**Yardimli**	**5.97**	**288**	P	**Pn**	**03 04 47.6**	**+0.9**
	SNR=21						
YRD				S	**Sn**	**03 05 51.9**	**-2.6**
IRAM	**Ramesheh**	**6.05**	**206**	*e*Pn	**Pn**	**03 04 50.3**	**+2.5**
GBS	**Qobustan**	**6.07**	**304**	P	**Pn**	**03 04 51.5**	**+3.5**
	SNR=4.5						
GBS				S	**Sn**	**03 05 56.9**	**+0.2**
BSRN	**Basiran**	**6.08**	**150**	*e*Pn	**Pn**	**03 04 48.9**	**+0.6**
SAAT	**Saatly**	**6.13**	**297**	S	**Sn**	**03 05 58.6**	**+0.6**
GRMI	**Germi**	**6.21**	**286**	*e*Pn	**Pn**	**03 04 50.8**	**+0.8**
ATGJ	**Altiaghaj**	**6.24**	**307**	P	**Pn**	**03 04 53.3**	**+2.9**
	SNR=8.1						
ATGJ				S	**Sn**	**03 05 59.2**	**-1.8**
ISRB	**Sarab**	**6.26**	**277**	*e*Pn	**Pn**	**03 04 52.5**	**+1.7**
SIZA	**Siyzn**	**6.38**	**308**	P	**Pn**	**03 04 55.8**	**+3.4**
	SNR=11						
SIZA				S	**Sn**	**03 06 03.8**	**-0.8**
PQL	**Pirkuli**	**6.43**	**305**	P	**Pn**	**03 04 55.6**	**+2.6**
	SNR=11						
PQL				S	**Sn**	**03 06 05.9**	**+0.2**
IML	**Ismayilli**	**6.70**	**304**	P	**Pn**	**03 04 58.9**	**+2.3**
IML				S	**Sn**	**03 06 10.1**	**-2.2**
BLQ	**Beylaqan**	**6.70**	**294**	P	**Pn**	**03 04 57.9**	**+1.3**
	SNR=6.1						
BLQ				S	**Sn**	**03 06 09.0**	**-3.2**
QUBA	**Quba, Azerbaij**	**6.79**	**309**	P	**Pn**	**03 05 01.2**	**+3.3**
	SNR=5.7						
QUBA				S	**Sn**	**03 06 13.9**	**-0.7**
QRD	**Qoradiz**	**6.80**	**291**	P	**Pn**	**03 04 59.2**	**+1.2**
	SNR=11						
QRD				S	**Sn**	**03 06 11.9**	**-2.8**
ZRD	**Zardab**	**6.81**	**298**	P	**Pn**	**03 04 59.9**	**+1.8**
	SNR=8.9						
ZRD				S	**Sn**	**03 06 14.6**	**-0.3**
IBST	**Bostanabad**	**6.87**	**276**	*e*Pn	**Pn**	**03 05 01.0**	**+1.8**
XNQ	**Khinaliq**	**6.92**	**306**	P	**Pn**	**03 05 02.1**	**+2.3**
	SNR=20						
XNQ				S	**Sn**	**03 06 15.6**	**-2.3**
SNGE	**Sanandaj**	**6.96**	**254**	*e*Pn	**Pn**	**03 05 04.7**	**+4.3**
QBL	**Gabala**	**7.00**	**304**	P	**Pn**	**03 05 03.1**	**+2.3**
QBL				S	**Sn**	**03 06 16.6**	**-3.1**
QSAR	**Qusar**	**7.03**	**309**	P	**Pn**	**03 05 04.0**	**+2.9**
	SNR=14						
QSAR				S	**Sn**	**03 06 18.6**	**-1.7**
KLNJ	**Kolanjah**	**7.06**	**209**	*e*Pn	**Pn**	**03 05 05.0**	**+3.2**
AGDM	**Agdam**	**7.16**	**296**	P	**Pn**	**03 05 04.4**	**+1.5**
	SNR=5.7						
AGDM				S	**Sn**	**03 06 21.0**	**-2.5**
BRDA	**Brd**	**7.16**	**297**	P	**Pn**	**03 05 04.6**	**+1.7**
BRDA				S	**Sn**	**03 06 22.5**	**-1.0**
KRBR	**Kerman**	**7.36**	**172**	*e*Pn	**Pn**	**03 05 06.7**	**+0.8**
MNGR	**Mingechevir, A**	**7.43**	**301**	S	**Sn**	**03 06 30.0**	**-0.2**
SEKA	**Sheki**	**7.55**	**304**	P	**Pn**	**03 05 10.0**	**+1.6**
	SNR=9.8						
SEKA				S	**Sn**	**03 06 31.0**	**-2.3**
NGRK	**Negar Kerman**	**7.69**	**172**	*e*Pn	**Pn**	**03 05 12.0**	**+1.5**
ORD	**Ordubad**	**7.69**	**285**	P	**Pn**	**03 05 12.4**	**+2.2**
ORD				S	**Sn**	**03 06 34.5**	**-2.1**
GANJ	**Ganja**	**7.91**	**298**	P	**Pn**	**03 05 14.8**	**+1.5**
	SNR=5.0						
GANJ				S	**Sn**	**03 06 39.3**	**-2.8**
SBZ	**Shahbuz**	**8.11**	**288**	P	**Pn**	**03 05 18.4**	**+2.3**
	SNR=11						
SBZ				S	**Sn**	**03 06 46.0**	**-1.1**
NAX	**Nakhchivan**	**8.11**	**286**	P	**Pn**	**03 05 18.7**	**+2.6**
	SNR=3.8						
NAX				S	**Sn**	**03 06 44.0**	**-3.1**
ZKTA	**Zakatala**	**8.14**	**305**	P	**Pn**	**03 05 19.0**	**+2.6**
	SNR=11						
ZKTA				S	**Sn**	**03 06 47.3**	**-0.3**
GDB	**GEDABAY**	**8.34**	**297**	P	**Pn**	**03 05 21.0**	**+1.7**
	SNR=11						
GDB				S	**Sn**	**03 06 50.4**	**-2.4**
HYR	**Heyderabad**	**8.71**	**289**	P	**Pn**	**03 05 25.5**	**+1.2**
HYR				S	**Sn**	**03 06 59.8**	**-1.9**
QZX	**Qazax, Azerbai**	**8.73**	**299**	P	**Pn**	**03 05 26.6**	**+2.1**
	SNR=7.4						
QZX				S	**Sn**	**03 06 58.9**	**-3.4**
MAKU	**Maku**	**8.77**	**287**	*e*Pn	**Pn**	**03 05 28.5**	**+3.4**
GNI	**Garni**	**8.90**	**292**	Sn	**Sn**	**03 07 08.6**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=355,slow=18,SNR=1.4						
GNI				LR	LR	03 10 02.5	
	comp=Z,56nm,20.8s,baz=114,slow=46						
KBZ	**Khabaz**	**11.56**	**308**	Pn	**Pn**	**03 06 02.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=199,slow=2.0,SNR=30						
KBZ				Sn	**Sn**	**03 08 07.8**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=0.1,slow=10,SNR=3.1						
AB31	**Akbulak array**	**12.39**	**14**	Pn	**Pn**	**03 06 14.2**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=204,slow=14,SNR=64						
AB31				⇑Sn	**Sn**	**03 08 27.6**	**-4.1**
	comp=Z,0.8nm,0.4s,baz=166,slow=27,SNR=8.7						
KK02	**Karatay Array**	**12.84**	**58**	⇑Pn	**Pn**	**03 06 19.9**	**-0.8**
	comp=Z,1.1nm,0.5s						
KK02				⇑Sn	**Sn**	**03 08 39.4**	**-3.5**
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**13.27**	**7**	Pn	**Pn**	**03 06 26.9**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=173,slow=8.7,SNR=25						
AKTO				Sn	**Sn**	**03 08 49.2**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=297,slow=18,SNR=2.9						
AKTO	**Aktyubinsk**	**13.27**	**7**	⇓Pn	**Pn**	**03 06 26.7**	**+0.3**
	comp=Z,4.0nm,0.6s						
AKTO				⇑Sn	**Sn**	**03 08 50.4**	**-2.7**
	comp=Z,1.8nm,0.4s						
AAK	**Ala-Archa**	**15.49**	**64**	Pn	**Pn**	**03 06 57.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=238,slow=3.3,SNR=6.1						
EIL	**Elat**	**18.74**	**252**	P	**P**	**03 07 34.8**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=163,slow=3.5,SNR=4.1						
BRVK	**Borovoye**	**18.83**	**28**	⇑Pn	**Pn**	**03 07 40.0**	**+1.7**
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**18.85**	**29**	P	**Pn**	**03 07 39.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=160,slow=36,SNR=17						
ARU	**Arti**	**19.26**	**5**	P	**Pn**	**03 07 44.0**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=183,slow=5.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**21.15**	**44**	P	**P**	**03 08 04.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=242,slow=12,SNR=6.5						
MK31	**Makanchi Array**	**21.94**	**56**	P	**P**	**03 08 13.9**	**+2.5**
	comp=Z,0.8nm,0.5s,baz=244,slow=12,SNR=13						
MKAR	**Makanchi Array**	**21.94**	**56**	P	**P**	**03 08 13.9**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=250,slow=13,SNR=10.0						
AKASC	**Malin Array Be**	**23.04**	**314**	P	**P**	**03 08 24.6**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=97,slow=8.5,SNR=5.2						
MLR	**Muntele Rosu**	**23.55**	**300**	P	**P**	**03 08 30.2**	**+1.9**
	comp=Z,2.3nm,0.8s,baz=228,slow=2.5,SNR=4.9						
FINES	**FINESS Array B**	**30.37**	**332**	P	**P**	**03 09 31.8**	**+2.3**
	comp=Z,1.6nm,1.0s,baz=182,slow=11,SNR=2.0						
ESDC	**Sonseca Array**	**45.88**	**292**	P	**P**	**03 11 41.0**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=83,slow=10,SNR=2.0						
TORD	**Torodi Ar. Bea**	**53.49**	**258**	P	**P**	**03 12 37.6**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=44,slow=7.7,SNR=1.9						
YKA	**Yellowknife Ar**	**80.25**	**355**	P	**P**	**03 15 28.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=5.3,slow=6.0,SNR=8.3						

SOME ***13*** *03:07:48.4,40˚.32N×78˚.15E,h20km*
KRNET ***13*** *03:07:49.3±0.1,40˚.53N×78˚.44E,mb2.9*
NNC ***13*** *03:07:49.5±1.1,40˚.42N×78˚.18E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=7.2km s-min=5.5km az=172.0

ISC 13 03:07:53.8±3.7,40˚.6N±0˚.1×78˚.04E±0˚.05,h2km±21km,n46,
σ1§22/71,13C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.17**	**351**	⇑*i*P	**Pn**	**03 08 14.1**	**-3.4**
	baz=38						
TARG				⇑*i*S	**Sb**	**03 08 32.1**	**-0.5**
	baz=38						
KDJ	**Kajisay**	**1.68**	**338**	⇑*i*P	**Pn**	**03 08 24.0**	**-0.4**
	baz=30						
KDJ				⇑*i*S	**Sb**	**03 08 48.9**	**+1.6**
	baz=30						
ULHL	**Ulahol**	**2.15**	**322**	⇑*i*P	**Pn**	**03 08 32.0**	**+1.2**
	baz=17						
ULHL				⇑*i*S	**Sb**	**03 09 03.2**	**+2.6**
	baz=17						
ANVS	**Anan'yevo**	**2.22**	**353**	⇑*i*P	**Pn**	**03 08 30.7**	**-1.1**
	baz=46						
ANVS				⇑*i*S	**Sb**	**03 09 01.8**	**-1.0**
	baz=46						
BOOM	**Boomskoye usch**	**2.48**	**321**	⇓*i*P	**Pn**	**03 08 36.3**	**+1.0**
	baz=17						
BOOM				⇓*i*S	**Sb**	**03 09 10.6**	**+0.5**
	baz=17						
TNSS	**Tian-Shan**	**2.59**	**342**	*e*P	**Pb**	**03 08 40.6**	**-0.6**
	7.0nm,0.3s						
TNSS				⇓*i*S	**Sg**	**03 09 18.1**	**+1.1**
	7.5nm,0.6s						
TNSS	**Tian-Shan**	**2.59**	**342**	Pg	**Pb**	**03 08 40.6**	**-0.6**
	7.0nm,0.3s						
TNSS				Lg	Lg	03 09 18.1	
	7.5nm,0.6s						
UZB	**Uzynbulak**	**2.67**	**16**	*e*P	**Pb**	**03 08 41.9**	**-0.6**
	3.3nm,0.2s						
UZB				*e*S	**Sg**	**03 09 20.4**	**+0.7**
	9.0nm,0.5s						
UZB	**Uzynbulak**	**2.67**	**16**	Pg	**Pb**	**03 08 41.9**	**-0.6**
	3.3nm,0.2s						
UZB				Lg	Lg	03 09 20.4	
	9.0nm,0.5s						
IZV	**Izvestkoviy**	**2.68**	**337**	*e*P	**Pb**	**03 08 42.3**	**-0.3**
	5.7nm,0.3s						
IZV				*e*S	**Sg**	**03 09 21.2**	**+1.3**
	44nm,0.4s						
IZV	**Izvestkoviy**	**2.68**	**337**	Pg	**Pb**	**03 08 42.3**	**-0.3**
	5.7nm,0.3s						
IZV				Lg	Lg	03 09 21.2	
	44nm,0.4s						
MDOK	**Medeo**	**2.69**	**344**	*e*P	**Pb**	**03 08 42.6**	**-0.1**
	6.6nm,0.2s						
MDOK				*e*S	**Sg**	**03 09 21.7**	**+1.6**
	12nm,0.6s						
MDOK	**Medeo**	**2.69**	**344**	Pg	**Pb**	**03 08 42.2**	**-0.5**
	2.8nm,0.4s						
MDOK				Lg	Lg	03 09 21.1	
	10nm,0.5s						
MDOK	**Medeo**	**2.69**	**344**	Pg	**Pb**	**03 08 42.6**	**-0.1**
	6.6nm,0.2s						
MDOK				Lg	Lg	03 09 21.7	
	12nm,0.6s						
KOTS	**Kotyrbulak**	**2.75**	**346**	*e*P	**Pb**	**03 08 43.5**	**-0.1**
	4.5nm,0.2s						
KOTS				*e*S	**Sg**	**03 09 23.3**	**+1.3**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**2.75**	**346**	Pg	**Pb**	**03 08 43.5**	**-0.1**
	4.5nm,0.2s						
KOTS				Lg	Lg	03 09 23.3	
	13nm,0.4s						
SHLS	**Shalkode**	**2.79**	**22**	*e*P	**Pb**	**03 08 44.3**	**-0.1**
	2.4nm,0.2s						
SHLS				*e*S	**Sg**	**03 09 24.6**	**+1.2**
	8.5nm,0.4s						
SHLS	**Shalkode**	**2.79**	**22**	Pg	**Pb**	**03 08 44.3**	**-0.1**
	2.4nm,0.2s						
SHLS				Lg	Lg	03 09 24.6	
	8.5nm,0.4s						
MTBS	**Maitube**	**2.82**	**335**	*e*P	**Pb**	**03 08 44.0**	**-0.9**
	4.2nm,0.1s						
MTBS				*e*S	**Sg**	**03 09 24.1**	**-0.3**
	9.3nm,0.5s						
MTBS	**Maitube**	**2.82**	**335**	Pg	**Pb**	**03 08 44.0**	**-0.9**
	4.2nm,0.1s						
MTBS				Lg	Lg	03 09 24.1	
	9.3nm,0.5s						
KURS	**Kuram**	**2.91**	**2**	*e*P	**Pb**	**03 08 44.5**	**-2.0**
	2.9nm,0.5s						
KURS				*e*S	**Sb**	**03 09 24.9**	**+2.3**
	9.5nm,0.6s						
KURS	**Kuram**	**2.91**	**2**	Pg	**Pb**	**03 08 44.5**	**-2.0**
	2.9nm,0.5s						
KURS				Lg	Lg	03 09 24.9	
	9.5nm,0.6s						
KPKS	**Kokpek**	**2.93**	**9**	*e*P	**Pb**	**03 08 45.2**	**-1.5**
	3.7nm,0.3s						
KPKS				*e*S	**Sg**	**03 09 26.2**	**-1.7**
	22nm,0.3s						
PDGK	**Podgornoye**	**2.96**	**21**	Pg	**Pb**	**03 08 44.5**	**-2.8**
	0.9nm,0.3s						
PDGK				Lg	Lg	03 09 24.8	
	4.2nm,0.5s						
PDGK	**Podgornoye**	**2.96**	**21**	⇓Pg	**Pn**	**03 08 43.5**	**+1.6**
	1.1nm,0.5s						
PDGK				⇓Lg	Lg	03 09 26.1	
	6.7nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**323**	⇑*e*P	**Pn**	**03 08 43.2**	**+1.1**
	baz=19						
TKM2				⇑*i*S	**Sb**	**03 09 22.4**	**-2.0**
	baz=19						
TKM2	**Tokmak 2**	**2.97**	**323**	⇑Pg	**Pb**	**03 08 47.1**	**-0.4**
	2.8nm,0.5s						
TKM2				⇓Lg	Lg	03 09 28.8	
	6.0nm,0.6s						
KBK	**Karagaybulak**	**3.11**	**313**	⇑*i*P	**Pn**	**03 08 45.5**	**+1.5**
	baz=10.0						
KBK				⇑*i*S	**Sb**	**03 09 26.8**	**-1.6**
	baz=10.0						
DGS	**Degeres**	**3.16**	**328**	*e*P	**Pb**	**03 08 50.4**	**-0.3**
	4.7nm,0.3s						
DGS				*e*S	**Sg**	**03 09 34.9**	**-0.2**
	12nm,0.5s						
DGS	**Degeres**	**3.16**	**328**	Pg	**Pb**	**03 08 50.3**	**-0.3**
	4.7nm,0.3s						
DGS				Lg	Lg	03 09 34.9	
	12nm,0.5s						
KTBS	**Karatobe**	**3.29**	**343**	*e*P	**Pb**	**03 08 52.9**	**0.0**
	2.4nm,0.2s						
KTBS				*e*S	**Sg**	**03 09 39.3**	**-0.3**
	18nm,0.3s						
KTBS	**Karatobe**	**3.29**	**343**	Pg	**Pb**	**03 08 52.9**	**0.0**
	2.4nm,0.2s						
KTBS				Lg	Lg	03 09 39.3	
	18nm,0.3s						
AAK	**Ala-Archa**	**3.36**	**309**	⇓*e*P	**Pn**	**03 08 49.3**	**+1.9**
	baz=7.0						
AAK				⇓*i*S	**Sb**	**03 09 32.9**	**-2.6**
	baz=7.0						
AAK	**Ala-Archa**	**3.36**	**309**	Pg	**Pb**	**03 08 53.5**	**-0.7**
	3.3nm,0.8s						
AAK				⇓Lg	Lg	03 09 41.2	
	9.7nm,0.6s						
CHKK	**Chushkaly**	**3.37**	**347**	*e*P	**Pb**	**03 08 55.2**	**+1.0**
	3.2nm,0.1s						
CHKK				*e*S	**Sg**	**03 09 43.1**	**+1.1**
	12nm,0.2s						
CHKK	**Chushkaly**	**3.37**	**347**	Pg	**Pb**	**03 08 55.2**	**+1.0**
	3.2nm,0.1s						
CHKK				Lg	Lg	03 09 43.1	
	12nm,0.2s						
BLB	**Baldybastay**	**3.54**	**5**	*e*P	**Pb**	**03 08 57.8**	**+0.6**
	3.7nm,0.2s						
BLB				*e*S	**Sg**	**03 09 47.6**	**+0.3**
	12nm,0.3s						
BLB	**Baldybastay**	**3.54**	**5**	Pg	**Pb**	**03 08 57.8**	**+0.6**
	3.7nm,0.2s						
BLB				Lg	Lg	03 09 47.6	
	12nm,0.3s						
KUU	**Kurty**	**3.55**	**340**	*e*P	**Pb**	**03 08 57.1**	**-0.1**
	1.0nm,0.1s						
KUU				*e*S	**Sg**	**03 09 46.6**	**-1.1**
	3.8nm,0.4s						
KUU	**Kurty**	**3.55**	**340**	Pg	**Pb**	**03 08 57.1**	**-0.1**
	1.0nm,0.1s						
KUU				Lg	Lg	03 09 46.6	
	3.8nm,0.4s						
KRBS	**Karabastau**	**3.58**	**331**	*e*P	**Pb**	**03 08 57.7**	**-0.1**
	3.2nm,0.3s						
KRBS				*e*S	**Sg**	**03 09 47.6**	**-1.2**
	5.9nm,0.4s						
KRBS	**Karabastau**	**

KURBB	**Kurchatov Arra**	**45.76**	**307**	P	**P**	**03 21 57.0**	**-0.1**
	0.7nm,0.6s,baz=82,slow=8.5,SNR=7.8						
ILAR	**Eielson Array**	**48.18**	**33**	P	**P**	**03 22 14.3**	**-1.4**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=2.1						
WRA	**Warramunga Arr**	**58.31**	**189**	P	**P**	**03 23 30.6**	**-0.1**
	0.4nm,0.9s,baz=4.7,slow=7.0,SNR=4.6						
TXAR	**Lajitas Array**	**88.93**	**53**	P	**P**	**03 26 31.2**	**+0.7**
	0.2nm,0.6s,baz=315,slow=5.6,SNR=3.6						

*BJI **13** 03:20:00.0±0.0, 51°.60N×174°.10W, h10km, mb5.0/65, mB5.0/38, Ms4.7/47, Ms7 4.4/46*

*AEIC **13** 03:20:02±2.8, 51°.31N±0°.05×174°.00W±0°.07, h12km±3km, Error ellipse: s-maj=7.3km s-min=6.7km az=160.0*

*NEIC **13** 03:20:02.4±2.2, 51°.48N±0°.06×173°.98W±0°.07, h10km±1km, mb5.0/398, ML4.6(AEIC), Error ellipse: s-maj=10.8km s-min=6.4km az=148.0*

*MOS **13** 03:20:03.4±0.9, 51°.69N×173°.99W, h26km, mb5.0/58, MS4.2/8, Error ellipse: s-maj=7.7km s-min=5.0km az=111.6*

*GCMT **13** 03:20:05.9±0.3, 51°.52N±0°.02×173°.90W±0°.05, h13km±1km, MW4.8/91, Moment Tensor Solution. s25,c29; s91,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.54±.13; $M_{\theta\theta}$-1.21±.09; $M_{\phi\phi}$-0.32±.07; $M_{r\theta}$0.83±.22; $M_{\theta\phi}$-0.66±.05; $M_{\phi r}$1.15±.26; Best double couple: $M_0$2.09800×10^{16} NP1:ϕ_s256.00000°,δ27.00000°,λ118.00000°. NP2: ϕ_s45.00000°,δ67.00000°,λ76.00000°. Principal axes: T 2.1580, Plg66.0000°, Azm291.0000°; N -0.1190, Plg12.0000°, Azm51.0000°; P -2.0380, Plg20.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **13** 03:20:07.0±0.6, 51°.58N×173°.94W, h45km±4km, mb4.3/37, mb1 4.5/39, mb1mx4.4/53, mbtmp4.6/39, MS4.2/55, Ms1 4.2/55, ms1mx4.0/94 Error ellipse: s-maj=14.3km s-min=8.4km az=172.0*

*BGR **13** 03:20:10.2±0.0, 52°.51N×175°.53W, h10km, mb5.2, Ms4.1*

ISC 13 03:20:04.8±0.5**, 51°.55N**±0°.05×**174°.00W**±0°.03**, h27**km±2km**, h27**km**:pP-P, n894,** σ1s06/750**, mb5.0**/328**, MS4.3**/75**, 46C-39D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.66**	**349**		**Pn**	**03 20 19.6**	**+1.2**
KOFP	**Korovin Flat P**	**0.73**	**355**		**Pn**	**03 20 21.0**	**+1.6**
KOKL	**Mount Kliuchef**	**0.78**	**351**		**Pn**	**03 20 21.9**	**+1.7**
KOWE	**Korovin West**	**0.83**	**349**		**Pn**	**03 20 22.6**	**+1.9**
GSMY	**Great Sitkin M**	**1.37**	**292**		**Pn**	**03 20 28.0**	**-0.2**
GSTR	**Great Sitkin T**	**1.39**	**294**		**Pn**	**03 20 28.3**	**-0.2**
GSCK	**Great Sitkin C**	**1.42**	**290**		**Pn**	**03 20 28.5**	**-0.4**
GSTD	**Great Sitkin T**	**1.43**	**292**		**Pn**	**03 20 28.9**	**-0.1**
GSTD					**Sb**	**03 20 50.3**	**+1.8**
ADAG	**Mount Adagdak**	**1.67**	**286**		**Pn**	**03 20 33.3**	**+1.0**
ADK	**Adak**	**1.70**	**282**	P	**Pn**	**03 20 32.4**	**-0.3**
ADK	**Adak**	**1.70**	**282**		**Pn**	**03 20 32.4**	**-0.3**
KIWB	**Kanaga Island**	**1.98**	**280**		**Pn**	**03 20 37.0**	**+0.4**
KIKV	**Kanaga Island**	**2.00**	**281**		**Pn**	**03 20 37.4**	**+0.5**
KICM	**Kanaga Island**	**2.02**	**282**		**Pn**	**03 20 38.3**	**+1.2**
KIMD	**Kanaga Island**	**2.03**	**277**		**Pn**	**03 20 37.2**	**0.0**
TAPA	**Tanaga Point A**	**2.39**	**278**		**Pn**	**03 20 42.9**	**+0.7**
TAFP	**Tanaga Falls P**	**2.50**	**280**		**Pn**	**03 20 44.4**	**+0.6**
TASE	**Tanaga Southea**	**2.53**	**278**		**Pn**	**03 20 45.1**	**+1.0**
GAEA	**Gareloi East**	**2.97**	**276**		**Pn**	**03 20 51.3**	**+1.2**
GALAA	**Gareloi Lava P**	**2.98**	**276**		**Pn**	**03 20 51.5**	**+1.2**
GASW	**Gareloi Southw**	**3.03**	**276**		**Pn**	**03 20 51.6**	**+0.6**
NIKH	**Nikolski High**	**3.46**	**64**	Pn	**Pn**	**03 20 57.6**	**+0.7**
NIKH	**Nikolski High**	**3.46**	**64**	P	**Pn**	**03 20 57.2**	**+0.3**
	baz=245						
OKTU	**Okmok Mt. Tuli**	**4.08**	**61**		**Pn**	**03 21 06.9**	**+1.5**
MREP	**Makushin Rep't**	**4.96**	**60**		**Pn**	**03 21 19.3**	**+1.8**
MSW	**Makushin Switc**	**4.98**	**59**		**Pn**	**03 21 19.3**	**+1.6**
MSW					**Sn**	**03 22 18.4**	**+4.0**
UNV	**Unalaska Valle**	**5.10**	**60**	Pn	**Pn**	**03 21 20.0**	**+0.6**
UNV	**Unalaska Valle**	**5.10**	**60**	P	**Pn**	**03 21 21.0**	**+1.7**
	baz=244,SNR=6.6						
AKUT	**Akutan**	**5.62**	**59**	Pn	**Pn**	**03 21 26.3**	**-0.1**
SPIA	**Saint Paul Isl**	**6.04**	**20**		**Pn**	**03 21 32.8**	**+0.5**
SPIA	**Saint Paul Isl**	**6.04**	**20**	P	Pn	03 21 36.7	+4.4
	baz=202						
WECS	**Westdahl Cape**	**6.31**	**58**		**Pn**	**03 21 39.0**	**+3.0**
ISLZ	**Isanotski Laza**	**6.96**	**59**		**Pn**	**03 21 46.8**	**+2.0**
FALS	**False Pass**	**7.16**	**58**	Pn	**Pn**	**03 21 47.0**	**-0.6**
FALS	**False Pass**	**7.16**	**58**	P	**Pn**	**03 21 49.5**	**+1.9**
	baz=245						
SHEM	**Shemya Is, Ala**	**7.42**	**284**	LR	LR	03 25 11.0	
	comp=Z,2µm,18.5s,baz=106,slow=41						
SDPT	**Sand Point**	**8.92**	**59**	Pn	**Pn**	**03 22 12.7**	**+1.0**
SDPT	**Sand Point**	**8.92**	**59**	P	**Pn**	**03 22 14.5**	**+2.9**
	baz=249						
CHGN	**Chignik**	**10.34**	**57**	Pn	**Pn**	**03 22 31.6**	**+0.5**
CHGN	**Chignik**	**10.34**	**57**	P	**Pn**	**03 22 32.3**	**+1.1**
	baz=248						
GAMB	**Gambell**	**12.32**	**5**	Pn	**Pn**	**03 22 59.5**	**+1.4**
GAMB	**Gambell**	**12.32**	**5**	P	Pn	03 23 02.8	+4.6
	baz=187,SNR=6.6						
P18K	**Big Mountain,**	**13.19**	**46**		**Pn**	**03 23 10.3**	**+0.1**
P18K	**Big Mountain,**	**13.19**	**46**	P	**Pn**	**03 23 11.7**	**+1.6**
	baz=241						
OHAK	**Old Harbor**	**13.31**	**57**	Pn	**Pn**	**03 23 10.2**	**-1.5**
OHAK	**Old Harbor**	**13.31**	**57**	P	**Pn**	**03 23 09.2**	**-2.5**
	baz=253						
ANM	**Nome**	**13.80**	**16**	P	**P**	**03 23 23.0**	**-3.6**
	baz=203,SNR=18						
KDAK	**Kodiak Island**	**13.84**	**55**	P	**Pn**	**03 23 16.4**	**-2.6**
	1.7nm,0.3s,baz=292,slow=5.5,SNR=15						
KDAK	**Kodiak Island**	**13.84**	**55**	P	**Pn**	**03 23 18.3**	**-0.6**
KDAK	**Kodiak Island**	**13.84**	**55**	Pn	**Pn**	**03 23 18.2**	**-0.6**
KDAK	**Kodiak Island**	**13.84**	**55**	P	**Pn**	**03 23 16.3**	**-2.6**
	baz=252						
SVW2	**Sparrevohn**	**13.94**	**40**		**Pn**	**03 23 20.8**	**+0.4**
O19K	**Port Alsworth**	**13.98**	**44**		**Pn**	**03 23 20.6**	**-0.3**
P19K	**Oil Pt**	**14.21**	**47**	P	**P**	**03 23 32.0**	**+0.7**
	baz=244						
N19K	**Bonanza Creek**	**14.23**	**42**	P	**Pn**	**03 23 26.8**	**+2.5**
	baz=238,SNR=7.8						
TNA	**Tin City**	**14.39**	**10**	Pn	**Pn**	**03 23 25.6**	**-0.8**
TNA	**Tin City**	**14.39**	**10**	P	**P**	**03 23 30.6**	**-2.5**
	baz=195,SNR=17						
O20K	**Slope Mountain**	**14.68**	**46**	P	**P**	**03 23 37.0**	**+0.6**
	baz=243						
L19K	**White Mountain**	**14.86**	**37**	P	**P**	**03 23 36.4**	**-2.0**
	baz=232,SNR=8.6						
M19K	**Big River Lodg**	**14.87**	**38**	P	**P**	**03 23 36.9**	**-1.6**
	baz=234						
TTA	**Tatalina**	**14.92**	**33**	P	**Pn**	**03 23 36.1**	**+2.4**
TTA	**Tatalina**	**14.92**	**33**	Pn	**Pn**	**03 23 36.1**	**+2.4**
TTA	**Tatalina**	**14.92**	**33**	P	**P**	**03 23 38.5**	**-0.6**
	baz=228,SNR=16						
CNPM	**China Poot**	**15.09**	**49**	IAmb	IAmb	03 24 05.8	
	comp=Z,101nm,1.3s						
BRLK	**Bradley Lake**	**15.35**	**49**	IAmb	IAmb	03 23 57.4	
	comp=Z,34nm,0.8s						
L20K	**Farewell, AK**	**15.40**	**37**	P	**P**	**03 23 43.6**	**-0.8**
	baz=234,SNR=11						
BRSE	**Bradley Lake S**	**15.41**	**49**	P	**P**	**03 23 42.5**	**-2.0**
	baz=248						
K20K	**Telida**	**15.87**	**34**	P	**P**	**03 23 49.0**	**-0.5**
	baz=231						
GCSA	**Galena City Sc**	**15.93**	**27**	P	**P**	**03 23 52.9**	**+2.7**
	baz=222,SNR=9.5						
SEW	**Seward**	**16.14**	**48**	IAmb	IAmb	03 24 03.3	
	comp=Z,39nm,0.6s						
SEW	**Seward**	**16.14**	**48**	P	**Pn**	**03 23 47.5**	**-2.0**
	baz=248						
O22K	**Cooper Landing**	**16.16**	**47**	IAmb	IAmb	03 24 05.9	
	comp=Z,130nm,0.6s						
O22K	**Cooper Landing**	**16.16**	**47**	P	**Pn**	**03 23 51.1**	**+1.4**
	baz=247						
PPLA	**Purkeypile**	**16.28**	**37**	P	**P**	**03 23 55.0**	**+0.8**
	baz=235						
J20K	**Nowinta River**	**16.37**	**32**	P	**P**	**03 23 56.0**	**+0.8**
	baz=228,SNR=13						
RC01	**Rabbit Creek A**	**16.40**	**45**	P	**P**	**03 23 54.2**	**-1.3**
	baz=245,SNR=5.7						
CAST	**Castle Rocks**	**16.62**	**36**	P	**P**	**03 23 58.2**	**+0.3**
	baz=234,SNR=18						
PET	**Petropavlovsk**	**16.76**	**286**	*e*P	**P**	**03 23 59.2**	**-0.3**
PET				*e*S	**Sn**	**03 27 03.7**	**+1.1**
PET				pmax	pmax		
	comp=Z,300nm,13.7s						
PET				pmax	pmax		
	comp=Z,23nm,1.0s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s						
CUT	**Chulitna**	**16.77**	**40**	Pn	**Pn**	**03 23 57.4**	**-0.1**
CUT				IAmb	IAmb	03 24 25.9	
	comp=Z,84nm,1.2s						
CHUM	**Lake Minchumin**	**16.81**	**34**	P	**P**	**03 24 02.2**	**+2.2**
	baz=232,SNR=11						
PMR	**Palmer**	**16.88**	**44**	P	**Pn**	**03 23 59.1**	**+0.3**
	baz=244						
PWL	**Port Wells**	**16.94**	**47**	P	**Pn**	**03 23 58.6**	**-1.0**
	baz=248						
KNK	**Knik Glacier**	**17.10**	**45**	P	**Pn**	**03 24 00.4**	**-1.2**
	baz=246,SNR=12						
TRF	**Thorofare Moun**	**17.31**	**37**	P	**P**	**03 24 06.1**	**+0.4**
	baz=237,SNR=6.7						
SML	**Sawmill**	**17.31**	**44**	P	**Pn**	**03 24 04.5**	**+0.1**
	baz=245,SNR=6.8						
PEA0B	**Petropavlovsk-**	**17.33**	**286**	P	**Pn**	**03 24 03.1**	**-1.4**
PEA0B				pmax	pmax		
	comp=Z,55nm,1.4s						
PEA0B	**Petropavlovsk-**	**17.33**	**286**	Pn	**Pn**	**03 24 03.0**	**-1.4**
PETK	**Petropavlovsk-**	**17.33**	**286**	P	**Pn**	**03 24 03.9**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=83,slow=17,SNR=15						
PETK				LR	LR	03 30 15.7	
	comp=Z,440nm,21.8s,baz=93,slow=35						
PETK	**Petropavlovsk-**	**17.33**	**286**	Pn	**Pn**	**03 24 02.7**	**-1.8**
BPAW	**Bear Paw Mtn.**	**17.41**	**35**	P	**P**	**03 24 08.3**	**+1.6**
	baz=234,SNR=20						
RDOG	**Red Dog Mine**	**17.41**	**14**	Pn	**Pn**	**03 24 04.3**	**-1.2**
I21K	**Tanana**	**17.74**	**31**	P	**P**	**03 24 11.6**	**+1.4**
	baz=230						
SCM	**Sheep Creek Mo**	**17.76**	**44**	P	**Pn**	**03 24 09.7**	**-0.2**
	baz=246,SNR=12						
H21K	**Melozitna Rive**	**17.79**	**29**	P	**P**	**03 24 12.3**	**+1.5**
	baz=227						
WAT6	**Susitna Watana**	**17.90**	**42**	P	**Pn**	**03 24 11.1**	**-0.6**
	baz=244						
MCK	**McKinley**	**17.97**	**38**	P	**Pn**	**03 24 12.2**	**-0.2**
MCK				pmax	pmax		
	comp=Z,38nm,1.0s						
MCK	**McKinley**	**17.97**	**38**		**Pn**	**03 24 12.2**	**-0.2**
MCK	**McKinley**	**17.97**	**38**	P	**Pn**	**03 24 12.1**	**-0.4**
	baz=239,SNR=14						
BWN	**Browne**	**18.01**	**36**	IAmb	IAmb	03 24 37.3	
	comp=Z,94nm,1.0s						
EYAK	**Cordova Ski Ar**	**18.03**	**49**	P	**Pn**	**03 24 12.4**	**-0.7**
	baz=252						
MLY	**Manley**	**18.05**	**33**	P	**P**	**03 24 15.2**	**+1.5**
	baz=232,SNR=44						
KLU	**Klutina**	**18.25**	**46**	P	**Pn**	**03 24 14.3**	**-1.6**
	baz=249,SNR=12						
DHY	**Denali Highway**	**18.27**	**41**	P	**Pn**	**03 24 15.3**	**-0.8**
	baz=243,SNR=13						
M24K	**Tolsona, Glenn**	**18.37**	**44**	P	**P**	**03 24 16.9**	**-0.4**
	baz=247,SNR=9.7						
NEA2	**Nenana**	**18.38**	**35**	P	**P**	**03 24 17.2**	**-0.1**
	baz=236,SNR=9.6						
RAGM	**Ragged Mountai**	**18.50**	**50**	P	**P**	**03 24 18.6**	**0.0**
KAIM	**Kayak Island**	**18.50**	**52**	P	**Pn**	**03 24 20.2**	**+1.3**
	baz=256						
I23K	**Minto, Yukon-K**	**18.59**	**34**	IAmb	IAmb	03 24 40.8	
	comp=Z,43nm,0.7s						
I23K	**Minto, Yukon-K**	**18.59**	**34**	P	**Pn**	**03 24 20.7**	**+0.8**
	baz=234						
HMT	**Hamilton**	**18.68**	**50**	IAmb	IAmb	03 24 36.2	
	comp=Z,82nm,1.3s						
BMRM	**Bremner River**	**18.69**	**48**	P	**P**	**03 24 19.5**	**-1.3**
	baz=252,SNR=5.7						
N25K	**Chitina, Valde**	**18.89**	**46**	P	**P**	**03 24 22.2**	**-0.8**
	baz=251,SNR=11						
H23K	**Yukon River**	**18.94**	**32**	P	**Pn**	**03 24 24.6**	**+0.5**
	baz=232,SNR=21						
TCOL	**CIGO, UAF Yank**	**18.97**	**35**	P	**Pn**	**03 24 24.7**	**+0.2**
	baz=237						
COLA	**College**	**18.98**	**35⇑**	*e*P	**P**	**03 24 23.0**	**-0.7**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COLA	**College**	**18.98**	**35**	P	**P**	**03 24 22.9**	**-0.9**
PAX	**Paxson**	**19.01**	**42**	P	**P**	**03 24 24.4**	**+0.1**
	baz=246,SNR=11						
HDA	**Harding Lake**	**19.07**	**37**	IAmb	IAmb	03 24 39.9	
	comp=Z,53nm,1.0s						
HDA	**Harding Lake**	**19.07**	**37**	P	**P**	**03 24 24.7**	**-0.1**
	baz=240,SNR=47						
BILL	**Bilibino**	**19.12**	**337**	*i* P	**Pn**	**03 24 26.4**	**+0.1**
BILL				*i* S	**Sn**	**03 27 52.7**	**-6.8**
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL	**Bilibino**	**19.12**	**337**	P	**P**	**03 24 25.6**	**+0.2**
BILL				IAmb	IAmb	03 24 36.6	
	comp=Z,103nm,1.1s						
POKR	**Poker Plat Res**	**19.25**	**35**	P	**P**	**03 24 27.0**	**+0.1**
	baz=238						
ILAR	**Eielson Array**	**19.27**	**36**	P	**P**	**03 24 25.3**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=246,slow=8.5,SNR=67						
ILAR				S	**Sn**	**03 28 01.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=240,slow=18,SNR=2.7						
ILAR				pPcP		03 29 01.9	
	comp=Z,0.1nm,0.3s,baz=289,slow=4.0,SNR=4.1						
ILAR				ScP	**ScP**	**03 32 21.2**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=259,slow=2.7,SNR=4.6						
ILAR				LR	LR	03 32 47.7	
	comp=Z,713nm,18.4s,baz=240,slow=40						
ILAR	**Eielson Array**	**19.27**	**36**	P	**P**	**03 24 25.1**	**-2.0**
WAX	**Waxell Ridge**	**19.39**	**51**	IAmb	IAmb	03 24 50.6	
	comp=Z,51nm,1.0s						
H24K	**Noodor Dome**	**19.50**	**33**	IAmb	IAmb	03 24 44.3	
	comp=Z,64nm,0.8s						
H24K	**Noodor Dome**	**19.50**	**33**	P	**Pn**	**03 24 30.2**	**-0.7**
	baz=235						
MCARA	**McCarthy VSAT**	**19.55**	**48**	P	**P**	**03 24 30.8**	**+0.7**
MCARA	**McCarthy VSAT**	**19.55**	**48**	P	**Pn**	**03 24 32.0**	**+0.5**
	baz=253						
RIDG	**Independent Ri**	**19.58**	**40**	P	**P**	**03 24 31.2**	**+0.7**
	baz=245,SNR=27						
COLD	**Coldfoot**	**19.62**	**28**	P	**Pn**	**03 24 32.6**	**+0.3**
	baz=228						
ISLE	**Juniper Island**	**19.67**	**50**	IAmb	IAmb	03 24 58.7	
	comp=Z,59nm,1.3s						
J25K	**Salcha River,**	**19.77**	**38**	P	**P**	**03 24 32.0**	**-0.5**
	baz=242,SNR=106						
DOT	**Dot Lake**	**19.86**	**41**	IAmb	IAmb	03 24 52.5	
	comp=Z,35nm,0.8s						
L26K	**Log Cabin Wild**	**19.93**	**43**	P	**Pn**	**03 24 35.6**	**-0.3**
	baz=249,SNR=14						
SCRK	**Sand Creek**	**20.03**	**40**	P	**P**	**03 24 34.4**	**-1.0**
SCRK				IAmb	IAmb	03 24 50.0	
	comp=Z,42nm,0.6s						
SCRK	**Sand Creek**	**20.03**	**40**	P	**P**	**03 24 34.4**	**-1.0**
	baz=245,SNR=61						
PRP	**Porcupine Dome**	**20.15**	**35**	P	**P**	**03 24 36.8**	**0.0**
	baz=239,SNR=5.9						
TABL	**Table Mountain**	**20.21**	**51**	IAmb	IAmb	03 24 54.7	
	comp=Z,60nm,1.2s						
CTG	**Chitna Glacier**	**20.23**	**50**	P	**P**	**03 24 37.3**	**-0.3**
	baz=256,SNR=8.2						
M27K	**Edge Creek, AK**	**20.35**	**45**	P	**P**	**03 24 40.0**	**+1.1**
	baz=252						
LOGN	**Logan Glacier**	**20.36**	**50**	IAmb	IAmb	03 25 00.9	
	comp=Z,33nm,0.7s						
J26L	**Joseph Creek**	**20.41**	**39**	P	**P**	**03 24 38.6**	**-1.0**
	baz=245						
PCA	**Pinnacle**	**20.58**	**52**	IAmb	IAmb	03 24 58.0	
	comp=Z,66nm,0.7s						
PINM	**Pinnacle**	**20.59**	**52**	P	**P**	**03 24 41.5**	**0.0**
	baz=260						
L27K	**Beaver Creek,**	**20.59**	**44**	P	**P**	**03 24 42.3**	**+0.9**
	baz=251						
TOLK	**Toolik Lake Re**	**20.76**	**25**	P	**P**	**03 24 43.2**	**0.0**
TOLK				IAmb	IAmb	03 24 45.2	
	comp=Z,62nm,0.7s						
TOLK	**Toolik Lake Re**	**20.76**	**25**	P	Pn	03 24 44.5	-1.2
	baz=226,SNR=63						
FYU	**Fort Yukon**	**20.80**	**33**	IAmb	IAmb	03 25 12.3	
	comp=Z,85nm,1.3s						
BVCY	**Beaver Creek**	**20.82**	**46**	P	Pn	03 24 46.9	+0.5
	baz=253						
YUK3	**Moose Creek**	**20.83**	**48**	P	**P**	**03 24 43.1**	**-1.1**
	baz=256,SNR=7.1						
BCPM	**Bancas Point**	**20.87**	**53**	IAmb	IAmb	03 25 01.7	
	comp=Z,50nm,0.8s						
PNL	**Peninsula**	**20.95**	**54**	P	**P**	**03 24 45.7**	**+0.4**
	baz=262						
SEY	**Seymchan**	**21.18**	**315**	P	**P**	**03 24 47.9**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=110,slow=9.5,SNR=15						
SEY				PcP	**PcP**	**03 28 51.2**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=97,slow=8.1,SNR=7.0						
SEY				ScP	**ScP**	**03 32 25.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=124,slow=4.2,SNR=5.9						
SEY				LR	LR	03 33 39.5	
	comp=Z,1µm,18.0s,baz=110,slow=38						
MA2	**Magadan**	**21.26**	**306**	P	**P**	**03 24 48.8**	**+0.2**
	comp=Z,5.6nm,0.4s,baz=82,slow=9.9,SNR=12						
MA2				LR	LR	03 32 57.6	
	comp=Z,808nm,19.5s,baz=111,slow=36						
MA2	**Magadan**	**21.26**	**306**	*de*P	**P**	**03 24 49.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,14nm,1.3s						
MA2	**Magadan**	**21.26**	**306**	P	**P**	**03 24 48.0**	**-0.7**
A21K	**Barrow**	**21.34**	**15**	IAmb	IAmb	03 25 01.6	
	comp=Z,159nm,1.4s						
A21K	**Barrow**	**21.34**	**15**	P	**P**	**03 24 50.0**	**+0.7**
	baz=211,SNR=12						
EGAK	**Eagle**	**21.48**	**39**	P	**P**	**03 24 51.3**	**+0.4**
	baz=247,SNR=73						
BMAR	**Burnt Mountain**	**21.48**	**31**	P	**P**	**03 24 51.2**	**+0.2**
YUK4	**Talbot Arm**	**21.59**	**49**	P	**P**	**03 24 54.7**	**+2.3**
	baz=259						
YUK6	**Outpost Mounta**	**21.65**	**50**	P	**P**	**03 24 53.8**	**+0.8**
	baz=260						
DAWY	**Dawson**	**21.95**	**42**	P	**P**	**03 24 55.7**	**-0.3**
	baz=251,SNR=21						
HYT	**Haines Junctio**	**22.05**	**51**	P	**P**	**03 24 57.4**	**+0.2**
	baz=261						
J29M	**Klondike Camp**	**22.55**	**41**	P	**P**	**03 25 03.4**	**+0.8**
	baz=252,SNR=7.4						
M30M	**Minto, Yukon**	**22.69**	**47**	P	**P**	**03 25 03.6**	**-0.4**
	baz=258						
I29M	**Ogilvie Camp,**	**22.81**	**39**	IAmb	IAmb	03 25 20.6	
	comp=Z,48nm,0.9s						
I29M	**Ogilvie Camp,**	**22.81**	**39**	P	**P**	**03 25 04.4**	**-0.8**
	baz=250,SNR=28						
N31M	**Braeburn, Yuko**	**22.97**	**50**	P	**P**	**03 25 08.5**	**+1.6**
	baz=261						
SKAG	**Skagway**	**22.99**	**55**	IAmb	IAmb	03 25 35.3	
	comp=Z,24nm,0.7s						
SKAG	**Skagway**	**22.99**	**55**	P	**P**	**03 25 07.8**	**+0.8**
	baz=267						
WHY	**Whitehorse**	**23.30**	**52**	P	**P**	**03 25 12.9**	**+2.6**
	baz=264						
M31M	**Drury Creek, Y**	**23.72**	**48**	P	**P**	**03 25 14.3**	**0.0**
	baz=261						
FARO	**Faro, Yukon**	**24.21**	**48**	P	**P**	**03 25 23.4**	**+4.5**
	baz=262						
P33M	**Teslin, Yukon**	**24.30**	**53**	P	**P**	**03 25 20.1**	**+0.4**
P33M	**Teslin, Yukon**	**24.30**	**53**	P	**P**	**03 25 21.3**	**+1.6**
	baz=267						
WRAK	**Wrangell Islan**	**24.68**	**62**	IAmb	IAmb	03 25 36.9	
	comp=Z,33nm,0.8s						
WRAK	**Wrangell Islan**	**24.68**	**62**	P	**P**	**03 25 26.0**	**+2.9**
	baz=276						
MMPY	**Sheldon Lake,**	**25.22**	**47**	P	**P**	**03 25 28.3**	**+0.3**
	baz=264,SNR=7.0						
INK	**Inuvik**	**25.61**	**34**	P	**P**	**03 25 31.0**	**-0.4**
	comp=Z,12nm,0.5s,baz=246,slow=8.2,SNR=34						
INK				PcP	**PcP**	**03 29 00.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=302,slow=2.1,SNR=2.2						
INK	**Inuvik**	**25.61**	**34**	P	**P**	**03 25 31.1**	**-0.4**
INK				IAmb	IAmb	03 25 45.5	
	comp=Z,24nm,0.7s						
INK	**Inuvik**	**25.61**	**34**	P	**P**	**03 25 31.0**	**-0.4**
	baz=249,SNR=20						
DLBC	**Dease Lake**	**25.75**	**57**	P	**P**	**03 25 32.2**	**-0.7**
	comp=Z,11nm,0.8s,baz=261,slow=8.5,SNR=30						
DLBC				LR	LR	03 35 56.4	
	comp=Z,481nm,18.3s,baz=281,slow=37						
DLBC	**Dease Lake**	**25.75**	**57**	IAmb	IAmb	03 26 03.3	
	comp=Z,51nm,1.3s						
KUR	**Kuril'sk**	**25.88**	**271**	P	**P**	**03 25 35.1**	**+1.1**
KUR				S	**S**	**03 30 05.9**	**+3.8**
KUR				pmax	pmax		
	comp=Z,152nm,1.2s						
KUR				MLR	MLR		
	comp=Z,280nm,17.0s						
TGTN	**Hyland Airport**	**26.56**	**50**	P	**P**	**03 25 40.5**	**+0.4**
	baz=269,SNR=9.5						
TYV	**Tymovskoe**	**26.88**	**286**	*e*P	**P**	**03 25 43.3**	**+0.3**
TYV				pmax	pmax		
	comp=Z,300nm,4.6s						
TYV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**28.28**	**278⇓**	*e*P	**P**	**03 25 57.2**	**+1.5**
YSS				pmax	pmax		
	comp=Z,31nm,1.7s						
YSS	**Yuzh-Sakhalins**	**28.28**	**278**	P	**P**	**03 25 55.5**	**-0.2**
YSS				IAmb	IAmb	03 26 17.2	
	comp=Z,38nm,1.0s						
C36M	**Paulatuk**	**29.20**	**34**	P	**P**	**03 26 02.2**	**-1.3**
C36M	**Paulatuk**	**29.20**	**34**	P	**P**	**03 26 03.1**	**-0.4**
	baz=258,SNR=6.3						
A36M	**Sachs Harbour**	**29.49**	**28**	IAmb	IAmb	03 26 14.7	
	comp=Z,16nm,0.8s						
A36M	**Sachs Harbour**	**29.49**	**28**	P	**P**	**03 26 06.3**	**+0.2**
	baz=252,SNR=12						
JKA	**Kamikawa-asahi**	**29.70**	**273**	IAmb	IAmb	03 26 23.6	
	comp=Z,39nm,1.0s						
ASAJ	**Asahikawa**	**29.70**	**273**	P	**P**	**03 26 08.2**	**-0.1**
	comp=Z,17nm,0.8s,baz=66,slow=3.4,SNR=7.9						
ASAJ				LR	LR	03 39 14.9	
	comp=Z,234nm,19.8s,baz=159,slow=39						
ERM	**Erimo**	**30.45**	**269⇑**	*e*P	**P**	**03 26 16.3**	**+1.3**
ERM				pmax	pmax		
	comp=Z,16nm,1.1s						
GRNR	**Gornyy**	**30.63**	**288⇑**	*i*P	**P**	**03 26 16.2**	**-0.2**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,320nm,14.0s						
GRNR				MLR	MLR		
	comp=N,130nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,210nm,14.0s						
YAK	**Yakutsk**	**31.56**	**311**	LR	LR	03 39 38.8	
	comp=Z,965nm,18.6s,baz=93,slow=37						
YAK	**Yakutsk**	**31.56**	**311⇓**	*e*P	**P**	**03 26 24.3**	**-0.2**
YAK				pmax	pmax		
	comp=Z,19nm,0.6s						
TIXI	**Tiksi**	**31.98**	**330**	P	**P**	**03 26 28.2**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=90,slow=22,SNR=14						
TIXI				PcP	**PcP**	**03 29 17.0**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=302,slow=8.7,SNR=3.7						
TIXI				ScP	**ScP**	**03 32 56.1**	**-2.6**
	comp=Z,1.4nm,0.3s,baz=303,slow=8.9,SNR=4.3						
TIXI				LR	LR	03 40 37.7	
	comp=Z,366nm,18.8s,baz=166,slow=38						
TIXI	**Tiksi**	**31.98**	**330⇑**	*e*P	**P**	**03 26 25.6**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**31.98**	**330**	P	**P**	**03 26 27.7**	**-0.4**
LLLB	**Lillooet**	**32.18**	**71**	P	**P**	**03 26 30.4**	**+0.2**
LLLB				IAmb	IAmb	03 26 54.7	
	comp=Z,14nm,1.0s						
YKA	**Yellowknife Ar**	**32.92**	**47**	P	**P**	**03 26 36.0**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=272,slow=8.4,SNR=42						
YKA				PcP	**PcP**	**03 29 20.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=282,slow=2.6,SNR=6.2						
YKA				pPcP		03 29 33.5	
	comp=Z,2.4nm,0.6s,baz=284,slow=2.9,SNR=7.2						
YKA				ScP	**ScP**	**03 33 00.5**	**-1.6**
	comp=Z,0.9nm,1.0s,baz=289,slow=3.8,SNR=3.8						
YKA				LR	LR	03 40 26.2	
	comp=Z,789nm,19.2s,baz=278,slow=37						
KLR	**Kul'dur**	**34.00**	**288**	P	**P**	**03 26 45.3**	**-0.7**
	comp=Z,15nm,0.5s,baz=68,slow=7.1,SNR=86						
KLR				LR	LR	03 40 48.3	
	comp=Z,278nm,19.7s,baz=52,slow=36						
KLR	**Kul'dur**	**34.00**	**288**	*c i*P	**P**	**03 26 45.0**	**-1.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
B08A	**Colville Reser**	**34.63**	**73**	IAmb	IAmb	03 27 19.8	
	comp=Z,20nm,0.9s						
H04A	**Detroit Lake**	**34.63**	**81**	P	**P**	**03 26 52.0**	**+0.5**
H04A				IAmb	IAmb	03 27 10.3	
	comp=Z,19nm,0.9s						
HOOD	**Mount Hood Mea**	**34.65**	**79**	P	**P**	**03 26 52.3**	**+0.5**
HOOD				IAmb	IAmb	03 27 15.1	
	comp=Z,27nm,1.1s						
ZEA	**Zeya**	**34.84**	**297**	*e*P	**P**	**03 26 52.2**	**-1.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.12**	**212**	T	T	04 04 45.5	
	baz=20,slow=76,SNR=107						

H11N3 WAKE ISLAND Hy 35.13 212 T T 04 05 11.5
baz=20,slow=76,SNR=132
H11N1 WAKE ISLAND Hy 35.14 212 T T 04 04 46.9
baz=20,slow=76,SNR=126
HAWA Hanford 35.42 76 P **P** **03 26 59.3 +1.1**
HAWA IAmb IAmb 03 27 14.1
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 35.88 85 LR LR 03 38 25.3
comp=Z,264nm,18.5s,baz=323,slow=31
J05D Fort Rock, OR 35.95 82 P **P** **03 27 04.4 +1.4**
baz=302
NEW Newport 35.99 72 P **P** **03 27 02.4 -0.8**
comp=Z,7.6nm,0.7s,baz=310,slow=5.5,SNR=11
NEW Newport 35.99 72 IAmb IAmb 03 27 20.2
comp=Z,22nm,0.8s
NEW Newport 35.99 72 P **P** **03 27 04.4 +1.2**
baz=297
USA0B Ussuriysk Arra 36.24 280 P **P** **03 27 04.9 -0.4**
USA0B pmax pmax
comp=Z,33nm,0.6s
USA0B Ussuriysk Arra 36.24 280 P **P** **03 27 04.9 -0.4**
USRK Ussuriysk Ar. 36.24 280 P **P** **03 27 04.8 -0.5**
comp=Z,32nm,0.6s,baz=56,slow=9.7,SNR=105
USRK PcP **PcP** **03 29 30.6 +0.6**
comp=Z,1.7nm,0.6s,baz=78,slow=3.4,SNR=3.0
USRK LR LR 03 42 42.1
comp=Z,342nm,19.9s,baz=48,slow=37
USRK Ussuriysk Ar. 36.24 280 P **P** **03 27 04.0 -1.3**
H11S1 WAKE ISLAND Hy 36.33 212 T T 04 06 26.2
baz=20,slow=75,SNR=311
H11S2 WAKE ISLAND Hy 36.34 212 T T 04 06 25.2
baz=20,slow=75,SNR=52
H11S3 WAKE ISLAND Hy 36.35 212 T T 04 06 25.1
baz=20,slow=75,SNR=21
MJAR Matsushiro Arr 36.79 265 P **P** **03 27 10.4 +0.3**
comp=Z,2.5nm,0.5s,baz=54,slow=7.3,SNR=10
MJAR LR LR 03 41 19.7
comp=Z,304nm,21.0s,baz=52,slow=35
MJAR Matsushiro Arr 36.79 265 P **P** **03 27 10.3 +0.2**
MAJO Matsushiro 36.79 265 *de*P **P** **03 27 10.4 +0.3**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 36.79 265 P **P** **03 27 10.0 -0.1**
MAJO IAmb IAmb 03 27 24.4
comp=Z,28nm,1.1s
MJB9 Matsu-Tunnel 36.79 265 P **P** **03 27 09.7 -0.4**
MJB9 IAmb IAmb 03 27 24.3
comp=Z,26nm,1.1s
VLA Vladivostok 36.87 279 *c i*P **P** **03 27 11.1 +0.4**
VLA pmax pmax
comp=Z,55nm,0.9s
MDJ Mudanjiang 37.49 282 P **P** **03 27 15.3 -0.6**
MDJ IAmb IAmb 03 27 15.9
comp=Z,14nm,0.8s
MDJ Mudanjiang 37.49 282 P **P** **03 27 14.9 -1.0**
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,130nm,8.0s
WALA Waterton Lakes 37.52 69 IAmb IAmb 03 27 31.8
comp=Z,15nm,0.9s
J08A Circle Bar Ran 37.61 80 IAmb IAmb 03 27 35.3
comp=Z,15nm,0.8s
JGF Kuroka 37.92 265 IAmb IAmb 03 27 35.2
comp=Z,36nm,1.3s
WVOR Wild Horse Val 38.01 82 P **P** **03 27 21.6 +1.0**
WVOR pmax pmax
comp=Z,19nm,1.0s
WVOR Wild Horse Val 38.01 82 P **P** **03 27 21.6 +1.0**
WVOR IAmb IAmb 03 27 37.5
comp=Z,19nm,0.9s
JHJ Hachijo jima 2 38.06 259 LR LR 03 40 50.8
comp=Z,135nm,20.2s,baz=88,slow=33
RES Resolute Bay 38.33 25 P **P** **03 27 22.1 -0.6**
comp=Z,1.0nm,0.4s,baz=298,slow=17,SNR=14
RES PcP **PcP** **03 29 36.0 +0.2**
comp=Z,3.2nm,0.7s,baz=187,slow=2.4,SNR=4.5
RES LR LR 03 48 24.1
comp=Z,471nm,18.3s,baz=268,slow=44
MSO Missoula 38.57 73 P **P** **03 27 26.7 +1.6**
baz=300
PAHR Pah Rah Range 39.11 86 P **P** **03 27 30.3 +0.5**
PAHR IAmb IAmb 03 27 57.2
comp=Z,28nm,1.3s
MFID Camas Ranch 39.20 78 P **P** **03 27 31.3 +0.7**
PNTR Pine Nut 39.34 87 P **P** **03 27 32.5 +0.7**
PNTR IAmb IAmb 03 27 57.4
comp=Z,25nm,0.7s
HLID Hailey 39.99 77 P **P** **03 27 37.5 +0.4**
HLID Hailey 39.99 77 P **P** **03 27 38.0 +0.9**
baz=303
MCMT McKenzie Canyo 40.25 75 P **P** **03 27 39.4 0.0**
BOD Bodaibo 40.26 308 *e*P **P** **03 27 38.3 -0.7**
BOD pmax pmax
comp=Z,11nm,1.4s
KVN Kaiserville 40.30 86 P **P** **03 27 40.5 +0.7**
KVN pmax pmax
comp=Z,7.0nm,0.9s
KVN Kaiserville 40.30 86 P **P** **03 27 40.5 +0.7**
EGMT Eagleton 40.44 69 IAmb IAmb 03 27 58.8
comp=Z,22nm,0.8s
EGMT Eagleton 40.44 69 P **P** **03 27 41.7 +1.0**
baz=300,SNR=14
CN2 Changchun 40.45 284 *e*P **P** **03 27 39.6 -1.1**
CN2 S **S** **03 33 46.1 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,600nm,20.0s
LHV Little Huntoon 40.53 87 P **P** **03 27 42.7 +1.3**
NVAR Mina Array Bea 40.55 86 P **P** **03 27 42.2 +0.3**
comp=Z,2.1nm,0.8s,baz=288,slow=7.8,SNR=14
NVAR PcP **PcP** **03 29 43.9 +0.1**
comp=Z,1.5nm,0.7s,baz=311,slow=3.0,SNR=3.1
NVAR pPcP 03 29 57.2
comp=Z,2.4nm,0.7s,baz=280,slow=2.3,SNR=5.3
NVAR LR LR 03 40 52.8
comp=Z,155nm,20.6s,baz=285,slow=31
BOZ Bozeman (W) 40.58 73 P **P** **03 27 42.1 +0.2**
baz=302
NV11 Mina Array Sit 40.63 86 P **P** **03 27 44.1 +1.6**
HIA Hailar 40.99 294 *d i*P **P** **03 27 44.5 -0.6**
HIA pmax pmax
comp=Z,16nm,0.9s
HIA Hailar 40.99 294 P **P** **03 27 44.5 -0.6**
HIA IAmb IAmb 03 27 45.2
comp=Z,16nm,0.7s
ELK Elko 41.07 81 LR LR 03 42 17.9
comp=Z,265nm,20.1s,baz=315,slow=32
ELK Elko 41.07 81 P **P** **03 27 46.5 +0.3**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 41.07 81 P **P** **03 27 46.5 +0.3**
TPH Tonopah 41.43 86 IAmb IAmb 03 28 18.0
comp=Z,46nm,1.0s
YHH Holmes Hill 41.47 74 P **P** **03 27 49.9 +0.4**
FFC Flin Flon 41.58 56 P **P** **03 27 49.9 +0.1**
FFC pmax pmax
comp=Z,18nm,1.1s
FFC Flin Flon 41.58 56 P **P** **03 27 49.9 +0.1**
FFC IAmb IAmb 03 28 03.2
comp=Z,18nm,1.1s
H17A Grant Village 41.85 74 P **P** **03 27 54.8 +2.2**
baz=303
LKWY Lake 41.86 74 IAmb IAmb 03 28 13.7
comp=Z,14nm,0.8s
CWC Cottonwood Cre 41.92 89 P **P** **03 27 53.7 +0.6**
baz=309
HVU Hansel Valley 41.98 79 IAmb IAmb 03 28 11.2
comp=Z,15nm,0.9s
RLMT Red Lodge 42.24 72 IAmb IAmb 03 28 11.3
comp=Z,28nm,1.0s
RLMT Red Lodge 42.24 72 P **P** **03 27 58.0 +2.3**
baz=303
R11A Troy Canyon, C 42.28 85 P **P** **03 27 55.7 -0.4**
baz=308
KSRS Korea Array 42.63 274 P **P** **03 27 59.1 +0.5**
comp=Z,6.4nm,0.6s,baz=56,slow=7.6,SNR=26
KSRS pP **pwP** **03 28 12.5 +1.2**
comp=Z,20nm,1.0s,baz=58,slow=7.8,SNR=14
KSRS LR LR 03 45 21.7
comp=Z,125nm,20.3s,baz=55,slow=36
KS19 Wonju Array Si 42.64 274 IAmb IAmb 03 28 13.7
comp=Z,22nm,0.9s
FURC Furnace Creek, 42.66 88 P **P** **03 27 59.6 +0.7**
baz=309
KSAR Wonju Array Be 42.66 274 P **P** **03 27 59.1 +0.2**
KSAR Wonju Array Be 42.66 274 P **P** **03 27 59.1 +0.2**
TPNV Topopah Spring 42.74 87 P **P** **03 28 00.3 +0.5**
baz=309
DUG Dugway, Tooele 42.89 80 IAmb IAmb 03 28 25.7
comp=Z,24nm,1.2s
DUG Dugway, Tooele 42.89 80 P **P** **03 28 01.3 +0.4**
baz=306
LAO LASA Array 43.18 69 IAmb IAmb 03 28 20.0
comp=Z,14nm,0.8s
LAO LASA Array 43.18 69 P **P** **03 28 03.5 +0.4**
baz=302
PRN Pahroc Range 43.20 85 IAmb IAmb 03 28 30.2
comp=Z,36nm,1.0s
BW06 Boulder Array 43.38 75 IAmb IAmb 03 28 19.6
comp=Z,20nm,0.9s
BW06 Boulder Array 43.38 75 P **P** **03 28 04.9 0.0**
baz=305,SNR=8.4
PD31 Pinedale Array 43.38 75 IAmb IAmb 03 28 19.6
comp=Z,18nm,0.9s
PDAR Pinedale Array 43.38 75 P **P** **03 28 04.8 -0.1**
comp=Z,2.9nm,0.8s,baz=304,slow=3.9,SNR=26
DGMT Dagmar 43.41 65 IAmb IAmb 03 28 18.7
comp=Z,29nm,1.2s
DGMT Dagmar 43.41 65 P **P** **03 28 05.2 +0.3**
baz=301
INCN Inchon 43.42 275 P **P** **03 28 06.3 +1.2**
INCN pmax pmax
comp=Z,28nm,0.9s
INCN Inchon 43.42 275 P **P** **03 28 06.3 +1.2**
INCN IAmb IAmb 03 28 09.6
comp=Z,28nm,0.8s
GSC Goldstone, Bar 43.44 89 IAmb IAmb 03 28 20.1
comp=Z,19nm,1.0s
GSC Goldstone, Bar 43.44 89 P **P** **03 28 05.6 +0.3**
baz=310,SNR=5.9
JNU Nakatsue 43.58 267 IAmb IAmb 03 28 21.1
comp=Z,40nm,1.1s
BFSC Mount Baldy Ra 43.60 91 P **P** **03 28 05.5 -1.2**
baz=311
TJN Taejon 43.66 273 *de*P **P** **03 28 09.0 +2.1**
TULEG Thule 43.85 19 P **P** **03 28 09.5 +1.5**
HEC Hector,Ludlow 44.04 89 P **P** **03 28 10.2 +0.1**
baz=310
TMUT Trail Mountain 44.42 80 IAmb IAmb 03 28 38.8
comp=Z,21nm,0.9s
GMRC Granite Mounta 44.49 89 P **P** **03 28 14.0 +0.2**
baz=310
MTPU Mount Pierson 44.58 82 P **P** **03 28 15.7 +0.9**
P17A Butcher Ranch, 44.60 80 IAmb IAmb 03 28 31.9
comp=Z,8.7nm,0.7s
RDMU Red Mountain 44.65 78 IAmb IAmb 03 28 31.6
comp=Z,19nm,0.9s
Q16A Castle Valley 44.67 81 IAmb IAmb 03 28 40.9
comp=Z,18nm,1.0s
PFO Pinyon Flats O 44.76 90 LR LR 03 45 16.5
comp=Z,96nm,18.9s,baz=312,slow=34
P18A Preston Nutter 44.81 79 IAmb IAmb 03 28 42.0
comp=Z,33nm,1.1s
SRU San Rafael Swe 44.95 80 IAmb IAmb 03 28 34.9
comp=Z,17nm,0.8s
K22A Casper 45.27 74 P **P** **03 28 23.6 +3.6**
baz=306
U15A North Rim 45.53 84 IAmb IAmb 03 28 46.7
comp=Z,22nm,1.3s
O20A White River Ci 45.73 78 P **P** **03 28 23.4 -0.2**
baz=307
PDMCI Parker Dam,Lak 45.75 88 P **P** **03 28 23.2 -0.5**
baz=311
NRIK Noril'sk 45.75 331 P **P** **03 28 23.2 -0.1**
comp=Z,7.1nm,0.6s,baz=78,slow=9.0,SNR=12
NRIK Noril'sk 45.75 331 *de*P **P** **03 28 22.6 -0.6**
NRIK pmax pmax
comp=Z,6.0nm,0.6s
NRIK Noril'sk 45.75 331 P **P** **03 28 22.8 -0.4**
NRIK IAmb IAmb 03 28 23.9
comp=Z,6.4nm,0.7s
RSSD Black Hills 45.89 70 P **P** **03 28 24.9 0.0**
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 45.89 70 P **P** **03 28 24.9 0.0**
RSSD IAmb IAmb 03 28 41.5
comp=Z,11nm,1.1s
RSSD Black Hills 45.89 70 P **P** **03 28 25.6 +0.6**
baz=305
XLT XiLinHaoTe 46.00 289 *e*P **P** **03 28 25.9 +0.3**
XLT sP pP 03 28 32.4 -0.2
XLT SS SS 03 38 25.4 -8.1
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.5s
XLT LR LR
comp=Z,310nm,20.9s
XLT LR LR
comp=Z,160nm,16.6s
MDND Maddock 46.33 64 P **P** **03 28 28.5 +0.4**
baz=304
PV07 Paradox Valley 46.52 80 P **P** **03 28 29.8 -0.2**
PV07 IAmb IAmb 03 28 50.9
comp=Z,8.0nm,0.8s
N23A Red Feather La 46.66 75 IAmb IAmb 03 28 45.9
comp=Z,11nm,0.9s
N23A Red Feather La 46.66 75 P **P** **03 28 31.6 +0.5**
baz=307
ULM Lac du Bonnet 47.05 59 P **P** **03 28 33.2 -0.4**
comp=Z,8.8nm,0.5s,baz=303,slow=7.7,SNR=20
ULM LR LR 03 49 42.9
comp=Z,252nm,18.2s,baz=313,slow=38
ULM Lac du Bonnet 47.05 59 IAmb IAmb 03 28 47.6
comp=Z,14nm,0.8s
SMCO Snowmass 47.09 78 P **P** **03 28 35.5 +0.9**
SMCO IAmb IAmb 03 28 55.5
comp=Z,8.7nm,0.9s
MVCO Mesa Verde 47.38 81 P **P** **03 28 37.0 +0.3**
baz=309
ISCO Idaho Springs 47.53 76 P **P** **03 28 39.2 +1.3**
baz=308
AGMN Agassiz Nation 48.15 61 IAmb IAmb 03 28 56.1
comp=Z,22nm,1.0s
AGMN Agassiz Nation 48.15 61 P **P** **03 28 41.5 -0.7**
baz=305,SNR=6.5
BJI Beijing 48.25 285 P **P** **03 28 43.9 +0.8**
BJI pP **pP** **03 28 46.3 -3.5**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,420nm,20.2s
BJI LR LR
comp=Z,180nm,21.6s
BJI LR LR
comp=Z,520nm,18.8s
BJT Baijiatuan 48.27 285 P **P** **03 28 44.0 +0.7**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuan 48.27 285 P **P** **03 28 44.0 +0.7**
BJT IAmb IAmb 03 28 44.5
comp=Z,10nm,0.8s
ULN Ulaanbaatar 48.85 299 *c i*P **P** **03 28 47.5 -0.3**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 48.85 299 P **P** **03 28 47.4 -0.4**
ULN IAmb IAmb 03 28 48.5
comp=Z,16nm,1.0s
SDCO Great Sand Dun 48.88 78 IAmb IAmb 03 29 06.4
comp=Z,7.9nm,0.9s
SDCO Great Sand Dun 48.88 78 P **P** **03 28 48.2 -0.2**
baz=309
TUC Tucson 49.17 87 P **P** **03 28 50.6 +0.2**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 49.17 87 P **P** **03 28 50.6 +0.2**
TUC Tucson 49.17 87 P **P** **03 28 50.2 -0.2**
baz=312
SONM Songino Array 49.22 299 P **P** **03 28 50.8 +0.2**
comp=Z,11nm,0.6s,baz=49,slow=7.9,SNR=96
SONM pP **pwP** **03 29 04.4 +1.9**
comp=Z,6.7nm,0.9s,baz=57,slow=7.5,SNR=5.8
SONM PcP **PcP** **03 30 13.6 +0.2**
comp=Z,2.0nm,0.7s,baz=55,slow=3.9,SNR=1.9
SONM ScP **ScP** **03 34 04.7 -1.8**
comp=Z,0.2nm,0.3s,baz=43,slow=2.6,SNR=2.9
SONM LR LR 03 50 58.3
comp=Z,496nm,18.9s,baz=60,slow=38
SONM Songino Array 49.22 299 P **P** **03 28 50.6 -0.1**
SONM IAmb IAmb 03 28 51.7
comp=Z,13nm,0.7s
B35A Bob, Littlefor 49.28 60 IAmb IAmb 03 29 04.6
comp=Z,17nm,0.8s
F33A 5 Mile Ranch, 49.34 64 IAmb IAmb 03 29 16.5
comp=Z,30nm,1.4s
ZAK Zakamensk 49.41 303 *e*P **P** **03 28 52.0 0.0**
ZAK pmax pmax
comp=Z,29nm,1.3s
ZAK pmax pmax
comp=Z,20nm,1.2s
MOY Mondy 49.84 306 *e*P **P** **03 28 55.7 +0.4**
MOY pmax pmax
comp=Z,16nm,1.4s
T25A Trinidad 49.94 78 IAmb IAmb 03 29 15.1
comp=Z,18nm,0.9s
T25A Trinidad 49.94 78 P **P** **03 28 56.7 +0.4**
baz=310,SNR=7.7
TIA Tai'an 50.10 280 P **P** **03 28 57.9 +0.5**
TIA pmax pmax
comp=Z,8.0nm,0.6s
TIA pmax pmax
comp=Z,46nm,3.9s
TIA LR LR
comp=Z,150nm,17.1s
TIA LR LR
comp=Z,190nm,15.0s
TIA LR LR
comp=Z,230nm,14.2s
ANMO Albuquerque 50.11 82 LR LR 03 47 51.6
comp=Z,152nm,20.8s,baz=308,slow=33
ANMO Albuquerque 50.11 82 ⇓ *e*P **P** **03 28 58.1 +0.5**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ECSD EROS Data Cent 50.43 67 IAmb IAmb 03 29 09.0
comp=Z,9.6nm,0.7s
ECSD EROS Data Cent 50.43 67 P **P** **03 28 58.8 -1.0**
baz=308,SNR=7.3
HHC Hu-ho-hao-te 50.51 289 *e*P **P** **03 28 59.8 -0.7**
HHC S **S** **03 36 13.0 +0.3**
HHC sS pS 03 36 22.9 +2.0
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,47nm,6.3s
HHC LR LR
comp=Z,270nm,16.7s
HHC LR LR
comp=Z,280nm,13.9s
HHC LR LR
comp=Z,350nm,18.0s
EYMN Ely 50.73 59 IAmb IAmb 03 29 16.3
comp=Z,20nm,1.0s
EYMN Ely 50.73 59 P **P** **03 29 01.5 -0.5**
baz=307,SNR=6.0
HNS HongShan 50.81 283 ⇑ P **P** **03 29 03.5 +0.9**
HNS S **S** **03 36 19.4 +2.7**
HNS pmax pmax
comp=Z,48nm,1.1s
HNS LR LR
comp=Z,300nm,24.0s
HNS LR LR
comp=Z,310nm,18.6s
BGNE Belgrade 50.98 70 P **P** **03 29 03.4 -0.5**
BGNE Belgrade 50.98 70 P **P** **03 29 04.9 +0.9**
baz=309
E38A The Farm, Brul 51.51 61 IAmb IAmb 03 29 20.8
comp=Z,19nm,0.8s
SPMN Marine on St. 51.67 63 P **P** **03 29 08.7 -0.3**
baz=308
NJ2 Nanjing 51.80 275 ⇓ P **P** **03 29 09.8 -0.3**
NJ2 pP **pP** **03 29 13.9 -3.0**
NJ2 sP **sP** **03 29 15.8 -3.7**
NJ2 pmax pmax
comp=Z,20nm,0.7s
I37A Lemond, Wasseca 52.09 64 IAmb IAmb 03 29 21.6
comp=Z,26nm,0.8s
KNGR Kungurtug, Tuv 52.23 306 ⇑ *i*P **P** **03 29 14.6 +1.4**
R32A Long Quarter, 52.55 73 IAmb IAmb 03 29 34.4
comp=Z,31nm,1.1s
D41A Chassel 52.84 59 IAmb IAmb 03 29 32.0
comp=Z,18nm,0.8s
MNTX Cornudas Mount 52.95 84 P **P** **03 29 18.7 -0.1**
baz=313
MSTX Muleshoe 53.03 80 P **P** **03 29 20.1 +0.7**
baz=312
G40A Rib Lake 53.08 61 IAmb IAmb 03 29 41.9
comp=Z,22nm,1.2s
COWI Conover 53.13 60 P **P** **03 29 19.3 -0.6**
COWI IAmb IAmb 03 29 44.2
comp=Z,16nm,1.2s
KSU1 Kansas State U 53.36 71 IAmb IAmb 03 29 35.3
comp=Z,24nm,0.9s
SCIA State Center 53.53 66 IAmb IAmb 03 29 46.7
comp=Z,18nm,0.8s
SCIA State Center 53.53 66 P **P** **03 29 23.2 +0.5**
baz=310
I40A Norwalk 53.72 63 IAmb IAmb 03 29 38.2
comp=Z,11nm,0.7s
F42A Maple Grove Fa 53.89 60 IAmb IAmb 03 29 39.1
comp=Z,18nm,0.7s
LYN LuoYang 54.05 282 ⇑ P **P** **03 29 26.3 -0.4**
LYN sP pP 03 29 32.3 -1.2
LYN LR LR
comp=Z,190nm,15.1s
LYN LR LR
comp=Z,150nm,19.4s
SFJD Kangerlussuaq 54.32 24 LR LR 03 59 00.8
comp=Z,179nm,18.1s,baz=314,slow=43
JFWS Jewell Farm 54.56 64 IAmb IAmb 03 29 39.1
comp=Z,12nm,0.7s
JFWS Jewell Farm 54.56 64 P **P** **03 29 29.3 -1.0**
baz=310
L40A Anamosa 54.56 65 IAmb IAmb 03 29 51.6
comp=Z,11nm,0.8s
I42A Draeger Farm, 54.66 62 IAmb IAmb 03 29 53.1
comp=Z,14nm,1.0s
P38A Dawn 54.83 69 P **P** **03 29 32.7 +0.4**
LPIG La Paz 55.24 94 LR LR 03 47 32.8
comp=Z,74nm,20.5s,baz=284,slow=30
L42A Oliver, Polo 55.48 64 IAmb IAmb 03 29 46.2
comp=Z,9.8nm,0.8s
E46A Sault Ste Mari 55.54 57 IAmb IAmb 03 29 51.1
comp=Z,17nm,0.8s
WHN Wuhan 55.63 277 P **P** **03 29 39.3 +1.1**
TX32 Lajitas Array 55.65 85 IAmb IAmb 03 29 54.1
comp=Z,8.1nm,0.8s
TXAR Lajitas Array 55.65 85 P **P** **03 29 37.7 -0.8**
comp=Z,1.3nm,0.7s,baz=296,slow=4.6,SNR=20
TXAR ScP **ScP** **03 34 33.4 -1.3**
comp=Z,1.1nm,1.0s,baz=298,slow=2.7,SNR=4.7
TXAR LR LR 03 51 29.7
comp=Z,45nm,18.3s,baz=314,slow=34
G45A Suttons Bay 55.69 59 IAmb IAmb 03 29 53.0
comp=Z,18nm,0.9s
K43A Burlington 55.76 63 IAmb IAmb 03 30 00.1
comp=Z,22nm,1.0s
W35A Tecumseh 55.82 75 IAmb IAmb 03 29 53.7
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 56.05 316 P **P** **03 29 41.0 +0.2**
ZALV Zalesovo Beam 56.05 316 P **P** **03 29 40.5 -0.3**
comp=Z,0.9nm,0.4s,baz=54,slow=6.4,SNR=5.0
ZALV PcP **PcP** **03 30 38.6 -0.2**
comp=Z,3.1nm,0.6s,baz=46,slow=3.7,SNR=7.8
ZALV pPcP 03 30 51.9
comp=Z,6.2nm,0.8s,baz=56,slow=3.7,SNR=11
ZALV LR LR 03 56 14.5
comp=Z,334nm,18.2s,baz=52,slow=39
S39A Bolivar 56.23 70 IAmb IAmb 03 29 54.6
comp=Z,9.2nm,0.8s
YULB Yu-li 56.39 266 P **P** **03 29 44.8 +1.0**
R40A Maddies Statio 56.45 69 IAmb IAmb 03 29 56.3
comp=Z,15nm,0.6s
XAN Xi'an 56.55 284 P **P** **03 29 44.8 0.0**
XAN pmax pmax
comp=Z,26nm,1.3s
HDIL Hopedale 56.64 65 IAmb IAmb 03 29 54.7
comp=Z,19nm,0.8s
HDIL Hopedale 56.64 65 P **P** **03 29 44.8 -0.5**
baz=312
M44A Midewin, Midew 56.79 64 IAmb IAmb 03 30 08.3
comp=Z,24nm,1.1s
HHAR Hobbs 56.81 72 P **P** **03 29 46.5 -0.2**
HHAR IAmb IAmb 03 29 59.6

comp=Z,9.7nm,0.8s
P43A Skaggs, Pawnee **57.13 66** IAmb IAmb 03 29 58.1
comp=Z,18nm,0.7s
MGMO Mountain Grove **57.21 70** IAmb IAmb 03 30 02.4
comp=Z,17nm,0.9s
L46A Eue Claire **57.35 62** IAmb IAmb 03 30 07.6
comp=Z,13nm,0.8s
U40A Yellville **57.41 71** IAmb IAmb 03 30 03.6
comp=Z,14nm,0.7s
U40A Yellville **57.41 71** P **P** **03 29 49.1 -1.7**
baz=313
W39A Magazine **57.65 73** IAmb IAmb 03 30 11.1
comp=Z,33nm,1.2s
W39A Magazine **57.65 73** P **P** **03 29 51.5 -1.0**
baz=313
FVM French Village **57.73 68** IAmb IAmb 03 30 06.3
comp=Z,23nm,0.8s
VLDQ Val d'Or **57.85 52** IAmb IAmb 03 29 52.8
comp=Z,15nm,0.9s
Q44A Meyer Farm, Va **57.91 67** IAmb IAmb 03 30 08.8
comp=Z,20nm,0.9s
SCHQ Schefferville **57.96 41** P **P** **03 29 53.4 -1.0**
comp=Z,4.1nm,0.8s,baz=319,slow=7.4,SNR=10
SFIN Lafayette **58.00 64** P **P** **03 29 55.1 +0.2**
SFIN IAmb IAmb 03 30 04.6
comp=Z,18nm,0.8s
LZH Lanzhou **58.19 289** *e*P **P** **03 29 57.3 +0.8**
LZH pP pP 03 30 00.4 -3.4
LZH sP sP 03 30 03.8 -2.1
LZH pmax pmax
comp=Z,28nm,1.5s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=Z,340nm,16.3s
LZH LR LR
comp=Z,410nm,15.7s
LZH LR LR
comp=Z,590nm,16.3s
GTA Gaotai **58.26 295** ⇑P **P** **03 29 56.5 -0.4**
GTA pmax pmax
comp=Z,23nm,0.7s
GTA pmax pmax
comp=Z,83nm,5.8s
GTA LR LR
comp=Z,190nm,17.1s
GTA LR LR
comp=Z,410nm,17.4s
GTA LR LR
comp=Z,310nm,17.8s
ARA0 ARCESS Array S **58.38 352** *e*P **P** **03 29 56.8 -0.3**
ARCES ARCESS Array B **58.38 352** P **P** **03 29 56.8 -0.4**
comp=Z,3.9nm,0.5s,baz=28,slow=7.3,SNR=33
ARCES PcP **PcP** **03 30 47.9 +0.2**
comp=Z,8.0nm,0.6s,baz=18,slow=4.9,SNR=8.1
ARCES pPcP 03 31 00.9
comp=Z,10nm,0.7s,baz=2.9,slow=4.9,SNR=4.7
L48A N Adams **58.42 61** IAmb IAmb 03 30 22.4
comp=Z,13nm,0.8s
N47A Urbana **58.45 63** IAmb IAmb 03 30 19.6
comp=Z,19nm,0.9s
WHAR Wooly Hollow **58.47 72** IAmb IAmb 03 30 12.0
comp=Z,14nm,0.8s
PBMO Poplar Bluff **58.54 69** IAmb IAmb 03 30 16.3
comp=Z,19nm,1.0s
W41B Gary Mavity, V **58.58 72** IAmb IAmb 03 30 12.3
comp=Z,20nm,0.8s
LCAR Lake Charles **58.61 70** IAmb IAmb 03 30 11.8
comp=Z,8.2nm,0.9s
JETT Jettan, Norway **58.74 354** *e*P **P** **03 30 01.1 +1.4**
TRO Tromso **58.76 355** *e*P **P** **03 29 59.6 0.0**
ENH Enshi **58.82 280** P **P** **03 30 01.6 +0.8**
LVZ Lovozero **58.96 348** *ce*P **P** **03 30 00.3 -0.9**
LVZ pmax pmax
comp=Z,11nm,0.7s
LVZ Lovozero **58.96 348** P **P** **03 29 59.5 -1.7**
833A Chaparral WMA, **59.01 83** P **P** **03 30 01.3 -0.8**
baz=315
KTK1 Kautokeino **59.08 353** *e*P **P** **03 30 01.8 -0.2**
BLO Bloomington **59.15 65** IAmb IAmb 03 30 24.5
comp=Z,14nm,0.8s
O48B Farmland **59.17 63** P **P** **03 30 01.9 -1.2**
baz=313,SNR=8.9
N49A Columbus Grove **59.25 62** IAmb IAmb 03 30 19.6
comp=Z,16nm,1.2s
SADO Sadowa **59.30 56** LR LR 03 57 34.4
comp=Z,334nm,18.3s,baz=352,slow=38
SADO Sadowa **59.30 56** IAmb IAmb 03 30 17.8
comp=Z,13nm,0.7s
APA Apatity **59.43 348** ⇓*i*P **P** **03 30 03.1 -1.3**
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,400nm,19.0s
P48A Milroy **59.57 64** P **P** **03 30 04.8 -1.1**
P48A IAmb IAmb 03 30 27.5
comp=Z,23nm,1.1s
O49A Covington **59.67 63** IAmb IAmb 03 30 20.1
comp=Z,7.5nm,0.7s
P49A Miami Univ. Ec **59.91 63** IAmb IAmb 03 30 29.3
comp=Z,12nm,0.8s
P49A Miami Univ. Ec **59.91 63** P **P** **03 30 07.4 -0.7**
baz=314
T47A Sharon Grove **60.33 67** IAmb IAmb 03 30 29.4
comp=Z,18nm,0.9s
M52A Chesterland **60.37 60** IAmb IAmb 03 30 12.8
comp=Z,13nm,0.7s
ACSO Alum Creek Sta **60.39 62** IAmb IAmb 03 30 36.2
comp=Z,11nm,0.9s
ACSO Alum Creek Sta **60.39 62** P **P** **03 30 11.3 -0.1**
baz=314
WVT Waverly **60.51 68** P **P** **03 30 12.7 +0.5**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly **60.51 68** P **P** **03 30 12.7 +0.5**
WVT IAmb IAmb 03 30 26.3
comp=Z,14nm,0.9s
ZSN Zaisan **60.54 310** *e*P **P** **03 30 12.5 +0.2**
ZSN Zaisan **60.54 310** *e*P **P** **03 30 12.6 +0.2**
baz=310
TRQ Mont Tremblant **60.59 52** P **P** **03 30 12.4 -0.4**
STEI Steigen **60.64 356** *e*P **P** **03 30 12.6 0.0**
ERPA Erie **60.69 58** P **P** **03 30 12.8 -0.7**
ERPA Erie **60.69 58** P **P** **03 30 13.6 +0.1**
baz=314
OXF Oxford **60.71 70** P **P** **03 30 12.8 -0.9**
baz=314
M53A WI Miller and **60.80 59** P **P** **03 30 14.3 +0.1**
baz=314,SNR=5.8
R50A Paris **61.00 64** IAmb IAmb 03 30 25.5
comp=Z,12nm,0.8s
KURK Kurchatov **61.03 316** P **P** **03 30 15.0 -0.6**
KURK 03 30 59.5
KURK pmax pmax
comp=Z,18nm,0.6s
KURK Kurchatov **61.03 316** P **P** **03 30 15.0 -0.6**
KURBB Kurchatov Arra **61.13 316** P **P** **03 30 16.0 -0.3**
comp=Z,14nm,0.6s,baz=45,slow=6.6,SNR=189
KURBB pP **pwP** **03 30 30.4 +1.9**
comp=Z,13nm,0.9s,baz=43,slow=6.5,SNR=7.4
KURBB PcP **PcP** **03 30 59.5 +0.5**
comp=Z,3.7nm,0.6s,baz=37,slow=3.7,SNR=6.8
KURBB LR LR 03 58 43.0
comp=Z,504nm,18.1s,baz=34,slow=38
N53A Lisbon **61.16 60** IAmb IAmb 03 30 41.4
comp=Z,27nm,1.2s
PLAL Pickwick Lake **61.16 69** P **P** **03 30 16.7 -0.1**
FAUS Fauske **61.18 356** *e*P **P** **03 30 16.5 +0.1**
M54A Oil Creek Stat **61.29 59** IAmb IAmb 03 30 31.4
comp=Z,20nm,1.1s
M54A Oil Creek Stat **61.29 59** P **P** **03 30 17.3 -0.3**
baz=315
O53A New Philadelph **61.35 61** IAmb IAmb 03 30 45.9
comp=Z,20nm,1.1s
O53A New Philadelph **61.35 61** P **P** **03 30 17.7 -0.3**
baz=315
CLTN Cedars of Leba **61.40 67** IAmb IAmb 03 30 33.0
comp=Z,14nm,0.8s
N54A Moraine State **61.51 59** P **P** **03 30 18.7 -0.3**
baz=315,SNR=6.0
MNTQ Montreal, Queb **61.56 52** P **P** **03 30 18.6 -0.7**
MNTQ IAmb IAmb 03 30 19.1
comp=Z,14nm,0.8s
LONY Lake Ozonia **61.71 53** P **P** **03 30 19.8 -0.6**
baz=316,SNR=8.2
WMQ Urumqi **61.73 306** *e*P **P** **03 30 21.1 +0.6**
WMQ pP pP 03 30 25.3 -2.4
WMQ sP sP 03 30 30.3 -0.3
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ LR LR
comp=Z,640nm,15.9s
WMQ LR LR
comp=Z,490nm,19.3s
WMQ LR LR
comp=Z,300nm,20.9s
P53A Whipple **61.79 61** IAmb IAmb 03 30 23.6
comp=Z,24nm,1.3s
CD2 Chengdu **61.86 285** P **P** **03 30 21.6 0.0**
CD2 S **S** **03 38 44.3 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,260nm,16.2s
CD2 LR LR
comp=Z,200nm,15.6s
S51A Beattyville **61.87 64** IAmb IAmb 03 30 40.9
comp=Z,9.9nm,0.7s
MK31 Makanchi Array **62.23 311** *ce*P **P** **03 30 22.4 -1.4**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array **62.23 311** P **P** **03 30 21.9 -2.0**
MK31 IAmb IAmb 03 30 23.6
comp=Z,3.9nm,0.5s
MKAR Makanchi Array **62.23 311** P **P** **03 30 22.9 -0.9**
comp=Z,4.8nm,0.4s,baz=48,slow=5.5,SNR=146
MKAR LR LR 04 00 20.6
comp=Z,235nm,18.4s,baz=38,slow=39
MKAR Makanchi Array **62.23 311** P **P** **03 30 22.5 -1.3**
NCB Newcomb **62.36 53** IAmb IAmb 03 30 25.0
comp=Z,14nm,0.8s
MAKZ Makanchi **62.37 311** P **P** **03 30 24.9 +0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi **62.37 311** P **P** **03 30 24.9 +0.1**
MAKZ IAmb IAmb 03 30 28.2
comp=Z,4.4nm,0.7s
MCWV Mont Chateau **62.51 60** P **P** **03 30 25.8 +0.1**
baz=315,SNR=5.7
W50A Signal Mountai **62.61 67** IAmb IAmb 03 30 51.6
comp=Z,15nm,0.9s
BRVK Borovoye **62.66 322** *ce*P **P** **03 30 26.1 -0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye **62.66 322** P **P** **03 30 26.3 -0.2**
BRVK IAmb IAmb 03 30 43.1
comp=Z,6.9nm,1.0s
BINY Binghamton **62.73 56** P **P** **03 30 27.3 0.0**
BINY Binghamton **62.73 56** P **P** **03 30 27.8 +0.6**
baz=316,SNR=8.5
O56A Blue Knob Stat **62.76 59** P **P** **03 30 26.8 -0.6**
baz=316
PRGR Permogore **62.83 340** *e*P **P** **03 30 25.4 -2.1**
PRGR pmax pmax
comp=Z,6.0nm,1.3s
SSPA Standing Stone **62.86 58** P **P** **03 30 28.3 +0.2**
baz=316
TKL Tuckaleechee C **63.17 66** P **P** **03 30 31.7 +1.5**
TKL pmax pmax
comp=Z,25nm,1.3s
TKL Tuckaleechee C **63.17 66** P **P** **03 30 31.7 +1.5**
TKL IAmb IAmb 03 30 46.8
comp=Z,25nm,1.3s
GYA Guiyang **63.27 279** ⇓P **P** **03 30 34.8 +3.6**
GYA pmax pmax
comp=Z,15nm,0.9s
GOMU GeErMu **63.33 295** P **P** **03 30 31.1 -0.6**
GOMU pP pP 03 30 34.3 -4.7
GOMU sP sP 03 30 38.8 -2.4
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU pmax pmax
comp=Z,79nm,6.8s
GOMU LR LR
comp=Z,200nm,16.7s
GOMU LR LR
comp=Z,190nm,16.9s
GOMU LR LR
comp=Z,100nm,16.0s
N58A Sunbury **63.33 57** IAmb IAmb 03 30 47.2
comp=Z,13nm,0.8s
R55A Marlinton **63.34 61** IAmb IAmb 03 30 52.1
comp=Z,18nm,0.9s
P57A Homestead Farm **63.62 59** IAmb IAmb 03 30 34.9
comp=Z,12nm,0.7s
N59A State Game Lan **63.77 57** P **P** **03 30 34.6 +0.4**
baz=316,SNR=6.0
BLA Blacksburg **63.94 62** P **P** **03 30 35.4 +0.1**
baz=316
ARU Arti **63.98 331** LR LR 04 02 07.0
comp=Z,386nm,20.1s,baz=44,slow=39
ARU Arti **63.98 331** *c i*P **P** **03 30 34.8 -0.4**
ARU 03 31 06.6
ARU S **S** **03 39 12.6 +3.4**
ARU SS **SS** **03 43 14.2 -2.8**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU MLR MLR
comp=Z,488nm,20.0s
MVL Millersville **64.13 58** IAmb IAmb 03 30 52.3
comp=Z,11nm,0.8s
L61B Northampton **64.24 54** P **P** **03 30 37.2 0.0**
baz=317
SDMD Soldier's Deli **64.30 59** IAmb IAmb 03 31 02.4
comp=Z,13nm,1.2s
S57A Dark Hollow, R **64.35 61** IAmb IAmb 03 30 55.0
comp=Z,12nm,0.8s
TRNY Table Rock, Ra **64.41 56** P **P** **03 30 39.0 +0.7**
TRNY IAmb IAmb 03 30 55.7
comp=Z,14nm,0.8s
V55A Taylorsville **64.48 64** IAmb IAmb 03 30 54.6
comp=Z,10nm,0.9s
WUPA West Chester U **64.57 57** IAmb IAmb 03 30 49.2
comp=Z,4.8nm,0.7s
PAL Palisades **64.67 56** P **P** **03 30 40.5 +0.5**
baz=317
T57A Hurt **64.74 62** IAmb IAmb 03 30 57.2
comp=Z,11nm,0.8s
KLMR Klimovskoe **64.77 343** *e*P **P** **03 30 38.2 -2.0**
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe **64.77 343** *e*P **P** **03 30 38.3 -2.0**
KLMR AMP 03 30 41.0
comp=Z,9.0nm,0.9s
PAULI Pauline **64.88 65** IAmb IAmb 03 31 08.5
comp=Z,16nm,1.1s
KMSC Kings Mountain **64.92 65** P **P** **03 30 41.6 -0.1**
KMSC Kings Mountain **64.92 65** P **P** **03 30 42.4 +0.7**
baz=316
HODGE Hodges **65.06 66** IAmb IAmb 03 31 01.0
comp=Z,16nm,1.0s
AFI Afiamalu **65.21 178** LR LR 03 58 51.9
comp=Z,108nm,18.1s,baz=20,slow=36
TDK Taldyqorghan **65.38 312** *e*P **P** **03 30 44.7 +0.1**
TDK Taldyqorghan **65.38 312** *e*P **P** **03 30 44.7 +0.1**
baz=312
TBLU Trondheim **65.49 358** *e*P **P** **03 30 44.9 0.0**
OTUK Ortayu **65.58 318** P **P** **03 30 45.1 -0.7**
JSC Jenkinsville **65.59 65** IAmb IAmb 03 30 59.9
comp=Z,9.6nm,0.7s
V58A Windy Hill, Pi **65.69 63** IAmb IAmb 03 31 11.3
comp=Z,12nm,0.9s
BIRD Birdtown, Kers **65.78 64** IAmb IAmb 03 30 55.9
comp=Z,11nm,0.9s
FIA1 FINESS Array S **66.22 350** P **P** **03 30 49.1 -0.5**
FIA1 IAmb IAmb 03 30 49.7
comp=Z,10nm,0.8s
FINES FINESS Array B **66.22 350** P **P** **03 30 48.8 -0.8**
comp=Z,8.4nm,0.7s,baz=16,slow=8.0,SNR=47
FINES PcP **PcP** **03 31 19.4 -0.2**
comp=Z,4.8nm,0.5s,baz=44,slow=4.0,SNR=9.7
FINES pPcP 03 31 32.5
comp=Z,3.5nm,0.6s,baz=54,slow=3.9,SNR=4.0
FINES LR LR 04 03 56.2
comp=Z,194nm,18.2s,baz=4.0,slow=40
PZH PanZhiHua **66.25 283** P **P** **03 30 51.3 +0.7**
PZH sP **pP** **03 30 56.8 -0.7**
PZH S **S** **03 39 39.6 +1.4**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,190nm,3.5s
PZH LR LR
comp=Z,360nm,22.5s
PZH LR LR
comp=Z,280nm,21.3s
PZH LR LR
comp=Z,450nm,21.1s
SHLS Shalkode **66.28 310** *e*P **P** **03 30 49.6 -0.9**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
SHLS Shalkode **66.28 310** *e*P **P** **03 30 49.7 -0.9**
comp=Z,4.8nm,0.6s,baz=310
DAV Davao City (W) **66.34 250** LR LR 03 54 14.5
comp=Z,146nm,21.1s,baz=356,slow=31
KPKS Kokpek **66.41 311** *c i*P **P** **03 30 51.2 -0.1**
KPKS pmax pmax
comp=Z,4.0nm,0.5s
KPKS Kokpek **66.41 311** ⇑*i*P **P** **03 30 51.2 -0.1**
comp=Z,4.1nm,0.5s,baz=311
UZB Uzynbulak **66.50 310** *c i*P **P** **03 30 52.1 +0.2**
UZB pmax pmax
comp=Z,5.0nm,0.9s
UZB Uzynbulak **66.50 310** ⇑*i*P **P** **03 30 52.2 +0.2**
comp=Z,5.4nm,0.9s,baz=310
KMI Kunming **66.66 281** ⇑P **P** **03 30 54.5 +1.2**
KMI sP pP 03 31 01.1 +0.9
KMI pmax pmax
comp=Z,16nm,0.8s
KMI LR LR
comp=Z,190nm,21.1s
KMI LR LR
comp=Z,130nm,14.8s
KMI LR LR
comp=Z,130nm,18.3s
DOMB Dombas **66.73 358** *e*P **P** **03 30 53.0 +0.1**
TAOE Nuku Hiva Isla **66.86 143** *e*LR LR 03 51 07.0
comp=Z,146nm,21.5s
CHKK Chushkaly **66.91 312** *e*P **P** **03 30 53.3 -1.1**
baz=312
KUU Kurty **67.18 312** *e*P **P** **03 30 55.4 -0.7**
KUU Kurty **67.18 312** *e*P **P** **03 30 55.4 -0.7**
baz=312
BTLS Baital **67.33 315** *c i*P **P** **03 30 56.7 -0.3**
BTLS pmax pmax
comp=Z,3.0nm,0.6s
BTLS Baital **67.33 315** ⇑*i*P **P** **03 30 56.7 -0.3**
comp=Z,3.1nm,0.6s,baz=314
MDOK Medeo **67.42 311** P **P** **03 30 57.6 -0.2**
MDOK Medeo **67.42 311** *e*P **P** **03 30 57.6 -0.2**
baz=311
AAA Alma-Ata **67.44 312** *e*P **P** **03 30 58.0 +0.2**
AAA Alma-Ata **67.44 312** *e*P **P** **03 30 58.0 +0.2**
baz=312
TNSS Tian-Shan **67.56 311** *e*P **P** **03 30 59.2 +0.2**
baz=311
HYA Hoyanger **67.63 360** *e*P **P** **03 30 58.1 -0.5**
NB2 NORSAR Subarra **67.68 357** P **P** **03 30 58.9 -0.1**
comp=Z,0.9nm,0.5s,baz=5.0,slow=6.9
NB2 NORSAR Subarra **67.68 357** P **P** **03 30 58.9 -0.1**
baz=5.0,slow=6.9
NOA NORSAR Array B **67.68 357** P **P** **03 30 59.1 +0.1**
comp=Z,1.3nm,0.6s,baz=3.2,slow=6.2,SNR=14
AAL Aland **68.05 353** *e*P **P** **03 31 00.7 -0.6**
SKAR Skarslia **68.10 359** *e*P **P** **03 31 02.1 +0.4**
KDJ Kajisay **68.15 311** P **P** **03 31 01.9 -0.6**
KDJ pmax pmax
comp=Z,5.0nm,0.7s
KDJ Kajisay **68.15 311** P **P** **03 31 01.9 -0.6**
KDJ IAmb IAmb 03 31 04.7
comp=Z,5.1nm,0.7s
TARG Taragay, Kyrgy **68.16 310** IAmb IAmb 03 31 06.0
comp=Z,6.8nm,0.5s
TKM2 Tokmak 2 **68.28 312** P **P** **03 31 02.3 -1.0**
SGDS Sogindy **68.31 313** *e*P **P** **03 31 03.5 +0.2**
comp=Z,3.6nm,0.8s,baz=313
BOOM Boomskoye usch **68.45 312** P **P** **03 31 04.7 +0.3**
BOOM pmax pmax
comp=Z,13nm,0.6s
BOOM Boomskoye usch **68.45 312** P **P** **03 31 04.7 +0.3**
UPP Uppsala **68.55 354** *e*P **P** **03 31 04.2 -0.2**
AAK Ala-Archa **69.01 313** P **P** **03 31 08.3 +0.5**
comp=Z,12nm,0.6s,baz=126,slow=4.4,SNR=40
AAK LR LR 04 03 59.2
comp=Z,316nm,18.1s,baz=40,slow=38
AAK Ala-Archa **69.01 313** *c i*P **P** **03 31 07.9 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa **69.01 313** P **P** **03 31 07.8 0.0**
AAK IAmb IAmb 03 31 09.4
comp=Z,11nm,0.8s
VSU Vasula **69.05 349** *c i*P **P** **03 31 06.9 -0.6**
VSU pmax pmax
comp=Z,70nm,0.9s
VSU Vasula **69.05 349** *e*P **P** **03 31 07.4 -0.1**
KONO Kongsberg **69.11 358** *e*P **P** **03 31 08.5 +0.6**
MTSE Matsula **69.14 350** *e*P **P** **03 31 07.8 -0.3**
AKTO Aktyubinsk **69.22 327** LR LR 04 05 12.4
comp=Z,297nm,18.5s,baz=40,slow=39
AKTO Aktyubinsk **69.22 327** P **P** **03 31 08.4 -0.4**
PMG Port Moresby **69.33 221** LR LR 03 58 46.9
comp=Z,64nm,18.5s,baz=8.0,slow=33
MSVF Nonsavu **69.34 188** LR LR 03 59 13.8
comp=Z,164nm,18.4s,baz=48,slow=34
AB31 Akbulak array **69.55 326** *e*P **P** **03 31 10.5 -0.3**
ABKAR Akbulak array **69.55 326** P **P** **03 31 10.7 -0.1**
ABKAR IAmb IAmb 03 31 12.8
comp=Z,7.9nm,0.6s
VIKU Vikbolandet **69.96 354** *e*P **P** **03 31 12.9 -0.2**
PMOR Pomariorio Ree **70.07 153** *e*T T 04 48 04.6
comp=Z,5.9nm,0.2s
LSA Lhasa **70.18 293** P **P** **03 31 16.5 +0.9**
LSA pmax pmax
comp=Z,36nm,0.7s
LSA Lhasa **70.18 293** P **P** **03 31 16.5 +0.9**
DZA Taraz **70.23 315** *e*P **P** **03 31 15.1 -0.1**
DZA Taraz **70.23 315** *e*P **P** **03 31 15.1 -0.1**
baz=315
SLIT Silitere, Latvi **70.36 351** *e*P **P** **03 31 15.1 -0.5**
KKAR Karatay Array **70.42 315** P **P** **03 31 15.9 -0.4**
KKAR Karatay Array **70.42 315** P **P** **03 31 15.9 -0.4**
BELG Belogornoye **70.65 334** LR LR 04 07 19.4
comp=Z,189nm,18.5s,baz=345,slow=40
OBN Obninsk **70.70 342** LR LR 04 06 23.4
comp=Z,40nm,20.3s,baz=356,slow=39
OBN Obninsk **70.70 342** *i* P **P** **03 31 15.5 -2.2**
OBN *i* 03 31 37.8
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,194nm,18.0s
OBN Obninsk **70.70 342** P **P** **03 31 17.2 -0.6**
KSH Kashi **70.75 310** P **P** **03 31 22.0 +3.5**
KSH pP pP 03 31 25.5 -0.3
KSH sP sP 03 31 28.0 -0.7
KSH pmax pmax
comp=Z,21nm,0.6s
KSH LR LR
comp=Z,260nm,20.3s
KSH LR LR
comp=Z,260nm,21.6s
KSH LR LR
comp=Z,320nm,22.9s
BORU Boraas **71.03 356** *i* P **P** **03 31 17.8 -2.0**
ONAU Onsala **71.30 357** *i* P **P** **03 31 19.8 -1.5**
IUG Iuzhnay **71.40 315** *e*P **P** **03 31 22.4 0.0**
IUG Iuzhnay **71.40 315** *e*P **P** **03 31 22.5 0.0**
baz=315
FABU Falkenberg **71.67 356** *i* P **P** **03 31 22.4 -1.2**
PBUR Paburge **71.98 351** *e*P **P** **03 31 25.1 -0.3**
PPT Papeete **72.06 156** LR LR 03 57 44.9
comp=Z,185nm,21.4s,baz=341,slow=31
PPT2 Papeete2 **72.08 156** *e*S **SKiKP** **03 41 02.8 +1.5**
comp=Z,86nm,31.0s
PPT2 Papeete2 **72.08 156** *e*LR LR 03 53 28.4
comp=Z,165nm,20.8s
PPT2 Papeete2 **72.08 156** *e*T T 04 50 36.5
comp=Z,4.2nm,0.4s
IDID Didziasalis **72.11 348** *e*P **P** **03 31 26.0 -0.3**
DEL Delary **72.15 355** *i* P **P** **03 31 25.4 -1.1**
DEL Delary **72.15 355** *e*P **P** **03 31 26.3 -0.1**
IIGN Ignalina **72.15 348** *e*P **P** **03 31 26.2 -0.2**
BLEU Blekinge **72.20 354** *i* P **P** **03 31 25.4 -1.4**
PABE Paberze **72.27 349** *e*P **P** **03 31 27.0 -0.2**
MUD Monsted U'grnd **72.33 358** *i* P **P** **03 31 27.0 -0.5**
MUD IAmb IAmb 03 31 28.8
comp=Z,4.8nm,0.6s
NACGM Naroch **72.51 348** *i* P **P** **03 31 28.0 -0.7**
LPSR Galich'ya Gora **72.58 340** *e*P **P** **03 31 28.2 -0.9**

LPSR pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 72.73 313 IAmb IAmb 03 31 31.9
comp=Z,9.6nm,0.7s
MNK Minsk 72.75 347 *i* P **P 03 31 29.8 -0.2**
MNK *i* 03 34 16.5
MNK *i* PPP PPP 03 35 55.3
MNK *i* S **S 03 40 53.1 -0.4**
MNK *i* SS **SS 03 45 35.6 +3.5**
MNK pmax pmax
comp=Z,20nm,0.7s
MNK pmax pmax
comp=N,25nm,1.1s
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK MLR MLR
comp=Z,218nm,21.0s
MNK Minsk 72.75 347 *i* P **P 03 31 29.8 -0.2**
comp=E,2.0nm,1.3s
MNK *i* P **P 03 31 29.8 -0.2**
comp=N,25nm,1.1s
MNK *i* P **P 03 31 29.8 -0.2**
comp=Z,20nm,0.7s,baz=194
MNK *i* PP **PP 03 34 16.5 +5.3**
MNK *i* PPP PPP 03 35 55.4
MNK *i* S **S 03 40 53.1 -0.4**
MNK *i* SS **SS 03 45 35.6 +3.5**
MNK *i* SSS SSS 03 48 56.0
MNK *i* LQ LQ 03 58 29.5
MNK *i* LR LR 04 04 01.3
MNK *i* LRM MLR 04 08 14.5
comp=Z,218nm,20.9s
MNK *i* LRM MLR 04 08 36.2
comp=E,39nm,24.9s
MNK *i* LRM MLR 04 08 40.1
comp=N,429nm,24.0s
DRK Karamyk 72.75 312 P **P 03 31 31.1 +0.3**
DRK IAmb IAmb 03 31 32.5
comp=Z,16nm,0.7s
COP Copenhagen 73.00 356 *i* P **P 03 31 31.1 -0.4**
COP IAmb IAmb 03 31 32.1
comp=Z,36nm,0.5s
VRH Novokhopyorsk 73.25 337 *eP* **P 03 31 32.0 -1.1**
VRH pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 73.39 339 *eP* **P 03 31 34.5 +0.6**
VORR pmax pmax
comp=Z,11nm,1.1s
RAR Rarotonga 73.52 166 LR LR 03 58 03.3
comp=Z,169nm,20.8s,baz=319,slow=31
CHTO Chiang Mai 73.70 280 P **P 03 31 37.5 +1.2**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 73.70 280 P **P 03 31 37.5 +1.2**
CHTO IAmb IAmb 03 31 50.6
comp=Z,10nm,0.8s
MRSI Marisa 73.77 249 P P 03 31 32.8 -3.8
comp=Z,2µmcomp=Z,45nm,1.0s
SUW Suwalki 73.83 350 *eP* **P 03 31 35.3 -1.1**
SUW Suwalki 73.83 350 *eP* **P 03 31 35.3 -1.1**
TAPN Taplejung 73.93 294 *eP* **P 03 31 38.3 +0.4**
comp=Z,79nm,0.8s
CM31 Chiang Mai Arr 73.97 279 P **P 03 31 38.2 +0.4**
CM31 IAmb IAmb 03 31 53.1
comp=Z,31nm,1.1s
CMAR Chiang Mai Arr 73.97 279 P **P 03 31 39.3 +1.5**
comp=Z,7.2nm,0.7s,baz=31,slow=7.2,SNR=15
CMAR pP **pwP 03 31 51.8 +0.8**
comp=Z,13nm,0.8s,baz=26,slow=6.9,SNR=6.4
CMAR LR LR 04 08 44.2
comp=Z,106nm,18.4s,baz=180,slow=39
CMAR Chiang Mai Arr 73.97 279 P **P 03 31 38.5 +0.7**
ODAN Odare 74.48 294 *eP* **P 03 31 41.5 +0.5**
GUN Gumba 74.54 295 *eP* **P 03 31 42.1 +0.6**
JIRN Jiri 74.55 295 *eP* **P 03 31 42.3 +0.7**
comp=Z,116nm,0.7s
BSEG Bad Segeberg 74.82 357 *eP* **P 03 31 43.0 +0.8**
comp=Z,22nm,1.0s,baz=4.2,slow=5.6
RAMN Ramite 74.87 294 *eP* **P 03 31 43.6 +0.3**
comp=Z,64nm,0.6s
KKN Kakani 74.97 296 *eP* **P 03 31 44.2 +0.4**
PKI Pulchoki 75.06 295 *eP* **P 03 31 44.7 +0.2**
PKIN Phulchoki 75.07 295 *eP* **P 03 31 44.6 +0.2**
MPSI Mapaga 75.08 251 P **P 03 31 43.6 -0.7**
comp=Z,2µmcomp=Z,15nm,0.6s
GKP Gorka Klasztor 75.12 353 *eP* **P 03 31 44.0 +0.1**
GKP Gorka Klasztor 75.12 353 *eP* **P 03 31 44.3 +0.3**
GKN Gorkha 75.17 296 *eP* **P 03 31 45.2 +0.3**
DMN Daman 75.20 296 *eP* **P 03 31 45.7 +0.5**
comp=Z,61nm,0.9s
DZM Mont Dzumac 75.29 199 LR LR 04 02 17.9
comp=Z,214nm,18.5s,baz=16,slow=34
DZM Mont Dzumac 75.29 199 *e*LR LR 03 54 57.7
comp=Z,118nm,20.1s
DANN Dangsing 75.39 297 *eP* **P 03 31 46.9 +0.6**
comp=Z,170nm,0.8s
KOLN Koldanda 75.92 297 *eP* **P 03 31 49.4 +0.1**
PYUN Piuthan 76.01 297 *eP* **P 03 31 50.0 +0.2**
comp=Z,82nm,0.7s
RETH Rethem/Aller, 76.04 358 *eP* **P 03 31 49.8 +0.6**
comp=Z,19nm,1.3s,baz=4.2,slow=5.6
AKASG Malin Array Be 76.23 345 P **P 03 31 49.4 -1.0**
comp=Z,17nm,0.5s,baz=17,slow=5.9,SNR=61
AKASG LR LR 04 09 39.9
comp=Z,141nm,19.3s,baz=13,slow=39
AKBB Malin Array Si 76.23 345 P **P 03 31 49.3 -1.1**
AKBB pmax pmax
comp=Z,23nm,0.5s
AKBB Malin Array Si 76.23 345 P **P 03 31 49.3 -1.1**
FLTG Flechtingen 76.40 357 *eP* **P 03 31 51.3 +0.1**
comp=Z,22nm,0.5s,baz=4.2,slow=5.6
IBBN Ibbenburen 76.50 359 *eP* **P 03 31 52.5 +0.7**
comp=Z,25nm,0.6s,baz=4.2,slow=5.6
ASSE Asse, Remlinge 76.62 357 *eP* **P 03 31 53.0 +0.5**
comp=Z,25nm,1.6s,baz=4.2,slow=5.6
NIL Nilore 76.74 308 P **P 03 31 54.3 +0.7**
NIL pmax pmax
comp=Z,71nm,1.3s
NIL Nilore 76.74 308 P **P 03 31 54.3 +0.7**
CLZ Clausthal 76.91 357 *eP* **P 03 31 55.1 +0.8**
comp=Z,21nm,0.7s,baz=4.2,slow=5.6
GTTG Gottingen 77.22 357 *eP* **P 03 31 56.7 +0.7**
comp=Z,30nm,1.3s,baz=4.2,slow=5.6
CLL Collm 77.34 356⇑ *i* P **P 03 31 56.4 -0.2**
CLL *i* 03 32 09.4
CLL pmax pmax
comp=Z,17nm,0.7s
CLL Collm 77.34 356⇑ *i* P **P 03 31 56.4 -0.2**
comp=Z,17nm,0.7s
CLL *i* PcP **pwP 03 32 09.4 +0.4**
CLL *e*(SS) 03 47 18.0
CLL Collm 77.34 356 *eP* **P 03 31 56.7 0.0**
comp=Z,17nm,0.7s,baz=4.2,slow=5.6
NEUB Neuenburg 77.50 356 *eP* **P 03 31 58.2 +0.7**
comp=Z,43nm,1.2s,baz=4.2,slow=5.6
KASTN Kahler Asten 77.60 358 *eP* **P 03 31 58.5 +0.4**
comp=Z,196nm,3.7s,baz=4.2,slow=5.6
KSP Ksiaz 77.61 353 *eP* **P 03 31 58.1 0.0**
TBI Tubuai 77.63 157 *e*LR LR 03 55 57.7
comp=Z,180nm,21.5s
FBE Freiberg 77.71 355 *eP* **P 03 31 59.2 +0.5**
comp=Z,25nm,0.8s,baz=4.2,slow=5.6
BRG Berggiesshubel 77.73 355 *i* P **P 03 31 58.8 -0.1**
BRG Amp 03 32 00.7
comp=Z,17nm,0.7s
BRG *ex* x 03 32 11.8
BRG Amp 03 32 12.5
comp=Z,8.2nm,0.7s
BRG Berggiesshubel 77.73 355 *i* P **P 03 31 58.7 -0.1**
BRG *e* 03 32 11.8
BRG pmax pmax
comp=Z,17nm,0.7s
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 77.73 355 *eP* **P 03 31 58.9 +0.1**
comp=Z,17nm,0.7s,baz=4.2,slow=5.6
LVV L'vov 77.84 348 *eP* **P 03 31 58.7 -0.8**
CHVC Chvalec 77.88 355 *eP* **P 03 31 58.2 -1.5**
OSTC Ostas 77.90 353 *eP* **P 03 31 59.2 -0.6**
OJC Ojcow 77.93 351 *eP* **P 03 31 59.8 -0.1**
OJC Ojcow 77.93 351 IAmb IAmb 03 32 00.7
comp=Z,23nm,1.5s
UBBA Unterbreizbach 77.95 357 *eP* **P 03 32 00.3 +0.4**
comp=Z,30nm,1.8s,baz=4.2,slow=5.6
UPC Upice 77.96 353 *eP* **P 03 32 00.0 -0.1**
UPC Upice 77.96 353 *eP* **P 03 32 00.0 -0.1**

PVCC Panska Ves 78.03 354 *eP* **P 03 32 00.2 -0.3**
PVCC *e* 03 32 13.3
PVCC Panska Ves 78.03 354 *eP* **P 03 32 00.2 -0.3**
PVCC *e*PCP **pwP 03 32 13.3 +0.4**
KBL Kabul 78.04 311 P **P 03 32 00.0 -1.1**
KBL pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 78.04 311 P **P 03 31 60.0 -1.1**
KBL IAmb IAmb 03 32 01.3
comp=Z,20nm,0.9s
MOX Moxa 78.07 356 *eP* **P 03 32 01.1 +0.4**
comp=Z,15nm,0.7s,baz=4.2,slow=5.6
MOX *eL* L 04 08 51.2
comp=Z,105nm,21.4s
DPC Dobruska-Polom 78.09 353 *eP* **P 03 32 01.0 +0.1**
DPC *e* 03 32 14.3
DPC Dobruska-Polom 78.09 353 *eP* **P 03 32 01.0 +0.1**
DPC *e*PCP **pwP 03 32 14.3 +1.0**
KWP Kalwaria Pacla 78.19 349 *eP* **P 03 32 01.5 +0.1**
PLN Plauen 78.20 356 *eP* **P 03 32 01.9 +0.4**
comp=Z,13nm,1.3s,baz=4.2,slow=5.6
MEM Membach 78.21 360 *dP* **P 03 32 01.8 +0.3**
WERD Werda 78.23 356 *eP* **P 03 32 02.0 +0.4**
comp=Z,28nm,1.4s,baz=4.2,slow=5.6
BTNL Ternell 78.24 360 *dP* **P 03 32 01.7 +0.1**
comp=Z,6.4nm,0.9s
BSTI Sart Tilman 78.24 0 *dP* **P 03 32 02.3 +0.7**
TANN Tannenbergstha 78.26 356 *eP* **P 03 32 02.2 +0.4**
comp=Z,9.2nm,1.0s,baz=4.2,slow=5.6
AHRW Bad Neuenahr-A 78.28 359 *eP* **P 03 32 02.7 +0.8**
comp=Z,28nm,1.4s,baz=4.2,slow=5.6
SNF Seneffe 78.30 1 *dP* **P 03 32 01.1 -0.9**
GUNZ Gunzen 78.32 356 *eP* **P 03 32 02.6 +0.5**
comp=Z,34nm,1.7s,baz=4.2,slow=5.6
KRLC Kraliky 78.33 353 *eP* **P 03 32 01.8 -0.4**
KRLC Kraliky 78.33 353 *eP* **P 03 32 01.8 -0.4**
WERN Wernitzgruen 78.39 356 *eP* **P 03 32 03.1 +0.6**
comp=Z,20nm,0.9s,baz=4.2,slow=5.6
BCLA Clavier 78.40 0 *dP* **P 03 32 02.8 +0.3**
BGES Gesves 78.44 1 *dP* **P 03 32 02.6 -0.1**
NKC Novy Kostel 78.44 356 *eP* **P 03 32 02.8 0.0**
NKC *e* 03 32 16.3
NKC Novy Kostel 78.44 356 *eP* **P 03 32 02.8 0.0**
NKC *ex* x 03 32 16.3
MORC Moravsky Berou 78.57 352⇓ **P 03 32 03.9 +0.3**
MORC Moravsky Berou 78.57 352 *eP* **P 03 32 03.4 -0.2**
PRU Pruhonice 78.58 354 *eP* **P 03 32 03.1 -0.4**
PRU *e* 03 32 16.0
PRU Pruhonice 78.58 354 *eP* **P 03 32 03.1 -0.4**
PRU *e*PCP **pwP 03 32 16.0 +0.1**
TNS Taunus Mts 78.58 358 *eP* **P 03 32 04.1 +0.5**
comp=Z,16nm,0.8s,baz=4.2,slow=5.6
GOF Gofitskoye 78.59 334⇑ *eP* **P 03 32 04.2 +0.5**
GOF pmax pmax
comp=Z,45nm,1.0s
RCHB Rochefort 78.67 1 *dP* **P 03 32 03.8 -0.2**
NIE Niedzica 78.67 351 *eP* **P 03 32 05.1 +1.0**
MANZ Manzenberg 78.70 356 *eP* **P 03 32 04.5 +0.2**
comp=Z,2.3nm,0.9s,baz=4.2,slow=5.6
DOU Does 78.72 1 *dP* **P 03 32 03.4 -0.9**
comp=Z,5.4nm,1.2s
SORM Soroca 78.86 345⇑ **P 03 32 04.4 -0.7**
PBCC Pribram 78.91 355 *eP* **P 03 32 05.1 -0.3**
PBCC *ex* x 03 32 17.9
ROTZ Rotzenmuhle 78.92 356 *eP* **P 03 32 05.9 +0.5**
comp=Z,2.5nm,0.8s,baz=4.2,slow=5.6
LANS Liptovska Anna 79.02 351 *eP* **P 03 32 07.1 +1.1**
LANS pmax pmax
comp=Z,8.0nm,0.7s
LANS Liptovska Anna 79.02 351 *eP* **P 03 32 07.1 +1.1**
GRF Grafenberg Arr 79.03 357 *eP* **P 03 32 07.0 +0.9**
comp=Z,35nm,0.6s,baz=4.2,slow=5.6
GRF *eL* L 04 09 18.4
comp=Z,77nm,20.4s
GRFO Grafenberg 79.04 357 P **P 03 32 06.1 0.0**
GRFO pmax pmax
comp=Z,31nm,0.7s
GRFO Grafenberg 79.04 357 P **P 03 32 06.0 0.0**
CRVS Cervenica-Dubn 79.06 350 *eP* **P 03 32 06.3 +0.1**
CRVS Cervenica-Dubn 79.06 350 *eP* **P 03 32 06.2 +0.1**
VRAC Vranov 79.11 353⇑ **P 03 32 06.9 +0.3**
VRAC Vranov 79.11 353 *eP* **P 03 32 06.8 +0.3**
WLF Walferdange 79.16 360 *eP* **P 03 32 07.6 +0.9**
comp=Z,9.7nm,0.9s,baz=4.2,slow=5.6
WLF Walferdange 79.16 360 *dP* **P 03 32 07.5 +0.8**
TREC Trest 79.20 354 *eP* **P 03 32 07.0 0.0**
TREC *e* 03 32 19.2
TREC Trest 79.20 354 *eP* **P 03 32 07.0 0.0**
TREC *e*PCP **pwP 03 32 19.2 -0.2**
UZH Uzhgorod 79.23 349⇓ *i* P **P 03 32 06.3 -0.8**
UZH *i* 03 32 12.3
KRUC Moravsky 79.37 353 *eP* **P 03 32 07.9 0.0**
JAVC Velka Javorina 79.47 352 *eP* **P 03 32 09.6 +1.1**
KHC Kasperske Hory 79.49 355*c* *i* P **P 03 32 08.9 +0.3**
KHC pmax pmax
comp=Z,29nm,1.1s
KHC Kasperske Hory 79.49 355 *eP* **P 03 32 08.8 +0.2**
KHC *ex* x 03 32 22.0
KHC Kasperske Hory 79.49 355 IAmb IAmb 03 32 10.1
comp=Z,34nm,1.4s
WET Wettzell 79.51 355 *eP* **P 03 32 09.1 +0.5**
comp=Z,6.1nm,0.7s,baz=4.2,slow=5.6
KOLL Kolacno 79.68 352 *eP* **P 03 32 10.4 +0.8**
TRPA Tarpa 79.69 349⇑ **P 03 32 09.7 +0.2**
TRPA Tarpa 79.69 349 P **P 03 32 09.8 +0.2**
KIV Kislovodsk 79.71 334 *eP* **P 03 32 10.2 +0.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,100nm,19.0s
CKRC Cesky Krumlov 79.75 354 *eP* **P 03 32 09.8 -0.2**
GEC2 GERESS Array S 79.76 355 IAmb IAmb 03 32 11.2
comp=Z,7.8nm,0.8s
GERES GERESS Array B 79.76 355 P **P 03 32 10.2 0.0**
comp=Z,5.3nm,0.7s,baz=26,slow=6.4,SNR=40
GERES pP **pwP 03 32 23.1 +0.6**
comp=Z,2.8nm,0.7s,baz=16,slow=5.8,SNR=7.0
GERES GERESS Array B 79.76 355 P **P 03 32 09.2 -0.9**
BUR08 Bucovina Ar. S 79.82 347 IAmb IAmb 03 32 11.3
comp=Z,9.2nm,0.7s
SMOL Smolenice 79.83 352 *eP* **P 03 32 11.0 +0.6**
SMOL Smolenice 79.83 352 *eP* **P 03 32 11.0 +0.6**
BURAR Bucovina Array 79.84 347⇑ **P 03 32 10.5 -0.1**
BURAR Bucovina Array 79.84 347 IAmb IAmb 03 32 11.8
comp=Z,17nm,0.6s
KBZ Khabaz 79.86 334 P **P 03 32 10.8 +0.3**
comp=Z,3.5nm,0.9s,baz=103,slow=2.1,SNR=12
KBZ LR LR 04 11 58.8
comp=Z,131nm,19.7s,baz=30,slow=39
GEYT Alibeck 79.92 321 P **P 03 32 11.5 +0.4**
comp=Z,5.5nm,0.7s,baz=25,slow=15,SNR=7.5
GEYT LR LR 04 11 27.6
comp=Z,277nm,18.6s,baz=56,slow=38
GYA0B ALIBECK ARRAY 79.92 321 P **P 03 32 10.6 -0.5**
GYA0B IAmb IAmb 03 32 15.7
comp=Z,8.6nm,0.8s
MILM Milestii Mici 79.97 344⇑ **P 03 32 10.5 -0.7**
STU Stuttgart 80.02 358 IAmb IAmb 03 32 12.6
comp=Z,15nm,0.7s
STU Stuttgart 80.02 358 *eP* **P 03 32 11.8 +0.4**
comp=Z,41nm,0.7s,baz=4.2,slow=5.6
ZST Bratislava 80.18 352 *eP* **P 03 32 13.0 +0.7**
ZST Bratislava 80.18 352 *eP* **P 03 32 13.0 +0.7**
PSZ Piszkesteto 80.19 351 P **P 03 32 12.7 +0.3**
ANN Anapa 80.25 338 *eP* **P 03 32 11.4 -1.3**
ANN pmax pmax
comp=Z,9.0nm,0.7s
VASR Vaslui 80.40 345⇓ **P 03 32 13.9 +0.4**
ZEI Tsey 80.44 333 *eP* P 03 32 07.0 -7.1
ZEI pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 80.48 358 P **P 03 32 14.1 +0.2**
BFO pmax pmax
comp=Z,10.0nm,0.7s
BFO Black Forest 80.48 358 P **P 03 32 14.1 +0.2**
BFO IAmb IAmb 03 32 15.1
comp=Z,9.8nm,0.7s
BFO Black Forest 80.48 358 *eP* **P 03 32 14.2 +0.3**
comp=Z,12nm,0.8s,baz=4.2,slow=5.6
ARCR ARCALIA 80.48 347⇑ **P 03 32 14.7 +0.8**
CONA Conrad Observa 80.54 353 *i* P **P 03 32 14.9 +0.6**
comp=Z,7.3nm,0.6s,SNR=5.6
ECH Echery 80.61 359 IAmb IAmb 03 32 15.9
comp=Z,25nm,1.1s

BUD Budapest 80.71 351 P **P 03 32 16.2 +1.0**
MOA Molln 80.72 354 *i* P **P 03 32 15.4 +0.1**
comp=Z,2.1nm,0.6s
SOP Sopron 80.73 353 P **P 03 32 15.8 +0.6**
CLF Chambon-Foret 80.75 3 P **P 03 32 14.8 -0.5**
CSKK Cskako 80.90 352 P **P 03 32 16.6 +0.4**
RJOB Jochberg 80.92 355 *eP* **P 03 32 16.7 +0.4**
comp=Z,7.3nm,0.8s,baz=4.2,slow=5.6
BIOA Bad Ischl, Aus 80.92 355 *i* P **P 03 32 16.7 +0.4**
comp=Z,4.3nm,0.4s
EGYH Egyhazaskeszo 80.93 352 P **P 03 32 17.6 +1.3**
CJR Cluj-Napoca 80.95 348⇓ **P 03 32 16.9 +0.4**
DRGR 80.99 348⇓ **P 03 32 16.8 +0.1**
GHRR 81.03 345⇓ **P 03 32 18.1 +1.2**
VLDR Vladesti 81.13 345⇓ **P 03 32 18.0 +0.6**
MPLH Magyarpolny 81.16 352 P **P 03 32 18.3 +0.8**
ARSA Arzberg 81.24 353 *i* P **P 03 32 18.8 +0.7**
comp=Z,3.7nm,0.5s
HRA Herat 81.24 316 IAmb IAmb 03 32 19.8
comp=Z,13nm,0.8s
RETA Reutte 81.25 357 *i* P **P 03 32 18.3 +0.2**
comp=Z,3.5nm,0.6s
SCTR Scanteiesti 81.31 345⇑ **P 03 32 19.7 +1.3**
VRI Vrincioaia 81.33 346⇑ **P 03 32 18.2 -0.3**
PLOR Plostina 81.36 346⇑ **P 03 32 18.3 -0.4**
WATA Walderalm 81.37 356 *i* P **P 03 32 19.1 +0.2**
comp=Z,5.0nm,0.5s
ODBI Odobesti 81.38 345⇓ **P P 03 32 19.8 +1.1**
MOTA Moosalm 81.38 356 *i* P **P 03 32 19.2 +0.3**
comp=Z,3.6nm,0.5s
COVR Voineasa-Covas 81.43 346⇑ **P 03 32 20.0 +1.0**
SLCR Slobozia Conac 81.43 345⇓ **P 03 32 19.9 +0.9**
DOPR Dopca 81.43 346⇑ **P 03 32 20.0 +0.9**
WTTA Wattenberg 81.44 356 *eP* **P 03 32 19.7 +0.4**
comp=Z,5.3nm,0.6s,SNR=7.8
IZVR Izvoarele 81.48 345⇓ **P 03 32 20.2 +1.0**
DAVA Damuels 81.48 357 *i* P **P 03 32 20.6 +1.1**
comp=Z,3.7nm,0.6s
SQTA Sankt Quirin 81.50 356 *i* P **P 03 32 20.1 +0.5**
comp=Z,9.2nm,0.7s,SNR=6.5
KBA Koelnbreinsper 81.55 355 *i* P **P 03 32 20.7 +0.9**
comp=Z,16nm,0.5s,SNR=10
TLCR 81.65 344⇑ **P P 03 32 21.1 +1.0**
FETA Feichten 81.72 357 *i* P **P 03 32 21.2 +0.5**
comp=Z,4.8nm,0.6s,SNR=6.5
CFR Carcaliu 81.77 344⇑ **P P 03 32 20.9 +0.2**
MLR Muntele Rosu 81.81 346⇓ **P P 03 32 22.0 +0.8**
MLR Muntele Rosu 81.81 346 LR LR 04 14 37.4
comp=Z,122nm,18.0s,baz=24,slow=40
MLR Muntele Rosu 81.81 346 IAmb IAmb 03 32 23.5
comp=Z,13nm,0.7s
SOKA Soboth 81.84 354 *i* P **P 03 32 21.6 +0.4**
comp=Z,6.8nm,0.6s,SNR=5.1
PERS Pernice 81.88 354 *i* P **P 03 32 21.7 +0.2**
DAVOX Davos/Dischmat 81.99 357 LR LR 04 11 55.2
comp=Z,82nm,18.3s,baz=15,slow=38
VOIR 82.00 347⇓ **P P 03 32 22.9 +0.8**
GROS Grobnik 82.02 353 *i* P **P 03 32 21.7 -0.5**
TPGR Topolog 82.03 344⇑ **P P 03 32 22.6 +0.4**
OBKA Obir 82.04 354 *i* P **P 03 32 23.2 +0.9**
comp=Z,6.7nm,0.5s
ARR Arges 82.13 347⇑ **P P 03 32 23.5 +0.7**
KOVH Kovagotottos 82.18 352 P **P 03 32 23.1 +0.1**
BZS Buzias 82.28 349⇑ **P P 03 32 23.2 -0.3**
HARR Harsova 82.28 344⇓ **P P 03 32 24.1 +0.6**
TUE Stuetta 82.31 358 IAmb IAmb 03 32 25.7
comp=Z,16nm,0.9s
TLBR Topalu 82.40 344⇑ **P P 03 32 25.2 +1.1**
TIRR Tirgusor 82.42 344⇓ **P P 03 32 25.0 +0.8**
SENIN Lac Senin/Sane 82.46 359 P **P 03 32 25.6 +0.9**
SENIN IAmb IAmb 03 32 40.9
comp=Z,5.8nm,0.8s
GNI Garni 82.62 331 LR LR 04 15 58.8
comp=Z,195nm,18.9s,baz=17,slow=41
GNI Garni 82.62 331⇓ *eP* **P 03 32 26.6 +1.0**
GNI pmax pmax
comp=Z,5.0nm,1.5s
ICOR Ion Corvin 82.86 344⇑ **P P 03 32 27.5 +1.0**
FRGS Fruska Gora 82.93 350⇓ **P P 03 32 26.0 -0.9**
SGRR Singureni 83.05 346⇓ **P P 03 32 27.2 -0.3**
BNI Bardonecchia 83.77 360 P **P 03 32 32.3 +0.9**
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 83.77 360 P **P 03 32 32.3 +0.9**
DIVS Divibare 83.96 350 IAmb IAmb 03 32 49.4
comp=Z,8.1nm,0.9s
WRA Warramunga Arr 84.29 228 P **P 03 32 32.4 -1.7**
comp=Z,1.2nm,0.6s,baz=31,slow=5.6,SNR=13
WRA pP **sP 03 32 45.5 +1.7**
comp=Z,2.7nm,0.6s,baz=34,slow=6.0,SNR=8.0
TOKA Tokat 84.72 337 IAmb IAmb 03 32 38.0
comp=Z,16nm,1.1s
GEVA Gevas 84.82 332 P **P 03 32 36.7 -0.2**
GEVA IAmb IAmb 03 32 38.3
comp=Z,20nm,1.2s
GURO Guroymak-BITLI 84.90 332 IAmb IAmb 03 32 40.0
comp=Z,7.8nm,1.2s
VTS Vitosha 85.02 347⇓ **P P 03 32 38.1 +0.3**
VTS Vitosha 85.02 347 IAmb IAmb 03 32 38.8
comp=Z,19nm,1.1s
PDG Podgorica 85.69 350 P **P 03 32 40.5 -0.4**
SKO Skopje 85.89 349 *i* P **P 03 32 42.7 +0.8**
BR131 Keskin Array S 85.95 339 IAmb IAmb 03 32 43.5
comp=Z,12nm,1.1s
BRTR Keskin Array B 85.95 339 P **P 03 32 42.8 +0.3**
comp=Z,3.6nm,0.8s,baz=22,slow=2.0,SNR=21
BRTR LR LR 04 15 24.8
comp=Z,67nm,20.4s,baz=40,slow=39
ANTO Ankara 86.00 340 P **P 03 32 44.0 +1.4**
ANTO pmax pmax
comp=Z,5.0nm,0.7s
ANTO Ankara 86.00 340 P **P 03 32 44.0 +1.4**
ANTO IAmb IAmb 03 32 58.3
comp=Z,5.3nm,0.7s
PSI Prapat 86.00 269 LR LR 04 17 21.2
comp=Z,60nm,18.1s,baz=52,slow=40
STIP Stip 86.07 348 *i* P **P 03 32 42.5 -0.3**
PBRG Braganca 86.36 10 *eP* **P 03 32 44.3 0.0**
comp=Z,54nm,1.6s
VAY Valandovo 86.38 348 *i* P **P 03 32 45.0 +0.7**
MARD Mardin 86.41 333 P **P 03 32 44.8 0.0**
MARD IAmb IAmb 03 32 46.3
comp=Z,14nm,0.8s
SJG San Juan 86.60 65 LR LR 04 15 11.4
comp=Z,55nm,18.0s,baz=286,slow=38
POLO Lamas de Olo 86.67 10 *eP* **P 03 32 46.0 +0.1**
comp=Z,13nm,2.0s
PVRL Vila Real 86.78 10 *eP* **P 03 32 46.8 +0.4**
comp=Z,26nm,1.6s
PTO Porto 86.81 11 *eP* **P 03 32 46.5 0.0**
comp=Z,30nm,1.9s
OHR Ohrid 86.82 349 *i* P **P 03 32 46.6 0.0**
HYBB Hyderabad (bro 86.92 294 *eP* **P 03 32 46.5 -0.9**
HYBB *e* 03 32 59.8
MVO Moncorvo 86.96 10 *eP* **P 03 32 47.1 -0.2**
comp=Z,17nm,1.5s
PVIS Viseu 87.31 11 *eP* **P 03 32 48.9 -0.1**
comp=Z,29nm,1.4s
MTE Manteigas 87.66 10 *eP* **P 03 32 50.7 0.0**
comp=Z,24nm,1.4s
ASAR Alice Springs 87.72 226 P **P 03 32 49.9 -1.1**
comp=Z,2.0nm,0.9s,baz=30,slow=5.1,SNR=12
ASAR Alice Springs 87.72 226 P **P 03 32 50.0 -0.9**
PCAS Casmilo, Conde 87.90 11 *eP* **P 03 32 51.3 -0.4**
comp=Z,21nm,1.6s
PCBR Castelo Branco 88.22 10 *eP* **P 03 32 52.3 -1.0**
comp=Z,13nm,1.5s
MDSI Maura Dua 88.41 261 P **P 03 32 55.3 +0.9**
comp=Z,2.8nm,1.2s
PMRV Marv??o 88.64 10 *eP* **P 03 32 55.4 +0.1**
comp=Z,9.5nm,1.8s
ESDC Sonseca Array 88.73 8 P **P 03 32 55.4 -0.4**
comp=Z,3.3nm,0.7s,baz=344,slow=4.4,SNR=38
ESDC Sonseca Array 88.73 8 P **P 03 32 55.3 -0.4**
ESDC IAmb IAmb 03 32 56.4
comp=Z,5.5nm,1.1s
PMAFR Mafra 88.88 12 *eP* **P 03 32 56.4 0.0**
comp=Z,75nm,2.0s
PMTG Montargil 88.90 11 *eP* **P 03 32 55.7 -0.8**
comp=Z,21nm,1.5s
PESTR Estremoz 89.17 11 *eP* **P 03 32 57.2 -0.6**
comp=Z,14nm,1.8s
EVO Evora 89.45 11 *eP* **P 03 32 58.6 -0.5**
comp=Z,19nm,1.6s
URZ Urewera 89.78 187 LR LR 04 15 54.5

comp=Z,100nm,18.4s,baz=33,slow=37
PBAR Barrancos 89.92 10 *e*P **P 03 33 01.4 +0.1**
comp=Z,19nm,1.6s
MORF Marmelete 90.59 12 *e*P **P 03 33 07.4 +2.9**
comp=Z,18nm,1.3s
STKA Stephens Creek 91.78 217 P **P 03 33 11.2 +1.5**
comp=Z,2.8nm,0.8s,baz=11,slow=7.1,SNR=3.5
STKA Stephens Creek 91.78 217 P **P 03 33 10.0 +0.3**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 91.78 217 P **P 03 33 10.0 +0.3**
EIL Elat 95.21 335 LR LR 04 25 07.5
comp=Z,57nm,18.2s,baz=55,slow=41
RAYN Ar Rayn 97.60 324 P **P 03 33 36.3 -0.5**
RAYN pmax pmax
comp=Z,6.0nm,1.2s
RAYN Ar Rayn 97.60 324 P **P 03 33 36.3 -0.5**
RAYN IAmb IAmb 03 33 51.4
comp=Z,6.2nm,1.2s
TORD Torodi Ar. Bea 115.46 5 PKP **PKiKP 03 38 43.4 -0.9**
comp=Z,0.3nm,0.6s,baz=352,slow=2.0,SNR=2.0
H03N2 Juan Fernandez 118.33 109 T T 05 48 36.2
baz=317,slow=78,SNR=17
H03N1 Juan Fernandez 118.34 109 T T 05 48 54.3
baz=317,slow=78,SNR=18
H03N3 Juan Fernandez 118.34 109 T T 05 48 47.5
baz=317,slow=78,SNR=18
H03S2 Juan Fernandez 118.61 109 T T 05 48 34.6
SNR=17
H03S3 Juan Fernandez 118.61 109 T T 05 48 35.5
SNR=15
H03S1 Juan Fernandez 118.63 109 T T 05 48 35.9
SNR=14
CPUP Villa Florida 126.59 87 PKP **PKPdf 03 39 04.0 -1.2**
comp=Z,1.0nm,0.6s,baz=166,slow=6.9,SNR=3.6
QSPA South Pole Qui 141.31 180 PKhKP PKPpre 03 39 23.7
comp=Z,1.9nm,0.7s,baz=286,slow=1.4,SNR=8.2
MATP Matopo 144.29 322 *i* P PKPbc 03 39 37.5 +0.8
MATP Matopo 144.29 322 *i* P PKPbc 03 39 37.5 +0.8
MSNA Messina 145.41 318 *i* P **PKPbc 03 39 40.7 +0.6**
MSNA Messina 145.41 318 *i* P **PKPbc 03 39 40.7 +0.6**
TSUM Tsumeb 146.45 340 PKPbc **PKPdf 03 39 42.4 +0.3**
CNG Changalane 147.90 312 *i* P **PKPbc 03 39 46.7 -0.4**
CNG Changalane 147.90 312 *i* P **PKPbc 03 39 46.7 -0.4**
LBTB Lobatse 149.56 323 PKP2 **PKPbc 03 39 51.5 -0.1**
LBTB Lobatse 149.56 323 PKPbc **PKPbc 03 39 51.5 -0.1**
LBTB Lobatse 149.56 323 *i* P **PKPdf 03 39 49.2 +2.2**
LBTB Lobatse 149.56 323 *i* P **PKPdf 03 39 49.2 +2.2**
BELA Belgrano 2 149.73 164 PKPbc **PKPbc 03 39 50.1 -0.2**
BELA PKPab **pPKPdf 03 39 55.2 +2.2**
BOSA Boshof 152.92 320 PKPbc **PKPbc 03 39 58.9 -0.4**
comp=Z,3.1nm,0.6s,baz=8,slow=1.7,SNR=15
BOSA Boshof 152.92 320 PKiKP **PKPbc 03 39 58.2 -1.1**
BOSA Boshof 152.92 320 PKPbc 03 39 58.2 -1.1
BOSA Boshof 152.92 320 *i* P **PKPdf 03 39 55.0 +2.9**
BOSA Boshof 152.92 320 *i* P **PKPdf 03 39 55.0 +2.9**
SYO Syowa Base 156.36 210 ||*e*X **PKPab 03 40 22.6 -1.3**

*IDC **13** 03:38:47.2±4.9, 13.°86S×167.°10E, h209km±47km, mb3.6/10,mb1 3.7/11,mb1mx3.5/40,mbtmp4.0/11, Error ellipse: s-maj=41.3km s-min=23.3km az=156.0*
ISC 13 03:38:46.1±0.9, **13.°8S**±0.°1×**167.°1E**±0.°2, **h200**km, **n14, σ0.°76/15, mb3.6/9, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.28**	**184**	P	**Pn**	**03 40 43.6**	**+0.4**
	0.3nm,0.3s,baz=78,slow=20,SNR=2.1						
CTA	**Charters Tower**	**20.90**	**250**	P	**P**	**03 43 13.3**	**0.0**
	2.7nm,0.7s,baz=91,slow=12,SNR=2.4						
STKA	**Stephens Creek**	**29.50**	**228**	P	**P**	**03 44 31.9**	**+0.1**
	2.9nm,0.5s,baz=49,slow=9.4,SNR=9.8						
WRA	**Warramunga Arr**	**31.91**	**254**	P	**P**	**03 44 52.5**	**-0.7**
	1.1nm,0.6s,baz=85,slow=9.2,SNR=21						
ASAR	**Alice Springs**	**32.88**	**248**	P	**P**	**03 45 00.8**	**-0.8**
	2.0nm,0.5s,baz=74,slow=9.4,SNR=45						
ASAR				PcP	**PcP**	**03 47 40.7**	**-0.7**
	0.4nm,0.5s,baz=76,slow=2.3,SNR=5.2						
FITZ	**Fitzroy Crossi**	**40.04**	**258**	P	**P**	**03 46 02.3**	**+0.2**
	1.4nm,0.9s,baz=63,slow=9.0,SNR=1.6						
SONM	**Songino Array**	**81.63**	**324**	P	**P**	**03 50 43.3**	**+1.3**
	0.3nm,0.4s,baz=144,slow=6.0,SNR=6.3						
ILAR	**Eielson Array**	**85.67**	**18**	P	**P**	**03 51 01.1**	**-0.8**
	0.5nm,0.7s,baz=236,slow=5.2,SNR=6.0						
MKAR	**Makanchi Array**	**96.40**	**316**	P	**P**	**03 51 53.8**	**+1.4**
	0.9nm,0.6s,baz=96,slow=6.5,SNR=13						
ZALV	**Zalesovo Beam**	**96.52**	**324**	P	**P**	**03 51 52.2**	**-0.5**
	0.5nm,0.4s,baz=132,slow=6.2,SNR=2.5						
YKA	**Yellowknife Ar**	**96.77**	**27**	P	**P**	**03 51 53.2**	**-0.5**
	0.2nm,0.7s,baz=254,slow=4.4,SNR=2.2						
ARCES	**ARCESS Array B**	**119.28**	**345**	PKP	**PKPdf**	**03 57 10.8**	**-0.1**
	1.0nm,0.5s,baz=63,slow=2.1,SNR=19						
FINES	**FINESS Array B**	**124.77**	**330**	PKP	**PKPdf**	**03 57 21.7**	**0.0**
	0.4nm,0.3s,baz=108,slow=1.8,SNR=11						
ESDC	**Sonseca Array**	**153.02**	**345**	PKPbc	**PKPbc**	**03 58 20.6**	**+0.4**
	0.4nm,0.8s,baz=6.3,slow=4.9,SNR=2.6						

*TUL **13** 03:43:47.4±1.3, 36.°61N±0.°02×97.°77W±0.°02, h7km±7km, ML3.4, mb_Lg3.2/90(NEIC), Error ellipse: s-maj=2.6km s-min=2.2km az=94.0*
*NEIC **13** 03:43:47.3±0.8, 36.°58N±0.°01×97.°77W±0.°02, h2km±7km, Error ellipse: s-maj=2.5km s-min=0.7km az=51.0*
*ANF **13** 03:43:48.1±1.4, 36.°60N×97.°79W, h6km±10km, ML3.9/8, Error ellipse: s-maj=4.7km s-min=4.1km az=6.0*
ISC 13 03:43:47.3±0.8, **36.°59N**±0.°03×**97.°80W**±0.°03, **h10**km, **n84, σ1s04/71, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.99**	**258**		**Pg**	**03 44 06.3**	**-0.1**
T35A	**Sooner Cattle**	**1.08**	**72**		**Pg**	**03 44 07.2**	**-0.8**
OKCFA	**Oklahoma City**	**1.21**	**166**		**Pb**	**03 44 09.9**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.22**	**166**	Pn	**Pn**	**03 44 10.1**	**-0.3**
FNO	**Franklin**	**1.37**	**166**		**Pn**	**03 44 12.7**	**+0.2**
W35A	**Tecumseh**	**1.62**	**152**		**Pn**	**03 44 16.5**	**+0.6**
TUL1	**Leonard**	**1.76**	**112**	Pn	**Pn**	**03 44 18.5**	**+0.8**
TUL1				lAmb_Lg		03 44 43.6	
	comp=Z,135nm,0.9s						
TUL1	**Leonard**	**1.76**	**112**	P	**Pn**	**03 44 18.6**	**+0.8**
	baz=294						
TUL1				S	**Sb**	**03 44 42.0**	**+0.3**
	baz=294						
R32A	**Long Quarter,**	**1.96**	**339**		**Pb**	**03 44 22.6**	**-0.6**
X34A	**Smith Ranch, M**	**1.99**	**181**		**Pb**	**03 44 23.1**	**-0.4**
WMOK	**Wichita Mounta**	**2.02**	**204**		**Pn**	**03 44 22.1**	**+0.7**
WMOK	**Wichita Mounta**	**2.02**	**204**	P	**Pn**	**03 44 22.5**	**+1.1**
	baz=24						
WMOK				S	**Sb**	**03 44 49.6**	**+0.4**
	baz=24						
KSU1	**Kansas State U**	**2.67**	**20**	Pn	**Pn**	**03 44 31.7**	**+1.3**
KSU1	**Kansas State U**	**2.67**	**20**	P	**Pb**	**03 44 36.7**	**+1.4**
	baz=200						
KSU1				S	**Sb**	**03 45 06.7**	**-1.4**
	baz=200						
CBKS	**Cedar Bluff**	**2.70**	**326**	Pn	**Pn**	**03 44 31.7**	**+0.9**
CBKS	**Cedar Bluff**	**2.70**	**326**	Sb	**Sg**	**03 45 12.6**	**-1.4**
	baz=144						
X37A	**Clayton**	**2.81**	**135**	Pn	**Pn**	**03 44 32.7**	**+0.4**
X37A				lAmb_Lg		03 45 23.3	
	comp=Z,72nm,0.8s						
HHAR	**Hobbs**	**3.13**	**95**	Pn	**Pn**	**03 44 37.7**	**+1.1**
Z35A	**Perchaven, San**	**3.29**	**172**		**Pn**	**03 44 39.9**	**+1.1**
W39A	**Magazine**	**3.54**	**112**	Pn	**Pn**	**03 44 42.8**	**+0.4**
W39A				lAmb_Lg		03 45 41.8	
	comp=Z,64nm,0.8s						
W39A	**Magazine**	**3.54**	**112**	Pb	**Pb**	**03 44 51.5**	**+1.4**
	baz=295						
W39A				Sb	**Sg**	**03 45 39.5**	**-1.6**
	baz=295						
AMTX	**Amarillo**	**3.59**	**243**	Pn	**Pn**	**03 44 43.9**	**+0.8**
AMTX	**Amarillo**	**3.59**	**243**	Pb	**Pb**	**03 44 52.5**	**+1.6**
	baz=61						
AMTX				Sb	**Sg**	**03 45 40.1**	**-2.5**
	baz=61						
S39A	**Bolivar**	**3.74**	**72**		**Pn**	**03 44 46.0**	**+1.0**
S39A				lAmb_Lg		03 45 46.1	
	comp=Z,56nm,0.8s						
U40A	**Yellville**	**3.99**	**92**	Pn	**Pn**	**03 44 49.1**	**+0.6**
U40A				lAmb_Lg		03 45 57.9	
	comp=Z,69nm,1.0s						
Z38A	**Mt. Pleasant**	**4.05**	**144**	Pn	**Pn**	**03 44 50.0**	**+0.7**
N33A	**J Bar K, Exete**	**4.15**	**4**	Pn	**Pn**	**03 44 50.9**	**+0.2**
ABTX	**Abilene, Hawle**	**4.24**	**202**	Pn	**Pn**	**03 44 52.7**	**+0.7**
ABTX				lAmb_Lg		03 46 02.1	
	comp=Z,41nm,1.1s						
MGMO	**Mountain Grove**	**4.47**	**81**		**Pn**	**03 44 56.3**	**+1.2**
MGMO				lAmb_Lg		03 46 09.5	
	comp=Z,53nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.52**	**304**	Pn	**Pn**	**03 44 57.3**	**+1.4**
KSCO				lAmb_Lg		03 46 22.0	
	comp=Z,42nm,0.8s						
P38A	**Dawn**	**4.53**	**47**	Pn	**Pn**	**03 44 56.4**	**+0.6**
P38A				lAmb_Lg		03 46 11.2	
	comp=Z,59nm,0.8s						
X40A	**Basin Creek Fa**	**4.56**	**116**	Pn	**Pn**	**03 44 57.8**	**+1.5**
X40A				lAmb_Lg		03 46 11.7	
	comp=Z,41nm,0.9s						
N35A	**Tabor**	**4.58**	**21**		**Pn**	**03 44 57.5**	**+0.9**
N35A				lAmb_Lg		03 46 22.5	
	comp=Z,70nm,0.8s						
WHTX	**Lake Whitney,**	**4.60**	**176**	Pn	**Pn**	**03 44 56.9**	**+0.1**
WHTX	**Lake Whitney,**	**4.60**	**176**	P	**Pn**	**03 44 57.7**	**+0.9**
	baz=357						
FCAR	**Ozark Folk Cen**	**4.64**	**97**	Pn	**Pn**	**03 44 58.9**	**+1.5**
WHAR	**Wooly Hollow**	**4.66**	**105**	Pn	**Pn**	**03 44 58.8**	**+1.2**
WHAR				lAmb_Lg		03 46 16.2	
	comp=Z,70nm,1.1s						
R40A	**Maddies Statio**	**4.71**	**67**		**Pn**	**03 44 58.9**	**+0.5**
R40A				lAmb_Lg		03 46 20.5	
	comp=Z,41nm,0.8s						
W41B	**Gary Mavity, V**	**4.72**	**106**	Pn	**Pn**	**03 44 59.8**	**+1.2**
W41B				lAmb_Lg		03 46 23.8	
	comp=Z,29nm,0.8s						
WLAR	**White Oak Lake**	**4.81**	**126**	Pn	**Pn**	**03 45 01.0**	**+1.2**
WLAR				lAmb_Lg		03 46 26.9	
	comp=Z,47nm,0.9s						
BGNE	**Belgrade**	**4.82**	**357**	Pn	**Pn**	**03 44 59.8**	**-0.1**
BGNE	**Belgrade**	**4.82**	**357**	P	**Pn**	**03 45 00.3**	**+0.4**
	baz=176						
MSTX	**Muleshoe**	**4.84**	**239**	Pn	**Pn**	**03 45 01.8**	**+1.6**
237A	**Washetta, Mont**	**4.87**	**160**	Pn	**Pn**	**03 45 01.6**	**+1.1**
237A				lAmb_Lg		03 46 30.5	
	comp=Z,32nm,0.9s						
Z41A	**Richland Creek**	**5.28**	**128**	lAmb_Lg		03 46 45.3	
	comp=Z,27nm,0.7s						
T25A	**Trinidad**	**5.33**	**278**	Pn	**Pn**	**03 45 08.0**	**+0.9**
T25A				lAmb_Lg		03 46 47.6	
	comp=Z,53nm,1.1s						
LCAR	**Lake Charles**	**5.39**	**94**	Pn	**Pn**	**03 45 08.4**	**+0.7**
LCAR				lAmb_Lg		03 46 41.3	
	comp=Z,33nm,0.9s						
P40A	**Paris**	**5.40**	**55**	Pn	**Pn**	**03 45 08.7**	**+0.8**
P40A				lAmb_Lg		03 46 42.0	
	comp=Z,50nm,0.8s						
CCM	**Cathedral Cave**	**5.42**	**72**	Pn	**Pn**	**03 45 08.6**	**+0.5**
CCM				lAmb_Lg		03 46 45.0	
	comp=Z,59nm,1.0s						
OGNE	**Ogallala**	**5.46**	**324**	Pn	**Pn**	**03 45 10.2**	**+1.4**
OGNE				lAmb_Lg		03 46 48.5	
	comp=Z,54nm,0.8s						
NATX	**Nacogdoches**	**5.48**	**151**	lAmb_Lg		03 46 49.9	
	comp=Z,24nm,0.7s						
N38A	**Joes South For**	**5.51**	**39**	Pn	**Pn**	**03 45 09.1**	**-0.2**
CCAR	**Cane Creek**	**5.61**	**117**	lAmb_Lg		03 46 52.8	
	comp=Z,32nm,1.0s						
HBAR	**Harrisburg**	**5.88**	**98**	lAmb_Lg		03 47 02.0	
	comp=Z,55nm,0.9s						
PBMO	**Poplar Bluff**	**5.92**	**86**	lAmb_Lg		03 47 09.3	
	comp=Z,27nm,0.8s						
FVM	**French Village**	**6.04**	**75**	Pn	**Pn**	**03 45 16.8**	**+0.2**
FVM				lAmb_Lg		03 46 57.7	
	comp=Z,34nm,0.7s						
K31A	**O'Neill**	**6.07**	**353**	Pn	**Pn**	**03 45 17.3**	**+0.3**
SDCO	**Great Sand Dun**	**6.26**	**283**		**Pn**	**03 45 20.7**	**+0.7**
SDCO	**Great Sand Dun**	**6.26**	**283**	P	**Pn**	**03 45 22.3**	**+2.4**
	baz=98						
Q24A	**Divide**	**6.29**	**294**	Pn	**Pn**	**03 45 22.1**	**+1.8**
Q24A				lAmb_Lg		03 47 23.4	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**6.32**	**196**	Pn	**Pn**	**03 45 21.5**	**+0.9**
JCT				lAmb_Lg		03 47 21.3	
	comp=Z,27nm,0.8s						
SLM	**Saint Louis**	**6.34**	**69**	lAmb_Lg		03 47 07.8	
	comp=Z,38nm,0.9s						
SCIA	**State Center**	**6.39**	**32**	lAmb_Lg		03 47 15.3	
	comp=Z,41nm,0.8s						
ISCO	**Idaho Springs**	**6.94**	**300**	Pn	**Pn**	**03 45 30.7**	**+1.4**
OXF	**Oxford**	**7.14**	**104**	lAmb_Lg		03 47 44.0	
	comp=Z,18nm,0.8s						
ECSD	**EROS Data Cent**	**7.19**	**7**	Pn	**Pn**	**03 45 31.8**	**-0.6**
Y45A	**Yeager Farm, C**	**7.28**	**110**	lAmb_Lg		03 47 48.7	
	comp=Z,16nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.33**	**69**	Pn	**Pn**	**03 45 35.4**	**+1.1**
L40A	**Anamosa**	**7.47**	**41**	Pn	**Pn**	**03 45 35.4**	**-0.9**
L40A				lAmb_Lg		03 47 45.4	
	comp=Z,29nm,0.8s						
PHWY	**Pilot Hill**	**7.60**	**311**	lAmb_Lg		03 47 59.5	
	comp=Z,20nm,0.8s						
N23A	**Red Feather La**	**7.68**	**306**	Pn	**Pn**	**03 45 40.8**	**+1.4**
N23A				lAmb_Lg		03 48 01.5	
	comp=Z,31nm,0.8s						
HDIL	**Hopedale**	**7.75**	**57**	Pn	**Pn**	**03 45 40.7**	**+0.6**
Y22D	**IRIS PASSCAL I**	**7.87**	**254**	lAmb_Lg		03 48 10.1	
	comp=Z,21nm,0.8s						
SUSD	**Miller**	**7.89**	**354**	lAmb_Lg		03 48 06.0	
	comp=Z,24nm,0.9s						
WVT	**Waverly**	**8.05**	**90**	Pn	**Pn**	**03 45 45.3**	**+1.0**
O44A	**Mansfield**	**8.14**	**61**	lAmb_Lg		03 48 06.3	
	comp=Z,36nm,0.8s						
L42A	**Oliver, Polo**	**8.30**	**47**	Pn	**Pn**	**03 45 48.6**	**+1.0**
L42A				lAmb_Lg		03 48 15.1	
	comp=Z,33nm,0.8s						
JFWS	**Jewell Farm**	**8.58**	**40**	Pn	**Pn**	**03 45 51.1**	**-0.3**
JFWS				lAmb_Lg		03 48 25.7	
	comp=Z,29nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.76**	**216**	Pn	**Pn**	**03 45 54.7**	**+0.6**
RWWY	**Rawlins**	**8.91**	**308**	lAmb_Lg		03 48 38.6	
	comp=Z,20nm,1.0s						
M44A	**Midewin, Midew**	**8.97**	**55**	lAmb_Lg		03 48 31.2	
	comp=Z,29nm,1.1s						
K22A	**Casper**	**9.05**	**315**	lAmb_Lg		03 48 46.9	
	comp=Z,25nm,0.8s						
I40A	**Norwalk**	**9.12**	**35**	lAmb_Lg		03 48 52.3	
	comp=Z,22nm,1.1s						
I42A	**Draeger Farm,**	**9.96**	**40**	lAmb_Lg		03 49 15.8	
	comp=Z,15nm,1.0s						

*NSSP **13** 03:45:34.0, 41.°75N×46.°42E, h10km, Ms2.9*
*TIF **13** 03:45:35.7, 41.°70N×46.°58E, h20km*
*NORS **13** 03:45:36.4±0.0, 41.°60N×46.°51E, h16km, MPVA3.6*
*MOS **13** 03:45:36.4±0.0, 41.°60N×46.°47E, h20km, MPVA3.7*
*DRS **13** 03:45:37.9±0.0, 41.°63N×46.°44E, h14km*
ISC 13 03:45:37.1±1.0, **41.°62N**±0.°02×**46.°42E**±0.°02, **h16**km±9km, **n44, σ1s33/87, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.26**	**329**	P	**Pb**	**03 45 42.7**	**-0.8**
LGD				S	**Sb**	**03 45 47.2**	**-0.5**
DDFL	**Dedoflistskaro**	**0.28**	**233**	P	**Pn**	**03 45 45.4**	**-1.4**
DDFL				S	**Sn**	**03 45 55.0**	**+2.3**
KMKR	**Kumukh**	**0.72**	**44**	*e*Pg	**Pn**	**03 45 51.1**	**-1.8**
KMKR				*e*Sg	**Sn**	**03 46 01.8**	**-2.1**
DGRG	**David-gareji**	**0.80**	**259**	P	**Pn**	**03 45 53.6**	**-0.2**
DGRG				S	**Sn**	**03 46 07.4**	**+1.9**
GNBR	**Gunib**	**0.87**	**28**	*e*Pg	**Pn**	**03 45 55.3**	**+0.4**
GNBR				*e*Sg	**Sn**	**03 46 07.6**	**+0.3**
XNZR	**Khunzakh**	**0.95**	**13**	*e*Pg	**Pn**	**03 45 55.5**	**-0.5**
XNZR				*e*Sg	**Sn**	**03 46 09.0**	**-0.4**
AKT	**Akhty**	**0.99**	**97**	*e*Pg	**Pg**	**03 45 55.1**	**-1.3**
AKT				*e*Sg	**Sn**	**03 46 09.9**	**-0.5**
BTLR	**Botlikh**	**1.06**	**352**	*e*Pg	**Pg**	**03 45 57.2**	**-0.4**
BTLR				*e*Sg	**Sn**	**03 46 11.7**	**-0.2**
URKR	**Urkarakh**	**1.06**	**58**	*e*Pg	**Pn**	**03 45 57.4**	**-0.1**
URKR				*e*Sg	**Sn**	**03 46 12.4**	**+0.4**
ARKR	**Arakani**	**1.08**	**23**	*e*Pg	**Pg**	**03 45 57.2**	**-0.7**
ARKR				*e*Sg	**Sn**	**03 46 12.2**	**-0.1**
UNCR	**Uncukul**	**1.13**	**14**	*e*Pg	**Pg**	**03 45 59.0**	**0.0**
UNCR				*e*Sg	**Sn**	**03 46 15.3**	**+1.6**
BTNK	**Botanikuri**	**1.22**	**274**	P	**Pn**	**03 45 55.9**	**-3.6**
BTNK				S	**Sg**	**03 46 17.2**	**+0.8**
SEAG	**Tbilisi Sea**	**1.22**	**278**	P	**Pb**	**03 46 00.1**	**+0.3**
SEAG				S	**Sg**	**03 46 18.6**	**+2.0**
SGKR	**Sergokala**	**1.25**	**47**	*e*Pg	**Pg**	**03 46 01.9**	**+0.7**
SGKR				*e*Sg	**Sg**	**03 46 20.1**	**+2.5**
KRNR	**Karanay**	**1.26**	**17**	*e*Pg	**Pg**	**03 46 00.7**	**-0.9**
KRNR				*e*Sg	**Sg**	**03 46 18.4**	**+0.3**
BUJR	**Buynaksk**	**1.31**	**23**	*e*Pg	**Pg**	**03 46 02.3**	**-0.1**
BUJR				*e*Sg	**Sg**	**03 46 21.0**	**+1.5**
DBC	**Dubki**	**1.44**	**12**	*e*Pg	**Pg**	**03 46 04.1**	**-0.7**
DBC				*e*Sg	**Sg**	**03 46 24.3**	**+0.8**
DLMR	**Dylym**	**1.46**	**6**	*e*Pg	**Pg**	**03 46 05.1**	**-0.2**
DLMR				*e*Sg	**Sg**	**03 46 26.4**	**+2.1**
DRN	**Derbent**	**1.49**	**73**	*e*Pg	**Pg**	**03 46 04.2**	**-1.5**
DRN				*e*Sg	**Sg**	**03 46 25.0**	**-0.1**
MAK	**Makhachkala**	**1.57**	**31**	*e*Pg	**Pg**	**03 46 08.1**	**+0.8**
MAK				*e*Sg	**Sg**	**03 46 30.4**	**+2.7**
GROC	**Groznyy**	**1.65**	**344**	*e*Pg	**Pg**	**03 46 09.4**	**+0.5**
GROC				*e*Sg	**Sg**	**03 46 33.3**	**+2.9**
STE	**Stepanavan**	**1.66**	**249**	*i* P	**Pn**	**03 46 05.8**	**0.0**
STE				*i* S	**Sg**	**03 46 30.0**	**-0.7**
GUDG	**Gudauri**	**1.68**	**301**	P	**Pb**	**03 46 07.4**	**-0.4**
GUDG				S	**Sg**	**03 46 30.6**	**-0.6**
PNSH	**Pansheti**	**1.68**	**308**	P	**Pb**	**03 46 07.2**	**-0.7**
PNSH				S	**Sg**	**03 46 30.5**	**-1.0**
DMNI	**Dmanisi**	**1.70**	**261**	P	**Pn**	**03 46 06.3**	**0.0**
DMNI				S	**Sb**	**03 46 29.2**	**0.0**
TRLG	**Trialeti**	**1.74**	**268**	P	**Pn**	**03 46 07.5**	**+0.7**
TRLG				S	**Sb**	**03 46 31.0**	**+0.5**
KANR	**Karaman**	**1.77**	**26**	*e*Pg	Pg	03 46 17.3	+6.3
KANR				*e*Sg	**Sg**	**03 46 35.7**	**+1.6**
KAPZ	**Kaputan**	**1.83**	**226**	*i* P	**Pb**	**03 46 09.6**	**-0.8**
KAPZ				*i* S	**Sb**	**03 46 34.8**	**+1.6**
KMGR	**Komgaron**	**1.84**	**322**	*e*Pg	**Pb**	**03 46 10.8**	**+0.3**
KMGR				*e*Sg	**Sg**	**03 46 35.8**	**-0.7**
GNI	**Garni**	**1.94**	**222**	*i* P	**Pb**	**03 46 11.6**	**-0.6**
GNI				*i* S	**Sg**	**03 46 40.5**	**+0.9**
GNI	**Garni**	**1.94**	**222**	*e*Pg	**Pb**	**03 46 12.1**	**-0.1**
GNI				*e*Sg	**Sg**	**03 46 39.8**	**+0.2**
BRNG	**Burnasheti**	**1.94**	**271**	P	**Pb**	**03 46 11.2**	**-1.1**
BRNG				S	**Sb**	**03 46 37.5**	**+1.1**
LACR	**Lac**	**1.99**	**308**	*e*Pg	**Pb**	**03 46 12.8**	**-0.3**
LACR				*e*Sg	**Sb**	**03 46 38.1**	**+0.6**
NRKZ	**NAREK**	**2.09**	**220**	*i* P	**Pb**	**03 46 15.3**	**+0.5**
NRKZ				*i* S	**Sg**	**03 46 46.5**	**+2.0**
ZEI	**Tsey**	**2.21**	**303**	*e*Pn	**Pb**	**03 46 15.5**	**-1.3**
ZEI				*e*Sn	**Sb**	**03 46 44.5**	**+0.5**
BTKR	**Batakoyurt**	**2.24**	**322**	*e*Pn	**Pg**	**03 46 19.1**	**-1.0**
BTKR				*e*Sn	**Sb**	**03 46 46.5**	**+1.8**
KORR	**Kora**	**2.28**	**311**	*e*Pn	**Pg**	**03 46 19.4**	**-1.5**
KORR				*e*Sn	**Sg**	**03 46 48.7**	**-1.8**
DIGR	**Digorskoe uzhe**	**2.47**	**302**	*e*Pn	**Pb**	**03 46 20.5**	**-0.7**
DIGR				*e*Sn	**Sb**	**03 46 51.5**	**+0.1**
STDR	**Stavd-Durt**	**2.47**	**316**	*e*Pn	**Pg**	**03 46 26.7**	**+2.2**
STDR				*e*Sn	**Sg**	**03 46 53.9**	**-2.7**
VNNZ	**Vanand**	**2.48**	**233**	*i* P	**Pn**	**03 46 20.6**	**-0.8**
VNNZ				*i* S	**Sg**	**03 46 55.4**	**-1.5**
ABS	**Abastumani**	**2.70**	**274**	P	**Pn**	**03 46 21.4**	**+1.2**
ABS				S	**Sb**	**03 47 00.2**	**+2.0**
KBTC	**Kuba-Taba**	**3.12**	**316**	*e*Pn	**Pn**	**03 46 27.0**	**+1.2**
KBTC				*e*Sn	**Sn**	**03 47 02.7**	**-0.1**
SHA1	**Shidzhatmaz**	**3.49**	**309**	*e*Pn	**Pb**	**03 46 37.8**	**-0.9**
SHA1				*e*Sn	**Sn**	**03 47 13.3**	**+1.2**
KIV	**Kislovodsk**	**3.61**	**312**	*e*Pn	**Pb**	**03 46 36.6**	**-4.0**
KIV				*e*Sn	**Sb**	**03 47 23.4**	**-0.8**

*SFS **13** 03:50:15.0, 35.°45N×3.°77W, h11km, ML2.5, ALBORAN SUR*
*CNRM **13** 03:50:15.5, 35.°52N×3.°85W, h21km, ml1.8*
*MDD **13** 03:50:16.7±0.5, 35.°41N×3.°73W, h9km±4km, mb_Lg2.2/11, Error ellipse: s-maj=4.6km s-min=2.5km az=161.0*
ISC 13 03:50:15.7±1.2, **35.°45N**±0.°02×**3.°80W**±0.°03, **h15**km±10km, **n31, σ1s52/56, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**206**	P	**Pb**	**03 50 22.4**	**+0.3**
PALE				S	**Sb**	**03 50 26.1**	**-0.3**
EMEL	**Melilla**	**0.71**	**102**	Pg	**Pb**	**03 50 29.3**	**-0.4**
EMEL				Sg	**Sg**	**03 50 38.3**	**-0.6**
EALB	**Alboran**	**0.79**	**52**	Pg	**Pb**	**03 50 31.1**	**-0.1**
EALB				Sg	**Sb**	**03 50 41.5**	**-0.2**
EALB				*i* Vmb_Lg		03 50 42.3	
TAF	**Taforalt**	**1.30**	**119**	P	**Pn**	**03 50 39.0**	**-0.4**
CHEFC	**Chefchaouen**	**1.30**	**255**	P	**Pn**	**03 50 40.3**	**+0.8**
SMIR	**Smir Dam**	**1.31**	**281**	P	**Pn**	**03 50 37.3**	**-2.1**
SMIR				S	**Sb**	**03 50 53.3**	**-3.3**
CEU	**Ceuta**	**1.35**	**290**	P

GSCK	**Great Sitkin C**	**1.48**	**296**			**Pn**	**03 55 44.3**	**-0.8**
GSTD	**Great Sitkin T**	**1.48**	**298**			**Pn**	**03 55 44.3**	**-1.0**
GSTD						**Sn**	**03 56 05.7**	**+2.2**
ADK	**Adak**	**1.73**	**288**			**Pn**	**03 55 47.8**	**-0.9**
ADK						**Sn**	**03 56 10.2**	**+0.6**
KIWB	**Kanaga Island**	**2.01**	**285**			**Pn**	**03 55 52.5**	**+0.1**
KIKV	**Kanaga Island**	**2.03**	**285**			**Pn**	**03 55 53.3**	**+0.6**
KIMD	**Kanaga Island**	**2.04**	**282**			**Pn**	**03 55 52.8**	**-0.1**
KICM	**Kanaga Island**	**2.05**	**286**			**Pn**	**03 55 52.9**	**-0.1**
TAPA	**Tanaga Point A**	**2.41**	**282**			**Pn**	**03 55 58.3**	**+0.3**
TAFP	**Tanaga Falls P**	**2.52**	**283**			**Pn**	**03 56 00.4**	**+0.8**
TAFP						**Sn**	**03 56 30.9**	**+1.8**
TASE	**Tanaga Southea**	**2.55**	**282**			**Pn**	**03 56 00.8**	**+1.0**
GALAA	**Gareloi Lava P**	**2.99**	**279**			**Pn**	**03 56 06.7**	**+0.7**
NIKH	**Nikolski High**	**3.55**	**61**	Pn		**Pn**	**03 56 14.4**	**+0.8**
MSW	**Makushin Switc**	**5.08**	**57**			**Pn**	**03 56 37.0**	**+2.4**
UNV	**Unalaska Valle**	**5.20**	**59**	Pn		**Pn**	**03 56 37.0**	**+0.8**
SPIA	**Saint Paul Isl**	**6.20**	**19**			**Pn**	**03 56 52.3**	**+2.3**
FALS	**False Pass**	**7.26**	**57**	Pn		**Pn**	**03 57 05.1**	**+0.6**
SHEM	**Shemya Is, Ala**	**7.45**	**285**	LR		LR	04 00 07.1	
	comp=Z,463nm,20.1s,baz=83,slow=38							
KDAK	**Kodiak Island**	**13.94**	**54**	P		**Pn**	**03 58 32.4**	**-3.4**
	0.4nm,0.3s,baz=350,slow=14,SNR=2.1							
KDAK	**Kodiak Island**	**13.94**	**54**			**Pn**	**03 58 34.1**	**-1.8**
ANM	**Nome**	**13.96**	**16**	Pn		**Pn**	**03 58 35.5**	**-0.7**
TNA	**Tin City**	**14.55**	**10**	Pn		**Pn**	**03 58 45.0**	**+0.8**
M19K	**Big River Lodg**	**15.01**	**38**	P		**P**	**03 58 56.5**	**+1.2**
M19K				IAmb		IAmb	03 59 08.4	
	comp=Z,22nm,1.5s							
TTA	**Tatalina**	**15.06**	**33**	Pn		**Pn**	**03 58 50.4**	**-0.7**
K20K	**Telida**	**16.01**	**34**	Pn		**Pn**	**03 59 03.5**	**+0.2**
K20K				IAmb		IAmb	03 59 28.4	
	comp=Z,12nm,0.9s							
SEW	**Seward**	**16.26**	**48**	Pn		**Pn**	**03 59 06.5**	**+0.1**
SEW				IAmb		IAmb	03 59 25.5	
	comp=Z,21nm,1.1s							
J20K	**Nowinta River**	**16.52**	**32**	Pn		**Pn**	**03 59 08.7**	**-1.1**
J20K				IAmb		IAmb	03 59 28.3	
	comp=Z,22nm,1.5s							
CAST	**Castle Rocks**	**16.76**	**36**	Pn		**Pn**	**03 59 11.5**	**-1.3**
KTH	**Kantishna Hill**	**17.27**	**36**	Pn		**Pn**	**03 59 18.4**	**-0.7**
KTH				IAmb		IAmb	03 59 38.0	
	comp=Z,18nm,1.0s							
PETK	**Petropavlovsk-**	**17.36**	**287**	P		**Pn**	**03 59 20.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=80,slow=17,SNR=11							
PETK				LR		LR	04 05 19.4	
	comp=Z,125nm,21.3s,baz=84,slow=34							
BPAW	**Bear Paw Mtn.**	**17.56**	**35**	Pn		**Pn**	**03 59 21.5**	**-1.2**
BPAW				IAmb		IAmb	03 59 31.7	
	comp=Z,15nm,1.0s							
RDOG	**Red Dog Mine**	**17.58**	**14**			**P**	**03 59 26.6**	**+2.9**
I21K	**Tanana**	**17.88**	**31**			**P**	**03 59 26.7**	**-0.4**
SCM	**Sheep Creek Mo**	**17.89**	**44**	Pn		**Pn**	**03 59 24.7**	**-2.1**
SCM				IAmb		IAmb	03 59 41.6	
	comp=Z,11nm,0.8s							
RND	**Reindeer**	**17.97**	**38**			**P**	**03 59 28.5**	**+0.3**
MCK	**McKinley**	**18.11**	**37**			**P**	**03 59 29.5**	**-0.1**
MCK				IAmb		IAmb	03 59 46.7	
	comp=Z,18nm,1.3s							
MLY	**Manley**	**18.20**	**32**	P		**P**	**03 59 32.5**	**+1.9**
MLY				IAmb		IAmb	03 59 48.0	
	comp=Z,15nm,1.2s							
NEA2	**Nenana**	**18.52**	**35**	P		**Pn**	**03 59 35.5**	**+0.9**
I23K	**Minto, Yukon-K**	**18.74**	**33**	IAmb		IAmb	03 59 50.6	
	comp=Z,11nm,0.8s							
WRH	**Wood River Hil**	**18.81**	**36**	P		**P**	**03 59 37.3**	**-0.1**
CCB	**Clear Creek Bu**	**19.01**	**36**	P		**P**	**03 59 38.1**	**-1.3**
MDM	**Murphy Dome**	**19.03**	**35**	IAmb		IAmb	04 00 06.0	
	comp=Z,19nm,1.4s							
TCOL	**CIGO, UAF Yank**	**19.11**	**35**	P		**Pn**	**03 59 40.9**	**-0.7**
TCOL				IAmb		IAmb	03 59 59.7	
	comp=Z,13nm,1.1s							
PAX	**Paxson**	**19.14**	**42**	P		**Pn**	**03 59 41.8**	**-0.3**
HDA	**Harding Lake**	**19.21**	**37**	IAmb		IAmb	04 00 04.2	
	comp=Z,10.0nm,0.9s							
BILL	**Bilibino**	**19.27**	**337**	P		**Pn**	**03 59 43.2**	**-0.2**
BILL				IAmb		IAmb	03 59 50.2	
	comp=Z,19nm,1.1s							
IL31		**19.41**	**36**	P		**P**	**03 59 44.0**	**+0.1**
ILAR	**Eielson Array**	**19.41**	**36**	P		**P**	**03 59 41.4**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=224,slow=8.9,SNR=40							
ILAR				LR		LR	04 06 41.8	
	comp=Z,131nm,20.5s,baz=105,slow=35							
H24K	**Noodor Dome**	**19.64**	**33**	IAmb		IAmb	04 00 09.2	
	comp=Z,10nm,0.8s							
RIDG	**Independent Ri**	**19.72**	**40**	IAmb		IAmb	04 00 10.8	
	comp=Z,7.7nm,0.6s							
J25K	**Salcha River,**	**19.90**	**37**	IAmb		IAmb	03 59 54.5	
	comp=Z,23nm,0.8s							
SCRK	**Sand Creek**	**20.16**	**40**	P		**P**	**03 59 51.0**	**-1.1**
SCRK				IAmb		IAmb	03 59 58.0	
	comp=Z,8.5nm,0.8s							
M27K	**Edge Creek, AK**	**20.47**	**45**	P		**P**	**03 59 55.0**	**-0.6**
TOLK	**Toolik Lake Re**	**20.91**	**25**	P		**P**	**04 00 00.2**	**+0.1**
TOLK				IAmb		IAmb	04 00 14.0	
	comp=Z,12nm,0.8s							
SEY	**Seymchan**	**21.29**	**316**	P		**P**	**04 00 04.3**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=95,slow=16,SNR=8.3							
MA2	**Magadan**	**21.35**	**306**	P		**P**	**04 00 04.9**	**+0.1**
	comp=Z,1.7nm,0.2s,baz=138,slow=23,SNR=2.5							
MA2				LR		LR	04 08 33.0	
	comp=Z,150nm,18.3s,baz=108,slow=37							
MA2	**Magadan**	**21.35**	**306**	P		**P**	**04 00 04.8**	**-0.1**
BMAR	**Burnt Mountain**	**21.63**	**31**	P		**P**	**04 00 08.8**	**+1.0**
DAWY	**Dawson**	**22.08**	**42**	P		**P**	**04 00 13.3**	**+0.6**
I29M	**Ogilvie Camp,**	**22.95**	**39**	IAmb		IAmb	04 00 47.1	
	comp=Z,16nm,1.2s							
INK	**Inuvik**	**25.76**	**34**	P		**P**	**04 00 47.0**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=243,slow=7.0,SNR=22							
INK	**Inuvik**	**25.76**	**34**	P		**P**	**04 00 47.3**	**-0.6**
INK				IAmb		IAmb	04 01 15.5	
	comp=Z,4.8nm,0.8s							
DLBC	**Dease Lake**	**25.85**	**57**	P		**P**	**04 00 48.9**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=254,slow=6.5,SNR=4.2							
DLBC				LR		LR	04 10 15.8	
	comp=Z,106nm,18.6s,baz=282,slow=35							
TIXI	**Tiksi**	**32.12**	**330**	P		**P**	**04 01 42.5**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=269,slow=23,SNR=5.5							
YKA	**Yellowknife Ar**	**33.04**	**47**	P		**P**	**04 01 51.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=269,slow=8.4,SNR=9.7							
YKA				PcP		**PcP**	**04 04 35.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=284,slow=2.9,SNR=5.0							
KLR	**Kul'dur**	**34.04**	**288**	P		**P**	**04 02 01.1**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=284,slow=6.7,SNR=28							
H11N2	**WAKE ISLAND Hy**	**34.98**	**213**	T		T	04 40 10.0	
	baz=21,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**34.99**	**212**	T		T	04 40 29.0	
	baz=21,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**35.00**	**213**	T		T	04 40 28.7	
	baz=21,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**36.18**	**212**	T		T	04 41 37.7	
	baz=20,slow=75,SNR=41							
H11S2	**WAKE ISLAND Hy**	**36.20**	**212**	T		T	04 41 38.1	
	baz=20,slow=75,SNR=48							
H11S3	**WAKE ISLAND Hy**	**36.20**	**212**	T		T	04 41 39.5	
	baz=20,slow=75,SNR=21							
USA0B	**Ussuriysk Arra**	**36.26**	**280**	P		**P**	**04 02 20.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**36.26**	**280**	P		**P**	**04 02 20.7**	**+0.1**
	comp=Z,9.0nm,0.5s,baz=55,slow=9.4,SNR=26							
MJAR	**Matsushiro Arr**	**36.76**	**265**	P		**P**	**04 02 25.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=44,slow=7.5,SNR=2.4							
RES	**Resolute Bay**	**38.48**	**25**	P		**P**	**04 02 38.2**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=284,slow=4.5,SNR=4.2							
BCYI	**Bear Canyon**	**40.24**	**76**	P		**P**	**04 02 55.2**	**+0.8**
CN2	**Changchun**	**40.47**	**284**	*e*P		**P**	**04 02 54.9**	**-1.2**
CN2				*e*S		**S**	**04 09 02.4**	**+0.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CN2				LR		LR		
	comp=N,200nm,18.0s							
CN2				LR		LR		
	comp=E,100nm,18.0s							
CN2				LR		LR		
	comp=Z,200nm,19.0s							
NVAR	**Mina Array Bea**	**40.57**	**86**	P		**P**	**04 02 57.5**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=283,slow=9.6,SNR=5.1							
NVAR	**Mina Array Bea**	**40.57**	**86**	P		**P**	**04 02 57.1**	**-0.1**
FFC	**Flin Flon**	**41.68**	**56**	P		**P**	**04 03 07.1**	**+1.3**
FFC				IAmb		IAmb	04 03 18.8	
	comp=Z,4.4nm,1.1s							
KSRS	**Korea Array**	**42.63**	**274**	P		**P**	**04 03 14.7**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=51,slow=7.3,SNR=6.4							
PRN	**Pahroc Range**	**43.23**	**85**	P		**P**	**04 03 19.6**	**+0.8**
PRN				IAmb		IAmb	04 03 37.1	
	comp=Z,7.0nm,0.8s							
PD31	**Pinedale Array**	**43.43**	**75**	P		**P**	**04 03 21.0**	**+0.5**
PD31				IAmb		IAmb	04 03 38.5	
	comp=Z,7.2nm,1.4s							
PDAR	**Pinedale Array**	**43.43**	**75**	P		**P**	**04 03 20.9**	**+0.3**
	comp=Z,1.8nm,1.1s,baz=320,slow=3.2,SNR=7.5							
SRU	**San Rafael Swe**	**44.99**	**80**	P		**P**	**04 03 32.7**	**-0.3**
SRU				IAmb		IAmb	04 03 51.2	
	comp=Z,4.2nm,0.8s							
U15A	**North Rim**	**45.56**	**84**	P		**P**	**04 03 37.5**	**-0.2**
U15A				IAmb		IAmb	04 03 55.4	
	comp=Z,5.0nm,0.9s							
PV11	**David Mesa, Pa**	**46.51**	**80**	P		**P**	**04 03 45.2**	**+0.2**
AGMN	**Agassiz Nation**	**48.24**	**61**	P		**P**	**04 03 58.5**	**+0.4**
SONM	**Songino Array**	**49.29**	**299**	P		**P**	**04 04 06.7**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=48,slow=8.0,SNR=27							
SONM	**Songino Array**	**49.29**	**299**	P		**P**	**04 04 06.2**	**-0.2**
SONM				IAmb		IAmb	04 04 07.3	
	comp=Z,1.9nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.55**	**289**	*e*P		**P**	**04 04 14.4**	**-1.5**
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,91nm,4.8s							
TXAR	**Lajitas Array**	**55.68**	**85**	P		**P**	**04 04 53.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=316,slow=5.2,SNR=5.0							
TXAR				pP		**sP**	**04 05 05.1**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=290,slow=4.8,SNR=9.1							
TXAR				ScP		**ScP**	**04 09 49.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=264,slow=3.6,SNR=4.2							
TXAR	**Lajitas Array**	**55.68**	**85**	P		**P**	**04 04 54.4**	**+0.6**
ZALV	**Zalesovo Beam**	**56.16**	**316**	PcP		**PcP**	**04 05 54.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=66,slow=4.9,SNR=3.0							
GTA	**Gaotai**	**58.32**	**295**	*e*P		**P**	**04 05 12.3**	**-0.1**
GTA				pP		pP	04 05 16.5	-5.0
GTA				sP		sP	04 05 19.8	-5.3
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.54**	**352**	P		**P**	**04 05 12.5**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=19,slow=6.5,SNR=8.6							
ARCES				pP		**sP**	**04 05 25.0**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=15,slow=5.3,SNR=2.0							
ARCES				PcP		**PcP**	**04 06 03.2**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=18,slow=5.1,SNR=6.6							
ARCES				pPcP			04 06 15.8	
	comp=Z,3.1nm,0.7s,baz=35,slow=4.4,SNR=4.9							
ARCES	**ARCESS Array B**	**58.54**	**352**	IAmb		IAmb	04 05 17.8	
	comp=Z,21nm,1.4s							
WMQ	**Urumqi**	**61.81**	**306**	*e*P		**P**	**04 05 39.0**	**+2.8**
WMQ				LR		LR		
	comp=Z,230nm,21.5s							
MKAR	**Makanchi Array**	**62.33**	**311**	P		**P**	**04 05 39.1**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=48,slow=5.4,SNR=19							
BVAR	**Borovoye Array**	**62.77**	**322**	P		**P**	**04 05 42.4**	**0.0**
	comp=Z,2.4nm,0.4s,baz=20,slow=4.6,SNR=17							
GOMU	**GeErMu**	**63.39**	**295**	P		P	04 05 42.0	-5.2
GOMU				pP		pP	04 05 45.3	-11
GOMU				sP		sP	04 05 49.8	-10
GOMU				S		**S**	**04 14 18.9**	**+1.3**
GOMU				pmax		pmax		
	comp=Z,3.0nm,0.6s							
GOMU				LR		LR		
	comp=N,130nm,7.6s							
GOMU				LR		LR		
	comp=E,75nm,8.7s							
GOMU				LR		LR		
	comp=Z,190nm,8.9s							
ARU	**Arti**	**64.12**	**331**	P		**P**	**04 05 50.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=82,slow=2.3,SNR=6.9							
ARU	**Arti**	**64.12**	**331**	IAmb		IAmb	04 05 51.9	
	comp=Z,3.1nm,0.7s							
PZH	**PanZhiHua**	**66.28**	**283**	P		**P**	**04 06 06.5**	**+0.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,90nm,6.2s							
FINES	**FINESS Array B**	**66.38**	**350**	P		**P**	**04 06 04.6**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=15,slow=7.9,SNR=11							
FINES				PcP		**PcP**	**04 06 35.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=56,slow=4.1,SNR=6.6							
NOA	**NORSAR Array B**	**67.84**	**357**	P		**P**	**04 06 14.1**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=275,slow=3.3,SNR=5.5							
AAL	**Aland**	**68.21**	**353**	*e*P		**P**	**04 06 16.7**	**-0.7**
BOOM	**Boomskoye usch**	**68.55**	**312**	P		**P**	**04 06 20.0**	**-0.1**
UPP	**Uppsala**	**68.71**	**354**	*e*P		**P**	**04 06 20.5**	**+0.1**
AAK	**Ala-Archa**	**69.11**	**313**	P		**P**	**04 06 24.2**	**+0.7**
VSU	**Vasula**	**69.20**	**349**	*e*P		**P**	**04 06 23.4**	**-0.2**
MTSE	**Matsula**	**69.30**	**350**	*e*P		**P**	**04 06 23.9**	**-0.3**
ABKAR	**Akbulak array**	**69.68**	**326**	P		**P**	**04 06 26.8**	**0.0**
VIKU	**Vikbolandet**	**70.12**	**354**	*e*P		**P**	**04 06 29.0**	**-0.2**
LSA	**Lhasa**	**70.23**	**293**	P		**P**	**04 06 32.2**	**+1.2**
KKAR	**Karatay Array**	**70.53**	**315**	P		**P**	**04 06 32.0**	**-0.1**
KSH	**Kashi**	**70.85**	**310**	P		**P**	**04 06 37.8**	**+3.6**
KSH				pP		pP	04 06 41.6	-1.9
KSH				sP		sP	04 06 43.5	-3.5
KSH				pmax		pmax		
	comp=Z,5.0nm,0.6s							
DEL	**Delary**	**72.31**	**355**	*e*P		**P**	**04 06 41.8**	**-0.7**
PABE	**Paberze**	**72.43**	**349**	*e*P		**P**	**04 06 43.0**	**-0.3**
SHL	**Shillong**	**72.90**	**290**	P		**P**	**04 06 47.5**	**+0.8**
GAR	**Garm**	**73.92**	**313**	P		**P**	**04 06 53.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.98**	**280**	P		**P**	**04 06 54.2**	**+1.2**
	comp=Z,5.5nm,0.3s,baz=24,slow=6.9,SNR=5.6							
CMAR				pP		**PcP**	**04 07 06.9**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=27,slow=7.2,SNR=2.0							
TAPN	**Taplejung**	**73.98**	**294**	*e*P		**P**	**04 06 54.2**	**+0.9**
GUN	**Gumba**	**74.60**	**295**	*e*P		**P**	**04 06 57.7**	**+0.8**
	comp=Z,20nm,0.5s							
JIRN	**Jiri**	**74.61**	**295**	*e*P		**P**	**04 06 58.0**	**+1.0**
	comp=Z,29nm,0.6s							
RAMN	**Ramite**	**74.92**	**294**	*e*P		**P**	**04 06 59.6**	**+0.9**
	comp=Z,19nm,0.5s							
KKN	**Kakani**	**75.03**	**296**	*e*P		**P**	**04 07 00.0**	**+0.8**
PKI	**Pulchoki**	**75.12**	**295**	*e*P		**P**	**04 07 00.6**	**+0.7**
PKIN	**Phulchoki**	**75.13**	**295**	*e*P		**P**	**04 07 00.5**	**+0.6**
GKN	**Gorkha**	**75.23**	**296**	*e*P		**P**	**04 07 01.0**	**+0.7**
DMN	**Daman**	**75.27**	**296**	*e*P		**P**	**04 07 01.4**	**+0.7**
DANN	**Dangsing**	**75.45**	**297**	*e*P		**P**	**04 07 02.5**	**+0.7**
	comp=Z,34nm,0.7s							
KOLN	**Koldanda**	**75.99**	**297**	*e*P		**P**	**04 07 05.2**	**+0.5**
PYUN	**Piuthan**	**76.07**	**298**	*e*P		**P**	**04 07 05.6**	**+0.4**
	comp=Z,19nm,0.7s							
AKASG	**Malin Array Be**	**76.39**	**345**	P		**P**	**04 07 05.4**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=17,slow=6.1,SNR=14							
AKASG	**Malin Array Be**	**76.39**	**345**	IAmb		IAmb	04 07 05.9	
	comp=Z,1.0nm,0.5s							
CLL	**Collm**	**77.51**	**355**	*e*P		**P**	**04 07 13.0**	**+0.4**
BRG	**Berggiesshubel**	**77.89**	**355**	*e*P		**P**	**04 07 14.4**	**-0.3**
BRG				Amp			04 07 16.7	
	comp=Z,3.6nm,0.6s							
CHVC	**Chvalec**	**78.04**	**353**	*e*P		**P**	**04 07 15.5**	**-0.2**
OSTC	**Ostas**	**78.06**	**353**	*e*P		**P**	**04 07 15.7**	**-0.1**
KBL	**Kabul**	**78.14**	**311**	P		**P**	**04 07 16.5**	**-0.2**
DPC	**Dobruska-Polom**	**78.26**	**353**	*e*P		**P**	**04 07 16.7**	**-0.2**
KRLC	**Kraliky**	**78.50**	**353**	*e*P		**P**	**04 07 17.5**	**-0.7**
NKC	**Novy Kostel**	**78.61**	**356**	*e*P		**P**	**04 07 19.1**	**+0.3**
MORC	**Moravsky Berou**	**78.73**	**352**	*e*P		**P**	**04 07 19.8**	**+0.3**
LANS	**Liptovska Anna**	**79.18**	**351**	*e*P		**P**	**04 07 23.1**	**+1.1**
CRVS	**Cervenica-Dubn**	**79.22**	**350**	*e*P		**P**	**04 07 23.0**	**+0.9**
VRAC	**Vranov**	**79.27**	**353**	*e*P		**P**	**04 07 22.5**	**+0.1**
KRUC	**Moravsky**	**79.53**	**353**	*e*P		**P**	**04 07 24.0**	**+0.2**
KHC	**Kasperske Hory**	**79.65**	**355**	*e*P		**P**	**04 07 24.7**	**+0.2**
GERES	**GERESS Array B**	**79.93**	**355**	P		**P**	**04 07 25.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=27,slow=6.3,SNR=11							
BURAR	**Bucovina Array**	**80.00**	**347**	P		**P**	**04 07 26.5**	**0.0**
BURAR				IAmb		IAmb	04 07 27.4	
	comp=Z,2.0nm,0.7s							
ZST	**Bratislava**	**80.34**	**352**	*e*P		**P**	**04 07 26.5**	**-1.7**
CONA	**Conrad Observa**	**80.70**	**353**	*e*P		**P**	**04 07 30.8**	**+0.5**
	comp=Z,1.7nm,0.5s							
SQTA	**Sankt Quirin**	**81.67**	**356**	*e*P		**P**	**04 07 36.1**	**+0.6**
	comp=Z,1.3nm,0.6s							
KBA	**Koelnbreinsper**	**81.71**	**355**	*e*P		**P**	**04 07 36.5**	**+0.7**
	comp=Z,5.0nm,0.6s							
OBKA	**Obir**	**82.20**	**354**	*e*P		**P**	**04 07 38.9**	**+0.6**
	comp=Z,1.1nm,0.4s							
WRA	**Warramunga Arr**	**84.17**	**228**	P		**P**	**04 07 48.1**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=33,slow=5.8,SNR=4.8							
WRA				pP		**sP**	**04 08 01.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=32,slow=5.6,SNR=3.5							
BRTR	**Keskin Array B**	**86.10**	**339**	P		**P**	**04 07 58.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=55,slow=2.0,SNR=5.4							
ASAR	**Alice Springs**	**87.59**	**226**	P		**P**	**04 08 05.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=28,slow=5.2,SNR=5.3							
ESDC	**Sonseca Array**	**88.90**	**8**	P		**P**	**04 08 10.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=346,slow=4.5,SNR=10							
ESDC	**Sonseca Array**	**88.90**	**8**	IAmb		IAmb	04 08 11.7	
	comp=Z,1.4nm,1.0s							
BOSA	**Boshof**	**153.04**	**320**	PKPbc		**PKiKP**	**04 15 14.9**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=3.5,slow=1.6,SNR=5.9							

IDC ***13*** *03:55:32.3±2.2, 36.65N×55.31E, h0km, mb2.8/1, mb1 3.6/4, mb1mx3. 1/53, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=28.8km s-min=13.2km az=50.0*
NNC ***13*** *03:55:36.5±0.9, 37.53N×55.21E, h0km, mb3.8, Error ellipse: s-maj=9.0km s-min=4.4km az=30.0*
TEH ***13*** *03:55:36.7, 37.15N×55.61E, h7km, ML3.4*
ISC 13 03:55:38.8±0.9**, 37.30N**±0.06×**55.60E**±0.03**, h15**km±7km**,**
n46,σ1s23/51**, 2C-3D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
IMND	**Minoodasht**	**0.16**	**254**	*e*Pg	**Pg**	**03 55 42.2**	**-0.7**
IMND				*e*Sg	**Sg**	**03 55 45.3**	**-0.3**
MRVT	**Maraveh tapeh**	**0.53**	**47**	*e*Pg	**Pb**	**03 55 50.8**	**+1.1**
BJRD	**Bojnurd**	**1.49**	**74**	*e*Pn	**Pb**	**03 56 07.2**	**+1.0**
IGLO	**Ghaloghah**	**1.63**	**241**	*e*		03 56 30.9	
	comp=Z,9μm,0.5s						
IGLO				*e*Pn	**Pn**	**03 56 06.3**	**-0.8**
SBZV	**Sabzevar**	**1.85**	**119**	*e*Pn	**Pn**	**03 56 10.6**	**+0.5**
ISFR	**Sfrayin**	**1.93**	**97**	*e*Pn	**Pn**	**03 56 13.0**	**+1.7**
ISFR				*e*		03 56 47.8	
	comp=Z,5μm,0.6s						
GEYT	**Alibeck**	**2.09**	**72**	Pn	**Pb**	**03 56 15.9**	**-0.5**
	comp=Z,6.6nm,0.3s,baz=243,slow=13,SNR=62						
GEYT				Sn	**Sg**	**03 56 46.8**	**+0.7**
	comp=Z,13nm,0.3s,baz=241,slow=44,SNR=4.8						
GYA0B	**ALIBECK ARRAY**	**2.09**	**72**	⇓Pn	**Pb**	**03 56 16.2**	**-0.2**
GYA0B				⇑Sn	**Sg**	**03 56 46.8**	**+0.8**
IANJ	**Anjilo**	**2.28**	**217**	*e*Pn	**Pn**	**03 56 16.5**	**+0.4**
IANJ				*e*		03 56 49.7	
	comp=Z,2μm,0.4s						
ISHM	**Shahmirzad**	**2.39**	**232**	*e*Pn	**Pn**	**03 56 18.8**	**+1.2**
ISHM				*e*		03 56 56.8	
	comp=Z,3μm,0.3s						
IAKL	**Akhelmad**	**2.62**	**105**	*e*Pn	**Pn**	**03 56 21.9**	**+1.1**
IAKL				*e*		03 56 32.9	
	comp=Z,704nm,0.3s						
IPRN	**Peran**	**2.83**	**249**	*e*Pn	**Pn**	**03 56 25.3**	**+1.8**
IPRN				*e*		03 57 12.1	
	comp=Z,4μm,0.4s						
IFIR	**Firoozkooh**	**2.83**	**235**	*e*Pn	**Pn**	**03 56 24.2**	**+0.5**
IFIR				*e*		03 56 30.0	
	comp=Z,916nm,0.3s						
ILAS	**Lasjerd**	**2.87**	**229**	*e*Pn	**Pn**	**03 56 24.3**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.71**	**341**		**Pn**	**04 19 41.3**	**-0.6**
KOFP	**Korovin Flat P**	**0.77**	**347**		**Pn**	**04 19 42.7**	**-0.1**
KOKL	**Mount Kliuchef**	**0.83**	**344**		**Pn**	**04 19 43.4**	**-0.2**
GSMY	**Great Sitkin M**	**1.48**	**291**		**Pn**	**04 19 51.6**	**-0.9**
GSTR	**Great Sitkin T**	**1.50**	**293**		**Pn**	**04 19 52.1**	**-0.6**
GSCK	**Great Sitkin C**	**1.53**	**289**		**Pn**	**04 19 52.3**	**-0.9**
GSTD	**Great Sitkin T**	**1.54**	**291**		**Pn**	**04 19 52.5**	**-0.9**
ADK	**Adak**	**1.81**	**282**	P	**Pn**	**04 19 56.3**	**-0.8**
ADK						04 20 20.7	
ADK	**Adak**	**1.81**	**282**		**Pn**	**04 19 56.3**	**-0.8**
ADK					**Sb**	**04 20 20.6**	**-1.4**
KIWB	**Kanaga Island**	**2.10**	**280**	Pn	**Pn**	**04 20 00.3**	**-0.7**
KIKV	**Kanaga Island**	**2.11**	**281**		**Pn**	**04 20 00.9**	**-0.3**
KICM	**Kanaga Island**	**2.13**	**282**		**Pn**	**04 20 01.6**	**+0.1**
KIMD	**Kanaga Island**	**2.14**	**278**		**Pn**	**04 20 00.7**	**-0.8**
TAPA	**Tanaga Point A**	**2.50**	**278**		**Pn**	**04 20 06.9**	**+0.4**
TAFP	**Tanaga Falls P**	**2.61**	**280**		**Pn**	**04 20 08.4**	**+0.3**
TAFP					**Sn**	**04 20 40.2**	**+1.1**
TASE	**Tanaga Southea**	**2.64**	**278**		**Pn**	**04 20 09.2**	**+0.7**
GALAA	**Gareloi Lava P**	**3.09**	**276**		**Pn**	**04 20 15.6**	**+1.0**
NIKH	**Nikolski High**	**3.38**	**63**		**Pn**	**04 20 19.3**	**+0.7**
NIKH	**Nikolski High**	**3.38**	**63**		**Sn**	**04 20 59.3**	**+1.4**
NIKH	**Nikolski High** baz=246,SNR=30	**3.38**	**63**	P	**Pn**	**04 20 18.3**	**-0.3**
OKSP	**Okmok Steeple**	**3.81**	**61**		**Pn**	**04 20 25.4**	**+0.9**
OKFG	**Magazine Ridge**	**4.08**	**60**		**Pn**	**04 20 29.6**	**+1.4**
MREP	**Makushin Rep't**	**4.88**	**59**		**Pn**	**04 20 40.6**	**+1.4**
MSW	**Makushin Switc**	**4.90**	**58**		**Pn**	**04 20 40.6**	**+1.1**
UNV	**Unalaska Valle**	**5.02**	**60**		**Pn**	**04 20 42.7**	**+1.6**
UNV	**Unalaska Valle**	**5.02**	**60**		**Sn**	**04 21 40.2**	**+1.9**
UNV	**Unalaska Valle** baz=245	**5.02**	**60**	P	**Pn**	**04 20 42.1**	**+1.0**
AKRB	**Akutan Reef Bi**	**5.38**	**58**		**Pn**	**04 20 47.1**	**+1.1**
AKUT	**Akutan**	**5.54**	**59**	Pn	**Pn**	**04 20 50.0**	**+1.9**
SPIA	**Saint Paul Isl**	**6.03**	**19**		**Pn**	**04 20 56.8**	**+1.8**
SPIA	**Saint Paul Isl** baz=202	**6.03**	**19**	P	**Pn**	**04 20 58.0**	**+3.0**
WECS	**Westdahl Cape**	**6.23**	**58**		**Pn**	**04 20 59.4**	**+1.6**
SSLS	**Shishaldin Sou**	**6.72**	**58**		**Pn**	**04 21 07.1**	**+2.6**
SSLN	**Shishaldin Nor**	**6.76**	**57**		**Pn**	**04 21 07.0**	**+1.9**
ISLZ	**Isanotski Laza**	**6.88**	**58**		**Pn**	**04 21 07.8**	**+1.2**
FALS	**False Pass**	**7.08**	**58**	Pn	**Pn**	**04 21 11.8**	**+2.4**
FALS	**False Pass** baz=246	**7.08**	**58**	P	**Pn**	**04 21 12.3**	**+2.9**
SHEM	**Shemya Is, Ala** comp=Z,9μm,21.9s,baz=102,slow=37	**7.53**	**284**	LR	LR	04 24 06.1	
SMY	**Shemya**	**7.53**	**284**	P	**Pn**	**04 21 17.1**	**+1.6**
SMY	**Shemya**	**7.53**	**284**		**Pn**	**04 21 17.1**	**+1.6**
SDPT	**Sand Point**	**8.84**	**59**	Pn	**Pn**	**04 21 33.7**	**+0.3**
SDPT	**Sand Point** baz=249	**8.84**	**59**	P	**Pn**	**04 21 33.3**	**-0.1**
CHGN	**Chignik**	**10.26**	**56**		**Pn**	**04 21 53.3**	**+0.3**
CHGN	**Chignik** baz=248	**10.26**	**56**	P	**Pn**	**04 21 53.5**	**+0.6**
GAMB	**Gambell**	**12.33**	**4**		**Pn**	**04 22 22.9**	**+1.7**
GAMB	**Gambell** baz=186,SNR=26	**12.33**	**4**	P	**Pn**	**04 22 24.3**	**+3.1**
SII	**Sitkinak Islan**	**12.58**	**59**	Pn	**Pn**	**04 22 25.1**	**+0.4**
SII	**Sitkinak Islan** baz=254	**12.58**	**59**	P	**Pn**	**04 22 24.0**	**-0.6**
P18K	**Big Mountain,**	**13.13**	**46**		**Pn**	**04 22 33.5**	**+1.4**
P18K	**Big Mountain,** baz=241	**13.13**	**46**	P	**Pn**	**04 22 34.6**	**+2.5**
OHAK	**Old Harbor**	**13.23**	**56**	Pn	**Pn**	**04 22 31.6**	**-1.9**
OHAK	**Old Harbor** baz=253	**13.23**	**56**	P	**Pn**	**04 22 31.2**	**-2.3**
KDAK	**Kodiak Island** 2.9nm,0.3s,baz=200,slow=3.8,SNR=21	**13.76**	**55**	P	**Pn**	**04 22 37.2**	**-3.6**
KDAK	**Kodiak Island**	**13.76**	**55**	P	**Pn**	**04 22 40.0**	**-0.8**
KDAK	**Kodiak Island**	**13.76**	**55**	Pn	**Pn**	**04 22 40.0**	**-0.8**
KDAK	**Kodiak Island** baz=252	**13.76**	**55**	P	**Pn**	**04 22 38.3**	**-2.5**
ANM	**Nome**	**13.80**	**15**	P	**Pn**	**04 22 43.3**	**+2.1**
ANM	**Nome**	**13.80**	**15**		**Pn**	**04 22 43.3**	**+2.1**
ANM	**Nome** baz=203,SNR=60	**13.80**	**15**	P	**Pn**	**04 22 43.7**	**+2.6**
SVW2	**Sparrevohn**	**13.89**	**39**		**Pn**	**04 22 44.2**	**+1.7**
O19K	**Port Alsworth**	**13.93**	**44**	Pn	**Pn**	**04 22 43.5**	**+0.5**
P19K	**Oil Pt** baz=244	**14.15**	**47**	P	**P**	**04 22 53.7**	**+0.2**
N19K	**Bonanza Creek** baz=237,SNR=22	**14.18**	**42**	P	**Pn**	**04 22 48.5**	**+2.0**
TNA	**Tin City**	**14.40**	**10**	Pn	**Pn**	**04 22 50.4**	**+1.0**
TNA	**Tin City** baz=195,SNR=28	**14.40**	**10**	P	**Pn**	**04 22 51.6**	**+2.3**
O20K	**Slope Mountain** baz=243	**14.62**	**46**	P	**P**	**04 22 55.7**	**-3.0**
L19K	**White Mountain** baz=232,SNR=27	**14.82**	**37**	P	**P**	**04 22 59.0**	**-1.8**
M19K	**Big River Lodg** baz=234	**14.82**	**38**	P	**P**	**04 22 58.7**	**-2.2**
TTA	**Tatalina**	**14.88**	**33**	P	**Pn**	**04 22 57.0**	**+0.9**
TTA	**Tatalina**	**14.88**	**33**	Pn	**Pn**	**04 22 57.0**	**+0.9**
TTA	**Tatalina** baz=228,SNR=46	**14.88**	**33**	P	**Pn**	**04 22 58.5**	**+2.4**
HOM	**Homer** baz=246	**14.89**	**48**	P	**P**	**04 23 00.6**	**-1.0**
CNPM	**China Poot** comp=Z,128nm,1.0s	**15.03**	**49**	IAmb	IAmb	04 23 19.5	
BRLK	**Bradley Lake** comp=Z,160nm,1.4s	**15.28**	**48**	IAmb	IAmb	04 23 24.2	
BRSE	**Bradley Lake S** baz=248,SNR=8.8	**15.34**	**49**	P	**Pn**	**04 23 02.7**	**+0.6**
L20K	**Farewell, AK** baz=233,SNR=15	**15.36**	**37**	P	**P**	**04 23 05.6**	**-1.2**
CAPN	**Captain Cook N** comp=Z,258nm,1.3s	**15.58**	**45**	IAmb	IAmb	04 23 39.1	
CAPN	**Captain Cook N** baz=244	**15.58**	**45**	P	**P**	**04 23 07.5**	**-1.7**
K20K	**Telida** comp=Z,194nm,1.2s	**15.83**	**34**	IAmb	IAmb	04 23 28.9	
K20K	**Telida** baz=231	**15.83**	**34**	P	**P**	**04 23 10.8**	**-1.3**
GCSA	**Galena City Sc** baz=222,SNR=14	**15.91**	**27**	P	**P**	**04 23 12.2**	**-0.6**
SEW	**Seward**	**16.08**	**48**	Pn	**Pn**	**04 23 10.8**	**-0.8**
SEW	**Seward** baz=248,SNR=8.3	**16.08**	**48**	P	**Pn**	**04 23 09.0**	**-2.6**
O22K	**Cooper Landing** comp=Z,196nm,0.5s	**16.10**	**47**	IAmb	IAmb	04 23 38.7	
O22K	**Cooper Landing** baz=247,SNR=10	**16.10**	**47**	P	**Pn**	**04 23 12.3**	**+0.5**
FIS	**Fire Island** comp=Z,210nm,1.2s	**16.15**	**44**	IAmb	IAmb	04 23 41.5	
PPLA	**Purkeypile** baz=235,SNR=13	**16.24**	**37**	P	**P**	**04 23 16.2**	**-0.5**
J20K	**Nowinta River** baz=228,SNR=36	**16.34**	**32**	P	**P**	**04 23 17.6**	**-0.1**
RC01	**Rabbit Creek A** baz=245,SNR=5.9	**16.34**	**45**	P	**Pn**	**04 23 14.5**	**-0.4**
M22K	**Willow** comp=Z,226nm,1.4s	**16.47**	**42**	IAmb	IAmb	04 23 45.2	
M22K	**Willow** baz=242	**16.47**	**42**	P	**P**	**04 23 18.2**	**-0.9**
CAST	**Castle Rocks** baz=234,SNR=28	**16.58**	**36**	P	**P**	**04 23 20.3**	**-0.1**
CUT	**Chulitna** baz=240	**16.73**	**40**	P	**P**	**04 23 21.2**	**-0.7**
CHUM	**Lake Minchumin** baz=232,SNR=21	**16.77**	**34**	P	**P**	**04 23 23.7**	**+1.3**
PMR	**Palmer**	**16.82**	**44**	P	**Pn**	**04 23 21.1**	**+0.1**
PMR	comp=Z,56nm,1.4s			pmax	pmax		
PMR	**Palmer**	**16.82**	**44**	Pn	**Pn**	**04 23 21.1**	**+0.1**
PMR	**Palmer** baz=244	**16.82**	**44**	P	**Pn**	**04 23 21.0**	**+0.1**
PET	**Petropavlovsk**	**16.87**	**286**	*ce*P	**Pn**	**04 23 21.2**	**-0.5**
PET				*e*S	**Sn**	**04 26 25.8**	**-2.5**
PET	comp=Z,1μm,11.8s			pmax	pmax		
PET	comp=Z,1μm,8.1s			pmax	pmax		
PET	comp=Z,43nm,1.1s			pmax	pmax		
PET	comp=Z,4μm,18.0s			MLR	MLR		
PET	comp=Z,3μm,17.0s			MLR	MLR		
PWL	**Port Wells** baz=248,SNR=14	**16.88**	**47**	P	**Pn**	**04 23 19.6**	**-2.2**
KNK	**Knik Glacier** baz=246,SNR=17	**17.04**	**45**	P	**Pn**	**04 23 22.5**	**-1.2**
SML	**Sawmill**	**17.26**	**44**	P	**Pn**	**04 23 25.6**	**-0.9**
	baz=245						
TRF	**Thorofare Moun** baz=237,SNR=8.3	**17.26**	**37**	P	**P**	**04 23 27.5**	**-0.6**
BPAW	**Bear Paw Mtn.** baz=234,SNR=47	**17.37**	**35**	P	**P**	**04 23 29.6**	**+0.4**
PEA0B	**Petropavlovsk-** PEA0B comp=Z,47nm,0.8s	**17.44**	**286**	P pmax	**Pn** pmax	**04 23 26.5**	**-2.2**
PEA0B	**Petropavlovsk-**	**17.44**	**286**	Pn	**Pn**	**04 23 26.5**	**-2.2**
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.3s,baz=100,slow=14,SNR=32	**17.44**	**286**	P	**Pn**	**04 23 28.0**	**-0.8**
PETK	comp=Z,3μm,21.7s,baz=93,slow=35			LR	LR	04 29 42.7	
PETK	**Petropavlovsk-**	**17.44**	**286**	P	**Pn**	**04 23 28.0**	**-0.8**
PETK	**Petropavlovsk-**	**17.44**	**286**	Pn	**Pn**	**04 23 25.7**	**-3.0**
I21K	**Tanana** baz=230	**17.70**	**31**	P	**P**	**04 23 33.1**	**+0.4**
SCM	**Sheep Creek Mo** baz=246,SNR=21	**17.70**	**44**	P	**Pn**	**04 23 31.4**	**-0.7**
H21K	**Melozitna Rive** baz=227,SNR=28	**17.76**	**29**	P	**P**	**04 23 34.0**	**+0.6**
WAT6	**Susitna Watana** baz=244	**17.84**	**42**	P	**Pn**	**04 23 32.7**	**-1.2**
MCK	**McKinley** baz=238,SNR=34	**17.93**	**37**	P	**Pn**	**04 23 34.1**	**-0.7**
BWN	**Browne** comp=Z,157nm,0.9s	**17.96**	**36**	IAmb	IAmb	04 23 53.9	
EYAK	**Cordova Ski Ar** baz=252	**17.97**	**49**	P	**Pn**	**04 23 35.2**	**0.0**
MLY	**Manley**	**18.02**	**33**	P	**P**	**04 23 36.5**	**+0.2**
MLY	**Manley** baz=232,SNR=122	**18.02**	**33**	P	**P**	**04 23 36.6**	**+0.4**
KLU	**Klutina** baz=249,SNR=15	**18.20**	**46**	P	**Pn**	**04 23 37.3**	**-0.8**
DHY	**Denali Highway** baz=243,SNR=15	**18.22**	**40**	P	**Pn**	**04 23 37.2**	**-1.3**
M24K	**Toisona, Glenn** baz=247,SNR=17	**18.31**	**44**	P	**Pn**	**04 23 38.5**	**-1.0**
NEA2	**Nenana** baz=236,SNR=23	**18.34**	**35**	P	**P**	**04 23 38.6**	**-1.2**
KAIM	**Kayak Island** comp=Z,127nm,0.7s	**18.43**	**51**	IAmb	IAmb	04 23 59.4	
KAIM	**Kayak Island** baz=256	**18.43**	**51**	P	**Pn**	**04 23 42.4**	**+1.4**
I23K	**Minto, Yukon-K** comp=Z,543nm,1.5s	**18.56**	**33**	IAmb	IAmb	04 23 58.4	
I23K	**Minto, Yukon-K** baz=234	**18.56**	**33**	P	**Pn**	**04 23 42.5**	**+0.1**
HMT	**Hamilton** comp=Z,211nm,1.3s	**18.61**	**50**	IAmb	IAmb	04 24 09.5	
BMRM	**Bremner River** baz=252	**18.63**	**48**	P	**P**	**04 23 42.2**	**-0.8**
WRH	**Wood River Hil**	**18.63**	**36**	P	**P**	**04 23 42.1**	**-0.8**
SUCK	**Suckling Hills** comp=Z,256nm,1.3s	**18.78**	**51**	IAmb	IAmb	04 24 04.0	
N25K	**Chitina, Valde** baz=251,SNR=15	**18.83**	**46**	P	**P**	**04 23 44.4**	**-0.9**
SKR	**Severo-Kuril's**	**18.84**	**279**	*e*P *e*	**P**	**04 23 44.6**	**-0.6**
SKR	comp=Z,600nm,5.1s			pmax	pmax	04 27 12.3	
SKR	comp=Z,300nm,4.9s			pmax	pmax		
SKR	comp=Z,68nm,1.0s			pmax	pmax		
SKR	comp=Z,2μm,17.0s			MLR	MLR		
SKR	comp=Z,2μm,17.0s			MLR	MLR		
BERG	**Berg Lake** comp=Z,138nm,1.0s	**18.90**	**50**	IAmb	IAmb	04 24 05.9	
H23K	**Yukon River** baz=232,SNR=41	**18.90**	**32**	P	**Pn**	**04 23 46.7**	**+0.1**
TCOL	**CIGO, UAF Yank** baz=237	**18.93**	**35**	P	**P**	**04 23 45.8**	**-0.4**
COLA	**College**	**18.93**	**35**	*ce*P	**P**	**04 23 45.1**	**-1.1**
COLA	comp=Z,25nm,1.2s			pmax	pmax		
COLA	**College**	**18.93**	**35**	P	**P**	**04 23 45.4**	**-0.8**
PAX	**Paxson** baz=246,SNR=15	**18.95**	**42**	P	**P**	**04 23 46.6**	**0.0**
HDA	**Harding Lake** baz=240,SNR=92	**19.02**	**37**	P	**P**	**04 23 45.9**	**-1.4**
BILL	**Bilibino**	**19.18**	**337**	*d iP*	**Pn**	**04 23 49.6**	**-0.4**
BILL	comp=Z,128nm,1.7s			pmax	pmax		
BILL	comp=Z,3μm,19.0s			MLR	MLR		
BILL	**Bilibino**	**19.18**	**337**		**Pn**	**04 23 49.9**	**-0.1**
BILL	comp=Z,271nm,1.4s			IAmb	IAmb	04 23 57.9	
POKR	**Poker Plat Res** baz=237,SNR=6.5	**19.21**	**35**	P	**P**	**04 23 48.4**	**-0.9**
ILAR	**Eielson Array** comp=Z,11nm,0.3s,baz=235,slow=8.8,SNR=130	**19.23**	**36**	P	**P**	**04 23 48.2**	**-1.3**
ILAR	comp=Z,0.0nm,0.3s,baz=315,slow=4.6,SNR=4.2			ScP LR	**ScP** LR	**04 31 43.4** 04 31 57.2	**-2.4**
SNH	**Sunshine Point** comp=Z,211nm,1.0s	**19.27**	**51**	IAmb	IAmb	04 24 07.9	
H24K	**Noodor Dome** comp=Z,174nm,1.0s	**19.46**	**33**	IAmb	IAmb	04 24 07.3	
H24K	**Noodor Dome** baz=235	**19.46**	**33**	P	**P**	**04 23 51.6**	**-0.5**
MCARA	**McCarthy VSAT** baz=253,SNR=5.6	**19.48**	**48**	P	**P**	**04 23 51.4**	**-0.9**
RIDG	**Independent Ri** baz=245,SNR=48	**19.53**	**40**	P	**P**	**04 23 51.3**	**-1.5**
COLD	**Coldfoot**	**19.60**	**28**	P	**P**	**04 23 53.8**	**+0.3**
COLD	**Coldfoot** baz=228,SNR=24	**19.60**	**28**	P	**Pn**	**04 23 55.2**	**+0.2**
MENT	**Mentasta**	**19.68**	**43**	P	**P**	**04 23 54.8**	**+0.4**
J25K	**Salcha River,** J25K comp=Z,234nm,0.8s	**19.72**	**37**	P IAmb	**P** IAmb	**04 23 53.6** 04 24 08.8	**-1.3**
J25K	**Salcha River,** baz=242,SNR=196	**19.72**	**37**	P	**P**	**04 23 52.9**	**-2.1**
DOT	**Dot Lake**	**19.81**	**41**	P	**P**	**04 23 55.0**	**-0.9**
L26K	**Log Cabin Wild** baz=249,SNR=18	**19.87**	**43**	P	**P**	**04 23 55.2**	**-1.3**
GRNC	**Granite Creek** comp=Z,162nm,1.0s	**19.91**	**50**	IAmb	IAmb	04 24 17.0	
SCRK	**Sand Creek**	**19.98**	**40**	P	**P**	**04 23 56.7**	**-1.1**
SCRK	**Sand Creek** baz=245,SNR=94	**19.98**	**40**	P	**P**	**04 23 56.2**	**-1.6**
BARN	**Barnard Glacie** comp=Z,6μm,22.0s	**20.03**	**49**	IAMs_20	IAMs_20	04 31 41.6	
PRP	**Porcupine Dome** comp=Z,7μm,18.0s	**20.11**	**35**	IAMs_20	IAMs_20	04 32 31.0	
PRP	**Porcupine Dome** baz=239,SNR=32	**20.11**	**35**	P	**P**	**04 23 58.0**	**-1.2**
TABL	**Table Mountain** comp=Z,203nm,1.2s	**20.14**	**51**	IAmb	IAmb	04 24 19.0	
TABL	comp=Z,6μm,20.0s			IAMs_20	IAMs_20	04 32 05.6	
CTG	**Chitna Glacier** baz=257	**20.16**	**49**	P	**P**	**04 23 58.8**	**-1.0**
CTGM	**Chitina Glacie** comp=Z,109nm,1.0s	**20.17**	**49**	IAmb	IAmb	04 24 25.1	
M27K	**Edge Creek, AK** comp=Z,7μm,18.0s	**20.29**	**45**	IAMs_20	IAMs_20	04 32 19.0	
M27K	**Edge Creek, AK** baz=252	**20.29**	**45**	P	**P**	**04 24 01.4**	**+0.2**
LOGN	**Logan Glacier** comp=Z,84nm,0.8s	**20.29**	**50**	IAmb	IAmb	04 24 23.7	
J26L	**Joseph Creek** baz=245	**20.37**	**39**	P	**P**	**04 24 00.4**	**-1.6**
PCA	**Pinnacle** comp=Z,101nm,0.7s	**20.52**	**52**	IAmb	IAmb	04 24 22.1	
PINM	**Pinnacle** baz=260	**20.52**	**52**	P	**P**	**04 24 03.1**	**-0.6**
L27K	**Beaver Creek,** comp=Z,8μm,18.0s	**20.53**	**43**	IAMs_20	IAMs_20	04 32 49.5	
L27K	**Beaver Creek,** baz=250	**20.53**	**43**	P	**P**	**04 24 03.0**	**-0.7**
TOLK	**Toolik Lake Re** comp=Z,121nm,1.0s	**20.73**	**25**	IAmb	IAmb	04 24 26.7	
TOLK	**Toolik Lake Re** baz=226,SNR=40	**20.73**	**25**	P	**P**	**04 24 06.1**	**+0.2**
BVCY	**Beaver Creek** baz=253,SNR=14	**20.76**	**46**	P	Pn	04 24 08.1	-0.6
FYU	**Fort Yukon**	**20.76**	**33**	P	**P**	**04 24 06.2**	**+0.2**
FYU	comp=Z,280nm,1.4s			IAmb	IAmb	04 24 26.5	
YUK3	**Moose Creek** baz=256,SNR=12	**20.77**	**48**	P	**P**	**04 24 05.2**	**-1.3**
BCPM	**Bancas Point** comp=Z,84nm,0.8s	**20.80**	**53**	IAmb	IAmb	04 24 30.2	
PNL	**Peninsula** baz=262,SNR=12	**20.88**	**54**	P	**P**	**04 24 07.0**	**-0.5**
SEY	**Seymchan** comp=Z,10nm,0.7s,baz=107,slow=10,SNR=19	**21.27**	**315**	P PcP	**P** **PcP**	**04 24 11.9** **04 28 15.3**	**+0.3** **-0.1**
SEY	comp=Z,4.9nm,0.7s,baz=114,slow=5.1,SNR=4.3			pPcP		04 28 29.2	
SEY	comp=Z,5.1nm,0.6s,baz=139,slow=4.8,SNR=7.6			ScP	**ScP**	**04 31 48.8**	**-1.8**
SEY	comp=Z,5.1nm,1.1s,baz=102,slow=4.5,SNR=4.1			LR	LR	04 32 45.4	
SEY	**Seymchan** comp=Z,5μm,18.7s,baz=106,slow=38	**21.27**	**315**	*de*P	**P**	**04 24 12.4**	**+0.8**
SEY	comp=Z,24nm,0.9s			pmax	pmax		
A21K	**Barrow** comp=Z,271nm,1.1s	**21.33**	**15**	IAmb	IAmb	04 24 34.8	
A21K	comp=Z,6μm,20.0s			IAMs_20	IAMs_20	04 33 11.0	
A21K	**Barrow** baz=210,SNR=26	**21.33**	**15**	P	**P**	**04 24 11.6**	**-0.6**
MA2	**Magadan** comp=Z,19nm,0.6s,baz=90,slow=11,SNR=16	**21.36**	**306**	P ScP	**P** **ScP**	**04 24 12.8** **04 31 48.9**	**+0.2** **-2.0**
MA2	comp=Z,1.1nm,0.2s,baz=125,slow=2.6,SNR=4.9			LR	LR	04 32 22.0	
MA2	**Magadan** comp=Z,5μm,19.0s,baz=104,slow=36	**21.36**	**306**	*de*P	**P**	**04 24 13.4**	**+0.8**
MA2	comp=Z,35nm,1.3s			pmax	pmax		
MA2	**Magadan**	**21.36**	**306**	P	**P**	**04 24 13.1**	**+0.5**
EGAK	**Eagle**	**21.43**	**39**	P	**P**	**04 24 12.4**	**-0.9**
EGAK	comp=Z,8μm,18.0s			IAMs_20	IAMs_20	04 33 07.0	
EGAK	**Eagle** baz=247,SNR=172	**21.43**	**39**	P	**P**	**04 24 12.4**	**-0.9**
BMAR	**Burnt Mountain**	**21.45**	**31**	P	**P**	**04 24 12.8**	**-0.8**
YUK4	**Talbot Arm** baz=259	**21.52**	**49**	P	**P**	**04 24 13.9**	**-0.7**
YUK6	**Outpost Mounta** baz=260	**21.58**	**50**	P	**P**	**04 24 14.8**	**-0.4**
DAWY	**Dawson** baz=251,SNR=28	**21.89**	**42**	P	**P**	**04 24 17.0**	**-1.4**
HYT	**Haines Junctio**	**21.98**	**51**	P	**P**	**04 24 19.4**	**0.0**
HYT	**Haines Junctio** baz=261,SNR=9.9	**21.98**	**51**	P	**P**	**04 24 18.5**	**-0.9**
J29M	**Klondike Camp** baz=252,SNR=14	**22.50**	**41**	P	**P**	**04 24 23.9**	**-1.0**
M30M	**Minto, Yukon** comp=Z,6μm,18.0s	**22.63**	**46**	IAMs_20	IAMs_20	04 34 00.2	
M30M	**Minto, Yukon** baz=258	**22.63**	**46**	P	**P**	**04 24 26.0**	**-0.2**
I29M	**Ogilvie Camp,** comp=Z,197nm,1.2s	**22.77**	**39**	IAmb	IAmb	04 24 42.6	
I29M	comp=Z,5μm,18.0s			IAMs_20	IAMs_20	04 33 50.3	
I29M	**Ogilvie Camp,** baz=250,SNR=90	**22.77**	**39**	P	**P**	**04 24 25.4**	**-2.2**
N31M	**Braeburn, Yuko** comp=Z,5μm,20.0s	**22.90**	**49**	IAMs_20	IAMs_20	04 34 05.5	
N31M	**Braeburn, Yuko** baz=261	**22.90**	**49**	P	**P**	**04 24 31.6**	**+2.5**
SIT	**Sitka** baz=272	**22.91**	**61**	P	**P**	**04 24 30.7**	**+1.6**
SKAG	**Skagway** comp=Z,59nm,0.8s	**22.92**	**55**	IAmb	IAmb	04 24 54.3	
SKAG	**Skagway** baz=267	**22.92**	**55**	P	**P**	**04 24 29.8**	**+0.6**
BESE	**Bessie Mountai** comp=Z,87nm,1.1s	**23.14**	**57**	IAmb	IAmb	04 24 50.3	
WHY	**Whitehorse** baz=264	**23.24**	**52**	P	**P**	**04 24 34.3**	**+1.7**
JIS	**Juneau Island** comp=Z,43nm,0.7s	**23.38**	**58**	IAmb	IAmb	04 24 56.8	
M31M	**Drury Creek, Y** comp=Z,5μm,21.0s	**23.66**	**48**	IAMs_20	IAMs_20	04 34 08.5	
M31M	**Drury Creek, Y** baz=261	**23.66**	**48**	P	**P**	**04 24 36.8**	**+0.2**
FARO	**Faro, Yukon** baz=262	**24.15**	**48**	P	**P**	**04 24 41.9**	**+0.6**
P33M	**Teslin, Yukon**	**24.23**	**53**	P	**P**	**04 24 42.3**	**+0.3**
P33M	comp=Z,5μm,18.0s			IAMs_20	IAMs_20	04 35 21.5	
P33M	**Teslin, Yukon** baz=267,SNR=12	**24.23**	**53**	P	**P**	**04 24 44.3**	**+2.2**
CRAG	**Craig** comp=Z,96nm,1.0s	**24.28**	**65**	IAmb	IAmb	04 25 02.3	
CRAG	**Craig** baz=278	**24.28**	**65**	P	**P**	**04 24 45.5**	**+3.1**
WRAK	**Wrangell Islan** comp=Z,65nm,1.1s	**24.59**	**62**	IAmb	IAmb	04 25 03.3	
WRAK	**Wrangell Islan** baz=276	**24.59**	**62**	P	**P**	**04 24 46.6**	**+1.3**
DIB	**Dawson Inlet,** comp=Z,94nm,1.0s	**25.06**	**70**	IAmb	IAmb	04 25 06.4	
MMPY	**Sheldon Lake,** baz=264,SNR=16	**25.16**	**47**	P	**P**	**04 24 51.2**	**+0.8**
INK	**Inuvik** comp=Z,91nm,1.3s,baz=242,slow=8.1,SNR=50	**25.57**	**34**	P	**P**	**04 24 52.4**	**-1.6**
INK	comp=Z,5.3nm,0.8s,baz=8.3,slow=2.5,SNR=3.6			pPcP LR	LR	04 28 38.0 04 36 04.3	
INK	**Inuvik** comp=Z,4μm,18.6s,baz=230,slow=39	**25.57**	**34**	IAmb	IAmb	04 25 08.6	
INK	**Inuvik** comp=Z,122nm,1.2s	**25.57**	**34**	P	**P**	**04 24 52.8**	**-1.3**
DLBC	**Dease Lake** baz=249,SNR=56	**25.67**	**57**	P	**P**	**04 24 55.4**	**+0.2**
DLBC	comp=Z,45nm,1.1s,baz=268,slow=7.3,SNR=33			LR	LR	04 35 25.7	
DLBC	**Dease Lake** comp=Z,63nm,0.9s	**25.67**	**57**	IAmb	IAmb	04 25 24.1	
KUR	**Kuril'sk**	**25.98**	**271**	P	**P**	**04 24 56.0**	**-2.0**
KUR				*e*		04 25 35.3	
KUR				*e*S	**S**	**04 29 27.5**	**+0.5**
KUR				SSS	SSS	04 30 41.4	
KUR	comp=N,87nm,1.3s			pmax	pmax		
KUR	comp=E,115nm,1.3s			pmax	pmax		
KUR	comp=Z,286nm,1.3s			pmax	pmax		
KUR	comp=Z,937nm,8.7s			pmax	pmax		
KUR	comp=Z,1μm,18.0s			MLR	MLR		
GRNB	**Grenville Isla** comp=Z,74nm,1.1s	**26.38**	**68**	IAmb	IAmb	04 25 26.6	
TGTN	**Hyland Airport** baz=269,SNR=10	**26.49**	**50**	P	**P**	**04 25 02.6**	**0.0**
TYV	**Tymovskoe**	**26.98**	**286**	*e*P	**P**	**04 25 07.5**	**+0.5**
TYV				*e*		04 29 40.8	
TYV	comp=Z,300nm,6.8s			pmax	pmax		
TYV	comp=Z,19nm,1.1s			pmax	pmax		
TYV	comp=Z,3μm,21.0s			MLR	MLR		
NKL	**Nikolayevsk**	**27.49**	**291**	*e*P	**P**	**04 25 07.6**	**-3.9**
NKL				*e*S	**S**	**04 29 47.4**	**-3.3**
NKL	comp=N,560nm,1.0s			pmax	pmax		
NKL	comp=E,2.0nm,1.0s			pmax	pmax		
NKL	comp=Z,14nm,1.0s			pmax	pmax		
NKL	comp=E,2.0nm,2.0s			smax	smax		
NKL	comp=N,213nm,4.2s			smax	smax		
NKL	comp=E,77nm,11.0s			MLR	MLR		
NKL	comp=N,176nm,19.0s			MLR	MLR		
NKL	comp=Z,1μm,19.0s			MLR	MLR		
BBB	**Bella Bella** comp=Z,2μm,20.0s,baz=290,slow=33	**27.89**	**70**	LR	LR	04 34 56.5	
YSS	**Yuzh-Sakhalins**	**28.39**	**278**	*ce*P	**P**	**04 25 20.9**	**+1.3**
YSS				*e*SP	**sP**	**04 25 28.0**	**+0.5**
YSS				*e

YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=E,60nm,1.1s
YSS smax smax
comp=E,400nm,7.4s
YSS MLR MLR
comp=Z,3µm,18.0s
YSS MLR MLR
comp=E,2µm,17.0s
YSS Yuzh-Sakhalins 28.39 278 P **P** **04 25 19.2 -0.4**
YSS IAMs_20 IAMs_20 04 35 54.3
comp=Z,5µm,21.0s
C36M Paulatuk 29.16 34 P **P** **04 25 25.9 -0.2**
baz=258,SNR=14
A36M Sachs Harbour 29.46 28 IAMs_20 IAMs_20 04 39 10.1
comp=Z,3µm,20.0s
A36M Sachs Harbour 29.46 28 P **P** **04 25 28.3 -0.5**
baz=252,SNR=16
JKA Kamikawa-asahi 29.81 273 P **P** **04 25 32.4 +0.2**
ASAJ Asahikawa 29.81 273 P **P** **04 25 32.8 +0.6**
comp=Z,44nm,0.9s,baz=67,slow=9.3,SNR=16
ASAJ LR LR 04 37 51.3
comp=Z,1µm,20.3s,baz=124,slow=37
ERM Erimo 30.56 269*c i* P **P** **04 25 39.1 +0.2**
ERM pmax pmax
comp=Z,32nm,1.3s
ERM Erimo 30.56 269 P **P** **04 25 38.4 -0.4**
ERM IAmb IAmb 04 25 55.1
comp=Z,94nm,1.4s
GRNR Gornyy 30.74 289*ll i* P **P** **04 25 39.7 -0.7**
GRNR *e* S **S** **04 30 45.0 +3.2**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=E,2.0nm,0.8s
GRNR MLR MLR
comp=E,1µm,17.0s
GRNR MLR MLR
comp=N,270nm,13.0s
GRNR MLR MLR
comp=Z,710nm,18.0s
YAK Yakutsk 31.66 311 LR LR 04 39 02.7
comp=Z,5µm,18.2s,baz=102,slow=37
YAK Yakutsk 31.66 311 *e* P **P** **04 25 46.7 -1.6**
YAK *e**PP **sP** **04 25 55.6 -0.6**
YAK *e* 04 26 50.4
YAK *e* 04 28 39.0
YAK *e* S **S** **04 30 53.4 -2.4**
YAK *e* SS **SnSn** **04 32 39.7 -2.7**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=Z,110nm,2.9s
YAK pmax pmax
comp=N,45nm,3.2s
YAK pmax pmax
comp=E,48nm,2.8s
YAK smax smax
comp=E,78nm,3.8s
YAK smax smax
comp=N,113nm,3.7s
YAK MLR MLR
comp=Z,5µm,17.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,2µm,17.0s
YAK Yakutsk 31.66 311 IAMs_20 IAMs_20 04 38 22.9
comp=Z,5µm,20.0s
TIXI Tiksi 32.05 330 P **P** **04 25 50.7 -1.0**
comp=Z,2.4nm,0.3s,baz=270,slow=23,SNR=14
TIXI PcP **PcP** **04 28 39.5 -1.1**
comp=Z,7.4nm,0.8s,baz=303,slow=9.3,SNR=4.8
TIXI pPcP 04 28 53.3
comp=Z,25nm,1.1s,baz=301,slow=9.5,SNR=9.7
TIXI LR LR 04 40 09.2
comp=Z,2µm,18.1s,baz=178,slow=39
TIXI Tiksi 32.05 330*ce* P **P** **04 25 51.7 0.0**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 32.05 330 P **P** **04 25 51.3 -0.4**
LLLB Lillooet 32.09 71 P **P** **04 25 53.4 +1.0**
LLLB IAmb IAmb 04 26 09.6
comp=Z,44nm,0.9s
D03D Eldon 32.63 77 P **P** **04 25 59.8 +2.8**
baz=296
YKA Yellowknife Ar 32.86 47 P **P** **04 25 57.9 -1.0**
comp=Z,1.7nm,0.4s,baz=275,slow=9.6,SNR=38
YKA PcP **PcP** **04 28 42.6 -0.3**
comp=Z,2.8nm,0.7s,baz=284,slow=3.2,SNR=5.8
YKA pPcP 04 28 56.7
comp=Z,6.4nm,0.7s,baz=284,slow=2.9,SNR=11
YKA LR LR 04 41 00.7
comp=Z,4µm,19.0s,baz=276,slow=39
B05A Bryant 32.91 75 P **P** **04 26 02.2 +2.7**
baz=295
TEY Ternei 33.08 279*ll* eP **P** **04 26 00.6 -0.4**
TEY *e* 04 31 14.6
TEY pmax pmax
comp=N,100nm,1.2s
TEY pmax pmax
comp=Z,200nm,1.2s
TEY pmax pmax
comp=Z,120nm,0.9s
TEY pmax pmax
comp=N,30nm,0.9s
TEY pmax pmax
comp=E,80nm,0.9s
B06A Marblemount 33.17 74 P **P** **04 26 02.5 +0.8**
B06A IAmb IAmb 04 26 18.2
comp=Z,40nm,1.3s
KLR Kul'dur 34.11 288 P **P** **04 26 08.6 -1.3**
comp=Z,11nm,0.5s,baz=66,slow=7.6,SNR=73
KLR LR LR 04 40 05.0
comp=Z,2µm,20.7s,baz=74,slow=36
KLR Kul'dur 34.11 288*c i* P **P** **04 26 08.3 -1.6**
KLR pmax pmax
comp=Z,40nm,1.3s
JMM Marumori 34.45 265 IAmb IAmb 04 26 15.6
comp=Z,58nm,1.2s
B08A Colville Reser 34.53 73 IAmb IAmb 04 26 30.4
comp=Z,52nm,0.9s
H04A Detroit Lake 34.53 81 P **P** **04 26 13.7 +0.1**
H04A IAmb IAmb 04 26 36.8
comp=Z,98nm,1.4s
HOOD Mount Hood Mea 34.54 79 P **P** **04 26 14.9 +1.0**
HOOD IAmb IAmb 04 26 31.2
comp=Z,52nm,1.1s
I04A Tendick Farm, 34.85 82 P **P** **04 26 18.5 +2.0**
baz=301
ZEA Zeya 34.95 297 *e* P **P** **04 26 16.0 -1.1**
ZEA *e* S **S** **04 31 42.0 -5.1**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA smax smax
comp=E,300nm,15.2s
ZEA MLR MLR
comp=E,700nm,18.0s
ZEA MLR MLR
comp=N,800nm,20.0s
ZEA MLR MLR
comp=Z,1µm,16.0s
HUMO Hull Mountain 35.14 84 IAMs_20 IAMs_20 04 41 15.6
comp=Z,2µm,18.0s
H11N2 WAKE ISLAND Hy 35.16 213 T T 05 04 08.2
baz=20,slow=76,SNR=329
H11N3 WAKE ISLAND Hy 35.17 213 T T 05 04 17.8
baz=20,slow=76,SNR=430
H11N1 WAKE ISLAND Hy 35.18 213 T T 05 04 09.2
baz=20,slow=76,SNR=495
HAWA Hanford 35.32 76 IAmb IAmb 04 26 35.9
comp=Z,43nm,0.8s
HAWA IAMs_20 IAMs_20 04 41 25.2
comp=Z,2µm,19.0s
J04D Umpqua Nationa 35.33 83 P **P** **04 26 22.1 +1.4**
baz=302
D08A Wollman Farm, 35.37 75 IAmb IAmb 04 26 37.2
comp=Z,54nm,1.3s
C09A Chrisman Ranch 35.42 74 IAmb IAmb 04 26 37.7
comp=Z,50nm,1.1s
PINE Pine Mountain 35.76 81 P **P** **04 26 25.4 +0.9**
PINE IAmb IAmb 04 26 48.6
comp=Z,57nm,1.2s
YBH Yreka Blue Hor 35.77 85 LR LR 04 38 06.5
comp=Z,1µm,19.7s,baz=310,slow=31
J05D Fort Rock, OR 35.84 82 P **P** **04 26 26.9 +1.8**
baz=302
JYT Yasato 35.86 263 P **P** **04 26 25.6 +0.6**
M02C Callahan 35.87 86 IAmb IAmb 04 26 44.9
comp=Z,57nm,1.2s
M02C Callahan 35.87 86 P **P** **04 26 27.6 +2.4**
baz=304
NEW Newport 35.89 72 P **P** **04 26 25.1 -0.2**
comp=Z,14nm,0.7s,baz=298,slow=6.8,SNR=16
NEW LR LR 04 40 48.8
comp=Z,442nm,18.8s,baz=301,slow=36
NEW Newport 35.89 72 IAmb IAmb 04 26 41.7
comp=Z,40nm,0.9s
NEW Newport 35.89 72 IAMs_20 IAMs_20 04 41 55.4
comp=Z,2µm,18.0s
NEW Newport 35.89 72 P **P** **04 26 25.7 +0.4**
baz=297,SNR=25
N02D Trinity Center 36.20 86 IAmb IAmb 04 26 44.7
comp=Z,68nm,1.3s
N02D Trinity Center 36.20 86 P **P** **04 26 30.5 +2.4**
baz=304
M04C Macdoel 36.28 85 IAmb IAmb 04 26 45.1
comp=Z,93nm,1.2s
M04C Macdoel 36.28 85 P **P** **04 26 30.3 +1.5**
baz=304
USA0B Ussuriysk Arra 36.35 280 P **P** **04 26 28.2 -1.0**
USA0B pmax pmax
comp=Z,41nm,0.9s
USA0B Ussuriysk Arra 36.35 280 P **P** **04 26 28.1 -1.0**
USA0B IAmb IAmb 04 26 45.7
comp=Z,41nm,0.8s
USRK Ussuriysk Ar. 36.35 280 P **P** **04 26 28.6 -0.6**
comp=Z,40nm,0.8s,baz=60,slow=7.9,SNR=28
USRK LR LR 04 40 25.1
comp=Z,2µm,21.5s,baz=58,slow=34
K05A Summer Lake 36.36 83 IAmb IAmb 04 26 47.4
comp=Z,66nm,1.1s
H11S1 WAKE ISLAND Hy 36.37 212 T T 05 05 36.9
baz=20,slow=76,SNR=388
H11S2 WAKE ISLAND Hy 36.38 212 T T 05 05 38.0
baz=20,slow=76,SNR=285
H11S3 WAKE ISLAND Hy 36.38 212 T T 05 05 38.3
baz=20,slow=76,SNR=202
WDC Whiskeytown Da 36.53 87 P **P** **04 26 31.2 +0.4**
WDC pmax pmax
comp=Z,53nm,1.2s
WDC Whiskeytown Da 36.53 87 P **P** **04 26 31.2 +0.4**
WDC IAmb IAmb 04 26 53.4
comp=Z,53nm,1.1s
O02D Mt. Diablo Mer 36.60 88 IAmb IAmb 04 26 54.1
comp=Z,90nm,1.2s
O02D Mt. Diablo Mer 36.60 88 P **P** **04 26 34.0 +2.4**
baz=305
MJAR Matsushiro Arr 36.89 265 P **P** **04 26 34.5 +0.5**
comp=Z,10nm,0.9s,baz=42,slow=6.5,SNR=27
MJAR PcP **PcP** **04 28 54.9 -0.3**
comp=Z,3.4nm,0.8s,baz=44,slow=3.3,SNR=4.3
MJAR LR LR 04 40 35.4
comp=Z,2µm,20.4s,baz=52,slow=34
MAJO Matsushiro 36.89 265*d i* P **P** **04 26 34.8 +0.8**
MAJO pmax pmax
comp=Z,36nm,1.0s
MAJO Matsushiro 36.89 265 P **P** **04 26 34.2 +0.2**
MAJO IAmb IAmb 04 26 35.9
comp=Z,56nm,1.3s
MJB9 Matsu-Tunnel 36.89 265 IAmb IAmb 04 26 35.8
comp=Z,56nm,1.3s
VLA Vladivostok 36.98 279*ce* P **P** **04 26 34.4 -0.2**
VLA pmax pmax
comp=Z,161nm,1.1s
HOPS Hopland Field 37.12 89 IAMs_20 IAMs_20 04 40 12.2
comp=Z,3µm,20.0s
O03E Paynes Creek 37.15 87 IAmb IAmb 04 26 52.3
comp=Z,116nm,1.1s
O03E Paynes Creek 37.15 87 P **P** **04 26 38.1 +1.9**
baz=305,SNR=6.7
MOD Modoc Plateau 37.17 83 IAmb IAmb 04 26 54.0
comp=Z,65nm,1.4s
MOD IAMs_20 IAMs_20 04 42 27.4
comp=Z,2µm,18.0s
WALA Waterton Lakes 37.42 69 IAmb IAmb 04 26 59.8
comp=Z,74nm,1.2s
J08A Circle Bar Ran 37.51 80 IAmb IAmb 04 27 03.0
comp=Z,51nm,1.3s
MDJ Mudanjiang 37.60 282 P **P** **04 26 39.0 -0.8**
MDJ IAMs_20 IAMs_20 04 42 01.0
comp=Z,4µm,20.0s
JGF Kuroka 38.02 265 P **P** **04 26 43.7 +0.2**
JHJ Hachijo jima 2 38.16 260 LR LR 04 40 40.6
comp=Z,395nm,21.0s,baz=84,slow=33
RES Resolute Bay 38.31 25 P **P** **04 26 44.1 -1.3**
comp=Z,1.7nm,0.4s,baz=278,slow=6.9,SNR=24
RES PcP **PcP** **04 28 58.6 -0.2**
comp=Z,3.3nm,0.6s,baz=36,slow=1.0,SNR=6.5
RES pPcP 04 29 12.3
comp=Z,8.5nm,0.8s,baz=258,slow=2.9,SNR=4.3
RES LR LR 04 47 35.2
comp=Z,2µm,18.1s,baz=281,slow=44
MSO Missoula 38.47 73 P **P** **04 26 48.7 +1.4**
baz=300,SNR=9.0
PAHR Pah Rah Range 39.00 86 IAmb IAmb 04 27 09.9
comp=Z,76nm,1.3s
PNTR Pine Nut 39.23 87 P **P** **04 26 54.3 +0.4**
PNTR IAmb IAmb 04 27 12.2
comp=Z,129nm,1.3s
CMB Columbia Colle 39.38 89 IAMs_20 IAMs_20 04 42 18.9
comp=Z,2µm,19.0s
SAO San Andreas Ge 39.50 91 IAMs_20 IAMs_20 04 43 41.2
comp=Z,2µm,18.0s
HLID Hailey 39.89 77 P **P** **04 27 01.3 +2.0**
baz=303
MCMT McKenzie Canyo 40.16 75 P **P** **04 27 01.4 -0.1**
KVN Kaiserville 40.19 86 P **P** **04 27 03.0 +1.2**
KVN pmax pmax
comp=Z,22nm,1.1s
KVN Kaiserville 40.19 86 P **P** **04 27 03.0 +1.2**
EGMT Eagleton 40.35 69 P **P** **04 27 02.5 -0.4**
EGMT IAmb IAmb 04 27 17.6
comp=Z,143nm,1.2s
EGMT IAMs_20 IAMs_20 04 45 40.2
comp=Z,2µm,21.0s
EGMT Eagleton 40.35 69 P **P** **04 27 02.7 -0.2**
baz=300,SNR=25
BOD Bodaibo 40.36 308 *e* P **P** **04 27 02.0 -0.8**
BOD pmax pmax
comp=Z,18nm,1.4s
LHV Little Huntoon 40.42 87 IAmb IAmb 04 27 24.5
comp=Z,75nm,1.3s
NVAR Mina Array Bea 40.44 87 P **P** **04 27 02.8 -1.1**
comp=Z,4.3nm,0.9s,baz=291,slow=8.3,SNR=20
NVAR PcP **PcP** **04 29 05.8 -0.7**
comp=Z,2.3nm,0.8s,baz=298,slow=1.9,SNR=2.1
NVAR pPcP 04 29 20.1
comp=Z,7.9nm,0.8s,baz=284,slow=2.0,SNR=5.9
NVAR ScP **ScP** **04 32 52.9 -1.2**
comp=Z,1.7nm,0.8s,baz=289,slow=3.5,SNR=5.3
NVAR LR LR 04 42 28.8
comp=Z,877nm,19.1s,baz=298,slow=34
NVAR Mina Array Bea 40.44 87 P **P** **04 27 04.5 +0.5**
BOZ Bozeman (W) 40.48 73 P **P** **04 27 04.0 -0.1**
BOZ pmax pmax
comp=Z,35nm,0.9s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 40.48 73 P **P** **04 27 04.0 -0.1**
BOZ Bozeman (W) 40.48 73 P **P** **04 27 04.4 +0.3**
baz=302,SNR=14
CN2 Changchun 40.56 284 *e* P **P** **04 27 04.4 -0.2**
CN2 PP **PnPn** **04 28 41.9 0.0**
CN2 S **S** **04 33 11.4 -0.9**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,4µm,20.0s
PAGB Antelope Grade 40.91 91 IAmb IAmb 04 27 24.2
comp=Z,40nm,0.9s
ELK Elko 40.97 81 LR LR 04 44 14.1
comp=Z,1µm,18.0s,baz=308,slow=36
ELK Elko 40.97 81 P **P** **04 27 08.8 +0.5**
ELK pmax pmax
comp=Z,16nm,1.0s
ELK Elko 40.97 81 P **P** **04 27 08.8 +0.5**
JCJ Chichijima 41.02 251 P **P** **04 27 08.4 -0.2**
HIA Hailar 41.09 294*c i* P **P** **04 27 08.0 -1.0**
HIA pmax pmax
comp=Z,28nm,1.0s
HIA Hailar 41.09 294 P **P** **04 27 07.9 -1.0**
HIA Hailar 41.09 294 IAMs_20 IAMs_20 04 46 35.4
comp=Z,2µm,18.0s
SMMC Simmler 41.33 92 P **P** **04 27 13.1 +1.9**
baz=310
TIN Tinemaha, Big 41.33 88 P **P** **04 27 13.7 +2.6**
baz=309
YMR Madison River 41.37 74 IAmb IAmb 04 27 28.5
comp=Z,62nm,1.3s
YHH Holmes Hill 41.38 74 IAmb IAmb 04 27 28.4
comp=Z,45nm,0.9s
JMN Monobe 41.41 265 P **P** **04 27 12.3 +0.5**
HHU Hamhung 41.48 278 P **P** **04 27 12.8 +0.5**
HHU sP **pwP** **04 27 25.8 +1.9**
HHU S S 04 33 37.4 +11
HHU AmB
comp=Z,335nm,1.7s
HHU AMS AMS
comp=N,103nm,3.2s
HHU AMS AMS
comp=E,74nm,2.3s
HHU AMS AMS
comp=Z,71nm,2.2s
FFC Flin Flon 41.50 56 P **P** **04 27 11.7 -0.5**
FFC pmax pmax
comp=Z,41nm,1.0s
FFC MLR MLR
comp=Z,3µm,19.0s
FFC Flin Flon 41.50 56 P **P** **04 27 11.7 -0.5**
FFC IAmb IAmb 04 27 27.2
comp=Z,41nm,0.9s
FFC IAMs_20 IAMs_20 04 44 28.3
comp=Z,3µm,19.0s
YNR Norris Junctio 41.52 74 IAmb IAmb 04 27 30.2
comp=Z,75nm,1.1s
VES Vestal, Richgr 41.56 90 P **P** **04 27 13.9 +0.9**
baz=310
H17A Grant Village 41.76 74 IAmb IAmb 04 27 32.4
comp=Z,52nm,1.1s
H17A Grant Village 41.76 74 P **P** **04 27 17.3 +2.6**
baz=303
CWC Cottonwood Cre 41.81 89 P **P** **04 27 15.6 +0.4**
baz=309
HVU Hansel Valley 41.89 79 P **P** **04 27 16.9 +1.2**
HVU pmax pmax
comp=Z,21nm,0.9s
HVU Hansel Valley 41.89 79 P **P** **04 27 16.9 +1.2**
GRAC Grapevine Rang 41.91 88 IAmb IAmb 04 27 32.4
comp=Z,53nm,1.2s
ISA Isabella, Lake 42.06 90 P **P** **04 27 17.8 +0.7**
baz=310
RLMT Red Lodge 42.14 72 IAmb IAmb 04 27 35.0
comp=Z,84nm,1.0s
RLMT Red Lodge 42.14 72 P **P** **04 27 19.7 +1.9**
baz=303
REDW Red Top Meadow 42.16 75 IAMs_20 IAMs_20 04 46 19.3
comp=Z,1µm,18.0s
LOHW Long Hollow 42.17 75 P **P** **04 27 17.9 -0.2**
R11A Troy Canyon, C 42.18 85 P **P** **04 27 18.5 +0.3**
baz=308,SNR=15
MPMC Manual Prospec 42.42 89 P **P** **04 27 20.7 +0.5**
baz=310
S11A Rachel 42.51 86 IAmb IAmb 04 27 37.0
comp=Z,49nm,1.1s
FURC Furnace Creek, 42.55 88 P **P** **04 27 22.1 +1.2**
baz=309,SNR=5.6
TPNV Topopah Spring 42.63 87 P **P** **04 27 22.5 +0.6**
baz=309,SNR=8.9
KSRS Korea Array 42.74 274 P **P** **04 27 22.9 +0.4**
comp=Z,29nm,1.0s,baz=57,slow=7.5,SNR=58
KSRS LR LR 04 44 37.4
comp=Z,913nm,20.1s,baz=65,slow=35
KS19 Wonju Array Si 42.74 274 P **P** **04 27 22.9 +0.3**
KS19 IAmb IAmb 04 27 41.4
comp=Z,50nm,1.1s
KSAR Wonju Array Be 42.77 274 P **P** **04 27 22.3 -0.4**
KSAR Wonju Array Be 42.77 274 P **P** **04 27 22.3 -0.4**
DUG Dugway, Tooele 42.79 81 IAmb IAmb 04 27 40.5
comp=Z,68nm,1.2s
DUG IAMs_20 IAMs_20 04 45 39.0
comp=Z,1µm,18.0s
DUG Dugway, Tooele 42.79 81 P **P** **04 27 23.9 +0.8**
baz=306,SNR=13
GWY Greenwater Val 42.85 88 IAmb IAmb 04 27 43.5
comp=Z,66nm,1.4s
EDW2 Edwards Air Fo 42.86 90 P **P** **04 27 24.2 +0.6**
baz=311
QSM Queen of Sheba 42.87 88 IAmb IAmb 04 27 43.5
comp=Z,50nm,1.1s
LAO LASA Array 43.09 69 IAMs_20 IAMs_20 04 46 59.8
comp=Z,2µm,18.0s
PYAG Pyongyang 43.10 278 P **P** **04 27 26.2 +0.8**
SUJ Sinuiju 43.25 280 P **P** **04 27 26.8 +0.2**
SUJ pP **sP** **04 27 33.4 -1.2**
SUJ sP **pwP** **04 27 39.9 +1.6**
SUJ S **S** **04 33 55.3 +3.2**
SUJ AmB
comp=Z,470nm,1.6s
SUJ AMS AMS
comp=N,95nm,2.2s
SUJ AMS AMS
comp=E,634nm,14.9s
SUJ AMS AMS
comp=Z,140nm,3.3s
BW06 Boulder Array 43.28 75 IAmb IAmb 04 27 43.3
comp=Z,49nm,1.0s
BW06 Boulder Array 43.28 75 P **P** **04 27 27.0 -0.1**
baz=305,SNR=43
PD31 Pinedale Array 43.28 75 P **P** **04 27 27.0 -0.1**
PD31 IAmb IAmb 04 27 43.3
comp=Z,44nm,1.0s
PDAR Pinedale Array 43.28 75 P **P** **04 27 26.6 -0.5**
comp=Z,4.0nm,0.4s,baz=314,slow=3.3,SNR=33
PDAR LR LR 04 45 18.7
comp=Z,856nm,18.8s,baz=308,slow=36
DGMT Dagmar 43.32 65 IAmb IAmb 04 27 45.1
comp=Z,91nm,1.2s
DGMT Dagmar 43.32 65 P **P** **04 27 28.2 +1.1**
baz=301
GSC Goldstone, Bar 43.33 89 IAmb IAmb 04 27 46.8
comp=Z,66nm,1.1s
GSC Goldstone, Bar 43.33 89 P **P** **04 27 27.6 +0.2**
baz=310,SNR=11
BFSC Mount Baldy Ra 43.49 91 P **P** **04 27 29.7 +0.9**
baz=311
INCN Inchon 43.52 275 P **P** **04 27 28.5 -0.4**
INCN pmax pmax
comp=Z,125nm,1.2s
INCN Inchon 43.52 275 P **P** **04 27 28.5 -0.4**
INCN IAmb IAmb 04 27 45.4
comp=Z,125nm,1.2s
SHPR Sheep Range 43.59 86 P **P** **04 27 30.2 +0.6**
JNU Nakatsue 43.69 267 P **P** **04 27 29.9 -0.3**
JNU IAmb IAmb 04 27 45.5
comp=Z,130nm,1.4s
HJU Haeju 43.74 277 P **P** **04 27 30.4 -0.2**
HJU sP **pwP** **04 27 44.4 +2.1**
HJU S **S** **04 34 00.6 +1.2**
HJU AmB
comp=Z,384nm,1.2s
HJU AMS AMS
comp=N,210nm,2.9s
HJU AMS AMS
comp=E,94nm,1.3s
HJU AMS AMS
comp=Z,135nm,1.8s
TJN Taejon 43.76 274*ce* P **P** **04 27 31.3 +0.5**
TULEG Thule 43.84 19 P **P** **04 27 30.5 -0.4**
ELS Elsinore Mount 44.02 91 IAmb IAmb 04 27 48.9
comp=Z,43nm,1.1s
MURC Murrieta 44.20 91 P **P** **04 27 35.7 +1.3**
baz=312
TMUT Trail Mountain 44.31 80 IAmb IAmb 04 27 51.3
comp=Z,34nm,0.9s
GMRC Granite Mounta 44.38 89 P **P** **04 27 35.9 -0.1**
baz=311,SNR=6.5
LCMT Little Creek M 44.47 84 IAmb IAmb 04 27 54.4
comp=Z,34nm,1.0s
MTPU Mount Pierson 44.48 83 P **P** **04 27 37.7 +0.7**

MTPU IAmb IAmb 04 27 54.8
comp=Z,37nm,1.1s
P17A Butcher Ranch, 44.50 80 IAmb IAmb 04 27 53.7
comp=Z,38nm,1.1s
RDMU Red Mountain 44.55 78 IAmb IAmb 04 27 54.6
comp=Z,46nm,0.9s
Q16A Castle Valley 44.57 81 IAmb IAmb 04 27 53.4
comp=Z,36nm,0.9s
PFO Pinyon Flats O 44.65 91 P **P** **04 27 37.6 -0.4**
comp=Z,6.3nm,1.0s,baz=264,slow=4.2,SNR=4.4
PFO LR LR 04 42 18.2
comp=Z,1μm,21.8s,baz=290,slow=31
PFO Pinyon Flats O 44.65 91 P **P** **04 27 37.7 -0.4**
PFO pmax pmax
comp=Z,36nm,1.2s
PFO Pinyon Flats O 44.65 91 IAmb IAmb 04 27 57.2
comp=Z,36nm,1.1s
PFO Pinyon Flats O 44.65 91 P **P** **04 27 39.2 +1.1**
baz=312
TPFO Pinon Flats 44.66 91 P **P** **04 27 39.5 +1.4**
baz=312
BELC Belle Mtn. Jos 44.69 90 P **P** **04 27 39.2 +0.8**
baz=311
P18A Preston Nutter 44.71 79 IAmb IAmb 04 28 02.8
comp=Z,36nm,0.9s
KNB Kanab 44.73 84 IAmb IAmb 04 27 59.8
comp=Z,71nm,1.3s
SRU San Rafael Swe 44.85 80 IAmb IAmb 04 27 56.2
comp=Z,36nm,0.9s
JSU Suzuyama 45.04 266 P **P** **04 27 40.2 -0.9**
JSU IAmb IAmb 04 27 59.6
comp=Z,55nm,1.1s
IRM Iron Mountain 45.11 89 P **P** **04 27 42.5 +0.8**
baz=311
MONP2 Monument Peak 45.16 91 P **P** **04 27 43.2 +1.0**
baz=312
K22A Casper 45.17 74 IAmb IAmb 04 27 57.8
comp=Z,36nm,1.0s
K22A Casper 45.17 74 P **P** **04 27 42.8 +0.6**
baz=306
BC3 Big Chuckawall 45.25 90 P **P** **04 27 43.5 +0.6**
baz=312
W13A Hualapai Mount 45.29 87 IAmb IAmb 04 28 02.3
comp=Z,30nm,1.1s
RWWY Rawlins 45.32 75 IAmb IAmb 04 27 58.2
comp=Z,45nm,1.1s
RWWY IAMs_20 IAMs_20 04 48 23.0
comp=Z,2μm,18.0s
U15A North Rim 45.43 84 IAmb IAmb 04 28 02.1
comp=Z,60nm,1.0s
O20A White River Ci 45.63 78 P **P** **04 27 45.5 -0.4**
baz=307,SNR=13
PDMCI Parker Dam,Lak 45.65 88 P **P** **04 27 46.3 +0.5**
baz=311,SNR=6.7
DL2 Dalian 45.74 280 P P 04 27 54.4 +7.9
DL2 S S 04 34 41.3 +13
DL2 pmax pmax
comp=Z,120nm,1.3s
DL2 pmax pmax
comp=Z,260nm,6.7s
DL2 LR LR
comp=N,1μm,19.9s
DL2 LR LR
comp=E,680nm,19.9s
DL2 LR LR
comp=Z,620nm,17.7s
BLYC Blythe 45.77 89 IAmb IAmb 04 28 05.8
comp=Z,45nm,1.1s
RSSD Black Hills 45.80 71 P **P** **04 27 46.4 -0.8**
RSSD pmax pmax
comp=Z,24nm,1.1s
RSSD Black Hills 45.80 71 P **P** **04 27 46.4 -0.8**
RSSD Black Hills 45.80 71 P **P** **04 27 46.9 -0.3**
baz=305
NRIK Noril'sk 45.83 331 P **P** **04 27 46.0 -0.8**
comp=Z,8.6nm,0.8s,baz=68,slow=7.4,SNR=18
NRIK LR LR 04 48 52.2
comp=Z,723nm,18.2s,baz=44,slow=38
NRIK Noril'sk 45.83 331*c i*P **P** **04 27 46.2 -0.6**
NRIK pmax pmax
comp=Z,26nm,1.1s
NRIK Noril'sk 45.83 331 P **P** **04 27 46.2 -0.6**
NRIK IAmb IAmb 04 28 04.5
comp=Z,35nm,1.2s
GLA Glamis 46.05 90 IAmb IAmb 04 28 04.8
comp=Z,24nm,1.0s
XLT XiLinHaoTe 46.11 289⇓*i*P **P** **04 27 49.8 +0.3**
XLT sP pP 04 27 55.8 +0.6
XLT S **S** **04 34 37.0 +3.3**
XLT sS pS 04 34 40.4 -0.3
XLT SS **ScS** **04 37 47.9 +4.6**
XLT pmax pmax
comp=Z,27nm,1.1s
XLT pmax pmax
comp=Z,420nm,7.9s
XLT LR LR
comp=Z,120nm,18.0s
XLT LR LR
comp=Z,1μm,19.2s
XLT LR LR
comp=Z,760nm,22.7s
PV23 Carpenter Ridg 46.19 80 IAmb IAmb 04 28 08.6
comp=Z,26nm,0.9s
MDND Maddock 46.25 64 P **P** **04 27 50.6 +0.2**
baz=304,SNR=8.8
NEEM North Greenlan 46.53 15 *i*P **P** **04 27 50.7 -1.9**
NEEM IAmb IAmb 04 28 08.3
comp=Z,28nm,0.7s
NOR Nord 46.55 5 *i*P **P** **04 27 50.7 -1.6**
NOR IAmb IAmb 04 28 17.8
comp=Z,2.9nm,0.8s
N23A Red Feather La 46.56 75 IAmb IAmb 04 28 10.4
comp=Z,62nm,1.2s
N23A Red Feather La 46.56 75 P **P** **04 27 54.0 +0.7**
baz=307,SNR=7.1
WUAZ Wupatki 46.58 85 IAmb IAmb 04 28 10.9
comp=Z,50nm,0.9s
WUAZ IAMs_20 IAMs_20 04 44 25.5
comp=Z,2μm,21.0s
WUAZ Wupatki 46.58 85 P **P** **04 27 54.6 +1.2**
baz=310
Y14A Wickenburg 46.59 88 IAmb IAmb 04 28 12.8
comp=Z,32nm,1.1s
ULM Lac du Bonnet 46.97 59 P **P** **04 27 55.6 -0.4**
comp=Z,7.0nm,0.3s,baz=313,slow=6.8,SNR=25
ULM LR LR 04 48 21.4
comp=Z,1μm,21.2s,baz=317,slow=37
ULM Lac du Bonnet 46.97 59 P **P** **04 27 55.1 -0.9**
SMCO Snowmass 46.99 78 P **P** **04 27 56.6 -0.2**
X16A Lo Mia Camp, P 47.26 86 IAmb IAmb 04 28 16.6
comp=Z,26nm,1.1s
MVCO Mesa Verde 47.28 81 IAmb IAmb 04 28 18.9
comp=Z,48nm,1.2s
MVCO Mesa Verde 47.28 81 P **P** **04 27 59.6 +0.7**
baz=309
ISCO Idaho Springs 47.43 76 P **P** **04 28 00.1 0.0**
ISCO pmax pmax
comp=Z,27nm,1.3s
ISCO MLR MLR
comp=Z,2μm,18.0s
ISCO Idaho Springs 47.43 76 P **P** **04 28 00.1 0.0**
ISCO IAmb IAmb 04 28 17.4
comp=Z,27nm,1.3s
ISCO IAMs_20 IAMs_20 04 49 34.8
comp=Z,2μm,18.0s
ISCO Idaho Springs 47.43 76 P **P** **04 28 02.1 +2.0**
baz=308,SNR=5.3
IRK Irkutsk 47.94 305 *e*P **P** **04 28 01.7 -1.9**
IRK pmax pmax
comp=Z,58nm,2.0s
214A Organ Pipe Nat 48.04 89 IAmb IAmb 04 28 24.2
comp=Z,40nm,1.2s
214A Organ Pipe Nat 48.04 89 P **P** **04 28 05.5 +0.9**
baz=313
AGMN Agassiz Nation 48.07 61 IAMs_20 IAMs_20 04 47 54.2
comp=Z,2μm,18.0s
AGMN Agassiz Nation 48.07 61 P **P** **04 28 04.8 +0.2**
baz=305,SNR=12
X18A Snowflake 48.11 85 IAmb IAmb 04 28 22.4
comp=Z,36nm,1.2s
Q24A Divide 48.23 77 P **P** **04 28 06.8 +0.5**
baz=309
BJI Beijing 48.36 285 P **P** **04 28 07.3 +0.4**
BJI pP **pP** **04 28 09.8 -2.9**
BJI S **S** **04 35 07.8 +2.1**
BJI ScS **ScS** **04 37 57.8 -0.2**
BJI pmax pmax
comp=Z,27nm,1.2s
BJI pmax pmax
comp=Z,310nm,5.4s
BJI LR LR
comp=Z,2μm,19.5s
BJI LR LR
comp=Z,1μm,20.7s
BJI LR LR
comp=Z,3μm,20.2s
BJT Baijiatuau 48.38 285 P **P** **04 28 06.9 -0.2**
BJT pmax pmax
comp=Z,22nm,0.9s
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuau 48.38 285 P **P** **04 28 06.9 -0.2**
BJT IAmb IAmb 04 28 08.6
comp=Z,22nm,0.9s
BJT Baijiatuau 48.38 285 IAMs_20 IAMs_20 04 48 44.3
comp=Z,3μm,20.0s
SUSD Miller 48.57 67 P **P** **04 28 08.5 -0.1**
baz=306
SDCO Great Sand Dun 48.78 78 IAmb IAmb 04 28 27.9
comp=Z,32nm,1.1s
SDCO Great Sand Dun 48.78 78 P **P** **04 28 11.7 +1.1**
baz=310,SNR=8.5
OGNE Ogallala 48.88 73 P **P** **04 28 13.6 +2.5**
baz=308
ULN Ulaanbaatar 48.95 299*c i*P **P** **04 28 11.1 -0.5**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 48.95 299 P **P** **04 28 11.2 -0.4**
ULN IAmb IAmb 04 28 32.8
comp=Z,30nm,1.1s
ULN Ulaanbaatar 48.95 299 IAMs_20 IAMs_20 04 51 08.2
comp=Z,2μm,19.0s
ULN Ulaanbaatar 48.95 299 P **P** **04 28 10.9 -0.7**
ULN P **P** **04 28 10.9 -0.7**
TUC Tucson 49.07 88 P **P** **04 28 12.5 -0.1**
TUC pmax pmax
comp=Z,33nm,1.2s
TUC MLR MLR
comp=Z,1μm,18.0s
TUC Tucson 49.07 88 P **P** **04 28 12.5 -0.1**
TUC IAmb IAmb 04 28 32.2
comp=Z,33nm,1.2s
TUC Tucson 49.07 88 IAMs_20 IAMs_20 04 49 24.3
comp=Z,1μm,18.0s
TUC Tucson 49.07 88 P **P** **04 28 13.6 +1.0**
baz=313
F33A 5 Mile Ranch, 49.26 64 IAmb IAmb 04 28 27.2
comp=Z,32nm,0.9s
SONM Songino Array 49.33 299 P **P** **04 28 14.2 -0.3**
comp=Z,12nm,0.7s,baz=47,slow=8.3,SNR=100
SONM PcP **PcP** **04 29 36.5 -0.3**
comp=Z,5.4nm,0.8s,baz=66,slow=2.1,SNR=2.5
SONM ScP **ScP** **04 33 29.2 -1.2**
comp=Z,1.6nm,0.8s,baz=72,slow=2.5,SNR=4.8
SONM LR LR 04 50 04.4
comp=Z,3μm,19.4s,baz=55,slow=37
SONM Songino Array 49.33 299 P **P** **04 28 13.8 -0.7**
SONM IAmb IAmb 04 28 15.6
comp=Z,20nm,0.9s
SONM **ScP** **04 33 29.2 -1.2**
ZAK Zakamensk 49.51 303 *e*P **P** **04 28 15.4 -0.4**
ZAK pmax pmax
comp=Z,68nm,1.3s
ZAK pmax pmax
comp=Z,54nm,1.3s
KSCO Kaye Shedlock' 49.73 75 P **P** **04 28 18.1 +0.4**
baz=309
KBS Kingsbay 49.76 359 IAMs_20 IAMs_20 04 49 24.8
comp=Z,1μm,19.0s
T25A Trinidad 49.84 78 P **P** **04 28 19.1 +0.5**
baz=310,SNR=18
MOY Mondy 49.94 306 *e*P **P** **04 28 18.9 -0.1**
MOY pmax pmax
comp=Z,28nm,1.9s
ANMO Albuquerque 50.00 82 LR LR 04 47 22.3
comp=Z,642nm,21.4s,baz=304,slow=34
ANMO Albuquerque 50.00 82*de*P **P** **04 28 20.2 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 50.00 82 P **P** **04 28 20.1 +0.2**
ANMO IAmb IAmb 04 28 39.4
comp=Z,44nm,1.4s
ANMO Albuquerque 50.00 82 P **P** **04 28 20.8 +0.9**
baz=311
TIA Tai'an 50.21 281⇑P **P** **04 28 21.3 +0.1**
TIA S **S** **04 35 35.8 +4.0**
TIA pmax pmax
comp=Z,31nm,0.7s
TIA pmax pmax
comp=Z,110nm,4.3s
TIA LR LR
comp=Z,760nm,18.5s
TIA LR LR
comp=Z,1μm,19.9s
TIA LR LR
comp=Z,1μm,21.4s
Y22D IRIS PASSCAL I 50.29 83 IAMs_20 IAMs_20 04 51 01.7
comp=Z,2μm,18.0s
GUMO Guam 50.31 237 LR LR 04 47 23.0
comp=Z,216nm,21.2s,baz=80,slow=33
ECSD EROS Data Cent 50.34 67 IAmb IAmb 04 28 35.5
comp=Z,36nm,0.9s
ECSD EROS Data Cent 50.34 67 IAMs_20 IAMs_20 04 53 22.6
comp=Z,2μm,21.0s
ECSD EROS Data Cent 50.34 67 P **P** **04 28 20.6 -1.5**
baz=308,SNR=15
SPITS Spitsbergen Ar 50.41 357 P **P** **04 28 21.3 -0.8**
comp=Z,1.6nm,0.3s,baz=79,slow=4.3,SNR=42
SPITS LR LR 04 49 31.6
comp=Z,1μm,20.5s,baz=295,slow=36
HHC Hu-ho-hao-te 50.61 289 *e*P **P** **04 28 21.5 -2.8**
HHC S **S** **04 35 39.4 +1.9**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,290nm,6.7s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,880nm,17.7s
HHC LR LR
comp=Z,2μm,20.2s
319A Douglas 50.64 87 IAmb IAmb 04 28 44.2
comp=Z,41nm,1.3s
EYMN Ely 50.65 60 IAmb IAmb 04 28 38.1
comp=Z,70nm,1.0s
EYMN Ely 50.65 60 IAMs_20 IAMs_20 04 50 32.4
comp=Z,2μm,19.0s
EYMN Ely 50.65 60 P **P** **04 28 24.1 -0.2**
baz=307,SNR=13
121A Cookes Peak, D 50.79 85 IAmb IAmb 04 28 43.8
comp=Z,44nm,1.1s
121A Cookes Peak, D 50.79 85 P **P** **04 28 26.5 +0.7**
baz=313
BGNE Belgrade 50.89 70 P **P** **04 28 26.8 +0.5**
BGNE Belgrade 50.89 70 P **P** **04 28 26.7 +0.4**
baz=309,SNR=5.9
HNS HongShan 50.92 283⇑P **P** **04 28 26.8 +0.3**
HNS PP **PP** **04 30 24.6 +1.9**
HNS S **S** **04 35 42.6 +1.1**
HNS SS **SS** **04 39 14.6 -1.4**
HNS pmax pmax
comp=Z,120nm,1.1s
HNS LR LR
comp=Z,770nm,21.4s
HNS LR LR
comp=Z,2μm,20.0s
HNS LR LR
comp=Z,2μm,21.2s
DAG Danmarks Havn 51.00 7 *i*P **P** **04 28 24.6 -2.0**
DAG IAmb IAmb 04 28 41.0
comp=Z,4.5nm,0.9s
SSE Sheshan 51.11 273 P **P** **04 28 29.3 +1.4**
SSE S **S** **04 35 45.3 +1.1**
SSE pmax pmax
comp=Z,57nm,0.9s
SSE pmax pmax
comp=Z,190nm,10.3s
SSE LR LR
comp=Z,190nm,19.6s
SSE LR LR
comp=Z,280nm,19.4s
FRB Frobisher Bay 51.23 33 LR LR 04 53 34.8
comp=Z,3μm,18.2s,baz=304,slow=40
E38A The Farm, Brul 51.42 61 IAmb IAmb 04 28 43.7
comp=Z,61nm,0.9s
SPMN Marine on St. 51.58 63 IAmb IAmb 04 28 52.4
comp=Z,32nm,1.1s
SPMN Marine on St. 51.58 63 P **P** **04 28 30.3 -1.1**
baz=308,SNR=7.6
CBKS Cedar Bluff 51.59 73 P **P** **04 28 33.1 +1.5**
baz=310
BTO Baotou 51.68 290 *e*P **P** **04 28 32.3 0.0**
BTO S **S** **04 35 54.6 +2.4**
BTO LR LR
comp=Z,5μm,19.8s
BTO LR LR
comp=Z,2μm,22.9s
N33A J Bar K, Exete 51.72 70 IAmb IAmb 04 28 48.1
comp=Z,75nm,1.0s
NJ2 Nanjing 51.91 275⇓P **P** **04 28 33.8 -0.1**
NJ2 pP **pP** **04 28 36.6 -3.1**
NJ2 sP **sP** **04 28 39.8 -2.2**
NJ2 PP **PP** **04 30 30.5 -1.2**
NJ2 S **S** **04 35 53.3 -2.0**
NJ2 sS **pS** **04 36 02.5 +0.3**
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,360nm,4.4s
NJ2 LR LR
comp=Z,640nm,17.7s
NJ2 LR LR
comp=Z,770nm,17.7s
NJ2 LR LR
comp=Z,670nm,20.6s
TIY Taiyuan 52.09 285 *e*P **P** **04 28 37.0 +1.6**
TIY S **S** **04 36 01.4 +3.5**
TIY LR LR
comp=Z,950nm,17.2s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,2μm,19.2s
KNGR Kungurtug, Tuv 52.33 306⇑*e*P **P** **04 28 37.9 +0.9**
R32A Long Quarter, 52.46 73 IAmb IAmb 04 28 53.5
comp=Z,72nm,1.2s
MNTX Cornudas Mount 52.85 84 P **P** **04 28 41.6 +0.6**
MNTX IAmb IAmb 04 28 58.3
comp=Z,37nm,1.1s
MNTX Cornudas Mount 52.85 84 P **P** **04 28 42.2 +1.3**
baz=313
MSTX Muleshoe 52.92 80 IAmb IAmb 04 28 56.7
comp=Z,68nm,1.1s
MSTX Muleshoe 52.92 80 P **P** **04 28 41.5 -0.1**
baz=312
AMTX Amarillo 52.98 79 P **P** **04 28 43.0 +1.0**
baz=312
G40A Rib Lake 53.00 61 IAmb IAmb 04 28 55.6
comp=Z,31nm,0.9s
COWI Conover 53.05 60 IAmb IAmb 04 28 55.8
comp=Z,30nm,0.9s
COWI IAMs_20 IAMs_20 04 51 47.1
comp=Z,2μm,21.0s
DBG Daneborg 53.20 9 *i*P **P** **04 28 40.2 -2.6**
DBG IAmb IAmb 04 29 01.6
comp=Z,6.8nm,0.8s
K38A Parkersburg 53.22 66 IAmb IAmb 04 28 57.2
comp=Z,53nm,1.1s
KSU1 Kansas State U 53.27 71 IAmb IAmb 04 28 59.6
comp=Z,35nm,0.9s
KSU1 Kansas State U 53.27 71 P **P** **04 28 44.1 +0.1**
baz=311
SCIA State Center 53.44 66 IAMs_20 IAMs_20 04 50 03.5
comp=Z,2μm,20.0s
SCIA State Center 53.44 66 P **P** **04 28 44.6 -0.5**
baz=310
I40A Norwalk 53.64 63 IAmb IAmb 04 29 06.9
comp=Z,49nm,1.0s
LYN LuoYang 54.16 282⇑P **P** **04 28 49.8 -0.7**
LYN sP pP 04 28 55.1 -1.3
LYN S **S** **04 36 27.1 +1.2**
LYN pmax pmax
comp=Z,40nm,1.0s
LYN pmax pmax
comp=Z,290nm,8.6s
LYN LR LR
comp=Z,1μm,20.4s
LYN LR LR
comp=Z,1μm,23.9s
SFJD Kangerlussuaq 54.30 24 LR LR 04 55 41.9
comp=Z,905nm,18.5s,baz=314,slow=40
JFWS Jewell Farm 54.47 64 P **P** **04 28 51.2 -1.5**
JFWS pmax pmax
comp=Z,44nm,0.9s
JFWS MLR MLR
comp=Z,3μm,18.0s
JFWS Jewell Farm 54.47 64 P **P** **04 28 51.2 -1.5**
JFWS IAmb IAmb 04 29 13.0
comp=Z,44nm,0.9s
JFWS Jewell Farm 54.47 64 P **P** **04 28 50.9 -1.7**
baz=310,SNR=15
L40A Anamosa 54.47 65 IAmb IAmb 04 29 08.9
comp=Z,45nm,0.9s
I42A Draeger Farm, 54.58 62 IAmb IAmb 04 29 11.1
comp=Z,52nm,1.1s
P38A Dawn 54.73 69 IAmb IAmb 04 29 09.9
comp=Z,50nm,0.9s
T35A Sooner Cattle 54.76 73 IAmb IAmb 04 29 10.0
comp=Z,42nm,1.0s
H43A Windswept, Lux 54.84 61 IAmb IAmb 04 29 09.0
comp=Z,46nm,1.0s
WMOK Wichita Mounta 54.85 77 IAMs_20 IAMs_20 04 52 41.2
comp=Z,1μm,18.0s
WMOK Wichita Mounta 54.85 77 P **P** **04 28 55.8 +0.2**
baz=312
ICESG Greenland Ices 55.07 18 *i*P **P** **04 28 54.3 -2.7**
ICESG IAmb IAmb 04 30 11.9
comp=Z,21nm,0.7s
LPIG La Paz 55.13 95 LR LR 04 49 58.3
comp=Z,675nm,18.1s,baz=306,slow=33
L42A Oliver, Polo 55.39 64 IAmb IAmb 04 29 12.8
comp=Z,41nm,0.9s
TX31 Lajitas Ar. Si 55.55 85 P **P** **04 29 00.0 -0.7**
TX32 Lajitas Array 55.55 85 IAmb IAmb 04 29 17.7
comp=Z,36nm,1.1s
TXAR Lajitas Array 55.55 85 P **P** **04 28 58.9 -1.8**
comp=Z,2.4nm,0.6s,baz=307,slow=4.9,SNR=21
TXAR ScP **ScP** **04 33 56.7 -0.9**
comp=Z,0.7nm,0.8s,baz=292,slow=3.4,SNR=4.2
TXAR LR LR 04 52 12.1
comp=Z,577nm,18.4s,baz=307,slow=35
G45A Suttons Bay 55.61 59 IAmb IAmb 04 29 14.7
comp=Z,53nm,0.9s
SLBS Sierra La Lagu 55.66 95 IAMs_20 IAMs_20 04 50 20.2
comp=Z,1μm,18.0s
K43A Burlington 55.68 63 IAmb IAmb 04 29 21.9
comp=Z,54nm,1.0s
WHN Wuhan 55.74 277⇑P **P** **04 29 01.8 -0.1**
WHN S **S** **04 36 44.6 -2.5**
WHN pmax pmax
comp=Z,820nm,10.9s
WHN LR LR
comp=Z,650nm,11.0s
WHN LR LR
comp=Z,1μm,12.1s
WHN LR LR
comp=Z,1μm,19.2s
NACB Ninganchiao 55.74 266 P **P** **04 29 01.6 -0.5**
NACB IAmb IAmb 04 29 30.0
comp=Z,54nm,1.1s
ABTX Abilene, Hawle 55.76 79 P **P** **04 29 03.2 +1.1**
baz=313
TUL1 Leonard 55.87 74 IAmb IAmb 04 29 18.2
comp=Z,52nm,1.1s
TUL1 IAMs_20 IAMs_20 04 53 44.0
comp=Z,1μm,20.0s
TUL1 Leonard 55.87 74 P **P** **04 29 04.9 +2.0**
baz=312
I45A Fountain 55.95 60 IAmb IAmb 04 29 17.1
comp=Z,48nm,0.8s
HPIG 55.99 88 P **P** **04 29 05.1 +1.0**
HPIG IAmb IAmb 04 29 23.2
comp=Z,27nm,1.1s
ZAA0 Zalesovo Array 56.14 316 P **P** **04 29 05.5 +1.0**
ZALV Zalesovo Beam 56.14 316 P **P** **04 29 03.0 -1.5**
comp=Z,1.3nm,0.3s,baz=35,slow=7.6,SNR=6.0
ZALV PcP **PcP** **04 30 02.6 +0.5**
comp=Z,3.6nm,0.7s,baz=35,slow=5.4,SNR=7.7
ZALV LR LR 04 54 46.0
comp=Z,1μm,18.1s,baz=50,slow=38

ZALV	**Zalesovo Beam**	**56.14**	**316**	P	**P**	**04 29 04.7**	**+0.2**
L44A	**Lake County Fo**	**56.26**	**63**	P	**P**	**04 29 04.4**	**-1.1**
	baz=312						
GLMI	**Grayling**	**56.31**	**59**	IAMs_20	IAMs_20	04 54 16.1	
	comp=Z,2µm,18.0s						
GLMI	**Grayling**	**56.31**	**59**	P	**P**	**04 29 05.3**	**-0.5**
	baz=311						
R40A	**Maddies Statio**	**56.35**	**69**	IAmb	IAmb	04 29 19.4	
	comp=Z,23nm,0.7s						
YULB	**Yu-li**	**56.50**	**266**	P	**P**	**04 29 08.0**	**+0.5**
HDIL	**Hopedale**	**56.56**	**65**	P	**P**	**04 29 06.4**	**-1.3**
HDIL	**Hopedale**	**56.56**	**65**	P	**P**	**04 29 06.4**	**-1.3**
	baz=312,SNR=6.0						
XAN	**Xi'an**	**56.66**	**284**	P	**P**	**04 29 08.3**	**-0.3**
XAN				PP	**PP**	**04 31 19.9**	**+5.4**
XAN				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN				pmax	pmax		
	comp=Z,420nm,8.7s						
XAN				LR	LR		
	comp=Z,1µm,17.1s						
XAN				LR	LR		
	comp=Z,1µm,17.6s						
XAN				LR	LR		
	comp=Z,2µm,20.0s						
Z35A	**Perchaven, San**	**56.74**	**77**	IAmb	IAmb	04 29 26.5	
	comp=Z,33nm,0.8s						
X37A	**Clayton**	**57.01**	**75**	IAmb	IAmb	04 29 27.0	
	comp=Z,51nm,0.8s						
P43A	**Skaggs, Pawnee**	**57.04**	**66**	IAmb	IAmb	04 29 25.1	
	comp=Z,39nm,0.8s						
QZH	**Quanzhou**	**57.06**	**269**	⇑*i*P	**P**	**04 29 11.9**	**+0.5**
QZH				S	**S**	**04 37 11.3**	**+6.5**
QZH				pmax	pmax		
	comp=Z,340nm,6.0s						
QZH				LR	LR		
	comp=Z,350nm,17.5s						
QZH				LR	LR		
	comp=Z,480nm,17.0s						
QZH				LR	LR		
	comp=Z,380nm,17.5s						
CCM	**Cathedral Cave**	**57.11**	**69**	P	**P**	**04 29 10.7**	**-0.9**
CCM				pmax	pmax		
	comp=Z,17nm,0.8s						
CCM				MLR	MLR		
	comp=Z,1µm,19.0s						
CCM	**Cathedral Cave**	**57.11**	**69**	P	**P**	**04 29 10.7**	**-0.9**
CCM				IAmb	IAmb	04 29 26.4	
	comp=Z,17nm,0.8s						
CCM	**Cathedral Cave**	**57.11**	**69**	IAMs_20	IAMs_20	04 55 10.8	
	comp=Z,1µm,19.0s						
CCM	**Cathedral Cave**	**57.11**	**69**	P	**P**	**04 29 10.7**	**-0.9**
	baz=312						
MGMO	**Mountain Grove**	**57.12**	**70**	IAmb	IAmb	04 29 26.2	
	comp=Z,32nm,1.0s						
JCT	**Junction City**	**57.14**	**81**	IAmb	IAmb	04 29 29.8	
	comp=Z,44nm,0.9s						
JCT				IAMs_20	IAMs_20	04 53 13.0	
	comp=Z,1µm,19.0s						
JCT	**Junction City**	**57.14**	**81**	P	**P**	**04 29 12.2**	**+0.2**
	baz=314						
J47A	**Sunmer**	**57.25**	**60**	IAmb	IAmb	04 29 26.6	
	comp=Z,30nm,0.9s						
L46A	**Eue Claire**	**57.27**	**62**	IAmb	IAmb	04 29 27.4	
	comp=Z,31nm,0.8s						
O44A	**Mansfield**	**57.30**	**65**	IAmb	IAmb	04 29 27.6	
	comp=Z,28nm,0.7s						
U40A	**Yellville**	**57.31**	**71**	IAmb	IAmb	04 29 27.5	
	comp=Z,40nm,1.1s						
U40A				IAMs_20	IAMs_20	04 55 11.3	
	comp=Z,2µm,19.0s						
U40A	**Yellville**	**57.31**	**71**	P	**P**	**04 29 11.3**	**-1.9**
	baz=313,SNR=17						
JMIC	**Jan Mayen**	**57.34**	**6**	LR	LR	04 54 17.0	
	comp=Z,356nm,20.0s,baz=282,slow=36						
WHTX	**Lake Whitney,**	**57.53**	**78**	P	**P**	**04 29 15.0**	**+0.3**
	baz=314						
W39A	**Magazine**	**57.55**	**73**	P	**P**	**04 29 13.5**	**-1.3**
W39A	**Magazine**	**57.55**	**73**	P	**P**	**04 29 13.7**	**-1.1**
	baz=313						
FVM	**French Village**	**57.63**	**68**	IAmb	IAmb	04 29 30.0	
	comp=Z,31nm,0.8s						
VLDQ	**Val d'Or**	**57.78**	**52**	IAmb	IAmb	04 29 29.2	
	comp=Z,45nm,1.1s						
Q44A	**Meyer Farm, Va**	**57.83**	**67**	IAmb	IAmb	04 29 36.6	
	comp=Z,45nm,0.9s						
SCHQ	**Schefferville**	**57.91**	**41**	P	**P**	**04 29 16.1**	**-0.9**
	comp=Z,5.8nm,0.6s,baz=2.6,slow=9.3,SNR=26						
SCHQ				LR	LR	04 56 29.1	
	comp=Z,2µm,18.2s,baz=319,slow=38						
SCHQ	**Schefferville**	**57.91**	**41**	P	**P**	**04 29 16.2**	**-0.9**
SFIN	**Lafayette**	**57.92**	**64**	P	**P**	**04 29 16.7**	**-0.6**
	baz=313						
FCAR	**Ozark Folk Cen**	**58.06**	**71**	IAmb	IAmb	04 29 33.4	
	comp=Z,48nm,1.0s						
Z38A	**Mt. Pleasant**	**58.16**	**75**	IAmb	IAmb	04 29 34.9	
	comp=Z,45nm,0.9s						
LZH	**Lanzhou**	**58.30**	**289**	⇓P	**P**	**04 29 20.8**	**+0.5**
LZH				pP	pP	04 29 26.3	+0.2
LZH				sP	sP	04 29 28.8	+0.4
LZH				pmax	pmax		
	comp=Z,55nm,1.4s						
LZH				pmax	pmax		
	comp=Z,310nm,4.3s						
LZH				LR	LR		
	comp=Z,2µm,16.8s						
LZH				LR	LR		
	comp=Z,2µm,16.3s						
LZH				LR	LR		
	comp=Z,3µm,17.4s						
L48A	**N Adams**	**58.34**	**61**	IAmb	IAmb	04 29 37.5	
	comp=Z,28nm,0.8s						
N47A	**Urbana**	**58.36**	**63**	IAmb	IAmb	04 29 33.5	
	comp=Z,63nm,1.1s						
GTA	**Gaotai**	**58.37**	**295**	⇑P	**P**	**04 29 19.9**	**-0.7**
GTA				pP	sP	04 29 29.3	+0.5
GTA				sP	pwP	04 29 34.1	+1.5
GTA				S	**S**	**04 37 27.5**	**+5.6**
GTA				ScS	**ScS**	**04 39 05.3**	**-3.5**
GTA				pmax	pmax		
	comp=Z,25nm,1.4s						
GTA				pmax	pmax		
	comp=Z,220nm,4.7s						
GTA				LR	LR		
	comp=Z,2µm,17.4s						
GTA				LR	LR		
	comp=Z,1µm,16.7s						
GTA				LR	LR		
	comp=Z,2µm,17.4s						
WHAR	**Wooly Hollow**	**58.38**	**72**	IAmb	IAmb	04 29 35.4	
	comp=Z,49nm,1.3s						
ARA0	**ARCESS Array S**	**58.42**	**352**	*e*P	**P**	**04 29 20.8**	**+0.4**
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**04 29 19.3**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=27,slow=7.5,SNR=40						
ARCES				PcP	**PcP**	**04 30 10.3**	**-0.5**
	comp=Z,15nm,0.7s,baz=15,slow=5.0,SNR=9.0						
ARCES				pPcP		04 30 24.7	
	comp=Z,26nm,0.7s,baz=15,slow=5.0,SNR=12						
ARCES				LR	LR	04 54 21.4	
	comp=Z,1µm,22.0s,baz=2.0,slow=36						
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**04 29 21.7**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**04 29 21.7**	**+1.3**
PBMO	**Poplar Bluff**	**58.45**	**69**	IAmb	IAmb	04 29 36.2	
	comp=Z,64nm,1.2s						
W41B	**Gary Mavity, V**	**58.48**	**72**	IAmb	IAmb	04 29 42.2	
	comp=Z,22nm,1.0s						
W41B	**Gary Mavity, V**	**58.48**	**72**	P	**P**	**04 29 19.8**	**-1.5**
	baz=314						
S44A	**Carbondale**	**58.51**	**68**	P	**P**	**04 29 20.1**	**-1.4**
S44A				IAmb	IAmb	04 29 41.1	
	comp=Z,32nm,1.0s						
AAM	**Ann Arbor**	**58.52**	**60**	IAmb	IAmb	04 29 34.9	
	comp=Z,46nm,1.3s						
AAM				IAMs_20	IAMs_20	04 55 13.7	
	comp=Z,1µm,20.0s						
SIUC	**Southern Illin**	**58.52**	**68**	IAmb	IAmb	04 29 41.1	
	comp=Z,32nm,0.9s						
X40A	**Basin Creek Fa**	**58.60**	**73**	IAmb	IAmb	04 29 37.5	
	comp=Z,45nm,1.2s						
X40A				IAMs_20	IAMs_20	04 55 28.5	
	comp=Z,1µm,20.0s						
X40A	**Basin Creek Fa**	**58.60**	**73**	P	**P**	**04 29 22.3**	**+0.1**
	baz=314						
K50A	**Casco**	**58.75**	**59**	IAmb	IAmb	04 29 38.8	
	comp=Z,61nm,1.3s						
JETT	**Jettan, Norway**	**58.78**	**354**	*e*P	**P**	**04 29 23.7**	**+0.7**
TRO	**Tromso**	**58.79**	**355**	*e*P	**P**	**04 29 22.4**	**-0.5**
833A	**Chaparral WMA,**	**58.91**	**83**	P	**P**	**04 29 24.6**	**+0.2**
	baz=315						
ENH	**Enshi**	**58.93**	**281**	P	**P**	**04 29 24.5**	**0.0**
ENH				IAmb	IAmb	04 29 39.5	
	comp=Z,42nm,1.0s						
LVZ	**Lovozero**	**59.00**	**348**	*ce*P	**P**	**04 29 24.0**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,38nm,1.3s						
LVZ	**Lovozero**	**59.00**	**348**	P	**P**	**04 29 23.3**	**-1.2**
LVZ				IAmb	IAmb	04 29 38.3	
	comp=Z,42nm,0.9s						
BLO	**Bloomington**	**59.06**	**65**	IAmb	IAmb	04 29 40.2	
	comp=Z,39nm,0.8s						
O48B	**Farmland**	**59.09**	**63**	P	**P**	**04 29 23.7**	**-1.8**
	baz=313,SNR=12						
KTK1	**Kautokeino**	**59.12**	**353**	*e*P	**P**	**04 29 24.6**	**-0.6**
N49A	**Columbus Grove**	**59.17**	**62**	IAmb	IAmb	04 29 39.0	
	comp=Z,26nm,1.1s						
SADO	**Sadowa**	**59.22**	**56**	LR	LR	04 56 42.5	
	comp=Z,2µm,18.1s,baz=355,slow=38						
SADO	**Sadowa**	**59.22**	**56**	IAmb	IAmb	04 29 41.2	
	comp=Z,30nm,0.9s						
NATX	**Nacogdoches**	**59.40**	**76**	IAMs_20	IAMs_20	04 52 29.6	
	comp=Z,1µm,20.0s						
M50A	**Fremont**	**59.47**	**61**	IAmb	IAmb	04 29 43.9	
	comp=Z,26nm,1.1s						
APA	**Apatity**	**59.48**	**348**	⇓*i*P	**P**	**04 29 26.8**	**-0.9**
APA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,2µm,18.0s						
O49A	**Covington**	**59.59**	**63**	IAmb	IAmb	04 29 48.9	
	comp=Z,33nm,1.2s						
CCAR	**Cane Creek**	**59.63**	**73**	P	**P**	**04 29 30.2**	**+0.9**
HKT	**Hockley**	**59.95**	**79**	⇑*e*P	**P**	**04 29 32.0**	**+0.5**
HKT				pmax	pmax		
	comp=Z,16nm,1.5s						
HKT	**Hockley**	**59.95**	**79**	IAMs_20	IAMs_20	04 57 07.1	
	comp=Z,1µm,19.0s						
T47A	**Sharon Grove**	**60.24**	**67**	IAmb	IAmb	04 29 50.4	
	comp=Z,38nm,0.9s						
M52A	**Chesterland**	**60.28**	**60**	IAmb	IAmb	04 29 47.8	
	comp=Z,37nm,0.9s						
ACSO	**Alum Creek Sta**	**60.31**	**62**	IAmb	IAmb	04 29 48.8	
	comp=Z,18nm,0.8s						
ACSO	**Alum Creek Sta**	**60.31**	**62**	P	**P**	**04 29 32.9**	**-0.9**
	baz=314,SNR=7.6						
WVT	**Waverly**	**60.41**	**68**	P	**P**	**04 29 35.1**	**+0.5**
WVT				pmax	pmax		
	comp=Z,47nm,1.4s						
WVT	**Waverly**	**60.41**	**68**	P	**P**	**04 29 35.1**	**+0.5**
WVT				IAmb	IAmb	04 29 50.0	
	comp=Z,47nm,1.4s						
WVT	**Waverly**	**60.41**	**68**	IAMs_20	IAMs_20	04 57 20.2	
	comp=Z,1µm,18.0s						
WVT	**Waverly**	**60.41**	**68**	P	**P**	**04 29 34.2**	**-0.4**
	baz=314						
TRQ	**Mont Tremblant**	**60.52**	**52**	P	**P**	**04 29 34.3**	**-1.0**
ERPA	**Erie**	**60.62**	**58**	P	**P**	**04 29 36.2**	**+0.3**
	baz=314,SNR=8.9						
OXF	**Oxford**	**60.62**	**71**	P	**P**	**04 29 36.4**	**+0.3**
	baz=314						
SEM	**Semipalatinsk**	**60.63**	**315**	*e*P	**P**	**04 29 35.0**	**-1.2**
SEM	**Semipalatinsk**	**60.63**	**315**	*e*P	**P**	**04 29 35.0**	**-1.2**
	baz=315						
ZSN	**Zaisan**	**60.64**	**310**	*e*P	**P**	**04 29 35.5**	**-0.5**
ZSN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZSN	**Zaisan**	**60.64**	**310**	*e*P	**P**	**04 29 35.5**	**-0.5**
	comp=Z,7.8nm,0.7s,baz=310						
STEI	**Steigen**	**60.67**	**356**	*e*P	**P**	**04 29 35.0**	**-0.9**
M53A	**WI Miller and**	**60.72**	**59**	P	**P**	**04 29 36.5**	**-0.2**
	baz=314,SNR=9.4						
P51A	**Williamsport**	**60.79**	**62**	IAmb	IAmb	04 29 50.0	
	comp=Z,20nm,1.1s						
ALLY	**Alegheny Colle**	**60.86**	**59**	P	**P**	**04 29 37.6**	**-0.1**
R50A	**Paris**	**60.92**	**64**	IAmb	IAmb	04 29 51.5	
	comp=Z,40nm,1.1s						
ZAIG	**Zacatecas**	**60.94**	**89**	P	**P**	**04 29 39.3**	**+0.6**
PLAL	**Pickwick Lake**	**61.07**	**69**	IAmb	IAmb	04 29 59.1	
	comp=Z,28nm,0.8s						
PLAL				IAMs_20	IAMs_20	04 56 32.1	
	comp=Z,873nm,18.0s						
N53A	**Lisbon**	**61.08**	**60**	IAmb	IAmb	04 29 53.2	
	comp=Z,36nm,0.9s						
KURK	**Kurchatov**	**61.12**	**316**	*c i*P	**P**	**04 29 37.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,18nm,0.7s						
KURK	**Kurchatov**	**61.12**	**316**	P	**P**	**04 29 38.3**	**-0.9**
KURK	**Kurchatov**	**61.12**	**316**	P	**P**	**04 29 38.3**	**-0.9**
KURK				P	**P**	**04 29 38.3**	**-0.9**
P52A	**Corning**	**61.19**	**62**	IAmb	IAmb	04 30 06.8	
	comp=Z,22nm,1.1s						
P52A	**Corning**	**61.19**	**62**	P	**P**	**04 29 39.0**	**-0.9**
	baz=315						
FAUS	**Fauske**	**61.22**	**356**	*e*P	**P**	**04 29 38.9**	**-0.6**
M54A	**Oil Creek Stat**	**61.22**	**59**	P	**P**	**04 29 39.6**	**-0.4**
	baz=315,SNR=8.9						
KURBB	**Kurchatov Arra**	**61.23**	**316**	LR	LR	04 58 07.1	
	comp=Z,3µm,18.0s,baz=29,slow=38						
KURBB	**Kurchatov Arra**	**61.23**	**316**	P	**P**	**04 29 38.5**	**-1.4**
O53A	**New Philadelph**	**61.27**	**61**	P	**P**	**04 29 40.5**	**+0.1**
	baz=315,SNR=8.7						
V48A	**Smith Brothers**	**61.27**	**68**	P	**P**	**04 29 40.0**	**-0.5**
V48A				IAmb	IAmb	04 30 00.0	
	comp=Z,26nm,1.1s						
U49A	**Red Boiling Sp**	**61.33**	**67**	IAmb	IAmb	04 29 56.1	
	comp=Z,17nm,0.9s						
N54A	**Moraine State**	**61.43**	**59**	IAMs_20	IAMs_20	04 57 11.6	
	comp=Z,1µm,19.0s						
N54A	**Moraine State**	**61.43**	**59**	P	**P**	**04 29 41.0**	**-0.5**
	baz=315,SNR=11						
T50A	**Nancy**	**61.51**	**66**	IAmb	IAmb	04 29 57.4	
	comp=Z,17nm,0.8s						
VBMS	**Vicksburg**	**61.57**	**73**	IAMs_20	IAMs_20	04 57 41.1	
	comp=Z,1µm,19.0s						
Q52A	**Bidwell**	**61.59**	**62**	P	**P**	**04 29 41.7**	**-0.9**
Q52A				IAmb	IAmb	04 29 57.5	
	comp=Z,22nm,0.8s						
LMQ	**La Malbaie**	**61.60**	**48**	IAmb	IAmb	04 29 52.5	
	comp=Z,31nm,1.2s						
LONY	**Lake Ozonia**	**61.64**	**53**	IAmb	IAmb	04 29 57.1	
	comp=Z,40nm,0.9s						
LONY	**Lake Ozonia**	**61.64**	**53**	P	**P**	**04 29 41.7**	**-1.2**
	baz=316,SNR=9.6						
S51A	**Beattyville**	**61.78**	**64**	IAmb	IAmb	04 29 59.0	
	comp=Z,29nm,0.8s						
WMQ	**Urumqi**	**61.83**	**306**	*e*P	**P**	**04 29 45.1**	**+0.9**
WMQ				pP	pP	04 29 47.8	-2.3
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,290nm,6.9s						
WMQ				LR	LR		
	comp=Z,3µm,17.9s						
WMQ				LR	LR		
	comp=Z,2µm,20.3s						
WMQ				LR	LR		
	comp=Z,1µm,21.1s						
GULI	**GuiLin**	**61.94**	**276**	*e*P	**P**	**04 29 46.8**	**+1.7**
GULI				S	**S**	**04 38 08.8**	**+1.0**
GULI				pmax	pmax		
	comp=Z,60nm,1.3s						
GULI				LR	LR		
	comp=Z,590nm,17.4s						
GULI				LR	LR		
	comp=Z,360nm,20.6s						
GULI				LR	LR		
	comp=Z,810nm,20.6s						
CD2	**Chengdu**	**61.97**	**285**	P	**P**	**04 29 45.5**	**+0.2**
CD2				PcP	**PcP**	**04 30 27.3**	**+1.5**
CD2				S	**S**	**04 38 09.8**	**+1.7**
CD2				pmax	pmax		
	comp=Z,90nm,0.8s						
CD2				pmax	pmax		
	comp=Z,310nm,4.3s						
CD2				LR	LR		
	comp=Z,1µm,18.6s						
CD2				LR	LR		
	comp=Z,1µm,19.6s						
FRNY	**Flat Rock**	**61.98**	**52**	P	**P**	**04 29 44.1**	**-1.1**
FRNY				IAmb	IAmb	04 29 59.6	
	comp=Z,28nm,1.1s						
X48A	**Hartselle**	**62.05**	**69**	IAmb	IAmb	04 30 05.3	
	comp=Z,18nm,0.9s						
SWET	**Sewanee**	**62.16**	**68**	IAmb	IAmb	04 30 01.1	
	comp=Z,14nm,0.8s						
NCB	**Newcomb**	**62.29**	**54**	P	**P**	**04 29 46.7**	**-0.5**
NCB				IAmb	IAmb	04 30 02.0	
	comp=Z,34nm,0.9s						
MK31	**Makanchi Array**	**62.33**	**311**	P	**P**	**04 29 45.9**	**-1.6**
MK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MK31	**Makanchi Array**	**62.33**	**311**	P	**P**	**04 29 45.9**	**-1.6**
MKAR	**Makanchi Array**	**62.33**	**311**	P	**P**	**04 29 45.9**	**-1.6**
	comp=Z,4.1nm,0.3s,baz=47,slow=6.7,SNR=156						
MKAR				LR	LR	04 57 28.7	
	comp=Z,2µm,19.9s,baz=42,slow=37						
MCWV	**Mont Chateau**	**62.43**	**60**	P	**P**	**04 29 47.8**	**-0.4**
	baz=315,SNR=9.9						
MOR8	**Moi Rana**	**62.46**	**356**	*e*P	**P**	**04 29 45.8**	**-2.2**
MAKZ	**Makanchi**	**62.47**	**311**	P	**P**	**04 29 46.7**	**-1.7**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.1s						
MAKZ				MLR	MLR		
	comp=Z,2µm,20.0s						
MAKZ	**Makanchi**	**62.47**	**311**	P	**P**	**04 29 46.7**	**-1.7**
MAKZ				IAMs_20	IAMs_20	04 57 20.6	
	comp=Z,2µm,20.0s						
W50A	**Signal Mountai**	**62.52**	**67**	IAmb	IAmb	04 30 05.1	
	comp=Z,22nm,0.9s						
D62A	**Allapoint, All**	**62.54**	**48**	IAmb	IAmb	04 30 08.2	
	comp=Z,37nm,1.1s						
TZTN	**Tazewell**	**62.58**	**65**	IAmb	IAmb	04 30 09.8	
	comp=Z,37nm,1.0s						
TZTN	**Tazewell**	**62.58**	**65**	P	**P**	**04 29 48.6**	**-0.7**
	baz=315,SNR=11						
V51A	**Loudon**	**62.65**	**66**	IAmb	IAmb	04 30 05.8	
	comp=Z,16nm,0.9s						
BINY	**Binghamton**	**62.66**	**56**	IAMs_20	IAMs_20	04 57 12.1	
	comp=Z,2µm,19.0s						
BINY	**Binghamton**	**62.66**	**56**	P	**P**	**04 29 49.8**	**0.0**
	baz=316,SNR=19						
O56A	**Blue Knob Stat**	**62.68**	**59**	P	**P**	**04 29 49.6**	**-0.3**
	baz=316,SNR=8.1						
BRVK	**Borovoye**	**62.75**	**322**	*ce*P	**P**	**04 29 49.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,21nm,1.7s						
BRVK	**Borovoye**	**62.75**	**322**	P	**P**	**04 29 49.5**	**-0.6**
BRVK				IAmb	IAmb	04 30 06.2	
	comp=Z,14nm,0.9s						
BRVK	**Borovoye**	**62.75**	**322**	P	**P**	**04 29 49.6**	**-0.5**
BRVK				P	**P**	**04 29 49.6**	**-0.5**
SSPA	**Standing Stone**	**62.78**	**58**	P	**P**	**04 29 49.9**	**-0.6**
SSPA	**Standing Stone**	**62.78**	**58**	P	**P**	**04 29 50.0**	**-0.6**
	baz=316						
CPCT	**Cooper Cave**	**62.80**	**67**	IAmb	IAmb	04 30 07.4	
	comp=Z,21nm,1.1s						
Y49A	**Blount Mountai**	**62.84**	**69**	IAmb	IAmb	04 30 19.3	
	comp=Z,23nm,1.1s						
PRGR	**Permogore**	**62.89**	**340**	*e*P	**P**	**04 29 47.9**	**-3.0**
PRGR				pmax	pmax		
	comp=Z,29nm,0.9s						
V52A	**Sevierville**	**63.05**	**66**	IAmb	IAmb	04 30 07.7	
	comp=Z,21nm,0.9s						
TKL	**Tuckaleechee C**	**63.08**	**66**	LR	LR	04 56 07.8	
	comp=Z,1µm,20.6s,baz=328,slow=35						
TKL	**Tuckaleechee C**	**63.08**	**66**	IAmb	IAmb	04 30 08.3	
	comp=Z,18nm,0.8s						
LRAL	**Lakeview Retre**	**63.08**	**70**	IAMs_20	IAMs_20	04 59 45.8	
	comp=Z,980nm,19.0s						
LRAL	**Lakeview Retre**	**63.08**	**70**	P	**P**	**04 29 53.3**	**+0.7**
	baz=316						
SVE	**Sverdlovsk**	**63.09**	**330**	*e*P	**P**	**04 29 52.6**	**+0.3**
SVE				pmax	pmax		
	comp=Z,22nm,1.1s						
SVE				MLR	MLR		
	comp=Z,2µm,18.0s						
Q56A	**Snyder Ridge,**	**63.22**	**60**	IAmb	IAmb	04 30 09.1	
	comp=Z,20nm,1.0s						
LBNH	**Lisbon**	**63.24**	**52**	P	**P**	**04 29 53.4**	**-0.1**
LBNH				pmax	pmax		
	comp=Z,41nm,1.1s						
LBNH				MLR	MLR		
	comp=Z,2µm,18.0s						
LBNH	**Lisbon**	**63.24**	**52**	P	**P**	**04 29 53.4**	**-0.1**
LBNH				IAmb	IAmb	04 30 08.8	
	comp=Z,40nm,1.1s						
LBNH	**Lisbon**	**63.24**	**52**	P	**P**	**04 29 53.4**	**-0.1**
	baz=317						
X51A	**Calhoun**	**63.24**	**68**	IAmb	IAmb	04 30 22.8	
	comp=Z,21nm,0.9s						
R55A	**Marlinton**	**63.26**	**62**	IAmb	IAmb	04 30 21.8	
	comp=Z,30nm,0.8s						
GYA	**Guiyang**	**63.38**	**280**	⇓P	**P**	**04 29 55.3**	**+0.4**
GYA				pP	pP	04 29 59.4	-1.4
GYA				PP	**PP**	**04 32 14.3**	**+0.2**
GYA				S	**S**	**04 38 26.3**	**+0.1**
GYA				pmax	pmax		
	comp=Z,26nm,1.2s						
GYA				pmax	pmax		
	comp=Z,290nm,3.8s						
GYA				LR	LR		
	comp=Z,350nm,18.8s						
GYA				LR	LR		
	comp=Z,520nm,24.4s						
GYA				LR	LR		
	comp=Z,420nm,26.5s						
W52A	**Murphy**	**63.40**	**67**	IAmb	IAmb	04 30 14.3	
	comp=Z,25nm,1.1s						
GOMU	**GeErMu**	**63.44**	**295**	P	**P**	**04 29 53.9**	**-1.5**
GOMU				pP	pP	04 29 58.0	-3.4
GOMU				sP	sP	04 30 00.8	-2.8
GOMU				pmax	pmax		
	comp=Z,11nm,0.8s						
GOMU				LR	LR		
	comp=Z,1µm,18.0s						
GOMU				LR	LR		
	comp=Z,1µm,18.0s						
GOMU				LR	LR		
	comp=Z,1µm,18.5s						
HNH	**Hanover**	**63.45**	**53**	IAmb	IAmb	04 30 09.8	
	comp=Z,42nm,1.1s						
F63A	**Nahmakanta, Br**	**63.52**	**49**	IAmb	IAmb	04 30 05.0	
	comp=Z,35nm,1.1s						
P57A	**Homestead Farm**	**63.54**	**59**	P	**P**	**04 29 55.4**	**-0.2**
P57A				IAmb	IAmb	04 30 10.1	
	comp=Z,32nm,0.8s						
V53A	**Saluda**	**63.62**	**65**	IAmb	IAmb	04 30 16.8	
	comp=Z,17nm,0.9s						
N59A	**State Game Lan**	**63.70**	**57**	P	**P**	**04 29 56.6**	**0.0**
	baz=316,SNR=15						
F64A	**Sherman**	**63.76**	**49**	IAmb	IAmb	04 30 20.6	
	comp=Z,36nm,1.1s						
BATG	**Bathurst New B**	**63.76**	**46**	IAmb	IAmb	04 30 10.8	
	comp=Z,29nm,1.3s						
BLA	**Blacksburg**	**63.86**	**63**	P	**P**	**04 29 57.5**	**-0.3**
	baz=316,SNR=8.9						
Z51A	**Franklin**	**63.95**	**69**	IAmb	IAmb	04 30 12.0	
	comp=Z,25nm,0.9s						
BG3	**Lake Jocassee**	**64.04**	**66**	IAmb	IAmb	04 30 16.1	
	comp=Z,43nm,1.3s						
MVL	**Millersville**	**64.05**	**58**	IAmb	IAmb	04 30 14

V55A Taylorsville 64.39 64 IAmb IAmb 04 30 18.4
comp=Z,37nm,1.1s
WUPA West Chester U 64.50 57 IAmb IAmb 04 30 16.5
comp=Z,26nm,1.1s
PAL Palisades 64.60 56 P **P 04 30 03.4 +0.9**
baz=317,SNR=8.8
T57A Hurt 64.66 62 IAmb IAmb 04 30 18.4
comp=Z,28nm,0.8s
152A Waverly Hall 64.68 69 IAmb IAmb 04 30 18.3
comp=Z,21nm,1.1s
HRV Adam Dziewonsk 64.69 53 P **P 04 30 03.9 +0.8**
HRV pmax pmax
comp=Z,61nm,1.2s
HRV MLR MLR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 64.69 53 P **P 04 30 03.9 +0.8**
HRV Adam Dziewonsk 64.69 53 P **P 04 30 03.2 +0.1**
baz=318
R58B Mineral 64.71 60 IAmb IAmb 04 30 19.2
comp=Z,41nm,1.1s
KIRV Kirov 64.73 337 LR LR 05 02 27.2
comp=Z,1µm,18.2s,baz=32,slow=40
PAULI Pauline 64.80 65 IAmb IAmb 04 30 24.3
comp=Z,24nm,1.0s
HNR Honiara 64.80 209 IAMs_20 IAMs_20 04 49 22.6
comp=Z,908nm,20.0s
CBN Corbin Frederi 64.81 60 P **P 04 30 04.1 +0.1**
baz=317
KLMR Klimovskoe 64.82 343 *e*P **P 04 30 00.1 -3.5**
KLMR *e* 04 32 21.5
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR Klimovskoe 64.82 343 *e*P **P 04 30 00.1 -3.5**
KLMR AMP 04 30 05.6
comp=Z,39nm,1.3s
KLMR *e*PP **PP 04 32 21.5 -4.1**
KLMR LQ LQ 04 53 25.8
KLMR LQ LQ 04 53 25.8
KLMR LR LR 04 58 32.2
KMSC Kings Mountain 64.84 65 P **P 04 30 03.7 -0.5**
baz=316,SNR=14
GOGA Godfrey 64.87 67 IAmb IAmb 04 30 25.4
comp=Z,27nm,1.0s
GOGA Godfrey 64.87 67 IAMs_20 IAMs_20 05 01 00.1
comp=Z,1µm,18.0s
GOGA Godfrey 64.87 67 P **P 04 30 03.2 -1.2**
baz=316
HODGE Hodges 64.97 66 IAmb IAmb 04 30 21.9
comp=Z,25nm,1.1s
BRYW Bryant College 65.13 53 P **P 04 30 06.2 +0.2**
AFI Afiamalu 65.18 178 LR LR 04 57 33.0
comp=Z,661nm,18.1s,baz=359,slow=35
JSC Jenkinsville 65.50 65 IAmb IAmb 04 30 35.9
comp=Z,20nm,0.9s
TBLU Trondheim 65.52 358 *e*P **P 04 30 06.7 -1.4**
W57A Gilead 65.58 64 IAmb IAmb 04 30 22.6
comp=Z,30nm,1.2s
UNM Universidad Na 65.60 89 IAMs_20 IAMs_20 04 57 25.3
comp=Z,897nm,19.0s
V58A Windy Hill, Pi 65.61 63 IAmb IAmb 04 30 37.0
comp=Z,58nm,1.4s
T59A Double "B" Far 65.61 61 IAmb IAmb 04 30 25.1
comp=Z,33nm,0.9s
OTUK Ortayu 65.67 318 P **P 04 30 08.5 -0.9**
BIRD Birdtown, Kers 65.69 65 IAmb IAmb 04 30 27.5
comp=Z,28nm,1.1s
M65A Busby, Falmout 65.84 53 IAMs_20 IAMs_20 04 59 14.2
comp=Z,1µm,19.0s
U59A Littleton 65.93 62 IAmb IAmb 04 30 25.3
comp=Z,26nm,1.2s
FIA1 FINESS Array S 66.26 350 P **P 04 30 11.9 -1.0**
FIA1 IAmb IAmb 04 30 12.7
comp=Z,54nm,1.5s
FINES FINESS Array B 66.26 350 P **P 04 30 11.3 -1.6**
comp=Z,6.3nm,0.6s,baz=18,slow=6.5,SNR=46
FINES pP **pwP 04 30 25.9 +1.9**
comp=Z,8.0nm,0.7s,baz=34,slow=7.1,SNR=8.9
FINES PcP **PcP 04 30 42.3 -0.5**
comp=Z,17nm,0.9s,baz=46,slow=5.5,SNR=6.0
FINES pPcP 04 30 55.4
comp=Z,8.5nm,0.6s,baz=29,slow=4.4,SNR=5.9
FINES LR LR 05 02 04.1
comp=Z,879nm,20.0s,baz=12,slow=39
PZH PanZhiHua 66.36 283 ⇑P **P 04 30 14.3 0.0**
PZH sP **sP 04 30 21.8 -0.7**
PZH PcP **PcP 04 30 39.9 -4.1**
PZH S **S 04 39 03.8 +0.9**
PZH ScS **SKSac 04 40 07.8 -1.5**
PZH pmax pmax
comp=Z,80nm,1.2s
PZH pmax pmax
comp=Z,610nm,3.5s
PZH LR LR
comp=Z,680nm,20.0s
PZH LR LR
comp=Z,590nm,19.8s
PZH LR LR
comp=Z,700nm,23.0s
SHLS Shalkode 66.38 310 *e*P **P 04 30 12.1 -2.0**
SHLS Shalkode 66.38 310 *e*P **P 04 30 12.2 -2.0**
baz=310
X58A Rowland 66.39 64 IAmb IAmb 04 30 32.2
comp=Z,38nm,1.1s
DAV Davao City (W) 66.43 251 LR LR 04 55 00.2
comp=Z,448nm,21.4s,baz=58,slow=32
KPKS Kokpek 66.51 311*d* *i*P **P 04 30 14.5 -0.5**
KPKS pmax pmax
comp=Z,10.0nm,0.8s
KPKS Kokpek 66.51 311 ⇓ *i*P **P 04 30 14.5 -0.5**
comp=Z,10.0nm,0.8s,baz=311
UZB Uzunbulak 66.59 310 *e*P **P 04 30 14.9 -0.6**
UZB Uzunbulak 66.59 310 *e*P **P 04 30 15.0 -0.6**
baz=310
KMI Kunming 66.77 281 ⇑P **P 04 30 17.1 +0.1**
KMI pP sP 04 30 24.8 -0.4
KMI sP pwP 04 30 29.0 0.0
KMI PcP **PcP 04 30 46.3 +0.5**
KMI PP **PP 04 32 44.9 +1.0**
KMI S **S 04 39 10.3 +2.3**
KMI sS sS 04 39 20.9 +3.1
KMI SS **SS 04 43 28.8 +3.3**
KMI pmax pmax
comp=Z,22nm,1.4s
KMI pmax pmax
comp=Z,280nm,4.9s
KMI LR LR
comp=Z,630nm,22.7s
KMI LR LR
comp=Z,400nm,18.4s
KMI LR LR
comp=Z,650nm,17.4s
TAOE Nuku Hiva Isla 66.78 143 *e*S **S 04 39 08.5 +0.8**
comp=Z,2µm,27.7s
TAOE Nuku Hiva Isla 66.78 143 *e*LR LR 04 50 19.3
comp=Z,1µm,22.9s,baz=350
QIZ Qiongzhong 66.88 272 P **P 04 30 16.8 -0.7**
QIZ S **S 04 39 08.8 -0.1**
QIZ LR LR
comp=Z,530nm,14.4s
QIZ LR LR
comp=Z,670nm,16.6s
QIZ LR LR
comp=Z,390nm,21.1s
NHSC New Hope 66.97 66 P **P 04 30 18.9 +1.0**
baz=317
PUL Pulkovo 67.35 347⇑ *e*P **P 04 30 20.9 +1.1**
PUL pmax pmax
comp=Z,51nm,0.8s
BTLS Baital 67.43 315*d* *i*P **P 04 30 19.7 -0.9**
BTLS Baital 67.43 315 ⇓ *i*P **P 04 30 19.8 -0.9**
baz=315
MDOK Medeo 67.51 312 *e*P **P 04 30 20.6 -0.8**
MDOK Medeo 67.51 312 *e*P **P 04 30 20.7 -0.8**
baz=312
NC303 NORSAR Array S 67.52 357 IAmb IAmb 04 30 40.7
comp=Z,42nm,1.4s
NC405 NORSAR Array S 67.62 357 IAmb IAmb 04 30 45.0
comp=Z,29nm,1.0s
NB201 NORSAR Array S 67.70 357 IAmb IAmb 04 30 37.4
comp=Z,33nm,0.8s
NB2 NORSAR Subarra 67.71 357 P **P 04 30 21.0 -1.2**
comp=Z,1.0nm,0.4s,baz=5.0,slow=6.9
NB2 NORSAR Subarra 67.71 357 P **P 04 30 21.0 -1.2**
baz=5.0,slow=6.9
NOA NORSAR Array B 67.71 357 P **P 04 30 21.1 -1.2**
comp=Z,1.0nm,0.4s,baz=256,slow=4.1,SNR=36
NOA LR LR 05 01 08.1
comp=Z,556nm,18.5s,baz=355,slow=37
NAO01 NORSAR Array S 67.92 358 *e*P **P 04 30 22.6 -0.9**
AAL Aland 68.09 353 *e*P **P 04 30 23.9 -0.6**
SKAR Skarslia 68.13 359 *e*P **P 04 30 24.6 -0.3**
KDJ Kajisay 68.25 311 P **P 04 30 25.8 -0.3**
KDJ pmax pmax
comp=Z,18nm,1.2s
KDJ Kajisay 68.25 311 P **P 04 30 25.8 -0.3**
KDJ IAmb IAmb 04 30 28.3
comp=Z,18nm,1.1s
TKM2 Tokmak 2 68.37 312 P **P 04 30 26.9 -0.1**
SNR=14
SGDS Sogindy 68.40 313 *e*P **P 04 30 26.5 -0.4**
comp=Z,8.6nm,0.9s,baz=313
HFS Hagfors 68.53 356 LR LR 05 01 21.3
comp=Z,453nm,18.7s,baz=9.0,slow=37
BOOM Boomskoye usch 68.55 312 P **P 04 30 27.9 -0.1**
BOOM pmax pmax
comp=Z,16nm,0.9s
BOOM Boomskoye usch 68.55 312 P **P 04 30 27.9 -0.1**
BOOM IAmb IAmb 04 30 54.6
comp=Z,16nm,0.8s
UPP Uppsala 68.58 354 *e*P **P 04 30 27.3 -0.3**
ULHL Ulahol 68.60 311 P **P 04 30 28.4 +0.1**
SNR=5.6
USP Ospenovka 68.61 313 P **P 04 30 28.2 0.0**
SNR=24
CHMS Chumysh 68.70 313 P **P 04 30 30.3 +1.5**
SNR=9.8
KBK Karagabulak 68.88 313 P **P 04 30 30.3 +0.2**
SNR=8.7
VSU Vasula 69.09 349*c* *i*P **P 04 30 29.8 -1.0**
VSU pmax pmax
comp=Z,114nm,1.0s
VSU Vasula 69.09 349 *e*P **P 04 30 30.2 -0.6**
AAK Ala-Archa 69.10 313 LR LR 05 03 05.1
comp=Z,915nm,18.5s,baz=49,slow=38
AAK Ala-Archa 69.10 313 P **P 04 30 31.3 -0.1**
SNR=16
AAK Ala-Archa 69.10 313*c* *i*P **P 04 30 31.2 -0.2**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 69.10 313 P **P 04 30 30.5 -0.9**
AAK IAmb IAmb 04 30 48.2
comp=Z,22nm,0.8s
AAK Ala-Archa 69.10 313 IAMs_20 IAMs_20 05 05 28.2
comp=Z,1µm,18.0s
AAK Ala-Archa 69.10 313 P **P 04 30 30.9 -0.5**
AAK P **P 04 30 30.9 -0.5**
AAK Ala-Archa 69.10 313 *i*P **P 04 30 31.1 -0.2**
SNR=5.7
KONO Kongsberg 69.14 358 *e*P **P 04 30 31.6 +0.4**
MTSE Matsula 69.18 350 *e*P **P 04 30 31.0 -0.3**
AKTO Aktyubinsk 69.30 327 LR LR 05 04 36.3
comp=Z,1µm,18.4s,baz=35,slow=39
AKTO Aktyubinsk 69.30 327 P **P 04 30 31.3 -1.0**
MSVF Nonsavu 69.33 188 LR LR 04 57 35.5
comp=Z,1µm,18.9s,baz=4.4,slow=33
PMG Port Moresby 69.38 222 LR LR 04 55 47.5
comp=Z,600nm,21.7s,baz=48,slow=31
EKS2 Erkin-Say 69.41 313 P **P 04 30 33.4 +0.1**
SNR=5.5
UCH Uchtor 69.41 312 P **P 04 30 34.3 +0.6**
SNR=11
AB31 Akbulak array 69.64 326 *i*P **P 04 30 33.2 -1.1**
ABKAR Akbulak array 69.64 326 P **P 04 30 33.3 -1.0**
SWI Sorong 69.67 241 P **P 04 30 35.4 +0.4**
comp=Z,89nm,1.2s
AML Almayashu 69.87 313 P **P 04 30 36.3 -0.1**
SNR=29
AML Almayashu 69.87 313 P **P 04 30 36.0 -0.4**
AML Almayashu 69.87 313 *i*P **P 04 30 35.9 -0.4**
SNR=29
DWPF Disney Wildern 69.94 70 IAMs_20 IAMs_20 05 04 43.6
comp=Z,1µm,18.0s
MOS Moscow 69.97 342 *e*P **P 04 30 33.9 -2.3**
MOS pmax pmax
comp=Z,44nm,0.8s
VIKU Vikbolandet 69.99 354 *e*P **P 04 30 36.0 -0.4**
PMOR Pomariorio Ree 70.00 153 *e*T T 05 47 25.7
comp=Z,13nm,0.2s
LSA Lhasa 70.29 293 P **P 04 30 40.2 +1.0**
LSA pmax pmax
comp=Z,66nm,0.9s
LSA MLR MLR
comp=Z,1µm,20.0s
LSA Lhasa 70.29 293 P **P 04 30 40.2 +1.0**
LSA IAMs_20 IAMs_20 05 03 57.4
comp=Z,1µm,20.0s
LSA Lhasa 70.29 293 P **P 04 30 39.0 -0.2**
LSA P **P 04 30 39.0 -0.2**
LSA Lhasa 70.29 293 P **P 04 30 40.3 +1.1**
SLIT Slitere, Latvi 70.40 351 *e*P **P 04 30 38.0 -0.9**
BELG Belogornoye 70.72 335 LR LR 05 06 42.5
comp=Z,1µm,18.3s,baz=19,slow=40
OBN Obninsk 70.76 342 LR LR 05 05 34.8
comp=Z,226nm,20.7s,baz=13,slow=39
OBN Obninsk 70.76 342*c* *i*P **P 04 30 39.7 -1.4**
OBN *i* 04 30 50.6
OBN *i* 04 31 00.4
OBN *i* 04 33 16.4
OBN pmax pmax
comp=Z,50nm,1.3s
OBN MLR MLR
comp=Z,989nm,19.0s
OBN Obninsk 70.76 342 P **P 04 30 39.9 -1.1**
OBN IAmb IAmb 04 30 43.0
comp=Z,34nm,1.0s
KSH Kashi 70.85 310 P **P 04 30 45.3 +3.2**
KSH pP sP 04 30 50.1 -0.2
KSH S **S 04 39 59.6 +3.8**
KSH SS **SS 04 44 34.1 +6.6**
KSH pmax pmax
comp=Z,54nm,1.4s
KSH LR LR
comp=Z,2µm,19.0s
KSH LR LR
comp=Z,1µm,18.4s
KSH LR LR
comp=Z,2µm,19.7s
FAKI Fak Fak 70.86 239 P **P 04 30 42.7 +0.5**
FAKI IAmb IAmb 04 31 01.7
comp=Z,30nm,0.9s
FAKI Fak Fak 70.86 239 P **P 04 30 43.5 +1.2**
comp=Z,3µmcomp=Z,29nm,1.1s
IUG Iuzhnay 71.50 315 *e*P **P 04 30 45.7 -0.2**
IUG Iuzhnay 71.50 315 *e*P **P 04 30 45.8 -0.2**
baz=315
ISAL Salakas 71.99 348 *e*P **P 04 30 48.4 -0.1**
PPT Papeete 72.00 156 LR LR 04 57 49.7
comp=Z,1µm,18.5s,baz=320,slow=32
PPT2 Papeete2 72.02 156 *e*S **S 04 40 12.3 +3.0**
comp=Z,2µm,27.5s
PPT2 Papeete2 72.02 156 *e*LR LR 04 52 46.0
comp=Z,1µm,21.5s,baz=344
PPT2 Papeete2 72.02 156 *e*T T 05 49 56.8
comp=Z,4.9nm,0.3s
PBUR Paburge 72.02 351 *e*P **P 04 30 49.1 +0.4**
IDID Didziasalis 72.16 348 *e*P **P 04 30 48.7 -0.8**
DEL Delary 72.18 356 *e*P **P 04 30 49.5 -0.1**
IIGN Ignalina 72.19 348 *e*P **P 04 30 49.1 -0.7**
CCIG Comitan 72.28 86 P **P 04 30 52.0 +0.9**
CCIG IAmb IAmb 04 31 12.9
comp=Z,27nm,1.4s
PABE Paberze 72.31 349 P **P 04 30 49.2 -1.3**
PABE IAMs_20 IAMs_20 05 06 49.6
comp=Z,1µm,18.0s
PABE Paberze 72.31 349 *e*P **P 04 30 49.7 -0.8**
MUD Monsted U'grnd 72.35 358 *i*P **P 04 30 47.7 -3.0**
MUD IAmb IAmb 04 31 14.0
comp=Z,6.9nm,0.6s
UBPT Khong Chiam 72.43 273 P **P 04 30 52.4 +0.6**
UBPT IAmb IAmb 04 30 59.1
comp=Z,36nm,1.3s
NACGM Naroch 72.56 348 *i*P **P 04 30 51.1 -0.8**
LPSR Galich'ya Gora 72.64 340 *e*P **P 04 30 51.6 -0.9**
LPSR pmax pmax
comp=Z,70nm,1.7s
MNK Minsk 72.80 347 *i*P **P 04 30 52.1 -1.3**
MNK *i* PPP PPP 04 35 18.1
MNK *i* S **S 04 40 15.2 -2.2**
MNK *i* SS **SS 04 44 55.7 -0.4**
MNK pmax pmax
comp=Z,44nm,1.2s
MNK pmax pmax
comp=N,36nm,1.2s
MNK pmax pmax
comp=E,5.0nm,1.5s
MNK MLR MLR
comp=Z,1µm,19.0s
MNK MLR MLR
comp=N,868nm,19.0s
MNK Minsk 72.80 347 *i*P **P 04 30 52.1 -1.3**
comp=E,5.0nm,1.6s
MNK *i*P **P 04 30 52.1 -1.3**
comp=N,36nm,1.2s
MNK *i*P **P 04 30 52.1 -1.3**
comp=Z,44nm,1.2s,baz=194
MNK *i*PP PP 04 33 14.5 -20
MNK *i*PPP PPP 04 35 18.2
MNK *i*S **S 04 40 15.2 -2.2**
MNK *i*SS **SS 04 44 55.7 -0.4**
MNK *i*SSS SSS 04 48 16.5
MNK *i*LQ LQ 04 57 55.0
MNK *i*LR LR 05 02 42.3
MNK *i*LRM MLR 05 07 11.3
comp=E,41nm,15.6s
MNK *i*LRM MLR 05 07 13.0
comp=Z,1µm,18.9s
MNK *i*LRM MLR 05 07 13.7
comp=N,868nm,18.9s
BTK Batken 72.83 313 IAmb IAmb 04 31 12.4
comp=Z,34nm,0.9s
DRK Karamyk 72.84 312 IAmb IAmb 04 31 11.2
comp=Z,34nm,0.9s
KKM Kota Kinabalu 72.87 258 P **P 04 30 55.0 +0.5**
KKM IAmb IAmb 04 31 10.2
comp=Z,53nm,1.3s
SHL Shillong 72.97 290 P **P 04 30 54.7 -0.4**
SHL pmax pmax
comp=Z,126nm,1.1s
SHL Shillong 72.97 290 P **P 04 30 54.7 -0.4**
SHL Shillong 72.97 290 P **P 04 30 54.6 -0.5**
SNR=63
VRH Novokhopyorsk 73.31 338 *e*P **P 04 30 55.3 -1.1**
VRH pmax pmax
comp=Z,50nm,0.8s
VORR Voronezh 73.45 339 *e*P **P 04 30 58.2 +0.9**
VORR pmax pmax
comp=Z,160nm,1.5s
RAR Rarotonga 73.47 166 LR LR 04 59 43.8
comp=Z,1µm,18.1s,baz=348,slow=33
BSD Bornholm Skovb 73.48 355 *i*P **P 04 30 54.6 -2.7**
BSD IAmb IAmb 04 31 01.6
comp=Z,7.5nm,0.5s
SANI Sanana 73.58 245 P P 04 31 12.9 +14
CHTO Chiang Mai 73.81 280 P **P 04 31 00.1 +0.2**
CHTO pmax pmax
comp=Z,40nm,1.3s
CHTO MLR MLR
comp=Z,600nm,20.0s
CHTO Chiang Mai 73.81 280 P **P 04 31 00.1 +0.2**
CHTO IAmb IAmb 04 31 16.9
comp=Z,40nm,1.2s
SUW Suwalki 73.87 350 *e*P **P 04 30 58.0 -1.7**
SUW Suwalki 73.87 350 *e*P **P 04 30 58.8 -0.9**
TOLI2 Tolitoli 74.03 251 P **P 04 31 01.1 -0.1**
TOLI2 IAmb IAmb 04 31 15.8
comp=Z,43nm,1.1s
TAPN Taplejung 74.03 294 *e*P **P 04 31 01.7 +0.2**
comp=Z,329nm,1.0s
CM31 Chiang Mai Arr 74.08 280 P **P 04 31 01.0 -0.5**
CM31 IAmb IAmb 04 31 18.2
comp=Z,46nm,1.1s
CMAR Chiang Mai Arr 74.08 280 P **P 04 31 02.0 +0.6**
comp=Z,12nm,0.8s,baz=26,slow=6.1,SNR=34
CMAR LR LR 05 08 00.5
comp=Z,606nm,18.5s,baz=25,slow=39
VORD Divnogorie 74.09 339 *e*P **P 04 31 00.0 -1.0**
VORD pmax pmax
comp=Z,30nm,0.5s
ODAN Odare 74.59 294 *e*P **P 04 31 05.0 +0.3**
LUWI Luwuk 74.60 248 P **P 04 31 03.0 -1.5**
LUWI Luwuk 74.60 248 P P 04 31 17.5 +13
GUN Gumba 74.64 295 *e*P **P 04 31 05.2 +0.1**
comp=Z,83nm,0.4s
JIRN Jiri 74.66 295 *e*P **P 04 31 05.5 +0.3**
BSEG Bad Segeberg 74.85 357 *e*L L 05 06 20.7
comp=Z,447nm,21.3s
RAMN Ramite 74.97 294 *e*P **P 04 31 06.8 -0.1**
comp=Z,151nm,0.5s
KKN Kakani 75.08 296 *e*P **P 04 31 07.5 +0.1**
comp=Z,71nm,0.7s
GKP Gorka Klasztor 75.16 353 *e*P **P 04 31 06.0 -1.2**
GKP *e*PcP **PcP 04 31 21.1 +0.4**
GKP *e*L L 05 01 15.0
comp=Z,1µm,25.0s
GKP Gorka Klasztor 75.16 353 *e*P **P 04 31 06.5 -0.6**
PKI Pulchoki 75.17 296 *e*P **P 04 31 07.8 -0.3**
PKIN Phulchoki 75.17 296 *e*P **P 04 31 07.8 -0.3**
GKN Gorkha 75.27 296 *e*P **P 04 31 08.3 -0.2**
comp=Z,124nm,0.6s
DZM Mont Dzumac 75.30 199 LR LR 05 01 55.9
comp=Z,1µm,18.5s,baz=20,slow=34
DZM Mont Dzumac 75.30 199 *e*S **S 04 40 46.7 +0.4**
comp=Z,347nm,24.4s
DZM Mont Dzumac 75.30 199 *e*LR LR 04 54 13.6
comp=Z,837nm,20.1s
DMN Daman 75.31 296 *e*P **P 04 31 09.4 +0.5**
DANN Dangsing 75.49 297 *e*P **P 04 31 10.0 +0.1**
KOLN Koldanda 76.03 297 *e*P **P 04 31 12.7 -0.2**
SNET Serv Nac Est T 76.07 86 IAMs_20 IAMs_20 04 59 33.5
comp=Z,688nm,21.0s
RETH Rethem/Aller, 76.07 358 *e*P **P 04 31 12.1 -0.3**
comp=Z,40nm,1.6s,baz=3.6,slow=5.6
PYUN Piuthan 76.11 298 *e*P **P 04 31 13.1 -0.3**
RUE Ruedersdorf 76.17 355 *e*P **P 04 31 14.2 +1.2**
BEL Belsk 76.27 351 *e*P **P 04 31 12.8 -0.8**
BEL *e*PcP **PcP 04 31 27.1 +1.7**
BEL *e*L L 05 04 56.0
comp=Z,1µm,22.6s
AKASG Malin Array Be 76.28 345 P **P 04 31 11.8 -1.8**
comp=Z,5.3nm,0.3s,baz=19,slow=6.0,SNR=27
AKASG pP **PcP 04 31 25.9 +0.3**
comp=Z,6.3nm,0.5s,baz=20,slow=6.0,SNR=5.7
AKASG LR LR 05 11 00.5
comp=Z,592nm,18.1s,baz=15,slow=41
AKBB Malin Array Si 76.28 345 IAmb IAmb 04 31 27.4
comp=Z,49nm,1.5s
NRDL Niedersach Rie 76.30 358 *e*P **P 04 31 13.3 -0.4**
comp=Z,17nm,1.2s,baz=3.6,slow=5.6
FLTG Flechtingen 76.43 357 *e*P **P 04 31 13.6 -0.9**
comp=Z,62nm,1.9s,baz=3.6,slow=5.6
IBBN Ibbenburen 76.53 359 *e*P **P 04 31 14.6 -0.4**
comp=Z,84nm,1.8s,baz=3.6,slow=5.6
ASSE Asse, Remlinge 76.65 357 *e*P **P 04 31 15.7 0.0**
comp=Z,40nm,1.8s,baz=3.6,slow=5.6
NIL Nilore 76.84 308 P **P 04 31 17.2 +0.1**
NIL pmax pmax
comp=Z,134nm,1.2s
NIL MLR MLR
comp=Z,1µm,21.0s
NIL Nilore 76.84 308 P **P 04 31 17.2 +0.1**
CLZ Clausthal 76.94 357 *e*P **P 04 31 17.2 -0.3**
comp=Z,64nm,1.7s,baz=3.6,slow=5.6
GTTG Gottingen 77.25 358 *e*P **P 04 31 18.9 -0.3**
comp=Z,34nm,1.2s,baz=3.6,slow=5.6
CLL Collm 77.38 356 *i*P **P 04 31 18.8 -1.0**
CLL *i* 04 31 25.8
CLL *i* 04 31 31.5
CLL pmax pmax
comp=Z,43nm,1.7s
CLL MLR MLR
comp=Z,700nm,18.1s
CLL Collm 77.38 356 IAmb IAmb 04 31 34.6
comp=Z,43nm,1.4s
CLL IAMs_20 IAMs_20 05 07 24.5
comp=Z,779nm,20.0s
CLL Collm 77.38 356 *i*P **P 04 31 18.8 -1.0**
comp=Z,43nm,1.7s
CLL *i* sP **pP 04 31 25.8 -0.3**
CLL *i* PcP **pwP 04 31 31.5 +0.2**
CLL *e*(PPP) 04 36 12.0
CLL *e*PPPP 04 37 06.0
CLL *e*S **S 04 41 12.0 +3.6**
CLL *e*PS **PnS 04 41 49.0 +0.2**
CLL *e*SS **SS 04 46 12.0 +6.4**
CLL *ex* x 04 50 12.0
CLL *e*SSSS 04 51 54.0

CLL LmH 05 07 00.0
comp=N,700nm,20.8s
CLL LmH 05 07 00.0
comp=E,400nm,19.7s
CLL LmH 05 07 00.0
comp=Z,700nm,20.0s
CLL LmV 05 14 00.0
comp=Z,700nm,18.1s
CLL Collm 77.38 356 *e*P **P 04 31 19.1 -0.8**
comp=Z,43nm,1.7s,baz=3.6,slow=5.6
CLL *e*L L 05 07 35.4
comp=Z,657nm,20.1s
BUG Bochum--Univer 77.40 359 *e*P **P 04 31 19.7 -0.3**
comp=Z,27nm,1.7s,baz=3.6,slow=5.6
NEUB Neuenburg 77.53 356 *e*P **P 04 31 20.4 -0.2**
comp=Z,55nm,1.3s,baz=3.6,slow=5.6
TBI Tubuai 77.57 157 *e*LR LR 04 55 14.0
comp=Z,1μm,22.8s
TBI Tubuai 77.57 157 *e*T T 05 56 50.9
comp=Z,9.0nm,0.3s
KASTN Kahler Asten 77.63 359 *e*P **P 04 31 20.6 -0.7**
comp=Z,16nm,1.4s,baz=3.6,slow=5.6
KSP Ksiaz 77.64 353 *e*P **P 04 31 20.1 -1.3**
KSP *e*L L 05 01 59.9
comp=Z,827nm,23.4s
FBE Freiberg 77.75 355 *e*P **P 04 31 22.0 +0.1**
comp=Z,73nm,1.6s,baz=3.6,slow=5.6
BRG Berggiesshubel 77.76 355 *i*P **P 04 31 21.4 -0.6**
BRG Amp 04 31 24.9
comp=Z,42nm,1.5s
BRG *i*x x 04 31 35.7
BRG Amp 04 31 37.5
comp=Z,51nm,1.5s
BRG Berggiesshubel 77.76 355 *i*P **P 04 31 21.4 -0.6**
BRG *i* 04 31 35.7
BRG pmax pmax
comp=Z,43nm,1.5s
BRG pmax pmax
comp=Z,51nm,1.5s
BRG Berggiesshubel 77.76 355 *e*P **P 04 31 21.2 -0.8**
comp=Z,854nm,4.3s,baz=3.6,slow=5.6
LVV L'vov 77.89 348 *e*P **P 04 31 21.8 -0.9**
LVV *e*S **S 04 41 10.1 -4.0**
LVV *e*PS **PnS 04 42 09.0 +14**
LVV MLR MLR
comp=N,500nm,19.0s
LVV MLR MLR
comp=E,300nm,19.0s
LVV MLR MLR
comp=Z,1μm,19.0s
CHVC Chvalec 77.92 354 *e*P **P 04 31 22.1 -0.8**
CHVC AMS AMS 05 11 10.0
comp=Z,900nm,18.5s
OSTC Ostas 77.94 353 *e*P **P 04 31 22.2 -0.8**
OSTC AMS AMS 05 11 10.0
comp=Z,1μm,21.5s
TTSI Tana Toraja 77.94 249 P **P 04 31 25.0 +1.6**
OJC Ojcow 77.97 351 *e*P **P 04 31 22.4 -0.7**
OJC *e*L L 05 05 47.3
comp=Z,1μm,23.2s
UBBA Unterbreizbach 77.98 358 *e*P **P 04 31 22.8 -0.3**
comp=Z,22nm,1.4s,baz=3.6,slow=5.6
UPC Upice 78.00 354 *e*P **P 04 31 22.4 -0.9**
UPC *e* 04 31 37.0
UPC MLR MLR
comp=Z,1μm,20.0s
UPC Upice 78.00 354 *e*P **P 04 31 22.4 -0.9**
UPC *ex* x 04 31 37.0
UPC AMS AMS 05 11 10.0
comp=Z,1μm,20.0s
PVCC Panska Ves 78.07 355 *e*P **P 04 31 23.4 -0.3**
PVCC MLR MLR
comp=Z,900nm,21.7s
PVCC Panska Ves 78.07 355 *e*P **P 04 31 23.4 -0.3**
PVCC AMS AMS 05 11 20.0
comp=Z,900nm,21.7s
MOX Moxa 78.10 356 *e*P **P 04 31 23.3 -0.6**
comp=Z,33nm,1.5s,baz=3.6,slow=5.6
MOX *e*L L 05 09 20.1
comp=Z,618nm,19.6s
SBUM Sibu 78.13 259 P **P 04 31 24.7 +0.1**
DPC Dobruska-Polom 78.13 353 *e*P **P 04 31 23.4 -0.7**
DPC MLR MLR
comp=Z,800nm,18.1s
DPC Dobruska-Polom 78.13 353 *e*P **P 04 31 23.4 -0.7**
DPC AMS AMS 05 11 30.0
comp=Z,800nm,18.1s
KBL Kabul 78.14 311 P **P 04 31 24.1 -0.6**
KBL pmax pmax
comp=Z,62nm,1.2s
KBL Kabul 78.14 311 P **P 04 31 24.1 -0.6**
KBL Kabul 78.14 311 P **P 04 31 24.2 -0.4**
SNR=32
KBL P **P 04 31 24.2 -0.4**
SNR=32
KWP Kalwaria Pacla 78.24 349 *e*P **P 04 31 23.7 -1.0**
PLN Plauen 78.24 356 *e*P **P 04 31 24.1 -0.6**
comp=Z,17nm,1.4s,baz=3.6,slow=5.6
MEM Membach 78.24 0 *d*P **P 04 31 23.9 -0.7**
MEM *dx* x 04 31 39.1
BTNL Ternell 78.26 0 *d*P **P 04 31 24.3 -0.5**
BTNL *d*PcP **PcP 04 31 33.8 -0.4**
BTNL *dx* x 04 31 38.6
BSTI Sart Tilman 78.26 0 *d*P **P 04 31 24.2 -0.6**
BSTI *dx* x 04 31 51.0
WERD Werda 78.27 356 *e*P **P 04 31 24.7 -0.1**
comp=Z,34nm,1.7s,baz=3.6,slow=5.6
TANN Tannenbergstha 78.29 356 *e*P **P 04 31 24.6 -0.5**
comp=Z,28nm,1.5s,baz=3.6,slow=5.6
AHRW Bad Neuenahr-A 78.31 359 *e*P **P 04 31 25.1 +0.1**
comp=Z,33nm,1.6s,baz=3.6,slow=5.6
SNF Seneffe 78.33 1 *d*P **P 04 31 23.3 -1.8**
SNF *d*PcP **sP 04 31 32.8 -0.6**
SNF *dx* x 04 31 40.0
GUNZ Gunzen 78.35 356 *e*P **P 04 31 25.0 -0.3**
comp=Z,40nm,1.6s,baz=3.6,slow=5.6
KRLC Kraliky 78.37 353 *e*P **P 04 31 24.5 -1.0**
KRLC *e* 04 31 39.2
KRLC MLR MLR
comp=Z,800nm,20.5s
KRLC Kraliky 78.37 353 *e*P **P 04 31 24.5 -1.0**
KRLC *ex* x 04 31 39.2
KRLC AMS AMS 05 15 30.0
comp=Z,800nm,20.5s
WERN Wernitzgruen 78.42 356 *e*P **P 04 31 25.5 -0.3**
comp=Z,42nm,1.4s,baz=3.6,slow=5.6
BCLA Clavier 78.43 1 *d*P **P 04 31 25.6 0.0**
BGES Gesves 78.46 1 *d*P **P 04 31 25.0 -0.8**
BGES *d*PcP **PcP 04 31 35.2 +0.1**
NKC Novy Kostel 78.48 356 *e*P **P 04 31 25.4 -0.6**
NKC *e* 04 31 39.9
NKC MLR MLR
comp=Z,800nm,22.3s
NKC Novy Kostel 78.48 356 *e*P **P 04 31 25.4 -0.6**
NKC *ex* x 04 31 39.9
NKC AMS AMS 05 07 40.0
comp=Z,800nm,22.3s
OKC Ostrava-Krasne 78.50 352 AMS AMS 05 04 20.0
comp=Z,1μm,22.0s
TNS Taunus Mts 78.61 359 *e*P **P 04 31 26.5 -0.3**
comp=Z,21nm,1.4s,baz=3.6,slow=5.6
TNS *e*L L 05 08 22.4
comp=Z,563nm,18.4s
MORC Moravsky Berou 78.61 353 ⇓P **P 04 31 26.4 -0.4**
MORC Moravsky Berou 78.61 353 ⇓P **P 04 31 26.4 -0.4**
MORC Moravsky Berou 78.61 353 P **P 04 31 26.8 0.0**
MORC Moravsky Berou 78.61 353 *e*P **P 04 31 26.3 -0.4**
PRU Pruhonice 78.61 355 *e*P **P 04 31 25.5 -1.2**
PRU *e* 04 31 35.2
PRU MLR MLR
comp=Z,1μm,20.3s
PRU Pruhonice 78.61 355 *e*P **P 04 31 25.5 -1.2**
PRU *e*PCP **PcP 04 31 35.2 -0.5**
PRU AMS AMS 05 11 50.0
comp=Z,1μm,20.3s
GOF Gofitskoye 78.66 334 ⇓*i*P **P 04 31 27.4 +0.3**
GOF pmax pmax
comp=Z,128nm,1.1s
MANZ Manzenberg 78.74 356 *e*P **P 04 31 27.3 -0.2**
comp=Z,4.3nm,1.3s,baz=3.6,slow=5.6
DOU Dourbes 78.74 1 *d*P **P 04 31 26.6 -0.8**
DOU *d*PcP **PcP 04 31 36.8 +0.6**
BNSI Bone 78.86 248 P P 04 31 43.5 +15
SORM Soroca 78.91 345 ⇑P **P 04 31 26.8 -1.6**
SORM Soroca 78.91 345 ⇑P **P 04 31 26.8 -1.6**

PBCC Pribram 78.94 355 *e*P **P 04 31 27.5 -1.1**
PBCC *ex* x 04 31 42.1
ROTZ Rotzenmuhle 78.95 356 *e*P **P 04 31 28.4 -0.3**
comp=Z,4.9nm,1.1s,baz=3.6,slow=5.6
LANS Liptovska Anna 79.06 351 *e*P **P 04 31 29.7 +0.4**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 79.06 351 *e*P **P 04 31 29.7 +0.4**
GRA1 Grafenberg Arr 79.07 357 IAmb IAmb 04 31 51.4
comp=Z,31nm,0.8s
GRF Grafenberg Arr 79.07 357 *e*P **P 04 31 29.3 +0.1**
comp=Z,84nm,1.5s,baz=3.6,slow=5.6
GRF *e*L L 05 09 59.6
comp=Z,471nm,20.2s
GRFO Grafenberg 79.07 357 P **P 04 31 29.0 -0.2**
GRFO pmax pmax
comp=Z,30nm,0.8s
GRFO Grafenberg 79.07 357 P **P 04 31 29.0 -0.2**
GRFO IAmb IAmb 04 31 51.4
comp=Z,30nm,0.8s
CRVS Cervenica-Dubn 79.10 350 *e*P **P 04 31 29.9 +0.5**
CRVS pmax pmax
comp=Z,54nm,1.7s
CRVS Cervenica-Dubn 79.10 350 *e*P **P 04 31 29.9 +0.5**
VRAC Vranov 79.15 353 ⇑P **P 04 31 28.6 -1.1**
VRAC Vranov 79.15 353 LR LR 05 08 13.1
comp=Z,249nm,20.3s,baz=7.0,slow=37
VRAC Vranov 79.15 353 ⇑P **P 04 31 28.6 -1.1**
VRAC Vranov 79.15 353 *e*P **P 04 31 29.1 -0.6**
WLF Walferdange 79.19 0 P **P 04 31 30.0 +0.1**
WLF pmax pmax
comp=Z,13nm,1.0s
WLF Walferdange 79.19 0 P **P 04 31 29.9 +0.1**
WLF Walferdange 79.19 0 *e*P **P 04 31 29.8 -0.1**
comp=Z,18nm,1.4s,baz=3.6,slow=5.6
WLF Walferdange 79.19 0 *d*P **P 04 31 30.3 +0.5**
WLF *dx* x 04 31 43.4
WLF *dx* x 04 31 50.0
BOAB BOACO BROADBAN 79.23 84 IAMs_20 IAMs_20 05 06 52.3
comp=Z,1μm,20.0s
TREC Trest 79.24 354 *e*P **P 04 31 29.1 -1.1**
TREC MLR MLR
comp=Z,800nm,18.5s
TREC Trest 79.24 354 *e*P **P 04 31 29.1 -1.1**
TREC AMS AMS 05 12 00.0
comp=Z,800nm,18.5s
UZH Uzhgorod 79.27 349 *e*P **P 04 31 28.5 -1.8**
UZH *i* 04 31 33.0
UZH *i* 04 31 42.5
MAK Makhachkala 79.29 330 *e*P P 04 31 24.0 -6.5
MAK *e*S S 04 41 19.5 -10
MAK *e*SSS SSS 04 49 54.0
MAK pmax pmax
comp=Z,25nm,0.3s
KRUC Moravsky 79.41 353 *e*P **P 04 31 30.2 -0.9**
CTA Charters Tower 79.42 218 LR LR 05 02 23.9
comp=Z,235nm,19.6s,baz=26,slow=32
JAVC Velka Javorina 79.51 352 *e*P **P 04 31 31.9 +0.2**
KHC Kasperske Hory 79.52 355*c i*P **P 04 31 31.8 0.0**
KHC pmax pmax
comp=Z,59nm,1.1s
KHC Kasperske Hory 79.52 355 *e*P **P 04 31 31.2 -0.6**
KHC *ex* x 04 31 44.4
KHC AMS AMS 05 12 20.0
comp=Z,900nm,20.6s
KHC Kasperske Hory 79.52 355 IAmb IAmb 04 31 47.2
comp=Z,44nm,1.3s
WET Wettzell 79.54 356 *e*P **P 04 31 31.4 -0.5**
comp=Z,25nm,1.4s,baz=3.6,slow=5.6
WET *e*L L 05 08 50.4
comp=Z,691nm,20.5s
KAPI Kappang 79.56 248 LR LR 05 04 31.1
comp=Z,149nm,19.9s,baz=32,slow=34
GROC Groznyy 79.58 332 *e*P **P 04 31 32.0 -0.1**
GROC *e* 04 31 40.1
GROC pmax pmax
comp=Z,5.0nm,0.4s
BKSI Bulukumba 79.60 248 P **P 04 31 33.2 +0.7**
BKSI P **pwP 04 31 45.9 +1.4**
KOLL Kolacno 79.72 352 *e*P **P 04 31 31.3 -1.5**
TRPA Tarpa 79.73 349 ⇓P **P 04 31 32.1 -0.8**
TRPA Tarpa 79.73 349 P **P 04 31 31.6 -1.2**
VYHS Vyhne 79.77 351 *e*P **P 04 31 33.2 +0.1**
VYHS Vyhne 79.77 351 *e*P **P 04 31 33.2 +0.1**
KIV Kislovodsk 79.78 334 ⇑P **P 04 31 33.2 0.0**
KIV Kislovodsk 79.78 334 *e*P **P 04 31 33.3 0.0**
KIV *e*S **S 04 41 36.4 +1.8**
KIV *e*SS **SS 04 46 45.9 +3.7**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,557nm,19.0s
KIV Kislovodsk 79.78 334 P **P 04 31 33.4 +0.1**
KIV IAmb IAmb 04 31 52.8
comp=Z,21nm,0.8s
KIV IAMs_20 IAMs_20 05 09 48.3
comp=Z,703nm,22.0s
KIV Kislovodsk 79.78 334 P **P 04 31 33.7 +0.3**
KIV P **P 04 31 33.7 +0.3**
KIV Kislovodsk 79.78 334 *i*P **P 04 31 33.3 0.0**
SNR=6.9
CKRC Cesky Krumlov 79.79 355 *e*P **P 04 31 31.4 -1.8**
CKRC *ex* x 04 31 46.7
GEC2 GERESS Array S 79.80 355 *e*P **P 04 31 32.6 -0.8**
comp=Z,31nm,1.5s,baz=3.6,slow=5.6
GEC2 *e*L L 05 08 06.3
comp=Z,706nm,21.4s
GERES GERESS Array B 79.80 355 P **P 04 31 32.8 -0.6**
comp=Z,6.2nm,0.8s,baz=26,slow=6.5,SNR=27
SMOL Smolenice 79.87 352 *e*P **P 04 31 33.9 +0.3**
SMOL pmax pmax
comp=Z,12nm,1.4s
SMOL Smolenice 79.87 352 *e*P **P 04 31 33.9 +0.3**
BURAR Bucovina Array 79.89 347 ⇓P **P 04 31 33.3 -0.6**
BURAR Bucovina Array 79.89 347 ⇓P **P 04 31 33.3 -0.6**
BURAR Bucovina Array 79.89 347 P **P 04 31 33.0 -0.9**
KBZ Khabaz 79.93 334 P **P 04 31 34.4 +0.4**
comp=Z,11nm,0.8s,baz=47,slow=3.5,SNR=32
KBZ LR LR 05 10 19.3
comp=Z,790nm,21.8s,baz=25,slow=38
GEYT Alibeck 80.01 321 P **P 04 31 34.4 -0.3**
comp=Z,15nm,1.0s,baz=44,slow=6.4,SNR=17
GEYT LR LR 05 11 00.7
comp=Z,2μm,18.0s,baz=48,slow=39
GEYT Alibeck 80.01 321 IAmb IAmb 04 31 36.8
comp=Z,37nm,1.2s
GYA0 ALIBECK ARRAY 80.01 321 P **P 04 31 34.7 +0.1**
GYA0B ALIBECK ARRAY 80.01 321 IAmb IAmb 04 31 37.4
comp=Z,60nm,1.4s
MILM Milestii Mici 80.02 344 ⇓P **P 04 31 32.8 -1.6**
MILM Milestii Mici 80.02 344 ⇓P **P 04 31 32.8 -1.6**
STU Stuttgart 80.05 358 *e*P **P 04 31 34.2 -0.4**
comp=Z,62nm,1.3s,baz=3.6,slow=5.6
ZST Bratislava 80.22 353 *e*P **P 04 31 35.5 0.0**
ZST Bratislava 80.22 353 *e*P **P 04 31 35.5 0.0**
PSZ Piszkesteto 80.24 351 ⇓P **P 04 31 33.6 -2.1**
PSZ Piszkesteto 80.24 351 ⇓P **P 04 31 33.6 -2.1**
PSZ Piszkesteto 80.24 351 IAMs_20 IAMs_20 05 07 26.1
comp=Z,1μm,22.0s
PSZ Piszkesteto 80.24 351 P **P 04 31 35.0 -0.7**
ESPN Las Esperanzas 80.27 83 P **P 04 31 37.9 +1.6**
ESPN IAmb IAmb 04 31 55.5
comp=Z,46nm,1.2s
ANN Anapa 80.32 338 *e*P **P 04 31 33.8 -2.3**
ANN *e*S **S 04 41 45.9 +5.9**
ANN pmax pmax
comp=Z,24nm,0.9s
SRO Srobarova 80.49 352 *e*P **P 04 31 37.5 +0.5**
SRO Srobarova 80.49 352 *e*P **P 04 31 37.4 +0.5**
BFO Black Forest 80.50 359 P **P 04 31 36.7 -0.4**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 80.50 359 P **P 04 31 36.7 -0.4**
BFO Black Forest 80.50 359 *e*P **P 04 31 36.6 -0.4**
comp=Z,45nm,1.7s,baz=3.6,slow=5.6
BFO *e*L L 05 09 20.0
comp=Z,729nm,20.1s
RAO Raoul Island 80.51 184 LR LR 05 03 53.7
comp=Z,923nm,19.2s,baz=122,slow=33
ZEI Tsey 80.52 333 *e*P **P 04 31 36.6 -0.9**
ZEI pmax pmax
comp=Z,14nm,0.8s
LTVH Ltavrtes, Hu 80.55 349 P **P 04 31 37.0 -0.2**
CONA Conrad Observa 80.58 353 *i*P **P 04 31 37.2 -0.3**

comp=Z,4.0nm,0.6s,SNR=10.0
FUR Furstenfeldbru 80.59 357 *e*L L 05 10 54.8
comp=Z,361nm,20.1s
ECH Echery 80.63 359 IAmb IAmb 04 32 00.9
comp=Z,26nm,1.0s
ECH IAMs_20 IAMs_20 05 08 37.0
comp=Z,621nm,19.0s
BUD Budapest 80.75 351 P **P 04 31 38.7 +0.3**
MOA Molln 80.76 354 *e*P **P 04 31 38.1 -0.4**
comp=Z,0.9nm,0.6s
TESR Tescani 80.76 346 ⇓P **P 04 31 37.5 -1.0**
SOP Sopron 80.77 353 P **P 04 31 38.5 0.0**
CLF Chambon-Foret 80.77 3 P **P 04 31 38.5 +0.1**
CLF IAmb IAmb 04 32 05.3
comp=Z,36nm,1.2s
SOC Sochi 80.91 336 *e*P **P 04 31 37.6 -1.7**
SOC *e* 04 34 39.8
SOC *e*S **S 04 41 46.3 +0.1**
SOC *e*SSS SSS 04 50 28.7
SOC pmax pmax
comp=Z,18nm,0.8s
SIM Simferopol' 80.91 340 *e*P **P 04 31 38.2 -1.1**
SIM 04 31 50.0
SIM pmax pmax
comp=Z,43nm,1.3s
CSKK Cskako 80.94 352 P **P 04 31 38.9 -0.5**
BIOA Bad Ischl, Aus 80.95 355 *e*P **P 04 31 39.1 -0.5**
comp=Z,2.3nm,0.4s
EGYH Egyhazaskeszo 80.97 352 P **P 04 31 39.4 -0.1**
GRTK Grand Turk 80.97 67 IAMs_20 IAMs_20 05 06 36.7
comp=Z,1μm,21.0s
CJR Cluj-Napoca 81.00 348 ⇑P **P 04 31 39.4 -0.4**
CJR Cluj-Napoca 81.00 348 ⇑P **P 04 31 39.4 -0.4**
UBR Ueberruh 81.11 357 *e*P **P 04 31 39.6 -0.8**
comp=Z,64nm,1.6s,baz=3.6,slow=5.6
VLDR Vladesti 81.18 345 ⇓P **P 04 31 40.6 -0.1**
MPLH Magyarpolny 81.20 352 P **P 04 31 40.3 -0.4**
SRIT Nakonsritamara 81.21 273 P **P 04 31 40.6 -0.6**
SRIT IAmb IAmb 04 31 57.3
comp=Z,21nm,0.9s
ARSA Arzberg 81.27 354 *i*P **P 04 31 40.4 -0.8**
comp=Z,4.7nm,0.7s
RETA Reutte 81.29 357 *i*P **P 04 31 41.1 -0.3**
comp=Z,2.7nm,0.5s
PANC Panciu 81.31 345 ⇑P **P 04 31 41.7 +0.3**
JTS Las Juntas de 81.33 84 LR LR 05 05 17.7
comp=Z,201nm,21.9s,baz=10,slow=34
HRA Herat 81.34 316 IAmb IAmb 04 31 43.3
comp=Z,45nm,1.1s
PLOR Plostina 81.41 346 ⇓P **P 04 31 41.5 -0.4**
PLOR Plostina 81.41 346 ⇓P **P 04 31 41.5 -0.4**
WATA Walderalm 81.41 356 *e*P **P 04 31 41.4 -0.7**
comp=Z,3.0nm,0.4s,SNR=9.1
MOTA Moosalm 81.42 357 *e*P **P 04 31 41.6 -0.6**
comp=Z,6.5nm,0.9s,SNR=6.4
WTTA Wattenberg 81.48 356 *e*P **P 04 31 42.2 -0.3**
comp=Z,3.8nm,0.7s,SNR=7.1
COVR Voineasa-Covas 81.48 346 ⇓P **P 04 31 41.7 -0.6**
DOPR Dopca 81.48 347 ⇑P **P 04 31 42.9 +0.6**
DAVA Damuels 81.51 357 *i*P **P 04 31 43.5 +0.9**
comp=Z,4.9nm,0.9s
IZVR Izvoarele 81.53 345 ⇑P **P 04 31 41.7 -0.8**
SQTA Sankt Quirin 81.54 357 *e*P **P 04 31 42.1 -0.6**
comp=Z,6.1nm,0.7s,SNR=9.0
KBA Koelnbreinsper 81.58 355 *e*P **P 04 31 42.9 -0.1**
comp=Z,10nm,0.6s,SNR=13
TLCR 81.70 344 ⇑P **P 04 31 43.4 0.0**
TLCR 81.70 344 ⇑P **P 04 31 43.4 0.0**
FETA Feichten 81.75 357 *e*P **P 04 31 43.8 -0.2**
comp=Z,6.8nm,0.8s,SNR=7.1
CFR Carcaliu 81.82 344 ⇓P **P 04 31 43.8 -0.2**
CFR Carcaliu 81.82 344 ⇓P **P 04 31 43.8 -0.2**
MLR Muntele Rosu 81.86 346 ⇑P **P 04 31 45.3 +0.8**
MLR Muntele Rosu 81.86 346 LR LR 05 13 50.4
comp=Z,629nm,18.1s,baz=24,slow=40
MLR Muntele Rosu 81.86 346 ⇑P **P 04 31 45.3 +0.8**
MLR Muntele Rosu 81.86 346 IAmb IAmb 04 32 00.7
comp=Z,24nm,1.0s
MLR IAMs_20 IAMs_20 05 13 30.5
comp=Z,981nm,19.0s
NEHR Nehoiu 81.87 346 ⇑P **P 04 31 44.8 +0.4**
SOKA Soboth 81.88 354 *e*P **P 04 31 44.4 -0.1**
comp=Z,14nm,1.0s,SNR=6.3
PERS Pernice 81.91 354 *i*P **P 04 31 44.6 0.0**
ABTA Abfaltersbach 81.95 356 *e*P **P 04 31 44.4 -0.5**
comp=Z,2.1nm,0.5s,SNR=5.8
DAVOX Davos/Dischmat 82.02 357 LR LR 05 07 03.9
comp=Z,333nm,21.9s,baz=22,slow=35
MORH Mrgy, Hungar 82.05 351 P **P 04 31 44.2 -1.1**
VOIR 82.05 347 ⇓P **P 04 31 45.8 +0.4**
VOIR 82.05 347 ⇓P **P 04 31 45.8 +0.4**
GROS Grobnik 82.06 354 *i*P **P 04 31 44.9 -0.5**
OBKA Obir 82.08 354 *e*P **P 04 31 45.6 0.0**
comp=Z,5.0nm,0.6s
TPGR Topolog 82.09 344 ⇑P **P 04 31 45.7 +0.2**
ARR Arges 82.18 347 ⇑P **P 04 31 46.8 +0.7**
KOVH Kovagotottos 82.22 352 P **P 04 31 45.3 -0.9**
MTUR Matau 82.25 347 ⇑P **P 04 31 46.9 +0.4**
MTUR Matau 82.25 347 ⇑P **P 04 31 46.9 +0.4**
BZS Buzias 82.32 349 ⇓P **P 04 31 45.6 -1.1**
BZS Buzias 82.32 349 ⇓P **P 04 31 45.6 -1.1**
HARR Harsova 82.33 345 ⇓P **P 04 31 46.7 -0.1**
HARR Harsova 82.33 345 ⇓P **P 04 31 46.7 -0.1**
TUE Stuetta 82.34 358 IAmb IAmb 04 31 50.6
comp=Z,34nm,1.0s
TIRR Tirgusor 82.47 344 ⇓P **P 04 31 47.7 +0.2**
TIRR Tirgusor 82.47 344 ⇓P **P 04 31 47.7 +0.2**
GNI Garni 82.70 331 LR LR 05 15 14.2
comp=Z,914nm,18.6s,baz=22,slow=40
GNI Garni 82.70 331*de*P **P 04 31 50.1 +1.1**
GNI pmax pmax
comp=Z,13nm,1.4s
GNI Garni 82.70 331 P **P 04 31 49.6 +0.6**
GNI IAmb IAmb 04 32 04.5
comp=Z,32nm,1.4s
GNI Garni 82.70 331 IAMs_20 IAMs_20 05 14 52.6
comp=Z,888nm,19.0s
GNI Garni 82.70 331 P **P 04 31 49.8 +0.9**
SDDR Presa de Saban 82.87 69 IAMs_20 IAMs_20 05 08 57.9
comp=Z,710nm,19.0s
FRGS Fruska Gora 82.98 350 ⇑P **P 04 31 48.6 -1.5**
PBA Port Blair 83.10 280 P **P 04 31 51.9 +0.7**
SALO Salr 83.16 357 IAmb IAmb 04 32 13.6
comp=Z,31nm,1.0s
RIOS Rincon, Osa 83.45 84 P **P 04 31 52.5 -0.5**
RIOS IAmb IAmb 04 32 12.5
comp=Z,28nm,0.9s
SSB Saint Sauveur 83.56 1 P **P 04 31 53.9 +0.7**
SSB pmax pmax
comp=Z,19nm,1.1s
SSB Saint Sauveur 83.56 1 P **P 04 31 53.9 +0.7**
SSB IAmb IAmb 04 32 11.6
comp=Z,19nm,1.1s
BNI Bardonecchia 83.80 360 IAmb IAmb 04 31 58.6
comp=Z,20nm,1.0s
PRD Provadia 83.87 345 *e*P **P 04 31 53.0 -1.7**
DIVS Divibare 84.00 350 IAmb IAmb 04 32 18.2
comp=Z,20nm,1.0s
DIVS IAMs_20 IAMs_20 05 12 28.8
comp=Z,664nm,20.0s
SZH Strazhica 84.04 346 *e*P **P 04 31 54.0 -1.6**
WB0 Warramunga Arr 84.18 228 IAmb IAmb 04 32 15.8
comp=Z,31nm,1.4s
WRAB Tennant Creek 84.34 228*ce*P **P 04 31 56.5 -0.8**
WRAB pmax pmax
comp=Z,13nm,1.7s
WRAB Tennant Creek 84.34 228 P **P 04 31 57.9 +0.6**
WRAB IAmb IAmb 04 32 16.7
comp=Z,36nm,1.4s
WB2 Warramunga Arr 84.35 228 P **P 04 31 56.5 -0.8**
WB2 IAmb IAmb 04 32 16.7
comp=Z,29nm,1.3s
WRA Warramunga Arr 84.35 228 P **P 04 31 55.8 -1.6**
comp=Z,2.3nm,0.6s,baz=32,slow=5.6,SNR=36
WRA LR LR 05 05 24.8
comp=Z,408nm,20.9s,baz=50,slow=33
WRA Warramunga Arr 84.35 228 *i*P **P 04 31 56.2 -1.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
MORI Morici 84.63 353 *i*P **P 04 31 59.2 +0.6**
TOKA Tokat 84.78 337 IAmb IAmb 04 32 03.2
comp=Z,36nm,1.0s
RICI Ricice 84.88 352 P **P 04 31 58.8 -1.1**
GURO Guroymak-BITLI 84.97 333 IAmb IAmb 04 32 03.8
comp=Z,29nm,1.4s

VTS	Vitosha	85.07 347	‖P		P		04 32 01.5	+0.4
VTS	Vitosha	85.07 347	‖P		P		04 32 01.5	+0.4
VTS	Vitosha	85.07 347	IAmb		IAmb		04 32 01.9	
	comp=Z,24nm,1.1s							
VTS	Vitosha	85.07 347	*e*P		P		04 32 00.0	-1.0
HVAR	Hvar	85.25 352	*i* P		P		04 32 00.5	-1.3
DIM	Dimitrovgrad	85.29 346	*e*P		P		04 32 02.0	+0.1
MURB	Monte Urbino	85.43 355	P		P		04 32 03.3	+0.6
STON	Ston	85.45 352	*i* P		P		04 32 00.9	-1.8
LSTV	Lastovo	85.62 352	*i* P		P		04 32 02.4	-1.2
PDG	Podgorica	85.73 350	IAmb		IAmb		04 32 24.7	
	comp=Z,43nm,1.1s							
PDG			IAMs_20		IAMs_20		05 13 27.5	
	comp=Z,837nm,19.0s							
NRCA	Norcia	85.83 355	IAmb		IAmb		04 32 07.6	
	comp=Z,37nm,1.0s							
KKB	Krupnik	85.83 347	*e*P		P		04 32 03.0	-1.7
SKO	Skopje	85.94 349	*i* P		P		04 32 05.7	+0.5
BR131	Keskin Array S	86.01 339	IAmb		IAmb		04 32 20.7	
	comp=Z,24nm,1.1s							
MMB	Musomiste	86.01 347	*e*P		P		04 32 03.0	-2.6
BRTR	Keskin Array B	86.01 339	P		P		04 32 04.5	-1.3
	comp=Z,7.8nm,0.9s,baz=60,slow=3.0,SNR=39							
BRTR			LR		LR		05 18 32.2	
	comp=Z,425nm,18.1s,baz=32,slow=41							
BRTR	Keskin Array B	86.01 339	*ce*P		P		04 32 05.9	+0.1
BRTR			pmax		pmax			
	comp=Z,8.0nm,0.9s							
ANTO	Ankara	86.06 340	P		P		04 32 07.2	+1.3
ANTO			pmax		pmax			
	comp=Z,27nm,1.2s							
ANTO	Ankara	86.06 340	P		P		04 32 07.2	+1.3
ANTO			IAmb		IAmb		04 32 07.5	
	comp=Z,27nm,1.1s							
PSI	Prapat	86.11 270	LR		LR		05 10 15.8	
	comp=Z,165nm,20.6s,baz=29,slow=35							
STIP	Stip	86.11 348	*e*P		P		04 32 04.9	-1.1
PBRG	Braganca	86.37 10	*e*P		P		04 32 05.8	-1.6
	comp=Z,41nm,1.7s							
VAY	Valandovo	86.43 348	*i* P		P		04 32 07.8	+0.2
SJG	San Juan	86.51 65	LR		LR		05 14 22.8	
	comp=Z,362nm,18.0s,baz=293,slow=38							
PVRL	Vila Real	86.78 10	*e*P		P		04 32 10.3	+0.9
	comp=Z,31nm,1.6s							
OHR	Ohrid	86.86 349	*i* P		P		04 32 09.7	-0.2
MVO	Moncorvo	86.97 10	*e*P		P		04 32 11.1	+0.7
	comp=Z,30nm,1.3s							
HYBB	Hyderabad (bro	87.03 294	*e*P		P		04 32 10.0	-1.0
HYBB			*e*				04 32 23.4	
FITZ	Fitzroy Crossi	87.07 236	P		P		04 32 10.3	-0.6
FITZ			IAmb		IAmb		04 32 29.1	
	comp=Z,17nm,0.9s							
ARMA	Armidale	87.07 209	P		P		04 32 10.7	-0.1
ARMA			IAmb		IAmb		04 32 25.7	
	comp=Z,53nm,1.5s							
FNA	Florina	87.11 348	IAmb		IAmb		04 32 27.2	
	comp=Z,28nm,0.7s							
PVIS	Viseu	87.32 11	*e*P		P		04 32 11.9	-0.1
	comp=Z,21nm,2.0s							
COI	Coimbra	87.76 11	IAMs_20		IAMs_20		05 18 44.7	
	comp=Z,893nm,20.0s							
ASAR	Alice Springs	87.78 227	P		P		04 32 13.6	-0.6
	comp=Z,3.2nm,0.8s,baz=31,slow=4.8,SNR=26							
ASAR			pP		pwP		04 32 27.4	+0.9
	comp=Z,10nm,0.8s,baz=30,slow=4.6,SNR=17							
ASAR			LR		LR		05 07 14.8	
	comp=Z,496nm,19.7s,baz=22,slow=33							
ASAR	Alice Springs	87.78 227	P		P		04 32 13.7	-0.5
PCAS	Casmilo, Conde	87.90 11	*e*P		P		04 32 14.2	-0.6
	comp=Z,25nm,1.5s							
PCBR	Castelo Branco	88.23 10	*e*P		P		04 32 16.6	+0.3
	comp=Z,19nm,1.4s							
LEM	Lembang	88.23 257	LR		LR		05 07 01.4	
	comp=Z,122nm,20.3s,baz=55,slow=32							
PSBE	So Bento	88.39 12	*e*P		P		04 32 17.5	+0.3
	comp=Z,54nm,1.5s							
ISP	Isparta	88.50 341	IAMs_20		IAMs_20		05 17 54.7	
	comp=Z,636nm,21.0s							
PMRV	Marv??o	88.65 10	*e*P		P		04 32 18.3	0.0
	comp=Z,24nm,1.5s							
ESDC	Sonseca Array	88.74 8	P		P		04 32 17.6	-1.2
	comp=Z,3.7nm,0.9s,baz=352,slow=4.5,SNR=14							
ESDC			LR		LR		05 14 26.7	
	comp=Z,218nm,18.3s,baz=350,slow=37							
PMTG	Montargil	88.90 11	*e*P		P		04 32 18.8	-0.7
	comp=Z,18nm,1.4s							
PESTR	Estremoz	89.18 11	*e*P		P		04 32 20.3	-0.5
	comp=Z,25nm,1.5s							
PESTR	Estremoz	89.18 11	P		P		04 32 20.0	-0.9
TIP	Timpagrande	89.20 352	IAMs_20		IAMs_20		05 13 38.2	
	comp=Z,585nm,20.0s							
URZ	Urewera	89.76 187	LR		LR		05 08 47.2	
	comp=Z,629nm,19.1s,baz=30,slow=33							
PBAR	Barrancos	89.92 10	*e*P		P		04 32 23.9	-0.4
	comp=Z,28nm,1.5s							
MORF	Marmelete	90.59 12	*e*P		P		04 32 27.9	+0.4
	comp=Z,42nm,1.4s							
CART	Cartagena	91.04 6	IAMs_20		IAMs_20		05 14 09.1	
	comp=Z,598nm,21.0s							
VAE	Valguarnera	91.07 353	LR		LR		05 16 46.1	
	comp=Z,599nm,18.9s,baz=112,slow=38							
SDV	Santo Domingo	91.21 74	LR		LR		05 13 10.1	
	comp=Z,375nm,21.9s,baz=344,slow=35							
SDV	Santo Domingo	91.21 74	P		P		04 32 29.8	-1.1
SDV			IAmb		IAmb		04 32 45.6	
	comp=Z,11nm,0.9s							
SDV	Santo Domingo	91.21 74	IAMs_20		IAMs_20		05 17 21.2	
	comp=Z,558nm,19.0s							
SDV	Santo Domingo	91.21 74	*e*P		P		04 32 44.6	+14
STKA	Stephens Creek	91.82 217	P		P		04 32 31.9	-1.0
	comp=Z,5.2nm,0.6s,baz=13,slow=4.3,SNR=12							
STKA			pP		pwP		04 32 46.5	+1.3
	comp=Z,12nm,0.9s,baz=354,slow=7.0,SNR=10							
STKA			LR		LR		05 10 48.9	
	comp=Z,679nm,19.2s,baz=23,slow=34							
STKA	Stephens Creek	91.82 217	P		P		04 32 33.3	+0.4
STKA			pmax		pmax			
	comp=Z,4.0nm,1.0s							
STKA	Stephens Creek	91.82 217	P		P		04 32 33.3	+0.4
MMAI	Mount Meron Ar	91.98 336	LR		LR		05 20 44.3	
	comp=Z,267nm,18.9s,baz=189,slow=40							
IDI	Anoyia	92.00 345	LR		LR		05 17 41.3	
	comp=Z,360nm,20.9s,baz=5.5,slow=38							
UOSS	Minazif	92.11 316	P		P		04 32 33.8	-0.9
UOSS			IAmb		IAmb		04 32 49.2	
	comp=Z,19nm,1.0s							
UOSS	Minazif	92.11 316	IAMs_20		IAMs_20		05 16 13.2	
	comp=Z,657nm,22.0s							
UOSS	Minazif	92.11 316	P		P		04 32 31.9	-2.8
ROSC	El Rosal	92.14 80	LR		LR		05 17 49.7	
	comp=Z,170nm,18.7s,baz=356,slow=38							
HATD	Hatta, Dubai	92.24 316	P		P		04 32 33.5	-1.8
HATD			P		PcP		04 32 33.8	-2.3
ASHO	Ashiyiah	92.40 316	P		P		04 32 35.1	-0.9
	SNR=5.0							
ASHO			P		P		04 32 35.1	-0.9
	SNR=5.0							
ASHO	Ashiyiah	92.40 316	*i* P		P		04 32 34.5	-1.6
	SNR=6.4							
FAQ	Al Faqa, Dubai	92.55 316	P		P		04 32 35.8	-0.9
SOHO	SOHO	92.67 315	P		P		04 32 36.9	-0.4
SOHO	SOHO	92.67 315	*i* P		P		04 32 35.8	-1.5
	SNR=5.5							
ASUD	Al Ashush, Dub	92.77 316	P		P		04 32 37.5	-0.2
ASUD			P		P		04 32 37.5	-0.2
ASUD	Al Ashush, Dub	92.77 316	P		P		04 32 36.8	-0.9
HOQ	Hoqain	92.81 314	P		P		04 32 37.3	-0.6
HOQ			P		P		04 32 37.3	-0.6
SMDO	Samad	92.93 313	P		P		04 32 38.2	-0.4
	SNR=8.2							
SMDO			P		P		04 32 38.2	-0.4
	SNR=8.2							
PSA00	Pilbara Seismi	92.98 239	P		P		04 32 37.4	-1.1
ALNE	Al Ain	93.08 316	P		P		04 32 38.0	-1.2
JLN	Jalan Bani Buh	93.09 312	P		P		04 32 39.1	-0.2
	SNR=6.5							
JLN			P		P		04 32 39.1	-0.2
	SNR=6.5							
ARQ	Araqi	93.37 315	P		P		04 32 39.9	-0.7
	SNR=11							
ARQ			P		P		04 32 39.9	-0.7
	SNR=11							
JMDO	Jabal Madar	93.50 313	P		P		04 32 40.3	-0.9
	SNR=7.9							
JMDO			P		P		04 32 40.3	-0.9
	SNR=7.9							
BSY	Bisya	93.59 314	P		P		04 32 40.5	-1.0
	SNR=6.7							
BSY			P		P		04 32 40.5	-1.0
	SNR=6.7							
THZ	Tophouse	93.63 190	IAMs_20		IAMs_20		05 12 16.4	
	comp=Z,813nm,22.0s							
PALK	Pallekele	93.85 287	LR		LR		05 18 01.8	
	comp=Z,375nm,20.9s,baz=141,slow=37							
PALK	Pallekele	93.85 287	P		P		04 32 42.4	-0.5
PALK			pmax		pmax			
	comp=Z,18nm,1.3s							
PALK			MLR		MLR			
	comp=Z,500nm,20.0s							
PALK	Pallekele	93.85 287	P		P		04 32 42.4	-0.5
PALK			IAmb		IAmb		04 32 56.9	
	comp=Z,18nm,1.2s							
PALK	Pallekele	93.85 287	IAMs_20		IAMs_20		05 18 31.6	
	comp=Z,492nm,20.0s							
UMZA	Um Al Zommool	94.52 316	P		P		04 32 46.1	+0.3
UMZA			P		P		04 32 46.1	+0.3
MHTO	MHTO	94.76 313	P		P		04 32 46.0	-0.9
	SNR=12							
MHTO			P		P		04 32 46.0	-0.9
	SNR=12							
MZR	Muzera	94.99 317	P		P		04 32 46.9	-1.0
EIL	Elat	95.28 335	LR		LR		05 23 18.6	
	comp=Z,631nm,18.1s,baz=46,slow=40							
MDT	Midelt	95.49 9	LR		LR		05 17 57.8	
	comp=Z,225nm,19.1s,baz=7.0,slow=37							
MQZ	McQueen's Vall	95.58 190	IAMs_20		IAMs_20		05 24 50.0	
	comp=Z,802nm,20.0s							
RPZ	Rata Peaks	95.77 191	LR		LR		05 11 16.8	
	comp=Z,1μm,19.7s,baz=16,slow=32							
RPN	Rapa Nui	96.57 126	LR		LR		05 11 35.4	
	comp=Z,383nm,18.0s,baz=304,slow=32							
RAYN	Ar Rayn	97.68 324	P		P		04 32 59.8	-0.4
RAYN			pmax		pmax			
	comp=Z,14nm,1.2s							
RAYN	Ar Rayn	97.68 324	P		P		04 32 59.8	-0.4
RAYN			IAmb		IAmb		04 33 02.0	
	comp=Z,14nm,1.1s							
RAYN	Ar Rayn	97.68 324	P		Pdif		04 33 00.5	+0.2
RAYN	Ar Rayn	97.68 324	*i* P		P		04 32 59.8	-0.4
	SNR=10							
WHFO	Wadi Hawf	99.34 315	P		Pdif		04 33 07.1	-0.7
WHFO			P		Pdif		04 33 07.1	-0.7
ABTO	Aybut	100.05 315	P		Pdif		04 33 09.7	-1.2
ABTO			P		Pdif		04 33 09.7	-1.2
SOCY	Socotra	104.26 312	IAMs_20		IAMs_20		05 26 37.8	
	comp=Z,440nm,20.0s							
ATD	Arta Tunnel	109.63 322	IAMs_20		IAMs_20		05 30 23.3	
	comp=Z,489nm,18.0s							
DGAR	Diego Garcia	110.45 284	IAMs_20		IAMs_20		05 31 39.6	
	comp=Z,590nm,18.0s							
FURI	Furi	113.62 325	IAMs_20		IAMs_20		05 34 26.8	
	comp=Z,526nm,19.0s							
TORD	Torodi Ar. Bea	115.48 5	PKP		PKiKP		04 38 07.4	0.0
	comp=Z,0.5nm,0.7s,baz=344,slow=2.2,SNR=4.3							
TORD			PKKPbc		PKKPbc		04 48 42.6	+3.8
	comp=Z,1.7nm,1.0s,baz=191,slow=2.3,SNR=5.1							
H03N2	Juan Fernandez	118.22 109	T		T		06 47 49.9	
	baz=317,slow=78,SNR=22							
H03N1	Juan Fernandez	118.23 109	T		T		06 47 52.6	
	baz=317,slow=78,SNR=37							
H03N3	Juan Fernandez	118.23 109	T		T		06 47 50.8	
	baz=317,slow=78,SNR=24							
DBIC	Dimbokro	121.26 13	PKP		PKPdf		04 38 16.9	-1.5
	comp=Z,1.8nm,0.5s,baz=164,slow=1.2,SNR=4.9							
DBIC	Dimbokro	121.26 13	PKiKP		PKPdf		04 38 17.0	-1.5
TIC	Toumodi	121.26 13	*e*PKP1		PKPdf		04 38 16.9	-1.7
KIC	Kosan Boka	121.58 13	*e*PKP1		PKPdf		04 38 17.6	-1.6
	comp=Z,31nm,1.6s							
LIC	Lamto	121.68 13	*e*PKP1		PKPdf		04 38 17.1	-2.2
	comp=Z,55nm,1.7s							
KMBO	Kilima Mbogo	123.38 322	PKP		PKPdf		04 38 21.6	-1.3
	comp=Z,1.9nm,0.8s,baz=180,slow=0.6,SNR=5.8							
KMBO	Kilima Mbogo	123.38 322	PKiKP		PKPdf		04 38 23.0	+0.1
KMBO	Kilima Mbogo	123.38 322			PKPdf		04 38 23.0	+0.1
BDFB	Brasilia	124.15 71	PKP		PKPdf		04 38 22.6	-1.4
	comp=Z,1.0nm,0.6s,baz=178,slow=4.3,SNR=3.1							
KIBK	Kibwezi	124.18 320	IAMs_20		IAMs_20		05 37 41.3	
	comp=Z,544nm,20.0s							
MBAR	Mbarara	125.19 329	IAMs_20		IAMs_20		05 38 52.4	
	comp=Z,470nm,21.0s							
CPUP	Villa Florida	126.48 87	PKP		PKPdf		04 38 26.3	-1.8
	comp=Z,2.3nm,0.8s,baz=315,slow=5.7,SNR=2.2							
CPUP			pPKP		sPKPdf		04 38 40.8	+4.3
	comp=Z,3.6nm,0.6s,baz=259,slow=1.2,SNR=5.0							
PLCA	Paso Flores	128.07 110	PKP		PKPdf		04 38 28.9	-1.8
	comp=Z,3.7nm,0.9s,baz=234,slow=2.5,SNR=6.7							
PLCA			pPKP		sPKPdf		04 38 44.1	+4.8
	comp=Z,8.7nm,0.8s,baz=312,slow=1.5,SNR=12							
PLCA	Paso Flores	128.07 110	PKiKP		PKPdf		04 38 29.0	-1.8
VNDA	Vanda	129.67 187	pPKP		pPKPdf		04 38 46.5	+7.5
	comp=Z,0.9nm,0.6s,baz=143,slow=2.3,SNR=2.5							
QSPA	South Pole Qui	141.28 180	PKPdf		PKPdf		04 38 56.0	+1.4
BLWY	Bulawayo	144.08 322	*i* P		PKPbc		04 38 58.8	-0.2
BLWY	Bulawayo	144.08 322	*i* P		PKPbc		04 38 58.8	-0.2
MATP	Matopo	144.38 322	*i* P		PKPab		04 38 59.8	+0.1
MATP	Matopo	144.38 322	*i* P		PKPab		04 38 59.8	+0.1
MSNA	Messina	145.50 319	*i* P		PKPbc		04 39 03.5	+0.1
MSNA	Messina	145.50 319	*i* P		PKPbc		04 39 03.5	+0.1
ESPZ	Base Esperanza	145.51 135			PKPab		04 39 02.7	+0.3
TSUM	Tsumeb	146.51 340			PKPbc		04 39 06.4	-0.3
CNG	Changalane	148.00 312	*i* P		PKPbc		04 39 09.6	-0.8
CNG	Changalane	148.00 312	*i* P		PKPbc		04 39 09.6	-0.8
MAW	Mawson	148.51 218	PKPbc		PKPbc		04 39 09.9	-0.6
	comp=Z,31nm,0.8s,baz=62,slow=4.9,SNR=7.5							
MAW			pPKPbc		sPKPab		04 39 24.5	+2.0
	comp=Z,60nm,0.8s,baz=90,slow=3.1,SNR=10							
MAW	Mawson	148.51 218			PKPbc		04 39 09.5	-1.0
LBTB	Lobatse	149.64 323	PKP2		PKPbc		04 39 14.5	-0.3
LBTB	Lobatse	149.64 323			PKPbc		04 39 14.5	-0.3
LBTB	Lobatse	149.64 323	*i* P		PKPdf		04 39 07.5	-2.8
LBTB	Lobatse	149.64 323	*i* P		PKPdf		04 39 07.5	-2.8
BELA	Belgrano 2	149.68 164			PKPab		04 39 18.3	-0.3
BOSA	Boshof	153.01 321	PKPbc		PKPbc		04 39 21.5	-1.1
	comp=Z,4.3nm,0.5s,baz=1.5,slow=1.7,SNR=26							
BOSA	Boshof	153.01 321			PKPbc		04 39 22.2	-0.3
BOSA					PKPab		04 39 33.8	-0.2
BOSA	Boshof	153.01 321	*i* P		PKPdf		04 39 15.1	-0.2
BOSA	Boshof	153.01 321	*i* P		PKPdf		04 39 15.1	-0.2
SYO	Syowa Base	156.39 210	*e*PKPdf		PKPdf		04 39 20.9	+2.5
SNAA	Sanae	159.38 172	PKPab		PKPab		04 39 59.2	-0.9
	comp=Z,4.6nm,0.8s,baz=169,slow=1.6,SNR=3.7							

AEIC ***13*** *04:35:26.1±1.6, 51.36N±0.09×174.0W±0.1, h26km±9km*
Error ellipse: s-maj=14.0km s-min=8.6km az=162.0
NEIC ***13*** *04:35:29.9±0.5, 51.62N±0.06×174.43W±0.10, h10km±2km, ML3.3(AEIC), Error ellipse: s-maj=10.9km s-min=8.5km az=130.0*
IDC ***13*** *04:35:30.6±9.4, 51.70N×174.12W, h53km±90km, mb3.5/10, mb1 3.6/11, mb1mx3.4/48, mbtmp3.7/11, ML3.9/1, Error ellipse: s-maj=58.0km s-min=21.3km az=170.0*

ISC 13 04:35:27.7±1.1, 51.5N±0.1×173.99W±0.09, h35km, n31, σ0§87/27, mb3.9/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.71	350		Pn	04 35 41.6	+0.5
KOFP	Korovin Flat P	0.77	355		Pn	04 35 43.2	+1.1
KOKL	Mount Kliuchef	0.83	351		Pn	04 35 44.0	+1.1
GSMY	Great Sitkin M	1.39	293		Pn	04 35 50.9	+0.3
GSTR	Great Sitkin T	1.41	295		Pn	04 35 51.6	+0.7
GSCK	Great Sitkin C	1.44	291		Pn	04 35 51.4	+0.1
GSTD	Great Sitkin T	1.45	293		Pn	04 35 51.7	+0.3
ADK	Adak	1.72	284		Pn	04 35 55.2	+0.1
KIWB	Kanaga Island	2.00	281		Pn	04 35 59.7	+0.8
KIKV	Kanaga Island	2.02	282		Pn	04 35 59.8	+0.6
KIMD	Kanaga Island	2.04	278		Pn	04 35 59.7	+0.3
TAPA	Tanaga Point A	2.40	279		Pn	04 36 05.5	+1.0
TAFL	Tanaga Flats	2.45	277		Pn	04 36 06.0	+0.9
TAFP	Tanaga Falls P	2.52	281		Pn	04 36 06.8	+0.8
TASE	Tanaga Southea	2.54	279		Pn	04 36 07.5	+1.1
NIKH	Nikolski High	3.48	63	Pn	Pn	04 36 26.6	+7.3
KDAK	Kodiak Island	13.86	55	P	Pn	04 38 39.4	-1.9
	0.2nm,0.3s,baz=305,slow=22,SNR=1.2						
ILAR	Eielson Array	19.31	36	P	P	04 39 49.6	+0.4
	0.4nm,0.3s,baz=215,slow=10.0,SNR=19						
INK	Inuvik	25.65	34	P	P	04 40 53.8	+0.3
	0.7nm,0.5s,baz=234,slow=5.2,SNR=7.3						
DLBC	Dease Lake	25.77	57	P	P	04 40 56.6	+1.8
	2.3nm,0.9s,baz=1.9,slow=4.3,SNR=3.1						
YKA	Yellowknife Ar	32.95	47	P	P	04 41 58.0	-0.4
	0.1nm,0.3s,baz=269,slow=8.4,SNR=2.4						
USRK	Ussuriysk Ar.	36.25	280	P	P	04 42 26.6	-0.5
	2.3nm,0.5s,baz=58,slow=8.6,SNR=5.6						
H11S1	WAKE ISLAND Hy	36.29	212	T	T	05 21 26.6	
	baz=312,slow=74,SNR=9.8						
H11S2	WAKE ISLAND Hy	36.31	212	T	T	05 21 29.2	
	baz=18,slow=74,SNR=6.4						
H11S3	WAKE ISLAND Hy	36.31	212	T	T	05 21 39.4	
PDAR	Pinedale Array	43.38	75	P	P	04 43 28.0	+1.3
	0.2nm,0.5s,baz=302,slow=5.2,SNR=2.0						
SONM	Songino Array	49.25	299	P	P	04 44 13.1	+0.5
	0.4nm,0.5s,baz=50,slow=5.6,SNR=5.3						
ARCES	ARCESS Array B	58.43	352	P	P	04 45 18.7	-0.4
	5.6nm,1.2s,baz=20,slow=8.0,SNR=1.5						
MKAR	Makanchi Array	62.27	311	P	P	04 45 45.6	-0.2
	0.5nm,0.4s,baz=48,slow=6.2,SNR=15						
FINES	FINESS Array B	66.26	350	P	P	04 46 11.2	-0.4
	0.6nm,0.5s,baz=358,slow=5.4,SNR=6.9						
AKASG	Malin Array Be	76.28	345	P	P	04 47 11.6	-0.6
	0.8nm,0.4s,baz=16,slow=6.0,SNR=4.9						

IDC 13 04:44:14.9±2.4, 2.83N×126.37E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.2/3, Error ellipse: s-maj=217.6km s-min=27.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.95	161	P	P	04 49 29.7	-1.3
	0.4nm,0.3s,baz=340,slow=11,SNR=18						
ASAR	Alice Springs	27.34	165	P	P	04 50 03.6	+1.7
	0.3nm,0.4s,baz=344,slow=11,SNR=6.2						
MKAR	Makanchi Array	58.09	326	P	P	04 54 09.7	-0.5
	0.1nm,0.5s,baz=120,slow=7.7,SNR=2.4						

IDC ***13*** *04:53:33.9±1.6, 55.27S×28.85W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.5/18, mbtmp3.9/2, Error ellipse: s-maj=73.0km s-min=41.2km az=6.0*

ISC 13 04:53:37.8±1.9, 55.3S±0.6×28.9W±0.3, h24km, n7, σ0§91/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	49.13	307	P	P	05 02 24.1	0.0
	1.6nm,0.6s,baz=162,slow=6.4,SNR=10						
TORD	Torodi Ar. Bea	72.85	31	P	P	05 05 04.6	+0.2
	0.4nm,0.4s,baz=202,slow=6.5,SNR=12						
FINES	FINESS Array B	124.13	28	PKP	PKPdf	05 12 31.1	-1.6
	0.8nm,0.8s,baz=293,slow=1.1,SNR=4.9						
YKA	Yellowknife Ar	134.94	319	PKP	PKPdf	05 12 53.8	+0.7
	0.1nm,0.4s,baz=119,slow=2.7,SNR=2.7						
INK	Inuvik	144.58	322	PKP	PKPab	05 13 09.3	+0.2
	1.9nm,0.8s,baz=129,slow=4.0,SNR=4.2						
ILAR	Eielson Array	148.87	313	PKPbc	PKPbc	05 13 21.6	-0.1
	2.2nm,0.8s,baz=118,slow=1.8,SNR=26						
SONM	Songino Array	151.63	86	PKPbc	PKPbc	05 13 29.7	+0.5
	0.6nm,0.5s,baz=216,slow=3.5,SNR=5.5						

NEIC ***13*** *05:01:50.6±0.8, 6.58S±0.09×155.02E±0.05, h95km±10km, mb4.3/14, Error ellipse: s-maj=13.8km s-min=4.6km az=159.0*
IDC ***13*** *05:01:50.3±3.2, 6.57S×154.95E, h99km±30km, mb3.7/7, mb1 3.9/10, mb1mx3.5/48, mbtmp4.1/10, MS3.8/1, Ms1 3.8/1, ms1mx3.0/58, Error ellipse: s-maj=32.8km s-min=21.3km az=142.0*

ISC 13 05:01:50.6±0.7, 6.60S±0.09×154.99E±0.08, h100km, n34, σ0§53/33, mb4.2/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	3.69	310		Pn	05 02 46.2	+0.5
HNR	Honiara	5.66	120	P	Pn	05 03 12.3	-0.1
	12nm,0.3s,baz=254,slow=8.6,SNR=4.8						
HNR	Honiara	5.66	120		Pn	05 03 11.6	-0.8
PMG	Port Moresby	8.24	250	P	Pn	05 03 46.9	-0.5
	2.1nm,0.3s,baz=49,slow=12,SNR=5.0						
PMG				S	Sn	05 05 18.5	-0.3
	0.7nm,0.3s,baz=241,slow=22,SNR=6.9						
PMG	Port Moresby	8.24	250		Pn	05 03 47.3	-0.1
PMG				Sn	Sn	05 05 19.0	+0.2
COEN	Coen	13.72	237		P	05 05 07.6	+1.3
CTA	Charters Tower	15.86	211	P	P	05 05 29.6	-0.4
	0.2nm,0.3s,baz=33,slow=12,SNR=6.2						
CTA				LR	LR	05 11 13.6	
	comp=Z,321nm,19.2s,baz=28,slow=36						
EIDS	Eidsvold	19.04	191	P	P	05 06 05.4	+0.5
EIDS				IAmb	IAmb	05 06 06.6	
	comp=Z,7.4nm,0.8s						
WR0	Warramunga Arr	23.88	234	P

BKSI	**Bulukumba**	**5.00**	**19**	P	**Pn**	**05 07 04.6**	**+1.8**
KAPI	**Kappang**	**5.18**	**14**	Pn	**Pn**	**05 07 06.5**	**+1.1**
	1.4nm,0.3s,baz=198,slow=7.9,SNR=9.3						
KAPI				Sn	**Sn**	**05 08 04.9**	**+0.9**
	2.6nm,0.3s,baz=181,slow=21,SNR=7.5						
GMJI	**Gumukmas**	**5.26**	**289**	P	**Pn**	**05 07 07.8**	**+1.3**
	0.2nm20nm,0.7s						
PCJI	**Pacitan**	**7.43**	**284**	P	**Pn**	**05 07 38.2**	**+2.0**
	0.2nm29nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.59**	**140**	Pn	**Pn**	**05 08 20.4**	**+0.9**
	0.9nm,0.3s,baz=338,slow=8.3,SNR=19						
FITZ				Sn	**Sn**	**05 10 11.9**	**-5.1**
	0.6nm,0.3s,baz=188,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**18.19**	**124**	P	**P**	**05 10 01.1**	**+0.9**
	0.2nm,0.3s,baz=298,slow=12,SNR=12						
ASAR	**Alice Springs**	**20.00**	**134**	P	**Pn**	**05 10 22.4**	**+0.5**
	2.6nm,0.9s,baz=327,slow=14,SNR=38						
STKA	**Stephens Creek**	**30.49**	**139**	P	**P**	**05 12 00.3**	**+0.3**
	0.5nm,0.4s,baz=312,slow=14,SNR=2.9						
KSRS	**Korea Array**	**48.10**	**10**	P	**P**	**05 14 26.6**	**0.0**
	1.0nm,0.8s,baz=192,slow=9.6,SNR=2.2						
SONM	**Songino Array**	**58.64**	**351**	P	**P**	**05 15 42.8**	**-1.2**
	0.5nm,0.6s,baz=172,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**65.17**	**333**	P	**P**	**05 16 27.1**	**-0.7**
	0.4nm,0.6s,baz=138,slow=7.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**69.69**	**334**	P	**P**	**05 16 55.0**	**-1.3**
	0.3nm,0.6s,baz=141,slow=6.1,SNR=2.3						

MOS ***13*** *05:08:38.8±0.0,41°.63N×46°.47E, h20km,MPVA3.3*
NORS ***13*** *05:08:38.6±0.0,41°.57N×46°.48E, h20km,MPVA3.3*
TIF ***13*** *05:08:38.5,41°.73N×46°.53E, h24km*
DRS ***13*** *05:08:40.9±0.0,41°.56N×46°.31E, h20km*

ISC 13 05:08:39.8±1.1,41°.62N±0°.04×46°.48E±0°.03, h15km±8km, n23,σ1°15/43, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.28**	**321**	P	**Pg**	**05 08 45.0**	**-0.7**
LGD				S	**Sg**	**05 08 49.4**	**-0.4**
DDFL	**Dedoflistskaro**	**0.32**	**237**	P	**Pg**	**05 08 47.7**	**+1.2**
KMKR	**Kumukh**	**0.69**	**42**	*i*	Pg	**05 08 53.5**	**-0.2**
KMKR				*e*	Sg	**05 09 04.2**	**-1.6**
GNBR	**Gunib**	**0.85**	**25**	*e*	Pg	**05 08 56.9**	**-0.4**
GNBR				*e*	Sg	**05 09 09.7**	**+0.2**
XNZR	**Khunzakh**	**0.94**	**10**	*e*	Pg	**05 08 57.8**	**-0.1**
XNZR				*e*	Sg	**05 09 11.8**	**-0.1**
AKT	**Akhty**	**0.95**	**98**	*e*	Pg	**05 08 58.1**	**0.0**
AKT				*e*	Sg	**05 09 11.9**	**-0.1**
URKR	**Urkarakh**	**1.02**	**57**	*e*	Pg	**05 08 59.7**	**0.0**
URKR				*e*	Sg	**05 09 14.7**	**+0.9**
ARKR	**Arakani**	**1.05**	**21**	*e*	Pg	**05 08 59.9**	**-0.2**
ARKR				*e*	Sg	**05 09 14.8**	**+0.3**
BTLR	**Botlikh**	**1.06**	**350**	*e*	Pg	**05 08 59.7**	**-0.2**
BTLR				*e*	Sg	**05 09 14.0**	**-0.7**
UNCR	**Uncukul**	**1.12**	**12**	*e*	Pg	**05 09 00.9**	**-0.5**
UNCR				*e*	Sg	**05 09 17.1**	**+1.0**
SGKR	**Sergokala**	**1.22**	**46**	*e*	Pg	**05 09 02.8**	**-0.4**
SGKR				*e*	Sg	**05 09 21.3**	**+2.8**
KRNR	**Karanay**	**1.25**	**15**	*e*	Pg	**05 09 03.0**	**-0.1**
KRNR				*e*	Sg	**05 09 21.0**	**+1.6**
BTNK	**Botanikuri**	**1.26**	**273**	P	Pn	05 08 58.1	-4.8
BTNK				S	**Sb**	**05 09 15.1**	**-4.2**
SEAG	**Tbilisi Sea**	**1.26**	**277**	P	**Pn**	**05 09 02.5**	**-0.5**
SEAG				S	**Sb**	**05 09 20.2**	**+0.8**
DBC	**Dubki**	**1.42**	**10**	*e*	Pg	**05 09 05.9**	**-0.1**
DBC				*e*	Sg	**05 09 26.7**	**+1.0**
DLMR	**Dylym**	**1.45**	**4**	*e*	Pg	**05 09 05.9**	**+0.3**
DLMR				*e*	Sg	**05 09 26.0**	**-0.6**
GROC	**Groznyy**	**1.66**	**343**	*e*	Pg	**05 09 11.3**	**-0.4**
GROC				*e*	Sg	**05 09 34.9**	**+1.6**
PNSH	**Pansheti**	**1.72**	**307**	P	**Pn**	**05 09 09.4**	**0.0**
PNSH				S	**Sn**	**05 09 31.7**	**+0.6**
DMNI	**Dmanisi**	**1.74**	**261**	P	**Pn**	**05 09 08.6**	**-1.0**
DMNI				S	**Sn**	**05 09 31.2**	**-0.4**
TRLG	**Trialeti**	**1.79**	**268**	P	**Pn**	**05 09 09.8**	**-0.4**
TRLG				S	**Sn**	**05 09 33.4**	**+0.7**
BRNG	**Burnasheti**	**1.99**	**271**	P	**Pn**	**05 09 13.2**	**+0.2**
LACR	**Lac**	**2.02**	**307**	*e*	Pg	**05 09 15.4**	**+2.0**
LACR				*e*	**Sb**	**05 09 41.4**	**+0.2**
ZEI	**Tsey**	**2.24**	**302**	*e*	Pg	**05 09 18.5**	**+2.0**
ZEI				*e*	**Sb**	**05 09 47.5**	**-0.3**

BJI ***13*** *05:15:31.0±0.0,27°.80N×84°.90E, h10km,mb4.2/9, mB4.5/2,Ms4.0/1,Ms7 3.7/1*
IDC ***13*** *05:15:31.4±0.9,27°.69N×84°.66E, h0km,mb3.8/11, mb1 4.0/14,mb1mx3.7/39,mbtmp3.8/14,ML4.3/3,Error ellipse: s-maj=34.6km s-min=15.6km az=61.0*
NEIC ***13*** *05:15:33.7±1.5,27°.8N±0°.1×84°.82E±0°.08, h10km±1km, mb4.4/24,Error ellipse: s-maj=22.4km s-min=6.1km az=27.0*
DMN ***13*** *05:15:34.0±0.1,27°.83N×84°.90E, h10km,Ml4.8/5,Error ellipse: s-maj=3.5km s-min=1.0km az=19.0*
NDI ***13*** *05:15:35.8±3.2,27°.74N×84°.84E, h10km,ML3.9, mb4.4(NEIC)*

ISC 13 05:15:33.7±0.9,27°.80N±0°.04×84°.84E±0°.02, h15km±6km, n81,σ1°78/105,mb4.1/17, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GKN	**Gorkha**	**0.27**	**319**	*e*	Pg	**05 15 40.1**	**+0.5**
GKN				*e*	Sg	**05 15 43.6**	**0.0**
DMN	**Daman**	**0.30**	**128**	*e*	Pg	**05 15 40.3**	**+0.1**
DMN				*e*	Sg	**05 15 44.3**	**-0.3**
KKN	**Kakani**	**0.39**	**91**	*e*	Pg	**05 15 41.3**	**-0.4**
KKN				*e*	Sg	**05 15 45.9**	**-1.3**
PKIN	**Phulchoki**	**0.54**	**114**	*e*	Pg	**05 15 44.2**	**-0.3**
PKI	**Pulchoki**	**0.56**	**114**	*e*	Pg	**05 15 44.2**	**-0.6**
PKI				*e*	Sg	**05 15 51.5**	**-0.7**
GUN	**Gumba**	**0.93**	**83**	*e*	Pg	**05 15 50.8**	**-1.0**
GUN				*e*	Sg	**05 16 02.2**	**-1.9**
VLK	**Valmikinagar**	**0.98**	**241**	*e*	P	**05 15 53.0**	**+0.5**
VLK				*e*	**Sb**	**05 16 05.9**	**+0.6**
KOLN	**Koldanda**	**1.09**	**269**	*e*	Pg	**05 15 56.0**	**+1.1**
DANN	**Dangsing**	**1.10**	**300**	*e*	Pg	**05 15 55.3**	**+0.4**
DANN				*e*	Sg	**05 16 10.4**	**+0.4**
JIRN	**Jiri**	**1.21**	**96**	*e*	Pg	**05 15 56.3**	**-0.2**
JIRN				*e*	Sg	**05 16 11.1**	**-1.0**
	2μm,0.3s						
PYUN	**Piuthan**	**1.66**	**281**	*e*	Pg	**05 16 05.6**	**0.0**
PYUN				*e*	Sg	**05 16 28.6**	**+1.3**
	2μm,0.3s						
RAMN	**Ramite**	**1.78**	**118**	*e*	Pg	**05 16 05.7**	**-0.5**
RAMN				*e*	Sg	**05 16 29.6**	**+1.1**
	2μm,0.3s						
ODAN	**Odare**	**2.46**	**112**	*e*	Pg	**05 16 18.6**	**+0.8**
ODAN				*e*	Sg	**05 16 49.6**	**+1.6**
	1μm,0.3s						
TAPN	**Taplejung**	**2.59**	**99**	*e*	Pg	**05 16 18.5**	**-1.6**
TAPN				*e*	Sg	**05 16 53.9**	**+2.0**
	857nm,0.5s						
VAR	**Varanasi**	**2.97**	**214**	*i*	x	**Sn**	**05 17 00.6**	**+4.8**
GTK	**Tadong**	**3.38**	**97**	*e*	P	**Pn**	**05 16 28.7**	**+2.6**
GTK				*e*	S	**Sn**	**05 17 07.8**	**+1.8**
GTK					IAML		05 17 24.1	
	comp=E,323nm,0.2s							
GTK					IAML		05 17 24.2	
	comp=N,317nm,0.2s							
BOK	**Bokaro**	**4.10**	**166**	*e*	P	**Pn**	**05 16 38.0**	**+2.2**
BOK				*e*	S	**Sn**	**05 17 24.8**	**+1.2**
BOK					IAML		05 17 43.0	
	comp=E,262nm,0.4s							
BOK					IAML		05 17 44.0	
	comp=N,179nm,0.2s							
LGTI	**Lohaghat**	**4.36**	**293**	*ex*		**Sn**	**05 17 24.9**	**-5.1**
PTH	**Pithoragarh**	**4.42**	**294**	*e*	P	**Pn**	**05 16 44.4**	**+3.9**
PTH				*e*	PN	Pb	05 16 45.9	-5.3
PTH				*i*	x	**Pg**	**05 16 57.7**	**-0.6**
PTH				*ex*		**Sb**	**05 17 45.3**	**+0.9**
LSA	**Lhasa**	**5.86**	**70**	Pn	P	**Pn**	**05 17 01.8**	**+1.3**
JHNI	**Jhansi**	**6.09**	**249**	*ex*		**Pn**	**05 17 03.0**	**-0.3**
GUWA	**GUWAHATI**	**6.32**	**103**	*e*	P	**Pn**	**05 17 07.5**	**+1.1**
GUWA				*e*	S	**Sn**	**05 18 17.1**	**-1.4**
JBP	**Jabalpur**	**6.36**	**225**	*e*	P	**Pn**	**05 17 09.5**	**+2.5**
JBP				*e*	S	**Sn**	**05 18 21.8**	**+2.4**
SHL	**Shillong**	**6.68**	**108**	Pn	P	**Pn**	**05 17 11.5**	**-0.1**
SHL	**Shillong**	**6.68**	**108**	*e*	P	**Pn**	**05 17 11.8**	**+0.2**
SHL				*e*	S	**Sn**	**05 18 24.3**	**-3.3**
SHL					IAML		05 19 06.4	
	comp=N,186nm,0.1s							
SHL					IAML		05 19 06.7	
	comp=E,60nm,0.3s							
NDI	**New Delhi**	**6.78**	**279**	*e*	P	**Pg**	**05 17 41.0**	**-2.5**
NDI				*e*	S	**Sg**	**05 19 05.0**	**-6.3**
KUDL	**Kundal**	**7.39**	**275**	*e*	P	**Pn**	**05 17 22.7**	**+1.6**
KUDL				*e*	S	**Sn**	**05 18 43.3**	**-1.4**
BHPL	**Bhopal**	**8.09**	**238**	*e*	P	**Pn**	**05 17 30.1**	**-0.7**
BHPL				*e*	S	**Sn**	**05 18 57.5**	**-4.5**
KOHI	**KOHIMA**	**8.54**	**102**	*e*	P	**Pn**	**05 17 37.0**	**-0.1**
RAGD	**RAYAGADA**	**8.60**	**189**	*e*	P	**Pn**	**05 17 39.4**	**+1.5**
RAGD				*ex*		**Sn**	**05 19 13.1**	**-1.6**
DHRM	**DHARAMSHALA**	**8.63**	**303**	*e*	P	**Pn**	**05 17 40.0**	**+1.8**
DHRM				*e*	S	**Sn**	**05 19 12.6**	**-2.9**
DHRM					IAML		05 19 21.5	
	comp=E,126nm,0.4s							
DHRM					IAML		05 19 24.7	
	comp=N,186nm,0.7s							
CHCP	**Chirah Chowk**	**11.54**	**303**	P		**Pn**	**05 18 18.2**	**+0.2**
NIL	**Nilore**	**11.54**	**303**			**Pn**	**05 18 18.0**	**-0.1**
HYBB	**Hyderabad (bro**	**11.84**	**211**	*e*	P	**Pn**	**05 18 20.8**	**-1.5**
HYBB				*e*			05 20 27.4	
CEP	**Cherat**	**12.63**	**302**	P		**Pn**	**05 18 30.2**	**-2.8**
KSH	**Kashi**	**13.81**	**330**	P		**Pn**	**05 18 45.9**	**-3.2**
KSH				pP		Pn	05 18 48.8	-0.3
KSH				pmax		pmax		
	comp=N,7.0nm,0.7s							
TARG	**Taragay, Kyrgy**	**15.04**	**339**	Pn		**Pn**	**05 19 04.0**	**-2.2**
KBL	**Kabul**	**15.09**	**300**	Pn		**Pn**	**05 19 06.3**	**-0.4**
KBL				IAmb		IAmb	05 19 38.5	
	comp=Z,5.1nm,0.7s							
DRK	**Karamyk**	**15.90**	**320**	Pn		**Pn**	**05 19 16.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.95**	**123**	Pn		**Pn**	**05 19 18.0**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=307,slow=12,SNR=5.3							
WMQ	**Urumqi**	**16.16**	**7**	*e*	P		**05 19 25.8**	**+2.3**
BOOM	**Boomskoye usch**	**16.35**	**336**	Pn		**Pn**	**05 19 23.7**	**+0.8**
GAR	**Garm**	**16.46**	**316**	Pn		**Pn**	**05 19 23.6**	**-0.7**
GAR				IAmb		IAmb	05 19 32.4	
	comp=Z,10nm,0.6s							
BTK	**Batken**	**16.85**	**320**			**Pn**	**05 19 28.2**	**-1.0**
CHGR	**Chuyangaron**	**16.98**	**314**			**Pn**	**05 19 30.5**	**-0.4**
CHGR				IAmb		IAmb	05 19 44.4	
	comp=Z,14nm,0.7s							
GTA	**Gaotai**	**17.00**	**43**	*e*	P		**05 19 37.9**	**+5.0**
GTA				pP		sP	05 19 43.8	+4.5
GTA				sP		pP	05 19 47.3	+10
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
AAK	**Ala-Archa**	**17.03**	**333**	P		**Pn**	**05 19 30.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=3.9							
AAK	**Ala-Archa**	**17.03**	**333**	P		**Pn**	**05 19 31.3**	**-0.1**
LZH	**Lanzhou**	**18.11**	**58**	*e*	P	**Pn**	**05 19 42.8**	**-2.1**
LZH				pmax		pmax		
	comp=Z,13nm,1.5s							
MK31	**Makanchi Array**	**19.07**	**355**	P		**P**	**05 19 54.8**	**-0.8**
MKAR	**Makanchi Array**	**19.07**	**355**	P		**Pn**	**05 19 56.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=179,slow=11,SNR=12							
MKAR	**Makanchi Array**	**19.07**	**355**	P		**P**	**05 19 55.5**	**-0.1**
KKAR	**Karatay Array**	**19.18**	**327**	P		**P**	**05 19 56.0**	**-0.8**
KURBB	**Kurchatov Arra**	**23.30**	**350**	P		**P**	**05 20 42.4**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=170,slow=11,SNR=9.0							
KURK	**Kurchatov**	**23.37**	**350**	P		**P**	**05 20 41.9**	**+0.3**
KURK				IAmb		IAmb	05 20 47.3	
	comp=Z,9.6nm,1.6s							
SONM	**Songino Array**	**26.12**	**34**	P		**P**	**05 21 09.1**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=229,slow=9.8,SNR=12							
ZALV	**Zalesovo Beam**	**26.13**	**360**	P		**P**	**05 21 08.0**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=195,slow=11,SNR=3.8							
ZALV	**Zalesovo Beam**	**26.13**	**360**	P		**P**	**05 21 07.0**	**0.0**
FINES	**FINESS Array B**	**51.13**	**328**	P		**P**	**05 24 35.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=117,slow=8.4,SNR=11							
FINES	**FINESS Array B**	**51.13**	**328**	P		**P**	**05 24 36.1**	**+0.5**
ARCES	**ARCESS Array B**	**53.62**	**338**	P		**P**	**05 24 54.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=98,slow=7.6,SNR=7.5							
ARCES	**ARCESS Array B**	**53.62**	**338**	P		**P**	**05 24 53.2**	**-0.9**
WRA	**Warramunga Arr**	**67.42**	**129**	P		**P**	**05 26 29.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=322,slow=6.2,SNR=33							
WRA	**Warramunga Arr**	**67.42**	**129**	P		**P**	**05 26 29.3**	**+0.3**
WB2	**Warramunga Arr**	**67.43**	**129**	P		**P**	**05 26 29.8**	**+0.8**
WR0	**Warramunga Arr**	**67.57**	**129**	P		**P**	**05 26 30.6**	**+0.6**
WR0				IAmb		IAmb	05 26 56.5	
	comp=Z,12nm,1.6s							
ASAR	**Alice Springs**	**69.70**	**132**	P		**P**	**05 26 43.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=313,slow=6.3,SNR=16							
TOLK	**Toolik Lake Re**	**75.95**	**18**	P		**P**	**05 27 21.3**	**+1.6**
IMAR	**Indian Mountai**	**76.45**	**21**	P		**P**	**05 27 23.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**78.00**	**279**	P		**P**	**05 27 31.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=66,slow=6.1,SNR=2.2							
K20K	**Telida**	**78.01**	**23**	P		**P**	**05 27 33.5**	**+2.2**
MLY	**Manley**	**78.03**	**21**	P		**P**	**05 27 33.4**	**+1.9**
MLY				IAmb		IAmb	05 29 30.4	
	comp=Z,14nm,1.7s							
BMAR	**Burnt Mountain**	**78.14**	**17**	P		**P**	**05 27 34.4**	**+2.4**
A36M	**Sachs Harbour**	**78.32**	**9**	P		**P**	**05 27 33.6**	**+0.7**
A36M				IAmb		IAmb	05 29 09.1	
	comp=Z,12nm,1.9s							
CAST	**Castle Rocks**	**78.65**	**23**	P		**P**	**05 27 36.6**	**+1.7**
ILAR	**Eielson Array**	**79.40**	**20**	P		**P**	**05 27 39.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=303,slow=4.6,SNR=7.1							
ILAR	**Eielson Array**	**79.40**	**20**	P		**P**	**05 27 38.9**	**-0.1**
INK	**Inuvik**	**80.07**	**14**	P		**P**	**05 27 43.5**	**+1.0**
INK				IAmb		IAmb	05 28 36.7	
	comp=Z,15nm,1.9s							
STKA	**Stephens Creek**	**80.25**	**134**	P		**P**	**05 27 42.8**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=304,slow=3.6,SNR=3.0							
DAWY	**Dawson**	**82.10**	**18**	P		**P**	**05 27 54.3**	**+0.8**
DAWY				IAmb		IAmb	05 30 03.8	
	comp=Z,19nm,1.9s							
YKA	**Yellowknife Ar**	**88.68**	**9**	P		**P**	**05 28 26.4**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=337,slow=5.2,SNR=2.6							

IDC 13 05:20:18.8±3.7,16°.86S×69°.29W, h186km±15km, mb3.3/4, mb1 3.3/4,mb1mx3.0/23,mbtmp3.8/4, Error ellipse: s-maj=82.3km s-min=33.4km az=17.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.25**	**63**	P	Pn	**05 20 49.1**	**-0.7**
	15nm,0.3s,baz=253,slow=6.3,SNR=483						
LPAZ				S	Sn	05 21 13.9	+0.2
	5.3nm,0.3s,baz=105,slow=21,SNR=38						
BDFB	**Brasilia**	**20.46**	**90**	P	P	05 24 43.4	+1.0
	1.3nm,0.5s,baz=235,slow=14,SNR=3.8						
DBIC	**Dimbokro**	**67.84**	**75**	P	P	05 30 57.2	-0.2
	2.1nm,0.8s,baz=252,slow=6.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.19**	**72**	P	P	05 31 46.8	-0.3
	0.5nm,0.6s,baz=261,slow=4.7,SNR=4.8						
YKA	**Yellowknife Ar**	**86.72**	**341**	P	P	05 32 41.7	+0.5
	0.3nm,0.7s,baz=125,slow=4.6,SNR=5.1						

IDC ***13*** *05:28:47.9±1.2,85°.48N×87°.77E, h0km,mb3.6/6, mb1 3.8/9,mb1mx3.5/40,mbtmp3.7/9,ML3.4/3,MS3.5/1, Ms1 3.5/1,ms1mx2.7/83,Error ellipse: s-maj=25.0km s-min=23.2km az=163.0*

ISC 13 05:28:49.6±1.0,85°.4N±0°.1×85°.96E±0°.08, h10km,n13, σ2°20/15,mb3.5/6, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**6.31**	**245**	*e*	P	**Pn**	**05 30 23.8**	**+1.3**
ZFI2				*e*	S	**Sn**	**05 31 31.4**	**-3.1**
	16nm,1.4s							
ZFI	**Zemlya Franca-**	**6.31**	**245**	*e*	P	**Pn**	**05 30 23.7**	**+1.2**
ZFI				*e*	S	**Sn**	**05 31 31.4**	**-3.1**
SPA0	**Spitsbergen Ar**	**11.15**	**272**	*e*	P	**Pn**	**05 31 32.3**	**+3.5**
SPA0				*e*	S	**Sn**	**05 33 30.7**	**-2.5**
SPITS	**Spitsbergen Ar**	**11.15**	**272**	Pn		**Pn**	**05 31 28.9**	**+0.2**
	baz=30,slow=24,SNR=5.9							
NRIK	**Noril'sk**	**16.18**	**178**	Pn		**Pn**	**05 32 37.1**	**+0.5**
	0.4nm,0.3s,baz=14,slow=10.0,SNR=5.4							
ARCES	**ARCESS Array B**	**18.73**	**252**	P		**Pn**	**05 33 10.4**	**+2.0**
	baz=16,slow=10,SNR=1.7							
SEY	**Seymchan**	**25.70**	**105**	P		**P**	**05 34 18.3**	**-1.0**
	1.2nm,0.7s,baz=21,slow=5.6,SNR=4.6							
FINES	**FINESS Array B**	**26.68**	**248**	P		**P**	**05 34 29.5**	**+1.4**
	1.4nm,0.8s,baz=340,slow=12,SNR=2.3							
KIRV	**Kirov**	**28.00**	**222**	LR		LR	05 48 13.9	
	comp=Z,89nm,20.8s,baz=163,slow=41							
ZALV	**Zalesovo Beam**	**31.62**	**181**	P		**P**	**05 35 14.5**	**+2.4**
	0.9nm,0.6s,baz=6.0,slow=15,SNR=5.7							
YKA	**Yellowknife Ar**	**32.02**	**18**	P		**P**	**05 35 14.4**	**-1.1**
	0.3nm,0.8s,baz=354,slow=8.6,SNR=5.2							
SONM	**Songino Array**	**38.06**	**158**	P		**P**	**05 36 06.9**	**-0.9**
	0.4nm,0.8s,baz=3.2,slow=7.8,SNR=2.9							
MKAR	**Makanchi Array**	**38.80**	**184**	P		**P**	**05 36 12.5**	**-1.5**
	0.4nm,0.6s,baz=354,slow=10.0,SNR=4.8							

DJA ***13*** *05:30:07.1±0.3,9°.5S×107°.8E±°, h10km,M4.3/12, MLv4.3/12*
IDC ***13*** *05:30:09.8±2.5,7°.83S×119°.53E, h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/30,mbtmp3.4/4,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/33,Error ellipse: s-maj=165.1km s-min=24.6km az=56.0*

ISC 13 05:30:04.2±1.3,9°.05S±0°.08×117°.68E±0°.04, h13km±10km, n17,σ1°28/20,mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.24**	**25**	P	**Pg**	**05 30 09.9**	**+0.6**
PLAI				S	**Sg**	**05 30 11.9**	**-0.9**
WBSI	**Waikabubak, Su**	**1.79**	**109**	P	**Pn**	**05 30 34.8**	**-0.1**
WBSI				S	**Sn**	**05 30 55.6**	**-1.9**
DNP	**Denpasar**	**2.46**	**278**	P	**Pg**	**05 30 51.4**	**-0.1**
DNP				S	**Sg**	**05 31 24.5**	**+1.0**
IGBI	**Denpasar**	**2.51**	**275**	P	**Pg**	**05 30 51.4**	**-1.0**
IGBI				S	**Sg**	**05 31 25.7**	**+0.7**
SRBI	**Singaraja**	**2.62**	**291**	P	**Pb**	**05 30 51.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**3.53**	**279**	P	**Pb**	**05 31 04.3**	**-2.2**
ABJI	**Asem Bagus**	**3.62**	**290**	P	**Pb**	**05 31 07.0**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.01**	**44**	P	**Pn**	**05 31 04.6**	**-0.8**
BLJI	**Banyuglugur**	**4.24**	**287**	P	**Pb**	**05 31 19.8**	**+1.2**
GMJI	**Gumukmas**	**4.25**	**280**	P	**Pb**	**05 31 17.7**	**-1.2**
BKSI	**Bulukumba**	**4.42**	**33**	P	**Pn**	**05 31 10.2**	**-0.8**
BNSI	**Bone**	**5.21**	**28**	P	**Pn**	**05 31 22.4**	**+0.6**
WRA	**Warramunga Arr**	**19.41**	**126**	P	**Pn**	**05 34 32.0**	**+0.6**
	0.2nm,0.3s,baz=301,slow=12,SNR=8.6						
WRA				S	Sn	05 37 55.4	-14
	0.1nm,0.3s,baz=289,slow=21,SNR=2.4						
ASAR	**Alice Springs**	**21.27**	**135**	P	**P**	**05 34 53.1**	**+2.7**
	1.0nm,0.6s,baz=315,slow=9.2,SNR=18						
ASAR				S	**S**	**05 38 46.4**	**-0.3**
	0.7nm,0.9s,baz=306,slow=22,SNR=5.3						
CTA	**Charters Tower**	**29.70**	**115**	LR		LR	05 48 56.4	
	comp=Z,51nm,21.5s,baz=254,slow=39							
SONM	**Songino Array**	**57.51**	**351**	P	**P**	**05 39 53.2**	**0.0**
	0.4nm,0.5s,baz=175,slow=8.8,SNR=4.6							
MKAR	**Makanchi Array**	**63.91**	**334**	P	P	05 40 44.5	+7.7
	0.2nm,0.6s,baz=127,slow=9.2,SNR=2.5							

NOU ***13*** *05:50:05.8,23°.61S×179°.21W,h550km,mb4.6/35,South of Fiji Islands*
IDC ***13*** *05:50:06.6±1.4,23°.72S×179°.75W,h509km±12km, mb3.9/11,mb1 4.0/14,mb1mx3.5/50,mbtmp4.8/14,Error ellipse: s-maj=18.9km s-min=12.9km az=69.0*
NEIC ***13*** *05:50:07.8±2.1,23°.9S±0°.1×179°.8W±0°.1,h511km±8km, mb4.7/32,Error ellipse: s-maj=17.8km s-min=14.8km az=93.0*

ISC 13 05:50:08.0±0.4,23°.73S±0°.05×179°.62W±0°.07,h536km, n141,σ1°75/159,mb4.7/34,7C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.71**	**165**	P	**P**	**05 51 41.8**	**-1.4**
GLKZ				S	S	05 52 46.5	-15
MSVF	**Nonsavu**	**6.36**	**340**	P	**P**	**05 51 47.4**	**-2.1**
	10nm,0.3s,baz=218,slow=9.0,SNR=34						
MSVF	**Nonsavu**	**6.36**	**340**	P	**P**	**05 51 48.2**	**-1.3**
MSVF				S	**S**	**05 53 13.0**	**+0.6**
MSVF	**Nonsavu**	**6.36**	**340**	P	**P**	**05 51 48.1**	**-1.4**
NIUE	**Niue**	**10.15**	**65**	P	**P**	**05 52 30.3**	**+2.9**
MARNC	**Mare, Loyalty**

PMG	**Port Moresby**	**34.77**	**289**	P	**P**	05 56 12.8	**-1.2**
PMG				IAmb	IAmb	05 56 14.1	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**05 56 16.3**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=93,slow=11,SNR=19						
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**05 56 16.1**	**-0.5**
STKA	**Stephens Creek**	**35.10**	**248**	P	**P**	**05 56 16.7**	**+0.1**
ARPS	**Mount Arapiles**	**35.50**	**239**	P	**P**	**05 56 18.9**	**-0.9**
	comp=Z,34nm,0.8s						
COEN	**Coen**	**36.43**	**279**	P	**P**	**05 56 27.6**	**-0.2**
COEN	**Coen**	**36.43**	**279**	P	**P**	**05 56 28.4**	**+0.6**
PATS	**Pohnpei**	**37.25**	**322**	P	**P**	**05 56 35.3**	**+0.8**
HTT	**Hallett**	**37.46**	**246**	P	**P**	**05 56 36.4**	**+0.4**
QIS	**Mount Isa**	**37.81**	**267**	P	**P**	**05 56 38.2**	**-0.9**
TWOA	**Tennyson Woods**	**37.88**	**243**	P	**P**	**05 56 38.1**	**-1.3**
	comp=Z,17nm,0.6s						
LCRK	**Leigh Creek**	**37.96**	**250**	P	**P**	**05 56 39.9**	**-0.2**
NAPP	**Napperby**	**38.09**	**246**	P	**P**	**05 56 40.3**	**-0.8**
	comp=Z,23nm,0.7s						
BBOO	**Buckleboo**	**39.83**	**247**	P	**P**	**05 56 54.1**	**-1.1**
BBOO				IAmb	IAmb	05 56 54.7	
	comp=Z,19nm,0.8s						
BBOO	**Buckleboo**	**39.83**	**247**	P	**P**	**05 56 54.3**	**-0.9**
OOD	**Oodnadatta**	**40.29**	**254**	P	**P**	**05 56 59.5**	**+0.6**
MULG	**Mulgathing**	**41.56**	**251**	P	**P**	**05 57 08.3**	**-0.7**
AS31	**Alice Springs**	**42.40**	**260**	P	**P**	**05 57 15.2**	**-0.6**
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**05 57 15.1**	**-0.8**
	comp=Z,16nm,0.6s,baz=97,slow=7.6,SNR=222						
ASAR				ScP	**ScP**	**06 02 00.8**	**+4.3**
	comp=Z,1.1nm,0.7s,baz=98,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**05 57 15.2**	**-0.7**
WR0	**Warramunga Arr**	**42.58**	**266**	P	**P**	**05 57 16.0**	**-1.1**
WR0				IAmb	IAmb	05 57 16.2	
	comp=Z,12nm,0.5s						
WB2	**Warramunga Arr**	**42.75**	**266**	P	**P**	**05 57 17.4**	**-1.1**
WB2				IAmb	IAmb	05 57 18.0	
	comp=Z,23nm,0.7s						
WB0	**Warramunga Arr**	**42.76**	**266**	P	**P**	**05 57 17.4**	**-1.2**
WRAB	**Tennant Creek**	**42.76**	**266**	P	**P**	**05 57 17.4**	**-1.1**
WRAB				IAmb	IAmb	05 57 17.9	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**05 57 17.2**	**-1.4**
	comp=Z,19nm,0.5s,baz=90,slow=5.7,SNR=456						
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**05 57 17.2**	**-1.4**
FORT	**Forrest**	**46.69**	**249**	P	**P**	**05 57 47.6**	**-1.1**
KNRA	**Kununurra**	**49.03**	**269**	P	**P**	**05 58 05.7**	**-0.7**
KNRA				IAmb	IAmb	05 58 06.6	
	comp=Z,24nm,0.8s						
SIJI	**Sorong**	**52.71**	**288**	P	**P**	**05 58 32.6**	**-0.6**
	comp=Z,20nm,0.7s,baz=89,slow=13,SNR=4.3						
VNDA	**Vanda**	**54.57**	**185**	P	**P**	**05 58 46.0**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=8.0,slow=7.2,SNR=9.6						
VNDA	**Vanda**	**54.57**	**185**	P	**P**	**05 58 47.3**	**+2.0**
VNDA				PcP	**PcP**	**05 59 42.0**	**+1.9**
PSA00	**Pilbara Seismi**	**55.53**	**259**	P	**P**	**05 58 51.3**	**-1.6**
MORW	**Morawa**	**57.26**	**250**	P	**P**	**05 59 04.1**	**-0.6**
GIRL	**Giralia**	**60.29**	**257**	P	**P**	**05 59 26.1**	**+0.9**
CASY	**Casey**	**60.41**	**206**	P	**P**	**05 59 25.3**	**+0.1**
CASY				IAmb	IAmb	05 59 51.7	
	comp=Z,53nm,1.5s						
PLAI	**Plampang**	**61.46**	**273**	P	**P**	**05 59 32.5**	**-0.5**
	comp=Z,60nm,0.8s						
TOLI2	**Tolitoli**	**62.87**	**284**	P	**P**	**05 59 40.9**	**-1.3**
TOLI2				IAmb	IAmb	05 59 43.4	
	comp=Z,13nm,0.6s						
MPSI	**Mapaga**	**63.31**	**283**	P	**P**	**05 59 44.1**	**-0.9**
	comp=Z,20nm,0.8s						
QSPA	**South Pole Qui**	**66.35**	**180**	P	**P**	**06 00 04.7**	**+1.3**
	comp=Z,8.5nm,0.7s,baz=5.5,slow=0.8,SNR=47						
QSPA	**South Pole Qui**	**66.35**	**180**	P	**P**	**06 00 04.7**	**+1.3**
QSPA				IAmb	IAmb	06 00 06.0	
	comp=Z,16nm,1.0s						
PCJI	**Pacitan**	**67.74**	**271**	P	**P**	**06 00 12.8**	**+0.1**
	comp=Z,75nm,0.6s						
KPJI	**Karang Pucung**	**70.12**	**271**	P	**P**	**06 00 26.5**	**-0.6**
	comp=Z,13nm,0.5s						
CGJI	**Cibinong**	**73.37**	**270**	P	**P**	**06 00 44.9**	**-1.1**
BELA	**Belgrano 2**	**76.56**	**173**	P	**P**	**06 01 03.5**	**+0.8**
MAW	**Mawson**	**78.03**	**200**	P	**P**	**06 01 11.8**	**+1.0**
	comp=Z,4.8nm,0.6s,baz=198,slow=6.4,SNR=1.9						
NJ2	**Nanjing**	**80.81**	**311**	*e*P	**P**	**06 01 29.4**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SNAA	**Sanae**	**84.83**	**179**	P	**P**	**06 01 45.3**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=210,slow=7.8,SNR=6.9						
SNAA	**Sanae**	**84.83**	**179**	P	**P**	**06 01 45.8**	**+0.1**
SNAA				IAmb	IAmb	06 02 13.8	
	comp=Z,15nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P	**P**	**06 02 11.2**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=142,slow=3.3,SNR=10						
HHC	**Hu-ho-hao-te**	**90.55**	**315**	*e*P	**P**	**06 02 14.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,5.2s						
PZH	**PanZhiHua**	**90.91**	**299**	P	**P**	**06 02 15.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
MKAR	**Makanchi Array**	**112.30**	**313**	PKiKP	**PKiKP**	**06 07 42.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=214,slow=0.8,SNR=9.9						
ARCES	**ARCESS Array B**	**131.79**	**348**	PKP	**PKPdf**	**06 08 19.9**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=29,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**138.40**	**342**	PKhKP	PKPpre	06 08 23.4	
	comp=Z,1.1nm,0.9s,baz=57,slow=5.1,SNR=6.3						
FINES				PKP	**PKiKP**	**06 08 33.6**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=60,slow=1.4,SNR=6.6						
FINES				SKPbc	**SKiKP**	**06 11 18.6**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=75,slow=2.2,SNR=6.6						
NB2	**NORSAR Subarra**	**141.97**	**351**	PKP	**PKPdf**	**06 08 35.0**	**-3.5**
	comp=Z,0.1nm,0.5s,baz=6.1,slow=3.2						
AKASG	**Malin Array Be**	**145.02**	**328**	PKP	**PKPbc**	**06 08 44.7**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=42,slow=4.2,SNR=19						
AKASG				SKPbc	**SKiKP**	**06 11 36.0**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=51,slow=2.0,SNR=2.5						
AKBB	**Malin Array Si**	**145.02**	**328**		**PKPbc**	**06 08 45.2**	**+0.4**
BR131	**Keskin Array S**	**147.75**	**308**		**PKPbc**	**06 08 53.6**	**+0.7**
BR131				PKPab	**PKPab**	**06 08 58.9**	**+1.7**
BRTR	**Keskin Array B**	**147.75**	**308**	PKPbc	**PKPbc**	**06 08 53.3**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=147,slow=5.6,SNR=9.9						
BRTR				PKPab	**PKPab**	**06 08 58.4**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=97,slow=3.9,SNR=13						
KWP	**Kalwaria Pacla**	**148.79**	**332**		**PKiKP**	**06 08 56.5**	**+0.5**
BORA	**Eskisehir**	**149.98**	**310**		**PKiKP**	**06 08 59.1**	**+0.2**
KSP	**Ksiaz**	**150.26**	**339**	*e*PKPbc	**PKiKP**	**06 08 59.7**	**+0.7**
LANS	**Liptovska Anna**	**150.52**	**334**	*e*PKP	**PKiKP**	**06 09 01.2**	**+1.6**
OSTC	**Ostas**	**150.53**	**339**↑	*e*PKP	**PKiKP**	**06 09 00.2**	**+0.6**
CHVC	**Chvalec**	**150.55**	**339**↑	*e*PKP	**PKiKP**	**06 09 00.6**	**+1.0**
UPC	**Upice**	**150.64**	**339**↑	*e*PKP	**PKiKP**	**06 09 00.4**	**+0.6**
DPC	**Dobruska-Polom**	**150.67**	**339**↑	*e*PKP	**PKiKP**	**06 09 00.6**	**+0.7**
KRLC	**Kraliky**	**150.75**	**338**↑	*e*PKP	**PKiKP**	**06 09 00.6**	**+0.5**
CLL	**Collm**	**150.80**	**344**		**PKiKP**	**06 09 00.9**	**+0.9**
CLL	**Collm**	**150.80**	**344**	*i* PKPbc	**PKiKP**	**06 09 00.5**	**+0.5**
	comp=Z,8.0nm,0.9s						
KHC	**Kasperske Hory**	**152.60**	**341**↑	*e*PKP	**PKiKP**	**06 09 04.6**	**+0.7**
CKRC	**Cesky Krumlov**	**152.65**	**340**↑	*e*PKP	**PKiKP**	**06 09 04.5**	**+0.5**
GERES	**GERESS Array B**	**152.82**	**341**	PKPbc	**PKPbc**	**06 09 03.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=149,slow=2.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**169.40**	**187**	PKPab	**PKPab**	**06 10 31.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=206,slow=2.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**169.40**	**187**	PKPdf	**PKPdf**	**06 09 17.8**	**+3.1**
TORD					**PKPab**	**06 10 30.4**	**-0.6**

NEIC ***13*** *05:50:17.2±0.8, 22°.34S±0°.08×68°.8W±0°.1, h128km±8km, mb4.2/4, ML4.0(GUC), Error ellipse: s-maj=17.2km s-min=8.3km az=61.0*

VAO ***13*** *05:50:17.7±0.7, 22°.05S×68°.85W, h113km, mb4.1*

IDC ***13*** *05:50:18.7±1.0, 22°.38S×68°.34W, h99km±16km, mb3.6/1, mb1 3.6/3, mb1mx3.2/37, mbtmp4.0/3, Error ellipse: s-maj=56.4km s-min=28.1km az=122.0*

GUC ***13*** *05:50:19.4±0.7, 22°.19S×68°.79W, h113km±5km, ML4.1*

ISC 13 05:50:17.5±0.7, 22°.25S±0°.04×68°.80W±0°.07, h120km±6km, n70, σ1°49/80, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LVC	**Limon Verde**	**0.37**	**196**	P		**Pn**	**05 50 36.7**	**+1.5**
	118nm,0.3s,baz=62,slow=7.8,SNR=288							
LVC				S		**Sn**	**05 50 49.2**	**+0.6**
	963nm,0.3s,baz=230,slow=18,SNR=53							
LVC	**Limon Verde**	**0.37**	**196**			**Pn**	**05 50 36.9**	**+1.7**
LVC					Sn	**Sn**	**05 50 49.4**	**+0.8**
LVC	**Limon Verde**	**0.37**	**196**	*e*P		**Pn**	**05 50 36.4**	**+1.2**
LVC					*e*S	**Sn**	**05 50 48.4**	**-0.2**
LVC	**Limon Verde**	**0.37**	**196**	*e*P		**Pn**	**05 50 37.0**	**+1.7**
PATCX	**Punta Patache**	**1.90**	**318**			**Pn**	**05 50 51.5**	**+1.6**
PATCX	**Punta Patache**	**1.90**	**318**	*e*P		**Pn**	**05 50 51.0**	**+1.2**
PATCX					*e*S	**Sn**	**05 51 14.8**	**+0.3**
PATCX					IAML		05 51 19.1	
	comp=N,1μm,0.3s							
PB10	**IPOC Station P**	**2.05**	**232**	Pn		**Pn**	**05 50 54.3**	**+2.7**
PB10	**IPOC Station P**	**2.05**	**232**	*e*P		**Pn**	**05 50 54.1**	**+2.5**
PB10					*i* S	**Sn**	**05 51 19.7**	**+2.0**
PB10					IAML		05 51 29.8	
	comp=N,2μm,1.0s							
TA01	**Diego Aracena**	**2.12**	**322**	Pn		**Pn**	**05 50 53.4**	**+1.0**
TA01	**Diego Aracena**	**2.12**	**322**	*e*P		**Pn**	**05 50 53.4**	**+1.0**
TA01					*i* S	**Sn**	**05 51 19.0**	**-0.1**
TA01					IAML		05 51 22.6	
	comp=N,1μm,0.4s							
HMBC	**Humberstone**	**2.21**	**332**	*e*P		**Pn**	**05 50 54.5**	**+0.8**
HMBC					*e*S	**Sn**	**05 51 21.6**	**+0.1**
HMBC					IAML		05 51 27.9	
	comp=E,1μm,0.5s							
TA02	**Huaiquique**	**2.33**	**327**			**Pn**	**05 50 56.0**	**+0.9**
TA02	**Huaiquique**	**2.33**	**327**↑	*e*P		**Pn**	**05 50 55.9**	**+0.7**
TA02					*e*S	**Sn**	**05 51 24.4**	**+0.4**
TA02					IAML		05 51 32.1	
	comp=N,873nm,0.1s							
GO01	**Chusmiza**	**2.60**	**352**			**Pn**	**05 51 00.2**	**+1.2**
GO01	**Chusmiza**	**2.60**	**352**	*e*P		**Pn**	**05 51 00.3**	**+1.2**
GO01					*i* S	**Sn**	**05 51 31.2**	**+0.4**
GO01					IAML		05 51 35.8	
	comp=N,771nm,0.2s							
PB12	**IPOC Station P**	**3.89**	**338**	Pn		**Pn**	**05 51 15.1**	**-0.6**
PB12	**IPOC Station P**	**3.89**	**338**↑	*e*P		**Pn**	**05 51 15.3**	**-0.4**
PB12					*e*S	**Sn**	**05 51 58.6**	**-2.2**
PB16	**IPOC Station P**	**3.95**	**350**	Pn		**Pn**	**05 51 18.0**	**+1.0**
PB16	**IPOC Station P**	**3.95**	**350**	*e*P		**Pn**	**05 51 18.4**	**+1.4**
PB16					*e*S	**Sn**	**05 52 04.2**	**+1.3**
LPAZ	**La Paz**	**5.96**	**6**	P		**Pn**	**05 51 47.2**	**+3.2**
	comp=N,1.3nm,0.3s,baz=204,slow=5.0,SNR=32							
LPAZ	**La Paz**	**5.96**	**6**	Pn		**Pn**	**05 51 47.1**	**+3.0**
AC04	**Llanos de Chal**	**6.28**	**199**			**Pn**	**05 51 46.7**	**-0.9**
LCO	**Las Campanas**	**6.95**	**194**	Pn		**Pn**	**05 51 56.2**	**-0.7**
CO05	**La Serena**	**7.95**	**196**			**Pn**	**05 52 08.6**	**-1.6**
GO04	**Tololo Observa**	**8.09**	**192**	Pn		**Pn**	**05 52 12.0**	**-0.4**
CO03	**El Pedregal**	**8.72**	**191**			**Pn**	**05 52 19.6**	**-1.1**
CO06	**Fray Jorge**	**8.77**	**196**	Pn		**Pn**	**05 52 18.5**	**-2.8**
CO02	**Combarbal**	**9.13**	**192**	Pn		**Pn**	**05 52 24.8**	**-1.5**
SIV	**San Ignacio**	**9.59**	**51**	P		**Pn**	**05 52 29.6**	**-3.0**
	comp=N,1.4nm,0.3s,baz=245,slow=9.9,SNR=34							
SIV					S	Sn	05 54 10.1	-8.5
	comp=N,0.4nm,0.3s,baz=203,slow=15,SNR=2.3							
VA06	**Catapilco**	**10.51**	**192**	Pn		**Pn**	**05 52 41.8**	**-3.0**
VA03	**San Esteban**	**10.59**	**188**	Pn		**Pn**	**05 52 43.0**	**-3.0**
ROC1	**El Roble**	**10.86**	**190**	Pn		**Pn**	**05 52 47.6**	**-2.2**
MT02	**Curacav**	**11.16**	**190**	Pn		**Pn**	**05 52 51.7**	**-1.8**
PTLB	**Pontes e Lacer**	**11.37**	**55**	*e*P		**Pn**	**05 52 55.2**	**-1.3**
MT01	**Popeta**	**11.77**	**190**	Pn		**Pn**	**05 52 59.2**	**-2.4**
BO04	**La Punta**	**11.80**	**187**	Pn		**Pn**	**05 53 00.3**	**-1.8**
AQDB	**Aquidauana**	**12.33**	**84**	*e*P		**Pn**	**05 53 09.1**	**0.0**
VILB	**Vilhena**	**12.35**	**43**	*e*P		**Pn**	**05 53 08.8**	**-0.6**
ETMB	**Extrema**	**12.61**	**12**	*e*P		**Pn**	**05 53 10.9**	**-1.8**
PTGB	**Pitanga**	**15.55**	**102**	*e*P		**P**	**05 53 53.4**	**+1.4**
PDRB	**Porto dos Gac**	**15.65**	**49**	*e*P		**Pn**	**05 53 51.2**	**-0.3**
ITAB	**Concordia**	**15.93**	**112**			**Pn**	**05 53 54.0**	**-0.9**
ITAB	**Concordia**	**15.93**	**112**	*e*P		**P**	**05 53 57.6**	**+1.5**
PCMB	**Pacaembu**	**16.28**	**91**	*e*P		**P**	**05 54 01.3**	**+1.2**
PLTB	**Pedras Altas**	**16.51**	**128**			**Pn**	**05 54 00.2**	**-1.8**
PLTB					IAmb	IAmb	05 54 18.4	
	comp=Z,13nm,1.2s							
PLTB	**Pedras Altas**	**16.51**	**128**	*e*P		**P**	**05 54 03.3**	**+0.7**
CLDB	**Colider**	**16.81**	**50**	*e*P		**P**	**05 54 05.8**	**-0.2**
ARAG	**Araguaiana, MT**	**17.32**	**71**	*e*P		**Pn**	**05 54 13.1**	**+1.1**
ITRB	**Iturama**	**17.40**	**85**	*e*P		**Pn**	**05 54 14.5**	**+1.4**
FRTB	**Fartura**	**17.77**	**97**	*e*P		**Pn**	**05 54 17.9**	**+0.5**
TIJ01	**Guaruva-PR**	**18.37**	**103**	*e*P		**Pn**	**05 54 26.4**	**+1.8**
PLCA	**Paso Flores**	**18.49**	**184**	P		**P**	**05 54 21.9**	**-2.3**
TER01	**Tubaro-SC**	**18.83**	**113**	*e*P		**P**	**05 54 29.6**	**+1.5**
BB19B	**Bebedouro**	**18.88**	**90**	*e*P		**P**	**05 54 29.1**	**+0.5**
SNDB	**Serra Nova Dou**	**19.58**	**61**	*e*P		**P**	**05 54 35.9**	**-0.4**
RCLB	**Rio Claro- Sao**	**19.67**	**95**	*e*P		**P**	**05 54 37.5**	**+0.2**
IPMB	**Ipameri, GO**	**19.79**	**81**	*e*P		**P**	**05 54 38.7**	**+0.1**
PET01	**Itanhaem-SP**	**19.87**	**100**	*e*P		**P**	**05 54 40.3**	**+0.9**
NPGB	**Novo Progresso**	**19.91**	**43**	*e*P		**P**	**05 54 38.6**	**-1.3**
MACA	**Manacapuru-AM**	**20.54**	**24**	*e*P		**P**	**05 54 46.2**	**-0.4**
ITTB	**Itaituba**	**21.82**	**37**	*e*P		**P**	**05 54 59.5**	**-0.8**
JANB	**Januaria**	**24.25**	**77**	*e*P		**P**	**05 55 23.8**	**+0.2**
PRPB	**Parauapebas**	**24.32**	**52**	*e*P		**P**	**05 55 23.8**	**-0.4**
SMTB	**Santa Maria do**	**24.34**	**60**	*e*P		**P**	**05 55 25.4**	**+1.0**
MALB	**Monte Alegre**	**24.71**	**37**	*e*P		**P**	**05 55 27.0**	**-0.7**
SDBA	**SAO DESIDERIO**	**24.79**	**71**	*e*P		**P**	**05 55 29.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P		**P**	**06 02 02.3**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=250,slow=5.6,SNR=6.5							
YKA	**Yellowknife Ar**	**91.93**	**341**	pP		pP	06 03 44.9	+0.9
	comp=Z,0.5nm,0.8s,baz=136,slow=4.4,SNR=7.1							
ZALV	**Zalesovo Beam**	**142.58**	**26**	PKP		**PKiKP**	**06 09 39.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=292,slow=3.9,SNR=1.9							
MKAR	**Makanchi Array**	**146.17**	**37**	PKPbc		**PKPab**	**06 09 45.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=279,slow=2.3,SNR=4.0							

BJI ***13*** *05:51:16.2±0.0, 14°.28N×123°.05E, h32km, mb4.6/42, mB4.7/18, Ms4.0/8, Ms7 3.7/7*

NEIC ***13*** *05:51:19.7±0.9, 14°.45N±0°.07×123°.1E±0°.1, h44km±6km, mb4.6/53, Error ellipse: s-maj=15.4km s-min=10.1km az=78.0*

MAN ***13*** *05:51:19.5, 14°.64N×123°.19E, h37km, mb5.4, ML4.4, MS4.7*

MAN INTENSITY II - LABO & PARACALE, CAMARINES NORTE.

IDC ***13*** *05:51:20.7±0.7, 14°.42N×123°.15E, h63km±6km, mb3.8/19, mb1 4.0/20, mb1mx3.8/47, mbtmp4.2/20, MS3.4/12, Ms1 3.4/12, ms1mx3.1/84, Error ellipse: s-maj=18.7km s-min=11.1km az=68.0*

ISC 13 05:51:17.6±0.3, 14°.52N±0°.03×123°.16E±0°.03, h29km, n148, σ1°71/149, mb4.5/60, MS3.5/13, 10C-18D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
GQP	**Guinayangan**	**0.93**	**229**	*e*P		**Pb**	**05 51 38.6**	**+3.4**
GQP					*e*S	**Sn**	**05 51 51.5**	**+4.4**
PVCP	**Virac**	**1.33**	**134**	*e*P		**Pb**	**05 51 43.8**	**+1.8**
LQP	**Lukban**	**1.63**	**256**	*i* P		**Pb**	**05 51 48.5**	**+1.3**
LQP				*i* S		**Sb**	**05 52 06.3**	**-1.0**
BQAC	**Boac**	**1.66**	**231**	*i* P		**Pb**	**05 51 48.5**	**+0.9**
BALP	**Baler**	**1.96**	**309**	*e*P		**Pn**	**05 51 49.5**	**+0.6**
QVP	**Quezon City--P**	**2.09**	**273**	*i* P		**Pb**	**05 51 54.0**	**-1.0**
MMPH	**Masbate**	**2.20**	**168**	*i* P		**Pb**	**05 51 55.5**	**-1.2**
MMPH				*i* S		Sn	05 52 07.2	-11
TGY	**Tagaytay City**	**2.20**	**259**	P		**Pb**	**05 51 56.5**	**-0.3**
	700nm,0.3s,baz=77,slow=1.3,SNR=21							
TGY	**Tagaytay City**	**2.20**	**259**	*e*P		**Pn**	**05 51 52.9**	**+0.6**
TGY					*i* S	**Sb**	**05 52 30.1**	**+6.5**
PGP	**Puerto Galera**	**2.37**	**245**	*i* P		**Pb**	**05 51 58.0**	**-1.8**
PGP					*i* S	**Sb**	**05 52 27.0**	**-1.6**
MACP	**Maragondon, Ca**	**2.38**	**264**	*i* P		**Pn**	**05 51 57.7**	**+2.9**
SMPP	**San Manuel, Pa**	**2.89**	**304**	*i* P		**Pn**	**05 52 03.2**	**+1.4**
LUBP	**Lubang**	**2.94**	**255**	*i* P		**Pn**	**05 52 04.5**	**+2.1**
RCP	**Roxas**	**2.97**	**188**	*i* P		**Pb**	**05 52 06.8**	**-3.1**
SAMP	**Sagada Mountai**	**3.35**	**320**	*i* P		**Pn**	**05 52 10.1**	**+2.0**
SCZP	**Santa Cruz**	**3.38**	**292**	*i* P		**Pn**	**05 52 11.0**	**+2.5**
CVP	**Callao Caves**	**3.42**	**338**	*i* P		**Pn**	**05 52 10.4**	**+1.4**
CVP					*i* S	**Sn**	**05 52 48.2**	**-0.3**
BOLP	**Bolinao**	**3.64**	**301**	*i* P		**Pn**	**05 52 14.3**	**+2.3**
BESP	**Borongan**	**3.65**	**142**	*i* P		**Pn**	**05 52 16.4**	**+4.2**
OCLP	**Ormoc**	**3.73**	**158**	*i* P		**Pn**	**05 52 17.4**	**+4.2**
APYP	**Conner**	**3.80**	**331**	*i* P		**Pn**	**05 52 15.4**	**+1.2**
BUSP	**Coron**	**3.82**	**229**	*i* P		**Pn**	**05 52 18.2**	**+3.6**
SGCP	**Gonzaga**	**3.85**	**344**	*i* P		**Pn**	**05 52 16.4**	**+1.4**
LLP	**Lapu-Lapu**	**4.25**	**169**	*e*P		**Pn**	**05 52 23.9**	**+3.4**
LLP					*e*S	Sb	05 53 31.5	+8.8
SIPP	**Brgy, Tapao**	**4.27**	**323**	*i* P		**Pn**	**05 52 24.3**	**+3.6**
SIPP					*i* S	**Sb**	**05 53 24.0**	**+0.9**
MSLP	**Maasin**	**4.66**	**159**	*i* P		**Pn**	**05 52 30.5**	**+4.4**
TBP	**Tagbilaran**	**4.85**	**172**	*e*P		**Pn**	**05 52 31.8**	**+3.1**
KCP	**Kidapawan**	**7.70**	**166**	*e*P		Pb	05 53 19.4	-11
YULB	**Yu-li**	**9.00**	**349**	Pn		**Pn**	**05 53 27.0**	**+1.3**
YULB					Sn	**Sn**	**05 55 04.1**	**-2.0**
YHNB	**Yeheng**	**10.24**	**351**	Pn		**Pn**	**05 53 44.8**	**+2.1**
TOLI2	**Tolitoli**	**13.53**	**190**	Pn		**Pn**	**05 54 27.2**	**-0.5**
DLV	**T Lat**	**14.52**	**262**			**Pn**	**05 54 40.9**	**-0.5**
LUWI	**Luwuk**	**15.47**	**181**	Pn		**Pn**	**05 54 53.0**	**-0.9**
SBUM	**Sibu**	**16.14**	**223**	Pn		**Pn**	**05 55 01.4**	**-1.2**
SIJI	**Sorong**	**17.27**	**152**	LR		LR	06 04 52.9	
	comp=Z,53nm,18.2s,baz=7.5,slow=47							
NJ2	**Nanjing**	**17.89**	**348**	*e*P		**P**	**05 55 27.4**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,17nm,0.6s							
KAPI	**Kappang**	**19.70**	**190**	P		**P**	**05 55 45.4**	**+0.6**
	0.6nm,0.3s,baz=5.7,slow=9.5,SNR=4.4							
GUMO	**Guam**	**21.07**	**90**	LR		LR	06 03 45.0	
	comp=Z,47nm,19.5s,baz=105,slow=35							
KMI	**Kunming**	**21.89**	**302**	⇑P		**P**	**05 56 12.1**	**+3.4**
KMI				pmax		pmax		
	comp=Z,12nm,1.3s							
LYN	**LuoYang**	**22.16**	**336**	⇑P		**P**	**05 56 16.9**	**+5.6**
LYN				pP		sP	05 56 24.8	+2.0
LYN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
TIA	**Tai'an**	**22.27**	**347**	⇓P		**P**	**05 56 14.3**	**+1.9**
TIA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KSRS	**Korea Array**	**23.23**	**10**	P		**P**	**05 56 23.4**	**+1.0**
	0.7nm,0.6s,baz=192,slow=10,SNR=4.1							
KSRS				LR		LR	06 06 12.4	
	comp=Z,21nm,18.1s,baz=170,slow=38							
PZH	**PanZhiHua**	**23.30**	**304**	P		**P**	**05 56 23.1**	**-0.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,100nm,5.5s							
XAN	**Xi'an**	**23.32**	**329**	P		**P**	**05 56 23.9**	**+0.4**
XAN				pP		pP	05 56 29.5	-2.0
XAN				pmax		pmax		
	comp=Z,22nm,1.0s							
CM31	**Chiang Mai Arr**	**23.55**	**283**	P		**P**	**05 56 25.9**	**+0.1**
CM31				IAmb		IAmb	05 56 30.2	
	comp=Z,23nm,1.0s							
CMAR	**Chiang Mai Arr**	**23.55**	**283**

comp=Z,4.5nm,0.9s
MKAR Makanchi Array 46.83 322 P **P** **05 59 45.4 +0.4**
comp=Z,3.6nm,0.4s,baz=120,slow=8.7,SNR=45
MAKZ Makanchi 47.02 322 P **P** **05 59 46.5 +0.1**
MAKZ IAmb IAmb 06 00 00.9
comp=Z,4.2nm,0.6s
PETK Petropavlovsk- 47.17 28 LR LR 06 19 20.9
comp=Z,48nm,18.8s,baz=76,slow=36
EIDS Eidsvold 48.09 145 P **P** **05 59 54.4 -0.5**
KSH Kashi 48.16 310 P **P** **05 59 57.5 +1.9**
KSH pP sP 06 00 10.8 +3.0
KSH PcP **PcP** **06 01 23.4 +0.7**
KSH pmax pmax
comp=Z,6.0nm,0.8s
BBOO Buckleboo 48.65 166 P **P** **05 59 58.2 -0.9**
NIL Nilore 48.88 302 P **P** **06 00 00.6 -0.5**
STKA Stephens Creek 49.40 159 P **P** **06 00 02.9 -2.0**
comp=Z,1.3nm,0.4s,baz=351,slow=10,SNR=6.0
STKA Stephens Creek 49.40 159 P **P** **06 00 04.2 -0.7**
ZAA0 Zalesovo Array 49.46 331 P **P** **06 00 04.7 -0.4**
ZALV Zalesovo Beam 49.46 331 P **P** **06 00 04.8 -0.3**
comp=Z,0.9nm,0.6s,baz=108,slow=4.8,SNR=7.7
ZALV Zalesovo Beam 49.46 331 P **P** **06 00 04.3 -0.8**
AAK Ala-Archa 50.20 314 LR LR 06 22 55.2
comp=Z,105nm,18.4s,baz=62,slow=38
AAK Ala-Archa 50.20 314 P **P** **06 00 11.0 -0.2**
KURK Kurchatov 50.87 325 P **P** **06 00 15.9 +0.1**
KURBB Kurchatov Arra 50.87 325 P **P** **06 00 16.1 +0.2**
comp=Z,7.1nm,0.7s,baz=121,slow=8.1,SNR=64
DRK Karamyk 51.26 309 P **P** **06 00 19.4 0.0**
BTK Batken 52.14 310 P **P** **06 00 25.8 +0.2**
BTK IAmb IAmb 06 00 26.3
comp=Z,5.8nm,1.2s
GAR Garm 52.27 308 P **P** **06 00 26.3 -0.4**
KBL Kabul 52.47 302 P **P** **06 00 28.1 -0.3**
CHGR Chuyangaron 53.09 308 P **P** **06 00 32.2 -0.5**
KKAR Karatay Array 53.13 313 P **P** **06 00 33.1 +0.2**
BRVK Borovoye 56.54 325 P **P** **06 00 57.1 -0.2**
BRVK IAmb IAmb 06 00 58.5
comp=Z,5.3nm,1.0s
NRIK Noril'sk 59.18 346 P **P** **06 01 15.6 +0.1**
comp=Z,5.6nm,0.9s,baz=136,slow=6.3,SNR=5.3
NRIK Noril'sk 59.18 346 P **P** **06 01 15.3 -0.3**
NRIK IAmb IAmb 06 01 16.4
comp=Z,7.4nm,1.0s
ABKAR Akbulak array 61.70 318 P **P** **06 01 32.9 -0.2**
ABKAR Akbulak array 61.70 318 P **P** **06 01 32.8 -0.4**
ABKAR IAmb IAmb 06 01 33.9
comp=Z,4.4nm,0.8s
ARU Arti 64.03 326 P **P** **06 01 47.4 -1.1**
ARU IAmb IAmb 06 01 48.3
comp=Z,6.4nm,0.7s
SOCY Socotra 67.12 277 P **P** **06 02 07.3 -2.0**
SOCY IAmb IAmb 06 02 08.3
comp=Z,8.5nm,1.0s
AFI Afiamalu 70.30 111 LR LR 06 31 31.1
comp=Z,26nm,18.2s,baz=224,slow=34
RPZ Rata Peaks 72.58 146 P **P** **06 02 40.6 -1.6**
comp=Z,5.3nm,0.9s,baz=251,slow=8.7,SNR=2.7
BKZ Black Stump Fm 72.97 139 P **P** **06 02 44.3 -0.3**
BKZ IAmb IAmb 06 02 52.4
comp=Z,15nm,1.3s
KBZ Khabaz 73.12 312 P **P** **06 02 43.7 -1.8**
comp=Z,1.6nm,1.0s,baz=224,slow=2.7,SNR=3.8
RAYN Ar Rayn 73.21 291 P **P** **06 02 45.4 -1.1**
RAYN IAmb IAmb 06 02 47.0
comp=Z,11nm,1.1s
IMAR Indian Mountai 74.03 25 P **P** **06 02 51.0 +0.6**
GURO Guroymak-BITLI 74.23 306 P **P** **06 02 53.0 +0.6**
KLMR Klimovskoe 74.35 330 *eP* **P** **06 02 50.5 -1.9**
KLMR AMP 06 02 52.5
comp=Z,14nm,1.3s
BPAW Bear Paw Mtn. 75.25 27 P **P** **06 02 58.1 +0.5**
BPAW IAmb IAmb 06 02 59.0
comp=Z,5.2nm,1.0s
MLY Manley 75.31 26 P **P** **06 02 58.5 +0.5**
MCK McKinley 76.18 27 P **P** **06 03 02.9 0.0**
MCK IAmb IAmb 06 03 22.9
comp=Z,16nm,1.3s
ILAR Eielson Array 76.97 26 P **P** **06 03 05.2 -2.2**
ARCES ARCESS Array B 79.17 339 P **P** **06 03 19.1 -0.4**
comp=Z,1.8nm,0.7s,baz=78,slow=7.6,SNR=7.5
ARCES ARCESS Array B 79.17 339 P **P** **06 03 19.3 -0.2**
ARCES IAmb IAmb 06 03 23.7
comp=Z,18nm,1.4s
FINES FINESS Array B 80.73 331 P **P** **06 03 27.1 -0.9**
comp=Z,0.6nm,0.5s,baz=39,slow=4.3,SNR=10.0
FINES pP **sP** **06 03 43.6 +3.0**
comp=Z,1.0nm,0.7s,baz=46,slow=8.2,SNR=1.6
FINES FINESS Array B 80.73 331 P **P** **06 03 27.4 -0.6**
AKASG Malin Array Be 81.38 320 P **P** **06 03 30.0 -1.7**
comp=Z,0.2nm,0.3s,baz=68,slow=5.0,SNR=4.7
INK Inuvik 81.47 21 P **P** **06 03 31.5 -0.2**
comp=Z,1.0nm,0.8s,baz=286,slow=15,SNR=3.0
INK Inuvik 81.47 21 P **P** **06 03 31.8 0.0**
BURAR Bucovina Array 84.67 318 P **P** **06 03 48.7 -0.3**
BUR08 Bucovina Ar. S 84.67 318 P **P** **06 03 48.9 -0.1**
BUR08 IAmb IAmb 06 03 50.2
comp=Z,3.8nm,1.1s
NOA NORSAR Array B 87.62 333 P **P** **06 04 02.0 -1.1**
comp=Z,0.2nm,0.5s,baz=56,slow=4.8,SNR=1.0
NOA LR LR 06 45 35.2
comp=Z,40nm,19.1s,baz=0.0,slow=37
RES Resolute Bay 87.85 9 P **P** **06 04 04.2 +0.3**
RES IAmb IAmb 06 04 27.2
comp=Z,4.1nm,1.3s
YKA Yellowknife Ar 91.10 23 P **P** **06 04 19.4 0.0**
comp=Z,0.5nm,0.7s,baz=298,slow=4.7,SNR=7.3
YKA pP **sP** **06 04 36.0 +3.9**
comp=Z,0.7nm,0.7s,baz=301,slow=4.5,SNR=7.4
PLCA Paso Flores 151.27 158 PKPbc **PKPbc** **06 11 08.2 -0.6**
comp=Z,2.0nm,1.0s,baz=338,slow=1.1,SNR=3.3
PLCA pPKPbc **pPKPab** **06 11 26.1 -0.1**
comp=Z,1.4nm,0.8s,baz=240,slow=1.7,SNR=2.4

IDC 13 05:51:41.4±10.0, 2°.60N×96°.61W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/43, mbtmp3.7/4, MS3.4/3, Ms1 3.4/3, ms1mx3.0/62, Error ellipse: s-maj=365.2km s-min=200.2km az=95.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JTS	**Las Juntas de**	**13.87**	**56**	LR		LR	05 59 12.1	
	comp=Z,189nm,20.4s,baz=20,slow=32							
SDV	**Santo Domingo**	**26.57**	**75**	LR		LR	06 05 58.0	
	comp=Z,45nm,19.7s,baz=266,slow=32							
TKL	**Tuckaleechee C**	**34.98**	**18**	LR		LR	06 13 07.8	
	comp=Z,107nm,18.4s,baz=327,slow=37							
H03N2	**Juan Fernandez**	**39.54**	**156**	T		T	06 41 24.8	
	baz=331,slow=77,SNR=9.9							
H03N1	**Juan Fernandez**	**39.55**	**156**	T		T	06 41 24.8	
	baz=331,slow=77,SNR=15							
H03N3	**Juan Fernandez**	**39.55**	**157**	T		T	06 41 30.2	
	baz=331,slow=77,SNR=11							
PDAR	**Pinedale Array**	**41.64**	**346**	P		P	05 59 31.2	-0.6
	0.2nm,0.7s,baz=153,slow=6.1,SNR=2.3							
YKA	**Yellowknife Ar**	**61.25**	**351**	P		P	06 01 58.8	+0.7
	0.4nm,0.9s,baz=153,slow=6.6,SNR=5.4							
INK	**Inuvik**	**70.20**	**346**	P		P	06 02 56.0	+0.2
	1.6nm,1.0s,baz=153,slow=5.9,SNR=4.0							
ILAR	**Eielson Array**	**71.68**	**340**	P		P	06 03 04.5	-0.4
	0.7nm,0.7s,baz=150,slow=4.4,SNR=11							

*SNET **13** 06:52:54.3±1.0, 15°.16N×88°.73W, h9km±11km, ML3.2*
*GCG **13** 06:52:57.2±1.8, 15°.41N×89°.09W, h0km±28km, MD3.5*
ISC 13 06:52:52.1±2.0, 15°.26N±0°.07×88°.72W±0°.07, h6km±15km, n20, σ0°.42/23, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MRL	**Marmol**	**0.94**	**259**	*eP*		**Pb**	**06 53 10.9**	**-0.1**
MRL				*eS*		**Sg**	**06 53 22.5**	**0.0**
MTO3	**Montecristo**	**1.05**	**216**	IAML			06 53 25.2	
	comp=Z,438nm,0.2s							
LFU	**La Fuente**	**1.55**	**194**	*eP*		**Pn**	**06 53 20.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.55**	**180**	*eP*		**Pn**	**06 53 19.9**	**-0.4**
PAVA	**Las Pavas**	**1.55**	**188**	*eP*		**Pn**	**06 53 19.9**	**-0.5**
PAVA				IAML			06 53 44.2	
	comp=Z,277nm,0.2s							
SLOZ	**Alcaldia de Sa**	**1.60**	**220**	*eP*		**Pn**	**06 53 20.9**	**-0.1**
SLOZ				*eS*		**Sn**	**06 53 41.9**	**-0.1**
BOQS	**Boqueron**	**1.61**	**200**	*eP*		**Pn**	**06 53 22.1**	**+0.8**
RTR	**El Retiro**	**1.62**	**214**	*eP*		**Pn**	**06 53 21.8**	**+0.3**
SNJE	**San Jose**	**1.63**	**212**	*eP*		**Pn**	**06 53 21.9**	**+0.4**
PQSS	**Presa 15 de Se**	**1.63**	**174**	*eP*		**Pn**	**06 53 21.0**	**-0.5**
COEG	**Centro de Oper**	**1.64**	**185**	*eP*		**Pn**	**06 53 21.5**	**-0.1**
COEG				*eS*		**Sn**	**06 53 42.8**	**-0.3**
COEG				IAML			06 53 44.8	
	comp=Z,255nm,0.3s							
LFRS	**El Faro**	**1.66**	**191**	*eP*		**Pn**	**06 53 22.6**	**+0.7**
CEVE	**Cerro Verde**	**1.67**	**212**	*eP*		**Pb**	**06 53 23.3**	**-0.2**
NUBE	**Las Nubes**	**1.69**	**217**	*eP*		**Pn**	**06 53 22.5**	**+0.1**
NBG	**Las Nubes**	**1.71**	**247**	*eP*		**Pg**	**06 53 24.7**	**-0.1**
NBG				*eS*		**Sg**	**06 53 47.0**	**0.0**
TECO	**Alcaldia de Te**	**1.71**	**182**	*eP*		**Pn**	**06 53 22.3**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.84**	**130**	*eP*		**Pn**	**06 53 25.2**	**+0.7**
PETF	**Flores**	**1.98**	**326**	*eP*		**Pb**	**06 53 28.4**	**-0.2**
PETF				IAML			06 53 56.6	
	comp=Z,259nm,0.2s							
LCND	**La Caada**	**2.10**	**157**	IAML			06 53 57.9	
	comp=Z,419nm,0.3s							
FUG	**Fuego 3**	**2.20**	**249**	*eP*		**Pb**	**06 53 33.2**	**+0.7**
FUG				*eS*		**Sb**	**06 54 00.1**	**0.0**

UCR 13 07:08:00.6±2.0, 9°.56N×85°.82W, h23km±8km, MW3.6, 7C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUAI	**GUAI**	**0.77**	**24**	*iP*		Pb	07 08 14.7	-0.7
GUAI				*i S*		Sb	07 08 25.6	+0.2
COLC	**Colonia**	**1.26**	**29**	*i P*		Pn	07 08 22.3	-0.5
LAPC	**Finca la Perla**	**1.26**	**18**	*iP*		Pn	07 08 22.1	-0.8
LIM1	**Limonal**	**1.26**	**26**	*i P*		Pn	07 08 22.4	-0.5
GBS3	**Finca Las Img**	**1.27**	**17**	*iP*		Pn	07 08 22.3	-0.7
GBS3				*i S*		Sb	07 08 41.9	+2.1
CUI	**Cuipilapa**	**1.27**	**31**	*i P*		Pn	07 08 22.5	-0.5
GPS2	**Hotel Rincn d**	**1.27**	**21**	*iP*		Pn	07 08 22.5	-0.5
GUAB	**Guayabo de Bag**	**1.28**	**27**	*i P*		Pn	07 08 22.6	-0.6
BUEV	**Buena Vista**	**1.30**	**18**	*i P*		Pn	07 08 22.8	-0.6
HORNC	**Hornillas**	**1.31**	**29**	*iP*		Pn	07 08 23.1	-0.5
GB1A	**Borinquen Arri**	**1.32**	**18**	*iP*		Pn	07 08 23.2	-0.5
ACAL	**Aguas Claras**	**1.32**	**36**	*i P*		Pn	07 08 23.4	-0.3
BUAI	**Buenos Aires**	**1.40**	**20**	*i P*		Pn	07 08 24.7	0.0
PTEN	**Parque Tenorio**	**1.41**	**36**	*iP*		Pn	07 08 24.9	-0.1
EDPN	**Palmar Norte**	**2.41**	**104**	*eP*		Pn	07 08 39.4	+0.8
EDPN				*eS*		Sn	07 09 07.8	+0.4
EDSV	**San Vito**	**2.91**	**104**	*eP*		Pn	07 08 43.8	-1.8

*IDC **13** 07:15:25.7±2.6, 7°.02S×129°.56E, h85km±27km, mb3.7/6, mb1 4.1/10, mb1mx3.6/51, mbtmp4.3/10, Error ellipse: s-maj=52.8km s-min=17.0km az=79.0*
*NEIC **13** 07:15:27.9±2.2, 6°.94S±0°.06×129°.68E±0°.09, h109km±7km, mb4.4/9, Error ellipse: s-maj=13.3km s-min=8.1km az=108.0*
*DJA **13** 07:15:28.5±0.3, 7°.S±3°×13°.0E±°, h183km±7km, M4.5/8, mb4.4/7, mB5.2/5, MLv4.6/8, Mw(mB)4.5/5*
ISC 13 07:15:30.2±0.5, 6°.94S±0°.05×129°.96E±0°.08, h150km, n41, σ2s56/46, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.68**	**128**			**Pn**	**07 16 02.7**	**+1.0**
SAUI						**Sn**	**07 16 23.8**	**-2.1**
SAUI	**Saumlaki**	**1.68**	**128**	P		**Pn**	**07 16 02.0**	**+0.3**
SAUI				S		**Sn**	**07 16 27.0**	**+1.1**
MSAI	**Masohi**	**3.72**	**344**	P		**Pn**	**07 16 28.8**	**+1.9**
FAKI	**Fak Fak**	**4.60**	**30**			**Pn**	**07 16 37.5**	**-0.9**
FAKI					Sn	**Sn**	**07 17 29.1**	**-2.4**
FAKI	**Fak Fak**	**4.60**	**30**	P		**Pn**	**07 16 37.6**	**-0.9**
SIJI	**Sorong**	**6.17**	**12**	P		**Pn**	**07 16 57.1**	**-2.2**
	20nm,0.3s,baz=210,slow=22,SNR=32							
SIJI				S		**Sn**	**07 18 02.6**	**-6.4**
	7.3nm,0.3s,baz=194,slow=22,SNR=5.7							
SWI	**Sorong**	**6.18**	**12**	P		**Pn**	**07 16 58.3**	**-1.0**
KNRA	**Kununurra**	**8.76**	**188**			**Pn**	**07 17 31.2**	**-2.6**
BASI	**Baing, Sumba**	**9.84**	**250**	P		**Pn**	**07 17 45.8**	**-2.3**
	84nm,1.1s							
WBSI	**Waikabubak, Su**	**10.80**	**255**	P		**Pn**	**07 17 58.4**	**-2.5**
	35nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.86**	**200**	P		Pn	07 18 09.3	-5.5
	baz=90,slow=5.5							
FITZ				S		Sn	07 20 14.2	-12
	baz=342,slow=20							
FITZ	**Fitzroy Crossi**	**11.86**	**200**			**Pn**	**07 18 11.7**	**-3.0**
PLAI	**Plampang**	**12.22**	**260**	P		**Pn**	**07 18 16.7**	**-2.7**
	16nm,0.9s							
WB0	**Warramunga Arr**	**13.45**	**162**			**Pn**	**07 18 32.4**	**-2.9**
WRA	**Warramunga Arr**	**13.60**	**162**	P		**Pn**	**07 18 33.9**	**-3.3**
	2.6nm,0.3s,baz=342,slow=10,SNR=78							
WRA				S		Sn	07 20 55.3	-13
	1.8nm,0.3s,baz=352,slow=20,SNR=4.7							
WRA	**Warramunga Arr**	**13.60**	**162**			**Pn**	**07 18 37.5**	**+0.3**
WB2	**Warramunga Arr**	**13.61**	**162**			**Pn**	**07 18 34.4**	**-2.8**
WR0	**Warramunga Arr**	**13.68**	**161**			**Pn**	**07 18 34.0**	**-3.2**
COEN	**Coen**	**14.74**	**119**	Pn		**P**	**07 18 52.8**	**-0.9**
AS31	**Alice Springs**	**17.05**	**168**			**Pn**	**07 19 19.2**	**-0.7**
ASAR	**Alice Springs**	**17.05**	**168**	P		**Pn**	**07 19 19.8**	**-0.1**
	2.1nm,0.3s,baz=340,slow=9.4,SNR=180							
ASAR				S		**S**	**07 22 20.5**	**-9.0**
	0.7nm,0.3s,baz=340,slow=17,SNR=5.4							
PSA00	**Pilbara Seismi**	**17.53**	**213**			**Pn**	**07 19 24.4**	**-1.0**
PSA00				IAmb		IAmb	07 19 30.2	
	comp=Z,13nm,0.6s							
FORT	**Forrest**	**23.78**	**184**	P		**P**	**07 20 31.3**	**+2.1**
FORT				IAmb		IAmb	07 20 41.3	
	comp=Z,23nm,1.1s							
STKA	**Stephens Creek**	**27.08**	**158**	P		**P**	**07 21 01.4**	**+2.5**
	comp=Z,2.0nm,1.0s,baz=294,slow=11,SNR=4.0							
STKA	**Stephens Creek**	**27.08**	**158**	P		**P**	**07 21 01.3**	**+2.4**
TWG	**Pinlang**	**30.83**	**344**	P		**P**	**07 21 32.9**	**+0.7**
TWG				IAmb		IAmb	07 21 51.4	
	comp=Z,19nm,1.0s							
KNTN	**Kanton**	**58.22**	**89**	P		**P**	**07 25 12.7**	**+3.4**
SONM	**Songino Array**	**58.38**	**342**	P		**P**	**07 25 11.8**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=153,slow=5.7,SNR=3.5							
MK31	**Makanchi Array**	**68.16**	**327**	P		**P**	**07 26 14.5**	**+0.3**
MK31				IAmb		IAmb	07 26 17.2	
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**68.16**	**327**	P		**P**	**07 26 16.4**	**+2.2**
	comp=Z,2.0nm,0.6s,baz=124,slow=7.8,SNR=32							
MKAR	**Makanchi Array**	**68.16**	**327**	P		**P**	**07 26 14.3**	**+0.1**
MAKZ	**Makanchi**	**68.34**	**327**	P		**P**	**07 26 15.1**	**-0.2**
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**07 26 36.0**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=130,slow=6.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**07 26 35.5**	**+0.9**
KURBB	**Kurchatov Arra**	**72.44**	**329**	P		**P**	**07 26 42.0**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=130,slow=4.9,SNR=23							
KURK	**Kurchatov**	**72.45**	**329**	P		**P**	**07 26 42.0**	**+1.9**
KURK				IAmb		IAmb	07 26 44.3	
	comp=Z,7.7nm,1.5s							
BVAR	**Borovoye Array**	**78.00**	**328**	P		**P**	**07 27 14.0**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=48,slow=20,SNR=5.3							
ABKAR	**Akbulak array**	**82.44**	**322**	P		**P**	**07 27 37.6**	**+1.8**
QSPA	**South Pole Qui**	**83.03**	**180**	P		**P**	**07 27 41.0**	**+2.3**
CPUP	**Villa Florida**	**146.18**	**168**	PKPbc		**PKiKP**	**07 34 56.4**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=117,slow=4.9,SNR=3.9							
CPUP	**Villa Florida**	**146.18**	**168**	PKPdf		**PKPab**	**07 34 54.3**	**-0.2**
CPUP				PKPbc		**PKiKP**	**07 34 57.1**	**+0.3**

*NEIC **13** 07:21:18.8±1.3, 51°.46N±0°.06×173°.96W±0°.02, h21km±8km, Error ellipse: s-maj=8.2km s-min=2.0km az=176.0*
*AEIC **13** 07:21:18.5±1.4, 51°.42N±0°.07×173°.99W±0°.08, h18km±4km, ML3.1/14, Error ellipse: s-maj=10.2km s-min=5.7km az=153.0*
*IDC **13** 07:21:24.2±1.8, 51°.93N×174°.18W, h46km±8km, mb3.3/7, mb1 3.4/8, mb1mx3.2/55, mbtmp3.5/8, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/36, Error ellipse: s-maj=54.7km s-min=17.8km az=176.0*
ISC 13 07:21:21.1±0.9, 51°.54N±0°.10×173°.99W±0°.06, h35km, n27, σ1s30/32, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATKA	**Atka Island**	**0.68**	**349**			**Pn**	**07 21 33.5**	**-0.7**
ATKA						**Sn**	**07 21 45.5**	**+1.9**
KOFP	**Korovin Flat P**	**0.74**	**355**			**Pn**	**07 21 35.0**	**-0.1**
KOKL	**Mount Kliuchef**	**0.80**	**350**			**Pn**	**07 21 35.4**	**-0.5**
GSMY	**Great Sitkin M**	**1.38**	**292**			**Pn**	**07 21 43.0**	**-0.9**
GSTR	**Great Sitkin T**	**1.40**	**294**			**Pn**	**07 21 44.0**	**-0.2**
GSCK	**Great Sitkin C**	**1.43**	**290**			**Pn**	**07 21 43.3**	**-1.3**
GSTD	**Great Sitkin T**	**1.44**	**292**			**Pn**	**07 21 43.9**	**-0.8**
GSTD						**Sn**	**07 22 04.4**	**+2.0**
ADK	**Adak**	**1.71**	**283**			**Pn**	**07 21 47.4**	**-1.0**
ADK						**Sn**	**07 22 09.3**	**+0.2**
ADK	**Adak**	**1.71**	**283**			**Pn**	**07 21 47.6**	**-0.8**
KIWB	**Kanaga Island**	**2.00**	**280**			**Pn**	**07 21 52.1**	**-0.2**
KIKV	**Kanaga Island**	**2.01**	**281**			**Pn**	**07 21 52.2**	**-0.3**
KIMD	**Kanaga Island**	**2.04**	**278**			**Pn**	**07 21 53.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.51**	**280**			**Pn**	**07 21 59.0**	**-0.5**
TASE	**Tanaga Southea**	**2.54**	**278**			**Pn**	**07 21 59.8**	**0.0**
NIKH	**Nikolski High**	**3.46**	**63**	Pn		**Pn**	**07 22 11.8**	**-0.7**
UNV	**Unalaska Valle**	**5.10**	**60**	Pn		**Pn**	**07 22 34.8**	**-0.2**
SHEM	**Shemya Is, Ala**	**7.43**	**284**	LR		LR	07 25 30.1	
	comp=Z,32nm,20.5s,baz=352,slow=34							
CHGN	**Chignik**	**10.34**	**56**	Pn		**Pn**	**07 23 46.1**	**-0.6**
KDAK	**Kodiak Island**	**13.84**	**55**	P		**Pn**	**07 24 31.0**	**-3.5**
	0.2nm,0.3s,baz=264,slow=9.2,SNR=1.5							
ILAR	**Eielson Array**	**19.28**	**36**	P		**P**	**07 25 41.8**	**-0.7**
	0.2nm,0.3s,baz=228,slow=8.7,SNR=17							
INK	**Inuvik**	**25.62**	**34**	P		**P**	**07 26 47.5**	**+0.8**
	0.9nm,0.6s,baz=202,slow=8.4,SNR=2.0							
YKA	**Yellowknife Ar**	**32.92**	**47**	P		**P**	**07 27 51.2**	**-0.5**
	0.2nm,0.6s,baz=276,slow=9.4,SNR=2.5							
KSRS	**Korea Array**	**42.64**	**274**	P		**P**	**07 29 14.9**	**+1.0**
	0.4nm,0.4s,baz=71,slow=9.1,SNR=2.5							
PDAR	**Pinedale Array**	**43.37**	**75**	P		**P**	**07 29 23.8**	**+3.7**
	0.5nm,0.9s,baz=298,slow=3.8,SNR=3.0							
PDAR				pP		**pwP**	**07 29 33.4**	**-1.6**
	1.3nm,0.8s,baz=293,slow=4.1,SNR=8.0							
SONM	**Songino Array**	**49.24**	**299**	P		**P**	**07 30 05.4**	**-0.5**
	0.2nm,0.5s,baz=69,slow=8.4,SNR=3.6							
KURBB	**Kurchatov Arra**	**61.15**	**316**	P		**P**	**07 31 30.5**	**-1.0**
	0.3nm,0.4s,baz=41,slow=6.8,SNR=4.6							
KURBB				pP		**sP**	**07 31 44.9**	**+0.3**
	0.6nm,0.7s,baz=42,slow=6.8,SNR=3.6							
MKAR	**Makanchi Array**	**62.25**	**311**	P		**P**	**07 31 37.7**	**-1.4**
	0.2nm,0.3s,baz=51,slow=7.2,SNR=4.6							
MKAR				pP		**sP**	**07 31 52.3**	**+0.1**
	0.1nm,0.5s,baz=37,slow=4.7,SNR=2.5							

*TUL **13** 07:40:18.8±0.9, 36°.10N±0°.01×97°.88W±0°.02, h6km±6km, ML2.8, mb_Lg2.5/34(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=50.0*
NEIC 13 07:40:18.8±0.9, 36°.11N±0°.01×97°.88W±0°.01, h8km±6km, Error ellipse: s-maj=2.1km s-min=0.6km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OKCFA	**Oklahoma City**	**0.77**	**153**			Pg	07 40 33.5	-0.2
OKCFA				Sg		Sg	07 40 44.2	+0.5
OKCSW	**OKLAHOMA CITY**	**0.79**	**153**	Pg		Pg	07 40 33.8	-0.2
OKCSW				Sg		Sb	07 40 44.9	-0.7
FNO	**Franklin**	**0.93**	**155**	Pg		Pg	07 40 36.3	-0.4
FNO				Sg		Sg	07 40 49.2	+0.4
U32A	**Winter Ranch,**	**0.95**	**287**			Pg	07 40 36.7	-0.3
W35A	**Tecumseh**	**1.25**	**139**			Pn	07 40 41.9	-0.8
T35A	**Sooner Cattle**	**1.36**	**53**			Pn	07 40 44.2	0.0
X34A	**Smith Ranch, M**	**1.50**	**179**	Pn		Pb	07 40 46.9	-0.1
WMOK	**Wichita Mounta**	**1.55**	**209**	Pn		Pn	07 40 47.1	+0.3
TUL1	**Leonard**	**1.70**	**96**			Pn	07 40 49.3	+0.5
R32A	**Long Quarter,**	**2.41**	**344**			Pn	07 40 59.4	+0.9
X37A	**Clayton**	**2.55**	**126**	IAmb_Lg			07 41 45.7	
	comp=Z,15nm,0.8s							
CBKS	**Cedar Bluff**	**3.08**	**332**			Pn	07 41 07.7	-0.2
KSU1	**Kansas State U**	**3.15**	**18**			Pn	07 41 08.7	-0.1
HHAR	**Hobbs**	**3.19**	**86**	Pn		Pn	07 41 09.6	+0.3
AMTX	**Amarillo**	**3.34**	**250**			Pn	07 41 11.4	0.0
W39A	**Magazine**	**3.45**	**104**	IAmb_Lg			07 42 13.0	
	comp=Z,12nm,0.8s							
S39A	**Bolivar**	**3.98**	**65**			Pn	07 41 19.9	-0.2
S39A				IAmb_Lg			07 42 25.4	
	comp=Z,12nm,0.9s							
U40A	**Yellville**	**4.07**	**85**			Pn	07 41 21.2	-0.1
X40A	**Basin Creek Fa**	**4.43**	**110**	IAmb_Lg			07 42 40.5	
	comp=Z,17nm,1.1s							
MGMO	**Mountain Grove**	**4.63**	**75**	IAmb_Lg			07 42 43.2	
	comp=Z,10nm,0.8s							
W41B	**Gary Mavity, V**	**4.68**	**100**	IAmb_Lg			07 42 47.9	
	comp=Z,6.8nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.76**	**309**	IAmb_Lg			07 42 55.5	
	comp=Z,12nm,0.7s							
P38A	**Dawn**	**4.91**	**43**	IAmb_Lg			07 43 00.5	
	comp=Z,11nm,0.8s							
R40A	**Maddies Statio**	**4.98**	**62**	IAmb_Lg			07 42 55.2	
	comp=Z,6.7nm,0.8s							
N35A	**Tabor**	**5.06**	**20**	IAmb_Lg			07 43 02.6	
	comp=Z,14nm,0.7s							
T25A	**Trinidad**	**5.36**	**283**	IAmb_Lg			07 43 21.8	
	comp=Z,11nm,1.2s							
L34A	**Svendsen Farm,**

Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.35**	**321**	P	Pn	07 59 30.3	-0.2
	13nm,0.3s,baz=143,slow=12,SNR=140						
PETK				S	Sn	07 59 47.4	-0.1
	2.5nm,0.3s,baz=265,slow=16,SNR=7.2						
ILAR	**Eielson Array**	**29.96**	**44**	P	P	08 05 09.8	-0.2
	0.4nm,0.7s,baz=253,slow=6.7,SNR=6.2						
TXAR	**Lajitas Array**	**71.59**	**66**	P	P	08 10 23.1	+0.2
	0.2nm,0.4s,baz=310,slow=6.4,SNR=4.6						

NEIC ***13*** *08:12:44.8±1.0,20.6S±0.2×178.1W±0.2,h543km±28km, mb4.2/14,Error ellipse: s-maj=40.1km s-min=8.9km az=50.0*

IDC ***13*** *08:12:45.3±6.8,19.66S×178.14W,h578km±47km, mb3.4/3, mb1 3.6/4,mb1mx2.9/29,mbtmp4.4/4,Error ellipse: s-maj=200.9km s-min=43.0km az=152.0*

ISC 13 08:12:42.1±2.1,20.4S±0.2×177.9W±0.2,h550km,n23, σ0§81/24,mb4.2/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.67**	**304**	P	**P**	**08 14 09.9**	**+0.5**
	7.3nm,0.3s,baz=236,slow=23,SNR=18						
MARNC	**Mare, Loyalty**	**13.22**	**263**	P	**P**	**08 15 33.1**	**-0.2**
PINNC	**Pines Island,**	**13.85**	**258**	P	**P**	**08 15 39.6**	**-0.1**
DZM	**Mont Dzumac**	**14.72**	**261**	P	**P**	**08 15 46.4**	**-2.5**
BKZ	**Black Stump Fm**	**19.34**	**193**	P	**P**	**08 16 32.9**	**+0.7**
LHI	**Lord Howe Isla**	**23.47**	**237**	P	**P**	**08 17 08.8**	**-0.5**
EIDS	**Eidsvold**	**28.99**	**254**	P	**P**	**08 17 57.5**	**-0.5**
EIDS				IAmb	IAmb	08 18 07.9	
	comp=Z,19nm,1.3s						
CTA	**Charters Tower**	**33.62**	**264**	P	**P**	**08 18 38.2**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=96,slow=8.6,SNR=6.5						
TAU	**Tasmania Unive**	**36.79**	**224**	P	**P**	**08 19 03.3**	**-0.3**
COEN	**Coen**	**37.70**	**273**	P	**P**	**08 19 12.1**	**+0.7**
COEN				IAmb	IAmb	08 19 32.0	
	comp=Z,9.4nm,1.3s						
BBOO	**Buckleboo**	**42.71**	**243**	P	**P**	**08 19 51.9**	**+0.7**
BBOO				IAmb	IAmb	08 19 59.8	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**44.55**	**262**	P	**P**	**08 20 05.9**	**+0.2**
WR0				IAmb	IAmb	08 20 16.6	
	comp=Z,8.6nm,1.4s						
AS31	**Alice Springs**	**44.66**	**257**	P	**P**	**08 20 07.0**	**+0.5**
ASAR	**Alice Springs**	**44.66**	**257**	P	**P**	**08 20 07.0**	**+0.4**
	comp=Z,5.1nm,0.7s,baz=95,slow=7.6,SNR=88						
ASAR				PcP	**PcP**	**08 21 37.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=85,slow=4.0,SNR=2.8						
ASAR	**Alice Springs**	**44.66**	**257**	P	**P**	**08 20 06.6**	**0.0**
WB0	**Warramunga Arr**	**44.71**	**262**	P	**P**	**08 20 07.1**	**+0.2**
WB2	**Warramunga Arr**	**44.72**	**262**	P	**P**	**08 20 07.1**	**+0.1**
WB2				IAmb	IAmb	08 20 07.8	
	comp=Z,9.3nm,1.4s						
WRAB	**Tennant Creek**	**44.73**	**262**	P	**P**	**08 20 07.2**	**+0.1**
WRAB				IAmb	IAmb	08 20 07.7	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**08 20 06.9**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=97,slow=7.8,SNR=61						
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**08 20 07.0**	**-0.1**
KNRA	**Kununurra**	**50.79**	**266**	P	**P**	**08 20 53.0**	**+0.7**
KNRA				IAmb	IAmb	08 21 06.9	
	comp=Z,7.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**08 21 09.4**	**0.0**
AKASG	**Malin Array Be**	**142.97**	**331**	PKP	**PKPdf**	**08 31 11.4**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=42,slow=4.2,SNR=11						

IDC 13 08:33:12.0±1.3,7.35S×127.66E,h0km,mb3.7/3, mb1 4.2/5,mb1mx3.7/29,mbtmp4.0/5,ML4.4/2,Error ellipse: s-maj=117.0km s-min=22.3km az=65.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.10**	**153**	Pn	Pn	08 36 32.0	-1.1
	1.6nm,0.3s,baz=332,slow=11,SNR=53						
WRA				Sn	Sn	08 38 57.0	-14
	2.3nm,0.3s,baz=330,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.30**	**160**	P	P	08 37 16.2	-0.5
	1.4nm,0.3s,baz=342,slow=11,SNR=175						
ASAR				S	Sn	08 40 13.9	-14
	0.4nm,0.3s,baz=336,slow=20,SNR=6.7						
STKA	**Stephens Creek**	**27.65**	**154**	P	P	08 39 01.6	-0.1
	0.7nm,0.4s,baz=327,slow=7.2,SNR=5.2						
SONM	**Songino Array**	**58.07**	**343**	P	P	08 43 07.9	+0.7
	0.5nm,0.7s,baz=168,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**67.27**	**328**	P	P	08 44 08.1	-0.4
	0.4nm,0.4s,baz=117,slow=8.2,SNR=11						

TUL ***13*** *08:34:06±0.7,36.280N±0.008×97.51W±0.01,h7km±7km, ML2.6,mb_Lg2.5/40(NEIC),Error ellipse: s-maj=1.8km s-min=0.5km az=52.0*

NEIC 13 08:34:06.0±0.7,36.27N±0.01×97.52W±0.01,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=260.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.86**	**176**		Pg	08 34 22.4	0.0
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**		Pg	08 34 22.6	0.0
FNO	**Franklin**	**1.02**	**175**		Pg	08 34 25.2	-0.3
T35A	**Sooner Cattle**	**1.03**	**51**	Pg	Pg	08 34 25.6	-0.2
U32A	**Winter Ranch,**	**1.20**	**275**		Pg	08 34 28.5	-0.6
W35A	**Tecumseh**	**1.23**	**155**	Pn	Pg	08 34 28.7	-0.9
TUL1	**Leonard**	**1.44**	**104**		Pn	08 34 32.1	-0.7
X37A	**Clayton**	**2.43**	**133**	IAmb_Lg		08 35 25.3	
	comp=Z,10nm,0.7s						
KSU1	**Kansas State U**	**2.91**	**14**	Pn	Pn	08 34 53.5	+0.5
S39A	**Bolivar**	**3.64**	**66**	Pn	Pn	08 35 03.7	+0.7
S39A				IAmb_Lg		08 36 04.5	
	comp=Z,10nm,0.9s						
MIAR	**Mount Ida**	**3.65**	**117**	IAmb_Lg		08 36 11.9	
	comp=Z,6.9nm,0.8s						
U40A	**Yellville**	**3.77**	**87**	IAmb_Lg		08 36 06.4	
	comp=Z,13nm,1.0s						
ABTX	**Abilene, Hawle**	**4.04**	**206**	IAmb_Lg		08 36 16.3	
	comp=Z,14nm,1.1s						
X40A	**Basin Creek Fa**	**4.22**	**114**	IAmb_Lg		08 36 23.3	
	comp=Z,12nm,0.8s						
MGMO	**Mountain Grove**	**4.31**	**77**	IAmb_Lg		08 36 25.5	
	comp=Z,5.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**101**	IAmb_Lg		08 36 29.0	
	comp=Z,15nm,1.3s						
FCAR	**Ozark Folk Cen**	**4.38**	**93**	Pn	Pn	08 35 13.0	-0.2
FCAR				IAmb_Lg		08 36 22.0	
	comp=Z,6.3nm,1.0s						
W41B	**Gary Mavity, V**	**4.42**	**103**		Pn	08 35 13.1	-0.6
W41B				IAmb_Lg		08 36 28.5	
	comp=Z,8.4nm,1.2s						
WLAR	**White Oak Lake**	**4.44**	**124**	IAmb_Lg		08 36 39.2	
	comp=Z,12nm,1.2s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		08 36 35.1	
	comp=Z,9.5nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.89**	**305**	IAmb_Lg		08 36 55.0	
	comp=Z,8.0nm,0.7s						
BGNE	**Belgrade**	**5.15**	**355**	IAmb_Lg		08 36 58.8	
	comp=Z,8.4nm,0.8s						
P40A	**Paris**	**5.41**	**51**	IAmb_Lg		08 36 59.4	
	comp=Z,8.9nm,0.7s						
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg		08 37 09.6	
	comp=Z,9.1nm,0.8s						
L34A	**Svendsen Farm,**	**5.75**	**9**	IAmb_Lg		08 37 14.1	
	comp=Z,8.4nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.16**	**60**	IAmb_Lg		08 38 02.0	
	comp=Z,8.9nm,0.8s						
K38A	**Parkersburg**	**7.35**	**29**	IAmb_Lg		08 38 16.4	
	comp=Z,8.6nm,0.8s						

TAP ***13*** *08:35:53.5,24.76N×122.08E,h5km, ML3.0,C*

JMA ***13*** *08:35:54.1±0.1,24.75N×122.06E,h39km±4km,M2.5*

ISC 13 08:35:52.9±1.1,24.78N±0.02×122.17E±0.02,h7km±8km, n69,σ0§82/111,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.22**	**286**	*e*P	**Pg**	**08 35 57.8**	**+0.4**
	baz=303						
EGS				S	**Sg**	**08 35 59.9**	**-0.4**
	baz=303						
TWB1	**Santiao Chiao**	**0.28**	**324**	*i* P	**Pg**	**08 35 59.4**	**+1.0**
	baz=343						
TWB1				S	**Sg**	**08 36 02.9**	**+0.8**
	baz=343						
NTC	**Toucheng**	**0.31**	**283**	P	**Pg**	**08 35 59.5**	**+0.5**
	baz=292						
NTC				S	**Sg**	**08 36 03.9**	**+0.7**
	baz=292						
TWC	**Suao**	**0.34**	**239**	P	**Pg**	**08 35 59.4**	**-0.1**
	baz=232						
TWC				S	**Sg**	**08 36 02.7**	**-1.2**
	baz=232						
TIPB	**Shuangxi**	**0.36**	**302**	*i* P	**Pb**	**08 36 00.7**	**-0.9**
	baz=312						
TIPB				S	**Sg**	**08 36 05.2**	**+0.4**
	baz=312						
ILA	**Ilan**	**0.38**	**268**	*e*P	**Pg**	**08 35 60.0**	**-0.3**
	baz=270						
ILA				*e*S	**Sg**	**08 36 05.5**	**+0.1**
	baz=270						
SXI1	**Grass Mountain**	**0.41**	**320**	P	**Pb**	**08 36 02.1**	**-0.3**
	baz=342						
SXI1				*e*S	**Sb**	**08 36 07.4**	**-1.5**
	baz=342						
NDS	**Dongshan**	**0.43**	**250**	P	**Pg**	**08 36 01.2**	**-0.2**
	baz=249						
NDS				*e*S	**Sg**	**08 36 05.7**	**-1.3**
	baz=249						
NWF	**Wu-fen Shan**	**0.45**	**310**	P	**Pb**	**08 36 02.9**	**-0.4**
	baz=305						
NWF				*e*S	**Sb**	**08 36 08.5**	**-1.7**
	baz=305						
WFSB	**Wu-fen Shan**	**0.45**	**310**	P	**Pb**	**08 36 02.8**	**-0.3**
	baz=319						
TWE	**Neicheng**	**0.46**	**263**	P	**Pg**	**08 36 01.6**	**-0.2**
	baz=263						
TWE				*e*S	**Sg**	**08 36 08.4**	**+0.6**
	baz=263						
EWUT	**Wuta**	**0.49**	**227**	*e*P	**Pg**	**08 36 02.2**	**-0.1**
	baz=221						
EWUT				*e*S	**Sg**	**08 36 07.2**	**-1.5**
	baz=221						
ENA	**Nanau**	**0.52**	**228**	*e*P	**Pg**	**08 36 02.8**	**-0.2**
	baz=222						
ENA				*e*S	**Sg**	**08 36 10.9**	**+1.1**
	baz=222						
FUSB	**Fushanzhiwuyua**	**0.53**	**268**	*e*P	**Pg**	**08 36 03.0**	**-0.1**
	baz=269						
FUSB				*e*S	**Sg**	**08 36 09.7**	**-0.3**
	baz=269						
ENTT	**Nioudou**	**0.56**	**256**	*e*P	**Pg**	**08 36 03.8**	**0.0**
	baz=255						
ENTT				*e*S	**Sg**	**08 36 12.0**	**+0.9**
	baz=255						
TWA	**Mucha**	**0.56**	**291**	*e*P	**Pb**	**08 36 04.4**	**-0.7**
	baz=296						
NWLT	**Wulai**	**0.60**	**270**	*e*P	**Pg**	**08 36 04.3**	**-0.3**
	baz=271						
NWLT				*e*S	**Sg**	**08 36 10.7**	**-1.8**
	baz=271						
NHDH	**Xindian Distri**	**0.61**	**287**	*e*P	**Pb**	**08 36 05.3**	**-0.6**
	baz=281						
NHDH				*e*S	**Sb**	**08 36 14.1**	**-0.5**
	baz=281						
NDT	**Datong Townshi**	**0.62**	**253**	*e*P	**Pg**	**08 36 04.8**	**0.0**
	baz=251						
LATG	**Datong**	**0.63**	**247**	*e*P	**Pg**	**08 36 05.1**	**0.0**
	baz=245						
LATG				*e*S	**Sg**	**08 36 13.2**	**-0.2**
	baz=245						
TATO	**Taipei**	**0.65**	**288**	P	**Pb**	**08 36 05.9**	**-0.6**
	baz=292						
YM01	**YM01**	**0.65**	**304**	*e*P	**Pb**	**08 36 06.6**	**0.0**
	baz=310						
YHNB	**Yeheng**	**0.73**	**261**	*e*P	**Pg**	**08 36 06.4**	**-0.5**
	baz=273						
NSK	**Sanguang**	**0.74**	**262**	*e*P	**Pg**	**08 36 06.7**	**-0.5**
	baz=274						
TWS1	**Kuangyinshan**	**0.75**	**295**	*e*P	**Pb**	**08 36 08.6**	**+0.4**
	baz=300						
JYNG	**Yonagunijimaku**	**0.78**	**115**	P	**Pn**	**08 36 09.9**	**-0.4**
JYNG				*e*S	**Sn**	**08 36 21.6**	**-0.6**
ETL	**Fush Village**	**0.79**	**219**	*e*P	**Pg**	**08 36 07.9**	**-0.2**
	baz=205						
NNSB	**Datong**	**0.80**	**244**	*e*P	**Pg**	**08 36 08.0**	**-0.2**
	baz=251						
NNSB				*e*S	**Sg**	**08 36 17.7**	**-0.8**
	baz=251						
NNS	**Nan Shan**	**0.80**	**245**	*e*P	**Pg**	**08 36 08.2**	**-0.1**
	baz=242						
NACB	**Ninganchiao**	**0.80**	**221**	*e*P	**Pg**	**08 36 07.8**	**-0.5**
	baz=217						
NACB				*e*S	**Sg**	**08 36 17.6**	**-1.0**
	baz=217						
YOJ	**Yonaguni jima**	**0.83**	**112**	*e*P	**Pn**	**08 36 10.5**	**-0.4**
	baz=110						
YOJ				*e*S	**Sn**	**08 36 23.7**	**+0.2**
	baz=110						
ETLH	**Xiulin Townshi**	**0.85**	**228**	*e*P	**Pg**	**08 36 08.9**	**-0.3**
	baz=224						
ETLH				*e*S	**Sg**	**08 36 19.8**	**-0.4**
	baz=224						
PCYT	**Pengchaiyu**	**0.85**	**354**	*e*P	**Pn**	**08 36 10.7**	**-0.6**
	baz=351						
TWD	**Chiawan**	**0.87**	**217**	*e*P	**Pg**	**08 36 09.2**	**-0.5**
	baz=212						
TWD				*e*S	**Sg**	**08 36 21.1**	**+0.1**
	baz=212						
NCUH	**Zhongli**	**0.91**	**282**	*e*P	**Pn**	**08 36 11.6**	**-0.5**
	baz=284						
NFF	**Wufeng Townshi**	**0.96**	**261**	*e*P	**Pn**	**08 36 12.7**	**-0.2**
	baz=261						
FUSS	**Fushou**	**0.99**	**238**	*e*P	**Pb**	**08 36 12.8**	**+0.2**
	baz=236						
FUSS				*e*S	**Sg**	**08 36 23.4**	**-1.5**
	baz=236						
WHF	**Hehuan Shan**	**1.04**	**233**	*e*P	**Pg**	**08 36 12.7**	**-0.1**
	baz=230						
WHF				*e*S	**Sg**	**08 36 26.3**	**-0.1**
	baz=230						
LIOB	**Emei**	**1.05**	**263**	*e*P	**Pn**	**08 36 14.8**	**+0.7**
	baz=255						
LIOB				*e*S	**Sn**	**08 36 29.5**	**+0.4**
	baz=255						
NSTT	**Nanjuang**	**1.07**	**262**	*e*P	**Pn**	**08 36 14.6**	**+0.3**
	baz=254						
NSTT				*e*S	**Sn**	**08 36 29.5**	**+0.1**
	baz=254						
SBCB	**Hsinchu**	**1.07**	**271**	*e*P	**Pn**	**08 36 14.9**	**+0.6**
	baz=272						
SBCB				*e*S	**Sn**	**08 36 29.9**	**+0.5**
	baz=272						
CHGB	**Renai**	**1.16**	**232**	*e*P	**Pg**	**08 36 15.1**	**0.0**
	baz=230						
CHGB				*e*S	**Sg**	**08 36 30.0**	**-0.1**
	baz=230						
ESL	**Shilin**	**1.17**	**215**	*e*P	**Pb**	**08 36 14.7**	**-0.7**
	baz=209						
WHP	**Taichung City**	**1.22**	**246**	*e*P	**Pb**	**08 36 16.5**	**+0.2**
	baz=234						
OWD	**Renai**	**1.22**	**228**	*e*P	**Pn**	**08 36 15.9**	**-0.6**
	baz=215						
OWD				*e*S	**Sb**	**08 36 29.8**	**-2.7**
	baz=215						
WUSB	**Renai**	**1.24**	**231**	*e*P	**Pn**	**08 36 16.4**	**-0.3**
	baz=237						
WUSB				*e*S	**Sb**	**08 36 32.3**	**-0.5**
	baz=237						
NMLH	**Miaoli**	**1.27**	**259**	*e*P	**Pg**	**08 36 18.7**	**+1.3**
	baz=259						
NMLH				*e*S	**Sn**	**08 36 34.7**	**+0.2**
	baz=259						
EGFH	**Guangfu**	**1.30**	**211**	*e*P	**Pn**	**08 36 17.1**	**-0.3**
	baz=213						
NSY	**Sanyi**	**1.33**	**254**	*e*P	**Pg**	**08 36 19.9**	**+1.5**
	baz=254						
NSY				*e*S	**Sg**	**08 36 38.4**	**+2.7**
	baz=254						
TWQ1	**Liyutan**	**1.34**	**251**	*e*P	**Pg**	**08 36 19.9**	**+1.3**
	baz=250						
TWQ1				*e*S	**Sg**	**08 36 38.4**	**+2.4**
	baz=250						
WCS	**Beigang Elemen**	**1.35**	**238**	*e*P	**Pg**	**08 36 20.5**	**+1.6**
	baz=234						
VWDT	**VWDT**	**1.39**	**223**	*e*P	**Pb**	**08 36 19.6**	**+0.5**
	baz=220						
VWDT				*e*S	**Sg**	**08 36 38.6**	**+1.2**
	baz=220						
HGSD	**Ruisui**	**1.45**	**208**	*e*P	**Pn**	**08 36 20.1**	**+0.5**
	baz=210						
SMLT	**Sun Moon Lake**	**1.46**	**232**	*e*P	**Pb**	**08 36 21.1**	**+0.6**
	baz=227						
SSLB	**Suanglung**	**1.48**	**228**	*e*P	**Pn**	**08 36 20.6**	**+0.6**
	baz=222						
IRIF	**Iriomote-Funau**	**1.49**	**107**	P	**Pn**	**08 36 20.0**	**-0.1**
IRIF				S	**Sn**	**08 36 39.6**	**-0.2**
YULB	**Yu-li**	**1.59**	**210**	*e*P	**Pn**	**08 36 22.0**	**+0.5**
	baz=215						
HATJ	**Hateruma jima**	**1.66**	**115**	P	**Pn**	**08 36 22.3**	**-0.1**
JKRS	**Kuro-shima**	**1.76**	**108**	P	**Pn**	**08 36 24.1**	**+0.3**
JKRS				S	**Sn**	**08 36 47.3**	**+0.8**
ALS	**Alishan**	**1.77**	**225**	*e*P	**Pb**	**08 36 26.6**	**+0.7**
	baz=209						
CHN5	**Tsauling**	**1.80**	**229**	*e*P	**Pg**	**08 36 28.1**	**+0.7**
	baz=223						
JIJ	**Ishigaki jima**	**1.85**	**103**	P	**Pn**	**08 36 25.6**	**+0.6**
JIJ				*e*S	**Sn**	**08 36 48.9**	**+0.3**
JISG	**Ishigakijimahi**	**1.96**	**95**	P	**Pn**	**08 36 27.3**	**+0.8**
JISG				*e*S	**Sb**	**08 36 52.8**	**-0.7**
EDH	**Donghe**	**1.97**	**204**	*e*P	**Pn**	**08 36 26.4**	**-0.2**
	baz=181						
TPUB	**Ta-pu**	**2.04**	**224**	*e*P	**Pb**	**08 36 30.6**	**+0.4**
	baz=206						
TPUB				*e*S	**Sg**	**08 36 58.5**	**+0.2**
	baz=206						
STYH	**Taoyuan**	**2.05**	**219**	*e*P	**Pb**	**08 36 30.2**	**-0.2**
	baz=204						
CHN1	**Nanshi**	**2.19**	**224**	*e*P	**Pb**	**08 36 33.1**	**+0.3**
	baz=220						
CHN1				*e*S	**Sg**	**08 37 03.1**	**0.0**
	baz=220						
SLGT	**Liugui**	**2.26**	**218**	*e*P	**Pb**	**08 36 34.2**	**+0.2**
	baz=215						
SLGT				*e*S	**Sb**	**08 37 04.3**	**+2.1**
	baz=215						
VWUC	**VWUC**	**2.48**	**275**	*e*P	**Pn**	**08 36 32.9**	**-0.7**
	baz=271						

IDC ***13*** *08:40:32.2±1.6,8.12N×127.71E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/40,mbtmp3.7/7,Error ellipse: s-maj=128.5km s-min=18.1km az=74.0*

MAN ***13*** *08:40:38.5,8.18N×123.68E,h107km,mb4.3,ML3.1, MS2.8*

ISC 13 08:40:36.9±0.9,8.1N±0.1×127.75E±0.08,h31km,n10, σ1§42/13,mb3.5/7,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.37**	**273**	*i*P	**Pb**	**08 41 01.6**	**-0.5**
BIPH				*i* S	**Sn**	**08 41 17.7**	**+0.6**
DAV	**Davao City (W)**	**2.39**	**244**	Sn	**Sb**	**08 41 46.2**	**-2.1**
	40nm,0.3s,baz=227,slow=22,SNR=1.9						
KCP	**Kidapawan**	**2.85**	**248**	*e*P	**Pn**	**08 41 22.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**26.13**	**185**	P	**P**	**08 46 08.0**	**-0.4**
	1.2nm,0.9s,baz=0.8,slow=12						
WRA	**Warramunga Arr**	**28.63**	**167**	P	**P**	**08 46 31.6**	**+0.8**
	0.4nm,0.7s,baz=336,slow=9.8,SNR=1.7						
ASAR	**Alice Springs**	**32.16**	**169**	P	**P**	**08 47 00.3**	**-1.7**
	0.2nm,0.8s,baz=0.6,slow=8.3,SNR=2.8						
ASAR				PcP	**PcP**	**08 49 51.6**	**+0.9**
	0.2nm,0.4s,baz=345,slow=2.8,SNR=4.1						
SONM	**Songino Array**	**43.54**	**339**	P	**P**	**08 48 37.7**	**-0.2**
	0.5nm,0.5s,baz=164,slow=6.0,SNR=4.4						
MKAR	**Makanchi Array**	**54.61**	**323**	P	**P**	**08 50 03.2**	**+0.6**
	1.0nm,0.6s,baz=120,slow=8.1,SNR=14						
MKAR				PcP	**PcP**	**08 51 06.1**	**+0.6**
	1.0nm,0.8s,baz=116,slow=5.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**57.20**	**331**	P	**P**	**08 50 19.1**	**-1.9**
	0.4nm,0.4s,baz=114,slow=9.9,SNR=4.6						
FINES	**FINESS Array B**	**88.47**	**332**	P	**P**	**08 53 25.9**	**-0.2**
	2.4nm,1.1s,baz=88,slow=7.2,SNR=4.4						

JMA ***13*** *08:44:10.6±0.1,38.17N×141.67E,h50km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs33.00000°,δ63.00000°,λ90.00000°. NP2:φs213.00000°, δ27.00000°,λ90.00000°. Principal axes: T Plg72.0000°, Azm303.0000°; N Plg0.0000°, Azm33.0000°; P Plg18.0000°, Azm123.0000°;*

JMA Felt II J1.

NEIC ***13*** *08:44:10.6±1.2,38.16N±0.06×141.68E±0.08,h47km±7km, mb4.3/22 Error ellipse: s-maj=10.9km s-min=7.3km az=131.0*

NIED ***13*** *08:44:10.7,38.17N×141.67E,h50km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr5.92; Mθθ-0.96; Mφφ-4.96; Mrθ1.30; Mθφ-1.49; Mφr4.05; Fault plane solution: M₀7.10000×10¹⁴ NP1:φs18.00000°, δ63.00000°,λ90.00000°. NP2:φs199.00000°,δ27.00000°, λ90.00000°.*

IDC ***13*** *08:44:12.1±1.9,38.20N×141.69E,h65km±17km,mb3.6/17, mb1 3.8/22,mb1mx3.7/45,mbtmp3.9/22,MS2.9/4, Ms1 2.9/4,ms1mx2.5/86 Error ellipse: s-maj=17.5km s-min=11.5km az=112.0*

ISC 13 08:44:10.2±1.0,38.16N±0.04×141.73E±0.07,h48km±8km, n89,σ1§00/97,mb4.0/27,13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.26**	**306**	ǁP	**Pn**	**08 44 19.1**	**+0.4**
JIKH				S	**Sn**	**08 44 24.9**	**+0.1**
JIO	**Ouri**	**0.42**	**315**	ǁP	**Pn**	**08 44 20.6**	**+0.2**
JIO				S	**Sn**	**08 44 27.4**	**-0.2**
JKMT	**Kesennumamotoy**	**0.68**	**343**	ǁP	**Pn**	**08 44 23.6**	**0.0**
JKMT				S	**Sn**	**08 44 32.6**	**-0.7**
JOFO	**Osakifurukawao**	**0.78**	**305**	ǁP	**Pn**	**08 44 25.1**	**+0.2**
JOFO				S	**Sn**	**08 44 36.3**	**+0.7**
JMM	**Marumori**	**0.80**	**249**	ǁP	**Pn**	**08 44 24.8**	**-0.3**
JMM				S	**Sn**	**08 44 35.0**	**-0.9**
JMM	**Marumori**	**0.80**	**249**		**Pn**	**08 44 24.7**	**-0.3**
JMM				Sn	**Sn**	**08 44 34.8**	**-1.1**
JOU	**Okura**	**0.86**	**284**	ǁP	**Pn**	**08 44 26.1**	**+0.1**
JOU				S	**Sn**	**08 44 37.5**	**-0.1**
JMK	**Ichinoseki**	**0.89**	**333**	ǁP	**Pn**	**08 44 26.5**	**+0.2**
JMK				S	**Sn**	**08 44 37.7**	**-0.4**
JFK	**Kawauchi**	**1.04**	**221**	P	**Pn**	**08 44 28.5**	**0.0**
JFK				S	**Sn**	**08 44 41.3**	**-0.6**
JFT	**Otama**	**1.27**	**240**	ǁP	**Pn**	**08 44 32.0**	**+0.4**
JFT				S	**Sn**	**08 44 47.7**	**+0.1**
JYS	**Shirataka**	**1.31**	**273**	ǁP	**Pn**	**08 44 32.3**	**+0.2**
JYS				S	**Sn**	**08 44 48.7**	**+0.2**
JYK	**Kaneyama**	**1.31**	**306**	ǁP	**Pn**	**08 44 32.2**	**+0.1**
JYK				*e*S	**Sn**	**08 44 48.7**	**+0.2**
JOM	**Ohasama**	**1.36**	**346**	ǁP	**Pn**	**08 44 32.9**	**+0.2**
JOM				S	**Sn**	**08 44 49.4**	**-0.1**
JRG	**Rokugo**	**1.50**	**326**	ǁP	**Pn**	**08 44 35.3**	**+0.6**
JYA	**Atsumi**	**1.64

KLR	**Kul'dur**	**13.20**	**330**	LR	LR	08 51 34.6			
	comp=Z,43nm,21.6s,baz=70,slow=34								
MA2	**Magadan**	**22.20**	**12**	P	**P**	**08 49 01.9**	**-0.3**		
	2.3nm,0.5s,baz=205,slow=8.6,SNR=9.7								
MA2	**Magadan**	**22.20**	**12**	P	**P**	**08 49 03.9**	**+1.7**		
SEY	**Seymchan**	**25.64**	**11**	P	**P**	**08 49 35.5**	**+0.5**		
	1.0nm,0.6s,baz=191,slow=7.7,SNR=6.2								
SONM	**Songino Array**	**27.38**	**302**	P	**P**	**08 49 50.7**	**-0.3**		
	0.4nm,0.5s,baz=100,slow=8.7,SNR=3.6								
ENH	**Enshi**	**27.70**	**263**	P	**P**	**08 49 53.5**	**-0.4**		
ENH				IAmb	IAmb	08 49 55.4			
	comp=Z,9.3nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	09 20 19.2			
	baz=316,slow=76,SNR=334								
H11N1	**WAKE ISLAND Hy**	**28.54**	**123**	T	T	09 20 16.4			
	baz=316,slow=76,SNR=170								
H11N3	**WAKE ISLAND Hy**	**28.55**	**123**	T	T	09 20 15.7			
	baz=316,slow=76,SNR=135								
H11S1	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	09 21 13.6			
	baz=318,slow=76,SNR=86								
H11S3	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	09 21 14.2			
	baz=318,slow=76,SNR=130								
H11S2	**WAKE ISLAND Hy**	**29.30**	**125**	T	T	09 21 15.3			
	baz=318,slow=76,SNR=85								
ZAA0	**Zalesovo Array**	**41.35**	**311**	P	**P**	**08 51 51.0**	**-0.1**		
ZAA0				IAmb	IAmb	08 52 09.2			
	comp=Z,2.5nm,0.7s								
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**08 51 50.4**	**-0.7**		
	comp=Z,2.4nm,0.4s,baz=81,slow=7.4,SNR=10								
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**08 51 51.0**	**-0.1**		
MK31	**Makanchi Array**	**43.74**	**301**	P	**P**	**08 52 10.8**	**0.0**		
MK31				IAmb	IAmb	08 52 29.4			
	comp=Z,2.2nm,0.8s								
MKAR	**Makanchi Array**	**43.74**	**301**	P	**P**	**08 52 10.5**	**-0.3**		
	comp=Z,1.1nm,0.6s,baz=83,slow=9.7,SNR=13								
MKAR	**Makanchi Array**	**43.74**	**301**	P	**P**	**08 52 10.6**	**-0.1**		
MAKZ	**Makanchi**	**43.95**	**301**	P	**P**	**08 52 12.2**	**-0.3**		
MAKZ				IAmb	IAmb	08 52 25.8			
	comp=Z,7.6nm,1.4s								
KURK	**Kurchatov**	**45.44**	**307**	P	**P**	**08 52 23.9**	**-0.3**		
IMAR	**Indian Mountai**	**45.56**	**31**	P	**P**	**08 52 26.0**	**+1.1**		
PPLA	**Purkeypile**	**46.11**	**36**	P	**P**	**08 52 29.9**	**+0.5**		
I21K	**Tanana**	**46.24**	**32**	P	**P**	**08 52 29.5**	**-0.8**		
I21K				IAmb	IAmb	08 52 35.8			
	comp=Z,4.4nm,1.4s								
TOLK	**Toolik Lake Re**	**47.36**	**28**	P	**P**	**08 52 40.5**	**+1.4**		
TOLK				IAmb	IAmb	08 52 48.4			
	comp=Z,3.8nm,1.4s								
O22K	**Cooper Landing**	**47.37**	**39**	P	**P**	**08 52 38.8**	**-0.3**		
ILAR	**Eielson Array**	**48.41**	**33**	P	**P**	**08 52 47.5**	**+0.3**		
	comp=Z,0.7nm,0.7s,baz=270,slow=6.6,SNR=7.8								
EPYK	**Eagle Plains**	**52.43**	**30**	P	**P**	**08 53 19.6**	**+2.1**		
EPYK				IAmb	IAmb	08 53 28.9			
	comp=Z,5.5nm,1.5s								
INK	**Inuvik**	**53.27**	**28**	P	**P**	**08 53 24.4**	**+0.8**		
	comp=Z,0.9nm,0.6s,baz=283,slow=7.5,SNR=6.8								
INK	**Inuvik**	**53.27**	**28**	P	**P**	**08 53 24.6**	**+1.0**		
INK				IAmb	IAmb	08 53 52.5			
	comp=Z,4.0nm,1.4s								
C36M	**Paulatuk**	**56.31**	**25**	P	**P**	**08 53 46.4**	**+0.9**		
ABKAR	**Akbulak array**	**57.41**	**310**	P	**P**	**08 53 53.2**	**-0.5**		
WB0	**Warramunga Arr**	**58.03**	**188**	P	**P**	**08 53 58.1**	**-0.2**		
WB0				IAmb	IAmb	08 54 25.2			
	comp=Z,6.6nm,1.2s								
WR0	**Warramunga Arr**	**58.20**	**188**	P	**P**	**08 53 59.2**	**-0.3**		
WR0				IAmb	IAmb	08 54 25.5			
	comp=Z,5.7nm,1.4s								
WB2	**Warramunga Arr**	**58.21**	**188**	P	**P**	**08 53 59.2**	**-0.3**		
WRA	**Warramunga Arr**	**58.21**	**188**	P	**P**	**08 53 59.1**	**-0.4**		
	comp=Z,1.2nm,0.5s,baz=5.8,slow=7.2,SNR=39								
WRA	**Warramunga Arr**	**58.21**	**188**	P	**P**	**08 53 58.8**	**-0.7**		
RES	**Resolute Bay**	**61.45**	**15**	P	**P**	**08 54 21.4**	**+0.2**		
AS31	**Alice Springs**	**61.93**	**188**	P	**P**	**08 54 25.4**	**+0.4**		
ASAR	**Alice Springs**	**61.94**	**188**	P	**P**	**08 54 25.1**	**+0.1**		
	comp=Z,0.4nm,0.4s,baz=355,slow=4.2,SNR=18								
ASAR	**Alice Springs**	**61.94**	**188**	P	**P**	**08 54 24.7**	**-0.3**		
YKA	**Yellowknife Ar**	**62.71**	**31**	P	**P**	**08 54 29.9**	**+0.1**		
	comp=Z,0.2nm,0.6s,baz=304,slow=6.4,SNR=4.8								
ARCES	**ARCESS Array B**	**63.03**	**339**	P	**P**	**08 54 31.0**	**-0.9**		
	comp=Z,3.2nm,1.0s,baz=38,slow=6.1,SNR=6.0								
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**08 55 02.6**	**-1.0**		
	comp=Z,1.4nm,0.6s,baz=32,slow=11,SNR=5.6								
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**08 55 03.6**	**+0.1**		
KBZ	**Khabaz**	**70.36**	**310**	P	**P**	**08 55 18.7**	**-0.2**		
	comp=Z,1.5nm,0.9s,baz=91,slow=1.4,SNR=4.2								
NC405	**NORSAR Array S**	**73.04**	**337**	P	**P**	**08 55 34.9**	**+0.2**		
NB2	**NORSAR Subarra**	**73.25**	**337**	P	**P**	**08 55 35.6**	**-0.4**		
	comp=Z,0.6nm,0.5s,baz=39,slow=5.9								
NOA	**NORSAR Array B**	**73.25**	**337**	P	**P**	**08 55 35.8**	**-0.2**		
	comp=Z,0.2nm,0.4s,baz=52,slow=7.1,SNR=8.4								
AKASG	**Malin Array Be**	**73.56**	**322**	P	**P**	**08 55 37.3**	**-0.6**		
	comp=Z,0.6nm,0.4s,baz=46,slow=5.8,SNR=6.6								
PDAR	**Pinedale Array**	**76.70**	**46**	P	**P**	**08 55 57.2**	**+0.7**		
	comp=Z,0.5nm,0.7s,baz=234,slow=2.5,SNR=5.0								
PDAR	**Pinedale Array**	**76.70**	**46**	P	**P**	**08 55 57.3**	**+0.8**		
BURAR	**Bucovina Array**	**77.58**	**322**	P	**P**	**08 56 01.3**	**+0.1**		
SOCY	**Socotra**	**80.83**	**278**	P	**P**	**08 56 17.3**	**-2.1**		
SOCY				IAmb	IAmb	08 56 28.2			
	comp=Z,7.6nm,1.3s								
RPZ	**Rata Peaks**	**85.72**	**159**	LR	LR	09 33 23.4			
	comp=Z,46nm,18.2s,baz=218,slow=34								
TXAR	**Lajitas Array**	**89.24**	**53**	P	**P**	**08 57 01.2**	**-0.1**		
	comp=Z,0.2nm,0.6s,baz=252,slow=2.5,SNR=3.5								
TXAR	**Lajitas Array**	**89.24**	**53**	P	**P**	**08 57 02.0**	**+0.6**		
LPAZ	**La Paz**	**145.90**	**58**	PKPbc	**PKPbc**	**09 03 45.5**	**-0.1**		
	comp=Z,0.7nm,0.6s,baz=3.6,slow=3.6,SNR=2.5								

IDC 13 08:53:48.2±2.3, 6°84'S×129°20'E, h0km, mb3.1/1, mb1 3.9/4, mb1mx3.5/39, mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=80.3km s-min=29.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.72**	**197**	Pn	Pn	08 56 38.2	+1.4
	0.6nm,0.3s,baz=15,slow=9.6,SNR=26						
FITZ				Sn	Sn	08 58 33.0	-15
	0.4nm,0.3s,baz=36,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**13.95**	**160**	Pn	Pn	08 57 05.9	-1.4
	0.9nm,0.3s,baz=337,slow=12,SNR=38						
WRA				Sn	Sn	08 59 26.1	-17
	0.4nm,0.3s,baz=338,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**17.33**	**165**	P	Pn	08 57 51.5	-0.2
	0.3nm,0.3s,baz=338,slow=9.1,SNR=24						
ASAR				S	Sn	09 00 49.8	-16
	0.1nm,0.3s,baz=349,slow=24,SNR=1.9						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	09 04 47.2	0.0
	0.1nm,0.5s,baz=123,slow=6.7,SNR=1.8						

*SCB **13** 09:28:41.3±2.1, 21°.14S×67°.58W, h134km±31km, ML2.7/4, Error ellipse: s-maj=7.1km s-min=6.1km az=0.0*
*IDC **13** 09:28:45.7±8.9, 20°.57S×67°.16W, h221km±74km, mb3.1/1, mb1 2.9/2, mb1mx2.7/24, mbtmp3.4/2, Error ellipse: s-maj=114.0km s-min=97.0km az=55.0*
ISC 13 09:28:38.3±1.1, 21°.18S±0°.06×67°.58W±0°.06, h183km, n17, σ1°69/22, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.67**	**248**	P	**Pn**	**09 29 14.1**	**+1.7**
PB01	**IPOC Station P**	**1.79**	**274**	P	**Pn**	**09 29 15.1**	**+1.6**
PB08	**IPOC Station P**	**1.80**	**305**	P	**Pn**	**09 29 15.6**	**+1.6**
MOCB	**Mochara**	**1.81**	**93**	P	**Pn**	**09 29 15.3**	**+1.2**
MOCB				S	**Sn**	**09 29 38.9**	**-2.8**
MOCB				IAML		09 29 48.7	
	22nm,0.5s						
LVC	**Limon Verde**	**1.89**	**221**	P	**Pn**	**09 29 15.9**	**+1.1**
PB02	**IPOC Station P**	**2.17**	**266**	P	**Pn**	**09 29 18.7**	**+1.1**
PB07	**IPOC Station P**	**2.22**	**255**	P	**Pn**	**09 29 19.3**	**+1.1**
PB07				S	**Sn**	**09 29 46.9**	**-2.3**
PB07				IAML		09 29 49.3	
	68nm,0.3s						
HMBC	**Humberstone**	**2.34**	**292**	P	**Pn**	**09 29 20.2**	**+0.7**
HMBC				S	**Sn**	**09 29 49.8**	**-1.7**
HMBC				IAML		09 29 54.1	
	35nm,0.2s						
PB06	**IPOC Station P**	**2.40**	**230**	P	**Pn**	**09 29 21.5**	**+1.3**
PB11	**IPOC Station P**	**2.41**	**305**	P	**Pn**	**09 29 21.0**	**+0.7**
PB04	**IPOC Station P**	**2.65**	**244**	P	**Pn**	**09 29 24.1**	**+0.9**
PB15	**IPOC Station P**	**2.68**	**221**	P	**Pn**	**09 29 24.5**	**+1.0**
PB16	**IPOC Station P**	**3.36**	**327**	P	**Pn**	**09 29 34.1**	**+1.9**
PB16				S	**Sn**	**09 30 11.5**	**-2.6**
PB16				IAML		09 30 17.5	
	10.0nm,0.3s						
LPAZ	**La Paz**	**4.89**	**354**	P	**Pn**	**09 29 53.2**	**+1.6**
	0.4nm,0.3s,baz=176,slow=15,SNR=13						
LPAZ				S	**Sn**	**09 30 47.0**	**-2.0**
	0.0nm,0.3s,baz=10,slow=20,SNR=1.3						
LPAZ	**La Paz**	**4.89**	**354**	P	**Pn**	**09 29 53.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.08**	**70**	P	**P**	**09 40 06.2**	**0.0**
	0.2nm,0.3s,baz=259,slow=6.3,SNR=2.0						
MKAR	**Makanchi Array**	**144.64**	**37**	PKP	**PKPdf**	**09 47 54.1**	**+1.0**
	0.1nm,0.5s,baz=286,slow=3.5,SNR=1.9						

WEL 13 09:29:49.5±1.0, 36°.5S±15°×17°.9E±2°.2, h286km±11km, M3.4/6, mB4.0/2, ML3.7/7, MLv3.4/6, Mw(mB)3.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=122.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.33**	**186**	P	Pn	09 30 38.2	+0.5
WMGZ				S	S	09 31 16.6	+0.4
HAZ	**Te Kaha**	**2.37**	**198**	P	Pn	09 30 37.7	-0.4
HAZ				S	S	09 31 15.1	-1.8
PKGZ	**Pakihiroa**	**2.44**	**192**	P	Pn	09 30 39.2	+0.4
PUZ	**Puketiti**	**2.59**	**188**	P	Pn	09 30 40.2	0.0
PUZ				S	S	09 31 20.1	-0.6
RUGZ	**Raukumara Rang**	**2.60**	**199**	P	Pn	09 30 40.1	-0.3
RUGZ				S	S	09 31 19.1	-1.9
TWGZ	**Tauwhareparae**	**2.73**	**192**	S	S	09 31 24.1	+0.9
MWZ	**Matawai**	**2.98**	**198**	P	Pn	09 30 44.0	0.0
MWZ				S	S	09 31 27.7	+0.1
CNGZ	**Carnagh Statio**	**3.00**	**188**	P	Pn	09 30 45.5	+1.3
CNGZ				S	S	09 31 26.4	-1.5
TKGZ	**Te Karaka**	**3.01**	**193**	P	Pn	09 30 45.1	+0.8
TKGZ				S	S	09 31 29.3	+1.3
URZ	**Urewera**	**3.04**	**205**	P	Pn	09 30 44.0	-0.5
URZ				S	S	09 31 28.3	-0.2
RAGZ	**Rawiri**	**3.17**	**199**	P	Pn	09 30 47.0	+1.0
RAGZ				S	S	09 31 32.3	+1.2
SNGZ	**Shannon Statio**	**3.45**	**198**	S	S	09 31 40.1	+3.7
BKZ	**Black Stump Fm**	**4.07**	**205**	P	Pn	09 30 56.0	+0.3
BKZ				S	S	09 31 50.8	+2.1
KWHZ	**Kaweka Forest**	**4.32**	**204**	P	Pn	09 30 59.5	+0.9
KWHZ				S	S	09 31 56.3	+2.4
BHHZ	**Black Hill Sta**	**4.51**	**207**	P	Pn	09 31 00.9	+0.2
BHHZ				S	S	09 31 59.4	+1.7
BFZ	**Birch Farm**	**5.53**	**200**	P	Pn	09 31 11.6	-1.0
BFZ				S	S	09 32 19.7	+0.2
MRZ	**Mangatainoka R**	**5.71**	**205**	P	Pn	09 31 14.2	-0.7
MRZ				S	S	09 32 22.8	-0.7
TIWZ	**Tintock**	**5.72**	**202**	P	Pn	09 31 15.0	0.0
TIWZ				S	S	09 32 24.4	+0.7
OGWZ	**Otaki Gorge**	**6.00**	**207**	P	Pn	09 31 17.5	-0.8
OGWZ				S	S	09 32 27.0	-2.8
CAW	**Cannon Point**	**6.29**	**206**	P	Pn	09 31 20.9	-0.9
CAW				S	S	09 32 36.6	+0.4

*SSNC **13** 09:38:49.5±1.1, 17°.68N×71°.32W, h43km±54km, MD4.0, ML3.8, MW3.9*
*OSPL **13** 09:38:54.4±3.3, 18°.20N×71°.53W, h5km±14km, ML3.5, Fault plane solution: NP1:φs330.00000°, δ64.00000°, λ93.00000°.*
*IDC **13** 09:38:58.5±2.8, 18°.10N×71°.55W, h44km±30km, mb3.4/6, mb1 3.9/9, mb1mx3.6/35, mbtmp3.8/9, ML3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/41, Error ellipse: s-maj=22.3km s-min=21.2km az=101.0*
ISC 13 09:38:53.7±1.0, 18°.19N±0°.04×71°.55W±0°.03, h11km±6km, n45, σ1°62/56, mb3.7/6, 1C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOPE2	**Hotel Peder**	**0.24**	**230**	ASPG		09 38 57.7	
	comp=Z,40μm,0.3s						
LOPE2				⇓*i*P	**Pg**	**09 38 58.1**	**-0.5**
LOPE2				ATPG		09 38 59.6	
	comp=Z,147μm,0.4s						
LOPE2				ASSG		09 39 03.1	
	comp=Z,365μm,0.3s						
LOPE2				*e*S	**Sg**	**09 39 03.5**	**+1.5**
LOPE2				ATSG		09 39 04.2	
	comp=Z,1457μm,0.3s						
LOPE2				IAML		09 39 07.7	
	comp=Z,34μm,0.4s						
LONE2	**Loma La Sidra**	**0.37**	**12**	ASPG		09 38 59.3	
	comp=Z,11μm,0.3s						
LONE2				⇓*i*P	**Pg**	**09 38 59.7**	**-1.5**
LONE2				ATPG		09 39 01.0	
	comp=Z,30μm,0.3s						
LONE2				ASSG		09 39 06.4	
	comp=Z,26μm,0.3s						
LONE2				*e*S	**Sg**	**09 39 06.8**	**+0.6**
LONE2				ATSG		09 39 07.3	
	comp=Z,105μm,0.3s						
LONE2				IAML		09 39 14.9	
	comp=Z,6μm,0.6s						
LOBA2	**Hotel Casa Bon**	**0.45**	**103**	ASPG		09 39 01.3	
	comp=Z,6μm,0.3s						
LOBA2				⇓*i*P	**Pg**	**09 39 01.7**	**-0.9**
LOBA2				ATPG		09 39 03.2	
	comp=Z,20μm,0.3s						
LOBA2				ASSG		09 39 09.7	
	comp=Z,7μm,0.3s						
LOBA2				*e*S	**Sg**	**09 39 10.1**	**+1.5**
LOBA2				ATSG		09 39 11.9	
	comp=Z,24μm,0.3s						
LOBA2				IAML		09 39 13.6	
	comp=Z,4μm,0.7s						
PAPH	**Port-au-Prince**	**0.78**	**295**	⇓*i*P	**Pb**	**09 39 07.8**	**-1.5**
PAPH				*e*S	**Sb**	**09 39 20.5**	**+0.6**
PAPH				IAML		09 39 28.2	
	comp=Z,3μm,0.5s						
SDDR	**Presa de Saban**	**0.83**	**18**	ASPG		09 39 07.3	
	comp=Z,692nm,0.3s						
SDDR				⇓*i*P	Pb	09 39 07.7	-2.5
SDDR				ATPG		09 39 08.6	
	comp=Z,2μm,0.4s						
SDDR				ASSG		09 39 20.3	
	comp=Z,2μm,0.3s						
SDDR				*e*S	**Sb**	**09 39 20.7**	**-0.8**
SDDR				ATSG		09 39 22.6	
	comp=Z,7μm,0.2s						
SDDR				IAML		09 39 27.0	
	comp=Z,1μm,0.5s						
JAKH	**Jacmel**	**0.92**	**273**	⇓*i*P	**Pb**	**09 39 09.4**	**-2.2**
JAKH				*e*S	**Sg**	**09 39 25.7**	**+2.3**
JAKH				IAML		09 39 36.9	
	comp=Z,708nm,0.8s						
LGNH	**Logne**	**1.05**	**288**	*e*P	**Pb**	**09 39 12.4**	**-1.4**
LGNH				*e*S	**Sb**	**09 39 29.4**	**+1.7**
LGNH	**Logne**	**1.05**	**288**	⇓*i*P	**Pb**	**09 39 12.5**	**-1.4**
LGNH				*e*S	**Sb**	**09 39 29.0**	**+1.3**
LGNH				IAML		09 39 41.2	
	comp=Z,953nm,0.8s						
LODA1	**ITESIL, Dajabo**	**1.36**	**354**	*i* P	**Pn**	**09 39 17.2**	**-1.5**
LODA1				*e*S	**Sn**	**09 39 36.0**	**-0.7**
LODA1				IAML		09 39 39.2	
	comp=Z,2μm,0.5s						
MASC	**Masc**	**3.21**	**308**	*e*P	**Pn**	**09 39 43.5**	**-0.7**
MASC				*e*S	**Sn**	**09 40 22.9**	**+0.5**
MASC				IAML		09 40 36.3	
	comp=N,54nm,0.5s						
MASC				IAML		09 40 40.9	
	comp=E,80nm,0.5s						
RCC	**Rio Carpintero**	**4.31**	**295**	*e*P	**Pn**	**09 39 57.7**	**-1.6**
RCC				*e*S	**Sn**	**09 40 48.9**	**-0.6**
RCC				IAML		09 40 54.9	
	comp=N,20nm,0.6s						
RCC				IAML		09 41 07.4	
	comp=E,38nm,0.4s						
HLGC	**Holguin**	**5.03**	**303**	*e*P	**Pn**	**09 40 10.3**	**+1.1**
HLGC				*e*S	**Sn**	**09 41 10.9**	**+3.6**
HLGC				IAML		09 41 27.3	
	comp=E,17nm,0.6s						
HLGC				IAML		09 41 27.5	
	comp=N,12nm,0.6s						
SJG	**San Juan**	**5.14**	**90**	P	**Pn**	**09 40 13.1**	**+2.5**
	comp=N,4.9nm,0.3s,baz=270,slow=11,SNR=9.6						
SJG				S	**Sn**	**09 41 12.2**	**+2.2**
	comp=N,2.2nm,0.3s,baz=353,slow=23,SNR=1.3						
SJG				LR	LR	09 42 04.4	
	comp=N,12nm,19.5s,baz=270,slow=36						

LMGC	**Las Mercedes**	**5.48**	**291**	*e*P	**Pn**	**09 40 13.1**	**-2.2**
LMGC				⇑*e*S	**Sn**	**09 41 15.3**	**-3.1**
LMGC				IAML		09 41 28.2	
	comp=E,19nm,0.5s						
LMGC				IAML		09 41 30.4	
	comp=N,16nm,0.7s						
SDV	**Santo Domingo**	**9.29**	**174**	P	**Pn**	**09 41 08.8**	**+1.0**
	comp=N,1.6nm,0.3s,baz=84,slow=4.6,SNR=17						
SDV				S	**Sn**	**09 42 47.5**	**-5.0**
	comp=N,0.9nm,0.3s,baz=243,slow=17,SNR=9.1						
SDV				LR	LR	09 44 56.1	
	comp=N,108nm,18.4s,baz=42,slow=39						
SDV	**Santo Domingo**	**9.29**	**174**	*e*P	**Pn**	**09 41 08.5**	**+0.7**
ANBD	**Bethesda, Anti**	**9.40**	**95**	*e*P	**Pn**	**09 41 10.1**	**+0.9**
SOCV	**Socops**	**9.87**	**176**	*e*P	**Pn**	**09 41 15.2**	**-0.4**
PCRV	**Puerto La Cruz**	**10.41**	**139**	P	**Pn**	**09 41 23.8**	**+0.7**
	comp=N,2.0nm,0.3s,baz=330,slow=3.9,SNR=12						
PCRV				S	Sn	09 43 08.6	-11
	comp=N,0.3nm,0.3s,baz=212,slow=19,SNR=1.2						
PAMC	**Pamplona, Colo**	**10.84**	**186**	*e*P	**Pn**	**09 41 29.6**	**+0.2**
URMC	**San Jos de Ur**	**11.07**	**201**	*e*P	**Pn**	**09 41 29.6**	**-2.6**
ZARC	**Zaragoza, Cauc**	**11.11**	**197**	*e*P	**Pn**	**09 41 30.5**	**-2.1**
BARC	**Barichara**	**11.63**	**188**	*e*P	**Pn**	**09 41 39.1**	**-0.9**
PTBC	**PUERTO BERRIO,**	**11.92**	**194**	*e*P	**Pn**	**09 41 44.9**	**+1.2**
BCIP	**Isla Barro Col**	**12.04**	**223**	*e*P	Pn	09 41 41.0	-4.4
RUSC	**La Rusia**	**12.31**	**187**	*e*P	**Pn**	**09 41 50.6**	**+1.1**
HELC	**Santa Helena**	**12.54**	**199**	*e*P	**Pn**	**09 41 52.5**	**0.0**
NORC	**Norcasia**	**12.96**	**195**	*e*P	**Pn**	**09 42 00.2**	**+2.2**
CBOC	**Ciudad Bolivar**	**13.00**	**200**	*e*P	**Pn**	**09 41 59.2**	**+0.6**
GUY2C	**Guyana, Caldas**	**13.41**	**197**	*e*P	**Pn**	**09 42 05.9**	**+1.4**
PLMC	**San Jos del P**	**13.99**	**200**	*e*P	**Pn**	**09 42 11.7**	**-0.4**
VILC	**Villavicencio,**	**14.14**	**189**	*e*P	**Pn**	**09 42 12.6**	**-1.7**
ORTC	**Ortega, Tolima**	**14.64**	**195**	*e*P	**Pn**	**09 42 22.2**	**+1.1**
YOTC	**Yotoco, Valle**	**14.88**	**199**	*e*P	**Pn**	**09 42 25.0**	**+0.8**
TXAR	**Lajitas Array**	**31.32**	**297**	P	**P**	**09 45 14.7**	**+0.4**
	comp=N,1.0nm,1.0s,baz=110,slow=7.2,SNR=3.6						
PDAR	**Pinedale Array**	**40.40**	**316**	P	**P**	**09 46 33.3**	**+1.1**
	comp=N,1.0nm,0.8s,baz=114,slow=9.1,SNR=7.8						
PFO	**Pinyon Flats O**	**42.88**	**300**	LR	LR	10 06 55.1	
	comp=N,59nm,18.8s,baz=334,slow=39						
YKA	**Yellowknife Ar**	**53.32**	**337**	P	**P**	**09 48 13.6**	**+1.0**
	comp=N,0.8nm,0.8s,baz=120,slow=7.1,SNR=11						
PLCA	**Paso Flores**	**58.62**	**179**	P	**P**	**09 48 50.4**	**-0.5**
	comp=N,1.3nm,0.8s,baz=23,slow=5.3,SNR=4.5						
ESDC	**Sonseca Array**	**61.51**	**54**	P	**P**	**09 49 10.6**	**-0.4**
	comp=N,0.4nm,0.6s,baz=274,slow=8.9,SNR=2.7						
JMIC	**Jan Mayen**	**64.26**	**19**	LR	LR	10 13 19.1	
	comp=N,28nm,21.0s,baz=266,slow=32						
ILAR	**Eielson Array**	**67.45**	**333**	P	**P**	**09 49 49.7**	**+0.5**
	comp=N,0.4nm,0.7s,baz=106,slow=6.0,SNR=3.4						
STKA	**Stephens Creek**	**147.16**	**239**	PKPbc	**PKPdf**	**09 58 36.7**	**+1.4**
	comp=N,1.9nm,0.8s,baz=90,slow=4.0,SNR=3.6						
WRA	**Warramunga Arr**	**155.47**	**262**	PKPbc	PKPbc	09 58 57.1	
	comp=N,0.3nm,0.8s,baz=88,slow=3.2,SNR=1.6						
WRA				PKPab	**PKPab**	**09 59 14.4**	**+0.4**
	comp=N,0.5nm,0.9s,baz=90,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**155.62**	**253**	PKPbc	PKPbc	09 58 56.8	
	comp=N,0.5nm,0.9s,baz=83,slow=3.0,SNR=3.8						
ASAR				PKPab	**PKPab**	**09 59 13.8**	**-0.7**
	comp=N,0.4nm,0.7s,baz=106,slow=4.7,SNR=5.9						

IDC 13 09:53:44.8±1.7, 14°.46S×166°.80E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/32, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=54.4km s-min=31.5km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.58**	**183**	Pn	Pn	09 55 36.5	-0.3
	0.5nm,0.3s,baz=308,slow=21,SNR=8.5						
DZM				Sn	Sn	09 56 58.7	-4.8
	0.1nm,0.3s,baz=353,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**31.46**	**255**	P	P	10 00 08.5	+0.1
	0.4nm,1.0s,baz=78,slow=7.0,SNR=1.7						
ASAR	**Alice Springs**	**32.35**	**249**	P	P	10 00 16.1	-0.1
	0.4nm,0.7s,baz=72,slow=9.7,SNR=5.3						
ILAR	**Eielson Array**	**86.41**	**18**

0.4nm,0.6s,baz=142,slow=12,SNR=8.4
AKTO Aktyubinsk 16.08 330 P Pn 10 10 38.7 -2.9

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*IDC **13** 10:30:02.9±0.6,26°.31N×92°.33E,h0km,mb3.8/19, mb1 3.9/20,mb1mx3.8/54,mbtmp3.8/20,ML3.9/1,MS3.2/6, Ms1 3.2/6,ms1mx2.8/88,Error ellipse: s-maj=21.3km s-min=13.9km az=54.0*
*BJI **13** 10:30:08.0±0.0,26°.20N×92°.20E,h58km,mb4.2/19, mB4.7/11,ML4.0/4,Ms4.0/2,Ms7 3.9/1*
*DMN **13** 10:30:08.4±0.3,27.07N×92.56E,h10km,Ml4.7/9,Error ellipse: s-maj=26.0km s-min=6.2km az=7.0*
*NDI **13** 10:30:09.6±3.7,26°.27N×92°.41E,h34km±11km,ML4.0, mb4.5(NEIC)*
*NEIC **13** 10:30:11.2±1.5,26°.25N±0°.06×92°.3E±0°.1,h54km±1km, mb4.5/47,Error ellipse: s-maj=13.3km s-min=7.9km az=100.0*
ISC 13 10:30:09.1±0.8,26°.29N±0°.03×92°.28E±0°.03,h42km±8km, n122,σ1§99/140,mb4.2/40,MS3.3/5,2D,Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUWA	**GUWAHATI**	**0.54**	**260**	*e*P		**Pn**	**10 30 22.7**	**+2.3**
GUWA				*e*S		**Sn**	**10 30 32.0**	**+3.5**
TEZP	**TEZPUR**	**0.57**	**54**	*e*P		**Pn**	**10 30 20.7**	**-0.1**
TEZP				*e*S		**Sn**	**10 30 27.9**	**-1.2**
SHL	**Shillong**	**0.80**	**207**	Pn		**Pn**	**10 30 26.2**	**+2.1**
SHL				Sn		**Sn**	**10 30 37.4**	**+2.4**
SHL	**Shillong**	**0.80**	**207**	*e*P		**Pn**	**10 30 26.3**	**+2.1**
SHL				*e*S		**Sn**	**10 30 37.7**	**+2.7**
SHL				IAML			10 30 38.1	
	comp=N,14μm,0.1s							
SHL				IAML			10 30 38.1	
	comp=E,11μm,0.3s							
KOHI	**KOHIMA**	**1.74**	**109**	*e*P		**Pn**	**10 30 37.6**	**+0.7**
KOHI				*e*S		**Sn**	**10 30 53.1**	**-4.8**
KOHI				IAML			10 30 59.0	
	comp=E,2μm,0.4s							
KOHI				IAML			10 30 59.1	
	comp=N,3μm,0.6s							
TURI	**Tura**	**1.90**	**248**	*e*P		**Pn**	**10 30 42.5**	**+3.4**
DHUB	**DHUBRI**	**2.07**	**263**	*e*P		**Pn**	**10 30 43.5**	**+2.1**
DHUB				*ex*		x	10 30 58.1	
AGT	**Agartala**	**2.57**	**202**	*ex*		x	10 31 21.9	
DIBR	**DIBRUGARH**	**2.62**	**63**	IAML			10 31 09.7	
	comp=E,669nm,0.4s							
LKP	**Lekhapani**	**3.35**	**71**	*e*P		**Pn**	**10 30 59.4**	**+0.5**
LKP				*e*S		**Sn**	**10 31 35.0**	**-2.4**
GTK	**Tadong**	**3.45**	**288**	*e*P		**Pn**	**10 31 02.7**	**+2.3**
GTK				IAML			10 31 03.1	
	comp=E,138nm,0.4s							
LSA	**Lhasa**	**3.54**	**344**	Pn		**Pn**	**10 31 04.8**	**+2.7**
LSA	**Lhasa**	**3.54**	**344**	P		**Pn**	**10 31 05.0**	**+3.0**
LSA				S		**Sn**	**10 31 44.9**	**+2.0**
LSA				smax		smax		
	comp=E,220nm,0.8s							
TAPN	**Taplejung**	**4.22**	**286**	*e*Pn		**Pn**	**10 31 13.1**	**+1.9**
TAPN				*e*Sn		**Sn**	**10 31 59.6**	**+0.2**
	comp=E,131nm,0.2s							
ODAN	**Odare**	**4.42**	**279**	*e*Pn		**Pn**	**10 31 16.2**	**+2.3**
ODAN				*e*Sn		**Sn**	**10 32 07.4**	**+3.2**
RAMN	**Ramite**	**5.13**	**279**	*e*Pn		**Pn**	**10 31 26.2**	**+2.6**
RAMN				*e*Sn		**Sn**	**10 32 23.4**	**+1.7**
	comp=E,190nm,0.4s							
JIRN	**Jiri**	**5.61**	**285**	*e*Pn		**Pn**	**10 31 31.7**	**+1.4**
JIRN				*e*Sn		**Sn**	**10 32 32.5**	**-1.1**
	comp=E,125nm,0.2s							
GUN	**Gumba**	**5.93**	**287**	*e*Pn		**Pn**	**10 31 36.0**	**+1.2**
GUN				*e*Sn		**Sn**	**10 32 40.0**	**-1.6**
	comp=E,158nm,0.3s							
PKI	**Pulchoki**	**6.27**	**283**	*e*Pn		**Pn**	**10 31 40.1**	**+0.8**
PKI				*e*Sn		**Sn**	**10 32 48.7**	**-1.2**
PKIN	**Phulchoki**	**6.28**	**283**	*e*Pn		**Pn**	**10 31 40.2**	**+0.7**
PKIN				*e*Sn		**Sn**	**10 32 49.2**	**-0.9**
BOK	**Bokaro**	**6.31**	**248**	*e*P		**Pn**	**10 31 41.2**	**+1.5**
BOK				*e*S		**Sn**	**10 32 48.8**	**-1.7**
BOK				IAML			10 32 51.8	
	comp=E,153nm,0.0s							
BOK				IAML			10 32 52.0	
	comp=N,142nm,0.1s							
KKN	**Kakani**	**6.42**	**285**	*e*Pn		**Pn**	**10 31 42.4**	**+1.0**
KKN				*e*Sn		**Sn**	**10 32 51.8**	**-1.7**
DMN	**Daman**	**6.54**	**283**	*e*Pn		**Pn**	**10 31 44.0**	**+1.0**
DMN				*e*Sn		**Sn**	**10 32 56.3**	**-0.2**
	comp=N,61nm,0.4s							
GKN	**Gorkha**	**7.02**	**286**	*e*Pn		**Pn**	**10 31 50.7**	**+1.1**
GKN				*e*Sn		**Sn**	**10 33 05.9**	**-2.3**
	comp=N,125nm,0.3s							
VLK	**Valmikinagar**	**7.59**	**280**	*e*P		**Pn**	**10 31 57.5**	**+0.3**
DANN	**Dangsing**	**7.86**	**287**	*e*Pn		**Pn**	**10 32 00.8**	**-0.3**
DANN				*e*Sn		**Sn**	**10 33 26.1**	**-2.8**
	comp=N,52nm,0.2s							
KOLN	**Koldanda**	**7.88**	**283**	*e*Pn		**Pn**	**10 32 01.9**	**+0.5**
KOLN				*e*Sn		**Sn**	**10 33 27.4**	**-2.1**
	comp=N,36nm,0.2s							
PYUN	**Piuthan**	**8.47**	**284**	*e*Pn		**Pn**	**10 32 09.6**	**+0.2**
PYUN				*e*Sn		**Sn**	**10 33 41.1**	**-2.8**
	comp=N,98nm,0.4s							
PZH	**PanZhiHua**	**8.48**	**86**	P		**Pn**	**10 32 11.0**	**+1.4**
PZH				pmax		pmax		
	comp=N,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=N,80nm,5.3s							
KMI	**Kunming**	**9.50**	**95**	⇓P		**Pn**	**10 32 26.1**	**+2.5**
KMI				pmax		pmax		
	comp=N,23nm,0.8s							
CMAR	**Chiang Mai Arr**	**9.93**	**140**	Pn		**Pn**	**10 32 28.3**	**-1.0**
	comp=N,0.3nm,0.3s,baz=319,slow=12,SNR=7.6							
CMAR				LR		LR	10 36 42.5	
	comp=N,45nm,20.6s,baz=325,slow=40							
GOMU	**GeErMu**	**10.11**	**12**	P		**Pn**	**10 32 32.4**	**+0.3**
RAGD	**RAYAGADA**	**10.74**	**231**	*e*P		**Pn**	**10 32 42.8**	**+2.4**
RAGD				*e*S		**Sn**	**10 34 33.4**	**-5.9**
RAGD				*e*S		**Sn**	**10 34 34.7**	**-4.6**
JBP	**Jabalpur**	**11.60**	**257**	*e*P		**Pn**	**10 32 53.2**	**+1.1**
JBP				⇓*e*S		**Sn**	**10 34 55.9**	**-4.5**
DGPR	**DIGLIPUR**	**13.06**	**177**	*e*P		**Pn**	**10 33 11.8**	**-0.2**
LZH	**Lanzhou**	**13.89**	**43**	*e*P		**Pn**	**10 33 21.0**	**-2.5**
LZH				pmax		pmax		
	comp=N,17nm,1.5s							
SMLA	**Simla**	**14.11**	**293**	*ex*		x	10 33 22.9	
SMLA				*e*S		**Sn**	**10 35 53.1**	**-8.5**
SMLA				IAML			10 35 57.6	
	comp=E,35nm,0.7s							
SMLA				IAML			10 35 58.2	
	comp=N,30nm,0.3s							
GTA	**Gaotai**	**14.53**	**24**	*e*P		**P**	**10 33 38.6**	**+0.7**
GTA				pP		Pn	10 33 47.3	+15
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
AKL	**Akola**	**15.06**	**252**	*e*P		**Pn**	**10 33 37.6**	**-1.6**
DHRM	**DHARAMSHALA**	**15.16**	**297**	*ex*		x	10 33 37.3	
HYBB	**Hyderabad (bro**	**15.49**	**238**	*e*P		**Pn**	**10 33 43.0**	**-1.8**
HYBB				*e*			10 36 26.6	
HYB	**Hyderabad**	**15.49**	**238**	*e*P		**Pn**	**10 33 43.0**	**-1.8**
HYB				*e*S		**Sn**	**10 36 36.0**	**+0.6**
ENH	**Enshi**	**15.66**	**71**	P		**P**	**10 33 50.3**	**-0.2**
ENH				IAmb		IAmb	10 33 50.8	
	comp=Z,50nm,0.7s							
AJM	**Ajmer**	**15.81**	**275**	*e*P		**Pn**	**10 33 45.7**	**-3.2**
UBPT	**Khong Chiam**	**16.48**	**129**			**P**	**10 34 00.2**	**+0.7**
WMQ	**Urumqi**	**17.89**	**349**	*e*P		**P**	**10 34 18.4**	**+3.4**
NIL	**Nilore**	**18.03**	**299**			**Pn**	**10 34 14.7**	**-1.9**
NIL				IAmb		IAmb	10 34 19.7	
	comp=Z,27nm,1.1s							
TARG	**Taragay, Kyrgy**	**19.48**	**326**	P		**Pn**	**10 34 34.6**	**+0.2**
KDJ	**Kajisay**	**20.09**	**326**	P		Pn	10 34 40.6	-0.8
BOOM	**Boomskoye usch**	**20.99**	**324**	P		**P**	**10 34 49.8**	**+0.7**
HHC	**Hu-ho-hao-te**	**21.59**	**43**	*e*P		**P**	**10 34 56.8**	**+1.4**
HHC				pmax		pmax		
	comp=Z,12nm,1.1s							
HHC				pmax		pmax		
	comp=Z,110nm,5.7s							
KBL	**Kabul**	**21.63**	**298**	P		**P**	**10 34 55.7**	**-0.3**
KBL				IAmb		IAmb	10 35 14.4	
	comp=Z,23nm,0.9s							
AAK	**Ala-Archa**	**21.86**	**323**	P		**P**	**10 34 57.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=136,slow=14,SNR=1.4							
PALK	**Pallekele**	**21.89**	**212**	P		**P**	**10 34 58.6**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=177,slow=8.1,SNR=3.2							
PALK				S		**S**	**10 38 50.0**	**-8.4**
	comp=Z,1.8nm,0.4s,baz=142,slow=4.1,SNR=1.9							
PALK				LR		LR	10 46 11.9	
	comp=Z,32nm,18.6s,baz=158,slow=44							
MK31	**Makanchi Array**	**21.95**	**341**	P		**P**	**10 34 58.2**	**-0.9**
MK31				IAmb		IAmb	10 35 19.9	
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**21.95**	**341**	P		**P**	**10 34 59.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=148,slow=12,SNR=14							
MKAR	**Makanchi Array**	**21.95**	**341**	P		**P**	**10 34 58.6**	**-0.5**
MAKZ	**Makanchi**	**22.05**	**341**	P		**P**	**10 35 02.5**	**+2.3**
GAR	**Garm**	**22.36**	**310**	P		**P**	**10 35 03.9**	**+0.2**
GAR				IAmb		IAmb	10 35 25.5	
	comp=Z,14nm,0.8s							
BTK	**Batken**	**22.54**	**313**	P		**P**	**10 35 06.6**	**+1.0**
BTK				IAmb		IAmb	10 35 11.9	
	comp=Z,13nm,0.7s							
CHGR	**Chuyangaron**	**23.01**	**308**	P		**P**	**10 35 10.3**	**-0.2**
CHGR				IAmb		IAmb	10 35 30.6	
	comp=Z,10nm,0.8s							
SONM	**Songino Array**	**24.20**	**24**	P		**P**	**10 35 21.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=204,slow=11,SNR=7.0							
SONM	**Songino Array**	**24.20**	**24**	P		**P**	**10 35 23.4**	**+1.6**
KKAR	**Karatay Array**	**24.42**	**319**	P		**P**	**10 35 24.7**	**+0.9**
GSI	**Gunungsitoli**	**25.36**	**168**	P		**P**	**10 35 31.9**	**-0.4**
GSI				IAmb		IAmb	10 35 33.1	
	comp=Z,20nm,1.4s							
SSLB	**Suanglung**	**26.07**	**89**	P		**P**	**10 35 41.4**	**+2.5**
SSLB				IAmb		IAmb	10 35 43.7	
	comp=Z,33nm,1.5s							
KURBB	**Kurchatov Arra**	**26.49**	**340**	P		**P**	**10 35 43.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=147,slow=10,SNR=3.1							
KURK	**Kurchatov**	**26.54**	**340**	P		**P**	**10 35 45.1**	**+2.3**
KSAR	**Wonju Array Be**	**32.04**	**61**	P		**P**	**10 36 34.4**	**+2.6**
KSRS	**Korea Array**	**32.07**	**61**	LR		LR	10 49 02.4	
	comp=Z,15nm,20.7s,baz=60,slow=36							
MNAI	**Manna**	**32.17**	**160**	P		**P**	**10 36 35.5**	**+2.4**
ABKAR	**Akbulak array**	**33.93**	**321**	P		**P**	**10 36 49.0**	**+0.9**
ABKAR	**Akbulak array**	**33.93**	**321**	P		**P**	**10 36 49.1**	**+1.0**
ABKAR				IAmb		IAmb	10 37 15.5	
	comp=Z,1.5nm,0.7s							
JNU	**Nakatsue**	**34.07**	**69**	P		**P**	**10 36 49.8**	**+0.2**
AKTO	**Aktyubinsk**	**35.60**	**322**	P		**P**	**10 37 02.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=157,slow=7.7,SNR=2.1							
USA0B	**Ussuriysk Arra**	**36.60**	**50**	P		**P**	**10 37 10.7**	**-0.5**
USA0B				IAmb		IAmb	10 37 33.2	
	comp=Z,7.4nm,1.2s							
KLR	**Kul'dur**	**38.10**	**42**	LR		LR	10 55 00.8	
	comp=Z,48nm,18.9s,baz=283,slow=39							
SOCY	**Socotra**	**38.62**	**256**	P		**P**	**10 37 28.7**	**0.0**
DGAR	**Diego Garcia**	**38.64**	**213**	P		**P**	**10 37 28.6**	**0.0**
MJAR	**Matsushiro Arr**	**40.18**	**64**	P		**P**	**10 37 40.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=278,slow=12,SNR=4.7							
NRIK	**Noril'sk**	**43.17**	**358**	P		**P**	**10 38 08.0**	**+2.7**
NRIK				IAmb		IAmb	10 38 19.3	
	comp=Z,3.4nm,0.6s							
BRTR	**Keskin Array B**	**50.16**	**301**	P		**P**	**10 39 01.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=121,slow=6.8,SNR=2.6							
BRTR	**Keskin Array B**	**50.16**	**301**	P		**P**	**10 39 02.0**	**+1.3**
AKASG	**Malin Array Be**	**53.23**	**315**	P		**P**	**10 39 22.7**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=84,slow=5.6,SNR=2.4							
AKBB	**Malin Array Si**	**53.23**	**315**	P		**P**	**10 39 23.2**	**0.0**
AKBB				IAmb		IAmb	10 39 40.8	
	comp=Z,2.3nm,0.8s							
PSA00	**Pilbara Seismi**	**54.56**	**148**	P		**P**	**10 39 34.1**	**+0.8**
PSA00				IAmb		IAmb	10 39 40.1	
	comp=Z,12nm,1.2s							
FITZ	**Fitzroy Crossi**	**54.74**	**140**	P		**P**	**10 39 33.9**	**-0.7**
FITZ				IAmb		IAmb	10 40 02.5	
	comp=Z,7.4nm,1.4s							
KNRA	**Kununurra**	**54.76**	**135**	P		**P**	**10 39 34.4**	**-0.4**
PETK	**Petropavlovsk-**	**54.79**	**42**	LR		LR	11 05 37.3	
	comp=Z,39nm,20.9s,baz=41,slow=39							
FINES	**FINESS Array B**	**55.92**	**328**	P		**P**	**10 39 42.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=160,slow=22,SNR=1.5							
FINES	**FINESS Array B**	**55.92**	**328**	P		**P**	**10 39 43.2**	**+0.7**
ARCES	**ARCESS Array B**	**57.53**	**337**	P		**P**	**10 39 54.3**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=92,slow=8.1,SNR=1.4							
AGG	**Agios Georgios**	**58.94**	**301**	P		**P**	**10 40 03.2**	**-1.1**
MORW	**Morawa**	**59.57**	**156**	P		**P**	**10 40 08.1**	**-0.5**
KMBO	**Kilima Mbogo**	**59.61**	**252**	P		**P**	**10 40 09.4**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=24,slow=10,SNR=5.0							
WB0	**Warramunga Arr**	**61.37**	**134**	P		**P**	**10 40 20.8**	**-0.3**
WB0				IAmb		IAmb	10 40 21.4	
	comp=Z,5.2nm,0.6s							
WRA	**Warramunga Arr**	**61.46**	**134**	P		**P**	**10 40 21.4**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=322,slow=7.3,SNR=66							
WRA	**Warramunga Arr**	**61.46**	**134**	P		**P**	**10 40 20.9**	**-0.8**
WRAB	**Tennant Creek**	**61.46**	**134**	P		**P**	**10 40 21.5**	**-0.1**
WRAB				IAmb		IAmb	10 40 22.2	
	comp=Z,5.9nm,0.7s							
WB2	**Warramunga Arr**	**61.47**	**134**	P		**P**	**10 40 21.6**	**-0.1**
WR0	**Warramunga Arr**	**61.60**	**134**	P		**P**	**10 40 22.4**	**-0.2**
WR0				IAmb		IAmb	10 40 40.5	
	comp=Z,3.9nm,0.8s							
HFS	**Hagfors**	**61.95**	**326**	P		**P**	**10 40 24.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=100,slow=8.1,SNR=1.9							
GERES	**GERESS Array B**	**63.38**	**314**	P		**P**	**10 40 34.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=69,slow=7.6,SNR=5.7							
GERES	**GERESS Array B**	**63.38**	**314**	P		**P**	**10 40 34.5**	**+0.2**
COEN	**Coen**	**63.63**	**123**	P		**P**	**10 40 34.5**	**-1.7**
COEN				IAmb		IAmb	10 40 44.4	
	comp=Z,8.0nm,1.1s							
AS31	**Alice Springs**	**63.93**	**137**	P		**P**	**10 40 38.4**	**+0.4**
ASAR	**Alice Springs**	**63.93**	**137**	P		**P**	**10 40 37.9**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=321,slow=6.6,SNR=40							
ASAR	**Alice Springs**	**63.93**	**137**	P		**P**	**10 40 38.4**	**+0.3**
FORT	**Forrest**	**66.26**	**147**	P		**P**	**10 40 54.3**	**+1.3**
SENIN	**Lac Senin/Sane**	**68.15**	**312**	P		**P**	**10 41 06.1**	**+0.8**
SENIN				IAmb		IAmb	10 41 08.5	
	comp=Z,3.6nm,1.0s							
EKA	**Eskdalemuir Ar**	**71.77**	**323**	P		**P**	**10 41 26.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=77,slow=5.8,SNR=5.4							
SCO	**Scoresbysund**	**73.08**	**341**	P		**P**	**10 41 34.0**	**-0.5**
TOLK	**Toolik Lake Re**	**75.24**	**20**	P		**P**	**10 41 47.8**	**+0.5**
TOLK				IAmb		IAmb	10 42 02.2	
	comp=Z,6.0nm,1.2s							
BMAR	**Burnt Mountain**	**77.47**	**19**	P		**P**	**10 42 00.6**	**+0.7**
ILAR	**Eielson Array**	**78.42**	**22**	P		**P**	**10 42 04.3**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=291,slow=5.7,SNR=3.3							
Q19K	**Cape Douglas,**	**79.24**	**29**	P		**P**	**10 42 10.5**	**+0.8**
KDAK	**Kodiak Island**	**80.35**	**29**	P		**P**	**10 42 16.9**	**+1.2**
BCAR	**Beaver Creek A**	**81.24**	**22**	P		**P**	**10 42 21.3**	**+0.8**
LBTB	**Lobatse**	**82.12**	**237**	P		**P**	**10 42 26.9**	**+1.2**
LBTB				IAmb		IAmb	10 42 30.3	
	comp=Z,3.8nm,1.1s							
SFJD	**Kangerlussuaq**	**82.90**	**346**	LR		LR	11 23 28.9	
	comp=Z,50nm,18.1s,baz=290,slow=39							
TORD	**Torodi Ar. Bea**	**84.80**	**282**	P		**P**	**10 42 40.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**84.80**	**282**	P		**P**	**10 42 37.6**	**-2.1**
TORD				IAmb		IAmb	10 42 57.3	
	comp=Z,4.3nm,0.8s							

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*IDC **13** 10:31:21.6±1.0,35°.70N×3°.63W,h0km,mb3.4/4,mb1 3.5/7, mb1mx3.3/54,mbtmp3.3/7,ML3.3/3,MS3.1/2,Ms1 3.1/2, ms1mx2.5/57,Error ellipse: s-maj=38.8km s-min=13.7km az=101.0*
*MDD **13** 10:31:23.4±0.3,35°.66N×3°.67W,h0km,mb_Lg3.0/13, Error ellipse: s-maj=3.0km s-min=2.1km az=8.0*
*SFS **13** 10:31:23.0,35°.67N×3°.67W,ML3.1,ALBORAN SUR*
*CNRM **13** 10:31:24.7,35°.60N×3°.65W,h31km,ml3.1*
*LDG **13** 10:31:24.7,35°.45N×3°.52W,h30km*
ISC 13 10:31:22.1±1.3,35°.65N±0°.02×3°.60W±0°.02,h11km±10km, n57,σ1§85/87,mb3.7/4,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.51**	**213**	P		**Pb**	**10 31 34.0**	**+0.8**
PALE				S		**Sb**	**10 31 41.4**	**+0.8**
EALB	**Alboran**	**0.54**	**58**	Pg		**Pn**	**10 31 35.1**	**-0.7**
EALB				Sg		**Sn**	**10 31 43.8**	**-1.0**
EMEL	**Melilla**	**0.63**	**124**	Pg		**Pn**	**10 31 36.2**	**-0.8**
EMEL				Sg		**Sn**	**10 31 45.3**	**-1.7**
GOG	**Mont Gurugu**	**0.65**	**131**	P		**Pb**	**10 31 36.3**	**+0.7**
GOG				S		**Sn**	**10 31 46.2**	**-1.5**
ELGU	**Los Guajares,**	**1.21**	**359**	Pg		**Pn**	**10 31 44.3**	**-0.8**
ELGU				Sg		**Sb**	**10 32 00.3**	**-0.6**
TAF	**Taforalt**	**1.28**	**130**	P		**Pg**	**10 31 46.7**	**0.0**
EMAL	**Malaga-Limoner**	**1.29**	**329**	P		**Pn**	**10 31 45.4**	**-0.7**
EMAL				S		**Sb**	**10 32 00.8**	**-2.3**
EMIJ	**Mijas**	**1.31**	**314**	Pg		**Pn**	**10 31 45.7**	**-0.8**
EMIJ				Sg		**Sb**	**10 32 02.0**	**-1.7**

EBER	**Berja**	**1.37**	**25**	Pn		**Pn**	**10 31 47.0**	**-0.3**
EBER				Sn		**Sb**	**10 32 04.9**	**-0.6**
SMIR	**Smir Dam**	**1.45**	**272**	P		**Pn**	**10 31 46.2**	**-2.1**
CEU	**Ceuta**	**1.46**	**280**	P		**Pn**	**10 31 46.4**	**-2.0**
CEU				S		**Sn**	**10 32 02.2**	**-5.3**
EGOR	**Sierra Gorda,**	**1.51**	**344**	Pn		**Pn**	**10 31 49.5**	**+0.3**
EGOR				Sn		**Sg**	**10 32 10.4**	**-0.4**
EGOR				*i* Vmb_Lg			10 32 20.5	
CHEFC	**Chefchaouen**	**1.52**	**250**	P		**Pb**	**10 31 50.5**	**+0.1**
EQUE	**Quentar**	**1.56**	**5**	Pn		**Pb**	**10 31 50.8**	**-0.2**
EQUE				Sn		**Sn**	**10 32 10.0**	**0.0**
JBK	**JBK**	**1.56**	**147**	P		**Pn**	**10 31 50.2**	**+0.1**
JBK				S		**Sn**	**10 32 08.3**	**-2.1**
EJIF	**Jimena Fronter**	**1.71**	**298**	Pn		**Pn**	**10 31 52.4**	**+0.5**
EJIF				Sn		**Sb**	**10 32 15.1**	**0.0**
ENIJ	**Nijar**	**1.73**	**40**	Pn		**Pn**	**10 31 51.8**	**-0.4**
ENIJ				Sn		**Sn**	**10 32 13.5**	**-0.9**
ENIJ				*i* Vmb_Lg			10 32 13.9	
EQES	**Quesada**	**2.19**	**11**	Pn		**Pb**	**10 32 01.1**	**-0.7**
EQES				Sn		**Sb**	**10 32 29.1**	**+0.1**
ESPR	**Espera**	**2.19**	**304**	Sn		**Sn**	**10 32 26.4**	**+0.8**
LCRM	**LCR**	**2.22**	**208**	P		**Pg**	**10 32 05.0**	**+0.4**
IFR	**Ifrane**	**2.47**	**211**	P		**Pn**	**10 32 03.0**	**+0.5**
IFR				S		**Sn**	**10 32 32.9**	**+0.1**
EADA	**Adamuz**	**2.63**	**343**	Pn		**Pn**	**10 32 05.8**	**+1.2**
EADA				Sn		**Sn**	**10 32 37.8**	**+1.3**
EADA				*i* Vmb_Lg			10 32 45.6	
EZAR	**Zarzadilla de**	**2.70**	**34**	Pn		**Pn**	**10 32 06.3**	**+0.8**
EZAR				Sn		**Sn**	**10 32 37.8**	**-0.4**
ECAB	**El Cabril**	**2.82**	**329**	Pn		**Pn**	**10 32 08.6**	**+1.4**
ECAB				Sn		**Sn**	**10 32 40.9**	**-0.4**
ECAB				*i* Vmb_Lg			10 32 51.6	
CART	**Cartagena**	**2.85**	**47**	P		**Pn**	**10 32 07.3**	**-0.2**
CART				S		**Sn**	**10 32 35.0**	**-6.7**
CZD	**Col de Zad**	**2.87**	**205**	P		**Pn**	**10 32 09.2**	**+1.1**
MD31	**MD31**	**2.94**	**199**	P		**Pb**	**10 32 12.1**	**-2.4**
MDT	**Midelt**	**2.95**	**197**	Pn		**Pn**	**10 32 10.1**	**+1.1**
	0.8nm,0.3s,baz=206,slow=7.0,SNR=26							
MDT				Pg		**Pg**	**10 32 17.7**	**-0.9**
	4.1nm,0.3s,baz=143,slow=16,SNR=18							
MDT				Lg		Lg	10 32 55.5	
	4.8nm,0.3s,baz=47,slow=22,SNR=5.0							
MDT	**Midelt**	**2.95**	**197**	P		**Pn**	**10 32 08.4**	**-0.6**
EMIN	**Mina Concepcio**	**3.25**	**311**	Pn		**Pn**	**10 32 13.2**	**+0.2**
EMIN				Sn		**Sn**	**10 32 50.5**	**-1.1**
EMIN				*i* Vmb_Lg			10 32 51.2	
ZHG	**ZHG**	**3.34**	**230**	P		**Pn**	**10 32 14.5**	**+0.2**
ZHG				S		**Sn**	**10 32 53.5**	**-0.5**
ETOB	**Tobarra**	**3.41**	**28**	Pn		**Pn**	**10 32 17.9**	**+2.7**
ETOB				Sn		**Sn**	**10 32 57.7**	**+2.0**
ETOB				*i* Vmb_Lg			10 32 59.0	
EGRO	**El Granado**	**3.65**	**302**	Pn		**Pn**	**10 32 18.6**	**+0.1**
EGRO				Sn		**Sn**	**10 33 00.6**	**-0.9**
EGRO				*i* Vmb_Lg			10 33 05.3	
PVAQ	**Vaqueiros**	**3.75**	**299**	P		**Pn**	**10 32 20.0**	**+0.1**
PAB	**San Pablo**	**3.93**	**352**	P		**Pn**	**10 32 24.2**	**+1.7**
PAB	**San Pablo**	**3.93**	**352**	Pn		**Pn**	**10 32 24.1**	**+1.7**
PAB				Sn		**Sn**	**10 33 10.6**	**+2.0**
ESDC	**Sonseca Array**	**4.03**	**356**	Pn		**Pn**	**10 32 25.6**	**+1.9**
	0.7nm,0.3s,baz=177,slow=12,SNR=15							
ESDC				Sn		**Sn**	**10 33 08.9**	**-2.0**
	0.7nm,0.3s,baz=168,slow=18,SNR=4.7		

NNVZ	**North Ngauruho**	**1.59**	**41**	P	Pn	10 45 53.4	+0.5
WTVZ	**West Tongariro**	**1.59**	**40**	P	Pn	10 45 52.9	0.0
BHHZ	**Black Hill Sta**	**1.61**	**59**	P	Pn	10 45 52.7	-0.4
ETVZ	**East Tongariro**	**1.63**	**43**	P	Pn	10 45 53.9	+0.4
NTVZ	**North Tongarir**	**1.64**	**42**	P	Pn	10 45 54.1	+0.6
TMVZ	**Te Maari**	**1.64**	**42**	P	Pn	10 45 53.6	0.0
KRHZ	**Kereru**	**1.75**	**67**	P	Pn	10 45 54.1	-0.8
THZ	**Tophouse**	**1.76**	**216**	P	Pn	10 45 55.7	+0.6
HIZ	**Hauiti**	**1.88**	**14**	P	Pn	10 45 56.6	0.0
HIZ	**Hauiti**	**1.88**	**14**	P	Pn	10 45 57.4	+0.7
KWHZ	**Kaweka Forest**	**1.89**	**62**	P	Pn	10 45 56.7	-0.1
KAHZ	**Kahuranaki**	**2.07**	**76**	P	Pn	10 45 57.8	-1.5
BKZ	**Black Stump Fm**	**2.07**	**56**	P	Pn	10 46 01.7	+2.4
BKZ	**Black Stump Fm**	**2.07**	**56**	P	Pn	10 46 01.8	+2.4
KHZ	**Kahutara**	**2.15**	**195**	P	Pn	10 45 59.9	-0.5
KHZ	**Kahutara**	**2.15**	**195**	P	Pn	10 45 59.9	-0.4
DSZ	**Denniston Nort**	**2.34**	**232**	P	Pn	10 46 02.5	-0.5
MTHZ	**Maungataniwha**	**2.48**	**54**	P	Pn	10 46 05.3	+0.4
GVZ	**Greta Valley S**	**2.79**	**199**	P	Pn	10 46 07.8	-1.3
LTZ	**Lake Taylor**	**2.87**	**211**	P	Pn	10 46 09.1	-1.1
INZ	**Inchbonnie**	**3.19**	**221**	P	Pn	10 46 14.7	0.0

*IDC **13** 10:45:27.7±3.8,36˚.32N×71˚.40E,h76^{km}±5.34^{km},mb3.3/5, mb1 3.4/11,mb1mx3.1/41,mbtmp3.6/11,Error ellipse: s-maj=32.3km s-min=22.8km az=1.0*
*NNC **13** 10:45:38.0±5.3,37˚.22N×69˚.86E,h0^{km},mb3.9,mpv3.6, Error ellipse: s-maj=57.0km s-min=35.6km az=117.0*
ISC 13 10:45:30.1±0.7,**36˚.51N**±0.07×**71˚.36E**±0.07,**h114**^{km},**n25,** σ2^{s}**.80/28,mb3.3/5,2C-3D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.43**	**137**	*eP*		**Pn**	**10 46 51.0**	**+2.3**
THN				*eS*		**Sn**	**10 47 47.5**	**-2.5**
AAK	**Ala-Archa**	**6.58**	**21**	P		**Pn**	**10 47 05.1**	**+0.7**
	1.1nm,0.3s,baz=198,slow=7.2,SNR=9.2							
AAK				S		**Sn**	**10 48 15.7**	**-2.3**
	1.1nm,0.3s,baz=309,slow=21,SNR=6.7							
KK02	**Karatay Array**	**6.62**	**355**	⇓Pn		**Pn**	**10 47 05.8**	**+1.0**
	2.3nm,0.3s							
KK02				⇑Sn		**Sn**	**10 48 16.5**	**-2.2**
	6.6nm,0.4s							
GEYT	**Alibeck**	**10.65**	**282**	P		**Pn**	**10 47 58.5**	**-0.9**
	2.8nm,0.3s,baz=106,slow=16,SNR=17							
GEYT				S		**Sn**	**10 49 52.6**	**-4.2**
	0.5nm,0.3s,baz=73,slow=5.1,SNR=1.4							
PYUN	**Piuthan**	**12.92**	**127**	*eP*		**Pn**	**10 48 26.7**	**-2.9**
	13nm,0.3s							
PYUN				*eS*		Sn	10 50 37.2	-15
MKAR	**Makanchi Array**	**13.12**	**35**	P		**Pn**	**10 48 31.6**	**-0.3**
	0.0nm,0.3s,baz=225,slow=12,SNR=2.1							
DANN	**Dangsing**	**13.25**	**124**	*eP*		**Pn**	**10 48 31.4**	**-2.7**
	13nm,0.3s							
KOLN	**Koldanda**	**13.54**	**127**	*eP*		**Pn**	**10 48 35.7**	**-2.0**
	7.9nm,0.3s							
DMN	**Daman**	**14.64**	**123**	*eP*		**Pn**	**10 48 49.1**	**-2.7**
	8.6nm,0.3s							
KKN	**Kakani**	**14.64**	**122**	*eP*		Pn	10 48 48.4	-3.4
	5.1nm,0.2s							
PKIN	**Phulchoki**	**14.85**	**123**	*eP*		**Pn**	**10 48 52.1**	**-2.5**
	8.4nm,0.3s							
PKI	**Pulchoki**	**14.87**	**123**	*eP*		Pn	10 48 51.6	-3.2
	5.9nm,0.3s							
KURBB	**Kurchatov Arra**	**15.02**	**18**	P		**Pn**	**10 48 55.9**	**-0.4**
	baz=205,slow=10,SNR=1.6							
AB31	**Akbulak array**	**15.22**	**330**	⇓Pn		**Pn**	**10 48 58.5**	**-0.2**
	0.4nm,0.3s,baz=141,slow=13,SNR=48							
AB31				⇓Sn		Sn	10 51 33.3	-14
	1.7nm,0.8s,baz=149,slow=24,SNR=3.7							
JIRN	**Jiri**	**15.34**	**121**	*eP*		**Pn**	**10 48 57.9**	**-2.9**
	15nm,0.3s							
RAMN	**Ramite**	**16.07**	**122**	*eP*		**Pn**	**10 49 06.3**	**-3.5**
	16nm,0.4s							
AKTO	**Aktyubinsk**	**16.92**	**330**	P		**Pn**	**10 49 21.6**	**+1.9**
	0.3nm,0.3s,baz=143,slow=10,SNR=6.7							
AKTO				S		**Sn**	**10 52 21.6**	**-6.1**
	0.1nm,0.3s,baz=60,slow=19,SNR=2.7							
AKTO	**Aktyubinsk**	**16.92**	**330**	⇑Pn		**Pn**	**10 49 22.2**	**+2.5**
	3.7nm,1.1s							
ZALV	**Zalesovo Beam**	**19.79**	**24**	P		**P**	**10 49 53.3**	**+2.2**
	0.2nm,0.3s,baz=230,slow=9.3,SNR=3.9							
FINES	**FINESS Array B**	**37.64**	**326**	P		**P**	**10 52 36.0**	**+2.5**
	1.4nm,0.9s,baz=120,slow=14,SNR=4.6							
NB2	**NORSAR Subarra**	**44.55**	**323**	P		**P**	**10 53 34.9**	**+4.7**
	comp=Z,0.1nm,0.4s,baz=101,slow=7.9							
NOA	**NORSAR Array B**	**44.55**	**323**	P		**P**	**10 53 33.6**	**+3.4**
	comp=Z,0.6nm,0.9s,baz=98,slow=7.2,SNR=4.0							
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P		**P**	**10 56 06.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=98,slow=6.1,SNR=5.4							
WRA	**Warramunga Arr**	**81.75**	**122**	P		**P**	**10 57 38.4**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=326,slow=4.9,SNR=2.0							
ASAR	**Alice Springs**	**84.02**	**125**	P		**P**	**10 57 48.7**	**+0.7**
	comp=Z,0.4nm,1.1s,baz=316,slow=5.2,SNR=1.8							

*MDD **13** 10:45:55.4±0.3,35˚.65N×3˚.65W,h0^{km},mb_Lg2.7/17, Error ellipse: s-maj=3.0km s-min=2.2km az=7.0*
*CNRM **13** 10:45:55.5,35˚.67N×3˚.55W,h19^{km},ml2.8*
*SFS **13** 10:45:55.0,35˚.60N×3˚.60W,ML2.6,ALBORAN SUR*
ISC 13 10:45:54.1±1.2,**35˚.66N**±0˚.02×**3˚.65W**±0˚.02,**h8**^{km}±10^{km}, **n46,** σ1^{s}**20/75,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**208**	P		**Pb**	**10 46 06.0**	**+0.8**
PALE	**Palemas**	**0.50**	**208**	P		**Pb**	**10 46 06.1**	**+0.8**
PALE	**Palemas**	**0.50**	**208**	P		**Pn**	**10 46 06.8**	**-0.8**
PALE				S		**Sb**	**10 46 13.7**	**+1.0**
EALB	**Alboran**	**0.57**	**61**	Pg		**Pb**	**10 46 06.9**	**+0.5**
EALB				Sg		**Sb**	**10 46 14.5**	**-0.2**
EALB				*i* Vmb_Lg			10 46 16.8	
EMEL	**Melilla**	**0.67**	**122**	Pg		**Pb**	**10 46 07.9**	**-0.2**
EMEL				Sg		**Sb**	**10 46 16.8**	**-0.7**
GOG	**Mont Gurugu**	**0.69**	**129**	P		**Pb**	**10 46 09.0**	**+0.5**
GOG	**Mont Gurugu**	**0.69**	**129**	P		**Pb**	**10 46 08.1**	**-0.4**
GOG	**Mont Gurugu**	**0.69**	**129**	P		**Pb**	**10 46 08.1**	**-0.4**
GOG				S		**Sg**	**10 46 16.8**	**+0.3**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg		**Pg**	**10 46 16.4**	**-0.8**
ELGU				Sg		**Sg**	**10 46 32.1**	**-0.8**
ELGU				*i* Vmb_Lg			10 46 36.0	
EMAL	**Malaga-Limoner**	**1.27**	**330**	P		**Pn**	**10 46 17.5**	**-0.6**
EMAL				S		**Sb**	**10 46 32.5**	**-2.2**
EMIJ	**Mijas**	**1.28**	**315**	Pg		**Pn**	**10 46 17.6**	**-0.7**
EMIJ				Sg		**Sb**	**10 46 33.8**	**-1.3**
EMIJ				*i* Vmb_Lg			10 46 35.7	
TAF	**Taforalt**	**1.32**	**129**	P		**Pn**	**10 46 18.0**	**-0.8**
TAF	**Taforalt**	**1.32**	**129**	P		**Pn**	**10 46 18.1**	**-0.8**
EBER	**Berja**	**1.38**	**26**	Pn		**Pn**	**10 46 18.7**	**-1.2**
EBER				Sn		**Sb**	**10 46 37.5**	**-0.6**
EBER				*i* Vmb_Lg			10 46 40.0	
SMIR	**Smir Dam**	**1.41**	**271**	P		**Pn**	**10 46 19.2**	**-0.8**
CEU	**Ceuta**	**1.42**	**280**	P		**Pn**	**10 46 18.9**	**-1.3**
CEU				S		**Sb**	**10 46 35.5**	**-3.6**
CHEFC	**Chefchaouen**	**1.49**	**249**	P		**Pg**	**10 46 23.4**	**+0.8**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn		**Pn**	**10 46 21.1**	**-0.2**
EGOR				Sn		**Sb**	**10 46 41.9**	**+0.6**
EGOR				*i* Vmb_Lg			10 46 47.8	
EQUE	**Quentar**	**1.55**	**6**	Pn		**Pb**	**10 46 23.0**	**-0.1**
EQUE				Sn		**Sb**	**10 46 43.1**	**+0.2**
EQUE				*i* Vmb_Lg			10 46 46.4	
JBK	**JBK**	**1.59**	**146**	P		**Pn**	**10 46 22.0**	**-0.8**
JBK	**JBK**	**1.59**	**146**	P		**Pn**	**10 46 22.5**	**-0.3**
JBK				S		**Sn**	**10 46 40.9**	**-2.8**
EJIF	**Jimena Fronter**	**1.67**	**299**	Pn		**Pb**	**10 46 24.6**	**-0.5**
EJIF				Sn		**Sn**	**10 46 45.2**	**0.0**
ENIJ	**Nijar**	**1.75**	**41**	Pn		**Pn**	**10 46 25.0**	**+0.2**
ENIJ				Sn		**Sb**	**10 46 48.3**	**-0.3**
ENIJ				*i* Vmb_Lg			10 46 49.7	
LIJA	**Lijar**	**1.88**	**312**	P		**Pg**	**10 46 30.8**	**+0.6**
ESPR	**Espera**	**2.15**	**305**	Pn		**Pb**	**10 46 32.7**	**-0.6**
ESPR				Sn		**Sn**	**10 46 57.8**	**+0.7**
ESPR				*i* Vmb_Lg			10 47 05.1	
EQES	**Quesada**	**2.19**	**12**	Pn		**Pb**	**10 46 33.5**	**-0.5**
EQES				Sn		**Sb**	**10 47 00.4**	**-0.8**
EQES				*i* Vmb_Lg			10 47 03.1	
IFR	**Ifrane**	**2.46**	**210**	P		**Pb**	**10 46 37.6**	**-1.1**
IFR				S		**Sn**	**10 47 04.6**	**-0.4**
EADA	**Adamuz**	**2.61**	**344**	Pn		**Pn**	**10 46 37.8**	**+1.2**
EADA				Sn		**Sn**	**10 47 10.4**	**+1.9**
EADA				*i* Vmb_Lg			10 47 17.1	

EZAR	**Zarzadilla de**	**2.71**	**35**	Pn		**Pn**	**10 46 37.4**	**-0.7**
EZAR				Sn		**Sn**	**10 47 10.6**	**-0.5**
ECAB	**El Cabril**	**2.79**	**330**	Pn		**Pn**	**10 46 40.5**	**+1.3**
ECAB				Sn		**Sn**	**10 47 14.1**	**+1.0**
ECAB				*i* Vmb_Lg			10 47 27.0	
MD31	**MD31**	**2.93**	**199**	P		**Pn**	**10 46 43.5**	**+2.4**
TDRA	**Tendrara**	**2.94**	**152**	P		**Pn**	**10 46 42.3**	**+1.1**
MDT	**Midelt**	**2.95**	**196**	P		**Pb**	**10 46 45.4**	**-1.5**
EMIN	**Mina Concepcio**	**3.21**	**312**	Pn		**Pn**	**10 46 45.3**	**+0.5**
EMIN				Sn		**Sn**	**10 47 23.0**	**-0.2**
EMIN				*i* Vmb_Lg			10 47 31.4	
ZHG	**ZHG**	**3.31**	**229**	P		**Pn**	**10 46 49.2**	**+2.9**
ETOB	**Tobarra**	**3.42**	**29**	Pn		**Pn**	**10 46 49.5**	**+1.8**
ETOB				Sn		**Sn**	**10 47 30.1**	**+1.6**
ETOB				*i* Vmb_Lg			10 47 39.1	
EGRO	**El Granado**	**3.60**	**302**	Pn		**Pn**	**10 46 51.3**	**+1.0**
EGRO				Sn		**Sn**	**10 47 32.1**	**-0.9**
EGRO				*i* Vmb_Lg			10 47 37.3	
PVAQ	**Vaqueiros**	**3.71**	**299**	P		**Pn**	**10 46 52.7**	**+1.1**
PVAQ	**Vaqueiros**	**3.71**	**299**	P		**Pn**	**10 46 52.7**	**+1.1**
PAB	**San Pablo**	**3.92**	**352**	Pn		**Pn**	**10 46 55.9**	**+1.3**
PAB				Sn		**Sn**	**10 47 41.9**	**+1.1**
ESDC	**Sonseca Array**	**4.01**	**357**	Pn		**Pn**	**10 46 57.7**	**+1.8**
ESDC				Sn		**Sn**	**10 47 44.3**	**+1.2**
EBAD	**Badajoz**	**4.09**	**320**	Pn		**Pn**	**10 46 58.2**	**+1.3**
EBAD				Sn		**Sn**	**10 47 44.8**	**-0.1**
EBAD				*i* Vmb_Lg			10 47 46.9	
EVO	**Evora**	**4.51**	**311**	P		**Pn**	**10 47 04.0**	**+1.3**
EVO				S		**Sn**	**10 47 53.5**	**-1.8**
EPLA	**Plasencia**	**4.80**	**337**	Pn		**Pn**	**10 47 07.4**	**+0.7**
EPLA				Sn		**Sn**	**10 48 02.5**	**0.0**
ETOR	**Torete**	**5.30**	**13**	Pn		**Pn**	**10 47 15.3**	**+1.6**
ETOR				Sn		**Sn**	**10 48 14.5**	**-0.4**
OUZM	**OUZ**	**5.41**	**210**	P		**Pn**	**10 47 17.4**	**+2.2**

*JMA **13** 11:15:22.1±0.3,36˚.18N×142˚.31E,h41^{km},M2.8*
*IDC **13** 11:15:22.4±2.7,36˚.82N×142˚.13E,h0^{km},mb3.6/4, mb1 3.6/5,mb1mx3.4/43,mbtmp3.5/5,ML2.3/1,Error ellipse: s-maj=66.2km s-min=32.6km az=64.0*
ISC 13 11:15:22.1±2.9,**36˚.3N**±0˚.1×**142˚.2E**±0˚.2,**h19**^{km},**n18,** σ1^{s}**33/12,mb3.5/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.26**	**243**	*eS*		**Sb**	**11 15 59.6**	**-1.4**
JHO	**Hitachi**	**1.39**	**284**	P		**Pb**	**11 15 47.0**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.43**	**306**	P		**Pb**	**11 15 47.7**	**-0.4**
JFK	**Kawauchi**	**1.55**	**315**	P		**Pb**	**11 15 49.3**	**-0.9**
JFT	**Otama**	**1.97**	**310**	P		**Pb**	**11 15 55.8**	**-1.5**
JMK	**Ichinoseki**	**2.79**	**343**	P		**Pn**	**11 16 06.1**	**+0.3**
JMK				*eS*		**Sn**	**11 16 39.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.27**	**276**	Pn		**Pn**	**11 16 13.7**	**+1.4**
	0.4nm,0.3s,baz=88,slow=13,SNR=15							
JSD	**Sado**	**3.63**	**300**	P		**Pn**	**11 16 18.8**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**27.19**	**121**	T		T	11 49 14.4	
	baz=313,slow=75,SNR=8.7							
H11N1	**WAKE ISLAND Hy**	**27.20**	**121**	T		T	11 49 10.3	
	baz=313,slow=75,SNR=9.5							
H11N3	**WAKE ISLAND Hy**	**27.20**	**121**	T		T	11 49 11.5	
	baz=313,slow=75,SNR=6.7							
H11S1	**WAKE ISLAND Hy**	**27.89**	**123**	T		T	11 50 01.0	
	baz=321,slow=74							
H11S3	**WAKE ISLAND Hy**	**27.89**	**123**	T		T	11 50 04.7	
	baz=321,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.90**	**123**	T		T	11 50 07.4	
	baz=321							
SONM	**Songino Array**	**28.76**	**305**	P		**P**	**11 21 19.9**	**+1.3**
	0.6nm,0.7s,baz=106,slow=9.1,SNR=5.1							
ZALV	**Zasovo Beam**	**42.92**	**313**	P		**P**	**11 23 17.4**	**-2.0**
	0.4nm,0.4s,baz=75,slow=7.6,SNR=1.9							
MKAR	**Makanchi Array**	**45.09**	**303**	P		**P**	**11 23 37.0**	**+0.1**
	0.6nm,0.7s,baz=88,slow=9.4,SNR=8.9							
WRA	**Warramunga Arr**	**56.41**	**189**	P		P	11 25 09.3	+7.0
	0.6nm,1.1s,baz=2.4,slow=7.5,SNR=1.5							

*JMA **13** 11:17:17.1±0.1,24˚.15N×121˚.60E,h57^{km}±1^{km},M2.8*
*TAP **13** 11:17:18.6,24˚.24N×121˚.64E,h54^{km},ML3.7,B*
ISC 13 11:17:19.2±1.2,**24˚.23N**±0˚.02×**121˚.70E**±0˚.02,**h48**^{km}±4^{km}, **n123,** σ0^{s}**85/209,23C-9D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.10**	**222**	⇑*iP*		**Pn**	**11 17 26.6**	**-0.2**
	baz=201							
ETL				S		**Sn**	**11 17 32.5**	**+0.2**
	baz=201							
NACB	**Ninganchiao**	**0.11**	**238**	⇑*iP*		**Pn**	**11 17 26.6**	**-0.3**
	baz=201							
NACB				*i* S		**Sn**	**11 17 32.0**	**-0.2**
	baz=201							
TWD	**Chiawan**	**0.18**	**211**	⇑*iP*		**Pn**	**11 17 26.9**	**-0.3**
	baz=198							
TWD				*i* S		**Sn**	**11 17 32.8**	**-0.1**
	baz=198							
ENA	**Nanau**	**0.20**	**12**	⇑*iP*		**Pn**	**11 17 27.4**	**+0.1**
	baz=28							
ENA				S		**Sn**	**11 17 34.5**	**+1.4**
	baz=28							
ETLH	**Xiulin Townshi**	**0.20**	**262**	⇑*iP*		**Pn**	**11 17 27.3**	**-0.2**
	baz=258							
ETLH				*i* S		**Sn**	**11 17 33.1**	**-0.1**
	baz=258							
EWUT	**Wuta**	**0.22**	**19**	⇑*iP*		**Pn**	**11 17 27.7**	**+0.2**
	baz=26							
EWUT				S		**Sn**	**11 17 34.5**	**+1.1**
	baz=26							
HWA	**Hwalien**	**0.27**	**198**	⇓*iP*		**Pn**	**11 17 27.9**	**0.0**
	baz=193							
HWA				S		**Sn**	**11 17 34.7**	**+0.7**
	baz=193							
ETM	**Tongmen**	**0.33**	**215**	⇓*iP*		**Pn**	**11 17 27.6**	**-0.8**
	baz=199							
ETM				S		**Sn**	**11 17 34.3**	**-0.7**
	baz=199							
LATG	**Datong**	**0.34**	**333**	⇑*iP*		**Pn**	**11 17 28.5**	**-0.2**
	baz=341							
LATG				S		**Sn**	**11 17 35.6**	**+0.1**
	baz=341							
NNSB	**Datong**	**0.35**	**304**	⇑*iP*		**Pn**	**11 17 28.6**	**-0.2**
	baz=309							
NNSB				S		**Sn**	**11 17 35.4**	**-0.1**
	baz=309							
NNS	**Nan Shan**	**0.36**	**305**	⇑*iP*		**Pn**	**11 17 28.7**	**-0.2**
	baz=310							
NNS				*i* S		**Sn**	**11 17 35.9**	**+0.1**
	baz=310							
TEYL	**Yanliau Villag**	**0.37**	**194**	P		**Pn**	**11 17 28.8**	**-0.1**
	baz=193							
TEYL				S		**Sn**	**11 17 37.6**	**+1.8**
	baz=193							
NDS	**Dongshan**	**0.40**	**3**	⇑*iP*		**Pn**	**11 17 29.1**	**-0.1**
	baz=3.0							
NDS				*i* S		**Sn**	**11 17 36.3**	**0.0**
	baz=3.0							
TWC	**Suao**	**0.40**	**20**	P		**Pn**	**11 17 29.4**	**+0.2**
	baz=25							
TWC				*eS*		**Sn**	**11 17 37.0**	**+0.8**
	baz=25							
NDT	**Datong Townshi**	**0.40**	**336**	⇑*iP*		**Pn**	**11 17 29.3**	**0.0**
	baz=336							
NDT				*i* S		**Sn**	**11 17 36.8**	**+0.3**
	baz=336							
WHF	**Hehuan Shan**	**0.40**	**258**	P		**Pn**	**11 17 29.4**	**-0.2**
	baz=254							
WHF				S		**Sn**	**11 17 37.0**	**-0.2**
	baz=254							
FUSS	**Fushou**	**0.41**	**272**	⇑*iP*		**Pn**	**11 17 29.6**	**+0.1**
	baz=272							
FUSS				S		**Sn**	**11 17 37.1**	**+0.1**
	baz=272							
ENTT	**Nioudou**	**0.42**	**344**	⇑*iP*		**Pn**	**11 17 29.4**	**-0.1**
	baz=355							
ENTT				*i* S		**Sn**	**11 17 37.1**	**+0.3**
	baz=355							
TWT	**Tachien**	**0.48**	**273**	⇑*iP*		**Pn**	**11 17 30.4**	**+0.1**
	baz=268							
TWT				S		**Sn**	**11 17 38.5**	**+0.4**
	baz=268							
ESL	**Shilin**	**0.48**	**210**	⇓*iP*		**Pn**	**11 17 28.8**	**-1.3**
	baz=200							
ESL				*eS*		**Sn**	**11 17 36.5**	**-1.4**
	baz=200							
TWE	**Neicheng**	**0.49**	**357**	⇑*iP*		**Pn**	**11 17 30.1**	**-0.1**
	baz=5.0							
TWE				S		**Sn**	**11 17 38.0**	**-0.1**
	baz=5.0							
CHGB	**Renai**	**0.51**	**250**	⇑*iP*		**Pn**	**11 17 30.5**	**-0.1**
	baz=244							
CHGB				*i* S		**Sn**	**11 17 38.5**	**-0.4**
	baz=244							
YHNB	**Yeheng**	**0.52**	**326**	⇑*iP*		**Pn**	**11 17 30.6**	**-0.1**
	baz=336							
YHNB				S		**Sn**	**11 17 38.4**	**-0.5**
	baz=336							
FUSB	**Fushanzhiwuyua**	**0.53**	**349**	⇑*iP*		**Pn**	**11 17 30.7**	**-0.1**
	baz=355							
FUSB				S		**Sn**	**11 17 38.6**	**-0.5**
	baz=355							
NSK	**Sanguang**	**0.54**	**325**	⇑*iP*		**Pn**	**11 17 30.7**	**-0.2**
	baz=336							
NSK				*i* S		**Sn**	**11 17 39.0**	**-0.2**
	baz=336							
TEGC	**Jichi Village**	**0.54**	**195**	P		**Pn**	**11 17 30.5**	**-0.4**
	baz=198							
OWD	**Renai**	**0.55**	**240**	⇑P		**Pn**	**11 17 30.9**	**-0.2**
	baz=233							
OWD				S		**Sn**	**11 17 39.1**	**-0.6**
	baz=233							
NWLT	**Wulai**	**0.57**	**342**	P		**Pn**	**11 17 31.3**	**0.0**
	baz=342							
NWLT				S		**Sn**	**11 17 39.8**	**-0.1**
	baz=342							
WUSB	**Renai**	**0.58**	**246**	⇓*iP*		**Pn**	**11 17 31.4**	**-0.1**
	baz=238							
WUSB				*eS*		**Sn**	**11 17 40.0**	**-0.3**
	baz=238							
EGFH	**Guangfu**	**0.61**	**204**	*eP*		**Pn**	**11 17 30.4**	**-1.4**
	baz=199							
NTC	**Toucheng**	**0.63**	**11**	*eP*		**Pn**	**11 17 32.0**	**0.0**
	baz=8.0							
NTC				*eS*		**Sn**	**11 17 41.8**	**+0.7**
	baz=8.0							
EGS		**0.65**	**19**	*eP*		**Pn**	**11 17 33.4**	**+1.2**
	baz=19							
NFF	**Wufeng Townshi**	**0.66**	**307**	*eP*		**Pn**	**11 17 32.5**	**+0.1**
	baz=309							
NFF				*eS*		**Sn**	**11 17 41.9**	**-0.1**
	baz=309							
WHP	**Taichung City**	**0.69**	**274**	P		**Pn**	**11 17 33.1**	**+0.4**
	baz=274							
WHP				S		**Sn**	**11 17 42.9**	**+0.3**
	baz=274							
VWDT	**VWDT**	**0.70**	**227**	⇓P		**Pn**	**11 17 32.6**	**-0.2**
	baz=217							
VWDT				S		**Sn**	**11 17 42.4**	**-0.3**
	baz=217							
DPDB	**Guoxing**	**0.73**	**254**	*eP*		**Pn**	**11 17 33.6**	**+0.3**
	baz=253							
WCS	**Beigang Elemen**	**0.74**	**256**	*eP*		**Pn**	**11 17 31.4**	**-2.0**
	baz=253							
NHDH	**Xindian Distri**	**0.74**	**348**	P		**Pn**	**11 17 33.1**	**-0.3**
	baz=352							
NHDH				S		**Sn**	**11 17 43.6**	**-0.2**
	baz=352							
LIOB	**Emei**	**0.74**	**304**	*eP*		**Pn**	**11 17 33.9**	**+0.4**
	baz=306							
TIPB	**Shuangxi**	**0.74**	**9**	P		**Pn**	**11 17 33.7**	**+0.2**
	baz=6.0							
TIPB				*eS*		**Sn**	**11 17 44.1**	**+0.2**
	baz=6.0							
NSTT	**Nanjuang**	**0.75**	**302**	P		**Pn**	**11 17 33.7**	**+0.2**
	baz=304							
NSTT				S		**Sn**	**11 17 44.1**	**+0.2**
	baz=304							
TWA	**Mucha**	**0.75**	**352**	*eP*		**Pn**	**11 17 33.5**	**-0.1**
	baz=346							
TWA				*eS*		**Sn**	**11 17 43.9**	**-0.1**
	baz=346							
TATO	**Taipei**	**0.76**	**346**	*eP*		**Pn**	**11 17 33.2**	**-0.5**
	baz=349							
TATO				S		**Sn**	**11 17 43.9**	**-0.4**
	baz=349							
HGSD	**Ruisui**	**0.78**	**199**	*eP*		**Pn**	**11 17 33.0**	**-0.9**
	baz=203							
EHY	**Hungye**	**0.80**	**205**	⇓P		**Pn**	**11 17 32.1**	**-2.1**
	baz=193							
EHY				*eS*		**Sn**	**11 17 42.9**	**-2.3**
	baz=193							
SMLT	**Sun Moon Lake**	**0.81**	**245**	P		**Pn**	**11 17 34.3**	**-0.1**
	baz=236							
SMLT				*eS*		**Sn**	**11 17 46.4**	**+0.9**
	baz=236							
SSLB	**Suanglung**	**0.81**	**237**	*eP*		**Pn**	**11 17 33.8

ANP	**Anpu**	**0.96**	**350**	*e*P	**Pn**	**11 17 35.3 -1.2**
	baz=355					
WDJ	**Dajia District**	**0.97**	**277**	*e*P	**Pn**	**11 17 35.8 -0.7**
	baz=277					
WJS	**Zhushan**	**0.97**	**245**	*e*P	**Pn**	**11 17 37.3 +0.7**
	baz=243					
WJS				*e*S	**Sn**	**11 17 50.7 +1.4**
	baz=243					
WNT1	**Nantou City**	**0.98**	**251**	*e*S	**Sn**	**11 17 51.7 +2.2**
	baz=249					
WNT	**Mingjian**	**0.99**	**249**	*e*P	**Pn**	**11 17 37.7 +0.9**
	baz=247					
YUS	**Yu-Shan**	**1.01**	**223**	*e*P	**Pn**	**11 17 37.2 -0.2**
	baz=211					
YUS				*e*S	**Sn**	**11 17 50.4 -0.4**
	baz=211					
WCHH	**Zhanghua**	**1.05**	**262**	*e*P	**Pn**	**11 17 37.9 +0.4**
	baz=261					
WCHH				*e*S	**Sn**	**11 17 51.5 +0.4**
	baz=261					
ALS	**Alishan**	**1.09**	**229** ⇑	*i*P	**Pn**	**11 17 38.6 +0.3**
	baz=218					
ALS				S	**Sn**	**11 17 53.8 +1.3**
	baz=218					
FULB	**Fuli**	**1.09**	**200**	*e*P	**Pn**	**11 17 36.9 -1.3**
	baz=202					
CHN5	**Tsauling**	**1.13**	**236** ⇓	*i*P	**Pn**	**11 17 39.0 +0.4**
	baz=234					
CHN5				S	**Sn**	**11 17 54.2 +1.1**
	baz=234					
JYNG	**Yonagunijimaku**	**1.16**	**79**	P	**Pn**	**11 17 39.2 +0.2**
JYNG				S	**Sn**	**11 17 54.0 +0.2**
CHKT	**Chengkung**	**1.17**	**195**	P	**Pn**	**11 17 37.8 -1.4**
	baz=192					
CHKT				*e*S	**Sn**	**11 17 53.6 -0.3**
	baz=192					
WDLH	**Douliu**	**1.19**	**243**	P	**Pn**	**11 17 40.2 +0.8**
	baz=241					
WDLH				*e*S	**Sn**	**11 17 56.0 +1.6**
	baz=241					
ELDTW	**Lidau**	**1.21**	**211**	⇓P	**Pn**	**11 17 38.2 -1.7**
	baz=201					
YOJ	**Yonaguni jima**	**1.22**	**79**	P	**Pn**	**11 17 39.9 +0.1**
YOJ				*e*S	**Sn**	**11 17 55.7 +0.5**
YOJ	**Yonaguni jima**	**1.22**	**79**	*e*P	**Pn**	**11 17 39.9 +0.1**
	baz=79					
YOJ				*e*S	**Sn**	**11 17 56.0 +0.8**
	baz=79					
WRL	**Guolierlin Hig**	**1.25**	**255**	*e*P	**Pn**	**11 17 40.4 +0.1**
	baz=254					
WRL				*e*S	**Sn**	**11 17 57.5 +1.5**
	baz=254					
EDH	**Donghe**	**1.30**	**196**	*e*P	**Pn**	**11 17 39.4 -1.7**
	baz=193					
EDH				*e*S	**Sn**	**11 17 56.9 -0.4**
	baz=193					
WTK	**Tuku**	**1.31**	**246**	*e*P	**Pn**	**11 17 41.2 0.0**
	baz=257					
WTK				*e*S	**Sn**	**11 17 58.3 +0.7**
	baz=257					
WTCT	**Ta-ch'eng**	**1.34**	**254**	*e*P	**Pn**	**11 17 41.9 +0.3**
	baz=253					
WTCT				*e*S	**Sn**	**11 17 58.4 +0.1**
	baz=253					
TPUB	**Ta-pu**	**1.35**	**227**	P	**Pn**	**11 17 42.0 +0.4**
	baz=216					
TPUB				S	**Sn**	**11 17 59.4 +0.9**
	baz=216					
STYH	**Taoyuan**	**1.35**	**219**	*e*P	**Pn**	**11 17 41.8 +0.1**
	baz=211					
STYT	**Tauyuan**	**1.37**	**219**	*i*P	**Pn**	**11 17 42.6 +0.6**
	baz=208					
CHY	**Chiayi**	**1.38**	**238**	*e*P	**Pn**	**11 17 42.5 +0.6**
	baz=248					
CHY				*e*S	**Sn**	**11 18 00.8 +1.8**
	baz=248					
WTP	**Ta-pu**	**1.40**	**225**	*e*P	**Pn**	**11 17 42.9 +0.5**
	baz=223					
WTP				*e*S	**Sn**	**11 18 01.4 +1.8**
	baz=223					
TWK	**Hsinying**	**1.47**	**229**	P	**Pn**	**11 17 43.5 +0.2**
	baz=226					
TWK				S	**Sn**	**11 18 02.9 +1.5**
	baz=226					
WSF	**Szhu**	**1.47**	**247**	*e*P	**Pn**	**11 17 42.9 -0.4**
	baz=256					
WSF				*e*S	**Sn**	**11 18 02.5 +1.1**
	baz=256					
SNST	**Tainan City**	**1.49**	**228**	*e*P	**Pn**	**11 17 44.3 +0.7**
	baz=225					
SNST				*e*S	**Sn**	**11 18 03.2 +1.3**
	baz=225					
CHN1	**Nanshi**	**1.50**	**226**	P	**Pn**	**11 17 44.0 +0.3**
	baz=224					
CHN1				*e*S	**Sn**	**11 18 04.2 +2.2**
	baz=224					
TWG	**Pinlang**	**1.52**	**202**	*e*P	**Pn**	**11 17 41.4 -2.5**
	baz=190					
WSL	**Shuilin Townsh**	**1.52**	**243**	*e*P	**Pn**	**11 17 44.5 +0.6**
	baz=252					
WSL				*e*S	**Sn**	**11 18 04.0 +1.5**
	baz=252					
SGST	**Jiashian**	**1.54**	**222**	*e*P	**Pn**	**11 17 43.8 -0.4**
	baz=219					
SGST				*e*S	**Sn**	**11 18 03.9 +0.9**
	baz=219					
ICHU	**Yijhu**	**1.56**	**237**	*e*P	**Pn**	**11 17 45.3 +0.8**
	baz=223					
ICHU				*e*S	**Sn**	**11 18 05.4 +1.8**
	baz=223					
SLGT	**Liugui**	**1.56**	**218**	*e*P	**Pn**	**11 17 43.3 -1.3**
	baz=208					
SLGT				*e*S	**Sn**	**11 18 03.1 -0.6**
	baz=208					
CHN8	**Yiju**	**1.62**	**237**	*e*P	**Pn**	**11 17 45.8 +0.5**
	baz=235					
CHN8				*e*S	**Sn**	**11 18 07.0 +1.9**
	baz=235					
SCLT	**Jiali**	**1.73**	**233**	*e*P	**Pn**	**11 17 47.7 +0.9**
	baz=231					
SCST	**Cishan**	**1.74**	**220**	*e*P	**Pn**	**11 17 47.5 +0.6**
	baz=217					
SSD	**Sandimen**	**1.77**	**214**	*e*P	**Pn**	**11 17 48.2 +0.8**
	baz=211					
TSMG	**Majia**	**1.80**	**213**	*e*P	**Pn**	**11 17 48.6 +0.8**
	baz=210					
IRIF	**Iriomote-Funau**	**1.86**	**86**	P	**Pn**	**11 17 48.6 0.0**
IRIF				S	**Sn**	**11 18 10.5 -0.4**
MASBT	**Mashibuluo**	**1.89**	**211**	*e*P	**Pn**	**11 17 49.0 0.0**
	baz=222					
HATJ	**Hateruma jima**	**1.93**	**95**	*e*S	**Sn**	**11 18 13.6 +0.9**
EAST	**Anshuo**	**2.00**	**203**	*e*P	**Pn**	**11 17 51.5 +0.9**
	baz=192					
TAWH	**Dawu Township**	**2.03**	**202**	*e*P	**Pn**	**11 17 51.5 +0.6**
	baz=191					
SSPT	**Xinbi**	**2.03**	**211**	*e*P	**Pn**	**11 17 51.8 +0.9**
	baz=208					
PNG	**Penghu**	**2.07**	**252**	*e*P	**Pn**	**11 17 50.0 -1.4**
	baz=250					
PNG				*e*S	**Sn**	**11 18 14.2 -1.8**
	baz=250					
PHUB	**P'eng-hu**	**2.07**	**250**	*e*P	**Pn**	**11 17 49.8 -1.7**
	baz=249					
SCZT	**Fangliau**	**2.10**	**208**	*e*P	**Pn**	**11 17 52.8 +0.9**
	baz=219					
WDGT	**Dungji**	**2.10**	**243**	*e*P	**Pn**	**11 17 50.4 -1.5**
	baz=241					
JKRS	**Kuro-shima**	**2.11**	**89**	P	**Pn**	**11 17 52.3 +0.3**
JKRS				S	**Sn**	**11 18 17.6 +0.5**
VWUC	**VWUC**	**2.18**	**291**	*e*P	**Pn**	**11 17 51.0 -2.0**
	baz=291					
JIJ	**Ishigaki jima**	**2.24**	**86**	P	**Pn**	**11 17 53.6 -0.1**
JIJ				S	**Sn**	**11 18 19.4 -0.8**
JISG	**Ishigakijimahi**	**2.41**	**81**	P	**Pn**	**11 17 55.9 -0.2**
TWKBT	**Hengchun**	**2.42**	**200**	*e*P	**Pn**	**11 17 55.8 -0.5**
	baz=190					

*MDD **13** 11:25:06.7±0.3,35.67N×3.67W,h0km, mb_Lg2.7/17, Error ellipse: s-maj=3.0km s-min=2.1km az=6.0*
*CNRM **13** 11:25:07.2,35.64N×3.61W,h23km,ml2.5*
*SFS **13** 11:25:07.0,35.67N×3.69W,ML2.6,ALBORAN SUR*
*IGIL **13** 11:25:08.3,35.67N×3.69W,h11km,ML2.6*
ISC 13 11:25:04.9±1.1,35.66N±0.02×3.67W±0.02,h7km±10km, n39,σ1§29/67,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.49**	**206**	P	**Pn**	**11 25 17.3**	**-1.1**
PALE				S	**Sb**	**11 25 24.2**	**+0.8**
EALB	**Alboran**	**0.59**	**62**	Pg	**Pn**	**11 25 18.8**	**-0.9**
EALB				Sg	**Sb**	**11 25 27.3**	**+1.2**
EALB				*i* Vmb_Lg		11 25 29.1	
EMEL	**Melilla**	**0.69**	**122**	Pg	**Pb**	**11 25 19.7**	**+0.5**
EMEL				Sg	**Sb**	**11 25 28.3**	**-0.6**
GOG	**Mont Gurugu**	**0.71**	**128**	P	**Pb**	**11 25 20.2**	**+0.7**
GOG				S	**Sg**	**11 25 28.1**	**+0.4**
ELGU	**Los Guajares,**	**1.20**	**2**	Pg	**Pg**	**11 25 27.7**	**-0.2**
ELGU				Sg	**Sg**	**11 25 43.4**	**-0.3**
ELGU				*i* Vmb_Lg		11 25 47.4	
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pg**	**11 25 28.9**	**-0.1**
EMAL				S	**Sg**	**11 25 44.1**	**-1.2**
EMIJ	**Mijas**	**1.27**	**316**	Pg	**Pg**	**11 25 28.8**	**-0.4**
EMIJ				Sg	**Sg**	**11 25 44.8**	**-0.9**
EMIJ				*i* Vmb_Lg		11 25 47.4	
TAF	**Taforalt**	**1.33**	**129**	P	**Pg**	**11 25 30.8**	**+0.4**
EBER	**Berja**	**1.39**	**27**	Pn	**Pn**	**11 25 30.5**	**-0.4**
EBER				Sn	**Sg**	**11 25 48.1**	**-1.4**
EBER				*i* Vmb_Lg		11 25 59.6	
SMIR	**Smir Dam**	**1.39**	**271**	P	**Pn**	**11 25 29.7**	**-1.0**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pg**	**11 25 33.3**	**+0.2**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn	**Pb**	**11 25 33.1**	**+0.1**
EGOR				Sn	**Sg**	**11 25 53.2**	**+0.5**
EGOR				*i* Vmb_Lg		11 25 59.1	
EQUE	**Quentar**	**1.55**	**7**	Pn	**Pb**	**11 25 33.9**	**-0.2**
EQUE				Sn	**Sb**	**11 25 54.0**	**+0.1**
EQUE				*i* Vmb_Lg		11 25 58.3	
JBK	**JBK**	**1.61**	**145**	P	**Pn**	**11 25 33.4**	**-0.4**
JBK				S	**Sn**	**11 25 50.6**	**-4.4**
EJIF	**Jimena Fronter**	**1.65**	**299**	Pn	**Pb**	**11 25 35.4**	**-0.3**
EJIF				Sn	**Sn**	**11 25 55.9**	**0.0**
ENIJ	**Nijar**	**1.76**	**42**	Pn	**Pb**	**11 25 37.2**	**-0.4**
ENIJ				Sn	**Sn**	**11 25 58.4**	**-0.3**
ENIJ				*i* Vmb_Lg		11 26 12.6	
ESPR	**Espera**	**2.14**	**305**	Pn	**Pb**	**11 25 43.3**	**-0.6**
ESPR				Sn	**Sn**	**11 26 09.0**	**+1.2**
ESPR				*i* Vmb_Lg		11 26 15.6	
EQES	**Quesada**	**2.19**	**13**	Pn	**Pb**	**11 25 44.7**	**-0.2**
EQES				Sn	**Sb**	**11 26 11.3**	**-1.1**
EQES				*i* Vmb_Lg		11 26 14.6	
IFR	**Ifrane**	**2.45**	**210**	P	**Pn**	**11 25 46.8**	**+1.3**
IFR				S	**Sn**	**11 26 15.8**	**-0.1**
EADA	**Adamuz**	**2.60**	**344**	Pn	**Pn**	**11 25 49.5**	**+2.1**
EADA				Sn	**Sn**	**11 26 20.1**	**+0.7**
EADA				*i* Vmb_Lg		11 26 26.6	
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn	**Pn**	**11 25 49.4**	**+0.3**
EZAR				Sn	**Sn**	**11 26 21.0**	**-1.3**
EZAR				*i* Vmb_Lg		11 26 42.4	
ECAB	**El Cabril**	**2.79**	**330**	Pn	**Pn**	**11 25 52.0**	**+2.1**
ECAB				Sn	**Sn**	**11 26 24.7**	**+0.9**
ECAB				*i* Vmb_Lg		11 26 34.0	
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**11 25 54.6**	**+2.6**
MDT	**Midelt**	**2.94**	**195**	P	**Pb**	**11 25 57.4**	**-0.4**
TDRA	**Tendrara**	**2.95**	**152**	P	**Pn**	**11 25 54.1**	**+1.8**
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	**Pn**	**11 25 56.6**	**+1.0**
EMIN				Sn	**Sn**	**11 26 32.9**	**-1.0**
EMIN				*i* Vmb_Lg		11 26 35.5	
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**11 25 58.2**	**+1.1**
ETOB	**Tobarra**	**3.43**	**29**	Pn	**Pn**	**11 26 00.5**	**+1.6**
ETOB				Sn	**Sn**	**11 26 40.4**	**+0.6**
EGRO	**El Granado**	**3.59**	**302**	Pn	**Pn**	**11 26 01.8**	**+0.8**
EGRO				Sn	**Sn**	**11 26 44.0**	**+0.3**
EGRO				*i* Vmb_Lg		11 26 46.6	
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	**11 26 03.1**	**+0.7**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**11 26 07.0**	**+1.5**
PAB				Sn	**Sn**	**11 26 52.1**	**+0.3**
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**11 26 08.8**	**+2.0**
ESDC				Sn	**Sn**	**11 26 54.7**	**+0.5**
EBAD	**Badajoz**	**4.08**	**320**	Pn	**Pn**	**11 26 09.3**	**+1.5**
EBAD				Sn	**Sn**	**11 26 55.8**	**0.0**
EBAD				*i* Vmb_Lg		11 26 58.2	
MORF	**Marmelete**	**4.33**	**294**	*e*P	**Pn**	**11 26 12.0**	**+0.7**
MORF				*e*S	**Sn**	**11 26 58.7**	**-3.4**
MORF				IAML		11 27 07.2	
	comp=E,11nm,0.3s						
EVO	**Evora**	**4.50**	**311**	P	**Pn**	**11 26 15.3**	**+1.8**
EVO				S	**Sn**	**11 27 04.1**	**-1.9**
EPLA	**Plasencia**	**4.79**	**337**	Pn	**Pn**	**11 26 18.5**	**+1.0**
EPLA				Sn	**Sn**	**11 27 12.5**	**-0.8**
ETOR	**Torete**	**5.30**	**13**	Sn	**Sn**	**11 27 15.8**	**-0.2**
OUZM	**OUZ**	**5.40**	**209**	P	**Pn**	**11 26 27.7**	**+1.7**
ELOB	**Lobios**	**7.08**	**332**	Sn	**Sn**	**11 28 07.2**	**-2.6**

IDC 13 11:59:25.6±2.2,21.72N×91.47E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.2/45,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=105.0km s-min=25.2km az=58.0,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.74**	**113**	Pn	Pn	12 01 20.2	+0.6
	0.1nm,0.3s,baz=296,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**26.10**	**346**	P	P	12 05 01.2	+0.1
	1.2nm,0.7s,baz=156,slow=9.6,SNR=19						
WRA	**Warramunga Arr**	**58.91**	**132**	P	P	12 09 25.5	-1.4
	0.2nm,0.6s,baz=304,slow=6.0,SNR=1.1						
ASAR	**Alice Springs**	**61.16**	**135**	P	P	12 09 43.0	+0.7
	0.2nm,0.6s,baz=314,slow=6.6,SNR=6.8						

*TUL **13** 12:00:24.7±0.8,36.43N±0.01×97.72W±0.01,h7km±6km, ML2.9,mb_Lg2.8/65(NEIC),Error ellipse: s-maj=1.7km s-min=1.1km az=168.0*
NEIC 13 12:00:24.7±0.8,36.43N±0.01×97.72W±0.01,h1km±7km, Error ellipse: s-maj=1.8km s-min=1.5km az=216.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKCFA	**Oklahoma City**	**1.03**	**168**		Pg	12 00 44.5	0.0
OKCFA				Sg	Sg	12 00 57.8	-0.2
U32A	**Winter Ranch,**	**1.04**	**268**		Pg	12 00 44.2	-0.3
U32A				Sg	Sg	12 00 58.2	+0.2
OKCSW	**OKLAHOMA CITY**	**1.05**	**167**		Pg	12 00 44.4	-0.4
OKCSW				Sg	Sg	12 00 58.4	+0.1
T35A	**Sooner Cattle**	**1.09**	**63**		Pg	12 01 03.3	-0.3
T35A				Sg	Sg	12 00 59.2	-0.4
FNO	**Franklin**	**1.20**	**167**		Pg	12 00 46.9	-0.7
FNO				Sg	Sg	12 01 03.0	-0.1
W35A	**Tecumseh**	**1.45**	**151**		Pn	12 00 51.1	-0.9
TUL1	**Leonard**	**1.64**	**108**	Pn	Pn	12 00 54.2	-0.5
TUL1				IAmb_Lg		12 01 20.2	
	comp=Z,56nm,1.0s						
X34A	**Smith Ranch, M**	**1.83**	**183**		Pn	12 00 58.0	+0.8
WMOK	**Wichita Mounta**	**1.90**	**207**	Pn	Pn	12 00 57.9	-0.4
WMOK				IAmb_Lg		12 01 27.5	
	comp=Z,57nm,0.9s						
R32A	**Long Quarter,**	**2.14**	**339**		Pn	12 01 01.8	+0.2
X37A	**Clayton**	**2.65**	**133**		Pn	12 01 09.2	+0.6
KSU1	**Kansas State U**	**2.81**	**18**		Pn	12 01 11.4	+0.6
CBKS	**Cedar Bluff**	**2.87**	**327**		Pn	12 01 11.9	+0.2
HHAR	**Hobbs**	**3.05**	**92**		Pn	12 01 13.4	-0.8
W39A	**Magazine**	**3.43**	**110**		Pn	12 01 18.7	-0.5
W39A				IAmb_Lg		12 02 16.2	
	comp=Z,21nm,0.9s						
AMTX	**Amarillo**	**3.58**	**246**		Pn	12 01 21.4	0.0
AMTX				IAmb_Lg		12 02 20.4	
	comp=Z,33nm,0.8s						
S39A	**Bolivar**	**3.73**	**69**	Pn	Pn	12 01 24.0	+0.5
MIAR	**Mount Ida**	**3.87**	**118**	Pn	Pn	12 01 25.3	0.0
MIAR				IAmb_Lg		12 02 32.3	
	comp=Z,19nm,1.1s						
Z38A	**Mt. Pleasant**	**3.88**	**144**		Pn	12 01 23.5	-1.9
U40A	**Yellville**	**3.93**	**90**	Pn	Pn	12 01 27.9	+1.8
U40A				IAmb_Lg		12 02 35.6	
	comp=Z,20nm,0.7s						
ABTX	**Abilene, Hawle**	**4.11**	**203**		Pn	12 01 29.0	+0.3
N33A	**J Bar K, Exete**	**4.31**	**3**	IAmb_Lg		12 02 51.6	
	comp=Z,12nm,0.7s						
WHTX	**Lake Whitney,**	**4.43**	**177**	Pn	Pn	12 01 32.6	-0.5
X40A	**Basin Creek Fa**	**4.43**	**114**	Pn	Pn	12 01 34.0	+1.0
MGMO	**Mountain Grove**	**4.43**	**79**	Pn	Pn	12 01 34.7	+1.6
MGMO				IAmb_Lg		12 02 54.4	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**4.55**	**103**		Pn	12 01 34.6	-0.1
WHAR				IAmb_Lg		12 03 01.3	
	comp=Z,14nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.56**	**95**		Pn	12 01 34.9	+0.1
FCAR				IAmb_Lg		12 02 51.7	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.59**	**45**		Pn	12 01 35.3	0.0
W41B	**Gary Mavity, V**	**4.62**	**104**		Pn	12 01 35.8	+0.1
W41B				IAmb_Lg		12 02 53.8	
	comp=Z,13nm,0.7s						
WLAR	**White Oak Lake**	**4.66**	**125**		Pn	12 01 35.7	-0.6
KSCO	**Kaye Shedlock'**	**4.67**	**305**		Pn	12 01 35.7	-0.7
KSCO				IAmb_Lg		12 03 04.5	
	comp=Z,11nm,0.8s						
N35A	**Tabor**	**4.71**	**20**		Pn	12 01 37.6	+0.6
N35A				IAmb_Lg		12 03 06.8	
	comp=Z,34nm,0.9s						
R40A	**Maddies Statio**	**4.72**	**65**		Pn	12 01 36.8	-0.2
R40A				IAmb_Lg		12 02 54.6	
	comp=Z,16nm,0.8s						
MSTX	**Muleshoe**	**4.81**	**241**		Pn	12 01 37.8	-0.6
BGNE	**Belgrade**	**4.98**	**356**	Pn	Pn	12 01 40.4	-0.3
BGNE				IAmb_Lg		12 03 14.1	
	comp=Z,30nm,0.8s						
LCAR	**Lake Charles**	**5.32**	**92**	IAmb_Lg		12 03 18.9	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**5.42**	**71**		Pn	12 01 48.7	+2.1
CCM				IAmb_Lg		12 03 19.5	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.42**	**280**	Pn	Pn	12 01 47.0	+0.2
T25A				IAmb_Lg		12 03 24.0	
	comp=Z,9.9nm,0.7s						
P40A	**Paris**	**5.45**	**54**	IAmb_Lg		12 03 17.8	
	comp=Z,24nm,0.8s						
N38A	**Joes South For**	**5.60**	**37**	Pn	Pn	12 01 48.0	-1.1
N38A				IAmb_Lg		12 03 32.8	
	comp=Z,18nm,0.8s						
L34A	**Svendsen Farm,**	**5.63**	**10**	Pn	Pn	12 01 49.7	+0.2
435B	**Jarrell**	**5.63**	**179**	IAmb_Lg		12 03 25.4	
	comp=Z,8.7nm,0.8s						
OGNE	**Ogallala**	**5.63**	**325**	IAmb_Lg		12 03 29.7	
	comp=Z,22nm,0.8s						
FVM	**French Village**	**6.02**	**73**	Pn	Pn	12 01 54.9	-0.1
JCT	**Junction City**	**6.18**	**197**	IAmb_Lg		12 03 43.9	
	comp=Z,9.9nm,0.9s						
SLM	**Saint Louis**	**6.34**	**67**	IAmb_Lg		12 03 47.4	
	comp=Z,18nm,0.7s						
SCIA	**State Center**	**6.49**	**31**	IAmb_Lg		12 03 58.3	
	comp=Z,12nm,0.8s						
S44A	**Carbondale**	**6.88**	**77**	IAmb_Lg		12 04 13.4	
	comp=Z,19nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.22**	**61**	IAmb_Lg		12 04 21.1	
	comp=Z,16nm,0.8s						
K38A	**Parkersburg**	**7.29**	**30**	IAmb_Lg		12 04 23.0	
	comp=Z,12nm,0.9s						
L40A	**Anamosa**	**7.55**	**40**	IAmb_Lg		12 04 35.0	
	comp=Z,6.9nm,0.8s						
N23A	**Red Feather La**	**7.83**	**307**	IAmb_Lg		12 04 53.4	
	comp=Z,7.3nm,0.8s						
OLIL	**Olney**	**7.98**	**70**	IAmb_Lg		12 04 49.3	
	comp=Z,17nm,0.9s						
O44A	**Mansfield**	**8.17**	**60**	IAmb_Lg		12 04 53.9	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**8.66**	**39**	IAmb_Lg		12 05 19.6	
	comp=Z,7.8nm,0.8s						

*DJA **13** 12:11:29.5±0.7,10.5S±10.1×11.7E±*,h79km±29km,M4.1/9, mb4.4/2,MLv3.9/9*
*IDC **13** 12:11:30.4±5.2,10.29S×116.44E,h47km±52km,mb3.5/5, mb1 3.6/8,mb1mx3.3/36,mbtmp3.6/8,ML3.3/3,MS2.8/2, Ms1 2.8/2,ms1mx2.5/41,Error ellipse: s-maj=54.4km s-min=18.3km az=72.0*
ISC 13 12:11:28.4±0.8,10.45S±0.07×116.50E±0.06,h35km,n17, σ1§77/21,mb3.8/5,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.04**	**38**	P	**Pn**	**12 12 00.8**	**+0.5**
PLAI				S	**Sn**	**12 12 24.1**	**-0.5**
IGBI	**Denpasar**	**2.10**	**320**	P	**Pn**	**12 12 01.2**	**+0.1**
SRBI	**Singaraja**	**2.67**	**331**	P	**Pn**	**12 12 09.8**	**+0.8**
WBSI	**Waikabubak, Su**	**2.95**	**75**	P	**Pn**	**12 12 14.0**	**+1.1**
JAGI	**Jajag, Banyuwa**	**3.04**	**310**	P	**Pn**	**12 12 14.9**	**+0.9**
ABJI	**Asem Bagus**	**3.46**	**319**	P	**Pn**	**12 12 19.5**	**-0.3**
GMJI	**Gumukmas**	**3.71**	**305**	P	**Pn**	**12 12 23.3**	**0.0**
BSSI	**Bau Bau, Buton**	**5.82**	**43**	P	**Pn**	**12 12 52.7**	**+0.4**
	0.2nm38nm,0.8s						
BKSI	**Bulukumba**	**6.23**	**35**	P	**Pn**	**12 12 56.8**	**-1.1**
KAPI	**Kappang**	**6.28**	**31**	P	**Pn**	**12 12 59.8**	**+1.2**
	2.0nm,0.3s,baz=234,slow=19,SNR=2.3						
KAPI				S	**Sn**	**12 14 09.3**	**0.0**
	4.0nm,0.3s,baz=167,slow=14,SNR=2.9						
KAPI				LR	LR	12 15 45.0	
	comp=Z,83nm,19.7s,baz=232,slow=41						
FITZ	**Fitzroy Crossi**	**11.67**	**132**	P	**Pn**	**12 14 14.7**	**+2.2**
	0.2nm,0.3s,baz=276,slow=10,SNR=8.9						
FITZ				S	**Sn**	**12 16 16.4**	**-5.3**
	0.5nm,0.3s,baz=194,slow=21,SNR=9.6						
FITZ				LR	LR	12 19 19.6	
	comp=Z,46nm,18.7s,baz=248,slow=40						
WRA	**Warramunga Arr**	**19.61**	**121**	P	**Pn**	**12 15 56.6**	**+1.1**
	0.1nm,0.3s,baz=280,slow=12,SNR=1.4						
WRA				S	S	12 19 23.3	-10
	0.0nm,0.3s,baz=230,slow=24,SNR=2.2						
ASAR	**Alice Springs**	**21.17**	**131**	P	**P**	**12 16 14.3**	**+3.5**
	1.4nm,0.6s,baz=306,slow=10,SNR=33						
ASAR				S	**S**	**12 20 03.1**	**-1.4**
	0.2nm,0.8s,baz=135,slow=23,SNR=2.5						
CMAR	**Chiang Mai Arr**	**33.54**	**329**	P	**P**	**12 18 05.2**	**+0.1**
	0.3nm,0.3s,baz=159,slow=5.8,SNR=1.6						
SONM	**Songino Array**	**58.71**	**352**	P	**P**	**12 21 21.7**	**-1.0**
	0.5nm,0.7s,baz=167,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**64.66**	**335**	P	**P**	**12 22 02.6**	**-0.1**
	0.4nm,0.5s,baz=153,slow=7.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**69.55**	**341**	P	**P**	**12 22 32.4**	**-1.1**

*AEIC **13** 12:27:06±1.5,61°11N±0°03×151°53W±0°06,h82km±3km, ML3.5,ML3.7/158(NEIC), Error ellipse: s-maj=4.7km s-min=4.2km az=148.0*
*NEIC **13** 12:27:06.3±1.6,61°12N±0°03×151°58W±0°04,h76km±5km, Error ellipse: s-maj=4.9km s-min=0.5km az=151.0*
ISC 13 12:27:06.0±0.8,61°10N±0°03×151°54W±0°04,h83km±7km, n235,σ0§93/231,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPU	**Mount Spurr**	**0.26**	**288**		**Pn**	**12 27 17.9**	**-0.6**
SPCG	**Spurr Capps Gl**	**0.30**	**309**		**Sn**	**12 27 18.3**	**-0.6**
SPCG					**Sn**	**12 27 27.4**	**-0.8**
SPCR	**Spurr Chakacha**	**0.34**	**287**		**Pn**	**12 27 18.3**	**-0.7**
CRP	**Crater Peak**	**0.34**	**299**		**Pn**	**12 27 18.6**	**-0.5**
CRP					**Sn**	**12 27 28.5**	**-0.3**
CAPN	**Captain Cook N**	**0.39**	**151**		**Pn**	**12 27 20.5**	**+1.4**
CAPN	**Captain Cook N**	**0.39**	**151**	IAML		12 27 26.5	
	comp=E,865nm,0.3s						
CAPN	**Captain Cook N**	**0.39**	**151**	P	**Pn**	**12 27 20.5**	**+1.4**
	baz=332						
STLK	**Strandline Lak**	**0.42**	**340**		**Pn**	**12 27 19.0**	**-0.5**
SPBG	**Spurr Blockage**	**0.43**	**292**		**Pn**	**12 27 19.2**	**-0.5**
SPBG					**Sn**	**12 27 28.9**	**-0.8**
FIS	**Fire Island**	**0.64**	**86**		**Pn**	**12 27 22.4**	**+1.1**
FIS				IAML		12 27 35.6	
	comp=E,3µm,0.3s						
FIS				IAML		12 27 36.9	
	comp=N,5µm,0.6s						
RDT	**Redoubt**	**0.68**	**219**		**Pn**	**12 27 21.6**	**-0.2**
DFR	**Drift River**	**0.76**	**228**		**Pn**	**12 27 22.4**	**-0.3**
DFR					**Sn**	**12 27 35.2**	**+0.2**
RDJH	**Redoubt Jeurge**	**0.81**	**231**		**Pn**	**12 27 22.9**	**-0.3**
RDJH					**Sn**	**12 27 35.7**	**-0.2**
NCT	**North Crescent**	**0.87**	**232**		**Pn**	**12 27 23.5**	**-0.3**
NCT					**Sn**	**12 27 37.1**	**-0.1**
RC01	**Rabbit Creek A**	**0.88**	**90**		**Pn**	**12 27 23.9**	**+0.1**
RC01				IAML		12 27 37.8	
	comp=N,3µm,0.5s						
RC01				IAML		12 27 38.3	
	comp=E,2µm,0.5s						
RC01	**Rabbit Creek A**	**0.88**	**90**		**Sn**	**12 27 37.6**	**+0.5**
RC01	**Rabbit Creek A**	**0.88**	**90**	P	**Pn**	**12 27 23.9**	**+0.1**
	baz=272						
RC01				S	**Sn**	**12 27 37.6**	**+0.5**
	baz=272						
RSO	**Redoubt South**	**0.88**	**223**		**Pn**	**12 27 23.9**	**-0.2**
SLKM	**Skilak Lake**	**0.88**	**132**		**Pn**	**12 27 23.8**	**-0.1**
SLKM					**Sn**	**12 27 37.8**	**+0.6**
RDWB	**Redoubt West**	**0.89**	**227**		**Pn**	**12 27 23.8**	**-0.3**
RDWB					**Sn**	**12 27 38.8**	**+1.2**
M22K	**Willow**	**0.94**	**46**		**Pn**	**12 27 24.9**	**+0.4**
M22K	**Willow**	**0.94**	**46**		**Sn**	**12 27 40.0**	**+1.6**
M22K	**Willow**	**0.94**	**46**	IAML		12 27 40.3	
	comp=N,6µm,0.5s						
M22K				IAML		12 27 43.3	
	comp=E,5µm,0.4s						
M22K	**Willow**	**0.94**	**46**	P	**Pn**	**12 27 24.7**	**+0.2**
	baz=227						
O22K	**Cooper Landing**	**1.09**	**124**		**Pn**	**12 27 26.3**	**+0.1**
O22K	**Cooper Landing**	**1.09**	**124**	IAML		12 27 50.5	
	comp=E,2µm,0.5s						
O22K				IAML		12 27 53.9	
	comp=N,3µm,0.7s						
O22K	**Cooper Landing**	**1.09**	**124**	P	**Pn**	**12 27 26.3**	**+0.1**
	baz=306						
O20K	**Slope Mountain**	**1.16**	**208**		**Pn**	**12 27 27.7**	**+0.5**
O20K					**Sn**	**12 27 44.5**	**+1.5**
O20K	**Slope Mountain**	**1.16**	**208**	P	**Pn**	**12 27 27.7**	**+0.5**
	baz=27						
PMR	**Palmer**	**1.26**	**66**	Pn	**Pn**	**12 27 28.1**	**-0.2**
PMR				IAML		12 27 47.9	
	comp=E,1µm,0.3s						
PMR				IAML		12 27 49.1	
	comp=N,1µm,0.2s						
PMR	**Palmer**	**1.26**	**66**	P	**Pn**	**12 27 28.1**	**-0.2**
	baz=248						
IVE	**Iliamna Volcan**	**1.31**	**214**		**Pn**	**12 27 28.7**	**-0.4**
BRLK	**Bradley Lake**	**1.38**	**166**	Pn	**Pn**	**12 27 30.4**	**+0.4**
BRLK				IAML		12 27 50.9	
	comp=E,945nm,0.5s						
BRLK				IAML		12 27 52.0	
	comp=N,1µm,0.6s						
BRSE	**Bradley Lake S**	**1.42**	**164**		**Pn**	**12 27 30.5**	**0.0**
BRSE	**Bradley Lake S**	**1.42**	**164**	P	**Pn**	**12 27 30.5**	**0.0**
	baz=344						
GHO	**Glory Hole Cre**	**1.42**	**61**		**Pn**	**12 27 30.4**	**-0.2**
GHO	**Glory Hole Cre**	**1.42**	**61**	IAML		12 27 49.8	
	comp=N,1µm,0.5s						
GHO				IAML		12 27 52.2	
	comp=E,1µm,0.4s						
SEW	**Seward**	**1.44**	**133**	Pn	**Pn**	**12 27 29.8**	**-0.7**
SEW	**Seward**	**1.44**	**133**	P	**Pn**	**12 27 29.8**	**-0.7**
	baz=316						
CUT	**Chulitna**	**1.44**	**24**		**Pn**	**12 27 30.8**	**+0.2**
CUT	**Chulitna**	**1.44**	**24**	P	**Pn**	**12 27 30.7**	**+0.1**
	baz=205						
HOM	**Homer**	**1.45**	**182**		**Pn**	**12 27 31.6**	**+0.9**
HOM	**Homer**	**1.45**	**182**	P	**Pn**	**12 27 31.6**	**+0.9**
	baz=2.4						
N19K	**Bonanza Creek**	**1.47**	**260**		**Pn**	**12 27 30.8**	**-0.3**
KNK	**Knik Glacier**	**1.52**	**77**		**Pn**	**12 27 31.6**	**-0.1**
KNK	**Knik Glacier**	**1.52**	**77**	IAML		12 27 52.4	
	comp=N,1µm,0.6s						
KNK				IAML		12 27 56.7	
	comp=E,1µm,0.3s						
KNK	**Knik Glacier**	**1.52**	**77**	P	**Pn**	**12 27 31.6**	**-0.1**
	baz=260						
PWL	**Port Wells**	**1.58**	**98**		**Pn**	**12 27 31.8**	**-0.6**
PWL	**Port Wells**	**1.58**	**98**	IAML		12 27 53.3	
	comp=E,1µm,0.1s						
PWL	**Port Wells**	**1.58**	**98**	P	**Pn**	**12 27 31.8**	**-0.6**
	baz=280						
M19K	**Big River Lodg**	**1.59**	**302**		**Pn**	**12 27 32.5**	**0.0**
CNPM	**China Poot**	**1.59**	**174**		**Pn**	**12 27 32.5**	**-0.1**
CNPM	**China Poot**	**1.59**	**174**	IAML		12 27 54.3	
	comp=N,572nm,0.3s						
CNPM				IAML		12 27 54.6	
	comp=E,953nm,1.0s						
O19K	**Port Alsworth**	**1.65**	**238**		**Pn**	**12 27 33.0**	**-0.2**
O19K				IAML		12 28 03.2	
	comp=N,809nm,0.5s						
O19K				IAML		12 28 07.0	
	comp=E,545nm,0.5s						
O19K	**Port Alsworth**	**1.65**	**238**	P	**Pn**	**12 27 32.8**	**-0.5**
	baz=55						
OPT	**Oil Point**	**1.68**	**211**		**Pn**	**12 27 34.4**	**+0.6**
OPT	**Oil Point**	**1.68**	**211**	P	**Pn**	**12 27 34.4**	**+0.6**
	baz=29						
P19K	**Oil Pt**	**1.68**	**211**		**Pn**	**12 27 34.3**	**+0.5**
SML	**Sawmill**	**1.69**	**64**		**Pn**	**12 27 33.6**	**-0.4**
SML	**Sawmill**	**1.69**	**64**	IAML		12 28 02.7	
	comp=E,584nm,0.8s						
SML				IAML		12 28 04.1	
	comp=N,591nm,0.5s						
SML	**Sawmill**	**1.69**	**64**	P	**Pn**	**12 27 33.6**	**-0.4**
	baz=247						
L20K	**Farewell, AK**	**1.77**	**322**		**Pn**	**12 27 34.6**	**-0.4**
PPLA	**Purkeypile**	**1.82**	**351**		**Pn**	**12 27 35.6**	**-0.2**
PPLA	**Purkeypile**	**1.82**	**351**	P	**Pn**	**12 27 35.6**	**-0.2**
	baz=170						
L19K	**White Mountain**	**1.92**	**306**		**Pn**	**12 27 37.1**	**+0.2**
L19K	**White Mountain**	**1.92**	**306**	P	**Pn**	**12 27 36.9**	**0.0**
	baz=123						
AU22	**Augustine Moun**	**1.96**	**208**		**Pn**	**12 27 38.1**	**+0.7**
AU2	**Augustine Isla**	**1.97**	**209**		**Pn**	**12 27 38.1**	**+0.6**
AUL	**Augustine Lava**	**1.97**	**210**		**Pn**	**12 27 38.2**	**+0.7**
AUH	**Augustine H**	**1.99**	**209**		**Pn**	**12 27 38.6**	**+0.7**
AUQ	**Augustine Qik'**	**1.99**	**209**		**Pn**	**12 27 38.5**	**+0.6**
SCM	**Sheep Creek Mo**	**2.15**	**68**		**Pn**	**12 27 39.4**	**-0.7**
SCM				IAML		12 28 14.7	
	comp=E,474nm,0.8s						
SCM				IAML		12 28 15.8	
	comp=N,677nm,0.6s						
SCM	**Sheep Creek Mo**	**2.15**	**68**	P	**Pn**	**12 27 39.6**	**-0.4**
	baz=252						
WAT6	**Susitna Watana**	**2.33**	**49**		**Pn**	**12 27 42.3**	**-0.2**
WAT6	**Susitna Watana**	**2.33**	**49**	P	**Pn**	**12 27 42.1**	**-0.4**
	baz=232						
CAST	**Castle Rocks**	**2.34**	**354**	Pn	**Pn**	**12 27 42.1**	**-0.4**
CAST				IAML		12 28 12.9	
	comp=E,363nm,0.4s						
JPK	**Jack Peak**	**2.40**	**89**		**Pn**	**12 27 42.5**	**-0.8**
TRF	**Thorofare Moun**	**2.43**	**13**		**Pn**	**12 27 44.0**	**+0.2**
TRF	**Thorofare Moun**	**2.43**	**13**	P	**Pn**	**12 27 43.5**	**-0.3**
	baz=194						
KTH	**Kantishna Hill**	**2.48**	**6**		**Pn**	**12 27 44.6**	**+0.3**
FID	**Port Fidalgo**	**2.50**	**96**		**Pn**	**12 27 42.4**	**-2.1**
FID	**Port Fidalgo**	**2.50**	**96**	IAML		12 28 13.6	
	comp=E,510nm,0.3s						
FID				IAML		12 28 13.8	
	comp=N,547nm,0.3s						
P18K	**Big Mountain,**	**2.52**	**229**		**Pn**	**12 27 44.5**	**-0.4**
K20K	**Telida**	**2.55**	**333**		**Pn**	**12 27 45.0**	**-0.3**
RND	**Reindeer**	**2.63**	**27**		**Pn**	**12 27 46.5**	**+0.1**
RND	**Reindeer**	**2.63**	**27**	IAML		12 28 28.0	
	comp=E,214nm,0.3s						
KLU	**Klutina**	**2.74**	**79**		**Pn**	**12 27 47.2**	**-0.7**
KLU				IAML		12 28 20.5	
	comp=N,338nm,0.3s						
KLU				IAML		12 28 20.9	
	comp=E,325nm,0.3s						
KLU	**Klutina**	**2.74**	**79**	P	**Pn**	**12 27 47.0**	**-0.8**
	baz=264						
M24K	**Tolsona, Glenn**	**2.75**	**66**		**Pn**	**12 27 48.4**	**+0.3**
M24K	**Tolsona, Glenn**	**2.75**	**66**	IAML		12 28 35.7	
	comp=N,302nm,0.5s						
M24K	**Tolsona, Glenn**	**2.75**	**66**	P	**Pn**	**12 27 48.4**	**+0.3**
	baz=251						
DHY	**Denali Highway**	**2.78**	**43**		**Pn**	**12 27 48.5**	**-0.1**
DHY				IAML		12 28 23.5	
	comp=N,221nm,0.3s						
DHY				IAML		12 28 39.8	
	comp=E,200nm,0.6s						
DHY	**Denali Highway**	**2.78**	**43**	P	**Pn**	**12 27 48.5**	**-0.1**
	baz=226						
TT01	**Tatalina**	**2.78**	**313**		**Pn**	**12 27 48.0**	**-0.3**
TTA	**Tatalina**	**2.79**	**313**	Pn	**Pn**	**12 27 47.9**	**-0.7**
TTA	**Tatalina**	**2.79**	**313**	P	**Pn**	**12 27 48.0**	**-0.7**
	baz=129						
DIV	**Divide**	**2.80**	**87**		**Pn**	**12 27 47.6**	**-1.1**
CHUM	**Lake Minchumin**	**2.81**	**353**		**Pn**	**12 27 48.6**	**-0.2**
CHUM	**Lake Minchumin**	**2.81**	**353**	P	**Pn**	**12 27 48.6**	**-0.2**
	baz=172						
EYAK	**Cordova Ski Ar**	**2.89**	**99**		**Pn**	**12 27 48.2**	**-1.6**
EYAK	**Cordova Ski Ar**	**2.89**	**99**	P	**Pn**	**12 27 48.1**	**-1.6**
	baz=284						
MCK	**McKinley**	**2.90**	**24**		**Pn**	**12 27 50.3**	**+0.3**
MCK				IAML		12 28 28.1	
	comp=N,262nm,0.6s						
MCK				IAML		12 28 31.7	
	comp=E,202nm,0.5s						
MCK	**McKinley**	**2.90**	**24**	P	**Pn**	**12 27 50.3**	**+0.3**
	baz=206						
BPAW	**Bear Paw Mtn.**	**3.02**	**5**		**Pn**	**12 27 51.4**	**-0.2**
BPAW				IAML		12 28 27.8	
	comp=N,263nm,0.8s						
BPAW				IAML		12 28 27.9	
	comp=E,292nm,0.4s						
BPAW	**Bear Paw Mtn.**	**3.02**	**5**	P	**Pn**	**12 27 51.1**	**-0.5**
	baz=185						
PS11	**TAPS Pump St11**	**3.06**	**69**		**Pn**	**12 27 52.2**	**+0.1**
Q23K	**Middleton Isla**	**3.08**	**121**	Pn	**Pn**	**12 27 51.3**	**-1.1**
Q23K				IAML		12 29 05.2	
	comp=E,198nm,2.1s						
Q23K				IAML		12 29 36.2	
	comp=N,165nm,2.2s						
MID	**Middleton Isla**	**3.09**	**121**	Pn	**Pn**	**12 27 52.0**	**-0.5**
MID				IAML		12 28 49.8	
	comp=E,203nm,1.6s						
MID				IAML		12 28 58.3	
	comp=N,178nm,1.8s						
BWN	**Browne**	**3.23**	**16**		**Pn**	**12 27 55.0**	**+0.6**
BWN	**Browne**	**3.23**	**16**	IAML		12 28 51.5	
	comp=E,280nm,1.0s						
J20K	**Nowinta River**	**3.31**	**340**		**Pn**	**12 27 55.0**	**-0.6**
J20K	**Nowinta River**	**3.31**	**340**	IAML		12 28 34.2	
	comp=E,123nm,0.9s						
KDAK	**Kodiak Island**	**3.37**	**190**	P	**Pn**	**12 27 55.2**	**-1.2**
	comp=E,2.3nm,0.3s,baz=30,slow=11,SNR=58						
KDAK				S	**Sn**	**12 28 33.1**	**-2.2**
	comp=E,13nm,0.3s,baz=13,slow=18,SNR=9.4						
KDAK	**Kodiak Island**	**3.37**	**190**	Pn	**Pn**	**12 27 55.1**	**-1.2**
KDAK				IAML		12 28 48.5	
	comp=E,168nm,0.5s						
KDAK				IAML		12 28 49.7	
	comp=E,168nm,0.5s						
GOAT	**Goat Mountain**	**3.38**	**96**		**Pn**	**12 27 54.8**	**-1.6**
BMRM	**Bremner River**	**3.38**	**89**		**Pn**	**12 27 55.2**	**-1.2**
BMRM				IAML		12 28 51.8	
	comp=E,218nm,0.7s						
BMRM	**Bremner River**	**3.38**	**89**	P	**Pn**	**12 27 55.0**	**-1.5**
	baz=275						
N25K	**Chitina, Valde**	**3.38**	**78**		**Pn**	**12 27 55.8**	**-0.8**
N25K	**Chitina, Valde**	**3.38**	**78**	IAML		12 28 53.7	
	comp=N,114nm,0.7s						
N25K	**Chitina, Valde**	**3.38**	**78**	P	**Pn**	**12 27 55.8**	**-0.8**
	baz=264						
PAX	**Paxson**	**3.42**	**54**		**Pn**	**12 27 57.2**	**+0.2**
PAX	**Paxson**	**3.42**	**54**	P	**Pn**	**12 27 57.3**	**+0.2**
	baz=239						
RAGM	**Ragged Mountai**	**3.44**	**99**	Pn	**Pn**	**12 27 55.6**	**-1.8**
ANCK	**Angle Creek**	**3.54**	**216**		**Pn**	**12 27 59.2**	**+0.5**
PS10	**TAPS Pump St10**	**3.56**	**47**		**Pn**	**12 28 00.0**	**+1.0**
HMT	**Hamilton**	**3.66**	**99**	Pn	**Pn**	**12 27 58.3**	**-2.0**
NEA2	**Nenana**	**3.68**	**17**		**Pn**	**12 28 00.5**	**0.0**
NEA2	**Nenana**	**3.68**	**17**	IAML		12 28 44.3	
	comp=E,102nm,0.7s						
NEA2				IAML		12 28 45.9	
	comp=N,104nm,0.3s						
NEA2	**Nenana**	**3.68**	**17**	P	**Pn**	**12 28 00.5**	**0.0**
	baz=199						
WRH	**Wood River Hil**	**3.73**	**24**	Pn	**Pn**	**12 28 02.3**	**+1.1**
GLB	**Gilahina Butte**	**3.75**	**81**	Pn	**Pn**	**12 28 00.6**	**-0.9**
GLB				IAML		12 29 04.6	
	comp=N,126nm,0.8s						
BERG	**Berg Lake**	**3.91**	**97**		**Pn**	**12 28 01.4**	**-2.3**
VRDI	**Verde Repeater**	**3.92**	**85**	Pn	**Pn**	**12 28 03.0**	**-1.0**
VRDI				IAML		12 29 04.4	
	comp=N,82nm,0.9s						
HDA	**Harding Lake**	**3.93**	**30**	Pn	**Pn**	**12 28 03.9**	**0.0**
HDA	**Harding Lake**	**3.93**	**30**	P	**Pn**	**12 28 04.2**	**+0.3**
	baz=214						
CCB	**Clear Creek Bu**	**3.94**	**24**		**Pn**	**12 28 04.5**	**+0.4**
MLY	**Manley**	**3.96**	**5**	Pn	**Pn**	**12 28 04.7**	**+0.3**
MLY				IAML		12 28 50.7	
	comp=N,108nm,0.9s						
MLY	**Manley**	**3.96**	**5**	P	**Pn**	**12 28 04.3**	**-0.1**
	baz=186						
SUCK	**Suckling Hills**	**3.96**	**102**	Pn	**Pn**	**12 28 05.9**	**+1.5**
SUCK				IAML		12 29 16.3	
	comp=E,67nm,1.7s						
SUCK				IAML		12 30 12.3	
	comp=N,91nm,4.3s						
OHAK	**Old Harbor**	**4.00**	**194**	Pn	**Pn**	**12 28 05.5**	**+0.7**
OHAK				IAML		12 29 04.3	
	comp=N,107nm,0.9s						
OHAK				IAML		12 29 05.4	
	comp=E,131nm,1.2s						
OHAK	**Old Harbor**	**4.00**	**194**	P	**Pn**	**12 28 06.3**	**+1.5**
	baz=2						
PS08	**TAPS Pump Stn8**	**4.07**	**30**		**Pn**	**12 28 06.2**	**+0.3**
RIDG	**Independent Ri**	**4.08**	**47**	Pn	**Pn**	**12 28 07.2**	**+1.1**
RIDG	**Independent Ri**	**4.08**	**47**	P	**Pn**	**12 28 07.0**	**+0.9**
	baz=233						
I21K	**Tanana**	**4.10**	**357**		**Pn**	**12 28 06.4**	**+0.2**
MENT	**Mentasta**	**4.12**	**60**		**Pn**	**12 28 06.1**	**-0.4**
MENT	**Mentasta**	**4.12**	**60**	IAML		12 29 11.7	
	comp=N,136nm,0.4s						
MCARA	**McCarthy VSAT**	**4.12**	**82**	Pn	**Pn**	**12 28 08.3**	**+1.7**
MCARA				IAML		12 29 18.2	
	comp=E,125nm,1.0s						
TCOL	**CIGO, UAF Yank**	**4.14**	**22**	Pn	**Pn**	**12 28 07.5**	**+0.8**
TCOL	**CIGO, UAF Yank**	**4.14**	**22**	P	**Pn**	**12 28 07.6**	**+0.8**
	baz=206						
COLA	**College**	**4.14**	**22**		**Pn**	**12 28 07.3**	**+0.6**
MDM	**Murphy Dome**	**4.15**	**20**	Pn	**Pn**	**12 28 07.7**	**+0.7**
I23K	**Minto, Yukon-K**	**4.18**	**13**	Pn	**Pn**	**12 28 07.6**	**+0.4**
I23K				IAML		12 28 56.2	
	comp=E,61nm,0.7s						
I23K				IAML		12 28 56.9	
	comp=N,92nm,0.7s						
I23K	**Minto, Yukon-K**	**4.18**	**13**	P	**Pn**	**12 28 08.1**	**+0.8**
	baz=195						
IL31		**4.25**	**28**		**Pn**	**12 28 09.3**	**+1.1**
ILAR	**Eielson Array**	**4.25**	**28**	P	**Pn**	**12 28 07.4**	**-0.9**
	comp=N,11nm,0.3s,baz=210,slow=13,SNR=289						
ILAR				S	**Sn**	**12 28 52.6**	**-4.0**
	comp=N,5.3nm,0.3s,baz=206,slow=16,SNR=5.7						
ILAR	**Eielson Array**	**4.25**	**28**	Pn	**Pn**	**12 28 09.2**	**+0.9**
L26K	**Log Cabin Wild**	**4.31**	**60**		**Pn**	**12 28 09.5**	**+0.4**
	comp=E,87nm,0.4s						
L26K				IAML		12 29 24.6	
	comp=N,98nm,0.5s						
L26K	**Log Cabin Wild**	**4.31**	**60**	P	**Pn**	**12 28 09.5**	**+0.4**
	baz=247						
WAX	**Waxell Ridge**	**4.31**	**95**		**Pn**	**12 28 07.5**	**-1.6**
DOT	**Dot Lake**	**4.32**	**50**		**Pn**	**12 28 09.0**	**-0.2**
SNH	**Sunshine Point**	**4.38**	**98**	Pn	**Pn**	**12 28 12.0**	**+1.9**
SNH				IAML		12 29 07.3	
	comp=E,71nm,2.1s						
SNH				IAML		12 29 15.2	
	comp=N,77nm,2.7s						
GCSA	**Galena City Sc**	**4.39**	**329**		**Pn**	**12 28 10.1**	**-0.1**
GCSA	**Galena City Sc**	**4.39**	**329**	P	**Pn**	**12 28 10.1**	**-0.1**
	baz=144						
PTPK	**Patty Peak**	**4.40**	**85**		**Pn**	**12 28 09.8**	**-0.6**
POKR	**Poker Plat Res**	**4.44**	**23**	Pn	**Pn**	**12 28 11.4**	**+0.6**
POKR				IAML		12 29 12.0	
	comp=N,63nm,0.8s						
POKR	**Poker Plat Res**	**4.44**	**23**	P	**Pn**	**12 28 12.4**	**+1.6**
	baz=207						
BALM	**Baldy**	**4.47**	**87**		**Pn**	**12 28 10.2**	**-1.2**
KIAG	**Kiagna River**	**4.47**	**88**		**Pn**	**12 28 10.2**	**-1.2**
PS07	**TAPS Pump Stn7**	**4.47**	**18**		**Pn**	**12 28 12.1**	**+0.8**
J25K	**Salcha River,**	**4.51**	**36**		**Pn**	**12 28 12.5**	**+0.6**
J25K	**Salcha River,**	**4.51**	**36**	P	**Pn**	**12 28 12.5**	**+0.6**
	baz=222						
ISLE	**Juniper Island**	**4.53**	**92**	Pn	**Pn**	**12 28 11.3**	**-0.8**
ISLE				IAML		12 29 33.3	
	comp=E,80nm,1.4s						
ISLE				IAML		12 29 36.3	
	comp=N,94nm,1.6s						
SCRK	**Sand Creek**	**4.53**	**47**	Pn	**Pn**	**12 28 12.3**	**+0.2**
SCRK				IAML		12 29 17.3	
	comp=N,56nm,0.5s						
SCRK				IAML		12 29 18.3	
	comp=E,57nm,0.6s						
SCRK	**Sand Creek**	**4.53**	**47**	P	**Pn**	**12 28 11.8**	**-0.4**
	baz=234						
H21K	**Melozitna Rive**	**4.61**	**353**		**Pn**	**12 28 12.7**	**-0.4**
BAGL	**Bagley Icefiel**	**4.67**	**93**		**Pn**	**12 28 12.9**	**-1.1**
SII	**Sitkinak Islan**	**4.76**	**198**	Pn	**Pn**	**12 28 16.9**	**+1.7**
SII	**Sitkinak Islan**	**4.76**	**198**	P	**Pn**	**12 28 15.5**	**+0.3**
	baz=16						
M27K	**Edge Creek, AK**	**4.76**	**70**		**Pn**	**12 28 16.0**	**+0.6**
BARN	**Barnard Glacie**	**4.80**	**86**	Pn	**Pn**	**12 28 15.4**	**-0.5**
BARN				IAML		12 29 36.7	
	comp=E,42nm,0.6s						
BARN				IAML		12 29 37.8	
	comp=N,46nm,0.9s						
PS06	**TAPS Pump Stn6**	**4.84**	**9**		**Pn**	**12 28 16.7**	**+0.5**
CTG	**Chitna Glacier**	**4.96**	**87**	P	**Pn**	**12 28 18.1**	**+0.1**
	baz=276						
CTGM	**Chitina Glacie**	**4.96**	**87**	Pn	**Pn**	**12 28 17.9**	**-0.3**
CTGM				IAML		12 29 38.6	
	comp=N,33nm,1.7s						
L27K	**Beaver Creek,**	**4.97**	**62**	Pn	**Pn**	**12 28 18.4**	**+0.4**
L27K	**Beaver Creek,**	**4.97**	**62**	P	**Pn**	**12 28 18.1**	**0.0**
	baz=251						
BC03		**4.99**	**63**		**Pn**	**12 28 18.2**	**-0.1**
BCAR	**Beaver Creek A**	**4.99**	**63**	Pn	**Pn**	**12 28 18.9**	**+0.6**
IM03		**5.00**	**350**		**Pn**	**12 28 18.1**	**-0.3**
IMAR	**Indian Mountai**	**5.00**	**350**	Pn	**Pn**	**12 28 18.4**	**-0.1**
H24K	**Noodor Dome**	**5.03**	**17**	Pn	**Pn**	**12 28 19.6**	**+0.8**
H24K				IAML		12 29 17.8	
	comp=E,52nm,0.7s						
H24K				IAML		12 29 20.4	
	comp=N,35nm,0.9s						
H24K	**Noodor Dome**	**5.03**	**17**	P	**Pn**	**12 28 20.1**	**+1.2**
	baz=201						
TABL	**Table Mountain**	**5.14**	**93**	Pn	**Pn**	**12 28 21.0**	**+0.4**
TABL				IAML		12 29 41.6	
	comp=N,45nm,0.9s						
TABL				IAML		12 29 42.9	
	comp=E,41nm,1.1s						
LOGN	**Logan Glacier**	**5.14**	**89**	Pn	**Pn**	**12 28 21.4**	**+0.8**
LOGN				IAML		12 29 18.3	
	comp=E,32nm,0.5s						
LOGN				IAML		12 29 50.1	
	comp=N,37nm,2.0s						
YUK2	**White River**	**5.18**	**78**		**Pn**	**12 28 20.8**	**-0.2**
PRP	**Porcupine Dome**	**5.19**	**29**	Pn	**Pn**	**12 28 21.9**	**+0.7**
PRP				IAML		12 29 22.1	
	comp=N,65nm,0.5s						
PRP				IAML		12 29 29.1	
	comp=E,42nm,0.7s						
PRP	**Porcupine Dome**	**5.19**	**29**	P	**Pn**	**12 28 21.7**	**+0.5**
	baz=214						
YUK3	**Moose Creek**	**5.36**	**78**		**Pn**	**12 28 23.6**	**0.0**
YUK3	**Moose Creek**	**5.36**	**78**	P	**Pn**	**12 28 23.8**	**+0.2**
	baz=268						
PCA	**Pinnacle**	**5.65**	**95**		**Pn**	**12 28 25.6**	**-1.8**
CHIR	**Chirikof Islan**	**5.71**	**204**	Pn	**Pn**	**12 28 27.8**	**-0.4**
BCPM	**Bancas Point**	**5.99**	**96**	Pn	**Pn**	**12 28 32.6**	**+0.6**
EGAK	**Eagle**	**6.00**	**48**		**Pn**	**12 28 31.6**	**-0.4**
EGAK	**Eagle**	**6.00**	**48**	P	**Pn**	**12 28 31.6**	**-0.4**
	baz=237						
CHGN	**Chignik**	**6.00**	**220**	Pn	**Pn**	**12 28 32.5**	**+0.4**
FYU	**Fort Yukon**	**6.15**	**24**		**Pn**	**12 28 34.9**	**+0.8**
COLD	**Coldfoot**	**6.18**	**5**		**Pn**	**12 28 35.6**	**+1.1**
COLD	**Coldfoot**	**6.18**	**5

GSTD	Great Sitkin T	1.52	302			Pn	12 28 02.9 0.0
GSTD						Sn	12 28 24.7 +3.2
ADK	Adak	1.75	291			Pn	12 28 05.9 0.0
KIWB	Kanaga Island	2.02	288			Pn	12 28 10.2 +0.6
KIKV	Kanaga Island	2.04	288			Pn	12 28 10.4 +0.5
KIMD	Kanaga Island	2.05	285			Pn	12 28 10.3 +0.3
TAPA	Tanaga Point A	2.41	284			Pn	12 28 15.9 +0.9
TAFP	Tanaga Falls P	2.53	286			Pn	12 28 17.6 +0.9
TAFP						Sn	12 28 50.4 +4.1
TASE	Tanaga Southea	2.55	284			Pn	12 28 17.9 +0.9
OKER	Okmok East Rim	4.28	57			Pn	12 28 42.1 +1.3
MSW	Makushin Switc	5.16	56			Pn	12 28 53.8 +1.0
UNV	Unalaska Valle	5.28	58			Pn	12 28 55.4 +1.0
SPIA	Saint Paul Isl	6.32	19	Pn		Pn	12 29 12.1 +3.4
SHEM	Shemya Is, Ala	7.46	286	LR		LR	12 32 43.4
	comp=Z,143nm,18.4s,baz=344,slow=41						
BRLK	Bradley Lake	15.56	48	Pn		Pn	12 31 15.0 +0.4
BRLK				IAmb		IAmb	12 31 43.7
	comp=Z,14nm,1.0s						
PETK	Petropavlovsk-	17.37	287	P		P	12 31 38.3 -0.3
	comp=Z,0.1nm,0.3s,baz=100,slow=17,SNR=4.2						
FID	Port Fidalgo	17.96	47			Pn	12 31 43.5 -1.3
FID				IAmb		IAmb	12 31 44.5
	comp=Z,26nm,1.4s						
SCM	Sheep Creek Mo	17.98	44			Pn	12 31 44.5 -0.6
SCM				IAmb		IAmb	12 31 46.5
	comp=Z,18nm,1.2s						
MLY	Manley	18.31	32	P		Pn	12 31 50.2 +1.1
HDA	Harding Lake	19.31	37	P		P	12 31 59.8 -0.1
GLB	Gilahina Butte	19.41	47	P		P	12 32 01.3 +0.3
GLB				IAmb		IAmb	12 32 18.2
	comp=Z,13nm,1.4s						
IL31		19.52	36			Pn	12 32 02.7 -0.8
ILAR	Eielson Array	19.52	36	P		P	12 32 00.8 -1.3
	comp=Z,0.3nm,0.3s,baz=237,slow=8.5,SNR=3.6						
ILAR	Eielson Array	19.52	36	P		P	12 32 01.0 -1.1
H24K	Noodor Dome	19.75	33	P		P	12 32 05.1 +0.5
H24K				IAmb		IAmb	12 32 16.9
	comp=Z,10nm,1.1s						
RIDG	Independent Ri	19.82	40	P		P	12 32 05.2 -0.3
J25K	Salcha River,	20.01	37	P		P	12 32 06.7 -0.8
J25K				IAmb		IAmb	12 32 19.7
	comp=Z,9.1nm,0.8s						
SCRK	Sand Creek	20.26	40	P		P	12 32 09.3 -1.0
SCRK				IAmb		IAmb	12 32 23.2
	comp=Z,8.6nm,1.1s						
CTGM	Chitina Glacie	20.44	49	P		P	12 32 13.4 +1.1
SEY	Seymchan	21.35	316	P		P	12 32 20.8 -1.1
	comp=Z,1.0nm,0.6s,baz=95,slow=16,SNR=7.3						
MA2	Magadan	21.39	307	P		P	12 32 22.2 -0.2
	comp=Z,0.8nm,0.5s,baz=98,slow=12,SNR=4.3						
EGAK	Eagle	21.71	39	P		P	12 32 25.4 -0.4
EGAK				IAmb		IAmb	12 32 33.8
	comp=Z,12nm,0.9s						
BMAR	Burnt Mountain	21.74	31	P		P	12 32 26.9 +0.8
DAWY	Dawson	22.18	41	P		P	12 32 30.7 -0.1
DAWY				IAmb		IAmb	12 32 45.6
	comp=Z,6.7nm,1.0s						
EPYK	Eagle Plains	24.02	37	P		P	12 32 49.0 -0.3
INK	Inuvik	25.86	34	P		P	12 33 04.7 -1.3
	comp=Z,1.4nm,0.5s,baz=231,slow=7.0,SNR=4.0						
INK				LR		LR	12 42 42.7
	comp=Z,43nm,20.7s,baz=140,slow=35						
INK	Inuvik	25.86	34	P		P	12 33 05.7 -0.3
INK				IAmb		IAmb	12 33 12.5
	comp=Z,6.5nm,1.2s						
DLBC	Dease Lake	25.93	57	P		P	12 33 07.0 +0.2
DLBC				IAmb		IAmb	12 33 32.1
	comp=Z,8.3nm,1.4s						
YKA	Yellowknife A	33.13	47	P		P	12 34 09.9 -0.7
	comp=Z,0.2nm,0.6s,baz=273,slow=10,SNR=5.7						
YKA				PcP		PcP	12 36 53.3 +0.6
	comp=Z,0.3nm,0.8s,baz=285,slow=3.0,SNR=4.8						
YKA	Yellowknife Ar	33.13	47	P		P	12 34 09.4 -1.1
KLR	Kul'dur	34.06	288	P		P	12 34 18.4 -0.4
	comp=Z,2.3nm,0.6s,baz=69,slow=7.7,SNR=13						
H11N2	WAKE ISLAND Hy	34.87	213	T		T	13 12 46.6
	baz=21,slow=75,SNR=5.0						
H11N3	WAKE ISLAND Hy	34.88	213	T		T	13 12 42.6
	baz=21,slow=75,SNR=5.0						
H11N1	WAKE ISLAND Hy	34.89	213	T		T	13 12 43.9
	baz=21,slow=75,SNR=3.1						
H11S1	WAKE ISLAND Hy	36.08	212	T		T	13 14 11.1
	baz=20,slow=76,SNR=9.1						
H11S2	WAKE ISLAND Hy	36.09	212	T		T	13 14 01.0
	baz=20,slow=76,SNR=6.8						
H11S3	WAKE ISLAND Hy	36.09	212	T		T	13 14 00.9
	baz=20,slow=76,SNR=4.7						
EDM	Edmonton	36.24	63	P		P	12 34 38.7 +1.2
EDM				IAmb		IAmb	12 34 40.9
	comp=Z,6.2nm,0.8s						
USA0B	Ussuriysk Arra	36.25	280	P		P	12 34 37.9 +0.2
USA0B				IAmb		IAmb	12 34 39.2
	comp=Z,5.2nm,0.7s						
USRK	Ussuriysk Ar.	36.25	280	P		P	12 34 37.8 +0.1
	comp=Z,5.3nm,0.8s,baz=69,slow=7.8,SNR=4.1						
USRK	Ussuriysk Ar.	36.25	280	P		P	12 34 38.3 +0.7
MJAR	Matsushiro Arr	36.73	265	P		P	12 34 41.9 +0.1
	comp=Z,1.0nm,0.7s,baz=41,slow=7.9,SNR=4.3						
MCMT	McKenzie Canyo	40.36	74	P		P	12 35 13.4 +0.8
NVAR	Mina Array Bea	40.60	86	P		P	12 35 14.4 -0.2
	comp=Z,0.2nm,0.6s,baz=307,slow=11,SNR=2.1						
KSRS	Korea Array	42.62	274	P		P	12 35 30.9 +0.1
	comp=Z,0.3nm,0.4s,baz=27,slow=14,SNR=1.8						
PDAR	Pinedale Array	43.48	75	P		P	12 35 38.9 +0.8
	comp=Z,0.3nm,0.6s,baz=326,slow=3.0,SNR=3.3						
PDAR	Pinedale Array	43.48	75	P		P	12 35 38.2 +0.2
FCC	Fort Churchill	43.85	48	P		P	12 35 40.0 -0.4
SONM	Songino Array	49.33	299	P		P	12 36 24.0 +0.3
	comp=Z,1.9nm,0.7s,baz=45,slow=8.6,SNR=15						
SONM	Songino Array	49.33	299	P		P	12 36 23.5 -0.1
SONM				IAmb		IAmb	12 36 24.9
	comp=Z,2.0nm,0.9s						
T25A	Trinidad	50.03	78	P		P	12 36 29.4 +0.2
T25A				IAmb		IAmb	12 36 36.1
	comp=Z,6.3nm,1.2s						
TXAR	Lajitas Array	55.71	85	P		P	12 37 12.5 +1.4
	comp=Z,0.1nm,0.5s,baz=294,slow=6.8,SNR=2.1						
ARCES	ARCESS Array B	58.65	352	P		P	12 37 29.1 -2.1
	comp=Z,4.4nm,1.1s,baz=30,slow=7.4,SNR=1.5						
KURK	Kurchatov	61.20	316	P		P	12 37 48.3 -0.6
LONY	Lake Ozonia	61.91	53	P		P	12 37 54.1 +0.3
MK31	Makanchi Array	62.39	311	P		P	12 37 57.0 -0.1
MKAR	Makanchi Array	62.39	311	P		P	12 37 56.7 -0.4
	comp=Z,0.7nm,0.5s,baz=45,slow=5.8,SNR=17						
MKAR	Makanchi Array	62.39	311	P		P	12 37 57.0 -0.1
NCB	Newcomb	62.55	53	P		P	12 37 58.9 +0.7
J59A	Piesco	62.77	54	P		P	12 37 59.9 +0.3
BRVK	Borovoye	62.86	322	P		P	12 38 01.1 +1.1
BRVK				IAmb		IAmb	12 38 24.3
	comp=Z,1.8nm,1.1s						
SSPA	Standing Stone	63.04	58	P		P	12 38 01.9 +0.5
L59A	Walton	63.41	55	P		P	12 38 04.0 0.0
G62A	West of Eustis	63.47	50	P		P	12 38 04.5 +0.2
FINES	FINESS Array B	66.48	350	P		P	12 38 22.3 -1.2
	comp=Z,2.1nm,0.8s,baz=28,slow=8.6,SNR=3.7						
NC303	NORSAR Array S	67.77	357	P		P	12 38 30.6 -1.1
NOA	NORSAR Array B	67.95	357	P		P	12 38 31.4 -1.5
	comp=Z,0.8nm,0.9s,baz=5.3,slow=6.8,SNR=2.3						
BOOM	Boomskoye usch	68.61	312	P		P	12 38 37.8 +0.3
BOOM				IAmb		IAmb	12 38 39.0
	comp=Z,4.5nm,1.4s						
ABKAR	Akbulak array	69.76	326	P		P	12 38 44.5 +0.2
KKAR	Karatay Array	70.60	315	P		P	12 38 49.7 +0.1
CMAR	Chiang Mai Arr	72.88	280	P		P	12 39 09.7 -0.3
	comp=Z,0.4nm,0.4s,baz=26,slow=7.5,SNR=2.5						
GAR	Garm	73.98	313	P		P	12 39 09.7 -0.3
AKASG	Malin Array Be	76.49	345	P		P	12 39 22.8 -1.2
	comp=Z,1.2nm,0.4s,baz=16,slow=6.0,SNR=6.5						
AKBB	Malin Array Si	76.49	345	P		P	12 39 22.6 -1.4
AKBB				IAmb		IAmb	12 39 23.5
	comp=Z,4.0nm,0.9s						
GERES	GERESS Array B	80.04	355	P		P	12 39 42.5 -1.2
	comp=Z,0.9nm,0.7s,baz=351,slow=6.8,SNR=7.5						
BUR08	Bucovina Ar. S	80.08	347	P		P	12 39 44.8 +0.7
BURAR	Bucovina Array	80.11	347	P		P	12 39 44.1 -0.1
BURAR				IAmb		IAmb	12 39 45.4
	comp=Z,1.6nm,0.7s						
BRTR	Keskin Array B	86.19	339	P		P	12 40 16.3 +0.5
	comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=2.1						
ASAR	Alice Springs	87.50	226	P		P	12 40 22.0 0.0
	comp=Z,0.5nm,0.9s,baz=354,slow=6.0,SNR=3.0						
ESDC	Sonseca Array	89.01	8	P		P	12 40 28.4 -0.9
	comp=Z,0.7nm,0.8s,baz=353,slow=5.1,SNR=5.2						

BUC 13 12:34:57.6±0.4, 45°67'N×26°62'E, h140km±2km, ml3.5/27, 31C-26D, Error ellipse: s-maj=2.5km s-min=1.9km az=156.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISRR	Bisoca	0.14	152	⇑P	Pn	12 35 32.5	+1.5
				⇑S	Sn	12 35 32.5	+1.5
PLOR	Plostina	0.18	8	⇑P	Pn	12 35 16.7	+0.1
PLOR				⇓S	Sn	12 35 31.0	-0.1
VRI	Vrincioaia	0.21	22	⇑P	Pn	12 35 16.9	+0.3
VRI				⇑S	Sn	12 35 31.7	+0.5
ODBI	Odobesti	0.32	74	⇓P	Pn	12 35 17.7	+0.8
ODBI				⇓S	Sn	12 35 33.1	+1.4
NEHR	Nehoiu	0.33	223	⇑P	Pn	12 35 17.8	+0.7
NEHR				⇑S	Sn	12 35 32.6	+0.8
COVR	Voineasa-Covas	0.34	301	⇓P	Pn	12 35 17.0	0.0
COVR				⇑S	Sn	12 35 31.9	+0.1
GRER		0.39	139	⇓S	Sn	12 35 32.9	+0.8
PANC	Panciu	0.42	62	⇓P	Pn	12 35 18.0	+0.7
PANC				⇑S	Sn	12 35 33.3	+1.0
MLR	Muntele Rosu	0.51	249	⇑P	Pn	12 35 18.3	+0.3
MLR				⇑S	Sn	12 35 34.1	+0.8
GHRR		0.68	55	⇑S	Sn	12 35 35.8	+0.9
SLCR	Slobozia Conac	0.81	95	⇑S	Sn	12 35 37.0	+0.3
IZVR	Izvoarele	0.82	99	⇑S	Sn	12 35 36.8	+0.1
TESR	Tescani	0.84	2	⇑P	Pn	12 35 19.6	-0.4
TESR				⇓S	Sn	12 35 36.2	-1.0
PLAR	PLOIESTI	0.86	209	⇓S	Sn	12 35 38.9	+1.5
SCHL	Schela	0.87	101	⇓S	Sn	12 35 38.1	+0.7
BIR	Birlad	0.92	50	⇓P	Pn	12 35 21.0	+0.4
BIR				⇓S	Sn	12 35 38.4	+0.1
SCTR	Scanteiesti	0.97	89	⇑S	Sn	12 35 39.2	+0.3
TATR	Tatarca	1.01	94	⇑S	Sn	12 35 40.0	+0.5
SULR		1.03	195	⇓P	Pn	12 35 22.4	+0.8
SULR				⇓S	Sn	12 35 40.5	+0.6
VLDR	Vladesti	1.04	80	⇓P	Pn	12 35 22.3	+0.6
VLDR				⇓S	Sn	12 35 40.3	+0.3
VOIR		1.12	258	⇓P	Pn	12 35 22.4	-0.2
VOIR				⇓S	Sn	12 35 41.4	-0.3
GIUM	Giurgiulesti	1.13	99	⇑S	Sn	12 35 42.2	+0.6
AMRR	Amara	1.18	154	⇑S	Sn	12 35 43.1	+0.8
CFR	Carcaliu	1.18	114	⇓P	Pn	12 35 23.3	+0.3
CFR				⇑S	Sn	12 35 42.3	-0.1
LEHL	Lehliu	1.21	173	⇓S	Sn	12 35 44.0	+1.1
VASR	Vaslui	1.27	40	⇓P	Pn	12 35 24.0	+0.1
VASR				⇑S	Sn	12 35 43.5	-0.5
HARR	Harsova	1.35	136	⇑P	Pn	12 35 24.7	-0.1
BUC1	Bucharest	1.39	198	⇓S	Sn	12 35 46.4	+0.2
LEOM	Leova	1.39	54	⇑S	Sn	12 35 45.9	-0.2
STFAR	Stefanesti-Arg	1.42	236	⇑S	Sn	12 35 46.5	-0.3
ARR	Arges	1.43	258	⇑P	Pn	12 35 26.0	+0.4
ARR				⇑S	Sn	12 35 46.5	-0.5
TPGR	Topolog	1.51	122	⇓P	Pn	12 35 26.6	+0.1
TPGR				⇑S	Sn	12 35 47.8	-0.8
SGRR	Singureni	1.52	198	⇑P	Pn	12 35 27.0	+0.4
SGRR				⇓S	Sn	12 35 48.4	-0.3
TLCR		1.62	107	⇓P	Pn	12 35 28.3	+0.6
TLCR				⇑S	Sn	12 35 50.4	-0.3
HUMR	Humele	1.63	226	⇑S	Sn	12 35 50.4	-0.4
TIRR	Tirgusor	1.76	133	⇓P	Pn	12 35 29.5	+0.2
TIRR				⇑S	Sn	12 35 52.7	-0.8
ICOR	Ion Corvin	1.77	151	⇑P	Pn	12 35 30.1	+0.7
ICOR				⇑S	Sn	12 35 53.6	-0.1

NEIC 13 12:50:16.4±1.9, 5°88S±0.08×153°3E±0.1, h34km±5km, mb4.4/24, Error ellipse: s-maj=18.0km s-min=11.4km az=93.0
IDC 13 12:50:17.1±3.7, 6°01S×153°16E, h45km±28km, mb3.6/12, mb1 3.8/14, mb1mx3.7/40, mbtmp3.9/14, ML2.9/2, MS3.0/3, Ms1 3.1/3, ms1mx2.6/53, Error ellipse: s-maj=36.2km s-min=11.0km az=101.0

ISC 13 12:50:15.7±0.7, 5°97S±0.06×153°3E±0.1, h32km, n53, σ0892/51, mb4.2/21, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.07	323	P	Pn	12 50 49.1	+0.8
	16nm,0.3s,baz=90,slow=7.1,SNR=36						
KRVT				S	Sn	12 51 13.6	+0.6
	14nm,0.3s,baz=90,slow=20,SNR=9.8						
RABL	Rabaul	2.09	328		Pn	12 50 48.8	+0.4
PMG	Port Moresby	6.97	240	P	Pn	12 51 55.1	-0.5
	5.8nm,0.3s,baz=104,slow=6.7,SNR=19						
PMG				S	Sn	12 53 11.7	-2.1
	2.0nm,0.3s,baz=127,slow=23,SNR=6.9						
PMG				LR	LR	12 54 09.6	
	comp=Z,87nm,18.7s,baz=54,slow=34						
PMG	Port Moresby	6.97	240		Pn	12 51 58.1	+2.5
DZM	Mont Dzumac	20.45	143	LR	LR	13 01 45.5	
	comp=Z,54nm,18.3s,baz=210,slow=34						
WR0	Warramunga Arr	22.92	231	P	P	12 55 16.7	-0.5
WB0	Warramunga Arr	22.93	232	P	P	12 55 17.8	+0.5
WB0				IAmb	IAmb	12 55 26.2	
	comp=Z,11nm,1.4s						
WRAB	Tennant Creek	23.05	231	P	P	12 55 18.0	-0.6
WRAB				IAmb	IAmb	12 55 30.3	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	23.06	231	P	P	12 55 18.5	-0.1
WRA	Warramunga Arr	23.07	231	P	P	12 55 17.1	-1.6
	comp=Z,1.3nm,0.9s,baz=56,slow=9.6,SNR=8.8						
WRA	Warramunga Arr	23.07	231	P	P	12 55 18.4	-0.3
AS31	Alice Springs	25.64	225	P	P	12 55 42.4	-0.3
ASAR	Alice Springs	25.64	225	P	P	12 55 41.2	-1.4
	comp=Z,1.8nm,0.8s,baz=57,slow=8.8,SNR=28						
ASAR	Alice Springs	25.64	225	P	P	12 55 42.6	-0.1
KNRA	Kununurra	25.92	246	P	P	12 55 46.4	+1.2
KNRA				IAmb	IAmb	12 56 08.8	
	comp=Z,8.7nm,0.8s						
H11S3	WAKE ISLAND Hy	27.67	28	T	T	13 25 23.7	
	baz=209						
H11S2	WAKE ISLAND Hy	27.67	28	T	T	13 25 23.5	
	baz=209,SNR=4.5						
H11S1	WAKE ISLAND Hy	27.68	28	T	T	13 25 23.7	
	baz=209						
STKA	Stephens Creek	28.00	202	P	P	12 56 03.5	-0.3
	comp=Z,1.7nm,0.6s,baz=356,slow=13,SNR=4.9						
STKA	Stephens Creek	28.00	202	P	P	12 56 04.4	+0.6
FITZ	Fitzroy Crossi	29.55	243	P	P	12 56 16.6	-1.1
	comp=Z,3.3nm,0.8s,baz=54,slow=8.0,SNR=9.8						
FITZ	Fitzroy Crossi	29.55	243	P	P	12 56 17.1	-0.6
FITZ				IAmb	IAmb	12 56 20.0	
	comp=Z,8.7nm,1.3s						
KAPI	Kappang	33.39	270	P	P	12 56 51.5	-0.1
PSA00	Pilbara Seismi	35.88	241	P	P	12 57 13.2	+0.2
PSA00				IAmb	IAmb	12 57 16.9	
	comp=Z,7.1nm,1.4s						
MORW	Morawa	42.01	232	P	P	12 58 05.6	+1.3
MORW				IAmb	IAmb	12 58 32.7	
	comp=Z,20nm,1.4s						
CMAR	Chiang Mai Arr	58.81	296	P	P	13 00 11.6	+0.1
	comp=Z,0.8nm,0.3s,baz=114,slow=6.1,SNR=5.8						
CMAR				LR	LR	13 28 23.1	
	comp=Z,15nm,18.1s,baz=85,slow=39						
CMAR	Chiang Mai Arr	58.81	296	P	P	13 00 11.4	-0.1
PEA0B	Petropavlovsk-	58.97	3	P	P	13 00 11.6	-0.3
PETK	Petropavlovsk-	58.97	3	P	P	13 00 12.3	+0.4
	comp=Z,1.1nm,0.6s,baz=162,slow=6.2,SNR=2.3						
PETK	Petropavlovsk-	58.97	3	P	P	13 00 11.6	-0.3
MA2	Magadan	65.36	359	P	P	13 00 55.6	+0.9
	comp=Z,0.7nm,0.3s,baz=169,slow=6.7,SNR=8.0						
MA2	Magadan	65.36	359	P	P	13 00 54.8	+0.1
MA2				IAmb	IAmb	13 00 56.7	
	comp=Z,2.4nm,0.8s						
SONM	Songino Array	67.56	328	P	P	13 01 09.0	-0.1
	comp=Z,0.9nm,0.8s,baz=143,slow=6.0,SNR=6.2						
SONM	Songino Array	67.56	328	P	P	13 01 08.4	-0.8
SONM				IAmb	IAmb	13 01 12.9	
	comp=Z,3.2nm,1.3s						
VNDA	Vanda	71.66	178	P	P	13 01 34.0	+0.2
KDAK	Kodiak Island	77.00	26	P	P	13 02 05.8	+0.8
L19K	White Mountain	78.64	22	P	P	13 02 15.2	+1.0
M19K	Big River Lodg	78.64	22	P	P	13 02 13.3	-0.9
M19K				IAmb	IAmb	13 02 41.3	
	comp=Z,10nm,1.5s						
IMAR	Indian Mountai	81.31	19	P	P	13 02 29.7	+1.1
MKAR	Makanchi Array	81.52	319	P	P	13 02 29.0	-1.1
	comp=Z,0.4nm,0.7s,baz=104,slow=7.0,SNR=4.9						
MKAR	Makanchi Array	81.52	319	P	P	13 02 31.0	+0.9
ZALV	Zalesovo Beam	82.38	326	P	P	13 02 33.1	-1.3
	comp=Z,0.3nm,0.3s,baz=54,slow=2.7,SNR=1.9						
ILAR	Eielson Array	83.05	22	P	P	13 02 36.4	-1.3
	comp=Z,0.1nm,0.5s,baz=251,slow=5.3,SNR=2.2						
QSPA	South Pole Qui	84.00	180	P	P	13 02 43.9	+1.1
QSPA				IAmb	IAmb	13 02 48.5	
	comp=Z,2.3nm,1.1s						
BCAR	Beaver Creek A	84.26	24	P	P	13 02 43.5	-0.5
KURK	Kurchatov	84.98	322	P	P	13 02 48.2	+0.4
KURK				IAmb	IAmb	13 03 06.0	
	comp=Z,2.6nm,1.2s						
KURBB	Kurchatov Arra	85.01	322	P	P	13 02 46.3	-1.7
	comp=Z,0.6nm,0.8s,baz=109,slow=4.2,SNR=6.1						
BMAR	Burnt Mountain	85.17	20	P	P	13 02 48.7	+0.3
HYT	Haines Junctio	85.24	27	P	P	13 02 49.5	+0.4
KKAR	Karatay Array	88.78	313	P	P	13 03 06.1	-0.4
INK	Inuvik	89.36	21	P	P	13 03 08.2	-0.4
INK				IAmb	IAmb	13 03 34.4	
	comp=Z,4.4nm,1.5s						
CLRS	Cowichan Lake	89.58	41	P	P	13 03 08.8	-1.3
TORD	Torodi Ar. Bea	151.11	286	PKPbc	PKPbc	13 10 06.8	+0.2
	comp=Z,2.2nm,0.7s,baz=56,slow=2.4,SNR=16						

ISK 13 12:50:19.8, 36°79N×29°65E, h2km, ML2.5/12
DDA 13 12:50:20.7±0.0, 36°78N×29°61E, h7km±2km, ML2.4

ISC 13 12:50:20.7±1.0, 36°79N±0°03×29°64E±0°02, h11km±9km, n21, σ0971/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELL	Elmali	0.22	101	PG	Pg	12 50 25.1	-0.4
ELL				SG	Sg	12 50 28.9	+0.2
CAME	Cameli-Denizli	0.31	300	PG	Pg	12 50 26.9	-0.1
CAME				SG	Sb	12 50 32.4	-1.1
CAEL	Denizli, Camel	0.41	323	P	Pb	12 50 29.4	-0.8
CAEL				S	Sb	12 50 35.7	-0.9
CAEL				*i* AML	AML	12 50 45.0	
	comp=E,374nm,0.9s						
FETY	Fethiye	0.47	251	PG	Pg	12 50 30.0	0.0
FETY				SG	Sb	12 50 37.6	-0.5
FETY	Fethiye	0.47	251	P	Pg	12 50 29.7	-0.3
FETY				S	Sb	12 50 38.1	+0.1
FETY				*i* AML	AML	12 50 40.0	
	comp=N,279nm,0.2s						
AKAS	Kas	0.56	182	PG	Pg	12 50 31.5	-0.2
KORT	Korkueli	0.61	70	PG	Pg	12 50 32.1	-0.5
KORT	Korkueli	0.61	70	P	Pb	12 50 33.1	-0.5
KORT				S	Sn	12 50 45.0	-0.5
KORT				*i* AML	AML	12 50 50.0	
	comp=N,179nm,0.6s						
AKUM	Antalya-Kumluc	0.74	129	P	Pg	12 50 33.9	-1.1
DALY	Dalyan (Mula)	0.79	272	PG	Pb	12 50 36.2	-0.3
DALY				SG	Sb	12 50 48.2	+1.0
TAVA	DENIZLI_Tavas	0.89	320	P	Pg	12 50 37.4	-0.5
TAVA				S	Sb	12 50 49.8	-0.3
BRDR	BURDUR-Merkez	0.96	21	P	Pg	12 50 39.1	-0.3
YER	Yerkesik	1.14	288	PN	Pn	12 50 42.9	+0.2
MULA	Mugla, Merkez-	1.15	294	P	Pn	12 50 43.8	+0.9
MULA				S	Sb	12 50 58.5	+0.8
SUTC	Sutluce-Ispart	1.29	58	PN	Pb	12 50 45.8	+0.7
PASA	Karahalli, USA	1.56	356	P	Pg	12 50 50.7	+0.1
MLSB	Milas	1.57	289	PN	Pg	12 50 50.1	-0.8
DAT	Datca	1.65	268	PN	Pb	12 50 50.9	-0.4
DAT	Datca	1.65	268	P	Pg	12 50 51.8	-0.7
DAT				S	Sg	12 51 15.3	+1.3
DAT				*i* AML	AML	12 51 19.0	
	comp=N,54nm,0.4s						
SEYD	Seydisehir-KON	1.86	70	PN	Pn	12 50 53.8	+1.0
BODT	Bodrum	1.88	279	PN	Pb	12 50 54.3	-0.9

WEL 13 13:01:16.1±1.2, 37°S±17°×18°0W±1°5, h33km, M3.5/13, ML3.8/13, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=138.9
IDC 13 13:01:16.7±3.1, 36°48S×179°72E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/32, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=69.8km s-min=31.9km az=122.0
NEIC 13 13:01:18.1±0.6, 36°7S±0°2×179°8E±0°2, h10km±2km, mb4.0/6, Error ellipse: s-maj=41.7km s-min=7.9km az=140.0

ISC 13 13:01:15.7±3.5, 36°91S±0°08×179°9W±0°1, h3km±18km, n41, σ1852/49, mb3.9/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.55	245		Pn	13 01 44.1	-0.1
MXZ	Matakaoa Point

VTS	Vitosha	0.23	344		P		Pg	13 05 50.5	-0.5
SOF	Sofiya	0.29	2		P		Pg	13 05 51.6	-0.5
KKB	Krupnik	0.56	199		P		Pb	13 05 59.4	+0.2
BOSS	Bosilegrad	0.63	279		eP		Pg	13 05 59.4	+0.8
BOSS					eSg		Sg	13 06 07.9	+1.1
PGB	Panagyurishte	0.64	76		P		Pg	13 05 58.4	-0.4
MMB	Musomiste	0.86	159		P		Pb	13 06 05.2	+0.8
PRVS	Prvonek	0.93	277		eP	g	Pb	13 06 06.0	+0.5
PRVS					eSg		Sg	13 06 17.7	+1.3
ZAPS	Zavoj	1.01	330		eP	g	Pg	13 06 06.0	+0.1
ZAPS					eSg		Sg	13 06 19.1	+0.1
STIP	Stip	1.10	231		i P	g	Pg	13 06 04.5	-3.1
STIP					i Sg		Sg	13 06 18.0	-3.9
BARS	Barje	1.19	291		eP	g	Pg	13 06 09.7	+0.4
BARS	Barje	1.19	291		eP	n	Pn	13 06 19.9	+9.5
BARS					eSg		Sg	13 06 24.1	-0.6
BARS					eSg		Sn	13 06 45.7	+18
BARS	Barje	1.19	291		i Pg		Pg	13 06 09.7	+0.4
BARS					i Sg		Sg	13 06 24.3	-0.4
VAY	Valandovo	1.21	208		eP	g	Pn	13 06 11.4	+0.7
VAY					eSg		Sn	13 06 28.6	+0.8
VAY	Valandovo	1.21	208		i Pg		Pn	13 06 11.6	+0.9
VAY					i Sg		Sb	13 06 28.1	+1.6
VAY					eLg		Lg	13 06 29.3	
	comp=N,22nm,0.3s								
RZN	Rozhen	1.26	124		P		Pg	13 06 10.7	+0.1
KNT	Kendrikon	1.27	195		i Pg		Pb	13 06 12.2	+0.8
ZAGS	Zajecar	1.62	331		eP	g	Pn	13 06 15.9	-0.5
ZAGS					eSg		Sn	13 06 35.8	-2.2
SELS	Selova	1.82	298		eP	g	Pn	13 06 19.7	+0.6
SELS					eSg		Sb	13 06 44.0	0.0

RSNC ***13*** *13:17:46.3±1.1, 3°.50N×74°.58W, h0km±3km, ML4.0, Mw4.0, Fault plane solution: NP1,φs28.00000°, δ67.00000°, λ-172.00000°.*

NEIC ***13*** *13:17:49.3±2.3, 3°.57N±0°.07×74°.43W±0°.08, h53km±6km, mb4.5/37, Error ellipse: s-maj=12.7km s-min=8.9km az=112.0*

IDC ***13*** *13:17:49.1±2.7, 3°.45N×74°.38W, h59km±22km, mb3.4/7, mb1 3.8/8, mb1mx3.5/33, mbtmp3.8/8, ML3.8/2, MS3.0/4, Ms1 3.0/4, ms1mx2.8/36, Error ellipse: s-maj=26.0km s-min=17.9km az=52.0*

ISC 13 13:17:44.6±1.0, **3°.48N**±0°.02×**74°.46W**±0°.03, **h18**km±4km, **n98**, σ1s**75**/131, **mb4.3**/23, **4C-5D, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORTC	**Ortega, Tolima**	**0.89**	**298**	⇓	*i*	P	**Pb**	**13 18 00.8**	**-0.8**
ORTC					*e*	S	**Sb**	**13 18 12.1**	**-1.0**
ORTC					*i*			13 18 12.8	
	comp=Z,10μm,0.3s								
VILC	**Villavicencio,**	**0.99**	**51**	⇓	*e*	P	**Pg**	**13 18 05.5**	**+1.6**
VILC					*e*	S	**Sn**	**13 18 20.1**	**+2.8**
BETC	**Betania**	**1.26**	**231**	⇓	*i*	P	**Pn**	**13 18 07.5**	**+0.1**
BETC					*e*	S	**Sb**	**13 18 23.6**	**-0.2**
BETC					*i*			13 18 27.1	
	comp=Z,2μm,0.4s								
CHIC	**Chingaza**	**1.35**	**33**		*e*	P	**Pg**	**13 18 10.9**	**+0.1**
CHIC					*e*	S	**Sg**	**13 18 28.5**	**0.0**
CHIC					*i*			13 18 30.8	
	comp=Z,2μm,0.4s								
ROSC	**El Rosal**	**1.35**	**6**		P		**Pg**	**13 18 11.2**	**+0.3**
	comp=Z,358nm,0.3s,baz=278,slow=18,SNR=406								
ROSC						S	**Sg**	**13 18 30.2**	**+1.6**
	comp=Z,504nm,0.3s,baz=104,slow=17,SNR=19								
ROSC	**El Rosal**	**1.35**	**6**				**Pg**	**13 18 11.0**	**+0.2**
ROSC	**El Rosal**	**1.35**	**6**	⇑	*i*	P	**Pg**	**13 18 11.2**	**+0.3**
ROSC					*e*	S	**Sg**	**13 18 30.6**	**+1.9**
ROSC					*i*			13 18 37.0	
	comp=Z,2μm,0.3s								
ANIL	**Santa Ana**	**1.37**	**317**	⇑	*e*	P	**Pn**	**13 18 08.9**	**-0.2**
ANIL					*e*	S	**Sb**	**13 18 26.9**	**-0.3**
MACC	**Macarena, Meta**	**1.46**	**155**		*e*	P	**Pg**	**13 18 12.4**	**-0.4**
MACC					*e*	S	**Sg**	**13 18 31.6**	**-0.4**
MACC					*i*			13 18 43.8	
	comp=Z,1μm,0.4s								
MARP	**Paez Belalcaza**	**1.62**	**247**	⇓	*i*	P	**Pb**	**13 18 13.3**	**-0.8**
MARP					*e*	S	**Sb**	**13 18 34.4**	**0.0**
GARC	**Garzon, Huila**	**1.65**	**219**	⇓	*e*	P	**Pb**	**13 18 14.4**	**-0.2**
GARC					*e*	S	**Sb**	**13 18 36.0**	**+0.9**
GARC					*i*			13 18 36.9	
	comp=Z,3μm,0.3s								
YOTC	**Yotoco, Valle**	**1.94**	**285**		*e*	P	**Pn**	**13 18 17.1**	**+0.2**
YOTC					*e*	S	**Sb**	**13 18 42.6**	**-0.9**
YOTC					*i*			13 18 44.2	
	comp=Z,1μm,0.5s								
GUY2C	**Guyana, Caldas**	**1.95**	**333**	⇑	*e*	P	**Pb**	**13 18 18.8**	**-1.1**
GUY2C					*e*	S	**Sb**	**13 18 43.7**	**-0.3**
GUY2C					*i*			13 18 46.1	
	comp=Z,1μm,0.3s								
GUVC	**San Jose del G**	**2.06**	**117**		*e*	P	**Pb**	**13 18 22.0**	**+0.6**
GUVC					*e*	S	**Sg**	**13 18 50.5**	**-0.4**
GUVC					*i*			13 18 54.1	
	comp=Z,3μm,0.2s								
NORC	**Norcasia**	**2.11**	**349**	⇑	*e*	P	**Pn**	**13 18 19.9**	**+0.8**
NORC					*e*	S	**Sb**	**13 18 47.9**	**-0.3**
NORC					*i*			13 18 49.4	
	comp=Z,955nm,0.2s								
SPBC	**San Pablo de B**	**2.19**	**10**		*e*	P	**Pb**	**13 18 22.7**	**-1.1**
SPBC					*e*	S	**Sb**	**13 18 52.0**	**+1.4**
SPBC					*i*			13 19 00.8	
	comp=Z,1μm,0.3s								
FLOC	**Florencia**	**2.23**	**212**		*e*	P	**Pb**	**13 18 22.9**	**-1.5**
FLOC					*e*	S	**Sb**	**13 18 53.2**	**+1.4**
FLOC					*i*			13 18 56.7	
	comp=Z,1μm,0.5s								
PCON	**Cinco Dias**	**2.25**	**239**		*e*	P	**Pn**	**13 18 22.8**	**+1.4**
PCON					*e*	S	**Sb**	**13 18 54.1**	**+1.4**
PCON					*i*			13 18 57.6	
	comp=Z,2μm,0.5s								
PLMC	**San Jos del P**	**2.30**	**308**		*e*	P	**Pn**	**13 18 23.1**	**+1.4**
PLMC					*e*	S	**Sn**	**13 18 50.9**	**+1.3**
PLMC					*i*			13 18 55.6	
	comp=Z,2μm,0.3s								
POPC	**Popayan, Colom**	**2.40**	**247**		*e*	P	**Pn**	**13 18 25.1**	**+1.9**
POPC					*e*	S	**Sb**	**13 18 57.7**	**+0.8**
PTGC	**Puerto Gaitan,**	**2.43**	**73**		*e*	P	**Pb**	**13 18 27.6**	**-0.2**
PTGC					*e*	S	**Sg**	**13 19 00.3**	**-2.5**
PTGC					*i*			13 19 08.6	
	comp=Z,1μm,0.3s								
SOTA	**Rioblanco**	**2.53**	**238**		*e*	P	**Pn**	**13 18 27.3**	**+2.1**
SOTA					*e*	S	**Sb**	**13 19 01.6**	**+0.8**
SOTA					*i*			13 19 06.3	
	comp=Z,528nm,0.5s								
RUSC	**La Rusia**	**2.76**	**30**		*e*	P	**Pb**	**13 18 32.6**	**-1.1**
RUSC					*e*	S	**Sb**	**13 19 09.7**	**+2.3**
RUSC					*i*			13 19 16.8	
	comp=Z,490nm,0.4s								
CBOC	**Ciudad Bolivar**	**2.83**	**327**		*e*	P	**Pn**	**13 18 31.2**	**+2.2**
CBOC					*e*	S	**Sb**	**13 19 10.0**	**+1.0**
HELC	**Santa Helena**	**2.89**	**338**		*e*	P	**Pn**	**13 18 32.0**	**+1.9**
HELC					*e*	S	**Sb**	**13 19 09.2**	**-1.9**
HELC					*i*			13 19 17.0	
	comp=Z,286nm,0.4s								
PTBC	**PUERTO BERRIO,**	**3.04**	**0**		*e*	P	**Pn**	**13 18 33.7**	**+1.9**
PTBC					*e*	S	**Sb**	**13 19 12.4**	**-2.5**
PTBC					*i*			13 19 26.5	
	comp=Z,284nm,0.3s								
PTLC	**Puerto Leguiza**	**3.31**	**186**		*e*	P	**Pg**	**13 18 47.5**	**-0.5**
PTLC					*e*	S	**Sg**	**13 19 34.0**	**+3.0**
PTLC					*i*			13 19 46.4	
	comp=Z,509nm,0.4s								
BARC	**Barichara**	**3.34**	**22**		*e*	P	**Sn**	**13 18 39.0**	**+2.9**
BARC					*e*	S	**Sb**	**13 19 21.9**	**-2.0**
BARC					*i*			13 19 35.1	
	comp=Z,266nm,0.4s								
GCUF	**Volcan Galeras**	**3.65**	**232**		*e*	P	**Pn**	**13 18 43.2**	**+2.5**
GCUF					*e*	S	**Sb**	**13 19 31.2**	**-1.8**
GCUF					*i*			13 19 42.3	
	comp=Z,116nm,0.5s								
GR1C	**Gorgona, Isla**	**3.73**	**263**		*e*	P	**Pn**	**13 18 41.7**	**+0.4**
GR1C					*e*	S	**Sn**	**13 19 26.3**	**+1.5**
TAMC	**Tame, Arauca**	**3.96**	**42**		*e*	P	Pb	13 18 49.0	-4.9
TAMC					*e*	S	**Sb**	**13 19 36.6**	**-5.0**
TAMC					*i*			13 20 00.3	
	comp=Z,247nm,0.5s								
ZARC	**Zaragoza, Cauc**	**4.00**	**354**				**Pn**	**13 18 46.7**	**+1.6**
ZARC	**Zaragoza, Cauc**	**4.00**	**354**		*e*	P	**Pn**	**13 18 46.9**	**+1.8**
ZARC					*e*	S	**Sn**	**13 19 36.4**	**+4.8**
ZARC					*i*			13 19 57.5	
	comp=Z,121nm,0.3s								
PAMC	**Pamplona, Colo**	**4.21**	**25**		*e*	P	**Pn**	**13 18 51.8**	**+3.4**
PAMC					*e*	S	**Sn**	**13 19 41.9**	**+4.5**
PAMC					*i*			13 20 05.8	
	comp=Z,92nm,0.4s								
UREC	**San Jos de Ur**	**4.37**	**346**		*e*	P	**Pn**	**13 18 52.8**	**+2.7**
UREC					*i*			13 20 04.9	
	comp=Z,57nm,0.7s								
OCAC	**Ocana**	**4.86**	**13**				**Pn**	**13 18 58.2**	**+1.2**
OCAC	**Ocana**	**4.86**	**13**		*e*	P	**Pn**	**13 18 59.7**	**+2.7**
OCAC					*e*	S	**Sn**	**13 19 59.0**	**+6.1**
OCAC					*i*			13 20 24.8	
	comp=Z,332nm,0.5s								
OTAV	**Otavalo**	**5.13**	**231**			P	**Pn**	**13 19 05.2**	**+4.2**
ELOV	**Elorza**	**6.07**	**55**		*e*	P	**Pn**	**13 19 16.5**	**+3.1**
ELOV					*e*	S	**Sn**	**13 20 24.5**	**+2.0**
SJCC	**San Jacinto, C**	**6.41**	**354**			P	**Pn**	**13 19 18.0**	**-0.2**
SJCC	**San Jacinto, C**	**6.41**	**354**		*e*	P	**Pn**	**13 19 18.0**	**-0.2**
SJCC					*e*	S	**Sn**	**13 20 37.4**	**+6.3**
SJCC					*i*			13 21 17.5	
	comp=Z,19nm,0.7s								
SDV	**Santo Domingo**	**6.58**	**35**		P		**Pn**	**13 19 22.9**	**+2.2**
	comp=Z,16nm,0.3s,baz=194,slow=10,SNR=94								
SDV						S	**Sn**	**13 20 38.2**	**+2.8**
	comp=Z,18nm,0.3s,baz=252,slow=20,SNR=4.2								
SDV						LR	LR	13 21 55.8	
	comp=Z,73nm,18.8s,baz=272,slow=38								
SDV	**Santo Domingo**	**6.58**	**35**		Pn		**Pn**	**13 19 21.7**	**+1.0**
SDV	**Santo Domingo**	**6.58**	**35**		*e*	P	**Pn**	**13 19 23.6**	**+2.9**
SDV					*e*	S	**Sn**	**13 20 37.3**	**+1.9**
SDV					*i*			13 20 40.0	
	comp=Z,72nm,0.6s								
DABV	**Dabajuro**	**8.31**	**27**		*e*	P	**Pn**	**13 19 45.5**	**+1.3**
DABV					*e*	S	**Sn**	**13 21 17.0**	**-0.7**
HATO	**Hato, Curacao**	**10.21**	**32**		Pn		**Pn**	**13 20 10.3**	**-0.1**
BIRV	**Birongo**	**10.69**	**49**		Pn		**Pn**	**13 20 17.5**	**+0.5**
ATAH	**Atahualpa**	**11.26**	**200**		LR		LR	13 25 54.7	
	comp=Z,76nm,19.6s,baz=359,slow=43								
PCRV	**Puerto La Cruz**	**11.80**	**55**		P		**Pn**	**13 20 32.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=256,slow=4.2,SNR=1.9								
NNA	**Nana**	**15.55**	**189**		LR		LR	13 27 25.2	
	comp=Z,47nm,18.7s,baz=327,slow=37								
SJG	**San Juan**	**16.66**	**29**		LR		LR	13 28 28.7	
	comp=Z,85nm,19.3s,baz=232,slow=38								
MAGL	**Barre de l'ile**	**17.93**	**45**		P		**Pn**	**13 21 52.7**	**-0.5**
SIV	**San Ignacio**	**23.45**	**146**		P		**P**	**13 22 53.0**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=284,slow=10,SNR=2.4								
V48A	**Smith Brothers**	**34.07**	**342**		P		**P**	**13 24 28.9**	**+0.9**
WVT	**Waverly**	**34.75**	**341**		P		**P**	**13 24 33.8**	**-0.1**
WVT					IAmb		IAmb	13 24 34.5	
	comp=Z,4.2nm,0.6s								
T47A	**Sharon Grove**	**35.31**	**342**		P		**P**	**13 24 39.1**	**+0.3**
U40A	**Yellville**	**36.85**	**335**		P		**P**	**13 24 51.5**	**-0.4**
U40A					IAmb		IAmb	13 24 52.0	
	comp=Z,4.0nm,0.9s								
FVM	**French Village**	**37.31**	**339**		P		**P**	**13 24 55.6**	**-0.3**
ABTX	**Abilene, Hawle**	**37.38**	**324**		P		**P**	**13 24 56.0**	**-0.4**
ABTX					IAmb		IAmb	13 25 11.6	
	comp=Z,4.6nm,0.6s								
CCM	**Cathedral Cave**	**37.68**	**338**		P		**P**	**13 24 58.2**	**-0.7**
CCM					IAmb		IAmb	13 24 58.8	
	comp=Z,3.4nm,0.7s								
W35A	**Tecumseh**	**37.74**	**329**		P		**P**	**13 24 57.6**	**-1.9**
W35A					IAmb		IAmb	13 24 59.6	
	comp=Z,6.0nm,0.9s								
M57A	**Sunshine Farm,**	**37.76**	**357**		P		**P**	**13 25 00.8**	**+1.2**
M57A					IAmb		IAmb	13 25 18.9	
	comp=Z,8.9nm,1.1s								
P46A	**Rosedale**	**37.78**	**344**		P		**P**	**13 25 00.1**	**+0.3**
P46A					IAmb		IAmb	13 25 00.4	
	comp=Z,7.6nm,0.8s								
TXAR	**Lajitas Array**	**37.80**	**316**		P		**P**	**13 25 00.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=132,slow=9.3,SNR=6.5								
TUL1	**Leonard**	**37.81**	**331**		P		**P**	**13 24 59.2**	**-0.8**
TUL1					IAmb		IAmb	13 24 59.8	
	comp=Z,6.5nm,0.7s								
FNO	**Franklin**	**38.09**	**329**		P		**P**	**13 25 01.5**	**-1.0**
S39A	**Bolivar**	**38.18**	**335**		P		**P**	**13 25 02.1**	**-1.0**
HDIL	**Hopedale**	**39.26**	**342**		P		**P**	**13 25 11.1**	**-1.1**
AMTX	**Amarillo**	**40.17**	**324**		P		**P**	**13 25 19.1**	**-0.8**
AMTX					IAmb		IAmb	13 25 20.2	
	comp=Z,4.6nm,0.5s								
MNTX	**Cornudas Mount**	**40.41**	**317**		P		**P**	**13 25 22.1**	**+0.2**
MNTX					IAmb		IAmb	13 25 23.4	
	comp=Z,5.9nm,1.4s								
JFWS	**Jewell Farm**	**41.70**	**343**		P		**P**	**13 25 30.8**	**-1.5**
JFWS					IAmb		IAmb	13 25 32.2	
	comp=Z,7.3nm,0.7s								
ANMO	**Albuquerque**	**43.13**	**320**		P		**P**	**13 25 45.0**	**+0.6**
X16A	**Lo Mia Camp, P**	**46.12**	**316**		P		**P**	**13 26 09.0**	**+0.8**
EYMN	**Ely**	**46.66**	**344**		P		**P**	**13 26 10.6**	**-1.5**
P18A	**Preston Nutter**	**48.42**	**323**		P		**P**	**13 26 26.6**	**+0.4**
P18A					IAmb		IAmb	13 26 51.6	
	comp=Z,4.7nm,1.2s								
KNB	**Kanab**	**48.50**	**318**		P		**P**	**13 26 27.2**	**+0.5**
KNB					IAmb		IAmb	13 26 29.7	
	comp=Z,5.7nm,1.5s								
MTPU	**Mount Pierson**	**48.67**	**320**		P		**P**	**13 26 29.0**	**+0.8**
TMUT	**Trail Mountain**	**48.80**	**322**		P		**P**	**13 26 29.0**	**-0.1**
PDAR	**Pinedale Array**	**50.04**	**326**		P		**P**	**13 26 38.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=126,slow=9.2,SNR=7.9								
DUG	**Dugway, Tooele**	**50.33**	**322**		P		**P**	**13 26 41.1**	**+0.5**
DUG					IAmb		IAmb	13 26 57.7	
	comp=Z,4.8nm,1.4s								
REDW	**Red Top Meadow**	**51.15**	**326**		P		**P**	**13 26 46.3**	**-0.6**
REDW					IAmb		IAmb	13 26 46.6	
	comp=Z,3.4nm,1.2s								
HVU	**Hansel Valley**	**51.26**	**324**		P		**P**	**13 26 47.3**	**-0.3**
SCHQ	**Schefferville**	**51.56**	**6**		P		**P**	**13 26 49.3**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=190,slow=7.6,SNR=6.9								
SCHQ	**Schefferville**	**51.56**	**6**		P		**P**	**13 26 50.0**	**+0.5**
SCHQ					IAmb		IAmb	13 26 50.5	
	comp=Z,3.4nm,0.8s								
GCMT	**Greycliff**	**52.14**	**329**		P		**P**	**13 26 53.5**	**-0.6**
NVAR	**Mina Array Bea**	**52.93**	**317**		P		**P**	**13 27 00.8**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=133,slow=5.1,SNR=6.0								
BOZ	**Bozeman (W)**	**53.03**	**328**		P		**P**	**13 26 59.6**	**-1.1**
MCMT	**McKenzie Canyo**	**53.19**	**327**		P		**P**	**13 27 02.6**	**+0.6**
LRM	**Limekiln Ridge**	**53.61**	**328**		P		**P**	**13 27 04.5**	**-0.6**
PLID	**Pearl Lake**	**55.12**	**325**		P		**P**	**13 27 15.6**	**-0.5**
PLID					IAmb		IAmb	13 27 16.1	
	comp=Z,4.0nm,1.2s								
YKA	**Yellowknife Ar**	**65.94**	**341**		P		**P**	**13 28 27.4**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=135,slow=6.4,SNR=8.8								
TORD	**Torodi Ar. Bea**	**75.74**	**77**		P		**P**	**13 29 28.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=290,slow=5.1,SNR=2.1								
TORD	**Torodi Ar. Bea**	**75.74**	**77**		IAmb		IAmb	13 29 54.8	
	comp=Z,3.1nm,0.8s								
BCAR	**Beaver Creek A**	**76.76**	**334**		P		**P**	**13 29 34.7**	**-0.1**
PPTF	**Pamatai, Papee**	**76.90**	**251**		P		**P**	**13 29 34.5**	**-2.0**
ASAR	**Alice Springs**	**146.04**	**231**		PKPbc		**PKPdf**	**13 37 23.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=119,slow=3.6,SNR=9.9								
WRA	**Warramunga Arr**	**147.50**	**238**		PKPbc		**PKPbc**	**13 37 27.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=109,slow=2.8,SNR=9.0								
CMAR	**Chiang Mai Arr**	**157.25**	**16**		PKPab		**PKPab**	**13 38 10.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=321,slow=7.0,SNR=1.6								

IDC ***13*** *13:22:55.6±0.8, 35°.38N×23°.57E, h0km, mb3.9/13, mb1 3.9/17, mb1mx3.7/41, mbtmp3.8/17, ML3.8/4, MS3.3/6, Ms1 3.3/6, ms1mx2.8/96, Error ellipse: s-maj=17.2km s-min=9.9km az=8.0*

NEIC ***13*** *13:22:56.9±1.3, 35°.3N±0°.1×23°.64E±0°.05, h6km±6km, mb4.2/7, Error ellipse: s-maj=16.2km s-min=4.3km az=193.0*

ATH ***13*** *13:22:57.2, 35°.36N×23°.55E, h13km±3km, ML3.8/7, Error ellipse: s-maj=4.2km s-min=0.9km az=39.0*

ISK ***13*** *13:22:58.3, 35°.39N×23°.63E, h9km, ML4.0/19*

THE ***13*** *13:22:58.1, 35°.41N×23°.57E, h4km±1km, ML3.7/12, Error ellipse: s-maj=1.2km s-min=0.4km az=176.0*

DDA ***13*** *13:23:06.0±0.0, 35°.39N×24°.18E, h50km, MW4.0*

ISC 13 13:22:58.1±1.0, **35°.38N**±0°.03×**23°.59E**±0°.03, **h13**km±6km, **n150**, σ1s**78**/166, **mb4.0**/16, **4C-4D, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.23**	**37**			P	**Pg**	**13 23 03.0**	**0.0**
RODP						S	**Sg**	**13 23 06.6**	**+0.2**
RODP	**Rodopos**	**0.23**	**37**			PG	**Pg**	**13 23 03.1**	**0.0**
RODP						SG	**Sg**	**13 23 06.6**	**+0.2**
IMMV	**Iera Moni Meta**	**0.33**	**75**			P	**Pg**	**13 23 04.4**	**-0.4**
IMMV						S	**Sb**	**13 23 10.2**	**-0.9**
IMMV						AML	AML	13 23 14.2	
	comp=N,31067μm,0.6s								
IMMV						AML	AML	13 23 14.4	
	comp=E,29384μm,0.3s								
IMMV	**Iera Moni Meta**	**0.33**	**75**			P	**Pg**	**13 23 04.4**	**-0.4**
IMMV						S	**Sb**	**13 23 09.6**	**-1.5**
	comp=E,15μm,0.4s								
IMMV	**Iera Moni Meta**	**0.33**	**75**			PG	**Pg**	**13 23 04.5**	**-0.3**
IMMV						SG	**Sb**	**13 23 09.6**	**-1.5**
VAM	**Vamos**	**0.50**	**86**			P	**Pg**	**13 23 07.3**	**-0.6**
VAM						S	**Sb**	**13 23 15.7**	**-0.3**
VAM						AML	AML	13 23 18.8	
	comp=E,32656μm,0.4s								
VAM						AML	AML	13 23 19.4	
	comp=N,34762μm,0.4s								
VAM	**Vamos**	**0.50**	**86**			P	**Pg**	**13 23 07.2**	**-0.7**
VAM						S	**Sb**	**13 23 15.6**	**-0.3**
	comp=N,15μm,0.4s								
ANKY	**Antikythira Is**	**0.54**	**334**			P	**Pg**	**13 23 08.0**	**-0.8**
ANKY						S	**Sg**	**13 23 15.6**	**-0.3**
ANKY						AML	AML	13 23 17.7	
	comp=N,36291μm,0.5s								
ANKY						AML	AML	13 23 18.2	
	comp=E,19672μm,0.3s								
ANKY	**Antikythira Is**	**0.54**	**334**			P	**Pg**	**13 23 08.0**	**-0.8**
ANKY						S	**Sg**	**13 23 15.1**	**-0.9**
	comp=E,14μm,0.5s								
GVD	**Gavdhos**	**0.67**	**143**			P	**Pg**	**13 23 10.6**	**-0.6**
GVD						AML	AML	13 23 24.4	
	comp=N,28946μm,0.4s								
GVD						AML	AML	13 23 26.0	
	comp=E,32587μm,0.3s								
GVD	**Gavdhos**	**0.67**	**143**			P	**Pg**	**13 23 11.2**	**0.0**
GVD						S	**Sb**	**13 23 22.5**	**+1.5**
	comp=E,15μm,0.3s								
GVD	**Gavdhos**	**0.67**	**143**			PG	**Pb**	**13 23 11.8**	**+0.1**
GVD						SG	**Sb**	**13 23 21.4**	**+0.4**
PRNS	**Prines Rethymn**	**0.74**	**91**			P	**Pg**	**13 23 10.8**	**-1.7**
PRNS						S	**Sg**	**13 23 21.2**	**-1.1**
KTHA	**Kythira Island**	**0.98**	**334**			P	**Pg**	**13 23 15.8**	**-1.2**
KTHA						S	**Sg**	**13 23 29.1**	**-0.7**
KTHA						AML	AML	13 23 32.3	
	comp=E,14765μm,0.3s								
KTHA						AML	AML	13 23 33.4	
	comp=N,7891μm,0.3s								
KTHA	**Kythira Island**	**0.98**	**334**			P	**Pg**	**13 23 15.8**	**-1.2**
KTHA						S	**Sg**	**13 23 28.7**	**-1.0**
	comp=N,6μm,0.3s								
KTHR	**Kythira**	**1.00**	**332**			P	**Pg**	**13 23 16.0**	**-1.5**
KTHR						S	**Sg**	**13 23 29.3**	**-1.2**
	comp=N,4μm,0.2s								
TMBK	**Timbaki Herakl**	**1.01**	**107**			P	**Pn**	**13 23 17.8**	**-0.2**
TMBK						S	**Sn**	**13 23 32.7**	**+0.7**
	comp=N,4μm,0.5s								
SIVA	**Sivas**	**1.06**	**109**			P	**Pg**	**13 23 17.5**	**-1.0**
SIVA	**Sivas**	**1.06**	**109**			P	**Pn**	**13 23 18.5**	**-0.2**
SIVA						S	**Sn**	**13 23 33.8**	**+0.5**
	comp=N,8μm,0.5s								
IDI	**Anoyia**	**1.06**	**94**	⇓		P	**Pg**	**13 23 17.5**	**-1.2**
IDI	**Anoyia**	**1.06**	**94**			Pg	**Pg**	**13 23 16.3**	**-2.4**
	comp=N,32nm,0.3s,baz=271,slow=10,SNR=205								
IDI						Lg	Lg	13 23 32.9	
	comp=N,242nm,0.3s,baz=332,slow=21,SNR=14								
IDI						LR	LR	13 23 41.5	
	comp=N,312nm,20.0s,baz=32,slow=42								
IDI	**Anoyia**	**1.06**	**94**			P	**Pg**	**13 23 17.1**	**-1.6**
IDI						AML	AML	13 23 37.2	
	comp=N,8408μm,0.4s								
IDI						AML	AML	13 23 45.8	
	comp=E,4500μm,0.7s								
IDI	**Anoyia**	**1.06**	**94**			P	**Pg**	**13 23 17.6**	**-1.1**
IDI						S	**Sn**	**13 23 33.1**	**-0.5**
	comp=E,3μ

TIP	**Timpagrande**	**6.64**	**307**	Pn	**Pn**	**13 24 34.6**	**-0.8**
SEDI	**Konya, Seydise**	**6.90**	**70**	P	**Pn**	**13 24 39.7**	**+0.6**
VTS	**Vitosha**	**7.24**	**358**	⇑P	**Pn**	**13 24 44.8**	**+1.1**
KDHN	**Kadinhani**	**7.51**	**63**	P	**Pn**	**13 24 49.8**	**+2.4**
CSS	**Mathiatis**	**7.99**	**90**	Pn	**Pn**	**13 24 52.9**	**-1.0**
BR231	**Keskin MP Arra**	**8.54**	**56**	Pn	**Pn**	**13 25 00.3**	**-1.3**
SGRT	**San Giovanni R**	**8.85**	**318**	Pn	**Pn**	**13 25 04.5**	**-1.3**
PAOL	**Paolisi**	**9.07**	**311**	Pn	**Pn**	**13 25 07.2**	**-1.5**
BRTR	**Keskin Array B**	**9.08**	**58**	Pn	**Pn**	**13 25 09.4**	**+0.4**
	comp=N,0.3nm,0.3s,baz=234,slow=12,SNR=22						
BRTR	**Keskin Array B**	**9.08**	**58**		**Pn**	**13 25 12.8**	**+3.8**
BR131	**Keskin Array S**	**9.08**	**58**		**Pn**	**13 25 12.8**	**+3.8**
VOIR		**10.11**	**6**	⇓P	**Pn**	**13 25 26.0**	**+3.0**
FRGS	**Fruska Gora**	**10.19**	**345**	⇓P	**Pn**	13 25 18.9	-5.2
MLR	**Muntele Rosu**	**10.26**	**9**	⇑P	**Pn**	**13 25 28.4**	**+3.2**
MLR	**Muntele Rosu**	**10.26**	**9**	Pn	**Pn**	**13 25 24.7**	**-0.4**
	comp=N,0.4nm,0.3s,baz=264,slow=13,SNR=2.3						
PLOR	**Plostina**	**10.72**	**12**	⇓P	**Pn**	**13 25 35.6**	**+4.3**
VRI	**Vrincioaia**	**10.74**	**12**	⇑P	**Pn**	**13 25 36.1**	**+4.4**
NRCA	**Norcia**	**11.02**	**316**	Pn	**Pn**	**13 25 36.5**	**+0.9**
VRAC	**Vranov**	**14.84**	**342**	LR	LR	13 33 13.3	
	comp=N,103nm,18.1s,baz=176,slow=42						
CKRC	**Cesky Krumlov**	**15.08**	**336**	*e*P	**P**	**13 26 41.9**	**+5.8**
GERES	**GERESS Array B**	**15.31**	**335**	Pn	**Pn**	**13 26 32.6**	**-1.4**
	comp=N,0.1nm,0.3s,baz=122,slow=10.0,SNR=2.1						
GERES				LR	LR	13 33 30.8	
	comp=N,82nm,20.3s,baz=180,slow=42						
KRLC	**Kraliky**	**15.51**	**343**	*e*P	**P**	**13 26 42.7**	**+1.8**
KHC	**Kasperske Hory**	**15.59**	**335**	*e*P	**P**	**13 26 44.0**	**+2.2**
AKASG	**Malin Array Be**	**15.85**	**13**	Pn	**Pn**	**13 26 40.7**	**-0.2**
	comp=N,0.6nm,0.3s,baz=205,slow=11,SNR=2.3						
DPC	**Dobruska-Polom**	**15.87**	**343**	*e*P	**P**	**13 26 45.4**	**+0.5**
PRU	**Pruhonice**	**16.03**	**338**	*e*P	**P**	**13 26 51.3**	**+4.7**
OSTC	**Ostas**	**16.09**	**343**	*e*P	P	13 26 54.8	+7.5
KBZ	**Khabaz**	**17.04**	**55**	LR	LR	13 35 56.3	
	comp=N,54nm,18.4s,baz=338,slow=46						
GNI	**Garni**	**17.38**	**68**	LR	LR	13 34 53.2	
	comp=N,98nm,18.5s,baz=282,slow=41						
CLL	**Collm**	**17.66**	**338**	*e*Px	Px	13 27 03.0	
CLL				*ex*	x	13 27 10.0	
ESDC	**Sonseca Array**	**22.23**	**289**	P	**P**	**13 27 54.3**	**-0.3**
	comp=N,0.5nm,0.7s,baz=91,slow=14,SNR=3.9						
HFS	**Hagfors**	**25.59**	**349**	P	**P**	**13 28 27.0**	**+0.3**
	comp=N,1.6nm,0.5s,baz=155,slow=14,SNR=8.1						
FINES	**FINESS Array B**	**26.13**	**3**	P	**P**	**13 28 32.0**	**+0.3**
	comp=N,0.5nm,0.4s,baz=158,slow=9.7,SNR=5.6						
FIA1	**FINESS Array S**	**26.13**	**3**	P	**P**	**13 28 31.6**	**0.0**
FIA1				IAmb	IAmb	13 28 38.9	
	comp=Z,9.6nm,1.2s						
NOA	**NORSAR Array B**	**26.88**	**347**	LR	LR	13 40 58.1	
	comp=Z,58nm,18.1s,baz=155,slow=40						
EKA	**Eskdalemuir Ar**	**27.13**	**326**	P	**P**	**13 28 41.3**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=124,slow=9.0,SNR=7.7						
TOA0	**Torodi Ar. Sit**	**29.67**	**227**	P	**P**	**13 29 02.9**	**-0.9**
TOA0				IAmb	IAmb	13 29 09.0	
	comp=Z,2.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.67**	**227**	P	**P**	**13 29 02.7**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=33,slow=8.6,SNR=9.3						
TORD	**Torodi Ar. Bea**	**29.67**	**227**	IAmb	IAmb	13 29 10.6	
	comp=Z,2.9nm,0.7s						
ARCES	**ARCESS Array B**	**34.23**	**1**	P	**P**	**13 29 42.8**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=196,slow=2.3,SNR=4.8						
ARCES	**ARCESS Array B**	**34.23**	**1**	P	**P**	**13 29 44.0**	**+0.8**
ARCES				IAmb	IAmb	13 29 58.0	
	comp=Z,20nm,1.4s						
DBIC	**Dimbokro**	**38.72**	**229**	P	**P**	**13 30 22.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=54,slow=10.0,SNR=4.7						
MK31	**Makanchi Array**	**44.73**	**57**	P	**P**	**13 31 09.9**	**-1.1**
MK31				IAmb	IAmb	13 31 18.3	
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**44.73**	**57**	P	**P**	**13 31 09.4**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=276,slow=6.6,SNR=12						
MKAR				PcP	**PcP**	**13 32 52.8**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=291,slow=2.5,SNR=1.5						
MKAR	**Makanchi Array**	**44.73**	**57**	P	**P**	**13 31 09.9**	**-1.1**
ZALV	**Zalesovo Beam**	**45.78**	**46**	P	**P**	**13 31 17.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=278,slow=10.0,SNR=3.6						
ILULI	**Ilulissat**	**52.02**	**334**	P	**P**	**13 32 07.6**	**+0.7**
SONM	**Songino Array**	**60.34**	**50**	P	**P**	**13 33 06.3**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=225,slow=5.9,SNR=3.1						
RCBR	**Riachuelo**	**69.23**	**246**	LR	LR	14 03 04.8	
	comp=Z,50nm,19.7s,baz=322,slow=35						
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**	**13 34 48.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=32,slow=5.5,SNR=11						
KSRS	**Korea Array**	**79.16**	**52**	P	**P**	**13 35 02.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=306,slow=5.0,SNR=9.5						
MJAR	**Matsushiro Arr**	**86.13**	**47**	P	**P**	**13 35 38.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=314,slow=7.9,SNR=2.3						
WRA	**Warramunga Arr**	**117.89**	**96**	PKP	**PKPdf**	**13 41 45.0**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=324,slow=1.3,SNR=1.8						
ASAR	**Alice Springs**	**119.35**	**99**	PKP	**PKPdf**	**13 41 46.1**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=313,slow=1.1,SNR=1.3						

*IDC **13** 13:41:45.0±1.9, 13°.06N×144°.63E, h53km±14km, mb3.0/5, mb1 3.3/5, mb1mx3.1/30, mbtmp3.3/5, Error ellipse: s-maj=45.9km s-min=26.6km az=107.0*

ISC 13 13:41:45.0±1.2, 13°.0N±0°.2×144°.6E±0°.2, h54km, n12, σ0.91/7, mb3.4/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.65**	**27**	P	**Pn**	**13 41 58.5**	**+0.2**
	baz=177,slow=14						
GUMO				S	**Sn**	**13 42 08.3**	**+0.4**
	baz=162,slow=19						
H11S3	**WAKE ISLAND Hy 21.96**	**73**		T	T	14 09 10.5	
	baz=260,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hy 21.98**	**73**		T	T	14 09 12.3	
	baz=260,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy 21.98**	**73**		T	T	14 09 15.6	
	baz=260,slow=75,SNR=6.0						
H11N1	**WAKE ISLAND Hy 22.42**	**70**		T	T	14 09 44.2	
	baz=256,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy 22.43**	**70**		T	T	14 09 45.7	
	baz=256,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy 22.43**	**70**		T	T	14 10 01.4	
	baz=256,slow=75,SNR=11						
WRA	**Warramunga Arr**	**34.26**	**197**	P	**P**	**13 48 26.2**	**+0.2**
	0.5nm,0.9s,baz=2.5,slow=9.6,SNR=2.3						
SONM	**Songino Array**	**47.04**	**325**	P	**P**	**13 50 10.6**	**-0.7**
	0.1nm,0.5s,baz=126,slow=6.1,SNR=1.1						
MKAR	**Makanchi Array**	**61.71**	**316**	P	**P**	**13 51 58.6**	**+0.8**
	0.2nm,0.7s,baz=93,slow=8.7,SNR=4.1						
ILAR	**Eielson Array**	**69.21**	**25**	P	**P**	**13 52 44.6**	**-1.3**
	0.2nm,0.4s,baz=247,slow=5.6,SNR=5.8						
YKA	**Yellowknife Ar**	**83.51**	**27**	P	**P**	**13 54 07.3**	**+0.5**
	0.4nm,0.8s,baz=283,slow=5.0,SNR=5.2						

*THE **13** 13:58:24.9, 35°.37N×23°.55E, h2km±1km, ML3.2/10, Error ellipse: s-maj=1.9km s-min=0.5km az=215.0*
*ISK **13** 13:58:24.1, 35°.39N×23°.58E, h5km, ML3.5/10*
*ATH **13** 13:58:24.9, 35°.41N×23°.59E, h21km±1km, ML3.3/6, Error ellipse: s-maj=4.1km s-min=1.0km az=37.0*

ISC 13 13:58:25.2±1.2, 35°.38N±0°.04×23°.58E±0°.03, h8km±9km, n37, σ0.82/55, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.23**	**40**	P	**Pg**	**13 58 30.4**	**+0.5**
RODP				S	**Sg**	**13 58 34.3**	**+1.2**
	7μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pg**	**13 58 31.7**	**-0.2**
IMMV				S	**Sb**	**13 58 37.5**	**-1.7**
IMMV				AML	AML	13 58 37.5	
	comp=N,16871μm,0.2s						
IMMV				AML	AML	13 58 40.6	
	comp=E,11549μm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pg**	**13 58 31.7**	**-0.2**
IMMV				S	**Sg**	**13 58 36.9**	**+0.5**
	comp=E,7μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	PG	**Pg**	**13 58 31.8**	**-0.2**
IMMV				SG	**Sb**	**13 58 37.5**	**-1.7**
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**13 58 34.7**	**-0.4**
VAM				S	**Sb**	**13 58 42.9**	**-1.2**
VAM				AML	AML	13 58 44.0	
	comp=N,10775μm,0.2s						
VAM				AML	AML	13 58 49.9	
	comp=E,6001μm,0.4s						
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**13 58 34.7**	**-0.4**
VAM				S	**Sb**	**13 58 42.7**	**-1.4**
	comp=E,4μm,0.4s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pg**	**13 58 35.2**	**-0.3**
ANKY				S	**Sg**	**13 58 42.7**	**+0.1**
ANKY				AML	AML	13 58 44.0	
	comp=N,10058μm,0.3s						
ANKY				AML	AML	13 58 45.2	
	comp=E,7940μm,0.2s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pg**	**13 58 35.3**	**-0.3**
ANKY				S	**Sg**	**13 58 42.4**	**-0.2**
	comp=E,5μm,0.2s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pb**	**13 58 38.9**	**-0.6**
GVD				AML	AML	13 58 53.7	
	comp=E,5039μm,0.4s						
GVD				AML	AML	13 59 00.1	
	comp=N,5658μm,0.4s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pg**	**13 58 38.0**	**-0.4**
GVD				S	**Sb**	**13 58 48.9**	**-0.2**
	comp=N,3μm,0.4s						
GVD	**Gavdhos**	**0.68**	**142**	PG	**Pg**	**13 58 38.5**	**+0.1**
GVD				SG	**Sb**	**13 58 48.9**	**-0.2**
PRNS	**Prines Rethymn**	**0.76**	**91**	P	**Pg**	**13 58 38.3**	**-1.5**
PRNS				S	**Sg**	**13 58 49.1**	**-0.5**
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**13 58 43.2**	**-0.7**
KTHA				S	**Sg**	**13 58 56.4**	**0.0**
KTHA				AML	AML	13 58 59.7	
	comp=N,3474μm,0.3s						
KTHA				AML	AML	13 59 00.1	
	comp=E,7801μm,0.4s						
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**13 58 43.1**	**-0.7**
KTHA				S	**Sb**	**13 58 56.9**	**-0.4**
	comp=E,3μm,0.4s						
KTHR	**Kythira**	**0.99**	**332**	P	**Pg**	**13 58 43.4**	**-0.9**
KTHR				S	**Sb**	**13 58 57.7**	**-0.3**
	comp=E,2μm,0.3s						
IDI	**Anoyia**	**1.08**	**95**	P	**Pg**	**13 58 45.3**	**-0.7**
IDI	**Anoyia**	**1.08**	**95**	P	**Pg**	**13 58 45.0**	**-0.9**
IDI				S	**Sb**	**13 59 00.8**	**+0.3**
	comp=E,645nm,0.4s						
IDI	**Anoyia**	**1.08**	**95**	PG	**Pg**	**13 58 45.2**	**-0.7**
HRKL	**Herakleio**	**1.25**	**93**	PN	**Pn**	**13 58 49.2**	**+0.2**
HRKL				SN	**Sn**	**13 59 07.2**	**+1.1**
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**13 58 51.5**	**-0.1**
VLI				AML	AML	13 59 14.1	
	comp=E,807μm,0.4s						
VLI				AML	AML	13 59 16.4	
	comp=N,789μm,0.5s						
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**13 58 51.4**	**-0.2**
MHLO	**Agia Marina, M**	**1.47**	**27**	P	**Pn**	**13 58 51.5**	**-0.6**
MHLO	**Agia Marina, M**	**1.47**	**27**	P	**Pn**	**13 58 51.9**	**-0.2**
MHLO				S	**Sg**	**13 59 13.1**	**+0.7**
	comp=N,2μm,0.4s						
THR5	**Thira Island,**	**1.77**	**54**	P	**Pn**	**13 58 56.6**	**+0.4**
THR3	**Thira Island,**	**1.80**	**55**	P	**Pn**	**13 58 56.6**	**0.0**
KRND	**KRANIDI**	**2.03**	**350**	P	**Pn**	**13 59 00.1**	**+0.3**
KRND				S	**Sn**	**13 59 26.3**	**+1.0**
	comp=N,252nm,0.5s						
PYL	**PYLOS**	**2.12**	**316**	P	**Pn**	**13 59 01.3**	**+0.3**
PYL	**PYLOS**	**2.12**	**316**	P	**Pn**	**13 59 01.3**	**+0.3**
ZKR	**Zakros**	**2.18**	**96**	PN	**Pn**	**13 59 02.8**	**+1.0**
ITM	**Ithomi**	**2.24**	**324**	PN	**Pn**	**13 59 03.6**	**+0.9**
APE	**Apeiranthos**	**2.31**	**43**	PN	**Pn**	**13 59 04.6**	**+0.9**
LTK	**Loutraki**	**2.68**	**350**	P	**Pn**	**13 59 09.1**	**+0.3**
DION	**Dionisos Attik**	**2.71**	**6**	P	**Pn**	**13 59 08.9**	**-0.2**
KARP	**Karpathos**	**2.93**	**86**	PN	**Pn**	**13 59 13.8**	**+1.6**
CHOS	**Chios island**	**3.60**	**33**	PN	**Pn**	**13 59 23.0**	**+1.6**
AGG	**Agios Georgios**	**3.77**	**345**	PN	**Pn**	**13 59 25.5**	**+1.8**
URLA	**Izmir**	**3.83**	**38**	PN	**Pn**	**13 59 25.6**	**+1.0**

NNC 13 14:01:18.6±2.0, 37°.99N×78°.20E, h1km±11km, mb3.7, mpv3.3,1C-2D, Error ellipse: s-maj=20.4km s-min=13.5km az=80.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan**	**5.13**	**350**	Pg	Pb	14 02 53.1	+3.7
	3.7nm,0.3s						
TNSS				Lg	Lg	14 04 04.1	
	3.5nm,0.5s						
MDOK	**Medeo**	**5.24**	**351**	Pg	Pg	14 02 55.2	-3.8
	3.4nm,0.5s						
MDOK				Lg	Lg	14 04 07.7	
	9.5nm,0.7s						
KOTS	**Kotyrbulak**	**5.30**	**351**	Pg	Pb	14 02 55.4	+3.2
	2.7nm,0.5s						
KOTS				Lg	Lg	14 04 07.9	
	11nm,0.7s						
MTBS	**Maitube**	**5.31**	**346**	Pg	Pb	14 02 54.9	+2.7
	1.3nm,0.3s						
MTBS				Lg	Lg	14 04 07.2	
	4.0nm,0.4s						
PDGK	**Podgornoye**	**5.42**	**10**	⇓Pn	Pn	14 02 41.6	+0.9
	1.2nm,0.6s						
PDGK				⇓Pg	Pb	14 02 56.9	+2.8
	2.7nm,0.6s						
PDGK				⇑Lg	Lg	14 04 12.7	
	17nm,0.8s						
DGS	**Degeres**	**5.56**	**341**	Pg	Pb	14 02 59.7	+3.2
	2.3nm,0.6s						
DGS				Lg	Lg	14 04 15.9	
	5.1nm,0.6s						
KTBS	**Karatobe**	**5.83**	**349**	Pg	Pb	14 03 03.8	+2.8
	1.6nm,0.5s						
KTBS				Lg	Lg	14 04 22.5	
	7.0nm,0.4s						
KRBS	**Karabastau**	**6.01**	**342**	Pg	Pb	14 03 06.1	+2.0
	0.8nm,0.6s						
KRBS				Lg	Lg	14 04 26.8	
	3.3nm,0.7s						
MRKS	**Merke**	**6.08**	**323**	Pg	Pb	14 03 09.9	+4.5
	1.0nm,0.3s						
MRKS				Lg	Lg	14 04 33.1	
	3.0nm,0.6s						
MK31	**Makanchi Array**	**9.30**	**18**	Pn	Pn	14 03 33.8	0.0
	0.2nm,0.3s,baz=201,slow=12,SNR=25						
MK31				Sn	Sn	14 05 18.9	-0.1
	0.7nm,0.7s,baz=200,slow=22,SNR=4.4						

*IDC **13** 14:16:27.7±2.6, 36°.22N×141°.92E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/48, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=51.0km s-min=29.1km az=58.0*
*JMA **13** 14:16:32.8±0.2, 36°.31N×141°.63E, h46km, M2.9*

ISC 13 14:16:32.2±1.3, 36°.26N±0°.06×141°.65E±0°.10, h26km, n14, σ0.94/16, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.85**	**230**	P	**Pn**	**14 16 49.0**	**+0.6**
JHYU	**Hitachinakayam**	**0.86**	**276**	P	**Pn**	**14 16 48.7**	**+0.1**
JHO	**Hitachi**	**0.94**	**292**	P	**Pb**	**14 16 49.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.09**	**321**	P	**Pn**	**14 16 51.0**	**-0.8**
JFK	**Kawauchi**	**1.27**	**331**	P	**Pn**	**14 16 53.9**	**-0.4**
JFT	**Otama**	**1.64**	**320**	P	**Pn**	**14 17 00.0**	**+0.6**
JMM	**Marumori**	**1.75**	**337**	P	**Pn**	**14 17 00.5**	**-0.3**
JAG	**Ashikaga**	**1.78**	**276**	P	**Pn**	**14 17 01.8**	**+0.5**
JFY	**Yanaizu**	**1.94**	**307**	P	**Pn**	**14 17 04.7**	**+1.2**
MJAR	**Matsushiro Arr**	**2.79**	**277**	Pn	**Pn**	**14 17 15.9**	**+0.7**
	0.6nm,0.3s,baz=212,slow=14,SNR=33						
MJAR				Sn	**Sn**	**14 17 53.6**	**-1.6**
	0.3nm,0.3s,baz=231,slow=14,SNR=5.0						
JHJ	**Hachijo jima 2**	**3.49**	**207**	Pn	**Pn**	**14 17 24.8**	**+0.1**
	7.1nm,0.3s,baz=308,slow=6.2,SNR=4.2						
JHJ				Sn	**Sn**	**14 18 04.1**	**-1.0**
	7.5nm,0.3s,baz=75,slow=17,SNR=1.1						
SONM	**Songino Array**	**28.38**	**305**	P	**P**	**14 22 25.8**	**+1.4**
	0.3nm,0.7s,baz=108,slow=7.1,SNR=2.4						
MKAR	**Makanchi Array**	**44.70**	**303**	P	**P**	**14 24 43.9**	**+1.0**
	0.2nm,0.6s,baz=91,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**56.32**	**188**	P	**P**	**14 26 09.9**	**-0.9**
	0.2nm,0.7s,baz=6.2,slow=7.4,SNR=2.2						

*MOS **13** 14:18:43.9±0.9, 51°.55N×173°.70W, h11km, mb4.6/31, Error ellipse: s-maj=8.6km s-min=6.0km az=87.8*
*IDC **13** 14:18:43.9±0.6, 51°.57N×173°.79W, h0km, mb4.1/31, mb1 4.2/33, mb1mx4.2/48, mbtmp4.1/33, ML4.0/2, MS3.4/16, Ms1 3.4/16, ms1mx3.1/97, Error ellipse: s-maj=19.4km s-min=10.5km az=170.0*
*NEIC **13** 14:18:45.7±1.7, 51°.51N±0°.06×173°.75W±0°.05, h10km±1km, mb4.5/190, ML4.0/27(AEIC), Error ellipse: s-maj=10.8km s-min=5.3km az=187.0*
*AEIC **13** 14:18:46.2±2.2, 51°.37N±0°.05×173°.79W±0°.07, h8km±3km, Error ellipse: s-maj=8.0km s-min=6.3km az=190.0*

ISC 13 14:18:45.5±0.4, 51°.48N±0°.06×173°.79W±0°.04, h10km, n458, σ1.06/450, mb4.5/123, MS3.6/14, 13C-1D,

Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.77**	**341**		**Pn**	**14 19 02.9**	**+0.5**
ATKA					**Sn**	**14 19 15.7**	**+1.6**
KOFP	**Korovin Flat P**	**0.82**	**347**		**Pn**	**14 19 04.2**	**+1.0**
KOKL	**Mount Kliuchef**	**0.89**	**344**		**Pn**	**14 19 05.1**	**+1.0**
KOWE	**Korovin West**	**0.94**	**342**		**Pn**	**14 19 06.3**	**+1.6**
GSMY	**Great Sitkin M**	**1.52**	**293**		**Pn**	**14 19 13.4**	**+0.7**
GSTR	**Great Sitkin T**	**1.54**	**295**	Pn	**Pn**	**14 19 13.7**	**+0.7**
GSCK	**Great Sitkin C**	**1.57**	**291**		**Pn**	**14 19 14.1**	**+0.7**
GSTD	**Great Sitkin T**	**1.57**	**293**		**Pn**	**14 19 14.2**	**+0.7**
GSTD					**Sg**	**14 19 36.5**	**+0.5**
ADK	**Adak**	**1.85**	**284**	P	**Pn**	**14 19 17.9**	**+0.7**
ADK						14 19 42.9	
ADK	**Adak**	**1.85**	**284**		**Pn**	**14 19 17.9**	**+0.7**
KIWB	**Kanaga Island**	**2.13**	**282**	Pn	**Pn**	**14 19 22.1**	**+1.1**
KIKV	**Kanaga Island**	**2.14**	**282**		**Pn**	**14 19 22.8**	**+1.5**
KICM	**Kanaga Island**	**2.17**	**283**		**Pn**	**14 19 23.1**	**+1.6**
KIMD	**Kanaga Island**	**2.17**	**279**		**Pn**	**14 19 22.7**	**+1.1**
TAPA	**Tanaga Point A**	**2.53**	**279**		**Pn**	**14 19 28.3**	**+1.7**
TAFP	**Tanaga Falls P**	**2.64**	**281**		**Pn**	**14 19 30.2**	**+2.0**
TAFP					**Sb**	**14 20 04.4**	**-1.0**
TASE	**Tanaga Southea**	**2.67**	**279**		**Pn**	**14 19 30.6**	**+2.1**
NIKH	**Nikolski High**	**3.38**	**62**	Pn	**Pn**	**14 19 40.3**	**+2.0**
OKTU	**Okmok Mt. Tuli**	**4.00**	**59**		**Pn**	**14 19 48.8**	**+1.9**
MSW	**Makushin Switc**	**4.91**	**57**		**Pn**	**14 20 01.0**	**+1.7**
UNV	**Unalaska Valle**	**5.03**	**59**	Pn	**Pn**	**14 20 02.5**	**+1.7**
UNV	**Unalaska Valle**	**5.03**	**59**	P	Pn	14 20 05.9	+5.1
	baz=244						
SPIA	**Saint Paul Isl**	**6.08**	**19**	P	**Pn**	**14 20 19.1**	**+3.9**
	baz=201						
SHEM	**Shemya Is, Ala**	**7.56**	**284**	LR	LR	14 23 37.9	
	comp=Z,226nm,19.7s,baz=64,slow=39						
SDPT	**Sand Point**	**8.85**	**59**	Pn	**Pn**	**14 20 53.6**	**+0.4**
CHIR	**Chirikof Islan**	**11.62**	**61**	Pn	**Pn**	**14 21 31.4**	**+0.3**
GAMB	**Gambell**	**12.38**	**4**	P	**Pn**	**14 21 45.5**	**+3.9**
	baz=186,SNR=7.0						
SII	**Sitkinak Islan**	**12.59**	**58**	Pn	**Pn**	**14 21 44.8**	**+0.4**
OHAK	**Old Harbor**	**13.24**	**56**	Pn	**Pn**	**14 21 51.1**	**-2.2**
OHAK	**Old Harbor**	**13.24**	**56**	P	**Pn**	**14 21 51.1**	**-2.2**
	baz=252						
KDAK	**Kodiak Island**	**13.78**	**54**	Pn	**Pn**	**14 21 57.8**	**-2.8**
	0.6nm,0.3s,baz=270,slow=7.5,SNR=17						
KDAK	**Kodiak Island**	**13.78**	**54**	P	**Pn**	**14 21 58.2**	**-2.4**
KDAK	**Kodiak Island**	**13.78**	**54**	Pn	**Pn**	**14 21 58.2**	**-2.4**
KDAK	**Kodiak Island**	**13.78**	**54**	P	**Pn**	**14 21 58.5**	**-2.1**
	baz=251						
ANM	**Nome**	**13.84**	**15**	P	**P**	**14 22 06.0**	**-3.9**
	baz=202,SNR=9.3						
N19K	**Bonanza Creek**	**14.20**	**41**	P	**P**	**14 22 14.3**	**+0.2**
	baz=237						
TNA	**Tin City**	**14.44**	**10**	P	**P**	**14 22 13.3**	**-3.3**
	baz=195						
RSO	**Redoubt South**	**14.76**	**44**		**P**	**14 22 17.6**	**-2.7**
L19K	**White Mountain**	**14.85**	**36**		**P**	**14 22 19.0**	**-2.1**
L19K	**White Mountain**	**14.85**	**36**	P	**P**	**14 22 22.4**	**+1.3**
	baz=232						
M19K	**Big River Lodg**	**14.85**	**38**		**P**	**14 22 19.0**	**-2.2**
M19K	**Big River Lodg**	**14.85**	**38**	P	**P**	**14 22 19.7**	**-1.4**
	baz=234						
HOM	**Homer**	**14.91**	**48**	Pn	**Pn**	**14 22 14.8**	**-1.2**
TTA	**Tatalina**	**14.91**	**33**	P	**P**	**14 22 19.5**	**-2.4**
TTA	**Tatalina**	**14.91**	**33**		**P**	**14 22 19.5**	**-2.4**
TTA	**Tatalina**	**14.91**	**33**	P	**P**	**14 22 22.9**	**+1.0**
	baz=228,SNR=10						
CNPM	**China Poot**	**15.05**	**49**	Pn	**Pn**	**14 22 15.8**	**-2.2**
CNPM				IAmb	IAmb	14 22 25.1	
	comp=Z,30nm,1.2s						
BRLK	**Bradley Lake**	**15.30**	**48**	Pn	**Pn**	**14 22 20.5**	**-0.8**
BRLK				IAmb	IAmb	14 22 32.4	
	comp=Z,14nm,1.0s						
BRSE	**Bradley Lake S**	**15.36**	**48**	P	**Pn**	**14 22 21.5**	**-0.6**
	baz=247						
L20K	**Farewell

BWN Browne 18.00 36 P **P** 14 22 55.9 +0.1
BWN IAmb IAmb 14 23 11.5
comp=Z,20nm,0.8s
MLY Manley 18.05 32 P **P** 14 22 57.0 +0.4
MLY Manley 18.05 32 P **P** 14 22 57.6 +1.1
baz=232,SNR=15
DIV Divide 18.16 47 P **P** 14 22 58.3 +0.4
KLU Klutina 18.22 46 P **Pn** 14 22 57.3 -1.0
KLU Klutina 18.22 46 P **Pn** 14 22 57.3 -1.0
baz=249
DHY Denali Highway 18.24 40 P **Pn** 14 22 57.9 -0.7
DHY Denali Highway 18.24 40 P **Pn** 14 22 58.4 -0.2
baz=242
M24K Tolsona, Glenn 18.34 44 **Pn** 14 22 58.5 -1.1
M24K IAmb IAmb 14 23 18.6
comp=Z,13nm,0.8s
M24K Tolsona, Glenn 18.34 44 P **Pn** 14 22 59.4 -0.3
baz=247
NEA2 Nenana 18.37 35 P **Pn** 14 22 59.2 -0.8
NEA2 Nenana 18.37 35 P **Pn** 14 22 59.2 -0.8
baz=236
I23K Minto, Yukon-K 18.59 33 P **Pn** 14 23 03.2 +0.6
I23K IAmb IAmb 14 23 20.9
comp=Z,21nm,1.2s
I23K Minto, Yukon-K 18.59 33 P **Pn** 14 23 03.3 +0.6
baz=234,SNR=9.8
HMT Hamilton 18.63 50 P **P** 14 23 02.1 -0.9
HMT IAmb IAmb 14 23 08.6
comp=Z,16nm,1.0s
BMRM Bremner River 18.65 48 P **P** 14 23 02.2 -0.9
BMRM Bremner River 18.65 48 P **Pn** 14 23 03.1 -0.4
baz=252
WRH Wood River Hil 18.66 36 P **P** 14 23 01.4 -1.8
SUCK Suckling Hills 18.80 51 P **Pn** 14 23 05.3 +0.1
SUCK IAmb IAmb 14 23 07.8
comp=Z,74nm,1.0s
N25K Chitina, Valde 18.85 46 P **P** 14 23 04.9 -0.5
N25K Chitina, Valde 18.85 46 P **P** 14 23 05.0 -0.4
baz=250
CCB Clear Creek Bu 18.86 36 P **P** 14 23 03.2 -2.2
MDM Murphy Dome 18.88 35 P **P** 14 23 04.2 -1.4
COLA College 18.96 35 *i* P **P** 14 23 05.4 -1.1
PAX Paxson 18.98 42 P **Pn** 14 23 07.5 0.0
PAX pmax pmax
comp=Z,3.0nm,0.6s
PAX Paxson 18.98 42 P **Pn** 14 23 07.5 0.0
PAX Paxson 18.98 42 P **Pn** 14 23 07.5 0.0
baz=246
HDA Harding Lake 19.05 37 P **P** 14 23 07.0 -0.6
HDA IAmb IAmb 14 23 10.9
comp=Z,15nm,0.6s
HDA Harding Lake 19.05 37 P **Pn** 14 23 07.9 -0.4
baz=240,SNR=26
GLB Gilahina Butte 19.16 47 P **P** 14 23 07.5 -1.2
BILL Bilibino 19.24 337 *i* P **Pn** 14 23 10.6 +0.1
BILL pmax pmax
comp=Z,8.0nm,0.8s
BILL MLR MLR
comp=Z,77nm,21.0s
POKR Poker Plat Res 19.25 35 P **Pn** 14 23 10.8 +0.2
baz=237
VRDI Verde Repeater 19.26 48 P **P** 14 23 08.6 -1.4
IL31 19.26 36 P **P** 14 23 07.5 -2.3
ILAR Eielson Array 19.26 36 P **P** 14 23 08.8 -1.0
comp=Z,2.5nm,0.3s,baz=236,slow=9.7,SNR=141
ILAR PcP **PcP** 14 27 31.7 -0.3
comp=Z,0.1nm,0.3s,baz=285,slow=3.1,SNR=1.4
ILAR Eielson Array 19.26 36 P **P** 14 23 07.7 -2.1
SNH Sunshine Point 19.28 51 P **Pn** 14 23 10.8 -0.3
SNH IAmb IAmb 14 23 24.6
comp=Z,50nm,1.1s
WAX Waxell Ridge 19.34 50 P **P** 14 23 10.0 -0.7
WAX IAmb IAmb 14 23 35.6
comp=Z,30nm,1.3s
H24K Noodor Dome 19.49 33 P **P** 14 23 12.2 -0.1
H24K IAmb IAmb 14 23 14.4
comp=Z,15nm,1.1s
H24K Noodor Dome 19.49 33 P **Pn** 14 23 13.0 -0.6
baz=235
MCARA McCarthy VSAT 19.50 48 P **P** 14 23 12.0 -0.5
MCARA McCarthy VSAT 19.50 48 P **P** 14 23 12.0 -0.5
baz=253
RIDG Independent Ri 19.56 40 P **P** 14 23 12.1 -1.0
RIDG IAmb IAmb 14 23 16.3
comp=Z,12nm,0.5s
RIDG Independent Ri 19.56 40 P **P** 14 23 12.3 -0.8
baz=244,SNR=11
ISLE Juniper Island 19.62 50 P **P** 14 23 13.6 -0.3
ISLE IAmb IAmb 14 23 41.1
comp=Z,20nm,1.1s
MENT Mentasta 19.70 43 P **Pn** 14 23 15.5 -0.6
J25K Salcha River, 19.75 37 P **P** 14 23 13.4 -1.8
J25K IAmb IAmb 14 23 16.7
comp=Z,59nm,1.4s
J25K Salcha River, 19.75 37 P **P** 14 23 14.2 -1.0
baz=242,SNR=34
DOT Dot Lake 19.84 41 P **P** 14 23 15.1 -1.1
L26K Log Cabin Wild 19.89 43 P **Pn** 14 23 17.6 -0.8
L26K IAmb IAmb 14 23 30.7
comp=Z,20nm,1.5s
SCRK Sand Creek 20.00 40 P **P** 14 23 16.7 -1.4
SCRK IAmb IAmb 14 23 18.6
comp=Z,17nm,0.4s
SCRK Sand Creek 20.00 40 P **P** 14 23 16.7 -1.4
baz=245,SNR=36
BARN Barnard Glacie 20.05 49 P **P** 14 23 18.0 -0.7
BARN IAmb IAmb 14 23 24.7
comp=Z,7.0nm,0.6s
PRP Porcupine Dome 20.14 35 P **P** 14 23 17.7 -1.8
PRP Porcupine Dome 20.14 35 P **P** 14 23 19.3 -0.2
baz=239
TABL Table Mountain 20.16 51 P **P** 14 23 19.7 -0.1
TABL IAmb IAmb 14 23 44.0
comp=Z,13nm,0.8s
CTG Chitna Glacier 20.18 49 P **P** 14 23 19.3 -0.7
baz=256
CTGM Chitina Glacie 20.18 49 P **P** 14 23 19.4 -0.6
M27K Edge Creek, AK 20.31 45 P **P** 14 23 21.1 -0.3
M27K Edge Creek, AK 20.31 45 P Pn 14 23 22.5 -0.9
baz=252
LOGN Logan Glacier 20.31 50 P **P** 14 23 20.8 -0.7
LOGN IAmb IAmb 14 23 25.1
comp=Z,16nm,1.2s
J26L Joseph Creek 20.39 39 P **P** 14 23 21.3 -0.9
baz=244
PINM Pinnacle 20.53 52 P **P** 14 23 24.0 +0.2
baz=260
L27K Beaver Creek, 20.56 43 P **P** 14 23 23.2 -0.8
L27K Beaver Creek, 20.56 43 P **P** 14 23 23.6 -0.3
baz=250
BCAR Beaver Creek A 20.58 43 P **P** 14 23 23.6 -0.6
TOLK Toolik Lake Re 20.77 25 P **P** 14 23 26.9 +0.7
TOLK IAmb IAmb 14 23 53.6
comp=Z,8.4nm,0.8s
TOLK Toolik Lake Re 20.77 25 P **P** 14 23 27.0 +0.7
baz=226,SNR=8.7
BVCY Beaver Creek 20.78 46 P Pn 14 23 29.3 +0.5
baz=253
YUK3 Moose Creek 20.79 47 P **P** 14 23 25.3 -1.4
baz=255
PNL Peninsula 20.89 54 P **P** 14 23 28.0 +0.4
baz=262
SEY Seymchan 21.32 316 P **P** 14 23 33.0 +0.9
comp=Z,2.3nm,0.6s,baz=104,slow=11,SNR=12
SEY Seymchan 21.32 316 *i* P **P** 14 23 33.3 +1.1
A21K Barrow 21.38 15 P **P** 14 23 33.1 +0.4
A21K IAmb IAmb 14 23 38.4
comp=Z,13nm,0.6s
A21K Barrow 21.38 15 P **P** 14 23 33.0 +0.3
baz=210
MA2 Magadan 21.41 306 P **P** 14 23 33.6 +0.4
comp=Z,1.7nm,0.5s,baz=104,slow=9.6,SNR=8.8
MA2 LR LR 14 31 41.8
comp=Z,97nm,19.1s,baz=110,slow=36
MA2 Magadan 21.41 306 *ce* P **P** 14 23 35.9 +2.8
MA2 pmax pmax
comp=Z,4.0nm,0.8s
EGAK Eagle 21.45 39 P **P** 14 23 33.4 -0.2
EGAK IAmb IAmb 14 23 49.3
comp=Z,42nm,0.7s
EGAK Eagle 21.45 39 P **P** 14 23 33.4 -0.2
baz=247,SNR=33
BMAR Burnt Mountain 21.48 31 P **P** 14 23 33.6 -0.3
YUK4 Talbot Arm 21.54 49 P **P** 14 23 34.5 -0.2
baz=258
YUK6 Outpost Mounta 21.60 50 P **P** 14 23 35.0 -0.4
baz=260
DAWY Dawson 21.92 42 P **P** 14 23 37.2 -1.4
DAWY IAmb IAmb 14 23 45.6
comp=Z,5.6nm,0.6s
DAWY Dawson 21.92 42 P **P** 14 23 37.6 -1.0
baz=251
HYT Haines Junctio 22.00 51 P **P** 14 23 39.0 -0.5
HYT Haines Junctio 22.00 51 P **P** 14 23 39.2 -0.4
baz=261
SKAG Skagway 22.93 55 P **P** 14 23 49.7 +0.3
SKAG IAmb IAmb 14 24 17.4
comp=Z,8.4nm,0.7s
SKAG Skagway 22.93 55 P **P** 14 23 50.0 +0.6
baz=266
M31M Drury Creek, Y 23.68 48 P **P** 14 23 56.3 -0.6
EPYK Eagle Plains 23.76 37 P **P** 14 23 56.3 -1.4
EPYK IAmb IAmb 14 23 58.5
comp=Z,24nm,1.4s
EPYK Eagle Plains 23.76 37 P **P** 14 23 56.8 -0.9
baz=249
P33M Teslin, Yukon 24.24 53 P **P** 14 24 01.8 -0.5
P33M IAmb IAmb 14 24 24.4
comp=Z,10nm,1.4s
MMPY Sheldon Lake, 25.18 47 P **P** 14 24 11.4 +0.6
baz=263
INK Inuvik 25.61 34 P **P** 14 24 13.5 -1.0
comp=Z,2.6nm,0.5s,baz=212,slow=9.6,SNR=6.4
INK LR LR 14 35 15.2
comp=Z,76nm,21.9s,baz=163,slow=39
INK Inuvik 25.61 34 P **P** 14 24 13.7 -0.7
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 25.61 34 P **P** 14 24 13.7 -0.7
INK IAmb IAmb 14 24 20.5
comp=Z,7.1nm,1.0s
DLBC Dease Lake 25.68 57 P **P** 14 24 15.5 +0.1
comp=Z,2.8nm,0.6s,baz=232,slow=10,SNR=4.3
DLBC Dease Lake 25.68 57 P **P** 14 24 15.7 +0.3
DLBC IAmb IAmb 14 24 21.7
comp=Z,15nm,1.4s
C36M Paulatuk 29.19 34 P **P** 14 24 45.8 -0.8
C36M IAmb IAmb 14 25 01.7
comp=Z,5.6nm,1.2s
A36M Sachs Harbour 29.50 28 P **P** 14 24 48.7 -0.5
A36M Sachs Harbour 29.50 28 P **P** 14 24 49.0 -0.2
baz=252
JKA Kamikawa-asahi 29.84 273 P **P** 14 24 53.2 +0.6
JKA Kamikawa-asahi 29.84 273 IAmb IAmb 14 24 59.6
comp=Z,26nm,1.2s
ASAJ Asahikawa 29.84 273 P **P** 14 24 53.2 +0.6
comp=Z,6.2nm,0.8s,baz=79,slow=8.3,SNR=6.8
YAK Yakutsk 31.71 312 LR LR 14 38 23.9
comp=Z,108nm,18.1s,baz=91,slow=37
TIXI Tiksi 32.11 330 *ce* P **P** 14 25 12.2 -0.1
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 32.11 330 P **P** 14 25 11.9 -0.5
KIP Kipapa 32.42 152 *ce* P **P** 14 25 15.6 +0.1
KIP pmax pmax
comp=Z,155nm,1.7s
YKA Yellowknife Ar 32.88 47 P **P** 14 25 18.6 -0.6
comp=Z,0.6nm,0.4s,baz=274,slow=8.0,SNR=10
YKA PcP **PcP** 14 28 03.8 +0.5
comp=Z,0.4nm,0.5s,baz=285,slow=3.1,SNR=5.6
YKA ScP **ScP** 14 31 48.6 +1.4
comp=Z,0.2nm,0.8s,baz=289,slow=3.5,SNR=1.9
YKA Yellowknife Ar 32.88 47 P **P** 14 25 19.0 -0.1
KLR Kul'dur 34.15 288 P **P** 14 25 30.4 0.0
comp=Z,5.9nm,0.7s,baz=72,slow=7.2,SNR=33
KLR LR LR 14 40 07.2
comp=Z,38nm,18.3s,baz=50,slow=38
KLR Kul'dur 34.15 288 *ce* P **P** 14 25 30.2 -0.2
KLR pmax pmax
comp=Z,4.0nm,0.6s
H11N2 WAKE ISLAND Hy 35.13 213 T T 15 03 51.1
baz=21,slow=76,SNR=67
H11N3 WAKE ISLAND Hy 35.14 213 T T 15 03 38.2
baz=21,slow=76,SNR=78
H11N1 WAKE ISLAND Hy 35.15 213 T T 15 03 30.5
baz=21,slow=76,SNR=58
NEW Newport 35.89 72 P **P** 14 25 46.5 +1.1
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 35.89 72 P **P** 14 25 46.5 +1.1
NEW IAmb IAmb 14 25 53.6
comp=Z,5.2nm,0.9s
EDM Edmonton 36.00 63 P **P** 14 25 47.7 +1.3
EDM pmax pmax
comp=Z,15nm,0.7s
EDM Edmonton 36.00 63 P **P** 14 25 47.7 +1.3
EDM IAmb IAmb 14 26 02.5
comp=Z,16nm,0.7s
H11S1 WAKE ISLAND Hy 36.33 212 T T 15 05 04.9
baz=20,slow=76,SNR=80
H11S2 WAKE ISLAND Hy 36.35 212 T T 15 05 01.3
baz=20,slow=76,SNR=93
H11S3 WAKE ISLAND Hy 36.35 212 T T 15 05 02.2
baz=20,slow=76,SNR=30
USA0B Ussuriysk Arra 36.38 280 P **P** 14 25 49.9 +0.3
USA0B pmax pmax
comp=Z,12nm,1.2s
USA0B Ussuriysk Arra 36.38 280 P **P** 14 25 49.9 +0.3
USA0B IAmb IAmb 14 26 15.1
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 36.38 280 P **P** 14 25 49.0 -0.6
comp=Z,4.9nm,0.6s,baz=55,slow=12,SNR=7.9
USRK Ussuriysk Ar. 36.38 280 P **P** 14 25 50.0 +0.4
USRK Ussuriysk Ar. 36.38 280 P **P** 14 25 50.0 +0.4
MJAR Matsushiro Arr 36.91 265 P **P** 14 25 54.1 -0.1
comp=Z,0.9nm,0.5s,baz=32,slow=6.6,SNR=4.6
MJAR LR LR 14 39 56.4
comp=Z,31nm,19.4s,baz=48,slow=34
RES Resolute Bay 38.35 25 P **P** 14 26 05.2 -0.7
RES pmax pmax
comp=Z,1.0nm,1.1s
RES Resolute Bay 38.35 25 P **P** 14 26 05.2 -0.7
BCYI Bear Canyon 40.09 76 P **P** 14 26 22.5 +1.3
MCMT McKenzie Canyo 40.15 75 P **P** 14 26 22.3 +0.7
NVAR Mina Array Bea 40.42 86 P **P** 14 26 24.0 +0.1
comp=Z,0.4nm,0.7s,baz=253,slow=6.3,SNR=3.3
NVAR ScP **ScP** 14 32 16.5 +0.6
comp=Z,0.3nm,0.3s,baz=313,slow=4.8,SNR=3.1
BOZ Bozeman (W) 40.48 73 P **P** 14 26 25.2 +1.0
BOZ pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 40.48 73 P **P** 14 26 25.1 +1.0
BOZ Bozeman (W) 40.48 73 P **P** 14 26 25.2 +1.0
baz=302
YHH Holmes Hill 41.37 74 P **P** 14 26 32.7 +0.9
YHH IAmb IAmb 14 26 47.9
comp=Z,3.7nm,0.7s
FFC Flin Flon 41.51 56 P **P** 14 26 32.5 +0.1
FFC pmax pmax
comp=Z,5.0nm,0.6s
FFC Flin Flon 41.51 56 P **P** 14 26 32.5 +0.1
FFC IAmb IAmb 14 26 33.4
comp=Z,4.5nm,0.6s
RLMT Red Lodge 42.14 72 P **P** 14 26 38.6 +0.6
RLMT IAmb IAmb 14 26 56.9
comp=Z,5.2nm,0.8s
KSRS Korea Array 42.77 274 P **P** 14 26 42.5 -0.4
comp=Z,4.0nm,0.8s,baz=58,slow=8.1,SNR=17
KSRS PcP **PcP** 14 28 35.2 +1.0
comp=Z,0.5nm,0.6s,baz=54,slow=4.9,SNR=2.0
KSRS LR LR 14 43 58.2
comp=Z,22nm,20.3s,baz=320,slow=35
KSAR Wonju Array Be 42.80 274 P **P** 14 26 42.6 -0.5
KSAR Wonju Array Be 42.80 274 P **P** 14 26 42.6 -0.5
BW06 Boulder Array 43.27 75 P **P** 14 26 47.5 +0.2
BW06 Boulder Array 43.27 75 P **P** 14 26 47.8 +0.6
baz=305
PD31 Pinedale Array 43.27 75 P **P** 14 26 47.3 +0.1
PDAR Pinedale Array 43.27 75 P **P** 14 26 47.4 +0.1
comp=Z,0.8nm,0.4s,baz=327,slow=2.3,SNR=16
FCC Fort Churchill 43.60 48 P **P** 14 26 48.9 -0.4
FCC pmax pmax
comp=Z,7.0nm,1.5s
FCC Fort Churchill 43.60 48 P **P** 14 26 48.9 -0.4
FCC IAmb IAmb 14 27 02.4
comp=Z,7.2nm,1.5s
TJN Taejon 43.79 274 *ce* P **P** 14 26 53.2 +2.1
TJN Taejon 43.79 274 P **P** 14 26 51.2 +0.1
U15A North Rim 45.41 84 P **P** 14 27 04.8 +0.3
U15A IAmb IAmb 14 27 21.1
comp=Z,4.9nm,1.1s
O20A White River Ci 45.62 78 P **P** 14 27 05.2 -0.8
O20A IAmb IAmb 14 27 23.4
comp=Z,4.4nm,0.8s
NRIK Noril'sk 45.88 331 P **P** 14 27 06.5 -1.0
comp=Z,2.3nm,0.6s,baz=58,slow=7.4,SNR=4.2
NRIK Noril'sk 45.88 331 *ce* P **P** 14 27 07.2 -0.2
NRIK pmax pmax
comp=Z,6.0nm,1.5s
PV17 East Wray Mesa 46.31 80 P **P** 14 27 11.6 +0.1
PV17 IAmb IAmb 14 27 30.7
comp=Z,5.2nm,0.8s
PV16 Nyswonger Mesa 46.32 80 P **P** 14 27 11.6 +0.1
PV16 IAmb IAmb 14 27 27.2
comp=Z,6.3nm,1.1s
PV11 David Mesa, Pa 46.35 80 P **P** 14 27 12.3 +0.5
PV03 Paradox Valley 46.40 80 P **P** 14 27 12.1 -0.1
PV03 IAmb IAmb 14 27 27.7
comp=Z,3.1nm,0.8s
PV13 Radium Mtn., P 46.47 80 P **P** 14 27 12.8 +0.1
PV13 IAmb IAmb 14 27 29.3
comp=Z,6.3nm,0.8s
PV01 Paradox Valley 46.64 80 P **P** 14 27 13.8 -0.3
PV01 IAmb IAmb 14 27 30.1
comp=Z,4.7nm,0.7s
ULM Lac du Bonnet 46.97 59 P **P** 14 27 16.3 +0.1
comp=Z,4.2nm,0.4s,baz=309,slow=8.0,SNR=15
ULM Lac du Bonnet 46.97 59 P **P** 14 27 16.3 +0.1
ULN Ulaanbaatar 49.00 299 *ce* P **P** 14 27 32.8 +0.7
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 49.00 299 P **P** 14 27 32.4 +0.3
ULN IAmb IAmb 14 27 33.2
comp=Z,4.0nm,1.1s
B35A Bob, Littlefor 49.20 60 P **P** 14 27 33.8 +0.3
B35A IAmb IAmb 14 27 54.5
comp=Z,19nm,1.5s
SONM Songino Array 49.37 299 P **P** 14 27 34.7 -0.3
comp=Z,2.0nm,0.6s,baz=49,slow=7.4,SNR=17
SONM PcP **PcP** 14 28 59.2 +1.9
comp=Z,0.6nm,0.6s,baz=69,slow=2.0,SNR=2.7
SONM LR LR 14 51 02.6
comp=Z,60nm,18.6s,baz=40,slow=39
SONM Songino Array 49.37 299 P **P** 14 27 35.1 +0.1
ZAK Zakamensk 49.55 303 *eP* P **P** 14 27 36.6 +0.3
ZAK pmax pmax
comp=Z,6.0nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ECSD EROS Data Cent 50.35 67 P **P** 14 27 41.2 -1.1
ECSD IAmb IAmb 14 27 50.0
comp=Z,4.0nm,1.1s
ECSD EROS Data Cent 50.35 67 P **P** 14 27 41.4 -0.9
baz=308
SPITS Spitsbergen Ar 50.46 357 P **P** 14 27 42.2 -0.5
SPITS pmax pmax
comp=Z,129nm,1.5s
HHC Hu-ho-hao-te 50.65 289 *eP* P **P** 14 27 45.0 +0.2
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,77nm,5.8s
EYMN Ely 50.65 59 P **P** 14 27 45.4 +0.9
EYMN IAmb IAmb 14 28 11.9
comp=Z,13nm,1.1s
NJ2 Nanjing 51.93 275 *eP* P **P** 14 27 54.1 -0.2
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
G40A Rib Lake 53.00 61 P **P** 14 28 01.7 -0.4
G40A IAmb IAmb 14 28 23.2
comp=Z,8.0nm,1.1s
E43A Lone Tree Farm 54.04 59 P **P** 14 28 09.7 0.0
E43A IAmb IAmb 14 28 18.2
comp=Z,7.2nm,0.8s
SFJD Kangerlussuaq 54.34 24 P **P** 14 28 10.3 -1.2
SFJD pmax pmax
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 54.34 24 P **P** 14 28 10.3 -1.2
SFJD IAmb IAmb 14 28 24.3
comp=Z,17nm,1.1s
E46A Sault Ste Mari 55.47 57 P **P** 14 28 20.1 0.0
E46A IAmb IAmb 14 28 20.4
comp=Z,11nm,0.9s
TX32 Lajitas Array 55.53 85 P **P** 14 28 20.1 -0.7
TX32 IAmb IAmb 14 28 36.8
comp=Z,2.9nm,1.0s
TXAR Lajitas Array 55.53 85 P **P** 14 28 20.1 -0.8
comp=Z,0.2nm,0.3s,baz=298,slow=6.0,SNR=6.5
TXAR Lajitas Array 55.53 85 P **P** 14 28 20.2 -0.6
TXAR Lajitas Array 55.53 85 P **P** 14 28 20.2 -0.6
P40A Paris 55.66 68 P **P** 14 28 20.5 -1.0
P40A IAmb IAmb 14 28 34.6
comp=Z,7.6nm,0.8s
ZALV Zalesovo Beam 56.20 316 P **P** 14 28 24.1 -1.1
comp=Z,0.7nm,0.3s,baz=65,slow=6.5,SNR=4.1
ZALV PcP **PcP** 14 29 23.1 +0.4
comp=Z,0.5nm,0.5s,baz=59,slow=6.8,SNR=1.9
ZALV Zalesovo Beam 56.20 316 *i* P **P** 14 28 24.6 -0.5
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 56.20 316 P **P** 14 28 24.0 -1.1
SSLB Suanglung 56.44 267 P **P** 14 28 27.8 +0.4
P43A Skaggs, Pawnee 57.04 66 P **P** 14 28 31.1 -0.2
P43A IAmb IAmb 14 28 35.0
comp=Z,5.7nm,0.7s
FVM French Village 57.63 68 P **P** 14 28 34.7 -0.9
FVM pmax pmax
comp=Z,3.0nm,0.9s
FVM French Village 57.63 68 P **P** 14 28 34.7 -0.9
FVM IAmb IAmb 14 28 38.1
comp=Z,3.4nm,0.8s
VLDQ Val d'Or 57.80 52 P **P** 14 28 34.6 -1.9
VLDQ IAmb IAmb 14 28 35.2
comp=Z,4.1nm,0.7s
SCHQ Schefferville 57.93 41 P **P** 14 28 36.6 -0.8
comp=Z,1.4nm,0.6s,baz=353,slow=8.4,SNR=5.6
SCHQ Schefferville 57.93 41 P **P** 14 28 36.6 -0.8
SCHQ IAmb IAmb 14 28 59.4
comp=Z,10.0nm,1.4s
MIAR Mount Ida 58.12 73 P **P** 14 28 38.9 -0.1
MIAR pmax pmax
comp=Z,10.0nm,1.1s
MIAR Mount Ida 58.12 73 P **P** 14 28 38.9 -0.1
MIAR IAmb IAmb 14 28 54.1
comp=Z,10nm,1.1s
MIAR Mount Ida 58.12 73 P **P** 14 28 39.1 +0.1
baz=314
KEV Kevo 58.13 352 P **P** 14 28 38.4 -0.2
KEV pmax pmax
comp=Z,29nm,1.3s
KEV Kevo 58.13 352 P **P** 14 28 38.4 -0.2
GTA Gaotai 58.41 295 *eP* P **P** 14 28 41.6 +0.5
GTA pP pwP 14 28 46.9 -2.2
GTA pmax pmax
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 58.48 352 P **P** 14 28 40.1 -0.9
comp=Z,1.1nm,0.5s,baz=17,slow=7.4,SNR=15
ARCES PcP **PcP** 14 29 31.7 +0.2
comp=Z,1.6nm,0.5s,baz=20,slow=4.6,SNR=9.8
ARCES LR LR 14 54 54.4
comp=Z,27nm,20.3s,baz=306,slow=37
ARCES ARCESS Array B 58.48 352 IAmb IAmb 14 28 55.5
comp=Z,11nm,1.1s
LVZ Lovozero 59.06 348 P **P** 14 28 44.3 -0.8
LVZ pmax pmax
comp=Z,44nm,1.5s
LVZ Lovozero 59.06 348 P **P** 14 28 44.3 -0.8
N49A Columbus Grove 59.18 62 P **P** 14 28 44.9 -1.4
N49A IAmb IAmb 14 28 46.4
comp=Z,17nm,1.4s
SADO Sadowa 59.23 56 P **P** 14 28 46.8 +0.2
SADO IAmb IAmb 14 29 00.2
comp=Z,6.0nm,0.9s
N51A Ashland 60.17 61 P **P** 14 28 53.8 +0.6
DELO Deloro Mine 60.19 55 P **P** 14 28 53.7 +0.5
WVT Waverly 60.41 68 P **P** 14 28 54.8 -0.1
WVT pmax pmax
comp=Z,6.0nm,1.2s
WVT Waverly 60.41 68 P **P** 14 28 54.8 -0.1
WVT IAmb IAmb 14 29 12.8
comp=Z,6.3nm,1.2s
TRQ Mont Tremblant 60.53 52 P **P** 14 28 54.2 -1.4
TRQ IAmb IAmb 14 28 56.2
comp=Z,8.4nm,0.9s
MEDO Medina 60.70 57 P **P** 14 28 57.4 +0.6
Q51A Peebles 60.95 63 P **P** 14 28 58.4 -0.1
Q51A IAmb IAmb 14 29 21.3

comp=Z,5.2nm,0.8s
Y45A Yeager Farm, C 60.99 71 P P 14 28 57.8 -1.1
KURK Kurchatov 61.17 316 *ce*P **P 14 29 00.0 +0.2**
KURK pmax pmax
comp=Z,2.0nm,0.3s
KURK Kurchatov 61.17 316 P P 14 28 59.7 -0.1
MMNY Mt. Morris Dam 61.29 57 P P 14 29 01.2 +0.4
N54A Moraine State 61.44 59 P P 14 29 01.6 -0.2
N54A IAmb IAmb 14 29 04.8
comp=Z,17nm,1.5s
LONY Lake Ozonia 61.66 53 P P 14 29 02.4 -0.8
baz=315
WMQ Urumqi 61.88 306 *e*P **P 14 29 07.4 +2.6**
L56A Greenwood 61.90 57 P P 14 29 05.2 +0.3
K57A Scipio Center 62.02 56 P P 14 29 06.2 +0.6
J58A Remsen 62.20 55 P P 14 29 07.1 +0.2
R53A Hurricane 62.22 63 P P 14 29 07.1 +0.1
NCB Newcomb 62.30 54 P P 14 29 07.2 -0.3
Q54A Coxs Mills 62.37 61 P P 14 29 07.7 -0.4
MK31 Makanchi Array 62.38 311 ‖ *e*P **P 14 29 07.2 -0.9**
MK31 Makanchi Array 62.38 311 P P 14 29 07.5 -0.6
MK31 IAmb IAmb 14 29 08.8
comp=Z,4.2nm,1.4s
MKAR Makanchi Array 62.38 311 P P 14 29 07.4 -0.7
comp=Z,1.6nm,0.3s,baz=47,slow=6.6,SNR=69
MKAR Makanchi Array 62.38 311 P P 14 29 07.2 -0.9
MAKZ Makanchi 62.52 311 P P 14 29 08.4 -0.6
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 62.52 311 P P 14 29 08.4 -0.6
MAKZ IAmb IAmb 14 29 09.4
comp=Z,1.9nm,0.8s
J59A Piesco 62.52 54 P P 14 29 08.9 -0.1
J59A IAmb IAmb 14 29 34.9
comp=Z,7.8nm,1.1s
BINY Binghamton 62.67 56 P P 14 29 10.6 +0.5
BINY Binghamton 62.67 56 P P 14 29 11.2 +1.2
baz=316
M57A Sunshine Farm, 62.69 57 P P 14 29 10.4 +0.3
M57A IAmb IAmb 14 29 32.6
comp=Z,9.6nm,1.2s
SSPA Standing Stone 62.79 58 P P 14 29 10.9 0.0
SSPA Standing Stone 62.79 58 P P 14 29 11.1 +0.2
baz=316
BRVK Borovoye 62.80 322 P P 14 29 10.6 -0.1
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BRVK Borovoye 62.80 322 P P 14 29 10.6 -0.1
BRVK IAmb IAmb 14 29 14.8
comp=Z,4.8nm,1.4s
S54A Dingess, Beckl 62.95 63 P P 14 29 11.9 -0.1
S54A IAmb IAmb 14 29 28.4
comp=Z,6.7nm,0.7s
L59A Walton 63.16 55 P P 14 29 13.8 +0.4
G62A West of Eustis 63.22 50 P P 14 29 13.6 0.0
Q56A Snyder Ridge, 63.23 60 P P 14 29 13.8 0.0
KSPA Keystone Colle 63.25 56 P P 14 29 14.6 +0.7
R55A Marlinton 63.26 62 P P 14 29 14.6 +0.4
R55A IAmb IAmb 14 29 14.8
comp=Z,8.0nm,1.1s
N58A Sunbury 63.27 57 P P 14 29 14.7 +0.7
N58A IAmb IAmb 14 29 28.9
comp=Z,9.2nm,1.1s
H62A Milan 63.38 51 P P 14 29 14.4 -0.4
GOMU GeErMu 63.48 295 P P 14 29 15.8 -0.2
GOMU sP pwP 14 29 23.6 -0.3
GOMU S **S 14 37 47.3 -1.9**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,41nm,4.1s
GOMU LR LR
comp=N,62nm,5.1s
GOMU LR LR
comp=E,48nm,4.2s
GOMU LR LR
comp=Z,25nm,5.1s
F63A Nahmakanta, Br 63.54 49 P P 14 29 16.0 +0.2
N59A State Game Lan 63.71 57 P P 14 29 17.2 +0.2
N59A State Game Lan 63.71 57 P P 14 29 17.9 +0.9
baz=316
F64A Sherman 63.78 49 P P 14 29 16.6 -0.7
BG3 Lake Jocassee 64.04 66 P P 14 29 18.9 -0.3
BG3 IAmb IAmb 14 29 29.8
comp=Z,7.6nm,1.0s
I63A Otisfield 64.05 51 P P 14 29 19.0 -0.1
ARU Arti 64.11 331 *c i*P **P 14 29 18.9 -0.4**
comp=Z,55nm,18.5s,baz=348,slow=40
ARU 14 29 52.8
ARU S **S 14 37 57.1 +1.4**
ARU SS **SS 14 41 58.2 -5.5**
ARU pmax pmax
comp=Z,10.0nm,1.8s
ARU Arti 64.11 331 P P 14 29 19.1 -0.2
ARU IAmb IAmb 14 29 19.4
comp=Z,4.1nm,0.4s
LUPA Lehigh Univers 64.14 57 P P 14 29 20.0 +0.2
250A Grady 64.27 70 P P 14 29 19.9 -0.8
HRV Adam Dziewonsk 64.70 53 P P 14 29 23.4 0.0
HRV pmax pmax
comp=Z,42nm,1.5s
HRV Adam Dziewonsk 64.70 53 P P 14 29 23.4 0.0
EMMW East Machias 65.06 49 P P 14 29 25.2 -0.4
DRLN Deer Lake 65.92 40 P P 14 29 30.4 -0.8
FIA1 FINESS Array S 66.31 350 P P 14 29 32.5 -1.0
FIA1 IAmb IAmb 14 29 37.1
comp=Z,8.9nm,1.4s
FINES FINESS Array B 66.32 350 P P 14 29 32.4 -1.1
comp=Z,1.9nm,0.7s,baz=16,slow=5.7,SNR=12
PZH PanZhiHua 66.40 283 P P 14 29 36.8 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.5s
HAL Halifax 66.91 47 P P 14 29 37.3 -0.3
HAL pmax pmax
comp=Z,60nm,1.4s
HAL Halifax 66.91 47 P P 14 29 37.3 -0.3
NC204 NORSAR Array S 67.54 358 P P 14 29 41.1 -0.3
NC303 NORSAR Array S 67.57 357 P P 14 29 41.5 -0.1
NC405 NORSAR Array S 67.68 357 P P 14 29 42.0 -0.2
NB201 NORSAR Array S 67.75 357 P P 14 29 42.7 0.0
NB2 NORSAR Subarra 67.76 357 P P 14 29 42.9 +0.1
comp=Z,0.4nm,0.4s,baz=5.7,slow=6.9
NOA NORSAR Array B 67.76 357 P P 14 29 41.0 -1.8
comp=Z,0.7nm,0.6s,baz=6.5,slow=6.7,SNR=8.2
NOA LR LR 15 01 28.0
comp=Z,30nm,18.1s,baz=350,slow=38
KDJ Kajisay 68.30 311 P P 14 29 47.0 +0.3
KDJ pmax pmax
comp=Z,2.0nm,0.8s
KDJ Kajisay 68.30 311 P P 14 29 47.0 +0.3
KDJ IAmb IAmb 14 29 49.1
comp=Z,2.1nm,0.8s
BOOM Boomskoye usch 68.60 312 P P 14 29 48.9 +0.3
BOOM pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 68.60 312 P P 14 29 48.9 +0.3
BOOM IAmb IAmb 14 29 51.2
comp=Z,3.8nm,0.6s
AAK Ala-Archa 69.15 313 LR LR 15 03 42.3
comp=Z,37nm,18.1s,baz=158,slow=39
AAK Ala-Archa 69.15 313 *ce*P **P 14 29 52.4 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 69.15 313 P P 14 29 52.5 +0.5
AAK IAmb IAmb 14 29 53.8
comp=Z,3.8nm,0.7s
ABKAR Akbulak array 69.69 326 P P 14 29 54.6 -0.3
ABKAR Akbulak array 69.69 326 P P 14 29 55.0 +0.1
ABKAR IAmb IAmb 14 29 56.1
comp=Z,2.0nm,0.6s
LSA Lhasa 70.33 293 P P 14 29 59.0 -0.8
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 70.33 293 P P 14 29 59.0 -0.8
KKAR Karatay Array 70.57 316 P P 14 29 59.9 -0.6
KKAR Karatay Array 70.57 316 P P 14 29 59.9 -0.6
OBN Obninsk 70.82 342 *i* P **P 14 30 02.2 +0.5**
OBN *i* 14 30 21.6
OBN pmax pmax
comp=Z,3.0nm,0.8s
KSH Kashi 70.90 310 P P 14 30 06.4 +3.7
KSH pmax pmax
comp=Z,7.0nm,0.4s
PABE Paberze 72.37 350 P P 14 30 10.4 -0.6
GAR Garm 73.96 313 P P 14 30 21.1 +0.1
TAPN Taplejung 74.08 294 *e*P **P 14 30 23.1 +1.1**
comp=Z,25nm,0.7s
CMAR Chiang Mai Arr 74.11 280 P P 14 30 21.9 0.0
comp=Z,1.7nm,0.8s,baz=24,slow=7.0,SNR=14
CMAR Chiang Mai Arr 74.11 280 *ce*P **P 14 30 23.2 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
GUN Gumba 74.69 295 *e*P **P 14 30 26.7 +1.1**
comp=Z,49nm,0.4s
JIRN Jiri 74.70 295 *e*P **P 14 30 26.9 +1.1**
comp=Z,44nm,0.4s
CHGR Chuyangaron 74.77 314 P P 14 30 25.5 -0.2
RAMN Ramite 75.02 294 *e*P **P 14 30 28.3 +0.9**
comp=Z,40nm,0.5s
KKN Kakani 75.12 296 *e*P **P 14 30 29.0 +1.0**
comp=Z,8.9nm,0.5s
PKI Pulchoki 75.21 296 *e*P **P 14 30 29.4 +0.7**
PKIN Phulchoki 75.22 296 *e*P **P 14 30 29.2 +0.6**
comp=Z,9.3nm,0.5s
GKN Gorkha 75.31 296 *e*P **P 14 30 29.8 +0.8**
comp=Z,32nm,0.4s
DMN Daman 75.36 296 *e*P **P 14 30 30.3 +0.9**
DANN Dangsing 75.54 297 *e*P **P 14 30 31.3 +0.8**
KOLN Koldanda 76.07 297 *e*P **P 14 30 34.1 +0.7**
comp=Z,14nm,0.5s
PYUN Piuthan 76.16 298 *e*P **P 14 30 34.5 +0.6**
comp=Z,23nm,0.4s
AKASG Malin Array Be 76.34 345 P **P 14 30 32.9 -1.3**
comp=Z,2.3nm,0.3s,baz=17,slow=5.8,SNR=18
AKASG Malin Array Be 76.34 345 *ce*P **P 14 30 33.2 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 76.34 345 P P 14 30 33.0 -1.3
AKBB Malin Array Si 76.34 345 P P 14 30 33.2 -1.1
AKBB pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 76.34 345 P P 14 30 33.2 -1.1
AKBB IAmb IAmb 14 30 47.6
comp=Z,2.6nm,0.8s
CLL Collm 77.43 356 P P 14 30 40.3 -0.1
CLL pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 77.43 356 P P 14 30 40.3 -0.1
CLL IAmb IAmb 14 30 40.8
comp=Z,2.3nm,0.6s
CLL Collm 77.43 356 *e*P **P 14 30 40.0 -0.4**
CLL *e*PP **PP 14 33 34.0 0.0**
BRG Berggiesshubel 77.82 355 *e*P **P 14 30 42.7 +0.1**
BRG Amp 14 30 44.8
comp=Z,2.2nm,0.6s
BRG Berggiesshubel 77.82 355 *e*P **P 14 30 42.6 +0.1**
BRG pmax pmax
comp=Z,2.0nm,0.6s
OSTC Ostas 77.99 353 *e*P **P 14 30 44.0 +0.4**
UPC Upice 78.05 354 *e*P **P 14 30 44.4 +0.5**
UPC Upice 78.05 354 *e*P **P 14 30 44.4 +0.5**
DPC Dobruska-Polom 78.19 353 *e*P **P 14 30 44.7 0.0**
DPC Dobruska-Polom 78.19 353 *e*P **P 14 30 44.7 0.0**
KRLC Kraliky 78.43 353 *e*P **P 14 30 45.6 -0.5**
KRLC Kraliky 78.43 353 *e*P **P 14 30 45.6 -0.5**
VRAC Vranov 79.20 353 LR LR 15 09 22.2
comp=Z,33nm,18.2s,baz=314,slow=38
KHC Kasperske Hory 79.57 355 P P 14 30 51.8 -0.5
KHC pmax pmax
comp=Z,8.0nm,1.4s
KHC Kasperske Hory 79.57 355 P P 14 30 51.8 -0.5
KHC IAmb IAmb 14 30 53.6
comp=Z,7.6nm,1.4s
KIV Kislovodsk 79.83 334 *e*P **P 14 30 52.2 -1.7**
KIV pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 79.85 355 P P 14 30 53.3 -0.6
comp=Z,0.4nm,0.4s,baz=26,slow=6.4,SNR=5.4
GERES pP **pwP 14 31 07.5 +5.6**
comp=Z,0.2nm,0.5s,baz=12,slow=6.3,SNR=2.6
GERES GERESS Array B 79.85 355 P P 14 30 53.8 -0.2
GERES GERESS Array B 79.85 355 P P 14 30 53.8 -0.2
BUR08 Bucovina Ar. S 79.92 347 P P 14 30 53.9 -0.5
BURAR Bucovina Array 79.95 347 P P 14 30 54.2 -0.3
KBZ Khabaz 79.98 334 P P 14 30 54.3 -0.2
comp=Z,1.9nm,0.8s,baz=20,slow=3.5,SNR=7.5
GEYT Alibeck 80.06 321 LR LR 15 10 12.1
comp=Z,68nm,18.1s,baz=288,slow=39
TIRR Tirgusor 82.53 344 P P 14 31 08.3 +0.2
TIRR pmax pmax
comp=Z,40nm,1.1s
TIRR Tirgusor 82.53 344 P P 14 31 08.3 +0.2
WRA Warramunga Arr 84.33 228 P P 14 31 16.8 -0.8
comp=Z,0.3nm,0.5s,baz=32,slow=5.8,SNR=6.7
WRA Warramunga Arr 84.33 228 *i* P **P 14 31 17.2 -0.4**
WRA Warramunga Arr 84.33 228 IAmb IAmb 14 31 23.0
comp=Z,0.3nm,1.4s
VTS Vitosha 85.12 347 P P 14 31 21.5 -0.1
VTS pmax pmax
comp=Z,2.0nm,0.9s
VTS Vitosha 85.12 347 P P 14 31 21.5 -0.1
VTS IAmb IAmb 14 31 35.0
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 86.07 339 P P 14 31 26.1 -0.2
comp=Z,0.9nm,0.6s,baz=64,slow=2.4,SNR=6.1
BRTR LR LR 15 15 39.2
comp=Z,22nm,18.1s,baz=3.0,slow=40
BRTR Keskin Array B 86.07 339 *ce*P **P 14 31 26.8 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
SGRT San Giovanni R 86.78 353 P P 14 31 29.6 -0.1
FITZ Fitzroy Crossi 87.06 236 P P 14 31 31.5 +0.4
comp=Z,2.2nm,0.9s,baz=81,slow=11,SNR=2.2
FNA Florina 87.17 349 P P 14 31 31.3 -0.4
FNA pmax pmax
comp=Z,6.0nm,0.8s
FNA Florina 87.17 349 P P 14 31 31.2 -0.4
FNA IAmb IAmb 14 31 31.7
comp=Z,5.9nm,0.8s
ASAR Alice Springs 87.75 227 P P 14 31 34.5 0.0
comp=Z,0.3nm,0.5s,baz=26,slow=4.6,SNR=4.0
ASAR Alice Springs 87.75 227 P P 14 31 35.2 +0.7
ASAR Alice Springs 87.75 227 P P 14 31 35.2 +0.7
ESDC Sonseca Array 88.79 8 P P 14 31 38.6 -0.8
comp=Z,0.3nm,0.7s,baz=343,slow=3.5,SNR=3.6
H03N2 Juan Fernandez 118.18 109 T T 16 47 14.6
baz=317,slow=77,SNR=8.1
H03N1 Juan Fernandez 118.19 109 T T 16 47 34.8
baz=317,slow=77,SNR=9.1
H03N3 Juan Fernandez 118.20 109 T T 16 47 36.2
baz=317,slow=77,SNR=7.4
H03S2 Juan Fernandez 118.47 109 T T 16 47 03.8
SNR=16
H03S3 Juan Fernandez 118.47 109 T T 16 47 03.7
SNR=18
H03S1 Juan Fernandez 118.48 109 T T 16 47 04.9
SNR=20
DBIC Dimbokro 121.31 13 PKP **PKPdf 14 37 38.7 -0.3**
comp=Z,2.2nm,0.8s,baz=6.7,slow=5.2,SNR=1.7
BOSA Boshof 153.06 321 PKPbc **PKPbc 14 38 41.5 -1.6**
comp=Z,2.4nm,0.8s,baz=303,slow=2.8,SNR=3.7

*GRAL **13** 14:34:41.6±0.3, 33.˚43N×35.˚67E, h2km±5km, MD3.1*
*JSO **13** 14:34:42.2±0.0, 33.˚N±65.˚×3.˚6E±6.˚5, h2km±11km, Mc3.1/6, ML2.9/1, MLv2.5/7*

ISC 13 14:34:41.0±1.2, 33.˚44N±0.˚03×35.˚71E±0.˚06, h8km±10km, n11, σ0.˚25/14, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHBL	**Chebaa**	**0.10**	**164**	*e*P	**Pg**	**14 34 43.5**	**0.0**
SHBL				*e*S	**Sg**	**14 34 44.9**	**-0.4**
QRWL	**Qaraoun**	**0.11**	**347**	*e*P	**Pg**	**14 34 43.6**	**+0.1**
QRWL				*e*S	**Sg**	**14 34 45.3**	**-0.1**
RCY	**Rachaya**	**0.12**	**63**	*e*P	**Pg**	**14 34 44.2**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.23**	**190**	P	**Pg**	**14 34 45.8**	**+0.1**
DQRL	**Deir Qamar**	**0.29**	**336**	*e*P	**Pg**	**14 34 46.7**	**0.0**
DQRL				*e*S	**Sg**	**14 34 50.7**	**+0.1**
BHL	**Bhannes**	**0.46**	**354**	*e*P	**Pg**	**14 34 50.1**	**+0.1**
BHL				*e*S	**Sg**	**14 34 56.4**	**+0.2**
HNTI	**Hanita**	**0.57**	**232**	P	**Pg**	**14 34 52.5**	**+0.4**
SHMJ	**Saham**	**0.71**	**176**	P	**Pb**	**14 34 55.6**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.83**	**212**	P	Pn	14 35 09.0	+10
HWQ	**Hawqa**	**0.86**	**13**	*e*P	**Pg**	**14 34 57.3**	**-0.2**
OFRI	**Ofer**	**1.02**	**217**	P	**Pb**	**14 35 00.9**	**-0.1**

*NEIC **13** 14:57:48.6±1.5, 11.˚68S±0.˚09×166.˚7E±0.˚1, h183km±5km, mb4.2/47, Error ellipse: s-maj=18.3km s-min=12.9km az=103.0*
*IDC **13** 14:57:52.7±3.8, 11.˚82S×166.˚62E, h224km±37km, mb3.5/14, mb1 3.7/15, mb1mx3.5/37, mbtmp4.0/15, MS3.9/2, Ms1 3.9/2, ms1mx2.9/30, Error ellipse: s-maj=25.1km s-min=18.3km az=134.0*
*NOU **13** 14:58:26.8, 14.˚33S×166.˚92E, h97km, mb4.0/10, Vanuatu Islands*

ISC 13 14:57:49.8±0.5, 11.˚79S±0.˚06×166.˚7E±0.˚1, h200km, n85, σ1.˚9 26/86, mb4.0/39, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.66**	**173**		**Pn**	**14 58 48.0**	**+0.5**
SANVU	**Saraoutou**	**3.66**	**173**	P	**Pn**	**14 58 48.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**9.02**	**195**	Pn	**Pn**	**14 59 59.0**	**+2.7**
KOUNC	**Koumac, New Ca**	**9.02**	**195**	P	Pn	15 00 02.0	+5.6
YATNC	**Mamie plateau,**	**10.21**	**179**	P	**Pn**	**15 00 14.8**	**+3.0**
DZM	**Mont Dzumac**	**10.22**	**181**	P	**Pn**	**15 00 15.7**	**+3.6**
	1.5nm,0.3s,baz=342,slow=8.3,SNR=23						
DZM				S	**Sn**	**15 02 04.7**	**-1.7**
	0.3nm,0.3s,baz=77,slow=18,SNR=1.7						
DZM	**Mont Dzumac**	**10.22**	**181**		**Pn**	**15 00 15.6**	**+3.5**
DZM	**Mont Dzumac**	**10.22**	**181**	P	**P**	**15 00 16.1**	**-3.7**
NOUC	**Port Laguerre**	**10.26**	**182**	P	**P**	**15 00 17.3**	**-2.8**
ONTNC	**Ouen Toro**	**10.46**	**181**	Pn	**P**	**15 00 19.7**	**-2.6**
ONTNC	**Ouen Toro**	**10.46**	**181**	P	**P**	**15 00 20.4**	**-1.9**
OUENC	**Ouen Island, N**	**10.57**	**179**	Pn	**Pn**	**15 00 19.1**	**+2.7**
OUENC	**Ouen Island, N**	**10.57**	**179**	P	**P**	**15 00 20.8**	**-2.7**
PINNC	**Pines Island,**	**10.78**	**176**	Pn	**P**	**15 00 23.5**	**-2.4**
MSVF	**Nonsavu**	**12.44**	**120**	LR	LR	15 05 03.4	
	comp=Z,224nm,20.6s,baz=203,slow=34						
EIDS	**Eidsvold**	**20.03**	**225**	P	**P**	**15 02 09.0**	**+1.4**
CTA	**Charters Tower**	**21.32**	**245**	P	**P**	**15 02 20.9**	**-0.5**
	2.6nm,0.5s,baz=80,slow=12,SNR=7.6						
ARMA	**Armidale**	**23.23**	**215**	P	**P**	**15 02 40.5**	**+1.1**
NIUE	**Niue**	**23.62**	**111**	P	**P**	**15 02 43.8**	**+0.8**
BKZ	**Black Stump Fm**	**28.61**	**164**	P	**P**	**15 03 28.5**	**+0.9**
BKZ				IAmb	IAmb	15 03 44.2	
	comp=Z,8.1nm,1.1s						
THZ	**Tophouse**	**30.34**	**171**	P	**P**	**15 03 43.9**	**+1.1**
STKA	**Stephens Creek**	**30.58**	**225**	P	**P**	**15 03 45.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=34,slow=15,SNR=3.2						
WR0	**Warramunga Arr**	**31.96**	**251**	P	**P**	**15 03 56.2**	**-1.1**
WR0				IAmb	IAmb	15 04 09.5	
	comp=Z,5.4nm,1.3s						
WB0	**Warramunga Arr**	**32.06**	**252**	P	**P**	**15 03 57.3**	**-0.8**
WB0				IAmb	IAmb	15 03 59.2	
	comp=Z,5.6nm,1.4s						
WRAB	**Tennant Creek**	**32.13**	**251**	P	**P**	**15 03 57.8**	**-1.0**
WRAB				IAmb	IAmb	15 04 06.5	
	comp=Z,8.5nm,1.5s						
WB2	**Warramunga Arr**	**32.13**	**251**	P	**P**	**15 03 57.9**	**-0.8**
WRA	**Warramunga Arr**	**32.14**	**251**	P	**P**	**15 03 58.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=78,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**32.14**	**251**	P	**P**	**15 03 57.9**	**-0.9**
AS31	**Alice Springs**	**33.33**	**245**	P	**P**	**15 04 07.8**	**-1.3**
ASAR	**Alice Springs**	**33.33**	**245**	P	**P**	**15 04 08.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=67,slow=10,SNR=21						
ASAR				PcP	**PcP**	**15 06 46.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=70,slow=2.4,SNR=5.9						
KNRA	**Kununurra**	**37.05**	**260**	P	**P**	**15 04 40.8**	**-0.1**
KNRA				IAmb	IAmb	15 04 52.6	
	comp=Z,8.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.12**	**256**	P	**P**	**15 05 06.3**	**-0.2**
FITZ				IAmb	IAmb	15 05 11.9	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Ant**	**55.08**	**332**	P	**P**	**15 07 00.1**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=171,slow=8.9,SNR=6.4						
MJB9	**Matsu-Tunnel**	**55.08**	**332**	P	**P**	**15 07 00.5**	**-0.7**
JHS	**Saijyo**	**56.39**	**327**	P	**P**	**15 07 10.4**	**-0.1**
KSRS	**Korea Array**	**61.03**	**325**	P	**P**	**15 07 42.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=128,slow=6.9,SNR=3.3						
PETK	**Petropavlovsk-**	**65.10**	**354**	P	**P**	**15 08 09.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=186,slow=12,SNR=2.6						
KLR	**Kul'dur**	**68.12**	**336**	P	**P**	**15 08 29.3**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=170,slow=2.2,SNR=8.1						
PSI	**Prapat**	**68.92**	**278**	LR	LR	15 42 00.1	
	comp=Z,206nm,21.4s,baz=83,slow=38						
CMAR	**Chiang Mai Arr**	**73.29**	**293**	P	**P**	**15 09 00.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=105,slow=4.3,SNR=8.1						
CMAR	**Chiang Mai Arr**	**73.29**	**293**	P	**P**	**15 08 58.4**	**-1.5**
P18K	**Big Mountain,**	**77.28**	**19**	P	**P**	**15 09 21.1**	**-0.8**
P18K				IAmb	IAmb	15 09 22.6	
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**78.22**	**180**	P	**P**	**15 09 27.1**	**0.0**
BILL	**Bilibino**	**79.62**	**360**	P	**P**	**15 09 34.7**	**+0.3**
BILL				IAmb	IAmb	15 09 36.2	
	comp=Z,13nm,1.5s						
SONM	**Songino Array**	**79.83**	**324**	P	**P**	**15 09 36.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=144,slow=5.3,SNR=6.7						
SONM	**Songino Array**	**79.83**	**324**	P	**P**	**15 09 36.4**	**+0.2**
CAST	**Castle Rocks**	**81.36**	**17**	P	**P**	**15 09 43.8**	**0.0**
CAST				IAmb	IAmb	15 09 56.4	
	comp=Z,4.0nm,1.4s						
J20K	**Nowinta River**	**81.37**	**16**	P	**P**	**15 09 44.2**	**+0.5**
J20K				IAmb	IAmb	15 10 09.0	
	comp=Z,4.6nm,1.3s						
SCM	**Sheep Creek Mo**	**81.70**	**20**	P	**P**	**15 09 45.5**	**-0.1**
BERG	**Berg Lake**	**82.01**	**22**	P	**P**	**15 09 47.4**	**+0.2**
BMRM	**Bremner River**	**82.06**	**22**	P	**P**	**15 09 47.8**	**+0.3**
BMRM				IAmb	IAmb	15 10 05.1	
	comp=Z,13nm,1.4s						
M24K	**Tolsona, Glenn**	**82.28**	**20**	P	**P**	**15 09 49.5**	**+0.8**
RND	**Reindeer**	**82.33**	**19**	P	**P**	**15 09 48.4**	**-0.5**
RND				IAmb	IAmb	15 09 56.6	
	comp=Z,8.2nm,1.4s						
WAX	**Waxell Ridge**	**82.36**	**23**	P	**P**	**15 09 49.5**	**+0.3**
N25K	**Chitina, Valde**	**82.49**	**21**	P	**P**	**15 09 50.1**	**+0.3**
N25K				IAmb	IAmb	15 10 13.1	
	comp=Z,9.9nm,1.4s						
DHY	**Denali Highway**	**82.56**	**19**	P	**P**	**15 09 50.3**	**0.0**
DHY				IAmb	IAmb	15 10 15.0	
	comp=Z,5.2nm,1.3s						
VRDI	**Verde Repeater**	**82.65**	**22**	P	**P**	**15 09 50.8**	**+0.1**
VRDI				IAmb	IAmb	15 10 00.3	
	comp=Z,10nm,1.4s						
GLB	**Gilahina Butte**	**82.66**	**22**	P	**P**	**15 09 50.5**	**-0.2**
GLB				IAmb	IAmb	15 09 52.2	
	comp=Z,6.0nm,1.3s						
BWN	**Browne**	**82.70**	**18**	P	**P**	**15 09 51.2**	**+0.5**
BWN				IAmb	IAmb	15 10 08.7	
	comp=Z,11nm,1.2s						
IMAR	**Indian Mountai**	**82.89**	**15**	P	**P**	**15 09 51.5**	**-0.1**
TABL	**Table Mountain**	**83.01**	**23**	P	**P**	**15 09 53.0**	**+0.3**
WRH	**Wood River Hil**	**83.34**	**18**	P	**P**	**15 09 53.4**	**-0.5**
CCB	**Clear Creek Bu**	**83.55**	**18**	P	**P**	**15 09 54.5**	**-0.5**
HDA	**Harding Lake**	**83.64**	**18**	P	**P**	**15 09 55.1**	**-0.4**
HDA				IAmb	IAmb	15 09 56.5	
	comp=Z,4.4nm,0.8s						
MDM	**Murphy Dome**	**83.64**	**18**	P	**P**	**15 09 55.2**	**-0.4**
MDM				IAmb	IAmb	15 09 55.9	
	comp=Z,6.6nm,1.4s						
MENT	**Mentasta**	**83.69**	**20**	P	**P**	**15 09 56.5**	**+0.7**
IL31		**83.92**	**18**	P	**P**	**15 09 56.6**	**-0.3**
IL31				IAmb	IAmb	15 09 57.3	
	comp=Z,2.2nm,0.7s						
ILAR	**Eielson Array**	**83.92**	**18**	P	**P**	**15 09 56.6**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=239,slow=5.0,SNR=36						
ILAR	**Eielson Array**	**83.92**	**18**	P	**P**	**15 09 56.8**	**-0.1**
M27K	**Edge Creek, AK**	**83.95**	**22**	P	**P**	**15 09 57.7**	**+0.3**
M27K				IAmb	IAmb	15 10 18.1	
	comp=Z,4.8nm,1.2s						
POKR	**Poker Flat Res**	**84.00**	**18**	P	**P**	**15 09 56.8**	**-0.5**
POKR				IAmb	IAmb	15 09 57.6	
	comp=Z,3.0nm,0.9s						
DOT	**Dot Lake**	**84.05**	**20**	P	**P**	**15 09 58.5**	**+0.8**
DOT				IAmb	IAmb	15 09 58.8	
	comp=Z,2.2nm,0.8s						
J25K	**Salcha River,**	**84.28**	**19**	P	**P**	**15 09 59.2**	**+0.4**
J25K				IAmb	IAmb	15 09 59.9	
	comp=Z,6.0nm,0.9s						
SCRK	**Sand Creek**	**84.29**	**20**	P	**P**	**15 09 59.6**	**+0.7**
L27K	**Beaver Creek,**	**84.42**	**21**	P	**P**	**15 10 00.1**	**+0.5**
BCAR	**Beaver Creek A**	**84.44**	**21**	P	**P**	**15 10 00.4**	**+0.7**
BBB	**Bella Bella**	**84.65**	**34**	P	**P**	**15 10 00.5**	**-0.3**
EGAK	**Eagle**	**85.75**	**20**	P	**P**	**15 10 06.2**	**+0.2**
EGAK				IAmb	IAmb	15 10 07.1	
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**85.77**	**50**	P	**P**	**15 10 07.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=311,slow=6.8,SNR=2.0						

MKAR	**Makanchi Array**	**94.72**	**317**	P		**P**	**15 10 48.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=93,slow=6.1,SNR=20							
MKAR	**Makanchi Array**	**94.72**	**317**	P		**P**	**15 10 48.1**	**-0.4**
YKA	**Yellowknife Ar**	**95.19**	**27**	P		**P**	**15 10 48.8**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=258,slow=5.0,SNR=9.3							
ARCES	**ARCESS Array B**	**117.29**	**346**	PKP		**PKiKP**	**15 16 10.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=46,slow=5.2,SNR=4.5							
FINES	**FINESS Array B**	**122.81**	**339**	PKP		**PKiKP**	**15 16 21.3**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=126,slow=2.6,SNR=5.6							
ESDC	**Sonseca Array**	**151.03**	**345**	PKP		**PKPdf**	**15 17 12.5**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=26,slow=1.2,SNR=1.7							
ESDC				PKPbc		**PKiKP**	**15 17 19.7**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=7.9,slow=4.0,SNR=6.8							
ESDC				PKPab		**PKPab**	**15 17 28.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=6.0,slow=4.0,SNR=6.8							

*IDC **13** 15:01:20.3±7.5,36°.87N×71°.06E,h218km±46km,mb3.0/1, mb1 2.9/7,mb1mx2.7/55,mbtmp3.6/7,Error ellipse: s-maj=75.3km s-min=43.9km az=164.0*

*NNC **13** 15:01:22.7±3.2,37°.13N×70°.89E,h220km±38km,mb2.9, mpv3.9,Error ellipse: s-maj=30.8km s-min=19.5km az=22.0*

ISC 13 15:01:19.2±2.0,36°.9N±0°.1×70°.8E±0°.1,h200km,n27, σ1§07/25,1C-8D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.67**	**22**	P		**Pn**	**15 02 43.5**	**+0.9**
	SNR=105							
UCH	**Uchtor**	**6.03**	**27**	P		**Pn**	**15 02 48.1**	**+0.8**
	SNR=35							
EKS2	**Erkin-Say**	**6.18**	**21**	P		**Pn**	**15 02 50.4**	**+1.5**
	SNR=16							
KK02	**Karatay Array**	**6.20**	**358**	⇓P		**Pn**	**15 02 50.3**	**+1.3**
	1.6nm,0.4s,baz=176,slow=12							
KK02				⇓S		**Sn**	**15 03 59.1**	**-1.0**
	29nm,0.6s,baz=187,slow=23							
AAK	**Ala-Archa**	**6.39**	**25**	P		**Pn**	**15 02 52.6**	**+1.1**
	4.1nm,0.3s,baz=189,slow=6.4,SNR=64							
AAK				S		**Sn**	**15 04 04.9**	**+0.2**
	0.5nm,0.3s,baz=211,slow=13,SNR=4.1							
AAK	**Ala-Archa**	**6.39**	**25**	P		**Pn**	**15 02 52.6**	**+1.1**
	SNR=26							
AAK	**Ala-Archa**	**6.39**	**25**	P		**Pn**	**15 02 52.3**	**+0.7**
	7.1nm,0.4s							
AAK				⇓S		**Sn**	**15 04 05.5**	**+0.8**
	20nm,0.8s							
ULHL	**Ulahol**	**6.78**	**36**	P		**Pn**	**15 02 57.3**	**+0.6**
	SNR=5.2							
TKM2	**Tokmak 2**	**7.04**	**30**	P		**Pn**	**15 03 00.8**	**+0.7**
	SNR=5.1							
TKM2	**Tokmak 2**	**7.04**	**30**	⇑P		**Pn**	**15 03 00.7**	**+0.6**
	18nm,0.8s							
TKM2				⇓S		**Sn**	**15 04 17.9**	**-2.2**
	8.4nm,1.0s							
MKAR	**Makanchi Array**	**13.05**	**37**	P		**Pn**	**15 04 16.9**	**-0.3**
	0.1nm,0.3s,baz=207,slow=12,SNR=4.3							
MKAR				S		**Sn**	**15 06 44.0**	**+1.2**
	0.1nm,0.3s,baz=228,slow=15,SNR=4.7							
PYUN	**Piuthan**	**13.50**	**127**	*eP*		Pn	15 04 15.9	-7.3
	10nm,0.4s							
DANN	**Dangsing**	**13.83**	**124**	*eP*		Pn	15 04 21.2	-6.2
	9.3nm,0.4s							
KOLN	**Koldanda**	**14.12**	**127**	*eP*		Pn	15 04 23.8	-7.0
	6.6nm,0.4s							
AB31	**Akbulak array**	**14.66**	**331**	⇓P		**Pn**	**15 04 36.8**	**-0.3**
	1.0nm,0.5s							
AB31				⇓S		**Sn**	**15 07 20.0**	**-1.0**
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**14.79**	**20**	P		**Pn**	**15 04 37.8**	**-0.9**
	0.0nm,0.3s,baz=220,slow=8.8,SNR=1.6							
KURK	**Kurchatov**	**14.90**	**20**	⇓P		**Pn**	**15 04 39.6**	**-0.4**
	2.2nm,0.6s							
KKN	**Kakani**	**15.21**	**123**	*eP*		Pn	15 04 37.9	-6.4
	19nm,0.5s							
PKIN	**Phulchoki**	**15.43**	**123**	*eP*		Pn	15 04 41.4	-5.6
	14nm,0.4s							
PKI	**Pulchoki**	**15.44**	**123**	*eP*		Pn	15 04 40.4	-6.8
	10nm,0.4s							
JIRN	**Jiri**	**15.92**	**121**	*eP*		P	15 04 46.9	-5.7
	11nm,0.4s							
BVAR	**Borovoye Array**	**16.12**	**359**	P		**P**	**15 04 54.8**	**+0.6**
	0.4nm,0.3s,baz=200,slow=14,SNR=5.0							
AKTO	**Aktyubinsk**	**16.36**	**330**	P		**P**	**15 04 58.6**	**+1.7**
	0.5nm,0.3s,baz=126,slow=12,SNR=9.8							
AKTO	**Aktyubinsk**	**16.36**	**330**	⇓P		**P**	**15 04 57.8**	**+0.9**
	2.1nm,0.6s							
RAMN	**Ramite**	**16.65**	**122**	*eP*		P	15 04 55.2	-5.4
	8.9nm,0.4s							
ZALV	**Zalesovo Beam**	**19.61**	**25**	P		**P**	**15 05 31.6**	**-0.5**
	0.2nm,0.3s,baz=215,slow=11,SNR=4.1							
YKA	**Yellowknife Ar**	**80.85**	**3**	P		**P**	**15 13 09.4**	**-1.0**
	0.2nm,0.4s,baz=351,slow=5.5,SNR=6.3							

*NDI **13** 15:04:36.1±2.8,10°.54N×94°.16E,h115km±38km,ML3.7, mb4.3(NEIC)*

*NEIC **13** 15:04:36.9±2.0,10°.3N±0°.1×93°.5E±0°.1,h126km±2km, mb4.3/13,Error ellipse: s-maj=24.6km s-min=13.6km az=50.0*

*IDC **13** 15:04:39.0±3.4,10°.39N×93°.87E,h149km±33km,mb3.3/7, mb1 3.5/9,mb1mx3.1/53,mbtmp3.8/9,Error ellipse: s-maj=29.1km s-min=14.9km az=58.0*

ISC 13 15:04:34.1±0.7,10°.20N±0°.07×93°.54E±0°.07,h100km,n47, σ2§35/46,mb4.2/12,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.65**	**332**			**Pn**	**15 05 05.6**	**+3.4**
PBA	**Port Blair**	**1.65**	**332**	*eP*		**Pn**	**15 05 06.5**	**+4.3**
PBA				*eS*		**Sn**	**15 05 28.1**	**+4.5**
PBA				IAML			15 05 34.2	
	comp=E,1μm,0.3s							
PBA				IAML			15 05 35.9	
	comp=N,1μm,0.0s							
DGPR	**DIGLIPUR**	**3.02**	**349**	*eP*		**Pn**	**15 05 22.6**	**+2.4**
DGPR				*eS*		**Sn**	**15 05 53.4**	**-2.3**
DGPR				IAML			15 05 55.7	
	comp=E,166nm,1.1s							
DGPR				IAML			15 06 04.3	
	comp=N,197nm,0.5s							
CMAR	**Chiang Mai Arr**	**9.74**	**32**	P		**Pn**	**15 06 51.8**	**+0.5**
	comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=16							
CMAR	**Chiang Mai Arr**	**9.74**	**32**	Pn		**Pn**	**15 06 53.4**	**+2.1**
PALK	**Pallekele**	**13.02**	**258**	P		**P**	**15 07 43.7**	**+1.8**
	comp=N,0.7nm,0.3s,baz=159,slow=12,SNR=7.1							
PALK				S		**Sn**	**15 09 54.6**	**-4.1**
	comp=N,1.9nm,0.3s,baz=276,slow=20,SNR=11							
PALK	**Pallekele**	**13.02**	**258**	P		**P**	**15 07 43.2**	**+1.2**
MYKOM	**Kota Tinggi**	**13.21**	**129**	P		**P**	**15 07 45.9**	**+1.8**
RAGD	**RAYAGADA**	**13.27**	**314**	*eP*		**Pn**	**15 07 41.6**	**+3.0**
RAGD				*eS*		**Sn**	**15 09 58.6**	**-5.9**
SALM	**Salem**	**15.14**	**277**	*eP*		**P**	**15 08 12.5**	**+7.1**
SHL	**Shillong**	**15.37**	**354**	Pn		**Pn**	**15 08 05.5**	**-0.2**
SHL	**Shillong**	**15.37**	**354**	*eP*		**Pn**	**15 08 05.7**	**0.0**
KOHI	**KOHIMA**	**15.45**	**2**	*eP*		**Pn**	**15 08 03.6**	**-3.1**
TEZP	**TEZPUR**	**16.35**	**358**	*eP*		**Pn**	**15 08 14.0**	**-3.7**
TAPN	**Taplejung**	**17.93**	**343**	*eP*		**P**	**15 08 36.9**	**+0.3**
	comp=N,11nm,0.4s							
JIRN	**Jiri**	**18.70**	**339**	*eP*		**P**	**15 08 46.0**	**+0.9**
PKI	**Pulchoki**	**18.91**	**337**	*eP*		**P**	**15 08 48.1**	**+0.8**
PKIN	**Phulchoki**	**18.92**	**337**	*eP*		**P**	**15 08 48.1**	**+0.7**
GUN	**Gumba**	**19.04**	**339**	*eP*		**P**	**15 08 49.4**	**+0.6**
	comp=N,18nm,0.5s							
KKN	**Kakani**	**19.15**	**337**	*eP*		**P**	**15 08 50.4**	**+0.5**
GKN	**Gorkha**	**19.60**	**336**	*eP*		**P**	**15 08 55.3**	**+0.7**
	comp=N,47nm,0.6s							
KOLN	**Koldanda**	**19.83**	**333**	*eP*		**P**	**15 08 58.3**	**+1.1**
	comp=N,46nm,0.7s							
DANN	**Dangsing**	**20.26**	**334**	*eP*		**P**	**15 09 02.9**	**+0.9**
	comp=N,47nm,0.5s							
PYUN	**Piuthan**	**20.39**	**332**	*eP*		**P**	**15 09 04.5**	**+1.2**
MYLDM	**Lahad Datu**	**25.22**	**100**	P		**P**	**15 09 51.0**	**+0.2**
MYLDM				IAmb		IAmb	15 09 52.2	
	comp=Z,7.7nm,0.9s							
H08S3	**Diego Garcia H**	**27.45**	**231**	T		T	15 37 51.6	
	baz=47,slow=74,SNR=6.6							
H08S2	**Diego Garcia H**	**27.45**	**231**	T		T	15 37 48.4	
	baz=47,slow=74,SNR=4.0							
H08S1	**Diego Carcia H**	**27.46**	**231**	T		T	15 37 44.4	
	baz=47							
GAR	**Garm**	**35.40**	**328**	P		**P**	**15 11 19.9**	**-0.7**
GAR				IAmb		IAmb	15 11 21.0	
	comp=Z,6.6nm,1.0s							

CHGR	**Chuyangaron**	**35.77**	**326**	P		**P**	**15 11 22.6**	**-1.0**
MKAR	**Makanchi Array**	**37.71**	**347**	P		**P**	**15 11 38.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=155,slow=9.4,SNR=2.6							
MKAR	**Makanchi Array**	**37.71**	**347**	P		**P**	**15 11 38.2**	**-1.7**
SONM	**Songino Array**	**39.05**	**14**	P		**P**	15 11 48.5	-2.8
	comp=Z,0.1nm,0.6s,baz=185,slow=5.0,SNR=2.3							
SONM				PcP		**PcP**	**15 13 58.1**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=180,slow=2.3,SNR=2.9							
SONM	**Songino Array**	**39.05**	**14**	P		**P**	**15 11 49.7**	**-1.6**
GEYT	**Ailbeck**	**42.10**	**317**	P		**P**	**15 12 16.3**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=127,slow=17,SNR=2.3							
FITZ	**Fitzroy Crossi**	**42.36**	**131**	P		**P**	**15 12 18.5**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=330,slow=1.8,SNR=2.0							
FITZ	**Fitzroy Crossi**	**42.36**	**131**	IAmb		IAmb	15 12 19.3	
	comp=Z,9.0nm,1.4s							
ZALV	**Zalesovo Beam**	**44.19**	**353**	P		**P**	**15 12 31.7**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=170,slow=9.0,SNR=5.5							
ZALV				PcP		**PcP**	**15 14 15.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=145,slow=5.3,SNR=1.3							
ABKAR	**Akbulak array**	**47.93**	**331**	P		**P**	**15 13 01.4**	**-1.0**
WB0	**Warramunga Arr**	**50.05**	**127**	P		**P**	15 13 17.4	-1.5
WB0				IAmb		IAmb	15 13 44.2	
	comp=Z,6.9nm,1.3s							
WRA	**Warramunga Arr**	**50.10**	**127**	P		P	15 13 17.7	-1.6
	comp=Z,0.2nm,0.2s,baz=308,slow=8.1,SNR=23							
WRA	**Warramunga Arr**	**50.10**	**127**	P		**P**	**15 13 18.1**	**-1.3**
WB2	**Warramunga Arr**	**50.11**	**127**	P		**P**	**15 13 18.1**	**-1.4**
WB2				IAmb		IAmb	15 13 42.3	
	comp=Z,11nm,1.5s							
WR0	**Warramunga Arr**	**50.27**	**127**	P		**P**	**15 13 19.3**	**-1.3**
WR0				IAmb		IAmb	15 13 35.5	
	comp=Z,5.9nm,1.1s							
AS31	**Alice Springs**	**51.86**	**131**	P		**P**	**15 13 31.4**	**-1.1**
ASAR	**Alice Springs**	**51.86**	**131**	P		**P**	**15 13 31.2**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=307,slow=5.7,SNR=43							
ASAR	**Alice Springs**	**51.86**	**131**	P		**P**	**15 13 31.4**	**-1.1**

IDC 13 15:11:41.6±2.3,6°.94S×129°.35E,h0km,mb3.3/1, mb1 3.7/4,mb1mx3.4/30,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=88.3km s-min=30.0km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.66**	**198**	Pn		Pn	15 14 28.6	-0.8
	0.3nm,0.3s,baz=14,slow=11,SNR=36							
FITZ				Sn		Sn	15 16 22.4	-18
	0.1nm,0.3s,baz=106,slow=23,SNR=1.8							
WRA	**Warramunga Arr**	**13.80**	**160**	Pn		Pn	15 14 59.1	+0.4
	0.3nm,0.3s,baz=344,slow=13,SNR=24							
WRA				Sn		Sn	15 17 19.9	-13
	0.4nm,0.3s,baz=333,slow=22,SNR=9.2							
ASAR	**Alice Springs**	**17.20**	**166**	P		Pn	15 15 43.8	+0.4
	0.1nm,0.3s,baz=339,slow=9.4,SNR=7.7							
ASAR				S		Sn	15 18 44.5	-11
	0.1nm,0.3s,baz=27,slow=21,SNR=4.8							
MKAR	**Makanchi Array**	**67.83**	**327**	P		P	15 22 41.6	+0.1
	0.2nm,0.5s,baz=108,slow=7.7,SNR=2.5							

*IDC **13** 15:20:14.8±0.4,0°.97N×126°.21E,h0km,mb5.1/35, mb1 5.1/37,mb1mx5.1/43,mbtmp5.1/37,ML4.4/2,MS4.0/41, Ms1 4.0/41,ms1mx3.9/66,Error ellipse: s-maj=14.2km s-min=8.7km az=68.0*

*MOS **13** 15:20:14.5±0.9,1°.07N×126°.15E,h9km,mb5.4/78, MS4.2/4,Error ellipse: s-maj=8.5km s-min=4.4km az=112.0*

*BJI **13** 15:20:15.0±0.0,1°.20N×126°.40E,h10km,mb5.1/73, mB5.1/44,Ms4.4/45,Ms7 4.3/49*

*NEIC **13** 15:20:18.0±1.4,1°.08N±0°.08×126°.26E±0°.06,h19km±3km, mb5.3/193,Error ellipse: s-maj=12.6km s-min=8.5km az=204.0*

*DJA **13** 15:20:22.0±0.2,1°.N±2°×12°.6E±°,h50km±2km,M4.9/85, mB5.4/45,mb5.1/85,MLv5.0/18,Mw(mB)4.8/45, MwMwp4.9/9,Mwp5.2/9*

*KLM **13** 15:20:23,1°.14N×126°.53E,h59km,mb5.4*

*GCMT **13** 15:20:23.0±0.2,1°.19N±0°.01×126°.40E±0°.01,h35km, MW5.1/95,Moment Tensor Solution. s83,c121; s95,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.54±.16; Mθθ-1.46±.10; Mϕϕ-4.08±.12; Mrθ1.22±.13; Mθϕ-2.71±.08; Mrϕ0.50±.15; Best double couple: Mo5.81400×10^16 NP1:ϕs204.00000°,δ40.00000°, λ78.00000°. NP2:ϕs40.00000°,δ51.00000°,λ100.00000°. Principal axes: T 5.7470, Plg80.0000°, Azm358.0000°; N 0.1350, Plg8.0000°, Azm214.0000°; P -5.8820, Plg5.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 15:20:18.1±0.6,1°.09N±0°.03×126°.25E±0°.03,h19km±2km, n745,σ1§58/747,mb5.2/204,MS4.2/62,71C-15D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**106**	Pn		**Pb**	**15 20 39.3**	**-0.1**
TNTI	**Ternate**	**1.16**	**106**	P		**Pb**	**15 20 39.4**	**-0.1**
TNTI				S		**Sb**	**15 20 52.9**	**-1.2**
TNTI	**Ternate**	**1.16**	**106**	P		**Pb**	**15 20 39.7**	**+0.2**
LBMI	**Labuha**	**2.12**	**144**	P		**Pn**	**15 20 53.3**	**+0.8**
KMSI	**Cibinong**	**2.33**	**257**	P		**Pb**	**15 20 59.0**	**-0.5**
KMSI				S		**Sb**	**15 21 28.6**	**+0.7**
SGSI	**Sangihe**	**2.68**	**344**	P		**Pb**	**15 21 03.1**	**-2.4**
SANI	**Sanana**	**3.12**	**185**	P		**Pn**	**15 21 08.0**	**+1.6**
SANI	**Sanana**	**3.12**	**185**	P		**Pn**	**15 21 08.2**	**+1.8**
GTOI	**Gorontalo**	**3.27**	**262**	P		**Pb**	**15 21 13.3**	**-2.3**
LUWI	**Luwuk**	**4.07**	**239**			**Pn**	**15 21 22.5**	**+3.1**
LUWI	**Luwuk**	**4.07**	**239**	P		**Pn**	**15 21 23.0**	**+3.6**
LUWI	**Luwuk**	**4.07**	**239**	P		**Pb**	**15 21 24.7**	**-4.5**
MRSI	**Marisa**	**4.35**	**262**	P		**Pn**	**15 21 27.0**	**+3.7**
APSI	**Ampana**	**5.01**	**247**	P		**Pn**	**15 21 37.0**	**+4.7**
	5.1nm2μm10μm1μm,1.0s							
DDMP	**Don Marcelino,**	**5.01**	**354**	⇑*iP*		**Pn**	**15 21 35.6**	**+3.2**
AAI	**Ambon**	**5.12**	**158**	P		**Pn**	**15 21 36.9**	**+3.1**
	1.1nm6μm3μm270nm,0.8s							
GSPH	**General Santos**	**5.14**	**345**	⇑*iP*		**Pn**	**15 21 36.5**	**+2.3**
MSAI	**Masohi**	**5.15**	**149**	P		**Pn**	**15 21 38.0**	**+3.8**
	0.2nm581nm60nm,0.8s							
SWI	**Sorong**	**5.37**	**111**	P		**Pn**	**15 21 39.1**	**+1.9**
	0.6nm6μm2μm155nm,0.8s							
SIJI	**Sorong**	**5.38**	**111**	Pn		**Pn**	**15 21 37.8**	**+0.5**
	5.0nm,0.3s,baz=303,slow=23,SNR=24							
SIJI				Sn		**Sn**	**15 22 46.8**	**+8.0**
	baz=196,slow=22,SNR=0.7							
TOLI2	**Tolitoli**	**5.47**	**270**	Pn		**Pn**	**15 21 40.1**	**+1.5**
TOLI2	**Tolitoli**	**5.47**	**270**	P		**Pn**	**15 21 41.7**	**+3.1**
DAV	**Davao City (W)**	**5.98**	**354**	Pn		Pb	15 21 55.4	-6.4
	baz=91,slow=24,SNR=3.6							
DAV				Sn		**Sn**	**15 23 02.6**	**+8.8**
	39nm,0.3s,baz=284,slow=11,SNR=1.5							
KCP	**Kidapawan**	**6.00**	**349**	⇑*iP*		**Pn**	**15 21 49.4**	**+3.4**
KCP				*i*S		**Sn**	**15 22 47.5**	**-6.7**
MPSI	**Mapaga**	**6.40**	**263**	P		**Pn**	**15 21 56.0**	**+4.6**
	0.8nm7μm3μm146nm,0.7s							
CTBH	**Cotabato--PC H**	**6.42**	**342**	⇑*iP*		**Pn**	**15 21 55.6**	**+3.9**
BNDI	**Bandanaira**	**6.66**	**147**	P		**Pn**	**15 21 55.8**	**+0.8**
ZCP	**Zamboanga City**	**7.15**	**324**	‖*eP*		**Pn**	**15 22 04.8**	**+3.2**
PAGZ	**Pagadian**	**7.30**	**337**	‖*iP*		**Pn**	**15 22 06.3**	**+2.5**
BBSI	**Bau Bau**	**7.49**	**209**	P		Pn	15 22 11.3	+4.8
	0.1nm46nm,1.0s							
TTSI	**Tana Toraja**	**7.63**	**237**	P		**Pn**	**15 22 12.0**	**+3.7**
	1.1nm3μm272nm,0.8s							
DCPH	**Dipolog City**	**7.99**	**339**	⇑*eP*		Pn	15 22 23.3	+10
SPSI	**Sidrap Palu**	**8.20**	**232**	P		Pn	15 22 22.3	+6.2
	2μm3μm241nm,0.8s							
BNSI	**Bone**	**8.21**	**228**	P		Pn	15 22 21.1	+4.8
	1μm139nm,0.9s							
GLSP	**General Luna,**	**8.64**	**359**	⇑*iP*		**Pn**	**15 22 25.6**	**+3.3**
BKSI	**Bulukumba**	**8.83**	**224**	P		**Pn**	**15 22 29.1**	**+4.3**
	1μm11nm,0.6s							
TBP	**Tagbilaran**	**8.87**	**345**	*eP*		Pn	15 22 19.9	-5.6
KAPI	**Kappang**	**8.88**	**227**	Pn		**Pn**	**15 22 29.8**	**+4.3**
	9.6nm,0.3s,baz=35,slow=9.9,SNR=20							
KAPI				Sn		**Sn**	**15 24 09.2**	**+4.0**
	0.9nm,0.3s,baz=356,slow=19,SNR=1.2							
KAPI	**Kappang**	**8.88**	**227**	P		**Pn**	**15 22 29.0**	**+3.5**
KAPI	**Kappang**	**8.88**	**227**	Pn		**Pn**	**15 22 29.0**	**+3.5**
KAPI	**Kappang**	**8.88**	**227**	P		**Pn**	**15 22 30.1**	**+4.6**
MSLP	**Maasin**	**9.10**	**351**	⇑*eP*		Pn	15 22 33.4	+5.0
BSSI	**Bau Bau, Buton**	**9.20**	**219**	P		**Pn**	**15 22 34.1**	**+4.2**
	806nm57nm,0.6s							

CNOP	**Candoni, Negro**	**9.40**	**338**	⇑*iP*		Pn	15 22 38.4	+5.8
LLP	**Lapu-Lapu**	**9.45**	**346**	*eP*		Pn	15 22 39.8	+6.5
LLP				*eS*		Sn	15 24 36.1	+17
OCLP	**Ormoc**	**10.04**	**351**	⇑*iP*		Pn	15 22 47.9	+6.6
SRPI	**Serui, Papua**	**10.41**	**106**	P		Pn	**15 22 48.3**	**+1.9**
	2μm139nm,1.3s							
SPMM	**Sapulut**	**10.42**	**290**	P		Pn	15 22 52.0	+5.4
MMRI	**Maumere**	**10.45**	**202**	P		**Pn**	**15 22 51.6**	**+4.5**
	3μm82nm,1.2s							
CUYO	**Cuyo Island**	**11.01**	**332**	⇑*eP*		**Pn**	**15 22 58.9**	**+4.2**
KKM	**Kota Kinabalu**	**11.16**	**296**	P		**Pn**	**15 23 00.4**	**+3.5**
BATP	**Bataraza**	**11.38**	**313**	⇑*iP*		Pn	15 22 51.4	-8.4
MTKI	**Muara Teweh, K**	**11.53**	**260**	P		**Pn**	**15 23 06.0**	**+4.1**
	1μm30nm,1.1s							
SMPI	**Sarmi**	**12.82**	**104**	P		**Pn**	**15 23 18.2**	**-1.3**
	1μm45nm,1.3s							
PLAI	**Plampang**	**12.97**	**220**	P		**Pn**	**15 23 25.0**	**+3.4**
	782nm44nm,1.0s							
PLAI	**Plampang**	**12.97**	**220**	P		**Pn**	**15 23 23.8**	**+2.2**
JCNP	**Jose Panganiba**	**13.58**	**345**	‖*eP*		**Pn**	**15 23 27.8**	**-2.1**
LQP	**Lukban**	**13.76**	**340**	‖*eP*		**P**	**15 23 37.3**	**-3.6**
LUBP	**Lubang**	**13.90**	**335**	‖*eP*		**P**	**15 23 39.4**	**-2.9**
TGY	**Tagaytay City**	**13.96**	**338**	Pn		**P**	**15 23 40.0**	**-3.0**
	14nm,0.3s,baz=145,slow=16,SNR=3.3							
SBUM	**Sibu**	**14.09**	**276**	P		**P**	**15 23 45.1**	**+0.7**
SBUM	**Sibu**	**14.09**	**276**	P		**P**	**15 23 48.0**	**+3.5**
DRS	**Denpasar**	**14.20**	**161**	P		**Pn**	**15 23 38.1**	**-0.2**
GENI	**Genyem**	**14.38**	**105**	P		**Pn**	**15 23 43.2**	**+2.4**
	3μm162nm,1.6s							
DNP	**Denpasar**	**14.67**	**228**	P		**Pn**	**15 23 46.9**	**+2.2**
	434nm,1.2s							
KMMI	**Kalianget**	**14.68**	**236**	P		**P**	**15 23 48.7**	**-2.3**
	4μm416nm,1.2s							
STKI	**Sintang**	**14.81**	**266**	P		**P**	**15 23 50.1**	**-2.4**
	5μm59nm,1.7s							
KDU	**Kakadu**	**15.01**	**156**	P		**Pn**	**15 23 47.0**	**-2.4**
	baz=15,SNR=38							
KDU	**Kakadu**	**15.01**	**156**	P		**Pn**	**15 23 47.8**	**-1.5**
BALP	**Baler**	**15.28**	**343**	‖*eP*		**P**	**15 23 56.4**	**-1.2**
JAGI	**Jajag, Banyuwa**	**15.35**	**232**	P		**P**	**15 23 57.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.35**	**232**	P		**P**	**15 23 57.0**	**-1.5**
	1μm68nm,0.9s							
JAGI	**Jajag, Banyuwa**	**15.35**	**232**	P		**P**	**15 23 58.2**	**-0.3**
GMJI	**Gumukmas**	**15.80**	**234**	P		**P**	**15 24 03.9**	**+0.5**
	2μm103nm,1.1s							
SCZP	**Santa Cruz**	**15.88**	**337**	⇑*eP*		**P**	**15 24 03.9**	**-0.4**
KSM	**Kuching**	**15.95**	**272**			**P**	**15 24 04.6**	**-0.5**
KSM	**Kuching**	**15.95**	**272**	P		**P**	**15 24 09.0**	**+3.9**
SMPP	**San Manuel, Pa**	**15.95**	**340**	‖*iP*		**P**	**15 24 03.9**	**-1.1**
BOLP	**Bolinao**	**16.43**	**338**	‖*iP*		**Pn**	**15 24 09.1**	**+1.3**
SAMP	**Sagada Mountai**	**16.74**	**342**	‖*iP*		**P**	**15 24 14.9**	**+1.0**
KNRA	**Kununurra**	**16.84**	**172**	P		**Pn**	**15 24 13.6**	**+0.6**
	baz=17,SNR=57							
KNRA	**Kununurra**	**16.84**	**172**			**Pn**	**15 24 13.1**	**+0.2**
KNRA				IAmb		IAmb	15 24 15.9	
	comp=Z,208nm,0.9s							
KNRA	**Kununurra**	**16.84**	**172**	P		**Pn**	**15 24 13.5**	**+0.6**
PWJI	**Pagerwojo**	**17.01**	**238**	P		**P**	**15 24 18.4**	**+1.5**
	comp=Z,1μmcomp=Z,159nm,1.1s							
PCJI	**Pacitan**	**17.63**	**238**	P		**P**	**15 24 26.0**	**+2.2**
	comp=Z,2μmcomp=Z,192nm,1.1s							
UGM	**Wanagama**	**18.05**	**240**	P		**P**	**15 24 32.3**	**+3.8**
	comp=Z,184nm,1.5s							
FITZ	**Fitz

QIZ LR LR
comp=Z,580nm,16.1s
QIZ LR LR
comp=Z,510nm,19.0s
QIZ LR LR
comp=Z,740nm,18.4s
QIZ Qiongzhong 24.02 319 P **P** **15 25 33.0 +1.0**
TATO Taipei 24.19 349 P **P** **15 25 32.5 -1.0**
TATO IAmb IAmb 15 25 59.6
comp=Z,99nm,1.0s
MASI Maura Aman, Be 24.37 260 P **P** **15 25 36.1 +0.7**
comp=Z,15µmcomp=Z,2µmcomp=Z,200nm,1.0s
UBPT Khong Chiam 24.90 306 P **P** **15 25 40.2 +0.1**
UBPT IAmb IAmb 15 25 42.3
comp=Z,92nm,1.1s
KRJI Kerinci 24.99 263 P **P** **15 25 43.2 +2.2**
comp=Z,3µmcomp=Z,340nm,1.1s
QIS Mount Isa 25.17 149 P **P** **15 25 42.1 -0.3**
baz=25,SNR=51
QIS Mount Isa 25.17 149 P **P** **15 25 42.2 -0.3**
BKNI Bangkinang 25.22 268 P **P** **15 25 43.6 +0.5**
BKNI IAmb IAmb 15 25 45.8
comp=Z,102nm,0.9s
BKNI Bangkinang 25.22 268 P **P** **15 25 45.0 +1.9**
comp=Z,88nm,1.5s
IPM Ipoh 25.42 278 P **P** **15 25 43.9 -1.0**
IPM IAmb IAmb 15 25 50.6
comp=Z,65nm,0.9s
IPM Ipoh 25.42 278 P **P** **15 25 45.0 +0.1**
IPM Ipoh 25.42 278 P **P** **15 25 45.8 +0.9**
JOW Kunigami 25.67 4 P **P** **15 25 49.4 +2.4**
AS31 Alice Springs 25.70 164 P **P** **15 25 46.6 -0.7**
ASAR Alice Springs 25.70 164 P **P** **15 25 46.3 -1.0**
comp=Z,22nm,0.5s,baz=344,slow=11,SNR=362
ASAR PcP **PcP** **15 29 17.3 -0.3**
comp=Z,0.9nm,0.4s,baz=352,slow=2.3,SNR=2.0
ASAR S **S** **15 30 11.9 -3.4**
comp=Z,3.3nm,0.8s,baz=341,slow=16,SNR=4.3
ASAR Alice Springs 25.70 164 P **P** **15 25 46.5 -0.9**
KULM Kulim 25.90 280 P **P** **15 25 49.1 0.0**
KULM IAmb IAmb 15 25 51.1
comp=Z,54nm,1.1s
KULM Kulim 25.90 280 P **P** **15 25 50.0 +0.8**
WRKA Warakurna 26.04 176 P **P** **15 25 50.9 +0.5**
baz=26,SNR=94
WRKA Warakurna 26.04 176 P **P** **15 25 51.0 +0.6**
MTSU Mount Surprise 26.09 138 P **P** **15 25 50.4 -0.5**
baz=26,SNR=15
GIRL Giralia 26.33 206 P **P** **15 25 54.8 +1.8**
RABL Rabaul 26.42 102 P **P** **15 25 52.8 -1.1**
RABL Rabaul 26.42 102 P **P** **15 25 53.3 -0.6**
MNSI Mandalling Nat 26.67 270 P **P** **15 25 57.2 +1.0**
comp=Z,42nm,0.9s
SISI Saibi 27.27 265 P **P** **15 26 01.3 -0.2**
comp=Z,35nm,1.0s
PSI Prapat 27.37 274 P **P** **15 26 02.7 +0.1**
comp=Z,58nm,0.9s,baz=114,slow=4.3,SNR=57
MEEK Meekatharra 28.53 194 P **P** **15 26 12.6 -0.1**
baz=29,SNR=19
MEEK Meekatharra 28.53 194 P **P** **15 26 13.7 +1.0**
KCSI Kotacane, Aceh 28.56 275 P **P** **15 26 13.9 +0.8**
comp=Z,1µmcomp=Z,49nm,1.1s
GSI Gunungsitoli 28.67 271 P **P** **15 26 12.6 -1.5**
GSI Gunungsitoli 28.67 271 P **P** **15 26 13.8 -0.3**
comp=Z,91nm,1.1s
GSI Gunungsitoli 28.67 271 P **P** **15 26 14.9 +0.8**
CTA Charters Tower 28.76 138 P **P** **15 26 14.2 -0.6**
comp=Z,7.8nm,0.9s,baz=326,slow=9.9,SNR=7.4
CTA LR LR 15 39 31.8
comp=Z,302nm,20.9s,baz=328,slow=40
CTA Charters Tower 28.76 138 P **P** **15 26 15.4 +0.6**
OOD Oodnadatta 30.11 163 P **P** **15 26 26.3 -0.4**
JSU Suzuyama 30.52 7 P **P** **15 26 30.0 -0.2**
JSU IAmb IAmb 15 26 31.8
comp=Z,49nm,1.0s
WHN Wuhan 31.40 340 ⇑P **P** **15 26 39.8 +1.8**
WHN LR LR
comp=Z,930nm,18.9s
GYA Guiyang 31.49 325 ⇓P **P** **15 26 40.1 +1.1**
GYA PcP **PcP** **15 29 33.0 +1.0**
GYA S **S** **15 31 48.3 +1.8**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,110nm,3.5s
GYA LR LR
comp=Z,130nm,3.8s
GYA LR LR
comp=Z,150nm,3.8s
GYA LR LR
comp=Z,160nm,5.3s
MORW Morawa 31.54 197 P **P** **15 26 40.3 +1.0**
baz=32,SNR=5.8
MORW Morawa 31.54 197 P **P** **15 26 38.5 -0.7**
MORW Morawa 31.54 197 P **P** **15 26 39.5 +0.2**
NJ2 Nanjing 31.58 348 ⇑*i*P **P** **15 26 41.3 +1.7**
NJ2 pP **pP** **15 26 44.5 -0.4**
NJ2 sP **sP** **15 26 47.4 +0.4**
NJ2 PcP **PcP** **15 29 36.9 +4.9**
NJ2 pmax pmax
comp=Z,27nm,0.9s
FORT Forrest 31.73 177 P **P** **15 26 41.3 +0.4**
baz=32,SNR=31
FORT Forrest 31.73 177 P **P** **15 26 40.9 -0.1**
FORT Forrest 31.73 177 P **P** **15 26 40.9 -0.1**
INKA Innaminka 31.87 155 P **P** **15 26 42.3 +0.1**
CM31 Chiang Mai Arr 31.88 304 P **P** **15 26 42.3 -0.1**
CM31 IAmb IAmb 15 26 44.6
comp=Z,24nm,1.0s
CMAR Chiang Mai Arr 31.88 304 P **P** **15 26 43.2 +0.8**
comp=Z,12nm,1.0s,baz=126,slow=7.5,SNR=85
CMAR PcP **PcP** **15 29 33.8 +0.7**
comp=Z,3.9nm,0.8s,baz=168,slow=1.6,SNR=12
CMAR LR LR 15 41 23.7
comp=Z,223nm,18.6s,baz=115,slow=40
CMAR Chiang Mai Arr 31.88 304 P **P** **15 26 42.1 -0.3**
CHTO Chiang Mai 32.06 305 P **P** **15 26 43.6 -0.4**
CHTO pmax pmax
comp=Z,34nm,1.1s
CHTO Chiang Mai 32.06 305 P **P** **15 26 43.6 -0.4**
CHTO IAmb IAmb 15 26 45.4
comp=Z,34nm,1.1s
CHTO Chiang Mai 32.06 305 P **P** **15 26 44.9 +0.9**
MULG Mulgathing 32.07 167 P **P** **15 26 43.7 -0.2**
JNU Nakatsue 32.16 7 P **P** **15 26 44.7 -0.1**
JNU Nakatsue 32.16 7 P **P** **15 26 45.7 +0.9**
BLDU Ballidu 32.81 195 P **P** **15 26 50.6 +0.2**
baz=33,SNR=9.5
BLDU Ballidu 32.81 195 P **P** **15 26 51.5 +1.1**
KMI Kunming 32.96 318 ⇑P **P** **15 26 53.5 +1.4**
KMI pmax pmax
comp=Z,44nm,1.1s
KMI pmax pmax
comp=Z,130nm,3.5s
KMI LR LR
comp=Z,410nm,24.2s
KMI LR LR
comp=Z,430nm,24.2s
KMI LR LR
comp=Z,790nm,23.3s
ENH Enshi 33.11 333 P **P** **15 26 52.5 -0.6**
JMN Monobe 33.25 12 P **P** **15 26 54.5 +0.3**
LCRK Leigh Creek 33.37 161 P **P** **15 26 55.2 -0.1**
KLBR Kellerberrin 33.48 193 P **P** **15 26 57.0 +0.7**
baz=34,SNR=4.9
KLBR Kellerberrin 33.48 193 P **P** **15 26 57.5 +1.2**
RK1H Rockhampton Ha 33.88 137 P **P** **15 26 59.8 0.0**
MUN Mundaring 34.23 195 P **P** **15 27 03.4 +0.6**
baz=34,SNR=6.1
MUN Mundaring 34.23 195 P **P** **15 27 03.8 +1.0**
JHJ Hachijo jima 2 34.31 20 LR LR 15 39 16.9
comp=Z,76nm,19.7s,baz=221,slow=33
JHS Saijyo 34.34 10 P **P** **15 27 03.7 0.0**
JHS IAmb IAmb 15 27 06.9
comp=Z,56nm,1.0s
PZH PanZhiHua 34.56 319 P **P** **15 27 06.0 +0.1**
PZH sP **sP** **15 27 12.9 -0.4**
PZH S **S** **15 32 36.4 +2.1**
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,110nm,3.5s
PZH LR LR
comp=Z,1µm,22.1s
PZH LR LR
comp=Z,1µm,22.1s
PZH LR LR
comp=Z,2µm,24.0s
BBOO Buckleboo 34.96 166 P **P** **15 27 08.7 -0.4**
baz=35,SNR=38
BBOO Buckleboo 34.96 166 P **P** **15 27 08.4 -0.7**
BBOO IAmb IAmb 15 27 10.2
comp=Z,38nm,0.8s
BBOO Buckleboo 34.96 166 P **P** **15 27 08.8 -0.4**
TJN Taejon 35.13 2 *i*P **P** **15 27 11.7 +1.2**
HNR Honiara 35.14 108 P **P** **15 27 07.1 -3.9**
HNR pmax pmax
comp=Z,94nm,0.9s
HNR Honiara 35.14 108 P **P** **15 27 07.0 -3.9**
INU Inuyama 35.53 15 P **P** **15 27 14.0 0.0**
INU Inuyama 35.53 15 P **P** **15 27 15.1 +1.1**
WHYH Whyalla 35.58 164 P **P** **15 27 13.9 -0.5**
LYN LuoYang 35.70 340 *e*P **P** **15 27 16.5 +1.1**
LYN PP **PnPn** **15 28 36.0 +0.7**
LYN S **S** **15 32 52.6 +1.3**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN LR LR
comp=Z,310nm,18.6s
LYN LR LR
comp=Z,280nm,18.4s
JGF Kuroka 35.86 16 P **P** **15 27 16.2 -0.6**
STKA Stephens Creek 35.86 157 P **P** **15 27 16.3 -0.6**
comp=Z,29nm,0.7s,baz=328,slow=9.1,SNR=62
STKA PcP **PcP** **15 29 44.2 +0.1**
comp=Z,3.8nm,0.6s,baz=322,slow=4.9,SNR=2.9
STKA LR LR 15 43 00.0
comp=Z,262nm,22.0s,baz=347,slow=38
STKA Stephens Creek 35.86 157 P **P** **15 27 16.8 -0.1**
baz=36,SNR=32
STKA Stephens Creek 35.86 157 P **P** **15 27 16.4 -0.5**
STKA 15 29 44.2
STKA pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 35.86 157 P **P** **15 27 16.4 -0.5**
STKA Stephens Creek 35.86 157 P **P** **15 27 16.8 -0.1**
NAPP Napperby 35.88 163 P **P** **15 27 17.0 0.0**
KSAR Wonju Array Be 36.21 2 P **P** **15 27 19.8 0.0**
KSAR Wonju Array Be 36.21 2 P **P** **15 27 19.8 0.0**
KSRS Korea Array 36.22 2 P **P** **15 27 21.4 +1.6**
comp=Z,13nm,0.7s,baz=181,slow=9.9,SNR=69
KSRS PcP **PcP** **15 29 45.0 0.0**
comp=Z,2.5nm,0.8s,baz=199,slow=3.2,SNR=6.0
KS19 Wonju Array Si 36.27 2 P **P** **15 27 20.0 -0.2**
HTT Hallett 36.35 162 P **P** **15 27 21.1 +0.1**
baz=36,SNR=9.5
HTT Hallett 36.35 162 P **P** **15 27 21.2 +0.1**
CD2 Chengdu 36.53 326 P **P** **15 27 22.4 -0.3**
CD2 S **S** **15 33 07.0 +2.8**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 LR LR
comp=Z,440nm,18.6s
CD2 LR LR
comp=Z,400nm,12.7s
RKGY Rocky Gully 36.56 193 P **P** **15 27 24.8 +2.0**
baz=37,SNR=8.3
RKGY Rocky Gully 36.56 193 P **P** **15 27 25.0 +2.2**
XAN Xi'an 36.58 335 P **P** **15 27 22.5 -0.5**
XAN pP pP 15 27 29.5 +1.0
XAN pmax pmax
comp=Z,41nm,1.0s
XAN pmax pmax
comp=Z,210nm,3.5s
XAN LR LR
comp=Z,240nm,15.3s
XAN LR LR
comp=Z,370nm,18.9s
XAN LR LR
comp=Z,530nm,22.2s
MAJO Matsushiro 36.98 16 ⇓*i*P **P** **15 27 26.3 -0.1**
MAJO pmax pmax
comp=Z,46nm,1.0s
MAJO Matsushiro 36.98 16 P **P** **15 27 25.5 -0.9**
MAJO IAmb IAmb 15 27 27.5
comp=Z,35nm,0.8s
MAJO Matsushiro 36.98 16 P **P** **15 27 26.3 -0.1**
MJAR Matsushiro Arr 36.98 16 P **P** **15 27 26.0 -0.4**
comp=Z,34nm,0.8s,baz=192,slow=8.6,SNR=93
MJAR PcP **PcP** **15 29 47.8 +0.4**
comp=Z,2.6nm,0.8s,baz=187,slow=2.7,SNR=3.6
MJAR LR LR 15 42 33.0
comp=Z,190nm,21.1s,baz=202,slow=36
MJAR Matsushiro Arr 36.98 16 P **P** **15 27 25.5 -0.8**
MJAR pmax pmax
comp=Z,38nm,1.0s
MJAR Matsushiro Arr 36.98 16 P **P** **15 27 25.5 -0.8**
MJAR IAmb IAmb 15 27 28.3
comp=Z,38nm,1.0s
MJB9 Matsu-Tunnel 36.98 16 P **P** **15 27 25.3 -1.0**
MJB9 IAmb IAmb 15 27 27.5
comp=Z,35nm,0.8s
JYT Yasato 37.28 19 P **P** **15 27 26.9 -2.0**
JYT IAmb IAmb 15 27 31.1
comp=Z,36nm,1.0s
CMSA Cobar Meteorol 37.32 152 P **P** **15 27 29.0 -0.3**
baz=37,SNR=15
CMSA Cobar Meteorol 37.32 152 P **P** **15 27 29.3 0.0**
HNS HongShan 37.67 345 ⇓P **P** **15 27 32.5 +0.3**
HNS S **S** **15 33 22.1 +0.8**
HNS pmax pmax
comp=Z,20nm,0.7s
HNS LR LR
comp=Z,330nm,17.3s
HNS LR LR
comp=Z,570nm,22.8s
TWOA Tennyson Woods 37.74 163 P **P** **15 27 33.4 +0.6**
JSD Sado 38.40 15 P **P** **15 27 37.1 -1.2**
JMM Marumori 38.97 18 P **P** **15 27 42.2 -0.9**
ARMA Armidale 39.57 144 P **P** **15 27 48.4 0.0**
baz=40,SNR=6.6
ARMA Armidale 39.57 144 P **P** **15 27 47.9 -0.5**
ARMA Armidale 39.57 144 P **P** **15 27 49.1 +0.7**
BJT Baijiatuan 39.82 348 P **P** **15 27 49.3 -0.9**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuan 39.82 348 P **P** **15 27 49.3 -0.9**
BJI Beijing 39.84 348 P **P** **15 27 50.5 +0.1**
BJI PcP **PcP** **15 29 56.9 +0.7**
BJI pmax pmax
comp=Z,21nm,0.8s
ARPS Mount Arapiles 40.35 161 P **P** **15 27 54.9 +0.3**
baz=40,SNR=27
ARPS Mount Arapiles 40.35 161 P **P** **15 27 55.0 +0.4**
LZH Lanzhou 40.56 332 ⇑P **P** **15 27 56.9 +0.3**
LZH pP sP 15 28 03.3 -0.8
LZH sP pP 15 28 06.6 +4.5
LZH PP **PP** **15 29 28.8 -1.4**
LZH PcP **PcP** **15 30 00.6 +1.8**
LZH pmax pmax
comp=Z,46nm,1.6s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,360nm,17.3s
LZH LR LR
comp=Z,320nm,16.3s
LZH LR LR
comp=Z,520nm,16.8s
SHL Shillong 41.11 309 P **P** **15 28 00.3 -1.0**
SHL pmax pmax
comp=Z,28nm,0.5s
SHL Shillong 41.11 309 P **P** **15 28 00.3 -1.0**
SHL IAmb IAmb 15 28 24.8
comp=Z,28nm,0.5s
MGCD Mangrove Creek 41.38 148 P **P** **15 28 04.0 +0.8**
JTM Tenmabayashi 41.74 17 P **P** **15 28 05.0 -1.0**
HHC Hu-ho-hao-te 41.76 343 *e*P **P** **15 28 08.3 +2.0**
HHC S **S** **15 34 26.9 +4.1**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,84nm,5.1s
HHC LR LR
comp=Z,340nm,16.9s
HHC LR LR
comp=Z,130nm,17.7s
HHC LR LR
comp=Z,430nm,19.2s
CAN Canberra 42.00 152 P **P** **15 28 08.5 +0.2**
CAN pmax pmax
comp=Z,43nm,1.3s
CAN Canberra 42.00 152 P **P** **15 28 08.5 +0.2**
CAN Canberra 42.00 152 P **P** **15 28 08.7 +0.4**
CNB Canberra Magne 42.16 151 P **P** **15 28 10.2 +0.5**
baz=42,SNR=5.5
CNB Canberra Magne 42.16 151 P **P** **15 28 10.5 +0.8**
TOO Toolangi 42.38 157 P **P** **15 28 12.6 +1.2**
baz=42,SNR=8.4
TOO Toolangi 42.38 157 P **P** **15 28 11.7 +0.3**
TOO pmax pmax
comp=Z,31nm,1.2s
TOO Toolangi 42.38 157 P **P** **15 28 11.7 +0.3**
TOO Toolangi 42.38 157 P **P** **15 28 12.8 +1.4**
CN2 Changchun 42.54 359 *e*P **P** **15 28 12.9 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,21.0s
USA0B Ussuriysk Arra 43.23 6 P **P** **15 28 17.3 -0.8**
USA0B pmax pmax
comp=Z,49nm,1.0s
USA0B Ussuriysk Arra 43.23 6 P **P** **15 28 17.3 -0.8**
USA0B IAmb IAmb 15 28 20.5
comp=Z,49nm,0.9s
USRK Ussuriysk Ar. 43.23 6 P **P** **15 28 19.4 +1.3**
comp=Z,39nm,0.9s,baz=195,slow=8.3,SNR=38
USRK Ussuriysk Ar. 43.23 6 P **P** **15 28 17.6 -0.5**
USRK Ussuriysk Ar. 43.23 6 P **P** **15 28 17.6 -0.5**
MDJ Mudanjiang 43.45 3 P **P** **15 28 19.3 -0.6**
MDJ Mudanjiang 43.45 3 P **P** **15 28 21.6 +1.8**
MDJ pmax pmax
comp=Z,100nm,0.9s
MDJ pmax pmax
comp=Z,210nm,5.1s
MDJ Mudanjiang 43.45 3 P **P** **15 28 21.3 +1.5**
XLT XiLinHaoTe 43.58 349 ⇓*i*P **P** **15 28 22.1 +1.0**
XLT pP pP 15 28 25.4 -1.2
XLT sP sP 15 28 28.3 -0.2
XLT S **S** **15 34 50.0 +0.5**
XLT sS sS 15 35 01.6 +3.4
XLT pmax pmax
comp=Z,30nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.9s
SANVU Saraoutou 43.68 114 P **P** **15 28 20.9 -1.3**
SANVU IAmb IAmb 15 28 27.9
comp=Z,60nm,1.1s
LSA Lhasa 43.87 314 P **P** **15 28 25.0 +0.9**
LSA pmax pmax
comp=Z,29nm,0.9s
TEY Ternei 44.71 10 ⇑*e*P **P** **15 28 31.2 +1.2**
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,40nm,1.0s
GTA Gaotai 45.13 331 ⇑P **P** **15 28 33.8 +0.2**
GTA pP pP 15 28 40.1 +0.9
GTA sP sP 15 28 43.9 +2.6
GTA PcP **PcP** **15 30 15.6 +1.6**
GTA sS sS 15 35 22.4 +1.4
GTA SS **ScS** **15 38 25.3 -4.8**
GTA ScS **SS** **15 38 28.0 -7.1**
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,57nm,5.5s
GTA LR LR
comp=Z,230nm,20.0s
GTA LR LR
comp=Z,260nm,21.4s
GTA LR LR
comp=Z,360nm,22.2s
ASAJ Asahikawa 45.24 17 P **P** **15 28 35.2 +1.0**
comp=Z,48nm,0.9s,baz=221,slow=8.1,SNR=23
ASAJ LR LR 15 45 37.6
comp=Z,109nm,20.6s,baz=198,slow=34
ASAJ Asahikawa 45.24 17 P **P** **15 28 34.7 +0.5**
ASAJ pmax pmax
comp=Z,55nm,0.9s
JKA Kamikawa-asahi 45.24 17 P **P** **15 28 34.7 +0.4**
JKA IAmb IAmb 15 28 37.2
comp=Z,55nm,0.9s
DZM Mont Dzumac 45.46 123 LR LR 15 46 58.2
comp=Z,251nm,19.9s,baz=259,slow=35
DZM Mont Dzumac 45.46 123 *e*P **P** **15 28 36.6 +0.2**
comp=Z,74nm,1.2s
DZM Mont Dzumac 45.46 123 *e*LR LR 15 41 20.1
comp=Z,490nm,25.1s
GOMU GeErMu 45.49 324 P **P** **15 28 37.1 +0.3**
GOMU sP sP 15 28 44.4 0.0
GOMU pmax pmax
comp=Z,72nm,5.1s
GOMU LR LR
comp=Z,120nm,12.2s
GOMU LR LR
comp=Z,130nm,12.9s
GOMU LR LR
comp=Z,160nm,13.4s
LIFNC LIFOU 45.60 121 P **P** **15 28 36.2 -1.3**
PALK Pallekele 45.82 279 P **P** **15 28 38.4 -0.9**
comp=Z,14nm,1.0s,baz=164,slow=5.7,SNR=6.6
PALK LR LR 15 48 46.3
comp=Z,238nm,21.0s,baz=207,slow=37
PALK Pallekele 45.82 279 P **P** **15 28 38.6 -0.7**
PALK pmax pmax
comp=Z,12nm,0.9s
PALK Pallekele 45.82 279 P **P** **15 28 38.6 -0.7**
GUN Gumba 46.93 308 *e*P **P** **15 28 47.9 -0.4**
comp=Z,40nm,0.4s
PKI Pulchoki 47.15 308 *e*P **P** **15 28 49.1 -0.8**
PKIN Phulchoki 47.16 308 *e*P **P** **15 28 49.4 -0.6**
comp=Z,11nm,0.4s
KKN Kakani 47.35 308 *e*P **P** **15 28 50.4 -1.0**
DMN Daman 47.41 308 *e*P **P** **15 28 51.7 -0.2**
comp=Z,23nm,0.6s
YSS Yuzh-Sakhalins 47.90 15 *ce*P **P** **15 28 55.7 +0.7**
YSS pmax pmax
comp=Z,28nm,0.7s
YSS Yuzh-Sakhalins 47.90 15 P **P** **15 28 55.3 +0.3**
YSS IAmb IAmb 15 29 00.8
comp=Z,32nm,0.7s
KUR Kuril'sk 47.92 21 *i*P **P** **15 28 55.6 +0.4**
GKN Gorkha 47.95 308 *e*P **P** **15 28 55.5 -0.5**
KLR Kul'dur 48.19 5 *ce*P **P** **15 28 58.0 +0.8**
comp=Z,27nm,0.9s,baz=208,slow=5.8,SNR=50
KLR Kul'dur 48.19 5 *ce*P **P** **15 28 58.2 +0.9**
KLR pmax pmax
comp=Z,61nm,1.4s
HIA Hailar 48.32 354 P **P** **15 28 57.4 -0.9**
HIA pmax pmax
comp=Z,32nm,0.9s
HIA Hailar 48.32 354 P **P** **15 28 57.4 -0.9**
HIA IAmb IAmb 15 29 01.5
comp=Z,32nm,0.9s
ULN Ulaanbaatar 49.48 343 *ce*P **P** **15 29 07.9 +0.5**
ULN pmax pmax
comp=Z,40nm,1.3s
ULN Ulaanbaatar 49.48 343 P **P** **15 29 06.7 -0.7**
ULN IAmb IAmb 15 29 11.3
comp=Z,35nm,1.1s
HYBB Hyderabad (bro 49.61 292 *e*P **P** **15 29 08.5 -0.2**
HYBB IVmB_BB 15 29 10.0
comp=Z,248nm,1.2s
SONM Songino Array 49.65 343 P **P** **15 29 09.3 +0.7**
comp=Z,13nm,0.8s,baz=156,slow=8.0,SNR=39
SONM PcP **PcP** **15 30 30.9 +1.0**
comp=Z,4.5nm,1.0s,baz=170,slow=5.0,SNR=4.6
SONM Songino Array 49.65 343 P **P** **15 29 08.2 -0.4**
SONM pmax pmax
comp=Z,18nm,1.0s
SONM Songino Array 49.65 343 P **P** **15 29 08.2 -0.4**
SONM IAmb IAmb 15 29 12.3
comp=Z,18nm,1.0s
GRNR Gornyy 50.25 8 ⇑*i*P **P** **15 29 14.3 +1.3**
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,60nm,14.0s
GRNR MLR MLR
comp=N,80nm,15.0s

GRNR MLR MLR
comp=Z,100nm,19.0s
TYV Tymovskoe 51.51 13 *e*P **P 15 29 24.1 +1.7**
TYV pmax pmax
comp=Z,300nm,5.3s
TYV pmax pmax
comp=Z,18nm,1.0s
CIT Chita 51.87 350 *e*P **P 15 29 27.2 +2.0**
CIT *e* 15 29 30.2
CIT pmax pmax
comp=Z,254nm,1.1s
ZEA Zeya 52.48 1 *e*P **P 15 29 30.3 +0.7**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=N,100nm,14.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
ZAK Zakamensk 52.86 342 *e*P **P 15 29 31.9 -0.7**
ZAK pmax pmax
comp=Z,11nm,1.2s
IRK Irkutsk 54.20 344 *e*P **P 15 29 42.8 +0.4**
IRK pmax pmax
comp=Z,33nm,1.4s
MSVF Nonsavu 54.29 113 P **P 15 29 43.8 +0.1**
MSVF pmax pmax
comp=Z,52nm,1.3s
MSVF Nonsavu 54.29 113 P **P 15 29 43.8 +0.1**
MSVF IAmb IAmb 15 29 58.2
comp=Z,52nm,1.3s
WMQ Urumqi 54.63 326 P **P 15 29 46.3 +0.6**
WMQ pP pP 15 29 50.6 -0.7
WMQ sP sP 15 29 56.5 +3.1
WMQ PcP **PcP 15 30 48.8 +0.2**
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ pmax pmax
comp=Z,150nm,6.1s
WMQ LR LR
comp=Z,370nm,18.7s
WMQ LR LR
comp=Z,500nm,20.7s
WMQ LR LR
comp=Z,330nm,19.7s
MOY Mondy 54.70 341 *e*P **P 15 29 47.2 +1.1**
MOY pmax pmax
comp=Z,26nm,1.4s
BOD Bodaibo 57.40 352 *e*P **P 15 30 05.6 +0.5**
BOD pmax pmax
comp=Z,35nm,1.0s
PEA0B Petropavlovsk- 58.04 22*ce*P **P 15 30 10.8 +1.0**
PEA0B Petropavlovsk- 58.04 22 P **P 15 30 10.8 +1.0**
PEA0B IAmb IAmb 15 30 12.6
comp=Z,35nm,0.8s
PETK Petropavlovsk- 58.04 22 P **P 15 30 11.1 +1.3**
comp=Z,21nm,0.7s,baz=188,slow=5.5,SNR=48
PETK Petropavlovsk- 58.04 22 P **P 15 30 09.2 -0.6**
PETK Petropavlovsk- 58.04 22 P **P 15 30 09.2 -0.6**
PET Petropavlovsk 58.34 22*ce*P **P 15 30 12.3 +0.5**
PET pmax pmax
comp=Z,50nm,1.7s
PET Petropavlovsk 58.34 22 P **P 15 30 11.8 0.0**
PET IAmb IAmb 15 30 14.6
comp=Z,47nm,1.3s
PET Petropavlovsk 58.34 22 P **P 15 30 12.5 +0.7**
ZSN Zaisan 58.47 328*c i*P **P 15 30 12.8 -0.1**
ZSN Zaisan 58.47 328⇑ *i*P **P 15 30 12.8 -0.1**
baz=328
FOZ Fox Glacier 59.07 144 P **P 15 30 16.6 -0.5**
FOZ IAmb IAmb 15 30 18.1
comp=Z,24nm,1.2s
SHLS Shalkode 59.09 322*c i*P **P 15 30 15.9 -1.5**
SHLS pmax pmax
comp=Z,16nm,1.2s
SHLS Shalkode 59.09 322⇑ *i*P **P 15 30 15.9 -1.5**
comp=Z,16nm,1.2s,baz=322
PDGK Podgornoye 59.16 322 *i* P **P 15 30 17.0 -0.9**
PDGK pmax pmax
comp=Z,41nm,1.0s
NIL Nilore 59.19 309 P **P 15 30 16.3 -1.9**
NIL pmax pmax
comp=Z,60nm,1.3s
NIL Nilore 59.19 309 P **P 15 30 16.3 -1.9**
QRZ Quartz Range 59.19 140 P **P 15 30 18.0 0.0**
UZB Uzynbulak 59.35 321*c i*P **P 15 30 19.0 -0.3**
UZB pmax pmax
comp=Z,17nm,0.9s
UZB Uzynbulak 59.35 321⇑ *i*P **P 15 30 19.1 -0.3**
comp=Z,17nm,0.9s,baz=321
WKZ Wanaka 59.40 146 P **P 15 30 19.5 +0.1**
WKZ IAmb IAmb 15 30 31.6
comp=Z,42nm,1.3s
MK31 Makanchi Array 59.46 326 P **P 15 30 19.3 -0.5**
MK31 pmax pmax
comp=Z,26nm,1.0s
MK31 Makanchi Array 59.46 326 P **P 15 30 19.3 -0.5**
MK31 IAmb IAmb 15 30 21.2
comp=Z,26nm,0.9s
MKAR Makanchi Array 59.46 326 P **P 15 30 19.8 0.0**
comp=Z,25nm,0.7s,baz=124,slow=8.1,SNR=298
MKAR PcP **PcP 15 31 07.5 +0.1**
comp=Z,7.4nm,0.7s,baz=108,slow=4.7,SNR=5.1
MKAR LR LR 15 56 24.6
comp=Z,380nm,21.4s,baz=112,slow=36
MKAR Makanchi Array 59.46 326 *i* P **P 15 30 19.7 -0.1**
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 59.46 326 P **P 15 30 19.4 -0.4**
KSH Kashi 59.59 316 P **P 15 30 21.6 +0.6**
KSH pP sP 15 30 27.8 -1.0
KSH pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 59.64 326 P **P 15 30 20.7 -0.4**
MAKZ Makanchi 59.64 326 P **P 15 30 20.5 -0.6**
MAKZ IAmb IAmb 15 30 24.6
comp=Z,29nm,0.8s
SATY Saty 59.70 321*c i*P **P 15 30 21.7 +0.1**
SATY pmax pmax
comp=Z,29nm,0.9s
SATY Saty 59.70 321⇑ *i*P **P 15 30 21.8 +0.1**
comp=Z,29nm,0.9s,baz=321
KPKS Kokpek 59.73 322*c i*P **P 15 30 21.4 -0.4**
KPKS pmax pmax
comp=Z,18nm,1.0s
KPKS Kokpek 59.73 322⇑ *i*P **P 15 30 21.5 -0.4**
comp=Z,18nm,1.0s,baz=322
ZHN Zhinishke 59.73 321 *e*P **P 15 30 21.5 -0.4**
ZHN Zhinishke 59.73 321 *e*P **P 15 30 21.6 -0.4**
baz=321
LBZ Lake Benmore 59.79 145 P **P 15 30 21.4 -0.7**
LBZ IAmb IAmb 15 30 23.1
comp=Z,29nm,1.1s
RPZ Rata Peaks 59.90 144 LR LR 15 56 34.0
comp=Z,313nm,20.9s,baz=306,slow=36
RPZ Rata Peaks 59.90 144 P **P 15 30 22.4 -0.5**
RPZ IAmb IAmb 15 30 27.1
comp=Z,26nm,1.2s
RPZ Rata Peaks 59.90 144 P **P 15 30 23.1 +0.2**
THZ Tophouse 59.94 141 P **P 15 30 22.0 -1.2**
THZ IAmb IAmb 15 30 31.6
comp=Z,30nm,1.4s
KDJ Kajisay 60.01 320 P **P 15 30 24.0 +0.1**
KDJ pmax pmax
comp=Z,52nm,1.1s
KDJ Kajisay 60.01 320 P **P 15 30 24.0 +0.1**
LTZ Lake Taylor 60.10 142 P **P 15 30 23.7 -0.6**
LTZ IAmb IAmb 15 30 30.4
comp=Z,17nm,1.1s
OXZ Oxford 60.27 143 P **P 15 30 24.4 -1.0**
OXZ IAmb IAmb 15 30 41.2
comp=Z,24nm,1.5s
TUWZ Tuamarina 60.42 140 P **P 15 30 24.5 -1.9**
TUWZ Tuamarina 60.42 140 P **P 15 30 24.9 -1.5**
BSWZ Blackbirch Sta 60.52 141 P **P 15 30 26.0 -1.2**
MDOK Medeo 60.61 321 *i* P **P 15 30 27.9 0.0**
MDOK Medeo 60.61 321 *i* P **P 15 30 28.0 0.0**
baz=321
TNSS Tian-Shan 60.61 320 *e*P **P 15 30 28.4 +0.1**
baz=320
ULHL Ulahol 60.68 319 P **P 15 30 28.9 +0.4**
SNR=14
KHZ Kahutara 60.69 141 P **P 15 30 27.0 -1.3**
KHZ IAmb IAmb 15 30 28.4
comp=Z,12nm,0.8s
KHZ Kahutara 60.69 141 P **P 15 30 27.1 -1.1**

TDK Taldyqorghan 60.71 323*c i*P **P 15 30 28.5 +0.1**
TDK pmax pmax
comp=Z,32nm,0.9s
TDK Taldyqorghan 60.71 323⇑ *i*P **P 15 30 28.5 +0.1**
comp=Z,32nm,0.9s,baz=323
AAA Alma-Ata 60.71 321 *e*P **P 15 30 28.6 +0.1**
AAA pmax pmax
comp=Z,42nm,1.0s
AAA Alma-Ata 60.71 321 *e*P **P 15 30 28.7 +0.1**
comp=Z,42nm,1.0s,baz=321
SNZO South Karori 60.84 140 P **P 15 30 28.1 -1.2**
YAK Yakutsk 60.85 2*c i*P **P 15 30 29.3 +0.3**
YAK *e* 15 31 12.6
YAK *e* 15 32 43.8
YAK *e*S **S 15 38 42.9 -2.5**
YAK *e**SS sS 15 39 11.7 +17
YAK *e* 15 40 15.2
YAK *e*SS **SS 15 42 47.0 +2.2**
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,24nm,1.7s
YAK pmax pmax
comp=E,43nm,3.5s
YAK smax smax
comp=E,68nm,2.0s
YAK smax smax
comp=N,23nm,2.2s
YAK Yakutsk 60.85 2 P **P 15 30 28.8 -0.1**
MQZ McQueen's Vall 60.85 143 P **P 15 30 28.6 -0.7**
URZ Urewera 60.97 136 LR LR 15 56 43.4
comp=N,178nm,21.7s,baz=7.5,slow=36
BOOM Boomskoye usch 60.99 319 P **P 15 30 29.9 -0.7**
BOOM pmax pmax
comp=Z,18nm,1.2s
BOOM Boomskoye usch 60.99 319 P **P 15 30 29.9 -0.7**
BOOM IAmb IAmb 15 30 34.3
comp=Z,18nm,1.1s
BHW Baring Head 61.00 140 P **P 15 30 28.6 -1.8**
RAO Raoul Island 61.21 124 LR LR 15 57 22.0
comp=Z,89nm,18.8s,baz=136,slow=36
PLWZ Palliser 61.33 140 P **P 15 30 31.2 -1.5**
MA2 Magadan 61.37 14*c i*P **P 15 30 34.0 +1.4**
MA2 pmax pmax
comp=Z,56nm,0.8s
MA2 Magadan 61.37 14 P **P 15 30 32.9 +0.3**
MA2 Magadan 61.37 14 P **P 15 30 34.2 +1.6**
KUJ Kurty 61.42 321*c i*P **P 15 30 33.0 -0.2**
KUJ pmax pmax
comp=Z,76nm,0.9s
KUJ Kurty 61.42 321⇑ *i*P **P 15 30 33.0 -0.2**
comp=Z,76nm,0.9s,baz=321
TKM2 Tokmak 2 61.42 320 P **P 15 30 33.9 +0.4**
SNR=33
TKM2 Tokmak 2 61.42 320 P **P 15 30 32.8 -0.7**
KBK Karagaybulak 61.72 319 P **P 15 30 38.7 +3.1**
SNR=18
UCH Uchtor 61.81 319 P **P 15 30 37.3 +0.9**
SNR=59
CHMS Chumysh 62.01 319 P **P 15 30 37.0 -0.2**
SNR=8.5
AAK Ala-Archa 62.01 319 P **P 15 30 37.8 +0.4**
SNR=26
AAK Ala-Archa 62.01 319*ce*P **P 15 30 37.5 +0.1**
AAK pmax pmax
comp=Z,25nm,1.1s
AAK Ala-Archa 62.01 319 P **P 15 30 37.0 -0.5**
AAK IAmb IAmb 15 30 40.9
comp=Z,21nm,1.0s
AAK Ala-Archa 62.01 319 *i* P **P 15 30 37.8 +0.4**
SNR=30
USP Ospenovka 62.29 320 P **P 15 30 38.9 -0.3**
SNR=46
SGDS Sogindy 62.29 320⇑ *i*P **P 15 30 38.7 -0.5**
baz=320
AML Almayashu 62.31 318 P **P 15 30 39.9 +0.1**
SNR=56
AML Almayashu 62.31 318 *i* P **P 15 30 39.9 +0.1**
SNR=60
EKS2 Erkin-Say 62.49 319 P **P 15 30 41.4 +0.7**
SNR=38
SEM Semipalatinsk 62.69 329 *e*P **P 15 30 41.8 -0.1**
SEM Semipalatinsk 62.69 329 *e*P **P 15 30 41.9 -0.1**
baz=329
ZAA0 Zalesovo Array 62.73 334 P **P 15 30 40.6 -1.2**
ZAA0 IAmb IAmb 15 30 43.0
comp=Z,42nm,1.2s
ZALV Zalesovo Beam 62.73 334 P **P 15 30 41.2 -0.5**
comp=Z,9.8nm,0.5s,baz=120,slow=6.0,SNR=67
ZALV Zalesovo Beam 62.73 334 P **P 15 30 40.5 -1.2**
KBL Kabul 62.77 309 P **P 15 30 41.2 -1.6**
KBL pmax pmax
comp=Z,47nm,1.2s
KBL Kabul 62.77 309 P **P 15 30 41.1 -1.6**
AFI Afiamalu 63.14 106 LR LR 15 58 48.1
comp=Z,65nm,18.2s,baz=286,slow=37
GAR Garm 63.38 314 P **P 15 30 45.4 -1.2**
BTLS Baital 63.41 321 *i* P **P 15 30 46.1 -0.4**
BTLS pmax pmax
comp=Z,15nm,1.0s
BTLS Baital 63.41 321 *i* P **P 15 30 46.2 -0.4**
comp=Z,15nm,1.0s,baz=321
BTK Batken 63.42 315 P **P 15 30 45.7 -1.1**
BTK pmax pmax
comp=Z,29nm,1.0s
BTK Batken 63.42 315 P **P 15 30 45.7 -1.1**
BTK IAmb IAmb 15 30 56.4
comp=Z,29nm,0.9s
KURK Kurchatov 63.72 328 P **P 15 30 48.0 -0.4**
KURK Kurtov 63.72 328 P **P 15 30 47.6 -0.8**
CHGR Chuyangaron 64.09 313 P **P 15 30 50.0 -1.3**
DZA Taraz 64.21 318 *e*P **P 15 30 51.2 -0.7**
DZA Taraz 64.21 318 *e*P **P 15 30 51.3 -0.7**
baz=318
SEY Seymchan 64.70 13⇑ *i*P **P 15 30 56.3 +1.7**
IUG luzhnay 64.79 317*c i*P **P 15 30 55.5 -0.3**
IUG luzhnay 64.79 317⇑ *i*P **P 15 30 55.5 -0.3**
baz=317
KKAR Karatay Array 64.85 318 P **P 15 30 54.9 -1.1**
KKAR Karatay Array 64.85 318 P **P 15 30 54.9 -1.1**
SHEM Shemya Is, Ala 64.97 30 LR LR 15 55 17.2
comp=Z,48nm,20.4s,baz=272,slow=32
OTUK Ortayu 65.94 324 P **P 15 31 02.4 -0.7**
HRA Herat 68.10 307 P **P 15 31 16.4 -0.9**
BRVK Borovoye 69.35 328*ce*P **P 15 31 24.4 0.0**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 69.35 328 P **P 15 31 23.9 -0.4**
TIXI Tiksi 70.48 1 LR LR 16 03 45.1
comp=Z,66nm,19.9s,baz=181,slow=37
TIXI Tiksi 70.48 1*ce*P **P 15 31 30.2 -0.7**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 70.48 1 P **P 15 31 29.9 -1.1**
TIXI IAmb IAmb 15 31 32.4
comp=Z,20nm,0.9s
ATKA Atka Island 70.93 34 P **P 15 31 34.8 +0.7**
ALNE Al Ain 71.78 295 P **P 15 31 41.1 +1.3**
GEYT Alibeck 72.19 310 P **P 15 31 42.4 +0.3**
comp=Z,23nm,0.9s,baz=178,slow=7.4,SNR=23
GEYT Alibeck 72.19 310 P **P 15 31 41.6 -0.5**
GEYT IAmb IAmb 15 31 45.5
comp=Z,23nm,0.9s
GYA0 ALIBECK ARRAY 72.19 310 P **P 15 31 41.8 -0.3**
GYA0B ALIBECK ARRAY 72.19 310 P **P 15 31 41.5 -0.5**
GYA0B IAmb IAmb 15 31 45.4
comp=Z,27nm,0.9s
BILL Bilibino 72.22 15*d i*P **P 15 31 41.5 -0.1**
BILL *i* 15 31 56.4
BILL *i* 15 34 21.2
BILL pmax pmax
comp=Z,14nm,1.2s
BILL Bilibino 72.22 15 P **P 15 31 41.1 -0.5**
ASUD Al Ashush, Dub 72.23 295 P **P 15 31 44.0 +1.5**
SOCY Socotra 72.44 282 P **P 15 31 42.5 -1.5**
SOCY IAmb IAmb 15 31 46.1
comp=Z,35nm,0.8s
AJN Ajban 72.53 295 P **P 15 31 43.6 -0.7**
NRIK Noril'sk 72.87 347 P **P 15 31 46.0 +0.5**
comp=Z,34nm,0.7s,baz=130,slow=6.0,SNR=58
NRIK LR LR 16 06 18.7
comp=Z,131nm,19.5s,baz=150,slow=38
NRIK Noril'sk 72.87 347*c i*P **P 15 31 45.8 +0.4**
NRIK pmax pmax
comp=Z,52nm,0.8s
NRIK Noril'sk 72.87 347 P **P 15 31 45.1 -0.4**
MZR Muzera 73.73 294 *i* P **P 15 31 53.2 +1.7**
SNR=5.7
AB31 Akbulak array 73.89 321 P **P 15 31 50.9 -1.0**
ABKAR Akbulak array 73.89 321 P **P 15 31 51.2 -0.7**
ABKAR Akbulak array 73.89 321 P **P 15 31 51.2 -0.7**
ABKAR IAmb IAmb 15 31 55.2
comp=Z,23nm,0.9s
AKTO Aktyubinsk 75.43 322 P **P 15 32 01.0 +0.2**
comp=Z,25nm,0.7s,baz=95,slow=6.9
AKTO LR LR 16 07 60.0
comp=Z,156nm,20.3s,baz=109,slow=38
RAR Rarotonga 75.48 112 LR LR 16 04 42.5
comp=Z,40nm,19.7s,baz=280,slow=35
SVE Sverdlovsk 75.96 329*d i*P **P 15 32 03.7 +0.1**
SVE pmax pmax
comp=Z,185nm,1.3s
AKUT Akutan 76.36 34 P **P 15 32 05.5 -0.4**
ARU Arti 76.91 328 P **P 15 32 08.6 -0.4**
comp=Z,25nm,0.9s,baz=112,slow=2.4,SNR=64
ARU LR LR 16 08 48.7
comp=Z,100nm,19.7s,baz=95,slow=38
ARU Arti 76.91 328*c i*P **P 15 32 08.5 -0.5**
ARU 15 32 18.8
ARU S **S 15 41 58.9 +2.9**
ARU SS **SS 15 46 54.7 +2.0**
ARU pmax pmax
comp=Z,110nm,1.1s
ARU Arti 76.91 328 P **P 15 32 08.2 -0.8**
GAMB Gambell 76.99 24 P **P 15 32 08.4 -0.9**
GAMB IAmb IAmb 15 32 12.3
comp=Z,23nm,1.0s
GAMB Gambell 76.99 24 P **P 15 32 11.3 +2.0**
baz=245
TNA Tin City 79.19 23 P **P 15 32 21.7 +0.2**
TNA Tin City 79.19 23 P **P 15 32 22.5 +1.0**
baz=248
SDPT Sand Point 79.64 34 P **P 15 32 24.0 -0.1**
SDPT Sand Point 79.64 34 P **P 15 32 24.9 +0.8**
baz=257
ANM Nome 79.86 24 P **P 15 32 25.9 +0.7**
ANM pmax pmax
comp=Z,8.0nm,0.9s
ANM Nome 79.86 24 P **P 15 32 25.9 +0.7**
ANM Nome 79.86 24 P **P 15 32 26.7 +1.5**
baz=251
VOI Vohitsoka 80.63 248 P **P 15 32 29.8 -0.6**
VOI IAmb IAmb 15 32 39.6
comp=Z,19nm,0.9s
VOI Vohitsoka 80.63 248 P **P** 15 32 35.5 +5.1
VNDA Vanda 80.88 173 P **P 15 32 30.7 +0.3**
comp=Z,6.4nm,0.8s,baz=319,slow=6.5,SNR=15
VNDA LR LR 16 08 50.0
comp=Z,139nm,18.5s,baz=322,slow=36
VNDA Vanda 80.88 173 P **P 15 32 30.3 -0.2**
VNDA pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 80.88 173 P **P 15 32 30.3 -0.2**
RAYN Ar Rayn 81.08 294 P **P 15 32 31.6 -1.1**
RAYN pmax pmax
comp=Z,16nm,0.9s
RAYN Ar Rayn 81.08 294 P **P 15 32 31.6 -1.1**
RAYN IAmb IAmb 15 32 36.0
comp=Z,16nm,0.8s
RAYN Ar Rayn 81.08 294 *i* P **P 15 32 32.7 0.0**
SNR=21
MAW Mawson 81.12 200 LR LR 16 10 00.1
comp=Z,76nm,19.5s,baz=58,slow=37
RDOG Red Dog Mine 81.91 21 P **P 15 32 35.5 -0.6**
RDOG IAmb IAmb 15 32 39.3
comp=Z,58nm,1.5s
RDOG Red Dog Mine 81.91 21 P **P 15 32 37.8 +1.7**
baz=252
BELG Belogornoye 82.20 323 P **P 15 32 37.7 -0.2**
comp=Z,140nm,1.0s,baz=103,slow=0.3,SNR=47
BELG LR LR 16 11 53.0
comp=Z,101nm,19.5s,baz=152,slow=38
KIRV Kirov 82.22 329 P **P 15 32 37.7 -0.2**
comp=Z,38nm,0.6s,baz=122,slow=2.6,SNR=22
KIRV LR LR 16 12 22.8
comp=Z,131nm,18.5s,baz=104,slow=38
GROC Groznyy 82.30 313 *e*P **P 15 32 38.9 +0.3**
GROC *e* 15 32 44.1
GROC pmax pmax
comp=Z,72nm,1.1s
CHIR Chirikof Islan 82.44 34 P **P 15 32 39.6 +0.5**
GNI Garni 82.81 310 LR LR 16 13 28.4
comp=Z,64nm,21.0s,baz=86,slow=38
GNI Garni 82.81 310*ce*P **P 15 32 42.2 +0.6**
GNI pmax pmax
comp=Z,50nm,1.7s
GNI Garni 82.81 310 P **P 15 32 41.6 0.0**
P18K Big Mountain, 83.22 30 P **P 15 32 43.1 -0.1**
P18K IAmb IAmb 15 32 44.6
comp=Z,22nm,1.4s
P18K Big Mountain, 83.22 30 P **P 15 32 43.4 +0.3**
baz=261
ATD Arta Tunnel 83.32 281 LR LR 16 09 23.1
comp=Z,58nm,18.3s,baz=68,slow=35
GCSA Galena City Sc 83.43 25 P **P 15 32 45.8 +1.8**
baz=258,SNR=44
TTA Tatalina 83.46 27 P **P 15 32 45.3 +1.0**
TTA pmax pmax
comp=Z,30nm,0.9s
TTA Tatalina 83.46 27 P **P 15 32 45.3 +1.0**
TTA IAmb IAmb 15 32 47.5
comp=Z,30nm,0.9s
TTA Tatalina 83.46 27 P **P 15 32 46.0 +1.7**
baz=260,SNR=22
ZEI Tsey 83.64 313 *e*P **P 15 32 43.9 -2.0**
ZEI pmax pmax
comp=Z,55nm,1.3s
O19K Port Alsworth 83.80 30 P **P 15 32 46.1 +0.1**
O19K Port Alsworth 83.80 30 P **P 15 32 46.9 +0.9**
baz=261
N19K Bonanza Creek 83.82 29 P **P 15 32 46.4 +0.2**
N19K Bonanza Creek 83.82 29 P **P 15 32 48.1 +1.8**
baz=261
L19K White Mountain 83.86 28 P **P 15 32 46.9 +0.5**
L19K IAmb IAmb 15 32 49.6
comp=Z,29nm,0.9s
L19K White Mountain 83.86 28 P **P 15 32 48.2 +1.8**
baz=261,SNR=14
OHAK Old Harbor 83.92 33 P **P 15 32 47.0 +0.3**
OHAK IAmb IAmb 15 32 51.6
comp=Z,38nm,1.2s
OHAK Old Harbor 83.92 33 P **P 15 32 47.6 +0.9**
baz=262
NCK Nalchik 83.92 313⇓ *i*P **P 15 32 47.9 +0.8**
NCK pmax pmax
comp=Z,63nm,1.7s
GEVA Gevas 83.98 308 P **P 15 32 47.6 -0.1**
M19K Big River Lodg 84.03 28 P **P 15 32 49.0 +1.8**
baz=261
L20K Farewell, AK 84.35 27 P **P 15 32 50.3 +1.4**
baz=262
KDAK Kodiak Island 84.37 32 P **P 15 32 49.1 +0.2**
KDAK pmax pmax
comp=Z,109nm,1.5s
KDAK Kodiak Island 84.37 32 P **P 15 32 49.1 +0.2**
KDAK Kodiak Island 84.37 32 P **P 15 32 50.1 +1.2**
baz=263
K20K Telida 84.40 26 P **P 15 32 51.1 +2.0**
baz=261
GOF Gofitskoye 84.43 315⇑ *e*P **P 15 32 50.9 +1.3**
GOF pmax pmax
comp=Z,44nm,1.1s
KBZ Khabaz 84.44 314 P **P 15 32 49.6 -0.1**
comp=Z,20nm,1.0s,baz=135,slow=1.9,SNR=41
KBZ LR LR 16 15 43.9
comp=Z,33nm,19.0s,baz=84,slow=39
J20K Nowinta River 84.49 26 P **P 15 32 50.0 +0.6**
J20K IAmb IAmb 15 32 53.1
comp=Z,11nm,0.8s
J20K Nowinta River 84.49 26 P **P 15 32 51.8 +2.4**
baz=261
NEY Neytrino 84.54 313 *i* P **P 15 32 51.7 +1.3**
NEY pmax pmax
comp=Z,14nm,1.1s
PRGR Permogore 84.59 332 *e*P **P 15 32 47.8 -2.2**

PRGR pmax pmax
comp=Z,150nm,1.3s
KIV Kislovodsk 84.61 314 ⇑P **P 15 32 51.0 +0.4**
KIV Kislovodsk 84.61 314 *e*P **P 15 32 50.7 0.0**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 84.61 314 P **P 15 32 50.5 -0.2**
KIV IAmb IAmb 15 33 03.1
comp=Z,24nm,1.0s
KIV Kislovodsk 84.61 314 *i* P **P 15 32 51.4 +0.8**
SNR=6.3
RSO Redoubt South 84.61 29 P **P 15 32 50.2 -0.2**
PPT Papeete 84.77 108 LR LR 16 08 20.3
comp=Z,52nm,19.4s,baz=280,slow=34
PPT2 Papeete2 84.77 108 *e*S **S 15 43 13.6 -6.0**
comp=Z,57nm,23.5s
PPT2 Papeete2 84.77 108 *e*LR LR 15 59 23.6
comp=Z,212nm,26.5s
GURO Guroymak-BITLI 84.80 308 P **P 15 32 52.2 +0.4**
A21K Barrow 84.86 18 P **P 15 32 50.8 -0.4**
A21K Barrow 84.86 18 P **P 15 32 51.7 +0.5**
baz=258
IMAR Indian Mountai 84.94 24 P **P 15 32 52.3 +0.6**
CHVG Ch'k'valeri 84.98 313 ⇑P **P 15 32 53.4 +1.0**
TBI Tubuai 85.18 113 *e*LR LR 15 59 43.3
comp=Z,167nm,31.0s
PPLA Purkeypile 85.18 27 P **P 15 32 52.9 -0.3**
PPLA IAmb IAmb 15 33 14.3
comp=Z,16nm,1.4s
PPLA Purkeypile 85.18 27 P **P 15 32 54.2 +1.0**
baz=263
CHUM Lake Minchumin 85.25 26 P **P 15 32 55.9 +2.6**
baz=263
CNPM China Poot 85.26 30 P **P 15 32 53.1 -0.4**
H21K Melozitna Rive 85.28 24 P **P 15 32 53.5 +0.1**
H21K Melozitna Rive 85.28 24 P **P 15 32 54.7 +1.3**
baz=262
CAST Castle Rocks 85.30 27 P **P 15 32 54.0 +0.4**
CAST Castle Rocks 85.30 27 P **P 15 32 56.2 +2.6**
baz=263
BRLK Bradley Lake 85.46 30 P **P 15 32 54.4 -0.1**
BRSE Bradley Lake S 85.53 30 P **P 15 32 55.7 +0.9**
baz=264
I21K Tanana 85.56 25 P **P 15 32 57.1 +2.3**
baz=263
VRH Novokhopyorsk 85.72 321 *e*P **P 15 32 55.4 -0.5**
VRH pmax pmax
comp=Z,110nm,1.4s
MARD Mardin 85.74 307 P **P 15 32 56.2 -0.3**
KTH Kantishna Hill 85.83 26 P **P 15 32 56.7 +0.4**
M22K Willow 86.02 28 P **P 15 32 58.0 +0.9**
baz=265,SNR=5.7
MLY Manley 86.06 25 P **P 15 32 56.9 -0.5**
MLY Manley 86.06 25 P **P 15 32 58.0 +0.6**
baz=264
TRF Thorofare Moun 86.10 27 P **P 15 32 57.0 -0.8**
O22K Cooper Landing 86.11 30 P **P 15 32 56.9 -0.7**
O22K IAmb IAmb 15 33 15.9
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 86.15 29 P **P 15 32 57.2 -0.6**
RC01 IAmb IAmb 15 32 59.8
comp=Z,13nm,0.7s
RC01 Rabbit Creek A 86.15 29 P **P 15 32 58.4 +0.6**
baz=265
SEW Seward 86.21 30 P **P 15 32 57.8 -0.3**
SEW IAmb IAmb 15 33 09.9
comp=Z,25nm,1.2s
PMR Palmer 86.48 28 P **P 15 32 58.9 -0.5**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 86.48 28 P **P 15 32 58.9 -0.5**
PMR IAmb IAmb 15 33 01.7
comp=Z,9.7nm,0.8s
PMR Palmer 86.48 28 P **P 15 33 00.3 +0.9**
baz=266,SNR=5.7
COLD Coldfoot 86.50 23 P **P 15 32 59.2 -0.3**
COLD IAmb IAmb 15 33 02.5
comp=Z,14nm,0.8s
COLD Coldfoot 86.50 23 P **P 15 33 00.7 +1.3**
baz=264,SNR=21
BWN Browne 86.53 26 P **P 15 32 59.0 -0.6**
BWN IAmb IAmb 15 33 03.9
comp=Z,22nm,1.3s
I23K Minto, Yukon-K 86.65 25 P **P 15 32 59.6 -0.6**
I23K IAmb IAmb 15 33 02.8
comp=Z,11nm,0.8s
I23K Minto, Yukon-K 86.65 25 P **P 15 33 01.0 +0.8**
baz=265,SNR=9.5
MCK McKinley 86.73 26 P **P 15 33 00.0 -0.6**
MCK pmax pmax
comp=Z,23nm,1.5s
MCK McKinley 86.73 26 P **P 15 33 00.0 -0.6**
MCK IAmb IAmb 15 33 01.2
comp=Z,23nm,1.5s
MCK McKinley 86.73 26 P **P 15 33 00.3 -0.3**
baz=266
NEA2 Nenana 86.73 25 P **P 15 33 00.2 -0.5**
NEA2 Nenana 86.73 25 P **P 15 33 02.1 +1.4**
baz=266
RND Reindeer 86.74 27 P **P 15 32 59.5 -1.3**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 86.74 27 P **P 15 32 59.5 -1.3**
SOC Sochi 86.74 313 *e*P **P 15 32 58.5 -2.6**
SOC *e*S S 15 43 24.7 -13
SOC *e*SS **SS 15 49 17.8 -1.8**
SOC *e*SSS SSS 15 52 48.0
SOC pmax pmax
comp=Z,31nm,1.1s
KNK Knik Glacier 86.79 29 P **P 15 33 02.8 +1.8**
baz=266,SNR=5.9
PWL Port Wells 86.81 29 P **P 15 33 00.6 -0.6**
PWL IAmb IAmb 15 33 03.4
comp=Z,16nm,0.8s
PWL Port Wells 86.81 29 P **P 15 33 01.4 +0.2**
baz=266
TOLK Toolik Lake Re 86.86 21 P **P 15 33 01.2 -0.1**
TOLK IAmb IAmb 15 33 04.6
comp=Z,9.7nm,0.8s
TOLK Toolik Lake Re 86.86 21 P **P 15 33 02.4 +1.1**
baz=265
SML Sawmill 86.88 28 P **P 15 33 01.1 -0.4**
SML IAmb IAmb 15 33 05.0
comp=Z,8.5nm,0.7s
SML Sawmill 86.88 28 P **P 15 33 03.0 +1.5**
baz=266
MDM Murphy Dome 87.12 25 P **P 15 33 02.0 -0.5**
WRH Wood River Hil 87.15 26 P **P 15 33 02.3 -0.3**
WRH IAmb IAmb 15 33 03.5
comp=Z,17nm,1.3s
WAT6 Susitna Watana 87.20 28 P **P 15 33 03.1 0.0**
baz=267
VORD Divnogorie 87.24 321 *e*P **P 15 33 03.2 -0.2**
VORD pmax pmax
comp=Z,20nm,0.6s
CCB Clear Creek Bu 87.28 25 P **P 15 33 01.4 -1.8**
VORR Voronezh 87.32 321 *e*P **P 15 33 05.7 +2.0**
VORR pmax pmax
comp=Z,50nm,0.9s
H24K Noodor Dome 87.32 24 P **P 15 33 03.2 -0.3**
H24K Noodor Dome 87.32 24 P **P 15 33 04.1 +0.6**
baz=267,SNR=6.4
SCM Sheep Creek Mo 87.35 28 P **P 15 33 04.7 +0.9**
baz=267
DHY Denali Highway 87.39 27 P **P 15 33 03.5 -0.5**
DHY Denali Highway 87.39 27 P **P 15 33 04.5 +0.4**
baz=267
KLMR Klimovskoe 87.46 331 *e*P **P 15 33 02.0 -2.2**
KLMR *e* 15 36 25.4
KLMR pmax pmax
comp=Z,85nm,1.1s
KLMR Klimovskoe 87.46 331 *e*P **P 15 33 02.0 -2.2**
KLMR AMP 15 33 09.7
comp=Z,85nm,1.1s
KLMR *e*PP **PP 15 36 25.5 -3.3**
LPSR Galich'ya Gora 87.51 322 *e*P **P 15 33 06.0 +1.4**
LPSR pmax pmax
comp=Z,50nm,0.8s
HDA Harding Lake 87.64 26 P **P 15 33 03.6 -1.4**
HDA IAmb IAmb 15 33 06.1
comp=Z,7.6nm,0.8s
HDA Harding Lake 87.64 26 P **P 15 33 04.1 -1.0**
baz=268,SNR=6.5
IL31 87.68 25 P **P 15 33 03.3 -1.9**
ILAR Eielson Array 87.68 25 P **P 15 33 04.1 -1.1**
comp=Z,2.8nm,0.8s,baz=248,slow=3.6,SNR=41
ILAR Eielson Array 87.68 25 P **P 15 33 03.4 -1.8**
ILAR Eielson Array 87.68 25 P **P 15 33 03.4 -1.8**
M24K Tolsona, Glenn 87.91 28 P **P 15 33 06.2 -0.3**
M24K IAmb IAmb 15 33 09.3
comp=Z,24nm,0.9s
M24K Tolsona, Glenn 87.91 28 P **P 15 33 07.2 +0.8**
baz=268,SNR=5.3
KLU Klutina 88.01 29 P **P 15 33 06.5 -0.5**
KIBK Kibwezi 88.25 268 P **P 15 33 08.6 -0.5**
KIBK IAmb IAmb 15 33 16.3
comp=Z,15nm,0.9s
PAX Paxson 88.25 27 P **P 15 33 07.6 -0.5**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 88.25 27 P **P 15 33 07.6 -0.5**
PAX Paxson 88.25 27 P **P 15 33 08.7 +0.6**
baz=269,SNR=6.6
J25K Salcha River, 88.33 26 P **P 15 33 07.6 -0.8**
baz=269,SNR=8.4
MOS Moscow 88.33 326 *e*P **P 15 33 06.4 -2.1**
MOS *e* 15 33 12.2
MOS pmax pmax
comp=Z,50nm,1.0s
ANN Anapa 88.40 315 *e*P **P 15 33 07.2 -1.9**
ANN pmax pmax
comp=Z,87nm,0.9s
RIDG Independent Ri 88.55 26 P **P 15 33 08.5 -0.9**
RIDG IAmb IAmb 15 33 11.2
comp=Z,12nm,0.7s
RIDG Independent Ri 88.55 26 P **P 15 33 09.4 -0.1**
baz=270,SNR=5.1
N25K Chitina, Valde 88.65 29 P **P 15 33 09.6 -0.3**
N25K Chitina, Valde 88.65 29 P **P 15 33 10.9 +1.0**
baz=270
BMAR Burnt Mountain 88.68 23 P **P 15 33 10.1 +0.1**
DOT Dot Lake 88.89 27 P **P 15 33 10.8 -0.3**
SCRK Sand Creek 88.93 26 P **P 15 33 11.1 -0.2**
SCRK Sand Creek 88.93 26 P **P 15 33 11.9 +0.6**
baz=270
OBN Obninsk 88.94 325 P **P 15 33 10.4 -0.9**
comp=Z,4.3nm,0.5s,baz=69,slow=3.9,SNR=7.5
OBN LR LR 16 17 22.5
comp=Z,20nm,18.2s,baz=64,slow=38
OBN Obninsk 88.94 325 ⇑*i*P **P 15 33 10.3 -1.0**
OBN *i* 15 33 15.7
OBN pmax pmax
comp=Z,36nm,1.0s
OBN MLR MLR
comp=Z,128nm,16.0s
KMBO Kilima Mbogo 89.02 269 P **P 15 33 14.0 +1.0**
comp=Z,19nm,1.1s,baz=49,slow=8.0,SNR=10.0
KMBO Kilima Mbogo 89.02 269 *i* P **P 15 33 14.5 +1.5**
SNR=20
MENT Mentasta 89.05 27 P **P 15 33 11.9 +0.1**
MENT IAmb IAmb 15 33 18.6
comp=Z,6.9nm,0.7s
J26L Joseph Creek 89.11 26 P **P 15 33 12.3 +0.2**
baz=271
ISLE Juniper Island 89.76 30 P **P 15 33 14.1 -1.2**
ISLE IAmb IAmb 15 33 28.1
comp=Z,13nm,1.0s
SYO Syowa Base 89.80 201⇑ *e*pP pP 15 33 20.8 -0.3
L27K Beaver Creek, 89.91 27 P **P 15 33 16.3 +0.4**
L27K IAmb IAmb 15 33 18.7
comp=Z,8.3nm,0.7s
L27K Beaver Creek, 89.91 27 P **P 15 33 16.8 +1.0**
baz=272
M27K Edge Creek, AK 89.92 28 P **P 15 33 15.3 -0.7**
BCAR Beaver Creek A 89.93 27 P **P 15 33 16.5 +0.5**
BARN Barnard Glacie 90.07 29 P **P 15 33 16.8 -0.1**
APA Apatity 90.10 337⇓ *i*P **P 15 33 14.8 -1.7**
APA pmax pmax
comp=Z,8.0nm,1.0s
MMAI Mount Meron Ar 90.13 303 LR LR 16 20 38.7
comp=Z,53nm,19.0s,baz=254,slow=40
EGAK Eagle 90.14 25 P **P 15 33 16.9 +0.2**
EGAK Eagle 90.14 25 P **P 15 33 17.0 +0.2**
baz=273
CTG Chitna Glacier 90.23 29 P **P 15 33 19.7 +2.2**
baz=273
EIL Elat 90.60 300 LR LR 16 17 14.4
comp=Z,100nm,22.0s,baz=96,slow=38
DAWY Dawson 90.94 26 P **P 15 33 20.6 -0.1**
DAWY IAmb IAmb 15 33 22.8
comp=Z,9.9nm,1.1s
DAWY Dawson 90.94 26 P **P 15 33 21.1 +0.5**
baz=274
I29M Ogilvie Camp, 91.30 25 P **P 15 33 21.6 -0.6**
BR131 Keskin Array S 91.33 310 P **P 15 33 22.1 -1.0**
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 91.33 310 P **P 15 33 22.1 -1.0**
BR131 IAmb IAmb 15 33 27.6
comp=Z,8.4nm,0.8s
BRTR Keskin Array B 91.33 310 P **P 15 33 21.8 -1.3**
comp=Z,6.5nm,0.9s,baz=122,slow=5.6,SNR=14
BRTR LR LR 16 21 29.3
comp=Z,48nm,18.4s,baz=88,slow=40
BRTR Keskin Array B 91.33 310 P **P 15 33 21.4 -1.7**
BRTR Keskin Array B 91.33 310 P **P 15 33 21.4 -1.7**
EPYK Eagle Plains 91.84 24 P **P 15 33 23.9 -0.9**
EPYK IAmb IAmb 15 33 26.5
comp=Z,21nm,1.3s
EPYK Eagle Plains 91.84 24 P **P 15 33 24.3 -0.5**
baz=277
HYT Haines Junctio 92.11 29 P **P 15 33 27.2 +1.0**
baz=276
M30M Minto, Yukon 92.26 27 P **P 15 33 27.0 +0.2**
M30M IAmb IAmb 15 33 29.4
comp=Z,9.8nm,0.9s
M30M Minto, Yukon 92.26 27 P **P 15 33 27.6 +0.9**
baz=277
ARCES ARCESS Array B 92.75 340 P **P 15 33 27.9 -1.0**
comp=Z,14nm,0.9s,baz=90,slow=7.3,SNR=12
ARCES LR LR 16 19 04.6
comp=Z,77nm,19.8s,baz=113,slow=38
ARCES ARCESS Array B 92.75 340 P **P 15 33 28.0 -0.8**
ARCES pmax pmax
comp=Z,33nm,1.2s
ARCES ARCESS Array B 92.75 340 P **P 15 33 28.0 -0.8**
INK Inuvik 92.78 21 P **P 15 33 28.1 -0.8**
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 92.78 21 P **P 15 33 28.1 -0.8**
INK IAmb IAmb 15 33 30.4
comp=Z,11nm,1.0s
INK Inuvik 92.78 21 P **P 15 33 28.9 0.0**
baz=280
N31M Braeburn, Yuko 92.86 28 P **P 15 33 31.5 +2.0**
baz=278
SPITS Spitsbergen Ar 92.96 349 LR LR 16 19 32.3
comp=Z,108nm,19.7s,baz=233,slow=38
SKAG Skagway 93.36 30 P **P 15 33 32.9 +1.1**
baz=278
WHY Whitehorse 93.41 29 P **P 15 33 32.6 +0.4**
WHY IAmb IAmb 15 33 34.8
comp=Z,9.7nm,0.9s
WHY Whitehorse 93.41 29 P **P 15 33 32.9 +0.7**
baz=278
AKASG Malin Array Be 93.63 321 P **P 15 33 31.6 -1.6**
comp=Z,3.2nm,0.7s,baz=69,slow=4.2,SNR=13
AKASG LR LR 16 18 38.5
comp=Z,121nm,22.0s,baz=54,slow=37
AKASG Malin Array Be 93.63 321 P **P 15 33 32.4 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,1.4s
AKASG Malin Array Be 93.63 321 P **P 15 33 32.4 -0.8**
AKBB Malin Array Si 93.63 321 P **P 15 33 31.9 -1.4**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
AKBB Malin Array Si 93.63 321 P **P 15 33 31.9 -1.4**
TAOE Nuku Hiva Isla 93.72 99 *e*LR LR 16 03 44.3
comp=Z,141nm,23.8s
FARO Faro, Yukon 93.89 28 P **P 15 33 35.1 +0.9**
baz=280
FINES FINESS Array B 93.92 332 P **P 15 33 33.4 -0.9**
comp=Z,1.7nm,0.8s,baz=35,slow=5.1,SNR=5.9
FINES LR LR 16 19 19.1
comp=Z,133nm,20.7s,baz=85,slow=38
MNK Minsk 93.99 325 *i* P **P 15 33 33.7 -1.1**
MNK *i* 15 37 17.0
MNK *i* S **SKSac 15 44 08.3 -0.4**
MNK *i* SSS SSS 15 54 47.1
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=Z,40nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.2s
MNK MLR MLR
comp=E,29nm,20.0s
MNK MLR MLR
comp=N,155nm,24.0s
MNK MLR MLR
comp=Z,161nm,20.0s
MNK Minsk 93.99 325 *i* P **P 15 33 33.8 -1.1**
comp=E,5.0nm,1.2s
MNK *i* P **P 15 33 33.8 -1.1**
comp=N,15nm,1.0s
MNK *i* P **P 15 33 33.8 -1.1**
comp=Z,40nm,0.9s,baz=262
MNK *i* PP **PP 15 37 17.1 -3.7**
MNK *i* PPP PPP 15 39 15.9
MNK *i* SKS SKiKP 15 42 09.2 +16
MNK *i* S **SKSac 15 44 08.3 -0.4**
MNK *i* SS SS 15 50 37.9 -26
MNK *i* SSS SSS 15 54 47.1
MNK *i* LQ LQ 16 10 03.9
MNK *i* LR LR 16 13 23.1
MNK *i* LRM MLR 16 16 46.6
comp=E,29nm,20.3s
MNK *i* LRM MLR 16 16 46.6
comp=N,155nm,23.6s
MNK *i* LRM MLR 16 16 46.6
comp=Z,161nm,20.4s
SORM Soroca 94.48 318 ⇑P **P 15 33 36.9 -0.3**
P33M Teslin, Yukon 94.49 29 P **P 15 33 37.2 +0.1**
baz=280
IDID Didziasalis 94.53 326 *e*P **P 15 33 37.3 0.0**
NACGM Naroch 94.57 325 *i* P **P 15 33 37.0 -0.5**
MMPY Sheldon Lake, 94.78 27 P **P 15 33 39.4 +1.0**
baz=282
IIGN Ignalina 94.82 326 *e*P **P 15 33 38.5 -0.1**
ISAL Salakas 94.84 326 *e*P **P 15 33 38.6 -0.1**
TIRR Tirgusor 94.85 315 ⇑P **P 15 33 40.2 +1.2**
CFR Carcaliu 94.97 315 ⇑P **P 15 33 40.6 +1.1**
HARR Harsova 95.17 315 ⇑P **P 15 33 41.9 +1.4**
MBAR Mbarara 95.53 270 LR LR 16 14 43.3
comp=Z,75nm,18.4s,baz=40,slow=34
TESR Tescani 95.83 317 ⇑P **P 15 33 43.7 +0.2**
C36M Paulatuk 95.84 20 P **P 15 33 42.2 -0.8**
C36M IAmb IAmb 15 33 44.4
comp=Z,10nm,0.8s
C36M Paulatuk 95.84 20 P **P 15 33 43.0 0.0**
baz=289
VRI Vrincioaia 95.86 316 ⇑P **P 15 33 44.2 +0.6**
PLOR Plostina 95.92 316 ⇑P **P 15 33 44.4 +0.5**
PABE Paberze 96.06 326 *e*P **P 15 33 43.9 -0.4**
NEHR Nehoiu 96.22 316 ⇑P **P 15 33 45.9 +0.6**
TGTN Hyland Airport 96.39 28 P **P 15 33 46.7 +0.9**
baz=284
MLR Muntele Rosu 96.46 316 ⇑P **P 15 33 46.9 +0.4**
MLR Muntele Rosu 96.46 316 P **P 15 33 45.6 -0.9**
comp=Z,5.2nm,1.0s,baz=86,slow=7.6,SNR=5.7
MLR LR LR 16 23 40.6
comp=Z,150nm,20.1s,baz=72,slow=39
MLR Muntele Rosu 96.46 316 P **P 15 33 45.6 -0.9**
MLR pmax pmax
comp=Z,8.0nm,0.8s
MLR Muntele Rosu 96.46 316 P **P 15 33 45.6 -0.9**
MLR IAmb IAmb 15 33 54.3
comp=Z,7.8nm,0.8s
BURAR Bucovina Array 96.64 318 ⇑P **P 15 33 48.0 +0.7**
BUR08 Bucovina Ar. S 96.65 318 P **P 15 33 46.7 -0.6**
SUW Suwalki 96.79 325 *e*P **P 15 33 46.9 -0.7**
ARR Arges 97.39 316 ⇑P Pdif 15 33 51.0 +0.3
MATP Matopo 97.65 250 LR LR 16 13 34.1
comp=Z,88nm,19.4s,baz=93,slow=33
BMR Baia Mare 97.78 318 ⇑P **P 15 33 52.0 -0.2**
IDI Anoyia 98.65 306 LR LR 16 25 19.0
comp=Z,32nm,21.9s,baz=84,slow=40
CRVS Cervenica-Dubn 98.88 320 *e*P Pdif 15 33 58.0 +0.8
CRVS Cervenica-Dubn 98.88 320 *e*PDIFF Pdif 15 33 58.0 +0.8
HFS Hagfors 100.12 332 P **Pdif 15 34 02.0 -0.4**
comp=Z,4.0nm,1.0s,baz=140,slow=9.2,SNR=3.7
RES Resolute Bay 100.48 10 P **Pdif 15 34 03.7 0.0**
comp=Z,1.9nm,0.6s,baz=271,slow=7.0,SNR=11
NB2 NORSAR Subarra100.92 333 P **Pdif 15 34 04.7 -1.3**
comp=Z,2.5nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B100.92 333 P **Pdif 15 34 05.0 -1.1**
comp=Z,1.0nm,0.7s,baz=67,slow=4.5,SNR=3.6
NOA NORSAR Array B100.92 333 P **Pdif 15 34 05.0 -1.1**
YKA Yellowknife Ar 102.09 25 P **Pdif 15 34 11.4 +0.3**
comp=Z,9.9nm,0.6s,baz=296,slow=4.4,SNR=19
BRG Berggiesshubel 103.06 323 *e*P **Pdif 15 34 21.2 +5.4**
BRG Amp 15 34 23.1
comp=Z,7.3nm,1.0s
BRG Berggiesshubel 103.06 323 *e*P **Pdif 15 34 21.1 +5.4**
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 103.48 324 *e*P **Pdif 15 34 23.0 +5.4**
CLL *e* 15 38 35.0
CLL Collm 103.48 324 *e*pPdif **Pdif 15 34 23.0 +5.4**
CLL *e*PP **PKiKP 15 38 35.0 -1.3**
CLL Lm MLR 16 26 00.0
comp=Z,200nm,18.8s
GERES GERESS Array B 103.84 321 Pdiff **Pdif 15 34 21.5 +2.1**
comp=Z,0.8nm,0.9s,baz=70,slow=8.5,SNR=4.3
ESDC Sonseca Array 119.10 318 PKKPbc PKKPbc 15 49 21.9 +0.9
comp=Z,0.5nm,0.8s,baz=251,slow=5.1,SNR=4.1
ECSD EROS Data Cent 121.21 35 **PKPdf 15 39 08.9 -1.3**
ECSD EROS Data Cent 121.21 35 P **PKPdf 15 39 09.7 -0.5**
baz=307
MNTX Cornudas Mount 121.27 51 P **PKiKP 15 39 11.2 +0.4**
baz=284
I37A Lemond, Waseca 122.84 33 PKPdf **PKPdf 15 39 12.2 -1.1**
TXAR Lajitas Array 123.57 53 PKP **PKiKP 15 39 15.3 -0.1**
comp=Z,0.8nm,0.8s,baz=0.0,slow=0.4,SNR=9.5
S39A Bolivar 126.86 39 PKPdf **PKPdf 15 39 20.1 -1.0**
U40A Yellville 127.97 40 P **PKPdf 15 39 23.5 +0.1**
baz=307
BO02 Sierra Bellavi 142.89 156 PKPdf **PKPdf 15 39 49.8 -1.3**
MT01 Popeta 143.50 155 PKPab 15 39 48.3 -0.1
ROC1 El Roble 144.36 155 **PKPab 15 39 50.8 -1.2**
ROC1 El Roble 144.36 155 *i* P **PKPdf 15 39 53.9 -0.1**
VA03 San Esteban 144.74 155 PKPbc 15 39 53.6 +0.2
AUSP Uspallata 145.69 156 *i* P **PKPab 15 39 57.4 +0.4**
RTLS Leoncito 146.10 156 *i* P **PKPab 15 39 58.5 -0.1**
MRA San Martin 146.85 161 *i* P **PKPbc 15 39 59.8 -0.1**
ACCO Cerro Coronel 147.25 155 *i* P **PKPbc 15 40 01.5 +0.1**
AROD Rodeo 147.44 154 *i* P **PKPab 15 40 02.9 -0.9**
ACDV Cuesta del Vie 147.59 155 *i* P **PKPbc 15 40 02.7 +0.6**
TCA Tanti 148.21 162 *i* P **PKPbc 15 40 04.1 +0.5**
APLL PUNTA DE LOS L148.42 159 *i* P **PKPbc 15 40 04.2 0.0**
PEZE Perez Zeledon, 148.43 70 PKPbc **PKPdf 15 40 02.9 +1.7**
ACLC CERRO LA CRUZ149.13 157 *i* P **PKPbc 15 40 05.9 -0.3**
CPUP Villa Florida 154.66 172 PKPbc **PKiKP 15 40 20.2 +1.5**
comp=Z,2.3nm,0.6s,baz=201,slow=2.6,SNR=4.3
OTAV Otavalo 155.26 87 *e*P **PKPdf 15 40 08.3 -3.6**
FRTB Fartura 157.50 190 *e*P **PKPdf 15 40 11.1 -3.0**
LPAZ La Paz 159.28 138 PKP **PKPdf 15 40 17.3 +0.2**
comp=Z,0.5nm,0.5s,baz=197,slow=6.2,SNR=2.6
LPAZ PKPab **PKPab 15 40 55.4 +1.2**
comp=Z,3.3nm,0.7s,baz=194,slow=5.0,SNR=8.1

IDC ***13*** *15:27:58.2±3.5, 13°.49N×125°.25E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3. 1/49, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/27, Error ellipse: s-maj=269.8km s-min=27.7km az=64.0*

NEIC ***13*** *15:28:03.2±0.8, 13°.3N±0°.1×124°.9E±0°.4, h26km±5km, mb4. 1/7, Error ellipse: s-maj=52.3km s-min=15.5km az=76.0*

ISC 13 15:28:04.0±1.1,**13°.2N**±0°.2×**124°.8E**±0°.4,**h35km**,**n11**, **σ0s67/10**,**mb4.0/8**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WB0	**Warramunga Arr**	**34.13**	**164**	P		**P**	**15 34 45.2**	**-0.5**
WB0				IAmb		IAmb	15 34 56.3	
	comp=Z,4.9nm,1.0s							
WRA	**Warramunga Arr**	**34.28**	**164**	P		**P**	**15 34 46.9**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=345,slow=9.4,SNR=9.4							
WRA	**Warramunga Arr**	**34.28**	**164**	P		**P**	**15 34 46.3**	**-0.7**
WB2	**Warramunga Arr**	**34.29**	**164**	P		**P**	**15 34 46.5**	**-0.6**
WR0	**Warramunga Arr**	**34.35**	**164**	P		**P**	**15 34 47.4**	**-0.3**
WR0				IAmb		IAmb	15 35 13.2	
	comp=Z,4.4nm,1.1s							
ASAR	**Alice Springs**	**37.74**	**166**	P		**P**	**15 35 18.0**	**+1.3**

	comp=Z,0.3nm,0.9s,baz=347,slow=11,SNR=1.3						
MK31	**Makanchi Array**	**48.80**	**322**	P	**P**	**15 36 45.7**	**0.0**
MK31				IAmb	IAmb	15 37 10.4	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**48.80**	**322**	P	**P**	**15 36 45.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=116,slow=7.4,SNR=5.8						
MAKZ	**Makanchi**	**48.99**	**322**	P	**P**	**15 36 46.9**	**-0.4**
MAKZ				IAmb	IAmb	15 36 47.1	
	comp=Z,1.8nm,1.2s						
KURBB	**Kurchatov Arra**	**52.82**	**325**	LR	LR	16 00 50.0	
	comp=Z,98nm,20.0s,baz=105,slow=37						
I21K	**Tanana**	**75.26**	**26**	P	**P**	**15 39 43.1**	**+0.1**
I21K				IAmb	IAmb	15 39 44.4	
	comp=Z,1.9nm,0.9s						

WEL 13 15:29:36.3,38°S±7′×17°6E±°, h160km±14km, M2.5/50, MLv2.5/50, Error ellipse: s-maj=0.0km s-min=0.0km az=81.6, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	**Tolley Road**	**0.14**	**315**	P	Pn	15 29 57.5	-0.3
WATZ	**Wairara**	**0.28**	**169**	P	Pn	15 29 58.9	+0.9
TWVZ	**Taurewa**	**0.66**	**196**	P	Pn	15 30 00.5	+0.7
NTVZ	**North Tongarir**	**0.67**	**179**	P	Pn	15 30 00.8	+1.0
TMVZ	**Te Maari**	**0.68**	**178**	P	Pn	15 30 00.9	+1.0
WTVZ	**West Tongariro**	**0.68**	**185**	P	Pn	15 30 00.7	+0.7
NNVZ	**North Ngauruho**	**0.70**	**183**	P	Pn	15 30 01.0	+1.0
ETVZ	**East Tongariro**	**0.70**	**177**	P	Pn	15 30 01.0	+1.0
MRHZ	**Matea Rd**	**0.71**	**124**	P	Pn	15 30 00.3	+0.3
TOZ	**Tahurua Road**	**0.71**	**349**	P	Pn	15 29 59.8	-0.1
OTVZ	**Oturere**	**0.73**	**180**	P	Pn	15 30 01.3	+1.0
NGZ	**Ngauruhoe**	**0.74**	**184**	P	Pn	15 30 01.3	+0.9
SNVZ	**South Ngauruho**	**0.75**	**182**	P	Pn	15 30 01.6	+1.2
FWVZ	**Far West T-bar**	**0.83**	**186**	P	Pn	15 30 01.8	+0.8
MUGZ	**Murupara**	**0.87**	**93**	P	Pn	15 30 01.3	+0.3
TRVZ	**Turoa**	**0.87**	**186**	P	Pn	15 30 02.0	+0.7
PKVZ	**Pokaka**	**0.89**	**196**	P	Pn	15 30 01.9	+0.6
WNVZ	**Wahianoa**	**0.90**	**183**	P	Pn	15 30 02.1	+0.7
MTVZ	**Mangateitei**	**0.96**	**189**	P	Pn	15 30 02.5	+0.7
MOVZ	**Moawhango**	**0.97**	**176**	P	Pn	15 30 02.2	+0.3
BKZ	**Black Stump Fm**	**0.98**	**139**	P	Pn	15 30 02.2	+0.3
VRZ	**Vera Road**	**0.99**	**226**	P	Pn	15 30 01.3	-0.7
MTHZ	**Maungataniwha**	**1.01**	**115**	P	Pn	15 30 02.4	+0.3
RTZ	**Ruatahuna**	**1.05**	**100**	P	Pn	15 30 02.3	-0.2
BHHZ	**Black Hill Sta**	**1.10**	**164**	P	Pn	15 30 03.1	+0.1
NMHZ	**Naumai**	**1.11**	**127**	P	Pn	15 30 04.1	+1.1
URZ	**Urewera**	**1.15**	**82**	P	Pn	15 30 02.5	-0.8
KWHZ	**Kaweka Forest**	**1.15**	**149**	P	Pn	15 30 03.9	+0.5
RAHZ	**Arahi**	**1.21**	**114**	P	Pn	15 30 04.4	+0.5
MCHZ	**McNeill Hill**	**1.29**	**142**	P	Pn	15 30 05.6	+1.0
KRHZ	**Kereru**	**1.33**	**156**	P	Pn	15 30 05.3	+0.4
ARHZ	**Aropaoanui**	**1.33**	**129**	P	Pn	15 30 05.5	+0.6
SNGZ	**Shannon Statio**	**1.36**	**105**	P	Pn	15 30 05.4	+0.1
LREZ	**Lake Rotokare**	**1.42**	**223**	P	Pn	15 30 06.6	+0.8
WAZ	**Wanganui**	**1.42**	**202**	P	Pn	15 30 06.3	+0.4
MWZ	**Matawai**	**1.47**	**87**	P	Pn	15 30 05.5	-0.8
NEZ	**North Egmont**	**1.48**	**235**	P	Pn	15 30 07.3	+0.7
PKE	**Pukeiti**	**1.52**	**239**	P	Pn	15 30 07.2	+0.4
PNHZ	**Pukenui**	**1.54**	**165**	P	Pn	15 30 07.2	+0.1
KHEZ	**Kahui Hut**	**1.55**	**236**	P	Pn	15 30 08.0	+0.7
AWAZ	**Awhitu Peninsu**	**1.59**	**329**	P	Pn	15 30 06.5	-1.1
ETAZ	**East Tamaki Re**	**1.59**	**338**	P	Pn	15 30 06.3	-1.3
TSZ	**Takapari Road**	**1.64**	**172**	P	Pn	15 30 08.0	-0.1
RUGZ	**Raukumara Rang**	**1.65**	**74**	P	Pn	15 30 06.5	-1.8
KAHZ	**Kahuranaki**	**1.65**	**146**	P	Pn	15 30 08.7	+0.4
RIGZ	**Rimuhau**	**1.67**	**100**	P	Pn	15 30 08.0	-0.4
KUZ	**Kuaotunu**	**1.69**	**1**	P	Pn	15 30 07.1	-1.5
WIAZ	**Waiheke Island**	**1.69**	**345**	P	Pn	15 30 07.2	-1.5
TKGZ	**Te Karaka**	**1.71**	**91**	P	Pn	15 30 08.7	-0.1
WTAZ	**Waiatarua**	**1.73**	**330**	P	Pn	15 30 08.2	-0.9
WPHZ	**Waipukurau**	**1.74**	**160**	P	Pn	15 30 09.0	-0.1
MBAZ	**Motutapu North**	**1.77**	**340**	P	Pn	15 30 08.0	-1.5
HAZ	**Te Kaha**	**1.80**	**69**	P	Pn	15 30 08.0	-1.8
PRGZ	**Paritu Road**	**1.80**	**106**	P	Pn	15 30 10.0	+0.1
PXZ	**Pawanui**	**1.85**	**150**	P	Pn	15 30 10.2	-0.1
RVAZ	**Riverhead Bore**	**1.87**	**332**	P	Pn	15 30 09.1	-1.5
MHGZ	**Mahia Peninsul**	**1.89**	**113**	P	Pn	15 30 08.3	-2.5
DVHZ	**Dannevirke**	**1.90**	**168**	P	Pn	15 30 10.4	-0.5
POWZ	**Post Office Ro**	**1.96**	**178**	P	Pn	15 30 10.8	-0.8
PRHZ	**Porangahau**	**1.98**	**158**	P	Pn	15 30 11.5	-0.3
CNGZ	**Carnagh Statio**	**2.00**	**92**	P	Pn	15 30 11.6	-0.4
PUZ	**Puketiti**	**2.01**	**71**	P	Pn	15 30 12.2	-1.6
ANWZ	**Angora Road**	**2.12**	**163**	P	Pn	15 30 12.9	-0.4
PRWZ	**Pori Road**	**2.13**	**174**	P	Pn	15 30 12.9	-0.7
GRZ	**Great Barrier**	**2.19**	**356**	P	Pn	15 30 12.4	-1.8
MRZ	**Mangatainoka R**	**2.23**	**182**	P	Pn	15 30 13.3	-1.3
WMGZ	**Waiomatatini S**	**2.25**	**75**	P	Pn	15 30 13.4	-1.6
MXZ	**Matakaoa Point**	**2.26**	**68**	P	Pn	15 30 13.5	-1.5
BFZ	**Birch Farm**	**2.29**	**169**	P	Pn	15 30 14.3	-1.0
TIWZ	**Tintock**	**2.35**	**176**	P	Pn	15 30 14.9	-1.2
OGWZ	**Otaki Gorge**	**2.41**	**189**	P	Pn	15 30 15.5	-1.3
HOWZ	**Holdsworth Sta**	**2.46**	**183**	P	Pn	15 30 15.8	-1.7
KIW	**Kapiti Island**	**2.50**	**193**	P	Pn	15 30 16.1	-1.8
TMWZ	**Te Maipa**	**2.68**	**176**	P	Pn	15 30 18.2	-1.8
CAW	**Cannon Point**	**2.71**	**190**	P	Pn	15 30 18.6	-1.9
DUWZ	**D'Urville Isla**	**2.72**	**209**	P	Pn	15 30 18.5	-2.2
MTW	**Mount Morrison**	**2.73**	**183**	P	Pn	15 30 18.4	-2.2
WEL	**Wellington**	**2.93**	**193**	P	Pn	15 30 21.0	-2.1
TRWZ	**Traveller**	**2.96**	**180**	P	Pn	15 30 21.7	-1.9
TCW	**Tory Channel**	**2.97**	**201**	P	Pn	15 30 21.4	-2.3
MSWZ	**Moikau Station**	**3.00**	**186**	P	Pn	15 30 21.5	-2.5
BHW	**Baring Head**	**3.03**	**191**	P	Pn	15 30 21.6	-2.8
PLWZ	**Palliser**	**3.15**	**186**	P	Pn	15 30 23.2	-2.8
NNZ	**Nelson**	**3.29**	**212**	P	Pn	15 30 24.8	-2.9
TKNZ	**Takaka Hill**	**3.33**	**218**	P	Pn	15 30 26.3	-1.9
MRNZ	**Matariki Terra**	**3.71**	**216**	P	Pn	15 30 31.1	-2.0
DSZ	**Denniston Nort**	**4.44**	**221**	P	Pn	15 30 39.9	-2.6

*NEIC **13** 15:41:21.1±1.8, 18°.21N±0°.04×67°.67W±0°.03, h19km±7km, Error ellipse: s-maj=7.0km s-min=3.0km az=202.0*
*RSPR **13** 15:41:21.7, 18°.20N×67°.67W, h7km±1km, MD3.1/15*
*OSPL **13** 15:41:22.2±0.7, 18°.22N×67°.66W, h0km±7km, ML2.8*

ISC 13 15:41:21.6±1.0, 18°.23N±0°.05×67°.66W±0°.03, h32km, n65, σ1s05/70, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.23**	**49**	*eP*	**Pb**	**15 41 27.4**	**-1.1**
IDE	**Isla Desecheo**	**0.23**	**49**	*eS*	**Sb**	**15 41 31.6**	**-1.5**
PRSN	**Puerto Rico Se**	**0.49**	**92**		**Pb**	**15 41 30.8**	**-1.2**
PRSN				IAML		15 41 43.6	
	comp=E,2μm,0.3s						
LSP	**Las Mesas**	**0.55**	**96**	*eP*	**Pb**	**15 41 32.1**	**-0.8**
LSP	**Las Mesas**	**0.55**	**96**	*eS*	**Sb**	**15 41 40.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.57**	**113**	*eP*	**Pb**	**15 41 32.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.57**	**113**	*eS*	**Sb**	**15 41 40.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.57**	**113**		**Pb**	**15 41 31.7**	**-1.5**
CRPR				IAML		15 41 42.9	
	comp=N,851nm,0.5s						
CRPR	**Cabo Rojo, PR**	**0.57**	**113**		**Sb**	**15 41 40.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.57**	**113**	*i* P	**Pb**	**15 41 32.0**	**-1.2**
CRPR				*eS*	**Sb**	**15 41 40.1**	**-1.0**
CRPR				IAML		15 41 42.8	
	comp=Z,584nm,0.4s						
AGPR	**Aguadilla, PR**	**0.57**	**66**	*eP*	**Pb**	**15 41 32.6**	**-0.6**
AGPR	**Aguadilla, PR**	**0.57**	**66**	*eS*	**Sb**	**15 41 41.3**	**+0.1**
AGPR	**Aguadilla, PR**	**0.57**	**66**		**Pb**	**15 41 32.6**	**-0.6**
AGPR					**Sb**	**15 41 41.3**	**+0.1**
AGPR	**Aguadilla, PR**	**0.57**	**66**	IAML		15 41 41.5	
	comp=E,2μm,0.3s						
AGPR	**Aguadilla, PR**	**0.57**	**66**	*i* P	**Pb**	**15 41 32.6**	**-0.6**
AGPR				*eS*	**Sb**	**15 41 40.2**	**-1.0**
AGPR				IAML		15 41 47.3	
	comp=Z,689nm,0.2s						
MLPR	**Magueyes Islan**	**0.64**	**114**	*eP*	**Pb**	**15 41 33.5**	**-0.9**
MLPR	**Magueyes Islan**	**0.64**	**114**	*eS*	**Sb**	**15 41 42.7**	**-0.4**
MLPR	**Magueyes Islan**	**0.64**	**114**		**Pb**	**15 41 33.1**	**-1.3**
MLPR				IAML		15 41 42.8	
	comp=E,580nm,0.4s						
MLPR	**Magueyes Islan**	**0.64**	**114**		**Sb**	**15 41 42.7**	**-0.4**
PCDR	**Punta Cana, DR**	**0.74**	**292**	*eP*	**Pn**	**15 41 35.1**	**-0.8**
PCDR	**Punta Cana, DR**	**0.74**	**292**	*eS*	**Sb**	**15 41 45.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.74**	**292**		**Pn**	**15 41 35.1**	**-0.8**
PCDR	**Punta Cana, DR**	**0.74**	**292**	IAML		15 41 52.7	
	comp=N,739nm,0.6s						
PCDR	**Punta Cana, DR**	**0.74**	**292**	*i* P	**Pn**	**15 41 35.2**	**-0.7**
PCDR				*eS*	**Sb**	**15 41 45.3**	**-0.8**
PCDR				IAML		15 41 53.5	
	comp=Z,338nm,1.2s						
GBPR	**Guanica, Bosqu**	**0.78**	**109**	*eP*	**Pn**	**15 41 35.8**	**-0.7**
GBPR	**Guanica, Bosqu**	**0.78**	**109**	*eS*	**Sn**	**15 41 47.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.86**	**82**	*eP*	**Pn**	**15 41 37.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.86**	**82**	*eS*	**Sn**	**15 41 49.0**	**-0.2**
AOPR	**Arecibo Observ**	**0.86**	**82**		**Pn**	**15 41 37.1**	**-0.5**
AOPR					**Sn**	**15 41 49.0**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.89**	**89**	*eP*	**Pn**	**15 41 37.6**	**-0.3**
UUPR				*eS*	**Sn**	**15 41 50.0**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.89**	**89**		**Pn**	**15 41 37.6**	**-0.3**
UUPR					**Sn**	**15 41 50.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.02**	**101**	*eP*	**Pn**	**15 41 39.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.02**	**101**	*eS*	**Sb**	**15 41 54.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.02**	**101**		**Pn**	**15 41 38.2**	**-1.4**
OBIP	**Obispado Ponce**	**1.02**	**101**		**Sb**	**15 41 54.3**	**+0.5**
CELP	**Cerrillos**	**1.04**	**99**	*eP*	**Pn**	**15 41 39.6**	**-0.3**
CELP	**Cerrillos**	**1.04**	**99**	*eS*	**Sn**	**15 41 54.0**	**+0.6**
CELP	**Cerrillos**	**1.04**	**99**		**Pn**	**15 41 39.6**	**-0.3**
CELP					**Sn**	**15 41 54.0**	**+0.6**
CELP	**Cerrillos**	**1.04**	**99**	IAML		15 41 56.3	
	comp=N,265nm,0.3s						
EMPR	**Esperanza - Ma**	**1.10**	**77**	*eP*	**Pn**	**15 41 41.2**	**+0.4**
EMPR	**Esperanza - Ma**	**1.10**	**77**	*eS*	**Sn**	**15 41 55.3**	**+0.5**
EMPR	**Esperanza - Ma**	**1.10**	**77**		**Pn**	**15 41 41.2**	**+0.4**
EMPR					**Sn**	**15 41 55.3**	**+0.5**
EMPR	**Esperanza - Ma**	**1.10**	**77**	IAML		15 42 02.0	
	comp=E,633nm,0.3s						
EMPR				IAML		15 42 02.7	
	comp=N,611nm,0.6s						
ICMP	**Isla Caja de M**	**1.13**	**108**	Pg	**Pn**	**15 41 41.7**	**+0.5**
SJG	**San Juan**	**1.44**	**95**		**Pn**	**15 41 45.9**	**+0.5**
SJG				IAML		15 42 08.9	
	comp=N,259nm,0.3s						
SJG				IAML		15 42 09.7	
	comp=N,278nm,0.3s						
GCPR	**Guaynabo City**	**1.50**	**87**		**Pn**	**15 41 46.9**	**+0.6**
GCPR				IAML		15 42 08.7	
	comp=N,216nm,0.6s						
GCPR				IAML		15 42 09.5	
	comp=E,188nm,0.3s						
PDPR	**Patillas Dam,**	**1.57**	**98**		**Pn**	**15 41 48.0**	**+0.7**
PDPR				IAML		15 42 14.6	
	comp=E,130nm,0.2s						
CBYP	**Canovanas**	**1.71**	**88**	*eP*	**Pn**	**15 41 49.5**	**+0.2**
CBYP	**Canovanas**	**1.71**	**88**	*eS*	**Sn**	**15 42 10.8**	**+0.7**
CBYP	**Canovanas**	**1.71**	**88**		**Pn**	**15 41 50.5**	**+1.2**
CBYP	**Canovanas**	**1.71**	**88**		**Sn**	**15 42 10.8**	**+0.7**
HUMP	**Col San Antoni**	**1.72**	**93**	*eP*	**Pn**	**15 41 49.0**	**-0.4**
HUMP	**Col San Antoni**	**1.72**	**93**	*eS*	**Sn**	**15 42 10.7**	**+0.5**
HUMP	**Col San Antoni**	**1.72**	**93**		**Pn**	**15 41 50.7**	**+1.3**
HUMP				IAML		15 42 15.5	
	comp=N,208nm,0.4s						
DR12	**Loma Pena Alta**	**1.73**	**289**		**Pn**	**15 41 49.9**	**+0.4**
MTP	**Monte Pirata**	**2.00**	**94**	*eP*	**Pn**	**15 41 54.7**	**+1.4**
MTP	**Monte Pirata**	**2.00**	**94**	*eS*	**Sb**	**15 42 20.9**	**-1.2**
MTP	**Monte Pirata**	**2.00**	**94**		**Sb**	**15 42 20.9**	**-1.2**
MTP	**Monte Pirata**	**2.00**	**94**		**Pn**	**15 41 55.5**	**+2.3**
MTP				IAML		15 42 31.4	
	comp=E,81nm,0.6s						
SDD	**Santo Domingo**	**2.16**	**276**	Pn	**Pn**	**15 41 56.7**	**+1.4**
SDD				IAML		15 42 37.0	
	comp=N,153nm,1.1s						
SDD				IAML		15 42 40.9	
	comp=E,124nm,2.0s						
STVI	**Saint Thomas**	**2.57**	**87**	Pn	**Pn**	**15 42 03.3**	**+2.3**
STVI				IAML		15 42 40.3	
	comp=N,53nm,0.2s						
CDVI	**St. Croix**	**2.79**	**99**	Pn	**Pn**	**15 42 07.2**	**+3.1**
SDDR	**Presa de Saban**	**3.52**	**283**		**Pn**	**15 42 17.0**	**+2.8**
SDDR	**Presa de Saban**	**3.52**	**283**	*i* P	**Pn**	**15 42 16.8**	**+2.5**
SDDR				IAML		15 43 16.5	
	comp=Z,35nm,0.6s						
BIRV	**Birongo**	**7.83**	**170**	Pn	**Pn**	**15 43 14.5**	**+1.1**

*SFS **13** 15:53:25.0, 35°.50N×3°.70W, ML2.7, ALBORAN SUR*
*MDD **13** 15:53:25.2±0.6, 35°.49N×3°.68W, h1km±4km, mb_Lg2.5/12, Error ellipse: s-maj=3.8km s-min=2.6km az=168.0*
*CNRM **13** 15:53:28.0, 35°.48N×3°.67W, h18km, ml2.8*

ISC 13 15:53:26.3±1.1, 35°.58N±0°.02×3°.63W±0°.02, h10km±9km, n39, σ1s22/65, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.44**	**215**	P	**Pg**	**15 53 35.0**	**-0.1**
PALE	**Palemas**	**0.44**	**215**	P	**Pg**	**15 53 35.0**	**-0.1**
PALE				S	**Sg**	**15 53 41.3**	**+0.5**
EALB	**Alboran**	**0.60**	**53**	Pg	**Pg**	**15 53 38.6**	**+0.6**
EALB				Sg	**Sb**	**15 53 48.7**	**+1.3**
EALB				*i* Vmb_Lg		15 53 50.9	
EMEL	**Melilla**	**0.62**	**117**	Pg	**Pg**	**15 53 37.9**	**-0.5**
EMEL				Sg	**Sg**	**15 53 45.9**	**-0.5**
GOG	**Mont Gurugu**	**0.63**	**125**	P	**Pg**	**15 53 38.1**	**-0.5**
GOG				S	**Sg**	**15 53 46.0**	**-0.8**
GOG	**Mont Gurugu**	**0.63**	**125**	P	**Pg**	**15 53 38.1**	**-0.5**
GOG				S	**Sg**	**15 53 46.0**	**-0.8**
TAF	**Taforalt**	**1.26**	**127**	P	**Pn**	**15 53 50.0**	**0.0**
TAF	**Taforalt**	**1.26**	**127**	P	**Pn**	**15 53 50.0**	**0.0**
TAF				S	**Sg**	**15 54 07.7**	**+1.0**
ELGU	**Los Guajares,**	**1.28**	**0**	Pg	**Pn**	**15 53 49.7**	**-0.7**
ELGU				Sn	**Sb**	**15 54 07.1**	**-0.1**
ELGU				*i* Vmb_Lg		15 54 09.0	
EMAL	**Malaga-Limoner**	**1.34**	**331**	P	**Pn**	**15 53 50.5**	**-0.7**
EMAL				S	**Sn**	**15 54 07.2**	**-1.9**
EMIJ	**Mijas**	**1.35**	**317**	Pn	Pn	15 53 49.6	-1.7
EMIJ				Sn	**Sn**	**15 54 07.2**	**-2.0**
EMIJ				*i* Vmb_Lg		15 54 15.1	
SMIR	**Smir Dam**	**1.43**	**275**	P	Pn	15 53 50.7	-1.6
SMIR				S	**Sg**	**15 54 12.5**	**+0.2**
EBER	**Berja**	**1.44**	**24**	Pn	**Pn**	**15 53 52.6**	**-0.1**
EBER				Sn	**Sb**	**15 54 12.9**	**+1.0**
EBER				*i* Vmb_Lg		15 54 21.8	
CEU	**Ceuta**	**1.45**	**283**	P	Pn	15 53 50.0	-2.6
CEU				S	Sn	15 54 05.4	-6.3
CHEFC	**Chefchaouen**	**1.48**	**252**	P	**Pn**	**15 53 53.3**	**+0.3**
CHEFC	**Chefchaouen**	**1.48**	**252**	P	**Pn**	**15 53 53.3**	**+0.3**
CHEFC				S	**Sn**	**15 54 11.7**	**-0.8**
JBK	**JBK**	**1.52**	**145**	P	**Pn**	**15 53 54.0**	**+0.2**
JBK	**JBK**	**1.52**	**145**	P	**Pn**	**15 53 54.0**	**+0.2**
JBK				S	**Sn**	**15 54 10.8**	**-2.9**
EGOR	**Sierra Gorda,**	**1.57**	**346**	Pn	Pn	15 53 53.1	-1.3
EGOR				Sn	**Sn**	**15 54 14.8**	**-0.2**
EGOR				*i* Vmb_Lg		15 54 25.8	
EQUE	**Quentar**	**1.63**	**5**	Pn	**Pn**	**15 53 54.3**	**-0.9**
EQUE				Sn	**Sn**	**15 54 15.9**	**-0.3**
EQUE				*i* Vmb_Lg		15 54 29.0	
ENIJ	**Nijar**	**1.80**	**39**	Pn	Pn	15 53 56.8	-1.7
ENIJ				Sn	**Sn**	**15 54 21.3**	**+0.9**
ENIJ				*i* Vmb_Lg		15 54 25.6	
LCRM	**LCR**	**2.15**	**209**	P	Pn	15 54 03.4	+1.1
LCRM				S	**Sn**	**15 54 28.3**	**-0.8**
EQES	**Quesada**	**2.26**	**11**	Pn	**Pn**	**15 54 05.5**	**+1.6**
EQES				Sn	**Sn**	**15 54 32.4**	**+0.5**
EQES				*i* Vmb_Lg		15 54 37.1	
IFR	**Ifrane**	**2.40**	**211**	P	**Pn**	**15 54 06.3**	**+0.5**
IFR				S	**Sn**	**15 54 32.1**	**-3.4**
EADA	**Adamuz**	**2.69**	**344**	Pn	**Pn**	**15 54 10.2**	**+0.5**
EADA				Sn	**Sn**	**15 54 42.1**	**-0.2**
EADA				*i* Vmb_Lg		15 54 51.0	
TDRA	**Tendrara**	**2.86**	**152**	P	Pn	15 54 14.3	+2.1
TDRA				S	**Sn**	**15 54 46.4**	**-0.4**
MD31	**MD31**	**2.87**	**199**	P	**Pn**	**15 54 12.5**	**+0.4**
MD31				S	**Sn**	**15 54 46.2**	**-0.6**
ECAB	**El Cabril**	**2.87**	**331**	Pn	**Pn**	**15 54 11.6**	**-0.6**
ECAB				Sn	**Sn**	**15 54 45.0**	**-1.8**
ECAB				*i* Vmb_Lg		15 54 58.6	
MDT	**Midelt**	**2.88**	**197**	P	**Pn**	**15 54 13.0**	**+0.7**
MDT				S	**Sn**	**15 54 47.5**	**+0.4**
ZHG	**ZHG**	**3.27**	**230**	P	**Pn**	**15 54 19.1**	**+1.3**
ZHG				S	**Sn**	**15 54 58.6**	**+1.8**
EMIN	**Mina Concepcio**	**3.28**	**313**	Pn	**Pn**	**15 54 16.9**	**-0.8**
EMIN				Sn	**Sn**	**15 54 56.0**	**-0.8**
EMIN				*i* Vmb_Lg		15 54 58.9	
ETOB	**Tobarra**	**3.48**	**28**	Pn	**Pn**	**15 54 21.5**	**+0.9**
ETOB				Sn	**Sn**	**15 55 02.9**	**+1.0**
EGRO	**El Granado**	**3.66**	**303**	Pn	**Pn**	**15 54 23.0**	**0.0**
EGRO				Sn	**Sn**	**15 55 03.8**	**-2.5**
PVAQ	**Vaqueiros**	**3.76**	**300**	P	**Pn**	**15 54 24.1**	**-0.3**
PVAQ				S	**Sn**	**15 55 12.6**	**+3.9**
PAB	**San Pablo**	**4.00**	**352**	Pn	**Pn**	**15 54 28.6**	**+0.9**
PAB				Sn	**Sn**	**15 55 14.8**	**+0.1**
ESDC	**Sonseca Array**	**4.09**	**356**	Pn	**Pn**	**15 54 29.8**	**+0.8**
ESDC				Sn	**Sn**	**15 55 16.5**	**-0.5**
EBAD	**Badajoz**	**4.16**	**321**	Pn	**Pn**	**15 54 29.3**	**-0.7**
EBAD				Sn	**Sn**	**15 55 17.2**	**-1.4**
OUZM	**OUZ**	**5.35**	**210**	P	Pn	15 54 47.5	+1.2
OUZM				S	**Sn**	**15 55 49.2**	**+1.2**
ETOR	**Torete**	**5.37**	**13**	Pn	**Pn**	**15 54 46.2**	**-0.4**
ETOR				Sn	**Sn**	**15 55 45.5**	**-3.1**

*NIC **13** 16:04:14.8±0.0, 35°.50N×31°.26E, h16km, Ml2.8/5*
*ISK **13** 16:04:14.9, 35°.55N×31°.50E, h7km, ML2.4/13*
*DDA **13** 16:04:15.8±0.0, 35°.72N×31°.37E, h7km±3km, ML2.2*

ISC 13 16:04:14.3±1.5, 35°.55N±0°.03×31°.38E±0°.04, h5km±11km, n32, σ0s98/45, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.94**	**124**	P	**Pg**	**16 04 32.9**	**+0.4**
AKMS				S	**Sn**	**16 04 48.4**	**+0.1**
AKMS				AML	AML	16 04 52.3	
	1.1nm,0.5s						
AKMS				AML	AML	16 04 52.3	
	1.1nm,0.5s						
AKMS				AML	AML	16 04 53.1	
	1.1nm,0.6s						
AKMS				AML	AML	16 04 53.1	
	1.1nm,0.6s						
GAZI	**Gazipasa**	**1.03**	**48**	PG	**Pg**	**16 04 33.5**	**-0.5**
GAZI				SG	**Sg**	**16 04 47.4**	**0.0**
GAZI	**Gazipasa**	**1.03**	**48**	P	**Pg**	**16 04 33.5**	**-0.5**
GAZI				*i* AML	AML	16 04 47.0	
	comp=E,67nm,0.3s						
GAZI				*i* AML	AML	16 04 47.0	
	comp=N,71nm,0.9s						
ALFC	**Alefka**	**1.07**	**111**	P	**Pg**	**16 04 35.6**	**+0.7**
ALFC				S	**Sn**	**16 04 52.2**	**+0.8**
ALFC				AML	AML	16 04 54.8	
	0.8nm,0.2s						
ALFC				AML	AML	16 04 54.8	
	0.8nm,0.2s						
ALFC				AML	AML	16 04 55.2	
	1.0nm,0.3s						
ALFC				AML	AML	16 04 55.2	
	1.0nm,0.3s						
AKUM	**Antalya-Kumluc**	**1.14**	**313**	P	**Pg**	**16 04 35.8**	**-0.4**
AKUM				S	**Sn**	**16 04 53.8**	**+0.7**
AKUM				*i* AML	AML	16 04 59.0	
	comp=E,50nm,0.6s						
NATA	**Nata**	**1.24**	**128**	P	**Pn**	**16 04 38.2**	**-0.3**
NATA				S	**Sn**	**16 04 55.9**	**+0.3**
NATA				AML	AML	16 05 03.4	
	1.0nm,0.3s						
NATA				AML	AML	16 05 03.4	
	1.0nm,0.3s						
NATA				AML	AML	16 05 04.9	
	1.3nm,0.4s						
NATA				AML	AML	16 05 04.9	
	1.3nm,0.4s						
KEPZ	**Antalya-Kepez**	**1.36**	**8**	P	**Pn**	**16 04 37.6**	**-2.6**
KEPZ				S	**Sb**	**16 04 55.4**	**-2.8**
KEPZ				*i* AML	AML	16 04 59.0	
	comp=

PALZ S **Sg** **16 14 57.1 -0.3**
PALZ AML AML
comp=E,795μm,0.7s
PALZ AML AML
comp=N,884μm,1.6s
VULT Monte Vulture 0.75 211 P **Pg** **16 14 49.5 -0.6**
VULT S **Sg** **16 14 59.5 -0.5**
VULT AML AML
comp=E,1285μm,0.3s
VULT AML AML
comp=N,1400μm,0.3s
VULT AML AML
comp=N,1385μm,0.3s
VULT AML AML
comp=E,1290μm,0.3s
VULT AML AML
comp=E,1360μm,0.3s
VULT AML AML
comp=N,1395μm,0.3s
MELA Melanico ??? S 0.75 279 P **Pg** **16 14 49.5 -0.6**
MELA S **Sb** **16 15 00.6 +0.7**
MELA AML AML
comp=E,2200μm,1.0s
MELA AML AML
comp=N,2245μm,1.5s
MELA AML AML
comp=N,2250μm,1.5s
MELA AML AML
comp=N,2240μm,1.5s
MELA AML AML
comp=E,2200μm,1.0s
MELA AML AML
comp=E,2235μm,1.0s
AMUR Altamura 0.78 152 P **Pg** **16 14 50.3 -0.4**
AMUR S **Sb** **16 15 01.3 +0.5**
AMUR AML AML
comp=N,622μm,0.4s
AMUR AML AML
comp=E,450μm,0.2s
ACER Acerenza 0.82 189 P **Pg** **16 14 50.8 -0.7**
ACER S **Sb** **16 15 02.4 +0.4**
ACER AML AML
comp=E,1280μm,0.9s
ACER AML AML
comp=N,708μm,0.7s
ACER AML AML
comp=N,677μm,0.7s
ACER AML AML
comp=N,708μm,0.7s
ACER AML AML
comp=E,1280μm,0.9s
ACER AML AML
comp=E,1310μm,0.4s
BIOG Biogem 0.84 242 P **Pb** **16 14 52.2 +0.6**
CAFE Carife 0.88 230 P **Pg** **16 14 51.7 -0.8**
CAFE S **Sb** **16 15 04.4 +0.8**
CAFE AML AML
comp=E,685μm,0.2s
CAFE AML AML
comp=N,430μm,0.3s
CAFE AML AML
comp=E,698μm,0.2s
CAFE AML AML
comp=E,684μm,0.2s
CAFE AML AML
comp=N,430μm,0.3s
CAFE AML AML
comp=N,489μm,0.4s
CIGN Sant'Elia a Pi 0.91 274 P **Pg** **16 14 52.8 -0.4**
CIGN S **Sb** **16 15 05.5 +0.9**
CIGN AML AML
comp=N,448μm,0.6s
CIGN AML AML
comp=E,463μm,1.2s
GATE Gambatesa 0.91 265 P **Pb** **16 14 53.3 +0.5**
GATE AML AML
comp=E,754μm,0.3s
GATE AML AML
comp=N,867μm,0.7s
GATE AML AML
comp=E,406μm,0.5s
GATE AML AML
comp=N,849μm,0.7s
GATE AML AML
comp=N,866μm,0.7s
GATE AML AML
comp=N,850μm,0.7s
GATE AML AML
comp=E,754μm,0.3s
GATE AML AML
comp=E,406μm,0.5s
SNAL S. Angelo Dei 0.96 226 P **Pg** **16 14 52.4 -1.7**
SNAL AML AML
comp=E,408μm,0.7s
SNAL AML AML
comp=N,560μm,0.6s
SNAL AML AML
comp=E,447μm,0.7s
SNAL AML AML
comp=N,561μm,0.6s
MRB1 Monte Rocchett 0.98 242 P **Pg** **16 14 54.0 -0.6**
MRB1 AML AML
comp=E,594μm,0.5s
MRB1 AML AML
comp=N,526μm,1.2s
MRB1 AML AML
comp=N,500μm,1.0s
MRB1 AML AML
comp=E,594μm,0.5s
MRB1 AML AML
comp=N,526μm,1.2s
MRB1 AML AML
comp=E,607μm,0.5s
MRB1 AML AML
comp=N,500μm,1.0s
MATE Matera 1.05 155 P **Pg** **16 14 55.0 -0.7**
MATE S **Sb** **16 15 09.2 +0.8**
MATE AML AML
comp=E,594μm,0.3s
MATE AML AML
comp=N,637μm,0.3s
PSB1 Pescosannita 1.05 250 P **Pg** **16 14 54.6 -1.3**
PSB1 AML AML
comp=E,150μm,0.4s
PSB1 AML AML
comp=N,155μm,1.0s
PSB1 AML AML
comp=E,151μm,0.4s
NOCI Noci 1.08 138 P **Pb** **16 14 55.2 -0.4**
NOCI S **Sb** **16 15 10.5 +1.2**
NOCI AML AML
comp=E,821μm,0.4s
NOCI AML AML
comp=N,1120μm,0.4s
LTRZ Laterza 1.13 152 P **Pb** **16 14 56.5 +0.1**
BSSO Busso 1.15 268 P **Pb** **16 14 56.5 -0.3**
BSSO AML AML
comp=E,231μm,0.4s
BSSO AML AML
comp=N,98μm,0.3s
BSSO AML AML
comp=E,98μm,0.4s
BSSO AML AML
comp=N,224μm,0.3s
TRIV Trivento 1.19 279 P **Pb** **16 14 57.8 +0.3**
CRAC Craco 1.25 169 P **Pn** **16 14 58.8 +0.7**
CRAC AML AML
comp=E,1045μm,1.3s
CRAC AML AML
comp=N,658μm,0.4s
CDRU Civita di Ruta 1.27 209 P **Pn** **16 14 58.0 -0.4**
LSTV Lastovo 1.30 26 *e*Pg **Pn** **16 15 00.2 +1.5**
LSTV Sg **Sb** **16 15 15.2 -0.6**
CMPR Campora 1.42 206 P **Pn** **16 14 59.5 -0.9**
CMPR AML AML
comp=N,101μm,0.4s
CMPR AML AML
comp=N,101μm,0.4s
CMPR AML AML
comp=E,140μm,1.5s
LPEL Lama dei Pelig 1.52 288 P **Pb** **16 15 03.8 +0.7**
LPEL AML AML
comp=N,349μm,1.6s
LPEL AML AML
comp=E,415μm,0.2s
HVAR Hvar 1.60 9 *e*Pn **Pn** **16 15 04.4 +1.6**
HVAR Sg **Sn** **16 15 20.7 -2.3**

MESG Mesagne 1.65 127 P **Pb** **16 15 06.2 +0.9**
INTR Introdacqua 1.71 285 P **Pn** **16 15 05.1 +0.7**
INTR AML AML
comp=E,144μm,1.1s
INTR AML AML
comp=N,378μm,0.5s
STON Ston 1.73 42 *e*Pn **Pn** **16 15 05.2 +0.6**
STON Sn **Sn** **16 15 25.5 -0.7**
DBRK Dubrovnik 1.85 54 *e*Pn **Pb** **16 15 09.6 +0.9**
RICI Ricice 2.04 21 *e*Pn **Pn** **16 15 08.8 -0.1**
RICI Sn **Sn** **16 15 32.6 -1.3**
ZIRJ Zirje 2.08 350 *e*Pn **Pn** **16 15 08.2 -1.3**
ZIRJ Sn **Sn** **16 15 33.0 -2.0**
MORI Morici 2.29 352 *e*Pn **Pn** **16 15 11.6 -0.7**
MORI Sn **Sn** **16 15 38.9 -1.1**
DUGI Dugi Otok 2.52 342 *e*Pn **Pn** **16 15 14.6 -0.9**
RMP Rome, Mte Porz 2.57 276 P **Pg** **16 15 23.9 -0.8**
CSP1 Cessapalombo 2.63 306 P **Pn** **16 15 17.7 +0.7**
VLO Vlora 2.79 113 S **Sn** **16 15 53.0 +0.6**
ATFO Monte Foce - G 3.16 305 S **Sn** **16 16 04.0 +2.2**
BRJN Brijuni 3.73 333 *e*Pn **Pn** **16 15 31.0 -1.1**
OSSC Osservatorio P 4.08 300 P **Pn** **16 15 39.0 +2.0**
OSSC AML AML
comp=E,53μm,1.6s
OSSC AML AML
comp=N,44μm,1.6s
TRIF Trifonti 4.15 293 S **Sb** **16 16 35.0 -2.9**
LEOD Capriano del C 5.82 314 ⇑P **Pn** **16 16 05.0 +4.2**

*IDC **13** 16:25:32.6±1.6, 15°.37S×177°.45W, h405km±26km, mb3.1/7, mb1 3.5/9, mb1mx3.2/35, mbtmp3.9/9, Error ellipse: s-maj=108.5km s-min=14.5km az=155.0*
ISC 13 16:25:32.7±0.9, 15°.2S±0°.4×177.4W±0°.2, h400km, n9, σ1§33/9, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**240**	P		**Pn**	**16 26 55.9**	**+1.1**
	6.9nm,0.3s,baz=70,slow=12,SNR=26							
AFI	**Afiamalu**	**5.62**	**77**	P		**Pn**	**16 27 00.6**	**-0.8**
	5.2nm,0.3s,baz=270,slow=20,SNR=11							
WRA	**Warramunga Arr**	**46.10**	**257**	P		**P**	**16 33 17.5**	**-1.8**
	0.4nm,0.4s,baz=82,slow=6.1,SNR=38							
ASAR	**Alice Springs**	**46.47**	**252**	P		**P**	**16 33 20.6**	**-1.5**
	8.1nm,0.6s,baz=86,slow=7.1,SNR=211							
FITZ	**Fitzroy Crossi**	**54.44**	**258**	P		**P**	**16 34 20.8**	**-0.2**
	0.9nm,0.6s,baz=83,slow=8.1,SNR=1.2							
NVAR	**Mina Array Bea**	**76.85**	**44**	P		**P**	**16 36 41.4**	**-0.9**
	0.4nm,0.6s,baz=224,slow=9.7,SNR=3.1							
ILAR	**Eielson Array**	**83.09**	**13**	P		**P**	**16 37 14.7**	**+0.3**
	0.5nm,0.6s,baz=224,slow=5.5,SNR=6.7							
TXAR	**Lajitas Array**	**83.77**	**57**	P		**P**	**16 37 20.2**	**+1.4**
	0.5nm,0.6s,baz=229,slow=9.5,SNR=4.9							
PDAR	**Pinedale Array**	**84.77**	**43**	P		**P**	**16 37 24.2**	**+0.6**
	0.2nm,0.7s,baz=220,slow=5.4,SNR=1.7							

*IDC **13** 16:26:02.7±1.9, 0°.17N×126°.30E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/36, mbtmp3.3/3, Error ellipse: s-maj=177.4km s-min=24.9km az=65.0*
*DJA **13** 16:26:07.4±0.9, 0°.N±6°.×12°.7E±°, h35km±25km, M2.9/6, MLv2.9/6*
ISC 13 16:26:08.3±1.1, 0°.33N±0°.07×126°.79E±0°.07, h50km, n7, σ0§96/9, mb3.1/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.72**	**52**	P		**Pn**	**16 26 21.4**	**-1.0**
TNTI				S		**Sn**	**16 26 32.8**	**+0.2**
LBMI	**Labuha**	**1.19**	**144**	P		**Pn**	**16 26 28.3**	**-0.4**
LBMI				S		**Sn**	**16 26 44.4**	**+0.6**
SANI	**Sanana**	**2.50**	**199**	P		**Pn**	**16 26 45.2**	**-1.3**
KMSI	**Cibinong**	**2.82**	**275**	P		**Pn**	**16 26 50.6**	**-0.3**
WRA	**Warramunga Arr**	**21.46**	**160**	P		**P**	**16 30 52.2**	**-0.5**
	0.4nm,0.5s,baz=337,slow=11,SNR=10							
ASAR	**Alice Springs**	**24.83**	**164**	P		**P**	**16 31 27.5**	**+1.4**
	0.2nm,0.3s,baz=344,slow=12,SNR=11							
MKAR	**Makanchi Array**	**60.39**	**326**	P		**P**	**16 36 12.9**	**+0.4**
	0.3nm,0.5s,baz=123,slow=8.5,SNR=8.3							

*TAP **13** 17:01:17.2, 24°.47N×122°.28E, h6km±1km, ML2.6, C*
*JMA **13** 17:01:18.4, 24°.41N×122°.30E, h36km, M2.3*
ISC 13 17:01:18.1±1.3, 24°.46N±0°.03×122°.30E±0°.02, h21km±4km, n46, σ0§83/72, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.44**	**289**	P		**Pb**	**17 01 25.9**	**-1.1**
	baz=290							
TWC				*e*S		**Sb**	**17 01 33.5**	**+0.3**
	baz=290							
EWUT	**Wuta**	**0.48**	**268**	P		**Pb**	**17 01 27.4**	**-0.5**
	baz=266							
EWUT				S		**Sb**	**17 01 34.4**	**0.0**
	baz=266							
ENA	**Nanau**	**0.52**	**266**	P		**Pb**	**17 01 27.9**	**-0.6**
	baz=264							
ENA				*e*S		**Sb**	**17 01 34.6**	**-0.9**
	baz=264							
NDS	**Dongshan**	**0.56**	**288**	P		**Pb**	**17 01 28.5**	**-0.9**
	baz=287							
NDS				*e*S		**Sb**	**17 01 37.3**	**+0.3**
	baz=287							
NTC	**Toucheng**	**0.58**	**312**	P		**Pb**	**17 01 28.9**	**-0.7**
	baz=313							
JYNG	**Yonagunijimaku**	**0.58**	**91**	P		**Pb**	**17 01 29.9**	**+0.2**
JYNG				S		**Sn**	**17 01 39.2**	**-0.8**
TWE	**Neicheng**	**0.63**	**294**	P		**Pb**	**17 01 29.9**	**-0.7**
	baz=294							
TWE				*e*S		**Sb**	**17 01 39.5**	**+0.5**
	baz=294							
YOJ	**Yonaguni jima**	**0.64**	**90**	P		**Pb**	**17 01 30.9**	**+0.2**
YOJ				S		**Sn**	**17 01 41.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.64**	**90**	P		**Pb**	**17 01 31.0**	**+0.2**
	baz=90							
YOJ				*e*S		**Sn**	**17 01 41.3**	**-0.2**
	baz=90							
TIPB	**Shuangxi**	**0.67**	**319**	*e*P		**Pb**	**17 01 30.9**	**-0.3**
	baz=320							
TIPB				*e*S		**Sb**	**17 01 40.4**	**+0.4**
	baz=320							
ETL	**Fush Village**	**0.69**	**244**	*e*S		**Sn**	**17 01 41.5**	**-1.3**
	baz=242							
ENTT	**Nioudou**	**0.69**	**285**	*e*P		**Pb**	**17 01 31.0**	**-0.6**
	baz=284							
ENTT				*e*S		**Sn**	**17 01 41.9**	**-0.9**
	baz=284							
NACB	**Ninganchiao**	**0.71**	**246**	P		**Pn**	**17 01 31.8**	**-1.1**
	baz=244							
NACB				*e*S		**Sn**	**17 01 41.9**	**-1.3**
	baz=244							
LATG	**Datong**	**0.71**	**276**	*e*P		**Pb**	**17 01 31.3**	**-0.6**
	baz=275							
LATG				*e*S		**Sb**	**17 01 41.3**	**0.0**
	baz=275							
FUSB	**Fushanzhiwuyua**	**0.72**	**294**	P		**Pb**	**17 01 31.7**	**-0.3**
	baz=294							
NDT	**Datong Townshi**	**0.73**	**281**	*e*P		**Pb**	**17 01 31.8**	**-0.4**
	baz=280							
NDT				*e*S		**Sn**	**17 01 42.7**	**-1.1**
	baz=280							
SXI1	**Grass Mountain**	**0.74**	**328**	*e*P		**Pn**	**17 01 33.3**	**-0.1**
	baz=329							
SXI1				*e*S		**Sb**	**17 01 42.9**	**+0.9**
	baz=329							
TWD	**Chiawan**	**0.75**	**240**	*e*P		**Pn**	**17 01 32.7**	**-0.7**
	baz=237							
ETLH	**Xiulin Townshi**	**0.79**	**251**	*e*P		**Pn**	**17 01 33.4**	**-0.7**
	baz=250							
ETLH				*e*S		**Sb**	**17 01 43.2**	**-0.3**
	baz=250							
NWLT	**Wulai**	**0.79**	**293**	*e*P		**Pn**	**17 01 33.3**	**-0.7**
	baz=293							
TWA	**Mucha**	**0.83**	**308**	*e*P		**Pn**	**17 01 35.1**	**+0.5**
	baz=309							
TWA				*e*S		**Sn**	**17 01 45.9**	**-0.3**
	baz=309							
NNSB	**Datong**	**0.84**	**268**	P		**Pn**	**17 01 34.3**	**-0.5**
	baz=267							
NNSB				*e*S		**Sn**	**17 01 45.8**	**-0.7**
	baz=267							
NNS	**Nan Shan**	**0.85**	**269**	*e*P		**Pn**	**17 01 34.1**	**-0.8**
	baz=267							
NNS				*e*S		**Sb**	**17 01 44.9**	**-0.4**
	baz=267							
NHDH	**Xindian Distri**	**0.86**	**305**	*e*P		**Pn**	**17 01 34.8**	**-0.2**
	baz=305							
NHDH				*e*S		**Sn**	**17 01 47.1**	**+0.1**
	baz=305							
YHNB	**Yeheng**	**0.87**	**284**	*e*P		**Pb**	**17 01 34.4**	**-0.1**
	baz=283							
YHNB				*e*S		**Sn**	**17 01 47.3**	**0.0**
	baz=283							
NSK	**Sanguang**	**0.89**	**284**	*e*P		**Pn**	**17 01 35.1**	**-0.3**
	baz=283							
NSK				*e*S		**Sn**	**17 01 46.9**	**-0.7**
	baz=283							
FUSS	**Fushou**	**0.99**	**258**	*e*P		**Pn**	**17 01 37.3**	**+0.3**
	baz=256							
TWS1	**Kuangyinshan**	**1.02**	**308**	*e*P		**Pn**	**17 01 38.4**	**+1.2**
	baz=309							
TWS1				*e*S		**Sn**	**17 01 53.0**	**+2.0**
	baz=309							
ESL	**Shilin**	**1.03**	**231**	*e*P		**Pn**	**17 01 38.2**	**+1.0**
	baz=229							
NFF	**Wufeng Townshi**	**1.09**	**279**	*e*P		**Pb**	**17 01 39.4**	**+1.1**
	baz=278							
CHGB	**Renai**	**1.11**	**249**	*e*P		**Pb**	**17 01 39.4**	**+0.7**
	baz=247							
CHGB				*e*S		**Sn**	**17 01 55.3**	**+2.0**
	baz=247							
EGFH	**Guangfu**	**1.13**	**226**	*e*P		**Pb**	**17 01 39.0**	**+0.1**
	baz=224							
OWD	**Renai**	**1.15**	**244**	*e*P		**Pb**	**17 01 40.4**	**+1.0**
	baz=242							
WUSB	**Renai**	**1.18**	**247**	*e*P		**Pb**	**17 01 41.0**	**+1.2**
	baz=245							
LIOB	**Emei**	**1.19**	**279**	*e*P		**Pb**	**17 01 41.1**	**+1.1**
	baz=278							
WHP	**Taichung City**	**1.25**	**262**	*e*P		**Pb**	**17 01 43.0**	**+1.9**
	baz=261							
HGSD	**Ruisui**	**1.26**	**220**	*e*P		**Pb**	**17 01 41.6**	**+0.5**
	baz=218							
IRIF	**Iriomote-Funau**	**1.31**	**95**	P		**Pb**	**17 01 41.5**	**-0.4**
IRIF				*e*S		**Sn**	**17 01 57.6**	**-0.3**
EHY	**Hungye**	**1.31**	**223**	*e*P		**Pb**	**17 01 41.8**	**-0.2**
	baz=221							
SSLB	**Suanglung**	**1.41**	**242**	*e*P		**Pb**	**17 01 44.9**	**+1.2**
	baz=240							
YULB	**Yu-li**	**1.41**	**221**	*e*P		**Pb**	**17 01 42.9**	**-0.8**
	baz=219							
EYUL	**Yuli**	**1.43**	**219**	*e*P		**Pb**	**17 01 44.8**	**+0.7**
	baz=218							
TYC	**Yuchr**	**1.44**	**247**	*e*P		**Pb**	**17 01 46.3**	**+2.2**
	baz=246							
JKRS	**Kuro-shima**	**1.57**	**98**	P		**Pn**	**17 01 45.3**	**+0.6**
JKRS				*e*S		**Sn**	**17 02 04.2**	**-0.2**
JIJ	**Ishigaki jima**	**1.68**	**93**	P		**Pn**	**17 01 45.9**	**-0.3**
JIJ				S		**Sn**	**17 02 06.5**	**-0.6**
JISG	**Ishigakijimahi**	**1.83**	**86**	*e*S		**Sn**	**17 02 10.8**	**-0.1**

*MDD **13** 18:25:31.1±0.3, 35°.70N×3°.64W, h0km, mb_Lg2.4/17, Error ellipse: s-maj=3.0km s-min=2.1km az=4.0*
*SFS **13** 18:25:31.0, 35°.70N×3°.60W, ML2.5, ALBORAN SUR*
*CNRM **13** 18:25:34.0, 35°.63N×3°.58W, h26km, ml2.5*
ISC 13 18:25:31.3±1.2, 35°.71N±0°.02×3°.61W±0°.02, h14km±10km, n34, σ1§49/68, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.52**	**64**	Pg		**Pb**	**18 25 42.6**	**+0.4**
EALB				Sg		**Sb**	**18 25 50.0**	**+0.4**
EALB				*i* Vmb_Lg			18 25 52.2	
PALE	**Palemas**	**0.56**	**208**	P		**Pn**	**18 25 44.4**	**-0.5**
PALE				S		**Sb**	**18 25 51.6**	**+0.8**
EMEL	**Melilla**	**0.68**	**127**	Pg		**Pg**	**18 25 44.2**	**-0.3**
EMEL				Sg		**Sb**	**18 25 53.1**	**-0.9**
GOG	**Mont Gurugu**	**0.70**	**134**	P		**Pb**	**18 25 45.0**	**-0.3**
GOG				S		**Sb**	**18 25 54.9**	**0.0**
ELGU	**Los Guajares,**	**1.15**	**359**	Pg		**Pb**	**18 25 51.9**	**-1.1**
ELGU				Sg		**Sb**	**18 26 08.0**	**+0.1**
ELGU				*i* Vmb_Lg			18 26 12.1	
EMAL	**Malaga-Limoner**	**1.24**	**328**	P		**Pn**	**18 25 52.7**	**-1.4**
EMAL				S		**Sb**	**18 26 09.5**	**-0.8**
EMIJ	**Mijas**	**1.27**	**312**	Pg		**Pn**	**18 25 53.6**	**-1.0**
EMIJ				Sg		**Sb**	**18 26 10.3**	**-0.8**
EMIJ				*i* Vmb_Lg			18 26 10.7	
EBER	**Berja**	**1.32**	**26**	Pg		**Pn**	**18 25 54.8**	**-0.7**
EBER				Sg		**Sg**	**18 26 13.9**	**0.0**
EBER				*i* Vmb_Lg			18 26 30.0	
TAF	**Taforalt**	**1.33**	**132**	P		**Pb**	**18 25 55.5**	**-0.5**
TAF				S		**Sb**	**18 26 11.9**	**-1.1**
SMIR	**Smir Dam**	**1.44**	**269**	P		**Pg**	**18 25 58.8**	**-0.2**
SMIR				S		**Sg**	**18 26 17.1**	**-0.6**
CEU	**Ceuta**	**1.44**	**278**	P		**Pn**	**18 25 54.5**	**-2.5**
CEU				S		**Sn**	**18 26 11.7**	**-3.9**
EGOR	**Sierra Gorda,**	**1.45**	**344**	Pn		**Pn**	**18 25 57.0**	**-0.2**
EGOR				Sn		**Sb**	**18 26 17.0**	**+0.5**
EGOR				*i* Vmb_Lg			18 26 25.5	
EQUE	**Quentar**	**1.50**	**5**	Pn		**Pn**	**18 25 57.9**	**+0.1**
EQUE				Sn		**Sb**	**18 26 18.3**	**+0.5**
EQUE				*i* Vmb_Lg			18 26 33.7	
CHEFC	**Chefchaouen**	**1.54**	**247**	P		**Pg**	**18 26 02.5**	**+1.7**
CHEFC				S		**Sb**	**18 26 19.8**	**+0.9**
JBK	**JBK**	**1.62**	**148**	P		**Pn**	**18 25 58.8**	**-0.8**
JBK				S		**Sn**	**18 26 18.4**	**-1.9**
EJIF	**Jimena Fronter**	**1.67**	**297**	Pn		**Pn**	**18 26 00.6**	**+0.5**
EJIF				Sn		**Sn**	**18 26 20.9**	**-0.5**
ENIJ	**Nijar**	**1.69**	**42**	Pn		**Pn**	**18 26 01.0**	**+0.5**
ENIJ				Sn		**Sn**	**18 26 20.8**	**-1.1**
ENIJ				*i* Vmb_Lg			18 26 35.0	
EQES	**Quesada**	**2.13**	**12**	Pn		**Pn**	**18 26 04.5**	**-2.0**
EQES				Sn		**Sn**	**18 26 34.6**	**+1.7**
EQES				*i* Vmb_Lg			18 26 40.7	
ESPR	**Espera**	**2.15**	**303**	Pn		**Pn**	**18 26 06.7**	**0.0**
ESPR				Sn		**Sn**	**18 26 33.4**	**+0.3**
ESPR				*i* Vmb_Lg			18 26 51.1	
IFR	**Ifrane**	**2.52**	**210**	P		**Pb**	**18 26 17.5**	**+1.1**
IFR				S		**Sn**	**18 26 37.1**	**-5.5**
EADA	**Adamuz**	**2.57**	**343**	Pn		**Pn**	**18 26 13.7**	**+1.2**
EADA				Sn		**Sn**	**18 26 45.3**	**+1.8**
EADA				*i* Vmb_Lg			18 27 00.1	
EZAR	**Zarzadilla de**	**2.65**	**35**	Pn		**Pn**	**18 26 13.4**	**-0.3**
EZAR				Sn		**Sn**	**18 26 45.5**	**-0.1**
ECAB	**El Cabril**	**2.77**	**329**	Pn		**Pn**	**18 26 15.7**	**+0.4**
ECAB				Sn		**Sn**	**18 26 49.0**	**+0.6**
ECAB				*i* Vmb_Lg			18 27 01.2	
TDRA	**Tendrara**	**2.97**	**153**	P		**Pn**	**18 26 20.4**	**+2.2**
TDRA				S		**Sn**	**18 26 53.8**	**+0.1**
MD31	**MD31**	**2.99**	**199**	P		**Pb**	**18 26 21.7**	**-2.7**
MD31				S		**Sn**	**18 26 55.1**	**+1.0**
MDT	**Midelt**	**3.01**	**196**	P		**Pn**	**18 26 20.4**	**+1.8**
MDT				S		**Sn**	**18 26 56.4**	**+2.0**
EMIN	**Mina Concepcio**	**3.20**	**311**	Pn		**Pn**	**18 26 20.9**	**-0.2**
EMIN				Sn		**Sn**	**18 26 58.1**	**-1.0**
EMIN				*i* Vmb_Lg			18 27 05.0	
ETOB	**Tobarra**	**3.36**	**29**	Pn		**Pn**	**18 26 24.7**	**+1.3**
ETOB				Sn		**Sn**	**18 27 03.8**	**+0.7**
ETOB				*i* Vmb_Lg			18 27 17.2	
ZHG	**ZHG**	**3.37**	**229**	P		**Pn**	**18 26 27.0**	**+3.4**
ZHG				S		**Sn**	**18 27 03.0**	**-0.4**
EGRO	**El Granado**	**3.60**	**301**	Pn		**Pn**	**18 26 27.1**	**+0.4**
EGRO				Sn		**Sn**	**18 27 08.1**	**-1.0**
EGRO				*i* Vmb_Lg			18 27 14.7	
PVAQ	**Vaqueiros**	**3.71**	**298**	P		**Pn**	**18 26 31.5**	**+3.4**
PVAQ				S		**Sn**	**18 27 14.1**	**+2.4**
PAB	**San Pablo**	**3.87**	**352**	Pn		**Pn**	**18 26 30.1**	**-0.4**
PAB				Sn		**Sn**	**18 27 16.1**	**+0.4**
ESDC	**Sonseca Array**	**3.96**	**356**	Pn		**Pn**	**18 26 32.0**	**+0.3**
ESDC				Sn		**Sn**	**18 27 18.1**	**+0.1**
EBAD	**Badajoz**	**4.07**	**319**	Pn		**Pn**	**18 26 32.3**	**-0.9**
EBAD				Sn		**Sn**	**18 27 20.9**	**+0.3**
EBAD				*i* Vmb_Lg			18 27 26.1	

*IDC **13** 18:28:48.4±1.3, 60°.84S×153°.55E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/22, mbtmp4.0/6, ML4.1/1, MS3.7/17, Ms1 3.7/17, ms1mx3.5/41, Error ellipse: s-maj=51.6km s-min=21.1km az=80.0*
ISC 13 18:28:49.8±1.0, 60°.9S±0°.1×153°.6E±0°.3, h10km, n34, σ1§03/7, mb3.8/4, MS3.8/18, West of Macquarie Island

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

VNDA	**Vanda**	**16.95**	**174**	Pn		**Pn**	**18 32 45.2**	**-1.4**
	0.7nm,0.3s,baz=344,slow=13,SNR=22								
VNDA				LR		LR	18 38 34.0		
	comp=Z,231nm,21.2s,baz=337,slow=34								
RPZ	**Rata Peaks**	**20.11**	**39**	P		**P**	**18 33 23.2**	**-0.3**
	2.5nm,0.7s,baz=190,slow=6.1,SNR=3.4								
RPZ				LR		LR	18 39 29.0		
	comp=Z,300nm,20.8s,baz=205,slow=32								
URZ	**Urewera**	**27.00**	**44**	LR		LR	18 43 56.4		
	comp=Z,149nm,19.3s,baz=210,slow=34								
QSPA	**South Pole Qui**	**29.22**	**180**	P		**P**	**18 34 52.3**	**+1.0**
	1.6nm,0.9s,baz=305,slow=2.6,SNR=8.0								
QSPA				LR		LR	18 47 29.8		
	comp=Z,187nm,18.1s,baz=14,slow=38								
STKA	**Stephens Creek**	**30.06**	**339**	P		**P**	**18 34 59.1**	**+0.3**
	1.7nm,0.8s,baz=146,slow=11,SNR=3.7								
STKA				LR		LR	18 45 04.1		
	comp=Z,61nm,18.6s,baz=171,slow=32								
H01W1	**Cape Leeuwin H**	**36.17**	**298**	T		T	19 14 19.3		
	baz=148,slow=75,SNR=173								
H01W2	**Cape Leeuwin H**	**36.17**	**298**	T		T	19 14 21.4		
	baz=148,slow=75,SNR=196								
H01W3	**Cape Leeuwin H**	**36.19**	**298**	T		T	19 14 20.5		
	baz=148,slow=75,SNR=199								
MAW	**Mawson**	**36.56**	**220**	LR		LR	18 50 38.0		
	comp=Z,161nm,19.5s,baz=66,slow=36								
ASAR	**Alice Springs**	**39.60**	**331**	P		**P**	**18 36 20.5**	**-0.7**
	1.1nm,0.7s,baz=160,slow=8.3,SNR=17								
DZM	**Mont Dzumac**	**39.80**	**19**	LR		LR	18 49 20.4		
	comp=Z,130nm,18.6s,baz=200,slow=31								
DZM	**Mont Dzumac**	**39.80**	**19**	*e*LR		LR	18 47 15.2		
	comp=Z,251nm,26.1s								
CTA	**Charters Tower**	**41.07**	**349**	LR		LR	18 50 35.8		
	comp=Z,112nm,19.9s,baz=168,slow=32								
WRA	**Warramunga Arr**	**43.09**	**333**	P		**P**	**18 36 49.5**	**-0.4**
	1.3nm,0.8s,baz=164,slow=7.5,SNR=7.8								
MSVF	**Nonsavu**	**46.49**	**33**	LR		LR	18 51 46.8		
	comp=Z,148nm,20.6s,baz=153,slow=30								
AFI	**Afiamalu**	**53.18**	**44**	LR		LR	18 57 36.1		
	comp=Z,59nm,20.9s,baz=164,slow=32								
TBI	**Tubuai**	**53.92**	**72**	*e*LR		LR	18 53 39.9		
	comp=Z,69nm,27.5s								
TBI	**Tubuai**	**53.92**	**72**	*e*T		T	19 35 55.8		
	49nm,0.3s								
PAE	**Paea**	**58.78**	**69**	*e*T		T	19 42 00.3		
	5.1nm,0.2s								
TVO	**Taravao**	**58.83**	**69**	*e*T		T	19 42 05.6		
	0.8nm,0.2s								
PPT2	**Papeete2**	**58.85**	**69**	*e*LR		LR	18 56 08.4		
	comp=Z,62nm,23.5s								
PPT2	**Papeete2**	**58.85**	**69**	*e*T		T	19 42 04.2		
	8.2nm,0.3s								
PPT	**Papeete**	**58.87**	**69**	LR		LR	18 57 44.5		
	comp=Z,32nm,21.4s,baz=178,slow=30								
KAPI	**Kappang**	**61.28**	**321**	LR		LR	19 06 41.5		
	comp=Z,62nm,18.0s,baz=175,slow=37								
VAH	**Vaihoa**	**61.80**	**70**	*e*T		T	19 45 46.2		
	21nm,0.2s								
LEM	**Lembang**	**63.85**	**307**	LR		LR	19 04 36.6		
	comp=Z,58nm,18.9s,baz=219,slow=34								
PLCA	**Paso Flores**	**72.54**	**146**	LR		LR	19 05 56.7		
	comp=Z,55nm,19.1s,baz=188,slow=31								
PSI	**Prapat**	**76.10**	**303**	LR		LR	19 11 03.1		
	comp=Z,124nm,18.0s,baz=177,slow=33								
H08S2	**Diego Garcia H**	**79.03**	**274**	T		T	20 08 10.9		
	baz=150,slow=76,SNR=9.3								
H08S1	**Diego Garcia H**	**79.04**	**274**	T		T	20 08 11.2		
	baz=150,slow=76,SNR=4.5								
H08S3	**Diego Garcia H**	**79.05**	**274**	T		T	20 08 09.2		
	baz=150,slow=76,SNR=27								
SUR	**Sutherland**	**79.42**	**219**	LR		LR	19 11 54.3		
	comp=Z,54nm,20.9s,baz=166,slow=33								
LBTB	**Lobatse**	**84.64**	**226**	LR		LR	19 14 56.7		
	comp=Z,49nm,19.7s,baz=162,slow=33								
YKA	**Yellowknife Ar**	**141.22**	**48**	PKP		**PKPdf**	**18 48 19.7**	**+0.9**
	0.1nm,0.3s,baz=227,slow=3.3,SNR=2.3								

MDD ***13*** *18:37:05.8±0.4,35.°65N×3.°68W, h0km, mb_Lg2.4/15, Error ellipse: s-maj=3.3km s-min=2.5km az=6.0*
SFS ***13*** *18:37:05.0,35.°64N×3.°69W, ML2.5, ALBORAN SUR*
CNRM ***13*** *18:37:06.8,35.°68N×3.°60W, h24km, ml2.5*
ISC 13 18:37:05.7±1.1,35.°70N±0.°02×3.°62W±0.°02, h13km±9km, n40,σ1°17/75, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.53**	**63**	Pg		**Pb**	**18 37 17.6**	**+0.8**
EALB				Sg		**Sn**	**18 37 26.1**	**-1.6**
EALB				*i*	Vmb_Lg		18 37 27.1	
PALE	**Palemas**	**0.55**	**209**	P		**Pb**	**18 37 17.5**	**+0.3**
PALE				S		**Sb**	**18 37 26.0**	**+1.0**
PALE	**Palemas**	**0.55**	**209**	P		**Pb**	**18 37 17.5**	**+0.3**
PALE				S		**Sb**	**18 37 26.0**	**+1.0**
EMEL	**Melilla**	**0.67**	**126**	Pg		**Pg**	**18 37 18.8**	**-0.1**
EMEL				Sg		**Sg**	**18 37 27.3**	**-0.4**
GOG	**Mont Gurugu**	**0.70**	**133**	P		**Pg**	**18 37 19.2**	**-0.1**
GOG	**Mont Gurugu**	**0.70**	**133**	P		**Pg**	**18 37 19.2**	**-0.1**
GOG				S		**Sb**	**18 37 28.7**	**-0.6**
ELGU	**Los Guajares,**	**1.16**	**360**	Pg		**Pn**	**18 37 27.3**	**-0.4**
ELGU				Sg		**Sg**	**18 37 44.2**	**+0.8**
ELGU				*i*	Vmb_Lg		18 37 50.2	
EMAL	**Malaga-Limoner**	**1.25**	**328**	P		**Pn**	**18 37 28.8**	**0.0**
EMAL				S		**Sb**	**18 37 41.6**	**-3.4**
EMIJ	**Mijas**	**1.27**	**313**	Pg		**Pn**	**18 37 28.3**	**-0.8**
EMIJ				Sg		**Sb**	**18 37 44.8**	**-1.0**
EMIJ				*i*	Vmb_Lg		18 37 45.9	
TAF	**Taforalt**	**1.32**	**132**	P		**Pn**	**18 37 29.1**	**-0.9**
TAF	**Taforalt**	**1.32**	**132**	P		**Pn**	**18 37 29.1**	**-0.9**
TAF				S		**Sb**	**18 37 46.3**	**-1.0**
EBER	**Berja**	**1.33**	**26**	Pn		**Pn**	**18 37 29.7**	**-0.5**
EBER				Sn		**Sg**	**18 37 48.8**	**+0.1**
EBER				*i*	Vmb_Lg		18 38 09.8	
SMIR	**Smir Dam**	**1.44**	**270**	P		**Pn**	**18 37 30.0**	**-1.4**
SMIR	**Smir Dam**	**1.44**	**270**	P		**Pn**	**18 37 30.0**	**-1.4**
SMIR				S		**Sn**	**18 37 49.7**	**-0.4**
CEU	**Ceuta**	**1.44**	**278**	P		**Pn**	**18 37 29.6**	**-1.9**
CEU				S		**Sn**	**18 37 46.9**	**-3.3**
EGOR	**Sierra Gorda,**	**1.46**	**344**	Pn		**Pb**	**18 37 32.9**	**+0.1**
EGOR				Sn		**Sg**	**18 37 52.8**	**0.0**
EGOR				*i*	Vmb_Lg		18 37 58.0	
EQUE	**Quentar**	**1.51**	**5**	Pn		**Pb**	**18 37 33.7**	**+0.1**
EQUE				Sn		**Sb**	**18 37 53.5**	**+0.8**
EQUE				*i*	Vmb_Lg		18 38 09.3	
CHEFC	**Chefchaouen**	**1.53**	**248**	P		**Pb**	**18 37 33.9**	**0.0**
CHEFC				S		**Sn**	**18 37 50.6**	**-1.9**
JBK	**JBK**	**1.61**	**147**	P		**Pn**	**18 37 33.0**	**-1.0**
JBK	**JBK**	**1.61**	**147**	P		**Pn**	**18 37 33.0**	**-1.0**
JBK				S		**Sn**	**18 37 52.8**	**-2.0**
EJIF	**Jimena Fronter**	**1.68**	**297**	Pn		**Pb**	**18 37 36.2**	**-0.2**
EJIF				Sn		**Sn**	**18 37 56.7**	**+0.6**
ENIJ	**Nijar**	**1.70**	**42**	Pn		**Pn**	**18 37 35.3**	**+0.2**
ENIJ				Sn		**Sn**	**18 37 55.6**	**-1.1**
ENIJ				*i*	Vmb_Lg		18 38 54.6	
EQES	**Quesada**	**2.14**	**12**	Pn		**Pb**	**18 37 44.0**	**-0.5**
EQES				Sn		**Sb**	**18 38 10.1**	**-0.8**
EQES				*i*	Vmb_Lg		18 38 13.3	
ESPR	**Espera**	**2.15**	**303**	Sn		**Sn**	**18 38 08.1**	**+0.4**
ESPR				*i*	Vmb_Lg		18 38 19.7	
TLOR	**Lorca, Murcia**	**2.49**	**38**	Pn		**Pn**	**18 37 45.7**	**-0.2**
TLOR				Sn		**Sb**	**18 38 19.1**	**-1.8**
IFR	**Ifrane**	**2.51**	**210**	P		**Pn**	**18 37 47.0**	**+0.6**
IFR				S		**Sn**	**18 38 16.1**	**-0.8**
EADA	**Adamuz**	**2.58**	**343**	Pn		**Pn**	**18 37 47.1**	**-0.1**
EADA				Sn		**Sn**	**18 38 19.5**	**+1.2**
EADA				*i*	Vmb_Lg		18 38 31.3	
ECAB	**El Cabril**	**2.77**	**329**	Pn		**Pn**	**18 37 50.1**	**+0.3**
ECAB				Sn		**Sn**	**18 38 24.2**	**+1.0**
ECAB				*i*	Vmb_Lg		18 38 35.0	
CZD	**Col de Zad**	**2.91**	**204**	P		**Pn**	**18 37 50.6**	**-1.3**
CZD				S		**Sn**	**18 38 29.1**	**+2.1**
TDRA	**Tendrara**	**2.96**	**153**	P		**Pn**	**18 37 53.7**	**+1.2**
TDRA				S		**Sn**	**18 38 27.7**	**-0.4**
MD31	**MD31**	**2.98**	**199**	P		**Pn**	**18 37 53.7**	**+1.0**
MD31				S		**Sn**	**18 38 29.1**	**+0.7**
MDT	**Midelt**	**3.00**	**196**	P		**Pn**	**18 37 54.2**	**+1.3**
MDT				S		**Sn**	**18 38 29.6**	**+0.8**
EMIN	**Mina Concepcio**	**3.21**	**311**	Pn		**Pn**	**18 37 55.5**	**-0.2**
EMIN				Sn		**Sn**	**18 38 33.3**	**-0.4**
EMIN				*i*	Vmb_Lg		18 38 36.2	
ZHG	**ZHG**	**3.36**	**229**	P		**Pn**	**18 37 59.0**	**+1.1**
ZHG				S		**Sn**	**18 38 39.4**	**+1.7**
ETOB	**Tobarra**	**3.37**	**29**	Pn		**Pn**	**18 37 59.8**	**+1.7**
ETOB				Sn		**Sn**	**18 38 40.0**	**+2.0**
EGRO	**El Granado**	**3.61**	**302**	Pn		**Pn**	**18 38 01.4**	**+0.1**
EGRO				Sn		**Sn**	**18 38 43.1**	**-0.5**
PVAQ	**Vaqueiros**	**3.71**	**298**	P		**Pn**	**18 38 04.0**	**+1.3**
PVAQ				S		**Sn**	**18 38 48.2**	**+1.9**
PAB	**San Pablo**	**3.88**	**352**	Pn		**Pn**	**18 38 06.4**	**+1.3**
PAB				*i*	Vmb_Lg		18 38 49.7	
PAB				Sn		**Sn**	**18 38 51.3**	**+0.7**
ESDC	**Sonseca Array**	**3.98**	**356**	Pn		**Pn**	**18 38 08.3**	**+1.9**
ESDC				Sn		**Sn**	**18 38 53.9**	**+1.0**
EBAD	**Badajoz**	**4.08**	**319**	Pn		**Pn**	**18 38 08.2**	**+0.5**
EBAD				Sn		**Sn**	**18 38 55.4**	**+0.1**
EBAD				*i*	Vmb_Lg		18 38 57.3	

BGR ***13*** *18:42:35.9±0.0, 53.°25N×158.°54E, h33km, mb4.9, Ms4.0*
BJI ***13*** *18:42:49.9±0.0, 53.°96N×158.°99E, h164km, mb4.7/55, mB4.7/26*
MOS ***13*** *18:42:52.7±0.9, 53.°89N×158.°69E, h173km, mb4.6/21, Error ellipse: s-maj=7.9km s-min=3.6km az=81.1*
KRSC ***13*** *18:42:52.0±0.9, 53.°80N×159.°05E, h176km±10km, ML4.9*
IDC ***13*** *18:42:54.0±0.4, 54.°01N×158.°52E, h164km±4km, mb4.2/34, mb1 4.3/40, mb1mx4.2/51, mbtmp4.7/40, Error ellipse: s-maj=8.8km s-min=6.9km az=147.0*
NEIC ***13*** *18:42:53.2±1.8, 54.°00N±0.°09×158.°6E±0.°2, h158km±5km, mb4.7/120, Error ellipse: s-maj=14.8km s-min=12.7km az=123.0*
ISC 13 18:42:53.6±0.3, 53.°86N±0.°03×158.°75E±0.°04, h167km±3km, h167km:pP-P,n560,σ1°09/598, mb4.6/179, 38C-23D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KII	**Karymskiy**	**0.45**	**66**	PN		**Pn**	**18 43 16.3**	**-0.5**
KII	**Karymskiy**	**0.45**	**66**	*e*P		**Pn**	**18 43 16.3**	**-0.5**
KRER	**Koryakskii**	**0.55**	**180**	PN		**Pn**	**18 43 17.6**	**+0.1**
KRER				S		**Sn**	**18 43 36.8**	**+1.1**
KRER	**Koryakskii**	**0.55**	**180**	*e*P		**Pn**	**18 43 17.6**	**+0.1**
KRER				*e*S		**Sn**	**18 43 36.8**	**+1.1**
KOK	**Koryaka**	**0.57**	**187**	PN		**Pn**	**18 43 17.7**	**+0.3**
KOK	**Koryaka**	**0.57**	**187**	*e*P		**Pn**	**18 43 17.7**	**+0.3**
SDLR	**Sedlovina**	**0.59**	**172**	PN		**Pn**	**18 43 17.4**	**-0.1**
SDLR	**Sedlovina**	**0.59**	**172**	*e*P		**Pn**	**18 43 17.4**	**-0.1**
AVH	**Avacha**	**0.59**	**181**	PN		**Pn**	**18 43 17.7**	**+0.2**
AVH	**Avacha**	**0.59**	**181**	*e*P		**Pn**	**18 43 17.7**	**+0.2**
SMAR	**Somma**	**0.60**	**177**	PN		**Pn**	**18 43 17.8**	**+0.1**
SMAR				S		**Sn**	**18 43 36.7**	**+0.6**
SMAR	**Somma**	**0.60**	**177**	*e*P		**Pn**	**18 43 17.8**	**+0.1**
SMAR				*e*S		**Sn**	**18 43 36.7**	**+0.6**
UGLR	**Uglovaya**	**0.65**	**176**	PN		**Pn**	**18 43 18.0**	**+0.1**
UGLR	**Uglovaya**	**0.65**	**176**	*e*P		**Pn**	**18 43 18.0**	**+0.1**
NLC	**Nalytchevo**	**0.78**	**152**	PN		**Pn**	**18 43 17.8**	**-0.6**
NLC				S		**Sn**	**18 43 36.6**	**-0.8**
NLC	**Nalytchevo**	**0.78**	**152**	*e*P		**Pn**	**18 43 17.8**	**-0.6**
NLC				*e*S		**Sn**	**18 43 36.6**	**-0.8**
PET	**Petropavlovsk**	**0.84**	**184**	*k*	*i*PN	**Pn**	**18 43 18.4**	**-0.5**
PET					*i* S	**Sn**	**18 43 38.1**	**-0.1**
PET					pmax	pmax		
	comp=Z,8μm,0.5s							
PET					pmax	pmax		
	comp=Z,10μm,0.6s							
PET					smax	smax		
	comp=E,7μm,1.1s							
PET					smax	smax		
	comp=N,16μm,1.2s							
PET					smax	smax		
	comp=N,15μm,0.8s							
PET					smax	smax		
	comp=E,6μm,0.8s							
PET	**Petropavlovsk**	**0.84**	**184**			**Pn**	**18 43 18.3**	**-0.5**
PET	**Petropavlovsk**	**0.84**	**184**	*e*P		**Pn**	**18 43 18.8**	**0.0**
PET				*e*S		**Sn**	**18 43 38.2**	**0.0**
PEA0B	**Petropavlovsk-**	**0.98**	**220**	*ce*PN		**Pn**	**18 43 20.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**0.98**	**220**	Pn		**Pn**	**18 43 20.1**	**+0.1**
PETK	**Petropavlovsk-**	**0.98**	**220**	P		**Pn**	**18 43 19.6**	**-0.3**
	comp=E,236nm,0.3s,baz=72,slow=11,SNR=3487							
PETK				S		**Sn**	**18 43 40.6**	**+0.5**
	comp=E,29nm,0.3s,baz=280,slow=8.6,SNR=4.1							
PETK	**Petropavlovsk-**	**0.98**	**220**	Pn		**Pn**	**18 43 19.2**	**-0.7**
SPN	**Mys Shipunski**	**1.08**	**134**	PN		Pn	18 43 19.1	-1.6
SPN				S		Sn	18 43 38.2	-3.2
SPN	**Mys Shipunski**	**1.08**	**134**	*e*P		Pn	18 43 19.1	-1.6
SPN				*e*S		Sn	18 43 38.2	-3.2
KRMR	**Karymshinskiy**	**1.09**	**200**	PN		**Pn**	**18 43 21.0**	**+0.2**
KRMR				S		**Sn**	**18 43 42.3**	**+0.7**
KRMR	**Karymshinskiy**	**1.09**	**200**	*e*P		**Pn**	**18 43 21.0**	**+0.2**
KRMR				*e*S		**Sn**	**18 43 42.3**	**+0.7**
APC	**Apacha**	**1.33**	**226**	PN		**Pn**	**18 43 23.8**	**+0.9**
APC				S		**Sn**	**18 43 46.7**	**+1.3**
APC	**Apacha**	**1.33**	**226**	*e*P		**Pn**	**18 43 23.8**	**+0.9**
APC				*e*S		**Sn**	**18 43 46.7**	**+1.3**
GRL	**Gorelyy**	**1.37**	**197**	PN		**Pn**	**18 43 24.2**	**+0.8**
GRL				S		**Sn**	**18 43 48.7**	**+2.4**
GRL	**Gorelyy**	**1.37**	**197**	*e*P		**Pn**	**18 43 24.2**	**+0.8**
GRL				*e*S		**Sn**	**18 43 48.7**	**+2.4**
MTVR	**Mutnovka**	**1.42**	**194**	PN		**Pn**	**18 43 24.5**	**+0.6**
MTVR	**Mutnovka**	**1.42**	**194**	*e*P		**Pn**	**18 43 24.5**	**+0.6**
RUS	**Russkaya**	**1.43**	**186**	PN		**Pn**	**18 43 23.4**	**-0.5**
RUS				S		**Sn**	**18 43 45.9**	**-1.2**
RUS	**Russkaya**	**1.43**	**186**	*e*P		**Pn**	**18 43 23.4**	**-0.5**
RUS				*e*S		**Sn**	**18 43 45.9**	**-1.2**
TUMR	**Tumrok**	**1.65**	**29**	PN		**Pn**	**18 43 26.4**	**+0.3**
TUMR				S		**Sn**	**18 43 51.1**	**+0.7**
TUMR	**Tumrok**	**1.65**	**29**	*e*P		**Pn**	**18 43 26.4**	**+0.3**
TUMR				*e*S		**Sn**	**18 43 51.9**	**+0.7**
TUMD	**Tumrok D**	**1.66**	**35**	*e*P		**Pn**	**18 43 25.9**	**-0.2**
TUMD				*e*S		**Sn**	**18 43 51.2**	**-0.1**
MKZ	**Mys Kozlova**	**1.89**	**67**	PN		Pn	18 43 27.1	-1.4
MKZ				S		**Sn**	**18 43 52.0**	**-3.5**
MKZ	**Mys Kozlova**	**1.89**	**67**	*e*P		Pn	18 43 27.1	-1.4
MKZ				*e*S		**Sn**	**18 43 52.0**	**-3.5**
ESO	**Esso**	**2.07**	**359**	PN		**Pn**	**18 43 31.0**	**+0.4**
ESO				S		**Sn**	**18 44 00.2**	**+0.9**
ESO	**Esso**	**2.07**	**359**	*e*P		**Pn**	**18 43 31.0**	**+0.4**
ESO				*e*S		**Sn**	**18 44 00.2**	**+0.9**
KMNR	**Kamenistaya**	**2.09**	**24**	PN		**Pn**	**18 43 31.3**	**+0.4**
KMNR				S		**Sn**	**18 44 00.9**	**+1.1**
KMNR	**Kamenistaya**	**2.09**	**24**	*e*P		**Pn**	**18 43 31.3**	**+0.4**
KMNR				*e*S		**Sn**	**18 44 00.9**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.09**	**191**	PN		**Pn**	**18 43 57.8**	**-0.8**
KDTR				S		**Sn**	**18 43 57.8**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.09**	**191**	*e*P		**Pn**	**18 43 30.0**	**-0.8**
KDTR				*e*S		**Sn**	**18 43 57.8**	**-1.8**
KPT	**Kopyto**	**2.28**	**21**	PN		**Pn**	**18 43 32.8**	**-0.2**
KPT	**Kopyto**	**2.28**	**21**	*e*P		**Pn**	**18 43 32.8**	**-0.2**
KIRR	**Kirishev**	**2.29**	**23**	PN		**Pn**	**18 43 33.0**	**-0.2**
KIRR	**Kirishev**	**2.29**	**23**	*e*P		**Pn**	**18 43 33.0**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.34**	**25**	PN		**Pn**	**18 43 33.9**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.34**	**25**	*e*P		**Pn**	**18 43 33.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.37**	**28**	PN		**Pn**	**18 43 34.2**	**+0.1**
BZGR				S		**Sn**	**18 44 06.6**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.37**	**28**	*e*P		**Pn**	**18 43 34.2**	**+0.1**
BZGR				*e*S		**Sn**	**18 44 06.6**	**+1.0**
ZLN	**Zelenaya**	**2.47**	**28**	PN		**Pn**	**18 43 35.8**	**+0.5**
ZLN	**Zelenaya**	**2.47**	**28**	*e*P		**Pn**	**18 43 35.8**	**+0.5**
LGNR	**Loginova**	**2.50**	**26**	PN		**Pn**	**18 43 36.1**	**+0.3**
LGNR	**Loginova**	**2.50**	**26**	*e*P		**Pn**	**18 43 36.1**	**+0.3**
CIRR	**Tsirk**	**2.54**	**26**	PN		**Pn**	**18 43 36.5**	**+0.4**
CIRR	**Tsirk**	**2.54**	**26**	*e*P		**Pn**	**18 43 36.5**	**+0.4**
KRSR	**Krestovskiy**	**2.59**	**23**	PN		**Pn**	**18 43 36.4**	**-0.3**
KRSR	**Krestovskiy**	**2.59**	**23**	*e*P		**Pn**	**18 43 36.4**	**-0.3**
PAU	**Pauzhetka**	**2.67**	**207**	PN		**Pn**	**18 43 38.5**	**+0.9**
PAU	**Pauzhetka**	**2.67**	**207**	*e*P		**Pn**	**18 43 38.5**	**+0.9**
KLY	**Klyuchi**	**2.69**	**23**	PN		**Pn**	**18 43 38.5**	**+0.7**
KLY	**Klyuchi**	**2.69**	**23**	*e*P		**Pn**	**18 43 38.5**	**+0.7**
BDR	**Baidarnaya**	**3.06**	**26**	PN		**Pn**	**18 43 43.1**	**+0.7**
BDR	**Baidarnaya**	**3.06**	**26**	*e*P		**Pn**	**18 43 43.1**	**+0.7**
SRKR	**Sorokina**	**3.13**	**25**	PN		**Pn**	**18 43 43.6**	**+0.4**
SRKR	**Sorokina**	**3.13**	**25**	*e*P		**Pn**	**18 43 43.6**	**+0.4**
SMKR	**Semkarok**	**3.14**	**29**	PN		**Pn**	**18 43 43.6**	**+0.1**
SMKR	**Semkarok**	**3.14**	**29**	*e*P		**Pn**	**18 43 43.6**	**+0.1**
KBG	**Krutoberegovo**	**3.31**	**42**	PN		**Pn**	**18 43 44.6**	**-0.8**
KBG				S		**Sn**	**18 44 23.1**	**-2.7**
KBG	**Krutoberegovo**	**3.31**	**42**	*e*P		**Pn**	**18 43 44.6**	**-0.8**
KBG				*e*S		**Sn**	**18 44 23.1**	**-2.7**
KBTR	**Krutoberegovo**	**3.32**	**43**	PN		**Pn**	**18 43 44.7**	**-0.9**
KBTR	**Krutoberegovo**	**3.32**	**43**	*e*P		**Pn**	**18 43 44.7**	**-0.9**
SKR	**Severo-Kuril's**	**3.57**	**208**	*e*PN		**Pn**	**18 43 49.2**	**+0.5**
SKR				*e*S		**Sn**	**18 44 32.0**	**+0.4**
SKR				pmax	pmax			
	comp=Z,134nm,0.6s							
SKR				smax	smax			
	comp=E,325nm,0.4s							
SKR				smax	smax			
	comp=N,121nm,0.3s							
SKR				MLR	MLR			
	comp=Z,400nm,11.0s							
SKR	**Severo-Kuril's**	**3.57**	**208**	*e*P		**Pn**	**18 43 49.1**	**+0.4**
SKR				*e*S		**Sn**	**18 44 32.8**	**+1.2**
BKI	**Bering**	**4.42**	**69**	PN		Pn	18 43 57.9	-1.7
BKI	**Bering**	**4.42**	**69**	*e*P		Pn	18 43 57.9	-1.7
PALN	**Palana**	**5.29**	**7**	PN		**Pn**	**18 44 11.1**	**+0.2**
PALN	**Palana**	**5.29**	**7**	*e*P		**Pn**	**18 44 11.1**	**+0.2**
OSSR	**Ossora**	**5.91**	**22**	PN		**Pn**	**18 44 19.9**	**+0.8**
OSSR	**Ossora**	**5.91**	**22**	*e*P		**Pn**	**18 44 19.9**	**+0.8**
MA2	**Magadan**	**7.22**	**326**	P		**Pn**	**18 44 35.2**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=129,slow=9.0,SNR=52							
MA2	**Magadan**	**7.22**	**326**	*c*	iPN	**Pn**	**18 44 36.3**	**-0.1**
MA2				pmax	pmax			
	comp=Z,16nm,0.8s							
MA2	**Magadan**	**7.22**	**326**	Pn		**Pn**	**18 44 36.0**	**-0.4**
TILK	**Tilichiki**	**7.73**	**28**	PN		**Pn**	**18 44 43.5**	**+0.4**
TILK	**Tilichiki**	**7.73**	**28**	*e*P		**Pn**	**18 44 43.5**	**+0.4**
KMSK	**Kamenskaya**	**9.48**	**21**	PN		**Pn**	**18 45 08.7**	**+2.4**
KMSK	**Kamenskaya**	**9.48**	**21**	*e*P		**Pn**	**18 45 08.7**	**+2.4**
SEY	**Seymchan**	**9.69**	**342**	P		**Pn**	**18 45 08.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=31							
SEY	**Seymchan**	**9.69**	**342**	*i*	PN	**Pn**	**18 45 10.1**	**+1.1**
KUR	**Kuril'sk**	**11.14**	**224**	PN		**Pn**	**18 45 30.4**	**+2.2**
KUR				S		**Sn**	**18 47 34.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**12.30**	**242**	*e*PN		**Pn**	**18 45 44.6**	**+1.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YUK	**Yuzh-Kuril'sk**	**12.95**	**226**	*e*PN		**Pn**	**18 45 51.3**	**-0.1**
YUK				pmax	pmax			
	comp=Z,62nm,0.4s							
YUK				pmax	pmax			
	comp=N,95nm,0.6s							
YUK				pmax	pmax			
	comp=E,85nm,0.6s							
GLVR	**Golovnino**	**13.34**	**226**	PN		**Pn**	**18 45 55.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**13.55**	**225**	*e*P		**Pn**	**18 45 55.9**	**-3.1**
NMR				*e*S		Sn	18 48 16.4	-13
GRNR	**Gornyy**	**13.99**	**266**	‖	*i*P	**P**	**18 46 10.5**	**+3.3**
GRNR				pmax	pmax			
	comp=E,20nm,0.7s							
GRNR				pmax	pmax			
	comp=N,8.0nm,0.8s							
GRNR				pmax	pmax			
	comp=Z,30nm,1.0s							
GRNR				MLR	MLR			
	comp=E,60nm,10.0s							
GRNR				MLR	MLR			
	comp=N,80nm,11.0s							
GRNR				MLR	MLR			
	comp=Z,70nm,

baz=267
I21K Tanana 26.68 45 P P 18 48 16.7 +0.1
baz=269
KSRS Korea Array 26.79 245 P P 18 48 18.3 +0.5
comp=Z,5.9nm,0.8s,baz=43,slow=9.0,SNR=25
KSRS PcP PcP 18 51 37.6 +1.6
comp=Z,1.3nm,0.5s,baz=356,slow=1.9,SNR=6.8
KDAK Kodiak Island 27.14 62 P P 18 48 21.0 +0.2
comp=Z,7.8nm,1.0s,baz=319,slow=11,SNR=2.1
KDAK PcP PcP 18 51 37.7 +1.1
comp=Z,6.8nm,1.1s,baz=103,slow=23,SNR=9.4
KDAK Kodiak Island 27.14 62 IAmb IAmb 18 48 33.6
comp=Z,15nm,1.1s
COLD Coldfoot 27.49 41 P P 18 48 24.0 +0.1
baz=267,SNR=7.5
TOLK Toolik Lake Re 27.85 38 P P 18 48 27.2 +0.2
TOLK PcP PcP 18 51 39.9 +1.7
TOLK Toolik Lake Re 27.85 38 P P 18 48 27.3 +0.2
baz=264
WRH Wood River Hil 28.36 47 IAmb IAmb 18 48 32.7
comp=Z,6.7nm,0.6s
H24K Noodor Dome 28.39 44 P P 18 48 32.4 +0.5
baz=271
SML Sawmill 28.52 53 P P 18 48 33.7 +0.7
baz=278
PWL Port Wells 28.67 54 P P 18 48 33.9 -0.4
baz=280
DHY Denali Highway 28.80 50 P P 18 48 35.5 -0.1
baz=277
ILAR Eielson Array 28.86 46 P P 18 48 35.9 0.0
comp=Z,3.8nm,0.7s,baz=266,slow=5.3,SNR=48
ILAR pP pP 18 49 10.8 -0.1
comp=Z,2.1nm,0.8s,baz=269,slow=7.9,SNR=4.6
HDA Harding Lake 28.86 47 IAmb IAmb 18 48 36.8
comp=Z,5.3nm,0.5s
HDA Harding Lake 28.86 47 P P 18 48 35.6 -0.3
baz=275
SCM Sheep Creek Mo 28.99 52 P P 18 48 37.3 0.0
baz=279
XLT XiLinHaoTe 29.36 268 *e*P P 18 48 40.3 -0.4
XLT pP pP 18 49 11.5 -4.1
XLT pmax pmax
comp=Z,13nm,0.6s
XLT pmax pmax
comp=Z,91nm,6.5s
PRP Porcupine Dome 29.38 45 IAmb IAmb 18 48 42.1
comp=Z,12nm,0.7s
PRP Porcupine Dome 29.38 45 P P 18 48 41.3 +0.6
baz=274,SNR=12
J25K Salcha River, 29.52 46 P P 18 48 40.9 -1.0
baz=276,SNR=6.1
BMAR Burnt Mountain 29.68 41 PcP PcP 18 51 44.4 +1.6
SCRK Sand Creek 30.19 48 P P 18 48 47.3 -0.6
baz=278,SNR=7.3
EGAK Eagle 31.30 46 IAmb IAmb 18 48 57.6
comp=Z,10nm,0.6s
EGAK Eagle 31.30 46 P P 18 48 57.0 -0.4
baz=279,SNR=12
L27K Beaver Creek, 31.30 49 P P 18 48 58.5 +1.0
baz=281
M27K Edge Creek, AK 31.42 50 P P 18 48 59.8 +1.2
baz=282
BARN Barnard Glacie 31.81 53 IAmb IAmb 18 49 03.9
comp=Z,6.3nm,0.7s
BVCY Beaver Creek 31.87 50 P P 18 49 03.7 +1.2
baz=283
CTG Chitna Glacier 31.99 53 P P 18 49 04.4 +0.7
baz=285
DAWY Dawson 32.17 47 P P 18 49 05.8 +0.7
baz=281
I29M Ogilvie Camp, 32.39 44 IAmb IAmb 18 49 08.3
comp=Z,7.3nm,0.8s
I29M Ogilvie Camp, 32.39 44 P P 18 49 07.7 +0.7
baz=280,SNR=13
ULN Ulaanbaatar 32.55 281 *c*eP P 18 49 09.2 +0.4
ULN pmax pmax
comp=Z,9.0nm,2.0s
ULN Ulaanbaatar 32.55 281 P P 18 49 08.5 -0.2
PINM Pinnacle 32.74 54 P P 18 49 11.0 +0.8
baz=287
EPYK Eagle Plains 32.86 42 P P 18 49 11.8 +0.7
baz=280
SONM Songino Array 32.95 281 P P 18 49 12.1 -0.2
comp=Z,3.0nm,0.4s,baz=58,slow=8.4,SNR=47
SONM PcP PcP 18 51 52.6 +0.5
comp=Z,2.4nm,0.5s,baz=58,slow=1.7,SNR=14
SONM Songino Array 32.95 281 P P 18 49 12.0 -0.2
SONM PcP PcP 18 51 52.6 +0.5
YUK6 Outpost Mounta 33.39 52 P P 18 49 17.0 +1.0
baz=287
ZAK Zakamensk 33.50 287 *e*P P 18 49 15.8 -1.1
ZAK pmax pmax
comp=Z,3.0nm,1.2s
M30M Minto, Yukon 33.66 49 P P 18 49 19.3 +1.3
baz=286
INK Inuvik 33.76 38 P P 18 49 19.4 +0.7
INK pmax pmax
comp=Z,12nm,0.7s
INK Inuvik 33.76 38 P P 18 49 19.4 +0.7
INK IAmb IAmb 18 49 20.0
comp=Z,12nm,0.7s
INK Inuvik 33.76 38 P P 18 49 19.6 +0.9
baz=280,SNR=20
HYT Haines Junctio 33.83 52 P P 18 49 21.1 +1.5
baz=288
HHC Hu-ho-hao-te 33.86 267 *e*P P 18 49 19.8 -0.3
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,64nm,7.2s
MOY Mondy 34.19 290 *e*P P 18 49 23.0 +0.2
N31M Braeburn, Yuko 34.43 51 P P 18 49 27.0 +2.3
baz=288
NRIK Noril'sk 34.82 324 PcP PcP 18 51 57.6 +0.7
comp=Z,4.3nm,0.4s,baz=92,slow=3.1,SNR=6.5
M31M Drury Creek, Y 34.84 49 P P 18 49 29.6 +1.5
M31M IAmb IAmb 18 49 30.6
comp=Z,11nm,0.7s
M31M Drury Creek, Y 34.84 49 P P 18 49 29.9 +1.8
baz=288,SNR=7.9
WHY Whitehorse 35.10 52 IAmb IAmb 18 49 33.1
comp=Z,9.3nm,0.8s
WHY Whitehorse 35.10 52 P P 18 49 32.5 +1.9
baz=290,SNR=6.6
FARO Faro, Yukon 35.30 49 P P 18 49 33.4 +1.3
baz=288
SKAG Skagway 35.30 54 P P 18 49 34.0 +1.9
baz=291
NJ2 Nanjing 35.76 249 *e*P P 18 49 36.6 +0.3
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
A36M Sachs Harbour 35.88 31 PcP PcP 18 52 00.4 +0.4
A36M Sachs Harbour 35.88 31 P P 18 49 37.9 +1.0
baz=282,SNR=50
MMPY Sheldon Lake, 36.09 48 P P 18 49 40.2 +1.4
baz=289
P33M Teslin, Yukon 36.22 52 P P 18 49 41.6 +1.6
baz=291
C36M Paulatuk 36.88 35 P P 18 49 46.0 +0.6
baz=286,SNR=51
TGTN Hyland Airport 37.80 48 P P 18 49 54.8 +1.5
baz=293,SNR=7.0
LZH Lanzhou 41.55 268 *e*P P 18 50 29.3 +4.6
LZH pmax pmax
comp=Z,23nm,1.5s
ZAA0 Zalesovo Array 41.69 301 P P 18 50 23.3 -2.1
ZALV Zalesovo Beam 41.69 301 P P 18 50 24.2 -1.2
comp=Z,3.5nm,0.4s,baz=57,slow=7.7,SNR=27
ZALV PcP PcP 18 52 18.6 0.0
comp=Z,1.8nm,0.5s,baz=54,slow=2.6,SNR=6.4
ZALV Zalesovo Beam 41.69 301 PcP PcP 18 52 18.7 +0.1
GTA Gaotai 41.73 275 ||P P 18 50 26.0 -0.1
GTA pP pP 18 51 06.3 +3.7
GTA PcP PcP 18 52 19.0 -0.2
GTA S S 18 56 27.0 -3.4
GTA pmax pmax
comp=Z,25nm,0.9s
RES Resolute Bay 42.91 22 P P 18 50 35.5 +0.5
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 42.91 22 P P 18 50 35.5 +0.5
YKA Yellowknife Ar 43.14 43 P P 18 50 37.6 +0.6
comp=Z,7.2nm,0.8s,baz=300,slow=8.1,SNR=68
YKA pP pP 18 51 13.4 -0.3
comp=Z,1.8nm,0.7s,baz=298,slow=8.3,SNR=4.7
YKA PcP PcP 18 52 24.1 +0.8
comp=Z,0.7nm,0.5s,baz=306,slow=3.6,SNR=7.8

YKA ScP ScP 18 55 58.9 +0.5
comp=Z,0.1nm,0.6s,baz=303,slow=4.5,SNR=3.7
CD2 Chengdu 45.26 262 *e*P P 18 50 53.0 -1.2
WMQ Urumqi 45.96 288 *e*P P 18 51 00.0 +0.3
WMQ pP pP 18 51 39.3 +2.5
WMQ pmax pmax
comp=Z,28nm,1.1s
KURK Kurchatov 46.65 301 *i* P P 18 51 03.6 -1.2
KURK *i* *PP pP 18 51 42.7 +0.6
KURK pmax pmax
comp=Z,32nm,0.5s
KURK Kurchatov 46.65 301 P P 18 51 03.6 -1.2
KURBB Kurchatov Arra 46.75 300 P P 18 51 04.6 -1.0
comp=Z,26nm,0.5s,baz=59,slow=7.5
KURBB PcP PcP 18 52 35.7 -0.3
comp=Z,3.7nm,0.7s,baz=53,slow=3.1,SNR=8.9
KURBB ScP ScP 18 56 12.6 -0.8
comp=Z,0.5nm,0.8s,baz=55,slow=4.2,SNR=4.1
GOMU GeErMu 46.82 275 P P 18 51 05.1 -1.7
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU pmax pmax
comp=Z,50nm,5.1s
GYA Guiyang 46.89 256 ||P P 18 51 06.6 -0.5
GYA pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 47.10 294 *c* *i*P P 18 51 07.4 -1.0
MKAR Makanchi Array 47.10 294 P P 18 51 07.3 -1.1
comp=Z,19nm,0.5s,baz=56,slow=7.3,SNR=338
MAKZ Makanchi 47.26 294 P P 18 51 08.2 -1.5
MAKZ pmax pmax
comp=Z,20nm,0.7s
MAKZ Makanchi 47.26 294 P P 18 51 08.2 -1.5
BVAR Borovoye Array 49.28 307 PcP PcP 18 52 44.6 -0.5
comp=Z,2.4nm,0.4s,baz=224,slow=8.4,SNR=6.3
BRVK Borovoye 49.31 307 *i* P P 18 51 24.0 -1.2
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 49.31 307 P P 18 51 24.0 -1.2
BRVK PcP PcP 18 52 45.1 -0.1
PZH PanZhiHua 49.71 260 P P 18 51 29.1 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,5.1s
WALA Waterton Lakes 51.33 57 P P 18 51 40.6 +0.1
WALA IAmb IAmb 18 51 42.2
comp=Z,8.3nm,0.8s
JTMT Jette 52.00 59 P P 18 51 46.2 +0.7
JTMT IAmb IAmb 18 51 47.6
comp=Z,9.8nm,0.6s
ARU Arti 52.29 316 P P 18 51 46.1 -1.3
comp=Z,2.1nm,0.3s,baz=76,slow=3.2,SNR=6.1
ARU PcP PcP 18 52 54.8 -1.4
comp=Z,1.6nm,0.6s,baz=335,slow=3.0,SNR=3.6
ARU Arti 52.29 316 *d* *i*P P 18 51 46.5 -0.8
ARU *PP pP 18 52 25.4 -0.2
ARU 18 52 54.4
ARU S S 18 58 59.8 +0.7
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 52.29 316 P P 18 51 46.2 -1.1
ARU IAmb IAmb 18 51 47.2
comp=Z,12nm,0.9s
ARCES ARCESS Array B 52.30 341 P P 18 51 45.4 -1.9
comp=Z,1.2nm,0.4s,baz=30,slow=7.4,SNR=11
FFC Flin Flon 53.07 46 P P 18 51 54.3 +1.2
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 53.07 46 P P 18 51 54.3 +1.2
TKM2 Tokmak 2 53.23 294 P P 18 51 53.9 -0.9
SNR=18
BOOM Boomskoye usch 53.34 294 P P 18 51 55.1 -0.4
BOOM pmax pmax
comp=Z,15nm,0.8s
BOOM Boomskoye usch 53.34 294 P P 18 51 55.1 -0.4
BOOM IAmb IAmb 18 51 55.9
comp=Z,15nm,0.8s
ULHL Ulahol 53.34 293 P P 18 51 54.9 -0.7
SNR=22
FCC Fort Churchill 53.38 38 P P 18 51 55.5 +0.2
FCC pmax pmax
comp=Z,11nm,0.6s
FCC Fort Churchill 53.38 38 P P 18 51 55.5 +0.2
FCC IAmb IAmb 18 51 56.3
comp=Z,11nm,0.6s
USP Ospenovka 53.59 295 P P 18 51 56.5 -0.7
SNR=27
CHMS Chumysh 53.63 295 P P 18 51 56.7 -0.8
SNR=16
KBK Karagaybulak 53.76 295 P P 18 51 58.0 -0.6
SNR=16
AAK Ala-Archa 54.02 295 P P 18 51 59.7 -0.7
comp=Z,15nm,0.6s,baz=115,slow=4.2,SNR=104
AAK Ala-Archa 54.02 295 P P 18 51 59.8 -0.7
SNR=28
AAK Ala-Archa 54.02 295 *d* *i*P P 18 51 59.5 -0.9
AAK pmax pmax
comp=Z,16nm,0.7s
AAK Ala-Archa 54.02 295 P P 18 51 59.7 -0.7
LRM Limekiln Ridge 54.23 60 P P 18 52 03.5 +1.5
EKS2 Erkin-Say 54.39 295 P P 18 52 02.4 -0.6
SNR=32
AML Almayashu 54.80 295 P P 18 52 05.9 -0.5
SNR=15
KSH Kashi 55.37 291 P P 18 52 13.1 +2.9
KSH pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 55.88 329 *e*P P 18 52 10.5 -2.7
KLMR *e**PP pP 18 52 51.3 -0.5
KLMR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 55.88 329 *e*P P 18 52 10.6 -2.7
KLMR AMP 18 52 14.0
comp=Z,6.0nm,0.8s
KLMR *e*pP pP 18 52 51.4 -0.4
H17A Grant Village 56.17 60 P P 18 52 18.9 +2.9
baz=315,SNR=5.4
NVAR Mina Array Bea 56.23 70 P P 18 52 18.5 +2.1
comp=Z,2.5nm,0.6s,baz=298,slow=7.3,SNR=20
NVAR pP pP 18 52 55.3 +0.5
comp=Z,1.1nm,0.7s,baz=302,slow=6.7,SNR=3.2
ELK Elko 56.28 66 P P 18 52 17.1 +0.4
ELK pmax pmax
comp=Z,3.0nm,0.7s
ELK Elko 56.28 66 P P 18 52 17.1 +0.4
ABKAR Akbulak array 56.69 309 IAmb IAmb 18 52 18.7
comp=Z,7.6nm,0.8s
AKTO Aktyubinsk 56.71 311 P P 18 52 17.9 -1.4
comp=Z,6.5nm,0.5s,baz=68,slow=7.4,SNR=36
AKTO PcP PcP 18 53 13.0 -0.3
comp=Z,3.7nm,0.7s,baz=68,slow=5.3,SNR=6.3
LAO LASA Array 56.73 55 P P 18 52 20.9 +1.3
baz=315
CHTO Chiang Mai 57.28 257 P P 18 52 23.4 -0.3
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 57.28 257 P P 18 52 23.4 -0.3
TAPN Taplejung 57.36 273 *e*P P 18 52 23.7 -0.8
comp=Z,20nm,0.4s
CMAR Chiang Mai Arr 57.56 256 P P 18 52 25.7 0.0
comp=Z,1.4nm,0.6s,baz=24,slow=6.7,SNR=18
CMAR PcP PcP 18 53 17.4 +0.2
comp=Z,0.8nm,0.7s,baz=18,slow=3.7,SNR=5.2
VES Vestal, Richgr 57.64 72 P P 18 52 27.2 +1.1
baz=316
CWC Cottonwood Cre 57.77 71 P P 18 52 28.1 +0.9
baz=316
R11A Troy Canyon, C 57.79 68 P P 18 52 28.7 +1.4
baz=316
BW06 Boulder Array 57.85 60 IAmb IAmb 18 52 29.9
comp=Z,10nm,0.7s
BW06 Boulder Array 57.85 60 P P 18 52 29.2 +1.5
baz=316,SNR=12
PD31 Pinedale Array 57.85 60 IAmb IAmb 18 52 29.9
comp=Z,8.8nm,0.7s
PDAR Pinedale Array 57.85 60 P P 18 52 29.1 +1.4
comp=Z,7.6nm,0.6s,baz=323,slow=2.2,SNR=48
PDAR pP pP 18 53 07.0 +0.5
comp=Z,2.0nm,0.8s,baz=327,slow=2.5,SNR=2.9
PDAR PcP PcP 18 53 18.5 +0.2
comp=Z,1.1nm,0.6s,baz=321,slow=1.3,SNR=2.6
ODAN Odare 57.91 272 *e*P P 18 52 27.5 -0.8
comp=Z,12nm,0.5s
DUG Dugway, Tooele 57.98 65 P P 18 52 30.5 +2.0
baz=316

GUN Gumba 58.02 274 *e*P P 18 52 28.1 -1.1
comp=Z,19nm,0.4s
JIRN Jiri 58.02 274 *e*P P 18 52 28.6 -0.7
comp=Z,9.6nm,0.3s
RAMN Ramite 58.31 273 *e*P P 18 52 30.1 -1.0
comp=Z,48nm,0.4s
MPMC Manual Prospec 58.38 71 P P 18 52 32.9 +1.4
baz=316
TPNV Topopah Spring 58.43 70 P P 18 52 33.4 +1.6
baz=316
FURC Furnace Creek, 58.44 70 P P 18 52 33.8 +2.2
baz=316
KKN Kakani 58.47 275 *e*P P 18 52 31.3 -0.9
comp=Z,35nm,0.4s
NLU North Lily Min 58.54 64 P P 18 52 33.4 +0.9
NLU IAmb IAmb 18 52 35.1
comp=Z,5.3nm,0.7s
PKI Pulchoki 58.55 275 *e*P P 18 52 31.7 -1.2
comp=Z,11nm,0.4s
PKIN Phulchoki 58.56 275 *e*P P 18 52 31.7 -1.1
comp=Z,9.6nm,0.4s
GKN Gorkha 58.69 275 *e*P P 18 52 32.5 -1.1
comp=Z,12nm,0.3s
DMN Daman 58.70 275 *e*P P 18 52 33.0 -0.8
comp=Z,19nm,0.6s
GWY Greenwater Val 58.75 70 IAmb IAmb 18 52 36.2
comp=Z,5.0nm,0.7s
QSM Queen of Sheba 58.80 71 IAmb IAmb 18 52 36.3
comp=Z,4.3nm,0.6s
ULM Lac du Bonnet 58.88 46 P P 18 52 34.9 +0.5
comp=Z,4.4nm,0.5s,baz=320,slow=9.3,SNR=6.7
DANN Dangsing 58.95 276 *e*P P 18 52 34.7 -0.9
comp=Z,47nm,0.8s
EDW2 Edwards Air Fo 58.95 72 P P 18 52 36.6 +1.4
baz=317
FINES FINESS Array B 59.09 336 P P 18 52 35.0 -0.7
comp=Z,4.4nm,0.4s,baz=34,slow=7.5,SNR=72
FINES PcP PcP 18 53 21.6 -0.9
comp=Z,1.9nm,0.7s,baz=45,slow=2.6,SNR=2.3
RDMU Red Mountain 59.42 62 IAmb IAmb 18 52 41.2
comp=Z,8.3nm,0.9s
KOLN Koldanda 59.47 276 *e*P P 18 52 38.0 -1.1
TMUT Trail Mountain 59.48 64 IAmb IAmb 18 52 41.6
comp=Z,9.1nm,0.7s
PYUN Piuthan 59.59 277 *e*P P 18 52 38.6 -1.2
BELG Belogorsnoye 59.61 318 P P 18 52 38.7 -0.7
comp=Z,23nm,0.7s,baz=348,slow=4.1,SNR=21
RSSD Black Hills 59.65 56 P P 18 52 41.1 +1.0
RSSD pmax pmax
comp=Z,27nm,0.7s
RSSD Black Hills 59.65 56 P P 18 52 41.0 +1.0
RSSD Black Hills 59.65 56 P P 18 52 41.3 +1.3
baz=317
HEC Hector,Ludlow 59.92 71 P P 18 52 43.4 +1.5
baz=317
GMRC Granite Mounta 60.33 71 P P 18 52 46.4 +1.7
baz=317
MURC Murrieta 60.33 73 P P 18 52 46.4 +1.8
baz=318
AGMN Agassiz Nation 60.35 48 P P 18 52 44.8 +0.3
baz=319
O20A White River Ci 60.44 62 P P 18 52 46.7 +1.2
baz=317
N23A Red Feather La 61.06 60 P P 18 52 51.3 +1.5
baz=318
IRM Iron Mountain 61.08 71 P P 18 52 51.4 +1.7
baz=318
NIL Nilore 61.11 288 P P 18 52 48.8 -1.1
NIL pmax pmax
comp=Z,31nm,1.0s
NIL Nilore 61.11 288 P P 18 52 48.8 -1.1
OBN Obninsk 61.43 326 *i* P P 18 52 46.7 -4.9
OBN *i* 18 53 39.5
OBN *i* 18 55 07.1
OBN pmax pmax
comp=Z,7.0nm,1.2s
PV11 David Mesa, Pa 61.45 64 IAmb IAmb 18 52 55.7
comp=Z,9.0nm,0.6s
PDMCI Parker Dam,Lak 61.53 70 P P 18 52 54.0 +1.3
baz=318
PV13 Radium Mtn., P 61.58 64 IAmb IAmb 18 52 55.5
comp=Z,8.3nm,0.6s
AAL Aland 61.63 338 *e*P P 18 52 52.2 -0.6
MTSE Matsula 62.04 335 *e*P P 18 52 55.6 0.0
ISCO Idaho Springs 62.04 60 P P 18 52 58.1 +1.7
baz=318,SNR=5.9
WUAZ Wupatki 62.16 67 P P 18 52 59.1 +2.0
baz=318
UPP Uppsala 62.43 339 *e*P P 18 52 58.0 -0.2
EYMN Ely 62.50 46 P P 18 52 59.3 +0.4
baz=321
NB2 NORSAR Subarra 62.58 343 P P 18 52 58.0 -1.3
comp=Z,5.2nm,0.9s,baz=21,slow=6.9
NOA NORSAR Array B 62.58 343 P P 18 52 58.4 -0.9
comp=Z,2.3nm,0.6s,baz=28,slow=6.0,SNR=21
LPSR Galich'ya Gora 62.69 323 *e*P P 18 52 58.5 -1.6
LPSR pmax pmax
comp=Z,7.0nm,0.7s
VRH Novokhopyorsk 62.81 321 *e*P P 18 52 58.7 -2.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
HNR Honiara 63.05 179 P P 18 53 04.4 +1.6
comp=Z,62nm,0.5s,baz=152,slow=0.9,SNR=5.2
ECSD EROS Data Cent 63.48 52 P P 18 53 05.9 +0.4
ECSD IAmb IAmb 18 53 06.3
comp=Z,7.4nm,0.6s
ECSD EROS Data Cent 63.48 52 P P 18 53 05.9 +0.4
baz=320,SNR=8.6
SDCO Great Sand Dun 63.64 62 P P 18 53 08.2 +1.3
baz=319
VIKU Vikbolandet 63.87 339 *e*P P 18 53 07.5 -0.2
VORD Divnogorie 63.90 322 *e*P P 18 53 05.6 -2.4
VORD pmax pmax
comp=Z,6.0nm,0.6s
MNK Minsk 64.64 331 *i* P P 18 53 10.7 -2.0
MNK *i* *PP pP 18 53 51.9 -0.5
MNK *i* PPP PPP 18 57 12.6
MNK *i* S S 19 01 40.5 +1.8
MNK *i* SS SS 19 05 59.3 +7.9
MNK pmax pmax
comp=Z,12nm,0.8s
MNK Minsk 64.64 331 *i* P P 18 53 10.7 -2.0
MNK *i* P P 18 53 10.7 -2.0
MNK *i* P P 18 53 10.7 -2.0
comp=Z,12nm,0.8s,baz=210
MNK *i* pP pP 18 53 51.9 -0.5
MNK *i* PP PP 18 55 32.1 -4.3
MNK *i* PPP PPP 18 57 12.6
MNK *i* S S 19 01 40.5 +1.8
MNK *i* SS SS 19 05 59.4 +7.9
MNK *i* SSS SSS 19 09 10.7
PABE Paberze 64.84 334 *e*P P 18 53 13.0 -1.0
ANMO Albuquerque 65.25 64 P P 18 53 18.6 +1.3
baz=320
SCHQ Schefferville 65.34 27 P P 18 53 16.9 -0.4
comp=Z,4.8nm,0.5s,baz=337,slow=4.8,SNR=20
SCHQ Schefferville 65.34 27 P P 18 53 16.3 -1.0
SCHQ IAmb IAmb 18 53 17.4
comp=Z,6.4nm,0.7s
GEYT Alibeck 66.00 302 P P 18 53 21.1 -0.7
comp=Z,7.6nm,0.7s,baz=236,slow=3.9,SNR=14
GEYT Alibeck 66.00 302 P P 18 53 21.3 -0.6
GEYT IAmb IAmb 18 53 21.8
comp=Z,7.3nm,0.6s
FABU Falkenberg 66.08 340 *i* P P 18 53 20.1 -1.8
BLEU Blekinge 66.08 338 *i* P P 18 53 20.9 -1.1
DEL Delary 66.34 340 *i* P P 18 53 21.8 -1.8
DEL Delary 66.34 340 *e*P P 18 53 22.4 -1.2
SCIA State Center 66.47 51 P P 18 53 24.2 -0.6
SCIA State Center 66.47 51 P P 18 53 25.4 +0.6
baz=322
BSD Bornholm Skovb 67.38 338 *i* P P 18 53 29.0 -1.2
BSD IAmb IAmb 18 53 30.4
comp=Z,4.6nm,0.6s
BSD Bornholm Skovb 67.38 338 *e*P P 18 53 29.9 -0.3
AKASG Malin Array Be 67.54 328 P P 18 53 29.9 -1.3
comp=Z,2.4nm,0.4s,baz=31,slow=6.4,SNR=15
AKASG Malin Array Be 67.54 328 P P 18 53 30.0 -1.3
LLD Lille Linde 67.74 340 *i* P P 18 53 30.7 -1.7
LLD IAmb IAmb 18 53 32.6
comp=Z,16nm,0.6s
VLDQ Val d'Or 67.84 37 P P 18 53 31.8 -1.5
MSTX Muleshoe 67.95 62 P P 18 53 35.2 +0.9
baz=321
MNTX Cornudas Mount 68.31 66 P P 18 53 38.0 +1.5
baz=321,SNR=5.2

KIV	Kislovodsk	68.33	316	eP		P	18 53 35.9	-0.6	
KIV				pmax		pmax			
comp=Z,10.0nm,1.0s									
KIV	Kislovodsk	68.33	316	P		P	18 53 35.4	-1.1	
KIV				IAmb		IAmb	18 53 38.0		
comp=Z,8.0nm,0.6s									
KBZ	Khabaz	68.42	315	P		P	18 53 36.6	-0.3	
comp=Z,8.9nm,0.8s,baz=84,slow=3.0,SNR=30									
ZEI	Tsey	68.77	314	eP		P	18 53 37.3	-2.1	
ZEI				pmax		pmax			
comp=Z,4.0nm,0.9s									
P40A	Paris	68.90	52	IAmb		IAmb	18 53 41.0		
comp=Z,9.0nm,0.8s									
HDIL	Hopedale	69.33	49	P		P	18 53 42.4	-0.2	
baz=324,SNR=5.0									
WMOK	Wichita Mounta	69.41	59	P		P	18 53 44.1	+0.8	
baz=322,SNR=8.6									
R40A	Maddies Statio	69.79	52	IAmb		IAmb	18 53 46.1		
comp=Z,8.5nm,0.7s									
SOC	Sochi	69.84	317	eP		P	18 53 44.1	-1.6	
SOC				e*PP		pP	18 54 25.8	-0.2	
SOC				e*SP		sP	18 54 46.6	+2.5	
SOC				e			18 56 19.4		
SOC				ePPP		PPP	18 58 04.7		
SOC				eS		S	19 02 41.1	-0.2	
SOC				eSS		SS	19 07 12.6	+0.3	
SOC				pmax		pmax			
comp=Z,6.0nm,0.8s									
SORM	Soroca	70.06	327	⇑P		P	18 53 46.0	-0.9	
SORM	Soroca	70.06	327	⇑P		P	18 53 46.0	-0.9	
AKH	Akhalkalaki	70.08	314	⇑P		P	18 53 47.7	+0.3	
KWP	Kalwaria Pacla	70.44	331	eP		P	18 53 49.2	-0.1	
SFIN	Lafayette	70.44	48	P		P	18 53 49.2	-0.2	
baz=325									
CCM	Cathedral Cave	70.45	52	P		P	18 53 49.3	-0.2	
baz=324									
GNI	Garni	70.57	312	P		P	18 53 50.7	+0.3	
comp=Z,3.8nm,0.6s,baz=128,slow=6.9,SNR=4.6									
GNI	Garni	70.57	312	ceP		P	18 53 50.1	-0.3	
GNI				pmax		pmax			
comp=Z,5.0nm,1.0s									
HHAR	Hobbs	70.60	55	IAmb		IAmb	18 53 50.9		
comp=Z,12nm,0.7s									
OJC	Ojcow	70.70	333	eP		P	18 53 50.7	-0.1	
RETH	Rethem/Aller,	70.75	341	eP		P	18 53 50.9	-0.1	
comp=Z,14nm,1.1s,baz=20,slow=5.9									
FLTG	Flechtingen	70.76	340	eP		P	18 53 50.6	-0.5	
comp=Z,7.9nm,0.8s,baz=20,slow=5.9									
NRDL	Niedersach Rie	70.84	340	eP		P	18 53 51.2	-0.3	
comp=Z,5.1nm,0.7s,baz=20,slow=5.9									
SIM	Simferopol'	70.84	322	iP		P	18 54 06.0	+14	
SIM				pmax		pmax			
comp=Z,32nm,1.0s									
FVM	French Village	70.89	51	IAmb		IAmb	18 53 53.0		
comp=Z,9.4nm,0.6s									
KSP	Ksiaz	71.02	336	eP		P	18 53 52.7	0.0	
U40A	Yellville	71.06	54	IAmb		IAmb	18 53 53.8		
comp=Z,12nm,0.8s									
U40A	Yellville	71.06	54	P		P	18 53 53.1	-0.2	
baz=324,SNR=9.1									
TX31	Lajitas Ar. Si	71.07	66	IAmb		IAmb	18 53 55.5		
comp=Z,16nm,1.0s									
TXAR	Lajitas Array	71.07	66	P		P	18 53 54.8	+1.2	
comp=Z,3.3nm,0.4s,baz=297,slow=5.2,SNR=54									
NIE	Niedzica	71.30	333	eP		P	18 53 55.1	+0.7	
OSTC	Ostas	71.30	336	eP		P	18 53 53.8	-0.7	
CHVC	Chvalec	71.31	336	eP		P	18 53 54.4	-0.1	
CLL	Collm	71.35	338	i⇓P		P	18 53 54.3	-0.4	
CLL				pmax		pmax			
comp=Z,17nm,0.9s									
CLL	Collm	71.35	338	i⇓P		P	18 53 54.3	-0.4	
comp=Z,17nm,0.9s									
CLL	Collm	71.35	338	eP		P	18 53 54.2	-0.5	
comp=Z,12nm,0.8s,baz=20,slow=5.9									
O48B	Farmland	71.39	46	P		P	18 53 54.6	-0.5	
baz=326									
CLZ	Clausthal	71.40	340	eP		P	18 53 55.4	+0.3	
comp=Z,13nm,0.9s,baz=20,slow=5.9									
DPC	Dobruska-Polom	71.47	336	eP		P	18 53 55.5	0.0	
DPC				e			19 03 01.7		
DPC				e			19 03 29.1		
DPC	Dobruska-Polom	71.47	336	eP		P	18 53 55.5	0.0	
IBBN	Ibbenburen	71.47	342	eP		P	18 53 55.7	+0.4	
comp=Z,91nm,1.4s,baz=20,slow=5.9									
BUR08	Bucovina Ar. S	71.48	329	IAmb		IAmb	18 53 55.9		
comp=Z,4.9nm,0.6s									
BURAR	Bucovina Array	71.50	329	⇑P		P	18 53 55.5	-0.3	
BURAR	Bucovina Array	71.50	329	⇑P		P	18 53 55.5	-0.3	
BURAR	Bucovina Array	71.50	329	IAmb		IAmb	18 53 56.0		
comp=Z,8.6nm,0.6s									
BRG	Berggiesshubel	71.54	337	eP		P	18 53 55.5	-0.4	
BRG				Amp			18 53 57.7		
comp=Z,4.4nm,0.8s									
BRG	Berggiesshubel	71.54	337	eP		P	18 53 55.4	-0.4	
BRG				pmax		pmax			
comp=Z,4.0nm,0.8s									
KRLC	Kraliky	71.61	335	eP		P	18 53 55.8	-0.5	
KRLC	Kraliky	71.61	335	eP		P	18 53 55.8	-0.5	
MORC	Moravsky Berou	71.69	335	⇑P		P	18 53 56.6	-0.3	
MORC	Moravsky Berou	71.69	335	⇑P		P	18 53 56.6	-0.3	
MORC	Moravsky Berou	71.69	335	IAmb		IAmb	18 53 57.8		
comp=Z,7.8nm,0.9s									
MORC	Moravsky Berou	71.69	335	eP		P	18 53 57.0	+0.2	
LANS	Liptovska Anna	71.77	333	eP		P	18 53 58.2	+0.9	
LANS				pmax		pmax			
comp=Z,9.0nm,0.7s									
LANS	Liptovska Anna	71.77	333	eP		P	18 53 58.2	+0.9	
FCAR	Ozark Folk Cen	71.78	54	IAmb		IAmb	18 53 58.0		
comp=Z,8.6nm,0.8s									
TRPA	Tarpa	71.84	331	⇑P		P	18 53 57.4	-0.2	
LONY	Lake Ozonia	71.86	37	P		P	18 53 57.0	-0.9	
baz=330									
MIAR	Mount Ida	72.16	56	P		P	18 54 00.3	+0.5	
baz=324									
PRU	Pruhonice	72.23	337	eP		P	18 53 59.9	-0.1	
PRU	Pruhonice	72.23	337	eP		P	18 53 59.9	-0.1	
M53A	WI Miller and	72.27	43	P		P	18 54 00.4	+0.1	
baz=328									
MOX	Moxa	72.27	339	eP		P	18 54 00.0	-0.2	
comp=Z,4.0nm,0.6s,baz=20,slow=5.9									
MOX				eL		L	19 33 20.2		
comp=Z,73nm,18.8s									
W41B	Gary Mavity, V	72.30	54	IAmb		IAmb	18 54 01.6		
comp=Z,9.6nm,0.8s									
W41B	Gary Mavity, V	72.30	54	P		P	18 54 00.9	+0.2	
baz=324,SNR=5.9									
WERD	Werda	72.31	338	eP		P	18 54 00.0	-0.4	
comp=Z,12nm,1.1s,baz=20,slow=5.9									
GSI	Gunungsitoli	72.31	247	P		P	18 54 00.7	-0.3	
GSI				IAmb		IAmb	18 54 02.0		
comp=Z,12nm,0.6s									
ACSO	Alum Creek Sta	72.33	45	P		P	18 54 00.8	+0.1	
baz=327									
VRAC	Vranov	72.36	335	eP		P	18 54 01.1	+0.3	
GUNZ	Gunzen	72.38	338	eP		P	18 54 00.9	0.0	
comp=Z,7.8nm,0.9s,baz=20,slow=5.9									
KASTN	Kahler Asten	72.40	341	eP		P	18 54 01.1	+0.1	
comp=Z,6.3nm,0.6s,baz=20,slow=5.9									
WERN	Wernitzgruen	72.44	338	eP		P	18 54 01.4	+0.1	
comp=Z,9.5nm,0.8s,baz=20,slow=5.9									
NKC	Novy Kostel	72.48	338	eP		P	18 54 01.7	+0.2	
NKC	Novy Kostel	72.48	338	eP		P	18 54 01.7	+0.2	
JAVC	Velka Javorina	72.51	334	eP		P	18 54 02.9	+1.2	
VRI	Vrincioaia	72.59	327	⇑P		P	18 54 01.9	-0.3	
VRI	Vrincioaia	72.59	327	⇑P		P	18 54 01.9	-0.3	
M54A	Oil Creek Stat	72.61	42	P		P	18 54 02.3	-0.1	
baz=328									
PBCC	Pribram	72.64	337	eP		P	18 54 02.2	-0.2	
KRUC	Moravsky	72.64	335	eP		P	18 54 02.6	+0.2	
CFR	Carcaliu	72.73	326	⇓P		P	18 54 02.4	-0.6	
CFR	Carcaliu	72.73	326	⇓P		P	18 54 02.4	-0.6	
COVR	Voineasa-Covas	72.77	327	⇑P		P	18 54 03.2	-0.1	
PSZ	Piszkesteto	72.78	332	⇑P		P	18 54 03.8	+0.5	
PSZ	Piszkesteto	72.78	332	⇑P		P	18 54 03.8	+0.5	
PSZ	Piszkesteto	72.78	332	P		P	18 54 03.7	+0.5	
SMOL	Smolenice	72.89	334	eP		P	18 54 04.8	+0.9	
SMOL				pmax		pmax			
comp=Z,3.0nm,0.8s									
SMOL	Smolenice	72.89	334	eP		P	18 54 04.8	+0.9	
TPGR	Topolog	72.92	325	⇑P		P	18 54 03.9	-0.3	
N54A	Moraine State	72.94	43	P		P	18 54 04.3	0.0	
baz=328									
ROTZ	Rotzenmuhle	72.97	338	eP		P	18 54 04.2	-0.1	
comp=Z,0.8nm,0.7s,baz=20,slow=5.9									
O53A	New Philadelph	73.05	44	IAmb		IAmb	18 54 05.1		
comp=Z,8.8nm,0.6s									
O53A	New Philadelph	73.05	44	P		P	18 54 04.8	-0.2	
baz=328									
MLR	Muntele Rosu	73.17	327	⇑P		P	18 54 05.5	-0.3	
MLR	Muntele Rosu	73.17	327	⇑P		P	18 54 05.5	-0.3	
P52A	Corning	73.19	45	IAmb		IAmb	18 54 06.0		
comp=Z,9.5nm,0.7s									
P52A	Corning	73.19	45	P		P	18 54 05.5	-0.3	
baz=328									
GRF	Grafenberg Arr	73.26	339	eL		L	19 34 23.5		
comp=Z,90nm,18.7s									
KHC	Kasperske Hory	73.26	337	eP		P	18 54 06.3	+0.2	
KHC	Kasperske Hory	73.26	337	eP		P	18 54 06.3	+0.2	
KHC	Kasperske Hory	73.26	337	IAmb		IAmb	18 54 07.9		
comp=Z,11nm,1.1s									
GRA2	Grafenberg Arr	73.26	339	eP		P	18 54 06.6	+0.5	
comp=Z,7.4nm,0.6s,baz=20,slow=5.9									
TIRR	Tirgusor	73.28	325	⇑P		P	18 54 05.7	-0.5	
TIRR	Tirgusor	73.28	325	⇑P		P	18 54 05.7	-0.5	
SRO	Srobarova	73.30	333	eP		P	18 54 07.0	+0.7	
SRO	Srobarova	73.30	333	eP		P	18 54 07.0	+0.7	
TNS	Taunus Mts	73.33	341	eP		P	18 54 06.5	0.0	
comp=Z,6.1nm,0.6s,baz=20,slow=5.9									
SRO2	Moca	73.33	333	eP		P	18 54 06.0	-0.4	
SRO2	Moca	73.33	333	eP		P	18 54 06.0	-0.4	
CKRC	Cesky Krumlov	73.38	336	eP		P	18 54 06.7	-0.1	
WET	Wettzell	73.41	337	eP		P	18 54 07.2	+0.2	
comp=Z,5.4nm,0.6s,baz=20,slow=5.9									
BTNL	Ternell	73.42	342	dP		P	18 54 07.0	0.0	
comp=Z,15nm,0.5s									
MEM	Membach	73.42	342	dP		P	18 54 06.7	-0.2	
comp=Z,23nm,0.7s									
GEC2	GERESS Array S	73.50	337	eP		P	18 54 07.1	-0.5	
comp=Z,2.8nm,0.6s,baz=20,slow=5.9									
GERES	GERESS Array B	73.50	337	P		P	18 54 07.5	0.0	
comp=Z,2.2nm,0.6s,baz=28,slow=6.0,SNR=11									
VOIR		73.50	328	⇑P		P	18 54 08.0	+0.4	
VOIR		73.50	328	⇑P		P	18 54 08.0	+0.4	
BSTI	Sart Tilman	73.52	343	dP		P	18 54 07.9	+0.4	
WVT	Waverly	73.60	51	P		P	18 54 08.0	-0.2	
WVT				pmax		pmax			
comp=Z,6.0nm,0.6s									
WVT	Waverly	73.60	51	P		P	18 54 08.0	-0.2	
WVT				IAmb		IAmb	18 54 09.0		
comp=Z,6.2nm,0.6s									
WVT	Waverly	73.60	51	P		P	18 54 08.6	+0.4	
baz=326									
BHOU	Houvegnez	73.66	342	kP		P	18 54 08.6	+0.3	
comp=Z,9.1nm,0.8s									
BHOU				dx		x	18 54 11.3		
ARR	Arges	73.69	328	⇑P		P	18 54 08.4	-0.4	
BCLA	Clavier	73.72	343	dP		P	18 54 08.3	-0.4	
ICOR	Ion Corvin	73.78	325	⇑P		P	18 54 09.4	+0.2	
BGES	Gesves	73.80	343	dP		P	18 54 09.2	0.0	
CONA	Conrad Observa	73.83	335	iP		P	18 54 09.9	+0.4	
comp=Z,3.9nm,0.6s									
RCHB	Rochefort	73.99	343	dP		P	18 54 09.7	-0.6	
comp=Z,4.7nm,0.8s									
RCHB				dpP		pP	18 54 48.0	-2.7	
SSPA	Standing Stone	74.06	41	P		P	18 54 10.6	-0.3	
baz=329									
O56A	Blue Knob Stat	74.10	42	P		P	18 54 11.2	0.0	
baz=329,SNR=5.2									
MCWV	Mont Chateau	74.11	43	P		P	18 54 11.4	+0.3	
baz=326									
DOU	Dourbes	74.16	343	dP		P	18 54 11.1	-0.1	
GZR	Gura Zlata	74.24	329	⇑P		P	18 54 11.4	-0.5	
GZR	Gura Zlata	74.24	329	⇑P		P	18 54 11.4	-0.5	
MOA	Molln	74.29	336	iP		P	18 54 12.2	+0.1	
comp=Z,2.3nm,0.6s									
BZS	Buzias	74.39	330	⇑P		P	18 54 12.2	-0.4	
BZS	Buzias	74.39	330	⇑P		P	18 54 12.2	-0.4	
PLAL	Pickwick Lake	74.43	52	IAmb		IAmb	18 54 13.9		
comp=Z,9.4nm,0.8s									
ARSA	Arzberg	74.54	335	eP		P	18 54 14.0	+0.5	
comp=Z,3.4nm,0.5s,SNR=5.3									
N59A	State Game Lan	74.63	40	P		P	18 54 14.0	-0.2	
baz=330									
MORH	Mrgy, Hungar	74.68	332	⇑P		P	18 54 13.5	-0.8	
KOVH	Kovagotottos	74.95	333	P		P	18 54 15.2	-0.7	
BFO	Black Forest	75.15	340	P		P	18 54 15.8	-1.2	
BFO				pmax		pmax			
comp=Z,6.0nm,0.8s									
BFO	Black Forest	75.15	340	P		P	18 54 15.8	-1.2	
BFO	Black Forest	75.15	340	eP		P	18 54 16.2	-0.8	
comp=Z,4.6nm,0.6s,baz=20,slow=5.9									
TZTN	Tautwell	75.18	48	P		P	18 54 17.2	-0.1	
baz=327									
SOKA	Soboth	75.20	335	eP		P	18 54 17.7	+0.3	
comp=Z,6.7nm,0.5s,SNR=11									
SWET	Sewanee	75.22	50	P		P	18 54 17.1	-0.6	
SWET				IAmb		IAmb	18 54 18.2		
comp=Z,14nm,0.7s									
KBA	Koelnbreinsper	75.23	336	eP		P	18 54 18.6	+0.8	
comp=Z,24nm,0.8s									
PAL	Palisades	75.25	38	P		P	18 54 17.1	-0.5	
PAL				pmax		pmax			
comp=Z,11nm,0.7s									
PAL	Palisades	75.25	38	P		P	18 54 17.1	-0.5	
PAL				IAmb		IAmb	18 54 18.1		
comp=Z,11nm,0.7s									
PAL	Palisades	75.25	38	P		P	18 54 17.5	-0.1	
baz=331									
FRGS	Fruska Gora	75.33	331	⇑P		P	18 54 16.9	-1.1	
WATA	Walderalm	75.40	338	eP		P	18 54 18.8	+0.2	
comp=Z,4.3nm,0.4s,SNR=7.5									
RETA	Reutte	75.44	338	iP		P	18 54 18.7	0.0	
comp=Z,3.0nm,0.6s,SNR=5.3									
WTTA	Wattenberg	75.46	338	eP		P	18 54 19.4	+0.4	
comp=Z,6.1nm,0.5s,SNR=7.3									
OBKA	Obir	75.47	335	iP		P	18 54 19.4	+0.4	
comp=Z,6.2nm,0.7s,SNR=4.3									
MOTA	Moosalm	75.50	338	eP		P	18 54 19.3	+0.1	
comp=Z,2.2nm,0.5s,SNR=7.7									
BR131	Keskin Array S	75.52	319	P		P	18 54 18.1	-1.3	
BR131				pmax		pmax			
comp=Z,8.0nm,0.8s									
BR131	Keskin Array S	75.52	319	P		P	18 54 18.1	-1.3	
BR131				IAmb		IAmb	18 54 19.6		
comp=Z,8.4nm,0.8s									
BRTR	Keskin Array B	75.52	319	P		P	18 54 18.9	-0.4	
comp=Z,3.6nm,0.7s,baz=65,slow=2.8,SNR=22									
BRTR	Keskin Array B	75.52	319	P		P	18 54 19.0	-0.4	
SQTA	Sankt Quirin	75.59	338	eP		P	18 54 20.1	+0.4	
comp=Z,7.3nm,0.7s,SNR=5.5									
ABTA	Abfaltersbach	75.74	337	iP		P	18 54 20.8	+0.3	
comp=Z,9.3nm,0.7s,SNR=10.0									
FETA	Feichten	75.89	338	iP		P	18 54 21.8	+0.4	
comp=Z,5.0nm,0.5s,SNR=13									
WB0	Warramunga Arr	76.27	204	P		P	18 54 24.4	+0.8	
WB0				IAmb		IAmb	18 54 25.2		
comp=Z,9.6nm,0.8s									
WR0	Warramunga Arr	76.42	203	P		P	18 54 25.3	+0.9	
WRAB	Tennant Creek	76.44	204	P		P	18 54 25.2	+0.7	
WRAB				pmax		pmax			
comp=Z,11nm,1.0s									
WRAB	Tennant Creek	76.44	204	P		P	18 54 25.2	+0.7	
WRAB				IAmb		IAmb	18 54 26.2		
comp=Z,11nm,1.0s									
WB2	Warramunga Arr	76.45	204	P		P	18 54 25.4	+0.8	
WB2				IAmb		IAmb	18 54 26.2		
comp=Z,10nm,0.8s									
WRA	Warramunga Arr	76.45	204	P		P	18 54 25.4	+0.8	
comp=Z,4.8nm,0.6s,baz=24,slow=6.1,SNR=60									
LRAL	Lakeview Retre	76.54	52	P		P	18 54 24.7	-0.4	
baz=326									
CTI	Castel Tesino	76.60	337	P		P	18 54 25.0	-0.4	
CTI				pmax		pmax			
comp=Z,9.0nm,0.6s									
CTI	Castel Tesino	76.60	337	P		P	18 54 24.9	-0.4	
CTI				IAmb		IAmb	18 54 25.5		
comp=Z,9.1nm,0.6s									
VTS	Vitosha	76.61	328	⇑P		P	18 54 25.4	-0.1	
VTS	Vitosha	76.61	328	⇑P		P	18 54 25.4	-0.1	
VTS	Vitosha	76.61	328	P		P	18 54 25.0	-0.6	
TUE	Stuetta	76.71	339	P		P	18 54 26.5	+0.4	
PALK	Pallekele	77.11	265	⇑P		P	18 54 26.7	-1.9	
TEOL	Teolo	77.25	337	P		P	18 54 28.4	-0.5	
KMSC	Kings Mountain	77.32	47	P		P	18 54 29.3	-0.2	
baz=328									
ASAR	Alice Springs	80.14	203	P		P	18 54 46.2	+1.4	
comp=Z,9.0nm,0.7s,baz=18,slow=5.0,SNR=146									
ASAR	Alice Springs	80.14	203	P		P	18 54 46.0	+1.2	
ASAR	Alice Springs	80.14	203	P		P	18 54 46.0	+1.2	
EIL	Elat	83.68	313	P		P	18 55 03.0	-0.4	
comp=Z,5.9nm,0.6s,baz=35,slow=22,SNR=2.0									
PBRG	Braganca	83.90	349	eP		P	18 55 04.6	+0.2	
comp=Z,26nm,1.9s									
RAYN	Ar Rayn	83.96	302	P		P	18 55 03.7	-1.3	
RAYN				pmax		pmax			
comp=Z,6.0nm,0.8s									
RAYN	Ar Rayn	83.96	302	P		P	18 55 03.7	-1.3	
PCAB	Cabril	84.13	350	eP		P	18 55 05.8	+0.3	
comp=Z,17nm,2.1s									
POLO	Lamas de Olo	84.44	350	eP		P	18 55 06.0	-1.2	
comp=Z,15nm,1.4s									
PVRL	Vila Real	84.53	350	eP		P	18 55 08.6	+1.1	
comp=Z,24nm,1.0s									
MVO	Moncorvo	84.56	349	eP		P	18 55 08.3	+0.5	
comp=Z,22nm,1.2s									
PVIS	Viseu	85.10	350	eP		P	18 55 10.3	-0.1	
comp=Z,22nm,1.5s									
MTE	Manteigas	85.38	350	eP		P	18 55 12.7	+0.9	
comp=Z,24nm,1.8s									
ESDC	Sonseca Array	85.66	347	P		P	18 55 13.1	0.0	
comp=Z,6.5nm,0.9s,baz=0.5,slow=4.8,SNR=38									
ESDC	Sonseca Array	85.66	347	P		P	18 55 13.2	0.0	
PCAS	Casmilo, Conde	85.82	350	eP		P	18 55 14.1	+0.2	
comp=Z,14nm,1.5s									
PAB	San Pablo	85.83	347	P		P	18 55 13.9	-0.2	
PAB				pmax		pmax			
comp=Z,5.0nm,0.9s									
PAB	San Pablo	85.83	347	P		P	18 55 13.9	-0.2	
PCBR	Castelo Branco	85.92	349	eP		P	18 55 14.8	+0.4	
comp=Z,14nm,1.2s									
STKA	Stephens Creek	86.67	195	P		P	18 55 18.7	+0.8	
comp=Z,1.3nm,0.4s,baz=338,slow=8.8,SNR=6.7									
PBAR	Barrancos	87.52	349	eP		P	18 55 23.0	+0.8	
comp=Z,13nm,1.7s									
DBIC	Dimbokro	118.13	341	PKP		PKPdf	19 01 20.1	-0.6	
comp=Z,2.9nm,0.9s,baz=47,slow=0.3,SNR=5.3									
LPAZ	La Paz	127.84	63	PKP		PKiKP	19 01 40.4	-0.1	
comp=Z,1.4nm,0.9s,baz=24,slow=8.9,SNR=5.0									
BOSA	Boshof	137.93	288	PKP		PKiKP	19 01 59.8	-0.2	
comp=Z,3.4nm,0.7s,baz=340,slow=2.7,SNR=4.4									
MAW	Mawson	140.12	216	PKP		PKiKP	19 02 03.0	0.0	
comp=Z,11nm,0.6s,baz=69,slow=15,SNR=1.8									
PLCA	Paso Flores	144.81	89	PKP		PKPdf	19 02 10.0	+0.2	
comp=Z,6.2nm,0.6s,baz=294,slow=4.2,SNR=32									
PLTB	Pedras Altas	148.03	59	PKPbc		PKPbc	19 02 19.7	+0.9	

*IDC **13** 18:51:59.3±0.7, 12°.20N×144°.36E, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.2/48, mbtmp4.2/23, MS3.3/13, Ms1 3.3/13, ms1mx3.1/70, Error ellipse: s-maj=21.3km s-min=14.6km az=103.0*

*NEIC **13** 18:52:05.2±0.7, 12°.22N±0°.07×144°.5E±0°.2, h36km±9km, mb4.5/23, Error ellipse: s-maj=29.7km s-min=10.0km az=95.0*

ISC 13 18:52:03.6±0.6, 12°.19N±0°.06×144°.6E±0°.1, h29km, n68, σ0°99/59, mb4.4/41, MS3.3/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.43	12	Pn		Pb		18 52 28.5	-1.1
252nm,0.3s,baz=242,slow=1.5,SNR=69									
GUMO				Sn		Sb		18 52 48.9	+1.4
422nm,0.3s,baz=53,slow=21,SNR=7.4									
GUMO	Guam	1.43	12	Pn		Pn		18 52 28.4	+0.8
GUMO				Sn		Sn		18 52 43.1	-2.3
DAV	Davao City (W)	19.38	257	LR		LR		19 02 48.6	
comp=Z,53nm,21.6s,baz=338,slow=34									
JHJ	Hachijo jima 2	21.29	349	LR		LR		19 04 07.4	
comp=Z,106nm,19.2s,baz=202,slow=34									
H11N1	WAKE ISLAND Hy	22.73	68	T		T		19 21 57.4	
baz=255,slow=75,SNR=3.9									
H11N2	WAKE ISLAND Hy	22.74	68	T		T		19 21 57.4	
baz=255,slow=75,SNR=4.6									
H11N3	WAKE ISLAND Hy	22.75	68	T		T		19 22 01.6	
baz=255,slow=75,SNR=3.1									
JNU	Nakatsue	24.31	331	P		P		18 57 17.2	-1.6
MJAR	Matsushiro Arr	24.91	348	P		P		18 57 23.6	-0.6
5.0nm,0.7s,baz=169,slow=9.8,SNR=15									
MJAR				LR		LR		19 06 23.4	
comp=Z,69nm,18.4s,baz=176,slow=35									
MJAR	Matsushiro Arr	24.91	348	P		P	

MAKZ				IAmb	IAmb	19 02 25.5	
	comp=Z,5.1nm,0.9s						
ZALV	**Zalesovo Beam**	**62.58**	**325**	P	**P**	**19 02 24.0**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=101,slow=5.9,SNR=3.8						
KURK	**Kurchatov**	**65.46**	**320**	P	**P**	**19 02 43.2**	**-0.7**
KURBB	**Kurchatov Arra**	**65.50**	**320**	P	**P**	**19 02 43.4**	**-0.8**
	comp=Z,4.8nm,0.8s,baz=104,slow=6.6,SNR=49						
KSH	**Kashi**	**65.85**	**308**	P	**P**	**19 02 49.1**	**+2.3**
KSH				PcP	**PcP**	**19 03 20.1**	**+2.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**67.19**	**311**	P	**P**	**19 02 54.8**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=94,slow=6.2,SNR=5.7						
AAK				LR	LR	19 36 03.3	
	comp=Z,26nm,18.0s,baz=106,slow=39						
NRIK	**Noril'sk**	**67.35**	**341**	P	**P**	**19 02 55.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=104,slow=8.3,SNR=1.4						
ILAR	**Eielson Array**	**69.96**	**25**	P	**P**	**19 03 11.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=252,slow=5.2,SNR=15						
TOLK	**Toolik Lake Re**	**70.03**	**21**	P	**P**	**19 03 13.8**	**+1.3**
TOLK				IAmb	IAmb	19 03 25.9	
	comp=Z,4.9nm,1.0s						
KKAR	**Karatay Array**	**70.14**	**312**	P	**P**	**19 03 13.6**	**0.0**
BVAR	**Borovoye Array**	**70.83**	**322**	P	**P**	**19 03 16.7**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=58,slow=21,SNR=17						
BRVK	**Borovoye**	**70.90**	**322**	P	**P**	**19 03 17.8**	**-0.2**
BRVK				IAmb	IAmb	19 03 35.9	
	comp=Z,4.2nm,0.8s						
ABKAR	**Akbulak array**	**77.37**	**318**	P	**P**	**19 03 55.1**	**-0.8**
ARU	**Arti**	**77.74**	**325**	P	**P**	**19 03 56.4**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=240,slow=3.0,SNR=6.5						
AKTO	**Aktyubinsk**	**78.52**	**319**	P	**P**	**19 04 01.3**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=91,slow=4.2,SNR=5.7						
A36M	**Sachs Harbour**	**78.56**	**19**	P	**P**	**19 04 02.0**	**-0.1**
A36M				IAmb	IAmb	19 04 04.5	
	comp=Z,5.0nm,0.9s						
C36M	**Paulatuk**	**79.18**	**21**	P	**P**	**19 04 05.9**	**+0.5**
GEYT	**Alibeck**	**79.84**	**307**	P	**P**	**19 04 10.1**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=212,slow=5.1,SNR=1.8						
YKA	**Yellowknife Ar**	**84.24**	**27**	P	**P**	**19 04 33.2**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=286,slow=5.1,SNR=29						
BELG	**Belogornoye**	**84.64**	**322**	P	**P**	**19 04 34.9**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=65,slow=19,SNR=3.7						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**19 04 54.1**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=276,slow=5.0,SNR=7.5						
FINES	**FINESS Array B**	**92.30**	**335**	P	**P**	**19 05 09.3**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=77,slow=6.0,SNR=7.3						
PDAR	**Pinedale Array**	**93.17**	**45**	P	**P**	**19 05 16.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=238,slow=0.7,SNR=4.9						
NOA	**NORSAR Array B**	**98.24**	**339**	LR	LR	19 52 01.9	
	comp=Z,13nm,18.4s,baz=350,slow=37						
DBIC	**Dimbokro**	**144.28**	**300**	PKP	**PKPdf**	**19 11 37.0**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=45,slow=3.8,SNR=2.0						
LPAZ	**La Paz**	**148.08**	**101**	PKPbc	**PKiKP**	**19 11 49.2**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=45,slow=3.5,SNR=4.6						

IDC 13 18:54:06.5±336.0, 45°34N×65°22E, h0km, Error ellipse: s-maj=195.3km s-min=114.7km az=161.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.00**	**319**	*i*		19 31 30.0	
	baz=134,slow=341,SNR=11						
I46RU	**ZALESOVO INFRA**	**15.30**	**49**	*i*		20 32 50.0	
	baz=243,slow=304,SNR=4.7						
I43RU	**DUBNA INFRASON**	**20.81**	**313**	*i*		21 05 55.0	
	baz=112,slow=336,SNR=1.5						
I34MN	**SONGINO INFRAS**	**28.19**	**70**	*i*		21 48 30.0	
	baz=281,slow=329,SNR=1.6						
I45RU	**USSURIYSK INFR**	**46.15**	**66**	*i*		23 31 10.0	
	baz=293,slow=332,SNR=4.4						

IDC 13 18:57:29.9±2.7, 59°03N×30°34W, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.4/51, mbtmp3.9/7, MS3.2/2, Ms1 3.2/2, ms1mx2.5/88, Error ellipse: s-maj=94.5km s-min=31.5km az=169.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**18.68**	**301**	LR	LR	19 08 02.5	
	comp=Z,42nm,21.9s,baz=162,slow=34						
SCHQ	**Schefferville**	**20.18**	**274**	P	P	19 02 05.7	+0.1
	1.2nm,0.7s,baz=68,slow=5.4,SNR=1.4						
ARCES	**ARCESS Array B**	**25.40**	**4**	P	P	19 02 57.3	-1.1
	5.1nm,0.9s,baz=289,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**27.37**	**61**	P	P	19 03 18.1	+1.8
	1.2nm,0.8s,baz=305,slow=8.2,SNR=1.7						
SADO	**Sadowa**	**32.50**	**266**	LR	LR	19 15 44.4	
	comp=Z,60nm,18.7s,baz=210,slow=34						
GNI	**Garni**	**49.33**	**78**	P	P	19 06 19.1	-1.5
	2.4nm,0.5s,baz=351,slow=4.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.92**	**40**	P	P	19 07 07.4	-1.6
	0.2nm,0.3s,baz=328,slow=10,SNR=1.8						
KURBB	**Kurchatov Arra**	**56.41**	**46**	P	P	19 07 13.0	+0.4
	1.0nm,0.7s,baz=325,slow=7.0,SNR=9.3						
MKAR	**Makanchi Array**	**60.98**	**46**	P	P	19 07 45.3	+0.8
	0.8nm,0.5s,baz=341,slow=5.3,SNR=17						

*IDC **13** 19:01:23.4±1.1, 0.°65N×122.°10E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/43, mbtmp3.6/7, ML4.2/1, Error ellipse: s-maj=90.5km s-min=17.2km az=62.0*
*DJA **13** 19:01:43.1±0.6, 0.°N±4.°×12.°2E±.°, h167km±5km, M3.6/9, mb3.7/2, MLv3.6/9*
ISC 13 19:01:41.6±0.8, 0.°34N±0.°08×121.°64E±0.°06, h150km, n15, σ3°49/18, mb3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.33**	**66**	P	**Pn**	**19 02 06.1**	**+3.9**
MRSI				S	**Sn**	**19 02 23.2**	**+5.3**
APSI	**Ampana**	**1.24**	**180**	P	**Pn**	**19 02 12.6**	**+4.0**
APSI				S	**Sn**	**19 02 34.1**	**+4.8**
GTOI	**Gorontalo**	**1.40**	**78**	P	**Pn**	**19 02 13.3**	**+3.2**
GTOI				S	**Sn**	**19 02 37.0**	**+5.1**
MPSI	**Mapaga**	**1.74**	**270**	P	**Pn**	**19 02 17.0**	**+3.2**
LUWI	**Luwuk**	**1.78**	**141**	P	**Pn**	**19 02 17.7**	**+3.5**
KMSI	**Cibinong**	**2.35**	**84**	P	**Pn**	**19 02 25.0**	**+4.1**
SANI	**Sanana**	**4.95**	**119**	P	**Pn**	**19 02 54.1**	**-0.3**
LBMI	**Labuha**	**5.94**	**99**	P	**Pn**	**19 03 07.8**	**+0.3**
	0.1nm7.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.74**	**168**	P	**P**	**19 05 47.5**	**-1.5**
	0.6nm,0.3s,baz=5.4,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**23.69**	**149**	P	**P**	**19 06 37.4**	**-2.4**
	1.1nm,0.5s,baz=326,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.67**	**154**	P	**P**	**19 07 04.8**	**-2.0**
	0.6nm,0.6s,baz=344,slow=15,SNR=18						
CMAR	**Chiang Mai Arr**	**28.66**	**310**	P	**P**	**19 07 22.9**	**-1.6**
	0.2nm,0.4s,baz=129,slow=8.2,SNR=3.0						
STKA	**Stephens Creek**	**37.20**	**151**	P	**P**	**19 08 36.7**	**-1.7**
	1.2nm,0.7s,baz=335,slow=14,SNR=4.1						
SONM	**Songino Array**	**49.13**	**346**	P	**P**	**19 10 11.6**	**-2.5**
	0.3nm,0.8s,baz=150,slow=9.4,SNR=2.5						
MKAR	**Makanchi Array**	**57.62**	**329**	P	**P**	**19 11 15.4**	**-0.6**
	0.2nm,0.3s,baz=128,slow=9.0,SNR=6.3						

*SFS **13** 19:04:46.0, 35.°67N×3.°67W, ML2.8, ALBORAN SUR*
*MDD **13** 19:04:46.2±0.4, 35.°67N×3.°68W, h0km, mb_Lg2.8/3, Error ellipse: s-maj=3.0km s-min=3.8km az=29.0*
*CNRM **13** 19:04:47.4, 35.°70N×3.°55W, h27km, ml2.4*
ISC 13 19:04:45.9±1.2, 35°68N±0.°02×3°64W±0.°02, h11km±10km, n29, σ1°27/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.52**	**208**	P	**Pn**	**19 04 58.7**	**-0.6**
PALE				S	**Sn**	**19 05 06.5**	**-1.6**
EALB	**Alboran**	**0.56**	**62**	Pg	**Pg**	**19 04 57.1**	**+0.3**
EALB				Sg	**Sb**	**19 05 06.3**	**+0.7**
EALB				*i* Vmb_Lg		19 05 07.3	
EMEL	**Melilla**	**0.68**	**124**	Pg	**Pg**	**19 04 59.1**	**0.0**
EMEL				Sg	**Sg**	**19 05 07.5**	**-0.4**
EMEL				*i* Vmb_Lg		19 05 09.7	
GOG	**Mont Gurugu**	**0.70**	**131**	P	**Pg**	**19 04 60.0**	**+0.5**
GOG				S	**Sb**	**19 05 10.1**	**+0.3**
ELGU	**Los Guajares,**	**1.18**	**1**	Pg	**Pn**	**19 05 07.3**	**-1.2**
ELGU				Sg	**Sb**	**19 05 23.7**	**0.0**
ELGU				*i* Vmb_Lg		19 05 26.6	
EMAL	**Malaga-Limoner**	**1.25**	**330**	P	**Pb**	**19 05 09.9**	**+0.4**
EMAL				S	**Sb**	**19 05 25.4**	**-0.2**
EMIJ	**Mijas**	**1.27**	**314**	Pg	**Pn**	**19 05 08.4**	**-1.2**
EMIJ				Sg	**Sb**	**19 05 24.3**	**-1.8**
EMIJ				*i* Vmb_Lg		19 05 26.2	
TAF	**Taforalt**	**1.33**	**130**	P	**Pn**	**19 05 10.3**	**-0.1**
TAF				S	**Sb**	**19 05 26.7**	**-1.1**
EBER	**Berja**	**1.36**	**26**	Pn	**Pn**	**19 05 09.4**	**-1.6**
EBER				Sn	**Sn**	**19 05 29.0**	**0.0**
EBER				*i* Vmb_Lg		19 05 45.3	
SMIR	**Smir Dam**	**1.41**	**271**	P	**Pg**	**19 05 12.6**	**-0.4**
SMIR				S	**Sb**	**19 05 30.3**	**0.0**
CEU	**Ceuta**	**1.42**	**279**	P	**Pn**	**19 05 11.3**	**-0.3**
CEU				S	**Sn**	**19 05 27.9**	**-2.4**
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pn**	**19 05 11.3**	**-1.2**
EGOR				Sn	**Sb**	**19 05 32.1**	**-0.1**
EGOR				*i* Vmb_Lg		19 05 40.5	
CHEFC	**Chefchaouen**	**1.50**	**248**	P	**Pb**	**19 05 13.6**	**-0.2**
CHEFC				S	**Sg**	**19 05 34.3**	**+0.2**
JBK	**JBK**	**1.61**	**146**	P	**Pn**	**19 05 14.1**	**-0.3**
JBK				S	**Sn**	**19 05 33.6**	**-1.6**
EJIF	**Jimena Fronter**	**1.67**	**298**	Pn	**Pn**	**19 05 14.0**	**-1.0**
SICH	**Sidi Chahed**	**2.09**	**222**	P	**Pb**	**19 05 22.5**	**-1.3**
SICH				S	**Sb**	**19 05 49.7**	**0.0**
EQES	**Quesada**	**2.17**	**12**	Pn	**Pn**	**19 05 23.6**	**+1.6**
EQES				Sn	**Sn**	**19 05 50.5**	**+1.6**
EQES				*i* Vmb_Lg		19 05 53.3	
IFR	**Ifrane**	**2.48**	**210**	S	**Sn**	**19 05 56.7**	**-0.1**
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**19 05 29.2**	**+1.4**
EADA				Sn	**Sn**	**19 06 00.2**	**+0.9**
EADA				*i* Vmb_Lg		19 06 12.9	
EZAR	**Zarzadilla de**	**2.69**	**35**	Pn	**Pn**	**19 05 28.6**	**-0.6**
ECAB	**El Cabril**	**2.78**	**330**	Pn	**Pn**	**19 05 31.5**	**+1.1**
ECAB				Sn	**Sn**	**19 06 04.6**	**+0.7**
ECAB				*i* Vmb_Lg		19 06 16.5	
TDRA	**Tendrara**	**2.95**	**153**	P	**Pn**	**19 05 33.1**	**+0.2**
TDRA				S	**Sn**	**19 06 05.1**	**-3.3**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**19 05 34.1**	**+1.3**
MD31				S	**Sn**	**19 06 09.9**	**+1.6**
MDT	**Midelt**	**2.97**	**196**	P	**Pn**	**19 05 35.3**	**+2.3**
MDT				S	**Sn**	**19 06 10.2**	**+1.5**
EMIN	**Mina Concepcio**	**3.20**	**311**	Pn	**Pn**	**19 05 36.5**	**+0.4**
EMIN				Sn	**Sn**	**19 06 13.8**	**-0.5**
ZHG	**ZHG**	**3.33**	**229**	P	**Pn**	**19 05 40.4**	**+2.4**
ZHG				S	**Sn**	**19 06 20.8**	**+3.3**
ETOB	**Tobarra**	**3.40**	**29**	Pn	**Pn**	**19 05 40.5**	**+1.6**
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**19 05 42.0**	**+0.4**
EGRO				Sn	**Sn**	**19 06 23.2**	**-0.9**
EBAD	**Badajoz**	**4.08**	**320**	Pn	**Pn**	**19 05 48.6**	**+0.5**
EBAD				Sn	**Sn**	**19 06 36.1**	**+0.2**
EBAD				*i* Vmb_Lg		19 08 09.5	

*STR **13** 19:32:07.2±0.4, 43.°N±3.°×.°±.°, h3km, MLv1.4/6, preliminary*
*MRB **13** 19:32:07.0±0.4, 43.°06N×0.°22W, h5km±5km, ML1.5/14, Error ellipse: s-maj=3.4km s-min=1.6km az=330.0*
*LDG **13** 19:32:07.0±0.1, 43.°05N×0.°21W, h6km, Md1.9/2, Ml2.1/10, Error ellipse: s-maj=1.3km s-min=1.2km az=176.0*
*MDD **13** 19:32:08.7±0.4, 43.°08N×0.°24W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=4.0km s-min=2.4km az=179.0*
ISC 13 19:32:06.5±0.8, 43°10N±0.°02×0°20W±0.°02, h13km±5km, n49, σ0°94/88, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.11**	**89**	Pg	**Pg**	**19 32 09.8**	**+0.1**
PYLO				Sg	**Sg**	**19 32 12.1**	**+0.1**
PYLO	**Lourdes**	**0.11**	**89**	*i* P	**Pg**	**19 32 09.8**	**+0.1**
PYLO				S	**Sg**	**19 32 12.2**	**+0.2**
VIEF	**Viey**	**0.27**	**142**	Pg	**Pg**	**19 32 11.8**	**-0.4**
VIEF				Sg	**Sg**	**19 32 15.2**	**-0.9**
ETSF	**Etsaut**	**0.33**	**233**	*e*Pg	**Pg**	**19 32 12.8**	**-0.5**
ETSF				*e*Sg	**Sg**	**19 32 16.6**	**-1.2**
	48nm,0.2s						
ETSF	**Etsaut**	**0.33**	**233**	Pg	**Pg**	**19 32 12.8**	**-0.5**
EPF	**Esparros**	**0.40**	**99**	*e*Pg	**Pg**	**19 32 14.4**	**-0.2**
EPF				*e*Sg	**Sg**	**19 32 19.8**	**-0.2**
	22nm,0.2s						
EPF	**Esparros**	**0.40**	**99**	Pg	**Pg**	**19 32 14.4**	**-0.2**
CANF	**Canfranc**	**0.41**	**215**	Pg	**Pg**	**19 32 14.1**	**-0.5**
CANF				Sg	**Sg**	**19 32 19.2**	**-1.0**
FMON	**Montouss**	**0.45**	**94**	P	**Pb**	**19 32 15.8**	**-0.6**
FMON				S	**Sb**	**19 32 22.9**	**-0.1**
ECHI	**Chisagues Biel**	**0.52**	**146**	Pg	**Pg**	**19 32 16.2**	**-0.6**
ECHI				Sg	**Sg**	**19 32 22.5**	**-1.2**
ECHI	**Chisagues Biel**	**0.52**	**146**	P	**Pg**	**19 32 16.2**	**-0.6**
ECHI				S	**Sg**	**19 32 23.6**	**-0.1**
	25nm,0.1s						
ECHI	**Chisagues Biel**	**0.52**	**146**	Pg	**Pg**	**19 32 16.5**	**-0.3**
ECHI				Sg	**Sg**	**19 32 22.7**	**-1.1**
ECHI				*i* Vmb_Lg		19 32 23.5	
SJPF	**Ste Jean**	**0.75**	**272**	*e*Pg	**Pg**	**19 32 20.7**	**-0.4**
SJPF	**Ste Jean**	**0.75**	**272**	*e*P	**Pn**	**19 32 23.0**	**+0.2**
SJPF				*e*Sg	**Sg**	**19 32 30.5**	**-0.5**
	8.6nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**272**	Pg	**Pg**	**19 32 20.7**	**-0.4**
EORO	**Oroz-Betelu**	**0.84**	**256**	Pg	**Pg**	**19 32 23.0**	**+0.3**
EORO				Sg	**Sg**	**19 32 34.4**	**+0.6**
EORO				*i* Vmb_Lg		19 32 36.9	
CARA	**Val d'Aran**	**0.84**	**117**	P	**Pg**	**19 32 22.6**	**-0.3**
CARA				S	**Sb**	**19 32 34.7**	**+0.3**
	17nm,0.2s						
MLS	**Moulis**	**0.96**	**98**	Pn	**Pn**	**19 32 26.4**	**+0.8**
MLS				Sg	**Sn**	**19 32 38.8**	**-0.4**
MLS	**Moulis**	**0.96**	**98**	P	**Pb**	**19 32 25.4**	**+0.4**
MLS				S	**Sn**	**19 32 38.7**	**-0.5**
EALK	**Alkurruntz**	**0.96**	**278**	Pg	**Pg**	**19 32 25.1**	**0.0**
EALK				Sg	**Sg**	**19 32 37.4**	**-0.3**
EALK	**Alkurruntz**	**0.96**	**278**	Pg	**Pn**	**19 32 26.1**	**+0.3**
EALK				Sg	**Sb**	**19 32 38.8**	**+1.0**
EALK				*i* Vmb_Lg		19 32 41.5	
CTRE	**Tremp**	**1.05**	**137**	P	**Pg**	**19 32 25.9**	**-0.9**
CTRE				S	**Sb**	**19 32 40.8**	**+0.4**
	3.7nm,0.3s						
CEST	**Esterri de Car**	**1.18**	**114**	P	**Pn**	**19 32 29.1**	**+0.3**
CEST				S	**Sn**	**19 32 45.1**	**+0.4**
	4.3nm,0.3s						
CSOR	**Sort**	**1.22**	**126**	P	**Pn**	**19 32 29.6**	**+0.2**
CSOR				S	**Sn**	**19 32 46.2**	**+0.5**
	5.9nm,0.2s						
CAVN	**Les Avellanes**	**1.40**	**150**	P	**Pb**	**19 32 32.4**	**-0.1**
CAVN				S	**Sg**	**19 32 51.0**	**-0.8**
	13nm,0.2s						
CORG	**Organya**	**1.42**	**127**	P	**Pb**	**19 32 32.9**	**+0.1**
CORG				S	**Sg**	**19 32 51.6**	**-0.5**
ARBS	**La Rabassa**	**1.44**	**116**	S	**Sg**	**19 32 52.5**	**-0.5**
	5.0nm,0.5s						
FNEB	**Nbias**	**1.70**	**96**	P	**Pb**	**19 32 37.6**	**-0.1**
FNEB				S	**Sb**	**19 32 59.6**	**+0.6**
	2.1nm,0.3s						
CLLI	**Llivia**	**1.71**	**110**	P	**Pb**	**19 32 37.3**	**-0.6**
CLLI				S	**Sb**	**19 33 00.1**	**+0.7**
	1.8nm,0.4s						
MTLF	**Montolieu**	**1.78**	**81**	*e*Pg	**Pg**	**19 32 41.2**	**+0.5**
MTLF				*e*Sg	**Sg**	**19 33 03.5**	**-0.4**
	2.9nm,0.3s						
CBRU	**Bruguera**	**1.93**	**114**	P	**Pn**	**19 32 40.4**	**+1.3**
CBRU				S	**Sb**	**19 33 05.4**	**-0.3**
	3.1nm,0.6s						
LFF	**La Frestale**	**1.96**	**20**	*e*Pg	**Pg**	**19 32 43.8**	**-0.4**
LFF				*e*Sg	**Sg**	**19 33 09.4**	**-0.2**
	3.6nm,0.3s						
EPOB	**Poblet**	**1.98**	**151**	P	**Pn**	**19 32 40.3**	**+0.5**
EPOB				S	**Sb**	**19 33 06.2**	**-0.9**
	2.0nm,0.3s						
EPOB	**Poblet**	**1.98**	**151**	Pn	**Pg**	**19 32 43.3**	**-1.3**
EPOB				Sn	**Sg**	**19 33 09.1**	**-1.3**
CORI	**Orista**	**2.01**	**123**	P	**Pb**	**19 32 41.5**	**-1.3**
CORI				S	**Sb**	**19 33 07.1**	**-0.6**
	5.2nm,0.4s						
CGAR	**Garraf**	**2.06**	**151**	S	**Sg**	**19 33 16.0**	**+3.5**
CBEU	**Beuda**	**2.28**	**111**	P	**Pn**	**19 32 45.4**	**+1.5**
CBEU				S	**Sn**	**19 33 13.7**	**+1.9**
	5.8nm,0.5s						
CMAS	**Mas de Barbera**	**2.40**	**171**	S	**Sn**	**19 33 15.6**	**+0.8**
	1.7nm,0.5s						
CAF	**Calviac**	**2.45**	**41**	*e*Pn	**Pn**	**19 32 47.0**	**+0.8**
CAF	**Calviac**	**2.45**	**41**	*e*Pg	**Pg**	**19 32 52.8**	**-0.7**
CAF				*e*Sn	**Sn**	**19 33 15.7**	**-0.3**
CAF				*e*Sg	**Sg**	**19 33 24.6**	**-0.7**
	1.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**29**	*e*Pn	**Pn**	**19 32 46.6**	**-0.6**
RJF	**Les Rejaudoux**	**2.53**	**29**	*e*Pg	**Pg**	**19 32 54.6**	**-0.4**
RJF				*e*Sn	**Sn**	**19 33 17.7**	**-0.2**
RJF				*e*Sg	**Sg**	**19 33 27.2**	**-0.6**
	1.3nm,0.2s						
CCAS	**Cassa de la Se**	**2.60**	**117**	P	**Pn**	**19 32 49.7**	**+1.5**
CCAS				S	**Sn**	**19 33 20.9**	**+1.3**
LASF	**Ste Croix**	**3.11**	**70**	*e*Pn	**Pn**	**19 32 55.4**	**+0.2**
LASF	**Ste Croix**	**3.11**	**70**	*e*Pg	**Pg**	**19 33 05.7**	**-0.3**
LASF				*e*Sg	**Sg**	**19 33 45.0**	**-1.2**
	2.4nm,0.4s						
MFF	**Saint Martin d**	**3.50**	**1**	*e*Sg	**Sg**	**19 33 58.6**	**-0.4**
	0.4nm,0.2s						
TCF	**Toulx Ste Croi**	**3.62**	**27**	*e*P	**Pn**	**19 33 06.1**	**+3.8**
TCF				*e*Sn	**Sn**	**19 33 43.6**	**-1.3**
TCF				*e*Sg	**Sg**	**19 34 01.5**	**-1.4**
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.93**	**62**	*e*Sg	**Sg**	**19 34 10.5**	**-2.2**
	0.5nm,0.2s						
BGF	**Bois d'Agland**	**4.08**	**31**	*e*Sg	**Sg**	**19 34 16.7**	**-0.9**
	3.0nm,0.4s						

*JMA **13** 19:34:08.4±0.1, 23.°84N×121.°82E, h47km±2km, M3.2*
*TAP **13** 19:34:10.5, 24.°00N×121.°86E, h41km, ML3.4, C*
ISC 13 19:34:11.1±1.5, 23°98N±0.°02×121°90E±0.°02, h36km±1km, n102, σ0°79/181, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.27**	**271**	*i* P	**Pn**	**19 34 18.9**	**-0.2**
	baz=264						
HWA				*e*S	**Sn**	**19 34 25.9**	**-0.1**
	baz=264						
TEYL	**Yanliau Villag**	**0.29**	**249**	*i* P	**Pn**	**19 34 19.1**	**-0.1**
	baz=248						
TEYL				*e*S	**Sn**	**19 34 26.1**	**+0.2**
	baz=248						
TWD	**Chiawan**	**0.29**	**291**	*i* P	**Pn**	**19 34 18.6**	**-0.6**
	baz=289						
TWD				*i* S	**Sn**	**19 34 24.8**	**-1.1**
	baz=289						
ETL	**Fush Village**	**0.31**	**306**	*i* P	**Pn**	**19 34 18.8**	**-0.6**
	baz=306						
ETL				*i* S	**Sn**	**19 34 25.0**	**-1.0**
	baz=306						
NACB	**Ninganchiao**	**0.34**	**306**	*i* P	**Pn**	**19 34 19.0**	**-0.5**
	baz=306						
NACB				*i* S	**Sn**	**19 34 25.4**	**-0.6**
	baz=306						
EHP	**Heping Village**	**0.36**	**337**	P	**Pn**	**19 34 19.5**	**-0.3**
	baz=342						
EHP				S	**Sn**	**19 34 26.2**	**-0.1**
	baz=342						
ETM	**Tongmen**	**0.37**	**269**	*i* P	**Pn**	**19 34 19.5**	**-0.3**
	baz=264						
ETM				*i* S	**Sn**	**19 34 26.4**	**0.0**
	baz=264						
TEGC	**Jichi Village**	**0.42**	**231**	P	**Pn**	**19 34 20.4**	**0.0**
	baz=224						
TEGC				S	**Sn**	**19 34 28.2**	**+1.0**
	baz=224						
ETLH	**Xiulin Townshi**	**0.45**	**301**	*i* P	**Pn**	**19 34 20.3**	**-0.7**
	baz=301						
ETLH				*i* S	**Sn**	**19 34 27.4**	**-0.5**
	baz=301						
ESL	**Shilin**	**0.46**	**250**	*i* P	**Pn**	**19 34 20.4**	**-0.6**
	baz=244						
ESL				S	**Sn**	**19 34 27.8**	**-0.2**
	baz=244						
ENA	**Nanau**	**0.47**	**342**	*i* P	**Pn**	**19 34 20.7**	**-0.6**
	baz=346						
ENA				S	**Sn**	**19 34 28.5**	**0.0**
	baz=346						
EWUT	**Wuta**	**0.48**	**347**	P	**Pn**	**19 34 20.9**	**-0.6**
	baz=350						
EWUT				S	**Sn**	**19 34 28.8**	**+0.1**
	baz=350						
EGFH	**Guangfu**	**0.53**	**235**	*i* P	**Pn**	**19 34 21.5**	**-0.7**
	baz=230						
EGFH				S	**Sn**	**19 34 29.9**	**0.0**
	baz=230						
WHF	**Hehuan Shan**	**0.60**	**286**	*i* P	**Pn**	**19 34 22.5**	**-1.2**
	baz=285						
WHF				S	**Sn**	**19 34 31.4**	**-0.9**
	baz=285						
TWC	**Suao**	**0.63**	**356**	*i* P	**Pn**	**19 34 23.3**	**-0.4**
TWC				*i* S	**Sn**	**19 34 32.5**	**0.0**
HGSD	**Ruisui**	**0.65**	**222**	P	**Pn**	**19 34 23.1**	**-0.7**
	baz=218						
NNSB	**Datong**	**0.65**	**314**	P	**Pn**	**19 34 23.2**	**-0.9**
	baz=314						
NNSB				S	**Sn**	**19 34 32.3**	**-0.8**
	baz=314						
LATG	**

baz=337
NWLT *i* S **Sn** 19 34 37.8 **-0.7**
baz=337
NTC Toucheng **0.88 356** S **Sn** 19 34 39.0 **+0.4**
baz=358
SSLB Suanglung **0.88 258** P **Pn** 19 34 26.1 **-0.9**
baz=255
SSLB S **Sn** 19 34 38.3 **-0.5**
baz=255
DPDB Guoxing **0.89 274** *i* P **Pn** 19 34 26.9 **-0.2**
baz=272
WCS Beigang Elemen **0.91 275** P **Pn** 19 34 26.8 **-0.5**
baz=273
WCS S **Sn** 19 34 38.6 **-0.5**
baz=273
SMLT Sun Moon Lake **0.92 264** P **Pn** 19 34 27.2 **-0.4**
baz=262
WHP Taichung City **0.92 289** *i* P **Pn** 19 34 27.7 **0.0**
baz=288
FULB Fuli **0.95 216** P **Pn** 19 34 27.8 **-0.1**
baz=213
FULB S **Sn** 19 34 41.0 **+0.7**
baz=213
TYC Yuchr **0.95 266** *e*P **Pn** 19 34 29.1 **+1.2**
baz=264
NFF Wufeng Townshi **0.97 313** P **Pn** 19 34 28.1 **-0.2**
baz=313
NFF S **Sn** 19 34 40.2 **-0.6**
baz=313
YUS Yu-Shan **0.99 241** *i* P **Pn** 19 34 28.5 **-0.5**
baz=238
TIPB Shuangxi **0.99 356** *e*S **Sn** 19 34 41.8 **+0.4**
baz=358
NHDH Xindian Distri **1.04 341** *i* P **Pn** 19 34 29.2 **0.0**
baz=342
TWA Mucha **1.04 344** P **Pn** 19 34 28.7 **-0.5**
baz=346
TWA S **Sn** 19 34 42.8 **+0.3**
baz=346
LIOB Emei **1.05 310** *i* P **Pn** 19 34 29.9 **+0.6**
baz=310
LIOB S **Sn** 19 34 43.3 **+0.7**
baz=310
NSTT Nanjuang **1.05 309** P **Pn** 19 34 29.7 **+0.4**
baz=309
NSTT S **Sn** 19 34 42.8 **+0.2**
baz=309
NJD Zhudong **1.06 316** *e*P **Pn** 19 34 30.2 **+0.8**
baz=316
NJD S **Sn** 19 34 43.8 **+0.9**
baz=316
TATO Taipei **1.06 340** P **Pn** 19 34 29.3 **-0.2**
baz=341
TATO S **Sn** 19 34 42.3 **-0.7**
baz=341
WJS Zhushan **1.08 262** *e*P **Pn** 19 34 30.9 **+1.1**
baz=260
NWF Wu-fen Shan **1.10 354** P **Pn** 19 34 30.6 **+0.6**
baz=356
NWF S **Sn** 19 34 44.6 **+0.6**
baz=356
WFSB Wu-fen Shan **1.10 354** P **Pn** 19 34 30.4 **+0.5**
baz=356
WFSB S **Sn** 19 34 44.8 **+0.9**
baz=356
WWF Wufeng **1.10 274** *e*P **Pn** 19 34 31.0 **+1.0**
baz=272
WWF *e*S **Sn** 19 34 45.2 **+1.3**
baz=272
ALS Alishan **1.10 245** *i* P **Pn** 19 34 30.5 **+0.2**
baz=243
ALS S **Sn** 19 34 43.8 **-0.7**
baz=243
WNT Mingjian **1.11 265** *e*P **Pn** 19 34 31.0 **+0.8**
baz=263
WNT1 Nantou City **1.12 267** *e*P **Pn** 19 34 31.1 **+0.9**
baz=265
ELDTW Lidau **1.12 226** *e*P **Pn** 19 34 29.6 **-0.9**
baz=223
YOJ Yonaguni jima **1.13 64** P **Pn** 19 34 30.0 **-0.3**
YOJ *e*S **Sn** 19 34 45.8 **+1.2**
YOJ Yonaguni jima **1.13 64** P **Pn** 19 34 30.3 **0.0**
baz=65
YOJ S **Sn** 19 34 46.1 **+1.5**
baz=65
NSY Sanyi **1.13 293** *i* P **Pn** 19 34 30.9 **+0.5**
baz=292
TCU Taichung **1.13 279** P **Pn** 19 34 30.8 **+0.4**
baz=277
TCU *e*S **Sn** 19 34 46.6 **+2.0**
baz=277
HSN1 Hsinchu **1.13 315** P **Pn** 19 34 30.6 **+0.2**
baz=315
HSN1 S **Sn** 19 34 44.8 **+0.1**
baz=315
EDH Donghe **1.14 209** *e*P **Pn** 19 34 28.9 **-1.6**
baz=206
EDH *e*S **Sn** 19 34 43.4 **-1.5**
baz=206
NMLH Miaoli **1.16 299** P **Pn** 19 34 30.4 **-0.3**
baz=298
NTY Taoyuan **1.16 332** P **Pn** 19 34 31.0 **+0.2**
baz=332
NTY S **Sn** 19 34 46.1 **+0.7**
baz=332
SBCB Hsinchu **1.16 315** P **Pn** 19 34 30.7 **-0.2**
baz=314
SBCB *e*S **Sn** 19 34 45.1 **-0.4**
baz=314
CHN5 Tsauling **1.18 252** *i* P **Pn** 19 34 31.6 **+0.5**
baz=249
NCUH Zhongli **1.18 327** P **Pn** 19 34 31.2 **0.0**
baz=327
NCUH S **Sn** 19 34 45.7 **-0.3**
baz=327
NCU National Centr **1.18 327** P **Pn** 19 34 30.6 **-0.6**
baz=327
NCU *e*S **Sn** 19 34 45.7 **-0.3**
baz=327
TWS1 Kuangyinshan **1.20 339** P **Pn** 19 34 30.9 **-0.5**
baz=340
TWS1 S **Sn** 19 34 46.1 **-0.4**
baz=340
YM01 YM01 **1.20 346** *e*P **Pn** 19 34 30.6 **-0.9**
baz=347
WYL Yuanlin Townsh **1.21 270** P **Pn** 19 34 32.0 **+0.6**
baz=268
WYL *e*S **Sn** 19 34 49.1 **+2.6**
baz=268
WDJ Dajia District **1.21 288** P **Pn** 19 34 31.2 **-0.3**
baz=287
WCHH Zhanghua **1.23 275** P **Pn** 19 34 32.1 **+0.3**
baz=273
WCHH *e*S **Sn** 19 34 48.7 **+1.6**
baz=273
YM08 YM08 **1.24 347** P **Pn** 19 34 31.0 **-0.9**
baz=348
YM08 *e*S **Sn** 19 34 46.3 **-1.1**
baz=348
NTST Danshui **1.25 341** P **Pn** 19 34 31.7 **-0.4**
baz=342
NTST *e*S **Sn** 19 34 47.1 **-0.6**
baz=342
WGK Gukeng **1.26 257** *i* P **Pn** 19 34 32.7 **+0.6**
baz=255
LONT Longtian **1.28 214** *e*P **Pn** 19 34 31.3 **-1.1**
baz=211
LONT *e*S **Sn** 19 34 46.7 **-1.6**
baz=211
WDLH Douliu **1.28 257** *i* P **Pn** 19 34 33.2 **+0.7**
baz=255
STYH Taoyuan **1.30 232** P **Pn** 19 34 32.8 **0.0**
baz=230
STYH S **Sn** 19 34 49.4 **+0.5**
baz=230
STYT Tauyuan **1.32 233** P **Pn** 19 34 33.1 **-0.1**
baz=230
STYT S **Sn** 19 34 49.7 **+0.2**
baz=230
TPUB Ta-pu **1.34 240** P **Pn** 19 34 33.8 **+0.5**
baz=238
TPUB *e*S **Sn** 19 34 51.5 **+1.5**
baz=238
WTP Ta-pu **1.38 239** P **Pn** 19 34 34.4 **+0.4**
baz=236
WTP *e*S **Sn** 19 34 52.5 **+1.5**
baz=236
WRL Guolierlin Hig **1.39 267** P **Pn** 19 34 34.1 **+0.1**
baz=266
WRL *e*S **Sn** 19 34 52.7 **+1.5**
baz=266
WTK Tuku **1.41 259** P **Pn** 19 34 34.5 **+0.3**
baz=257
WTK *e*S **Sn** 19 34 53.8 **+2.2**
baz=257
CHY Chiayi **1.43 251** P **Pn** 19 34 34.9 **+0.3**
baz=249
CHY *e*S **Sn** 19 34 53.2 **+1.1**
baz=249
TWK Hsinying **1.47 242** P **Pn** 19 34 35.6 **+0.4**
baz=239
TWK *e*S **Sn** 19 34 54.8 **+1.5**
baz=239
CHN1 Nanshi **1.48 238** P **Pn** 19 34 35.8 **+0.5**
baz=236
CHN1 *e*S **Sn** 19 34 55.0 **+1.6**
baz=236
SGST Jiashian **1.50 234** P **Pn** 19 34 35.2 **-0.3**
baz=231
SGST S **Sn** 19 34 54.8 **+0.9**
baz=231
SLGT Liugui **1.51 230** *e*P **Pn** 19 34 36.3 **+0.6**
baz=228
SLGT *e*S **Sn** 19 34 54.1 **+0.1**
baz=228
IRIF Iriomote-Funau **1.71 78** P **Pn** 19 34 38.3 **-0.1**
IRIF *e*S **Sn** 19 34 59.6 **+0.6**
HATJ Hateruma jima **1.75 87** P **Pn** 19 34 38.9 **0.0**
HATJ *e*S **Sn** 19 35 00.3 **+0.4**
JKRS Kuro-shima **1.95 82** P **Pn** 19 34 42.0 **+0.4**
JIJ Ishigaki jima **2.09 79** P **Pn** 19 34 43.1 **-0.5**
JIJ S **Sn** 19 35 07.3 **-1.0**
JISG Ishigakijimahi **2.29 74** P **Pn** 19 34 45.8 **-0.5**
JISG *e*S **Sn** 19 35 12.6 **-0.6**
JTJ Tarama **2.64 75** P **Pn** 19 34 51.1 **-0.1**
JTJ S **Sn** 19 35 22.9 **+0.9**

IDC 13 19:41:33.2±15.0, 22°.21N×142°.68E, h254km±155km, mb2.9/7, mb1 3.1/7, mb1mx2.8/43, mbtmp3.5/7, Error ellipse: s-maj=39.2km s-min=23.1km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**38.65**	**320**	P	P	19 48 33.4	+0.9
	0.3nm,0.7s,baz=106,slow=9.1,SNR=2.2						
WRA	**Warramunga Arr**	**42.68**	**192**	P	P	19 49 05.3	-0.1
	0.9nm,0.9s,baz=6.6,slow=8.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**53.53**	**322**	P	P	19 50 26.7	-1.1
	0.7nm,0.4s,baz=107,slow=6.6,SNR=2.3						
MKAR	**Makanchi Array**	**54.01**	**312**	P	P	19 50 31.0	-0.4
	0.1nm,0.5s,baz=96,slow=7.7,SNR=2.1						
ILAR	**Eielson Array**	**61.80**	**27**	P	P	19 51 24.6	-0.4
	0.4nm,0.7s,baz=262,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**76.22**	**28**	P	P	19 52 54.0	+0.5
	0.2nm,0.5s,baz=294,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**82.52**	**334**	P	P	19 53 27.7	+0.3
	0.3nm,0.3s,baz=58,slow=5.2,SNR=5.9						

CNRM 13 19:44:29.7, 32°.06N×5°.44W, h0km, ml2.3, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLM	**Goulmima**	**0.54**	**130**	P	Pn	19 44 55.0	+10
GOLM	**Goulmima**	**0.54**	**130**	P	Pb	19 44 41.3	-0.9
GOLM				S	Sb	19 44 49.2	-1.4
MD31	**MD31**	**0.99**	**35**	P	Pg	19 44 47.9	-0.8
MD31				S	Sg	19 45 02.3	+0.8
CZD	**Col de Zad**	**1.03**	**19**	P	Pg	19 44 48.8	-0.6
CZD				S	Sb	19 45 04.8	+0.1
MDT	**Midelt**	**1.03**	**43**	P	Pn	19 45 08.1	+17
MDT	**Midelt**	**1.03**	**43**	P	Pg	19 44 49.2	-0.3
MDT				S	Sb	19 45 04.2	-0.4
TZRR	**Tazzarine**	**1.27**	**185**	P	Pg	19 44 54.3	+0.1
TZRR	**Tazzarine**	**1.27**	**185**	P	Pn	19 44 54.8	-0.1
TZRR				S	Sn	19 45 12.9	+0.2
IFR	**Ifrane**	**1.48**	**10**	P	Pn	19 44 56.7	-1.1
IFR				S	Sg	19 45 16.3	-0.9
OUZM	**OUZ**	**1.61**	**225**	P	Pn	19 44 59.0	-0.5
OUZM	**OUZ**	**1.61**	**225**	P	Pg	19 45 00.7	+0.2
OUZM				S	Sg	19 45 26.1	+4.6
LCRM	**LCR**	**1.69**	**17**	P	Pn	19 44 57.3	-3.4
LCRM				S	Sb	19 45 23.6	-0.2
ZHG	**ZHG**	**1.72**	**324**	P	Pn	19 45 00.4	-0.5
ZHG				S	Sn	19 45 23.0	-0.7
ZGR	**Zagora**	**1.94**	**185**	P	Pb	19 45 05.5	-0.5
ZGR	**Zagora**	**1.94**	**185**	P	Pb	19 45 05.7	-0.3
ZGR				S	Sb	19 45 31.1	+0.3
SRHM	**Skhour des Reh**	**2.13**	**282**	P	Pb	19 45 08.2	-0.9
SRHM				S	Sb	19 45 36.4	+0.3
OUK	**Oukaimeden**	**2.24**	**248**	P	Pn	19 45 09.2	+0.8
OUK				S	Sn	19 45 38.0	+1.1
TTIG	**Tnine Tigouga,**	**2.98**	**240**	P	Pn	19 45 18.6	+0.2
TTIG				S	Sn	19 45 55.8	+0.9
TDRA	**Tendrara**	**3.04**	**70**	P	Pn	19 45 16.7	-2.5
TDRA				S	Sn	19 45 53.3	-3.1
JBK	**JBK**	**3.31**	**46**	P	Pn	19 45 21.7	-1.2
JBK				S	Sn	19 46 02.4	-0.7
EAH	**EAH**	**3.55**	**264**	P	Pn	19 45 24.8	-1.3
EAH				S	Sn	19 46 10.2	+1.4

*TUL **13** 19:46:47.4±0.6, 36°.18N±0°.01×96°.97W±0°.01, h6km±3km, ML2.4, mb_Lg2.2/6(NEIC), Error ellipse: s-maj=1.6km s-min=1.6km az=68.0*

NEIC 13 19:46:48.1±0.5, 36°.18N±0°.01×96°.97W±0°.01, h3km±4km, Error ellipse: s-maj=1.8km s-min=1.4km az=46.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.82**	**26**	Pg	Pg	19 47 03.1	-0.7
T35A				Sg	Sg	19 47 13.7	-0.8
OKCFA	**Oklahoma City**	**0.86**	**207**		Pg	19 47 03.6	-1.0
OKCFA				Sg	Sg	19 47 15.8	-0.1
OKCSW	**OKLAHOMA CITY**	**0.86**	**206**	Pg	Pg	19 47 03.6	-1.1
OKCSW				Sg	Sg	19 47 15.9	-0.1
FNO	**Franklin**	**0.99**	**201**	Pg	Pg	19 47 05.6	-1.5
FNO				Sg	Sg	19 47 19.6	-0.3
TUL1	**Leonard**	**0.99**	**106**	Pg	Pg	19 47 06.0	-1.2
TUL1				Sg	Sg	19 47 19.4	-0.6
W35A	**Tecumseh**	**1.03**	**176**	Pg	Pg	19 47 06.4	-1.5
W35A				Sg	Sg	19 47 21.0	-0.3
U32A	**Winter Ranch,**	**1.66**	**277**	Pn	Pn	19 47 17.7	-0.5
X34A	**Smith Ranch, M**	**1.73**	**204**	Pn	Pn	19 47 18.7	-0.5
X37A	**Clayton**	**2.06**	**140**	Pn	Pn	19 47 23.4	-0.2
WMOK	**Wichita Mounta**	**2.07**	**226**	IAmb_Lg		19 47 55.7	
	comp=Z,8.7nm,0.8s						
HHAR	**Hobbs**	**2.45**	**87**	Pn	Pn	19 47 30.1	+1.0
W39A	**Magazine**	**2.77**	**110**	IAmb_Lg		19 48 21.4	
	comp=Z,8.4nm,0.8s						
S39A	**Bolivar**	**3.29**	**62**	Pn	Pn	19 47 40.9	+0.3
U40A	**Yellville**	**3.33**	**86**	Pn	Pn	19 47 40.2	-0.9
X40A	**Basin Creek Fa**	**3.78**	**115**	IAmb_Lg		19 48 49.6	
	comp=Z,5.5nm,0.9s						
WHAR	**Wooly Hollow**	**3.91**	**102**	Pn	Pn	19 47 49.1	0.0
W41B	**Gary Mavity, V**	**3.97**	**103**	Pn	Pn	19 47 49.7	-0.3
Q24A	**Divide**	**7.07**	**296**	IAmb_Lg		19 50 36.4	
	comp=Z,3.4nm,1.0s						

NNC 13 19:49:22.1±3.4, 37°.84N×56°.04E, h0km, mb3.7, 3C-2D, Error ellipse: s-maj=36.1km s-min=13.2km az=27.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA0B	**ALIBECK ARRAY**	**1.65**	**86**	⇑P	Pn	19 49 51.7	-0.7
GYA0B				⇓S	Sb	19 50 14.6	-0.2
AB31	**Akbulak array**	**11.76**	**13**	⇑Pn	Pn	19 52 11.8	+0.8
	0.7nm,0.7s,baz=205,slow=14,SNR=12						
AB31				⇓Sn	Sn	19 54 22.7	-0.2
	0.1nm,0.3s,baz=203,slow=23,SNR=4.5						
AKTO	**Aktyubinsk**	**12.68**	**6**	⇑Pn	Pn	19 52 24.5	+0.9
	1.1nm,0.5s						

*VIE **13** 20:00:45.8±0.1, 47°.10N×10°.10E, h8km±1km, mb1.9/14, ml2.5/18, Error ellipse: s-maj=0.8km s-min=0.7km az=157.0 4 km SSW of Langen am Arlberg felt 4 ems98 at Kloesterle / Vorarlberg*

*ZUR **13** 20:00:45.8, 47°.13N×10°.10E, h8km±4km, MLh2.3/79, Error ellipse: s-maj=7.6km s-min=0.8km az=242.0*

*ROM **13** 20:00:46.4±0.1, 47°.084N±0°.008×10°.076E±0°.005, h12km±1km, ML2.0/14, Error ellipse: s-maj=0.7km s-min=0.5km az=3.0*

*GEN **13** 20:00:46.5, 46°.99N×10°.12E, h-3km, Ml1.8*

*BGR **13** 20:00:47.5±0.2, 47°.17N×10°.10E, h10km, ML2.5/19, Error ellipse: s-maj=5.6km s-min=3.3km az=167.0*

*STR **13** 20:00:47.5±0.9, 47°.N±6'×1°.0E±°, h1km, MLv2.4/6, preliminary*

*PRU **13** 20:00:50.2±0.0, 47°.29N×10°.32E, h0km, Langen Am Arlberg*

*LDG **13** 20:00:50.1±0.2, 47°.10N×9°.92E, h8km, Ml2.4/22, Error ellipse: s-maj=4.3km s-min=2.7km az=74.0*

ISC 13 20:00:45.6±0.8, 47°.10N±0°.01×10°.12E±0°.01, h15km±6km, n134, σ1§50/225, 5C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVA	**Damuels**	**0.25**	**318**	⇓Pg	**Pg**	**20 00 50.3**	**-0.7**
DAVA				Sg	**Sg**	**20 00 53.8**	**-1.0**
DAVA	**Damuels**	**0.25**	**318**	*e*Pg	**Pg**	**20 00 50.3**	**-0.7**
	30nm,0.2s,SNR=56						
DAVA				*e*Sg	**Sg**	**20 00 53.7**	**-1.0**
	145nm,0.1s						
DAVA	**Damuels**	**0.25**	**318**	*e*Pg	**Pg**	**20 00 50.4**	**-0.7**
DAVA				*e*Sg	**Sg**	**20 00 53.8**	**-1.0**
SCUC	**Scuol-Clozza**	**0.33**	**158**	Pg	**Pb**	**20 00 53.0**	**-0.3**
SCUC				Sg	**Sb**	**20 00 58.1**	**-0.4**
DAVOX	**Davos/Dischmat**	**0.36**	**207**	⇓Pg	**Pb**	**20 00 53.4**	**-0.5**
DAVOX				Sg	**Sg**	**20 00 58.5**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.36**	**207**	⇓P	**Pb**	**20 00 53.4**	**-0.5**
DAVOX				S	**Sg**	**20 00 58.5**	**+0.4**
DAVOX				AML	AML		
	comp=N,303μm,0.4s						
DAVOX				AML	AML		
	comp=E,405μm,0.4s						
DAVOX	**Davos/Dischmat**	**0.36**	**207**	P	**Pb**	**20 00 53.4**	**-0.5**
DAVOX				S	**Sg**	**20 00 58.5**	**+0.4**
SZER	**Zernez**	**0.41**	**182**	⇓Pg	**Pb**	**20 00 54.3**	**-0.3**
FETA	**Feichten**	**0.42**	**101**	⇑Pg	**Pg**	**20 00 54.3**	**+0.2**
FETA	**Feichten**	**0.42**	**101**	*e*Pg	**Pg**	**20 00 54.3**	**+0.2**
	comp=E,0.4nm,0.1s,SNR=35						
FETA				*e*Sg	**Sb**	**20 01 00.4**	**-0.8**
	comp=E,11nm,0.1s						
SBUA2	**Buchs, Altendo**	**0.45**	**277**	Pg	**Pg**	**20 00 54.3**	**-0.2**
LIENZ	**Kamor/St.Gall**	**0.47**	**294**	⇑Pg	**Pg**	**20 00 54.8**	**-0.2**
SBUB	**Buchserberg Ma**	**0.47**	**275**	⇓Pg	**Pg**	**20 00 54.8**	**-0.2**
PLONS	**Plons/SG**	**0.51**	**264**	⇑Pg	**Pg**	**20 00 55.4**	**-0.2**
PLONS	**Plons/SG**	**0.51**	**264**	P	**Pg**	**20 00 55.5**	**-0.2**
PLONS				S	**Sg**	**20 01 02.6**	**+0.1**
PLONS				AML	AML		
	comp=E,91μm,0.4s						
PLONS				AML	AML		
	comp=N,152μm,0.2s						
PLONS				AML	AML		
	comp=E,91μm,0.4s						
PLONS	**Plons/SG**	**0.51**	**264**	*e*Pg	**Pg**	**20 00 55.5**	**-0.2**
PLONS				*e*Sg	**Sg**	**20 01 02.7**	**+0.1**
MOSI	**Grossmontoni**	**0.57**	**149**	⇓Pg	**Pb**	**20 00 57.6**	**+0.2**
MOSI	**Grossmontoni**	**0.57**	**149**	P	**Pb**	**20 00 57.6**	**+0.2**
MOSI				S	**Sb**	**20 01 05.8**	**+0.4**
MOSI				AML	AML		
	comp=E,664μm,0.3s						
MOSI				AML	AML		
	comp=N,874μm,0.2s						
UBR	**Ueberruh**	**0.58**	**359**	*e*Pg	**Pb**	**20 00 57.9**	**+0.5**
UBR				*e*Sg	**Sb**	**20 01 06.7**	**+1.2**
RETA	**Reutte**	**0.58**	**48**	*e*Pg	**Pg**	**20 00 57.0**	**0.0**
	comp=N,0.6nm,0.1s,SNR=17						
RETA				*e*Sg	**Sb**	**20 01 06.4**	**+0.7**
	comp=N,48nm,0.3s						
SGT04	**Schlatt-Haslen**	**0.58**	**295**	⇑Pg	**Pg**	**20 00 57.3**	**+0.3**
BRMO	**Bormio**	**0.65**	**165**	P	**Pb**	**20 00 58.4**	**-0.4**
BRMO				S	**Sb**	**20 01 07.3**	**-0.4**
BRMO				AML	AML		
	comp=E,93μm,0.7s						
BRMO				AML	AML		
	comp=N,136μm,1.3s						
BRMO	**Bormio**	**0.65**	**165**	P	**Pb**	**20 00 58.6**	**-0.2**
BRMO				S	**Sb**	**20 01 07.6**	**-0.1**
BERNI	**Berninapass**	**0.69**	**186**	⇓Pg	**Pb**	**20 00 59.5**	**-0.1**
BERNI	**Berninapass**	**0.69**	**186**	P	**Pb**	**20 00 59.4**	**-0.1**
BERNI				S	**Sb**	**20 01 08.8**	**-0.3**
BERNI				AML	AML		
	comp=N,69μm,0.9s						
BERNI				AML	AML		
	comp=E,80μm,0.9s						
BERNI				AML	AML		
	comp=N,69μm,0.9s						
BERNI	**Berninapass**	**0.69**	**186**	P	**Pb**	**20 00 59.5**	**-0.1**
BERNI				S	**Sb**	**20 01 08.8**	**-0.3**
MOTA	**Moosalm**	**0.71**	**70**	*e*Pg	**Pg**	**20 00 59.0**	**-0.5**
	comp=N,0.3nm,0.1s,SNR=11						
MOTA				*e*Sg	**Sb**	**20 01 09.8**	**+0.3**
	comp=N,11nm,0.1s						
PANIX	**Pigniu (Panix)**	**0.75**	**248**	⇑Pg	**Pg**	**20 00 59.5**	**-0.6**
SQTA	**Sankt Quirin**	**0.75**	**81**	*e*Pg	**Pg**	**20 00 60.0**	**-0.2**
	comp=N,3.7nm,0.1s,SNR=21						
VDL	**Val di Lei**	**0.77**	**217**	P	**Pg**	**20 01 00.6**	**-0.1**
VDL				S	**Sg**	**20 01 10.7**	**-0.2**
TUE	**Stuetta**	**0.83**	**220**	P	**Pg**	**20 01 01.4**	**-0.2**
TUE				S	**Sg**	**20 01 12.0**	**-0.5**
TUE				AML	AML		
	comp=E,110μm,1.2s						
TUE				AML	AML		
	comp=N,67μm,1.6s						
TUE				AML	AML		
	comp=N,69μm,1.6s						
TUE				AML	AML		
	comp=E,110μm,1.2s						
TUE				AML	AML		
	comp=E,80μm,0.9s						
TUE				AML	AML		
	comp=N,67μm,1.6s						
TUE	**Stuetta**	**0.83**	**220**	P	**Pg**	**20 01 01.5**	**-0.2**
TUE				S	**Sg**	**20 01 12.0**	**-0.5**
WILA	**Wila**	**0.88**	**291**	*e*Pg	**Pb**	**20 01 03.1**	**+0.4**
WILA				*e*Sg	**Sb**	**20 01 15.4**	**+1.0**
ABSI	**Aberstueckl**	**0.90**	**114**	P	**Pb**	**20 01 03.8**	**+0.7**
ABSI				S	**Sb**	**20 01 16.1**	**+1.1**
ABSI				AML	AML		
	comp=E,146μm,0.5s						
ABSI				AML	AML		
	comp=N,130μm,0.7s						
APPI	**Appiano**	**0.98**	**129**	P	**Pn**	**20 01 05.1**	**+0.1**
APPI				S	**Sb**	**20 01 17.9**	**+0.7**
APPI				AML	AML		
	comp=N,150μm,1.1s						
APPI				AML	AML		
	comp=E,123μm,0.5s						
WATA	**Walderalm**	**1.02**	**76**	*e*Pg	**Pn**	**20 01 06.0**	**+0.5**
	comp=E,0.6nm,0.1s						
WTTA	**Wattenberg**	**1.04**	**81**	*e*Pg	**Pb**	**20 01 05.7**	**+0.2**
	comp=E,1.1nm,0.1s,SNR=57						
WTTA	**Wattenberg**	**1.04**	**81**	P	**Pb**	**20 01 06.1**	**+0.6**
WTTA				AML	AML		
	comp=E,43μm,0.5s						
WTTA				AML	AML		
	comp=N,45μm,0.3s						
WTTA	**Wattenberg**	**1.04**	**81**	*e*Pg	**Pn**	**20 01 09.1**	**+3.2**
KOSI	**Kohlern**	**1.07**	**126**	P	**Pn**	**20 01 06.8**	**+0.5**
KOSI				S	**Sb**	**20 01 20.7**	**+0.8**
KOSI				AML	AML		
	comp=E,79μm,0.8s						
KOSI				AML	AML		
	comp=N,93μm,0.7s						
ZUR	**Degenried**	**1.08**	**285**	Pg	**Pn**	**20 01 08.3**	**+2.0**
ZUR	**Degenried**	**1.08**	**285**	Sn	**Sb**	**20 01 21.2**	**+1.1**
ZUR				Sg	**Sn**	**20 01 21.5**	**+0.4**
MABI	**Malga Bissina**	**1.08**	**165**	P	**Pn**	**20 01 06.6**	**+0.2**
MABI				S	**Sb**	**20 01 20.7**	**+0.5**
MABI				AML	AML		
	comp=N,37μm,1.3s						
MABI				AML	AML		
	comp=E,44μm,1.1s						
MABI	**Malga Bissina**	**1.08**	**165**	P	**Pn**	**20 01 06.7**	**+0.2**
MABI				S	**Sg**	**20 01 20.1**	**-0.6**
GAGG	**Gaggia**	**1.17**	**150**	P	**Pn**	**20 01 08.6**	**+1.0**
GAGG				S	**Sn**	**20 01 23.9**	**+0.4**

FUSIO	**Fusio**	**1.20**	**238**	P	**Pn**	**20 01 08.3**	**+0.4**
FUSIO				S	**Sg**	**20 01 23.3**	**-0.9**
FUSIO				AML	AML		
	comp=N,92μm,0.4s						
FUSIO				AML	AML		
	comp=E,118μm,0.5s						
FUSIO	**Fusio**	**1.20**	**238**	P	**Pn**	**20 01 08.4**	**+0.4**
FUSIO				S	**Sg**	**20 01 23.8**	**-0.4**
SLE	**Schleitheim**	**1.29**	**301**	Pg	**Pg**	**20 01 10.9**	**+0.5**
SLE	**Schleitheim**	**1.29**	**301**	*e*Pg	**Pg**	**20 01 10.9**	**+0.5**
	SNR=3.8						
SLE				*e*Sg	**Sn**	**20 01 28.0**	**+1.8**
FUR	**Furstenfeldbru**	**1.32**	**36**	*e*Sg	**Sg**	**20 01 29.9**	**+1.9**
ZONE	**Zone**	**1.34**	**180**	AML	AML		
	comp=E,73μm,0.5s						
ZONE				AML	AML		
	comp=N,78μm,0.3s						
RISI	**Rein**	**1.35**	**96**	P	**Pg**	**20 01 11.7**	**+0.2**
RISI				AML	AML		
	comp=E,117μm,1.2s						
RISI				AML	AML		
	comp=N,345μm,0.4s						
MDI	**Monti di Nese**	**1.36**	**192**	P	**Pg**	**20 01 11.7**	**0.0**
MUGIO	**Muggio**	**1.40**	**213**	P	**Pg**	**20 01 12.2**	**-0.3**
MUGIO				S	**Sn**	**20 01 29.8**	**+0.9**
DOSS	**Dosso del Somm**	**1.43**	**149**	P	**Pg**	**20 01 13.9**	**+0.9**
DOSS				S	**Sg**	**20 01 32.4**	**+0.8**
SULZ	**Cheisacher**	**1.43**	**288**	Pn	**Pg**	**20 01 13.6**	**+0.5**
SULZ	**Cheisacher**	**1.43**	**288**	*e*Pg	**Pg**	**20 01 13.8**	**+0.7**
SULZ				*e*Sg	**Sg**	**20 01 32.9**	**+1.2**
VARE	**Varese**	**1.55**	**218**	P	**Pg**	**20 01 15.3**	**0.0**
BALST	**Balsthal**	**1.67**	**279**	Pn	**Pg**	**20 01 17.7**	**+0.1**
BALST	**Balsthal**	**1.67**	**279**	*e*Pg	**Pg**	**20 01 17.9**	**+0.3**
BALST				*e*Sg	**Sg**	**20 01 39.9**	**+0.6**
ABTA	**Abfaltersbach**	**1.68**	**101**	*e*Pg	**Pg**	**20 01 18.2**	**+0.4**
	comp=N,6.2nm,0.4s						
BFO	**Black Forest**	**1.72**	**316**	*e*Pn	**Pn**	**20 01 16.1**	**+1.0**
	SNR=4.1						
BFO				*e*Pg	**Pg**	**20 01 18.4**	**-0.3**
BFO				*e*Sn	**Sn**	**20 01 36.4**	**-0.5**
	SNR=4.2						
BFO				*e*Sg	**Sg**	**20 01 40.9**	**-0.1**
	SNR=1.2						
VARN	**Col Varnada, M**	**1.76**	**128**	P	**Pg**	**20 01 19.1**	**-0.3**
VARN				AML	AML		
	comp=N,132μm,1.6s						
VARN				AML	AML		
	comp=E,205μm,0.5s						
BOURR	**Bourrignon**	**1.99**	**279**	Pn	**Pg**	**20 01 23.5**	**-0.2**
BOURR				Pg	**Pb**	**20 01 24.9**	**+3.4**
TORNY	**Torny/Romont**	**2.19**	**262**	Pg	**Pg**	**20 01 27.7**	**+0.1**
KBA	**Koelnbreinsper**	**2.20**	**89**	Pn	**Pn**	**20 01 22.5**	**+0.7**
	comp=E,0.4nm,0.2s						
KBA	**Koelnbreinsper**	**2.20**	**89**	*e*Pn	**Pn**	**20 01 22.7**	**+0.9**
	SNR=9.8						
KBA				*e*Pg	**Pg**	**20 01 27.5**	**-0.2**
KBA				*e*Sg	**Sg**	**20 01 58.0**	**+1.7**
ECH	**Echery**	**2.29**	**300**	Pn	**Pn**	**20 01 23.7**	**+0.8**
ECH				Pg	**Pg**	**20 01 29.8**	**+0.3**
ECH				Sn	**Sn**	**20 01 49.3**	**-1.6**
CDF	**Champ du Feu**	**2.32**	**305**	*e*Pn	**Pn**	**20 01 24.8**	**+1.4**
CDF	**Champ du Feu**	**2.32**	**305**	*e*Pg	**Pg**	**20 01 30.3**	**+0.2**
CDF				*e*Sn	**Sn**	**20 01 52.6**	**+0.8**
CDF				*e*Sg	**Sg**	**20 01 59.4**	**-0.9**
	comp=E,13nm,0.3s						
HINF	**Hinteralfeld**	**2.33**	**289**	*e*Pn	**Pn**	**20 01 24.5**	**+1.1**
HINF	**Hinteralfeld**	**2.33**	**289**	*e*Pg	**Pg**	**20 01 31.1**	**+0.9**
HINF				*e*Sn	**Sn**	**20 01 52.3**	**+0.4**
HINF				*e*Sg	**Sg**	**20 01 59.5**	**-0.9**
	comp=E,9.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**2.46**	**75**	Pn	**Pn**	**20 01 27.5**	**+2.3**
BRANT	**Les Verrieres**	**2.50**	**268**	Sg	**Sg**	**20 02 05.7**	**-0.2**
BRANT	**Les Verrieres**	**2.50**	**268**	Pg	**Pg**	**20 01 32.8**	**-0.7**
GRF	**Grafenberg Arr**	**2.69**	**15**	*e*Pg	**Pg**	**20 01 37.1**	**0.0**
GRF				*e*Sn	**Sn**	**20 02 00.5**	**-0.2**
	SNR=1.5						
GRF				*e*Sg	**Sb**	**20 02 05.2**	**-1.1**
	SNR=1.5						
HAU	**Haudompre**	**2.71**	**291**	*e*Pn	**Pn**	**20 01 31.0**	**+2.3**
HAU	**Haudompre**	**2.71**	**291**	*e*Pg	**Pg**	**20 01 36.7**	**-0.8**
HAU				*e*Sn	**Sn**	**20 02 01.3**	**+0.1**
HAU				*e*Sg	**Sg**	**20 02 10.7**	**-1.9**
	comp=E,18nm,0.3s						
WET	**Wettzell**	**2.75**	**41**	*e*Pn	**Pn**	**20 01 30.1**	**+0.9**
	SNR=3.9						
WET				*e*Sn	**Sn**	**20 02 03.3**	**+1.1**
	SNR=3.5						
WET				*e*Sg	**Sg**	**20 02 11.7**	**-2.2**
CABF	**La Chapelle**	**2.81**	**261**	*e*Pn	**Pn**	**20 01 31.8**	**+1.7**
CABF	**La Chapelle**	**2.81**	**261**	*e*Pg	**Pg**	**20 01 38.2**	**-1.2**
CABF				*e*Sn	**Sn**	**20 02 03.4**	**-0.4**
CABF				*e*Sg	**Sg**	**20 02 14.6**	**-1.3**
	comp=E,3.8nm,0.3s						
LPG	**La Plagne**	**2.84**	**237**	*e*Pn	**Pn**	**20 01 32.8**	**+2.2**
LPG	**La Plagne**	**2.84**	**237**	*e*Pg	**Pg**	**20 01 39.6**	**-0.3**
LPG				*e*Sn	**Sn**	**20 02 04.1**	**-0.6**
LPG				*e*Sg	**Sg**	**20 02 15.8**	**-0.9**
	comp=E,5.1nm,0.4s						
LPL	**La Plagne**	**2.84**	**237**	*e*P	**Pb**	**20 01 35.4**	**-0.6**
LPL	**La Plagne**	**2.84**	**237**	*e*Pg	**Pg**	**20 01 39.7**	**-0.2**
LPL				*e*Sn	**Sn**	**20 02 03.7**	**-0.9**
LPL				*e*Sg	**Sg**	**20 02 15.5**	**-1.2**
	comp=E,5.1nm,0.5s						
MOA	**Molln**	**2.91**	**74**	*e*Pn	**Pn**	**20 01 34.0**	**+2.6**
	comp=E,0.1nm,0.1s						
MOA	**Molln**	**2.91**	**74**	*e*Pn	**Pn**	**20 01 34.4**	**+3.1**
	SNR=4.8						
MOA				*e*Pg	**Pg**	**20 01 40.6**	**-0.7**
MOA				*e*Sg	**Sg**	**20 02 20.4**	**+1.4**
GEC2	**GERESS Array S**	**2.97**	**53**	*e*Pn	**Pn**	**20 01 33.8**	**+1.6**
	SNR=2.0						
GEC2				*e*Pg	**Pg**	**20 01 42.8**	**+0.4**
GEC2				*e*Sn	**Sn**	**20 02 08.7**	**+1.0**
	SNR=6.4						
GEC2				*e*Sg	**Sg**	**20 02 18.9**	**-2.0**
KHC	**Kasperske Hory**	**3.08**	**48**	*e*PN	**Pn**	**20 01 36.0**	**+2.3**
KHC				*e*PG	**Pg**	**20 01 43.1**	**-1.4**
KHC				*e*SN	**Sn**	**20 02 10.0**	**-0.3**
KHC				*e*SG	**Sg**	**20 02 22.0**	**-2.4**
	comp=E,9.2nm,0.8s						
CKRC	**Cesky Krumlov**	**3.30**	**57**	*e*SN	**Sn**	**20 02 15.9**	**+0.3**
CKRC				*e*SG	**Sg**	**20 02 28.6**	**-2.8**
PAGF	**Fort de Pagny**	**3.30**	**298**	*e*Sg	**Sg**	**20 02 29.7**	**-1.8**
TNS	**Taunus Mts**	**3.31**	**341**	*e*Pn	**Pn**	**20 01 38.3**	**+1.4**
	SNR=1.8						
MBDF	**Montbardon**	**3.33**	**226**	*e*Pn	**Pn**	**20 01 40.1**	**+2.7**
MBDF	**Montbardon**	**3.33**	**226**	*e*Pg	**Pg**	**20 01 49.2**	**-0.3**
MBDF				*e*Sn	**Sn**	**20 02 15.7**	**-1.1**
	comp=E,0.7nm,0.2s						
NKC	**Novy Kostel**	**3.49**	**25**	*e*SG	**Sg**	**20 02 35.9**	**-1.7**
	comp=E,12nm,0.7s						
WERN	**Wernitzgruen**	**3.52**	**24**	*e*Sg	**Sg**	**20 02 37.0**	**-1.5**
GUNZ	**Gunzen**	**3.58**	**23**	*e*Sg	**Sg**	**20 02 39.1**	**-1.2**
SFTF	**Sexfontaines**	**3.61**	**290**	*e*Pn	**Pn**	**20 01 43.3**	**+2.3**
	baz=111						
SFTF	**Sexfontaines**	**3.61**	**290**	*e*Pg	**Pg**	**20 01 54.9**	**+0.2**
SFTF				*e*Sg	**Sg**	**20 02 39.4**	**-2.0**
	comp=E,1.8nm,0.2s						
PLN	**Plauen**	**3.64**	**21**	*e*Sg	**Sg**	**20 02 40.6**	**-1.9**
WERD	**Werda**	**3.65**	**23**	*e*Sg	**Sg**	**20 02 40.6**	**-2.0**
PBCC	**Pribram**	**3.65**	**44**	*e*SN	**Sn**	**20 02 24.6**	**+0.2**
PBCC				*e*SG	**Sg**	**20 02 39.6**	**-3.2**
	comp=E,2.1nm,0.3s						
TANN	**Tannenbergstha**	**3.66**	**24**	*e*Sg	**Sg**	**20 02 41.6**	**-1.3**
ORIF	**Oris-en-Rattie**	**3.68**	**235**	*e*P	**Pn**	**20 01 46.4**	**+4.4**
ORIF	**Oris-en-Rattie**	**3.68**	**235**	*e*Pg	**Pg**	**20 01 55.8**	**-0.2**
ORIF				*e*Sn	**Sn**	**20 02 24.5**	**-0.6**
ORIF				*e*Sg	**Sg**	**20 02 40.9**	**-2.7**
	comp=E,0.9nm,0.2s						
MOX	**Moxa**	**3.68**	**15**	*e*Pg	**Pg**	**20 01 56.3**	**+0.3**
MOX				*e*Sn	**Sn**	**20 02 24.2**	**-0.8**
	SNR=1.9						
MOX				*e*Sg	**Sg**	**20 02 41.5**	**-2.2**
	SNR=1.9						
SAVF	**Savonnieres en**	**3.69**	**296**	*e*Pn	**Pn**	**20 01 42.4**	**+0.3**
	baz=113						
SAVF	**Savonnieres en**	**3.69**	**296**	*e*Pg	**Pg**	**20 01 54.9**	**-1.3**
SAVF				*e*Sg	**Sg**	**20 02 41.1**	**-2.9**
	comp=E,3.5nm,0.4s						
MEZF	**Maizieres J'vi**	**3.69**	**294**	*e*Pn	**Pn**	**20 01 43.8**	**+1.7**
MEZF				*e*Sg	**Sg**	**20 02 41.5**	**-2.6**
	comp=E,1.6nm,0.3s						
SBF	**Sospel**	**3.75**	**211**	*e*Pn	**Pn**	**20 01 45.8**	**+2.8**
SBF				*e*Sn	**Sn**	**20 02 26.6**	**-0.4**
	comp=E,1.8nm,0.3s						
CONA	**Conrad Observa**	**3.98**	**76**	*e*Pn	**Pn**	**20 01 48.2**	**+2.1**
	comp=E,0.5nm,0.2s						
PRU	**Pruhonice**	**4.12**	**44**	*e*SG	**Sg**	**20 02 53.7**	**-4.0**
	comp=E,3.8nm,0.5s						
LOR	**Lormes**	**4.27**	**274**	*e*Pn	**Pn**	**20 01 52.0**	**+1.9**
LOR				*e*Sg	**Sg**	**20 02 59.9**	**-2.8**
	comp=E,1.9nm,0.2s						
FRF	**La Foret Royal**	**4.31**	**216**	*e*Pn	**Pn**	**20 01 52.8**	**+2.2**
FRF				*e*Sn	**Sn**	**20 02 40.8**	**+0.2**
SMF	**Signal de Mont**	**4.33**	**266**	*e*Pn	**Pn**	**20 01 53.1**	**+2.2**
SMF	**Signal de Mont**	**4.33**	**266**	*e*Pg	**Pg**	**20 02 07.2**	**-1.3**
SMF				*e*Sn	**Sn**	**20 02 38.9**	**-2.3**
SMF				*e*Sg	**Sg**	**20 03 00.5**	**-4.1**
	comp=E,1.4nm,0.2s						
VIVF	**Saint-Julien-l**	**4.41**	**241**	*e*Pn	**Pn**	**20 01 54.2**	**+2.1**
VIVF				*e*Sn	**Sn**	**20 02 42.2**	**-1.0**
	comp=E,0.6nm,0.2s						
VIVF				*e*Sg	**Sg**	**20 03 04.1**	**-3.1**
MCIV	**Monte Civitell**	**4.46**	**165**	⇓P	**Pg**	**20 02 07.3**	**-3.8**
SSF	**Saint Saulge**	**4.52**	**272**	*e*Pn	**Pn**	**20 01 54.8**	**+1.3**
SSF	**Saint Saulge**	**4.52**	**272**	*e*Pg	**Pg**	**20 02 11.7**	**-0.4**
SSF				*e*Sg	**Sg**	**20 03 07.8**	**-2.8**
	comp=E,0.5nm,0.2s						
BRG	**Berggiesshubel**	**4.53**	**32**	Sg	**Sg**	**20 03 09.1**	**-2.0**
BRG				Amp		20 03 14.9	
	comp=Z,1.8nm,0.5s						
LMR	**La Mourre**	**4.55**	**215**	*e*P	Pn	20 01 59.0	+5.1
LMR				*e*Sn	**Sn**	**20 02 46.1**	**-0.5**
	comp=Z,0.3nm,0.2s						
CLL	**Collm**	**4.61**	**23**	*e*Sg	**Sg**	**20 03 10.0**	**-3.5**
	comp=Z,3.0nm,0.6s						
KRUC	**Moravsky**	**4.64**	**63**	*e*SN	**Sn**	**20 02 50.1**	**+1.4**
KRUC				*e*SG	**Sg**	**20 03 11.9**	**-2.5**
AVF	**Avril sur Loir**	**4.65**	**269**	*e*Pn	**Pn**	**20 01 57.3**	**+2.1**
AVF				*e*Sn	**Sn**	**20 02 47.4**	**-1.5**
AVF				*e*Sg	**Sg**	**20 03 11.7**	**-3.0**
	comp=Z,0.5nm,0.3s						
VRAC	**Vranov**	**4.86**	**61**	*e*SN	**Sn**	**20 02 54.6**	**+0.5**
BAIF	**Baives**	**4.91**	**309**	*e*Pn	**Pn**	**20 02 00.4**	**+1.5**
BGF	**Bois d'Agland**	**5.02**	**266**	*e*Pn	**Pn**	**20 02 02.1**	**+1.7**
BGF				*e*Sn	**Sn**	**20 02 56.6**	**-1.6**
BGF				*e*Sg	**Sg**	**20 03 22.0**	**-4.7**
	comp=Z,2.5nm,0.3s						
HYF	**Humbligny**	**5.11**	**275**	*e*Pn	**Pn**	**20 02 04.0**	**+2.5**
DPC	**Dobruska-Polom**	**5.23**	**49**	*e*SN	**Sn**	**20 03 01.7**	**-1.7**
DPC				*e*SG	**Sg**	**20 03 29.1**	**-4.3**
OSTC	**Ostas**	**5.30**	**47**	*e*SG	**Sg**	**20 03 31.5**	**-4.2**
LASF	**Ste Croix**	**5.34**	**238**	*e*Pn	**Pn**	**20 02 06.8**	**+2.0**
LASF				*e*Sn	**Sn**	**20 03 05.0**	**-1.0**
	comp=Z,0.6nm,0.3s						
RJF	**Les Rejaudoux**	**6.24**	**256**	*e*P	Pn	20 02 22.7	+5.6
MFF	**Saint Martin d**	**7.06**	**270**	*e*Pn	**Pn**	**20 02 29.4**	**+1.0**

*KEA **13** 20:17:02.0,38.°81N×125.°84E,h15km,ML3.1/4*
*KMA **13** 20:17:04.8±0.2,38.°75N×125.°84E,h0km,Error ellipse: s-maj=2.7km s-min=0.8km az=357.0*
ISC 13 20:17:04.1±0.9,**38.°82N**±0.°03×**125.°84E**±0.°04,**h10**km,**n19,**
σ1§10/23,North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYAG	**Pyongyang**	**0.24**	**345**	Pg	**Pg**	**20 17 08.1**	**-1.0**
PYAG				Sg	**Sg**	**20 17 11.6**	**-0.9**
PYAG				AML	AML		
	comp=N,4μm,0.2s						
PYAG				AML	AML		
	comp=E,4μm,0.3s						
PYAG				AML	AML		
	comp=Z,3μm,0.2s						
PYS	**Pyongsong**	**0.43**	**2**	Pg	**Pg**	**20 17 11.5**	**-1.1**
PYS				Sg	**Sg**	**20 17 17.1**	**-1.3**
PYS				AML	AML		
	comp=N,4μm,0.2s						
PYS				AML	AML		
	comp=E,9μm,0.5s						
PYS				AML	AML		
	comp=Z,7μm,0.3s						
HJU	**Haeju**	**0.78**	**187**	Sg	**Sg**	**20 17 27.7**	**-1.5**
YNCB	**YEONCHEON**	**1.15**	**132**	P	**Pb**	**20 17 25.9**	**-0.2**
	SNR=14						
KSMUS	**Musan**	**1.18**	**142**	P	**Pb**	**20 17 26.3**	**-0.2**
	SNR=71						
KSGAH	**Ganghwa**	**1.21**	**156**	P	**Pn**	**20 17 26.9**	**-0.1**
	SNR=1372						
YPDB	**Yeonpyeongdo**	**1.21**	**185**	P	**Pb**	**20 17 27.0**	**-0.1**
	SNR=124						
KSBAR	**Backryungdo**	**1.22**	**227**	P	**Pb**	**20 17 27.6**	**+0.4**
	SNR=772						
DACB	**Daecheong-do R**	**1.32**	**222**	P	**Pn**	**20 17 29.3**	**+0.7**
	SNR=252						
KSDDC	**Dongducheon**	**1.32**	**133**	P	**Pn**	**20 17 28.3**	**-0.4**
	SNR=26						
KSCWO	**Cheorwon**	**1.51**	**118**	P	**Pn**	**20 17 32.1**	**+0.9**
	SNR=80						
HWCB	**Hwacheon**	**1.56**	**112**	P	**Pn**	**20 17 33.1**	**+1.2**
	SNR=26						
KSDEI	**Deokjeokdo**	**1.57**	**172**	P	**Pn**	**20 17 33.5**	**+1.4**
	SNR=178						
KSSEO	**Seoul**	**1.58**	**147**	P	**Pn**	**20 17 33.3**	**+1.2**
	SNR=36						
SHHB	**Siheung-si**	**1.62**	**155**	P	**Pn**	**20 17 33.6**	**+0.9**
	SNR=14						
GAPB	**Gapyeong**	**1.62**	**126**	P	**Pn**	**20 17 34.2**	**+1.4**
	SNR=43						
SUJ	**Sinuiju**	**1.65**	**321**	Pg	**Pn**	**20 17 34.2**	**+1.0**
SUJ				Sg	**Sn**	**20 17 55.6**	**+1.2**
SUJ				AML	AML		
	comp=N,271nm,0.3s						
SUJ				AML	AML		
	comp=E,384nm,0.1s						
SUJ				AML	AML		
	comp=Z,573nm,0.3s						
HWCA	**Hwacheon Acc B**	**1.70**	**116**	P	**Pn**	**20 17 35.5**	**+1.7**
	SNR=24						
HHU	**Hamhung**	**1.72**	**49**	Pg	**Pn**	**20 17 34.9**	**+0.8**
HHU				Sg	**Sn**	**20 17 57.3**	**+1.3**
HHU				AML	AML		
	comp=N,504nm,0.2s						
HHU				AML	AML		
	comp=E,482nm,0.3s						
HHU				AML	AML		
	comp=Z,391nm,0.5s						

KRSC 13 20:23:31.3±1.5,**53.°62N×166.°34E,h44**km±42km,**ML3.6,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**2.87**	**291**	*e*P	Pn	20 24 16.9	+2.4
MKZ				*e*S	Sn	20 24 52.4	+4.7
SPN	**Mys Shipunski**	**3.82**	**265**	*e*P	Pn	20 24 31.4	+3.9
SPN				*e*S	Sn	20 25 14.8	+3.7
TUMR	**Tumrok**	**3.98**	**297**	*e*P	Pn	20 24 32.9	+3.1
KII	**Karymskiy**	**4.10**	**279**	P	Pn	20 24 34.7	+3.2
KMNR	**Kamenistaya**	**4.13**	**304**	*e*P	Pn	20 24 35.1	+3.2
KMNR				*e*S	Sn	20 25 23.9	+4.9
NLC	**Nalytchevo**	**4.21**	**267**	*e*P	Pn	20 24 36.8	+3.9
NLC				S	Sn	20 25 25.1	+4.4
SDLR	**Sedlovina**	**4.47**	**269**	*e*P	Pn	20 24 40.7	+4.1
UGLR	**Uglovaya**	**4.51**	**268**	*e*P	Pn	20 24 41.8	+4.6
SMAR	**Somma**	**4.52**	**268**	*e*P	Pn	20 24 41.7	+4.3
KRER	**Koryakskii**	**4.55**	**269**	*e*P	Pn	20 24 42.2	+4.5
AVH	**Avacha**	**4.56**	**269**	*e*P	Pn	20 24 42.4	+4.7
KOK	**Koryaka**	**4.62**	**269**	*e*P	Pn	20 24 42.9	+4.4
RUS	**Russkaya**	**4.87**	**259**	P	Pn	20 24 45.8	+3.9
RUS				S	Sn	20 25 41.4	+4.4
GNL	**Ganaly**	**5.00**	**274**	*e*P	Pn	20 24 48.8	+5.0
KRMR	**Karymshinskiy**	**5.00**	**264**	*e*P	Pn	20 24 48.4	+4.8
KRMR				S	Sn	20 25 46.2	+6.1
MTVR	**Mutnovka**	**5.05**	**260**	*e*P	Pn	20 24 48.8	+4.2
MTVR				*e*S	Sn	20 25 46.3	+4.7
GRL	**Gorelyy**	**5.10**	**261**	*e*P	Pn	20 24 50.4	+5.2
KDTR	**Khodutka, Kamc**	**5.34**	**253**	*e*P	Pn	20 24 52.3	+3.9
KDTR				*e*S	Sn	20 25 52.2	+3.7
APC	**Apacha**	**5.55**	**266**	*e*P	Pn	20 24 57.0	+5.7

*IDC **13** 20:29:45.6±1.4,51.°77N×178.°52E,h0km,mb3.6/9,*
mb1 3.8/10,mb1mx3.6/51,mbtmp3.6/10,ML4.8/1,Error
ellipse: s-maj=39.8km s-min=21.0km az=175.0
*AEIC **13** 20:29:58±1.0,52.°1N±0.°4×178.°7E±0.°1,h135km±9km,*
ML3.2,Error ellipse: s-maj=58.1km s-min=8.3km az=190.0
*NEIC **13** 20:29:58.4±0.6,51.°9N±0.°4×178.°62E±0.°08,h114km±20km,*
Error ellipse: s-maj=54.3km s-min=6.2km az=184.0
ISC 13 20:29:58.5±1.0,**52.°0N**±0.°2×**178.°61E**±0.°05,**h107**km±10km,
n28,σ0§77/31,mb3.5/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.59**	**97**		**Pn**	**20 30 26.1**	**-0.1**
GASW					**Sn**	**20 30 46.6**	**-0.5**
GANO	**Gareloi North**	**1.61**	**95**		**Pn**	**20 30 26.3**	**-0.2**
GALAA	**Gareloi Lava P**	**1.64**	**97**		**Pn**	**20 30 27.0**	**+0.3**
GALAA					**Sn**	**20 30 49.5**	**+1.2**
GAEA	**Gareloi East**	**1.65**	**96**		**Pn**	**20 30 27.1**	**+0.2**
TASE	**Tanaga Southea**	**2.08**	**93**		**Pn**	**20 30 32.4**	**0.0**
TASE					**Sn**	**20 30 58.0**	**-0.3**
TAFP	**Tanaga Falls P**	**2.11**	**91**		**Pn**	**20 30 32.5**	**-0.2**
TAFP					**Sn**	**20 30 59.0**	**+0.1**
TAPA	**Tanaga Point A**	**2.22**	**93**		**Pn**	**20 30 34.2**	**0.0**
KIMD	**Kanaga Island**	**2.59**	**93**		**Pn**	**20 30 38.8**	**-0.1**
KIKV	**Kanaga Island**	**2.62**	**91**		**Pn**	**20 30 39.4**	**+0.2**
KIWB	**Kanaga Island**	**2.63**	**91**		**Pn**	**20 30 40.1**	**+0.7**
SMY	**Shemya**	**2.86**	**287**		**Pn**	**20 30 42.7**	**+0.2**
SMY					**Sn**	**20 31 17.0**	**+0.6**
ADK	**Adak**	**2.92**	**90**		**Pn**	**20 30 42.8**	**-0.4**
ADK					**Sn**	**20 31 17.5**	**-0.1**
GSCK	**Great Sitkin C**	**3.23**	**88**		**Pn**	**20 30 47.1**	**-0.3**
GSTD	**Great Sitkin T**	**3.24**	**87**		**Pn**	**20 30 47.1**	**-0.5**
ATKA	**Atka Island**	**4.44**	**84**		**Pn**	**20 31 03.9**	**+0.3**
MA2	**Magadan**	**17.30**	**307**	P	**P**	**20 33 49.5**	**-3.3**
	0.3nm,0.3s,baz=110,slow=15,SNR=1.8						
ILAR	**Eielson Array**	**21.81**	**41**	P	**P**	**20 34 42.0**	**+0.4**
	0.2nm,0.6s,baz=238,slow=11,SNR=2.9						
KLR	**Kul'dur**	**29.46**	**283**	P	**P**	**20 35 51.7**	**-0.2**
	0.8nm,0.4s,baz=37,slow=7.7,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**33.47**	**200**	T	T	21 11 53.8	
	baz=12						
H11N3	**WAKE ISLAND Hy**	**33.48**	**200**	T	T	21 12 02.8	
	baz=12						
H11N1	**WAKE ISLAND Hy**	**33.49**	**200**	T	T	21 11 59.0	
	baz=12						
YKA	**Yellowknife Ar**	**35.98**	**47**	P	**P**	**20 36 49.0**	**+0.5**
	0.2nm,0.4s,baz=286,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**44.93**	**295**	P	**P**	**20 38 03.3**	**+0.8**
	0.4nm,0.5s,baz=61,slow=6.8,SNR=2.0						
NVAR	**Mina Array Bea**	**45.07**	**82**	P	**P**	**20 38 04.0**	**+0.2**
	0.5nm,0.6s,baz=282,slow=9.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**57.53**	**312**	P	**P**	**20 39 36.7**	**+0.5**
	0.6nm,0.4s,baz=42,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**58.38**	**307**	P	**P**	**20 39 42.4**	**0.0**
	0.4nm,0.4s,baz=49,slow=5.9,SNR=10						
BVAR	**Borovoye Array**	**59.37**	**318**	P	**P**	**20 39 49.7**	**+0.6**
	0.8nm,0.4s,baz=22,slow=9.4,SNR=5.5						
WRA	**Warramunga Arr**	**81.36**	**222**	P	**P**	**20 42 02.8**	**-0.3**
	0.2nm,0.7s,baz=30,slow=5.8,SNR=1.1						

*DJA **13** 20:30:15.9±0.6,1.°N±3.°×12.°3E±.°,h13km±4km,M4.6/26,*
mB5.1/12,mb4.7/26,MLv4.8/18,Mw(mB)4.4/12
*IDC **13** 20:30:20.0±2.1,1.°18N×122.°92E,h57km±21km,mb3.8/21,*
mb1 4.0/25,mb1mx3.8/47,mbtmp4.1/25,ML3.8/3,MS3.5/18,
Ms1 3.5/18,ms1mx3.2/74,Error ellipse: s-maj=16.8km
s-min=10.6km az=85.0
*NEIC **13** 20:30:20.3±2.3,1.°19N±0.°09×122.°62E±0.°10,h69km±9km,*
mb4.4/17,Error ellipse: s-maj=16.6km s-min=9.4km
az=53.0
*MAN **13** 20:31:13.7,7.°14N×124.°49E,h35km,mb4.3,ML3.1,MS2.8*
ISC 13 20:30:19.1±0.4,**1.°18N**±0.°05×**122.°87E**±0.°06,**h50**km,**n85,**
σ1§83/82,mb4.2/29,MS3.6/16,5C-1D,Minahassa
Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.56**	**166**	P	**Pn**	**20 30 27.5**	**-3.6**
GTOI				S	**Sn**	**20 30 34.8**	**-4.9**
MRSI	**Marisa**	**1.17**	**233**	P	**Pn**	**20 30 36.2**	**-2.8**
KMSI	**Cibinong**	**1.26**	**119**	P	**Pn**	**20 30 41.9**	**+1.5**
TOLI2	**Tolitoli**	**2.09**	**268**	Pn	**Pn**	**20 30 47.4**	**-4.3**
LUWI	**Luwuk**	**2.21**	**183**	Pn	**Pn**	**20 30 55.2**	**+1.8**
LUWI	**Luwuk**	**2.21**	**183**	P	**Pn**	**20 30 54.9**	**+1.5**
APSI	**Ampana**	**2.41**	**210**

COEN	**Coen**	**25.12**	**127**	P	**P**	**20 35 39.6**	**0.0**
GSI	**Gununguitoli**	**25.29**	**271**	P	**P**	**20 35 38.1**	**-3.0**
GSI	**Gununguitoli**	**25.29**	**271**	P	**P**	**20 35 39.2**	**-2.0**
	comp=Z,28nm,0.9s						
AS31	**Alice Springs**	**26.93**	**157**	P	**P**	**20 35 51.9**	**-4.0**
ASAR	**Alice Springs**	**26.93**	**157**	P	**P**	**20 35 55.9**	**0.0**
	comp=Z,2.6nm,0.8s,baz=340,slow=11,SNR=12						
ASAR				PcP	**PcP**	**20 39 17.3**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=340,slow=2.2,SNR=3.7						
ASAR				LR	LR	20 47 27.9	
	comp=Z,155nm,18.9s,baz=319,slow=38						
ASAR	**Alice Springs**	**26.93**	**157**	P	**P**	**20 35 51.7**	**-4.2**
CMAR	**Chiang Mai Arr**	**29.09**	**308**	P	**P**	**20 36 15.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=135,slow=7.7,SNR=1.3						
CMAR				PcP	**PcP**	**20 39 23.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=176,slow=1.1,SNR=5.6						
CMAR				LR	LR	20 48 04.1	
	comp=Z,84nm,21.2s,baz=160,slow=36						
MORW	**Morawa**	**30.78**	**192**	P	**P**	**20 36 27.5**	**-2.5**
JHJ	**Hachijo jima 2**	**35.52**	**25**	LR	LR	20 49 18.9	
	comp=Z,55nm,21.4s,baz=229,slow=32						
BBOO	**Buckleboo**	**36.03**	**161**	P	**P**	**20 37 15.1**	**-0.6**
KSRS	**Korea Array**	**36.39**	**7**	P	**P**	**20 37 19.5**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=186,slow=10,SNR=4.5						
KSRS				LR	LR	20 54 50.1	
	comp=Z,45nm,18.5s,baz=185,slow=40						
STKA	**Stephens Creek**	**37.36**	**153**	P	**P**	**20 37 26.8**	**-0.3**
	comp=Z,11nm,0.9s,baz=326,slow=8.2,SNR=14						
STKA				LR	LR	20 53 01.6	
	comp=Z,81nm,18.3s,baz=353,slow=36						
STKA	**Stephens Creek**	**37.36**	**153**	P	**P**	**20 37 27.6**	**+0.6**
MJAR	**Matsushiro Arr**	**37.94**	**20**	P	**P**	**20 37 31.6**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=203,slow=8.9,SNR=6.3						
MJAR				LR	LR	20 51 11.0	
	comp=Z,51nm,20.9s,baz=190,slow=33						
GTA	**Gaotai**	**43.48**	**334**	⇑P	**P**	**20 38 18.9**	**+1.2**
GTA				pP	pP	20 38 30.3	-0.1
GTA				sP	sP	20 38 35.8	-0.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,78nm,4.7s						
GTA				LR	LR		
	comp=N,62nm,15.6s						
GTA				LR	LR		
	comp=E,110nm,17.1s						
GTA				LR	LR		
	comp=Z,88nm,16.4s						
CAN	**Canberra**	**43.76**	**149**	P	**P**	**20 38 21.0**	**+1.1**
ASAJ	**Asahikawa**	**46.20**	**20**	LR	LR	20 55 38.7	
	comp=Z,57nm,21.9s,baz=200,slow=33						
KLR	**Kul'dur**	**48.47**	**8**	P	**P**	**20 38 56.5**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=233,slow=2.6,SNR=4.1						
KLR				LR	LR	21 01 39.8	
	comp=Z,57nm,18.4s,baz=194,slow=39						
SONM	**Songino Array**	**48.62**	**345**	P	**P**	**20 38 57.6**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=159,slow=8.8,SNR=8.9						
SONM				LR	LR	21 00 45.4	
	comp=Z,74nm,19.6s,baz=174,slow=38						
SONM	**Songino Array**	**48.62**	**345**	P	**P**	**20 38 57.3**	**-0.6**
SONM				lAmb	lAmb	20 39 10.9	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**57.55**	**328**	P	**P**	**20 40 04.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=130,slow=7.2,SNR=7.8						
MKAR				LR	LR	21 07 04.8	
	comp=Z,45nm,18.2s,baz=96,slow=38						
MKAR	**Makanchi Array**	**57.55**	**328**	P	**P**	**20 40 03.2**	**-0.3**
PETK	**Petropavlovsk-**	**59.26**	**24**	P	**P**	**20 40 14.1**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=212,slow=14,SNR=4.2						
PETK				LR	LR	21 06 37.6	
	comp=Z,33nm,19.9s,baz=163,slow=37						
AAK	**Ala-Archa**	**59.74**	**320**	P	**P**	**20 40 19.6**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=186,slow=9.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**61.19**	**335**	P	**P**	**20 40 29.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=133,slow=11,SNR=1.4						
KURBB	**Kurchatov Arra**	**61.88**	**330**	P	**P**	**20 40 33.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=126,slow=6.6,SNR=6.2						
MA2	**Magadan**	**62.14**	**16**	P	**P**	**20 40 35.4**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=185,slow=6.2,SNR=14						
SEY	**Seymchan**	**65.40**	**14**	P	**P**	**20 40 56.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=177,slow=7.0,SNR=4.6						
TIXI	**Tiksi**	**70.46**	**2**	P	**P**	**20 41 26.8**	**-1.1**
	comp=Z,0.3nm,0.2s,baz=89,slow=23,SNR=5.6						
TIXI				LR	LR	21 14 24.7	
	comp=Z,36nm,19.8s,baz=182,slow=38						
TIXI	**Tiksi**	**70.46**	**2**	P	**P**	**20 41 26.5**	**-1.4**
TIXI				lAmb	lAmb	20 41 36.5	
	comp=Z,6.5nm,1.5s						
VNDA	**Vanda**	**81.43**	**172**	P	**P**	**20 42 30.3**	**0.0**
	comp=Z,4.1nm,0.8s,baz=322,slow=5.1,SNR=9.5						
VNDA	**Vanda**	**81.43**	**172**	P	**P**	**20 42 29.7**	**-0.6**
VNDA				lAmb	lAmb	20 42 31.6	
	comp=Z,4.9nm,0.9s						
KBZ	**Khabaz**	**81.93**	**314**	P	**P**	**20 42 34.9**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=248,slow=4.4,SNR=7.1						
BRTR	**Keskin Array B**	**88.66**	**310**	P	**P**	**20 43 07.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=128,slow=3.6,SNR=3.7						
ILAR	**Eielson Array**	**89.04**	**25**	LR	**P**	**20 43 08.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=252,slow=4.6,SNR=2.3						
NOA	**NORSAR Array B**	**99.30**	**333**	LR	LR	21 32 56.0	
	comp=Z,29nm,19.4s,baz=190,slow=38						

*ATH **13** 20:31:54.4, 35˚.38N×23˚.59E, h15km±3km, ML2.3/3, Error ellipse: s-maj=3.5km s-min=0.9km az=47.0*
*ISK **13** 20:32:08.5, 35˚.33N×23˚.63E, h4km, ML3.0/4*
ISC 13 20:31:54.8±1.3**, 35˚.40N**±0˚.06×**23˚.64E**±0˚.05**, h10**km±11km**, n15**, σ0°68**/18, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.18**	**32**	PG	Pb	20 32 14.1	+14
RODP				SG	Sg	20 32 18.3	+17
IMMV	**Iera Moni Meta**	**0.29**	**79**	P	**Pg**	**20 32 01.4**	**+0.7**
IMMV				S	**Sb**	**20 32 06.5**	**-0.4**
IMMV				AML	AML	20 32 07.5	
	comp=N,928μm,0.2s						
IMMV				AML	AML	20 32 12.4	
	comp=E,1020μm,0.3s						
IMMV	**Iera Moni Meta**	**0.29**	**79**	PG	Pn	20 32 15.4	+10
IMMV				SG	Sb	20 32 20.4	+13
VAM	**Vamos**	**0.46**	**89**	P	**Pg**	**20 32 04.2**	**+0.3**
VAM				S	**Sb**	**20 32 11.5**	**-0.4**
VAM				AML	AML	20 32 12.7	
	comp=N,1926μm,0.3s						
VAM				AML	AML	20 32 15.3	
	comp=E,929μm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**330**	P	**Pg**	**20 32 05.0**	**-0.3**
ANKY				S	**Sg**	**20 32 11.5**	**-0.8**
GVD	**Gavdhos**	**0.67**	**147**	P	**Pg**	**20 32 08.1**	**+0.2**
GVD				S	**Sg**	**20 32 16.3**	**-0.4**
GVD				AML	AML	20 32 20.0	
	comp=N,759μm,0.3s						
GVD				AML	AML	20 32 21.9	
	comp=E,734μm,0.4s						
GVD	**Gavdhos**	**0.67**	**147**	PG	Pn	20 32 21.1	+11
KTHA	**Kythira Island**	**0.97**	**331**	P	**Pg**	**20 32 13.1**	**-0.4**
KTHA				S	**Sb**	**20 32 26.7**	**+0.1**
IDI	**Anoyia**	**1.03**	**96**	P	**Pg**	**20 32 14.7**	**0.0**
IDI				S	**Sn**	**20 32 29.2**	**-0.7**
IDI	**Anoyia**	**1.03**	**96**	PG	Pn	20 32 28.8	+13
IDI				SG	Sn	20 32 43.6	+14
SIVA	**Sivas**	**1.04**	**112**	P	**Pn**	**20 32 15.4**	**+0.1**
SIVA				S	**Sb**	**20 32 28.4**	**0.0**
VLI	**Veliai**	**1.43**	**337**	P	**Pn**	**20 32 21.0**	**+0.2**
NPS	**Neapolis**	**1.62**	**94**	P	**Pg**	**20 32 25.5**	**-0.4**
KRND	**KRANIDI**	**2.01**	**349**	P	**Pn**	**20 32 29.6**	**+0.8**
KLV	**Kalavryta, Ach**	**2.89**	**336**	P	**Pn**	**20 32 42.7**	**+1.8**

*RSNC **13** 20:43:13.4±0.9, 7˚.23N×78˚.13W, h6km±4km, ML3.6, Mw4.1, Fault plane solution: NP1φs39.00000°, δ12.00000°, λ118.00000°.*
*NEIC **13** 20:43:15.6±2.4, 7˚.45N±0˚.06×78˚.11W±0˚.04, h48km±23km, mb4.1/2, Error ellipse: s-maj=9.6km s-min=3.4km az=146.0*
*IDC **13** 20:43:17.4±1.9, 7˚.42N×78˚.20W, h48km±19km, mb3.5/13, mb1 3.8/16, mb1mx3.7/49, mbtmp3.9/16, ML3.3/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/48, Error ellipse: s-maj=21.4km s-min=12.8km az=48.0*
ISC 13 20:43:12.1±1.2**, 7˚.29N**±0˚.03×**78˚.13W**±0˚.04**, h14**km±8km**, n79, σ2°42**/124**, mb3.8**/14**, 4C-2D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.35**	**114**	⇓*iP*	**Pg**	**20 43 19.9**	**+0.6**
PTAC				*eS*	**Sg**	**20 43 24.2**	**+0.1**
SOLC	**Bahia Solano**	**1.28**	**146**	*e*Pg	**Pn**	**20 43 33.8**	**-1.9**
SOLC				*e*P	**Pb**	**20 43 36.0**	**0.0**
SOLC				*e*S	**Sn**	**20 43 54.2**	**+1.6**
SOLC				*i*		20 43 57.6	
	comp=Z,323nm,0.3s						
DBBC	**Dabeiba**	**1.93**	**98**	*e*P	**Pn**	**20 43 45.3**	**+0.7**
DBBC				*e*Pg	**Pb**	**20 43 47.2**	**+0.1**
DBBC				*e*S	**Sn**	**20 44 08.2**	**-0.6**
LCBC	**Los crdobas,**	**2.34**	**48**	*e*P	**Pb**	**20 43 53.3**	**-0.8**
LCBC				*e*S	**Sb**	**20 44 20.6**	**-2.2**
LCBC				*i*		20 44 27.0	
	comp=Z,321nm,0.5s						
PIZC	**Pizarro, Choco**	**2.44**	**162**	*e*P	**Pn**	**20 43 50.1**	**-1.4**
BCIP	**Isla Barro Col**	**2.51**	**318**	*e*P	**Pn**	**20 43 51.6**	**-1.0**
BCIP	**Isla Barro Col**	**2.51**	**318**	⇓*iP*	**Pn**	**20 43 51.6**	**-1.0**
BCIP				*e*S	**Sb**	**20 44 25.9**	**-2.0**
BCIP				*i*		20 44 33.2	
	comp=Z,312nm,0.4s						
CBOC	**Ciudad Bolivar**	**2.54**	**124**	⇑*e*P	**Pn**	**20 43 52.7**	**-0.4**
CBOC				*e*Pg	**Pb**	**20 43 55.8**	**-1.9**
CBOC				*e*S	**Sn**	**20 44 24.7**	**+0.7**
CBOC				*i*		20 44 39.2	
	comp=Z,269nm,0.5s						
UREC	**San Jos de Ur**	**2.62**	**80**	*e*P	**Pn**	**20 43 55.5**	**+1.5**
UREC				*e*S	**Sn**	**20 44 27.8**	**+2.1**
UREC				*i*		20 44 43.1	
	comp=Z,362nm,0.7s						
HELC	**Santa Helena**	**2.81**	**113**	*e*P	**Pn**	**20 43 58.0**	**+1.0**
HELC				*e*Pg	**Pb**	**20 44 00.0**	**-2.3**
HELC				*e*S	**Sn**	**20 44 31.8**	**+0.9**
HELC				*i*		20 44 46.5	
	comp=Z,173nm,0.5s						
MOTC	**Monteria, Cord**	**2.85**	**59**	⇑*e*P	**Pn**	**20 43 58.8**	**+1.5**
MOTC				*e*S	**Sn**	**20 44 34.0**	**+2.5**
MOTC				*i*		20 44 39.4	
	comp=Z,147nm,0.5s						
PLMC	**San Jos del P**	**3.00**	**142**	*e*P	**Pn**	**20 43 59.4**	**0.0**
PLMC				*i*		20 44 45.0	
	comp=Z,118nm,0.5s						
ZARC	**Zaragoza, Cauc**	**3.25**	**86**		**Pn**	**20 44 04.4**	**+1.6**
ZARC	**Zaragoza, Cauc**	**3.25**	**86**	⇑*iP*	**Pn**	**20 44 04.5**	**+1.7**
ZARC				*e*S	**Sn**	**20 44 40.5**	**-0.9**
ZARC				*i*		20 44 47.6	
	comp=Z,523nm,0.7s						
GUY2C	**Guyana, Caldas**	**3.43**	**127**	*e*P	**Pn**	**20 44 07.0**	**+1.3**
GUY2C				*e*Pg	**Pb**	**20 44 10.2**	**-2.9**
GUY2C				*e*S	**Sn**	**20 44 47.6**	**+1.1**
GUY2C				*i*		20 44 57.6	
	comp=Z,295nm,0.6s						
NORC	**Norcasia**	**3.67**	**118**	*e*P	**Pn**	**20 44 10.1**	**+1.6**
NORC				*e*S	**Sn**	**20 44 53.0**	**+1.3**
NORC				*i*		20 45 01.8	
	comp=Z,81nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.73**	**101**	*e*P	**Pn**	**20 44 10.7**	**+1.4**
PTBC				*e*S	**Sn**	**20 44 54.2**	**+1.1**
PTBC				*i*		20 45 07.6	
	comp=Z,121nm,0.5s						
YOTC	**Yotoco, Valle**	**3.74**	**152**	*e*P	**Pn**	**20 44 08.8**	**-0.7**
YOTC				*e*Pg	**Pb**	**20 44 15.3**	**-2.7**
YOTC				*e*S	**Sb**	**20 45 01.2**	**-2.1**
ANIL	**Santa Ana**	**3.89**	**136**	*e*P	**Pn**	**20 44 12.8**	**+1.0**
ANIL				*e*S	**Sb**	**20 45 06.8**	**-1.0**
ANIL				*i*		20 45 09.4	
	comp=Z,118nm,0.7s						
SJCC	**San Jacinto, C**	**3.90**	**48**		**Pn**	**20 44 12.7**	**+1.0**
SJCC	**San Jacinto, C**	**3.90**	**48**	*e*P	**Pn**	**20 44 13.5**	**+1.7**
SJCC				*e*S	**Sn**	**20 44 59.0**	**+1.5**
SJCC				*i*		20 45 11.8	
	comp=Z,60nm,0.6s						
SPBC	**San Pablo de B**	**4.35**	**112**	*e*P	**Pn**	**20 44 21.2**	**+3.3**
SPBC				*e*S	**Sn**	**20 45 14.6**	**+6.0**
SPBC				*i*		20 45 32.0	
	comp=Z,55nm,0.6s						
ORTC	**Ortega, Tolima**	**4.42**	**139**	*e*P	**Pn**	**20 44 21.3**	**+2.4**
ORTC				*e*Pg	**Pb**	**20 44 25.9**	**-3.8**
ORTC				*e*S	**Sn**	**20 45 17.7**	**+7.4**
ORTC				*i*		20 45 29.4	
	comp=Z,62nm,0.6s						
ROSC	**El Rosal**	**4.51**	**123**	P	**Pn**	**20 44 24.1**	**+3.7**
	comp=Z,4.7nm,0.3s,baz=265,slow=3.3,SNR=12						
ROSC				S	**Sb**	**20 45 20.3**	**-5.4**
	comp=Z,8.1nm,0.3s,baz=306,slow=5.5,SNR=4.4						
ROSC	**El Rosal**	**4.51**	**123**		**Pn**	**20 44 21.8**	**+1.4**
ROSC	**El Rosal**	**4.51**	**123**	*e*P	**Pn**	**20 44 23.4**	**+3.0**
ROSC				*e*S	**Sb**	**20 45 26.4**	**+0.7**
ROSC				*i*		20 45 46.5	
	comp=Z,44nm,0.7s						
OCAC	**Ocana**	**4.86**	**79**		**Pn**	**20 44 26.3**	**+1.3**
OCAC	**Ocana**	**4.86**	**79**	*e*P	**Pn**	**20 44 26.6**	**+1.6**
OCAC				*e*S	**Sn**	**20 45 23.0**	**+1.7**
MARP	**Paez Belalcaza**	**4.92**	**154**	*e*P	**Pn**	**20 44 28.8**	**+2.7**
MARP				*e*S	**Sn**	**20 45 30.1**	**+7.1**
POPC	**Popayan, Colom**	**4.94**	**163**	*e*P	**Pn**	**20 44 25.7**	**-0.5**
POPC				*e*S	Sn	20 45 15.2	-8.1
BARC	**Barichara**	**4.96**	**98**	*e*P	**Pn**	**20 44 29.0**	**+2.5**
BARC				*e*S	**Sn**	**20 45 28.1**	**+4.2**
BARC				*i*		20 45 34.4	
	comp=Z,105nm,0.6s						
CHIC	**Chingaza**	**5.11**	**121**	*e*P	**Pn**	**20 44 31.3**	**+2.6**
CHIC				*e*S	**Sb**	**20 45 43.5**	**+0.3**
CHIC				*i*		20 45 59.3	
	comp=Z,25nm,0.6s						
RUSC	**La Rusia**	**5.20**	**105**	*e*P	**Pn**	**20 44 32.6**	**+2.5**
RUSC				*e*S	**Sn**	**20 45 35.4**	**+5.2**
RUSC				*i*		20 46 05.6	
	comp=Z,50nm,0.7s						
PCON	**Cinco Dias**	**5.23**	**161**	*e*P	**Pn**	**20 44 33.1**	**+2.7**
SOTA	**Rioblanco**	**5.34**	**163**	*e*P	**Pn**	**20 44 33.0**	**+0.9**
SOTA				*e*Pg	Pb	20 44 35.4	-10
SOTA				*e*S	**Sn**	**20 45 29.2**	**-4.5**
SOTA				*i*		20 45 40.3	
	comp=Z,26nm,0.6s						
LL6C	**La Loma 6 Bece**	**5.38**	**63**	*e*P	**Pn**	**20 44 33.3**	**+1.2**
LL6C				*e*S	**Sn**	**20 45 33.8**	**-0.2**
LL6C				*i*		20 46 07.6	
	comp=Z,38nm,0.6s						
PAMC	**Pamplona, Colo**	**5.39**	**89**	*e*P	**Pn**	**20 44 34.7**	**+2.1**
PAMC				*e*S	**Sn**	**20 45 36.0**	**+1.2**
VILC	**Villavicencio,**	**5.43**	**125**	*e*P	**Pn**	**20 44 37.5**	**+4.7**
VILC				*e*S	**Sb**	**20 45 50.6**	**-1.4**
SMRC	**Santa Marta, M**	**5.45**	**45**	*e*P	**Pn**	**20 44 34.6**	**+1.6**
SMRC				*e*S	**Sn**	**20 45 33.6**	**-1.9**
RIOS	**Rincon, Osa**	**5.51**	**285**		**Pn**	**20 44 35.5**	**+1.6**
SRBA	**San Rafael, Bu**	**5.52**	**291**	Pn	**Pn**	**20 44 36.0**	**+0.9**
GARC	**Garzon, Huila**	**5.71**	**152**	*e*P	**Pn**	**20 44 39.4**	**+2.6**
GCUF	**Volcan Galeras**	**6.08**	**173**	*e*P	**Pn**	**20 44 44.4**	**+2.3**
GCUF				*e*S	**Sn**	**20 45 49.9**	**-1.8**
GCUF				*i*		20 46 00.9	
	comp=Z,8.1nm,0.4s						
RIMA	**Rio Macho**	**6.18**	**294**		**Pn**	**20 44 43.2**	**-0.1**
FLOC	**Florencia**	**6.19**	**156**	*e*P	**Pn**	**20 44 44.6**	**+1.4**
FLOC				*e*S	**Sn**	**20 45 47.2**	**-6.6**
FLOC				*i*		20 45 58.1	
	comp=Z,11nm,0.7s						
TAMC	**Tame, Arauca**	**6.35**	**97**	*e*P	**Pn**	**20 44 47.4**	**+2.0**
TAMC				*e*S	**Sn**	**20 45 56.7**	**-1.2**
TAMC				*i*		20 46 44.9	
	comp=Z,43nm,0.6s						
CRJC	**Cerrejon, Guaj**	**6.37**	**54**	⇑*e*P	**Pn**	**20 44 46.5**	**+0.8**
CRJC				*e*S	**Sn**	**20 45 57.0**	**-1.4**
CRJC				*i*		20 46 03.0	
	comp=Z,55nm,0.4s						
MACC	**Macarena, Meta**	**6.66**	**140**	*e*P	**Pn**	**20 44 50.5**	**+0.8**
MACC				*e*S	**Sn**	**20 46 11.6**	**+6.1**
JTS	**Las Juntas de**	**7.37**	**294**	P	**Pn**	**20 45 00.5**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=148,slow=23,SNR=4.9						
JTS				LR	LR	20 48 04.5	
	comp=Z,176nm,21.4s,baz=179,slow=40						
URIC	**Uribia, Colomb**	**7.47**	**54**		**Pn**	**20 45 00.2**	**-0.6**
SDV	**Santo Domingo**	**7.59**	**77**	P	**Pn**	**20 45 04.5**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=257,slow=9.6,SNR=49						
SDV				S	**Sn**	**20 46 27.3**	**-1.4**
	comp=Z,11nm,0.3s,baz=353,slow=19,SNR=11						
SDV				LR	LR	20 48 19.1	
	comp=Z,111nm,20.1s,baz=213,slow=40						
SDV	**Santo Domingo**	**7.59**	**77**		**Pn**	**20 45 01.1**	**-1.5**
SDV	**Santo Domingo**	**7.59**	**77**	*e*P	**Pn**	**20 45 04.9**	**+2.3**
SDV				*e*S	**Sn**	**20 46 26.9**	**-1.8**
ESPN	**Las Esperanzas**	**7.79**	**309**		**Pn**	**20 45 06.2**	**+1.0**

DABV	**Dabajuro**	**8.23**	**63**	*e*P	**Pn**	**20 45 12.1**	**+0.8**
DABV				*e*S	**Sn**	**20 46 40.8**	**-3.4**
ELOV	**Elorza**	**8.59**	**91**	*e*P	**Pn**	**20 45 17.4**	**+1.3**
ELOV				*e*S	**Sn**	**20 46 47.5**	**-5.5**
BIRV	**Birongo**	**12.14**	**74**	Pn	**Pn**	**20 46 04.0**	**-0.8**
PCRV	**Puerto La Cruz**	**13.64**	**77**	P	**Pn**	**20 46 27.5**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=100,slow=12,SNR=2.2						
PCRV				S	**Sn**	**20 48 52.1**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=220,slow=4.5,SNR=2.1						
SJG	**San Juan**	**15.87**	**46**	P	**Pn**	**20 46 54.1**	**-1.2**
	comp=Z,4.7nm,0.3s,baz=210,slow=11,SNR=12						
SJG				LR	LR	20 52 09.1	
	comp=Z,52nm,21.7s,baz=182,slow=34						
LPAZ	**La Paz**	**25.43**	**157**	P	**P**	**20 48 42.6**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=330,slow=8.1,SNR=2.2						
GOGA	**Godfrey**	**26.46**	**350**	P	**P**	**20 48 45.1**	**-3.7**
GOGA				lAmb	lAmb	20 49 10.0	
	comp=Z,5.7nm,1.0s						
SIV	**San Ignacio**	**28.64**	**144**	P	**P**	**20 49 09.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=297,slow=14,SNR=1.6						
TXAR	**Lajitas Array**	**32.53**	**316**	P	**P**	**20 49 43.3**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=134,slow=7.2,SNR=3.6						
PDAR	**Pinedale Array**	**44.87**	**327**	P	**P**	**20 51 27.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=12,SNR=2.7						
ULM	**Lac du Bonnet**	**45.31**	**344**	P	**P**	**20 51 27.9**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=106,slow=5.9,SNR=3.7						
NVAR	**Mina Array Bea**	**47.67**	**317**	P	**P**	**20 51 49.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=133,slow=8.7,SNR=1.5						
SCHQ	**Schefferville**	**48.27**	**9**	P	**P**	**20 51 53.5**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=208,slow=5.3,SNR=7.8						
PLCA	**Paso Flores**	**48.30**	**172**	P	**P**	**20 51 56.0**	**+2.9**
	comp=Z,1.4nm,0.9s,baz=0.1,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**61.18**	**342**	P	**P**	**20 53 25.8**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=130,slow=7.2,SNR=14						
KOWA	**Kowa**	**72.88**	**77**	P	**P**	**20 54 42.3**	**+0.8**
	comp=Z,2.7nm,0.4s,baz=278,slow=7.5,SNR=7.9						
ESDC	**Sonseca Array**	**73.20**	**51**	P	**P**	**20 54 43.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=274,slow=6.8,SNR=6.0						
ILAR	**Eielson Array**	**74.45**	**336**	P	**P**	**20 54 48.9**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=121,slow=4.3,SNR=2.8						
EKA	**Eskdalemuir Ar**	**75.50**	**35**	P	**P**	**20 54 56.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=256,slow=5.7,SNR=1.3						
ASAR	**Alice Springs**	**145.22**	**239**	PKPbc	**PKPbc**	**21 02 49.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=120,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**146.11**	**245**	PKPbc	**PKPdf**	**21 02 51.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=101,slow=3.3,SNR=6.2						
H01W1	**Cape Leeuwin H**	**150.30**	**201**	T	T	23 52 16.6	
	baz=150,slow=76,SNR=5.9						
H01W2	**Cape Leeuwin H**	**150.30**	**201**	T	T	23 52 16.7	
	baz=150,slow=76,SNR=7.1						
H01W3	**Cape Leeuwin H**	**150.31**	**201**	T	T	23 52 20.2	
	baz=150,slow=76,SNR=4.9						
CMAR	**Chiang Mai Arr**	**154.25**	**6**	PKP	**PKPdf**	**21 03 04.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=316,slow=2.5,SNR=2.2						
CMAR				PKPab	**PKPab**	**21 03 24.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=325,slow=4.4,SNR=4.4						

*IDC **13** 20:48:44.3±0.6, 52˚.64S×18˚.94E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/51, mbtmp4.3/10, MS4.0/30, Ms1 4.0/30, ms1mx3.9/50, Error ellipse: s-maj=26.8km s-min=17.7km az=95.0*
*NEIC **13** 20:48:46.4±2.4, 52˚.6S±0˚.1×19˚.0E±0˚.2, h10km±1km, mb4.7/15, Error ellipse: s-maj=24.8km s-min=19.0km az=99.0*
ISC 13 20:48:45.7±0.5**, 52˚.59S**±0˚.08×**18˚.9E**±0˚.1**, h10**km**, n65, σ1°00**/38**, mb4.5**/11**, MS4.0**/28**, 1C, Southwest of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**19.14**	**157**	⇑*e*Pn	**P**	**20 53 07.4**	**-1.3**
SUR	**Sutherland**	**20.25**	**5**	P	Pn	20 53 23.1	-0.1
	4.8nm,0.8s,baz=160,slow=9.4,SNR=5.9						
SUR				LR	LR	20 59 16.8	
	comp=Z,483nm,21.7s,baz=178,slow=31						
SNAA	**Sanae**	**21.41**	**199**	P	**P**	**20 53 34.9**	**+1.5

comp=Z,43nm,18.6s,baz=186,slow=34
ASAR Alice Springs 85.44 124 P **P** **21 01 23.4 -0.2**
comp=Z,2.0nm,0.9s,baz=216,slow=6.4,SNR=9.6
MMAI Mount Meron Ar 86.46 14 LR LR 21 39 04.3
comp=Z,83nm,19.7s,baz=26,slow=35
URZ Urewera 87.56 163 LR LR 21 40 01.8
comp=Z,54nm,18.2s,baz=210,slow=35
GNI Garni 95.06 30 LR LR 21 44 39.4
comp=Z,43nm,21.7s,baz=218,slow=35
GEYT Alibeck 96.40 30 LR LR 21 48 37.7
comp=Z,72nm,18.4s,baz=176,slow=37
CMAR Chiang Mai Arr 98.60 71 LR LR 21 42 32.9
comp=Z,18nm,18.1s,baz=75,slow=33
DAVOX Davos/Dischmat 99.29 354 LR LR 21 48 55.4
comp=Z,67nm,18.1s,baz=122,slow=36
SONM Songino Array 124.60 55 PKP **PKiKP** **21 07 44.9 +0.1**
comp=Z,0.4nm,0.7s,baz=266,slow=4.2,SNR=3.1
BW06 Boulder Array 144.61 275 PKPbc 21 08 21.4 +0.5
PDAR Pinedale Array 144.61 275 PKP **PKPab** **21 08 19.6 -1.0**
comp=Z,1.6nm,0.6s,baz=121,slow=4.9,SNR=13
TIXI Tiksi 144.85 31 PKP **PKPab** **21 08 19.8 -0.6**
comp=Z,13nm,1.0s,baz=272,slow=23,SNR=25
TIXI Tiksi 144.85 31 **PKPab** **21 08 19.9 -0.4**
LOHW Long Hollow 145.72 275 **PKPbc** **21 08 24.4 +0.1**
FFC Flin Flon 145.77 298 **PKPab** **21 08 24.9 +0.6**
ELK Elko 146.90 268 PKPbc **PKPdf** **21 08 27.0 +0.9**
comp=Z,1.0nm,0.5s,baz=136,slow=5.5,SNR=4.5
NVAR Mina Array Bea 147.33 262 PKPbc **PKPab** **21 08 30.6 -0.5**
comp=Z,1.6nm,0.8s,baz=150,slow=4.9,SNR=7.2
NVAR Mina Array Bea 147.33 262 **PKPab** **21 08 30.2 -0.9**
MA2 Magadan 152.80 56 PKPbc **PKPbc** **21 08 40.7 -0.8**
comp=Z,1.2nm,0.3s,baz=114,slow=1.7,SNR=6.3
YKA Yellowknife Ar 153.72 310 PKPbc **PKPbc** **21 08 41.8 -1.6**
comp=Z,2.4nm,1.1s,baz=87,slow=2.1,SNR=11
SEY Seymchan 153.74 49 PKPbc **PKiKP** **21 08 43.7 +0.1**
comp=Z,0.4nm,0.4s,baz=318,slow=3.0,SNR=4.2
ILAR Eielson Array 165.76 335 PKPab **PKPab** **21 09 49.9 +1.2**
comp=Z,0.5nm,0.9s,baz=320,slow=0.6,SNR=4.8

NEIC ***13*** *20:52:58.7±2.7, 0.2N±0.1×128.9E±0.1, h10km±2km, mb4.1/15, Error ellipse: s-maj=31.8km s-min=15.3km az=43.0*
IDC ***13*** *20:52:59.9±0.9, 0.32N×128.93E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/55, mbtmp3.9/8, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/68, Error ellipse: s-maj=34.2km s-min=12.6km az=66.0*
DJA ***13*** *20:53:01.0±0.4, 0.4N±4×12.9E±°, h10km, M4.2/13, mb4.6/3, mB4.8/2, MLv3.9/13, Mw(mB)4.1/2, MwMwp4.6/1, Mwp5.0/1*
ISC 13 20:52:59.2±0.7, 0.13N±0.06×128.82E±0.06, h10km, n38, σ2s24/35, mb4.1/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LBMI	**Labuha**	**1.53**	**240**	P		**Pn**	**20 53 27.3**	**+0.8**
LBMI				S		**Sn**	**20 53 47.1**	**+0.6**
TNTI	**Ternate**	**1.59**	**294**	Pn		**Pn**	**20 53 27.4**	**0.0**
TNTI	**Ternate**	**1.59**	**294**	P		**Pg**	**20 53 28.9**	**-0.8**
SWI	**Sorong**	**2.63**	**112**	P		**Pn**	**20 53 42.8**	**+1.1**
SIJI	**Sorong**	**2.64**	**112**	Pn		**Pn**	**20 53 43.2**	**+1.4**
	7.8nm,0.3s,baz=149,slow=23,SNR=25							
SIJI				Sn		**Sb**	**20 54 16.5**	**-2.6**
	7.3nm,0.3s,baz=138,slow=20,SNR=3.7							
MSAI	**Masohi**	**3.46**	**178**	P		**Pb**	**20 53 58.3**	**-2.2**
SANI	**Sanana**	**3.57**	**233**	P		**Pn**	**20 53 57.1**	**+2.5**
AAI	**Ambon**	**3.85**	**189**	P		**Pn**	**20 54 02.9**	**+4.4**
KMSI	**Cibinong**	**4.86**	**275**	P		**Pn**	**20 54 15.4**	**+3.0**
GTOI	**Gorontalo**	**5.83**	**275**	P		Pn	20 54 31.4	+5.6
	0.1nm2µm17nm,0.6s							
LUWI	**Luwuk**	**6.16**	**259**	P		**Pn**	**20 54 30.9**	**+0.6**
	0.3nm990nm56nm,0.7s							
APSI	**Ampana**	**7.25**	**262**	P		**Pn**	**20 54 46.0**	**+0.8**
DAV	**Davao City (W)**	**7.61**	**335**	LR		LR	20 57 53.3	
	comp=Z,74nm,20.8s,baz=316,slow=39							
KNRA	**Kununurra**	**15.71**	**180**	Pn		**Pn**	**20 56 40.3**	**-0.4**
KNRA				IAmb		IAmb	20 56 54.6	
	comp=Z,13nm,0.9s							
FITZ	**Fitzroy Crossi**	**18.39**	**190**	P		**P**	**20 57 11.2**	**-3.2**
COEN	**Coen**	**19.95**	**135**	P		**Pn**	**20 57 32.8**	**-0.5**
COEN				IAmb		IAmb	20 57 35.4	
	comp=Z,25nm,1.5s							
WB0	**Warramunga Arr**	**20.52**	**165**	P		**P**	**20 57 37.5**	**-0.3**
WB0				IAmb		IAmb	20 57 43.3	
	comp=Z,16nm,1.3s							
WRAB	**Tennant Creek**	**20.66**	**165**	P		**P**	**20 57 40.5**	**+1.1**
WRAB				IAmb		IAmb	20 58 01.8	
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**20.67**	**165**	P		Pn	20 57 42.2	+0.5
	comp=Z,3.4nm,1.0s,baz=341,slow=12,SNR=15							
WRA				S		Sn	21 01 38.6	+3.5
	comp=Z,1.0nm,1.0s,baz=2.4,slow=21,SNR=5.4							
WRA	**Warramunga Arr**	**20.67**	**165**	P		Pn	20 57 42.1	+0.4
WB2	**Warramunga Arr**	**20.67**	**165**	P		**P**	**20 57 39.6**	**+0.1**
WB2				IAmb		IAmb	20 57 44.5	
	comp=Z,15nm,1.3s							
WR0	**Warramunga Arr**	**20.74**	**165**	P		**P**	**20 57 40.7**	**+0.5**
WR0				IAmb		IAmb	20 57 57.2	
	comp=Z,8.7nm,1.2s							
AS31	**Alice Springs**	**24.17**	**169**	P		**P**	**20 58 17.1**	**+1.2**
AS31				IAmb		IAmb	20 58 20.6	
	comp=Z,4.5nm,0.9s							
ASAR	**Alice Springs**	**24.17**	**169**	P		**P**	**20 58 19.5**	**+3.6**
	comp=Z,15nm,0.9s,baz=346,slow=10,SNR=63							
ASAR	**Alice Springs**	**24.17**	**169**	P		**P**	**20 58 19.0**	**+3.1**
FORT	**Forrest**	**30.75**	**181**	P		**P**	**20 59 13.4**	**-1.3**
STKA	**Stephens Creek**	**34.05**	**160**	P		**P**	**20 59 46.4**	**+2.6**
	comp=Z,1.6nm,0.7s,baz=336,slow=10,SNR=5.4							
STKA	**Stephens Creek**	**34.05**	**160**	P		**P**	**20 59 43.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**34.54**	**303**	P		**P**	**20 59 50.9**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=133,slow=7.5,SNR=4.2							
SONM	**Songino Array**	**51.35**	**341**	P		**P**	**21 02 06.0**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=142,slow=7.8,SNR=2.6							
MK31	**Makanchi Array**	**61.68**	**325**	P		**P**	**21 03 14.2**	**-3.4**
MK31				IAmb		IAmb	21 03 23.7	
	comp=Z,0.9nm,0.8s							
MKAR	**Makanchi Array**	**61.68**	**325**	P		**P**	**21 03 18.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=124,slow=8.3,SNR=9.0							
MKAR	**Makanchi Array**	**61.68**	**325**	P		**P**	**21 03 15.4**	**-2.1**
MAKZ	**Makanchi**	**61.87**	**325**	P		**P**	**21 03 16.7**	**-2.1**
MAKZ				IAmb		IAmb	21 03 24.1	
	comp=Z,2.1nm,1.1s							
BOOM	**Boomskoye usch**	**63.39**	**319**	P		**P**	**21 03 24.5**	**-4.7**
SEY	**Seymchan**	**65.08**	**12**	P		**P**	**21 03 41.6**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=196,slow=9.5,SNR=3.4							
KURK	**Kurchatov**	**65.88**	**328**	P		**P**	**21 03 43.1**	**-2.0**
AKASG	**Malin Array Be**	**95.98**	**321**	LR		LR	21 52 28.5	
	comp=Z,42nm,20.1s,baz=182,slow=37							

IDC ***13*** *20:53:59.2±1.0, 35.43N×3.62W, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.8/71, mbtmp3.9/19, ML4.0/5, MS3.2/11, Ms1 3.2/11, ms1mx2.9/94, Error ellipse: s-maj=24.1km s-min=18.4km az=128.0*
CNRM ***13*** *20:54:00.1, 35.54N×3.75W, h18km, ml4.6*
MDD ***13*** *20:54:01.0±0.3, 35.46N×3.83W, h0km, mb_Lg3.9/37, Error ellipse: s-maj=2.6km s-min=1.7km az=176.0*
NEIC ***13*** *20:54:00.9±2.7, 35.48N±0.05×3.69W±0.07, h10km±2km, mb4.2/9, Error ellipse: s-maj=12.4km s-min=4.9km az=232.0*
CRAAG ***13*** *20:54:01.3, 35.59N×3.85W, Mb3.9*
LDG ***13*** *20:54:01.5, 35.21N×3.74W, h30km*
IGIL ***13*** *20:54:01.5, 35.33N×3.79W, h12km, ML3.6*
INMG ***13*** *20:54:02.8±2.2, 35.43N×3.78W, h23km±9km, ML3.6, Error ellipse: s-maj=5.8km s-min=3.3km az=149.0*
SFS ***13*** *20:54:02.0, 35.30N×3.70W, h24km, ML4.1, ALHUCEMAS (MARRUECOS)*
ISC 13 20:54:01.1±1.0, 35.50N±0.02×3.73W±0.02, h14km±7km, n253, σ1s76/333, mb4.0/15, MS3.3/7, 10C-9D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.33**	**211**	P		**Pg**	**20 54 07.6**	**-0.2**
PALE				S		**Sg**	**20 54 11.9**	**-0.6**
GOG	**Mont Gurugu**	**0.66**	**115**	P		**Pg**	**20 54 14.2**	**+0.1**
GOG				S		**Sg**	**20 54 22.5**	**-0.3**
EMEL	**Melilla**	**0.67**	**107**	Pg		**Pb**	**20 54 14.5**	**0.0**
EMEL				Sg		**Sb**	**20 54 23.5**	**0.0**
EALB	**Alboran**	**0.72**	**52**	Pg		**Pg**	**20 54 16.2**	**+1.1**
EALB				Sg		**Sn**	**20 54 27.0**	**-0.6**
EALB				*i*	Vmb_Lg		20 54 27.4	
TAF	**Taforalt**	**1.28**	**122**	P		**Pn**	**20 54 23.4**	**-1.2**
TAF				S		**Sn**	**20 54 41.1**	**-0.5**
EMIJ	**Mijas**	**1.35**	**322**	Pn		**Pn**	**20 54 24.2**	**-1.4**
EMIJ				Pg		**Pn**	**20 54 24.2**	**-1.4**
EMIJ				Sg		**Sn**	**20 54 39.8**	**-3.5**
EMIJ				*i*	Vmb_Lg		20 54 51.4	
SMIR	**Smir Dam**	**1.35**	**278**	P		**Pg**	**20 54 29.0**	**+1.8**
SMIR	**Smir Dam**	**1.35**	**278**	P		**Pn**	**20 54 22.7**	**-2.9**
SMIR				S		**Sn**	**20 54 38.3**	**-5.0**
ELGU	**Los Guajares,**	**1.37**	**4**	Pg		**Pn**	**20 54 25.2**	**-0.6**
ELGU				Pn		**Pn**	**20 54 25.2**	**-0.6**
ELGU				Sn		**Sn**	**20 54 42.1**	**-1.7**
ELGU				Sg		**Sb**	**20 54 42.5**	**-1.4**
ELGU				*i*	Vmb_Lg		20 54 48.2	
CHEFC	**Chefchaouen**	**1.37**	**254**	P		**Pn**	**20 54 25.5**	**-0.4**
CHEFC				S		**Sn**	**20 54 43.2**	**-0.7**
EMAL	**Malaga-Limoner**	**1.38**	**336**	P		**Pn**	**20 54 25.3**	**-0.6**
EMAL				S		**Sn**	**20 54 41.3**	**-2.6**
CEU	**Ceuta**	**1.39**	**287**	P		**Pn**	**20 54 22.9**	**-3.1**
CEU				S		**Sn**	**20 54 38.3**	**-5.9**
JBK	**JBK**	**1.51**	**140**	P		**Pn**	**20 54 26.1**	**-1.7**
JBK				S		**Sb**	**20 54 47.2**	**-0.7**
EBER	**Berja**	**1.55**	**26**	Pn		**Pn**	**20 54 28.1**	**-0.3**
EBER				Sn		**Sn**	**20 54 48.3**	**-0.1**
EBER				Sg		**Sb**	**20 54 48.9**	**-0.3**
EBER				*i*	Vmb_Lg		20 54 52.6	
EGOR	**Sierra Gorda,**	**1.63**	**349**	Pn		**Pn**	**20 54 29.4**	**-0.1**
EGOR				Sg		**Sn**	**20 54 50.4**	**-0.1**
EGOR				Sn		**Sb**	**20 54 53.2**	**+1.6**
EGOR				*i*	Vmb_Lg		20 55 06.4	
EJIF	**Jimena Fronter**	**1.70**	**304**	Pg		**Pn**	**20 54 29.8**	**-0.4**
EQUE	**Quentar**	**1.72**	**8**	Pn		**Pn**	**20 54 31.3**	**+0.7**
EQUE				Sn		**Sn**	**20 54 52.5**	**+0.1**
EQUE				*i*	Vmb_Lg		20 54 55.8	
ALJ	**Aljibe**	**1.86**	**304**	P		**Pb**	**20 54 35.3**	**+0.5**
SICH	**Sidi Chahed**	**1.91**	**224**	P		**Pb**	**20 54 35.0**	**-0.7**
SICH	**Sidi Chahed**	**1.91**	**224**	P		**Pn**	**20 54 34.0**	**+0.8**
SICH	**Sidi Chahed**	**1.91**	**224**	P		**Pn**	**20 54 33.6**	**+0.5**
SICH				S		**Sn**	**20 54 57.5**	**+0.5**
ENIJ	**Nijar**	**1.92**	**40**	Pn		**Pn**	**20 54 32.7**	**-0.6**
ENIJ				Sn		**Sn**	**20 54 56.6**	**-0.7**
ENIJ				*i*	Vmb_Lg		20 54 59.4	
LIJA	**Lijar**	**1.95**	**317**	P		**Pb**	**20 54 36.5**	**+0.1**
LCRM	**LCR**	**2.04**	**207**	P		**Pn**	**20 54 35.0**	**-0.1**
LCRM	**LCR**	**2.04**	**207**	P		**Pn**	**20 54 34.6**	**-0.4**
LCRM				S		**Sb**	**20 55 02.7**	**-0.4**
CNIL	**Conil**	**2.07**	**295**	P		**Pb**	**20 54 37.8**	**-0.6**
ESPR	**Espera**	**2.19**	**309**	Pn		**Pn**	**20 54 38.6**	**+1.6**
ESPR				Sn		**Sn**	**20 55 01.3**	**-2.8**
ESPR				*i*	Vmb_Lg		20 55 14.0	
SFS	**San Fernando**	**2.22**	**296**	P		**Pn**	**20 54 38.3**	**+0.9**
SFS				S		**Sn**	**20 55 02.4**	**-2.4**
SFS	**San Fernando**	**2.22**	**296**			**Pn**	**20 54 38.0**	**+0.5**
IFR	**Ifrane**	**2.29**	**211**	P		**Pn**	**20 54 37.9**	**-0.7**
IFR				S		**Sn**	**20 55 04.6**	**-2.0**
EQES	**Quesada**	**2.36**	**13**	Pn		**Pn**	**20 54 41.8**	**+2.3**
EQES				Sn		**Sb**	**20 55 11.1**	**-1.3**
EQES				*i*	Vmb_Lg		20 55 14.5	
OTSS	**Djebel Tessala**	**2.41**	**94**	P		**Pn**	**20 54 41.0**	**+0.8**
USTO	**Oran**	**2.60**	**84**	P		**Pn**	**20 54 44.0**	**+1.3**
CZD	**Col de Zad**	**2.69**	**204**	P		**Pn**	**20 54 44.0**	**-0.2**
TLOR	**Lorca, Murcia**	**2.71**	**37**	Pn		**Pn**	**20 54 45.5**	**+1.3**
TLOR				Sn		**Sn**	**20 55 17.7**	**+0.9**
EADA	**Adamuz**	**2.75**	**346**	Pn		**Pn**	**20 54 45.7**	**+1.0**
EADA				Sn		**Sn**	**20 55 15.9**	**-1.8**
EADA				*i*	Vmb_Lg		20 55 24.8	
MD31	**MD31**	**2.76**	**198**	P		**Pn**	**20 54 44.9**	**-0.1**
MDT	**Midelt**	**2.78**	**195**	Pn		**Pn**	**20 54 44.9**	**-0.2**
	8.8nm,0.3s,baz=194,slow=14,SNR=286							
MDT				Sn		**Sn**	**20 55 18.2**	**-0.3**
	43nm,0.3s,baz=23,slow=12,SNR=5.4							
MDT				LR		LR	20 55 38.7	
	comp=Z,85nm,20.1s,baz=32,slow=36							
MDT	**Midelt**	**2.78**	**195**	P		**Pn**	**20 54 45.0**	**-0.2**
TDRA	**Tendrara**	**2.83**	**150**	P		**Pb**	**20 54 52.0**	**+0.5**
TDRA	**Tendrara**	**2.83**	**150**	P		**Pn**	**20 54 46.2**	**+0.2**
EZAR	**Zarzadilla de**	**2.88**	**34**	Pn		**Pn**	**20 54 47.2**	**+0.5**
EZAR				Sn		**Sn**	**20 55 20.6**	**-0.6**
ARNO	**Arenosillo**	**2.90**	**304**	P		**Pn**	**20 54 47.7**	**+0.9**
ARNO				S		**Sn**	**20 55 21.2**	**-0.2**
ECAB	**El Cabril**	**2.90**	**333**	Pn		**Pn**	**20 54 47.3**	**+0.4**
ECAB				Sn		**Sn**	**20 55 21.2**	**-0.4**
ECAB				*i*	Vmb_Lg		20 55 37.3	
ODJA	**Bouhanifia**	**2.93**	**92**	P		**Pn**	**20 54 47.0**	**-0.3**
CART	**Cartagena**	**3.03**	**46**	P		**Pn**	**20 54 47.7**	**-0.8**
CART				S		**Sn**	**20 55 20.8**	**-3.8**
CART	**Cartagena**	**3.03**	**46**			**Pn**	**20 54 47.7**	**-0.8**
CART	**Cartagena**	**3.03**	**46**	P		**Pn**	**20 54 47.3**	**-1.3**
CART				S		**Sn**	**20 55 22.1**	**-2.5**
ZHG	**ZHG**	**3.16**	**230**	P		**Pn**	**20 54 50.0**	**-0.4**
ZHG	**ZHG**	**3.16**	**230**	P		**Pg**	**20 55 03.0**	**+1.4**
ZHG	**ZHG**	**3.16**	**230**	P		**Pn**	**20 54 49.4**	**-1.0**
EMIN	**Mina Concepcio**	**3.27**	**315**	Pn		**Pn**	**20 54 51.9**	**0.0**
EMIN				Sn		**Sn**	**20 55 28.9**	**-1.7**
EMIN				*i*	Vmb_Lg		20 55 32.8	
OJBR	**Djebel Berber**	**3.33**	**87**	P		**Pg**	**20 55 08.0**	**+3.2**
PTAV	**Tavira**	**3.56**	**298**	*e*Sn		**Sn**	**20 55 37.1**	**-0.5**
ETOB	**Tobarra**	**3.59**	**28**	Pn		**Pn**	**20 54 50.0**	**+2.6**
ETOB				Sn		**Sn**	**20 55 40.4**	**+1.7**
ETOB				*i*	Vmb_Lg		20 55 42.5	
OKGL	**Djebel Kef Gue**	**3.60**	**80**	P		**Pn**	**20 54 56.0**	**-0.4**
EGRO	**El Granado**	**3.64**	**305**	Pn		**Pn**	**20 54 56.8**	**-0.1**
EGRO				Sn		**Sn**	**20 55 37.1**	**-2.5**
EGRO				*i*	Vmb_Lg		20 55 41.0	
OJGS	**Djebel Guires**	**3.66**	**89**	P		**Pb**	**20 55 02.0**	**-3.5**
PFARO	**Faro**	**3.71**	**295**	*e*Sn		**Sn**	**20 55 42.5**	**+1.1**
PVAQ	**Vaqueiros**	**3.73**	**302**	*e*Pn		**Pn**	**20 54 58.0**	**-0.2**
PVAQ				*e*Sn		**Sn**	**20 55 40.0**	**-1.9**
PVAQ				A		A	20 55 43.7	
	97nm,0.7s							
PVAQ	**Vaqueiros**	**3.73**	**302**	Pn		**Pn**	**20 54 58.0**	**-0.2**
PVAQ	**Vaqueiros**	**3.73**	**302**	P		**Pn**	**20 54 58.0**	**-0.2**
PVAQ				S		**Sn**	**20 55 40.2**	**-1.7**
AVE	**Averroes**	**3.75**	**235**	P		**Pn**	**20 54 58.6**	**+0.1**
AVE				S		**Sn**	**20 55 40.2**	**-2.3**
AVE	**Averroes**	**3.75**	**235**	P		**Pb**	**20 55 09.1**	**+2.0**
AVE	**Averroes**	**3.75**	**235**	P		**Pn**	**20 54 58.6**	**+0.1**
PBAR	**Barrancos**	**3.76**	**316**	*e*Pn		**Pn**	**20 54 58.7**	**+0.1**
PBAR				*e*Sn		**Sn**	**20 55 40.9**	**-1.8**
PBAR				A		A	20 55 43.0	
	47nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.81**	**298**	*e*Pn		**Pn**	**20 54 59.0**	**-0.3**
PBDV				*e*Sn		**Sn**	**20 55 41.1**	**-2.8**
PBDV				A		A	20 55 44.5	
	89nm,0.3s							
GOLM	**Goulmima**	**3.92**	**195**	P		**Pg**	**20 55 17.0**	**+0.8**
GOLM	**Goulmima**	**3.92**	**195**	P		**Pn**	**20 55 03.0**	**+2.0**
EAIN	**'Ain N'Sour**	**3.96**	**82**	P		**Pb**	**20 55 09.3**	**-1.3**
PALBU	**Albufeira**	**3.98**	**295**	*e*Sn		**Sn**	**20 55 46.9**	**-1.1**
AFON	**Font Roja**	**4.06**	**38**	Pn		**Pn**	**20 55 04.3**	**+1.4**
AFON				Sn		**Sn**	**20 55 51.8**	**+1.6**
AFON				*i*	Vmb_Lg		20 55 54.2	
PCVE	**Castro Verde**	**4.07**	**303**	*e*Pn		**Pn**	**20 55 02.6**	**-0.2**
PCVE				*e*Sn		**Sn**	**20 55 48.5**	**-1.7**
PCVE				A		A	20 55 53.4	
	74nm,0.2s							
PAB	**San Pablo**	**4.07**	**353**			**Pn**	**20 55 04.4**	**+1.5**
PAB	**San Pablo**	**4.07**	**353**	Pn		**Pn**	**20 55 04.1**	**+1.2**
PAB				Sn		**Sn**	**20 55 50.1**	**-0.3**
PAB				*i*	Vmb_Lg		20 56 25.6	
PBEJ	**Beja**	**4.17**	**308**	*e*Pn		**Pn**	**20 55 04.3**	**+0.1**
PBEJ				*e*Sn		**Sn**	**20 55 52.2**	**-0.5**
PBEJ				A		A	20 55 55.4	
	41nm,0.3s							
ESDC	**Sonseca Array**	**4.17**	**358**	Pn		**Pn**	**20 55 06.1**	**+1.8**
	6.2nm,0.3s,baz=178,slow=12,SNR=410							
ESDC				Sn		**Sn**	**20 55 52.5**	**-0.3**
	3.9nm,0.3s,baz=169,slow=22,SNR=4.2							
ESDC				Lg		Lg	20 56 08.4	
	5.9nm,0.3s,baz=175,slow=15,SNR=5.3							
ESDC	**Sonseca Array**	**4.17**	**358**			**Pn**	**20 55 05.5**	**+1.2**
ESDC	**Sonseca Array**	**4.17**	**358**	Pn		**Pn**	**20 55 05.6**	**+1.3**
ESDC				Sn		**Sn**	**20 55 52.6**	**-0.3**
ESDC				Sg		**Sg**	**20 56 10.6**	**-4.3**
ESDC				*i*	Vmb_Lg		20 56 23.6	
ESBB	**Sonseca Array**	**4.17**	**358**			**Pn**	**20 55 05.6**	**+1.3**
EBAD	**Badajoz**	**4.17**	**322**	Pn		**Pn**	**20 55 03.9**	**-0.4**
EBAD				Sn		**Sn**	**20 55 50.5**	**-2.3**
EBAD				*i*	Vmb_Lg		20 55 54.9	
ECHA	**Ech Chlef**	**4.19**	**80**	P		**Pb**	**20 55 11.4**	**-3.2**
PPOR	**Portimao**	**4.21**	**294**	*e*Sn		**Sn**	**20 55 51.1**	**-2.5**
EVIV	**Cofrentes, Val**	**4.30**	**28**	Pn		**Pn**	**20 55 07.2**	**+1.1**
PLAGO	**Lagos**	**4.31**	**293**	*e*Sn		**Sn**	**20 55 54.1**	**-2.0**
EBNR	**Beni Rached**	**4.34**	**78**	P		**Pb**	**20 55 15.6**	**-1.6**
MORF	**Marmelete**	**4.36**	**296**	*e*P		**Pn**	**20 55 06.3**	**-0.5**
MORF				*e*S		**Sn**	**20 55 53.6**	**-3.9**
MORF				IAML			20 55 57.1	
	comp=N,120nm,0.0s							
MORF	**Marmelete**	**4.36**	**296**	*e*Pn		**Pn**	**20 55 06.6**	**-0.3**
MORF				*e*Sn		**Sn**	**20 55 55.2**	**-2.3**
MORF				A		A	20 56 10.1	
	comp=N,82nm,0.5s							
PFVI	**Vila Bisbo**	**4.42**	**293**	*e*Pn		**Pn**	**20 55 07.2**	**-0.5**
PFVI				*e*Sn		**Sn**	**20 55 55.8**	**-3.2**
PFVI				A		A	20 56 04.1	
	comp=N,103nm,0.6s							
PFVI	**Vila Bisbo**	**4.42**	**293**			**Pn**	**20 55 07.5**	**-0.3**
PFVI	**Vila Bisbo**	**4.42**	**293**	P		**Pn**	**20 55 07.1**	**-0.6**
PALJ	**Aljezur**	**4.47**	**295**	*e*Sn		**Sn**	**20 55 59.4**	**-0.7**
PTEO	**Sao Teotonio**	**4.51**	**298**	*e*Pn		**Pn**	**20 55 09.0**	**+0.1**
PTEO				*e*Sn		**Sn**	**20 55 58.0**	**-3.1**
PTEO				A		A	20 56 03.6	
	comp=N,97nm,0.4s							
PESTR	**Estremoz**	**4.56**	**319**	*e*Pn		**Pn**	**20 55 10.1**	**+0.5**
PESTR				*e*Sn		**Sn**	**20 56 00.2**	**-2.2**
PESTR				A		A	20 56 41.8	
	comp=N,43nm,0.6s							
PESTR	**Estremoz**	**4.56**	**319**			**Pn**	**20 55 10.0**	**+0.5**
EVO	**Evora**	**4.57**	**313**	P		**Pn**	**20 55 10.2**	**+0.5**
EVO				S		**Sn**	**20 55 59.7**	**-2.9**
EVO	**Evora**	**4.57**	**313**	*e*Pn		**Pn**	**20 55 10.3**	**+0.6**
EVO				*e*Sn		**Sn**	**20 56 00.4**	**-2.2**
EVO				A		A	20 56 05.8	
	comp=N,66nm,0.6s							
ECHE	**Chera**	**4.64**	**27**	Pn		**Pn**	**20 55 11.9**	**+1.2**
ECHE				Sn		**Sn**	**20 56 04.0**	**-0.4**
ECHE				*i*	Vmb_Lg		20 56 35.3	
PNCL	**Nicolau / Gran**	**4.65**	**306**	*e*Pn		**Pn**	**20 55 10.8**	**0.0**
PNCL				*e*Sn		**Sn**	**20 56 02.0**	**-2.5**
PNCL				A		A	20 56 07.8	
	comp=N,45nm,0.3s							
UCM	**Universidad Co**	**4.81**	**4**	P		**Pn**	**20 55 15.2**	**+2.1**
UCM				S		**Sn**	**20 56 02.1**	**-6.6**
PMRV	**Marv??o**	**4.88**	**324**	*e*Pn		**Pn**	**20 55 14.8**	**+0.7**
PMRV				*e*Sn		**Sn**	**20 56 08.8**	**-1.6**
PMRV				A		A	20 56 46.7	
	comp=N,36nm,0.6s							
EPLA	**Plasencia**	**4.92**	**339**	Pn		**Pn**	**20 55 15.6**	**+1.0**
EPLA				Sn		**Sn**	**20 56 10.8**	**-0.6**
EPLA				*i*	Vmb_Lg		20 56 47.0	
TZRR	**Tazzarine**	**4.95**	**199**	P		**Pn**	**20 55 15.6**	**+0.5**
PMTG	**Montargil**	**5.05**	**316**	*e*Pn		**Pn**	**20 55 16.8**	**+0.5**
PMTG				*e*Sn		**Sn**	**20 56 12.3**	**-2.2**
PMTG				A		A	20 56 27.8	
	comp=N,41nm,0.9s							
GUD	**Guadarrama**	**5.14**	**356**	Pn		**Pn**	**20 55 19.1**	**+1.3**
GUD				Sn		**Sn**	**20 56 13.5**	**-3.5**
PACT	**Alcochete**	**5.22**	**310**	*e*Pn		**Pn**	**20 55 19.6**	**+1.0**
PACT				*e*Sn		**Sn**	**20 56 16.8**	**-1.8**
PACT				A		A	20 56 29.9	
	comp=N,63nm,0.6s							
OUZM	**OUZ**	**5.24**	**210**	P		**Pn**	**20 55 20.0**	**+0.9**
OUZM	**OUZ**	**5.24**	**210**	P		**Pn**	**20 55 19.0**	**0.0**
PCBR	**Castelo Branco**	**5.25**	**327**	*e*Pn		**Pn**	**20 55 20.1

EPF	**Esparros**	**8.15**	**22**	*e*Pn		**Pn**	**20 56 00.7**	**+1.7**
EPF	**Esparros**	**8.15**	**22**	*e*P		Pn	20 56 04.7	+5.7
EPF				*e*Sn		**Sn**	**20 57 29.0**	**-2.0**
	comp=N,21nm,0.7s							
EMAZ	**Mazaricos**	**8.47**	**333**	Pn		**Pn**	**20 56 03.5**	**+0.1**
EMAZ				*i* Vmb_Lg			20 58 09.9	
MTLF	**Montolieu**	**9.08**	**29**	*e*Pn		**Pn**	**20 56 13.8**	**+2.1**
MTLF	**Montolieu**	**9.08**	**29**	*e*P		Pn	20 56 17.1	+5.4
MTLF				*e*Sn		**Sn**	**20 57 50.5**	**-3.1**
	comp=N,8.9nm,0.8s							
TANT	**Tantan**	**9.52**	**224**	P		**Pn**	**20 56 16.2**	**-1.5**
LFF	**La Frestale**	**10.03**	**19**	*e*Pn		**Pn**	**20 56 26.0**	**+1.4**
LFF	**La Frestale**	**10.03**	**19**	*e*P		Pn	20 56 30.1	+5.5
LFF				*e*Sn		**Sn**	**20 58 11.4**	**-5.4**
	comp=N,0.9nm,0.2s							
CAF	**Calviac**	**10.40**	**23**	*e*Pn		**Pn**	**20 56 31.4**	**+1.6**
CAF	**Calviac**	**10.40**	**23**	*e*P		Pn	20 56 35.9	+6.1
CAF				*e*Sn		**Sn**	**20 58 20.5**	**-5.6**
	comp=N,2.5nm,0.3s							
RJF	**Les Rejaudoux**	**10.57**	**21**	*e*Pn		**Pn**	**20 56 31.6**	**-0.5**
RJF	**Les Rejaudoux**	**10.57**	**21**	*e*P		Pn	20 56 37.5	+5.4
RJF				*e*Sn		**Sn**	**20 58 26.9**	**-3.4**
	comp=N,1.8nm,0.3s							
KEST	**Kesra**	**10.65**	**85**	Pn		**Pn**	**20 56 32.6**	**-0.7**
	comp=N,0.2nm,0.3s,baz=275,slow=11,SNR=2.8							
KEST				Sn		**Sn**	**20 58 29.1**	**-3.3**
	comp=N,0.1nm,0.3s,baz=226,slow=20,SNR=1.4							
KEST				LR		LR	21 00 41.8	
	comp=N,107nm,21.6s,baz=353,slow=38							
PMPST	**Porto Santo, M**	**10.70**	**261**	*e*P		**Pn**	**20 56 32.7**	**-1.2**
PMPST				*e*S		Sn	20 58 20.8	-13
PMPS	**Porto Santo**	**10.71**	**260**	*e*P		**Pn**	**20 56 30.3**	**-3.6**
PMPS				*e*S		Sn	20 58 18.9	-15
LMR	**La Mourre**	**11.13**	**42**	*e*Pn		**Pn**	**20 56 41.7**	**+2.0**
LMR				*e*Sn		**Sn**	**20 58 36.5**	**-7.3**
VSL	**Villasalto**	**11.15**	**65**	Pn		**Pn**	**20 56 41.5**	**+1.4**
PMAR	**Madeira**	**11.27**	**260**	*e*P		**Pn**	**20 56 40.1**	**-1.8**
PMAR				*e*S		Sn	20 58 33.1	-15
PMAR	**Madeira**	**11.27**	**260**	P		**Pn**	**20 56 40.8**	**-1.1**
MFF	**Saint Martin d**	**11.41**	**13**	*e*Pn		**Pn**	**20 56 43.4**	**-0.2**
MFF	**Saint Martin d**	**11.41**	**13**	*e*P		Pn	20 56 49.8	+6.2
PMOZ	**Porto Moniz, M**	**11.47**	**260**	*e*P		**Pn**	**20 56 43.5**	**-1.0**
PMOZ				*e*S		Sn	20 58 39.2	-13
PMOZ	**Porto Moniz, M**	**11.47**	**260**	P		**Pn**	**20 56 42.8**	**-1.7**
TCF	**Toulx Ste Croi**	**11.67**	**21**	*e*Pn		**Pn**	**20 56 46.6**	**-0.6**
SBF	**Sospel**	**11.98**	**42**	*e*P		P	20 57 00.3	
BGF	**Bois d'Agland**	**12.11**	**22**	*e*Pn		**Pn**	**20 56 53.9**	**+0.8**
PGF	**Pioggiola**	**12.14**	**51**	*e*Pn		**Pn**	**20 56 54.0**	**+0.4**
PGF				*e*Sn		Sn	20 58 59.9	-8.9
	comp=N,93nm,1.3s							
QUIF	**Quistinic**	**12.41**	**2**	*e*Pn		**Pn**	**20 56 58.1**	**+0.9**
QUIF	**Quistinic**	**12.41**	**2**	*e*P		Pn	20 57 02.7	+5.5
AVF	**Avril sur Loir**	**12.47**	**23**	*e*Pn		**Pn**	**20 56 57.6**	**-0.4**
SMF	**Signal de Mont**	**12.51**	**25**	*e*Pn		**Pn**	**20 56 59.5**	**+1.0**
SSF	**Saint Saulge**	**12.76**	**23**	*e*Pn		**Pn**	**20 57 01.2**	**-0.8**
LPG	**La Plagne**	**12.77**	**35**	*e*Pn		**Pn**	**20 57 02.5**	**+0.1**
SGMF	**Saint Gilles**	**12.77**	**4**	*e*Pn		**Pn**	**20 57 02.5**	**+0.4**
SGMF	**Saint Gilles**	**12.77**	**4**	*e*P		Pn	20 57 07.0	+4.9
ROSF	**Rostrenen**	**12.83**	**1**	*e*Pn		**Pn**	**20 57 03.2**	**+0.3**
GRR	**Gorron**	**13.05**	**9**	*e*Pn		**Pn**	**20 57 05.5**	**-0.5**
LDF	**La Druitiere**	**13.35**	**10**	*e*Pn		**Pn**	**20 57 09.3**	**-0.8**
FLN	**La Foliniere**	**13.47**	**9**	*e*Pn		**Pn**	**20 57 11.4**	**-0.2**
	baz=189							
SAVF	**Savonnieres en**	**14.65**	**24**	*e*P		**P**	**20 57 33.9**	**-0.1**
PAGF	**Fort de Pagny**	**14.80**	**25**	*e*P		**P**	**20 57 34.9**	**-0.8**
DAVOX	**Davos/Dischmat**	**15.21**	**38**	LR		LR	21 02 44.7	
	comp=N,116nm,19.8s,baz=256,slow=35							
CDF	**Champ du Feu**	**15.26**	**29**	*e*P		**Pn**	**20 57 37.4**	**+1.3**
DAVA	**Damuels**	**15.56**	**37**	*e*P		**P**	**20 57 46.6**	**+2.3**
	comp=N,4.0nm,0.8s							
BAIF	**Baives**	**15.66**	**19**	*e*Pn		**Pn**	**20 57 39.7**	**-1.5**
FETA	**Feichten**	**15.80**	**39**	*e*P		**P**	**20 57 49.2**	**+2.1**
	comp=N,3.1nm,0.9s							
GIVF	**Givet**	**15.87**	**21**	*e*P		**P**	**20 57 46.8**	**-0.8**
RETA	**Reutte**	**16.13**	**38**	*e*P		**P**	**20 57 51.9**	**+1.3**
	comp=N,7.4nm,1.4s							
SQTA	**Sankt Quirin**	**16.18**	**39**	*e*P		**P**	**20 57 53.3**	**+2.1**
	comp=N,0.5nm,0.3s							
WTTA	**Wattenberg**	**16.43**	**40**	*e*P		**P**	**20 57 55.4**	**+1.4**
	comp=N,3.3nm,0.8s							
ABTA	**Abfaltersbach**	**16.58**	**42**	*e*P		**P**	**20 57 59.1**	**+3.5**
	comp=N,3.5nm,0.9s							
GEC2	**GERESS Array S**	**18.51**	**39**	P		**Pn**	**20 58 18.7**	**+1.6**
GERES	**GERESS Array B**	**18.51**	**39**	P		**P**	**20 58 16.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=232,slow=11,SNR=6.9							
GERES				LR		LR	21 05 22.1	
	comp=N,111nm,18.1s,baz=309,slow=37							
KHC	**Kasperske Hory**	**18.63**	**38**	*e*P		**Pn**	**20 58 20.6**	**+2.1**
KHC	**Kasperske Hory**	**18.63**	**38**	P		**Pn**	**20 58 19.9**	**+1.5**
CKRC	**Cesky Krumlov**	**18.80**	**39**	*e*P		**Pn**	**20 58 21.7**	**+1.1**
ESK	**Eskdalemuir**	**19.82**	**1**	P		**Pn**	**20 58 32.3**	**-0.4**
ESK				IAmb		IAmb	20 58 44.9	
	comp=Z,23nm,1.4s							
EKA	**Eskdalemuir Ar**	**19.84**	**1**	P		**Pn**	**20 58 33.1**	**+0.3**
	baz=176,slow=11,SNR=23							
CLL	**Collm**	**19.86**	**32**	P		**P**	**20 58 30.7**	**-0.9**
CLL				IAmb		IAmb	20 58 34.9	
	comp=Z,4.3nm,0.7s							
CLL	**Collm**	**19.86**	**32**	*i* P		**Pn**	**20 58 34.1**	**+0.9**
	comp=Z,16nm,1.6s							
CLL				*e*PP		**PnPn**	**20 58 48.0**	**+0.9**
BRG	**Berggiesshubel**	**19.97**	**34**	*e*P		**Pn**	**20 58 35.2**	**+0.7**
BRG				Amp			20 58 36.9	
	comp=Z,2.9nm,0.7s							
VRAC	**Vranov**	**20.30**	**41**	P		Pn	20 58 37.7	-0.7
	comp=Z,4.5nm,0.8s,baz=242,slow=10,SNR=4.6							
SMOL	**Smolenice**	**20.32**	**44**	*e*P		Pn	20 58 39.1	+0.5
UPC	**Upice**	**20.72**	**38**	*e*P		Pn	20 58 42.9	-0.4
DPC	**Dobruska-Polom**	**20.78**	**38**	*e*P		**P**	**20 58 42.5**	**+0.9**
CHVC	**Chvalec**	**20.80**	**37**	*e*P		Pn	20 58 43.6	-0.6
OSTC	**Ostas**	**20.86**	**38**	*e*P		**P**	**20 58 43.6**	**+1.2**
MORC	**Moravsky Berou**	**21.08**	**41**	⇓P		**P**	**20 58 41.8**	**-3.0**
PSZ	**Piszkesteto**	**21.47**	**47**	⇑P		**P**	**20 58 48.6**	**-0.4**
BZS	**Buzias**	**21.67**	**54**	⇑P		**P**	**20 58 53.9**	**+2.7**
LANS	**Liptovska Anna**	**21.80**	**44**	*e*P		**P**	**20 58 54.9**	**+2.3**
DRGR		**22.78**	**52**	⇓P		**P**	**20 59 04.5**	**+1.4**
TOA0	**Torodi Ar. Sit**	**22.79**	**166**	P		**P**	**20 59 03.4**	**+0.1**
TOA0				IAmb		IAmb	20 59 24.6	
	comp=Z,8.7nm,1.1s							
CRVS	**Cervenica-Dubn**	**22.84**	**46**	*e*P		**P**	**20 59 05.8**	**+2.1**
MESR	**Meseseni**	**23.05**	**52**	⇑P		**P**	**20 59 07.3**	**+1.4**
TRPA	**Tarpa**	**23.16**	**49**	⇑P		**P**	**20 59 07.3**	**+0.3**
ARR	**Arges**	**23.63**	**57**	⇑P		**P**	**20 59 14.2**	**+2.5**
VOIR		**23.93**	**57**	⇑P		**P**	**20 59 17.5**	**+2.9**
MLR	**Muntele Rosu**	**24.55**	**57**	⇑P		**P**	**20 59 23.0**	**+2.6**
MLR	**Muntele Rosu**	**24.55**	**57**	P		**P**	**20 59 20.2**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=287,slow=14,SNR=3.1							
MLR				LR		LR	21 08 26.3	
	comp=Z,57nm,19.5s,baz=249,slow=35							
MLR	**Muntele Rosu**	**24.55**	**57**	P		**P**	**20 59 17.4**	**-3.0**
MLR				IAmb		IAmb	20 59 46.0	
	comp=Z,23nm,1.5s							
BUR08	**Bucovina Ar. S**	**24.66**	**52**	P		**P**	**20 59 21.4**	**0.0**
BUR08				IAmb		IAmb	20 59 25.1	
	comp=Z,4.7nm,1.1s							
BURAR	**Bucovina Array**	**24.66**	**52**	⇑P		**P**	**20 59 23.1**	**+1.7**
PLOR	**Plostina**	**25.12**	**56**	⇑P		**P**	**20 59 28.7**	**+3.3**
SORM	**Soroca**	**26.83**	**52**	⇑P		**P**	**20 59 40.4**	**-0.4**
HFS	**Hagfors**	**27.11**	**19**	P		**P**	**20 59 43.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=194,slow=12,SNR=1.9							
HFS				LR		LR	21 11 15.8	
	comp=Z,129nm,18.2s,baz=218,slow=38							
NOA	**NORSAR Array B**	**27.29**	**16**	P		**P**	**20 59 43.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=114,slow=14,SNR=1.8							
AKASG	**Malin Array Be**	**28.17**	**47**	P		**P**	**20 59 51.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=249,slow=8.8,SNR=3.2							
AKASG				LR		LR	21 11 46.1	
	comp=Z,53nm,18.6s,baz=355,slow=38							
FINES	**FINESS Array B**	**32.09**	**27**	P		**P**	**21 00 26.9**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=282,slow=3.7,SNR=3.9							
FINES	**FINESS Array B**	**32.09**	**27**	P		**P**	**21 00 25.3**	**-2.0**
OBN	**Obninsk**	**33.83**	**42**	LR		LR	21 13 21.2	
	comp=Z,17nm,19.2s,baz=192,slow=34							
ARCES	**ARCESS Array B**	**37.66**	**16**	P		**P**	**21 01 16.7**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=212,slow=9.3,SNR=6.0							
ARCES	**ARCESS Array B**	**37.66**	**16**	P		**P**	**21 01 15.3**	**0.0**
ARU	**Arti**	**46.26**	**43**	LR		LR	21 21 01.6	
	comp=Z,36nm,20.0s,baz=233,slow=35							
ARU	**Arti**	**46.26**	**43**	P		**P**	**21 02 24.2**	**-1.5**
ABKAR	**Akbulak array**	**47.64**	**53**	P		**P**	**21 02 37.6**	**+1.0**
RES	**Resolute Bay**	**56.43**	**341**	LR		LR	21 27 46.2	
	comp=Z,44nm,18.4s,baz=47,slow=36							
ZALV	**Zalesovo Beam**	**61.41**	**42**	P		**P**	**21 04 18.0**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=289,slow=4.5,SNR=3.7							
ZALV				LR		LR	21 32 46.1	
	comp=Z,25nm,20.3s,baz=46,slow=38							
MKAR	**Makanchi Array**	**62.68**	**50**	P		**P**	**21 04 25.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=292,slow=6.1,SNR=9.3							
MKAR	**Makanchi Array**	**62.68**	**50**	P		**P**	**21 04 25.4**	**+0.2**
ULM	**Lac du Bonnet**	**64.93**	**315**	P		**P**	**21 04 41.9**	**+1.9**
	comp=Z,0.9nm,0.4s,baz=45,slow=4.3,SNR=1.5							
YKA	**Yellowknife Ar**	**67.85**	**332**	P		**P**	**21 04 59.1**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=60,slow=6.6,SNR=34							
ILAR	**Eielson Array**	**75.97**	**345**	P		**P**	**21 05 49.6**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=24,slow=8.9,SNR=2.1							
SONM	**Songino Array**	**76.23**	**41**	P		**P**	**21 05 49.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=303,slow=6.4,SNR=5.4							
ELK	**Elko**	**81.45**	**314**	P		**P**	**21 06 17.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=27,slow=4.5,SNR=2.1							
ASAR	**Alice Springs**	**141.59**	**84**	PKP		**PKiKP**	**21 13 33.7**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=299,slow=1.9,SNR=1.5							

IDC ***13*** *20:55:00.3±2.7, 4°.03N×92°.59E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.3/64, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=58.2km s-min=33.5km az=12.0*

ISC 13 20:55:04.1±2.1, 4°.1N±0°.3×92°.8E±0°.2, h19km, n7, σ0s46/7, mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.29**	**102**	Pn	**Pn**	**20 56 36.4**	**+0.4**
	1.7nm,0.3s,baz=308,slow=17,SNR=3.8						
PSI				Sn	**Sn**	**20 57 46.9**	**-0.5**
	0.2nm,0.3s,baz=169,slow=7.4,SNR=4.7						
PALK	**Pallekele**	**12.40**	**285**	Pn	Pn	20 57 54.5	-5.4
	0.3nm,0.3s,baz=222,slow=12,SNR=1.6						
PALK				Sn	Sn	20 59 58.3	-19
	0.6nm,0.3s,baz=308,slow=23,SNR=6.7						
CMAR	**Chiang Mai Ar**	**15.46**	**23**	Pn	**Pn**	**20 58 41.7**	**+0.3**
	0.0nm,0.3s,baz=229,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**43.46**	**350**	P	**P**	**21 03 05.7**	**-0.3**
	0.5nm,0.9s,baz=157,slow=7.8,SNR=5.0						
SONM	**Songino Array**	**45.09**	**13**	P	**P**	**21 03 19.2**	**+0.1**
	0.4nm,0.7s,baz=191,slow=6.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**50.08**	**354**	P	**P**	**21 03 57.2**	**-0.5**
	0.8nm,0.6s,baz=177,slow=8.0,SNR=1.6						
GERES	**GERESS Array B**	**79.70**	**319**	P	**P**	**21 07 11.0**	**+0.1**
	0.4nm,0.7s,baz=89,slow=4.0,SNR=2.0						

AEIC ***13*** *20:57:30.6±2.2, 51°.5N±0°.1×174°.0W±0°.1, h2km±7km, Error ellipse: s-maj=15.6km s-min=7.6km az=156.0*

IDC ***13*** *20:57:36.2±4.3, 51°.72N×173°.75W, h56km±38km, mb3.6/20, mb1 3.7/23, mb1mx3.6/68, mbtmp3.8/23, ML3.6/3, MS3.3/6, Ms1 3.3/6, ms1mx2.8/91, Error ellipse: s-maj=28.2km s-min=13.7km az=172.0*

NEIC ***13*** *20:57:36.0±2.1, 51°.8N±0°.1×174°.1W±0°.1, h53km±11km, mb3.8/21, ML3.7(AEIC), Error ellipse: s-maj=16.0km s-min=8.2km az=161.0*

ISC 13 20:57:33.9±0.7, 51°.7N±0°.1×173°.85W±0°.07, h35km, n90, σ1s14/75, mb4.0/33, MS3.2/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.59**	**339**		**Pn**	**20 57 46.8**	**+1.0**
KOFP	**Korovin Flat P**	**0.65**	**346**		Pn	20 57 48.0	+1.5
KOKL	**Mount Kliuchef**	**0.71**	**342**		Pn	20 57 49.0	+1.6
GSMY	**Great Sitkin M**	**1.42**	**287**		**Pn**	**20 57 57.2**	**0.0**
GSTR	**Great Sitkin T**	**1.44**	**289**		**Pn**	**20 57 58.1**	**+0.6**
GSCK	**Great Sitkin C**	**1.48**	**285**		**Pn**	**20 57 57.9**	**-0.1**
GSTD	**Great Sitkin T**	**1.48**	**287**		**Pn**	**20 57 58.0**	**0.0**
ADAG	**Mount Adagdak**	**1.74**	**282**		**Pn**	**20 58 02.2**	**+0.6**
ADK	**Adak**	**1.78**	**279**		**Pn**	**20 58 01.8**	**-0.2**
KIWB	**Kanaga Island**	**2.06**	**277**		**Pn**	**20 58 06.3**	**+0.3**
KIKV	**Kanaga Island**	**2.08**	**278**		**Pn**	**20 58 06.8**	**+0.6**
KIMD	**Kanaga Island**	**2.11**	**274**		**Pn**	**20 58 07.2**	**+0.6**
TAPA	**Tanaga Point A**	**2.47**	**275**		**Pn**	**20 58 11.9**	**+0.3**
TAFL	**Tanaga Flats**	**2.52**	**274**		**Pn**	**20 58 12.9**	**+0.7**
TAFP	**Tanaga Falls P**	**2.58**	**277**		**Pn**	**20 58 13.9**	**+0.8**
TASE	**Tanaga Southea**	**2.61**	**276**		**Pn**	**20 58 14.3**	**+0.8**
GAEA	**Gareloi East**	**3.05**	**274**		**Pn**	**20 58 20.4**	**+0.9**
GANO	**Gareloi North**	**3.08**	**275**		**Pn**	**20 58 21.3**	**+1.3**
MSW	**Makushin Switc**	**4.85**	**59**		Pn	20 58 48.0	+3.7
UNV	**Unalaska Valle**	**4.97**	**61**		**Pn**	**20 58 48.9**	**+2.9**
SPIA	**Saint Paul Isl**	**5.92**	**19**		Pn	20 59 05.2	+6.3
SHEM	**Shemya Is, Ala**	**7.49**	**283**	LR	LR	21 02 10.1	
	comp=Z,110nm,21.2s,baz=8.0,slow=36						
ANM	**Nome**	**13.68**	**16**		P	21 00 48.0	-5.4
KDAK	**Kodiak Island**	**13.71**	**55**	P	**Pn**	**21 00 45.1**	**-0.3**
	0.2nm,0.3s,baz=288,slow=10,SNR=1.6						
RSO	**Redoubt South**	**14.66**	**45**		**Pn**	**21 00 57.0**	**-1.6**
J20K	**Nowinta River**	**16.24**	**32**	P	**P**	**21 01 21.8**	**0.0**
CAST	**Castle Rocks**	**16.49**	**36**	P	**P**	**21 01 26.0**	**+1.5**
PETK	**Petropavlovsk-**	**17.39**	**286**	P	**P**	**21 01 35.2**	**+0.8**
	0.3nm,0.3s,baz=101,slow=13,SNR=6.5						
I21K	**Tanana**	**17.61**	**31**	P	**P**	**21 01 38.5**	**+1.7**
MLY	**Manley**	**17.92**	**33**	P	**P**	**21 01 41.7**	**+1.3**
I23K	**Minto, Yukon-K**	**18.46**	**34**	P	**Pn**	**21 01 47.0**	**+0.5**
I23K				IAmb	IAmb	21 02 06.0	
	comp=Z,6.0nm,0.9s						
CCB	**Clear Creek Bu**	**18.74**	**36**	P	**Pn**	**21 01 48.3**	**-1.6**
HDA	**Harding Lake**	**18.94**	**37**	P	**Pn**	**21 01 51.8**	**-0.5**
HDA				IAmb	IAmb	21 01 54.1	
	comp=Z,5.9nm,0.6s						
IL31		**19.14**	**36**	P	**Pn**	**21 01 52.8**	**-1.9**
IL31				IAmb	IAmb	21 02 05.9	
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**19.14**	**36**	P	**Pn**	**21 01 53.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=232,slow=8.4,SNR=30						
H24K	**Noodor Dome**	**19.37**	**33**	P	**Pn**	**21 01 55.9**	**-1.6**
RIDG	**Independent Ri**	**19.45**	**40**	P	**Pn**	**21 01 56.8**	**-1.7**
RIDG				IAmb	IAmb	21 02 13.1	
	comp=Z,4.5nm,0.5s						
J25K	**Salcha River,**	**19.63**	**38**	P	**Pn**	**21 01 57.8**	**-2.9**
DOT	**Dot Lake**	**19.73**	**41**	P	**P**	**21 01 58.1**	**-2.1**
DOT				IAmb	IAmb	21 02 17.3	
	comp=Z,6.9nm,1.4s						
SCRK	**Sand Creek**	**19.90**	**40**	P	**Pn**	**21 02 01.1**	**-2.8**
PRP	**Porcupine Dome**	**20.02**	**35**	P	**Pn**	**21 02 02.1**	**-3.2**
PRP				IAmb	IAmb	21 02 19.1	
	comp=Z,2.9nm,0.6s						
SEY	**Seymchan**	**21.17**	**315**	P	**P**	**21 02 16.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=102,slow=11,SNR=3.9						
MA2	**Magadan**	**21.28**	**306**	LR	LR	21 09 55.8	
	comp=Z,58nm,19.7s,baz=100,slow=35						
EGAK	**Eagle**	**21.34**	**39**	P	**P**	**21 02 17.3**	**-0.2**
M31M	**Drury Creek, Y**	**23.59**	**48**	P	**P**	**21 02 42.2**	**+1.2**
M31M				IAmb	IAmb	21 03 07.2	
	comp=Z,2.8nm,1.1s						
EPYK	**Eagle Plains**	**23.64**	**37**	P	**P**	**21 02 41.1**	**-0.5**
EPYK				IAmb	IAmb	21 02 49.8	
	comp=Z,3.8nm,0.8s						
INK	**Inuvik**	**25.48**	**34**	P	**P**	**21 02 57.1**	**-1.2**
	comp=Z,1.9nm,1.0s,baz=227,slow=8.9,SNR=5.2						
INK	**Inuvik**	**25.48**	**34**	P	**P**	**21 02 57.9**	**-0.3**
INK				IAmb	IAmb	21 03 04.5	
	comp=Z,4.2nm,0.8s						
DLBC	**Dease Lake**	**25.62**	**57**	P	**P**	**21 02 59.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=262,slow=15,SNR=0.9						
C36M	**Paulatuk**	**29.07**	**34**	P	**P**	**21 03 29.9**	**-0.5**
C36M				IAmb	IAmb	21 03 30.6	
	comp=Z,2.5nm,1.3s						
A36M	**Sachs Harbour**	**29.36**	**28**	P	**P**	**21 03 32.6**	**-0.3**
A36M				IAmb	IAmb	21 03 40.1	
	comp=Z,2.2nm,0.9s						
YKA	**Yellowknife Ar**	**32.79**	**47**	P	**P**	**21 04 02.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=274,slow=8.2,SNR=6.5						
YKA				PcP	**PcP**	**21 06 47.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=285,slow=3.6,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**35.26**	**213**	T	T	21 42 18.3	
	baz=21,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**35.26**	**213**	T	T	21 42 19.0	
	baz=21,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**35.27**	**213**	T	T	21 42 19.8	
	baz=21,slow=76,SNR=8.3						
USRK	**Ussuriysk Ar.**	**36.31**	**280**	P	**P**	**21 04 33.8**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=58,slow=11,SNR=3.7						
USRK				LR	LR	21 19 21.6	
	comp=Z,48nm,21.4s,baz=120,slow=36						
H11S1	**WAKE ISLAND Hy**	**36.46**	**212**	T	T	21 43 49.4	
	baz=20,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**36.47**	**212**	T	T	21 43 50.5	
	baz=20,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**36.48**	**212**	T	T	21 43 44.3	
	baz=20,slow=76,SNR=9.2						
MJAR	**Matsushiro Arr**	**36.89**	**265**	LR	LR	21 21 37.6	
	comp=Z,18nm,18.2s,baz=232,slow=39						
KSRS	**Korea Array**	**42.72**	**274**	P	**P**	**21 05 29.6**	**+2.4**
	comp=Z,2.2nm,0.9s,baz=60,slow=7.0,SNR=6.7						
PDAR	**Pinedale Array**	**43.26**	**75**	P	**P**	**21 05 32.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=289,slow=5.6,SNR=3.6						
NRIK	**Noril'sk**	**45.72**	**331**	P	**P**	**21 05 51.4**	**+0.5**
	comp=Z,7.5nm,0.3s,baz=57,slow=3.3,SNR=13						
SONM	**Songino Array**	**49.26**	**299**	P	**P**	**21 06 19.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=46,slow=8.2,SNR=9.3						
TXAR	**Lajitas Array**	**55.55**	**85**	P	**P**	**21 07 05.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=311,slow=5.9,SNR=1.9						
MKAR	**Makanchi Array**	**62.24**	**311**	P	**P**	**21 07 51.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=48,slow=6.0,SNR=18						
KIRV	**Kirov**	**64.62**	**337**	P	**P**	**21 08 07.0**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=342,slow=3.2,SNR=2.9						
FINES	**FINESS Array B**	**66.14**	**350**	P	**P**	**21 08 16.0**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=23,slow=7.8,SNR=2.5						
NOA	**NORSAR Array B**	**67.59**	**357**	P	**P**	**21 08 25.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=7.0,slow=6.7,SNR=1.7						
HFS	**Hagfors**	**68.41**	**356**	P	**P**	**21 08 30.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=319,slow=6.3,SNR=5.9						
TAPN	**Taplejung**	**73.97**	**294**	*e*P	**P**	**21 09 06.4**	**+0.4**
	comp=Z,15nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.04**	**280**	P	**P**	**21 09 06.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=23,slow=6.8,SNR=6.2						
ODAN	**Odare**	**74.53**	**294**	*e*P	**P**	**21 09 10.0**	**+0.8**
GUN	**Gumba**	**74.58**	**295**	*e*P	**P**	**21 09 10.4**	**+0.8**
	comp=Z,22nm,0.5s						
JIRN	**Jiri**	**74.60**	**295**	*e*P	**P**	**21 09 10.7**	**+1.0**
	comp=Z,19nm,0.5s						
RAMN	**Ramite**	**74.91**	**294**	*e*P	**P**	**21 09 11.9**	**+0.5**
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**75.01**	**296**	*e*P	**P**	**21 09 12.4**	**+0.5**
	comp=Z,6.9nm,0.6s						
**

EVIV	**Cofrentes, Val**	**4.35**	**28**	Pn		**Pn**	**21 01 40.3**	**+0.4**
MORF	**Marmelete**	**4.36**	**296**	*e*P		**Pn**	**21 01 39.2**	**-0.9**
MORF				*e*S		**Sn**	**21 02 26.5**	**-4.0**
MORF				IAML			21 02 32.4	
	comp=N,17nm,0.5s							
EVO	**Evora**	**4.59**	**313**	P		**Pn**	**21 01 43.4**	**+0.2**
EVO	**Evora**	**4.59**	**313**	S		**Sn**	**21 02 33.2**	**-2.8**
ECHE	**Chera**	**4.69**	**27**	Pn		**Pn**	**21 01 46.1**	**+1.6**
UCM	**Universidad Co**	**4.86**	**5**	P		**Pn**	**21 01 48.5**	**+1.5**
UCM	**Universidad Co**	**4.86**	**5**	S		**Sn**	**21 02 41.1**	**-1.7**
TZRR	**Tazzarine**	**4.90**	**199**	P		**Pn**	**21 01 49.2**	**+1.7**
EPLA	**Plasencia**	**4.96**	**339**	Pn		**Pn**	**21 01 49.2**	**+0.9**
EPLA				Sn		**Sn**	**21 02 43.5**	**-1.4**
OUZM	**OUZ**	**5.19**	**210**	P		**Pn**	**21 01 52.9**	**+1.4**
OUK	**Oukaimeden**	**5.46**	**220**	P		**Pn**	**21 01 56.2**	**+0.7**
ETOR	**Torete**	**5.52**	**14**	Pn		**Pn**	**21 01 57.7**	**+1.6**
ETOR				Sn		**Sn**	**21 02 59.4**	**+0.3**
ETOR				*i* Vmb_Lg			21 06 02.0	
EAH	**EAH**	**6.17**	**234**	P		**Pn**	**21 02 05.3**	**+0.3**
TTIG	**Tnine Tigouga,**	**6.28**	**220**	P		**Pn**	**21 02 04.8**	**-1.7**
EALK	**Alkurruntz**	**7.95**	**12**	Pn		**Pn**	**21 02 31.8**	**+2.4**
EKA	**Eskdalemuir Ar**	**19.88**	**1**	P		**Pn**	**21 05 06.2**	**-0.4**
	baz=169,slow=12,SNR=2.0							
CLL	**Collm**	**19.91**	**32**	*e*P		**Pn**	**21 05 07.0**	**+0.2**
MKAR	**Makanchi Array**	**62.72**	**50**	P		**P**	**21 10 59.4**	**+0.9**
	comp=N,0.1nm,0.4s,baz=308,slow=6.6,SNR=1.9							
YKA	**Yellowknife Ar**	**67.88**	**332**	P		**P**	**21 11 32.3**	**+0.7**
	comp=N,1.0nm,0.8s,baz=62,slow=6.3,SNR=8.0							
PDAR	**Pinedale Array**	**76.88**	**313**	P		**P**	**21 12 26.2**	**+0.2**
	comp=N,0.4nm,0.7s,baz=71,slow=6.4,SNR=4.2							

NNC 13 21:01:48.3±3.7, 37°09'N×71°09'E, h0km, mb3.8, mpv3.5, 4C-3D, Error ellipse: s-maj=31.2km s-min=27.1km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.42**	**21**	P		Pn	21 03 11.6	+0.9
	SNR=74							
UCH	**Uchtor**	**5.77**	**26**	P		Pn	21 03 15.4	-0.1
	SNR=6.0							
EKS2	**Erkin-Say**	**5.93**	**20**	P		Pn	21 03 18.5	+1.0
	SNR=8.3							
KK02	**Karatay Array**	**6.02**	**356**	↑P		Pn	21 03 18.6	0.0
	1.5nm,0.3s							
KK02				↑S		Sn	21 04 28.9	+0.7
	1.1nm,0.3s							
AAK	**Ala-Archa**	**6.13**	**24**	P		Pn	21 03 20.5	+0.3
	SNR=9.5							
AAK	**Ala-Archa**	**6.13**	**24**	↓P		Pn	21 03 20.2	0.0
	2.2nm,0.5s							
AAK				↑S		Sn	21 04 32.4	+1.4
	6.2nm,0.7s							
CHMS	**Chumysh**	**6.53**	**24**	P		Pn	21 03 25.7	0.0
	SNR=8.9							
TKM2	**Tokmak 2**	**6.77**	**29**	P		Pn	21 03 28.4	-0.7
	SNR=6.5							
TKM2	**Tokmak 2**	**6.77**	**29**	↑P		Pn	21 03 28.2	-0.9
	1.6nm,0.5s							
TKM2				↓S		Sn	21 04 48.8	+1.8
	4.3nm,0.8s							
AB31	**Akbulak array**	**14.61**	**330**	↓P		P	21 05 19.6	-3.2
	0.7nm,0.7s,baz=161,slow=12,SNR=5.1							

*RSPR **13** 21:04:19.4, 18°.52N×68°.45W, h152km±3km, MD4.3/19*
*IDC **13** 21:04:20.9±1.8, 18°.23N×68°.51W, h122km±14km, mb3.8/16, mb1 3.9/18, mb1mx3.7/41, mbtmp4.2/18, Error ellipse: s-maj=21.3km s-min=15.7km az=31.0*
*NEIC **13** 21:04:21.6±2.2, 18°.4N±0°.1×68°.41W±0°.05, h139km±7km, Error ellipse: s-maj=15.1km s-min=6.1km az=196.0*
*OSPL **13** 21:04:23.8±2.9, 18°.24N×68°.42W, h134km±22km, ML3.9*

ISC 13 21:04:22.0±0.6, 18°30'N±0°.05×68°46'W±0°.04, h134km±5km, n162, σ1s82/184, mb4.1/20, 5C-17D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.23**	**19**	↓*e*P		**Pn**	**21 04 39.7**	**-0.6**
PCDR	**Punta Cana, DR**	**0.23**	**19**	*e*S		**Sn**	**21 04 54.6**	**+0.4**
PCDR	**Punta Cana, DR**	**0.23**	**19**			**Pn**	**21 04 39.7**	**-0.6**
PCDR						**Sn**	**21 04 54.6**	**+0.4**
PCDR	**Punta Cana, DR**	**0.23**	**19**	*i* P		**Pn**	**21 04 39.7**	**-0.6**
PCDR				*e*S		**Sn**	**21 04 54.3**	**+0.1**
PCDR				IAML			21 04 56.0	
	comp=Z,3μm,0.7s							
IDE	**Isla Desecheo**	**0.94**	**85**	↓*e*P		**Pn**	**21 04 44.4**	**-0.2**
IDE	**Isla Desecheo**	**0.94**	**85**	*e*S		**Sn**	**21 05 03.0**	**+1.2**
DR12	**Loma Pena Alta**	**1.00**	**299**	Pn		**Pn**	**21 04 44.3**	**-0.9**
DR12						**Sn**	**21 05 02.8**	**-0.2**
PRSN	**Puerto Rico Se**	**1.25**	**94**			**Pn**	**21 04 47.4**	**-0.2**
AGPR	**Aguadilla, PR**	**1.29**	**82**	↓*e*P		**Pn**	**21 04 48.3**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29**	**82**	*e*S		**Sn**	**21 05 08.6**	**+0.7**
AGPR	**Aguadilla, PR**	**1.29**	**82**			**Pn**	**21 04 48.3**	**+0.2**
AGPR						**Sn**	**21 05 08.6**	**+0.7**
AGPR	**Aguadilla, PR**	**1.29**	**82**	IAML			21 05 10.7	
	comp=E,6μm,0.4s							
AGPR				IAML			21 05 10.7	
	comp=N,6μm,0.6s							
AGPR	**Aguadilla, PR**	**1.29**	**82**	*i* P		**Pn**	**21 04 48.3**	**+0.3**
AGPR				*e*S		**Sn**	**21 05 08.6**	**+0.7**
AGPR				IAML			21 05 11.2	
	comp=Z,2μm,0.2s							
LSP	**Las Mesas**	**1.31**	**95**	↑*e*P		**Pn**	**21 04 48.0**	**-0.3**
LSP	**Las Mesas**	**1.31**	**95**	*e*S		**Sn**	**21 05 10.4**	**+2.0**
CRPR	**Cabo Rojo, PR**	**1.32**	**103**	↓*e*P		**Pn**	**21 04 47.5**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.32**	**103**	*e*S		**Sn**	**21 05 10.1**	**+1.8**
CRPR	**Cabo Rojo, PR**	**1.32**	**103**			**Pn**	**21 04 47.5**	**-0.8**
CRPR						**Sn**	**21 05 10.1**	**+1.8**
CRPR	**Cabo Rojo, PR**	**1.32**	**103**	*i* P		**Pn**	**21 04 47.4**	**-0.9**
CRPR				IAML			21 05 18.2	
	comp=Z,1μm,0.5s							
MLPR	**Magueyes Islan**	**1.39**	**103**	↓*e*P		**Pn**	**21 04 48.2**	**-0.9**
MLPR	**Magueyes Islan**	**1.39**	**103**	*e*S		**Sn**	**21 05 10.0**	**+0.3**
MLPR	**Magueyes Islan**	**1.39**	**103**			**Pn**	**21 04 48.2**	**-0.9**
MLPR						**Sn**	**21 05 10.0**	**+0.3**
SDD	**Santo Domingo**	**1.39**	**277**			**Pn**	**21 04 48.2**	**-0.9**
AOPR	**Arecibo Observ**	**1.62**	**88**	↓*e*P		**Pn**	**21 04 51.3**	**-0.4**
AOPR	**Arecibo Observ**	**1.62**	**88**	*e*S		**Sn**	**21 05 14.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.62**	**88**			**Pn**	**21 04 51.3**	**-0.4**
AOPR						**Sn**	**21 05 14.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.65**	**91**	↓*e*P		**Pn**	**21 04 52.2**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.65**	**91**	*e*S		**Sn**	**21 05 15.5**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.65**	**91**			**Pn**	**21 04 52.2**	**+0.1**
UUPR						**Sn**	**21 05 15.5**	**+0.5**
LONA1	**Toro Cenizo, N**	**1.71**	**309**	*i* P		**Pn**	**21 04 52.7**	**0.0**
LONA1				*e*S		**Sn**	**21 05 16.6**	**+0.4**
LONA1				IAML			21 05 26.3	
	comp=Z,3μm,0.6s							
OBIP	**Obispado Ponce**	**1.78**	**98**	↑*e*P		**Pn**	**21 04 52.1**	**-1.4**
OBIP	**Obispado Ponce**	**1.78**	**98**	*e*S		**Sn**	**21 05 18.0**	**+0.4**
OBIP	**Obispado Ponce**	**1.78**	**98**			**Pn**	**21 04 52.1**	**-1.4**
OBIP						**Sn**	**21 05 18.0**	**+0.4**
CELP	**Cerrillos**	**1.80**	**97**	↑*e*P		**Pn**	**21 04 53.1**	**-0.7**
CELP	**Cerrillos**	**1.80**	**97**	*e*S		**Sn**	**21 05 18.9**	**+0.9**
CELP	**Cerrillos**	**1.80**	**97**			**Pn**	**21 04 53.1**	**-0.7**
CELP						**Sn**	**21 05 18.9**	**+0.9**
CELP	**Cerrillos**	**1.80**	**97**	IAML			21 05 20.3	
	comp=N,2μm,0.8s							
CELP				IAML			21 05 21.1	
	comp=E,2μm,0.3s							
BANI	**BANI**	**1.81**	**273**	↓*e*P		**Pn**	**21 04 54.1**	**+0.2**
BANI	**BANI**	**1.81**	**273**			**Pn**	**21 04 53.6**	**-0.3**
EMPR	**Esperanza - Ma**	**1.84**	**84**	↓*e*P		**Pn**	**21 04 53.5**	**-0.7**
EMPR	**Esperanza - Ma**	**1.84**	**84**	*e*S		**Sn**	**21 05 18.0**	**-0.9**
EMPR	**Esperanza - Ma**	**1.84**	**84**			**Pn**	**21 04 53.5**	**-0.7**
EMPR						**Sn**	**21 05 18.0**	**-0.9**
EMPR	**Esperanza - Ma**	**1.84**	**84**	IAML			21 05 22.8	
	comp=E,3μm,0.6s							
ICMP	**Isla Caja de M**	**1.88**	**102**	↓*e*P		**Pn**	**21 04 53.8**	**-0.9**
ICMP	**Isla Caja de M**	**1.88**	**102**	*e*S		**Sn**	**21 05 20.8**	**+1.0**
ICMP	**Isla Caja de M**	**1.88**	**102**			**Pn**	**21 04 53.8**	**-0.9**
ICMP						**Sn**	**21 05 20.8**	**+1.0**
ICMP	**Isla Caja de M**	**1.88**	**102**	IAML			21 05 21.7	
	comp=N,925nm,0.5s							
ICMP				IAML			21 05 26.8	
	comp=E,1μm,0.6s							
SJG	**San Juan**	**2.20**	**94**	P		**Pn**	**21 04 57.9**	**-0.7**
	comp=E,35nm,0.3s,baz=283,slow=8.9,SNR=47							
SJG				S		**Sn**	**21 05 25.9**	**-0.8**
	comp=E,145nm,0.3s,baz=297,slow=18,SNR=17							
SJG	**San Juan**	**2.20**	**94**			**Pn**	**21 04 57.8**	**-0.9**
SJG				IAML			21 05 29.2	
	comp=E,1μm,0.3s							
SJG				IAML			21 05 31.6	
	comp=E,1μm,0.3s							
GCPR	**Guaynabo City**	**2.26**	**89**	↓*e*P		**Pn**	**21 04 57.8**	**-1.5**
GCPR	**Guaynabo City**	**2.26**	**89**	*e*S		**Sn**	**21 05 26.5**	**-1.5**
GCPR	**Guaynabo City**	**2.26**	**89**			**Pn**	**21 04 57.8**	**-1.5**
GCPR						**Sn**	**21 05 26.5**	**-1.5**
GCPR	**Guaynabo City**	**2.26**	**89**	IAML			21 05 28.8	
	comp=E,673nm,0.5s							
IGPR	**InterUniversit**	**2.26**	**98**	↓*e*P		**Pn**	**21 04 58.9**	**-0.5**
IGPR	**InterUniversit**	**2.26**	**98**	*e*S		**Sn**	**21 05 29.0**	**+1.0**
IGPR	**InterUniversit**	**2.26**	**98**			**Sn**	**21 05 29.0**	**+1.0**
PDPR	**Patillas Dam,**	**2.33**	**96**			**Pn**	**21 04 59.4**	**-0.8**
PDPR				IAML			21 05 34.9	
	comp=E,938nm,0.2s							
SC01	**Santiago de lo**	**2.42**	**298**			**Pn**	**21 05 01.7**	**+0.3**
SC01				IAML			21 05 44.9	
	comp=E,2μm,0.6s							
CBYP	**Canovanas**	**2.47**	**90**	↓*e*P		**Pn**	**21 05 00.6**	**-1.4**
CBYP	**Canovanas**	**2.47**	**90**	*e*S		**Sn**	**21 05 32.5**	**-0.3**
CBYP	**Canovanas**	**2.47**	**90**			**Pn**	**21 05 00.6**	**-1.4**
CBYP						**Sn**	**21 05 32.5**	**-0.3**
HUMP	**Col San Antoni**	**2.48**	**93**	↑*e*P		**Pn**	**21 05 01.4**	**-0.7**
HUMP	**Col San Antoni**	**2.48**	**93**	*e*S		**Sn**	**21 05 31.8**	**-1.2**
HUMP	**Col San Antoni**	**2.48**	**93**			**Pn**	**21 05 01.4**	**-0.7**
HUMP						**Sn**	**21 05 31.8**	**-1.2**
HUMP	**Col San Antoni**	**2.48**	**93**	IAML			21 05 39.5	
	comp=N,1μm,0.2s							
LOBA2	**Hotel Casa Bon**	**2.51**	**265**	*i* P		**Pn**	**21 05 02.2**	**-0.2**
LOBA2				*e*S		**Sn**	**21 05 31.2**	**-2.4**
LOBA2				IAML			21 05 36.3	
	comp=Z,297nm,0.5s							
SDDR	**Presa de Saban**	**2.77**	**285**			**Pn**	**21 05 07.0**	**+1.2**
SDDR				IAML			21 05 48.3	
	comp=Z,501nm,1.0s							
SDDR				IAML			21 05 48.3	
	comp=Z,843nm,0.6s							
SDDR	**Presa de Saban**	**2.77**	**285**	*e*P		**Pn**	**21 05 07.5**	**+1.7**
SDDR				*e*S		**Sn**	**21 05 43.7**	**+4.2**
SDDR	**Presa de Saban**	**2.77**	**285**	*e*P		**Pn**	**21 05 07.3**	**+1.6**
SDDR				*e*S		**Sn**	**21 05 41.4**	**+1.9**
SDDR	**Presa de Saban**	**2.77**	**285**	*i* P		**Pn**	**21 05 07.4**	**+1.7**
SDDR				IAML			21 05 53.4	
	comp=Z,314nm,0.3s							
MTP	**Monte Pirata**	**2.77**	**94**	↓*e*P		**Pn**	**21 05 05.0**	**-0.7**
MTP	**Monte Pirata**	**2.77**	**94**	*e*S		**Sn**	**21 05 39.7**	**+0.2**
MTP	**Monte Pirata**	**2.77**	**94**			**Pn**	**21 05 05.0**	**-0.7**
MTP						**Sn**	**21 05 39.7**	**+0.2**
MTP	**Monte Pirata**	**2.77**	**94**	IAML			21 05 46.4	
	comp=E,509nm,0.2s							
LONE2	**Loma La Sidra**	**2.87**	**276**	*i* P		**Pn**	**21 05 08.1**	**+0.9**
LOPE2	**Hotel El Peder**	**3.13**	**266**	*i* P		**Pn**	**21 05 11.8**	**+1.3**
LOPE2				*e*S		**Sn**	**21 05 47.3**	**-0.6**
LOPE2				IAML			21 06 00.1	
	comp=Z,242nm,0.8s							
STVI	**Saint Thomas**	**3.33**	**89**	↑*e*P		**Pn**	**21 05 11.9**	**-1.1**
STVI	**Saint Thomas**	**3.33**	**89**	*e*S		**Sn**	**21 05 51.5**	**-0.9**
STVI	**Saint Thomas**	**3.33**	**89**			**Pn**	**21 05 11.9**	**-1.1**
STVI						**Sn**	**21 05 51.5**	**-0.9**
CDVI	**St. Croix**	**3.56**	**98**	↓*e*P		**Pn**	**21 05 14.9**	**-1.1**
CDVI	**St. Croix**	**3.56**	**98**	*e*S		**Sn**	**21 05 57.7**	**-0.1**
CDVI	**St. Croix**	**3.56**	**98**			**Pn**	**21 05 14.9**	**-1.1**
CDVI						**Sn**	**21 05 57.7**	**-0.1**
CDVI	**St. Croix**	**3.56**	**98**	IAML			21 06 06.8	
	comp=N,878nm,0.5s							
CDVI				IAML			21 06 09.5	
	comp=E,712nm,0.6s							
TBVI	**Tortola**	**3.65**	**88**	↓*e*P		**Pn**	**21 05 15.7**	**-1.5**
TBVI	**Tortola**	**3.65**	**88**	*e*S		**Sn**	**21 05 57.2**	**-2.8**
JAKH	**Jacmel**	**3.86**	**270**	Pn		**Pn**	**21 05 19.9**	**-0.1**
JAKH				IAML			21 06 12.0	
	comp=E,310nm,0.4s							
JAKH				IAML			21 06 14.9	
	comp=N,258nm,0.5s							
GRTK	**Grand Turk**	**4.07**	**322**	Pn		**Pn**	**21 05 20.1**	**-2.6**
MASC	**Masc**	**5.76**	**290**	↓*e*P		**Pn**	**21 05 42.6**	**-2.8**
MASC				*e*S		**Sn**	**21 06 45.8**	**-4.6**
MASC				IAML			21 06 48.1	
	comp=E,19nm,0.2s							
MASC				IAML			21 06 48.5	
	comp=N,25nm,0.2s							
HATO	**Hato, Curacao**	**6.10**	**185**	Pn		**Pn**	**21 05 51.0**	**+1.0**
ANWB	**Willy Bob**	**6.38**	**95**	*e*P		**Pn**	**21 05 50.4**	**-3.3**
ANWB	**Willy Bob**	**6.38**	**95**	*e*S		**Sn**	**21 06 59.6**	**-5.7**
GTBY	**Guantanamo Bay**	**6.49**	**286**	*e*P		**Pn**	**21 05 52.3**	**-2.8**
GTBY				*e*S		**Sn**	**21 07 03.8**	**-4.2**
ANBD	**Bethesda, Anti**	**6.50**	**100**	*e*P		**Pn**	**21 05 54.1**	**-1.2**
ANBD	**Bethesda, Anti**	**6.50**	**100**	*e*S		**Sn**	**21 07 03.3**	**-5.0**
MOAC	**Moa**	**6.57**	**292**	*e*P		**Pn**	**21 05 52.4**	**-3.8**
MOAC				*e*S		**Sn**	**21 07 03.9**	**-5.9**
MOAC				IAML			21 07 05.4	
	comp=N,17nm,0.2s							
MOAC				IAML			21 07 05.7	
	comp=E,8.1nm,0.2s							
ABD	**La Joyeuse, An**	**6.90**	**104**	*e*S		**Sn**	**21 07 16.5**	**-1.3**
CBE	**Ff, Capester**	**6.91**	**108**	*e*P		**Pn**	**21 06 05.5**	**+4.7**
CBE	**Ff, Capester**	**6.91**	**108**	*e*S		**Sn**	**21 07 20.8**	**+2.5**
TBG	**Guadaloupe-3**	**6.96**	**109**	*e*P		**Pn**	**21 06 01.8**	**+0.4**
TDBA	**Terre de Bas,**	**6.97**	**109**	*e*P		**Pn**	**21 06 01.3**	**-0.3**
RCC	**Rio Carpintero**	**7.04**	**285**	*e*P		**Pn**	**21 05 59.5**	**-3.1**
RCC				*e*S		**Sn**	**21 07 14.0**	**-7.4**
MAGL	**Barre de l'ile**	**7.25**	**108**	*e*P		**Pn**	**21 06 07.1**	**+1.7**
MAGL	**Barre de l'ile**	**7.25**	**108**	*e*S		**Sn**	**21 07 27.5**	**+1.2**
DSLB	**Salisbury**	**7.31**	**112**	*e*P		**Pn**	**21 06 06.8**	**+0.6**
DSLB	**Salisbury**	**7.31**	**112**	*e*S		**Sn**	**21 07 24.1**	**-3.8**
BIM	**Bigot**	**8.03**	**117**	*e*P		**Pn**	**21 06 16.4**	**+0.5**
BIM	**Bigot**	**8.03**	**117**	*e*S		**Sn**	**21 07 42.1**	**-3.1**
BIRV	**Birongo**	**8.06**	**164**	Pn		**Pn**	**21 06 17.3**	**+1.0**
MPOM	**Morne Pois Mar**	**8.24**	**117**	*e*P		**Pn**	**21 06 19.9**	**+1.2**
MPOM	**Morne Pois Mar**	**8.24**	**117**	*e*S		**Sn**	**21 07 47.4**	**-2.8**
SLBI	**Saint Lucia, B**	**8.35**	**120**	*e*P		**Pn**	**21 06 18.5**	**-1.7**
PCRV	**Puerto La Cruz**	**8.88**	**155**	P		**Pn**	**21 06 27.3**	**-0.1**
	comp=E,0.5nm,0.3s,baz=14,slow=12,SNR=1.2							
PCRV				S		**Sn**	**21 08 01.4**	**-4.5**
	comp=E,1.1nm,0.3s,baz=66,slow=10.0,SNR=1.4							
GCMP	**Grenada, Carri**	**8.91**	**129**	*e*P		**Pn**	**21 06 27.7**	**0.0**
GCMP	**Grenada, Carri**	**8.91**	**129**	*e*S		**Sn**	**21 08 04.0**	**-2.4**
PLCV	**Puerto La Cruz**	**8.91**	**155**			**Pn**	**21 06 27.3**	**-0.5**
GRFF	**Grenada Fort F**	**8.98**	**133**	*e*S		Sn	21 07 55.6	-13
SDV	**Santo Domingo**	**9.59**	**193**	P		**Pn**	**21 06 39.3**	**+2.3**
	comp=E,2.2nm,0.3s,baz=130,slow=2.2,SNR=15							
SDV				S		**Sn**	**21 08 20.8**	**-2.5**
	comp=E,0.7nm,0.3s,baz=292,slow=19,SNR=1.8							
SDV	**Santo Domingo**	**9.59**	**193**	Pn		**Pn**	**21 06 38.9**	**+1.9**
SDV	**Santo Domingo**	**9.59**	**193**	*e*P		**Pn**	**21 06 38.5**	**+1.4**
PAMC	**Pamplona, Colo**	**11.65**	**201**	*e*P		**Pn**	**21 07 07.0**	**+2.3**
ZARC	**Zaragoza, Cauc**	**12.42**	**211**	Pn		**Pn**	**21 07 13.8**	**-0.5**
ZARC	**Zaragoza, Cauc**	**12.42**	**211**	*e*P		**Pn**	**21 07 16.2**	**+2.6**
URFC	**San Jose de Ur**	**12.54**	**214**	*e*P		**Pn**	**21 07 17.5**	**+1.6**
PTBC	**PUERTO BERRIO,**	**13.07**	**207**	*e*P		**Pn**	**21 07 23.8**	**+1.0**
RUSC	**La Rusia**	**13.13**	**201**	*e*P		**Pn**	**21 07 26.1**	**+2.1**
DBBC	**Dabeiba**	**13.52**	**215**	*e*P		**Pn**	**21 07 30.1**	**+1.5**
SPBC	**San Pablo de B**	**13.71**	**204**	*e*P		**P**	**21 07 35.1**	**-0.1**
HELC	**Santa Helena**	**13.87**	**211**	*e*P		**P**	**21 07 36.2**	**-1.1**
NORC	**Norcasia**	**14.12**	**207**	*e*P		**Pn**	**21 07 37.9**	**+1.6**
CBOC	**Ciudad Bolivar**	**14.39**	**212**	*e*P		**P**	**21 07 44.1**	**+1.2**
CHIC	**Chingaza**	**14.53**	**201**	*e*P		**P**	**21 07 45.5**	**+0.9**
ROSC	**El Rosal**	**14.55**	**204**	P		**P**	**21 07 47.0**	**+2.1**
	comp=E,1.4nm,0.3s,baz=118,slow=22,SNR=9.5							
ROSC	**El Rosal**	**14.55**	**204**	Pn		**Pn**	**21 07 40.2**	**-1.8**
ROSC	**El Rosal**	**14.55**	**204**	*e*P		**P**	**21 07 47.4**	**+2.6**
GUY2C	**Guyana, Caldas**	**14.64**	**208**	*e*P		**P**	**21 07 45.4**	**-0.6**
ANIL	**Santa Ana**	**15.31**	**207**	*e*P		**P**	**21 07 55.7**	**+2.5**
PLMC	**San Jos del P**	**15.35**	**211**	*e*P		**P**	**21 07 57.2**	**+3.8**
ORTC	**Ortega, Tolima**	**15.77**	**206**	*e*P		**P**	**21 07 58.7**	**+0.7**
PCON	**Cinco Dias**	**17.68**	**207**	*e*P		**Pn**	**21 08 22.3**	**+1.8**
SOTA	**Rioblanco**	**17.94**	**207**	*e*P		**P**	**21 08 23.2**	**+0.8**
TKL	**Tuckaleechee C**	**21.98**	**325**	P		**P**	**21 09 06.1**	**+0.8**
	comp=E,2.2nm,0.7s,baz=188,slow=7.1,SNR=2.0							
TXAR	**Lajitas Array**	**33.91**	**296**	S		**S**	**21 16 01.3**	**-6.2**
	comp=E,0.2nm,0.7s,baz=90,slow=14,SNR=2.2							
SCHQ	**Schefferville**	**36.49**	**2**	P		**P**	**21 11 15.0**	**+0.9**
	comp=E,4.7nm,0.5s,baz=190,slow=7.1,SNR=30							
SCHQ	**Schefferville**	**36.49**	**2**	P		**P**	**21 11 13.4**	**-0.6**
SCHQ				IAmb		IAmb	21 11 15.7	
	comp=Z,6.7nm,0.6s							
ULM	**Lac du Bonnet**	**38.68**	**332**	P		**P**	**21 11 32.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=127,slow=6.3,SNR=3.5							
LVC	**Limon Verde**	**40.66**	**181**	P		**P**	**21 11 48.5**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=313,slow=9.8,SNR=2.5							
YKA	**Yellowknife Ar**	**54.41**	**336**	P		**P**	**21 13 34.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=112,slow=7.4,SNR=11							
ESDC	**Sonseca Array**	**59.06**	**54**	P		**P**	**21 14 09.2**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=275,slow=7.3,SNR=25							
DLBC	**Dease Lake**	**59.78**	**328**	P		**P**	**21 14 13.9**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=103,slow=8.2,SNR=3.0							
EKA	**Eskdalemuir Ar**	**61.12**	**36**	P		**P**	**21 14 22.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=266,slow=5.0,SNR=4.8							
KOWA	**Kowa**	**61.67**	**83**	P		**P**	**21 14 26.5**	**+0.2**
	comp=Z,1.1nm,0.2s,baz=288,slow=3.5,SNR=6.9							
ILAR	**Eielson Array**	**68.68**	**333**	P		**P**	**21 15 10.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=95,slow=4.8,SNR=9.2							
NOA	**NORSAR Array B**	**69.18**	**31**	P		**P**	**21 15 14.3**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=270,slow=6.2,SNR=3.3							
RETA	**Reutte**	**69.52**	**45**	*e*P		**P**	**21 15 17.1**	**+0.8**
	comp=Z,1.5nm,0.5s							
FETA	**Feichten**	**69.54**	**46**	*i* P		**P**	**21 15 17.6**	**+1.0**
	comp=Z,3.9nm,0.7s							
MOTA	**Moosalm**	**69.77**	**45**	*e*P		**P**	**21 15 18.5**	**+0.5**
	comp=Z,0.5nm,0.3s							
SQTA	**Sankt Quirin**	**69.85**	**46**	*e*P		**P**	**21 15 19.1**	**+0.7**
	comp=Z,1.9nm,0.5s							
ARCES	**ARCESS Array B**	**74.39**	**21**	P		**P**	**21 15 45.1**	**+0.3**
	comp=Z,9.6nm,1.2s,baz=5.2,slow=5.4,SNR=4.9							
FINES	**FINESS Array B**	**76.26**	**30**	P		**P**	**21 15 56.0**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=280,slow=4.2,SNR=10							
MLR	**Muntele Rosu**	**80.18**	**45**	P		**P**	**21 16 19.7**	**+1.9**
	comp=Z,1.9nm,0.5s,baz=132,slow=15,SNR=5.9							
IDI	**Anoyia**	**82.30**	**56**	P		**P**	**21 16 30.2**	**+1.2**
	comp=Z,7.2nm,0.6s,baz=289,slow=10,SNR=2.0							
BRTR	**Keskin Array B**	**87.42**	**49**	P		**P**	**21 16 55.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=296,slow=4.4,SNR=6.1							

**IDC 13 21:27:58.1±2.0, 9°.91S×125°.30E, h0km, mb3.0/1, m

IDI					S	**Sb**	**21 33 08.2**	**-1.4**
IDI					AML	AML	21 33 19.4	
	comp=N,5632µm,0.6s							
IDI					AML	AML	21 33 24.0	
	comp=E,2759µm,0.6s							
IDI	**Anoyia**	**1.06**	**94**		P	**Pb**	**21 32 54.2**	**-1.4**
IDI					S	**Sn**	**21 33 10.5**	**-0.8**
	comp=E,2µm,0.6s							
IDI	**Anoyia**	**1.06**	**94**		PG	**Pb**	**21 32 54.5**	**-1.1**
IDI					SG	**Sg**	**21 33 08.8**	**-0.2**
IACM	**Heraklion**	**1.21**	**93**		P	**Pg**	**21 32 57.9**	**-0.1**
KSTL	**Kastelli Herak**	**1.21**	**93**		P	**Pg**	**21 33 01.7**	**+3.7**
KSTL					S	**Sn**	**21 33 20.8**	**+6.1**
HRKL	**Herakleio**	**1.23**	**92**		P	**Pg**	**21 32 58.3**	**-0.2**
HRKL	**Herakleio**	**1.23**	**92**		PN	**Pn**	**21 32 57.2**	**-1.3**
VLI	**Veliai**	**1.45**	**338**		P	**Pn**	**21 33 00.8**	**-0.8**
VLI	**Veliai**	**1.45**	**338**		P	**Pn**	**21 33 00.7**	**-0.8**
VLI					S	**Sb**	**21 33 21.0**	**+0.2**
	comp=E,585nm,0.8s							
MHLO	**Agia Marina, M**	**1.47**	**26**		P	**Pn**	**21 33 00.1**	**-1.7**
MHLO					S	**Sn**	**21 33 19.1**	**-2.2**
MHLO					AML	AML	21 33 28.8	
	comp=N,11636µm,0.6s							
MHLO					AML	AML	21 33 30.7	
	comp=E,9077µm,0.6s							
MHLO	**Agia Marina, M**	**1.47**	**26**		P	**Pn**	**21 33 01.5**	**-0.3**
MHLO					S	**Sg**	**21 33 21.8**	**-0.3**
NPS	**Neapolis**	**1.65**	**93**		P	**Pb**	**21 33 05.2**	**-0.4**
CMBO	**Columbo, Santo**	**1.83**	**53**		P	**Pn**	**21 33 06.9**	**+0.1**
CMBO					AML	AML	21 33 37.0	
	comp=N,5588µm,0.6s							
CMBO					AML	AML	21 33 39.8	
	comp=E,6601µm,0.7s							
KRND	**KRANIDI**	**2.04**	**350**		P	**Pn**	**21 33 08.8**	**-0.8**
KRND					AML	AML	21 33 46.6	
	comp=N,729µm,0.4s							
KRND					AML	AML	21 33 50.2	
	comp=E,698µm,0.7s							
KRND	**KRANIDI**	**2.04**	**350**		P	**Pn**	**21 33 09.2**	**-0.4**
PYL	**PYLOS**	**2.14**	**316**		P	**Pn**	**21 33 11.1**	**+0.1**
PYL					AML	AML	21 33 52.3	
	comp=E,531µm,1.5s							
PYL					AML	AML	21 34 00.8	
	comp=N,400µm,0.8s							
PYL	**PYLOS**	**2.14**	**316**		P	**Pn**	**21 33 10.8**	**-0.2**
ZKR	**Zakros**	**2.16**	**96**		P	**Pb**	**21 33 12.5**	**-1.7**
ZKR					AML	AML	21 33 53.1	
	comp=E,922µm,0.9s							
ZKR					AML	AML	21 33 57.0	
	comp=N,389µm,0.7s							
ITM	**Ithomi**	**2.25**	**324**		P	**Pn**	**21 33 12.8**	**+0.1**
ITM					AML	AML	21 33 58.9	
	comp=E,350µm,1.0s							
ITM					AML	AML	21 33 59.1	
	comp=N,376µm,1.2s							
ITM	**Ithomi**	**2.25**	**324**		PN	**Pn**	**21 33 12.3**	**-0.3**
EPID	**Epidavros**	**2.27**	**350**		P	**Pn**	**21 33 12.6**	**-0.3**
EPID	**Epidavros**	**2.27**	**350**		P	**Pn**	**21 33 12.8**	**-0.1**
APE	**Apeiranthos**	**2.31**	**42**		P	**Pn**	**21 33 13.0**	**-0.3**
APE	**Apeiranthos**	**2.31**	**42**		PN	**Pn**	**21 33 12.7**	**-0.6**
VLY	**Voula,Athens**	**2.48**	**4**		P	**Pn**	**21 33 14.3**	**-1.4**
VLY					AML	AML	21 33 58.0	
	comp=N,592µm,0.7s							
VLY					AML	AML	21 33 58.4	
	comp=E,760µm,0.8s							
PTL	**Penteli**	**2.68**	**4**		P	**Pn**	**21 33 17.8**	**-0.7**
LTK	**Loutraki**	**2.69**	**349**		P	**Pn**	**21 33 17.9**	**-0.8**
LTK	**Loutraki**	**2.69**	**349**		P	**Pn**	**21 33 18.7**	**0.0**
DION	**Dionisos Attik**	**2.71**	**6**		P	**Pn**	**21 33 18.2**	**-0.8**
DION	**Dionisos Attik**	**2.71**	**6**		P	**Pn**	**21 33 18.1**	**-0.8**
KARY	**Karystos**	**2.74**	**14**		P	**Pn**	**21 33 18.1**	**-1.2**
VIL2	**Platees**	**2.85**	**355**		P	**Pn**	**21 33 19.5**	**-1.3**
KLV	**Kalavryta, Ach**	**2.91**	**337**		P	**Pn**	**21 33 21.6**	**-0.1**
KARP	**Karpathos**	**2.91**	**86**		PN	**Pn**	**21 33 19.7**	**-2.0**
LAKA	**Lakka**	**3.15**	**336**		P	**Pn**	**21 33 24.4**	**-0.5**
EFP	**Efpalio**	**3.34**	**337**		P	**Pn**	**21 33 28.3**	**+0.8**
BODT	**Bodrum**	**3.44**	**60**		PN	**Pn**	**21 33 28.7**	**-0.3**
DAT	**Datca**	**3.50**	**66**		PN	**Pn**	**21 33 29.4**	**-0.4**
GCAM	**G?zelcaml?**	**3.74**	**50**		PN	**Pn**	**21 33 32.9**	**-0.1**
MLSB	**Milas**	**3.88**	**59**		PN	**Pn**	**21 33 34.6**	**-0.4**
YER	**Yerkesik**	**4.17**	**64**		PN	**Pn**	**21 33 38.9**	**-0.2**
DALY	**Dalyan (Mula)**	**4.34**	**69**		PN	**Pn**	**21 33 41.7**	**+0.5**
BRTR	**Keskin Array B**	**9.08**	**58**		Pn	**Pn**	**21 34 50.5**	**+4.0**
	comp=E,0.2nm,0.3s,baz=235,slow=16,SNR=15							
MMAI	**Mount Meron Ar**	**10.06**	**100**		Sn	**Sn**	**21 36 47.5**	**-5.4**
	comp=E,0.4nm,0.3s,baz=336,slow=28,SNR=1.1							
EIL	**Elat**	**11.14**	**118**		Pn	**Pn**	**21 35 14.2**	**-0.4**
	comp=E,0.4nm,0.3s,baz=263,slow=8.1,SNR=1.6							
GERES	**GERESS Array B**	**15.32**	**335**		Pn	**P**	**21 36 15.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=141,slow=13,SNR=2.8							
GERES					LR	LR	21 43 21.3	
	comp=E,84nm,20.2s,baz=106,slow=42							
KHC	**Kasperske Hory**	**15.60**	**335**	*eP*		**P**	**21 36 20.8**	**+1.3**
DPC	**Dobruska-Polom**	**15.88**	**343**	*eP*		**P**	**21 36 24.4**	**+1.8**
KBZ	**khabaz**	**17.04**	**55**	P		**P**	**21 36 34.1**	**-1.2**
	comp=E,0.0nm,0.3s,baz=243,slow=11,SNR=3.5							
ESDC	**Sonseca Array**	**22.24**	**289**	P		**P**	**21 37 33.6**	**+1.3**
	comp=E,0.4nm,0.8s,baz=92,slow=8.1,SNR=2.4							
HFS	**Hagfors**	**25.60**	**349**	P		**P**	**21 38 06.6**	**+2.1**
	comp=E,1.2nm,0.6s,baz=152,slow=13,SNR=4.3							
NOA	**NORSAR Array B**	**26.88**	**347**	P		**P**	**21 38 18.0**	**+1.9**
	comp=E,0.5nm,0.7s,baz=152,slow=11,SNR=2.2							
EKA	**Eskdalemuir Ar**	**27.14**	**326**	P		**P**	**21 38 20.2**	**+1.7**
	comp=E,1.2nm,0.7s,baz=127,slow=8.4,SNR=6.1							
ARCES	**ARCESS Array B**	**34.23**	**1**	P		**P**	**21 39 22.6**	**+1.6**
	comp=E,1.2nm,0.6s,baz=187,slow=8.3,SNR=4.2							
MKAR	**Makanchi Array**	**44.72**	**57**	P		**P**	**21 40 47.3**	**-1.4**
	comp=E,0.4nm,0.5s,baz=274,slow=6.1,SNR=11							
ZALV	**Zalesovo Beam**	**45.78**	**46**	P		**P**	**21 40 58.1**	**+1.2**
	comp=E,0.7nm,0.4s,baz=265,slow=9.8,SNR=2.6							
YKA	**Yellowknife Ar**	**76.85**	**341**	P		**P**	**21 44 28.4**	**+1.2**
	comp=E,0.2nm,0.6s,baz=34,slow=5.4,SNR=4.1							

ISK 13 21:42:10.2, 35°.42N×23°.69E, h11km, ML2.1/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.15**	**21**	PG	Pg	21 42 14.2	+0.4
RODP				SG	Sg	21 42 17.0	+0.7
IMMV	**Iera Moni Meta**	**0.24**	**79**	PG	Pg	21 42 15.7	+0.4
GVD	**Gavdhos**	**0.66**	**150**	PG	Pb	21 42 23.5	-0.2
IDI	**Anoyia**	**0.99**	**97**	PG	Pb	21 42 29.6	+0.2

IDC ***13*** *21:44:17.8±0.6, 2°.92N×126°.63E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.1/44, mbtmp4.2/16, ML3.9/1, MS3.1/4, Ms1 3.2/4, ms1mx2.7/69, Error ellipse: s-maj=32.6km s-min=11.9km az=70.0*

BJI ***13*** *21:44:20.0±0.0, 3°.00N×126°.90E, h25km, mb4.4/13, mB4.7/9, Ms4.6/1*

DJA ***13*** *21:44:23.8±0.4, 3°.N±4°×12°.7E±°, h46km±7km, M4.3/13, mb4.5/10, mB4.8/3, MLv4.2/13, Mw(mB)4.1/3*

NEIC ***13*** *21:44:24.5±1.1, 2°.98N±0°.05×126°.76E±0°.08, h50km±6km, mb4.5/27, Error ellipse: s-maj=12.6km s-min=5.9km az=67.0*

ISC 13 21:44:23.8±0.5, 3°.02N±0°.05×126°.82E±0°.07, h44km, n84, σ1§30/86, mb4.4/32, MS3.4/3, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.45**	**297**	P	**Pn**	**21 44 49.2**	**+1.6**
TNTI	**Ternate**	**2.30**	**166**		**Pn**	**21 44 59.6**	**+0.3**
TNTI				Sn	**Sn**	**21 45 26.3**	**-0.1**
TNTI	**Ternate**	**2.30**	**166**	P	**Pn**	**21 45 00.0**	**+0.7**
TNTI	**Ternate**	**2.30**	**166**	P	**Pn**	**21 45 00.0**	**+0.7**
LBMI	**Labuha**	**3.70**	**169**	P	**Pn**	**21 45 20.4**	**+1.9**
KMSI	**Cibinong**	**3.74**	**229**	P	**Pn**	**21 45 21.0**	**+1.9**
DAV	**Davao City (W)**	**4.21**	**343**	Pn	**Pn**	**21 45 26.2**	**+0.7**
KCP	**Kidapawan**	**4.32**	**336**	*ieP*	**Pn**	**21 45 23.0**	**-4.1**
KCP				*i* S	Sn	21 46 33.2	+17
GTOI	**Gorontalo**	**4.49**	**238**	P	**Pn**	**21 45 31.2**	**+1.8**
SANI	**Sanana**	**5.11**	**189**	P	**Pn**	**21 45 36.9**	**-1.0**
	0.1nm13nm,0.7s						
SANI	**Sanana**	**5.11**	**189**	P	**Pn**	**21 45 38.3**	**+0.4**
	14nm,0.7s						
MRSI	**Marisa**	**5.50**	**243**	P	**Pn**	**21 45 45.9**	**+2.7**
	0.4nm1µm118nm,0.6s						
LUWI	**Luwuk**	**5.72**	**225**	Pn	**Pn**	**21 45 45.2**	**-1.1**
LUWI	**Luwuk**	**5.72**	**225**	P	**Pn**	**21 45 48.3**	**+2.0**
	0.6nm1µm75nm,0.9s						
LUWI	**Luwuk**	**5.72**	**225**	P	**Pn**	**21 45 48.4**	**+2.1**
	74nm,0.9s						
SWI	**Sorong**	**5.88**	**131**	P	**Pn**	**21 45 47.7**	**-0.8**
	0.1nm20nm,0.6s						
SIJI	**Sorong**	**5.89**	**131**	Pn	**Pn**	**21 45 49.4**	**+0.8**
	2.9nm,0.3s,baz=327,slow=18,SNR=8.2						
SIJI				Sn	**Sn**	**21 46 57.8**	**+2.9**
	baz=29,slow=19,SNR=0.8						
SIJI				LR	LR	21 47 39.4	
	comp=Z,90nm,18.1s,baz=18,slow=34						
TOLI2	**Tolitoli**	**6.33**	**253**	Pn	**Pn**	**21 45 54.8**	**+0.1**
TOLI2	**Tolitoli**	**6.33**	**253**	P	**Pn**	**21 45 54.9**	**+0.2**
	34nm,0.7s						
MPSI	**Mapaga**	**7.42**	**249**	P	**Pn**	**21 46 12.2**	**+2.6**
	0.1nm16nm,0.9s						
MYLDM	**Lahad Datu**	**8.57**	**285**	Pn	**Pn**	**21 46 24.9**	**-0.5**
LQP	**Lukban**	**12.19**	**335**	*eP*	**Pn**	**21 47 17.8**	**+2.6**
PLAI	**Plampang**	**14.83**	**217**	P	**Pn**	**21 47 52.7**	**+1.9**
	53nm,0.8s						
PWJI	**Pagerwojo**	**18.57**	**234**	P	**Pn**	**21 48 38.5**	**+0.6**
	12nm,1.2s						
KNRA	**Kununurra**	**18.68**	**174**		**P**	**21 48 36.7**	**-1.7**
KNRA				IAmb	IAmb	21 48 47.0	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**18.68**	**174**	P	**P**	**21 48 38.3**	**-0.1**
	comp=Z,21nm,1.7s						
PCJI	**Pacitan**	**19.18**	**234**	P	**Pn**	**21 48 45.3**	**+0.1**
	comp=Z,46nm,1.2s						
DLV	**T Lat**	**20.21**	**297**	P	**P**	**21 48 54.5**	**-0.9**
DLV				IAmb	IAmb	21 48 59.8	
	comp=Z,10nm,0.7s						
YULB	**Yu-li**	**20.94**	**346**	P	**P**	**21 49 01.8**	**-1.3**
YULB				IAmb	IAmb	21 49 21.1	
	comp=Z,40nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.02**	**183**	P	**P**	**21 49 02.5**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=1.6,slow=10,SNR=2.5						
FITZ	**Fitzroy Crossi**	**21.02**	**183**	P	**P**	**21 49 02.9**	**-1.1**
TPUB	**Ta-pu**	**21.03**	**344**	P	**P**	**21 49 02.4**	**-1.7**
COEN	**Coen**	**23.40**	**137**	P	**P**	**21 49 27.4**	**-1.7**
WB0	**Warramunga Arr**	**23.84**	**162**	P	**P**	**21 49 31.6**	**-1.6**
WRAB	**Tennant Creek**	**23.98**	**162**	P	**P**	**21 49 33.1**	**-1.3**
WRAB				IAmb	IAmb	21 49 36.9	
	comp=Z,19nm,0.7s						
WRAB	**Tennant Creek**	**23.98**	**162**	P	**P**	**21 49 33.0**	**-1.4**
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**23.99**	**162**	P	**P**	**21 49 33.2**	**-1.3**
	comp=Z,13nm,0.5s,baz=339,slow=10,SNR=97						
WRA				PcP	**PcP**	**21 53 16.3**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=318,slow=2.3,SNR=1.2						
WRA	**Warramunga Arr**	**23.99**	**162**	P	**P**	**21 49 32.0**	**-2.5**
WB2	**Warramunga Arr**	**23.99**	**162**	P	**P**	**21 49 32.9**	**-1.6**
WR0	**Warramunga Arr**	**24.07**	**162**	P	**P**	**21 49 33.6**	**-1.6**
WR0				IAmb	IAmb	21 49 37.7	
	comp=Z,14nm,0.7s						
PSA00	**Pilbara Seismi**	**25.38**	**195**	P	**P**	**21 49 44.0**	**-3.2**
PSA00				IAmb	IAmb	21 49 48.2	
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**25.38**	**195**	P	**P**	**21 49 47.3**	**+0.1**
	comp=Z,23nm,1.5s						
QIS	**Mount Isa**	**26.58**	**152**	P	**P**	**21 49 57.3**	**-0.7**
	comp=Z,8.2nm,0.9s						
AS31	**Alice Springs**	**27.41**	**166**	P	**P**	**21 50 04.3**	**-1.2**
ASAR	**Alice Springs**	**27.41**	**166**	P	**P**	**21 50 04.5**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=353,slow=7.3,SNR=20						
ASAR				PcP	**PcP**	**21 53 24.5**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=2.1,slow=2.7,SNR=3.0						
ASAR	**Alice Springs**	**27.41**	**166**	P	**P**	**21 50 04.9**	**-0.7**
WRKA	**Warakurna**	**27.93**	**177**	P	**P**	**21 50 09.5**	**-0.6**
	comp=Z,11nm,1.3s						
MEEK	**Meekatharra**	**30.54**	**195**	P	**P**	**21 50 34.1**	**+0.8**
	comp=Z,12nm,2.4s						
CMAR	**Chiang Mai Arr**	**31.31**	**301**	P	**P**	**21 50 39.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=96,slow=7.5,SNR=2.8						
CMAR				LR	LR	22 02 43.5	
	comp=Z,17nm,20.5s,baz=195,slow=35						
FORT	**Forrest**	**33.63**	**178**	P	**P**	**21 50 59.4**	**-1.0**
FORT	**Forrest**	**33.63**	**178**	P	**P**	**21 50 59.9**	**-0.4**
	comp=Z,29nm,0.8s						
MULG	**Mulgathing**	**33.83**	**169**	P	**P**	**21 51 02.0**	**-0.1**
	comp=Z,16nm,1.8s						
KSRS	**Korea Array**	**34.28**	**2**	P	**P**	**21 51 06.2**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=173,slow=11,SNR=5.8						
BBOO	**Buckleboo**	**36.70**	**167**	P	**P**	**21 51 26.2**	**-0.5**
BBOO	**Buckleboo**	**36.70**	**167**	P	**P**	**21 51 26.3**	**-0.4**
	comp=Z,19nm,1.7s						
STKA	**Stephens Creek**	**37.44**	**159**	P	**P**	**21 51 32.4**	**-0.7**
	comp=Z,13nm,0.6s,baz=333,slow=9.8,SNR=29						
STKA	**Stephens Creek**	**37.44**	**159**	P	**P**	**21 51 32.2**	**-0.7**
STKA				IAmb	IAmb	21 51 34.7	
	comp=Z,2.7nm,0.6s						
STKA	**Stephens Creek**	**37.44**	**159**	P	**P**	**21 51 32.4**	**-0.7**
	comp=Z,4.2nm,0.7s						
CMSA	**Cobar Meteorol**	**38.78**	**154**	P	**P**	**21 51 43.5**	**-0.8**
	comp=Z,5.5nm,1.1s						
MDJ	**Mudanjiang**	**41.49**	**3**	P	**P**	**21 52 06.1**	**-0.5**
MDJ				IAmb	IAmb	21 52 08.8	
	comp=Z,12nm,1.0s						
TOO	**Toolangi**	**43.95**	**159**	P	**P**	**21 52 24.9**	**-1.9**
TOO				IAmb	IAmb	21 52 37.0	
	comp=Z,17nm,1.4s						
PALK	**Pallekele**	**46.11**	**277**	LR	LR	22 13 20.4	
	comp=Z,45nm,18.6s,baz=178,slow=38						
KLR	**Kul'dur**	**46.23**	**4**	P	**P**	**21 52 45.3**	**+0.7**
	comp=Z,5.8nm,1.1s,baz=208,slow=3.9,SNR=11						
ULN	**Ulaanbaatar**	**47.81**	**342**	P	**P**	**21 52 56.7**	**-0.5**
ULN				IAmb	IAmb	21 53 01.2	
	comp=Z,2.9nm,0.9s						
SONM	**Songino Array**	**47.99**	**342**	P	**P**	**21 52 58.8**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=154,slow=9.0,SNR=12						
SONM	**Songino Array**	**47.99**	**342**	P	**P**	**21 52 58.6**	**+0.1**
PETK	**Petropavlovsk-**	**56.04**	**22**	P	**P**	**21 53 59.6**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=211,slow=11,SNR=4.2						
MK31	**Makanchi Array**	**58.19**	**325**	P	**P**	**21 54 13.2**	**-0.3**
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**21 54 13.2**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=120,slow=8.3,SNR=18						
MKAR	**Makanchi Array**	**58.19**	**325**	P	**P**	**21 54 13.0**	**-0.5**
MAKZ	**Makanchi**	**58.37**	**325**	P	**P**	**21 54 14.1**	**-0.6**
MAKZ				IAmb	IAmb	21 54 21.0	
	comp=Z,4.2nm,1.4s						
ZALV	**Zalesovo Beam**	**61.26**	**333**	P	**P**	**21 54 35.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=122,slow=5.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**61.26**	**333**	P	**P**	**21 54 34.7**	**+0.3**
KURBB	**Kurchatov Arra**	**62.38**	**328**	P	**P**	**21 54 41.7**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=129,slow=6.0,SNR=11						
KURK	**Kurchatov**	**62.38**	**328**	P	**P**	**21 54 41.7**	**-0.4**
KURK				IAmb	IAmb	21 54 48.7	
	comp=Z,3.5nm,0.7s						
GAR	**Garm**	**62.47**	**313**	P	**P**	**21 54 42.9**	**-0.2**
SHEM	**Shemya Is, Ala**	**63.02**	**30**	LR	LR	22 16 21.9	
	comp=Z,35nm,21.2s,baz=4.5,slow=30						
TIXI	**Tiksi**	**68.54**	**1**	P	**P**	**21 55 21.6**	**+0.1**
TIXI				IAmb	IAmb	21 55 23.4	
	comp=Z,6.5nm,1.4s						
NRIK	**Noril'sk**	**71.13**	**346**	P	**P**	**21 55 38.3**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=130,slow=6.0,SNR=4.4						
VNDA	**Vanda**	**82.72**	**173**	P	**P**	**21 56 43.1**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=329,slow=5.6,SNR=2.3						
VNDA	**Vanda**	**82.72**	**173**	P	**P**	**21 56 42.5**	**+0.1**
GURO	**Guroymak-BITLI**	**84.05**	**308**	P	**P**	**21 56 50.8**	**+0.4**
GURO				IAmb	IAmb	21 56 53.9	
	comp=Z,6.6nm,1.3s						
BRTR	**Keskin Array B**	**90.54**	**310**	P	**P**	**21 57 21.8**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=182,slow=3.7,SNR=4.9						
BRTR	**Keskin Array B**	**90.54**	**310**	P	**P**	**21 57 21.1**	**-0.7**

NEIC ***13*** *21:50:00.3±1.2, 53°.7S±0°.1×7°.0E±0°.2, h10km±1km, mb4.7/12, Error ellipse: s-maj=24.6km s-min=24.1km az=338.0*

IDC ***13*** *21:50:03.0±0.8, 54°.07S×6°.23E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.0/33, mbtmp4.3/8, ML3.9/1, MS4.1/36, Ms1 4.0/36, ms1mx4.0/49, Error ellipse: s-maj=30.2km s-min=20.2km az=95.0*

GCMT ***13*** *21:50:08.0±0.2, 54°.10S±0°.01×6°.70E±0°.02, h21km±1km, MW5.1/124, Moment Tensor Solution. s49,c61; s124,c176; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.81±.15; Mθθ5.11±.14; Mφφ-4.30±.12; Mrθ0.73±.22; Mrφ0.52±.10; Mθφ0.73±.25; Best double couple: Mo4.84900×10^16 NP1:φs132.00000°, δ77.00000°, λ-3.00000°. NP2:φs222.00000°, δ88.00000°, λ-167.00000°. Principal axes: T 5.2370, Plg7.0000°, Azm356.0000°; N -0.7780, Plg77.0000°, Azm233.0000°; P -4.4600, Plg11.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 13 21:50:03.8±0.7, 54°.1S±0°.1×6°.4E±0°.1, h10km, n61, σ1§53/27, mb4.5/10, MS4.1/35, 1C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.83**	**196**	P	**Pn**	**21 54 13.2**	**+1.5**
VNA2	**Neumayer--Watz**	**17.94**	**195**	P	**Pn**	**21 54 13.9**	**+1.0**
	baz=20,slow=15						
SNAA	**Sanae**	**18.07**	**189**	P	**Pn**	**21 54 15.5**	**+0.9**
SNAA	**Sanae**	**18.07**	**189**	P	**Pn**	**21 54 15.0**	**+0.4**
	0.4nm,0.3s,baz=19,slow=18,SNR=7.1						
SNAA				S	Sn	21 57 19.3	-17
	0.2nm,0.3s,baz=356,slow=19,SNR=1.0						
SNAA				LR	LR	21 59 19.3	
	comp=Z,831nm,21.6s,baz=360,slow=31						
SNAA	**Sanae**	**18.07**	**189**	P	**Pn**	**21 54 14.8**	**+0.2**
VNA3	**Neumayer Olymp**	**18.58**	**196**	P	**P**	**21 54 21.8**	**+1.2**
SYO	**Syowa Base**	**21.31**	**147**	*ePn*	**P**	**21 54 47.6**	**-2.6**
SUR	**Sutherland**	**24.04**	**31**	LR	LR	22 02 57.4	
	comp=Z,453nm,18.4s,baz=200,slow=32						
SUR	**Sutherland**	**24.04**	**31**	P	P	21 55 09.9	-9.2
SUR				IAmb	IAmb	21 55 20.8	
	comp=Z,46nm,1.4s						
BELA	**Belgrano 2**	**27.88**	**197**	P	**P**	**21 55 52.6**	**-0.6**
BOSA	**Boshof**	**28.96**	**36**	P	**P**	**21 56 05.5**	**+2.1**
	comp=Z,2.7nm,0.9s,baz=217,slow=10,SNR=2.0						
BOSA				LR	LR	22 05 23.1	
	comp=Z,453nm,20.1s,baz=202,slow=32						
MAW	**Mawson**	**29.38**	**139**	P	**P**	**21 56 08.7**	**+2.1**
	comp=Z,25nm,0.9s,baz=288,slow=9.6,SNR=2.5						
MAW				LR	LR	22 05 47.9	
	comp=Z,194nm,20.1s,baz=267,slow=32						
MAW	**Mawson**	**29.38**	**139**	P	**P**	**21 56 04.2**	**-2.4**
LBTB	**Lobatse**	**32.39**	**34**	LR	LR	22 07 16.0	
	comp=Z,341nm,20.9s,baz=197,slow=32						
PMSA	**Palmer Station**	**35.44**	**224**	LR	LR	22 06 52.0	
	comp=Z,227nm,20.1s,baz=104,slow=28						
TSUM	**Tsumeb**	**35.90**	**18**	LR	LR	22 08 39.7	
	comp=Z,566nm,21.8s,baz=193,slow=31						
QSPA	**South Pole Qui**	**36.11**	**180**	P	**P**	**21 57 06.1**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=232,slow=3.0,SNR=12						
QSPA				LR	LR	22 11 17.6	
	comp=Z,374nm,19.1s,baz=221,slow=35						
QSPA	**South Pole Qui**	**36.11**	**180**	P	**P**	**21 57 06.2**	**+0.5**
QSPA				IAmb	IAmb	21 57 23.4	
	comp=Z,14nm,1.1s						
MATP	**Matopo**	**37.62**	**35**	P	**P**	**21 57 17.8**	**-1.0**
	comp=Z,3.7nm,1.1s,baz=202,slow=12,SNR=5.0						
MATP				LR	LR	22 10 15.3	
	comp=Z,339nm,20.4s,baz=197,slow=32						
LSZ	**Lusaka**	**42.33**	**32**	LR	LR	22 13 53.9	
	comp=Z,446nm,18.2s,baz=200,slow=34						
VNDA	**Vanda**	**47.73**	**173**	P	**P**	**21 58 41.8**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=213,slow=6.8,SNR=1.9						
VNDA				LR	LR	22 16 51.8	
	comp=Z,207nm,21.7s,baz=210,slow=34						
VNDA	**Vanda**	**47.73**	**173**	P	**P**	**21 58 39.8**	**-0.3**
VNDA				IAmb	IAmb	21 58 53.6	
	comp=Z,4.8nm,1.1s						
PLCA	**Paso Flores**	**51.23**	**252**	LR	LR	22 19 13.2	
	comp=Z,48nm,20.7s,baz=151,slow=34						
LL07	**Hotel Espejo d**	**51.43**	**248**	P	**P**	**21 59 08.8**	**+0.2**
CPUP	**Villa Florida**	**53.83**	**274**	LR	LR	22 19 45.9	
	comp=Z,20nm,20.3s,baz=146,slow=33						
BO01	**Tunca**	**55.96**	**257**	P	**P**	**21 59 41.7**	**-0.3**
BO01				IAmb	IAmb	22 00 00.5	
	comp=Z,12nm,1.1s						
BDFB	**Brasilia**	**56.88**	**291**	LR	LR	22 19 48.0	
	comp=Z,160nm,18.7s,baz=323,slow=32						
MBAR	**Mbarara**	**56.99**	**29**	LR	LR	22 22 31.4	
	comp=

MAGL				*e*S	Sn	22 01 48.6	+2.5	
MDCT	**Cottage Hill,**	**3.03**	**137**	*e*P	Pn	22 01 15.1	+2.2	
MDCT				*e*S	Sn	22 01 51.0	+2.4	
MDVC	**Dominica, Viel**	**3.07**	**136**	*e*P	Pn	22 01 15.8	+2.3	
MDVC				*e*S	Sn	22 01 52.1	+2.5	
DSLB	**Salisbury**	**3.19**	**138**	*e*P	Pn	22 01 16.9	+1.8	
DSLB				*e*S	Sn	22 01 55.3	+2.7	
MDN	**Morne-Daniel**	**3.29**	**139**	*e*P	Pn	22 01 18.4	+1.8	
MDN				*e*S	Sn	22 01 57.0	+1.8	
BIM	**Bigot**	**4.11**	**143**	*e*P	Pn	22 01 29.8	+1.9	
BIM	**Bigot**	**4.11**	**143**	*e*S	Sn	22 02 17.6	+2.1	
SLBI	**Saint Lucia, B**	**4.57**	**146**	*e*P	Pn	22 01 35.9	+1.8	

DJA ***13*** *22:24:14.1±0.5, 7°S±3′×10′3E±″, h10km, M4.6/12, mb4.9/5, mB5.3/1, MLv4.4/12, Mw(mB)4.8/1*
IDC ***13*** *22:24:19.5±1.9, 6′22S×103′07E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/38, mbtmp4.0/9, ML4.4/1, Error ellipse: s-maj=55.4km s-min=18.5km az=48.0*
NEIC ***13*** *22:24:22.7±1.5, 6°53S±0′07×102°94E±0′07, h35km±7km, mb4.5/9, Error ellipse: s-maj=12.2km s-min=8.8km az=222.0*

ISC 13 22:24:18.4±3.0, 6°55S±0′08×102°95E±0′07, h10km±17km, n45, σ1°73/48, mb4.3/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KASI	**Kota Agung**	**1.85**	**57**	P		**Pb**		**22 24 52.5**	**+0.3**
KASI				S		**Sg**		**22 25 17.9**	**0.0**
LWLI	**Liwa**	**1.88**	**36**	P		**Pb**		**22 24 54.0**	**+1.1**
LWLI				S		**Sg**		**22 25 22.2**	**+3.2**
MNAI	**Manna**	**2.18**	**0**	Pn		**Pb**		**22 24 56.8**	**-1.1**
MNAI				Sn		**Sn**		**22 25 21.4**	**-0.3**
MNAI	**Manna**	**2.18**	**0**	P		**Pb**		**22 24 56.9**	**-0.9**
KLI	**Kotabumi**	**2.54**	**49**	P		**Pb**		**22 25 03.8**	**-0.2**
KLI				S		**Sg**		**22 25 38.8**	**-1.1**
KLSI		**2.56**	**44**	P		**Pb**		**22 25 03.7**	**-0.7**
BLSI	**Bandar Lampung**	**2.57**	**63**	P		**Pn**		**22 24 59.2**	**-0.9**
CGJI	**Cibinong**	**2.73**	**91**	P		**Pn**		**22 25 01.0**	**-1.2**
CGJI				S		**Sn**		**22 25 32.8**	**-2.5**
DBJI	**Dramaga**	**3.78**	**90**	P		**Pn**		**22 25 16.0**	**-0.7**
DBJI				S		**Sn**		**22 26 01.0**	**-0.3**
CBJI	**Citeko**	**3.88**	**88**	P		**Pn**		**22 25 19.1**	**+1.0**
CNJI	**Cibinong**	**4.22**	**101**	P		**Pn**		**22 25 20.2**	**-2.6**
LEM	**Lembang**	**4.65**	**94**	Pn		**Pn**		**22 25 29.9**	**+1.2**
	20nm,0.3s,baz=311,slow=9.3,SNR=9.3								
LEM				Sn		**Sn**		**22 26 23.1**	**+0.2**
	6.0nm,0.3s,baz=287,slow=21,SNR=1.3								
PPSI	**Pulau Pagai**	**4.77**	**322**	P		**Pn**		**22 25 28.6**	**-1.7**
	0.4nm107nm,0.9s								
CMJI	**Cimerak**	**5.59**	**103**	P		**Pn**		**22 25 37.9**	**-3.8**
	0.7nm3µm108nm,0.4s								
UGM	**Wanagama**	**7.64**	**101**	Pn		**Pn**		**22 26 07.4**	**-2.3**
UGM	**Wanagama**	**7.64**	**101**	P		**Pn**		**22 26 07.5**	**-2.3**
	0.6nm76nm,0.8s								
PCJI	**Pacitan**	**8.32**	**102**	P		**Pn**		**22 26 15.4**	**-3.8**
	39nm,0.9s								
PWJI	**Pagerwojo**	**8.91**	**100**	P		**Pn**		**22 26 23.6**	**-3.6**
GSI	**Gunungsitoli**	**9.47**	**325**	Pn		**Pn**		**22 26 35.1**	**+0.2**
MYLDM	**Lahad Datu**	**19.41**	**53**	P		**Pn**		**22 28 46.2**	**+0.2**
MYLDM				IAmb		IAmb		22 29 01.3	
	comp=Z,16nm,0.8s								
LUWI	**Luwuk**	**20.52**	**75**	P		Pn		22 28 58.6	-0.5
CM31	**Chiang Mai Arr**	**25.16**	**351**	P		**P**		**22 29 43.5**	**-0.4**
CM31				IAmb		IAmb		22 29 47.4	
	comp=Z,12nm,0.9s								
CMAR	**Chiang Mai Arr**	**25.16**	**351**	P		**P**		**22 29 45.2**	**+1.3**
	comp=Z,3.0nm,0.4s,baz=182,slow=8.4,SNR=28								
CMAR	**Chiang Mai Arr**	**25.16**	**351**	P		**P**		**22 29 43.1**	**-0.9**
H01W3	**Cape Leeuwin H**	**30.02**	**161**	T		T		23 01 35.7	
	baz=336								
H01W2	**Cape Leeuwin H**	**30.04**	**161**	T		T		23 01 36.9	
	baz=336								
H01W1	**Cape Leeuwin H**	**30.04**	**161**	T		T		23 01 35.7	
	baz=336								
WRA	**Warramunga Arr**	**33.25**	**117**	P		**P**		**22 30 59.5**	**+3.5**
	comp=Z,0.6nm,0.6s,baz=285,slow=12,SNR=3.3								
ASAR	**Alice Springs**	**34.27**	**123**	P		**P**		**22 31 08.8**	**+3.9**
	comp=Z,0.5nm,0.5s,baz=298,slow=7.9,SNR=9.0								
ASAR	**Alice Springs**	**34.27**	**123**	P		**P**		**22 31 06.6**	**+1.7**
TOO	**Toolangi**	**49.42**	**135**	P		**P**		**22 33 09.9**	**+1.3**
TOO				IAmb		IAmb		22 33 21.4	
	comp=Z,19nm,1.5s								
KSRS	**Korea Array**	**49.60**	**26**	P		**P**		**22 33 09.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=219,slow=7.7,SNR=3.3								
KDJ	**Kajisay**	**53.85**	**336**	P		**P**		**22 33 41.8**	**-0.1**
SONM	**Songino Array**	**54.24**	**3**	P		**P**		**22 33 45.5**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=181,slow=9.0,SNR=31								
SONM	**Songino Array**	**54.24**	**3**	P		**P**		**22 33 45.3**	**+0.9**
SONM				IAmb		IAmb		22 33 46.4	
	comp=Z,2.9nm,0.8s								
ULN	**Ulaanbaatar**	**54.30**	**3**	P		**P**		**22 33 44.5**	**-0.4**
ULN				IAmb		IAmb		22 33 47.1	
	comp=Z,3.9nm,1.2s								
MK31	**Makanchi Array**	**56.19**	**343**	P		**P**		**22 33 58.4**	**0.0**
MKAR	**Makanchi Array**	**56.19**	**343**	P		**P**		**22 33 58.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=147,slow=9.3,SNR=7.9								
MKAR	**Makanchi Array**	**56.19**	**343**	P		**P**		**22 33 58.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**56.91**	**25**	P		**P**		**22 34 03.2**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=202,slow=7.5,SNR=9.3								
ZALV	**Zalesovo Beam**	**62.18**	**348**	P		**P**		**22 34 39.5**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=160,slow=4.7,SNR=5.9								
ZALV	**Zalesovo Beam**	**62.18**	**348**	P		**P**		**22 34 39.2**	**-0.5**
MLZ	**Mavora Lakes**	**68.01**	**136**	P		**P**		**22 35 18.4**	**+0.4**
TXAR	**Lajitas Array**	**146.19**	**45**	PKPbc		**PKPbc**		**22 43 59.7**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=333,slow=1.7,SNR=3.8								
TXAR	**Lajitas Array**	**146.19**	**45**			**PKPdf**		**22 43 56.3**	**-2.5**

OSPL ***13*** *22:25:26.7±3.1, 18°30N×73°59W, h0km±12km, ML3.2*
SSNC ***13*** *22:25:26.4±1.8, 18°36N×73°48W, h10km±61km, MD3.3, ML3.2, MW3.4*

ISC 13 22:25:25.8±1.5, 18°36N±0′07×73°55W±0′03, h4km±12km, n15, σ1°68/30, Haiti region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LGNH	**Logne**	**0.91**	**80**	*i* P		**Pg**		**22 25 43.0**	**-0.3**
LGNH				*e*S		**Sg**		**22 25 55.2**	**+0.1**
LGNH				IAML				22 26 00.1	
	comp=Z,231nm,0.5s								
JAKH	**Jacmel**	**0.99**	**97**	*i* P		**Pg**		**22 25 44.1**	**-0.7**
JAKH				*e*S		**Sg**		**22 25 57.9**	**+0.3**
JAKH				IAML				22 26 05.2	
	comp=Z,303nm,0.4s								
PAPH	**Port-au-Prince**	**1.20**	**82**	*i* P		**Pg**		**22 25 47.8**	**-1.0**
PAPH				*e*S		**Sn**		**22 26 06.8**	**+0.6**
PAPH				IAML				22 26 13.4	
	comp=Z,466nm,0.3s								
LOPE2	**Hotel El Peder**	**1.75**	**101**	*i* P		**Pn**		**22 25 56.5**	**-0.5**
LOPE2				*e*S		**Sn**		**22 26 19.2**	**-0.5**
LOPE2				IAML				22 26 23.8	
	comp=Z,280nm,0.4s								
MASC	**Masc**	**1.92**	**341**	*e*P		**Pn**		**22 25 58.1**	**-1.1**
MASC				*e*S		**Sn**		**22 26 20.8**	**-3.1**
MASC				IAML				22 26 26.4	
	comp=N,50nm,0.1s								
MASC				IAML				22 26 28.0	
	comp=E,101nm,0.2s								
LONE2	**Loma La Sidra**	**1.98**	**84**	*i* P		**Pn**		**22 26 00.5**	**+0.2**
LONE2				*e*S		**Sb**		**22 26 27.1**	**-0.6**
LONE2				IAML				22 26 31.7	
	comp=Z,357nm,0.4s								
LODA1	**ITESIL, Dajabo**	**2.11**	**56**	*i* P		**Pn**		**22 26 02.0**	**+0.1**
LODA1				*e*S		**Sn**		**22 26 26.6**	**-2.0**
LODA1				IAML				22 26 28.7	
	comp=Z,2µm,6.1s								
GTBY	**Guantanamo Bay**	**2.15**	**317**	*e*P		**Pn**		**22 26 02.7**	**+0.3**
GTBY				*e*S		**Sn**		**22 26 28.4**	**-1.1**
GTBY	**Guantanamo Bay**	**2.15**	**317**	*i* P		**Pn**		**22 26 01.9**	**-0.5**
GTBY				*e*S		**Sn**		**22 26 28.8**	**-0.7**
GTBY				IAML				22 26 40.2	
	comp=Z,141nm,1.3s								
SDDR	**Presa de Saban**	**2.23**	**74**	*i* P		**Pn**		**22 26 03.4**	**-0.3**
SDDR				*e*S		**Sn**		**22 26 33.7**	**+1.9**
SDDR				IAML				22 26 47.7	
	comp=Z,115nm,0.9s								
RCC	**Rio Carpintero**	**2.60**	**309**	*e*P		**Pn**		**22 26 06.9**	**-1.8**
RCC				*e*S		**Sn**		**22 26 38.0**	**-2.7**
RCC				IAML				22 26 46.6	
	comp=N,74nm,0.2s								
RCC				IAML				22 26 47.7	
	comp=E,113nm,0.4s								

MOAC	**Moa**	**2.65**	**330**	*e*P		**Pn**		**22 26 10.1**	**+0.8**
MOAC				*e*S		**Sn**		**22 26 43.2**	**+1.3**
MOAC				IAML				22 26 46.8	
	comp=N,51nm,0.2s								
MOAC				IAML				22 26 49.0	
	comp=E,49nm,0.4s								
HLGC	**Holguin**	**3.45**	**317**	*e*P		**Pb**		**22 26 28.3**	**+0.7**
HLGC				*e*S		**Sb**		**22 27 14.9**	**+4.9**
HLGC				IAML				22 27 17.4	
	comp=N,21nm,0.5s								
HLGC				IAML				22 27 25.7	
	comp=E,28nm,0.5s								
LMGC	**Las Mercedes**	**3.68**	**298**	*e*P		**Pn**		**22 26 22.6**	**-0.9**
LMGC				*e*S		**Sn**		**22 27 04.0**	**-3.4**
LMGC				IAML				22 27 05.7	
	comp=E,19nm,0.1s								
LMGC				IAML				22 27 08.1	
	comp=N,30nm,0.1s								
MTDJ	**Mount Denham**	**3.79**	**269**	*e*P		**Pn**		**22 26 25.1**	**-0.1**
MTDJ				*e*S		**Sn**		**22 27 11.2**	**+0.9**

MDD ***13*** *22:32:53.8±0.4, 35°67N×3°63W, h0km, mb_Lg2.2/12, Error ellipse: s-maj=3.2km s-min=2.5km az=3.0*
CNRM ***13*** *22:32:54.0, 35°71N×3°54W, h21km, ml2.6*
SFS ***13*** *22:32:54.0, 35°68N×3°59W, ML2.5, ALBORAN SUR*

ISC 13 22:32:53.3±1.2, 35°70N±0′02×3°59W±0′02, h10km±10km, n36, σ0°95/66, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
EALB	**Alboran**	**0.51**	**62**	Pg		**Pb**		**22 33 05.1**	**+0.8**
EALB				Sg		**Sb**		**22 33 12.7**	**+0.9**
EALB				*i* Vmb_Lg				22 33 14.7	
PALE	**Palemas**	**0.56**	**211**	P		**Pb**		**22 33 05.0**	**-0.3**
PALE				S		**Sb**		**22 33 14.0**	**+0.6**
PALE	**Palemas**	**0.56**	**211**	P		**Pb**		**22 33 05.2**	**-0.3**
PALE				S		**Sb**		**22 33 14.3**	**+0.9**
EMEL	**Melilla**	**0.66**	**128**	Pg		**Pb**		**22 33 06.4**	**-0.4**
EMEL				Sg		**Sg**		**22 33 14.6**	**+0.1**
GOG	**Mont Gurugu**	**0.68**	**135**	P		**Pb**		**22 33 07.0**	**-0.4**
GOG	**Mont Gurugu**	**0.68**	**135**	P		**Pg**		**22 33 06.5**	**0.0**
GOG				S		**Sb**		**22 33 16.6**	**-0.3**
ELGU	**Los Guajares,**	**1.16**	**359**	Pg		**Pb**		**22 33 14.7**	**-0.9**
ELGU				Sg		**Sn**		**22 33 31.9**	**+0.2**
ELGU				*i* Vmb_Lg				22 33 34.3	
EMAL	**Malaga-Limoner**	**1.25**	**327**	S		**Sb**		**22 33 31.5**	**-1.8**
EMIJ	**Mijas**	**1.29**	**312**	Pg		**Pn**		**22 33 16.1**	**-1.3**
EMIJ				*i* Vmb_Lg				22 33 33.4	
EMIJ				Sg		**Sb**		**22 33 33.9**	**-0.4**
TAF	**Taforalt**	**1.31**	**132**	P		**Pn**		**22 33 17.0**	**-0.7**
TAF	**Taforalt**	**1.31**	**132**	P		**Pn**		**22 33 16.6**	**-1.2**
TAF				S		**Sb**		**22 33 33.7**	**-1.2**
EBER	**Berja**	**1.32**	**25**	Pg		**Pn**		**22 33 17.0**	**-0.9**
EBER				Sg		**Sb**		**22 33 35.4**	**+0.1**
EBER				*i* Vmb_Lg				22 33 47.9	
SMIR	**Smir Dam**	**1.46**	**270**	P		**Pn**		**22 33 18.0**	**-1.7**
SMIR	**Smir Dam**	**1.46**	**270**	P		**Pn**		**22 33 19.3**	**-0.4**
SMIR				S		**Sg**		**22 33 40.7**	**+0.5**
EGOR	**Sierra Gorda,**	**1.47**	**343**	Pn		**Pn**		**22 33 20.3**	**+0.3**
EGOR				Sn		**Sg**		**22 33 40.1**	**-0.3**
EGOR				*i* Vmb_Lg				22 33 45.6	
EQUE	**Quentar**	**1.50**	**5**	Pn		**Pb**		**22 33 21.4**	**0.0**
EQUE				Sn		**Sb**		**22 33 40.7**	**+0.2**
EQUE				*i* Vmb_Lg				22 33 45.3	
CHEFC	**Chefchaouen**	**1.55**	**248**	P		**Pn**		**22 33 21.1**	**0.0**
CHEFC				S		**Sb**		**22 33 41.7**	**-0.1**
JBK	**JBK**	**1.60**	**148**	P		**Pn**		**22 33 21.0**	**-0.9**
JBK	**JBK**	**1.60**	**148**	P		**Pn**		**22 33 21.0**	**-0.9**
JBK				S		**Sn**		**22 33 40.2**	**-2.5**
EJIF	**Jimena Fronter**	**1.70**	**297**	Pn		**Pn**		**22 33 23.3**	**+0.3**
EJIF				Sn		**Sn**		**22 33 46.6**	**-0.1**
EQES	**Quesada**	**2.14**	**11**	Pn		**Pn**		**22 33 30.4**	**+1.3**
EQES				Sn		**Sb**		**22 33 58.2**	**-0.6**
EQES				*i* Vmb_Lg				22 34 00.7	
ESPR	**Espera**	**2.17**	**303**	Sn		**Sn**		**22 33 56.8**	**+0.4**
ESPR				*i* Vmb_Lg				22 33 58.9	
LCRM	**LCR**	**2.27**	**208**	P		**Pn**		**22 33 31.9**	**+0.9**
LCRM				S		**Sb**		**22 34 03.1**	**+0.5**
IFR	**Ifrane**	**2.52**	**211**	P		**Pn**		**22 33 34.3**	**-0.2**
IFR				S		**Sn**		**22 34 04.0**	**-1.4**
EADA	**Adamuz**	**2.58**	**342**	Pn		**Pn**		**22 33 36.0**	**+0.8**
EADA				Sn		**Sn**		**22 34 07.7**	**+1.0**
EADA				*i* Vmb_Lg				22 34 12.1	
ECAB	**El Cabril**	**2.78**	**329**	Pn		**Pn**		**22 33 38.3**	**+0.3**
ECAB				Sn		**Sn**		**22 34 12.2**	**+0.5**
ECAB				*i* Vmb_Lg				22 34 22.6	
TDRA	**Tendrara**	**2.95**	**154**	P		**Pn**		**22 33 42.0**	**+1.5**
TDRA				S		**Sn**		**22 34 15.5**	**-0.6**
MD31	**MD31**	**2.99**	**199**	P		**Pn**		**22 33 42.2**	**+1.4**
MD31				S		**Sn**		**22 34 18.2**	**+1.4**
MDT	**Midelt**	**3.00**	**197**	P		**Pn**		**22 33 42.2**	**+1.2**
MDT				S		**Sn**		**22 34 18.5**	**+1.3**
EMIN	**Mina Concepcio**	**3.22**	**311**	Pn		**Pn**		**22 33 44.1**	**+0.2**
EMIN				Sn		**Sn**		**22 34 21.3**	**-1.1**
ETOB	**Tobarra**	**3.36**	**28**	Pn		**Pn**		**22 33 47.4**	**+1.5**
ETOB				Sn		**Sn**		**22 34 26.4**	**+0.5**
ZHG	**ZHG**	**3.38**	**229**	P		**Pn**		**22 33 46.5**	**+0.3**
ZHG				S		**Sn**		**22 34 27.8**	**+1.4**
EGRO	**El Granado**	**3.63**	**301**	Pn		**Pn**		**22 33 49.7**	**+0.2**
EGRO				Sn		**Sn**		**22 34 30.8**	**-1.6**
PVAQ	**Vaqueiros**	**3.73**	**298**	P		**Pn**		**22 33 51.0**	**+0.1**
PVAQ				S		**Sn**		**22 34 36.1**	**+1.1**
PAB	**San Pablo**	**3.88**	**351**	Pn		**Pn**		**22 33 54.5**	**+1.3**
PAB				Sn		**Sn**		**22 34 38.3**	**-0.5**
EBAD	**Badajoz**	**4.09**	**319**	Pn		**Pn**		**22 33 56.0**	**+0.1**
EBAD				Sn		**Sn**		**22 34 42.4**	**-1.5**

IDC ***13*** *22:36:18.9±3.8, 14°56N×93°02W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/45, mbtmp3.7/8, ML3.4/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/71, Error ellipse: s-maj=117.4km s-min=47.6km az=35.0*
MEX ***13*** *22:36:20.8±0.9, 14°33N×93°84W, h10km±22km, MD4.1*

ISC 13 22:36:19.1±2.9, 14°53N±0′07×93°77W±0′05, h1km±16km, n25, σ2°45/34, mb3.9/7, MS3.4/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PCIG		**1.28**	**24**	*e*P		**Pb**		**22 36 44.0**	**-0.1**
PCIG				*i* S		**Sg**		**22 37 01.9**	**+1.6**
THIG		**1.50**	**75**	*e*P		**Pn**		**22 36 46.4**	**-0.8**
THIG				*e*S		**Sb**		**22 37 05.9**	**-1.5**
PATR	**El Naranjo**	**1.59**	**68**	*e*P		**Pn**		**22 36 47.6**	**-1.2**
PATR				*i* S		**Sg**		**22 37 09.2**	**-1.9**
PAVE	**Pavencul**	**1.67**	**67**	*e*P		**Pn**		**22 36 49.0**	**-0.9**
PAVE				*e*S		**Sb**		**22 37 10.7**	**-2.0**
CARR	**Arriaga**	**1.71**	**355**	*e*P		**Pn**		**22 36 50.4**	**+0.3**
CARR				*e*S		**Sn**		**22 37 12.2**	**-0.5**
TGIG		**2.32**	**16**	*e*P		**Pb**		**22 37 00.3**	**-1.5**
TGIG				*e*S		**Sb**		**22 37 29.4**	**-1.7**
TGBT	**Tuxtla Gutierr**	**2.33**	**16**	*e*P		**Pn**		**22 36 55.4**	**-3.1**
TGBT				*i* S		**Sb**		**22 37 29.8**	**-1.3**
CCIG	**Comitan**	**2.34**	**42**	*e*P		**Pb**		**22 37 01.8**	**-0.6**
CCIG				*i* S		**Sb**		**22 37 30.0**	**-2.0**
HUIG	**Huatulco**	**2.57**	**299**	*e*P		**Pn**		**22 36 59.9**	**-2.1**
HUIG				*e*S		**Sn**		**22 37 25.2**	**-8.7**
CMIG	**Matias Romero**	**2.76**	**337**	*e*P		**Pn**		**22 37 05.0**	**+0.4**
CMIG				*i* S		**Sn**		**22 37 36.0**	**-2.6**
UXUV	**UXUV**	**2.79**	**353**	*e*P		**Pn**		**22 37 05.5**	**+0.5**
UXUV				*e*S		**Sb**		**22 37 42.0**	**-2.6**
NEUV	**Arroyo Zacate**	**3.72**	**329**	*e*P		**Pn**		**22 37 17.6**	**-0.1**
NEUV				*i* S		**Sn**		**22 38 01.1**	**-1.0**
TXAR	**Lajitas Array**	**17.34**	**330**	P		**P**		**22 40 27.5**	**+3.4**
	0.0nm,0.3s,baz=148,slow=12,SNR=3.2								
TKL	**Tuckaleechee C**	**22.87**	**21**	LR		LR		22 50 45.4	
	comp=Z,70nm,19.0s,baz=126,slow=38								
ANMO	**Albuquerque**	**23.32**	**333**	P		**P**		**22 41 32.4**	**+3.3**
	0.4nm,0.6s,baz=153,slow=9.9,SNR=1.5								
PDAR	**Pinedale Array**	**31.25**	**337**	P		**P**		**22 42 43.9**	**+3.2**
	0.5nm,0.3s,baz=138,slow=8.4,SNR=2.8								
NVAR	**Mina Array Bea**	**32.19**	**322**	P		**P**		**22 42 52.4**	**+3.3**
	0.3nm,0.3s,baz=129,slow=7.1,SNR=2.3								
SADO	**Sadowa**	**32.60**	**20**	LR		LR		22 57 44.8	
	comp=Z,67nm,18.0s,baz=196,slow=40								
SCHQ	**Schefferville**	**45.34**	**22**	LR		LR		23 04 30.0	
	comp=Z,56nm,19.6s,baz=145,slow=38								
YKA	**Yellowknife Ar**	**50.13**	**348**	P		**P**		**22 45 16.5**	**+0.7**
	1.4nm,0.6s,baz=154,slow=7.3,SNR=24								
INK	**Inuvik**	**59.45**	**344**	P		**P**		**22 46 24.1**	**+0.8**
	1.6nm,0.3s,baz=198,slow=6.4,SNR=4.7								

ILAR	**Eielson Array**	**61.68**	**337**	P		**P**		**22 46 39.6**	**+1.0**
	0.4nm,0.8s,baz=161,slow=5.2,SNR=7.0								
NB2	**NORSAR Subarra**	**84.49**	**28**	P		**P**		**22 48 54.8**	**+1.1**
	comp=Z,7.7nm,1.1s,baz=292,slow=4.8								
NOA	**NORSAR Array B**	**84.49**	**28**	P		**P**		**22 48 51.8**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=289,slow=5.1,SNR=4.3								
CMAR	**Chiang Mai Arr**	**144.91**	**339**	PKPbc		**PKPdf**		**22 55 58.6**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=352,slow=1.8,SNR=4.8								

ISK ***13*** *22:44:03.8, 35°34N×23°64E, h2km, ML2.9/5*
THE ***13*** *22:44:04.9, 35°38N×23°61E, h14km±1km, ML2.4/6, Error ellipse: s-maj=1.3km s-min=0.4km az=47.0*
ATH ***13*** *22:44:04.3, 35°37N×23°58E, h13km±2km, ML2.4/4, Error ellipse: s-maj=3.1km s-min=0.8km az=54.0*

ISC 13 22:44:04.6±1.0, 35°37N±0′03×23°61E±0′03, h13km±8km, n28, σ0°64/48, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RODP	**Rodopos**	**0.22**	**33**	P		**Pb**		**22 44 10.1**	**-0.5**
RODP				S		**Sb**		**22 44 13.6**	**-0.9**
RODP	**Rodopos**	**0.22**	**33**	PG		**Pg**		**22 44 09.6**	**+0.2**
RODP				SG		**Sb**		**22 44 13.8**	**-0.7**
IMMV	**Iera Moni Meta**	**0.32**	**74**	P		**Pg**		**22 44 11.4**	**+0.3**
IMMV				S		**Sb**		**22 44 16.6**	**-0.6**
IMMV				AML	AML			22 44 17.6	
	comp=N,1988µm,0.3s								
IMMV				AML	AML			22 44 17.8	
	comp=E,1914µm,0.3s								
IMMV	**Iera Moni Meta**	**0.32**	**74**	P		**Pg**		**22 44 11.3**	**+0.3**
IMMV				S		**Sb**		**22 44 16.4**	**-0.8**
	comp=E,1µm,0.3s								
IMMV	**Iera Moni Meta**	**0.32**	**74**	PG		**Pg**		**22 44 10.7**	**-0.4**
IMMV				SG		**Sg**		**22 44 15.9**	**+0.5**
VAM	**Vamos**	**0.48**	**86**	P		**Pg**		**22 44 14.1**	**-0.1**
VAM				S		**Sb**		**22 44 21.1**	**-0.9**
VAM	**Vamos**	**0.48**	**86**	P		**Pg**		**22 44 14.0**	**-0.1**
VAM				S		**Sb**		**22 44 22.0**	**0.0**
	comp=E,960nm,0.3s								
ANKY	**Antikythira Is**	**0.55**	**333**	P		**Pg**		**22 44 15.2**	**-0.3**
ANKY				S		**Sg**		**22 44 21.8**	**-1.0**
ANKY	**Antikythira Is**	**0.55**	**333**	P		**Pg**		**22 44 15.5**	**+0.1**
ANKY				S		**Sg**		**22 44 23.2**	**+0.4**
GVD	**Gavdhos**	**0.66**	**143**	P		**Pg**		**22 44 17.3**	**-0.1**
GVD				S		**Sb**		**22 44 26.9**	**-0.1**
GVD				AML	AML			22 44 32.0	
	comp=E,1525µm,0.3s								
GVD				AML	AML			22 44 38.9	
	comp=N,1094µm,0.4s								
GVD	**Gavdhos**	**0.66**	**143**	P		**Pb**		**22 44 17.6**	**-0.4**
GVD				S		**Sb**		**22 44 27.6**	**+0.5**
	comp=N,658nm,0.3s								
GVD	**Gavdhos**	**0.66**	**143**	PG		**Pg**		**22 44 16.7**	**-0.7**
GVD				SG		**Sg**		**22 44 25.9**	**-0.3**
PRNS	**Prines Rethymn**	**0.73**	**90**	P		**Pg**		**22 44 18.1**	**-0.6**
PRNS				S		**Sg**		**22 44 27.5**	**-0.8**
KTHA	**Kythira Island**	**0.99**	**333**	P		**Pb**		**22 44 23.0**	**-0.5**
KTHA				S		**Sb**		**22 44 36.3**	**-0.2**
KTHA				AML	AML			22 44 39.0	
	comp=E,478µm,0.3s								
KTHA				AML	AML			22 44 39.5	
	comp=N,280µm,0.3s								
KTHA	**Kythira Island**	**0.99**	**333**	P		**Pb**		**22

EVO	**Evora**	**4.16**	**62**	*e*Pn		**Pn**	**22 48 54.8**	**+2.5**
EVO				*e*Sn		**Sn**	**22 49 38.8**	**-2.2**
EVO				A		A	22 49 45.0	
	comp=N,25nm,0.1s							
PSBE	**So Bento**	**4.19**	**46**	*e*Pn		**Pn**	**22 48 55.7**	**+3.0**
PSBE				*e*Sn		**Sn**	**22 49 40.5**	**-1.2**
PSBE				A		A	22 49 46.9	
	comp=N,13nm,0.4s							
EGRO	**El Granado**	**4.26**	**77**	P		**Pn**	**22 48 56.7**	**+3.1**
EGRO				⇑*i*Vmb_V			22 48 59.3	
	comp=N,260nm,SNR=3.7							
EGRO				S		**Sn**	**22 49 42.8**	**-0.6**
PMTG	**Montargil**	**4.28**	**55**	*e*Pn		**Pn**	**22 48 56.1**	**+2.3**
PMTG				*e*Sn		**Sn**	**22 49 41.8**	**-2.0**
PMTG				A		A	22 49 43.2	
	comp=N,14nm,0.2s							
PESTR	**Estremoz**	**4.61**	**60**	*e*Pn		**Pn**	**22 49 00.6**	**+2.2**
PESTR				*e*Sn		**Sn**	**22 49 49.0**	**-3.0**
PESTR				A		A	22 49 54.1	
	comp=N,7.3nm,0.3s							
PCAS	**Casmilo, Conde**	**4.72**	**43**	*e*Pn		**Pn**	**22 49 02.8**	**+2.8**
PCAS				*e*Sn		**Sn**	**22 49 52.5**	**-2.3**
PCAS				A		A	22 49 58.5	
	comp=N,9.5nm,0.2s							
PBAR	**Barrancos**	**4.75**	**70**	*e*Pn		**Pn**	**22 49 03.1**	**+2.7**
PBAR				*e*Sn		**Sn**	**22 49 53.6**	**-1.9**
PBAR				A		A	22 49 59.0	
	comp=N,4.4nm,0.3s							
COI	**Coimbra**	**4.88**	**42**	*e*Sn		**Sn**	**22 49 56.6**	**-2.0**
EMIN	**Mina Concepcio**	**4.94**	**75**	P		**Pn**	**22 49 05.0**	**+2.1**
EMIN				⇑*i*Vmb_V			22 49 06.2	
	comp=N,139nm,SNR=3.0							
EMIN				S		**Sn**	**22 49 59.0**	**-1.1**
EBAD	**Badajoz**	**4.97**	**64**	P		**Pn**	**22 49 05.6**	**+2.2**
EBAD				⇑*i*Vmb_V			22 49 06.8	
	comp=N,266nm,SNR=5.9							
EBAD				S		**Sn**	**22 49 59.5**	**-1.4**
PMRV	**Marv??o**	**5.02**	**55**	*e*Pn		**Pn**	**22 49 06.4**	**+2.4**
PMRV				*e*Sn		**Sn**	**22 49 58.9**	**-3.1**
PMRV				A		A	22 50 01.8	
	comp=N,10nm,0.2s							
PCBR	**Castelo Branco**	**5.19**	**51**	*e*Pn		**Pn**	**22 49 09.1**	**+2.8**
PCBR				*e*Sn		**Sn**	**22 50 03.6**	**-2.7**
PCBR				A		A	22 50 09.4	
	comp=N,4.4nm,0.2s							
PMAR	**Madeira**	**5.25**	**223**	P		**Pn**	**22 49 07.8**	**+0.5**
PMAR				S		**Sn**	**22 50 06.6**	**-1.4**
PMOZ	**Porto Moniz, M**	**5.33**	**225**	P		**Pn**	**22 49 09.0**	**+0.6**
PMOZ				S		**Sn**	**22 50 07.2**	**-2.7**
AVE	**Averroes**	**5.50**	**126**	P		**Pn**	**22 49 08.1**	**-2.5**
AVE				S		**Sn**	**22 50 09.0**	**-4.8**
MTE	**Manteigas**	**5.50**	**46**	*e*Pn		**Pn**	**22 49 13.4**	**+2.8**
MTE				*e*Sn		**Sn**	**22 50 12.0**	**-2.0**
MTE				A		A	22 50 14.4	
	comp=N,12nm,0.3s							
ESPR	**Espera**	**5.50**	**86**	P		**Pn**	**22 49 12.8**	**+2.2**
ESPR				⇑*i*Vmb_V			22 49 14.5	
	comp=N,511nm,SNR=10							
ESPR				S		**Sn**	**22 50 13.6**	**-0.4**
PVIS	**Viseu**	**5.52**	**42**	*e*Pn		**Pn**	**22 49 13.8**	**+2.9**
PVIS				*e*Sn		**Sn**	**22 50 11.2**	**-3.3**
PVIS				A		A	22 50 15.4	
	comp=N,13nm,0.1s							
EAH	**EAH**	**5.64**	**152**	P		**Pn**	**22 49 11.8**	**-0.8**
EAH				S		**Sn**	**22 50 12.7**	**-4.7**
EJIF	**Jimena Fronter**	**5.83**	**90**	P		**Pn**	**22 49 18.8**	**+3.7**
ZHG	**ZHG**	**5.92**	**121**	P		**Pn**	**22 49 18.2**	**+1.7**
ZHG				S		**Sn**	**22 50 21.7**	**-2.8**
ECAB	**El Cabril**	**5.97**	**74**	P		**Pn**	**22 49 19.6**	**+2.5**
ECAB				⇑*i*Vmb_V			22 49 22.4	
	comp=N,149nm,SNR=2.8							
ECAB				S		**Sn**	**22 50 26.1**	**+0.5**
SMIR	**Smir Dam**	**6.01**	**97**	P		**Pn**	**22 49 20.1**	**+2.5**
SMIR				S		**Sn**	**22 50 25.7**	**-0.8**
PVRL	**Vila Real**	**6.02**	**39**	*e*Pn		**Pn**	**22 49 20.1**	**+2.3**
PVRL				*e*Sn		**Sn**	**22 50 21.9**	**-4.9**
PVRL				A		A	22 50 26.1	
	comp=N,11nm,0.3s							
POLO	**Lamas de Olo**	**6.05**	**38**	*e*Pn		**Pn**	**22 49 20.4**	**+2.1**
POLO				*e*Sn		**Sn**	**22 50 22.8**	**-4.9**
POLO				A		A	22 50 28.5	
	comp=N,5.0nm,0.4s							
CHEFC	**Chefchaouen**	**6.18**	**102**	P		**Pn**	**22 49 23.8**	**+3.7**
CHEFC				S		**Sn**	**22 50 30.3**	**-0.6**
PCAB	**Cabril**	**6.21**	**34**	*e*Pn		**Pn**	**22 49 24.1**	**+3.8**
PCAB				*e*Sn		**Sn**	**22 50 27.2**	**-4.1**
PCAB				A		A	22 50 30.1	
	comp=N,12nm,0.5s							
EPLA	**Plasencia**	**6.21**	**55**	⇑*i*Vmb_V			22 49 23.4	
	comp=N,163nm,SNR=2.5							
EPLA				S		**Sn**	**22 50 29.7**	**-1.8**
EZAM	**Zamans**	**6.29**	**28**	P		**Pn**	**22 49 23.5**	**+2.1**
EZAM				S		**Sn**	**22 50 28.7**	**-4.7**
MVO	**Moncorvo**	**6.30**	**43**	*e*Pn		**Pn**	**22 49 23.9**	**+2.2**
MVO				*e*Sn		**Sn**	**22 50 29.4**	**-4.4**
MVO				A		A	22 50 33.3	
	comp=N,7.1nm,0.1s							
PGAV	**Gavieira, Arco**	**6.30**	**32**	*e*Pn		**Pn**	**22 49 25.2**	**+3.4**
PGAV				*e*Sn		**Sn**	**22 50 30.1**	**-3.8**
PGAV				A		A	22 50 34.4	
	comp=N,6.8nm,0.2s							
ELOB	**Lobios**	**6.32**	**33**	P		**Pn**	**22 49 24.1**	**+2.2**
ELOB				⇑*i*Vmb_V			22 49 26.3	
	comp=N,37nm,SNR=1.1							
ELOB				S		**Sn**	**22 50 30.2**	**-3.9**
EMIJ	**Mijas**	**6.38**	**89**	P		**Pn**	**22 49 25.1**	**+2.3**
EMIJ				⇑*i*Vmb_V			22 49 27.3	
	comp=N,31nm,SNR=1.7							
EADA	**Adamuz**	**6.64**	**75**	P		**Pn**	**22 49 28.5**	**+2.2**
EADA				⇑*i*Vmb_V			22 49 30.9	
	comp=N,146nm,SNR=12							
EADA				S		**Sn**	**22 50 40.7**	**-1.4**
OUK	**Oukaimeden**	**6.77**	**142**	P		**Pn**	**22 49 30.3**	**+1.8**
OUK	**Oukaimeden**	**6.77**	**142**	P		**Pn**	**22 49 30.3**	**+1.8**
OUK				S		**Sn**	**22 50 42.0**	**-3.8**
EMAZ	**Mazaricos**	**6.89**	**23**	P		**Pn**	**22 49 32.1**	**+2.4**
EMAZ				⇑*i*Vmb_V			22 49 33.7	
	comp=N,149nm,SNR=2.0							
EMAZ				S		**Sn**	**22 50 43.5**	**-4.7**
EGOR	**Sierra Gorda,**	**6.90**	**84**	P		**Pn**	**22 49 32.1**	**+2.1**
EGOR				⇑*i*Vmb_V			22 49 37.8	
	comp=N,20nm,SNR=1.8							
EGOR				S		**Sn**	**22 50 45.4**	**-3.4**
PBRG	**Braganca**	**6.91**	**40**	*e*Pn		**Pn**	**22 49 32.2**	**+2.2**
PBRG				*e*Sn		**Sn**	**22 50 43.9**	**-4.7**
PBRG				A		A	22 50 46.6	
	comp=N,4.9nm,0.2s							
TTIG	**Tnine Tigouga,**	**7.07**	**149**	P		**Pn**	**22 49 31.2**	**-1.1**
TTIG				S		Sn	22 50 44.2	-8.7
EAGO	**Agolada(Pontev**	**7.08**	**29**	P		**Pn**	**22 49 34.2**	**+1.9**
EAGO				⇑*i*Vmb_V			22 49 35.6	
	comp=N,82nm,SNR=1.7							
EAGO				S		**Sn**	**22 50 46.1**	**-6.7**
LCRM	**LCR**	**7.08**	**113**	P		**Pn**	**22 49 33.6**	**+1.1**
LCRM				S		**Sn**	**22 50 50.3**	**-2.9**
PAB	**San Pablo**	**7.19**	**64**	P		**Pn**	**22 49 37.0**	**+3.1**
PAB	**San Pablo**	**7.19**	**64**	P		**Pn**	**22 49 37.0**	**+3.1**
PAB	**San Pablo**	**7.19**	**64**	P		**Pn**	**22 49 36.0**	**+2.2**
PAB				⇑*i*Vmb_V			22 49 38.4	
	comp=N,40nm,SNR=3.1							
PAB				S		**Sn**	**22 50 52.1**	**-3.5**
CZD	**Col de Zad**	**7.27**	**118**	P		**Pn**	**22 49 36.7**	**+1.5**
CZD				S		**Sn**	**22 50 53.7**	**-4.3**
ELGU	**Los Guajares,**	**7.29**	**86**	P		**Pn**	**22 49 37.3**	**+2.0**
ELGU				⇑*i*Vmb_V			22 49 40.2	
	comp=N,32nm,SNR=2.2							
ELGU				S		**Sn**	**22 50 58.1**	**0.0**
MD31	**MD31**	**7.56**	**118**	P		**Pn**	**22 49 40.4**	**+1.4**
MD31				S		**Sn**	**22 51 02.3**	**-2.5**
OUZM	**OUZ**	**7.58**	**138**	P		**Pn**	**22 49 42.6**	**+3.2**
OUZM				S		**Sn**	**22 51 02.3**	**-3.2**
MDT	**Midelt**	**7.70**	**118**	P		**Pn**	**22 49 42.6**	**+1.7**
MDT	**Midelt**	**7.70**	**118**	P		**Pn**	**22 49 42.6**	**+1.7**
MDT				S		**Sn**	**22 51 03.6**	**-4.7**
EQES	**Quesada**	**7.77**	**79**	P		**Pn**	**22 49 44.4**	**+2.5**
EQES				⇑*i*Vmb_V			22 49 45.4	
	comp=N,67nm,SNR=1.1							
EQES				S		**Sn**	**22 51 08.8**	**-1.2**
GUD	**Guadarrama**	**7.78**	**57**	P		**Pn**	**22 49 43.6**	**+1.6**
GUD				S		**Sn**	**22 51 06.5**	**-3.7**
CFUE	**Fuerteventura**	**8.07**	**188**	S		Sn	22 51 06.7	-11
JBK	**JBK**	**8.59**	**103**	P		**Pn**	**22 49 55.8**	**+2.6**
JBK				S		**Sn**	**22 51 26.0**	**-4.3**
ETOB	**Tobarra**	**9.07**	**74**	P		**Pn**	**22 50 00.8**	**+1.2**
ETOB				S		**Sn**	**22 51 44.5**	**+2.7**
ETOR	**Torete**	**9.29**	**60**	P		**Pn**	**22 50 05.0**	**+2.2**
ETOR				⇑*i*Vmb_V			22 50 05.6	
	comp=N,118nm,SNR=1.3							
ETOR				S		**Sn**	**22 51 41.9**	**-5.5**
TDRA	**Tendrara**	**9.49**	**109**	P		**Pn**	**22 50 05.7**	**0.0**
TDRA				S		**Sn**	**22 51 50.0**	**-2.4**

*SKHL **13** 23:09:01.8±0.5, 43.°10N × 147.°10E, h51km±6km, mb4.4/3*
*JMA **13** 23:09:01.1±0.2, 43.°04N × 146.°96E, h55km±4km, M3.9*
*NIED **13** 23:09:01.2, 43.°04N × 146.°96E, h55km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}0.63; $M_{\theta\theta}$1.58; $M_{\phi\phi}$-2.21; $M_{r\theta}$1.97; $M_{\theta\phi}$-0.14; $M_{\phi r}$0.93; Fault plane solution: $M_0$2.91000×10¹⁴ NP1:ϕ_s45.00000°, δ80.00000°, λ133.00000°. NP2:ϕ_s145.00000°, δ44.00000°, λ15.00000°.*
*MOS **13** 23:09:02.5±0.9, 43.°21N × 146.°88E, h53km, mb4.4/3 Error ellipse: s-maj=14.6km s-min=10.4km az=115.4*
*NEIC **13** 23:09:06.5±1.4, 43.°2N±0.°2 × 146.°7E±0.°1, h63km±13km, mb4.2/15, Error ellipse: s-maj=23.1km s-min=14.5km az=166.0*
*IDC **13** 23:09:08.9±0.8, 45.°15N × 146.°10E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/33, mbtmp3.9/11, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/92, Error ellipse: s-maj=23.1km s-min=16.3km az=124.0*

ISC 13 23:09:02.6±0.9, 43.°12N±0.°07 × 146.°95E±0.°06, h38km±2km, n79, σ1°02/92, mb4.1/20, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.76**	**353**	⇑*i*	PN	**Pn**		**23 09 16.5**	**-0.2**
SHO				*e*	S	**Sn**		**23 09 27.3**	**+0.3**
SHO					pmax	pmax			
	comp=N,366nm,0.2s								
SHO					pmax	pmax			
	comp=E,334nm,0.2s								
SHO					pmax	pmax			
	comp=Z,343nm,0.2s								
SHO					smax	smax			
	comp=N,3μm,0.3s								
SHO					smax	smax			
	comp=E,2μm,0.5s								
SHO	**Shikotan**	**0.76**	**353**	*i*	P	**Pn**		**23 09 16.5**	**-0.2**
SHO					AMB	AMB		23 09 18.3	
	comp=E,350nm,0.4s								
SHO					AMB	AMB		23 09 18.3	
	comp=E,330nm,0.4s								
SHO					AMB	AMB		23 09 18.3	
	comp=E,340nm,0.4s								
SHO					*e*S	**Sn**		**23 09 27.3**	**+0.3**
SHO					A	A		23 09 27.9	
	comp=E,3μm,0.5s								
SHO					A	A		23 09 27.9	
	comp=E,2μm,0.5s								
NEM2	**Nemuro 2**	**0.92**	**286**		P	**Pn**		**23 09 18.5**	**-0.4**
NEM2					*e*S	**Sn**		**23 09 31.3**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.93**	**286**	⇓*i*	PN	**Pn**		**23 09 18.7**	**-0.4**
NMR					*e*S	**Sn**		**23 09 31.5**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.93**	**286**	*i*	P	**Pn**		**23 09 18.7**	**-0.4**
NMR					*e*S	**Sn**		**23 09 31.5**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.21**	**319**	*e*	PN	**Pn**		**23 09 22.6**	**-0.4**
YUK					*e*S	**Sn**		**23 09 38.7**	**+0.6**
YUK					pmax	pmax			
	comp=Z,776nm,0.3s								
YUK					pmax	pmax			
	comp=N,374nm,0.1s								
YUK					pmax	pmax			
	comp=E,354nm,0.1s								
YUK					smax	smax			
	comp=E,4μm,0.4s								
YUK					smax	smax			
	comp=N,2μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.21**	**319**	*e*	P	**Pn**		**23 09 22.6**	**-0.4**
YUK					AMB	AMB		23 09 23.6	
	comp=N,80nm,0.2s								
YUK					*e*S	**Sn**		**23 09 38.7**	**+0.6**
YUK					A	A		23 09 39.6	
	comp=N,950nm,0.4s								
YUK					A	A		23 09 39.6	
	comp=N,570nm,0.4s								
JKHN	**Kushirohamanak**	**1.31**	**269**		P	**Pn**		**23 09 23.9**	**-0.5**
AKK	**Akkeshi**	**1.55**	**267**	*i*	P	**Pn**		**23 09 27.0**	**-0.6**
AKK					*e*S	**Sn**		**23 09 45.4**	**-1.1**
JNSB	**Nemuroshibetsu**	**1.56**	**296**		P	**Pn**		**23 09 27.5**	**-0.3**
JNSB					*e*S	**Sn**		**23 09 47.3**	**+0.5**
JRA	**Rausu**	**1.56**	**302**		P	**Pn**		**23 09 27.9**	**+0.1**
JRA					*e*S	**Sn**		**23 09 47.9**	**+1.1**
RUSJ	**Misakicho**	**1.58**	**309**	*e*	PN	**Pn**		**23 09 28.3**	**+0.2**
RUSJ					*e*S	**Sn**		**23 09 48.3**	**+1.0**
JAK	**Akkeshi**	**1.66**	**267**		P	**Pn**		**23 09 28.5**	**-0.6**
JAK					*e*S	**Sn**		**23 09 48.6**	**-0.5**
JNK	**Nakash**	**1.70**	**287**		P	**Pn**		**23 09 28.9**	**-0.7**
JNK					*e*S	**Sn**		**23 09 49.8**	**-0.3**
KUR	**Kuril'sk**	**2.21**	**17**	⇑*i*	PN	**Pn**		**23 09 36.5**	**-0.2**
KUR					S	**Sn**		**23 10 02.4**	**-0.4**
KUR					pmax	pmax			
	comp=Z,99nm,0.4s								
KUR					pmax	pmax			
	comp=E,50nm,0.3s								
KUR					pmax	pmax			
	comp=N,32nm,0.2s								
KUR					smax	smax			
	comp=N,215nm,0.2s								
KUR					smax	smax			
	comp=E,109nm,0.4s								
KUR	**Kuril'sk**	**2.21**	**17**	*i*	P	**Pn**		**23 09 36.5**	**-0.2**
KUR					AMB	AMB		23 09 38.7	
	comp=E,50nm,0.4s								
KUR					*e*S	**Sn**		**23 10 02.3**	**-0.5**
KUR					A	A		23 10 05.1	
	comp=E,220nm,0.3s								
KUR					A	A		23 10 05.1	
	comp=E,110nm,0.3s								
JOB	**Onbets**	**2.30**	**266**		P	**Pn**		**23 09 37.4**	**-0.5**
JOB					*e*S	**Sn**		**23 10 04.5**	**-0.4**
JAR	**Ashorobuto**	**2.33**	**275**		P	**Pn**		**23 09 38.2**	**-0.2**
JAR					*e*S	**Sn**		**23 10 06.2**	**+0.4**
JTKR	**Abashiri--Toko**	**2.37**	**292**		*e*S	**Sn**		**23 10 07.9**	**+1.2**
JCH	**Churui**	**2.69**	**260**		P	**Pn**		**23 09 42.6**	**-0.7**
JCH					*e*S	**Sn**		**23 10 14.0**	**-0.5**
JMP	**Maruseppu**	**2.76**	**290**		P	**Pn**		**23 09 45.2**	**+0.9**
JEM	**Erimo**	**3.01**	**250**		P	**Pn**		**23 09 48.6**	**+0.9**
ERM	**Erimo**	**3.01**	**250**		PN	**Pn**		**23 09 48.8**	**+1.1**
ERM					S	**Sn**		**23 10 23.7**	**+1.2**
ERM	**Erimo**	**3.01**	**250**		Pn	**Pn**		**23 09 48.9**	**+1.1**
ERM					Sn	**Sn**		**23 10 23.7**	**+1.2**
JKK2	**Kamakawa 2**	**3.15**	**285**		P	**Pn**		**23 09 51.8**	**+2.1**
JFR	**Furan**	**3.19**	**272**		P	**Pn**		**23 09 50.7**	**+0.5**
JFR					*e*S	**Sn**		**23 10 27.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.21**	**256**		P	**Pn**		**23 09 49.9**	**-0.5**
JKA	**Kamikawa-asahi**	**3.31**	**289**			**Pn**		**23 09 52.9**	**+1.0**
JKA	**Kamikawa-asahi**	**3.31**	**289**	*e*	P	**Pn**		**23 09 53.8**	**+1.9**
ASAJ	**Asahikawa**	**3.32**	**289**		Pn	**Pn**		**23 09 53.8**	**+1.9**
	comp=E,1.9nm,0.3s,baz=105,slow=12,SNR=8.3								
ASAJ					Sn	**Sn**		**23 10 28.4**	**-1.7**
	comp=E,2.3nm,0.3s,baz=235,slow=29,SNR=4.1								
JBT2	**Biratori 2**	**3.39**	**266**		P	**Pn**		**23 09 52.2**	**-0.7**
JEW	**Eniwo**	**4.05**	**268**		Pn	**Pn**		**23 10 03.4**	**+1.5**
JGF	**Kuroka**	**10.55**	**228**			**Pn**		**23 11 33.1**	**+1.8**
INU	**Inuyama**	**10.93**	**228**			**Pn**		**23 11 34.3**	**-2.0**
SONM	**Songino Array**	**28.59**	**294**		P	**P**		**23 14 55.0**	**0.0**
	comp=E,1.2nm,0.7s,baz=91,slow=8.1,SNR=11								
SONM	**Songino Array**	**28.59**	**294**		P	**P**		**23 14 55.0**	**0.0**
H11N2	**WAKE ISLAND Hy**	**28.72**	**138**		T	T		23 45 53.1	
	baz=329,slow=75,SNR=40								
H11N1	**WAKE ISLAND Hy**	**28.73**	**138**		T	T		23 45 56.2	
	baz=329,slow=75,SNR=62								
H11N3	**WAKE ISLAND Hy**	**28.74**	**138**		T	T		23 45 53.0	
	baz=329,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**29.67**	**140**		T	T		23 46 57.7	
	baz=330,slow=76,SNR=139								
H11S3	**WAKE ISLAND Hy**	**29.68**	**140**		T	T		23 46 59.3	
	baz=330,slow=76,SNR=60								
H11S2	**WAKE ISLAND Hy**	**29.69**	**140**		T	T		23 46 58.9	
	baz=330,slow=76,SNR=74								
J20K	**Nowinta River**	**38.93**	**37**		P	**P**		**23 16 26.5**	**+2.2**
J20K					IAmb	IAmb		23 16 32.3	
	comp=Z,5.5nm,1.4s								
IMAR	**Indian Mountai**	**39.25**	**34**		P	**P**		**23 16 28.1**	**+1.1**
H21K	**Melozitna Rive**	**39.61**	**34**		P	**P**		**23 16 31.3**	**+1.3**
H21K					IAmb	IAmb		23 16 31.4	
	comp=Z,1.8nm,0.9s								
ILAR	**Eielson Array**	**42.08**	**36**		P	**P**		**23 16 51.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=256,slow=6.8,SNR=5.1								
ILAR	**Eielson Array**	**42.08**	**36**		P	**P**		**23 16 53.2**	**+2.9**
PRP	**Porcupine Dome**	**42.63**	**35**		P	**P**		**23 16 56.7**	**+1.7**
L27K	**Beaver Creek,**	**44.47**	**38**		P	**P**		**23 17 12.5**	**+2.9**
BCAR	**Beaver Creek A**	**44.48**	**38**		P	**P**		**23 17 11.7**	**+1.9**
EGAK	**Eagle**	**44.53**	**36**		P	**P**		**23 17 11.7**	**+1.6**
EGAK					IAmb	IAmb		23 17 23.6	
	comp=Z,4.3nm,1.2s								
MK31	**Makanchi Array**	**44.75**	**298**		P	**P**		**23 17 11.8**	**-0.3**
MK31					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**44.75**	**298**		P	**P**		**23 17 11.8**	**-0.3**
MK31					IAmb	IAmb		23 17 12.5	
	comp=Z,1.8nm,0.7s								
MKAR	**Makanchi Array**	**44.75**	**298**		P	**P**		**23 17 11.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=80,slow=9.0,SNR=24								
MKAR	**Makanchi Array**	**44.75**	**298**		P	**P**		**23 17 12.0**	**-0.2**
MKAR	**Makanchi Array**	**44.75**	**298**	*e*	P	**P**		**23 17 12.0**	**-0.2**
MAKZ	**Makanchi**	**44.95**	**298**		P	**P**		**23 17 13.4**	**-0.3**
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MAKZ	**Makanchi**	**44.95**	**298**		P	**P**		**23 17 13.4**	**-0.3**
MAKZ					IAmb	IAmb		23 17 14.0	
	comp=Z,2.6nm,0.9s								
TABL	**Table Mountain**	**45.23**	**42**		P	**P**		**23 17 17.6**	**+1.6**
TABL					IAmb	IAmb		23 17 21.5	
	comp=Z,6.6nm,0.8s								
KURK	**Kurchatov**	**45.77**	**304**		P	**P**		**23 17 19.8**	**-0.3**
KURK					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KURK	**Kurchatov**	**45.77**	**304**		P	**P**		**23 17 19.8**	**-0.3**
KURK					IAmb	IAmb		23 17 20.1	
	comp=Z,1.7nm,0.5s								
KURK	**Kurchatov**	**45.77**	**304**	*e*	P	**P**		**23 17 19.8**	**-0.3**
INK	**Inuvik**	**47.02**	**30**		P	**P**		**23 17 30.4**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=279,slow=1.4,SNR=3.9								
C36M	**Paulatuk**	**50.10**	**28**		P	**P**		**23 17 53.3**	**0.0**
C36M					IAmb	IAmb		23 17 54.0	
	comp=Z,1.3nm,0.6s								
AAK	**Ala-Archa**	**51.50**	**296**		LR	LR		23 41 30.9	
	comp=Z,57nm,18.4s,baz=310,slow=39								
KKAR	**Karatay Array**	**53.88**	**298**		P	**P**		**23 18 21.4**	**-0.5**
KKAR	**Karatay Array**	**53.88**	**298**		P	**P**		**23 18 21.4**	**-0.5**
RES	**Resolute Bay**	**55.61**	**16**		P	**P**		**23 18 33.4**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=336,slow=7.0,SNR=31								
YKA	**Yellowknife Ar**	**56.41**	**33**		P	**P**		**23 18 40.9**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=304,slow=7.3,SNR=3.3								
ABKAR	**Akbulak array**	**57.35**	**309**		P	**P**		**23 18 46.5**	**-0.1**
ABKAR					IAmb	IAmb		23 18 47.0	
	comp=Z,2.4nm,0.5s								
WRA	**Warramunga Arr**	**63.81**	**193**		P	P		23 19 53.5	+23
	comp=Z,1.4nm,0.4s,baz=2.7,slow=7.6,SNR=119								
FINES	**FINESS Array B**	**65.37**	**333**		P	**P**		**23 19 39.5**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=144,slow=10,SNR=1.9								
ASAR	**Alice Springs**	**67.53**	**193**		P	P		23 20 20.0	+25
	comp=Z,0.8nm,0.6s,baz=16,slow=12,SNR=11								
NC405	**NORSAR Array S**	**69.95**	**339**		P	**P**		**23 20 08.7**	**-0.8**
NC204	**NORSAR Array S**	**70.06**	**339**		P	**P**		**23 20 09.5**	**-0.7**
NB201	**NORSAR Array S**	**70.11**	**339**		P	**P**		**23 20 09.8**	**-0.7**
NB2	**NORSAR Subarra**	**70.14**	**339**		P	**P**		**23 20 09.9**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=29,slow=6.5								
NOA	**NORSAR Array B**	**70.14**	**339**		P	**P**		**23 20 09.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=32,slow=6.5,SNR=5.0								
AKASG	**Malin Array Be**	**72.00**	**324**		P	**P**		**23 20 21.0**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=41,slow=6.6,SNR=5.6								

*JMA **13** 23:10:37.5±0.2, 33.°70N × 140.°95E, h42km, M3.7*
*IDC **13** 23:10:37.3±3.9, 33.°54N × 141.°07E, h57km±29km, mb3.1/2, mb1 3.4/3, mb1mx3.0/39, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=37.0km s-min=14.9km az=92.0*

ISC 13 23:10:37.4±1.7, 33.°64N±0.°06 × 141.°0E±0.°1, h48km, n17, σ0°53/22, Off east coast of Honshu

| Code | Station Name | Δ° | AZ° | Phase | ID | Op | ISC | Time

RODP	Rodopos	0.26	33	PG	Pg	23 26 36.9	-0.3		
RODP				SG	Sg	23 26 39.7	-1.1		
IMMV	Iera Moni Meta	0.34	70	P	Pg	23 26 38.4	-0.4		
IMMV				S	Sg	23 26 43.4	0.0		
IMMV				AML	AML	23 26 44.0			
	comp=N,37478µm,0.3s								
IMMV				AML	AML	23 26 48.2			
	comp=E,38043µm,0.4s								
IMMV	Iera Moni Meta	0.34	70	P	Pg	23 26 38.4	-0.4		
IMMV				S	Sg	23 26 43.6	+0.2		
	comp=E,19µm,0.5s								
IMMV	Iera Moni Meta	0.34	70	PG	Pg	23 26 38.1	-0.7		
IMMV				SG	Sg	23 26 42.8	-0.6		
VAM	Vamos	0.51	83	P	Pg	23 26 41.3	-0.5		
VAM				S	Sg	23 26 48.0	-0.5		
VAM				AML	AML	23 26 49.9			
	comp=E,19986µm,0.6s								
VAM				AML	AML	23 26 51.3			
	comp=N,30472µm,0.4s								
VAM	Vamos	0.51	83	P	Pg	23 26 41.1	-0.7		
VAM				S	Sg	23 26 48.8	+0.3		
	comp=N,13µm,0.5s								
ANKY	Antikythira Is	0.57	336	P	Pg	23 26 42.1	-0.9		
ANKY				S	Sg	23 26 49.7	-0.9		
ANKY				AML	AML	23 26 51.4			
	comp=N,13706µm,0.3s								
ANKY				AML	AML	23 26 53.2			
	comp=E,8271µm,0.3s								
ANKY	Antikythira Is	0.57	336	P	Pg	23 26 42.2	-0.9		
ANKY				S	Sg	23 26 50.0	-0.6		
	comp=E,6µm,0.5s								
GVDS	Gavdos	0.65	140	P	Pg	23 26 44.3	-0.2		
GVDS				S	Sb	23 26 54.9	+0.4		
	comp=E,13µm,0.3s								
GVD	Gavdhos	0.65	141	P	Pg	23 26 44.4	-0.2		
GVD				S	Sb	23 26 55.0	+0.5		
GVD				AML	AML	23 26 56.9			
	comp=N,28316µm,0.4s								
GVD				AML	AML	23 26 57.4			
	comp=E,25893µm,0.3s								
GVD	Gavdhos	0.65	141	P	Pg	23 26 44.4	-0.2		
GVD				S	Sb	23 26 55.0	+0.5		
	comp=E,14µm,0.3s								
GVD	Gavdhos	0.65	141	PG	Pg	23 26 44.8	+0.2		
GVD				SG	Sb	23 26 54.5	0.0		
PRNS	Prines Rethymn	0.75	88	P	Pg	23 26 44.2	-2.2		
PRNS				S	Sg	23 26 54.8	-1.4		
TMBK	Timbaki Herakl	1.00	105	P	Pg	23 26 50.2	-1.1		
TMBK				S	Sb	23 27 05.6	+0.9		
	comp=E,2µm,0.8s								
KTHA	Kythira Island	1.00	335	P	Pg	23 26 50.2	-1.1		
KTHA				S	Sg	23 27 03.4	-1.0		
KTHA				AML	AML	23 27 07.4			
	comp=N,3641µm,0.3s								
KTHA				AML	AML	23 27 16.3			
	comp=E,9009µm,0.5s								
KTHA	Kythira Island	1.00	335	P	Pg	23 26 49.9	-1.4		
KTHA				S	Sb	23 27 04.2	-0.6		
	comp=E,3µm,0.5s								
KTHR	Kythira	1.03	333	P	Pg	23 26 50.2	-1.6		
KTHR				S	Sb	23 27 05.3	-0.2		
	comp=E,2µm,0.5s								
SIVA	Sivas	1.05	108	P	Pg	23 26 51.2	-1.1		
SIVA				S	Sn	23 27 07.1	-0.4		
SIVA				AML	AML	23 27 20.3			
	comp=E,17676µm,0.6s								
SIVA				AML	AML	23 27 30.5			
	comp=N,8936µm,0.6s								
IDI	Anoyia	1.07	93	Pg	Pg	23 26 51.7	-0.8		
	comp=N,55nm,0.3s,baz=269,slow=15,SNR=58								
IDI				Lg	Lg	23 27 06.2			
	comp=N,219nm,0.3s,baz=293,slow=22,SNR=14								
IDI	Anoyia	1.07	93	P	Pg	23 26 50.6	-1.9		
IDI				S	Sg	23 27 06.2	-0.2		
IDI				AML	AML	23 27 18.4			
	comp=E,3897µm,0.7s								
IDI				AML	AML	23 27 18.9			
	comp=N,4258µm,0.5s								
IDI	Anoyia	1.07	93	P	Pg	23 26 50.9	-1.6		
IDI				S	Sn	23 27 07.4	-0.6		
	comp=N,2µm,0.6s								
IDI	Anoyia	1.07	93	PG	Pg	23 26 51.3	-1.2		
IDI				SG	Sg	23 27 06.3	-0.1		
IDI	Anoyia	1.07	93		Pg	23 26 51.9	-0.6		
IDI					Sg	23 27 06.3	-0.1		
IACM	Heraklion	1.22	91	P	Pg	23 26 55.1	-0.2		
KSTL	Kastelli Herak	1.22	91	P	Pg	23 26 58.4	+3.1		
HRKL	Herakleio	1.24	91	P	Pg	23 26 55.5	-0.3		
HRKL	Herakleio	1.24	91	PN	Pn	23 26 55.2	-0.1		
MNVA	Monemvasia	1.41	342	P	Pn	23 26 57.6	-0.1		
VLI	Veliai	1.47	339	P	Pn	23 26 58.4	-0.2		
VLI				AML	AML	23 27 25.6			
	comp=E,1725µm,0.8s								
VLI				AML	AML	23 27 34.6			
	comp=N,2013µm,0.6s								
VLI	Veliai	1.47	339	P	Pn	23 26 58.3	-0.2		
VLI				S	Sb	23 27 17.7	-0.4		
	comp=N,935nm,0.7s								
MHLO	Agia Marina, M	1.50	26	P	Pn	23 26 58.7	-0.2		
MHLO				S	Sg	23 27 19.2	-1.0		
MHLO				AML	AML	23 27 22.8			
	comp=E,11758µm,0.4s								
MHLO				AML	AML	23 27 25.4			
	comp=N,10273µm,0.6s								
MHLO	Agia Marina, M	1.50	26	P	Pn	23 26 59.0	+0.1		
MHLO				S	Sb	23 27 18.8	-0.1		
	comp=N,6µm,0.5s								
NPS	Neapolis	1.66	92	P	Pb	23 27 02.6	0.0		
NPS				AML	AML	23 27 35.1			
	comp=N,3062µm,0.6s								
NPS				AML	AML	23 27 36.6			
	comp=E,2730µm,0.9s								
NPS	Neapolis	1.66	92	P	Pb	23 27 02.0	-0.6		
NPS				S	Sb	23 27 23.9	+0.3		
	comp=E,1µm,0.7s								
SAP3	Santorini-Thir	1.80	52	P	Pn	23 27 02.9	-0.1		
CMBO	Columbo, Santo	1.86	52	P	Pn	23 27 04.3	+0.5		
CMBO				AML	AML	23 27 35.1			
	comp=N,10369µm,0.6s								
CMBO				AML	AML	23 27 38.4			
	comp=E,6447µm,0.5s								
YDRA	Hydra	2.00	357	P	Pn	23 27 05.7	-0.1		
KRND	KRANIDI	2.06	350	P	Pn	23 27 07.6	+1.0		
KRND				AML	AML	23 27 48.0			
	comp=E,1002µm,0.9s								
KRND				AML	AML	23 27 49.5			
	comp=N,952µm,0.5s								
PYL	PYLOS	2.15	317	P	Pn	23 27 07.9	0.0		
PYL				AML	AML	23 27 56.1			
	comp=N,666µm,0.8s								
PYL				AML	AML	23 27 58.6			
	comp=E,676µm,1.0s								
PYL	PYLOS	2.15	317	P	Pn	23 27 07.9	0.0		
ZKR	Zakros	2.17	95	P	Pb	23 27 09.9	-1.4		
ZKR				AML	AML	23 27 59.1			
	comp=E,1507µm,0.8s								
ZKR				AML	AML	23 28 04.6			
	comp=N,620µm,0.9s								
ZKR	Zakros	2.17	95	PN	Pn	23 27 08.9	+0.8		
ITM	Ithomi	2.27	324	P	Pn	23 27 10.7	+1.1		
ITM	Ithomi	2.27	324	Pn	Pg	23 27 14.2	-1.3		
EPID	Epidavros	2.30	351	P	Pn	23 27 09.8	-0.1		
EPID	Epidavros	2.30	351	P	Pn	23 27 09.9	-0.1		
APE	Apeiranthos	2.33	42	P	Pn	23 27 10.0	-0.4		
APE	Apeiranthos	2.33	42	P	Pn	23 27 09.8	-0.6		
APE	Apeiranthos	2.33	42	PN	Pn	23 27 10.7	+0.3		
VLY	Voula,Athens	2.51	4	P	Pn	23 27 12.3	-0.5		
VLY				AML	AML	23 27 54.1			
	comp=N,764µm,0.6s								
VLY				AML	AML	23 28 00.3			
	comp=E,1052µm,0.6s								
PTL	Penteli	2.71	5	P	Pn	23 27 16.7	+1.1		
LTK	Loutraki	2.72	350	P	Pn	23 27 16.1	+0.3		
DION	Dionisos Attik	2.74	6	P	Pn	23 27 15.8	-0.3		
DION	Dionisos Attik	2.74	6	P	Pn	23 27 15.7	-0.3		
KARY	Karystos	2.77	14	P	Pn	23 27 15.9	-0.4		
THAL	Thalero	2.79	345	P	Pn	23 27 16.9	+0.2		
VIL2	Platees	2.87	355	P	Pn	23 27 16.6	-1.2		
KARP	Karpathos	2.93	85	P	Pn	23 27 19.4	+0.8		
KARP	Karpathos	2.93	85		Pn	23 27 19.9	+1.3		
KLV	Kalavryta, Ach	2.93	337	P	Pn	23 27 19.9	+1.2		
LAKA	Lakka	3.17	336	P	Pn	23 27 23.3	+1.5		
BODT	Bodrum	3.47	59	PN	Pn	23 27 27.0	+1.0		
ANX	Ano Chora	3.51	338	P	Pn	23 27 27.8	+1.2		
DAT	Datca	3.52	66	PN	Pn	23 27 27.9	+1.1		
CHOS	Chios island	3.62	32	PN	Pn	23 27 29.1	+0.9		
GCAM	G?zelcami?	3.76	50	PN	Pn	23 27 31.5	+1.5		
AGG	Agios Georgios	3.81	345		Pn	23 27 32.7	+2.1		
URLA	Izmir	3.86	38	PN	Pn	23 27 32.6	+1.2		
MLSB	Milas	3.90	59	PN	Pn	23 27 33.0	+1.0		
YER	Yerkesik	4.20	63	PN	Pn	23 27 37.3	+1.2		
DALY	Dalyan (Mula)	4.36	69	PN	Pn	23 27 39.8	+1.6		
FETY	Fethiye	4.64	72	PN	Pn	23 27 43.9	+1.8		
LIT	Litokhoron	4.83	350	Pn	Pn	23 27 47.8	+3.1		
CAME	Cameli-Denizli	4.89	69	PN	Pn	23 27 47.4	+1.7		
AKAS	Kas	4.97	78	PN	Pn	23 27 47.9	+1.1		
AKAS	Kas	4.97	78	Pn	Pn	23 27 48.8	+2.0		
MANT	Manisa	5.07	50		Pn	23 27 51.0	+2.8		
KULA	Kula-Manisa	5.15	51	PN	Pn	23 27 50.7	+1.5		
ELL	Elmali	5.31	73	PN	Pn	23 27 53.1	+1.7		
ELL	Elmali	5.31	73		Pn	23 27 54.0	+2.6		
FNA	Florina	5.70	343	Pn	Pn	23 28 00.2	+3.4		
KBN	Korca	5.71	338	Pn	Pn	23 28 01.6	+4.7		
BASM	Basmaki-Afyon	5.80	62	PN	Pn	23 28 00.2	+2.1		
ALN	Alexandroupoli	5.87	19	Pn	Pn	23 28 03.4	+4.4		
ISP	Isparta	6.10	64		Pn	23 28 05.3	+3.0		
SCTE	Santa Cesarea	6.22	321	Pn	Pn	23 28 04.7	+0.9		
TIP	Timpagrande	6.65	307	Pn	Pn	23 28 10.1	+0.3		
BORA	Eskisehir	7.08	48	Pn	Pn	23 28 18.9	+3.2		
VTS	Vitosha	7.27	358	Pn	Pn	23 28 23.0	+4.6		
VAE	Valguarnera	7.70	289	Pn	Pn	23 28 24.4	+0.3		
	comp=E,0.3nm,0.3s,baz=224,slow=14,SNR=1.6								
VAE				Sn	Sn	23 29 49.9	-1.5		
	comp=E,0.7nm,0.3s,baz=248,slow=19,SNR=1.2								
MDUB	Mudurnu	7.90	47	Pn	Pn	23 28 28.5	+1.5		
CSS	Mathiatis	7.99	90	Pn	Pn	23 28 27.8	-0.3		
BR231	Keskin MP Arra	8.56	56	Pn	Pn	23 28 36.6	+0.5		
ANTO	Ankara	8.59	56	Pn	Pn	23 28 38.0	+1.6		
BR131	Keskin Array S	9.10	58		Pn	23 28 45.4	+1.9		
BRTR	Keskin Array B	9.10	58	Pn	Pn	23 28 46.1	+2.6		
	comp=E,0.2nm,0.3s,baz=231,slow=13,SNR=15								
BRTR	Keskin Array B	9.10	58		Pn	23 28 45.7	+2.2		
MMAI	Mount Meron Ar	10.06	100	Pn	Pn	23 28 55.9	-0.7		
	comp=E,1.2nm,0.3s,baz=248,slow=18,SNR=4.8								
MMAI				Sn	Sn	23 30 44.8	-4.8		
	comp=E,1.4nm,0.3s,baz=249,slow=23,SNR=4.3								
MLR	Muntele Rosu	10.29	9	Pn	Pn	23 29 00.9	+1.2		
	comp=E,0.2nm,0.3s,baz=248,slow=9.3,SNR=2.3								
MLR	Muntele Rosu	10.29	9	Pn	Pn	23 29 01.7	+2.0		
BNN	Bunyan	10.40	67	Pn	Pn	23 29 02.4	+1.1		
AQU	L'Aquila	10.58	314	Pn	Pn	23 29 06.5	+2.8		
GHAJ	Ghor Haditha	10.80	109	Pn	Pn	23 29 06.9	+0.2		
NRCA	Norcia	11.04	316	Pn	Pn	23 29 12.6	+2.5		
EIL	Elat	11.13	117	Pn	Pn	23 29 10.5	-0.7		
	comp=E,0.5nm,0.3s,baz=195,slow=16,SNR=1.3								
EIL				Sn	Sn	23 31 08.1	-7.7		
	comp=E,0.9nm,0.3s,baz=230,slow=22,SNR=5.3								
BURAR	Bucovina Array	12.32	5	Pn	Pn	23 29 30.0	+2.5		
BUR08	Bucovina Ar. S	12.35	5	Pn	Pn	23 29 30.5	+2.6		
CKRC	Cesky Krumlov	15.11	336	eP	P	23 30 12.1	+1.5		
GERES	GERESS Array B	15.34	335	Pn	P	23 30 12.7	-0.5		
	comp=E,0.1nm,0.3s,baz=139,slow=13,SNR=5.1								
GERES	GERESS Array B	15.34	335		P	23 30 11.7	-1.5		
TUE	Stuetta	15.45	320	Pn	Pn	23 30 11.9	+1.9		
TUE				IAmb	IAmb	23 30 22.8			
	comp=Z,4.3nm,0.8s								
KRLC	Kraliky	15.54	343	eP	P	23 30 16.5	+1.1		
KHC	Kasperske Hory	15.62	335	eP	P	23 30 19.8	+3.4		
KHC	Kasperske Hory	15.62	335	Pn	P	23 30 14.2	-2.2		
AKASG	Malin Array Be	15.88	13	Pn	Pn	23 30 15.8	+0.3		
	comp=Z,1.0nm,0.3s,baz=208,slow=10,SNR=6.7								
AKBB	Malin Array Si	15.88	13	Pn	P	23 30 17.2	-2.0		
DPC	Dobruska-Polom	15.90	343	eP	P	23 30 20.1	+0.6		
SENIN	Lac Senin/Sane	16.49	317		P	23 30 27.3	+1.1		
KBZ	Khabaz	17.06	55	P	P	23 30 32.4	+0.2		
	comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=7.7								
KBZ				LR	LR	23 39 04.6			
	comp=Z,36nm,18.8s,baz=224,slow=44								
CLL	Collm	17.68	338	eP	P	23 30 42.0	+2.9		
PABE	Paberze	20.16	1	P	P	23 31 06.2	0.0		
ESDC	Sonseca Array	22.24	289	P	P	23 31 29.3	+0.4		
	comp=Z,1.0nm,0.9s,baz=81,slow=9.9,SNR=4.3								
HFS	Hagfors	25.62	349	P	P	23 32 01.5	+0.3		
	comp=Z,1.0nm,0.5s,baz=160,slow=14,SNR=6.2								
FINES	FINESS Array B	26.17	3	P	P	23 32 06.7	+0.5		
	comp=Z,1.4nm,0.7s,baz=170,slow=9.3,SNR=4.6								
FINES	FINESS Array B	26.17	3	P	P	23 32 08.6	+2.4		
FIA1	FINESS Array S	26.17	3	P	P	23 32 08.0	+1.8		
NC602	NORSAR Array S	26.56	347		P	23 32 10.9	+1.1		
NAO01	NORSAR Array S	26.79	346	P	P	23 32 11.5	-0.3		
NC405	NORSAR Array S	26.88	347	P	P	23 32 15.2	+2.4		
NB201	NORSAR Array S	26.90	347	P	P	23 32 16.7	+3.8		
NB201				IAmb	IAmb	23 32 36.7			
	comp=Z,3.0nm,0.5s								
NOA	NORSAR Array B	26.91	347	P	P	23 32 14.4	+1.4		
	comp=Z,0.4nm,0.8s,baz=155,slow=9.8,SNR=4.1								
EKA	Eskdalemuir Ar	27.15	326	P	P	23 32 16.0	+0.8		
	comp=Z,0.9nm,0.5s,baz=125,slow=8.0,SNR=11								
ESK	Eskdalemuir	27.17	326	P	P	23 32 18.9	+3.6		
ESK				IAmb	IAmb	23 32 24.0			
	comp=Z,4.2nm,0.9s								
TOA0	Torodi Ar. Sit	29.64	227	P	P	23 32 37.5	-0.2		
TOA0				IAmb	IAmb	23 32 38.0			
	comp=Z,2.3nm,0.7s								
ARCES	ARCESS Array B	34.26	1	P	P	23 33 18.2	+0.4		
	comp=Z,1.2nm,0.6s,baz=171,slow=7.8,SNR=8.9								
ARCES	ARCESS Array B	34.26	1	P	P	23 33 18.1	+0.4		
KKAR	Karatay Array	36.77	63	P	P	23 33 40.8	+1.1		
DBIC	Dimbokro	38.69	229	P	P	23 33 54.9	-1.2		
	comp=Z,3.3nm,0.5s,baz=47,slow=8.3,SNR=4.4								
DBIC	Dimbokro	38.69	229	P	P	23 33 54.9	-1.2		
KURBB	Kurchatov Arra	42.01	51	P	P	23 34 22.6	-0.7		
	comp=Z,1.0nm,0.6s,baz=278,slow=8.7,SNR=11								
KURK	Kurchatov	42.06	51	P	P	23 34 23.9	+0.2		
KURK				IAmb	IAmb	23 34 27.5			
	comp=Z,2.5nm,1.1s								
MK31	Makanchi Array	44.75	57	P	P	23 34 44.4	-1.1		
MK31				IAmb	IAmb	23 34 48.6			
	comp=Z,1.0nm,1.0s								
MKAR	Makanchi Array	44.75	57	P	P	23 34 44.7	-0.8		
	comp=Z,0.4nm,0.3s,baz=278,slow=7.7,SNR=7.9								
ZALV	Zalesovo Beam	45.81	46	P	P	23 34 54.5	+0.8		
	comp=Z,1.3nm,0.6s,baz=269,slow=8.5,SNR=5.0								
SONM	Songino Array	60.36	50	P	P	23 36 41.6	+0.3		
	comp=Z,0.4nm,0.6s,baz=282,slow=7.2,SNR=5.1								
SCHQ	Scheffervill	62.21	319	P	P	23 36 53.8	+0.3		
	comp=Z,4.1nm,1.0s,baz=59,slow=5.9,SNR=3.9								
YKA	Yellowknife Ar	76.87	341	P	P	23 38 22.7	-1.1		
	comp=Z,0.4nm,0.5s,baz=31,slow=5.5,SNR=11								
KSRS	Korea Array	79.19	52	P	P	23 38 37.2	+0.1		
	comp=Z,0.8nm,0.5s,baz=308,slow=5.6,SNR=4.3								
WRH	Wood River Hil	80.30	356	P	P	23 38 43.8	+1.1		
WRH				IAmb	IAmb	23 38 48.0			
	comp=Z,2.4nm,1.0s								
PPLA	Purkeypile	82.04	358	P	P	23 38 51.8	-0.4		
PPLA				IAmb	IAmb	23 39 02.9			
	comp=Z,1.1nm,1.0s								

AZER **13** *23:27:28.2±0.7, 35.75N×49.33E, h5km, Error ellipse: s-maj=12.6km s-min=4.5km az=335.0*
TEH **13** *23:27:32.5, 35.75N×49.12E, h8km, ML3.7*
ISC 13 23:27:31.8±0.8, **35.80N**±0.02×**49.09E**±0.02, **h1**km±6km, **n87**, **σ2**241/103, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QABG	Abgarm-Qazvin	0.41	102	ePg	Pg		23 27 38.9	-0.8
QABG				eSg	Sg		23 27 45.0	-0.1
IRAZ	Razeghan	0.79	119	ePg	Pg		23 27 47.0	+0.1
IRAZ				e			23 28 09.7	
	comp=Z,24µm,0.8s							
QCNT	Qazvin	0.90	56	ePg	Pg		23 27 49.7	+0.8
ZNJK	Zanjan	0.93	340	ePg	Pg		23 27 50.8	+1.2
HAGD	Aghdareh	0.97	177	ePg	Pg		23 27 50.3	-0.1
HAGD				eSg	Sn		23 28 04.7	-2.7
HAGD				e			23 28 05.9	
	comp=Z,19µm,0.2s							
JIR1	Jirandeh	1.08	32	ePg	Pg		23 27 53.3	+0.9
JIR1				e			23 28 13.2	
	comp=Z,21µm,0.4s							
IGZV	Ghazvin	1.09	57	ePg	Pg		23 27 53.5	+0.8
IGZV				eSg	Sb		23 28 08.5	+0.1
IGZV				e			23 28 25.5	
	comp=Z,14µm,0.8s							
IALM	Almabolaq	1.20	219	ePg	Pg		23 27 55.1	+0.3
IALM				eSg	Sn		23 28 11.6	-1.4
IMHD	Mahdasht	1.29	95	ePg	Pg		23 27 57.1	+0.6
IMHD				eSg	Sn		23 28 15.1	+0.1
IMHD				e			23 28 20.7	
	comp=Z,10µm,0.2s							
QALM	Alamut, Qazvin	1.41	63	ePg	Pn		23 27 58.4	-0.5
QALM				eSg	Sg		23 28 18.8	+1.6
QALM				e			23 28 23.7	
	comp=Z,11µm,0.4s							
ASAO	Ashtian	1.47	148	ePg	Pg		23 27 59.8	-0.1
LHJ2	Lahijan - Gila	1.58	30	ePg	Pb		23 28 02.4	+0.7
LHJ2				e			23 28 35.1	
	comp=Z,16µm,0.3s							
HSAM	Samen	1.63	194	ePn	Pb		23 28 02.0	-0.8
HSAM				eSg	Sg		23 28 23.5	-0.7
CHTH	Charan	1.66	86	ePn	Pb		23 28 03.0	-0.3
IBZA	Bozab	1.66	218	ePn	Pb		23 28 02.9	-0.4
IBZA				e			23 28 30.4	
	comp=Z,15µm,0.8s							
CSN1	Caspian	1.76	0	ePn	Pb		23 28 06.2	+1.3
IHSB	Hasanabad	1.82	101	eSg	Sg		23 28 29.5	-0.7
IHSB				ePg	Pg		23 28 06.1	-0.6
IQOM	Qom	1.88	120	e			23 28 37.8	
	comp=Z,7µm,0.6s							
IQOM				ePn	Pb		23 28 06.1	-1.0
KER	Kermanshah	2.13	229	ePn	Pb		23 28 11.2	-0.1
IDOB	Doab	2.14	201	ePn	Pb		23 28 11.0	-0.5
IDOB				e			23 28 53.5	
	comp=Z,4µm,1.0s							
KHMZ	Khomeyn	2.18	160	ePn	Pb		23 28 11.2	-0.9
GHVR	GHOM	2.24	125	ePn	Pb		23 28 12.2	-0.8
KCHF	Cheshme Sefid,	2.26	228	ePn	Pn		23 28 11.7	+1.2
KCHF				e			23 29 06.1	
	comp=Z,3µm,1.0s							
IVRN	Varamin	2.30	110	ePn	Pb		23 28 12.6	-1.5
IVRN				e			23 29 03.2	
	comp=Z,5µm,0.6s							
ISRB	Sarab	2.32	331	ePn	Pb		23 28 14.3	-0.3
ISRB				e			23 28 27.1	
	comp=Z,3µm,0.4s							
DAMV	Damavand	2.35	93	ePn	Pb		23 28 13.9	-1.2
IDMV	Damavand	2.41	94	ePn	Pb		23 28 15.1	-1.0
IDMV				e			23 28 56.5	
	comp=Z,4µm,0.6s							
IDHR	Dehrash	2.47	244	e		Sg	23 29 06.7	+16
	comp=Z,3µm,1.2s							
IKFM	Kafar-mosalman	2.49	205	ePn	Pb		23 28 17.1	-0.1
IGHG	Ghaleghazi	2.53	235	ePn	Pn		23 28 15.9	+1.7
IBST	Bostanabad	2.59	318	ePn	Pb		23 28 18.1	-1.1
IBST				e			23 28 21.8	
	comp=Z,2µm,0.6s							
IPRN	Peran	2.67	79	e			23 29 27.5	
	comp=Z,4µm,0.7s							
ASTR	Astara	2.77	355	P	Pn		23 28 20.2	+2.9
ASTR	SNR=17			S	Sg		23 29 02.2	+1.5
QAMS	Qamsar	2.80	137	e	Pg		23 28 29.2	+3.8
	comp=Z,2µm,0.6s							
MAHB	Mahabad	2.90	290	ePn	Pb		23 28 22.8	-1.5
MAHB				e			23 29 17.9	
	comp=Z,2µm,0.8s							
LRK	Lerik	2.90	348	P	Pb		23 28 23.7	-0.7
LRK	SNR=24			S	Sg		23 29 06.0	+1.0
LKRN	Lenkeran, Azer	2.92	355	P	Pn		23 28 22.0	+2.7
LKRN	SNR=4.5			S	Sg		23 29 05.0	-0.5
ISFB	Sefidab	2.96	118	ePn	Pn		23 28 21.0	+1.0
IFIR	Firoozkooh	2.99	92	ePn	Pn		23 28 22.6	+2.1
IHRS	Heris	3.00	328	ePn	Pn		23 28 23.6	+2.9
KRSH	Karshahi	3.10	125	ePn	Pb		23 28 25.5	-2.8
IAZR	Azarshahr	3.12	308	ePn	Pn		23 28 25.8	+3.4
IAZR				e			23 28 40.8	
	comp=Z,4µm,0.5s							
GRMI	Germi	3.15	343	ePn	Pb		23 28 27.1	-1.6
ILAS	Lasjerd	3.18	96	ePn	Pn		23 28 24.8	+1.6
YRD	Yardimli	3.19	348	P	Pb		23 28 27.8	-1.5
YRD	SNR=13			S	Sg		23 29 13.7	-0.4
IKLH	Kolahrood	3.22	140	ePn	Pb		23 28 28.1	-1.7
IKLH				e			23 29 25.0	
	comp=Z,2µm,0.6s							
TVRZ	Varzaqan	3.32	325	ePn	Pn		23 28 28.9	+3.9
ITBZ	Tabriz	3.38	317	ePn	Pn		23 28 29.0	+3.1
ISHM	Shahmirzad	3.42	89	e	Pg		23 28 43.7	+6.

TKDS	**Koohdasht(Taba**	**6.97**	**106**	*e*Pn		**Pn**	**23 29 16.3**	**+1.2**
BSRN	**Basiran**	**9.18**	**112**	*e*Pn		**Pn**	**23 29 47.7**	**+2.2**

*MEX **13** 23:32:25.7±0.8, 14.°60N×92.°18W, h82km±6km, MD4.1*
*GCG **13** 23:32:26.6±0.4, 14.°50N×92.°32W, h32km±571km, MD4.0*
ISC 13 23:32:24.1±1.7, **14.°41N**±0.°06×**92.°45W**±0.°04, **h23**km±15km, **n15**, σ1°**10**/29, **1D**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.52**	**20**	*i* P	**Pn**	**23 32 37.1**	**+0.9**
THIG				*i* S	**Sn**	**23 32 46.2**	**+1.9**
PATR	**El Naranjo**	**0.73**	**17**	*i* P	**Pb**	**23 32 38.2**	**-0.1**
PATR				*i* S	**Sb**	**23 32 48.5**	**+0.5**
PAVE	**Pavencul**	**0.82**	**19**	*i* P	**Pb**	**23 32 39.5**	**-0.4**
PAVE				*i* S	**Sb**	**23 32 50.5**	**-0.2**
STG3	**Santiaguito 3,**	**0.90**	**71**⇓	*e*P	**Pb**	**23 32 41.6**	**+0.3**
PCIG		**1.48**	**330**	*i* P	**Pn**	**23 32 49.8**	**+0.4**
PCIG				*i* S	**Sn**	**23 33 07.9**	**-0.1**
FUG	**Fuego 3**	**1.56**	**89**	*e*P	**Pn**	**23 32 50.8**	**+0.2**
FUG				*e*S	**Sn**	**23 33 09.7**	**-0.6**
PCG	**Pacaya**	**1.79**	**90**	*e*P	**Pb**	**23 32 55.8**	**-0.6**
PCG				*e*S	**Sn**	**23 33 16.3**	**+0.3**
CCIG	**Comitan**	**1.88**	**9**	*i* P	**Pn**	**23 32 55.1**	**0.0**
CCIG				*i* S	**Sn**	**23 33 16.1**	**-2.1**
NBG	**Las Nubes**	**2.05**	**85**	*e*P	**Pn**	**23 32 58.0**	**+0.6**
NBG				*e*S	**Sb**	**23 33 25.8**	**-0.2**
CARR	**Arriaga**	**2.30**	**323**	*e*P	**Pn**	**23 33 02.1**	**+1.4**
CARR				*i* S	**Sn**	**23 33 29.3**	**+1.0**
TGIG		**2.44**	**345**	*e*P	**Pn**	**23 33 01.7**	**-1.0**
TGIG				*e*S	**Sn**	**23 33 29.3**	**-2.4**
UXUV	**UXUV**	**3.31**	**331**	*e*P	**Pn**	**23 33 15.1**	**+0.5**
UXUV				*e*S	**Sn**	**23 33 52.5**	**-0.8**
CMIG	**Matias Romero**	**3.54**	**319**	*e*P	**Pn**	**23 33 18.5**	**+0.7**
CMIG				*e*S	**Sn**	**23 33 59.6**	**+0.6**
HUIG	**Huatulco**	**3.78**	**291**	*e*P	**Pn**	**23 33 21.2**	**+0.2**
HUIG				*i* S	**Sn**	**23 34 02.4**	**-2.3**
NEUV	**Arroyo Zacate**	**4.60**	**316**	*e*P	**Pn**	**23 33 33.3**	**+1.0**
NEUV				*e*S	**Sn**	**23 34 26.1**	**+1.1**

*NEIC **13** 23:43:06.5±1.6, 19.°43S±0.°1×177.°5W±0.°1, h388km±8km, mb4.1/57, Error ellipse: s-maj=18.6km s-min=13.6km az=178.0*
*IDC **13** 23:43:06.7±1.5, 19.°43S×177.°63W, h391km±15km, mb3.5/10, mb1 3.8/12, mb1mx3.6/29, mbtmp4.2/12, Error ellipse: s-maj=16.6km s-min=10.7km az=135.0*
ISC 13 23:43:07.3±0.5, **19.°34S**±0.°10×**177.°60W**±0.°09, **h400**km, **n104**, σ0°**94**/105, **mb4.1**/36, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**290**	P	**Pn**	**23 44 22.3**	**-1.4**
	4.7nm,0.3s,baz=62,slow=22,SNR=17						
NIUE	**Niue**	**7.26**	**89**	Pn	Pn	23 44 47.4	-6.5
MARNC	**Mare, Loyalty**	**13.64**	**259**	P	**P**	**23 46 05.0**	**-0.1**
PINNC	**Pines Island,**	**14.34**	**254**	P	**P**	**23 46 14.8**	**+2.1**
DZM	**Mont Dzumac**	**15.18**	**257**	P	**P**	**23 46 22.5**	**+0.6**
DZM				IAmb	IAmb	23 46 35.5	
	comp=Z,11nm,0.9s						
OUZ	**Omahuta**	**17.63**	**204**	P	**P**	**23 46 49.9**	**+2.0**
MXZ	**Matakaoa Point**	**18.51**	**190**	P	**P**	**23 46 56.2**	**-0.9**
URZ	**Urewera**	**19.41**	**193**	P	**P**	**23 47 04.3**	**-1.8**
	comp=Z,2.1nm,0.3s,baz=270,slow=4.7,SNR=12						
URZ				S	**S**	**23 50 21.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=77,slow=21,SNR=6.1						
URZ	**Urewera**	**19.41**	**193**	IAmb	IAmb	23 47 10.8	
	comp=E,6.1nm,0.6s						
BKZ	**Black Stump Fm**	**20.41**	**193**	P	**P**	**23 47 13.7**	**-1.8**
BKZ				IAmb	IAmb	23 47 32.2	
	comp=Z,7.2nm,1.2s						
BFZ	**Birch Farm**	**21.92**	**193**	P	**P**	**23 47 25.8**	**-3.3**
BFZ				IAmb	IAmb	23 47 40.0	
	comp=Z,13nm,1.1s						
PLWZ	**Palliser**	**22.98**	**194**	P	**P**	**23 47 36.7**	**-2.1**
QRZ	**Quartz Range**	**23.02**	**199**	P	**P**	**23 47 39.0**	**-0.1**
NNZ	**Nelson**	**23.13**	**198**	P	**P**	**23 47 39.7**	**-0.3**
NNZ				IAmb	IAmb	23 47 45.0	
	comp=Z,6.9nm,0.9s						
BSWZ	**Blackbirch Sta**	**23.46**	**196**	P	**P**	**23 47 42.2**	**-0.8**
THZ	**Tophouse**	**23.77**	**198**	P	**P**	**23 47 45.7**	**-0.2**
THZ				IAmb	IAmb	23 47 51.9	
	comp=Z,6.7nm,0.9s						
KHZ	**Kahutara**	**24.20**	**196**	P	**P**	**23 47 48.1**	**-1.5**
KHZ				IAmb	IAmb	23 47 52.8	
	comp=Z,12nm,1.0s						
LTZ	**Lake Taylor**	**24.89**	**198**	P	**P**	**23 47 55.5**	**-0.4**
LTZ				IAmb	IAmb	23 47 59.2	
	comp=Z,6.3nm,0.6s						
EIDS	**Eidsvold**	**29.54**	**253**	P	**P**	**23 48 37.4**	**+0.3**
ARMA	**Armidale**	**29.92**	**242**	P	**P**	**23 48 41.2**	**+0.6**
ARMA				IAmb	IAmb	23 48 47.4	
	comp=Z,8.8nm,1.1s						
TOO	**Toolangi**	**36.89**	**233**	P	**P**	**23 49 40.3**	**+0.4**
TOO				IAmb	IAmb	23 49 40.6	
	comp=Z,8.7nm,0.7s						
COEN	**Coen**	**37.90**	**272**	P	**P**	**23 49 48.3**	**-0.2**
STKA	**Stephens Creek**	**38.64**	**243**	P	**P**	**23 49 54.6**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=84,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**38.64**	**243**	IAmb	IAmb	23 49 55.5	
	comp=Z,1.1nm,1.1s						
BBOO	**Buckleboo**	**43.41**	**242**	P	**P**	**23 50 32.5**	**-0.1**
BBOO				IAmb	IAmb	23 50 45.9	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**44.95**	**261**	P	**P**	**23 50 45.0**	**+0.1**
WB0	**Warramunga Arr**	**45.12**	**261**	P	**P**	**23 50 45.7**	**-0.6**
WB2	**Warramunga Arr**	**45.13**	**261**	P	**P**	**23 50 45.9**	**-0.4**
WRA	**Warramunga Arr**	**45.14**	**261**	P	**P**	**23 50 45.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.7,SNR=37						
WRA				PcP	**PcP**	**23 52 19.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.3,SNR=2.5						
WRA				S	**S**	**23 56 54.1**	**-1.4**
	comp=Z,0.8nm,1.0s,baz=101,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**45.14**	**261**	P	**P**	**23 50 45.8**	**-0.7**
AS31	**Alice Springs**	**45.16**	**256**	P	**P**	**23 50 46.6**	**0.0**
ASAR	**Alice Springs**	**45.16**	**256**	P	**P**	**23 50 46.4**	**-0.2**
	comp=Z,12nm,0.6s,baz=92,slow=8.3,SNR=144						
ASAR				PcP	**PcP**	**23 52 19.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=116,slow=3.9,SNR=5.0						
ASAR				S	**S**	**23 56 56.5**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=79,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**45.16**	**256**	P	**P**	**23 50 46.2**	**-0.3**
FORT	**Forrest**	**50.10**	**246**	P	**P**	**23 51 23.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.56**	**261**	P	**P**	**23 51 49.7**	**+0.4**
PSA00	**Pilbara Seismi**	**58.30**	**256**	P	**P**	**23 52 23.0**	**+0.6**
PSA00				IAmb	IAmb	23 52 25.2	
	comp=Z,5.3nm,0.9s						
MJAR	**Matsushiro Arr**	**69.50**	**323**	P	**P**	**23 53 34.2**	**0.0**
	comp=Z,0.9nm,0.4s,baz=151,slow=4.6,SNR=4.3						
QSPA	**South Pole Qui**	**70.72**	**180**	P	**P**	**23 53 41.6**	**+0.4**
JHS	**Saijyo**	**71.47**	**319**	P	**P**	**23 53 47.2**	**+1.3**
TPUB	**Ta-pu**	**73.67**	**302**	P	**P**	**23 53 58.6**	**-0.4**
FALS	**False Pass**	**74.88**	**8**	P	**P**	**23 54 05.6**	**+0.5**
OHAK	**Old Harbor**	**78.94**	**13**	P	**P**	**23 54 27.3**	**-0.1**
YBH	**Yreka Blue Hor**	**79.15**	**39**	P	**P**	**23 54 30.0**	**+0.9**
BEKR	**Beckworth**	**79.45**	**41**	P	**P**	**23 54 31.3**	**+0.4**
BEKR				IAmb	IAmb	23 54 31.8	
	comp=Z,2.2nm,0.6s						
QSM	**Queen of Sheba**	**79.51**	**46**	P	**P**	**23 54 31.3**	**+0.3**
QSM				IAmb	IAmb	23 54 42.8	
	comp=Z,2.9nm,1.1s						
LCH	**Last Change Ra**	**79.69**	**45**	P	**P**	**23 54 32.7**	**+0.6**
L04D	**Klamath Falls**	**79.69**	**38**	P	**P**	**23 54 31.9**	**-0.1**
NVAR	**Mina Array Bea**	**79.93**	**43**	P	**P**	**23 54 34.4**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=224,slow=8.0,SNR=9.1						
KVN	**Kaiserville**	**80.41**	**43**	P	**P**	**23 54 36.3**	**+0.4**
KVN				IAmb	IAmb	23 54 37.0	
	comp=Z,2.7nm,0.7s						
P18K	**Big Mountain,**	**80.56**	**11**	P	**P**	**23 54 35.3**	**-0.7**
MOD	**Modoc Plateau**	**80.69**	**40**	P	**P**	**23 54 38.1**	**+0.8**
K05A	**Summer Lake**	**80.83**	**39**	P	**P**	**23 54 38.3**	**+0.2**
K05A				IAmb	IAmb	23 54 53.9	
	comp=Z,3.1nm,1.0s						
H04A	**Detroit Lake**	**81.28**	**36**	P	**P**	**23 54 40.4**	**+0.2**
PINE	**Pine Mountain**	**81.44**	**38**	P	**P**	**23 54 42.5**	**+1.2**
F04A	**Amboy**	**81.92**	**35**	P	**P**	**23 54 43.6**	**+0.2**
X16A	**Lo Mia Camp, P**	**82.51**	**50**	P	**P**	**23 54 48.6**	**+1.6**
X16A				IAmb	IAmb	23 54 49.3	
	comp=Z,3.4nm,0.9s						
Q23K	**Middleton Isla**	**82.55**	**16**	P	**P**	**23 54 46.6**	**+0.4**
KNB	**Kanab**	**82.83**	**47**	P	**P**	**23 54 49.5**	**+1.0**
KNB				IAmb	IAmb	23 54 57.9	
	comp=Z,4.4nm,1.2s						
U15A	**North Rim**	**82.91**	**48**	P	**P**	**23 54 50.4**	**+1.4**
PSUT	**Pine Spring**	**82.91**	**45**	P	**P**	**23 54 49.3**	**+0.4**
PSUT				IAmb	IAmb	23 54 55.2	
	comp=Z,3.0nm,1.2s						
M19K	**Big River Lodg**	**83.06**	**11**	P	**P**	**23 54 48.2**	**-0.6**
ELK	**Elko**	**83.18**	**43**	P	**P**	**23 54 50.9**	**+0.7**
G08A	**Pilot Rock**	**83.47**	**37**	P	**P**	**23 54 52.1**	**+0.6**
G08A				IAmb	IAmb	23 54 54.0	
	comp=Z,4.0nm,1.0s						
BMO	**Blue Mountains**	**84.18**	**38**	P	**P**	**23 54 55.3**	**+0.4**
WAX	**Waxell Ridge**	**84.33**	**16**	P	**P**	**23 54 55.5**	**+0.1**
WAX				IAmb	IAmb	23 55 11.6	
	comp=Z,6.0nm,1.1s						
SCM	**Sheep Creek Mo**	**84.42**	**14**	P	**P**	**23 54 55.4**	**-0.3**
SCM				IAmb	IAmb	23 54 56.3	
	comp=Z,3.9nm,0.8s						
K20K	**Telida**	**84.46**	**10**	P	**P**	**23 54 55.7**	**-0.2**
K20K				IAmb	IAmb	23 54 56.2	
	comp=Z,2.6nm,0.8s						
VRDI	**Verde Repeater**	**84.84**	**16**	P	**P**	**23 54 57.8**	**-0.2**
VRDI				IAmb	IAmb	23 55 13.5	
	comp=Z,3.7nm,1.0s						
F10A	**Beach Ranch, E**	**84.86**	**37**	P	**P**	**23 54 58.8**	**+0.5**
F10A				IAmb	IAmb	23 55 05.7	
	comp=Z,2.9nm,1.1s						
N25K	**Chitina, Valde**	**84.87**	**15**	P	**P**	**23 54 57.6**	**-0.4**
N25K				IAmb	IAmb	23 54 58.4	
	comp=Z,3.1nm,0.8s						
CAST	**Castle Rocks**	**84.87**	**11**	P	**P**	**23 54 56.6**	**-1.3**
CAST				IAmb	IAmb	23 54 57.4	
	comp=Z,2.8nm,0.8s						
M24K	**Tolsona, Glenn**	**84.93**	**14**	P	**P**	**23 54 58.9**	**+0.7**
M24K				IAmb	IAmb	23 55 05.2	
	comp=Z,3.5nm,0.9s						
GLB	**Gilahina Butte**	**84.93**	**16**	P	**P**	**23 54 57.9**	**-0.3**
GLB				IAmb	IAmb	23 55 02.7	
	comp=Z,5.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**86.11**	**57**	P	**P**	**23 55 06.0**	**+1.1**
TXAR	**Lajitas Array**	**86.12**	**57**	P	**P**	**23 55 06.5**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=210,slow=5.3,SNR=11						
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**23 55 07.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=218,slow=5.1,SNR=15						
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**23 55 07.9**	**-0.7**
PDAR	**Pinedale Array**	**87.86**	**43**	P	**P**	**23 55 13.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=214,slow=4.1,SNR=5.9						
SMCO	**Snowmass**	**87.92**	**47**		pwP	23 56 44.2	-3.9
CMAR	**Chiang Mai Arr**	**90.08**	**289**	P	**P**	**23 55 25.7**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=122,slow=2.6,SNR=10						
YKA	**Yellowknife Ar**	**95.31**	**25**	P	**P**	**23 55 46.0**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=344,slow=4.3,SNR=5.7						
ARCES	**ARCESS Array B**	**127.85**	**350**	PKP	**PKiKP**	**00 01 25.5**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=344,slow=1.8,SNR=10						
FINES	**FINESS Array B**	**134.77**	**344**	PKP	**PKiKP**	**00 01 39.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=108,slow=2.2,SNR=7.9						
BRTR	**Keskin Array B**	**146.32**	**314**	PKPbc	**PKPab**	**00 02 02.5**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=99,slow=2.7,SNR=9.6						
OSTC	**Ostas**	**146.97**	**344**	*e*PKP	**PKiKP**	**00 02 04.3**	**-1.4**
DPC	**Dobruska-Polom**	**147.13**	**343**	*e*PKP	**PKiKP**	**00 02 04.7**	**-1.3**
KRLC	**Kraliky**	**147.25**	**343**	*e*PKP	**PKiKP**	**00 02 04.8**	**-1.5**
PRU	**Pruhonice**	**147.92**	**345**	*e*PKP	**PKiKP**	**00 02 06.4**	**-1.2**
KHC	**Kasperske Hory**	**148.94**	**346**	*e*PKP	**PKiKP**	**00 02 08.9**	**-0.9**
CKRC	**Cesky Krumlov**	**149.06**	**345**	*e*PKP	**PKPbc**	**00 02 07.6**	**-1.4**
GERES	**GERESS Array B**	**149.18**	**345**	PKPbc	**PKiKP**	**00 02 09.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=40,slow=4.4,SNR=9.2						
CONA	**Conrad Observa**	**149.45**	**342**	*e*P	**PKiKP**	**00 02 10.6**	**-0.4**
	comp=Z,4.3nm,1.2s						
MOA	**Molln**	**149.97**	**344**	*e*P	**PKiKP**	**00 02 12.6**	**+0.7**
	comp=Z,2.4nm,1.1s						
BIOA	**Bad Ischl, Aus**	**150.27**	**345**	*e*P	**PKiKP**	**00 02 11.5**	**-1.0**
	comp=Z,1.2nm,0.3s						
SOKA	**Soboth**	**150.82**	**342**	*e*P	**PKPbc**	**00 02 12.7**	**-0.7**
	comp=Z,8.4nm,1.4s						
KBA	**Koelnbreinsper**	**150.92**	**345**	*e*P	**PKPbc**	**00 02 13.0**	**-0.6**
	comp=Z,1.6nm,0.4s						
WATA	**Walderalm**	**151.09**	**347**	*i* P	**PKiKP**	**00 02 13.8**	**-0.6**
	comp=Z,3.6nm,0.5s,SNR=4.3						
RETA	**Reutte**	**151.10**	**348**	*e*P	**PKiKP**	**00 02 13.7**	**-0.7**
	comp=Z,1.7nm,0.5s						
WTTA	**Wattenberg**	**151.14**	**347**	*i* P	**PKiKP**	**00 02 14.0**	**-0.6**
	comp=Z,6.1nm,0.4s,SNR=8.8						
MOTA	**Moosalm**	**151.17**	**348**	*e*P	**PKiKP**	**00 02 14.1**	**-0.6**
	comp=Z,5.6nm,1.2s						
MYKA	**Terra Mystica**	**151.26**	**344**	*e*P	**PKPbc**	**00 02 13.5**	**-0.8**
	comp=Z,2.6nm,0.4s						
SQTA	**Sankt Quirin**	**151.27**	**347**	*i* P	**PKiKP**	**00 02 14.2**	**-0.6**
	comp=Z,3.0nm,0.6s,SNR=4.0						
ABTA	**Abfaltersbach**	**151.43**	**345**	*e*P	**PKiKP**	**00 02 14.1**	**-0.9**
	comp=Z,6.2nm,0.5s						
FETA	**Feichten**	**151.56**	**348**	*e*P	**PKiKP**	**00 02 15.1**	**-0.3**
	comp=Z,2.6nm,0.6s						

*NIC **13** 23:47:32.9±0.0, 35.°22N×30.°98E, h9km±2km, Ml3.0/3*
*ISK **13** 23:47:35.6, 35.°80N×31.°38E, h8km, ML2.9/15*
*DDA **13** 23:47:38.6±0.0, 36.°03N×31.°39E, h22km±1km, ML2.6*
ISC 13 23:47:33.7±1.4, **35.°75N**±0.°03×**31.°37E**±0.°03, **h2**km±11km, **n48**, σ1°**38**/67, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.91**	**58**	PG	**Pb**	**23 47 52.7**	**+0.6**
GAZI				SG	**Sb**	**23 48 04.9**	**+0.2**
GAZI	**Gazipasa**	**0.91**	**58**	P	**Pn**	**23 47 54.0**	**+0.5**
GAZI				S	**Sb**	**23 48 04.5**	**-0.2**
AKUM	**Antalya-Kumluc**	**1.01**	**305**	P	**Pn**	**23 47 54.9**	**+1.0**
AKUM				S	**Sb**	**23 48 08.6**	**+1.1**
AKUM				*i* AML	AML	23 48 17.0	
	comp=E,309nm,0.5s						
AKUM				*i* AML	AML	23 48 17.0	
	comp=N,202nm,0.4s						
AKMS	**Akamas**	**1.07**	**133**	P	**Pg**	**23 47 54.5**	**+0.2**
AKMS				S	**Sb**	**23 48 10.2**	**+0.7**
AKMS				AML	AML	23 48 21.3	
	1.2nm,0.7s						
AKMS				AML	AML	23 48 21.3	
	1.2nm,0.7s						
AKMS				AML	AML	23 48 23.7	
	1.1nm,0.5s						
AKMS				AML	AML	23 48 23.7	
	1.1nm,0.5s						
KEMT	**Kemer-ANTALYA**	**1.08**	**322**	PG	**Pb**	**23 47 55.8**	**+0.8**
KEMT				SG	**Sn**	**23 48 10.9**	**-0.3**
KEPZ	**Antalya-Kepez**	**1.16**	**9**	P	**Pg**	**23 47 56.2**	**+0.2**
KEPZ				S	**Sg**	**23 48 08.9**	**-2.3**
KEPZ				*i* AML	AML	23 48 11.0	
	comp=N,156nm,1.1s						
ALFC	**Alefka**	**1.17**	**120**	P	**Pn**	**23 47 57.5**	**+0.5**
ALFC				S	**Sn**	**23 48 16.7**	**+3.2**
ALFC				AML	AML	23 48 23.4	
	1.1nm,0.5s						
ALFC				AML	AML	23 48 23.4	
	1.1nm,0.5s						
ALFC				AML	AML	23 48 28.6	
	0.6nm,0.5s						
ALFC				AML	AML	23 48 28.6	
	0.6nm,0.5s						
ANTB	**Antalya**	**1.28**	**333**	PN	**Pb**	**23 47 59.7**	**+1.1**
ANTB				SN	**Sn**	**23 48 17.2**	**+0.8**
NATA	**Nata**	**1.38**	**134**	S	**Sb**	**23 48 16.6**	**-1.7**
TEKE	**Tekeli-Mersin**	**1.47**	**74**	PN	**Pg**	**23 48 02.8**	**+0.9**
KORT	**Korkueli**	**1.49**	**327**	P	**Pb**	**23 48 03.0**	**+0.7**
KORT				*i* AML	AML	23 48 34.0	
	comp=E,111nm,0.9s						
KORT				*i* AML	AML	23 48 35.0	
	comp=N,82nm,0.7s						
KSL	**Kastellorizon**	**1.50**	**286**	P	**Pn**	**23 47 59.2**	**-2.4**
KSL				S	**Sn**	**23 48 19.3**	**-2.4**
AKAS	**Kas**	**1.51**	**289**	P	**Pn**	**23 47 59.1**	**-2.8**
ERMK	**Ermenek**	**1.53**	**54**	P	**Pg**	**23 48 04.8**	**+1.7**
ERMK				*i* AML	AML	23 48 37.0	
	comp=N,93nm,0.4s						
ELL	**Elmali**	**1.54**	**311**	PN	**Pb**	**23 48 03.6**	**+0.5**
ELL	**Elmali**	**1.54**	**311**	P	**Pn**	**23 48 03.1**	**+0.8**
SZAC	**Souni**	**1.59**	**128**	S	**Sn**	**23 48 23.7**	**-0.2**
BERE	**Bereket-Mersin**	**1.61**	**68**	PN	**Pb**	**23 48 04.5**	**+0.2**
BUCA	**Burdur, Bucak-**	**1.70**	**338**	P	**Pb**	**23 48 06.2**	**+0.4**
SEDI	**Konya, Seydise**	**1.73**	**10**	P	**Pn**	**23 48 04.9**	**0.0**
SEDI				S	**Sn**	**23 48 25.5**	**-2.0**
SEDI				*i* AML	AML	23 48 41.0	
	comp=N,75nm,0.6s						
SUTC	**Sutluce-Ispart**	**1.75**	**350**	PN	**Pn**	**23 48 06.3**	**+1.2**
CSS	**Mathiatis**	**1.79**	**116**	P	**Pn**	**23 48 05.9**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.81**	**76**	P	**Pb**	**23 48 08.0**	**+0.4**
GULN				S	**Sb**	**23 48 30.8**	**0.0**
BCK	**Bucak**	**1.82**	**340**	PN	**Pn**	**23 48 06.9**	**+0.8**
KKBE	**Karaman, Kazim**	**1.94**	**40**	P	**Pb**	**23 48 09.7**	**0.0**
KKBE				*i* AML	AML	23 48 41.0	
	comp=N,140nm,0.6s						
KKBE				*i* AML	AML	23 48 43.0	
	comp=E,124nm,0.7s						
MVOU	**Mavrovouni**	**1.99**	**111**	P	**Pn**	**23 48 08.8**	**+0.5**
MVOU				AML	AML	23 48 49.1	
	0.4nm,0.8s						
MVOU				AML	AML	23 48 56.3	
	0.4nm,0.7s						
CAME	**Cameli-Denizli**	**2.05**	**306**	PN	**Pn**	**23 48 10.7**	**+1.4**
GOLH	**Golhisar**	**2.08**	**316**	P	**Pb**	**23 48 12.1**	**0.0**
GOLH				*i* AML	AML	23 48 43.0	
	comp=E,50nm,1.2s						
GOLH				*i* AML	AML	23 48 50.0	
	comp=N,40nm,0.9s						
KRMN	**Karaman**	**2.08**	**47**	PN	**Pn**	**23 48 11.2**	**+1.5**
KMER	**Konya-Meram**	**2.17**	**21**	P	**Pb**	**23 48 12.8**	**-0.9**
KMER				S	**Sn**	**23 48 38.5**	**+0.2**
KMER				*i* AML	AML	23 48 44.0	
	comp=N,59nm,0.8s						
KMER				*i* AML	AML	23 48 48.0	
	comp=E,43nm,0.5s						
ISP	**Isparta**	**2.18**	**342**	PN	**Pn**	**23 48 12.4**	**+1.4**
BRDR	**BURDUR-Merkez**	**2.21**	**332**	P	**Pb**	**23 48 14.0**	**-0.4**
BRDR				S	**Sn**	**23 48 40.5**	**+1.2**
BAGO	**Egridir - ISPA**	**2.28**	**348**	P	**Pn**	**23 48 14.5**	**+2.1**
BAGO				S	**Sb**	**23 48 44.0**	**-0.4**
BAGO				*i* AML	AML	23 48 49.0	
	comp=E,46nm,0.5s						
KONT	**Konya--Tatoy**	**2.33**	**20**	PN	**Pn**	**23 48 14.7**	**+1.6**
KONT	**Konya--Tatoy**	**2.33**	**20**	P	**Pb**	**23 48 16.1**	**-0.3**
DOGA	**KONYA_Doganhis**	**2.36**	**6**	P	**Pb**	**23 48 16.0**	**-1.0**
DOGA				S	**Sn**	**23 48 42.3**	**-0.9**
BASM	**Basmaki-Afyon**	**2.41**	**334**	PN	**Pn**	**23 48 16.0**	**+1.8**
DALY	**Dalyan (Mula)**	**2.44**	**297**	PN	**Pn**	**23 48 16.5**	**+2.0**
YVAC	**Isparta, Yalva**	**2.52**	**358**	P	**Pn**	**23 48 17.2**	**+1.5**
YVAC				S	**Sn**	**23 48 46.0**	**-1.0**
LADK	**Ladik-KONYA**	**2.57**	**18**	PN	**Pn**	**23 48 18.2**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.61**	**312**	P	**Pn**	**23 48 18.2**	**+1.2**
ALIN	**Konya, Altinte**	**2.81**	**25**	P	**Pb**	**23 48 22.6**	**-2.1**
KDHN	**Kadınhani**	**2.83**	**12**	P	**Pn**	**23 48 21.3**	**+1.3**
KDHN				S	**Sn**	**23 48 53.5**	**-1.1**
YER	**Yerkesik**	**2.85**	**300**	PN	**Pn**	**23 48 21.8**	**+1.6**
SHUT	**Suhut-Afyon**	**2.87**	**347**	PN	**Pn**	**23 48 22.4**	**+1.8**
PASA	**Karahalli, USA**	**3.00**	**330**	P	**Pn**	**23 48 22.4**	**+0.1**
PASA				S	**Sn**	**23 48 57.8**	**-1.0**
DED	**Mersin**	**3.02**	**65**	P	**Pb**	**23 48 26.0**	**-2.2**
DED				S	**Sb**	**23 49 02.4**	**-3.1**
KKUL	**Konya-Kulu**	**3.63**	**19**	P	**Pn**	**23 48 32.5**	**+1.5**

*NEIC **13** 23:54:36.0±0.9, 13.°69N±0.°09×144.°6E±0.°1, h134km±5km, mb4.1/17, Error ellipse: s-maj=18.3km s-min=12.4km az=96.0*
*IDC **13** 23:54:35.5±0.6, 13.°63N×144.°67E, h135km±11km, mb3.2/6, mb1 3.4/6, mb1mx3.0/42, mbtmp3.6/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/23, Error ellipse: s-maj=52.7km s-min=18.0km az=86.0*
ISC 13 23:54:35.2±0.6, **13.°68N**±0.°09×**144.°5E**±0.°1, **h129**km, **n33**, σ0°**94**/31, **mb3.9**/14, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.41**	**103**	P	**Pn**	**23 54 55.1**	**+1.5**
	121nm,0.3s,baz=303,slow=6.1,SNR=29						
GUMO		

PB11				IAML			01 03 13.1	
	comp=E,4µm,0.3s							
HMBC	**Humberstone**	**0.93**	**249**	*eP*		**Pn**	**01 02 59.6**	**-0.1**
HMBC				*i* S		**Sn**	**01 03 15.8**	**+0.1**
HMBC				IAML			01 03 19.4	
	comp=N,3µm,0.3s							
TA02	**Huaiquique**	**1.15**	**253**			**Pn**	**01 03 01.9**	**+0.2**
TA02				Sn		**Sn**	**01 03 20.1**	**+0.8**
TA02	**Huaiquique**	**1.15**	**253**‖	*eP*		**Pn**	**01 03 01.7**	**0.0**
TA02				*eS*		**Sn**	**01 03 19.4**	**+0.2**
TA02				IAML			01 03 21.1	
	comp=E,6µm,0.1s							
PB01	**IPOC Station P**	**1.20**	**204**	Pn		**Pn**	**01 03 02.6**	**+0.2**
PB01				Sn		**Sn**	**01 03 21.1**	**+0.7**
PB01	**IPOC Station P**	**1.20**	**204**	*eP*		**Pn**	**01 03 02.4**	**0.0**
PB01				*eS*		**Sn**	**01 03 20.6**	**+0.1**
PB01				IAML			01 03 22.9	
	comp=E,3µm,0.4s							
TA01	**Diego Aracena**	**1.30**	**241**			**Pn**	**01 03 03.3**	**-0.1**
TA01				Sn		**Sn**	**01 03 22.4**	**+0.1**
TA01	**Diego Aracena**	**1.30**	**241**	*eP*		**Pn**	**01 03 03.3**	**-0.1**
TA01				*i* S		**Sn**	**01 03 22.5**	**+0.3**
PATCX	**Punta Patache**	**1.42**	**232**			**Pn**	**01 03 04.6**	**-0.2**
PATCX				Sn		**Sn**	**01 03 25.2**	**+0.4**
PATCX	**Punta Patache**	**1.42**	**232**	*eP*		**Pn**	**01 03 04.8**	**0.0**
PATCX				*i* S		**Sn**	**01 03 25.0**	**+0.2**
PATCX				IAML			01 03 31.4	
	comp=E,1µm,0.2s							
PB02	**IPOC Station P**	**1.63**	**212**			**Pn**	**01 03 07.6**	**+0.3**
PB02				Sn		**Sn**	**01 03 29.4**	**+0.2**
PB02	**IPOC Station P**	**1.63**	**212**	*eP*		**Pn**	**01 03 07.7**	**+0.3**
PB02				*i* S		**Sn**	**01 03 29.8**	**+0.6**
PB02				IAML			01 03 40.0	
	comp=E,2µm,0.3s							
PB16	**IPOC Station P**	**1.68**	**342**	Pn		**Pn**	**01 03 09.2**	**+0.7**
PB16				Sn		**Sn**	**01 03 32.2**	**+1.0**
PB16	**IPOC Station P**	**1.68**	**342**	*eP*		**Pn**	**01 03 09.3**	**+0.8**
PB16				*eS*		**Sn**	**01 03 32.1**	**+1.0**
PB12	**IPOC Station P**	**1.85**	**315**	Pn		**Pn**	**01 03 09.6**	**-0.4**
PB12	**IPOC Station P**	**1.85**	**315**	*eP*		**Pn**	**01 03 09.7**	**-0.4**
PB12				*eS*		**Sn**	**01 03 33.6**	**-0.4**
PB09	**IPOC Station P**	**1.86**	**188**			**Pn**	**01 03 10.8**	**+0.5**
PB09	**IPOC Station P**	**1.86**	**188**	*eP*		**Pn**	**01 03 10.7**	**+0.4**
PB09				*i* S		**Sn**	**01 03 35.5**	**+1.0**
PB07	**IPOC Station P**	**1.98**	**206**			**Pn**	**01 03 11.9**	**+0.2**
PB07	**IPOC Station P**	**1.98**	**206**‖	*eP*		**Pn**	**01 03 11.7**	**0.0**
PB07				*eS*		**Sn**	**01 03 36.7**	**-0.3**
PB07				IAML			01 03 42.1	
	comp=E,905nm,0.3s							
AP01	**Chacalluta**	**2.04**	**320**	Pn		**Pn**	**01 03 12.2**	**-0.1**
PB04	**IPOC Station P**	**2.63**	**205**	Pn		**Pn**	**01 03 20.1**	**+0.1**
PB04	**IPOC Station P**	**2.63**	**205**	*eP*		**Pn**	**01 03 20.1**	**+0.1**
PB04				*eS*		**Sn**	**01 03 50.5**	**-1.4**
PB04				IAML			01 04 04.8	
	comp=N,444nm,0.3s							
LVC	**Limon Verde**	**2.66**	**179**			**Pn**	**01 03 21.3**	**+0.8**
LVC	**Limon Verde**	**2.66**	**179**‖	*eP*		**Pn**	**01 03 21.1**	**+0.5**
LVC				*eS*		**Sn**	**01 03 53.7**	**+0.9**
PB06	**IPOC Station P**	**2.81**	**192**			**Pn**	**01 03 22.3**	**-0.1**
PB06	**IPOC Station P**	**2.81**	**192**	*eP*		**Pn**	**01 03 22.1**	**-0.3**
PB06				*i* S		**Sn**	**01 03 55.8**	**-0.2**
PB06				IAML			01 04 05.2	
	comp=N,432nm,0.3s							
PB15	**IPOC Station P**	**3.28**	**188**			**Pn**	**01 03 29.1**	**+0.4**
PB15	**IPOC Station P**	**3.28**	**188**	*eP*		**Pn**	**01 03 28.9**	**+0.2**
PB15				*i* S		**Sn**	**01 04 07.7**	**+0.3**
LPAZ	**La Paz**	**3.72**	**12**	P		**Pn**	**01 03 36.0**	**+1.1**
	comp=N,8.2nm,0.3s,baz=186,slow=7.0,SNR=122							
LPAZ	**La Paz**	**3.72**	**12**	Pn		**Pn**	**01 03 35.8**	**+0.9**
PB10	**IPOC Station P**	**3.85**	**202**	*eP*		**Pn**	**01 03 35.5**	**-0.6**
AC02	**Maricunga**	**6.86**	**181**	Pn		**Pn**	**01 04 15.6**	**-1.5**
AC06	**Mina Casimiro**	**7.49**	**190**	Pn		**Pn**	**01 04 23.0**	**-2.2**
GO03	**Copiap**	**7.71**	**188**	Pn		**Pn**	**01 04 26.7**	**-1.4**
VA05	**Santo Domingo**	**13.86**	**189**	Pn		**Pn**	**01 05 51.5**	**+1.4**
MT09	**Talagante**	**13.90**	**187**	P		**P**	**01 05 56.2**	**+1.1**
BO01	**Tunca**	**14.52**	**187**	P		**P**	**01 06 03.1**	**+1.3**
BO02	**Sierra Bellavi**	**14.88**	**186**	P		**P**	**01 06 07.7**	**+1.7**
PLTB	**Pedras Altas**	**18.13**	**134**	P		**P**	**01 06 39.1**	**-2.6**
PLTB				IAmb		IAmb	01 07 07.8	
	comp=Z,4.0nm,0.9s							
PLCA	**Paso Flores**	**20.77**	**183**	P		**P**	**01 07 11.4**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=7.3,slow=16,SNR=3.0							
PLCA				LR		LR	01 15 39.6	
	comp=Z,87nm,21.3s,baz=252,slow=37							
PLCA	**Paso Flores**	**20.77**	**183**	P		**P**	**01 07 10.6**	**+0.3**
DBIC	**Dimbokro**	**68.34**	**74**	P		**P**	**01 13 25.8**	**-2.3**
	comp=Z,1.8nm,0.6s,baz=256,slow=9.4,SNR=4.0							
DBIC	**Dimbokro**	**68.34**	**74**	P		**P**	**01 13 26.1**	**-2.0**
PDAR	**Pinedale Array**	**72.75**	**330**	P		**P**	**01 13 55.7**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=124,slow=7.7,SNR=1.8							
PDAR	**Pinedale Array**	**72.75**	**330**	P		**P**	**01 13 55.3**	**+0.8**
YKA	**Yellowknife Ar**	**89.71**	**341**	P		**P**	**01 15 23.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=133,slow=4.6,SNR=20							
WRA	**Warramunga Arr**	**134.26**	**211**	PKP		**PKiKP**	**01 21 44.5**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=172,slow=1.4,SNR=9.7							
MKAR	**Makanchi Array**	**144.39**	**35**	PKP		PKPbc	01 21 59.6	-0.3
	comp=Z,0.7nm,1.1s,baz=308,slow=3.5,SNR=2.0							
MKAR	**Makanchi Array**	**144.39**	**35**			PKPbc	01 22 00.0	+0.1

*IDC **14** 01:09:02.8≗1.4, 18°.88N×146°.82E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/51, mbtmp3.8/6, MS3.0/2, Ms1 3.0/2, ms1mx2.4/77, Error ellipse: s-maj=53.2km s-min=23.2km az=87.0*
*NEIC **14** 01:09:03.0≗1.3, 19°.07N±0°.05×147°.5E±0°.2, h10km±2km, mb4.2/11, Error ellipse: s-maj=33.2km s-min=6.1km az=81.0*

ISC 14 01:09:08.0±0.8, 19°.00N±0°.09×147°.1E±0°.2, h37km, n29, σ1s03/24, mb4.1/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.78**	**202**	Pn	**Pn**	**01 10 33.1**	**+2.0**
JCJ	**Chichijima**	**9.23**	**332**	Pn	**Pn**	**01 11 18.5**	**0.0**
PATS	**Pohnpei**	**16.30**	**136**	P	**Pn**	**01 12 53.1**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**18.59**	**88**	T	T	01 32 51.3	
	baz=275,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**18.60**	**88**	T	T	01 32 47.5	
	baz=275,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**18.61**	**88**	T	T	01 32 49.6	
	baz=275,slow=74,SNR=5.8						
KSRS	**Korea Array**	**24.87**	**322**	LR	LR	01 23 48.9	
	comp=Z,18nm,18.3s,baz=230,slow=36						
PMG	**Port Moresby**	**28.22**	**180**	LR	LR	01 25 41.2	
	comp=Z,49nm,19.0s,baz=136,slow=36						
WB0	**Warramunga Arr**	**40.48**	**199**	P	**P**	**01 16 42.4**	**-0.9**
WB0				IAmb	IAmb	01 17 02.4	
	comp=Z,9.3nm,1.3s						
WR0	**Warramunga Arr**	**40.62**	**198**	P	**P**	**01 16 43.1**	**-1.3**
WB2	**Warramunga Arr**	**40.66**	**199**	P	**P**	**01 16 44.3**	**-0.5**
WB2				IAmb	IAmb	01 17 00.2	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**40.66**	**199**	P	**P**	**01 16 43.3**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=20,slow=8.1,SNR=6.5						
WRA	**Warramunga Arr**	**40.66**	**199**	P	**P**	**01 16 42.8**	**-2.0**
SONM	**Songino Array**	**43.73**	**321**	P	**P**	**01 17 10.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=136,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**43.73**	**321**	P	**P**	**01 17 09.2**	**-0.5**
ASAR	**Alice Springs**	**44.30**	**197**	P	**P**	**01 17 13.1**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=24,slow=9.2,SNR=2.3						
ZAA0	**Zalesovo Array**	**58.57**	**322**	P	**P**	**01 19 01.0**	**+0.2**
ZAA0				IAmb	IAmb	01 19 01.4	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**58.57**	**322**	P	**P**	**01 19 00.5**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=108,slow=7.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**58.57**	**322**	P	**P**	**01 19 00.9**	**0.0**
MK31	**Makanchi Array**	**59.19**	**314**	P	**P**	**01 19 05.2**	**-0.1**
MK31				IAmb	IAmb	01 19 27.5	
	comp=Z,1.8nm,1.4s						
MKAR	**Makanchi Array**	**59.19**	**314**	P	**P**	**01 19 05.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=90,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**59.19**	**314**	P	**P**	**01 19 05.2**	**-0.1**
MAKZ	**Makanchi**	**59.41**	**314**	P	**P**	**01 19 06.3**	**-0.5**
MAKZ				IAmb	IAmb	01 19 18.7	
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**61.92**	**318**	P	**P**	**01 19 23.1**	**-0.7**
KURK				IAmb	IAmb	01 19 49.1	
	comp=Z,1.9nm,1.0s						
KKAR	**Karatay Array**	**67.58**	**310**	P	**P**	**01 20 00.6**	**-0.3**
ARU	**Arti**	**73.58**	**325**	P	**P**	**01 20 36.6**	**-0.5**
ARU				IAmb	IAmb	01 20 37.9	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**74.00**	**317**	P	**P**	**01 20 39.2**	**-0.6**
YKA	**Yellowknife Ar**	**77.12**	**28**	P	**P**	**01 20 59.4**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=291,slow=5.2,SNR=3.5						
FINES	**FINESS Array B**	**87.15**	**336**	P	**P**	**01 21 50.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=58,slow=4.2,SNR=10						

*IDC **14** 01:09:40.8≗1.4, 32°.52S×71°.61W, h0km, mb3.9/3, mb1 3.9/8, mb1mx3.7/33, mbtmp3.7/8, ML3.8/5, MS3.0/3, Ms1 3.0/3, ms1mx2.9/50, Error ellipse: s-maj=41.4km s-min=24.5km az=90.0*
*GUC **14** 01:09:45.8±0.9, 32°.62S×71°.72W, h25km±7km, ML4.0*
*NEIC **14** 01:09:45.6±1.9, 32°.61S±0°.03×71°.70W±0°.05, h31km±4km, mb3.9/4, ML4.0(GUC), Error ellipse: s-maj=6.1km s-min=4.3km az=76.0*

ISC 14 01:09:43.3±1.1, 32°.54S±0°.02×71°.69W±0°.04, h15km±7km, n79, σ0s96/89, mb4.1/3, 1C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.33**	**94**	Pg	**Pn**	**01 09 53.5**	**0.0**
VA06				Sg	**Sn**	**01 09 59.4**	**-0.7**
VA06	**Catapilco**	**0.33**	**94**	‖*iP*	**Pn**	**01 09 53.5**	**0.0**
VA06				*i* S	**Sn**	**01 09 59.1**	**-0.9**
VA06				IAML		01 10 00.2	
	comp=E,68µm,0.5s						
VA01	**Torpederas**	**0.49**	**176**		**Pg**	**01 09 54.2**	**+1.2**
VA01				Sg	**Sg**	**01 10 00.7**	**+1.1**
VA01	**Torpederas**	**0.49**	**176**	*eP*	**Pg**	**01 09 54.2**	**+1.2**
VA01				*eS*	**Sg**	**01 10 00.7**	**+1.1**
ROC1	**El Roble**	**0.72**	**128**		**Pg**	**01 09 56.9**	**-0.5**
ROC1					**Sb**	**01 10 07.0**	**-0.4**
ROCH	**El Roble**	**0.72**	**127**	‖*iP*	**Pn**	**01 09 58.9**	**-0.2**
ROCH				‖*iP*	**Pg**	**01 09 57.0**	**-0.4**
ROCH				*i* S	**Sb**	**01 10 06.9**	**-0.5**
ROCH				*i* S	**Sn**	**01 10 08.8**	**-1.2**
ROCH				IAML		01 10 10.9	
	comp=N,7µm,0.6s						
MT02	**Curacav**	**0.86**	**147**		**Pg**	**01 10 00.4**	**+0.4**
MT02				Sn	**Sg**	**01 10 11.4**	**+0.1**
MT02	**Curacav**	**0.86**	**147**	‖*iP*	**Pg**	**01 10 00.4**	**+0.4**
MT02				*i* S	**Sg**	**01 10 11.2**	**0.0**
VA03	**San Esteban**	**0.99**	**104**		**Pn**	**01 10 03.2**	**+0.4**
VA03	**San Esteban**	**0.99**	**104**	‖*iP*	**Pn**	**01 10 03.1**	**+0.4**
VA03				*eS*	**Sn**	**01 10 16.4**	**0.0**
VA03				IAML		01 10 18.8	
	comp=E,4µm,0.2s						
PEL	**Peldehue**	**1.04**	**126**	Pn	**Pn**	**01 10 04.0**	**+0.6**
PEL	**Peldehue**	**1.04**	**126**	‖*iP*	**Pn**	**01 10 04.0**	**+0.6**
PEL				*eS*	**Sn**	**01 10 17.9**	**+0.3**
PEL				IAML		01 10 22.0	
	comp=N,5µm,0.3s						
VA05	**Santo Domingo**	**1.12**	**177**		**Pn**	**01 10 04.1**	**-0.3**
VA05	**Santo Domingo**	**1.12**	**177**	*eP*	**Pn**	**01 10 04.0**	**-0.3**
VA05				*eS*	**Sb**	**01 10 18.2**	**-0.5**
VA05				IAML		01 10 20.8	
	comp=E,12µm,0.4s						
MT05	**Renca**	**1.17**	**137**		**Pg**	**01 10 05.9**	**0.0**
MT05	**Renca**	**1.17**	**137**	‖*iP*	**Pg**	**01 10 05.8**	**0.0**
MT05				*i* S	**Sg**	**01 10 21.4**	**+0.2**
MT05				IAML		01 10 23.9	
	comp=E,10µm,0.5s						
MT09	**Talagante**	**1.37**	**155**		**Pn**	**01 10 08.6**	**+0.6**
MT09	**Talagante**	**1.37**	**155**	‖*iP*	**Pn**	**01 10 08.5**	**+0.5**
MT09				*i* S	**Sn**	**01 10 25.4**	**-0.5**
MT09				IAML		01 10 28.8	
	comp=N,5µm,0.4s						
MT01	**Popeta**	**1.38**	**165**	Pn	**Pn**	**01 10 08.2**	**+0.2**
MT01	**Popeta**	**1.38**	**165**	‖*iP*	**Pn**	**01 10 08.1**	**+0.2**
MT01				*eS*	**Sn**	**01 10 24.7**	**-1.1**
MT03	**Universidad Ad**	**1.38**	**134**	Pn	**Pb**	**01 10 09.1**	**+0.3**
MT03	**Universidad Ad**	**1.38**	**134**	‖*iP*	**Pb**	**01 10 09.1**	**+0.3**
MT03				*i* S	**Sg**	**01 10 27.2**	**-0.6**
MT03				IAML		01 10 31.8	
	comp=E,6µm,0.2s						
FCH	**Farellones**	**1.42**	**124**	*eP*	**Pb**	**01 10 09.6**	**0.0**
FCH				*eS*	**Sg**	**01 10 28.3**	**-0.8**
FCH				IAML		01 10 32.3	
	comp=E,1µm,0.2s						
CO02	**Combarbal**	**1.45**	**24**		**Pg**	**01 10 10.8**	**-0.5**
CO02	**Combarbal**	**1.45**	**24**	*i* P	**Pg**	**01 10 10.7**	**-0.5**
CO02				*i* S	**Sg**	**01 10 30.4**	**+0.3**
CO02				IAML		01 10 39.8	
	comp=E,4µm,0.4s						
BO04	**La Punta**	**1.71**	**148**		**Pb**	**01 10 14.1**	**-0.3**
BO04	**La Punta**	**1.71**	**148**	*eP*	**Pb**	**01 10 13.9**	**-0.5**
BO04				*eS*	**Sb**	**01 10 35.8**	**+0.1**
BO04				IAML		01 10 39.2	
	comp=N,2µm,0.4s						
LMEL	**Las Melosas**	**1.81**	**137**		**Pb**	**01 10 15.7**	**-0.4**
LMEL	**Las Melosas**	**1.81**	**137**	*eP*	**Pb**	**01 10 15.5**	**-0.6**
LMEL				*i* S	**Sg**	**01 10 39.7**	**-1.8**
LMEL				IAML		01 10 46.1	
	comp=N,2µm,0.5s						
CO06	**Fray Jorge**	**1.86**	**1**		**Pn**	**01 10 15.0**	**+0.5**
CO06	**Fray Jorge**	**1.86**	**1**	‖*eP*	**Pn**	**01 10 14.7**	**+0.2**
CO06				IAML		01 10 48.6	
	comp=E,926nm,0.5s						
CO03	**El Pedregal**	**1.90**	**27**	Pn	**Pb**	**01 10 17.2**	**-0.4**
CO03	**El Pedregal**	**1.90**	**27**	*i* P	**Pb**	**01 10 17.1**	**-0.4**
CO03				IAML		01 10 50.3	
	comp=E,934nm,0.2s						
BO01	**Tunca**	**1.92**	**165**	Pn	**Pn**	**01 10 15.8**	**+0.4**
BO01	**Tunca**	**1.92**	**165**	*i* P	**Pn**	**01 10 15.8**	**+0.4**
BO03	**Pichilemu**	**1.97**	**187**	‖*iP*	**Pn**	**01 10 15.1**	**-0.9**
BO02	**Sierra Bellavi**	**2.38**	**162**		**Pn**	**01 10 22.6**	**+0.9**
BO02	**Sierra Bellavi**	**2.38**	**162**	*eP*	**Pn**	**01 10 22.5**	**+0.8**
GO04	**Tololo Observa**	**2.48**	**18**	Pn	**Pn**	**01 10 25.2**	**+1.9**
GO04	**Tololo Observa**	**2.48**	**18**	*eP*	**Pn**	**01 10 24.8**	**+1.5**
CO05	**La Serena**	**2.64**	**9**	Pn	**Pn**	**01 10 27.1**	**+1.8**
CO05	**La Serena**	**2.64**	**9**	*eP*	**Pb**	**01 10 30.3**	**+0.1**
CO05				IAML		01 11 11.0	
	comp=E,684nm,0.5s						
ML02	**Panimavida**	**3.23**	**176**	Pn	**Pn**	**01 10 33.3**	**0.0**
ML02	**Panimavida**	**3.23**	**176**	*eP*	**Pn**	**01 10 33.4**	**0.0**
ML02				IAML		01 11 28.2	
	comp=N,773nm,0.4s						
AC04	**Llanos de Chal**	**4.35**	**7**	Pn	**Pn**	**01 10 49.6**	**+0.8**
GO03	**Copiap**	**5.08**	**15**	Pn	**Pn**	**01 10 59.9**	**+0.9**
AC06	**Mina Casimiro**	**5.29**	**13**	Pn	**Pn**	**01 11 02.1**	**+0.3**
AC02	**Maricunga**	**6.10**	**22**	Pn	**Pn**	**01 11 14.2**	**+0.8**
H03N1	**Juan Fernandez**	**6.13**	**260**	T	T	01 17 40.5	
	baz=88,slow=73,SNR=950						
H03N3	**Juan Fernandez**	**6.15**	**259**	T	T	01 17 40.2	
	baz=88,slow=73,SNR=1077						
H03N2	**Juan Fernandez**	**6.15**	**260**	T	T	01 17 41.5	
	baz=88,slow=73,SNR=986						
H03S1	**Juan Fernandez**	**6.19**	**256**	T	T	01 17 38.0	
	baz=77						
H03S3	**Juan Fernandez**	**6.19**	**256**	T	T	01 17 38.3	
	baz=77						
H03S2	**Juan Fernandez**	**6.20**	**256**	T	T	01 17 34.0	
	baz=77						
LC01	**Cunco**	**6.35**	**181**	Pn	**Pn**	**01 11 14.7**	**-1.6**
PLCA	**Paso Flores**	**8.23**	**174**	Pn	**Pn**	**01 11 42.9**	**+0.7**
	comp=N,1.0nm,0.3s,baz=332,slow=11,SNR=50						
PLCA	**Paso Flores**	**8.23**	**174**	Pn	**Pn**	**01 11 42.7**	**+0.5**
LL04	**Puerto Octay**	**8.38**	**184**	Pn	**Pn**	**01 11 42.9**	**-1.2**
LVC	**Limon Verde**	**10.19**	**15**	Pn	**Pn**	**01 12 08.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=194,slow=17,SNR=1.2						
LVC				Sn	**Sn**	**01 14 06.6**	**+3.1**
	comp=N,0.3nm,0.3s,baz=232,slow=18,SNR=2.8						
LVC				LR	LR	01 16 09.7	
	comp=N,138nm,20.2s,baz=208,slow=38						
CPUP	**Villa Florida**	**13.95**	**67**	Pn	**Pn**	**01 12 58.4**	**-2.1**
	comp=N,0.1nm,0.3s,baz=243,slow=18,SNR=2.3						
CPUP				Sn	**Sn**	**01 15 39.8**	**+4.7**
	comp=N,0.0nm,0.3s,baz=254,slow=20,SNR=2.0						
CPUP				LR	LR	01 19 23.4	
	comp=N,71nm,20.4s,baz=206,slow=42						
CPUP	**Villa Florida**	**13.95**	**67**		**Pn**	**01 13 00.8**	**+0.4**
PLTB	**Pedras Altas**	**15.34**	**92**		**Pn**	**01 13 19.7**	**+0.4**
PLTB				IAmb	IAmb	01 13 42.8	
	comp=Z,8.8nm,1.2s						
LPAZ	**La Paz**	**16.50**	**12**	Pn	**Pn**	**01 13 34.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=192,slow=3.9,SNR=2.5						
LPAZ	**La Paz**	**16.50**	**12**	Pn	**Pn**	**01 13 33.8**	**-0.9**
SIV	**San Ignacio**	**19.08**	**33**	P	**P**	**01 14 04.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=3.6						
NNA	**Nana**	**20.99**	**346**	LR	LR	01 19 49.9	
	comp=Z,31nm,20.6s,baz=148,slow=29						
TXAR	**Lajitas Array**	**68.61**	**330**	P	**P**	**01 20 46.0**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=153,slow=7.2,SNR=3.8						
TXAR	**Lajitas Array**	**68.61**	**330**	P	**P**	**01 20 46.1**	**+0.4**
DBIC	**Dimbokro**	**74.44**	**71**	P	**P**	**01 21 21.1**	**0.0**
	comp=Z,1.8nm,0.6s,baz=201,slow=8.6,SNR=3.7						
BOSA	**Boshof**	**80.49**	**118**	P	**P**	**01 21 55.1**	**0.0**
	comp=Z,2.1nm,0.9s,baz=207,slow=2.3,SNR=1.6						
BOSA	**Boshof**	**80.49**	**118**	P	**P**	**01 21 54.8**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**126.07**	**270**	T	T	03 47 45.7	
	baz=118,slow=75,SNR=149						
H11S1	**WAKE ISLAND Hy**	**126.08**	**270**	T	T	03 47 41.3	
	baz=118,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	**126.09**	**270**	T	T	03 47 42.8	
	baz=118,slow=75,SNR=130						
H11N3	**WAKE ISLAND Hy**	**126.45**	**271**	T	T	03 48 07.2	
	baz=117,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**126.46**	**271**	T	T	03 48 11.6	
	baz=117,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**126.47**	**271**	T	T	03 48 12.1	
	baz=117,slow=75,SNR=31						
ZALV	**Zalesovo Beam**	**152.83**	**31**	PKPbc	**PKPbc**	**01 29 38.5**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=338,slow=1.7,SNR=4.0						
MKAR	**Makanchi Array**	**155.57**	**47**	PKPab	**PKPab**	**01 30 00.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=292,slow=2.4,SNR=4.7						

*AEIC **14** 01:13:32±1.8, 51°.3N±0°.1×174°.0W±0°.1, h29km±6km, Error ellipse: s-maj=18.6km s-min=9.4km az=144.0*

NEIC 14 01:13:29.3±1.3, 51°.21N±0°.02×173°.9W±0°.1, h10km±1km, mb3.8/21, ML2.8(AEIC), Error ellipse: s-maj=14.8km s-min=3.0km az=80.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.02**	**348**		Pg	01 13 48.7	-0.1
KOFP	**Korovin Flat P**	**1.08**	**352**		Pb	01 13 50.2	+0.1
KOKL	**Mount Kliuchef**	**1.14**	**349**		Pb	01 13 51.1	0.0
GSMY	**Great Sitkin M**	**1.61**	**302**		Pn	01 13 57.7	0.0
GSTR	**Great Sitkin T**	**1.64**	**304**		Pn	01 13 56.9	-1.3
GSCK	**Great Sitkin C**	**1.65**	**300**		Pn	01 13 58.3	0.0
GSTD	**Great Sitkin T**	**1.66**	**302**		Pn	01 13 58.1	-0.5
ADK	**Adak**	**1.89**	**292**		Pn	01 14 01.5	-0.1
KIWB	**Kanaga Island**	**2.16**	**289**	Pn	Pn	01 14 06.4	+1.1
KIMD	**Kanaga Island**	**2.19**	**286**		Pn	01 14 06.7	+1.0
TASE	**Tanaga Southea**	**2.69**	**285**		Pn	01 14 14.7	+2.1
BRLK	**Bradley Lake**	**15.51**	**48**	P	P	01 17 11.9	-0.4
SEW	**Seward**	**16.31**	**47**	P	P	01 17 20.6	-0.5
SEW				IAmb	IAmb	01 17 22.6	
	comp=Z,19nm,1.3s						
O22K	**Cooper Landing**	**16.33**	**46**	P	P	01 17 19.9	-1.5
GHO	**Glory Hole Cre**	**17.23**	**43**	P	P	01 17 31.2	-0.2
GHO				IAmb	IAmb	01 17 33.3	
	comp=Z,12nm,1.4s						
KTH	**Kantishna Hill**	**17.35**	**36**	P	P	01 17 33.3	+0.6
KTH				IAmb	IAmb	01 17 49.7	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**17.95**	**43**	P	P	01 17 39.0	-0.3
SCM				IAmb	IAmb	01 17 58.2	
	comp=Z,12nm,1.5s						
MLY	**Manley**	**18.30**	**32**	P	P	01 17 45.9	+2.8
KLU	**Klutina**	**18.43**	**45**	P	Pn	01 17 46.1	+1.5
KLU				IAmb	IAmb	01 18 05.5	
	comp=Z,8.9nm,1.4s						
WRH	**Wood River Hil**	**18.90**	**36**	P	P	01 17 48.7	-1.0
IL31		**19.50**	**36**	P	P	01 17 56.1	-0.1
ILAR	**Eielson Array**	**19.50

PETK	**Petropavlovsk-** comp=Z,19nm,18.4s,baz=209,slow=38	**97.30**	**347**	LR	LR	02 15 28.6

*DJA **14** 01:18:15.7±0.8,6˚S±5˚×10˚1E±˚, h10km, M4.5/9, mb5.0/3, mB5.2/1, MLv4.3/9, Mw(mB)4.6/1*
*IDC **14** 01:18:15.7±2.3,6˚04S×101˚30E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/33, mbtmp3.8/8, ML4.6/1, Error ellipse: s-maj=82.9km s-min=18.7km az=53.0*
ISC 14 01:18:21.3±1.3,5˚9S±0˚1×101˚5E±0˚2, h35km, n23, σ1s70/18, mb3.9/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**2.69**	**71**	P	**Pn**	**01 19 01.3**	**-0.9**
MASI	**Maura Aman, Be**	**2.82**	**15**	P	**Pn**	**01 19 03.8**	**-0.2**
KASI	**Kota Agung**	**3.00**	**83**	P	**Pn**	**01 19 04.4**	**-2.0**
KLSI		**3.43**	**70**	P	**Pn**	**01 19 11.5**	**-0.8**
PPSI	**Pulau Pagai**	**3.44**	**334**	P	**Pn**	**01 19 08.6**	**-3.8**
PPSI				S	**Sn**	**01 19 51.3**	**-0.7**
CGJI	**Cibinong**	**4.23**	**100**	P	**Pn**	**01 19 21.2**	**-2.1**
CBJI	**Citeko** 1.0nm223nm,0.7s	**5.34**	**96**	P	**Pn**	**01 19 39.7**	**+1.1**
CNJI	**Cibinong** 0.3nm79nm,0.8s	**5.77**	**105**	P	**Pn**	**01 19 41.5**	**-2.9**
LEM	**Lembang** 12nm,0.3s,baz=331,slow=24,SNR=4.5	**6.15**	**99**	Pn	**Pn**	**01 19 50.9**	**+1.0**
KPJI	**Karang Pucung**	**7.52**	**101**	P	**Pn**	**01 20 07.3**	**-1.2**
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=166,slow=30,SNR=9.7	**24.32**	**354**	P	**P**	**01 23 36.1**	**+0.3**
H08S2	**Diego Garcia H** baz=88	**28.86**	**265**	T	T	01 55 42.1	
H08S3	**Diego Garcia H** baz=88	**28.86**	**265**	T	T	01 55 42.1	
H08S1	**Diego Carcia H** baz=88	**28.88**	**265**	T	T	01 55 29.4	
H01W3	**Cape Leeuwin H** baz=338	**31.13**	**160**	T	T	01 57 49.6	
H01W2	**Cape Leeuwin H** baz=338	**31.14**	**160**	T	T	01 57 57.5	
H01W1	**Cape Leeuwin H** baz=338	**31.14**	**160**	T	T	01 57 54.6	
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=286,slow=10,SNR=5.6	**34.83**	**117**	P	**P**	**01 25 08.8**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=298,slow=7.9,SNR=3.1	**35.83**	**123**	P	**P**	**01 25 17.7**	**-0.2**
STKA	**Stephens Creek** 1.8nm,0.7s,baz=270,slow=11,SNR=2.1	**45.49**	**130**	P	**P**	**01 26 38.6**	**+1.1**
SONM	**Songino Array** 1.0nm,0.7s,baz=180,slow=8.2,SNR=9.1	**53.66**	**4**	P	**P**	**01 27 41.1**	**+1.5**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=145,slow=8.7,SNR=6.3	**55.15**	**344**	P	**P**	**01 27 51.3**	**+1.0**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=161,slow=9.2,SNR=5.0	**61.24**	**349**	P	**P**	**01 28 31.8**	**-0.9**

*ANF **14** 01:32:37.1±0.4,36˚41N×98˚75W,h0km, ML4.4/8, Error ellipse: s-maj=4.4km s-min=4.0km az=45.0*
*TUL **14** 01:32:37±0.8,36˚47N±0˚02×98˚75W±0˚04, h8km±3km, ML3.5, mb_Lg3.4/88(NEIC), Mwr3.2/6(SLM), Error ellipse: s-maj=4.0km s-min=3.1km az=91.0*
*NEIC **14** 01:32:37.9,36˚47N×98˚74W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.00; $M_{\theta\theta}$7.56; $M_{\phi\phi}$-7.56; $M_{r\theta}$-1.57; $M_{\theta\phi}$-1.33; $M_{\phi r}$-1.32; Fault plane solution: M_o7.94000×10^{13} NP1:ϕ_s320.00000°, δ75.00000°, λ,0.00000°. NP2:ϕ_s50.00000°, δ90.00000°, λ-165.00000°. Principal axes: T 7.9450, Plg11.0000°, Azm184.0000°; N 0.0008, Plg75.0000°, Azm50.0000°; P -7.9458, Plg11.0000°, Azm276.0000°;*
*NEIC **14** 01:32:37.9±0.8,36˚47N±0˚02×98˚73W±0˚03, h6km±3km Error ellipse: s-maj=3.6km s-min=3.1km az=84.0*
ISC 14 01:32:37.2±0.9,36˚46N±0˚04×98˚70W±0˚04, h10km, n84, σ1s43/63, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.26**	**251**	Pg	**Pg**	**01 32 41.8**	**-0.6**
U32A				Sg	**Sg**	**01 32 45.5**	**-0.5**
OKCFA	**Oklahoma City**	**1.46**	**135**		**Pn**	**01 33 03.9**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**1.47**	**135**		**Pn**	**01 33 04.4**	**+0.6**
FNO	**Franklin**	**1.60**	**138**		**Pn**	**01 33 06.5**	**+0.9**
WMOK	**Wichita Mounta**	**1.72**	**182**		**Pn**	**01 33 07.2**	**-0.1**
WMOK	**Wichita Mounta** baz=1.4	**1.72**	**182**	P	**Pn**	**01 33 07.2**	**-0.1**
WMOK	baz=1.4			S	**Sb**	**01 33 31.0**	**+0.4**
T35A	**Sooner Cattle**	**1.82**	**75**		**Pn**	**01 33 09.4**	**+0.8**
R32A	**Long Quarter,**	**1.96**	**360**		**Pn**	**01 33 11.2**	**+0.7**
W35A	**Tecumseh**	**1.98**	**131**	Pn	**Pn**	**01 33 11.6**	**+0.8**
X34A	**Smith Ranch, M**	**1.99**	**159**	Pn	**Pn**	**01 33 12.7**	**+1.8**
TUL1	**Leonard**	**2.42**	**102**		**Pn**	**01 33 17.7**	**+0.8**
TUL1	comp=Z,100nm,0.8s			IAmb_Lg		01 33 53.6	
TUL1	**Leonard** baz=284	**2.42**	**102**	P	**Pn**	**01 33 17.7**	**+0.8**
TUL1	baz=284			S	**Sb**	**01 33 51.8**	**+1.1**
CBKS	**Cedar Bluff**	**2.49**	**341**	Pn	**Pn**	**01 33 18.9**	**+1.1**
CBKS	comp=Z,174nm,0.8s			IAmb_Lg		01 33 57.3	
CBKS	**Cedar Bluff** baz=161	**2.49**	**341**	P	**Pb**	**01 33 20.1**	**-1.9**
CBKS	baz=161			S	**Sb**	**01 33 53.0**	**+0.2**
AMTX	**Amarillo**	**2.89**	**238**	Pn	**Pn**	**01 33 24.7**	**+1.2**
AMTX	**Amarillo** baz=56	**2.89**	**238**	Sb	**Sb**	**01 34 06.1**	**+1.6**
KSU1	**Kansas State U**	**3.11**	**32**	Pn	**Pn**	**01 33 27.7**	**+1.3**
KSU1	**Kansas State U** baz=213	**3.11**	**32**	P	**Pn**	**01 33 28.0**	**+1.6**
X37A	**Clayton**	**3.30**	**124**	Pn	**Pn**	**01 33 29.9**	**+1.0**
X37A	comp=Z,94nm,0.7s			IAmb_Lg		01 34 27.5	
Z35A	**Perchaven, San**	**3.34**	**159**	Pn	**Pn**	**01 33 30.2**	**+0.7**
HHAR	**Hobbs**	**3.85**	**91**	Pn	**Pn**	**01 33 37.3**	**+0.8**
ABTX	**Abilene, Hawle**	**3.91**	**192**		**Pn**	**01 33 37.5**	**+0.2**
KSCO	**Kaye Shedlock'** comp=Z,76nm,0.8s	**4.02**	**310**	IAmb_Lg		01 34 52.2	
KSCO	**Kaye Shedlock'** baz=128	**4.02**	**310**	Pb	**Pb**	**01 33 49.7**	**+1.5**
MSTX	**Muleshoe**	**4.16**	**234**	Pn	**Pn**	**01 33 41.4**	**+0.5**
MSTX	comp=Z,105nm,0.7s			IAmb_Lg		01 34 56.5	
W39A	**Magazine** comp=Z,86nm,0.7s	**4.19**	**106**	IAmb_Lg		01 34 53.5	
N33A	**J Bar K, Exete**	**4.38**	**13**	Pn	**Pn**	**01 33 43.2**	**-0.6**
Z38A	**Mt. Pleasant**	**4.42**	**135**	Pn	**Pn**	**01 33 44.8**	**+0.4**
Z38A	comp=Z,101nm,0.8s			IAmb_Lg		01 34 59.2	
S39A	**Bolivar**	**4.47**	**72**	Pn	**Pn**	**01 33 45.3**	**+0.2**
S39A	comp=Z,90nm,0.7s			IAmb_Lg		01 35 02.2	
WHTX	**Lake Whitney,**	**4.58**	**167**		**Pn**	**01 33 47.1**	**+0.6**
T25A	**Trinidad**	**4.63**	**280**		**Pn**	**01 33 47.7**	**+0.3**
T25A	comp=Z,71nm,0.8s			IAmb_Lg		01 35 10.2	
T25A	**Trinidad** baz=97	**4.63**	**280**	P	**Pn**	**01 33 47.6**	**+0.1**
T25A	baz=97			Sb	**Sg**	**01 34 59.9**	**-6.0**
U40A	**Yellville**	**4.72**	**90**	Pn	**Pn**	**01 33 49.0**	**+0.5**
U40A	comp=Z,78nm,0.8s			IAmb_Lg		01 35 04.1	
BGNE	**Belgrade**	**4.96**	**5**	Pn	**Pn**	**01 33 51.8**	**+0.1**
BGNE	comp=Z,59nm,0.8s			IAmb_Lg		01 35 26.6	
BGNE	**Belgrade** baz=185	**4.96**	**5**	P	**Pn**	**01 33 52.1**	**+0.4**
N35A	**Tabor**	**5.00**	**28**	Pn	**Pn**	**01 33 52.8**	**+0.5**
237A	**Washetta, Mont**	**5.05**	**151**	Pn	**Pn**	**01 33 52.8**	**-0.3**
237A	comp=Z,51nm,0.8s			IAmb_Lg		01 35 27.1	
P38A	**Dawn**	**5.16**	**51**	Pn	**Pn**	**01 33 55.5**	**+1.0**
OGNE	**Ogallala**	**5.18**	**331**	Pn	**Pn**	**01 33 56.0**	**+1.1**
X40A	**Basin Creek Fa** comp=Z,48nm,0.7s	**5.18**	**111**	IAmb_Lg		01 35 27.7	
MGMO	**Mountain Grove**	**5.21**	**80**		**Pn**	**01 33 56.3**	**+1.1**
MGMO	comp=Z,43nm,0.8s			IAmb_Lg		01 35 24.1	
WHAR	**Wooly Hollow**	**5.34**	**101**	Pn	**Pn**	**01 33 58.5**	**+1.6**
WHAR	comp=Z,53nm,0.8s			IAmb_Lg		01 35 31.9	
FCAR	**Ozark Folk Cen**	**5.35**	**94**	Pn	**Pn**	**01 33 59.7**	**+2.6**
FCAR	comp=Z,42nm,0.7s			IAmb_Lg		01 35 28.0	
WLAR	**White Oak Lake** comp=Z,44nm,0.8s	**5.36**	**120**	IAmb_Lg		01 35 31.5	
W41B	**Gary Mavity, V** comp=Z,62nm,1.0s	**5.40**	**102**	IAmb_Lg		01 35 31.8	
R40A	**Maddies Statio**	**5.44**	**68**	Pn	**Pn**	**01 33 59.3**	**+1.0**
R40A	comp=Z,47nm,0.8s			IAmb_Lg		01 35 33.5	
SDCO	**Great Sand Dun**	**5.58**	**285**		**Pn**	**01 34 02.1**	**+1.5**
SDCO	**Great Sand Dun** baz=101	**5.58**	**285**	P	**Pn**	**01 34 01.7**	**+1.1**
Q24A	**Divide** comp=Z,54nm,0.8s	**5.69**	**298**	IAmb_Lg		01 35 42.7	
Q24A	**Divide** baz=114	**5.69**	**298**	Sb	**Sb**	**01 35 30.9**	**+5.8**
435B	**Jarrell** comp=Z,50nm,0.7s	**5.74**	**170**	IAmb_Lg		01 35 46.5	
NATX	**Nacogdoches** comp=Z,55nm,0.8s	**5.76**	**143**	IAmb_Lg		01 35 56.1	
Z41A	**Richland Creek** comp=Z,60nm,0.7s	**5.81**	**122**	IAmb_Lg		01 35 57.2	
JCT	**Junction City** comp=Z,50nm,0.8s	**6.04**	**189**	IAmb_Lg		01 36 05.3	
N38A	**Joes South For**	**6.08**	**43**	Pn	**Pn**	**01 34 08.4**	**+1.2**
K31A	**O'Neill** comp=Z,67nm,0.8s	**6.15**	**360**	IAmb_Lg		01 35 56.5	
CCM	**Cathedral Cave**	**6.16**	**73**	Pn	**Pn**	**01 34 08.3**	**+0.1**
CCM	comp=Z,71nm,0.8s			IAmb_Lg		01 35 57.3	
ISCO	**Idaho Springs**	**6.38**	**304**	Pn	**Pn**	**01 34 12.2**	**+0.5**
ISCO	comp=Z,36nm,0.8s			IAmb_Lg		01 36 11.8	
ANMO	**Albuquerque**	**6.49**	**259**	Pn	**Pn**	**01 34 12.6**	**-0.4**
PBMO	**Poplar Bluff** comp=Z,63nm,0.8s	**6.66**	**85**	IAmb_Lg		01 36 11.6	
FVM	**French Village** comp=Z,46nm,0.7s	**6.78**	**75**	IAmb_Lg		01 36 15.9	
BNM	**Barren Site**	**6.88**	**253**	Pn	**Pn**	**01 34 19.6**	**+1.2**
SCIA	**State Center** comp=Z,62nm,0.7s	**6.91**	**36**	IAmb_Lg		01 36 23.8	
PHWY	**Pilot Hill** comp=Z,44nm,0.9s	**7.15**	**315**	IAmb_Lg		01 36 27.4	
N23A	**Red Feather La**	**7.19**	**310**	Pn	**Pn**	**01 34 23.1**	**+0.5**
MNTX	**Cornudas Mount**	**7.30**	**231**	Pn	**Pn**	**01 34 24.6**	**+0.7**
MNTX	comp=Z,33nm,0.9s			IAmb_Lg		01 36 36.9	
ECSD	**EROS Data Cent**	**7.44**	**12**	Pn	**Pn**	**01 34 24.4**	**-1.4**
LNXT	**Lenox** comp=Z,56nm,0.8s	**7.45**	**90**	IAmb_Lg		01 36 36.7	
HALT	**Halls** comp=Z,50nm,0.7s	**7.59**	**91**	IAmb_Lg		01 36 58.1	
S44A	**Carbondale**	**7.65**	**78**	Pn	**Pn**	**01 34 29.0**	**+0.3**
K38A	**Parkersburg** comp=Z,57nm,0.8s	**7.69**	**35**	IAmb_Lg		01 36 51.4	
P43A	**Skaggs, Pawnee**	**7.91**	**64**	Pn	**Pn**	**01 34 32.7**	**+0.5**
SUSD	**Miller** comp=Z,29nm,0.8s	**7.97**	**359**	IAmb_Lg		01 36 51.8	
VBMS	**Vicksburg** comp=Z,32nm,1.3s	**7.98**	**120**	IAmb_Lg		01 36 55.5	
L40A	**Anamosa**	**8.06**	**44**	Pn	**Pn**	**01 34 34.4**	**+0.1**
833A	**Chaparral WMA,** comp=Z,28nm,1.1s	**8.14**	**184**	IAmb_Lg		01 37 15.7	
TX31	**Lajitas Ar. Si**	**8.24**	**212**	Pn	**Pn**	**01 34 37.0**	**0.0**
TX32	**Lajitas Array**	**8.24**	**212**	Pn	**Pn**	**01 34 36.9**	**0.0**
TXAR	**Lajitas Array**	**8.24**	**212**	Pn	**Pn**	**01 34 37.4**	**+0.4**
I37A	**Lemond, Waseca** comp=Z,33nm,0.9s	**8.56**	**27**	IAmb_Lg		01 37 30.8	
K22A	**Casper** comp=Z,38nm,0.9s	**8.64**	**318**	IAmb_Lg		01 37 16.9	
RSSD	**Black Hills** comp=Z,38nm,1.0s	**8.66**	**334**	IAmb_Lg		01 37 24.7	
JFWS	**Jewell Farm** comp=Z,33nm,0.7s	**9.16**	**43**	IAmb_Lg		01 37 34.4	
I40A	**Norwalk** comp=Z,32nm,1.1s	**9.66**	**37**	IAmb_Lg		01 37 45.9	

*IDC **14** 01:33:20.6±1.5,3˚69S×100˚65E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/36, mbtmp4.0/9, Error ellipse: s-maj=50.4km s-min=19.3km az=55.0*
*DJA **14** 01:33:24.4±0.7,4˚S±7˚×10˚1E±˚, h45km±65km, M4.1/11, MLv4.1/11*
*NEIC **14** 01:33:26.9±1.5,3˚7S±0˚1×100˚7E±0˚1, h35km±8km, mb4.3/12, Error ellipse: s-maj=26.3km s-min=9.8km az=45.0*
ISC 14 01:33:25.0±0.8,3˚67S±0˚09×100˚69E±0˚08, h29km, n47, σ0s94/41, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.13**	**323**	P	**Pb**	**01 33 44.3**	**-1.6**
MASI	**Maura Aman, Be**	**1.64**	**71**	P	**Pn**	**01 33 52.3**	**+0.4**
KRJI	**Kerinci**	**1.75**	**26**	P	**Pb**	**01 33 54.4**	**-2.1**
MNAI	**Manna**	**2.37**	**107**	Pn	**Pn**	**01 34 02.0**	**+0.1**
MNAI	**Manna**	**2.37**	**107**	P	**Pn**	**01 34 01.8**	**-0.1**
SISI	**Saibi**	**2.82**	**326**	P	**Pn**	**01 34 07.4**	**-0.8**
LWLI	**Liwa**	**3.62**	**112**	P	**Pn**	**01 34 19.2**	**0.0**
BKNI	**Bangkinang**	**3.99**	**5**	P	**Pn**	**01 34 24.3**	**+0.1**
KLSI		**4.16**	**104**	P	**Pn**	**01 34 27.8**	**+1.2**
KASI	**Kota Agung**	**4.22**	**116**	P	**Pn**	**01 34 26.6**	**-0.8**
CGJI	**Cibinong**	**5.78**	**121**	P	**Pn**	**01 34 47.4**	**-1.5**
GSI	**Gunungsitoli**	**5.84**	**328**	Pn	**Pn**	**01 34 51.2**	**+1.5**
CMAR	**Chiang Mai Arr** 2.0nm,0.3s,baz=181,slow=9.9,SNR=8.3	**22.06**	**356**	P	**P**	**01 38 16.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**22.06**	**356**	P	**P**	**01 38 19.2**	**+1.6**
H08S2	**Diego Garcia H** baz=84,slow=75,SNR=64	**28.32**	**261**	T	T	02 08 46.3	
H08S3	**Diego Garcia H** baz=84,slow=75,SNR=455	**28.33**	**261**	T	T	02 08 46.6	
H08S1	**Diego Carcia H** baz=84,slow=75,SNR=15	**28.34**	**261**	T	T	02 08 48.1	
H01W3	**Cape Leeuwin H** baz=333	**33.47**	**160**	T	T	02 15 20.7	
H01W2	**Cape Leeuwin H** baz=333	**33.48**	**160**	T	T	02 15 19.9	
H01W1	**Cape Leeuwin H** baz=333	**33.49**	**160**	T	T	02 15 40.9	
WB0	**Warramunga Arr**	**36.56**	**119**	P	**P**	**01 40 27.7**	**-0.9**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=302,slow=8.7,SNR=14	**36.58**	**119**	P	**P**	**01 40 28.2**	**-0.5**
WRA	**Warramunga Arr**	**36.58**	**119**	P	**P**	**01 40 28.8**	**+0.1**
WB2	**Warramunga Arr** comp=Z,7.7nm,1.4s	**36.59**	**119**	P	**P**	**01 40 28.6**	**-0.2**
WB2				IAmb	IAmb	01 40 41.9	
WR0	**Warramunga Arr**	**36.76**	**119**	P	**P**	**01 40 29.3**	**-1.0**
WR0	comp=Z,6.6nm,1.1s			IAmb	IAmb	01 40 40.7	
ASAR	**Alice Springs** comp=Z,0.3nm,0.3s,baz=304,slow=8.8,SNR=4.9	**37.73**	**125**	P	**P**	**01 40 38.4**	**-0.1**
ASAR	**Alice Springs**	**37.73**	**125**	P	**P**	**01 40 39.8**	**+1.3**
KSRS	**Korea Array** comp=Z,3.2nm,1.0s,baz=232,slow=7.1,SNR=5.4	**48.12**	**29**	P	**P**	**01 42 01.5**	**-0.8**
KDJ	**Kajisay**	**50.34**	**337**	P	**P**	**01 42 20.8**	**+1.3**
BOOM	**Boomskoye usch**	**51.13**	**337**	P	**P**	**01 42 26.1**	**+0.6**
BOOM	comp=Z,3.5nm,1.1s			IAmb	IAmb	01 42 28.6	
SONM	**Songino Array** comp=Z,1.9nm,0.6s,baz=189,slow=9.5,SNR=18	**51.53**	**5**	P	**P**	**01 42 29.0**	**+0.6**
SONM	**Songino Array**	**51.53**	**5**	P	**P**	**01 42 29.2**	**+0.9**
SONM	comp=Z,4.3nm,1.1s			IAmb	IAmb	01 42 38.4	
MK31	**Makanchi Array**	**52.81**	**344**	P	**P**	**01 42 38.3**	**+0.5**
MKAR	**Makanchi Array** comp=Z,2.0nm,0.8s,baz=148,slow=8.3,SNR=23	**52.81**	**344**	P	**P**	**01 42 37.8**	**+0.1**
MKAR	**Makanchi Array**	**52.81**	**344**	P	**P**	**01 42 37.6**	**-0.1**
MAKZ	**Makanchi**	**52.91**	**344**	P	**P**	**01 42 38.3**	**-0.2**
MAKZ	comp=Z,2.2nm,1.1s			IAmb	IAmb	01 42 39.4	
USRK	**Ussuriysk Ar.** comp=Z,3.2nm,0.5s,baz=213,slow=5.0,SNR=6.3	**55.31**	**27**	P	**P**	**01 42 56.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**55.31**	**27**	P	**P**	**01 42 56.2**	**+0.2**
KURK	**Kurchatov**	**57.39**	**344**	P	**P**	**01 43 11.2**	**+0.5**
KURK	comp=Z,3.3nm,0.9s			IAmb	IAmb	01 43 11.6	
ZAA0	**Zalesovo Array**	**58.93**	**349**	P	**P**	**01 43 22.7**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.8s,baz=164,slow=6.0,SNR=9.6	**58.93**	**349**	P	**P**	**01 43 21.4**	**+0.1**
ZALV	**Zalesovo Beam**	**58.93**	**349**	P	**P**	**01 43 22.5**	**+1.2**
ABKAR	**Akbulak array**	**63.43**	**331**	P	**P**	**01 43 51.2**	**-0.8**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=127,slow=5.1,SNR=2.2	**74.95**	**313**	P	**P**	**01 45 03.4**	**-0.4**
BURAR	**Bucovina Array**	**82.96**	**319**	P	**P**	**01 45 48.7**	**+1.2**
TXAR	**Lajitas Array** comp=Z,1.5nm,0.5s,baz=256,slow=0.6,SNR=34	**145.58**	**40**	PKPbc	**PKPab**	**01 53 02.5**	**+0.8**
TXAR	**Lajitas Array**	**145.58**	**40**		**PKPab**	**01 53 02.4**	**+0.6**

*SNET **14** 01:35:46.7±0.9, 13˚01N×88˚97W, h54km±10km, ML3.4*
*INET **14** 01:35:47.5±0.8, 14˚13N×88˚29W, h28km±7km, MD3.5, ML2.7*
ISC 14 01:35:46.8±1.9, 12˚9N±0˚1×88˚98W±0˚06, h42km±39km, n19, σ0s62/30, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.56**	**46**	*i*P	**Pn**	**01 35 58.3**	**-0.2**
ALJI				*e*S	**Sn**	**01 36 08.1**	**+1.4**
ALJI	comp=Z,2μm,0.2s			IAML		01 36 10.2	
TECO	**Alcaldia de Te**	**0.63**	**18**	*e*P	**Pn**	**01 35 58.8**	**-0.7**
TECO				*e*S	**Sn**	**01 36 08.5**	**+0.1**
LALI	**Alcalda de L**	**0.64**	**329**	*e*P	**Pn**	**01 35 59.0**	**-0.5**
LALI				*e*S	**Sn**	**01 36 08.5**	**-0.1**
LALI	comp=Z,925nm,0.3s			IAML		01 36 08.7	
COEG	**Centro de Oper**	**0.69**	**8**	*e*P	**Pn**	**01 35 59.5**	**-0.7**
COEG				*e*S	**Sn**	**01 36 09.8**	**-0.1**
COEG	comp=Z,2μm,0.4s			IAML		01 36 13.4	
COEG	**Centro de Oper**	**0.69**	**8**	*e*P	**Pn**	**01 35 59.5**	**-0.7**
LFRS	**El Faro**	**0.69**	**354**	*e*P	**Pn**	**01 35 59.5**	**-0.8**
COEB	**Comit de Eme**	**0.71**	**38**	*e*P	**Pn**	**01 36 00.4**	**-0.2**
COEB				*e*S	**Sn**	**01 36 11.0**	**+0.5**
COEB	**Comit de Eme**	**0.71**	**38**	*e*P	**Pn**	**01 36 00.4**	**-0.2**
COEB	comp=E,1μm,0.2s			IAML		01 36 12.6	
PAVA	**Las Pavas**	**0.78**	**3**	⇓*i*P	**Pn**	**01 36 01.0**	**-0.5**
PAVA				*e*S	**Sn**	**01 36 12.2**	**+0.2**
PAVA	comp=Z,1μm,0.3s			IAML		01 36 14.4	
PAVA	**Las Pavas**	**0.78**	**3**	*e*P	**Pn**	**01 36 01.0**	**-0.5**
PAVA				*e*S	**Sn**	**01 36 12.9**	**+0.9**
SCLA	**Alcaldia de Sa**	**0.80**	**18**	*i*P	**Pn**	**01 36 01.4**	**-0.4**
SCLA				*e*S	**Sn**	**01 36 13.1**	**+0.5**
BOQS	**Boqueron**	**0.85**	**340**	*e*P	**Pn**	**01 36 02.0**	**-0.5**
CEVE	**Cerro Verde**	**1.08**	**325**	*e*P	**Pn**	**01 36 05.5**	**-0.3**
CEVE				*e*S	**Sn**	**01 36 21.4**	**+1.6**
CEVE	comp=Z,1μm,0.2s			IAML		01 36 25.8	
SBLS	**San Blas**	**1.09**	**325**	*e*P	**Pn**	**01 36 06.0**	**+0.1**
LCND	**La Caada**	**1.13**	**71**	*e*P	**Pn**	**01 36 05.8**	**-0.4**
LCND				*e*S	**Sn**	**01 36 20.9**	**+0.4**
FAGO	**Alcalda de S**	**1.14**	**48**	*e*P	Pn	01 35 57.2	-9.2
FAGO	comp=N,135nm,0.5s			IAML		01 36 12.8	
NUBE	**Las Nubes**	**1.24**	**321**	*e*P	**Pn**	**01 36 07.3**	**-0.5**
NUBE				*e*S	**Sn**	**01 36 23.4**	**0.0**
NUBE	comp=Z,397nm,0.4s			IAML		01 36 25.1	
SLOZ	**Alcaldia de Sa**	**1.34**	**324**	*e*P	**Pn**	**01 36 09.2**	**+0.1**
CSGN	**Cosiguina Volc**	**1.39**	**88**	*e*P	**Pn**	**01 36 09.5**	**-0.3**
CSGN				*e*S	**Sn**	**01 36 27.0**	**-0.1**

NEIC 14 01:35:57.8±0.7, 36˚468N±0˚010×98˚749W±0˚004, h5km±1km, ML2.1/26, Error ellipse: s-maj=1.5km s-min=0.6km az=185.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.22**	**247**	Pg	Pg	01 36 01.7	-0.4
U32A				Sg	Sg	01 36 05.3	+0.3
U32A	comp=N,696nm,0.3s			IAML		01 36 05.5	
U32A	comp=E,266nm,0.1s			IAML		01 36 06.8	

IDC 14 01:40:05.5±9.6, 43˚25S×39˚28E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.5/24, mbtmp3.9/2, Error ellipse: s-maj=1312.0km s-min=49.8km az=9.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.2nm,0.9s,baz=225,slow=6.2,SNR=6.3	**77.38**	**111**	P	P	01 52 02.2	-0.2
WRA	**Warramunga Arr** 1.1nm,1.0s,baz=226,slow=5.7,SNR=2.7	**80.16**	**108**	P	P	01 52 18.3	+0.5
TXAR	**Lajitas Array** 1.5nm,0.9s,baz=144,slow=3.1,SNR=13	**147.34**	**257**	PKPbc	PKPbc	01 59 50.3	-0.8

*NNC **14** 01:47:52.3±2.2, 42˚40N×71˚41E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=26.7km s-min=9.8km az=178.0, Suspected Mining explosion.*
*KRNET **14** 01:47:56.3±0.1, 42˚58N×71˚60E, h9km, mb2.7*
*SOME **14** 01:47:57.5, 42˚70N×71˚63E, h10km*
ISC 14 01:47:57.2±0.8, 42˚59N±0˚03×71˚61E±0˚02, h0km, n29, σ0s99/54, 13C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz** baz=28	**0.36**	**326**	*e*P	**Pg**	**01 48 04.3**	**+0.1**
DZA	baz=28			*e*S	**Sg**	**01 48 08.6**	**-0.3**
DZA	**Taraz** 30nm,0.1s	**0.36**	**326**	*e*P	**Pg**	**01 48 04.3**	**+0.1**
DZA	182nm,0.1s			*e*S	**Sg**	**01 48 08.6**	**-0.3**
DZA	**Taraz** 30nm,0.1s	**0.36**	**326**	P	**Pg**	**01 48 04.3**	**+0.1**
DZA	182nm,0.1s			S	**Sg**	**01 48 08.6**	**-0.3**
ARK	**Arkit** baz=61	**0.83**	**161**	⇑*i*P	**Pg**	**01 48 11.9**	**-1.3**
ARK	baz=61			⇑*i*S	**Sg**	**01 48 24.2**	**+0.2**
KK09	**Karatay Array** 1.0nm,0.3s,baz=125,slow=17	**0.97**	**304**	⇓P	**Pg**	**01 48 14.1**	**-1.7**
KK09	3.1nm,0.3s,baz=128,slow=25			⇑S	**Sg**	**01 48 27.6**	**-0.9**
TRKS	**Terek-Say** baz=96	**1.11**	**198**	⇑*i*P	**Pg**	**01 48 18.3**	**-0.2**
TRKS	baz=96			⇑*i*S	**Sb**	**01 48 34.4**	**-0.2**
MRKS	**Merke** 3.1nm,0.3s	**1.21**	**82**	*e*P	**Pg**	**01 48 20.2**	**-0.1**
MRKS	21nm,0.4s			*e*S	**Sg**	**01 48 35.8**	**-0.1**
MRKS	**Merke** 3.1nm,0.3s	**1.21**	**82**	P	**Pg**	**01 48 20.2**	**-0.1**
MRKS	21n

SGDS					*e*S		**Sn**	**01 49 06.8**	**-0.6**
	11nm,0.2s								
SGDS	**Sogindy**	**2.38**	**68**	Pg		**Pn**	**01 48 38.3**	**+0.7**
	1.6nm,0.2s								
SGDS				Lg		Lg	01 49 06.8		
	11nm,0.2s								
TKM2	**Tokmak 2**	**2.96**	**82**	⇑Pn		**Pn**	**01 48 47.7**	**+2.1**
	0.9nm,0.5s								
TKM2				⇑Sn		**Sb**	**01 49 26.1**	**-1.5**
	0.9nm,0.5s								
BTLS	**Baital**	**3.02**	**35**	*e*P		**Pn**	**01 48 47.0**	**+0.7**
	0.5nm,0.1s								
BTLS				*e*S		**Sn**	**01 49 21.9**	**-1.2**
	2.7nm,0.2s								
BTLS	**Baital**	**3.02**	**35**	Pg		**Pn**	**01 48 47.0**	**+0.7**
	0.5nm,0.1s								
BTLS				Lg		Lg	01 49 21.9		
	2.7nm,0.2s								
DGS	**Degeres**	**3.13**	**77**	*e*P		**Pb**	**01 48 52.9**	**-0.9**
	0.8nm,0.2s								
DGS				*e*S		**Sb**	**01 49 32.0**	**-0.5**
	7.2nm,0.4s								
DGS	**Degeres**	**3.13**	**77**	Pg		**Pb**	**01 48 52.9**	**-0.9**
	0.8nm,0.2s								
DGS				Lg		Lg	01 49 32.0		
	7.2nm,0.4s								
KUU	**Kurty**	**3.69**	**68**	*e*P		**Pb**	**01 49 03.8**	**+0.4**
	0.9nm,0.3s								
KUU				*e*S		**Sb**	**01 49 50.5**	**+1.8**
	3.0nm,0.4s								
KUU	**Kurty**	**3.69**	**68**	Pg		**Pb**	**01 49 03.1**	**-0.3**
KUU				Pg		**Pb**	**01 49 03.8**	**+0.4**
	0.9nm,0.3s								
KUU				Lg		Lg	01 49 48.6		
KUU				Lg		Lg	01 49 50.5		
	3.0nm,0.4s								
KTBS	**Karatobe**	**3.88**	**71**	*e*P		**Pb**	**01 49 06.9**	**+0.3**
	0.5nm,0.3s								
KTBS				*e*S		**Sb**	**01 49 55.7**	**+1.6**
	6.0nm,0.8s								
KTBS	**Karatobe**	**3.88**	**71**	Pg		**Pb**	**01 49 06.9**	**+0.3**
KTBS				Pg		**Pb**	**01 49 06.9**	**+0.3**
	0.5nm,0.3s								
KTBS				Lg		Lg	01 49 55.5		
KTBS				Lg		Lg	01 49 55.7		
	6.0nm,0.8s								
KOTS	**Kotyrbulak**	**4.09**	**79**	*e*P		**Pb**	**01 49 12.8**	**+2.5**
	1.5nm,0.4s								
KOTS				*e*S		**Sg**	**01 50 05.8**	**-2.9**
	4.8nm,0.3s								
KOTS	**Kotyrbulak**	**4.09**	**79**	Pg		**Pb**	**01 49 12.8**	**+2.5**
	1.5nm,0.4s								
KOTS				Lg		Lg	01 50 05.8		
	4.8nm,0.3s								

IDC 14 01:50:10.6±1.3, 44°01′S×39°10′E, *h*0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/42, mbtmp4.0/4, Error ellipse: s-maj=79.1km s-min=27.2km az=40.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**25.12**	**336**	P	P	01 55 37.3	-0.1
	2.5nm,1.0s,baz=177,slow=12,SNR=3.7						
TSUM	**Tsumeb**	**30.60**	**317**	P	P	01 56 26.5	+0.1
	2.6nm,0.7s,baz=139,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**77.24**	**110**	P	P	02 02 07.3	+0.6
	1.0nm,0.8s,baz=224,slow=5.1,SNR=5.2						
WRA	**Warramunga Arr**	**80.05**	**108**	P	P	02 02 21.8	-0.6
	1.6nm,1.1s,baz=220,slow=3.6,SNR=4.5						
TXAR	**Lajitas Array**	**147.04**	**256**	PKPbc	PKPbc	02 09 54.6	-0.8
	1.5nm,0.9s,baz=131,slow=4.9,SNR=7.2						

*IDC **14** 01:50:59.1±0.6, 44°01′S×38°73′E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.0/45, mbtmp4.3/14, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.3/15, Error ellipse: s-maj=22.2km s-min=16.8km az=52.0*

*NEIC **14** 01:51:01.0±1.3, 44°1′S±0°1′×38°7′E±0°2, h10km±1km, mb4.7/15, Error ellipse: s-maj=23.8km s-min=20.3km az=284.0*

ISC 14 01:51:00.7±0.5, 44°0′S±0°1′×38°6′E±0°1, h10km, n35, σ1♀15′/35, mb4.5/16, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.14**	**304**	P	**Pn**	**01 55 11.6**	**-1.3**
	0.1nm,0.3s,baz=111,slow=12,SNR=2.0						
SUR	**Sutherland**	**18.14**	**304**	P	**Pn**	**01 55 10.8**	**-2.1**
SUR				IAmb	IAmb	01 55 34.0	
	comp=Z,33nm,1.4s						
BOSA	**Boshof**	**18.73**	**321**	P	**P**	**01 55 18.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=162,slow=9.6,SNR=2.3						
BOSA	**Boshof**	**18.73**	**321**	P	**P**	**01 55 18.8**	**-0.9**
LBTB	**Lobatse**	**21.74**	**327**	P	**P**	**01 55 50.8**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=172,slow=7.1,SNR=2.8						
LBTB	**Lobatse**	**21.74**	**327**	P	**P**	**01 55 50.9**	**-1.4**
MATP	**Matopo**	**25.01**	**337**	P	**P**	**01 56 24.5**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=167,slow=11,SNR=6.8						
SYO	**Syowa Base**	**25.04**	**179**	⇑*i*P	**P**	**01 56 25.0**	**+0.5**
OPO	**Ambohidratompo**	**26.40**	**19**	P	**P**	**01 56 37.5**	**0.0**
	comp=Z,5.3nm,1.0s,baz=225,slow=7.1,SNR=3.2						
OPO				LR	LR	02 05 18.1	
	comp=Z,281nm,19.0s,baz=32,slow=33						
LSZ	**Lusaka**	**30.01**	**340**	P	**P**	**01 57 10.2**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=146,slow=11,SNR=2.5						
LSZ	**Lusaka**	**30.01**	**340**	P	**P**	**01 57 10.1**	**+0.4**
LSZ				IAmb	IAmb	01 57 17.2	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**46.17**	**180**	P	**P**	**01 59 24.3**	**-0.9**
	comp=Z,6.7nm,0.9s,baz=256,slow=1.9,SNR=9.0						
QSPA	**South Pole Qui**	**46.17**	**180**	P	**P**	**01 59 24.3**	**-0.9**
SOCY	**Socotra**	**57.69**	**18**	P	**P**	**02 00 54.7**	**+3.2**
SOCY				IAmb	IAmb	02 00 57.5	
	comp=Z,11nm,1.5s						
PLCA	**Paso Flores**	**74.30**	**228**	P	**P**	**02 02 39.0**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=97,slow=7.2,SNR=4.1						
PLCA	**Paso Flores**	**74.30**	**228**	P	**P**	**02 02 39.1**	**+0.9**
PLCA				IAmb	IAmb	02 03 01.5	
	comp=Z,10nm,1.4s						
FITZ	**Fitzroy Crossi**	**75.57**	**101**	P	**P**	**02 02 44.4**	**-1.3**
FITZ				IAmb	IAmb	02 02 47.7	
	comp=Z,6.6nm,1.0s						
CPUP	**Villa Florida**	**76.18**	**247**	P	**P**	**02 02 50.4**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=72,slow=5.9,SNR=4.4						
CPUP	**Villa Florida**	**76.18**	**247**	P	**P**	**02 02 49.8**	**+0.7**
CPUP				IAmb	IAmb	02 02 51.0	
	comp=Z,6.6nm,1.0s						
LC01	**Cunco**	**76.32**	**229**	P	**P**	**02 02 50.1**	**+0.4**
LC01				IAmb	IAmb	02 02 51.1	
	comp=Z,7.8nm,1.1s						
BDFB	**Brasilia**	**76.89**	**261**	P	**P**	**02 02 54.7**	**+1.2**
	comp=Z,4.8nm,1.0s,baz=61,slow=3.9,SNR=5.0						
BDFB	**Brasilia**	**76.89**	**261**	P	**P**	**02 02 54.6**	**+1.2**
STKA	**Stephens Creek**	**76.94**	**122**	P	**P**	**02 02 53.1**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=189,slow=7.7,SNR=4.5						
STKA	**Stephens Creek**	**76.94**	**122**	P	**P**	**02 02 52.3**	**-1.1**
ASAR	**Alice Springs**	**77.57**	**111**	P	**P**	**02 02 55.6**	**-1.5**
	comp=Z,4.3nm,0.9s,baz=216,slow=5.5,SNR=14						
ASAR	**Alice Springs**	**77.57**	**111**	P	**P**	**02 02 56.5**	**-0.5**
AQDB	**Aquidauana**	**79.03**	**252**	P	**P**	**02 03 05.3**	**+0.2**
AQDB				IAmb	IAmb	02 03 07.3	
	comp=Z,9.3nm,1.0s						
WRA	**Warramunga Arr**	**80.39**	**108**	P	**P**	**02 03 12.3**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=219,slow=4.3,SNR=10						
CMAR	**Chiang Mai Arr**	**83.07**	**56**	P	**P**	**02 03 27.4**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=220,slow=6.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**83.07**	**56**	P	**P**	**02 03 26.3**	**-0.2**
SHL	**Shillong**	**84.72**	**47**	P	**P**	**02 03 34.3**	**-0.7**
TXAR	**Lajitas Array**	**146.68**	**257**	PKPbc	**PKPab**	**02 10 43.7**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=137,slow=6.7,SNR=26						
ULM	**Lac du Bonnet**	**148.81**	**298**	PKPbc	**PKPbc**	**02 10 48.3**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=112,slow=1.9,SNR=4.5						
ULM	**Lac du Bonnet**	**148.81**	**298**		**PKPbc**	**02 10 47.4**	**-0.3**
YKA	**Yellowknife Ar**	**155.84**	**329**	PKP	**PKPdf**	**02 10 52.4**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=56,slow=1.4,SNR=2.8						

*IDC **14** 01:53:51.5±0.8, 44°07′S×39°04′E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.8/41, mbtmp4.1/9, ML3.4/1, Error ellipse: s-maj=35.0km s-min=18.2km az=54.0*

*NEIC **14** 01:53:53.4±2.4, 44°24′S±0°09′×38°8′E±0°2, h10km±1km, mb4.3/8, Error ellipse: s-maj=30.3km s-min=14.3km az=279.0*

ISC 14 01:53:53.1±0.7, 44°1′S±0°1′×38°9′E±0°2, h10km, n20, σ0♀84/20, mb4.1/10, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.40**	**304**	P	**P**	**01 58 08.1**	**-0.5**
	0.2nm,0.3s,baz=133,slow=18,SNR=1.7						
SUR	**Sutherland**	**18.40**	**304**	P	**P**	**01 58 08.0**	**-0.5**
LBTB	**Lobatse**	**21.95**	**326**	P	**P**	**01 58 46.4**	**-0.6**
	3.7nm,0.8s,baz=149,slow=14,SNR=3.5						
LBTB	**Lobatse**	**21.95**	**326**	P	**P**	**01 58 46.7**	**-0.4**
LBTB				IAmb	IAmb	01 58 58.7	
	comp=Z,12nm,1.2s						
VOI	**Vohitsoka**	**23.11**	**19**		**P**	**01 59 00.7**	**+1.3**
VOI				IAmb	IAmb	01 59 23.9	
	comp=Z,14nm,1.2s						
MATP	**Matopo**	**25.19**	**336**	P	**P**	**01 59 18.2**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=164,slow=10,SNR=6.0						
MAW	**Mawson**	**26.73**	**160**	P	**P**	**01 59 33.7**	**+1.4**
LSZ	**Lusaka**	**30.18**	**339**	P	**P**	**02 00 02.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=182,slow=2.9,SNR=1.9						
QSPA	**South Pole Qui**	**46.07**	**180**	P	**P**	**02 02 17.1**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=300,slow=0.7,SNR=7.2						
QSPA	**South Pole Qui**	**46.07**	**180**	P	**P**	**02 02 16.6**	**-0.4**
VNDA	**Vanda**	**53.69**	**167**	P	**P**	**02 03 14.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.32**	**320**	P	**P**	**02 04 42.8**	**+0.9**
	comp=Z,2μm,0.5s,baz=159,slow=5.9,SNR=3.1						
PLCA	**Paso Flores**	**74.42**	**228**	P	**P**	**02 05 31.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=124,slow=7.3,SNR=2.0						
PLCA	**Paso Flores**	**74.42**	**228**	P	**P**	**02 05 31.4**	**+0.1**
PLCA				IAmb	IAmb	02 05 47.7	
	comp=Z,6.8nm,1.4s						
STKA	**Stephens Creek**	**76.68**	**121**	P	**P**	**02 05 44.1**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=238,slow=9.5,SNR=3.1						
STKA	**Stephens Creek**	**76.68**	**121**	P	**P**	**02 05 43.0**	**-1.4**
STKA				IAmb	IAmb	02 05 44.6	
	comp=Z,2.9nm,1.4s						
ASAR	**Alice Springs**	**77.31**	**111**	P	**P**	**02 05 48.6**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=218,slow=5.5,SNR=7.2						
WRA	**Warramunga Arr**	**80.13**	**108**	P	**P**	**02 06 02.2**	**-1.4**
	comp=Z,1.9nm,1.2s,baz=211,slow=4.5,SNR=3.8						
TXAR	**Lajitas Array**	**146.89**	**256**	PKPbc	**PKPbc**	**02 13 36.0**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=138,slow=5.9,SNR=8.0						
TXAR	**Lajitas Array**	**146.89**	**256**		**PKPdf**	**02 13 34.6**	**+0.7**

*NEIC **14** 02:02:33.1±1.0, 10°7S±0°1×162°1E±0°1, h77km±10km, mb4.3/9, Error ellipse: s-maj=26.6km s-min=12.4km az=225.0*

*IDC **14** 02:02:33.3±3.1, 10°74S×162°01E, h75km±21km, mb3.7/5, mb1 4.0/7, mb1mx3.7/31, mbtmp4.2/7, MS3.3/2, Ms1 3.3/2, ms1mx2.6/60, Error ellipse: s-maj=36.1km s-min=18.8km az=60.0*

ISC 14 02:02:33.0±0.8, 10°8S±0°1×162°0E±0°1, h77km, n41, σ1♀04′/35, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.43**	**303**	P	**Pn**	**02 03 11.3**	**+0.6**
	169nm,0.3s,baz=179,slow=9.3,SNR=23						
HNR				S	**Sn**	**02 03 39.7**	**+0.2**
	140nm,0.3s,baz=168,slow=15,SNR=14						
HNR	**Honiara**	**2.43**	**303**	P	**Pn**	**02 03 10.9**	**+0.2**
HNR	**Honiara**	**2.43**	**303**	P	**Pn**	**02 03 11.4**	**+0.7**
SANVU	**Saraoutou**	**6.87**	**133**	Pn	**Pn**	**02 04 10.8**	**-0.3**
SANVU	**Saraoutou**	**6.87**	**133**	P	**Pn**	**02 04 11.7**	**+0.6**
DVP	**Devils Point**	**9.15**	**140**	P	**Pn**	**02 04 42.2**	**0.0**
KOUNC	**Koumac, New Ca**	**9.98**	**168**	Pn	**Pn**	**02 04 53.0**	**-0.6**
KOUNC	**Koumac, New Ca**	**9.98**	**168**	P	**Pn**	**02 04 52.8**	**-0.8**
	47nm,0.4s						
LIFNC	**LIFOU**	**11.15**	**154**	Pn	**Pn**	**02 05 05.8**	**-3.8**
LIFNC	**LIFOU**	**11.15**	**154**	P	**Pn**	**02 05 08.0**	**-1.6**
DZM	**Mont Dzumac**	**12.02**	**160**	P	**Pn**	**02 05 21.6**	**+0.1**
	3.4nm,0.3s,baz=136,slow=23,SNR=35						
DZM				LR	LR	02 09 15.2	
	comp=Z,99nm,18.2s,baz=110,slow=33						
DZM	**Mont Dzumac**	**12.02**	**160**	Pn	**Pn**	**02 05 21.1**	**-0.5**
MARNC	**Mare, Loyalty**	**12.12**	**152**	Pn	**Pn**	**02 05 23.2**	**+0.4**
MARNC	**Mare, Loyalty**	**12.12**	**152**	P	**Pn**	**02 05 23.9**	**+1.1**
	0.7nm,0.4s						
ONTNC	**Ouen Toro**	**12.24**	**160**	Pn	**Pn**	**02 05 24.8**	**+0.3**
OUENC	**Ouen Island, N**	**12.48**	**159**	Pn	**Pn**	**02 05 27.9**	**+0.2**
OUENC	**Ouen Island, N**	**12.48**	**159**	P	**Pn**	**02 05 28.2**	**+0.5**
	42nm,1.4s						
PMG	**Port Moresby**	**14.70**	**274**	LR	LR	02 10 41.8	
	comp=Z,122nm,18.3s,baz=314,slow=33						
WR0	**Warramunga Arr**	**28.00**	**248**	P	**P**	**02 08 18.2**	**+1.2**
WR0				IAmb	IAmb	02 08 23.7	
	comp=Z,10.0nm,1.4s						
WB0	**Warramunga Arr**	**28.09**	**248**	P	**P**	**02 08 17.5**	**-0.2**
WB0				IAmb	IAmb	02 08 23.6	
	comp=Z,7.2nm,1.1s						
WB2	**Warramunga Arr**	**28.17**	**248**	P	**P**	**02 08 19.6**	**+1.1**
WB2				IAmb	IAmb	02 08 41.2	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**28.18**	**248**	P	**P**	**02 08 18.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=77,slow=8.8,SNR=22						
WRA	**Warramunga Arr**	**28.18**	**248**	P	**P**	**02 08 18.1**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**29.42**	**9**	T	T	02 39 40.0	
	baz=188,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.43**	**9**	T	T	02 39 41.2	
	baz=188,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.44**	**9**	T	T	02 39 42.3	
	baz=188,slow=76,SNR=40						
ASAR	**Alice Springs**	**29.70**	**241**	P	**P**	**02 08 33.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=66,slow=9.4,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**30.65**	**9**	T	T	02 41 13.2	
	baz=188,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.66**	**9**	T	T	02 41 04.7	
	baz=188,slow=76,SNR=25						
H11N2	**WAKE ISLAND Hy**	**30.67**	**9**	T	T	02 41 14.6	
	baz=188,slow=76,SNR=19						
BKZ	**Black Stump Fm**	**31.09**	**158**	P	**P**	**02 08 45.0**	**+0.9**
BKZ				IAmb	IAmb	02 08 47.2	
	comp=Z,11nm,1.3s						
FITZ	**Fitzroy Crossi**	**35.94**	**254**	P	**P**	**02 09 25.3**	**-1.1**
USA0B	**Ussuriysk Arra**	**61.12**	**336**	P	**P**	**02 12 37.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**61.12**	**336**	P	**P**	**02 12 38.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**68.66**	**295**	P	**P**	**02 13 29.1**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=138,slow=3.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**68.66**	**295**	P	**P**	**02 13 27.9**	**-0.8**
CHTO	**Chiang Mai**	**68.78**	**295**	P	**P**	**02 13 28.5**	**-0.9**
CHTO				IAmb	IAmb	02 13 29.5	
	comp=Z,2.6nm,0.5s						
SONM	**Songino Array**	**76.31**	**325**	P	**P**	**02 14 14.6**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=138,slow=5.9,SNR=16						
SONM	**Songino Array**	**76.31**	**325**	P	**P**	**02 14 14.7**	**+1.0**
MKAR	**Makanchi Array**	**90.83**	**317**	P	**P**	**02 15 27.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=90,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**90.83**	**317**	P	**P**	**02 15 27.2**	**-0.8**

*KEA **14** 02:56:21.8, 39°61N×117°92E, h15km, ML3.6/1*

*IDC **14** 02:56:32.5±1.3, 41°26N×119°49E, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.6/44, mbtmp3.8/8, ML3.6/3, Error ellipse: s-maj=35.1km s-min=24.5km az=23.0*

ISC 14 02:56:29.5±1.3, 39°8N±0°2×118°44E±0°07, h12km, n11, σ4♀16′/12, mb3.9/5, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUJ	**Sinuiju**	**4.66**	**84**	Pg	**Pg**	**02 57 57.3**	**-1.5**
SUJ				Sg	**Sg**	**02 59 04.1**	**+4.9**
SUJ				AML	AML		
	comp=N,122nm,0.6s						
SUJ				AML	AML		
	comp=E,75nm,0.4s						
SUJ				AML	AML		
	comp=Z,132nm,0.9s						
PYS	**Pyongsong**	**5.76**	**93**	Sg	**Sg**	**02 59 38.4**	**+4.1**
HHU	**Hamhung**	**7.00**	**86**	Sg	**Sg**	**03 00 18.2**	**+4.3**
KSRS	**Korea Array**	**7.79**	**105**	Pn	**Pn**	**02 58 22.8**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=289,slow=14,SNR=11						
KSRS				Sn	**Sn**	**02 59 46.5**	**-4.1**
	comp=Z,1.4nm,0.3s,baz=344,slow=27,SNR=7.8						
KSRS				Lg	Lg	03 00 41.0	
	comp=Z,1.2nm,0.3s,baz=282,slow=30,SNR=5.3						
SONM	**Songino Array**	**11.82**	**317**	Pn	**Pn**	**02 59 15.9**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=136,slow=14,SNR=4.4						
SONM				Lg	Lg	03 02 39.9	
	comp=Z,0.1nm,0.3s,baz=143,slow=25,SNR=2.1						
MJAR	**Matsushiro Arr**	**15.89**	**96**	Pn	**Pn**	**03 00 08.4**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=9.7,slow=28,SNR=5.4						
MKAR	**Makanchi Array**	**27.04**	**297**	P	**P**	**03 02 16.2**	**+4.7**
	comp=Z,0.1nm,0.6s,baz=96,slow=10,SNR=2.0						
CMAR	**Chiang Mai Arr**	**27.14**	**224**	P	P	03 02 33.0	+20
	comp=Z,0.9nm,0.3s,baz=340,slow=31,SNR=1.6						
FINES	**FINESS Array B**	**57.05**	**325**	P	**P**	**03 06 15.7**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=45,slow=5.7,SNR=5.1						
BRTR	**Keskin Array B**	**62.63**	**300**	P	**P**	**03 06 57.1**	**+3.3**
	comp=Z,0.8nm,1.0s,baz=49,slow=3.6,SNR=2.5						
YKA	**Yellowknife Ar**	**69.53**	**23**	P	**P**	**03 07 33.1**	**-4.4**
	comp=Z,0.4nm,0.8s,baz=320,slow=5.3,SNR=3.5						

*MDD **14** 03:05:13.8±0.5, 35°63N×3°70W, h0km, mb_Lg2.3/8, Error ellipse: s-maj=4.5km s-min=2.7km az=25.0*

*SFS **14** 03:05:13.0, 35°63N×3°70W, ML2.4, ALBORAN SUR*

*CNRM **14** 03:05:14.3, 35°70N×3°54W, h20km, ml1.9*

ISC 14 03:05:13.6±1.1, 35°65N±0°02×3°66W±0°02, h10km±9km, n28, σ1♀59/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.49**	**208**	P	**Pb**	**03 05 25.0**	**+0.6**
PALE				S	**Sb**	**03 05 35.0**	**+3.4**
PALE	**Palemas**	**0.49**	**208**	P	**Pb**	**03 05 25.0**	**+0.6**
PALE				S	**Sb**	**03 05 33.6**	**+2.0**
EALB	**Alboran**	**0.58**	**60**	Pg	**Pg**	**03 05 25.0**	**+0.1**
EALB				Sg	**Sg**	**03 05 33.9**	**+1.2**
EALB				Sg	**Sb**	**03 05 34.8**	**+0.5**
EALB				*i* Vmb_Lg		03 05 34.9	
EMEL	**Melilla**	**0.67**	**121**	Pg	**Pg**	**03 05 25.5**	**-1.1**
EMEL				Sg	**Sg**	**03 05 35.2**	**-0.2**
EMEL				Sg	**Sb**	**03 05 35.7**	**-1.1**
GOG	**Mont Gurugu**	**0.69**	**128**	P	**Pg**	**03 05 27.0**	**0.0**
GOG	**Mont Gurugu**	**0.69**	**128**	P	**Pg**	**03 05 27.2**	**+0.2**
GOG				S	**Sg**	**03 05 36.2**	**+0.2**
AKLM	**AKL**	**1.15**	**188**	P	**Pn**	**03 05 36.2**	**+0.3**
AKLM				S	**Sn**	**03 05 52.0**	**+0.3**
ELGU	**Los Guajares,**	**1.21**	**1**	Pg	**Pn**	**03 05 36.1**	**-0.7**
ELGU				Sg	**Sb**	**03 05 52.4**	**-0.1**
ELGU				*i* Vmb_Lg		03 05 55.0	
EMAL	**Malaga-Limoner**	**1.27**	**331**	P	**Pn**	**03 05 36.1**	**-1.3**
EMAL				S	**Sb**	**03 05 52.5**	**-1.6**
EMIJ	**Mijas**	**1.28**	**316**	Pg	**Pn**	**03 05 36.5**	**-1.1**
EMIJ				Sg	**Sb**	**03 05 52.9**	**-1.5**
EMIJ				*i* Vmb_Lg		03 05 53.7	
TAF	**Taforalt**	**1.32**	**129**	P	**Pn**	**03 05 37.0**	**-1.2**
TAF	**Taforalt**	**1.32**	**129**	P	**Pn**	**03 05 37.0**	**-1.2**
TAF				S	**Sb**	**03 05 55.0**	**-0.5**
EBER	**Berja**	**1.39**	**26**	Pg	**Pn**	**03 05 39.6**	**+0.3**
EBER				Sn	**Sn**	**03 05 58.2**	**+0.4**
EBER				Sg	**Sn**	**03 05 58.2**	**+0.4**
EBER				*i* Vmb_Lg		03 06 01.4	
SMIR	**Smir Dam**	**1.40**	**272**	P	**Pn**	**03 05 37.3**	**-1.9**
SMIR	**Smir Dam**	**1.40**	**272**	P	**Pn**	**03 05 37.3**	**-1.9**
SMIR				S	**Sb**	**03 05 56.4**	**-1.4**
CEU	**Ceuta**	**1.42**	**281**	P	**Pn**	**03 05 36.7**	**-2.7**
CEU				S	**Sb**	**03 05 54.8**	**-3.4**
CHEFC	**Chefchaouen**	**1.48**	**249**	P	**Pb**	**03 05 40.9**	**-0.3**
CHEFC				S	**Sg**	**03 06 00.6**	**-0.5**
EGOR	**Sierra Gorda,**	**1.50**	**346**	Pg	**Pn**	**03 05 41.0**	**+0.2**
EGOR				Sn	**Sg**	**03 06 02.2**	**+0.2**
EGOR				*i* Vmb_Lg		03 06 04.5	
JBK	**JBK**	**1.59**	**145**	P	**Pn**	**03 05 40.5**	**-1.5**
JBK	**JBK**	**1.59**	**145**	P	**Pn**	**03 05 40.6**	**-1.5**
JBK				S	**Sn**	**03 05 59.6**	**-3.2**
LCRM	**LCR**	**2.19**	**207**	P	**Pb**	**03 05 53.9**	**+0.4**
LCRM				S	**Sg**	**03 06 24.9**	**+0.7**
EQES	**Quesada**	**2.20**	**12**	Pn	**Pn**	**03 05 50.7**	**+0.3**
EQES				Sn	**Sn**	**03 06 19.4**	**+1.7**
EQES				*i* Vmb_Lg		03 06 20.6	
IFR	**Ifrane**	**2.45**	**210**	P	**Pn**	**03 05 54.7**	**+0.9**
IFR				S	**Sn**	**03 06 23.7**	**-0.2**
MD31	**MD31**	**2.92**	**198**	P	**Pn**	**03 06 01.3**	**+1.1**
MD31				S	**Sn**	**03 06 37.9**	**+2.4**
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**03 06 01.5**	**+1.1**
MDT				S	**Sb**	**03 06 38.4**	**-3.7**
ETOB	**Tobarra**	**3.43**	**29**	Pn	**Pn**	**03 06 07

TWM1					*e*S	Sb	03 14 53.8	+0.2
	baz=217								
YUS	**Yu-Shan**	**0.42**	**24**	⇑*i*P		Pg	03 14 46.4	+0.7
	baz=26								
YUS					*e*S	Sg	03 14 52.7	+1.4
	baz=26								
SSHA	**Shanhua**	**0.44**	**275**	*e*P		Pb	03 14 48.7	+1.2
	baz=290								
SSHA					*e*S	Sb	03 14 58.0	+3.7
	baz=290								
SGLT	**Jiouru**	**0.45**	**214**	*e*P		Pn	03 14 49.6	-0.6
	baz=203								
SGLT					*e*S	Sb	03 14 57.4	+2.9
	baz=203								
TTN	**Taitung**	**0.49**	**134**	*e*P		Pb	03 14 48.9	+0.6
	baz=134								
TTN					*e*S	Sb	03 14 56.8	+1.0
	baz=134								
FULB	**Fuli**	**0.50**	**79**	⇑*i*P		Pb	03 14 48.4	0.0
	baz=71								
FULB					*e*S	Sb	03 14 55.3	-0.6
	baz=71								
TAI1	**Yung-k'ang**	**0.50**	**263**	*e*P		Pb	03 14 49.3	+0.9
	baz=279								
CHN5	**Tsauling**	**0.50**	**351**	⇑P		Pb	03 14 48.0	-0.5
CHN5					*e*S	Sb	03 14 56.2	+0.1
MASBT	**Mashibuluo**	**0.50**	**194**	⇑*i*P		Pg	03 14 47.7	+0.7
	baz=189								
MASBT					*e*S	Sg	03 14 54.2	+0.6
	baz=189								
CHY	**Chiayi**	**0.51**	**322**	*e*P		Pb	03 14 48.7	+0.2
	baz=323								
CHY					*i* S	Sb	03 14 57.4	+1.3
	baz=323								
EDH	**Donghe**	**0.51**	**104**	*e*P		Pb	03 14 49.1	+0.4
	baz=110								
EDH					*e*S	Sb	03 14 56.7	+0.4
	baz=110								
ICHU	**Yijhu**	**0.52**	**300**	P		Pb	03 14 48.5	-0.2
	baz=301								
ICHU					S	Sn	03 14 59.0	-1.3
	baz=301								
CHKT	**Chengkung**	**0.55**	**90**	*e*P		Pb	03 14 49.8	+0.5
	baz=91								
CHKT					*e*S	Sb	03 14 58.5	+1.1
	baz=91								
EYUL	**Yuli**	**0.56**	**64**	*e*P		Pg	03 14 48.9	+0.6
	baz=66								
EYUL					*e*S	Sg	03 14 56.2	+0.6
	baz=66								
CHN8	**Yiju**	**0.57**	**296**	*e*P		Pb	03 14 50.5	+0.9
	baz=297								
CHN8					*e*S	Sn	03 14 59.8	-1.6
	baz=297								
YULB	**Yu-li**	**0.57**	**59**	⇑*i*P		Pg	03 14 48.7	+0.4
	baz=61								
YULB					*e*S	Sg	03 14 55.4	-0.3
	baz=61								
WDLH	**Douliu**	**0.62**	**340**	P		Pb	03 14 51.1	+0.6
	baz=341								
WDLH					*e*S	Sn	03 15 01.3	-1.5
	baz=341								
SSPT	**Xinbi**	**0.64**	**197**	*e*P		Pb	03 14 50.8	-0.1
	baz=193								
SSPT					*e*S	Sn	03 15 02.9	-0.3
	baz=193								
EHY	**Hungye**	**0.65**	**52**	⇑*i*P		Pg	03 14 50.3	+0.4
	baz=58								
EHY					*e*S	Sg	03 14 58.4	0.0
	baz=58								
WTK	**Tuku**	**0.68**	**329**	*e*P		Pb	03 14 51.6	+0.1
	baz=330								
WTK					*e*S	Sb	03 15 02.3	+1.2
	baz=330								
SSLB	**Suanglung**	**0.70**	**14**	⇑*i*P		Pg	03 14 51.2	+0.2
	baz=22								
SSLB					*e*S	Sg	03 15 00.7	+0.6
	baz=22								
WJS	**Zhushan**	**0.72**	**357**	*e*P		Pb	03 14 52.6	+0.5
	baz=341								
WJS					*e*S	Sn	03 15 03.8	-1.4
	baz=341								
EAST	**Anshuo**	**0.72**	**174**	*e*P		Pb	03 14 52.1	-0.1
	baz=166								
EAST					*e*S	Sb	03 15 03.1	+0.9
	baz=166								
HGSD	**Ruisui**	**0.72**	**57**	P		Pb	03 14 52.2	0.0
	baz=58								
HGSD					*e*S	Sb	03 15 03.7	+1.4
	baz=58								
WSF	**Szhu**	**0.73**	**317**	*e*P		Pb	03 14 52.8	+0.3
	baz=318								
WSF					*e*S	Sb	03 15 03.2	+0.6
	baz=318								
VWDT	**VWDT**	**0.73**	**28**	⇑*i*P		Pg	03 14 51.8	+0.3
	baz=29								
VWDT					*e*S	Sb	03 15 02.5	-0.2
	baz=29								
SCZT	**Fangliau**	**0.74**	**191**	*e*P		Pb	03 14 52.1	-0.4
	baz=189								
SCZT					*e*S	Sb	03 15 03.1	+0.3
	baz=189								
TAW	**Tawu**	**0.75**	**171**	*e*P		Pg	03 14 52.2	+0.4
	baz=177								
TAWH	**Dawu Township**	**0.77**	**172**	*e*P		Pb	03 14 52.8	-0.2
	baz=166								
WNT	**Mingjian**	**0.78**	**354**	P		Pb	03 14 53.8	+0.6
	baz=340								
WNT					*e*S	Sn	03 15 05.9	-0.8
	baz=340								
SMLT	**Sun Moon Lake**	**0.79**	**9**	*e*P		Pb	03 14 53.3	-0.1
	baz=19								
SMLT					*e*S	Sb	03 15 05.4	+1.0
	baz=19								
TYC	**Yuchr**	**0.80**	**6**	*e*P		Pb	03 14 54.0	+0.3
	baz=16								
TYC					*e*S	Sn	03 15 06.9	-0.4
	baz=16								
WLCH	**Liuqiu**	**0.83**	**206**	*e*P		Pn	03 14 58.0	+2.6
	baz=207								
EGFH	**Guangfu**	**0.83**	**47**	*e*P		Pg	03 14 53.4	+0.1
	baz=56								
EGFH					*e*S	Sb	03 15 04.8	-0.7
	baz=56								
WRL	**Guolierlin Hig**	**0.87**	**336**	P		Pb	03 14 54.7	-0.1
	baz=336								
WRL					*e*S	Sn	03 15 07.9	-1.1
	baz=336								
WTCT	**Ta-ch'eng**	**0.88**	**330**	*e*S		Sn	03 15 08.5	-0.7
	baz=331								
SLIU	**Shizi**	**0.88**	**178**	*e*P		Pb	03 14 55.2	+0.2
	baz=183								
OWD	**Renai**	**0.93**	**24**	*e*P		Pg	03 14 55.0	-0.2
	baz=25								
OWD					*e*S	Sn	03 15 10.5	-0.1
	baz=25								
ESL	**Shilin**	**0.94**	**41**	P		Pb	03 14 55.9	0.0
	baz=42								
ESL					*e*S	Sb	03 15 08.6	0.0
	baz=42								
WUSB	**Renai**	**0.94**	**20**	*e*P		Pg	03 14 55.4	-0.1
	baz=29								
WUSB					*e*S	Sn	03 15 09.9	-1.0
	baz=29								
WCS	**Beigang Elemen**	**0.96**	**8**	*e*P		Pb	03 14 56.7	+0.4
	baz=8.0								
WCS					*e*S	Sn	03 15 10.4	-0.8
	baz=8.0								
WCHH	**Zhanghua**	**0.99**	**349**	*e*P		Pg	03 14 56.5	+0.1
	baz=349								
WCHH					*e*S	Sn	03 15 11.8	-0.1
	baz=349								
CHGB	**Renai**	**1.03**	**21**	*e*P		Pg	03 14 56.8	-0.3
	baz=22								
CHGB					*e*S	Sb	03 15 11.7	+0.4
	baz=22								
WDGT	**Dungji**	**1.03**	**279**	*e*P		Pb	03 14 57.4	-0.1
	baz=279								
WDGT					*e*S	Sb	03 15 11.4	+0.2
	baz=279								
TCU	**Taichung**	**1.04**	**355**	*e*P		Pn	03 14 59.3	+0.9
	baz=340								
SMST	**Manzhou Townsh**	**1.08**	**176**	*e*P		Pn	03 14 58.6	-0.2
	baz=178								
HEN	**Hengchun**	**1.09**	**181**	*e*P		Pn	03 15 00.3	+1.3
	baz=183								
WHF	**Hehuan Shan**	**1.14**	**24**	*e*P		Pg	03 14 59.0	-0.2
	baz=37								
WHF					*e*S	Sn	03 15 17.8	+1.6
	baz=37								
TWK1	**Hengchun**	**1.15**	**178**	*e*P		Pn	03 15 00.6	+0.7
	baz=178								
TWKBT	**Hengchun**	**1.16**	**178**	*e*P		Pn	03 15 00.3	+0.4
	baz=178								
HWA	**Hwalien**	**1.16**	**41**	*e*P		Pb	03 14 59.8	+0.1
	baz=53								
PHUB	**P'eng-hu**	**1.17**	**291**	*e*P		Pg	03 14 58.1	-1.7
	baz=291								
PHUB					*e*S	Sg	03 15 15.1	+0.1
	baz=291								
WHP	**Taichung City**	**1.18**	**8**	*e*P		Pn	03 15 01.1	+0.7
	baz=18								
WHP					*e*S	Sn	03 15 18.5	+1.7
	baz=18								
PNG	**Penghu**	**1.21**	**293**	*e*P		Pg	03 14 59.4	-1.0
	baz=294								
PNG					*e*S	Sg	03 15 16.0	-0.1
	baz=294								
TWT	**Tachien**	**1.21**	**18**	*e*P		Pn	03 15 00.8	0.0
	baz=15								
FUSS	**Fushou**	**1.22**	**21**	*e*P		Pg	03 15 00.3	-0.5
	baz=10.0								
FUSS					*e*S	Sn	03 15 19.2	+1.2
	baz=10.0								
VCHM	**Qimei**	**1.23**	**275**	*e*P		Pb	03 14 59.7	-1.2
	baz=291								
VCHM					*e*S	Sg	03 15 16.3	-0.7
	baz=291								
TWD	**Chiawan**	**1.24**	**38**	*e*P		Pb	03 15 00.6	-0.4
	baz=37								
TWQ1	**Liyutan**	**1.24**	**0**	*e*P		Pg	03 15 01.9	+0.8
	baz=348								
TWQ1					*e*S	Sn	03 15 20.6	+2.4
	baz=348								
WDJ	**Dajia District**	**1.25**	**355**	*e*P		Pb	03 15 01.2	0.0
	baz=342								
WDJ					*e*S	Sn	03 15 18.6	+0.3
	baz=342								
ETLH	**Xiulin Townshi**	**1.28**	**31**	*e*P		Pn	03 15 01.6	-0.1
	baz=31								
ETLH					*e*S	Sn	03 15 20.5	+1.2
	baz=31								
NSY	**Sanyi**	**1.31**	**360**	*e*P		Pg	03 15 03.3	+0.8
	baz=347								
NSY					*e*S	Sn	03 15 22.9	+3.0
	baz=347								
NACB	**Ninganchiao**	**1.31**	**35**	P		Pn	03 15 01.8	-0.3
	baz=46								
NACB					*e*S	Sn	03 15 21.3	+1.4
	baz=46								
LYUB	**Lan-yu**	**1.33**	**145**	*e*P		Pn	03 15 00.7	-1.6
	baz=134								
NMLH	**Miaoli**	**1.43**	**1**	*e*P		Pb	03 15 04.2	-0.1
	baz=339								
NNSB	**Datong**	**1.44**	**23**	*e*P		Pn	03 15 03.8	-0.1
	baz=6.0								
NNS	**Nan Shan**	**1.44**	**23**	*e*P		Pn	03 15 03.8	-0.2
	baz=10.0								
NSTT	**Nanjuang**	**1.54**	**8**	*e*P		Pn	03 15 05.6	+0.4
	baz=347								
NSTT					*e*S	Sg	03 15 27.1	+0.3
	baz=347								
LIOB	**Emei**	**1.56**	**8**	*e*P		Pb	03 15 06.2	-0.3
	baz=357								
LIOB					*e*S	Sg	03 15 27.7	+0.4
	baz=357								
NFF	**Wufeng Townshi**	**1.56**	**12**	*e*P		Pg	03 15 06.9	-0.3
	baz=350								
NFF					*e*S	Sg	03 15 28.8	+1.4
	baz=350								
LATG	**Datong**	**1.59**	**26**	*e*P		Pn	03 15 06.3	+0.3
	baz=36								
LATG					*e*S	Sg	03 15 30.5	+2.1
	baz=36								
ENA	**Nanau**	**1.59**	**34**	*e*P		Pb	03 15 07.4	+0.2
	baz=46								
NDT	**Datong Townshi**	**1.64**	**24**	*e*P		Pb	03 15 08.2	+0.2
	baz=35								
NDT					*e*S	Sg	03 15 32.9	+2.7
	baz=35								
YHNB	**Yeheng**	**1.66**	**20**	P		Pb	03 15 08.0	-0.3
	baz=9.0								
YHNB					*e*S	Sg	03 15 32.4	+1.7
	baz=9.0								
NSK	**Sanguang**	**1.66**	**19**	*e*P		Pb	03 15 08.5	+0.2
	baz=19								
NSK					*e*S	Sg	03 15 32.2	+1.5
	baz=19								
ENTT	**Nioudou**	**1.70**	**25**	*e*P		Pg	03 15 09.6	-0.3
	baz=24								
ENTT					*e*S	Sg	03 15 32.8	+0.8
	baz=24								
NDS	**Dongshan**	**1.76**	**29**	*e*P		Pb	03 15 10.1	+0.2
	baz=45								
NDS					*e*S	Sg	03 15 33.8	0.0
	baz=45								
TWC	**Suao**	**1.80**	**33**	*e*P		Pb	03 15 11.2	+0.5
	baz=43								
TWC					*e*S	Sg	03 15 35.0	-0.2
	baz=43								
NWLT	**Wulai**	**1.80**	**22**	*e*P		Pb	03 15 10.3	-0.4
	baz=18								
TWE	**Neicheng**	**1.81**	**27**	*e*P		Pb	03 15 11.3	+0.4
	baz=42								
FUSB	**Fushanzhiwuyua**	**1.81**	**24**	*e*P		Pg	03 15 11.6	-0.6
	baz=13								
FUSB					*e*S	Sg	03 15 36.4	+0.7
	baz=13								
NHDH	**Xindian Distri**	**1.98**	**20**	*e*P		Pg	03 15 16.0	+0.7
	baz=27								
NTC	**Toucheng**	**2.00**	**29**	*e*P		Pb	03 15 13.9	-0.1
	baz=41								
TWA	**Mucha**	**2.02**	**22**	*e*P		Pb	03 15 14.3	0.0
	baz=28								
TAP	**Taipei**	**2.04**	**19**	*e*P		Pn	03 15 13.4	+1.3
	baz=359								
TIPB	**Shuangxi**	**2.10**	**27**	*e*P		Pb	03 15 15.5	-0.2
	baz=40								
YM01	**YM01**	**2.17**	**20**	*e*P		Pb	03 15 16.1	-0.8
NWF	**Wu-fen Shan**	**2.17**	**25**	*e*P		Pg	03 15 18.6	-0.3
	baz=2.0								
SXI1	**Grass Mountain**	**2.23**	**27**	*e*P		Pb	03 15 18.4	+0.4
	baz=2.0								
KNM	**Kinmen**	**2.51**	**302**	*e*P		Pn	03 15 19.8	+1.3
	baz=302								
KNMB	**Chin-men Tao**	**2.57**	**302**	*e*P		Pn	03 15 19.9	+0.6
	baz=303								
AXDP	**Jialang**	**3.12**	**306**	*e*P		Pn	03 15 26.4	-0.5
	baz=306								
MHZQ	**Yeshan**	**3.38**	**332**	*e*P		Pn	03 15 30.3	-0.2
	baz=331								

*ISK **14** 03:30:57.0, 35.23N×22.69E, h24km, ML2.9/5*
*THE **14** 03:30:58.0, 35.24N×22.75E, h3km±3km, ML2.9/5, Error ellipse: s-maj=3.5km s-min=1.5km az=81.0*
ATH 14 03:30:58.0, 35.26N×22.77E, h39km±5km, ML2.9/7, Error ellipse: s-maj=7.4km s-min=1.6km az=43.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ANKY	**Antikythira Is**	**0.75**	**35**	P	Pn	03 31 12.7	+0.7	
ANKY				S	Sn	03 31 24.1	+1.9	
ANKY				AML	AML	03 31 26.1		
	comp=N,2337μm,0.6s							
ANKY				AML	AML	03 31 27.9		
	comp=E,2626μm,0.5s							
ANKY	**Antikythira Is**	**0.75**	**35**	P	Pn	03 31 12.4	+0.4	
ANKY				S	Sn	03 31 24.3	+2.1	
	comp=E,1μm,0.6s							
RODP	**Rodopos**	**0.86**	**69**	P	Pn	03 31 15.6	+2.0	
RODP				S	Sn	03 31 28.5	+3.5	
RODP	**Rodopos**	**0.86**	**69**	PG	Pn	03 31 15.2	+1.6	
RODP				SG	Sn	03 31 28.2	+3.2	
IMMV	**Iera Moni Meta**	**1.01**	**78**	P	Pn	03 31 17.2	+1.6	
IMMV				AML	AML	03 31 35.6		
	comp=N,1213μm,0.7s							
IMMV				AML	AML	03 31 40.1		
	comp=E,1221μm,0.8s							
IMMV	**Iera Moni Meta**	**1.01**	**78**	P	Pn	03 31 17.0	+1.4	
IMMV				S	Sn	03 31 31.4	+2.8	
	comp=E,608nm,0.7s							
IMMV	**Iera Moni Meta**	**1.01**	**78**	PN	Pn	03 31 17.4	+1.8	
IMMV				SN	Sn	03 31 31.7	+3.1	

KTHR	**Kythira**	**1.02**	**11**		P	Pn	03 31 17.1	+1.3	
KTHR					S	Sn	03 31 32.2	+3.3	
	comp=E,672nm,0.5s								
KTHA	**Kythira Island**	**1.03**	**13**		P	Pn	03 31 17.6	+1.7	
KTHA					AML	AML	03 31 37.3		
	comp=N,765μm,0.6s								
KTHA					AML	AML	03 31 39.5		
	comp=E,2856μm,0.6s								
KTHA	**Kythira Island**	**1.03**	**13**		P	Pn	03 31 17.5	+1.6	
KTHA					S	Sn	03 31 32.1	+3.0	
	comp=E,902nm,0.5s								
GVD	**Gavdhos**	**1.16**	**111**		P	Pn	03 31 19.1	+1.5	
GVD					AML	AML	03 31 47.1		
	comp=E,644μm,0.6s								
GVD					AML	AML	03 31 50.3		
	comp=N,658μm,0.5s								
GVD	**Gavdhos**	**1.16**	**111**		PN	Pn	03 31 19.0	+1.4	
GVD					SN	Sn	03 31 35.1	+2.9	
VAM	**Vamos**	**1.18**	**82**		P	Pn	03 31 19.6	+1.7	
VAM					AML	AML	03 31 48.0		
	comp=E,1068μm,0.8s								
VAM					AML	AML	03 31 48.8		
	comp=N,1013μm,0.6s								
MNVA	**Monemvasia**	**1.45**	**9**		P	Pn	03 31 23.4	+1.9	
VLI	**Veliai**	**1.47**	**5**		P	Pn	03 31 23.5	+1.6	
VLI					AML	AML	03 31 52.3		
	comp=N,694μm,0.9s								
VLI					AML	AML	03 31 52.4		
	comp=E,972μm,0.8s								
VLI	**Veliai**	**1.47**	**5**		P	Pn	03 31 24.7	+2.8	
VLI					S	Sn	03 31 45.2	+5.3	
	comp=E,415nm,0.8s								
SIVA	**Sivas**	**1.69**	**97**		P	Pn	03 31 26.7	+1.8	
IDI	**Anoyia**	**1.73**	**88**		P	Pn	03 31 27.3	+1.7	
IDI					AML	AML	03 32 03.8		
	comp=N,178μm,0.9s								
IDI					AML	AML	03 32 06.8		
	comp=E,214μm,0.5s								
IDI	**Anoyia**	**1.73**	**88**		PN	Pn	03 31 27.4	+1.8	
PYL	**PYLOS**	**1.84**	**333**		P	Pn	03 31 29.1	+2.1	
HRKL	**Herakleio**	**1.91**	**88**		PN	Pn	03 31 29.8	+1.9	
ITM	**Ithomi**	**2.04**	**341**		P	Pn	03 31 31.1	+1.3	
ITM	**Ithomi**	**2.04**	**341**		PN	Pn	03 31 30.8	+1.0	
NPS	**Neapolis**	**2.33**	**89**		P	Pn	03 31 35.9	+2.2	
ZKR	**Zakros**	**2.83**	**92**		P	Pn	03 31 42.8	+2.3	
ZKR	**Zakros**	**2.83**	**92**		PN	Pn	03 31 42.8	+2.2	
APE	**Apeiranthos**	**2.88**	**50**		P	Pn	03 31 43.1	+1.8	

*NAO **14** 04:08:01.8±1.5, 73.05N×5.31E, ML3.7*
*IDC **14** 04:08:04.1±0.8, 73.08N×5.77E, h0km, mb3.6/14, mb1 3.8/18, mb1mx3.7/51, mbtmp3.7/18, ML3.2/4, MS3.5/42, Ms1 3.5/42, ms1mx3.4/91, Error ellipse: s-maj=19.0km s-min=12.6km az=52.0*
*BER **14** 04:08:05.1±2.8, 73.08N×5.81E, h10km, ML2.4, ML3.7(NAO), Confirmed Earthquake*
*DNK **14** 04:08:08.5±3.3, 73.40N×4.59E, h0km±96km, ML1.7*
ISC 14 04:08:04.7±0.5, 72.99N±0.05×6.13E±0.06, h11km, n105, σ2.985/81, mb3.6/15, MS3.5/37, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BJO1	**Bjornoya**	**3.92**	**61**	P	Pn	**04 09 03.7**		**-1.0**
BJO1	**Bjornoya**	**3.92**	**61**	*e*P	Pn	**04 09 03.5**		**-1.2**
BJO1				IAML		04 09 47.6		
	comp=Z,24nm,0.8s							
HSPB	**Hornsund (broa**	**4.71**	**27**	Pn	Pn	**04 09 14.0**		**-1.5**
HSPB	**Hornsund (broa**	**4.71**	**27**	*e*P	Pn	**04 09 14.0**		**-1.5**
JMIC	**Jan Mayen**	**4.96**	**253**	LR	LR	04 10 42.3		
	comp=Z,235nm,18.4s,baz=260,slow=32							
TRO	**Tromso**	**5.31**	**123**	*e*P	Pn	**04 09 24.2**		**+0.4**
TRO				*e*S	Sn	**04 10 21.0**		**-3.9**
TRO				IAML		04 10 25.9		
	comp=Z,13nm,0.4s							
LOF	**Lofoten**	**5.47**	**150**	*e*P	Pn	**04 09 26.4**		**+0.5**
LOF				*e*S	Sn	**04 10 24.1**		**-4.7**
LOF				IAML		04 10 25.2		
	comp=Z,16nm,0.5s							
BRBA	**Barentsburg A**	**5.48**	**18**	Pn	Pn	**04 09 26.2**		**+0.2**
BRBA	**Barentsburg A**	**5.48**	**18**	Pn	Pn	**04 09 26.2**		**+0.2**
BRBB	**Barentsburg B**	**5.51**	**18**	Pn	Pn	**04 09 25.5**		**-0.9**
BRBB	**Barentsburg B**	**5.51**	**18**	Pn	Pn	**04 09 25.5**		**-0.9**
JETT	**Jettan, Norway**	**5.74**	**120**	Pn	Pn	**04 09 31.5**		**+1.8**
JETT				Sn	Sn	**04 10 33.2**		**-2.2**
SPA0	**Spitsbergen Ar**	**5.79**	**21**	Pn	Pn	**04 09 28.8**		**-1.7**
	baz=210,slow=16							
SPA0	**Spitsbergen Ar**	**5.79**	**21**	Pn	Pn	**04 09 28.8**		**-1.7**
	baz=210,slow=16							
SPITS	**Spitsbergen Ar**	**5.79**	**21**	Pn	Pn	**04 09 28.9**		**-1.5**
	baz=201,slow=19,SNR=54							
STEI	**Steigen**	**5.93**	**145**	*e*P	Pn	**04 09 33.8**		**+1.6**
STEI				*e*S	Sn	**04 10 36.8**		**-3.2**
STEI				IAML		04 10 43.7		
	comp=Z,3.2nm,0.5s							
HAMF	**Hammerfest**	**5.97**	**105**	*e*P	Pn	**04 09 31.6**		**-1.2**
HAMF				*e*S	Sn	**04 10 36.4**		**-4.7**
HAMF				IAML		04 11 05.8		
	comp=Z,8.3nm,0.8s							
HOPEN	**Hopen**	**6.08**	**46**	*e*S	Sn	**04 10 36.5**		**-7.2**
HOPEN				IAML		04 10 55.9		
	comp=Z,17nm,0.8s							
KBS	**Kingsbay**	**6.13**	**11**	*i* P	Pn	**04 09 34.9**		**-0.1**
KBS	**Kingsbay**	**6.13**	**11**	*e*P	Pn	**04 09 33.1**		**-1.8**
KIF	**Kilpisjarvi**	**6.23**	**123**	*e*P	Pn	**04 09 36.1**		**-0.2**
KIF				*e*S	Sn	**04 10 42.2**		**-5.2**
FAUS	**Fauske**	**6.43**	**147**	*e*P	Pn	**04 09 37.8**		**-1.3**
FAUS				*e*S	Sn	**04 10 47.3**		**-5.1**
FAUS				IAML		04 11 05.1		
	comp=Z,3.7nm,0.5s							
NBB30	**Finnes**	**6.58**	**153**	*e*P	Pn	**04 09 42.1**		**+1.0**
NBB30				*e*S	Sn	**04 10 50.3**		**-5.8**
NBB17	**Glomfjord B¥r**	**6.76**	**153**	*e*P	Pn	**04 09 44.0**		**+0.4**
NBB17	**Glomfjord B¥r**	**6.76**	**153**	*e*S	Sn	**04 10 54.8**		**-5.7**
KTK1	**Kautokeino**	**6.85**	**117**	*e*P	Pn	**04 09 44.0**		**-0.8**
KTK1				*e*S	Sn	**04 10 58.4**		**-4.3**
KTK1				IAML		04 11 18.7		
	comp=Z,3.0nm,0.9s							
NBB13	**Alf Garage**	**6.86**	**155**	*e*P	Pn	**04 09 46.1**		**+1.1**
NBB13	**Alf Garage**	**6.86**	**155**	IAML		04 11 03.2		
	comp=Z,7.0nm,0.5s							
NBB40	**Tonnes**	**6.93**	**157**	*e*P	Pn	**04 09 46.6**		**+0.7**
KONS	**Konsvik**	**6.95**	**156**	*e*P	Pn	**04 09 45.8**		**-0.5**
KONS				*e*S	Sn	**04 10 58.9**		**-6.4**
KONS				IAML		04 11 06.5		
	comp=Z,5.9nm,0.7s							
STOK	**Stokkvaagen**	**7.10**	**157**	*e*P	Pn	**04 09 48.7**		**+0.3**
STOK				*e*S	Sn	**04 11 01.5**		**-7.3**
ARA0	**ARCESS Array S**	**7.12**	**110**	Pn	Pn	**04 09 50.1**		**+1.5**
	baz=321,slow=12							
ARA0				Sn	Sn	**04 11 05.5**		**-3.8**
	baz=307,slow=22							
ARA0	**ARCESS Array S**	**7.12**	**110**	Pn	Pn	**04 09 50.1**		**+1.5**
	baz=321,slow=12							
ARA0				Sn	Sn	**04 11 05.5**		**-3.8**
	baz=307,slow=22							
ARCES	**ARCESS Array B**	**7.12**	**110**	Pn	Pn	**04 09 49.3**		**+0.8**
	baz=323

NB2	**NORSAR Subarra**	**12.16**	**168**	Pn	**Pn**	**04 10 59.3**	**+1.7**
NB2	**NORSAR Subarra**	**12.16**	**168**	Pn	**Pn**	**04 10 59.3**	**+1.7**
NOA	**NORSAR Array B**	**12.16**	**168**	LR	LR	04 15 26.5	
	comp=Z,117nm,18.7s,baz=345,slow=36						
HFS	**Hagfors**	**13.24**	**163**	Pn	**Pn**	**04 11 11.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=358,slow=15,SNR=4.4						
HFS				LR	LR	04 16 01.1	
	comp=Z,176nm,19.2s,baz=342,slow=36						
HFS	**Hagfors**	**13.24**	**163**	Pn	**Pn**	**04 11 11.0**	**-1.3**
	baz=333,slow=9.3						
HFS	**Hagfors**	**13.24**	**163**	Pn	**Pn**	**04 11 11.0**	**-1.3**
	baz=333,slow=9.3						
FIA0	**FINESS Array S**	**13.81**	**137**	P	**Pn**	**04 11 20.1**	**0.0**
	baz=339,slow=12						
FIA0	**FINESS Array S**	**13.81**	**137**	P	**Pn**	**04 11 20.1**	**0.0**
	baz=339,slow=12						
FINES	**FINESS Array B**	**13.81**	**137**	Pn	**Pn**	**04 11 20.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=359,slow=14,SNR=6.3						
FINES				LR	LR	04 16 10.9	
	comp=Z,280nm,19.6s,baz=333,slow=35						
KLMR	**Klimovskoe**	**17.51**	**116**	*e*Pn	**Pn**	**04 12 07.6**	**-0.8**
KLMR				AMP		04 12 15.2	
	comp=Z,26nm,1.2s						
EKA	**Eskdalemuir Ar**	**18.14**	**197**	P	**P**	**04 12 17.8**	**+1.3**
	baz=359,slow=12,SNR=3.6						
SFJD	**Kangerlussuaq**	**19.57**	**281**	LR	LR	04 19 07.7	
	comp=Z,216nm,18.4s,baz=54,slow=34						
OBN	**Obninsk**	**21.87**	**129**	P	**P**	**04 13 01.0**	**+4.0**
	comp=Z,3.6nm,0.4s,baz=39,slow=2.7,SNR=5.0						
OBN				LR	LR	04 20 51.5	
	comp=Z,53nm,20.3s,baz=352,slow=35						
KIRV	**Kirov**	**22.13**	**108**	P	**P**	**04 13 03.2**	**+3.4**
	comp=Z,11nm,0.8s,baz=314,slow=10,SNR=7.6						
KIRV				LR	LR	04 21 30.7	
	comp=Z,138nm,20.0s,baz=344,slow=36						
VRAC	**Vranov**	**24.22**	**163**	P	**P**	**04 13 24.9**	**+3.9**
	comp=Z,2.7nm,0.6s,baz=356,slow=7.5,SNR=4.3						
VRAC				LR	LR	04 22 17.5	
	comp=Z,112nm,18.6s,baz=344,slow=35						
GERES	**GERESS Array B**	**24.46**	**168**	P	**P**	**04 13 26.4**	**+3.0**
	comp=Z,1.1nm,0.9s,baz=18,slow=10,SNR=6.1						
AKASG	**Malin Array Be**	**24.53**	**143**	P	**P**	**04 13 24.8**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=346,slow=9.5,SNR=5.3						
AKASG				LR	LR	04 22 48.1	
	comp=Z,228nm,19.7s,baz=352,slow=36						
NRIK	**Noril'sk**	**24.62**	**57**	P	**P**	**04 13 27.1**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=325,slow=6.1,SNR=1.7						
RES	**Resolute Bay**	**24.99**	**322**	LR	LR	04 23 28.3	
	comp=Z,120nm,18.8s,baz=314,slow=37						
DAVOX	**Davos/Dischmat**	**26.35**	**174**	LR	LR	04 25 49.7	
	comp=Z,58nm,18.7s,baz=352,slow=40						
ARU	**Arti**	**26.58**	**100**	LR	LR	04 23 59.0	
	comp=Z,78nm,18.1s,baz=326,slow=36						
FRB	**Frobisher Bay**	**27.05**	**289**	LR	LR	04 22 38.8	
	comp=Z,75nm,19.9s,baz=2.0,slow=32						
BELG	**Belogornoye**	**27.09**	**117**	LR	LR	04 24 44.6	
	comp=Z,74nm,18.9s,baz=334,slow=37						
MLR	**Muntele Rosu**	**29.07**	**151**	LR	LR	04 25 58.8	
	comp=Z,186nm,18.9s,baz=54,slow=37						
TIXI	**Tiksi**	**31.12**	**31**	LR	LR	04 28 00.6	
	comp=Z,32nm,18.2s,baz=226,slow=38						
AKTO	**Aktyubinsk**	**31.69**	**107**	LR	LR	04 26 59.6	
	comp=Z,109nm,19.6s,baz=351,slow=36						
BVAR	**Borovoye Array**	**32.98**	**92**	P	**P**	**04 14 42.5**	**+3.4**
	comp=Z,0.8nm,0.7s,baz=317,slow=8.5,SNR=3.9						
SCHQ	**Schefferville**	**33.96**	**278**	LR	LR	04 26 23.0	
	comp=Z,104nm,18.4s,baz=64,slow=32						
KBZ	**Khabaz**	**33.98**	**129**	LR	LR	04 28 46.1	
	comp=Z,104nm,18.6s,baz=348,slow=36						
BRTR	**Keskin Array B**	**35.94**	**143**	LR	LR	04 32 08.5	
	comp=Z,65nm,18.0s,baz=336,slow=40						
ZALV	**Zalesovo Beam**	**36.39**	**78**	LR	LR	04 32 21.8	
	comp=Z,46nm,21.8s,baz=67,slow=40						
INK	**Inuvik**	**36.53**	**336**	LR	LR	04 32 37.1	
	comp=Z,75nm,18.6s,baz=196,slow=40						
KURBB	**Kurchatov Arra**	**37.49**	**86**	LR	LR	04 34 12.7	
	comp=Z,32nm,20.1s,baz=337,slow=42						
GNI	**Garni**	**37.81**	**129**	LR	LR	04 31 16.0	
	comp=Z,71nm,18.0s,baz=342,slow=37						
IDI	**Anoyia**	**38.96**	**155**	LR	LR	04 31 33.7	
	comp=Z,32nm,20.4s,baz=255,slow=36						
YKA	**Yellowknife Ar**	**39.05**	**321**	P	**P**	**04 15 30.3**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=39,slow=10,SNR=4.2						
YKA				LR	LR	04 31 29.0	
	comp=Z,142nm,18.0s,baz=342,slow=36						
ILAR	**Eielson Array**	**41.32**	**343**	P	**P**	**04 15 50.6**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=323,slow=33,SNR=3.2						
MKAR	**Makanchi Array**	**42.03**	**85**	P	**P**	**04 15 57.5**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=322,slow=7.7,SNR=2.7						
MKAR				LR	LR	04 37 05.4	
	comp=Z,28nm,19.6s,baz=308,slow=41						
SEY	**Seymchan**	**42.45**	**22**	P	**P**	**04 16 00.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=4.0,slow=3.6,SNR=4.2						
MMAI	**Mount Meron Ar**	**42.78**	**143**	LR	LR	04 35 46.1	
	comp=Z,53nm,18.6s,baz=44,slow=39						
GEYT	**Alibeck**	**43.25**	**115**	LR	LR	04 36 52.0	
	comp=Z,86nm,18.0s,baz=347,slow=40						
AAK	**Ala-Archa**	**43.53**	**95**	LR	LR	04 34 36.6	
	comp=Z,50nm,20.7s,baz=358,slow=36						
DLBC	**Dease Lake**	**45.48**	**329**	LR	LR	04 35 54.7	
	comp=Z,80nm,18.2s,baz=337,slow=37						
ULM	**Lac du Bonnet**	**46.09**	**299**	LR	LR	04 35 16.2	
	comp=Z,79nm,19.3s,baz=358,slow=36						
SONM	**Songino Array**	**47.87**	**63**	P	**P**	**04 16 42.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=328,slow=5.1,SNR=2.7						
KLR	**Kul'dur**	**52.46**	**42**	LR	LR	04 41 33.5	
	comp=Z,22nm,18.2s,baz=339,slow=38						
PETK	**Petropavlovsk-**	**52.67**	**21**	P	**P**	**04 17 16.5**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=8.8,slow=11,SNR=4.0						
PETK				LR	LR	04 40 17.3	
	comp=Z,22nm,18.1s,baz=51,slow=37						
TKL	**Tuckaleechee C**	**56.28**	**282**	LR	LR	04 42 08.9	
	comp=Z,42nm,18.1s,baz=337,slow=36						
PDAR	**Pinedale Array**	**56.45**	**307**	P	**P**	**04 17 45.8**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=310,slow=46,SNR=4.8						
PDAR				LR	LR	04 42 23.2	
	comp=Z,103nm,18.6s,baz=293,slow=37						
YBH	**Yreka Blue Hor**	**60.29**	**318**	LR	LR	04 44 59.8	
	comp=Z,159nm,18.6s,baz=334,slow=37						
NVAR	**Mina Array Bea**	**62.56**	**313**	LR	LR	04 46 16.0	
	comp=Z,108nm,18.5s,baz=193,slow=37						
KSRS	**Korea Array**	**62.91**	**49**	LR	LR	04 49 15.4	
	comp=Z,18nm,18.4s,baz=160,slow=39						
ANMO	**Albuquerque**	**63.12**	**302**	LR	LR	04 45 59.4	
	comp=Z,69nm,19.1s,baz=292,slow=36						
ATD	**Arta Tunnel**	**65.10**	**140**	LR	LR	04 48 39.0	
	comp=Z,29nm,18.8s,baz=82,slow=37						
TXAR	**Lajitas Array**	**67.74**	**297**	P	**P**	**04 19 02.1**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=196,slow=36,SNR=2.4						
LPIG	**La Paz**	**74.43**	**302**	LR	LR	04 51 36.4	
	comp=Z,72nm,18.4s,baz=341,slow=35						
ASAR	**Alice Springs**	**123.15**	**60**	PKP	**PKPdf**	**04 26 59.6**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=307,slow=1.3,SNR=7.1						

*IDC **14** 04:23:12.6±1.2,26°.14S×70°.66W,h0km,mb4.1/6, mb1 4.2/9,mb1mx4.0/31,mbtmp4.1/9,ML4.0/3,MS3.0/3, Ms1 3.0/3,ms1mx2.8/55,Error ellipse: s-maj=33.3km s-min=25.2km az=13.0*

*NEIC **14** 04:23:18.4±1.6,26°.04S±0°.03×70°.87W±0°.07,h34km±4km, mb4.7/58,ML4.4(GUC),Error ellipse: s-maj=9.1km s-min=4.7km az=84.0*

*GUC **14** 04:23:19.9±0.3,26°.14S×70°.64W,h39km±1km,ML4.2*

*VAO **14** 04:23:23.2±0.7,25°.85S×70°.59W,h67km,mb4.2*

ISC 14 04:23:17.0±1.3,26°.09S±0°.04×70°.93W±0.06,h30km±10km, n169,σ1§18/172,mb4.7/32,1C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.30**	**101**		**Pn**	**04 23 26.3**	**+0.9**
AC01					**Sn**	**04 23 31.1**	**+0.2**
AC01	**Pan de Azucar**	**0.30**	**101**	*e*P	**Pn**	**04 23 26.1**	**+0.7**
AC01				*i* S	**Sn**	**04 23 31.1**	**+0.2**
AC01				IAML		04 23 31.5	
	comp=N,34μm,0.3s						
AC06	**Mina Casimiro**	**1.36**	**158**		**Pb**	**04 23 42.0**	**+0.1**
AC06				Sn	**Sb**	**04 23 59.4**	**+0.4**
AC06	**Mina Casimiro**	**1.36**	**158**	*e*P	**Pb**	**04 23 41.9**	**-0.1**
AC06				⇓*i*P	**Pb**	**04 23 41.9**	**-0.1**
AC06				*e*S	**Sb**	**04 23 58.6**	**-0.4**
AC06				IAML		04 24 01.2	
	comp=E,17μm,0.3s						
PB14	**IPOC Station P**	**1.53**	**18**		**Pn**	**04 23 42.7**	**+0.1**
PB14				Sn	**Sn**	**04 24 00.6**	**-1.1**
PB14	**IPOC Station P**	**1.53**	**18**	*e*P	**Pn**	**04 23 42.7**	**+0.1**
PB14				*e*S	**Sn**	**04 24 00.1**	**-1.6**
PB14				IAML		04 24 04.4	
	comp=E,4μm,0.5s						
GO03	**Copiap**	**1.62**	**158**		**Pb**	**04 23 45.7**	**-0.7**
GO03				Sn	**Sb**	**04 24 05.6**	**-0.9**
GO03	**Copiap**	**1.62**	**158**	*e*P	**Pb**	**04 23 45.5**	**-0.8**
GO03				*e*S	**Sb**	**04 24 05.3**	**-1.2**
GO03				IAML		04 24 07.9	
	comp=E,6μm,0.2s						
AC02	**Maricunga**	**1.78**	**115**	Pn	**Pn**	**04 23 47.4**	**+1.2**
AC02				Sn	**Sn**	**04 24 07.5**	**-0.4**
AC02	**Maricunga**	**1.78**	**115**	*e*P	**Pn**	**04 23 47.0**	**+0.9**
AC02				*e*S	**Sn**	**04 24 07.6**	**-0.4**
AC04	**Llanos de Chal**	**2.11**	**183**		**Pn**	**04 23 51.5**	**+1.2**
AC04	**Llanos de Chal**	**2.11**	**183**	⇓*i*P	**Pn**	**04 23 51.5**	**+1.2**
AC04				IAML		04 24 34.9	
	comp=E,3μm,0.6s						
PB10	**IPOC Station P**	**2.59**	**8**	Pn	**Pn**	**04 23 56.5**	**-0.4**
PB10	**IPOC Station P**	**2.59**	**8**	*e*P	**Pn**	**04 23 56.3**	**-0.5**
PB10				IAML		04 24 44.4	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**2.92**	**176**		**Pn**	**04 24 03.3**	**+1.6**
LCO	**Las Campanas**	**2.92**	**176**	*e*P	**Pn**	**04 24 03.2**	**+1.6**
PB15	**IPOC Station P**	**3.16**	**25**	Pn	**Pn**	**04 24 05.6**	**+0.7**
PB15	**IPOC Station P**	**3.16**	**25**	*e*P	**Pn**	**04 24 05.6**	**+0.7**
PB06	**IPOC Station P**	**3.59**	**20**		**Pn**	**04 24 10.2**	**-0.5**
PB06	**IPOC Station P**	**3.59**	**20**	⇑*i*P	**Pn**	**04 24 10.4**	**-0.3**
PB04	**IPOC Station P**	**3.81**	**11**		**Pn**	**04 24 12.8**	**-1.0**
PB04	**IPOC Station P**	**3.81**	**11**	*e*P	**Pn**	**04 24 12.8**	**-1.0**
CO05	**La Serena**	**3.83**	**184**	Pn	**Pn**	**04 24 15.1**	**+1.3**
CO05	**La Serena**	**3.83**	**184**	*e*P	**Pn**	**04 24 14.7**	**+0.9**
LVC	**Limon Verde**	**3.92**	**28**	Pn	**Pn**	**04 24 14.0**	**-1.6**
	comp=N,5.8nm,0.3s,baz=216,slow=8.8,SNR=48						
LVC				Sn	**Sn**	**04 25 04.1**	**+3.3**
	comp=N,71nm,0.3s,baz=336,slow=21,SNR=3.8						
LVC	**Limon Verde**	**3.92**	**28**	Pn	**Pn**	**04 24 15.7**	**+0.1**
LVC	**Limon Verde**	**3.92**	**28**	*e*P	**Pn**	**04 24 15.8**	**+0.3**
LVC	**Limon Verde**	**3.92**	**28**	*e*P	**Pn**	**04 24 16.7**	**+1.2**
GO04	**Tololo Observa**	**4.07**	**178**		**Pn**	**04 24 19.4**	**+1.9**
GO04	**Tololo Observa**	**4.07**	**178**	*e*P	**Pn**	**04 24 19.0**	**+1.6**
PB07	**IPOC Station P**	**4.45**	**13**		**Pn**	**04 24 21.5**	**-1.1**
PB07	**IPOC Station P**	**4.45**	**13**	*e*P	**Pn**	**04 24 21.6**	**-0.9**
PB09	**IPOC Station P**	**4.54**	**20**	Pn	**Pn**	**04 24 24.2**	**+0.2**
PB09	**IPOC Station P**	**4.54**	**20**	*e*P	**Pn**	**04 24 24.1**	**+0.2**
CO06	**Fray Jorge**	**4.61**	**188**		**Pn**	**04 24 24.8**	**+0.1**
CO06	**Fray Jorge**	**4.61**	**188**	*e*P	**Pn**	**04 24 24.8**	**+0.1**
CO03	**El Pedregal**	**4.74**	**178**		**Pn**	**04 24 27.9**	**+1.4**
CO03	**El Pedregal**	**4.74**	**178**	*e*P	**Pn**	**04 24 28.1**	**+1.6**
PB02	**IPOC Station P**	**4.84**	**11**		**Pn**	**04 24 26.8**	**-1.1**
CO02	**Combarbal**	**5.10**	**181**	Pn	**Pn**	**04 24 32.5**	**+1.1**
PB01	**IPOC Station P**	**5.19**	**15**		**Pn**	**04 24 31.7**	**-1.1**
PATCX	**Punta Patache**	**5.29**	**8**	Pn	**Pn**	**04 24 32.3**	**-1.9**
TA01	**Diego Aracena**	**5.54**	**7**	Pn	**Pn**	**04 24 35.1**	**-2.3**
PB08	**IPOC Station P**	**6.14**	**16**	Pn	**Pn**	**04 24 45.6**	**-0.5**
PB11	**IPOC Station P**	**6.41**	**11**	Pn	**Pn**	**04 24 47.9**	**-1.6**
VA06	**Catapilco**	**6.46**	**183**		**Pn**	**04 24 49.3**	**-0.7**
GO01	**Chusmiza**	**6.59**	**14**	Pn	**Pn**	**04 24 50.8**	**-1.5**
VA03	**San Esteban**	**6.66**	**177**		**Pn**	**04 24 54.1**	**+1.2**
VA01	**Torpederas**	**6.94**	**185**	Pn	**Pn**	**04 24 55.9**	**-0.7**
MT02	**Curacav**	**7.15**	**181**		**Pn**	**04 24 59.4**	**-0.2**
PB12	**IPOC Station P**	**7.46**	**4**	Pn	**Pn**	**04 25 02.5**	**-1.4**
MT09	**Talagante**	**7.66**	**180**		**Pn**	**04 25 06.7**	**0.0**
MT01	**Popeta**	**7.75**	**182**	Pn	**Pn**	**04 25 07.4**	**-0.5**
LMEL	**Las Melosas**	**7.76**	**176**	Pn	**Pn**	**04 25 10.4**	**+2.4**
PB16	**IPOC Station P**	**7.83**	**10**	Pn	**Pn**	**04 25 09.2**	**-0.3**
BO04	**La Punta**	**7.88**	**178**	Pn	**Pn**	**04 25 09.8**	**+0.2**
BO01	**Tunca**	**8.28**	**181**	Pn	**Pn**	**04 25 14.1**	**-0.9**
BO02	**Sierra Bellavi**	**8.68**	**179**		**Pn**	**04 25 20.0**	**-0.6**
H03N1	**Juan Fernandez**	**10.09**	**222**	T	T	04 36 00.6	
	baz=49,slow=72,SNR=1362						
LPAZ	**La Paz**	**10.10**	**16**	Pn	**Pn**	**04 25 40.7**	**+0.1**
	comp=N,0.6nm,0.3s,baz=192,slow=7.1,SNR=18						
LPAZ				Sn	**Sn**	**04 27 37.4**	**+4.3**
	comp=N,0.0nm,0.3s,baz=201,slow=21,SNR=1.4						
LPAZ	**La Paz**	**10.10**	**16**		**Pn**	**04 25 40.5**	**0.0**
LPAZ	**La Paz**	**10.10**	**16**	*e*P	**Pn**	**04 25 41.0**	**+0.4**
H03N2	**Juan Fernandez**	**10.10**	**222**	T	T	04 36 00.4	
	baz=49,slow=72,SNR=2743						
H03N3	**Juan Fernandez**	**10.10**	**222**	T	T	04 35 59.6	
	baz=49,slow=72,SNR=3174						
CPUP	**Villa Florida**	**12.21**	**94**	Pn	**Pn**	**04 26 11.3**	**+2.3**
	comp=N,0.1nm,0.3s,baz=247,slow=14,SNR=2.0						
CPUP				LR	LR	04 30 06.7	
	comp=N,35nm,18.4s,baz=268,slow=35						
CPUP	**Villa Florida**	**12.21**	**94**		**Pn**	**04 26 10.8**	**+1.8**
CPUP	**Villa Florida**	**12.21**	**94**	*e*P	**Pn**	**04 26 11.6**	**+2.6**
ITQB	**Itaqui**	**13.14**	**109**	*e*P	**Pn**	**04 26 24.7**	**+3.0**
SIV	**San Ignacio**	**13.62**	**44**	Pn	**Pn**	**04 26 26.4**	**-1.8**
	comp=N,1.5nm,0.3s,baz=241,slow=10,SNR=16						
PLCA	**Paso Flores**	**14.61**	**179**	Pn	**P**	**04 26 49.8**	**+2.1**
	comp=N,0.1nm,0.3s,baz=351,slow=14,SNR=3.7						
PLCA				LR	LR	04 32 56.0	
	comp=N,162nm,21.7s,baz=54,slow=40						
PLCA	**Paso Flores**	**14.61**	**179**	Pn	**Pn**	**04 26 42.6**	**+0.9**
NNA	**Nana**	**15.10**	**337**	LR	LR	04 31 23.7	
	comp=N,62nm,21.5s,baz=180,slow=32						
PTLB	**Pontes e Lacer**	**15.27**	**48**	*e*P	**Pn**	**04 26 49.3**	**-1.3**
PLTB	**Pedras Altas**	**16.18**	**114**	P	**P**	**04 27 05.4**	**+0.2**
PLTB	**Pedras Altas**	**16.18**	**114**	*e*P	**P**	**04 27 03.8**	**-1.4**
VILB	**Vilhena**	**16.51**	**40**	*e*P	**Pn**	**04 27 05.3**	**-1.2**
ETMB	**Extrema**	**16.79**	**16**	*e*P	**P**	**04 27 11.5**	**-0.5**
PTGB	**Pitanga**	**17.10**	**90**	*e*P	**P**	**04 27 15.6**	**+0.1**
CZSB	**Cruzeiro do Su**	**18.34**	**354**	*e*P	**Pn**	**04 27 31.1**	**+1.9**
PCMB	**Pacaembu**	**18.53**	**80**	*e*P	**Pn**	**04 27 31.4**	**-0.1**
PDRB	**Porto dos Gac**	**19.67**	**46**	*e*P	**P**	**04 27 43.1**	**-0.6**
TUJ01	**Guaruva-PR**	**19.77**	**93**	*e*P	**P**	**04 27 45.1**	**+0.2**
ITRB	**Iturama**	**19.98**	**76**	*e*P	**P**	**04 27 46.3**	**-0.8**
CLDB	**Colider**	**20.82**	**46**	*e*P	**P**	**04 27 54.7**	**-1.5**
VAO	**Valinhos**	**22.01**	**87**	*e*P	**P**	**04 28 07.2**	**-1.8**
IPMB	**Ipameri, GO**	**22.53**	**74**	*e*P	**P**	**04 28 12.6**	**-2.0**
BDFB	**Brasilia**	**23.76**	**69**	P	**P**	**04 28 24.7**	**-2.5**
	comp=N,1.1nm,0.4s,baz=222,slow=9.1,SNR=5.6						
BDFB	**Brasilia**	**23.76**	**69**	P	**P**	**04 28 24.3**	**-2.9**
NPGB	**Novo Progresso**	**24.06**	**41**	*e*P	**P**	**04 28 29.4**	**-0.5**
PEXB	**Peixe**	**25.45**	**61**	*e*P	**P**	**04 28 40.4**	**-2.0**
ITTB	**Itaituba**	**26.05**	**37**	*e*P	**P**	**04 28 46.5**	**-1.4**
DIAM	**Diamantina, MG**	**26.36**	**78**	*e*P	**P**	**04 28 50.0**	**-1.0**
OTAV	**Otavalo**	**27.16**	**343**	*e*P	**P**	**04 28 58.6**	**+0.2**
JANB	**Januaria**	**27.17**	**71**	*e*P	**P**	**04 28 57.1**	**-1.0**
SMTB	**Santa Maria do**	**28.01**	**56**	*e*P	**P**	**04 29 05.5**	**-0.1**
MALB	**Monte Alegre**	**28.94**	**36**	*e*P	**P**	**04 29 12.7**	**-1.1**
NAN01	**Guarapari, ES**	**29.66**	**80**	*e*P	**P**	**04 29 20.1**	**-0.1**
NBPS	**Pedro II - PI**	**35.53**	**58**	*e*P	**P**	**04 30 09.4**	**-2.3**
NBMA	**Muriti-CE**	**35.83**	**64**	*e*P	**P**	**04 30 13.4**	**-0.8**
SJCC	**San Jacinto, C**	**36.01**	**353**	P	**P**	**04 30 16.3**	**+0.7**
SJCC				IAmb	IAmb	04 30 17.3	
	comp=Z,12nm,1.1s						
PDPR	**Patillas Dam,**	**44.10**	**7**	P	**P**	**04 31 20.9**	**-1.7**
PDPR				IAmb	IAmb	04 31 21.6	
	comp=Z,27nm,1.4s						
LRAL	**Lakeview Retre**	**60.75**	**345**	P	**P**	**04 33 25.6**	**-0.3**
LRAL				IAmb	IAmb	04 33 31.1	
	comp=Z,9.9nm,1.4s						
X58A	**Rowland**	**60.84**	**352**	P	**P**	**04 33 27.2**	**+0.8**
Y49A	**Blount Mountai**	**61.41**	**345**	P	**P**	**04 33 30.3**	**-0.1**
Y49A				IAmb	IAmb	04 33 38.1	
	comp=Z,7.2nm,1.4s						
W57A	**Gilead**	**61.51**	**352**	P	**P**	**04 33 31.2**	**+0.3**
V55A	**Taylorsville**	**62.37**	**351**	P	**P**	**04 33 37.2**	**+0.4**
W50A	**Signal Mountai**	**62.46**	**347**	P	**P**	**04 33 37.5**	**+0.1**
W50A				IAmb	IAmb	04 33 49.0	
	comp=Z,12nm,1.4s						
TKL	**Tuckaleechee C**	**62.60**	**348**	P	**P**	**04 33 38.3**	**0.0**
	comp=Z,4.4nm,0.9s,baz=180,slow=6.0,SNR=5.5						
TKL	**Tuckaleechee C**	**62.60**	**348**	P	**P**	**04 33 38.3**	**0.0**
TKL				IAmb	IAmb	04 33 39.8	
	comp=Z,9.7nm,1.2s						
SWET	**Sewanee**	**62.60**	**346**	P	**P**	**04 33 38.5**	**+0.1**
V52A	**Sevierville**	**62.75**	**348**	P	**P**	**04 33 38.8**	**-0.5**
V52A				IAmb	IAmb	04 33 39.5	
	comp=Z,4.0nm,0.8s						
PLAL	**Pickwick Lake**	**62.87**	**344**	P	**P**	**04 33 39.7**	**-0.4**
V48A	**Smith Brothers**	**63.30**	**346**	P	**P**	**04 33 42.9**	**0.0**
V48A				IAmb	IAmb	04 34 09.1	
	comp=Z,12nm,1.4s						
TXAR	**Lajitas Array**	**63.43**	**328**	P	**P**	**04 33 45.2**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=160,slow=7.9,SNR=5.6						
U49A	**Red Boiling Sp**	**63.82**	**347**	P	**P**	**04 33 46.3**	**-0.1**
U49A				IAmb	IAmb	04 34 04.4	
	comp=Z,5.2nm,1.2s						
WVT	**Waverly**	**63.91**	**345**	P	**P**	**04 33 46.7**	**-0.2**
WVT				IAmb	IAmb	04 33 47.2	
	comp=Z,2.9nm,0.7s						
S57A	**Dark Hollow, R**	**63.96**	**353**	P	**P**	**04 33 47.9**	**+0.6**
S57A				IAmb	IAmb	04 34 05.6	
	comp=Z,11nm,1.4s						
W41B	**Gary Mavity, V**	**64.19**	**341**	P	**P**	**04 33 49.6**	**+0.8**
W41B				IAmb	IAmb	04 33 55.5	
	comp=Z,6.9nm,1.4s						
S54A	**Dingess, Beckl**	**64.30**	**351**	P	**P**	**04 33 49.4**	**-0.2**
S54A				IAmb	IAmb	04 34 01.9	
	comp=Z,8.1nm,1.4s						
WHAR	**Wooly Hollow**	**64.31**	**341**	P	**P**	**04 33 50.5**	**+0.9**
WHAR				IAmb	IAmb	04 34 17.7	
	comp=Z,8.6nm,1.4s						
ABTX	**Abilene, Hawle**	**64.48**	**333**	P	**P**	**04 33 51.8**	**+1.0**
ABTX				IAmb	IAmb	04 33 52.7	
	comp=Z,4.3nm,0.8s						
LCAR	**Lake Charles**	**64.71**	**342**	P	**P**	**04 33 52.4**	**+0.3**
LCAR				IAmb	IAmb	04 33 53.1	
	comp=Z,12nm,1.4s						
FCAR	**Ozark Folk Cen**	**64.81**	**341**	P	**P**	**04 33 53.2**	**+0.3**
U40A	**Yellville**	**65.46**	**341**	P	**P**	**04 33 57.0**	**-0.1**
U40A				IAmb	IAmb	04 33 58.1	
	comp=Z,2.7nm,0.7s						
S44A	**Carbondale**	**65.74**	**344**	P	**P**	**04 33 58.9**	**+0.1**
SIUC	**Southern Illin**	**65.75**	**344**	P	**P**	**04 33 59.2**	**+0.2**
MNTX	**Cornudas Mount**	**66.21**	**328**	P	**P**	**04 34 03.4**	**+1.3**
FVM	**French Village**	**66.31**	**343**	P	**P**	**04 34 03.5**	**+1.0**
FVM				IAmb	IAmb	04 34 03.8	
	comp=Z,4.0nm,0.8s						
CCM	**Cathedral Cave**	**66.59**	**343**	P	**P**	**04 34 04.4**	**+0.1**
CCM				IAmb	IAmb	04 34 05.1	
	comp=Z,2.9nm,0.6s						
S39A	**Bolivar**	**66.84**	**341**	P	**P**	**04 34 06.8**	**+0.9**
R40A	**Maddies Statio**	**67.09**	**342**	P	**P**	**04 34 08.0**	**+0.5**
M55A	**Ridgway**	**67.61**	**354**	P	**P**	**04 34 11.1**	**+0.4**
L59A	**Walton**	**68.04**	**357**	P	**P**	**04 34 14.6**	**+1.1**
P40A	**Paris**	**68.19**	**343**	P	**P**	**04 34 14.7**	**+0.3**
P40A				IAmb	IAmb	04 34 15.7	
	comp=Z,5.8nm,0.6s						
HDIL	**Hopedale**	**68.47**	**345**	P	**P**	**04 34 16.1**	**0.0**
WVNY	**West Valley, N**	**68.52**	**354**	P	**P**	**04 34 16.8**	**+0.3**
WVNY				IAmb	IAmb	04 34 30.5	
	comp=Z,9.1nm,1.0s						
MMNY	**Mt. Morris Dam**	**68.78**	**354**	P	**P**	**04 34 18.5**	**+0.4**
ANMO	**Albuquerque**	**69.40**	**329**	P	**P**	**04 34 24.5**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.7,SNR=5.2						

comp=Z,641nm,0.5s
COEG Centro de Oper 1.84 321 *e*P **Pn 04 24 48.9 -1.7**
MATN Matagalpa 1.88 67 Pn **Pn 04 24 49.7 -1.5**
TGUH Tegucigalpa,Un 1.90 12 Pn **Pn 04 24 51.1 -0.5**
PAVA Las Pavas 1.94 321 *e*P **Pn 04 24 51.1 -1.0**
PAVA *e* **S 04 25 17.3 +1.7**
PAVA *e*S **S 04 25 17.3 +1.7**
PAVA Las Pavas 1.94 321 *e*P **Pn 04 24 51.1 -1.0**
PAVA *e* **S 04 25 17.3 +1.7**
PAVA *e*S **S 04 25 17.3 +1.7**
BOAB BOACO BROADBAN 2.00 82 Pn **Pn 04 24 51.1 -1.5**
BOAB BOACO BROADBAN 2.00 82 *e*P **Pn 04 24 50.4 -2.2**
LALI Alcalda de L 2.05 309 *e*P **Pn 04 24 52.6 -0.8**
LALI *e*S **Sn 04 25 15.8 -2.2**
LALI Alcalda de L 2.05 309 *e*P **Pn 04 24 52.6 -0.8**
LALI *e*S **Sn 04 25 15.8 -2.2**
CONN Concepcion 2.11 107 *e*P **Pn 04 24 51.6 -2.7**
ACON Acoyapa 2.47 95 Pn **Pn 04 24 56.8 -2.3**
ACON Acoyapa 2.47 95 *e*P **Pn 04 24 56.9 -2.3**
CEVE Cerro Verde 2.49 311 *e*P **Pn 04 24 59.5 -0.2**
CEVE IAML 04 25 37.9
comp=Z,1μm,0.3s
CEVE Cerro Verde 2.49 311 *e*P **Pn 04 24 59.5 -0.2**
CEVE IAML 04 25 37.9
comp=Z,1μm,0.3s
NUBE Las Nubes 2.66 310 *e*P **Pn 04 25 00.1 -1.7**
NUBE *e*S **Sn 04 25 31.5 -1.5**
NUBE IAML 04 25 38.3
comp=Z,451nm,0.5s
NUBE Las Nubes 2.66 310 *e*P **Pn 04 25 00.1 -1.7**
NUBE *e*S **Sn 04 25 31.5 -1.5**
NUBE IAML 04 25 38.3
comp=Z,451nm,0.5s
MTO3 Montecristo 2.74 324 Pn **Pn 04 25 02.0 -0.9**
ORTG Ortega, Santa 2.84 129 Pn **Pn 04 25 06.8 +2.5**
ESQI Esquipulas 2.85 326 Pn **Pn 04 25 04.1 -0.3**
JTS Las Juntas de 3.28 125 P **Pn 04 25 07.7 -2.5**
comp=Z,1.1nm,0.3s,baz=147,slow=2.4,SNR=12
JTS S Sn 04 25 57.8 +10
comp=Z,3.8nm,0.3s,baz=344,slow=23,SNR=7.5
JTS LR LR 04 26 38.4
comp=Z,305nm,19.8s,baz=26,slow=44
JTS Las Juntas de 3.28 125 Pn **Pn 04 25 11.5 +1.3**
ESPN Las Esperanzas 3.31 89 Pn **Pn 04 25 09.5 -1.1**
RIMA Rio Macho 4.46 122 Pn **Pn 04 25 26.6 0.0**
BRU2 Volcan 5.96 124 Pn **Pn 04 25 45.9 -1.1**
SDV Santo Domingo 17.09 99 P **Pn 04 28 15.8 -0.3**
comp=Z,0.1nm,0.3s,baz=208,slow=13,SNR=4.2
SDV LR LR 04 35 46.4
comp=Z,45nm,18.0s,baz=281,slow=40
833A Chaparral WMA, 19.43 327 P **P 04 28 43.1 +0.6**
BIRV Birongo 21.07 92 P **P 04 29 00.6 +0.3**
BIRV IAmb IAmb 04 29 22.3
comp=Z,36nm,1.3s
ATAH Atahualpa 21.30 154 LR LR 04 36 09.0
comp=Z,79nm,19.2s,baz=305,slow=33
JCT Junction City 21.39 330 P **P 04 29 02.8 -0.8**
JCT IAmb IAmb 04 29 07.7
comp=Z,7.4nm,0.8s
GOGA Godfrey 21.48 10 P **P 04 29 05.3 +0.8**
Y49A Blount Mountai 21.61 3 P **P 04 29 06.9 +1.0**
HODGE Hodges 22.50 12 P **P 04 29 17.5 +2.0**
TX32 Lajitas Array 22.63 321 P **P 04 29 18.3 +1.3**
TX32 IAmb IAmb 04 29 18.8
comp=Z,7.6nm,0.7s
TXAR Lajitas Array 22.63 321 P **P 04 29 18.1 +1.0**
comp=Z,8.1nm,0.7s,baz=136,slow=10.0,SNR=102
TXAR Lajitas Array 22.63 321 P **P 04 29 18.2 +1.2**
TX31 Lajitas Ar. Si 22.63 321 P **P 04 29 18.4 +1.3**
W50A Signal Mountai 23.01 5 P **P 04 29 22.4 +1.5**
W50A IAmb IAmb 04 29 22.7
comp=Z,4.1nm,0.6s
ABTX Abilene, Hawle 23.11 334 P **P 04 29 21.7 -0.2**
ABTX IAmb IAmb 04 29 25.1
comp=Z,7.8nm,1.1s
BG3 Lake Jocassee 23.11 10 P **P 04 29 23.9 +2.1**
BG3 IAmb IAmb 04 29 25.4
comp=Z,6.3nm,0.8s
BIRD Birdtown, Kers 23.30 15 P **P 04 29 24.5 +0.9**
CPCT Cooper Cave 23.34 7 P **P 04 29 24.0 +0.1**
KMSC Kings Mountain 23.57 13 P **P 04 29 28.4 +2.3**
KMSC IAmb IAmb 04 29 41.1
comp=Z,16nm,1.5s
TKL Tuckaleechee C 23.64 8 P **P 04 29 27.6 +0.9**
comp=Z,6.6nm,0.9s,baz=180,slow=12,SNR=5.7
TKL Tuckaleechee C 23.64 8 P **P 04 29 28.8 +2.1**
TKL IAmb IAmb 04 29 31.1
comp=Z,4.1nm,0.6s
V53A Saluda 23.79 10 P **P 04 29 29.5 +1.3**
V53A IAmb IAmb 04 29 53.0
comp=Z,6.8nm,1.1s
CLTN Cedars of Leba 23.83 3 P **P 04 29 30.1 +1.6**
CLTN IAmb IAmb 04 29 39.2
comp=Z,11nm,1.5s
W57A Gilead 23.91 16 P **P 04 29 29.7 +0.5**
W57A IAmb IAmb 04 29 55.0
comp=Z,12nm,1.2s
FCAR Ozark Folk Cen 23.94 351 P **P 04 29 30.0 +0.6**
LCAR Lake Charles 23.98 353 P **P 04 29 30.1 +0.3**
LCAR IAmb IAmb 04 29 33.6
comp=Z,8.4nm,1.4s
X34A Smith Ranch, M 24.15 339 P **P 04 29 32.7 +1.4**
TZTN Tazewell 24.54 8 P **P 04 29 36.0 +1.1**
TZTN IAmb IAmb 04 30 04.0
comp=Z,18nm,1.4s
FNO Franklin 24.60 341 P **P 04 29 36.3 +0.9**
TUL1 Leonard 24.73 344 P **P 04 29 37.5 +0.9**
TUL1 IAmb IAmb 04 29 39.2
comp=Z,16nm,1.2s
MNTX Cornudas Mount 25.35 323 P **P 04 29 43.5 +1.2**
MSTX Muleshoe 25.68 330 P **P 04 29 45.5 +0.1**
S39A Bolivar 25.89 350 P **P 04 29 47.4 +0.2**
S39A IAmb IAmb 04 29 50.7
comp=Z,3.7nm,0.5s
CCM Cathedral Cave 25.96 354 P **P 04 29 48.0 +0.3**
CCM IAmb IAmb 04 29 55.4
comp=Z,7.4nm,1.2s
Q54A Coxs Mills 27.38 12 P **P 04 30 01.4 +0.9**
Q54A IAmb IAmb 04 30 08.2
comp=Z,5.7nm,1.1s
ANMO Albuquerque 28.34 326 P **P 04 30 11.8 +2.4**
comp=Z,0.3nm,0.4s,baz=256,slow=2.8,SNR=3.6
M54A Oil Creek Stat 30.04 12 P **P 04 30 24.9 +0.7**
N59A State Game Lan 30.48 18 P **P 04 30 28.9 +0.9**
N59A IAmb IAmb 04 30 29.1
comp=Z,7.0nm,1.2s
ECSD EROS Data Cent 32.37 348 P **P 04 30 45.1 +0.5**
UCCT U. Connecticut 32.44 22 P **P 04 30 45.6 +0.3**
F33A 5 Mile Ranch, 34.33 349 P **P 04 31 00.9 -0.7**
PD31 Pinedale Array 35.89 332 P **P 04 31 16.5 +1.1**
PDAR Pinedale Array 35.89 332 P **P 04 31 16.0 +0.5**
comp=Z,1.1nm,0.9s,baz=128,slow=9.6,SNR=7.0
HWUT Hardware Ranch 35.98 329 P **P 04 31 17.3 +1.1**
HWUT IAmb IAmb 04 31 18.6
comp=Z,3.4nm,0.8s
SNOW Snow King Moun 36.99 332 P **P 04 31 27.1 +2.3**
LOHW Long Hollow 37.03 332 P **P 04 31 27.7 +2.6**
LOHW IAmb IAmb 04 31 32.3
comp=Z,3.0nm,1.1s
ULM Lac du Bonnet 38.55 352 P **P 04 31 36.5 -1.0**
comp=Z,2.0nm,0.5s,baz=174,slow=8.0,SNR=4.7
ULM Lac du Bonnet 38.55 352 P **P 04 31 36.2 -1.3**
ULM IAmb IAmb 04 31 36.9
comp=Z,4.3nm,0.8s
MCMT McKenzie Canyo 39.00 331 P **P 04 31 43.8 +2.0**
SCHQ Schefferville 45.60 17 P **P 04 32 33.6 -1.3**
comp=Z,1.6nm,0.5s,baz=217,slow=6.1,SNR=12
SCHQ LR LR 04 51 36.7
comp=Z,75nm,18.8s,baz=146,slow=36
SCHQ Schefferville 45.60 17 P **P 04 32 33.5 -1.4**
FCC Fort Churchill 46.73 355 P **P 04 32 43.0 -0.7**
FCC IAmb IAmb 04 33 00.0
comp=Z,3.8nm,1.3s
BDFB Brasilia 48.02 124 P **P 04 32 53.1 -1.4**
comp=Z,1.6nm,0.6s,baz=290,slow=12,SNR=3.3
BDFB Brasilia 48.02 124 P **P 04 32 53.8 -0.7**
YKA Yellowknife Ar 53.80 345 P **P 04 33 36.0 -1.1**
comp=Z,0.7nm,0.7s,baz=136,slow=7.9,SNR=16
PLCA Paso Flores 54.99 164 P **P 04 33 44.9 -1.2**
comp=Z,1.7nm,0.8s,baz=295,slow=3.7,SNR=3.6
PLCA Paso Flores 54.99 164 P **P 04 33 46.0 -0.1**
RES Resolute Bay 62.62 358 P **P 04 34 37.9 -0.5**
BCAR Beaver Creek A 63.40 336 P **P 04 34 43.6 -0.2**
L27K Beaver Creek, 63.41 336 P **P 04 34 44.4 +0.5**

ILAR Eielson Array 66.17 336 P **P 04 35 01.8 0.0**
comp=Z,0.2nm,0.4s,baz=152,slow=4.1,SNR=4.5
ILAR Eielson Array 66.17 336 P **P 04 35 02.1 +0.4**
BMAR Burnt Mountain 66.44 339 P **P 04 35 04.3 +0.7**
RAO Raoul Island 96.05 241 LR LR 05 12 45.9
comp=Z,154nm,21.0s,baz=128,slow=30
MK31 Makanchi Array 120.61 8 PKPbc **PKPdf 04 43 05.1 -0.9**
MKAR Makanchi Array 120.61 8 PKP **PKPdf 04 43 05.5 -0.5**
comp=Z,3.2nm,0.7s,baz=310,slow=2.4,SNR=34
MKAR Makanchi Array 120.61 8 **PKPdf 04 43 05.5 -0.5**
CMAR Chiang Mai Arr 148.86 348 PKPbc **PKPbc 04 44 03.6 +1.0**
comp=Z,1.1nm,0.4s,baz=343,slow=3.8,SNR=5.3
CMAR Chiang Mai Arr 148.86 348 **PKPbc 04 44 03.3 +0.7**

*NEIC **14** 04:28:53.1±1.5,5.°32S±0.°07×129.°64E±0.°08,h252km±10km, mb4.1/12, Error ellipse: s-maj=14.3km s-min=6.9km az=126.0*
*IDC **14** 04:28:53.0±2.5,5.°17S×129.°86E,h254km×38km, mb3.6/2, mb1 3.7/5, mb1mx3.2/29, mbtmp4.2/5, Error ellipse: s-maj=62.3km s-min=15.3km az=76.0*
ISC 14 04:28:52.2±0.6,**5.°31S**±0.°06×**129.°63E**±0.°09,**h250**km,**n27,**
σ1s14/30,mb4.0/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.13**	**148**	Pn	**Pn**	**04 29 47.2**	**+1.1**
FAKI	**Fak Fak**	**3.53**	**48**		**Pn**	**04 29 51.7**	**+1.1**
SIJI	**Sorong**	**4.70**	**20**	P	**Pn**	**04 30 04.4**	**0.0**
	5.3nm,0.3s,baz=228,slow=22,SNR=33						
SIJI				S	**S**	**04 30 58.4**	**-3.6**
	14nm,0.3s,baz=59,slow=22,SNR=23						
MMRI	**Maumere**	**8.05**	**245**	Pn	**Pn**	**04 30 46.2**	**0.0**
KNRA	**Kununurra**	**10.34**	**185**	Pn	**Pn**	**04 31 14.7**	**-0.4**
TOLI2	**Tolitoli**	**10.90**	**306**		**P**	**04 31 25.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.30**	**197**	Pn	**Pn**	**04 31 50.6**	**-1.2**
WB0	**Warramunga Arr**	**15.10**	**163**	P	**P**	**04 32 13.3**	**+0.1**
MYLDM	**Lahad Datu**	**15.23**	**313**	P	**Pn**	**04 32 16.4**	**+1.1**
MYLDM				IAmb	IAmb	04 32 26.1	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**15.25**	**163**	P	**P**	**04 32 14.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=349,slow=12,SNR=81						
WRA				S	**S**	**04 35 01.5**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=195,slow=31,SNR=8.2						
WRA	**Warramunga Arr**	**15.25**	**163**	P	**P**	**04 32 13.8**	**-1.1**
WB2	**Warramunga Arr**	**15.26**	**163**	P	**Pn**	**04 32 15.5**	**-0.1**
WR0	**Warramunga Arr**	**15.33**	**162**	P	**P**	**04 32 16.1**	**+0.4**
COEN	**Coen**	**15.87**	**124**	P	**Pn**	**04 32 25.1**	**+2.2**
COEN				IAmb	IAmb	04 32 35.5	
	comp=Z,7.1nm,1.0s						
KKM	**Kota Kinabalu**	**17.51**	**310**	P	**P**	**04 32 40.5**	**+0.7**
ASAR	**Alice Springs**	**18.71**	**168**	P	**Pn**	**04 32 54.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=350,slow=12,SNR=18						
ASAR				S	**S**	**04 36 12.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=20,SNR=5.0						
ASAR	**Alice Springs**	**18.71**	**168**	P	**P**	**04 32 53.5**	**+0.9**
PSA00	**Pilbara Seismi**	**18.75**	**209**	P	**P**	**04 32 52.8**	**-0.2**
PSA00				IAmb	IAmb	04 33 04.3	
	comp=Z,8.3nm,0.9s						
KULM	**Kulim**	**30.80**	**290**	P	**P**	**04 34 45.8**	**+0.7**
KULM				IAmb	IAmb	04 34 52.7	
	comp=Z,4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.38**	**309**	P	**P**	**04 35 50.4**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=136,slow=7.4,SNR=14						
CMAR	**Chiang Mai Arr**	**38.38**	**309**	P	**P**	**04 35 50.3**	**+0.5**
CHTO	**Chiang Mai**	**38.58**	**309**	P	**P**	**04 35 51.3**	**-0.2**
CHTO				IAmb	IAmb	04 35 52.6	
	comp=Z,3.8nm,0.7s						
MK31	**Makanchi Array**	**66.62**	**327**	P	**P**	**04 39 16.0**	**+0.1**
MKAR	**Makanchi Array**	**66.62**	**327**	P	**P**	**04 39 16.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=115,slow=8.9,SNR=24						
MKAR	**Makanchi Array**	**66.62**	**327**	P	**P**	**04 39 15.9**	**0.0**
KURK	**Kurchatov**	**70.89**	**328**	P	**P**	**04 39 43.1**	**+1.0**
KURK				IAmb	IAmb	04 39 43.7	
	comp=Z,3.5nm,1.0s						
ABKAR	**Akbulak array**	**80.96**	**322**	P	**P**	**04 40 38.8**	**-0.1**

*ARE **14** 04:30:48±1.4, 16.°5S±0.°1×73.°4W±0.°1, h32km±9km, Error ellipse: s-maj=20.0km s-min=11.7km az=47.0*
NEIC 14 04:30:56.0±1.6,**16.°9S**±0.°1×**73.°4W**±0.°1,**h35**km±2km,
ML4.2(ARE),**Error ellipse: s-maj=22.5km s-min=14.0km az=51.0,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**3.40**	**120**	Pn	Pn	04 31 45.0	-1.8
PB16	**IPOC Station P**	**4.00**	**111**	Pn	Pn	04 31 55.8	+0.4
PB11	**IPOC Station P**	**4.56**	**129**	Pn	Pn	04 32 01.5	-1.2
TA01	**Diego Aracena**	**4.75**	**140**	Pn	Pn	04 32 04.7	-0.5
GO01	**Chusmiza**	**4.86**	**125**	Pn	Pn	04 32 07.2	0.0
LPAZ	**La Paz**	**5.13**	**84**	Pn	Pn	04 32 10.7	-0.3
PB08	**IPOC Station P**	**5.17**	**129**	Pn	Pn	04 32 11.3	0.0
PB02	**IPOC Station P**	**5.50**	**143**	Pn	Pn	04 32 15.1	-0.5
PB01	**IPOC Station P**	**5.54**	**138**	Pn	Pn	04 32 15.2	-0.9
PB07	**IPOC Station P**	**5.83**	**145**	Pn	Pn	04 32 19.3	-0.9
NNA	**Nana**	**5.92**	**326**	Pn	Pn	04 32 19.9	-1.5
PB09	**IPOC Station P**	**6.25**	**141**	Pn	Pn	04 32 26.2	+0.2
LVC	**Limon Verde**	**7.07**	**144**	Pn	Pn	04 32 37.6	+0.2
PB15	**IPOC Station P**	**7.27**	**150**	Pn	Pn	04 32 40.2	+0.2
AC06	**Mina Casimiro**	**10.76**	**165**	Pn	Pn	04 33 27.6	0.0

*JMA **14** 04:45:24.6±0.2,24.°08N×121.°65E,h19km±1km*
*TAP **14** 04:45:25.0,24.°20N×121.°77E,h9km, ML3.5,B*
ISC 14 04:45:24.9±0.8,**24.°17N**±0.°02×**121.°75E**±0.°02,**h13**km±5km,
n128,σ0s84/161,1C-16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.11**	**267**	P	**Pg**	**04 45 28.3**	**+0.2**
	baz=254						
ETL				S	**Sg**	**04 45 30.9**	**+0.6**
	baz=254						
NACB	**Ninganchiao**	**0.14**	**273**	⇓*i*P	**Pb**	**04 45 28.6**	**-0.8**
	baz=262						
NACB				*i* S	**Sb**	**04 45 31.2**	**-1.2**
	baz=262						
EHP	**Heping Village**	**0.14**	**358**	*i* P	**Pg**	**04 45 28.0**	**-0.5**
	baz=349						
EHP				*i* S	**Sg**	**04 45 30.3**	**-0.8**
	baz=349						
TWD	**Chiawan**	**0.16**	**238**	⇑P	**Pb**	**04 45 29.2**	**-0.6**
	baz=240						
TWD				S	**Sb**	**04 45 32.5**	**-0.5**
	baz=240						
HWA	**Hwalien**	**0.23**	**215**	*e*P	**Pb**	**04 45 31.4**	**+0.5**
	baz=225						
ETLH	**Xiulin Townshi**	**0.24**	**280**	⇓P	**Pb**	**04 45 30.6**	**-0.7**
	baz=273						
ETLH				S	**Sb**	**04 45 34.6**	**-0.9**
	baz=273						
ENA	**Nanau**	**0.26**	**359**	⇓*i*P	**Pg**	**04 45 30.0**	**-0.5**
	baz=355						
ENA				S	**Sg**	**04 45 33.6**	**-0.6**
	baz=355						
EWUT	**Wuta**	**0.28**	**6**	P	**Pg**	**04 45 30.3**	**-0.5**
	baz=1.0						
EWUT				S	**Sg**	**04 45 34.4**	**-0.3**
	baz=1.0						
ETM	**Tongmen**	**0.31**	**229**	*e*P	**Pb**	**04 45 32.0**	**-0.2**
	baz=234						
TEYL	**Yanliau Villag**	**0.33**	**205**	*e*P	**Pn**	**04 45 33.4**	**-2.0**
	baz=222						
LATG	**Datong**	**0.42**	**331**	⇓*i*P	**Pg**	**04 45 33.3**	**0.0**
	baz=327						
LATG				S	**Sg**	**04 45 38.8**	**-0.2**
	baz=327						
NNSB	**Datong**	**0.42**	**308**	⇓*i*P	**Pb**	**04 45 33.8**	**-0.5**
	baz=304						
NNSB				S	**Sg**	**04 45 39.5**	**+0.4**
	baz=304						
NNS	**Nan Shan**	**0.44**	**309**	⇓*i*P	**Pb**	**04 45 34.0**	**-0.6**
	baz=305						
NNS				*i* S	**Sb**	**04 45 40.1**	**-1.0**
	baz=305						
WHF	**Hehuan Shan**	**0.44**	**267**	⇓*i*P	**Pb**	**04 45 34.4**	**-0.4**
	baz=265						
WHF				S	**Sb**	**04 45 40.8**	**-0.6**
	baz=265						
TWC	**Suao**	**0.45**	**12**	⇓*i*P	**Pg**	**04 45 33.5**	**-0.4**
	baz=7.0						
TWC				S	**Sg**	**04 45 39.5**	**-0.5**
	baz=7.0						
ESL	**Shilin**	**0.45**	**219**	*e*P	**Pb**	**04 45 34.5**	**-0.2**
	baz=230						
FUSS	**Fushou**	**0.47**	**280**	*e*P	**Pb**	**04 45 34.9**	**-0.2**
	baz=278						
NDS	**Dongshan**	**0.47**	**357**	⇓P	**Pg**	**04 45 34.0**	**-0.2**
	baz=353						
NDS				S	**Sg**	**04 45 40.1**	**-0.3**
	baz=353						
NDT	**Datong Townshi**	**0.48**	**334**	⇓*i*P	**Pg**	**04 45 34.8**	**+0.3**
	baz=330						
NDT				S	**Sg**	**04 45 41.7**	**+0.7**
	baz=330						
TEGC	**Jichi Village**	**0.49**	**203**	*e*P	**Pn**	**04 45 37.4**	**-0.3**
	baz=206						
ENTT	**Nioudou**	**0.50**	**341**	P	**Pg**	**04 45 34.7**	**-0.1**
	baz=338						
ENTT				S	**Sg**	**04 45 41.8**	**+0.3**
	baz=338						
TWT	**Tachien**	**0.53**	**280**	*e*P	**Pb**	**04 45 36.4**	**+0.2**
	baz=277						
TWT				*e*S	**Sb**	**04 45 44.0**	**+0.3**
	baz=277						
CHGB	**Renai**	**0.53**	**259**	⇓*i*P	**Pb**	**04 45 36.4**	**+0.1**
	baz=250						
CHGB				S	**Sb**	**04 45 44.1**	**+0.1**
	baz=250						
TWE	**Neicheng**	**0.56**	**353**	⇓*i*P	**Pg**	**04 45 35.8**	**-0.1**
	baz=351						
TWE				S	**Sg**	**04 45 42.9**	**-0.4**
	baz=351						
OWD	**Renai**	**0.56**	**248**	*e*P	**Pb**	**04 45 36.9**	**+0.2**
	baz=248						
EGFH	**Guangfu**	**0.57**	**211**	*e*P	**Pn**	**04 45 37.7**	**-1.1**
	baz=222						
ILA	**Ilan**	**0.60**	**0**	*e*P	**Pg**	**04 45 36.7**	**+0.1**
	baz=351						
ILA				*e*S	**Sg**	**04 45 45.0**	**+0.5**
	baz=351						
WUSB	**Renai**	**0.60**	**253**	*e*P	**Pn**	**04 45 37.7**	**-1.6**
	baz=246						
YHNB	**Yeheng**	**0.60**	**326**	⇓*i*P	**Pb**	**04 45 37.3**	**-0.1**
	baz=323						
YHNB				S	**Sg**	**04 45 45.1**	**+0.2**
	baz=323						
FUSB	**Fushanzhiwuyua**	**0.61**	**346**	⇓*i*P	**Pg**	**04 45 37.0**	**+0.1**
	baz=343						
FUSB				S	**Sg**	**04 45 44.6**	**-0.3**
	baz=343						
NSK	**Sanguang**	**0.62**	**325**	⇓*i*P	**Pb**	**04 45 37.4**	**-0.2**
	baz=323						
NSK				S	**Sg**	**04 45 45.5**	**+0.3**
	baz=323						
NWLT	**Wulai**	**0.65**	**340**	*e*P	**Pg**	**04 45 37.3**	**-0.3**
	baz=337						
NWLT				*e*S	**Sg**	**04 45 46.0**	**-0.2**
	baz=337						
VWDT	**VWDT**	**0.69**	**234**	*e*P	**Pn**	**04 45 39.5**	**-0.9**
	baz=234						
VWDT				*e*S	**Sn**	**04 45 49.8**	**-1.1**
	baz=234						
NTC	**Toucheng**	**0.69**	**6**	*e*P	**Pg**	**04 45 38.2**	**-0.1**
	baz=5.0						
HGSD	**Ruisui**	**0.73**	**204**	*e*P	**Pn**	**04 45 40.6**	**-0.4**
	baz=196						
NFF	**Wufeng Townshi**	**0.74**	**309**	*e*P	**Pb**	**04 45 39.6**	**-0.1**
	baz=316						
WPL	**Puli Township**	**0.74**	**258**	*e*P	**Pn**	**04 45 40.4**	**-0.6**
	baz=248						
WPL				*e*S	**Sn**	**04 45 50.5**	**-1.6**
	baz=248						
WHP	**Taichung City**	**0.74**	**279**	*e*P	**Pn**	**04 45 40.3**	**-0.9**
	baz=277						
WHP				*e*S	**Sn**	**04 45 50.3**	**-2.0**
	baz=277						
DPDB	**Guoxing**	**0.76**	**260**	*e*P	**Pn**	**04 45 41.1**	**-0.3**
	baz=260						
EHY	**Hungye**	**0.76**	**211**	*e*P	**Pn**	**04 45 40.3**	**-1.1**
	baz=213						
WCS	**Beigang Elemen**	**0.77**	**262**	*e*P	**Pn**	**04 45 40.8**	**-0.7**
	baz=262						
TIPB	**Shuangxi**	**0.81**	**5**	*e*P	**Pg**	**04 45 40.3**	**-0.3**
	baz=4.0						
TIPB				*e*S	**Sg**	**04 45 50.2**	**-0.9**
	baz=4.0						
SSLB	**Suanglung**	**0.82**	**243**	*e*P	**Pn**	**04 45 41.6**	**-0.6**
	baz=256						
NHDH	**Xindian Distri**	**0.82**	**346**	*e*P	**Pn**	**04 45 40.9**	**+0.1**
	baz=344						
LIOB	**Emei**	**0.82**	**306**	*e*P	**Pn**	**04 45 42.1**	**-0.1**
	baz=305						
NSTT	**Nanjuang**	**0.82**	**304**	*e*P	**Pn**	**04 45 42.2**	**0.0**
	baz=303						
NSTT				*e*S	**Sn**	**04 45 52.9**	**-1.3**
	baz=303						
SMLT	**Sun Moon Lake**	**0.82**	**250**	*e*P	**Pn**	**04 45 42.0**	**-0.3**
	baz=251						
TWA	**Mucha**	**0.82**	**350**	*e*P	**Pg**	**04 45 40.9**	**0.0**
	baz=348						
TWA				*e*S	**Sg**	**04 45 51.8**	**0.0**
	baz=348						
NJD	**Zhudong**	**0.83**	**314**	*e*P	**Pn**	**04 45 42.3**	**+0.1**
	baz=320						
TATO	**Taipei**	**0.84**	**344**	*e*P	**Pb**	**04 45 41.6**	**+0.2**
	baz=342						
TATO				*e*S	**Sg**	**04 45 51.5**	**-0.7**
	baz=342						
TYC	**Yuchr**	**0.85**	**252**	*e*P	**Pn**	**04 45 42.3**	**-0.3**
	baz=253						
TWB1	**Santiao Chiao**	**0.87**	**15**	*e*P	**Pb**	**04 45 41.3**	**-0.6**
	baz=7.0						
YULB	**Yu-li**	**0.87**	**208**	*e*P	**Pn**	**04 45 42.2**	**-0.7**
	baz=223						
NHY	**Taipei**	**0.88**	**350**	*e*P	**Pg**	**04 45 42.3**	**+0.3**
	baz=348						
ECBN	**Changbin**	**0.89**	**198**	*e*P	**Pn**	**04 45 42.8**	**-0.3**
	baz=201						
TAP1	**Taipei**	**0.89**	**347**	*e*P	**Pb**	**04 45 42.1**	**-0.2**
	baz=345						
TAP	**Taipei**	**0.90**	**346**	*e*P	**Pb**	**04 45 42.3**	**0.0**
	baz=345						
HSN1	**Hsinchu**	**0.90**	**313**	*e*P	**Pn**	**04 45 43.7**	**+0.5**
	baz=311						
NWF	**Wu-fen Shan**	**0.90**	**2**	*e*P	**Pb**	**04 45 42.4**	**-0.1**
	baz=1.0						
WFSB	**Wu-fen Shan**	**0.90**	**2**	⇓P	**Pb**	**04 45 42.2**	**-0.2**
	baz=1.0						
EYUL	**Yuli**	**0.90**	**206**	*e*P	**Pn**	**04 45 43.1**	**-0.3**
	baz=225						
TWQ1	**Liyutan**	**0.91**	**282**	*e*P	**Pn**	**04 45 44.7**	**+1.3**
	baz=281						
TWF1	**Yuli**	**0.91**	**207**	*e*P	**Pn**	**04 45 42.5**	**-0.9**
	baz=221						
NTY	**Taoyuan**	**0.93**	**334**	*e*P	**Pn**	**04 45 43.8**	**+0.2**
	baz=333						
SXI1	**Grass Mountain**	**0.93**	**7**	*e*P	**Pb**	**04 45 42.8**	**-0.1**
	baz=352						
NSY	**Sanyi**	**0.93**	**286**	*e*P	**Pn**	**04 45 44.5**	**+0.8**
	baz=285						
SBCB	**Hsinchu**	**0.93**	**312**	*e*P	**Pn**	**04 45 44.9**	**+1.2**
	baz=311						
NMLH	**Miaoli**	**0.95**	**293**	*e*P	**Pn**	**04 45 45.2**	**+1.3**
	baz=300						
NCUH	**Zhongli**	**0.95**	**327**	*e*P	**Pn**	**04 45 44.6**	**+0.6**
	baz=320						
NCU	**National Centr**	**0.95**	**328**	*e*P	**Pn**	**04 45 43.7**	**-0.2**
	baz=320						
WWF	**Wufeng**	**0.96**	**263**	*e*P	**Pn**	**04 45 46.3**	**+2.1**
	baz=259						
TCU	**Taichung**	**0.98**	**269**	*e*P	**Pn**	**04 45 47.0**	**+2.7**
	baz=270						
TWS1	**Kuangyinshan**	**0.98**	**342**	*e*P	**Pn**	**04 45 44.5**	**+0.2**
	baz=341						
TNOU	**National Taiwa**	**0.98**	**1**	*e*P	**Pb**	**04 45 43.4**	**-0.3**
YM01	**YM01**	**

NHW	**Xinwu Township** baz=322	**1.05 323**	*e*P	**Pg**	**04 45 46.2**	**+1.0**
ALS	**Alishan** baz=244	**1.08 233**	*e*P	**Pn**	**04 45 46.8**	**+0.7**
WCHH	**Zhanghua** baz=267	**1.09 266**	*e*P	**Pg**	**04 45 46.8**	**+0.9**
TWY	**Chenhua** baz=352	**1.11 353**	*e*P	**Pg**	**04 45 47.0**	**+0.6**
CHKT	**Chengkung** baz=201	**1.12 198**	*e*P	**Pg**	**04 45 46.5**	**0.0**
CHN5	**Tsauling** baz=243	**1.13 240**	*e*P	**Pg**	**04 45 48.3**	**+1.6**
ECS	**Chishang** baz=209	**1.17 205**	*e*P	**Pg**	**04 45 46.7**	**-0.7**
ELDTW	**Lidau** baz=218	**1.18 215**	*e*P	**Pg**	**04 45 47.9**	**+0.3**
WGK	**Gukeng** baz=249	**1.18 246**	*e*P	**Pg**	**04 45 48.4**	**+0.7**
YOJ	**Yonaguni jima**	**1.19 75**	P	**Pb**	**04 45 48.0**	**+0.7**
YOJ			*e*S	**Sg**	**04 46 05.0**	**+1.6**
YOJ	**Yonaguni jima** baz=61	**1.19 75**	*e*P	**Pb**	**04 45 48.0**	**+0.7**
WDLH	**Douliu** baz=250	**1.20 247**	*e*P	**Pg**	**04 45 49.7**	**+1.6**
EDH	**Donghe** baz=202	**1.25 199**	*e*P	**Pb**	**04 45 47.6**	**-0.8**
WRL	**Guolierlin Hig** baz=261	**1.28 258**	*e*P	**Pg**	**04 45 50.5**	**+1.0**
CHN4	**Tsaushan** baz=237	**1.33 233**	*e*P	**Pg**	**04 45 51.7**	**+1.1**
STYH	**Taoyuan** baz=226	**1.33 222**	*e*P	**Pg**	**04 45 50.5**	**0.0**
TPUB	**Ta-pu** baz=221	**1.34 230**	*e*P	**Pg**	**04 45 51.7**	**+1.0**
TPUB			*e*S	**Sg**	**04 46 11.1**	**+3.0**
STYT	**Tauyuan** baz=226	**1.35 222**	*e*P	**Pg**	**04 45 50.9**	**0.0**
LONT	**Longtian** baz=209	**1.38 204**	*e*P	**Pb**	**04 45 49.5**	**-1.0**
CHY	**Chiayi** baz=245	**1.38 241**	*e*P	**Pg**	**04 45 51.5**	**0.0**
WTP	**Ta-pu** baz=233	**1.38 229**	*e*P	**Pg**	**04 45 52.1**	**+0.6**
TWK	**Hsinying** baz=236	**1.46 232**	*e*P	**Pg**	**04 45 53.5**	**+0.5**
TWG	**Pinlang** baz=209	**1.48 205**	*e*P	**Pn**	**04 45 50.4**	**-0.8**
TWGBT	**Beinan** baz=209	**1.48 205**	*e*P	**Pn**	**04 45 50.3**	**-0.9**
SNST	**Tainan City** baz=235	**1.48 231**	*e*P	**Pg**	**04 45 53.1**	**-0.3**
CHN1	**Nanshi** baz=234	**1.48 229**	*e*P	**Pg**	**04 45 53.6**	**+0.1**
SGST	**Jiashian** baz=228	**1.52 225**	*e*P	**Pg**	**04 45 53.5**	**-0.6**
SGST			*e*S	**Sg**	**04 46 15.9**	**+2.1**
ICHU	**Yijhu** baz=244	**1.56 239**	*e*P	**Pg**	**04 45 54.8**	**-0.2**
SSD	**Sandimen** baz=234	**1.75 216**	*e*P	**Pg**	**04 45 57.5**	**-0.9**
TSMG	**Majia** baz=220	**1.77 215**	*e*P	**Pb**	**04 45 57.2**	**0.0**
MASBT	**Mashibuluo** baz=219	**1.85 214**	*e*P	**Pb**	**04 45 58.6**	**-0.1**
EAST	**Anshuo** baz=197	**1.96 205**	*e*P	**Pb**	**04 45 59.8**	**-0.6**
SCZT	**Fangliau** baz=199	**2.06 210**	*e*P	**Pb**	**04 46 00.9**	**-1.3**
PNG	**Penghu** baz=258	**2.09 254**	*e*P	**Pb**	**04 46 00.8**	**-1.9**
PHUB	**P'eng-hu** baz=257	**2.09 252**	*e*P	**Pb**	**04 46 02.5**	**-0.2**
SLIU	**Shizi** baz=197	**2.13 204**	*e*P	**Pb**	**04 46 02.5**	**-0.8**
JIJ	**Ishigaki jima**	**2.20 84**	*e*S	**Sn**	**04 46 29.0**	**+0.9**
VWUC	**VWUC** baz=281	**2.25 292**	*e*P	**Pn**	**04 46 02.6**	**+0.9**
JISG	**Ishigakijimahi**	**2.38 79**	*e*S	**Sn**	**04 46 34.7**	**+2.2**
PTMZ	**Houxiangcun** baz=292	**2.54 291**	*e*P	**Pn**	**04 46 05.3**	**-0.6**
MATB	**Ma-tsu** baz=321	**2.56 321**	*e*P	**Pn**	**04 46 06.6**	**+0.5**
LYJJ	**Jianjiangzhen** baz=323	**2.98 323**	*e*P	**Pn**	**04 46 12.6**	**+0.8**
KNMB	**Chin-men Tao** baz=278	**3.08 276**	*e*P	**Pn**	**04 46 13.8**	**+0.6**
XPSS	**Dashiqiu** baz=333	**3.09 333**	*e*P	**Pn**	**04 46 14.3**	**+0.9**
MHZQ	**Yeshan** baz=309	**3.13 309**	*e*P	**Pn**	**04 46 14.8**	**+0.9**
AXDP	**Jialang** baz=284	**3.52 283**	*e*P	**Pn**	**04 46 20.6**	**+1.4**

NEIC ***14*** *04:54:13.8±2.3,23˚14S±0˚08×66˚7W±0˚1,h204km±6km, mb3.9/7,ML4.1(GUC),Error ellipse: s-maj=14.3km s-min=11.0km az=99.0*

IDC ***14*** *04:54:13.3±1.3,23˚14S×66˚66W,h199km±10km,mb3.2/3, mb1 3.6/8,mb1mx3.4/22,mbtmp3.8/8,Error ellipse: s-maj=23.8km s-min=16.6km az=171.0*

GUC ***14*** *04:54:15.1±0.8,22˚97S×67˚24W,h237km±9km,ML4.1*

VAO ***14*** *04:54:18.7±0.7,23˚02S×66˚54W,h254km,mb4.0*

ISC 14 04:54:13.6±0.7,**23˚12S**±0˚05×**66˚80W**±0˚07,**h214**km±8km, **n105,σ1°26/**119,**mb3.6**/6,**7C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.01 284**		P		**Pn**	**04 54 54.5**	**+0.8**
	51nm,0.3s,baz=90,slow=6.4,SNR=379							
LVC				S		**S**	**04 55 25.0**	**+0.5**
	22nm,0.3s,baz=317,slow=19,SNR=17							
LVC	**Limon Verde**	**2.01 284**	⇑	*i*P		**Pn**	**04 54 54.3**	**+0.7**
LVC				*e*S		**S**	**04 55 24.1**	**-0.4**
PB15	**IPOC Station P**	**2.46 267**				**Pn**	**04 54 58.9**	**+0.8**
PB15	**IPOC Station P**	**2.46 267**		*e*P		**Pn**	**04 54 58.8**	**+0.7**
PB15				*i* S		**S**	**04 55 32.6**	**+0.1**
PB06	**IPOC Station P**	**2.59 279**				**Pn**	**04 54 59.8**	**+0.3**
PB06	**IPOC Station P**	**2.59 279**	⇑	*i*P		**Pn**	**04 54 60.0**	**+0.5**
PB06				*e*S		**S**	**04 55 34.4**	**-0.6**
PB06				IAML			04 55 40.3	
	comp=N,302nm,0.5s							
PB09	**IPOC Station P**	**2.61 300**				**Pn**	**04 55 00.9**	**+1.1**
PB09	**IPOC Station P**	**2.61 300**	⇑	*i*P		**Pn**	**04 55 00.9**	**+1.1**
PB09				*e*S		**S**	**04 55 34.9**	**-0.7**
PB09				IAML			04 55 38.8	
	comp=E,176nm,0.6s							
PB07	**IPOC Station P**	**3.17 295**		Pn		**Pn**	**04 55 06.4**	**+0.2**
PB07	**IPOC Station P**	**3.17 295**	⇑	*i*P		**Pn**	**04 55 06.4**	**+0.2**
PB07				*e*S		**S**	**04 55 44.9**	**-2.1**
PB07				IAML			04 55 46.4	
	comp=N,826nm,0.3s							
PB04	**IPOC Station P**	**3.19 284**		Pn		**Pn**	**04 55 06.6**	**+0.3**
PB04	**IPOC Station P**	**3.19 284**	⇑	*i*P		**Pn**	**04 55 06.6**	**+0.3**
PB04				*e*S		**S**	**04 55 45.2**	**-2.1**
PB04				IAML			04 55 50.6	
	comp=N,439nm,0.5s							
PB01	**IPOC Station P**	**3.24 309**				**Pn**	**04 55 07.2**	**+0.4**
PB01	**IPOC Station P**	**3.24 309**	⇓	*i*P		**Pn**	**04 55 07.1**	**+0.2**
PB01				*e*S		**S**	**04 55 46.7**	**-1.5**
PB02	**IPOC Station P**	**3.38 301**				**Pn**	**04 55 08.6**	**+0.1**
PB02	**IPOC Station P**	**3.38 301**	⇑	*i*P		**Pn**	**04 55 08.6**	**+0.1**
PB02				*e*S		**S**	**04 55 49.0**	**-2.3**
PB10	**IPOC Station P**	**3.47 263**	Pn			**Pn**	**04 55 10.0**	**+0.5**
PB10	**IPOC Station P**	**3.47 263**	⇑	*i*P		**Pn**	**04 55 09.9**	**+0.5**
PB10				*e*S		**S**	**04 55 50.5**	**-2.4**
PB14	**IPOC Station P**	**3.62 245**	Pn			**Pn**	**04 55 11.7**	**+0.2**
PB14	**IPOC Station P**	**3.62 245**		*e*P		**Pn**	**04 55 11.8**	**+0.2**
PB14				*e*S		**S**	**04 55 54.1**	**-2.7**
PB08	**IPOC Station P**	**3.69 323**	Pn			**Pn**	**04 55 13.6**	**+1.1**
PB08	**IPOC Station P**	**3.69 323**	*i* P			**Pn**	**04 55 13.5**	**+1.0**
PB08				*e*S		**S**	**04 55 57.8**	**-0.5**
PATCX	**Punta Patache**	**3.86 306**				**Pn**	**04 55 14.0**	**-0.3**
PATCX	**Punta Patache**	**3.86 306**		*e*P		**Pn**	**04 55 13.8**	**-0.5**
PATCX				*e*S		**S**	**04 55 59.0**	**-2.7**
HMBC	**Humberstone**	**4.03 314**		*e*P		**Pn**	**04 55 15.6**	**-0.8**
TA01	**Diego Aracena**	**4.04 308**	Pn			**Pn**	**04 55 16.0**	**-0.4**
TA01	**Diego Aracena**	**4.04 308**		*e*P		**Pn**	**04 55 15.6**	**-0.8**
GO01	**Chusmiza**	**4.10 327**				**Pn**	**04 55 18.3**	**+0.7**
GO01	**Chusmiza**	**4.10 327**		*e*P		**Pn**	**04 55 18.1**	**+0.5**
TA02	**Huaiquique**	**4.20 312**	Pn			**Pn**	**04 55 18.0**	**-0.3**
TA02	**Huaiquique**	**4.20 312**		*e*P		**Pn**	**04 55 17.1**	**-1.3**
AC02	**Maricunga**	**4.26 209**	Pn			**Pn**	**04 55 20.0**	**+0.5**
AC02	**Maricunga**	**4.26 209**		*i* P		**Pn**	**04 55 20.0**	**+0.5**
PB11	**IPOC Station P**	**4.27 321**				**Pn**	**04 55 18.8**	**-0.7**
PB11	**IPOC Station P**	**4.27 321**		*e*P		**Pn**	**04 55 18.8**	**-0.7**
AC01	**Pan de Azucar**	**4.58 228**	Pn			**Pn**	**04 55 22.3**	**-0.8**
AC01	**Pan de Azucar**	**4.58 228**		*e*P		**Pn**	**04 55 21.9**	**-1.2**
AC06	**Mina Casimiro**	**5.30 217**	Pn			**Pn**	**04 55 30.6**	**-1.5**
PB16	**IPOC Station P**	**5.39 332**	Pn			**Pn**	**04 55 34.2**	**+0.2**
GO03	**Copiap**	**5.43 214**	Pn			**Pn**	**04 55 32.2**	**-1.6**
PB12	**IPOC Station P**	**5.57 323**	Pn			**Pn**	**04 55 34.4**	**-1.2**
AC04	**Llanos de Chal**	**6.36 216**	Pn			**Pn**	**04 55 43.5**	**-2.1**
LCO	**Las Campanas**	**6.83 210**	Pn			**Pn**	**04 55 49.3**	**-2.7**
LPAZ	**La Paz**	**6.91 349**	P			**Pn**	**04 55 54.3**	**+0.8**
	comp=N,1.1nm,0.3s,baz=157,slow=5.4,SNR=39							
LPAZ				S		**S**	**04 57 08.3**	**-4.4**
	baz=258,slow=21,SNR=1.4							
CO03	**El Pedregal**	**8.43 203**	Pn			**Pn**	**04 56 11.1**	**-1.4**
CO02	**Combarbal**	**8.87 204**	Pn			**Pn**	**04 56 15.9**	**-2.3**
SIV	**San Ignacio**	**8.91 38**	P			**Pn**	**04 56 16.7**	**-2.0**
	comp=N,1.5nm,0.3s,baz=214,slow=10.0,SNR=35							
AQDB	**Aquidauana**	**10.64 78**	*e*P			**Pn**	**04 56 41.6**	**+0.7**
VILB	**Vilhena**	**11.90 33**	*e*P			**Pn**	**04 56 57.9**	**+0.9**
BO02	**Sierra Bellavi**	**12.14 196**	P			**P**	**04 57 05.8**	**+2.0**
SALV	**Santo Antonio**	**12.70 58**	*e*P			**Pn**	**04 57 06.4**	**-0.5**
TRCB	**Terra Rica**	**13.06 91**	P			**P**	**04 57 16.5**	**+2.3**
ETMB	**Extrema**	**13.24 3**	*e*P			**P**	**04 57 15.9**	**-0.3**
CPSB	**Cacapava Do Su**	**13.96 124**	*e*P			**P**	**04 57 22.2**	**-1.9**
PLTB	**Pedras Altas**	**14.53 129**	P			**P**	**04 57 30.8**	**+0.4**
PLTB	**Pedras Altas**	**14.53 129**	*e*P			**P**	**04 57 30.9**	**+0.6**
PDRB	**Porto dos Gac**	**14.94 42**	*e*P			**P**	**04 57 35.8**	**+0.8**
ITRB	**Iturama**	**15.69 81**	*e*P			**Pn**	**04 57 43.9**	**+0.3**
ARAG	**Araguaiana, MT**	**15.94 65**	*e*P			**Pn**	**04 57 46.2**	**-0.4**
CLDB	**Colider**	**16.09 43**	*e*P			**Pn**	**04 57 47.9**	**-0.5**
CZSB	**Cruzeiro do Su**	**16.32 339**	*e*P			**Pn**	**04 57 54.3**	**+3.0**
RCLB	**Rio Claro- Sao**	**17.79 92**	*e*P			**P**	**04 58 06.6**	**+0.3**
PLCA	**Paso Flores**	**17.84 189**	P			**Pn**	**04 58 07.3**	**-1.7**
	comp=N,0.1nm,0.3s,baz=13,slow=9.6,SNR=6.0							
PLCA	**Paso Flores**	**17.84 189**	P			**Pn**	**04 58 07.9**	**-1.1**
IPMB	**Ipameri, GO**	**18.14 77**	*e*P			**P**	**04 58 10.7**	**+0.5**
VAO	**Valinhos**	**18.26 94**	*e*P			**P**	**04 58 11.2**	**-0.3**
LL04	**Puerto Octay**	**18.35 194**	P			**Pn**	**04 58 13.2**	**-1.7**
LL04				IAmb		IAmb	04 58 35.4	
	comp=Z,2.9nm,0.8s							
SNDB	**Serra Nova Dou**	**18.46 56**	*e*P			**P**	**04 58 12.8**	**-0.9**
TBTG	**Tabatinga, AM**	**19.06 350**	*e*P			**Pn**	**04 58 22.0**	**-1.5**
BDFB	**Brasilia**	**19.21 71**	P			**P**	**04 58 21.9**	**0.0**
	comp=Z,0.8nm,0.3s,baz=242,slow=12,SNR=21							
BDFB	**Brasilia**	**19.21 71**	P			**P**	**04 58 21.7**	**-0.1**
BSCB	**Bom Sucesso**	**20.52 88**	*e*P			**P**	**04 58 36.1**	**+0.3**
MACA	**Manacapuru-AM**	**20.71 18**	*e*P			**P**	**04 58 37.4**	**-0.3**
PEXB	**Peixe**	**20.73 61**	*e*P			**P**	**04 58 37.0**	**-1.0**
ITTB	**Itaituba**	**21.50 31**	*e*P			**P**	**04 58 44.3**	**-1.5**
DIAM	**Diamantina, MG**	**22.15 82**	*e*P			**P**	**04 58 52.1**	**-0.3**
DUB01	**Friburgo-RJ**	**22.57 92**	*e*P			**P**	**04 58 56.2**	**+0.2**
JANB	**Januaria**	**22.70 73**	*e*P			**P**	**04 58 56.5**	**-0.7**
SMTB	**Santa Maria do**	**23.24 56**	*e*P			**P**	**04 59 02.2**	**+0.1**
SDBA	**SAO DESIDERIO**	**23.39 67**	*e*P			**P**	**04 59 02.8**	**-0.6**
PRPB	**Paraiapebas**	**23.49 47**	*e*P			**P**	**04 59 04.0**	**-0.4**
SJMB	**Sao Joao De Ma**	**24.32 84**	*e*P			**P**	**04 59 11.4**	**-0.4**
MALB	**Monte Alegre**	**24.39 32**	*e*P			**P**	**04 59 11.6**	**-0.9**
RIB01	**Linhares ES**	**24.89 86**	*e*P			**P**	**04 59 17.3**	**+0.3**
NAN01	**Guarapari, ES**	**25.52 83**	*e*P			**P**	**04 59 21.8**	**-0.9**
BOAV	**Boa Vista**	**26.09 14**	*e*P			**P**	**04 59 28.7**	**+0.9**
GUA01	**Guaratinga, BA**	**26.19 81**	*e*P			**P**	**04 59 28.0**	**-0.7**
GDU01	**Guandu, BA**	**27.43 75**	*e*P			**P**	**04 59 38.6**	**-1.2**
NBPN	**Ponto Novo - B**	**28.16 69**	*e*P			**P**	**04 59 45.1**	**-1.2**
NBLA	**Lagarto - SE**	**30.18 71**	*e*P			**P**	**05 00 02.7**	**-1.4**
NBPS	**Pedro II - PI**	**30.77 57**	*e*P			**P**	**05 00 08.2**	**-1.2**
NBMA	**Muriti-CE**	**31.16 64**	*e*P			**P**	**05 00 12.6**	**-0.3**
NBPB	**Pedra_Branca-C**	**31.53 61**	*e*P			**P**	**05 00 15.5**	**-0.5**
NBAN	**Anadia - AL**	**32.11 70**	*e*P			**P**	**05 00 19.5**	**-1.5**
NBPV	**Pedro Velho**	**34.58 66**	*e*P			**P**	**05 00 42.3**	**0.0**
TXAR	**Lajitas Array**	**63.08 324**	P			**P**	**05 04 20.3**	**+1.8**
	comp=Z,1.1nm,0.4s,baz=138,slow=6.0,SNR=6.4							
TXAR	**Lajitas Array**	**63.08 324**	P			**P**	**05 04 20.1**	**+1.6**
TX31	**Lajitas Ar. Si**	**63.08 324**	P			**P**	**05 04 20.0**	**+1.5**
TX31				IAmb		IAmb	05 04 20.9	
	comp=Z,3.0nm,1.1s							
TX32	**Lajitas Array**	**63.08 324**	P			**P**	**05 04 20.3**	**+1.8**
TX32				IAmb		IAmb	05 04 20.9	
	comp=Z,1.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.09 69**	P			**P**	**05 05 37.7**	**-0.4**
	comp=Z,2μm,0.4s,baz=261,slow=5.4,SNR=4.2							
PDAR	**Pinedale Array**	**76.49 329**	P			**P**	**05 05 41.9**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=148,slow=6.9,SNR=5.4							
PDAR	**Pinedale Array**	**76.49 329**	P			**P**	**05 05 42.0**	**+1.8**
YKA	**Yellowknife Ar**	**93.37 340**	P			**P**	**05 07 04.8**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=128,slow=4.4,SNR=7.2							
MKAR	**Makanchi Array**	**145.73 39**	PKPbc			**PKiKP**	**05 13 28.9**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=306,slow=2.8,SNR=10							
MKAR	**Makanchi Array**	**145.73 39**				**PKiKP**	**05 13 28.7**	**-2.0**

ISK ***14*** *05:07:07.3,35˚35N×23˚60E,h2km,ML2.5/3*

THE ***14*** *05:07:07.3,35˚34N×23˚55E,h13km±2km,ML2.3/3,Error ellipse: s-maj=3.9km s-min=0.8km az=35.0*

ATH ***14*** *05:07:07.7,35˚42N×23˚61E,h22km±2km,ML2.5/3,Error ellipse: s-maj=3.0km s-min=1.0km az=51.0*

ISC 14 05:07:07.5±1.5,**35˚36N**±0˚07×**23˚56E**±0˚06,**h15**km±10km, **n20,σ0°65/30,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.25**	**39**	P		**Pg**	**05 07 11.1**	**-1.9**
RODP	**Rodopos**	**0.25**	**39**	PG		**Pg**	**05 07 13.4**	**+0.4**
RODP				SG		**Sg**	**05 07 17.5**	**+0.7**
IMMV	**Iera Moni Meta**	**0.36**	**74**	P		**Pg**	**05 07 14.0**	**-0.8**
IMMV				S		**Sg**	**05 07 19.9**	**+0.2**
IMMV				AML		AML	05 07 23.1	
	comp=E,1374μm,0.2s							
IMMV				AML		AML	05 07 23.8	
	comp=N,1446μm,0.4s							
IMMV	**Iera Moni Meta**	**0.36**	**74**	P		**Pg**	**05 07 14.0**	**-0.8**
IMMV				S		**Sg**	**05 07 20.5**	**+0.8**
	comp=N,642nm,0.2s							
IMMV	**Iera Moni Meta**	**0.36**	**74**	PG		**Pg**	**05 07 14.7**	**-0.1**
IMMV				SG		**Sg**	**05 07 20.6**	**+0.8**
VAM	**Vamos**	**0.52**	**85**	P		**Pg**	**05 07 17.4**	**-0.5**
VAM				S		**Sg**	**05 07 25.0**	**+0.1**
VAM				AML		AML	05 07 27.8	
	comp=N,2124μm,0.2s							
VAM				AML		AML	05 07 28.3	
	comp=E,1411μm,0.2s							
VAM	**Vamos**	**0.52**	**85**	P		**Pg**	**05 07 17.4**	**-0.5**
VAM				S		**Sb**	**05 07 26.2**	**+0.4**
	comp=E,890nm,0.2s							
ANKY	**Antikythira Is**	**0.55**	**337**	P		**Pg**	**05 07 18.2**	**-0.1**
ANKY				S		**Sg**	**05 07 25.5**	**-0.1**
ANKY	**Antikythira Is**	**0.55**	**337**	P		**Pg**	**05 07 18.1**	**-0.2**
ANKY				S		**Sb**	**05 07 26.7**	**+0.2**
	comp=E,330nm,0.4s							
GVD	**Gavdhos**	**0.68**	**140**	P		**Pb**	**05 07 21.4**	**+0.4**
GVD				S		**Sn**	**05 07 31.6**	**-1.3**
GVD				AML		AML	05 07 33.4	
	comp=N,971μm,0.3s							
GVD				AML		AML	05 07 33.9	
	comp=E,1289μm,0.3s							
GVD	**Gavdhos**	**0.68**	**140**	PG		**Pb**	**05 07 20.9**	**-0.1**
KTHA	**Kythira Island**	**0.98**	**336**	P		**Pb**	**05 07 25.9**	**-0.3**
KTHA	**Kythira Island**	**0.98**	**336**	P		**Pb**	**05 07 26.1**	**-0.1**
KTHR	**Kythira**	**1.00**	**333**	P		**Pb**	**05 07 26.1**	**-0.5**
KTHR				S		**Sb**	**05 07 39.8**	**+0.1**
SIVA	**Sivas**	**1.08**	**108**	P		**Pb**	**05 07 27.9**	**0.0**
IDI	**Anoyia**	**1.09**	**94**	P		**Pb**	**05 07 27.5**	**-0.6**
IDI	**Anoyia**	**1.09**	**94**	PG		**Pb**	**05 07 28.2**	**+0.1**
VLI	**Veliai**	**1.44**	**340**	P		**Pb**	**05 07 34.1**	**0.0**
NPS	**Neapolis**	**1.68**	**93**	P		**Pn**	**05 07 37.2**	**+0.8**
ITM	**Ithomi**	**2.24**	**324**	PN		**Pb**	**05 07 47.9**	**+0.1**

IDC ***14*** *05:09:28.0±0.7,32˚21S×178˚80W,h0km,mb4.5/5, mb1 4.7/8,mb1mx4.3/33,mbtmp4.5/8,ML4.1/3,MS3.5/17, Ms1 3.5/17,ms1mx3.3/57,Error ellipse: s-maj=26.1km s-min=21.3km az=107.0*

NEIC ***14*** *05:09:30.5±1.8,32˚2S±0˚1×178˚6W±0˚2,h10km±1km, mb4.7/13,Error ellipse: s-maj=25.6km s-min=18.9km az=87.0*

WEL ***14*** *05:09:31.8±0.6,32˚5S±6˚×17˚8W±1˚5,h33km,M4.3/36, mB4.9/24,ML5.3/39,MLv4.9/36,Mw(mB)4.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*

ISC 14 05:09:32.4±0.6,**32˚43S**±0˚05×**178˚3W**±0˚1,**h35**km,**n117,σ2°10**/115,**mb4.7**/12,**MS3.6**/17,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.18**	**7**	P		**Pn**	**05 10 19.0**	**-0.9**
GLKZ				S		**Sn**	**05 10 53.2**	**-3.5**
RAO	**Raoul Island**	**3.19**	**7**	Pn		**Pn**	**05 10 19.5**	**-0.6**
	48nm,0.3s,baz=64,slow=23,SNR=1.9							
RAO				Sn		**Sn**	**05 10 59.2**	**+2.2**
	71nm,0.3s,baz=92,slow=23,SNR=2.1							
RAO	**Raoul Island**	**3.19**	**7**			**Pn**	**05 10 18.5**	**-1.7**
RIZ	**Raoul Island**	**3.20**	**6**	S		**Sn**	**05 10 53.6**	**-3.5**
MXZ	**Matakaoa Point**	**5.81**	**207**	P		**Pn**	**05 10 54.9**	**-1.2**
MXZ				S		**Sn**	**05 11 01.1**	**-0.4**
WMGZ	**Waiomatatini S**	**6.00**	**205**	P		**Pn**	**05 10 59.2**	**+0.6**
WMGZ				S		**Sn**	**05 12 06.4**	**+0.3**
PKGZ	**Pakihiroa**	**6.19**	**207**	P		**Pn**	**05 11 00.5**	**-0.8**
HAZ	**Te Kaha**	**6.19**	**210**	P		**Pn**	**05 11 00.5**	**-0.8**
HAZ				S		**Sn**	**05 12 10.7**	**-0.2**
PUZ	**Puketiti**	**6.28**	**205**	P		**Pn**	**05 11 03.4**	**+0.9**
PUZ				S		**Sn**	**05 12 10.6**	**-2.4**
RUGZ	**Raukumara Rang**	**6.41**	**209**	P		**Pn**	**05 11 03.3**	**-1.2**
TWGZ	**Tauwhareparae**	**6.47**	**207**	P		**Pn**	**05 11 05.5**	**+0.2**
TWGZ				S		**Sn**	**05 12 19.3**	**+1.4**
KUZ	**Kuaotunu**	**6.52**	**227**	P		**Pn**	**05 11 10.4**	**+4.5**
CNGZ	**Carnagh Statio**	**6.66**	**204**	P		**Pn**	**05 11 07.0**	**-0.8**
CNGZ				S		**Sn**	**05 12 20.6**	**-1.9**
TKGZ	**Te Karaka**	**6.75**	**206**	P		**Pn**	**05 11 10.7**	**+1.6**
TKGZ				S		**Sn**	**05 12 21.3**	**-3.4**
MWZ	**Matawai**	**6.79**	**209**	P		**Pn**	**05 11 07.9**	**-1.7**
MWZ				S		**Sn**	**05 12 25.1**	**-0.6**
OPRZ	**Ohinepanea**	**6.83**	**216**	P		**Pn**	**05 11 11.8**	**+1.7**
MARZ	**Manawahe**	**6.88**	**215**	P		**Pn**	**05 11 13.0**	**+2.1**
MARZ				S		**Sn**	**05 12 30.0**	**+2.0**
URZ	**Urewera**	**6.90**	**211**	Pn		**Pn**	**05 11 10.1**	**-1.0**
	3.3nm,0.3s,baz=292,slow=3.8,SNR=30							
URZ	**Urewera**	**6.90**	**211**	P		**Pn**	**05 11 09.8**	**-1.2**
URZ				S		**Sn**	**05 12 26.6**	**-1.8**
RAGZ	**Rawiri**	**6.97**	**209**	P		**Pn**	**05 11 10.9**	**-1.2**
RAGZ				S		**Sn**	**05 12 28.7**	**-1.5**
RIGZ	**Rimuhau**	**7.02**	**206**	P		**Pn**	**05 11 11.9**	**-0.9**
RIGZ				S		**Sn**	**05 12 28.9**	**-2.5**
KMRZ	**Kaimai**	**7.15**	**219**	P		**Pn**	**05 11 19.3**	**+4.7**
TARZ	**Mount Tarawera**	**7.16**	**215**	P		**Pn**	**05 11 17.5**	**+2.8**
TARZ				S		**Sn**	**05 12 34.5**	**-0.5**
PRGZ	**Paritu Road**	**7.17**	**204**	P		**Pn**	**05 11 13.7**	**-1.1**
PRGZ				S		**Sn**	**05 12 33.6**	**-1.4**
MUGZ	**Murupara**	**7.23**	**212**	P		**Pn**	**05 11 13.2**	**-2.4**
MUGZ				S		**Sn**	**05 12 33.0**	**-3.6**
RTZ	**Ruatahuna**	**7.25**	**210**	P		**Pn**	**05 11 13.2**	**-2.8**
RTZ				S		**Sn**	**05 12 34.4**	**-2.8**
KNZ	**Kokohu**	**7.33**	**205**	P		**Pn**	**05 11 16.2**	**-0.8**
KNZ				S		**Sn**	**05 12 32.3**	**-6.6**
MHGZ	**Mahia Peninsul**	**7.37**	**203**	P		**Pn**	**05 11 15.8**	**-1.7**
MHGZ				S		**Sn**	**05 12 33.6**	**-6.2**
RAHZ	**Arahi**	**7.46**	**209**	P		**Pn**	**05 11 19.9**	**+1.1**
RAHZ				S		**Sn**	**05 12 37.8**	**-4.5**
MTHZ	**Maungataniwha**	**7.51**	**210**	P		**Pn**	**05 11 18.2**	**-1.3**
MTHZ				S		**Sn**	**05 12 41.1**	**-2.4**
NMHZ	**Naumai**	**7.73**	**209**	P		**Pn**	**05 11 21.3**	**-1.3**
NMHZ				S		**Sn**	**05 12 46.9**	**-2.0**
ARHZ	**Aropaoanui**	**7.80**	**208**	P		**Pn**	**05 11 24.3**	**+1.0**
ARHZ				S		**Sn**	**05 12 46.2**	**-4.2**
BKZ	**Black Stump Fm**	**7.92**	**211**	P		**Pn**	**05 11 25.0**	**-0.2**
BKZ				S		**Sn**	**05 12 51.1**	**-2

comp=Z,60nm,19.3s,baz=105,slow=35
H03S2 Juan Fernandez 79.58 123 T T 06 50 12.0
SNR=11
H03S1 Juan Fernandez 79.59 123 T T 06 50 07.0
SNR=10
H03S3 Juan Fernandez 79.60 123 T T 06 50 12.1
SNR=6.8
H03N3 Juan Fernandez 79.79 123 T T 06 50 25.9
baz=241,slow=72,SNR=42
H03N2 Juan Fernandez 79.79 123 T T 06 50 27.9
baz=241,slow=72,SNR=30
H03N1 Juan Fernandez 79.80 123 T T 06 50 21.4
baz=241,slow=72,SNR=86
PLCA Paso Flores 81.33 133 P **P** **05 21 49.3 +3.8**
comp=Z,1.2nm,1.0s,baz=190,slow=1.7,SNR=3.7
PLCA Paso Flores 81.33 133 IAmb IAmb 05 21 58.0
comp=Z,4.1nm,1.4s
SHEM Shemya Is, Ala 85.06 355 LR LR 05 52 14.1
comp=Z,42nm,21.9s,baz=34,slow=30
NVAR Mina Array Bea 89.92 43 P **P** **05 22 30.8 +2.7**
comp=Z,1.4nm,0.8s,baz=227,slow=7.8,SNR=6.2
NVAR Mina Array Bea 89.92 43 P **P** **05 22 29.9 +1.8**
NNA Nana 93.14 106 LR LR 05 54 44.1
comp=Z,25nm,21.9s,baz=254,slow=29
LVC Limon Verde 93.20 119 LR LR 05 56 13.2
comp=Z,30nm,19.1s,baz=212,slow=30
CMAR Chiang Mai Arr 93.80 289 LR LR 06 07 43.8
comp=Z,9.5nm,18.1s,baz=205,slow=37
SEY Seymchan 97.89 347 LR LR 06 11 00.9
comp=Z,20nm,18.1s,baz=43,slow=38
ARCES ARCESS Array B 140.51 347 PKP **PKPdf** **05 28 58.9 +1.9**
comp=Z,6.4nm,0.9s,baz=54,slow=2.1,SNR=4.9
KBZ Khabaz 145.97 301 PKPbc **PKPdf** **05 29 07.2 -0.2**
comp=Z,3.1nm,1.0s,baz=42,slow=4.9,SNR=6.2
FIA1 FINESS Array S 146.94 339 PKPdf **PKPdf** **05 29 09.4 +1.0**
FINES FINESS Array B 146.94 339 PKPbc **PKPdf** **05 29 09.3 +0.9**
comp=Z,10nm,0.7s,baz=85,slow=4.6,SNR=24
NC303 NORSAR Array S 150.51 350 **PKPbc** **05 29 19.1 -0.5**
NB2 NORSAR Subarra 150.71 351 PKP **PKPbc** **05 29 20.0 -0.2**
comp=Z,2.0nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 150.71 351 PKPbc **PKPbc** **05 29 19.8 -0.4**
comp=Z,2.9nm,0.6s,baz=15,slow=4.1,SNR=19
NC602 NORSAR Array S 150.95 350 **PKPbc** **05 29 20.1 -0.6**
AKASG Malin Array Be 152.71 320 PKPbc **PKPbc** **05 29 23.4 -1.6**
comp=Z,0.6nm,0.4s,baz=46,slow=2.9,SNR=6.3
BRTR Keskin Array B 153.25 295 PKPbc **PKPbc** **05 29 25.5 -1.4**
comp=Z,0.7nm,0.5s,baz=200,slow=36,SNR=3.3
BRTR Keskin Array B 153.25 295 PKPdf **PKPdf** **05 29 19.1 -0.2**
BRTR **PKPbc** **05 29 25.7 -1.1**
BRTR PKPab **pPKPbc** **05 29 37.5 +0.9**
TORD Torodi Ar. Bea 160.80 180 PKPab **PKPab** **05 30 12.3 +0.9**
comp=Z,1.3nm,0.7s,baz=156,slow=3.6,SNR=5.8

*THE **14** 05:15:37.5,35˚.35N×23˚.55E,h4km±9km,ML2.3/4, Error ellipse: s-maj=9.7km s-min=0.7km az=68.0*
*ATH **14** 05:15:38.0,35˚.43N×23˚.62E,h21km±2km,ML2.5/3, Error ellipse: s-maj=2.8km s-min=0.8km az=48.0*
*ISK **14** 05:15:38.1,35˚.38N×23˚.59E,h10km,ML2.8/6*
ISC 14 05:15:38.3±1.3,35˚.39N±0˚.05×23˚.57E±0˚.05,h14km±10km, n20,σ0§63/33,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RODP	**Rodopos**	**0.23**	**41**	P	**Pg**	**05 15 43.5**	**+0.1**
RODP				S	**Sg**	**05 15 47.3**	**+0.5**
RODP	**Rodopos**	**0.23**	**41**	PG	**Pg**	**05 15 43.3**	**-0.1**
RODP				SG	**Sg**	**05 15 47.3**	**+0.5**
IMMV	**Iera Moni Meta**	**0.34**	**77**	P	**Pg**	**05 15 44.7**	**-0.5**
IMMV				S	**Sg**	**05 15 49.9**	**-0.1**
IMMV				AML	AML	05 15 51.9	
	comp=E,1289μm,0.1s						
IMMV				AML	AML	05 15 52.1	
	comp=N,1277μm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**77**	P	**Pg**	**05 15 44.8**	**-0.5**
IMMV				S	**Sg**	**05 15 50.0**	**-0.1**
	comp=N,655nm,0.2s						
IMMV	**Iera Moni Meta**	**0.34**	**77**	PG	**Pg**	**05 15 44.8**	**-0.5**
IMMV				SG	**Sg**	**05 15 50.3**	**+0.3**
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**05 15 47.7**	**-0.8**
VAM				S	**Sg**	**05 15 54.4**	**-0.9**
VAM				AML	AML	05 15 56.2	
	comp=N,1889μm,0.3s						
VAM				AML	AML	05 15 59.2	
	comp=E,1456μm,0.4s						
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**05 15 47.6**	**-0.8**
VAM				S	**Sg**	**05 15 55.5**	**+0.2**
	comp=E,785nm,0.3s						
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pg**	**05 15 48.2**	**-0.5**
ANKY				S	**Sg**	**05 15 55.6**	**-0.2**
ANKY	**Antikythira Is**	**0.53**	**335**	P	**Pg**	**05 15 48.3**	**-0.5**
ANKY				S	**Sg**	**05 15 55.8**	**0.0**
	comp=E,288nm,0.3s						
GVD	**Gavdhos**	**0.69**	**142**	P	**Pg**	**05 15 51.8**	**+0.1**
GVD				S	**Sb**	**05 16 01.8**	**+0.2**
GVD				AML	AML	05 16 03.5	
	comp=N,1173μm,0.4s						
GVD				AML	AML	05 16 04.5	
	comp=E,839μm,0.4s						
GVD	**Gavdhos**	**0.69**	**142**	PG	**Pg**	**05 15 51.6**	**-0.1**
GVD				SG	**Sb**	**05 16 01.5**	**0.0**
KTHA	**Kythira Island**	**0.96**	**335**	P	**Pg**	**05 15 56.1**	**-0.9**
KTHR	**Kythira**	**0.99**	**332**	P	**Pg**	**05 15 56.5**	**-0.9**
KTHR				S	**Sb**	**05 16 11.2**	**+1.0**
	comp=E,110nm,0.3s						
SIVA	**Sivas**	**1.08**	**110**	P	**Pb**	**05 15 58.3**	**-0.5**
IDI	**Anoyia**	**1.08**	**95**	P	**Pb**	**05 15 58.0**	**-0.8**
IDI				S	**Sg**	**05 16 12.5**	**-0.8**
IDI	**Anoyia**	**1.08**	**95**	PG	**Pb**	**05 15 58.1**	**-0.8**
HRKL	**Herakleio**	**1.25**	**93**	PN	**Pb**	**05 16 02.0**	**+0.2**
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**05 16 04.4**	**+0.5**
NPS	**Neapolis**	**1.67**	**94**	P	**Pn**	**05 16 08.0**	**+0.7**
ZKR	**Zakros**	**2.18**	**96**	PN	**Pn**	**05 16 15.4**	**+1.1**

*JMA **14** 05:19:14.9±0.2,23˚.89N×122˚.83E,h48km,M2.3*
*TAP **14** 05:19:15.5,23˚.81N×122˚.64E,h89km±1km,ML3.2,D*
ISC 14 05:19:11.4±1.1,23˚.76N±0˚.03×122˚.77E±0˚.02,h9km±9km, n71,σ1§19/114,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**17**	P	**Pb**	**05 19 27.2**	**+0.9**
YOJ				*e*S	**Sg**	**05 19 35.9**	**+0.9**
HATJ	**Hateruma jima**	**0.99**	**73**	P	**Pg**	**05 19 31.3**	**+0.9**
HATJ				S	**Sg**	**05 19 43.9**	**+0.6**
TEYL	**Yanliau Villag**	**1.08**	**276**	*e*S	**Sn**	**05 19 48.7**	**+0.8**
	baz=274						
TWD	**Chiawan**	**1.12**	**287**	P	**Pn**	**05 19 35.2**	**+1.9**
	baz=290						
TWD				S	**Sb**	**05 19 47.6**	**-0.1**
	baz=290						
TEGC	**Jichi Village**	**1.13**	**268**	*e*P	**Pn**	**05 19 35.6**	**+2.2**
	baz=264						
TEGC				S	**Sn**	**05 19 49.7**	**+0.6**
	baz=264						
EWUT	**Wuta**	**1.14**	**307**	*e*P	**Pn**	**05 19 35.1**	**+1.7**
	baz=311						
EWUT				*e*S	**Sn**	**05 19 50.0**	**+0.8**
	baz=311						
ENA	**Nanau**	**1.15**	**305**	*i* P	**Pn**	**05 19 34.9**	**+1.2**
	baz=307						
ENA				*i* S	**Sn**	**05 19 50.4**	**+0.8**
	baz=307						
NACB	**Ninganchiao**	**1.15**	**291**	*e*P	**Pb**	**05 19 33.6**	**+0.1**
	baz=288						
NACB				*e*S	**Sn**	**05 19 49.0**	**-0.7**
	baz=288						
ETM	**Tongmen**	**1.19**	**280**	*e*P	**Pb**	**05 19 34.5**	**+0.4**
	baz=276						
ETM				S	**Sn**	**05 19 50.2**	**-0.3**
	baz=276						
TWC	**Suao**	**1.19**	**315**	*i* P	**Pn**	**05 19 36.1**	**+1.9**
	baz=322						
TWC				S	**Sn**	**05 19 51.2**	**+0.6**
	baz=322						
JKRS	**Kuro-shima**	**1.23**	**67**	P	**Pg**	**05 19 35.0**	**+0.1**
EGFH	**Guangfu**	**1.24**	**266**	*e*P	**Pn**	**05 19 35.8**	**+1.0**
	baz=260						
EGFH				*e*S	**Sn**	**05 19 52.2**	**+0.6**
	baz=260						
ETLH	**Xiulin Townshi**	**1.26**	**291**	P	**Pn**	**05 19 36.6**	**+1.3**
	baz=290						
ETLH				S	**Sn**	**05 19 51.9**	**-0.5**
	baz=290						
HGSD	**Ruisui**	**1.27**	**258**	P	**Pg**	**05 19 35.7**	**+0.1**
	baz=258						
HGSD				S	**Sg**	**05 19 51.5**	**-0.6**
	baz=258						
NDS	**Dongshan**	**1.30**	**312**	*e*P	**Pn**	**05 19 37.3**	**+1.6**
	baz=314						
NDS				*e*S	**Sn**	**05 19 53.9**	**+0.7**
	baz=314						
EHY	**Hungye**	**1.35**	**259**	*i* P	**Pn**	**05 19 37.6**	**+1.1**
	baz=253						
EHY				*i* S	**Sb**	**05 19 54.7**	**+0.3**
	baz=253						
LATG	**Datong**	**1.38**	**304**	P	**Pn**	**05 19 38.3**	**+1.4**
	baz=305						
LATG				S	**Sn**	**05 19 54.8**	**-0.5**
	baz=305						
JIJ	**Ishigaki jima**	**1.39**	**64**	P	**Pn**	**05 19 37.1**	**+0.2**
JIJ				*e*S	**Sb**	**05 19 53.0**	**-2.3**
EYUL	**Yuli**	**1.40**	**253**	*i* P	**Pb**	**05 19 38.6**	**+1.0**
	baz=249						
EYUL				S	**Sn**	**05 19 57.0**	**+1.3**
	baz=249						
YULB	**Yu-li**	**1.40**	**255**	P	**Pb**	**05 19 38.6**	**+0.8**
	baz=249						
YULB				S	**Sg**	**05 19 55.9**	**-0.6**
	baz=249						
ENTT	**Nioudou**	**1.41**	**309**	P	**Pb**	**05 19 39.6**	**+1.8**
	baz=304						
ENTT				S	**Sn**	**05 19 55.9**	**0.0**
	baz=304						
NDT	**Datong Townshi**	**1.42**	**306**	*e*P	**Pg**	**05 19 38.6**	**-0.1**
	baz=307						
NDT				S	**Sg**	**05 19 55.4**	**-1.8**
	baz=307						
WHF	**Hehuan Shan**	**1.43**	**286**	*i* P	**Pb**	**05 19 38.9**	**+0.4**
	baz=292						
WHF				*i* S	**Sg**	**05 19 56.0**	**-1.5**
	baz=292						
NNSB	**Datong**	**1.43**	**298**	P	**Pb**	**05 19 39.0**	**+0.7**
	baz=298						
NNSB				S	**Sb**	**05 19 56.2**	**-0.5**
	baz=298						
NNS	**Nan Shan**	**1.45**	**298**	*i* P	**Pg**	**05 19 39.7**	**+0.6**
	baz=298						
NNS				*i* S	**Sg**	**05 19 56.4**	**-1.6**
	baz=298						
CHKT	**Chengkung**	**1.45**	**243**	*i* P	**Pn**	**05 19 38.5**	**+0.7**
	baz=235						
CHKT				*i* S	**Sb**	**05 19 56.0**	**-1.1**
	baz=235						
FULB	**Fuli**	**1.47**	**248**	*e*S	**Sb**	**05 19 57.1**	**-0.6**
	baz=238						
FUSB	**Fushanzhiwuyua**	**1.47**	**313**	P	**Pg**	**05 19 40.1**	**+0.6**
	baz=309						
FUSB				S	**Sn**	**05 19 57.9**	**+0.3**
	baz=309						
OWD	**Renai**	**1.48**	**278**	*e*P	**Pg**	**05 19 39.7**	**0.0**
	baz=276						
OWD				*e*S	**Sb**	**05 19 57.4**	**-0.6**
	baz=276						
FUSS	**Fushou**	**1.48**	**289**	*e*P	**Pb**	**05 19 39.4**	**+0.2**
	baz=289						
FUSS				*e*S	**Sg**	**05 19 57.5**	**-1.6**
	baz=289						
TIPB	**Shuangxi**	**1.48**	**325**	P	**Pn**	**05 19 38.7**	**+0.4**
	baz=335						
TIPB				*e*S	**Sb**	**05 19 57.3**	**-0.8**
	baz=335						
CHGB	**Renai**	**1.49**	**282**	P	**Pb**	**05 19 39.7**	**+0.3**
	baz=281						
CHGB				*e*S	**Sg**	**05 19 57.2**	**-2.3**
	baz=281						
VWDT	**VWDT**	**1.50**	**270**	P	**Pb**	**05 19 39.9**	**+0.6**
	baz=268						
VWDT				S	**Sb**	**05 19 58.3**	**-0.1**
	baz=268						
WUSB	**Renai**	**1.53**	**279**	P	**Pb**	**05 19 40.2**	**+0.2**
	baz=277						
WUSB				*e*S	**Sb**	**05 19 57.6**	**-2.1**
	baz=277						
NWLT	**Wulai**	**1.54**	**311**	*e*P	**Pg**	**05 19 41.1**	**+0.2**
	baz=306						
NWLT				*e*S	**Sb**	**05 19 58.2**	**-1.5**
	baz=306						
TWT	**Tachien**	**1.54**	**289**	S	**Sg**	**05 19 59.5**	**-1.4**
	baz=293						
SXI1	**Grass Mountain**	**1.56**	**329**	P	**Pn**	**05 19 40.2**	**+0.9**
	baz=331						
SXI1				S	**Sb**	**05 19 59.6**	**-0.7**
	baz=331						
EDH	**Donghe**	**1.56**	**240**	*e*P	**Pn**	**05 19 40.1**	**+0.8**
	baz=234						
EDH				*i* S	**Sn**	**05 19 59.1**	**-0.6**
	baz=234						
YHNB	**Yeheng**	**1.56**	**306**	P	**Pg**	**05 19 41.0**	**-0.4**
	baz=300						
YHNB				*e*S	**Sb**	**05 19 58.6**	**-1.9**
	baz=300						
NSK	**Sanguang**	**1.58**	**305**	P	**Pb**	**05 19 41.0**	**+0.1**
	baz=300						
NSK				S	**Sn**	**05 19 57.8**	**-2.5**
	baz=300						
NWF	**Wu-fen Shan**	**1.59**	**325**	*i* P	**Pn**	**05 19 40.8**	**+1.0**
	baz=335						
JISG	**Ishigakijimahi**	**1.63**	**59**	*e*S	**Sn**	**05 19 58.3**	**-3.0**
SSLB	**Suanglung**	**1.67**	**271**	*e*S	**Sn**	**05 20 01.8**	**-0.6**
	baz=265						
YUS	**Yu-Shan**	**1.69**	**261**	P	**Pn**	**05 19 43.2**	**+1.6**
	baz=264						
YUS				S	**Sn**	**05 20 01.9**	**-1.7**
	baz=264						
ELDTW	**Lidau**	**1.71**	**251**	*i* P	**Pn**	**05 19 42.4**	**+0.9**
	baz=247						
ELDTW				*e*S	**Sn**	**05 20 01.4**	**-2.2**
	baz=247						
SMLT	**Sun Moon Lake**	**1.72**	**274**	*i* P	**Pb**	**05 19 43.3**	**+0.1**
	baz=276						
SMLT				S	**Sn**	**05 20 03.9**	**+0.2**
	baz=276						
WCS	**Beigang Elemen**	**1.73**	**280**	P	**Pb**	**05 19 43.3**	**0.0**
	baz=276						
LONT	**Longtian**	**1.73**	**241**	*e*P	**Pn**	**05 19 43.1**	**+1.4**
	baz=236						
NFF	**Wufeng Townshi**	**1.74**	**300**	P	**Pg**	**05 19 44.7**	**-0.1**
	baz=303						
NFF				*e*S	**Sn**	**05 20 04.2**	**-0.1**
	baz=303						
WHP	**Taichung City**	**1.75**	**287**	*e*P	**Pg**	**05 19 44.7**	**-0.3**
	baz=291						
TYC	**Yuchr**	**1.76**	**275**	P	**Pb**	**05 19 43.8**	**0.0**
	baz=276						
TYC				*e*S	**Sn**	**05 20 05.3**	**+0.7**
	baz=276						
TWGBT	**Beinan**	**1.82**	**239**	P	**Pn**	**05 19 44.2**	**+1.4**
	baz=234						
TWGBT				*e*S	**Sn**	**05 20 04.3**	**-1.7**
	baz=234						
ALS	**Alishan**	**1.82**	**263**	P	**Pb**	**05 19 45.5**	**+0.4**
	baz=260						
TWG	**Pinlang**	**1.82**	**239**	P	**Pn**	**05 19 43.9**	**+1.0**
	baz=234						
TWG				S	**Sn**	**05 20 06.5**	**+0.3**
	baz=234						
LIOB	**Emei**	**1.83**	**299**	*e*P	**Pb**	**05 19 45.6**	**+0.5**
	baz=299						
STYH	**Taoyuan**	**1.93**	**253**	*e*P	**Pn**	**05 19 46.5**	**+2.2**
	baz=249						
CHN5	**Tsauling**	**1.93**	**266**	*e*P	**Pb**	**05 19 47.5**	**+0.8**
	baz=263						
TPUB	**Ta-pu**	**2.02**	**257**	P	**Pb**	**05 19 48.7**	**+0.4**
	baz=254						
CHN4	**Tsaushan**	**2.04**	**259**	P	**Pb**	**05 19 49.5**	**+0.8**
	baz=256						
WTP	**Ta-pu**	**2.05**	**256**	P	**Pb**	**05 19 49.0**	**+0.2**
	baz=253						
LYUB	**Lan-yu**	**2.07**	**212**	*e*P	**Pn**	**05 19 46.9**	**+0.6**
	baz=212						
SGST	**Jiashian**	**2.12**	**252**	*e*P	**Pn**	**05 19 49.2**	**+2.1**
	baz=249						
CHN1	**Nanshi**	**2.14**	**255**	*e*P	**Pb**	**05 19 50.8**	**+0.5**
	baz=260						
TWK	**Hsinying**	**2.15**	**257**	*e*P	**Pb**	**05 19 50.8**	**+0.2**
	baz=254						
SSD	**Sandimen**	**2.21**	**243**	*e*P	**Pn**	**05 19 51.0**	**+2.7**
	baz=238						
TSMG	**Majia**	**2.22**	**242**	*e*P	**Pn**	**05 19 51.4**	**+3.0**
	baz=236						
EAST	**Anshuo**	**2.24**	**233**	*e*P	**Pn**	**05 19 50.7**	**+2.0**
	baz=233						
SCST	**Cishan**	**2.27**	**248**	*e*P	**Pb**	**05 19 52.6**	**0.0**
	baz=245						
MASBT	**Mashibuluo**	**2.28**	**240**	*e*P	**Pn**	**05 19 51.2**	**+2.0**
	baz=235						
SLIU	**Shizi**	**2.38**	**230**	*e*P	**Pn**	**05 19 51.8**	**+1.2**
	baz=226						
SCZT	**Fangliau**	**2.42**	**236**	*e*P	**Pb**	**05 19 54.7**	**-0.3**
	baz=232						

*ATH **14** 05:23:07.3,37˚.65N×19˚.59E,h12km±3km,ML2.8/5, Error ellipse: s-maj=5.9km s-min=2.0km az=54.0*
*THE **14** 05:23:08.3,37˚.61N×19˚.68E,h0km±4km,ML3.1/2, Error ellipse: s-maj=6.7km s-min=2.5km az=150.0*
ISC 14 05:23:06.6±1.5,37˚.62N±0˚.06×19˚.56E±0˚.06,h12km,n37, σ1§69/44,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.85**	**47**	P	**Pg**	**05 23 22.6**	**-0.6**
KEF3	**Kipouria, Keph**	**0.85**	**47**	P	**Pg**	**05 23 22.7**	**-0.4**
KEF3				S	**Sn**	**05 23 35.6**	**-1.3**
	2μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.90**	**50**	P	**Pg**	**05 23 23.6**	**-0.5**
ARGA	**Argostoli. Kep**	**0.92**	**53**	P	**Pg**	**05 23 24.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.95**	**59**	P	**Pg**	**05 23 24.3**	**-0.7**
VLS	**Valsamata**	**0.99**	**56**	P	**Pg**	**05 23 24.1**	**-1.6**
VLS				S	**Sb**	**05 23 38.1**	**-0.6**
VLS				AML	AML	05 23 41.2	
	comp=N,2123μm,0.4s						
VLS				AML	AML	05 23 41.8	
	comp=E,2008μm,0.6s						
VLS	**Valsamata**	**0.99**	**56**	P	**Pg**	**05 23 24.3**	**-1.4**
LTHK	**Lithakia**	**1.02**	**85**	P	**Pg**	**05 23 25.6**	**-0.7**
LTHK	**Lithakia**	**1.02**	**85**	P	**Pg**	**05 23 25.9**	**-0.4**
FSK	**Fiskardo**	**1.15**	**43**	P	**Pb**	**05 23 28.6**	**+0.1**
FSK				AML	AML	05 23 48.7	
	comp=N,629μm,0.4s						
FSK				AML	AML	05 23 49.3	
	comp=E,563μm,0.5s						
EVGI	**Lefkada island**	**1.32**	**41**	P	**Pn**	**05 23 31.7**	**+0.8**
EVGI	**Lefkada island**	**1.32**	**41**	P	**Pg**	**05 23 32.5**	**+0.5**
EVGI				S	**Sn**	**05 23 50.3**	**+1.8**
NYDR	**Nydri-Lefkada**	**1.41**	**39**	P	**Pb**	**05 23 33.7**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.41**	**39**	P	**Pb**	**05 23 33.9**	**+1.0**
LKD2	**Lefkada island**	**1.45**	**36**	P	**Pb**	**05 23 34.4**	**+0.8**
LKD2				AML	AML	05 23 58.1	
	comp=E,519μm,0.4s						
LKD2				AML	AML	05 23 59.2	
	comp=N,612μm,0.7s						
TSLK	**Tsoukalades, L**	**1.48**	**35**	P	**Pb**	**05 23 34.9**	**+0.9**
TSLK				AML	AML	05 24 00.1	
	comp=E,605μm,0.6s						
TSLK				AML	AML	05 24 05.2	
	comp=N,810μm,0.4s						
TSLK	**Tsoukalades, L**	**1.48**	**35**	P	**Pb**	**05 23 35.1**	**+1.0**
TSLK				S	**Sg**	**05 23 54.9**	**+0.6**
	comp=N,368nm,0.5s						
RLS	**Riolos of Patr**	**1.57**	**73**	P	**Pg**	**05 23 36.6**	**-0.3**
RLS				AML	AML	05 24 04.2	
	comp=N,306μm,0.6s						
RLS				AML	AML	05 24 06.5	
	comp=E,380μm,0.6s						
DRO	**Drossia**	**1.74**	**78**	P	**Pg**	**05 23 39.3**	**-0.7**
PYL	**PYLOS**	**1.89**	**112**	P	**Pb**	**05 23 41.5**	**+0.4**
ITM	**Ithomi**	**1.94**	**102**	P	**Pb**	**05 23 41.7**	**-0.3**
IGT	**Igoumenitsa**	**2.00**	**17**	P	**Pn**	**05 23 41.8**	**+1.5**
EFP	**Efpalio**	**2.02**	**66**	P	**Pb**	**05 23 43.1**	**-0.2**
KEK	**Kerkira**	**2.10**	**5**	P	**Pn**	**05 23 43.6**	**+2.0**
KLV	**Kalavryta, Ach**	**2.10**	**78**	P	**Pb**	**05 23 44.4**	**-0.2**
ANX	**Ano Chora**	**2.10**	**62**	P	**Pb**	**05 23 44.4**	**-0.4**
SERG	**Sergoula**	**2.13**	**67**	P	**Pb**	**05 23 44.4**	**-0.7**
EVR	**Evrytania**	**2.19**	**53**	P	**Pb**	**05 23 45.3**	**-1.0**
JAN	**Janina**	**2.27**	**26**	P	**Pn**	**05 23 46.5**	**+2.5**
DBRK	**Dubrovnik**	**5.15**	**348**	*e*Pn	**Pn**	**05 24 23.6**	**0.0**
DBRK				Sn	**Sn**	**05 25 18.9**	**-4.0**
STON	**Ston**	**5.43**	**345**	*e*Pn	**Pn**	**05 24 29.2**	**+1.8**
LSTV	**Lastovo**	**5.53**	**339**	*e*Pn	**Pn**	**05 24 31.3**	**+2.6**
LSTV				Sn	**Sn**	**05 25 27.0**	**-5.2**
HVAR	**Hvar**	**6.03**	**338**	*e*Pn	**Pn**	**05 24 36.4**	**+0.8**
HVAR				Sn	**Sn**	**05 25 42.6**	**-2.0**
RICI	**Ricice**	**6.15**	**343**	*e*Pn	**Pn**	**05 24 39.7**	**+2.4**
ZIRJ	**Zirje**	**6.72**	**335**	*e*Pn	**Pn**	**05 24 46.9**	**+1.8**
MORI	**Morici**	**6.89**	**336**	*e*Pn	**Pn**	**05 24 50.4**	**+3.0**
DUGI	**Dugi Otok**	**7.22**	**333**	*e*Pn	**Pn**	**05 24 54.9**	**+3.0**

*IDC **14** 05:59:51.4±4.0,45˚.71N×151˚.79E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.6/37,mbtmp3.7/7,MS2.8/1,Ms1 2.8/1, ms1mx2.1/93,Error ellipse: s-maj=107.9km s-min=35.1km az=3.0*
ISC 14 05:59:55.8±3.5,45˚.6N±0˚.7×151˚.8E±0˚.2,h30km,n8, σ0§65/7,mb3.5/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.71**	**260**	LR	LR	06 04 22.6	
	comp=Z,72nm,18.8s,baz=156,slow=40						
MKAR	**Makanchi Array**	**46.66**	**298**	P	**P**	**06 08 21.9**	**+0.5**
	0.3nm,0.7s,baz=69,slow=7.9,SNR=2.1						
YKA	**Yellowknife Ar**	**52.38**	**36**	P	**P**	**06 09 04.8**	**+0.2**
	0.4nm,0.8s,baz=297,slow=6.7,SNR=5.2						
ARCES	**ARCESS Array B**	**58.62**	**341**	P	**P**	**06 09 49.6**	**+0.2**
	7.2nm,1.0s,baz=307,slow=24,SNR=2.1						
FINES	**FINESS Array B**	**64.67**	**334**	P	**P**	**06 10 29.2**	**-1.0**
	1.1nm,0.4s,baz=46,slow=6.0,SNR=9.7						
NOA	**NORSAR Array B**	**69.00**	**341**	P	**P**	**06 10 57.8**	**-0.1**
	0.2nm,0.4s,baz=29,slow=6.5,SNR=4.6						
AKASG	**Malin Array Be**	**71.97**	**326**	P	**P**	**06 11 15.6**	**-0.5**
	0.2nm,0.4s,baz=37,slow=6.1,SNR=4.1						
TXAR	**Lajitas Array**	**78.85**	**59**	P	**P**	**06 11 56.1**	**0.0**
	0.3nm,0.9s,baz=297,slow=2.9,SNR=3.0						

*AEIC **14** 06:15:08±2.0,51˚.3N±0˚.2×174˚.0W±0˚.2,h16km±9km,ML2.7, mb3.6/9(NEIC),Error ellipse: s-maj=32.5km s-min=14.0km az=174.0*
NEIC 14 06:15:09.3±0.7,51˚.4N±0˚.9×174˚.0W±0˚.2,h25km±57km, Error ellipse: s-maj=124.6km s-min=6.5km az=172.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.46**	**299**	Pn	Pn	06 15 34.1	0.0
ADK	**Adak**	**1.75**	**287**	Pn	Pn	06 15 37.9	-0.1
KIWB	**Kanaga Island**	**2.02**	**284**	Pn	Pn	06 15 41.9	+0.1
SEW	**Seward**	**16.23**	**48**	Pn	Pn	06 18 56.0	+0.7
PWL	**Port Wells**	**17.03**	**46**	Pn	Pn	06 19 05.9	+0.5
PWL				IAmb	IAmb	06 19 33.8	
	comp=Z,5.2nm,1.1s						
GHO	**Glory Hole Cre**	**17.14**	**43**	Pn	Pn	06 19 06.7	-0.3
SCM	**Sheep Creek Mo**	**17.86**	**44**		Pn	06 19 15.7	-0.1
SCM				IAmb	IAmb	06 19 23.3	
	comp=Z,6.2nm,1.2s						
HDA	**Harding Lake**	**19.18**	**37**	P	Pn	06 19 31.4	-0.4
HDA

	30nm,0.2s							
PTEO	**Sao Teotonio**	**3.10**	**76**	*e*Pn		**Pn**	**06 16 54.5**	**+1.8**
PTEO				*e*Sn		**Sn**	**06 17 29.5**	**-0.2**
PTEO				A		A	06 17 33.4	
	20nm,0.3s							
MORF	**Marmelete**	**3.12**	**81**	*e*P		**Pn**	**06 16 54.4**	**+1.5**
MORF				*e*S		**Sn**	**06 17 29.0**	**-1.3**
MORF				IAML			06 17 32.5	
	comp=N,46nm,0.1s							
MORF	**Marmelete**	**3.12**	**81**	*e*Pn		**Pn**	**06 16 54.5**	**+1.5**
MORF				*e*Sn		**Sn**	**06 17 29.6**	**-0.7**
MORF				A		A	06 17 31.4	
	comp=N,23nm,0.2s							
PMST	**Lisbon--Monsan**	**3.23**	**54**	*e*Pn		**Pn**	**06 16 56.5**	**+2.0**
PMST				*e*Sn		**Sn**	**06 17 33.5**	**+0.4**
PMAFR	**Mafra**	**3.30**	**50**⇑	*e*Pn		**Pn**	**06 16 57.6**	**+2.1**
PMAFR				*e*Sn		**Sn**	**06 17 35.5**	**+0.7**
PMAFR				A		A	06 17 38.2	
	comp=N,25nm,0.2s							
PNCL	**Nicolau / Gran**	**3.40**	**67**	*e*Pn		**Pn**	**06 16 58.6**	**+1.7**
PNCL				*e*Sn		**Sn**	**06 17 37.4**	**+0.1**
PNCL				A		A	06 17 37.9	
	comp=N,8.4nm,0.3s							
PACT	**Alcochete**	**3.48**	**56**⇑	*i*Pn		**Pn**	**06 17 00.5**	**+2.6**
PACT				*e*Sn		**Sn**	**06 17 41.2**	**+2.1**
PACT				A		A	06 17 50.5	
	comp=N,21nm,0.3s							
PCVE	**Castro Verde**	**3.65**	**76**	*e*Pn		**Pn**	**06 17 02.6**	**+2.4**
PCVE				*e*Sn		**Sn**	**06 17 41.9**	**-1.4**
PCVE				A		A	06 17 48.0	
	comp=N,8.8nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.68**	**83**	*e*Pn		**Pn**	**06 17 02.5**	**+1.8**
PBDV				*e*Sn		**Sn**	**06 17 43.1**	**-1.1**
PBDV				A		A	06 17 48.1	
	comp=N,6.4nm,0.5s							
PVAQ	**Vaqueiros**	**3.87**	**80**	*e*Pn		**Pn**	**06 17 05.1**	**+1.9**
PVAQ				*e*Sn		**Sn**	**06 17 47.7**	**-1.0**
PVAQ				A		A	06 17 51.5	
	comp=N,11nm,0.2s							
PBEJ	**Beja**	**3.87**	**71**	*e*Pn		**Pn**	**06 17 05.5**	**+2.2**
PBEJ				*e*Sn		**Sn**	**06 17 47.8**	**-1.1**
PBEJ				A		A	06 17 49.9	
	comp=N,6.8nm,0.1s							
EVO	**Evora**	**3.94**	**64**	P		**Pn**	**06 17 05.8**	**+1.7**
EVO				S		**Sn**	**06 17 49.2**	**-1.2**
EVO	**Evora**	**3.94**	**64**	*e*Pn		**Pn**	**06 17 05.9**	**+1.7**
EVO				*e*Sn		**Sn**	**06 17 49.5**	**-1.0**
EVO				A		A	06 17 54.4	
	comp=N,8.8nm,0.1s							
PSBE	**So Bento**	**3.95**	**47**	*e*Pn		**Pn**	**06 17 06.6**	**+2.2**
PSBE				*e*Sn		**Sn**	**06 17 51.5**	**+0.7**
PSBE				A		A	06 17 56.9	
	comp=N,5.1nm,0.2s							
PMTG	**Montargil**	**4.04**	**56**⇑	*i*Pn		**Pn**	**06 17 07.3**	**+1.7**
PMTG				*e*Sn		**Sn**	**06 17 53.1**	**+0.1**
PMTG				A		A	06 18 14.3	
	comp=N,3.7nm,0.7s							
EGRO	**El Granado**	**4.07**	**79**	P		**Pn**	**06 17 07.9**	**+1.9**
EGRO				⇑*i*Vmb_V			06 17 09.8	
	comp=N,159nm,SNR=3.1							
EGRO				S		**Sn**	**06 17 51.8**	**-1.8**
PESTR	**Estremoz**	**4.38**	**61**	*e*Pn		**Pn**	**06 17 11.7**	**+1.4**
PESTR				*e*Sn		**Sn**	**06 18 00.0**	**-1.4**
PESTR				A		A	06 18 11.2	
	comp=N,2.3nm,0.3s							
PCAS	**Casmilo, Conde**	**4.48**	**43**	*e*Pn		**Pn**	**06 17 13.7**	**+2.0**
PCAS				*e*Sn		**Sn**	**06 18 03.8**	**-0.1**
PCAS				A		A	06 18 07.1	
	comp=N,8.1nm,0.5s							
PBAR	**Barrancos**	**4.54**	**72**	*e*Pn		**Pn**	**06 17 14.5**	**+2.0**
PBAR				*e*Sn		**Sn**	**06 18 03.7**	**-1.7**
PBAR				A		A	06 18 10.7	
	comp=N,4.4nm,0.3s							
EMIN	**Mina Concepcio**	**4.74**	**77**	P		**Pn**	**06 17 17.0**	**+1.7**
EMIN				⇑*i*Vmb_V			06 17 17.2	
	comp=N,112nm,SNR=2.3							
EMIN				S		**Sn**	**06 18 08.4**	**-1.8**
EBAD	**Badajoz**	**4.75**	**65**	P		**Pn**	**06 17 16.5**	**+1.2**
EBAD				⇑*i*Vmb_V			06 17 17.8	
	comp=N,209nm,SNR=4.4							
EBAD				S		**Sn**	**06 18 08.5**	**-1.9**
PMRV	**Marv??o**	**4.78**	**56**	*e*Pn		**Pn**	**06 17 17.3**	**+1.5**
PMRV				*e*Sn		**Sn**	**06 18 10.6**	**-0.7**
PMRV				A		A	06 18 15.6	
	comp=N,2.5nm,0.6s							
PCBR	**Castelo Branco**	**4.95**	**51**	*e*Pn		**Pn**	**06 17 19.9**	**+1.8**
PCBR				*e*Sn		**Sn**	**06 18 15.0**	**-0.4**
PCBR				A		A	06 18 35.4	
	comp=N,3.0nm,0.2s							
MTE	**Manteigas**	**5.25**	**46**	*e*Pn		**Pn**	**06 17 24.5**	**+2.1**
MTE				*e*Sn		**Sn**	**06 18 22.4**	**-0.6**
MTE				A		A	06 18 26.2	
	comp=N,3.9nm,0.3s							
PVIS	**Viseu**	**5.28**	**42**	*e*Pn		**Pn**	**06 17 24.3**	**+1.7**
PVIS				*e*Sn		**Sn**	**06 18 21.7**	**-1.8**
PVIS				A		A	06 18 26.0	
	comp=N,6.6nm,0.1s							
ESPR	**Espera**	**5.33**	**88**	P		**Pn**	**06 17 25.2**	**+1.8**
ESPR				⇑*i*Vmb_V			06 17 25.8	
	comp=N,175nm,SNR=2.8							
ESPR				S		**Sn**	**06 18 23.2**	**-1.6**
ECAB	**El Cabril**	**5.77**	**76**	P		**Pn**	**06 17 30.9**	**+1.5**
ECAB				⇑*i*Vmb_V			06 17 31.4	
	comp=N,129nm,SNR=2.3							
ECAB				S		**Sn**	**06 18 33.0**	**-2.7**
PVRL	**Vila Real**	**5.78**	**39**	*e*Pn		**Pn**	**06 17 30.8**	**+1.3**
PVRL				*e*Sn		**Sn**	**06 18 33.5**	**-2.3**
PVRL				A		A	06 18 37.5	
	comp=N,4.9nm,0.2s							
POLO	**Lamas de Olo**	**5.81**	**38**	*e*Pn		**Pn**	**06 17 31.3**	**+1.3**
POLO				*e*Sn		**Sn**	**06 18 33.6**	**-3.2**
POLO				A		A	06 18 37.8	
	comp=N,2.7nm,0.4s							
EPLA	**Plasencia**	**5.97**	**56**	P		**Pn**	**06 17 34.1**	**+1.9**
EPLA				⇑*i*Vmb_V			06 17 34.5	
	comp=N,140nm,SNR=1.6							
EPLA				S		**Sn**	**06 18 40.3**	**-0.4**
MVO	**Moncorvo**	**6.06**	**43**	*e*Pn		**Pn**	**06 17 35.3**	**+1.9**
MVO				*e*Sn		**Sn**	**06 18 40.0**	**-2.8**
MVO				A		A	06 18 45.7	
	comp=N,6.2nm,0.5s							
PGAV	**Gavieira, Arco**	**6.06**	**31**	*e*Pn		**Pn**	**06 17 35.4**	**+1.9**
PGAV				*e*Sn		**Sn**	**06 18 40.4**	**-2.6**
PGAV				A		A	06 18 44.5	
	comp=N,4.4nm,0.2s							
ELOB	**Lobios**	**6.07**	**33**	P		**Pn**	**06 17 36.1**	**+2.4**
ELOB				⇑*i*Vmb_V			06 17 37.4	
	comp=N,115nm,SNR=0.9							
ELOB				S		**Sn**	**06 18 40.7**	**-2.5**
EADA	**Adamuz**	**6.44**	**76**	P		**Pn**	**06 17 39.9**	**+1.3**
EADA				⇑*i*Vmb_V			06 17 40.6	
	comp=N,110nm,SNR=2.1							
EADA				S		**Sn**	**06 18 50.0**	**-2.2**
EMAZ	**Mazaricos**	**6.66**	**23**⇑	*i*Vmb_V			06 17 44.0	
	comp=N,189nm,SNR=0.7							
EMAZ				S		**Sn**	**06 18 51.5**	**-6.0**
PBRG	**Braganca**	**6.66**	**40**	*e*Pn		**Pn**	**06 17 43.4**	**+1.7**
PBRG				*e*Sn		**Sn**	**06 18 55.0**	**-2.6**
PBRG				A		A	06 18 57.8	
	comp=N,2.8nm,0.3s							
EAGO	**Agolada(Pontev**	**6.84**	**28**	P		**Pn**	**06 17 45.7**	**+1.5**
EAGO				⇑*i*Vmb_V			06 17 46.1	
	comp=N,153nm,SNR=0.9							
EAGO				S		**Sn**	**06 18 57.2**	**-4.8**
PAB	**San Pablo**	**6.96**	**65**	P		**Pn**	**06 17 46.9**	**+1.1**
PAB				⇑*i*Vmb_V			06 17 48.1	
	comp=N,83nm,SNR=1.4							
PAB				S		**Sn**	**06 19 01.8**	**-3.3**
ESDC	**Sonseca Array**	**7.29**	**65**	P		**Pn**	**06 17 52.0**	**+1.7**
ESDC				⇑*i*Vmb_V			06 17 52.6	
	comp=N,82nm,SNR=1.3							
OUZM	**OUZ**	**7.62**	**140**	S		Sn	06 19 14.0	-7.3
TZRR	**Tazzarine**	**8.37**	**134**	S		**Sn**	**06 19 35.0**	**-4.7**
EARI	**Arriondas**	**8.52**	**39**	P		**Pn**	**06 18 09.3**	**+2.1**
ETOR	**Torete**	**9.06**	**61**	P		**Pn**	**06 18 16.3**	**+1.7**
ETOR				⇑*i*Vmb_V			06 18 16.7	
	comp=N,148nm,SNR=1.4							

*IDC **14** 06:23:23.7±6.3,51°.81N×175°.54W,h0km,mb3.2/3, mb1 3.7/5,mb1mx3.4/45,mbtmp3.4/5,ML3.7/2,Error ellipse: s-maj=120.5km s-min=60.4km az=98.0*
*NEIC **14** 06:23:30.3±1.5,51°.7N±0°.1×175°.95W±0°.07,h65km±8km,*

Error ellipse: s-maj=19.9km s-min=5.1km az=168.0
*AEIC **14** 06:23:30.5±2.0,51°.8N±0°.1×176°.01W±0°.07,h64km±6km, ML3.6/23,mb3.6/31(NEIC),Error ellipse: s-maj=20.7km s-min=5.2km az=168.0*

ISC 14 06:23:29.3±1.3,51°.7N±0°.2×175°.90W±0°.05,h63km±9km, n72,σ1§34/69,mb3.5/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSIG	**Igitkin Island**	**0.33**	**358**			**Pn**	**06 23 40.7**	**+0.7**
ETKA	**Kagalaska Isla**	**0.38**	**304**			**Pn**	**06 23 41.2**	**+0.9**
ETKA						**Sn**	**06 23 49.2**	**+0.9**
GSCK	**Great Sitkin C**	**0.39**	**336**			**Pn**	**06 23 41.2**	**+0.7**
GSMY	**Great Sitkin M**	**0.40**	**346**			**Pn**	**06 23 41.2**	**+0.7**
GSTD	**Great Sitkin T**	**0.43**	**340**			**Pn**	**06 23 41.5**	**+0.6**
GSTD						**Sn**	**06 23 49.9**	**+0.6**
ADK	**Adak**	**0.54**	**296**			**Pn**	**06 23 42.3**	**+0.5**
ADK						**Sn**	**06 23 51.4**	**+0.4**
KIRH	**Kanaga Island**	**0.78**	**289**			**Pn**	**06 23 45.5**	**+0.8**
KIWB	**Kanaga Island**	**0.80**	**285**			**Pn**	**06 23 45.7**	**+0.8**
KIKV	**Kanaga Island**	**0.82**	**286**			**Pn**	**06 23 45.9**	**+0.7**
KIMD	**Kanaga Island**	**0.84**	**278**			**Pn**	**06 23 46.1**	**+0.8**
KICM	**Kanaga Island**	**0.84**	**289**			**Pn**	**06 23 46.2**	**+0.8**
ATKA	**Atka Island**	**1.19**	**62**			**Pn**	**06 23 51.0**	**+1.1**
ATKA						**Sn**	**06 24 07.4**	**+2.1**
TAPA	**Tanaga Point A**	**1.20**	**278**			**Pn**	**06 23 50.8**	**+0.7**
KOFP	**Korovin Flat P**	**1.28**	**60**			**Pn**	**06 23 52.6**	**+1.5**
TAFP	**Tanaga Falls P**	**1.32**	**282**			**Pn**	**06 23 52.0**	**+0.4**
TAFP						**Sn**	**06 24 08.5**	**+0.2**
TASE	**Tanaga Southea**	**1.34**	**279**			**Pn**	**06 23 52.6**	**+0.7**
GAEA	**Gareloi East**	**1.77**	**275**			**Pn**	**06 23 58.7**	**+1.0**
GALAA	**Gareloi Lava P**	**1.79**	**275**			**Pn**	**06 23 58.8**	**+0.9**
UNV	**Unalaska Valle**	**6.11**	**65**	Pn		**Pn**	**06 24 59.0**	**+2.1**
SPIA	**Saint Paul Isl**	**6.44**	**29**	Pn		**Pn**	**06 25 03.2**	**+1.9**
CHIR	**Chirikof Islan**	**12.70**	**63**	Pn		**Pn**	**06 26 25.9**	**-0.9**
P18K	**Big Mountain,**	**13.99**	**48**	Pn		**Pn**	**06 26 45.8**	**+1.6**
ANM	**Nome**	**14.06**	**19**	Pn		**Pn**	**06 26 45.0**	**0.0**
KDAK	**Kodiak Island**	**14.76**	**56**	Pn		**Pn**	**06 26 50.8**	**-3.4**
	0.5nm,0.3s,baz=256,slow=3.7,SNR=26							
KDAK				Sn		**Sn**	**06 29 30.9**	**-5.4**
	0.1nm,0.3s,baz=71,slow=23,SNR=0.9							
KDAK	**Kodiak Island**	**14.76**	**56**			**Pn**	**06 26 52.0**	**-2.1**
P19K	**Oil Pt**	**15.03**	**49**	Pn		**Pn**	**06 26 55.6**	**-2.1**
L19K	**White Mountain**	**15.51**	**39**	Pn		**Pn**	**06 27 03.6**	**-0.2**
L19K				IAmb		IAmb	06 27 25.6	
	comp=Z,7.4nm,1.3s							
M19K	**Big River Lodg**	**15.55**	**40**	Pn		**Pn**	**06 27 03.3**	**-1.0**
M19K				IAmb		IAmb	06 27 31.0	
	comp=Z,10nm,1.4s							
HOM	**Homer**	**15.79**	**50**	Pn		**Pn**	**06 27 06.7**	**-0.6**
CNPM	**China Poot**	**15.94**	**51**	Pn		**Pn**	**06 27 09.6**	**+0.3**
BRLK	**Bradley Lake**	**16.18**	**50**	Pn		**Pn**	**06 27 11.8**	**-0.6**
PPLA	**Purkeypile**	**16.94**	**39**	Pn		**Pn**	**06 27 18.8**	**-3.1**
CAST	**Castle Rocks**	**17.25**	**38**	Pn		**Pn**	**06 27 24.6**	**-1.0**
CAST				IAmb		IAmb	06 27 33.7	
	comp=Z,3.1nm,1.0s							
KTH	**Kantishna Hill**	**17.77**	**38**			**P**	**06 27 33.1**	**+1.1**
KTH				IAmb		IAmb	06 27 35.7	
	comp=Z,4.4nm,1.0s							
IMAR	**Indian Mountai**	**18.22**	**30**	P		**Pn**	**06 27 39.0**	**+1.7**
H21K	**Melozitna Rive**	**18.30**	**31**	P		**Pn**	**06 27 40.5**	**+2.1**
H21K				IAmb		IAmb	06 27 58.4	
	comp=Z,6.5nm,1.5s							
RND	**Reindeer**	**18.51**	**40**	P		**Pn**	**06 27 40.8**	**-0.2**
RND				IAmb		IAmb	06 27 47.6	
	comp=Z,3.3nm,1.2s							
MLY	**Manley**	**18.63**	**34**	P		**P**	**06 27 41.2**	**-0.2**
MCK	**McKinley**	**18.63**	**39**	P		**P**	**06 27 41.3**	**-0.1**
BWN	**Browne**	**18.64**	**38**	P		**Pn**	**06 27 44.9**	**+2.5**
BWN				IAmb		IAmb	06 28 09.3	
	comp=Z,6.3nm,0.9s							
DHY	**Denali Highway**	**18.98**	**42**	P		**Pn**	**06 27 46.0**	**-0.6**
M24K	**Tolsona, Glenn**	**19.13**	**45**	P		**Pn**	**06 27 48.8**	**+0.4**
I23K	**Minto, Yukon-K**	**19.18**	**35**	P		**Pn**	**06 27 48.9**	**0.0**
I23K				IAmb		IAmb	06 27 51.2	
	comp=Z,8.1nm,1.4s							
WRH	**Wood River Hil**	**19.31**	**38**	P		**P**	**06 27 48.6**	**-0.2**
WRH				IAmb		IAmb	06 28 13.8	
	comp=Z,7.1nm,1.4s							
MDM	**Murphy Dome**	**19.49**	**36**	P		**P**	**06 27 51.1**	**+0.2**
CCB	**Clear Creek Bu**	**19.50**	**37**	P		**P**	**06 27 50.6**	**-0.2**
CCB				IAmb		IAmb	06 27 52.8	
	comp=Z,1.3nm,0.5s							
HDA	**Harding Lake**	**19.72**	**39**	P		**P**	**06 27 53.1**	**-0.1**
HDA				IAmb		IAmb	06 27 54.8	
	comp=Z,2.5nm,0.6s							
IL31		**19.91**	**38**	P		**P**	**06 27 56.0**	**+0.8**
ILAR	**Eielson Array**	**19.91**	**38**	P		**P**	**06 27 54.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=11							
GLB	**Gilahina Butte**	**20.01**	**48**	P		**Pn**	**06 27 58.7**	**-0.1**
GLB				IAmb		IAmb	06 28 12.9	
	comp=Z,3.0nm,0.9s							
H24K	**Noodor Dome**	**20.07**	**34**	P		**Pn**	**06 27 58.1**	**-1.3**
VRDI	**Verde Repeater**	**20.12**	**49**	P		**P**	**06 27 58.9**	**+1.0**
VRDI				IAmb		IAmb	06 28 13.1	
	comp=Z,4.4nm,1.0s							
RIDG	**Independent Ri**	**20.28**	**41**	P		**P**	**06 27 59.1**	**-0.4**
RIDG				IAmb		IAmb	06 28 06.5	
	comp=Z,4.2nm,1.2s							
SCRK	**Sand Creek**	**20.73**	**41**	P		**P**	**06 28 03.6**	**-0.7**
SCRK				IAmb		IAmb	06 28 19.9	
	comp=Z,3.0nm,1.2s							
TOLK	**Toolik Lake Re**	**21.19**	**27**	P		**P**	**06 28 10.5**	**+1.4**
TOLK				IAmb		IAmb	06 28 36.5	
	comp=Z,6.1nm,1.4s							
L27K	**Beaver Creek,**	**21.34**	**45**	P		**P**	**06 28 10.3**	**-0.5**
L27K				IAmb		IAmb	06 28 24.6	
	comp=Z,2.7nm,1.4s							
BCAR	**Beaver Creek A**	**21.36**	**45**	P		**P**	**06 28 11.1**	**0.0**
BMAR	**Burnt Mountain**	**22.02**	**32**	P		**P**	**06 28 18.6**	**+0.5**
EGAK	**Eagle**	**22.16**	**40**	P		**P**	**06 28 18.9**	**-0.7**
DAWY	**Dawson**	**22.67**	**43**	P		**P**	**06 28 24.6**	**-0.5**
YKA	**Yellowknife Ar**	**33.72**	**47**	P		**P**	**06 30 03.5**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=286,slow=8.8,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**34.60**	**209**	T		T	07 06 53.6	
	baz=18,slow=76,SNR=63							
H11N3	**WAKE ISLAND Hy**	**34.61**	**209**	T		T	07 06 52.7	
	baz=18,slow=76,SNR=61							
H11N1	**WAKE ISLAND Hy**	**34.62**	**209**	T		T	07 07 01.5	
	baz=18,slow=76,SNR=59							
H11S1	**WAKE ISLAND Hy**	**35.81**	**209**	T		T	07 08 23.6	
	baz=18,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**35.83**	**209**	T		T	07 08 24.2	
	baz=18,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**35.83**	**209**	T		T	07 08 22.4	
	baz=18,slow=76,SNR=16							
PDAR	**Pinedale Array**	**44.50**	**74**	P		**P**	**06 31 34.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=294,slow=6.8,SNR=7.8							
TXAR	**Lajitas Array**	**56.82**	**83**	P		**P**	**06 33 07.8**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=308,slow=7.8,SNR=3.9							
H03N2	**Juan Fernandez**	**119.49**	**108**	T		T	08 53 27.5	
	baz=317,slow=78,SNR=4.4							
H03N1	**Juan Fernandez**	**119.50**	**108**	T		T	08 53 26.0	
	baz=317,slow=78,SNR=6.2							
H03N3	**Juan Fernandez**	**119.51**	**108**	T		T	08 53 26.0	
	baz=317,slow=78,SNR=6.0							

IDC 14 06:29:02.4±2.8,54°.20N×86°.38E,h0km,mb1 3.0/1, mb1mx2.8/37,mbtmp3.0/1,ML3.0/1,Error ellipse: s-maj=21.1km s-min=11.9km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**255**	*i*			06 36 20.0	
	baz=73,slow=347,SNR=2.8							
ZALV	**Zalesovo Beam**	**0.96**	**255**	Pg		Pg	06 29 19.8	-0.9
	2.7nm,0.3s,baz=72,slow=17,SNR=9.1							
ZALV				Lg		Lg	06 29 34.7	
	4.7nm,0.3s,baz=78,slow=31,SNR=10							
MKAR	**Makanchi Array**	**7.86**	**201**	Pn		Pn	06 30 59.3	+1.4
	0.2nm,0.3s,baz=21,slow=13,SNR=12							
MKAR				Lg		Lg	06 33 11.0	
	0.0nm,0.3s,baz=12,slow=40,SNR=3.8							

TEH 14 06:52:16.3,32°.38N×55°.49E,h8km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YZKH	**Yazd**	**0.76**	**271**	*e*Pg		Pg	06 52 31.1	+0.2
ICHK	**Chekchek**	**0.93**	**262**	*e*Pg		Pg	06 52 33.9	-0.2
ICHK				*e*Sg		Sg	06 52 46.0	-0.2
ICHK				*e*			06 52 47.3	
	comp=Z,18μm,0.2s							
TPRV	**Parvadeh(Tabas**	**1.20**	**57**	*e*Pg		Pb	06 52 39.0	-0.3
IMEH	**Mehriz**	**1.24**	**217**	*e*Pg		Pb	06 52 39.4	-0.6
IMEH				*e*			06 52 57.6	
	comp=Z,8μm,0.2s							
ISAD	**Sadrabad**	**1.60**	**254**	*e*Pg		Pb	06 52 46.3	+0.1
ISAD				*e*			06 53 09.2	
	comp=Z,17μm,0.3s							
ANAR	**Anarak**	**1.69**	**299**	*e*Pn		Pb	06 52 47.5	-0.2
TNSJ	**Nastanj**	**1.84**	**30**	*e*Pn		Pn	06 52 49.1	+0.8
TNSJ				*e*			06 53 19.9	
	comp=Z,7μm,0.4s							
TKDS	**Koohdasht(Taba**	**1.84**	**48**	*e*Pn		Pn	06 52 48.8	+0.5
TKDS				*e*			06 53 19.3	
	comp=Z,3μm,0.2s							
TABS	**Tabas**	**1.86**	**47**	*e*Pg		Pn	06 52 49.2	+0.6
KHGB	**Koh Gabri**	**2.17**	**157**	*e*Pn		Pn	06 52 54.4	+1.5
KHGB				*e*			06 53 29.5	
	comp=Z,4μm,0.3s							
TVBK	**TV Kerman**	**2.62**	**155**	*e*Pn		Pb	06 53 01.5	-2.2
TVBK				*e*			06 53 44.5	
	comp=Z,4μm,0.5s							
KRBR	**Kerman**	**2.63**	**155**	*e*Pn		Pn	06 53 01.0	+1.7
IRAM	**Ramesheh**	**2.70**	**259**	*e*Pn		Pn	06 53 01.4	+1.2
IZEF	**Zefreh**	**2.71**	**282**	*e*Pn		Pn	06 53 02.5	+2.0
IZEF				*e*			06 53 46.3	
	comp=Z,1μm,0.2s							
ITEG	**Tejag**	**2.80**	**79**	*e*Pn		Pn	06 53 02.7	+1.2
ITEG				*e*			06 53 48.0	
	comp=Z,2μm,0.2s							
NGRK	**Negar Kerman**	**2.93**	**158**	*e*			06 53 54.4	
	comp=Z,2μm,0.2s							
NGRK				*e*Pn		Pn	06 53 06.1	+2.6
IKOO	**Kooshah**	**2.97**	**88**	*e*Pn		Pn	06 53 04.9	+0.9
IKOO				*e*			06 53 59.1	
	comp=Z,3μm,0.3s							
CHMN	**Cheshme madani**	**3.06**	**144**	*e*Pn		Pn	06 53 07.1	+1.8
BSRN	**Basiran**	**3.11**	**97**	*e*Pn		Pn	06 53 06.3	+0.5
AFRZ	**Afriz**	**3.14**	**70**	*e*Pn		Pn	06 53 07.2	+1.0
KRSH	**Karshahi**	**3.23**	**300**	*e*			06 53 58.9	
	comp=Z,1μm,0.4s							
KRSH				*e*Pn		Pn	06 53 09.5	+2.1
IANJ	**Anjilo**	**3.35**	**337**	*e*Pn		Pn	06 53 10.4	+1.3
ISFB	**Sefidab**	**3.35**	**307**	*e*Pn		Pn	06 53 10.7	+1.6
IKLH	**Kolahrood**	**3.42**	**287**	*e*Pn		Pn	06 53 12.0	+1.8
IKLH				*e*			06 54 07.7	
	comp=Z,494nm,0.4s							
KLNJ	**Kolanjah**	**3.59**	**249**	*e*Pn		Pn	06 53 14.5	+1.9
IMON	**Monand**	**3.61**	**76**	*e*Pn		Pn	06 53 14.1	+1.3
IMON				*e*			06 53 25.1	
	comp=Z,801nm,0.3s							
IDAH	**Dahanechah**	**3.71**	**83**	*e*Pn		Pn	06 53 16.0	+1.8
ISHM	**Shahmirzad**	**3.87**	**333**	*e*Pn		Pn	06 53 17.9	+1.5
IPIR	**Pirpir**	**3.90**	**276**	*e*		Pg	06 54 20.4	+49
	comp=Z,580nm,0.6s							
NHDN	**Nehbandan**	**4.00**	**103**	*e*Pn		Pn	06 53 20.7	+2.7
IVRN	**Varamin**	**4.08**	**311**	*e*Pn		Pn	06 53 20.7	+1.7
KBAM	**BAM**	**4.12**	**141**	*e*			06 54 37.3	
	comp=Z,632nm,0.7s							
SHRT	**Shahrakht**	**4.23**	**71**	*e*Pn		Pn	06 53 16.5	-4.6
IDMV	**Damavand**	**4.29**	**319**	*e*Pn		Pn	06 53 24.5	+2.3
IGLO	**Ghaloghah**	**4.34**	**342**	*e*Pn		Pn	06 53 25.1	+2.4
SBZV	**Sabzevar**	**4.37**	**23**	*e*Pn		Pn	06 53 25.1	+2.0
TBJM	**Torbat-e-JAM**	**4.95**	**53**	*e*Pn		Pn	06 53 32.2	+1.1
ASAO	**Ashtian**	**5.05**	**297**	*e*Pn		Pn	06 53 34.3	+1.7
MRVT	**Maraveh tapeh**	**5.29**	**5**	*e*Pn		Pn	06 53 37.0	+1.3
JRKH	**Jarkhoshk**	**5.35**	**48**	*e*Pn		Pn	06 53 38.2	+1.7

*BJI **14** 07:03:12.2±0.0,29°.60N×129°.39E,h208km,mb5.4/80, mB5.5/65*
*MOS **14** 07:03:16.9±1.1,29°.89N×128°.95E,h220km,mb5.3/69, MS4.3/8,Error ellipse: s-maj=5.5km s-min=

JSJ eS S 07 04 27.6 -0.5
JTK Tokunoshima 2.06 180 ⇓P Pn 07 03 57.4 -1.4
JTK S S 07 04 27.1 -3.3
JSU Suzuyama 2.09 38 ⇑P Pn 07 03 58.3 -0.7
JSU Suzuyama 2.09 38 Pn 07 03 58.5 -0.5
JTSR Tashiro 2 2.14 52 ⇑P Pn 07 03 57.7 -1.8
JOKE Okinoerabujima 2.51 188 P Pn 07 04 01.7 -1.7
JOKE S S 07 04 35.1 -3.6
JNAR Kushima--Naru 2.59 50 ⇑P Pn 07 04 02.9 -1.3
JNAR S S 07 04 37.1 -3.1
JZO Okuchi 2.68 31 ⇑P Pn 07 04 04.8 -0.4
JTZ Takazaki 2.74 41 ⇑P Pn 07 04 04.6 -1.2
JTZ S S 07 04 40.2 -2.9
JNKG Nichinankitago 2.75 48 ⇑P Pn 07 04 04.4 -1.5
JFU Fukue jima 2 2.80 356 ⇓P Pn 07 04 07.0 +0.6
JYRO Yoronjima 2.86 189 P Pn 07 04 05.3 -1.9
JYRO S S 07 04 41.2 -4.3
JIH Iheya 2.94 198 P Pn 07 04 06.4 -1.8
JIH S S 07 04 43.6 -3.7
JOW Kunigami 3.07 192 P Pn 07 04 07.8 -2.0
450nm,0.3s,baz=87,slow=16,SNR=74
JOW S S 07 04 44.5 -5.5
3µm,0.3s,baz=151,slow=28,SNR=98
JOW Kunigami 3.07 192 P Pn 07 04 07.7 -2.0
JOW S S 07 04 45.7 -4.3
JOW Kunigami 3.07 192 Pn 07 04 07.7 -2.0
JOW Kunigami 3.07 192 P Pn 07 04 08.2 -1.5
JIU3 Izumi3 3.12 30 ⇑P Pn 07 04 10.0 -0.1
JIU3 S S 07 04 50.0 -0.9
JTA Tamana 3.38 23 ⇑P Pn 07 04 13.1 0.0
JNTH Nagotoyohara 3.43 194 P Pn 07 04 11.7 -2.1
JNTH S S 07 04 52.5 -4.8
JKIT Kitakata 3.49 37 ⇑P Pn 07 04 12.8 -1.6
JAGN Aguni-jima 3.59 205 P Pn 07 04 13.6 -2.1
JNU Nakatsue 3.65 26 Pn Pn 07 04 16.5 +0.2
JNU Nakatsue 3.65 26 P Pn 07 04 17.3 +1.0
JFI Itaya 3.76 19 ⇑P Pn 07 04 18.5 +0.8
JJT3 Tamagusuku3 3.84 196 P Pn 07 04 17.3 -1.4
JJT3 S S 07 05 02.8 -3.5
JKE Kume jima 2 4.01 209 ⇑P Pn 07 04 18.2 -2.5
JFA Akaike 4.15 22 ⇑P Pn 07 04 22.7 +0.3
JKDJ Kitadaitoujima 4.41 151 ⇑P Pn 07 04 24.7 -0.9
JKDJ S S 07 05 14.8 -4.0
JTO Tosashimizu 4.45 47 ⇑P Pn 07 04 22.6 -3.4
JMZ Minamidaito 2 4.49 153 P Pn 07 04 26.0 -0.7
JTU Tsushima 4.67 Pn Pn 07 04 29.5 +0.7
JNA Nagahama 4.75 38 P Pn 07 04 26.5 -3.3
JKD Kudamatsu 4.86 30 ⇑P Pn 07 04 28.6 -2.6
JHIK Hikimi 5.30 28 P Pn 07 04 34.4 -2.3
JMN Monobe 5.70 46 ⇑P Pn 07 04 39.4 -2.3
JMN Monobe 5.70 46 Pn Pn 07 04 39.3 -2.5
JMJ Miyako jima 2 5.99 214 P Pn 07 04 42.9 -2.6
JGT2 ShimaneMisato 6.00 29 P Pn 07 04 42.3 -3.2
JJS Sakaide 6.17 42 P Pn 07 04 44.9 -2.8
JHS Saijyo 6.21 33 Pn Pn 07 04 45.2 -3.1
JNM Ikuma 6.59 30 P Pn 07 04 50.1 -2.9
TJN Taejon 6.64 349 *ce*P Pn 07 04 55.1 +1.4
TJN Taejon 6.64 349 Pn Pn 07 04 52.2 -1.5
TJN Taejon 6.64 349 P Pn 07 04 56.3 +2.6
JWM Minabe 6.74 52 P Pn 07 04 52.9 -2.1
SSE Sheshan 6.82 282 P Pn 07 04 57.0 +0.9
SSE S S 07 06 16.4 +2.2
SSE pmax pmax
comp=Z,310nm,0.8s
SSE pmax pmax
comp=Z,2µm,3.5s
SSE LR LR
comp=N,2µm,19.6s
SSE LR LR
comp=E,2µm,15.7s
SSE Sheshan 6.82 282 P Pn 07 04 57.3 +1.2
JWY Kouya 7.11 51 P Pn 07 04 58.1 -1.8
JMMH Miemihama 7.19 55 P Pn 07 04 59.0 -1.8
YOJ Yonaguni jima 7.54 226 P Pn 07 05 02.5 -3.0
YOJ Yonaguni jima 7.54 226 Pn Pn 07 05 02.5 -3.0
YOJ Yonaguni jima 7.54 226 P Pn 07 05 03.1 -2.4
JKN2 Miekihoku 7.59 53 ⇑P Pn 07 05 04.3 -1.7
KSAR Wonju Array Be 7.62 354 P Pn 07 05 07.1 +0.8
KSAR Wonju Array Be 7.62 354 Pn Pn 07 05 07.1 +0.8
KSRS Korea Array 7.63 354 P Pn 07 05 07.0 +0.6
6.6nm,0.3s,baz=177,slow=13,SNR=144
KSRS S S 07 06 32.9 -0.1
1.8nm,0.3s,baz=167,slow=11,SNR=4.3
KSRS ScP ScP 07 14 35.2 +0.5
0.1nm,0.3s,baz=220,slow=0.9,SNR=15
JWT Wachi 7.67 43 ⇑P Pn 07 05 04.7 -2.3
KS19 Wonju Array Si 7.68 353 Pn 07 05 07.1 0.0
INCN Inchon 7.85 346 P Pn 07 05 09.4 +0.1
INCN Inchon 7.85 346 Pn 07 05 09.4 +0.1
INCN Inchon 7.85 346 P Pn 07 05 12.4 +3.1
TSUJ Tsu 2 7.95 51 P Pn 07 05 09.0 -1.6
JFM Mihama 8.19 44 ⇑P Pn 07 05 12.2 -1.4
TATO Taipei 8.23 236 Pn 07 05 14.9 +0.6
TATO Taipei 8.23 236 P Pn 07 05 15.2 +0.9
JAA Atsumi 8.41 53 ⇑P Pn 07 05 15.2 -1.3
YHNB Yeheng 8.50 234 Pn 07 05 17.4 -0.5
YHNB Yeheng 8.50 234 P Pn 07 05 18.7 +0.9
NACB Ninganchiao 8.67 231 Pn 07 05 16.6 -3.4
JYTA Yamagatataniai 8.69 47 P Pn 07 05 19.4 -0.8
INU Inuyama 8.73 49 Pn Pn 07 05 18.9 -1.7
INU Inuyama 8.73 49 P Pn 07 05 20.6 0.0
INU Inuyama 8.73 49 P Pn 07 05 18.7 -1.9
JSSY Shinshiroyabe 8.81 53 P Pn 07 05 20.5 -1.2
JAO Obara 8.84 50 P Pn 07 05 20.8 -1.3
JKG Kaga 8.90 42 P Pn 07 05 22.3 -0.5
HMMJ Hamamatsu 2 8.93 54 P Pn 07 05 22.0 -1.2
JYZW Yoshizawa 9.01 53 P Pn 07 05 22.8 -1.4
JGF Kuroka 9.10 49 P Pn 07 05 23.9 -1.5
JGF Kuroka 9.10 49 Pn Pn 07 05 23.9 -1.5
JSG Sagara 9.17 56 P Pn 07 05 25.4 -0.9
JNY Yasuok 9.30 52 P Pn 07 05 26.5 -1.5
SSLB Suanglung 9.36 232 Pn Pn 07 05 26.3 -2.6
SSLB Suanglung 9.36 232 P Pn 07 05 27.0 -1.9
SHZ3 Shizuoka 3 9.38 54 P Pn 07 05 28.0 -1.1
JGN Niukaw 9.46 46 P Pn 07 05 28.6 -1.4
JTT Ttatey 9.72 44 P Pn 07 05 33.1 -0.2
JNT Takato 9.77 50 P Pn 07 05 33.3 -0.9
JHJ Hachijo jima 2 9.80 68 P Pn 07 05 33.6 -0.7
12nm,0.3s,baz=97,slow=12,SNR=4.9
JHJ S S 07 07 25.5 +1.2
43nm,0.3s,baz=83,slow=18,SNR=4.7
JHJ2 Mitsune 9.82 68 Pn Pn 07 05 34.5 -0.2
JHJ2 Mitsune 9.82 68 P Pn 07 05 37.3 +2.6
JYN Shimob 9.84 53 P Pn 07 05 34.7 -0.3
JHTM Izuhatsuma 9.90 56 P Pn 07 05 35.5 -0.1
TPUB Ta-pu 9.91 231 Pn 07 05 32.8 -3.2
TPUB Ta-pu 9.91 231 P Pn 07 05 33.5 -2.4
TWG Pinlang 9.95 227 Pn 07 05 31.6 -4.9
AJI Ajiro2 10.00 56 P Pn 07 05 36.9 0.0
JNG Nsakai 10.06 47 P Pn 07 05 37.2 -0.7
JOD2 Odawara 2 10.10 55 P Pn 07 05 38.3 0.0
MAJO Matsushiro 10.22 47 *c iP* **Pn 07 05 38.6 -1.1**
MAJO Matsushiro 10.22 47 Pn Pn 07 05 39.3 -0.5
MAJO Matsushiro 10.22 47 P Pn 07 05 39.5 -0.2
MAJO Matsushiro 10.22 47 P Pn 07 05 38.7 -1.0
MAT Matsushiro 10.22 47 P Pn 07 05 39.1 -0.6
MJB9 Matsu-Tunnel 10.22 47 Pn 07 05 39.2 -0.5
MJAR Matsushiro Arr 10.22 47 P Pn 07 05 38.7 -1.0
3.3nm,0.3s,baz=242,slow=13,SNR=151
MJAR S S 07 07 30.9 -3.5
1.4nm,0.3s,baz=299,slow=27,SNR=4.6
MJAR Matsushiro Arr 10.22 47 P Pn 07 05 38.6 -1.1
JSZ Suzu 10.31 41 P Pn 07 05 40.1 -0.7
JHG Hegura jima 10.36 38 P Pn 07 05 40.9 -0.5
JSGW Sagamiharawaka 10.36 54 P Pn 07 05 41.5 0.0
JRY Ryogami san 10.37 51 P Pn 07 05 41.1 -0.5
QZH Quanzhou 10.43 244 ⇑*iP* **Pn 07 05 43.5 +1.0**
QZH S S 07 07 33.1 -6.4
QZH pmax pmax
comp=Z,2µm,0.8s
QZH pmax pmax
comp=Z,4µm,6.5s
QZH LR LR
comp=N,2µm,6.2s
QZH LR LR
comp=E,2µm,6.2s
QZH LR LR
comp=Z,2µm,11.8s
JJN Nakama 10.54 44 P Pn 07 05 43.8 -0.1
KNMB Chin-men Tao 10.84 243 Pn Pn 07 05 47.7 0.0
DL2 Dalian 10.87 328 P Pn 07 05 50.1 +2.2
DL2 S S 07 07 45.1 -4.4
DL2 pmax pmax
comp=Z,80nm,0.6s
DL2 pmax pmax
comp=Z,880nm,5.3s
JAG Ashikaga 10.96 51 P Pn 07 05 49.5 +0.3
JKT Katashina 11.02 49 P Pn 07 05 50.0 0.0
JSD Sado 11.23 41 P Pn 07 05 51.9 -0.7
JSD Sado 11.23 41 Pn Pn 07 05 51.3 -1.2
JYT Yasato 11.36 53 Pn Pn 07 05 53.5 -0.7
TIA Tai'an 11.78 306 ⇑P Pn 07 06 00.9 +1.4
TIA S S 07 08 14.3 +4.6
TIA pmax pmax
comp=Z,140nm,1.2s
TIA pmax pmax
comp=Z,1µm,5.9s
TIA LR LR
comp=N,1µm,9.8s
TIA LR LR
comp=E,2µm,9.2s
TIA LR LR
comp=Z,2µm,9.4s
JCJ Chichijima 11.95 100 Pn Pn 07 06 02.1 +0.2
JCJ Chichijima 11.95 100 P Pn 07 06 03.4 +1.6
WHN Wuhan 12.66 277 ⇑P Pn 07 06 11.6 +1.0
WHN S S 07 08 35.8 +5.1
WHN pmax pmax
comp=Z,470nm,0.9s
WHN LR LR
comp=N,9µm,4.1s
WHN LR LR
comp=E,3µm,5.3s
WHN LR LR
comp=Z,5µm,8.8s
JMM Marumori 12.66 48 Pn Pn 07 06 10.5 -0.1
SNY Shenyang 12.71 341 ⇓P P 07 06 13.9 -0.3
SNY S S 07 08 35.3 +3.6
SNY pmax pmax
comp=Z,420nm,1.4s
SNY pmax pmax
comp=Z,2µm,5.3s
SNY LR LR
comp=N,3µm,6.9s
SNY LR LR
comp=E,4µm,8.8s
SNY LR LR
comp=Z,5µm,6.6s
VLA Vladivostok 13.44 9 *i* P **Pn 07 06 19.6 -0.6**
CVP Callao Caves 13.74 210 *ieP* **Pn 07 06 24.3 +0.1**
APYP Conner 13.86 212 *ieP* **Pn 07 06 26.1 +0.4**
HNS HongShan 14.05 306 ⇑*iP* **P 07 06 29.0 0.0**
HNS S S 07 09 05.8 +2.7
HNS ScP ScP 07 14 44.3 +1.0
HNS ScS ScS 07 18 20.5 -0.1
HNS pmax pmax
comp=Z,560nm,1.1s
HNS pmax pmax
comp=Z,3µm,5.5s
HNS LR LR
comp=N,2µm,11.9s
HNS LR LR
comp=Z,2µm,8.7s
CN2 Changchun 14.20 350 *eP* **P 07 06 31.0 +0.4**
CN2 S S 07 09 03.6 -2.9
CN2 pmax pmax
comp=Z,120nm,1.4s
CN2 pmax pmax
comp=Z,2µm,4.0s
CN2 LR LR
comp=N,1µm,9.0s
CN2 LR LR
comp=E,3µm,9.0s
CN2 LR LR
comp=Z,1µm,11.0s
USRK Ussuriysk Ar. 14.52 9 P P 07 06 34.2 0.0
baz=196,slow=9.9,SNR=27
USRK Ussuriysk Ar. 14.52 9 P 07 06 35.6 +1.5
USA0B Ussuriysk Arra 14.52 9 P P 07 06 34.0 -0.2
USA0B Ussuriysk Arra 14.52 9 P 07 06 34.0 -0.2
BJT Baijiatuan 14.57 317 P P 07 06 36.4 +1.6
BJT Baijiatuan 14.57 317 P 07 06 36.4 +1.6
BJT Baijiatuan 14.57 317 P P 07 06 36.5 +1.7
BJI Beijing 14.58 318 P P 07 06 36.3 +1.4
BJI S S 07 09 18.0 +2.5
BJI ScP ScP 07 14 44.9 +0.7
BJI ScS ScS 07 18 21.3 -0.5
BJI pmax pmax
comp=Z,180nm,1.2s
BJI pmax pmax
comp=Z,3µm,6.5s
JTM Tenmabayashi 14.70 39 Pn 07 06 33.9 -1.7
SAMP Sagada Mountai 14.70 212 *ieP* **Pn 07 06 36.1 +0.2**
LYN LuoYang 14.72 293 ⇑*iP* **P 07 06 37.5 +0.9**
LYN S S 07 09 20.3 +1.4
LYN pmax pmax
comp=Z,130nm,1.2s
LYN pmax pmax
comp=Z,3µm,6.1s
MDJ Mudanjiang 14.74 2 P 07 06 37.3 +0.7
MDJ Mudanjiang 14.74 2 P P 07 06 37.8 +1.2
MDJ S S 07 09 22.0 +2.9
MDJ ScP ScP 07 14 45.3 +0.9
MDJ ScS ScS 07 18 23.4 +1.3
MDJ pmax pmax
comp=Z,92nm,1.2s
MDJ pmax pmax
comp=Z,1µm,3.8s
MDJ Mudanjiang 14.74 2 P P 07 06 38.1 +1.5
MDJ Mudanjiang 14.74 2 P P 07 06 37.6 +0.9
HKPS Hong Kong Po S 15.30 244 P Pn 07 06 44.7 +1.6
GZH Guangzhou 15.52 248 P P 07 06 40.3 -5.1
GZH S S 07 09 26.9 -10
GZH LR LR
comp=N,3µm,5.3s
GZH LR LR
comp=E,2µm,6.9s
BALP Baler 15.60 207 ⇑*eP* **Pn 07 06 48.0 +1.2**
SMPP San Manuel, Pa 15.62 211 ⇓*eP* **Pn 07 06 47.6 +0.6**
BOLP Bolinao 15.77 214 ⇓*iP* **Pn 07 06 48.8 0.0**
TIY Taiyuan 15.80 304 ⇑**P Pn 07 06 51.3 +2.2**
TIY S S 07 09 45.9 +2.6
TIY pmax pmax
comp=Z,300nm,1.0s
TIY LR LR
comp=N,2µm,9.7s
TIY LR LR
comp=E,2µm,10.9s
TIY LR LR
comp=Z,2µm,10.9s
PCPH Palayan 15.96 209 ⇓*eP* **Pn 07 06 52.2 +1.1**
SCZP Santa Cruz 16.30 213 ⇑*iP* **P 07 06 54.4 +0.4**
TEY Ternei 16.31 20 ⇑*eP* **Pn 07 06 55.4 +0.4**
TEY *e* 07 09 49.7
TEY pmax pmax
comp=Z,20nm,0.5s
JEW Eniwo 16.38 34 P P 07 06 54.5 -0.2
JEW IAmb IAmb 07 06 56.6
comp=Z,147nm,1.0s
ERM Erimo 16.69 40 P P 07 06 55.6 -2.5
ERM pmax pmax
comp=Z,82nm,0.8s
ERM Erimo 16.69 40 P P 07 06 55.6 -2.5
ERM Erimo 16.69 40 P P 07 06 57.9 -0.2
PVCP Virac 16.78 196 ⇓*eP* **Pn 07 07 01.8 +1.0**
QVP Quezon City--P 16.84 208 ⇓*iP* **Pn 07 07 02.0 +0.5**
ENH Enshi 16.87 276 P Pn 07 07 01.7 0.0
ENH Enshi 16.87 276 P Pn 07 07 02.3 +0.5
GULI GuiLin 17.10 259 ⇑P Pn 07 07 04.0 -0.5
GULI S S 07 10 08.8 -0.7
GULI pmax pmax
comp=Z,740nm,0.9s
GULI LR LR
comp=Z,2µm,11.9s
GULI LR LR
comp=Z,2µm,10.8s
GULI LR LR
comp=Z,4µm,11.4s
LQP Lukban 17.10 205 ⇑*eP* **Pn 07 07 04.7 -0.1**
MACP Maragondon, Ca 17.28 208 ⇓*iP* **Pn 07 07 05.9 -0.9**
TGY Tagaytay City 17.34 207 P Pn 07 07 06.8 -0.7
comp=Z,75nm,0.3s,baz=2.1,slow=1.7,SNR=58
TGY Tagaytay City 17.34 207 *eP* **Pn 07 07 07.6 +0.1**
XLT XiLinHaoTe 17.37 327 ⇑*iP* **Pn 07 07 08.6 +1.1**
XLT S S 07 10 12.3 -2.4
XLT pmax pmax
comp=Z,150nm,0.6s
XLT pmax pmax
comp=Z,1µm,5.5s
XLT LR LR
comp=Z,160nm,12.2s
XLT LR LR
comp=Z,1µm,12.6s
XLT LR LR
comp=Z,1µm,11.5s
XAN Xi'an 17.51 289 P Pn 07 07 08.6 -0.7
XAN S S 07 10 18.6 +1.0
XAN pmax pmax
comp=Z,460nm,1.1s
XAN pmax pmax
comp=Z,2µm,3.6s
XAN LR LR
comp=Z,2µm,9.6s
XAN LR LR
comp=Z,1µm,10.1s
XAN LR LR
comp=Z,2µm,13.9s
XAN Xi'an 17.51 289 P P 07 07 08.1 +0.9
PGP Puerto Galera 17.88 206 ⇑*eP* **P 07 07 12.4 +1.0**
ASAJ Asahikawa 17.89 34 P P 07 07 10.2 -0.9
comp=Z,3.6nm,0.3s,baz=224,slow=9.9,SNR=22
ASAJ PcP PcP 07 11 36.5 +0.1
comp=Z,1.4nm,0.3s,baz=210,slow=8.1,SNR=1.7
ASAJ Asahikawa 17.89 34 P P 07 07 10.4 -0.8
ASAJ pmax pmax
comp=Z,44nm,0.7s
JKA Kamikawa-asahi 17.89 34 P P 07 07 10.3 -0.8
JKA Kamikawa-asahi 17.89 34 PcP 07 11 36.5 +0.1
HHC Hu-ho-hao-te 17.90 312 *eP* **Pn 07 07 13.4 -0.5**
HHC S S 07 10 27.3 +1.8
HHC ScS ScS 07 18 28.8 -2.7
HHC pmax pmax
comp=Z,60nm,1.0s
HHC pmax pmax
comp=Z,1µm,6.7s
LUBP Lubang 17.95 209 ⇑*eP* **P 07 07 12.7 +0.6**
BTO Baotou 18.79 310 *eP* **P 07 07 20.3 -0.8**
BTO S S 07 10 38.8 -4.2
BTO LR LR
comp=Z,4µm,12.3s
BTO LR LR
comp=Z,4µm,9.5s
RCP Roxas 19.10 199 ⇓*eP* **P 07 07 26.2 +1.7**
KLR Kul'dur 19.47 5 *eP* **P 07 07 27.1 -1.0**
comp=Z,4.0nm,0.3s,baz=194,slow=7.6,SNR=58
KLR PcP PcP 07 11 38.5 -0.5
comp=Z,0.6nm,0.3s,baz=126,slow=3.1,SNR=4.3
KLR ScP ScP 07 14 54.5 +0.6
comp=Z,0.3nm,0.3s,baz=272,slow=2.6,SNR=20
KLR Kul'dur 19.47 5 *ceP* **P 07 07 27.0 -1.1**
KLR pmax pmax
comp=Z,90nm,2.5s
GYA Guiyang 19.94 266 ⇑P P 07 07 34.3 +0.7
GYA sP sP 07 08 35.5 -2.1
GYA S S 07 11 03.5 -2.4
GYA pmax pmax
comp=Z,84nm,1.2s
GYA pmax pmax
comp=Z,2µm,4.0s
MSLP Maasin 19.99 192 ⇓*eP* **P 07 07 35.9 +1.8**
YSS Yuzh-Sakhalins 20.15 28 *eP* **P 07 07 35.5 0.0**
YSS *e* 07 08 09.5
YSS *e**SP **sP 07 08 40.2 +0.5**
YSS *eS* **S 07 11 06.0 -3.3**
YSS *e* 07 11 41.0
YSS pmax pmax
comp=Z,400nm,5.3s
YSS pmax pmax
comp=Z,150nm,0.8s
YSS smax smax
comp=N,700nm,9.9s
YSS MLR MLR
comp=Z,800nm,12.0s
YSS Yuzh-Sakhalins 20.15 28 P P 07 07 36.0 +0.6
YSS IAmb IAmb 07 07 41.6
comp=Z,136nm,0.9s
YSS Yuzh-Sakhalins 20.15 28 P P 07 07 37.1 +1.6
QIZ Qiongzhong 20.44 243 P P 07 07 39.9 +1.1
QIZ Qiongzhong 20.44 243 P P 07 07 39.0 +0.1
QIZ S S 07 11 16.3 +1.1
QIZ pmax pmax
comp=Z,190nm,1.1s
QIZ LR LR
comp=Z,1µm,12.6s
QIZ LR LR
comp=Z,840nm,10.2s
QIZ Qiongzhong 20.44 243 P P 07 07 40.4 +1.5
QIZ Qiongzhong 20.44 243 P P 07 07 36.1 -2.7
QIZ pP pP 07 08 13.0 -1.9
HIA Hailar 20.62 343 P P 07 07 39.6 -0.9
HIA pmax pmax
comp=Z,41nm,1.1s
HIA Hailar 20.62 343 P P 07 07 39.5 -0.9
HIA Hailar 20.62 343 P P 07 07 39.3 -1.2
HIA pP pP 07 08 16.8 +0.2
TBP Tagbilaran 20.62 194 ⇓*eP* **P 07 07 41.1 +0.4**
KUR Kuril'sk 21.38 39 *d iP* **P 07 07 47.3 -1.0**
KUR *e* 07 08 22.7
KUR *i* PPP PPP 07 08 49.7
KUR S S 07 11 32.7 +1.8
KUR pmax pmax
comp=Z,2µm,3.6s
KUR pmax pmax
comp=Z,637nm,1.3s
KUR MLR MLR
comp=Z,400nm,9.0s
UGL Uglegorsk 21.64 24 *eP* **P 07 07 52.2 +1.3**
UGL *eS* **S 07 11 32.4 -2.6**
UGL pmax pmax
comp=Z,69nm,0.4s
UGL smax smax
comp=N,2µm,10.3s
UGL smax smax
comp=E,3µm,7.3s
CD2 Chengdu 21.76 279 P P 07 07 51.3 -1.0
CD2 S S 07 11 34.8 -2.7
CD2 pmax pmax
comp=E,310nm,0.8s
CD2 pmax pmax
comp=E,2µm,5.0s
CD2 LR LR
comp=E,270nm,8.6s
CD2 LR LR
comp=E,2µm,9.6s
CD2 LR LR
comp=E,3µm,10.2s
GUMO Guam 21.88 134 P P 07 07 53.1 -0.3
comp=E,370nm,0.6s,baz=183,slow=7.7,SNR=16
GUMO Guam 21.88 134 P P 07 07 53.3 -0.2
GUMO pmax pmax
comp=Z,718nm,1.1s
GUMO Guam 21.88 134 P P 07 07 53.3 -0.2
GUMO Guam 21.88 134 P P 07 07 54.4 +0.9
LZH Lanzhou 21.94 293 ⇑P P 07 07 54.8 +0.7
LZH sP sP 07 08 55.3 -4.0
LZH S S 07 11 37.0 -3.5
LZH PcP PcP 07 11 45.1 +0.9
LZH ScS ScS 07 18 45.6 +0.1
LZH pmax pmax
comp=Z,200nm,1.3s
LZH pmax pmax
comp=Z,2µm,5.2s
BUKP Musuan 22.17 190 ⇓*eP* **P 07 07 55.9 -0.3**
KCP Kidapawan 23.02 190 ⇑*iP* **P 07 08 04.4 +0.4**
TYV Tymovskoe 23.36 22 *eP* **P 07 08 10.0 +3.3**
TYV pmax pmax
comp=Z,25nm,1.1s
TYV pmax pmax
comp=Z,300nm,2.7s
BATP Bataraza 23.41 209 ⇑*iP* **P 07 08 09.3 +1.8**
KMI Kunming 23.71 265 ⇑P P 07 08 10.0 -0.4
KMI pP pP 07 08 51.4 +0.5
KMI sP sP 07 09 16.0 -2.5
KMI S S 07 12 06.4 -2.9
KMI pmax pmax
comp=Z,130nm,0.8s
KMI pmax pmax
comp=Z,810nm,5.5s
KMI LR LR
comp=Z,1µm,9.6s

KMI LR LR
comp=Z,2µm,12.4s
KMI LR LR
comp=Z,2µm,15.2s
ZEA Zeya 23.90 357 *e*P **P** **07 08 11.6 +0.1**
ZEA *e**PP **pP** **07 08 57.3 +5.1**
ZEA *e*S **S** **07 12 06.3 -4.9**
ZEA *e* 07 13 21.8
ZEA pmax pmax
comp=N,100nm,6.2s
ZEA pmax pmax
comp=Z,200nm,4.5s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA smax smax
comp=E,300nm,7.5s
ZEA MLR MLR
comp=N,500nm,10.0s
ZEA MLR MLR
comp=Z,500nm,9.0s
PZH PanZhiHua 24.20 269 P **P** **07 08 14.3 -0.5**
PZH pP **pP** **07 08 54.8 -1.3**
PZH sP **sP** **07 09 22.5 -1.0**
PZH S **S** **07 12 14.0 -2.9**
PZH ScS **ScS** **07 18 52.3 -2.2**
PZH pmax pmax
comp=Z,70nm,0.9s
PZH pmax pmax
comp=Z,830nm,7.8s
PZH LR LR
comp=Z,3µm,19.1s
PZH LR LR
comp=Z,3µm,20.1s
PZH LR LR
comp=Z,3µm,15.7s
ULN Ulaanbaatar 24.65 323*ce*P **P** **07 08 18.7 +0.1**
ULN pmax pmax
comp=Z,37nm,0.6s
ULN Ulaanbaatar 24.65 323 P **P** **07 08 18.4 -0.1**
ULN IAmb IAmb 07 09 10.7
comp=Z,105nm,1.2s
ULN Ulaanbaatar 24.65 323 P **P** **07 08 19.2 +0.6**
ULN pP **pP** **07 09 03.3 +2.7**
NKL Nikolayevsk 24.81 17 *e*P **P** **07 08 18.0 -1.8**
NKL *e*S **S** **07 12 25.2 -0.4**
NKL pmax pmax
comp=N,330nm,1.1s
NKL pmax pmax
comp=E,3.0nm,1.1s
NKL pmax pmax
comp=Z,29nm,1.1s
NKL smax smax
comp=E,2.0nm,0.7s
NKL smax smax
comp=N,1µm,1.0s
NKL MLR MLR
comp=E,25nm,21.0s
NKL MLR MLR
comp=N,4µm,16.0s
NKL MLR MLR
comp=Z,262nm,10.0s
CIT Chita 24.91 337 *e*P **P** **07 08 20.6 -0.2**
CIT *e* 07 09 06.2
CIT *e* 07 09 30.8
CIT pmax pmax
comp=Z,170nm,1.8s
SONM Songino Array 24.97 322 P **P** **07 08 22.1 +0.6**
comp=Z,24nm,0.5s,baz=141,slow=9.6,SNR=83
SONM pP **pP** **07 09 04.9 +0.8**
comp=Z,37nm,1.1s,baz=133,slow=10,SNR=3.9
SONM PcP **PcP** **07 11 49.8 -0.6**
comp=Z,4.5nm,0.8s,baz=144,slow=4.3,SNR=2.7
SONM ScP **ScP** **07 15 08.6 +0.3**
comp=Z,15nm,0.9s,baz=144,slow=3.4,SNR=21
SONM P3KPbc 07 41 15.8
comp=Z,0.3nm,0.5s,baz=298,slow=3.1,SNR=2.3
SONM Songino Array 24.97 322 P **P** **07 08 21.7 +0.2**
SONM pmax pmax
comp=Z,90nm,1.4s
SONM Songino Array 24.97 322 P **P** **07 08 21.7 +0.2**
SONM ScP **ScP** **07 15 08.9 +0.5**
GTA Gaotai 25.71 300 ⇑P **P** **07 08 27.8 -0.5**
GTA pP pP 07 09 12.3 +0.5
GTA sP sP 07 09 38.0 +0.4
GTA PcP **PcP** **07 11 53.6 +1.3**
GTA S **S** **07 12 37.3 -3.2**
GTA ScP **ScP** **07 15 11.4 +0.7**
GTA ScS **ScS** **07 18 59.3 -1.1**
GTA pmax pmax
comp=Z,97nm,0.9s
GTA pmax pmax
comp=Z,480nm,5.8s
UBPT Khong Chiam 26.02 241 P **P** **07 08 32.0 +0.9**
DLV T Lat 26.07 231 P **P** **07 08 32.7 +1.0**
DLV T Lat 26.07 231 P **P** **07 08 33.2 +1.5**
MYLDM Lahad Datu 26.46 204 P **P** **07 08 36.5 +1.5**
KKM Kota Kinabalu 26.56 209 P **P** **07 08 35.3 -0.7**
KKM Kota Kinabalu 26.56 209 P **P** **07 08 36.9 +0.9**
ZAK Zakamensk 28.15 324 *e*P **P** **07 08 51.7 +1.9**
ZAK pmax pmax
comp=Z,14nm,1.2s
TNTI Ternate 28.96 183 P **P** **07 08 56.6 -0.6**
TNTI IAmb IAmb 07 08 60.0
comp=Z,66nm,0.9s
SKR Severo-Kuril's 29.09 37 *e*P **P** **07 08 57.3 -0.6**
SKR *e* 07 09 40.5
SKR eS **S** **07 13 33.0 +0.1**
SKR *e**SS **sS** **07 14 49.7 -2.2**
SKR pmax pmax
comp=Z,300nm,2.8s
SKR pmax pmax
comp=Z,68nm,1.1s
SKR MLR MLR
comp=Z,300nm,15.0s
SKR MLR MLR
comp=Z,400nm,16.0s
GOMU GeErMu 29.22 292 P **P** **07 09 00.4 +0.7**
GOMU pmax pmax
comp=Z,29nm,0.9s
GOMU pmax pmax
comp=Z,250nm,9.1s
GOMU LR LR
comp=Z,420nm,13.0s
GOMU LR LR
comp=Z,320nm,13.9s
GOMU LR LR
comp=Z,260nm,13.5s
CHTO Chiang Mai 29.39 255 P **P** **07 09 00.8 -0.2**
CHTO pmax pmax
comp=Z,89nm,0.8s
CHTO Chiang Mai 29.39 255 P **P** **07 09 00.8 -0.2**
CHTO IAmb IAmb 07 09 03.1
comp=Z,89nm,0.8s
CHTO Chiang Mai 29.39 255 P **P** **07 09 01.7 +0.7**
CHTO P **P** **07 09 01.7 +0.7**
CHTO Chiang Mai 29.39 255 P **P** **07 09 02.5 +1.5**
CHTO Chiang Mai 29.39 255 P **P** **07 09 01.5 +0.5**
CHTO pP **pP** **07 09 46.9 +1.6**
CM31 Chiang Mai Arr 29.56 254 P **P** **07 09 03.9 +1.3**
CMAR Chiang Mai Arr 29.56 254 P **P** **07 09 03.1 +0.5**
comp=Z,22nm,0.8s,baz=50,slow=7.4,SNR=136
CMAR pP **pP** **07 09 47.1 +0.3**
comp=Z,8.2nm,0.9s,baz=58,slow=7.4,SNR=2.3
CMAR PcP **PcP** **07 12 01.8 -0.1**
comp=Z,8.1nm,0.7s,baz=19,slow=1.6,SNR=8.7
CMAR ScP **ScP** **07 15 23.1 +0.5**
comp=Z,2.8nm,0.8s,baz=275,slow=0.8,SNR=6.0
CMAR P3KPbc 07 40 56.6
comp=Z,0.7nm,0.3s,baz=247,slow=4.5,SNR=1.0
CMAR Chiang Mai Arr 29.56 254 P **P** **07 09 02.9 +0.4**
CMAR PcP **PcP** **07 12 02.9 +1.0**
TOLI2 Tolitoli 29.63 197 P **P** **07 09 02.8 -0.3**
TOLI2 Tolitoli 29.63 197 P **P** **07 09 04.0 +0.9**
BOD Bodaibo 29.82 344 *e*P **P** **07 09 04.2 -0.1**
BOD *e* 07 10 14.0
BOD pmax pmax
comp=Z,9.0nm,2.3s
MOY Mondy 30.07 324 *e*P **P** **07 09 07.8 +1.0**
MOY *e* 07 09 53.9
MOY pmax pmax
comp=Z,21nm,1.6s
LBMI Labuha 30.36 183 P **P** **07 09 09.4 -0.1**
comp=Z,1µmcomp=Z,88nm,0.8s

MPSI Mapaga 30.60 198 P **P** **07 09 12.6 +1.0**
comp=Z,1µmcomp=Z,18nm,1.2s
SWI Sorong 30.63 175 P **P** **07 09 11.8 0.0**
comp=Z,65nm,1.1s
PEA0B Petropavlovsk- 31.31 34*ce*P **P** **07 09 16.1 -1.4**
PEA0B Petropavlovsk- 31.31 34 P **P** **07 09 16.6 -0.9**
PETK Petropavlovsk- 31.31 34 P **P** **07 09 16.9 -0.6**
comp=Z,19nm,0.8s,baz=214,slow=7.8,SNR=38
PETK PcP **PcP** **07 12 04.7 -1.1**
comp=Z,9.7nm,0.7s,baz=210,slow=4.8,SNR=6.0
PETK ScP **ScP** **07 15 28.3 +0.5**
comp=Z,2.9nm,0.6s,baz=224,slow=4.0,SNR=5.0
PETK Petropavlovsk- 31.31 34 P **P** **07 09 16.6 -0.9**
SBUM Sibu 31.55 213 P **P** **07 09 19.8 -0.2**
SBUM Sibu 31.55 213 P **P** **07 09 22.0 +2.0**
BAKI Biak 31.62 166 P **P** **07 09 20.8 +0.3**
comp=Z,3µmcomp=Z,258nm,1.1s
PET Petropavlovsk 31.73 35*k i*P **P** **07 09 20.5 -0.5**
PET *e**PP **pP** **07 10 04.2 -1.3**
PET *e* 07 10 31.7
PET *e* 07 12 06.8
PET eS **S** **07 14 11.5 -2.5**
PET *e* 07 15 31.5
PET pmax pmax
comp=Z,600nm,2.2s
PET pmax pmax
comp=Z,145nm,1.3s
PET MLR MLR
comp=Z,800nm,21.0s
PET MLR MLR
comp=Z,800nm,19.0s
PET Petropavlovsk 31.73 35 P **P** **07 09 20.4 -0.7**
PET IAmb IAmb 07 09 21.9
comp=Z,148nm,1.2s
PET Petropavlovsk 31.73 35 P **P** **07 09 20.6 -0.5**
PET Petropavlovsk 31.73 35 P **P** **07 09 20.5 -0.5**
PET pP **sP** **07 10 31.8 +0.8**
SANI Sanana 31.85 186 P **P** **07 09 21.4 -1.2**
comp=Z,1µmcomp=Z,109nm,1.2s
SANI Sanana 31.85 186 P **P** **07 09 21.3 -1.3**
TEZP TEZPUR 31.94 273 *e*P **P** **07 09 23.6 +0.3**
TEZP *i* pP pP 07 10 16.1 +8.2
YAK Yakutsk 32.19 1 P **P** **07 09 24.1 -0.8**
comp=Z,20nm,0.4s,baz=10,slow=3.5,SNR=3.4
YAK PcP **PcP** **07 12 07.9 -0.1**
comp=Z,9.5nm,0.4s,baz=157,slow=1.0,SNR=5.5
YAK ScP **ScP** **07 15 30.1 -0.5**
comp=Z,15nm,0.4s,baz=66,slow=0.1,SNR=9.1
YAK Yakutsk 32.19 1 *e*P **P** **07 09 21.7 -3.2**
YAK *e* 07 10 37.1
YAK *e* 07 12 06.6
YAK eS **S** **07 14 20.1 -0.8**
YAK *e* 07 19 22.9
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,44nm,1.3s
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax smax
comp=N,88nm,1.5s
YAK smax smax
comp=E,58nm,1.5s
YAK Yakutsk 32.19 1 P **P** **07 09 24.2 -0.8**
SRPI Serui, Papua 32.30 166 P **P** **07 09 26.7 +0.2**
LSA Lhasa 32.72 279 P **P** **07 09 31.7 +1.1**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 32.72 279 P **P** **07 09 31.7 +1.1**
LSA Lhasa 32.72 279 P **P** **07 09 31.8 +1.1**
LSA pmax pmax
comp=Z,28nm,1.0s
FAKI Fak Fak 32.74 174 P **P** **07 09 29.8 -0.5**
FAKI Fak Fak 32.74 174 P **P** **07 09 30.7 +0.4**
GUWA GUWAHATI 33.01 273 *e*P **P** **07 09 31.8 -0.8**
SHL Shillong 33.01 272 P **P** **07 09 32.2 -0.6**
SHL pmax pmax
comp=Z,59nm,0.6s
SHL Shillong 33.01 272 P **P** **07 09 32.2 -0.6**
SHL IAmb IAmb 07 09 35.1
comp=Z,59nm,0.6s
SHL Shillong 33.01 272 *e*P **P** **07 09 32.3 -0.6**
SHL IAmb IAmb 07 09 35.0
comp=Z,49nm,0.8s
SHL Shillong 33.01 272 P **P** **07 09 32.0 -0.8**
SNR=22
SMPI Sarmi 33.01 162 P **P** **07 09 34.0 +1.4**
comp=Z,11µmcomp=Z,182nm,1.4s
MSAI Masohi 33.01 180 P **P** **07 09 34.2 +1.5**
comp=Z,1µmcomp=Z,48nm,0.8s
BKB Balikpapan 33.02 203 P **P** **07 09 29.5 -3.2**
BKB IAmb IAmb 07 09 52.2
comp=Z,67nm,0.5s
MA2 Magadan 33.19 20 P **P** **07 09 32.1 -1.6**
comp=Z,7.6nm,0.3s,baz=218,slow=9.2,SNR=25
MA2 PcP **PcP** **07 12 10.1 -0.8**
comp=Z,26nm,0.8s,baz=151,slow=3.1,SNR=9.4
MA2 ScP **ScP** **07 15 34.2 +0.1**
comp=Z,7.1nm,0.7s,baz=185,slow=4.1,SNR=6.2
MA2 Magadan 33.19 20*ce*P **P** **07 09 32.3 -1.4**
MA2 pmax pmax
comp=Z,54nm,1.7s
MA2 Magadan 33.19 20 P **P** **07 09 32.4 -1.3**
MA2 Magadan 33.19 20 P **P** **07 09 32.9 -0.8**
KSM Kuching 33.34 216 P **P** **07 09 36.8 +1.4**
KSM IAmb IAmb 07 09 38.2
comp=Z,82nm,0.7s
KSM Kuching 33.34 216 P **P** **07 09 38.0 +2.5**
KSM Kuching 33.34 216 P **P** **07 09 37.3 +1.8**
AAI Ambon 33.36 181 P **P** **07 09 36.5 +0.8**
comp=Z,4µmcomp=Z,481nm,0.6s
MTKI Muara Teweh, K 33.44 206 P **P** **07 09 38.2 +1.8**
STKI Sintang 33.99 213 P P 07 09 46.8 +5.7
GENI Genyem 34.00 160 P **P** **07 09 41.7 +0.5**
comp=Z,3µmcomp=Z,164nm,1.6s
GENI Genyem 34.00 160 P **P** **07 09 42.2 +1.0**
SRIT Nakonsritamara 34.68 238 P **P** **07 09 49.0 +1.9**
WMQ Urumqi 35.47 305 *e*P **P** **07 09 54.3 +0.7**
WMQ pP pP 07 10 36.1 -2.7
WMQ PP **PnPn** **07 11 21.3 +0.4**
WMQ PcP **PcP** **07 12 18.3 +0.4**
WMQ S **S** **07 15 16.9 +4.7**
WMQ ScP **ScP** **07 15 43.6 +0.9**
WMQ SS **SS** **07 17 46.8 -10**
WMQ ScS **ScS** **07 19 46.0 -1.8**
WMQ LR LR
comp=Z,820nm,13.1s
WMQ LR LR
comp=Z,920nm,16.9s
WMQ LR LR
comp=Z,370nm,20.9s
WAKE Wake Island 35.72 98 P **P** **07 09 55.5 -0.3**
H11N2 WAKE ISLAND Hy 35.74 98 P **P** **07 09 55.9 0.0**
baz=274,slow=11,SNR=6.3
H11N1 WAKE ISLAND Hy 35.74 98 P **P** **07 09 55.8 -0.1**
baz=274,slow=11,SNR=6.3
H11N3 WAKE ISLAND Hy 35.76 98 P **P** **07 09 55.9 -0.1**
baz=274,slow=11,SNR=6.4
PATS Pohnpei 35.86 124 P **P** **07 09 55.8 -1.3**
JRMM Jerantut 35.99 229 P **P** **07 10 01.0 +2.8**
BKSI Bulukumba 35.99 195 P **P** **07 09 57.9 -0.2**
comp=Z,20nm,1.0s
H11S3 WAKE ISLAND Hy 36.08 100 P **P** **07 09 59.0 +0.2**
baz=19,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 36.08 100 P **P** **07 09 58.9 +0.1**
baz=19,slow=76,SNR=7.3
H11S2 WAKE ISLAND Hy 36.09 100 P **P** **07 09 59.0 +0.1**
baz=19,slow=76,SNR=2.8
KULM Kulim 36.20 233 P **P** **07 10 01.5 +1.5**
KULM Kulim 36.20 233 P **P** **07 10 02.0 +2.0**
MANU Manus Island 36.27 148 P **P** **07 10 00.0 -0.6**
SEY Seymchan 36.38 18 P **P** **07 10 01.0 0.0**
comp=Z,21nm,0.4s,baz=215,slow=6.6,SNR=110
SEY PcP **PcP** **07 12 19.6 -0.5**
comp=Z,14nm,0.8s,baz=191,slow=6.2,SNR=5.7
SEY ScP **ScP** **07 15 45.5 0.0**
comp=Z,7.6nm,0.8s,baz=196,slow=4.2,SNR=8.5
SEY Seymchan 36.38 18 *i* P **P** **07 10 00.9 0.0**
SEY pmax pmax

comp=Z,81nm,1.2s
IPM Ipoh 36.52 232 P **P** **07 10 04.0 +1.2**
IPM Ipoh 36.52 232 P **P** **07 10 05.0 +2.2**
IPM Ipoh 36.52 232 P **P** **07 10 04.2 +1.4**
MYKOM Kota Tinggi 36.72 225 P **P** **07 10 06.8 +2.5**
MYKOM Kota Tinggi 36.72 225 P **P** **07 10 07.0 +2.7**
TPRI Tanjung Pinang 36.99 223 P **P** **07 10 08.8 +2.1**
comp=Z,8µmcomp=Z,159nm,0.9s
DGPR DIGLIPUR 37.20 251 *e*P **P** **07 10 09.6 +1.1**
DGPR IAmb IAmb 07 10 15.8
comp=Z,150nm,0.9s
DGPR *i* pP **pP** **07 10 56.0 +2.0**
SAUI Saumlaki 37.69 176 P **P** **07 10 13.3 +0.9**
DSRI Dabo 38.09 222 P **P** **07 10 18.1 +2.3**
PBA Port Blair 38.19 249 P **P** **07 10 15.7 -1.0**
PBA IAmb IAmb 07 10 48.0
comp=Z,75nm,0.8s
PBA Port Blair 38.19 249 *e*P **P** **07 10 18.4 +1.8**
PBA Port Blair 38.19 249 P **P** **07 10 16.6 -0.1**
SNR=6.3
TPI Tanjungpandan 38.30 216 P **P** **07 10 19.2 +1.6**
comp=Z,52nm,0.8s
PPBI Pangkal Pinang 38.59 218 P **P** **07 10 22.4 +2.3**
BOK Bokaro 38.74 272 *e*P **P** **07 10 21.9 +0.6**
BOK IAmb IAmb 07 10 24.9
comp=Z,35nm,0.7s
BOK *i* x x 07 11 09.6
MMRI Maumere 38.81 191 P **P** **07 10 20.6 -1.2**
MMRI IAmb IAmb 07 10 26.7
comp=Z,104nm,0.9s
MMRI Maumere 38.81 191 P **P** **07 10 20.6 -1.2**
comp=Z,20µmcomp=Z,118nm,0.9s
MMRI Maumere 38.81 191 P **P** **07 10 21.3 -0.5**
LHMI Lhok Sumawe 38.88 237 P **P** **07 10 24.1 +1.6**
LHMI Lhok Sumawe 38.88 237 P **P** **07 10 25.1 +2.6**
comp=Z,6µmcomp=Z,704nm,1.0s
LHMI Lhok Sumawe 38.88 237 P **P** **07 10 25.6 +3.1**
TSI Tuntungan 38.92 233 P **P** **07 10 25.3 +2.5**
comp=Z,446nm,0.7s
KMMI Kalianget 39.42 204 P **P** **07 10 27.8 +0.9**
comp=Z,87nm,0.7s
KCSI Kotacane, Aceh 39.47 234 P **P** **07 10 27.8 +0.5**
comp=Z,154nm,0.9s
BKNI Bangkinang 39.61 227 P **P** **07 10 30.0 +1.5**
BKNI Bangkinang 39.61 227 P **P** **07 10 30.9 +2.4**
comp=Z,12µmcomp=Z,988nm,0.8s
BKNI Bangkinang 39.61 227 P **P** **07 10 30.9 +2.4**
MK31 Makanchi Array 39.70 309 *i* P **P** **07 10 28.3 -0.6**
MK31 Makanchi Array 39.70 309 P **P** **07 10 28.3 -0.6**
MKAR Makanchi Array 39.70 309 P **P** **07 10 28.3 -0.5**
comp=Z,12nm,0.7s,baz=95,slow=10,SNR=44
MKAR pP **pP** **07 11 14.3 -0.6**
comp=Z,19nm,0.8s,baz=96,slow=9.0,SNR=5.4
MKAR PcP **PcP** **07 12 30.7 -0.1**
comp=Z,15nm,0.7s,baz=78,slow=3.3,SNR=11
MKAR ScP **ScP** **07 15 58.5 -0.1**
comp=Z,29nm,0.8s,baz=94,slow=4.1,SNR=32
MKAR ScS **ScS** **07 20 09.8 -2.0**
comp=Z,3.0nm,0.8s,baz=110,slow=6.9,SNR=3.8
MKAR Makanchi Array 39.70 309 *i* P **P** **07 10 28.2 -0.7**
MKAR pmax pmax
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 39.83 320 P **P** **07 10 29.5 -0.2**
ZALV Zalesovo Beam 39.83 320 P **P** **07 10 29.2 -0.6**
comp=Z,22nm,0.6s,baz=110,slow=9.2,SNR=54
ZALV pP **pP** **07 11 15.8 0.0**
comp=Z,19nm,0.8s,baz=99,slow=9.1,SNR=1.6
ZALV PcP **PcP** **07 12 30.8 -0.3**
comp=Z,18nm,0.8s,baz=129,slow=3.7,SNR=8.8
ZALV ScP **ScP** **07 15 58.4 -0.4**
comp=Z,29nm,0.8s,baz=114,slow=4.1,SNR=25
ZALV ScS **ScS** **07 20 10.2 -2.0**
comp=Z,1.0nm,0.3s,baz=108,slow=9.5,SNR=4.2
ZALV Zalesovo Beam 39.83 320 *i* P **P** **07 10 29.6 -0.2**
ZALV pmax pmax
comp=Z,22nm,0.6s
ZALV Zalesovo Beam 39.83 320 P **P** **07 10 28.8 -0.9**
ZALV **PcP** **07 12 30.6 -0.4**
ZALV ScP **ScP** **07 15 58.1 -0.7**
MAKZ Makanchi 39.91 308 P **P** **07 10 30.3 -0.3**
MAKZ pmax pmax
comp=Z,53nm,1.2s
MAKZ Makanchi 39.91 308 P **P** **07 10 30.3 -0.3**
PLAI Plampang 39.94 197 P **P** **07 10 31.1 0.0**
comp=Z,59nm,0.7s
PLAI Plampang 39.94 197 P **P** **07 10 31.5 +0.4**
SHEM Shemya Is, Ala 40.02 42 P **P** **07 10 31.2 -0.1**
comp=Z,81nm,0.9s,baz=282,slow=19,SNR=2.7
SHEM PcP **PcP** **07 12 31.7 0.0**
comp=Z,80nm,0.8s,baz=290,slow=21,SNR=4.3
MNSI Mandailing Nat 40.20 229 P **P** **07 10 34.9 +1.5**
comp=Z,559nm,0.8s
RABL Rabaul 40.50 143 P **P** **07 10 35.6 -0.2**
RABL Rabaul 40.50 143 P **P** **07 10 37.0 +1.2**
JAGI Jajag, Banyuwa 40.68 203 P **P** **07 10 37.3 +0.1**
PWJI Pagerwojo 41.12 206 P **P** **07 10 42.3 +1.6**
comp=Z,61nm,0.8s
GSI Gunungsitoli 41.18 232 P **P** **07 10 41.1 -0.3**
GSI Gunungsitoli 41.18 232 P **P** **07 10 42.5 +1.1**
comp=Z,7µmcomp=Z,464nm,1.3s
GSI Gunungsitoli 41.18 232 P **P** **07 10 42.5 +1.1**
KRJI Kerinci 41.23 224 P **P** **07 10 43.4 +1.6**
comp=Z,15µmcomp=Z,321nm,0.7s
SHLS Shalkode 41.37 303 *e*P **P** **07 10 39.3 -3.4**
SHLS Shalkode 41.37 303 *e*P **P** **07 10 39.3 -3.4**
baz=302
KLSI 41.47 218 P **P** **07 10 45.5 +1.9**
comp=Z,4µmcomp=Z,498nmcomp=Z,37nm,0.7s
KLI Kotabumi 41.54 218 P **P** **07 10 46.2 +2.0**
comp=Z,8µmcomp=Z,335nm,0.7s
MDSI Maura Dua 41.60 219 P **P** **07 10 46.2 +1.5**
comp=Z,881nmcomp=Z,63nm,0.8s
MASI Maura Aman, Be 41.60 223 P **P** **07 10 46.8 +2.1**
comp=Z,5µmcomp=Z,584nm,0.8s
SEM Semipalatinsk 41.63 314 *e*P **P** **07 10 43.8 -1.0**
SEM Semipalatinsk 41.63 314 *e*P **P** **07 10 43.9 -1.0**
baz=314
KPJI Karang Pucung 41.69 211 P **P** **07 10 46.7 +1.3**
comp=Z,127nm,0.8s
UZB Uzynbulak 41.69 303 *e*P **P** **07 10 44.4 -1.0**
UZB Uzynbulak 41.69 303 *e*P **P** **07 10 44.4 -1.0**
baz=302
KWAJ Kwajalein Atol 41.77 112 P **P** **07 10 46.7 +0.6**
KWAJ pmax pmax
comp=Z,589nm,0.8s
KWAJ Kwajalein Atol 41.77 112 P **P** **07 10 46.7 +0.6**
TIXI Tiksi 41.84 360 P **P** **07 10 44.9 -1.0**
comp=Z,13nm,0.6s,baz=271,slow=23,SNR=44
TIXI PcP **PcP** **07 12 36.4 -0.9**
comp=Z,5.1nm,0.3s,baz=92,slow=23,SNR=4.3
TIXI ScP **ScP** **07 16 05.4 -1.1**
comp=Z,7.3nm,0.7s,baz=268,slow=13,SNR=9.9
TIXI Tiksi 41.84 360*ce*P **P** **07 10 44.8 -1.2**
TIXI pmax pmax
comp=Z,50nm,1.7s
TIXI Tiksi 41.84 360 P **P** **07 10 45.0 -1.0**
TIXI Tiksi 41.84 360 P **P** **07 10 44.6 -1.3**
TIXI pP **pP** **07 11 36.1 +3.9**
KPKS Kokpek 41.95 303 *e*P **P** **07 10 46.5 -0.9**
KPKS Kokpek 41.95 303 *e*P **P** **07 10 46.5 -0.9**
baz=303
DBJI Dramaga 42.02 214 P **P** **07 10 50.4 +2.3**
comp=Z,254nm,1.2s
DRS Darwin Rock St 42.08 177 P **P** **07 10 48.4 -0.1**
PTH Pithoragarh 42.08 282 *e*P **P** **07 10 48.9 +0.2**
LWLI Liwa 42.10 219 P **P** **07 10 49.5 +0.6**
comp=Z,174nm,0.7s
SISI Saibi 42.12 228 P **P** **07 10 49.6 +0.7**
comp=Z,3µmcomp=Z,484nm,0.8s
ZHN Zhinishke 42.12 303 *e*P **P** **07 10 48.0 -0.8**
ZHN Zhinishke 42.12 303 *e*P **P** **07 10 48.0 -0.8**
baz=302
SATY Saty 42.14 302 *e*P **P** **07 10 47.9 -1.1**
SATY Saty 42.14 302 *e*P **P** **07 10 48.0 -1.1**
baz=302
TDK Taldyqorghan 42.21 305 *e*P **P** **07 10 49.2 -0.2**
TDK Taldyqorghan 42.21 305 *e*P **P** **07 10 49.2 -0.2**
baz=305
KASI Kota Agung 42.29 218 P **P** **07 10 50.4 +0.1**
comp=Z,96nm,0.9s
KDU Kakadu 42.43 175 P **P** **07 10 51.0 -0.3**
RAGD RAYAGADA 42.48 266 *e*P **P** **07 10 53.3 +1.5**
TARG Taragay, Kyrgy 42.58 301 P **P** **07 10 52.7 -0.2**
CGJI Cibinong 42.59 215 P **P** **07 10 52.0 -0.7**
comp=Z,2µmcomp=Z,55nm,0.7s

PPSI **Pulau Pagai** 42.65 226 P **P** 07 10 54.5 +1.4
comp=Z,3µmcomp=Z,351nm,0.7s
KURK **Kurchatov** 42.71 314 *ce*P **P** 07 10 53.1 -0.1
KURK pmax pmax
comp=Z,19nm,0.6s
KURK **Kurchatov** 42.71 314 P **P** 07 10 52.7 -0.5
KURK **Kurchatov** 42.71 314 P **P** 07 10 52.6 -0.7
KURK pP **pP** 07 11 41.2 +1.4
KURBB **Kurchatov Arra** 42.75 314 pP **pP** 07 11 41.1 +0.9
comp=Z,17nm,0.6s,baz=102,slow=8.6,SNR=3.9
KURBB PcP **PcP** 07 12 40.4 -0.4
comp=Z,8.4nm,0.6s,baz=106,slow=3.7,SNR=5.3
KURBB ScP **ScP** 07 16 10.1 -0.5
comp=Z,13nm,0.9s,baz=97,slow=4.1,SNR=17
PMG **Port Moresby** 42.79 153 P **P** 07 10 54.3 +0.1
comp=Z,98nm,0.8s,baz=9.7,slow=7.0,SNR=19
PMG **Port Moresby** 42.79 153 *ce*P **P** 07 10 54.5 +0.3
PMG pmax pmax
comp=Z,201nm,1.3s
PMG **Port Moresby** 42.79 153 P **P** 07 10 53.3 -0.9
PMG lAmb lAmb 07 10 55.4
comp=Z,143nm,0.9s
PMG **Port Moresby** 42.79 153 P **P** 07 10 54.8 +0.6
PMG **Port Moresby** 42.79 153 P **P** 07 10 54.6 +0.3
KDJ **Kajisay** 43.05 301 P **P** 07 10 56.4 +0.1
KDJ pmax pmax
comp=Z,103nm,1.5s
KDJ **Kajisay** 43.05 301 P **P** 07 10 56.4 +0.1
MDOK **Medeo** 43.14 303 *e*P **P** 07 10 55.9 -1.1
MDOK **Medeo** 43.14 303 *e*P **P** 07 10 56.0 -1.1
baz=302
CHKK **Chushkaly** 43.19 304 *e*P **P** 07 10 56.5 -0.7
baz=304
TNSS **Tian-Shan** 43.21 302 *e*P **P** 07 10 56.9 -1.0
baz=302
KUU **Kurty** 43.66 304 *e*P **P** 07 11 00.2 -0.8
KUU **Kurty** 43.66 304 *e*P **P** 07 11 00.3 -0.8
baz=304
ULHL **Ulahol** 43.74 301 P **ScP** 07 16 14.9 -0.2
SNR=7.2
BOOM **Boomskoye usch** 43.96 302 P **P** 07 11 03.6 0.0
BOOM 07 12 46.6
BOOM **Boomskoye usch** 43.96 302 P **P** 07 11 03.6 0.0
BOOM PcP **PcP** 07 12 46.6 +1.3
BILL **Bilibino** 44.04 19 *ce*P **P** 07 11 03.2 -0.4
BILL *e**PP **pP** 07 11 52.0 +1.5
BILL *e**SP **sP** 07 12 13.1 -2.3
BILL *e* 07 12 45.3
BILL *e* 07 12 51.0
BILL *i* S **S** 07 17 18.2 -0.4
BILL *e**SS **sS** 07 18 41.3 +0.2
BILL *e*SS **ScS** 07 20 38.6 +0.9
BILL pmax pmax
comp=Z,144nm,1.7s
BILL **Bilibino** 44.04 19 P **P** 07 11 03.3 -0.3
BILL PcP **PcP** 07 12 45.4 +0.6
BILL **Bilibino** 44.04 19 P **P** 07 11 03.4 -0.2
KSH **Kashi** 44.08 297 P **P** 07 11 07.8 +3.3
KSH pP pP 07 11 57.3 +5.9
KSH ScP **ScP** 07 16 19.0 +2.6
KSH S **S** 07 17 25.9 +5.7
KSH sS sS 07 18 52.6 +10
KSH ScS **ScS** 07 20 41.3 +2.1
KSH pmax pmax
comp=Z,390nm,7.3s
KSH LR LR
comp=Z,580nm,15.2s
KSH LR LR
comp=Z,530nm,12.1s
KSH LR LR
comp=Z,560nm,14.0s
TKM2 **Tokmak 2** 44.20 302 P **ScP** 07 16 17.5 +0.6
SNR=5.6
SGDS **Sogindy** 44.90 303 *e*P **P** 07 11 10.0 -0.9
baz=303
USP **Ospenovka** 45.00 303 P **ScP** 07 16 20.1 +0.1
SNR=5.7
AAK **Ala-Archa** 45.02 302 P **P** 07 11 11.8 -0.2
comp=Z,2.8nm,0.3s,baz=153,slow=8.1,SNR=7.0
AAK pP **pP** 07 11 59.0 0.0
comp=Z,12nm,0.9s,baz=107,slow=9.4,SNR=4.3
AAK PcP **PcP** 07 12 48.8 -0.1
comp=Z,6.8nm,0.7s,baz=152,slow=7.1,SNR=4.1
AAK ScP **ScP** 07 16 20.2 -0.1
comp=Z,7.7nm,0.9s,baz=164,slow=4.1,SNR=8.3
AAK **Ala-Archa** 45.02 302 *ce*P **P** 07 11 12.7 +0.7
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK **Ala-Archa** 45.02 302 P **P** 07 11 10.8 -1.2
AAK **Ala-Archa** 45.02 302 P **P** 07 11 12.2 +0.3
AAK pP **pP** 07 12 01.1 +2.1
AAK **Ala-Archa** 45.02 302 *i* P **P** 07 11 12.0 +0.1
SNR=5.6
UCH **Uchtor** 45.02 301 P **ScP** 07 16 21.9 +1.3
SNR=9.4
KIWB **Kanaga Island** 45.08 45 P **P** 07 11 11.1 -1.0
KNRA **Kununurra** 45.27 180 P **P** 07 11 13.9 +0.1
KNRA **Kununurra** 45.27 180 P **P** 07 11 14.4 +0.6
BTLS **Baital** 45.31 305 *e*P **P** 07 11 12.9 -1.0
BTLS **Baital** 45.31 305 *e*P **P** 07 11 13.0 -1.0
baz=305
ADK **Adak** 45.37 45 P **P** 07 11 13.5 -0.8
ADK pmax pmax
comp=Z,87nm,0.9s
ADK **Adak** 45.37 45 P **P** 07 11 13.5 -0.8
EKS2 **Erkin-Say** 45.55 302 P **ScP** 07 16 23.4 +0.9
SNR=8.5
KUDL **Kundal** 45.59 281 *e*P **P** 07 11 16.0 -0.4
KUDL *i* x x 07 11 59.4
AML **Almayashu** 45.64 301 P **P** 07 11 17.6 +0.5
COEN **Coen** 45.66 161 P **P** 07 11 16.9 -0.2
COEN **Coen** 45.66 161 P **P** 07 11 17.6 +0.6
GSTR **Great Sitkin T** 45.78 45 P **P** 07 11 17.1 -0.5
GSTR PcP **PcP** 07 12 51.8 +0.6
NRIK **Noril'sk** 46.03 341 P **P** 07 11 19.0 -0.2
comp=Z,11nm,0.5s,baz=113,slow=9.1,SNR=19
NRIK pP **pP** 07 12 05.6 -0.7
comp=Z,12nm,0.6s,baz=125,slow=8.5,SNR=2.4
NRIK PcP **PcP** 07 12 51.8 +0.1
comp=Z,41nm,0.8s,baz=123,slow=4.4,SNR=11
NRIK ScP **ScP** 07 16 23.6 -0.1
comp=Z,18nm,0.9s,baz=123,slow=3.5,SNR=8.6
NRIK **Noril'sk** 46.03 341 *ce*P **P** 07 11 18.5 -0.7
NRIK pmax pmax
comp=Z,13nm,0.6s
NRIK **Noril'sk** 46.03 341 P **P** 07 11 18.6 -0.6
NRIK PcP **PcP** 07 12 52.5 +0.7
BRZS **Berezniki** 46.40 312 *e*P **P** 07 11 21.4 -1.0
BRZS **Berezniki** 46.40 312 *e*P **P** 07 11 21.5 -1.0
baz=312
MIDW **Midway** 46.60 78 P **P** 07 11 23.1 -1.1
MIDW lAmb lAmb 07 11 25.2
comp=Z,156nm,0.9s
MIDW **Midway** 46.60 78 P **P** 07 11 24.7 +0.5
NIL **Nilore** 47.04 290 P **P** 07 11 27.9 +0.2
NIL pmax pmax
comp=Z,75nm,1.3s
NIL **Nilore** 47.04 290 P **P** 07 11 27.9 +0.2
NIL **Nilore** 47.04 290 P **P** 07 11 27.3 -0.4
DZA **Taraz** 47.34 302 *e*P **P** 07 11 28.8 -1.0
DZA **Taraz** 47.34 302 *e*P **P** 07 11 28.9 -1.0
baz=302
HYBB **Hyderabad (bro** 47.47 267 *e*P **P** 07 11 31.9 +0.7
HYBB IVmB_BB 07 11 32.6
comp=Z,210nm,1.4s
HYBB *e*pP **pP** 07 12 18.4 -0.3
HYBB *e*sP **sP** 07 12 40.1 -3.2
HYBB *e*PcP **PcP** 07 12 58.3 +0.5
HYBB *e*PP **PP** 07 13 25.8 +1.2
HYBB *e*ScP **ScP** 07 16 30.2 -0.5
HYBB *e*PcS **PcS** 07 16 52.9 -0.9
HYBB *e*S **S** 07 18 08.6 -0.3
HYBB *e*ScS **ScS** 07 21 01.2 -0.6
HYBB *e*SS **SS** 07 21 42.2 +2.5
AKL **Akola** 47.51 272 *e*P **P** 07 11 32.2 +0.7
FITZ **Fitzroy Crossi** 47.78 184 P **P** 07 11 33.8 +0.5
FITZ lAmb lAmb 07 11 34.9
comp=Z,135nm,0.8s
KKAR **Karatay Array** 47.92 303 P **P** 07 11 34.4 +0.1
KKAR **Karatay Array** 47.92 303 P **P** 07 11 34.4 +0.1
BTK **Batken** 47.98 299 P **P** 07 11 34.0 -0.8
BTK pmax pmax
comp=Z,58nm,1.6s
BTK **Batken** 47.98 299 P **P** 07 11 34.0 -0.8

BVAR **Borovoye Array** 48.06 316 P **P** 07 11 34.9 -0.2
comp=Z,13nm,0.5s
BVAR PcP **PcP** 07 12 59.4 +0.1
comp=Z,17nm,0.5s,baz=222,slow=11,SNR=6.8
BVAR ScP **ScP** 07 16 32.7 +0.2
comp=Z,19nm,0.9s,baz=55,slow=18,SNR=14
BRVK **Borovoye** 48.13 316 *ce*P **P** 07 11 35.5 -0.1
BRVK pmax pmax
comp=Z,21nm,0.6s
BRVK **Borovoye** 48.13 316 P **P** 07 11 35.1 -0.5
BRVK **Borovoye** 48.13 316 P **P** 07 11 35.6 0.0
BRVK pP **pP** 07 12 25.2 +1.9
IUG **luzhnay** 48.35 302 *e*P **P** 07 11 37.0 -0.7
IUG **luzhnay** 48.35 302 *e*P **P** 07 11 37.0 -0.7
baz=301
GAR **Garm** 48.50 297 P **P** 07 11 37.7 -1.2
HNR **Honiara** 49.14 138 P **P** 07 11 43.2 -0.6
HNR pmax pmax
comp=Z,166nm,0.8s
HNR **Honiara** 49.14 138 P **P** 07 11 43.2 -0.6
HNR lAmb lAmb 07 11 46.5
comp=Z,166nm,0.8s
CHGR **Chuyangaron** 49.44 297 P **P** 07 11 45.8 -0.2
WB0 **Warramunga Arr** 49.61 173 P **P** 07 11 46.6 -0.7
WB0 lAmb lAmb 07 11 48.0
comp=Z,129nm,0.8s
SPIA **Saint Paul Isl** 49.74 39 P **P** 07 11 47.1 -0.7
baz=264
WRAB **Tennant Creek** 49.77 173 *ce*P **P** 07 11 48.1 -0.4
WRAB pmax pmax
comp=Z,227nm,1.3s
WRAB **Tennant Creek** 49.77 173 P **P** 07 11 48.0 -0.4
WRAB lAmb lAmb 07 11 49.3
comp=Z,142nm,0.8s
WRAB **Tennant Creek** 49.77 173 P **P** 07 11 48.6 +0.2
WRAB **Tennant Creek** 49.77 173 P **P** 07 11 47.9 -0.5
WRA **Warramunga Arr** 49.78 173 P **P** 07 11 48.5 0.0
comp=Z,93nm,0.8s,baz=352,slow=7.9,SNR=152
WRA PcP **PcP** 07 13 05.2 -0.7
comp=Z,7.3nm,0.8s,baz=357,slow=5.1,SNR=5.2
WRA ScP **ScP** 07 16 40.2 0.0
comp=Z,5.2nm,1.1s,baz=352,slow=4.3,SNR=4.7
WRA P4KPbc 07 49 19.8
comp=Z,2.2nm,0.8s,baz=0.1,slow=5.0,SNR=10
WRA **Warramunga Arr** 49.78 173 P **P** 07 11 47.6 -0.9
WB2 **Warramunga Arr** 49.78 173 P **P** 07 11 48.0 -0.5
WB2 lAmb lAmb 07 11 49.4
comp=Z,164nm,0.8s
WR0 **Warramunga Arr** 49.82 173 P **P** 07 11 48.5 -0.3
WR0 lAmb lAmb 07 11 49.7
comp=Z,183nm,0.9s
MTSU **Mount Surprise** 49.95 161 P **P** 07 11 51.1 +1.2
GAMB **Gambell** 50.16 30 P **P** 07 11 51.3 +0.4
GAMB **Gambell** 50.16 30 P **P** 07 11 51.2 +0.4
baz=257,SNR=13
GAMB S **S** 07 18 47.7 +2.6
baz=257
NIKH **Nikolski High** 50.24 44 P **P** 07 11 52.6 +1.0
baz=268
KBL **Kabul** 50.28 292 P **P** 07 11 53.1 +0.6
KBL pmax pmax
comp=Z,158nm,1.4s
KBL **Kabul** 50.28 292 P **P** 07 11 53.1 +0.6
KBL lAmb lAmb 07 12 49.6
comp=Z,158nm,1.4s
KBL **Kabul** 50.28 292 P **P** 07 11 52.7 +0.2
SNR=15
KBL P **P** 07 11 52.7 +0.2
SNR=15
KBL **Kabul** 50.28 292 P **P** 07 11 52.6 +0.2
KBL pP **pP** 07 12 41.7 +1.1
SALM **Salem** 50.38 260 *e*P **P** 07 11 54.7 +1.5
TARA **Tarawa** 50.45 116 P **P** 07 11 52.8 -0.9
TARA lAmb lAmb 07 11 54.8
comp=Z,153nm,0.8s
PALK **Pallekele** 50.50 254 P **P** 07 11 55.4 +1.2
PALK pmax pmax
comp=Z,69nm,1.0s
PALK **Pallekele** 50.50 254 P **P** 07 11 55.4 +1.2
PALK **Pallekele** 50.50 254 P **P** 07 11 54.3 +0.1
PALK pP **pP** 07 12 45.5 +3.3
QIS **Mount Isa** 51.16 167 P **P** 07 11 58.9 +0.1
PSA00 **Pilbara Seismi** 51.88 191 P **P** 07 12 04.5 +0.5
PSA00 lAmb lAmb 07 12 05.5
comp=Z,114nm,0.7s
PSA00 **Pilbara Seismi** 51.88 191 P **P** 07 12 04.1 0.0
PSA00 lAmb lAmb 07 12 05.5
comp=Z,56nm,0.8s
PSA00 **Pilbara Seismi** 51.88 191 P **P** 07 12 04.7 +0.6
TNA **Tin City** 52.13 28 P **P** 07 12 05.9 +0.5
TNA lAmb lAmb 07 12 07.3
comp=Z,118nm,1.0s
TNA **Tin City** 52.13 28 P **P** 07 12 06.1 +0.7
baz=259,SNR=85
TNA S **S** 07 19 14.1 +2.2
baz=259
CTA **Charters Tower** 52.38 159 P **P** 07 12 08.9 +1.1
CTAO **Charters Tower** 52.38 159 P **P** 07 12 08.2 +0.4
CTAO pmax pmax
comp=Z,173nm,0.8s
CTAO **Charters Tower** 52.38 159 P **P** 07 12 08.2 +0.4
CTAO **Charters Tower** 52.38 159 P **P** 07 12 08.1 +0.4
ANM **Nome** 53.03 30 P **P** 07 12 13.1 +1.0
ANM pmax pmax
comp=Z,100nm,0.8s
ANM **Nome** 53.03 30 P **P** 07 12 13.1 +1.0
ANM lAmb lAmb 07 12 14.2
comp=Z,100nm,0.8s
ANM **Nome** 53.03 30 P **P** 07 12 13.0 +1.0
baz=262,SNR=56
ANM S **S** 07 19 28.0 +3.7
baz=262
AS31 **Alice Springs** 53.42 174 P **P** 07 12 15.2 -0.2
ASAR **Alice Springs** 53.43 174 P **P** 07 12 15.8 +0.3
comp=Z,108nm,0.9s,baz=4.2,slow=8.8,SNR=499
ASAR PcP **PcP** 07 13 19.9 +0.4
comp=Z,17nm,0.7s,baz=1.2,slow=3.5,SNR=6.7
ASAR ScP **ScP** 07 16 56.8 +0.8
comp=Z,1.7nm,0.7s,baz=5.4,slow=4.9,SNR=3.6
ASAR P4KPbc 07 49 36.4
comp=Z,2.9nm,0.8s,baz=356,slow=4.5,SNR=16
ASAR **Alice Springs** 53.43 174 P **P** 07 12 15.5 0.0
RDOG **Red Dog Mine** 54.51 25 P **P** 07 12 23.0 +0.3
RDOG lAmb lAmb 07 12 24.1
comp=Z,129nm,1.6s
RDOG **Red Dog Mine** 54.51 25 P **P** 07 12 22.6 -0.1
baz=262,SNR=5.6
WRKA **Warakurna** 54.58 181 P **P** 07 12 24.5 +0.7
ABKAR **Akbulak array** 54.69 311 P **P** 07 12 24.2 -0.1
ABKAR **Akbulak array** 54.69 311 P **P** 07 12 24.1 -0.1
ARU **Arti** 54.99 320 P **P** 07 12 25.9 -0.4
comp=Z,4.9nm,0.4s,baz=88,slow=8.5,SNR=4.7
ARU pP **pP** 07 13 14.4 -0.8
comp=Z,10nm,0.8s,baz=91,slow=5.5,SNR=3.2
ARU PcP **PcP** 07 13 25.3 +0.1
comp=Z,11nm,0.5s,baz=102,slow=3.7,SNR=8.4
ARU ScP **ScP** 07 17 01.8 -0.7
comp=Z,3.7nm,0.6s,baz=170,slow=1.2,SNR=7.0
ARU **Arti** 54.99 320 *c i* P **P** 07 12 25.9 -0.4
ARU *e**PP **pP** 07 13 16.3 +1.1
ARU 07 13 24.9
ARU *e**SP **sP** 07 13 40.4 +0.9
ARU S **S** 07 19 51.7 +1.0
ARU 07 21 46.1
ARU SS **SS** 07 23 30.2 -7.0
ARU pmax pmax
comp=Z,41nm,1.5s
ARU MLR MLR
comp=Z,534nm,14.0s
ARU **Arti** 54.99 320 P **P** 07 12 25.9 -0.4
ARU lAmb lAmb 07 13 18.8
comp=Z,92nm,1.2s
SDPT **Sand Point** 55.13 41 P **P** 07 12 25.8 -1.5
SDPT lAmb lAmb 07 12 26.8
comp=Z,96nm,1.1s
SDPT **Sand Point** 55.13 41 P **P** 07 12 25.8 -1.5
baz=273
SDPT S **S** 07 19 52.9 +0.3
baz=273
HRA **Herat** 55.77 293 P **P** 07 12 33.2 +0.7
HRA lAmb lAmb 07 13 29.5
comp=Z,158nm,1.9s
AKTO **Aktyubinsk** 55.79 313 P **P** 07 12 31.8 -0.4
comp=Z,5.2nm,0.5s,baz=73,slow=4.5,SNR=18
AKTO pP **pP** 07 13 20.7 -0.6
comp=Z,7.9nm,0.8s,baz=64,slow=11,SNR=2.2
AKTO ScP **ScP** 07 17 05.1 -1.0
comp=Z,7.1nm,1.0s,baz=90,slow=6.2,SNR=5.8
CHGN **Chignik** 56.23 40 P **P** 07 12 34.2 -0.9
CHGN lAmb lAmb 07 12 35.5
comp=Z,70nm,0.7s
CHGN **Chignik** 56.23 40 P **P** 07 12 34.2 -0.9
baz=274,SNR=5.5
GCSA **Galena City Sc** 56.69 30 P **P** 07 12 38.0 -0.2
baz=270,SNR=18
GCSA S **S** 07 20 12.7 -0.1
baz=270
RK1H **Rockhampton Ha** 56.84 156 P **P** 07 12 39.9 +0.2
A21K **Barrow** 57.04 22 P **P** 07 12 40.1 -0.4
A21K lAmb lAmb 07 12 41.9
comp=Z,88nm,0.8s
A21K **Barrow** 57.04 22 P **P** 07 12 40.5 0.0
baz=266,SNR=22
MEEK **Meekatharra** 57.04 191 P **P** 07 12 41.3 +0.1
TTA **Tatalina** 57.10 32 P **P** 07 12 41.5 +0.2
TTA pmax pmax
comp=Z,47nm,1.0s
TTA **Tatalina** 57.10 32 P **P** 07 12 41.5 +0.2
TTA **Tatalina** 57.10 32 P **P** 07 12 41.4 +0.1
baz=272,SNR=29
JOHN **Johnston Islan** 57.40 88 P **P** 07 12 43.8 -0.1
JOHN **Johnston Islan** 57.40 88 P **P** 07 12 44.6 +0.7
L19K **White Mountain** 57.67 33 P **P** 07 12 46.0 +0.8
L19K lAmb lAmb 07 12 47.3
comp=Z,65nm,0.9s
L19K **White Mountain** 57.67 33 P **P** 07 12 46.0 +0.8
baz=273,SNR=34
OOD **Oodnadatta** 57.69 173 P **P** 07 12 45.9 +0.3
P18K **Big Mountain,** 57.69 36 P **P** 07 12 45.8 +0.5
P18K lAmb lAmb 07 12 47.0
comp=Z,103nm,0.9s
P18K **Big Mountain,** 57.69 36 P **P** 07 12 45.9 +0.5
baz=275,SNR=27
CHIR **Chirikof Islan** 57.84 40 P **P** 07 12 46.4 +0.1
baz=277
J20K **Nowinta River** 57.89 30 P **P** 07 12 47.1 +0.5
J20K lAmb lAmb 07 12 49.0
comp=Z,109nm,1.1s
J20K **Nowinta River** 57.89 30 P **P** 07 12 47.7 +1.1
baz=273
M19K **Big River Lodg** 57.91 33 P **P** 07 12 47.5 +0.7
M19K **Big River Lodg** 57.91 33 P **P** 07 12 47.9 +1.0
baz=274
N19K **Bonanza Creek** 57.95 34 P **P** 07 12 47.9 +0.7
N19K **Bonanza Creek** 57.95 34 P **P** 07 12 47.8 +0.6
baz=274
K20K **Telida** 57.97 31 P **P** 07 12 48.4 +1.2
K20K lAmb lAmb 07 12 49.6
comp=Z,123nm,1.1s
K20K **Telida** 57.97 31 P **P** 07 12 48.4 +1.2
baz=273
K20K S **S** 07 20 33.2 +3.7
baz=273
IMAR **Indian Mountai** 57.98 28 P **P** 07 12 47.6 +0.3
QLP **Quilpie** 57.99 164 P **P** 07 12 48.0 +0.2
O19K **Port Alsworth** 58.08 35 P **P** 07 12 47.8 -0.2
O19K lAmb lAmb 07 12 49.9
comp=Z,100nm,0.9s
O19K **Port Alsworth** 58.08 35 P **P** 07 12 48.7 +0.8
baz=275,SNR=44
GEYT **Alibeck** 58.09 298 P **P** 07 12 49.2 +0.7
comp=Z,2.8nm,0.4s,baz=58,slow=14,SNR=3.0
GEYT ScP **ScP** 07 17 17.0 +0.5
comp=Z,3.4nm,0.6s,baz=90,slow=12,SNR=2.3
L20K **Farewell, AK** 58.11 32 P **P** 07 12 49.1 +0.9
baz=274
SANVU **Saraoutou** 58.21 135 P **P** 07 12 49.6 +0.2
SANVU **Saraoutou** 58.21 135 P **P** 07 12 50.3 +0.9
SANVU **Saraoutou** 58.21 135 P **P** 07 12 49.3 -0.1
INKA **Innaminka** 58.37 168 P **P** 07 12 51.1 +0.8
H21K **Melozitna Rive** 58.39 28 P **P** 07 12 50.9 +0.8
H21K lAmb lAmb 07 12 52.3
comp=Z,98nm,1.0s
H21K **Melozitna Rive** 58.39 28 P **P** 07 12 50.8 +0.8
baz=273
H21K S **S** 07 20 33.3 -1.6
baz=273
SII **Sitkinak Islan** 58.54 39 P **P** 07 12 51.4 +0.1
SII **Sitkinak Islan** 58.54 39 P **P** 07 12 51.4 +0.1
baz=277,SNR=12
SII **Sitkinak Islan** 58.54 39 P **P** 07 12 52.0 +0.7
P19K **Oil Pt** 58.68 36 P **P** 07 12 52.0 -0.2
P19K lAmb lAmb 07 12 53.4
comp=Z,129nm,1.1s
CHUM **Lake Minchumin** 58.71 31 P **P** 07 12 53.3 +1.0
baz=274,SNR=74
I21K **Tanana** 58.76 29 P **P** 07 12 54.0 +1.3
I21K lAmb lAmb 07 12 55.1
comp=Z,135nm,1.0s
I21K **Tanana** 58.76 29 P **P** 07 12 53.6 +1.0
baz=274
RSO **Redoubt South** 58.83 35 P **P** 07 12 53.4 0.0
PPLA **Purkeypile** 58.85 32 P **P** 07 12 54.7 +1.2
PPLA **Purkeypile** 58.85 32 P **P** 07 12 54.5 +1.0
baz=275,SNR=39
CAST **Castle Rocks** 58.85 31 P **P** 07 12 54.3 +1.0
CAST lAmb lAmb 07 12 55.5
comp=Z,112nm,1.1s
CAST **Castle Rocks** 58.85 31 P **P** 07 12 54.1 +0.7
baz=275,SNR=80
EIDS **Eidsvold** 58.87 157 P **P** 07 12 54.1 +0.3
EIDS **Eidsvold** 58.87 157 P **P** 07 12 54.4 +0.6
O20K **Slope Mountain** 58.93 35 P **P** 07 12 53.8 -0.2
baz=276,SNR=15
OHAK **Old Harbor** 58.95 38 P **P** 07 12 53.5 -0.5
OHAK lAmb lAmb 07 12 55.0
comp=Z,84nm,0.8s
OHAK **Old Harbor** 58.95 38 P **P** 07 12 53.7 -0.3
baz=278,SNR=22
SPCR **Spurr Chakacha** 59.01 34 P **P** 07 12 55.2 +0.7
baz=276,SNR=33
SPU **Mount Spurr** 59.09 34 P **P** 07 12 55.4 +0.4
RMQ **Roma** 59.15 159 P **P** 07 12 56.7 +1.0
KDAK **Kodiak Island** 59.24 38 P **P** 07 12 56.1 +0.1
comp=Z,70nm,0.5s,baz=299,slow=4.6,SNR=198
KDAK **Kodiak Island** 59.24 38 P **P** 07 12 56.1 +0.1
KDAK **Kodiak Island** 59.24 38 P **P** 07 12 56.1 +0.1
baz=278
KDAK S **S** 07 20 46.7 +0.6
baz=278
KDAK **Kodiak Island** 59.24 38 P **P** 07 12 55.4 -0.6
BPAW **Bear Paw Mtn.** 59.28 30 P **P** 07 12 56.6 +0.3
BPAW lAmb lAmb 07 12 58.2
comp=Z,97nm,1.2s
BPAW **Bear Paw Mtn.** 59.28 30 P **P** 07 12 57.0 +0.7
baz=276,SNR=45
MLY **Manley** 59.30 29 P **P** 07 12 56.5 +0.1
MLY lAmb lAmb 07 12 58.5
comp=Z,82nm,1.0s
MLY **Manley** 59.30 29 P **P** 07 12 57.1 +0.8
baz=275,SNR=77
MLY S **S** 07 20 49.9 +3.1
baz=275
COLD **Coldfoot** 59.33 27 P **P** 07 12 57.1 +0.6
COLD lAmb lAmb 07 12 58.7
comp=Z,170nm,1.9s
COLD **Coldfoot** 59.33 27 P **P** 07 12 57.2 +0.7
baz=274,SNR=31
KTH **Kantishna Hill** 59.36 31 P **P** 07 12 57.4 +0.6
KTH lAmb lAmb 07 12 58.8
comp=Z,184nm,1.5s
TOLK **Toolik Lake Re** 59.46 25 P **P** 07 12 58.1 +0.6
TOLK **Toolik Lake Re** 59.46 25 P **P** 07 12 57.7 +0.3
baz=274,SNR=37
HOM **Homer** 59.48 35 P **P** 07 12 57.9 +0.3
HOM lAmb lAmb 07 12 58.8
comp=Z,153nm,1.0s
HOM **Homer** 59.48 35 P **P** 07 12 56.9 -0.7
baz=278,SNR=5.4
CAPN **Captain Cook N** 59.58 34 P **P** 07 12 59.4 +1.2
CAPN **Captain Cook N** 59.58 34 P **P** 07 12 59.2 +1.0
baz=277,SNR=11
TRF **Thorofare Moun** 59.65 31 P **P** 07 12 59.1 +0.1
TRF **Thorofare Moun** 59.65 31 P **P** 07 12 59.0 0.0
baz=276,SNR=17
CNPM **China Poot** 59.70 36 P **P** 07 12 58.3 -0.8
CNPM lAmb lAmb 07 13 01.3
comp=Z,57nm,0.9s
KIRV **Kirov** 59.70 323 P **P** 07 12 59.6 +0.5
comp=Z,37nm,0.5s,baz=74,slow=3.3,SNR=5.8
KIRV ScP **ScP** 07 17 23.0 -0.2

comp=Z,7.0nm,0.5s,baz=68,slow=4.9,SNR=1.6
CUT Chulitna 59.79 32 P **P 07 12 59.7 0.0**
CUT Chulitna 59.79 32 P **P 07 12 59.7 0.0**
baz=277,SNR=6.8
BRLK Bradley Lake 59.84 35 P **P 07 12 58.4 -1.7**
BRLK IAmb IAmb 07 13 02.1
comp=Z,151nm,1.0s
I23K Minto, Yukon-K 59.87 29 P **P 07 13 00.4 +0.3**
I23K Minto, Yukon-K 59.87 29 P **P 07 13 00.8 +0.7**
baz=276,SNR=35
MORW Morawa 59.88 193 P **P 07 13 01.2 +0.6**
MORW IAmb IAmb 07 13 02.0
comp=Z,78nm,0.9s
MORW Morawa 59.88 193 P **P 07 13 01.1 +0.4**
BRSE Bradley Lake S 59.92 35 P **P 07 12 59.6 -1.0**
baz=278,SNR=24
BWN Browne 59.93 30 P **P 07 13 02.2 +1.5**
BWN IAmb IAmb 07 13 03.1
comp=Z,126nm,0.8s
M22K Willow 59.94 33 P **P 07 13 01.1 +0.4**
M22K Willow 59.94 33 P **P 07 13 00.1 -0.6**
baz=278,SNR=21
FIS Fire Island 59.98 34 P **P 07 13 02.4 +1.5**
MULG Mulgathing 60.00 175 P **P 07 13 01.8 +0.3**
NEA2 Nenana 60.05 30 P **P 07 13 02.5 +1.0**
NEA2 Nenana 60.05 30 P **P 07 13 02.1 +0.7**
baz=277,SNR=149
NEA2 S **S 07 20 57.6 +1.3**
baz=277
RC01 Rabbit Creek A 60.22 34 P **P 07 13 02.3 -0.3**
RC01 Rabbit Creek A 60.22 34 P **P 07 13 02.3 -0.3**
baz=278,SNR=40
MCK McKinley 60.22 31 P **P 07 13 03.2 +0.6**
MCK pmax pmax
comp=Z,343nm,1.7s
MCK McKinley 60.22 31 P **P 07 13 03.2 +0.6**
MCK McKinley 60.22 31 P **P 07 13 02.6 0.0**
baz=278,SNR=58
FORT Forrest 60.31 181 P **P 07 13 04.0 +0.5**
FORT Forrest 60.31 181 P **P 07 13 04.3 +0.8**
O22K Cooper Landing 60.31 34 P **P 07 13 02.9 -0.4**
baz=279,SNR=17
H24K Noodor Dome 60.40 28 IAmb IAmb 07 13 06.3
comp=Z,103nm,1.0s
H24K Noodor Dome 60.40 28 P **P 07 13 04.9 +1.0**
baz=277
PMR Palmer 60.43 33 P **P 07 13 03.9 -0.1**
PMR pmax pmax
comp=Z,125nm,1.1s
PMR Palmer 60.43 33 P **P 07 13 03.9 -0.1**
PMR IAmb IAmb 07 13 05.0
comp=Z,125nm,1.1s
PMR Palmer 60.43 33 P **P 07 13 03.7 -0.3**
baz=279,SNR=51
WRH Wood River Hil 60.49 30 IAmb IAmb 07 13 07.0
comp=Z,71nm,1.0s
GHO Glory Hole Cre 60.50 33 IAmb IAmb 07 13 06.9
comp=Z,78nm,0.9s
SEW Seward 60.51 35 P **P 07 13 04.4 -0.2**
SEW Seward 60.51 35 P **P 07 13 04.3 -0.2**
baz=279,SNR=23
TCOL CIGO, UAF Yank 60.53 29 IAmb IAmb 07 13 06.4
comp=Z,49nm,0.7s
TCOL CIGO, UAF Yank 60.53 29 P **P 07 13 04.8 +0.2**
baz=278,SNR=19
TCOL S **S 07 21 04.7 +2.4**
baz=278
COLA College 60.54 29*d i* P **P 07 13 04.3 -0.4**
COLA pmax pmax
comp=Z,179nm,2.2s
COLA College 60.54 29 P **P 07 13 04.6 0.0**
COLA IAmb IAmb 07 13 06.4
comp=Z,50nm,0.6s
COLA College 60.54 29 P **P 07 13 04.8 +0.1**
baz=278
COLA S **S 07 21 05.3 +2.9**
baz=278
COLA College 60.54 29 P **P 07 13 05.0 +0.3**
KOUNC Koumac, New Ca 60.57 142 P **P 07 13 07.0 +1.5**
LCRK Leigh Creek 60.61 171 P **P 07 13 06.4 +0.8**
KAAM Kaadhehdhoo 60.63 252 P **P 07 13 07.6 +1.4**
POKR Poker Flat Res 60.68 29 P **P 07 13 06.3 +0.6**
baz=278,SNR=22
POKR S **S 07 21 05.2 +1.0**
baz=278
SML Sawmill 60.77 33 P **P 07 13 05.6 -0.9**
SML IAmb IAmb 07 13 07.7
comp=Z,103nm,1.0s
SML Sawmill 60.77 33 P **P 07 13 06.6 +0.2**
baz=279,SNR=41
KNK Knik Glacier 60.78 33 P **P 07 13 06.2 -0.2**
baz=279,SNR=53
WAT6 Susitna Watana 60.92 32 P **P 07 13 07.3 -0.3**
baz=279,SNR=68
PWL Port Wells 60.93 34 P **P 07 13 07.0 -0.4**
PWL IAmb IAmb 07 13 08.3
comp=Z,158nm,1.0s
PWL Port Wells 60.93 34 P **P 07 13 07.1 -0.4**
baz=280,SNR=44
IL31 60.96 29 P **P 07 13 06.9 -0.6**
ILAR Eielson Array 60.96 29 P **P 07 13 06.8 -0.7**
comp=Z,24nm,0.8s,baz=272,slow=5.5,SNR=194
PcP **PcP**
ILAR **07 13 47.9 -0.8**
comp=Z,4.7nm,0.8s,baz=314,slow=2.1,SNR=5.3
PKPPKP **P'P'df**
ILAR **07 42 23.1 -2.2**
comp=Z,1.4nm,0.9s,baz=110,slow=1.2,SNR=7.0
PKP2bc
ILAR 07 42 32.1
comp=Z,0.7nm,0.8s,baz=145,slow=2.8,SNR=4.0
HDA Harding Lake 60.99 30 P **P 07 13 06.9 -0.9**
HDA Harding Lake 60.99 30 P **P 07 13 07.2 -0.6**
baz=279,SNR=137
DHY Denali Highway 61.01 31 P **P 07 13 07.7 -0.4**
baz=279,SNR=40
DHY S **S 07 21 09.3 +0.5**
baz=279
PRGR Permogore 61.10 327 *e*P **P 07 13 08.3 -0.2**
PRGR *e* 07 13 47.6
PRGR *e**PP **pP 07 13 58.4 0.0**
PRGR *e* 07 22 33.6
SCM Sheep Creek Mo 61.24 33 P **P 07 13 09.7 +0.1**
baz=280,SNR=65
BLDU Ballidu 61.26 192 P **P 07 13 10.8 +0.9**
PRP Porcupine Dome 61.41 28 IAmb IAmb 07 13 13.0
comp=Z,65nm,0.7s
PRP Porcupine Dome 61.41 28 P **P 07 13 10.4 -0.4**
baz=280,SNR=58
BMAR Burnt Mountain 61.47 26 P **P 07 13 12.2 +1.2**
BMAR **pP 07 14 02.9 +1.9**
FUNA Funafuti 61.53 120 P **P 07 13 11.8 -0.3**
J25K Salcha River, 61.63 29 P **P 07 13 11.0 -1.1**
J25K Salcha River, 61.63 29 P **P 07 13 10.7 -1.4**
baz=280,SNR=28
J25K S **S 07 21 15.7 -0.6**
baz=280
M24K Tolsona, Glenn 61.73 32 P **P 07 13 13.7 +0.9**
M24K Tolsona, Glenn 61.73 32 P **P 07 13 13.6 +0.8**
baz=281,SNR=41
M24K S **S 07 21 19.2 +1.6**
baz=281
BELG Belogornoye 61.86 317 P **P 07 13 14.3 +0.6**
comp=Z,21nm,0.5s,baz=27,slow=1.0,SNR=26
PcP **PcP 07 13 52.7 +0.2**
comp=Z,29nm,0.6s,baz=306,slow=3.6,SNR=9.9
BELG ScP **ScP 07 17 32.6 -0.3**
comp=Z,25nm,1.0s,baz=60,slow=3.3,SNR=4.3
BELG Belogornoye 61.86 317*c i*P **P 07 13 13.8 0.0**
BELG pmax pmax
comp=Z,12nm,1.8s
PAX Paxson 61.88 31 P **P 07 13 13.6 -0.3**
PAX pmax pmax
comp=Z,65nm,1.0s
PAX Paxson 61.88 31 P **P 07 13 13.6 -0.3**
PAX IAmb IAmb 07 13 15.4
comp=Z,65nm,1.0s
PAX Paxson 61.88 31 P **P 07 13 13.9 0.0**
baz=281,SNR=68
KLU Klutina 61.96 33 IAmb IAmb 07 13 16.0
comp=Z,69nm,1.0s
KLU Klutina 61.96 33 P **P 07 13 14.7 +0.3**
baz=281,SNR=40
KLU S **S 07 21 22.3 +1.7**
baz=281
RIDG Independent Ri 62.01 30 P **P 07 13 14.3 -0.4**
RIDG IAmb IAmb 07 13 16.5
comp=Z,141nm,1.2s
RIDG Independent Ri 62.01 30 P **P 07 13 14.4 -0.4**

baz=281,SNR=49
KLBR Kellerberrin 62.03 191 P **P 07 13 15.6 +0.5**
JLN Jalan Bani Buh 62.16 281 P **P 07 13 16.2 0.0**
SNR=5.9
Q23K Middleton Isla 62.17 35 P **P 07 13 16.0 +0.3**
baz=282
EYAK Cordova Ski Ar 62.23 34 P **P 07 13 16.7 +0.6**
baz=282,SNR=14
SCRK Sand Creek 62.34 30 P **P 07 13 16.6 -0.4**
SCRK Sand Creek 62.34 30 P **P 07 13 16.9 -0.1**
baz=282,SNR=134
SCRK S **S 07 21 25.6 +0.2**
baz=282
DOT Dot Lake 62.38 30 P **P 07 13 16.9 -0.2**
LIFNC LIFOU 62.39 139 P **P 07 13 16.8 -0.8**
WSAR Wadi Sarin 62.40 282 P **P 07 13 18.6 +0.8**
comp=Z,16nm,1.0s,baz=99,slow=5.7,SNR=7.3
J26L Joseph Creek 62.41 29 P **P 07 13 17.0 -0.5**
baz=282,SNR=128
STKA Stephens Creek 62.56 168 P **P 07 13 18.8 +0.3**
comp=Z,74nm,0.6s,baz=345,slow=6.8,SNR=182
STKA PcP **PcP 07 13 56.0 +0.5**
comp=Z,24nm,0.7s,baz=339,slow=6.2,SNR=5.3
STKA Stephens Creek 62.56 168 P **P 07 13 18.6 +0.1**
STKA Stephens Creek 62.56 168 P **P 07 13 19.4 +0.9**
N25K Chitina, Valde 62.56 33 P **P 07 13 19.1 +0.7**
baz=282,SNR=30
BBOO Buckleboo 62.69 173 P **P 07 13 19.4 0.0**
BBOO Buckleboo 62.69 173 P **P 07 13 19.6 +0.2**
BMRM Bremer River 62.70 33 P **P 07 13 19.7 +0.4**
BMRM Bremner River 62.70 33 P **P 07 13 19.7 +0.4**
baz=283,SNR=44
L26K Log Cabin Wild 62.82 31 IAmb IAmb 07 13 22.0
comp=Z,98nm,0.9s
L26K Log Cabin Wild 62.82 31 P **P 07 13 20.8 +0.7**
baz=283,SNR=57
L26K S **S 07 21 34.0 +2.8**
baz=283
NOUC Port Laguerre 62.92 141 P **P 07 13 22.3 +1.2**
NOUC Port Laguerre 62.92 141 P **P 07 13 21.4 +0.3**
NOUC pP **pP 07 14 13.4 +2.0**
SMDO Samad 62.96 282 P **P 07 13 22.1 +0.4**
GLB Gilahina Butte 62.96 33 P **P 07 13 21.6 +0.6**
GLB IAmb IAmb 07 13 22.8
comp=Z,97nm,1.0s
DZM Mont Dzumac 62.97 141 *e*P **P 07 13 22.8 +1.2**
comp=Z,555nm,1.2s
DZM Mont Dzumac 62.97 141 P **P 07 13 23.1 +1.5**
DZM Mont Dzumac 62.97 141 P **P 07 13 22.4 +0.8**
DZM pP **pP 07 14 16.6 +4.7**
HMT Hamilton 63.00 34 P **P 07 13 21.8 +0.5**
HMT IAmb IAmb 07 13 23.1
comp=Z,105nm,0.9s
KAIM Kayak Island 63.02 34 P **P 07 13 22.3 +0.9**
KAIM Kayak Island 63.02 34 P **P 07 13 22.2 +0.9**
baz=283
WHYH Whyalla 63.08 172 P **P 07 13 22.6 +0.7**
CMSA Cobar Meteorol 63.09 164 P **P 07 13 23.6 +1.5**
ONTNC Ouen Toro 63.17 141 P **P 07 13 24.0 +1.2**
VRDI Verde Repeater 63.18 33 IAmb IAmb 07 13 24.1
comp=Z,101nm,0.8s
JMDO Jabal Madar 63.19 282 P **P 07 13 23.0 -0.1**
YATNC Mamie plateau, 63.21 140 P **P 07 13 24.7 +1.6**
comp=Z,195nm,1.4s
BERG Berg Lake 63.26 34 P **P 07 13 23.2 +0.3**
NAPP Napperby 63.30 171 P **P 07 13 24.4 +1.0**
SUCK Suckling Hills 63.30 34 IAmb IAmb 07 13 25.3
comp=Z,84nm,0.9s
MCARA McCarthy VSAT 63.34 33 P **P 07 13 23.9 +0.4**
MCARA IAmb IAmb 07 13 25.4
comp=Z,120nm,1.0s
MCARA McCarthy VSAT 63.34 33 P **P 07 13 24.2 +0.7**
baz=284,SNR=45
BANOM Banah 63.35 286 P **P 07 13 24.3 +0.1**
EGAK Eagle 63.37 29 P **P 07 13 23.6 +0.1**
EGAK IAmb IAmb 07 13 24.8
comp=Z,50nm,0.9s
EGAK Eagle 63.37 29 P **P 07 13 23.6 +0.1**
baz=284,SNR=57
HOQ Hoqain 63.39 283 P **P 07 13 24.2 -0.2**
SNR=5.6
SHME Shamm 63.44 286 P **P 07 13 25.6 +1.0**
SHME Shamm 63.44 286 P **P 07 13 27.2 +2.5**
OUENC Ouen Island, N 63.47 141 P **P 07 13 25.6 +0.8**
OUENC Ouen Island, N 63.47 141 P **P 07 13 26.2 +1.5**
L27K Beaver Creek, 63.49 31 IAmb IAmb 07 13 26.7
comp=Z,101nm,1.0s
L27K Beaver Creek, 63.49 31 P **P 07 13 25.4 +1.0**
baz=284
L27K S **S 07 21 41.7 +2.2**
baz=284
BCAR Beaver Creek A 63.51 31 P **P 07 13 25.5 +0.9**
M27K Edge Creek, AK 63.64 31 IAmb IAmb 07 13 27.4
comp=Z,92nm,0.8s
M27K Edge Creek, AK 63.64 31 P **P 07 13 25.9 +0.4**
baz=284
M27K S **S 07 21 43.7 +2.2**
baz=284
HTT Hallett 63.65 171 P **P 07 13 26.2 +0.5**
WAX Waxell Ridge 63.65 34 IAmb IAmb 07 13 27.2
comp=Z,81nm,0.8s
ARMA Armidale 63.71 158 P **P 07 13 27.1 +0.9**
ARMA Armidale 63.71 158 P **P 07 13 27.4 +1.1**
SNH Sunshine Point 63.73 34 IAmb IAmb 07 13 27.9
comp=Z,111nm,0.9s
UOSS Minazif 63.80 285 P **P 07 13 26.7 -0.3**
UOSS Minazif 63.80 285 P **P 07 13 28.6 +1.6**
BSY Bisya 63.81 282 P **P 07 13 28.1 +1.0**
SOHO SOHO 63.83 284 P **P 07 13 27.6 +0.4**
SOHO SOHO 63.83 284 *i* P **P 07 13 28.7 +1.4**
SNR=8.5
MHTO MHTO 63.85 280 P **P 07 13 27.3 -0.1**
SNR=7.2
ISLE Juniper Island 63.86 33 P **P 07 13 27.7 +0.7**
ISLE IAmb IAmb 07 13 28.2
comp=Z,64nm,0.8s
HATD Hatta, Dubai 63.91 285 P **P 07 13 30.2 +2.5**
ASHO Ashiyiah 64.02 285 P **P 07 13 29.0 +0.4**
ASHO Ashiyiah 64.02 285 *i* P **P 07 13 30.1 +1.5**
SNR=6.2
BARN Barnard Glacie 64.06 33 IAmb IAmb 07 13 30.1
comp=Z,56nm,0.8s
BVCY Beaver Creek 64.08 31 P **P 07 13 28.8 +0.5**
baz=285,SNR=20
KLMR Klimovskoe 64.15 327 *e*P **P 07 13 27.2 -1.4**
KLMR *e* 07 14 00.2
KLMR *e**PP **pP 07 14 19.3 +0.3**
KLMR *e* 07 15 48.8
KLMR *e*S **S 07 21 43.6 -3.9**
KLMR pmax pmax
comp=Z,39nm,1.1s
KLMR Klimovskoe 64.15 327 *e*P **P 07 13 27.3 -1.4**
KLMR AMP 07 13 30.8
comp=Z,39nm,1.1s
KLMR *e*PcP **PcP 07 14 00.3 -1.4**
KLMR *e*pP **pP 07 14 19.3 +0.3**
KLMR *e*PP **PP 07 15 48.8 -3.5**
KLMR *e*S **S 07 21 43.7 -3.8**
KLMR *e*S **S 07 21 43.7 -3.8**
ARQ Araqi 64.15 283 P **P 07 13 28.9 -0.4**
ARQ P **P 07 13 28.9 -0.4**
CTG Chitna Glacier 64.24 33 P **P 07 13 29.8 +0.3**
baz=285,SNR=37
CTGM Chitina Glacie 64.24 33 IAmb IAmb 07 13 31.3
comp=Z,108nm,1.0s
DAWY Dawson 64.29 29 P **P 07 13 29.8 +0.2**
DAWY IAmb IAmb 07 13 31.2
comp=Z,52nm,0.9s
DAWY Dawson 64.29 29 P **P 07 13 30.1 +0.4**
baz=286,SNR=50
I29M Ogilvie Camp, 64.39 28 IAmb IAmb 07 13 32.2
comp=Z,100nm,1.0s
I29M Ogilvie Camp, 64.39 28 P **P 07 13 30.7 +0.5**
baz=286,SNR=72
YUK3 Moose Creek 64.43 32 P **P 07 13 31.3 +0.5**
baz=286,SNR=37
LOGN Logan Glacier 64.44 33 P **P 07 13 30.8 0.0**
MAK Makhachkala 64.46 306 *e*P **P 07 13 31.0 0.0**
MAK *e**PP **pP 07 14 19.0 -2.5**
MAK *e**SP **sP 07 14 42.9 -2.5**
MAK *e* 07 15 52.3
MAK *e*PPP PPP 07 17 29.5
MAK *e*S **S 07 21 52.4 +0.4**
MAK *e*SS **SS 07 26 06.1 +0.1**
MAK pmax pmax

comp=Z,177nm,1.3s
TABL Table Mountain 64.47 33 P **P 07 13 31.4 +0.3**
DQM DQM 64.64 279 P **P 07 13 33.2 +0.6**
ASUD Al Ashush, Dub 64.66 285 P **P 07 13 31.7 -0.9**
J29M Klondike Camp 64.67 29 P **P 07 13 33.4 +1.3**
baz=286,SNR=6.8
EPYK Eagle Plains 64.73 26 P **P 07 13 33.0 +0.5**
baz=287,SNR=107
EPYK S **S 07 21 57.3 +2.7**
baz=287
GHSS Government Hou 65.07 171 P **P 07 13 35.8 +1.0**
TWOA Tennyson Woods 65.18 171 P **P 07 13 36.5 +1.0**
KNTN Kanton 65.23 109 P **P 07 13 36.3 -0.1**
KNTN IAmb IAmb 07 13 38.1
comp=Z,73nm,0.8s
KNTN Kanton 65.23 109 P **P 07 13 37.0 +0.6**
INK Inuvik 65.32 24 P **P 07 13 36.5 +0.5**
comp=Z,43nm,0.8s,baz=293,slow=6.5,SNR=154
INK PcP **PcP 07 14 06.2 -0.2**
comp=Z,20nm,1.1s,baz=223,slow=1.4,SNR=5.1
INK Inuvik 65.32 24 IAmb IAmb 07 13 37.7
comp=Z,86nm,1.1s
INK Inuvik 65.32 24 P **P 07 13 36.4 +0.3**
baz=289,SNR=62
INK S **S 07 22 02.6 +1.0**
baz=289
BCPM Bancas Point 65.34 34 IAmb IAmb 07 13 38.5
comp=Z,118nm,0.9s
YUK4 Talbot Arm 65.39 32 P **P 07 13 37.8 +0.9**
baz=287,SNR=46
SPB2 Spitsbergen Ar 65.43 348 IAmb IAmb 07 15 11.6
comp=Z,210nm,1.6s
SPA0 Spitsbergen Ar 65.43 348 *e*P **P 07 13 36.2 -0.5**
SPITS Spitsbergen Ar 65.43 348 P **P 07 13 37.8 +1.1**
SPITS pmax pmax
comp=Z,133nm,1.4s
PNL Peninsula 65.53 34 P **P 07 13 38.6 +0.9**
baz=287,SNR=12
UMZA Um Al Zommool 65.55 283 P **P 07 13 38.9 +0.5**
UMZA P **P 07 13 38.9 +0.5**
GROC Groznyy 65.58 307 *e*P **P 07 13 39.9 +1.7**
GROC *e**PP **pP 07 14 28.0 -0.9**
GROC *e**SP **sP 07 14 50.8 -1.9**
GROC *e* 07 16 05.2
GROC *e*S **S 07 22 10.0 +4.5**
GROC pmax pmax
comp=Z,11nm,0.3s
YUK6 Outpost Mounta 65.64 32 P **P 07 13 39.8 +1.2**
baz=288,SNR=39
YUK6 S **S 07 22 08.8 +2.6**
baz=288
DGAR Diego Garcia 65.67 245*ce*P **P 07 13 40.3 +1.1**
DGAR pmax pmax
comp=Z,379nm,1.7s
DGAR Diego Garcia 65.67 245 P **P 07 13 40.6 +1.5**
DGAR Diego Garcia 65.67 245 P **P 07 13 40.5 +1.3**
VRH Novokhopyorsk 65.71 316 *e*P **P 07 13 39.0 +0.1**
VRH *e* 07 14 08.5
VRH *e**PP **pP 07 14 30.2 +0.7**
VRH pmax pmax
comp=Z,90nm,1.6s
H08S3 Diego Garcia H 65.78 245 P **P 07 13 40.9 +1.3**
baz=112,slow=76,SNR=51
H08S2 Diego Garcia H 65.78 245 P **P 07 13 41.3 +1.8**
baz=112,slow=76,SNR=33
H08S1 Diego Garcia H 65.80 245 P **P 07 13 41.3 +1.6**
baz=112,slow=76,SNR=14
KBS Kingsbay 65.82 349 *e*P **P 07 13 39.0 -0.1**
M30M Minto, Yukon 65.84 30 P **P 07 13 40.6 +0.9**
baz=288
NTLH Newcastle Hard 66.03 159 P **P 07 13 43.2 +2.2**
HYT Haines Junctio 66.08 32 P **P 07 13 42.4 +1.1**
HYT IAmb IAmb 07 13 43.6
comp=Z,88nm,0.9s
HYT Haines Junctio 66.08 32 P **P 07 13 42.4 +1.1**
baz=288,SNR=57
MGCD Mangrove Creek 66.14 160 P **P 07 13 43.5 +1.8**
comp=Z,125nm,0.7s
KEV Kevo 66.32 338 P **P 07 13 41.7 -0.7**
KEV pmax pmax
comp=Z,55nm,1.2s
KEV Kevo 66.32 338 P **P 07 13 41.7 -0.7**
SYDH Sydney Hard Ro 66.54 160 P **P 07 13 46.2 +1.9**
A36M Sachs Harbour 66.60 19 P **P 07 13 44.5 +0.4**
A36M Sachs Harbour 66.60 19 P **P 07 13 44.8 +0.6**
baz=294,SNR=307
A36M S **S 07 22 16.9 0.0**
baz=294
MOS Moscow 66.61 322 *e*P **P 07 13 42.7 -1.8**
MOS *i* *PP **pP 07 14 35.7 +0.4**
MOS *e*S **S 07 22 14.2 -3.3**
MOS *e* 07 23 16.3
MOS pmax pmax
comp=Z,105nm,1.7s
MOS pmax pmax
comp=Z,400nm,2.9s
N31M Braeburn, Yuko 66.65 31 P **P 07 13 46.1 +1.4**
N31M IAmb IAmb 07 13 47.1
comp=Z,122nm,0.9s
N31M Braeburn, Yuko 66.65 31 P **P 07 13 45.8 +1.0**
baz=290,SNR=56
GOF Gofitskoye 66.84 310*i e*P **P 07 13 47.7 +1.5**
MZR Muzera 66.85 284 P **P 07 13 46.9 +0.3**
ARA0 ARCESS Array S 66.89 338 *e*P **P 07 13 47.1 +1.1**
ARCES ARCESS Array B 66.89 338 P **P 07 13 46.0 -0.1**
comp=Z,3.7nm,0.4s,baz=75,slow=7.7,SNR=41
ARCES ScP 07 17 54.2
comp=Z,13nm,0.9s,baz=65,slow=9.0,SNR=5.6
ARCES ARCESS Array B 66.89 338 P **P 07 13 46.2 +0.1**
ARCES pmax pmax
comp=Z,129nm,1.8s
ARCES ARCESS Array B 66.89 338 P **P 07 13 46.2 +0.1**
ARCES IAmb IAmb 07 13 47.0
comp=Z,128nm,1.8s
MSVF Nonsavu 66.90 128*d i* P **P 07 13 48.6 +1.6**
MSVF pmax pmax
comp=Z,248nm,1.0s
MSVF Nonsavu 66.90 128 P **P 07 13 47.0 0.0**
MSVF Nonsavu 66.90 128 P **P 07 13 48.3 +1.3**
MSVF Nonsavu 66.90 128 P **P 07 13 48.8 +1.8**
LPSR Galich'ya Gora 66.91 318 *e*P **P 07 13 46.9 +0.4**
LPSR *e* 07 14 13.8
LPSR *e**PP **pP 07 14 38.6 +1.3**
LPSR pmax pmax
comp=Z,30nm,0.8s
HAMF Hammerfest 67.01 340 *e*P **P 07 13 47.7 +0.9**
M31M Drury Creek, Y 67.02 30 P **P 07 13 47.8 +0.7**
M31M IAmb IAmb 07 13 49.0
comp=Z,61nm,0.9s
M31M Drury Creek, Y 67.02 30 P **P 07 13 48.0 +0.9**
baz=290,SNR=57
ZEI Tsey 67.03 307 *e*P **P 07 13 46.7 -1.0**
ZEI pmax pmax
comp=Z,16nm,0.6s
VORR Voronezh 67.05 317 *e*P **P 07 13 48.5 +1.1**
VORR pmax pmax
comp=Z,60nm,0.4s
SHAO Shalim 67.08 278 P **P 07 13 48.5 +0.3**
VORD Divnogorie 67.24 317 *e*P **P 07 13 46.9 -1.7**
VORD *e* 07 14 14.7
VORD *e**PP **pP 07 14 39.3 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 67.34 304 P **P 07 13 50.1 +0.5**
comp=Z,7.7nm,0.3s,baz=192,slow=0.7,SNR=8.2
GNI Garni 67.34 304 *i* P **P 07 13 51.5 +1.8**
GNI pmax pmax
comp=Z,45nm,1.7s
GNI Garni 67.34 304 P **P 07 13 49.5 -0.2**
WHY Whitehorse 67.35 32 P **P 07 13 50.0 +0.7**
WHY Whitehorse 67.35 32 P **P 07 13 50.2 +1.0**
baz=291,SNR=55
ARPS Mount Arapiles 67.37 169 P **P 07 13 50.3 +0.9**
OBN Obninsk 67.38 322 P **P 07 13 49.5 +0.1**
comp=Z,6.3nm,0.4s,baz=94,slow=1.9,SNR=7.0
OBN pP **pP 07 14 41.0 +0.8**
comp=Z,5.2nm,0.4s,baz=124,slow=2.1,SNR=2.2
OBN Obninsk 67.38 322*ce*P **P 07 13 49.8 +0.4**
OBN *e* 07 14 15.5
OBN *e**PP **pP 07 14 40.6 +0.3**
OBN *e**SP **sP 07 15 04.1 +0.1**
OBN *e* 07 16 17.2
OBN *e*PPP PPP 07 18 02.5
OBN *e*S **S 07 22 24.8 -2.0**
OBN pmax pmax

comp=Z,69nm,1.7s
OBN Obninsk 67.38 322 P **P** **07 13 49.8 +0.4**
OBN IAmb IAmb 07 14 44.1
comp=Z,178nm,1.4s
NOR Nord 67.39 355 *i* P **P** **07 13 47.5 -1.5**
NOR IAmb IAmb 07 13 51.4
comp=Z,6.3nm,0.5s
KBZ Khabaz 67.39 308 P **P** **07 13 50.1 +0.5**
comp=Z,11nm,0.7s,baz=92,slow=6.5,SNR=20
KBZ pP **pP** **07 14 42.2 +1.6**
comp=Z,26nm,0.9s,baz=100,slow=3.2,SNR=3.5
KBZ Khabaz 67.39 308 *ce*P **P** **07 13 49.7 0.0**
KBZ pmax pmax
comp=Z,52nm,1.9s
ONI Oni 67.41 307 P **P** **07 13 51.2 +1.3**
ONI pmax pmax
comp=Z,52nm,1.2s
ONI Oni 67.41 307 P **P** **07 13 51.2 +1.3**
KHOR Al-Khor Airpor 67.45 287 P **P** **07 13 50.5 +0.1**
KIV Kislovodsk 67.46 309 *e*P **P** **07 13 50.6 +0.4**
KIV *e**PP **pP** **07 14 42.6 +1.5**
KIV *e*S **S** **07 22 28.4 +0.1**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,117nm,17.0s
KIV Kislovodsk 67.46 309 P **P** **07 13 50.9 +0.7**
KIV IAmb IAmb 07 14 46.6
comp=Z,108nm,1.1s
KIV Kislovodsk 67.46 309 *i* P **P** **07 13 51.6 +1.3**
SNR=12
FARO Faro, Yukon 67.47 30 P **P** **07 13 50.8 +0.9**
baz=291,SNR=197
CAN Canberra 67.52 162 P **P** **07 13 51.9 +1.4**
SHA1 Shidzhatmaz 67.55 308 *i* P **P** **07 13 49.9 -1.1**
SKAG Skagway 67.56 33 P **P** **07 13 51.4 +1.0**
SKAG IAmb IAmb 07 13 52.8
comp=Z,78nm,0.8s
SKAG Skagway 67.56 33 P **P** **07 13 51.3 +1.0**
baz=291,SNR=31
CNB Canberra Magne 67.61 162 P **P** **07 13 52.5 +1.4**
NEY Neytrino 67.68 308 *i* P **P** **07 13 53.2 +1.5**
NEY pmax pmax
comp=Z,8.0nm,1.3s
AKH Akhalkalaki 67.79 306 ⇓P pP 07 14 46.8 +3.4
DMTO DMTO 67.80 278 P **P** **07 13 53.0 +0.3**
SHMA Al-Shehemyia 67.81 288 P **P** **07 13 53.1 +0.5**
KTK1 Kautokeino 67.84 338 *e*P **P** **07 13 52.0 0.0**
SLWR Sila 67.92 286 P **P** **07 13 53.0 -0.3**
SLWR P **P** **07 13 53.0 -0.3**
TRNA Turayna 68.05 287 P **P** **07 13 53.9 -0.2**
C36M Paulatuk 68.09 21 P **P** **07 13 53.9 +0.3**
baz=296,SNR=232
C36M S **S** **07 22 34.8 +0.1**
baz=296
BESE Bessie Mountai 68.11 34 P **P** **07 13 55.3 +1.4**
BESE IAmb IAmb 07 13 56.2
comp=Z,171nm,1.6s
DOK Doka 68.12 279 P **P** **07 13 55.2 +0.6**
SAKB Bahrain 68.12 288 P **P** **07 13 54.5 0.0**
POHA Pohakuloa 68.21 79 P **P** **07 13 56.2 +0.8**
POHA Pohakuloa 68.21 79 P **P** **07 13 56.7 +1.2**
MMPY Sheldon Lake, 68.22 29 P **P** **07 13 55.8 +1.2**
baz=293,SNR=52
MMPY S **S** **07 22 40.3 +3.6**
baz=293
SIT Sitka 68.43 36 IAmb IAmb 07 13 58.3
comp=Z,84nm,0.8s
SIT Sitka 68.43 36 P **P** **07 13 57.2 +1.3**
baz=292,SNR=9.9
JIS Juneau Island 68.45 34 IAmb IAmb 07 13 58.4
comp=Z,105nm,1.0s
P33M Teslin, Yukon 68.46 32 IAmb IAmb 07 13 58.3
comp=Z,74nm,0.9s
P33M Teslin, Yukon 68.46 32 P **P** **07 13 57.0 +0.8**
baz=292,SNR=40
JETT Jettan, Norway 68.49 339 *e*P **P** **07 13 58.5 +2.4**
BRAT Ballarat 68.50 167 P **P** **07 13 57.5 +1.1**
RBK Rabkut 68.53 278 P **P** **07 13 57.8 +0.6**
SNR=6.2
EUNU Eureka 68.62 6 P **P** **07 13 56.4 -0.4**
WHFO Wadi Hawf 68.72 279 P **P** **07 13 58.6 +0.2**
SNR=9.0
TOO Toolangi 68.84 166 IAmb IAmb 07 14 00.9
comp=Z,167nm,1.2s
TOO Toolangi 68.84 166 P **P** **07 13 59.8 +1.2**
GEXS Deakin Univers 69.20 167 P **P** **07 14 02.8 +2.1**
ABTO Aybut 69.37 279 P **P** **07 14 02.2 -0.3**
SNR=6.2
SOC Sochi 69.60 309 *e*P **P** **07 14 03.3 0.0**
SOC *e**PP **pP** **07 14 54.9 +0.3**
SOC *e* 07 16 35.5
SOC *e*PPP PPP 07 18 16.9
SOC *e*S **S** **07 22 50.4 -2.9**
SOC *e*SS **SS** **07 27 33.5 +8.3**
SOC *e*SSS SSS 07 30 40.6
SOC pmax pmax
comp=Z,32nm,0.5s
TGTN Hyland Airport 69.96 30 P **P** **07 14 06.3 +1.0**
baz=296,SNR=102
FIA1 FINESS Array S 70.04 330 P **P** **07 14 05.2 -0.4**
FINES FINESS Array B 70.04 330 P **P** **07 14 04.8 -0.9**
comp=Z,20nm,0.4s,baz=64,slow=5.4,SNR=98
FINES pP **pP** **07 14 57.0 +0.1**
comp=Z,21nm,0.9s,baz=90,slow=7.6,SNR=3.1
FINES FINESS Array B 70.04 330 P **P** **07 14 05.1 -0.6**
FINES *PP **pP** **07 14 57.1 +0.2**
FINES FINESS Array B 70.04 330 P **P** **07 14 05.1 -0.6**
FINES **pP** **07 14 57.1 +0.2**
CRAG Craig 70.18 37 P **P** **07 14 07.1 +0.5**
baz=294
WRAK Wrangell Islan 70.19 36 P **P** **07 14 07.1 +0.4**
baz=294,SNR=10
WRAK S **S** **07 23 03.0 +3.3**
baz=294
WTLY Watson Lake, Y 70.34 31 P **P** **07 14 08.4 +0.8**
baz=296,SNR=6.1
DLBC Dease Lake 70.49 33 P **P** **07 14 09.9 +1.3**
ANN Anapa 70.65 311 *e*P **P** **07 14 05.6 -4.1**
ANN *e* 07 14 27.2
ANN *e**PP **pP** **07 14 58.9 -2.1**
ANN *e* 07 16 45.4
ANN *e*PPP PPP 07 18 29.4
ANN *e*S **S** **07 22 58.5 -6.9**
ANN pmax pmax
comp=Z,101nm,1.1s
STEI Steigen 70.94 339 *e*P **P** **07 14 10.2 -0.8**
VSU Vasula 71.05 327 *c* *i*P **P** **07 14 12.5 +0.7**
VSU Vasula 71.05 327 *e*P **P** **07 14 13.2 +1.4**
SOCY Socotra 71.09 273 P **P** **07 14 11.4 -1.5**
SOCY IAmb IAmb 07 14 14.6
comp=Z,85nm,0.6s
SOCY Socotra 71.09 273 P **P** **07 14 11.9 -1.0**
SNR=16
FAUS Fauske 71.23 338 *e*P **P** **07 14 12.7 -0.1**
MARD Mardin 71.28 303 IAmb IAmb 07 14 18.1
comp=Z,69nm,0.7s
LOF Lofoten 71.36 339 *e*P **P** **07 14 13.7 +0.2**
DIB Dawson Inlet, 71.47 39 IAmb IAmb 07 14 15.8
comp=Z,129nm,0.9s
H02S1 DAWSON INLET T 71.47 39 P **P** **07 14 15.1 +0.7**
SNR=50
DAG Danmarks Havn 71.76 353 *i* P **P** **07 14 14.0 -1.7**
DAG IAmb IAmb 07 14 32.9
comp=Z,12nm,0.7s
AFI Afiamalu 71.77 119 P **P** **07 14 17.4 +0.6**
AFI pmax pmax
comp=Z,59nm,0.8s
AFI Afiamalu 71.77 119 P **P** **07 14 17.4 +0.6**
AFI IAmb IAmb 07 14 18.8
comp=Z,59nm,0.8s
AFI Afiamalu 71.77 119 P **P** **07 14 18.3 +1.5**
RES Resolute Bay 71.88 11 P **P** **07 14 16.8 +0.3**
comp=Z,72nm,0.7s,baz=308,slow=6.0,SNR=324
RES Resolute Bay 71.88 11 IAmb IAmb 07 14 17.8
comp=Z,87nm,0.8s
RUBB Prince Rupert 72.17 37 P **P** **07 14 18.6 0.0**
MOR8 Moi Rana 72.17 337 *e*P **P** **07 14 17.0 -1.4**
MNK Minsk 72.24 323 *i* P **P** **07 14 17.2 -1.8**
MNK *i**PP **pP** **07 15 10.4 -0.1**
MNK *i* 07 16 59.2
MNK *i* PPP PPP 07 18 44.4
MNK *i* S **S** **07 23 21.4 -1.9**
MNK *i* SS **SS** **07 28 06.6 +1.6**
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,51nm,1.2s
MNK pmax pmax
comp=Z,336nm,12.6s
MNK MLR MLR
comp=N,211nm,13.0s
MNK MLR MLR
comp=Z,336nm,13.0s
MNK MLR MLR
comp=E,65nm,17.0s
MNK Minsk 72.24 323 *i* P **P** **07 14 17.2 -1.8**
comp=E,7.0nm,0.9s
MNK *i* P **P** **07 14 17.2 -1.8**
comp=N,51nm,1.2s,baz=63
MNK *i* P **P** **07 14 17.2 -1.8**
comp=Z,336nm,12.6s
MNK *i* pP **pP** **07 15 10.5 -0.1**
MNK *i* PP **PP** **07 16 59.2 -3.0**
MNK *i* PPP PPP 07 18 44.4
MNK *i* S **S** **07 23 21.4 -1.9**
MNK *i* sS **sS** **07 24 53.3 -0.5**
MNK *i* SS **SS** **07 28 06.6 +1.6**
MNK *i* SSS SSS 07 31 27.4
MNK *i* LRM MLR 07 48 34.9
comp=N,211nm,13.2s
MNK *i* LRM MLR 07 48 44.8
comp=Z,336nm,12.6s
MNK *i* LRM MLR 07 48 47.2
comp=E,65nm,16.8s
MTSE Matsula 72.30 328 *e*P **P** **07 14 20.6 +1.4**
KONS Konsvik 72.43 338 *e*P **P** **07 14 21.1 +1.3**
IDID Didziasalis 72.47 324 *e*P **P** **07 14 21.6 +1.4**
GRNB Grenville Isla 72.54 38 IAmb IAmb 07 14 22.7
comp=Z,101nm,1.0s
HG4B Hotspring 72.56 39 P **P** **07 14 21.3 +0.3**
HG4B IAmb IAmb 07 14 22.4
comp=Z,109nm,1.1s
NACGM Naroch 72.63 324 *i* P **P** **07 14 22.1 +0.9**
ISAL Salakas 72.66 325 *e*P **P** **07 14 22.7 +1.3**
IIGN Ignalina 72.71 324 *e*P **P** **07 14 23.0 +1.3**
NEEM North Greenlan 72.95 0 *i* P **P** **07 14 21.8 -1.4**
NEEM IAmb IAmb 07 14 25.2
comp=Z,38nm,0.4s
AKASG Malin Array Be 73.21 319 P **P** **07 14 24.2 -0.6**
comp=Z,22nm,0.5s,baz=59,slow=6.3,SNR=70
AKASG pP **pP** **07 15 15.8 -0.7**
comp=Z,12nm,0.8s,baz=51,slow=6.3,SNR=3.3
AKASG Malin Array Be 73.21 319 P **P** **07 14 24.2 -0.6**
AKASG **pP** **07 15 17.4 +0.8**
AKBB Malin Array Si 73.21 319 *ce*P **P** **07 14 24.6 -0.2**
AKBB Malin Array Si 73.21 319 IAmb IAmb 07 14 27.2
comp=Z,39nm,0.6s
AAL Aland 73.27 330 *e*P **P** **07 14 24.9 +0.1**
TULEG Thule 73.28 4 *i* P **P** **07 14 23.0 -1.7**
TULEG IAmb IAmb 07 14 24.7
comp=Z,41nm,0.8s
TULEG Thule 73.28 4 IAmb IAmb 07 14 25.3
comp=Z,78nm,0.9s
RAYN Ar Rayn 73.30 288 ⇑P **P** **07 14 26.7 +0.9**
RAYN Ar Rayn 73.30 288 P **P** **07 14 26.2 +0.4**
RAYN Ar Rayn 73.30 288 P **P** **07 14 26.9 +1.0**
RAYN Ar Rayn 73.30 288 *i* P **P** **07 14 27.0 +1.2**
SNR=25
SLIT Slitere, Latvi 73.53 327 *e*P **P** **07 14 27.2 +0.7**
PABE Paberze 73.77 325 IAmb IAmb 07 15 23.1
comp=Z,82nm,1.0s
PABE Paberze 73.77 325 *e*P **P** **07 14 29.2 +1.3**
NSS Namsos 73.97 336 *e*P **P** **07 14 28.7 -0.2**
DBG Daneborg 74.12 352 *i* P **P** **07 14 28.6 -1.0**
DBG IAmb IAmb 07 14 32.3
comp=Z,10nm,0.5s
BNN Bunyan 74.18 306 P **P** **07 14 30.6 -0.2**
BNN IAmb IAmb 07 14 33.4
comp=Z,107nm,1.2s
TAU Tasmania Unive 74.35 166 P **P** **07 14 32.5 +1.3**
TAU pmax pmax
comp=Z,69nm,0.9s
TAU Tasmania Unive 74.35 166 P **P** **07 14 32.5 +1.3**
TAU IAmb IAmb 07 14 33.4
comp=Z,69nm,0.8s
TAU Tasmania Unive 74.35 166 P **P** **07 14 32.6 +1.3**
UPP Uppsala 74.45 331 *e*P **P** **07 14 32.4 +0.6**
PBUR Paburge 74.51 326 *e*P **P** **07 14 33.7 +1.5**
ILGA Ilgaz 74.69 309 P **P** **07 14 34.4 +0.6**
ILGA IAmb IAmb 07 15 30.6
comp=Z,77nm,1.2s
XMAS Kiritimati 74.77 96 P **P** **07 14 34.6 +0.2**
XMAS Kiritimati 74.77 96 P **P** **07 14 35.8 +1.4**
SUW Suwalki 74.91 324 *e*P **P** **07 14 34.8 +0.3**
SUW *e*pP **pP** **07 15 28.0 +1.6**
SUW Suwalki 74.91 324 P **P** **07 14 34.6 +0.1**
SUW pmax pmax
comp=Z,158nm,1.3s
SUW Suwalki 74.91 324 P **P** **07 14 34.6 +0.1**
SUW IAmb IAmb 07 14 36.5
comp=Z,158nm,1.3s
SUW Suwalki 74.91 324 *e*P **P** **07 14 35.3 +0.8**
YKA Yellowknife Ar 74.98 25 P **P** **07 14 35.0 +0.2**
comp=Z,61nm,0.9s,baz=295,slow=5.8,SNR=584
YKA PKiKP **PKiKP** **07 20 22.2 -0.7**
comp=Z,0.9nm,0.6s,baz=306,slow=1.3,SNR=6.2
YKA PKKPbc **PKKPbc** **07 33 54.7 -2.5**
comp=Z,0.5nm,0.6s,baz=125,slow=2.4,SNR=6.5
YKA PKPPKP **P'P'df** **07 41 55.7 -5.7**
comp=Z,0.6nm,1.0s,baz=120,slow=2.3,SNR=4.2
YKA Yellowknife Ar 74.98 25 P **P** **07 14 35.0 +0.2**
YKA **pP** **07 15 29.0 +2.4**
BR131 Keskin Array S 75.34 307 *i* P **P** **07 14 37.8 +0.3**
BR131 Keskin Array S 75.34 307 P **P** **07 14 37.4 0.0**
BRTR Keskin Array B 75.34 307 P **P** **07 14 37.7 +0.3**
comp=Z,23nm,0.7s,baz=100,slow=3.5,SNR=62
BRTR pP **pP** **07 15 29.7 +0.2**
comp=Z,36nm,1.1s,baz=86,slow=4.1,SNR=4.8
BRTR Keskin Array B 75.34 307 P **P** **07 14 37.3 -0.1**
BRTR **pP** **07 15 32.4 +2.9**
TBLU Trondheim 75.35 336 *e*P **P** **07 14 36.9 +0.1**
VIKU Vikbolandet 75.60 330 *e*P **P** **07 14 38.1 -0.2**
ANTO Ankara 75.85 308 P **P** **07 14 42.0 +1.7**
ANTO pmax pmax
comp=Z,32nm,1.0s
ANTO Ankara 75.85 308 P **P** **07 14 42.0 +1.7**
ANTO Ankara 75.85 308 P **P** **07 14 40.4 +0.2**
NC303 NORSAR Array S 76.19 334 IAmb IAmb 07 15 36.5
comp=Z,83nm,1.3s
NB201 NORSAR Array S 76.32 334 IAmb IAmb 07 15 36.5
comp=Z,177nm,1.4s
ASF Jabal al Asfar 76.35 299 P **P** **07 14 43.7 +0.4**
comp=Z,26nm,0.9s,baz=84,slow=1.1,SNR=4.3
NB2 NORSAR Subarra 76.36 334 P **P** **07 14 42.0 -0.7**
comp=Z,20nm,0.7s,baz=51,slow=5.9
NB2 NORSAR Subarra 76.36 334 P **P** **07 14 42.0 -0.7**
baz=51,slow=5.9
NOA NORSAR Array B 76.36 334 P **P** **07 14 42.1 -0.5**
comp=Z,14nm,0.6s,baz=50,slow=5.5,SNR=90
NOA pP **pP** **07 15 34.0 -0.8**
comp=Z,18nm,1.0s,baz=51,slow=5.7,SNR=5.5
NC204 NORSAR Array S 76.39 334 P **P** **07 14 42.6 -0.3**
NC204 IAmb IAmb 07 15 37.7
comp=Z,185nm,1.4s
TPGR Topolog 76.40 314 ⇑P **P** **07 14 44.2 +1.0**
NC602 NORSAR Array S 76.42 333 IAmb IAmb 07 15 37.4
comp=Z,82nm,1.3s
NBO00 NORSAR Array S 76.53 334 P **P** **07 14 43.2 -0.4**
NBO00 IAmb IAmb 07 15 38.5
comp=Z,78nm,1.2s
DOMB Dombas 76.54 335 *e*P **P** **07 14 43.5 -0.2**
LVV L'vov 76.56 320 *e*P **P** **07 14 44.5 +0.5**
NAO01 NORSAR Array S 76.61 334 IAmb IAmb 07 15 38.6
comp=Z,142nm,1.4s
NAO01 NORSAR Array S 76.61 334 *e*P **P** **07 14 44.0 0.0**
TESR Tescani 76.69 316 ⇑P **P** **07 14 45.9 +1.1**
MOL Molde 76.74 336 *e*P **P** **07 14 46.0 +1.3**
VRI Vrincioaia 76.95 315 ⇑P **P** **07 14 48.0 +1.7**
VRI Vrincioaia 76.95 315 ⇑P **P** **07 14 48.0 +1.7**
BUR08 Bucovina Ar. S 76.99 318 P **P** **07 14 47.0 +0.5**
BURAR Bucovina Array 76.99 318 ⇑P **P** **07 14 47.6 +1.0**
BURAR Bucovina Array 76.99 318 P **P** **07 14 47.6 +1.0**
BURAR Bucovina Array 76.99 318 P **P** **07 14 46.7 +0.1**
BURAR **pP** **07 15 41.0 +2.3**
PLOR Plostina 77.01 316 ⇑P **P** **07 14 48.2 +1.6**
PLOR Plostina 77.01 316 ⇑P **P** **07 14 48.2 +1.6**
MMAI Mount Meron Ar 77.10 301 P **P** **07 14 48.2 +0.8**
comp=Z,7.8nm,0.6s,baz=252,slow=7.8,SNR=6.3
OUZ Omahuta 77.19 144 IAmb IAmb 07 14 50.7
comp=Z,188nm,1.4s
AKN Aaknes 77.19 336 *e*P **P** **07 14 47.6 +0.3**
OSL Oslo 77.23 333 *e*P **P** **07 14 47.9 +0.5**
BEL Belsk 77.27 323 *e*P **P** **07 14 49.1 +1.3**
BEL *e*pP **pP** **07 15 42.5 +2.4**
KWP Kalwaria Pacla 77.40 320 *e*P **P** **07 14 50.0 +1.3**
KWP *e*pP **pP** **07 15 43.2 +2.3**
UPNV Upernavik 77.58 2 *i* P **P** **07 14 48.4 -0.8**
UPNV IAmb IAmb 07 14 50.8
comp=Z,80nm,0.5s
MLR Muntele Rosu 77.62 315 ⇑P **P** **07 14 51.3 +1.2**
MLR Muntele Rosu 77.62 315 P **P** **07 14 50.6 +0.5**
comp=Z,7.1nm,0.5s,baz=348,slow=12,SNR=7.7
MLR pP **pP** **07 15 41.1 -1.3**
comp=Z,33nm,1.1s,baz=285,slow=19,SNR=2.0
SKAR Skarslia 77.69 334 *e*P **P** **07 14 51.5 +1.4**
DOPR Dopca 77.72 316 ⇑P **P** **07 14 52.0 +1.5**
CSS Mathiatis 77.73 303 P **P** **07 14 51.1 +0.3**
CSS IAmb IAmb 07 14 55.6
comp=Z,68nm,0.7s
SCO Scoresbysund 77.80 350 *i* P **P** **07 14 49.8 -0.7**
SCO IAmb IAmb 07 14 53.0
comp=Z,23nm,0.5s
DEL Delary 78.02 329 *e*P **P** **07 14 52.8 +0.9**
MSEY Mahe Island 78.11 258 P **P** **07 14 53.8 +0.7**
MSEY pmax pmax
comp=Z,80nm,1.0s
MSEY Mahe Island 78.11 258 P **P** **07 14 53.8 +0.7**
MSEY IAmb IAmb 07 14 56.0
comp=Z,80nm,0.9s
MSEY Mahe Island 78.11 258 P **P** **07 14 54.6 +1.4**
MSEY Mahe Island 78.11 258 *i* P **P** **07 14 54.5 +1.4**
SNR=7.9
UZH Uzhgorod 78.15 320 *e*P **P** **07 14 51.4 -1.4**
UZH *i* 07 14 56.0
UZH *e* 07 15 44.4
HYA Hoyanger 78.16 335 *e*P **P** **07 14 53.2 +0.7**
VOIR 78.19 316 ⇑P **P** **07 14 54.1 +0.9**
VOIR 78.19 316 ⇑P **P** **07 14 54.1 +0.9**
TRPA Tarpa 78.28 319 ⇑P **P** **07 14 54.9 +1.4**
TRPA Tarpa 78.28 319 P **P** **07 14 54.6 +1.1**
GKP Gorka Klasztor 78.30 325 *e*P **P** **07 14 54.4 +0.9**
BSD Bornholm Skovb 78.34 328 *i* P **P** **07 14 53.9 +0.2**
BSD IAmb IAmb 07 14 56.0
comp=Z,37nm,0.7s
BSD Bornholm Skovb 78.34 328 *e*P **P** **07 14 54.1 +0.5**
LLLB Lillooet 78.46 38 IAmb IAmb 07 14 56.3
comp=Z,75nm,1.1s
CRVS Cervenica-Dubn 78.47 320 *e*P **P** **07 14 56.0 +1.4**
CRVS pmax pmax
comp=Z,117nm,1.9s
CRVS Cervenica-Dubn 78.47 320 *e*P **P** **07 14 56.0 +1.4**
CRVS *e*pP **pP** **07 15 48.9 +1.9**
ARR Arges 78.48 316 ⇑P **P** **07 14 55.8 +1.0**
PGC Sidney 78.66 40 P **P** **07 14 56.2 +0.7**
OJC Ojcow 78.67 322 *e*P **P** **07 14 56.5 +0.9**
OJC *e*pP **pP** **07 15 50.4 +2.3**
OJC Ojcow 78.67 322 IAmb IAmb 07 15 51.7
comp=Z,68nm,1.0s
SUE Sulen 78.74 336 *e*P **P** **07 14 56.4 +0.6**
ODD1 Odda 78.83 334 *e*P **P** **07 14 57.0 +0.7**
NIE Niedzica 78.84 321 *e*P **P** **07 14 58.6 +2.0**
NIE *e*pP **pP** **07 15 51.9 +2.9**
ASK Askoy 78.98 335 *e*P **P** **07 14 58.2 +1.2**
EIL Elat 78.98 298 P **P** **07 14 58.5 +0.8**
comp=Z,22nm,0.9s,baz=54,slow=4.5,SNR=9.2
BER Bergen 78.99 335 *e*P **P** **07 14 57.5 +0.4**
A04D Lummi Island 79.04 40 P **P** **07 14 58.0 +0.4**
baz=303
NLWA Neilton Lookou 79.10 41 P **P** **07 14 59.0 +1.0**
NLWA IAmb IAmb 07 15 00.5
comp=Z,128nm,1.2s
HOMB Homborsund 79.18 332 *e*P **P** **07 14 58.4 +0.2**
BLS5 Blasjo 79.22 334 *e*P **P** **07 14 59.8 +1.3**
LANS Liptovska Anna 79.44 321 *e*P **P** **07 15 01.8 +1.9**
LANS pmax pmax
comp=Z,27nm,1.8s
LANS Liptovska Anna 79.44 321 *e*P **P** **07 15 01.8 +1.9**
LANS *e*pP **pP** **07 15 55.6 +3.2**
D03D Eldon 79.47 41 P **P** **07 15 01.4 +1.5**
baz=303,SNR=8.7
B05A Bryant 79.63 40 P **P** **07 15 01.6 +0.8**
baz=303,SNR=10
SNART Snartemo 79.65 333 *e*P **P** **07 15 01.5 +0.8**
GOET G??ttrup 79.68 331 *i* P **P** **07 15 01.1 +0.2**
GOET IAmb IAmb 07 15 02.8
comp=Z,91nm,0.6s
E03A Lebam 79.73 42 IAmb IAmb 07 15 03.5
comp=Z,135nm,1.1s
SIRR Siria 79.77 318 ⇑P **P** **07 15 02.5 +0.8**
B06A Marblemount 79.83 40 IAmb IAmb 07 15 03.5
comp=Z,82nm,1.0s
D04E Lakebay 79.84 41 P **P** **07 15 03.2 +1.3**
baz=303
PSZ Piszkesteto 79.89 320 ⇑P **P** **07 15 03.6 +1.3**
PSZ Piszkesteto 79.89 320 ⇑P **P** **07 15 03.6 +1.3**
PSZ Piszkesteto 79.89 320 P **P** **07 15 03.1 +0.8**
MORC Moravsky Berou 80.13 322 ⇑P **P** **07 15 04.4 +0.9**
MORC Moravsky Berou 80.13 322 ⇑P **P** **07 15 04.4 +0.9**
MORC Moravsky Berou 80.13 322 P **P** **07 15 04.2 +0.7**
MORC Moravsky Berou 80.13 322 *e*P **P** **07 15 04.5 +0.9**
MORC *e*pP **pP** **07 15 58.7 +2.6**
VYHS Vyhne 80.15 321 *e*P **P** **07 15 05.3 +1.6**
VYHS pmax pmax
comp=Z,30nm,1.4s
VYHS Vyhne 80.15 321 *e*P **P** **07 15 05.2 +1.6**
VYHS *e*pP **pP** **07 15 58.6 +2.3**
KSP Ksiaz 80.17 324 *e*P **P** **07 15 04.8 +1.1**
KSP *e*pP **pP** **07 15 58.8 +2.6**
D05A Enumclaw 80.28 41 P **P** **07 15 05.7 +1.3**
D05A IAmb IAmb 07 15 06.8
comp=Z,79nm,1.0s
E04D Cinebar 80.30 42 P **P** **07 15 05.5 +1.1**
E04D IAmb IAmb 07 15 06.8
comp=Z,218nm,1.6s
E04D Cinebar 80.30 42 P **P** **07 15 05.1 +0.7**
baz=303,SNR=5.0
F04D Rainier, OR 80.30 42 P **P** **07 15 05.2 +0.8**
baz=303
KOLL Kolacno 80.34 321 *e*P **P** **07 15 07.2 +2.6**
KRLC Kraliky 80.36 323 *e*P **P** **07 15 04.6 -0.2**
KRLC *e* 07 15 59.6
KRLC Kraliky 80.36 323 *e*P **P** **07 15 04.6 -0.2**
KRLC *e*pP **pP** **07 15 59.6 +2.3**
OSTC Ostas 80.37 323 *e*P **P** **07 15 06.0 +1.2**
HIZ Hauiti 80.38 145 P **P** **07 15 05.9 +1.2**
HIZ Hauiti 80.38 145 P **P** **07 15 06.5 +1.8**
CHVC Chvalec 80.44 323 *e*P **P** **07 15 06.3 +1.1**
CHVC *ex* x 07 15 58.5
DPC Dobruska-Polom 80.44 323 *e*P **P** **07 15 06.6 +1.4**
DPC *e* 07 16 00.3
DPC Dobruska-Polom 80.44 323 *e*P **P** **07 15 06.6 +1.4**
DPC *e*pP **pP** **07 16 00.3 +2.5**
C06D Leavenworth 80.49 40 P **P** **07 15 05.7 +0.3**
baz=304
UPC Upice 80.51 323 *e*P **P** **07 15 06.9 +1.4**
UPC *e* 07 16 00.0
UPC Upice 80.51 323 *e*P **P** **07 15 06.9 +1.4**
UPC *e*pP **pP** **07 16 00.0 +1.9**
KHEZ Kahui Hut 80.57 146 P **P** **07 15 08.4 +2.5**
TLZ Tolley Road 80.58 145 P **P** **07 15 03.4 -2.4**
JAVC Velka Javorina 80.58 321 *e*P **P** **07 15 08.2 +2.2**
JAVC *e*pP **pP** **07 16 02.0 +3.4**
NEZ North Egmont 80.59 146 P **P** **07 15 09.5 +3.5**
BUD Budapest 80.62 320 P **P** **07 15 07.5 +1.4**
G03D McMinnville, O 80.63 43 P **P** **07 15 06.2 0.0**
baz=303
OPRZ Ohinepanea 80.72 144 P **P** **07 15 08.2 +1.6**
F04A Amboy 80.73 42 IAmb IAmb 07 15 08.5
comp=Z,109nm,0.9s
VTS Vitosha 80.77 314 ⇑P **P** **07 15 08.2 +0.9**
VTS Vitosha 80.77 314 ⇑P **P** **07 15 08.2 +0.9**
SRO2 Moca 80.81 320 *e*P **P** **07 15 08.4 +1.3**
SRO2 Moca 80.81 320 *e*P **P** **07 15 08.4 +1.3**
SRO Srobarova 80.83 320 *e*P **P** **07 15 08.5 +1.3**
SRO *e* 07 16 03.9
SRO Srobarova 80.83 320 *e*P **P** **07 15 08.5 +1.3**
SRO *e*pP **pP** **07 16 03.9 +4.0**
VRAC Vranov 80.90 322 *e*P **P** **07 15 08.9 +1.3**
VRAC *e*pP **pP** **07 16 02.8 +2.5**
SMOL Smolenice 80.91 321 *e*P **P** **07 15 09.5 +1.8**

SMOL pmax pmax
comp=Z,27nm,1.4s
SMOL Smolenice 80.91 321 *e*P **P** **07 15 09.5 +1.8**
SMOL *e*pP **pP** **07 16 03.1 +2.8**
LTY Liberty 80.99 40 P **P** **07 15 08.6 +0.4**
ICESG Greenland Ices 80.99 356 *i* P **P** **07 15 07.8 -0.4**
ICESG IAmb IAmb 07 15 10.4
comp=Z,88nm,0.6s
HRRZ Handcock Road 81.00 144 P **P** **07 15 09.6 +1.4**
ATD Arta Tunnel 81.02 278 P **P** **07 15 09.1 +0.2**
comp=Z,22nm,0.6s,baz=34,slow=2.6,SNR=17
ATD *e*P **pP** **07 16 01.9 +0.3**
comp=Z,7.8nm,0.3s,baz=48,slow=4.9,SNR=1.9
ATD Arta Tunnel 81.02 278 IAmb IAmb 07 15 12.7
comp=Z,78nm,1.0s
QRZ Quartz Range 81.08 148 IAmb IAmb 07 15 09.5
comp=Z,58nm,0.7s
QRZ Quartz Range 81.08 148 P **P** **07 15 08.8 +0.4**
B08A Colville Reser 81.10 39 P **P** **07 15 08.9 +0.2**
B08A IAmb IAmb 07 15 10.4
comp=Z,89nm,1.0s
PRRZ Plateau Road 81.14 144 P **P** **07 15 09.7 +0.8**
SOEG Soedalen 81.14 353 *i* P **P** **07 15 08.3 -0.1**
SOEG IAmb IAmb 07 15 10.4
comp=Z,53nm,0.4s
KRUC Moravsky 81.15 322 *e*P **P** **07 15 10.0 +1.1**
KRUC *e*pP **pP** **07 16 03.9 +2.3**
BSEG Bad Segeberg 81.19 328 *e*P **P** **07 15 10.0 +1.0**
comp=Z,58nm,0.8s,baz=50,slow=5.0
WTVZ West Tongariro 81.21 145 P **P** **07 15 10.2 +0.9**
PKVZ Pokaka 81.22 145 P **P** **07 15 10.2 +0.9**
ILULI Ilulissat 81.23 0 *i* P **P** **07 15 08.0 -0.9**
ILULI IAmb IAmb 07 15 09.2
comp=Z,52nm,0.8s
ILULI Ilulissat 81.23 0 IAmb IAmb 07 15 10.1
comp=Z,100nm,0.9s
NNVZ North Ngauruho 81.23 145 P **P** **07 15 10.6 +1.1**
PVCC Panska Ves 81.24 324 *e*P **P** **07 15 12.1 +2.8**
PVCC Panska Ves 81.24 324 *e*P **P** **07 15 12.1 +2.8**
NGZ Ngauruhoe 81.26 145 P **P** **07 15 10.4 +0.8**
TMVZ Te Maari 81.26 145 P **P** **07 15 10.4 +0.8**
ZST Bratislava 81.27 321 *e*P **P** **07 15 12.0 +2.4**
ZST *e* 07 16 04.9
ZST Bratislava 81.27 321 *e*P **pP** **07 16 04.9 +2.6**
ZST *e*pP **pP** **07 16 04.9 +2.6**
ETVZ East Tongariro 81.28 145 P **P** **07 15 10.5 +0.8**
FWVZ Far West T-bar 81.30 145 P **P** **07 15 10.7 +0.8**
F05D White Salmon 81.31 42 P **P** **07 15 11.0 +1.1**
F05D IAmb IAmb 07 15 12.2
comp=Z,181nm,1.8s
F05D White Salmon 81.31 42 P **P** **07 15 10.8 +1.0**
baz=304
H04D Lebanon 81.32 43 P **P** **07 15 11.0 +1.1**
baz=304
URZ Urewera 81.32 144 P **P** **07 15 09.4 -0.4**
TRVZ Turoa 81.33 145 P **P** **07 15 10.8 +0.7**
J01E Myrtle Point 81.34 45 P **P** **07 15 10.9 +1.0**
J01E Myrtle Point 81.34 45 P **P** **07 15 10.8 +0.8**
baz=303
BUCK Buck Mountain 81.35 44 P **P** **07 15 11.4 +1.3**
BRG Berggiesshubel 81.35 324 *i* P **P** **07 15 11.2 +1.3**
BRG Amp 07 15 13.9
comp=Z,63nm,1.5s
BRG pP **pP** **07 16 05.0 +2.3**
BRG Amp 07 16 07.4
comp=Z,27nm,1.3s
BRG Berggiesshubel 81.35 324 *i* P **P** **07 15 11.2 +1.3**
BRG 07 16 04.9
BRG S **S** **07 25 03.0 +1.1**
BRG pmax pmax
comp=Z,63nm,1.5s
BRG pmax pmax
comp=Z,27nm,1.3s
BRG Berggiesshubel 81.35 324 *e*P **P** **07 15 10.8 +0.9**
comp=Z,62nm,1.5s,baz=50,slow=5.0
WNVZ Wahianoa 81.37 145 P **P** **07 15 12.4 +2.2**
I03D Drain, OR 81.40 44 P **P** **07 15 11.5 +1.2**
baz=303,SNR=5.4
WAZ Wanganui 81.40 146 P **P** **07 15 11.3 +1.2**
FRGS Fruska Gora 81.47 317 ⇑P **P** **07 15 10.7 0.0**
MOVZ Moawhango 81.51 145 P **P** **07 15 10.7 -0.1**
HOOD Mount Hood Mea 81.51 42 IAmb IAmb 07 15 13.2
comp=Z,157nm,1.1s
RTZ Ruatahuna 81.53 144 P **P** **07 15 10.8 -0.2**
MORH Mrgy, Hungar 81.55 319 P **P** **07 15 11.2 +0.2**
CLL Collm 81.55 325 ⇓*i*P **P** **07 15 11.7 +0.7**
CLL *i* *PP **pP** **07 16 05.7 +2.0**
CLL *e*S **S** **07 24 58.0 -6.0**
CLL pmax pmax
comp=Z,52nm,0.7s
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 81.55 325 P **P** **07 15 11.2 +0.2**
CLL IAmb IAmb 07 15 14.6
comp=Z,107nm,1.3s
CLL Collm 81.55 325 ⇓*i*P **P** **07 15 11.7 +0.7**
comp=Z,52nm,0.7s
CLL *i* pP **pP** **07 16 05.7 +2.0**
CLL *e*sP **sP** **07 16 24.0 -3.0**
CLL *e*S **S** **07 24 58.0 -6.0**
CLL *e*PS **PnS** **07 26 17.0 -5.6**
CLL *e*sS **sS** **07 26 36.0 -0.6**
CLL *e*SS **SS** **07 30 24.0 -1.0**
CLL *e*sSS 07 31 42.0
CLL *i* PKKPbc **PKKPbc** **07 33 42.7 +0.1**
comp=Z,6.0nm,0.8s
CLL *e*SSSS 07 36 42.0
CLL Collm 81.55 325 *e*P **P** **07 15 11.8 +0.9**
comp=Z,52nm,0.7s,baz=50,slow=5.0
H04A Detroit Lake 81.56 43 P **P** **07 15 11.9 +0.7**
H04A IAmb IAmb 07 15 12.9
comp=Z,74nm,1.0s
PRU Pruhonice 81.58 324 *e*P **P** **07 15 11.8 +0.7**
PRU *e* 07 16 06.0
PRU Pruhonice 81.58 324 *e*P **P** **07 15 11.8 +0.7**
PRU *e*pP **pP** **07 16 06.0 +2.1**
EGYH Egyhazaskeszo 81.60 320 P **P** **07 15 12.5 +1.2**
FBE Freiberg 81.61 325 *e*P **P** **07 15 12.5 +1.2**
comp=Z,110nm,1.3s,baz=50,slow=5.0
MPLH Magyarpolny 81.62 320 P **P** **07 15 12.5 +1.0**
MRNZ Matariki Terra 81.64 148 P **P** **07 15 10.9 -0.5**
BKZ Black Stump Fm 81.70 145 IAmb IAmb 07 15 13.4
comp=Z,151nm,1.3s
BKZ Black Stump Fm 81.70 145 P **P** **07 15 11.5 -0.2**
BKZ Black Stump Fm 81.70 145 P **P** **07 15 11.6 -0.2**
DUWZ D'Urville Isla 81.71 147 P **P** **07 15 11.8 0.0**
BHHZ Black Hill Sta 81.73 145 P **P** **07 15 11.8 -0.1**
G05D Wamic, OR 81.75 42 P **P** **07 15 13.1 +0.9**
baz=304,SNR=6.8
K02D Willamette Mer 81.75 45 P **P** **07 15 13.1 +0.7**
baz=303,SNR=7.2
FLTG Flechtingen 81.78 327 *e*P **P** **07 15 12.8 +0.7**
comp=Z,308nm,1.9s,baz=50,slow=5.0
NNZ Nelson 81.78 148 IAmb IAmb 07 15 12.4
comp=Z,87nm,0.9s
NNZ Nelson 81.78 148 P **P** **07 15 12.1 0.0**
RAHZ Arahi 81.81 144 P **P** **07 15 13.0 +0.6**
E07A Sunnyside 81.84 41 P **P** **07 15 13.6 +1.0**
E07A IAmb IAmb 07 15 14.8
comp=Z,83nm,0.9s
KARP Karpathos 81.85 306 IAmb IAmb 07 15 18.3
comp=Z,154nm,1.0s
I04A Tendick Farm, 81.92 44 P **P** **07 15 13.5 +0.4**
baz=304,SNR=11
KOVH Kovagotottos 81.93 319 P **P** **07 15 14.3 +1.3**
THZ Tophouse 81.99 148 IAmb IAmb 07 15 13.3
comp=Z,66nm,0.8s
KRHZ Kereru 82.00 145 P **P** **07 15 13.2 -0.1**
C09A Chrisman Ranch 82.00 39 IAmb IAmb 07 15 15.2
comp=Z,93nm,1.1s
FOZ Fox Glacier 82.07 151 P **P** **07 15 13.8 +0.2**
FOZ IAmb IAmb 07 15 14.8
comp=Z,74nm,1.0s
D08A Wollman Farm, 82.08 40 P **P** **07 15 14.5 +0.6**
D08A IAmb IAmb 07 15 15.6
comp=Z,94nm,1.0s
L02E Cave Junction 82.09 46 P **P** **07 15 14.8 +0.8**
baz=303
CONA Conrad Observa 82.11 321 *i* P **P** **07 15 15.6 +1.5**
comp=Z,45nm,0.9s,SNR=23
CONA *e*P **pP** **07 16 10.3 +3.4**
comp=Z,42nm,1.2s
TSZ Takapari Road 82.11 145 P **P** **07 15 13.5 -0.4**
PNHZ Pukenui 82.12 145 P **P** **07 15 13.8 -0.2**

HAWA Hanford 82.12 41 IAmb IAmb 07 15 16.1
comp=Z,65nm,0.8s
ASSE Asse, Remlinge 82.17 327 *e*P **P** **07 15 15.0 +0.9**
comp=Z,128nm,1.7s,baz=50,slow=5.0
F07A Phinny Hill Vi 82.19 41 IAmb IAmb 07 15 16.6
comp=Z,84nm,0.9s
KNZ Kokohu 82.19 144 P **P** **07 15 14.4 +0.1**
NRDL Niedersach Rie 82.20 327 *e*P **P** **07 15 15.1 +0.8**
comp=Z,82nm,1.4s,baz=50,slow=5.0
NEUB Neuenburg 82.22 326 *e*P **P** **07 15 15.6 +1.2**
comp=Z,142nm,0.9s,baz=50,slow=5.0
KIW Kapiti Island 82.22 147 P P 07 15 06.1 -8.3
HUMO Hull Mountain 82.24 45 P **P** **07 15 16.3 +1.5**
HUMO IAmb IAmb 07 15 17.4
comp=Z,232nm,1.9s
I05D Terrebonne, OR 82.25 43 P **P** **07 15 15.7 +0.9**
baz=304,SNR=18
POWZ Post Office Ro 82.27 146 P **P** **07 15 15.0 +0.3**
OGWZ Otaki Gorge 82.31 146 P **P** **07 15 14.5 -0.3**
E08A Dider Farm, El 82.33 40 IAmb IAmb 07 15 17.1
comp=Z,69nm,0.9s
NEW Newport 82.35 38 P **P** **07 15 15.4 +0.2**
NEW pmax pmax
comp=Z,90nm,0.9s
NEW Newport 82.35 38 P **P** **07 15 15.4 +0.2**
NEW IAmb IAmb 07 15 17.0
comp=Z,90nm,0.9s
NEW Newport 82.35 38 P **P** **07 15 15.8 +0.6**
baz=307,SNR=52
WPHZ Waipukurau 82.36 145 P **P** **07 15 15.2 +0.1**
TANN Tannenbergstha 82.37 325 *e*P **P** **07 15 16.2 +0.9**
comp=Z,93nm,1.8s,baz=50,slow=5.0
MRZ Mangatainoka R 82.39 146 P **P** **07 15 14.9 -0.4**
RETH Rethem/Aller, 82.40 328 *e*P **P** **07 15 16.2 +0.9**
comp=Z,101nm,1.2s,baz=50,slow=5.0
DVHZ Dannevirke 82.40 146 P **P** **07 15 15.0 -0.4**
CKRC Cesky Krumlov 82.40 323 *e*P **P** **07 15 16.4 +0.9**
CKRC *ex* x 07 16 10.9
J04D Umpqua Nationa 82.41 44 P **P** **07 15 16.9 +1.1**
baz=304,SNR=13
MHGZ Mata Peninsul 82.41 144 P **P** **07 15 15.9 +0.5**
WERD Werda 82.43 325 *e*P **P** **07 15 16.5 +0.9**
comp=Z,41nm,1.0s,baz=50,slow=5.0
GUNZ Gunzen 82.47 325 *e*P **P** **07 15 16.9 +1.0**
comp=Z,220nm,2.0s,baz=50,slow=5.0
SNZO South Karori 82.47 147 P **P** **07 15 15.4 -0.2**
SNZO IAmb IAmb 07 15 15.7
comp=Z,103nm,0.8s
PLN Plauen 82.48 325 *e*P **P** **07 15 16.7 +0.9**
comp=Z,45nm,1.1s,baz=50,slow=5.0
CAW Cannon Point 82.49 147 P P 07 15 10.1 -5.7
NKC Novy Kostel 82.49 325 *e*P **P** **07 15 17.1 +1.2**
NKC Novy Kostel 82.49 325 *e*P **P** **07 15 17.1 +1.2**
WERN Wernitzgruen 82.50 325 *e*P **P** **07 15 17.1 +1.2**
comp=Z,66nm,1.0s,baz=50,slow=5.0
CLZ Clausthal 82.50 327 *e*P **P** **07 15 17.3 +1.4**
comp=Z,167nm,1.1s,baz=50,slow=5.0
PRWZ Pori Road 82.50 146 P **P** **07 15 15.8 0.0**
HOWZ Holdsworth Sta 82.54 146 P **P** **07 15 15.5 -0.6**
KHC Kasperske Hory 82.59 323 *d* iP **P** **07 15 17.0 +0.5**
KHC pmax pmax
comp=Z,49nm,0.9s
KHC Kasperske Hory 82.59 323 *e*P **P** **07 15 17.4 +0.9**
KHC *e*pP **pP** **07 16 11.3 +1.9**
TIWZ Tintock 82.63 146 P **P** **07 15 15.3 -1.2**
BHW Baring Head 82.63 147 P **P** **07 15 15.5 -0.9**
BHW Baring Head 82.63 147 P **P** **07 15 16.0 -0.5**
MOX Moxa 82.65 325 *e*P **P** **07 15 17.7 +1.0**
comp=Z,148nm,1.9s,baz=50,slow=5.0
ANWZ Angora Road 82.67 145 P **P** **07 15 16.7 0.0**
ARSA Arzberg 82.69 321 *i* P **P** **07 15 18.5 +1.5**
comp=Z,17nm,0.7s,SNR=12
ARSA *e*P **pP** **07 16 12.3 +2.4**
comp=Z,26nm,1.5s
GEC2 GERESS Array S 82.71 323 *e*P **P** **07 15 18.1 +0.9**
comp=Z,39nm,1.0s,baz=50,slow=5.0
GERES GERESS Array B 82.71 323 P **P** **07 15 17.8 +0.6**
comp=Z,12nm,0.7s,baz=46,slow=6.1,SNR=73
GERES PKKPbc **PKKPbc** **07 33 39.9 -0.2**
comp=Z,3.9nm,1.0s,baz=225,slow=1.2,SNR=11
GERES GERESS Array B 82.71 323 P **P** **07 15 17.7 +0.6**
GERES *PP **pP** **07 16 12.4 +2.4**
GERES GERESS Array B 82.71 323 P **P** **07 15 17.7 +0.5**
GERES **pP** **07 16 12.4 +2.4**
BFZ Birch Farm 82.73 146 P **P** **07 15 16.8 -0.2**
BFZ Birch Farm 82.73 146 P **P** **07 15 17.0 0.0**
MTW Mount Morrison 82.73 146 P **P** **07 15 16.5 -0.6**
KHZ Kahutara 82.80 148 IAmb IAmb 07 15 17.3
comp=Z,78nm,0.8s
MANZ Manzenberg 82.82 325 *e*P **P** **07 15 18.7 +1.0**
comp=Z,12nm,1.1s,baz=50,slow=5.0
E09A Wood Farm, Sta 82.83 40 IAmb IAmb 07 15 19.8
comp=Z,107nm,1.1s
OXZ Oxford 82.85 150 IAmb IAmb 07 15 18.4
comp=Z,59nm,0.7s
L04D Klamath Falls 82.86 45 P **P** **07 15 18.5 +0.4**
baz=304,SNR=21
PAWZ Paruaai Farm 82.87 147 P **P** **07 15 17.4 -0.4**
YBH Yreka Blue Hor 82.88 46 P **P** **07 15 18.7 +0.5**
YBH pmax pmax
comp=Z,59nm,1.0s
YBH Yreka Blue Hor 82.88 46 P **P** **07 15 18.7 +0.5**
GTTG Gottingen 82.88 327 *e*P **P** **07 15 19.2 +1.3**
comp=Z,120nm,0.9s,baz=50,slow=5.0
TMWZ Te Maipa 82.88 146 P **P** **07 15 17.7 -0.1**
MLZ Mavora Lakes 82.90 153 IAmb IAmb 07 15 19.9
comp=Z,107nm,1.7s
ROTZ Rotzenmuhle 82.91 324 *e*P **P** **07 15 19.4 +1.4**
comp=Z,22nm,1.2s,baz=50,slow=5.0
J05D Fort Rock, OR 82.91 44 P **P** **07 15 19.6 +1.2**
baz=305,SNR=25
LBZ Lake Benmore 82.92 152 IAmb IAmb 07 15 19.5
comp=Z,89nm,1.0s
FNA Florina 82.94 313 P **P** **07 15 17.6 -0.8**
FNA pmax pmax
comp=Z,92nm,1.8s
FNA Florina 82.94 313 P **P** **07 15 17.6 -0.8**
PLWZ Palliser 82.94 147 P **P** **07 15 17.7 -0.4**
WET Wettzell 82.95 324 *e*P **P** **07 15 19.5 +1.2**
comp=Z,43nm,1.3s,baz=50,slow=5.0
K04D Chiloquin, OR 82.97 45 P **P** **07 15 19.6 +0.9**
baz=304,SNR=12
M02C Callahan 82.98 46 P **P** **07 15 20.0 +1.3**
baz=304,SNR=17
TRWZ Traveller 83.01 147 P **P** **07 15 18.4 0.0**
MOA Molln 83.01 322 *i* P **P** **07 15 20.2 +1.5**
comp=Z,48nm,1.1s,SNR=13
MOA *e*P **pP** **07 16 14.9 +3.3**
comp=Z,27nm,1.2s
PYZ Puysegur Point 83.03 155 IAmb IAmb 07 15 20.5
comp=Z,135nm,1.0s
G08A Pilot Rock 83.09 41 P **P** **07 15 19.6 +0.4**
WHZ Wether Hill Ro 83.27 154 P **P** **07 15 19.1 -0.6**
PERS Pernice 83.28 321 *e*P **P** **07 15 20.8 +0.7**
N02D Trinity Center 83.30 46 P **P** **07 15 21.2 +0.9**
baz=304,SNR=6.9
SOKA Soboth 83.30 321 *i* P **P** **07 15 21.3 +1.1**
comp=Z,67nm,1.2s,SNR=15
SOKA *e*P **pP** **07 16 17.6 +4.4**
comp=Z,56nm,1.4s
PDG Podgorica 83.33 315 ⇑P **P** **07 15 21.3 +1.0**
UBBA Unterbreizbach 83.33 326 *e*P **P** **07 15 21.2 +1.2**
comp=Z,230nm,1.7s,baz=50,slow=5.0
M04C Macdoel 83.39 45 P **P** **07 15 20.9 +0.1**
M04C Macdoel 83.39 45 P **P** **07 15 21.3 +0.4**
baz=304,SNR=37
IBBN Ibbenburen 83.42 328 *e*P **P** **07 15 21.5 +0.9**
comp=Z,332nm,1.6s,baz=50,slow=5.0
MQZ McQueen's Vall 83.43 150 IAmb IAmb 07 15 21.7
comp=Z,77nm,1.0s
K05A Summer Lake 83.43 44 IAmb IAmb 07 15 23.5
comp=Z,130nm,1.0s
BIOA Bad Ischl, Aus 83.44 322 *e*P **P** **07 15 22.4 +1.5**
comp=Z,62nm,1.2s
BIOA *e*P **pP** **07 16 18.3 +4.5**
comp=Z,44nm,1.4s
GRA1 Grafenberg Arr 83.45 325 IAmb IAmb 07 15 23.4
comp=Z,139nm,1.2s
GRF Grafenberg A 83.45 325 *e*P **P** **07 15 22.2 +1.4**
comp=Z,719nm,2.4s,baz=50,slow=5.0
GRFO Grafenberg 83.45 325 P **P** **07 15 22.5 +1.7**
GRFO pmax pmax
comp=Z,152nm,1.3s
GRFO Grafenberg 83.45 325 P **P** **07 15 22.5 +1.7**
GRFO IAmb IAmb 07 15 23.3
comp=Z,152nm,1.3s

GRFO Grafenberg 83.45 325 P **P** **07 15 21.8 +0.9**
GRFO pP **pP** **07 16 16.8 +3.0**
SFJD Kangerlussuaq 83.45 360 P **P** **07 15 20.1 -0.3**
SFJD pmax pmax
comp=Z,130nm,0.8s
SFJD Kangerlussuaq 83.45 360 *i* P **P** **07 15 19.0 -1.4**
SFJD IAmb IAmb 07 15 20.7
comp=Z,55nm,0.7s
SFJD Kangerlussuaq 83.45 360 P **P** **07 15 20.1 -0.3**
WALA Waterton Lakes 83.54 36 P **P** **07 15 22.2 +0.7**
WALA IAmb IAmb 07 15 23.5
comp=Z,135nm,1.3s
IDI Anoyia 83.56 307 ⇑P **P** **07 15 22.7 +0.9**
IDI Anoyia 83.56 307 P **P** **07 15 21.7 -0.1**
comp=Z,17nm,0.4s,baz=6.9,slow=5.0,SNR=25
IDI Anoyia 83.56 307 IAmb IAmb 07 15 27.6
comp=Z,234nm,1.9s
BIGH Upper Bighouse 83.62 337 *e*P **P** **07 15 21.4 -0.1**
WDC Whiskeytown Da 83.63 47 IAmb IAmb 07 15 23.7
comp=Z,61nm,0.9s
F10A Beach Ranch, E 83.66 40 P **P** **07 15 22.8 +0.7**
OBKA Obir 83.67 321 *e*P **P** **07 15 23.1 +1.0**
comp=Z,21nm,0.6s
OBKA *e*P **pP** **07 16 10.6 -4.5**
comp=Z,23nm,1.1s
O02D Mt. Diablo Mer 83.69 47 IAmb IAmb 07 15 24.6
comp=Z,71nm,0.8s
O02D Mt. Diablo Mer 83.69 47 P **P** **07 15 23.5 +1.1**
baz=304,SNR=12
KASTN Kahler Asten 83.84 327 *e*P **P** **07 15 23.9 +1.1**
comp=Z,157nm,1.6s,baz=50,slow=5.0
DY2G Dye2 83.91 358 *i* P **P** **07 15 22.4 -0.7**
DY2G IAmb IAmb 07 15 23.6
comp=Z,103nm,0.7s
KBA Koelnbreinsper 83.98 322 *i* P **P** **07 15 25.5 +1.7**
comp=Z,47nm,0.6s,SNR=18
KBA *e*P **pP** **07 16 20.0 +3.2**
comp=Z,32nm,1.1s
GBAS Gorenja Brezov 84.08 320 *e*P **P** **07 15 24.1 0.0**
MCD Coleburn Disti 84.09 336 *e*P **P** **07 15 23.6 -0.3**
MYKA Terra Mystica 84.09 321 *i* P **P** **07 15 24.9 +0.7**
comp=Z,23nm,0.6s,SNR=13
MYKA *e*P **pP** **07 16 20.0 +2.7**
comp=Z,32nm,1.2s
JTMT Jette 84.17 37 IAmb IAmb 07 15 26.8
comp=Z,104nm,1.2s
BUG Bochum--Univer 84.22 328 *e*P **P** **07 15 25.4 +0.8**
comp=Z,244nm,1.8s,baz=50,slow=5.0
O03E Paynes Creek 84.25 47 IAmb IAmb 07 15 26.5
comp=Z,86nm,1.1s
O03E Paynes Creek 84.25 47 P **P** **07 15 24.8 -0.4**
baz=305,SNR=7.9
MOD Modoc Plateau 84.26 45 IAmb IAmb 07 15 27.3
comp=Z,100nm,0.8s
ANGG Ammassalik, Gr 84.27 354 *i* P **P** **07 15 22.6 -2.0**
ANGG IAmb IAmb 07 15 26.2
comp=Z,30nm,0.8s
ANGG Ammassalik, Gr 84.27 354 P **P** **07 15 24.1 -0.5**
BMO Blue Mountains 84.29 41 P **P** **07 15 26.0 +0.7**
BMO pmax pmax
comp=Z,83nm,1.1s
BMO Blue Mountains 84.29 41 P **P** **07 15 26.0 +0.7**
BMO IAmb IAmb 07 15 27.1
comp=Z,83nm,1.1s
LINV Loch Inver, As 84.32 338 *e*P **P** **07 15 24.6 -0.4**
DRUM Mains of Drumt 84.33 336 *e*P **P** **07 15 24.7 -0.4**
DRUM IAmb IAmb 07 15 26.7
comp=Z,51nm,0.6s
FUR Furstenfeldbru 84.39 323 *e*P **P** **07 15 26.9 +1.3**
comp=Z,579nm,2.0s,baz=50,slow=5.0
ISOG Isortoq, Green 84.45 355 *i* P **P** **07 15 24.4 -1.1**
ISOG IAmb IAmb 07 15 26.5
comp=Z,31nm,0.5s
GDXM Geysers 84.45 48 IAmb IAmb 07 15 28.5
comp=Z,82nm,1.0s
TNS Taunus Mts 84.47 326 *e*P **P** **07 15 26.9 +0.9**
comp=Z,72nm,1.4s,baz=50,slow=5.0
J08A Circle Bar Ran 84.51 43 P **P** **07 15 27.7 +1.3**
ITM Ithomi 84.56 310 IAmb IAmb 07 15 28.8
comp=Z,75nm,0.7s
MDO Dochfour 84.59 337 *e*P **P** **07 15 25.8 -0.6**
ABTA Abfaltersbach 84.63 322 *i* P **P** **07 15 27.8 +0.9**
comp=Z,45nm,0.8s,SNR=10
ABTA *i* P **pP** **07 16 20.6 +0.6**
comp=Z,57nm,1.2s,SNR=5.6
FCC Fort Churchill 84.73 21 P **P** **07 15 26.7 -0.3**
FCC pmax pmax
comp=Z,95nm,0.9s
FCC Fort Churchill 84.73 21 P **P** **07 15 26.6 -0.3**
FCC IAmb IAmb 07 15 28.0
comp=Z,95nm,0.8s
WATA Walderalm 84.76 323 *i* P **P** **07 15 29.2 +1.5**
comp=Z,12nm,0.7s,SNR=5.2
WATA *e*P **pP** **07 16 22.4 +1.6**
comp=Z,28nm,1.1s
WTTA Wattenberg 84.78 323 *i* P **P** **07 15 29.5 +1.7**
comp=Z,19nm,0.6s,SNR=11
WTTA *i* P **pP** **07 16 22.2 +1.3**
comp=Z,46nm,1.1s,SNR=6.3
EDU Dundee 84.80 336 *e*P **P** **07 15 27.2 -0.2**
KAC Achnashellach 84.86 337 *e*P **P** **07 15 27.0 -0.7**
ORV Oroville 84.86 47 P **P** **07 15 28.3 +0.2**
ORV pmax pmax
comp=Z,69nm,0.8s
ORV Oroville 84.86 47 P **P** **07 15 28.3 +0.2**
ORV IAmb IAmb 07 15 29.3
comp=Z,69nm,0.8s
LEWI Lewis, Hebride 84.87 338 *e*P **P** **07 15 27.6 -0.1**
LEWI IAmb IAmb 07 15 28.1
comp=Z,38nm,0.8s
PLID Pearl Lake 84.89 40 P **P** **07 15 28.4 -0.1**
AHRW Bad Neuenahr-A 84.92 327 *e*P **P** **07 15 29.4 +1.2**
comp=Z,68nm,1.1s,baz=50,slow=5.0
MSO Missoula 84.93 38 IAmb IAmb 07 15 29.9
comp=Z,74nm,1.1s
MSO Missoula 84.93 38 P **P** **07 15 28.7 +0.2**
baz=309
WVOR Wild Horse Val 84.96 43 P **P** **07 15 29.0 +0.3**
WVOR pmax pmax
comp=Z,65nm,1.0s
WVOR Wild Horse Val 84.96 43 P **P** **07 15 28.9 +0.3**
WVOR IAmb IAmb 07 15 30.8
comp=Z,65nm,0.9s
MOTA Moosalm 85.00 323 *i* P **P** **07 15 29.2 +0.3**
comp=Z,14nm,0.7s,SNR=7.6
MOTA *e*P **pP** **07 16 22.2 +0.2**
comp=Z,28nm,1.0s
SQTA Sankt Quirin 85.03 323 *i* P **P** **07 15 29.4 +0.5**
comp=Z,4.9nm,0.4s,SNR=6.2
SQTA *e*P **pP** **07 16 23.7 +1.5**
comp=Z,29nm,1.2s
STU Stuttgart 85.06 325 *e*P **P** **07 15 29.6 +0.7**
baz=50,slow=5.0
FFC Flin Flon 85.07 27 P **P** **07 15 28.6 -0.2**
FFC pmax pmax
comp=Z,170nm,0.9s
FFC Flin Flon 85.07 27 P **P** **07 15 28.6 -0.2**
FFC Flin Flon 85.07 27 P **P** **07 15 29.0 +0.2**
FFC pP **pP** **07 16 22.0 +0.1**
RETA Reutte 85.09 323 *i* P **P** **07 15 30.3 +1.1**
comp=Z,17nm,1.3s,SNR=6.0
RETA *e*P **pP** **07 16 23.9 +1.6**
comp=Z,27nm,1.3s
KPL Plockton 85.10 337 *e*P **P** **07 15 28.5 -0.4**
KPL IAmb IAmb 07 15 30.9
comp=Z,85nm,0.5s
ESY Stoneypath 85.13 335 *e*P **P** **07 15 28.8 -0.4**
RAR Rarotonga 85.29 118 P **P** **07 15 32.2 +1.9**
RAR pmax pmax
comp=Z,127nm,1.2s
RAR Rarotonga 85.29 118 P **P** **07 15 32.2 +1.9**
RAR IAmb IAmb 07 15 33.7
comp=Z,127nm,1.2s
RAR Rarotonga 85.29 118 P **P** **07 15 31.7 +1.3**
UBR Ueberruh 85.31 324 *e*P **P** **07 15 30.5 +0.3**
comp=Z,62nm,1.5s,baz=50,slow=5.0
BTNL Ternell 85.33 327 *d*P **P** **07 15 30.7 +0.4**
BTNL *dp*P **pP** **07 16 26.0 +2.6**
MEM Membach 85.37 328 *d*P **P** **07 15 30.7 +0.3**
MEM *d*PcP **PcP** **07 15 32.6 -0.5**
MEM *dp*P **pP** **07 16 26.0 +2.4**
BEBN Eben Emael 85.40 328 *d*P **P** **07 15 31.3 +0.8**
BEBN *dp*P **pP** **07 16 26.2 +2.5**
EBL Broad Law 85.40 335 *e*P **P** **07 15 30.3 -0.1**
BEKR Beckworth 85.41 46 P **P** **07 15 31.3 +0.3**
BEKR IAmb IAmb 07 15 32.6

comp=Z,102nm,0.9s
FETA Feichten 85.41 323 *e*P **P** 07 15 30.3 -0.6
comp=Z,15nm,0.7s
FETA *i* P **pP** 07 16 23.6 -0.6
comp=Z,36nm,1.2s,SNR=5.9
CTI Castel Tesino 85.54 322 P **P** 07 15 31.1 -0.4
CTI pmax pmax
comp=Z,86nm,1.3s
CTI Castel Tesino 85.54 322 P **P** 07 15 31.1 -0.4
CTI IAmb IAmb 07 16 27.2
comp=Z,86nm,1.3s
BHOU Houvegnez 85.55 327 *d*P **P** 07 15 32.0 +0.7
BHOU *d*pP **pP** 07 16 27.0 +2.5
GDLE Glaisdale, N Y 85.58 333 *e*P **P** 07 15 31.2 -0.1
BSTI Sart Tilman 85.59 328 *d*P **P** 07 15 32.2 +0.7
BSTI *d*pP **pP** 07 16 27.0 +2.3
DAVA Damuels 85.68 323 *i* P **P** 07 15 32.9 +0.7
comp=Z,10nm,0.7s,SNR=6.9
DAVA *i* P **pP** 07 16 27.8 +2.3
comp=Z,45nm,0.9s,SNR=6.7
EDMD Edmundbyers 85.71 334 *e*P **P** 07 15 31.4 -0.6
EDMD IAmb IAmb 07 15 33.4
comp=Z,44nm,0.5s
BFO Black Forest 85.78 325 P **P** 07 15 33.0 +0.5
BFO pmax pmax
comp=Z,93nm,1.4s
BFO Black Forest 85.78 325 P **P** 07 15 33.0 +0.5
BFO IAmb IAmb 07 16 29.1
comp=Z,93nm,1.4s
BFO Black Forest 85.78 325 *e*P **P** 07 15 32.6 +0.1
comp=Z,94nm,2.1s,baz=50,slow=5.0
BFO *e*pP **pP** 07 16 28.0 +2.2
ESK Eskdalemuir 85.81 335 *e*P **P** 07 15 32.0 -0.5
ESK IAmb IAmb 07 15 32.7
comp=Z,30nm,0.8s
ESK Eskdalemuir 85.81 335 P **P** 07 15 31.4 -1.0
ESK pmax pmax
comp=Z,35nm,0.9s
ESK Eskdalemuir 85.81 335 P **P** 07 15 31.4 -1.0
BCLA Clavier 85.83 328 *d*P **P** 07 15 32.9 +0.3
BCLA *d*pP **pP** 07 16 28.3 +2.4
LAWE Loch Awe, Argy 85.86 336 *e*P **P** 07 15 32.2 -0.4
LAWE IAmb IAmb 07 15 32.4
comp=Z,22nm,0.9s
PGBU Glenifferbraes 85.89 336 *e*P **P** 07 15 32.4 -0.5
PGBU IAmb IAmb 07 15 35.1
comp=Z,49nm,0.8s
WLF Walferdange 85.95 327 IAmb IAmb 07 16 30.4
comp=Z,137nm,1.3s
WLF Walferdange 85.95 327 *e*P **P** 07 15 34.3 +1.0
comp=Z,129nm,1.5s,baz=50,slow=5.0
WLF Walferdange 85.95 327 *d*P **P** 07 15 34.3 +1.0
WLF *d*pP **pP** 07 16 29.3 +2.8
BGES Gesves 85.95 328 *d*P **P** 07 15 33.3 0.0
BGES *d*pP **pP** 07 16 28.2 +1.7
TEOL Teolo 85.96 321 P **P** 07 15 33.6 +0.1
TEOL IAmb IAmb 07 15 36.7
comp=Z,68nm,0.8s
MFID Camas Ranch 86.01 41 IAmb IAmb 07 15 36.0
comp=Z,131nm,1.1s
RCHB Rochefort 86.05 328 *d*P **P** 07 15 34.1 +0.4
RCHB *d*pP **pP** 07 16 28.9 +1.9
EMB Emerald Bay 86.08 47 IAmb IAmb 07 15 36.2
comp=Z,109nm,0.9s
PAHR Pah Rah Range 86.11 46 P **P** 07 15 34.8 +0.4
PAHR IAmb IAmb 07 15 36.2
comp=Z,94nm,0.9s
HRY Holter Researc 86.12 37 P **P** 07 15 35.2 +0.9
VCNR Virginia City 86.18 46 IAmb IAmb 07 15 36.8
comp=Z,64nm,0.8s
SNF Seneffe 86.24 328 *d*P **P** 07 15 34.9 +0.3
HPK Haverah Park 86.24 333 *e*P **P** 07 15 34.3 -0.3
HPK IAmb IAmb 07 15 36.6
comp=Z,135nm,1.5s
EGMT Eagleton 86.31 35 P **P** 07 15 35.8 +0.5
EGMT Eagleton 86.31 35 P **P** 07 15 35.7 +0.5
baz=312,SNR=41
KESW Keswick, Cumbr 86.33 334 *e*P **P** 07 15 34.4 -0.7
KESW IAmb IAmb 07 15 38.4
comp=Z,31nm,0.7s
PNTR Pine Nut 86.33 47 IAmb IAmb 07 15 37.7
comp=Z,78nm,0.8s
NEWG New Galloway 86.34 335 *e*P **P** 07 15 33.9 -1.1
DOU Dourbes 86.38 328 *d*P **P** 07 15 35.2 -0.1
DOU *d*PcP **PcP** 07 15 37.4 -0.1
DOU *d*pP **pP** 07 16 30.7 +2.1
DOU *d*sP **sP** 07 16 48.2 -3.6
SALO Salr 86.42 322 P **P** 07 15 35.0 -0.7
SALO IAmb IAmb 07 16 32.2
comp=Z,91nm,1.0s
CMB Columbia Colle 86.45 48 IAmb IAmb 07 15 37.6
comp=Z,51nm,0.8s
TUE Stuetta 86.49 323 P **P** 07 15 36.0 -0.2
TUE IAmb IAmb 07 16 33.1
comp=Z,74nm,1.1s
SAO San Andreas Ge 86.49 49 P **P** 07 15 34.4 -1.8
SAO pmax pmax
comp=Z,63nm,1.2s
SAO San Andreas Ge 86.49 49 P **P** 07 15 34.4 -1.8
SAO IAmb IAmb 07 15 37.6
comp=Z,63nm,1.1s
ELMS Elmsett, Ipswi 86.56 331 *e*P **P** 07 15 36.6 +0.5
ELMS IAmb IAmb 07 15 36.8
comp=Z,54nm,0.7s
LBWR Ladybower, Pea 86.70 333 *e*P **P** 07 15 36.9 +0.1
LBWR IAmb IAmb 07 15 39.1
comp=Z,32nm,0.7s
GAL1 Galloway 86.71 335 *e*P **P** 07 15 36.3 -0.5
HLID Hailey 86.73 41 P **P** 07 15 38.6 +1.1
HLID IAmb IAmb 07 15 39.9
comp=Z,108nm,0.9s
HLID Hailey 86.73 41 P **P** 07 15 38.5 +1.1
baz=309,SNR=148
RER Riviere de l'E 86.77 244 IAmb IAmb 07 15 41.6
comp=Z,75nm,0.9s
RER Riviere de l'E 86.77 244 P **P** 07 15 39.9 +2.2
MCMT McKenzie Canyo 86.79 39 P **P** 07 15 38.1 +0.3
BBGB Big Mountain B 86.86 49 P **P** 07 15 39.0 +0.9
BBGB IAmb IAmb 07 15 40.1
comp=Z,77nm,0.9s
BOZ Bozeman (W) 86.95 38 P **P** 07 15 38.4 0.0
BOZ pmax pmax
comp=Z,70nm,1.0s
BOZ Bozeman (W) 86.95 38 P **P** 07 15 38.4 0.0
BOZ IAmb IAmb 07 15 40.4
comp=Z,70nm,1.0s
BOZ Bozeman (W) 86.95 38 P **P** 07 15 38.9 +0.5
baz=311,SNR=87
ZCCA Zocca 86.98 321 IAmb IAmb 07 16 36.9
comp=Z,80nm,1.2s
BMN Battle Mountai 87.01 44 P **P** 07 15 39.8 +1.0
BMN pmax pmax
comp=Z,71nm,1.0s
BMN Battle Mountai 87.01 44 P **P** 07 15 39.8 +1.0
BMN IAmb IAmb 07 15 41.2
comp=Z,71nm,1.0s
CLGH Cloghs, Cushen 87.04 336 *e*P **P** 07 15 37.1 -1.3
CLGH IAmb IAmb 07 15 40.1
comp=Z,32nm,0.6s
RYN Ryan 87.28 46 IAmb IAmb 07 15 42.3
comp=Z,51nm,0.9s
KVN Kaiserville 87.30 46 IAmb IAmb 07 15 42.3
comp=Z,81nm,0.9s
SBV Sambava 87.36 253 P **P** 07 15 41.6 +1.0
NVAR Mina Array Bea 87.54 46 P **P** 07 15 40.1 -1.3
comp=Z,26nm,0.7s,baz=263,slow=4.5,SNR=63
OMMB Old Mammoth Mi 87.58 47 P **P** 07 15 42.1 +0.2
SENIN Lac Senin/Sane 87.62 324 P **P** 07 15 40.6 -1.1
GMM Mts of Mourne 87.65 335 *e*P **P** 07 15 40.7 -0.6
FOEL Foel Wylfa 87.67 333 *e*P **P** 07 15 41.2 -0.2
FOEL IAmb IAmb 07 15 43.5
comp=Z,83nm,1.2s
MLAC Mammoth, Mammo 87.68 47 P **P** 07 15 43.2 +1.1
baz=306
WME Myndd Eilian 87.70 334 *e*P **P** 07 15 41.3 -0.3
HMNX Herstmonceux 87.73 330 *e*P **P** 07 15 41.7 -0.1
WLF1 Llynfaes 87.82 334 *e*P **P** 07 15 41.7 -0.4
WLF1 IAmb IAmb 07 15 43.3
comp=Z,70nm,0.5s
HLM1 Long Mynd 87.83 333 *e*P **P** 07 15 41.9 -0.3
HLM1 IAmb IAmb 07 15 43.8
comp=Z,23nm,0.5s
YLL Llanberis 87.85 334 *e*P **P** 07 15 42.0 -0.3
CEL Celeste 87.85 314 IAmb IAmb 07 15 46.4
comp=Z,66nm,0.7s

GCMT Greycliff 87.85 37 P **P** 07 15 43.3 +0.6
PAGB Antelope Grade 87.87 50 IAmb IAmb 07 15 45.0
comp=Z,90nm,1.0s
YHH Holmes Hill 87.90 38 IAmb IAmb 07 15 45.6
comp=Z,83nm,1.3s
YMR Madison River 87.92 38 P **P** 07 15 44.1 +1.0
YMR IAmb IAmb 07 15 45.9
comp=Z,104nm,1.0s
YRC Rhoscolyn 87.92 334 *e*P **P** 07 15 42.2 -0.4
Q09A Carvers 88.00 46 P **P** 07 15 43.5 -0.1
Q09A IAmb IAmb 07 15 45.6
comp=Z,76nm,1.0s
YNR Norris Junctio 88.04 38 P **P** 07 15 45.3 +1.6
YNR IAmb IAmb 07 15 47.6
comp=Z,72nm,1.1s
VOG Valley Oaks Go 88.10 49 P **P** 07 15 44.0 +0.2
baz=306
YUF Upper Falls 88.13 38 P **P** 07 15 46.0 +1.8
MCH1 Michaelchurch 88.27 333 *e*P **P** 07 15 44.1 -0.2
MCH1 IAmb IAmb 07 15 46.0
comp=Z,52nm,0.6s
SMMC Simmler 88.28 50 P **P** 07 15 45.7 +0.9
baz=306
LKWY Lake 88.29 38 P **P** 07 15 47.4 +2.5
LKWY pmax pmax
comp=Z,131nm,1.0s
LKWY Lake 88.29 38 P **P** 07 15 47.4 +2.5
YMP Mirror Lake Pl 88.30 38 IAmb IAmb 07 15 47.9
comp=Z,151nm,1.4s
H17A Grant Village 88.30 38 P **P** 07 15 47.7 +2.7
baz=312,SNR=98
TIN Tinemaha, Big 88.41 48 P **P** 07 15 46.3 +0.9
baz=307,SNR=9.3
FLWY Flagg Ranch 88.44 38 P **P** 07 15 46.1 +0.5
RLMT Red Lodge 88.51 37 P **P** 07 15 46.9 +1.0
baz=312,SNR=9.7
VES Vestal, Richgr 88.58 49 P **P** 07 15 45.8 -0.3
baz=306,SNR=10
MOOW Moose Ponds 88.64 39 P **P** 07 15 47.4 +0.8
MOOW IAmb IAmb 07 15 49.3
comp=Z,95nm,1.6s
LCH Last Change Ra 88.68 47 P **P** 07 15 46.8 +0.1
DGMT Dagmar 88.68 32 P **P** 07 15 47.0 +0.6
baz=316,SNR=78
TPAW Teton Pass 88.70 39 P **P** 07 15 47.3 +0.4
TPAW IAmb IAmb 07 15 48.5
comp=Z,65nm,0.9s
HVU Hansel Valley 88.79 41 IAmb IAmb 07 15 49.7
comp=Z,69nm,0.9s
LOHW Long Hollow 88.81 39 IAmb IAmb 07 15 50.0
comp=Z,57nm,1.4s
SNOW Snow King Moun 88.82 39 P **P** 07 15 49.0 +1.5
SNOW IAmb IAmb 07 15 50.1
comp=Z,43nm,0.9s
REDW Red Top Meadow 88.84 39 IAmb IAmb 07 15 50.0
comp=Z,52nm,1.1s
CWC Cottonwood Cre 88.87 48 P **P** 07 15 48.1 +0.3
baz=307
CLF Chambon-Foret 88.93 327 P **P** 07 15 47.9 +0.4
LAO LASA Array 88.98 34 P **P** 07 15 48.6 +0.7
baz=315,SNR=104
RSBS Rosebush, Pemb 88.99 333 *e*P **P** 07 15 47.8 0.0
RSBS IAmb IAmb 07 15 49.3
comp=Z,19nm,0.7s
GRAC Grapevine Rang 89.00 47 IAmb IAmb 07 15 50.5
comp=Z,63nm,1.4s
GRAC Grapevine Rang 89.00 47 P **P** 07 15 49.0 +0.9
baz=307,SNR=14
ISA Isabella, Lake 89.08 49 P **P** 07 15 48.0 -0.5
baz=307,SNR=5.9
AHID Auburn Hatcher 89.09 40 IAmb IAmb 07 15 50.7
comp=Z,57nm,1.1s
ARVC Arvin 89.17 49 P **P** 07 15 49.1 +0.2
baz=307,SNR=5.2
BGU Big Grassy Mou 89.19 42 P **P** 07 15 50.1 +1.0
BGU IAmb IAmb 07 15 51.6
comp=Z,52nm,1.1s
NRS Narsarsuaq 89.20 357 *i* P **P** 07 15 46.9 -1.5
NRS IAmb IAmb 07 15 49.0
comp=Z,12nm,0.7s
R11A Troy Canyon, C 89.28 45 P **P** 07 15 50.0 +0.4
baz=308,SNR=36
OSI Osito Audit: C 89.54 50 P **P** 07 15 51.2 +0.5
baz=307
HWUT Hardware Ranch 89.59 41 P **P** 07 15 52.1 +1.1
LDF La Druitiere 89.61 329 P P 07 16 01.2 +11
LDF pmax pmax
comp=Z,101nm,1.2s
S11A Rachel 89.62 46 IAmb IAmb 07 15 53.4
comp=Z,53nm,1.0s
FURC Furnace Creek, 89.64 47 P **P** 07 15 51.5 +0.5
baz=308,SNR=16
CCAC Calif City Air 89.69 49 P **P** 07 15 52.0 +0.6
CCAC IAmb IAmb 07 15 53.4
comp=Z,50nm,1.1s
TPNV Topopah Spring 89.73 47 P **P** 07 15 52.2 +0.5
baz=308,SNR=21
SSB Saint Sauveur 89.77 324 P **P** 07 15 51.2 -0.3
SSB pmax pmax
comp=Z,11nm,0.7s
SSB Saint Sauveur 89.77 324 P **P** 07 15 51.2 -0.3
DUG Dugway, Tooele 89.79 42 P **P** 07 15 53.2 +1.3
baz=310,SNR=86
SNCC San Nicolas Is 89.81 51 P **P** 07 15 53.7 +1.8
baz=306
EDW2 Edwards Air Fo 89.86 49 P **P** 07 15 52.7 +0.5
baz=307,SNR=10.0
GWY Greenwater Val 89.93 47 IAmb IAmb 07 15 54.6
comp=Z,110nm,1.6s
BW06 Boulder Array 89.94 39 IAmb IAmb 07 15 54.2
comp=Z,59nm,0.9s
BW06 Boulder Array 89.94 39 P **P** 07 15 52.7 +0.1
baz=312,SNR=68
PD31 Pinedale Array 89.94 39 P **P** 07 15 53.1 +0.4
PD31 IAmb IAmb 07 15 54.2
comp=Z,57nm,1.0s
PDAR Pinedale Array 89.94 39 P **P** 07 15 53.0 +0.4
comp=Z,40nm,0.9s,baz=318,slow=0.8,SNR=221
PDAR PKKPbc **PKKPbc** 07 33 21.4 -1.6
comp=Z,0.6nm,0.6s,baz=134,slow=3.9,SNR=7.4
DECC Green Verdugo 90.01 50 P **P** 07 15 52.7 -0.2
baz=307
CTU Camp Tracy 90.08 42 P **P** 07 15 53.8 +0.6
CTU IAmb IAmb 07 15 55.5
comp=Z,56nm,1.0s
PRN Pahroc Range 90.20 46 P **P** 07 15 53.3 -0.6
PRN IAmb IAmb 07 15 56.2
comp=Z,44nm,1.1s
PSUT Pine Spring 90.23 44 IAmb IAmb 07 15 56.1
comp=Z,56nm,0.9s
JLU Jordanelle 90.32 41 IAmb IAmb 07 15 56.8
comp=Z,45nm,1.0s
FMP Fort Macarthur 90.36 50 P **P** 07 15 54.5 0.0
baz=307
GSC Goldstone, Bar 90.38 48 IAmb IAmb 07 15 56.6
comp=Z,63nm,1.1s
GSC Goldstone, Bar 90.38 48 P **P** 07 15 54.8 +0.1
baz=308,SNR=10.0
CIS Catalina Islan 90.47 51 P **P** 07 15 55.2 +0.2
baz=307
BFSC Mount Baldy Ra 90.47 50 P **P** 07 15 54.8 -0.3
baz=307,SNR=6.0
RRX Edison Barstow 90.52 49 P **P** 07 15 56.0 +0.7
baz=308
SCI2 San Clemente I 90.63 51 P **P** 07 15 55.9 +0.2
baz=307
SHPR Sheep Range 90.69 46 P **P** 07 15 56.4 +0.2
SHPR IAmb IAmb 07 15 58.5
comp=Z,36nm,0.9s
TUQ Turquoise Moun 90.87 48 P **P** 07 15 57.5 +0.5
baz=308,SNR=5.8
ULM Lac du Bonnet 90.90 27 P **P** 07 15 56.7 +0.1
comp=Z,93nm,0.8s,baz=323,slow=5.5,SNR=156
ULM Lac du Bonnet 90.90 27 P **P** 07 15 56.7 +0.1
BBRC Big Bear Solar 90.94 49 P **P** 07 15 57.8 +0.4
baz=308
ELS Elsinore Mount 90.98 50 IAmb IAmb 07 15 59.3
comp=Z,122nm,1.8s
TCRU Three Creeks R 91.03 43 IAmb IAmb 07 16 00.6
comp=Z,65nm,0.9s
MURC Murrieta 91.16 50 P **P** 07 15 58.3 +0.1
baz=308,SNR=9.4
ROSF Rostrenen 91.19 330 *e*P **P** 07 15 58.4 +0.4
MDND Maddock 91.21 30 P **P** 07 15 59.0 +0.8
MDND Maddock 91.21 30 P **P** 07 15 58.7 +0.5
baz=319,SNR=5.5
TMUT Trail Mountain 91.31 42 P **P** 07 15 59.9 +0.8

TMUT IAmb IAmb 07 16 01.6
comp=Z,62nm,1.2s
RDMU Red Mountain 91.41 41 IAmb IAmb 07 16 01.6
comp=Z,69nm,0.9s
LODK Lodwar 91.44 275 P **P** 07 16 00.8 +1.0
GMRC Granite Mounta 91.44 48 P **P** 07 16 00.4 +0.8
baz=308,SNR=24
PPT Papeete 91.47 109 P **P** 07 15 59.9 +0.2
comp=Z,55nm,0.9s,baz=318,slow=3.6,SNR=4.2
P17A Butcher Ranch, 91.47 42 P **P** 07 16 00.3 +0.5
PPT2 Papeete2 91.48 109 *e*P **P** 07 16 01.1 +1.2
comp=Z,70nm,1.0s
PPTF Pamatai, Papee 91.48 109 P **P** 07 16 01.1 +1.2
PPTF Pamatai, Papee 91.48 109 P **P** 07 16 00.9 +1.0
PMOR Pomariorio Ree 91.56 106 *e*P **P** 07 16 01.6 +1.4
comp=Z,141nm,1.0s
LCMT Little Creek M 91.57 45 P **P** 07 16 00.3 +0.1
LCMT IAmb IAmb 07 16 02.5
comp=Z,64nm,0.9s
PFO Pinyon Flats O 91.64 49 P **P** 07 16 00.1 -0.5
PFO pmax pmax
comp=Z,76nm,1.0s
PFO Pinyon Flats O 91.64 49 P **P** 07 16 00.1 -0.5
PFO IAmb IAmb 07 16 02.4
comp=Z,76nm,1.0s
PFO Pinyon Flats O 91.64 49 P **P** 07 16 00.8 +0.2
baz=308
TPFO Pinon Flats 91.65 49 P **P** 07 16 00.8 +0.2
baz=308,SNR=10
K22A Casper 91.65 37 P **P** 07 16 00.1 -0.4
K22A IAmb IAmb 07 16 02.0
comp=Z,57nm,0.9s
K22A Casper 91.65 37 P **P** 07 16 00.6 +0.1
baz=314,SNR=28
109C Camp Elliot, M 91.65 50 P **P** 07 16 00.7 +0.3
baz=308,SNR=5.5
E28A Huff 91.68 32 P **P** 07 16 00.6 +0.2
BELC Belle Mtn. Jos 91.71 49 P **P** 07 16 01.1 +0.3
baz=308,SNR=24
TVO Taravao 91.84 109 *e*P **P** 07 16 02.8 +1.3
comp=Z,1.1nm,0.8s
RSSD Black Hills 91.89 35 P **P** 07 16 01.6 0.0
RSSD pmax pmax
comp=Z,343nm,1.7s
RSSD Black Hills 91.89 35 P **P** 07 16 01.6 0.0
RSSD Black Hills 91.89 35 P **P** 07 16 02.3 +0.7
baz=316
RSSD Black Hills 91.89 35 P **P** 07 16 02.4 +0.8
VAH Vaihoa 91.90 106 *e*P **P** 07 16 03.0 +1.3
comp=Z,53nm,1.0s
KIBK Kibwezi 91.94 268 P **P** 07 16 03.2 +0.9
SNR=6.1
RWWY Rawlins 91.95 39 IAmb IAmb 07 16 02.7
comp=Z,63nm,0.9s
KMBO Kilima Mbogo 92.04 270 P **P** 07 16 03.4 +0.5
comp=Z,5.9nm,0.8s,baz=59,slow=10.0,SNR=16
KMBO Kilima Mbogo 92.04 270 *i* P **P** 07 16 03.7 +0.8
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 92.04 270 P **P** 07 16 02.7 -0.1
KMBO Kilima Mbogo 92.04 270 P **P** 07 16 04.1 +1.3
KMBO Kilima Mbogo 92.04 270 *i* P **P** 07 16 03.7 +0.8
SNR=7.2
BAR Barrett 92.07 50 IAmb IAmb 07 16 04.2
comp=Z,60nm,0.9s
MONP2 Monument Peak 92.11 50 P **P** 07 16 03.5 +0.6
baz=308,SNR=7.8
NEE2 Needles Airpor 92.12 48 P **P** 07 16 03.5 +0.8
baz=309
IRM Iron Mountain 92.17 48 P **P** 07 16 03.5 +0.7
baz=309,SNR=45
TKX Tecate 92.18 50 IAmb IAmb 07 16 04.7
comp=Z,60nm,1.1s
BC3 Big Chuckawall 92.28 49 P **P** 07 16 04.0 +0.6
baz=308,SNR=26
CBX Cerro Bola 92.30 51 IAmb IAmb 07 16 05.8
comp=Z,27nm,0.8s
W13A Hualapai Mount 92.38 47 IAmb IAmb 07 16 06.1
comp=Z,38nm,0.9s
ABPO Ambohimpanom 92.42 250 P **P** 07 16 04.6 +0.3
ABPO pmax pmax
comp=Z,20nm,1.0s
ABPO Ambohimpanom 92.42 250 P **P** 07 16 04.6 +0.3
AGMN Agassiz Nation 92.45 28 P **P** 07 16 03.3 -0.5
AGMN IAmb IAmb 07 16 04.6
comp=Z,31nm,0.9s
AGMN Agassiz Nation 92.45 28 P **P** 07 16 03.1 -0.7
baz=322,SNR=19
O20A White River Ci 92.45 40 IAmb IAmb 07 16 06.1
comp=Z,60nm,0.9s
O20A White River Ci 92.45 40 P **P** 07 16 04.9 +0.6
baz=313,SNR=40
IKP In-Ko-Pah, Jac 92.46 50 P **P** 07 16 05.1 +0.8
baz=308,SNR=9.5
SWSC Sam W. Stewart 92.49 50 P **P** 07 16 04.6 +0.3
baz=308,SNR=7.0
CCX Cicese 92.57 51 P **P** 07 16 05.2 +0.5
CCX IAmb IAmb 07 16 06.5
comp=Z,67nm,1.0s
YUH Yuha Desert 92.59 50 IAmb IAmb 07 16 06.8
comp=Z,67nm,1.1s
PDMCI Parker Dam,Lak 92.72 48 P **P** 07 16 05.9 +0.5
baz=309,SNR=12
D32A Dogwood Acres, 92.88 29 IAmb IAmb 07 16 06.5
comp=Z,41nm,0.9s
GLA Glamis 93.06 49 P **P** 07 16 07.1 +0.1
GLA pmax pmax
comp=Z,103nm,1.0s
GLA Glamis 93.06 49 P **P** 07 16 07.0 +0.1
GLA Glamis 93.06 49 P **P** 07 16 08.1 +1.1
baz=309,SNR=21
CPBX Cerro Prieto 93.14 50 P **P** 07 16 07.8 +0.5
CPBX IAmb IAmb 07 16 09.5
comp=Z,57nm,1.2s
PV23 Carpenter Ridg 93.15 42 P **P** 07 16 08.4 +0.8
PHWY Pilot Hill 93.16 38 P **P** 07 16 07.8 +0.1
PHWY IAmb IAmb 07 16 09.4
comp=Z,39nm,1.1s
PV10 Paradox Valley 93.19 42 P **P** 07 16 08.4 +0.6
N23A Red Feather La 93.19 38 IAmb IAmb 07 16 10.0
comp=Z,49nm,0.9s
N23A Red Feather La 93.19 38 P **P** 07 16 08.6 +0.9
baz=315,SNR=22
PV07 Paradox Valley 93.37 42 IAmb IAmb 07 16 10.7
comp=Z,53nm,1.3s
KEST Kesra 93.52 315 P **P** 07 16 09.6 +0.5
comp=Z,5.5nm,0.7s,baz=63,slow=2.8,SNR=6.1
KEST Kesra 93.52 315 IAmb IAmb 07 17 08.5
comp=Z,34nm,1.4s
PV15 Paradox Valley 93.53 42 P **P** 07 16 09.7 +0.3
PV15 IAmb IAmb 07 16 11.5
comp=Z,58nm,1.0s
Y14A Wickenburg 93.68 47 P **P** 07 16 09.5 -0.4
Y14A IAmb IAmb 07 16 11.8
comp=Z,47nm,0.8s
WUAZ Wupatki 93.69 45 P **P** 07 16 10.5 +0.5
WUAZ IAmb IAmb 07 16 12.3
comp=Z,56nm,0.9s
WUAZ Wupatki 93.69 45 P **P** 07 16 10.9 +0.9
baz=311,SNR=20
SMCO Snowmass 93.82 40 P **P** 07 16 11.2 +0.4
SMCO IAmb IAmb 07 16 13.0
comp=Z,35nm,0.9s
SUSD Miller 94.10 32 P **P** 07 16 11.5 0.0
baz=320,SNR=18
ISCO Idaho Springs 94.14 39 P **P** 07 16 10.1 -2.1
ISCO pmax pmax
comp=Z,66nm,2.0s
ISCO Idaho Springs 94.14 39 P **P** 07 16 10.1 -2.1
ISCO IAmb IAmb 07 16 14.1
comp=Z,66nm,2.0s
ISCO Idaho Springs 94.14 39 P **P** 07 16 12.7 +0.6
baz=315,SNR=15
F33A 5 Mile Ranch, 94.21 30 P **P** 07 16 10.5 -1.4
VOI Vohitsoka 94.23 247 P **P** 07 16 13.8 +1.2
VOI Vohitsoka 94.23 247 P **P** 07 16 16.0 +3.5
MVCO Mesa Verde 94.29 42 IAmb IAmb 07 16 14.9
comp=Z,47nm,1.1s
MVCO Mesa Verde 94.29 42 P **P** 07 16 13.7 +0.9
baz=313,SNR=28
SFX San Felipe 94.30 51 P **P** 07 16 12.0 -0.6
X16A Lo Mia Camp, P 94.36 46 P **P** 07 16 13.4 +0.3
X16A IAmb IAmb 07 16 15.5
comp=Z,30nm,0.9s
EYMN Ely 94.46 26 P **P** 07 16 13.1 0.0
EYMN IAmb IAmb 07 16 14.1

	comp=Z,24nm,0.8s								
EYMN	**Ely**	**94.46**	**26**	P		**P**	07 16 12.9	**-0.2**	
	baz=326,SNR=7.7								
SCHQ	**Schefferville**	**94.57**	**9**	P		**P**	07 16 12.9	**-0.5**	
	comp=Z,11nm,0.7s,baz=353,slow=5.9,SNR=16								
W18A	**Petrified Fore**	**94.95**	**45**	P		**P**	07 16 16.2	**+0.4**	
	baz=312								
Q24A	**Divide**	**94.98**	**39**	P		**P**	07 16 16.3	**+0.2**	
Q24A	**Divide**	**94.98**	**39**	P		**P**	07 16 16.3	**+0.2**	
	baz=315,SNR=10								
214A	**Organ Pipe Nat**	**95.07**	**49**	P		**P**	07 16 15.7	**-0.5**	
214A	**Organ Pipe Nat**	**95.07**	**49**	P		**P**	07 16 17.3	**+1.0**	
	baz=310,SNR=18								
OGNE	**Ogallala**	**95.21**	**36**	IAmb		IAmb	07 16 18.0		
	comp=Z,46nm,0.9s								
OGNE	**Ogallala**	**95.21**	**36**	P		**P**	07 16 16.8	**0.0**	
	baz=317,SNR=13								
X18A	**Snowflake**	**95.21**	**45**	P		**P**	07 16 16.9	**-0.1**	
F36A	**Milaca**	**95.36**	**28**	P		**P**	07 16 17.1	**-0.1**	
F36A				IAmb		IAmb	07 16 17.8		
	comp=Z,20nm,1.1s								
K31A	**O'Neill**	**95.58**	**33**	P		**P**	07 16 18.7	**+0.4**	
K31A				IAmb		IAmb	07 16 19.6		
	comp=Z,40nm,0.9s								
SDCO	**Great Sand Dun**	**95.64**	**40**	P		**P**	07 16 19.7	**+0.6**	
	baz=315,SNR=7.6								
ECSD	**EROS Data Cent**	**95.72**	**31**	P		**P**	07 16 18.8	**-0.1**	
ECSD	**EROS Data Cent**	**95.72**	**31**	P		**P**	07 16 18.5	**-0.4**	
	baz=322,SNR=13								
TUC	**Tucson**	**96.15**	**47**	P		**P**	07 16 22.1	**+0.9**	
TUC				pmax		pmax			
	comp=Z,18nm,0.9s								
TUC	**Tucson**	**96.15**	**47**	P		**P**	07 16 22.1	**+0.9**	
TUC				IAmb		IAmb	07 16 23.2		
	comp=Z,18nm,0.9s								
TUC	**Tucson**	**96.15**	**47**	P		**P**	07 16 21.9	**+0.7**	
	baz=311								
TUC	**Tucson**	**96.15**	**47**	P		**P**	07 16 21.9	**+0.7**	
SPMN	**Marine on St.**	**96.17**	**28**	P		**P**	07 16 20.9	**0.0**	
SPMN				IAmb		IAmb	07 16 21.8		
	comp=Z,24nm,0.9s								
SPMN	**Marine on St.**	**96.17**	**28**	P		**P**	07 16 20.4	**-0.5**	
	baz=324,SNR=9.7								
KSCO	**Kaye Shedlock'**	**96.31**	**38**	P		**P**	07 16 21.8	**-0.1**	
	baz=317								
T25A	**Trinidad**	**96.69**	**40**	P		**P**	07 16 24.3	**+0.6**	
T25A				IAmb		IAmb	07 16 25.5		
	comp=Z,51nm,1.9s								
T25A	**Trinidad**	**96.69**	**40**	P		**P**	07 16 23.5	**-0.2**	
	baz=316								
BGNE	**Belgrade**	**96.80**	**34**	P		**P**	07 16 23.8	**0.0**	
BGNE	**Belgrade**	**96.80**	**34**	P		**P**	07 16 23.6	**-0.3**	
	baz=320,SNR=5.6								
I37A	**Lemond, Waseca**	**96.90**	**29**	P		**P**	07 16 24.2	**-0.1**	
ANMO	**Albuquerque**	**97.04**	**43**	*ce*P		Pdif	07 16 26.5	+1.1	
ANMO				pmax		pmax			
	comp=Z,7.0nm,1.0s								
ANMO	**Albuquerque**	**97.04**	**43**	P		Pdif	07 16 26.1	+0.7	
ANMO	**Albuquerque**	**97.04**	**43**	P		Pdif	07 16 26.2	+0.8	
	baz=314								
G40A	**Rib Lake**	**97.18**	**27**	P		Pdif	07 16 25.5	0.0	
G40A				IAmb		IAmb	07 16 26.5		
	comp=Z,16nm,0.8s								
L34A	**Svendsen Farm,**	**97.20**	**32**	P		**P**	07 16 25.7	**0.0**	
L34A				IAmb		IAmb	07 16 26.4		
	comp=Z,24nm,0.7s								
MBAR	**Mbarara**	**97.44**	**274**	P		Pdif	07 16 27.5	0.0	
	comp=Z,12nm,0.9s,baz=73,slow=9.9,SNR=11								
MBAR	**Mbarara**	**97.44**	**274**	*ce*P		Pdif	07 16 28.7	+1.3	
MBAR				pmax		pmax			
	comp=Z,20nm,1.3s								
MBAR	**Mbarara**	**97.44**	**274**	P		Pdif	07 16 27.5	0.0	
MBAR				IAmb		IAmb	07 16 29.5		
	comp=Z,14nm,0.9s								
MBAR	**Mbarara**	**97.44**	**274**	P		Pdif	07 16 28.2	+0.8	
319A	**Douglas**	**97.73**	**47**	IAmb		IAmb	07 16 32.7		
	comp=Z,12nm,0.8s								
PBRG	**Braganca**	**97.81**	**328**	*e*P		**P**	07 16 28.1	**-0.3**	
121A	**Cookes Peak, D**	**97.89**	**45**	P		Pdif	07 16 29.4	+0.2	
	baz=313,SNR=6.6								
CBKS	**Cedar Bluff**	**97.98**	**36**	P		**P**	07 16 28.3	**-1.0**	
CBKS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CBKS	**Cedar Bluff**	**97.98**	**36**	P		**P**	07 16 28.3	**-1.0**	
CBKS	**Cedar Bluff**	**97.98**	**36**	P		**P**	07 16 28.7	**-0.5**	
	baz=319								
ESDC	**Sonseca Array**	**98.14**	**325**	P		**P**	07 16 29.3	**-0.7**	
	comp=Z,1.7nm,0.6s,baz=29,slow=3.9,SNR=14								
ESDC				PKKP		**PKKPbc**	07 33 01.6	**+0.1**	
	comp=Z,2.5nm,0.8s,baz=247,slow=2.7,SNR=13								
ESDC	**Sonseca Array**	**98.14**	**325**	P		**P**	07 16 29.6	**-0.3**	
I40A	**Norwalk**	**98.16**	**28**	P		**P**	07 16 29.0	**-0.9**	
I40A				IAmb		IAmb	07 16 30.2		
	comp=Z,20nm,1.2s								
PGAV	**Gavieira, Arco**	**98.37**	**329**	*e*P		Pdif	07 16 31.1	+0.1	
N35A	**Tabor**	**98.41**	**33**	P		Pdif	07 16 31.8	+0.7	
MVO	**Moncorvo**	**98.45**	**328**	*e*P		Pdif	07 16 32.3	+1.0	
POLO	**Lamas de Olo**	**98.63**	**329**	*e*P		Pdif	07 16 32.3	+0.1	
PVRL	**Vila Real**	**98.68**	**328**	*e*P		Pdif	07 16 32.9	+0.6	
	comp=Z,24nm,1.7s								
SCIA	**State Center**	**98.68**	**30**			**P**	07 16 31.9	**-0.4**	
SCIA				IAmb		IAmb	07 16 33.7		
	comp=Z,21nm,1.1s								
SCIA	**State Center**	**98.68**	**30**	P		Pdif	07 16 32.7	+0.4	
	baz=324								
JFWS	**Jewell Farm**	**99.12**	**28**	P		**Pdif**	07 16 34.6	**+0.4**	
	baz=326								
PVIS	**Viseu**	**99.20**	**328**	*e*P		**Pdif**	07 16 34.8	**+0.1**	
MTE	**Manteigas**	**99.30**	**328**	*e*P		**Pdif**	07 16 35.6	**+0.5**	
KSU1	**Kansas State U**	**99.33**	**34**	P		**Pdif**	07 16 34.8	**-0.4**	
	baz=321								
PCBR	**Castelo Branco**	**99.71**	**327**	*e*P		**Pdif**	07 16 37.9	**+1.1**	
AMTX	**Amarillo**	**99.84**	**40**	P		**Pdif**	07 16 38.0	**+0.3**	
	baz=317								
MNTX	**Cornudas Mount**	**99.94**	**45**	P		**Pdif**	07 16 38.9	**+0.8**	
	baz=314								
PMRV	**Marv??o**	**99.99**	**327**	*e*P		**Pdif**	07 16 38.5	**+0.3**	
PCAS	**Casmilo, Conde**	**100.01**	**328**	*e*P		**Pdif**	07 16 39.1	**+0.9**	
PESTR	**Estremoz**	**100.53**	**327**	*e*P		**Pdif**	07 16 40.6	**0.0**	
PSBE	**So Bento**	**100.58**	**328**	*e*P		**Pdif**	07 16 41.1	**+0.3**	
PMTG	**Montargil**	**100.67**	**327**	*e*P		**Pdif**	07 16 41.3	**+0.1**	
PBAR	**Barrancos**	**100.82**	**326**	*e*P		**Pdif**	07 16 42.2	**+0.4**	
EVO	**Evora**	**101.00**	**327**	*e*P		**Pdif**	07 16 42.9	**+0.3**	
PMAFR	**Mafra**	**101.25**	**328**	*e*P		**Pdif**	07 16 44.8	**+1.0**	
HDIL	**Hopedale**	**101.48**	**29**	P		**Pdif**	07 16 45.0	**+0.3**	
	baz=327								
WMOK	**Wichita Mounta**	**101.55**	**38**	P		**Pdif**	07 16 45.4	**+0.2**	
	baz=319								
PNCL	**Nicolau / Gran**	**101.58**	**327**	*e*P		**Pdif**	07 16 45.5	**+0.3**	
PVAQ	**Vaqueiros**	**101.75**	**326**	*e*P		**Pdif**	07 16 46.5	**+0.5**	
TUL1	**Leonard**	**102.22**	**36**	Pdif		**Pdif**	07 16 48.7	**+0.6**	
TUL1	**Leonard**	**102.22**	**36**	P		**Pdif**	07 16 48.3	**+0.2**	
	baz=321,SNR=5.6								
PFVI	**Vila Bisbo**	**102.50**	**327**	*e*P		**Pdif**	07 16 45.5	**-3.8**	
SFIN	**Lafayette**	**102.53**	**27**	P		**Pdif**	07 16 48.9	**-0.5**	
	baz=328								
TXAR	**Lajitas Array**	**102.65**	**45**	P		**Pdif**	07 16 50.5	**+0.2**	
	comp=Z,4.5nm,0.8s,baz=291,slow=3.3,SNR=64								
TXAR				PP		**PP**	07 21 03.6	**-2.1**	
	comp=Z,1.9nm,0.9s,baz=292,slow=4.8,SNR=7.2								
TXAR				PKKPbc		**PKKPbc**	07 32 48.8	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=147,slow=6.2,SNR=7.6								
TXAR	**Lajitas Array**	**102.65**	**45**	P		**Pdif**	07 16 50.7	**+0.4**	
TXAR	**Lajitas Array**	**102.65**	**45**	Pdif		**Pdif**	07 16 50.7	**+0.4**	
CCM	**Cathedral Cave**	**102.69**	**31**	P		**Pdif**	07 16 49.6	**-0.6**	
	baz=325								
U40A	**Yellville**	**103.32**	**34**	P		**Pdif**	07 16 52.7	**-0.3**	
	baz=324,SNR=5.8								
M54A	**Oil Creek Stat**	**104.22**	**22**	P		**Pdif**	07 16 56.0	**-0.9**	
	baz=335								
WVT	**Waverly**	**105.81**	**30**	P		**PKiKP**	07 21 15.1	**-0.4**	
	baz=327								
833A	**Chaparral WMA,**	**105.97**	**43**	P		**PKiKP**	07 21 16.7	**+0.6**	
	baz=318								
LRAL	**Lakeview Retre**	**108.78**	**31**	P		**PKiKP**	07 21 20.9	**-0.3**	
	baz=328								
KMSC	**Kings Mountain**	**109.32**	**26**	P		**PKiKP**	07 21 21.9	**-0.3**	
	baz=332								
GOGA	**Godfrey**	**109.99**	**29**	P		**PKiKP**	07 21 23.4	**-0.1**	
	baz=330								
TIGA	**Tifton**	**111.64**	**30**	P		**PKiKP**	07 21 26.9	**+0.2**	
	baz=330								
TORD	**Torodi Ar. Bea**	**113.61**	**302**	PKiKP		**PKiKP**	07 21 30.4	**-0.4**	
	comp=Z,6.0nm,0.8s,baz=24,slow=2.6,SNR=22								
BOSA	**Boshof**	**114.64**	**250**	PKP		**PKiKP**	07 21 32.5	**0.0**	
	comp=Z,4.6nm,0.6s,baz=40,slow=0.1,SNR=12								
BOSA				PKKPab		**PKKPab**	07 32 16.3	**-0.2**	
	comp=Z,6.9nm,0.8s,baz=255,slow=3.9,SNR=11								
KOWA	**Kowa**	**116.77**	**307**			**PKiKP**	07 21 36.9	**0.0**	
SYO	**Syowa Base**	**117.30**	**204**	‖ *e*P		**Pdif**	07 17 58.8	**+4.7**	
SOR	**Soroa**	**119.30**	**34**	PKIKP		**PKiKP**	07 21 42.2	**+0.5**	
SOR	**Soroa**	**119.30**	**34**			**PKiKP**	07 21 42.1	**+0.5**	
QSPA	**South Pole Qui**	**119.62**	**180**	PKPdf		**PKiKP**	07 21 40.9	**0.0**	
DBIC	**Dimbokro**	**122.70**	**302**	PKP		**PKPdf**	07 21 48.2	**-0.1**	
	comp=Z,15nm,0.7s,baz=67,slow=2.6,SNR=21								
DBIC				PKKPab		**PKKPab**	07 31 43.2	**-0.7**	
	comp=Z,1.3nm,0.5s,baz=194,slow=4.2,SNR=3.6								
DBIC	**Dimbokro**	**122.70**	**302**	PKIKP		**PKiKP**	07 21 48.5	**0.0**	
DBIC	**Dimbokro**	**122.70**	**302**	PKPdf		**PKiKP**	07 21 48.5	**0.0**	
KIC	**Kosan Boka**	**122.82**	**301**	*e*PKIKP		**PKPdf**	07 21 48.4	**-0.1**	
	comp=Z,33nm,0.7s								
TIC	**Toumodi**	**122.84**	**302**	*e*PKIKP		**PKPdf**	07 21 48.4	**-0.2**	
LIC	**Lamto**	**123.13**	**301**	*e*PKIKP		**PKPdf**	07 21 48.9	**-0.2**	
	comp=Z,80nm,0.9s								
CBCY	**The Bluff, Cay**	**123.46**	**33**			**PKPdf**	07 21 47.8	**-1.8**	
TGUH	**Tegucigalpa,Un**	**124.09**	**44**	PKPdf		**PKPdf**	07 21 50.9	**-0.2**	
MATN	**Matagalpa**	**125.78**	**43**			**PKPdf**	07 21 53.3	**-1.0**	
BOAB	**BOACO BROADBAN**	**126.31**	**44**	PKPdf		**PKPdf**	07 21 54.8	**-0.4**	
ACON	**Acoyapa**	**126.98**	**43**			**PKPdf**	07 21 55.8	**-0.6**	
ORTG	**Ortega, Santa**	**128.07**	**45**			**PKPdf**	07 21 57.7	**-1.0**	
COVE	**Coope Vega, Sa**	**128.43**	**44**			**PKPdf**	07 21 59.0	**-0.2**	
JTS	**Las Juntas de**	**128.43**	**45**	PKP		**PKPdf**	07 21 58.4	**-0.9**	
	comp=Z,13nm,0.8s,baz=86,slow=6.5,SNR=9.6								
JTS	**Las Juntas de**	**128.43**	**45**	PKIKP		**PKPdf**	07 21 58.6	**-0.7**	
JTS	**Las Juntas de**	**128.43**	**45**	PKPdf		**PKPdf**	07 21 58.6	**-0.7**	
DR12	**Loma Pena Alta**	**128.51**	**22**			**PKPdf**	07 21 59.6	**+0.2**	
CVTR	**Volcan Turrial**	**129.37**	**44**			**PKPdf**	07 22 01.1	**-0.5**	
RIMA	**Rio Macho**	**129.50**	**44**			**PKPdf**	07 22 01.5	**-0.1**	
CELP	**Cerrillos**	**130.05**	**19**			**PKPdf**	07 22 01.8	**-0.4**	
PDPR	**Patillas Dam,**	**130.26**	**19**			**PKPdf**	07 22 02.1	**-0.5**	
SNAA	**Sanae**	**130.77**	**198**	PKP		**PKPdf**	07 22 01.5	**-0.6**	
	comp=Z,3.3nm,0.7s,baz=111,slow=17,SNR=1.7								
SNAA				SKPbc		**SKPbc**	07 25 04.4	**-0.8**	
	comp=Z,12nm,0.8s,baz=127,slow=4.0,SNR=8.4								
VNA2	**Neumayer--Watz**	**132.41**	**198**	P		**PKiKP**	07 22 05.9	**-0.3**	
	baz=107,slow=2.0								
VNA3	**Neumayer Olymp**	**132.81**	**197**	P		**PKPdf**	07 22 06.4	**+0.6**	
URIC	**Uribia, Colomb**	**134.01**	**29**			**PKPdf**	07 22 08.4	**-1.4**	
SJCC	**San Jacinto, C**	**134.15**	**34**	PKPdf		**PKPdf**	07 22 09.8	**-0.3**	
SJCC	**San Jacinto, C**	**134.15**	**34**	*e*P		**PKPdf**	07 22 10.1	**-0.1**	
MOTC	**Monteria, Cord**	**134.87**	**36**	*e*P		PKPpre	07 21 59.6		
LL6C	**La Loma 6 Bece**	**135.19**	**32**	*e*P		**PKPdf**	07 22 12.6	**+0.6**	
UREC	**San Jos de Ur**	**135.81**	**36**	*e*P		**PKPdf**	07 22 12.9	**-0.3**	
ZARC	**Zaragoza, Cauc**	**136.38**	**35**	*e*P		**PKPdf**	07 22 11.7	**-2.6**	
OCAC	**Ocana**	**136.48**	**33**	PKPdf		**PKPdf**	07 22 14.9	**+0.3**	
OCAC	**Ocana**	**136.48**	**33**	*e*P		**PKPdf**	07 22 15.2	**+0.5**	
SDV	**Santo Domingo**	**137.11**	**29**	PKhKP		PKPpre	07 22 03.8		
	comp=Z,8.6nm,0.7s,baz=230,slow=2.8,SNR=7.5								
SDV				PKP		**PKPdf**	07 22 15.8	**-0.1**	
	comp=Z,97nm,0.7s,baz=291,slow=1.4,SNR=41								
SDV				SKPbc		**SKPbc**	07 25 28.0	**0.0**	
	comp=Z,14nm,0.7s,baz=260,slow=2.8,SNR=7.1								
SDV	**Santo Domingo**	**137.11**	**29**	*e*P		PKPpre	07 22 08.8		
HELC	**Santa Helena**	**137.13**	**37**	*e*P		PKPpre	07 22 11.0		
CBOC	**Ciudad Bolivar**	**137.15**	**38**	*e*P		PKPpre	07 22 03.6		
BIRV	**Birongo**	**137.30**	**22**			**PKPdf**	07 22 14.6	**-1.3**	
PTBC	**PUERTO BERRIO**	**137.39**	**36**	*e*P		PKPpre	07 22 03.7		
PAMC	**Pamplona, Colo**	**137.56**	**33**	*e*P		PKPpre	07 22 05.4		
PLMC	**San Jos del P**	**137.80**	**39**	*e*P		**PKPdf**	07 22 10.0	**-7.0**	
NORC	**Noroasia**	**138.01**	**37**	*e*P		PKPpre	07 22 09.3		
GUY2C	**Guyana, Caldas**	**138.03**	**38**	*e*P		PKPpre	07 22 08.9		
PCRV	**Puerto La Cruz**	**138.10**	**20**	PKhKP		PKPpre	07 22 04.2		
	comp=Z,5.3nm,0.6s,baz=354,slow=9.2,SNR=1.2								
GR1C	**Gorgona, Isla**	**138.27**	**43**	*e*P		PKPpre	07 22 08.8		
SPBC	**San Pablo de B**	**138.35**	**36**	*e*P		PKPpre	07 22 06.2		
YOTC	**Yotoco, Valle**	**138.53**	**40**	*e*P		PKPpre	07 22 08.0		
ANIL	**Santa Ana**	**138.63**	**38**	*e*P		**PKPdf**	07 22 15.6	**-3.2**	
RUSC	**La Rusia**	**138.63**	**34**	*e*P		PKPpre	07 22 09.4		
TAMC	**Tame, Arauca**	**138.78**	**32**	*e*P		PKPpre	07 22 08.0		
ROSC	**El Rosal**	**138.91**	**37**	PKhKP		PKPpre	07 22 11.0		
	comp=Z,9.8nm,0.6s,baz=49,slow=8.6,SNR=5.7								
ROSC				PKP		**PKPdf**	07 22 19.4	**0.0**	
	comp=Z,28nm,0.7s,baz=85,slow=22,SNR=13								
ROSC	**El Rosal**	**138.91**	**37**	PKIKP		**PKPdf**	07 22 20.4	**+1.0**	
ROSC	**El Rosal**	**138.91**	**37**	PKPdf		**PKPdf**	07 22 20.4	**+1.0**	
ROSC	**El Rosal**	**138.91**	**37**	*e*P		PKPpre	07 22 12.1		
ORTC	**Ortega, Tolima**	**139.20**	**39**	*e*P		PKPpre	07 22 08.8		
CHIC	**Chingaza**	**139.39**	**36**	*e*P		PKPpre	07 22 12.1		
POPC	**Popayan, Colom**	**139.52**	**42**	*e*P		PKPpre	07 22 08.7		
MARP	**Paez Belalcaza**	**139.69**	**41**	*e*P		PKPpre	07 22 15.6		
VILC	**Villavicencio,**	**139.85**	**37**	*e*P		PKPpre	07 22 13.0		
PCON	**Cinco Dias**	**139.85**	**42**	*e*P		PKPpre	07 22 13.2		
SOTA	**Rioblanco**	**139.89**	**42**	*e*P		PKPpre	07 22 13.3		
BETC	**Betania**	**140.11**	**40**	*e*P		PKPpre	07 22 13.9		
GCUF	**Volcan Galeras**	**140.18**	**44**	*e*P		PKPpre	07 22 14.9		
GARC	**Garzon, Huila**	**140.48**	**41**	*e*P		PKPpre	07 22 15.6		
PTGC	**Puerto Gaitan,**	**140.56**	**34**	*e*P		PKPpre	07 22 12.0		
FLOC	**Florencia**	**140.89**	**41**	*e*P		PKPpre	07 22 14.6		
MACC	**Macarena, Meta**	**141.43**	**38**	*e*P		PKPpre	07 22 16.0		
GUVC	**San Jose del G**	**141.74**	**36**	*e*P		PKPpre	07 22 17.5		
PTLC	**Puerto Leguiza**	**142.53**	**41**	*e*P		**PKPdf**	07 22 21.7	**-3.7**	
PMSA	**Palmer Station**	**144.12**	**171**	*e*P		**PKPdf**	07 22 25.9	**-0.6**	
MDP	**Montagnes des**	**145.21**	**3**	PKPbc		**PKPbc**	07 22 30.2	**+0.1**	
	comp=Z,70nm,0.8s,baz=359,slow=2.9,SNR=29								
MDP				SKPbc		**SKPbc**	07 25 48.7	**0.0**	
	comp=Z,30nm,0.9s,baz=102,slow=2.8,SNR=6.7								
ATAH	**Atahualpa**	**145.77**	**54**	PKPbc		**PKPab**	07 22 33.0	**-0.1**	
	comp=Z,69nm,0.7s,baz=302,slow=1.9,SNR=43								
ATAH				SKPbc		**SKiKP**	07 25 50.9	**0.0**	
	comp=Z,5.6nm,0.8s,baz=338,slow=5.4,SNR=3.6								
BOAV	**Boa Vista**	**146.67**	**17**	*e*P		**PKPdf**	07 22 33.3	**+0.7**	
TBTG	**Tabatinga, AM**	**148.85**	**39**	*e*P		**PKPbc**	07 22 39.7	**-0.6**	
TBTG	**Tabatinga, AM**	**148.85**	**39**	*e*P		**PKPdf**	07 22 36.6	**+0.4**	
NNA	**Nana**	**150.17**	**59**	PKPbc		**PKPbc**	07 22 43.1	**-0.4**	
	comp=Z,229nm,0.7s,baz=289,slow=4.8,SNR=4.7								
NNA	**Nana**	**150.17**	**59**	*c i*PKIKP		**PKPbc**	07 22 43.4	**-0.1**	
NNA				pmax		pmax			
	comp=Z,386nm,0.6s								
MCPB	**Macapa, AP**	**150.65**	**2**	*e*P		**PKPdf**	07 22 39.6	**+0.6**	
MACA	**Manacapuru-AM**	**151.92**	**21**	*e*P		**PKPdf**	07 22 41.0	**+0.1**	
USHA	**Ushuaia**	**152.08**	**158**	PKPbc		**PKiKP**	07 22 47.8	**+0.9**	
	comp=Z,73nm,0.9s,baz=167,slow=1.1,SNR=10								
USHA				PKPab		**PKPab**	07 22 57.2	**+0.2**	
	comp=Z,19nm,0.7s,baz=246,slow=4.7,SNR=5.0								
RCBR	**Riachuelo**	**152.16**	**326**	PKP		**PKPdf**	07 22 41.7	**+0.4**	
	comp=Z,7.5nm,0.9s,baz=309,slow=6.5,SNR=1.7								
RCBR				PKPbc		**PKiKP**	07 22 48.4	**0.0**	
	comp=Z,36nm,0.8s,baz=160,slow=2.1,SNR=12								
RCBR				PKPab		**PKPab**	07 22 59.1	**+0.5**	
	comp=Z,20nm,0.6s,baz=154,slow=5.1,SNR=13								
MG03	**Isla Dawson**	**152.18**	**155**	PKPbc		**PKiKP**	07 22 47.9	**+0.8**	
ROSB	**Rosario**	**152.40**	**345**	*e*P		**PKPdf**	07 22 42.2	**+0.6**	
TMAB	**Tom-Au,PA,Br**	**152.52**	**354**	*e*P		**PKPdf**	07 22 42.2	**+0.4**	
MG05	**Puerto Natales**	**153.00**	**150**			**PKiKP**	07 22 50.0	**+1.1**	
NBPS	**Pedro II - PI**	**153.10**	**338**	*e*P		**PKPdf**	07 22 42.6	**-0.2**	
NBPB	**Pedra_Branca-C**	**153.51**	**334**	*e*P		**PKPdf**	07 22 43.7	**+0.4**	
ITTB	**Itaituba**	**154.26**	**11**	*e*P		**PKPdf**	07 22 44.8	**+0.4**	
NBCA	**Caruaru-PE**	**154.28**	**324**	*e*P		**PKPdf**	07 22 44.9	**+0.5**	
NBMA	**Muriti-CE**	**154.83**	**330**	*e*P		**PKPdf**	07 22 45.8	**+0.6**	
ETMB	**Extrema**	**155.53**	**39**	*e*P		**PKPdf**	07 22 45.9	**-0.1**	
NBAN	**Anadia - AL**	**155.63**	**322**	*e*P		**PKPdf**	07 22 46.8	**+0.7**	
PRPB	**Parauapebas**	**156.41**	**357**	*e*P		**PKPdf**	07 22 47.4	**+0.1**	
NPGB	**Novo Progresso**	**156.95**	**11**	*e*P		**PKPdf**	07 22 48.4	**+0.5**	
NBLA	**Lagarto - SE**	**157.53**	**324**	*e*P		**PKPdf**	07 22 49.4	**+0.9**	
LPAZ	**La Paz**	**159.31**	**53**	PKP		**PKPdf**	07 22 52.1	**+0.7**	
	comp=Z,13nm,1.1s,baz=359,slow=3.8,SNR=25								
LPAZ				PKPab		**PKPab**	07 23 29.5	**-0.4**	
	comp=Z,16nm,0.9s,baz=334,slow=3.6,SNR=10								
LPAZ				PP		**PP**	07 27 08.5	**-2.9**	
	comp=Z,2.4nm,1.0s,baz=306,slow=1.5,SNR=2.6								
LPAZ	**La Paz**	**159.31**	**53**	PKIKP		**PKPdf**	07 22 48.9	**-2.5**	
LPAZ							07 23 29.0		
LPAZ	**La Paz**	**159.31**	**53**	PKPdf		**PKPdf**	07 22 48.9	**-2.5**	
LPAZ				PKPab		**PKPab**	07 23 29.0	**-0.9**	
LPAZ	**La Paz**	**159.31**	**53**	*e*P		**PKPdf**	07 22 52.5	**+1.2**	
LPAZ	**La Paz**	**159.31**	**53**	*e*P		**PKPdf**	07 22 51.5	**+0.1**	
LL03	**Petrohue**	**159.34**	**129**			**PKPdf**	07 22 50.0	**0.0**	
LL03				PKPab		**PKPab**	07 23 29.6	**+0.9**	
LL04	**Puerto Octay**	**159.43**	**128**	PKPdf		**PKPdf**	07 22 49.2	**-0.9**	
LL04				PKPab		**PKPab**	07 23 29.6	**+0.4**	
LR03	**Panguipulli**	**160.00**	**125**			**PKPdf**	07 22 48.1	**-2.6**	
LR03				PKPab		**PKPab**	07 23 32.5	**+0.9**	
PB11	**IPOC Station P**	**160.36**	**63**	PKPdf		**PKPdf**	07 22 50.5	**-1.5**	
PB11						**PKPab**	07 23 33.2	**-0.7**	
CLDB	**Colider**	**160.60**	**14**	*e*P		**PKPdf**	07 22 52.7	**+0.5**	
LC01	**Cunco**	**160.61**	**123**	PKPdf		**PKPdf**	07 22 50.1	**-1.4**	
LC01				PKPab		**PKPab**	07 23 35.4	**+1.0**	
GDU01	**Guandu, BA**	**160.76**	**324**	*e*P		**PKPdf**	07 22 53.0	**+0.7**	
PLCA	**Paso Flores**	**160.77**	**130**	PKP		**PKPdf**	07 22 51.8	**+0.1**	
	comp=Z,7.2nm,1.0s,baz=323,slow=0.8,SNR=12								
PLCA				PKPab		**PKPab**	07 23 34.9	**-0.2**	
	comp=Z,15nm,0.9s,baz=234,slow=6.2,SNR=10								
PLCA	**Paso Flores**	**160.77**	**130**	PKPdf		**PKPdf**	07 22 52.2	**+0.5**	
PLCA				PKPab		**PKPab**	07 23 37.1	**+2.0**	
PLCA	**Paso Flores**	**160.77**	**130**	*e*P		**PKPdf**	07 22 52.2	**+0.5**	
VILB	**Vilhena**	**161.16**	**29**	*e*P		**PKPdf**	07 22

MKAR Makanchi Array 55.65 324 P **P** **07 32 14.0 -2.6**
0.3nm,0.4s,baz=105,slow=7.9,SNR=8.4

MOS ***14*** *07:26:39.2±1.0,56˚.40S×26˚.95W,h84km,mb5.6/20, Error ellipse: s-maj=15.6km s-min=9.5km az=107.9*

NEIC ***14*** *07:26:40.6±1.8,56˚.43S±0˚.09×27˚.0W±0˚.1,h84km±1km, mb5.7/173,Mwb5.7/19,Mww5.6, Error ellipse: s-maj=15.0km s-min=13.4km az=211.0*

NEIC ***14*** *07:26:41.7,56˚.43S×27˚.00W,h88km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.09; Mθθ 1.66; Mφφ-1.58; Mrθ-2.24; Mrφ 0.75; Mθφ2.51; Fault plane solution: M₀3.81000×10¹⁷ NP1:φs219.57000°, δ27.14000°, λ178.93000°. NP2:φs310.53000°, δ89.51000°, λ62.86000°. Principal axes: T 3.3678, Plg39.0000°, Azm196.0000°; N 0.7704, Plg27.0000°, Azm311.0000°; P -4.1382, Plg39.0000°, Azm65.0000°;*

BJI ***14*** *07:26:42.7±0.0,56˚.50S×27˚.10W,h110km,mB5.4/19*

GCMT ***14*** *07:26:43.6±0.1,56˚.46S±0˚.01×26˚.61W±0˚.01,h93km±1km, MW5.7/158,Moment Tensor Solution. s140,c272; s158,c319; Duration: 1s6 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.33±.04; Mθθ2.13±.05; Mφφ-0.80±.05; Mrθ-2.24±.03; Mrφ0.75±.04; Mθφ2.52±.03; Best double couple: M₀3.81900×10¹⁷ NP1:φs230.00000°, δ29.00000°, λ-160.00000°. NP2:φs122.00000°, δ80.00000°, λ-62.00000°. Principal axes: T 3.2960, Plg30.0000°, Azm190.0000°; N 1.0450, Plg27.0000°, Azm297.0000°; P -4.3430, Plg47.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***14*** *07:26:43.5±0.8,56˚.40S×26˚.82W,h113km±6km,mb5.2/26, mb1 5.3/28,mb1mx5.1/34,mbtmp5.6/28,MS4.5/35, Ms1 4.5/35,ms1mx4.5/40 Error ellipse: s-maj=10.6km s-min=7.5km az=47.0*

NEIC ***14*** *07:26:44,56˚.44S×27˚.46W,h80km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.86; Mθθ1.48; Mφφ-0.62; Mrθ-1.82; Mrφ1.89; Mθφ1.87; Fault plane solution: M₀3.47000×10¹⁷ NP1: φs205.00000°, δ50.00000°, λ-159.00000°. NP2: φs101.00000°, δ74.00000°, λ-42.00000°. Principal axes: T 2.7685, Plg16.0000°, Azm159.0000°; N 1.1218, Plg45.0000°, Azm265.0000°; P -3.8903, Plg40.0000°, Azm55.0000°;*

ISC 14 07:26:41.6±0.5,56˚.52S±0˚.04×26˚.94W±0˚.04,h100km±3km, h100km:pP-P,n936,σ1ᵍ35/1011,mb5.7/119,39C-52D, Fault plane solution: NP1:φs122.90464°, δ64.43731°, λ-67.95411°. **NP2:**φs259.72199°, δ33.26377°, λ-128.12216°. **Principal axes:** T Plg16.6267°, Azm196.8238°; N Plg19.7921°, Azm292.9929°; P Plg63.6844°, Azm69.6813°; **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.88**	**288**	P	**Pn**	**07 28 05.2**	**-0.9**
HOPE	**Hope Point**	**5.88**	**288**		**Pn**	**07 28 05.2**	**-0.9**
HOPE	**Hope Point**	**5.88**	**288**	P	**Pn**	**07 28 06.7**	**+0.6**
ORCD	**Orcadas**	**10.19**	**238**		**Pn**	**07 29 05.9**	**+1.4**
VNA1	**Neumayer--Stat**	**16.31**	**158**	P	**Pn**	**07 30 25.2**	**+0.9**
VNA1	**Neumayer--Stat**	**16.31**	**158**	ScP	**ScP**	**07 38 36.4**	**+0.3**
VNA1	**Neumayer--Stat**	**16.31**	**158**	S	**Sn**	**07 33 20.2**	**-4.5**
ESPZ	**Base Esperanza**	**16.42**	**233**		**Pn**	**07 30 25.8**	**+0.1**
VNA3	**Neumayer Olymp**	**16.50**	**160**	P	**Pn**	**07 30 27.3**	**+0.7**
VNA3	**Neumayer Olymp**	**16.50**	**160**	ScP	**ScP**	**07 38 36.1**	**-0.6**
VNA3	**Neumayer Olymp**	**16.50**	**160**	S	**Sn**	**07 33 23.8**	**-5.6**
VNA2	**Neumayer--Watz** baz=318,slow=13	**16.71**	**158**	P	**Pn**	**07 30 28.8**	**-0.4**
VNA2	**Neumayer--Watz**	**16.71**	**158**	PcP	**PcP**	**07 35 12.5**	**+0.8**
VNA2	**Neumayer--Watz**	**16.71**	**158**	ScP	**ScP**	**07 38 36.9**	**-0.1**
VNA2	**Neumayer--Watz**	**16.71**	**158**	S	**Sn**	**07 33 30.4**	**-3.8**
SNAA	**Sanae**	**18.26**	**156**	P	**P**	**07 30 47.9**	**+1.0**
SNAA	**Sanae**	**18.26**	**156**	PcP	**PcP**	**07 35 15.7**	**+1.3**
SNAA	**Sanae**	**18.26**	**156**	ScP	**ScP**	**07 38 40.0**	**-0.3**
SNAA	**Sanae**	**18.26**	**156**	S	**S**	**07 34 06.5**	**-3.8**
SNAA	**Sanae** 8.9nm,0.3s,baz=298,slow=10,SNR=90	**18.26**	**156**	P	**Pn**	**07 30 48.5**	**+0.5**
SNAA				S	**S**	**07 34 05.6**	**-4.7**
SNAA	2.7nm,0.3s,baz=351,slow=12,SNR=2.0			LR	LR	07 36 29.3	
SNAA	comp=Z,825nm,19.6s,baz=332,slow=32			ScP	**ScP**	**07 38 39.4**	**-0.9**
SNAA	1.5nm,0.3s,baz=62,slow=0.4,SNR=16			ScS	**ScS**	**07 42 19.9**	**-0.9**
SNAA	0.1nm,0.3s,baz=307,slow=20,SNR=7.1			pmax	pmax		
SNAA	**Sanae**	**18.26**	**156**	*c* *i* P	**P**	**07 30 47.7**	**+0.8**
SNAA	comp=Z,750nm,2.5s			P	**P**	**07 30 47.7**	**+0.8**
SNAA	**Sanae**	**18.26**	**156**	IAmb	IAmb	07 30 56.6	
SNAA	comp=Z,313nm,0.8s			P	**P**	**07 30 52.5**	**-0.2**
EFI	**East Falkland**	**18.78**	**272**	*i* P			
EFI	comp=Z,226nm,0.8s			pmax	pmax		
EFI	**East Falkland**	**18.78**	**272**	P	**Pn**	**07 30 53.9**	**-0.4**
EFI	comp=Z,223nm,0.8s			IAmb	IAmb	07 30 57.5	
PMSA	**Palmer Station**	**19.70**	**230**	P	**Pn**	**07 31 06.1**	**+1.2**
PMSA	comp=Z,17nm,0.3s,baz=76,slow=8.8,SNR=34			LR	LR	07 37 50.6	
PMSA	comp=Z,3μm,19.7s,baz=82,slow=34			ScP	**ScP**	**07 38 41.2**	**-2.3**
PMSA	comp=Z,6.1nm,0.3s,baz=1.3,slow=21,SNR=5.6 **Palmer Station**	**19.70**	**230**	P	**P**	**07 31 04.1**	**+1.5**
PMSA	comp=Z,473nm,0.8s			IAmb	IAmb	07 31 08.9	
PMSA	**Palmer Station**	**19.70**	**230**	P	**Pn**	**07 31 06.1**	**+1.2**
SMAI	**San Martin Ant**	**21.50**	**221**	P	**P**	**07 31 22.2**	**+0.4**
BELA	**Belgrano 2**	**21.62**	**184**	P	**P**	**07 31 23.6**	**+0.5**
BELA	comp=Z,690nm,1.1s			IAmb	IAmb	07 31 25.1	
H09W1	**TRISTAN DA CUN** SNR=12	**21.76**	**33**	P	**P**	**07 31 25.3**	**+0.5**
H09W1				T	T	07 54 36.8	
H09N1	SNR=6.0 **TRISTAN DA CUN** SNR=23	**21.79**	**33**	P	**P**	**07 31 24.2**	**-1.0**
NVL	**N'lazarevskaya**	**21.80**	**146**	*e*P	**P**	**07 31 31.1**	**+6.1**
NVL	comp=Z,202nm,1.4s			pmax	pmax		
MG01	**Puerto William**	**22.74**	**257**	P	**P**	**07 31 35.1**	**+0.2**
MG01	comp=Z,846nm,1.8s			IAmb	IAmb	07 32 20.0	
USHA	**Ushuaia**	**23.21**	**257**	P	**P**	**07 31 40.5**	**+1.1**
USHA	comp=Z,42nm,0.8s,baz=96,slow=7.8,SNR=15			PcP	**PcP**	**07 35 25.0**	**+1.1**
USHA	comp=Z,10nm,0.7s,baz=20,slow=11,SNR=2.2			ScP	**ScP**	**07 38 51.0**	**-1.4**
USHA	comp=Z,15nm,0.6s,baz=118,slow=6.6,SNR=9.6			LR	LR	07 39 49.3	
DSPA	comp=Z,2μm,19.6s,baz=104,slow=34 **Despedida**	**23.45**	**259**	P	**P**	**07 31 41.6**	**-0.1**
MG02	**Cerro Sombrero**	**24.46**	**261**	P	**P**	**07 31 50.9**	**+0.1**
MG03	**Isla Dawson**	**24.68**	**258**	P	**P**	**07 31 54.1**	**+1.3**
MG03	comp=Z,580nm,2.0s			IAmb	IAmb	07 32 21.9	
MG04	**Isla Riesco**	**25.70**	**259**	P	**P**	**07 32 02.5**	**+0.4**
MG04	comp=Z,468nm,1.4s			IAmb	IAmb	07 32 46.9	
MG05	**Puerto Natales**	**26.76**	**261**	P	**P**	**07 32 11.9**	**+0.3**
COYC	**Coyhaique**	**29.88**	**272**	P	**P**	**07 32 39.6**	**+0.2**
COYC	**Coyhaique**	**29.88**	**272**	P	**P**	**07 32 40.5**	**+1.2**
PLTB	**Pedras Altas**	**30.91**	**312**	P	**P**	**07 32 48.3**	**-0.3**
PLTB	comp=Z,146nm,0.5s			IAmb	IAmb	07 32 50.4	
PLTB	**Pedras Altas**	**30.91**	**312**	*e*P	**P**	**07 32 48.7**	**+0.1**
AY01	**Puyuhuapi**	**30.92**	**273**	P	**P**	**07 32 47.8**	**-0.7**
AY01	comp=Z,85nm,0.8s			IAmb	IAmb	07 32 50.0	
SYO	**Syowa Base**	**31.13**	**140**	‖ *e*P	**P**	**07 32 51.4**	**+1.3**
SYO	**Syowa Base**	**31.13**	**140**	‖ epP	pP	07 33 07.2	-4.4
LL02	**Futaleuf**	**31.27**	**276**	P	**P**	**07 32 51.3**	**-0.4**
CPSB	**Cacapava Do Su**	**32.04**	**313**	*e*P	**P**	**07 32 58.5**	**0.0**
TER01	**Tubaro-SC**	**32.10**	**321**	*e*P	**P**	**07 32 58.9**	**-0.2**
PLCA	**Paso Flores** comp=Z,21nm,0.7s,baz=146,slow=8.2,SNR=95	**32.22**	**281**	P	**P**	**07 32 59.2**	**-0.9**
PLCA				PcP	**PcP**	**07 35 46.5**	**+0.3**
PLCA	comp=Z,4.1nm,0.7s,baz=180,slow=9.9,SNR=2.1			ScP	**ScP**	**07 39 18.4**	**-2.0**
PLCA	comp=Z,15nm,0.7s,baz=72,slow=2.0,SNR=17			LR	LR	07 45 31.4	
PLCA	comp=Z,1μm,18.7s,baz=130,slow=35 **Paso Flores**	**32.22**	**281**	P	**P**	**07 32 58.5**	**-1.6**
PLCA	**Paso Flores**	**32.22**	**281**	*e*P	**P**	**07 32 59.6**	**-0.5**
GO07	**Milladeo Hill,**	**32.32**	**274**	P	**P**	**07 32 58.5**	**-2.4**
GO07	comp=Z,75nm,0.5s			IAmb	IAmb	07 33 04.4	
LL03	**Petrohue**	**32.95**	**278**	P	**P**	**07 33 05.7**	**-0.7**
LL04	**Puerto Octay**	**33.11**	**279**	P	**P**	**07 33 06.6**	**-1.1**
LL05	**Los Muermos**	**33.36**	**277**	P	**P**	**07 33 09.4**	**-0.5**
LL05	comp=Z,72nm,0.9s			IAmb	IAmb	07 33 10.7	
QSPA	**South Pole Qui**	**33.73**	**180**	P	**P**	**07 33 14.8**	**+1.7**
QSPA	comp=Z,97nm,0.8s,baz=204,slow=4.3,SNR=358			ScP	**ScP**	**07 39 24.3**	**-1.0**
QSPA	comp=Z,81nm,0.7s,baz=214,slow=1.1,SNR=20			LR	LR	07 46 23.0	
QSPA	comp=Z,1μm,20.9s,baz=186,slow=35 **South Pole Qui**	**33.73**	**180**	P	**P**	**07 33 14.8**	**+1.7**
QSPA	**South Pole Qui**	**33.73**	**180**	P	**P**	**07 33 14.9**	**+1.7**
LR03	**Panguipulli**	**33.97**	**280**	P	**P**	**07 33 14.8**	**-0.5**
LR03					**PcP**	**07 35 50.9**	**-0.1**
ITQB	**Itaqui**	**34.00**	**310**	P	**P**	**07 33 14.8**	**-0.8**
ITQB	comp=Z,86nm,0.7s			IAmb	IAmb	07 33 17.8	
ITQB	**Itaqui**	**34.00**	**310**	*e*P	**P**	**07 33 15.3**	**-0.2**
LC01	**Cunco**	**34.24**	**282**	P	**P**	**07 33 16.4**	**-1.1**
ITAB	**Concordia**	**34.36**	**318**	P	**P**	**07 33 18.4**	**-0.3**
ITAB	comp=Z,332nm,1.9s			IAmb	IAmb	07 33 22.1	
ITAB	**Concordia**	**34.36**	**318**	*e*P	**P**	**07 33 19.9**	**+1.2**
LR04	**Corral**	**34.39**	**279**	P	**P**	**07 33 19.0**	**+0.2**
LR04	comp=Z,86nm,1.2s			IAmb	IAmb	07 33 20.2	
PET01	**Itanhaem-SP**	**35.44**	**327**	*e*P	**P**	**07 33 29.4**	**+1.5**
PARB	**Paraibuna**	**35.86**	**330**	*e*P	**P**	**07 33 32.6**	**+1.0**
MAN01	**Angra dos Reis**	**35.86**	**333**	*e*P	**P**	**07 33 33.0**	**+1.3**
DUB01	**Friburgo-RJ**	**36.23**	**335**	*e*P	**P**	**07 33 35.9**	**+1.1**
ML02	**Panimavida**	**36.30**	**286**	P	**P**	**07 33 33.9**	**-1.4**
CAM01	**Campos-RJ**	**36.31**	**337**	*e*P	**P**	**07 33 36.6**	**+1.2**
BI05	**Punta Hualpn**	**36.52**	**283**	P	**P**	**07 33 37.0**	**0.0**
BI05	comp=Z,111nm,1.4s			IAmb	IAmb	07 34 18.2	
VAO	**Valinhos**	**36.56**	**328**	*e*P	**P**	**07 33 39.2**	**+1.6**
PTGB	**Pitanga**	**36.63**	**320**	*e*P	**P**	**07 33 38.3**	**+0.1**
BO02	**Sierra Bellavi**	**36.70**	**287**	P	**P**	**07 33 37.2**	**-1.5**
BO02					**PcP**	**07 35 59.9**	**+0.7**
FRTB	**Fartura**	**37.04**	**324**	*e*P	**P**	**07 33 43.8**	**+2.1**
LMEL	**Las Melosas**	**37.12**	**289**	P	**P**	**07 33 41.9**	**-0.5**
GO05	**Huala**	**37.14**	**286**	P	**P**	**07 33 41.0**	**-1.5**
GO05	comp=Z,86nm,1.4s			IAmb	IAmb	07 33 43.7	
BO01	**Tunca**	**37.16**	**288**	P	**P**	**07 33 40.9**	**-1.7**
BO04	**La Punta**	**37.22**	**288**	P	**P**	**07 33 41.6**	**-1.5**
BO04	comp=Z,32nm,0.5s			IAmb	IAmb	07 33 45.4	
CPUP	**Villa Florida**	**37.22**	**311**	P	**P**	**07 33 42.4**	**-0.7**
CPUP	comp=Z,66nm,0.5s,baz=148,slow=7.9,SNR=172			PcP	**PcP**	**07 36 00.7**	**-0.1**
CPUP	comp=Z,9.3nm,0.5s,baz=46,slow=2.8,SNR=4.6			ScP	**ScP**	**07 39 35.9**	**-2.5**
CPUP	comp=Z,30nm,1.2s,baz=157,slow=2.4,SNR=13 **Villa Florida**	**37.22**	**311**	P	**P**	**07 33 42.7**	**-0.5**
CPUP	comp=Z,65nm,0.6s			pmax	pmax		
CPUP	**Villa Florida**	**37.22**	**311**	P	**P**	**07 33 42.6**	**-0.5**
CPUP	comp=Z,65nm,0.6s			IAmb	IAmb	07 33 44.3	
CPUP	**Villa Florida**	**37.22**	**311**	*e*P	**P**	**07 33 43.0**	**-0.2**
RCLB	**Rio Claro- Sao**	**37.28**	**327**	*e*P	**P**	**07 33 45.5**	**+1.8**
ALF01	**Guarapari-ES**	**37.29**	**338**	*e*P	**P**	**07 33 44.8**	**+1.1**
MT03	**Universidad Ad**	**37.56**	**289**	P	**P**	**07 33 46.4**	**+0.4**
MT03	comp=Z,74nm,0.5s			IAmb	IAmb	07 33 49.0	
MT09	**Talagante**	**37.59**	**288**	P	**P**	**07 33 44.4**	**-2.0**
MT01	**Popeta**	**37.66**	**288**	P	**P**	**07 33 45.1**	**-1.7**
MT01	comp=Z,44nm,0.7s			IAmb	IAmb	07 33 48.1	
MT05	**Renca**	**37.75**	**289**	P	**P**	**07 33 47.3**	**-0.4**
MT05	comp=Z,61nm,0.7s			IAmb	IAmb	07 33 49.4	
BSCB	**Bom Sucesso**	**37.86**	**332**	*e*P	**P**	**07 33 49.6**	**+1.0**
PEL	**Peldehue**	**37.92**	**289**	P	**P**	**07 33 47.9**	**-1.1**
PEL	comp=Z,116nm,0.6s			pmax	pmax		
PEL	**Peldehue**	**37.92**	**289**	P	**P**	**07 33 47.9**	**-1.1**
PEL	**Peldehue**	**37.92**	**289**	P	**P**	**07 33 48.8**	**-0.2**
PEL				pP	pP	07 33 56.4	-15
VA05	**Santo Domingo**	**38.01**	**288**	P	**P**	**07 33 48.6**	**-1.1**
MT02	**Curacav**	**38.07**	**289**	P	**P**	**07 33 49.2**	**-1.0**
MT02	comp=Z,90nm,0.7s			IAmb	IAmb	07 33 50.8	
ZON	**Zonda**	**38.14**	**293**	P	**P**	**07 33 49.0**	**-1.9**
ZON	comp=Z,57nm,0.7s			pmax	pmax		
ZON	**Zonda**	**38.14**	**293**	P	**P**	**07 33 49.0**	**-1.9**
ZON	comp=Z,57nm,0.7s			IAmb	IAmb	07 33 53.6	
VA03	**San Esteban**	**38.15**	**290**	P	**P**	**07 33 49.9**	**-1.1**
VA03	comp=Z,73nm,0.6s			IAmb	IAmb	07 33 52.4	
ROC1	**El Roble**	**38.22**	**289**	P	**P**	**07 33 49.6**	**-2.3**
RIB01	**Linhares ES**	**38.49**	**339**	*e*P	**P**	**07 33 54.7**	**+0.9**
VA01	**Torpederas**	**38.52**	**288**	P	**P**	**07 33 53.4**	**-0.6**
TRCB	**Terra Rica**	**38.60**	**320**	P	**P**	**07 33 54.5**	**-0.3**
TRCB	**Terra Rica**	**38.60**	**320**	*e*P	**P**	**07 33 54.9**	**+0.2**
VA06	**Catapilco**	**38.70**	**289**	P	**P**	**07 33 54.2**	**-1.2**
VA06	comp=Z,102nm,1.1s			IAmb	IAmb	07 34 36.4	
BB19B	**Bebedouro**	**38.85**	**327**	*e*P	**P**	**07 33 57.9**	**+1.0**
PCMB	**Pacaembu**	**39.22**	**323**	*e*P	**P**	**07 34 00.3**	**+0.4**
SJMB	**Sao Joao De Ma**	**39.24**	**338**	*e*P	**P**	**07 34 00.4**	**+0.3**
CO02	**Combarbal**	**39.61**	**291**	P	**P**	**07 34 02.2**	**-1.0**
CO02	comp=Z,64nm,0.6s			IAmb	IAmb	07 34 04.5	
MAW	**Mawson**	**39.69**	**143**	P	**P**	**07 34 04.8**	**+1.5**
MAW	comp=Z,37nm,0.9s,baz=223,slow=6.7,SNR=10.0			LR	LR	07 48 16.3	
CO03	comp=Z,390nm,19.9s,baz=254,slow=32 **El Pedregal**	**39.74**	**292**	P	**P**	**07 34 03.9**	**-0.4**
CO03	comp=Z,39nm,0.5s			IAmb	IAmb	07 34 09.1	
NAN01	**Guarapari, ES**	**39.87**	**340**	*e*P	**P**	**07 34 05.5**	**+0.2**
DIAM	**Diamantina, MG**	**40.18**	**335**	*e*P	**P**	**07 34 08.5**	**+0.5**
GO04	**Tololo Observa**	**40.33**	**292**	P	**P**	**07 34 08.7**	**-0.6**
GO04	comp=Z,105nm,0.6s			IAmb	IAmb	07 34 14.3	
CO06	**Fray Jorge**	**40.36**	**291**	P	**P**	**07 34 08.4**	**-0.9**
SUR	**Sutherland**	**40.63**	**74**	LR	LR	07 47 53.6	
SUR	comp=Z,2μm,18.8s,baz=210,slow=31 **Sutherland**	**40.63**	**74**	P	**P**	**07 34 11.9**	**+0.2**
ITRB	**Iturama**	**40.70**	**325**	*e*P	**P**	**07 34 12.7**	**+0.5**
CO05	**La Serena**	**40.76**	**292**	P	**P**	**07 34 11.1**	**-1.4**
CO05	comp=Z,124nm,0.6s			IAmb	IAmb	07 34 14.9	
GUA01	**Guaratinga, BA**	**41.04**	**341**	*e*P	**P**	**07 34 15.5**	**+0.6**
LCO	**Las Campanas**	**41.22**	**293**	P	**P**	**07 34 15.4**	**-1.3**
LCO	comp=Z,72nm,0.9s			pmax	pmax		
LCO	**Las Campanas**	**41.22**	**293**	P	**P**	**07 34 15.4**	**-1.3**
LCO	comp=Z,72nm,0.9s			IAmb	IAmb	07 34 18.2	
LCO	**Las Campanas**	**41.22**	**293**	P	**P**	**07 34 16.7**	**+0.1**
LCO				pP	pP	07 34 26.6	-12
IPMB	**Ipameri, GO**	**41.67**	**329**	*e*P	**P**	**07 34 20.8**	**+0.6**
AQDB	**Aquidauana**	**41.84**	**317**	P	**P**	**07 34 20.2**	**-1.2**
AQDB	comp=Z,110nm,0.5s			IAmb	IAmb	07 34 22.2	
AQDB	**Aquidauana**	**41.84**	**317**	*e*P	**P**	**07 34 20.7**	**-0.8**
AC04	**Llanos de Chal**	**42.06**	**293**	P	**P**	**07 34 22.7**	**-0.6**
AC04	comp=Z,163nm,0.8s			IAmb	IAmb	07 34 24.8	
H03N3	**Juan Fernandez** baz=106,slow=75,SNR=11	**42.09**	**281**	P	**P**	**07 34 23.0**	**-0.2**
H03N1	**Juan Fernandez** baz=106,slow=75,SNR=21	**42.09**	**281**	P	**P**	**07 34 23.4**	**+0.2**
H03N2	**Juan Fernandez** baz=106,slow=75,SNR=7.7	**42.11**	**281**	P	**P**	**07 34 20.0**	**-3.2**
GO03	**Copiap**	**42.14**	**295**	P	**P**	**07 34 22.9**	**-1.0**
GO03	comp=Z,92nm,0.6s			IAmb	IAmb	07 34 25.4	
CMC01	**Camacan, BA**	**42.18**	**342**	*e*P	**P**	**07 34 24.6**	**+0.3**
AC02	**Maricunga**	**42.21**	**297**	P	**P**	**07 34 25.0**	**0.0**
AC06	**Mina Casimiro**	**42.39**	**295**	P	**P**	**07 34 25.0**	**-1.0**
AC06	comp=Z,201nm,1.4s			IAmb	IAmb	07 34 27.6	
NBIT	**Itapeh - BA**	**42.59**	**342**	*e*P	**P**	**07 34 28.1**	**+0.5**
JANB	**Januaria**	**43.45**	**335**	*e*P	**P**	**07 34 34.7**	**+0.1**
AC01	**Pan de Azucar**	**43.51**	**296**	P	**P**	**07 34 34.5**	**-0.4**
AC01	comp=Z,106nm,1.2s			IAmb	IAmb	07 34 36.8	
SHEL	**Horse Pasture**	**43.57**	**30**	P	**P**	**07 34 36.3**	**+0.8**
SHEL	comp=Z,344nm,0.9s			pmax	pmax		
SHEL	**Horse Pasture**	**43.57**	**30**	P	**P**	**07 34 36.3**	**+0.8**
GDU01	**Guandu, BA**	**43.80**	**342**	*e*P	**P**	**07 34 37.2**	**-0.1**
BDFB	**Brasilia**	**43.84**	**330**	P	**P**	**07 34 38.4**	**+0.6**
BDFB	comp=Z,12nm,0.6s,baz=146,slow=5.4,SNR=28			ScP	**ScP**	**07 40 03.1**	**-1.5**
BDFB	comp=Z,3.5nm,0.9s,baz=87,slow=6.2,SNR=3.8			LR	LR	07 54 30.4	
BDFB	comp=Z,576nm,18.1s,baz=151,slow=38 **Brasilia**	**43.84**	**330**	P	**P**	**07 34 38.0**	**+0.3**
PP1B	**Ponte de Pedra**	**44.18**	**320**	*e*P	**P**	**07 34 40.3**	**-0.1**
PB14	**IPOC Station P**	**44.68**	**297**	P	**P**	**07 34 43.3**	**-1.3**
PB14	comp=Z,94nm,0.6s			IAmb	IAmb	07 34 45.5	
ARAG	**Araguaiana, MT**	**44.91**	**325**	*e*P	**P**	**07 34 46.7**	**+0.6**
PB15	**IPOC Station P**	**45.42**	**299**	P	**P**	**07 34 50.0**	**-0.4**
SBA	**Scott Base**	**45.62**	**184**	P	**P**	**07 34 52.7**	**+1.6**
SBA	comp=Z,96nm,1.1s			pmax	pmax		
SBA	**Scott Base**	**45.62**	**184**	P	**P**	**07 34 52.7**	**+1.6**
SBA	comp=Z,96nm,1.1s			IAmb	IAmb	07 34 56.7	
LVC	**Limon Verde**	**45.66**	**300**	P	**P**	**07 34 52.9**	**+0.4**
LVC	comp=Z,301nm,0.6s,baz=146,slow=4.6,SNR=251			ScP	**ScP**	**07 40 10.2**	**-2.2**
LVC	comp=Z,23nm,0.8s,baz=189,slow=2.6,SNR=12			S	**S**	**07 41 27.8**	**-0.1**
LVC	comp=Z,11nm,0.9s,baz=325,slow=19,SNR=8.1			LR	LR	07 55 03.6	
LVC	comp=Z,283nm,20.1s,baz=167,slow=37 **Limon Verde**	**45.66**	**300**	P	**P**	**07 34 52.1**	**-0.4**
LVC	**Limon Verde**	**45.66**	**300**	*e*P	**P**	**07 34 52.8**	**+0.4**
LVC	**Limon Verde**	**45.66**	**300**	P	**P**	**07 34 52.5**	**+0.1**
PB10	**IPOC Station P**	**45.69**	**298**	P	**P**	**07 34 51.7**	**-0.6**
PB10	comp=Z,100nm,0.5s			IAmb	IAmb	07 34 53.9	
PB06	**IPOC Station P**	**45.89**	**299**	IAmb	IAmb	07 34 56.1	
BOSA	comp=Z,138nm,1.0s **Boshof**	**45.95**	**75**	P	**P**	**07 34 53.8**	**-0.7**
BOSA	comp=Z,69nm,0.9s,baz=218,slow=7.4,SNR=65			ScP	**ScP**	**07 40 11.3**	**-1.9**
BOSA	comp=Z,13nm,1.1s,baz=265,slow=5.1,SNR=3.9			LR	LR	07 51 09.1	
BOSA	comp=Z,2μm,19.1s,baz=222,slow=32 **Boshof**	**45.95**	**75**	P	**P**	**07 34 53.5**	**-1.0**
BOSA	comp=Z,288nm,1.6s			pmax	pmax		
BOSA	**Boshof**	**45.95**	**75**	P	**P**	**07 34 53.5**	**-1.0**
BOSA	comp=Z,288nm,1.6s			IAmb	IAmb	07 34 55.2	
BOSA	**Boshof**	**45.95**	**75**	*i* P	**P**	**07 34 54.4**	**-0.1**
BOSA	**Boshof**	**45.95**	**75**	*i* P	**P**	**07 34 54.4**	**-0.1**
SALV	**Santo Antonio**	**46.04**	**320**	*e*P	**P**	**07 34 55.0**	**0.0**
VNDA	**Vanda** comp=Z,109nm,0.7s,baz=186,slow=6.7,SNR=78	**46.11**	**183**	P	**P**	**07 34 56.8**	**+1.8**
VNDA	comp=Z,9.8nm,0.6s,baz=302,slow=1.4,SNR=9.4			ScP	**ScP**	**07 40 13.0**	**0.0**
VNDA	comp=Z,365nm,21.4s,baz=177,slow=34			LR	LR	07 53 05.0	
VNDA	**Vanda**	**46.11**	**183**	P	**P**	**07 34 57.0**	**+2.0**
VNDA	comp=Z,120nm,0.7s			pmax	pmax		
VNDA	**Vanda**	**46.11**	**183**	P	**P**	**07 34 57.0**	**+2.0**
VNDA	comp=Z,120nm,0.7s			IAmb	IAmb	07 35 00.6	
SDBA	**SAO DESIDERIO**	**46.15**	**335**	*e*P	**P**	**07 34 56.1**	**+0.1**
NBLA	**Lagarto - SE**	**46.20**	**345**	*e*P	**P**	**07 34 56.7**	**+0.4**
PB09	**IPOC Station P**	**46.51**	**300**	P	**P**	**07 34 59.5**	**+0.6**
NBPN	**Ponto Novo - B**	**46.72**	**342**	*e*P	**P**	**07 34 60.0**	**-0.4**
PB07	**IPOC Station P**	**46.88**	**300**	P	**P**	**07 35 01.7**	**-0.1**
CCD	**Concordia, Ant**	**47.19**	**170**	P	**P**	**07 35 04.5**	**+0.7**
PB02	**IPOC Station P**	**47.23**	**300**	P	**P**	**07 35 04.3**	**-0.1**
PB01	**IPOC Station P**	**47.27**	**301**	P	**P**	**07 35 04.8**	**+0.1**
PEXB	**Peixe**	**47.29**	**331**	*e*P	**P**	**07 35 05.6**	**+0.8**
NBAN	**Anadia - AL**	**47.30**	**347**	*e*P	**P**	**07 35 04.8**	**-0.1**
PTLB	**Pontes e Lacer**	**47.73**	**316**	*e*P	**P**	**07 35 08.1**	**-0.1**
PATCX	**Punta Patache**	**47.78**	**300**	P	**P**	**07 35 08.3**	**-0.4**
SIV	**San Ignacio**	**48.00**	**313**	P	**P**	**07 35 09.6**	**-0.8**
SIV	comp=Z,46nm,0.5s,baz=158,slow=7.8,SNR=207			ScP	**ScP**	**07 40 19.6**	**-2.2**
SIV	comp=Z,34nm,1.0s,baz=164,slow=4.7,SNR=14			LR	LR	07 55 05.0	
TA01	comp=Z,410nm,21.1s,baz=164,slow=36 **Diego Aracena**	**48.01**	**300**	IAmb	IAmb	07 35 13.1	
NBRF	comp=Z,121nm,1.0s **Rio Formoso -**	**48.15**	**349**	*e*P	**P**	**07 35 11.7**	**+0.3**
SNDB	**Serra Nova Dou**	**48.27**	**327**	*e*P	**P**	**07 35 13.0**	**+0.6**
GO01	**Chusmiza**	**48.31**	**302**	P	**P**	**07 35 13.5**	**+0.2**
LBTB	**Lobatse** comp=Z,794nm,18.4s,baz=214,slow=32	**49.01**	**73**	LR	LR	07 52 49.5	
LBTB	**Lobatse**	**49.01**	**73**	P	**P**	**07 35 17.2**	**-1.0**
LBTB	comp=Z,163nm,0.7s			pmax	pmax		
LBTB	**Lobatse**	**49.01**	**73

BLWY Bulawayo 54.59 72 *i* P **P** **07 35 60.0 +0.3**
BLWY Bulawayo 54.59 72 *i* P **P** **07 35 60.0 +0.3**
ROSB Rosrio 55.20 339 *e*P **P** **07 36 04.6 +0.7**
ETMB Extrema 55.68 311 *e*P **P** **07 36 06.6 -0.7**
TMAB Tom-Au,PA,Br 56.59 334 *e*P **P** **07 36 15.2 +1.5**
DRV Dumont d'Urvil 56.75 174 P **P** **07 36 15.2 +1.0**
DRV pP **pP** **07 36 31.7 -6.5**
ITTB Itaituba 56.82 325 *e*P **P** **07 36 15.1 -0.4**
LSZ Lusaka 58.41 68 LR LR 07 59 17.8
comp=Z,850nm,18.3s,baz=209,slow=34
LSZ Lusaka 58.41 68 P **P** **07 36 26.3 -0.5**
LSZ pmax pmax
comp=Z,204nm,1.0s
LSZ Lusaka 58.41 68 P **P** **07 36 26.3 -0.5**
LSZ Lusaka 58.41 68 P **P** **07 36 26.1 -0.7**
NNA Nana 58.59 299 P **P** **07 36 28.8 +0.8**
comp=Z,44nm,0.5s,baz=188,slow=7.0,SNR=31
NNA LR LR 07 59 26.4
comp=Z,214nm,21.9s,baz=134,slow=34
NNA Nana 58.59 299 P **P** **07 36 27.1 -0.9**
NNA pmax pmax
comp=Z,445nm,1.9s
NNA Nana 58.59 299 P **P** **07 36 27.1 -0.9**
NNA Nana 58.59 299 P **P** **07 36 29.4 +1.4**
MALB Monte Alegre 58.74 328 *e*P **P** **07 36 29.1 +0.2**
MCPB Macapa, AP 59.53 330 *e*P **P** **07 36 34.9 +0.5**
MACA Manacapuru-AM 59.62 320 *e*P **P** **07 36 33.9 -1.0**
CZSB Cruzeiro do Su 60.37 305 *e*P **P** **07 36 39.2 -0.9**
TBTG Tabatinga, AM 62.30 310 *e*P **P** **07 36 52.9 -0.2**
VOI Vohitsoka 63.07 89 P **P** **07 36 58.2 -0.1**
VOI IAmb IAmb 07 37 00.9
comp=Z,163nm,1.7s
VOI Vohitsoka 63.07 89 P **P** **07 37 00.0 +1.7**
ATAH Atahualpa 63.55 300 P **P** **07 37 03.8 +1.9**
comp=Z,68nm,0.7s,baz=167,slow=6.0,SNR=40
RPN Rapa Nui 63.71 260 LR LR 08 01 50.5
comp=Z,219nm,20.6s,baz=134,slow=33
BOAV Boa Vista 64.73 322 *e*P **P** **07 37 08.6 -0.4**
MDP Montagnes des 64.92 332 P **P** **07 37 09.6 -0.6**
comp=Z,20nm,0.8s,baz=174,slow=5.6,SNR=12
MDP LR LR 08 03 22.3
comp=Z,298nm,20.6s,baz=178,slow=34
LIC Lamto 65.06 24 *e*P **P** **07 37 10.6 -0.6**
comp=Z,250nm,0.7s
KIC Kosan Boka 65.26 24 *e*P **P** **07 37 11.7 -0.8**
comp=Z,101nm,0.7s
TIC Toumodi 65.47 24 *e*P **P** **07 37 13.2 -0.6**
DBIC Dimbokro 65.53 24 P **P** **07 37 13.6 -0.6**
comp=Z,55nm,0.6s,baz=194,slow=6.9,SNR=114
DBIC LR LR 07 59 56.0
comp=Z,750nm,19.6s,baz=192,slow=30
DBIC Dimbokro 65.53 24 P **P** **07 37 13.2 -1.0**
DBIC pmax pmax
comp=Z,63nm,0.7s
DBIC Dimbokro 65.53 24 P **P** **07 37 13.2 -1.0**
DBIC IAmb IAmb 07 37 15.8
comp=Z,63nm,0.7s
ABPO Ambohimpanom 65.63 88 P **P** **07 37 16.3 +1.2**
ABPO pmax pmax
comp=Z,54nm,1.1s
ABPO Ambohimpanom 65.63 88 P **P** **07 37 16.3 +1.2**
ABPO Ambohimpanom 65.63 88 P **P** **07 37 16.0 +0.9**
ABPO pP **pP** **07 37 32.5 -6.1**
OPO Ambohidratompo 65.97 87 LR LR 08 01 46.5
comp=Z,474nm,19.3s,baz=340,slow=32
AIS Amsterdam Isla 66.55 123 P **P** **07 37 23.0 +2.5**
AIS IAmb IAmb 07 37 24.7
comp=Z,190nm,1.0s
PTLC Puerto Leguiza 68.32 307 *e*P **P** **07 37 29.3 -2.6**
RER Riviere de l'E 68.62 96 P **P** **07 37 35.4 +1.5**
RER IAmb IAmb 07 37 38.4
comp=Z,127nm,0.9s
RER Riviere de l'E 68.62 96 P **P** **07 37 35.1 +1.2**
GUVC San Jose del G 69.50 310 *e*P **P** **07 37 38.6 -0.7**
MACC Macarena, Meta 69.67 309 *e*P **P** **07 37 39.8 -0.5**
FLOC Florencia 69.95 307 *e*P **P** **07 37 41.9 -0.2**
OTAV Otavalo 70.03 304 P **P** **07 37 43.7 +0.6**
OTAV pmax pmax
comp=Z,101nm,0.9s
OTAV Otavalo 70.03 304 P **P** **07 37 43.7 +0.6**
OTAV IAmb IAmb 07 37 48.9
comp=Z,101nm,0.8s
OTAV Otavalo 70.03 304 *e*P **P** **07 37 44.1 +1.1**
OTAV Otavalo 70.03 304 P **P** **07 37 44.3 +1.3**
CUSE Cuicocha Este 70.06 304 *e*P **P** **07 37 44.7 +1.4**
TULM Tulcn-Chalpat 70.15 304 *e*P **P** **07 37 45.5 +1.7**
PAC1 Pacto, Paraso 70.21 303 *e*P **P** **07 37 44.0 +0.2**
CMBC Cumbal 70.36 305 *e*P **P** **07 37 47.6 +2.5**
GCUF Volcan Galeras 70.40 305 *e*P **P** **07 37 48.9 +3.5**
GARC Garzon, Huila 70.42 307 *e*P **P** **07 37 45.0 -0.1**
PTGC Puerto Gaitan, 70.79 311 *e*P **P** **07 37 45.8 -1.3**
BETC Betania 70.84 308 *e*P **P** **07 37 48.0 +0.5**
SOTA Rioblanco 70.87 306 *e*P **P** **07 37 49.5 +1.2**
PCON Cinco Dias 70.95 307 *e*P **P** **07 37 50.0 +1.2**
MBO M'Bour 71.13 10 P **P** **07 37 50.8 +1.8**
MBO IAmb IAmb 07 37 52.2
comp=Z,82nm,0.9s
MARP Paez Belalcaza 71.21 307 *e*P **P** **07 37 50.9 +0.9**
POPC Popayan, Colom 71.26 306 *e*P **P** **07 37 51.0 +0.8**
SACV Santiago Islan 71.27 3 P **P** **07 37 50.5 +0.6**
VILC Villavicencio, 71.37 310 *e*P **P** **07 37 50.8 +0.1**
SBV Sambava 71.64 87 P **P** **07 37 55.3 +3.1**
CHIC Chingaza 71.85 310 *e*P **P** **07 37 53.5 -0.5**
ORTC Ortega, Tolima 71.85 308 *e*P **P** **07 37 53.4 -0.2**
MBAR Mbarara 72.24 63 LR LR 08 06 49.8
comp=Z,413nm,18.0s,baz=202,slow=33
MBAR Mbarara 72.24 63 *i* P **P** **07 37 57.8 +1.7**
MBAR pmax pmax
comp=Z,47nm,1.2s
MBAR Mbarara 72.24 63 P **P** **07 37 57.9 +1.9**
MBAR IAmb IAmb 07 37 59.8
comp=Z,101nm,1.4s
MBAR Mbarara 72.24 63 P **P** **07 37 58.0 +1.9**
ROSC El Rosal 72.29 310 P **P** **07 37 57.3 +0.8**
comp=Z,61nm,0.7s,baz=149,slow=5.0,SNR=23
ROSC LR LR 08 09 48.4
comp=Z,413nm,21.0s,baz=206,slow=36
ROSC El Rosal 72.29 310 P **P** **07 37 56.6 +0.1**
ROSC pmax pmax
comp=Z,62nm,0.8s
ROSC El Rosal 72.29 310 P **P** **07 37 56.6 +0.1**
ROSC IAmb IAmb 07 38 00.6
comp=Z,62nm,0.8s
ROSC El Rosal 72.29 310 *e*P **P** **07 37 57.1 +0.6**
GR1C Gorgona, Isla 72.34 305 *e*P **P** **07 37 57.3 +0.9**
YOTC Yotoco, Valle 72.40 307 *e*P **P** **07 37 56.0 -0.9**
ANIL Santa Ana 72.44 308 *e*P **P** **07 37 55.9 -1.5**
TAMC Tame, Arauca 72.67 313 *e*P **P** **07 37 58.7 +0.3**
RUSC La Rusia 72.71 311 *e*P **P** **07 37 58.4 -0.8**
SPBC San Pablo de B 72.91 310 *e*P **P** **07 37 57.9 -2.0**
GUY2C Guyana, Caldas 73.08 309 *e*P **P** **07 38 00.5 -0.9**
NORC Norcasia 73.17 309 *e*P **P** **07 37 59.5 -1.9**
PLMC San Jos del P 73.19 308 *e*P **P** **07 38 01.1 -0.4**
KOWA Kowa 73.30 23 P **P** **07 38 02.1 +0.2**
comp=Z,48nm,1.1s,baz=191,slow=5.5,SNR=38
KOWA LR LR 08 04 35.5
comp=Z,524nm,19.9s,baz=198,slow=31
KOWA Kowa 73.30 23 P **P** **07 38 01.8 -0.1**
KOWA Kowa 73.30 23 P **P** **07 38 01.9 -0.1**
KOWA pP **pP** **07 38 23.3 -3.2**
KOWA Kowa 73.30 23 P **P** **07 38 01.9 0.0**
BARC Barichara 73.39 312 *e*P **P** **07 38 00.1 -2.7**
TOA0 Torodi Ar. Sit 73.39 29 P **P** **07 38 02.3 -0.2**
TOA0 IAmb IAmb 07 38 04.6
comp=Z,136nm,0.7s
TORD Torodi Ar. Bea 73.39 29 P **P** **07 38 02.4 -0.1**
comp=Z,116nm,0.7s,baz=199,slow=6.0,SNR=192
PCRV Puerto La Cruz 73.40 321 P **P** **07 38 03.5 +0.9**
comp=Z,124nm,0.5s,baz=169,slow=2.4,SNR=142
PAMC Pamplona, Colo 73.86 312 *e*P **P** **07 38 05.0 -0.9**
PTBC PUERTO BERRIO, 73.87 310 *e*P **P** **07 38 02.9 -2.6**
CBOC Ciudad Bolivar 73.93 309 *e*P **P** **07 38 04.5 -1.5**
HELC Santa Helena 74.02 309 *e*P **P** **07 38 04.8 -1.9**
BIRV Birongo 74.26 320 P **P** **07 38 08.0 +0.4**
BIRV IAmb IAmb 07 38 11.6
comp=Z,121nm,1.2s
SDV Santo Domingo 74.44 315 P **P** **07 38 09.0 +0.1**
comp=Z,118nm,0.6s,baz=159,slow=5.7,SNR=112
SDV LR LR 08 13 11.5
comp=Z,324nm,18.1s,baz=174,slow=38
SDV Santo Domingo 74.44 315 P **P** **07 38 08.8 -0.1**
SDV IAmb IAmb 07 38 12.0
comp=Z,118nm,0.6s

SDV Santo Domingo 74.44 315 *e*P **P** **07 38 08.7 -0.1**
SDV Santo Domingo 74.44 315 *e*P **P** **07 38 09.2 +0.3**
SDV Santo Domingo 74.44 315 P **P** **07 38 08.8 -0.1**
KIBK Kibwezi 74.46 70 P **P** **07 38 11.7 +2.7**
KIBK IAmb IAmb 07 38 13.8
comp=Z,118nm,1.5s
ZARC Zaragoza, Cauc 74.90 310 P **P** **07 38 09.6 -1.8**
ZARC IAmb IAmb 07 38 13.4
comp=Z,47nm,0.7s
ZARC Zaragoza, Cauc 74.90 310 *e*P **P** **07 38 09.9 -1.5**
OCAC Ocana 74.93 312 P **P** **07 38 09.6 -2.0**
OCAC Ocana 74.93 312 *e*P **P** **07 38 09.7 -2.0**
PAYG Puerto Ayora 75.03 292 P **P** **07 38 12.1 0.0**
KMBO Kilima Mbogo 75.08 69 P **P** **07 38 15.6 +2.9**
comp=Z,10nm,0.9s,baz=206,slow=5.7,SNR=21
KMBO PP **PP** **07 41 00.8 -1.2**
comp=Z,1.5nm,0.6s,baz=209,slow=9.1,SNR=3.7
KMBO Kilima Mbogo 75.08 69 *i* P **P** **07 38 12.6 -0.1**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
UREC San Jos de Ur 75.42 310 *e*P **P** **07 38 12.9 -1.4**
PTAC Punta Ardita, 75.86 307 *e*P **P** **07 38 17.4 +0.6**
MOTC Monteria, Cord 76.39 310 *e*P **P** **07 38 19.8 -0.1**
HATO Hato , Curacao 76.81 318 P **P** **07 38 21.7 -0.5**
SJCC San Jacinto, C 77.20 311 P **P** **07 38 23.9 -0.6**
SJCC IAmb IAmb 07 38 29.5
comp=Z,61nm,0.6s
SJCC San Jacinto, C 77.20 311 *e*P **P** **07 38 24.7 +0.3**
CRJC Cerrejon, Guaj 77.27 314 *e*P **P** **07 38 22.4 -2.5**
URIC Uribia, Colomb 77.54 315 P **P** **07 38 24.9 -1.3**
SMRC Santa Marta, M 77.94 313 *e*P **P** **07 38 27.5 -1.0**
LODK Lodwar 78.00 65 P **P** **07 38 29.3 +0.3**
GDHS Morne Mazeau, 78.16 326 P **P** **07 38 29.8 +0.1**
TMZ Timaru 78.34 193 P **P** **07 38 32.6 +2.1**
LBZ Lake Benmore 78.44 192 P **P** **07 38 33.1 +2.1**
BCIP Isla Barro Col 78.56 307 P **P** **07 38 31.5 -0.4**
BCIP pmax pmax
comp=Z,51nm,0.8s
BCIP Isla Barro Col 78.56 307 P **P** **07 38 31.5 -0.4**
BCIP IAmb IAmb 07 38 35.0
comp=Z,51nm,0.8s
BCIP Isla Barro Col 78.56 307 *e*P **P** **07 38 31.4 -0.5**
ARCZ Arundel 78.75 193 P **P** **07 38 35.2 +2.5**
MQZ McQueen's Vall 78.79 194 P **P** **07 38 34.9 +2.0**
JCZ Jackson Bay 78.91 191 P **P** **07 38 36.9 +3.3**
RPZ Rata Peaks 78.99 193 P **P** **07 38 35.3 +1.3**
comp=Z,39nm,0.8s,baz=174,slow=5.7,SNR=19
RPZ LR LR 08 13 03.7
comp=Z,231nm,18.1s,baz=175,slow=35
RPZ Rata Peaks 78.99 193 P **P** **07 38 35.5 +1.5**
FOZ Fox Glacier 79.33 192 P **P** **07 38 36.8 +1.0**
CDITO Canoas 79.41 304 P **P** **07 38 37.8 +1.2**
CDITO IAmb IAmb 07 38 40.6
comp=Z,336nm,1.9s
PIRO Carate, Puerto 79.47 303 *e*P **P** **07 38 37.9 +1.0**
GCSZ Gaunt Creek Bo 79.48 193 P **P** **07 38 39.3 +2.7**
BRU2 Volcan 79.52 304 P **P** **07 38 38.2 +0.8**
BRU2 IAmb IAmb 07 38 49.9
comp=Z,44nm,0.7s
WVZ Waitaha Valley 79.66 193 P **P** **07 38 39.3 +1.6**
EDSV San Vito 79.67 304 *e*P **P** **07 38 39.6 +1.5**
LTZ Lake Taylor 79.75 194 P **P** **07 38 39.9 +1.7**
RIOS Rincon, Osa 79.82 303 P **P** **07 38 39.0 +0.2**
RIOS IAmb IAmb 07 38 41.8
comp=Z,147nm,0.8s
RIOS Rincon, Osa 79.82 303 *e*P **P** **07 38 39.7 +1.0**
INZ Inchbonnie 79.92 194 P **P** **07 38 40.7 +1.7**
KHZ Kahutara 79.93 195 P **P** **07 38 41.1 +2.0**
DRK0 Durika 80.19 304 P **P** **07 38 41.6 +0.6**
DRK0 Durika 80.19 304 *e*P **P** **07 38 41.5 +0.6**
SRBA San Rafael, Bu 80.21 303 P **P** **07 38 41.8 +0.8**
PEZE Perez Zeledon, 80.49 303 P **P** **07 38 42.9 +0.4**
PEZE IAmb IAmb 07 38 45.7
comp=Z,76nm,0.9s
BSWZ Blackbirch Sta 80.57 196 P **P** **07 38 46.0 +3.5**
THZ Tophouse 80.66 195 P **P** **07 38 43.9 +0.8**
CDM Cerro de Muert 80.68 305 *e*P **P** **07 38 44.6 +0.7**
TAU Tasmania Unive 80.82 176 P **P** **07 38 44.7 +0.8**
TAU pmax pmax
comp=Z,142nm,0.9s
TAU Tasmania Unive 80.82 176 P **P** **07 38 44.7 +0.8**
TAU IAmb IAmb 07 38 47.7
comp=Z,142nm,0.9s
DSZ Denniston Nort 80.83 194 P **P** **07 38 43.1 -1.0**
RIMA Rio Macho 80.92 303 P **P** **07 38 45.7 +0.8**
RIMA Rio Macho 80.92 303 *e*P **P** **07 38 45.9 +1.0**
LCR2 La Lucha 2 80.96 303 *e*P **P** **07 38 45.9 +0.8**
TCW Tory Channel 81.00 196 P **P** **07 38 47.3 +2.4**
MRNZ Matariki Terra 81.04 195 P **P** **07 38 45.9 +0.8**
OCM Ochomogo 81.07 305 *e*P **P** **07 38 48.0 +2.2**
MTP Monte Pirata 81.08 323 P **P** **07 38 45.7 +0.3**
CVTR Volcan Turrial 81.09 303 *e*P **P** **07 38 46.8 +0.7**
NNZ Nelson 81.13 195 P **P** **07 38 46.2 +0.6**
PDPR Patillas Dam, 81.17 323 P **P** **07 38 45.2 -0.7**
JACO JACO, Garabito 81.19 302 P **P** **07 38 47.2 +1.1**
JACO IAmb IAmb 07 38 49.0
comp=Z,66nm,0.7s
JACO JACO, Garabito 81.19 302 *e*P **P** **07 38 46.5 +0.4**
HDC3 Heredia 3 81.24 303 *e*P **P** **07 38 47.9 +1.3**
HDC Heredia 81.24 303 P **P** **07 38 47.6 +1.1**
HDC IAmb IAmb 07 38 54.5
comp=Z,78nm,0.7s
HDC Heredia 81.24 303 *e*P **P** **07 38 47.6 +1.1**
SJG San Juan 81.30 323 LR LR 08 18 45.1
comp=Z,83nm,18.0s,baz=154,slow=38
TKNZ Takaka Hill 81.37 195 P **P** **07 38 47.0 +0.1**
CELP Cerrillos 81.41 322 P **P** **07 38 47.1 0.0**
LAFE Finca La Fe, P 81.44 302 *e*P **P** **07 38 48.2 +0.8**
GCPR Guaynabo City 81.46 323 P **P** **07 38 47.9 +0.6**
QRZ Quartz Range 81.64 195 P **P** **07 38 46.6 -1.6**
JTS Las Juntas de 81.88 303 P **P** **07 38 50.3 +0.5**
comp=Z,37nm,0.8s,baz=128,slow=1.4,SNR=30
JTS Las Juntas de 81.88 303 *i* P **P** **07 38 50.5 +0.7**
JTS pmax pmax
comp=Z,63nm,1.2s
JTS Las Juntas de 81.88 303 P **P** **07 38 50.1 +0.4**
JTS IAmb IAmb 07 38 53.5
comp=Z,166nm,1.6s
JTS Las Juntas de 81.88 303 P **P** **07 38 51.5 +1.7**
ARE1 Arenal 1 81.92 303 *e*P **P** **07 38 52.3 +2.3**
CEDE Laguna Cedeo 81.94 303 *e*P **P** **07 38 52.0 +1.9**
DUNO Dulce Nombre, 81.95 302 P **P** **07 38 50.8 +0.7**
NICO Nicoya 81.98 302 *e*P **P** **07 38 49.0 -1.2**
COVE Coope Vega, Sa 82.00 303 P **P** **07 38 50.8 +0.4**
COVE Coope Vega, Sa 82.00 303 *e*P **P** **07 38 50.4 0.0**
SAJU San Juanillo, 82.04 302 *e*P **P** **07 38 51.5 +1.0**
PLVR Palo Verde 82.12 302 *e*P **P** **07 38 51.1 -0.1**
ORTG Ortega, Santa 82.18 302 P **P** **07 38 52.4 +1.0**
ORTG IAmb IAmb 07 38 54.2
comp=Z,71nm,0.7s
ORTG Ortega, Santa 82.18 302 *e*P **P** **07 38 51.8 +0.4**
CUI Cuipilapa 82.30 303 *e*P **P** **07 38 51.5 -0.4**
COLC Colonia 82.33 302 *e*P **P** **07 38 52.5 +0.4**
BUEV Buena Vista 82.54 302 *e*P **P** **07 38 54.3 +1.0**
HZTE Horizontes, Gu 82.55 302 P **P** **07 38 54.1 +0.8**
HZTE Horizontes, Gu 82.55 302 *e*P **P** **07 38 53.5 +0.2**
BKZ Black Stump Fm 82.64 198 P **P** **07 38 54.9 +1.3**
BANI BANI 83.03 319 P **P** **07 38 55.3 -0.5**
DR12 Loma Pena Alta 83.05 320 P **P** **07 38 56.4 +0.7**
ESPN Las Esperanzas 83.25 304 P **P** **07 38 56.4 -0.4**
ESPN IAmb IAmb 07 38 59.1
comp=Z,86nm,0.8s
URZ Urewera 83.41 199 P **P** **07 38 57.5 0.0**
comp=Z,23nm,0.8s,baz=161,slow=1.7,SNR=13
URZ S **S** **07 49 06.5 -3.6**
baz=345,slow=20
URZ LR LR 08 12 56.5
comp=Z,263nm,19.3s,baz=190,slow=33
URZ Urewera 83.41 199 P **P** **07 38 58.0 +0.6**
ACON Acoyapa 83.45 303 P **P** **07 38 57.7 -0.2**
ACON Acoyapa 83.45 303 *e*P **P** **07 38 57.5 -0.3**
HIZ Hauiti 83.55 197 P **P** **07 38 58.6 +0.5**
HIZ IAmb IAmb 07 39 01.1
comp=Z,68nm,0.5s
JAKH Jacmel 83.70 317 P **P** **07 39 00.3 +1.3**
JAKH IAmb IAmb 07 39 02.5
comp=Z,154nm,1.0s
SDDR Presa de Saban 83.92 318 P **P** **07 39 01.3 +1.1**
BOAB BOACO BROADBAN 84.10 303 P **P** **07 39 01.3 +0.2**
SC01 Santiago de lo 84.12 319 P **P** **07 39 01.3 +0.2**
SC01 IAmb IAmb 07 39 04.8
comp=Z,64nm,0.7s

MATN Matagalpa 84.64 303 P **P** **07 39 04.5 +0.5**
TOO Toolangi 86.06 174 P **P** **07 39 11.7 +0.9**
TOO pmax pmax
comp=Z,32nm,0.8s
TOO Toolangi 86.06 174 P **P** **07 39 11.7 +0.9**
TGUH Tegucigalpa,Un 86.25 302 P **P** **07 39 11.7 -0.4**
TGUH IAmb IAmb 07 39 54.2
comp=Z,63nm,1.2s
TBI Tubuai 86.90 231 *e*S **S** **07 49 39.4 -5.6**
comp=Z,834nm,27.2s
TBI Tubuai 86.90 231 *e*LR LR 08 07 09.0
comp=Z,2µm,32.5s,baz=165
OUZ Omahuta 86.97 197 P **P** **07 39 15.2 0.0**
OUZ IAmb IAmb 07 39 17.9
comp=Z,64nm,1.0s
MTO3 Montecristo 87.54 301 P **P** **07 39 18.2 -0.2**
MTO3 IAmb IAmb 07 39 20.4
comp=Z,87nm,0.7s
ESQI Esquipulas 87.67 301 P **P** **07 39 18.9 +0.1**
CGR Cap Guir 88.01 15 P **P** **07 39 24.0 +4.0**
TTIG Tnine Tigouga, 88.14 16 P **P** **07 39 24.0 +3.3**
ZGR Zagora 88.18 18 P **P** **07 39 24.0 +3.1**
CAN Canberra 88.46 177 P **P** **07 39 23.8 +1.4**
CAN pmax pmax
comp=Z,55nm,1.1s
CAN Canberra 88.46 177 P **P** **07 39 23.8 +1.4**
CAN IAmb IAmb 07 39 24.7
comp=Z,55nm,1.1s
OUZM OUZ 88.75 17 P **P** **07 39 26.0 +2.3**
TZRR Tazzarine 88.84 18 P **P** **07 39 27.0 +3.0**
OUK Oukaimeden 88.87 16 P **P** **07 39 27.1 +2.6**
MORW Morawa 89.15 148 P **P** **07 39 26.3 +0.5**
PMAR Madeira 89.30 8 *e*P **P** **07 39 29.3 +3.1**
comp=Z,82nm,1.8s
HUEH Huehuetenango 89.36 299 P **P** **07 39 26.8 -0.1**
PMPS Porto Santo 89.68 9 *e*P **P** **07 39 29.8 +2.1**
comp=Z,102nm,1.1s
PMPST Porto Santo, M 89.70 9 *e*P **P** **07 39 30.5 +2.7**
comp=Z,120nm,1.2s
GOLM Goulmima 89.84 19 P **P** **07 39 32.0 +3.3**
BBOO Buckleboo 89.86 166 P **P** **07 39 30.2 +1.2**
PETF Flores 89.95 302 P **P** **07 39 30.0 +0.6**
FORT Forrest 90.49 159 P **P** **07 39 33.0 +1.1**
FORT IAmb IAmb 07 39 38.1
comp=Z,53nm,0.8s
CCIG Comitan 90.49 299 P **P** **07 39 31.7 -0.5**
CCIG IAmb IAmb 07 39 36.8
comp=Z,44nm,1.5s
MDT Midelt 90.98 19 P **P** **07 39 36.5 +2.6**
comp=Z,56nm,0.7s,baz=278,slow=2.1,SNR=135
MDT LR LR 08 16 00.4
comp=Z,581nm,19.7s,baz=193,slow=32
MDT Midelt 90.98 19 P **P** **07 39 37.2 +3.2**
RAO Raoul Island 91.08 205 LR LR 08 14 18.2
comp=Z,134nm,19.7s,baz=140,slow=31
CZD Col de Zad 91.12 18 P **P** **07 39 38.0 +3.2**
STKA Stephens Creek 91.42 170 P **P** **07 39 37.4 +1.1**
comp=Z,8.3nm,0.6s,baz=159,slow=6.3,SNR=22
STKA PP **PP** **07 43 15.3 +1.2**
comp=Z,6.8nm,0.8s,baz=180,slow=9.1,SNR=5.7
STKA Stephens Creek 91.42 170 P **P** **07 39 37.3 +1.1**
STKA pmax pmax
comp=Z,22nm,1.9s
STKA Stephens Creek 91.42 170 P **P** **07 39 37.3 +1.1**
TDRA Tendrara 91.69 21 P **P** **07 39 41.0 +3.6**
LCRM LCR 91.79 18 P **P** **07 39 41.0 +3.2**
PPT2 Papeete2 92.01 233 *e*LR LR 08 09 27.2
comp=Z,4µm,31.5s,baz=156
PPT Papeete 92.03 233 LR LR 08 13 33.6
comp=Z,213nm,19.3s,baz=166,slow=30
RAR Rarotonga 92.99 223 LR LR 08 15 13.8
comp=Z,199nm,19.2s,baz=164,slow=31
CHEFC Chefchaouen 93.09 18 P **P** **07 39 48.0 +4.3**
ARMA Armidale 93.40 179 P **P** **07 39 47.1 +1.5**
SMIR Smir Dam 93.65 17 P **P** **07 39 50.0 +3.9**
PFVI Vila Bisbo 94.55 14 *e*P **P** **07 39 54.0 +3.8**
comp=Z,48nm,1.8s
MORF Marmelete 94.74 15 *e*P **P** **07 39 52.4 +1.3**
MORF Marmelete 94.74 15 *e*P **P** **07 39 53.3 +2.2**
comp=Z,40nm,1.2s
TLIG Tlapa 94.76 295 P **P** **07 39 52.8 +1.0**
TLIG IAmb IAmb 07 39 54.8
comp=Z,21nm,0.6s
PBDV Barranco-do-Ve 94.78 15 *e*P **P** **07 39 53.8 +2.5**
comp=Z,28nm,1.1s
PVAQ Vaqueiros 94.97 15 *e*P **P** **07 39 54.0 +1.9**
comp=Z,29nm,1.5s
PVAQ Vaqueiros 94.97 15 P **P** **07 39 53.8 +1.7**
PVAQ IAmb IAmb 07 39 56.1
comp=Z,31nm,1.4s
TAOE Nuku Hiva Isla 95.08 246 *e*LR LR 08 10 50.5
comp=Z,861nm,30.5s
PCVE Castro Verde 95.15 15 *e*P **P** **07 39 55.2 +2.3**
comp=Z,27nm,1.4s
PNCL Nicolau / Gran 95.55 14 *e*P **P** **07 39 57.0 +2.3**
comp=Z,19nm,1.5s
PBEJ Beja 95.56 15 *e*P **P** **07 39 55.1 +0.3**
comp=Z,28nm,1.4s
EVO Evora 96.04 15 *e*P **P** **07 39 59.6 +2.7**
comp=Z,25nm,1.9s
PMTG Montargil 96.53 15 *e*P **P** **07 40 02.5 +3.3**
comp=Z,18nm,1.7s
PMRV Marv??o 97.00 15 *e*P **P** **07 40 04.4 +3.1**
comp=Z,21nm,1.7s
PSA00 Pilbara Seismi 97.32 149 P Pdif 07 40 03.9 +0.4
ESDC Sonseca Array 97.78 18 P Pdif 07 40 05.3 +0.3
comp=Z,4.0nm,0.6s,baz=188,slow=4.6,SNR=26
ESDC Sonseca Array 97.78 18 P Pdif 07 40 06.4 +1.5
MTE Manteigas 97.94 15 *e*P Pdif 07 40 08.4 +2.8
comp=Z,33nm,1.6s
ASAR Alice Springs 98.50 162 P **P** **07 40 08.7 0.0**
comp=Z,11nm,0.7s,baz=186,slow=4.2,SNR=31
ASAR PP **PP** **07 44 10.6 +1.3**
comp=Z,6.5nm,0.9s,baz=177,slow=7.7,SNR=6.6
ASAR S **SKSac** **07 50 33.7 -3.9**
comp=Z,1.8nm,0.8s,baz=184,slow=6.6,SNR=8.2
ASAR PKKPbc **PKKPdf** **07 56 36.3 -0.7**
comp=Z,1.5nm,0.7s,baz=19,slow=2.4,SNR=17
ASAR SKKPbc **SKKPbc** **08 00 00.5 -1.4**
comp=Z,0.4nm,0.9s,baz=2.9,slow=1.9,SNR=2.5
ASAR LR LR 08 21 38.9
comp=Z,211nm,21.2s,baz=190,slow=33
ASAR Alice Springs 98.50 162 P **P** **07 40 08.6 -0.1**
ASAR Alice Springs 98.50 162 P **P** **07 40 08.6 -0.1**
AS31 Alice Springs 98.50 162 P Pdif 07 40 09.3 +0.6
DZM Mont Dzumac 100.91 193 *e*LR LR 08 13 42.2
comp=Z,968nm,35.5s
WRA Warramunga Arr 102.22 162 P **Pdif** **07 40 25.5 +0.2**
comp=Z,2.4nm,0.8s,baz=193,slow=3.8,SNR=12
WRA PP **PP** **07 44 36.9 -0.5**
comp=Z,3.1nm,0.9s,baz=188,slow=6.4,SNR=5.4
WRA S SKSac 07 50 43.0 -13
comp=Z,2.6nm,1.1s,baz=183,slow=4.6,SNR=4.5
WRA PKKPbc **PKKPbc** **07 56 25.4 +0.7**
comp=Z,1.5nm,0.5s,baz=352,slow=2.8,SNR=33
WRA SKKP 07 59 54.0
comp=Z,0.7nm,0.8s,baz=355,slow=2.7,SNR=5.7
WRA Warramunga Arr 102.22 162 **Pdif** **07 40 26.2 +1.0**
TXAR Lajitas Array 107.13 297 Pdiff **Pdif** **07 40 48.1 +1.3**
comp=Z,0.5nm,0.7s,baz=155,slow=7.0,SNR=5.3
TXAR PKiKP **PKiKP** **07 44 55.3 -0.2**
comp=Z,0.5nm,0.6s,baz=132,slow=3.9,SNR=8.1
TXAR SKiKP **SKiKP** **07 48 20.7 -0.6**
comp=Z,0.5nm,0.9s,baz=140,slow=4.4,SNR=4.1
TXAR PKKPbc **PKKPbc** **07 56 11.5 +0.9**
comp=Z,0.4nm,0.7s,baz=292,slow=4.8,SNR=3.8
O48B Farmland 108.20 317 P **PKiKP** **07 44 58.9 +1.8**
baz=150
BRTR Keskin Array B 108.65 45 PP **PP** **07 45 26.6 +0.5**
comp=Z,4.8nm,1.0s,baz=195,slow=9.0,SNR=5.8
GERES GERESS Array B 110.31 27 PKiKP **PKiKP** **07 45 00.8 0.0**
comp=Z,0.3nm,0.3s,baz=70,slow=1.6,SNR=3.7
GERES PP **PP** **07 45 36.6 -1.3**
comp=Z,2.0nm,0.9s,baz=169,slow=2.7,SNR=3.7
ANMO Albuquerque 113.06 299 *i* PKiKP **PKiKP** **07 45 07.8 +1.1**
GNI Garni 113.64 53 *i* PKiKP **PKiKP** **07 45 08.2 +0.7**
T25A Trinidad 113.85 301 P **PKiKP** **07 45 09.7 +1.6**
baz=144
PMG Port Moresby 114.14 174 *i* PKiKP PKPdf 07 45 10.0 +0.9
SDCO Great Sand Dun 114.85 301 P **PKiKP** **07 45 11.5 +1.4**
baz=143
Y14A Wickenburg 115.53 293 **PKPdf** **07 45 10.7 -0.6**
SCHQ Schefferville 115.65 336 PKP **PKPdf** **07 45 10.0 -0.7**
comp=Z,3.3nm,0.6s,baz=125,slow=1.7,SNR=11
SCHQ Schefferville 115.65 336 **PKiKP** **07 45 11.2 +0.5**
ECSD EROS Data Cent 115.71 311 P **PKiKP** **07 45 12.9 +1.7**

baz=145
GLA Glamis 115.76 291 P PKiKP 07 45 13.3 +1.6
baz=142
KBZ Khabaz 115.77 49 PKP PKPdf 07 45 10.1 -1.2
comp=Z,1.2nm,0.6s,baz=60,slow=0.3,SNR=3.9
MVCO Mesa Verde 115.86 299 PKiKP 07 45 13.1 +1.1
MVCO Mesa Verde 115.86 299 P PKiKP 07 45 13.3 +1.3
baz=143
KIV Kislovodsk 115.87 49 *i* PKIKP PKiKP 07 45 12.3 +0.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
WUAZ Wupatki 115.95 295 P PKiKP 07 45 13.3 +1.2
baz=142
MONP2 Monument Peak 116.47 290 P PKiKP 07 45 14.5 +1.2
baz=142
AKASG Malin Array Be 116.49 36 PKP PKPdf 07 45 11.3 -1.1
comp=Z,1.0nm,0.5s,baz=236,slow=1.5,SNR=7.4
AKASG PP PP 07 46 18.5 -3.1
comp=Z,1.9nm,0.9s,baz=210,slow=6.3,SNR=4.9
AKASG Malin Array Be 116.49 36 PKPdf PKPdf 07 45 10.9 -1.5
ISCO Idaho Springs 116.54 302 P PKiKP 07 45 14.8 +1.5
baz=143
PV11 David Mesa, Pa 116.91 299 PKPdf PKPdf 07 45 13.3 -0.6
MAK Makhachkala 117.13 53 *e*P Pdif 07 41 27.6 -3.2
MAK *i* 07 45 16.0
MAK *e* 07 45 45.6
MAK *e* 07 46 25.2
MAK *e* 07 51 55.6
MAK *e*SSS SSS 08 06 51.8
MAK pmax pmax
comp=Z,252nm,1.5s
MAK MLR MLR
comp=Z,225nm,16.0s
SUSD Miller 117.27 310 PKPdf PKiKP 07 45 14.4 +0.2
SUSD Miller 117.27 310 P PKiKP 07 45 15.8 +1.6
baz=144
MURC Murrieta 117.42 290 P PKiKP 07 45 16.2 +1.4
baz=141
GMRC Granite Mounta 117.55 292 P PKiKP 07 45 16.3 +1.0
baz=141
N23A Red Feather La 117.56 303 P PKiKP 07 45 16.2 +1.0
baz=142
PHWY Pilot Hill 117.66 304 PKPdf 07 45 14.5 -0.9
KNB Kanab 117.85 295 PKiKP PKiKP 07 45 16.8 +1.0
KNB Kanab 117.85 295 PKPdf PKiKP 07 45 16.8 +1.0
O20A White River Ci 118.04 301 PKPdf 07 45 16.2 +0.1
O20A White River Ci 118.04 301 P PKiKP 07 45 17.1 +1.1
baz=142
SRU San Rafael Swe 118.34 299 PKiKP PKPdf 07 45 16.3 -0.3
SRU San Rafael Swe 118.34 299 PKPdf 07 45 16.3 -0.3
GSC Goldstone, Bar 118.54 291 P PKiKP 07 45 17.9 +0.9
baz=141
P18A Preston Nutter 118.61 299 PKPdf PKiKP 07 45 17.7 +0.3
SHPR Sheep Range 118.63 293 PKPdf PKiKP 07 45 18.3 +1.0
MSU Marysvale 118.69 297 PKiKP PKiKP 07 45 18.1 +0.7
MSU Marysvale 118.69 297 PKiKP 07 45 18.1 +0.7
TMUT Trail Mountain 118.82 298 PKPdf 07 45 16.7 -1.0
EDW2 Edwards Air Fo 118.83 290 P PKiKP 07 45 18.8 +1.2
baz=141
TCRU Three Creeks R 118.90 297 PKiKP 07 45 18.6 +0.8
QSM Queen of Sheba 119.08 292 PKPdf PKiKP 07 45 19.0 +1.0
AGMN Agassiz Nation 119.11 315 P PKiKP 07 45 19.7 +2.1
baz=144
GWY Greenwater Val 119.15 292 PKPdf PKiKP 07 45 19.1 +0.8
K22A Casper 119.21 304 P PKiKP 07 45 19.4 +1.2
baz=141
RSSD Black Hills 119.23 306 PKiKP PKPdf 07 45 17.7 -0.5
RSSD Black Hills 119.23 306 PKPdf PKPdf 07 45 17.7 -0.5
RSSD Black Hills 119.23 306 P PKiKP 07 45 19.6 +1.3
baz=142
MNK Minsk 119.33 33 *i* PKIKP PKPdf 07 45 17.7 0.0
MNK *i* 07 45 41.5
MNK *i* 07 46 39.8
MNK *i* PPP PPP 07 49 10.3
MNK *i* 07 52 22.5
MNK *i* PS PS 07 56 29.2 -0.4
MNK *i* SS SS 08 02 56.8 +1.4
MNK *i* SSS SSS 08 07 22.6
MNK pmax pmax
comp=N,23nm,1.4s
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=N,143nm,18.0s
MNK MLR MLR
comp=Z,187nm,21.0s
MNK MLR MLR
comp=E,25nm,18.0s
MNK Minsk 119.33 33 *i* PKP PKPdf 07 45 17.8 0.0
comp=E,2.0nm,0.8s,baz=211
MNK *i* PKP PKPdf 07 45 17.8 0.0
comp=N,23nm,1.4s
MNK *i* PKP PKPdf 07 45 17.8 0.0
comp=Z,9.0nm,0.8s
MNK *i* pPKP pPKPdf 07 45 41.6 -2.7
MNK *i* PP PP 07 46 39.9 -1.4
MNK *i* PPP PPP 07 49 10.4
MNK *i* SKS SKSdf 07 52 22.6 +2.6
MNK *i* PS PS 07 56 29.2 -0.4
MNK *i* SS SS 08 02 56.9 +1.4
MNK *i* SSS SSS 08 07 22.6
MNK *i* LRM MLR 08 36 15.8
MNK comp=N,143nm,18.4s
MNK *i* LRM MLR 08 36 29.6
MNK comp=Z,187nm,21.0s
MNK *i* LRM MLR 08 36 32.8
MNK comp=E,25nm,18.4s
NACGM Naroch 119.35 32 *i* PKP PKiKP 07 45 18.0 +0.1
FURC Furnace Creek, 119.47 292 P PKiKP 07 45 20.2 +1.5
baz=140
TPNV Topopah Spring 119.53 293 P PKiKP 07 45 20.4 +1.4
baz=140
PSUT Pine Spring 119.54 296 PKPdf PKiKP 07 45 19.5 +0.4
ISA Isabella, Lake 119.68 290 P PKiKP 07 45 20.9 +1.6
baz=140
CWC Cottonwood Cre 120.08 291 P PKiKP 07 45 21.2 +1.1
baz=140
GRAC Grapevine Rang 120.13 292 P PKiKP 07 45 21.9 +1.8
baz=140
VES Vestal, Richgr 120.14 290 P PKiKP 07 45 21.1 +1.1
baz=140
SMMC Simmler 120.21 289 P PKiKP 07 45 21.4 +1.2
baz=140
R11A Troy Canyon, C 120.26 294 PKiKP 07 45 21.1 +0.6
R11A Troy Canyon, C 120.26 294 P PKiKP 07 45 21.4 +0.9
baz=140
DUG Dugway, Tooele 120.30 298 PKiKP PKiKP 07 45 20.9 +0.5
DUG Dugway, Tooele 120.30 298 PKPdf PKiKP 07 45 20.9 +0.5
DUG Dugway, Tooele 120.30 298 P PKiKP 07 45 21.6 +1.1
baz=140
LCH Last Change Ra 120.46 292 PKiKP 07 45 21.4 +0.6
HFS Hagfors 120.67 22 PKKPbc PKKPbc 07 55 25.6 +0.5
comp=E,1.7nm,0.5s,baz=11,slow=1.5,SNR=7.1
ULM Lac du Bonnet 120.68 316 PKP PKPdf 07 45 19.3 -1.2
comp=E,6.8nm,0.6s,baz=150,slow=2.0,SNR=11
ULM PP PP 07 46 50.6 +0.1
comp=E,6.7nm,0.8s,baz=138,slow=4.4,SNR=4.4
ULM SKP 07 48 44.8
comp=E,6.3nm,0.7s,baz=240,slow=1.1,SNR=7.4
ULM PKKPbc PKKPab 07 55 24.4 +0.1
comp=E,3.7nm,0.8s,baz=302,slow=3.9,SNR=6.3
BW06 Boulder Array 120.71 302 P PKiKP 07 45 22.2 +1.0
baz=140
PDAR Pinedale Array 120.71 302 PKP PKPdf 07 45 20.3 -0.9
comp=E,1.9nm,0.6s,baz=148,slow=5.2,SNR=16
PDAR SKP 07 48 45.0
comp=E,0.9nm,0.5s,baz=150,slow=4.9,SNR=5.2
PDAR PKKPbc PKKPbc 07 55 24.1 -0.8
comp=E,1.1nm,0.7s,baz=76,slow=2.0,SNR=10
PDAR PKKP PKKPdf 07 55 53.0 -5.5
comp=E,0.3nm,0.5s,baz=11,slow=0.8,SNR=4.8
PDAR Pinedale Array 120.71 302 PKPdf 07 45 21.2 +0.1
HWUT Hardware Ranch 120.78 300 PKPdf 07 45 21.1 -0.1
NB2 NORSAR Subarra 121.00 21 PKPdf PKPdf 07 45 20.5 -0.3
comp=Z,6.2nm,1.4s,baz=202,slow=1.9
NOA NORSAR Array B 121.00 21 PKP PKPdf 07 45 20.1 -0.8
comp=Z,2.8nm,0.6s,baz=204,slow=2.0,SNR=20
NOA SKP 07 48 44.8
comp=Z,0.9nm,0.7s,baz=207,slow=2.1,SNR=4.7
NOA PKKPbc PKKPbc 07 55 24.7 +0.7
comp=Z,1.0nm,0.6s,baz=24,slow=3.4,SNR=7.3
HVU Hansel Valley 121.49 299 PKiKP PKiKP 07 45 22.9 +0.2
HVU Hansel Valley 121.49 299 PKiKP 07 45 22.9 +0.2
NV11 Mina Array Sit 121.63 293 PKiKP 07 45 24.5 +1.4
NVAR Mina Array Bea 121.71 293 PKP PKiKP 07 45 23.9 +0.6
comp=Z,3.0nm,0.7s,baz=146,slow=3.0,SNR=15
NVAR SKP 07 48 48.0
comp=Z,2.6nm,0.9s,baz=158,slow=2.6,SNR=3.8
NVAR PKKPbc PKKPab 07 55 21.8 +0.3
comp=Z,1.5nm,0.8s,baz=287,slow=3.1,SNR=8.0
NVAR SKKPbc SKKPbc 07 58 57.9 -2.7
comp=Z,0.1nm,0.3s,baz=268,slow=6.0,SNR=1.4
NVAR Mina Array Bea 121.71 293 PKiKP 07 45 23.6 +0.3
SNOW Snow King Moun 121.81 302 PKPdf PKiKP 07 45 24.6 +1.2
LOHW Long Hollow 121.85 302 PKPdf PKiKP 07 45 23.6 +0.1
ELK Elko 121.92 297 PKIKP PKiKP 07 45 24.0 +0.3
ELK Elko 121.92 297 PKiKP 07 45 24.0 +0.3
TPAW Teton Pass 121.92 301 PKPdf 07 45 23.0 -0.5
KVN Kaiserville 122.07 293 PKIKP PKiKP 07 45 25.4 +1.4
KVN Kaiserville 122.07 293 PKPdf PKiKP 07 45 25.4 +1.4
LAO LASA Array 122.19 307 PKPdf PKPdf 07 45 23.7 +0.1
LAO LASA Array 122.19 307 P PKiKP 07 45 24.9 +1.1
baz=140
RLMT Red Lodge 122.37 304 P PKiKP 07 45 25.1 +0.7
baz=140
H17A Grant Village 122.43 302 P PKiKP 07 45 25.6 +1.0
baz=139
CMB Columbia Colle 122.48 291 PKIKP PKiKP 07 45 25.4 +0.8
CMB Columbia Colle 122.48 291 PKPdf PKiKP 07 45 25.4 +0.8
OBN Obninsk 122.63 38 *e*PKIKP PKiKP 07 45 25.2 +1.0
OBN *e* 07 45 51.3
OBN *e* 07 47 04.2
OBN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 122.67 295 PKIKP PKiKP 07 45 25.6 +0.5
BMN Battle Mountai 122.67 295 PKPdf PKiKP 07 45 25.6 +0.5
DGMT Dagmar 122.67 310 PKPdf PKiKP 07 45 26.1 +1.5
DGMT Dagmar 122.67 310 P PKiKP 07 45 26.1 +1.5
baz=140
NIL Nilore 122.74 77 PKIKP PKPdf 07 45 24.8 -0.3
NIL Nilore 122.74 77 PKPdf PKPdf 07 45 24.8 -0.3
MOS Moscow 123.49 38 *e*P Pdif 07 42 10.2 +11
MOS pmax pmax
comp=Z,65nm,1.4s
DY2G Dye2 123.53 351 *i* P PKiKP 07 45 26.5 +0.5
HLID Hailey 123.63 299 P PKiKP 07 45 28.0 +1.1
baz=138
BOZ Bozeman (W) 123.83 303 P PKiKP 07 45 28.5 +1.3
baz=138
BEKR Beckworth 123.84 292 PKPdf 07 45 27.2 0.0
PYUN Piuthan 123.84 89 *e*P PKPdf 07 45 26.9 -0.7
KOLN Koldanda 123.92 90 *e*P PKPdf 07 45 26.9 -0.9
comp=Z,15nm,0.5s
CHGR Chuyangaron 124.33 71 PKPdf PKiKP 07 45 28.6 +0.3
SFJD Kangerlussuaq 124.46 349 PKIKP PKiKP 07 45 27.7 +0.2
SFJD Kangerlussuaq 124.46 349 PKiKP 07 45 27.7 +0.2
DANN Dangsing 124.46 90 *e*P PKPdf 07 45 28.3 -0.6
BELG Belogornoye 124.56 46 *i* PKIKP PKPdf 07 45 27.0 -0.8
DMN Daman 124.63 92 *e*P PKiKP 07 45 29.7 +0.2
GKN Gorkha 124.68 91 *e*P PKPdf 07 45 28.6 -0.5
comp=Z,11nm,0.3s
FINES FINESS Array B 124.73 28 PKP PKPdf 07 45 27.5 -0.4
comp=Z,20nm,0.6s,baz=168,slow=1.5,SNR=92
FINES SKKPbc SKKPbc 07 58 48.1 -4.1
comp=Z,1.0nm,0.5s,baz=72,slow=4.5,SNR=6.4
FIA1 FINESS Array S 124.73 28 PKPdf PKPdf 07 45 27.7 -0.2
HRY Holter Researc 124.75 303 PKiKP 07 45 29.9 +0.9
PKIN Phulchoki 124.77 92 *e*P PKPdf 07 45 28.6 -0.9
comp=Z,18nm,0.6s
CMAR Chiang Mai Arr 124.77 111 PKP PKPdf 07 45 29.4 0.0
comp=Z,6.1nm,0.7s,baz=231,slow=3.9,SNR=18
CMAR PP PP 07 47 18.6 +0.4
comp=Z,1.0nm,0.3s,baz=224,slow=7.3,SNR=4.4
CMAR SKP 07 48 54.4
comp=Z,1.1nm,0.3s,baz=227,slow=3.2,SNR=1.9
CMAR Chiang Mai Arr 124.77 111 PKPdf 07 45 28.9 -0.4
PKI Pulchoki 124.77 92 *e*P PKPdf 07 45 28.9 -0.7
EGMT Eagleton 124.78 306 PKPdf PKiKP 07 45 30.1 +1.2
EGMT Eagleton 124.78 306 P PKiKP 07 45 30.5 +1.6
baz=138
WVOR Wild Horse Val 124.87 296 PKIKP PKiKP 07 45 30.5 +1.2
WVOR Wild Horse Val 124.87 296 PKiKP 07 45 30.5 +1.2
KKN Kakani 124.87 92 *e*P PKPdf 07 45 29.7 +0.1
comp=Z,5.1nm,0.2s
O03E Paynes Creek 124.90 292 PKPdf PKiKP 07 45 29.6 +0.2
O03E Paynes Creek 124.90 292 P PKiKP 07 45 30.2 +0.8
baz=138
RAMN Ramite 124.95 93 *e*P PKiKP 07 45 30.4 +0.3
comp=Z,15nm,0.5s
GAR Garm 125.19 71 PKPdf PKiKP 07 45 30.3 +0.2
JIRN Jiri 125.27 92 *e*P PKPdf 07 45 30.2 -0.4
comp=Z,36nm,0.6s
GUN Gumba 125.30 92 *e*P PKPdf 07 45 30.4 -0.2
comp=Z,27nm,0.8s
ODAN Odare 125.31 94 *e*P PKPdf 07 45 30.4 -0.1
comp=Z,28nm,0.7s
O02D Mt. Diablo Mer 125.32 291 P PKiKP 07 45 31.2 +1.0
baz=138
PLID Pearl Lake 125.52 300 PKPdf PKPdf 07 45 30.4 +0.1
MSO Missoula 125.82 302 PKiKP 07 45 31.6 +0.6
MSO Missoula 125.82 302 P PKiKP 07 45 32.7 +1.6
baz=137
N02D Trinity Center 125.86 292 PKiKP 07 45 32.7 +1.4
N02D Trinity Center 125.86 292 P PKiKP 07 45 32.7 +1.4
baz=137
BMO Blue Mountains 125.98 298 PKIKP PKPdf 07 45 31.3 +0.3
BMO Blue Mountains 125.98 298 PKPdf PKPdf 07 45 31.3 +0.3
M04C Macdoel 126.01 293 P PKiKP 07 45 33.0 +1.3
baz=137
BTK Batken 126.23 71 PKIKP PKPdf 07 45 31.3 -0.3
BTK Batken 126.23 71 PKPdf PKPdf 07 45 31.3 -0.3
M02C Callahan 126.24 292 P PKiKP 07 45 33.0 +0.9
baz=137
YBH Yreka Blue Hor 126.42 292 PKP PKiKP 07 45 32.5 +0.1
comp=Z,3.3nm,0.7s,baz=63,slow=6.4,SNR=7.6
FFC Flin Flon 126.51 316 PKIKP PKPdf 07 45 31.3 -0.2
FFC Flin Flon 126.51 316 PKPdf PKPdf 07 45 31.3 -0.2
JTMT Jette 126.64 303 PKPdf PKPdf 07 45 31.6 -0.7
FCC Fort Churchill 126.74 323 PKIKP PKPdf 07 45 31.0 -0.8
FCC Fort Churchill 126.74 323 PKPdf PKPdf 07 45 31.0 -0.8
J05D Fort Rock, OR 126.79 295 P PKiKP 07 45 34.6 +1.4
baz=136
G08A Pilot Rock 127.11 298 PKPdf 07 45 32.9 -0.3
IUG luzhnay 127.34 68 *e*PKIKP PKPdf 07 45 33.4 -0.3
IUG luzhnay 127.34 68 *e*PKP PKPdf 07 45 33.5 -0.3
baz=68
AKTO Aktyubinsk 127.50 53 PKP PKPdf 07 45 33.4 -0.2
comp=Z,17nm,1.1s,baz=181,slow=3.2,SNR=17
ABKAR Aktubulak array 127.52 56 PKPdf PKPdf 07 45 33.5 -0.2
K02D Willamette Mer 127.61 292 P PKiKP 07 45 35.9 +1.2
baz=136
I05D Terrebonne, OR 127.61 295 P PKiKP 07 45 36.1 +1.5
baz=136
I04A Tendick Farm, 127.75 294 P PKiKP 07 45 36.6 +1.7
baz=136
BRLS Borolday 127.87 67 *e*PKIKP PKPdf 07 45 33.8 -0.8
BRLS Borolday 127.87 67 *e*PKP PKPdf 07 45 33.9 -0.8
baz=67
KLMR Klimovskoe 128.13 35 *e*PKIKP PKPdf 07 45 33.5 -0.9
KLMR *e* 07 47 38.7
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR Klimovskoe 128.13 35 *e*PKPdf PKPdf 07 45 33.6 -0.9
KLMR AMP 07 45 36.4
comp=Z,39nm,1.3s
KLMR *e*PP PP 07 47 38.7 -1.5
KLMR *e* 07 48 47.5
KLMR *e*SKKPbc SKKPbc 07 58 38.5 -1.8
KKAR Karatay Array 128.27 68 PKIKP PKPdf 07 45 34.8 -0.5
KKAR Karatay Array 128.27 68 PKPdf PKPdf 07 45 34.8 -0.5
DZA Taraz 128.54 68 *e*PKIKP PKPdf 07 45 35.7 -0.2
DZA *e* 07 47 42.1
DZA Taraz 128.54 68 *e*PKP PKPdf 07 45 35.7 -0.2
baz=68
DZA *e*PP PP 07 47 42.2 -1.1
baz=68
KSH Kashi 128.56 75 PKP PKPdf 07 45 35.8 -0.3
KSH sPKP 07 46 17.6
AML Almayashu 129.22 71 P PKPdf 07 45 37.8 +0.1
SNR=18
LSA Lhasa 129.60 95 PKIKP PKPdf 07 45 39.0 +0.1
LSA Lhasa 129.60 95 PKPdf 07 45 39.0 +0.1
EKS2 Erkin-Say 129.65 70 P PKPdf 07 45 38.2 +0.1
SNR=16
UCH Uchtor 129.72 71 P PKPdf 07 45 38.8 +0.1
SNR=16
KIRV Kirov 129.83 42 PKP PKPdf 07 45 36.8 -0.9
comp=Z,21nm,0.6s,baz=180,slow=3.3,SNR=5.7
KIRV SKPbc SKPab 07 48 49.9 -0.4
comp=Z,22nm,1.0s,baz=220,slow=4.1,SNR=12
KIRV Kirov 129.83 42 *i* PKIKP PKPdf 07 45 37.4 -0.3
AAK Ala-Archa 130.00 71 SKPbc SKPab 07 48 50.7 -1.2
comp=Z,16nm,1.0s,baz=227,slow=5.2,SNR=12
AAK Ala-Archa 130.00 71 P PKPdf 07 45 38.9 +0.1
SNR=13
AAK Ala-Archa 130.00 71 PKIKP PKPdf 07 45 39.2 +0.3
AAK Ala-Archa 130.00 71 PKPdf PKPdf 07 45 39.2 +0.3
EDM Edmonton 130.10 308 PKIKP PKiKP 07 45 39.3 -0.1
EDM Edmonton 130.10 308 PKPdf PKiKP 07 45 39.2 -0.1
USP Ospenovka 130.45 70 P PKPdf 07 45 39.1 -0.5
SNR=8.2
SGDS Sogindy 130.65 70 *e*PKP PKPdf 07 45 38.5 -1.4
baz=70
SGDS *e*PP PP 07 47 55.8 -1.2
baz=70
BOOM Boomskoye usch 130.66 72 PKIKP PKPdf 07 45 40.0 -0.1
BOOM Boomskoye usch 130.66 72 PKPdf PKPdf 07 45 40.0 -0.1
PRGR Permogore 130.69 37 *e*PKIKP PKPdf 07 45 38.4 -0.8
PRGR *e* 07 46 02.6
PRGR pmax pmax
comp=Z,27nm,1.0s
B05A Bryant 130.73 299 P PKiKP 07 45 41.8 +1.1
baz=133
TKM2 Tokmak 2 130.78 71 P PKPdf 07 45 39.1 -1.3
SNR=5.9
KDJ Kajisay 131.06 73 PKIKP PKPdf 07 45 40.8 -0.1
KDJ Kajisay 131.06 73 PKPdf PKPdf 07 45 40.8 -0.1
TARG Taragay, Kyrgy 131.11 74 PKPdf PKPdf 07 45 40.5 -0.8
ARCES ARCESS Array B 131.33 22 PKhKP PKPpre 07 45 31.4
comp=Z,15nm,1.2s,baz=300,slow=2.4,SNR=3.7
ARCES PKP PKPdf 07 45 40.0 -0.2
comp=Z,12nm,0.6s,baz=207,slow=1.8,SNR=48
ARCES SKPbc SKPbc 07 48 54.1 -1.9
comp=Z,5.8nm,0.7s,baz=196,slow=2.5,SNR=6.3
ARCES ARCESS Array B 131.33 22 PKPdf PKPdf 07 45 39.9 -0.4
A04D Lummi Island 131.34 299 P PKiKP 07 45 42.9 +1.1
baz=133
APA Apatity 131.56 26 ⇓ *i* PKIKP PKPdf 07 45 38.6 -2.1
APA pmax pmax
comp=Z,7.0nm,0.5s
TNSS Tian-Shan 131.57 72 *e*PKP PKPdf 07 45 41.2 -0.9
baz=72
AAA Alma-Ata 131.67 72 *e*PKIKP PKPdf 07 45 41.2 -0.7
AAA Alma-Ata 131.67 72 *e*PKP PKPdf 07 45 41.2 -0.7
baz=72
MDOK Medeo 131.71 72 *e*PKIKP PKPdf 07 45 41.5 -0.5
MDOK *e* 07 48 02.8
MDOK Medeo 131.71 72 *e*PKP PKPdf 07 45 41.6 -0.5
baz=72
MDOK *e*PP PP 07 48 02.9 -1.1
baz=72
KUU Kurty 131.84 71 *e*PKIKP PKPdf 07 45 41.4 -0.7
KUU *e* 07 48 02.8
KUU Kurty 131.84 71 *e*PKP PKPdf 07 45 41.5 -0.7
baz=71
KUU *e*PP PP 07 48 02.9 -1.8
baz=71
ARU Arti 131.91 48 PKP PKPdf 07 45 41.9 +0.2
comp=Z,4.5nm,0.7s,baz=225,slow=1.4
ARU SKPab SKPbc 07 48 57.5 -0.9
comp=Z,1.3nm,0.3s,baz=214,slow=1.5,SNR=5.2
ARU Arti 131.91 48 *i* PKIKP PKPdf 07 45 41.1 -0.6
ARU Arti 131.91 48 PKPdf PKPdf 07 45 41.2 -0.5
LVZ Lovozero 132.12 27 PKIKP PKPdf 07 45 42.4 +0.5
LVZ Lovozero 132.12 27 PKPdf 07 45 42.4 +0.5
SATY Saty 132.36 73 *e*PP PP 07 48 06.3 -1.8
baz=73
UZB Uzynbulak 132.75 73 *e*PKIKP PKPdf 07 45 42.6 -1.4
UZB *e* 07 48 08.3
UZB Uzynbulak 132.75 73 *e*PKP PKPdf 07 45 42.7 -1.4
baz=73
UZB *e*PP PP 07 48 08.4 -2.3
baz=73
SVE Sverdlovsk 133.03 49 *e*PKIKP PKPdf 07 45 44.5 +0.7
SVE pmax pmax
comp=Z,32nm,1.5s
DAG Danmarks Havn 133.13 3 *i* P PKPdf 07 45 43.0 -0.5
TDK Taldyqorghan 133.68 71 *e*PKIKP PKPdf 07 45 45.7 +0.2
TDK *e* 07 48 15.6
TDK Taldyqorghan 133.68 71 *e*PKP PKPdf 07 45 45.8 +0.2
baz=71
TDK *e*PP PP 07 48 15.7 -0.8
baz=71
BRZS Berezniki 134.06 62 *e*PKIKP PKPdf 07 45 45.7 -0.3
BRZS *e* 07 48 17.5
BRZS Berezniki 134.06 62 *e*PKP PKPdf 07 45 45.7 -0.3
baz=62
BRZS *e*PP PP 07 48 17.5 -1.3
baz=62
BRVK Borovoye 134.88 58 PKIKP PKPdf 07 45 47.4 -0.1
BRVK Borovoye 134.88 58 PKPdf PKPdf 07 45 47.4 -0.1
BVAR Borovoye Array 134.91 58 SKPbc SKPbc 07 49 04.5 -4.1
comp=Z,2.6nm,0.7s,baz=59,slow=14,SNR=5.4
BVAR SKKPbc SKKPbc 07 58 11.7 -3.2
comp=Z,1.7nm,0.5s,baz=65,slow=18,SNR=10.0
GYA Guiyang 135.36 113 ⇓ PKP PKiKP 07 45 55.8 +4.9
GYA PP PP 07 48 36.8 +10
GYA SS SS 08 06 17.5 +2.6
GYA AMB AMB
comp=Z,190nm,7.2s
TULEG Thule 135.44 347 *i* P PKPdf 07 45 47.1 -0.7
TULEG Thule 135.44 347 PKPdf 07 45 48.0 +0.2
GOMU GeErMu 136.50 92 PKP PKiKP 07 45 54.5 +1.2
GOMU LR LR
comp=Z,150nm,20.1s
GOMU LR LR
comp=Z,88nm,21.6s
GOMU LR LR
comp=Z,87nm,21.1s
YKA Yellowknife Ar 136.61 318 PKhKP PKPpre 07 45 36.2
comp=Z,1.1nm,0.6s,baz=122,slow=3.6,SNR=18
YKA PKP PKPdf 07 45 50.2 -0.1
comp=Z,10nm,0.6s,baz=128,slow=2.3,SNR=41
YKA PP PP 07 48 29.9 -4.6
comp=Z,3.1nm,0.7s,baz=123,slow=6.2,SNR=10
YKA SKPbc SKPbc 07 49 11.0 -2.5
comp=Z,23nm,0.9s,baz=126,slow=2.2,SNR=32
YKA PKKP PKKPdf 07 55 26.9 -1.0
comp=Z,0.4nm,0.7s,baz=314,slow=2.1,SNR=5.5
YKA SKKPbc SKKPbc 07 58 08.5 -0.6
comp=Z,0.6nm,0.8s,baz=310,slow=4.0,SNR=3.5
YKA Yellowknife Ar 136.61 318 PKPdf PKPdf 07 45 50.5 +0.1
MK31 Makanchi Array 136.90 72 *i* PKHKP PKPpre 07 45 39.0
MKAR Makanchi Array 136.90 72 PKhKP PKPpre 07 45 38.6
comp=Z,1.4nm,0.6s,baz=244,slow=0.6,SNR=8.5
MKAR SKPbc SKPbc 07 49 13.0 -2.0
comp=Z,2.9nm,0.6s,baz=239,slow=2.9,SNR=9.9
MKAR SKKPbc SKKPbc 07 58 05.3 -1.4
KURBB Kurchatov Arra 137.38 65 PP PP 07 48 38.8 -0.8
comp=Z,5.1nm,1.2s,baz=233,slow=5.3,SNR=4.6
KURBB SKPbc SKPbc 07 49 14.6 -1.5
comp=Z,10nm,1.0s,baz=230,slow=3.6,SNR=16
KURBB SKKPbc SKKPbc 07 58 02.5 -2.6
comp=Z,3.8nm,0.7s,baz=50,slow=3.6,SNR=30
CD2 Chengdu 137.40 106 PKP PKiKP 07 45 54.3 -0.6
KURK Kurchatov 137.48 65 PKIKP PKPdf 07 45 51.0 -1.3
KURK Kurchatov 137.48 65 PKPdf PKPdf 07 45 51.0 -1.3
WMQ Urumqi 137.86 79 *e*PKP PKiKP 07 45 55.3 -0.1
WMQ LR LR
comp=Z,280nm,21.7s
NOR Nord 138.00 2 *i* P PKPdf 07 45 51.4 -1.1
SEM Semipalatinsk 138.11 66 *e*PKIKP PKPdf 07 45 53.1 -0.7
SEM Semipalatinsk 138.11 66 *e*PKP PKPdf 07 45 53.2 -0.7
baz=66
RES Resolute Bay 138.34 338 PKhKP PKPpre 07 45 44.7
comp=Z,3.6nm,0.8s,baz=168,slow=4.1,SNR=10
RES SKKPbc SKKPbc 07 58 00.3 -2.7
comp=Z,3.7nm,1.0s,baz=280,slow=4.4,SNR=7.8
LZH Lanzhou 141.39 101 *e*PKP PKPdf 07 45 55.0 -5.2
LZH sPKP 07 46 37.6
LZH SS SS 08 07 25.1 -1.2
LZH AMB AMB
comp=Z,230nm,9.3s
LZH LR LR
comp=Z,220nm,18.0s
LZH LR LR
comp=Z,270nm,18.1s
LZH LR LR
comp=Z,350nm,20.3s
GTA Gaotai 141.56 93 *e*PKP PKPdf 07 45 55.3 -5.1
GTA sPKP 07 46 43.0

GTA				SS	SS	08 07 25.8	-2.5	
GTA				AMB	AMB			
	comp=Z,150nm,6.9s							
GTA				LR	LR			
	comp=Z,140nm,19.3s							
GTA				LR	LR			
	comp=Z,140nm,22.9s							
GTA				LR	LR			
	comp=Z,170nm,21.4s							
ZALV	**Zalesovo Beam**	**142.45**	**64**	PKHKP	PKPpre	07 45 56.1		
	comp=Z,2.4nm,0.4s,baz=232,slow=3.7,SNR=9.6							
ZALV				PP	**PP**	**07 49 10.3**	**-0.3**	
	comp=Z,1.3nm,0.5s,baz=217,slow=4.7,SNR=4.2							
ZALV				SKPbc	**SKPbc**	**07 49 27.6**	**-2.0**	
	comp=Z,5.3nm,0.8s,baz=209,slow=2.7,SNR=4.0							
ZALV				SKKPbc	**SKKPbc**	**07 57 44.6**	**-0.7**	
	comp=Z,3.3nm,0.8s,baz=35,slow=5.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**142.45**	**64**	PKIKP	**PKiKP**	**07 46 03.6**	**-0.8**	
ZALV	**Zalesovo Beam**	**142.45**	**64**	PKPdf	**PKiKP**	**07 46 03.6**	**-0.8**	
XAN	**Xi'an**	**142.57**	**108**	PKP	**PKPdf**	**07 45 59.1**	**-3.1**	
M31M	**Drury Creek, Y**	**144.40**	**310**	PKPdf	PKPbc	07 46 03.5	+0.2	
M31M	**Drury Creek, Y**	**144.40**	**310**	P	**PKPdf**	**07 46 04.5**	**0.0**	
	baz=115							
A36M	**Sachs Harbour**	**144.68**	**328**	PKPdf	PKPbc	07 46 04.2	+0.4	
A36M	**Sachs Harbour**	**144.68**	**328**	P	**PKPdf**	**07 46 04.5**	**-0.2**	
	baz=108							
N31M	**Braeburn, Yuko**	**144.70**	**308**		PKPbc	07 46 04.5	+0.3	
N31M	**Braeburn, Yuko**	**144.70**	**308**	P	**PKPdf**	**07 46 05.9**	**+0.8**	
	baz=115							
LYN	**LuoYang**	**144.82**	**111**	⇓PKP	**PKPab**	**07 46 05.1**	**-0.3**	
HYT	**Haines Junctio**	**145.18**	**307**	P	**PKPab**	**07 46 06.7**	**+0.6**	
	baz=115							
PNL	**Peninsula**	**145.55**	**304**	P	**PKPab**	**07 46 07.7**	**+0.3**	
	baz=115							
M30M	**Minto, Yukon**	**145.58**	**310**		**PKPdf**	**07 46 06.0**	**-0.5**	
M30M	**Minto, Yukon**	**145.58**	**310**	P	**PKPab**	**07 46 08.4**	**+1.0**	
	baz=113							
YUK6	**Outpost Mounta**	**145.61**	**306**	P	**PKPab**	**07 46 08.5**	**+0.6**	
	baz=114,SNR=9.8							
YUK4	**Talbot Arm**	**145.90**	**307**	P	**PKPab**	**07 46 09.3**	**+0.4**	
	baz=113,SNR=34							
NJ2	**Nanjing**	**145.98**	**121**	*i*PKPbc	**PKPab**	**07 46 10.5**	**+0.7**	
INK	**Inuvik**	**146.25**	**320**	PKPbc	**PKPbc**	**07 46 08.7**	**-0.1**	
	comp=Z,91nm,0.7s,baz=77,slow=3.0,SNR=147							
INK				SKPbc	**SKPbc**	**07 49 36.8**	**-1.3**	
	comp=Z,28nm,0.8s,baz=91,slow=3.4,SNR=10.0							
INK	**Inuvik**	**146.25**	**320**	P	**PKPab**	**07 46 09.5**	**-0.2**	
	baz=107							
J29M	**Klondike Camp**	**146.85**	**312**	P	**PKPbc**	**07 46 10.9**	**+0.1**	
	baz=109							
EPYK	**Eagle Plains**	**146.86**	**316**	PKPbc	**PKPbc**	**07 46 10.4**	**-0.3**	
EPYK	**Eagle Plains**	**146.86**	**316**	P	**PKPbc**	**07 46 10.8**	**+0.1**	
	baz=108							
YUK3	**Moose Creek**	**146.87**	**307**	P	**PKPbc**	**07 46 11.5**	**+0.4**	
	baz=112							
CTGM	**Chitina Glacie**	**146.96**	**305**		**PKPab**	**07 46 12.2**	**-0.7**	
CTG	**Chitna Glacier**	**146.96**	**305**	P	**PKPbc**	**07 46 11.5**	**+0.3**	
	baz=112,SNR=16							
GRNC	**Granite Creek**	**147.06**	**305**		**PKPbc**	**07 46 11.8**	**+0.2**	
BARN	**Barnard Glacie**	**147.14**	**305**		**PKPbc**	**07 46 12.0**	**+0.2**	
I29M	**Ogilvie Camp,**	**147.17**	**314**	P	**PKPbc**	**07 46 11.5**	**0.0**	
	baz=108							
DAWY	**Dawson**	**147.21**	**311**	P	**PKPbc**	**07 46 12.0**	**+0.3**	
	baz=109							
BVCY	**Beaver Creek**	**147.27**	**308**	P	**PKPbc**	**07 46 12.8**	**+0.9**	
	baz=110							
SNH	**Sunshine Point**	**147.34**	**304**		**PKPab**	**07 46 14.5**	**+0.2**	
M27K	**Edge Creek, AK**	**147.70**	**308**	P	**PKiKP**	**07 46 15.0**	**-0.1**	
	baz=110							
BERG	**Berg Lake**	**147.82**	**304**		**PKiKP**	**07 46 14.6**	**-0.7**	
MCARA	**McCarthy VSAT**	**147.87**	**306**	P	**PKiKP**	**07 46 15.3**	**0.0**	
	baz=111,SNR=7.1							
BCAR	**Beaver Creek A**	**147.90**	**309**		**PKPdf**	**07 46 10.3**	**-0.1**	
BCAR				PKPbc	**PKiKP**	**07 46 15.8**	**+0.5**	
L27K	**Beaver Creek,**	**147.91**	**309**		**PKPdf**	**07 46 10.1**	**-0.3**	
L27K				PKPbc	**PKiKP**	**07 46 15.7**	**+0.3**	
L27K	**Beaver Creek,**	**147.91**	**309**	P	**PKiKP**	**07 46 15.3**	**-0.1**	
	baz=109							
KAIM	**Kayak Island**	**147.98**	**303**	P	**PKiKP**	**07 46 15.2**	**-0.3**	
	baz=112							
BTO	**Baotou**	**148.00**	**101**	PKPbc	**PKPbc**	**07 46 14.6**	**0.0**	
BTO				LR	LR			
	comp=Z,340nm,7.7s							
BTO				LR	LR			
	comp=Z,270nm,12.4s							
VRDI	**Verde Repeater**	**148.01**	**305**	PKPdf	**PKPdf**	**07 46 10.7**	**-0.1**	
VRDI				PKPbc	**PKiKP**	**07 46 16.3**	**+0.5**	
HMT	**Hamilton**	**148.06**	**303**		**PKiKP**	**07 46 15.2**	**-0.6**	
HNS	**HongShan**	**148.16**	**110**	⇓*i*PKPbc	**PKPbc**	**07 46 15.0**	**0.0**	
HNS				pPKP	**pPKPbc**	**07 46 42.8**	**+1.6**	
HNS				sPKP		07 46 53.3		
HNS				PP	**PP**	**07 49 51.1**	**+6.6**	
HNS				AMB	AMB			
	comp=Z,300nm,8.8s							
RAGM	**Ragged Mountai**	**148.27**	**303**		**PKiKP**	**07 46 15.6**	**-0.6**	
BMRM	**Bremner River**	**148.44**	**304**		**PKPab**	**07 46 18.9**	**+0.1**	
BMRM	**Bremner River**	**148.44**	**304**	P	**PKiKP**	**07 46 16.0**	**-0.6**	
	baz=110,SNR=9.4							
TIA	**Tai'an**	**148.49**	**115**	PKPbc	**PKPbc**	**07 46 16.3**	**+0.4**	
L26K	**Log Cabin Wild**	**148.56**	**308**	PKPbc	**PKPbc**	**07 46 15.8**	**+0.5**	
L26K	**Log Cabin Wild**	**148.56**	**308**	P	**PKiKP**	**07 46 16.5**	**-0.2**	
	baz=108							
N25K	**Chitina, Valde**	**148.66**	**306**	PKPbc	**PKiKP**	**07 46 16.6**	**-0.5**	
N25K	**Chitina, Valde**	**148.66**	**306**	P	**PKiKP**	**07 46 16.9**	**-0.2**	
	baz=109,SNR=14							
EYAK	**Cordova Ski Ar**	**148.82**	**303**	P	**PKPbc**	**07 46 16.4**	**+0.5**	
	baz=110,SNR=14							
HHC	**Hu-ho-hao-te**	**149.01**	**103**	*e*PKPbc	**PKPbc**	**07 46 17.3**	**+0.1**	
HHC				SS	SS	08 08 53.0	0.0	
HHC				LR	LR			
	comp=Z,130nm,15.2s							
HHC				LR	LR			
	comp=Z,170nm,16.5s							
HHC				LR	LR			
	comp=Z,280nm,17.1s							
DIV	**Divide**	**149.03**	**304**		**PKiKP**	**07 46 17.6**	**-0.2**	
J26L	**Joseph Creek**	**149.07**	**311**	P	**PKiKP**	**07 46 17.5**	**-0.3**	
	baz=105							
SCRK	**Sand Creek**	**149.11**	**310**	PKPbc	**PKPbc**	**07 46 17.4**	**+0.6**	
SCRK	**Sand Creek**	**149.11**	**310**	P	**PKPbc**	**07 46 17.1**	**+0.4**	
	baz=106,SNR=31							
KLU	**Klutina**	**149.22**	**305**	PKPbc	**PKiKP**	**07 46 19.8**	**+1.6**	
KLU	**Klutina**	**149.22**	**305**	P	**PKiKP**	**07 46 18.2**	**0.0**	
	baz=109,SNR=24							
NRIK	**Noril'sk**	**149.28**	**39**	PKPbc	**PKPbc**	**07 46 17.1**	**+0.2**	
	comp=Z,35nm,0.8s,baz=330,slow=0.1,SNR=36							
RIDG	**Independent Ri**	**149.41**	**309**	P	**PKiKP**	**07 46 18.1**	**-0.4**	
	baz=106,SNR=41							
PAX	**Paxson**	**149.47**	**308**	PKP2	**PKPbc**	**07 46 18.0**	**+0.4**	
PAX	**Paxson**	**149.47**	**308**		**PKPbc**	**07 46 18.0**	**+0.4**	
PAX	**Paxson**	**149.47**	**308**	P	**PKiKP**	**07 46 18.6**	**-0.1**	
	baz=107,SNR=21							
M24K	**Tolsona, Glenn**	**149.53**	**306**	PKPbc	**PKiKP**	**07 46 20.8**	**+2.0**	
M24K	**Tolsona, Glenn**	**149.53**	**306**	P	**PKiKP**	**07 46 19.6**	**+0.8**	
	baz=108,SNR=13							
MOY	**Mondy**	**149.70**	**77**	*e*PKHKP	PKPpre	07 46 15.0		
MOY				pmax	pmax			
	comp=Z,69nm,2.6s							
J25K	**Salcha River,**	**149.86**	**311**	PKPbc	**PKiKP**	**07 46 20.1**	**+0.7**	
J25K	**Salcha River,**	**149.86**	**311**	P	**PKiKP**	**07 46 19.7**	**+0.3**	
	baz=104,SNR=24							
SCM	**Sheep Creek Mo**	**149.96**	**305**	PKP2	**PKiKP**	**07 46 19.6**	**-0.1**	
SCM	**Sheep Creek Mo**	**149.96**	**305**	PKPbc	**PKiKP**	**07 46 19.6**	**-0.1**	
SCM	**Sheep Creek Mo**	**149.96**	**305**	P	**PKiKP**	**07 46 19.6**	**-0.1**	
	baz=107,SNR=10							
BMAR	**Burnt Mountain**	**150.12**	**317**	PKPbc	**PKiKP**	**07 46 19.8**	**0.0**	
PRP	**Porcupine Dome**	**150.13**	**313**	PKPbc	**PKPbc**	**07 46 19.6**	**+0.3**	
PRP	**Porcupine Dome**	**150.13**	**313**	P	**PKiKP**	**07 46 19.9**	**-0.2**	
	baz=102							
PWL	**Port Wells**	**150.13**	**303**	PKPbc	**PKiKP**	**07 46 20.0**	**0.0**	
PWL	**Port Wells**	**150.13**	**303**	P	**PKiKP**	**07 46 19.9**	**-0.1**	
	baz=108,SNR=29							
FYU	**Fort Yukon**	**150.22**	**315**	PKPbc	**PKiKP**	**07 46 20.5**	**+0.6**	
ZAK	**Zakamensk**	**150.29**	**81**	*e*PKIKP	**PKPbc**	**07 46 19.9**	**-0.1**	
ZAK				pmax	pmax			
	comp=Z,61nm,1.3s							
DHY	**Denali Highway**	**150.33**	**308**	PKPbc	**PKiKP**	**07 46 20.9**	**+0.3**	
DHY	**Denali Highway**	**150.33**	**308**	P	**PKiKP**	**07 46 21.0**	**+0.4**	
	baz=105							
KNK	**Knik Glacier**	**150.35**	**304**	PKPbc	**PKiKP**	**07 46 20.2**	**-0.2**	
KNK	**Knik Glacier**	**150.35**	**304**	P	**PKPbc**	**07 46 20.1**	**+0.4**	
	baz=107,SNR=13							
WAT6	**Susitna Watana**	**150.36**	**306**	P	**PKPbc**	**07 46 20.1**	**+0.2**	
	baz=106,SNR=31							
SML	**Sawmill**	**150.41**	**305**	P	**PKPbc**	**07 46 19.8**	**-0.1**	
	baz=107,SNR=16							
SEW	**Seward**	**150.41**	**301**		**PKiKP**	**07 46 20.4**	**-0.1**	
SEW	**Seward**	**150.41**	**301**	P	**PKiKP**	**07 46 20.3**	**-0.2**	
	baz=109,SNR=9.3							
JSU	**Suzuyama**	**150.45**	**138**		**PKiKP**	**07 46 21.4**	**-0.2**	
HDA	**Harding Lake**	**150.47**	**310**	PKPbc	**PKiKP**	**07 46 20.5**	**-0.1**	
HDA	**Harding Lake**	**150.47**	**310**	P	**PKiKP**	**07 46 20.8**	**+0.3**	
	baz=103,SNR=13							
ILAR	**Eielson Array**	**150.53**	**311**	PKP	**PKPdf**	**07 46 13.2**	**-1.4**	
	comp=Z,2.0nm,0.8s,baz=310,slow=0.8,SNR=11							
ILAR				PKPbc	**PKPbc**	**07 46 19.6**	**-0.4**	
	comp=Z,40nm,0.7s,baz=134,slow=1.9,SNR=77							
ILAR				PKS	**PKSdf**	**07 49 45.3**	**-3.6**	
	comp=Z,3.6nm,0.9s,baz=112,slow=1.8,SNR=3.3							
ILAR	**Eielson Array**	**150.53**	**311**	PKPbc	**PKPbc**	**07 46 20.2**	**+0.2**	
SONM	**Songino Array**	**150.62**	**87**	PKPbc	**PKPbc**	**07 46 20.8**	**-0.1**	
	comp=Z,64nm,0.6s,baz=224,slow=2.7,SNR=122							
SONM				SKKPbc		07 57 05.0		
	comp=Z,0.8nm,0.5s,baz=67,slow=1.9,SNR=4.9							
O22K	**Cooper Landing**	**150.66**	**302**		**PKiKP**	**07 46 21.1**	**+0.1**	
O22K	**Cooper Landing**	**150.66**	**302**	P	**PKPbc**	**07 46 20.6**	**+0.2**	
	baz=108							
PMR	**Palmer**	**150.72**	**304**	PKIKP	**PKPdf**	**07 46 14.2**	**-0.6**	
PMR	**Palmer**	**150.72**	**304**		**PKPdf**	**07 46 14.2**	**-0.6**	
PMR					**PKPbc**	**07 46 20.8**	**+0.3**	
PMR				PKPab	**PKPab**	**07 46 29.0**	**+1.0**	
PMR	**Palmer**	**150.72**	**304**	P	**PKPbc**	**07 46 20.8**	**+0.3**	
	baz=106,SNR=5.9							
POKR	**Poker Plat Res**	**150.83**	**312**	P	**PKiKP**	**07 46 21.7**	**+0.4**	
	baz=102							
RC01	**Rabbit Creek A**	**150.85**	**303**	P	**PKiKP**	**07 46 21.6**	**+0.2**	
	baz=107							
BJT	**Baijiatuan**	**150.87**	**109**	PKIKP	**PKPbc**	**07 46 21.7**	**+0.1**	
BJT	**Baijiatuan**	**150.87**	**109**		**PKPbc**	**07 46 21.7**	**+0.1**	
CCB	**Clear Creek Bu**	**150.89**	**311**	PKPbc	**PKPbc**	**07 46 20.5**	**-0.3**	
BJI	**Beijing**	**150.89**	**109**	PKPbc	**PKPbc**	**07 46 21.5**	**-0.1**	
BJI				pPKP	**pPKPbc**	**07 46 48.9**	**+0.8**	
BJI				sPKP		07 46 59.4		
BRSE	**Bradley Lake S**	**150.91**	**300**	P	**PKPbc**	**07 46 20.9**	**-0.1**	
	baz=109,SNR=15							
COLA	**College**	**150.95**	**311**	PKIKP	**PKPbc**	**07 46 20.3**	**-0.6**	
COLA	**College**	**150.95**	**311**		**PKPbc**	**07 46 20.3**	**-0.6**	
COLA				PKPab	**PKPab**	**07 46 29.6**	**+0.7**	
COLA	**College**	**150.95**	**311**	P	**PKPbc**	**07 46 20.7**	**-0.3**	
	baz=102							
TCOL	**CIGO, UAF Yank**	**150.96**	**311**		**PKPbc**	**07 46 20.6**	**-0.4**	
TCOL				PKPab	**PKPab**	**07 46 29.6**	**+0.7**	
TCOL	**CIGO, UAF Yank**	**150.96**	**311**	P	**PKPbc**	**07 46 20.9**	**-0.1**	
	baz=102,SNR=14							
WRH	**Wood River Hil**	**150.97**	**310**	PKPbc	**PKPbc**	**07 46 20.6**	**-0.4**	
BRLK	**Bradley Lake**	**150.99**	**300**		**PKPbc**	**07 46 21.1**	**-0.2**	
BRLK				PKPab	**PKPab**	**07 46 31.1**	**+1.8**	
ULN	**Ulaanbaatar**	**151.00**	**88**	PKIKP	**PKPbc**	**07 46 21.4**	**-0.5**	
ULN	**Ulaanbaatar**	**151.00**	**88**	PKPbc	**PKPbc**	**07 46 21.4**	**-0.5**	
ULN				PKPab	**PKPab**	**07 46 31.1**	**+1.3**	
RND	**Reindeer**	**151.06**	**308**	PKIKP	**PKPdf**	**07 46 16.7**	**+1.2**	
RND	**Reindeer**	**151.06**	**308**	PKPdf	**PKPdf**	**07 46 16.6**	**+1.2**	
RND				PKPbc	**PKiKP**	**07 46 22.4**	**+0.5**	
RND				PKPab	**PKPab**	**07 46 30.6**	**+1.1**	
CNPM	**China Poot**	**151.08**	**299**	PKPbc	**PKiKP**	**07 46 22.4**	**+0.5**	
CNPM				PKPab	**PKPab**	**07 46 31.1**	**+1.4**	
MDM	**Murphy Dome**	**151.13**	**311**		**PKPbc**	**07 46 21.1**	**-0.3**	
MDM				PKPab	**PKPab**	**07 46 30.0**	**+0.3**	
H24K	**Noodor Dome**	**151.15**	**313**	PKPbc	**PKPbc**	**07 46 21.1**	**-0.3**	
H24K	**Noodor Dome**	**151.15**	**313**	P	**PKiKP**	**07 46 22.1**	**+0.1**	
	baz=100							
KDAK	**Kodiak Island**	**151.15**	**296**	PKPbc	**PKiKP**	**07 46 22.0**	**-0.1**	
	comp=Z,65nm,0.5s,baz=130,slow=0.5,SNR=57							
KDAK	**Kodiak Island**	**151.15**	**296**	PKIKP	**PKiKP**	**07 46 22.0**	**-0.1**	
KDAK	**Kodiak Island**	**151.15**	**296**		**PKiKP**	**07 46 22.0**	**-0.1**	
KDAK	**Kodiak Island**	**151.15**	**296**	P	**PKPbc**	**07 46 21.9**	**+0.2**	
	baz=111							
MCK	**McKinley**	**151.17**	**308**	P	**PKiKP**	**07 46 22.3**	**+0.2**	
	baz=103							
M22K	**Willow**	**151.21**	**304**		**PKiKP**	**07 46 22.4**	**+0.4**	
M22K	**Willow**	**151.21**	**304**	P	**PKiKP**	**07 46 22.5**	**+0.4**	
	baz=106,SNR=13							
OHAK	**Old Harbor**	**151.30**	**294**		**PKiKP**	**07 46 22.4**	**0.0**	
OHAK				PKPab	**PKPab**	**07 46 32.0**	**+1.4**	
OHAK	**Old Harbor**	**151.30**	**294**	P	**PKiKP**	**07 46 22.9**	**+0.5**	
	baz=112							
HOM	**Homer**	**151.32**	**300**	P	**PKiKP**	**07 46 23.2**	**+0.7**	
	baz=108							
NEA2	**Nenana**	**151.41**	**310**		**PKPbc**	**07 46 21.7**	**-0.4**	
NEA2				PKPab	**PKPab**	**07 46 30.3**	**-0.5**	
NEA2	**Nenana**	**151.41**	**310**	P	**PKPbc**	**07 46 22.3**	**+0.2**	
	baz=101,SNR=19							
CAPN	**Captain Cook N**	**151.42**	**302**	P	**PKiKP**	**07 46 23.2**	**+0.6**	
	baz=107							
CUT	**Chulitna**	**151.45**	**306**		**PKiKP**	**07 46 23.1**	**+0.5**	
CUT	**Chulitna**	**151.45**	**306**	P	**PKiKP**	**07 46 22.7**	**+0.1**	
	baz=104,SNR=17							
BWN	**Browne**	**151.49**	**309**	PKPbc	**PKiKP**	**07 46 22.8**	**+0.1**	
SII	**Sitkinak Islan**	**151.50**	**293**		**PKiKP**	**07 46 23.1**	**+0.2**	
SII	**Sitkinak Islan**	**151.50**	**293**	P	**PKiKP**	**07 46 22.9**	**-0.1**	
	baz=112							
I23K	**Minto, Yukon-K**	**151.63**	**311**		**PKPbc**	**07 46 22.4**	**-0.4**	
I23K	**Minto, Yukon-K**	**151.63**	**311**	P	**PKPbc**	**07 46 22.4**	**-0.1**	
	baz=100,SNR=27							
TRF	**Thorofare Moun**	**151.70**	**308**	PKPbc	**PKiKP**	**07 46 23.4**	**0.0**	
TRF	**Thorofare Moun**	**151.70**	**308**	P	**PKPbc**	**07 46 22.9**	**-0.1**	
	baz=102,SNR=21							
IRK	**Irkutsk**	**151.75**	**78**	*e*PKIKP	**PKPbc**	**07 46 23.0**	**-0.3**	
IRK				pmax	pmax			
	comp=Z,63nm,2.8s							
O20K	**Slope Mountain**	**151.92**	**300**	P	**PKiKP**	**07 46 24.3**	**+0.5**	
	baz=107,SNR=6.6							
SPU	**Mount Spurr**	**151.96**	**303**		**PKPbc**	**07 46 23.2**	**-0.3**	
SPU				PKPab	**PKPab**	**07 46 35.8**	**+2.5**	
CHIR	**Chirikof Islan**	**151.96**	**290**	P	**PKiKP**	**07 46 25.0**	**+1.2**	
	baz=113							
KTH	**Kantishna Hill**	**152.00**	**308**		**PKPbc**	**07 46 23.7**	**+0.1**	
SPCR	**Spurr Chakacha**	**152.03**	**303**	P	**PKiKP**	**07 46 24.7**	**+0.7**	
	baz=105							
P19K	**Oil Pt**	**152.08**	**299**		**PKPbc**	**07 46 23.8**	**0.0**	
P19K				PKPab	**PKPab**	**07 46 35.9**	**+2.0**	
RSO	**Redoubt South**	**152.09**	**301**		**PKPbc**	**07 46 24.0**	**0.0**	
RSO				PKPab	**PKPab**	**07 46 36.6**	**+2.5**	
TOLK	**Toolik Lake Re**	**152.12**	**319**	P	**PKiKP**	**07 46 24.2**	**+0.3**	
	baz=93,SNR=7.7							
BPAW	**Bear Paw Mtn.**	**152.13**	**309**	P	**PKPbc**	**07 46 23.9**	**+0.1**	
	baz=101,SNR=7.2							
MLY	**Manley**	**152.19**	**311**		**PKPdf**	**07 46 18.9**	**+1.8**	
MLY				PKPbc	**PKiKP**	**07 46 26.0**	**+1.9**	
MLY				PKPab	**PKPab**	**07 46 34.5**	**+0.3**	
MLY	**Manley**	**152.19**	**311**	P	**PKiKP**	**07 46 24.8**	**+0.6**	
	baz=99							
COLD	**Coldfoot**	**152.25**	**316**	P	**PKiKP**	**07 46 24.7**	**+0.5**	
	baz=96							
PPLA	**Purkeypile**	**152.43**	**306**	P	**PKiKP**	**07 46 24.9**	**+0.1**	
	baz=102							
CAST	**Castle Rocks**	**152.49**	**307**	P	**PKiKP**	**07 46 24.9**	**+0.1**	
	baz=101							
CHUM	**Lake Minchumin**	**152.67**	**308**	P	**PKiKP**	**07 46 25.6**	**+0.5**	
	baz=100							
I21K	**Tanana**	**152.73**	**311**	P	**PKiKP**	**07 46 25.3**	**+0.1**	
	baz=98							
O19K	**Port Alsworth**	**152.76**	**300**	PKPdf	**PKPdf**	**07 46 18.1**	**+0.1**	
O19K				PKPbc	**PKPbc**	**07 46 25.0**	**-0.2**	
O19K				PKPab	**PKPab**	**07 46 37.3**	**+0.7**	
O19K	**Port Alsworth**	**152.76**	**300**	P	**PKiKP**	**07 46 25.4**	**0.0**	
	baz=106							
P18K	**Big Mountain,**	**152.98**	**298**	P	**PKPbc**	**07 46 25.6**	**-0.2**	
	baz=107							
N19K	**Bonanza Creek**	**153.00**	**301**	P	**PKiKP**	**07 46 26.1**	**+0.1**	
	baz=104							
L20K	**Farewell, AK**	**153.10**	**305**	P	**PKiKP**	**07 46 27.2**	**+1.0**	
	baz=102							
H21K	**Melozitna Rive**	**153.13**	**312**	P	**PKiKP**	**07 46 26.2**	**+0.1**	
	baz=96							
M19K	**Big River Lodg**	**153.22**	**303**	P	**PKiKP**	**07 46 26.9**	**+0.5**	
	baz=102							
K20K	**Telida**	**153.35**	**307**	PKPdf	**PKPdf**	**07 46 20.9**	**+2.1**	
K20K					**PKiKP**	**07 46 27.2**	**+0.6**	
K20K				PKPab	**PKPab**	**07 46 40.2**	**+1.1**	
K20K	**Telida**	**153.35**	**307**	P	**PKiKP**	**07 46 26.9**	**+0.4**	
	baz=100							
L19K	**White Mountain**	**153.49**	**304**	P	**PKiKP**	**07 46 27.8**	**+0.9**	
	baz=102							
J20K	**Nowinta River**	**153.51**	**309**	P	**PKiKP**	**07 46 28.3**	**+1.5**	
	baz=98							
XLT	**XiLinHaoTe**	**153.53**	**103**	*e*P	**PKiKP**	**07 46 27.8**	**+0.1**	
XLT				pmax	pmax			
	comp=Z,21nm,0.6s							
XLT				pmax	pmax			
	comp=Z,240nm,5.1s							
IMAR	**Indian Mountai**	**153.55**	**313**	PKPbc	**PKiKP**	**07 46 27.2**	**+0.3**	
CHGN	**Chignik**	**153.59**	**290**	P	**PKiKP**	**07 46 29.0**	**+1.8**	
	baz=111							
TTA	**Tatalina**	**154.15**	**305**	P	**PKiKP**	**07 46 29.5**	**+1.2**	
	baz=99							
SDPT	**Sand Point**	**154.33**	**287**	P	**PKiKP**	**07 46 29.6**	**+0.8**	
	baz=112							
A21K	**Barrow**	**154.42**	**325**	PKPdf	**PKPdf**	**07 46 20.0**	**0.0**	
A21K					**PKiKP**	**07 46 28.9**	**+0.5**	
A21K				PKPab	**PKPab**	**07 46 45.5**	**+2.2**	
A21K	**Barrow**	**154.42**	**325**	P	**PKiKP**	**07 46 29.7**	**+1.2**	
	baz=81							
KSRS	**Korea Array**	**154.60**	**128**	PKP	**PKPdf**	**07 46 21.1**	**-0.2**	
	comp=Z,0.6nm,0.4s,baz=196,slow=2.7,SNR=2.2							
KSRS				PKPbc	**PKPbc**	**07 46 29.6**	**-0.3**	
	comp=Z,1.7nm,0.7s,baz=209,slow=2.5,SNR=5.4							
KSRS				PKPab	**PKPab**	**07 46 44.8**	**-0.2**	
	comp=Z,5.6nm,0.8s,baz=221,slow=4.5,SNR=11							
GCSA	**Galena City Sc**	**154.76**	**310**	P	**PKPab**	**07 46 47.2**	**+2.3**	
	baz=95							
SNY	**Shenyang**	**156.01**	**115**	⇓PKP	PKPdf	07 46 15.3	-7.8	
SNY				PP	**SKPdf**	**07 49 48.4**	**+2.0**	
UNV	**Unalaska Valle**	**156.99**	**280**	P	**PKPab**	**07 46 55.0**	**+0.1**	
	baz=113							
RDOG	**Red Dog Mine**	**157.09**	**318**	P	**PKPab**	**07 46 56.0**	**+1.0**	
	baz=82							
MJAR	**Matsushiro Arr**	**157.65**	**147**	PKPab	**PKPab**	**07 46 58.2**	**0.0**	
	comp=Z,6.6nm,0.7s,baz=190,slow=4.8,SNR=8.8							
CN2	**Changchun**	**158.39**	**114**	*e*PKP	**PKPdf**	**07 46 24.8**	**-1.3**	
ANM	**Nome**	**158.41**	**309**	P	**PKPab**	**07 47 02.4**	**+1.7**	
	baz=88							
BOD	**Bodaibo**	**158.98**	**70**	*e*PKIKP	**PKPdf**	**07 46 25.9**	**-0.4**	
BOD				pmax	pmax			
	comp=Z,9.0nm,1.2s							
TNA	**Tin City**	**159.40**	**312**	P	**PKPab**	**07 47 06.5**	**+1.5**	
	baz=83							
MDJ	**Mudanjiang**	**161.03**	**119**	PKP	**PKPdf**	**07 46 30.6**	**+1.5**	
TIXI	**Tixi**	**161.74**	**24**	PKPab	**PKPab**	**07 47 15.3**	**+0.3**	
	comp=Z,19nm,0.9s,baz=271,slow=23,SNR=26							
USRK	**Ussuriysk Ar.**	**161.85**	**124**	PKPab	**PKPab**	**07 47 16.7**	**+0.4**	
	comp=Z,5.5nm,0.8s,baz=238,slow=5.0,SNR=6.1							
ZEA	**Zeya**	**165.01**	**90**	*i* PKP2	**PKPab**	**07 47 30.0**	**0.0**	
ZEA				*e*		07 51 16.8		
ZEA				pmax	pmax			
	comp=N,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,100nm,6.4s							
KLR	**Kul'dur**	**165.25**	**111**	PKP	**PKPdf**	**07 46 33.1**	**+0.2**

baz=231
GCSA **Galena City Sc** 16.00 27 P P 07 31 50.9 -1.0
baz=222
SEW **Seward** 16.17 48 Pn 07 31 50.8 -0.1
SEW IAmb IAmb 07 31 57.6
comp=Z,9.1nm,0.6s
SEW **Seward** 16.17 48 P Pn 07 31 52.2 +1.3
baz=248
O22K **Cooper Landing** 16.18 47 Pn Pn 07 31 50.3 -0.9
O22K IAmb IAmb 07 32 17.2
comp=Z,33nm,0.6s
O22K **Cooper Landing** 16.18 47 P Pn 07 31 52.3 +1.2
baz=247
PPLA **Purkeypile** 16.33 37 P P 07 31 55.3 -0.5
baz=235
RC01 **Rabbit Creek A** 16.43 45 Pn Pn 07 31 55.2 +0.9
RC01 **Rabbit Creek A** 16.43 45 P Pn 07 31 55.5 +1.2
baz=245
J20K **Nowinta River** 16.43 32 Pn Pn 07 31 53.2 -1.0
J20K **Nowinta River** 16.43 32 P P 07 31 57.4 +0.7
baz=228
CAST **Castle Rocks** 16.67 36 Pn Pn 07 31 57.0 -0.4
CAST **Castle Rocks** 16.67 36 P Pn 07 31 57.7 +0.3
baz=234
CUT **Chulitna** 16.81 40 P P 07 32 00.6 -0.3
baz=240
CHUM **Lake Minchumin** 16.86 34 P P 07 32 01.8 +0.3
baz=232
PMR **Palmer** 16.91 44 P Pn 07 32 01.2 +0.9
baz=244
PWL **Port Wells** 16.96 46 Pn Pn 07 32 01.0 0.0
PWL **Port Wells** 16.96 46 P P 07 32 02.0 -0.6
baz=248
GHO **Glory Hole Cre** 17.08 43 Pn P 07 32 03.5 -0.5
KNK **Knik Glacier** 17.13 45 Pn Pn 07 32 03.5 +0.4
KNK **Knik Glacier** 17.13 45 P Pn 07 32 03.2 +0.1
baz=246
KTH **Kantishna Hill** 17.17 36 Pn P 07 32 04.7 -0.3
SML **Sawmill** 17.35 43 Pn Pn 07 32 05.8 0.0
SML **Sawmill** 17.35 43 P P 07 32 06.6 -0.3
baz=245
TRF **Thorofare Moun** 17.35 37 P Pn 07 32 06.5 +0.5
baz=237
PETK **Petropavlovsk-** 17.42 287 P Pn 07 32 05.9 -0.9
comp=Z,0.4nm,0.3s,baz=78,slow=14,SNR=4.5
Q23K **Middleton Isla** 17.44 52 Pn Pn 07 32 05.5 -1.5
Q23K **Middleton Isla** 17.44 52 P Pn 07 32 05.8 -1.2
baz=255
MID **Middleton Isla** 17.45 52 Pn Pn 07 32 05.6 -1.4
BPAW **Bear Paw Mtn.** 17.46 35 P 07 32 09.9 +1.7
BPAW **Bear Paw Mtn.** 17.46 35 P P 07 32 08.6 +0.5
baz=234,SNR=7.4
SCM **Sheep Creek Mo** 17.79 44 Pn 07 32 11.5 +0.1
SCM IAmb IAmb 07 32 31.4
comp=Z,16nm,1.1s
SCM **Sheep Creek Mo** 17.79 44 P Pn 07 32 11.5 +0.1
baz=246
I21K **Tanana** 17.79 31 P 07 32 13.7 +1.9
I21K **Tanana** 17.79 31 P P 07 32 12.2 +0.5
baz=230,SNR=10.0
IMAR **Indian Mountai** 17.80 27 Pn Pn 07 32 11.4 0.0
H21K **Melozitna Rive** 17.85 29 P 07 32 14.0 +1.6
H21K **Melozitna Rive** 17.85 29 P P 07 32 14.1 +1.6
baz=227
RND **Reindeer** 17.88 38 P 07 32 13.2 +0.4
WAT6 **Susitna Watana** 17.93 42 P Pn 07 32 13.0 -0.2
baz=244
MCK **McKinley** 18.02 37 Pn 07 32 13.9 -0.2
MCK **McKinley** 18.02 37 P Pn 07 32 14.2 +0.2
baz=238
BWN **Browne** 18.05 36 P 07 32 15.0 +0.4
BWN IAmb IAmb 07 32 33.9
comp=Z,12nm,0.7s
MLY **Manley** 18.11 32 Pn 07 32 15.2 0.0
MLY IAmb IAmb 07 32 20.0
comp=Z,12nm,0.8s
MLY **Manley** 18.11 32 P P 07 32 16.4 +1.1
baz=232,SNR=13
DIV **Divide** 18.23 47 P P 07 32 15.1 -1.6
KLU **Klutina** 18.28 46 P P 07 32 17.1 -0.2
KLU **Klutina** 18.28 46 P P 07 32 17.2 -0.1
baz=249
DHY **Denali Highway** 18.31 40 P P 07 32 16.9 -0.7
DHY **Denali Highway** 18.31 40 P P 07 32 17.3 -0.4
baz=243
M24K **Tolsona, Glenn** 18.40 44 P P 07 32 18.0 -0.6
M24K IAmb IAmb 07 32 24.2
comp=Z,36nm,1.4s
M24K **Tolsona, Glenn** 18.40 44 P P 07 32 18.1 -0.4
baz=247
NEA2 **Nenana** 18.43 35 P P 07 32 18.9 +0.1
NEA2 **Nenana** 18.43 35 P P 07 32 18.8 0.0
baz=236
I23K **Minto, Yukon-K** 18.65 33 P Pn 07 32 22.0 +0.3
I23K IAmb IAmb 07 32 25.8
comp=Z,14nm,1.0s
I23K **Minto, Yukon-K** 18.65 33 P P 07 32 21.3 +0.2
baz=234,SNR=6.5
BMRM **Bremner River** 18.71 48 P P 07 32 21.7 -0.3
BMRM **Bremner River** 18.71 48 P P 07 32 19.9 -2.1
baz=252
WRH **Wood River Hil** 18.72 36 P P 07 32 21.5 -0.5
N25K **Chitina, Valde** 18.92 46 P P 07 32 24.1 -0.2
N25K IAmb IAmb 07 32 45.5
comp=Z,11nm,1.2s
N25K **Chitina, Valde** 18.92 46 P P 07 32 23.9 -0.3
baz=251
CCB **Clear Creek Bu** 18.92 36 P P 07 32 23.6 -0.6
MDM **Murphy Dome** 18.93 35 P P 07 32 23.7 -0.6
COLA **College** 19.02 35 P P 07 32 25.6 +0.3
baz=237
PAX **Paxson** 19.04 42 P Pn 07 32 26.4 -0.2
PAX **Paxson** 19.04 42 P P 07 32 25.9 +0.3
baz=246
HDA **Harding Lake** 19.11 37 P P 07 32 26.2 -0.1
HDA IAmb IAmb 07 32 27.9
comp=Z,22nm,1.2s
HDA **Harding Lake** 19.11 37 P P 07 32 26.4 +0.1
baz=240,SNR=16
GLB **Gilahina Butte** 19.22 47 P Pn 07 32 29.2 +0.4
GLB IAmb IAmb 07 32 39.4
comp=Z,18nm,1.4s
BILL **Bilibino** 19.24 337 P 07 32 27.8 +0.1
BILL IAmb IAmb 07 32 35.2
comp=Z,11nm,1.1s
POKR **Poker Flat Res** 19.31 35 P P 07 32 28.7 +0.3
baz=237
IL31 19.32 36 P P 07 32 28.2 -0.3
ILAR **Eielson Array** 19.32 36 P P 07 32 26.9 -1.6
comp=Z,0.7nm,0.3s,baz=235,slow=9.2,SNR=47
ILAR **Eielson Array** 19.32 36 P P 07 32 28.1 -0.5
WAX **Waxell Ridge** 19.40 50 P P 07 32 29.9 +0.3
WAX IAmb IAmb 07 32 41.2
comp=Z,17nm,1.0s
H24K **Noodor Dome** 19.55 33 P P 07 32 31.6 +0.5
H24K IAmb IAmb 07 32 50.9
comp=Z,15nm,1.1s
H24K **Noodor Dome** 19.55 33 P Pn 07 32 31.9 -0.7
baz=235,SNR=12
RIDG **Independent Ri** 19.62 40 P P 07 32 31.1 -0.8
RIDG IAmb IAmb 07 32 46.8
comp=Z,7.1nm,0.5s
RIDG **Independent Ri** 19.62 40 P P 07 32 32.2 +0.2
baz=245,SNR=7.4
COLD **Coldfoot** 19.69 28 P Pn 07 32 34.0 -0.1
COLD **Coldfoot** 19.69 28 P Pn 07 32 34.1 -0.1
baz=228
MENT **Mentasta** 19.77 43 P P 07 32 34.2 +0.7
MENT IAmb IAmb 07 32 56.3
comp=Z,5.0nm,0.6s
J25K **Salcha River,** 19.81 37 P P 07 32 33.0 -0.9
J25K IAmb IAmb 07 32 34.6
comp=Z,23nm,0.8s
J25K **Salcha River,** 19.81 37 P P 07 32 33.7 -0.3
baz=242,SNR=26
DOT **Dot Lake** 19.90 41 P P 07 32 34.4 -0.5
DOT IAmb IAmb 07 32 41.1
comp=Z,7.0nm,0.6s
L26K **Log Cabin Wild** 19.96 43 P P 07 32 36.1 +0.6
L26K **Log Cabin Wild** 19.96 43 P P 07 32 34.6 -1.0
baz=249
SCRK **Sand Creek** 20.07 40 P P 07 32 36.8 -0.1
SCRK IAmb IAmb 07 33 02.6
comp=Z,10nm,0.8s
SCRK **Sand Creek** 20.07 40 P P 07 32 36.3 -0.5
baz=245,SNR=12

BARN **Barnard Glacie** 20.12 49 P P 07 32 37.7 +0.2
BARN IAmb IAmb 07 32 42.9
comp=Z,16nm,1.5s
PRP **Porcupine Dome** 20.20 35 P P 07 32 37.8 -0.4
PRP **Porcupine Dome** 20.20 35 P P 07 32 38.5 +0.2
baz=239
CTG **Chitna Glacier** 20.25 49 P P 07 32 38.9 0.0
baz=256
CTGM **Chitina Glacie** 20.25 49 P P 07 32 38.5 -0.3
CTGM IAmb IAmb 07 32 56.2
comp=Z,8.0nm,0.9s
M27K **Edge Creek, AK** 20.38 45 P Pn 07 32 42.8 +0.4
M27K IAmb IAmb 07 33 02.5
comp=Z,13nm,1.2s
M27K **Edge Creek, AK** 20.38 45 P P 07 32 40.8 +0.6
baz=252
LOGN **Logan Glacier** 20.38 50 P P 07 32 40.9 +0.6
LOGN IAmb IAmb 07 32 52.2
comp=Z,22nm,1.5s
J26L **Joseph Creek** 20.46 39 P P 07 32 40.9 -0.1
baz=245
PINM **Pinnacle** 20.60 52 P Pn 07 32 43.8 -1.2
baz=260
L27K **Beaver Creek,** 20.62 43 P Pn 07 32 44.3 -0.9
L27K **Beaver Creek,** 20.62 43 P P 07 32 41.4 -1.4
baz=250
BCAR **Beaver Creek A** 20.64 43 P Pn 07 32 44.8 -0.7
TOLK **Toolik Lake Re** 20.82 25 P P 07 32 46.1 +1.2
TOLK IAmb IAmb 07 32 46.9
comp=Z,18nm,0.7s
TOLK **Toolik Lake Re** 20.82 25 P P 07 32 45.8 +0.9
baz=226,SNR=26
BVCY **Beaver Creek** 20.84 45 P P 07 32 46.3 +1.2
baz=253
YUK3 **Moose Creek** 20.86 47 P Pn 07 32 47.6 -0.5
baz=256
PNL **Peninsula** 20.96 53 P P 07 32 47.3 +0.9
baz=262
SEY **Seymchan** 21.30 316 P P 07 32 49.7 -0.3
comp=Z,2.7nm,0.7s,baz=112,slow=9.7,SNR=6.3
SEY LR LR 07 41 32.2
comp=Z,181nm,18.8s,baz=48,slow=38
MA2 **Magadan** 21.37 306 P P 07 32 50.2 -0.6
comp=Z,2.2nm,0.3s,baz=163,slow=19,SNR=1.4
A21K **Barrow** 21.42 15 P P 07 32 51.9 +0.8
baz=211
EGAK **Eagle** 21.52 39 P P 07 32 52.0 -0.3
EGAK IAmb IAmb 07 33 11.6
comp=Z,31nm,1.1s
EGAK **Eagle** 21.52 39 P P 07 32 52.6 +0.3
baz=247,SNR=25
BMAR **Burnt Mountain** 21.54 31 P P 07 32 53.1 +0.5
DAWY **Dawson** 21.98 42 P P 07 32 58.6 +1.3
DAWY IAmb IAmb 07 33 13.4
comp=Z,4.6nm,0.8s
DAWY **Dawson** 21.98 42 P P 07 32 57.2 -0.1
baz=251
HYT **Haines Junctio** 22.06 51 P P 07 33 00.1 +1.8
HYT IAmb IAmb 07 33 19.2
comp=Z,7.3nm,1.2s
HYT **Haines Junctio** 22.06 51 P P 07 32 58.7 +0.4
baz=261
M30M **Minto, Yukon** 22.71 46 P P 07 33 05.0 -0.2
M30M **Minto, Yukon** 22.71 46 P P 07 33 05.2 0.0
baz=258
I29M **Ogilvie Camp,** 22.86 39 P P 07 33 05.9 -0.8
I29M IAmb IAmb 07 33 08.6
comp=Z,9.0nm,0.8s
I29M **Ogilvie Camp,** 22.86 39 P P 07 33 05.7 -0.9
baz=250,SNR=7.4
SKAG **Skagway** 23.00 55 P P 07 33 07.0 -1.1
baz=267
M31M **Drury Creek, Y** 23.75 48 P P 07 33 15.7 +0.3
EPYK **Eagle Plains** 23.82 37 P P 07 33 16.1 0.0
EPYK IAmb IAmb 07 33 26.9
comp=Z,8.2nm,1.1s
EPYK **Eagle Plains** 23.82 37 P P 07 33 15.3 -0.8
baz=249
P33M **Teslin, Yukon** 24.31 53 P P 07 33 20.5 -0.2
baz=267
MMPY **Sheldon Lake,** 25.25 47 P P 07 33 29.3 +0.2
baz=264
INK **Inuvik** 25.66 34 P P 07 33 32.1 -0.6
comp=Z,2.8nm,0.5s,baz=233,slow=8.3,SNR=32
INK **Inuvik** 25.66 34 P P 07 33 32.6 -0.2
INK IAmb IAmb 07 33 34.4
comp=Z,3.1nm,0.7s
INK **Inuvik** 25.66 34 P P 07 33 32.7 -0.2
baz=249,SNR=5.1
TGTN **Hyland Airport** 26.58 50 P P 07 33 41.3 0.0
baz=269
C36M **Paulatuk** 29.25 34 P P 07 34 04.0 -0.9
C36M IAmb IAmb 07 34 06.1
comp=Z,7.8nm,1.4s
C36M **Paulatuk** 29.25 34 P P 07 34 04.8 -0.1
baz=258
A36M **Sachs Harbour** 29.55 28 P P 07 34 07.8 +0.3
A36M IAmb IAmb 07 34 25.7
comp=Z,2.8nm,0.8s
A36M **Sachs Harbour** 29.55 28 P P 07 34 07.3 -0.2
baz=252
YKA **Yellowknife Ar** 32.94 47 P P 07 34 36.8 -0.7
comp=Z,0.7nm,0.7s,baz=274,slow=9.2,SNR=10
YKA PcP PcP 07 37 19.7 -1.1
comp=Z,0.5nm,0.6s,baz=285,slow=2.8,SNR=8.0
YKA **Yellowknife Ar** 32.94 47 P P 07 34 37.9 +0.4
KLR **Kul'dur** 34.10 288 P P 07 34 47.2 -0.5
comp=Z,4.8nm,0.5s,baz=70,slow=7.6,SNR=24
H11N2 **WAKE ISLAND Hy** 35.07 213 T T 08 12 53.5
baz=20,slow=76,SNR=3.5
H11N3 **WAKE ISLAND Hy** 35.08 213 T T 08 12 48.4
baz=20,slow=76,SNR=2.8
H11N1 **WAKE ISLAND Hy** 35.09 213 T T 08 12 46.5
baz=20,slow=76,SNR=3.7
EDM **Edmonton** 36.07 63 P P 07 35 06.0 +1.3
H11S1 **WAKE ISLAND Hy** 36.27 212 T T 08 14 23.4
baz=20,slow=76,SNR=13
H11S2 **WAKE ISLAND Hy** 36.29 212 T T 08 14 24.7
baz=20,slow=76,SNR=17
H11S3 **WAKE ISLAND Hy** 36.29 212 T T 08 14 24.6
baz=20,slow=76,SNR=7.4
USA0B **Ussuriysk Arra** 36.32 280 P P 07 35 06.5 -0.4
USRK **Ussuriysk Ar.** 36.32 280 P P 07 35 06.7 -0.2
comp=Z,13nm,0.6s,baz=58,slow=9.9,SNR=19
USRK **Ussuriysk Ar.** 36.32 280 P P 07 35 06.5 -0.4
MCMT **McKenzie Canyo** 40.22 75 P P 07 35 40.5 +0.5
NVAR **Mina Array Bea** 40.49 86 P P 07 35 42.7 +0.5
comp=Z,0.9nm,0.9s,baz=294,slow=6.8,SNR=2.7
BOZ **Bozeman (W)** 40.54 73 P P 07 35 42.9 +0.4
baz=302
YHH **Holmes Hill** 41.44 74 P P 07 35 50.0 -0.1
YHH IAmb IAmb 07 36 06.5
comp=Z,2.8nm,0.6s
KSRS **Korea Array** 42.70 274 P P 07 35 59.8 -0.3
comp=Z,3.2nm,0.8s,baz=52,slow=8.3,SNR=7.1
LAO **LASA Array** 43.16 69 P P 07 36 04.6 +0.8
baz=302
BW06 **Boulder Array** 43.34 75 P P 07 36 05.2 -0.2
BW06 IAmb IAmb 07 36 21.5
comp=Z,2.4nm,0.8s
BW06 **Boulder Array** 43.34 75 P P 07 36 04.3 -1.2
baz=305
PD31 **Pinedale Array** 43.34 75 P P 07 36 04.5 -1.0
PDAR **Pinedale Array** 43.34 75 P P 07 36 05.8 +0.4
comp=Z,0.5nm,0.6s,baz=309,slow=3.4,SNR=4.8
PDAR **Pinedale Array** 43.34 75 P P 07 36 06.9 +1.4
O20A **White River Ci** 45.69 77 P P 07 36 24.9 +0.8
baz=307
NRIK **Noril'sk** 45.88 331 P P 07 36 23.9 -1.1
comp=Z,2.3nm,0.6s,baz=89,slow=7.6,SNR=5.3
ULM **Lac du Bonnet** 47.04 59 P P 07 36 33.8 -0.6
comp=Z,1.6nm,0.5s,baz=300,slow=8.2,SNR=3.4
ULM **Lac du Bonnet** 47.04 59 IAmb IAmb 07 36 42.0
comp=Z,10nm,1.5s
AGMN **Agassiz Nation** 48.14 61 P P 07 36 43.3 +0.3
AGMN IAmb IAmb 07 36 44.7
comp=Z,3.5nm,0.8s
AGMN **Agassiz Nation** 48.14 61 P P 07 36 41.8 -1.2
baz=305
BJT **Baijiatuu** 48.36 285 P P 07 36 45.4 +0.6
ULN **Ulaanbaatar** 48.95 299 P P 07 36 49.3 -0.2
ULN IAmb IAmb 07 36 50.6
comp=Z,4.3nm,0.8s
B35A **Bob, Littlefor** 49.27 60 P P 07 36 52.3 +0.7
B35A IAmb IAmb 07 37 02.6
comp=Z,11nm,1.4s
F33A **5 Mile Ranch,** 49.33 64 P P 07 36 51.9 -0.3

F33A IAmb IAmb 07 36 57.5
comp=Z,8.6nm,1.5s
SONM **Songino Array** 49.33 299 P P 07 36 52.4 +0.1
comp=Z,3.9nm,0.6s,baz=50,slow=8.3,SNR=32
SONM **Songino Array** 49.33 299 P P 07 36 52.5 +0.2
SONM IAmb IAmb 07 36 53.3
comp=Z,3.1nm,0.8s
T25A **Trinidad** 49.90 78 P P 07 36 57.1 +0.3
baz=310
ECSD **EROS Data Cent** 50.42 67 P P 07 37 00.1 -0.4
ECSD IAmb IAmb 07 37 15.6
comp=Z,5.2nm,1.2s
ECSD **EROS Data Cent** 50.42 67 P P 07 36 59.9 -0.6
baz=308
EYMN **Ely** 50.72 59 P P 07 37 03.0 +0.2
EYMN IAmb IAmb 07 37 14.0
comp=Z,10nm,1.2s
F36A **Milaca** 50.87 63 P P 07 37 04.9 +1.1
F36A IAmb IAmb 07 37 22.9
comp=Z,3.6nm,1.1s
MNTX **Cornudas Mount** 52.90 84 P P 07 37 20.9 +1.8
baz=313
COWI **Conover** 53.13 60 P P 07 37 21.2 +0.5
COWI IAmb IAmb 07 37 21.6
comp=Z,15nm,1.2s
E43A **Lone Tree Farm** 54.11 59 P P 07 37 28.4 +0.6
E43A IAmb IAmb 07 37 29.9
comp=Z,5.7nm,0.7s
E46A **Sault Ste Mari** 55.54 57 P P 07 37 39.3 +1.1
TX31 **Lajitas Ar. Si** 55.59 85 P P 07 37 38.8 -0.1
TX31 IAmb IAmb 07 37 58.9
comp=Z,9.1nm,1.2s
TX32 **Lajitas Array** 55.59 85 P P 07 37 38.2 -0.7
TX32 IAmb IAmb 07 37 58.9
comp=Z,3.4nm,1.2s
TXAR **Lajitas Array** 55.59 85 P P 07 37 38.9 0.0
comp=Z,0.4nm,0.7s,baz=308,slow=4.3,SNR=4.5
TXAR **Lajitas Array** 55.59 85 P P 07 37 39.7 +0.8
P40A **Paris** 55.73 68 P P 07 37 39.5 -0.1
P40A IAmb IAmb 07 37 54.5
comp=Z,6.8nm,0.6s
GLMI **Grayling** 56.38 59 P P 07 37 44.3 +0.1
baz=311
U40A **Yellville** 57.38 71 P P 07 37 50.2 -1.2
baz=313
SFIN **Lafayette** 57.99 64 P P 07 37 54.4 -1.2
baz=313
SCHQ **Schefferville** 58.00 41 P P 07 37 54.8 -0.7
comp=Z,5.9nm,1.2s,baz=288,slow=9.6,SNR=2.6
ARCES **ARCESS Array B** 58.50 352 P P 07 37 57.8 -1.0
comp=Z,3.1nm,0.8s,baz=22,slow=6.8,SNR=5.6
ARCES **ARCESS Array B** 58.50 352 P P 07 37 58.9 +0.1
ARCES IAmb IAmb 07 38 16.7
comp=Z,6.7nm,1.1s
OLIL **Olney** 58.54 66 P P 07 37 58.4 -1.1
OLIL IAmb IAmb 07 38 13.6
comp=Z,7.8nm,1.1s
ERPA **Erie** 60.70 58 P P 07 38 14.8 +0.5
baz=314
KURK **Kurchatov** 61.15 316 P P 07 38 16.8 -0.4
N54A **Moraine State** 61.50 59 P P 07 38 17.4 -2.4
baz=315
LONY **Lake Ozonia** 61.73 53 P P 07 38 21.8 +0.6
LONY IAmb IAmb 07 38 23.2
comp=Z,6.8nm,0.9s
LONY **Lake Ozonia** 61.73 53 P P 07 38 21.1 -0.1
baz=316
J57A **Williamstown** 61.87 55 P P 07 38 23.8 +1.6
L56A **Greenwood** 61.97 57 P P 07 38 24.3 +1.4
K57A **Scipio Center** 62.09 56 P P 07 38 24.4 +0.7
J58A **Remsen** 62.27 55 P P 07 38 26.1 +1.2
MK31 **Makanchi Array** 62.35 311 P P 07 38 25.1 -0.3
MK31 IAmb IAmb 07 38 25.2
comp=Z,1.3nm,0.5s
MKAR **Makanchi Array** 62.35 311 P P 07 38 24.9 -0.5
comp=Z,1.6nm,0.4s,baz=48,slow=5.5,SNR=54
MKAR **Makanchi Array** 62.35 311 P P 07 38 25.3 -0.2
NCB **Newcomb** 62.37 53 P P 07 38 27.3 +1.7
J59A **Piesco** 62.59 54 P P 07 38 28.1 +1.0
D62A **Allapoint, All** 62.62 48 P P 07 38 28.1 +1.0
BINY **Binghamton** 62.74 56 P P 07 38 30.3 +2.2
BINY **Binghamton** 62.74 56 P P 07 38 28.0 -0.1
baz=316
M57A **Sunshine Farm,** 62.76 57 P P 07 38 29.6 +1.4
M57A IAmb IAmb 07 38 46.6
comp=Z,10nm,1.2s
BRVK **Borovoye** 62.78 322 P P 07 38 28.5 +0.4
BRVK IAmb IAmb 07 38 29.4
comp=Z,1.7nm,0.6s
SSPA **Standing Stone** 62.86 58 P P 07 38 30.4 +1.5
SSPA **Standing Stone** 62.86 58 P P 07 38 28.5 -0.4
baz=316
S54A **Dingess, Beckl** 63.02 63 P P 07 38 31.7 +1.7
S54A IAmb IAmb 07 38 47.5
comp=Z,7.9nm,0.9s
ACCN **Adirondack Com** 63.07 54 P P 07 38 31.4 +1.2
L59A **Walton** 63.23 55 P P 07 38 33.3 +1.9
G62A **West of Eustis** 63.28 50 P P 07 38 32.6 +1.0
KSPA **Keystone Colle** 63.31 56 P P 07 38 34.1 +2.3
LBNH **Lisbon** 63.32 52 P P 07 38 33.0 +1.1
LBNH **Lisbon** 63.32 52 P P 07 38 32.4 +0.5
baz=317
H62A **Milan** 63.45 51 P P 07 38 33.6 +0.9
N59A **State Game Lan** 63.77 57 P P 07 38 37.5 +2.5
F64A **Sherman** 63.85 49 P P 07 38 35.2 -0.1
ARU **Arti** 64.11 331 LR LR 08 10 26.0
comp=Z,90nm,18.1s,baz=174,slow=40
LUPA **Lehigh Univers** 64.21 57 P P 07 38 39.6 +1.8
PAL **Palisades** 64.68 56 P P 07 38 40.2 -0.6
baz=317
KMSC **Kings Mountain** 64.91 65 P P 07 38 43.0 +0.6
baz=316
FIA1 **FINESS Array S** 66.33 350 P P 07 38 51.4 +0.3
FIA1 IAmb IAmb 07 39 17.4
comp=Z,11nm,1.3s
FIA1 PcP PcP 07 39 21.5 +0.7
FINES **FINESS Array B** 66.33 350 P P 07 38 50.6 -0.5
comp=Z,2.9nm,0.7s,baz=15,slow=7.9,SNR=7.8
FINES **FINESS Array B** 66.33 350 P P 07 38 50.9 -0.3
FINES PcP PcP 07 39 21.7 +0.9
NC303 **NORSAR Array S** 67.60 357 P P 07 38 59.7 +0.5
NC405 **NORSAR Array S** 67.70 357 P P 07 38 59.8 -0.1
NB201 **NORSAR Array S** 67.78 357 P P 07 39 00.9 +0.5
NOA **NORSAR Array B** 67.79 357 P P 07 39 00.4 -0.1
comp=Z,0.4nm,0.5s,baz=7.2,slow=6.4,SNR=3.3
KDJ **Kajisay** 68.27 311 P 07 39 04.8 +0.8
KDJ IAmb IAmb 07 39 05.5
comp=Z,4.8nm,1.1s
BOOM **Boomskoye usch** 68.57 312 P P 07 39 06.2 +0.4
BOOM IAmb IAmb 07 39 07.5
comp=Z,4.2nm,0.6s
AAK **Ala-Archa** 69.13 313 P P 07 39 10.2 +0.9
AAK IAmb IAmb 07 39 11.0
comp=Z,3.3nm,0.8s
ABKAR **Akbulak array** 69.68 326 P P 07 39 12.5 +0.1
KKAR **Karatay Array** 70.55 316 P P 07 39 17.7 -0.1
BTK **Batken** 72.85 313 P P 07 39 31.8 0.0
BTK IAmb IAmb 07 39 34.0
comp=Z,4.1nm,0.9s
SHL **Shillong** 72.95 290 P P 07 39 32.5 -0.2
GAR **Garm** 73.94 313 P P 07 39 38.3 0.0
CMAR **Chiang Mai Arr** 74.05 280 P P 07 39 40.0 +1.0
comp=Z,0.8nm,0.3s,baz=32,slow=7.2,SNR=9.8
GUN **Gumba** 74.64 295 *eP* P 07 39 43.6 +0.8
comp=Z,29nm,0.6s
JIRN **Jiri** 74.66 295 *eP* P 07 39 43.7 +0.7
comp=Z,46nm,0.7s
CHGR **Chuyangaron** 74.74 314 P P 07 39 42.9 0.0
RAMN **Ramite** 74.97 294 *eP* P 07 39 45.2 +0.6
comp=Z,28nm,0.6s
PKI **Pulchoki** 75.17 296 *eP* P 07 39 46.4 +0.5
comp=Z,35nm,1.0s
DANN **Dangsing** 75.49 297 *eP* P 07 39 48.4 +0.7
comp=Z,55nm,0.8s
KOLN **Koldanda** 76.03 297 *eP* P 07 39 51.2 +0.6
comp=Z,29nm,0.9s
PYUN **Piuthan** 76.11 298 *eP* P 07 39 51.7 +0.6
comp=Z,40nm,0.9s
AKASG **Malin Array Be** 76.35 345 P P 07 39 51.1 -0.6
comp=Z,3.9nm,0.5s,baz=17,slow=5.9,SNR=19
CLL **Collm** 77.45 356 *i* P P 07 39 58.5 +0.5
comp=Z,6.0nm,0.5s
CLL epP pP 07 40 07.0 -0.4
BRG **Berggiesshubel** 77.84 355 *eP* P 07 40 00.7 +0.6
BRG Amp 07 40 01.4

comp=Z,7.2nm,0.9s
BRG Amp 08 21 15.0
comp=N,1.4nm,53.3s
BRG Amp 08 21 27.0
comp=Z,1.7nm,49.5s
BRG Amp 08 21 40.0
comp=E,0.8nm,41.8s
GERES GERESS Array B 79.88 355 P **P** **07 40 11.2 -0.3**
comp=E,1.3nm,0.5s,baz=23,slow=7.2,SNR=8.7
ESDC Sonseca Array 88.83 8 P **P** **07 40 56.7 -0.3**
comp=E,1.6nm,0.9s,baz=338,slow=4.8,SNR=5.9
MMAI Mount Meron Ar 92.04 336 LR LR 08 26 49.6
comp=E,545nm,18.0s,baz=12,slow=38
IDI Anoyia 92.07 345 LR LR 08 25 49.3
comp=E,98nm,20.5s,baz=258,slow=38
WSAR Wadi Sarin 92.53 313 LR LR 08 28 34.0
comp=E,314nm,18.9s,baz=225,slow=39
H03N2 Juan Fernandez 118.23 109 T T 09 56 55.5
baz=316
H03N1 Juan Fernandez 118.25 109 T T 09 56 56.4
baz=316
H03N3 Juan Fernandez 118.25 109 T T 09 56 40.8
baz=316
TSUM Tsumeb 146.57 340 PKPbc **PKPbc** **07 47 43.6 -0.9**
comp=E,3.6nm,0.6s,baz=13,slow=7.1,SNR=5.8

WEL 14 07:42:17.1±0.4,41°S±4°×17°5E±°, h45km±5km, M3.6/28, ML3.9/28, MLv3.6/28, Error ellipse: s-maj=0.0km s-min=0.0km az=156.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.13**	**182**	P	Pn	07 42 26.5	+2.0
WEL				S	Sn	07 42 33.8	+4.1
CAW	**Cannon Point**	**0.23**	**78**	P	Pn	07 42 36.9	+1.8
CAW				S	Sn	07 42 34.5	+3.7
BHW	**Baring Head**	**0.26**	**164**	P	Pn	07 42 27.1	+1.7
BHW				S	Sn	07 42 34.2	+2.9
KIW	**Kapiti Island**	**0.31**	**19**	P	Pn	07 42 27.4	+1.4
KIW				S	Sn	07 42 34.8	+2.7
TCW	**Tory Channel**	**0.38**	**262**	P	Pn	07 42 27.9	+1.2
TCW				S	Sn	07 42 35.5	+2.1
MSWZ	**Moikau Station**	**0.44**	**126**	P	Pn	07 42 28.8	+1.4
MSWZ				S	Sn	07 42 38.3	+3.6
OGWZ	**Otaki Gorge**	**0.45**	**42**	P	Pn	07 42 28.6	+1.1
PAWZ	**Paruwai Farm**	**0.54**	**115**	P	Pn	07 42 29.8	+1.1
MTW	**Mount Morrison**	**0.55**	**90**	P	Pn	07 42 29.7	+1.0
MTW				S	Sn	07 42 38.8	+1.8
PLWZ	**Palliser**	**0.55**	**139**	P	Pn	07 42 29.9	+1.1
PLWZ				S	Sn	07 42 39.9	+2.8
HOWZ	**Holdsworth Sta**	**0.62**	**65**	P	Pn	07 42 30.3	+0.7
HOWZ				S	Sn	07 42 40.5	+1.9
TUZ	**Tuamarina**	**0.68**	**246**	P	Pn	07 42 30.9	+0.4
CMWZ	**Cape Campbell**	**0.73**	**215**	P	Pn	07 42 32.3	+1.3
TRWZ	**Traveller**	**0.73**	**110**	P	Pn	07 42 32.0	+0.9
TRWZ				S	Sn	07 42 42.9	+1.7
DUWZ	**D'Urville Isla**	**0.74**	**298**	P	Pn	07 42 31.8	+0.6
MRZ	**Mangatainoka R**	**0.79**	**51**	P	Pn	07 42 32.1	+0.3
TMWZ	**Te Maipa**	**0.84**	**87**	P	Pn	07 42 33.1	+0.4
BSWZ	**Blackbirch Sta**	**0.88**	**230**	P	Pn	07 42 33.5	+0.4
TIWZ	**Tintock**	**0.92**	**66**	P	Pn	07 42 33.8	+0.1
OHWZ	**Ohakea**	**1.03**	**24**	P	Pn	07 42 36.1	+1.0
NNZ	**Nelson**	**1.05**	**266**	P	Pn	07 42 35.3	-0.1
POWZ	**Post Office Ro**	**1.07**	**45**	P	Pn	07 42 35.5	-0.3
PRWZ	**Pori Road**	**1.09**	**57**	P	Pn	07 42 35.9	0.0
CPWZ	**Castlepoint**	**1.11**	**78**	P	Pn	07 42 36.5	+0.4
BFZ	**Birch Farm**	**1.21**	**67**	P	Pn	07 42 37.1	-0.5
DVHZ	**Dannevirke**	**1.36**	**51**	P	Pn	07 42 38.8	-0.9
TKNZ	**Takaka Hill**	**1.38**	**274**	P	Pn	07 42 40.1	+0.2
WAZ	**Wanganui**	**1.41**		P	Pn	07 42 41.5	+1.1
TSZ	**Takapari Road**	**1.42**	**40**	P	Pn	07 42 40.0	-0.5
ANWZ	**Angora Road**	**1.47**	**62**	P	Pn	07 42 40.3	-0.8
THZ	**Tophouse**	**1.53**	**246**	P	Pn	07 42 41.4	-0.6
MRNZ	**Matariki Terra**	**1.54**	**260**	P	Pn	07 42 42.2	0.0
KHZ	**Kahutara**	**1.56**	**216**	P	Pn	07 42 42.2	-0.2
PNHZ	**Pukenui**	**1.65**	**42**	P	Pn	07 42 42.8	-0.9
PRHZ	**Porangahau**	**1.67**	**58**	P	Pn	07 42 42.7	-1.2
WPHZ	**Waipukurau**	**1.67**	**50**	P	Pn	07 42 43.0	-1.0
LREZ	**Lake Rotokare**	**1.72**	**350**	P	Pn	07 42 45.6	+1.1
QRZ	**Quartz Range**	**1.73**	**280**	P	Pn	07 42 44.6	-0.2
MTVZ	**Mangateitei**	**1.85**	**17**	P	Pn	07 42 46.9	+0.5
NMEZ	**Namu Road**	**1.87**	**338**	P	Pn	07 42 47.4	+0.8
PREZ	**Palmer Road**	**1.87**	**345**	P	Pn	07 42 48.1	+1.4
MOVZ	**Moawhango**	**1.90**	**23**	P	Pn	07 42 46.6	-0.5
PKVZ	**Pokaka**	**1.92**	**13**	P	Pn	07 42 47.9	+0.6
WNVZ	**Wahianoa**	**1.93**	**19**	P	Pn	07 42 47.8	+0.1
BHHZ	**Black Hill Sta**	**1.93**	**31**	P	Pn	07 42 47.0	-0.6
KRHZ	**Kereru**	**1.94**	**39**	P	Pn	07 42 46.2	-1.1
PXZ	**Pawanui**	**1.95**	**55**	P	Pn	07 42 46.2	-1.5
TRVZ	**Turoa**	**1.95**	**18**	P	Pn	07 42 48.0	+0.1
KHEZ	**Kahui Hut**	**1.95**	**342**	P	Pn	07 42 48.6	+0.8
NEZ	**North Egmont**	**1.95**	**344**	P	Pn	07 42 48.7	+0.8
WHVZ	**Whangaehu Hut**	**1.97**	**19**	P	Pn	07 42 48.5	+0.2
DRZ	**Dome Shelter**	**1.97**	**18**	P	Pn	07 42 48.8	+0.4
FWVZ	**Far West T-bar**	**1.99**	**18**	P	Pn	07 42 48.6	+0.1
TUVZ	**Tukino**	**2.00**	**20**	P	Pn	07 42 48.9	+0.3
NBEZ	**Newall Road No**	**2.01**	**339**	P	Pn	07 42 49.3	+0.7
DREZ	**Durham Road**	**2.01**	**347**	P	Pn	07 42 49.7	+1.1
VRZ	**Vera Road**	**2.03**	**360**	P	Pn	07 42 49.7	+0.9
PKE	**Pukeiti**	**2.05**	**343**	P	Pn	07 42 49.9	+0.7
SNVZ	**South Ngauruho**	**2.08**	**19**	P	Pn	07 42 49.9	+0.3
NGZ	**Ngauruhoe**	**2.08**	**18**	P	Pn	07 42 49.9	+0.3
KAHZ	**Kahuranaki**	**2.10**	**50**	P	Pn	07 42 48.5	-1.3
OTVZ	**Oturere**	**2.10**	**19**	P	Pn	07 42 50.3	+0.3
MHEZ	**Mangahewa**	**2.11**	**350**	P	Pn	07 42 51.3	+1.5
NNVZ	**North Ngauruho**	**2.12**	**18**	P	Pn	07 42 50.5	+0.3
WTVZ	**West Tongariro**	**2.13**	**17**	P	Pn	07 42 50.6	+0.2
KWHZ	**Kaweka Forest**	**2.14**	**37**	P	Pn	07 42 49.2	-1.2
ETVZ	**East Tongariro**	**2.14**	**20**	P	Pn	07 42 50.4	-0.1
TWVZ	**Taurewa**	**2.14**	**14**	P	Pn	07 42 50.6	+0.1
TMVZ	**Te Maari**	**2.16**	**20**	P	Pn	07 42 50.6	-0.1
KRVZ	**Karewarewa**	**2.16**	**18**	P	Pn	07 42 51.0	+0.2
NTVZ	**North Tongarir**	**2.17**	**19**	P	Pn	07 42 50.9	0.0
MCHZ	**McNeill Hill**	**2.25**	**41**	P	Pn	07 42 50.7	-1.2
KATZ	**Kakaramea**	**2.29**	**18**	P	Pn	07 42 53.7	+1.2
CKHZ	**Cape Kidnapper**	**2.31**	**50**	P	Pn	07 42 50.8	-1.8
DSZ	**Dennistion Nort**	**2.31**	**254**	P	Pn	07 42 52.0	-0.7
RITZ	**Rihia Road**	**2.33**	**21**	P	Pn	07 42 52.7	-0.3
BKZ	**Black Stump Fm**	**2.38**	**34**	P	Pn	07 42 52.3	-1.5
RATZ	**Rangitukua**	**2.41**	**19**	P	Pn	07 42 54.0	-0.1
LTZ	**Lake Taylor**	**2.48**	**228**	P	Pn	07 42 54.0	-1.0
ARHZ	**Aropaoanui**	**2.54**	**43**	P	Pn	07 42 54.4	-1.5
AMCZ	**Amberley**	**2.56**	**217**	P	Pn	07 42 54.8	-1.3
NMHZ	**Naumai**	**2.56**	**38**	P	Pn	07 42 54.9	-1.5
HIZ	**Hauiti**	**2.64**	**1**	P	Pn	07 42 57.9	+0.7
MRHZ	**Matea Rd**	**2.64**	**29**	P	Pn	07 42 55.6	-1.6
MTHZ	**Maungataniwha**	**2.79**	**35**	P	Pn	07 42 57.5	-1.9
WHHZ	**Waihua**	**2.81**	**43**	P	Pn	07 42 58.2	-1.3
RAHZ	**Arahi**	**2.85**	**39**	P	Pn	07 42 58.0	-2.2
ALRZ	**Allen Road**	**2.86**	**25**	P	Pn	07 42 58.6	-1.6
TLZ	**Tolley Road**	**2.88**	**12**	P	Pn	07 43 00.0	-0.6
PRRZ	**Plateau Road**	**2.93**	**26**	P	Pn	07 42 59.7	-1.6
INZ	**Inchbonnie**	**2.94**	**237**	P	Pn	07 43 00.1	-1.2
OXZ	**Oxford**	**2.97**	**222**	P	Pn	07 42 59.6	-2.2
MQZ	**McQueen's Vall**	**2.99**	**211**	P	Pn	07 42 59.6	-2.4
AKCZ	**Akaroa Harbour**	**3.04**	**206**	P	Pn	07 43 01.1	-1.7
RTZ	**Ruatahuna**	**3.05**	**34**	P	Pn	07 43 00.8	-2.2
KNZ	**Kokohu**	**3.08**	**47**	P	Pn	07 43 00.5	-2.7
SNGZ	**Shannon Statio**	**3.08**	**41**	P	Pn	07 43 01.0	-2.4
MUGZ	**Murupara**	**3.08**	**31**	P	Pn	07 43 00.8	-2.5
MHGZ	**Mahia Peninsul**	**3.12**	**51**	P	Pn	07 43 01.7	-2.2
TARZ	**Mount Tarawera**	**3.21**	**25**	P	Pn	07 43 03.7	-1.3
RACZ	**Rakaia**	**3.23**	**216**	P	Pn	07 43 02.9	-2.3
PRGZ	**Paritu Road**	**3.27**	**48**	P	Pn	07 43 03.1	-2.8
RAGZ	**Rawiri**	**3.34**	**38**	P	Pn	07 43 04.4	-2.6
RIGZ	**Rimuhau**	**3.36**	**44**	P	Pn	07 43 04.3	-2.8
URZ	**Urewera**	**3.41**	**33**	P	Pn	07 43 04.7	-3.0
TOZ	**Tahuroa Road**	**3.47**	**10**	P	Pn	07 43 09.0	+0.4
MWZ	**Matawai**	**3.53**	**38**	P	Pn	07 43 06.5	-2.9
WACZ	**Wakanui South**	**3.53**	**217**	P	Pn	07 43 07.2	-2.2
WVZ	**Waitaha Valley**	**3.56**	**236**	P	Pn	07 43 08.2	-1.7
OPRZ	**Ohinepanea**	**3.58**	**23**	P	Pn	07 43 08.3	-1.9
TKGZ	**Te Karaka**	**3.60**	**42**	P	Pn	07 43 07.4	-3.0
TGRZ	**Tauranga**	**3.61**	**19**	P	Pn	07 43 09.5	-1.0
CNGZ	**Carnagh Statio**	**3.76**	**46**	P	Pn	07 43 09.3	-3.3
RPZ	**Rata Peaks**	**3.76**	**226**	P	Pn	07 43 10.5	-2.0
ARCZ	**Arundel**	**3.85**	**222**	P	Pn	07 43 11.6	-2.3
TWGZ	**Tauwhareparae**	**3.87**	**41**	P	Pn	07 43 11.7	-2.4
RUGZ	**Raukumara Rang**	**3.90**	**36**	P	Pn	07 43 11.6	-2.9
GCSZ	**Gaunt Creek Bo**	**3.94**	**235**	P	Pn	07 43 13.4	-1.7
AWAZ	**Awhitu Peninsu**	**4.09**	**359**	P	Pn	07 43 17.5	+0.4
PUZ	**Puketiti**	**4.09**	**42**	P	Pn	07 43 13.5	-3.7
HAZ	**Te Kaha**	**4.12**	**35**	P	Pn	07 43 13.8	-3.6
PKGZ	**Pakihiroa**	**4.14**	**39**	P	Pn	07 43 15.0	-2.9
ETAZ	**East Tamaki Re**	**4.20**	**2**	P	Pn	07 43 18.9	+0.3
WTAZ	**Waiatarua**	**4.22**	**358**	P	Pn	07 43 19.8	+0.9
TMZ	**Timaru**	**4.25**	**219**	P	Pn	07 43 16.9	-2.5
WMGZ	**Waiomatatini S**	**4.36**	**41**	P	Pn	07 43 17.3	-3.6
WIAZ	**Waiheke Island**	**4.37**	**4**	P	Pn	07 43 21.2	+0.3
FOZ	**Fox Glacier**	**4.38**	**235**	P	Pn	07 43 18.7	-2.3
MBAZ	**Motutapu North**	**4.38**	**1**	P	Pn	07 43 21.4	+0.3
RVAZ	**Riverhead Bore**	**4.38**	**358**	P	Pn	07 43 21.5	+0.4
KUZ	**Kuaotunu**	**4.47**	**10**	P	Pn	07 43 21.5	-0.7
MXZ	**Matakaoa Point**	**4.51**	**38**	P	Pn	07 43 19.8	-3.1
ABAZ	**Army Bay**	**4.55**	**1**	P	Pn	07 43 23.9	+0.5
LBZ	**Lake Benmore**	**4.67**	**225**	P	Pn	07 43 22.8	-2.3
ODZ	**Otahua Downs**	**4.92**	**217**	P	Pn	07 43 25.8	-2.7
WCZ	**Waipu Caves**	**5.22**	**356**	P	Pn	07 43 32.7	0.0
JCZ	**Jackson Bay**	**5.29**	**235**	P	Pn	07 43 30.6	-3.1
WKZ	**Wanaka**	**5.59**	**227**	P	Pn	07 43 34.9	-2.8
EAZ	**Earnscleugh**	**5.71**	**223**	P	Pn	07 43 36.4	-2.9
TUZ	**Tuapeka**	**6.08**	**216**	P	Pn	07 43 42.3	-2.0
MLZ	**Mavora Lakes**	**6.43**	**227**	P	Pn	07 43 47.3	-1.9
SYZ	**Scrubby Hill**	**6.75**	**215**	P	Pn	07 43 51.7	-1.8
WHZ	**Wether Hill Ro**	**6.86**	**224**	P	Pn	07 43 52.3	-2.8
CTZ	**Chatham Island**	**6.87**	**115**	P	Pn	07 43 54.4	-0.8
APZ	**The Paps**	**7.49**	**218**	P	Pn	07 44 00.9	-2.9
PYZ	**Puysegur Point**	**7.71**	**227**	P	Pn	07 44 06.0	-0.7

IDC 14 08:17:08.0±2.5,53°79N×87°00E, h0km, mb1 3.0/2, mb1mx2.9/57, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.3km s-min=14.6km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**278**	*i*		08 26 00.0	
	baz=94,slow=333,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.30**	**278**	Pg	Pg	08 17 32.6	-0.4
	1.2nm,0.3s,baz=100,slow=17,SNR=10						
ZALV				Lg	Lg	08 17 49.9	
	1.0nm,0.3s,baz=103,slow=30,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.09**	**242**	Pn	Pn	08 18 39.5	+0.3
	0.1nm,0.3s,baz=48,slow=11,SNR=8.1						
KURBB				Sn	Sn	08 19 49.7	0.0
	0.0nm,0.3s,baz=42,slow=17,SNR=2.0						
KURBB				Lg	Lg	08 20 20.6	
	0.0nm,0.3s,baz=60,slow=33,SNR=3.0						
MKAR	**Makanchi Array**	**7.62**	**205**	Pn	Pn	08 19 01.8	+1.6
	0.2nm,0.3s,baz=25,slow=13,SNR=11						
MKAR				Sn	Sn	08 20 26.4	-0.8
	0.1nm,0.3s,baz=205,slow=35,SNR=1.8						
MKAR				Lg	Lg	08 21 08.3	
	0.1nm,0.3s,baz=24,slow=36,SNR=2.7						

*IDC **14** 08:18:55.9±0.6,26°07N×144°03E, h0km, mb4.0/21, mb1 4.2/23, mb1mx4.1/53, mbtmp4.0/23, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/88, Error ellipse: s-maj=19.4km s-min=16.2km az=68.0*
*NEIC **14** 08:18:58.3±1.3,26°1N±0°1×143°9E±0°1, h10km±1km, mb4.6/56, Error ellipse: s-maj=19.9km s-min=15.8km az=232.0*
*JMA **14** 08:18:58.7,26°42N×144°08E, h11km, M4.3*
*NIED **14** 08:18:58.7,26°42N×144°08E, h11km, MW4.1, Moment Tensor Solution. s1 Moment tensor: Scale 10^15^Nm; Mrr-1.39; Mθθ0.60; Mφφ0.79; Mrθ0.32; Mθφ-0.77; Mφr0.03; Fault plane solution: M0 1.46000×10^15^ NP1: φs308.00000°, δ50.00000°, λ-104.00000°. NP2: φs149.00000°, δ42.00000°, λ-74.00000°.*

ISC 14 08:18:59.4±0.6,26°16N±0°09×144°02E±0°08, h20km, n99, σ1s11/97, mb4.5/45, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.71**	**286**	P	**Pn**	**08 19 29.0**	**+0.8**
JHH2				*e*S	**Sn**	**08 19 51.1**	**+1.6**
CBIJ	**Chichi jima**	**1.88**	**300**	P	**Pn**	**08 19 30.6**	**+0.1**
CBIJ				*e*S	**Sn**	**08 19 53.8**	**+0.1**
JCJ	**Chichijima**	**1.88**	**300**		**Pn**	**08 19 29.7**	**-0.8**
JRY	**Ryogami san**	**10.76**	**337**	P	**Pn**	**08 21 32.5**	**+0.2**
JRY				S	**Sn**	**08 23 28.8**	**-3.3**
MJAR	**Matsushiro Arr**	**11.47**	**336**	Pn	**Pn**	**08 21 42.3**	**+0.2**
	0.1nm,0.3s,baz=158,slow=11,SNR=3.5						
MAJO	**Matsushiro**	**11.47**	**336**	Pn	**Pn**	**08 21 43.8**	**+1.7**
MJB9	**Matsu-Tunnel**	**11.48**	**336**	Pn	**Pn**	**08 21 43.5**	**+1.3**
JMM	**Marumori**	**11.98**	**348**	Pn	**Pn**	**08 21 47.9**	**-1.2**
JSD	**Sado**	**12.80**	**339**	Pn	**Pn**	**08 21 58.4**	**-1.9**
KSRS	**Korea Array**	**17.69**	**313**	P	**Pn**	**08 23 05.6**	**+1.1**
	0.1nm,0.3s,baz=121,slow=12,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**22.01**	**102**	T	T	08 46 25.2	
	baz=291,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**22.01**	**102**	T	T	08 46 25.2	
	baz=291,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**22.02**	**102**	T	T	08 46 26.3	
	baz=291,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**22.30**	**105**	T	T	08 46 46.2	
	baz=294,slow=75,SNR=380						
H11S1	**WAKE ISLAND Hy**	**22.30**	**105**	T	T	08 46 46.9	
	baz=294,slow=75,SNR=256						
H11S2	**WAKE ISLAND Hy**	**22.31**	**105**	T	T	08 46 47.7	
	baz=294,slow=75,SNR=308						
KLR	**Kul'dur**	**24.93**	**341**	P	**P**	**08 24 21.9**	**+0.8**
	1.3nm,0.6s,baz=140,slow=10,SNR=4.0						
SONM	**Songino Array**	**36.52**	**316**	P	**P**	**08 26 03.9**	**+0.3**
	0.4nm,0.5s,baz=118,slow=7.5,SNR=4.3						
KAPI	**Kappang**	**38.91**	**221**	LR	LR	08 41 38.6	
	comp=Z,50nm,20.4s,baz=168,slow=35						
CMAR	**Chiang Mai Arr**	**42.23**	**269**	P	**P**	**08 26 51.0**	**-0.5**
	1.0nm,0.3s,baz=60,slow=7.8,SNR=1.5						
TIXI	**Tiksi**	**46.31**	**353**	P	**P**	**08 27 24.8**	**+1.3**
WB0	**Warramunga Arr**	**46.60**	**193**	P	**P**	**08 27 25.2**	**-1.1**
WR0	**Warramunga Arr**	**46.76**	**192**	P	**P**	**08 27 26.6**	**-0.9**
WB2	**Warramunga Arr**	**46.78**	**193**	P	**P**	**08 27 26.8**	**-0.9**
WRA	**Warramunga Arr**	**46.78**	**193**	P	**P**	**08 27 26.3**	**-1.4**
	2.1nm,0.7s,baz=14,slow=8.8,SNR=18						
WRA	**Warramunga Arr**	**46.78**	**193**	P	**P**	**08 27 26.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**47.48**	**204**	P	**P**	**08 27 31.8**	**-1.4**
FITZ				IAmb	IAmb	08 27 44.2	
	comp=Z,6.6nm,1.1s						
ASAR	**Alice Springs**	**50.49**	**192**	P	**P**	**08 27 54.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=23,slow=12,SNR=4.7						
ASAR				PcP	**PcP**	**08 29 14.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=17,slow=3.9,SNR=6.2						
ZAA0	**Zalesovo Array**	**51.26**	**319**	P	**P**	**08 28 01.6**	**-0.1**
ZALV	**Zalesovo Beam**	**51.26**	**319**	P	**P**	**08 28 01.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=83,slow=6.1,SNR=1.7						
ZALV				PcP	**PcP**	**08 29 16.7**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=103,slow=4.6,SNR=1.8						
MK31	**Makanchi Array**	**52.33**	**310**	P	**P**	**08 28 10.5**	**+0.6**
MKAR	**Makanchi Array**	**52.33**	**310**	P	**P**	**08 28 10.8**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=97,slow=9.9,SNR=7.5						
MKAR				PcP	**PcP**	**08 29 20.5**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=104,slow=4.6,SNR=2.2						
N19K	**Bonanza Creek**	**53.67**	**32**	P	**P**	**08 28 21.7**	**+2.1**
OHAK	**Old Harbor**	**53.69**	**37**	P	**P**	**08 28 20.6**	**+1.0**
P19K	**Oil Pt**	**54.08**	**34**	P	**P**	**08 28 23.9**	**+1.5**
K20K	**Telida**	**54.40**	**29**	P	**P**	**08 28 26.3**	**+1.6**
K20K				IAmb	IAmb	08 28 27.6	
	comp=Z,5.0nm,0.8s						
J20K	**Nowinta River**	**54.55**	**28**	P	**P**	**08 28 27.5**	**+1.7**
J20K				IAmb	IAmb	08 28 28.7	
	comp=Z,6.9nm,0.8s						
KURK	**Kurchatov**	**54.80**	**315**	P	**P**	**08 28 27.6**	**-0.2**
KURK				IAmb	IAmb	08 28 39.7	
	comp=Z,4.6nm,0.8s						
CNPM	**China Poot**	**55.06**	**34**	P	**P**	**08 28 30.5**	**+0.9**
PPLA	**Purkeypile**	**55.14**	**30**	P	**P**	**08 28 31.2**	**+0.9**
IMAR	**Indian Mountai**	**55.15**	**26**	P	**P**	**08 28 31.8**	**+1.7**
CAST	**Castle Rocks**	**55.28**	**29**	P	**P**	**08 28 32.7**	**+1.5**
CAST				IAmb	IAmb	08 28 33.6	
	comp=Z,5.2nm,0.9s						
H21K	**Melozitna Rive**	**55.45**	**27**	P	**P**	**08 28 33.8**	**+1.5**
H21K				IAmb	IAmb	08 28 35.8	
	comp=Z,5.4nm,1.0s						
I21K	**Tanana**	**55.68**	**27**	P	**P**	**08 28 33.2**	**-0.8**
I21K				IAmb	IAmb	08 28 36.9	
	comp=Z,5.8nm,1.1s						
RC01	**Rabbit Creek A**	**56.00**	**32**	P	**P**	**08 28 37.0**	**+0.7**
RC01				IAmb	IAmb	08 28 38.0	
	comp=Z,6.0nm,1.1s						
SEW	**Seward**	**56.03**	**34**	P	**P**	**08 28 37.4**	**+0.9**
TRF	**Thorofare Moun**	**56.09**	**30**	P	**P**	**08 28 38.0**	**+0.9**
TRF				IAmb	IAmb	08 28 38.7	
	comp=Z,7.3nm,1.0s						
PMR	**Palmer**	**56.35**	**32**	P	**P**	**08 28 39.4**	**+0.6**
KNK	**Knik Glacier**	**56.65**	**32**	P	**P**	**08 28 42.0**	**+1.0**
KNK				IAmb	IAmb	08 28 47.7	
	comp=Z,7.4nm,1.1s						
PWL	**Port Wells**	**56.66**	**33**	P	**P**	**08 28 41.7**	**+0.6**
PWL				IAmb	IAmb	08 28 42.9	
	comp=Z,6.5nm,1.0s						
RND	**Reindeer**	**56.72**	**30**	P	**P**	**08 28 41.9**	**+0.4**
RND				IAmb	IAmb	08 28 42.6	
	comp=Z,5.4nm,0.8s						
MCK	**McKinley**	**56.73**	**29**	P	**P**	**08 28 41.7**	**+0.2**
MCK				IAmb	IAmb	08 28 43.5	
	comp=Z,5.6nm,1.0s						
SML	**Sawmill**	**56.76**	**32**	P	**P**	**08 28 42.4**	**+0.6**
NEA2	**Nenana**	**56.80**	**28**	P	**P**	**08 28 43.3**	**+1.4**
COLD	**Coldfoot**	**56.81**	**25**	P	**P**	**08 28 43.3**	**+1.3**
SCM	**Sheep Creek Mo**	**57.23**	**32**	P	**P**	**08 28 46.3**	**+1.1**
H24K	**Noodor Dome**	**57.48**	**27**	P	**P**	**08 28 48.2**	**+1.3**
IL31		**57.75**	**28**	P	**P**	**08 28 48.7**	**+0.1**
IL31				IAmb	IAmb	08 28 49.6	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**57.75**	**28**	P	**P**	**08 28 48.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=259,slow=5.9,SNR=29						
BMRM	**Bremner River**	**58.48**	**33**	P	**P**	**08 28 55.4**	**+1.4**
N25K	**Chitina, Valde**	**58.51**	**32**	P	**P**	**08 28 55.3**	**+1.1**
N25K				IAmb	IAmb	08 29 10.6	
	comp=Z,4.6nm,1.1s						
RIDG	**Independent Ri**	**58.53**	**30**	P	**P**	**08 28 55.0**	**+0.7**
RIDG				IAmb	IAmb	08 28 55.8	
	comp=Z,3.5nm,0.9s						
DOT	**Dot Lake**	**58.88**	**30**	P	**P**	**08 28 58.1**	**+1.5**
GLB	**Gilahina Butte**	**58.88**	**32**	P	**P**	**08 28 58.1**	**+1.4**
SCRK	**Sand Creek**	**58.93**	**29**	P	**P**	**08 28 57.8**	**+0.7**
BMAR	**Burnt Mountain**	**58.99**	**25**	P	**P**	**08 28 59.1**	**+1.8**
L26K	**Log Cabin Wild**	**59.16**	**30**	P	**P**	**08 29 00.3**	**+1.7**
BVAR	**Borovoye Array**	**59.83**	**318**	P	**P**	**08 29 03.9**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=50,slow=26,SNR=6.7						
L27K	**Beaver Creek,**	**59.86**	**30**	P	**P**	**08 29 04.7**	**+1.3**
GRNC	**Granite Creek**	**59.87**	**33**	P	**P**	**08 29 04.2**	**+0.4**
GRNC				IAmb	IAmb	08 29 11.9	
	comp=Z,5.7nm,1.0s						
BCAR	**Beaver Creek A**	**59.88**	**30**	P	**P**	**08 29 05.1**	**+1.5**
EGAK	**Eagle**	**60.20**	**28**	P	**P**	**08 29 06.2**	**+0.6**
EGAK				IAmb	IAmb	08 29 15.2	
	comp=Z,5.3nm,1.4s						
KKAR	**Karatay Array**	**60.96**	**307**	P	**P**	**08 29 11.7**	**+0.4**
DAWY	**Dawson**	**60.96**	**29**	P	**P**	**08 29 12.3**	**+1.4**
DAWY				IAmb	IAmb	08 29 13.7	
	comp=Z,4.8nm,1.0s						
EPYK	**Eagle Plains**	**62.05**	**27**	P	**P**	**08 29 19.8**	**+1.6**
M30M	**Minto, Yukon**	**62.18**	**31**	P	**P**

PBAR A A 08 30 34.1
comp=E,2.9nm,0.4s
EGOR Sierra Gorda, 2.69 54 Pn **Pn 08 30 04.1 +0.3**
EGOR Sn **Sn 08 30 35.2 -0.1**
EGOR *i* Vmb_Lg 08 30 40.3
ECAB El Cabril 2.75 24 Pn **Pn 08 30 05.3 +0.7**
ECAB Sn **Sn 08 30 33.9 -2.7**
ECAB *i* Vmb_Lg 08 30 35.5
PNCL Nicolau / Gran 2.88 332 *e*Pn **Pn 08 30 07.2 +0.9**
PNCL *e*Sn **Sn 08 30 39.2 -0.5**
PNCL A A 08 30 42.2
comp=E,1.2nm,0.2s
EADA Adamuz 3.17 34 Pn **Pn 08 30 11.4 +1.2**
EADA Sn **Sn 08 30 44.4 -2.5**
EADA *i* Vmb_Lg 08 30 45.9
EBAD Badajoz 3.19 358 Pn **Pn 08 30 11.2 +0.7**
EBAD Sn **Sn 08 30 45.7 -1.6**
EBAD *i* Vmb_Lg 08 30 49.5
MD31 MD31 3.20 147 P **Pn 08 30 10.6 -0.1**
MD31 S **Sn 08 30 44.5 -3.1**
MDT Midelt 3.31 145 P **Pn 08 30 12.5 +0.2**
MDT S **Sn 08 30 47.4 -3.1**
PESTR Estremoz 3.35 350 *e*Pn **Pn 08 30 13.7 +1.0**
PESTR *e*Sn **Sn 08 30 50.2 -1.1**
PESTR A A 08 30 57.8
comp=E,2.6nm,0.5s
PMRV Marv??o 3.88 354 *e*Pn **Pn 08 30 21.3 +1.2**
PMRV *e*Sn **Sn 08 31 03.3 -1.1**
PMRV A A 08 31 04.2
comp=E,2.4nm,0.2s
PCBR Castelo Branco 4.30 353 *e*Pn **Pn 08 30 27.2 +1.5**
PCBR *e*Sn **Sn 08 31 12.0 -2.6**
PCBR A A 08 31 14.4
comp=E,2.2nm,0.2s
OUK Oukaimeden 4.43 191 P **Pn 08 30 26.3 -1.6**
OUK S **Sn 08 31 12.5 -5.9**
EPLA Plasencia 4.53 7 Pn **Pn 08 30 31.3 +2.3**
OUZM OUZ 4.64 179 P **Pn 08 30 30.7 +0.1**
OUZM S **Sn 08 31 19.4 -4.0**
TTIG Tnine Tigouga, 5.18 195 P Pn 08 30 35.1 -2.9
TTIG S Sn 08 31 28.2 -8.4
ETOB Tobarra 5.23 52 Pn **Pn 08 30 38.9 +0.3**
ETOB Sn **Sn 08 31 33.3 -4.4**
ETOB *i* Vmb_Lg 08 31 36.0
MVO Moncorvo 5.59 359 *e*Pn **Pn 08 30 45.1 +1.5**
MVO *e*Sn **Sn 08 31 45.3 -1.4**

SCB 14 08:42:38.4±5.7, 16°.95S×65°.13W, h0km±70km, ML3.5/2, Error ellipse: s-maj=35.4km s-min=21.6km az=0.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBOE	**La Paz, Chanca**	**2.73**	**272**	P		Pb	08 43 28.1	-0.4
LPAZ	**La Paz**	**2.95**	**282**	P		Pb	08 43 31.2	-1.1
LPAZ				S		Sb	08 44 11.2	+2.1
LPAZ				IAML			08 44 13.7	
	133nm,0.3s							
BBOD	**La Paz, Gloria**	**3.33**	**275**	P		Pb	08 43 37.2	-1.6
BBOD				S		Sg	08 44 23.3	-2.4
BBOD				IAML			08 44 34.6	
	112nm,0.6s							
SIV	**San Ignacio**	**4.01**	**77**	P		Pn	08 43 41.7	+0.5
MOCB	**Mochara**	**4.30**	**186**	P		Pn	08 43 50.1	+4.5
PB16	**IPOC Station P**	**4.39**	**251**	P		Pb	08 43 54.0	-2.9
PTLB	**Pontes e Lacer**	**5.95**	**76**	P		Pn	08 44 13.2	+5.4
VILB	**Vilhena**	**6.21**	**51**	P		Pn	08 44 18.8	+7.4

*JMA **14** 08:43:26.8±0.5, 31°.79N×138°.41E, h417km±4km, M3.5*
*IDC **14** 08:43:34.2±6.1, 32°.02N×137°.53E, h327km±142km, mb2.7/2, mb1 2.9/3, mb1mx2.6/42, mbtmp3.4/3, Error ellipse: s-maj=266.4km s-min=31.1km az=62.0*
ISC 14 08:43:34.3±3.0, 32°.6N±0°.3×138°.1E±0°.2, h400km, n12, σ1s77/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIE	**Ise**	**2.12**	**327**	P		**Pn**	**08 44 31.7**	**+0.8**
JTNC	**Tanabenakahech**	**2.40**	**301**	P		**Pn**	**08 44 32.5**	**-0.4**
BSO4	**Boso 4**	**3.01**	**38**	*e*S		**S**	**08 45 30.1**	**+1.6**
BSO1	**Boso 1**	**3.15**	**49**	*e*S		**S**	**08 45 27.8**	**-1.9**
JHU	**Hanno**	**3.37**	**17**	P		**Pn**	**08 44 41.9**	**+1.4**
JRY	**Ryogami san**	**3.45**	**11**	P		**Pn**	**08 44 42.9**	**+1.6**
MJAR	**Matsushiro Arr**	**3.91**	**1**	P		**Pn**	**08 44 47.6**	**+2.1**
	0.3nm,0.3s,baz=187,slow=12,SNR=8.0							
JAG	**Ashikaga**	**3.96**	**16**	P		**Pn**	**08 44 46.9**	**+1.0**
JYT	**Yasato**	**4.00**	**25**	P		**Pn**	**08 44 46.6**	**+0.4**
JYT				*e*S		**S**	**08 45 42.2**	**-2.4**
JHO	**Hitachi**	**4.47**	**26**	P		**Pn**	**08 44 51.4**	**+0.5**
JHO				*e*S		**S**	**08 45 50.8**	**-2.3**
MKAR	**Makanchi Array**	**44.30**	**306**	P		P	08 51 12.1	+5.7
	0.3nm,0.4s,baz=108,slow=8.3,SNR=4.9							
WRA	**Warramunga Arr**	**52.39**	**184**	P		P	08 52 09.2	+1.7
	0.3nm,0.8s,baz=2.5,slow=7.4,SNR=1.6							

*DNK **14** 08:56:06.8±2.6, 51°.54N×17°.00E, h0km±90km, ML2.5*
*LDG **14** 08:56:07.6±0.1, 51°.54N×16°.34E, h1km, Ml3.3/6, Error ellipse: s-maj=4.1km s-min=2.7km az=163.0, Suspected Mining induced.*
*MCSM **14** 08:56:09.4±0.6, 51°.3°×1°.6E±°, h7km±1km, ML3.6, MLv3.5*
*IDC **14** 08:56:10.5±0.6, 51°.44N×16°.13E, h0km, mb3.4/4, mb1 3.6/12, mb1mx3.4/57, mbtmp3.4/12, ML3.3/8, Error ellipse: s-maj=12.8km s-min=6.4km az=106.0*
*IPEC **14** 08:56:10.1±0.3, 51°.43N×16°.36E, h1km, ML3.0/3, Error ellipse: s-maj=2.9km s-min=1.4km az=60.0*
ISC 14 08:56:08.6±0.5, 51°.50N±0°.02×16°.22E±0°.02, h0km, n112, σ1s77/184, mb3.5/5, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.66**	**176**	*i* Pg		**Pg**	**08 56 21.9**	**+0.7**
KSP				*e*Sg		**Sg**	**08 56 30.0**	**+0.2**
KSP	**Ksiaz**	**0.66**	**176**	Pg		**Pg**	**08 56 21.9**	**+0.7**
KSP				Sg		**Sg**	**08 56 30.4**	**+0.6**
CHVC	**Chvalec**	**0.92**	**186**	*e*PG		**Pg**	**08 56 26.5**	**+0.3**
CHVC				*e*SG		**Sg**	**08 56 38.3**	**+0.2**
	comp=Z,179nm,0.5s							
CHVC	**Chvalec**	**0.92**	**186**	Pg		**Pg**	**08 56 27.0**	**+0.8**
OSTC	**Ostas**	**0.95**	**180**	*e*PG		**Pg**	**08 56 27.0**	**+0.3**
OSTC				*e*SG		**Sg**	**08 56 38.1**	**-0.9**
	comp=Z,173nm,0.4s							
OSTC	**Ostas**	**0.95**	**180**	Pg		**Pg**	**08 56 27.4**	**+0.7**
OSTC				Sg		**Sg**	**08 56 40.1**	**+1.1**
UPC	**Upice**	**1.00**	**188**	*e*PG		**Pg**	**08 56 28.2**	**+0.4**
UPC				*e*SG		**Sg**	**08 56 40.7**	**-0.1**
	comp=Z,513nm,0.4s							
UPC	**Upice**	**1.00**	**188**	Pg		**Pg**	**08 56 28.2**	**+0.4**
DPC	**Dobruska-Polom**	**1.16**	**177**	*e*PG		**Pg**	**08 56 30.7**	**0.0**
DPC				*e*SG		**Sg**	**08 56 45.0**	**-0.7**
	comp=Z,194nm,0.5s							
DPC	**Dobruska-Polom**	**1.16**	**177**	Pg		**Pg**	**08 56 30.8**	**0.0**
PVCC	**Panska Ves**	**1.43**	**228**	*e*PG		**Pg**	**08 56 36.3**	**+0.4**
PVCC				*e*SG		**Sn**	**08 56 55.4**	**+0.2**
	comp=Z,563nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**228**	Pg		**Pn**	**08 56 36.0**	**+0.3**
KRLC	**Kraliky**	**1.47**	**166**	*e*PG		**Pn**	**08 56 36.2**	**-0.2**
KRLC				*e*SG		**Sg**	**08 56 55.2**	**-0.7**
	comp=Z,160nm,0.9s							
BRG	**Berggiesshubel**	**1.56**	**247**	Pn		**Pn**	**08 56 37.8**	**+0.1**
BRG				Pg		**Pg**	**08 56 39.5**	**+0.9**
BRG				Sg		**Sg**	**08 56 59.9**	**+1.1**
BRG				Amp			08 57 03.0	
	comp=Z,144nm,0.4s							
RUE	**Ruedersdorf**	**1.80**	**304**	*e*P		**Pn**	**08 56 40.7**	**-0.1**
RUE				*e*S		**Sg**	**08 57 09.2**	**+2.9**
RUE				IAML			08 57 12.7	
	comp=Z,128nm,0.3s							
PRU	**Pruhonice**	**1.85**	**216**	*e*PG		**Pn**	**08 56 42.6**	**+1.0**
PRU				*e*SG		**Sb**	**08 57 07.0**	**0.0**
	comp=Z,103nm,0.4s							
GKP	**Gorka Klasztor**	**1.88**	**19**	*e*P		Pg	08 56 50.3	+5.8
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn		**Pn**	**08 56 42.5**	**-0.1**
	baz=336							
MORC				*e*Sg		**Sn**	**08 57 07.0**	**-0.5**
	comp=Z,112nm,0.7s,baz=336							
CLL	**Collm**	**2.02**	**266**	*e*Pn		**Pn**	**08 56 44.0**	**+0.1**
CLL				*e*Pg		**Pb**	**08 56 47.0**	**+0.8**
CLL				*ex*		x	08 56 50.0	
CLL				*e*Sg		**Sg**	**08 57 15.0**	**+1.5**
	comp=Z,82nm,0.7s							
OKC	**Ostrava-Krasne**	**2.07**	**143**	*e*PG		**Pb**	**08 56 47.5**	**+0.5**
OKC				*e*SG		**Sb**	**08 57 13.5**	**+0.2**
	comp=Z,135nm,0.6s							
VRAC	**Vranov**	**2.21**	**174**	Pn		**Pn**	**08 56 47.3**	**+0.8**
	comp=Z,7.0nm,0.3s,baz=341,slow=14,SNR=19							
VRAC				Lg		Lg	08 57 14.9	
	comp=Z,14nm,0.3s,baz=55,slow=23,SNR=12							
VRAC	**Vranov**	**2.21**	**174**	*e*Pn		**Pn**	**08 56 46.8**	**+0.3**
	baz=356							
VRAC				*e*Sg		**Sb**	**08 57 16.7**	**-0.5**
	comp=Z,91nm,0.8s,baz=356							
VRAC	**Vranov**	**2.21**	**174**	*e*PN		**Pn**	**08 56 46.9**	**+0.4**
VRAC				*e*SG		**Sb**	**08 57 16.8**	**-0.5**
TREC	**Trest**	**2.26**	**192**	*e*PN		**Pn**	**08 56 47.4**	**+0.2**
TREC				*e*PG		**Pb**	**08 56 50.8**	**+0.6**
TREC				*e*SG		**Sb**	**08 57 19.4**	**+0.7**
	comp=Z,67nm,0.4s							
PBCC	**Pribram**	**2.31**	**219**	*e*SG		**Sb**	**08 57 21.6**	**+1.6**
KRUC	**Moravsky**	**2.45**	**177**	*e*Pn		**Pn**	**08 56 50.0**	**+0.3**
	baz=359							
KRUC				*e*Sg		**Sb**	**08 57 24.3**	**+0.2**
	comp=Z,100nm,0.9s,baz=359							
OJC	**Ojcow**	**2.61**	**118**	*e*Pn		**Pn**	**08 56 51.2**	**-0.7**
OJC				*e*Pg		**Pg**	**08 56 58.8**	**+0.2**
OJC				*e*Sg		**Sg**	**08 57 33.2**	**+0.9**
NKC	**Novy Kostel**	**2.71**	**243**	*e*PN		**Pn**	**08 56 54.4**	**+1.1**
NKC				*e*PG		**Pb**	**08 56 59.3**	**+1.4**
NKC				*e*SG		**Sg**	**08 57 35.8**	**+0.3**
	comp=Z,86nm,0.3s							
JAVC	**Velka Javorina**	**2.81**	**160**	*e*PN		**Pn**	**08 56 55.0**	**+0.2**
JAVC				*e*SG		**Sb**	**08 57 35.1**	**+0.6**
KHC	**Kasperske Hory**	**2.92**	**217**	*e*PN		**Pn**	**08 56 56.8**	**+0.6**
KHC				*e*PG		**Pb**	**08 57 02.8**	**+1.4**
KHC				*e*SG		**Sg**	**08 57 40.8**	**-1.4**
	comp=Z,42nm,0.5s							
CKRC	**Cesky Krumlov**	**2.95**	**205**	*e*PN		**Pn**	**08 56 57.7**	**+1.0**
CKRC				*e*PG		**Pb**	**08 57 02.6**	**+0.5**
CKRC				*e*SG		**Sg**	**08 57 42.0**	**-1.4**
SMOL	**Smolenice**	**3.09**	**165**	*e*PG		**Pg**	**08 57 08.8**	**+1.0**
SMOL				*e*SG		**Sg**	**08 57 49.0**	**+1.1**
GERES	**GERESS Array B**	**3.11**	**212**	Pn		**Pn**	**08 57 00.3**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=33,slow=13,SNR=34							
GERES				Pg		**Pb**	**08 57 05.8**	**+1.0**
	comp=Z,24nm,0.3s,baz=31,slow=20,SNR=78							
GERES				Lg		Lg	08 57 43.9	
	comp=Z,6.8nm,0.3s,baz=34,slow=20,SNR=5.8							
LANS	**Liptovska Anna**	**3.14**	**137**	*e*PN		**Pn**	**08 57 00.3**	**+0.9**
LANS				*e*PG		**Pg**	**08 57 09.7**	**+0.9**
LANS				*e*SG		**Sg**	**08 57 50.3**	**+0.8**
KOLL	**Kolacno**	**3.25**	**153**	*e*PN		**Pn**	**08 57 01.8**	**+1.0**
NIE	**Niedzica**	**3.34**	**127**	*e*P		**Pg**	**08 57 12.2**	**-0.4**
NIE				*e*S		**Sg**	**08 57 56.7**	**+0.9**
ZST	**Bratislava**	**3.36**	**170**	*e*SG		**Sg**	**08 57 55.7**	**-0.7**
RGN	**Rugen**	**3.52**	**331**	*e*P		Pn	08 56 50.4	-14
CONA	**Conrad Observa**	**3.58**	**184**	*e*Pn		**Pn**	**08 57 06.7**	**+1.2**
	comp=Z,2.4nm,0.3s							
CONA				*e*Sg		**Sg**	**08 58 02.4**	**-1.3**
	comp=Z,36nm,0.4s							
BSD	**Bornholm Skovb**	**3.70**	**348**	*i* P		**Pn**	**08 57 06.0**	**-1.0**
BSD				*i* S		**Sn**	**08 57 49.7**	**-1.6**
BSD	**Bornholm Skovb**	**3.70**	**348**	*i* P		**Pn**	**08 57 06.0**	**-1.0**
BSD				*i* S		**Sn**	**08 57 49.5**	**-1.8**
BSD				IAML			08 57 55.1	
	comp=Z,1.5nm,0.2s							
BSD	**Bornholm Skovb**	**3.70**	**348**	*e*P		**Pn**	**08 57 07.5**	**+0.5**
STHS	**Stebnicka Huta**	**3.83**	**121**	*e*PG		**Pg**	**08 57 24.1**	**+2.1**
MOA	**Molln**	**3.87**	**200**	Pn		**Pn**	**08 57 10.3**	**+1.0**
	comp=Z,3.5nm,0.3s,SNR=4.7							
MOA				*e*Sg		**Sg**	**08 58 13.0**	**+0.1**
	comp=Z,44nm,0.7s							
BIOA	**Bad Ischl, Aus**	**4.17**	**205**	*e*Pn		**Pn**	**08 57 14.9**	**+1.5**
	comp=Z,9.7nm,0.3s							
BIOA				*e*Sg		**Sg**	**08 58 21.8**	**-0.6**
	comp=Z,40nm,0.5s							
CRVS	**Cervenica-Dubn**	**4.26**	**126**	*e*PG		**Pg**	**08 57 30.7**	**+0.6**
CRVS				*e*SG		**Sg**	**08 58 25.9**	**+0.7**
ARSA	**Arzberg**	**4.28**	**186**	*e*Pn		**Pn**	**08 57 17.7**	**+2.8**
	comp=Z,3.9nm,0.3s							
ARSA				*e*Sg		**Sg**	**08 58 26.5**	**+0.5**
	comp=Z,20nm,0.5s							
LUNU	**Lund**	**4.46**	**339**	*i* P		**Pn**	**08 57 16.0**	**-1.3**
LUNU				*i* S		**Sn**	**08 58 09.7**	**-0.1**
KBA	**Koelnbreinsper**	**4.81**	**204**	*e*Pn		**Pn**	**08 57 23.7**	**+1.3**
	comp=Z,1.1nm,0.2s							
KBA				*e*Sg		**Sg**	**08 58 42.5**	**-0.5**
	comp=Z,20nm,0.6s							
BLEU	**Blekinge**	**4.82**	**357**	*i* P		**Pn**	**08 57 23.4**	**+1.2**
BLEU				*i* S		**Sn**	**08 58 15.5**	**-3.2**
SOKA	**Soboth**	**4.89**	**190**	*e*Pn		**Pn**	**08 57 25.4**	**+1.9**
	comp=Z,1.8nm,0.6s							
SOKA				*e*Sg		**Sg**	**08 58 43.7**	**-2.0**
	comp=Z,3.7nm,0.4s							
SUW	**Suwalki**	**4.92**	**57**	*e*P		**Pn**	**08 57 25.2**	**+1.5**
OBKA	**Obir**	**5.12**	**193**	*e*Pn		**Pn**	**08 57 28.6**	**+2.1**
	comp=Z,0.9nm,0.3s							
OBKA				*e*Sg		**Sg**	**08 58 52.5**	**-0.4**
	comp=Z,9.7nm,0.5s							
WATA	**Walderalm**	**5.15**	**218**	*e*Pn		**Pn**	**08 57 27.9**	**+0.9**
	comp=Z,2.8nm,0.2s							
WATA				*e*Sg		**Sg**	**08 58 53.3**	**-0.8**
	comp=Z,12nm,0.3s							
MYKA	**Terra Mystica**	**5.16**	**200**	*e*Sg		**Sg**	**08 58 50.9**	**-3.4**
	comp=Z,11nm,0.5s							
DEL	**Delary**	**5.17**	**345**	*i* P		**Pn**	**08 57 27.0**	**-0.1**
DEL				*i* S		**Sn**	**08 58 25.5**	**-1.9**
DEL				IAML			08 58 28.0	
	comp=Z,0.5nm,0.2s							
DEL	**Delary**	**5.17**	**345**	*e*P		**Pn**	**08 57 27.5**	**+0.4**
DEL				*e*S		**Sn**	**08 58 22.6**	**-4.8**
DEL				IAML			08 58 28.4	
	comp=Z,4.8nm,0.5s							
WTTA	**Wattenberg**	**5.19**	**217**	*e*Pn		**Pn**	**08 57 28.8**	**+1.2**
	comp=Z,3.1nm,0.3s							
WTTA				*e*Sg		**Sg**	**08 58 53.8**	**-1.4**
	comp=Z,14nm,0.5s							
MOTA	**Moosalm**	**5.33**	**221**	*e*Pn		**Pn**	**08 57 30.5**	**+1.0**
	comp=Z,2.4nm,0.3s							
MOTA				*e*Sg		**Sg**	**08 58 59.3**	**-0.5**
	comp=Z,11nm,0.5s							
ABTA	**Abfaltersbach**	**5.34**	**209**	*e*Pn		**Pb**	**08 57 41.9**	**-1.0**
	comp=Z,4.0nm,0.3s							
ABTA				*e*Sg		**Sg**	**08 59 00.4**	**+0.2**
	comp=Z,16nm,0.6s							
RETA	**Reutte**	**5.36**	**224**	*e*Pn		**Pn**	**08 57 30.4**	**+0.5**
	comp=Z,4.2nm,0.3s							
RETA				*e*Sg		**Sg**	**08 59 01.6**	**+0.8**
	comp=Z,11nm,0.5s							
FETA	**Feichten**	**5.75**	**221**	*e*Sg		**Sg**	**08 59 07.7**	**-5.4**
	comp=Z,1.9nm,0.3s							
FABU	**Falkenberg**	**5.88**	**341**	*i* P		**Pn**	**08 57 37.3**	**+0.4**
FABU				*i* S		**Sn**	**08 58 42.8**	**-2.1**
DAVA	**Damuels**	**5.91**	**227**	*e*Pn		**Pn**	**08 57 36.1**	**-1.3**
	comp=Z,0.9nm,0.2s							
DAVA				*e*Sg		**Sg**	**08 59 23.9**	**+5.6**
	comp=Z,12nm,0.5s							
PABE	**Paberze**	**6.12**	**46**	*e*P		**Pn**	**08 57 41.6**	**+1.5**
DAVOX	**Davos/Dischmat**	**6.29**	**224**	Pn		**Pn**	**08 57 43.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=232,slow=21,SNR=3.2							
DAVOX				Sn		**Sn**	**08 58 55.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=295,slow=18,SNR=1.2							
DAVOX				Lg		Lg	08 59 26.5	
	comp=Z,0.8nm,0.3s,baz=354,slow=7.7,SNR=5.0							
CDF	**Champ du Feu**	**6.54**	**245**	*e*Pn		**Pn**	**08 57 44.2**	**-1.9**
CDF	**Champ du Feu**	**6.54**	**245**	*e*P		**Pn**	**08 57 47.3**	**+1.2**
CDF				*e*Sg		**Sg**	**08 59 35.3**	**-3.4**
	comp=Z,6.3nm,0.5s							
GOET	**G??ttrup**	**6.89**	**326**	*i* S		**Sn**	**08 59 09.4**	**-0.3**
GOET				IAML			08 59 17.2	
	comp=Z,36nm,0.2s							
VIKU	**Vikbolandet**	**7.02**	**2**	*e*P		**Pn**	**08 57 51.8**	**-0.7**
HINF	**Hinteralfeld**	**7.11**	**242**	*e*Sg		**Sg**	**08 59 51.4**	**-5.4**
	comp=Z,2.2nm,0.3s							
NACGM	**Naroch**	**7.20**	**58**	*i* P		**Pn**	**08 57 56.5**	**+1.5**
HAU	**Haudompre**	**7.29**	**245**	*e*Pn		**Pn**	**08 57 54.5**	**-1.8**
HAU				*e*Sg		**Sg**	**08 59 58.6**	**-3.9**
	comp=Z,4.3nm,0.4s							
GIVF	**Givet**	**7.36**	**263**	*e*Sg		**Sg**	**08 59 59.7**	**-5.0**
	comp=Z,3.4nm,0.2s							
MI30	**MI30,Zelenitsa**	**7.57**	**91**	Pn		**Pn**	**08 58 00.8**	**+0.7**
MNK	**Minsk**	**7.65**	**62**	*i* P		**Pn**	**08 57 59.1**	**-2.1**
	comp=E,1.0nm,0.5s							
MNK				*i* P		**Pn**	**08 57 59.1**	**-2.1**
	comp=N,24nm,0.9s							
MNK				*i* P		**Pn**	**08 57 59.1**	**-2.1**
	comp=Z,5.0nm,0.9s,baz=251							
MNK				*i* PP		**PnPn**	**08 58 06.8**	**-1.7**
MNK				*i* S		**Sn**	**08 59 26.9**	**-1.6**
MNK				*i* SS		**SnSn**	**08 59 38.8**	**-0.8**
MNK				*i* LQ		LQ	09 00 09.8	
MNK				*i* LRM		MLR	09 01 19.4	
	comp=Z,101nm,11.2s							
MNK				*i* LRM		MLR	09 01 19.8	
	comp=E,22nm,17.6s							
MNK				*i* LRM		MLR	09 01 35.7	
	comp=N,160nm,16.6s							
AK19	**Malin Array Si**	**8.09**	**91**	Pn		**Pn**	**08 58 07.5**	**+0.3**
AK19				pP		**Pn**	**08 58 08.8**	**+1.6**
AK19				sP		**Pn**	**08 58 10.0**	**+2.8**
AK22	**Malin Array Si**	**8.12**	**90**	pP		**Pn**	**08 58 09.5**	**+1.8**
AK22				sP		**Pn**	**08 58 10.6**	**+2.9**
AK17	**Malin Array Si**	**8.13**	**91**	Pn		**Pn**	**08 58 07.6**	**-0.1**
AK23	**Malin Array Si**	**8.16**	**90**	Pn		**Pn**	**08 58 07.9**	**-0.2**
AK14	**Malin Array Si**	**8.17**	**91**	Pn		**Pn**	**08 58 08.0**	**-0.3**
AK12	**Malin Array Si**	**8.20**	**91**	Pn		**Pn**	**08 58 09.1**	**+0.4**
AK12				pP		**Pn**	**08 58 10.5**	**+1.8**
AK12				sP		**Pn**	**08 58 11.5**	**+2.8**
AK11	**Malin Array Si**	**8.20**	**91**	Pn		**Pn**	**08 58 08.7**	**0.0**
AK01	**Malin Array Si**	**8.22**	**91**	Pn		**Pn**	**08 58 08.9**	**-0.1**
AKASG	**Malin Array Be**	**8.23**	**91**	Pn		**Pn**	**08 58 08.0**	**-1.1**
	comp=N,1.8nm,0.3s,baz=280,slow=12,SNR=9.0							
AKASG				Sn		**Sn**	**08 59 36.4**	**-6.4**
	comp=N,1.0nm,0.3s,baz=305,slow=19,SNR=1.8							
AKASG				Lg		Lg	09 00 38.2	
	comp=N,0.1nm,0.3s,baz=274,slow=27,SNR=3.1							
AKBB	**Malin Array Si**	**8.23**	**91**	Pn		**Pn**	**08 58 09.7**	**+0.6**
AKBB				pP		**Pn**	**08 58 10.9**	**+1.8**
AKBB				sP		**Pn**	**08 58 11.9**	**+2.8**
AK05	**Malin Array Si**	**8.23**	**91**	Pn		**Pn**	**08 58 09.1**	**-0.1**
AK07	**Malin Array Si**	**8.24**	**92**	Pn		**Pn**	**08 58 09.9**	**+0.6**
CABF	**La Chapelle**	**8.26**	**238**	*e*Sg		**Sg**	**09 00 29.9**	**-3.7**
	comp=N,2.6nm,0.5s							
AK08	**Malin Array Si**	**8.26**	**91**	Pn		**Pn**	**08 58 09.4**	**-0.1**
AK09	**Malin Array Si**	**8.28**	**91**	Pn		**Pn**	**08 58 09.9**	**0.0**
HFS	**Hagfors**	**8.77**	**352**	Pn		**Pn**	**08 58 16.9**	**+0.4**
	comp=N,0.4nm,0.3s,baz=43,slow=11,SNR=6.8							
HFS				Sn		**Sn**	**08 59 54.3**	**-1.6**
	comp=N,0.5nm,0.3s,baz=177,slow=30,SNR=2.4							
AAL	**Aland**	**8.95**	**12**	*e*P		**Pn**	**08 58 18.9**	**-0.1**
MBDF	**Montbardon**	**9.26**	**227**	*e*Pn		**Pn**	**08 58 23.0**	**-0.5**
SSF	**Saint Saulge**	**9.42**	**247**	*e*P		**Pn**	**08 58 30.8**	**+5.3**
SSF				*e*Sg		Sn	09 01 05.4	+53
	comp=N,3.9nm,0.5s							
SMF	**Signal de Mont**	**9.46**	**244**	*e*Pn		**Pn**	**08 58 22.0**	**-4.1**
SMF	**Signal de Mont**	**9.46**	**244**	*e*P		**Pn**	**08 58 27.7**	**+1.6**
ORIF	**Oris-en-Rattie**	**9.53**	**230**	*e*Pn		**Pn**	**08 58 26.1**	**-1.0**
AVF	**Avril sur Loir**	**9.66**	**246**	*e*P		**Pn**	**08 58 32.9**	**+4.2**
SBF	**Sospel**	**9.66**	**221**	*e*P		**Pn**	**08 58 31.3**	**+2.4**
NOA	**NORSAR Array B**	**9.95**	**346**	Pn		**Pn**	**08 58 31.6**	**-1.2**
	comp=N,0.0nm,0.3s,baz=192,slow=20,SNR=7.5							
SMRF	**Simiane la Rot**	**10.39**	**228**	*e*Pn		**Pn**	**08 58 35.1**	**-3.7**
LMR	**La Mourre**	**10.48**	**223**	*e*P		**Pn**	**08 58 40.7**	**+0.7**
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**08 58 50.6**	**-1.1**
	comp=N,0.6nm,0.3s,baz=209,slow=11,SNR=16							
FINES				Sn		**Sn**	**09 00 52.8**	**-6.2**
	comp=N,0.5nm,0.3s,baz=214,slow=19,SNR=5.6							
MFF	**Saint Martin d**	**11.80**	**252**	*e*P		**Pn**	**08 58 59.3**	**+1.3**
EKA	**Eskdalemuir Ar**	**12.17**	**296**	Pn		**Pn**	**08 59 00.6**	**-2.4**
	baz=102,slow=14,SNR=5.4							
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**09 00 24.5**	**-2.7**
	baz=194,slow=12,SNR=18							
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P		**P**	**09 03 45.8**	**+0.7**
	comp=N,0.9nm,0.9s,baz=0.0,slow=8.6,SNR=3.2							
SONM	**Songino Array**	**54.86**	**55**	P		**P**	**09 05 43.0**	**+2.4**
	comp=N,0.5nm,0.9s,baz=293,slow=7.7,SNR=4.1							
YKA	**Yellowknife Ar**	**59.89**	**336**	P		**P**	**09 06 17.3**	**+1.7**
	comp=N,0.5nm,0.6s,baz=29,slow=6.9,SNR=7.3							
PDAR	**Pinedale Array**	**74.99**	**322**	P		**P**

ELGU				Sn	**Sb**	**09 05 50.9**	**+0.4**	
ELGU				*i* Vmb_Lg		09 05 58.2		
JBK	**JBK**	**1.49**	**138**	P	**Pg**	**09 05 35.0**	**+0.1**	
JBK	**JBK**	**1.49**	**138**	P	**Pn**	**09 05 31.6**	**-1.1**	
JBK				S	**Sn**	**09 05 49.8**	**-2.3**	
EBER	**Berja**	**1.62**	**26**	Pn	**Pn**	**09 05 33.7**	**-0.7**	
EBER				Sn	**Sn**	**09 05 55.7**	**+0.5**	
EBER				*i* Vmb_Lg		09 06 14.5		
EGOR	**Sierra Gorda,**	**1.68**	**351**	Pn	**Pb**	**09 05 36.4**	**-0.6**	
EGOR				Sn	**Sb**	**09 05 58.0**	**0.0**	
EGOR				*i* Vmb_Lg		09 06 23.6		
EJIF	**Jimena Fronter**	**1.70**	**307**	Pn	**Pb**	**09 05 36.6**	**-0.5**	
EJIF				Sn	**Sb**	**09 05 58.1**	**-0.3**	
EQUE	**Quentar**	**1.77**	**9**	Pn	**Pn**	**09 05 37.4**	**+0.9**	
EQUE				Sn	**Sn**	**09 05 59.4**	**+0.5**	
EQUE				*i* Vmb_Lg		09 06 19.3		
SICH	**Sidi Chahed**	**1.84**	**224**	S	Sn	09 05 46.0	-15	
LCRM	**LCR**	**1.97**	**207**	P	**Pg**	**09 05 43.0**	**-1.0**	
LCRM	**LCR**	**1.97**	**207**	P	**Pn**	**09 05 37.9**	**-1.4**	
LCRM				S	**Sb**	**09 06 06.8**	**+0.4**	
ENIJ	**Nijar**	**1.98**	**39**	Pn	**Pn**	**09 05 37.8**	**-1.5**	
ENIJ				Sn	**Sn**	**09 06 01.8**	**-2.2**	
ENIJ				*i* Vmb_Lg		09 06 02.2		
ESPR	**Espera**	**2.20**	**311**	Pn	**Pb**	**09 05 44.1**	**-1.6**	
ESPR				Sn	**Sn**	**09 06 11.0**	**+1.8**	
ESPR				*i* Vmb_Lg		09 06 23.7		
IFR	**Ifrane**	**2.23**	**210**	P	**Pn**	**09 05 42.5**	**-0.3**	
IFR				S	**Sn**	**09 06 07.6**	**-2.5**	
EQES	**Quesada**	**2.42**	**13**	Pn	**Pn**	**09 05 47.2**	**+1.8**	
EQES				Sn	**Sn**	**09 06 15.6**	**+0.7**	
EQES				*i* Vmb_Lg		09 06 26.5		
CZD	**Col de Zad**	**2.63**	**204**	P	**Pn**	**09 05 49.2**	**+0.8**	
CZD	**Col de Zad**	**2.63**	**204**	P	**Pn**	**09 05 48.6**	**+0.2**	
CZD				S	**Sn**	**09 06 21.0**	**+0.8**	
MD31	**MD31**	**2.70**	**198**	P	**Pn**	**09 05 49.8**	**+0.5**	
MD31				S	**Sn**	**09 06 22.2**	**+0.5**	
MDT	**Midelt**	**2.72**	**195**	Pn	**Pn**	**09 05 49.9**	**+0.4**	
	0.8nm,0.3s,baz=331,slow=14,SNR=13							
MDT				Sn	**Sn**	**09 06 23.7**	**+1.6**	
	4.6nm,0.3s,baz=203,slow=20,SNR=4.8							
MDT	**Midelt**	**2.72**	**195**	P	**Pn**	**09 05 50.8**	**+1.3**	
MDT	**Midelt**	**2.72**	**195**	P	**Pn**	**09 05 50.8**	**+1.3**	
MDT				S	**Sn**	**09 06 24.6**	**+2.4**	
EADA	**Adamuz**	**2.79**	**347**	Pn	**Pn**	**09 05 51.4**	**+1.0**	
EADA				Sn	**Sn**	**09 06 25.9**	**+2.0**	
EADA				*i* Vmb_Lg		09 06 38.0		
TDRA	**Tendrara**	**2.81**	**148**	P	**Pn**	**09 05 52.5**	**+1.7**	
TDRA				S	**Sn**	**09 06 26.5**	**+2.0**	
ECAB	**El Cabril**	**2.93**	**334**	Pn	**Pn**	**09 05 54.3**	**+1.9**	
ECAB				Sn	**Sn**	**09 06 29.3**	**+1.9**	
ECAB				*i* Vmb_Lg		09 06 52.8		
EZAR	**Zarzadilla de**	**2.95**	**34**	Pn	**Pn**	**09 05 52.3**	**-0.4**	
EZAR				Sn	**Sn**	**09 06 28.3**	**+0.5**	
ZHG	**ZHG**	**3.10**	**231**	P	**Pn**	**09 05 54.1**	**-0.5**	
ZHG				S	**Sb**	**09 06 38.4**	**-0.3**	
EMIN	**Mina Concepcio**	**3.28**	**316**	Pn	**Pn**	**09 05 57.5**	**+0.3**	
EMIN				Sn	**Sn**	**09 06 37.4**	**+1.4**	
EMIN				*i* Vmb_Lg		09 06 44.2		
EGRO	**El Granado**	**3.64**	**306**	Pn	**Pn**	**09 06 02.6**	**+0.5**	
EGRO				Sn	**Sn**	**09 06 43.8**	**-1.0**	
EGRO				*i* Vmb_Lg		09 06 54.3		
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**09 06 03.3**	**+0.9**	
ETOB				Sn	**Sn**	**09 06 46.0**	**+0.7**	
ETOB				*i* Vmb_Lg		09 07 17.6		
PVAQ	**Vaqueiros**	**3.73**	**303**	P	**Pn**	**09 06 03.4**	**+0.2**	
PVAQ	**Vaqueiros**	**3.73**	**303**	P	**Pn**	**09 06 03.4**	**+0.2**	
PVAQ				S	**Sn**	**09 06 47.9**	**+1.0**	
PAB	**San Pablo**	**4.12**	**354**	Pn	**Pn**	**09 06 09.9**	**+1.2**	
PAB				*i* Vmb_Lg		09 07 30.3		
EBAD	**Badajoz**	**4.19**	**323**	Pn	**Pn**	**09 06 11.2**	**+1.5**	
EBAD				Sn	**Sn**	**09 06 59.4**	**+1.0**	
EBAD				*i* Vmb_Lg		09 07 08.0		
ESDC	**Sonseca Array**	**4.22**	**358**	Pn	**Pn**	**09 06 11.1**	**+0.9**	
	0.8nm,0.3s,baz=180,slow=12,SNR=25							
ESDC	**Sonseca Array**	**4.22**	**358**	Pn	**Pn**	**09 06 11.1**	**+0.9**	
EVO	**Evora**	**4.58**	**313**	P	**Pn**	**09 06 16.5**	**+1.5**	
EVO				S	Sn	09 06 51.5	-16	
OUZM	**OUZ**	**5.17**	**210**	P	**Pn**	**09 06 24.2**	**+0.9**	
OUZM				S	**Sn**	**09 07 25.1**	**+2.3**	
OUK	**Oukaimeden**	**5.44**	**220**	P	**Pn**	**09 06 24.6**	**-2.6**	
OUK				S	**Sn**	**09 07 29.4**	**-0.3**	
ETOR	**Torete**	**5.53**	**14**	Pn	**Pn**	**09 06 29.5**	**+1.4**	
MKAR	**Makanchi Array**	**62.74**	**50**	P	**P**	**09 15 30.5**	**-0.3**	
	0.3nm,0.6s,baz=299,slow=7.4,SNR=1.7							
YKA	**Yellowknife Ar**	**67.88**	**332**	P	**P**	**09 16 03.0**	**-0.7**	
	0.1nm,0.5s,baz=63,slow=6.5,SNR=2.5							

IDC 14 09:15:28.6±5.1, 8°30S×125°50E, h51km±55km, mb3.5/2, mb1 3.8/5, mb1mx3.3/52, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=95.4km s-min=14.4km az=48.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.58**	**299**	P	Pn	09 17 02.5	-0.2
	1.6nm,0.3s,baz=159,slow=8.6,SNR=2.6						
KAPI				S	Sn	09 18 17.7	+1.3
	1.5nm,0.3s,baz=300,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**14.40**	**144**	P	Pn	09 18 47.6	-2.0
	0.6nm,0.3s,baz=323,slow=13,SNR=22						
WRA				S	Sn	09 21 28.0	+0.1
	0.8nm,0.3s,baz=321,slow=27,SNR=6.0						
ASAR	**Alice Springs**	**17.27**	**153**	P	Pn	09 19 26.6	+0.3
	0.3nm,0.3s,baz=329,slow=10,SNR=27						
ASAR				S	Sn	09 22 39.6	+1.9
	0.3nm,0.3s,baz=314,slow=20,SNR=9.1						
MKAR	**Makanchi Array**	**66.96**	**329**	P	P	09 26 14.8	-1.1
	0.4nm,0.6s,baz=132,slow=7.9,SNR=6.9						
KURBB	**Kurchatov Arra**	**71.36**	**331**	P	P	09 26 44.1	+1.1
	0.8nm,0.7s,baz=135,slow=5.5,SNR=6.2						

MDD 14 09:26:22.0±0.5, 36°93N×4°86W, h0km, mb_Lg1.5/7, Error ellipse: s-maj=3.8km s-min=3.3km az=71.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.37**	**169**	Pg	Pg	09 26 28.5	-0.6
EMIJ				Sg	Sg	09 26 33.8	-0.1
EMIJ				*i* Vmb_Lg		09 26 34.3	
EGOR	**Sierra Gorda,**	**0.63**	**73**	Pg	Pg	09 26 34.8	+0.7
EGOR				*i* Vmb_Lg		09 26 56.0	
ELGU	**Los Guajares,**	**0.99**	**93**	Pg	Pg	09 26 41.5	+0.5
ELGU				Sg	Sg	09 26 53.4	-0.5
ELGU				*i* Vmb_Lg		09 27 08.3	
ECAB	**El Cabril**	**1.22**	**339**	Pg	Pg	09 26 44.8	-0.6
ECAB				Sg	Sg	09 27 00.8	-0.5
EADA	**Adamuz**	**1.25**	**10**	Pg	Pg	09 26 45.8	-0.2
EADA				Sg	Sg	09 27 01.3	-1.0
EADA				*i* Vmb_Lg		09 27 05.5	
EBER	**Berja**	**1.58**	**91**	Sg	Sn	09 27 10.7	-2.1
EBER				*i* Vmb_Lg		09 27 15.4	
EMIN	**Mina Concepcio**	**1.67**	**301**	Sg	Sn	09 27 14.5	-0.1
EMIN				*i* Vmb_Lg		09 27 18.1	
EQES	**Quesada**	**1.67**	**58**	Pg	Pn	09 26 51.9	-0.7

CNRM 14 09:26:22.7, 35°48N×3°78W, h22km, ml2.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**207**	P	Pb	09 26 29.8	+0.4
PALE				S	Sb	09 26 33.8	-0.2
GOG	**Mont Gurugu**	**0.69**	**112**	P	Pb	09 26 35.4	-0.6
GOG				S	Sb	09 26 45.0	-0.1
SMIR	**Smir Dam**	**1.32**	**279**	P	Pb	09 26 46.8	0.0
SMIR				S	Sn	09 27 02.7	-0.1
JBK	**JBK**	**1.51**	**139**	P	Pb	09 26 51.1	+0.9
JBK				S	Sn	09 27 06.1	-1.6
MD31	**MD31**	**2.73**	**198**	P	Pn	09 27 04.7	-0.5
MD31				S	Sn	09 27 38.4	+0.9
MDT	**Midelt**	**2.75**	**195**	P	Pn	09 27 07.5	+2.0
MDT				S	Sn	09 27 39.0	+1.0

IDC 14 09:31:14.8±11.0, 44°52N×65°19E, h0km, Error ellipse: s-maj=260.4km s-min=114.0km az=156.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.62**	**323**	*i*		10 05 20.0	
	baz=133,slow=326,SNR=8.0						
I43RU	**DUBNA INFRASON**	**21.36**	**315**	*i*		11 47 40.0	
	baz=105,slow=335,SNR=1.7						
I34MN	**SONGINO INFRAS**	**28.49**	**69**	*i*		12 22 30.0	
	baz=285,slow=327,SNR=3.2						
I37NO	**I37NO**	**34.03**	**332**	*i*		13 03 06.4	
	baz=114,slow=324,SNR=2.9						

IDC 14 09:36:51.0±1.6, 0°59N×126°91E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/54, mbtmp4.0/5, MS3.3/1, Ms1 3.3/1, ms1mx2.4/72, Error ellipse: s-maj=173.0km s-min=19.4km az=65.0

DJA 14 09:36:56.9±0.4, 0°N±4°×12°6E±°, h10km, M3.7/6, MLv3.7/6

ISC 14 09:36:59.1±1.0, 0°08N±0°07×125°93E±0°05, h35km, n13, σ3°01/14, mb4.0/5, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.59**	**64**	P	**Pn**	**09 37 26.9**	**+2.1**
LBMI	**Labuha**	**1.73**	**114**	P	**Pn**	**09 37 27.8**	**+1.2**
KMSI	**Cibinong**	**2.01**	**284**	P	**Pn**	**09 37 29.3**	**-1.2**
SANI	**Sanana**	**2.12**	**178**	P	**Pn**	**09 37 31.1**	**-0.9**
SANI				S	**Sn**	**09 38 03.1**	**+6.0**
GTOI	**Gorontalo**	**2.97**	**281**	P	**Pn**	**09 37 45.8**	**+2.1**
GTOI				S	**Sn**	**09 38 22.5**	**+4.3**
MRSI	**Marisa**	**4.01**	**276**	P	**Pn**	**09 37 57.0**	**-1.0**
MPSI	**Mapaga**	**6.04**	**272**	P	**Pn**	**09 38 29.1**	**+3.2**
WRA	**Warramunga Arr**	**21.54**	**158**	P	**P**	**09 41 42.4**	**-3.1**
	1.2nm,0.4s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**24.84**	**162**	P	**P**	**09 42 16.6**	**-1.8**
	0.9nm,0.3s,baz=346,slow=13,SNR=47						
PSI	**Prapat**	**27.13**	**276**	LR	LR	09 55 50.3	
	comp=Z,68nm,20.5s,baz=64,slow=41						
STKA	**Stephens Creek**	**35.07**	**156**	P	**P**	**09 43 48.4**	**-0.5**
	3.9nm,0.8s,baz=329,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**09 47 00.7**	**-2.4**
	0.7nm,0.3s,baz=123,slow=7.8,SNR=22						
KURBB	**Kurchatov Arra**	**64.39**	**329**	P	**P**	**09 47 29.9**	**-1.7**
	0.7nm,0.5s,baz=126,slow=7.0,SNR=1.4						

NEIC 14 09:42:21.1±0.9, 36°37N±0°02×97°72W±0°02, h2km±7km, mb_Lg2.9/78, Error ellipse: s-maj=2.8km s-min=2.2km az=46.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.97**	**167**	Pg	Pg	09 42 39.6	-0.2
OKCFA				IAmb_Lg		09 42 52.4	
	comp=Z,87nm,1.0s						
OKCSW	**OKLAHOMA CITY**	**0.99**	**166**	Pg	Pg	09 42 39.6	-0.4
T35A	**Sooner Cattle**	**1.12**	**60**	Pg	Pg	09 42 42.0	-0.5
FNO	**Franklin**	**1.14**	**167**	Pg	Pg	09 42 42.4	-0.5
W35A	**Tecumseh**	**1.39**	**150**		Pn	09 42 46.6	-1.0
TUL1	**Leonard**	**1.63**	**106**		Pn	09 42 50.4	-0.4
WMOK	**Wichita Mounta**	**1.84**	**208**		Pn	09 42 53.9	+0.2
R32A	**Long Quarter,**	**2.20**	**339**		Pn	09 42 59.4	+0.8
X37A	**Clayton**	**2.61**	**132**		Pn	09 43 04.6	+0.3
X37A				IAmb_Lg		09 43 45.6	
	comp=Z,56nm,0.7s						
KSU1	**Kansas State U**	**2.87**	**18**	IAmb_Lg		09 43 58.2	
	comp=Z,34nm,0.8s						
CBKS	**Cedar Bluff**	**2.92**	**327**		Pn	09 43 08.8	+0.1
Z35A	**Perchaven, San**	**3.05**	**173**	Pn	Pn	09 43 10.8	+0.4
HHAR	**Hobbs**	**3.06**	**90**		Pn	09 43 11.0	+0.5
AMTX	**Amarillo**	**3.55**	**247**	IAmb_Lg		09 44 13.6	
	comp=Z,42nm,0.9s						
S39A	**Bolivar**	**3.76**	**68**		Pn	09 43 20.2	+0.1
S39A				IAmb_Lg		09 44 19.2	
	comp=Z,25nm,0.7s						
U40A	**Yellville**	**3.93**	**89**		Pn	09 43 23.0	+0.5
ABTX	**Abilene, Hawle**	**4.05**	**204**	Pn	Pn	09 43 25.0	+0.8
ABTX				IAmb_Lg		09 44 31.0	
	comp=Z,32nm,0.9s						
WHTX	**Lake Whitney,**	**4.37**	**177**	Pn	Pn	09 43 28.5	0.0
X40A	**Basin Creek Fa**	**4.41**	**114**	Pn	Pn	09 43 30.3	+1.2
MGMO	**Mountain Grove**	**4.45**	**78**	Pn	Pn	09 43 29.5	-0.2
FCAR	**Ozark Folk Cen**	**4.56**	**94**	Pn	Pn	09 43 32.3	+1.2
W41B	**Gary Mavity, V**	**4.61**	**103**	Pn	Pn	09 43 32.4	+0.6
W41B				IAmb_Lg		09 44 54.6	
	comp=Z,26nm,0.8s						
WLAR	**White Oak Lake**	**4.63**	**124**	IAmb_Lg		09 44 57.1	
	comp=Z,26nm,0.7s						
237A	**Washetta, Mont**	**4.63**	**159**		Pn	09 43 31.5	-0.6
P38A	**Dawn**	**4.64**	**44**	IAmb_Lg		09 44 58.3	
	comp=Z,27nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.70**	**306**	Pn	Pn	09 43 34.4	+1.3
KSCO				IAmb_Lg		09 45 03.4	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.75**	**65**		Pn	09 43 33.4	-0.4
R40A				IAmb_Lg		09 44 55.0	
	comp=Z,21nm,0.9s						
N35A	**Tabor**	**4.78**	**19**	Pn	Pn	09 43 34.5	+0.4
BGNE	**Belgrade**	**5.05**	**356**	Pn	Pn	09 43 37.1	-0.7
LCAR	**Lake Charles**	**5.32**	**91**	IAmb_Lg		09 45 17.4	
	comp=Z,16nm,0.7s						
T25A	**Trinidad**	**5.42**	**280**	IAmb_Lg		09 45 24.8	
	comp=Z,23nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**70**	IAmb_Lg		09 45 19.6	
	comp=Z,22nm,0.9s						
435B	**Jarrell**	**5.57**	**179**	IAmb_Lg		09 45 27.9	
	comp=Z,20nm,0.7s						
OGNE	**Ogallala**	**5.68**	**325**	IAmb_Lg		09 45 29.7	
	comp=Z,19nm,0.8s						
L34A	**Svendsen Farm,**	**5.69**	**10**	Pn	Pn	09 43 47.3	+0.6
SLM	**Saint Louis**	**6.37**	**67**	IAmb_Lg		09 45 40.3	
	comp=Z,17nm,0.8s						
Q24A	**Divide**	**6.43**	**296**	IAmb_Lg		09 45 55.9	
	comp=Z,20nm,0.8s						
S44A	**Carbondale**	**6.90**	**76**	IAmb_Lg		09 46 11.3	
	comp=Z,17nm,0.8s						
SIUC	**Southern Illin**	**6.94**	**76**	IAmb_Lg		09 46 10.7	
	comp=Z,17nm,0.8s						
W45A	**Hickory Valley**	**7.05**	**97**	IAmb_Lg		09 46 09.2	
	comp=Z,19nm,0.9s						
ISCO	**Idaho Springs**	**7.10**	**301**	IAmb_Lg		09 46 15.3	
	comp=Z,15nm,0.9s						
Y45A	**Yeager Farm, C**	**7.15**	**108**	IAmb_Lg		09 46 17.5	
	comp=Z,16nm,0.7s						
ECSD	**EROS Data Cent**	**7.41**	**6**	IAmb_Lg		09 46 18.5	
	comp=Z,11nm,1.0s						
N23A	**Red Feather La**	**7.86**	**308**	IAmb_Lg		09 46 37.0	
	comp=Z,12nm,0.8s						
833A	**Chaparral WMA,**	**8.14**	**190**	IAmb_Lg		09 46 54.5	
	comp=Z,9.7nm,0.9s						
SPMN	**Marine on St.**	**9.60**	**21**	IAmb_Lg		09 47 30.4	
	comp=Z,8.6nm,0.7s						

IDC 14 09:58:31.9±2.6, 7°53S×128°45E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.2/47, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=294.8km s-min=32.9km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.60**	**156**	Pn	Pn	10 01 45.7	-0.5
	0.2nm,0.3s,baz=334,slow=13,SNR=12						
WRA				Sn	Sn	10 04 06.0	-12
	0.4nm,0.3s,baz=336,slow=21,SNR=8.7						
ASAR	**Alice Springs**	**16.88**	**163**	Pn	Pn	10 02 30.2	+0.5
	0.1nm,0.3s,baz=338,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**67.83**	**328**	P	P	10 09 31.9	0.0
	0.3nm,0.4s,baz=111,slow=8.0,SNR=4.3						

CNRM 14 09:58:50.9, 36°73N×2°01W, h0km, ml2.2

MDD 14 09:58:53.4±0.4, 36°93N×2°09W, h2km±4km, mb_Lg2.6/13, Error ellipse: s-maj=2.9km s-min=2.0km az=148.0

SFS 14 09:58:53.0, 36°93N×3°09W, h2km, ML2.6, LUCAICENA DE LAS TORRES (ALMERIA)

ISC 14 09:58:52.1±1.0, 36°90N±0°03×2°07W±0°03, h11km±7km, n24, σ1°55/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.13**	**305**	Pg	**Pg**	**09 58 55.9**	**+0.5**
ENIJ				Sg	**Sg**	**09 58 57.0**	**-0.6**
ENIJ				*i* Vmb_Lg		09 58 57.4	
EBER	**Berja**	**0.66**	**270**	Pg	**Pg**	**09 59 05.0**	**+0.2**
EBER				Sg	**Sg**	**09 59 14.0**	**+0.5**
EBER				*i* Vmb_Lg		09 59 16.8	
TLOR	**Lorca, Murcia**	**0.82**	**22**	Sg	**Sb**	**09 59 19.7**	**+0.4**
EZAR	**Zarzadilla de**	**1.02**	**17**	Pg	**Pb**	**09 59 12.0**	**+0.2**
EZAR				Sg	**Sb**	**09 59 26.0**	**+0.7**
CART	**Cartagena**	**1.10**	**51**	P	**Pb**	**09 59 12.7**	**-0.3**
CART				S	**Sb**	**09 59 25.0**	**-2.4**
CART	**Cartagena**	**1.10**	**51**	P	**Pb**	**09 59 12.9**	**-0.1**
CART				S	**Sn**	**09 59 29.7**	**+1.2**
EQUE	**Quentar**	**1.14**	**286**	Pg	**Pn**	**09 59 14.2**	**+0.2**
EQUE				Sg	**Sb**	**09 59 27.2**	**-1.3**
EQUE				*i* Vmb_Lg		09 59 32.0	
EQES	**Quesada**	**1.21**	**319**	Pg	**Pg**	**09 59 15.6**	**+0.3**
EQES				Sg	**Sn**	**09 59 32.8**	**+1.5**
EQES				*i* Vmb_Lg		09 59 35.0	
EALB	**Alboran**	**1.23**	**219**	Pg	**Pg**	**09 59 17.2**	**+1.5**
EALB				Sg	**Sn**	**09 59 33.5**	**+1.8**
ELGU	**Los Guajares,**	**1.25**	**269**	Pg	**Pb**	**09 59 15.7**	**0.0**
ELGU				Sg	**Sn**	**09 59 32.6**	**+0.3**
ELGU				*i* Vmb_Lg		09 59 38.9	
EGOR	**Sierra Gorda,**	**1.65**	**278**	Pg	**Pg**	**09 59 23.3**	**-0.3**
EGOR				*i* Vmb_Lg		09 59 51.4	
ETOB	**Tobarra**	**1.79**	**13**	Pn	**Pn**	**09 59 23.5**	**+0.5**
ETOB				Sg	**Sn**	**09 59 46.5**	**+0.8**
ETOB				*i* Vmb_Lg		09 59 53.5	
GOG	**Mont Gurugu**	**1.83**	**204**	P	**Pn**	**09 59 23.2**	**-0.3**
GOG				S	**Sn**	**09 59 43.5**	**-3.2**
EMAL	**Malaga-Limoner**	**1.90**	**267**	P	**Pn**	**09 59 25.3**	**+1.0**
EMAL				S	**Sn**	**09 59 45.7**	**-2.5**
EMIJ	**Mijas**	**2.19**	**262**	Pn	**Pn**	**09 59 29.5**	**+1.1**
EMIJ				*i* Vmb_Lg		10 00 16.2	
EBEN2	**Beniarda presa**	**2.32**	**39**	Pn	**Pn**	**09 59 31.2**	**+1.0**
EBEN2				Sn	**Sn**	**09 59 59.7**	**+1.1**
EADA	**Adamuz**	**2.36**	**303**	Pg	**Pb**	**09 59 35.9**	**+1.3**
EADA				Sn	**Sb**	**10 00 02.4**	**-1.3**
EADA				Sg	**Sg**	**10 00 05.6**	**-2.4**
EADA				*i* Vmb_Lg		10 00 09.5	
JBK	**JBK**	**2.59**	**189**	P	**Pn**	**09 59 35.3**	**+1.3**
JBK				S	**Sn**	**10 00 05.0**	**-0.5**
ECAB	**El Cabril**	**2.91**	**295**	Pn	**Pn**	**09 59 38.8**	**+0.6**
ECAB				Sn	**Sn**	**10 00 12.6**	**-0.6**
ECAB				Sg	**Sg**	**10 00 22.6**	**-2.9**
ECAB				*i* Vmb_Lg		10 00 25.2	
PAB	**San Pablo**	**3.19**	**327**	Pg	**Pb**	**09 59 49.7**	**+0.9**
PAB				Sg	**Sg**	**10 00 34.2**	**-0.5**
PAB				*i* Vmb_Lg		10 00 35.8	
UCM	**Universidad Co**	**3.53**	**345**	P	Pg	10 00 11.5	+12
UCM				S	**Sg**	**10 00 42.5**	**-2.8**
EMIN	**Mina Concepcio**	**3.77**	**285**	Pn	**Pn**	**09 59 50.8**	**+0.8**
ETOR	**Torete**	**3.92**	**0**	Pg	**Pg**	**10 00 06.9**	**-0.2**
ETOR				Sg	**Sg**	**10 00 55.5**	**-2.4**
EVO	**Evora**	**4.99**	**291**	P	**Pn**	09 59 56.1	-11
EVO				S	**Pn**	**10 00 11.3**	**+4.6**

TUL 14 10:17:22.4±0.6, 36°84N±0°03×98°28W±0°04, h6km±7km, ML3.3, mb_Lg3.0/82(NEIC), Error ellipse: s-maj=6.0km s-min=0.8km az=137.0

NEIC 14 10:17:22.8±0.6, 36°829N±0°009×98°27W±0°02, h5km±7km, Error ellipse: s-maj=1.9km s-min=1.3km az=88.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.74**	**233**	Pg	Pg	10 17 37.1	0.0
T35A	**Sooner Cattle**	**1.41**	**86**	Pn	Pn	10 17 48.7	-0.4
T35A				IAmb_Lg		10 18 08.9	
	comp=Z,69nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**1.57**	**154**	Pn	Pn	10 17 51.4	0.0
R32A	**Long Quarter,**	**1.63**	**348**		Pn	10 17 52.1	0.0
W35A	**Tecumseh**	**2.02**	**146**	Pn	Pn	10 17 57.8	+0.3
WMOK	**Wichita Mounta**	**2.13**	**191**		Pn	10 17 59.1	+0.1
TUL1	**Leonard**	**2.20**	**114**	Pn	Pn	10 18 00.3	+0.3
X34A	**Smith Ranch, M**	**2.25**	**171**	Pn	Pn	10 18 01.5	+0.8
X34A				IAmb_Lg		10 18 38.1	
	comp=Z,70nm,0.8s						
CBKS	**Cedar Bluff**	**2.30**	**330**	Pn	Pn	10 18 01.4	+0.1
KSU1	**Kansas State U**	**2.62**	**30**	Pn	Pn	10 18 06.6	+0.9
X37A	**Clayton**	**3.25**	**133**	Pn	Pn	10 18 14.4	+0.1
X37A				IAmb_Lg		10 19 13.6	
	comp=Z,40nm,0.8s						
AMTX	**Amarillo**	**3.38**	**236**	IAmb_Lg		10 19 17.6	
	comp=Z,32nm,0.9s						
HHAR	**Hobbs**	**3.53**	**98**	Pn	Pn	10 18 18.5	+0.3
Z35A	**Perchaven, San**	**3.59**	**166**	IAmb_Lg		10 19 26.0	
	comp=Z,40nm,1.2s						
N33A	**J Bar K, Exete**	**3.96**	**9**	Pn	Pn	10 18 23.6	-0.6
N33A				IAmb_Lg		10 19 35.4	
	comp=Z,23nm,0.7s						
S39A	**Bolivar**	**4.04**	**76**	Pn	Pn	10 18 25.2	0.0
S39A				IAmb_Lg		10 19 29.7	
	comp=Z,30nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.08**	**304**		Pn	10 18 25.7	-0.3

ISC 14 10:22:46.3±0.6,21°91S±0.03°×68°43W±0.05,h124km±6km, n134,σ1°21/153,mb4.6/10,3C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.76**	**279**			**Pn**	**10 23 07.4**	**+0.7**
PB09	**IPOC Station P**	**0.76**	**279**	*eP*		**Pn**	**10 23 07.5**	**+0.7**
PB09				*eS*		**Sn**	**10 23 22.0**	**-0.2**
PB09				IAML			10 23 25.3	
	comp=E,5μm,0.6s							
LVC	**Limon Verde**	**0.82**	**212**	P		**Pn**	**10 23 08.1**	**+0.6**
	comp=E,583nm,0.3s,baz=11,slow=13,SNR=2758							
LVC				S		**Sn**	**10 23 23.5**	**0.0**
	comp=E,910nm,0.3s,baz=245,slow=19,SNR=40							
LVC				LR		LR	10 23 24.1	
	comp=E,187nm,19.0s,baz=279,slow=39							
LVC	**Limon Verde**	**0.82**	**212**	*eP*		**Pn**	**10 23 07.6**	**+0.1**
LVC				*eS*		**Sn**	**10 23 23.5**	**0.0**
PB01	**IPOC Station P**	**1.31**	**311**			**Pn**	**10 23 12.0**	**0.0**
PB01	**IPOC Station P**	**1.31**	**311**	*eP*		**Pn**	**10 23 12.0**	**0.0**
PB01				*eS*		**Sn**	**10 23 30.4**	**-1.0**
PB01				IAML			10 23 33.1	
	comp=N,5μm,0.3s							
PB06	**IPOC Station P**	**1.32**	**233**			**Pn**	**10 23 12.7**	**+0.6**
PB06	**IPOC Station P**	**1.32**	**233**	*eP*		**Pn**	**10 23 12.8**	**+0.6**
PB06				*eS*		**Sn**	**10 23 31.9**	**+0.1**
PB06				IAML			10 23 33.1	
	comp=N,9μm,0.5s							
PB06				IAML			10 23 33.8	
	comp=E,10μm,0.3s							
PB07	**IPOC Station P**	**1.36**	**278**			**Pn**	**10 23 12.7**	**+0.1**
PB07	**IPOC Station P**	**1.36**	**278**	*eP*		**Pn**	**10 23 12.7**	**+0.1**
PB07				*eS*		**Sn**	**10 23 31.7**	**-0.9**
PB07				IAML			10 23 35.3	
	comp=E,5μm,0.3s							
PB02	**IPOC Station P**	**1.48**	**293**			**Pn**	**10 23 13.9**	**0.0**
PB02	**IPOC Station P**	**1.48**	**293**	*eP*		**Pn**	**10 23 13.9**	**0.0**
PB02				*eS*		**Sn**	**10 23 33.8**	**-1.1**
PB02				IAML			10 23 34.5	
	comp=N,6μm,0.5s							
PB15	**IPOC Station P**	**1.61**	**216**			**Pn**	**10 23 16.2**	**+0.7**
PB15	**IPOC Station P**	**1.61**	**216**	*eP*		**Pn**	**10 23 16.2**	**+0.7**
PB15				*eS*		**Sn**	**10 23 37.8**	**+0.1**
PB04	**IPOC Station P**	**1.65**	**255**			**Pn**	**10 23 15.9**	**+0.1**
PB04	**IPOC Station P**	**1.65**	**255**	*eP*		**Pn**	**10 23 15.9**	**+0.1**
PB04				*eS*		**Sn**	**10 23 37.6**	**-0.7**
PB04				IAML			10 23 38.7	
	comp=N,4μm,0.4s							
PB08	**IPOC Station P**	**1.89**	**339**			**Pn**	**10 23 20.1**	**+1.1**
PB08	**IPOC Station P**	**1.89**	**339**	*eP*		**Pn**	**10 23 19.7**	**+0.7**
PB08				*eS*		**Sn**	**10 23 44.4**	**+0.5**
PB08				IAML			10 23 46.4	
	comp=E,2μm,0.4s							
PATCX	**Punta Patache**	**1.94**	**304**			**Pn**	**10 23 18.8**	**-0.4**
PATCX	**Punta Patache**	**1.94**	**304**	*eP*		**Pn**	**10 23 18.9**	**-0.4**
PATCX				*eS*		**Sn**	**10 23 43.2**	**-1.2**
PATCX				IAML			10 23 49.4	
	comp=E,4μm,0.3s							
TA01	**Diego Aracena**	**2.11**	**309**	Pn		**Pn**	**10 23 20.7**	**-0.6**
TA01	**Diego Aracena**	**2.11**	**309**	*eP*		**Pn**	**10 23 20.5**	**-0.8**
TA01				*i* S		**Sn**	**10 23 46.6**	**-1.5**
TA01				IAML			10 23 53.0	
	comp=E,3μm,0.3s							
HMBC	**Humberstone**	**2.12**	**320**	*eP*		**Pn**	**10 23 20.8**	**-0.8**
HMBC				*eS*		**Sn**	**10 23 47.4**	**-1.2**
HMBC				IAML			10 23 49.5	
	comp=E,3μm,0.4s							
TA02	**Huaiquique**	**2.28**	**316**			**Pn**	**10 23 22.6**	**-0.8**
TA02	**Huaiquique**	**2.28**	**316**	*eP*		**Pn**	**10 23 22.6**	**-0.8**
TA02				*eS*		**Sn**	**10 23 50.5**	**-1.4**
TA02				IAML			10 23 54.4	
	comp=N,2μm,0.1s							
GO01	**Chusmiza**	**2.34**	**342**			**Pn**	**10 23 25.6**	**+0.8**
GO01	**Chusmiza**	**2.34**	**342**	*eP*		**Pn**	**10 23 25.2**	**+0.4**
GO01				*eS*		**Sn**	**10 23 54.1**	**-0.1**
GO01				IAML			10 23 56.7	
	comp=N,2μm,0.2s							
PB11	**IPOC Station P**	**2.43**	**332**			**Pn**	**10 23 25.1**	**-0.4**
PB11	**IPOC Station P**	**2.43**	**332**	*eP*		**Pn**	**10 23 25.0**	**-0.5**
PB11				*eS*		**Sn**	**10 23 54.4**	**-1.2**
PB11				IAML			10 23 56.5	
	comp=N,2μm,0.4s							
PB10	**IPOC Station P**	**2.52**	**230**			**Pn**	**10 23 26.1**	**-0.4**
PB10	**IPOC Station P**	**2.52**	**230**	*eP*		**Pn**	**10 23 25.9**	**-0.7**
PB10				*eS*		**Sn**	**10 23 54.9**	**-2.6**
PB10				IAML			10 24 01.0	
	comp=E,1μm,0.5s							
PB14	**IPOC Station P**	**3.25**	**213**	Pn		**Pn**	**10 23 36.1**	**-0.3**
PB14	**IPOC Station P**	**3.25**	**213**	*eP*		**Pn**	**10 23 36.4**	**+0.1**
PB14				*eS*		**Sn**	**10 24 13.2**	**-1.7**
PB14				IAML			10 24 16.7	
	comp=E,742nm,0.3s							
PB16	**IPOC Station P**	**3.70**	**344**	Pn		**Pn**	**10 23 43.0**	**+0.5**
PB16	**IPOC Station P**	**3.70**	**344**	*eP*		**Pn**	**10 23 43.0**	**+0.5**
PB16				*eS*		Sn	10 24 16.9	-9.0
PB12	**IPOC Station P**	**3.73**	**331**	Pn		**Pn**	**10 23 40.6**	**-1.9**
PB12	**IPOC Station P**	**3.73**	**331**	*eP*		**Pn**	**10 23 40.8**	**-1.7**
AC01	**Pan de Azucar**	**4.66**	**205**	Pn		**Pn**	**10 23 53.0**	**-1.7**
AC01	**Pan de Azucar**	**4.66**	**205**	*eP*		**Pn**	**10 23 53.0**	**-1.7**
AC01				*i* S		**Sn**	**10 24 43.4**	**-4.5**
AC02	**Maricunga**	**4.94**	**187**	Pn		**Pn**	**10 23 59.1**	**+0.1**
AC02	**Maricunga**	**4.94**	**187**	*eP*		**Pn**	**10 23 58.9**	**-0.1**
AC02				*eS*		**Sn**	**10 24 53.8**	**-1.6**
LPAZ	**La Paz**	**5.60**	**3**	P		**Pn**	**10 24 08.3**	**+0.3**
	comp=E,2.8nm,0.3s,baz=194,slow=7.8,SNR=61							
LPAZ	**La Paz**	**5.60**	**3**	Pn		**Pn**	**10 24 09.6**	**+1.6**
LPAZ	**La Paz**	**5.60**	**3**	*eP*		**Pn**	**10 24 09.2**	**+1.2**
AC06	**Mina Casimiro**	**5.70**	**197**			**Pn**	**10 24 06.5**	**-2.2**
LCO	**Las Campanas**	**7.36**	**196**	Pn		**Pn**	**10 24 28.2**	**-3.1**
GO04	**Tololo Observa**	**8.50**	**194**	Pn		**Pn**	**10 24 44.4**	**-2.2**
SIV	**San Ignacio**	**9.12**	**51**	P		**Pn**	**10 24 52.6**	**-2.4**
	comp=E,8.5nm,0.3s,baz=233,slow=11,SNR=131							
SIV				S		**Sn**	**10 26 28.8**	**-7.2**
	comp=E,3.0nm,0.3s,baz=121,slow=21,SNR=9.1							
CPUP	**Villa Florida**	**11.05**	**116**	P		**Pn**	**10 25 19.1**	**-1.8**
	comp=E,0.2nm,0.3s,baz=291,slow=11,SNR=5.7							
CPUP	**Villa Florida**	**11.05**	**116**	*eP*		**Pn**	**10 25 21.5**	**+0.7**
VILB	**Vilhena**	**11.88**	**43**	*eP*		**Pn**	**10 25 30.6**	**-1.2**
AQDB	**Aquidauana**	**11.96**	**85**	Pn		**Pn**	**10 25 33.7**	**+0.7**
AQDB	**Aquidauana**	**11.96**	**85**	*eP*		**Pn**	**10 25 35.4**	**+2.4**
ETMB	**Extrema**	**12.21**	**10**	*eP*		**Pn**	**10 25 35.6**	**-0.6**
PP1B	**Ponte de Pedra**	**13.46**	**74**	*eP*		**Pn**	**10 25 53.7**	**+1.3**
TRCB	**Terra Rica**	**14.65**	**96**	P		**P**	**10 26 11.7**	**+1.2**
TRCB	**Terra Rica**	**14.65**	**96**	*eP*		**Pn**	**10 26 08.8**	**+1.3**
CZSB	**Cruzeiro do Su**	**14.69**	**343**	*eP*		**Pn**	**10 26 07.5**	**-0.6**
PDRB	**Porto dos Gac**	**15.17**	**49**	*eP*		**Pn**	**10 26 15.4**	**+1.2**
PTGB	**Pitanga**	**15.29**	**104**	*eP*		**P**	**10 26 18.9**	**+1.2**
ITAB	**Concordia**	**15.74**	**113**	P		**P**	**10 26 22.8**	**+0.2**
ITAB				IAmb		IAmb	10 26 24.0	
	comp=E,38nm,0.8s							
ITAB	**Concordia**	**15.74**	**113**	*eP*		**P**	**10 26 23.4**	**+0.9**
PCMB	**Pacaembu**	**15.96**	**92**	*eP*		**P**	**10 26 25.0**	**0.0**
CLDB	**Colider**	**16.34**	**50**	*eP*		**P**	**10 26 29.3**	**+0.1**
PLTB	**Pedras Altas**	**16.46**	**130**	P		**Pn**	**10 26 29.6**	**-0.3**
PLTB				IAmb		IAmb	10 26 32.8	
	comp=Z,15nm,1.3s							
PLTB	**Pedras Altas**	**16.46**	**130**	*eP*		**P**	**10 26 30.7**	**+0.3**
ARAG	**Araguaiana, MT**	**16.90**	**71**	*eP*		**Pn**	**10 26 35.9**	**+0.5**
ITRB	**Iturama**	**17.04**	**86**	*eP*		**Pn**	**10 26 37.9**	**+0.7**
FRTB	**Fartura**	**17.48**	**98**	*eP*		**Pn**	**10 26 42.5**	**0.0**
TBTG	**Tabatinga, AM**	**17.68**	**355**	*eP*		**Pn**	**10 26 45.3**	**+0.5**
TIJ01	**Guaruva-PR**	**18.12**	**105**	*eP*		**Pn**	**10 26 49.8**	**-0.4**
BB19B	**Bebedouro**	**18.55**	**91**	*eP*		**P**	**10 26 53.9**	**+0.4**
TER01	**Tubaro-SC**	**18.66**	**115**	*eP*		**P**	**10 26 54.5**	**-0.2**
PLCA	**Paso Flores**	**18.85**	**185**	P		**Pn**	**10 26 57.4**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=6.0,slow=11,SNR=21							
PLCA	**Paso Flores**	**18.85**	**185**	P		**Pn**	**10 26 57.4**	**-1.2**
PLCA	**Paso Flores**	**18.85**	**185**	*eP*		**P**	**10 26 57.1**	**+0.4**
SNDB	**Serra Nova Dou**	**19.12**	**62**	*eP*		**P**	**10 26 59.0**	**-0.8**
LL04	**Puerto Octay**	**19.24**	**189**	P		**P**	**10 27 01.3**	**+0.6**
LL04				IAmb		IAmb	10 27 02.5	
	comp=Z,25nm,0.7s							
RCLB	**Rio Claro- Sao**	**19.37**	**95**	*eP*		**P**	**10 27 02.5**	**0.0**
IPMB	**Ipameri, GO**	**19.41**	**82**	*eP*		**P**	**10 27 02.3**	**-0.6**
NPGB	**Novo Progresso**	**19.44**	**42**	*eP*		**P**	**10 27 01.4**	**-1.8**
PET01	**Itanhaem-SP**	**19.61**	**101**	*eP*		**P**	**10 27 05.1**	**+0.1**
VAO	**Valinhos**	**19.87**	**97**	*eP*		**P**	**10 27 07.7**	**-0.2**
MACA	**Manacapuru-AM**	**20.10**	**23**	*eP*		**P**	**10 27 09.3**	**-1.1**
BDFB	**Brasilia**	**20.30**	**76**	P		**P**	**10 27 11.9**	**-0.8**
	comp=Z,10nm,0.5s,baz=249,slow=13,SNR=14							
BDFB	**Brasilia**	**20.30**	**76**	P		**P**	**10 27 12.2**	**-0.5**
BDFB				IAmb		IAmb	10 27 14.3	
	comp=Z,22nm,1.1s							
PARB	**Paraibuna**	**21.10**	**98**	*eP*		**P**	**10 27 20.4**	**-0.8**
ITTB	**Itaituba**	**21.35**	**37**	*eP*		**P**	**10 27 22.3**	**-1.5**
PEXB	**Peixe**	**21.56**	**66**	*eP*		**P**	**10 27 24.6**	**-1.5**
BSCB	**Bom Sucesso**	**22.04**	**92**	*eP*		**P**	**10 27 31.6**	**+0.5**
DIAM	**Diamantina, MG**	**23.52**	**86**	*eP*		**P**	**10 27 44.3**	**-1.2**
PRPB	**Parauapebas**	**23.85**	**52**	*eP*		**P**	**10 27 47.3**	**-1.0**
JANB	**Januaria**	**23.85**	**78**	*eP*		**P**	**10 27 47.0**	**-1.4**
SMTB	**Santa Maria do**	**23.88**	**60**	*eP*		**P**	**10 27 48.0**	**-0.6**
DUB01	**Friburgo-RJ**	**24.16**	**95**	*eP*		**P**	**10 27 51.6**	**+0.5**
MALB	**Monte Alegre**	**24.24**	**37**	*eP*		**P**	**10 27 51.3**	**-0.5**
SDBA	**SAO DESIDERIO**	**24.36**	**77**	*eP*		**P**	**10 27 53.0**	**0.0**
CAM01	**Campos-RJ**	**24.84**	**95**	*eP*		**P**	**10 27 59.9**	**+0.7**
BOAV	**Boa Vista**	**25.37**	**19**	*eP*		**P**	**10 28 02.8**	**+0.8**
SJMB	**Sao Joao De Ma**	**25.74**	**88**	*eP*		**P**	**10 28 05.7**	**+0.2**
ALF01	**Guarapari-ES**	**25.84**	**92**	*eP*		**P**	**10 28 07.6**	**+1.3**
RIB01	**Linhares ES**	**26.36**	**89**	*eP*		**P**	**10 28 10.8**	**-0.2**
MCPB	**Macapa, AP**	**26.72**	**39**	*eP*		**P**	**10 28 13.9**	**-0.3**
NAN01	**Guarapari, ES**	**26.91**	**86**	*eP*		**P**	**10 28 15.6**	**-0.4**
GUA01	**Guaratinga, BA**	**27.52**	**84**	*eP*		**P**	**10 28 21.8**	**+0.4**
CMC01	**Camacan, BA**	**28.13**	**82**	*eP*		**P**	**10 28 26.9**	**+0.1**
NBIT	**Itapeh - BA**	**28.34**	**81**	*eP*		**P**	**10 28 29.4**	**+0.7**
GDU01	**Guandu, BA**	**28.62**	**78**	*eP*		**P**	**10 28 29.3**	**-1.9**
NBPN	**Ponto Novo - B**	**29.18**	**72**	*eP*		**P**	**10 28 36.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**29.89**	**347**	P		**P**	**10 28 41.4**	**-1.0**
NBLA	**Lagarto - SE**	**31.27**	**75**	*eP*		**P**	**10 28 53.3**	**-1.3**
NBPS	**Pedro II - PI**	**31.42**	**60**	*eP*		**P**	**10 28 55.5**	**-0.6**
NBMA	**Muriti-CE**	**32.05**	**68**	*eP*		**P**	**10 29 02.9**	**+1.3**
NBPB	**Pedra_Branca-C**	**32.30**	**64**	*eP*		**P**	**10 29 02.7**	**-1.0**
NBAN	**Anadia - AL**	**33.17**	**74**	*eP*		**P**	**10 29 10.4**	**-0.9**
NBMO	**Morrinhos-CE**	**33.19**	**60**	*eP*		**P**	**10 29 11.0**	**-0.4**
NBCL	**Cascavel-CE**	**34.10**	**63**	*eP*		**P**	**10 29 19.2**	**-0.1**
SNAA	**Sanae**	**61.75**	**161**	P		**P**	**10 32 52.4**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=262,slow=7.1,SNR=1.0							
LIC	**Lamto**	**68.08**	**73**	*eP*		**P**	**10 33 32.5**	**-0.6**
	comp=Z,35nm,1.0s							
TIC	**Toumodi**	**68.27**	**73**	*eP*		**P**	**10 33 34.2**	**-0.1**
QSPA	**South Pole Qui**	**68.28**	**180**	P		**P**	**10 33 35.6**	**+2.0**
	comp=Z,4.4nm,0.5s,baz=190,slow=0.4,SNR=34							
KIC	**Kosan Boka**	**68.39**	**73**	*eP*		**P**	**10 33 35.1**	**0.0**
	comp=Z,26nm,0.5s							
DBIC	**Dimbokro**	**68.43**	**73**	P		**P**	**10 33 35.5**	**+0.3**
	comp=Z,13nm,0.6s,baz=249,slow=6.0,SNR=21							
PDAR	**Pinedale Array**	**74.69**	**330**	P		**P**	**10 34 13.9**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=133,slow=6.5,SNR=1.8							
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P		**P**	**10 34 26.3**	**0.0**
	comp=Z,2μm,0.3s,baz=255,slow=5.4,SNR=20							
BOSA	**Boshof**	**82.86**	**118**	P		**P**	**10 34 58.0**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=206,slow=3.8,SNR=3.8							
BOSA	**Boshof**	**82.86**	**118**	IAmb		IAmb	10 35 25.2	
	comp=Z,21nm,1.5s							
ESDC	**Sonseca Array**	**85.82**	**44**	P		**P**	**10 35 12.4**	**+0.5**
	comp=Z,1.6nm,1.1s,baz=222,slow=5.8,SNR=4.7							
ESDC	**Sonseca Array**	**85.82**	**44**	IAmb		IAmb	10 35 16.8	
	comp=Z,0.8nm,1.1s							
YKA	**Yellowknife Ar**	**91.72**	**340**	P		**P**	**10 35 40.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=135,slow=4.7,SNR=10							
ASAR	**Alice Springs**	**129.75**	**207**	PKP		**PKiKP**	**10 41 42.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=134,slow=2.8,SNR=6.1							
WRA	**Warramunga Arr**	**132.82**	**210**	PKP		**PKiKP**	**10 41 48.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=165,slow=1.8,SNR=8.4							
MKAR	**Makanchi Array**	**145.70**	**37**	PKPbc		**PKPab**	**10 42 11.4**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=332,slow=2.6,SNR=19							
SONM	**Songino Array**	**153.80**	**8**	PKPab		**PKPab**	**10 42 46.0**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=318,slow=1.9,SNR=1.9							

*SJA **14** 10:26:12.0±1.2,32°46S×72°21W,h20km,ML4.8,MW4.8*
*IDC **14** 10:26:14.9±0.7,32°16S×71°77W,h0km,mb4.4/7, mb1 4.4/11,mb1mx4.2/35,mbtmp4.3/11,ML4.1/3,MS3.6/9, Ms1 3.6/9,ms1mx3.3/52,Error ellipse: s-maj=30.8km s-min=17.2km az=98.0*
*NEIC **14** 10:26:19.6±2.1,32°25S±0°04×71°82W±0°08,h28km±5km, mb4.6/11,ML4.5(GUC),Error ellipse: s-maj=9.7km s-min=5.6km az=85.0*
*GUC **14** 10:26:20.2±0.6,32°35S×71°61W,h40km±2km,ML4.5*
*VAO **14** 10:26:47.0±0.9,31°36S×70°69W,h224km,mb4.2*

ISC 14 10:26:18.3±1.2,32°27S±0°02×71°84W±0°04,h25km±9km, n140,σ1°44/153,mb4.5/10,MS3.6/5,8C-16D,Fault plane solution: NP1:ϕ245.88171°,δ45.81294°,λ132.72783°. **NP2:**ϕ12.91990°,δ58.21404°,λ55.08307°. **Principal axes:** T Plg59.9195°, Azm229.0660°; N Plg29.1136°, Azm33.1082°; P Plg6.9146°, Azm126.9806°; **Fault plane solution: NP1:**ϕ147.65614°,δ53.53428°, λ37.29338°. **NP2:**ϕ33.30186°,δ60.83873°,λ137.10886°. **Principal axes:** T Plg49.8905°, Azm356.8281°; N Plg39.7759°, Azm185.6236°; P Plg4.3421°, Azm91.9997°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA06	**Catapilco**	**0.54**	**122**			**Pb**	**10 26 29.1**	**-0.1**
VA06	**Catapilco**	**0.54**	**122**	*i*	*P*	**Pb**	**10 26 29.3**	**+0.1**
VA06				*eS*		**Sb**	**10 26 36.0**	**-0.6**
VA06				IAML			10 26 37.8	
	comp=E,122μm,0.6s							
VA01	**Torpederas**	**0.77**	**168**			**Pb**	**10 26 33.6**	**+0.6**
VA01	**Torpederas**	**0.77**	**168**	*eP*		**Pb**	**10 26 33.6**	**+0.6**
VA01				*eS*		**Sb**	**10 26 44.2**	**+1.2**
ROC1	**El Roble**	**0.98**	**136**	Pn		**Pn**	**10 26 34.7**	**-2.1**
ROC1	**El Roble**	**0.98**	**136**	*eP*		**Pn**	**10 26 34.5**	**-2.3**
ROCH	**El Roble**	**0.98**	**135**	*i*	*P*	**Pn**	**10 26 36.4**	**-0.4**
ROCH				*i*	*P*	**Pn**	**10 26 34.6**	**-2.2**
ROCH				*eS*		**Sb**	**10 26 46.7**	**-2.9**
ROCH				*i* S		**Sb**	**10 26 48.6**	**-0.9**
ROCH				IAML			10 26 52.9	
	comp=N,28μm,0.4s							
MT02	**Curacav**	**1.15**	**149**			**Pn**	**10 26 39.1**	**+0.2**
MT02	**Curacav**	**1.15**	**149**	*i*	*P*	**Pn**	**10 26 39.1**	**+0.2**
MT02				*eS*		**Sn**	**10 26 53.0**	**-0.8**
VA03	**San Esteban**	**1.19**	**115**			**Pn**	**10 26 38.7**	**-0.8**
VA03	**San Esteban**	**1.19**	**115**	*i*	*P*	**Pn**	**10 26 38.9**	**-0.6**
VA03				*eS*		**Sn**	**10 26 53.8**	**-1.3**
VA03				IAML			10 26 56.7	
	comp=N,25μm,0.2s							
CO02	**Combarbal**	**1.28**	**34**			**Pn**	**10 26 40.5**	**-0.3**
CO02	**Combarbal**	**1.28**	**34**	*i*	*P*	**Pn**	**10 26 40.2**	**-0.6**
CO02				*eS*		**Sn**	**10 26 55.3**	**-1.9**
PEL	**Peldehue**	**1.30**	**132**			**Pn**	**10 26 41.1**	**+0.1**
PEL	**Peldehue**	**1.30**	**132**	*i*	*P*	**Pn**	**10 26 41.1**	**+0.1**
PEL				*eS*		**Sn**	**10 26 56.8**	**-0.8**
PEL				IAML			10 27 00.0	
	comp=N,12μm,0.3s							
PEL	**Peldehue**	**1.30**	**132**	*eP*		**Pn**	**10 26 40.2**	**-0.8**
PEL				*eS*		**Sn**	**10 26 58.3**	**+0.6**
VA05	**Santo Domingo**	**1.39**	**172**			**Pn**	**10 26 43.4**	**+1.2**
VA05	**Santo Domingo**	**1.39**	**172**	*eP*		**Pn**	**10 26 43.2**	**+1.0**
VA05				*eS*		**Sn**	**10 27 00.3**	**+0.5**
VA05				IAML			10 27 11.7	
	comp=E,17μm,0.5s							
MT05	**Renca**	**1.45**	**141**			**Pn**	**10 26 43.6**	**+0.6**
MT05	**Renca**	**1.45**	**141**	*eP*		**Pn**	**10 26 43.3**	**+0.3**
MT05				*eS*		**Sn**	**10 27 02.4**	**+1.1**
MT05				IAML			10 27 06.1	
	comp=E,15μm,0.3s							
CO06	**Fray Jorge**	**1.60**	**6**			**Pn**	**10 26 45.0**	**-0.1**
CO06	**Fray Jorge**	**1.60**	**6**	*eP*		**Pn**	**10 26 44.7**	**-0.4**
CO06				*eS*		**Sn**	**10 27 06.0**	**+1.0**
CO06				IAML			10 27 12.2	
	comp=E,7μm,0.4s							
MT03	**Universidad Ad**	**1.65**	**138**			**Pn**	**10 26 46.6**	**+0.7**
MT03	**Universidad Ad**	**1.65**	**138**	*eP*		**Pn**	**10 26 46.4**	**+0.6**
MT03				*i* S		**Sn**	**10 27 07.5**	**+1.1**
MT03				IAML			10 27 10.8	
	comp=E,14μm,0.4s							
MT09	**Talagante**	**1.66**	**155**			**Pb**	**10 26 47.9**	**-0.4**
MT09	**Talagante**	**1.66**	**155**	*i*	*P*	**Pn**	**10 26 47.1**	**+1.1**
MT09				*eS*		**Sb**	**10 27 08.9**	**+0.1**
MT09				IAML			10 27 16.4	
	comp=N,7μm,0.7s							
MT01	**Popeta**	**1.66**	**163**			**Pn**	**10 26 47.4**	**+1.4**
MT01	**Popeta**	**1.66**	**163**	*eP*		**Pn**	**10 26 47.4**	**+1.4**
MT01				*eS*		**Sn**	**10 27 07.9**	**+1.4**
FCH	**Farellones**	**1.67**	**129**	*i*	*P*	**Pn**	**10 26 46.7**	**+0.3**
FCH				*eS*		**Sn**	**10 27 07.5**	**+0.3**
FCH				IAML			10 27 09.3	
	comp=N,4μm,0.2s							
CO03	**El Pedregal**	**1.73**	**35**	*eP*		**Pn**	**10 26 47.3**	**+0.3**
CO03				*eS*		**Sn**	**10 27 08.3**	**0.0**
CO03				IAML			10 27 12.5	
	comp=E,7μm,0.3s							
BO04	**La Punta**	**2.00**	**149**			**Pn**	**10 26 52.6**	**+2.0**
BO04	**La Punta**	**2.00**	**149**	*eP*		**Pn**	**10 26 52.0**	**+1.4**
BO04				*eS*		**Sb**	**10 27 17.4**	**-1.1**
BO04				IAML			10 27 25.8	
	comp=N,6μm,0.7s							
AUSP	**Uspallata**	**2.08**	**89**	*eP*		**Pb**	**10 26 54.6**	**-0.9**
AUSP				*eS*		**Sn**	**10 27 16.7**	**-0.4**
LMEL	**Las Melosas**	**2.08**	**139**			**Pn**	**10 26 53.7**	**+1.8**
LMEL	**Las Melosas**	**2.08**	**139**	*eP*		**Pn**	**10 26 53.1**	**+1.2**
LMEL				*eS*		**Sb**	**10 27 19.9**	**-1.3**
LMEL				IAML			10 27 28.6	
	comp=N,5μm,0.2s							
BO01	**Tunca**	**2.21**	**164**			**Pn**	**10 26 55.2**	**+1.8**
BO01	**Tunca**	**2.21**	**164**	*eP*		**Pn**	**10 26 54.9**	**+1.5**
BO01				*i* S		**Sb**	**10 27 23.8**	**-0.6**
RTLS	**Leoncito**	**2.21**	**78**	*eP*		**Pb**	**10 26 56.9**	**-0.8**
RTLS				*eS*		**Sb**	**10 27 29.7**	**+4.9**
RTLS				IAML			10 27 33.4	
	comp=Z,3μm,1.0s							
BO03	**Pichilemu**	**2.22**	**183**	*i*	P	**Pn**	**10 26 54.1**	**+0.6**
BO03				*eS*		**Sb**	**10 27 27.6**	**+2.8**
GO04	**Tololo Observa**	**2.27**	**23**	*eP*		**Pn**	**10 26 55.0**	**+0.4**
GO04				*eS*		**Sn**	**10 27 24.4**	**+2.4**
GO04	**Tololo Observa**	**2.27**	**23**	*eP*		**Pn**	**10 26 55.3**	**+0.7**
GO04				*eS*		**Sb**	**10 27 27.1**	**+0.5**
CO05	**La Serena**	**2.40**	**12**			**Pn**	**10 26 57.0**	**+0.9**
CO05	**La Serena**	**2.40**	**12**	*eP*		**Pn**	**10 26 57.6**	**+1.5**
CO05				*eS*		**Sn**	**10 27 27.8**	**+3.1**
CO05				IAML			10 27 35.1	
	comp=E,5μm,0.4s							
BO02	**Sierra Bellavi**	**2.66**	**161**			**Pn**	**10 27 01.8**	**+2.0**
BO02	**Sierra Bellavi**	**2.66**	**161**	*eP*		**Pn**	**10 27 01.4**	**+1.7**
BO02				*eS*		**Sb**	**10 27 37.6**	**-0.1**
ZON	**Zonda**	**2.78**	**76**			**Pn**	**10 27 04.6**	**+3.3**
RTCV	**Cerro Valdivia**	**2.83**	**83**	*eP*		**Pn**	**10 27 03.9**	**+1.9**
RTCV				*eS*		**Sb**	**10 27 42.5**	**+0.1**
ACCO	**Cerro Coronel**	**2.90**	**55**	*eP*		**Pn**	**10 27 06.9**	**+3.6**
ACCO				*eS*		**Sb**	**10 27 46.8**	**+2.0**
AROD	**Rodeo**	**2.92**	**45**	*eP*		**Pn**	**10 27 06.7**	**+3.2**
AROD				*eS*		**Sb**

WRA	**Warramunga Arr**	**122.35**	**209**	PKP		**PKPdf**	**10 45 11.7**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=145,slow=1.5,SNR=5.4								
H11S2	**WAKE ISLAND Hyd**	**25.95**	**270**	T		T	13 04 23.0		
	baz=118,slow=75,SNR=244								
H11S1	**WAKE ISLAND Hyd**	**25.96**	**270**	T		T	13 04 24.3		
	baz=118,slow=75,SNR=253								
H11S3	**WAKE ISLAND Hyd**	**25.97**	**270**	T		T	13 04 24.7		
	baz=118,slow=75,SNR=248								
H11N3	**WAKE ISLAND Hyd**	**26.32**	**272**	T		T	13 04 50.3		
	baz=117,slow=75,SNR=28								
H11N1	**WAKE ISLAND Hyd**	**26.33**	**272**	T		T	13 04 47.5		
	baz=117,slow=75,SNR=8.4								
H11N2	**WAKE ISLAND Hyd**	**26.34**	**272**	T		T	13 04 51.6		
	baz=117,slow=75,SNR=50								
BVAR	**Borovoye Array**	**145.89**	**41**	PKPbc		**PKPab**	**10 45 56.3**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=262,slow=7.3,SNR=14								
KURBB	**Kurchatov Arra**	**151.48**	**41**	PKPbc		**PKPbc**	**10 46 10.1**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=299,slow=3.0,SNR=18								
KURK	**Kurchatov**	**151.49**	**41**			**PKPbc**	**10 46 09.2**	**-0.5**
AAK	**Ala-Archa**	**151.51**	**59**	PKPbc		**PKiKP**	**10 46 11.6**	**+0.8**
	comp=Z,7.3nm,0.8s,baz=230,slow=1.6,SNR=16								
AAK	**Ala-Archa**	**151.51**	**59**			**PKPbc**	**10 46 10.1**	**-0.2**
ZALV	**Zalesovo Beam**	**152.67**	**31**	PKPbc		**PKiKP**	**10 46 12.8**	**+0.3**
	comp=Z,7.6nm,0.7s,baz=296,slow=2.7,SNR=22								
ZALV	**Zalesovo Beam**	**152.67**	**31**			**PKPbc**	**10 46 12.0**	**-0.3**
MKAR	**Makanchi Array**	**155.48**	**46**	PKPbc		PKPdf	10 46 17.9	+8.4	
	comp=Z,0.9nm,0.9s,baz=327,slow=3.3,SNR=6.1								
MKAR				PKPab		**PKPab**	**10 46 35.3**	**0.0**	
	comp=Z,2.9nm,0.8s,baz=293,slow=4.2,SNR=16								

WEL ***14*** *10:28:00, 42.26S× 173.05E, h11km, ML5.0, Mw4.8, Moment Tensor Solution. s13 Moment tensor: Scale 10^16 Nm; Mr0.13; Mθθ 1.19; Mϕϕ -1.33; Mrθ 0.60; Mθϕ -1.17; Mrϕ 0.22; Fault plane solution: M=1.84000×10^16 NP1: ϕs157.00000°, δ70.00000°, λ3.00000°. NP2: ϕs 66.00000°, δ87.00000°, λ160.00000°. Principal axes: T -1877.5200, Plg16.0000°, Azm20.0000°; N 1794.2500, Plg70.0000°, Azm237.0000°; P 83.2700, Plg12.0000°, Azm113.0000°;*

IDC ***14*** *10:28:00.8± 0.9, 42.59S× 173.39E, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.2/26, mbtmp4.4/10, ML4.2/2, MS3.9/28, Ms1 3.9/28, ms1mx3.8/48 Error ellipse: s-maj=25.4km s-min=18.4km az=122.0*

NEIC ***14*** *10:28:03.2± 1.9, 42.38S± 0.04× 173.14E± 0.07, h3km± 5km, mb4.4/13, ML5.0(WEL), Error ellipse: s-maj=8.1km s-min=5.2km az=120.0*

WEL ***14*** *10:28:04.2± 0.3, 42.5S± 2.7× 17.3E± , h9km± 3km, M5.0/21, ML5.2/21, MLv5.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5*

ISC 14 10:28:03.1±1.2, **42.36S**±0.03× **173.16E**±0.03, **h6**km±8km, **n258,** σ1**$34**/236, **mb4.4**/13, **MS3.9**/31, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.29**	**101**	P	**Pn**	**10 28 13.1**	**-0.7**
KHZ				S	**Sb**	**10 28 19.0**	**+3.4**
GVZ	**Greta Valley S**	**0.61**	**189**	P	**Pn**	**10 28 19.1**	**+0.8**
GVZ				S	**Sn**	**10 28 29.5**	**+1.0**
THZ	**Tophouse**	**0.63**	**342**	Pg	**Pg**	**10 28 14.8**	**-0.4**
THZ	**Tophouse**	**0.63**	**342**	P	**Pg**	**10 28 14.9**	**-0.2**
THZ				S	**Sg**	**10 28 21.3**	**-2.0**
LTZ	**Lake Taylor**	**0.78**	**237**	Pg	**Pb**	**10 28 19.1**	**0.0**
LTZ	**Lake Taylor**	**0.78**	**237**	P	**Pb**	**10 28 19.0**	**0.0**
LTZ				S	**Sg**	**10 28 28.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.84**	**40**		**Pb**	**10 28 20.5**	**+0.5**
BSWZ	**Blackbirch Sta**	**0.84**	**40**	P	**Pn**	**10 28 21.0**	**-0.4**
AMCZ	**Amberley**	**0.90**	**204**	P	**Pn**	**10 28 20.4**	**+1.3**
AMCZ				S	**Sn**	**10 28 37.9**	**+2.5**
CMWZ	**Cape Campbell**	**1.00**	**52**		**Pn**	**10 28 25.1**	**+1.6**
CMWZ	**Cape Campbell**	**1.00**	**52**	P	**Pn**	**10 28 25.1**	**+1.6**
MRNZ	**Matariki Terra**	**1.01**	**343**	P	**Pg**	**10 28 21.7**	**-0.6**
MRNZ				S	**Sg**	**10 28 34.7**	**-0.8**
TUWZ	**Tuamarina**	**1.10**	**32**		**Pg**	**10 28 24.4**	**+0.3**
TUWZ	**Tuamarina**	**1.10**	**32**	P	**Pg**	**10 28 24.4**	**+0.3**
NNZ	**Nelson**	**1.16**	**8**		**Pg**	**10 28 24.2**	**-1.0**
NNZ	**Nelson**	**1.16**	**8**	P	**Pg**	**10 28 24.2**	**-1.0**
NNZ				S	**Sg**	**10 28 40.3**	**+0.1**
DSZ	**Denniston Nort**	**1.18**	**301**	P	**Pg**	**10 28 25.1**	**-0.6**
OXZ	**Oxford**	**1.27**	**220**		**Pn**	**10 28 27.4**	**0.0**
OXZ	**Oxford**	**1.27**	**220**	P	**Pn**	**10 28 27.3**	**0.0**
OXZ				S	**Sn**	**10 28 45.0**	**+0.4**
INZ	**Inchbonnie**	**1.32**	**253**	P	**Pn**	**10 28 27.5**	**-0.4**
INZ				S	**Sg**	**10 28 45.1**	**-0.4**
TKNZ	**Takaka Hill**	**1.33**	**354**	P	**Pn**	**10 28 27.5**	**-0.7**
MQZ	**McQueen's Vall**	**1.39**	**195**		**Pb**	**10 28 29.2**	**-0.2**
MQZ	**McQueen's Vall**	**1.39**	**195**	P	**Pb**	**10 28 29.1**	**-0.3**
TCW	**Tory Channel**	**1.42**	**36**	P	**Pn**	**10 28 29.5**	**+0.1**
TCW				S	**Sg**	**10 28 49.8**	**+1.0**
AKCZ	**Akaroa Harbour**	**1.52**	**187**	P	**Pn**	**10 28 31.4**	**-0.2**
RACZ	**Rakaia**	**1.56**	**208**	P	**Pn**	**10 28 31.5**	**+0.3**
SNZO	**South Karori**	**1.56**	**48**		**Pb**	**10 28 32.5**	**+0.2**
BHW	**Baring Head**	**1.59**	**54**		**Pb**	**10 28 32.8**	**-0.1**
BHW	**Baring Head**	**1.59**	**54**	P	**Pb**	**10 28 32.7**	**-0.1**
QRZ	**Quartz Range**	**1.61**	**343**	Pn	**Pn**	**10 28 31.9**	**0.0**
QRZ	**Quartz Range**	**1.61**	**343**	P	**Pn**	**10 28 31.5**	**-0.4**
WEL	**Wellington**	**1.61**	**49**	P	**Pb**	**10 28 33.2**	**0.0**
MHCZ	**Mount Hutt**	**1.65**	**224**	P	**Pn**	**10 28 32.8**	**+0.1**
DUWZ	**D'Urville Isla**	**1.66**	**20**	P	**Pn**	**10 28 32.6**	**-0.1**
PLWZ	**Palliser**	**1.75**	**64**		**Pn**	**10 28 34.5**	**+0.5**
PLWZ	**Palliser**	**1.75**	**64**	P	**Pn**	**10 28 34.5**	**+0.5**
MSWZ	**Moikau Station**	**1.82**	**60**		**Pn**	**10 28 35.6**	**+0.7**
MSWZ	**Moikau Station**	**1.82**	**60**	P	**Pn**	**10 28 35.5**	**+0.6**
WACZ	**Wakanui South**	**1.85**	**211**	P	**Pn**	**10 28 35.4**	**+0.1**
CAW	**Cannon Point**	**1.90**	**49**	P	**Pn**	**10 28 36.8**	**+0.8**
WVZ	**Waitaha Valley**	**1.92**	**247**	P	**Pn**	**10 28 36.7**	**+0.5**
PAWZ	**Paruwai Farm**	**1.96**	**61**	P	**Pn**	**10 28 37.3**	**+0.6**
KIW	**Kapiti Island**	**1.99**	**42**	P	**Pn**	**10 28 38.4**	**+1.1**
RPZ	**Rata Peaks**	**2.05**	**228**	Pn	**Pn**	**10 28 37.6**	**-0.5**
	106nm,0.3s,baz=273,slow=1.1,SNR=843						
RPZ				Sn	**Sn**	**10 29 03.0**	**-1.0**
	233nm,0.3s,baz=143,slow=22,SNR=27						
RPZ	**Rata Peaks**	**2.05**	**228**	Pn	**Pn**	**10 28 37.7**	**-0.4**
RPZ	**Rata Peaks**	**2.05**	**228**	P	**Pn**	**10 28 37.6**	**-0.5**
TRWZ	**Traveller**	**2.12**	**64**	P	**Pn**	**10 28 39.1**	**+0.1**
MTW	**Mount Morrison**	**2.13**	**56**	P	**Pn**	**10 28 39.2**	**+0.1**
ARCZ	**Arundel**	**2.13**	**222**	P	**Pn**	**10 28 38.9**	**-0.5**
OGWZ	**Otaki Gorge**	**2.16**	**45**	P	**Pn**	**10 28 40.3**	**+0.8**
GCSZ	**Gaunt Creek Bo**	**2.29**	**244**	P	**Pn**	**10 28 41.9**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.29**	**51**	P	**Pn**	**10 28 41.5**	**+0.1**
TMWZ	**Te Maipa**	**2.40**	**59**	P	**Pn**	**10 28 42.8**	**-0.1**
MRZ	**Mangatainoka R**	**2.49**	**48**	P	**Pn**	**10 28 44.3**	**+0.3**
TMZ	**Timaru**	**2.56**	**217**	P	**Pn**	**10 28 44.7**	**-0.4**
TIWZ	**Tintock**	**2.59**	**53**	P	**Pn**	**10 28 45.6**	**+0.1**
OHWZ	**Ohakea**	**2.70**	**38**	P	**Pn**	**10 28 48.6**	**+1.7**
CPWZ	**Castlepoint**	**2.70**	**59**	P	**Pn**	**10 28 48.3**	**+1.3**
FOZ	**Fox Glacier**	**2.72**	**243**	Pn	**Pn**	**10 28 47.5**	**+0.3**
FOZ	**Fox Glacier**	**2.72**	**243**	P	**Pn**	**10 28 47.5**	**+0.3**
POWZ	**Post Office Ro**	**2.78**	**46**	P	**Pn**	**10 28 48.2**	**+0.1**
PRWZ	**Pori Road**	**2.78**	**50**	P	**Pn**	**10 28 47.9**	**-0.1**
BFZ	**Birch Farm**	**2.86**	**55**		**Pn**	**10 28 48.7**	**-0.5**
BFZ	**Birch Farm**	**2.86**	**55**	P	**Pn**	**10 28 48.4**	**-0.8**
WAZ	**Wanganui**	**2.95**	**29**	P	**Pn**	**10 28 52.1**	**+1.7**
LBZ	**Lake Benmore**	**2.96**	**226**	Pn	**Pn**	**10 28 50.7**	**+0.1**
LBZ	**Lake Benmore**	**2.96**	**226**	P	**Pn**	**10 28 50.4**	**-0.3**
NMEZ	**Namu Road**	**3.00**	**11**	P	**Pn**	**10 28 52.9**	**+1.9**
LREZ	**Lake Rotokare**	**3.05**	**18**	P	**Pn**	**10 28 54.4**	**+2.7**
DVHZ	**Dannevirke**	**3.06**	**49**	P	**Pn**	**10 28 51.2**	**-0.7**
PREZ	**Palmer Road**	**3.11**	**14**	P	**Pn**	**10 28 54.5**	**+1.9**
TSZ	**Takapari Road**	**3.12**	**44**	P	**Pn**	**10 28 52.7**	**-0.1**
KHEZ	**Kahui Hut**	**3.13**	**12**	P	**Pn**	**10 28 54.6**	**+1.6**
ANWZ	**Angora Road**	**3.14**	**54**	P	**Pn**	**10 28 52.0**	**-0.9**
NBEZ	**Newall Road No**	**3.14**	**10**	P	**Pn**	**10 28 54.7**	**+1.7**
NEZ	**North Egmont**	**3.17**	**13**	P	**Pn**	**10 28 55.0**	**+1.5**
PKE	**Pukeiti**	**3.23**	**12**	P	**Pn**	**10 28 55.9**	**+1.6**
ODZ	**Otahua Downs**	**3.24**	**213**	Pn	**Pn**	**10 28 54.1**	**-0.3**
ODZ	**Otahua Downs**	**3.24**	**213**	P	**Pn**	**10 28 53.9**	**-0.5**
DREZ	**Durham Road**	**3.27**	**14**	P	**Pn**	**10 28 56.5**	**+1.7**
PRHZ	**Porangahau**	**3.35**	**53**	P	**Pn**	**10 28 54.8**	**-1.1**
PNHZ	**Pukenui**	**3.35**	**44**	P	**Pn**	**10 28 55.5**	**-0.5**
WPHZ	**Waipukurau**	**3.38**	**48**	P	**Pn**	**10 28 55.5**	**-0.7**
MHEZ	**Mangahewa**	**3.40**	**15**	P	**Pn**	**10 28 58.6**	**+2.0**
MTVZ	**Mangateitei**	**3.45**	**31**	P	**Pn**	**10 28 59.5**	**+2.2**
VRZ	**Vera Road**	**3.46**	**21**	P	**Pn**	**10 28 59.5**	**+2.1**
PKVZ	**Pokaka**	**3.49**	**29**	P	**Pn**	**10 28 59.1**	**+1.2**
MOVZ	**Moawhango**	**3.55**	**35**	P	**Pn**	**10 28 59.3**	**+0.6**
WNVZ	**Wahianoa**	**3.55**	**32**	P	**Pn**	**10 29 00.2**	**+1.4**
TRVZ	**Turoa**	**3.56**	**31**	P	**Pn**	**10 29 00.3**	**+1.4**
DRZ	**Dome Shelter**	**3.58**	**31**	P	**Pn**	**10 29 00.9**	**+1.5**
WHVZ	**Whangaehu Hut**	**3.59**	**32**	P	**Pn**	**10 29 00.7**	**+1.3**
FWVZ	**Far West T-bar**	**3.60**	**31**	P	**Pn**	**10 29 00.8**	**+1.3**
BHHZ	**Black Hill Sta**	**3.62**	**38**	P	**Pn**	**10 28 59.9**	**+0.3**
JCZ	**Jackson Bay**	**3.62**	**240**	P	**Pn**	**10 28 59.8**	**0.0**
TUVZ	**Tukino**	**3.62**	**32**	P	**Pn**	**10 29 01.1**	**+1.2**
PXZ	**Pawanui**	**3.64**	**51**	P	**Pn**	**10 28 58.5**	**-1.4**
KRHZ	**Kereru**	**3.64**	**43**	P	**Pn**	**10 28 59.3**	**-0.7**
NGZ	**Ngauruhoe**	**3.68**	**31**	P	**Pn**	**10 29 01.9**	**+1.3**
SNVZ	**South Ngauruho**	**3.69**	**32**	P	**Pn**	**10 29 02.1**	**+1.3**
TWVZ	**Taurewa**	**3.72**	**29**	P	**Pn**	**10 29 02.3**	**+1.3**
OTVZ	**Oturere**	**3.72**	**32**	P	**Pn**	**10 29 02.5**	**+1.3**
NNVZ	**North Ngauruho**	**3.73**	**31**	P	**Pn**	**10 29 02.5**	**+1.3**
WTVZ	**West Tongariro**	**3.73**	**30**	P	**Pn**	**10 29 02.5**	**+1.2**
ETVZ	**East Tongariro**	**3.76**	**32**	P	**Pn**	**10 29 02.8**	**+1.1**
KRVZ	**Karewarewa**	**3.77**	**31**	P	**Pn**	**10 29 03.4**	**+2.0**
TMVZ	**Te Maari**	**3.77**	**32**	P	**Pn**	**10 29 03.0**	**+1.1**
NTVZ	**North Tongarir**	**3.78**	**31**	P	**Pn**	**10 29 03.2**	**+1.3**
KAHZ	**Kahuranaki**	**3.81**	**49**	P	**Pn**	**10 29 01.1**	**-1.1**
KWHZ	**Kaweka Forest**	**3.84**	**41**	P	**Pn**	**10 29 02.1**	**-0.6**
WKZ	**Wanaka**	**3.89**	**229**	P	**Pn**	**10 29 02.1**	**-1.2**
KATZ	**Kakaramea**	**3.89**	**31**	P	**Pn**	**10 29 07.0**	**+3.5**
RITZ	**Rihia Road**	**3.96**	**32**	P	**Pb**	**10 29 09.4**	**-3.8**
MCHZ	**McNeill Hill**	**3.96**	**44**	P	**Pn**	**10 29 03.5**	**-0.8**
HHSZ	**Highcliff Hill**	**3.98**	**207**	P	**Pn**	**10 29 04.5**	**0.0**
EAZ	**Earnscleugh**	**4.00**	**223**	P	**Pn**	**10 29 04.0**	**-0.9**
CKHZ	**Cape Kidnapper**	**4.01**	**49**	P	**Pn**	**10 29 06.2**	**+1.2**
RATZ	**Rangitukua**	**4.02**	**31**	P	**Pn**	**10 29 06.7**	**+1.6**
HIZ	**Hauiti**	**4.06**	**19**	Pn	**Pn**	**10 29 06.8**	**+1.2**
HIZ	**Hauiti**	**4.06**	**19**	P	**Pn**	**10 29 06.8**	**+1.2**
BKZ	**Black Stump Fm**	**4.07**	**40**		**Pn**	**10 29 05.3**	**-0.7**
BKZ	**Black Stump Fm**	**4.07**	**40**	P	**Pn**	**10 29 05.0**	**-0.9**
HATZ	**Hinemaiaia**	**4.12**	**34**	P	Pn	10 29 11.4	+4.8
WAIZ	**Wairara**	**4.14**	**29**	P	**Pn**	**10 29 08.1**	**+1.2**
ARHZ	**Arapaoanui**	**4.25**	**45**	P	**Pn**	**10 29 07.6**	**-0.6**
WHTZ	**Whakaora**	**4.26**	**31**	P	**Pn**	**10 29 11.8**	**+3.3**
NMHZ	**Naumai**	**4.28**	**42**	P	**Pn**	**10 29 07.9**	**-0.9**
MRHZ	**Matea Rd**	**4.31**	**36**	P	**Pn**	**10 29 08.3**	**-0.9**
KUTZ	**Kaahu Road**	**4.37**	**29**	P	**Pn**	**10 29 11.8**	**+1.9**
TUZ	**Tuapeka**	**4.40**	**214**	P	**Pn**	**10 29 10.1**	**-0.2**
TLZ	**Tolley Road**	**4.42**	**25**	P	**Pn**	**10 29 11.4**	**+0.8**
MSZ	**Milford Sound**	**4.45**	**237**	P	**Pn**	**10 29 13.0**	**+2.0**
WPRZ	**Whakapapatarin**	**4.47**	**32**	P	**Pn**	**10 29 11.3**	**-0.1**
MTHZ	**Maungataniwha**	**4.49**	**40**	P	**Pn**	**10 29 10.3**	**-1.3**
ALRZ	**Allen Road**	**4.51**	**34**	P	**Pn**	**10 29 11.4**	**-0.4**
ALRZ					P	**Pn**	**10 29 12.4**	**+0.6**
WHHZ	**Waihua**	**4.51**	**45**	P	**Pn**	**10 29 11.4**	**-0.5**
RAHZ	**Arahi**	**4.56**	**42**	P	**Pn**	**10 29 11.2**	**-1.3**
PRRZ	**Plateau Road**	**4.58**	**34**	P	**Pn**	**10 29 12.2**	**-0.6**
GRRZ	**Galatos Road**	**4.60**	**30**	P	**Pn**	**10 29 13.9**	**+0.8**
HRRZ	**Handcock Road**	**4.63**	**32**	P	**Pn**	**10 29 13.9**	**+0.4**
HSRZ	**Hossack Road**	**4.68**	**31**	P	**Pn**	**10 29 15.7**	**+1.5**
MLZ	**Mavora Lakes**	**4.72**	**229**	P	**Pn**	**10 29 13.5**	**-1.3**
RTZ	**Ruatahuna**	**4.74**	**39**	P	**Pn**	**10 29 14.0**	**-1.1**
MUGZ	**Murupara**	**4.76**	**37**	P	**Pn**	**10 29 14.0**	**-1.3**
RRRZ	**Republican Roa**	**4.77**	**34**	P	**Pn**	**10 29 17.1**	**+1.7**
UTU	**Utuhina**	**4.78**	**30**	P	**Pn**	**10 29 18.4**	**+2.9**
SNGZ	**Shannon Statio**	**4.79**	**43**	P	**Pn**	**10 29 14.0**	**-1.7**
MHGZ	**Mahia Peninsul**	**4.82**	**50**	P	**Pn**	**10 29 14.5**	**-1.6**
NGRZ	**Ngongotaha**	**4.84**	**30**	P	**Pn**	**10 29 18.1**	**+1.6**
TARZ	**Mount Tarawera**	**4.85**	**33**	P	**Pn**	**10 29 17.3**	**+0.6**
OMRZ	**Omania**	**4.91**	**31**	P	**Pn**	**10 29 18.5**	**+1.1**
MKRZ	**Makatiti**	**4.92**	**32**	P	Pb	10 29 24.4	-5.2
KARZ	**Kaharoa**	**4.94**	**30**	P	**Pn**	**10 29 19.1**	**+1.3**
TOZ	**Tahuroa Road**	**4.96**	**22**	P	**Pn**	**10 29 19.2**	**+1.1**
KMRZ	**Kaimai**	**4.99**	**26**	P	**Pn**	**10 29 19.7**	**+1.2**
LIRZ	**Lichensteins R**	**5.00**	**31**	P	Pb	10 29 25.6	-5.4
SYZ	**Scrubby Hill**	**5.07**	**213**	P	**Pn**	**10 29 19.2**	**-0.3**
URZ	**Urewera**	**5.09**	**38**	Pn	**Pn**	**10 29 17.6**	**-2.2**
	6.9nm,0.3s,baz=228,slow=6.5,SNR=52						
URZ				Sn	**Sn**	**10 30 16.5**	**-2.3**
	84nm,0.3s,baz=76,slow=17,SNR=7.6						
URZ	**Urewera**	**5.09**	**38**	Pn	**Pn**	**10 29 17.9**	**-2.0**
MARZ	**Manawahe**	**5.13**	**33**	P	**Pn**	**10 29 20.6**	**+0.2**
WHZ	**Wether Hill Ro**	**5.15**	**225**	P	**Pn**	**10 29 18.7**	**-2.0**
TGRZ	**Tauranga**	**5.20**	**28**	P	**Pn**	**10 29 21.7**	**+0.4**
OPRZ	**Ohinepanea**	**5.21**	**31**	P	**Pn**	**10 29 20.8**	**-0.6**
DCZ	**Deep Cove**	**5.33**	**232**		**Pn**	**10 29 22.2**	**-0.9**
DCZ	**Deep Cove**	**5.33**	**232**	P	**Pn**	**10 29 23.3**	**+0.2**
WHRZ	**Whale Island**	**5.37**	**34**	P	**Pn**	**10 29 28.1**	**+4.5**
AWAZ	**Awhitu Peninsu**	**5.41**	**13**	P	**Pn**	**10 29 25.5**	**+1.3**
CNGZ	**Carnagh Statio**	**5.46**	**47**	P	**Pn**	**10 29 22.9**	**-2.0**
WTAZ	**Waiatarua**	**5.53**	**12**	P	**Pn**	**10 29 27.4**	**+1.5**
ETAZ	**East Tamaki Re**	**5.57**	**15**	P	**Pn**	**10 29 27.6**	**+1.2**
TWGZ	**Tauwhareparae**	**5.57**	**43**	P	**Pn**	**10 29 24.7**	**-1.8**
RUGZ	**Raukumara Rang**	**5.59**	**40**	P	**Pn**	**10 29 24.8**	**-2.0**
MYRZ	**Mayor Island**	**5.60**	**26**	P	**Pn**	**10 29 28.0**	**+1.1**
EPAZ	**Eden Park BICE**	**5.61**	**13**	P	**Pn**	**10 29 28.7**	**+1.7**
HBAZ	**Herne Bay Bore**	**5.64**	**13**	P	**Pn**	**10 29 28.8**	**+1.5**
RVAZ	**Riverhead Bore**	**5.69**	**12**	P	**Pn**	**10 29 29.3**	**+1.2**
MBAZ	**Motutapu North**	**5.75**	**14**	P	**Pn**	**10 29 29.9**	**+1.1**
WIAZ	**Waiheke Island**	**5.77**	**16**	P	**Pn**	**10 29 30.4**	**+1.3**
APZ	**The Paps**	**5.79**	**218**	P	**Pn**	**10 29 28.6**	**-0.9**
HAZ	**Te Kaha**	**5.81**	**39**	P	**Pn**	**10 29 27.7**	**-2.0**
PKGZ	**Pakihiroa**	**5.84**	**42**	P	**Pn**	**10 29 28.4**	**-1.8**
ABAZ	**Army Bay**	**5.90**	**13**	P	**Pn**	**10 29 32.1**	**+1.2**
KUZ	**Kuaotunu**	**5.95**	**20**	P	**Pn**	**10 29 32.0**	**+0.4**
PYZ	**Puysegur Point**	**6.01**	**229**	Pn	**Pn**	**10 29 31.9**	**-0.5**
PYZ	**Puysegur Point**	**6.01**	**229**	P	**Pn**	**10 29 34.1**	**+1.7**
MXZ	**Matakaoa Point**	**6.21**	**41**	Pn	**Pn**	**10 29 34.6**	**-0.6**
GRZ	**Great Barrier**	**6.36**	**17**	P	**Pn**	**10 29 35.4**	**+1.2**
WCZ	**Waipu Caves**	**6.48**	**9**	P	**Pn**	**10 29 40.0**	**+1.1**
OUZ	**Omahuta**	**7.14**	**3**	Pn	**Pn**	**10 29 48.5**	**+0.6**
OUZ	**Omahuta**	**7.14**	**3**	P	**Pn**	**10 29 48.9**	**+1.0**
CTZ	**Chatham Island**	**7.61**	**104**	P	**Pn**	**10 29 54.1**	**-0.4**
NFK	**Norfolk Island**	**13.95**	**341**	P	**Pn**	**10 31 24.0**	**+2.9**
	baz=14						
ARMA	**Armidale**	**20.97**	**298**	P	Pn	10 32 48.5	-1.0
	baz=21						
ARMA	**Armidale**	**20.97**	**298**	P	**P**	**10 32 48.2**	**+1.2**
ARMA				IAmb	IAmb	10 33 08.4	
	comp=Z,21nm,1.2s						
DZM	**Mont Dzumac**	**21.00**	**342**	P	**P**	**10 32 49.7**	**+2.4**
	comp=Z,9.4nm,0.9s,baz=146,slow=13,SNR=3.9						
DZM				LR	LR	10 40 17.3	
	comp=Z,295nm,18.6s,baz=182,slow=35						
DZM	**Mont Dzumac**	**21.00**	**342**	*e*P	**P**	**10 32 51.2**	**+3.9**
	comp=Z,80nm,1.1s						
DZM				*e*LR	LR	10 38 01.9	
	comp=Z,514nm,26.7s						
DZM	**Mont Dzumac**	**21.00**	**342**	P	**P**	**10 32 49.0**	**+1.7**
TOO	**Toolangi**	**21.69**	**273**	P	**P**	**10 32 56.9**	**+2.3**
TOO				IAmb	IAmb	10 33 14.0	
	comp=Z,16nm,1.1s						
CMSA	**Cobar Meteorol**	**24.36**	**287**	P	**P**	**10 33 22.4**	**+0.6**
	baz=24						
EIDS	**Eidsvold**	**24.85**	**306**	P	**P**	**10 33 25.6**	**-0.7**
MSVF	**Nonsavu**	**24.90**	**11**	P	**P**	**10 33 28.5**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=180,slow=20,SNR=2.4						
MSVF				LR	LR	10 42 39.6	
	comp=Z,414nm,19.1s,baz=202,slow=35						
STKA	**Stephens Creek**	**27.12**	**282**	P	**P**	**10 33 48.2**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=148,slow=5.1,SNR=3.5						
STKA				LR	LR	10 42 48.5	
	comp=Z,183nm,20.4s,baz=157,slow=32						
STKA	**Stephens Creek**	**27.12**	**282**	P	**P**	**10 33 47.4**	**+0.7**
CTA	**Charters Tower**	**31.74**	**306**	LR	LR	10 45 33.5	
	comp=Z,205nm,19.6s,baz=106,slow=33						
VNDA	**Vanda**	**35.58**	**184**	P	**P**	**10 34 57.0**	**-3.6**
	comp=Z,3.7nm,0.5s,baz=329,slow=3.3,SNR=22						
VNDA	**Vanda**	**35.58**	**184**	IAmb	IAmb	10 34 59.9	
	comp=Z,5.3nm,0.7s						
TBI	**Tubuai**	**36.31**	**70**	*e*LR	LR	10 44 42.6	
	comp=Z,224nm,24.2s						
TBI	**Tubuai**	**36.31**	**70**	*e*T	T	11 12 57.9	
	comp=Z,28nm,0.3s						
AS31	**Alice Springs**	**37.42**	**287**	P	**P**	**10 35 16.8**	**-0.2**
ASAR	**Alice Springs**	**37.42**	**287**	P	**P**	**10 35 16.5**	**-0.5**
	comp=Z,13nm,1.4s,baz=124,slow=6.8,SNR=14						
ASAR				LR	LR	10 49 11.0	
	comp=Z,124nm,21.3s,baz=142,slow=34						
ASAR	**Alice Springs**	**37.42**	**287**	P	**P**	**10 35 17.8**	**+0.7**
WR0	**Warramunga Arr**	**39.42**	**292**	P	**P**	**10 35 33.9**	**+0.1**
WR0				IAmb	IAmb	10 35 51.5	
	comp=Z,24nm,1.5s						
WB2	**Warramunga Arr**	**39.56**	**292**	P	**P**	**10 35 35.3**	**+0.3**
	baz=40						
WB2	**Warramunga Arr**	**39.56**	**292**	P	**P**	**10 35 35.4**	**+0.4**
WB2				IAmb	IAmb	10 35 44.2	
	comp=Z,6.7nm,0.8s						
WRAB	**Tennant Creek**	**39.57**	**292**	P	**P**	**10 35 36.3**	**+1.3**
WRAB				IAmb	IAmb	10 35 59.2	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**39.57**	**292**	P	**P**	**10 35 34.8**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=126,slow=8.3,SNR=14						
WRA				LR	LR	10 51 40.8	
	comp=Z,190nm,19.6s,baz=114,slow=36						
WRA	**Warramunga Arr**	**39.57**	**292**	P	**P**	**10 35 35.5**	**+0.5**
WB0	**Warramunga Arr**	**39.65**	**292**	P	**P**	**10 35 35.6**	**-0.1**
WB0				IAmb	IAmb	10 35 44.9	
	comp=Z,5.4nm,0.7s						
PMG	**Port Moresby**	**39.98**	**318**	LR	LR	10 50 21.5	
	comp=Z,404nm,20.1s,baz=158,slow=33						
PAE	**Paea**	**40.11**	**64**	*e*T	T	11 17 47.3	
	comp=Z,4.6nm,0.3s						
PPT2	**Papeete2**	**40.16**	**64**	*e*LR	LR	10 46 39.4	
	comp=Z,218nm,24.0s						
PPT2	**Papeete2**	**40.16**	**64**	*e*T	T	11 17 52.0	
	comp=Z,4.0nm,0.3s						
PPT	**Papeete**	**40.17**	**64**	LR	LR	10 51 27.7

MTW	**Mount Morrison**	**2.11**	**58**	P		**Pn**	10 36 41.7	**-0.2**
TRWZ	**Traveller**	**2.11**	**65**	P		**Pn**	10 36 41.6	**-0.3**
OGWZ	**Otaki Gorge**	**2.14**	**46**	P		**Pn**	10 36 42.9	**+0.7**
ARCZ	**Arundel**	**2.17**	**221**	P		**Pn**	10 36 41.7	**-1.1**
HOWZ	**Holdsworth Sta**	**2.28**	**52**	P		**Pn**	10 36 44.1	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.30**	**243**	P		**Pn**	10 36 44.8	**+0.3**
TMWZ	**Te Maipa**	**2.39**	**61**	P		**Pn**	10 36 45.4	**-0.4**
MRZ	**Mangatainoka R**	**2.47**	**49**	P		**Pn**	10 36 46.9	**+0.1**
TIWZ	**Tintock**	**2.57**	**54**	P		**Pn**	10 36 48.7	**+0.5**
TMZ	**Timaru**	**2.59**	**216**	P		**Pn**	10 36 47.4	**-1.1**
OHWZ	**Ohakea**	**2.67**	**39**	P		**Pn**	10 36 51.2	**+1.7**
FOZ	**Fox Glacier**	**2.73**	**242**			**Pn**	10 36 50.7	**+0.4**
FOZ	**Fox Glacier**	**2.73**	**242**	P		**Pn**	10 36 50.5	**+0.2**
POWZ	**Post Office Ro**	**2.77**	**47**	P		**Pn**	10 36 50.5	**+0.1**
PRWZ	**Pori Road**	**2.76**	**52**	P		**Pn**	10 36 50.6	**-0.3**
BFZ	**Birch Farm**	**2.85**	**56**			**Pn**	10 36 53.0	**+0.9**
BFZ	**Birch Farm**	**2.85**	**56**	P		**Pn**	10 36 50.9	**-1.1**
WAZ	**Wanganui**	**2.91**	**29**	P		**Pn**	10 36 55.3	**+2.4**
NMEZ	**Namu Road**	**2.95**	**11**	P		**Pn**	10 36 55.4	**+2.0**
LBZ	**Lake Benmore**	**2.99**	**225**	Pn		**Pn**	10 36 53.7	**-0.2**
LBZ	**Lake Benmore**	**2.99**	**225**	P		**Pn**	10 36 53.1	**-0.9**
LREZ	**Lake Rotokare**	**3.00**	**19**	P		**Pn**	10 36 57.2	**+3.0**
DVHZ	**Dannevirke**	**3.04**	**50**	P		**Pn**	10 36 53.9	**-0.8**
PREZ	**Palmer Road**	**3.06**	**15**	P		**Pn**	10 36 57.1	**+2.1**
KHEZ	**Kahui Hut**	**3.09**	**13**	P		**Pn**	10 36 57.3	**+2.0**
NBEZ	**Newall Road No**	**3.09**	**11**	P		**Pn**	10 36 57.4	**+2.1**
TSZ	**Takapari Road**	**3.10**	**44**	P		**Pn**	10 36 55.3	**-0.3**
ANWZ	**Angora Road**	**3.12**	**55**	P		**Pn**	10 36 55.0	**-0.7**
NEZ	**North Egmont**	**3.12**	**14**	P		**Pn**	10 36 58.2	**+2.3**
PKE	**Pukeiti**	**3.18**	**12**	P		**Pn**	10 36 58.6	**+2.0**
DREZ	**Durham Road**	**3.22**	**15**	P		**Pn**	10 36 59.1	**+1.9**
ODZ	**Otahua Downs**	**3.28**	**213**	Pn		**Pn**	10 36 57.0	**-0.8**
ODZ	**Otahua Downs**	**3.28**	**213**	P		**Pn**	10 36 56.6	**-1.3**
PNHZ	**Pukenui**	**3.33**	**45**	P		**Pn**	10 36 58.1	**-0.6**
PRHZ	**Porangahau**	**3.34**	**53**	P		**Pn**	10 36 58.0	**-0.7**
MHEZ	**Mangahewa**	**3.35**	**16**	P		**Pn**	10 37 01.3	**+2.4**
WPHZ	**Waipukurau**	**3.35**	**49**	P		**Pn**	10 36 58.2	**-0.8**
VRZ	**Vera Road**	**3.41**	**22**	P		**Pn**	10 37 02.3	**+2.5**
MTVZ	**Mangateitei**	**3.42**	**32**	P		**Pn**	10 37 02.7	**+2.8**
PKVZ	**Pokaka**	**3.45**	**30**	P		**Pn**	10 37 02.4	**+2.0**
MOVZ	**Moawhango**	**3.52**	**35**	P		**Pn**	10 37 02.2	**+0.9**
WNVZ	**Wahianoa**	**3.52**	**33**	P		**Pn**	10 37 02.7	**+1.4**
TRVZ	**Turoa**	**3.52**	**32**	P		**Pn**	10 37 02.9	**+1.4**
DRZ	**Dome Shelter**	**3.55**	**32**	P		**Pn**	10 37 04.2	**+2.3**
WHVZ	**Whangaehu Hut**	**3.55**	**32**	P		**Pn**	10 37 03.4	**+1.5**
FWVZ	**Far West T-bar**	**3.56**	**32**	P		**Pn**	10 37 03.3	**+1.3**
BHHZ	**Black Hill Sta**	**3.59**	**39**	P		**Pn**	10 37 02.8	**+0.5**
TUVZ	**Tukino**	**3.59**	**33**	P		**Pn**	10 37 03.7	**+1.3**
KRHZ	**Kereru**	**3.62**	**44**	P		**Pn**	10 37 02.5	**-0.6**
PXZ	**Pawanui**	**3.62**	**52**	P		**Pn**	10 37 01.1	**-1.5**
JCZ	**Jackson Bay**	**3.63**	**240**	P		**Pn**	10 37 05.2	**-0.4**
NGZ	**Ngauruhoe**	**3.65**	**32**	P		**Pn**	10 37 04.6	**+1.5**
SNVZ	**South Ngauruho**	**3.66**	**32**	P		**Pn**	10 37 05.0	**+1.7**
TWVZ	**Taurewa**	**3.68**	**29**	P		**Pn**	10 37 01.4	**-2.1**
OTVZ	**Oturere**	**3.69**	**32**	P		**Pn**	10 37 05.2	**+1.5**
NNVZ	**North Ngauruho**	**3.69**	**32**	P		**Pn**	10 37 05.1	**+1.4**
WTVZ	**West Tongariro**	**3.70**	**31**	P		**Pn**	10 37 05.2	**+1.4**
ETVZ	**East Tongariro**	**3.73**	**33**	P		**Pn**	10 37 05.4	**+1.2**
KRVZ	**Karewarewa**	**3.73**	**32**	P		**Pn**	10 37 08.5	**+4.2**
TMVZ	**Te Maari**	**3.74**	**32**	P		**Pn**	10 37 05.6	**+1.2**
NTVZ	**North Tongarir**	**3.75**	**32**	P		**Pn**	10 37 06.0	**+1.5**
KAHZ	**Kahuranaki**	**3.79**	**50**	P		**Pn**	10 37 04.0	**-1.0**
KWHZ	**Kaweka Forest**	**3.81**	**42**	P		**Pn**	10 37 04.9	**-0.4**
WKZ	**Wanaka**	**3.91**	**229**	Pn		**Pn**	10 37 06.0	**-0.6**
WKZ	**Wanaka**	**3.91**	**229**	P		**Pn**	10 37 05.2	**-1.4**
MCHZ	**McNeill Hill**	**3.94**	**45**	P		**Pn**	10 37 06.2	**-0.8**
RATZ	**Rangitukua**	**3.98**	**37**	P		**Pn**	10 37 11.3	**+3.6**
HHSZ	**Highcliff Hill**	**4.01**	**206**	P		**Pn**	10 37 07.0	**-1.1**
HIZ	**Hauiti**	**4.01**	**20**	Pn		**Pn**	10 37 09.1	**+1.1**
HIZ	**Hauiti**	**4.01**	**20**	P		**Pn**	10 37 09.4	**+1.4**
EAZ	**Earnscleugh**	**4.03**	**222**	P		**Pn**	10 37 06.6	**-1.6**
BKZ	**Black Stump Fm**	**4.05**	**40**			**Pn**	10 37 09.3	**+0.8**
BKZ	**Black Stump Fm**	**4.05**	**40**	P		**Pn**	10 37 07.6	**-0.9**
HATZ	**Hinemaiaia**	**4.09**	**34**	P		**Pb**	10 37 16.5	**-2.0**
WATZ	**Wairara**	**4.11**	**30**	P		**Pn**	10 37 12.7	**+3.3**
ARHZ	**Aropaoanui**	**4.23**	**45**	P		Pb	10 37 16.5	-4.2
NMHZ	**Naumai**	**4.25**	**42**	P		**Pn**	10 37 10.8	**-0.6**
MRHZ	**Matea Rd**	**4.28**	**37**	P		**Pn**	10 37 11.0	**-0.7**
KUTZ	**Kaahu Road**	**4.33**	**29**	P		Pn	10 37 17.7	+5.3
TLZ	**Tolley Road**	**4.38**	**26**	P		**Pn**	10 37 14.3	**+1.2**
TUZ	**Tuapeka**	**4.43**	**213**	P		**Pn**	10 37 12.9	**-0.8**
WPRZ	**Whakapapatarin**	**4.44**	**32**	P		**Pn**	10 37 18.6	**+4.7**
MTHZ	**Maungataniwha**	**4.46**	**40**	P		**Pn**	10 37 14.1	**-0.1**
MSZ	**Milford Sound**	**4.46**	**236**	P		**Pn**	10 37 13.9	**-0.3**
ALRZ	**Allen Road**	**4.47**	**34**	P		**Pn**	10 37 20.8	**-4.3**
RAHZ	**Arahi**	**4.53**	**43**	P		**Pn**	10 37 15.8	**+0.6**
PRRZ	**Plateau Road**	**4.55**	**34**	P		**Pn**	10 37 15.1	**-0.2**
GRRZ	**Galatos Road**	**4.56**	**31**	P		Pn	10 37 20.5	+4.9
HSRZ	**Hossack Road**	**4.65**	**32**	P		Pn	10 37 21.7	+4.9
RTZ	**Ruatahuna**	**4.71**	**40**	P		**Pn**	10 37 18.3	**+0.6**
MLZ	**Mavora Lakes**	**4.74**	**228**	Pn		**Pn**	10 37 19.2	**+1.2**
MLZ	**Mavora Lakes**	**4.74**	**228**	P		**Pn**	10 37 16.4	**-1.6**
SNGZ	**Shannon Statio**	**4.76**	**44**	P		**Pn**	10 37 16.6	**-1.8**
KNZ	**Kokohu**	**4.76**	**48**	P		**Pn**	10 37 17.0	**-1.3**
MHGZ	**Mahia Peninsul**	**4.80**	**51**	P		**Pn**	10 37 18.6	**-0.3**
NGRZ	**Ngongotaha**	**4.81**	**30**	P		**Pn**	10 37 23.6	**+4.6**
TOZ	**Tahuroa Road**	**4.92**	**22**	P		**Pn**	10 37 21.9	**+1.4**
PRGZ	**Paritu Road**	**4.95**	**48**	P		**Pn**	10 37 19.7	**-1.2**
KMRZ	**Kaimai**	**4.95**	**27**	P		**Pn**	10 37 23.9	**+3.0**
RAGZ	**Rawiri**	**5.02**	**42**	P		**Pn**	10 37 22.2	**+0.2**
URZ	**Urewera**	**5.06**	**38**	Pn		Pn	10 37 17.9	-4.5
	1.5nm,0.3s,baz=236,slow=7.1,SNR=14							
URZ				Sn		**Sn**	**10 38 18.1**	**-3.0**
	14nm,0.3s,baz=74,slow=20,SNR=3.5							
URZ	**Urewera**	**5.06**	**38**	Pn		**Pn**	10 37 22.2	**-0.2**
SYZ	**Scrubby Hill**	**5.10**	**213**	P		**Pn**	10 37 21.9	**-1.0**
TGRZ	**Tauranga**	**5.17**	**29**	P		**Pn**	10 37 24.4	**+0.6**
OPRZ	**Ohinepanea**	**5.17**	**32**	P		Pn	10 37 28.7	+4.8
WHZ	**Wether Hill Ro**	**5.17**	**224**			**Pn**	10 37 22.5	**-1.4**
WHZ	**Wether Hill Ro**	**5.17**	**224**	P		**Pn**	10 37 21.8	**-2.2**
TKGZ	**Te Karaka**	**5.28**	**45**	P		**Pn**	10 37 27.0	**+1.5**
DCZ	**Deep Cove**	**5.35**	**232**	P		**Pn**	10 37 27.5	**+1.2**
AWAZ	**Awhitu Peninsu**	**5.37**	**13**	P		**Pn**	10 37 28.1	**+1.5**
WTAZ	**Waiatarua**	**5.48**	**12**	P		**Pn**	10 37 29.9	**+1.7**
ETAZ	**East Tamaki Re**	**5.53**	**15**	P		**Pn**	10 37 30.3	**+1.5**
TWGZ	**Tauwhareparae**	**5.55**	**44**	P		**Pn**	10 37 29.6	**+0.3**
RUGZ	**Raukumara Rang**	**5.56**	**40**	P		**Pn**	10 37 27.9	**-1.5**
MYRZ	**Mayor Island**	**5.56**	**26**	P		Pn	10 37 35.1	+5.7
EPAZ	**Eden Park BICE**	**5.57**	**13**	P		**Pn**	10 37 31.4	**+2.0**
HBAZ	**Herne Bay Bore**	**5.59**	**13**	P		**Pn**	10 37 31.7	**+2.0**
RVAZ	**Riverhead Bore**	**5.64**	**12**	P		**Pn**	10 37 31.9	**+1.5**
MBAZ	**Motutapu North**	**5.70**	**14**	P		**Pn**	10 37 32.5	**+1.3**
WIAZ	**Waiheke Island**	**5.72**	**16**	P		**Pn**	10 37 33.0	**+1.5**
PUZ	**Puketiti**	**5.77**	**45**	P		**Pn**	10 37 31.4	**-0.8**
HAZ	**Te Kaha**	**5.78**	**40**	P		**Pn**	10 37 30.5	**-1.7**
PKGZ	**Pakihiroa**	**5.82**	**42**	P		**Pn**	10 37 33.6	**+0.7**
APZ	**The Paps**	**5.83**	**217**	P		**Pn**	10 37 31.7	**-1.2**
ABAZ	**Army Bay**	**5.85**	**14**	P		**Pn**	10 37 34.9	**+1.6**
KUZ	**Kuaotunu**	**5.91**	**21**	P		**Pn**	10 37 34.6	**+0.6**
MXZ	**Matakaoa Point**	**6.19**	**42**	P		**Pn**	10 37 36.1	**-1.8**
GRZ	**Great Barrier**	**6.31**	**17**	P		**Pn**	10 37 40.9	**+1.3**
WCZ	**Waipu Caves**	**6.43**	**9**	P		**Pn**	10 37 42.8	**+1.6**
OUZ	**Omahuta**	**7.09**	**3**	Pn		**Pn**	10 37 52.0	**+1.7**
OUZ	**Omahuta**	**7.09**	**3**	P		**Pn**	10 37 51.7	**+1.5**
CTZ	**Chatham Island**	**7.64**	**104**	P		**Pn**	10 37 56.7	**-1.2**
TOO	**Toolangi**	**21.67**	**273**	P		**P**	**10 40 58.8**	**+1.5**
TOO				IAmb		IAmb	10 41 10.4	
	comp=Z,13nm,1.1s							
STKA	**Stephens Creek**	**27.09**	**282**	P		**P**	**10 41 48.3**	**-1.1**
STKA				IAmb		IAmb	10 41 58.7	
	comp=Z,1.1nm,1.1s							
CTAO	**Charters Tower**	**31.70**	**306**	P		**P**	**10 42 31.2**	**+0.8**
ASAR	**Alice Springs**	**37.39**	**287**	P		**P**	**10 43 19.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=126,slow=6.8,SNR=11							
WR0	**Warramunga Arr**	**39.38**	**292**	P		**P**	**10 43 36.6**	**+0.2**
WR0				IAmb		IAmb	10 44 01.1	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**39.52**	**292**	P		**P**	**10 43 37.4**	**-0.2**
WB2				IAmb		IAmb	10 43 44.5	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**39.53**	**292**	P		**P**	**10 43 36.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=127,slow=8.5,SNR=5.4							
WB0	**Warramunga Arr**	**39.61**	**292**	P		**P**	**10 43 38.0**	**-0.4**
WB0				IAmb		IAmb	10 44 02.2	
	comp=Z,13nm,1.5s							
ARCES	**ARCESS Array B**	**148.01**	**339**	PKPbc		**PKPdf**	**10 55 47.6**	**-0.3**
	comp=Z,5.9nm,1.0s,baz=28,slow=4.1,SNR=2.1							
TORD	**Torodi Ar. Bea**	**150.01**	**197**	PKPbc		**PKiKP**	**10 55 58.9**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=150,slow=2.0,SNR=2.6							

*NNC **14** 10:38:38.6±7.2, 38°.28N×71°.21E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=60.0km s-min=41.9km az=165.0*
*KRNET **14** 10:38:43.1±0.1, 39°.03N×71°.00E, h10km, mb3.6*
*IDC **14** 10:38:51.7±3.3, 40°.59N×69°.87E, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.3/48, mbtmp3.6/5, ML3.2/4, Error ellipse: s-maj=98.3km s-min=22.6km az=161.0*

ISC 14 10:38:41.5±1.5, 39°.19N±0°.05×71°.11E±0°.04, h0km±10km, n31, σ2°35/44, 21C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.61**	**61**	⇑*i*P	P	**Pn**	**10 38 57.9**	**+0.2**
	baz=54							
DRK				⇑*i*S	S	**Sn**	**10 39 08.8**	**+0.4**
	baz=54							
GAR	**Garm**	**0.65**	**253**	⇓*i*P	P	**Pg**	**10 38 53.3**	**-0.6**
	baz=67							
GAR				⇓*i*S	S	**Sg**	**10 39 00.8**	**-1.5**
	baz=67							
BTK	**Batken**	**0.90**	**345**	⇑*i*P	P	**Pn**	**10 39 02.8**	**+1.3**
	baz=52							
BTK				⇑*i*S	S	**Sn**	**10 39 17.2**	**+1.9**
	baz=52							
CHGR	**Chuyangaron**	**1.61**	**251**	⇓*i*P	P	**Pb**	**10 39 11.1**	**-1.2**
	baz=56							
CHGR				⇓*i*S	S	**Sn**	**10 39 31.4**	**-1.5**
	baz=56							
OHH	**Osh**	**1.85**	**43**	⇑*i*P	P	**Pg**	**10 39 21.0**	**+3.9**
	baz=42							
OHH				⇑*i*S	S	**Sg**	**10 39 47.4**	**+6.3**
	baz=42							
TRKS	**Terek-Say**	**2.34**	**1**	⇑*i*P	P	**Pg**	**10 39 26.1**	**-0.3**
	baz=3.0							
TRKS				⇑*i*S	S	**Sg**	**10 39 57.4**	**+0.7**
	baz=3.0							
TAS	**Tashkent**	**2.55**	**327**	⇓*i*P	P	**Pg**	**10 39 29.3**	**-1.1**
	baz=31							
TAS				⇓*i*S	S	**Sg**	**10 40 02.7**	**-0.7**
	baz=31							
ARK	**Arkit**	**2.69**	**14**	⇑*e*P	P	**Pg**	**10 39 32.2**	**-0.8**
	baz=15							
ARK				⇑*i*S	S	**Sg**	**10 40 07.8**	**0.0**
	baz=15							
AML	**Almayashu**	**3.54**	**33**	P	P	**Pb**	**10 39 45.9**	**+0.7**
	SNR=23							
ARLS	**Aral**	**3.62**	**41**	⇑*e*P	P	**Pb**	**10 39 45.2**	**-1.3**
	baz=41							
ARLS				⇑*i*S	S	**Sb**	**10 40 30.3**	**-0.8**
	baz=41							
KK09	**Karatay Array**	**3.96**	**353**	⇑P	P	**Pb**	**10 39 51.4**	**-0.7**
	3.6nm,0.3s							
KK09				⇑S	S	**Sg**	**10 40 53.2**	**+4.6**
	16nm,0.6s							
UCH	**Uchtor**	**3.99**	**39**	P	P	**Pb**	**10 39 52.6**	**-0.4**
	SNR=51							
UCH	**Uchtor**	**3.99**	**39**	⇓*i*P	P	**Pb**	**10 39 50.3**	**-2.6**
	baz=39							
UCH				⇓*i*S	S	**Sb**	**10 40 39.5**	**-2.4**
	baz=39							
EKS2	**Erkin-Say**	**4.01**	**29**	P	P	**Pb**	**10 39 52.2**	**-1.0**
	SNR=14							
EKS2	**Erkin-Say**	**4.01**	**29**	⇓*e*P	P	**Pb**	**10 39 50.7**	**-2.5**
	baz=29							
EKS2				⇓*e*S	S	**Sb**	**10 40 39.9**	**-2.4**
	baz=29							
AAK	**Ala-Archa**	**4.29**	**36**	Pn	Pb	**Pb**	**10 39 56.8**	**-1.2**
	3.5nm,0.3s,baz=217,slow=9.8,SNR=34							
AAK					Sn	**Sb**	**10 40 52.3**	**+1.9**
	0.9nm,0.3s,baz=5.9,slow=20,SNR=1.2							
AAK	**Ala-Archa**	**4.29**	**36**	P	Pb	**Pb**	**10 39 56.7**	**-1.2**
	SNR=15							
AAK	**Ala-Archa**	**4.29**	**36**	⇑P	Pb	**Pb**	**10 39 57.0**	**-1.0**
	7.8nm,0.4s							
AAK				⇑S	Sb	**Sb**	**10 40 52.8**	**+2.4**
	7.7nm,0.6s							
KBK	**Karagaybulak**	**4.52**	**39**	P	Pb	**Pb**	**10 40 01.1**	**-0.8**
	SNR=11							
KBK	**Karagaybulak**	**4.52**	**39**	⇑*i*P	Pb	Pb	10 39 57.5	-4.4
	baz=38							
KBK				⇑*i*S	Sb	**Sb**	**10 40 52.0**	**-5.0**
	baz=38							
CHMS	**Chumysh**	**4.70**	**35**	P	Pb	**Pb**	**10 40 02.2**	**-2.5**
	SNR=12							
USP	**Ospenovka**	**4.81**	**31**	P	Pb	**Pb**	**10 40 03.0**	**-3.6**
	SNR=10							
ULHL	**Ulahol**	**4.95**	**50**	P	Pb	**Pb**	**10 40 06.8**	**-2.5**
	SNR=9.5							
TKM2	**Tokmak 2**	**5.04**	**41**	P	Pb	**Pb**	**10 40 07.3**	**-3.4**
	SNR=22							
TKM2	**Tokmak 2**	**5.04**	**41**	⇑P	Pb	Pb	10 40 06.9	-3.8
	6.4nm,0.5s							
TKM2				⇑S	Sb	**Sb**	**10 41 12.8**	**+0.9**
	5.1nm,0.7s							
GEYT	**Alibeck**	**10.26**	**267**	Pn	Pn	**Pn**	**10 41 09.2**	**-0.8**
	0.8nm,0.3s,baz=63,slow=14,SNR=2.5							
MKAR	**Makanchi Array**	**11.16**	**43**	Pn	Pn	Pn	10 41 30.2	+7.9
	0.0nm,0.3s,baz=237,slow=13,SNR=7.1							
AB31	**Akbulak array**	**12.85**	**325**	P	Pn	**Pn**	**10 41 48.3**	**+3.0**
	0.6nm,0.5s,baz=133,slow=13,SNR=26							
AKTO	**Aktyubinsk**	**14.56**	**325**	⇑P	P	**P**	**10 42 18.1**	**+2.6**
	0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**17.46**	**28**	Pn	P	**P**	**10 42 49.2**	**+1.6**
	0.4nm,0.3s,baz=219,slow=10,SNR=2.2							
YKA	**Yellowknife Ar**	**78.56**	**3**	P	P	**P**	**10 50 47.0**	**+2.6**
	0.2nm,0.6s,baz=356,slow=5.8,SNR=4.6							

WEL 14 10:42:08.5±0.3, 42°.5S×17°.3E±°, h8km±4km, M2.7/18, ML2.8/20, MLv2.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=119.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.42**	**109**	P	Pg		10 42 17.0	+0.4
THZ	**Tophouse**	**0.53**	**352**	P	Pg		10 42 18.9	+0.1
GVZ	**Greta Valley S**	**0.68**	**178**	P	Pb		10 42 23.0	+0.3
GVZ				S	Sb		10 42 33.0	+0.8
LTZ	**Lake Taylor**	**0.74**	**227**	P	Pg		10 42 22.9	+0.2
LTZ				S	Sg		10 42 32.3	-0.1
BSWZ	**Blackbirch Sta**	**0.86**	**49**	P	Pg		10 42 24.9	-0.2
MRNZ	**Matariki Terra**	**0.90**	**348**	P	Pg		10 42 25.8	-0.1
AMCZ	**Amberley**	**0.93**	**196**	P	Pn		10 42 27.5	-0.4
DSZ	**Denniston Nort**	**1.05**	**301**	P	Pb		10 42 29.0	+0.2
DSZ				S	Sn		10 42 44.4	+0.2
CMWZ	**Cape Campbell**	**1.05**	**60**	P	Pn		10 42 29.6	+0.2
NNZ	**Nelson**	**1.10**	**15**	P	Pg		10 42 28.2	-1.4
TUWZ	**Tuamarina**	**1.10**	**40**	P	Pg		10 42 28.7	-1.0
INZ	**Inchbonnie**	**1.24**	**249**	P	Pn		10 42 31.7	-0.4
TKNZ	**Takaka Hill**	**1.25**	**358**	P	Pn		10 42 31.6	-0.7
OXZ	**Oxford**	**1.26**	**214**	P	Pn		10 42 31.2	-1.2
TCW	**Tory Channel**	**1.43**	**42**	P	Pn		10 42 33.7	-1.0
OKCZ	**Okains Bay**	**1.44**	**178**	P	Pn		10 42 33.7	-1.2
MQZ	**McQueen's Vall**	**1.44**	**190**	P	Pn		10 42 33.1	-1.8
QRZ	**Quartz Range**	**1.50**	**346**	P	Pn		10 42 36.0	+0.3
RACZ	**Rakaia**	**1.58**	**204**	P	Pn		10 42 35.5	-1.2
AKCZ	**Akaroa Harbour**	**1.59**	**183**	P	Pn		10 42 35.4	-1.6
DUWZ	**D'Urville Isla**	**1.63**	**25**	P	Pn		10 42 37.0	-0.5
BHW	**Baring Head**	**1.65**	**58**	P	Pn		10 42 37.5	-0.2
WVZ	**Waitaha Valley**	**1.85**	**244**	P	Pb		10 42 41.5	-1.0
WACZ	**Wakanui South**	**1.86**	**207**	P	Pn		10 42 39.6	-1.1
MSWZ	**Moikau Station**	**1.89**	**63**	P	Pb		10 42 43.6	+0.4
CAW	**Cannon Point**	**1.94**	**53**	P	Pn		10 42 40.8	-0.9
KIW	**Kapiti Island**	**2.02**	**46**	P	Pn		10 42 42.5	-0.3
RPZ	**Rata Peaks**	**2.02**	**224**	P	Pn		10 42 42.1	-0.8
ARCZ	**Arundel**	**2.13**	**218**	P	Pn		10 42 43.4	-1.0
MTW	**Mount Morrison**	**2.18**	**60**	P	Pn		10 42 46.3	+1.3
OGWZ	**Otaki Gorge**	**2.19**	**49**	P	Pn		10 42 44.3	-0.9
GCSZ	**Gaunt Creek Bo**	**2.23**	**242**	P	Pn		10 42 46.8	+1.2
HOWZ	**Holdsworth Sta**	**2.34**	**54**	P	Pb		10 42 50.4	-0.4
MRZ	**Mangatainoka R**	**2.52**	**51**	P	Pn		10 42 48.3	-1.4
TMZ	**Timaru**	**2.56**	**214**	P	Pn		10 42 49.1	-1.1
LBZ	**Lake Benmore**	**2.94**	**223**	P	Pn		10 42 55.5	0.0
PREZ	**Palmer Road**	**3.07**	**17**	P	Pb		10 43 00.6	-2.7
NBEZ	**Newall Road No**	**3.08**	**13**	P	Pn		10 43 00.2	+2.8
TSZ	**Takapari Road**	**3.15**	**46**	P	Pn		10 42 56.8	-1.6
PKE	**Pukeiti**	**3.18**	**14**	P	Pn		10 43 01.2	+2.5
ODZ	**Otahua Downs**	**3.25**	**211**	P	Pn		10 42 58.1	-1.6
PKVZ	**Pokaka**	**3.48**	**31**	P	Pb		10 43 09.4	-1.0
WNVZ	**Wahianoa**	**3.55**	**35**	P	Pn		10 43 06.8	+2.8
BHHZ	**Black Hill Sta**	**3.63**	**41**	P	Pb		10 43 11.0	-1.9
ETVZ	**East Tongariro**	**3.76**	**34**	P	Pb		10 43 13.0	-2.2
HIZ	**Hauiti**	**4.02**	**21**	P	Pn		10 43 11.8	+1.4

*NORS **14** 11:08:22.9±0.0, 42°.57N×43°.51E, h10km, MPVA3.7*
*TIF **14** 11:08:23.1, 42°.56N×43°.45E, h13km*
*DDA **14** 11:08:25.0±0.0, 42°.40N×43°.27E, h16km±5km, ML2.5*

ISC 14 11:08:23.5±0.8, 42°.56N±0°.03×43°.44E±0°.03, h12km±5km, n21, σ0°83/42, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**13**	P	P	**Pg**	**11 08 25.7**	**0.0**
ONI				S	S	**Sg**	**11 08 27.4**	**0.0**
ONI	**Oni**	**0.03**	**13**	*i* Pg	P	**Pg**	**11 08 25.9**	**+0.1**
ONI				*e*Sg	S	**Sg**	**11 08 27.4**	**0.0**
DIGR	**Digorskoe uzhe**	**0.35**	**17**	*i* Pg	P	**Pg**	**11 08 30.9**	**+0.2**
DIGR				*e*Sg	S	**Sb**	**11 08 36.3**	**-1.2**
TKB	**Tkibuli**	**0.39**	**238**	P	P	**Pb**	**11 08 31.8**	**-0.6**
TKB				S	S	**Sb**	**11 08 37.8**	**-0.6**
ZEI	**Tsey**	**0.41**	**56**	*i* Pg	P	**Pb**	**11 08 31.9**	**-0.9**
ZEI				*e*Sg	S	**Sb**	**11 08 37.9**	**-1.2**
LACR	**Lac**	**0.68**	**67**	*i* Pg	P	**Pb**	**11 08 36.8**	**-0.6**
LACR				*e*Sg	S	**Sb**	**11 08 46.1**	**-0.8**
KORR	**Kora**	**0.70**	**41**	*e*Pg	P	**Pb**	**11 08 37.8**	**+0.1**
KORR				*e*Sg	S	**Sn**	**11 08 48.8**	**-1.3**
LSNR	**Lesken**	**0.77**	**21**	*e*Pg	P	**Pb**	**11 08 39.0**	**+0.2**
LSNR				*e*Sg	S	**Sn**	**11 08 51.0**	**-0.9**
PNSH	**Pansheti**	**0.87**	**85**

KKM	Kota Kinabalu	7.74	316	P	Pn	11 38 29.1 +1.0
SBUM	Sibu	9.60	282		Pn	11 38 52.8 -0.4
KNRA	Kununurra	17.51	157	P	Pn	11 40 35.4 +0.2
KNRA				IAmb	IAmb	11 40 57.5
	comp=Z,24nm,1.2s					
KNRA	Kununurra	17.51	157	P	Pn	11 40 36.2 +1.0
FITZ	Fitzroy Crossi	18.85	168	P	P	11 40 49.1 -0.3
	comp=Z,0.9nm,0.3s,baz=13,slow=7.3,SNR=24					
FITZ	Fitzroy Crossi	18.85	168	P	P	11 40 49.8 +0.4
FITZ				IAmb	IAmb	11 40 50.6
	comp=Z,8.0nm,0.9s					
IPM	Ipoh	20.95	281	P	P	11 41 13.1 +0.9
IPM				IAmb	IAmb	11 41 14.0
	comp=Z,19nm,1.3s					
UBPT	Khong Chiam	21.71	314	P	P	11 41 19.9 -0.3
UBPT				IAmb	IAmb	11 41 20.9
	comp=Z,8.4nm,0.7s					
PSA00	Pilbara Seismi	21.96	184	P	P	11 41 22.0 -0.8
PSA00				IAmb	IAmb	11 41 48.9
	comp=Z,33nm,1.4s					
PSA00	Pilbara Seismi	21.96	184	P	P	11 41 22.7 -0.1
	comp=Z,17nm,1.2s					
WB0	Warramunga Arr	23.68	149	P	P	11 41 38.3 -1.3
WB0				IAmb	IAmb	11 41 39.9
	comp=Z,15nm,0.6s					
WRAB	Tennant Creek	23.80	149	P	P	11 41 40.2 -0.4
WRA	Warramunga Arr	23.80	149	P	P	11 41 39.5 -1.1
	comp=Z,14nm,0.6s,baz=324,slow=11,SNR=119					
WRA	Warramunga Arr	23.80	149	P	P	11 41 39.4 -1.3
WB2	Warramunga Arr	23.80	149	P	P	11 41 40.1 -0.6
WB2				IAmb	IAmb	11 41 41.8
	comp=Z,28nm,1.4s					
WR0	Warramunga Arr	23.92	149	P	P	11 41 41.5 -0.2
GSI	Gunungsitoli	24.05	272	P	P	11 42 5.0 -0.4
GSI				IAmb	IAmb	11 41 44.0
	comp=Z,15nm,0.9s					
COEN	Coen	25.71	125	P	P	11 41 59.8 +1.8
COEN				IAmb	IAmb	11 42 28.8
	comp=Z,29nm,1.4s					
WRKA	Warakurna	26.15	166	P	P	11 42 01.6 -0.3
AS31	Alice Springs	26.78	154	P	P	11 42 06.7 -0.9
ASAR	Alice Springs	26.78	154	P	P	11 42 07.2 -0.4
	comp=Z,1.9nm,0.5s,baz=342,slow=13,SNR=40					
ASAR	Alice Springs	26.78	154	P	P	11 42 07.5 -0.1
MEEK	Meekatharra	27.09	186	P	P	11 42 10.4 +0.1
QIS	Mount Isa	27.32	141	P	P	11 42 12.8 +0.4
CMAR	Chiang Mai Arr	28.56	310	P	P	11 42 24.8 +1.3
	comp=Z,0.5nm,0.4s,baz=135,slow=7.0,SNR=5.4					
CMAR	Chiang Mai Arr	28.56	310	P	P	11 42 24.1 +0.5
CHTO	Chiang Mai	28.77	311	P	P	11 42 26.8 +1.4
CHTO				IAmb	IAmb	11 42 27.9
	comp=Z,7.7nm,1.4s					
MORW	Morawa	29.83	190	P	P	11 42 34.0 -0.6
MORW				IAmb	IAmb	11 42 34.1
	comp=Z,16nm,1.4s					
MORW	Morawa	29.83	190	P	P	11 42 34.2 -0.4
RABL	Rabaul	30.88	99	P	P	11 42 43.0 -1.1
OOD	Oodnadatta	31.17	155	P	P	11 42 45.9 -0.5
	comp=Z,7.7nm,0.8s					
BLDU	Ballidu	31.24	188	P	P	11 42 46.3 -0.8
FORT	Forrest	31.66	169	P	P	11 42 50.1 -0.5
MULG	Mulgathing	32.78	160	P	P	11 43 00.5 0.0
BBOO	Buckleboo	35.78	159	P	P	11 43 25.5 -0.9
STKA	Stephens Creek	37.31	151	P	P	11 43 39.2 -0.1
	comp=Z,2.1nm,0.5s,baz=324,slow=10,SNR=5.8					
STKA	Stephens Creek	37.31	151	P	P	11 43 39.0 -0.4
ARMA	Armidale	41.93	140	P	P	11 44 18.6 +0.8
CAN	Canberra	43.81	147	P	P	11 44 33.9 +0.9
USA0B	Ussuriysk Arra	44.53	11	P	P	11 44 37.3 -1.1
USA0B				IAmb	IAmb	11 44 46.8
	comp=Z,6.5nm,0.9s					
USRK	Ussuriysk Ar.	44.53	11	P	P	11 44 37.8 -0.6
SONM	Songino Array	49.01	346	P	P	11 45 13.7 +0.3
	comp=Z,1.3nm,0.8s,baz=170,slow=8.4,SNR=7.4					
SONM	Songino Array	49.01	346	P	P	11 45 14.2 +0.7
MK31	Makanchi Array	57.51	329	P	P	11 46 16.1 +0.5
MK31				IAmb	IAmb	11 46 16.1
	comp=Z,1.2nm,0.6s					
MKAR	Makanchi Array	57.51	329	P	P	11 46 15.8 +0.3
	comp=Z,1.4nm,0.4s,baz=125,slow=9.1,SNR=21					
MKAR	Makanchi Array	57.51	329	P	P	11 46 15.5 0.0
MAKZ	Makanchi	57.68	329	P	P	11 46 17.2 +0.4
MAKZ				IAmb	IAmb	11 46 17.3
	comp=Z,1.6nm,0.6s					
KURK	Kurchatov	61.90	331	P	P	11 46 45.0 -0.5
KURK				IAmb	IAmb	11 46 47.9
	comp=Z,2.8nm,1.0s					
ABKAR	Akbulak array	71.53	323	P	P	11 47 47.4 +0.7
VNDA	Vanda	80.88	172	P	P	11 48 38.5 -0.6
IMAR	Indian Mountai	87.40	24	P	P	11 49 13.8 +1.5
QSPA	South Pole Qui	90.38	180	P	P	11 49 25.5 -1.0

*THE **14** 11:39:56.1, 35°.36N×23°.54E, h11$^{km}_{\pm}$1^{km}, ML2.4/5, Error ellipse: s-maj=2.0km s-min=0.6km az=144.0*
*ATH **14** 11:39:56.2, 35°.40N×23°.58E, h20$^{km}_{\pm}$6^{km}, ML2.5/3, Error ellipse: s-maj=6.7km s-min=0.9km az=54.0*
ISC 14 11:39:56.0±1.1, **35°.37N**±0°.04×**23°.56E**±0°.04, **h13**$^{km}_{\pm}$8^{km}, **n14**, σ**0°.44**/24, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.17	142	P	Pg	11 39 59.5	-0.3
KNDR				S	Sg	11 40 02.0	-0.5
	1μm,0.2s						
RODP	Rodopos	0.25	40	P	Pg	11 40 01.8	+0.5
RODP				S	Sb	11 40 06.0	-0.8
IMMV	Iera Moni Meta	0.36	75	P	Pg	11 40 05.0	-0.1
IMMV				S	Sg	11 40 08.8	+0.9
IMMV				AML	AML	11 40 11.7	
	comp=N,1141μm,0.2s						
IMMV				AML	AML	11 40 12.5	
	comp=E,1701μm,0.4s						
IMMV	Iera Moni Meta	0.36	75	P	Pg	11 40 03.1	-0.1
IMMV				S	Sb	11 40 09.1	-0.6
	comp=E,740nm,0.3s						
VAM	Vamos	0.52	85	P	Pg	11 40 06.1	-0.1
VAM				S	Sg	11 40 13.8	+0.6
VAM				AML	AML	11 40 17.5	
	comp=N,1810μm,0.2s						
VAM				AML	AML	11 40 20.1	
	comp=E,1162μm,0.3s						
VAM	Vamos	0.52	85	P	Pg	11 40 05.9	-0.3
VAM				S	Sb	11 40 14.6	0.0
	comp=E,715nm,0.2s						
ANKY	Antikythira Is	0.54	337	P	Pg	11 40 06.6	0.0
ANKY				S	Sg	11 40 13.9	+0.1
ANKY	Antikythira Is	0.54	337	P	Pg	11 40 06.5	0.0
ANKY				S	Sg	11 40 14.1	+0.3
	comp=E,550nm,0.3s						
GVD	Gavdhos	0.68	140	P	Pg	11 40 09.6	+0.4
GVD				S	Sb	11 40 19.8	+0.7
GVD				AML	AML	11 40 22.1	
	comp=N,1040μm,0.4s						
GVD				AML	AML	11 40 22.7	
	comp=E,1105μm,0.3s						
KTHA	Kythira Island	0.98	336	P	Pg	11 40 14.7	-0.1
KTHR	Kythira	1.00	333	P	Pb	11 40 15.1	-0.1
KTHR				S	Sg	11 40 28.6	+0.3
	comp=E,325nm,0.4s						
SIVA	Sivas	1.08	108	P	Pb	11 40 16.4	-0.1
IDI	Anoyia	1.09	94	P	Pn	11 40 16.9	-0.2
VLI	Veliai	1.44	340	P	Pb	11 40 22.8	+0.2

*NEIC **14** 11:52:08.4±1.5, 20°.0S±0°.1×175°.17W±0°.07, h106$^{km}_{\pm}$4^{km}, mb4.7/38, Error ellipse: s-maj=15.6km s-min=8.1km az=162.0*
*BJI **14** 11:52:09.0±0.0, 19°.80S×174°.90W, h135^{km}, mb4.7/9, mB5.2/7*
*NOU **14** 11:52:09.2, 20°.51S×175°.00W, h66^{km}, mb5.0/21, Tonga Islands*
*IDC **14** 11:52:13.4±2.8, 20°.03S×175°.45W, h156$^{km}_{\pm}$25^{km}, mb3.9/14, mb1 4.2/17, mb1mx3.9/39, mbtmp4.4/17, MS3.2/1, Ms1 3.2/1, ms1mx2.6/59, Error ellipse: s-maj=19.2km s-min=14.2km az=147.0*
ISC 14 11:52:08.6±0.3, **20°.06S**±0°.05×**175°.08W**±0°.06, **h115**^{km}, **n133**, σ**2^{s}10**/130, **mb4.6**/32, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.95	80	Pn	Pn	11 53 21.2	+0.4
NIUE	Niue	4.95	80	P	Pn	11 53 21.5	+0.7
AFI	Afiamalu	6.88	28	P	Pn	11 53 44.4	-2.6
	2.9nm,0.3s,baz=59,slow=5.9,SNR=4.1						
AFI				S	Sn	11 54 55.1	-8.8
	6.5nm,0.3s,baz=277,slow=23,SNR=7.3						
AFI	Afiamalu	6.88	28	Pn	Pn	11 53 44.0	-3.0
AFI	Afiamalu	6.88	28	P	Pn	11 53 52.0	+5.0
MSVF	Nonsavu	6.90	288	P	Pn	11 53 49.6	+2.3
	6.2nm,0.3s,baz=128,slow=15,SNR=39						
MSVF				LR	LR	11 56 03.4	
	comp=Z,192nm,20.8s,baz=101,slow=35						
MSVF	Nonsavu	6.90	288	P	Pn	11 53 51.4	+4.1
GLKZ	Green Lake	9.52	195	S	Sn	11 56 02.6	-5.1
RAR	Rarotonga	14.38	97	P	P	11 55 32.7	+2.4
	5.5nm,0.3s,baz=214,slow=12,SNR=5.8						
RAR	Rarotonga	14.38	97	P	Pn	11 55 28.0	+1.2
MARNC	Mare, Loyalty	15.86	262	P	Pn	11 55 44.3	-1.1
DVP	Devils Point	16.01	276	P	P	11 55 53.0	+4.5
PINNC	Pines Island,	16.48	258	P	Pn	11 55 53.0	0.0
PINNC	Pines Island,	16.48	258	P	P	11 55 55.7	+2.0
LIFNC	LIFOU	16.59	264	P	P	11 55 57.2	+2.3
YATNC	Mamie plateau,	16.95	260	P	P	11 56 02.3	+3.4
OUENC	Ouen Island, N	17.02	259	P	P	11 55 59.1	-0.5
OUENC				IAmb	IAmb	11 56 04.3	
	comp=Z,46nm,0.9s						
OUENC	Ouen Island, N	17.02	259	P	Pn	11 56 01.5	+1.8
DZM	Mont Dzumac	17.36	260	P	Pn	11 56 05.1	+1.2
	comp=Z,4.1nm,0.3s,baz=82,slow=18,SNR=46						
DZM	Mont Dzumac	17.36	260	P	Pn	11 56 05.3	+1.3
DZM				IAmb	IAmb	11 56 09.1	
	comp=Z,50nm,0.7s						
DZM	Mont Dzumac	17.36	260	P	Pn	11 56 07.1	+3.2
ONTNC	Ouen Toro	17.37	259	P	P	11 56 02.1	-1.4
ONTNC				IAmb	IAmb	11 56 09.2	
	comp=Z,28nm,0.7s						
SANVU	Saraoutou	17.49	282		P	11 56 04.8	0.0
SANVU				IAmb	IAmb	11 56 08.4	
	comp=Z,39nm,0.7s						
SANVU	Saraoutou	17.49	282	P	Pn	11 56 11.2	+5.9
NOUC	Port Laguerre	17.50	260	P	Pn	11 56 08.8	+3.4
MXZ	Matakaoa Point	18.37	197	P	Pn	11 56 17.2	+1.5
KUZ	Kuaotunu	18.47	204	P	Pn	11 56 18.0	+1.0
WMGZ	Waiomatatini S	18.58	196	P	Pn	11 56 20.4	+2.1
WMGZ				S	S	11 59 30.1	-12
HAZ	Te Kaha	18.70	198	P	Pn	11 56 18.9	-0.7
HAZ				S	S	11 59 31.5	-13
WIAZ	Waiheke Island	18.74	205	P	Pn	11 56 21.4	+1.3
PUZ	Puketiti	18.86	196	P	P	11 56 19.8	+0.1
PUZ				S	S	11 59 32.4	-16
RUGZ	Raukumara Rang	18.92	198	P	Pn	11 56 21.8	-0.6
RUGZ				S	S	11 59 35.3	-14
TWGZ	Tauwhareparae	19.04	197	P	Pn	11 56 24.4	+0.8
TWGZ				S	S	11 59 41.6	-10
OPRZ	Ohinepanea	19.16	201	P	P	11 56 23.5	+0.5
AWAZ	Awhitu Peninsu	19.18	206	P	Pn	11 56 25.7	+0.5
CNGZ	Carnagh Statio	19.26	196	P	Pn	11 56 26.5	+0.2
KOUNC	Koumac, New Ca	19.36	265	P	Pn	11 56 30.4	+2.8
	comp=Z,58nm,1.0s						
URZ	Urewera	19.36	199	P	P	11 56 24.3	-0.8
	comp=Z,4.7nm,0.3s,baz=293,slow=2.8,SNR=45						
URZ				S	S	11 59 49.3	-8.7
	comp=Z,0.8nm,0.3s,baz=73,slow=22,SNR=9.7						
URZ	Urewera	19.36	199	P	P	11 56 24.3	-0.8
URZ				S	S	11 59 46.9	-11
URZ	Urewera	19.36	199	P	P	11 56 25.5	+0.4
TOZ	Tahuroa Road	19.43	203	P	Pn	11 56 28.3	+0.1
MUGZ	Murupara	19.67	199	P	P	11 56 26.5	-2.0
RTZ	Ruatahuna	19.73	199	P	P	11 56 29.0	-0.3
RTZ				S	S	11 59 45.7	-20
HIZ	Hauiti	20.35	203	P	P	11 56 36.1	+0.2
BKZ	Black Stump Fm	20.39	199	P	P	11 56 36.4	+0.1
BFZ	Birch Farm	21.85	198	P	P	11 56 52.3	+0.4
BFZ				IAmb	IAmb	11 56 59.3	
	comp=Z,73nm,1.4s						
BFZ	Birch Farm	21.85	198	P	P	11 56 52.5	+0.6
QRZ	Quartz Range	23.25	204	P	P	11 57 06.4	+0.7
TBI	Tubuai	24.02	102	eLR	LR	12 02 37.3	
	comp=Z,57nm,31.5s						
TBI	Tubuai	24.02	102	eT	T	12 21 39.8	
	comp=Z,5.7nm,0.3s						
PAE	Paea	24.24	89	eT	T	12 21 54.8	
	comp=Z,1.2nm,0.3s						
PPT2	Papeete2	24.25	88	eLR	LR	12 02 42.5	
	comp=Z,99nm,30.6s						
LTZ	Lake Taylor	25.04	202	P	P	11 57 23.4	+1.4
RPZ	Rata Peaks	26.29	203	P	P	11 57 34.8	+1.6
	comp=Z,5.2nm,0.4s,baz=5,slow=3.0,SNR=8.2						
RPZ	Rata Peaks	26.29	203	P	P	11 57 33.8	+0.5
RPZ				IAmb	IAmb	11 57 39.0	
	comp=Z,24nm,1.3s						
RPZ	Rata Peaks	26.29	203	P	P	11 57 36.0	+2.7
	comp=Z,52nm,1.1s						
ODZ	Otahua Downs	27.59	202	P	P	11 57 45.4	+0.6
ARMA	Armidale	31.73	244	P	P	11 58 21.7	-0.1
ARMA				IAmb	IAmb	11 58 43.9	
	comp=Z,17nm,1.5s						
CAN	Canberra	35.04	237	P	P	11 58 49.9	-0.5
CAN				IAmb	IAmb	11 58 52.3	
	comp=Z,20nm,1.2s						
PMG	Port Moresby	37.94	281	P	P	11 59 14.7	-0.5
TOO	Toolangi	38.38	234	P	P	11 59 18.5	-0.2
TOO				IAmb	IAmb	11 59 27.8	
	comp=Z,23nm,1.4s						
COEN	Coen	40.30	272	P	P	11 59 33.1	-1.8
COEN				IAmb	IAmb	11 59 34.7	
	comp=Z,14nm,0.8s						
STKA	Stephens Creek	40.45	244	P	P	11 59 34.3	-1.6
	comp=Z,1.6nm,0.6s,baz=115,slow=14,SNR=3.7						
STKA	Stephens Creek	40.45	244	P	P	11 59 35.6	-0.3
BBOO	Buckleboo	45.20	243	P	P	12 00 12.8	-1.5
WR0	Warramunga Arr	47.19	261	P	P	12 00 27.9	-2.1
AS31	Alice Springs	47.29	256	P	P	12 00 29.8	-1.0
ASAR	Alice Springs	47.29	256	P	P	12 00 28.4	-2.4
	comp=Z,13nm,0.6s,baz=96,slow=8.1,SNR=167						
ASAR				PcP	PcP	12 01 59.5	-0.7
	comp=Z,1.3nm,0.6s,baz=104,slow=4.0,SNR=5.4						
ASAR	Alice Springs	47.29	256	P	P	12 00 29.5	-1.3
WB0	Warramunga Arr	47.36	261	P	P	12 00 29.4	-2.0
WB0				IAmb	IAmb	12 00 31.1	
	comp=Z,8.2nm,0.7s						
WB2	Warramunga Arr	47.37	261	P	P	12 00 29.4	-2.0
WB2				IAmb	IAmb	12 00 30.3	
	comp=Z,6.3nm,0.7s						
WRA	Warramunga Arr	47.38	261	P	P	12 00 28.4	-3.1
	comp=Z,4.1nm,0.5s,baz=98,slow=7.8,SNR=64						
WRA	Warramunga Arr	47.38	261	P	P	12 00 29.5	-2.0
FORT	Forrest	51.98	246	P	P	12 01 05.7	-0.5
KNRA	Kununurra	53.43	265	P	P	12 01 17.0	0.0
FITZ	Fitzroy Crossi	55.80	261	P	P	12 01 34.5	+0.3
FITZ				IAmb	IAmb	12 01 52.4	
	comp=Z,14nm,1.4s						
VNDA	Vanda	58.61	186	P	P	12 01 54.2	+1.2
PSA00	Pilbara Seismi	60.44	256	P	P	12 02 06.7	+0.2
MORW	Morawa	62.53	247	P	P	12 02 20.6	+0.1
GIRL	Giralia	65.31	254	P	P	12 02 38.7	0.0
QSPA	South Pole Qui	70.01	180	P	P	12 03 09.5	+1.8
QSPA				IAmb	IAmb	12 03 10.2	
	comp=Z,7.3nm,0.8s						
MJAR	Matsushiro Arr	71.52	322	P	P	12 03 15.7	-1.3
	comp=Z,4.7nm,0.8s,baz=157,slow=5.5,SNR=7.5						
MJAR	Matsushiro Arr	71.52	322	P	P	12 03 16.5	-0.5
JSD	Sado	72.53	323	P	P	12 03 22.8	-0.1
JSD				IAmb	IAmb	12 03 23.7	
	comp=Z,12nm,0.7s						
JHS	Saijyo	73.59	318	P	P	12 03 28.9	-0.4
JHS				IAmb	IAmb	12 03 49.0	
	comp=Z,22nm,1.1s						
PETK	Petropavlovsk-	76.59	344	P	P	12 03 45.2	-0.9
NVAR	Mina Array Bea	78.84	42	P	P	12 04 01.1	+1.8
	comp=Z,1.9nm,0.7s,baz=222,slow=9.9,SNR=14						
NVAR	Mina Array Bea	78.84	42	P	P	12 03 59.8	+0.5
BELA	Belgrano 2	79.63	172	P	P	12 04 03.2	+0.5
BELA				IAmb	IAmb	12 04 04.5	
	comp=Z,9.6nm,1.0s						
PINE	Pine Mountain	80.58	37	P	P	12 04 07.9	-0.6
PINE				IAmb	IAmb	12 04 36.8	
	comp=Z,11nm,1.5s						
NJ2	Nanjing	81.73	308	eP	P	12 04 15.8	+1.2
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
H03S2	Juan Fernandez	83.97	124	T	T	13 37 00.4	
	baz=246,SNR=12						
H03S1	Juan Fernandez	83.98	124	T	T	13 37 01.6	
	baz=246,SNR=21						
H03S3	Juan Fernandez	83.98	124	T	T	13 37 00.2	
	baz=246,SNR=11						
TXAR	Lajitas Array	84.52	56	P	P	12 04 31.3	+2.2
	comp=Z,1.9nm,0.9s,baz=213,slow=6.7,SNR=16						
TXAR	Lajitas Array	84.52	56		P	12 04 29.2	0.0
SCM	Sheep Creek Mo	84.57	13	P	P	12 04 28.2	-0.4
SCM				IAmb	IAmb	12 04 53.3	
	comp=Z,8.2nm,1.3s						
N25K	Chitina, Valde	84.96	14	P	P	12 04 30.8	+0.2
N25K				IAmb	IAmb	12 04 32.1	
	comp=Z,12nm,1.5s						
ANMO	Albuquerque	85.00	50	P	P	12 04 33.2	+1.6
	comp=Z,5.1nm,1.1s,baz=216,slow=6.0,SNR=7.9						
SEY	Seymchan	86.60	346	P	P	12 04 37.3	-1.2
	comp=Z,1.1nm,0.7s,baz=202,slow=6.5,SNR=5.5						
PDAR	Pinedale Array	86.78	42	P	P	12 04 39.6	-0.6
	comp=Z,0.3nm,0.6s,baz=224,slow=4.1,SNR=3.8						
PDAR	Pinedale Array	86.78	42	P	P	12 04 40.6	+0.4
BCAR	Beaver Creek A	86.89	14	P	P	12 04 40.7	+0.7
IMAR	Indian Mountai	87.29	9	P	P	12 04 41.8	0.0
ILAR	Eielson Array	87.30	12	P	P	12 04 41.3	-0.6
	comp=Z,0.2nm,0.3s,baz=211,slow=5.1,SNR=5.5						
PLCA	Paso Flores	87.57	133	P	P	12 04 46.3	+2.3
	comp=Z,1.7nm,0.9s,baz=202,slow=4.1,SNR=4.7						
PLCA	Paso Flores	87.57	133		P	12 04 45.5	+1.5
DAWY	Dawson	88.31	15	P	P	12 04 47.5	+0.8
SNAA	Sanae	88.36	178	P	P	12 04 49.3	+2.2
HHC	Hu-ho-hao-te	91.03	313	eP	P	12 05 01.3	+1.2
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
CMAR	Chiang Mai Arr	92.56	289	P	P	12 05 07.2	-0.3
	comp=Z,1.2nm,0.4s,baz=128,slow=2.9,SNR=6.9						
CMAR	Chiang Mai Arr	92.56	289	P	P	12 05 06.4	-1.2
PZH	PanZhiHua	92.94	297	P	P	12 05 04.3	-5.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.1s						
YKA	Yellowknife Ar	94.98	24	P	P	12 05 18.1	+0.5
	comp=Z,0.5nm,0.7s,baz=243,slow=4.8,SNR=9.1						
ARCES	ARCESS Array B	128.95	351	PKP	PKPdf	12 11 02.3	+0.2
	comp=Z,2.3nm,0.8s,baz=50,slow=1.9,SNR=4.3						
ARCES	ARCESS Array B	128.95	351		PKPdf	12 11 01.8	-0.3
AKASG	Malin Array Be	143.90	334	PKP	PKPab	12 11 26.9	-0.6
	comp=Z,0.6nm,0.4s,baz=40,slow=4.7,SNR=6.0						
AKASG	Malin Array Be	143.90	334		PKPdf	12 11 29.9	-0.3
EKA	Eskdalemuir Ar	144.25	8	PKP	PKPab	12 11 27.6	-1.2
	comp=Z,0.5nm,0.5s,baz=29,slow=1.9,SNR=3.8						
CLL	Collm	148.17	350	ePKPbc	PKPbc	12 11 41.0	+0.2
	comp=Z,5.0nm,0.7s						
CLL				ePKPab	PKPab	12 11 44.0	0.0
BRTR	Keskin Array B	148.53	315	PKPbc	PKPbc	12 11 41.5	-0.9
	comp=Z,1.6nm,0.8s,baz=122,slow=1.9,SNR=3.8						
MLR	Muntele Rosu	149.27	330	PKPbc	PKPbc	12 11 44.2	+0.2
	comp=Z,3.7nm,0.7s,baz=345,slow=5.2,SNR=3.5						
MLR	Muntele Rosu	149.27	330		PKPdf	12 11 38.1	-1.5
MLR				PKPab	PKPab	12 11 47.8	-1.1
GERES	GERESS Array B	150.42	348	PKPbc	PKPbc	12 11 46.5	-0.2
	comp=Z,1.6nm,0.6s,baz=46,slow=3.9,SNR=8.3						
GERES	GERESS Array B	150.42	348	PKPdf	PKPdf	12 11 39.8	-1.4
GERES					PKPbc	12 11 46.4	-0.2
CONA	Conrad Observa	150.82	345	eP	PKiKP	12 11 47.9	-0.2
	comp=Z,4.1nm,0.7s						
KBA	Koelnbreinsper	152.18	348	eP	PKPbc	12 11 50.6	-0.3
	comp=Z,9.7nm,1.6s						
WATA	Walderalm	152.25	350	eP	PKPbc	12 11 50.9	0.0
	comp=Z,4.0nm,0.6s						
WTTA	Wattenberg	152.31	350	eP	PKPbc	12 11 50.5	-0.7
	comp=Z,4.6nm,0.5s						
SQTA	Sankt Quirin	152.42	351	eP	PKiKP	12 11 51.5	0.0
	comp=Z,9.3nm,1.0s						
OBKA	Obir	152.46	346	eP	PKiKP	12 11 52.1	+0.4
	comp=Z,14nm,1.4s						
ABTA	Abfaltersbach	152.66	349	eP	PKPbc	12 11 51.7	-0.1
	comp=Z,2.4nm,0.6s						
FETA	Feichten	152.69	351	eP	PKiKP	12 11 52.4	+0.2
	comp=Z,5.5nm,0.9s						

*THE **14** 11:59:54.7, 35°.34N×23°.54E, h11$^{km}_{\pm}$2^{km}, ML2.8/5, Error ellipse: s-maj=2.3km s-min=0.6km az=159.0*
*ATH **14** 11:59:55.3, 35°.43N×23°.62E, h21$^{km}_{\pm}$2^{km}, ML2.8/5, Error ellipse: s-maj=2.8km s-min=0.9km az=55.0*
ISC 14 11:59:54.3±1.1, **35°.35N**±0°.05×**23°.56E**±0°.04, **h12**$^{km}_{\pm}$8^{km}, **n16**, σ**0°.41**/28, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.16	137	P	Pg	11 59 57.8	-0.1
KNDR				S	Sg	12 00 00.1	-0.4
	3μm,0.3s						
RODP	Rodopos	0.27	38	P	Pb	12 00 00.8	-0.2
RODP				S	Sb	12 00 05.3	-0.3
IMMV	Iera Moni Meta	0.36	72	P	Pg	12 00 01.7	+0.1
IMMV				S	Sg	12 00 07.0	+0.5
IMMV				AML	AML	12 00 09.3	
	comp=E,3359μm,0.3s						
IMMV				AML	AML	12 00 10.5	
	comp=N,3480μm,0.2s						
IMMV	Iera Moni Meta	0.36	72	P	Pg	12 00 01.9	+0.3

ms1mx2.4/43, Error ellipse: s-maj=22.2km s-min=16.6km az=37.0
*NOU **14** 12:09:11.4, 44°43S×168°26E, h0km, mb4.8/10, South Island, New Zealand*
ISC 14 12:09:07.4±0.7, 44°90S±0°05×167°70E±0°06, h123km±5km, n174, σ1s30/178, mb4.3/12, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.28**	**36**	P	**Pn**	**12 09 25.1**	**+0.6**
MSZ				S	**Sn**	**12 09 37.6**	**+0.2**
MLZ	**Mavora Lakes**	**0.55**	**148**		**Pn**	**12 09 26.1**	**+0.2**
MLZ	**Mavora Lakes**	**0.55**	**148**	P	**Pn**	**12 09 26.2**	**+0.2**
MLZ				S	**Sn**	**12 09 40.1**	**+0.1**
DCZ	**Deep Cove**	**0.69**	**214**	Pn	**Pn**	**12 09 25.2**	**-1.5**
DCZ	**Deep Cove**	**0.69**	**214**	P	**Pn**	**12 09 25.4**	**-1.4**
DCZ				S	**Sn**	**12 09 38.7**	**-2.9**
WKZ	**Wanaka**	**0.94**	**86**	Pn	**Pn**	**12 09 30.6**	**+1.6**
WKZ	**Wanaka**	**0.94**	**86**	P	**Pn**	**12 09 30.7**	**+1.6**
WKZ				S	**Sn**	**12 09 47.8**	**+2.3**
WHZ	**Wether Hill Ro**	**1.01**	**170**		**Pn**	**12 09 29.1**	**-0.6**
WHZ	**Wether Hill Ro**	**1.01**	**170**	P	**Pn**	**12 09 29.4**	**-0.3**
WHZ				S	**Sn**	**12 09 45.4**	**-1.2**
JCZ	**Jackson Bay**	**1.13**	**44**	P	**Pn**	**12 09 32.0**	**+0.9**
JCZ				S	**Sn**	**12 09 49.8**	**+0.9**
EAZ	**Earnscleugh**	**1.19**	**107**	P	**Pn**	**12 09 32.9**	**+1.4**
EAZ				S	**Sn**	**12 09 50.5**	**+0.7**
PYZ	**Puysegur Point**	**1.46**	**209**	Pn	**Pn**	12 09 32.8	-1.6
TUZ	**Tuapeka**	**1.72**	**128**	P	**Pn**	**12 09 38.7**	**+1.2**
TUZ				S	**Sn**	**12 10 00.1**	**-0.4**
LBZ	**Lake Benmore**	**1.85**	**75**	P	**Pn**	**12 09 39.8**	**+0.7**
LBZ				S	**Sn**	**12 10 03.8**	**+0.5**
SYZ	**Scrubby Hill**	**1.92**	**149**	P	**Pn**	**12 09 40.4**	**+0.5**
SYZ				S	**Sn**	**12 10 04.2**	**-0.6**
APZ	**The Paps**	**1.94**	**174**	P	Pn	12 09 39.4	-0.8
FOZ	**Fox Glacier**	**2.04**	**49**	P	**Pn**	**12 09 41.9**	**+0.4**
ODZ	**Otahua Downs**	**2.10**	**95**	P	**Pn**	**12 09 43.2**	**+1.1**
ODZ	**Otahua Downs**	**2.10**	**95**	P	**Pn**	**12 09 43.2**	**+1.1**
HHSZ	**Highcliff Hill**	**2.27**	**117**	P	**Pn**	**12 09 45.6**	**+1.4**
TMZ	**Timaru**	**2.42**	**79**	P	**Pn**	**12 09 46.6**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**2.47**	**51**	P	**Pn**	**12 09 46.7**	**0.0**
ARCZ	**Arundel**	**2.67**	**70**	P	**Pn**	**12 09 49.4**	**0.0**
RPZ	**Rata Peaks**	**2.68**	**65**	P	**Pn**	**12 09 49.7**	**+0.1**
	62nm,0.3s,baz=217,slow=4.8,SNR=227						
RPZ				S	**Sn**	**12 10 21.9**	**-0.2**
	434nm,0.3s,baz=56,slow=19,SNR=19						
RPZ				LR	LR	12 10 31.4	
	comp=Z,179nm,20.4s,baz=154,slow=32						
RPZ	**Rata Peaks**	**2.68**	**65**	P	**Pn**	**12 09 49.7**	**+0.1**
RPZ	**Rata Peaks**	**2.68**	**65**	P	**Pn**	**12 09 49.2**	**-0.4**
WVZ	**Waitaha Valley**	**2.85**	**51**	P	**Pn**	**12 09 51.5**	**-0.3**
MHCZ	**Mount Hutt**	**3.10**	**65**	P	**Pn**	**12 09 56.8**	**+1.8**
WACZ	**Wakanui South**	**3.12**	**74**	P	**Pn**	**12 09 55.5**	**+0.3**
RACZ	**Rakaia**	**3.40**	**71**	P	**Pn**	**12 09 59.6**	**+0.7**
INZ	**Inchbonnie**	**3.48**	**53**	P	**Pn**	**12 09 59.6**	**-0.3**
OXZ	**Oxford**	**3.50**	**65**	P	**Pn**	**12 09 59.5**	**-0.8**
MQZ	**McQueen's Vall**	**3.75**	**73**	P	**Pn**	**12 10 03.5**	**+0.1**
AKCZ	**Akaroa Harbour**	**3.87**	**76**	P	**Pn**	**12 10 05.7**	**+0.5**
LTZ	**Lake Taylor**	**3.93**	**59**	P	**Pn**	**12 10 05.3**	**-0.7**
AMCZ	**Amberley**	**3.96**	**66**	P	**Pn**	**12 10 06.4**	**0.0**
OKCZ	**Okains Bay**	**4.02**	**75**	P	**Pn**	**12 10 07.9**	**+0.6**
GVZ	**Greta Valley S**	**4.31**	**65**	P	**Pn**	**12 10 10.9**	**-0.2**
DSZ	**Denniston Nort**	**4.35**	**45**	P	**Pn**	**12 10 11.3**	**-0.3**
KHZ	**Kahutara**	**4.91**	**62**	P	**Pn**	**12 10 18.7**	**-0.4**
KHZ	**Kahutara**	**4.91**	**62**	P	**Pn**	**12 10 19.0**	**-0.1**
THZ	**Tophouse**	**4.92**	**52**	P	**Pn**	**12 10 18.5**	**-0.9**
MRNZ	**Matariki Terra**	**5.09**	**48**	P	**Pn**	**12 10 21.1**	**-0.4**
QRZ	**Quartz Range**	**5.40**	**43**	P	**Pn**	**12 10 25.5**	**-0.2**
QRZ	**Quartz Range**	**5.40**	**43**	P	**Pn**	**12 10 25.5**	**-0.2**
TKNZ	**Takaka Hill**	**5.46**	**47**	P	**Pn**	**12 10 26.2**	**-0.3**
BSWZ	**Blackbirch Sta**	**5.52**	**57**	P	**Pn**	**12 10 26.6**	**-0.6**
NNZ	**Nelson**	**5.55**	**50**	P	**Pn**	**12 10 27.1**	**-0.7**
TUWZ	**Tuamarina**	**5.73**	**55**	P	**Pn**	**12 10 30.3**	**+0.1**
TCW	**Tory Channel**	**6.07**	**55**	P	**Pn**	**12 10 34.0**	**-0.7**
DUWZ	**D'Urville Isla**	**6.14**	**50**	P	**Pn**	**12 10 35.5**	**-0.2**
SNZO	**South Karori**	**6.26**	**57**	P	**Pn**	**12 10 37.0**	**-0.2**
BHW	**Baring Head**	**6.30**	**59**	P	**Pn**	**12 10 37.2**	**-0.6**
WEL	**Wellington**	**6.31**	**58**	P	**Pn**	**12 10 37.9**	**0.0**
PLWZ	**Palliser**	**6.44**	**62**	P	**Pn**	**12 10 38.9**	**-0.9**
MSWZ	**Moikau Station**	**6.53**	**60**	P	**Pn**	**12 10 38.7**	**-2.2**
CAW	**Cannon Point**	**6.60**	**58**	P	**Pn**	**12 10 39.6**	**-2.2**
PAWZ	**Paruwai Farm**	**6.66**	**61**	P	**Pn**	**12 10 41.6**	**-1.1**
KIW	**Kapiti Island**	**6.66**	**55**	P	**Pn**	**12 10 41.5**	**-1.2**
TRWZ	**Traveller**	**6.81**	**62**	P	**Pn**	**12 10 44.5**	**-0.1**
MTW	**Mount Morrison**	**6.83**	**60**	P	**Pn**	**12 10 42.9**	**-2.1**
OGWZ	**Otaki Gorge**	**6.84**	**56**	P	**Pn**	**12 10 42.8**	**-2.2**
HOWZ	**Holdsworth Sta**	**6.99**	**58**	P	**Pn**	**12 10 45.8**	**-1.4**
TMWZ	**Te Maipa**	**7.10**	**61**	P	**Pn**	**12 10 47.3**	**-1.3**
NMEZ	**Namu Road**	**7.15**	**42**	P	**Pn**	**12 10 50.4**	**+1.2**
MRZ	**Mangatainoka R**	**7.18**	**57**	P	**Pn**	**12 10 47.7**	**-2.0**
NBEZ	**Newall Road No**	**7.26**	**41**	P	**Pn**	**12 10 51.4**	**+0.6**
KHEZ	**Kahui Hut**	**7.31**	**42**	P	**Pn**	**12 10 52.1**	**+0.6**
PREZ	**Palmer Road**	**7.34**	**43**	P	**Pn**	**12 10 52.5**	**+0.6**
NEZ	**North Egmont**	**7.37**	**42**	P	**Pn**	**12 10 53.6**	**+1.3**
LREZ	**Lake Rotokare**	**7.37**	**45**	P	**Pn**	**12 10 53.3**	**+1.1**
PKE	**Pukeiti**	**7.37**	**42**	P	**Pn**	**12 10 53.3**	**+0.9**
WAZ	**Wanganui**	**7.45**	**49**	P	**Pn**	**12 10 54.9**	**+1.5**
PRWZ	**Pori Road**	**7.48**	**57**	P	**Pn**	**12 10 52.3**	**-1.4**
DREZ	**Durham Road**	**7.48**	**43**	P	**Pn**	**12 10 54.8**	**+1.1**
BFZ	**Birch Farm**	**7.57**	**59**	P	**Pn**	**12 10 53.5**	**-1.4**
BFZ	**Birch Farm**	**7.57**	**59**	P	**Pn**	**12 10 54.0**	**-0.9**
MHEZ	**Mangahewa**	**7.63**	**43**	P	**Pn**	**12 10 58.6**	**+2.9**
DVHZ	**Dannevirke**	**7.75**	**57**	P	**Pn**	**12 10 56.3**	**-1.1**
TSZ	**Takapari Road**	**7.79**	**54**	P	**Pn**	**12 10 56.0**	**-2.0**
VRZ	**Vera Road**	**7.80**	**45**	P	**Pn**	**12 10 57.7**	**-0.4**
ANWZ	**Angora Road**	**7.84**	**59**	P	**Pn**	**12 10 57.4**	**-1.2**
PKVZ	**Pokaka**	**7.98**	**48**	P	**Pn**	**12 11 02.1**	**+1.6**
PNHZ	**Pukenui**	**8.02**	**55**	P	**Pn**	**12 10 59.5**	**-1.6**
PRHZ	**Porangahau**	**8.05**	**56**	P	**Pn**	**12 11 00.1**	**-1.4**
WPHZ	**Waipukurau**	**8.06**	**56**	P	**Pn**	**12 11 02.8**	**+1.2**
TRVZ	**Turoa**	**8.08**	**49**	P	**Pn**	**12 11 05.1**	**+3.0**
WNVZ	**Wahianoa**	**8.09**	**49**	P	**Pn**	**12 11 01.6**	**-0.6**
FWVZ	**Far West T-bar**	**8.12**	**49**	P	**Pn**	**12 11 04.5**	**+1.9**
TWVZ	**Taurewa**	**8.19**	**47**	P	**Pn**	**12 11 04.7**	**+1.3**
NGZ	**Ngauruhoe**	**8.20**	**49**	P	**Pn**	**12 11 04.2**	**+0.6**
BHHZ	**Black Hill Sta**	**8.23**	**52**	P	**Pn**	**12 11 03.1**	**-0.9**
WTVZ	**West Tongariro**	**8.24**	**48**	P	**Pn**	**12 11 05.9**	**+1.8**
NNVZ	**North Ngauruho**	**8.24**	**48**	P	**Pn**	**12 11 04.0**	**-0.1**
OTVZ	**Oturere**	**8.24**	**49**	P	**Pn**	**12 11 03.5**	**-0.7**
ETVZ	**East Tongariro**	**8.29**	**49**	P	**Pn**	**12 11 06.8**	**+2.0**
NTVZ	**North Tongarir**	**8.30**	**48**	P	**Pn**	**12 11 07.1**	**+2.2**
KRHZ	**Kereru**	**8.30**	**54**	P	**Pn**	**12 11 04.4**	**-0.4**
TMVZ	**Te Maari**	**8.30**	**49**	P	**Pn**	**12 11 07.2**	**+2.3**
HIZ	**Hauiti**	**8.33**	**42**	P	**Pn**	**12 11 04.4**	**-0.7**
HIZ	**Hauiti**	**8.33**	**42**	P	**Pn**	**12 11 04.7**	**-0.5**
PXZ	**Pawanui**	**8.34**	**57**	P	**Pn**	**12 11 03.7**	**-1.5**
KWHZ	**Kaweka Forest**	**8.48**	**53**	P	Pn	12 11 11.1	+3.8
KAHZ	**Kahuranaki**	**8.49**	**56**	P	**Pn**	**12 11 06.2**	**-1.3**
RATZ	**Rangitukua**	**8.52**	**48**	P	**Pn**	**12 11 10.3**	**+2.5**
WATZ	**Wairara**	**8.61**	**47**	P	Pn	12 11 12.6	+3.5
MCHZ	**McNeill Hill**	**8.62**	**54**	P	**Pn**	**12 11 09.6**	**+0.5**
BKZ	**Black Stump Fm**	**8.69**	**52**	P	**Pn**	**12 11 08.8**	**-1.3**
BKZ	**Black Stump Fm**	**8.69**	**52**	P	**Pn**	**12 11 09.0**	**-1.2**
TLZ	**Tolley Road**	**8.80**	**45**	P	**Pn**	**12 11 11.3**	**-0.3**
RAHZ	**Arahi**	**9.20**	**53**	P	**Pn**	**12 11 17.6**	**+0.6**
TOZ	**Tahuroa Road**	**9.26**	**42**	P	**Pn**	**12 11 18.5**	**+0.8**
RTZ	**Ruatahuna**	**9.35**	**51**	P	**Pn**	**12 11 18.8**	**-0.3**
AWAZ	**Awhitu Peninsu**	**9.42**	**36**	P	**Pn**	**12 11 21.3**	**+1.3**
WTAZ	**Waiatarua**	**9.50**	**36**	P	**Pn**	**12 11 22.0**	**+0.9**
ETAZ	**East Tamaki Re**	**9.63**	**37**	P	**Pn**	**12 11 24.9**	**+2.1**
RVAZ	**Riverhead Bore**	**9.65**	**35**	P	**Pn**	**12 11 25.7**	**+2.7**
PRGZ	**Paritu Road**	**9.65**	**55**	P	**Pn**	**12 11 22.3**	**-0.8**
RAGZ	**Rawiri**	**9.68**	**52**	P	**Pn**	**12 11 24.2**	**+0.7**
URZ	**Urewera**	**9.68**	**50**	P	**Pn**	**12 11 22.0**	**-1.4**
	2.4nm,0.3s,baz=242,slow=8.5,SNR=25						
URZ				S	**Sn**	**12 13 03.8**	**-6.4**
	1.7nm,0.3s,baz=72,slow=20,SNR=6.0						
URZ	**Urewera**	**9.68**	**50**	P	**Pn**	**12 11 22.2**	**-1.2**
MBAZ	**Motutapu North**	**9.78**	**36**	P	**Pn**	**12 11 27.1**	**+2.3**
WIAZ	**Waiheke Island**	**9.86**	**37**	P	**Pn**	**12 11 28.1**	**+2.2**
ABAZ	**Army Bay**	**9.89**	**36**	P	**Pn**	**12 11 29.2**	**+2.9**
KUZ	**Kuaotunu**	**10.16**	**39**	P	**Pn**	**12 11 30.2**	**+0.3**
TWGZ	**Tauwhareparae**	**10.22**	**52**	P	**Pn**	**12 11 29.8**	**-0.9**
WCZ	**Waipu Caves**	**10.28**	**32**	P	**Pn**	**12 11 33.4**	**+1.9**
PUZ	**Puketiti**	**10.45**	**53**	P	**Pn**	**12 11 33.1**	**-0.7**
OUZ	**Omahuta**	**10.67**	**27**	P	Pn	12 11 40.0	+3.3
OUZ	**Omahuta**	**10.67**	**27**	P	**Pn**	**12 11 37.2**	**+0.5**
CTZ	**Chatham Island**	**11.30**	**90**	P	**Pn**	**12 11 47.9**	**+2.9**
CAN	**Canberra**	**17.17**	**297**	P	**P**	**12 59.9**	**+0.5**
CAN				IAmb	IAmb	12 13 17.5	
	comp=Z,19nm,1.3s						
TOO	**Toolangi**	**18.20**	**286**	P	**P**	**12 13 11.6**	**+0.9**
TOO				IAmb	IAmb	12 13 30.6	
	comp=Z,25nm,1.3s						
EIDS	**Eidsvold**	**23.67**	**320**	P	**P**	**12 14 08.9**	**+1.2**
EIDS				IAmb	IAmb	12 14 37.8	
	comp=Z,16nm,1.3s						
LIFNC	**LIFOU**	**24.06**	**359**	P	**P**	**12 14 13.6**	**+2.4**
STKA	**Stephens Creek**	**24.12**	**294**	P	**P**	**12 14 12.3**	**+0.6**
VNDA	**Vanda**	**32.81**	**182**	P	**P**	**12 15 27.8**	**-0.7**
VNDA				IAmb	IAmb	12 15 33.7	
	comp=Z,3.6nm,1.2s						
AS31	**Alice Springs**	**34.68**	**296**	P	**P**	**12 15 43.9**	**-1.4**
ASAR	**Alice Springs**	**34.68**	**296**	P	**P**	**12 15 44.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=132,slow=5.3,SNR=27						
ASAR				PcP	**PcP**	**12 18 15.2**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=134,slow=3.5,SNR=6.0						
ASAR	**Alice Springs**	**34.68**	**296**	P	**P**	**12 15 44.3**	**-0.9**
CASY	**Casey**	**36.94**	**214**	P	P	12 16 00.2	-3.8
WR0	**Warramunga Arr**	**37.02**	**301**	P	**P**	**12 16 04.4**	**-0.8**
WR0				IAmb	IAmb	12 16 32.7	
	comp=Z,12nm,1.3s						
WB2	**Warramunga Arr**	**37.15**	**301**	P	**P**	**12 16 05.7**	**-0.6**
WB2				IAmb	IAmb	12 16 10.5	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**37.16**	**301**	P	**P**	**12 16 05.0**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=139,slow=7.6,SNR=14						
WRA				PcP	**PcP**	**12 18 22.5**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=132,slow=2.6,SNR=5.7						
WRA	**Warramunga Arr**	**37.16**	**301**	P	**P**	**12 16 06.0**	**-0.4**
WB0	**Warramunga Arr**	**37.26**	**301**	P	**P**	**12 16 05.8**	**-1.5**
WB0				IAmb	IAmb	12 16 18.7	
	comp=Z,8.3nm,1.3s						
H01W1	**Cape Leeuwin H**	**41.60**	**265**	T	T	13 00 45.9	
	baz=120,slow=75,SNR=7.0						
H01W2	**Cape Leeuwin H**	**41.62**	**265**	T	T	13 00 34.6	
	baz=120,slow=75,SNR=8.6						
H01W3	**Cape Leeuwin H**	**41.62**	**265**	T	T	13 00 47.4	
	baz=120,slow=75,SNR=7.3						
FITZ	**Fitzroy Crossi**	**44.02**	**294**	P	**P**	**12 17 01.6**	**-1.1**
FITZ				IAmb	IAmb	12 17 10.2	
	comp=Z,8.9nm,1.2s						
QSPA	**South Pole Qui**	**45.23**	**180**	P	**P**	**12 17 13.7**	**+1.7**
	comp=Z,7.7nm,0.7s,baz=355,slow=1.1,SNR=42						
QSPA				PcP	**PcP**	**12 18 49.9**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=83,slow=0.3,SNR=5.8						
QSPA	**South Pole Qui**	**45.23**	**180**	P	**P**	**12 17 13.3**	**+1.3**
QSPA				IAmb	IAmb	12 17 14.3	
	comp=Z,8.7nm,0.8s						
BELA	**Belgrano 2**	**56.73**	**174**	P	**P**	**12 18 38.0**	**+0.4**
BELA				IAmb	IAmb	12 18 38.8	
	comp=Z,5.3nm,0.9s						
SNAA	**Sanae**	**63.54**	**183**		**P**	**12 19 22.8**	**-1.3**
PLCA	**Paso Flores**	**80.03**	**139**	P	**P**	**12 21 03.8**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=222,slow=4.5,SNR=4.9						
PLCA	**Paso Flores**	**80.03**	**139**	P	**P**	**12 21 04.2**	**+1.0**
H08S2	**Diego Garcia H**	**88.33**	**261**	T	T	13 59 02.7	
	baz=135,slow=76,SNR=6.3						
H08S1	**Diego Garcia H**	**88.35**	**261**	T	T	13 58 59.1	
	baz=135,slow=76,SNR=4.6						
H08S3	**Diego Garcia H**	**88.35**	**261**	T	T	13 58 52.7	
	baz=135,slow=76,SNR=5.0						
CM31	**Chiang Mai Arr**	**88.68**	**298**	P	**P**	**12 21 46.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**88.68**	**298**	P	**P**	**12 21 46.8**	**0.0**
	comp=Z,1.6nm,0.9s,baz=168,slow=3.7,SNR=11						
CMAR	**Chiang Mai Arr**	**88.68**	**298**	P	**P**	**12 21 47.2**	**+0.3**
ILAR	**Eielson Array**	**114.95**	**20**	PKP	PKPdf	12 27 31.6	-0.8
	comp=Z,0.3nm,0.6s,baz=211,slow=5.3,SNR=7.7						
MKAR	**Makanchi Array**	**118.17**	**309**	PKP	**PKPdf**	**12 27 37.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=197,slow=1.3,SNR=4.9						
INK	**Inuvik**	**121.07**	**22**	PKP	**PKPdf**	**12 27 43.0**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=108,slow=1.9						
INK	**Inuvik**	**121.07**	**22**		**PKPdf**	**12 27 43.9**	**-0.2**
YKA	**Yellowknife Ar**	**123.56**	**33**	PKP	**PKPdf**	**12 27 48.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=255,slow=1.6,SNR=7.7						
BRTR	**Keskin Array B**	**145.99**	**278**	PKPbc	**PKPdf**	**12 28 31.9**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=153,slow=4.1,SNR=5.4						
BRTR	**Keskin Array B**	**145.99**	**278**		**PKPdf**	**12 28 31.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.18**	**205**	PKPbc	**PKPdf**	**12 28 32.6**	**+0.3**
	comp=Z,6.8nm,0.7s,baz=141,slow=1.9,SNR=28						
ARCES	**ARCESS Array B**	**148.87**	**335**	PKPbc	**PKPbc**	**12 28 38.7**	**-0.6**
	comp=Z,5.5nm,0.9s,baz=358,slow=4.2,SNR=5.3						
AKASG	**Malin Array Be**	**151.80**	**297**	PKPbc	**PKPbc**	**12 28 46.1**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=79,slow=2.3,SNR=15						
FINES	**FINESS Array B**	**152.21**	**320**	PKPbc	**PKPbc**	**12 28 46.9**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=73,slow=6.4,SNR=7.4						
FINES	**FINESS Array B**	**152.21**	**320**	PKPdf	**PKPdf**	**12 28 42.2**	**+1.7**
FINES					**PKPbc**	**12 28 47.1**	**-0.2**
FINES				PKPab	**PKPab**	**12 28 58.5**	**+0.8**

*NOU **14** 12:21:03.5, 42°37S×173°02E, h11km, MLv3.6/8, South Island, New Zealand*
*WEL **14** 12:21:03.1, 42°S±4'×17°3E±', h15km±10km, M3.1/12, ML3.3/12, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=53.1*
ISC 14 12:21:02.2±1.4, 42°33S±0°03×173°03E±0°03, h1km±12km, n81, σ1s53/88, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.39**	**104**	P	**Pb**	**12 21 12.1**	**+0.2**
KHZ	**Kahutara**	**0.39**	**104**	P	**Pb**	**12 21 12.1**	**+0.2**
THZ	**Tophouse**	**0.57**	**351**	P	**Pg**	**12 21 13.9**	**+0.7**
THZ				S	**Sg**	**12 21 20.5**	**0.0**
GVZ	**Greta Valley S**	**0.64**	**180**	P	**Pn**	**12 21 18.1**	**-0.5**
GVZ				S	**Sn**	**12 21 28.4**	**-1.1**
LTZ	**Lake Taylor**	**0.72**	**231**	P	**Pb**	**12 21 18.0**	**+0.3**
LTZ				S	**Sb**	**12 21 27.6**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.88**	**46**	P	**Pg**	**12 21 20.1**	**+1.0**
AMCZ	**Amberley**	**0.89**	**198**	P	**Pn**	**12 21 22.5**	**+0.5**
AMCZ				S	**Sn**	**12 21 36.3**	**+0.7**
MRNZ	**Matariki Terra**	**0.95**	**348**	P	**Pg**	**12 21 20.8**	**+0.4**
MRNZ				S	**Sg**	**12 21 32.6**	**-0.1**
CMWZ	**Cape Campbell**	**1.05**	**57**	P	**Pn**	**12 21 24.9**	**+0.7**
CMWZ				S	**Sn**	**12 21 41.8**	**+2.3**
DSZ	**Denniston Nort**	**1.08**	**302**	P	**Pn**	**12 21 24.1**	**-0.5**
DSZ				S	**Sn**	**12 21 40.3**	**0.0**
TUWZ	**Tuamarina**	**1.13**	**38**	P	**Pb**	**12 21 23.7**	**-0.8**
NNZ	**Nelson**	**1.14**	**13**	P	**Pb**	**12 21 23.3**	**-1.4**
OXZ	**Oxford**	**1.24**	**216**	P	**Pb**	**12 21 26.3**	**-0.1**
INZ	**Inchbonnie**	**1.24**	**251**	P	**Pg**	**12 21 26.8**	**+0.8**
TKNZ	**Takaka Hill**	**1.29**	**358**	P	**Pn**	**12 21 26.6**	**-1.0**
OKCZ	**Okains Bay**	**1.40**	**179**	P	**Pn**	**12 21 28.7**	**-0.2**
MQZ	**McQueen's Vall**	**1.41**	**191**	P	**Pn**	**12 21 28.2**	**-0.9**
TCW	**Tory Channel**	**1.45**	**40**	P	**Pn**	**12 21 28.7**	**-1.0**
RACZ	**Rakaia**	**1.54**	**205**	P	**Pn**	**12 21 30.6**	**-0.3**
QRZ	**Quartz Range**	**1.55**	**346**	P	**Pn**	**12 21 30.9**	**-0.1**
QRZ	**Quartz Range**	**1.55**	**346**	P	**Pn**	**12 21 31.2**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.55**	**183**	P	**Pn**	**12 21 30.6**	**-0.4**
SNZO	**South Karori**	**1.61**	**52**	P	**Pn**	**12 21 31.6**	**-0.3**
BHW	**Baring Head**	**1.65**	**57**	P	**Pn**	**12 21 32.5**	**+0.1**
DUWZ	**D'Urville Isla**	**1.66**	**24**	P	**Pn**	**12 21 32.1**	**-0.5**
WEL	**Wellington**	**1.67**	**52**	P	**Pn**	**12 21 32.5**	**-0.1**
PLWZ	**Palliser**	**1.82**	**66**	P	**Pn**	**12 21 33.6**	**-1.2**
WACZ	**Wakanui South**	**1.83**	**208**	P	**Pn**	**12 21 34.5**	**-0.4**
WVZ	**Waitaha Valley**	**1.85**	**245**	P	**Pb**	**12 21 36.2**	**-0.6**
MSWZ	**Moikau Station**	**1.89**	**62**	P	**Pn**	**12 21 34.7**	**-1.1**
CAW	**Cannon Point**	**1.95**	**52**	P	**Pn**	**12 21 36.0**	**-0.6**
RPZ	**Rata Peaks**	**2.01**	**226**	P	**Pn**	**12 21 37.1**	**-0.2**
RPZ	**Rata Peaks**	**2.01**	**226**	P	**Pn**	**12 21 37.0**	**-0.3**
KIW	**Kapiti Island**	**2.03**	**45**	P	**Pn**	**12 21 37.8**	**+0.1**
ARCZ	**Arundel**	**2.11**	**219**	P	**Pn**	**12 21 38.5**	**-0.3**
MTW	**Mount Morrison**	**2.19**	**59**	P	**Pn**	**12 21 38.6**	**-1.2**
OGWZ	**Otaki Gorge**	**2.20**	**48**	P	**Pn**	**12 21 39.5**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.22**	**243**	P	**Pb**	**12 21 41.3**	**-2.0**
HOWZ	**Holdsworth Sta**	**2.35**	**53**	P	**Pn**	**12 21 41.0**	**-1.0**
TMZ	**Timaru**	**2.53**	**215**	P	**Pn**	**12 21 43.8**	**-0.8**
MRZ	**Mangatainoka R**	**2.54**	**50**	P	**Pn**	**12 21 43.5**	**-1.1**
FOZ	**Fox Glacier**	**2.65**	**242**	P	**Pn**	**12 21 47.4**	**+1.3**
PRWZ	**Pori Road**	**2.83**	**52**	P	**Pn**	**12 21 47.7**	**-1.0**
BFZ	**Birch Farm**	**2.92**	**57**	P	**Pn**	**12 21 50.7**	**+0.8**
LBZ	**Lake Benmore**	**2.92**	**224**	P	**Pn**	**12 21 50.1**	**+0.2**
WAZ	**Wanganui**	**2.96**	**31**	P	**Pb**	**12 21 54.2**	**-1.7**
NMEZ	**Namu Road**	**2.98**	**13**	P	**Pb**	**12 21 53.7**	**-2.4**
LREZ	**Lake Rotokare**	**3.05**	**20**	P	**Pb**	**12 21 54.5**	**-2.7**
PREZ	**Palmer Road**	**3.10**	**16**	P	**Pb**	**12 21 55.4**	**-2.8**
KHEZ	**Kahui Hut**	**3.12**	**14**	P	**Pn**	**12 21 54.9**	**+2.2**
NBEZ	**Newall Road No**	**3.12**	**12**	P	**Pn**	**12 21 54.6**	**+2.0**
NEZ	**North Egmont**	**3.16**	**15**	P	**Pb**	**12 21 56.6**	**-2.6**
TSZ	**Takapari Road**	**3.17**	**45**	P	**Pn**	**12 21 52.0**	**-1.3**
ANWZ	**Angora Road**	**3.19**	**55**	P	**Pn**	**12 21 52.2**	**-1.4**
PKE	**Pukeiti**	**3.21**	**13**	P	**Pn**	**12 21 56.2**	**+2.3**
ODZ	**Otahua Downs**	**3.22**	**212**	P	**Pn**	**12 21 53.1**	**-0.9**
ODZ	**Otahua Downs**	**3.22**	**212**	P	**Pn**	**12 21 53.3**	**-0.7**
PNHZ	**Pukenui**	**3.40**	**46**	P	**Pb**	**12 22 02.5**	**-0.8**
VRZ	**Vera Road**	**3.46**	**23**	P	**Pn**	**12 21 59.2**	**+2.0**
PKVZ	**Pokaka**	**3.51**	**31**	P	**Pb**	**12 22 02.7**	**-2.5**
MOVZ	**Moawhango**	**3.57**	**36**	P	**Pb**	**12 22 02.9**	**-3.5**
WNVZ	**Wahianoa**	**3.57**	**34**	P	**Pn**	**12 21 60.0**	**+0.9**
TRVZ	**Turoa**	**3.58**	**33**	P	**Pb**	**12 22 05.7**	**-0.8**
FWVZ	**Far West T-bar**	**3.62**	**33**	P	**Pb**	**12 22 04.8**	**-2.4**
TUVZ	**Tukino**	**3.65**	**34**	P	**Pn**	**12 22 03.4**	**+3.4**
BHHZ	**Black Hill Sta**	**3.65**	**40**	P	**Pn**	**12 22 03.4**	**+3.5**
NGZ	**Ngauruhoe**	**3.70**	**33**	P	**Pb**	**12 22 06.6**	**-2.0**
OTVZ	**Oturere**	**3.74**	**33**	P	**Pn**	**12 22 04.3**	**+3.0**
**NNVZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.17**	**24**	Pn	Pn	13 11 33.5	-0.1
	1.9nm,0.3s,baz=162,slow=18,SNR=12						
SIJI				Sn	Sn	13 12 31.7	-13
	4.2nm,0.3s,baz=285,slow=24,SNR=16						
WRA	**Warramunga Arr**	**14.40**	**158**	Pn	Pn	13 13 26.3	-0.1
	0.2nm,0.3s,baz=337,slow=14,SNR=12						
WRA				Sn	Sn	13 15 52.8	-14
	0.2nm,0.3s,baz=340,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.75**	**164**	P	Pn	13 14 09.9	+0.1
	0.1nm,0.3s,baz=338,slow=9.0,SNR=7.2						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	13 20 56.9	0.0
	0.2nm,0.4s,baz=123,slow=5.3,SNR=7.1						

WEL 14 13:12:14.8, 42°S±4°×17°3E±°, h14km±9km, M3.3/9, ML3.5/9, MLv3.3/9, Error ellipse: s-maj=0.0km s-min=0.0km az=52.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.43**	**109**	P	Pg	13 12 23.7	+0.3
KHZ				S	Sg	13 12 29.6	+0.4
THZ	**Tophouse**	**0.52**	**353**	P	Pb	13 12 25.5	-0.2
THZ				S	Sg	13 12 32.0	+0.1
GVZ	**Greta Valley S**	**0.69**	**177**	P	Pn	13 12 29.9	-0.4
GVZ				S	Sn	13 12 40.2	-0.6
LTZ	**Lake Taylor**	**0.73**	**226**	P	Pb	13 12 29.9	+0.5
LTZ				S	Sb	13 12 39.6	+0.3
BSWZ	**Blackbirch Sta**	**0.86**	**50**	P	Pg	13 12 31.5	-0.1
BSWZ				S	Sb	13 12 43.3	+0.3
MRNZ	**Matariki Terra**	**0.89**	**349**	P	Pn	13 12 32.5	-0.4
MRNZ				S	Sb	13 12 44.0	+0.1
AMCZ	**Amberley**	**0.94**	**195**	P	Pn	13 12 34.3	+0.7
AMCZ				S	Sn	13 12 49.2	+2.5
DSZ	**Denniston Nort**	**1.03**	**301**	P	Pn	13 12 35.6	+0.7
CMWZ	**Cape Campbell**	**1.05**	**60**	P	Pn	13 12 36.1	+0.9
NNZ	**Nelson**	**1.10**	**16**	P	Pb	13 12 34.9	-0.6
TUWZ	**Tuamarina**	**1.10**	**40**	P	Pb	13 12 35.4	-0.3
TUWZ				S	Sn	13 12 51.8	+0.9
INZ	**Inchbonnie**	**1.23**	**248**	P	Pg	13 12 38.5	+0.1
TKNZ	**Takaka Hill**	**1.24**	**359**	P	Pg	13 12 38.4	-0.3
OXZ	**Oxford**	**1.26**	**213**	P	Pn	13 12 38.2	+0.1
TCW	**Tory Channel**	**1.43**	**43**	P	Pn	13 12 40.3	-0.1
OKCZ	**Okains Bay**	**1.45**	**178**	P	Pn	13 12 40.5	-0.2
MQZ	**McQueen's Vall**	**1.45**	**190**	P	Pn	13 12 39.7	-0.9
QRZ	**Quartz Range**	**1.49**	**346**	P	Pb	13 12 42.7	+0.4
RACZ	**Rakaia**	**1.58**	**203**	P	Pn	13 12 42.4	0.0
AKCZ	**Akaroa Harbour**	**1.60**	**182**	P	Pn	13 12 42.3	-0.4
DUWZ	**D'Urville Isla**	**1.63**	**26**	P	Pn	13 12 43.3	+0.6
BHW	**Baring Head**	**1.65**	**59**	P	Pn	13 12 43.7	+0.4
WEL	**Wellington**	**1.66**	**54**	P	Pn	13 12 44.0	+0.6
PLWZ	**Palliser**	**1.83**	**68**	P	Pn	13 12 45.2	-0.7
WVZ	**Waitaha Valley**	**1.84**	**244**	P	Pb	13 12 47.8	-0.5
WACZ	**Wakanui South**	**1.87**	**206**	P	Pn	13 12 46.4	0.0
MSWZ	**Moikau Station**	**1.89**	**64**	P	Pn	13 12 46.3	-0.5
CAW	**Cannon Point**	**1.94**	**54**	P	Pn	13 12 47.6	+0.2
KIW	**Kapiti Island**	**2.02**	**46**	P	Pn	13 12 49.3	+0.9
RPZ	**Rata Peaks**	**2.02**	**224**	P	Pn	13 12 48.6	+0.1
PAWZ	**Paruwai Farm**	**2.03**	**65**	P	Pn	13 12 48.0	-0.6
ARCZ	**Arundel**	**2.13**	**218**	P	Pn	13 12 50.1	0.0
MTW	**Mount Morrison**	**2.19**	**60**	P	Pn	13 12 50.2	-0.6
OGWZ	**Otaki Gorge**	**2.19**	**49**	P	Pn	13 12 51.1	+0.3
TRWZ	**Traveller**	**2.20**	**67**	P	Pn	13 12 50.2	-0.7
GCSZ	**Gaunt Creek Bo**	**2.22**	**241**	P	Pn	13 12 52.9	+1.7
HOWZ	**Holdsworth Sta**	**2.32**	**55**	P	Pn	13 12 52.6	-0.3
MRZ	**Mangatainoka R**	**2.53**	**74**	P	Pn	13 12 55.1	-0.4
TMZ	**Timaru**	**2.56**	**214**	P	Pn	13 12 55.6	-0.3
FOZ	**Fox Glacier**	**2.65**	**241**	P	Pn	13 12 59.0	+2.0
PRWZ	**Pori Road**	**2.82**	**54**	P	Pn	13 13 00.9	+1.3
BFZ	**Birch Farm**	**2.92**	**58**	P	Pn	13 13 00.8	0.0
WAZ	**Wanganui**	**2.94**	**32**	P	Pb	13 13 05.6	-1.3
NMEZ	**Namu Road**	**2.94**	**14**	P	Pb	13 13 05.3	-1.6
LBZ	**Lake Benmore**	**2.94**	**223**	P	Pn	13 13 01.5	+0.3
LREZ	**Lake Rotokare**	**3.01**	**21**	P	Pb	13 13 08.4	+0.2
PREZ	**Palmer Road**	**3.06**	**17**	P	Pb	13 13 07.0	-2.0
KHEZ	**Kahui Hut**	**3.08**	**15**	P	Pb	13 13 06.8	-2.5
NBEZ	**Newall Road No**	**3.08**	**13**	P	Pb	13 13 06.3	-3.0
NEZ	**North Egmont**	**3.12**	**16**	P	Pb	13 13 08.4	-1.7
TSZ	**Takapari Road**	**3.15**	**46**	P	Pn	13 13 03.5	-0.5
PKE	**Pukeiti**	**3.17**	**14**	P	Pb	13 13 08.2	-2.7
DREZ	**Durham Road**	**3.22**	**17**	P	Pb	13 13 08.8	-2.9
ODZ	**Otahua Downs**	**3.25**	**211**	P	Pn	13 13 04.9	-0.5
PNHZ	**Pukenui**	**3.38**	**47**	P	Pn	13 13 13.7	-0.9
VRZ	**Vera Road**	**3.42**	**24**	P	Pn	13 13 11.1	+3.4
PKVZ	**Pokaka**	**3.48**	**32**	P	Pb	13 13 13.2	-2.9
WNVZ	**Wahianoa**	**3.55**	**35**	P	Pn	13 13 11.9	+2.3
MOVZ	**Moawhango**	**3.55**	**37**	P	Pb	13 13 15.6	-1.8
WHVZ	**Whangaehu Hut**	**3.58**	**34**	P	Pb	13 13 16.9	-1.1
TUVZ	**Tukino**	**3.62**	**35**	P	Pb	13 13 16.5	-2.1
NGZ	**Ngauruhoe**	**3.68**	**34**	P	Pb	13 13 17.2	-2.4
TWVZ	**Taurewa**	**3.70**	**31**	P	Pb	13 13 17.1	-2.9
OTVZ	**Oturere**	**3.71**	**34**	P	Pb	13 13 17.4	-2.8
NNVZ	**North Ngauruho**	**3.72**	**33**	P	Pb	13 13 16.6	-3.8
WTVZ	**West Tongariro**	**3.72**	**33**	P	Pb	13 13 18.8	-1.6
ETVZ	**East Tongariro**	**3.76**	**34**	P	Pb	13 13 17.5	-3.5
TMVZ	**Te Maari**	**3.77**	**34**	P	Pb	13 13 19.4	-1.8
WKZ	**Wanaka**	**3.85**	**227**	P	Pn	13 13 13.2	-0.4
EAZ	**Earnscleugh**	**3.98**	**221**	P	Pn	13 13 14.9	-0.5
HHSZ	**Highcliff Hill**	**4.00**	**205**	P	Pn	13 13 13.6	-2.1
HIZ	**Hauiti**	**4.02**	**21**	P	Pn	13 13 17.9	+2.0
BKZ	**Black Stump Fm**	**4.09**	**42**	P	Pn	13 13 18.2	+1.2
TLZ	**Tolley Road**	**4.40**	**27**	P	Pn	13 13 24.4	+3.2
TUZ	**Tuapeka**	**4.40**	**212**	P	Pn	13 13 21.1	0.0
SYZ	**Scrubby Hill**	**5.08**	**212**	P	Pn	13 13 30.4	0.0
AWAZ	**Awhitu Peninsu**	**5.36**	**14**	P	Pn	13 13 37.4	+3.1
ETAZ	**East Tamaki Re**	**5.52**	**16**	P	Pn	13 13 39.4	+2.8
WIAZ	**Waiheke Island**	**5.72**	**18**	P	Pn	13 13 41.5	+2.2
APZ	**The Paps**	**5.79**	**216**	P	Pn	13 13 40.6	+0.4
KUZ	**Kuaotunu**	**5.91**	**22**	P	Pn	13 13 43.9	+2.0

*IDC **14** 13:14:59.5±1.7, 55°23S×28°17W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.6/28, mbtmp4.1/2, MS3.5/9, Ms1 3.5/9, ms1mx3.2/44, Error ellipse: s-maj=76.5km s-min=36.7km az=17.0*
*NEIC **14** 13:15:00.7±1.4, 55°3S±0°2×28°1W±0°3, h10km±1km, mb4.4/8, Error ellipse: s-maj=38.9km s-min=18.6km az=44.0*
ISC 14 13:15:03.2±0.8, 55°3S±0°1×28°3W±0°2, h26km, n25, σ0.58/15, mb4.4/4, MS3.6/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.88**	**279**	Pn	**Pn**	**13 16 14.3**	**-0.5**
SNAA	**Sanae**	**19.68**	**156**	LR	LR	13 25 19.0	
	comp=Z,121nm,19.1s,baz=0.0,slow=31						
SNAA	**Sanae**	**19.68**	**156**	P	**P**	**13 19 28.9**	**-1.0**
PMSA	**Palmer Station**	**19.96**	**227**	LR	LR	13 26 39.9	
	comp=Z,236nm,18.6s,baz=100,slow=35						
BELA	**Belgrano 2**	**22.80**	**183**	P	**P**	**13 20 04.0**	**+0.6**
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**13 21 52.7**	**-0.1**
QSPA				IAmb	IAmb	13 21 53.4	
	comp=Z,8.7nm,1.5s						
CPUP	**Villa Florida**	**35.86**	**312**	P	**P**	**13 22 00.6**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=151,slow=5.9,SNR=4.7						
CPUP	**Villa Florida**	**35.86**	**312**	P	**P**	**13 21 59.9**	**-0.8**
CPUP				IAmb	IAmb	13 22 01.5	
	comp=Z,7.2nm,1.1s						
SUR	**Sutherland**	**41.03**	**77**	LR	LR	13 36 45.3	
	comp=Z,76nm,18.0s,baz=199,slow=32						
LVC	**Limon Verde**	**44.40**	**301**	LR	LR	13 43 12.0	
	comp=Z,24nm,19.4s,baz=190,slow=38						
BOSA	**Boshof**	**46.38**	**78**	LR	LR	13 40 30.7	
	comp=Z,44nm,19.1s,baz=188,slow=33						
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**13 23 34.3**	**+0.5**
PB16	**IPOC Station P**	**48.33**	**303**	P	**P**	**13 23 44.0**	**+1.0**
PB16				IAmb	IAmb	13 24 04.1	
	comp=Z,6.9nm,1.3s						
LBTB	**Lobatse**	**49.38**	**75**	LR	LR	13 39 34.3	
	comp=Z,15nm,20.3s,baz=193,slow=30						
LPAZ	**La Paz**	**49.45**	**306**	P	**P**	**13 23 52.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=159,slow=8.3,SNR=7.0						
LPAZ	**La Paz**	**49.45**	**306**	P	**P**	**13 23 51.7**	**0.0**
LPAZ				IAmb	IAmb	13 23 53.1	
	comp=Z,3.1nm,0.9s						
MDP	**Montagnes des**	**63.48**	**333**	LR	LR	13 51 56.6	
	comp=Z,40nm,18.5s,baz=76,slow=35						

TORD	**Torodi Ar. Bea**	**72.70**	**31**	P	**P**	**13 26 28.7**	**+0.1**
	comp=Z,4μm,0.5s,baz=197,slow=6.9,SNR=4.8						
SDV	**Santo Domingo**	**73.05**	**316**	LR	LR	14 02 00.3	
	comp=Z,53nm,18.4s,baz=218,slow=39						
ATD	**Arta Tunnel**	**88.93**	**68**	LR	LR	14 05 50.1	
	comp=Z,26nm,18.8s,baz=87,slow=34						
YKA	**Yellowknife Ar**	**135.20**	**319**	PKP	**PKPdf**	**13 34 19.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=129,slow=2.1,SNR=5.9						
INK	**Inuvik**	**144.84**	**321**	PKP	PKPbc	13 34 35.4	+0.2
	comp=Z,3.9nm,1.1s,baz=78,slow=5.4,SNR=8.3						
ILAR	**Eielson Array**	**149.16**	**313**	PKPbc	**PKPbc**	**13 34 48.0**	**+0.4**
	comp=Z,5.9nm,1.0s,baz=120,slow=1.5,SNR=30						
SONM	**Songino Array**	**151.28**	**86**	PKPbc	**PKiKP**	**13 34 53.7**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=245,slow=1.5,SNR=6.1						
SONM	**Songino Array**	**151.28**	**86**		**PKPbc**	**13 34 53.1**	**-0.3**

*IDC **14** 13:19:07.6±3.3, 1°96S×139°76E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.5/47, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=115.5km s-min=23.8km az=91.0*
*DJA **14** 13:19:08.2±0.7, 1°S±5°×13°9E±°, h10km, M4.2/4, MLv4.2/4*
*NEIC **14** 13:19:10.1±1.0, 2°00S±0°06×139°4E±0°2, h10km±2km, mb4.1/15, Error ellipse: s-maj=29.8km s-min=6.0km az=106.0*
ISC 14 13:19:14.1±0.8, 2°2S±0°1×138°98E±0°07, h29km, n35, σ1.53/28, mb4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.32**	**303**	P	**Pb**	**13 19 21.0**	**-0.7**
SMPI				S	**Sn**	**13 19 30.8**	**+2.4**
GENI	**Genyem**	**1.27**	**110**	P	**Pn**	**13 19 34.8**	**-1.0**
GENI				S	**Sb**	**13 19 54.1**	**+0.9**
WAMI	**Wamena**	**1.73**	**189**	P	Pb	13 19 51.9	+6.6
SRPI	**Serui, Papua**	**2.75**	**276**	P	**Pn**	**13 19 54.1**	**-2.2**
SRPI				S	**Sn**	**13 20 32.0**	**+3.4**
BAKI	**Biak**	**3.03**	**289**	P	**Pn**	**13 19 57.0**	**-3.1**
COEN	**Coen**	**12.43**	**161**	Pn	**Pn**	**13 22 06.9**	**-2.3**
KNRA	**Kununurra**	**16.78**	**216**	Pn	**P**	**13 23 09.9**	**+0.7**
KNRA				IAmb	IAmb	13 23 14.8	
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**18.06**	**194**	P	**P**	**13 23 24.3**	**+1.0**
WB0				IAmb	IAmb	13 23 29.7	
	comp=Z,7.3nm,0.8s						
WR0	**Warramunga Arr**	**18.21**	**193**	P	**P**	**13 23 26.0**	**+1.1**
WR0				IAmb	IAmb	13 23 36.1	
	comp=Z,10nm,1.1s						
WRAB	**Tennant Creek**	**18.23**	**194**	P	**P**	**13 23 25.6**	**+0.5**
WRAB				IAmb	IAmb	13 23 30.0	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**18.24**	**194**	P	**P**	**13 23 25.9**	**+0.6**
WB2				IAmb	IAmb	13 23 36.2	
	comp=Z,9.8nm,0.6s						
WRA	**Warramunga Arr**	**18.24**	**194**	P	**P**	**13 23 26.8**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=18,slow=12,SNR=30						
WRA	**Warramunga Arr**	**18.24**	**194**	P	**P**	**13 23 26.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.54**	**219**	P	Pn	13 23 55.2	+2.4
	comp=Z,4.8nm,1.0s,baz=32,slow=14,SNR=6.7						
FITZ	**Fitzroy Crossi**	**20.54**	**219**	P	Pn	13 23 53.2	+0.4
FITZ				IAmb	IAmb	13 23 59.5	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**21.93**	**193**	P	**P**	**13 24 05.2**	**-0.2**
ASAR	**Alice Springs**	**21.93**	**193**	P	**P**	**13 24 06.9**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=18,slow=12,SNR=26						
ASAR	**Alice Springs**	**21.93**	**193**	P	**P**	**13 24 05.4**	**0.0**
PSA00	**Pilbara Seismi**	**26.82**	**223**	P	**P**	**13 24 53.1**	**+1.0**
FORT	**Forrest**	**30.28**	**199**	P	**P**	**13 25 24.6**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**34.13**	**52**	T	T	14 01 28.8	
	baz=236,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**34.15**	**52**	T	T	14 01 31.2	
	baz=236,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**34.15**	**52**	T	T	14 01 28.8	
	baz=236,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**34.98**	**50**	T	T	14 02 50.3	
	baz=229,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**35.00**	**50**	T	T	14 02 42.7	
	baz=229,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**35.00**	**50**	T	T	14 02 48.1	
	baz=229,slow=76,SNR=7.3						
MCQ	**Macquarie Isla**	**54.67**	**166**	P	**P**	**13 28 40.3**	**0.0**
MKAR	**Makanchi Array**	**69.52**	**322**	P	**P**	**13 30 19.3**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=118,slow=6.9,SNR=6.1						
MAKZ	**Makanchi**	**69.72**	**322**	P	**P**	**13 30 20.3**	**-1.1**
MAKZ				IAmb	IAmb	13 30 24.5	
	comp=Z,1.2nm,0.8s						
KURK	**Kurchatov**	**73.42**	**325**	P	**P**	**13 30 44.9**	**+1.3**
KURK	**Kurchatov**	**73.42**	**325**	IAmb	IAmb	13 30 53.5	
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**73.44**	**325**	P	**P**	**13 30 44.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=112,slow=5.1,SNR=2.8						
KKAR	**Karatay Array**	**75.93**	**315**	P	**P**	**13 30 59.4**	**+1.1**
VNDA	**Vanda**	**76.30**	**175**	P	**P**	**13 30 59.3**	**-0.4**
VNDA				IAmb	IAmb	13 30 59.9	
	comp=Z,2.5nm,1.1s						
QSPA	**South Pole Qui**	**87.78**	**180**	P	**P**	**13 32 00.1**	**-0.3**

*SJA **14** 13:21:48.8±0.6, 30°61S×72°07W, h13km, ML4.2, MW4.0*
*IDC **14** 13:21:49.3±2.4, 30°68S×71°64W, h0km, mb4.3/3, mb1 4.0/7, mb1mx3.8/29, mbtmp3.9/7, ML3.7/4, MS3.2/3, Ms1 3.2/3, ms1mx2.9/50, Error ellipse: s-maj=73.3km s-min=27.8km az=99.0*
*NEIC **14** 13:21:50.3±2.0, 30°64S±0°05×71°94W±0°05, h5km±6km, Error ellipse: s-maj=6.9km s-min=6.3km az=185.0*
*GUC **14** 13:21:52.9±0.7, 30°67S×71°73W, h38km±1km, ML4.5*
ISC 14 13:21:52.8±1.0, 30°62S±0°02×71°81W±0°05, h31km±7km, n98, σ1.39/126, mb4.3/4, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**111**	Pg	**Pn**	**13 21 59.0**	**-0.2**
CO06				Sg	**Sn**	**13 22 02.3**	**-0.8**
CO06	**Fray Jorge**	**0.16**	**111**	*eP*	**Pb**	**13 21 58.8**	**0.0**
CO06				*eS*	**Sn**	**13 22 02.1**	**-1.0**
CO06				IAML		13 22 03.2	
	comp=E,59μm,0.4s						
CO05	**La Serena**	**0.85**	**36**		**Pn**	**13 22 07.9**	**-0.8**
CO05	**La Serena**	**0.85**	**36**	*‖ iP*	**Pb**	**13 22 08.8**	**-0.3**
CO02	**Combarbal**	**0.91**	**130**		**Pn**	**13 22 08.9**	**-0.7**
CO02	**Combarbal**	**0.91**	**130**	*‖ eP*	**Pn**	**13 22 08.8**	**-0.9**
CO02				*eS*	**Sn**	**13 22 19.5**	**-2.2**
CO02				IAML		13 22 24.7	
	comp=N,27μm,0.6s						
CO02	**Combarbal**	**0.91**	**130**	*eP*	**Pn**	**13 22 09.1**	**-0.6**
CO02				*eS*	**Sn**	**13 22 20.1**	**-1.7**
CO02				IAML		13 22 20.8	
	comp=Z,7μm,0.5s						
GO04	**Tololo Observa**	**0.98**	**63**		**Pn**	**13 22 10.3**	**-0.3**
GO04	**Tololo Observa**	**0.98**	**63**	*‖ iP*	**Pn**	**13 22 10.4**	**-0.2**
GO04	**Tololo Observa**	**0.98**	**63**	*eP*	**Pn**	**13 22 10.6**	**-0.1**
GO04				*eS*	**Sb**	**13 22 23.8**	**-0.2**
CO03	**El Pedregal**	**0.99**	**103**		**Pn**	**13 22 09.7**	**-1.0**
CO03				Sg	**Sn**	**13 22 21.6**	**-2.1**
CO03	**El Pedregal**	**0.99**	**103**	*eP*	**Pn**	**13 22 09.4**	**-1.3**
CO03				*eS*	**Sn**	**13 22 20.5**	**-3.2**
CO03				IAML		13 22 22.1	
	comp=E,18μm,0.3s						
LCO	**Las Campanas**	**1.87**	**31**	Pn	**Pn**	**13 22 24.1**	**+1.2**
LCO	**Las Campanas**	**1.87**	**31**	*i P*	**Pn**	**13 22 24.2**	**+1.2**
LCO				*eS*	**Sb**	**13 22 48.2**	**-1.3**
LCO	**Las Campanas**	**1.87**	**31**	*eP*	**Pb**	**13 22 24.7**	**-1.7**
VA06	**Catapilco**	**1.99**	**167**	Pn	**Pn**	**13 22 24.9**	**+0.6**
VA06	**Catapilco**	**1.99**	**167**	*eP*	**Pn**	**13 22 25.0**	**+0.7**
VA06				*eS*	**Sn**	**13 22 48.8**	**+0.6**
VA06				IAML		13 22 56.8	
	comp=E,5μm,0.4s						
ACCO	**Cerro Coronel**	**2.37**	**90**	*eP*	**Pb**	**13 22 33.5**	**-1.4**
ACCO				*eS*	**Sn**	**13 22 59.9**	**+2.0**
ACDV	**Cuesta del Vie**	**2.37**	**80**	*eP*	**Pb**	**13 22 33.4**	**-1.5**
ACDV				*eP*	**Pn**	**13 22 33.5**	**+3.9**
ACDV				*eS*	**Sb**	**13 23 04.7**	**+1.0**
ACDV				IAML		13 23 06.9	
	comp=Z,918nm,0.5s						
VA03	**San Esteban**	**2.40**	**154**		**Pn**	**13 22 31.4**	**+1.4**
VA03	**San Esteban**	**2.40**	**154**	*eP*	**Pn**	**13 22 31.5**	**+1.4**
VA03				*eS*	**Sn**	**13 22 59.1**	**+0.7**
VA03				IAML		13 23 10.2	
	comp=E,3μm,0.7s						
VA03	**San Esteban**	**2.40**	**154**	*eP*	**Pn**	**13 22 31.7**	**+1.7**
VA03				*eS*	**Sb**	**13 23 03.0**	**-1.5**
VA03				IAML		13 23 09.9	
	comp=Z,2μm,0.5s						

VA01	**Torpederas**	**2.41**	**177**		**Pn**	**13 22 29.8**	**-0.2**
VA01	**Torpederas**	**2.41**	**177**	*eP*	**Pn**	**13 22 30.4**	**+0.4**
VA01	**Torpederas**	**2.41**	**177**	*eP*	**Pn**	**13 22 30.8**	**+0.8**
VA01				*eS*	**Sb**	**13 23 08.6**	**+4.0**
ROCH	**El Roble**	**2.45**	**164**	*eP*	**Pn**	**13 22 31.7**	**+0.9**
ROCH				*eS*	**Sn**	**13 22 59.1**	**-0.7**
ROCH				IAML		13 23 12.1	
	comp=N,3μm,0.4s						
ROC1	**El Roble**	**2.45**	**164**		**Pn**	**13 22 29.9**	**-0.9**
ROC1	**El Roble**	**2.45**	**164**	*eP*	**Pn**	**13 22 32.0**	**+1.1**
ROC1				*eS*	**Sn**	**13 23 02.2**	**+2.3**
RTLS	**Leoncito**	**2.46**	**119**	*eP*	**Pn**	**13 22 34.2**	**-2.2**
RTLS				*eS*	**Sb**	**13 23 08.6**	**+2.2**
RTLS				IAML		13 23 09.2	
	comp=Z,895nm,0.7s						
AC04	**Llanos de Chal**	**2.49**	**15**	Pn	**Pn**	**13 22 32.2**	**+1.0**
AC04	**Llanos de Chal**	**2.49**	**15**	*eP*	**Pn**	**13 22 32.1**	**+1.0**
AC04				*eS*	**Sb**	**13 23 04.0**	**-3.0**
AC04	**Llanos de Chal**	**2.49**	**15**	*eP*	**Pn**	**13 22 32.3**	**+1.2**
AC04				*eS*	**Sb**	**13 23 05.4**	**-1.6**
AC04				IAML		13 23 19.6	
	comp=Z,856nm,0.7s						
AUSP	**Uspallata**	**2.62**	**128**	*eP*	**Pb**	**13 22 36.7**	**-2.5**
AUSP				*eS*	**Sb**	**13 23 12.7**	**+1.6**
PEL	**Peldehue**	**2.70**	**160**		**Pn**	**13 22 35.1**	**+1.1**
PEL	**Peldehue**	**2.70**	**160**	*eP*	**Pn**	**13 22 35.2**	**+1.1**
PEL				*eS*	**Sn**	**13 23 07.1**	**+1.4**
PEL				IAML		13 23 17.8	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**2.70**	**160**	*eP*	**Pn**	**13 22 35.6**	**+1.5**
PEL				*eS*	**Sb**	**13 23 13.2**	**+0.1**
MT02	**Curacav**	**2.70**	**168**		**Pn**	**13 22 35.0**	**+1.0**
MT02	**Curacav**	**2.70**	**168**	*eP*	**Pn**	**13 22 34.5**	**+0.4**
MT02	**Curacav**	**2.70**	**168**	*eP*	**Pn**	**13 22 35.5**	**+1.4**
MT02				*eS*	**Sb**	**13 23 12.1**	**-0.9**
MT02				IAML		13 23 20.3	
	comp=Z,865nm,0.6s						
ZON	**Zonda**	**2.84**	**110**	Pn	**Pn**	**13 22 39.0**	**+2.9**
MT05	**Renca**	**2.91**	**162**		**Pn**	**13 22 38.3**	**+1.2**
MT05	**Renca**	**2.91**	**162**	*eP*	**Pn**	**13 22 37.8**	**+0.7**
MT05				*eS*	**Sn**	**13 23 11.8**	**+0.6**
MT05				IAML		13 23 24.5	
	comp=E,3μm,0.8s						
MT05	**Renca**	**2.91**	**162**	*eP*	**Pn**	**13 22 38.5**	**+1.4**
MT05				*eS*	**Sb**	**13 23 19.4**	**+0.1**
MT05				IAML		13 23 23.9	
	comp=Z,878nm,0.5s						
RTLL	**Cerro Villicun**	**2.95**	**105**	*eP*	**Pn**	**13 22 38.8**	**+1.1**
RTLL				*eS*	**Sb**	**13 23 21.0**	**+0.6**
FCH	**Farellones**	**3.00**	**155**	*eP*	**Pn**	**13 22 40.0**	**+1.5**
FCH				*i S*	**Sn**	**13 23 14.9**	**+1.4**
VA05	**Santo Domingo**	**3.04**	**177**		**Pn**	**13 22 39.3**	**+0.6**
VA05	**Santo Domingo**	**3.04**	**177**	*eP*	**Pn**	**13 22 39.2**	**+0.4**
VA05				IAML		13 23 39.9	
	comp=E,2μm,0.5s						
MT03	**Universidad Ad**	**3.08**	**159**		**Pn**	**13 22 40.4**	**+1.0**
MT03	**Universidad Ad**	**3.08**	**159**	*eP*	**Pn**	**13 22 39.7**	**+0.3**
MT03				*eS*	**Sn**	**13 23 15.8**	**+0.6**
MT03				IAML		13 23 28.4	
	comp=E,2μm,0.2s						
MT03	**Universidad Ad**	**3.08**	**159**	*eP*	**Pn**	**13 22 41.5**	**+2.1**
MT03				*eS*	**Sb**	**13 23 20.4**	**-3.6**
MT03				IAML		13 23 30.8	
	comp=Z,999nm,0.5s						
MT09	**Talagante**	**3.23**	**168**		**P

n133,σ1s34/150,mb4.2/51,1C,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**0.96**	**210**	P	**Pn**	**13 29 54.4**	**+1.1**
DBJI				S	**S**	**13 30 26.6**	**+0.2**
LEM	**Lembang**	**1.16**	**161**	P	**Pn**	**13 29 55.0**	**+0.6**
	40nm,0.3s,baz=346,slow=3.7,SNR=68						
LEM				S	**S**	**13 30 28.5**	**+0.1**
	52nm,0.3s,baz=294,slow=22,SNR=4.3						
LEM	**Lembang**	**1.16**	**161**	P	**Pn**	**13 29 54.7**	**+0.3**
SKJI	**Sukabumi**	**1.45**	**208**	P	**Pn**	**13 29 55.9**	**+0.1**
SKJI				S	**S**	**13 30 29.4**	**-1.5**
CNJI	**Cibinong**	**1.58**	**184**	P	**Pn**	**13 29 55.8**	**-0.8**
CNJI				S	**S**	**13 30 30.7**	**-1.7**
CMJI	**Cimerak**	**2.38**	**150**	P	**Pn**	**13 30 01.1**	**-1.5**
CMJI				S	**S**	**13 30 39.9**	**-3.4**
KLI	**Kotabumi**	**2.52**	**290**	P	**Pn**	**13 30 02.1**	**-1.8**
KASI	**Kota Agung**	**2.74**	**274**	P	**Pn**	**13 30 06.0**	**+0.2**
TPI	**Tanjungpandan**	**2.97**	**8**	P	**Pn**	**13 30 09.1**	**+1.0**
LWLI	**Liwa**	**3.24**	**282**	P	**Pn**	**13 30 11.4**	**+0.6**
SMRI	**Semarang**	**3.44**	**113**		**Pn**	**13 30 13.5**	**+0.8**
SMRI	**Semarang**	**3.44**	**113**	P	**Pn**	**13 30 14.1**	**+1.4**
YOGI	**Yogyakarta**	**3.68**	**125**	P	**Pn**	**13 30 14.9**	**-0.3**
PPBI	**Pangkal Pinang**	**3.70**	**343**	P	**Pn**	**13 30 16.6**	**+1.2**
UWJI	**Ujung Watu**	**3.75**	**101**	P	**Pn**	**13 30 16.8**	**+0.9**
UGM	**Wanagama**	**3.92**	**124**	Pn	**Pn**	**13 30 17.1**	**-0.7**
UGM	**Wanagama**	**3.92**	**124**	P	**Pn**	**13 30 17.1**	**-0.7**
UGM				S	**S**	**13 31 07.7**	**-3.1**
MNAI	**Manna**	**4.48**	**287**	Pn	**Pn**	**13 30 25.5**	**+1.7**
MNAI	**Manna**	**4.48**	**287**	P	**Pn**	**13 30 25.5**	**+1.7**
PCJI	**Pacitan**	**4.62**	**122**	P	**Pn**	**13 30 24.1**	**-1.2**
PCJI				S	**S**	**13 31 19.2**	**-5.4**
TBJI	**Tambak Boyo**	**4.71**	**104**	P	**Pn**	**13 30 26.4**	**0.0**
XMIS	**Christmas Isla**	**4.98**	**198**	Pn	**Pn**	**13 30 28.6**	**-1.0**
PWJI	**Pagerwojo**	**5.08**	**117**	P	**Pn**	**13 30 29.3**	**-1.3**
PBKI	**Pangkalan Bun**	**5.34**	**56**	P	**Pn**	**13 30 34.1**	**+0.5**
	0.8nm2μm118nm,1.1s						
GRJI	**Gresik**	**5.34**	**103**	P	**Pn**	**13 30 35.4**	**+1.8**
	1.4nm4μm384nm,0.6s						
BWJI	**Bawean**	**5.39**	**92**	P	**Pn**	**13 30 31.5**	**-2.7**
MASI	**Maura Aman, Be**	**5.61**	**297**	P	**Pn**	**13 30 39.2**	**+2.4**
	1.2nm2μm321nm,0.9s						
KRJI	**Kerinci**	**6.80**	**302**	P	**Pn**	**13 30 53.1**	**+2.1**
	4.3nm10μm1μm,0.7s						
KRJI				S	**Pn**	**13 30 54.7**	**+3.7**
	4.3nm10μm1μm,0.7s						
KMMI	**Kalianget**	**6.81**	**102**	P	**Pn**	**13 30 51.3**	**+0.2**
	0.6nm162nm,0.9s						
STKI	**Sintang**	**7.14**	**36**	P	**Pn**	**13 30 56.4**	**+1.4**
	0.4nm40nm,1.1s						
ABJI	**Asem Bagus**	**7.25**	**107**	P	**Pn**	**13 30 55.1**	**-1.2**
	0.2nm33nm,1.1s						
JAGI	**Jajag, Banyuwa**	**7.38**	**112**	Pn	**Pn**	**13 30 55.6**	**-2.4**
JAGI	**Jajag, Banyuwa**	**7.38**	**112**	P	**Pn**	**13 30 56.9**	**-1.0**
	0.4nm32nm,1.4s						
KSM	**Kuching**	**7.78**	**23**	Pn	**Pn**	**13 31 03.5**	**+0.8**
PPSI	**Pulau Pagai**	**7.79**	**292**	P	**Pn**	**13 31 03.3**	**+0.5**
	1.9nm4μm268nm,0.6s						
BBKI	**Banjar Baru**	**7.90**	**74**	P	**Pn**	**13 31 05.2**	**+1.0**
SRBI	**Singaraja**	**8.26**	**107**	P	**Pn**	**13 31 06.9**	**-1.6**
	30nm,1.1s						
PPI	**Padang Panjang**	**8.60**	**307**	P	**Pn**	**13 31 14.0**	**+1.3**
SISI	**Saibi**	**9.23**	**298**	P	**Pn**	**13 31 21.2**	**+0.8**
	2μm55nm,0.8s						
SBUM	**Sibu**	**9.52**	**32**	Pn	**Pn**	**13 31 25.2**	**+1.3**
MNSI	**Mandailing Nat**	**10.02**	**310**	P	**Pn**	**13 31 29.9**	**-0.1**
	932nm85nm,0.7s						
PLAI	**Plampang**	**10.90**	**107**	P	**Pn**	**13 31 41.0**	**+0.3**
	100nm,0.6s						
RPSI	**Rantau Prapat**	**11.78**	**315**	P	**Pn**	**13 31 50.8**	**-0.7**
PSI	**Prapat**	**11.86**	**315**	P	**Pn**	**13 31 50.8**	**-1.7**
	3.4nm,0.3s,baz=170,slow=11,SNR=17						
PSI				S	**S**	**13 33 59.6**	**-5.3**
	1.5nm,0.3s,baz=273,slow=23,SNR=5.7						
IPM	**Ipoh**	**11.88**	**328**		**P**	**13 31 54.7**	**+0.9**
GSI	**Gunungsitoli**	**11.91**	**306**	Pn	**Pn**	**13 31 51.2**	**-1.8**
GSI	**Gunungsitoli**	**11.91**	**306**	P	**Pn**	**13 31 51.8**	**-1.2**
	84nm,0.6s						
KULM	**Kulim**	**12.76**	**329**		**P**	**13 32 03.9**	**+0.4**
KCSI	**Kotacane, Aceh**	**13.18**	**314**	P	**P**	**13 32 07.2**	**-1.0**
	41nm,0.7s						
MPSI	**Mapaga**	**14.00**	**65**	P	**Pn**	**13 32 17.9**	**-0.1**
	423nm20nm,1.1s						
KKM	**Kota Kinabalu**	**14.73**	**38**		**Pn**	**13 32 26.3**	**-0.4**
TOLI2	**Tolitoli**	**15.13**	**64**	Pn	**Pn**	**13 32 31.8**	**+0.5**
MMRI	**Maumere**	**15.16**	**102**	P	**P**	**13 32 30.2**	**+0.2**
PSA00	**Pilbara Seismi**	**19.93**	**143**	P	**P**	**13 33 19.1**	**-2.1**
PSA00				IAmb	IAmb	13 33 24.1	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.77**	**126**	P	**P**	**13 33 38.7**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=319,slow=9.3,SNR=2.2						
MORW	**Morawa**	**24.67**	**161**	P	**P**	**13 34 06.5**	**+1.6**
MORW				IAmb	IAmb	13 34 16.3	
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**25.38**	**341**	P	**P**	**13 34 12.4**	**+1.0**
	comp=Z,3.9nm,0.5s,baz=178,slow=8.9,SNR=31						
CMAR				ScP	**ScP**	**13 40 44.5**	**+0.6**
	comp=Z,0.4nm,0.2s,baz=199,slow=4.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**25.38**	**341**	P	**P**	**13 34 11.9**	**+0.6**
CHTO	**Chiang Mai**	**25.71**	**342**	P	**P**	**13 34 14.9**	**+0.5**
WB0	**Warramunga Arr**	**29.87**	**120**	P	**P**	**13 34 51.7**	**+0.6**
WB0				IAmb	IAmb	13 35 12.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**29.89**	**121**	P	**P**	**13 34 52.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=293,slow=9.7,SNR=22						
WRA				pP	**pP**	**13 35 52.4**	**+1.2**
	comp=Z,4.2nm,0.9s,baz=293,slow=11,SNR=12						
WRA				PcP	**PcP**	**13 37 46.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=317,slow=1.8,SNR=4.9						
WRA	**Warramunga Arr**	**29.89**	**121**	P	**P**	**13 34 51.9**	**+0.5**
WRAB	**Tennant Creek**	**29.90**	**121**	P	**P**	**13 34 52.2**	**+0.8**
WB2	**Warramunga Arr**	**29.91**	**121**	P	**P**	**13 34 52.0**	**+0.5**
WB2				IAmb	IAmb	13 34 52.4	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**30.07**	**121**	P	**P**	**13 34 53.9**	**+0.9**
WR0				IAmb	IAmb	13 35 12.6	
	comp=Z,9.2nm,1.4s						
AS31	**Alice Springs**	**31.25**	**128**	P	**P**	**13 35 04.3**	**+1.0**
AS31				IAmb	IAmb	13 35 04.9	
	comp=Z,2.3nm,0.4s						
ASAR	**Alice Springs**	**31.25**	**128**	P	**P**	**13 35 04.4**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=301,slow=7.8,SNR=144						
ASAR				pP	**pP**	**13 36 04.3**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=307,slow=8.4,SNR=3.5						
ASAR				PcP	**PcP**	**13 37 50.3**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=314,slow=2.4,SNR=6.0						
ASAR				S	**S**	**13 39 45.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=303,slow=14,SNR=7.9						
FORT	**Forrest**	**31.69**	**144**	P	**P**	**13 35 08.6**	**+1.8**
COEN	**Coen**	**36.30**	**106**	P	**P**	**13 35 47.1**	**+0.5**
COEN				IAmb	IAmb	13 35 59.6	
	comp=Z,13nm,1.3s						
ODAN	**Odare**	**37.66**	**330**	*e*P	**P**	**13 35 58.1**	**+0.1**
	comp=Z,34nm,0.5s						
BBOO	**Buckleboo**	**38.04**	**139**	P	**P**	**13 36 01.8**	**+0.9**
RAMN	**Ramite**	**38.13**	**329**	*e*P	**P**	**13 36 02.3**	**+0.4**
	comp=Z,19nm,0.3s						
JIRN	**Jiri**	**38.92**	**330**	*e*P	**P**	**13 36 08.7**	**+0.1**
	comp=Z,28nm,0.4s						
PKI	**Pulchoki**	**39.25**	**329**	*e*P	**P**	**13 36 10.7**	**-0.5**
PKIN	**Phulchoki**	**39.26**	**329**	*e*P	**P**	**13 36 10.7**	**-0.6**
	comp=Z,6.3nm,0.3s						
GUN	**Gumba**	**39.28**	**329**	*e*P	**P**	**13 36 11.5**	**0.0**
	comp=Z,20nm,0.3s						
DMN	**Daman**	**39.44**	**328**	*e*P	**P**	**13 36 12.3**	**-0.4**
KKN	**Kakani**	**39.49**	**329**	*e*P	**P**	**13 36 11.2**	**-1.9**
	comp=Z,6.5nm,0.2s						
GKN	**Gorkha**	**40.00**	**328**	*e*P	**P**	**13 36 16.8**	**-0.4**
	comp=Z,17nm,0.3s						
KOLN	**Koldanda**	**40.37**	**327**	*e*P	**P**	**13 36 20.0**	**-0.3**
DANN	**Dangsing**	**40.74**	**327**	*e*P	**P**	**13 36 22.9**	**-0.5**
	comp=Z,19nm,0.3s						
PYUN	**Piuthan**	**40.96**	**326**	*e*P	**P**	**13 36 24.5**	**-0.6**
	comp=Z,14nm,0.4s						
STKA	**Stephens Creek**	**41.33**	**133**	P	**P**	**13 36 29.4**	**+1.6**
	comp=Z,4.8nm,0.5s,baz=312,slow=9.9,SNR=21						
STKA				pP	**pP**	**13 37 32.6**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=293,slow=5.4,SNR=2.9						
STKA	**Stephens Creek**	**41.33**	**133**	P	**P**	**13 36 29.1**	**+1.3**
GTA	**Gaotai**	**45.43**	**352**	⇑P	**P**	**13 37 01.8**	**+1.6**
GTA				pP	pP	13 38 07.4	+3.0
GTA				sP	PcP	13 38 35.9	+2.3
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**46.51**	**5**	*e*P	**P**	**13 37 12.3**	**+3.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,4.0s						
KSRS	**Korea Array**	**47.09**	**23**	P	**P**	**13 37 14.2**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=212,slow=8.8,SNR=5.4						
CAN	**Canberra**	**48.40**	**133**	P	**P**	**13 37 24.9**	**+1.8**
CAN				IAmb	IAmb	13 37 49.4	
	comp=Z,23nm,1.4s						
WMQ	**Urumqi**	**52.38**	**342**	*e*P	**P**	**13 37 53.4**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**53.33**	**359**	P	**P**	**13 38 00.8**	**+1.4**
	comp=Z,5.7nm,0.8s,baz=174,slow=8.1,SNR=38						
SONM				ScP	**ScP**	**13 42 27.8**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=159,slow=4.3,SNR=3.6						
SONM	**Songino Array**	**53.33**	**359**	P	**P**	**13 38 00.5**	**+1.0**
ULN	**Ulaanbaatar**	**53.36**	**360**	P	**P**	**13 38 00.5**	**+0.9**
ULN				IAmb	IAmb	13 38 01.7	
	comp=Z,12nm,1.0s						
KSH	**Kashi**	**53.48**	**330**	P	**P**	**13 37 58.8**	**-1.8**
KSH				sP	sP	13 39 40.5	-1.1
KSH				PcS	PcS	13 42 54.0	-8.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**54.47**	**22**	P	**P**	**13 38 07.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.47**	**22**	P	**P**	**13 38 07.9**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=208,slow=7.7,SNR=6.5						
USRK	**Ussuriysk Ar.**	**54.47**	**22**	P	**P**	**13 38 07.6**	**+0.1**
KDJ	**Kajisay**	**54.94**	**333**	P	**P**	**13 38 10.8**	**-0.3**
KDJ				IAmb	IAmb	13 38 12.0	
	comp=Z,5.0nm,0.7s						
BOOM	**Boomskoye usch**	**55.79**	**332**	P	**P**	**13 38 16.5**	**-0.6**
SOCY	**Socotra**	**55.85**	**289**	P	**P**	**13 38 18.0**	**+0.1**
SOCY				IAmb	IAmb	13 38 20.0	
	comp=Z,6.5nm,0.9s						
BTK	**Batken**	**56.56**	**327**	P	**P**	**13 38 21.1**	**-1.4**
BTK				IAmb	IAmb	13 38 22.5	
	comp=Z,8.9nm,0.5s						
MK31	**Makanchi Array**	**56.77**	**340**	P	**P**	**13 38 23.4**	**-0.4**
MK31				IAmb	IAmb	13 38 24.4	
	comp=Z,6.3nm,0.6s						
MKAR	**Makanchi Array**	**56.77**	**340**	P	**P**	**13 38 23.7**	**-0.1**
	comp=Z,9.8nm,0.5s,baz=152,slow=8.2,SNR=169						
MKAR	**Makanchi Array**	**56.77**	**340**	P	**P**	**13 38 23.5**	**-0.3**
MAKZ	**Makanchi**	**56.90**	**340**	P	**P**	**13 38 24.0**	**-0.6**
KLR	**Kul'dur**	**58.75**	**19**	P	**P**	**13 38 37.2**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=209,slow=4.5,SNR=22						
KKAR	**Karatay Array**	**58.89**	**329**	P	**P**	**13 38 37.0**	**-1.4**
OPO	**Ambohidratompo**	**59.83**	**252**	P	**P**	**13 38 47.7**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=77,slow=5.4,SNR=6.7						
KURK	**Kurchatov**	**61.39**	**340**	P	**P**	**13 38 54.9**	**-0.2**
KURK				IAmb	IAmb	13 38 56.0	
	comp=Z,12nm,0.9s						
ZAA0	**Zalesovo Array**	**62.36**	**345**	P	**P**	**13 39 00.8**	**-0.7**
ZAA0				IAmb	IAmb	13 39 01.9	
	comp=Z,5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**62.36**	**345**	P	**P**	**13 39 01.0**	**-0.5**
	comp=Z,6.6nm,0.3s,baz=153,slow=6.2,SNR=28						
ZALV	**Zalesovo Beam**	**62.36**	**345**	P	**P**	**13 39 00.8**	**-0.7**
MCQ	**Macquarie Isla**	**63.89**	**149**	P	**P**	**13 39 11.0**	**-0.5**
BRVK	**Borovoye**	**66.36**	**337**	P	**P**	**13 39 26.8**	**-0.4**
RAYN	**Ar Rayn**	**66.85**	**298**	P	**P**	**13 39 30.2**	**-0.8**
RAYN				IAmb	IAmb	13 39 31.6	
	comp=Z,9.0nm,1.4s						
ABKAR	**Akbulak array**	**68.45**	**329**	P	**P**	**13 39 39.7**	**-0.6**
YAK	**Yakutsk**	**69.74**	**11**	P	**P**	**13 39 47.7**	**-0.2**
	comp=Z,13nm,0.5s,baz=40,slow=1.9,SNR=7.5						
YAK	**Yakutsk**	**69.74**	**11**	P	**P**	**13 39 47.3**	**-0.6**
KMBO	**Kilima Mbogo**	**69.98**	**271**	P	**P**	**13 39 51.4**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=52,slow=12,SNR=4.7						
PEA0B	**Petropavlovsk-**	**72.37**	**29**	P	**P**	**13 40 03.8**	**-0.1**
PETK	**Petropavlovsk-**	**72.37**	**29**	P	**P**	**13 40 03.6**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=208,slow=2.8,SNR=13						
PET	**Petropavlovsk**	**72.78**	**30**	P	**P**	**13 40 06.0**	**-0.3**
PET				IAmb	IAmb	13 40 06.9	
	comp=Z,4.5nm,0.8s						
ARU	**Arti**	**73.58**	**334**	P	**P**	**13 40 10.8**	**0.0**
ARU				IAmb	IAmb	13 40 11.5	
	comp=Z,7.6nm,0.9s						
MA2	**Magadan**	**73.62**	**21**	P	**P**	**13 40 11.2**	**+0.2**
MA2				IAmb	IAmb	13 40 12.2	
	comp=Z,5.6nm,0.7s						
KBZ	**Khabaz**	**75.87**	**318**	P	**P**	**13 40 23.2**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=55,slow=2.9,SNR=4.8						
NRIK	**Noril'sk**	**76.12**	**353**	P	**P**	**13 40 24.7**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=147,slow=6.3,SNR=4.2						
NRIK	**Noril'sk**	**76.12**	**353**	P	**P**	**13 40 24.6**	**-0.3**
NRIK				IAmb	IAmb	13 40 25.6	
	comp=Z,9.5nm,1.3s						
TIXI	**Tiksi**	**78.52**	**7**	P	**P**	**13 40 36.7**	**-1.5**
TIXI				IAmb	IAmb	13 40 38.0	
	comp=Z,5.6nm,0.7s						
BRTR	**Keskin Array B**	**81.16**	**312**	P	**P**	**13 40 53.1**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=141,slow=6.1,SNR=4.1						
AKASG	**Mali Array Be**	**86.85**	**321**	P	**P**	**13 41 20.0**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=98,slow=4.5,SNR=6.1						
YKA	**Yellowknife Ar**	**115.59**	**20**	PKP	**PKPdf**	**13 47 15.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=8.5,slow=1.8,SNR=5.3						
PDAR	**Pinedale Array**	**130.83**	**36**	PKP	**PKiKP**	**13 47 47.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=66,slow=4.4,SNR=2.3						
TXAR	**Lajitas Array**	**142.54**	**48**	PKP	**PKPdf**	**13 48 06.6**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=306,slow=3.6,SNR=3.9						
CPUP	**Villa Florida**	**144.80**	**204**	PKP	**PKPdf**	**13 48 13.6**	**+1.3**
	comp=Z,2.2nm,0.5s,baz=123,slow=0.1,SNR=6.0						

PRU ***14*** *13:36:10.8±0.0, 44.˚50N×7.˚12E, h0km*
BGR ***14*** *13:36:10.8±0.9, 44.˚22N×6.˚85E, h10km, ML3.9/8, Error ellipse: s-maj=18.9km s-min=11.1km az=81.0*
GEN ***14*** *13:36:11.1, 44.˚41N×7.˚31E, h5km±2km, Ml3.5*
IDC ***14*** *13:36:11.5±1.5, 44.˚50N×7.˚32E, h0km, mb3.4/2, mb1 4.0/7, mb1mx3.6/46, mbtmp3.8/7, ML4.2/5, MS2.7/3, Ms1 2.7/3, ms1mx2.4/57, Error ellipse: s-maj=32.1km s-min=16.3km az=137.0*
ROM ***14*** *13:36:11.1±0.1, 44.˚406N±0.˚005×7.˚29E±0.˚01, h9km, ML3.5/39, Mw3.5, Error ellipse: s-maj=0.9km s-min=0.3km az=235.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr1.59; Mθθ0.10; Mϕϕ-1.68; Mrθ-0.92; Mθϕ-0.37; Mϕr-1.11; Fault plane solution: Mo2.21096×10¹⁴ NP1:ϕ354.00000°, δ29.00000°, λ.58.00000°. NP2: ϕ209.00000°, δ66.00000°, λ106.00000°.*
STR ***14*** *13:36:11.5±0.3, 44.˚N±1.˚×˚±˚, h5km±2km, MLv3.9/29, preliminary*
LDG ***14*** *13:36:12.1±0.1, 44.˚44N×7.˚33E, h5km, Md3.6/2, Ml3.9/51, Error ellipse: s-maj=1.5km s-min=1.2km az=69.0*

ISC 14 13:36:11.7±0.8, 44.˚44N±0.˚01×7.˚30E±0.˚01, h11km±5km,
n244,σ1s71/378, 1C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.15**	**296**	⇓P	**Pg**	**13 36 15.5**	**+0.2**
PZZ				S	**Sg**	**13 36 18.2**	**+0.3**
PZZ				AML	AML		
PZZ				AML	AML		
PZZ	**Stroppo**	**0.15**	**296**	P	**Pg**	**13 36 15.4**	**+0.2**
PZZ				S	**Sg**	**13 36 18.1**	**+0.2**
STV	**Sant Anna di V**	**0.20**	**175**	⇓P	**Pg**	**13 36 15.3**	**-0.7**
STV				S	**Sg**	**13 36 17.4**	**-1.5**
STV				AML	AML		
	comp=N,18300μm,0.2s						
STV				AML	AML		
	comp=E,19950μm,0.1s						
STV	**Sant Anna di V**	**0.20**	**175**	P	**Pg**	**13 36 15.3**	**-0.7**
STV				S	**Sg**	**13 36 17.4**	**-1.5**
ENR	**Entracque**	**0.23**	**158**	P	**Pg**	**13 36 15.8**	**-0.8**
ENR				S	**Sg**	**13 36 19.0**	**-0.8**
ISO	**Isola**	**0.32**	**215**	Pg	**Pg**	**13 36 17.7**	**-0.3**
ISO				Sg	**Sg**	**13 36 21.6**	**-0.8**
ISO	**Isola**	**0.32**	**215**	P	**Pg**	**13 36 17.7**	**-0.3**
ISO				S	**Sg**	**13 36 21.5**	**-0.9**
SURF	**Saint Ours**	**0.35**	**277**	Pg	**Pg**	**13 36 18.9**	**+0.1**
SURF				Sg	**Sg**	**13 36 24.6**	**+1.0**
SURF	**Saint Ours**	**0.35**	**277**	P	**Pg**	**13 36 18.9**	**+0.1**
SURF				S	**Sg**	**13 36 24.5**	**+0.9**
SPIF	**crte de Spivo**	**0.39**	**187**	Pg	**Pg**	**13 36 19.1**	**-0.3**
SPIF				Sg	**Sg**	**13 36 24.3**	**-0.3**
BHB	**Bricherasio**	**0.40**	**356**	⇓P	**Pg**	**13 36 20.1**	**+0.4**
BHB				S	**Sg**	**13 36 26.0**	**+0.9**
BHB				AML	AML		
	comp=E,10865μm,1.2s						
BHB				AML	AML		
	comp=N,10120μm,0.6s						
BHB	**Bricherasio**	**0.40**	**356**	P	**Pg**	**13 36 20.1**	**+0.4**
BHB				S	**Sg**	**13 36 25.8**	**+0.7**
TURF	**col de Turini**	**0.47**	**172**	Pg	**Pg**	**13 36 20.6**	**-0.4**
TURF				Sg	**Sg**	**13 36 26.7**	**-0.5**
TURF	**col de Turini**	**0.47**	**172**	P	**Pg**	**13 36 20.6**	**-0.4**
TURF				S	**Sg**	**13 36 26.5**	**-0.7**
MBDF	**Montbardon**	**0.48**	**307**	*e*Pg	**Pg**	**13 36 21.2**	**+0.1**
MBDF				*e*Sg	**Sg**	**13 36 27.9**	**+0.5**
	comp=N,7μm,0.3s						
SAOF	**Saorge**	**0.49**	**158**	Pg	**Pg**	**13 36 20.7**	**-0.5**
SAOF				Sg	**Sg**	**13 36 27.0**	**-0.7**
SAOF	**Saorge**	**0.49**	**158**	⇓P	**Pg**	**13 36 20.7**	**-0.5**
SAOF				S	**Sg**	**13 36 27.0**	**-0.7**
SAOF	**Saorge**	**0.49**	**158**	P	**Pg**	**13 36 20.7**	**-0.5**
SAOF				S	**Sg**	**13 36 26.8**	**-1.0**
MGRO	**Montegrosso**	**0.54**	**137**	P	**Pg**	**13 36 21.4**	**-0.8**
MGRO				S	**Sg**	**13 36 29.0**	**-0.4**
MGRO				AML	AML		
	comp=E,8065μm,0.7s						
MGRO				AML	AML		
	comp=N,10750μm,1.0s						
MGRO	**Montegrosso**	**0.54**	**137**	P	**Pg**	**13 36 21.4**	**-0.8**
MGRO				S	**Sg**	**13 36 28.9**	**-0.6**
OGAG	**Argentiere**	**0.55**	**272**	Pg	**Pb**	**13 36 24.3**	**+0.9**
OGAG				Sg	**Sn**	**13 36 34.0**	**-0.7**
OGAG	**Argentiere**	**0.55**	**272**	P	**Pb**	**13 36 24.3**	**+0.9**
OGAG				S	**Sb**	**13 36 32.8**	**+1.6**
MVIF	**Mont Vial**	**0.56**	**191**	Pg	**Pg**	**13 36 22.2**	**-0.4**
MVIF				Sg	**Sg**	**13 36 29.5**	**-0.4**
MVIF	**Mont Vial**	**0.56**	**191**	P	**Pg**	**13 36 22.7**	**+0.1**
MVIF				S	**Sg**	**13 36 29.7**	**-0.1**
SBF	**Sospel**	**0.58**	**171**	*e*Pg	**Pg**	**13 36 22.7**	**-0.4**
SBF				*e*Sg	**Sg**	**13 36 30.4**	**-0.4**
	comp=N,4μm,0.3s						
RRL	**Rocca Remolon**	**0.60**	**323**	⇓P	**Pg**	**13 36 23.6**	**+0.1**
RRL				S	**Sb**	**13 36 32.8**	**-0.2**
RRL				AML	AML		
	comp=E,10990μm,0.7s						
RRL				AML	AML		
	comp=N,8775μm,0.6s						
RRL	**Rocca Remolon**	**0.60**	**323**	P	**Pg**	**13 36 23.6**	**+0.1**
RRL				S	**Sb**	**13 36 32.8**	**-0.2**
ESCA	**l'Escarene**	**0.61**	**175**	Pg	**Pg**	**13 36 23.2**	**-0.4**
ESCA				Sg	**Sg**	**13 36 31.2**	**-0.4**
ESCA	**l'Escarene**	**0.61**	**175**	P	**Pg**	**13 36 23.7**	**+0.1**
ESCA				S	**Sg**	**13 36 31.3**	**-0.3**
RORO	**Rocca Rossa**	**0.64**	**121**	⇑P	**Pg**	**13 36 23.4**	**-0.7**
RORO				S	**Sg**	**13 36 32.4**	**-0.1**
RORO				AML	AML		
	comp=E,9005μm,0.6s						
RORO				AML	AML		
	comp=N,9215μm,1.0s						
RORO	**Rocca Rossa**	**0.64**	**121**	P	**Pg**	**13 36 23.3**	**-0.7**
RORO				S	**Sg**	**13 36 32.3**	**-0.2**
BURY	**Giardini Botan**	**0.68**	**164**	P	**Pg**	**13 36 24.6**	**-0.4**
BURY				S	**Sg**	**13 36 33.4**	**-0.4**
BURY	**Giardini Botan**	**0.68**	**164**	P	**Pg**	**13 36 24.5**	**-0.4**
BURY				S	**Sg**	**13 36 33.4**	**-0.4**
RSP	**Reno Superiore**	**0.71**	**358**	⇓P	**Pg**	**13 36 25.1**	**-0.4**
RSP				AML	AML		
	comp=N,3430μm,1.2s						
RSP				AML	AML		
	comp=E,3820μm,0.5s						
RSP				AML	AML		
	comp=N,3425μm,1.2s						
RSP				AML	AML		
	comp=E,3905μm,0.5s						
RSP				AML	AML		
	comp=E,3825μm,0.5s						
RSP				AML	AML		
	comp=N,3

MLYF Mely 1.19 248 Pg **Pg** 13 36 35.1 +0.4
MLYF Sg **Sn** 13 36 52.7 +2.1
SARZ Sarezzano 1.22 69 P **Pg** 13 36 36.4 +1.2
LMR La Mourre 1.25 208 *e*Pg **Pb** 13 36 35.1 -0.1
LMR *e*Sg **Sb** 13 36 50.7 -0.5
comp=N,2μm,0.2s
FLAF Flassans-sur-I 1.30 216 Pg **Pb** 13 36 36.0 -0.2
FLAF Sg **Sg** 13 36 53.6 0.0
BSTF la Bastide-des 1.32 245 Pn **Pg** 13 36 37.8 +0.8
BSTF Sg **Sg** 13 36 56.5 +2.3
SMRF Simiane la Rot 1.33 250 *e*Pg **Pg** 13 36 37.6 +0.4
SMRF *e*Sg **Sg** 13 36 54.2 -0.2
comp=N,376nm,0.2s
RSL Roselend 1.34 339 Pn **Pg** 13 36 37.2 -0.2
MRGE Morge 1.34 353 P **Pn** 13 36 36.3 -0.2
MRGE S **Sg** 13 36 54.7 -0.2
GRN Grenoble 1.37 306 Pg **Pg** 13 36 38.3 +0.3
GRN Sg **Sg** 13 36 58.0 +2.2
ARTF Artigues 1.38 232 Pg **Pg** 13 36 37.9 -0.2
RUSF Rustrel 1.40 250 Pn **Pg** 13 36 39.0 +0.4
REMY Saint-Rhmy-en 1.40 356 P **Pb** 13 36 37.9 -0.2
REMY AML AML
comp=E,1565μm,0.9s
REMY AML AML
comp=N,2165μm,0.9s
GORR Gorreto 1.43 83 P **Pn** 13 36 37.5 -0.1
SATI Passo dei Sala 1.49 15 P **Pn** 13 36 37.0 -1.7
BOB Bobbio (Coli) 1.57 77 P **Pb** 13 36 41.0 +0.3
BOB AML AML
comp=E,3335μm,1.0s
BOB AML AML
comp=N,3705μm,1.5s
BOB AML AML
comp=E,2990μm,1.0s
BOB AML AML
comp=N,3815μm,0.7s
BOB AML AML
comp=N,3700μm,1.5s
MSSA Maissana 1.59 94 P **Pn** 13 36 39.5 -0.4
MSSA AML AML
comp=N,961μm,0.8s
MSSA AML AML
comp=E,802μm,0.6s
DIX Grande Dixence 1.64 3 P **Pn** 13 36 40.4 -0.3
DIX AML AML
comp=E,704μm,0.3s
DIX AML AML
comp=N,766μm,0.7s
SAUF chteau de Sau 1.66 253 Pn **Pb** 13 36 42.1 -0.1
MMK Mattmark 1.68 16 P **Pn** 13 36 40.6 -0.6
MMK AML AML
comp=E,409μm,1.5s
MMK AML AML
comp=N,471μm,0.6s
ARBF Arbois 1.71 237 Pg **Pg** 13 36 44.1 -0.4
VARE Varese 1.77 36 P **Pn** 13 36 42.6 +0.3
VARE AML AML
comp=N,792μm,0.6s
VARE AML AML
comp=E,924μm,0.5s
EMBD Embd, Matterta 1.81 12 Pn **Pn** 13 36 43.0 +0.1
EMBD Pg **Pg** 13 36 47.8 +1.3
ASEAF Site Antares, 1.84 207 Pn **Pn** 13 36 43.6 +0.8
PLMA Palmaria, Port 1.87 101 P **Pn** 13 36 43.5 -0.1
VIVF Saint-Julien-l 1.92 283 *e*P **Pb** 13 36 46.0 -0.8
VIVF *e*Sn **Sn** 13 37 07.5 -1.1
VIVF *e*Sg **Sg** 13 37 12.7 -0.8
comp=E,478nm,0.6s
MUGIO Muggio 1.93 39 P **Pn** 13 36 44.8 +0.4
MUGIO AML AML
comp=E,437μm,0.5s
MUGIO AML AML
comp=N,559μm,0.8s
GRAM Graiana 1.98 88 P **Pn** 13 36 45.8 +0.7
GRAM AML AML
comp=E,1265μm,0.9s
GRAM AML AML
comp=N,1730μm,0.9s
OG35 Corcelles 2.02 323 Pn **Pb** 13 36 48.2 -0.2
EQUI Equi 2.06 97 P **Pn** 13 36 46.0 -0.3
EQUI AML AML
comp=E,394μm,1.0s
EQUI AML AML
comp=N,512μm,0.9s
GROG Isola di Gorgo 2.13 118 P **Pn** 13 36 46.6 -0.5
GROG AML AML
comp=E,600μm,0.8s
GROG AML AML
comp=N,612μm,1.0s
MDI Monti di Nese 2.17 51 P **Pn** 13 36 48.0 +0.2
FUSIO Fusio 2.23 25 AML AML
comp=E,194μm,0.4s
FUSIO AML AML
comp=N,172μm,0.9s
PGF Pioggiola 2.26 146 *e*Pn **Pn** 13 36 47.8 -1.2
PGF *e*Sn **Sn** 13 37 13.9 -3.0
comp=N,262nm,0.2s
CARD Cardoso 2.32 99 P **Pn** 13 36 50.0 +0.2
CABF La Chapelle 2.33 339 *e*P **Pb** 13 36 52.4 -1.4
CABF La Chapelle 2.33 339 *e*Pg **Pg** 13 36 56.5 +0.1
CABF *e*Sg **Sg** 13 37 26.4 -0.3
comp=N,500nm,0.7s
MAIM Mastiano 2.35 102 P **Pn** 13 36 50.2 0.0
MAIM AML AML
comp=E,718μm,0.9s
MAIM AML AML
comp=N,364μm,1.1s
ZONE Zone 2.39 55 P **Pn** 13 36 51.7 +0.9
BDI Bagni Di Lucca 2.40 98 P **Pn** 13 36 51.0 0.0
TRBF Trabuc cave 2.42 263 Pn **Pn** 13 36 52.0 +0.8
TUE Stuetta 2.49 35 P **Pn** 13 36 52.5 +0.2
TUE AML AML
comp=N,304μm,0.7s
TUE AML AML
comp=E,347μm,0.4s
TUE AML AML
comp=E,280μm,0.8s
TUE AML AML
comp=N,388μm,0.7s
LASF Ste Croix 2.50 263 *e*Pn **Pn** 13 36 52.2 -0.1
LASF *e*Sn **Sn** 13 37 21.3 -1.5
comp=N,115nm,0.5s
RIVEL MONT RIVEL 2.51 338 Pn **Pb** 13 36 55.0 -1.9
CORF Corte 2.53 147 Pn **Pn** 13 36 52.4 -0.3
CORF Corte 2.53 147 P **Pn** 13 36 52.4 -0.3
BNALP Bannalp 2.56 18 P **Pn** 13 36 54.1 +0.9
BRANT Les Verrieres 2.56 347 Pn **Pn** 13 36 55.5 +2.2
SALO Salr 2.57 62 P **Pn** 13 36 53.4 +0.2
MTCR Monte La Croce 2.69 98 P **Pn** 13 36 55.0 +0.1
MTCR AML AML
comp=N,478μm,0.6s
MTCR AML AML
comp=E,295μm,1.6s
MAGA Magasa 2.71 59 P **Pn** 13 36 55.2 0.0
MAGA AML AML
comp=E,2145μm,0.6s
MAGA AML AML
comp=N,980μm,0.7s
CRMI Carmignano 2.72 103 P **Pn** 13 36 56.0 +0.7
AJAC Base Areonaval 2.73 156 Pn **Pn** 13 36 55.2 -0.2
AJAC Base Areonaval 2.73 156 P **Pn** 13 36 55.1 -0.2
AJAC S **Sn** 13 37 26.9 -1.4
AJAC Base Areonaval 2.73 156 AML AML
comp=N,1420μm,0.3s
AJAC AML AML
comp=E,1395μm,0.3s
BERNI Berninapass 2.75 43 P **Pn** 13 36 57.2 +1.3
FNVD Fontana Vidola 2.76 94 P **Pn** 13 36 56.7 +0.8
SMPL Sampolo 2.76 148 Pn **Pn** 13 36 55.7 -0.1
SMPL Sampolo 2.76 148 P **Pn** 13 36 55.4 -0.4
SMPL Sampolo 2.76 148 AML AML
comp=N,246μm,0.8s
SMPL AML AML
comp=E,232μm,0.6s
MPPT Montemurlo 2.77 99 P **Pn** 13 36 55.7 -0.3
MABI Malga Bissina 2.78 53 P **Pn** 13 36 56.7 +0.3
MABI AML AML
comp=E,232μm,0.7s
MABI AML AML
comp=N,273μm,1.1s
RONC Roncone 2.81 56 P **Pn** 13 36 57.3 +0.6
CHMF Charmoille 2.84 351 Pn **Pn** 13 36 58.6 +1.6
VARA Varagna 2.90 60 P **Pn** 13 36 57.8 -0.1
BALST Balsthal 2.91 5 Pn **Pn** 13 36 59.5 +1.5
BALST Balsthal 2.91 5 *e*Pn **Pn** 13 37 00.2 +2.2
SNR=6.5
BALST *e*Sn **Sn** 13 37 34.5 +1.6
SNR=1.7
TRIF Trifonti 2.92 116 P **Pn** 13 36 58.6 +0.5
ROVR Rover Verones 2.93 64 P **Pn** 13 36 58.2 -0.2
ROVR AML AML
comp=N,788μm,0.4s
ROVR AML AML
comp=N,310μm,0.4s
ROVR AML AML
comp=E,187μm,0.7s
ROVR AML AML
comp=E,2438μm,0.9s
BOURR Bourrignon 2.95 359 Pn **Pn** 13 37 00.3 +1.7
DAVOX Davos/Dischmat 2.96 37 Pn **Pn** 13 37 00.2 +1.5
comp=E,6.4nm,0.3s,baz=223,slow=6.7,SNR=36
DAVOX Sn **Sn** 13 37 34.0 -0.3
comp=E,12nm,0.3s,baz=221,slow=6.9,SNR=6.0
DAVOX LR LR 13 38 08.0
comp=E,116nm,21.0s,baz=258,slow=40
DAVOX Davos/Dischmat 2.96 37 P **Pn** 13 36 59.9 +1.2
BRMO Bormio 2.97 46 P **Pn** 13 36 59.9 +1.0
PLONS Plons/SG 2.99 28 *e*Sn **Sb** 13 37 38.2 -3.3
SNR=2.9
OSSC Osservatorio P 2.99 106 P **Pn** 13 36 59.4 +0.3
OSSC AML AML
comp=E,158μm,0.9s
OSSC AML AML
comp=N,141μm,0.8s
CSNT Castellina Chi 3.04 107 P **Pn** 13 36 59.9 +0.2
CSNT AML AML
comp=E,118μm,0.7s
CSNT AML AML
comp=N,139μm,0.7s
GAGG Gaggia 3.06 56 P **Pn** 13 37 00.6 +0.4
CASP Castiglione de 3.07 121 P **Pn** 13 36 59.6 -0.4
CASP AML AML
comp=E,195μm,1.4s
CASP AML AML
comp=N,142μm,0.7s
RUFI Rufina 3.09 100 P **Pn** 13 37 00.4 0.0
DOSS Dosso del Somm 3.10 61 P **Pn** 13 37 00.3 -0.4
DOSS AML AML
comp=N,595μm,0.7s
DOSS AML AML
comp=E,632μm,0.7s
DOSS AML AML
comp=E,770μm,0.7s
DOSS AML AML
comp=N,782μm,0.7s
SULZ Cheisacher 3.14 10 *e*Pn **Pn** 13 37 02.2 +1.1
SNR=6.0
SULZ *e*Sn **Sn** 13 37 40.3 +1.7
SNR=2.9
MOSI Grossmontoni 3.15 45 P **Pn** 13 37 02.5 +1.1
WILA Wila 3.18 20 *e*Sn **Sb** 13 37 44.8 -2.2
SNR=3.5
LMD Lutirano 3.19 95 P **Pn** 13 37 02.0 +0.3
TEOL Teolo 3.24 72 P **Pn** 13 37 02.4 0.0
SMF Signal de Mont 3.28 313 *e*P **Pn** 13 37 05.5 +2.5
SMF *e*Sn **Sn** 13 37 39.5 -2.6
SMF *e*Sg **Sg** 13 37 56.3 -0.8
comp=N,67nm,0.3s
ASQU Asqua 3.29 100 P **Pn** 13 37 03.8 +0.5
PYM Petit Puy Mans 3.31 295 Pn **Pn** 13 37 04.9 +1.4
SFI Santa Sofia 3.31 98 P **Pn** 13 37 03.4 -0.1
AGO Saint Agoulin 3.36 300 Pn **Pn** 13 37 05.7 +1.6
DAVA Damuels 3.37 31 *e*Pn **Pn** 13 37 06.4 +2.0
comp=N,9.9nm,0.2s
DAVA *e*Sn **Sn** 13 37 47.9 +3.5
comp=N,33nm,0.3s
DAVA Damuels 3.37 31 *e*Pn **Pn** 13 37 07.3 +3.0
SNR=7.0
DAVA *e*Sn **Sn** 13 37 48.1 +3.7
SNR=3.7
HINF Hinteralfeld 3.39 355 *e*Pn **Pn** 13 37 03.9 -0.7
HINF *e*Sn **Sn** 13 37 42.0 -2.8
comp=N,48nm,0.3s
HINF *e*Sg **Sg** 13 37 59.2 -1.4
comp=N,28nm,0.3s
ARCI Arcidosso 3.42 116 P **Pn** 13 37 04.8 -0.2
SLE Schleitheim 3.43 14 *e*Pn **Pn** 13 37 07.5 +2.5
SNR=9.7
SLE *e*Sn **Sn** 13 37 46.0 +0.4
SNR=2.4
APPI Appiano 3.43 52 P **Pn** 13 37 06.0 +0.8
MAON Monte Argentar 3.44 124 P **Pn** 13 37 05.3 +0.2
CRE Caprese Michel 3.45 102 P **Pn** 13 37 06.1 +0.7
CRE AML AML
comp=N,278μm,0.8s
CRE AML AML
comp=E,330μm,0.7s
CTI Castel Tesino 3.47 61 P **Pn** 13 37 05.9 +0.3
CTI AML AML
comp=E,252μm,0.8s
CTI AML AML
comp=N,294μm,0.4s
FETA Feichten 3.52 42 *i* Pn **Pn** 13 37 09.1 +2.6
comp=N,15nm,0.5s,SNR=10
FETA *e*Sn **Sn** 13 37 51.6 +3.4
comp=N,24nm,0.6s
CAFI Castiglion Fio 3.55 107 P **Pn** 13 37 06.7 0.0
HAU Haudompre 3.63 350 *e*P **Pn** 13 37 09.3 +1.5
HAU *e*Sn **Sn** 13 37 47.6 -3.0
comp=N,97nm,0.3s
HAU *e*Sg **Sg** 13 38 07.6 -0.5
comp=N,42nm,0.3s
AVF Avril sur Loir 3.63 312 *e*P **Pn** 13 37 10.4 +2.6
AVF *e*Sn **Sn** 13 37 48.4 -2.3
AVF *e*Sg **Sg** 13 38 05.9 -2.5
comp=N,94nm,0.5s
LOR Lormes 3.71 321 *e*P **Pn** 13 37 11.5 +2.5
baz=138
LOR *e*Sn **Sn** 13 37 50.2 -2.5
comp=N,34nm,0.2s
LOR Lormes 3.71 321 Pn **Pn** 13 37 11.4 +2.4
SSF Saint Saulge 3.73 316 *e*P **Pn** 13 37 11.8 +2.6
SSF *e*Sn **Sn** 13 37 50.9 -2.2
comp=N,13nm,0.2s
SSF *e*Sg **Sg** 13 38 09.7 -1.8
SJAF Saint Jean de 3.77 240 Pn **Pn** 13 37 10.5 +0.8
CAF Calviac 3.77 279 *e*P **Pn** 13 37 11.8 +2.1
CAF *e*Sn **Sn** 13 37 51.8 -2.3
comp=N,55nm,0.5s
BGF Bois d'Agland 3.78 306 *e*P **Pn** 13 37 12.7 +2.8
BGF *e*Sn **Sn** 13 37 52.1 -2.2
BGF *e*Sg **Sg** 13 38 10.8 -2.3
comp=N,343nm,0.6s
UBR Ueberruh 3.78 30 *e*Pn **Pn** 13 37 14.1 +4.1
SNR=2.6
UBR *e*Sn **Sn** 13 37 56.6 +2.1
SNR=2.9
MTLF Montolieu 3.84 255 *e*Pn **Pn** 13 37 11.0 +0.3
MTLF Montolieu 3.84 255 *e*P **Pn** 13 37 13.3 +2.7
MTLF *e*Sn **Sn** 13 37 53.0 -2.7
comp=N,80nm,0.5s
MTLF Montolieu 3.84 255 Pn **Pn** 13 37 12.1 +1.4
MTLF Montolieu 3.84 255 P **Pn** 13 37 11.0 +0.3
MTLF AML AML
comp=E,101μm,0.7s
MTLF AML AML
comp=N,172μm,1.1s
RETA Reutte 3.89 37 *e*Pn **Pn** 13 37 13.5 +2.1
comp=N,2.0nm,0.2s
RETA *e*Sn **Sn** 13 37 59.3 +2.3
comp=N,7.7nm,0.3s
SQTA Sankt Quirin 3.90 43 *e*Pn **Pn** 13 37 14.7 +3.1
comp=N,3.6nm,0.1s
SQTA *e*Sn **Sn** 13 38 01.1 +3.7
comp=N,25nm,0.3s
MOTA Moosalm 3.93 41 *i* Pn **Pn** 13 37 13.9 +1.8
comp=N,15nm,0.4s,SNR=7.6
MOTA *e*Sn **Sn** 13 38 01.6 +3.2
comp=N,15nm,0.3s
BFO Black Forest 3.96 10 *e*Pn **Pn** 13 37 13.0 +0.7
SNR=6.5
BFO *e*Sn **Sn** 13 37 58.3 -0.4
SNR=2.4
CDF Champ du Feu 3.97 360 *e*Pn **Pn** 13 37 12.6 0.0
CDF Champ du Feu 3.97 360 *e*P **Pn** 13 37 15.1 +2.5
CDF *e*Sn **Sn** 13 37 56.1 -3.1
comp=N,36nm,0.3s
TCF Toulx Ste Croi 4.04 299 *e*P **Pn** 13 37 16.2 +2.8
TCF *e*Sn **Sn** 13 37 58.0 -2.7
comp=N,41nm,0.3s
TCF *e*Sg **Sg** 13 38 19.4 -1.9
comp=N,6.9nm,0.2s
FNEB Nbias 4.07 250 Pn **Pn** 13 37 15.4 +1.6
SFTF Sexfontaines 4.08 338 *e*P **Pn** 13 37 16.8 +2.8
baz=159
SFTF *e*Sn **Sn** 13 37 58.8 -2.9
comp=N,79nm,0.7s
SFTF *e*Sg **Sg** 13 38 21.4 -1.2
comp=N,185nm,0.7s
WTTA Wattenberg 4.14 45 *i* Pn **Pn** 13 37 17.7 +2.8
comp=N,14nm,0.4s,SNR=7.1
WTTA *e*Sn **Sn** 13 38 07.3 +3.8
comp=N,20nm,0.4s
WTTA Wattenberg 4.14 45 P **Pn** 13 37 16.2 +1.3
WTTA Wattenberg 4.14 45 *e*Pn **Pn** 13 37 17.7 +2.8
SNR=8.2
WATA Walderalm 4.16 44 *e*Pn **Pn** 13 37 19.1 +3.9
comp=N,4.5nm,0.3s
WATA *e*Sn **Sn** 13 38 06.9 +3.0
comp=N,12nm,0.4s
TOLF Tolfa 4.17 123 AML AML
comp=N,122μm,0.9s
TOLF AML AML
comp=E,126μm,1.4s
RJF Les Rejaudoux 4.20 284 *e*P **Pn** 13 37 18.4 +2.7
RJF *e*Sn **Sn** 13 38 01.9 -2.9
comp=E,21nm,0.4s
RJF *e*Sg **Sg** 13 38 26.2 -0.4
comp=E,26nm,0.4s
PAGF Fort de Pagny 4.26 346 *e*P **Pn** 13 37 20.1 +3.7
baz=166
PAGF *e*Sn **Sn** 13 38 03.1 -3.0
comp=E,76nm,0.4s
HYF Humbligny 4.31 313 *e*P **Pn** 13 37 20.3 +3.1
HYF *e*Sn **Sn** 13 38 05.9 -1.6
comp=E,90nm,0.2s
HYF *e*Sg **Sg** 13 38 28.2 -2.0
comp=E,482nm,0.4s
ABTA Abfaltersbach 4.32 56 *i* Pn **Pn** 13 37 18.9 +1.5
comp=E,5.7nm,0.2s,SNR=8.3
ABTA *e*Sn **Sn** 13 38 11.1 +3.3
comp=E,23nm,0.6s
MEZF Maizieres J'vi 4.35 340 *e*P **Pn** 13 37 20.0 +2.3
MEZF *e*Sn **Sn** 13 38 05.5 -2.8
comp=E,26nm,0.2s
MONQ Montcuq 4.38 271 Pn **Pn** 13 37 20.2 +2.1
SAVF Savonnieres en 4.44 341 *e*P **Pn** 13 37 22.1 +3.2
baz=165
SAVF *e*Sn **Sn** 13 38 08.1 -2.4
comp=E,52nm,0.4s
SAVF *e*Sg **Sg** 13 38 32.5 -1.6
comp=E,38nm,0.4s
PAND Andorre 4.61 247 Pn **Pn** 13 37 23.6 +2.2
LFF La Frestale 4.71 278 *e*P **Pn** 13 37 25.3 +2.7
LFF *e*Sn **Sn** 13 38 14.5 -2.6
comp=E,35nm,0.5s
MLS Moulis 4.74 254 Pn **Pn** 13 37 23.9 +0.9
MYKA Terra Mystica 4.96 62 *e*Pn **Pn** 13 37 29.1 +2.9
comp=E,3.5nm,0.4s
MYKA *e*Sn **Sn** 13 38 26.1 +2.6
comp=E,1.9nm,0.2s
KBA Koelnbreinsper 4.98 56 *e*Pn **Pn** 13 37 28.3 +1.8
comp=E,6.0nm,0.6s
KBA *e*Sn **Sn** 13 38 26.9 +2.7
comp=E,12nm,0.6s
KBA Koelnbreinsper 4.98 56 *e*Pn **Pn** 13 37 28.8 +2.2
SNR=9.9
VSL Villasalto 5.18 162 P **Pn** 13 37 29.4 +0.3
EPF Esparros 5.24 257 *e*Pn **Pn** 13 37 30.0 0.0
EPF *e*Sn **Sn** 13 38 26.6 -3.7
comp=E,22nm,0.4s
CGL Cagliari Serpe 5.29 163 P **Pn** 13 37 31.0 +0.3
BIOA Bad Ischl, Aus 5.48 51 *e*Sn **Sn** 13 38 39.8 +3.6
comp=E,4.2nm,0.2s
OBKA Obir 5.50 65 *e*Pn **Pn** 13 37 34.7 +1.1
comp=E,0.6nm,0.2s
OBKA *e*Sn **Sb** 13 38 57.6 +3.9
comp=E,21nm,0.8s
OBKA Obir 5.50 65 *e*Pn **Pn** 13 37 36.6 +3.0
SNR=3.2
MFF Saint Martin d 5.66 295 *e*P **Pn** 13 37 38.1 +2.4
MFF *e*Sn **Sn** 13 38 37.0 -3.7
comp=E,77nm,0.7s
TNS Taunus Mts 5.84 7 *e*Sn **Sn** 13 38 44.3 -0.7
SNR=2.0
SOKA Soboth 5.87 65 *e*Pn **Pn** 13 37 39.6 +1.0
comp=E,1.0nm,0.2s
SOKA *e*Sn **Sn** 13 38 45.9 -0.1
comp=E,2.6nm,0.4s
ETSF Etsaut 5.91 258 *e*P **Pn** 13 37 43.2 +4.0
ETSF *e*Sn **Sn** 13 38 42.7 -4.1
comp=E,56nm,0.7s
GIVF Givet 5.91 344 *e*P **Pn** 13 37 42.1 +3.0
GIVF *e*Sn **Sn** 13 38 42.4 -4.4
comp=E,10nm,0.4s
MOA Molln 5.92 52 *e*Pn **Pn** 13 37 41.3 +2.1
comp=E,4.4nm,0.3s
MOA *e*Sn **Sn** 13 38 47.6 +0.6
comp=E,4.8nm,0.4s
CANF Canfranc 5.92 256 Pn **Pn** 13 37 43.5 +4.2
DOU Dourbes 5.95 343 Pn **Pn** 13 37 41.2 +1.5
BAIF Baives 6.00 341 *e*P **Pn** 13 37 42.6 +2.2
BAIF *e*Sn **Sn** 13 38 44.6 -4.4
comp=E,9.7nm,0.2s
GEC2 GERESS Array S 6.23 43 *e*Pn **Pn** 13 37 44.0 +0.4
SNR=22
GERES GERESS Array B 6.23 43 Pn **Pn** 13 37 44.0 +0.4
comp=E,7.0nm,0.3s,baz=230,slow=10,SNR=96
GERES Sn **Sn** 13 38 53.4 -1.4
comp=E,3.1nm,0.3s,baz=238,slow=25,SNR=6.1
GERES LR LR 13 39 56.2
comp=E,40nm,21.5s,baz=309,slow=36
SJPF Ste Jean 6.32 261 *e*Pn **Pn** 13 37 44.4 -0.3
SJPF *e*Sn **Sn** 13 38 52.4 -4.4
comp=E,9.5nm,0.6s
KHC Kasperske Hory 6.37 40 *e*PN **Pn** 13 37 45.3 -0.1
KHC *e*SN **Sn** 13 38 57.3 -0.8
ARSA Arzberg 6.39 61 *e*Pn **Pn** 13 37 46.6 +0.9
comp=E,6.4nm,0.7s
ARSA *e*Sn **Sn** 13 38 59.0 +0.3
comp=E,5.2nm,0.8s
CKRC Cesky Krumlov 6.51 45 *e*PN **Pn** 13 37 48.3 +0.9
CKRC *e*SN **Sn** 13 38 59.5 -2.2
LDF La Druitiere 6.59 312 *e*P **Pn** 13 37 51.1 +2.6
LDF *e*Sn **Sn** 13 38 59.2 -4.4
comp=E,4.2nm,0.2s
LDF *e*Sg **Sg** 13 39 39.9 -3.3
comp=E,7.8nm,0.4s
GRR Gorron 6.88 308 *e*P **Pn** 13 37 56.3 +3.8
GRR *e*Sn **Sn** 13 39 06.0 -4.7
comp=E,17nm,0.3s
FLN La Foliniere 6.89 312 *e*P **Pn** 13 37 56.1 +3.6
baz=132
FLN *e*Sn **Sn** 13 39 05.9 -4.9
comp=E,20nm,0.3s
CONA Conrad Observa 6.89 57 *e*Pn **Pn** 13 37 55.8 +3.2
comp=E,1.6nm,0.5s
CONA *e*Sn **Sn** 13 39 14.0 +3.0
comp=E,4.7nm,0.5s
PBCC Pribram 6.96 39 *e*PN **Pn** 13 37 53.8 +0.3
PRU Pruhonice 7.42 39 *e*PN **Pn** 13 37 59.9 +0.1
KRUC Moravsky 7.77 50 *e*PN **Pn** 13 38 04.4 -0.2
SGMF Saint Gilles 7.81 303 *e*P **Pn** 13 38 07.8 +2.6
QUIF Quistinic 8.05 299 *e*P **Pn** 13 38 10.8 +2.3
ROSF Rostrenen 8.28 302 *e*P **Pn** 13 38 15.2 +3.5
UPC Upice 8.46 41 *e*PN **Pn** 13 38 14.6 +0.5
DPC Dobruska-Polom 8.50 43 *e*PN **Pn** 13 38 14.0 -0.7
DPC *e*SN **Sn** 13 39 48.0 -2.6
CHVC Chvalec 8.54 41 *e*PN **Pn** 13 38 14.1 -1.0
CHVC *e*SN **Sn** 13 39 48.3 -3.1
KRLC Kraliky 8.56 45 *e*PN **Pn** 13 38 14.8 -0.7
KRLC *e*SN **Sn** 13 39 49.5 -2.5
OSTC Ostas 8.59 41 *e*PN **Pn** 13 38 15.9 0.0
KEST Kesra 8.84 169 Pn **Pn** 13 38 22.5 +3.1
comp=E,0.7nm,0.3s,baz=294,slow=7.7,SNR=7.1
ESDC Sonseca Array 9.63 244 Pn **Pn** 13 38 31.5 +1.2
comp=E,0.5nm,0.3s,baz=58,slow=14,SNR=29
ESDC Sn **Sn** 13 40 17.8 -0.7
comp=E,0.0nm,0.3s,baz=54,slow=23,SNR=5.8
EKA Eskdalemuir Ar 12.80 332 Pn **Pn** 13 39 13.8 +0.4
baz=137,slow=15,SNR=13
EKA Sn **Sn** 13 41 33.6 -2.2
baz=142,slow=26,SNR=3.6
IDI Anoyia 16.28 118 LR LR 13 46 20.5
comp=E,50nm,18.1s,baz=272,slow=37
MKAR Makanchi Array 50.62 59 P **P** 13 45 10.2 -0.3

comp=E,0.4nm,0.7s,baz=294,slow=6.0,SNR=5.6
YKA Yellowknife Ar 63.76 334 P **P** **13 46 44.5 +1.5**
comp=E,0.3nm,0.8s,baz=48,slow=6.5,SNR=4.6

KRSC 14 13:49:54.2±1.9, 53°27'N×157°12'E, h308km±16km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.35**	**176**	*eP*	Pn	13 50 34.5	+1.1
GNL	**Ganaly**	**0.65**	**49**	*eP*	Pn	13 50 35.6	+1.4
GNL				*eS*	S	13 51 06.4	+0.4
KRMR	**Karymshinskiy**	**0.75**	**126**	*eP*	Pn	13 50 35.8	+1.4
KRMR				*eS*	S	13 51 07.7	+1.2
KOK	**Koryaka**	**0.91**	**88**	*eP*	Pn	13 50 37.1	+2.0
GRL	**Gorelyy**	**0.92**	**141**	*eP*	Pn	13 50 37.4	+2.1
PET	**Petropavlovsk**	**0.96**	**104**	*eP*	Pn	13 50 36.8	+1.6
PET				*eS*	S	13 51 08.6	+0.8
AVH	**Avacha**	**0.97**	**90**	*eP*	Pn	13 50 37.3	+1.9
KRER	**Koryakskii**	**0.98**	**87**	*eP*	Pn	13 50 37.5	+2.0
SMAR	**Somma**	**1.01**	**90**	*eP*	Pn	13 50 37.7	+2.0
DALK	**Dalny**	**1.01**	**103**	*eP*	Pn	13 50 36.8	+1.4
DALK				*eS*	S	13 51 09.1	+0.8
MTVR	**Mutnovka**	**1.02**	**140**	*eP*	Pn	13 50 37.5	+1.8
MTVR				*eS*	S	13 51 12.3	+3.5
UGLR	**Uglovaya**	**1.03**	**93**	*eP*	Pn	13 50 37.6	+2.0
UGLR				*eS*	S	13 51 09.2	+0.6
SDLR	**Sedlovina**	**1.06**	**89**	*eP*	Pn	13 50 37.5	+1.7
RUS	**Russkaya**	**1.19**	**134**	*eP*	Pn	13 50 37.5	+1.1
RUS				*eS*	S	13 51 09.7	-0.2
NLC	**Nalytchevo**	**1.34**	**93**	*eP*	Pn	13 50 37.8	+0.7
NLC				*eS*	S	13 51 11.2	-0.1
KDTR	**Khodutka, Kamc**	**1.58**	**158**	*eP*	Pn	13 50 39.5	+0.8
KDTR				*eS*	S	13 51 12.1	-2.0
SPN	**Mys Shipunski**	**1.76**	**95**	*eP*	Pn	13 50 40.8	+1.0
SPN				*eS*	S	13 51 14.4	-1.7
TUMR	**Tumrok**	**2.69**	**40**	*eP*	Pn	13 50 50.1	+2.6
TUMR				*eS*	S	13 51 31.6	+1.5
TUMD	**Tumrok D**	**2.73**	**44**	*eP*	Pn	13 50 49.0	+1.2
MKZ	**Mys Kozlova**	**3.02**	**63**	*eP*	Pn	13 50 51.6	+1.1
MKZ				*eS*	S	13 51 31.9	-3.6
KMNR	**Kamenistaya**	**3.08**	**35**	*eP*	Pn	13 50 53.7	+2.4
KIRR	**Kirishev**	**3.28**	**34**	*eP*	Pn	13 50 54.7	+1.4
KRSR	**Krestovskiy**	**3.56**	**33**	*eP*	Pn	13 50 57.8	+1.7
KLY	**Klyuchi**	**3.67**	**32**	*eP*	Pn	13 50 59.6	+2.5
BDR	**Baidarnaya**	**4.06**	**34**	*eP*	Pn	13 51 03.6	+2.2
SRKR	**Sorokina**	**4.12**	**33**	*eP*	Pn	13 51 04.1	+2.1
SMKR	**Semkarok**	**4.16**	**35**	*eP*	Pn	13 51 05.3	+2.8
KBG	**Krutoberegovo**	**4.40**	**45**	*eP*	Pn	13 51 06.9	+1.8
KBG				*eS*	S	13 51 58.2	-3.8
KBTR	**Krutoberegovo**	**4.42**	**46**	*eP*	Pn	13 51 06.5	+1.2
KBTR				*eS*	S	13 51 59.1	-3.3
BKI	**Bering**	**5.54**	**66**	*eP*	Pn	13 51 20.8	+2.7
BKI				*eS*	S	13 52 24.3	-1.5

*IDC **14** 13:53:26.4±0.9, 2°.49N×127°.96E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/45, mbtmp3.8/7, MS2.5/1, Ms1 2.5/1, ms1mx2.1/71, Error ellipse: s-maj=65.9km s-min=17.0km az=72.0*
*NEIC **14** 13:53:44.5±1.1, 2°.4N±0°.1×128°.1E±0°.2, h158km±10km, mb4.1/13, Error ellipse: s-maj=24.0km s-min=15.5km az=87.0*
ISC 14 13:53:43.1±0.8, 2°.50N±0°.09×128°.1E±0°.1, h150km, n25, σ0s82/21, mb3.8/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.88**	**204**		**Pn**	**13 54 18.1**	**+1.2**
LUWI	**Luwuk**	**6.41**	**237**	Pn	**Pn**	**13 55 16.7**	**+1.3**
TOLI2	**Tolitoli**	**7.48**	**260**	Pn	**Pn**	**13 55 29.9**	**+0.2**
KNRA	**Kununurra**	**18.07**	**178**		**P**	**13 57 43.4**	**+0.2**
GUMO	**Guam**	**19.88**	**55**	LR	LR	14 03 56.6	
	comp=Z,13nm,18.9s,baz=116,slow=32						
FITZ	**Fitzroy Crossi**	**20.61**	**187**		**P**	**13 58 09.4**	**-1.3**
FITZ				IAmb	IAmb	13 58 18.1	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**22.96**	**165**	P	**P**	**13 58 34.0**	**-0.6**
WB0				IAmb	IAmb	13 58 42.4	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**23.11**	**165**	P	**P**	**13 58 34.6**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=337,slow=10,SNR=19						
WRA	**Warramunga Arr**	**23.11**	**165**	P	**P**	**13 58 35.1**	**-1.0**
WB2	**Warramunga Arr**	**23.12**	**165**	P	**P**	**13 58 35.4**	**-0.7**
WB2				IAmb	IAmb	13 59 03.9	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**23.18**	**165**	P	**P**	**13 58 36.2**	**-0.6**
WR0				IAmb	IAmb	13 58 42.9	
	comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**26.60**	**168**	P	**P**	**13 59 07.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=347,slow=7.5,SNR=2.6						
GSI	**Gunungsitoli**	**30.57**	**268**	P	**P**	**13 59 41.9**	**-1.1**
MJAR	**Matsushiro Arr**	**35.13**	**14**	P	**P**	**14 00 21.9**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=180,slow=9.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**35.13**	**14**	IAmb	IAmb	14 00 26.0	
	comp=Z,5.0nm,1.3s						
STKA	**Stephens Creek**	**36.49**	**161**	P	**P**	**14 00 33.8**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=347,slow=8.4,SNR=6.0						
STKA	**Stephens Creek**	**36.49**	**161**	P	**P**	**14 00 34.0**	**0.0**
STKA				IAmb	IAmb	14 01 00.8	
	comp=Z,1.4nm,1.3s						
JMM	**Marumori**	**37.07**	**17**	P	**P**	**14 00 39.6**	**+0.8**
SONM	**Songino Array**	**48.91**	**341**	P	**P**	**14 02 14.6**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=141,slow=7.7,SNR=3.5						
SONM	**Songino Array**	**48.91**	**341**	IAmb	IAmb	14 02 17.5	
	comp=Z,1.3nm,1.3s						
MK31	**Makanchi Array**	**59.37**	**325**	P	**P**	**14 03 29.9**	**+0.3**
MKAR	**Makanchi Array**	**59.37**	**325**	P	**P**	**14 03 30.1**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=115,slow=8.0,SNR=13						
KURBB	**Kurchatov Array**	**63.53**	**327**	P	**P**	**14 03 57.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=128,slow=6.0,SNR=10						
KURK	**Kurchatov**	**63.53**	**327**	P	**P**	**14 03 57.3**	**-0.2**
KURK	**Kurchatov**	**63.53**	**327**	IAmb	IAmb	14 03 58.4	
	comp=Z,1.9nm,0.8s						

IDC 14 14:00:17.7±1.9, 1°.09N×125°.73E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/45, mbtmp3.4/4, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/27, Error ellipse: s-maj=126.8km s-min=24.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.87**	**109**	LR	LR	14 04 22.6	
	comp=Z,100nm,21.3s,baz=71,slow=42						
FITZ	**Fitzroy Crossi**	**19.07**	**180**	P	Pn	14 04 43.0	+0.5
	0.1nm,0.3s,baz=355,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**22.54**	**158**	P	P	14 05 17.9	-1.7
	0.5nm,0.3s,baz=335,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.86**	**163**	P	P	14 05 52.1	+0.9
	0.3nm,0.3s,baz=345,slow=12,SNR=6.9						
MKAR	**Makanchi Array**	**59.17**	**327**	P	P	14 10 20.4	-0.1
	0.2nm,0.5s,baz=120,slow=8.6,SNR=5.4						

*PRE **14** 14:15:01.0±0.9, 25°.09S×29°.62E, h5km, ML2.5*
*EAF **14** 14:15:11.9±1.5, 25°.88S×29°.37E, h2km±8km, MD3.3*
*BUL **14** 14:15:12.0±1.2, 25°.89S×29°.35E, h0km±6km, MD3.4*
ISC 14 14:15:09.8±0.9, 25°.97S±0°.04×29°.41E±0°.03, h10km, n18, σ2s32/32, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLN	**Carolina, Mapu**	**0.55**	**92**	*eP*	**Pg**	**14 15 19.6**	**-1.1**
CRLN				*eS*	**Sn**	**14 15 33.0**	**-0.3**
CRLN				IAML		14 15 38.5	
	comp=Z,33nm,0.2s						
KSR	**Koster**	**2.27**	**273**	*eP*	**Pn**	**14 15 43.7**	**-3.8**
KSR				*eS*	**Sn**	**14 16 16.0**	**+0.4**
KSR				IAML		14 16 25.1	
	comp=E,92nm,0.2s						
POGA	**Pongola**	**2.47**	**124**	*eP*	**Pn**	**14 15 49.2**	**-0.9**
POGA				*eS*	**Sb**	**14 16 24.6**	**-0.2**
POGA				IAML		14 16 40.0	
	comp=Z,20nm,3.8s						
CNG	**Changalane**	**2.52**	**98**	*i* Sg	**Sg**	**14 16 32.1**	**+1.3**
CNG	**Changalane**	**2.52**	**98**	*i* Sg	**Sg**	**14 16 32.1**	**+1.3**
MOPA	**Mopani**	**3.04**	**37**	*i* P	**Pn**	**14 15 59.4**	**+1.4**
MOPA				*i* S	**Sn**	**14 16 33.8**	**-0.7**
MOPA	**Mopani**	**3.04**	**37**	*i* P	**Pn**	**14 15 59.4**	**+1.4**
MOPA				*i* S	**Sn**	**14 16 33.8**	**-0.7**
LBTB	**Lobatse**	**3.58**	**285**	*i* Sg	**Sb**	**14 17 00.8**	**+4.1**
LBTB	**Lobatse**	**3.58**	**285**	*i* Sg	**Sb**	**14 17 00.8**	**+4.1**
MSNA	**Messina**	**3.66**	**9**	*i* P	**Pn**	**14 16 07.5**	**+1.0**
MSNA				*i* S	**Sn**	**14 16 48.9**	**-0.8**
MSNA	**Messina**	**3.66**	**9**	*i* P	**Pn**	**14 16 07.5**	**+1.0**
MSNA				*i* S	**Sn**	**14 16 48.9**	**-0.8**
SWZ	**Schweizer**	**3.84**	**251**	*eP*	**Pn**	**14 16 08.5**	**-0.7**
SWZ				*eS*	**Sb**	**14 16 59.6**	**-5.0**
SWZ				IAML		14 17 13.5	
	comp=Z,25nm,3.0s						
BOSA	**Boshof**	**4.54**	**234**	*i* P	**Pn**	**14 16 20.5**	**+1.8**
BOSA				*i* S	**Sn**	**14 17 12.9**	**+1.4**
BOSA	**Boshof**	**4.54**	**234**	*i* P	**Pn**	**14 16 20.5**	**+1.8**
BOSA				*i* S	**Sn**	**14 17 12.9**	**+1.4**
MATP	**Matopo**	**5.58**	**351**	*i* P	**Pn**	**14 16 34.6**	**+1.5**
MATP				*i* S	**Sn**	**14 17 34.1**	**-3.4**
MATP	**Matopo**	**5.58**	**351**	*i* P	**Pn**	**14 16 34.6**	**+1.5**
MATP				*i* S	**Sn**	**14 17 34.1**	**-3.4**
BLWY	**Bulawayo**	**5.85**	**353**	*i* P	**Pn**	**14 16 38.8**	**+1.9**
BLWY				*i* S	**Sn**	**14 17 40.6**	**-3.5**
BLWY	**Bulawayo**	**5.85**	**353**	*i* P	**Pn**	**14 16 38.8**	**+1.9**
BLWY				*i* S	**Sn**	**14 17 40.6**	**-3.5**

*NOU **14** 14:27:43.9, 42°.38S×173°.03E, h10km, MLv3.8/9, South Island, New Zealand*
*WEL **14** 14:27:43.8, 42°.5S×17°.3E±°, h15km±9km, M3.1/12, ML3.4/12, MLv3.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=53.6*
ISC 14 14:27:43.4±1.2, 42°.32S±0°.02×173°.04E±0°.03, h6km±11km, n90, σ1s45/98, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.38**	**105**	P	**Pb**	**14 27 52.7**	**+0.2**
KHZ				S	**Sb**	**14 27 58.7**	**0.0**
KHZ	**Kahutara**	**0.38**	**105**	P	**Pg**	**14 27 52.2**	**+1.4**
THZ	**Tophouse**	**0.57**	**350**	P	**Pg**	**14 27 54.6**	**+0.3**
THZ				S	**Sg**	**14 28 01.3**	**-0.3**
GVZ	**Greta Valley S**	**0.65**	**180**	P	**Pn**	**14 27 58.8**	**-0.4**
GVZ				S	**Sn**	**14 28 09.0**	**-0.8**
LTZ	**Lake Taylor**	**0.73**	**231**	P	**Pb**	**14 27 58.8**	**+0.2**
LTZ				S	**Sb**	**14 28 08.4**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.87**	**46**	P	**Pg**	**14 28 00.6**	**+0.6**
BSWZ				S	**Sg**	**14 28 11.9**	**+0.6**
AMCZ	**Amberley**	**0.90**	**198**	P	**Pn**	**14 28 03.3**	**+0.6**
AMCZ				S	**Sn**	**14 28 17.2**	**+1.2**
MRNZ	**Matariki Terra**	**0.94**	**347**	P	**Pg**	**14 28 01.4**	**0.0**
CMWZ	**Cape Campbell**	**1.04**	**57**	P	**Pn**	**14 28 05.1**	**+0.5**
CMWZ				S	**Sn**	**14 28 21.2**	**+1.7**
DSZ	**Denniston Nort**	**1.08**	**302**	P	**Pn**	**14 28 04.8**	**-0.3**
TUWZ	**Tuamarina**	**1.12**	**37**	P	**Pb**	**14 28 04.3**	**-0.8**
NNZ	**Nelson**	**1.13**	**13**	P	**Pb**	**14 28 04.0**	**-1.4**
OXZ	**Oxford**	**1.25**	**216**	P	**Pb**	**14 28 07.0**	**-0.3**
INZ	**Inchbonnie**	**1.25**	**251**	P	**Pg**	**14 28 07.3**	**0.0**
TKNZ	**Takaka Hill**	**1.29**	**357**	P	**Pn**	**14 28 07.2**	**-0.7**
TKNZ				S	**Sb**	**14 28 23.9**	**-0.9**
OKCZ	**Okains Bay**	**1.40**	**179**	P	**Pb**	**14 28 09.6**	**-0.5**
MQZ	**McQueen's Vall**	**1.41**	**191**	P	**Pn**	**14 28 08.9**	**-0.8**
TCW	**Tory Channel**	**1.44**	**40**	P	**Pn**	**14 28 09.3**	**-0.8**
QRZ	**Quartz Range**	**1.54**	**345**	P	**Pn**	**14 28 11.5**	**0.0**
QRZ	**Quartz Range**	**1.54**	**345**	P	**Pb**	**14 28 11.9**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.55**	**183**	P	**Pn**	**14 28 11.3**	**-0.3**
RACZ	**Rakaia**	**1.55**	**205**	P	**Pn**	**14 28 11.3**	**-0.3**
SNZO	**South Karori**	**1.60**	**52**	P	**Pn**	**14 28 12.4**	**+0.2**
BHW	**Baring Head**	**1.64**	**57**	P	**Pn**	**14 28 13.0**	**+0.2**
DUWZ	**Dunville Isla**	**1.66**	**24**	P	**Pn**	**14 28 12.8**	**-0.2**
WEL	**Wellington**	**1.66**	**52**	P	**Pn**	**14 28 13.0**	**0.0**
PLWZ	**Palliser**	**1.81**	**66**	P	**Pn**	**14 28 14.5**	**-0.8**
WACZ	**Wakanui South**	**1.84**	**208**	P	**Pn**	**14 28 15.2**	**-0.3**
WVZ	**Waitaha Valley**	**1.86**	**245**	P	**Pb**	**14 28 16.7**	**-1.1**
MSWZ	**Moikau Station**	**1.88**	**62**	P	**Pn**	**14 28 15.3**	**-0.8**
CAW	**Cannon Point**	**1.94**	**52**	P	**Pn**	**14 28 16.6**	**-0.3**
RPZ	**Rata Peaks**	**2.02**	**226**	P	**Pn**	**14 28 17.5**	**-0.5**
RPZ	**Rata Peaks**	**2.02**	**226**	P	**Pn**	**14 28 17.5**	**-0.5**
KIW	**Kapiti Island**	**2.02**	**45**	P	**Pn**	**14 28 18.2**	**+0.1**
ARCZ	**Arundel**	**2.12**	**219**	P	**Pn**	**14 28 18.9**	**-0.5**
MTW	**Mount Morrison**	**2.18**	**59**	P	**Pn**	**14 28 19.1**	**-1.0**
OGWZ	**Otaki Gorge**	**2.19**	**47**	P	**Pn**	**14 28 20.1**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.23**	**243**	P	**Pn**	**14 28 21.7**	**+0.8**
HOWZ	**Holdsworth Sta**	**2.34**	**53**	P	**Pn**	**14 28 21.3**	**-1.1**
MRZ	**Mangatainoka R**	**2.53**	**50**	P	**Pn**	**14 28 24.0**	**-0.9**
TMZ	**Timaru**	**2.54**	**215**	P	**Pn**	**14 28 24.4**	**-0.8**
FOZ	**Fox Glacier**	**2.66**	**242**	P	**Pn**	**14 28 27.9**	**+1.1**
PRWZ	**Pori Road**	**2.82**	**52**	P	**Pn**	**14 28 28.0**	**-1.0**
BFZ	**Birch Farm**	**2.91**	**57**	P	**Pb**	**14 28 33.7**	**-2.0**
BFZ	**Birch Farm**	**2.91**	**57**	P	**Pn**	**14 28 31.2**	**+0.9**
LBZ	**Lake Benmore**	**2.93**	**224**	P	**Pn**	**14 28 30.2**	**-0.4**
WAZ	**Wanganui**	**2.96**	**31**	P	**Pn**	**14 28 33.1**	**+2.3**
NMEZ	**Namu Road**	**2.97**	**13**	P	**Pn**	**14 28 33.6**	**+2.5**
LREZ	**Lake Rotokare**	**3.04**	**20**	P	**Pb**	**14 28 35.3**	**-2.6**
PREZ	**Palmer Road**	**3.09**	**16**	P	**Pn**	**14 28 35.6**	**+2.8**
KHEZ	**Kahui Hut**	**3.11**	**14**	P	**Pn**	**14 28 35.3**	**+2.2**
NBEZ	**Newall Road No**	**3.11**	**12**	P	**Pn**	**14 28 34.9**	**+1.9**
NEZ	**North Egmont**	**3.15**	**15**	P	**Pn**	**14 28 36.2**	**+2.6**
TSZ	**Takapari Road**	**3.16**	**45**	P	**Pn**	**14 28 32.5**	**-1.2**
PKE	**Pukeiti**	**3.21**	**13**	P	**Pn**	**14 28 36.7**	**+2.4**
ODZ	**Otahua Downs**	**3.23**	**212**	P	**Pn**	**14 28 33.7**	**-0.9**
ODZ	**Otahua Downs**	**3.23**	**212**	P	**Pn**	**14 28 33.8**	**-0.9**
DREZ	**Durham Road**	**3.25**	**16**	P	**Pn**	**14 28 37.4**	**+2.5**
MHEZ	**Mangahewa**	**3.38**	**17**	P	**Pn**	**14 28 39.4**	**+3.1**
PNEZ	**Pukenui**	**3.39**	**46**	P	**Pb**	**14 28 42.6**	**-1.2**
VRZ	**Vera Road**	**3.45**	**23**	P	**Pn**	**14 28 39.7**	**+2.0**
MOVZ	**Moawhango**	**3.56**	**36**	P	**Pb**	**14 28 44.0**	**-2.9**
WNVZ	**Wahianoa**	**3.56**	**34**	P	**Pn**	**14 28 42.1**	**+2.7**
JCZ	**Jackson Bay**	**3.57**	**239**	P	**Pn**	**14 28 41.2**	**+1.8**
BHHZ	**Black Hill Sta**	**3.64**	**40**	P	**Pb**	**14 28 46.7**	**-1.4**
KRHZ	**Kereru**	**3.67**	**44**	P	**Pb**	**14 28 47.6**	**-1.1**
NGZ	**Ngauruhoe**	**3.69**	**33**	P	**Pb**	**14 28 47.0**	**-2.2**
OTVZ	**Oturere**	**3.73**	**33**	P	**Pn**	**14 28 45.3**	**+3.6**
NNVZ	**North Ngauruho**	**3.74**	**32**	P	**Pb**	**14 28 47.7**	**-2.2**
WTVZ	**West Tongariro**	**3.74**	**32**	P	**Pb**	**14 28 46.7**	**-3.2**
ETVZ	**East Tongariro**	**3.77**	**33**	P	**Pn**	**14 28 45.9**	**+3.6**
TMVZ	**Te Maari**	**3.79**	**33**	P	**Pb**	**14 28 48.4**	**-2.3**
WKZ	**Wanaka**	**3.85**	**228**	P	**Pn**	**14 28 42.1**	**-1.0**
EAZ	**Earnscleugh**	**3.97**	**222**	P	**Pn**	**14 28 43.5**	**-1.4**
HIZ	**Hauiti**	**4.05**	**21**	P	**Pn**	**14 28 46.8**	**+0.9**
HIZ	**Hauiti**	**4.05**	**21**	P	**Pn**	**14 28 46.5**	**+0.6**
BKZ	**Black Stump Fm**	**4.10**	**41**	P	**Pn**	**14 28 45.5**	**-1.2**
TUZ	**Tuapeka**	**4.38**	**213**	P	**Pn**	**14 28 50.0**	**-0.5**
TLZ	**Tolley Road**	**4.42**	**26**	P	**Pn**	**14 28 52.8**	**+1.7**
SYZ	**Scrubby Hill**	**5.06**	**212**	P	**Pn**	**14 28 59.1**	**-0.6**
URZ	**Urewera**	**5.11**	**39**	P	**Pn**	**14 29 01.1**	**+0.6**
AWAZ	**Awhitu Peninsu**	**5.39**	**14**	P	**Pn**	**14 29 05.6**	**+1.3**
ETAZ	**East Tamaki Re**	**5.55**	**16**	P	**Pn**	**14 29 08.1**	**+1.5**
MBAZ	**Motutapu North**	**5.73**	**15**	P	**Pn**	**14 29 10.7**	**+1.8**
WIAZ	**Waiheke Island**	**5.75**	**17**	P	**Pn**	**14 29 10.5**	**+1.2**
ABAZ	**Army Bay**	**5.88**	**14**	P	**Pn**	**14 29 12.2**	**+1.2**
KUZ	**Kuaotunu**	**5.94**	**21**	P	**Pn**	**14 29 12.6**	**+0.8**
WCZ	**Waipu Caves**	**6.45**	**9**	P	**Pn**	**14 29 19.9**	**+1.0**
OUZ	**Omahuta**	**7.10**	**4**	P	**Pn**	**14 29 29.0**	**+1.2**
OUZ	**Omahuta**	**7.10**	**4**	P	**Pn**	**14 29 28.6**	**+0.8**

IDC 14 14:33:32.8±61.0, 20°.23S×178°.24E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/22, mbtmp4.0/3, Error ellipse: s-maj=1090.0km s-min=154.6km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.74**	**243**	P	P	14 40 24.6	-0.3
	2.2nm,0.9s,baz=86,slow=15,SNR=1.9						
WRA	**Warramunga Arr**	**41.14**	**263**	P	P	14 41 19.3	+0.2
	0.5nm,0.3s,baz=97,slow=7.8,SNR=35						
ASAR	**Alice Springs**	**41.14**	**257**	P	P	14 41 18.7	-0.4
	1.9nm,0.8s,baz=91,slow=7.7,SNR=35						

*IDC **14** 14:53:57.0±1.2, 55°.86S×123°.73W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/29, mbtmp3.9/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/47, Error ellipse: s-maj=202.4km s-min=30.7km az=157.0*
*NEIC **14** 14:53:58.5±0.6, 55°.8S±0°.2×123°.6W±0°.4, h10km±5km, mb4.3/6, Error ellipse: s-maj=33.1km s-min=26.4km az=143.0*
ISC 14 14:53:58.5±1.2, 55°.9S±0°.2×123°.6W±0°.2, h10km, n42, σ0s43/9, mb3.9/6, MS3.8/15, Southern East Pacific Rise

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

QSPA	**South Pole Qui**	**34.32**	**180**	LR	LR	15 12 25.6	
	comp=Z,93nm,19.3s,baz=94,slow=32						
QSPA	**South Pole Qui**	**34.32**	**180**	P	**P**	**15 00 45.1**	**+0.2**
QSPA				IAmb	IAmb	15 00 47.9	
	comp=Z,1.5nm,0.8s						
BELA	**Belgrano 2**	**35.97**	**159**	P	**P**	**15 00 58.6**	**-0.2**
BELA				IAmb	IAmb	15 01 00.1	
	comp=Z,1.6nm,0.9s						
PLCA	**Paso Flores**	**37.41**	**89**	LR	LR	15 12 33.2	
	comp=Z,126nm,19.1s,baz=224,slow=30						
TBI	**Tubuai**	**37.64**	**319**	*e*LR	LR	15 11 33.9	
	comp=Z,151nm,26.5s						
TBI	**Tubuai**	**37.64**	**319**	*e*T	T	15 41 06.3	
	comp=Z,22nm,0.3s						
H03S2	**Juan Fernandez**	**37.69**	**73**	T	T	15 40 49.3	
	SNR=16						
H03S1	**Juan Fernandez**	**37.69**	**73**	T	T	15 40 51.0	
	SNR=20						
H03S3	**Juan Fernandez**	**37.70**	**73**	T	T	15 40 50.2	
	SNR=20						
H03N3	**Juan Fernandez**	**37.98**	**73**	T	T	15 41 07.6	
	baz=221,slow=72,SNR=163						
H03N2	**Juan Fernandez**	**37.98**	**73**	T	T	15 41 08.1	
	baz=221,slow=72,SNR=469						
H03N1	**Juan Fernandez**	**37.99**	**73**	T	T	15 41 13.5	
	baz=221,slow=72,SNR=121						
RPZ	**Rata Peaks**	**42.32**	**258**	LR	LR	15 16 14.2	
	comp=Z,194nm,18.1s,baz=136,slow=32						
URZ	**Urewera**	**42.60**	**269**	LR	LR	15 15 49.1	
	comp=Z,79nm,18.8s,baz=193,slow=31						
PPT2	**Papeete2**	**42.98**	**322**	*e*LR	LR	15 14 02.6	
	comp=Z,176nm,25.0s						
PPT	**Papeete**	**43.00**	**322**	LR	LR	15 15 17.5	
	comp=Z,93nm,21.7s,baz=142,slow=30						
VAH	**Vaihoa**	**44.53**	**326**	*e*T	T	15 49 37.4	
	comp=Z,90nm,0.3s						
PMOR	**Pomariorio Ree**	**44.84**	**326**	*e*T	T	15 50 00.8	
	comp=Z,8.6nm,0.3s						
SNAA	**Sanae**	**46.20**	**158**	LR	LR	15 21 01.4	
	comp=Z,90nm,18.2s,baz=184,slow=35						
TAOE	**Nuku Hiva Isla**	**48.66**	**338**	*e*LR	LR	15 16 35.5	
	comp=Z,160nm,25.1s						
NNA	**Nana**	**56.75**	**58**	LR	LR	15 22 15.6	
	comp=Z,49nm,21.5s,baz=190,slow=30						
LPAZ	**La Paz**	**57.52**	**70**	P	**P**	**15 03 49.1**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=178,slow=4.0,SNR=5.2						
LPAZ	**La Paz**	**57.52**	**70**	P	**P**	**15 03 48.3**	**-0.4**
LPAZ				IAmb	IAmb	15 03 53.6	
	comp=Z,8.4nm,1.4s						
DZM	**Mont Dzumac**	**60.79**	**273**	*e*LR	LR	15 22 34.8	
	comp=Z,151nm,25.4s						
STKA	**Stephens Creek**	**66.80**	**247**	LR	LR	15 28 35.8	
	comp=Z,59nm,19.9s,baz=202,slow=31						
JTS	**Las Juntas de**	**73.34**	**40**	LR	LR	15 32 06.7	
	comp=Z,82nm,18.7s,baz=212,slow=31						
H01W1	**Cape Leeuwin H**	**77.11**	**226**	T	T	16 31 33.5	
	baz=150,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**77.11**	**225**	T	T	16 31 33.7	
	baz=150,slow=75,SNR=20						
H01W3	**Cape Leeuwin H**	**77.12**	**226**	T	T	16 31 34.6	
	baz=150,slow=75,SNR=16						
ASAR	**Alice Springs**	**77.41**	**247**	P	**P**	**15 05 53.5**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=134,slow=6.1,SNR=8.4						
SDV	**Santo Domingo**	**77.96**	**54**	LR	LR	15 37 38.8	
	comp=Z,

EQUE					Sn	**Sn**	**15 00 20.2**	**+0.2**
EQUE					*i* Vmb_Lg		15 00 32.4	
ESPR	**Espera**	**2.10**	**308**		Pn	**Pn**	**15 00 06.3**	**+1.3**
ESPR					Sn	**Sn**	**15 00 31.6**	**+0.4**
ESPR					*i* Vmb_Lg		15 00 44.4	
EQES	**Quesada**	**2.29**	**15**		Pn	**Pb**	**15 00 10.8**	**-0.5**
EQES					Sn	**Sn**	**15 00 36.1**	**+0.1**
EQES					*i* Vmb_Lg		15 00 49.2	
IFR	**Ifrane**	**2.34**	**208**		P	**Pb**	**15 00 12.8**	**+0.7**
IFR					S	**Sn**	**15 00 35.2**	**-2.1**
EADA	**Adamuz**	**2.65**	**347**		Pn	**Pb**	**15 00 15.8**	**-1.6**
EADA					Sn	**Sn**	**15 00 45.8**	**+0.9**
EADA					Sg	**Sg**	**15 00 53.9**	**-1.1**
EADA					*i* Vmb_Lg		15 00 58.8	
ECAB	**El Cabril**	**2.81**	**333**		Pn	**Pb**	**15 00 18.5**	**-1.5**
ECAB					Sn	**Sn**	**15 00 49.3**	**+0.6**
ECAB					Sg	**Sg**	**15 00 59.3**	**-0.6**
ECAB					*i* Vmb_Lg		15 01 02.0	
MD31	**MD31**	**2.83**	**197**		P	**Pn**	**15 00 15.5**	**+0.4**
MD31					S	**Sn**	**15 00 51.9**	**+2.7**
MDT	**Midelt**	**2.84**	**194**		P	**Pn**	**15 00 15.2**	**-0.1**
MDT					S	**Sn**	**15 00 52.1**	**+2.4**
EMIN	**Mina Concepcio**	**3.18**	**314**		Pn	**Pn**	**15 00 20.2**	**+0.4**
EMIN					Sn	**Sn**	**15 00 56.1**	**-1.7**
ETOB	**Tobarra**	**3.54**	**30**		Pn	**Pn**	**15 00 26.4**	**+1.5**
ETOB					Sn	**Sn**	**15 01 06.3**	**-0.7**
ETOB					*i* Vmb_Lg		15 01 29.8	
EGRO	**El Granado**	**3.55**	**304**		Pn	**Pn**	**15 00 25.9**	**+1.0**
EGRO					Sn	**Sn**	**15 01 05.7**	**-1.2**
PVAQ	**Vaqueiros**	**3.64**	**301**		P	**Pn**	**15 00 26.1**	**-0.2**
PVAQ					S	**Sn**	**15 01 11.9**	**+2.6**
PAB	**San Pablo**	**3.98**	**354**		Pn	**Pb**	**15 00 33.3**	**+2.4**
PAB					Sn	**Sn**	**15 01 18.0**	**+0.4**
PAB					*i* Vmb_Lg		15 01 42.7	
EBAD	**Badajoz**	**4.08**	**322**		Pn	**Pn**	**15 00 32.7**	**+0.5**
EBAD					Sn	**Sn**	**15 01 19.3**	**-0.6**
EBAD					*i* Vmb_Lg		15 01 31.1	

TIR ***14*** *15:00:25.4, 40˚.18N×20˚.70E, h10km±2km, Md2.5, Ml2.1*
THE ***14*** *15:00:26.4, 40˚.17N×20˚.69E, h7km±4km, ML2.5/3, Error ellipse: s-maj=4.4km s-min=0.7km az=281.0*
ATH ***14*** *15:00:26.3, 40˚.17N×20˚.75E, h21km±8km, ML2.2/6, Error ellipse: s-maj=8.5km s-min=1.1km az=52.0*

ISC 14 15:00:26.4±1.0, **40˚.17N**±0˚.02×**20˚.71E**±0˚.03, **h5**km±8km, **n21**, σ0**.98**/35, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.09**	**257**	P	**Pg**	**15 00 27.9**	**-0.3**
LSK				S	**Sg**	**15 00 29.6**	**0.0**
	17µm,0.1s						
LSK	**Leskovik**	**0.09**	**257**	P	**Pg**	**15 00 27.9**	**-0.3**
	baz=250						
LSK				S	**Sg**	**15 00 29.7**	**+0.1**
	baz=250						
LSK				AMP			
	comp=E,64nm,0.1s,baz=250						
NEST	**Nestorio**	**0.36**	**47**	P	**Pg**	**15 00 33.4**	**+0.1**
NEST				S	**Sg**	**15 00 38.6**	**+0.5**
NEST				AML	AML	15 00 40.4	
	comp=E,1054µm,0.4s						
NEST				AML	AML	15 00 40.5	
	comp=N,1157µm,0.4s						
NEST	**Nestorio**	**0.36**	**47**	P	**Pg**	**15 00 33.4**	**+0.1**
NEST				S	**Sb**	**15 00 39.6**	**-1.7**
	comp=N,440nm,0.3s						
KBN	**Korca**	**0.46**	**8**	P	**Pg**	**15 00 35.1**	**-0.1**
KBN				S	**Sg**	**15 00 41.9**	**+0.7**
KBN	**Korca**	**0.46**	**8**	P	**Pg**	**15 00 35.0**	**-0.1**
	baz=8.0						
KBN				S	**Sg**	**15 00 42.2**	**+1.0**
	baz=8.0						
KBN				AMP			
	comp=E,0.7nm,0.4s,baz=8.0						
JAN	**Janina**	**0.52**	**168**	P	**Pg**	**15 00 36.1**	**-0.3**
JAN				S	**Sg**	**15 00 44.0**	**+0.8**
JAN				AML	AML	15 00 46.2	
	comp=E,1260µm,0.5s						
JAN				AML	AML	15 00 46.5	
	comp=N,804µm,0.3s						
JAN	**Janina**	**0.52**	**168**	P	**Pg**	**15 00 35.8**	**-0.6**
JAN				S	**Sg**	**15 00 44.3**	**+1.1**
	comp=N,520nm,0.3s						
KPRO	**Kipourio**	**0.55**	**113**	P	**Pg**	**15 00 36.8**	**-0.1**
KPRO				AML	AML	15 00 50.9	
	comp=E,311µm,0.4s						
KPRO				AML	AML	15 00 51.8	
	comp=N,348µm,0.3s						
SRN	**Sarande**	**0.61**	**242**	P	**Pg**	**15 00 38.1**	**-0.1**
	baz=242						
SRN				S	**Sb**	**15 00 47.3**	**-1.2**
	baz=242						
SRN				AMP			
	comp=N,0.4nm,0.4s,baz=242						
IGT	**Igoumenitsa**	**0.70**	**205**	P	**Pg**	**15 00 39.5**	**-0.3**
IGT				AML	AML	15 00 52.8	
	comp=N,260µm,0.4s						
IGT				AML	AML	15 00 53.1	
	comp=E,415µm,0.6s						
IGT	**Igoumenitsa**	**0.70**	**205**	P	**Pg**	**15 00 40.1**	**+0.3**
IGT	**Igoumenitsa**	**0.70**	**205**	P	**Pg**	**15 00 39.6**	**-0.1**
	baz=204						
IGT				S	**Sb**	**15 00 51.4**	**+0.5**
	baz=204						
KASA	**Kassiopi**	**0.73**	**235**	P	**Pg**	**15 00 40.6**	**+0.3**
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**15 00 40.7**	**-1.0**
FNA				AML	AML	15 00 55.4	
	comp=N,529µm,0.7s						
FNA				AML	AML	15 00 56.2	
	comp=E,512µm,0.6s						
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**15 00 41.3**	**-0.4**
FNA				S	**Sb**	**15 00 52.8**	**-1.1**
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**15 00 41.4**	**-0.3**
	baz=40						
FNA				S	**Sg**	**15 00 52.5**	**+0.4**
	baz=40						
KZN	**Kozani**	**0.82**	**80**	P	**Pg**	**15 00 41.2**	**-1.0**
KZN				AML	AML	15 00 59.6	
	comp=E,287µm,0.3s						
KZN				AML	AML	15 01 00.6	
	comp=N,227µm,0.4s						
KEK	**Kerkira**	**0.83**	**237**	P	**Pg**	**15 00 42.3**	**0.0**
OHR	**Ohrid**	**0.94**	**4**	*e*Pg	**Pn**	**15 00 46.5**	**+0.1**
OHR				*i* Sg	**Sn**	**15 00 59.9**	**-0.4**
STIP	**Stip**	**1.89**	**36**	*e*Pn	**Pg**	**15 01 02.5**	**-0.2**
STIP				*e*Sn	**Sg**	**15 01 31.2**	**+4.1**

SJA ***14*** *15:28:22.6±0.7, 20˚.86S×68˚.97W, h119km±4km, ML4.6, MW4.4*
NEIC ***14*** *15:28:23.9±2.6, 20˚.91S±0˚.04×68˚.88W±0˚.06, h107km±6km, Error ellipse: s-maj=8.2km s-min=5.0km az=97.0*
VAO ***14*** *15:28:24.3±0.4, 20˚.82S×68˚.72W, h103km, mb5.0*
GUC ***14*** *15:28:24.4±0.8, 20˚.90S×68˚.91W, h105km±4km, ML4.5*
IDC ***14*** *15:28:24.4±0.6, 20˚.91S×68˚.72W, h110km±6km, mb4.0/10, mb1 4.2/14, mb1mx4.1/35, mbtmp4.4/14, MS3.5/2, Ms1 3.5/2, ms1mx2.9/52, Error ellipse: s-maj=15.8km s-min=8.9km az=99.0*

ISC 14 15:28:23.2±0.5, **20˚.89S**±0˚.03×**68˚.90W**±0˚.04, **h106**km±4km, **n205**, σ1**.19**/245, **mb4.5**/35, **11C-3D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.57**	**254**		**Pn**	**15 28 40.5**	**+0.3**
PB01				Sn	**Sn**	**15 28 52.2**	**-0.8**
PB01	**IPOC Station P**	**0.57**	**254**	⇑*i*P	**Pn**	**15 28 40.6**	**+0.3**
PB01				*i* S	**Sn**	**15 28 52.6**	**-0.4**
PB01				IAML		15 28 54.8	
	comp=N,22µm,0.1s						
PB01	**IPOC Station P**	**0.57**	**254**	*e*P	**Pn**	**15 28 40.5**	**+0.3**
PB01				*e*S	**Sn**	**15 28 54.0**	**+0.9**
PB01				IAML		15 28 55.1	
	comp=Z,13µm,0.2s						
PB08	**IPOC Station P**	**0.78**	**342**		**Pn**	**15 28 43.4**	**+1.1**
PB08				Sn	**Sn**	**15 28 56.6**	**-0.1**
PB08	**IPOC Station P**	**0.78**	**342**	⇓*i*P	**Pn**	**15 28 43.5**	**+1.1**
PB08				*i* S	**Sn**	**15 28 57.8**	**+1.1**
PB08				IAML		15 28 59.2	
	comp=E,18µm,0.2s						
PB08	**IPOC Station P**	**0.78**	**342**	*e*P	**Pn**	**15 28 43.5**	**+1.1**
PB08				*e*S	**Sn**	**15 28 58.4**	**+1.7**
PB08				IAML		15 29 01.7	
	comp=Z,6µm,0.7s						
PB09	**IPOC Station P**	**0.96**	**199**		**Pn**	**15 28 45.0**	**+1.2**
PB09				Sn	**Sn**	**15 28 58.6**	**-0.8**
PB09	**IPOC Station P**	**0.96**	**199**	⇑*i*P	**Pn**	**15 28 45.0**	**+1.2**
PB09				*i* S	**Sn**	**15 29 00.0**	**+0.6**
PB09	**IPOC Station P**	**0.96**	**199**	*e*P	**Pn**	**15 28 45.1**	**+1.2**
PB09				*e*P	**Pn**	**15 28 45.2**	**+1.3**
PB09				*e*S	**Sn**	**15 29 01.7**	**+2.3**
PB09				IAML		15 29 04.3	
	comp=Z,13µm,0.6s						
PB02	**IPOC Station P**	**1.02**	**245**		**Pn**	**15 28 45.1**	**+0.6**
PB02				Sn	**Sn**	**15 28 59.6**	**-0.8**
PB02	**IPOC Station P**	**1.02**	**245**	⇑*i*P	**Pn**	**15 28 45.1**	**+0.6**
PB02				*i* S	**Sn**	**15 29 00.6**	**+0.1**
PB02				IAML		15 29 04.7	
	comp=E,26µm,0.5s						
PB02	**IPOC Station P**	**1.02**	**245**	*e*P	**Pn**	**15 28 45.1**	**+0.6**
PB02				*e*S	**Sn**	**15 29 02.0**	**+1.6**
PB02				IAML		15 29 03.0	
	comp=Z,20µm,0.4s						
PATCX	**Punta Patache**	**1.17**	**273**		**Pn**	**15 28 46.5**	**+0.4**
PATCX				Sn	**Sn**	**15 29 02.5**	**-0.8**
TA01	**Diego Aracena**	**1.24**	**285**		**Pn**	**15 28 46.9**	**+0.2**
TA01	**Diego Aracena**	**1.24**	**285**	⇑*i*P	**Pn**	**15 28 47.0**	**+0.3**
TA01				*i* S	**Sn**	**15 29 04.5**	**0.0**
TA01				IAML		15 29 06.6	
	comp=E,7µm,0.2s						
TA01	**Diego Aracena**	**1.24**	**285**	*e*P	**Pn**	**15 28 47.0**	**+0.3**
TA01				*e*S	**Sn**	**15 29 05.5**	**+1.0**
TA01				IAML		15 29 06.5	
	comp=Z,4µm,0.8s						
PB07	**IPOC Station P**	**1.24**	**227**		**Pn**	**15 28 47.4**	**+0.5**
PB07	**IPOC Station P**	**1.24**	**227**	⇑*i*P	**Pn**	**15 28 47.5**	**+0.5**
PB07				*i* S	**Sn**	**15 29 05.1**	**+0.2**
PB07				IAML		15 29 08.6	
	comp=E,19µm,0.5s						
PB07	**IPOC Station P**	**1.24**	**227**	*e*P	**Pn**	**15 28 47.6**	**+0.7**
PB07				*e*S	**Sn**	**15 29 06.3**	**+1.5**
PB07				IAML		15 29 07.0	
	comp=Z,10µm,0.3s						
GO01	**Chusmiza**	**1.24**	**347**		**Pn**	**15 28 48.2**	**+0.9**
GO01	**Chusmiza**	**1.24**	**347**	⇓*i*P	**Pn**	**15 28 48.4**	**+1.1**
GO01				*i* S	**Sn**	**15 29 06.5**	**+1.1**
GO01				IAML		15 29 08.3	
	comp=N,17µm,0.1s						
GO01	**Chusmiza**	**1.24**	**347**	*e*P	**Pn**	**15 28 48.0**	**+0.7**
GO01				*e*S	**Sn**	**15 29 07.2**	**+1.8**
TA02	**Huaiquique**	**1.30**	**298**		**Pn**	**15 28 47.9**	**+0.4**
TA02	**Huaiquique**	**1.30**	**298**	⇑*i*P	**Pn**	**15 28 48.0**	**+0.5**
TA02				*i* S	**Sn**	**15 29 05.7**	**-0.1**
TA02	**Huaiquique**	**1.30**	**298**	*e*P	**Pn**	**15 28 47.6**	**+0.2**
TA02				*e*S	**Sn**	**15 29 06.5**	**+0.7**
TA02				IAML		15 29 10.0	
	comp=Z,11µm,0.1s						
PB11	**IPOC Station P**	**1.32**	**328**		**Pn**	**15 28 48.5**	**+0.5**
PB11	**IPOC Station P**	**1.32**	**328**	⇑*i*P	**Pn**	**15 28 48.6**	**+0.7**
PB11				*i* S	**Sn**	**15 29 07.2**	**+0.6**
PB11				IAML		15 29 08.7	
	comp=N,18µm,0.4s						
PB11	**IPOC Station P**	**1.32**	**328**	*e*P	**Pn**	**15 28 48.4**	**+0.5**
PB11				*e*S	**Sn**	**15 29 07.2**	**+0.6**
PB11				*e*S	**Sn**	**15 29 07.8**	**+1.3**
PB11				IAML		15 29 14.5	
	comp=Z,8µm,0.2s						
LVC	**Limon Verde**	**1.71**	**180**	P	**Pn**	**15 28 54.5**	**+1.6**
	comp=Z,150nm,0.3s,baz=9.3,slow=7.8,SNR=424						
LVC				S	**Sn**	**15 29 16.0**	**+0.7**
	comp=Z,71nm,0.3s,baz=186,slow=19,SNR=7.0						
LVC	**Limon Verde**	**1.71**	**180**	⇑*i*P	**Pn**	**15 28 54.5**	**+1.6**
LVC				*e*S	**Sn**	**15 29 16.7**	**+1.4**
LVC	**Limon Verde**	**1.71**	**180**	*e*P	**Pn**	**15 28 54.4**	**+1.6**
LVC	**Limon Verde**	**1.71**	**180**	*e*P	**Pn**	**15 28 54.2**	**+1.4**
LVC				*e*S	**Sn**	**15 29 19.4**	**+4.1**
PB04	**IPOC Station P**	**1.85**	**219**		**Pn**	**15 28 54.5**	**+0.2**
PB04	**IPOC Station P**	**1.85**	**219**	⇑*i*P	**Pn**	**15 28 54.6**	**+0.3**
PB04				*i* S	**Sn**	**15 29 17.8**	**-0.2**
PB04				IAML		15 29 31.1	
	comp=E,5µm,0.7s						
PB04	**IPOC Station P**	**1.85**	**219**	*e*P	**Pn**	**15 28 54.9**	**+0.6**
PB04				*e*S	**Sn**	**15 29 18.9**	**+1.0**
PB04				IAML		15 29 26.1	
	comp=Z,3µm,0.5s						
PB06	**IPOC Station P**	**1.91**	**199**		**Pn**	**15 28 55.1**	**0.0**
PB06	**IPOC Station P**	**1.91**	**199**	⇑*i*P	**Pn**	**15 28 55.8**	**+0.7**
PB06				*i* S	**Sn**	**15 29 19.8**	**+0.4**
PB06				IAML		15 29 24.3	
	comp=E,6µm,0.8s						
PB06	**IPOC Station P**	**1.91**	**199**	*e*P	**Pn**	**15 28 56.1**	**+1.0**
PB06				*e*S	**Sn**	**15 29 20.9**	**+1.5**
PB06				IAML		15 29 28.3	
	comp=Z,3µm,0.7s						
PB15	**IPOC Station P**	**2.37**	**193**		**Pn**	**15 29 00.9**	**-0.1**
PB15	**IPOC Station P**	**2.37**	**193**	*e*P	**Pn**	**15 29 01.8**	**+0.8**
PB15				*i* S	**Sn**	**15 29 30.8**	**+0.8**
PB15	**IPOC Station P**	**2.37**	**193**	*e*P	**Pn**	**15 29 02.2**	**+1.2**
PB15				*e*S	**Sn**	**15 29 32.0**	**+2.1**
PB15				IAML		15 29 38.3	
	comp=Z,5µm,0.4s						
PB16	**IPOC Station P**	**2.60**	**347**		**Pn**	**15 29 05.8**	**+1.4**
PB16	**IPOC Station P**	**2.60**	**347**	*e*P	**Pn**	**15 29 06.0**	**+1.6**
PB16				*i* S	**Sn**	**15 29 38.5**	**+2.5**
PB12	**IPOC Station P**	**2.63**	**329**	Pn	**Pn**	**15 29 04.0**	**-0.4**
PB12	**IPOC Station P**	**2.63**	**329**	⇓*i*P	**Pn**	**15 29 04.1**	**-0.3**
PB12				IAML		15 29 42.0	
	comp=N,1µm,0.3s						
PB12	**IPOC Station P**	**2.63**	**329**	*e*P	**Pn**	**15 29 03.9**	**-0.4**
PB12				IAML		15 29 43.8	
	comp=Z,1µm,0.2s						
AP01	**Chacalluta**	**2.85**	**331**		**Pn**	**15 29 07.0**	**-0.1**
AP01	**Chacalluta**	**2.85**	**331**	*e*P	**Pn**	**15 29 07.1**	**0.0**
AP01				*e*S	**Sn**	**15 29 41.2**	**+0.3**
PB10	**IPOC Station P**	**3.03**	**210**	Pn	**Pn**	**15 29 08.8**	**-0.7**
PB10	**IPOC Station P**	**3.03**	**210**	*e*P	**Pn**	**15 29 09.1**	**-0.4**
PB10				*e*S	**Sn**	**15 29 40.6**	**-4.6**
PB10				IAML		15 30 03.3	
	comp=E,706nm,0.4s						
PB14	**IPOC Station P**	**3.97**	**200**	Pn	**Pn**	**15 29 21.3**	**-1.1**
LPAZ	**La Paz**	**4.63**	**9**	P	**Pn**	**15 29 33.7**	**+2.1**
	comp=E,11nm,0.3s,baz=189,slow=7.2,SNR=74						
LPAZ	**La Paz**	**4.63**	**9**	Pn	**Pn**	**15 29 33.5**	**+1.9**
AC01	**Pan de Azucar**	**5.46**	**196**	Pn	**Pn**	**15 29 40.1**	**-2.2**
AC02	**Maricunga**	**5.92**	**182**	Pn	**Pn**	**15 29 48.4**	**-0.6**
AC06	**Mina Casimiro**	**6.58**	**191**		**Pn**	**15 29 56.1**	**-1.3**
GO03	**Copiap**	**6.79**	**190**		**Pn**	**15 29 58.8**	**-1.5**
AC04	**Llanos de Chal**	**7.55**	**195**	Pn	**Pn**	**15 30 06.2**	**-4.4**
SIV	**San Ignacio**	**8.88**	**58**	P	**Pn**	**15 30 26.6**	**-2.2**
	comp=E,5.9nm,0.3s,baz=245,slow=12,SNR=142						
SIV				S	**Sn**	**15 32 03.1**	**-4.1**
	baz=162,slow=21,SNR=1.6						
CO06	**Fray Jorge**	**10.05**	**194**	Pn	**Pn**	**15 30 43.2**	**-1.3**
PTLB	**Pontes e Lacer**	**10.74**	**61**	*e*P	**Pn**	**15 30 51.5**	**-2.5**
ETMB	**Extrema**	**11.31**	**14**	*e*P	**Pn**	**15 31 00.1**	**-1.5**
VILB	**Vilhena**	**11.47**	**48**	*e*P	**Pn**	**15 31 02.5**	**-1.3**
CPUP	**Villa Florida**	**11.91**	**119**	P	**Pn**	**15 31 08.2**	**-1.4**
	comp=E,0.5nm,0.3s,baz=302,slow=11,SNR=14						
CPUP	**Villa Florida**	**11.91**	**119**	Pn	**Pn**	**15 31 08.5**	**-1.1**
CPUP	**Villa Florida**	**11.91**	**119**	*e*P	**Pn**	**15 31 08.2**	**-1.4**
VA03	**San Esteban**	**11.92**	**187**	Pn	**Pn**	**15 31 08.5**	**-1.3**
AQDB	**Aquidauana**	**12.37**	**90**	Pn	**Pn**	**15 31 14.2**	**-1.4**
AQDB	**Aquidauana**	**12.37**	**90**	*e*P	**Pn**	**15 31 12.8**	**-2.8**
MT09	**Talagante**	**12.97**	**188**		**Pn**	**15 31 22.1**	**-1.6**
MT01	**Popeta**	**13.09**	**189**	Pn	**Pn**	**15 31 25.7**	**+0.6**
BO04	**La Punta**	**13.14**	**186**	P	**P**	**15 31 33.1**	**+1.3**
SALV	**Santo Antonio**	**13.48**	**71**	*e*P	**Pn**	**15 31 27.9**	**-2.4**
BO01	**Tunca**	**13.59**	**188**		**P**	**15 31 36.9**	**0.0**
PP1B	**Ponte de Pedra**	**13.64**	**79**	*e*P	**Pn**	**15 31 31.3**	**-1.1**
BO02	**Sierra Bellavi**	**13.95**	**186**	Pn	**Pn**	**15 31 36.4**	**0.0**
PDRB	**Porto dos Gac**	**14.88**	**54**	*e*P	**Pn**	**15 31 47.3**	**-1.0**
ML02	**Panimavida**	**14.98**	**188**	P	**P**	**15 31 51.2**	**-1.1**
TRCB	**Terra Rica**	**15.23**	**100**	P	**P**	**15 31 55.2**	**+0.1**
PTGB	**Pitanga**	**15.99**	**107**	*e*P	**Pn**	**15 32 02.6**	**+0.4**
CLDB	**Colider**	**16.05**	**54**	*e*P	**P**	**15 32 03.9**	**-0.4**
PCMB	**Pacaembu**	**16.46**	**96**	*e*P	**Pn**	**15 32 07.7**	**-0.3**
ITAB	**Concordia**	**16.56**	**116**	Pn	**Pn**	**15 32 08.5**	**-0.7**
ITAB	**Concordia**	**16.56**	**116**	*e*P	**Pn**	**15 32 08.8**	**-0.4**
CPSB	**Cacapava Do Su**	**16.84**	**127**	*e*P	**Pn**	**15 32 11.8**	**-0.8**
ARAG	**Araguaiana, MT**	**17.02**	**75**	*e*P	**Pn**	**15 32 14.8**	**-0.1**
ITRB	**Iturama**	**17.44**	**89**	*e*P	**Pn**	**15 32 19.5**	**-0.1**
PLTB	**Pedras Altas**	**17.45**	**131**	P	**P**	**15 32 19.6**	**-0.1**
PLTB	**Pedras Altas**	**17.45**	**131**	*e*P	**P**	**15 32 19.6**	**-0.1**
FRTB	**Fartura**	**18.09**	**101**	*e*P	**P**	**15 32 26.7**	**0.0**
LC01	**Cunco**	**18.13**	**187**	P	**P**	**15 32 27.4**	**+0.4**
TIJ01	**Guaruva-PR**	**18.83**	**107**	*e*P	**Pn**	**15 32 35.8**	**-0.8**
NPGB	**Novo Progresso**	**19.01**	**46**	*e*P	**P**	**15 32 35.2**	**-1.6**
SNDB	**Serra Nova Dou**	**19.06**	**65**	*e*P	**P**	**15 32 36.6**	**-0.7**
MACA	**Manacapuru-AM**	**19.35**	**26**	*e*P	**P**	**15 32 39.3**	**-1.3**
TER01	**Tubaro-SC**	**19.50**	**117**	*e*P	**P**	**15 32 41.0**	**-1.1**
IPMB	**Ipameri, GO**	**19.73**	**85**	*e*P	**P**	**15 32 44.2**	**-0.5**
PLCA	**Paso Flores**	**19.83**	**184**	P	**Pn**	**15 32 47.5**	**-0.8**
	comp=E,0.4nm,0.3s,baz=5.5,slow=12,SNR=8.5						
PLCA	**Paso Flores**	**19.83**	**184**	P	**P**	**15 32 46.5**	**+0.9**
PLCA	**Paso Flores**	**19.83**	**184**	*e*P	**Pn**	**15 32 47.4**	**-0.8**
RCLB	**Rio Claro- Sao**	**19.93**	**98**	*e*P	**P**	**15 32 46.4**	**-0.4**
LL04	**Puerto Octay**	**20.18**	**188**	P	**P**	**15 32 50.1**	**+0.8**
LL04				IAmb	IAmb	15 32 51.2	
	comp=Z,20nm,0.8s						
PET01	**Itanhaem-SP**	**20.25**	**104**	*e*P	**P**	**15 32 49.6**	**-0.7**
VAO	**Valinhos**	**20.46**	**100**	*e*P	**P**	**15 32 51.5**	**-1.0**
BDFB	**Brasilia**	**20.51**	**79**	P	**P**	**15 32 51.7**	**-1.5**
	comp=Z,20nm,0.5s,baz=238,slow=9.7,SNR=17						
BDFB	**Brasilia**	**20.51**	**79**	P	**P**	**15 32 52.3**	**-0.8**
BDFB				IAmb	IAmb	15 32 56.6	
	comp=Z,24nm,0.6s						
ITTB	**Itaituba**	**20.82**	**40**	*e*P	**P**	**15 32 55.2**	**-1.2**
PEXB	**Peixe**	**21.58**	**69**	*e*P	**P**	**15 33 03.0**	**-1.5**
PARB	**Paraibuna**	**21.70**	**101**	*e*P	**P**	**15 33 04.5**	**-1.4**
BSCB	**Bom Sucesso**	**22.54**	**95**	*e*P	**P**	**15 33 13.3**	**-1.3**
MAN01	**Angra dos Reis**	**23.22**	**99**	*e*P	**P**	**15 33 21.4**	**+0.1**
PRPB	**Parauapebas**	**23.59**	**54**	*e*P	**P**	**15 33 22.9**	**-1.7**
AY01	**Puyuhuapi**	**23.67**	**187**	P	**P**	**15 33 25.2**	**+0.2**
MALB	**Monte Alegre**	**23.70**	**39**	*e*P	**P**	**15 33 24.7**	**-0.9**
SMTB	**Santa Maria do**	**23.78**	**63**	*e*P	**P**	**15 33 26.4**	**+0.1**
DIAM	**Diamantina, MG**	**23.90**	**88**	*e*P	**P**	**15 33 27.6**	**0.0**
JANB	**Januaria**	**24.09**	**80**	*e*P	**P**	**15 33 28.5**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.47**	**74**	*e*P	**P**	**15 33 31.8**	**-0.8**
BOAV	**Boa Vista**	**24.55**	**21**	*e*P	**P**	**15 33 34.1**	**+0.9**
SJMB	**Sao Joao De Ma**	**26.16**	**90**	*e*P	**P**	**15 33 48.1**	**+0.3**
MCPB	**Macapa, AP**	**26.21**	**41**	*e*P	**P**	**15 33 48.1**	**-0.2**
ALF01	**Guarapari-ES**	**26.34**	**94**	*e*P	**P**	**15 33 50.2**	**+0.7**
RIB01	**Linhares ES**	**26.81**	**92**	*e*P	**P**	**15 33 52.9**	**-0.7**
NAN01	**Guarapari, ES**	**27.30**	**89**	*e*P	**P**	**15 33 58.1**	**0.0**
TMAB	**Tom-Àu,PA,Br**	**27.39**	**50**	*e*P	**P**	**15 33 59.7**	**+0.9**
GUA01	**Guaratinga, BA**	**27.87**	**86**	*e*P	**P**	**15 34 03.1**	**-0.1**
CMC01	**Camacan, BA**	**28.44**	**84**	*e*P	**P**	**15 34 08.6**	**+0.4**
NBIT	**Itapeh - BA**	**28.63**	**83**	*e*P	**P**	**15 34 10.2**	**+0.3**
GDU01	**Guandu, BA**	**28.86**	**80**	*e*P	**P**	**15 34 11.7**	**-0.3**
PAYG	**Puerto Ayora**	**28.98**	**311**	P	**P**	**15 34 13.8**	**+0.7**
PAYG				IAmb	IAmb	15 34 16.0	
	comp=Z,25nm,0.9s						
NBPN	**Ponto Novo - B**	**29.31**	**75**	*e*P	**P**	**15 34 15.4**	**-0.6**
SDV	**Santo Domingo**	**29.64**	**357**	*e*P	**P**	**15 34 20.4**	**+1.4**
ROSB	**Rosrio**	**30.04**	**57**	*e*P	**P**	**15 34 22.9**	**+0.5**
MDP	**Montagnes des**	**30.36**	**33**	P	**P**	**15 34 24.9**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=190,slow=9.6,SNR=5.8						
MDP				LR	LR	15 46 08.5	
	comp=Z,78nm,18.9s,baz=104,slow=35						
NBPS	**Pedro II - PI**	**31.32**	**62**	*e*P	**P**	**15 34 33.8**	**0.0**
NBLA	**Lagarto - SE**	**31.44**	**77**	*e*P	**P**	**15 34 33.0**	**-1.8**
NBMA	**Muriti-CE**	**32.09**	**70**	*e*P	**P**	**15 34 40.0**	**-0.5**
NBPB	**Pedra_Branca-C**	**32.27**	**66**	*e*P	**P**	**15 34 42.5**	**+0.5**
MG03	**Isla Dawson**	**32.93**	**182**	P	**P**	**15 34 47.7**	**+0.5**
TOSP	**Speyside**	**33.02**	**15**	P	**P**	**15 34 49.0**	**+0.5**
NBMO	**Morrinhos-CE**	**33.08**	**62**	*e*P	**P**	**15 34 48.1**	**-1.0**
NBAN	**Anadia - AL

comp=Z,4.5nm,0.8s
TSUM Tsumeb 80.21 107 P **P** **15 40 23.1 +0.4**
TSUM IAmb IAmb 15 40 25.0
comp=Z,11nm,0.8s
BOSA Boshof 83.73 118 P **P** **15 40 41.8 +0.8**
comp=Z,2.5nm,0.8s,baz=286,slow=6.1,SNR=3.1
PAB San Pablo 85.07 44 P **P** **15 40 48.2 +0.8**
PAB IAmb IAmb 15 40 49.2
comp=Z,7.3nm,1.0s
LBTB Lobatse 85.27 115 P **P** **15 40 49.2 +0.4**
LBTB IAmb IAmb 15 41 14.3
comp=Z,15nm,1.5s
ESDC Sonseca Array 85.39 45 P **P** **15 40 48.8 -0.1**
comp=Z,1.0nm,0.7s,baz=250,slow=5.2,SNR=9.6
ESDC Sonseca Array 85.39 45 P **P** **15 40 49.7 +0.8**
ESDC IAmb IAmb 15 40 51.6
comp=Z,7.6nm,1.5s
YKA Yellowknife Ar 90.61 341 P **P** **15 41 14.2 +1.0**
comp=Z,1.1nm,0.8s,baz=134,slow=4.5,SNR=19
ASAR Alice Springs 130.46 208 PKP **PKiKP** **15 47 23.1 +0.1**
comp=Z,0.5nm,1.0s,baz=122,slow=1.5,SNR=4.5
ZALV Zalesovo Beam 141.40 25 PKP **PKiKP** **15 47 43.2 -0.9**
comp=Z,0.8nm,0.6s,baz=39,slow=1.6,SNR=3.6
ZALV pPKP **pPKPdf** **15 48 12.5 +0.7**
comp=Z,2.8nm,0.7s,baz=285,slow=2.3,SNR=6.7
KSH Kashi 144.71 50 PKPbc **PKPdf** **15 47 48.3 +0.4**
KSH pPKP pPKPdf 15 48 18.1 -0.3
KSH sPKP 15 48 27.3
MKAR Makanchi Array 145.13 35 PKPbc **PKPdf** **15 47 49.4 +1.1**
comp=Z,5.6nm,0.7s,baz=324,slow=3.8,SNR=69
MKAR pPKPbc **pPKPdf** **15 48 18.7 +0.1**
comp=Z,2.4nm,0.8s,baz=321,slow=3.1,SNR=3.5
LZH Lanzhou 163.58 21 ⇑PKP **PKPdf** **15 48 10.9 -3.2**
LZH pPKP pPKPdf 15 48 44.3 -0.4
LZH sPKP 15 48 51.6
PZH PanZhiHua 169.77 55 PKP **PKPdf** **15 48 19.6 +0.6**

*ISK **14** 15:30:19.3,34.66N×26.20E,h82km,ML3.3/11*
*THE **14** 15:30:20.2,34.39N×26.15E,h68km±4km,ML2.9/2, Error ellipse: s-maj=4.8km s-min=0.8km az=1.0*
*ATH **14** 15:30:21.9,34.54N×25.81E,h13km±6km,ML2.8/4, Error ellipse: s-maj=7.3km s-min=1.5km az=14.0*
*IDC **14** 15:30:21.0±3.8,34.55N×25.75E,h111km±21km,mb3.4/4, mb1 3.5/5,mb1mx3.1/44,mbtmp3.8/5,Error ellipse: s-maj=90.5km s-min=40.5km az=42.0*
*HLW **14** 15:30:22.2,34.13N×26.52E,h11km±12km,Md3.2,Ml3.4*
*GII **14** 15:30:24.1±0.0,34.09N×26.78E,h10km,MD3.3/1, Mm3.4/3*
ISC 14 15:30:18.2±0.8,34°46N±0.04×26°26E±0.05,h81km±9km, n53,σ1s64/81,mb3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.65**	**357**	P		**Pn**	**15 30 34.5**	**+1.1**
ZKR				S		**Sn**	**15 30 43.9**	**-0.9**
ZKR				AML		AML	15 30 47.1	
	comp=E,980μm,0.4s							
ZKR				AML		AML	15 30 48.0	
	comp=N,610μm,0.5s							
ZKR	**Zakros**	**0.65**	**357**	P		**Pn**	**15 30 34.4**	**+1.0**
ZKR				S		**Sn**	**15 30 46.1**	**+1.3**
	comp=N,398nm,0.4s							
FRMA	**Ierapetra Chan**	**0.70**	**322**	P		**Pn**	**15 30 33.9**	**0.0**
FRMA				S		**Sn**	**15 30 44.2**	**-1.4**
NPS	**Neapolis**	**0.96**	**326**	P		**Pn**	**15 30 35.9**	**-0.9**
NPS				S		**Sn**	**15 30 46.0**	**-4.7**
NPS				AML		AML	15 30 56.4	
	comp=E,2590μm,0.4s							
NPS				AML		AML	15 30 57.4	
	comp=N,1574μm,0.3s							
NPS	**Neapolis**	**0.96**	**326**	P		**Pn**	**15 30 37.4**	**+0.6**
NPS				S		**Sn**	**15 30 51.0**	**+0.3**
	comp=N,1μm,0.3s							
HRKL	**Herakleio**	**1.27**	**312**	PN		**Pn**	**15 30 40.9**	**+0.3**
HRKL				SN		**Sn**	**15 30 56.3**	**-1.2**
KSTL	**Kastelli Herak**	**1.29**	**311**	P		**Pn**	**15 30 38.9**	**-1.9**
KSTL				S		**Sn**	**15 30 53.1**	**-4.7**
IACM	**Heraklion**	**1.29**	**311**	P		**Pn**	**15 30 40.3**	**-0.5**
KARP	**Karpathos**	**1.31**	**34**	P		Pn	15 30 48.9	+7.8
KARP				AML		AML	15 31 03.5	
	comp=N,951μm,0.3s							
KARP				AML		AML	15 31 04.4	
	comp=E,885μm,0.3s							
KARP	**Karpathos**	**1.31**	**34**	P		**Pn**	**15 30 43.3**	**+2.2**
KARP				S		**Sn**	**15 31 01.6**	**+3.2**
KARP	**Karpathos**	**1.31**	**34**	PN		**Pn**	**15 30 41.6**	**+0.5**
KARP				SN		**Sn**	**15 30 57.6**	**-0.8**
IDI	**Anoyia**	**1.40**	**307**	P		**Pn**	**15 30 42.6**	**+0.3**
	comp=E,83nm,0.3s,baz=174,slow=7.1,SNR=338							
IDI				S		**Sn**	**15 30 59.2**	**-1.2**
	comp=E,19nm,0.3s,baz=358,slow=21,SNR=16							
IDI	**Anoyia**	**1.40**	**307**	P		**Pn**	**15 30 41.4**	**-0.8**
IDI				AML		AML	15 31 00.1	
	comp=N,1408μm,0.7s							
IDI				AML		AML	15 31 00.9	
	comp=E,398μm,0.3s							
IDI	**Anoyia**	**1.40**	**307**	P		**Pn**	**15 30 42.6**	**+0.3**
IDI				S		**Sn**	**15 31 00.2**	**-0.2**
IDI	**Anoyia**	**1.40**	**307**	PN		**Pn**	**15 30 42.5**	**+0.3**
IDI				SN		**Sn**	**15 30 59.2**	**-1.2**
GVD	**Gavdhos**	**1.83**	**282**	P		**Pn**	**15 30 48.3**	**+0.5**
GVD	**Gavdhos**	**1.83**	**282**	P		**Pn**	**15 30 48.2**	**+0.4**
GVD	**Gavdhos**	**1.83**	**282**	PN		**Pn**	**15 30 48.3**	**+0.5**
GVD				SN		**Sn**	**15 31 10.5**	**+0.1**
VAM	**Vamos**	**1.94**	**300**	P		**Pn**	**15 30 49.9**	**+0.7**
VAM	**Vamos**	**1.94**	**300**	P		**Pn**	**15 30 49.6**	**+0.4**
VAM				S		**Sn**	**15 31 12.9**	**0.0**
IMMV	**Iera Moni Meta**	**2.12**	**299**	P		**Pn**	**15 30 52.4**	**+0.7**
IMMV				S		**Sn**	**15 31 17.3**	**+0.1**
IMMV	**Iera Moni Meta**	**2.12**	**299**	PN		**Pn**	**15 30 52.4**	**+0.7**
IMMV				SN		**Sn**	**15 31 16.8**	**-0.4**
DAT	**Datca**	**2.50**	**25**	PN		**Pn**	**15 30 57.6**	**+0.7**
DAT				SN		**Sn**	**15 31 24.6**	**-2.0**
APE	**Apeiranthos**	**2.67**	**347**	PN		**Pn**	**15 30 58.9**	**-0.2**
BODT	**Bodrum**	**2.73**	**18**	PN		**Pn**	**15 31 00.5**	**+0.6**
BODT				SN		**Sn**	**15 31 30.3**	**-1.7**
TURN	**Turunc**	**2.82**	**34**	PN		**Pn**	**15 31 02.2**	**+1.2**
TURN				SN		**Sn**	**15 31 33.4**	**-0.6**
MLSB	**Milas**	**3.08**	**23**	PN		**Pn**	**15 31 05.6**	**+0.9**
MLSB				SN		**Sn**	**15 31 39.2**	**-1.3**
SLUM	**Salum** baz=203	**3.09**	**197**	⇑P		**Pn**	**15 31 07.0**	**+2.2**
SLUM	baz=203			S		**Sn**	**15 31 39.4**	**-1.2**
YER	**Yerkesik**	**3.13**	**31**	PN		**Pn**	**15 31 06.7**	**+1.3**
FETY	**Fethiye**	**3.16**	**46**	PN		**Pn**	**15 31 07.4**	**+1.7**
AKAS	**Kas**	**3.25**	**56**	PN		**Pn**	**15 31 08.7**	**+1.6**
RYAN	**Fayoum** baz=146	**6.36**	**146**	P		**Pn**	**15 31 50.2**	**+0.9**
HSAF	**As Saff** baz=135	**6.60**	**136**	P		**Pn**	**15 31 53.9**	**+1.4**
GLL	**Jalalah** baz=134	**6.72**	**135**	P		**Pn**	**15 31 55.5**	**+1.4**
SUZ	**Suez** baz=126	**7.23**	**128**	P		**Pn**	**15 32 02.5**	**+1.4**
ZAF	**Zafarana** baz=131	**7.43**	**132**	P		**Pn**	**15 32 05.4**	**+1.5**
HFRF	**Wahat Farafira** baz=167	**7.50**	**166**	⇑P		**Pn**	**15 32 07.4**	**+2.5**
KZIT	**Kziot**	**7.72**	**115**	Pn		**Pn**	**15 32 09.4**	**+1.6**
KZIT				Sn		**Sn**	**15 33 31.2**	**-2.5**
AMAZ	**Amatzia**	**7.83**	**109**	Pn		**Pn**	**15 32 11.1**	**+1.7**
YTIR	**Yattir**	**8.06**	**110**	Pn		**Pn**	**15 32 14.0**	**+1.4**
YTIR				Sn		**Sn**	**15 33 40.7**	**-1.5**
DSI	**Dead Sea**	**8.18**	**108**	Pn		**Pn**	**15 32 15.8**	**+1.6**
DSI				Sn		**Sn**	**15 33 43.2**	**-1.8**
KRMI	**Paran Flat**	**8.37**	**119**	Pn		**Pn**	**15 32 18.2**	**+1.4**
KRMI				Sn		**Sn**	**15 33 46.7**	**-3.0**
GHAJ	**Ghor Haditha**	**8.44**	**109**	Pn		**Pn**	**15 32 19.7**	**+2.1**
PRNI	**Paran**	**8.45**	**117**	Pn		**Pn**	**15 32 19.2**	**+1.4**
PRNI				Sn		**Sn**	**15 33 48.7**	**-2.9**
ZFRI	**Zfri**	**8.48**	**115**	Pn		**Pn**	**15 32 19.1**	**+0.9**
ZFRI				Sn		**Sn**	**15 33 48.7**	**-3.5**
HRFI	**Mount Harif**	**8.64**	**118**	Pn		**Pn**	**15 32 22.4**	**+1.9**
HRFI				Sn		**Sn**	**15 33 54.3**	**-2.0**
MBRI	**Mt Berech**	**8.69**	**120**	Pn		**Pn**	**15 32 22.8**	**+1.7**
MBRI				Sn		**Sn**	**15 33 55.2**	**-2.3**
EIL	**Elat**	**8.79**	**121**	Pn		**Pn**	**15 32 23.9**	**+1.5**
AKASG	**Malin Array Be**	**16.37**	**7**	P		**P**	**15 34 04.1**	**-0.2**
	comp=E,0.8nm,0.3s,baz=196,slow=11,SNR=5.5							
HFS	**Hagfors**	**26.96**	**346**	P		**P**	**15 35 51.3**	**-0.6**
	comp=E,2.1nm,0.9s,baz=163,slow=15,SNR=2.7							
FINES	**FINESS Array B**	**27.00**	**360**	P		**P**	**15 35 50.8**	**-1.3**
	comp=E,1.1nm,0.8s,baz=166,slow=12,SNR=3.4							
ARCES	**ARCESS Array B**	**35.13**	**360**	P		**P**	**15 37 02.1**	**-1.4**
	comp=E,3.1nm,0.9s,baz=186,slow=7.7,SNR=7.1							
MKAR	**Makanchi Array**	**43.41**	**56**	P		**P**	**15 38 14.9**	**+2.2**
	comp=E,0.1nm,0.4s,baz=260,slow=8.5,SNR=4.2							

*BJI **14** 15:39:28.8±0.0,16.20S×172.90W,h10km,mb4.9/19, mB5.4/12,Ms4.8/2,Ms7 4.5/2*
*NEIC **14** 15:39:29.8±2.8,16.03S±0.06×172.84W±0.08,h10km±1km, mb5.1/51,Error ellipse: s-maj=13.7km s-min=9.9km az=111.0*
*IDC **14** 15:39:30.6±0.6,16.10S×173.35W,h0km,mb4.6/14, mb1 4.8/15,mb1mx4.4/48,mbtmp4.6/15,ML3.5/1,MS4.2/43, Ms1 4.2/43,ms1mx4.1/63,Error ellipse: s-maj=29.5km s-min=14.0km az=141.0*
*MOS **14** 15:39:30.6±2.3,16.19S×172.94W,h16km,mb5.2/19, Error ellipse: s-maj=14.5km s-min=10.4km az=56.8*
ISC 14 15:39:30.4±0.3,16°04S±0.06×173°12W±0.07,h10km, n426,σ1s89/368,mb5.0/57,MS4.3/45,22C-8D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.48**	**32**	Pn		**Pn**	**15 40 09.4**	**-1.6**
	40nm,0.3s,baz=212,slow=3.5,SNR=74							
AFI				Sn		**Sn**	**15 40 38.6**	**-2.8**
	180nm,0.3s,baz=52,slow=22,SNR=8.9							
AFI				LR		LR	15 41 02.9	
	comp=Z,5μm,18.1s,baz=152,slow=35							
AFI	**Afiamalu**	**2.48**	**32**	P		**Pn**	**15 40 08.5**	**-2.5**
AFI							15 40 38.6	
AFI	**Afiamalu**	**2.48**	**32**			**Pn**	**15 40 08.5**	**-2.5**
NIUE	**Niue**	**4.29**	**135**			**Pn**	**15 40 33.1**	**-2.6**
MSVF	**Nonsavu**	**8.62**	**257**	Pn		Pn	15 41 41.3	+5.9
	1.5nm,0.3s,baz=108,slow=13,SNR=50							
MSVF				LR		LR	15 44 23.5	
	comp=Z,4μm,18.4s,baz=67,slow=35							
MSVF	**Nonsavu**	**8.62**	**257**	P		Pn	15 41 41.2	+5.8
MSVF	**Nonsavu**	**8.62**	**257**	Pn		Pn	15 41 41.2	+5.8
KNTN	**Kanton**	**13.25**	**6**	Pn		**Pn**	**15 42 37.5**	**-1.3**
RAO	**Raoul Island**	**13.88**	**198**	LR		LR	15 47 22.4	
	comp=Z,1μm,20.0s,baz=20,slow=34							
MARNC	**Mare, Loyalty**	**18.65**	**250**	P		**P**	**15 43 49.0**	**+0.4**
LIFNC	**LIFOU**	**19.22**	**253**	P		**P**	**15 43 54.0**	**-0.8**
LIFNC						IAmb	IAmb	15 43 55.5
	comp=Z,161nm,1.0s							
PINNC	**Pines Island,**	**19.46**	**247**	P		**P**	**15 43 58.8**	**+1.4**
PINNC						IAmb	IAmb	15 44 06.7
	comp=Z,255nm,1.5s							
OUENC	**Ouen Island, N**	**19.95**	**248**	P		**P**	**15 44 04.1**	**+1.3**
DZM	**Mont Dzumac**	**20.22**	**250**	P		**P**	**15 44 04.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=19,SNR=2.9							
DZM				LR		LR	15 50 43.2	
	comp=Z,1μm,19.0s,baz=66,slow=34							
DZM	**Mont Dzumac**	**20.22**	**250**	*e*P		**P**	**15 44 08.7**	**+2.9**
	comp=Z,172nm,1.6s							
DZM				*e*LQ		LQ	15 48 07.0	
	comp=Z,682nm,25.6s							
DZM				*e*LR		LR	15 48 56.8	
	comp=Z,2μm,24.3s							
DZM	**Mont Dzumac**	**20.22**	**250**	P		**P**	**15 44 07.3**	**+1.5**
DZM						IAmb	IAmb	15 44 12.9
	comp=Z,73nm,1.2s							
ONTNC	**Ouen Toro**	**20.27**	**249**	P		**P**	**15 44 08.8**	**+2.5**
PAE	**Paea**	**22.58**	**97**	*e*P		**P**	**15 44 30.5**	**-0.7**
	comp=Z,10nm,1.0s							
PAE	**Paea**	**22.58**	**97**	*e*T		T	16 07 33.9	
	comp=Z,5.4nm,0.3s							
PPT	**Papeete**	**22.59**	**97**	LR		LR	15 51 08.0	
	comp=Z,339nm,19.6s,baz=272,slow=31							
PPT2	**Papeete2**	**22.59**	**97**	*e*P		**P**	**15 44 31.0**	**-0.4**
	comp=Z,66nm,1.4s							
PPT2				*e*LQ		LQ	15 48 58.2	
	comp=Z,956nm,25.8s							
PPT2				*e*LR		LR	15 49 55.7	
	comp=Z,770nm,24.8s							
PPT2	**Papeete2**	**22.59**	**97**	*e*T		T	16 07 27.0	
	comp=Z,8.4nm,0.3s							
TVO	**Taravao**	**22.90**	**98**	*e*P		**P**	**15 44 33.6**	**-1.0**
	comp=Z,0.3nm,0.9s							
TVO	**Taravao**	**22.90**	**98**	*e*T		T	16 07 50.8	
	comp=Z,0.5nm,0.3s							
RUGZ	**Raukumara Rang**	**23.30**	**199**	P		**P**	**15 44 40.1**	**+1.4**
TWGZ	**Tauwhareparae**	**23.41**	**198**	P		**P**	**15 44 39.5**	**-0.1**
TBI	**Tubuai**	**23.41**	**112**	*e*LQ		LQ	15 49 19.9	
	comp=Z,924nm,28.0s							
TBI				*e*LR		LR	15 50 21.3	
	comp=Z,642nm,25.2s							
TBI	**Tubuai**	**23.41**	**112**	*e*T		T	16 08 38.3	
	comp=Z,26nm,0.3s							
TGRZ	**Tauranga**	**23.56**	**201**	P		**P**	**15 44 40.0**	**-1.1**
MWZ	**Matawai**	**23.69**	**199**	P		**P**	**15 44 43.0**	**+0.6**
TKGZ	**Te Karaka**	**23.69**	**198**	P		**P**	**15 44 40.1**	**-2.2**
URZ	**Urewera**	**23.75**	**199**	P		**P**	**15 44 41.8**	**-1.1**
	comp=Z,41nm,0.7s,baz=30,slow=4.6,SNR=21							
URZ				LR		LR	15 53 12.9	
	comp=Z,739nm,18.5s,baz=26,slow=35							
URZ	**Urewera**	**23.75**	**199**	P		**P**	**15 44 41.2**	**-1.7**
URZ	**Urewera**	**23.75**	**199**	P		**P**	**15 44 42.5**	**-0.4**
KMRZ	**Kaimai**	**23.77**	**202**	P		**P**	**15 44 44.5**	**+1.3**
RAGZ	**Rawiri**	**23.87**	**199**	P		**P**	**15 44 44.0**	**-0.2**
RIGZ	**Rimuhau**	**23.96**	**198**	P		**P**	**15 44 48.9**	**+3.9**
PMOR	**Pomariorio Ree**	**24.32**	**91**	*e*P		**P**	**15 44 47.3**	**-1.2**
	comp=Z,107nm,1.2s							
PMOR	**Pomio Ree**	**24.32**	**91**	*e*T		T	16 09 43.5	
	comp=Z,8.2nm,0.2s							
VAH	**Vaihoa**	**24.56**	**92**	*e*P		**P**	**15 44 49.7**	**-1.0**
	comp=Z,50nm,1.1s							
VAH	**Vaihoa**	**24.56**	**92**	*e*T		T	16 10 01.6	
	comp=Z,12nm,0.3s							
HIZ	**Hauiti**	**24.76**	**203**	P		**P**	**15 44 53.7**	**+1.4**
BKZ	**Black Stump Fm**	**24.77**	**200**	P		**P**	**15 44 50.5**	**-1.9**
BKZ						IAmb	IAmb	15 45 02.1
	comp=Z,26nm,0.9s							
BKZ	**Black Stump Fm**	**24.77**	**200**	P		**P**	**15 44 53.0**	**+0.5**
TMVZ	**Te Maari**	**24.99**	**201**	P		**P**	**15 44 55.9**	**+1.4**
BHHZ	**Black Hill Sta**	**25.21**	**200**	P		**P**	**15 44 55.9**	**-0.5**
BFZ	**Birch Farm**	**26.23**	**199**	P		**P**	**15 45 07.6**	**+2.0**
PLWZ	**Palliser**	**27.35**	**199**	P		**P**	**15 45 15.2**	**-0.6**
QRZ	**Quartz Range**	**27.66**	**204**	P		**P**	**15 45 18.2**	**-0.2**
TUWZ	**Tuamarina**	**27.66**	**201**	P		**P**	**15 45 17.5**	**-1.0**
THZ	**Tophouse**	**28.33**	**202**	P		**P**	**15 45 23.3**	**-1.1**
THZ						IAmb	IAmb	15 45 33.1
	comp=Z,21nm,0.7s							
KHZ	**Kahutara**	**28.68**	**201**	P		**P**	**15 45 26.1**	**-1.4**
KHZ						IAmb	IAmb	15 45 34.5
	comp=Z,25nm,0.8s							
LTZ	**Lake Taylor**	**29.44**	**202**	P		**P**	**15 45 31.7**	**-2.7**
LTZ						IAmb	IAmb	15 45 47.6
	comp=Z,46nm,0.8s							
OXZ	**Oxford**	**30.00**	**202**	P		**P**	**15 45 36.7**	**-2.5**
RPZ	**Rata Peaks**	**30.70**	**203**	LR		LR	15 56 51.2	
	comp=Z,704nm,21.8s,baz=36,slow=34							
RPZ	**Rata Peaks**	**30.70**	**203**			**P**	**15 45 44.5**	**-1.0**
FOZ	**Fox Glacier**	**31.02**	**204**			**P**	**15 45 46.5**	**-1.7**
FOZ						IAmb	IAmb	15 46 04.0
	comp=Z,21nm,0.7s							
TAOE	**Nuku Hiva Isla**	**32.94**	**81**	*e*LR		LR	15 54 36.0	
	comp=Z,555nm,26.4s							
TAOE	**Nuku Hiva Isla**	**32.94**	**81**	*e*T		T	16 20 27.7	
	comp=Z,161nm,0.2s							
EIDS	**Eidsvold**	**34.66**	**249**	P		**P**	**15 46 19.3**	**-1.0**
ARMA	**Armidale**	**35.25**	**240**	P		**P**	**15 46 24.4**	**-1.1**
CTA	**Charters Tower**	**38.77**	**258**	P		**P**	**15 46 54.7**	**-0.7**
	comp=Z,5.9nm,0.8s,baz=94,slow=7.4,SNR=4.3							
CTA				LR		LR	16 01 00.6	
	comp=Z,447nm,19.6s,baz=84,slow=34							
CAN	**Canberra**	**38.86**	**233**	P		**P**	**15 46 54.7**	**-1.4**
CAN				pmax		pmax		
	comp=Z,36nm,1.4s							
CAN	**Canberra**	**38.86**	**233**	P		**P**	**15 46 54.7**	**-1.4**
PMG	**Port Moresby**	**39.25**	**275**	LR		LR	16 00 46.3	
	comp=Z,194nm,19.8s,baz=47,slow=33							
H11N3	**WAKE ISLAND Hy**	**40.60**	**330**	T		T	16 30 21.5	
	baz=149,slow=76,SNR=22							
H11N1	**WAKE ISLAND Hy**	**40.60**	**330**	T		T	16 30 24.5	
	baz=149,slow=76,SNR=31							
H11N2	**WAKE ISLAND Hy**	**40.61**	**330**	T		T	16 30 28.3	
	baz=149,slow=76,SNR=18							
COEN	**Coen**	**42.21**	**267**	P		**P**	**15 47 24.7**	**+0.7**
TOO	**Toolangi**	**42.28**	**231**	P		**P**	**15 47 22.7**	**-1.6**
TOO				pmax		pmax		
	comp=Z,21nm,0.9s							
TOO	**Toolangi**	**42.28**	**231**	P		**P**	**15 47 22.7**	**-1.6**
STKA	**Stephens Creek**	**43.96**	**241**	P		**P**	**15 47 37.4**	**-0.6**
	comp=Z,15nm,0.9s,baz=81,slow=8.8,SNR=16							
STKA				LR		LR	16 03 45.7	
	comp=Z,288nm,19.0s,baz=40,slow=33							
STKA	**Stephens Creek**	**43.96**	**241**	P		**P**	**15 47 37.2**	**-0.8**
STKA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
STKA	**Stephens Creek**	**43.96**	**241**	P		**P**	**15 47 37.2**	**-0.8**
BBOO	**Buckleboo**	**48.73**	**240**	P		**P**	**15 48 14.1**	**-1.4**
BBOO				IAmb		IAmb	15 48 39.0	
	comp=Z,51nm,1.4s							
WRA	**Warramunga Arr**	**49.97**	**257**	P		**P**	**15 48 24.6**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=90,slow=7.1,SNR=5.3							
WRA				LR		LR	16 08 08.8	
	comp=Z,478nm,19.9s,baz=89,slow=35							
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**15 48 25.5**	**-1.2**
	comp=Z,18nm,0.9s,baz=90,slow=7.9,SNR=4.3							
ASAR				LR		LR	16 08 50.0	
	comp=Z,623nm,18.2s,baz=110,slow=35							
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**15 48 25.8**	**-0.9**
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**15 48 25.8**	**-0.9**
FORT	**Forrest**	**55.37**	**243**	P		**P**	**15 49 03.9**	**-1.1**
SIJI	**Sorong**	**56.83**	**280**	P		**P**	**15 49 15.4**	**-0.2**
	comp=Z,26nm,0.8s,baz=104,slow=7.7,SNR=5.8							
SIJI				LR		LR	16 12 16.4	
	comp=Z,120nm,21.8s,baz=150,slow=35							
FITZ	**Fitzroy Crossi**	**58.34**	**258**	LR		LR	16 13 18.3	
	comp=Z,378nm,19.0s,baz=98,slow=35							
TNTI	**Ternate**	**61.05**	**280**	P		**P**	**15 49 45.8**	**+0.8**
VNDA	**Vanda**	**62.77**	**186**	P		**P**	**15 49 58.0**	**+2.4**
	comp=Z,4.1nm,0.9s,baz=14,slow=8.6,SNR=5.5							
VNDA	**Vanda**	**62.77**	**186**	P		**P**	**15 49 55.5**	**0.0**
VNDA				pmax		pmax		
	comp=Z,12nm,1.0s							
VNDA	**Vanda**	**62.77**	**186**	P		**P**	**15 49 55.5**	**0.0**
VNDA				IAmb		IAmb	15 50 06.5	
	comp=Z,12nm,0.9s							
PSA00	**Pilbara Seismi**	**63.28**	**254**	P		**P**	**15 49 59.4**	**-0.5**
PSA00				IAmb		IAmb	15 50 00.4	
	comp=Z,8.3nm,0.9s							
LUWI	**Luwuk**	**64.86**	**277**	P		**P**	**15 50 09.3**	**-1.1**
LUWI				IAmb		IAmb	15 50 29.2	
	comp=Z,25nm,0.9s							
SHEM	**Shemya Is, Ala**	**69.37**	**352**	LR		LR	16 15 56.0	
	comp=Z,206nm,19.8s,baz=120,slow=32							
MJAR	**Matsushiro Arr**	**69.60**	**320**	LR		LR	16 16 04.9	
	comp=Z,50nm,19.9s,baz=154,slow=32							
CASY	**Casey**	**69.94**	**205**	P		**P**	**15 50 42.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**71.18**	**266**	P		**P**	**15 50 50.5**	**+0.4**
SCI2	**San Clemente I** baz=236	**71.35**	**46**	P		**P**	**15 50 52.1**	**+1.3**
SKR	**Severo-Kuril's**	**71.71**	**340**	*e*P		**P**	**15 50 48.9**	**-3.5**
SKR				*e*S		**S**	**16 00 04.8**	**-7.5**
SKR				pmax		pmax		
	comp=Z,19nm,1.5s							
SKR				pmax		pmax		
	comp=Z,100nm,4.6s							
SKR				pmax		pmax		
	comp=Z,100nm,5.3s							
SDPT	**Sand Point** baz=192	**71.91**	**8**	P		P	15 50 57.5	+4.0
JHS	**Saijyo**	**71.95**	**316**	P		**P**	**15 50 54.6**	**+0.3**
ASAJ	**Asahikawa**	**72.22**	**328**	LR		LR	16 16 31.8	
	comp=Z,44nm,21.2s,baz=168,slow=31							
ARVC	**Arvin** baz=235	**72.37**	**44**	P		**P**	**15 50 59.2**	**+2.3**
VES	**Vestal, Richgr** baz=234	**72.61**	**44**	P		**P**	**15 51 00.9**	**+2.6**
MURC	**Murrieta** baz=236	**72.64**	**46**	P		**P**	**15 51 00.6**	**+2.2**
MONP2	**Monument Peak** baz=237	**72.79**	**47**	P		**P**	**15 51 01.7**	**+2.1**
EDW2	**Edwards Air Fo** baz=235,SNR=5.4	**72.80**	**45**	P		**P**	**15 51 02.3**	**+2.9**
IKP	**In-Ko-Pah, Jac** baz=237	**72.89**	**48**	P		**P**	**15 51 02.5**	**+2.5**
O02D	**Mt. Diablo Mer** baz=230	**72.91**	**38**	P		P	15 51 03.4	+3.4
ISA	**Isabella, Lake** baz=235	**72.92**	**44**	P		**P**	**15 51 02.7**	**+2.5**
LPIG	**La Paz**	**73.14**	**58**	LR		LR	16 14 56.5	
	comp=Z,190nm,20.4s,baz=232,slow=29							
PFO	**Pinyon Flats O**	**73.16**	**47**	LR		LR	16 14 47.2	
	comp=Z,293nm,20.4s,baz=248,slow=29							
PFO	**Pinyon Flats O** baz=237	**73.16**	**47**	P		**P**	**15 51 04.0**	**+2.4**
TPFO	**Pinon Flats** baz=237	**73.16**	**47**	P		**P**	**15 51 04.6**	**+2.9**
KKM	**Kota Kinabalu**	**73.27**	**282**	P		**P**	**15 51 02.1**	**-0.6**
PETK	**Petropavlovsk-**	**73.32**	**342**	LR		LR	16 20 18.0	
	comp=Z,41nm,19.2s,baz=129,slow=33							
N02D	**Trinity Center** baz=230	**73.46**	**37**	P	

P18K Big Mountain, 76.56 9 P P 15 51 25.2 +4.5
baz=197
TUC Tucson 76.58 50 P **P** **15 51 23.7 +2.2**
baz=241
G05D Wamic, OR 76.95 35 P **P** **15 51 26.1 +2.9**
baz=231
E04D Cinebar 77.12 33 P **P** **15 51 27.1 +3.1**
baz=229
F05D White Salmon 77.28 34 P **P** **15 51 27.9 +2.8**
baz=230
O19K Port Alsworth 77.47 9 P P 15 51 30.2 +4.5
baz=198
BRSE Bradley Lake S 77.67 11 P P 15 51 31.2 +4.3
baz=202
WUAZ Wupatki 77.73 47 P **P** **15 51 30.0 +2.0**
baz=240
LEM Lemband 77.86 266 LR LR 16 26 57.6
comp=Z,77nm,18.1s,baz=170,slow=37
ELK Elko 77.88 41 LR LR 16 18 27.8
comp=Z,328nm,21.0s,baz=230,slow=30
BBB Bella Bella 78.33 26 LR LR 16 19 44.3
comp=Z,138nm,19.4s,baz=242,slow=31
A04D Lummi Island 78.46 31 P **P** **15 51 34.7 +3.2**
baz=229
SPCR Spurr Chakacha 78.77 10 P **P** **15 51 36.8 +3.7**
baz=200
121A Cookes Peak, D 78.93 51 P **P** **15 51 36.6 +1.9**
baz=243
M19K Big River Lodg 79.09 9 P **P** **15 51 36.7 +2.0**
baz=198
RC01 Rabbit Creek A 79.11 11 P **P** **15 51 38.1 +3.3**
baz=203
DUG Dugway, Tooele 79.14 43 P **P** **15 51 37.5 +1.9**
baz=238
PWL Port Wells 79.17 12 P **P** **15 51 37.4 +2.2**
baz=204
L19K White Mountain 79.29 9 P **P** **15 51 38.8 +3.1**
baz=198
EYAK Cordova Ski Ar 79.44 13 P **P** **15 51 40.0 +3.5**
baz=206
GAMB Gambell 79.57 1 P **P** **15 51 41.1 +3.9**
baz=181
M22K Willow 79.65 11 P **P** **15 51 40.0 +2.4**
baz=202
KNK Knik Glacier 79.65 12 P **P** **15 51 40.8 +3.0**
baz=204
PMR Palmer 79.69 11 P **P** **15 51 36.9 -1.0**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 79.69 11 P **P** **15 51 36.9 -1.0**
PMR IAmb IAmb 15 51 47.9
comp=Z,14nm,1.0s
PMR Palmer 79.69 11 P **P** **15 51 40.4 +2.5**
baz=203
SNH Sunshine Point 79.79 15 P **P** **15 51 37.1 -1.4**
SNH IAmb IAmb 15 51 50.0
comp=Z,27nm,1.0s
GRNR Gornyy 79.83 330 *e*P **P** **15 51 40.3 +1.3**
TTA Tatalina 79.84 8 P **P** **15 51 41.7 +2.8**
baz=196,SNR=6.2
HLID Hailey 79.95 39 P **P** **15 51 41.2 +1.1**
baz=236
DIV Divide 79.95 13 P **P** **15 51 38.8 -0.7**
DIV IAmb IAmb 15 51 49.5
comp=Z,36nm,1.2s
SML Sawmill 80.04 12 P **P** **15 51 41.9 +1.9**
baz=204
BMRM Bremner River 80.07 14 P **P** **15 51 41.8 +1.7**
baz=208
CUT Chulitna 80.23 11 P **P** **15 51 42.9 +2.1**
baz=202
KLU Klutina 80.25 13 P **P** **15 51 43.1 +2.1**
baz=206
PNL Peninsula 80.25 17 P **P** **15 51 42.9 +1.8**
baz=212
SCM Sheep Creek Mo 80.26 12 P **P** **15 51 43.4 +2.2**
baz=205
MNTX Cornudas Mount 80.39 53 P **P** **15 51 42.1 -0.3**
baz=244
K20K Telida 80.52 9 P **P** **15 51 44.5 +2.1**
baz=198
ANM Nome 80.57 3 P **P** **15 51 45.5 +2.8**
baz=187
N25K Chitina, Valde 80.64 13 P **P** **15 51 45.7 +2.5**
baz=207
TX31 Lajitas Ar. Si 80.74 56 P **P** **15 51 41.0 -3.5**
TX31 IAmb IAmb 15 51 48.8
comp=Z,31nm,1.2s
TXAR Lajitas Array 80.74 56 P **P** **15 51 47.2 +2.8**
comp=Z,3.6nm,1.0s,baz=224,slow=5.2,SNR=23
TXAR LR LR 16 21 16.8
comp=Z,190nm,18.8s,baz=250,slow=31
M24K Tolsona, Glenn 80.75 12 P **P** **15 51 46.4 +2.7**
baz=206
NJ2 Nanjing 80.76 307 *e*P **P** **15 51 45.1 +0.7**
NJ2 pmax pmax
comp=Z,12nm,0.5s
CTG Chitna Glacier 80.84 15 P **P** **15 51 46.5 +2.1**
baz=211
MA2 Magadan 80.85 342 *i* P **P** **15 51 44.3 +0.1**
MA2 pmax pmax
comp=Z,9.0nm,1.4s
WAT6 Susitna Watana 80.86 12 P **P** **15 51 46.8 +2.4**
baz=204
CAST Castle Rocks 80.88 9 P **P** **15 51 46.8 +2.4**
baz=200
ANMO Albuquerque 81.00 50 P **P** **15 51 48.4 +2.5**
comp=Z,2.7nm,0.9s,baz=140,slow=2.5,SNR=6.9
ANMO LR LR 16 23 26.6
comp=Z,171nm,18.9s,baz=252,slow=32
ANMO Albuquerque 81.00 50 *i* P **P** **15 51 42.7 -3.2**
ANMO pmax pmax
comp=Z,22nm,1.7s
ANMO Albuquerque 81.00 50 P **P** **15 51 45.9 0.0**
baz=243
NEW Newport 81.08 34 P **P** **15 51 47.0 +1.2**
baz=234
KLR Kul'dur 81.20 327 *i* P **P** **15 51 45.9 -0.4**
KLR pmax pmax
comp=Z,8.0nm,2.3s
TRF Thorofare Moun 81.20 10 P **P** **15 51 47.9 +1.6**
baz=202
SKAG Skagway 81.26 18 P **P** **15 51 48.5 +2.1**
baz=216
CHUM Lake Minchumin 81.28 9 P **P** **15 51 48.3 +1.9**
baz=200
J20K Nowinta River 81.29 8 P **P** **15 51 48.5 +2.0**
baz=198
DHY Denali Highway 81.38 12 P **P** **15 51 49.0 +1.8**
baz=205
RND Reindeer 81.41 11 P **P** **15 51 46.3 -0.9**
RND pmax pmax
comp=Z,25nm,1.2s
RND Reindeer 81.41 11 P **P** **15 51 46.3 -0.9**
RND IAmb IAmb 15 51 57.3
comp=Z,25nm,1.2s
TNA Tin City 81.45 2 P **P** **15 51 50.0 +2.8**
baz=185
YUK6 Outpost Mounta 81.60 16 P **P** **15 51 50.6 +2.1**
baz=213
PAX Paxson 81.67 12 P **P** **15 51 48.8 +0.2**
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 81.67 12 P **P** **15 51 48.8 +0.2**
PAX Paxson 81.67 12 P **P** **15 51 50.6 +1.9**
baz=206
BPAW Bear Paw Mtn. 81.69 10 P **P** **15 51 50.9 +2.3**
baz=201
MCK McKinley 81.70 11 P **P** **15 51 49.3 +0.6**
MCK pmax pmax
comp=Z,24nm,1.0s
MCK McKinley 81.70 11 P **P** **15 51 49.3 +0.6**
MCK IAmb IAmb 15 51 58.6
comp=Z,24nm,1.0s
MCK McKinley 81.70 11 P **P** **15 51 50.3 +1.6**
baz=203,SNR=7.0
HYT Haines Junctio 81.74 17 P **P** **15 51 51.2 +2.1**
baz=214
YUK3 Moose Creek 81.76 15 P **P** **15 51 51.2 +1.9**
baz=211,SNR=6.1
YUK4 Talbot Arm 81.86 16 P **P** **15 51 52.5 +2.7**
baz=213
M27K Edge Creek, AK 81.92 14 P **P** **15 51 52.0 +2.0**
baz=210
BWN Browne 82.01 10 P **P** **15 51 49.8 -0.5**
BWN IAmb IAmb 15 52 04.1
comp=Z,34nm,1.2s

MSO Missoula 82.03 37 P **P** **15 51 52.3 +1.4**
baz=236,SNR=5.4
O20A White River Ci 82.14 44 P **P** **15 51 52.7 +0.9**
baz=241
L26K Log Cabin Wild 82.17 13 P **P** **15 51 54.1 +2.9**
baz=208
DLBC Dease Lake 82.19 21 LR LR 16 22 03.1
comp=Z,187nm,19.5s,baz=230,slow=31
BVCY Beaver Creek 82.21 15 P **P** **15 51 54.3 +2.9**
baz=211
LRM Limekiln Ridge 82.35 38 P **P** **15 51 49.9 -3.0**
WHY Whitehorse 82.36 18 P **P** **15 51 55.1 +2.7**
baz=217
NEA2 Nenana 82.47 10 P **P** **15 51 53.5 +0.9**
NEA2 Nenana 82.47 10 P **P** **15 51 55.3 +2.6**
baz=203
RIDG Independent Ri 82.48 12 **P** **15 51 50.8 -2.1**
RIDG IAmb IAmb 15 52 03.0
comp=Z,21nm,1.3s
RIDG Independent Ri 82.48 12 P **P** **15 51 55.3 +2.4**
baz=207
WRH Wood River Hil 82.52 11 P **P** **15 51 53.5 +0.5**
L27K Beaver Creek, 82.54 14 P **P** **15 51 55.7 +2.6**
baz=210
I21K Tanana 82.55 9 P **P** **15 51 55.5 +2.5**
baz=200
BW06 Boulder Array 82.56 42 P **P** **15 51 54.9 +0.9**
baz=240
PDAR Pinedale Array 82.56 42 P **P** **15 51 56.4 +2.4**
comp=Z,5.5nm,0.9s,baz=219,slow=3.4,SNR=36
PDAR LR LR 16 23 00.7
comp=Z,309nm,18.1s,baz=227,slow=32
MLY Manley 82.60 9 P **P** **15 51 53.3 -0.1**
MLY Manley 82.60 9 P **P** **15 51 55.8 +2.3**
baz=201
P33M Teslin, Yukon 82.63 19 P **P** **15 51 55.9 +2.1**
baz=218
HDA Harding Lake 82.67 11 P **P** **15 51 55.9 +2.1**
baz=206
BOZ Bozeman (W) 82.72 38 P **P** **15 51 57.0 +2.4**
baz=238,SNR=12
CCB Clear Creek Bu 82.73 11 **P** **15 51 54.4 +0.3**
CCB IAmb IAmb 15 52 03.8
comp=Z,32nm,1.3s
H17A Grant Village 82.74 40 P **P** **15 51 56.3 +1.4**
baz=239,SNR=5.4
N31M Braeburn, Yuko 82.76 17 P **P** **15 51 56.1 +1.7**
baz=216
SCRK Sand Creek 82.87 12 **P** **15 51 54.0 -0.9**
SCRK IAmb IAmb 15 52 05.2
comp=Z,9.9nm,1.1s
SCRK Sand Creek 82.87 12 P **P** **15 51 56.4 +1.4**
baz=208
H21K Melozitna Rive 82.88 8 P **P** **15 51 56.9 +2.1**
baz=199
I23K Minto, Yukon-K 82.93 10 P **P** **15 51 53.9 -1.2**
I23K IAmb IAmb 15 52 05.0
comp=Z,17nm,1.2s
I23K Minto, Yukon-K 82.93 10 P **P** **15 51 57.2 +2.2**
baz=203
TCOL CIGO, UAF Yank 82.93 11 P **P** **15 51 56.6 +1.6**
baz=204
COLA College 82.94 11 *i* P **P** **15 51 51.4 -3.7**
COLA pmax pmax
comp=Z,28nm,1.2s
COLA College 82.94 11 P **P** **15 51 56.6 +1.6**
baz=204
SDCO Great Sand Dun 82.94 48 P **P** **15 51 56.0 -0.1**
baz=243
IL31 83.02 11 P **P** **15 51 55.9 +0.4**
IL31 IAmb IAmb 15 52 04.7
comp=Z,8.7nm,1.0s
ILAR Eielson Array 83.02 11 P **P** **15 51 56.5 +1.0**
comp=Z,1.2nm,0.7s,baz=231,slow=4.0,SNR=16
ILAR LR LR 16 20 50.4
comp=Z,118nm,20.5s,baz=196,slow=30
ILAR Eielson Array 83.02 11 P **P** **15 51 56.0 +0.5**
ILAR Eielson Array 83.02 11 P **P** **15 51 56.0 +0.5**
IMAR Indian Mountai 83.06 8 P **P** **15 51 54.6 -1.1**
J25K Salcha River, 83.16 12 P **P** **15 51 58.6 +2.2**
baz=206,SNR=7.0
SEY Seymchan 83.20 345 *i* P **P** **15 51 57.1 +0.6**
SEY pmax pmax
comp=Z,11nm,1.0s
POKR Poker Plat Res 83.23 11 P **P** **15 51 58.8 +2.1**
baz=204,SNR=5.4
BELA Belgrano 2 83.33 172 P **P** **15 51 58.2 +1.0**
MSTX Muleshoe 83.33 52 P **P** **15 51 57.1 -1.0**
baz=246
M30M Minto, Yukon 83.38 16 P **P** **15 51 59.3 +1.8**
baz=215
J26L Joseph Creek 83.42 12 P **P** **15 51 60.0 +2.2**
baz=208
T25A Trinidad 83.45 49 P **P** **15 51 58.4 -0.3**
baz=244
Q24A Divide 83.73 47 P **P** **15 52 00.7 +0.5**
baz=244
M31M Drury Creek, Y 83.73 17 P **P** **15 52 01.4 +2.1**
baz=217
ISCO Idaho Springs 83.78 46 P **P** **15 51 59.7 -0.7**
H24K Noodor Dome 83.81 10 P **P** **15 52 01.1 +1.5**
baz=204
PRP Porcupine Dome 83.94 11 P **P** **15 52 02.1 +1.7**
baz=206,SNR=7.3
DAWY Dawson 83.97 14 P **P** **15 52 02.4 +1.8**
baz=212,SNR=6.5
FARO Faro, Yukon 84.05 18 P **P** **15 52 02.4 +1.4**
baz=218
EGAK Eagle 84.17 13 P **P** **15 52 00.5 -1.0**
EGAK IAmb IAmb 15 52 12.0
comp=Z,11nm,1.1s
EGAK Eagle 84.17 13 P **P** **15 52 03.3 +1.8**
baz=210
AMTX Amarillo 84.53 52 P **P** **15 52 04.2 +0.1**
baz=246
COLD Coldfoot 84.73 9 P **P** **15 52 07.5 +3.3**
baz=202
MMPY Sheldon Lake, 84.97 18 P **P** **15 52 07.9 +2.3**
baz=220,SNR=5.3
EGMT Eagleton 85.07 37 P **P** **15 52 07.4 +0.9**
baz=239
TGTN Hyland Airport 85.08 20 P **P** **15 52 08.4 +2.2**
baz=223,SNR=7.1
BILL Bilibino 85.17 352 *e*P **P** **15 52 06.6 +0.1**
BILL *e* 15 52 15.1
BILL *e* 15 55 27.6
BILL pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 85.17 352 P **P** **15 52 06.6 +0.1**
BILL IAmb IAmb 15 52 16.6
comp=Z,13nm,1.0s
ABTX Abilene, Hawle 85.21 54 P **P** **15 52 08.0 +0.5**
baz=247
I29M Ogilvie Camp, 85.31 14 P **P** **15 52 09.7 +2.4**
baz=213
ZEA Zeya 86.11 329 *e*P P 15 52 16.8 +5.4
TOLK Toolik Lake Re 86.13 8 P **P** **15 52 13.2 +1.9**
baz=202
WMOK Wichita Mounta 86.67 53 P **P** **15 52 14.5 -0.2**
baz=248
MAW Mawson 87.28 199 LR LR 16 29 53.9
comp=Z,155nm,18.2s,baz=78,slow=35
INK Inuvik 88.82 14 LR LR 16 25 08.0
comp=Z,172nm,19.6s,baz=186,slow=31
INK Inuvik 88.82 14 P **P** **15 52 25.9 +1.8**
baz=218
HHC Hu-ho-hao-te 89.66 313 *e*P **P** **15 52 30.3 +1.4**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.4s
YAK Yakutsk 89.80 337 LR LR 16 29 45.6
comp=Z,36nm,19.2s,baz=90,slow=34
YKA Yellowknife Ar 90.57 23 P **P** **15 52 34.8 +2.3**
comp=Z,1.9nm,0.9s,baz=232,slow=4.4,SNR=20
YKA Yellowknife Ar 90.57 23 P **P** **15 52 33.0 +0.5**
YKA Yellowknife Ar 90.57 23 P **P** **15 52 33.0 +0.5**
JTS Las Juntas de 91.06 80 LR LR 16 26 10.0
comp=Z,92nm,18.9s,baz=331,slow=31
JTS Las Juntas de 91.06 80 *i* P **P** **15 52 32.1 -3.8**
JTS pmax pmax
comp=Z,27nm,1.8s
ECSD EROS Data Cent 91.52 45 P **P** **15 52 37.4 0.0**
baz=249
C36M Paulatuk 91.90 16 P **P** **15 52 39.9 +1.4**
baz=226

SYO Syowa Base 92.03 191 ⇑*e*P P 15 52 42.4 +0.4
SNAA Sanae 92.26 177 LR LR 16 28 09.9
comp=Z,115nm,20.1s,baz=181,slow=32
SNAA Sanae 92.26 177 *i* P **P** **15 52 39.1 -1.3**
SNAA pmax pmax
comp=Z,18nm,1.0s
CD2 Chengdu 92.37 301 *e*P **P** **15 52 41.3 -0.4**
ATAH Atahualpa 92.56 98 LR LR 16 25 36.5
comp=Z,158nm,18.9s,baz=252,slow=30
PZH PanZhiHua 92.80 297 P **P** **15 52 44.5 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,6.1s
CMAR Chiang Mai Arr 93.07 288 P **P** **15 52 46.4 +1.3**
comp=Z,1.7nm,0.9s,baz=95,slow=3.1,SNR=11
CMAR Chiang Mai Arr 93.07 288 P **P** **15 52 46.3 +1.2**
A36M Sachs Harbour 93.45 13 P **P** **15 52 47.9 +2.3**
baz=225
CCM Cathedral Cave 93.51 52 P **P** **15 52 46.8 +0.1**
baz=252
AGMN Agassiz Nation 93.60 41 P **P** **15 52 47.2 +0.3**
baz=250
LZH Lanzhou 93.82 306 *e*P **P** **15 52 45.0 -3.4**
LZH sP pwP 15 52 54.1 +0.3
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,100nm,8.7s
ULM Lac du Bonnet 94.25 39 LR LR 16 28 18.5
comp=Z,304nm,20.4s,baz=282,slow=31
SPMN Marine on St. 94.58 44 P **P** **15 52 51.2 -0.2**
baz=252
TIXI Tiksi 95.69 344 LR LR 16 33 22.9
comp=Z,54nm,19.3s,baz=178,slow=34
TIXI Tiksi 95.69 344 *ce*P **P** **15 52 56.9 +1.0**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
LVC Limon Verde 96.50 116 LR LR 16 25 40.6
comp=Z,48nm,20.9s,baz=232,slow=29
GTA Gaotai 97.79 309 ⇑P Pdif 15 53 12.8 +6.4
GTA pP pwP 15 53 18.1 +6.3
GTA sP sP 15 53 21.3 +11
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,100nm,17.8s
GTA LR LR
comp=Z,80nm,17.8s
GTA LR LR
comp=Z,100nm,18.5s
TKL Tuckaleechee C 98.65 55 LR LR 16 31 43.1
comp=Z,155nm,19.3s,baz=274,slow=32
TZTN Tazewell 99.03 55 P Pdif 15 53 11.6 -0.2
baz=257
LPAZ La Paz 99.34 110 LR LR 16 29 04.4
comp=Z,66nm,20.3s,baz=264,slow=30
ROSC El Rosal 99.76 88 LR LR 16 28 31.7
comp=Z,76nm,21.7s,baz=272,slow=29
M53A WI Miller and 102.23 50 P **Pdif** **15 53 25.5 -0.5**
baz=259
WMQ Urumqi 107.49 311 *e*P **Pdif** **15 53 51.4 +2.0**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=Z,140nm,19.7s
MK31 Makanchi Array 111.47 314 *i* PKIKP **PKiKP** **15 58 04.6 -0.5**
MKAR Makanchi Array 111.47 314 PKiKP **PKiKP** **15 58 06.2 +1.2**
comp=Z,0.3nm,0.6s,baz=102,slow=2.7,SNR=4.4
KURK Kurchatov 113.80 319 *i* PKIKP **PKiKP** **15 58 09.9 +0.6**
BRVK Borovoye 118.61 322 *i* PKIKP **PKPdf** **15 58 15.9 -2.6**
ARU Arti 124.02 328 *i* PKIKP **PKPdf** **15 58 28.4 -0.4**
ARU 16 00 15.2
ARU 16 05 39.8
ARU SP SP 16 10 08.6 -0.2
ARCES ARCESS Array B 125.27 352 PKP **PKiKP** **15 58 32.5 +1.3**
comp=Z,2.6nm,0.8s,baz=298,slow=1.9,SNR=3.8
PRGR Permogore 126.82 338 *e*PKIKP **PKiKP** **15 58 34.8 +0.3**
PRGR pmax pmax
comp=Z,11nm,0.5s
KIRV Kirov 127.23 334 *i* PKIKP **PKiKP** **15 58 35.6 +0.2**
KLMR Klimovskoe 129.48 340 *e*PKIKP **PKiKP** **15 58 39.4 -0.4**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 129.48 340 *e*PKPdf **PKiKP** **15 58 39.4 -0.4**
KLMR AMP 15 58 50.4
comp=Z,8.0nm,1.0s
FINES FINESS Array B 132.62 348 PKP **PKiKP** **15 58 47.1 +1.0**
comp=Z,0.9nm,0.7s,baz=29,slow=3.2,SNR=1.7
OBN Obninsk 134.80 336 *e*PKIKP **PKiKP** **15 58 49.9 -0.8**
OBN pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 141.03 337 PKP **PKiKP** **15 59 02.5 -1.1**
comp=Z,0.8nm,0.5s,baz=38,slow=3.0,SNR=3.4
AKASG Malin Array Be 141.03 337 PKIKP **PKPdf** **15 59 00.5 -0.4**
AKASG Malin Array Be 141.03 337 **PKPdf** **15 59 00.5 -0.4**
CLL Collm 144.47 353 PKIKP **PKPdf** **15 59 06.3 -0.7**
CLL Collm 144.47 353 **PKPdf** **15 59 06.3 -0.7**
CLL Collm 144.47 353 *e*PKPdf **PKPdf** **15 59 08.0 +1.0**
CLL *e*PKiKP **PKiKP** **15 59 12.0 +1.3**
comp=Z,5.0nm,0.9s
CLL *i* (sPKiKP) 15 59 14.6
comp=Z,6.0nm,0.7s
CHVC Chvalec 144.75 350 *e*PKP **PKiKP** **15 59 15.0 +3.7**
OSTC Ostas 144.75 350 *e*PKP **PKiKP** **15 59 09.1 -2.2**
OSTC *ex* x 15 59 15.7
UPC Upice 144.84 350 *e*PKIKP **PKiKP** **15 59 09.8 -1.7**
UPC *e* 15 59 16.2
UPC Upice 144.84 350 *e*PKP **PKiKP** **15 59 09.8 -1.7**
UPC *ex* x 15 59 16.2
DPC Dobruska-Polom 144.93 349 *e*PKIKP **PKPdf** **15 59 09.0 +1.1**
DPC *e* 15 59 16.8
DPC Dobruska-Polom 144.93 349 *e*PKP **PKPdf** **15 59 09.0 +1.1**
DPC *ep*PKP **PKiKP** **15 59 16.8 +5.1**
BURAR Bucovina Array 145.06 338 ⇑P **PKiKP** **15 59 10.6 -1.6**
BURAR Bucovina Array 145.06 338 ⇑PKIKP **PKiKP** **15 59 10.6 -1.6**
KRLC Kraliky 145.12 349 *e*PKIKP **PKPdf** **15 59 09.6 +1.4**
KRLC *e* 15 59 17.2
KRLC Kraliky 145.12 349 *e*PKP **PKPdf** **15 59 09.6 +1.4**
KRLC *ex* x 15 59 17.2
CRVS Cervenica-Dubn 145.12 343 *e*PKIKP **PKPdf** **15 59 09.3 +1.1**
CRVS Cervenica-Dubn 145.12 343 *e*PKP **PKPdf** **15 59 09.3 +1.1**
UZH Uzhgorod 145.13 342 ⇑*i*PKIKP **PKPdf** **15 59 08.3 +0.1**
UZH *i* 15 59 11.2
UZH *i* 15 59 14.4
MORC Moravsky Berou 145.25 348 ⇑P **PKiKP** **15 59 11.3 -1.1**
MORC Moravsky Berou 145.25 348 ⇑PKIKP **PKiKP** **15 59 11.3 -1.1**
MORC Moravsky Berou 145.25 348 *e*PKP **PKiKP** **15 59 10.5 -1.9**
MOX Moxa 145.27 355 *e*L L 17 01 32.9
comp=Z,141nm,18.2s
LANS Liptovska Anna 145.41 345 *e*PKIKP **PKiKP** **15 59 14.4 +1.7**
LANS Liptovska Anna 145.41 345 *e*PKP **PKiKP** **15 59 14.4 +1.7**
TANN Tannenbergstha 145.41 354 *e*PKPbc **PKiKP** **15 59 10.6 -2.1**
baz=7.1,slow=3.3
KMBO Kilima Mbogo 145.50 243 PKPbc **PKPab** **15 59 11.9 +1.4**
comp=Z,9.7nm,1.1s,baz=110,slow=2.8,SNR=17
TRPA Tarpa 145.50 341 ⇑P **PKiKP** **15 59 11.8 -1.1**
BSTI Sart Tilman 145.53 1 *dx* **PKiKP** **15 59 18.4 +5.5**
BTNL Ternell 145.53 1 *dP* **PKiKP** **15 59 10.5 -2.4**
WERN Wernitzgruen 145.55 354 *e*PKPbc **PKiKP** **15 59 12.2 -0.7**
baz=7.1,slow=3.3
PRU Pruhonice 145.57 351 *e*PKP2 **PKiKP** **15 59 11.1 -1.9**
PRU Pruhonice 145.57 351 *e*PKP **PKiKP** **15 59 11.1 -1.9**
PRU *ep*PKP *s*PKPab 15 59 18.5 +5.6
NKC Novy Kostel 145.59 354 *e*PKP2 **PKiKP** **15 59 11.3 -1.8**
NKC Novy Kostel 145.59 354 *e*PKP **PKiKP** **15 59 11.3 -1.8**
NKC *ex* x 15 59 17.0
BCLA Clavier 145.68 2 *d*PKP **PKiKP** **15 59 11.2 -1.9**
BGES Gesves 145.71 2 *d*PKP **PKiKP** **15 59 11.3 -1.9**
KECS Kecovo 145.77 344 *e*PKP2 **PKiKP** **15 59 12.8 -0.6**
KECS Kecovo 145.77 344 *e*PKP **PKiKP** **15 59 12.8 -0.6**
MANZ Manzenberg 145.87 354 *e*PKPbc **PKiKP** **15 59 12.9 -0.8**
baz=7.1,slow=3.3
VRAC Vranov 145.88 349 ⇑P **PKiKP** **15 59 13.3 -0.4**
VRAC Vranov 145.88 349 PKPbc **PKiKP** **15 59 12.1 -1.6**
comp=Z,4.6nm,0.9s,baz=348,slow=5.9,SNR=7.4
VRAC Vranov 145.88 349 ⇑PKP2 **PKiKP** **15 59 13.3 -0.4**
VRAC Vranov 145.88 349 *e*PKP **PKiKP** **15 59 12.5 -1.2**
CFR Carcaliu 145.89 333 ⇑P **PKiKP** **15 59 15.7 +2.0**
CFR Carcaliu 145.89 333 ⇑PKP2 **PKiKP** **15 59 15.7 +2.0**

DOU	Dourbes	145.98	3	*dx*		PKiKP	15 59 19.5	+5.7
TPGR	Topolog	146.01	332	⇑P		PKiKP	15 59 13.8	-0.3
ROTZ	Rotzenmuhle	146.08	354	*e*PKPbc		PKiKP	15 59 13.2	-0.8
	baz=7.1,slow=3.3							
JAVC	Velka Javorina	146.10	347	*e*PKP		PKiKP	15 59 13.9	-0.3
OZUR		146.12	336	⇑P		PKiKP	15 59 14.2	-0.1
KRUC	Moravsky	146.16	349	*e*PKP		PKiKP	15 59 12.8	-1.4
VYHS	Vyhne	146.18	346	*e*PKP2		PKiKP	15 59 15.0	+0.7
VYHS	Vyhne	146.18	346	*e*PKP		PKiKP	15 59 15.0	+0.7
GRF	Grafenberg Arr	146.25	355	*e*PKPbc		PKiKP	15 59 14.5	+0.1
	baz=7.1,slow=3.3							
GRF				*e*L		L	17 07 47.2	
	comp=Z,125nm,19.0s							
DOPR	Dopca	146.38	336	⇑P		PKiKP	15 59 15.3	+0.5
PSZ	Piszkesteto	146.45	344	⇑P		PKiKP	15 59 14.1	-0.9
PSZ	Piszkesteto	146.45	344	⇑PKP2		PKiKP	15 59 14.1	-0.9
WLF	Walferdange	146.46	1	*dx*		PKiKP	15 59 21.4	+6.6
KHC	Kasperske Hory	146.54	352	*e*PKP2		PKiKP	15 59 14.3	-0.8
KHC	Kasperske Hory	146.54	352	*e*PKP		PKiKP	15 59 14.3	-0.8
KHC				*ex*		x	15 59 21.1	
MLR	Muntele Rosu	146.56	335	⇓P		PKiKP	15 59 15.2	-0.1
MLR	Muntele Rosu	146.56	335	⇓PKP2		PKiKP	15 59 15.2	-0.1
CKRC	Cesky Krumlov	146.75	351	*e*PKP		PKiKP	15 59 14.6	-0.9
CKRC				*ex*		x	15 59 20.8	
GERES	GERESS Array B	146.81	352	PKPbc		PKiKP	15 59 14.9	-0.8
	comp=Z,2.3nm,0.8s,baz=33,slow=5.1,SNR=14							
BRTR	Keskin Array B	146.82	321	PKPbc		PKiKP	15 59 16.1	0.0
	comp=Z,14nm,1.1s,baz=101,slow=1.3,SNR=16							
VOIR		146.96	336	⇑P		PKiKP	15 59 16.8	+0.7
VOIR		146.96	336	⇑PKP2		PKiKP	15 59 16.8	+0.7
CONA	Conrad Observa	147.35	349	*e*P		PKiKP	15 59 17.2	+0.4
	comp=Z,16nm,0.8s							
MOA	Molln	147.70	351	*e*P		PKPab	15 59 18.5	+0.8
	comp=Z,15nm,1.0s							
BFO	Black Forest	147.78	358	*e*PKPbc		PKPab	15 59 17.7	-0.2
	baz=7.1,slow=3.3							
BIOA	Bad Ischl, Aus	147.94	351	*e*P		PKiKP	15 59 17.8	-0.2
	comp=Z,9.1nm,1.1s							
BZS	Buzias	148.02	340	⇑P		PKiKP	15 59 18.1	-0.1
BZS	Buzias	148.02	340	⇑PKP2		PKiKP	15 59 18.1	-0.1
ARSA	Arzberg	148.06	349	*e*P		PKPab	15 59 19.4	+0.3
	comp=Z,12nm,1.1s							
RETA	Reutte	148.48	355	*e*P		PKPab	15 59 20.5	-0.3
	comp=Z,7.6nm,1.0s							
WATA	Walderalm	148.55	354	*e*P		PKPab	15 59 20.5	-0.7
	comp=Z,13nm,0.9s							
KBA	Koelnbreinsper	148.59	352	*e*P		PKPab	15 59 20.4	-1.0
	comp=Z,9.7nm,0.9s							
MOTA	Moosalm	148.59	354	*e*P		PKPab	15 59 20.6	-0.7
	comp=Z,16nm,0.9s							
WTTA	Wattenberg	148.62	354	*e*P		PKPab	15 59 20.1	-1.4
	comp=Z,14nm,0.6s							
SQTA	Sankt Quirin	148.70	354	*e*P		PKPab	15 59 21.1	-0.7
	comp=Z,15nm,0.9s							
SOKA	Soboth	148.70	349	*e*P		PKPab	15 59 20.6	-1.2
	comp=Z,9.2nm,0.9s							
DAVA	Damuels	148.74	356	*i* P		PKPab	15 59 21.4	-0.6
	comp=Z,19nm,1.0s							
FETA	Feichten	148.94	355	*e*P		PKPab	15 59 21.9	-0.9
	comp=Z,12nm,0.9s							
ABTA	Abfaltersbach	149.02	352	*e*P		PKPab	15 59 21.3	-1.7
	comp=Z,17nm,0.7s							
DAVOX	Davos/Dischmat	149.25	356	PKPbc		PKPab	15 59 22.1	-1.9
	comp=Z,5.1nm,0.7s,baz=43,slow=4.5,SNR=9.2							
TUE	Stuetta	149.59	357			PKiKP	15 59 22.9	+1.2
SENIN	Lac Senin/Sane	149.76	359	PKPab		PKiKP	15 59 23.4	+1.4
DIVS	Divibare	149.90	341			PKiKP	15 59 23.7	+1.5
ESDC	Sonseca Array	154.62	20	PKPbc		PKiKP	15 59 33.2	+1.2
	comp=Z,0.3nm,0.6s,baz=316,slow=4.1,SNR=4.1							

NEIC ***14*** *15:43:58.9±1.7,4.7°65S±0.7°09×125.7°6E±0.7°1,h461km±8km, mb4.3/50,Error ellipse: s-maj=15.8km s-min=12.6km az=60.0*

IDC ***14*** *15:43:59.0±1.2,4.7°63S×125.7°64E,h462km±16km,mb3.5/11, mb1 3.7/15,mb1mx3.4/46,mbtmp4.4/15,Error ellipse: s-maj=19.8km s-min=8.3km az=62.0*

DJA ***14*** *15:44:00.9±0.3,5.7°S×12.7°E±.7°,h413km±5km,M4.0/28, mB4.5/13,mb4.5/19,MLv4.6/28,Mw(mB)3.6/13*

ISC 14 15:43:57.5±0.4,**4.66S**±0.05×**125.59E**±0.06,**h441**km,**n148,** σ1§**46**/153,**mb4.2**/45,**1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	2.62	9	P	P	15 45 02.5	+1.4
SANI				S	S	15 45 52.5	-0.2
SANI	Sanana	2.62	9	P	P	15 45 03.1	+2.0
AAI	Ambon	2.77	70	P	P	15 45 03.1	+0.9
AAI				S	S	15 45 54.7	+0.1
BBSI	Bau Bau	3.12	255	P	P	15 45 06.0	+1.3
MSAI	Masohi	3.58	69	P	P	15 45 09.0	+0.5
BNDI	Bandanaira	4.31	88	P	P	15 45 16.6	+1.8
LBMI	Labuha	4.43	26	P	P	15 45 18.6	+2.6
LUWI	Luwuk	4.56	322	P	P	15 45 19.6	+2.3
LUWI	Luwuk	4.56	322	P	P	15 45 19.5	+2.3
LUWI	Luwuk	4.56	322	P	P	15 45 19.8	+2.6
MMRI	Maumere	5.17	220	P	P	15 45 25.5	+2.4
MMRI	Maumere	5.17	220	P	P	15 45 25.8	+2.7
	0.2nm45nm,0.8s						
MMRI	Maumere	5.17	220	P	P	15 45 25.7	+2.7
BSSI	Bau Bau, Buton	5.28	254	P	P	15 45 26.8	+2.6
	0.3nm1µm95nm,0.8s						
APSI	Ampana	5.42	313	P	P	15 45 28.3	+2.8
	0.4nm1µm128nm,0.9s						
KMSI	Cibinong	5.44	343	P	P	15 45 29.1	+3.3
	1.1nm141nm,0.4s						
BNSI	Bone	5.47	272	P	P	15 45 29.4	+3.3
	1.1nm3µm281nm,0.8s						
BKSI	Bulukumba	5.48	263	P	P	15 45 28.6	+2.4
	0.4nm946nm115nm,0.9s						
TNTI	Ternate	5.68	18	P	P	15 45 29.5	+1.3
TNTI	Ternate	5.68	18	P	P	15 45 30.1	+1.9
	0.3nm982nm60nm,1.1s						
TNTI	Ternate	5.68	18	P	P	15 45 29.8	+1.6
KAPI	Kappang	5.83	266	P	P	15 45 32.3	+2.7
	4.4nm,0.3s,baz=90,slow=7.9,SNR=7.4						
KAPI	Kappang	5.83	266	P	P	15 45 31.9	+2.2
SPSI	Sidrap Palu	5.84	277	P	P	15 45 32.1	+2.2
	0.3nm918nm105nm,0.9s						
GTOI	Gorontalo	5.85	334	P	P	15 45 33.9	+3.9
	0.3nm658nm80nm,0.7s						
TTSI	Tana Toraja	5.97	285	P	P	15 45 34.4	+3.2
	0.5nm1µm118nm,0.6s						
MRSI	Marisa	6.27	324	P	P	15 45 36.0	+1.7
	1.0nm3µm257nm,0.6s						
SAUI	Saumlaki	6.57	120	P	P	15 45 38.2	+0.7
SAUI	Saumlaki	6.57	120	P	P	15 45 40.1	+2.6
	0.9nm260nm,1.2s						
SAUI	Saumlaki	6.57	120	P	P	15 45 40.9	+3.4
SWI	Sorong	6.80	57	P	P	15 45 42.3	+2.2
	0.4nm1µm120nm,0.8s						
SIJI	Sorong	6.81	57	P	P	15 45 41.4	+1.3
	11nm,0.3s,baz=312,slow=14,SNR=25						
TOLI2	Tolitoli	7.47	320	P	P	15 45 48.5	+1.3
TOLI2	Tolitoli	7.47	320	P	P	15 45 48.8	+1.6
MPSI	Mapaga	7.54	311	P	P	15 45 50.5	+2.5
	0.1nm509nm21nm,0.8s						
KMPI	Kaimana, Papua	8.16	83	P	P	15 45 57.8	+3.2
PLAI	Plampang	8.79	241	P	P	15 46 02.3	+0.8
DRS	Darwin Rock St	9.34	146	P	P	15 46 08.9	+1.5
KDU	Kakadu	10.48	140	P	P	15 46 21.3	+1.3
KNRA	Kununurra	11.39	164	P	P	15 46 30.9	+1.2
KNRA	Kununurra	11.39	164	P	P	15 46 31.3	+1.5
JAGI	Jajag, Banyuwa	11.97	251	P	P	15 46 36.5	+0.3
FITZ	Fitzroy Crossi	13.36	180	P	P	15 46 51.9	+0.7
	2.0nm,0.3s,baz=350,slow=6.9,SNR=62						
FITZ				S	S	15 49 12.1	-2.7
	0.4nm,0.3s,baz=170,slow=16,SNR=12						
FITZ	Fitzroy Crossi	13.36	180	P	P	15 46 51.4	+0.2
SBUM	Sibu	15.11	298	P	P	15 47 12.0	+1.9
SBUM				IAmb	IAmb	15 47 13.7	
	comp=Z,6.0nm,0.7s						
KSM	Kuching	16.43	291	P	P	15 47 26.9	+2.6
KSM				IAmb	IAmb	15 47 28.1	
	comp=Z,11nm,0.6s						
KSM	Kuching	16.43	291	P	P	15 47 27.2	+3.0
	comp=Z,14nm,0.9s						
WB0	Warramunga Arr	17.30	151	P	P	15 47 32.6	-0.7
WRAB	Tennant Creek	17.42	151	P	P	15 47 34.6	0.0
WRAB	Tennant Creek	17.42	151	P	P	15 47 35.1	+0.5
WRA	Warramunga Arr	17.42	151	P	P	15 47 34.1	-0.5
	comp=Z,2.5nm,0.3s,baz=335,slow=9.2,SNR=109						
WRA				S	S	15 50 32.4	-1.4
	comp=Z,0.3nm,0.3s,baz=330,slow=17,SNR=6.5						
WB2	Warramunga Arr	17.43	151	P	P	15 47 34.5	-0.1
WR0	Warramunga Arr	17.53	151	P	P	15 47 35.2	-0.6
PSA00	Pilbara Seismi	17.71	198	P	P	15 47 36.3	-1.4
PSA00	Pilbara Seismi	17.71	198	P	P	15 47 36.8	-0.8
COEN	Coen	19.65	119	P	P	15 47 56.1	-0.2
COEN				IAmb	IAmb	15 47 57.5	
	comp=Z,11nm,0.6s						
COEN	Coen	19.65	119	P	P	15 47 56.5	+0.2
WRKA	Warakurna	20.43	173	P	P	15 48 04.3	+0.9
AS31	Alice Springs	20.53	158	P	P	15 48 04.9	+0.6
AS31				IAmb	IAmb	15 48 34.5	
	comp=Z,5.6nm,0.9s						
ASAR	Alice Springs	20.53	158	P	P	15 48 05.3	+1.0
	comp=Z,9.2nm,0.4s,baz=347,slow=12,SNR=225						
ASAR				S	S	15 51 24.2	-1.2
	comp=Z,2.9nm,0.8s,baz=345,slow=20,SNR=8.9						
ASAR	Alice Springs	20.53	158	P	P	15 48 04.8	+0.5
QIS	Mount Isa	20.87	140	P	P	15 48 08.3	+0.8
GIRL	Giralia	20.98	211	P	P	15 48 08.1	-0.3
GIRL	Giralia	20.98	211	P	P	15 48 08.6	+0.2
PMG	Port Moresby	21.92	104	P	P	15 48 17.1	+0.1
	comp=Z,4.6nm,0.4s,baz=3.5,slow=9.8,SNR=6.7						
PMG	Port Moresby	21.92	104	P	P	15 48 16.5	-0.5
PMG	Port Moresby	21.92	104	P	P	15 48 18.9	+1.9
MYKOM	Kota Tinggi	22.64	286	P	P	15 48 24.2	+0.6
MYKOM				IAmb	IAmb	15 48 41.7	
	comp=Z,21nm,1.4s						
MTSU	Mount Surprise	22.69	128	P	P	15 48 25.0	+1.0
MEEK	Meekatharra	22.85	196	P	P	15 48 25.3	0.0
FORT	Forrest	26.09	175	P	P	15 48 54.5	+0.5
FORT				IAmb	IAmb	15 49 21.0	
	comp=Z,45nm,1.1s						
KULM	Kulim	26.79	291	P	P	15 49 00.1	-0.5
KULM				IAmb	IAmb	15 49 16.3	
	comp=Z,14nm,1.4s						
UBPT	Khong Chiam	28.10	315	P	P	15 49 12.5	+0.4
UBPT				IAmb	IAmb	15 49 38.0	
	comp=Z,18nm,1.4s						
TPUB	Ta-pu	28.21	350	P	P	15 49 11.9	-1.0
GSI	Gunungsitoli	28.61	281	P	P	15 49 15.7	-0.9
GSI				IAmb	IAmb	15 49 33.7	
	comp=Z,26nm,1.3s						
BBOO	Buckleboo	29.67	162	P	P	15 49 25.8	+0.2
RK1H	Rockhampton Ha	30.41	130	P	P	15 49 32.5	+0.4
STKA	Stephens Creek	30.96	153	P	P	15 49 37.8	+0.9
	comp=Z,7.9nm,0.5s,baz=330,slow=8.9,SNR=12						
STKA	Stephens Creek	30.96	153	P	P	15 49 37.4	+0.5
STKA	Stephens Creek	30.96	153	P	P	15 49 37.8	+0.9
HTT	Hallett	31.21	158	P	P	15 49 40.5	+1.5
CMSA	Cobar Meteorol	32.73	147	P	P	15 49 53.4	+1.3
CM31	Chiang Mai Arr	34.89	312	P	P	15 50 11.4	+0.8
CMAR	Chiang Mai Arr	34.89	312	P	P	15 50 11.2	+0.6
	comp=Z,1.7nm,0.7s,baz=141,slow=7.1,SNR=22						
CMAR				PcP	PcP	15 52 32.5	+0.8
	comp=Z,0.5nm,0.5s,baz=148,slow=2.5,SNR=5.1						
CMAR	Chiang Mai Arr	34.89	312	P	P	15 50 11.6	+1.1
CHTO	Chiang Mai	35.11	312	P	P	15 50 12.9	+0.5
ARPS	Mount Arapiles	35.27	157	P	P	15 50 14.8	+1.3
ARMA	Armidale	35.49	139	P	P	15 50 16.9	+1.3
ARMA				IAmb	IAmb	15 50 18.0	
	comp=Z,6.7nm,0.8s						
ARMA	Armidale	35.49	139	P	P	15 50 17.6	+2.0
CAN	Canberra	37.40	148	P	P	15 50 32.8	+1.4
CAN				IAmb	IAmb	15 50 49.8	
	comp=Z,21nm,1.2s						
CAN	Canberra	37.40	148	P	P	15 50 33.2	+1.9
TOO	Toolangi	37.47	154	P	P	15 50 33.1	+1.3
TOO				IAmb	IAmb	15 50 54.9	
	comp=Z,32nm,1.5s						
TOO	Toolangi	37.47	154	P	P	15 50 33.7	+1.8
KSRS	Korea Array	41.95	3	P	P	15 51 07.8	-0.2
	comp=Z,1.1nm,0.7s,baz=184,slow=8.8,SNR=5.4						
MAJO	Matsushiro	42.65	15	P	P	15 51 12.5	-1.1
MAJO				IAmb	IAmb	15 51 33.9	
	comp=Z,18nm,1.4s						
JSD	Sado	44.08	14	P	P	15 51 24.3	-0.5
HHC	Hu-ho-hao-te	47.08	345	*e*P	P	15 51 49.5	+1.5
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,6.0s						
ODAN	Odare	48.43	312	*e*P	P	15 51 58.2	-0.4
	comp=Z,5.4nm,0.4s						
TAPN	Taplejung	48.48	313	*e*P	P	15 51 58.7	-0.3
	comp=Z,9.3nm,0.4s						
RAMN	Ramite	49.06	312	*e*P	P	15 52 03.3	-0.1
	comp=Z,22nm,0.5s						
MDJ	Mudanjiang	49.18	4	P	P	15 52 03.5	-0.1
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.2s						
JIRN	Jiri	49.76	312	*e*P	P	15 52 08.4	-0.3
	comp=Z,7.2nm,0.4s						
GTA	Gaotai	49.88	334	⇑P	P	15 52 09.3	+0.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GUN	Gumba	50.13	313	*e*P	P	15 52 10.8	-0.6
	comp=Z,5.3nm,0.4s						
PKI	Pulchoki	50.29	312	*e*P	P	15 52 11.8	-0.7
	comp=Z,6.6nm,0.5s						
PKIN	Phulchoki	50.30	312	*e*P	P	15 52 11.8	-0.8
	comp=Z,8.1nm,0.5s						
KKN	Kakani	50.51	312	*e*P	P	15 52 13.2	-0.8
	comp=Z,6.7nm,0.5s						
DMN	Daman	50.54	312	*e*P	P	15 52 13.8	-0.5
	comp=Z,11nm,0.6s						
GKN	Gorkha	51.10	312	*e*P	P	15 52 17.7	-0.6
	comp=Z,20nm,0.4s						
KOLN	Koldanda	51.75	311	*e*P	P	15 52 22.5	-0.6
	comp=Z,14nm,0.4s						
DANN	Dangsing	51.94	312	*e*P	P	15 52 24.1	-0.4
	comp=Z,6.1nm,0.3s						
PYUN	Piuthan	52.38	311	*e*P	P	15 52 27.1	-0.6
	comp=Z,26nm,0.8s						
ULN	Ulaanbaatar	54.78	345	P	P	15 52 43.8	-0.5
SONM	Songino Array	54.93	344	P	P	15 52 45.3	-0.1
	comp=Z,1.9nm,0.9s,baz=163,slow=8.2,SNR=12						
SONM	Songino Array	54.93	344	P	P	15 52 44.6	-0.7
RPZ	Rata Peaks	55.78	141	P	P	15 52 51.6	+0.2
	comp=Z,3.3nm,0.5s,baz=252,slow=5.1,SNR=5.8						
RPZ	Rata Peaks	55.78	141	P	P	15 52 51.5	+0.2
RPZ				IAmb	IAmb	15 52 59.5	
	comp=Z,12nm,1.0s						
KHZ	Kahutara	56.73	139	P	P	15 52 57.9	0.0
KHZ				IAmb	IAmb	15 53 24.9	
	comp=Z,16nm,1.2s						
BKZ	Black Stump Fm	57.36	134	P	P	15 53 02.4	-0.1
BKZ				IAmb	IAmb	15 53 31.5	
	comp=Z,15nm,1.2s						
MXZ	Matakaoa Point	58.08	132	P	P	15 53 06.8	-0.5
WMQ	Urumqi	59.09	329	*e*P	P	15 53 15.8	+1.7
KSH	Kashi	63.36	319	P	P	15 53 42.6	+0.2
KSH				PcP	PcP	15 54 15.8	+0.9
MK31	Makanchi Array	63.91	328	P	P	15 53 44.9	-0.8
MKAR	Makanchi Array	63.91	328	P	P	15 53 45.3	-0.4
	comp=Z,3.9nm,0.7s,baz=119,slow=8.3,SNR=45						
MKAR				PcP	PcP	15 54 16.6	-0.2
	comp=Z,0.9nm,0.6s,baz=131,slow=4.7,SNR=5.5						
MKAR	Makanchi Array	63.91	328	P	P	15 53 44.9	-0.8
KDJ	Kajisay	64.00	322	P	P	15 53 46.5	-0.2
MAKZ	Makanchi	64.08	328	P	P	15 53 45.9	-0.9
BOOM	Boomskoye usch	64.97	322	P	P	15 53 52.8	0.0
AAK	Ala-Archa	65.95	321	P	P	15 53 57.9	-1.1
GAR	Garm	66.93	316	P	P	15 54 04.4	-0.7
GAR				IAmb	IAmb	15 54 05.3	
	comp=Z,7.7nm,1.0s						
CHGR	Chuyangaron	67.58	315	P	P	15 54 08.2	-0.9
CHGR				IAmb	IAmb	15 54 09.2	
	comp=Z,6.6nm,0.9s						
ZAA0	Zalesovo Array	67.59	335	P	P	15 54 07.2	-1.5
ZAA0				IAmb	IAmb	15 54 08.2	
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	67.59	335	P	P	15 54 07.4	-1.2
	comp=Z,2.4nm,0.5s,baz=129,slow=4.8,SNR=12						
ZALV	Zalesovo Beam	67.59	335	P	P	15 54 07.2	-1.5
KURK	Kurchatov	68.28	330	P	P	15 54 12.0	-0.9
KURK				IAmb	IAmb	15 54 12.8	
	comp=Z,4.4nm,0.7s						
SOCY	Socotra	73.10	284	P	P	15 54 39.7	-2.7
SOCY				IAmb	IAmb	15 55 06.8	
	comp=Z,9.9nm,1.1s						
BRVK	Borovoye	73.85	329	P	P	15 54 44.6	-1.2
BRVK				IAmb	IAmb	15 54 46.4	
	comp=Z,4.6nm,1.2s						
VNDA	Vanda	75.31	172	P	P	15 54 53.3	-0.4
TIXI	Tiksi	76.19	1	P	P	15 54 57.6	-1.1
ABKAR	Akbulak array	77.97	322	P	P	15 55 08.2	-0.6
ABKAR	Akbulak array	77.97	322	P	P	15 55 08.3	-0.6
ABKAR				IAmb	IAmb	15 55 09.0	
	comp=Z,3.2nm,0.7s						
RAYN	Ar Rayn	82.79	294	P	P	15 55 33.9	-0.9
RAYN				IAmb	IAmb	15 55 35.3	
	comp=Z,3.7nm,0.7s						
QSPA	South Pole Qui	85.31	180	P	P	15 55 46.0	-0.5
	comp=Z,1.9nm,0.7s,baz=138,slow=1.1,SNR=6.1						
QSPA	South Pole Qui	85.31	180	IAmb	IAmb	15 55 51.3	
	comp=Z,6.4nm,1.5s						
L19K	White Mountain	89.23	27	pP	pP	15 57 47.6	+2.0
K20K	Telida	89.81	26		pP	15 57 49.3	+0.9
RND	Reindeer	92.14	27	P	P	15 56 17.1	-1.3
RND				IAmb	IAmb	15 56 34.0	
	comp=Z,5.5nm,1.4s						
ILAR	Eielson Array	93.12	25	P	P	15 56 21.0	-1.8
	comp=Z,0.3nm,0.6s,baz=245,slow=5.5,SNR=4.6						

CNRM ***14*** *16:03:50.5,37.7°43N×5.7°25W,h30km,ml3.5*

INMG ***14*** *16:03:56.8±2.1,36.7°7N×4.7°8W,h24km±5km,ML3.3,Error ellipse: s-maj=4.0km s-min=3.2km az=1.0*

MDD ***14*** *16:03:58.1±0.2,36.8°89N×4.7°8W,h21km,mb_Lg3.6/35, Error ellipse: s-maj=2.1km s-min=1.3km az=0.0*

SFS ***14*** *16:03:58.0,36.8°0N×4.7°0W,h21km,ML3.6,ARDALES (MALAGA)*

IGIL ***14*** *16:03:58.3,36.7°89N×4.7°8W,h21km*

LDG ***14*** *16:03:59.5±0.2,36.7°6N×4.7°81W,h21km,Ml3.4/5,Error ellipse: s-maj=5.0km s-min=3.9km az=7.0*

ISC 14 16:03:57.0±0.9,**36.90N**±0.02×**4.86W**±0.01,**h17**km±7km, **n109,**σ2§**23**/227,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.34	168	Pg	Pg	16 04 03.4	-0.8
EMIJ				Sg	Sg	16 04 09.0	-0.1
EMIJ				*i* Vmb_Lg		16 04 09.8	
EMAL	Malaga-Limoner	0.37	111	P	Pg	16 04 04.1	-0.6
EMAL				S	Sg	16 04 09.2	-0.7
EGOR	Sierra Gorda,	0.64	70	Pg	Pg	16 04 09.2	-0.4
EGOR				Sg	Sg	16 04 18.3	+0.2
EGOR				*i* Vmb_Lg		16 04 23.5	
EJIF	Jimena Fronter	0.66	228	Pg	Pg	16 04 10.2	+0.1
ESPR	Espera	0.80	268	Pg	Pb	16 04 14.1	+1.6
ESPR				*i* Vmb_Lg		16 04 29.7	
ELGU	Los Guajares,	0.99	91	Pg	Pg	16 04 14.4	-1.8
ELGU				Sg	Sg	16 04 29.5	+0.3
ELGU				*i* Vmb_Lg		16 04 36.9	
CEU	Ceuta	1.08	203	P	Pg	16 04 15.6	-2.3
CEU				S	Sg	16 04 29.7	-2.3
CNIL	Conil	1.10	242	P	Pn	16 04 20.8	+3.1
SFS	San Fernando	1.17	249	P	Pb	16 04 17.3	-1.4
SFS				S	Sb	16 04 24.4	-9.2
EQUE	Quentar	1.18	74	Pg	Pb	16 04 19.3	+0.3
EQUE				Sg	Sb	16 04 36.4	+2.5
EQUE				*i* Vmb_Lg		16 04 42.9	
ECAB	El Cabril	1.26	339	Pg	Pn	16 04 19.8	-0.1
ECAB				Sg	Sb	16 04 36.0	-0.2
ECAB				*i* Vmb_Lg		16 04 39.3	
SMIR	Smir Dam	1.28	199	P	Pn	16 04 18.8	-1.4
SMIR	Smir Dam	1.28	199	P	Pn	16 04 19.0	-1.2
SMIR				S	Sb	16 04 32.1	-4.9
EADA	Adamuz	1.29	10	Pg	Pn	16 04 19.8	-0.5
EADA				Sg	Sb	16 04 37.0	-0.1
EADA				*i* Vmb_Lg		16 04 40.9	
ARNO	Arenosillo	1.51	278	P	Pg	16 04 28.5	+2.4
ARNO				S	Sg	16 04 47.5	+1.6
EBER	Berja	1.58	89	Pn	Pn	16 04 25.0	+0.6
EBER				Sn	Sn	16 04 45.4	+0.8
EBER				*i* Vmb_Lg		16 04 55.2	
EQES	Quesada	1.69	57	Pn	Pn	16 04 26.2	+0.3
EQES				Sn	Sn	16 04 48.0	+0.8
EQES				Sg	Sb	16 04 49.5	+0.9
EQES				*i* Vmb_Lg		16 04 56.0	
EMIN	Mina Concepcio	1.69	302	Pn	Pn	16 04 25.0	-0.8
EMIN				Pg	Pb	16 04 27.5	-0.2
EMIN				Sn	Sn	16 04 46.2	-0.8
EMIN				Sg	Sb	16 04 49.0	+0.5
EMIN				*i* Vmb_Lg		16 04 52.8	
EALB	Alboran	1.75	122	Pn	Pn	16 04 25.0	-1.6
EALB				Sn	Sn	16 04 49.1	+0.5
EALB				*i* Vmb_Lg		16 04 51.8	
CHEFC	Chefchaouen	1.83	192	P	Pn	16 04 29.9	+2.1
PALE

EVO				*e*Sn	**Sn**	**16 05 18.9**	**-0.2**	
EVO				*e*Sg	**Sg**	**16 05 33.6**	**+0.6**	
EVO				A	A	16 05 43.9		
	58nm,0.4s							
MORF	**Marmelete**	**3.06**	**279**	*e*P	**Pn**	**16 04 43.8**	**-0.9**	
MORF	**Marmelete**	**3.06**	**279**	*e*Pn	**Pn**	**16 04 44.2**	**-0.5**	
MORF	**Marmelete**	**3.06**	**279**	*e*Pg	**Pb**	**16 04 54.1**	**+3.0**	
MORF				*e*Sn	**Sn**	**16 05 21.5**	**+0.6**	
MORF				*e*Sg	**Sg**	**16 05 35.7**	**+0.4**	
MORF				A	A	16 05 52.1		
	36nm,0.7s							
ETOB	**Tobarra**	**3.15**	**55**	Pn	**Pn**	**16 04 45.7**	**-0.3**	
ETOB				Sn	**Sn**	**16 05 24.1**	**+0.9**	
ETOB				Sg	**Sb**	**16 05 34.6**	**+3.9**	
ETOB				*i* Vmb_Lg		16 05 42.5		
PTEO	**Sao Teotonio**	**3.15**	**283**	*e*Pn	**Pn**	**16 04 46.7**	**+0.8**	
PTEO				*e*Sn	**Sn**	**16 05 24.2**	**+1.1**	
PTEO				*e*Sg	**Sg**	**16 05 40.7**	**+2.4**	
PTEO				A	A	16 05 51.3		
	74nm,0.8s							
CART	**Cartagena**	**3.15**	**76**	P	**Pn**	**16 04 45.0**	**-0.9**	
CART				S	Sn	16 05 16.0	-7.1	
CART	**Cartagena**	**3.15**	**76**	P	**Pn**	**16 04 45.3**	**-0.6**	
PNCL	**Nicolau / Gran**	**3.16**	**294**	*e*Pn	**Pn**	**16 04 45.4**	**-0.6**	
PNCL	**Nicolau / Gran**	**3.16**	**294**	*e*Pg	**Pb**	**16 04 55.4**	**+2.7**	
PNCL				*e*Sn	**Sn**	**16 05 23.1**	**-0.2**	
PNCL				*e*Sg	**Sg**	**16 05 37.3**	**-1.3**	
PNCL				A	A	16 05 42.1		
	57nm,0.7s							
JBK	**JBK**	**3.17**	**143**	P	**Pn**	**16 04 47.0**	**+0.7**	
JBK	**JBK**	**3.17**	**143**	P	**Pn**	**16 04 46.0**	**-0.2**	
JBK				S	**Sn**	**16 05 25.9**	**+2.2**	
PFVI	**Vila Bisbo**	**3.19**	**275**	*e*Pn	**Pn**	**16 04 45.8**	**-0.5**	
PFVI				*e*Sn	**Sn**	**16 05 22.2**	**-1.7**	
PFVI				*e*Sg	**Sg**	**16 05 43.8**	**+4.4**	
PFVI				A	A	16 05 55.8		
	37nm,0.5s							
PMRV	**Marv??o**	**3.22**	**322**	*e*Pn	**Pn**	**16 04 47.1**	**+0.2**	
PMRV	**Marv??o**	**3.22**	**322**	*e*Pg	**Pb**	**16 04 56.5**	**+2.7**	
PMRV				*e*Sn	**Sn**	**16 05 24.1**	**-0.7**	
PMRV				*e*Sg	**Sb**	**16 05 37.4**	**+4.7**	
PMRV				A	A	16 05 42.9		
	60nm,0.5s							
EPLA	**Plasencia**	**3.30**	**343**	Pn	**Pn**	**16 04 47.2**	**-0.9**	
EPLA				Sn	**Sn**	**16 05 24.5**	**-2.5**	
EPLA				Sg	**Sb**	**16 05 36.9**	**+1.7**	
EPLA				*i* Vmb_Lg		16 05 43.8		
IFR	**Ifrane**	**3.38**	**184**	P	**Pn**	**16 04 50.4**	**+1.2**	
IFR				S	**Sn**	**16 05 27.8**	**-1.2**	
PMTG	**Montargil**	**3.43**	**310**	*e*Pn	**Pn**	**16 04 49.6**	**-0.1**	
PMTG				*e*Sn	**Sn**	**16 05 28.9**	**-1.1**	
PMTG				*e*Sg	**Sg**	**16 05 46.2**	**-1.1**	
PMTG				A	A	16 05 54.4		
	72nm,0.5s							
PCBR	**Castelo Branco**	**3.59**	**326**	*e*Pn	**Pn**	**16 04 52.4**	**+0.5**	
PCBR				*e*Sn	**Sn**	**16 05 32.1**	**-1.8**	
PCBR				*e*Sg	**Sg**	**16 05 50.3**	**-1.9**	
PCBR				A	A	16 05 53.4		
	41nm,0.5s							
UCM	**Universidad Co**	**3.63**	**20**	P	**Pn**	**16 04 53.1**	**+0.6**	
UCM				S	Sn	16 05 28.2	-6.8	
PACT	**Alcochete**	**3.66**	**302**	*e*Pn	**Pn**	**16 04 55.1**	**+2.3**	
PACT				*e*Sn	**Sn**	**16 05 36.0**	**+0.4**	
PACT				*e*Sg	**Sg**	**16 05 55.2**	**+0.7**	
ZHG	**ZHG**	**3.74**	**204**	P	**Pn**	**16 04 54.0**	**-0.1**	
ZHG	**ZHG**	**3.74**	**204**	P	**Pn**	**16 04 54.0**	**-0.1**	
ZHG				S	**Sn**	**16 05 34.5**	**-3.3**	
GUD	**Guadarrama**	**3.78**	**8**	Pn	**Pn**	**16 04 54.2**	**-0.5**	
GUD				Sn	**Sn**	**16 05 36.3**	**-2.5**	
GUD				Sg	**Sg**	**16 05 52.3**	**+3.4**	
EVIV	**Cofrentes, Val**	**3.78**	**50**	Pn	**Pn**	**16 04 53.5**	**-1.1**	
AFON	**Font Roja**	**3.85**	**61**	Pn	**Pn**	**16 04 54.3**	**-1.2**	
AFON				Sn	**Sn**	**16 05 41.6**	**+1.1**	
AFON				Sg	**Sg**	**16 05 59.3**	**-1.3**	
AFON				*i* Vmb_Lg		16 06 04.3		
PSBE	**So Bento**	**4.05**	**311**	*e*Pn	**Pn**	**16 04 59.0**	**+0.7**	
PSBE				*e*Sn	**Sn**	**16 05 45.4**	**0.0**	
PSBE				*e*Sg	**Sg**	**16 06 03.3**	**-3.9**	
PSBE				A	A	16 06 14.1		
	52nm,0.5s							
PMAFR	**Mafra**	**4.06**	**302**	*e*Pn	**Pn**	**16 04 58.6**	**+0.3**	
PMAFR				*e*Sn	**Sn**	**16 05 44.4**	**-1.1**	
PMAFR				*e*Sg	**Sg**	**16 06 07.1**	**-0.2**	
PMAFR				A	A	16 06 22.6		
	79nm,0.5s							
ECHE	**Chera**	**4.08**	**48**	Pn	**Pn**	**16 04 57.6**	**-1.0**	
ECHE				Pg	**Pb**	**16 05 08.9**	**+0.5**	
ECHE				Sn	**Sn**	**16 05 45.9**	**0.0**	
ECHE				Sg	**Sb**	**16 06 01.6**	**+4.2**	
ECHE				*i* Vmb_Lg		16 06 19.8		
MDT	**Midelt**	**4.08**	**177**	P	**Pn**	**16 04 59.0**	**+0.3**	
MDT	**Midelt**	**4.08**	**177**	P	**Pn**	**16 04 59.0**	**+0.3**	
MDT				S	**Sn**	**16 05 46.0**	**-0.1**	
MTE	**Manteigas**	**4.08**	**330**	*e*Pn	**Pn**	**16 04 59.5**	**+0.8**	
MTE				*e*Sn	**Sn**	**16 05 43.3**	**-2.8**	
MTE				*e*Sg	**Sg**	**16 06 06.1**	**-1.9**	
MTE				A	A	16 06 11.1		
	59nm,0.8s							
EBEN2	**Beniarda presa**	**4.10**	**63**	Pn	**Pn**	**16 04 57.5**	**-1.5**	
EBEN2				Sn	**Sn**	**16 05 45.4**	**-1.1**	
EBEN2				*i* Vmb_Lg		16 06 24.6		
PCAS	**Casmilo, Conde**	**4.25**	**319**	*e*Pn	**Pn**	**16 04 59.4**	**-1.6**	
PCAS				*e*Sn	**Sn**	**16 05 47.8**	**-2.5**	
PCAS				*e*Sg	**Sg**	**16 06 12.0**	**-1.6**	
PCAS				A	A	16 06 21.4		
	64nm,0.8s							
ETOR	**Torete**	**4.49**	**28**	Pn	**Pn**	**16 05 03.8**	**-0.5**	
ETOR				Pg	**Pb**	**16 05 17.5**	**+2.1**	
ETOR				Sn	**Sn**	**16 05 56.9**	**+0.7**	
ETOR				Sg	**Sb**	**16 06 14.8**	**+5.6**	
ETOR				*i* Vmb_Lg		16 06 25.1		
PVIS	**Viseu**	**4.49**	**329**	*e*Pn	**Pn**	**16 05 04.7**	**+0.4**	
PVIS				*e*Sn	**Sn**	**16 05 52.9**	**-3.3**	
PVIS				*e*Sg	**Sg**	**16 06 21.6**	**+0.4**	
PVIS				A	A	16 06 31.6		
	27nm,0.8s							
TDRA	**Tendrara**	**4.50**	**148**	P	**Pn**	**16 05 07.0**	**+2.4**	
TDRA				S	**Sn**	**16 05 57.6**	**+1.1**	
MVO	**Moncorvo**	**4.58**	**339**	*e*Pn	**Pn**	**16 05 05.3**	**-0.3**	
MVO				*e*Sn	**Sn**	**16 05 54.6**	**-3.9**	
MVO				*e*Sg	**Sg**	**16 06 22.0**	**-2.2**	
MVO				A	A	16 06 32.3		
	64nm,0.5s							
PVRL	**Vila Real**	**4.91**	**334**	*e*Sn	**Sn**	**16 06 02.9**	**-3.5**	
PVRL				*e*Sg	**Sg**	**16 06 33.6**	**-0.8**	
POLO	**Lamas de Olo**	**5.02**	**334**	*e*Pn	**Pn**	**16 05 12.1**	**+0.5**	
POLO				*e*Sn	**Sn**	**16 06 05.3**	**-4.0**	
POLO				*e*Sg	**Sg**	**16 06 35.8**	**-2.3**	
POLO				A	A	16 06 40.5		
	20nm,0.5s							
PBRG	**Braganca**	**5.11**	**344**	*e*Pn	**Pn**	**16 05 12.8**	**-0.1**	
PBRG				*e*Sn	**Sn**	**16 06 07.8**	**-3.8**	
PBRG				*e*Sg	**Sg**	**16 06 39.4**	**-1.7**	
PBRG				A	A	16 06 47.5		
	23nm,0.6s							
PCAB	**Cabril**	**5.40**	**334**	*e*Pn	**Pn**	**16 05 16.7**	**-0.1**	
PCAB				*e*Sn	**Sn**	**16 06 14.3**	**-4.2**	
PCAB				*e*Sg	**Sg**	**16 06 48.3**	**-1.9**	
PCAB				A	A	16 06 56.6		
	40nm,0.5s							
ELOB	**Lobios**	**5.55**	**334**	Pn	**Pn**	**16 05 18.7**	**-0.2**	
ELOB				Sn	**Sn**	**16 06 18.0**	**-4.4**	
ELOB				Sg	**Sb**	**16 06 47.6**	**+7.8**	
ELOB				*i* Vmb_Lg		16 06 56.7		
PGAV	**Gavieira, Arco**	**5.71**	**333**	*e*Pn	**Pn**	**16 05 20.8**	**-0.3**	
PGAV				*e*Sn	**Sn**	**16 06 22.1**	**-4.2**	
PGAV				*e*Sg	**Sg**	**16 06 56.5**	**-3.7**	
PGAV				A	A	16 07 11.3		
	23nm,0.7s							
OUZM	**OUZ**	**6.18**	**195**	P	**Pn**	**16 05 27.5**	**-0.1**	
OUZM	**OUZ**	**6.18**	**195**	P	**Pn**	**16 05 27.5**	**-0.1**	
OUZM				S	**Sn**	**16 06 34.5**	**-3.4**	
OUK	**Oukaimeden**	**6.20**	**205**	P	**Pn**	**16 05 28.0**	**-0.2**	
EAGO	**Agolada(Pontev**	**6.40**	**338**	Pn	**Pn**	**16 05 30.5**	**0.0**	
EAGO				Sn	**Sn**	**16 06 36.8**	**-6.4**	
EAGO				Sg	**Sb**	**16 07 09.1**	**+4.9**	
EAGO				*i* Vmb_Lg		16 07 30.1		
EARI	**Arriondas**	**6.40**	**358**	Pn	**Pn**	**16 05 29.7**	**-0.8**	
EARI				Sn	Sn	16 06 36.6	-6.7	
EARI				Sg	**Sb**	**16 07 11.4**	**+7.2**	
EARI				*i* Vmb_Lg		16 07 44.1		

EPOB	**Poblet**	**6.41**	**44**	Pn	**Pn**	16 05 28.0	-2.7	
EPOB				*i* Vmb_Lg		16 07 31.5		
ELAN	**Lanestosa**	**6.42**	**9**	Pn	**Pn**	**16 05 29.2**	**-1.7**	
ELAN				Sn	**Sn**	**16 06 38.0**	**-5.7**	
ELAN				Sg	**Sb**	**16 07 12.1**	**+7.3**	
ELAN				*i* Vmb_Lg		16 07 32.7		
EORO	**Oroz-Betelu**	**6.58**	**23**	Pn	**Pn**	**16 05 31.3**	**-1.8**	
EORO				Sn	**Sn**	**16 06 46.8**	**-0.9**	
EORO				*i* Vmb_Lg		16 07 34.8		
SJPF	**Ste Jean**	**6.80**	**23**	*e*Pn	**Pn**	**16 05 36.0**	**-0.1**	
SJPF				*e*Sn	Sn	16 06 46.4	-6.8	
SJPF				*e*Sg	**Sg**	**16 07 30.6**	**-4.7**	
	12nm,0.5s							
EALK	**Alkurruntz**	**6.82**	**21**	Pn	**Pn**	**16 05 35.8**	**-0.6**	
EALK				Sn	**Sn**	**16 06 48.8**	**-4.7**	
EALK				*i* Vmb_Lg		16 07 41.6		
ETSF	**Etsaut**	**6.84**	**28**	*e*Pn	**Pn**	**16 05 34.7**	**-2.0**	
ETSF				*e*Sn	Sn	16 06 47.8	-6.4	
ETSF				*e*Sg	**Sg**	**16 07 31.1**	**-5.5**	
	5.2nm,0.5s							
ECHI	**Chisagues Biel**	**6.95**	**32**	Pn	**Pn**	**16 05 36.1**	**-2.1**	
ECHI				Sn	**Sn**	**16 06 54.9**	**-2.0**	
ECHI				*i* Vmb_Lg		16 07 58.3		
TTIG	**Tnine Tigouga,**	**7.00**	**206**	P	**Pn**	**16 05 36.0**	**-2.9**	
TTIG	**Tnine Tigouga,**	**7.00**	**206**	P	**Pn**	**16 05 36.0**	**-2.9**	
TTIG				S	Sn	16 06 48.8	-9.5	
EPF	**Esparros**	**7.31**	**31**	*e*Pn	**Pn**	**16 05 42.4**	**-0.7**	
EPF				*e*Sn	**Sn**	**16 06 59.9**	**-5.8**	
	6.5nm,0.4s							
EPF				*e*Sg	**Sg**	**16 07 45.9**	**-5.6**	
	4.8nm,0.4s							
MTLF	**Montolieu**	**8.41**	**38**	*e*Pn	**Pn**	**16 05 56.2**	**-1.9**	
CAF	**Calviac**	**9.58**	**31**	*e*Sn	Sn	16 07 54.4	-6.9	
	1.2nm,0.2s							
RJF	**Les Rejaudoux**	**9.68**	**28**	*e*Sn	Sn	16 07 56.7	-7.0	
LMR	**La Mourre**	**10.81**	**50**	*e*Pn	**Pn**	**16 06 29.5**	**-1.5**	
SBF	**Sospel**	**11.67**	**50**	*e*Pn	**Pn**	**16 06 41.5**	**-1.3**	

*IDC **14** 16:10:02.7±0.7,9°.23N×125°.68E, h0^{km}, mb3.9/12, mb1 4.1/14, mb1mx3.9/40, mbtmp4.0/14, ML4.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.0/78, Error ellipse: s-maj=30.2km s-min=14.2km az=77.0*
*MAN **14** 16:10:05.9, 9°.18N×125°.46E, h1^{km}, mb5.2, ML4.2, MS4.4*
MAN INTENSITY IV - TUBAY & CABADBARAN, AGUSAN DEL NORTE; INTENSITY III - CARRASCAL, SURIGAO DEL SUR.
*NEIC **14** 16:10:09.0±1.6, 9°.18N±0°.08×125°.71E±0°.10, h39^{km}±7^{km}, mb4.4/27, Error ellipse: s-maj=14.4km s-min=11.5km az=64.0*

ISC 14 16:10:06.4±0.7, 9°.21N±0°.04×125°.67E±0°.06, h22^{km}±6^{km}, n81, σ1^{s}11/74, mb4.3/27, MS3.4/6, 11C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.24**	**192**	⇑*i*P	**Pb**	**16 10 11.6**	**-0.9**
SCPH	**Surigao**	**0.60**	**342**	⇓*e*P	**Pb**	**16 10 17.4**	**-0.8**
SCPH				*e*S	**Sb**	**16 10 27.1**	**+0.9**
MSLP	**Maasin**	**1.22**	**319**	⇓*i*P	**Pn**	**16 10 27.2**	**-0.8**
TBP	**Tagbilaran**	**1.85**	**285**	*e*P	**Pn**	**16 10 35.3**	**-1.5**
TBP				*i* S	**Sn**	**16 11 00.0**	**+0.5**
LLP	**Lapu-Lapu**	**2.01**	**303**	⇑*i*P	**Pn**	**16 10 38.5**	**-0.5**
LLP				*i* S	**Sn**	**16 11 03.8**	**+0.4**
DAV	**Davao City (W)**	**2.13**	**182**	Pn	**Pn**	**16 10 41.4**	**+0.8**
	62nm,0.3s,baz=232,slow=4.9,SNR=1.8						
KCP	**Kidapawan**	**2.26**	**195**	⇓*e*P	**Pn**	**16 10 43.2**	**+0.7**
KCP				*i* S	Sb	16 11 26.2	+12
MATI	**Mati**	**2.32**	**166**	⇑*i*P	**Pn**	**16 10 45.5**	**+2.2**
DCPH	**Dipolog City**	**2.38**	**255**	⇓*e*P	**Pn**	**16 10 44.2**	**+0.2**
DCPH				*e*S	**Sn**	**16 11 13.3**	**+0.8**
BESP	**Borongan**	**2.39**	**354**	⇑*i*P	**Pb**	**16 10 46.8**	**-1.8**
SNPH	**Sibulan**	**2.41**	**273**	⇓*e*P	**Pn**	**16 10 44.1**	**-0.4**
SNPH				*e*S	**Sn**	**16 11 16.8**	**+3.4**
CTBH	**Cotabato--PC H**	**2.43**	**216**	⇓*i*P	**Pn**	**16 10 45.8**	**+1.0**
PAGZ	**Pagadian**	**2.64**	**239**	⇓*i*P	**Pn**	**16 10 47.5**	**-0.1**
CNOP	**Candoni, Negro**	**3.05**	**282**	⇓*e*P	**Pn**	**16 10 53.4**	**+0.1**
DDMP	**Don Marcelino,**	**3.09**	**179**	⇓*e*P	**Pn**	**16 10 54.4**	**+0.6**
GUIM	**Jordan**	**3.35**	**295**	⇓*i*P	**Pn**	**16 10 57.8**	**+0.4**
RCP	**Roxas**	**3.71**	**309**	⇓*e*P	**Pn**	**16 11 03.1**	**+0.7**
JAP	**San Jose, Anti**	**3.97**	**293**	⇓*e*P	**Pn**	**16 11 07.6**	**+1.6**
PVCP	**Virac**	**4.61**	**341**	⇑*i*P	**Pn**	**16 11 17.9**	**+3.2**
LQP	**Lukban**	**6.33**	**321**	⇑*e*P	**Pn**	**16 11 41.5**	**+2.9**
MYLDM	**Lahad Datu**	**8.16**	**241**	Pn	**Pn**	**16 12 05.5**	**+1.9**
TNTI	**Ternate**	**8.55**	**169**	Pn	**Pn**	**16 12 09.4**	**+0.5**
I39PW	**PALAU INFRASON**	**8.94**	**100**	*i*		17 06 50.0	
	baz=283,slow=303,SNR=0.8						
SIJI	**Sorong**	**11.46**	**151**	Pn	**Pn**	**16 12 49.6**	**+0.8**
	1.6nm,0.3s,baz=321,slow=16,SNR=6.1						
YULB	**Yu-li**	**14.71**	**344**	P	**P**	**16 13 40.6**	**+1.5**
SBUM	**Sibu**	**14.97**	**244**		**P**	**16 13 43.5**	**+1.4**
KAPI	**Kappang**	**15.31**	**203**	LR	LR	16 21 06.0	
	comp=Z,119nm,18.4s,baz=52,slow=43						
UBPT	**Khong Chiam**	**20.63**	**289**	P	**P**	**16 14 45.5**	**+0.9**
KNRA	**Kununurra**	**24.92**	**173**	P	**P**	**16 15 27.7**	**-0.3**
KNRA				IAmb	IAmb	16 15 40.1	
	comp=Z,21nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.14**	**180**	P	**P**	**16 15 47.3**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=258,slow=13,SNR=2.1						
FITZ	**Fitzroy Crossi**	**27.14**	**180**	P	**P**	**16 15 47.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.50**	**292**	P	**P**	**16 15 52.1**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=110,slow=6.8,SNR=11						
KSRS	**Korea Array**	**28.19**	**4**	P	**P**	**16 15 57.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=187,slow=9.6,SNR=1.5						
KSRS				LR	LR	16 27 16.8	
	comp=Z,47nm,21.1s,baz=180,slow=37						
COEN	**Coen**	**28.84**	**143**	P	**P**	**16 16 02.4**	**-0.9**
COEN				IAmb	IAmb	16 16 09.0	
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**30.20**	**164**	P	**P**	**16 16 13.7**	**-1.6**
WRAB				IAmb	IAmb	16 16 30.0	
	comp=Z,7.9nm,1.0s						
WRA	**Warramunga Arr**	**30.20**	**164**	P	**P**	**16 16 14.6**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=332,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**30.20**	**164**	P	**P**	**16 16 13.8**	**-1.6**
WR0	**Warramunga Arr**	**30.27**	**163**	P	**P**	**16 16 15.6**	**-0.5**
WR0				IAmb	IAmb	16 16 16.1	
	comp=Z,5.3nm,1.1s						
AS31	**Alice Springs**	**33.65**	**166**	P	**P**	**16 16 45.0**	**-0.7**
ASAR	**Alice Springs**	**33.65**	**166**	P	**P**	**16 16 45.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=340,slow=7.3,SNR=32						
USRK	**Ussuriysk Ar.**	**35.29**	**8**	P	**P**	**16 16 59.1**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=193,slow=12,SNR=1.3						
USRK	**Ussuriysk Ar.**	**35.29**	**8**	P	**P**	**16 17 00.9**	**+1.4**
MORW	**Morawa**	**39.17**	**193**	P	**P**	**16 17 30.7**	**-2.0**
MORW				IAmb	IAmb	16 17 49.3	
	comp=Z,15nm,1.3s						
FORT	**Forrest**	**39.83**	**177**	P	**P**	**16 17 38.1**	**0.0**
KLR	**Kul'dur**	**40.21**	**6**	LR	LR	16 33 32.4	
	comp=Z,54nm,21.1s,baz=190,slow=35						
H11S3	**WAKE ISLAND Hy**	**40.79**	**72**	T	T	17 00 50.4	
	baz=262,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**40.81**	**72**	T	T	17 00 52.5	
	baz=262,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**40.81**	**72**	T	T	17 00 50.2	
	baz=262,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**41.15**	**71**	T	T	17 01 19.4	
	baz=265,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**41.16**	**71**	T	T	17 01 20.5	
	baz=265,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.17**	**71**	T	T	17 01 24.8	
	baz=265,slow=74,SNR=21						
BBOO	**Buckleboo**	**42.94**	**167**	P	**P**	**16 18 03.9**	**+0.2**
STKA	**Stephens Creek**	**43.60**	**160**	P	**P**	**16 18 09.6**	**+0.5**
PETK	**Petropavlovsk-**	**50.84**	**24**	P	**P**	**16 19 05.3**	**0.0**
	comp=Z,1.5nm,0.7s,baz=203,slow=5.0,SNR=1.9						
PETK				LR	LR	16 42 45.7	
	comp=Z,21nm,18.6s,baz=217,slow=39						
MK31	**Makanchi Array**	**52.52**	**324**	P	**P**	**16 19 17.5**	**-0.5**
MKAR	**Makanchi Array**	**52.52**	**324**	P	**P**	**16 19 17.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=124,slow=8.2,SNR=18						
MKAR	**Makanchi Array**	**52.52**	**324**	P	**P**	**16 19 17.6**	**-0.4**
MAKZ	**Makanchi**	**52.71**	**323**	P	**P**	**16 19 19.2**	**-0.2**
MAKZ				IAmb	IAmb	16 19 22.3	
	comp=Z,3.3nm,1.1s						
AAK	**Ala-Archa**	**55.66**	**316**	LR	LR	16 43 56.0	
	comp=Z,81nm,21.8s,baz=96,slow=36						
KURK	**Kurchatov**	**56.61**	**326**	P	**P**	**16 19 46.7**	**-0.8**
KURK				IAmb	IAmb	16 19 50.1	
	comp=Z,4.4nm,0.9s						
KURBB	**Kurchatov Arra**	**56.61**	**326**	P	**P**	**16 19 46.7**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=125,slow=7.5,SNR=9.9						
GAR	**Garm**	**57.52**	**311**	P	**P**	**16 19 54.2**	**-0.2**

MSVF	**Nonsavu**	**58.25**	**117**	LR	LR	16 45 12.8		
	comp=Z,34nm,18.0s,baz=46,slow=36							
KKAR	**Karatay Array**	**58.58**	**315**	P	**P**	**16 20 00.9**	**-0.7**	
BRVK	**Borovoye**	**62.27**	**326**	P	**P**	**16 20 25.8**	**-0.9**	
BRVK				IAmb	IAmb	16 20 37.1		
	comp=Z,2.7nm,1.0s							
BILL	**Bilibino**	**64.58**	**16**	P	**P**	**16 20 42.1**	**+0.5**	
BILL				IAmb	IAmb	16 21 08.4		
	comp=Z,3.6nm,1.3s							
ABKAR	**Akbulak array**	**67.29**	**320**	P	**P**	**16 20 58.5**	**-0.9**	
BKZ	**Black Stump Fm**	**67.37**	**139**	P	**P**	**16 21 00.4**	**+0.3**	
RAYN	**Ar Rayn**	**77.42**	**292**	P	**P**	**16 22 00.5**	**+0.1**	
RAYN				IAmb	IAmb	16 22 01.3		
	comp=Z,2.7nm,0.9s							
MCK	**McKinley**	**79.76**	**27**	P	**P**	**16 22 12.4**	**-0.1**	
MCK				IAmb	IAmb	16 22 19.8		
	comp=Z,3.9nm,0.8s							
RND	**Reindeer**	**79.80**	**27**	P	**P**	**16 22 13.0**	**+0.1**	
RND				IAmb	IAmb	16 22 38.8		
	comp=Z,4.7nm,1.3s							
PWL	**Port Wells**	**80.07**	**30**	P	**P**	**16 22 14.2**	**0.0**	
PWL				IAmb	IAmb	16 22 20.2		
	comp=Z,6.3nm,1.0s							
ILAR	**Eielson Array**	**80.64**	**26**	P	**P**	**16 22 16.4**	**-0.8**	
	comp=Z,0.4nm,0.7s,baz=242,slow=5.8,SNR=4.1							
L27K	**Beaver Creek,**	**83.00**	**27**	P	**P**	**16 22 29.4**	**-0.3**	
L27K				IAmb	IAmb	16 22 36.1		
	comp=Z,2.3nm,0.9s							
BCAR	**Beaver Creek A**	**83.01**	**27**	P	**P**	**16 22 30.7**	**+0.9**	
BARN	**Barnard Glacie**	**83.31**	**29**	P	**P**	**16 22 31.1**	**-0.5**	
BARN				IAmb	IAmb	16 22 43.3		
	comp=Z,3.5nm,0.8s							
CTGM	**Chitina Glacie**	**83.47**	**29**	P	**P**	**16 22 33.2**	**+0.9**	
TABL	**Table Mountain**	**83.63**	**30**	P	**P**	**16 22 33.6**	**+0.3**	
EIL	**Elat**	**86.13**	**299**	LR	LR	17 07 25.5		
	comp=Z,56nm,18.5s,baz=81,slow=40							
FINES	**FINESS Array B**	**86.54**	**332**	P	**P**	**16 22 45.9**	**-1.6**	
	comp=Z,1.1nm,0.8s,baz=76,slow=8.0,SNR=5.5							
YKA	**Yellowknife Ar**	**94.96**	**24**	P	**P**	**16 23 27.6**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=300,slow=4.6,SNR=9.5							

*IDC **14** 16:31:30.8±2.0, 1°.33N×125°.37E, h0^{km}, mb3.1/3, mb1 3.3/3, mb1mx3.1/29, mbtmp3.1/3, Error ellipse: s-maj=196.3km s-min=26.8km az=64.0*
*DJA **14** 16:31:36.4±0.4, 2°.N±5°×12°.6E±°, h10^{km}, M3.2/8, MLv3.2/8*

ISC 14 16:31:36.5±1.5, 1°.8N±0°.1×126°.50E±0°.09, h50^{km}, n10, σ0^{s}76/11, mb2.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.33**	**139**	P	**Pn**	**16 31 59.0**	**+0.3**
TNTI				S	**Sn**	**16 32 15.9**	**+0.6**
LBMI	**Labuha**	**2.60**	**157**	P	**Pn**	**16 32 16.7**	**+0.5**
KMSI	**Cibinong**	**2.79**	**245**	P	**Pn**	**16 32 18.7**	**+0.1**
GTOI	**Gorontalo**	**3.67**	**252**	P	**Pn**	**16 32 32.0**	**+1.3**
SANI	**Sanana**	**3.84**	**188**	P	**Pn**	**16 32 32.6**	**-0.5**
LUWI	**Luwuk**	**4.66**	**233**	P	**Pn**	**16 32 44.4**	**0.0**
MRSI	**Marisa**	**4.73**	**254**	P	**Pn**	**16 32 45.6**	**+0.2**
WRA	**Warramunga Arr**	**22.92**	**161**	P	**P**	**16 36 35.5**

KNRA	**Kununurra**	**17.79**	**178**	P		**P**	**17 06 30.0**	**+0.9**
WB0	**Warramunga Arr**	**22.66**	**165**	P		**P**	**17 07 20.5**	**-0.3**
WRAB	**Tennant Creek**	**22.81**	**165**	P		**P**	**17 07 22.0**	**-0.2**
WRAB				IAmb		IAmb	17 07 23.7	
	comp=Z,14nm,1.0s							
WRA	**Warramunga Arr**	**22.82**	**165**	P		**P**	**17 07 22.2**	**0.0**
	comp=Z,4.0nm,0.5s,baz=343,slow=10,SNR=87							
WRA	**Warramunga Arr**	**22.82**	**165**	P		**P**	**17 07 20.7**	**-1.5**
WB2	**Warramunga Arr**	**22.82**	**165**	P		**P**	**17 07 22.2**	**0.0**
WB2				IAmb		IAmb	17 07 23.3	
	comp=Z,6.1nm,0.6s							
WR0	**Warramunga Arr**	**22.89**	**165**	P		**P**	**17 07 22.8**	**-0.1**
WR0				IAmb		IAmb	17 07 24.0	
	comp=Z,16nm,1.4s							
TNG	**Tangerang**	**23.16**	**249**	P		P	17 07 14.1	-11
TNG				P		P	17 07 11.4	-14
QIS	**Mount Isa**	**25.21**	**154**	P		**P**	**17 07 45.4**	**+1.4**
ASAR	**Alice Springs**	**26.31**	**168**	P		**P**	**17 07 53.7**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=350,slow=7.6,SNR=58							
ASAR				PcP		**PcP**	**17 11 16.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=356,slow=2.1,SNR=7.2							
ASAR				ScP		**ScP**	**17 14 40.8**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=0.2,slow=3.8,SNR=4.4							
WRKA	**Warakurna**	**27.10**	**180**	P		**P**	**17 08 00.7**	**-0.3**
KSRS	**Korea Array**	**35.06**	**359**	P		**P**	**17 09 10.7**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=177,slow=9.8,SNR=12							
MJAR	**Matsushiro Arr**	**35.36**	**14**	P		**P**	**17 09 11.3**	**-1.8**
	comp=Z,3.5nm,0.7s,baz=186,slow=9.1,SNR=6.3							
STKA	**Stephens Creek**	**36.19**	**161**	P		**P**	**17 09 20.4**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=352,slow=8.2,SNR=14							
STKA	**Stephens Creek**	**36.19**	**161**	IAmb		IAmb	17 09 22.3	
	comp=Z,3.1nm,1.4s							
ASAJ	**Asahikawa**	**43.60**	**15**	P		**P**	**17 10 21.9**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=246,slow=7.4,SNR=7.0							
JKA	**Kamikawa-asahi**	**43.60**	**15**	P		**P**	**17 10 21.9**	**+0.6**
JKA	**Kamikawa-asahi**	**43.60**	**15**	IAmb		IAmb	17 10 33.8	
	comp=Z,12nm,1.1s							
ULN	**Ulaanbaatar**	**49.03**	**341**	P		**P**	**17 11 03.7**	**-0.1**
ULN				IAmb		IAmb	17 11 05.2	
	comp=Z,3.9nm,0.8s							
SONM	**Songino Array**	**49.22**	**341**	P		**P**	**17 11 05.7**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=152,slow=8.1,SNR=13							
SONM	**Songino Array**	**49.22**	**341**	IAmb		IAmb	17 11 06.5	
	comp=Z,1.2nm,0.6s							
PETK	**Petropavlovsk-**	**56.25**	**21**	P		**P**	**17 11 55.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=197,slow=4.6,SNR=6.2							
MK31	**Makanchi Array**	**59.67**	**325**	P		**P**	**17 12 21.1**	**+0.5**
MKAR	**Makanchi Array**	**59.67**	**325**	P		**P**	**17 12 21.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=118,slow=8.4,SNR=30							
YAK	**Yakutsk**	**59.67**	**1**	P		**P**	**17 12 20.4**	**+0.2**
MA2	**Magadan**	**59.80**	**13**	P		**P**	**17 12 22.1**	**+0.9**
MA2				IAmb		IAmb	17 12 22.8	
	comp=Z,2.5nm,0.8s							
MAKZ	**Makanchi**	**59.86**	**325**	P		**P**	**17 12 22.3**	**+0.5**
MAKZ				IAmb		IAmb	17 12 23.0	
	comp=Z,1.2nm,0.5s							
KURK	**Kurchatov**	**63.84**	**327**	P		**P**	**17 12 47.7**	**-0.6**
KURK				IAmb		IAmb	17 13 14.2	
	comp=Z,1.6nm,1.1s							

*DNK **14** 17:03:27.9±1.9,51°.57N×16°.50E,h0km±86km, ML1.8*
*IPEC **14** 17:03:28.9±0.4,51°.46N×16°.27E,h0km±2km, ML2.7/3, Error ellipse: s-maj=2.7km s-min=1.1km az=32.0*
*PRU **14** 17:03:29.8±0.0,51°.41N×16°.19E,h0km*
*VIE **14** 17:03:30.1±0.8,51°.37N×16°.18E,h0km, mb2.5/4, ml2.8/4, Error ellipse: s-maj=9.0km s-min=3.6km az=58.0 65 km WNW of Wroclaw Suspected Mining induced.*
*IDC **14** 17:03:30.2±1.4,51°.33N×16°.26E,h0km, mb1 3.2/4, mb1mx3.0/53, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=19.1km s-min=11.8km az=133.0*

ISC 14 17:03:27.2±0.8,51°.55N±0°.03×16°.26E±0°.03,h0km,n38, σ1s06/75,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**178**	*i* Pg	**Pg**	**17 03 40.8**	**+0.2**
KSP				*i* Sg	**Sg**	**17 03 48.7**	**-1.1**
CHVC	**Chvalec**	**0.97**	**188**	*e*PG	**Pg**	**17 03 45.9**	**+0.2**
CHVC				*e*SG	**Sg**	**17 03 57.1**	**-1.1**
	comp=Z,46nm,0.6s						
OSTC	**Ostas**	**0.99**	**182**	*e*PG	**Pg**	**17 03 46.3**	**+0.2**
OSTC				*e*SG	**Sg**	**17 03 56.7**	**-2.2**
	comp=Z,49nm,0.4s						
UPC	**Upice**	**1.05**	**189**	*e*PG	**Pg**	**17 03 47.1**	**-0.2**
UPC				*e*SG	**Sg**	**17 03 59.0**	**-1.9**
	comp=Z,124nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**178**	*e*PG	**Pg**	**17 03 49.6**	**-0.5**
DPC				*e*SG	**Sg**	**17 04 04.4**	**-1.2**
	comp=Z,50nm,0.8s						
PVCC	**Panska Ves**	**1.47**	**227**	*e*PG	**Pn**	**17 03 55.0**	**0.0**
PVCC				*e*SG	**Sg**	**17 04 13.5**	**-1.0**
	comp=Z,211nm,0.3s						
KRLC	**Kraliky**	**1.51**	**167**	*e*PG	**Pn**	**17 03 55.2**	**-0.3**
KRLC				*e*SG	**Sg**	**17 04 14.0**	**-1.6**
	comp=Z,31nm,0.4s						
BRG	**Berggiesshubel**	**1.60**	**246**	Pg	**Pb**	**17 03 58.2**	**+0.5**
BRG				Sg	**Sn**	**17 04 18.6**	**+0.4**
BRG				Amp		17 04 19.8	
	comp=Z,50nm,0.6s						
PRU	**Pruhonice**	**1.90**	**216**	*e*PG	**Pn**	**17 04 02.0**	**+1.1**
PRU				*e*SG	**Sn**	**17 04 26.2**	**+0.7**
	comp=Z,30nm,0.2s						
MORC	**Moravsky Berou**	**1.95**	**155**	*e*Pn	**Pn**	**17 04 01.7**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sn**	**17 04 27.4**	**+0.6**
	comp=Z,48nm,0.9s,baz=335						
CLL	**Collm**	**2.05**	**265**	*e*Pg	**Pg**	**17 04 07.0**	**+0.5**
CLL				*ex*	x	17 04 09.0	
CLL				*ex*	x	17 04 28.0	
CLL				*e*Sg	**Sg**	**17 04 33.0**	**0.0**
	comp=Z,21nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**144**	*e*PG	**Pb**	**17 04 06.3**	**+0.4**
OKC				*e*SG	**Sb**	**17 04 32.6**	**+0.2**
	comp=Z,39nm,0.5s						
VRAC	**Vranov**	**2.25**	**174**	Pn	**Pn**	**17 04 05.3**	**-0.3**
	comp=Z,2.5nm,0.3s,baz=348,slow=17,SNR=12						
VRAC				Lg	Lg	17 04 33.2	
	comp=Z,4.1nm,0.3s,baz=87,slow=21,SNR=4.2						
VRAC	**Vranov**	**2.25**	**174**	*e*Pn	**Pn**	**17 04 06.2**	**+0.5**
	baz=355						
VRAC				*e*Sg	**Sb**	**17 04 36.4**	**-0.6**
	comp=Z,35nm,0.7s,baz=355						
TREC	**Trest**	**2.31**	**193**	*e*PN	**Pn**	**17 04 06.8**	**+0.4**
TREC				*e*PG	**Pb**	**17 04 09.6**	**0.0**
TREC				*e*SG	**Sb**	**17 04 39.3**	**+0.6**
	comp=Z,24nm,0.3s						
PBCC	**Pribram**	**2.35**	**219**	*e*PG	**Pb**	**17 04 10.5**	**+0.1**
PBCC				*e*SG	**Sb**	**17 04 40.4**	**+0.4**
	comp=Z,12nm,0.8s						
KRUC	**Moravsky**	**2.49**	**178**	*e*Pn	**Pn**	**17 04 09.4**	**+0.5**
	baz=358						
KRUC	**Moravsky**	**2.49**	**178**	*e*Pg	**Pb**	**17 04 12.7**	**0.0**
	baz=358						
KRUC				*e*Sg	**Sb**	**17 04 44.0**	**+0.2**
	comp=Z,37nm,1.0s,baz=358						
KRUC	**Moravsky**	**2.49**	**178**	*e*PN	**Pn**	**17 04 09.5**	**+0.5**
KRUC				*e*PG	**Pb**	**17 04 12.8**	**0.0**
KRUC				*e*SG	**Sb**	**17 04 44.1**	**+0.2**
OJC	**Ojcow**	**2.61**	**119**	*e*Pg	**Pg**	**17 04 19.4**	**+2.2**
OJC				*e*Sn	**Sn**	**17 04 41.9**	**-1.0**
OJC				*e*Sg	**Sg**	**17 04 53.1**	**+2.2**
NKC	**Novy Kostel**	**2.75**	**243**	*e*PN	**Pn**	**17 04 13.4**	**+0.9**
NKC				*e*PG	**Pb**	**17 04 18.1**	**+1.0**
NKC				*e*SG	**Sb**	**17 04 53.7**	**+2.4**
	comp=Z,28nm,0.4s						
KHC	**Kasperske Hory**	**2.96**	**216**	*e*PN	**Pn**	**17 04 15.9**	**+0.4**
KHC				*e*PG	**Pb**	**17 04 21.5**	**+0.6**
KHC				*e*SN	**Sn**	**17 04 50.6**	**-1.2**
KHC				*e*SG	**Sb**	**17 04 59.4**	**+1.8**
	comp=Z,14nm,0.6s						
CKRC	**Cesky Krumlov**	**3.00**	**205**	*e*PN	**Pn**	**17 04 16.7**	**+0.7**
CKRC				*e*PG	**Pb**	**17 04 21.5**	**0.0**
CKRC				*e*SG	**Sb**	**17 04 59.9**	**+1.2**
LANS	**Liptovska Anna**	**3.16**	**138**	*e*PG	**Pg**	**17 04 27.9**	**+0.2**
LANS				*e*SG	**Sg**	**17 05 07.6**	**-1.0**
GERES	**GERESS Array B**	**3.16**	**212**	Pn	**Pn**	**17 04 18.9**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=33,slow=13,SNR=13						
GERES				Pg	**Pb**	**17 04 25.2**	**+0.9**
	comp=Z,5.8nm,0.3s,baz=28,slow=18,SNR=70						
GERES				Lg	Lg	17 05 04.4	
	comp=Z,3.6nm,0.3s,baz=36,slow=27,SNR=8.6						
KOLL	**Kolacno**	**3.28**	**154**	*e*PG	**Pg**	**17 04 30.1**	**+0.2**
KOLL				*e*SG	**Sg**	**17 05 11.6**	**-0.8**
CONA	**Conrad Observa**	**3.63**	**184**	*i* Pn	**Pn**	**17 04 25.5**	**+0.8**
	comp=Z,0.7nm,0.2s						
CONA				*e*Sg	**Sg**	**17 05 22.9**	**-0.8**
	comp=Z,11nm,0.4s						
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**17 04 24.7**	**-0.3**
BSD				*i* S	**Sn**	**17 05 07.6**	**-1.3**
BSD				IAML		17 05 13.1	
	comp=Z,1.2nm,0.1s						
MOA	**Molln**	**3.92**	**200**	*i* Pn	**Pn**	**17 04 29.3**	**+0.7**
	comp=Z,0.6nm,0.1s,SNR=5.6						
MOA				Sg	**Sg**	**17 05 31.3**	**-1.7**
	comp=Z,13nm,0.7s						
ARSA	**Arzberg**	**4.33**	**187**	Sg	**Sg**	**17 05 46.5**	**+0.4**
	comp=Z,13nm,0.6s						
BLEU	**Blekinge**	**4.78**	**357**	*i* P	**Pn**	**17 04 42.2**	**+1.8**
BLEU				*i* S	**Sn**	**17 05 35.0**	**-1.3**
DEL	**Delary**	**5.13**	**345**	*i* P	**Pn**	**17 04 46.5**	**+1.3**
DEL				*i* S	**Sn**	**17 05 44.6**	**-0.5**
DEL				IAML		17 05 46.6	
	comp=Z,0.5nm,0.2s						
WTTA	**Wattenberg**	**5.24**	**217**	*e*Pn	**Pn**	**17 04 48.0**	**+1.1**
	comp=Z,1.9nm,0.3s						
WTTA				*e*Sg	**Sg**	**17 06 13.9**	**-1.5**
	comp=Z,2.6nm,0.3s						
FABU	**Falkenberg**	**5.85**	**341**	*i* P	**Pn**	**17 04 56.5**	**+1.5**
FABU				*i* S	**Sn**	**17 06 00.7**	**-2.0**
DAVOX	**Davos/Dischmat**	**6.34**	**224**	Lg	Lg	17 06 45.0	
	comp=Z,0.2nm,0.3s,baz=47,slow=19,SNR=1.6						
ONAU	**Onsala**	**6.38**	**338**	*i* S	**Sn**	**17 06 13.3**	**-2.6**
AKASG	**Malin Array Be**	**8.21**	**91**	Pn	**Pn**	**17 05 27.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=279,slow=13,SNR=2.3						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**17 07 44.4**	**-1.0**
	baz=199,slow=12,SNR=1.0						

*WEL **14** 17:11:23.9±0.3,42°.5N×2°.17'4E±5', h12km,MM3.0/24, ML3.1/26, MLv3.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=137.4*
*NOU **14** 17:11:24.0,42°.24S×174°.06E,h21km, MLv3.7/9, Off E. Coast of S. Island, NZ.*

ISC 14 17:11:23.6±1.2,42°.13S±0°.03×173°.95E±0°.03,h14km±9km, n77, σ1s30/93,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.41**	**353**	P	**Pg**	**17 11 31.7**	**-0.2**
KHZ	**Kahutara**	**0.42**	**226**	P	**Pb**	**17 11 33.7**	**+0.9**
KHZ				S	**Sn**	**17 11 40.8**	**-1.9**
KHZ	**Kahutara**	**0.42**	**226**	P	**Pb**	**17 11 33.9**	**+1.1**
CMWZ	**Cape Campbell**	**0.43**	**28**	P	**Pb**	**17 11 33.8**	**+0.8**
CMWZ				S	**Sb**	**17 11 41.4**	**+2.2**
TUWZ	**Tuamarina**	**0.70**	**360**	P	**Pg**	**17 11 37.0**	**-0.2**
THZ	**Tophouse**	**0.86**	**295**	P	**Pb**	**17 11 39.3**	**-1.0**
THZ				S	**Sb**	**17 11 49.7**	**-2.0**
TCW	**Tory Channel**	**0.95**	**15**	P	**Pb**	**17 11 41.5**	**-0.3**
TCW				S	**Sg**	**17 11 55.6**	**+1.3**
SNZO	**South Karori**	**0.99**	**35**	P	**Pn**	**17 11 43.3**	**+0.2**
BHW	**Baring Head**	**1.00**	**44**	P	**Pn**	**17 11 43.3**	**+0.2**
BHW				S	**Sn**	**17 11 58.5**	**+1.5**
NNZ	**Nelson**	**1.00**	**335**	P	**Pb**	**17 11 41.6**	**-1.1**
NNZ				S	**Sb**	**17 11 54.0**	**-1.8**
WEL	**Wellington**	**1.04**	**36**	P	**Pn**	**17 11 44.1**	**+0.3**
GVZ	**Greta Valley S**	**1.08**	**218**	P	**Pg**	**17 11 44.8**	**+0.4**
GVZ				S	**Sn**	**17 12 01.5**	**+2.5**
PLWZ	**Palliser**	**1.12**	**61**	P	**Pn**	**17 11 45.2**	**+0.2**
MRNZ	**Matariki Terra**	**1.15**	**309**	P	**Pn**	**17 11 44.5**	**-0.7**
MRNZ				S	**Sb**	**17 11 59.5**	**-0.5**
MSWZ	**Moikau Station**	**1.21**	**54**	P	**Pn**	**17 11 46.1**	**0.0**
MSWZ				S	**Sg**	**17 12 03.2**	**+0.7**
TKNZ	**Takaka Hill**	**1.32**	**326**	P	**Pn**	**17 11 47.3**	**-0.3**
CAW	**Cannon Point**	**1.32**	**40**	P	**Pn**	**17 11 47.7**	**+0.1**
DUWZ	**D'Urville Isla**	**1.32**	**359**	P	**Pn**	**17 11 47.4**	**-0.3**
DUWZ				S	**Sn**	**17 12 04.8**	**-0.3**
PAWZ	**Paruwai Farm**	**1.33**	**57**	P	**Pn**	**17 11 47.6**	**-0.2**
PAWZ				S	**Sb**	**17 12 06.3**	**+0.9**
LTZ	**Lake Taylor**	**1.40**	**242**	P	**Pn**	**17 11 49.1**	**+0.3**
LTZ				S	**Sn**	**17 12 07.1**	**0.0**
AMCZ	**Amberley**	**1.42**	**222**	P	**Pn**	**17 11 49.0**	**+0.1**
KIW	**Kapiti Island**	**1.46**	**30**	P	**Pn**	**17 11 49.9**	**+0.3**
KIW				S	**Sn**	**17 12 09.0**	**+0.6**
TRWZ	**Traveller**	**1.49**	**61**	P	**Pn**	**17 11 49.6**	**-0.4**
MTW	**Mount Morrison**	**1.52**	**51**	P	**Pn**	**17 11 49.9**	**-0.4**
MTW				S	**Sn**	**17 12 10.1**	**+0.2**
OGWZ	**Otaki Gorge**	**1.60**	**36**	P	**Pn**	**17 11 51.4**	**-0.1**
OGWZ				S	**Sn**	**17 12 12.2**	**+0.4**
DSZ	**Denniston Nort**	**1.64**	**283**	P	**Pn**	**17 11 52.8**	**+0.8**
DSZ				S	**Sb**	**17 12 14.6**	**+0.3**
QRZ	**Quartz Range**	**1.68**	**320**	P	**Pn**	**17 11 53.2**	**+0.6**
QRZ	**Quartz Range**	**1.68**	**320**	P	**Pn**	**17 11 53.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.70**	**44**	P	**Pn**	**17 11 52.4**	**-0.5**
OKCZ	**Okains Bay**	**1.72**	**202**	P	**Pn**	**17 11 53.2**	**0.0**
TMWZ	**Te Maipa**	**1.78**	**56**	P	**Pn**	**17 11 53.3**	**-0.6**
MQZ	**McQueen's Vall**	**1.84**	**211**	P	**Pn**	**17 11 53.9**	**-0.9**
OXZ	**Oxford**	**1.85**	**229**	P	**Pn**	**17 11 54.2**	**-0.7**
AKCZ	**Akaroa Harbour**	**1.90**	**203**	P	**Pn**	**17 11 55.4**	**-0.3**
MRZ	**Mangatainoka R**	**1.91**	**41**	P	**Pn**	**17 11 55.3**	**-0.5**
INZ	**Inchbonnie**	**1.95**	**251**	P	**Pn**	**17 11 56.8**	**+0.6**
RACZ	**Rakaia**	**2.08**	**219**	P	**Pn**	**17 11 57.2**	**-0.9**
BFZ	**Birch Farm**	**2.25**	**51**	P	**Pn**	**17 11 59.2**	**-1.2**
BFZ	**Birch Farm**	**2.25**	**51**	P	**Pn**	**17 11 59.3**	**-1.2**
WACZ	**Wakanui South**	**2.38**	**220**	P	**Pn**	**17 12 02.0**	**-0.2**
WAZ	**Wanganui**	**2.50**	**19**	P	**Pb**	**17 12 07.3**	**-0.9**
WVZ	**Waitaha Valley**	**2.55**	**247**	P	**Pn**	**17 12 05.2**	**+0.7**
TSZ	**Takapari Road**	**2.57**	**37**	P	**Pn**	**17 12 04.1**	**-0.7**
RPZ	**Rata Peaks**	**2.65**	**232**	P	**Pn**	**17 12 05.2**	**-0.7**
RPZ	**Rata Peaks**	**2.65**	**232**	P	**Pn**	**17 12 05.8**	**-0.2**
LREZ	**Lake Rotokare**	**2.69**	**8**	P	**Pb**	**17 12 10.4**	**-1.0**
ARCZ	**Arundel**	**2.73**	**227**	P	**Pn**	**17 12 06.6**	**-0.4**
PNHZ	**Pukenui**	**2.79**	**38**	P	**Pn**	**17 12 07.0**	**-0.9**
KHEZ	**Kahui Hut**	**2.83**	**1**	P	**Pb**	**17 12 12.3**	**-1.7**
NEZ	**North Egmont**	**2.85**	**2**	P	**Pb**	**17 12 13.7**	**-0.7**
NBEZ	**Newall Road No**	**2.86**	**359**	P	**Pb**	**17 12 13.2**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.92**	**245**	P	**Pn**	**17 12 10.5**	**+0.9**
PKE	**Pukeiti**	**2.93**	**1**	P	**Pn**	**17 12 13.2**	**+3.4**
PKVZ	**Pokaka**	**3.03**	**21**	P	**Pb**	**17 12 15.5**	**-1.8**
MOVZ	**Moawhango**	**3.04**	**27**	P	**Pb**	**17 12 16.4**	**-1.2**
VRZ	**Vera Road**	**3.06**	**12**	P	**Pn**	**17 12 14.0**	**+2.4**
WNVZ	**Wahianoa**	**3.06**	**25**	P	**Pn**	**17 12 12.9**	**+1.1**
TRVZ	**Turoa**	**3.08**	**24**	P	**Pb**	**17 12 16.6**	**-1.7**
BHHZ	**Black Hill Sta**	**3.08**	**32**	P	**Pn**	**17 12 11.9**	**0.0**
TMZ	**Timaru**	**3.12**	**223**	P	**Pn**	**17 12 11.6**	**-0.7**
FWVZ	**Far West T-bar**	**3.12**	**24**	P	**Pb**	**17 12 17.2**	**-1.7**
TUVZ	**Tukino**	**3.14**	**25**	P	**Pn**	**17 12 13.7**	**+0.9**
NGZ	**Ngauruhoe**	**3.21**	**24**	P	**Pb**	**17 12 17.9**	**-2.5**
OTVZ	**Oturere**	**3.24**	**24**	P	**Pb**	**17 12 19.3**	**-1.7**
NNVZ	**North Ngauruho**	**3.25**	**24**	P	**Pn**	**17 12 16.3**	**+2.0**
ETVZ	**East Tongariro**	**3.27**	**25**	P	**Pn**	**17 12 18.2**	**+3.6**
TMVZ	**Te Maari**	**3.29**	**25**	P	**Pn**	**17 12 17.1**	**+2.2**
FOZ	**Fox Glacier**	**3.35**	**244**	P	**Pn**	**17 12 16.2**	**+0.7**
BKZ	**Black Stump Fm**	**3.54**	**34**	P	**Pn**	**17 12 16.7**	**-1.4**
BKZ	**Black Stump Fm**	**3.54**	**34**	P	**Pn**	**17 12 18.5**	**+0.4**
LBZ	**Lake Benmore**	**3.56**	**229**	P	**Pn**	**17 12 18.4**	**0.0**
HIZ	**Hauiti**	**3.67**	**11**	P	**Pn**	**17 12 23.4**	**+3.4**
HIZ	**Hauiti**	**3.67**	**11**	P	**Pn**	**17 12 21.6**	**+1.6**
ODZ	**Otahua Downs**	**3.78**	**218**	P	**Pn**	**17 12 20.4**	**-1.0**
ODZ	**Otahua Downs**	**3.78**	**218**	P	**Pn**	**17 12 20.5**	**-0.9**
TLZ	**Tolley Road**	**3.98**	**18**	P	**Pb**	**17 12 29.6**	**-4.0**
URZ	**Urewera**	**4.56**	**33**	P	**Pn**	**17 12 33.5**	**+1.4**

*ISK **14** 17:13:10.4,36°.37N×28°.61E,h1km, ML3.2/25*
*DDA **14** 17:13:11.3±0.0,36°.36N×28°.61E,h7km±2km, ML2.7*
*NIC **14** 17:13:12.9±0.0,36°.30N×28°.69E,h25km±1km, MI3.1/1*

ISC 14 17:13:11.5±1.1,36°.35N±0°.03×28°.60E±0°.02,h8km±9km, n48, σ0s91/69,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.47**	**5**	PG	**Pg**	**17 13 19.9**	**-0.8**
DALY				SG	**Sg**	**17 13 27.1**	**+0.2**
FETY	**Fethiye**	**0.48**	**53**	PG	**Pg**	**17 13 20.5**	**-0.4**
FETY				SG	**Sb**	**17 13 27.9**	**-1.6**
FETY	**Fethiye**	**0.48**	**53**	P	**Pg**	**17 13 20.3**	**-0.6**
FETY				S	**Sg**	**17 13 27.7**	**+0.5**
TURN	**Turunc**	**0.52**	**326**	PG	**Pg**	**17 13 21.4**	**-0.1**
TURN				SG	**Sb**	**17 13 29.0**	**-1.4**
TURN	**Turunc**	**0.52**	**326**	P	**Pg**	**17 13 21.2**	**-0.3**
TURN				S	**Sb**	**17 13 29.1**	**-1.4**
TURN				*i* AML	AML	17 13 30.0	
	comp=N,688nm,0.2s						
TURN				*i* AML	AML	17 13 33.0	
	comp=E,281nm,0.5s						
KSL	**Kastellorizon**	**0.81**	**104**	P	**Pb**	**17 13 27.4**	**-0.5**
KSL				S	**Sb**	**17 13 39.4**	**+0.5**
AKAS	**Kas**	**0.82**	**98**	PG	**Pg**	**17 13 27.3**	**+0.1**
AKAS				SG	**Sb**	**17 13 39.4**	**+0.2**
AKAS	**Kas**	**0.82**	**98**	P	**Pg**	**17 13 27.4**	**+0.1**
AKAS				S	**Sn**	**17 13 41.1**	**-0.6**
AKAS				*i* AML	AML	17 13 43.0	
	comp=E,292nm,0.6s						
AKAS				*i* AML	AML	17 13 44.0	
	comp=N,601nm,0.8s						
CAME	**Cameli-Denizli**	**0.82**	**43**	PG	**Pg**	**17 13 26.4**	**-0.9**
CAME				SG	**Sb**	**17 13 38.8**	**-0.5**
YER	**Yerkesik**	**0.83**	**342**	PG	**Pg**	**17 13 27.1**	**-0.3**
DAT	**Datca**	**0.91**	**295**	PG	**Pg**	**17 13 28.7**	**-0.3**
DAT				SG	**Sb**	**17 13 42.2**	**+0.3**
DAT	**Datca**	**0.91**	**295**	P	**Pg**	**17 13 28.6**	**-0.4**
DAT				S	**Sn**	**17 13 43.1**	**-0.9**
DAT				*i* AML	AML	17 13 45.0	
	comp=E,409nm,0.2s						
DAT				*i* AML	AML	17 13 45.0	
	comp=N,310nm,0.5s						
MULA	**Mugla, Merkez-**	**0.94**	**346**	P	**Pb**	**17 13 29.8**	**-0.2**
MULA				*i* AML	AML	17 13 49.0	
	comp=E,182nm,0.5s						
MULA				*i* AML	AML	17 13 51.0	
	comp=N,106nm,0.7s						
CAEL	**Denizli, Camel**	**0.96**	**36**	P	**Pg**	**17 13 29.1**	**-1.0**
CAEL				S	**Sn**	**17 13 46.2**	**+0.8**
CAEL				*i* AML	AML	17 13 49.0	
	comp=N,447nm,0.5s						
CAEL				*i* AML	AML	17 13 56.0	
	comp=E,416nm,0.5s						
ELL	**Elmali**	**1.12**	**69**	PN	**Pg**	**17 13 32.6**	**-0.5**
ELL	**Elmali**	**1.12**	**69**	P	**Pg**	**17 13 32.4**	**-0.6**
ELL				S	**Sn**	**17 13 48.6**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.15**	**12**	P	**Pg**	**17 13 32.7**	**-0.8**
TAVA				S	**Sn**	**17 13 51.6**	**+1.8**
TAVA				*i* AML	AML	17 13 53.0	
	comp=N,300nm,0.3s						
TAVA				*i* AML	AML	17 13 54.0	
	comp=E,350nm,0.3s						
MLSB	**Milas**	**1.16**	**325**	PN	**Pg**	**17 13 33.4**	**-0.3**
GOLH	**Golhisar**	**1.18**	**41**	P	**Pg**	**17 13 32.8**	**-1.3**
GOLH				S	**Sn**	**17 13 51.3**	**+0.8**
GOLH				*i* AML	AML	17 13 55.0	
	comp=E,348nm,0.8s						
GOLH				*i* AML	AML	17 13 55.0	
	comp=N,354nm,0.9s						
BDRM	**Kayabasi**	**1.18**	**308**	P	**Pg**	**17 13 33.7**	**-0.3**
BDRM				S	**Sn**	**17 13 50.0**	**-0.4**
BDRM				*i* AML	AML	17 13 50.0	
	comp=N,229nm,0.6s						
BDRM				*i* AML	AML	17 13 55.0	
	comp=E,202nm,0.6s						
BODT	**Bodrum**	**1.26**	**305**	PN	**Pn**	**17 13 35.1**	**-0.3**
KOSK	**Kos Island**	**1.37**	**288**	PN	**Pb**	**17 13 37.3**	**0.0**
KARP	**Karpathos**	**1.42**	**236**	PN	**Pb**	**17 13 38.1**	**0.0**
KARP	**Karpathos**	**1.42**	**236**	P	**Pn**	**17 13 37.2**	**-0.3**
KARP				S	**Sn**	**17 13 56.8**	**+0.4**
KARP				AML	AML	17 14 00.2	
	0.8nm,0.4s						
KARP				AML	AML	17 14 00.2	
	0.8nm,0.4s						
KARP				AML	AML	17

3.3nm,0.3s,baz=288,slow=19,SNR=4.3
AFI S S 17 31 45.3 -25
2.4nm,0.3s,baz=162,slow=20,SNR=3.9
DZM Mont Dzumac 14.55 283 P **Pn** **17 29 48.7 -0.6**
0.1nm,0.3s,baz=121,slow=23,SNR=2.6
NOUC Port Laguerre 14.66 283 P Pn 17 29 59.1 +8.6
DVP Devils Point 15.13 301 P **Pn** **17 30 01.3 +5.1**
QRZ Quartz Range 16.45 205 P **P** **17 30 10.5 +0.6**
RPZ Rata Peaks 19.49 204 S **S** **17 34 07.5 -1.8**
0.8nm,0.3s,baz=314,slow=22,SNR=9.3
LHI Lord Howe Isla 20.53 250 P Pn 17 30 59.3 -0.2
ASAR Alice Springs 43.25 263 P **P** **17 34 12.2 +0.6**
0.3nm,0.4s,baz=91,slow=6.9,SNR=9.3
WRA Warramunga Arr 43.85 268 P **P** **17 34 16.4 0.0**
0.3nm,0.5s,baz=102,slow=6.2,SNR=14
KSRS Korea Array 81.02 319 P **P** **17 38 21.1 -0.2**
0.9nm,0.6s,baz=128,slow=5.8,SNR=6.1
PETK Petropavlovsk- 81.72 346 P **P** **17 38 23.8 -0.8**
2.0nm,0.8s,baz=106,slow=8.1,SNR=6.3
CMAR Chiang Mai Arr 91.79 290 P **P** **17 39 16.3 +2.0**
0.4nm,0.4s,baz=128,slow=4.6,SNR=5.5
FINES FINESS Array B 141.13 342 PKhKP PKPpre 17 45 26.6
1.8nm,0.9s,baz=27,slow=4.7,SNR=3.5
NB2 NORSAR Subarra144.60 352 PKP **PKPab** **17 45 38.6 -1.2**
comp=Z,1.2nm,0.6s,baz=13,slow=3.4
NOA NORSAR Array B144.60 352 PKP **PKPab** **17 45 38.6 -1.2**
comp=Z,1.6nm,0.6s,baz=6.7,slow=2.3,SNR=8.6
AKASG Malin Array Be 147.76 327 PKPbc **PKPbc** **17 45 48.0 -1.2**
comp=Z,0.4nm,0.3s,baz=44,slow=4.5,SNR=6.8
BRTR Keskin Array B 150.21 305 PKPbc **PKiKP** **17 45 58.0 +1.3**
comp=Z,0.9nm,0.5s,baz=96,slow=2.4,SNR=1.4

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*NNC **14** 17:26:47.8±1.6,37.2°27N×58.2°55E,h0km,mb4.2, Error ellipse: s-maj=22.2km s-min=5.8km az=46.0*
*TEH **14** 17:26:48.0,37.2°22N×58.2°38E,h6km,ML4.2*
*IDC **14** 17:26:48.1±0.9,37.2°21N×58.2°19E,h0km,mb3.9/13, mb1 4.0/20,mb1mx3.9/41,mbtmp4.0/20,ML2.6/4,MS3.7/44, Ms1 3.7/44,ms1mx3.5/86,Error ellipse: s-maj=12.5km s-min=10.6km az=66.0*
*NEIC **14** 17:26:50.1±1.9,37.3°35N±0.0°04×58.4°4E±0.0°1,h10km±1km, mb4.1/15,mb_Lg4.3(TEH),Error ellipse: s-maj=15.6km s-min=3.4km az=245.0*
*MOS **14** 17:26:50.7±2.0,37.4°43N×58.3°31E,h25km,mb4.3/11,Error ellipse: s-maj=5.8km s-min=4.7km az=118.4*
ISC 14 17:26:50.3±0.7,37.33N±0.03×58.41E±0.03,h10km±4km, n253,σ2931/238,mb4.2/35,MS3.7/38,28C-15D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISFR	**Sfrayin**	**0.43**	**230**	*e*Pg		**Pg**		**17 26 56.6**	**-2.2**
ISFR				*e*				17 27 06.0	
	comp=Z,1093μm,0.3s								
GEYT	**Alibeck**	**0.64**	**339**	Pg		**Pg**		**17 27 02.3**	**-0.5**
	comp=Z,328nm,0.3s,baz=161,slow=20,SNR=529								
GEYT				Lg		Lg		17 27 12.9	
	comp=Z,3μm,0.3s,baz=175,slow=36,SNR=56								
GEYT	**Alibeck**	**0.64**	**339**	Pg		**Pg**		**17 27 02.1**	**-0.6**
GEYT				Sg		**Sb**		**17 27 10.9**	**-1.8**
GYA0	**ALIBECK ARRAY**	**0.64**	**339**	P		**Pg**		**17 27 02.1**	**-0.6**
GYA0				S		**Sb**		**17 27 12.7**	**0.0**
GYA0B	**ALIBECK ARRAY**	**0.64**	**339**	Pg		**Pg**		**17 27 02.2**	**-0.6**
GYA0B				Sg		**Sb**		**17 27 11.5**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**0.64**	**339**	⇑P		**Pg**		**17 27 02.1**	**-0.6**
GYA0B				⇑S		**Sb**		**17 27 12.8**	**+0.1**
IAKL	**Akhelmad**	**0.78**	**159**	*e*Sg		**Sg**		**17 27 12.5**	**-3.1**
IAKL				*e*Pg		**Pg**		**17 27 02.5**	**-2.9**
IAKL				*e*				17 27 19.5	
	comp=Z,11μm,0.4s								
BJRD	**Bojnurd**	**0.88**	**295**	*e*Pg		**Pg**		**17 27 05.9**	**-1.3**
IPAY	**Payeh**	**1.00**	**152**	*e*				17 27 24.7	
	comp=Z,31μm,0.2s								
IPAY				*e*Pg		**Pg**		**17 27 06.9**	**-2.6**
IKRD	**Kardeh**	**1.05**	**122**	*e*Sg		**Sg**		**17 27 23.9**	**-0.2**
IKRD				*e*Pg		**Pg**		**17 27 08.7**	**-1.8**
IKRD				*e*				17 27 30.8	
	comp=Z,97μm,0.4s								
SBZV	**Sabzevar**	**1.14**	**214**	*e*Pg		**Pn**		**17 27 09.5**	**-3.0**
IMOG	**Moghan**	**1.43**	**148**	*e*Pn		**Pn**		**17 27 14.0**	**-2.7**
IMOG				*e*				17 27 38.4	
	comp=Z,59μm,0.5s								
IMYA	**Miami**	**1.68**	**125**	*e*Pn		**Pn**		**17 27 18.5**	**-1.5**
MRVT	**Maraveh tapeh**	**1.87**	**281**	*e*Pn		**Pn**		**17 27 23.1**	**+0.6**
JRKH	**Jarkhoshk**	**2.11**	**132**	*e*Pn		**Pn**		**17 27 25.6**	**-0.3**
SHRO	**Shahrood**	**2.35**	**236**	*e*Pn		**Pn**		**17 27 28.4**	**-0.7**
IMND	**Minoodasht**	**2.39**	**269**	*e*Pn		**Pn**		**17 27 30.8**	**+1.2**
TBJM	**Torbat-e-JAM**	**2.58**	**142**	*e*Pn		**Pn**		**17 27 32.5**	**+0.2**
TNSJ	**Nastanj**	**3.67**	**204**	*e*Pn		**Pn**		**17 27 47.2**	**0.0**
TNSJ				*e*				17 28 56.7	
	comp=Z,5μm,1.1s								
IGLO	**Ghaloghah**	**3.76**	**259**	*e*Pn		**Pn**		**17 27 50.2**	**+1.6**
TABS	**Tabas**	**3.82**	**196**	*e*Pn		**Pn**		**17 27 49.3**	**0.0**
TKDS	**Koohdasht(Taba**	**3.85**	**196**	*e*Pn		**Pn**		**17 27 50.4**	**+0.6**
TKDS				*e*				17 29 18.3	
	comp=Z,2μm,0.8s								
AFRZ	**Afriz**	**3.93**	**173**	*e*Pn		**Pn**		**17 27 51.0**	**+0.1**
IANJ	**Anjilo**	**4.07**	**244**	*e*Pn		**Pn**		**17 27 53.8**	**+0.9**
IANJ				*e*				17 29 09.5	
	comp=Z,4μm,1.1s								
IMON	**Monand**	**4.26**	**166**	*e*Pn		**Pn**		**17 27 56.3**	**+0.8**
HRA	**Herat**	**4.28**	**132**	Pn		**Pn**		**17 27 55.7**	**-0.1**
ISHM	**Shahmirzad**	**4.39**	**251**	*e*Pn		**Pn**		**17 27 59.1**	**+1.8**
ISHM				*e*				17 29 30.6	
	comp=Z,4μm,0.6s								
ITEG	**Tejag**	**4.43**	**176**	*e*Pn		**Pn**		**17 27 58.0**	**+0.2**
ITEG				*e*				17 29 27.8	
	comp=Z,2μm,0.9s								
TPRV	**Parvadeh(Tabas**	**4.52**	**199**	*e*Pn		**Pn**		**17 27 59.2**	**+0.3**
TPRV				*e*				17 29 24.0	
	comp=Z,2μm,0.7s								
IDAH	**Dahanechah**	**4.74**	**165**	*e*Pn		**Pn**		**17 28 02.0**	**-0.1**
IDAH				*e*				17 29 11.3	
	comp=Z,1μm,0.7s								
ILAS	**Lasjerd**	**4.81**	**248**	*e*Pn		**Pn**		**17 28 04.2**	**+1.2**
ILAS				*e*				17 29 35.2	
	comp=Z,2μm,0.9s								
IFIR	**Firoozkooh**	**4.86**	**251**	*e*Pn		**Pn**		**17 28 04.8**	**+1.1**
IPRN	**Peran**	**4.99**	**259**	*e*Pn		**Pn**		**17 28 07.4**	**+2.0**
BSRN	**Basiran**	**5.39**	**173**	*e*Pn		**Pn**		**17 28 10.3**	**-0.6**
DAMV	**Damavand**	**5.46**	**254**	*e*Pn		**Pn**		**17 28 15.5**	**+3.5**
ANAR	**Anarak**	**5.63**	**224**	*e*Pn		**Pn**		**17 28 14.0**	**-0.2**
ISFB	**Sefidab**	**5.82**	**241**	*e*Pn		**Pn**		**17 28 17.5**	**+0.7**
YZKH	**Yazd**	**5.84**	**214**	*e*Pn		**Pn**		**17 28 17.3**	**+0.2**
IVRN	**Varamin**	**5.88**	**249**	*e*Pn		**Pn**		**17 28 19.0**	**+1.3**
CHTH	**Charan**	**6.03**	**259**	*e*Pn		**Pn**		**17 28 23.4**	**+3.6**
ICHK	**Chekchek**	**6.05**	**214**	*e*Pn		**Pn**		**17 28 20.6**	**+0.5**
NHDN	**Nehbandan**	**6.08**	**167**	*e*Pn		**Pn**		**17 28 21.0**	**+0.6**
KRSH	**Karshahi**	**6.11**	**239**	*e*Pn		**Pn**		**17 28 21.7**	**+0.9**
THKV	**Tehran--Karaj**	**6.22**	**259**	*e*Pn		**Pn**		**17 28 22.9**	**+0.6**
QALM	**Alamut, Qazvin**	**6.28**	**264**	*e*Pn		**Pn**		**17 28 23.6**	**+0.3**
GHVR	**GHOM**	**6.43**	**246**	*e*Pn		**Pn**		**17 28 26.2**	**+1.0**
IQOM	**Qom**	**6.44**	**249**	*e*Pn		**Pn**		**17 28 26.6**	**+1.2**
NASN	**Na'in**	**6.44**	**227**	*e*Pn		**Pn**		**17 28 25.1**	**-0.5**
ISAD	**Sadrabad**	**6.66**	**217**	*e*Pn		**Pn**		**17 28 28.8**	**+0.3**
IZEF	**Zefreh**	**6.66**	**230**	*e*Pn		**Pn**		**17 28 29.1**	**+0.6**
IMEH	**Mehriz**	**6.70**	**209**	*e*Pn		**Pn**		**17 28 29.3**	**+0.2**
QAMS	**Qamsar**	**6.75**	**240**	*e*Pn		**Pn**		**17 28 29.6**	**-0.1**
IKLH	**Kolahrood**	**6.87**	**236**	*e*Pn		**Pn**		**17 28 32.0**	**+0.7**
IRAZ	**Razeghan**	**7.10**	**257**	*e*Pn		**Pn**		**17 28 36.1**	**+1.6**
KHGB	**Koh Gabri**	**7.12**	**194**	*e*Pn		**Pn**		**17 28 36.1**	**+1.3**
IGAR	**Gharneh**	**7.18**	**229**	*e*Pn		**Pn**		**17 28 36.3**	**+0.7**
QABG	**Abgarm-Qazvin**	**7.29**	**260**	*e*Pn		**Pn**		**17 28 37.8**	**+0.7**
ASAO	**Ashtian**	**7.34**	**250**	*e*Pn		**Pn**		**17 28 37.8**	**-0.1**
IRAM	**Ramesheh**	**7.42**	**224**	*e*Pn		**Pn**		**17 28 39.3**	**+0.4**
CHMN	**Cheshme madani**	**7.49**	**186**	*e*Pn		**Pn**		**17 28 40.0**	**+0.1**
LKRN	**Lenkeran, Azer**	**7.72**	**283**	P		**Pn**		**17 28 41.9**	**-0.9**
KHMZ	**Khomeyn**	**7.76**	**245**	*e*Pn		**Pn**		**17 28 43.6**	**0.0**
ZNJK	**Zanjan**	**7.81**	**268**	*e*Pn		**Pn**		**17 28 45.8**	**+1.6**
ZHSF	**Zahedan**	**7.95**	**165**	*e*Pn		**Pn**		**17 28 46.8**	**+0.7**
KBAM	**BAM**	**8.17**	**180**	*e*Pn		**Pn**		**17 28 49.9**	**+0.8**
GRMI	**Germi**	**8.42**	**283**	*e*Pn		**Pn**		**17 28 51.0**	**-1.5**
KLNJ	**Kolanjah**	**8.46**	**224**	*e*Pn		**Pn**		**17 28 54.5**	**+1.2**
ISRB	**Sarab**	**8.54**	**277**	*e*Pn		**Pn**		**17 28 54.5**	**+0.2**
CHGR	**Chuyangaron**	**8.59**	**78**	Pn		**Pn**		**17 28 53.8**	**-1.1**
MNGR	**Mingechevir, A**	**9.45**	**295**	P		**Pn**		**17 29 07.7**	**+1.2**
SEKA	**Sheki**	**9.51**	**297**	P		**Pn**		**17 29 07.0**	**-0.4**
GAR	**Garm**	**9.53**	**76**	Pn		**Pn**		**17 29 07.2**	**-0.5**
GANJ	**Ganja**	**9.97**	**293**	P		**Pn**		**17 29 12.2**	**-1.5**
MAK	**Makhachkala**	**10.06**	**307**	*e*P		Pn		17 29 06.3	-8.5
MAK				*e*		pmax	pmax		
	comp=Z,286nm,1.5s								
MAK						MLR	MLR		
	comp=Z,330nm,14.0s								
BTK	**Batken**	**10.08**	**71**	P		**Pn**		**17 29 14.9**	**-0.3**
BTK	**Batken**	**10.08**	**71**	Pn		**Pn**		**17 29 14.9**	**-0.3**
DDFL	**Dedoflistskaro**	**10.36**	**297**	P		**Pn**		**17 29 19.3**	**+0.3**
DRK	**Karamyk**	**10.73**	**74**	Pn		**Pn**		**17 29 24.5**	**+0.2**
KK02	**Karatay Array**	**10.90**	**54**	⇑Pn		**Pn**		**17 29 24.9**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=240,slow=15								
KK02				⇑Sn		**Sn**		**17 31 23.3**	**-5.1**
	comp=Z,6.5nm,0.6s,baz=238,slow=24								
KKAR	**Karatay Array**	**10.90**	**54**	P		**Pn**		**17 29 25.7**	**-0.7**
KKAR	**Karatay Array**	**10.90**	**54**			**Pn**		**17 29 25.7**	**-0.7**
GNI	**Garni**	**11.04**	**289**	Pn		**Pn**		**17 29 27.0**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=66,slow=5.4,SNR=8.2								
GNI						LR	LR	17 35 18.5	
	comp=Z,164nm,18.3s,baz=87,slow=47								
GNI	**Garni**	**11.04**	**289**	*ce*P		**Pn**		**17 29 28.0**	**-0.4**
GNI						pmax	pmax		
	comp=Z,17nm,1.0s								
GNI	**Garni**	**11.04**	**289**	Pn		**Pn**		**17 29 27.8**	**-0.6**
AB31	**Akbulak array**	**11.97**	**5**	*i* P		**Pn**		**17 29 39.5**	**-1.5**
AB31								17 31 49.9	
AB31	**Akbulak array**	**11.97**	**5**	Pn		**Pn**		**17 29 39.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=183,slow=13,SNR=46								
AB31				⇓Sn		**Sn**		**17 31 49.9**	**-4.6**
	comp=Z,11nm,0.8s,baz=151,slow=35,SNR=5.3								
ABKAR	**Akbulak array**	**11.97**	**5**	Pn		**Pn**		**17 29 38.4**	**-2.5**
ABKAR	**Akbulak array**	**11.97**	**5**	Pn		**Pn**		**17 29 39.1**	**-1.9**
ZEI	**Tsey**	**12.37**	**301**	*e*P		**Pn**		**17 29 45.4**	**-1.3**
ZEI				*e*		pmax	pmax		
	comp=Z,4.0nm,0.7s								
NIL	**Nilore**	**12.64**	**102**	P		**Pn**		**17 29 50.0**	**-0.2**
NIL	**Nilore**	**12.64**	**102**	Pn		**Pn**		**17 29 50.0**	**-0.2**
NCK	**Nalchik**	**12.85**	**303**	*i* P		**Pn**		**17 29 51.5**	**-1.5**
AKTO	**Aktyubinsk**	**13.10**	**359**	Pn		**Pn**		**17 29 55.4**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=173,slow=8.8,SNR=14								
AKTO						Sn	**Sn**	**17 32 16.8**	**-5.4**
	comp=Z,1.0nm,0.3s,baz=91,slow=22,SNR=3.8								
AKTO						LR	LR	17 35 53.1	
	comp=Z,374nm,19.1s,baz=168,slow=41								
AKTO	**Aktyubinsk**	**13.10**	**359**	⇓Pn		**Pn**		**17 29 53.3**	**-3.1**
	comp=Z,16nm,0.8s								
AKTO				⇑Sn		**Sn**		**17 32 16.2**	**-6.0**
	comp=Z,11nm,0.5s								
NEY	**Neytrino**	**13.35**	**301**	*i* P		**Pn**		**17 30 00.0**	**+0.1**
KBZ	**Khabaz**	**13.41**	**303**	Pn		**Pn**		**17 29 57.7**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=113,slow=9.0,SNR=13								
KBZ	**Khabaz**	**13.41**	**303**	*ce*P		**Pn**		**17 29 57.4**	**-3.2**
PYA1	**Pyatigorsk**	**13.41**	**305**	*i* P		**Pn**		**17 29 57.8**	**-2.9**
AAK	**Ala-Archa**	**13.42**	**62**	Pn		**Pn**		**17 29 60.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=241,slow=2.5,SNR=14								
AAK						Sn	**Sn**	**17 32 28.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=24,slow=17,SNR=4.9								
AAK						LR	LR	17 36 05.5	
	comp=Z,250nm,20.3s,baz=264,slow=41								
AAK	**Ala-Archa**	**13.42**	**62**	*ce*P		**Pn**		**17 30 01.2**	**+0.2**
AAK						pmax	pmax		
	comp=Z,3.0nm,0.6s								
AAK	**Ala-Archa**	**13.42**	**62**	Pn		**Pn**		**17 29 58.7**	**-2.3**
SHA1	**Shidzhatmaz**	**13.57**	**303**	*i* P		**Pn**		**17 30 01.6**	**-1.5**
KIV	**Kislovodsk**	**13.64**	**304**	*e*P		**Pn**		**17 30 02.7**	**-1.1**
KIV				*e*S		**Sn**		**17 32 33.5**	**-1.9**
KIV						pmax	pmax		
	comp=Z,14nm,1.0s								
KIV						MLR	MLR		
	comp=Z,41nm,13.0s								
KIV	**Kislovodsk**	**13.64**	**304**			**Pn**		**17 30 01.4**	**-2.5**
GOF	**Gofitskoye**	**13.89**	**309**	⇑*e*P		**Pn**		**17 30 04.0**	**-3.2**
KSH	**Kashi**	**13.95**	**76**	P		Pn		17 30 02.9	-5.2
KSH						pmax	pmax		
	comp=Z,5.0nm,0.5s								
KSH						LR	LR		
	comp=Z,700nm,13.3s								
KSH						LR	LR		
	comp=Z,490nm,9.8s								
KSH						LR	LR		
	comp=Z,330nm,14.0s								
WSAR	**Wadi Sarin**	**14.05**	**179**			LR	LR	17 36 14.6	
	comp=Z,87nm,18.7s,baz=326,slow=41								
TKM2	**Tokmak 2**	**14.28**	**62**	P		**P**		**17 30 23.5**	**+3.4**
TKM2	**Tokmak 2**	**14.28**	**62**	⇓Pn		**Pn**		**17 30 10.2**	**-2.6**
	comp=Z,3.1nm,0.8s								
BOOM	**Boomskoye usch**	**14.40**	**64**	P		**Pn**		**17 30 13.1**	**-1.3**
BOOM	**Boomskoye usch**	**14.40**	**64**	Pn		**Pn**		**17 30 13.1**	**-1.3**
OTUK	**Ortayu**	**14.93**	**39**	P		**Pn**		**17 30 18.4**	**-2.9**
OTUK	**Ortayu**	**14.93**	**39**	⇑Pn		**Pn**		**17 30 18.4**	**-2.9**
	comp=Z,12nm,1.1s								
KDJ	**Kajisay**	**15.21**	**66**	P		**Pn**		**17 30 24.2**	**-1.1**
KDJ						pmax	pmax		
	comp=Z,10.0nm,1.1s								
KDJ	**Kajisay**	**15.21**	**66**	Pn		**Pn**		**17 30 24.2**	**-1.1**
KDJ						IAmb	IAmb	17 30 40.4	
	comp=Z,10nm,1.1s								
TARG	**Taragay, Kyrgy**	**15.59**	**68**	Pn		**Pn**		**17 30 28.2**	**-2.3**
BELG	**Belogornoye**	**16.86**	**337**	Pn		**Pn**		**17 30 43.1**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=187,slow=3.9,SNR=7.2								
BELG						Sn	Sn	17 33 40.4	-13
	comp=Z,0.3nm,0.3s,baz=186,slow=20,SNR=1.4								
BELG						LR	LR	17 39 26.0	
	comp=Z,209nm,19.8s,baz=129,slow=45								
BELG	**Belogornoye**	**16.86**	**337**	*i* P		**Pn**		**17 30 42.4**	**-3.8**
BELG						pmax	pmax		
	comp=Z,6.0nm,0.9s								
PDGK	**Podgornoye**	**17.14**	**63**	⇑Pn		**Pn**		**17 30 49.5**	**-0.5**
	comp=Z,11nm,1.2s								
ANN	**Anapa**	**17.46**	**302**	*e*P		**Pn**		**17 30 49.6**	**-4.2**
ANN				*e*S		**Sn**		**17 34 02.2**	**-5.9**
ANN						pmax	pmax		
	comp=Z,40nm,0.9s								
RAYN	**Ar Rayn**	**17.67**	**222**	P		**Pn**		**17 30 55.1**	**-1.6**
RAYN						pmax	pmax		
	comp=Z,18nm,1.5s								
RAYN	**Ar Rayn**	**17.67**	**222**	Pn		**Pn**		**17 30 55.1**	**-1.6**
RAYN						IAmb	IAmb	17 30 59.6	
	comp=Z,18nm,1.5s								
BRVK	**Borovoye**	**17.77**	**24**	*ce*P		**Pn**		**17 30 57.0**	**-0.7**
BRVK						pmax	pmax		
	comp=Z,25nm,1.3s								
BRVK	**Borovoye**	**17.77**	**24**			**Pn**		**17 30 57.0**	**-0.7**
BVAR	**Borovoye Array**	**17.78**	**24**	P		**P**		**17 30 57.2**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=223,slow=21,SNR=16								
VRH	**Novokhopyorsk**	**18.24**	**325**	*e*P		**P**		**17 31 04.8**	**+1.1**
VRH						pmax	pmax		
	comp=Z,8.0nm,0.6s								
ARU	**Arti**	**19.11**	**0**	P		**P**		**17 31 11.8**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=184,slow=10,SNR=3.0								
ARU						S	**Sn**	**17 34 38.2**	**-10**
	comp=Z,0.0nm,0.3s,baz=323,slow=22,SNR=5.5								
ARU						LR	LR	17 39 08.8	
	comp=Z,82nm,19.8s,baz=276,slow=38								
ARU	**Arti**	**19.11**	**0**	*d*P		**P**		**17 31 12.5**	**-0.6**
ARU						S	**S**	**17 34 47.1**	**-2.6**
ARU						pmax	pmax		
	comp=Z,9.0nm,1.3s								
ARU	**Arti**	**19.11**	**0**	P		**P**		**17 31 12.4**	**-0.7**
ARU						IAmb	IAmb	17 31 29.2	
	comp=Z,8.0nm,0.9s								
MMAI	**Mount Meron Ar**	**19.28**	**264**			LR	LR	17 38 32.2	
	comp=Z,81nm,21.6s,baz=237,slow=37								
BRTR	**Keskin Array B**	**19.51**	**285**	P		**Pn**		**17 31 19.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=97,slow=8.8,SNR=5.7								
BRTR						LR	LR	17 40 55.4	
	comp=Z,91nm,18.4s,baz=92,slow=44								
BRTR	**Keskin Array B**	**19.51**	**285**	*i* P		**Pn**		**17 31 20.7**	**+1.6**
BRTR						pmax	pmax		
	comp=Z,3.0nm,0.9s								
SVE	**Sverdlovsk**	**19.56**	**4**	*e*P		**Pn**		**17 31 18.1**	**-1.3**
SVE				*e*S		**Sn**		**17 34 51.1**	**-7.7**
KURBB	**Kurchatov Arra**	**19.57**	**41**	P		**Pn**		**17 31 20.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=241,slow=12,SNR=26								
KURBB						S	**S**	**17 35 00.5**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=227,slow=27,SNR=1.6								
KURBB						LR	LR	17 39 24.3	
	comp=Z,119nm,21.5s,baz=224,slow=38								
KURK	**Kurchatov**	**19.67**	**41**	*ce*P		**Pn**		**17 31 20.7**	**0.0**
KURK						pmax	pmax		
	comp=Z,18nm,1.3s								
KURK	**Kurchatov**	**19.67**	**41**			**Pn**		**17 31 19.6**	**-1.1**
KURK						IAmb	IAmb	17 31 25.4	
	comp=Z,15nm,1.1s								
KURK	**Kurchatov**	**19.67**	**41**	⇓Pn		**Pn**		**17 31 20.3**	**-0.4**
	comp=Z,16nm,1.2s								
VORR	**Voronezh**	**19.74**	**323**	*e*P		**P**		**17 31 16.7**	**-3.3**
VORR						pmax	pmax		
	comp=Z,40nm,0.4s								
MAKZ	**Makanchi**	**19.83**	**54**	P		**P**		**17 31 20.5**	**-0.7**
MAKZ						pmax	pmax		
	comp=Z,8.0nm,1.2s								
MAKZ	**Makanchi**	**19.83**	**54**			**P**		**17 31 20.5**	**-0.7**
MAKZ						IAmb	IAmb	17 31 27.4	
	comp=Z,8.1nm,1.2s								
MK31	**Makanchi Array**	**20.03**	**54**	*i* P		**Pn**		**17 31 25.7**	**+0.6**
MK31	**Makanchi Array**	**20.03**	**54**	P		**P**		**17 31 23.2**	**-0.1**
MK31	**Makanchi Array**	**20.03**	**54**	Pn		**Pn**		**17 31 24.6**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=243,slow=12,SNR=25								
MKAR	**Makanchi Array**	**20.03**	**54**	P		**Pn**		**17 31 23.6**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=241,slow=14,SNR=16								
MKAR						LR	LR	17 40 31.7	
	comp=Z,76nm,21.5s,baz=256,slow=41								
MKAR	**Makanchi Array**	**20.03**	**54**	*i* P		**Pn**		**17 31 24.8**	**-0.3**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**20.03**	**54**			**Pn**		**17 31 23.9**	**-1.2**
LPSR	**Galich'ya Gora**	**20.47**	**324**	*e*P		**P**		**17 31 28.1**	**+0.1**
LPSR						pmax	pmax		
	comp=Z,10.0nm,0.6s								
EIL	**Elat**	**20.96**	**256**			LR	LR	17 40 22.2	
	comp=Z,125nm,20.6s,baz=70,slow=39								
KIRV	**Kirov**	**22.06**	**347**	P		**P**		**17 31 45.4**	**+0.3**
	comp=Z,14nm,0.8s,baz=153,slow=2.3,SNR=5.3								
KIRV						LR	LR	17 42 05.6	
	comp=Z,184nm,18.2s,baz=164,slow=41								
KIRV	**Kirov**	**22.06**	**347**	*ce*P		**P**		**17 31 44.9**	**-0.2**
PYUN	**Piuthan**	**22.59**	**107**	*e*P		**P**		**17 31 51.7**	**+0.4**
	comp=Z,68nm,1.3s								
DANN	**Dangsing**	**23.05**	**105**	*e*P		**P**		**17 31 57.7**	**+1.5**
	comp=Z,28nm,0.9s								
OBN	**Obninsk**	**23.17**	**327**	P		**P**		**17 31 58.0**	**+1.2**
	comp=Z,3.9nm,0.4s,baz=131,slow=5.9,SNR=4.7								
OBN	**Obninsk**	**23.17**	**327**	*e*P		**P**		**17 31 55.3**	**-1.5**
OBN				*e**PP		**pP**		**17 31 59.8**	**-0.4**
OBN				*e*				17 32 21.7	
OBN				*e*PPP		PPP		17 32 29.4	
OBN				*e*				17 35 45.9	
OBN						pmax	pmax		
	comp=Z,35nm,1.3s								
OBN						MLR	MLR		
	comp=Z,57nm,13.0s								
KOLN	**Koldanda**	**23.22**	**107**	*e*P		**P**		**17 31 58.1**	**+0.3**
TIRR	**Tirgusor**	**23.67**	**297**	⇑P		**P**		**17 32 09.1**	**+7.1**
TIRR	**Tirgusor**	**23.67**	**297**	⇑P		**P**		**17 32 09.1**	**+7.1**
GKN	**Gorkha**	**23.90**	**105**	*e*P		**P**		**17 32 06.0**	**+1.5**
CFR	**Carcaliu**	**23.97**	**299**	⇓P		**P**		**17 32 09.9**	**+5.2

comp=Z,244nm,18.3s,baz=136,slow=40
ARCES **ARCESS Array B 36.81 341** P **P** **17 33 58.0 0.0**
NB2 **NORSAR Subarra 37.71 324** P **P** **17 34 06.3 +0.5**
comp=Z,1.3nm,0.8s,baz=106,slow=8.6
NOA **NORSAR Array B 37.71 324** P **P** **17 34 05.8 0.0**
comp=Z,2.0nm,0.8s,baz=109,slow=8.3,SNR=8.0
NOA LR LR 17 51 57.0
comp=Z,65nm,19.1s,baz=115,slow=40
CHTO **Chiang Mai 39.88 106** P **P** **17 34 24.5 0.0**
CHTO pmax pmax
comp=Z,7.0nm,1.5s
CHTO **Chiang Mai 39.88 106** P **P** **17 34 24.5 0.0**
CHTO IAmb IAmb 17 34 27.8
comp=Z,6.9nm,1.5s
CMAR **Chiang Mai Arr 40.09 107** P **P** **17 34 26.9 +0.8**
comp=Z,1.1nm,0.6s,baz=300,slow=8.4,SNR=13
CMAR LR LR 17 55 17.4
comp=Z,33nm,19.0s,baz=270,slow=42
WHN **Wuhan 46.33 81** P **P** **17 35 15.1 -1.4**
ESDC **Sonseca Array 47.99 293** P **P** **17 35 28.8 -0.6**
comp=Z,0.4nm,0.5s,baz=68,slow=8.3,SNR=2.2
TIXI **Tiksi 48.91 23** LR LR 17 58 47.6
comp=Z,85nm,20.7s,baz=335,slow=39
TIXI **Tiksi 48.91 23** *i* P **P** **17 35 37.7 +1.7**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
YAK **Yakutsk 49.22 36** LR LR 17 58 54.1
comp=Z,30nm,18.6s,baz=260,slow=39
YAK **Yakutsk 49.22 36** *i* P **P** **17 35 41.2 +2.7**
YAK pmax pmax
comp=Z,11nm,0.6s
PSI **Prapat 50.61 123** LR LR 17 58 22.2
comp=Z,143nm,18.8s,baz=308,slow=37
BORG **Borgarnes 52.67 328** LR LR 18 02 06.9
comp=Z,91nm,20.1s,baz=79,slow=40
KLR **Kul'dur 52.72 52** LR LR 18 00 27.0
comp=Z,102nm,18.0s,baz=288,slow=38
KLR **Kul'dur 52.72 52** *ePcP* **P** **17 36 07.7 +2.7**
KLR pmax pmax
comp=Z,4.0nm,1.3s
KSRS **Korea Array 54.01 67** P **P** **17 36 15.5 +0.9**
comp=Z,1.2nm,0.9s,baz=279,slow=6.6,SNR=3.4
USRK **Ussuriysk Ar. 54.44 58** LR LR 18 01 48.1
comp=Z,52nm,19.1s,baz=298,slow=38
SEY **Seymchan 59.23 32** LR LR 18 05 20.1
comp=Z,95nm,20.1s,baz=100,slow=39
SEY **Seymchan 59.23 32** *i* P **P** **17 36 54.5 +3.1**
SEY pmax pmax
comp=Z,2.0nm,1.0s
LSZ **Lusaka 59.56 214** LR LR 18 04 03.8
comp=Z,115nm,18.2s,baz=49,slow=38
ASAJ **Asahikawa 61.51 55** LR LR 18 06 14.1
comp=Z,94nm,19.9s,baz=342,slow=38
MJAR **Matsushiro Ar 61.86 64** LR LR 18 07 19.2
comp=Z,45nm,18.7s,baz=278,slow=39
BILL **Bilibino 62.13 24** *eP* **P** **17 37 12.0 +0.9**
BILL *e**PP **sP** **17 37 18.3 +2.1**
BILL *e* 17 37 54.8
BILL *e* 17 39 27.3
BILL *e*PPP PPP 17 40 56.4
BILL pmax pmax
comp=Z,7.0nm,2.0s
BILL MLR MLR
comp=Z,57nm,19.0s
PETK **Petropavlovsk- 66.16 41** LR LR 18 08 59.2
comp=Z,49nm,18.7s,baz=315,slow=38
TSUM **Tsumeb 68.12 222** LR LR 18 11 04.3
comp=Z,75nm,18.3s,baz=148,slow=39
LBTB **Lobatse 69.27 210** LR LR 18 10 40.5
comp=Z,73nm,19.7s,baz=46,slow=38
KAPI **Kappang 70.83 112** LR LR 18 13 32.3
comp=Z,23nm,18.3s,baz=296,slow=40
BOSA **Boshof 72.60 210** LR LR 18 13 45.1
comp=Z,88nm,18.6s,baz=17,slow=39
INK **Inuvik 74.30 5** LR LR 18 17 10.6
comp=Z,49nm,18.4s,baz=66,slow=41
SCHQ **Schefferville 76.91 331** LR LR 18 11 47.5
comp=Z,76nm,21.0s,baz=85,slow=35
SUR **Sutherland 77.73 212** LR LR 18 13 15.2
comp=Z,68nm,18.6s,baz=144,slow=36
BCAR **Beaver Creek A 78.64 9** P **P** **17 38 51.4 -0.7**
YKA **Yellowknife Ar 80.36 357** P **P** **17 39 01.3 -0.1**
comp=Z,0.6nm,0.9s,baz=2.0,slow=5.7,SNR=7.7
YKA **Yellowknife Ar 80.36 357** *i* P **P** **17 39 03.2 +1.8**
YKA pmax pmax
comp=Z,1.0nm,0.9s
SADO **Sadowa 89.72 331** LR LR 18 19 25.7
comp=Z,52nm,19.2s,baz=15,slow=35
NEW **Newport 94.69 357** LR LR 18 27 41.8
comp=Z,44nm,19.8s,baz=26,slow=38
TKL **Tuckaleechee C 99.34 330** LR LR 18 29 54.0
comp=Z,54nm,18.7s,baz=10.0,slow=38

*IDC **14** 17:35:34.1±6.6,24.38S×176.91W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/21,mbtmp3.8/3,MS3.2/7,Ms1 3.2/7, ms1mx2.9/60,Error ellipse: s-maj=277.6km s-min=60.3km az=149.0*
*NEIC **14** 17:35:37.6±0.6,25°S±1°×17°6W±°,h45km±61km,mb4.6/5, Error ellipse: s-maj=222.0km s-min=20.3km az=139.0*
ISC 14 17:35:38.8±5.6,24°S±2°×176.6W±0.9,h50km,n19,σ0s59/9, mb4.4/6,MS3.2/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.99**	**52**	Pn	**Pn**	**17 37 32.2**	**-0.1**
DZM	**Mont Dzumac**	**15.72**	**274**	eLR	LR	17 43 05.0	
	comp=Z,33nm,18.2s,baz=80,slow=29						
DZM	**Mont Dzumac**	**15.72**	**274**	eLR	LR	17 43 00.1	
	comp=Z,152nm,23.8s						
RAR	**Rarotonga**	**15.81**	**83**	LR	LR	17 46 31.7	
	comp=Z,59nm,19.0s,baz=278,slow=41						
TBI	**Tubuai**	**24.86**	**94**	eLR	LR	17 46 40.1	
	comp=Z,90nm,29.8s						
PPT2	**Papeete2**	**26.06**	**81**	eLR	LR	17 47 26.4	
	comp=Z,97nm,25.5s						
PPT	**Papeete**	**26.07**	**81**	LR	LR	17 50 33.3	
	comp=Z,24nm,18.4s,baz=232,slow=34						
CTA	**Charters Tower**	**34.57**	**269**	LR	LR	17 55 50.2	
	comp=Z,100nm,18.5s,baz=102,slow=35						
STKA	**Stephens Creek**	**37.52**	**249**	LR	LR	17 57 06.3	
	comp=Z,90nm,18.6s,baz=34,slow=35						
ASAR	**Alice Springs**	**45.05**	**260**	P	**P**	**17 43 49.7**	**-0.4**
	0.3nm,0.5s,baz=99,slow=8.1,SNR=9.7						
ASAR				LR	LR	18 02 14.5	
	comp=Z,45nm,18.6s,baz=152,slow=36						
WR0	**Warramunga Arr**	**45.29**	**265**	P	**P**	**17 43 52.5**	**+0.6**
WB2	**Warramunga Arr**	**45.46**	**265**	P	**P**	**17 43 54.0**	**+0.7**
WB2				IAmb	IAmb	17 44 10.5	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**45.47**	**265**	P	**P**	**17 43 53.1**	**-0.3**
WRAB				IAmb	IAmb	17 44 16.0	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**45.47**	**265**	P	**P**	**17 43 52.5**	**-0.8**
WB0				IAmb	IAmb	17 43 57.6	
	comp=Z,9.6nm,1.5s						
WRA	**Warramunga Arr**	**45.48**	**265**	P	**P**	**17 43 53.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=107,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**45.48**	**265**	IAmb	IAmb	17 44 00.7	
	comp=Z,0.2nm,1.1s						
GUMO	**Guam**	**53.10**	**311**	LR	LR	18 07 03.1	
	comp=Z,20nm,18.2s,baz=106,slow=36						
CMAR	**Chiang Mai Arr**	**92.51**	**289**	P	**P**	**17 48 45.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=112,slow=4.8,SNR=1.6						
AKASG	**Malin Array Be**	**146.76**	**330**	PKPbc	**PKiKP**	**17 55 18.3**	**+0.6**
	comp=Z,0.1nm,0.2s,baz=45,slow=4.1,SNR=2.5						

IDC 14 17:38:11.7±2.2,4.33S×127.93E,h0km,mb2.8/2, mb1 3.2/3,mb1mx3.1/32,mbtmp3.0/3,ML2.8/1,Error ellipse: s-maj=148.7km s-min=31.2km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.73**	**159**	Pn	Pn	17 42 07.2	-0.4
	0.0nm,0.3s,baz=337,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**20.07**	**164**	P	P	17 42 47.0	+0.2
	0.2nm,0.6s,baz=339,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**64.88**	**327**	P	P	17 48 52.8	0.0
	0.1nm,0.6s,baz=146,slow=8.0,SNR=1.6						

*WEL **14** 17:38:12.8,42°S±4°×17°E±°,h15km±9km,M3.3/12, ML3.5/12,MLv3.3/12,Error ellipse: s-maj=0.0km s-min=0.0km az=52.0*
*NOU **14** 17:38:13.6,42.35S×173.05E,h11km,MLv3.6/7,South Island, New Zealand*
ISC 14 17:38:12.8±1.1,42.30S±0.02×173.01E±0.03,h10km±10km, n76,σ1s45/84,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.41**	**107**	P	**Pg**	**17 38 21.7**	**+0.8**
KHZ				S	**Sg**	**17 38 27.6**	**+1.3**
KHZ	**Kahutara**	**0.41**	**107**	P	**Pg**	**17 38 21.7**	**+0.8**
THZ	**Tophouse**	**0.54**	**351**	P	**Pb**	**17 38 23.7**	**-0.8**
THZ				S	**Sg**	**17 38 30.4**	**-0.2**
GVZ	**Greta Valley S**	**0.67**	**179**	P	**Pn**	**17 38 27.8**	**-0.6**
GVZ				S	**Sn**	**17 38 38.1**	**-0.8**
LTZ	**Lake Taylor**	**0.73**	**228**	P	**Pb**	**17 38 27.9**	**+0.2**
LTZ				S	**Sb**	**17 38 37.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.87**	**48**	P	**Pb**	**17 38 29.4**	**-0.6**
BSWZ				S	**Sb**	**17 38 41.7**	**+0.1**
AMCZ	**Amberley**	**0.92**	**197**	P	**Pn**	**17 38 32.2**	**+0.5**
AMCZ				S	**Sn**	**17 38 46.1**	**+1.2**
MRNZ	**Matariki Terra**	**0.92**	**348**	P	**Pg**	**17 38 30.5**	**0.0**
MRNZ				S	**Sg**	**17 38 42.6**	**0.0**
CMWZ	**Cape Campbell**	**1.05**	**59**	P	**Pg**	**17 38 34.1**	**+1.0**
CMWZ				S	**Sn**	**17 38 51.1**	**+2.9**
DSZ	**Denniston Nort**	**1.06**	**301**	P	**Pn**	**17 38 34.0**	**+0.2**
TUWZ	**Tuamarina**	**1.11**	**39**	P	**Pb**	**17 38 33.4**	**-0.7**
NNZ	**Nelson**	**1.11**	**14**	P	**Pb**	**17 38 33.0**	**-1.2**
INZ	**Inchbonnie**	**1.23**	**249**	P	**Pg**	**17 38 36.5**	**0.0**
OXZ	**Oxford**	**1.25**	**215**	P	**Pb**	**17 38 36.2**	**-0.4**
TKNZ	**Takaka Hill**	**1.27**	**358**	P	**Pb**	**17 38 36.4**	**-0.4**
OKCZ	**Okains Bay**	**1.42**	**179**	P	**Pn**	**17 38 38.5**	**-0.3**
MQZ	**McQueen's Vall**	**1.43**	**190**	P	**Pn**	**17 38 38.0**	**-0.8**
TCW	**Tory Channel**	**1.44**	**41**	P	**Pn**	**17 38 38.3**	**-0.6**
QRZ	**Quartz Range**	**1.52**	**346**	P	**Pb**	**17 38 40.7**	**-0.3**
QRZ	**Quartz Range**	**1.52**	**346**	P	**Pg**	**17 38 41.1**	**-0.8**
RACZ	**Rakaia**	**1.56**	**204**	P	**Pn**	**17 38 40.4**	**-0.3**
AKCZ	**Akaroa Harbour**	**1.57**	**183**	P	**Pn**	**17 38 40.3**	**-0.6**
SNZO	**South Karori**	**1.60**	**53**	P	**Pb**	**17 38 42.0**	**-0.5**
DUWZ	**D'Urville Isla**	**1.64**	**25**	P	**Pn**	**17 38 41.9**	**+0.1**
BHW	**Baring Head**	**1.65**	**58**	P	**Pn**	**17 38 42.1**	**+0.3**
PLWZ	**Palliser**	**1.82**	**67**	P	**Pn**	**17 38 43.6**	**-0.6**
WVZ	**Waitaha Valley**	**1.85**	**244**	P	**Pn**	**17 38 46.2**	**-0.5**
WACZ	**Wakanui South**	**1.85**	**207**	P	**Pn**	**17 38 44.5**	**-0.2**
MSWZ	**Moikau Station**	**1.89**	**63**	P	**Pn**	**17 38 44.4**	**-0.7**
CAW	**Cannon Point**	**1.94**	**53**	P	**Pn**	**17 38 45.7**	**-0.2**
RPZ	**Rata Peaks**	**2.02**	**225**	P	**Pn**	**17 38 46.8**	**-0.1**
RPZ	**Rata Peaks**	**2.02**	**225**	P	**Pb**	**17 38 47.8**	**-1.8**
KIW	**Kapiti Island**	**2.02**	**45**	P	**Pn**	**17 38 47.3**	**+0.3**
ARCZ	**Arundel**	**2.13**	**219**	P	**Pn**	**17 38 48.4**	**0.0**
TRWZ	**Traveller**	**2.19**	**67**	P	**Pb**	**17 38 50.8**	**-1.8**
OGWZ	**Otaki Gorge**	**2.19**	**48**	P	**Pn**	**17 38 49.2**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.22**	**242**	P	**Pb**	**17 38 51.1**	**-2.0**
HOWZ	**Holdsworth Sta**	**2.34**	**54**	P	**Pn**	**17 38 50.7**	**-0.7**
MRZ	**Mangatainoka R**	**2.53**	**51**	P	**Pn**	**17 38 53.2**	**-0.8**
TMZ	**Timaru**	**2.55**	**214**	P	**Pn**	**17 38 53.7**	**-0.4**
FOZ	**Fox Glacier**	**2.65**	**241**	P	**Pn**	**17 38 57.4**	**+1.8**
PRWZ	**Pori Road**	**2.83**	**53**	P	**Pn**	**17 38 59.3**	**+1.3**
BFZ	**Birch Farm**	**2.92**	**57**	P	**Pb**	**17 39 02.0**	**-2.9**
BFZ	**Birch Farm**	**2.92**	**57**	P	**Pn**	**17 38 59.9**	**+0.6**
LBZ	**Lake Benmore**	**2.93**	**224**	P	**Pn**	**17 38 59.9**	**+0.4**
WAZ	**Wanganui**	**2.95**	**31**	P	**Pb**	**17 39 03.3**	**-2.2**
LREZ	**Lake Rotokare**	**3.02**	**21**	P	**Pb**	**17 39 06.5**	**-0.2**
PREZ	**Palmer Road**	**3.08**	**17**	P	**Pb**	**17 39 05.7**	**-2.0**
KHEZ	**Kahui Hut**	**3.10**	**15**	P	**Pb**	**17 39 05.5**	**-2.5**
NBEZ	**Newall Road No**	**3.10**	**12**	P	**Pb**	**17 39 04.4**	**-3.6**
DVHZ	**Dannevirke**	**3.10**	**51**	P	**Pb**	**17 39 08.1**	**0.0**
NEZ	**North Egmont**	**3.13**	**16**	P	**Pn**	**17 39 06.2**	**-2.5**
TSZ	**Takapari Road**	**3.16**	**46**	P	**Pn**	**17 39 01.5**	**-1.1**
PKE	**Pukeiti**	**3.19**	**14**	P	**Pn**	**17 39 05.6**	**+2.5**
ODZ	**Otahua Downs**	**3.24**	**211**	P	**Pn**	**17 39 02.9**	**-0.8**
ODZ	**Otahua Downs**	**3.24**	**211**	P	**Pn**	**17 39 03.4**	**-0.3**
PNHZ	**Pukenui**	**3.39**	**46**	P	**Pb**	**17 39 12.1**	**-0.9**
PKVZ	**Pokaka**	**3.49**	**31**	P	**Pb**	**17 39 12.7**	**-2.0**
WNVZ	**Wahianoa**	**3.56**	**34**	P	**Pn**	**17 39 09.4**	**+1.2**
MOVZ	**Moawhango**	**3.56**	**37**	P	**Pb**	**17 39 14.1**	**-1.8**
JCZ	**Jackson Bay**	**3.56**	**239**	P	**Pn**	**17 39 10.6**	**+2.4**
FWVZ	**Far West T-bar**	**3.60**	**33**	P	**Pb**	**17 39 14.1**	**-2.6**
TUVZ	**Tukino**	**3.63**	**34**	P	**Pb**	**17 39 15.3**	**-1.9**
BHHZ	**Black Hill Sta**	**3.64**	**40**	P	**Pb**	**17 39 15.5**	**-1.8**
NNVZ	**North Ngauruho**	**3.73**	**33**	P	**Pb**	**17 39 16.9**	**-2.0**
WTVZ	**West Tongariro**	**3.73**	**32**	P	**Pb**	**17 39 17.3**	**-1.6**
ETVZ	**East Tongariro**	**3.77**	**34**	P	**Pb**	**17 39 15.9**	**-3.6**
TMVZ	**Te Maari**	**3.78**	**34**	P	**Pb**	**17 39 17.5**	**-2.2**
EAZ	**Earnscleugh**	**3.97**	**221**	P	**Pn**	**17 39 14.5**	**+0.7**
HIZ	**Hauiti**	**4.04**	**21**	P	**Pn**	**17 39 15.9**	**+1.3**
HIZ	**Hauiti**	**4.04**	**21**	P	**Pn**	**17 39 15.5**	**+0.9**
WATZ	**Wairara**	**4.14**	**31**	P	**Pb**	**17 39 22.1**	**-3.7**
TUZ	**Tuapeka**	**4.39**	**213**	P	**Pn**	**17 39 19.2**	**-0.3**
TLZ	**Tolley Road**	**4.41**	**27**	P	**Pn**	**17 39 22.3**	**+2.4**
SYZ	**Scrubby Hill**	**5.06**	**212**	P	**Pn**	**17 39 28.5**	**-0.2**
WIAZ	**Waiheke Island**	**5.74**	**17**	P	**Pn**	**17 39 39.7**	**+1.7**

*NAO **14** 17:48:04.9±1.9,79.45N×3.67E,ML3.5*
*BER **14** 17:48:06.9±3.0,79.32N×3.62E,h10km,ML2.1, ML1.7(DNK),Confirmed Earthquake*
*DNK **14** 17:48:06.3±3.0,79.16N×3.76E,h14km±38km,ML1.7*
*IDC **14** 17:48:07.0±1.5,79.47N×4.21E,h0km,mb3.2/2,mb1 3.8/3, mb1mx3.3/29,mbtmp3.5/3,ML3.3/1,MS3.4/1,Ms1 3.4/1, ms1mx2.5/55,Error ellipse: s-maj=65.0km s-min=24.1km az=36.0*
*IEPN **14** 17:48:09.0,79.21N×4.41E,h10km*
ISC 14 17:48:02.9±0.8,79.35N±0.06×3.18E±0.04,h10km,n39, σ3s08/60,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.71**	**100**	Pn	**Pn**	**17 48 33.9**	**+1.2**
KBS				Sn	**Sn**	**17 48 55.0**	**+0.4**
KBS	**Kingsbay**	**1.71**	**100**	*i* P	**Pn**	**17 48 33.8**	**+1.1**
KBS	**Kingsbay**	**1.71**	**100**	*ePcP*	**Pn**	**17 48 33.9**	**+1.1**
KBS	**Kingsbay**	**1.71**	**100**	*eP*	**Pn**	**17 48 33.8**	**+1.1**
KBS				*eS*	**Sn**	**17 48 52.1**	**-2.5**
BRBB	**Barentsburg B**	**2.51**	**115**	Pn	**Pn**	**17 48 45.4**	**+1.8**
BRBB				Sn	**Sn**	**17 49 12.1**	**-2.0**
BRBB	**Barentsburg B**	**2.51**	**115**	*eP*	**Pn**	**17 48 45.4**	**+1.8**
BRBB				*eS*	**Sn**	**17 49 11.8**	**-2.4**
BRBA	**Barentsburg A**	**2.53**	**115**	Pn	**Pn**	**17 48 45.7**	**+1.8**
BRBA				Sn	**Sn**	**17 49 12.8**	**-1.9**
BRBA	**Barentsburg A**	**2.53**	**115**	*eP*	**Pn**	**17 48 45.5**	**+1.6**
BRBA				*eS*	**Sn**	**17 49 11.4**	**-3.3**
SPA0	**Spitsbergen Ar**	**2.84**	**108**	Pn	**Pn**	**17 48 50.3**	**+2.2**
	baz=316,slow=11						
SPA0				Sn	**Sn**	**17 49 20.6**	**-1.7**
	baz=311,slow=37						
SPA0	**Spitsbergen Ar**	**2.84**	**108**	Pn	**Pn**	**17 48 50.3**	**+2.2**
	baz=316,slow=11						
SPA0				Sn	**Sn**	**17 49 20.6**	**-1.7**
	baz=311,slow=37						
HSPB	**Hornsund (broa**	**3.46**	**127**	Pn	**Pn**	**17 48 58.8**	**+2.1**
HSPB				Sn	**Sn**	**17 49 34.1**	**-3.6**
HSPB	**Hornsund (broa**	**3.46**	**127**	*eP*	**Pn**	**17 48 58.8**	**+2.1**
HSPB				*eS*	**Sn**	**17 49 34.4**	**-3.3**
HSPB				IAML		17 49 37.7	
	comp=Z,22nm,0.2s						
HSPB	**Hornsund (broa**	**3.46**	**127**	*eP*	**Pn**	**17 48 58.5**	**+1.8**
HSPB				*eS*	**Sn**	**17 49 34.9**	**-2.8**
NOR	**Nord**	**3.98**	**314**	Pn	**Pn**	**17 49 08.4**	**+4.7**
NOR	**Nord**	**3.98**	**314**	*i* P	**Pn**	**17 49 08.0**	**+4.2**
NOR				IAML		17 49 17.8	
	comp=Z,1.6nm,0.2s						
NOR	**Nord**	**3.98**	**314**	*i* P	**Pn**	**17 49 08.0**	**+4.2**
NOR				IAML		17 49 17.8	
	comp=Z,1.6nm,0.2s						
DAG	**Danmarks Havn**	**5.19**	**251**	*i* P	**Pn**	**17 49 24.4**	**+4.0**
DAG				*i* S	**Sn**	**17 50 18.3**	**-1.8**
DAG				IAML		17 50 24.0	
	comp=Z,6.1nm,0.1s						
DAG	**Danmarks Havn**	**5.19**	**251**	*i* P	**Pn**	**17 49 24.4**	**+4.0**
DAG				*i* S	**Sn**	**17 50 18.3**	**-1.8**
DAG				IAML		17 50 24.0	
	comp=Z,6.1nm,0.1s						
HOPEN	**Hopen**	**5.36**	**111**	Pn	**Pn**	**17 49 24.6**	**+1.9**
HOPEN				Sn	**Sn**	**17 50 21.0**	**-3.4**
HOPEN	**Hopen**	**5.36**	**111**	*eP*	**Pn**	**17 49 24.8**	**+2.0**
HOPEN	**Hopen**	**5.36**	**111**	*eP*	**Pn**	**17 49 24.5**	**+1.7**
HOPEN				*eS*	**Sn**	**17 50 19.7**	**-4.7**
BJO1	**Bjornoya**	**6.02**	**136**	Pn	**Pn**	**17 49 35.4**	**+3.6**
BJO1	**Bjornoya**	**6.02**	**136**	P	**Pn**	**17 49 33.9**	**+2.1**
DBG	**Daneborg**	**7.29**	**238**	Pn	**Pn**	**17 49 52.0**	**+2.9**
DBG				Sn	**Sn**	**17 51 08.0**	**-3.9**
DBG	**Daneborg**	**7.29**	**238**	*i* P	**Pn**	**17 49 51.7**	**+2.6**
DBG				*i* S	**Sn**	**17 51 07.9**	**-3.9**
DBG				IAML		17 51 14.4	
	comp=Z,2.2nm,0.2s						
DBG	**Daneborg**	**7.29**	**238**	*i* P	**Pn**	**17 49 51.7**	**+2.6**
DBG				*i* S	**Sn**	**17 51 07.9**	**-3.9**
DBG				IAML		17 51 14.4	
	comp=Z,2.2nm,0.2s						
ZFI2	**Zemlya Franca-**	**7.65**	**58**	*eP*	**Pn**	**17 49 55.5**	**+1.4**
ZFI2				*eS*	**Sn**	**17 51 15.1**	**-5.5**
	comp=Z,37nm,2.3s						
ZFI	**Zemlya Franca-**	**7.65**	**58**	*eP*	**Pn**	**17 49 55.8**	**+1.7**
ZFI				*eS*	**Sn**	**17 51 14.6**	**-6.0**
NEEM	**North Greenlan**	**10.73**	**287**	*i* P	**Pn**	**17 50 37.5**	**+1.0**
NEEM				IAML		17 50 43.9	
	comp=Z,1.5nm,0.1s						
NEEM				*i* S	**Sn**	**17 52 32.2**	**-4.4**
NEEM	**North Greenlan**	**10.73**	**287**	*i* P	**Pn**	**17 50 37.5**	**+1.0**
NEEM				IAML		17 50 43.9	
	comp=Z,1.5nm,0.1s						
NEEM				*i* S	**Sn**	**17 52 32.2**	**-4.4**
ARA0	**ARCESS Array S**	**11.39**	**137**	Pn	**Pn**	**17 50 48.0**	**+2.6**
	baz=353,slow=12						
ARA0	**ARCESS Array S**	**11.39**	**137**	Pn	**Pn**	**17 50 48.0**	**+2.6**
	baz=353,slow=12						
ARCES	**ARCESS Array B**	**11.39**	**137**	Pn	**Pn**	**17 50 47.4**	**+1.9**
	baz=347,slow=12,SNR=12						
ARCES				Sn	**Sn**	**17 52 44.5**	**-8.1**
	baz=340,slow=18,SNR=2.7						
APA0	**Apatity Array**	**14.21**	**129**	P	**Pn**	**17 51 24.0**	**+0.2**
	baz=344,slow=10						
APA0	**Apatity Array**	**14.21**	**129**	P	**Pn**	**17 51 24.0**	**+0.2**
	baz=344,slow=10						
LSH	**Leshukonskoye**	**18.73**	**116**	*eP*	**P**	**17 52 21.4**	**+0.1**
	comp=Z,43nm,2.7s						
SFJD	**Kangerlussuaq**	**18.80**	**260**	LR	LR	18 00 09.6	
	comp=Z,118nm,20.5s,baz=94,slow=38						
MKAR	**Makanchi Array**	**42.44**	**89**	P	**P**	**17 56 01.3**	**+4.1**
	comp=Z,0.1nm,0.6s,baz=350,slow=7.3,SNR=1.5						
TXAR	**Lajitas Array**	**64.42**	**292**	P	P	17 58 45.5	+6.6
	comp=Z,0.4nm,0.7s,baz=40,slow=5.6,SNR=5.3						

*THE **14** 18:18:12.9,35.37N×23.58E,h13km±3km,ML2.5/3,Error ellipse: s-maj=3.1km s-min=0.8km az=188.0*
*ISK **14** 18:18:13.3,35.37N×23.67E,h5km,ML2.7/4*
*ATH **14** 18:18:13.6,35.40N×23.61E,h13km±2km,ML2.5/3,Error ellipse: s-maj=2.9km s-min=0.8km az=69.0*
ISC 14 18:18:13.2±1.0,35.37N±0.04×23.59E±0.04,h13km±7km, n17,σ0s41/30,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.16**	**150**	P	**Pg**	**18 18 16.6**	**-0.3**
KNDR				S	**Sg**	**18 18 19.1**	**-0.4**
	2μm,0.3s						
RODP	**Rodopos**	**0.23**	**35**	P	**Pg**	**18 18 18.4**	**+0.1**
RODP				S	**Sg**	**18 18 22.1**	**+0.4**
RODP	**Rodopos**	**0.23**	**35**	PG	**Pg**	**18 18 18.1**	**-0.2**
RODP				SG	**Sg**	**18 18 22.3**	**+0.6**
IMMV	**Iera Moni Meta**	**0.33**	**74**	P	**Pg**	**18 18 19.8**	**-0.1**
IMMV				S	**Sg**	**18 18 24.5**	**0.0**
IMMV				AML	AML	18 18 25.3	
	comp=N,2464μm,0.2s						
IMMV				AML	AML	18 18 25.5	
	comp=E,2504μm,0.1s						
IMMV	**Iera Moni Meta**	**0.33**	**74**	P	**Pg**	**18 18 19.8**	**-0.1**
IMMV				S	**Sg**	**18 18 25.0**	**+0.6**
	comp=E,1μm,0.1s						
IMMV	**Iera Moni Meta**	**0.33**	**74**	PG	**Pg**	**18 18 19.5**	**-0.5**
IMMV				SG	**Sg**	**18 18 25.1**	**+0.6**
VAM	**Vamos**	**0.50**	**86**	P	**Pg**	**18 18 23.1**	**+0.1**
VAM				S	**Sg**	**18 18 29.7**	**0.0**
VAM				AML	AML	18 18 32.5	
	comp=N,2109μm,0.2s						
VAM				AML	AML	18 18 34.5	
	comp=E,1157μm,0.4s						
VAM	**Vamos**	**0.50**	**86**	P	**Pg**	**18 18 22.5**	**-0.5**
VAM				S	**Sb**	**18 18 30.2**	**-0.8**
	comp=E,802nm,0.2s						
ANKY	**Antikythira Is**	**0.55**	**335**	P	**Pg**	**18 18 23.9**	**-0.1**
ANKY				S	**Sg**	**18 18 31.0**	**-0.4**
ANKY	**Antikythira Is**	**0.55**	**335**	P	**Pg**	**18 18 24.1**	**+0.1**
ANKY				S	**Sg**	**18 18 30.9**	**-0.4**
GVD	**Gavdhos**	**0.67**	**142**	P	**Pb**	**18 18 26.7**	**0.0**
GVD				S	**Sb**	**18 18 36.1**	**+0.2**
GVD				AML	AML	18 18 38.2	
	comp=N,1168μm,0.4s						
GVD				AML	AML	18 18 38.4	
	comp=E,1096μm,0.3s						
GVD	**Gavdhos**	**0.67**	**142**	PG	**Pb**	**18 18 27.0**	**+0.3**
GVD				SG	**Sb**	**18 18 36.5**	**+0.6**
KTHA	**Kythira Island**	**0.98**	**334**	P	**Pb**	**18 18 31.6**	**-0.5**
KTHA				S	**Sg**	**18 18 44.8**	**-0.3**
IDI	**Anoyia**	**1.06**	**94**	P	**Pb**	**18 18 33.2**	**-0.3**
IDI	**Anoyia**	**1.06**	**94**	PG	**Pb**	**18 18 33.2**	**-0.3**
VLI	**Veliai**	**1.45**	**339**	P	**Pn**	**18 18 39.4**	**+0.3**
ITM	**Ithomi**	**2.25**	**324**	PN	**Pb**	**18 18 54.2**	**+0.5**

*NEIC **14** 18:19:02.8±0.7,64.096N±0.010×148.46W±

MLY	**Manley**	**1.36**	**315**			Pn	18 19 27.8	-0.9
MLY	**Manley**	**1.36**	**315**		IAML		18 20 03.2	
	comp=E,96nm,0.3s							
MLY					IAML		18 20 03.3	
	comp=N,120nm,0.3s							
J25K	**Salcha River,**	**1.44**	**67**			Pn	18 19 29.1	-0.7
J25K					IAML		18 20 07.8	
	comp=E,56nm,0.4s							
J25K					IAML		18 20 08.2	
	comp=N,60nm,0.5s							
PAX	**Paxson**	**1.75**	**129**			Pn	18 19 33.6	-0.4
H24K	**Noodor Dome**	**1.77**	**8**			Pb	18 19 36.3	+0.4
H24K					IAML		18 20 16.5	
	comp=N,61nm,0.6s							
H24K					IAML		18 20 16.6	
	comp=E,98nm,0.7s							
PRP	**Porcupine Dome**	**1.91**	**40**	Pn		Pn	18 19 36.0	-0.2
MENT	**Mentasta**	**2.42**	**116**			Pb	18 19 45.6	-1.3
MENT					IAML		18 20 58.4	
	comp=N,36nm,0.5s							
IMAR	**Indian Mountai**	**2.94**	**313**	Pn		Pn	18 19 50.6	+0.3
BCAR	**Beaver Creek A**	**3.16**	**106**	Pn		Pn	18 19 53.2	-0.1

*NEIC **14** 18:19:20.2±0.8,64°.10N±0°.02×148°.47W±0°.09,h7km±8km, Error ellipse: s-maj=5.6km s-min=2.1km az=100.0*

AEIC 14 18:19:20±1.5**,64°.09N**±0°.01×**148°.44W**±0°.02**,h0**km±6km, ML2.6,ML2.8**/50(NEIC)**, Error ellipse: s-maj=2.0km s-min=1.4km az=175.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.42**	**212**		Pg	18 19 28.4	+0.5
MCK					Sg	18 19 33.9	+0.5
WRH	**Wood River Hil**	**0.42**	**21**		Pg	18 19 28.4	+0.5
WRH					Sg	18 19 33.8	+0.5
WRH	**Wood River Hil**	**0.42**	**21**	IAML		18 19 35.6	
	comp=E,332nm,0.3s						
WRH				IAML		18 19 37.6	
	comp=N,356nm,0.5s						
BWN	**Browne**	**0.46**	**281**		Pg	18 19 27.7	-1.1
BWN	**Browne**	**0.46**	**281**	IAML		18 19 34.0	
	comp=N,565nm,0.5s						
BWN				IAML		18 19 35.9	
	comp=E,454nm,0.4s						
NEA2	**Nenana**	**0.58**	**332**		Pg	18 19 31.0	-0.1
NEA2					Sg	18 19 38.7	+0.1
NEA2	**Nenana**	**0.58**	**332**	IAML		18 19 39.4	
	comp=E,188nm,0.3s						
NEA2				IAML		18 19 39.5	
	comp=N,176nm,0.2s						
CCB	**Clear Creek Bu**	**0.63**	**26**		Pg	18 19 32.2	+0.2
CCB	**Clear Creek Bu**	**0.63**	**26**	IAML		18 19 44.0	
	comp=E,452nm,0.5s						
CCB				IAML		18 19 44.0	
	comp=N,346nm,0.3s						
RND	**Reindeer**	**0.71**	**195**		Pg	18 19 33.9	+0.5
RND					Sg	18 19 43.1	+0.5
TCOL	**CIGO, UAF Yank**	**0.83**	**17**		Pg	18 19 35.9	0.0
TCOL	**CIGO, UAF Yank**	**0.83**	**17**	IAML		18 19 52.0	
	comp=E,723nm,0.4s						
TCOL				IAML		18 19 52.0	
	comp=N,965nm,0.5s						
MDM	**Murphy Dome**	**0.88**	**6**		Pg	18 19 36.9	0.0
MDM	**Murphy Dome**	**0.88**	**6**	IAML		18 19 50.2	
	comp=N,353nm,0.4s						
MDM				IAML		18 19 51.5	
	comp=E,177nm,0.5s						
RIDG	**Independent Ri**	**1.62**	**101**		Pn	18 19 49.5	-0.4
RIDG				IAML		18 20 13.9	
	comp=N,125nm,0.5s						
RIDG				IAML		18 20 15.0	
	comp=E,113nm,0.4s						
CAST	**Castle Rocks**	**1.75**	**249**		Pn	18 19 50.6	-1.1
CAST				IAML		18 20 16.0	
	comp=E,78nm,0.5s						
CUT	**Chulitna**	**1.88**	**207**		Pn	18 19 53.1	-0.2
PRP	**Porcupine Dome**	**1.90**	**40**		Pn	18 19 52.6	-1.2
PRP				IAML		18 20 21.9	
	comp=N,99nm,0.4s						
PRP				IAML		18 20 22.3	
	comp=E,84nm,0.4s						
SCRK	**Sand Creek**	**1.96**	**91**		Pn	18 19 53.8	-0.8
SCRK				IAML		18 20 24.2	
	comp=N,60nm,0.6s						
SCRK				IAML		18 20 26.0	
	comp=E,52nm,0.5s						
DOT	**Dot Lake**	**1.98**	**101**		Pb	18 19 56.2	-0.8
PPLA	**Purkeypile**	**2.06**	**236**		Pb	18 19 57.8	-0.6
M24K	**Tolsona, Glenn**	**2.24**	**152**		Pb	18 20 00.5	-0.8
M24K				IAML		18 20 35.8	
	comp=E,71nm,0.8s						
SCM	**Sheep Creek Mo**	**2.32**	**167**		Pb	18 20 02.3	-0.3
SCM				IAML		18 20 42.8	
	comp=E,56nm,0.9s						
GHO	**Glory Hole Cre**	**2.33**	**186**		Pn	18 19 58.7	-0.9
GHO				IAML		18 20 34.3	
	comp=N,42nm,0.6s						
GHO				IAML		18 20 42.7	
	comp=E,36nm,0.8s						
H21K	**Melozitna Rive**	**2.44**	**312**		Pn	18 19 59.6	-1.5
H21K				IAML		18 20 36.1	
	comp=N,43nm,0.6s						
M22K	**Willow**	**2.46**	**199**		Pn	18 20 00.8	-0.6
J20K	**Nowinta River**	**2.51**	**275**		Pn	18 20 01.1	-0.8
J20K				IAML		18 20 39.9	
	comp=N,48nm,0.4s						
J20K				IAML		18 20 41.7	
	comp=E,55nm,0.6s						
L26K	**Log Cabin Wild**	**2.51**	**113**		Pb	18 20 05.8	-0.2
PMR	**Palmer**	**2.52**	**188**	Pn	Pn	18 20 01.6	-0.5
K20K	**Telida**	**2.61**	**256**		Pb	18 20 07.8	+0.1
K20K				IAML		18 20 47.8	
	comp=N,30nm,0.6s						
KNK	**Knik Glacier**	**2.68**	**180**		Pb	18 20 08.9	+0.1
FYU	**Fort Yukon**	**2.83**	**27**	Pg	Pb	18 20 12.4	+1.1
FYU				IAML		18 20 52.1	
	comp=N,48nm,0.4s						
KLU	**Klutina**	**2.85**	**155**		Pn	18 20 06.3	-0.4
KLU				IAML		18 20 47.7	
	comp=E,21nm,1.1s						
KLU				IAML		18 20 57.5	
	comp=N,26nm,0.5s						
IMAR	**Indian Mountai**	**2.95**	**313**		Pn	18 20 07.5	-0.6
N25K	**Chitina, Valde**	**3.05**	**143**		Pn	18 20 10.6	+1.1
N25K				IAML		18 20 59.3	
	comp=E,27nm,0.9s						
RC01	**Rabbit Creek A**	**3.07**	**192**		Pn	18 20 10.4	+0.8
L27K	**Beaver Creek,**	**3.13**	**106**		Pn	18 20 09.3	-1.2
BCAR	**Beaver Creek A**	**3.14**	**106**		Pn	18 20 08.7	-2.0
EGAK	**Eagle**	**3.23**	**74**		Pn	18 20 11.9	0.0
PWL	**Port Wells**	**3.24**	**179**		Pn	18 20 11.5	-0.5
M27K	**Edge Creek, AK**	**3.44**	**117**		Pn	18 20 13.8	-1.0
TTA	**Tetalina**	**3.59**	**255**		Pn	18 20 14.0	-2.8
BMRM	**Bremner River**	**3.60**	**149**		Pn	18 20 17.1	+0.1
BMAR	**Burnt Mountain**	**3.72**	**24**		Pn	18 20 17.7	-0.9
DAWY	**Dawson**	**3.97**	**86**		Pn	18 20 21.4	-0.7
TOLK	**Toolik Lake Re**	**4.60**	**355**		Pn	18 20 30.8	0.0
TOLK				IAML		18 21 52.2	
	comp=N,11nm,5.0s						
TOLK				IAML		18 22 30.0	
	comp=E,8.6nm,5.0s						

*IDC **14** 18:38:56.9±21.0,29°.12S×66°.57W,h0km,mb1 4.1/1, mb1mx3.6/20,mbtmp3.9/1,ML4.1/1,Error ellipse: s-maj=1401.0km s-min=67.0km az=74.0*

GUC 14 18:38:28.6±0.8**,31°.71S×70°.47W,h128**km±3km**,ML3.9, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.68**	**318**	*e*P	Pn	18 38 48.5	-0.3
CO02				*i* S	Sn	18 39 03.3	-0.7
CO02				IAML		18 39 04.5	
	comp=E,9μm,0.3s						
CO03	**El Pedregal**	**0.89**	**347**	*e*P	Pn	18 38 50.0	-0.5
CO03				*i* S	Sn	18 39 05.8	-1.2
CO03				IAML		18 39 07.1	
	comp=N,4μm,0.1s						
VA03	**San Esteban**	**1.05**	**184**	*e*P	Pn	18 38 51.5	-0.5
VA03				*i* S	Sn	18 39 08.5	-1.2
VA03				IAML		18 39 09.9	
	comp=E,4μm,0.3s						
VA06	**Catapilco**	**1.10**	**219**	*e*P	Pn	18 38 51.9	-0.4
VA06				*i* S	Sn	18 39 09.2	-1.2
VA06				IAML		18 39 12.4	
	comp=N,3μm,0.2s						
ROCH	**El Roble**	**1.34**	**200**	*e*P	Pn	18 38 54.5	-0.5
ROCH				*e*P	Pn	18 38 52.6	-2.5
ROCH				*i* S	Sn	18 39 12.1	-3.1
ROCH				*i* S	Sn	18 39 14.7	-0.5
ROCH				IAML		18 39 18.4	
	comp=E,3μm,0.5s						
CO06	**Fray Jorge**	**1.44**	**315**	*e*P	Pn	18 38 56.0	+0.2
CO06				*i* S	Sn	18 39 16.0	-0.6
CO06				IAML		18 39 17.1	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.44**	**187**	*e*P	Pn	18 38 55.5	-0.5
PEL				*i* S	Sn	18 39 15.8	-1.1
PEL				IAML		18 39 17.5	
	comp=E,1μm,0.4s						
GO04	**Tololo Observa**	**1.56**	**349**	*e*P	Pn	18 38 57.2	-0.3
GO04				*i* S	Sn	18 39 18.2	-1.2
FCH	**Farellones**	**1.62**	**175**	*e*P	Pn	18 38 58.5	+0.2
FCH				*i* S	Sn	18 39 20.8	-0.1
FCH				IAML		18 39 24.3	
	comp=E,970nm,0.2s						
MT02	**Curacav**	**1.65**	**200**	*e*P	Pn	18 38 57.6	-0.6
MT02				*i* S	Sn	18 39 19.9	-1.0
MT02				IAML		18 39 24.7	
	comp=E,440nm,0.4s						
VA01	**Torpederas**	**1.65**	**217**	*e*P	Pn	18 38 57.8	-0.4
VA01				*i* S	Sn	18 39 20.1	-0.8
VA01				IAML		18 39 24.7	
	comp=N,1000nm,0.3s						
MT05	**Renca**	**1.69**	**188**	*e*P	Pn	18 38 58.6	-0.3
MT05				*i* S	Sn	18 39 21.1	-0.9
MT05				IAML		18 39 22.8	
	comp=N,3μm,0.2s						
MT03	**Universidad Ad**	**1.78**	**181**	*e*P	Pn	18 38 59.7	-0.2
MT03				*i* S	Sn	18 39 23.2	-0.7
MT03				IAML		18 39 25.2	
	comp=E,2μm,0.4s						
CO05	**La Serena**	**1.90**	**339**	*e*P	Pn	18 39 01.0	-0.3
CO05				*i* S	Sn	18 39 24.8	-1.4
CO05				IAML		18 39 26.7	
	comp=E,2μm,0.4s						
MT09	**Talagante**	**2.11**	**192**	*e*P	Pn	18 39 03.4	-0.6
MT09				*i* S	Sn	18 39 30.1	-0.9
MT09				IAML		18 39 33.6	
	comp=E,718nm,0.4s						
LMEL	**Las Melosas**	**2.15**	**174**	*e*P	Pn	18 39 04.7	+0.3
LMEL				*i* S	Sn	18 39 31.7	-0.1
LMEL				IAML		18 39 36.1	
	comp=E,952nm,0.1s						
MT01	**Popeta**	**2.25**	**197**	*e*P	Pn	18 39 05.1	-0.5
MT01				*i* S	Sn	18 39 32.9	-1.1
MT01				IAML		18 39 34.1	
	comp=E,719nm,0.1s						
BO04	**La Punta**	**2.28**	**183**	*e*P	Pn	18 39 05.6	-0.4
BO04				*i* S	Sn	18 39 33.9	-0.8
BO04				IAML		18 39 34.8	
	comp=E,486nm,0.4s						
LCO	**Las Campanas**	**2.70**	**356**	*e*P	Pn	18 39 10.9	-0.6
LCO				*i* S	Sn	18 39 42.8	-1.7
BO01	**Tunca**	**2.73**	**191**	*e*P	Pn	18 39 10.8	-0.8
BO01				*i* S	Sn	18 39 43.2	-1.5
BO02	**Sierra Bellavi**	**3.09**	**185**	*e*P	Pn	18 39 15.9	-0.4
BO02				*i* S	Sn	18 39 52.1	-1.1
AC04	**Llanos de Chal**	**3.53**	**351**	*e*P	Pn	18 39 21.8	-0.4
AC04				*i* S	Sn	18 40 02.0	-1.5
AC06	**Mina Casimiro**	**4.34**	**1**	*e*P	Pn	18 39 32.2	-0.7
AC06				*i* S	Sn	18 40 18.9	-3.8
LPAZ	**La Paz**	**15.50**	**8**	Pn	Pn	18 42 01.5	+0.6
	comp=E,0.4nm,0.3s,baz=178,slow=11,SNR=7.9						
ZALV	**Zalesovo Beam**	**151.59**	**31**	PKPbc	PKPbc	18 58 42.2	+35
	comp=E,0.5nm,0.4s,baz=316,slow=4.0,SNR=2.4						
MKAR	**Makanchi Array**	**154.25**	**46**	PKPbc	PKPbc	18 58 48.7	+35
	comp=E,0.1nm,0.6s,baz=275,slow=3.5,SNR=1.4						

*GUC **14** 18:51:53.0±0.7,22°.25S×67°.62W,h205km±6km,ML3.6 SCB **14** 18:51:55.0±2.0,22°.10S×67°.43W,h135km±26km,ML3.2/13, MW3.2,Error ellipse: s-maj=7.4km s-min=5.6km az=0.0*

ISC 14 18:51:51.1±2.2**,22°.23S**±0°.06×**67°.38W**±0°.06**, h188**km±17km**,n28,**σ1§63/44**,4C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.47**	**255**	*e*P	**Pn**	**18 52 24.7**	**+0.9**
LVC				*e*S	**Sn**	**18 52 48.9**	**-0.3**
LVC	**Limon Verde**	**1.47**	**255**	P	**Pn**	**18 52 25.1**	**+1.3**
PB09	**IPOC Station P**	**1.79**	**284**	*e*P	**Pn**	**18 52 28.2**	**+1.6**
PB09				*e*S	**Sn**	**18 52 54.6**	**+0.3**
PB09	**IPOC Station P**	**1.79**	**284**	P	**Pn**	**18 52 28.3**	**+1.6**
PB09				IAML		18 52 55.7	
	73nm,0.3s						
MOCB	**Mochara**	**1.89**	**59**	P	**Pn**	**18 52 28.6**	**+0.6**
MOCB				S	**Sn**	**18 52 54.1**	**-2.5**
MOCB				IAML		18 52 56.5	
	121nm,0.3s						
MOCB				IAML		18 53 01.2	
	115nm,0.6s						
PB06	**IPOC Station P**	**2.09**	**257**	*e*P	**Pn**	**18 52 30.7**	**+0.9**
PB06				*e*S	**Sn**	**18 52 59.3**	**-0.6**
PB06				IAML		18 53 02.1	
	comp=E,153nm,0.2s						
PB06	**IPOC Station P**	**2.09**	**257**	P	**Pn**	**18 52 31.4**	**+1.6**
PB06				IAML		18 53 02.8	
	comp=E,68nm,0.2s						
PB15	**IPOC Station P**	**2.17**	**243**	P	**Pn**	**18 52 32.5**	**+1.8**
PB15				IAML		18 53 04.5	
	comp=E,753nm,0.2s						
PB01	**IPOC Station P**	**2.29**	**301⇑**	*e*P	**Pn**	**18 52 32.8**	**+0.8**
PB01				*e*S	**Sn**	**18 53 03.3**	**-0.6**
PB01				IAML		18 53 07.2	
	comp=E,145nm,0.2s						
PB01	**IPOC Station P**	**2.29**	**301**	P	**Pn**	**18 52 33.2**	**+1.2**
PB01				IAML		18 53 05.2	
	comp=E,80nm,0.2s						
PB07	**IPOC Station P**	**2.38**	**282**	*e*P	**Pn**	**18 52 33.9**	**+0.8**
PB07				*i* S	**Sn**	**18 53 04.6**	**-1.1**
PB07				IAML		18 53 05.3	
	comp=N,339nm,0.4s						
PB07	**IPOC Station P**	**2.38**	**282**	P	**Pn**	**18 52 34.0**	**+0.9**
PB07				IAML		18 53 07.1	
	comp=N,131nm,0.4s						
PB02	**IPOC Station P**	**2.51**	**291⇑**	*e*P	**Pn**	**18 52 35.2**	**+0.7**
PB02				*e*S	**Sn**	**18 53 07.0**	**-1.2**
PB02				IAML		18 53 09.2	
	comp=E,285nm,0.2s						
PB02	**IPOC Station P**	**2.51**	**291**	P	**Pn**	**18 52 35.5**	**+1.0**
PB02				S	**Sn**	**18 53 05.2**	**-3.1**
PB02				IAML		18 53 08.4	
	comp=E,246nm,0.5s						
PB04	**IPOC Station P**	**2.57**	**267**	*e*P	**Pn**	**18 52 36.0**	**+0.7**
PB04				*i* S	**Sn**	**18 53 08.1**	**-1.5**
PB04				IAML		18 53 09.9	
	comp=N,208nm,0.3s						
PB04	**IPOC Station P**	**2.57**	**267**	P	**Pn**	**18 52 36.3**	**+1.1**
PB04				IAML		18 53 09.9	
	comp=N,116nm,0.2s						
PB08	**IPOC Station P**	**2.66**	**321⇑**	*i*P	**Pn**	**18 52 38.5**	**+2.0**
PB08				*i* S	**Sn**	**18 53 13.3**	**+1.4**
PB08				IAML		18 53 17.2	
	comp=N,72nm,0.2s						
PB08	**IPOC Station P**	**2.66**	**321**	P	**Pn**	**18 52 38.5**	**+2.0**
PB08				IAML		18 53 16.6	
	comp=N,36nm,1.0s						
GO01	**Chusmiza**	**3.06**	**326⇑**	*i*P	**Pn**	**18 52 42.9**	**+1.5**
GO01				*i* S	**Sn**	**18 53 21.8**	**+1.2**
TA01	**Diego Aracena**	**3.10**	**302**	*e*P	**Pn**	**18 52 41.4**	**+0.1**
TA01				*e*S	**Sn**	**18 53 18.3**	**-2.1**
TA01				IAML		18 53 20.3	
	comp=E,164nm,0.2s						
PB10	**IPOC Station P**	**3.20**	**246**	*e*P	**Pn**	**18 52 43.1**	**+0.6**
PB10				*e*S	**Sn**	**18 53 20.4**	**-2.2**
PB10				IAML		18 53 23.7	
	comp=N,72nm,0.1s						
PB10	**IPOC Station P**	**3.20**	**246**	P	**Pn**	**18 52 43.8**	**+1.3**
PB10				IAML		18 53 23.6	
	comp=N,32nm,0.8s						
PB11	**IPOC Station P**	**3.25**	**319**	*e*P	**Pn**	**18 52 43.6**	**+0.3**
PB11				*e*S	**Sn**	**18 53 23.1**	**-1.1**
PB11				IAML		18 53 26.4	
	comp=N,153nm,0.2s						
PB11	**IPOC Station P**	**3.25**	**319**	P	**Pn**	**18 52 43.8**	**+0.4**
PB11				S	**Sn**	**18 53 20.9**	**-3.3**
PB11				IAML		18 53 25.6	
	comp=N,39nm,0.2s						
PB16	**IPOC Station P**	**4.36**	**332**	P	**Pn**	**18 52 59.2**	**+1.6**
PB16				S	**Sn**	**18 53 45.9**	**-3.9**
PB16				IAML		18 53 53.2	
	comp=N,13nm,0.5s						
BBOE	**La Paz, Chanca**	**5.42**	**354**	P	**Pn**	**18 53 13.2**	**+2.0**
BBOD	**La Paz, Gloria**	**5.68**	**348**	P	**Pn**	**18 53 15.8**	**+1.2**
LPAZ	**La Paz**	**5.96**	**353**	P	**Pn**	**18 53 20.1**	**+1.9**

IDC 14 19:00:34.7±2.3,**7°.46S×127°.01E,h0**km,**mb3.1**/1, **mb1 4.0**/3,**mb1mx3.4**/34,**mbtmp3.7**/3,**ML4.2**/2,**Error ellipse: s-maj=279.9km s-min=32.9km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.30**	**151**	Pn	Pn	19 03 57.3	-1.4
	1.4nm,0.3s,baz=326,slow=14,SNR=69						
WRA				Sn	Sn	19 06 24.6	-14
	0.7nm,0.3s,baz=321,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**17.42**	**158**	P	P	19 04 40.3	-0.4
	0.6nm,0.3s,baz=340,slow=12,SNR=60						
ASAR				S	Sn	19 07 39.1	-15
	0.1nm,0.3s,baz=338,slow=25,SNR=1.8						
MKAR	**Makanchi Array**	**67.02**	**328**	P	P	19 11 29.7	0.0
	0.1nm,0.6s,baz=119,slow=7.7,SNR=2.1						

*NEIC **14** 19:40:40.5±0.5,20°.6S±0°.3×178°.6W±0°.3,h611km±18km, mb4.3/12,Error ellipse: s-maj=51.8km s-min=23.1km az=143.0*

*IDC **14** 19:40:40.6±5.4,20°.36S×178°.67W,h617km±34km,mb3.0/4, mb1 3.2/5,mb1mx2.9/22,mbtmp3.8/5,Error ellipse: s-maj=129.7km s-min=28.6km az=141.0*

ISC 14 19:40:38.2±1.7**,20°.7S**±0°.3×**178°.4W**±0°.3**,h600**km**,n20,** σ0§84/21**,mb4.1**/10**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**311**	P	**P**	**19 42 07.7**	**+0.8**
	2.1nm,0.3s,baz=107,slow=19,SNR=7.6						
MSVF	**Nonsavu**	**4.44**	**311**	P	**P**	**19 42 07.9**	**+0.9**
STKA	**Stephens Creek**	**37.33**	**244**	P	**P**	**19 47 01.6**	**+0.4**
BBOO	**Buckleboo**	**42.09**	**244**	P	**P**	**19 47 39.7**	**+0.6**
BBOO				IAmb	IAmb	19 47 48.3	
	comp=Z,21nm,1.2s						
WR0	**Warramunga Arr**	**43.97**	**262**	P	**P**	**19 47 53.5**	**-0.4**
WR0				IAmb	IAmb	19 48 19.2	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**44.07**	**257**	P	**P**	**19 47 55.0**	**+0.3**
ASAR	**Alice Springs**	**44.07**	**257**	P	**P**	**19 47 55.0**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=92,slow=7.4,SNR=45						
ASAR				PcP	**PcP**	**19 49 27.1**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=92,slow=4.4,SNR=4.2						
ASAR	**Alice Springs**	**44.07**	**257**	P	**P**	**19 47 55.0**	**+0.3**
WB0	**Warramunga Arr**	**44.14**	**263**	P	**P**	**19 47 55.3**	**0.0**
WB0				IAmb	IAmb	19 48 23.1	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**44.15**	**262**	P	**P**	**19 47 55.3**	**0.0**
WB2				IAmb	IAmb	19 47 59.4	
	comp=Z,10.0nm,1.3s						
WRAB	**Tennant Creek**	**44.16**	**262**	P	**P**	**19 47 55.4**	**+0.1**
WRAB				IAmb	IAmb	19 47 59.2	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.16**	**262**	P	**P**	**19 47 55.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=97,slow=7.6,SNR=45						
WRA	**Warramunga Arr**	**44.16**	**262**	P	**P**	**19 47 55.2**	**-0.3**
HLK	**Haleakala**	**46.57**	**29**	P	**P**	**19 48 14.7**	**+0.8**
KNRA	**Kununurra**	**50.23**	**267**	P	**P**	**19 48 40.8**	**0.0**
FITZ	**Fitzroy Crossi**	**52.59**	**263**	P	**P**	**19 48 58.5**	**+0.8**
FITZ				IAmb	IAmb	19 49 02.7	
	comp=Z,9.7nm,1.4s						
YOJ	**Yonaguni jima**	**72.52**	**305**	P	**P**	**19 51 04.1**	**-1.5**
ILAR	**Eielson Array**	**88.60**	**13**	P	**P**	**19 52 28.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=207,slow=5.7,SNR=2.3						
SONM	**Songino Array**	**95.64**	**319**	P	**P**	**19 53 00.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=115,slow=2.9,SNR=2.1						
AKASG	**Malin Array Be**	**142.99**	**331**	PKP	**PKPdf**	**19 59 01.9**	**-2.4**
	comp=Z,1.3nm,0.5s,baz=39,slow=3.3,SNR=6.4						

NEIC 14 20:01:35.1±2.0**,36°.308N**±0°.008×**97°.50W**±0°.01**,h5**km**±2km, mb_Lg2.2**/2**,Error ellipse: s-maj=3.0km s-min=2.3km az=210.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.00**	**52**	Pg	Pg	20 01 53.5	-0.8
T35A				IAmb_Lg		20 02 08.2	
	comp=Z,5.5nm,1.1s						
FNO	**Franklin**	**1.05**	**176**	Pg	Pg	20 01 53.9	-1.4
W35A	**Tecumseh**	**1.26**	**156**	Pg	Pg	20 01 55.7	-3.5
TUL1	**Leonard**	**1.44**	**106**	Pn	Pn	20 01 59.5	-2.3
X34A	**Smith Ranch, M**	**1.73**	**189**	Pn	Pn	20 02 04.4	-1.4
WMOK	**Wichita Mounta**	**1.89**	**214**	Pn	Pb	20 02 09.3	-0.7
HHAR	**Hobbs**	**2.87**	**89**	Pn	Pn	20 02 20.5	-1.1
N33A	**J Bar K, Exete**	**4.42**	**0**	IAmb_Lg		20 04 05.0	
	comp=Z,22nm,0.7s						
P38A	**Dawn**	**4.56**	**42**	Pn	Pn	20 02 41.9	-2.9
R40A	**Maddies Statio**	**4.61**	**63**	Pn	Pn	20 02 43.5	-2.0

*IDC **14** 20:04:11.6±4.7,5°.58S×148°.34E,h135km±45km,mb3.2/3, mb1 3.3/5,mb1mx3.1/27,mbtmp3.6/5,Error ellipse: s-maj=94.5km s-min=37.7km az=110.0*

ISC 14 20:04:14.2±3.5**,5°.7S**±0°.1×**148°.4E**±0°.6**,h163**km**,n5,** σ1§21/6**,mb3.3**/3**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.85**	**198**	P	**Pn**	**20 05 13.2**	**+0.4**
	4.6nm,0.3s,baz=32,slow=9.5,SNR=15						
PMG				S	**Sn**	**20 05 57.4**	**-1.3**
	10nm,0.3s,baz=218,slow=22,SNR=9.3						
WRA	**Warramunga Arr**	**19.65**	**223**	P	**P**	**20 08 30.9**	**+0.4**
	0.4nm,0.3s,baz=50,slow=11,SNR=27						
ASAR	**Alice Springs**	**22.64**	**217**	P	**P**	**20 09 03.0**	**+1.4**
	0.6nm,0.5s,baz=50,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**25.38**	**239**	P	**P**	**20 09 26.6**	**+0.1**
	1.8nm,0.4s,baz=50,slow=11,SNR=11						
MKAR	**Makanchi Array**	**78.16**	**320**	P	**P**	**20 15 54.7**	**-0.7**
	0.2nm,0.7s,baz=123,slow=5.3,SNR=2.8		

ϕ_s134.00000°,δ84.00000°,λ77.00000°. NP2:ϕ_b21.00000°, δ14.00000°,λ157.00000°. Principal axes: T Plg49.0000°, Azm30.0000°; N Plg13.0000°, Azm136.0000°; P Plg38.0000°, Azm236.0000°;

JMA Felt II J1.

BJI **14** *20:31:37.0±0.0, 43˚.20N×143˚.10E, h120km, mb4.1/11, mB4.7/7*

NEIC **14** *20:31:37.2±1.2, 43˚.01N±0˚.06×143˚.4E±0˚.1, h119km±7km, mb4.4/88, Error ellipse: s-maj=13.4km s-min=8.3km az=99.0*

NIED **14** *20:31:37.1, 42˚.90N×143˚.44E, h116km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}1.63; $M_{\theta\theta}$-0.88; $M_{\phi\phi}$-0.75; $M_{r\theta}$6.03; $M_{\theta\phi}$1.40; $M_{\phi r}$-5.16; Fault plane solution: $M_0$8.16000×10¹⁴ NP1: ϕ_s131.00000°,δ83.00000°,λ89.00000°. NP2: ϕ_s319.00000°,δ7.00000°,λ99.00000°.*

IDC **14** *20:31:38.0±1.1, 43˚.03N×143˚.49E, h131km±7km, mb3.8/21, mb1 3.9/25, mb1mx3.8/45, mbtmp4.2/25, MS2.6/1, Ms1 2.6/1, ms1mx2.2/87 Error ellipse: s-maj=15.5km s-min=11.5km az=138.0*

ISC 14 20:31:36.2±0.6,**42˚.88N**±0˚.04×**143˚.48E**±0˚.03,**h119**km±5km, **n299**,σ1**^{s}03**/308,**mb4.3**/80,**16C-11D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.26**	**85**	⇑P		**Pn**	**20 31 54.0**	**+1.1**
JOB				*e*S		**Sn**	**20 32 06.6**	**+1.1**
JCH	**Churui**	**0.28**	**198**	⇑P		**Pn**	**20 31 53.4**	**+0.4**
JCH				*e*S		**Sn**	**20 32 05.3**	**-0.3**
JAR	**Ashorobuto**	**0.47**	**27**	⇓P		**Pn**	**20 31 54.4**	**+0.5**
JAR				*e*S		**Sn**	**20 32 07.2**	**0.0**
JFR	**Furan**	**0.71**	**294**	⇑P		**Pn**	**20 31 55.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.81**	**222**	⇑P		**Pn**	**20 31 57.3**	**+0.9**
JBT2	**Biratori 2**	**0.83**	**263**	⇑P		**Pn**	**20 31 57.0**	**+0.5**
JEM	**Erimo**	**0.90**	**195**	P		**Pn**	**20 31 57.9**	**+0.7**
ERM	**Erimo**	**0.90**	**195**	*e*PN		**Pn**	**20 31 57.9**	**+0.7**
ERM					pmax	pmax		
	comp=Z,3μm,0.8s							
ERM	**Erimo**	**0.90**	**195**	Pn		**Pn**	**20 31 58.2**	**+1.0**
JAK	**Akkeshi**	**0.90**	**82**	⇓P		**Pn**	**20 31 57.7**	**+0.5**
JAK				*e*S		**Sn**	**20 32 13.2**	**+0.2**
AKK	**Akkeshi**	**1.01**	**82**	*e*P		**Pn**	**20 31 58.4**	**+0.2**
AKK				*e*S		**Sn**	**20 32 15.1**	**+0.2**
JAB	**Ashibetsu**	**1.11**	**304**	⇑P		**Pn**	**20 32 00.0**	**+0.8**
JKK2	**Kamakawa 2**	**1.12**	**332**	⇓P		**Pn**	**20 32 00.0**	**+0.6**
JMP	**Maruseppu**	**1.13**	**356**	⇓P		**Pn**	**20 32 00.0**	**+0.5**
JMP				*e*S		**Sn**	**20 32 17.7**	**+0.6**
JTKR	**Abashiri--Toko**	**1.13**	**16**	⇓P		**Pn**	**20 32 00.0**	**+0.5**
JTKR				*e*S		**Sn**	**20 32 17.2**	**+0.1**
JNK	**Nakash**	**1.15**	**52**	⇓P		**Pn**	**20 32 00.1**	**+0.5**
JNK				*e*S		**Sn**	**20 32 17.8**	**+0.4**
JIAM	**Iburiatsuma**	**1.18**	**258**	⇑P		**Pn**	**20 32 01.9**	**+2.0**
JKA	**Kamikawa-asahi**	**1.39**	**333**	Pn		**Pn**	**20 32 02.9**	**+0.6**
ASAJ	**Asahikawa**	**1.39**	**333**	P		**Pn**	**20 32 03.3**	**+1.0**
	comp=Z,55nm,0.3s,baz=189,slow=8.7,SNR=404							
ASAJ					LR	LR	20 32 10.4	
	comp=Z,26nm,18.3s,baz=167,slow=26							
ASAJ					S	**Sn**	**20 32 23.4**	**+1.2**
	comp=Z,27nm,0.3s,baz=103,slow=24,SNR=9.2							
JEW	**Eniwo**	**1.49**	**269**	⇑P		**Pn**	**20 32 04.2**	**+0.7**
JEW				*e*S		**Sn**	**20 32 24.5**	**+0.3**
JEW	**Eniwo**	**1.49**	**269**	Pn		**Pn**	**20 32 04.2**	**+0.7**
JEW				Sn		**Sn**	**20 32 24.2**	**0.0**
JHR	**Hokuryu**	**1.54**	**304**	⇑P		**Pn**	**20 32 05.0**	**+1.0**
JRA	**Rausu**	**1.59**	**48**	⇓P		**Pn**	**20 32 05.6**	**+1.0**
GLVR	**Golovnino**	**1.72**	**59**	*e*PN		**Pn**	**20 32 07.1**	**+1.0**
GLVR				*e*S		**Sn**	**20 32 30.4**	**+1.5**
GLVR					pmax	pmax		
	comp=N,143nm,0.1s							
GLVR					pmax	pmax		
	comp=E,74nm,0.1s							
GLVR					pmax	pmax		
	comp=Z,664nm,0.1s							
GLVR					smax	smax		
	comp=N,3μm,0.3s							
GLVR					smax	smax		
	comp=E,2μm,0.3s							
GLVR	**Golovnino**	**1.72**	**59**	*e*P		**Pn**	**20 32 07.1**	**+1.0**
GLVR					AMB	AMB	20 32 08.3	
	comp=E,660nm,0.1s							
GLVR				*e*S		**Sn**	**20 32 30.4**	**+1.5**
GLVR				A		A	20 32 31.2	
	comp=E,3μm,0.3s							
GLVR				A		A	20 32 31.2	
	comp=E,2μm,0.3s							
NMR	**Nemuro--Hokkai**	**1.72**	**73**	*e*PN		**Pn**	**20 32 06.1**	**0.0**
NMR				*e*S		**Sn**	**20 32 27.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.72**	**73**	*e*P		**Pn**	**20 32 06.2**	**+0.1**
NMR				*e*S		**Sn**	**20 32 27.8**	**-1.1**
NEM2	**Nemuro 2**	**1.73**	**73**	⇓P		**Pn**	**20 32 06.1**	**-0.1**
NEM2				*e*S		**Sn**	**20 32 27.4**	**-1.7**
RUSJ	**Misakicho**	**1.77**	**46**	⇓*i*PN		**Pn**	**20 32 08.0**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**2.08**	**56**	*d i*PN		**Pn**	**20 32 11.3**	**+0.7**
YUK				*e*S		**Sn**	**20 32 37.9**	**+1.0**
YUK					pmax	pmax		
	comp=N,350nm,0.2s							
YUK					pmax	pmax		
	comp=Z,1μm,0.2s							
YUK					pmax	pmax		
	comp=E,266nm,0.1s							
YUK					smax	smax		
	comp=E,1μm,0.3s							
YUK					smax	smax		
	comp=N,3μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.08**	**56**	*i* P		**Pn**	**20 32 11.7**	**+1.1**
YUK					AMB	AMB	20 32 13.1	
	comp=N,1μm,0.2s							
YUK				*e*S		**Sn**	**20 32 38.0**	**+1.0**
YUK				A		A	20 32 41.6	
	comp=N,3μm,0.4s							
YUK				A		A	20 32 41.6	
	comp=N,1μm,0.4s							
SHO	**Shikotan**	**2.63**	**67**	*d i*PN		**Pn**	**20 32 17.6**	**0.0**
SHO				*e*S		**Sn**	**20 32 47.3**	**-2.2**
SHO					pmax	pmax		
	comp=E,153nm,0.2s							
SHO					pmax	pmax		
	comp=Z,442nm,0.2s							
SHO					pmax	pmax		
	comp=N,65nm,0.1s							
SHO					smax	smax		
	comp=N,2μm,0.5s							
SHO					smax	smax		
	comp=E,3μm,0.3s							
SHO	**Shikotan**	**2.63**	**67**	*i* P		**Pn**	**20 32 17.6**	**0.0**
SHO					AMB	AMB	20 32 18.2	
	comp=E,380nm,0.2s							
SHO				*e*S		**Sn**	**20 32 48.4**	**-1.1**
SHO				A		A	20 32 49.1	
	comp=E,2μm,0.5s							
SHO				A		A	20 32 49.1	
	comp=E,3μm,0.5s							
JTM	**Tenmabayashi**	**2.76**	**222**	Pn		**Pn**	**20 32 19.1**	**-0.3**
KUR	**Kuril'sk**	**3.94**	**52**	*e*PN		**Pn**	**20 32 35.0**	**+0.2**
KUR				*i* S		**Sn**	**20 33 21.9**	**+1.6**
KUR					pmax	pmax		
	comp=Z,106nm,0.3s							
KUR					pmax	pmax		
	comp=N,37nm,0.2s							
KUR					pmax	pmax		
	comp=E,36nm,0.2s							
KUR					smax	smax		
	comp=N,198nm,0.4s							
KUR					smax	smax		
	comp=E,316nm,0.4s							
KUR	**Kuril'sk**	**3.94**	**52**	*e*P		**Pn**	**20 32 35.4**	**+0.6**
KUR					AMB	AMB	20 32 46.7	
	comp=E,110nm,0.3s							
KUR				*i* S		**Sn**	**20 33 21.7**	**+1.4**
KUR				A		A	20 33 23.0	
	comp=E,200nm,0.4s							
KUR				A		A	20 33 23.0	
	comp=E,320nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.10**	**353**	*e*PN		**Pn**	**20 32 37.9**	**+0.9**
YSS					pmax	pmax		
	comp=Z,40nm,0.8s							
YSS					MLR	MLR		
	comp=Z,200nm,15.0s							
YSS	**Yuzh-Sakhalins**	**4.10**	**353**			**Pn**	**20 32 35.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.10**	**353**	*e*P		**Pn**	**20 32 37.9**	**+0.9**
YSS					AMB	AMB	20 32 42.2	
	comp=Z,40nm,0.8s							
YSS					*e*S	**Sn**	**20 33 24.7**	**+0.5**
YSS					A	A	20 33 26.9	
	comp=Z,30nm,0.9s							
YSS					A	A	20 33 26.9	
	comp=Z,40nm,0.9s							
YSS					A	A	20 33 27.0	
	comp=Z,200nm,2.0s							
YSS					AMS	AMS	20 34 49.0	
	comp=Z,200nm,15.0s							
JMM	**Marumori**	**5.42**	**203**			**Pn**	**20 32 53.6**	**-1.1**
JSD	**Sado**	**6.27**	**221**	Pn		**Pn**	**20 33 05.2**	**-1.0**
JYT	**Yasato**	**7.11**	**202**			Pn	20 33 14.5	-3.2
MJB9	**Matsu-Tunnel**	**7.52**	**214**	Pn		**Pn**	**20 33 22.2**	**-1.0**
MAJO	**Matsushiro**	**7.52**	**214**	*i* PN		**Pn**	**20 33 23.5**	**+0.3**
MAJO	**Matsushiro**	**7.52**	**214**			**Pn**	**20 33 23.1**	**-0.2**
MJAR	**Matsushiro Arr**	**7.52**	**214**	P		**Pn**	**20 33 23.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=25,slow=12,SNR=17							
MJAR					LR	LR	20 36 17.0	
	comp=Z,44nm,20.9s,baz=35,slow=36							
MJAR	**Matsushiro Arr**	**7.52**	**214**	PN		**Pn**	**20 33 22.3**	**-0.9**
MJAR	**Matsushiro Arr**	**7.52**	**214**	Pn		**Pn**	**20 33 22.3**	**-0.9**
TYV	**Tymovskoe**	**8.00**	**356**	*e*P		**Pn**	**20 33 29.5**	**0.0**
TYV					AMB	AMB	20 33 30.4	
USRK	**Ussuriysk Ar.**	**8.45**	**283**	P		**Pn**	**20 33 38.7**	**+3.0**
	baz=92,slow=13,SNR=1.8							
JGF	**Kuroka**	**8.68**	**215**	Pn		**Pn**	**20 33 37.1**	**-1.8**
INU	**Inuyama**	**9.04**	**216**	Pn		**Pn**	**20 33 41.2**	**-2.5**
KLR	**Kul'dur**	**10.32**	**312**	P		**Pn**	**20 34 01.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=17,SNR=1.8							
NKL	**Nikolayevsk**	**10.44**	**351**	*e*P		**Pn**	**20 34 03.1**	**+0.7**
NKL					AMB	AMB	20 34 06.1	
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**13.07**	**251**	P		**Pn**	**20 34 40.3**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=65,slow=13,SNR=2.7							
PEA0B	**Petropavlovsk-**	**13.95**	**38**	*ce*P		**Pn**	**20 34 46.1**	**-2.4**
PETK	**Petropavlovsk-**	**13.95**	**38**	P		**Pn**	**20 34 46.4**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=216,slow=13,SNR=8.0							
PETK	**Petropavlovsk-**	**13.95**	**38**	Pn		**Pn**	**20 34 45.2**	**-3.3**
MA2	**Magadan**	**17.31**	**13**	P		**P**	**20 35 27.7**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=195,slow=9.8,SNR=10							
MA2	**Magadan**	**17.31**	**13**	P		**P**	**20 35 28.7**	**-1.1**
MA2					pmax	pmax		
	comp=Z,8.0nm,0.7s							
MA2	**Magadan**	**17.31**	**13**			**P**	**20 35 28.7**	**-1.1**
MA2	**Magadan**	**17.31**	**13**	*e*P		**P**	**20 35 28.7**	**-1.1**
SEY	**Seymchan**	**20.75**	**12**	P		**P**	**20 36 05.2**	**-1.9**
	comp=Z,17nm,0.6s,baz=192,slow=7.9,SNR=117							
SEY	**Seymchan**	**20.75**	**12**	⇑*i*P		**P**	**20 36 05.0**	**-2.1**
SEY					pmax	pmax		
	comp=Z,17nm,0.9s							
YAK	**Yakutsk**	**20.85**	**342**	P		**P**	**20 36 06.0**	**-2.2**
	comp=Z,5.0nm,0.3s,baz=149,slow=3.2,SNR=5.6							
YAK	**Yakutsk**	**20.85**	**342**	*ce*P		**P**	**20 36 05.1**	**-3.1**
YAK					pmax	pmax		
	comp=Z,7.0nm,0.6s							
SONM	**Songino Array**	**26.35**	**294**	P		**P**	**20 37 02.0**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=77,slow=7.9,SNR=7.1							
SONM	**Songino Array**	**26.35**	**294**	P		**P**	**20 37 00.5**	**-0.5**
SONM					pmax	pmax		
	comp=Z,3.0nm,1.4s							
SONM	**Songino Array**	**26.35**	**294**	P		**P**	**20 37 00.5**	**-0.5**
BILL	**Bilibino**	**27.98**	**18**	*e*P		**P**	**20 37 15.2**	**0.0**
BILL				*e*			20 37 51.1	
BILL				*e*			20 38 07.6	
BILL				*e*			20 40 30.0	
BILL					pmax	pmax		
	comp=Z,1.0nm,1.0s							
BILL	**Bilibino**	**27.98**	**18**	*e*P		**P**	**20 37 15.2**	**0.0**
ENH	**Enshi**	**29.85**	**256**	P		**P**	**20 37 32.5**	**+0.3**
ENH					IAmb	IAmb	20 37 38.5	
	comp=Z,6.9nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**30.36**	**132**		T	T	21 09 09.7	
	baz=327,slow=75,SNR=137							
H11N1	**WAKE ISLAND Hy**	**30.37**	**132**		T	T	21 09 14.6	
	baz=327,slow=75,SNR=120							
H11N3	**WAKE ISLAND Hy**	**30.37**	**132**		T	T	21 09 11.9	
	baz=327,slow=75,SNR=91							
H11S1	**WAKE ISLAND Hy**	**31.25**	**134**		T	T	21 10 21.5	
	baz=328,slow=76,SNR=157							
H11S3	**WAKE ISLAND Hy**	**31.25**	**134**		T	T	21 10 26.5	
	baz=328,slow=76,SNR=118							
H11S2	**WAKE ISLAND Hy**	**31.27**	**134**		T	T	21 10 23.0	
	baz=328,slow=76,SNR=126							
NIKH	**Nikolski High**	**32.93**	**55**	P		**P**	**20 38 03.0**	**+4.1**
	baz=272							
UNV	**Unalaska Valle**	**34.30**	**54**	P		**P**	**20 38 14.3**	**+3.5**
	baz=272							
TNA	**Tin City**	**35.03**	**33**	P		**P**	**20 38 17.1**	**+0.2**
TNA					IAmb	IAmb	20 38 17.9	
	comp=Z,5.5nm,1.2s							
TNA	**Tin City**	**35.03**	**33**	P		**P**	**20 38 16.8**	**-0.2**
	baz=254							
ANM	**Nome**	**35.84**	**35**	P		**P**	**20 38 23.8**	**-0.1**
	baz=258							
GOMU	**GeErMu**	**37.69**	**277**	P		**P**	**20 38 37.9**	**-2.4**
GOMU					pmax	pmax		
	comp=Z,1.0nm,0.4s							
GOMU					pmax	pmax		
	comp=Z,99nm,5.4s							
ZAA0	**Zalesovo Array**	**39.39**	**307**	P		**P**	**20 38 52.4**	**-1.4**
ZALV	**Zalesovo Beam**	**39.39**	**307**	P		**P**	**20 38 54.5**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=83,slow=8.6,SNR=13							
ZALV	**Zalesovo Beam**	**39.39**	**307**	P		**P**	**20 38 51.9**	**-1.9**
ZALV	**Zalesovo Beam**	**39.39**	**307**	P		**P**	**20 38 51.9**	**-1.9**
TTA	**Tatalina**	**39.78**	**38**	P		**P**	**20 38 57.3**	**+0.1**
	baz=269							
P18K	**Big Mountain,**	**40.25**	**44**	P		**P**	**20 39 01.9**	**+0.9**
	baz=274							
CHIR	**Chirikof Islan**	**40.40**	**50**	P		**P**	**20 39 04.7**	**+2.5**
	baz=278							
N19K	**Bonanza Creek**	**40.54**	**42**	P		**P**	**20 39 04.7**	**+1.3**
	baz=273							
M19K	**Big River Lodg**	**40.54**	**40**	P		**P**	**20 39 04.3**	**+1.0**
	baz=272							
J20K	**Nowinta River**	**40.64**	**37**	P		**P**	**20 39 04.8**	**+0.8**
J20K					IAmb	IAmb	20 39 05.8	
	comp=Z,7.6nm,0.7s							
J20K	**Nowinta River**	**40.64**	**37**	P		**P**	**20 39 04.8**	**+0.8**
	baz=269							
K20K	**Telida**	**40.67**	**38**	P		**P**	**20 39 04.8**	**+0.4**
K20K					IAmb	IAmb	20 39 06.2	
	comp=Z,4.5nm,0.8s							
K20K	**Telida**	**40.67**	**38**	P		**P**	**20 39 05.3**	**+1.0**
	baz=270							
L20K	**Farewell, AK**	**40.77**	**39**	P		**P**	**20 39 06.0**	**+0.8**
	baz=272							
IMAR	**Indian Mountai**	**40.86**	**34**	P		**P**	**20 39 05.7**	**-0.2**
Q19K	**Cape Douglas,**	**41.10**	**45**	P		**P**	**20 39 09.0**	**+1.0**
H21K	**Melozitna Rive**	**41.24**	**34**	P		**P**	**20 39 09.4**	**+0.4**
H21K	**Melozitna Rive**	**41.24**	**34**	P		**P**	**20 39 09.2**	**+0.2**
	baz=269							
CHUM	**Lake Minchumin**	**41.45**	**37**	P		**P**	**20 39 11.6**	**+0.9**
	baz=271							
O20K	**Slope Mountain**	**41.51**	**43**	P		**P**	**20 39 12.6**	**+1.2**
	baz=275							
PPLA	**Purkeypile**	**41.53**	**39**	P		**P**	**20 39 13.2**	**+1.7**
PPLA					IAmb	IAmb	20 39 20.2	
	comp=Z,16nm,1.4s							
PPLA	**Purkeypile**	**41.53**	**39**	P		**P**	**20 39 12.4**	**+0.8**
	baz=273							
CAST	**Castle Rocks**	**41.56**	**38**	P		**P**	**20 39 12.6**	**+0.9**
CAST					IAmb	IAmb	20 39 13.7	
	comp=Z,7.1nm,0.6s							
CAST	**Castle Rocks**	**41.56**	**38**	P		**P**	**20 39 12.6**	**+0.9**
	baz=272,SNR=11							
I21K	**Tanana**	**41.58**	**35**	P		**P**	**20 39 12.4**	**+0.6**
I21K					IAmb	IAmb	20 39 13.4	
	comp=Z,7.2nm,1.3s							
I21K	**Tanana**	**41.58**	**35**	P		**P**	**20 39 12.3**	**+0.6**
	baz=270							
SPCR	**Spurr Chakacha**	**41.62**	**41**	P		**P**	**20 39 13.5**	**+1.2**
	baz=274							
KDAK	**Kodiak Island**	**41.79**	**46**	P		**P**	**20 39 15.3**	**+1.7**
	baz=278							
BPAW	**Bear Paw Mtn.**	**42.02**	**37**	P		**P**	**20 39 15.9**	**+0.5**
BPAW	**Bear Paw Mtn.**	**42.02**	**37**	P		**P**	**20 39 16.4**	**+1.0**
	baz=272							
KTH	**Kantishna Hill**	**42.08**	**37**	P		**P**	**20 39 16.7**	**+0.8**
MLY	**Manley**	**42.10**	**35**	P		**P**	**20 39 17.0**	**+1.0**
MLY	**Manley**	**42.10**	**35**	P		**P**	**20 39 16.8**	**+0.7**
	baz=271,SNR=5.7							
TRF	**Thorofare Moun**	**42.37**	**38**	P		**P**	**20 39 18.9**	**+0.6**
TRF					IAmb	IAmb	20 39 20.6	
	comp=Z,5.4nm,0.9s							
TRF	**Thorofare Moun**	**42.37**	**38**	P		**P**	**20 39 19.0**	**+0.6**
	baz=274							
BRLK	**Bradley Lake**	**42.42**	**43**	P		**P**	**20 39 19.3**	**+0.6**
BRLK					IAmb	IAmb	20 39 20.4	
	comp=Z,7.5nm,1.0s							
CUT	**Chulitna**	**42.45**	**39**	P		**P**	**20 39 19.4**	**+0.6**
	baz=275							
TOLK	**Toolik Lake Re**	**42.58**	**30**	P		**P**	**20 39 19.7**	**-0.2**
TOLK	**Toolik Lake Re**	**42.58**	**30**	P		**P**	**20 39 20.3**	**+0.4**
	baz=268							
MK31	**Makanchi Array**	**42.60**	**297**	P		**P**	**20 39 20.1**	**-0.3**
MK31					pmax	pmax		
	comp=Z,3.0nm,1.5s							
MK31	**Makanchi Array**	**42.60**	**297**	P		**P**	**20 39 20.1**	**-0.3**
MKAR	**Makanchi Array**	**42.60**	**297**	P		**P**	**20 39 20.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=79,slow=9.2,SNR=13							
MKAR	**Makanchi Array**	**42.60**	**297**	*i* P		**P**	**20 39 20.7**	**+0.3**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**42.60**	**297**	*e*P		**P**	**20 39 20.7**	**+0.3**
I23K	**Minto, Yukon-K**	**42.69**	**35**	P		**P**	**20 39 20.7**	**+0.1**
I23K					IAmb	IAmb	20 39 24.5	
	comp=Z,10nm,1.5s							
I23K	**Minto, Yukon-K**	**42.69**	**35**	P		**P**	**20 39 21.1**	**+0.4**
	baz=272							
BWN	**Browne**	**42.69**	**37**	P		**P**	**20 39 21.6**	**+0.9**
MAKZ	**Makanchi**	**42.80**	**297**	P		**P**	**20 39 21.2**	**-0.8**
MAKZ					pmax	pmax		
	comp=Z,4.0nm,1.4s							
MAKZ	**Makanchi**	**42.80**	**297**	P		**P**	**20 39 21.2**	**-0.8**
RC01	**Rabbit Creek A**	**42.83**	**41**	P		**P**	**20 39 22.0**	**+0.1**
	baz=277							
NEA2	**Nenana**	**42.84**	**36**	P		**P**	**20 39 22.5**	**+0.5**
NEA2	**Nenana**	**42.84**	**36**	P		**P**	**20 39 22.5**	**+0.5**
	baz=273,SNR=15							
MCK	**McKinley**	**42.95**	**37**	P		**P**	**20 39 23.4**	**+0.5**
MCK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MCK	**McKinley**	**42.95**	**37**	P		**P**	**20 39 23.4**	**+0.5**
MCK					IAmb	IAmb	20 39 24.4	
	comp=Z,5.7nm,0.9s							
MCK	**McKinley**	**42.95**	**37**	P		**P**	**20 39 23.1**	**+0.2**
	baz=274,SNR=5.0							
RND	**Reindeer**	**43.01**	**38**	P		**P**	**20 39 23.5**	**0.0**
RND					pmax	pmax		
	comp=Z,4.0nm,0.7s							
RND	**Reindeer**	**43.01**	**38**	P		**P**	**20 39 23.5**	**0.0**
RND					IAmb	IAmb	20 39 24.4	
	comp=Z,4.2nm,0.7s							
GHO	**Glory Hole Cre**	**43.14**	**40**	P		**P**	**20 39 24.1**	**-0.4**
GHO					IAmb	IAmb	20 39 28.1	
	comp=Z,6.5nm,0.6s							
MDM	**Murphy Dome**	**43.17**	**35**	P		**P**	**20 39 25.2**	**+0.5**
MDM					IAmb	IAmb	20 39 26.1	
	comp=Z,5.9nm,0.8s							
WRH	**Wood River Hil**	**43.27**	**36**	P		**P**	**20 39 25.6**	**+0.2**
H24K	**Noodor Dome**	**43.27**	**34**	P		**P**	**20 39 25.6**	**+0.1**
H24K					IAmb	IAmb	20 39 27.3	
	comp=Z,5.0nm,0.9s							
TCOL	**CIGO, UAF Yank**	**43.34**	**35**	P		**P**	**20 39 26.4**	**+0.5**
TCOL	**CIGO, UAF Yank**	**43.34**	**35**	P		**P**	**20 39 26.8**	**+0.9**
	baz=274							
COLA	**College**	**43.34**	**35**	*i* P		**P**	**20 39 25.9**	**0.0**
COLA					pmax	pmax		
	comp=Z,7.0nm,0.8s							
COLA	**College**	**43.34**	**35**	P		**P**	**20 39 26.1**	**+0.1**
COLA	**College**	**43.34**	**35**	P		**P**	**20 39 26.9**	**+1.0**
	baz=274							
CCB	**Clear Creek Bu**	**43.38**	**36**	P		**P**	**20 39 26.7**	**+0.4**
KNK	**Knik Glacier**	**43.40**	**40**	P		**P**	**20 39 26.9**	**+0.3**
KNK					IAmb	IAmb	20 39 30.2	
	comp=Z,6.0nm,1.0s							
KNK	**Knik Glacier**	**43.40**	**40**	P		**P**	**20 39 27.0**	**+0.5**
	baz=277							
SML	**Sawmill**	**43.41**	**40**	P		**P**	**20 39 27.1**	**+0.4**
SML					IAmb	IAmb	20 39 28.6	
	comp=Z,7.6nm,0.7s							
SML	**Sawmill**	**43.41**	**40**	P		**P**	**20 39 26.8**	**+0.1**
	baz=277,SNR=5.1							
POKR	**Poker Plat Res**	**43.50**	**35**	P		**P**	**20 39 28.0**	**+0.8**
	baz=274							
PWL	**Port Wells**	**43.53**	**41**	P		**P**	**20 39 27.6**	**-0.1**
PWL					IAmb	IAmb	20 39 55.9	
	comp=Z,14nm,1.4s							
PWL	**Port Wells**	**43.53**	**41**	P		**P**	**20 39 27.9**	**+0.3**
	baz=278							
WAT6	**Susitna Watana**	**43.60**	**39**	P		**P**	**20 39 28.4**	**+0.1**
	baz=277							
DHY	**Denali Highway**	**43.71**	**38**	P		**P**	**20 39 29.4**	**+0.2**
DHY					IAmb	IAmb	20 39 30.1	
	comp=Z,5.0nm,0.6s							
DHY	**Denali Highway**	**43.71**	**38**	P		**P**	**20 39 29.3**	**+0.1**
	baz=276,SNR=5.9							
IL31		**43.76**	**36**	P		**P**	**20 39 29.3**	**0.0**
IL31					IAmb	IAmb	20 39 30.7	
	comp=Z,13nm,1.2s							
ILAR	**Eielson Array**	**43.76**	**36**	P		**P**	**20 39 29.4**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=256,slow=5.5,SNR=75							
ILAR	**Eielson Array**	**43.76**	**36**	P		**P**	**20 39 29.3**	**-0.1**
HDA	**Harding Lake**	**43.77**	**36**	P		**P**	**20 39 29.4**	**0.0**
HDA	**Harding Lake**	**43.77**	**36**	P		**P**	**20 39 29.6**	**

comp=Z,6.1nm,0.8s
MCARA **McCarthy VSAT** 45.99 40 P P 20 39 48.3 +1.3
baz=282
EGAK **Eagle** 46.19 35 P P 20 39 50.3 +1.7
baz=280
L27K **Beaver Creek,** 46.21 37 P P 20 39 49.9 +1.1
L27K IAmb IAmb 20 39 50.9
comp=Z,7.3nm,0.7s
L27K **Beaver Creek,** 46.21 37 P P 20 39 50.0 +1.2
baz=281
BCAR **Beaver Creek A** 46.23 37 P P 20 39 49.5 +0.5
WAX **Waxell Ridge** 46.26 41 P P 20 39 49.4 +0.1
WAX IAmb IAmb 20 39 51.3
comp=Z,6.8nm,0.7s
M27K **Edge Creek, AK** 46.32 38 P P 20 39 50.9 +1.1
M27K IAmb IAmb 20 39 51.9
comp=Z,6.4nm,0.8s
ISLE **Juniper Island** 46.48 41 P P 20 39 51.6 +0.5
ISLE IAmb IAmb 20 39 53.0
comp=Z,6.3nm,0.9s
BARN **Barnard Glacie** 46.70 40 P P 20 39 53.9 +1.0
BARN IAmb IAmb 20 39 54.6
comp=Z,4.9nm,0.6s
BVCY **Beaver Creek** 46.78 38 P P 20 39 55.6 +2.4
baz=282
CTG **Chitna Glacier** 46.87 40 P P 20 39 55.2 +1.1
baz=283
CTGM **Chitina Glacie** 46.88 40 P P 20 39 54.7 +0.5
CTGM IAmb IAmb 20 40 01.8
comp=Z,17nm,1.5s
YUK3 **Moose Creek** 47.10 39 P P 20 39 56.7 +0.8
baz=283
I29M **Ogilvie Camp,** 47.27 34 P P 20 39 58.1 +1.1
baz=282
BRVK **Borovoye** 48.02 309 *ce*P P 20 40 03.2 +0.3
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK **Borovoye** 48.02 309 P P 20 40 03.2 +0.3
BRVK IAmb IAmb 20 40 05.2
comp=Z,3.7nm,0.6s
BRVK **Borovoye** 48.02 309 *e*P P 20 40 03.2 +0.3
YUK4 **Talbot Arm** 48.05 39 P P 20 40 04.6 +1.3
baz=285
YUK6 **Outpost Mounta** 48.29 40 P P 20 40 06.2 +1.0
baz=286
GUN **Gumba** 48.37 272 *e*P P 20 40 11.9 +5.5
comp=Z,15nm,0.5s
INK **Inuvik** 48.49 30 P P 20 40 06.5 +0.2
comp=Z,6.5nm,0.4s,baz=306,slow=3.3,SNR=6.3
INK **Inuvik** 48.49 30 P P 20 40 06.4 +0.2
INK pmax pmax
comp=Z,8.0nm,0.4s
INK **Inuvik** 48.49 30 P P 20 40 06.4 +0.2
INK **Inuvik** 48.49 30 P P 20 40 06.5 +0.2
baz=283
M30M **Minto, Yukon** 48.57 37 P P 20 40 08.3 +1.2
M30M **Minto, Yukon** 48.57 37 P P 20 40 07.8 +0.7
baz=286
HYT **Haines Junctio** 48.72 40 P P 20 40 10.0 +1.7
HYT **Haines Junctio** 48.72 40 P P 20 40 10.2 +1.9
baz=286,SNR=15
KKN **Kakani** 48.88 272 *e*P P 20 40 15.8 +5.7
comp=Z,3.4nm,0.4s
PKI **Pulchoki** 48.91 272 *e*P P 20 40 15.8 +5.3
comp=Z,4.1nm,0.5s
PKIN **Phulchoki** 48.91 272 *e*P P 20 40 15.5 +5.1
comp=Z,0.9nm,0.2s
DMN **Daman** 49.11 272 *e*P P 20 40 17.5 +5.6
comp=Z,7.7nm,0.6s
GKN **Gorkha** 49.23 273 *e*P P 20 40 18.3 +5.5
comp=Z,4.6nm,0.6s
N31M **Braeburn, Yuko** 49.34 39 P P 20 40 14.4 +1.5
N31M **Braeburn, Yuko** 49.34 39 P P 20 40 14.7 +1.8
baz=287
DANN **Dangsing** 49.69 273 *e*P P 20 40 22.7 +6.4
comp=Z,14nm,0.4s
M31M **Drury Creek, Y** 49.75 37 P P 20 40 17.0 +1.0
M31M **Drury Creek, Y** 49.75 37 P P 20 40 17.5 +1.5
baz=288
WHY **Whitehorse** 50.00 39 P P 20 40 19.2 +1.1
WHY IAmb IAmb 20 40 20.3
comp=Z,4.4nm,0.8s
WHY **Whitehorse** 50.00 39 P P 20 40 19.8 +1.7
baz=288
FARO **Faro, Yukon** 50.21 37 P P 20 40 21.0 +1.5
baz=288
PYUN **Piuthan** 50.39 274 *e*P P 20 40 28.1 +6.5
comp=Z,1.7nm,0.2s
MMPY **Sheldon Lake,** 51.00 36 P P 20 40 27.2 +1.8
baz=290
P33M **Teslin, Yukon** 51.12 40 P P 20 40 28.1 +1.7
baz=290
C36M **Paulatuk** 51.48 27 P P 20 40 29.6 +0.8
baz=290
TGTN **Hyland Airport** 52.71 37 P P 20 40 39.6 +1.5
baz=293
ARU **Arti** 53.13 316 *c i*P P 20 40 40.9 -0.3
ARU 20 41 43.4
ARU 20 42 36.5
ARU S S 20 40 02.8 +0.6
ARU SS SS 20 51 40.5 -2.1
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU **Arti** 53.13 316 P P 20 40 41.1 -0.2
ARU **Arti** 53.13 316 *e*P P 20 40 40.9 -0.3
ABKAR **Akbulak array** 55.50 308 P P 20 40 58.3 -0.1
ABKAR IAmb IAmb 20 41 01.6
comp=Z,2.7nm,0.4s
RES **Resolute Bay** 56.55 16 P P 20 41 04.7 -0.8
RES pmax pmax
comp=Z,6.0nm,0.7s
RES **Resolute Bay** 56.55 16 P P 20 41 04.7 -0.8
YKA **Yellowknife Ar** 57.99 32 P P 20 41 16.0 +0.2
comp=Z,1.8nm,0.6s,baz=307,slow=6.6,SNR=32
YKA **Yellowknife Ar** 57.99 32 P P 20 41 16.0 +0.2
ARCES **ARCESS Array B** 59.10 339 P P 20 41 23.0 -0.5
comp=Z,1.5nm,0.5s,baz=46,slow=7.7,SNR=18
ARCES **ARCESS Array B** 59.10 339 IAmb IAmb 20 41 32.9
comp=Z,28nm,1.5s
BELG **Belogornoye** 60.67 316 *i*P P 20 41 33.7 -0.7
WRA **Warramunga Arr** 63.08 190 P P 20 41 50.9 0.0
comp=Z,0.8nm,0.8s,baz=9.1,slow=6.8,SNR=6.9
OBN **Obninsk** 64.40 322 *e*P P 20 42 00.2 +1.1
OBN *e* 20 42 32.7
OBN *e*PPP PPP 20 45 53.5
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN **Obninsk** 64.40 322 *e*P P 20 42 00.2 +1.1
FIA1 **FINESS Array S** 64.40 332 P P 20 41 58.1 -0.9
FINES **FINESS Array B** 64.40 332 P P 20 41 58.4 -0.7
comp=Z,7.2nm,0.6s,baz=45,slow=8.0,SNR=53
ASAR **Alice Springs** 66.80 190 P P 20 42 16.4 +1.5
comp=Z,0.6nm,0.7s,baz=358,slow=4.6,SNR=7.6
FCC **Fort Churchill** 68.08 28 P P 20 42 22.6 0.0
FCC pmax pmax
comp=Z,9.0nm,1.5s
FCC **Fort Churchill** 68.08 28 P P 20 42 22.6 0.0
FCC IAmb IAmb 20 42 23.6
comp=Z,9.5nm,1.4s
KBZ **Khabaz** 68.33 310 P P 20 42 24.1 -0.3
comp=Z,2.3nm,0.9s,baz=22,slow=11,SNR=3.5
HRY **Holter Researc** 68.67 46 P P 20 42 26.9 +0.3
NACGM **Naroch** 68.73 326 *i*P P 20 42 25.2 -1.4
NC300 **NORSAR Array S** 69.17 337 P P 20 42 28.9 -0.4
NC405 **NORSAR Array S** 69.20 337 P P 20 42 28.8 -0.7
NC303 **NORSAR Array S** 69.21 337 P P 20 42 29.1 -0.4
NC204 **NORSAR Array S** 69.34 338 P P 20 42 29.8 -0.7
BCYI **Bear Canyon** 69.37 48 P P 20 42 31.4 +0.2
NB201 **NORSAR Array S** 69.38 337 P P 20 42 30.1 -0.5
NB201 IAmb IAmb 20 42 31.2
comp=Z,5.1nm,0.6s
NB2 **NORSAR Subarra** 69.41 337 P P 20 42 30.4 -0.4
comp=Z,1.9nm,0.5s,baz=34,slow=6.5
NOA **NORSAR Array B** 69.41 337 P P 20 42 30.4 -0.4
comp=Z,3.4nm,0.7s,baz=35,slow=6.2,SNR=22
BOZ **Bozeman (W)** 69.50 46 P P 20 42 32.4 +0.6
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ **Bozeman (W)** 69.50 46 P P 20 42 32.4 +0.6
BOZ IAmb IAmb 20 42 33.1
comp=Z,3.2nm,0.6s
NBO00 **NORSAR Array S** 69.54 338 P P 20 42 31.6 0.0
KVN **Kaiserville** 70.02 55 P P 20 42 36.0 +0.8
KVN pmax pmax
comp=Z,2.0nm,0.7s
KVN **Kaiserville** 70.02 55 P P 20 42 36.0 +0.8
NVAR **Mina Array Bea** 70.29 56 P P 20 42 37.9 +1.0
comp=Z,0.8nm,0.4s,baz=280,slow=8.3,SNR=3.6
AKASG **Malin Array Be** 70.65 322 P P 20 42 38.0 -0.5
comp=Z,1.0nm,0.4s,baz=42,slow=6.0,SNR=9.5
AKASG **Malin Array Be** 70.65 322 P P 20 42 38.0 -0.5
FRB **Frobisher Bay** 70.72 14 P P 20 42 37.8 -0.9
comp=Z,1.7nm,0.3s,baz=356,slow=5.6,SNR=11
TPNV **Topopah Spring** 72.49 56 P P 20 42 51.0 +1.0
TPNV pmax pmax
comp=Z,2.0nm,1.0s
TPNV **Topopah Spring** 72.49 56 P P 20 42 51.0 +1.0
PFO **Pinyon Flats O** 74.55 58 *i*P P 20 43 03.5 +1.4
BUR08 **Bucovina Ar. S** 74.69 322 P P 20 43 02.6 0.0
BURAR **Bucovina Array** 74.70 322 P P 20 43 02.8 +0.1
CLL **Collm** 76.80 331 *e*P P 20 43 13.0 -1.4
CLL **Collm** 76.80 331 *e*P P 20 43 13.0 -1.4
EYMN **Ely** 77.39 34 P P 20 43 17.6 -0.2
KHC **Kasperske Hory** 78.37 329 *e*P P 20 43 23.5 +0.3
KHC **Kasperske Hory** 78.37 329 *e*P P 20 43 23.5 +0.3
GERES **GERESS Array B** 78.56 329 P P 20 43 24.2 -0.1
comp=Z,0.2nm,0.4s,baz=39,slow=6.3,SNR=4.9
SCHQ **Schefferville** 79.28 17 P P 20 43 27.9 -0.2
comp=Z,2.9nm,0.9s,baz=315,slow=8.6,SNR=6.1
TX31 **Lajitas Ar. Si** 85.34 54 P P 20 44 00.6 +0.4
TX32 **Lajitas Array** 85.34 54 P P 20 44 00.8 +0.6
TXAR **Lajitas Array** 85.34 54 P P 20 44 00.7 +0.6
comp=Z,1.9nm,0.5s,baz=293,slow=3.6,SNR=26
TXAR **Lajitas Array** 85.34 54 P P 20 44 00.5 +0.4
U40A **Yellville** 85.91 42 P P 20 44 02.7 0.0
U40A IAmb IAmb 20 44 03.3
comp=Z,4.4nm,0.7s

IDC 14 20:51:33.7±2.6, 5.63N×126.11E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, Error ellipse: s-maj=219.2km s-min=29.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.67**	**163**	P	P	20 57 14.2	-0.5
	0.2nm,0.4s,baz=341,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**30.10**	**166**	P	P	20 57 45.8	+0.6
	0.3nm,0.5s,baz=356,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**55.65**	**325**	P	P	21 01 11.5	-0.2
	0.1nm,0.5s,baz=138,slow=6.7,SNR=1.7						

*TUL **14** 20:58:15.1±0.6, 35.675N×0.008×97.39W±0.01, h6km±2km, ML2.4, mb_Lg2.0/5(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=123.0*

NEIC 14 20:58:15.8±0.8, 35.679N×0.007×97.39W±0.01, h1km±6km, Error ellipse: s-maj=1.5km s-min=1.1km az=93.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**197**	Pg	Pg	20 58 17.5	-0.3
OK001	**Jones High Sch**	**0.14**	**146**	Pg	Pg	20 58 18.2	-0.3
OK001				Sg	Sg	20 58 20.9	+0.5
OK005	**Luther M Schoo**	**0.16**	**98**	Pg	Pg	20 58 18.8	-0.1
OKCFA	**Oklahoma City**	**0.27**	**191**	Pg	Pg	20 58 20.5	-0.4
OKCFA				Sg	Sg	20 58 24.7	+0.3
OKCSW	**OKLAHOMA CITY**	**0.28**	**189**	Pg	Pg	20 58 20.7	-0.4
FNO	**Franklin**	**0.42**	**182**	Pg	Pg	20 58 23.4	-0.5
FNO				Sg	Sg	20 58 29.8	+0.5
W35A	**Tecumseh**	**0.67**	**141**	Pg	Pg	20 58 27.9	-0.7
W35A				Sg	Sg	20 58 37.2	-0.2
X34A	**Smith Ranch, M**	**1.14**	**199**	Pg	Pg	20 58 36.7	-0.9
X34A				Sg	Sg	20 58 52.8	+0.5
TUL1	**Leonard**	**1.32**	**79**		Pg	20 58 38.8	-2.3
T35A	**Sooner Cattle**	**1.42**	**30**		Pn	20 58 41.1	-1.8
WMOK	**Wichita Mounta**	**1.48**	**231**	IAmb_Lg		20 59 01.7	
	comp=Z,4.6nm,1.0s						
X37A	**Clayton**	**1.98**	**123**	Pn	Pn	20 58 50.1	-0.3
X37A				IAmb_Lg		20 59 20.1	
	comp=Z,8.9nm,0.8s						
Z35A	**Perchaven, San**	**2.34**	**177**	IAmb_Lg		20 59 32.2	
	comp=Z,7.2nm,0.8s						

*INET **14** 21:02:50.0±1.6, 11.78N×88.19W, h0km±4km, ML3.2, MW3.8*
*IDC **14** 21:02:57.1±1.2, 12.60N×87.42W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/42, mbtmp3.9/7, ML3.3/1, Error ellipse: s-maj=50.2km s-min=15.4km az=55.0*
*NEIC **14** 21:03:00.5±1.9, 11.91N±0.06×87.56W±0.07, h56km±7km, mb4.3/21, Error ellipse: s-maj=11.3km s-min=8.3km az=59.0*

ISC 14 21:02:58.9±0.7, 11.84N±0.07×87.62W±0.07, h48km, n48, σ18 38/46, mb4.2/15, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.02**	**33**	Pn	**Pn**	**21 03 18.0**	**+1.1**
CNGN	**Cerro Negro**	**1.11**	**54**	Pn	**Pn**	**21 03 17.9**	**-0.2**
MOMN	**Momotombo**	**1.20**	**62**	*e*P	**Pn**	**21 03 20.4**	**+1.1**
MOMN				*e*S	Sn	21 03 44.4	+10
TISN	**Laguna Tiscapa**	**1.35**	**77**	*e*P	**Pn**	**21 03 22.2**	**+0.8**
MGAN	**Managua**	**1.38**	**77**	*e*P	**Pn**	**21 03 21.6**	**-0.1**
CONN	**Concepcion**	**1.97**	**98**	*e*P	**Pn**	**21 03 31.4**	**+1.6**
CONN				IAML		21 04 43.9	
	comp=Z,112nm,1.1s						
MATN	**Matagalpa**	**1.98**	**57**		**Pn**	**21 03 31.4**	**+1.3**
MATN	**Matagalpa**	**1.98**	**57**	*e*P	**Pn**	**21 03 30.8**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.00**	**72**		**Pn**	**21 03 30.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.23**	**9**		**Pn**	**21 03 34.6**	**+1.1**
HZTE	**Horizontes, Gu**	**2.28**	**119**	Pn	**Pn**	**21 03 32.4**	**-1.7**
ACON	**Acoyapa**	**2.40**	**87**	Pn	**Pn**	**21 03 36.7**	**+1.0**
ORTG	**Ortega, Santa**	**2.58**	**125**	Pn	**Pn**	**21 03 38.8**	**+0.5**
JTS	**Las Juntas de**	**3.04**	**120**	Pn	Pn	21 03 50.2	+5.7
	comp=Z,3.0nm,0.3s,baz=38,slow=9.9,SNR=13						
JTS				Lg	Lg	21 04 44.6	
	comp=Z,1.9nm,0.3s,baz=197,slow=20,SNR=7.5						
MTO3	**Montecristo**	**3.06**	**326**	Pn	**Pn**	**21 03 44.3**	**-0.7**
ESQI	**Esquipulas**	**3.18**	**328**	Pn	**Pn**	**21 03 49.9**	**+3.3**
ESPN	**Las Esperanzas**	**3.27**	**83**	Pn	**Pn**	**21 03 49.6**	**+2.0**
RIMA	**Rio Macho**	**4.22**	**119**	Pn	**Pn**	**21 04 03.0**	**+2.0**
PEZE	**Perez Zeledon,**	**4.58**	**122**	Pn	**Pn**	**21 04 06.8**	**+1.1**
RIOS	**Rincon, Osa**	**5.10**	**127**	Pn	**Pn**	**21 04 15.8**	**+3.0**
TLTG	**Tlapa**	**12.02**	**300**	Pn	**Pn**	**21 05 48.1**	**+0.4**
833A	**Chaparral WMA,**	**19.75**	**328**	P	**P**	**21 07 25.3**	**+0.4**
JCT	**Junction City**	**21.72**	**331**	P	**P**	**21 07 46.0**	**-0.1**
GOGA	**Godfrey**	**21.80**	**9**	P	**P**	**21 07 49.3**	**+2.4**
GOGA				IAmb	IAmb	21 07 58.0	
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**22.94**	**322**	P	**P**	**21 07 59.4**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=131,slow=9.7,SNR=18						
TXAR	**Lajitas Array**	**22.94**	**322**	P	**P**	**21 08 00.1**	**+0.9**
TX31	**Lajitas Ar. Si**	**22.94**	**322**	P	**P**	**21 08 00.3**	**+1.0**
TX32	**Lajitas Array**	**22.94**	**322**	P	**P**	**21 08 00.1**	**+0.9**
TX32				IAmb	IAmb	21 08 10.6	
	comp=Z,6.2nm,0.9s						
X40A	**Basin Creek Fa**	**23.04**	**349**	P	**P**	**21 08 03.1**	**+3.1**
LCAR	**Lake Charles**	**24.33**	**353**	P	**P**	**21 08 11.6**	**-0.6**
U40A	**Yellville**	**24.86**	**350**	P	**P**	**21 08 16.6**	**-0.4**
T47A	**Sharon Grove**	**25.04**	**1**	P	**P**	**21 08 18.0**	**-0.6**
T47A				IAmb	IAmb	21 08 19.1	
	comp=Z,6.9nm,0.7s						
S39A	**Bolivar**	**26.24**	**350**	P	**P**	**21 08 29.3**	**-0.2**
S39A				IAmb	IAmb	21 08 30.4	
	comp=Z,6.8nm,0.7s						
P38A	**Dawn**	**28.16**	**350**	P	**P**	**21 08 46.1**	**-0.6**
P38A				IAmb	IAmb	21 08 47.4	
	comp=Z,7.0nm,0.9s						
M54A	**Oil Creek Stat**	**30.36**	**12**	P	**P**	**21 09 06.8**	**+0.6**
SMCO	**Snowmass**	**32.20**	**331**	P	**P**	**21 09 19.5**	**-3.4**
SMCO				IAmb	IAmb	21 09 22.1	
	comp=Z,6.2nm,0.8s						
E43A	**Lone Tree Farm**	**34.42**	**1**	P	**P**	**21 09 41.1**	**-0.6**
E43A				IAmb	IAmb	21 09 42.0	
	comp=Z,3.0nm,0.8s						
F33A	**5 Mile Ranch,**	**34.68**	**349**	P	**P**	**21 09 43.2**	**-0.7**
PDAR	**Pinedale Array**	**36.23**	**332**	P	**P**	**21 09 58.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=176,slow=7.1,SNR=3.4						
ULM	**Lac du Bonnet**	**38.90**	**352**	P	**P**	**21 10 18.3**	**-1.4**
	comp=Z,3.4nm,0.8s,baz=151,slow=9.3,SNR=4.5						
SCHQ	**Schefferville**	**45.91**	**17**	P	**P**	**21 11 15.5**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=224,slow=8.3,SNR=5.8						
SCHQ	**Schefferville**	**45.91**	**17**	P	**P**	**21 11 16.1**	**-0.5**
SCHQ				IAmb	IAmb	21 11 34.6	
	comp=Z,7.6nm,1.3s						
FCC	**Fort Churchill**	**47.08**	**355**	P	**P**	**21 11 25.3**	**-0.5**
FCC				IAmb	IAmb	21 11 46.1	
	comp=Z,2.5nm,1.1s						
YKA	**Yellowknife Ar**	**54.15**	**345**	P	**P**	**21 12 18.0**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=138,slow=8.1,SNR=7.3						
PLCA	**Paso Flores**	**54.64**	**164**	P	P	21 12 33.0	+10
	comp=Z,1.2nm,1.1s,baz=348,slow=9.3,SNR=1.7						
RES	**Resolute Bay**	**62.96**	**358**	P	**P**	**21 13 19.9**	**-0.2**
RES				IAmb	IAmb	21 13 40.2	
	comp=Z,2.1nm,1.4s						
MLY	**Manley**	**68.13**	**336**	P	**P**	**21 13 54.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**149.21**	**348**	PKPbc	**PKiKP**	**21 22 44.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=346,slow=3.6,SNR=16						

*IDC **14** 21:18:52.1±1.9, 59.87N×153.16W, h82km±30km, mb3.4/5, mb1 3.4/8, mb1mx3.2/49, mbtmp3.6/8, Error ellipse: s-maj=39.5km s-min=11.8km az=106.0*
*NEIC **14** 21:18:54.1±0.9, 59.79N±0.03×153.01W±0.07, h108km±3km, Error ellipse: s-maj=5.0km s-min=4.8km az=173.0*
*AEIC **14** 21:18:55±1.1, 59.77N±0.04×153.02W±0.07, h106km, ML3.1, mb3.7/6(NEIC), ML3.3/110(NEIC), Error ellipse: s-maj=5.2km s-min=4.8km az=160.0*

ISC 14 21:18:54.7±0.7, 59.79N±0.04×153.00W±0.04, h109km±5km, n175, σ0 89/193, mb3.7/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.18**	**220**		**Pn**	**21 19 09.5**	**-0.4**
OPT					**Sn**	**21 19 20.1**	**-1.2**
OPT	**Oil Point**	**0.18**	**220**	P	**Pn**	**21 19 09.5**	**-0.4**
	baz=42						
P19K	**Oil Pt**	**0.18**	**220**		**Pn**	**21 19 09.5**	**-0.4**
P19K				Sn	**Sn**	**21 19 20.6**	**-0.7**
P19K	**Oil Pt**	**0.18**	**220**	P	**Pn**	**21 19 09.5**	**-0.4**
	baz=42						
P19K				S	**Sn**	**21 19 20.9**	**-0.4**
	baz=42						
IVE	**Iliamna Volcan**	**0.23**	**358**		**Pn**	**21 19 09.5**	**-0.7**
IVE					**Sn**	**21 19 20.9**	**-0.9**
O20K	**Slope Mountain**	**0.35**	**33**		**Pn**	**21 19 10.2**	**-0.5**
O20K	**Slope Mountain**	**0.35**	**33**	P	**Pn**	**21 19 10.2**	**-0.5**
	baz=213						
O20K				S	**Sn**	**21 19 21.8**	**-0.8**
	baz=213						
AU22	**Augustine Moun**	**0.46**	**203**		**Pn**	**21 19 10.6**	**-0.5**
AU22					**Sn**	**21 19 23.1**	**-0.3**
AUL	**Augustine Lava**	**0.47**	**209**		**Pn**	**21 19 10.8**	**-0.4**
AUQ	**Augustine Qik'**	**0.48**	**206**		**Pn**	**21 19 11.0**	**-0.4**
RSO	**Redoubt South**	**0.69**	**10**		**Pn**	**21 19 12.5**	**-0.5**
HOM	**Homer**	**0.70**	**100**		**Pn**	**21 19 12.6**	**-0.2**
HOM				Sn	**Sn**	**21 19 26.3**	**-0.2**
HOM				IAML		21 19 28.9	
	comp=N,2μm,0.5s						
HOM	**Homer**	**0.70**	**100**	P	**Pn**	**21 19 12.7**	**-0.2**
	baz=280						
RDWB	**Redoubt West**	**0.70**	**6**		**Pn**	**21 19 12.5**	**-0.7**
NCT	**North Crescent**	**0.77**	**3**		**Pn**	**21 19 13.1**	**-0.6**
NCT					**Sn**	**21 19 27.2**	**-0.8**
O19K	**Port Alsworth**	**0.78**	**302**	Pn	**Pn**	**21 19 13.0**	**-0.5**
O19K				Sn	**Sn**	**21 19 26.9**	**-0.8**
O19K				IAML		21 19 27.6	
	comp=E,2μm,0.5s						
O19K				IAML		21 19 28.1	
	comp=N,2μm,0.4s						
O19K	**Port Alsworth**	**0.78**	**302**	P	**Pn**	**21 19 12.9**	**-0.7**
	baz=122						
O19K				S	**Sn**	**21 19 27.1**	**-0.7**
	baz=122						
RDJH	**Redoubt Jeurge**	**0.81**	**7**		**Pn**	**21 19 13.4**	**-0.6**
Q19K	**Cape Douglas,**	**0.93**	**201**		**Pn**	**21 19 14.4**	**-0.7**
Q19K				Sn	**Sn**	**21 19 29.4**	**-1.0**
CNPM	**China Poot**	**0.93**	**106**	Pn	**Pn**	**21 19 14.6**	**-0.6**
CNPM				Sn	**Sn**	**21 19 29.4**	**-1.1**
CNPM				IAML		21 19 30.4	
	comp=N,1μm,0.6s						
CNPM				IAML		21 19 31.3	
	comp=E,733nm,0.5s						
BRLK	**Bradley Lake**	**1.07**	**91**		**Pn**	**21 19 15.8**	**-0.7**
BRLK				Sn	**Sn**	**21 19 31.6**	**-1.4**
BRLK				IAML		21 19 33.2	
	comp=E,1μm,0.4s						
BRLK				IAML		21 19 34.5	
	comp=N,849nm,0.2s						
BRSE	**Bradley Lake S**	**1.14**	**91**		**Pn**	**21 19 16.6**	**-0.7**
BRSE					**Sn**	**21 19 33.2**	**-1.2**
BRSE	**Bradley Lake S**	**1.14**	**91**	P	**Pn**	**21 19 16.6**	**-0.7**
	baz=272						
BRSE				S	**Sn**	**21 19 33.2**	**-1.2**
	baz=272						
P18K	**Big Mountain,**	**1.20**	**252**		**Pn**	**21 19 17.2**	**-0.8**
P18K				Sn	**Sn**	**21 19 34.2**	**-1.4**
P18K	**Big Mountain,**	**1.20**	**252**	P	**Pn**	**21 19 17.1**	**-0.8**
	baz=70						
N19K	**Bonanza Creek**	**1.26**	**325**	Pn	**Pn**	**21 19 18.2**	**-0.5**
N19K	**Bonanza Creek**	**1.26**	**325**	P	**Pn**	**21 19 18.3**	**-0.4**
	baz=144						
CAPN	**Captain Cook N**	**1.34**	**42**	Pn	**Pn**	**21 19 20.6**	**+1.1**
CAPN	**Captain Cook N**	**1.34**	**42**	P	**Pn**	**21 19 20.9**	**+1.4**
	baz=224						
SPCR	**Spurr Chakacha**	**1.47**	**15**		**Pn**	**21 19 20.7**	**-0.4**
SPCR	**Spurr Chakacha**	**1.47**	**15**	P	**Pn**	**21 19 20.7**	**-0.4**
	baz=196						
SPCN	**Chakachatna No**	**1.50**	**15**		**Pn**	**21 19 21.2**	**-0.2**
SPBG	**Spurr Blockage**	**1.51**	**12**		**Pn**	**21 19 21.4**	**-0.1**
SLKM	**Skilak Lake**	**1.56**	**61**		**Pn**	**21 19 21.2**	**-1.0**
SPCG	**Spurr Capps Gl**	**1.58**	**17**		**Pn**	**21 19 22.2**	**-0.3**
O22K	**Cooper Landing**	**1.78**	**66**		**Pn**	**21 19 24.4**	**-0.3**
O22K	**Cooper Landing**	**1.78**	**66**	P	**Pn**	**21 19 24.4**	**-0.3**
	baz=248						
STLK	**Strandline Lak**	**1.81**	**18**		**Pn**	**21 19 24.9**	**-0.3**
SEW	**Seward**	**1.81**	**78**	Pn	**Pn**	**21 19 24.5**	**-0.7**
SEW	**Seward**	**1.81**	**78**	P	**Pn**	**21 19 24.5**	**-0.7**
	baz=261						
SVW2	**Sparrevohn**	**1.83**	**317**	Pn	**Pn**	**21 19 24.8**	**-0.7**
FIS	**Fire Island**	**1.93**	**44**	Pn	**Pn**	**21 19 27.4**	**+0.7**
FIS				IAML		21 20 13.8	
	comp=N,216nm,0.7s						
FIS				IAML		21 20 16.6	
	comp=E,222nm,1.1s						
KDAK	**Kodiak Island**	**2.03**	**174**	P	**Pn**	**21 19 26.7**	**-1.2**
	comp=E,45nm,0.3s,baz=42,slow=8.5,SNR=330						
KDAK				S	**Sn**	**21 19 51.4**	**-1.9**
	comp=E,38nm,0.3s,baz=144,slow=22,SNR=53						
KDAK	**Kodiak Island**	**2.03**	**174**		**Pn**	**21 19 26.7**	**-1.2**
RC01	**Rabbit Creek A**	**2.08**	**50**	Pn	**Pn**	**21 19 28.0**	**-0.6**
RC01				IAML		21 19 54.4	
	comp=E,215nm,0.6s						
RC01				IAML		21 19 54.6	
	comp=N,267nm,0.4s						
RC01	**Rabbit Creek A**	**2.08**	**50**	P	**Pn**	**21 19 28.0**	**-0.6**
	baz=232						
M19K	**Big River Lodg**	**2.23**	**343**		**Pn**	**21 19 30.1**	**-0.4**
M19K	**Big River Lodg**	**2.23**	**343**	P	**Pn**	**21 19 30.1**	**-0.4**
	baz=162						
M22K	**Willow**	**2.42**	**34**	Pn	**Pn**	**21 19 33.1**	**+0.2**
M22K	**Willow**	**2.42**	**34**	P	**Pn**	**21 19 33.1**	**+0.2**
	baz=217						
PWL	**Port Wells**	**2.56**	**63**	Pn	**Pn**	**21 19 34.1**	**-0.6**
PWL	**Port Wells**	**2.56**	**63**	P	**Pn**	**21 19 33.5**	**-1.3**
	baz=247						
L19K	**White Mountain**	**2.56**	**340**		**Pn**	**21 19 34.4**	**-0.5**
L19K	**White Mountain**	**2.56**	**340**	P	**Pn**	**21 19 34.4**	**-0.5**
	baz=159						
OHAK	**Old Harbor**	**2.58**	**183**		**Pn**	**21 19 33.4**	**-1.7**
OHAK				IAML		21 20 04.8	
	comp=E,138nm,0.5s						
OHAK				IAML		21 20 05.5	
	comp=N,120nm,0.2s						
OHAK	**Old Harbor**	**2.58**	**183**	P	**Pn**	**21 19 33.5**	**-1

GHO	**Glory Hole Cre**	**2.82**	**43**	Pn	**Pn**	**21 19 37.1**	**-1.1**
GHO				IAML		21 20 12.1	
	comp=N,104nm,0.4s						
GHO				IAML		21 20 12.5	
	comp=E,130nm,0.4s						
SML	**Sawmill**	**3.05**	**47**	Pn	**Pn**	**21 19 39.8**	**-1.6**
SML				IAML		21 20 17.5	
	comp=E,63nm,1.2s						
SML				IAML		21 20 43.9	
	comp=N,62nm,0.8s						
SML	**Sawmill**	**3.05**	**47**	P	**Pn**	**21 19 40.0**	**-1.3**
	baz=230						
PPLA	**Purkeypile**	**3.14**	**7**	Pn	**Pn**	**21 19 42.9**	**+0.3**
PPLA	**Purkeypile**	**3.14**	**7**	P	**Pn**	**21 19 42.9**	**+0.3**
	baz=188						
SII	**Sitkinak Islan**	**3.30**	**191**	Pn	**Pn**	**21 19 42.7**	**-2.0**
SII				IAML		21 21 02.8	
	comp=E,122nm,3.6s						
SII	**Sitkinak Islan**	**3.30**	**191**	P	**Pn**	**21 19 43.0**	**-1.6**
	baz=10						
Q23K	**Middleton Isla**	**3.40**	**93**	P	**Pn**	**21 19 45.3**	**-0.5**
	baz=279						
JPK	**Jack Peak**	**3.42**	**65**		**Pn**	**21 19 44.6**	**-1.6**
SCM	**Sheep Creek Mo**	**3.45**	**51**		**Pn**	**21 19 45.6**	**-1.0**
SCM				IAML		21 20 27.2	
	comp=E,43nm,0.5s						
SCM				IAML		21 20 29.6	
	comp=N,37nm,1.0s						
SCM	**Sheep Creek Mo**	**3.45**	**51**	P	**Pn**	**21 19 45.6**	**-1.0**
	baz=236						
TTA	**Tatalina**	**3.47**	**337**		**Pn**	**21 19 45.9**	**-0.9**
TTA	**Tatalina**	**3.47**	**337**	P	**Pn**	**21 19 45.7**	**-1.1**
	baz=154						
K20K	**Telida**	**3.62**	**352**	Pn	**Pn**	**21 19 48.5**	**-0.3**
CAST	**Castle Rocks**	**3.67**	**6**	Pn	**Pn**	**21 19 49.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.70**	**75**	Pn	**Pn**	**21 19 49.5**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.70**	**75**	P	**Pn**	**21 19 48.5**	**-1.4**
	baz=261						
WAT6	**Susitna Watana**	**3.78**	**40**		**Pn**	**21 19 50.1**	**-1.0**
WAT6	**Susitna Watana**	**3.78**	**40**	P	**Pn**	**21 19 50.4**	**-0.8**
	baz=224						
DIV	**Divide**	**3.82**	**66**	Pn	**Pn**	**21 19 50.8**	**-0.8**
KLU	**Klutina**	**3.88**	**61**		**Pn**	**21 19 51.1**	**-1.4**
KLU				IAML		21 20 38.5	
	comp=E,43nm,0.5s						
KLU	**Klutina**	**3.88**	**61**	P	**Pn**	**21 19 51.0**	**-1.4**
	baz=247						
TRF	**Thorofare Moun**	**3.89**	**18**	Pn	**Pn**	**21 19 52.8**	**+0.2**
TRF				IAML		21 20 39.2	
	comp=N,41nm,0.6s						
TRF				IAML		21 20 39.0	
	comp=E,24nm,0.5s						
TRF	**Thorofare Moun**	**3.89**	**18**	P	**Pn**	**21 19 52.1**	**-0.5**
	baz=201						
KTH	**Kantishna Hill**	**3.90**	**14**	Pn	**Pn**	**21 19 51.9**	**-0.8**
M24K	**Tolsona, Glenn**	**4.06**	**52**	Pn	**Pn**	**21 19 53.8**	**-1.0**
M24K				IAML		21 20 44.0	
	comp=E,49nm,0.8s						
M24K				IAML		21 21 42.6	
	comp=N,49nm,4.6s						
M24K	**Tolsona, Glenn**	**4.06**	**52**	P	**Pn**	**21 19 54.1**	**-0.6**
	baz=238						
CHUM	**Lake Minchumin**	**4.12**	**4**		**Pn**	**21 19 55.0**	**-0.5**
CHUM	**Lake Minchumin**	**4.12**	**4**	P	**Pn**	**21 19 55.0**	**-0.5**
	baz=185						
RND	**Reindeer**	**4.13**	**27**	Pn	**Pn**	**21 19 55.2**	**-0.6**
RND				IAML		21 20 42.7	
	comp=N,19nm,0.6s						
RND				IAML		21 20 46.1	
	comp=E,23nm,0.4s						
RAGM	**Ragged Mountai**	**4.21**	**78**	Pn	**Pn**	**21 19 56.1**	**-0.7**
RAGM				IAML		21 20 45.4	
	comp=E,54nm,0.3s						
DHY	**Denali Highway**	**4.26**	**37**		**Pn**	**21 19 56.8**	**-0.7**
DHY				IAML		21 20 46.1	
	comp=E,40nm,0.4s						
DHY				IAML		21 20 47.0	
	comp=N,36nm,0.4s						
DHY	**Denali Highway**	**4.26**	**37**	P	**Pn**	**21 19 56.8**	**-0.7**
	baz=222						
KAIM	**Kayak Island**	**4.33**	**84**	Pn	**Pn**	**21 19 58.4**	**0.0**
MCK	**McKinley**	**4.40**	**24**	Pn	**Pn**	**21 19 58.7**	**-0.6**
MCK				IAML		21 20 50.8	
	comp=N,21nm,0.4s						
MCK				IAML		21 20 51.2	
	comp=E,21nm,0.5s						
MCK	**McKinley**	**4.40**	**24**	P	**Pn**	**21 19 59.0**	**-0.3**
	baz=208						
HMT	**Hamilton**	**4.41**	**79**	Pn	**Pn**	**21 19 59.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**4.43**	**12**	Pn	**Pn**	**21 19 59.5**	**-0.2**
BPAW				IAML		21 20 47.0	
	comp=N,16nm,2.4s						
BPAW	**Bear Paw Mtn.**	**4.43**	**12**	P	**Pn**	**21 19 59.4**	**-0.2**
	baz=193						
J20K	**Nowinta River**	**4.43**	**353**	Pn	**Pn**	**21 19 59.4**	**-0.3**
N25K	**Chitina, Valde**	**4.51**	**63**		**Pn**	**21 20 00.1**	**-0.8**
N25K				IAML		21 20 54.0	
	comp=E,23nm,0.5s						
N25K				IAML		21 20 57.8	
	comp=N,21nm,0.5s						
N25K	**Chitina, Valde**	**4.51**	**63**	P	**Pn**	**21 19 59.7**	**-1.2**
	baz=250						
CHGN	**Chignik**	**4.53**	**222**	Pn	**Pn**	**21 20 00.7**	**-0.3**
SUCK	**Suckling Hills**	**4.65**	**83**	Pn	**Pn**	**21 20 02.4**	**-0.2**
BERG	**Berg Lake**	**4.70**	**79**	Pn	**Pn**	**21 20 02.1**	**-1.2**
BERG				IAML		21 20 55.0	
	comp=E,43nm,0.5s						
BERG				IAML		21 20 55.1	
	comp=N,39nm,0.5s						
BWN	**Browne**	**4.70**	**19**	Pn	**Pn**	**21 20 03.3**	**0.0**
BWN				IAML		21 21 11.0	
	comp=E,30nm,2.5s						
BWN				IAML		21 21 20.8	
	comp=N,30nm,2.6s						
GLB	**Gilahina Butte**	**4.82**	**66**	Pn	**Pn**	**21 20 04.2**	**-0.7**
GLB				IAML		21 20 59.5	
	comp=E,20nm,0.6s						
GLB				IAML		21 20 60.0	
	comp=N,37nm,0.8s						
PAX	**Paxson**	**4.82**	**45**		**Pn**	**21 20 04.9**	**-0.1**
PAX	**Paxson**	**4.82**	**45**	P	**Pn**	**21 20 04.9**	**-0.1**
	baz=232						
VRDI	**Verde Repeater**	**4.93**	**69**	Pn	**Pn**	**21 20 05.8**	**-0.9**
VRDI				IAML		21 21 02.5	
	comp=N,14nm,0.6s						
VRDI				IAML		21 21 53.5	
	comp=E,12nm,4.6s						
SNH	**Sunshine Point**	**5.12**	**81**	Pn	**Pn**	**21 20 09.3**	**+0.3**
WAX	**Waxell Ridge**	**5.12**	**78**	Pn	**Pn**	**21 20 08.4**	**-0.7**
NEA2	**Nenana**	**5.16**	**19**		**Pn**	**21 20 08.4**	**-1.1**
NEA2				IAML		21 21 58.0	
	comp=N,9.9nm,4.4s						
NEA2				IAML		21 22 04.5	
	comp=E,10nm,4.9s						
NEA2	**Nenana**	**5.16**	**19**	P	**Pn**	**21 20 08.3**	**-1.1**
	baz=203						
MCARA	**McCarthy VSAT**	**5.17**	**68**	Pn	**Pn**	**21 20 08.5**	**-1.2**
MCARA				IAML		21 21 17.4	
	comp=N,25nm,0.4s						
MCARA				IAML		21 21 34.3	
	comp=E,27nm,3.9s						
WRH	**Wood River Hil**	**5.23**	**24**	Pn	**Pn**	**21 20 09.3**	**-1.1**
WRH				IAML		21 21 41.8	
	comp=E,18nm,5.0s						
WRH				IAML		21 23 37.4	
	comp=N,12nm,4.8s						
MLY	**Manley**	**5.36**	**10**		**Pn**	**21 20 12.1**	**-0.2**
MLY				IAML		21 22 09.9	
	comp=E,8.5nm,4.2s						
MLY				IAML		21 22 34.7	
	comp=N,8.4nm,4.6s						
MLY	**Manley**	**5.36**	**10**	P	**Pn**	**21 20 11.9**	**-0.4**
	baz=192						
ISLE	**Juniper Island**	**5.38**	**77**	Pn	**Pn**	**21 20 11.7**	**-1.0**
ISLE				IAML		21 23 15.5	
	comp=E,24nm,4.3s						
PTPK	**Patty Peak**	**5.39**	**70**		**Pn**	**21 20 13.0**	**+0.2**
KIAG	**Kiagna River**	**5.40**	**73**		**Pn**	**21 20 13.0**	**0.0**
BALM	**Baldy**	**5.43**	**72**		**Pn**	**21 20 12.7**	**-0.5**
I21K	**Tanana**	**5.43**	**5**	Pn	**Pn**	**21 20 12.7**	**-0.4**
CCB	**Clear Creek Bu**	**5.44**	**24**	Pn	**Pn**	**21 20 12.1**	**-1.2**
BAGL	**Bagley Icefiel**	**5.50**	**78**		**Pn**	**21 20 14.6**	**+0.5**
RIDG	**Independent Ri**	**5.54**	**41**	Pn	**Pn**	**21 20 15.1**	**+0.5**
RIDG	**Independent Ri**	**5.54**	**41**	P	**Pn**	**21 20 15.1**	**+0.5**
	baz=228						
I23K	**Minto, Yukon-K**	**5.63**	**16**		**Pn**	**21 20 15.4**	**-0.5**
	baz=199						
I23K	**Minto, Yukon-K**	**5.63**	**16**	P	**Pn**	**21 20 15.5**	**-0.4**
MDM	**Murphy Dome**	**5.64**	**21**		**Pn**	**21 20 15.1**	**-0.9**
DOT	**Dot Lake**	**5.75**	**44**	Pn	**Pn**	**21 20 17.0**	**-0.5**
IL31		**5.75**	**27**		**Pn**	**21 20 16.5**	**-1.0**
ILAR	**Eielson Array**	**5.75**	**27**	P	**Pn**	**21 20 16.2**	**-1.3**
	comp=E,0.7nm,0.3s,baz=222,slow=14,SNR=22						
ILAR				S	**Sn**	**21 21 17.4**	**-4.7**
	comp=E,2.1nm,0.3s,baz=214,slow=22,SNR=3.5						
ILAR	**Eielson Array**	**5.75**	**27**	Pn	**Pn**	**21 20 16.1**	**-1.5**
BARN	**Barnard Glacie**	**5.76**	**72**	Pn	**Pn**	**21 20 18.0**	**+0.2**
H21K	**Melozitna Rive**	**5.89**	**1**	Pn	**Pn**	**21 20 19.0**	**-0.4**
CTG	**Chitna Glacier**	**5.90**	**73**	P	**Pn**	**21 20 19.1**	**-0.6**
	baz=263						
CTGM	**Chitina Glacie**	**5.91**	**73**	Pn	**Pn**	**21 20 20.5**	**+0.8**
POKR	**Poker Plat Res**	**5.94**	**23**	Pn	**Pn**	**21 20 19.2**	**-0.8**
TABL	**Table Mountain**	**5.96**	**79**	Pn	**Pn**	**21 20 20.0**	**-0.7**
M27K	**Edge Creek, AK**	**5.98**	**60**	Pn	**Pn**	**21 20 20.7**	**-0.1**
SCRK	**Sand Creek**	**5.98**	**42**	Pn	**Pn**	**21 20 19.9**	**-0.8**
SCRK	**Sand Creek**	**5.98**	**42**	P	**Pn**	**21 20 20.1**	**-0.6**
	baz=229						
J25K	**Salcha River,**	**6.01**	**33**		**Pn**	**21 20 20.8**	**-0.3**
J25K	**Salcha River,**	**6.01**	**33**	P	**Pn**	**21 20 20.9**	**-0.1**
	baz=220						
LOGN	**Logan Glacier**	**6.05**	**75**	Pn	**Pn**	**21 20 21.5**	**-0.3**
IMAR	**Indian Mountai**	**6.23**	**357**	Pn	**Pn**	**21 20 23.8**	**-0.1**
L27K	**Beaver Creek,**	**6.28**	**54**	Pn	**Pn**	**21 20 24.9**	**+0.2**
BCAR	**Beaver Creek A**	**6.30**	**54**	Pn	**Pn**	**21 20 24.9**	**-0.1**
PCA	**Pinnacle**	**6.41**	**82**	Pn	**Pn**	**21 20 26.3**	**-0.2**
H24K	**Noodor Dome**	**6.50**	**19**	Pn	**Pn**	**21 20 26.4**	**-1.3**
PRP	**Porcupine Dome**	**6.70**	**28**	Pn	**Pn**	**21 20 29.2**	**-1.2**
PNL	**Peninsula**	**6.88**	**85**		**Pn**	**21 20 32.1**	**-0.7**
EGAK	**Eagle**	**7.44**	**43**	Pn	**Pn**	**21 20 39.1**	**-1.3**
ANM	**Nome**	**7.51**	**315**	Pn	**Pn**	**21 20 41.0**	**-0.3**
HYT	**Haines Junctio**	**7.77**	**76**	Pn	**Pn**	**21 20 45.4**	**+0.5**
BMAR	**Burnt Mountain**	**8.53**	**22**	Pn	**Pn**	**21 20 54.0**	**-1.1**
TOLK	**Toolik Lake Re**	**9.01**	**8**	Pn	**Pn**	**21 21 01.5**	**-0.1**
WHY	**Whitehorse**	**9.06**	**77**	Pn	**Pn**	**21 21 01.9**	**-0.5**
GRNB	**Grenville Isla**	**13.91**	**105**	P	**P**	**21 22 13.0**	**+1.6**
YKA	**Yellowknife Ar**	**18.54**	**65**	P	**P**	**21 23 02.8**	**+0.4**
	comp=E,0.1nm,0.3s,baz=277,slow=10.0,SNR=7.1						
YKA	**Yellowknife Ar**	**18.54**	**65**	P	**P**	**21 23 02.7**	**+0.3**
CLRS	**Cowichan Lake**	**19.93**	**111**	P	**Pn**	**21 23 20.4**	**+0.2**
CLRS				IAmb	IAmb	21 23 25.5	
	comp=Z,12nm,1.1s						
FCC	**Fort Churchill**	**29.26**	**66**	P	**P**	**21 24 48.4**	**+2.4**
SONM	**Songino Array**	**54.91**	**306**	P	**P**	**21 28 14.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=48,slow=6.2,SNR=2.6						
SONM	**Songino Array**	**54.91**	**306**	P	**P**	**21 28 14.3**	**+0.5**
SONM				IAmb	IAmb	21 28 43.1	
	comp=Z,0.8nm,1.1s						
ZAA0	**Zalesovo Array**	**57.54**	**324**	P	**P**	**21 28 31.9**	**-0.3**
ZALV	**Zalesovo Beam**	**57.54**	**324**	P	**P**	**21 28 31.8**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=32,slow=7.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**57.54**	**324**	P	**P**	**21 28 32.1**	**-0.1**
BVAR	**Borovoye Array**	**62.25**	**332**	P	**P**	**21 29 03.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=100,slow=4.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**62.31**	**326**	P	**P**	**21 29 04.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=30,slow=6.5,SNR=5.2						
MK31	**Makanchi Array**	**64.59**	**321**	P	**P**	**21 29 18.9**	**-1.1**
MK31				IAmb	IAmb	21 29 29.4	
	comp=Z,0.4nm,1.1s						
MKAR	**Makanchi Array**	**64.59**	**321**	P	**P**	**21 29 18.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=43,slow=7.2,SNR=8.8						
MAKZ	**Makanchi**	**64.68**	**322**	P	**P**	**21 29 19.6**	**-0.9**
MAKZ				IAmb	IAmb	21 29 43.8	
	comp=Z,1.2nm,1.1s						
ABKAR	**Akbulak array**	**68.06**	**337**	P	**P**	**21 29 41.4**	**-0.6**

IDC ***14*** *21:27:30.6±1.0,27.70N×85.64E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/51, mbtmp3.9/17, ML3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/87, Error ellipse: s-maj=28.0km s-min=19.0km az=47.0*

BJI ***14*** *21:27:31.1±0.0,27.67N×85.49E, h24km, mb4.1/30, mB4.7/13, Ms3.6/2, Ms7 3.3/1*

NDI ***14*** *21:27:34.3±2.9,27.79N×85.63E, h10km, ML3.8, mb4.3(NEIC)*

NEIC ***14*** *21:27:35.3±1.5,27.7N±0.1×85.5E±0.1, h27km±6km, mb4.3/35, Error ellipse: s-maj=18.9km s-min=10.9km az=209.0*

ISC 14 21:27:33.3±0.4,27.79N±0.04×85.58E±0.03, h18km, n94, σ1s98/110, mb4.2/31, 1C, Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
VLK	**Valmikinagar**	**1.60**	**253**	***eP***	**Pg**	**21 28 03.8**	**-0.3**
VLK				*i* x	**Pg**	**21 28 04.5**	**+0.5**
VLK				*eS*	**Sg**	**21 28 26.4**	**+1.6**
GTK	**Tadong**	**2.72**	**99**	***eP***	**Pn**	**21 28 17.5**	**+1.2**
GTK				*eS*	**Sn**	**21 28 51.5**	**+2.6**
GTK				IAML		21 28 54.8	
	comp=N,664nm,0.5s						
GTK				IAML		21 28 55.3	
	comp=E,668nm,0.3s						
SLGI	**Shiliguri**	**2.75**	**113**	***eP***	**Pb**	**21 28 21.4**	**-0.5**
SLGI				*eS*	**Sb**	**21 28 54.4**	**-0.9**
BOK	**Bokaro**	**3.99**	**176**	***eP***	**Pn**	**21 29 59.9**	**+2.2**
BOK				*eS*	**Sn**	**21 29 21.7**	**+1.7**
BOK				IAML		21 29 43.0	
	comp=E,222nm,0.6s						
ALBI	**Allahabad**	**4.19**	**235**	*ex*	**Pg**	**21 28 51.0**	**-2.6**
TURI	**Tura**	**4.80**	**117**	***eP***	**Pn**	**21 28 44.0**	**-0.7**
PTH	**Pithoragarh**	**5.03**	**292**	***eP***	Pn	21 28 53.0	+5.0
LSA	**Lhasa**	**5.24**	**67**	Pn	**Pn**	**21 28 53.0**	**+1.7**
LSA	**Lhasa**	**5.24**	**67**	Pn	**Pn**	**21 28 52.9**	**+1.7**
LSA				Sn	**Sn**	**21 29 53.4**	**+1.9**
GUWA	**GUWAHATI**	**5.68**	**105**	***eP***	**Pn**	**21 28 58.1**	**+1.3**
SHL	**Shillong**	**6.06**	**110**	Pn	**Pn**	**21 29 01.3**	**-0.9**
SHL	**Shillong**	**6.06**	**110**	***eP***	**Pn**	**21 29 01.6**	**-0.6**
SHL				IAML		21 30 58.3	
	comp=E,36nm,0.3s						
JHSG	**JHARSUGUGA**	**6.23**	**196**	*ex*	**Sn**	**21 30 19.7**	**+4.6**
TEZP	**TEZPUR**	**6.53**	**99**	***eP***	**Pn**	**21 29 08.0**	**-0.5**
JHNI	**Jhansi**	**6.72**	**251**	***eP***	**Pn**	**21 29 12.0**	**+0.9**
JBP	**Jabalpur**	**6.84**	**229**	***eP***	**Pn**	**21 29 15.4**	**+2.7**
JBP				*eP*	**Pn**	**21 29 15.4**	**+2.7**
JBP				*eS*	**Sn**	**21 30 33.1**	**+2.9**
JBP				*eS*	**Sn**	**21 30 33.1**	**+2.9**
ITAN	**ITANAGAR**	**7.26**	**93**	***eP***	**Pn**	**21 29 18.5**	**0.0**
KOHI	**KOHIMA**	**7.90**	**103**	***eP***	**Pn**	**21 29 27.8**	**+0.4**
KOHI				*eS*	**Sn**	**21 30 52.6**	**-3.8**
KOHI				IAML		21 31 44.4	
	comp=E,39nm,1.3s						
KOHI				IAML		21 31 45.9	
	comp=N,34nm,1.1s						
SMLA	**Simla**	**8.05**	**296**	***eP***	**Pn**	**21 29 32.0**	**+2.6**
SMLA				*ex*	**Sn**	**21 31 01.1**	**+1.1**
SMLA				IAML		21 31 04.0	
	comp=E,123nm,0.4s						
SMLA				IAML		21 31 06.6	
	comp=N,94nm,0.4s						
BHPL	**Bhopal**	**8.65**	**240**	***eP***	**Pn**	**21 29 37.4**	**-0.2**
BHPL				*eS*	**Sn**	**21 31 10.8**	**-4.0**
BHPL				IAML		21 31 19.8	
	comp=E,52nm,0.1s						
BHPL				IAML		21 31 20.1	
	comp=N,59nm,0.3s						
RAGD	**RAYAGADA**	**8.73**	**193**	***eP***	**Pn**	**21 29 40.0**	**+1.2**
LKP	**Lekhapani**	**9.12**	**91**	***eP***	**Pn**	**21 29 43.0**	**-1.1**
LKP				*eP*	**Pn**	**21 29 44.4**	**+0.3**
LKP				*eS*	**Sn**	**21 31 21.6**	**-4.7**
AJM	**Ajmer**	**9.83**	**265**	***eP***	**Pn**	**21 29 56.1**	**+2.2**
JMU	**Jammu**	**10.46**	**301**	***eP***	**Pn**	**21 30 04.5**	**+2.2**
AKL	**Akola**	**10.53**	**230**	***eP***	**Pn**	**21 30 03.6**	**+0.2**
CHCP	**Chirah Chowk**	**12.10**	**302**	P	**Pn**	**21 30 24.7**	**-0.2**
CHCP				S	**Sn**	**21 32 33.0**	**-6.4**
NIL	**Nilore**	**12.11**	**302**	Pn	**Pn**	**21 30 24.6**	**-0.4**
HYBB	**Hyderabad (bro**	**12.19**	**214**	***eP***	**Pn**	**21 30 24.9**	**-1.3**
HYBB				*e*		21 32 36.5	
HYB	**Hyderabad**	**12.19**	**214**	***eP***	**Pn**	**21 30 24.5**	**-1.7**
HYB				*eS*	Sn	21 32 54.0	+12
THW	**Thamme Wali**	**12.95**	**296**	P	**Pn**	**21 30 35.4**	**-1.1**
THW				S	**Sn**	**21 32 55.0**	**-5.2**
CEP	**Cherat**	**13.20**	**300**	P	**Pn**	**21 30 38.5**	**-1.4**
CEP				S	**Sn**	**21 33 00.0**	**-6.3**
KSH	**Kashi**	**14.16**	**328**	P	**Pn**	**21 30 49.6**	**-3.4**
KSH				pP	P	21 30 56.3	-4.2
KSH				sP		21 30 59.6	
KSH				S	**Sn**	**21 33 22.5**	**-7.2**
KSH				pmax	pmax		
	comp=N,4.0nm,0.8s						
PZH	**PanZhiHua**	**14.45**	**91**	P	**P**	**21 31 01.3**	**-2.5**
PZH				pmax	pmax		
	comp=N,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=N,80nm,4.9s						
CMAR	**Chiang Mai Arr**	**15.39**	**124**	Pn	**Pn**	**21 31 11.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=316,slow=6.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**15.39**	**124**		**Pn**	**21 31 10.3**	**+0.5**
WMQ	**Urumqi**	**16.08**	**6**	***eP***	**P**	**21 31 22.8**	**+1.0**
WMQ				pP	pP	21 31 27.3	0.0
WMQ				pmax	pmax		
	comp=N,11nm,0.7s						
GTA	**Gaotai**	**16.55**	**42**	⇑P	**P**	**21 31 26.1**	**-1.0**
GTA				pP	pP	21 31 32.3	-0.4
GTA				sP	sP	21 31 35.1	0.0
GTA				pmax	pmax		
	comp=N,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=N,83nm,5.5s						
GTA				LR	LR		
	comp=N,85nm,14.2s						
GTA				LR	LR		
	comp=N,120nm,16.0s						
GAR	**Garm**	**16.93**	**315**	Pn	**Pn**	**21 31 27.6**	**-1.8**
BTK	**Batken**	**17.28**	**319**	Pn	**Pn**	**21 31 32.1**	**-1.7**
AAK	**Ala-Archa**	**17.34**	**332**	P	**P**	**21 31 36.7**	**+0.9**
	comp=N,0.2nm,0.3s,baz=116,slow=2.9,SNR=4.7						
AAK	**Ala-Archa**	**17.34**	**332**	P	**P**	**21 31 36.6**	**+0.9**
CHGR	**Chuyangaron**	**17.47**	**312**	P	**P**	**21 31 39.2**	**+2.0**
CHGR				IAmb	IAmb	21 31 47.4	
	comp=Z,37nm,1.4s						
LZH	**Lanzhou**	**17.55**	**57**	***eP***	**Pn**	**21 31 37.3**	**+0.1**
LZH				sP	sP	21 31 46.0	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
MK31	**Makanchi Array**	**19.14**	**353**	P	**Pn**	**21 31 56.5**	**0.0**
MKAR	**Makanchi Array**	**19.14**	**353**	P	**Pn**	**21 31 56.6**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=181,slow=11,SNR=47						
MKAR	**Makanchi Array**	**19.14**	**353**	P	**Pn**	**21 31 56.7**	**+0.3**
MAKZ	**Makanchi**	**19.19**	**352**		**Pn**	**21 31 57.3**	**+0.3**
UBPT	**Khong Chiam**	**22.26**	**120**	P	**P**	**21 32 29.3**	**-0.1**
KURBB	**Kurchatov Arra**	**23.42**	**349**	P	**P**	**21 32 42.5**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=170,slow=10,SNR=22						
KURK	**Kurchatov**	**23.50**	**349**	P	**P**	**21 32 43.5**	**+1.6**
KURK				IAmb	IAmb	21 32 45.2	
	comp=Z,4.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.99**	**52**	***eP***	**P**	**21 32 59.0**	**+2.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,94nm,7.1s						
SONM	**Songino Array**	**25.75**	**33**	P	**P**	**21 33 03.9**	**+1.0**
	comp=Z,3.5nm,0.6s,baz=218,slow=9.9,SNR=36						
SONM	**Songino Array**	**25.75**	**33**	P	**P**	**21 33 04.2**	**+1.2**
SONM				IAmb	IAmb	21 33 06.5	
	comp=Z,4.2nm,0.7s						
ULN	**Ulaanbaatar**	**26.09**	**34**	P	**P**	**21 33 06.9**	**+0.8**
ULN				IAmb	IAmb	21 33 09.6	
	comp=Z,5.9nm,0.6s						
ZAA0	**Zalesovo Array**	**26.14**	**359**	P	**P**	**21 33 07.6**	**+1.4**
ZAA0				IAmb	IAmb	21 33 09.7	
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**26.14**	**359**	P	**P**	**21 33 07.1**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=186,slow=9.0,SNR=16						
ZALV	**Zalesovo Beam**	**26.14**	**359**	P	**P**	**21 33 07.8**	**+1.6**
ABKAR	**Akbulak array**	**29.11**	**324**	P	**P**	**21 33 34.4**	**+1.5**
ARU	**Arti**	**34.50**	**334**	P	**P**	**21 34 21.3**	**+1.2**
ARU				IAmb	IAmb	21 34 22.1	
	comp=Z,2.3nm,0.7s						
KSRS	**Korea Array**	**36.68**	**64**	LR	LR	21 50 53.5	
	comp=Z,22nm,19.7s,baz=215,slow=38						
GURO	**Guroymak-BITLI**	**37.69**	**298**	P	**P**	**21 34 46.0**	**-1.9**
NRIK	**Norii'sk**	**41.59**	**1**	P	**P**	**21 35 20.0**	**+0.2**
NRIK				IAmb	IAmb	21 35 21.9	
	comp=Z,4.1nm,0.8s						
AKASG	**Malin Array Be**	**47.93**	**315**	P	**P**	**21 36 10.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=80,slow=6.9,SNR=4.6						
TIXI	**Tiksi**	**49.89**	**16**	P	**P**	**21 36 25.0**	**-0.2**
TIXI				IAmb	IAmb	21 36 26.3	
	comp=Z,3.0nm,0.6s						
BURAR	**Bucovina Array**	**50.36**	**310**	P	**P**	**21 36 30.1**	**+0.8**
BUR08	**Bucovina Ar. S**	**50.37**	**310**	P	**P**	**21 36 30.7**	**+1.2**
BUR08				IAmb	IAmb	21 36 53.4	
	comp=Z,2.9nm,1.4s						
FIA1	**FINESS Array S**	**51.48**	**328**	P	**P**	**21 36 37.7**	**+0.4**
FINES	**FINESS Array B**	**51.48**	**328**	P	**P**	**21 36 38.1**	**+0.8**
	comp=

SIJI				S		**Sn**	**21 34 32.6**	**+2.3**
	9.5nm,0.3s,baz=196,slow=20,SNR=6.1								
SIJI				LR		LR	21 36 24.9		
	comp=Z,80nm,18.0s,baz=226,slow=50								
BBSI	**Bau Bau**	**5.27**	**250**	P		**Pn**	**21 33 49.3**	**+3.1**
	0.1nm24nm,1.0s								
LUWI	**Luwuk**	**5.42**	**298**	P		**Pn**	**21 33 49.0**	**+0.9**
	0.7nm1µm99nm,0.6s								
APSI	**Ampana**	**6.48**	**295**	P		**Pn**	**21 34 03.8**	**+1.1**
	0.2nm421nm42nm,0.9s								
MRSI	**Marisa**	**6.93**	**306**	P		**Pn**	**21 34 10.9**	**+1.9**
	0.2nm880nm50nm,0.6s								
KAPI	**Kappang**	**7.87**	**260**	P		**Pn**	**21 34 22.5**	**+0.6**
	2.5nm,0.3s,baz=91,slow=3.5,SNR=10								
KAPI				LR		LR	21 37 39.7		
	comp=Z,41nm,18.4s,baz=98,slow=39								
MPSI	**Mapaga**	**9.60**	**297**	P		**Pn**	**21 34 32.7**	**+0.9**
WRA	**Warramunga Arr**	**17.50**	**158**	P		**Pn**	**21 36 29.2**	**-1.8**
	0.3nm,0.3s,baz=341,slow=12,SNR=14								
KPJI	**Karang Pucung**	**18.87**	**258**	P		**Pn**	**21 36 48.8**	**+1.2**
ASAR	**Alice Springs**	**20.83**	**163**	P		**P**	**21 37 09.7**	**+1.5**
	17nm,0.7s,baz=345,slow=11,SNR=141								
ASAR				PcP		**PcP**	**21 41 15.2**	**-0.7**
	0.4nm,0.5s,baz=357,slow=1.4,SNR=5.1								
SONM	**Songino Array**	**54.52**	**343**	P		**P**	**21 41 53.6**	**-0.1**
	0.2nm,0.4s,baz=164,slow=7.1,SNR=4.3								
MKAR	**Makanchi Array**	**64.10**	**327**	P		**P**	**21 42 59.5**	**-0.2**
	1.1nm,0.6s,baz=124,slow=8.1,SNR=17								
ZALV	**Zalesovo Beam**	**67.52**	**334**	P		**P**	**21 43 20.4**	**-1.2**
	0.3nm,0.3s,baz=139,slow=9.5,SNR=2.0								
KURBB	**Kurchatov Arra**	**68.39**	**329**	P		**P**	**21 43 26.3**	**-0.9**
	0.8nm,0.6s,baz=132,slow=5.8,SNR=9.7								
VNDA	**Vanda**	**76.05**	**173**	LR		LR	22 15 22.7		
	comp=Z,45nm,20.3s,baz=251,slow=34								

*FUNV **14** 21:40:27.8, 10˙.76N×62˙.39W, h95km, MW3.6*
*TRN **14** 21:40:27.7, 10˙.75N×62˙.50W, h74km, MD3.7*
ISC 14 21:40:25.7±1.3, 10˙.70N±0˙.04×62˙.44W±0˙.04, h107km±12km, n23, σ1§73/39, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.78**	**269**	*i*P		**Pn**		**21 40 44.9**	**+0.5**
CRUV				*e*S		**Sn**		**21 40 57.5**	**-1.1**
TRN	**Trinidad (W)**	**1.02**	**93**	*e*P		**Pn**		**21 40 48.4**	**+1.5**
TRN				*e*S		**Sn**		**21 41 02.4**	**-0.4**
COAV	**Cumanacoa**	**1.46**	**249**	*e*P		**Pn**		**21 40 54.2**	**+2.2**
GRFF	**Grenada Fort F**	**1.51**	**27**	*e*P		**Pn**		**21 40 53.0**	**+0.5**
GRFF				*e*S		**Sn**		**21 41 11.2**	**-1.6**
GRGR	**Grenville**	**1.62**	**28**	*e*P		**Pn**		**21 40 54.1**	**+0.3**
GRGR				*e*S		**Sn**		**21 41 13.8**	**-1.4**
GRHS	**Sauteurs**	**1.71**	**27**	*e*S		**Sn**		**21 41 16.9**	**-0.2**
GRSS	**Sisters**	**1.79**	**27**	*e*S		**Sn**		**21 41 17.1**	**-1.7**
TOSP	**Speyside**	**1.97**	**72**	*e*P		**Pn**		**21 40 59.2**	**+1.1**
TOSP				*e*S		**Sn**		**21 41 23.3**	**+0.4**
GCMP	**Grenada, Carri**	**2.04**	**29**	*e*P		**Pn**		**21 40 59.2**	**+0.2**
GCMP				*e*S		**Sn**		**21 41 23.6**	**-0.9**
PCRV	**Puerto La Cruz**	**2.22**	**257**	*e*P		**Pn**		**21 41 03.3**	**+1.9**
PCRV				*e*S		**Sn**		**21 41 28.8**	**+0.1**
PRGV	**PARIAGUAN**	**2.90**	**229**	*e*P		**Pn**		**21 41 12.4**	**+2.1**
PRGV				*e*S		**Sn**		**21 41 45.7**	**+1.0**
MCLT	**Moule a Chique**	**3.34**	**26**	*e*P		**Pn**		**21 41 18.0**	**+1.9**
MCLT				*e*S		**Sn**		**21 41 53.9**	**-1.1**
SLBI	**Saint Lucia, B**	**3.60**	**23**	*e*P		**Pn**		**21 41 22.1**	**+2.4**
SLBI				*e*S		**Sn**		**21 42 00.6**	**-0.8**
BIRV	**Birongo**	**3.77**	**267**	*e*P		**Pn**		**21 41 24.2**	**+2.3**
BIRV				*e*S		**Sn**		**21 42 05.2**	**-0.2**
BIM	**Bigot**	**4.03**	**19**	*e*P		**Pn**		**21 41 27.0**	**+1.6**
MPOM	**Morne Pois Mar**	**4.04**	**22**	*e*P		**Pn**		**21 41 26.7**	**+1.2**
MPOM				*e*S		**Sn**		**21 42 11.4**	**-0.4**
MERV	**Las Mercedes**	**4.06**	**250**	*e*P		**Pn**		**21 41 27.2**	**+1.4**
MERV				*e*S		**Sn**		**21 42 12.0**	**-0.4**
LUEV	**Luepa**	**4.92**	**169**	*e*P		**Pn**		**21 41 38.5**	**+0.9**
LUEV				*e*S		**Sn**		**21 42 30.8**	**-2.6**
CACV	**CAICARA DEL OR**	**5.10**	**233**	*e*P		Pn		21 41 36.1	-3.8
CACV				*e*S		Sn		21 42 27.6	-10
BENV	**Beln**	**5.13**	**262**	*e*P		**Pn**		**21 41 41.8**	**+1.5**
BENV				*e*S		**Sn**		**21 42 36.4**	**-1.9**
TURV	**Turiamo**	**5.31**	**268**	*e*P		**Pn**		**21 41 43.5**	**+0.8**
MAPV	**Macapo**	**5.98**	**262**	*e*P		**Pn**		**21 41 52.4**	**+0.6**
MAPV				*e*S		**Sn**		**21 42 55.7**	**-3.3**
PAYV	**Puerto Ayacuch**	**7.36**	**225**	*e*P		**Pn**		**21 42 10.9**	**+0.4**
PAYV				*e*S		**Sn**		**21 43 27.1**	**-5.3**

*KRSC **14** 21:50:25.0±1.1, 53˙.09N×160˙.08E, h58km±10km, ML4.9*
*MOS **14** 21:50:26.1±0.9, 53˙.09N×159˙.95E, h66km, mb4.5/8, Error ellipse: s-maj=8.1km s-min=3.8km az=79.3*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*NEIC **14** 21:50:28.4±1.8, 53˙.2N±0˙.1×159˙.76E±0˙.09, h72km±5km, mb4.5/123, Error ellipse: s-maj=14.9km s-min=7.9km az=168.0*
*IDC **14** 21:50:30.6±0.9, 53˙.36N×159˙.56E, h88km±7km, mb3.8/28, mb1 4.0/31, mb1mx4.0/39, mbtmp4.2/31, MS3.3/11, Ms1 3.3/11, ms1mx2.9/92, Error ellipse: s-maj=15.1km s-min=9.8km az=151.0*
ISC 14 21:50:26.4±0.5, 53˙.12N±0˙.03×159˙.98E±0˙.03, h59km±4km, n368, σ1§56/409, mb4.5/119, MS3.6/9, 8C-15D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.04**	**127**	PN		**Pn**		**21 50 35.6**	**+0.4**
SPN				S		**Sn**		**21 50 41.7**	**+0.2**
SPN	**Mys Shipunski**	**0.04**	**127**	*e*P		**Pn**		**21 50 35.6**	**+0.4**
SPN				*e*S		**Sn**		**21 50 41.7**	**+0.2**
NLC	**Nalytchevo**	**0.38**	**278**	PN		**Pn**		**21 50 37.6**	**+0.6**
NLC				S		**Sn**		**21 50 45.5**	**+0.7**
NLC	**Nalytchevo**	**0.38**	**278**	*e*P		**Pn**		**21 50 37.6**	**+0.6**
NLC				*e*S		**Sn**		**21 50 45.5**	**+0.7**
SDLR	**Sedlovina**	**0.68**	**284**	PN		**Pn**		**21 50 41.0**	**+0.6**
SDLR	**Sedlovina**	**0.68**	**284**	*e*P		**Pn**		**21 50 41.0**	**+0.6**
UGLR	**Uglovaya**	**0.70**	**278**	PN		**Pn**		**21 50 41.7**	**+1.1**
UGLR	**Uglovaya**	**0.70**	**278**	*e*P		**Pn**		**21 50 41.7**	**+1.1**
SMAR	**Somma**	**0.72**	**282**	PN		**Pn**		**21 50 41.5**	**+0.5**
SMAR				S		**Sn**		**21 50 51.1**	**-0.6**
SMAR	**Somma**	**0.72**	**282**	*e*P		**Pn**		**21 50 41.5**	**+0.5**
SMAR				*e*S		**Sn**		**21 50 51.1**	**-0.6**
DALK	**Dalny**	**0.74**	**264**	PN		**Pn**		**21 50 41.7**	**+0.7**
DALK				S		**Sn**		**21 50 52.2**	**+0.4**
DALK	**Dalny**	**0.74**	**264**	*e*P		**Pn**		**21 50 41.7**	**+0.7**
DALK				*e*S		**Sn**		**21 50 52.2**	**+0.4**
AVH	**Avacha**	**0.76**	**282**	PN		**Pn**		**21 50 42.4**	**+1.1**
AVH				S		**Sn**		**21 50 53.9**	**+1.6**
AVH	**Avacha**	**0.76**	**282**	*e*P		**Pn**		**21 50 42.4**	**+1.1**
AVH				*e*S		**Sn**		**21 50 53.9**	**+1.6**
KRER	**Koryakskii**	**0.76**	**285**	PN		**Pn**		**21 50 42.3**	**+0.8**
KRER	**Koryakskii**	**0.76**	**285**	*e*P		**Pn**		**21 50 42.3**	**+0.8**
PET	**Petropavlovsk**	**0.80**	**264**	*i*PN		**Pn**		**21 50 42.5**	**+0.7**
PET				*e*S		**Sn**		**21 50 53.1**	**-0.1**
PET				pmax	pmax				
	comp=Z,3µm,0.3s								
PET				smax	smax				
	comp=E,16µm,0.4s								
PET	**Petropavlovsk**	**0.80**	**264**			**Pn**		**21 50 42.4**	**+0.7**
PET				Sn		**Sn**		**21 50 53.5**	**+0.4**
PET	**Petropavlovsk**	**0.80**	**264**	*e*P		**Pn**		**21 50 42.4**	**+0.7**
PET				*e*S		**Sn**		**21 50 53.0**	**-0.1**
KOK	**Koryaka**	**0.82**	**283**	PN		**Pn**		**21 50 42.9**	**+0.7**
KOK	**Koryaka**	**0.82**	**283**	*e*P		**Pn**		**21 50 42.9**	**+0.7**
KII	**Karymskiy**	**0.97**	**341**	PN		**Pn**		**21 50 44.7**	**+0.7**
KII				S		**Sn**		**21 50 57.3**	**+0.2**
KII	**Karymskiy**	**0.97**	**341**	*e*P		**Pn**		**21 50 44.7**	**+0.7**
KII				*e*S		**Sn**		**21 50 57.3**	**+0.2**
RUS	**Russkaya**	**1.12**	**233**	PN		**Pn**		**21 50 46.6**	**+0.7**
RUS				S		**Sn**		**21 51 01.1**	**+0.6**
RUS	**Russkaya**	**1.12**	**233**	*e*P		**Pn**		**21 50 46.6**	**+0.7**
RUS				*e*S		**Sn**		**21 51 01.1**	**+0.6**
KRMR	**Karymshinskiy**	**1.15**	**256**	PN		**Pn**		**21 50 47.3**	**+1.0**
KRMR				S		**Sn**		**21 51 02.5**	**+1.3**
KRMR	**Karymshinskiy**	**1.15**	**256**	*e*P		**Pn**		**21 50 47.3**	**+1.0**
KRMR				*e*S		**Sn**		**21 51 02.5**	**+1.3**
MTVR	**Mutnovka**	**1.26**	**240**	PN		**Pn**		**21 50 49.1**	**+1.2**
MTVR	**Mutnovka**	**1.26**	**240**	*e*P		**Pn**		**21 50 49.1**	**+1.2**
GRL	**Gorelyy**	**1.29**	**245**	PN		**Pn**		**21 50 49.8**	**+1.6**
GRL				S		**Sn**		**21 51 05.3**	**+0.7**
GRL	**Gorelyy**	**1.29**	**245**	*e*P		**Pn**		**21 50 49.8**	**+1.6**
GRL				*e*S		**Sn**		**21 51 05.3**	**+0.7**
GNL	**Ganaly**	**1.35**	**296**	PN		**Pn**		**21 50 50.1**	**+1.1**
GNL	**Ganaly**	**1.35**	**296**	*e*P		**Pn**		**21 50 50.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**1.37**	**270**	*ce*PN		**Pn**		**21 50 50.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.37**	**270**	Pn		**Pn**		**21 50 50.7**	**+1.4**
PEA0B				Sn		**Sn**		**21 51 07.9**	**+1.4**
PETK	**Petropavlovsk-**	**1.37**	**270**	P		**Pn**		**21 50 50.0**	**+0.7**
	comp=E,688nm,0.3s,baz=93,slow=18,SNR=7394								
PETK				S		**Sn**		**21 51 08.3**	**+1.8**
	comp=E,286nm,0.3s,baz=129,slow=16,SNR=11								
PETK				LR		LR		21 51 26.6	
	comp=E,254nm,18.6s,baz=144,slow=49								
PETK	**Petropavlovsk-**	**1.37**	**270**	Pn		**Pn**		**21 50 49.8**	**+0.5**
APC	**Apacha**	**1.71**	**265**	PN		**Pn**		**21 50 55.8**	**+2.0**
APC				S		**Sn**		**21 51 17.8**	**+3.1**
APC	**Apacha**	**1.71**	**265**	*e*P		**Pn**		**21 50 55.8**	**+2.0**
APC				*e*S		**Sn**		**21 51 17.8**	**+3.1**
KDTR	**Khodutka, Kamc**	**1.75**	**222**	PN		**Pn**		**21 50 55.6**	**+1.2**
KDTR				S		**Sn**		**21 51 16.6**	**+1.0**
KDTR	**Khodutka, Kamc**	**1.75**	**222**	*e*P		**Pn**		**21 50 55.6**	**+1.2**
KDTR				*e*S		**Sn**		**21 51 16.6**	**+1.0**
MKZ	**Mys Kozlova**	**1.78**	**35**	PN		**Pn**		**21 50 54.6**	**-0.1**
MKZ				S		**Sn**		**21 51 14.8**	**-1.4**
MKZ	**Mys Kozlova**	**1.78**	**35**	*e*P		**Pn**		**21 50 54.6**	**-0.1**
MKZ				*e*S		**Sn**		**21 51 14.8**	**-1.4**
TUMD	**Tumrok D**	**2.10**	**7**	*e*P		**Pn**		**21 51 00.1**	**+0.9**
TUMD				*e*S		**Sn**		**21 51 25.6**	**+1.4**
TUMR	**Tumrok**	**2.17**	**3**	PN		**Pn**		**21 51 00.1**	**-0.1**
TUMR				S		**Sn**		**21 51 25.6**	**-0.4**
TUMR	**Tumrok**	**2.17**	**3**	*e*P		**Pn**		**21 51 02.1**	**+1.9**
TUMR				*e*S		**Sn**		**21 51 28.3**	**+2.3**
PAU	**Pauzhetka**	**2.55**	**231**	PN		**Pn**		**21 51 07.8**	**+2.5**
PAU				S		**Sn**		**21 51 39.2**	**+4.1**
PAU	**Pauzhetka**	**2.55**	**231**	*e*P		**Pn**		**21 51 07.8**	**+2.5**
PAU				*e*S		**Sn**		**21 51 39.2**	**+4.1**
KMNR	**Kamenistaya**	**2.65**	**3**	PN		**Pn**		**21 51 08.7**	**+2.0**
KMNR	**Kamenistaya**	**2.65**	**3**	*e*P		**Pn**		**21 51 08.7**	**+2.0**
KIRR	**Kirishev**	**2.85**	**4**	PN		**Pn**		**21 51 11.4**	**+2.0**
KIRR	**Kirishev**	**2.85**	**4**	*e*P		**Pn**		**21 51 11.4**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.86**	**8**	PN		**Pn**		**21 51 11.7**	**+2.2**
BZGR				S		**Sn**		**21 51 45.3**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**2.86**	**8**	*e*P		**Pn**		**21 51 11.7**	**+2.2**
BZGR				*e*S		**Sn**		**21 51 45.3**	**+2.5**
BZWR	**Bezymyannyi-We**	**2.87**	**6**	PN		**Pn**		**21 51 12.1**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.87**	**6**	*e*P		**Pn**		**21 51 12.1**	**+2.4**
ESO	**Esso**	**2.91**	**346**	PN		**Pn**		**21 51 11.5**	**+1.3**
ESO	**Esso**	**2.91**	**346**	*e*P		**Pn**		**21 51 11.5**	**+1.3**
ZLN	**Zelenaya**	**2.94**	**9**	PN		**Pn**		**21 51 13.7**	**+3.0**
ZLN	**Zelenaya**	**2.94**	**9**	*e*P		**Pn**		**21 51 13.7**	**+3.0**
KOZ	**Kozyrevsk**	**2.94**	**359**	PN		**Pn**		**21 51 12.4**	**+1.7**
KOZ	**Kozyrevsk**	**2.94**	**359**	*e*P		**Pn**		**21 51 12.4**	**+1.7**
LGNR	**Loginova**	**3.00**	**8**	PN		**Pn**		**21 51 13.5**	**+1.9**
LGNR				S		**Sn**		**21 51 50.0**	**+3.5**
LGNR	**Loginova**	**3.00**	**8**	*e*P		**Pn**		**21 51 13.5**	**+1.9**
LGNR				*e*S		**Sn**		**21 51 50.0**	**+3.5**
CIRR	**Tsirk**	**3.04**	**8**	PN		**Pn**		**21 51 14.0**	**+2.0**
CIRR	**Tsirk**	**3.04**	**8**	*e*P		**Pn**		**21 51 14.0**	**+2.0**
KRSR	**Krestovskiy**	**3.12**	**6**	PN		**Pn**		**21 51 15.0**	**+1.8**
KRSR	**Krestovskiy**	**3.12**	**6**	*e*P		**Pn**		**21 51 15.0**	**+1.8**
KLY	**Klyuchi**	**3.22**	**7**	PN		**Pn**		**21 51 17.2**	**+2.8**
KLY				S		**Sn**		**21 51 54.9**	**+3.3**
KLY	**Klyuchi**	**3.22**	**7**	*e*P		**Pn**		**21 51 17.2**	**+2.8**
KLY				*e*S		**Sn**		**21 51 54.9**	**+3.3**
SKR	**Severo-Kuril's**	**3.42**	**226**	*e*PN		**Pn**		**21 51 20.8**	**+3.7**
SKR				*e*S		**Sn**		**21 51 57.7**	**+1.4**
SKR				pmax	pmax				
	comp=Z,27nm,0.3s								
SKR				smax	smax				
	comp=N,403nm,0.6s								
SKR				smax	smax				
	comp=E,237nm,0.4s								
SKR	**Severo-Kuril's**	**3.42**	**226**	*e*P		**Pn**		**21 51 19.1**	**+2.0**
SKR				*e*S		**Sn**		**21 51 57.7**	**+1.4**
KBTR	**Krutoberegovo**	**3.51**	**27**	PN		**Pn**		**21 51 20.4**	**+2.1**
KBTR				S		**Sn**		**21 52 00.7**	**+2.2**
KBTR	**Krutoberegovo**	**3.51**	**27**	*e*P		**Pn**		**21 51 20.4**	**+2.1**
KBTR				*e*S		**Sn**		**21 52 00.7**	**+2.2**
KBG	**Krutoberegovo**	**3.52**	**26**	PN		**Pn**		**21 51 21.1**	**+2.7**
KBG				S		**Sn**		**21 52 02.6**	**+3.8**
KBG	**Krutoberegovo**	**3.52**	**26**	*e*P		**Pn**		**21 51 21.1**	**+2.7**
KBG				*e*S		**Sn**		**21 52 02.6**	**+3.8**
BDR	**Baidarnaya**	**3.53**	**11**	PN		**Pn**		**21 51 22.0**	**+3.3**
BDR	**Baidarnaya**	**3.53**	**11**	*e*P		**Pn**		**21 51 22.0**	**+3.3**
SMKR	**Semkarok**	**3.58**	**13**	PN		**Pn**		**21 51 21.7**	**+2.4**
SMKR				S		**Sn**		**21 52 03.5**	**+3.2**
SMKR	**Semkarok**	**3.58**	**13**	*e*P		**Pn**		**21 51 21.7**	**+2.4**
SMKR				*e*S		**Sn**		**21 52 03.5**	**+3.2**
SRKR	**Sorokina**	**3.61**	**11**	PN		**Pn**		**21 51 22.7**	**+2.9**
SRKR	**Sorokina**	**3.61**	**11**	*e*P		**Pn**		**21 51 22.7**	**+2.9**
BKI	**Bering**	**4.10**	**57**	PN		**Pn**		**21 51 26.9**	**+0.6**
BKI	**Bering**	**4.10**	**57**	*e*P		**Pn**		**21 51 26.9**	**+0.6**
BKI				*e*S		**Sn**		**21 52 09.1**	**-3.8**
PALN	**Palana**	**5.98**	**360**	PN		**Pn**		21 51 56.9	+4.7
PALN	**Palana**	**5.98**	**360**	*e*P		**Pn**		21 51 56.9	+4.7
TILK	**Tilichiki**	**8.08**	**22**	PN		**Pn**		21 52 25.9	+5.0
TILK	**Tilichiki**	**8.08**	**22**	*e*P		**Pn**		21 52 25.9	+5.0
MA2	**Magadan**	**8.24**	**325**	P		**Pn**		**21 52 26.3**	**+3.2**
	comp=E,0.6nm,0.3s,baz=141,slow=17,SNR=4.6								
MA2				LR		LR		21 55 54.1	
	comp=E,82nm,18.8s,baz=224,slow=41								
SHEM	**Shemya Is, Ala**	**8.55**	**87**	P		**Pn**		**21 52 27.8**	**+0.6**
	comp=E,12nm,0.3s,baz=200,slow=5.3,SNR=7.3								
SHEM				S		**Sn**		**21 53 58.3**	**-3.7**
	comp=E,3.4nm,0.3s,baz=254,slow=19,SNR=1.0								
SHEM				LR		LR		21 56 13.7	
	comp=E,71nm,19.1s,baz=300,slow=39								
SMY	**Shemya**	**8.55**	**87**	PN		**Pn**		**21 52 27.3**	**0.0**
SMY	**Shemya**	**8.55**	**87**	Pn		**Pn**		**21 52 27.2**	**0.0**
SEY	**Seymchan**	**10.62**	**341**	P		**Pn**		**21 52 57.8**	**+2.2**
	comp=E,0.1nm,0.3s,baz=141,slow=18,SNR=10								
JKA	**Kamikawa-asahi**	**14.57**	**239**	P		**P**		**21 53 53.4**	**-0.7**
ASAJ	**Asahikawa**	**14.57**	**239**	P		**Pn**		**21 53 51.5**	**+2.4**
	comp=E,1.3nm,0.3s,baz=48,slow=11,SNR=5.0								
ASAJ	**Asahikawa**	**14.57**	**239**	P		**P**		**21 53 53.4**	**-0.6**
GRNR	**Gornyy**	**14.70**	**270**	*i*P		**P**		**21 53 59.3**	**+3.8**
GRNR				pmax	pmax				
	comp=E,20nm,0.6s								
GRNR				pmax	pmax				
	comp=N,6.0nm,0.9s								
GRNR				pmax	pmax				
	comp=Z,20nm,0.5s								
GRNR				MLR	MLR				
	comp=E,70nm,15.0s								
GRNR				MLR	MLR				
	comp=N,110nm,16.0s								
GRNR				MLR	MLR				
	comp=Z,70nm,15.0s								
BILL	**Bilibino**	**15.27**	**9**	*e*P		**Pn**		**21 53 57.9**	**0.0**
BILL				pmax	pmax				
	comp=Z,7.0nm,1.3s								
BILL				MLR	MLR				
	comp=Z,49nm,13.0s								
BILL	**Bilibino**	**15.27**	**9**			**P**		**21 54 03.6**	**+1.9**
ERM	**Erimo**	**15.84**	**232**	P		**Pn**		**21 54 03.1**	**-2.2**
ERM				pmax	pmax				
	comp=Z,123nm,1.3s								
ERM	**Erimo**	**15.84**	**232**	Pn		**Pn**		**21 54 03.1**	**-2.2**
KLR	**Kul'dur**	**18.06**	**269**	P		**Pn**		**21 54 33.8**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=66,slow=9.9,SNR=18								
KLR				LR		LR		22 01 22.9	
	comp=Z,50nm,20.3s,baz=60,slow=37								
KLR	**Kul'dur**	**18.06**	**269**	*ce*P		**P**		**21 54 31.0**	**-1.7**
KLR				pmax	pmax				
	comp=Z,12nm,2.5s								
YAK	**Yakutsk**	**18.37**	**311**	P		**Pn**		**21 54 35.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=297,slow=2.7,SNR=6.9								
YAK				LR		LR		22 02 11.1	
	comp=Z,56nm,18.9s,baz=94,slow=39								
YAK	**Yakutsk**	**18.37**	**311**	*ce*P		**P**		**21 54 34.4**	**-1.5**
YAK				pmax	pmax				
	comp=Z,15nm,0.7s								
YAK	**Yakutsk**	**18.37**	**311**	P		**P**		**21 54 33.8**	**-2.1**
YAK				IAmb	IAmb			21 54 37.4	
	comp=Z,19nm,0.9s								
TNA	**Tin City**	**20.28**	**40**	P		**P**		**21 54 56.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**		**21 54 60.0**	**+1.7**
	comp=Z,2nm,0.7s,baz=57,slow=16,SNR=2.2								
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**		**21 55 00.0**	**+1.7**
USRK	**Ussuriysk Ar.**	**20.41**	**255**	P		**P**		**21 54 59.1**	**+0.8**
ANM	**Nome**	**20.96**	**43**	P		**P**		**21 55 04.8**	**+0.7**
ANM				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ANM	**Nome**	**20.96**	**43**	P		**P**		**21 55 04.8**	**+0.7**
JSD	**Sado**	**21.29**	**234**	P		**P**		**21 55 08.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**22.51**	**231**	P		**P**		**21 55 22.0**	**+1.1**
MJB9				IAmb	IAmb			21 55 22.7	
	comp=Z,28nm,0.7s								
MAJO	**Matsushiro**	**22.51**	**231**	*i* P		**P**		**21 55 21.3**	**+0.4**
MAJO				pmax	pmax				
	comp=Z,19nm,0.8s								
MAJO	**Matsushiro**	**22.51**	**231**	P		**P**		**21 55 21.9**	**+1.0**
MAJO				IAmb	IAmb			21 55 22.7	
	comp=Z,29nm,0.7s								
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**		**21 55 22.0**	**+1.1**
	comp=Z,3.6nm,0.3s,baz=15,slow=12,SNR=28								
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**		**21 55 21.8**	**+0.9**
MJAR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MJAR	**Matsushiro Arr**	**22.51**	**231**	P		**P**		**21 55 21.8**	**+0.9**
MJAR				IAmb	IAmb			21 55 22.7	
	comp=Z,8.3nm,0.7s								
TIXI	**Tiksi**	**23.03**	**335**	P		**P**		**21 55 24.2**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=90,slow=22,SNR=13								
TIXI				LR		LR		22 05 08.9	
	comp=Z,49nm,20.2s,baz=181,slow=39								
TIXI	**Tiksi**	**23.03**	**335**	*ce*P		**P**		**21 55 23.0**	**-2.9**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**23.03**	**335**	P		**P**		**21 55 24.2**	**-1.7**
TTA	**Tatalina**	**24.79**	**49**	P		**P**		**21 55 43.6**	**+1.3**
TTA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
TTA	**Tatalina**	**24.79**	**49**	P		**P**		**21 55 43.6**	**+1.3**
P18K	**Big Mountain,**	**25.25**	**58**	P		**P**		**21 55 48.7**	**+2.1**
L19K	**White Mountain**	**25.31**	**51**	P		**P**		**21 55 48.5**	**+1.5**
K20K	**Telida**	**25.69**	**48**	P		**P**		**21 55 52.8**	**+2.4**
IMAR	**Indian Mountai**	**26.03**	**42**	P		**P**		**21 55 54.4**	**+0.9**
BOD	**Bodaibo**	**26.07**	**299**	*e*P		**P**		**21 55 53.9**	**0.0**
BOD				pmax	pmax				
	comp=Z,7.0nm,1.8s								
PPLA	**Purkeypile**	**26.54**	**49**	P		**P**		**21 55 59.9**	**+1.6**
PPLA				IAmb	IAmb			21 56 07.3	
	comp=Z,18nm,1.5s								
CAST	**Castle Rocks**	**26.58**	**48**	P		**P**		**21 56 00.3**	**+1.7**
OHAK	**Old Harbor**	**26.59**	**62**	P		**P**		**21 55 59.8**	**+1.3**
OHAK				IAmb	IAmb			21 56 26.1	
	comp=Z,13nm,1.2s								
KDAK	**Kodiak Island

RES	**Resolute Bay**	**43.33**	**22**	P	**P**	**21 58 22.6**	**+0.8**
WMQ	**Urumqi**	**46.89**	**289**	*e*P	**P**	**21 58 52.0**	**+1.4**
SPITS	**Spitsbergen Ar**	**47.10**	**350**	P	**P**	**21 58 50.9**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,89nm,1.4s						
SPB2	**Spitsbergen Ar**	**47.10**	**350**	P	**P**	**21 58 51.0**	**-0.7**
KURK	**Kurchatov**	**47.66**	**302**	*ce*P	**P**	**21 58 54.2**	**-2.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**47.66**	**302**	P	**P**	**21 58 54.5**	**-1.8**
KURK				IAmb	IAmb	21 58 55.2	
	comp=Z,3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**47.76**	**302**	LR	LR	22 19 56.1	
	comp=Z,43nm,20.2s,baz=72,slow=37						
MK31	**Makanchi Array**	**48.08**	**296**	P	**P**	**21 58 57.8**	**-1.9**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**48.08**	**296**	P	**P**	**21 58 57.8**	**-1.9**
MKAR	**Makanchi Array**	**48.08**	**296**	P	**P**	**21 58 57.7**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=49,slow=6.7,SNR=25						
MKAR	**Makanchi Array**	**48.08**	**296**	P	**P**	**21 58 57.4**	**-2.3**
MAKZ	**Makanchi**	**48.24**	**296**	P	**P**	**21 58 59.1**	**-1.8**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAKZ	**Makanchi**	**48.24**	**296**	P	**P**	**21 58 59.1**	**-1.8**
EDM	**Edmonton**	**48.81**	**53**	P	**P**	**21 59 07.0**	**+1.8**
EDM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EDM	**Edmonton**	**48.81**	**53**	P	**P**	**21 59 07.0**	**+1.8**
PZH	**PanZhiHua**	**50.32**	**262**	P	**P**	**21 59 16.8**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,6.5s						
BRVK	**Borovoye**	**50.34**	**308**	P	**P**	**21 59 15.3**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**50.34**	**308**	P	**P**	**21 59 15.3**	**-1.5**
BRVK				IAmb	IAmb	21 59 17.8	
	comp=Z,2.1nm,0.5s						
DAG	**Danmarks Havn**	**50.38**	**360**	*i* P	**P**	**21 59 16.0**	**-0.7**
BMO	**Blue Mountains**	**52.03**	**64**	P	**P**	**21 59 31.8**	**+2.1**
BMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BMO	**Blue Mountains**	**52.03**	**64**	P	**P**	**21 59 31.8**	**+2.1**
BMO				IAmb	IAmb	21 59 53.8	
	comp=Z,2.6nm,1.1s						
PLID	**Pearl Lake**	**52.58**	**63**	P	**P**	**21 59 36.0**	**+2.0**
PLID				IAmb	IAmb	21 59 36.6	
	comp=Z,2.7nm,0.9s						
ARCES	**ARCESS Array B**	**53.24**	**342**	P	**P**	**21 59 36.4**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=30,slow=9.3,SNR=7.6						
ARCES				PcP	**PcP**	**22 00 45.1**	**-0.1**
	comp=Z,8.5nm,1.1s,baz=38,slow=4.6,SNR=8.1						
ARU	**Arti**	**53.33**	**317**	*ci* P	**P**	**21 59 37.2**	**-1.8**
ARU				*PP	**pP**	**21 59 55.6**	**+1.0**
ARU				S	**S**	**22 07 04.7**	**-1.2**
ARU				SS	**SKiKP**	**22 10 48.2**	**-1.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**53.33**	**317**	P	**P**	**21 59 37.1**	**-1.9**
ARU				IAmb	IAmb	21 59 38.9	
	comp=Z,5.0nm,0.9s						
FCC	**Fort Churchill**	**53.50**	**39**	P	**P**	**21 59 40.8**	**+0.6**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FCC	**Fort Churchill**	**53.50**	**39**	P	**P**	**21 59 40.8**	**+0.6**
FCC				IAmb	IAmb	21 59 41.3	
	comp=Z,2.5nm,0.6s						
AAK	**Ala-Archa**	**55.00**	**296**	*ce*P	**P**	**21 59 49.4**	**-2.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**55.00**	**296**	P	**P**	**21 59 49.9**	**-1.6**
AAK				IAmb	IAmb	21 59 52.4	
	comp=Z,3.5nm,1.1s						
KIRV	**Kirov**	**55.33**	**323**	LR	LR	22 28 11.8	
	comp=Z,59nm,18.7s,baz=24,slow=41						
NVAR	**Mina Array Bea**	**55.80**	**70**	P	**P**	**22 00 00.2**	**+2.8**
	comp=Z,0.9nm,0.4s,baz=291,slow=7.7,SNR=1.8						
KKAR	**Karatay Array**	**56.81**	**299**	P	**P**	**22 00 02.3**	**-2.0**
KKAR	**Karatay Array**	**56.81**	**299**	P	**P**	**22 00 02.3**	**-2.0**
PDAR	**Pinedale Array**	**57.57**	**61**	P	**P**	**22 00 12.3**	**+2.4**
	comp=Z,1.7nm,0.7s,baz=319,slow=2.3,SNR=12						
PDAR	**Pinedale Array**	**57.57**	**61**	P	**P**	**22 00 12.2**	**+2.3**
ABKAR	**Akbulak array**	**57.72**	**310**	P	**P**	**22 00 09.1**	**-1.5**
SFJD	**Kangerlussuaq**	**58.01**	**14**	P	**P**	**22 00 11.7**	**-0.6**
SFJD				pmax	pmax		
	comp=Z,17nm,1.3s						
SFJD	**Kangerlussuaq**	**58.01**	**14**	P	**P**	**22 00 11.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**58.12**	**258**	P	**P**	**22 00 14.1**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=23,slow=6.7,SNR=6.7						
BTK	**Batken**	**58.78**	**296**	P	**P**	**22 00 17.5**	**-0.7**
BTK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BTK	**Batken**	**58.78**	**296**	P	**P**	**22 00 17.5**	**-0.7**
BTK				IAmb	IAmb	22 00 18.2	
	comp=Z,2.4nm,0.7s						
JIRN	**Jiri**	**58.82**	**275**	*e*P	**P**	**22 00 17.7**	**-1.3**
	comp=Z,3.1nm,0.3s						
GUN	**Gumba**	**58.82**	**276**	*e*P	**P**	**22 00 17.5**	**-1.5**
	comp=Z,4.9nm,0.3s						
ULM	**Lac du Bonnet**	**58.85**	**47**	P	**P**	**22 00 19.6**	**+1.2**
	comp=Z,3.5nm,0.4s,baz=320,slow=7.1,SNR=8.4						
ULM	**Lac du Bonnet**	**58.85**	**47**	P	**P**	**22 00 19.6**	**+1.2**
ULM				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ULM	**Lac du Bonnet**	**58.85**	**47**	P	**P**	**22 00 19.6**	**+1.2**
RAMN	**Ramite**	**59.09**	**275**	*e*P	**P**	**22 00 19.4**	**-1.3**
	comp=Z,24nm,0.4s						
KKN	**Kakani**	**59.27**	**276**	*e*P	**P**	**22 00 21.1**	**-0.8**
	comp=Z,2.8nm,0.2s						
PKI	**Pulchoki**	**59.35**	**276**	*e*P	**P**	**22 00 21.4**	**-1.2**
	comp=Z,4.3nm,0.4s						
PKIN	**Phulchoki**	**59.35**	**276**	*e*P	**P**	**22 00 21.3**	**-1.3**
	comp=Z,1.3nm,0.2s						
RSSD	**Black Hills**	**59.45**	**56**	P	**P**	**22 00 25.2**	**+2.3**
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RSSD	**Black Hills**	**59.45**	**56**	P	**P**	**22 00 25.2**	**+2.3**
GKN	**Gorkha**	**59.50**	**277**	*e*P	**P**	**22 00 22.4**	**-1.0**
	comp=Z,4.4nm,0.3s						
DANN	**Dangsing**	**59.77**	**278**	*e*P	**P**	**22 00 24.4**	**-1.0**
FIA1	**FINESS Array S**	**60.07**	**336**	P	**P**	**22 00 25.6**	**-1.0**
FINES	**FINESS Array B**	**60.07**	**336**	P	**P**	**22 00 25.1**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=30,slow=9.0,SNR=16						
FINES				PcP	**PcP**	**22 01 11.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=45,slow=2.4,SNR=3.5						
FINES				LR	LR	22 33 32.7	
	comp=Z,67nm,18.8s,baz=286,slow=43						
FINES	**FINESS Array B**	**60.07**	**336**	*i* P	**P**	**22 00 25.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**60.07**	**336**	P	**P**	**22 00 25.6**	**-1.0**
KOLN	**Koldanda**	**60.29**	**277**	*e*P	**P**	**22 00 27.3**	**-1.6**
	comp=Z,4.2nm,0.4s						
PYUN	**Piuthan**	**60.41**	**278**	*e*P	**P**	**22 00 28.1**	**-1.6**
	comp=Z,4.0nm,0.3s						
CHGR	**Chuyangaron**	**60.68**	**296**	P	**P**	**22 00 29.3**	**-2.0**
B35A	**Bob, Littlefor**	**61.20**	**47**	P	**P**	**22 00 35.5**	**+1.0**
B35A				IAmb	IAmb	22 00 49.4	
	comp=Z,12nm,1.5s						
F33A	**5 Mile Ranch,**	**61.93**	**50**	P	**P**	**22 00 40.9**	**+1.4**
F33A				IAmb	IAmb	22 00 41.7	
	comp=Z,7.9nm,1.1s						
OBN	**Obninsk**	**62.45**	**327**	*e*P	**P**	**22 00 39.2**	**-3.6**
OBN				*e**PP	**pP**	**22 01 00.5**	**+1.7**
OBN				*e*		22 01 20.2	
OBN				*e*		22 02 58.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EYMN	**Ely**	**62.49**	**46**	P	**P**	**22 00 44.1**	**+0.9**
EYMN				IAmb	IAmb	22 00 44.9	
	comp=Z,5.7nm,0.9s						
F36A	**Milaca**	**63.18**	**49**	P	**P**	**22 00 48.7**	**+0.8**
F36A				IAmb	IAmb	22 00 49.7	
	comp=Z,3.2nm,1.1s						
NC204	**NORSAR Array S**	**63.35**	**344**	P	**P**	**22 00 48.0**	**-0.7**
ECSD	**EROS Data Cent**	**63.36**	**52**	P	**P**	**22 00 50.3**	**+1.2**
ECSD				IAmb	IAmb	22 00 50.9	
	comp=Z,4.0nm,0.8s						
NB2	**NORSAR Subarra**	**63.50**	**344**	P	**P**	**22 00 48.6**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**63.50**	**344**	P	**P**	**22 00 48.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=28,slow=6.0,SNR=15						
VORR	**Voronezh**	**64.38**	**324**	*e*P	**P**	**22 00 53.9**	**-1.7**
VORR				pmax	pmax		
	comp=Z,40nm,0.4s						
D41A	**Chassel**	**64.43**	**45**	P	**P**	**22 00 56.8**	**+0.7**
D41A				IAmb	IAmb	22 01 25.0	
	comp=Z,14nm,1.5s						
I37A	**Lemond, Waseca**	**64.65**	**50**	P	**P**	**22 00 59.3**	**+1.7**
COWI	**Conover**	**64.94**	**46**	P	**P**	**22 00 59.5**	**+0.1**
COWI				IAmb	IAmb	22 01 00.6	
	comp=Z,5.0nm,0.9s						
LENM	**Lemitar**	**65.20**	**66**	P	**P**	**22 01 01.4**	**0.0**
E43A	**Lone Tree Farm**	**65.64**	**44**	P	**P**	**22 01 04.1**	**+0.2**
E43A				IAmb	IAmb	22 01 19.7	
	comp=Z,14nm,1.5s						
SCHQ	**Schefferville**	**65.66**	**28**	P	**P**	**22 01 03.9**	**0.0**
	comp=Z,7.8nm,1.1s,baz=342,slow=5.4,SNR=14						
SCHQ	**Schefferville**	**65.66**	**28**	P	**P**	**22 01 03.9**	**0.0**
SCHQ				IAmb	IAmb	22 01 04.6	
	comp=Z,5.4nm,1.0s						
SCIA	**State Center**	**66.37**	**51**	P	**P**	**22 01 08.8**	**+0.2**
L40A	**Anamosa**	**67.17**	**50**	P	**P**	**22 01 14.2**	**+0.4**
L40A				IAmb	IAmb	22 01 14.6	
	comp=Z,5.2nm,0.8s						
VLDQ	**Val d'Or**	**67.99**	**38**	P	**P**	**22 01 18.2**	**-0.5**
VLDQ				IAmb	IAmb	22 01 41.0	
	comp=Z,5.9nm,1.1s						
AKASG	**Malin Array Be**	**68.55**	**329**	P	**P**	**22 01 20.5**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=28,slow=6.6,SNR=7.8						
KBZ	**Khabaz**	**69.47**	**316**	P	**P**	**22 01 27.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=328,slow=1.3,SNR=7.6						
R40A	**Maddies Statio**	**69.65**	**53**	P	**P**	**22 01 29.8**	**+0.5**
R40A				IAmb	IAmb	22 01 31.2	
	comp=Z,3.8nm,0.6s						
HHAR	**Hobbs**	**70.42**	**55**	P	**P**	**22 01 34.5**	**+0.5**
HHAR				IAmb	IAmb	22 01 34.8	
	comp=Z,6.3nm,0.5s						
MGMO	**Mountain Grove**	**70.55**	**54**	P	**P**	**22 01 35.2**	**+0.4**
MGMO				IAmb	IAmb	22 01 35.5	
	comp=Z,3.8nm,0.5s						
TX31	**Lajitas Ar. Si**	**70.69**	**67**	P	**P**	**22 01 36.4**	**+0.5**
TX31				IAmb	IAmb	22 01 38.5	
	comp=Z,7.7nm,0.7s						
TX32	**Lajitas Array**	**70.69**	**67**	P	**P**	**22 01 36.4**	**+0.4**
TX32				IAmb	IAmb	22 01 38.5	
	comp=Z,2.7nm,0.7s						
TXAR	**Lajitas Array**	**70.69**	**67**	P	**P**	**22 01 38.0**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=296,slow=4.6,SNR=22						
TXAR	**Lajitas Array**	**70.69**	**67**	P	**P**	**22 01 38.0**	**+2.1**
TXAR	**Lajitas Array**	**70.69**	**67**	P	**P**	**22 01 37.8**	**+1.9**
U40A	**Yellville**	**70.89**	**55**	P	**P**	**22 01 37.5**	**+0.6**
U40A				IAmb	IAmb	22 01 37.9	
	comp=Z,8.6nm,1.1s						
P46A	**Rosedale**	**70.96**	**49**	P	**P**	**22 01 38.0**	**+0.8**
KWP	**Kalwaria Pacla**	**71.44**	**332**	P	**P**	**22 01 39.7**	**-0.3**
KWP				pmax	pmax		
	comp=Z,168nm,1.2s						
KWP	**Kalwaria Pacla**	**71.44**	**332**	P	**P**	**22 01 39.6**	**-0.3**
S44A	**Carbondale**	**71.56**	**51**	P	**P**	**22 01 41.8**	**+0.9**
SIUC	**Southern Illin**	**71.56**	**51**	P	**P**	**22 01 41.9**	**+1.0**
FCAR	**Ozark Folk Cen**	**71.62**	**55**	P	**P**	**22 01 41.8**	**+0.5**
FCAR				IAmb	IAmb	22 01 42.1	
	comp=Z,4.3nm,0.9s						
D62A	**Allapoint, All**	**71.79**	**33**	P	**P**	**22 01 42.3**	**+0.2**
P48A	**Milroy**	**71.89**	**48**	P	**P**	**22 01 42.7**	**-0.2**
P48A				IAmb	IAmb	22 01 43.6	
	comp=Z,7.6nm,0.6s						
WHAR	**Wooly Hollow**	**72.02**	**55**	P	**P**	**22 01 44.2**	**+0.5**
WHAR				IAmb	IAmb	22 01 46.3	
	comp=Z,3.9nm,0.9s						
N51A	**Ashland**	**72.02**	**45**	P	**P**	**22 01 44.1**	**+0.5**
N51A				IAmb	IAmb	22 01 44.9	
	comp=Z,9.4nm,0.7s						
CLL	**Collm**	**72.30**	**339**	*e*P	**P**	**22 01 45.0**	**-0.1**
CLL	**Collm**	**72.30**	**339**	*e*P	**P**	**22 01 45.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**72.49**	**330**	P	**P**	**22 01 45.9**	**-0.6**
BUR08				IAmb	IAmb	22 02 08.6	
	comp=Z,5.7nm,1.3s						
BURAR	**Bucovina Array**	**72.52**	**330**	↑P	**P**	**22 01 45.6**	**-1.0**
BURAR	**Bucovina Array**	**72.52**	**330**	P	**P**	**22 01 45.6**	**-1.0**
MORC	**Moravsky Berou**	**72.67**	**336**	↓P	**P**	**22 01 46.1**	**-1.3**
LANS	**Liptovska Anna**	**72.75**	**334**	*e*P	**P**	**22 01 49.3**	**+1.4**
LANS	**Liptovska Anna**	**72.75**	**334**	*e*P	**P**	**22 01 49.3**	**+1.4**
TRPA	**Tarpa**	**72.84**	**332**	↓P	**P**	**22 01 48.3**	**-0.1**
O53A	**New Philadelph**	**73.07**	**45**	P	**P**	**22 01 50.3**	**+0.4**
O53A				IAmb	IAmb	22 01 51.0	
	comp=Z,8.5nm,1.0s						
WVT	**Waverly**	**73.50**	**51**	P	**P**	**22 01 53.5**	**+1.1**
WVT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WVT	**Waverly**	**73.50**	**51**	P	**P**	**22 01 53.5**	**+1.1**
WVT				IAmb	IAmb	22 01 54.5	
	comp=Z,5.6nm,0.6s						
MLR	**Muntele Rosu**	**74.19**	**328**	↓P	**P**	**22 01 56.2**	**-0.3**
MLR	**Muntele Rosu**	**74.19**	**328**	P	**P**	**22 01 56.7**	**+0.2**
MLR				pmax	pmax		
	comp=Z,12nm,1.5s						
MLR	**Muntele Rosu**	**74.19**	**328**	P	**P**	**22 01 56.7**	**+0.2**
MLR				IAmb	IAmb	22 02 16.0	
	comp=Z,12nm,1.5s						
KHC	**Kasperske Hory**	**74.22**	**338**	*e*P	**P**	**22 01 56.9**	**+0.4**
KHC				MLR	MLR		
	comp=Z,3μm,18.6s						
KHC	**Kasperske Hory**	**74.22**	**338**	*e*P	**P**	**22 01 56.9**	**+0.4**
CLTN	**Cedars of Leba**	**74.23**	**50**	P	**P**	**22 01 57.9**	**+1.2**
CLTN				IAmb	IAmb	22 01 58.3	
	comp=Z,5.1nm,0.6s						
Q54A	**Coxs Mills**	**74.29**	**45**	P	**P**	**22 01 57.8**	**+0.8**
MEM	**Membach**	**74.34**	**343**	*d*P	**P**	**22 01 55.8**	**-1.3**
	comp=Z,6.2nm,0.5s						
BTNL	**Ternell**	**74.34**	**343**	*d*P	**P**	**22 01 57.4**	**+0.2**
	comp=Z,4.4nm,0.6s						
CKRC	**Cesky Krumlov**	**74.34**	**337**	*e*P	**P**	**22 01 57.4**	**+0.2**
BSTI	**Sart Tilman**	**74.44**	**343**	*d*P	**P**	**22 01 56.7**	**-1.0**
GERES	**GERESS Array B**	**74.46**	**338**	P	**P**	**22 01 57.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=28,slow=6.0,SNR=7.1						
GERES	**GERESS Array B**	**74.46**	**338**	P	**P**	**22 01 58.2**	**+0.2**
GERES	**GERESS Array B**	**74.46**	**338**	P	**P**	**22 01 58.2**	**+0.2**
BHOU	**Houvegnez**	**74.58**	**343**	*d*PcP	**PcP**	**22 02 11.2**	**-1.5**
BCLA	**Clavier**	**74.64**	**344**	*d*P	**P**	**22 01 57.5**	**-1.3**
BGES	**Gesves**	**74.71**	**344**	*d*PcP	**PcP**	**22 02 12.6**	**-0.6**
DOU	**Dourbes**	**75.08**	**344**	*d*P	**P**	**22 02 00.1**	**-1.3**
DOU				*d*PcP	**PcP**	**22 02 12.8**	**-2.0**
SWET	**Sewanee**	**75.13**	**51**	P	**P**	**22 02 02.4**	**+0.4**
SWET				IAmb	IAmb	22 02 03.4	
	comp=Z,10nm,0.8s						
GZR	**Gura Zlata**	**75.25**	**330**	↓P	**P**	**22 02 02.3**	**-0.2**
BZS	**Buzias**	**75.39**	**331**	↓P	**P**	**22 02 03.1**	**-0.1**
CPCT	**Cooper Cave**	**75.59**	**50**	P	**P**	**22 02 05.3**	**+0.7**
CPCT				IAmb	IAmb	22 02 05.8	
	comp=Z,6.0nm,0.9s						
V52A	**Sevierville**	**75.69**	**49**	P	**P**	**22 02 06.1**	**+0.9**
V52A				IAmb	IAmb	22 02 16.1	
	comp=Z,10.0nm,1.2s						
FPAL	**Fort Paine**	**75.83**	**51**	P	**P**	**22 02 06.8**	**+0.7**
WB0	**Warramunga Arr**	**75.89**	**205**	P	**P**	**22 02 06.0**	**-0.3**
WB0				IAmb	IAmb	22 02 32.7	
	comp=Z,13nm,1.3s						
Y49A	**Blount Mountai**	**76.02**	**52**	P	**P**	**22 02 07.3**	**+0.2**
Y49A				IAmb	IAmb	22 02 13.7	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**76.04**	**205**	P	**P**	**22 02 07.7**	**+0.6**
WR0				IAmb	IAmb	22 02 18.5	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**76.07**	**205**	P	**P**	**22 02 08.1**	**+0.8**
WB2				IAmb	IAmb	22 02 10.3	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**76.08**	**205**	P	**P**	**22 02 08.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=9.2,slow=5.7,SNR=6.1						
SOKA	**Soboth**	**76.17**	**336**	*i* P	**P**	**22 02 08.3**	**+0.4**
	comp=Z,1.9nm,0.6s						
KBA	**Koelnbreinsper**	**76.20**	**337**	*i* P	**P**	**22 02 09.1**	**+1.0**
	comp=Z,8.5nm,0.8s						
WATA	**Walderalm**	**76.36**	**338**	*i* P	**P**	**22 02 10.6**	**+1.6**
	comp=Z,2.0nm,0.6s						
RETA	**Reutte**	**76.40**	**339**	*e*P	**P**	**22 02 07.9**	**-1.2**
	comp=Z,4.4nm,1.3s						
LRAL	**Lakeview Retre**	**76.41**	**53**	P	**P**	**22 02 09.7**	**+0.4**
LRAL				IAmb	IAmb	22 02 09.7	
	comp=Z,3.4nm,0.7s						
MOTA	**Moosalm**	**76.46**	**339**	*i* P	**P**	**22 02 09.3**	**-0.2**
	comp=Z,8.0nm,1.4s						
SQTA	**Sankt Quirin**	**76.55**	**339**	*i* P	**P**	**22 02 10.7**	**+0.7**
	comp=Z,3.9nm,0.9s						
ABTA	**Abfaltersbach**	**76.71**	**338**	*i* P	**P**	**22 02 11.9**	**+1.1**
	comp=Z,7.7nm,1.2s						
DAVOX	**Davos/Dischmat**	**77.26**	**339**	LR	LR	22 43 16.9	
	comp=Z,57nm,19.1s,baz=296,slow=41						
CTI	**Castel Tesino**	**77.56**	**338**	P	**P**	**22 02 15.3**	**-0.4**
CTI				pmax	pmax		
	comp=Z,13nm,1.4s						
CTI	**Castel Tesino**	**77.56**	**338**	P	**P**	**22 02 15.2**	**-0.4**
CTI				IAmb	IAmb	22 02 17.0	
	comp=Z,13nm,1.4s						
VTS	**Vitosha**	**77.62**	**329**	P	**P**	**22 02 16.1**	**0.0**
VTS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VTS	**Vitosha**	**77.62**	**329**	P	**P**	**22 02 16.1**	**0.0**
VTS				IAmb	IAmb	22 02 18.2	
	comp=Z,5.4nm,1.1s						
TUE	**Stuetta**	**77.66**	**340**	P	**P**	**22 02 17.1**	**+0.8**
TEOL	**Teolo**	**78.21**	**338**	P	**P**	**22 02 20.4**	**+1.3**
PDG	**Podgorica**	**78.99**	**331**	P	**P**	**22 02 23.3**	**-0.1**
BNI	**Bardonecchia**	**79.56**	**341**	P	**P**	**22 02 27.7**	**+1.0**
BNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BNI	**Bardonecchia**	**79.56**	**341**	P	**P**	**22 02 27.7**	**+1.0**
BNI				IAmb	IAmb	22 02 34.6	
	comp=Z,8.5nm,1.2s						
SSB	**Saint Sauveur**	**79.74**	**343**	P	**P**	**22 02 28.0**	**+0.4**
SSB				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SSB	**Saint Sauveur**	**79.74**	**343**	P	**P**	**22 02 28.0**	**+0.4**
SSB				IAmb	IAmb	22 02 28.6	
	comp=Z,4.8nm,1.2s						
ASAR	**Alice Springs**	**79.75**	**204**	P	**P**	**22 02 29.1**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=13,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**79.75**	**204**	P	**P**	**22 02 28.2**	**+0.5**
MURB	**Monte Urbino**	**79.99**	**336**	P	**P**	**22 02 30.0**	**+1.0**
OSSC	**Osservatorio P**	**80.05**	**337**	P	**P**	**22 02 29.4**	**+0.2**
NRCA	**Norcia**	**80.25**	**336**	P	**P**	**22 02 31.0**	**+0.6**
SGRT	**San Giovanni R**	**80.59**	**334**	P	**P**	**22 02 31.6**	**-0.7**
TIP	**Timpagrande**	**82.71**	**332**	P	**P**	**22 02 43.5**	**0.0**
TIP				IAmb	IAmb	22 02 45.5	
	comp=Z,6.0nm,0.9s						
ITM	**Ithomi**	**82.98**	**327**	P	**P**	**22 02 43.9**	**-1.0**
RAYN	**Ar Rayn**	**84.98**	**303**	P	**P**	**22 02 54.4**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RAYN	**Ar Rayn**	**84.98**	**303**	P	**P**	**22 02 54.4**	**-0.9**
RAYN				IAmb	IAmb	22 02 55.3	
	comp=Z,4.5nm,0.7s						
ESDC	**Sonseca Array**	**86.54**	**348**	P	**P**	**22 03 02.9**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=1.0,slow=4.8,SNR=34						
KEST	**Kesra**	**87.90**	**336**	P	**P**	**22 03 09.3**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=345,slow=12,SNR=9.3						
KEST	**Kesra**	**87.90**	**336**	P	**P**	**22 03 09.4**	**-0.1**
PLCA	**Paso Flores**	**144.08**	**91**	PKP	PKPbc	22 09 53.5	+0.7
	comp=Z,1.4nm,0.6s,baz=281,slow=4.9,SNR=11						
PLCA	**Paso Flores**	**144.08**	**91**	PKIKP	PKPbc	22 09 53.9	+1.1
PLCA	**Paso Flores**	**144.08**	**91**	PKPdf	PKPbc	22 09 53.9	+1.2
PLTB	**Pedras Altas**	**147.75**	**62**	PKPbc	**PKPbc**	**22 10 03.4**	**-0.5**

TRN 14 22:20:34.6, 16.72N×60.55W, h13km, MD3.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.93**	**255**	*e*P	Pn	22 20 55.1	+1.7
ABD				*e*S	Sn	22 21 10.5	+3.9
MAGL	**Barre de l'ile**	**1.04**	**222**	*e*P	Pn	22 20 56.0	+1.1
MAGL				*e*S	Sn	22 21 12.9	+3.6
CBE	**Ff, Capester**	**1.20**	**237**	*e*P	Pg	22 21 00.2	+2.4
CBE				*e*S	Sg	22 21 17.2	+3.7
ANBD	**Bethesda, Anti**	**1.21**	**286**	*e*P	Pg	22 20 58.9	+1.1
ANBD				*e*S	Sg	22 21 17.1	+3.6
TDBA	**Terre de Bas,**	**1.35**	**230**	*e*P	Pg	22 21 01.3	+0.6
TDBA				*e*S	Sg	22 21 20.2	+1.9
TBG	**Guadaloupe-3**	**1.36**	**231**	*e*P	Pg	22 21 00.8	0.0
TBG				*e*S	Sg	22 21 19.5	+1.0
ANWB	**Willy Bob**	**1.51**	**309**	*e*P	Pb	22 21 02.5	0.0
ANWB				*e*S	Sg	22 21 23.9	+0.7
DSLB	**Salisbury**	**1.52**	**213**	*e*P	Pg	22 21 04.0	+0.1
DS

RABL	**Rabaul**	**4.98**	**67**	Pn	Pn	22 44 53.4	-7.5
COEN	**Coen**	**8.87**	**209**	Pn	**Pn**	**22 45 52.1**	**-1.8**
HNR	**Honiara**	**12.69**	**106**	Pn	**Pn**	**22 46 46.1**	**+0.1**
	25nm,0.3s,baz=298,slow=17,SNR=2.5						
CTA	**Charters Tower**	**13.90**	**185**	Pn	**Pn**	**22 47 02.6**	**+0.6**
	0.2nm,0.3s,baz=12,slow=15,SNR=1.2						
CTA				LR	LR	22 52 30.3	
	comp=Z,82nm,19.0s,baz=23,slow=38						
SIJI	**Sorong**	**17.10**	**287**	Pn	**Pn**	**22 47 40.2**	**-2.6**
	0.4nm,0.3s,baz=96,slow=18,SNR=1.6						
SIJI				LR	LR	22 54 32.5	
	comp=Z,83nm,20.6s,baz=118,slow=38						
WB0	**Warramunga Arr**	**18.62**	**222**	P	**P**	**22 47 58.7**	**-1.4**
WB0				IAmb	IAmb	22 48 07.2	
	comp=Z,10.0nm,0.7s						
WR0	**Warramunga Arr**	**18.66**	**222**	P	**P**	**22 47 59.6**	**-0.8**
WRAB	**Tennant Creek**	**18.77**	**222**	P	**P**	**22 48 00.9**	**-0.8**
WRAB				IAmb	IAmb	22 48 08.4	
	comp=Z,8.6nm,0.6s						
WB2	**Warramunga Arr**	**18.77**	**222**	P	**P**	**22 48 01.4**	**-0.3**
WRA	**Warramunga Arr**	**18.78**	**222**	P	**P**	**22 48 01.4**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=49,slow=11,SNR=48						
WRA				S	**S**	**22 51 28.0**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=44,slow=23,SNR=2.2						
WRA	**Warramunga Arr**	**18.78**	**222**	P	**P**	**22 48 00.5**	**-1.3**
EIDS	**Eidsvold**	**19.39**	**170**	P	**P**	**22 48 07.8**	**-0.6**
EIDS				IAmb	IAmb	22 48 08.5	
	comp=Z,9.3nm,0.7s						
GUMO	**Guam**	**19.81**	**352**	LR	LR	22 54 07.9	
	comp=Z,39nm,20.6s,baz=148,slow=32						
KNRA	**Kununurra**	**20.72**	**241**	P	**P**	**22 48 22.2**	**-0.7**
KNRA				IAmb	IAmb	22 48 40.5	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**21.80**	**216**	P	**P**	**22 48 34.7**	**+0.2**
AS31				IAmb	IAmb	22 48 45.7	
	comp=Z,8.3nm,0.3s						
ASAR	**Alice Springs**	**21.81**	**216**	P	**P**	**22 48 34.5**	**0.0**
	comp=Z,9.7nm,0.5s,baz=50,slow=8.5,SNR=68						
ASAR				S	**S**	**22 52 36.6**	**+5.1**
	comp=Z,1.1nm,0.8s,baz=35,slow=23,SNR=4.4						
ASAR				LR	LR	22 57 26.6	
	comp=Z,90nm,18.0s,baz=36,slow=38						
ASAR	**Alice Springs**	**21.81**	**216**	P	**P**	**22 48 34.9**	**+0.4**
ARMA	**Armidale**	**24.42**	**171**	P	**P**	**22 49 00.1**	**0.0**
ARMA				IAmb	IAmb	22 49 01.7	
	comp=Z,9.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.46**	**239**	P	**P**	**22 49 01.2**	**+0.8**
	comp=Z,15nm,0.5s,baz=55,slow=7.3,SNR=58						
FITZ				LR	LR	23 00 19.8	
	comp=Z,74nm,18.1s,baz=60,slow=41						
FITZ	**Fitzroy Crossi**	**24.46**	**239**	P	**P**	**22 49 01.4**	**+0.9**
FITZ				IAmb	IAmb	22 49 02.7	
	comp=Z,21nm,0.7s						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**22 49 16.8**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=1.6,slow=9.7,SNR=7.5						
STKA				LR	LR	22 59 52.6	
	comp=Z,52nm,18.5s,baz=223,slow=37						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**22 49 17.2**	**+1.2**
FORT	**Forrest**	**30.58**	**214**	P	**P**	**22 49 55.8**	**+0.7**
PSA00	**Pilbara Seismi**	**30.88**	**238**	P	**P**	**22 49 58.3**	**+0.4**
PSA00				IAmb	IAmb	22 49 58.9	
	comp=Z,4.1nm,1.1s						
MORW	**Morawa**	**37.48**	**229**	P	**P**	**22 50 55.8**	**+0.9**
URZ	**Urewera**	**41.69**	**144**	LR	LR	23 09 05.6	
	comp=Z,66nm,18.2s,baz=204,slow=36						
RPZ	**Rata Peaks**	**42.72**	**155**	LR	LR	23 06 37.9	
	comp=Z,80nm,19.5s,baz=280,slow=32						
KIP	**Kipapa**	**59.98**	**61**	P	**P**	**22 53 48.7**	**+1.3**
SONM	**Songino Array**	**64.83**	**331**	P	**P**	**22 54 20.0**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=135,slow=3.0,SNR=3.7						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**22 55 02.2**	**+0.4**
MKAR	**Makanchi Array**	**77.99**	**320**	P	**P**	**22 55 38.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=104,slow=7.1,SNR=2.3						
MKAR	**Makanchi Array**	**77.99**	**320**	P	**P**	**22 55 40.2**	**+1.6**
QSPA	**South Pole Qui**	**83.80**	**180**	P	**P**	**22 56 09.2**	**-0.1**
QSPA				IAmb	IAmb	22 56 23.1	
	comp=Z,6.2nm,1.1s						

NEIC ***14*** *22:49:02.4±2.3,15°.4S±0°.1×167°.5E±0°.1,h118km±7km, mb4.0/12, Error ellipse: s-maj=20.0km s-min=18.9km az=216.0*

IDC ***14*** *22:49:06.3±7.5,15°.70S×167°.58E,h173km±77km,mb3.6/6, mb1 3.7/7,mb1mx3.4/39,mbtmp4.0/7,MS3.3/1,Ms1 3.3/1, ms1mx2.5/45, Error ellipse: s-maj=70.5km s-min=34.0km az=164.0*

ISC 14 22:49:01.6±1.0,15°.38S±0°.08×167°.6E±0°.2,h124km,n31, σ1§31/30,mb4.0/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.38**	**260**	Pn	**Pn**	**22 49 19.0**	**-0.4**
LIFNC	**LIFOU**	**5.38**	**184**	Pn	**Pn**	**22 50 16.0**	**-3.7**
KOUNC	**Koumac, New Ca**	**6.03**	**211**	Pn	**Pn**	**22 50 29.1**	**+0.6**
DZM	**Mont Dzumac**	**6.75**	**189**	P	**Pn**	**22 50 39.3**	**+1.1**
	6.7nm,0.3s,baz=340,slow=23,SNR=49						
DZM				S	**Sn**	**22 51 52.0**	**-1.7**
	2.8nm,0.3s,baz=146,slow=23,SNR=10.0						
DZM	**Mont Dzumac**	**6.75**	**189**		**Pn**	**22 50 39.1**	**+0.9**
ONTNC	**Ouen Toro**	**6.97**	**189**		**Pn**	**22 50 43.0**	**+1.8**
OUENC	**Ouen Island, N**	**7.04**	**186**	Pn	**Pn**	**22 50 44.2**	**+2.2**
PINNC	**Pines Island,**	**7.20**	**181**	Pn	**Pn**	**22 50 46.1**	**+1.9**
EIDS	**Eidsvold**	**18.38**	**235**	Pn	**Pn**	**22 53 09.3**	**+0.9**
EIDS				IAmb	IAmb	22 53 09.8	
	comp=Z,5.0nm,0.7s						
URZ	**Urewera**	**24.29**	**162**	P	**P**	**22 54 07.6**	**+0.3**
URZ				IAmb	IAmb	22 54 10.0	
	comp=Z,5.9nm,1.0s						
BKZ	**Black Stump Fm**	**24.95**	**163**	P	**P**	**22 54 13.6**	**+0.1**
BKZ				IAmb	IAmb	22 54 18.0	
	comp=Z,4.9nm,0.6s						
QRZ	**Quartz Range**	**25.71**	**171**	P	**P**	**22 54 21.9**	**+1.7**
LTZ	**Lake Taylor**	**27.60**	**173**	P	**P**	**22 54 37.1**	**-0.2**
WB0	**Warramunga Arr**	**31.92**	**257**	P	**P**	**22 55 15.1**	**-0.6**
WB0				IAmb	IAmb	22 55 33.2	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**31.97**	**257**	P	**P**	**22 55 15.3**	**-0.7**
WB2				IAmb	IAmb	22 55 29.5	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**31.98**	**257**	P	**P**	**22 55 14.8**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=85,slow=8.6,SNR=7.3						
WRA	**Warramunga Arr**	**31.98**	**257**	P	**P**	**22 55 14.7**	**-1.5**
AS31	**Alice Springs**	**32.74**	**250**	P	**P**	**22 55 21.6**	**-1.2**
ASAR	**Alice Springs**	**32.74**	**250**	P	**P**	**22 55 22.1**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=77,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**32.74**	**250**	P	**P**	**22 55 22.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.21**	**260**	P	**P**	**22 56 26.2**	**0.0**
	comp=Z,1.3nm,0.4s,baz=93,slow=9.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**40.21**	**260**	P	**P**	**22 56 26.4**	**+0.2**
MJAR	**Matsushiro Arr**	**58.62**	**332**	LR	LR	23 24 41.2	
	comp=Z,25nm,19.3s,baz=185,slow=36						
QSPA	**South Pole Qui**	**74.65**	**180**	P	**P**	**23 00 26.9**	**-0.3**
QSPA				IAmb	IAmb	23 00 31.3	
	comp=Z,2.2nm,1.0s						
SONM	**Songino Array**	**83.20**	**324**	P	**P**	**23 01 14.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=144,slow=6.4,SNR=6.6						
SONM	**Songino Array**	**83.20**	**324**	P	**P**	**23 01 15.7**	**+1.6**
MKAR	**Makanchi Array**	**97.89**	**316**	P	**P**	**23 02 24.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=103,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**97.89**	**316**	P	Pdif	23 02 24.8	+1.4
ZALV	**Zalesovo Beam**	**98.10**	**324**	P	**P**	**23 02 23.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=104,slow=6.1,SNR=1.7						
ZALV	**Zalesovo Beam**	**98.10**	**324**	P	**P**	**23 02 23.8**	**-0.1**
ARCES	**ARCESS Array B**	**120.96**	**345**	PKP	**PKPdf**	**23 07 37.9**	**-0.9**
	comp=Z,4.9nm,1.1s,baz=14,slow=0.5,SNR=9.2						

IDC ***14*** *23:11:11.6±0.6,26°.56N×128°.87E,h0km,mb4.2/25, mb1 4.3/26,mb1mx4.2/51,mbtmp4.2/26,ML3.6/1,MS3.1/5, Ms1 3.2/5,ms1mx2.8/90, Error ellipse: s-maj=18.8km s-min=12.0km az=48.0*

MOS ***14*** *23:11:14.0±1.0,26°.48N×128°.84E,h26km,mb4.5/9, Error ellipse: s-maj=13.8km s-min=6.7km az=117.8*

NIED ***14*** *23:11:15.8,26°.51N×128°.89E,h41km,MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.06; Mθθ 0.27; Mφφ 0.79; Mrθ=0.13; Mθφ 0.87; Mφr=0.88; Fault plane solution: M₀1.55000×10¹⁵ NP1:φs 18.00000°, δ64.00000°, λ=-112.00000°. NP2:φs240.00000°, δ33.00000°, λ=-53.00000°.*

JMA ***14*** *23:11:15.7±0.2,26°.51N×128°.89E,h41km±3km,M3.9*

NEIC ***14*** *23:11:17.7±1.7,26°.54N±0°.06×128°.84E±0°.06,h32km±4km, mb4.6/88, Error ellipse: s-maj=9.6km s-min=7.6km az=202.0*

ISC 14 23:11:16.1±0.6,26°.51N±0°.04×128°.90E±0°.04,h28km±3km, n215,σ1§09/229,mb4.5/91,MS3.8/8,7C,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.64**	**300**	Pn	**Pb**	**23 11 28.3**	**-0.6**
	863nm,0.3s,baz=122,slow=22,SNR=1450						
JOW				Sn	**Sb**	**23 11 37.1**	**-0.4**
	2µm,0.3s,baz=121,slow=19,SNR=24						
JOW	**Kunigami**	**0.64**	**300**	P	**Pb**	**23 11 28.3**	**-0.6**
JOW				S	**Sb**	**23 11 37.4**	**-0.1**
JOW	**Kunigami**	**0.64**	**300**	Pn	**Pb**	**23 11 28.6**	**-0.2**
JOW					**Sb**	**23 11 38.2**	**+0.7**
JYRO	**Yoronjima**	**0.65**	**322**	P	**Pb**	**23 11 28.4**	**-0.5**
JYRO				S	**Sb**	**23 11 37.3**	**-0.3**
JNTH	**Nagotoyohara**	**0.78**	**271**	P	**Pn**	**23 11 30.1**	**-1.2**
JNTH				*e*S	**Sb**	**23 11 40.0**	**-1.5**
JOKE	**Okinoerabujima**	**0.89**	**341**	P	**Pn**	**23 11 32.3**	**-0.6**
JOKE				S	**Sn**	**23 11 44.4**	**-0.5**
JIH	**Iheya**	**0.98**	**302**	P	**Pn**	**23 11 33.6**	**-0.5**
JIH				*e*S	**Sn**	**23 11 46.4**	**-0.6**
JJT3	**Tamagusuku3**	**1.06**	**250**	P	**Pn**	**23 11 34.5**	**-0.7**
JJT3				*e*S	**Sn**	**23 11 48.2**	**-0.9**
JTK	**Tokunoshima**	**1.27**	**2**	P	**Pn**	**23 11 37.1**	**-0.9**
JTK				*e*S	**Sn**	**23 11 53.0**	**-1.2**
JAGN	**Aguni-jima**	**1.48**	**273**	P	**Pn**	**23 11 40.9**	**-0.1**
JAGN				*e*S	**Sn**	**23 11 58.5**	**-0.9**
JAMN	**Amaminishikomi**	**1.74**	**8**	P	**Pn**	**23 11 43.7**	**-0.8**
JKE	**Kume jima 2**	**1.90**	**265**	P	**Pn**	**23 11 45.7**	**-1.0**
JKE				*e*S	**Sn**	**23 12 08.7**	**-1.1**
JMZ	**Minamidaito 2**	**2.20**	**108**	P	**Pn**	**23 11 48.6**	**-2.2**
JKDJ	**Kitadaitoujima**	**2.23**	**104**	P	**Pn**	**23 11 49.3**	**-1.9**
JSU	**Suzuyama**	**5.16**	**15**	Pn	**Pn**	**23 12 30.8**	**-0.8**
JNU	**Nakatsue**	**6.81**	**14**	Pn	**Pn**	**23 12 54.1**	**-0.2**
TATO	**Taipei**	**6.85**	**259**	Pn	**Pn**	**23 12 55.2**	**+0.4**
NACB	**Ninganchiao**	**7.00**	**252**	Pn	Pn	23 12 54.3	-2.6
YHNB	**Yeheng**	**7.03**	**257**	Pn	**Pn**	**23 12 58.3**	**+0.9**
YULB	**Yu-li**	**7.56**	**247**	Pn	Pn	23 13 00.4	-4.2
SSLB	**Suanglung**	**7.69**	**251**	Pn	Pn	23 13 03.4	-2.9
TWG	**Pinlang**	**8.01**	**244**	Pn	Pn	23 13 05.8	-4.9
TPUB	**Ta-pu**	**8.16**	**249**	Pn	**Pn**	**23 13 10.5**	**-2.3**
JMN	**Monobe**	**8.38**	**30**	Pn	**Pn**	**23 13 14.6**	**-1.2**
JHS	**Saijyo**	**9.20**	**22**	Pn	**Pn**	**23 13 25.0**	**-2.1**
KSRS	**Korea Array**	**10.94**	**356**	Pn	**Pn**	**23 13 48.7**	**-2.1**
	0.4nm,0.3s,baz=179,slow=16,SNR=2.9						
KSRS				LR	LR	23 18 25.4	
	comp=Z,88nm,18.1s,baz=190,slow=40						
WHN	**Wuhan**	**13.40**	**291**	⇑P	**P**	**23 14 37.9**	**+4.3**
BJT	**Baijiatuan**	**17.14**	**325**	P	**P**	**23 15 15.6**	**+0.5**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJT	**Baijiatuan**	**17.14**	**325**	P	**P**	**23 15 15.6**	**+0.5**
BJI	**Beijing**	**17.15**	**325**	P	**P**	**23 15 15.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,12nm,0.7s						
USRK	**Ussuriysk Ar.**	**17.82**	**7**	P	**Pn**	**23 15 22.8**	**+0.7**
	baz=184,slow=9.4,SNR=2.2						
XAN	**Xi'an**	**18.80**	**298**	P	**P**	**23 15 33.8**	**+0.3**
XAN				pP	sP	23 15 46.3	+2.9
XAN				pmax	pmax		
	comp=Z,16nm,0.5s						
GUMO	**Guam**	**19.73**	**128**	LR	LR	23 23 41.2	
	comp=Z,41nm,18.4s,baz=182,slow=38						
HHC	**Hu-ho-hao-te**	**20.26**	**319**	*e*P	**P**	**23 15 51.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,100nm,7.6s						
HHC				LR	LR		
	comp=N,180nm,10.8s						
HHC				LR	LR		
	comp=E,200nm,9.8s						
HHC				LR	LR		
	comp=Z,290nm,10.8s						
ASAJ	**Asahikawa**	**20.77**	**29**	LR	LR	23 24 27.6	
	comp=Z,72nm,18.6s,baz=359,slow=38						
KLR	**Kul'dur**	**22.79**	**5**	P	**P**	**23 16 15.2**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=176,slow=8.0,SNR=4.9						
KLR	**Kul'dur**	**22.79**	**5**	*i* P	**P**	**23 16 15.1**	**-1.3**
KLR				pmax	pmax		
	comp=Z,9.0nm,2.5s						
LZH	**Lanzhou**	**23.38**	**300**	*e*P	**P**	**23 16 22.8**	**0.0**
LZH				sP	pP	23 16 28.8	-1.2
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				LR	LR		
	comp=N,220nm,13.6s						
LZH				LR	LR		
	comp=E,220nm,13.0s						
LZH				LR	LR		
	comp=Z,220nm,14.6s						
KMI	**Kunming**	**23.58**	**272**	⇑P	**P**	**23 16 25.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HIA	**Hailar**	**23.80**	**345**	*i* P	**P**	**23 16 25.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PZH	**PanZhiHua**	**24.29**	**276**	⇑P	**P**	**23 16 31.3**	**-0.1**
PZH				S	**S**	**23 20 48.1**	**-0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,6.7s						
PZH				LR	LR		
	comp=N,360nm,15.3s						
PZH				LR	LR		
	comp=E,320nm,14.5s						
PZH				LR	LR		
	comp=Z,600nm,15.3s						
UBPT	**Khong Chiam**	**24.53**	**248**	P	**P**	**23 16 34.1**	**+0.6**
UBPT				IAmb	IAmb	23 16 36.4	
	comp=Z,10nm,1.0s						
ULN	**Ulaanbaatar**	**27.34**	**327**	*ce*P	**P**	**23 17 00.0**	**+1.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.34**	**327**	P	**P**	**23 16 59.9**	**+1.1**
GTA	**Gaotai**	**27.45**	**305**	⇑P	**P**	**23 16 58.8**	**-1.1**
GTA				pP	pP	23 17 06.0	-1.3
GTA				sP	sP	23 17 09.3	-1.1
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,63nm,4.6s						
GTA				LR	LR		
	comp=N,130nm,15.3s						
GTA				LR	LR		
	comp=E,130nm,15.6s						
GTA				LR	LR		
	comp=Z,180nm,14.9s						
SONM	**Songino Array**	**27.65**	**326**	P	**P**	**23 17 02.0**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=144,slow=11,SNR=40						
SONM				PcP	**PcP**	**23 20 18.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=127,slow=2.1,SNR=2.0						
SONM	**Songino Array**	**27.65**	**326**	P	**P**	**23 17 03.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**28.76**	**260**	LR	LR	23 30 28.8	
	comp=Z,33nm,18.9s,baz=70,slow=40						
GOMU	**GeErMu**	**30.53**	**297**	P	**P**	**23 17 27.9**	**+0.3**
GOMU				pP	pP	23 17 31.6	-3.3
GOMU				sP	sP	23 17 35.3	-2.8
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GOMU				pmax	pmax		
	comp=Z,35nm,9.0s						
SHL	**Shillong**	**33.20**	**277**	P	**P**	**23 17 50.4**	**-0.5**
SHL				pmax	pmax		
	comp=Z,15nm,1.0s						
SHL	**Shillong**	**33.20**	**277**	P	**P**	**23 17 50.4**	**-0.5**
SHL				IAmb	IAmb	23 17 51.7	
	comp=Z,15nm,1.0s						
PEA0B	**Petropavlovsk-**	**34.15**	**31**	P	**P**	**23 18 00.3**	**+1.7**
PEA0B				pmax	pmax		
	comp=Z,86nm,1.5s						
PEA0B	**Petropavlovsk-**	**34.15**	**31**	P	**P**	**23 18 00.3**	**+1.7**
PETK	**Petropavlovsk-**	**34.15**	**31**	LR	LR	23 31 42.7	
	comp=Z,36nm,21.4s,baz=254,slow=36						
PETK	**Petropavlovsk-**	**34.15**	**31**	P	**P**	**23 17 59.7**	**+1.1**
PETK	**Petropavlovsk-**	**34.15**	**31**	P	**P**	**23 17 59.7**	**+1.1**
PATS	**Pohnpei**	**34.15**	**120**	P	**P**	**23 17 59.5**	**+0.5**
IPM	**Ipoh**	**34.50**	**235**	P	**P**	**23 18 01.5**	**-0.6**
IPM				IAmb	IAmb	23 18 03.4	
	comp=Z,6.6nm,0.9s						
ODAN	**Odare**	**36.97**	**280**	*e*P	**P**	**23 18 22.2**	**-1.3**
	comp=Z,6.4nm,0.4s						
WMQ	**Urumqi**	**37.41**	**308**	*e*P	**P**	**23 18 29.6**	**+2.8**
RAMN	**Ramite**	**37.65**	**280**	*e*P	**P**	**23 18 28.4**	**-0.9**
	comp=Z,3.2nm,0.3s						
JIRN	**Jiri**	**37.90**	**282**	*e*P	**P**	**23 18 30.9**	**-0.7**
	comp=Z,4.0nm,0.5s						
GUN	**Gumba**	**38.14**	**282**	*e*P	**P**	**23 18 32.9**	**-0.6**
	comp=Z,4.4nm,0.3s						
PKI	**Pulchoki**	**38.60**	**282**	*e*P	**P**	**23 18 36.9**	**-0.5**
	comp=Z,8.7nm,0.3s						
PKIN	**Phulchoki**	**38.61**	**282**	*e*P	**P**	**23 18 36.8**	**-0.6**
	comp=Z,8.0nm,0.4s						
KKN	**Kakani**	**38.68**	**282**	*e*P	**P**	**23 18 37.7**	**-0.2**
	comp=Z,4.2nm,0.3s						
GKN	**Gorkha**	**39.21**	**283**	*e*P	**P**	**23 18 41.9**	**-0.4**
	comp=Z,14nm,0.5s						
DANN	**Dangsing**	**39.93**	**283**	*e*P	**P**	**23 18 48.6**	**+0.2**
	comp=Z,14nm,0.3s						
KOLN	**Koldanda**	**40.16**	**282**	*e*P	**P**	**23 18 50.5**	**+0.3**
	comp=Z,2.4nm,0.3s						
PYUN	**Piuthan**	**40.64**	**283**	*e*P	**P**	**23 18 54.6**	**+0.4**
	comp=Z,4.6nm,0.4s						
MK31	**Makanchi Array**	**41.79**	**311**	P	**P**	**23 19 02.4**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**41.79**	**311**	P	**P**	**23 19 02.4**	**-0.9**
MKAR	**Makanchi Array**	**41.79**	**311**	P	**P**	**23 19 02.0**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=91,slow=10,SNR=22						
MKAR				PcP	**PcP**	**23 20 58.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=88,slow=3.3,SNR=4.3						
MKAR	**Makanchi Array**	**41.79**	**311**	P	**P**	**23 19 02.5**	**-0.8**
MKAR						23 20 59.2	
MKAR	**Makanchi Array**	**41.79**	**311**	P	**P**	**23 19 02.5**	**-0.8**
MKAR					**PcP**	**23 20 59.1**	**+0.1**
KNRA	**Kununurra**	**41.94**	**180**	P	**P**	**23 19 04.6**	**+0.1**
KNRA				IAmb	IAmb	23 19 20.7	
	comp=Z,15nm,1.1s						
MAKZ	**Makanchi**	**42.01**	**311**	P	**P**	**23 19 03.9**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MAKZ	**Makanchi**	**42.01**	**311**	P	**P**	**23 19 03.9**	**-1.1**
ZAA0	**Zalesovo Array**	**42.39**	**322**	P	**P**	**23 19 06.6**	**-1.3**
ZALV	**Zalesovo Beam**	**42.39**	**322**	P	**P**	**23 19 06.0**	**-1.9**
	comp=Z,3.0nm,0.5s,baz=110,slow=8.7,SNR=16						
ZALV	**Zalesovo Beam**	**42.39**	**322**	P	**P**	**23 19 06.4**	**-1.5**
ZALV	**Zalesovo Beam**	**42.39**	**322**	P	**P**	**23 19 06.4**	**-1.5**
TARG	**Taragay, Kyrgy**	**44.30**	**303**	P	**P**	**23 19 24.4**	**+0.3**
TARG				IAmb	IAmb	23 19 40.5	
	comp=Z,8.6nm,1.0s						
KURK	**Kurchatov**	**45.03**	**316**	P	**P**	**23 19 28.0**	**-1.2**
KURK						23 21 08.4	
KURK	**Kurchatov**	**45.03**	**316**	P	**P**	**23 19 28.0**	**-1.2**
KURBB	**Kurchatov Arra**	**45.06**	**316**	P	**P**	**23 19 28.0**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=101,slow=8.8,SNR=15						
KURBB				PcP	**PcP**	**23 21 08.4**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=114,slow=3.6,SNR=2.4						
TIXI	**Tiksi**	**45.17**	**360**	*i* P	**P**	**23 19 27.5**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TIXI	**Tiksi**	**45.17**	**360**	P	**P**	**23 19 30.0**	**-0.1**
WRA	**Warramunga Arr**	**46.48**	**173**	P	**P**	**23 19 40.7**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=351,slow=8.4,SNR=52						
AAK	**Ala-Archa**	**46.80**	**305**	P	**P**	**23 19 43.7**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=136,slow=5.4,SNR=10						
AAK	**Ala-Archa**	**46.80**	**305**	*i* P	**P**	**23 19 43.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**46.80**	**305**	P	**P**	**23 19 43.6**	**+0.1**
AAK				IAmb	IAmb	23 20 01.0	
	comp=Z,5.2nm,1.4s						
BILL	**Bilibino**	**47.22**	**18**	*e*P	**P**	**23 19 45.9**	**-0.3**
BILL				*e*		23 20 01.7	
BILL				*e*		23 21 16.8	
BILL				*e*		23 21 38.0	
BILL				*e*PPP	PPP	23 22 22.1	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MIDW	**Midway**	**47.42**	**75**	P	**P**	**23 19 48.4**	**+0.1**
NIL	**Nilore**	**48.19**	**292**	P	**P**	**23 19 54.8**	**+0.5**
NIL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NIL	**Nilore**	**48.19**	**292**	P	**P**	**23 19 54.8**	**+0.5**
NIL				IAmb	IAmb	23 20 05.8	
	comp=Z,8.2nm,0.7s						
NRIK	**Noril'sk**	**49.17**	**342**	*i* P	**P**	**23 20 00.7**	**-0.5**
NRIK				pmax	pmax		
	comp=Z,16nm,3.0s						
NRIK	**Noril'sk**	**49.17**	**342**	P	**P**	**23 20 00.5**	**-0.7**
NRIK				IAmb	IAmb	23 20 01.6	
	comp=Z,4.4nm,1.2s						
BTK	**Batken**	**49.59**	**301**	P	**P**	**23 20 05.5**	**+0.4**
BTK				pmax	pmax		

PPLA IAmb IAmb 23 21 41.1
comp=Z,12nm,1.4s
CAST Castle Rocks 61.75 30 P P 23 21 32.8 +1.0
CAST IAmb IAmb 23 21 34.0
comp=Z,3.6nm,0.9s
KDAK Kodiak Island 61.94 37 P P 23 21 33.4 +0.2
KDAK pmax pmax
comp=Z,23nm,1.5s
KDAK Kodiak Island 61.94 37 P P 23 21 33.4 +0.2
MLY Manley 62.25 28 P P 23 21 36.7 +1.5
MLY IAmb IAmb 23 21 48.3
comp=Z,4.7nm,1.2s
CNPM China Poot 62.46 34 P P 23 21 36.9 +0.2
TOLK Toolik Lake Re 62.52 24 P P 23 21 38.0 +1.0
TOLK IAmb IAmb 23 21 50.2
comp=Z,5.8nm,1.3s
RND Reindeer 63.20 30 P P 23 21 42.0 +0.4
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 63.20 30 P P 23 21 42.0 +0.4
RND IAmb IAmb 23 21 43.0
comp=Z,6.0nm,0.8s
MDM Murphy Dome 63.31 28 P P 23 21 43.8 +1.5
MDM IAmb IAmb 23 21 55.1
comp=Z,4.6nm,0.9s
H24K Noodor Dome 63.38 27 P P 23 21 44.1 +1.4
H24K IAmb IAmb 23 21 57.2
comp=Z,8.6nm,1.4s
WRH Wood River Hil 63.42 29 P P 23 21 44.8 +1.9
ILAR Eielson Array 63.91 28 P P 23 21 45.2 -0.9
comp=Z,0.5nm,0.7s,baz=262,slow=6.3,SNR=6.9
ILAR Eielson Array 63.91 28 P P 23 21 47.3 +1.1
ILAR Eielson Array 63.91 28 P P 23 21 47.3 +1.1
BMAR Burnt Mountain 64.50 25 P P 23 21 51.9 +1.8
SCRK Sand Creek 65.27 29 P P 23 21 55.5 +0.2
DOT Dot Lake 65.29 29 P P 23 21 55.5 +0.2
DOT IAmb IAmb 23 21 56.0
comp=Z,4.3nm,1.1s
RAGM Ragged Mountai 65.60 33 P P 23 21 58.1 +0.8
GLB Gilahina Butte 65.81 32 P P 23 21 59.5 +0.8
GLB IAmb IAmb 23 22 00.4
comp=Z,4.7nm,1.2s
BERG Berg Lake 66.07 33 P P 23 21 58.0 -2.3
BERG IAmb IAmb 23 22 02.8
comp=Z,9.5nm,1.0s
BCAR Beaver Creek A 66.41 30 P P 23 22 03.9 +1.3
M27K Edge Creek, AK 66.52 31 P P 23 22 04.1 +0.7
M27K IAmb IAmb 23 22 16.2
comp=Z,4.4nm,1.2s
SNH Sunshine Point 66.54 33 P P 23 22 04.4 +1.0
ISLE Juniper Island 66.69 32 P P 23 22 04.8 +0.3
ISLE IAmb IAmb 23 22 05.5
comp=Z,8.4nm,1.2s
M30M Minto, Yukon 68.75 30 P P 23 22 18.5 +1.2
KBZ Khabaz 69.44 309 P P 23 22 21.9 +0.1
comp=Z,4.8nm,0.8s,baz=114,slow=2.7,SNR=8.7
KBZ Khabaz 69.44 309 *i* P **P 23 22 21.5 -0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 69.49 318 *e*P **P 23 22 22.3 +0.4**
VORR pmax pmax
comp=Z,10.0nm,0.4s
A36M Sachs Harbour 69.77 19 IAmb IAmb 23 22 31.2
comp=Z,4.3nm,0.8s
M31M Drury Creek, Y 69.94 30 P P 23 22 25.6 +1.0
ARCES ARCESS Array B 69.96 339 P P 23 22 24.1 -0.5
comp=Z,13nm,1.2s,baz=78,slow=8.5,SNR=5.2
WHY Whitehorse 70.21 31 P P 23 22 27.4 +1.0
C36M Paulatuk 71.22 21 P P 23 22 32.9 +0.7
C36M IAmb IAmb 23 22 33.1
comp=Z,2.4nm,0.6s
SOCY Socotra 71.26 275 P P 23 22 32.2 -1.3
SOCY IAmb IAmb 23 22 50.0
comp=Z,6.2nm,1.0s
FIA1 FINESS Array S 72.91 331 P P 23 22 42.2 -0.3
FIA1 IAmb IAmb 23 22 42.4
comp=Z,8.1nm,1.0s
FINES FINESS Array B 72.91 331 P P 23 22 41.9 -0.6
comp=Z,3.7nm,0.8s,baz=67,slow=6.5,SNR=11
FINES FINESS Array B 72.91 331 P P 23 22 42.4 -0.1
FINES FINESS Array B 72.91 331 P P 23 22 42.4 -0.1
RES Resolute Bay 75.16 11 P P 23 22 55.5 +0.1
comp=Z,3.9nm,0.7s,baz=306,slow=6.5,SNR=21
RES Resolute Bay 75.16 11 P P 23 22 56.0 +0.6
RES pmax pmax
comp=Z,4.0nm,0.7s
RES Resolute Bay 75.16 11 P P 23 22 56.0 +0.6
RES IAmb IAmb 23 23 00.6
comp=Z,3.8nm,0.7s
NACGM Naroch 75.29 324 *i* P **P 23 22 55.3 -1.2**
AKASG Malin Array Be 75.70 320 P P 23 22 57.9 -1.0
comp=Z,0.7nm,0.4s,baz=56,slow=6.0,SNR=9.5
AKBB Malin Array Si 75.70 320 *ce*P **P 23 22 57.9 -1.1**
BRTR Keskin Array B 77.33 308 P P 23 23 08.3 -0.3
comp=Z,3.4nm,0.8s,baz=106,slow=4.5,SNR=7.5
BRTR Keskin Array B 77.33 308 P P 23 23 08.9 +0.3
BRTR Keskin Array B 77.33 308 P P 23 23 08.9 +0.3
HIZ Hauiti 77.68 145 P P 23 23 08.4 -1.8
YKA Yellowknife Ar 78.02 25 P P 23 23 12.0 +0.3
comp=Z,0.6nm,0.4s,baz=304,slow=5.7,SNR=12
HFS Hagfors 78.85 333 P P 23 23 16.0 -0.4
comp=Z,3.7nm,1.1s,baz=76,slow=6.1,SNR=4.6
HFS Hagfors 78.85 333 P P 23 23 16.0 -0.4
NC405 NORSAR Array S 79.08 334 P P 23 23 17.6 -0.1
NC300 NORSAR Array S 79.11 334 P P 23 23 17.8 -0.1
NB201 NORSAR Array S 79.29 334 P P 23 23 18.8 -0.1
NB2 NORSAR Subarra 79.32 334 P P 23 23 18.7 -0.4
comp=Z,0.7nm,0.5s,baz=50,slow=5.6
NOA NORSAR Array B 79.32 334 P P 23 23 18.1 -1.0
comp=Z,0.7nm,0.5s,baz=51,slow=5.5,SNR=7.7
NC204 NORSAR Array S 79.36 334 P P 23 23 19.0 -0.2
NC602 NORSAR Array S 79.37 334 P P 23 23 21.8 +2.5
BUR08 Bucovina Ar. S 79.42 318 P P 23 23 20.6 +0.6
BUR08 IAmb IAmb 23 23 22.7
comp=Z,9.8nm,1.4s
BURAR Bucovina Array 79.42 318 P P 23 23 20.4 +0.5
NBO00 NORSAR Array S 79.50 334 P P 23 23 19.5 -0.5
NBO00 IAmb IAmb 23 23 25.7
comp=Z,10nm,1.1s
CMWZ Cape Campbell 79.81 147 P P 23 23 23.3 +1.6
KWP Kalwaria Pacla 79.93 321 P P 23 23 23.2 +0.7
KWP pmax pmax
comp=Z,120nm,1.2s
KWP Kalwaria Pacla 79.93 321 P P 23 23 23.2 +0.7
MLR Muntele Rosu 79.96 316 P P 23 23 23.4 +0.5
MLR pmax pmax
comp=Z,14nm,1.5s
MLR Muntele Rosu 79.96 316 P P 23 23 23.4 +0.5
MLR IAmb IAmb 23 23 32.1
comp=Z,14nm,1.5s
CLRS Cowichan Lake 80.77 40 P P 23 23 26.3 -0.8
ELL Elmali 81.25 307 P P 23 23 30.2 +0.1
ELL pmax pmax
comp=Z,71nm,1.2s
ELL Elmali 81.25 307 P P 23 23 30.2 +0.1
VTS Vitosha 83.05 314 P P 23 23 40.5 +1.1
VTS pmax pmax
comp=Z,6.0nm,1.1s
VTS Vitosha 83.05 314 P P 23 23 40.5 +1.1
VTS IAmb IAmb 23 23 42.9
comp=Z,5.9nm,1.1s
RAR Rarotonga 83.81 117 P P 23 23 42.7 -0.6
RAR pmax pmax
comp=Z,11nm,0.8s
RAR Rarotonga 83.81 117 P P 23 23 42.7 -0.6
CLL Collm 84.26 325 *e*P **P 23 23 45.0 -0.2**
CLL *e**PP **pP 23 23 53.0 -0.2**
CLL *i* *SP **sP 23 23 56.7 +0.6**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL pmax pmax
comp=Z,105nm,2.5s
CLL MLR MLR
comp=Z,2µm,20.0s
CLL Collm 84.26 325 P **P 23 23 45.7 +0.5**
CLL IAmb IAmb 23 23 46.9
comp=Z,4.5nm,0.9s
CLL Collm 84.26 325 *e*P **P 23 23 45.0 -0.2**
comp=Z,4.0nm,0.8s
CLL *ep*P **pP 23 23 53.0 -0.2**
CLL *i* sP **sP 23 23 56.7 +0.6**
GERES GERESS Array B 85.33 323 P **P 23 23 50.6 -0.2**
comp=Z,1.1nm,0.8s,baz=32,slow=5.2,SNR=10
FFC Flin Flon 88.07 27 P **P 23 24 05.0 +1.1**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 88.07 27 P **P 23 24 05.0 +1.1**
FFC IAmb IAmb 23 24 05.2
comp=Z,3.4nm,0.8s
DAVOX Davos/Dischmat 88.63 323 P **P 23 24 06.8 -0.2**
comp=Z,2.6nm,0.6s,baz=53,slow=5.1
EKA Eskdalemuir Ar 88.77 335 P **P 23 24 06.3 -0.9**
comp=Z,0.1nm,0.3s,baz=40,slow=5.6,SNR=1.9

IDC ***14*** *23:17:54.8≈1.9, 49.°05N×28.°51W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.4/51, mbtmp3.6/6, ML3.5/2, MS3.6/8, Ms1 3.6/8, ms1mx3.1/92, Error ellipse: s-maj=65.8km s-min=24.9km az=7.0*

ISC 14 23:17:56.6±1.5, 49.°1N±0.°3×28.°5W±0.°1, h12km, n13, σ0.°63/7, mb3.6/4, MS3.5/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.69**	**58**	Pn		**Pn**	**23 21 49.3**	**-0.7**
	baz=259,slow=9.9,SNR=3.7							
EKA				LR		LR	23 26 31.9	
	comp=Z,192nm,18.3s,baz=344,slow=31							
ESDC	**Sonseca Array**	**19.80**	**109**	P		**P**	**23 22 26.8**	**0.0**
	0.0nm,0.3s,baz=300,slow=9.1,SNR=4.5							
ESDC				LR		LR	23 27 46.3	
	comp=Z,134nm,19.9s,baz=304,slow=30							
SCHQ	**Schefferville**	**24.11**	**299**	P		**P**	**23 23 11.7**	**-0.2**
	1.3nm,0.6s,baz=78,slow=5.2,SNR=4.8							
NOA	**NORSAR Array B**	**25.28**	**47**	LR		LR	23 31 10.6	
	comp=Z,92nm,16.9s,baz=280,slow=32							
DAVOX	**Davos/Dischmat**	**25.63**	**80**	LR		LR	23 31 26.1	
	comp=Z,113nm,21.4s,baz=285,slow=32							
HFS	**Hagfors**	**26.36**	**49**	LR		LR	23 32 48.5	
	comp=Z,121nm,18.6s,baz=284,slow=34							
VRAC	**Vranov**	**29.13**	**72**	LR		LR	23 35 07.5	
	comp=Z,104nm,18.6s,baz=312,slow=35							
SADO	**Sadowa**	**34.35**	**282**	LR		LR	23 36 46.2	
	comp=Z,93nm,19.6s,baz=42,slow=33							
TKL	**Tuckaleechee C**	**42.09**	**273**	LR		LR	23 41 19.2	
	comp=Z,80nm,20.9s,baz=81,slow=33							
PDAR	**Pinedale Array**	**54.22**	**296**	P		**P**	**23 27 22.0**	**-0.2**
	0.4nm,0.6s,baz=60,slow=7.4,SNR=4.2							
MKAR	**Makanchi Array**	**67.24**	**44**	P		**P**	**23 28 50.6**	**+0.1**
	0.8nm,0.7s,baz=333,slow=5.5,SNR=10							
SONM	**Songino Array**	**75.89**	**29**	P		**P**	**23 29 43.7**	**+0.9**
	0.3nm,0.8s,baz=328,slow=5.1,SNR=2.3							
ASAR	**Alice Springs**	**151.11**	**35**	PKPbc		**PKiKP**	**23 37 49.8**	**-0.3**
	0.3nm,0.6s,baz=337,slow=2.1,SNR=2.6							

IDC 14 23:23:14.4±4.4, 7.°31S×129.°63E, h49km±63km, mb3.2/1, mb1 3.3/4, mb1mx3.1/39, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=115.2km s-min=29.0km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.60**	**14**	P		Pn	23 24 49.0	+0.1
	1.1nm,0.3s,baz=280,slow=23,SNR=1.6							
SIJI				S		Sn	23 25 55.5	-7.5
	0.9nm,0.3s,baz=212,slow=22,SNR=1.4							
WRA	**Warramunga Arr**	**13.37**	**160**	P		Pn	23 26 21.7	+0.1
	0.1nm,0.3s,baz=340,slow=14,SNR=8.7							
WRA				S		Sn	23 28 41.2	-7.6
	0.2nm,0.3s,baz=262,slow=27,SNR=7.8							
ASAR	**Alice Springs**	**16.78**	**166**	P		Pn	23 27 06.2	0.0
	0.1nm,0.3s,baz=341,slow=11,SNR=2.6							
MKAR	**Makanchi Array**	**68.28**	**327**	P		P	23 34 10.3	0.0
	0.2nm,0.4s,baz=123,slow=7.6,SNR=7.2							

BJI ***14*** *23:25:37.2≈0.0, 52.°25S×18.°60E, h10km, mB5.8/21, Ms5.8/36, Ms7 5.6/37*

IDC ***14*** *23:25:37.4≈0.3, 52.°59S×18.°83E, h0km, mb5.0/30, mb1 5.1/30, mb1mx5.1/36, mbtmp5.0/30, MS5.5/56, Ms1 5.5/56, ms1mx5.5/59, Error ellipse: s-maj=14.0km s-min=10.1km az=104.0*

MOS ***14*** *23:25:38.7±1.1, 52.°54S×18.°82E, h12km, mb5.5/13, MS5.6/19, Error ellipse: s-maj=17.5km s-min=8.9km az=84.2*

NEIC ***14*** *23:25:40.0±1.4, 52.°61S±0.°09×18.°8E±0.°1, h10km±1km, mb5.8/170, Ms_20 5.6/223, Mwb5.6/36, Mww5.6, Error ellipse: s-maj=15.6km s-min=14.7km az=128.0*

NEIC ***14*** *23:25:40, 52.°61S×18.°79E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.24; Mθθ-2.38; Mφφ 0.13; Mrθ-1.09; Mrφ 1.23; Mθφ-0.51; Fault plane solution: M0 2.88000×10^17^ NP1:φs271.49000°, δ57.75000°, λ63.82000°. NP2:φs134.15000°, δ40.63000°, λ124.96000°. Principal axes: T 2.7298, Plg66.0000°, Azm131.0000°; N 0.2774, Plg22.0000°, Azm286.0000°; P -3.0072, Plg9.0000°, Azm20.0000°;*

NEIC ***14*** *23:25:41, 52.°54S×19.°02E, h12km, Moment Tensor Solution. Duration: 2≥0 Moment tensor: Scale 10^17^Nm; Mrr2.75; Mθθ-1.53; Mφφ-1.22; Mrθ 0.34; Mrφ 1.36; Mθφ 0.58; Fault plane solution: M0 2.83000×10^17^ NP1: φs119.00000°, δ45.00000°, λ72.00000°. NP2: φs324.00000°, δ48.00000°, λ107.00000°. Principal axes: T 2.9018, Plg77.0000°, Azm306.0000°; N -0.1541, Plg13.0000°, Azm132.0000°; P -2.7477, Plg1.0000°, Azm42.0000°;*

GCMT ***14*** *23:25:41.0±0.1, 52.°62S×19.°26E, h12km, MW5.7/158, Moment Tensor Solution. s113,c193; s158,c354; Duration: 1s8 Moment tensor: Scale 10^17^Nm; Mrr5.15±.04; Mθθ-4.33±.04; Mφφ-0.82±.04; Mrθ-1.22±.13; Mrφ 1.42±.04; Mθφ 0.45±.12; Best double couple: M0 5.15800×10^17^ NP1:φs109.00000°, δ38.00000°, λ90.00000°. NP2:φs290.00000°, δ52.00000°, λ90.00000°. Principal axes: T 5.3170, Plg83.0000°, Azm201.0000°; N -0.3250, Plg0.0000°, Azm110.0000°; P -5.0000, Plg7.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 23:25:40.0±0.2, 52.°64S±0.°04×18.°66E±0.°05, h13km, n1120, σ1.°73/1039, mb5.8/177, MS5.6/195, 31C-34D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELIM	**Elim**	**18.05**	**3**	*e*P		**Pn**	**23 29 50.3**	**-0.2**
ELIM				IAmb		IAmb	23 29 52.5	
	comp=Z,1µm,2.1s							
NVL	**N'lazarevskaya**	**18.45**	**187**	*e*P		Pn	23 30 04.4	+9.3
NVL				pmax		pmax		
	comp=Z,129nm,1.0s							
ROSN	**Rosenhof**	**19.00**	**15**	*e*P		**P**	**23 30 00.7**	**-0.6**
ROSN				IAmb		IAmb	23 30 04.0	
	comp=Z,230nm,1.4s							
SYO	**Syowa Base**	**19.14**	**157**	⇓*e*Pn		**P**	**23 30 01.0**	**-1.5**
SYO	**Syowa Base**	**19.14**	**157**	⇑*ip*P		**P**	**23 30 02.6**	**+0.1**
SYO	**Syowa Base**	**19.14**	**157**	⇑*i*P		**Pn**	**23 30 08.9**	**+5.5**
SUR	**Sutherland**	**20.31**	**5**	P		**P**	**23 30 15.2**	**-0.6**
	comp=Z,119nm,1.0s,baz=177,slow=8.9,SNR=26							
SUR				S		S	23 33 49.1	-14
	comp=Z,5.1nm,0.9s,baz=270,slow=4.0,SNR=1.4							
SUR				LR		LR	23 36 10.7	
	comp=Z,28µm,21.2s,baz=188,slow=31							
SUR	**Sutherland**	**20.31**	**5**	⇓*i*P		**P**	**23 30 15.5**	**-0.3**
SUR				IAmb		IAmb	23 30 20.6	
	comp=Z,1µm,1.2s							
SUR	**Sutherland**	**20.31**	**5**			**P**	**23 30 15.3**	**-0.4**
SUR				IAmb		IAmb	23 30 21.0	
	comp=Z,438nm,1.2s							
SUR	**Sutherland**	**20.31**	**5**	IAMs_20		IAMs_20	23 36 01.5	
	comp=Z,25µm,20.0s							
SUR	**Sutherland**	**20.31**	**5**	P		**P**	**23 30 15.7**	**-0.1**
SUR				P		**P**	**23 30 15.7**	**-0.1**
SUR				S		Sn	23 34 05.7	-0.7
SUR				S		Sn	23 34 05.7	-0.7
SUR	**Sutherland**	**20.31**	**5**	⇓P		**P**	**23 30 15.5**	**-0.3**
GRAN	**Grantham**	**20.49**	**9**	*e*P		**P**	**23 30 16.5**	**-1.1**
GRAN				IAmb		IAmb	23 30 20.2	
	comp=Z,58nm,0.9s							
CVNA	**Calvinia**	**21.16**	**3**	⇓*i*P		**P**	**23 30 24.0**	**-0.9**
CVNA				IAmb		IAmb	23 30 29.4	
	comp=Z,3µm,2.6s							
SNAA	**Sanae**	**21.32**	**199**	P		**P**	**23 30 27.4**	**+1.1**
SNAA	**Sanae**	**21.32**	**199**	P		**P**	**23 30 27.7**	**+1.4**
	comp=Z,64nm,0.9s,baz=44,slow=7.2,SNR=41							
SNAA				LR		LR	23 36 34.7	
	comp=Z,17µm,21.5s,baz=21,slow=31							
SNAA	**Sanae**	**21.32**	**199**	⇓*i*P		**P**	**23 30 28.1**	**+1.8**
SNAA	**Sanae**	**21.32**	**199**	*ce*P		**P**	**23 30 29.1**	**+2.8**
SNAA				pmax		pmax		
	comp=Z,575nm,2.5s							
SNAA	**Sanae**	**21.32**	**199**	P		**P**	**23 30 27.4**	**+1.1**
SNAA				IAmb		IAmb	23 30 42.5	
	comp=Z,954nm,1.9s							
SNAA				IAMs_20		IAMs_20	23 36 33.5	
	comp=Z,16µm,20.0s							
SNAA	**Sanae**	**21.32**	**199**	⇓P		**P**	**23 30 28.6**	**+2.3**
VNA2	**Neumayer--Watz**	**21.75**	**203**	P		**P**	**23 30 33.1**	**+2.2**
	baz=34,slow=11							
VNA1	**Neumayer--Stat**	**21.77**	**204**	P		**P**	**23 30 32.2**	**+1.1**
CRZF	**Crozet Islands**	**22.29**	**87**	P		**P**	**23 30 35.4**	**-1.3**
VNA3	**Neumayer Olymp**	**22.52**	**204**	P		**P**	**23 30 40.8**	**+1.7**
HVD	**Gariep Dam**	**22.58**	**16**	⇓*i*P		**P**	**23 30 39.1**	**-1.1**
HVD				IAmb		IAmb	23 30 47.6	
	comp=Z,692nm,1.4s							
KOMG	**Komaggas**	**22.84**	**357**	*e*P		**P**	**23 30 41.9**	**-0.9**
KOMG				IAmb		IAmb	23 30 44.0	
	comp=Z,143µm,5.1s							
AUGR	**Augrabies**	**24.06**	**4**	*e*P		**P**	**23 30 54.2**	**-0.7**
AUGR				IAmb		IAmb	23 30 56.4	
	comp=Z,2µm,2.2s							
UPI	**Upington**	**24.33**	**6**	⇓*i*P		**P**	**23 30 57.3**	**-0.1**
UPI				IAmb		IAmb	23 30 58.8	
	comp=Z,725nm,2.1s							
BOSA	**Boshof**	**24.50**	**14**	P		**P**	**23 30 57.4**	**-1.7**
	comp=Z,91nm,1.1s,baz=186,slow=10,SNR=44							
BOSA				S		**S**	**23 35 20.0**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=353,slow=19,SNR=1.6							
BOSA				LR		LR	23 38 51.5	
	comp=Z,25µm,19.8s,baz=188,slow=32							
BOSA	**Boshof**	**24.50**	**14**	⇓*i*P		**P**	**23 30 58.2**	**-0.8**
BOSA				IAmb		IAmb	23 31 00.1	
	comp=Z,2µm,2.2s							
BOSA	**Boshof**	**24.50**	**14**	P		**P**	**23 30 57.1**	**-1.9**
BOSA	**Boshof**	**24.50**	**14**	⇓P		**P**	**23 30 57.8**	**-1.2**
SNKL	**Senekal, Frees**	**25.27**	**19**	*e*P		**P**	**23 31 06.3**	**+0.3**
SNKL				IAmb		IAmb	23 31 08.8	
	comp=Z,2µm,2.2s							
MAW	**Mawson**	**25.88**	**142**	P		**P**	**23 31 10.2**	**-0.8**
	comp=Z,50nm,1.0s,baz=286,slow=14,SNR=6.4							
MAW				LR		LR	23 39 19.0	
	comp=Z,7µm,21.6s,baz=296,slow=32							
MAW	**Mawson**	**25.88**	**142**	P		**P**	**23 31 11.4**	**+0.4**
	baz=26,SNR=16							
SWZ	**Schweizer**	**25.92**	**14**	*e*P		**P**	**23 31 10.5**	**-1.4**
SWZ				IAmb		IAmb	23 31 13.5	
	comp=Z,341nm,1.5s							
NWCL	**Newcastle**	**26.25**	**23**	*e*P		**P**	**23 31 13.7**	**-1.2**
NWCL				IAmb		IAmb	23 31 18.1	
	comp=Z,590nm,1.9s							
PRYS	**Parys**	**26.50**	**18**	*e*P		**P**	**23 31 14.3**	**-2.9**
PRYS				IAmb		IAmb	23 31 29.0	
	comp=Z,223nm,1.6s							
WDLM	**Western Deep L**	**27.00**	**18**	*e*P		**P**	**23 31 20.6**	**-1.1**
WDLM				IAmb		IAmb	23 31 30.1	
	comp=Z,291nm,1.8s							
POGA	**Pongola**	**27.08**	**26**	*e*P		**P**	**23 31 21.3**	**-1.0**
POGA				IAmb		IAmb	23 31 27.9	
	comp=Z,243nm,1.8s							
SLR	**Silverton**	**27.84**	**19**	⇓*i*P		**P**	**23 31 27.5**	**-1.7**
SLR				IAmb		IAmb	23 31 29.2	
	comp=Z,2µm,3.1s							
CRLN	**Carolina, Mapu**	**27.96**	**22**	⇓*i*P		**P**	**23 31 29.1**	**-1.2**
LBTB	**Lobatse**	**28.09**	**13**	P		**P**	**23 31 28.9**	**-2.4**
	comp=Z,16nm,0.8s,baz=185,slow=9.6,SNR=14							
LBTB				LR		LR	23 41 00.2	
	comp=Z,21µm,20.0s,baz=185,slow=33							
LBTB	**Lobatse**	**28.09**	**13**	*e*P		**P**	**23 31 28.8**	**-2.5**
LBTB				IAmb		IAmb	23 31 36.0	
	comp=Z,189nm,1.6s							
LBTB	**Lobatse**	**28.09**	**13**	P		**P**	**23 31 29.6**	**-1.8**
LBTB				pmax		pmax		
	comp=Z,198nm,1.7s							
LBTB	**Lobatse**	**28.09**	**13**	P		**P**	**23 31 29.6**	**-1.8**
LBTB	**Lobatse**	**28.09**	**13**	⇓P		**P**	**23 31 29.8**	**-1.5**
CNG	**Changalane**	**28.21**	**26**	*e*P		**P**	**23 31 31.2**	**-1.1**
CNG				IAmb		IAmb	23 31 36.7	
	comp=Z,139nm,2.0s							
MOPA	**Mopani**	**30.66**	**23**	*e*P		**P**	**23 31 52.2**	**-1.9**
MOPA				IAmb		IAmb	23 31 53.9	
	comp=Z,142nm,1.5s							
MSNA	**Messina**	**31.48**	**20**	*e*P		**P**	**23 31 59.5**	**-1.9**
MSNA				IAmb		IAmb	23 32 01.0	
	comp=Z,158nm,1.4s							
BELA	**Belgrano 2**	**31.57**	**199**	P		**P**	**23 32 02.0**	**+0.3**
BELA				IAmb		IAmb	23 32 09.2	
	comp=Z,246nm,1.7s							
MATP	**Matopo**	**33.05**	**17**	P		**P**	**23 32 12.7**	**-2.6**
	comp=Z,66nm,1.3s,baz=191,slow=11							
MATP				LR		LR	23 44 01.4	
	comp=Z,19µm,18.7s,baz=186,slow=34							
BLWY	**Bulawayo**	**33.35**	**17**	⇓*i*P		**P**	**23 32 16.3**	**-1.6**
BLWY				IAmb		IAmb	23 32 16.9	
	comp=Z,736nm,1.6s							
TSUM	**Tsumeb**	**33.38**	**358**	LR		LR	23 43 42.4	
	comp=Z,16µm,21.2s,baz=182,slow=33							
TSUM	**Tsumeb**	**33.38**	**358**	⇓*i*P		**P**	**23 32 18.2**	**+0.1**
TSUM	**Tsumeb**	**33.38**	**358**	P		**P**	**23 32 16.8**	**-1.4**
TSUM	**Tsumeb**	**33.38**	**358**	IAMs_20		IAMs_20	23 43 30.2	
	comp=Z,17µm,21.0s							
TSUM	**Tsumeb**	**33.38**	**358**	⇑P		**P**	**23 32 17.5**	**-0.7**
ORCD	**Orcadas**	**34.45**	**231**	P		**P**	**23 32 27.1**	**+0.3**
VOI	**Vohitsoka**	**37.52**	**46**	P		**P**	**23 32 51.9**	**-1.8**
VOI				IAmb		IAmb	23 32 54.5	
	comp=Z,264nm,1.9s							
VOI				IAMs_20		IAMs_20	23 46 16.4	
	comp=Z,6µm,18.0s							
VOI	**Vohitsoka**	**37.52**	**46**	P		**P**	**23 32 53.4**	**-0.3**
	SNR=12							
VOI	**Vohitsoka**	**37.52**	**46**	⇑P		**P**	**23 32 52.8**	**-1.0**
VOI	**Vohitsoka**	**37.52**	**46**	P		**P**	**23 32 53.5**	**-0.2**
QSPA	**South Pole Qui**	**37.59**	**180**	P		**P**	**23 32 54.2**	**+0.2**
	comp=Z,43nm,0.7s,baz=243,slow=2.9,SNR=284							
QSPA				LR		LR	23 47 58.5	
	comp=Z,20µm,18.2s,baz=226,slow=36							
QSPA	**South Pole Qui**	**37.59**	**180**	P		**P**	**23 32 54.5**	**+0.6**
LSZ	**Lusaka**	**38.04**	**15**	P		**P**	**23 32 56.3**	**-1.8**
	comp=Z,22nm,1.1s,baz=193,slow=10.0,SNR=10.0							
LSZ				LR		LR	23 47 25.5	
	comp=Z,17µm,18.2s,baz=199,slow=34							
LSZ	**Lusaka**	**38.04**	**15**	P		**P**	**23 32 56.6**	**-1.5**
LSZ				pmax		pmax		
	comp=Z,187nm,1.7s							
LSZ				MLR		MLR		
	comp=Z,19µm,18.0s							
LSZ	**Lusaka**	**38.04**	**15**	P		**P**	**23 32 56.6**	**-1.5**
ESPZ	**Base Esperanza**	**39.11**	**224**	P		**P**	**23 33 06.6**	**+0.2**
ESPZ				IAmb		IAmb	23 33 11.6	
	comp=Z,382nm,1.9s							
ABPO	**Ambohimpanom**	**40.26**	**44**	P		**P**	**23 33 15.7**	**-1.0**
ABPO				pmax		pmax		
	comp=Z,116nm,1.6s							
ABPO				MLR		MLR		
	comp=Z,9µm,18.0s							
ABPO	**Ambohimpanom**	**40.26**	**44**	P		**P**	**23 33 15.7**	**-1.0**
ABPO	**Ambohimpanom**	**40.26**	**44**	IAMs_20		IAMs_20	23 48 01.8	
	comp=Z,9µm,18.0s							
ABPO	**Ambohimpanom**	**40.26**	**44**	⇑P		**P**	**23 33 16.5**	**-0.2**
OPO	**Ambohidratompo**	**40.64**	**44**	P		**P**	**23 33 17.6**	**-2.2**
	comp=Z,6.5nm,1.0s,baz=201,slow=8.4,SNR=12							
OPO				LR		LR	23 48 05.8	
	comp=Z,5µm,18.0s,baz=356,slow=33							
SMAI	**San Martin Ant**	**41.24**	**215**	P		**P**	**23 33 25.5**	**+1.4**
SMAI				IAmb		IAmb	23 33 32.9	

RER Riviere de l'E 42.42 57 P P 23 33 34.2 -0.2
SNR=5.1
RER S S 23 39 58.1 +2.4
KSMZ Kasama 43.56 18⇑*i* P P 23 33 42.2 -1.5
KSMZ ⇑*i* P P 23 33 42.4 -1.4
KSMZ ⇑*i* P P 23 33 42.4 -1.4
KSMZ *i* 23 35 17.6
KSMZ *i* 23 35 23.1
KSMZ *i* 23 35 27.4
KSMZ Kasama 43.56 18⇑*i* P P 23 33 42.2 -1.5
KSMZ ⇑*i* P P 23 33 42.4 -1.4
KSMZ ⇑*i* P P 23 33 42.4 -1.4
KSMZ *i* 23 35 17.6
KSMZ *i* 23 35 23.1
KSMZ *i* 23 35 27.4
CASY Casey 44.19 145 P P 23 33 48.1 +0.1
CASY IAmb IAmb 23 33 50.0
comp=Z,281nm,1.9s
EFI East Falkland 44.96 239 IAMs_20 IAMs_20 23 48 10.3
comp=Z,10µm,21.0s
SBV Sambava 46.36 44 P P 23 34 05.4 -0.4
SNR=5.2
VNDA Vanda 48.11 170 P P 23 34 18.5 -0.2
comp=Z,13nm,0.8s,baz=236,slow=8.2,SNR=38
VNDA LR LR 23 53 26.6
comp=Z,11µm,21.0s,baz=198,slow=35
VNDA Vanda 48.11 170 P P 23 34 19.4 +0.7
VNDA pmax pmax
comp=Z,196nm,1.5s
VNDA Vanda 48.11 170 P P 23 34 19.4 +0.7
SBA Scott Base 48.29 171 P P 23 34 21.9 +1.7
SBA pmax pmax
comp=Z,453nm,1.9s
SBA MLR MLR
comp=Z,11µm,20.0s
SBA Scott Base 48.29 171 P P 23 34 21.9 +1.7
USHA Ushuaia 48.35 231 LR LR 23 49 48.4
comp=Z,7µm,20.6s,baz=92,slow=30
SINGT Singida 49.49 21 *i* S P 23 34 28.2 -2.1
KOND Kondoa 49.64 23 *i* S P 23 34 31.9 +0.6
MG02 Cerro Sombrero 49.95 232 P P 23 34 33.9 +0.7
BBAT Babati 50.31 22 *i* S P 23 34 36.2 -0.3
ASCN Ascension 52.06 317 IAMs_20 IAMs_20 23 51 18.0
comp=Z,4µm,20.0s
MG05 Puerto Natales 52.21 232 P P 23 34 51.7 +1.6
MG05 IAmb IAmb 23 34 57.2
comp=Z,160nm,1.6s
KIBK Kibwezi 52.66 25 P P 23 34 54.4 +0.4
KIBK IAmb IAmb 23 34 56.8
comp=Z,151nm,1.6s
KIBK Kibwezi 52.66 25 P P 23 34 55.2 +1.2
SNR=32
KIBK S S 23 42 25.3 +4.1
MBAR Mbarara 52.83 15 P P 23 34 55.0 -0.3
comp=Z,9.4nm,1.1s,baz=152,slow=4.6,SNR=22
MBAR LR LR 23 55 45.5
comp=Z,24µm,20.4s,baz=168,slow=34
MBAR Mbarara 52.83 15 P P 23 34 56.3 +1.0
MBAR pmax pmax
comp=Z,101nm,1.9s
MBAR MLR MLR
comp=Z,24µm,20.0s
MBAR Mbarara 52.83 15 P P 23 34 56.3 +1.0
MBAR Mbarara 52.83 15 P P 23 34 56.9 +1.5
MBAR P P 23 34 56.9 +1.5
MBAR Mbarara 52.83 15 ⇑P P 23 34 56.7 +1.3
MBAR Mbarara 52.83 15 *i* P P 23 34 56.8 +1.5
MBAR *eS* S 23 42 33.6 +10
MBAR Mbarara 52.83 15 *i* P P 23 34 56.8 +1.5
MBAR *eS* S 23 42 35.6 +12
MBAR Mbarara 52.83 15 *e* P P 23 34 55.4 0.0
MBAR Mbarara 52.83 15 *i* P P 23 34 56.8 +1.5
MBAR *eS* S 23 42 33.6 +10
MBAR IAMs_20 IAMs_20 23 56 15.9
comp=Z,13µm,17.0s
KMBO Kilima Mbogo 53.63 23 P P 23 35 00.7 -0.7
comp=Z,7.4nm,1.1s,baz=186,slow=9.1,SNR=22
KMBO LR LR 23 55 41.8
comp=Z,7µm,21.8s,baz=175,slow=34
KMBO Kilima Mbogo 53.63 23 *e* P P 23 35 03.1 +1.8
KMBO IAmb IAmb 23 35 04.3
comp=Z,952nm,2.8s
KMBO Kilima Mbogo 53.63 23 *ce* P P 23 34 56.0 -5.3
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 53.63 23 P P 23 35 02.0 +0.7
KMBO Kilima Mbogo 53.63 23 IAMs_20 IAMs_20 23 55 18.3
comp=Z,7µm,22.0s
KMBO Kilima Mbogo 53.63 23 P P 23 35 02.3 +0.9
KMBO P P 23 35 02.3 +0.9
KMBO Kilima Mbogo 53.63 23 *i* P P 23 35 02.9 +1.6
KMBO ⇓*eS* S 23 42 49.6 +15
KMBO Kilima Mbogo 53.63 23 *e* P P 23 35 02.7 +1.3
KMBO Kilima Mbogo 53.63 23⇓*eS* S 23 42 45.0 +10
KMBO Kilima Mbogo 53.63 23 *e* P P 23 35 03.3 +1.9
KMBO Kilima Mbogo 53.63 23 *i* P P 23 35 02.9 +1.6
SNR=15
PLTB Pedras Altas 55.01 262 P P 23 35 11.7 +0.8
PLTB IAmb IAmb 23 35 14.6
comp=Z,131nm,1.6s
PLTB Pedras Altas 55.01 262 *e* P P 23 35 12.0 +1.0
CAM01 Campos-RJ 55.01 280 *e* P P 23 35 13.2 +2.2
DUB01 Friburgo-RJ 55.24 279 *e* P P 23 35 15.4 +2.6
ALF01 Guarapari-ES 55.37 282 *e* P P 23 35 15.2 +1.5
MAN01 Angra dos Reis 55.61 277 *e* P P 23 35 17.4 +1.9
CPSB Cacapava Do Su 55.87 263 *e* P P 23 35 18.4 +1.2
COYC Coyhaique 56.02 238 P P 23 35 19.9 +1.8
COYC IAmb IAmb 23 35 50.4
comp=Z,239nm,1.8s
COYC IAMs_20 IAMs_20 23 54 25.9
comp=Z,6µm,22.0s
RIB01 Linhares ES 56.18 283 *e* P P 23 35 19.8 +0.3
PARB Paraibuna 56.26 275 *e* P P 23 35 22.4 +2.3
PET01 Itanhaem-SP 56.56 273 *e* P P 23 35 23.6 +1.5
MSEY Mahe Island 56.61 46 P P 23 35 22.0 -0.6
MSEY pmax pmax
comp=Z,91nm,1.9s
MSEY MLR MLR
comp=Z,6µm,18.0s
MSEY Mahe Island 56.61 46 P P 23 35 22.0 -0.6
MSEY Mahe Island 56.61 46 IAMs_20 IAMs_20 23 56 19.0
comp=Z,6µm,18.0s
MSEY Mahe Island 56.61 46 P P 23 35 21.2 -1.4
MSEY P P 23 35 21.2 -1.4
MSEY S S 23 43 18.1 +3.9
MSEY S S 23 43 18.1 +3.9
MSEY Mahe Island 56.61 46 *i* P P 23 35 22.1 -0.6
SNR=7.6
AY01 Puyuhuapi 57.10 239 P P 23 35 26.8 +1.1
SJMB Sao Joao De Ma 57.12 283 *e* P P 23 35 26.6 +0.4
NAN01 Guarapari, ES 57.16 284 *e* P P 23 35 26.8 +0.3
VAO Valinhos 57.33 274 *e* P P 23 35 29.2 +1.5
ITAB Concordia 57.35 267 P P 23 35 29.0 +1.3
ITAB Concordia 57.35 267 *e* P P 23 35 28.2 +0.5
LL02 Futaleuf 57.53 240 P P 23 35 29.3 +0.5
LL02 IAmb IAmb 23 35 43.6
comp=Z,119nm,1.5s
LODK Lodwar 57.61 20 P P 23 35 30.8 +1.1
LODK Lodwar 57.61 20 P P 23 35 30.8 +1.1
SNR=26
LODK Lodwar 57.61 20 *i* P P 23 35 31.8 +2.1
LODK ⇓*eS* S 23 43 38.0 +10
LODK Lodwar 57.61 20 *i* P P 23 35 31.8 +2.1
LODK *eS* S 23 43 43.4 +16
LODK Lodwar 57.61 20 *e* P P 23 35 31.0 +1.3
LODK Lodwar 57.61 20 *eS* S 23 43 39.5 +12
LODK Lodwar 57.61 20 *i* P P 23 35 31.8 +2.1
LODK ⇓*eS* S 23 43 38.0 +10
LODK IAMs_20 IAMs_20 23 57 13.4
comp=N,7µm,23.9s
GUA01 Guaratinga, BA 57.96 285 *e* P P 23 35 32.8 +0.7
RCLB Rio Claro- Sao 58.11 274 *e* P P 23 35 34.8 +1.6
ITQB Itaqui 58.31 262 P P 23 35 35.0 +0.5
ITQB IAmb IAmb 23 35 37.7
comp=Z,194nm,1.5s
ITQB Itaqui 58.31 262 *e* P P 23 35 35.6 +1.2
GO07 Milladeo Hill, 58.54 239 P P 23 35 35.5 -0.4
GO07 IAmb IAmb 23 35 36.9
comp=Z,91nm,1.2s
PLCA Paso Flores 58.55 243 P P 23 35 35.6 -0.5
comp=Z,16nm,1.2s,baz=133,slow=8.1,SNR=10
PLCA LR LR 23 58 42.4
comp=Z,3µm,18.5s,baz=145,slow=34
PLCA Paso Flores 58.55 243 IAmb IAmb 23 35 38.2
comp=Z,108nm,1.7s
PLCA Paso Flores 58.55 243 ⇓P P 23 35 37.0 +0.9
PLCA Paso Flores 58.55 243 *e* P P 23 35 37.0 +0.9
CMC01 Camacan, BA 58.76 287 *e* P P 23 35 38.9 +1.2
DIAM Diamantina, MG 58.92 281 *e* P P 23 35 39.5 +0.5
NBIT Itapeh - BA 59.05 287 *e* P P 23 35 40.9 +1.2
PTGB Pitanga 59.16 269 *e* P P 23 35 42.9 +2.3
LL03 Petrohue 59.26 241 P P 23 35 40.5 -0.5
LL03 IAmb IAmb 23 36 43.3
comp=Z,179nm,1.6s
LL04 Puerto Octay 59.43 242 P P 23 35 42.0 -0.1
LL05 Los Muermos 59.65 241 P P 23 35 44.3 +0.7
BB19B Bebedouro 59.73 275 *e* P P 23 35 46.7 +2.2
GDU01 Guandu, BA 60.09 288 *e* P P 23 35 47.5 +0.6
LC01 Cunco 60.57 244 P P 23 35 50.1 +0.2
LC01 IAmb IAmb 23 35 56.5
comp=Z,123nm,1.4s
TRCB Terra Rica 60.93 270 P P 23 35 53.3 +0.6
TRCB IAmb IAmb 23 35 56.4
comp=Z,131nm,1.7s
TRCB Terra Rica 60.93 270 *e* P P 23 35 54.3 +1.6
PCMB Pacaembu 60.99 272 *e* P P 23 35 54.7 +1.7
CPUP Villa Florida 61.17 264 P P 23 35 54.2 0.0
comp=Z,16nm,0.6s,baz=138,slow=6.4,SNR=25
CPUP LR LR 00 00 32.6
comp=Z,1µm,18.1s,baz=145,slow=34
CPUP Villa Florida 61.17 264 P P 23 35 54.8 +0.6
CPUP pmax pmax
comp=Z,150nm,1.6s
CPUP Villa Florida 61.17 264 P P 23 35 54.8 +0.6
CPUP IAmb IAmb 23 35 57.2
comp=Z,150nm,1.6s
CPUP Villa Florida 61.17 264 ⇑P P 23 35 54.7 +0.5
CPUP Villa Florida 61.17 264 *e* P P 23 35 54.7 +0.5
DILA Dilla 61.17 22 *e* P P 23 35 53.7 -0.7
DILA Dilla 61.17 22 *eS* S 23 44 22.8 +9.1
NBLA Lagarto - SE 61.26 291 *e* P P 23 35 55.5 +0.6
LC02 Puerto Saavedr 61.46 243 P P 23 35 57.8 +1.8
NBAN Anadia - AL 61.48 293 *e* P P 23 35 56.7 +0.3
NBRF Rio Formoso - 61.65 295 *e* P P 23 35 58.5 +1.0
JANB Januaria 61.82 283 *e* P P 23 35 59.1 +0.4
ITRB Iturama 61.88 274 *e* P P 23 36 00.9 +1.8
IPMB Ipameri, GO 61.89 277 *e* P P 23 36 00.1 +0.9
LIC Lamto 62.01 333 *e* P P 23 36 00.7 +0.9
comp=Z,234nm,2.4s
KIC Kosan Boka 62.06 333 *e* P P 23 36 00.8 +0.6
comp=Z,34nm,1.4s
DBIC Dimbokro 62.38 333 P P 23 36 01.3 -1.0
comp=Z,13nm,0.7s,baz=164,slow=7.7,SNR=14
DBIC LR LR 23 56 49.6
comp=Z,4µm,21.7s,baz=148,slow=30
DBIC Dimbokro 62.38 333 P P 23 36 01.7 -0.7
DBIC pmax pmax
comp=Z,32nm,1.0s
DBIC Dimbokro 62.38 333 P P 23 36 01.7 -0.7
DBIC Dimbokro 62.38 333 ⇑P P 23 36 01.3 -1.0
TIC Toumodi 62.40 333 *e* P P 23 36 03.5 +1.0
ML02 Panimavida 62.57 246 P P 23 36 04.5 +1.0
DGAR Diego Garcia 62.70 64 P P 23 36 03.6 -1.0
DGAR pmax pmax
comp=Z,480nm,1.8s
DGAR MLR MLR
comp=Z,5µm,22.0s
DGAR Diego Garcia 62.70 64 P P 23 36 03.6 -1.0
DGAR Diego Garcia 62.70 64 IAMs_20 IAMs_20 23 55 51.8
comp=Z,5µm,22.0s
DGAR Diego Garcia 62.70 64 P P 23 36 03.2 -1.3
DGAR P P 23 36 03.2 -1.3
NBPN Ponto Novo - B 62.75 289 *e* P P 23 36 05.3 +0.4
BI05 Punta Hualpn 62.84 244 P P 23 36 05.5 +0.2
BI05 IAmb IAmb 23 37 47.2
comp=Z,79nm,1.1s
BO02 Sierra Bellavi 62.92 248 IAmb IAmb 23 36 07.8
comp=Z,146nm,1.9s
BO01 Tunca 63.38 248 P P 23 36 09.2 +0.3
BO01 IAmb IAmb 23 36 10.6
comp=Z,136nm,1.9s
GO05 Huala 63.40 247 P P 23 36 09.5 +0.4
GO05 IAmb IAmb 23 36 15.5
comp=Z,78nm,1.6s
BO04 La Punta 63.41 248 IAmb IAmb 23 36 13.3
comp=Z,86nm,1.4s
BDFB Brasilia 63.58 279 P P 23 36 11.0 +0.5
comp=Z,54nm,1.3s,baz=134,slow=5.5,SNR=15
BDFB LR LR 23 59 36.5
comp=Z,2µm,18.2s,baz=144,slow=32
NBPV Pedro Velho 63.61 296 *e* P P 23 36 11.7 +1.1
FURI Furi 63.65 22 P P 23 36 13.8 +2.7
FURI Furi 63.65 22 *i* P P 23 36 13.4 +2.3
FURI *eS* S 23 44 58.2 +13
FURI Furi 63.65 22 *i* P P 23 36 13.4 +2.3
FURI *eS* S 23 45 01.6 +17
FURI Furi 63.65 22 *e* P P 23 36 12.3 +1.2
FURI Furi 63.65 22 *eS* S 23 44 58.5 +13
FURI Furi 63.65 22 *i* P P 23 36 13.4 +2.3
FURI *eS* S 23 44 58.2 +13
FURI IAMs_20 IAMs_20 00 03 11.1
comp=Z,10µm,17.6s
MT03 Universidad Ad 63.71 249 IAmb IAmb 23 36 14.3
comp=Z,105nm,1.4s
MT09 Talagante 63.78 248 IAmb IAmb 23 36 18.1
comp=Z,104nm,1.5s
AAE Adis Abeba 63.79 22 *e* P P 23 36 14.3 +2.3
AAE ⇓*eS* S 23 44 57.5 +11
AAE Adis Abeba 63.79 22 *e* P P 23 36 14.3 +2.3
AAE *eS* S 23 44 59.3 +12
AAE Adis Abeba 63.79 22 *e* P P 23 36 14.7 +2.7
AAE Adis Abeba 63.79 22 *eS* S 23 44 56.6 +10
AAE Adis Abeba 63.79 22 *e* P P 23 36 14.3 +2.3
AAE ⇓*eS* S 23 44 57.5 +11
AAE IAMs_20 IAMs_20 00 03 15.1
comp=N,41µm,17.5s
MT05 Renca 63.91 249 P P 23 36 12.3 -0.3
MT05 IAmb IAmb 23 36 19.4
comp=Z,105nm,1.3s
ZON Zonda 64.09 251 IAmb IAmb 23 36 20.4
comp=Z,94nm,1.5s
VA05 Santo Domingo 64.22 248 P P 23 36 14.7 +0.3
MT02 Curacav 64.24 248 IAmb IAmb 23 36 22.6
comp=Z,74nm,1.3s
SDBA SAO DESIDERIO 64.26 284 *e* P P 23 36 15.5 +0.6
VA03 San Esteban 64.27 249 P P 23 36 15.5 +0.6
VA03 IAmb IAmb 23 36 22.7
comp=Z,143nm,1.4s
ROC1 El Roble 64.38 249 P P 23 36 15.8 0.0
ROC1 IAmb IAmb 23 36 21.5
comp=Z,101nm,1.7s
RCBR Riachuelo 64.44 296 LR LR 23 57 36.1
comp=Z,3µm,21.5s,baz=290,slow=30
RCBR Riachuelo 64.44 296 P P 23 36 16.7 +0.6
RCBR pmax pmax
comp=Z,261nm,2.0s
RCBR MLR MLR
comp=Z,2µm,20.0s
RCBR Riachuelo 64.44 296 P P 23 36 16.7 +0.6
RCBR Riachuelo 64.44 296 *e* P P 23 36 17.4 +1.3
AQDB Aquidauana 64.55 269 P P 23 36 17.8 +1.1
AQDB IAmb IAmb 23 36 20.1
comp=Z,126nm,1.5s
AQDB Aquidauana 64.55 269 *e* P P 23 36 17.6 +0.8
ANKE Ethiopia-Afar 64.56 23 *e* P P 23 36 05.2 -12
ANKE Ethiopia-Afar 64.56 23 *eS* S 23 45 07.0 +10
VA01 Torpederas 64.70 248 P P 23 36 18.4 +0.8
VA01 IAmb IAmb 23 36 24.3
comp=Z,151nm,1.8s
NBMA Muriti-CE 64.76 292 *e* P P 23 36 19.4 +1.1
VA06 Catapilco 64.84 249 P P 23 36 18.9 +0.4
VA06 IAmb IAmb 23 36 31.4
comp=Z,88nm,1.4s
HARA HARA 65.18 27 *e* P P 23 36 20.9 -0.2
HARA ⇓*eS* S 23 45 03.8 -0.1
HARA HARA 65.18 27 *e* P P 23 36 20.9 -0.2
HARA ⇓*eS* S 23 45 09.8 +5.9
HARA HARA 65.18 27 *e* P P 23 36 15.4 -5.7
HARA HARA 65.18 27 *eS* S 23 45 01.4 -2.6
HARA HARA 65.18 27 *e* P P 23 36 20.9 -0.2
HARA *eS* S 23 45 10.8 +6.9
HARA IAMs_20 IAMs_20 00 00 54.9
comp=N,16µm,71.6s
CO02 Combarbal 65.68 250 IAmb IAmb 23 36 45.8
comp=Z,126nm,1.5s
CO03 El Pedregal 65.77 251 IAmb IAmb 23 36 32.3
comp=Z,132nm,1.4s
ARAG Araguaiana, MT 65.83 276 *e* P P 23 36 27.2 +2.1
DESE Dese 66.01 23 *e* P P 23 36 29.3 +2.8
DESE ⇓*eS* S 23 45 23.7 +9.5
DESE Dese 66.01 23 *e* P P 23 36 29.3 +2.8
DESE *eS* S 23 45 35.5 +21
DESE Dese 66.01 23 *e* P P 23 36 18.4 -8.1
DESE Dese 66.01 23 *eS* S 23 45 21.1 +6.9
DESE Dese 66.01 23 *e* P P 23 36 26.8 +0.3
DESE ⇓*eS* S 23 45 23.7 +9.5
DESE IAMs_20 IAMs_20 00 04 46.4
comp=E,13µm,18.6s
H01W2 Cape Leeuwin H 66.19 117 T T 00 48 58.4
baz=220,slow=75
H01W3 Cape Leeuwin H 66.20 117 T T 00 49 02.5
baz=220,slow=75
H01W1 Cape Leeuwin H 66.20 117 T T 00 49 07.3
baz=220,slow=75
PP1B Ponte de Pedra 66.23 272 *e* P P 23 36 29.5 +1.8
GO04 Tololo Observa 66.33 251 P P 23 36 29.0 +0.6
GO04 IAmb IAmb 23 36 37.1
comp=Z,70nm,1.2s
CO06 Fray Jorge 66.44 250 P P 23 36 28.7 -0.2
PEXB Peixe 66.52 281 *e* P P 23 36 31.0 +1.4
NBPB Pedra_Branca-C 66.71 293 *e* P P 23 36 31.6 +0.8
CO05 La Serena 66.77 251 P P 23 36 30.9 0.0
CO05 IAmb IAmb 23 36 34.6
comp=Z,101nm,1.4s
TEND Ethiopian Broa 66.99 24 *e* P P 23 36 21.7 -11
NBCL Cascavel-CE 67.08 295 *e* P P 23 36 34.2 +1.1
TORD Torodi Ar. Bea 67.13 342 P P 23 36 31.5 -1.7
comp=Z,1µm,0.3s,baz=177,slow=7.6,SNR=1.7
LCO Las Campanas 67.14 252 P P 23 36 34.4 +0.7
LCO pmax pmax
comp=Z,158nm,1.6s
LCO Las Campanas 67.14 252 P P 23 36 34.4 +0.7
LCO IAmb IAmb 23 36 36.5
comp=Z,158nm,1.6s
LCO Las Campanas 67.14 252 ⇑P P 23 36 33.9 +0.2
ATD Arta Tunnel 67.21 26 P P 23 36 32.6 -1.3
comp=Z,11nm,0.9s,baz=209,slow=3.2,SNR=9.4
ATD LR LR 00 04 51.0
comp=Z,4µm,19.3s,baz=188,slow=35
ATD Arta Tunnel 67.21 26 P P 23 36 34.0 +0.2
ATD IAmb IAmb 23 36 36.9
comp=Z,122nm,1.6s
ATD IAMs_20 IAMs_20 00 04 40.1
comp=Z,4µm,20.0s
ATD Arta Tunnel 67.21 26 *e* P P 23 36 31.9 -1.9
ATD ⇓*eS* S 23 45 38.0 +10
ATD Arta Tunnel 67.21 26 *e* P P 23 36 31.9 -1.9
ATD *eS* S 23 45 37.9 +10
ATD Arta Tunnel 67.21 26 *e* P P 23 36 34.2 +0.3
ATD Arta Tunnel 67.21 26 *e* P P 23 36 31.9 -1.9
ATD ⇓*eS* S 23 45 38.0 +10
ATD IAMs_20 IAMs_20 23 58 50.6
comp=N,5µm,34.0s
GO03 Copiap 67.93 253 P P 23 36 38.5 0.0
GO03 IAmb IAmb 23 36 41.0
comp=Z,88nm,1.5s
AC04 Llanos de Chal 67.96 252 P P 23 36 39.1 +0.6
AC04 IAmb IAmb 23 36 42.3
comp=Z,113nm,1.2s
SALV Santo Antonio 68.03 272 *e* P P 23 36 40.8 +1.7
AC06 Mina Casimiro 68.17 253 IAmb IAmb 23 36 43.2
comp=Z,121nm,1.3s
MCQ Macquarie Isla 68.25 156 P P 23 36 40.0 +0.1
MCQ pmax pmax
comp=Z,317nm,1.5s
MCQ Macquarie Isla 68.25 156 P P 23 36 40.0 +0.1
SNDB Serra Nova Dou 68.42 279 *e* P P 23 36 43.0 +1.5
SMTB Santa Maria do 68.66 284 *e* P P 23 36 44.2 +1.1
NBPS Pedro II - PI 68.70 292 *e* P P 23 36 44.2 +0.8
NBMO Morrinhos-CE 68.81 294 *e* P P 23 36 45.0 +1.1
AC01 Pan de Azucar 69.23 254 P P 23 36 46.9 +0.4
MUN Mundaring 69.52 116 P P 23 36 47.5 -0.7
baz=69,SNR=3.3
KAAM Kaadhehdhoo 69.61 60 P P 23 36 48.4 -0.5
KAAM IAMs_20 IAMs_20 23 59 39.9
comp=Z,4µm,21.0s
KAAM Kaadhehdhoo 69.61 60 P P 23 36 47.9 -0.9
KOWA Kowa 69.67 337 P P 23 36 48.7 -0.5
KOWA IAmb IAmb 23 37 17.9
comp=Z,147nm,1.9s
KOWA IAMs_20 IAMs_20 00 01 26.2
comp=Z,3µm,21.0s
KOWA Kowa 69.67 337 ⇑P P 23 36 48.6 -0.5
PB14 IPOC Station P 70.27 255 P P 23 36 53.5 +0.2
PB14 IAmb IAmb 23 37 11.9
comp=Z,102nm,1.6s
PTLB Pontes e Lacer 70.48 270 *e* P P 23 36 55.1 +0.9
KLBR Kellerberrin 70.66 117 P P 23 36 54.3 -1.0
baz=70,SNR=6.9
PB15 IPOC Station P 70.79 257 P P 23 36 56.9 +0.5
PB15 IAmb IAmb 23 36 59.9
comp=Z,137nm,1.5s
BLDU Ballidu 70.84 115 P P 23 36 55.1 -1.2
baz=71,SNR=6.8
LVC Limon Verde 70.92 258 LR LR 00 03 29.7
comp=Z,2µm,21.5s,baz=146,slow=32
LVC Limon Verde 70.92 258 P P 23 36 57.3 0.0
LVC pmax pmax
comp=Z,117nm,1.6s
LVC Limon Verde 70.92 258 P P 23 36 57.3 0.0
LVC IAmb IAmb 23 37 05.0
comp=Z,117nm,1.6s
LVC Limon Verde 70.92 258 IAMs_20 IAMs_20 00 02 32.7
comp=Z,3µm,22.0s
LVC Limon Verde 70.92 258 ⇑P P 23 36 58.5 +1.1
LVC Limon Verde 70.92 258 *e* P P 23 36 59.3 +1.9
PB10 IPOC Station P 71.20 256 P P 23 37 00.1 +1.5
PB10 IAmb IAmb 23 37 02.0
comp=Z,146nm,1.6s
PB06 IPOC Station P 71.23 257 IAmb IAmb 23 37 02.4
comp=Z,122nm,1.6s
SIV San Ignacio 71.24 268 LR LR 00 03 42.5
comp=Z,3µm,20.8s,baz=166,slow=32
SOCY Socotra 71.35 37 P P 23 37 00.1 +0.6
SOCY IAmb IAmb 23 37 02.6
comp=Z,233nm,1.9s
SOCY IAMs_20 IAMs_20 00 02 19.3
comp=Z,4µm,22.0s
SOCY Socotra 71.35 37 P P 23 37 00.8 +1.3
SNR=14
SOCY Socotra 71.35 37 ⇑P P 23 37 00.8 +1.3
ROSB Rosario 71.45 290 *e* P P 23 37 01.7 +1.5
MORW Morawa 71.66 114 P P 23 37 00.1 -1.2
baz=71
MORW Morawa 71.66 114 P P 23 37 00.6 -0.7
MORW IAmb IAmb 23 37 01.7
comp=Z,138nm,1.8s
PB09 IPOC Station P 71.73 258 P P 23 37 03.1 +1.1
PB04 IPOC Station P 71.86 257 P P 23 37 03.1 +0.2
PB04 IAmb IAmb 23 37 20.3
comp=Z,89nm,1.3s
PDRB Porto dos Gac 71.99 274 *e* P P 23 37 04.9 +1.4
CLDB Colider 72.00 276 *e* P P 23 37 04.7 +1.2
PRPB Parauapebas 72.12 284 *e* P P 23 37 05.3 +1.0
PB07 IPOC Station P 72.17 258 P P 23 37 05.2 +0.5
PB07 IAmb IAmb 23 37 08.0
comp=Z,144nm,1.6s
PB01 IPOC Station P 72.45 258 P P 23 37 06.6 +0.3
PB02 IPOC Station P 72.49 258 P P 23 37 07.4 +0.9
PB08 IPOC Station P 72.95 259 P P 23 37 10.2 +0.7
VILB Vilhena 73.06 271 *e* P P 23 37 11.3 +1.4
TA01 Diego Aracena 73.23 258 P P 23 37 11.6 +0.8
TA01 IAmb IAmb 23 37 14.1
comp=Z,148nm,1.7s
COCO West Island 73.24 88 *ce* P P 23 37 10.0 -0.8
GO01 Chusmiza 73.33 259 P P 23 37 11.6 -0.4
GO01 IAmb IAmb 23 37 15.4
comp=Z,117nm,1.8s
TA02 Huaiquique 73.43 258 P P 23 37 12.4 +0.5
TA02 IAmb IAmb 23 37 20.0
comp=Z,160nm,1.6s
MBO M'Bour 73.49 324 P P 23 37 12.0 -0.1
MBO IAMs_20 IAMs_20 00 03 04.0
comp=Z,3µm,20.0s
PB11 IPOC Station P 73.54 259 P P 23 37 13.2 +0.4
PB11 IAmb IAmb 23 37 16.8
comp=Z,94nm,1.3s
TMAB Tom-Au,PA,Br 74.16 287 *e* P P 23 37 18.3 +2.0
PB16 IPOC Station P 74.55 260 P P 23 37 18.9 -0.3
PB16 IAmb IAmb 23 37 27.6
comp=Z,105nm,1.5s

NPGB Novo Progresso 74.74 278 *e*P P **23 37 20.9 +1.2**
PB12 IPOC Station P 74.82 259 P P **23 37 20.9 +0.7**
MEEK Meekatharra 74.97 114 P P **23 37 19.4 -1.5**
baz=75,SNR=5.5
HMDM Hanimaadhoo 75.03 57 P P **23 37 20.7 -0.5**
HMDM IAmb IAmb 23 37 22.4
comp=Z,181nm,1.5s
HMDM IAMs_20 IAMs_20 00 02 40.8
comp=Z,4µm,21.0s
HMDM Hanimaadhoo 75.03 57 P P **23 37 20.4 -0.8**
TAU Tasmania Unive 75.04 144 P P **23 37 21.0 0.0**
TAU pmax pmax
comp=Z,245nm,1.9s
TAU MLR MLR
comp=Z,2µm,18.0s
TAU Tasmania Unive 75.04 144 P P **23 37 21.0 0.0**
TAU IAmb IAmb 23 37 27.9
comp=Z,244nm,1.9s
TAU IAMs_20 IAMs_20 00 11 56.3
comp=Z,2µm,18.0s
LPAZ La Paz 75.30 262 P P **23 37 24.0 +0.4**
comp=Z,31nm,1.2s,baz=107,slow=5.7,SNR=36
LPAZ LR LR 00 07 32.5
comp=Z,3µm,20.6s,baz=124,slow=33
LPAZ La Paz 75.30 262 P P **23 37 24.2 +0.6**
LPAZ pmax pmax
comp=Z,149nm,1.6s
LPAZ La Paz 75.30 262 P P **23 37 24.2 +0.6**
LPAZ IAmb IAmb 23 37 34.8
comp=Z,149nm,1.6s
LPAZ La Paz 75.30 262 *e*P P **23 37 24.5 +0.9**
ABTO Aybut 75.89 34 P P **23 37 25.9 -0.2**
SNR=10
ABTO P P **23 37 25.9 -0.2**
SNR=10
MNCY Minicoy 76.23 56 *e*P P 23 37 43.6 +16
RBK Rabkut 76.34 35 P P **23 37 28.6 -0.1**
RBK P P **23 37 28.6 -0.1**
WHFO Wadi Hawf 76.58 34 P P **23 37 30.1 +0.1**
SNR=9.0
WHFO P P **23 37 30.1 +0.1**
SNR=9.0
WHFO S S **23 47 21.6 +5.8**
WHFO S S **23 47 21.6 +5.8**
FORT Forrest 76.73 123 P P **23 37 30.3 -0.6**
DMTO DMTO 76.80 35 P P **23 37 30.4 -0.8**
DMTO P P **23 37 30.4 -0.8**
ITTB Itaituba 77.09 280 *e*P P **23 37 33.9 +0.9**
SHAO Shalim 77.32 36 P P **23 37 34.5 +0.4**
DOK Doka 77.35 34 P P **23 37 34.3 0.0**
SNR=8.0
DOK P P **23 37 34.3 0.0**
SNR=8.0
DOK S S **23 47 29.2 +5.1**
DOK S S **23 47 29.2 +5.1**
PYZ Puysegur Point 77.83 158 IAMs_20 IAMs_20 00 08 46.5
comp=Z,4µm,20.0s
MCPB Macapa, AP 78.10 285 *e*P P **23 37 39.6 +0.9**
ARPS Mount Arapiles 78.18 137 P P **23 37 39.6 +0.7**
baz=78,SNR=4.8
MALB Monte Alegre 78.21 283 *e*P P **23 37 40.8 +1.5**
TRD Trivandrum 78.45 59 *i*P P **23 37 39.6 -1.0**
TRD IAmb IAmb 23 37 42.5
comp=Z,531nm,2.8s
BBOO Buckleboo 78.96 130 P P **23 37 42.6 -0.7**
baz=79
BBOO Buckleboo 78.96 130 P P **23 37 42.9 -0.4**
TOO Toolangi 78.98 140 P P **23 37 43.6 +0.2**
TOO pmax pmax
comp=Z,56nm,1.4s
TOO Toolangi 78.98 140 P P **23 37 43.6 +0.2**
ETMB Extrema 79.17 268 *e*P P **23 37 44.6 0.0**
RAYN Ar Rayn 79.37 25 P P **23 37 45.6 +0.2**
RAYN pmax pmax
comp=Z,176nm,1.8s
RAYN Ar Rayn 79.37 25 P P **23 37 45.6 +0.2**
RAYN IAmb IAmb 23 37 47.8
comp=Z,176nm,1.8s
RAYN Ar Rayn 79.37 25 P P **23 37 46.2 +0.8**
RAYN S S **23 47 52.5 +6.7**
RAYN Ar Rayn 79.37 25 ⇑P P **23 37 45.9 +0.5**
RAYN Ar Rayn 79.37 25 *i*P P **23 37 46.0 +0.5**
SNR=45
PALK Pallekele 79.42 63 P P **23 37 44.6 -1.3**
comp=Z,12nm,1.1s,baz=323,slow=5.7,SNR=16
PALK LR LR 00 04 17.0
comp=Z,3µm,21.6s,baz=326,slow=29
PALK Pallekele 79.42 63 P P **23 37 46.2 +0.3**
PALK pmax pmax
comp=Z,184nm,1.9s
PALK Pallekele 79.42 63 P P **23 37 46.2 +0.3**
PALK IAmb IAmb 23 37 47.4
comp=Z,184nm,1.9s
PALK Pallekele 79.42 63 IAMs_20 IAMs_20 00 03 54.8
comp=Z,3µm,22.0s
PALK Pallekele 79.42 63 P P **23 37 45.7 -0.2**
PALK P P **23 37 45.7 -0.2**
PALK S S **23 47 53.7 +7.1**
PALK S S **23 47 53.7 +7.1**
WKZ Wanaka 79.62 159 P P **23 37 47.0 +0.4**
PSA00 Pilbara Seismi 79.64 112 P P **23 37 46.2 -0.9**
PSA00 Pilbara Seismi 79.64 112 IAmb IAmb 23 37 46.5
comp=Z,36nm,1.3s
HTT Hallett 79.75 133 P P **23 37 47.6 0.0**
baz=80,SNR=3.3
ODZ Otahua Downs 79.76 160 P P **23 37 47.6 +0.2**
ODZ IAmb IAmb 23 39 49.5
comp=Z,178nm,2.0s
XMIS Christmas Isla 79.94 94 P P **23 37 48.6 -0.2**
KOD Kodaikanal 80.17 59 *e*P P **23 37 49.9 -0.4**
LBZ Lake Benmore 80.29 160 IAmb IAmb 23 37 56.6
comp=Z,188nm,1.8s
MHTO MHTO 80.89 37 P P **23 37 52.8 -0.8**
SNR=10
MHTO P P **23 37 52.8 -0.8**
SNR=10
MHTO S S **23 48 06.6 +5.0**
MHTO S S **23 48 06.6 +5.0**
MACA Manacapuru-AM 81.03 277 *e*P P **23 37 54.8 +0.2**
RPZ Rata Peaks 81.11 160 LR LR 00 11 11.8
comp=Z,6µm,21.7s,baz=186,slow=34
MZR Muzera 81.21 32 P P **23 37 55.3 +0.1**
SNR=16
MZR P P **23 37 55.3 +0.1**
SNR=16
MZR S S **23 48 09.6 +4.7**
MZR S S **23 48 09.6 +4.7**
MZR Muzera 81.21 32 *i*P P **23 37 55.4 +0.1**
SNR=19
WRKA Warakurna 81.49 120 P P **23 37 56.4 -0.7**
baz=81,SNR=5.5
WRKA Warakurna 81.49 120 ⇑P P **23 37 56.4 -0.7**
UMZA Um Al Zommool 81.50 34 P P **23 37 55.9 -0.8**
UMZA P P **23 37 55.9 -0.8**
SLWR Sila 81.64 30 P P **23 37 57.3 -0.1**
SLWR P P **23 37 57.3 -0.1**
SLWR S S **23 48 15.2 +5.9**
SLWR S S **23 48 15.2 +5.9**
OXZ Oxford 81.69 161 P P **23 37 58.4 +0.6**
SALM Salem 81.75 59 *e*P P **23 37 57.5 -0.7**
GHWR Ruwais 81.91 31 P P **23 37 58.6 -0.3**
GHWR P P **23 37 58.6 -0.3**
GHWR S S **23 48 16.0 +3.9**
GHWR S S **23 48 16.0 +3.9**
MZWR Madinat Zayed 82.04 32 P P **23 37 59.0 -0.6**
MZWR P P **23 37 59.0 -0.6**
MZWR S S **23 48 15.6 +2.1**
MZWR S S **23 48 15.6 +2.1**
TRNA Turayna 82.12 30 P P **23 37 59.6 -0.4**
TRNA S S **23 48 17.1 +2.9**
JMDO Jabal Madar 82.21 36 P P **23 37 59.9 -0.7**
SNR=8.8
JMDO P P **23 37 59.9 -0.7**
SNR=8.8
BSY Bisya 82.23 35 P P **23 38 00.3 -0.4**
SNR=28
BSY P P **23 38 00.3 -0.4**
SNR=28
STKA Stephens Creek 82.25 134 P P **23 37 59.6 -1.4**
comp=Z,22nm,1.0s,baz=199,slow=4.2,SNR=18
STKA LR LR 00 07 03.2
comp=Z,388nm,21.7s,baz=191,slow=30
STKA Stephens Creek 82.25 134 P P **23 38 00.8 -0.2**
baz=82,SNR=11
STKA Stephens Creek 82.25 134 P P **23 38 00.8 -0.2**
STKA pmax pmax
comp=Z,48nm,1.9s
STKA Stephens Creek 82.25 134 P P **23 38 00.8 -0.2**
LTZ Lake Taylor 82.26 161 P P **23 38 01.0 +0.2**
CAN Canberra 82.31 141 P P **23 38 01.5 +0.2**
CAN pmax pmax
comp=Z,152nm,1.7s
CAN Canberra 82.31 141 P P **23 38 01.5 +0.2**
CAN IAmb IAmb 23 38 03.7
comp=Z,152nm,1.7s
JLN Jalan Bani Buh 82.49 38 P P **23 38 01.6 -0.4**
SNR=26
ARQ Araqi 82.54 35 P P **23 38 01.9 -0.4**
SNR=12
ARQ P P **23 38 01.9 -0.4**
SNR=12
GOA Goa 82.81 53 *i*P P **23 38 03.1 -0.7**
GOA IAmb IAmb 23 38 06.3
comp=Z,638nm,2.8s
SMDO Samad 82.82 36 P P **23 38 02.9 -0.9**
SNR=25
SMDO P P **23 38 02.9 -0.9**
SNR=25
MDP Montagnes des 82.84 288 LR LR 00 10 45.5
comp=Z,3µm,18.0s,baz=160,slow=33
KHZ Kahutara 82.86 162 P P **23 38 03.5 -0.4**
KHZ IAMs_20 IAMs_20 00 11 15.8
comp=Z,4µm,21.0s
ALNE Al Ain 82.94 34 P P **23 38 04.0 -0.3**
SNR=11
ALNE P P **23 38 04.0 -0.3**
SNR=11
ALNE S S **23 48 26.7 +4.0**
ALNE S S **23 48 26.7 +4.0**
ALNE Al Ain 82.94 34 *i*P P **23 38 04.0 -0.3**
SNR=6.1
CGJI Cibinong 82.99 92 P P **23 38 06.1 +1.2**
comp=Z,1µmcomp=Z,78nm,1.6s
HOQ Hoqain 83.04 35 P P **23 38 04.2 -0.6**
SNR=42
HOQ P P **23 38 04.2 -0.6**
SNR=42
HOQ S S **23 48 28.8 +5.0**
HOQ S S **23 48 28.8 +5.0**
KHOR Al-Khor Airpor 83.04 30 P P **23 38 04.7 -0.1**
SAKB Bahrain 83.09 29 P P **23 38 05.0 -0.1**
MNAI Manna 83.09 88 IAMs_20 IAMs_20 00 05 52.7
comp=Z,2µm,22.0s
SHMA Al-Shehemyia 83.10 29 P P **23 38 04.9 -0.2**
SHMA S S **23 48 28.7 +4.5**
AJN Ajban 83.15 33 P P **23 38 05.4 0.0**
EIL Elat 83.19 14 LR LR 00 15 30.8
comp=Z,4µm,18.0s,baz=186,slow=36
WSAR Wadi Sarin 83.20 37 P P **23 38 06.2 +0.5**
comp=Z,24nm,1.1s,baz=222,slow=5.6,SNR=36
WSAR LR LR 00 11 38.8
comp=Z,2µm,18.0s,baz=238,slow=33
BIDO Bidbid 83.27 36 P P **23 38 05.7 -0.3**
SNR=22
BIDO P P **23 38 05.7 -0.3**
SNR=22
ASUD Al Ashush, Dub 83.32 33 P P **23 38 06.4 +0.2**
ASUD P P **23 38 06.4 +0.2**
ASUD Al Ashush, Dub 83.32 33 P P **23 38 06.1 -0.1**
FAQ Al Faqa, Dubai 83.52 33 P P **23 38 07.1 -0.2**
SNR=8.4
FAQ P P **23 38 07.1 -0.2**
SNR=8.4
FAQ S S **23 48 30.3 +1.8**
FAQ S S **23 48 30.3 +1.8**
FAQ Al Faqa, Dubai 83.52 33 *i*P P **23 38 06.8 -0.5**
SNR=9.3
ASHO Ashiyiah 83.62 34 P P **23 38 07.4 -0.5**
SNR=19
ASHO P P **23 38 07.4 -0.5**
SNR=19
ASHO Ashiyiah 83.62 34 *i*P P **23 38 07.1 -0.8**
SNR=17
DBJI Dramaga 83.68 92 P P **23 38 10.8 +2.3**
comp=Z,13µmcomp=Z,135nm,1.8s
NAZ Nazwa, Dubai 83.77 33 P P **23 38 08.4 -0.2**
SNR=5.9
NAZ P P **23 38 08.4 -0.2**
SNR=5.9
NAZ S S **23 48 31.6 +0.6**
NAZ S S **23 48 31.6 +0.6**
NAZ Nazwa, Dubai 83.77 33 *i*P P **23 38 08.2 -0.4**
SNR=8.2
HATD Hatta, Dubai 83.78 34 P P **23 38 08.3 -0.3**
SNR=18
HATD P P **23 38 08.3 -0.3**
SNR=18
HATD Hatta, Dubai 83.78 34 *i*P P **23 38 08.0 -0.6**
SNR=24
CBJI Citeko 83.85 92 P P **23 38 10.6 +1.2**
comp=Z,14µmcomp=Z,108nm,0.8s
NNA Nana 83.89 258 LR LR 00 12 38.6
comp=Z,2µm,21.1s,baz=154,slow=34
NNA Nana 83.89 258 IAMs_20 IAMs_20 00 12 27.6
comp=Z,2µm,21.0s
UOSS Minazif 83.91 34 P P **23 38 08.6 -0.7**
UOSS Minazif 83.91 34 P P **23 38 08.2 -1.1**
UOSS P P **23 38 08.2 -1.1**
UOSS Minazif 83.91 34 *i*P P **23 38 08.2 -1.1**
SNR=12
KLSI 83.92 90 P P **23 38 11.0 +1.3**
comp=Z,930nmcomp=Z,26nm,2.1s
LEM Lembang 84.00 93 P P **23 38 11.1 +0.8**
comp=Z,51nm,0.9s,baz=190,slow=10.0,SNR=3.1
LEM LR LR 00 09 32.3
comp=Z,2µm,19.0s,baz=222,slow=31
MDRS Chennai 84.01 60 *e*P P **23 38 08.3 -1.7**
CMSA Cobar Meteorol 84.30 137 P P **23 38 12.0 +0.5**
baz=84,SNR=8.9
GSI Gunungsitoli 84.31 80 P P **23 38 11.8 +0.1**
KPJI Karang Pucung 84.40 95 P P **23 38 14.1 +1.9**
comp=Z,2µmcomp=Z,38nm,2.5s
CZSB Cruzeiro do Su 84.75 264 *e*P P **23 38 14.7 +0.7**
BANOM Banah 84.85 34 P P **23 38 12.4 -1.7**
BANOM P P **23 38 12.4 -1.7**
BANOM Banah 84.85 34 P P **23 38 12.5 -1.7**
GHAJ Ghor Haditha 84.89 14 P P **23 38 14.9 +0.8**
GHAJ IAMs_20 IAMs_20 00 14 15.3
comp=Z,3µm,20.0s
UGM Wanagama 84.91 96 P P **23 38 14.9 +0.1**
SHME Shamm 84.91 33 P P **23 38 12.9 -1.5**
SHME P P **23 38 12.9 -1.5**
ZGR Zagora 85.10 339 P P 23 38 22.1 +6.8
MNSI Mandailing Nat 85.11 82 P P **23 38 17.0 +1.3**
comp=Z,1µmcomp=Z,19nm,0.4s
PMBI Palembang 85.33 89 IAMs_20 IAMs_20 00 07 16.2
comp=Z,2µm,22.0s
BOAV Boa Vista 85.33 280 *e*P P **23 38 18.1 +1.2**
POO Poona 85.44 51 *i*P P **23 38 15.9 -1.3**
POO IAmb IAmb 23 38 18.4
comp=Z,106nm,1.4s
ASPA Alice Springs 85.51 124 P P **23 38 17.0 -0.8**
baz=85
ASAR Alice Springs 85.52 124 P P **23 38 17.2 -0.6**
comp=Z,7.7nm,0.7s,baz=212,slow=5.2,SNR=48
ASAR LR LR 00 10 39.1
comp=Z,1µm,20.3s,baz=212,slow=32
AS31 Alice Springs 85.52 124 P P **23 38 16.9 -0.9**
PWJI Pagerwojo 85.59 97 P P **23 38 19.5 +1.3**
comp=Z,37nm,1.0s
FITZ Fitzroy Crossi 85.67 114 LR LR 00 11 46.8
comp=Z,1µm,19.4s,baz=224,slow=32
TZRR Tazzarine 85.73 339 P P 23 38 24.1 +5.7
OUZM OUZ 86.11 338 P P 23 38 26.0 +5.6
TTIG Tnine Tigouga, 86.16 337 P P 23 38 28.0 +7.4
KCSI Kotacane, Aceh 86.19 79 P P **23 38 23.1 +2.0**
comp=Z,19µmcomp=Z,1µmcomp=Z,47nm,1.7s
PSI Prapat 86.31 81 P P **23 38 20.5 -1.3**
comp=Z,9.8nm,0.8s,baz=198,slow=8.4,SNR=19
PSI LR LR 00 07 31.4
comp=Z,1µm,21.9s,baz=217,slow=29
MMAI Mount Meron Ar 86.54 14 LR LR 00 15 58.1
comp=Z,3µm,20.0s,baz=348,slow=35
BKZ Black Stump Fm 86.56 163 P P **23 38 22.7 0.0**
BKZ IAmb IAmb 23 38 24.3
comp=Z,136nm,1.8s
OUK Oukaimeden 86.65 337 P P 23 38 29.1 +5.8
JAGI Jajag, Banyuwa 86.66 99 IAMs_20 IAMs_20 00 10 58.9
comp=Z,1µm,18.0s
HYB Hyderabad 86.79 56 *e*P P **23 38 23.7 -0.2**
HYB IAmb IAmb 23 38 25.6
comp=Z,352nm,2.3s
HYBB Hyderabad (bro 86.79 56 *e*P P **23 38 23.5 -0.5**
HYBB IVmB_BB 23 38 24.2
comp=Z,568nm,2.0s
HYBB *e*SKSac **SKSac 23 48 50.8 +0.3**
HYBB IVMs_BB IVMs_BB 00 08 13.2
comp=Z,765nm,21.0s
LHMI Lhok Sumawe 87.05 78 P P **23 38 24.9 -0.4**
LHMI IAMs_20 IAMs_20 00 08 09.0
comp=Z,2µm,21.0s
LHMI Lhok Sumawe 87.05 78 P P **23 38 27.2 +1.9**
comp=Z,2µmcomp=Z,2µmcomp=Z,95nm,1.6s
VJD Vijayawada 87.11 58 *e*P P **23 38 25.7 +0.3**
TDRA Tendrara 87.22 343 P P **23 38 29.0 +3.2**
MDT Midelt 87.49 341 LR LR 00 13 28.4
comp=Z,1µm,19.6s,baz=150,slow=33
URZ Urewera 87.55 163 LR LR 00 15 41.0
comp=Z,4µm,19.9s,baz=166,slow=34
URZ Urewera 87.55 163 P P **23 38 27.1 -0.4**
URZ IAmb IAmb 23 38 29.3
comp=Z,152nm,1.8s
SRBI Singaraja 87.60 100 P P **23 38 30.1 +2.1**
comp=Z,3µmcomp=Z,126nm,2.0s
ARMA Armidale 87.67 141 P P **23 38 28.7 +0.4**
baz=88,SNR=3.7
ARMA Armidale 87.67 141 P P **23 38 28.1 -0.2**
IDI Anoyia 87.73 5 LR LR 00 19 13.4
comp=Z,5µm,20.3s,baz=227,slow=37
KEST Kesra 88.38 352 P P **23 38 31.5 +0.3**
comp=Z,18nm,1.2s,baz=133,slow=4.8,SNR=14
KEST LR LR 00 19 50.7
comp=Z,4µm,19.0s,baz=98,slow=37
KEST Kesra 88.38 352 P P **23 38 32.7 +1.5**
LCRM LCR 88.39 341 P P **23 38 35.0 +3.6**
MXZ Matakaoa Point 88.44 164 IAMs_20 IAMs_20 00 14 54.5
comp=Z,3µm,22.0s
MYKOM Kota Tinggi 88.48 85 IAMs_20 IAMs_20 00 11 24.6
comp=Z,1µm,18.0s
PLAI Plampang 88.54 103 P P **23 38 34.4 +1.9**
comp=Z,2µmcomp=Z,101nm,2.1s
RPN Rapa Nui 88.55 225 LR LR 00 10 02.4
comp=Z,1µm,21.4s,baz=130,slow=30
JBK JBK 88.57 343 P P **23 38 35.0 +2.7**
ATAH Atahualpa 88.65 260 LR LR 00 17 27.0
comp=Z,1µm,19.8s,baz=161,slow=35
AKL Akola 88.82 53 *e*P P **23 38 33.2 -0.3**
WRA Warramunga Arr 88.83 122 P P **23 38 32.5 -1.4**
comp=Z,19nm,1.2s,baz=197,slow=2.6,SNR=27
WRA LR LR 00 12 43.2
comp=Z,1µm,19.8s,baz=206,slow=32
WB2 Warramunga Arr 88.84 122 P P **23 38 33.3 -0.6**
baz=89
WRAB Tennant Creek 88.84 122 P P **23 38 33.8 -0.1**
WRAB pmax pmax
comp=Z,147nm,1.7s
WRAB Tennant Creek 88.84 122 P P **23 38 33.8 -0.1**
WRAB Tennant Creek 88.84 122 IAMs_20 IAMs_20 00 12 50.9
comp=Z,2µm,20.0s
WRAB Tennant Creek 88.84 122 ⇑P P **23 38 33.2 -0.7**
WR0 Warramunga Arr 88.92 122 IAmb IAmb 23 38 35.1
comp=Z,137nm,1.9s
TAF Taforalt 89.01 343 P P **23 38 37.0 +2.8**
KULM Kulim 89.32 80 IAmb IAmb 23 38 37.3
comp=Z,97nm,1.5s
GOG Mont Gurugu 89.52 342 P P **23 38 39.0 +2.5**
PBKI Pangkalan Bun 89.70 94 P P **23 38 40.6 +2.7**
comp=Z,116nm,0.5s
PBA Port Blair 89.74 70 P P **23 38 38.0 0.0**
PBA Port Blair 89.74 70 ⇑*i*P P **23 38 37.3 -0.6**
PBA IAmb IAmb 23 38 46.9
comp=Z,44nm,0.9s
PBA Port Blair 89.74 70 P P **23 38 39.6 +1.6**
SNR=11
OUZ Omahuta 89.81 160 P P **23 38 38.4 +0.2**
OUZ IAmb IAmb 23 38 39.9
comp=Z,177nm,2.0s
VAE Valguarnera 89.83 357 LR LR 00 20 36.8
comp=Z,6µm,18.1s,baz=168,slow=37
CHEFC Chefchaouen 89.86 341 P P **23 38 42.0 +3.9**
SMIR Smir Dam 90.42 341 P P **23 38 45.1 +4.5**
PMAR Madeira 90.50 331 *e*P P **23 38 42.5 +1.2**
comp=Z,111nm,1.9s
PMPST Porto Santo, M 90.66 331 *e*P P **23 38 44.6 +2.8**
comp=Z,128nm,1.8s
PMOZ Porto Moniz, M 90.68 330 *e*P P **23 38 45.6 +3.6**
comp=Z,250nm,2.1s
RAGD RAYAGADA 90.84 59 *e*P P **23 38 42.3 -0.7**
QIS Mount Isa 90.97 127 P P **23 38 43.4 -0.5**
baz=91,SNR=7.8
DGPR DIGLIPUR 91.07 70 ⇑*i*P P **23 38 43.7 -0.4**
DGPR IAmb IAmb 23 38 48.0
comp=Z,263nm,2.3s
MANT Manisa 91.17 8 P P **23 38 44.2 -0.1**
MANT IAmb IAmb 23 38 47.0
comp=Z,81nm,1.6s
BHPL Bhopal 91.17 52 ⇑*i*P P **23 38 43.7 -0.8**
BHPL IAmb IAmb 23 38 45.9
comp=Z,56nm,1.4s
SRIT Nakonsritamara 91.31 78 P P **23 38 45.0 -0.3**
MMRI Maumere 91.33 106 P P **23 38 45.5 -0.1**
MMRI Maumere 91.33 106 P P **23 38 48.1 +2.6**
comp=Z,5µmcomp=Z,126nm,1.8s
AGG Agios Georgios 91.35 3 P P **23 38 45.9 +1.0**
AGG pmax pmax
comp=Z,113nm,1.5s
AGG Agios Georgios 91.35 3 P P **23 38 45.9 +1.0**
TIP Timpagrande 91.46 359 P P **23 38 46.5 +1.0**
CART Cartagena 91.47 344 IAMs_20 IAMs_20 00 27 15.1
comp=Z,3µm,19.0s
MARD Mardin 91.63 17 P P **23 38 46.7 +0.3**
MARD IAmb IAmb 23 38 48.8
comp=Z,114nm,1.7s
STKI Sintang 91.77 92 P P **23 38 49.6 +2.1**
EIDS Eidsvold 91.95 138 IAmb IAmb 23 38 49.2
comp=Z,73nm,1.8s
VSL Villasalto 92.12 353 P P **23 38 48.7 +0.3**
BNN Bunyan 92.34 13 P P **23 38 49.9 +0.3**
PBDV Barranco-do-Ve 92.46 339 *e*P P **23 38 52.0 +1.9**
comp=Z,43nm,1.9s
PFVI Vila Bisbo 92.55 338 *e*P P **23 38 52.3 +1.8**
comp=Z,84nm,1.7s
PVAQ Vaqueiros 92.57 339 *e*P P **23 38 52.0 +1.5**
comp=Z,66nm,2.0s
PVAQ Vaqueiros 92.57 339 *e*LQ LQ 00 09 18.0
PVAQ *e*LR LR 00 13 57.9
comp=Z,1µm,18.0s
AJM Ajmer 92.64 48 *e*P P **23 38 50.1 -1.2**
MORF Marmelete 92.68 339 *e*P P **23 38 53.4 +2.3**
comp=Z,56nm,1.7s
KAPI Kappang 92.75 102 LR LR 00 14 27.9
comp=Z,560nm,20.2s,baz=222,slow=32
KAPI Kappang 92.75 102 P P **23 38 48.6 -3.4**
PCVE Castro Verde 92.86 339 *e*P P **23 38 53.5 +1.6**
comp=Z,36nm,2.2s
BRTR Keskin Array B 92.91 12 P P **23 38 52.5 +0.3**
comp=Z,0.5nm,0.4s,baz=184,slow=4.3,SNR=5.1
BRTR Keskin Array B 92.91 12 *ce*P P **23 38 52.2 0.0**
BRTR pmax pmax
comp=Z,2.0nm,1.1s
KBN Korca 92.91 2 P P **23 38 52.6 +0.5**
KBN pmax pmax
comp=Z,81nm,1.4s
KBN Korca 92.91 2 P P **23 38 52.6 +0.5**
KBN IAmb IAmb 23 38 55.3
comp=Z,81nm,1.4s
GEVA Gevas 93.03 19 P P **23 38 53.4 +0.5**
GURO Guroymak-BITLI 93.07 18 P P **23 38 53.8 +0.8**
GURO IAmb IAmb 23 38 55.8
comp=Z,71nm,1.7s
FNA Florina 93.08 2 P P **23 38 52.7 -0.2**
FNA pmax pmax
comp=Z,35nm,1.3s
FNA Florina 93.08 2 P P **23 38 52.7 -0.2**
PBAR Barrancos 93.17 340 *e*P P **23 38 54.6 +1.3**
comp=Z,54nm,1.9s
PBEJ Beja 93.20 339 *e*P P **23 38 55.7 +2.3**
comp=Z,24nm,2.0s
PNCL Nicolau / Gran 93.43 339 *e*P P **23 38 56.9 +2.4**
comp=Z,46nm,1.9s
JHNI Jhansi 93.59 52 *e*P P **23 38 54.3 -1.3**
EVO Evora 93.72 339 *e*P P **23 38 58.2 +2.4**
comp=Z,40nm,1.8s
PESTR Estremoz 93.95 340 *e*P P **23 38 58.1 +1.2**
comp=Z,35nm,1.9s
PAB San Pablo 93.96 342 P P **23 38 58.1 +1.1**

PAB pmax pmax
comp=Z,71nm,2.0s
PAB San Pablo 93.96 342 P **P** **23 38 58.1 +1.1**
PAB IAmb IAmb 23 38 59.6
comp=Z,71nm,1.9s
PAB San Pablo 93.96 342 IAMs_20 IAMs_20 00 25 16.1
comp=Z,3µm,19.0s
PCRV Puerto La Cruz 93.96 281 LR LR 00 18 41.6
comp=Z,2µm,18.1s,slow=34
ESDC Sonseca Array 94.02 343 P **P** **23 38 57.2 0.0**
comp=Z,4.1nm,1.3s,baz=158,slow=4.7,SNR=11
PACT Alcochete 94.12 339 *e*P **P** **23 38 59.1 +1.5**
comp=Z,128nm,2.0s
PMST Lisbon--Monsan 94.17 339 *e*P **P** **23 38 59.4 +1.5**
comp=Z,56nm,1.5s
PMTG Montargil 94.28 339 *e*P **P** **23 39 00.9 +2.5**
comp=Z,64nm,1.8s
PMRV Marv??o 94.45 340 *e*P **P** **23 39 00.3 +1.1**
comp=Z,36nm,1.7s
PMRV Marv??o 94.45 340 *e*LQ LQ 00 10 11.8
PMRV *e*LR LR 00 16 46.9
comp=Z,1µm,18.0s
OTAV Otavalo 94.51 264 P **P** **23 39 01.1 +0.3**
OTAV pmax pmax
comp=Z,24nm,1.6s
OTAV Otavalo 94.51 264 P **P** **23 39 01.1 +0.3**
CTA Charters Tower 94.51 132 LR LR 00 16 52.5
comp=Z,1µm,19.4s,baz=202,slow=33
CTAO Charters Tower 94.51 132 IAMs_20 IAMs_20 00 16 50.1
comp=Z,1µm,21.0s
ALBI Allahabad 95.05 54 *e*P **P** **23 39 02.1 -0.1**
GNI Garni 95.15 20 LR LR 00 21 43.8
comp=Z,2µm,20.9s,baz=214,slow=35
GNI Garni 95.15 20 *i* P **P** **23 38 58.6 -4.0**
GNI pmax pmax
comp=Z,63nm,2.0s
GNI MLR MLR
comp=Z,3µm,18.0s
GNI Garni 95.15 20 IAMs_20 IAMs_20 00 24 29.3
comp=Z,3µm,19.0s
GNI Garni 95.15 20 P **P** **23 39 02.6 0.0**
GNI P **P** **23 39 02.6 0.0**
MTE Manteigas 95.41 340 *e*LQ LQ 00 10 53.0
MTE *e*LR LR 00 16 53.3
comp=Z,2µm,18.0s
MTE Manteigas 95.41 340 IAMs_20 IAMs_20 00 19 14.9
comp=Z,2µm,20.0s
ROSC El Rosal 95.62 271 LR LR 00 19 57.3
comp=Z,2µm,18.1s,baz=172,slow=34
PVIS Viseu 95.79 340 *e*P **P** **23 39 05.5 +0.2**
comp=Z,28nm,2.0s
BOK Bokaro 95.86 58 IAmb IAmb 23 39 49.9
comp=Z,3.2nm,1.1s
MVO Moncorvo 96.04 341 *e*LR LR 00 19 04.3
comp=Z,2µm,18.0s
GEYT Alibeck 96.50 30 P **P** **23 39 08.8 +0.1**
comp=Z,3.5nm,0.9s,baz=90,slow=4.4,SNR=5.6
GEYT LR LR 00 25 40.7
comp=Z,3µm,18.5s,baz=218,slow=37
GEYT Alibeck 96.50 30 P **P** **23 39 08.9 +0.3**
SDV Santo Domingo 96.56 276 LR LR 00 21 22.5
comp=Z,2µm,18.1s,baz=162,slow=35
SDV Santo Domingo 96.56 276 IAMs_20 IAMs_20 00 21 02.9
comp=Z,2µm,19.0s
PBRG Braganca 96.60 341 *e*P P 23 39 04.1 -4.9
comp=Z,26nm,2.2s
PGAV Gavieira, Arco 97.07 340 *e*LQ LQ 00 10 18.7
PGAV *e*LR LR 00 16 21.3
comp=Z,3µm,20.0s
RAO Raoul Island 97.18 165 LR LR 00 22 56.5
comp=Z,2µm,18.4s,baz=182,slow=35
KBL Kabul 97.28 40 P **P** **23 39 11.7 -0.8**
KBL pmax pmax
comp=Z,8.0nm,1.3s
KBL Kabul 97.28 40 P **P** **23 39 11.7 -0.8**
KBL Kabul 97.28 40 P **P** **23 39 10.8 -1.7**
SOC Sochi 97.55 15 *e*P **P** **23 39 11.3 -1.9**
SOC *e*S **SKSac** **23 49 48.6 -1.0**
SOC *e* 23 51 57.4
SOC *e*SS **SS** **23 57 13.5 -4.4**
SOC *e*SSS SSS 00 01 00.6
SOC pmax pmax
comp=Z,35nm,1.1s
SMLA Simla 97.75 48⇑ *i*P **P** **23 39 13.3 -1.1**
SMLA IAmb IAmb 23 39 15.8
comp=Z,224nm,2.8s
MLR Muntele Rosu 97.95 5 LR LR 00 27 41.1
comp=Z,5µm,18.2s,baz=188,slow=38
HATO Hato, Curacao 98.13 279 IAMs_20 IAMs_20 00 21 03.6
comp=Z,2µm,19.0s
SHA1 Shidzhatmaz 98.21 17 *i* P **P** **23 39 15.4 -1.0**
NIL Nilore 98.21 43 P **P** **23 39 16.2 -0.2**
NIL pmax pmax
comp=Z,51nm,1.4s
NIL Nilore 98.21 43 P **P** **23 39 16.2 -0.2**
NIL Nilore 98.21 43 P **P** **23 39 15.8 -0.7**
NIL P **P** **23 39 15.8 -0.7**
KBZ Khabaz 98.24 18 LR LR 00 25 14.2
comp=Z,3µm,18.1s,baz=181,slow=36
KBZ Khabaz 98.24 18 *i* P **P** **23 39 15.6 -0.6**
KBZ pmax pmax
comp=Z,20nm,2.0s
KBZ MLR MLR
comp=Z,3µm,18.0s
SSB Saint Sauveur 98.29 350 IAMs_20 IAMs_20 00 23 22.5
comp=Z,2µm,21.0s
ANN Anapa 98.40 13 *e*P **P** **23 39 14.4 -2.5**
ANN *e**PP **PcP** **23 39 17.5 +0.6**
ANN *e* 23 43 15.2
ANN *e*S **SKSac** **23 49 52.2 -1.6**
ANN *e*SS **SS** **23 57 22.4 -7.3**
ANN pmax pmax
comp=Z,49nm,1.6s
KIV Kislovodsk 98.42 17 *e*P **P** **23 39 15.6 -1.6**
KIV *e* 23 43 15.3
KIV *e* 23 49 53.5
KIV *e*SS SS 23 57 28.4 -1.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV pmax pmax
comp=Z,32nm,3.2s
KIV MLR MLR
comp=Z,3µm,20.0s
KIV Kislovodsk 98.42 17 IAMs_20 IAMs_20 00 23 00.9
comp=Z,2µm,20.0s
KIV Kislovodsk 98.42 17 P **P** **23 39 16.8 -0.4**
MAK Makhachkala 98.43 21 *e*P P 23 39 11.3 -5.8
MAK *e* 23 49 46.4
MAK pmax pmax
comp=Z,903nm,2.6s
MAK MLR MLR
comp=Z,3µm,17.0s
CMAR Chiang Mai Arr 98.74 71 P **P** **23 39 19.0 -0.2**
comp=Z,1.2nm,0.3s,baz=224,slow=3.8,SNR=5.8
CMAR LR LR 00 17 19.4
comp=Z,822nm,19.3s,baz=225,slow=32
MYKA Terra Mystica 98.99 357 *e*P Pdif 23 39 21.6 +2.0
comp=Z,4.9nm,1.1s
MYKA *e*P **PP** **23 43 21.0 -1.3**
comp=Z,21nm,1.3s
SOKA Soboth 98.99 357 *e*P P 23 39 24.5 +4.8
comp=Z,7.3nm,1.5s
CHTO Chiang Mai 99.02 71 P **Pdif** **23 39 19.7 -0.8**
SENIN Lac Senin/Sane 99.11 352 IAMs_20 IAMs_20 00 27 58.9
comp=Z,2µm,20.0s
ABTA Abfaltersbach 99.15 356 *e*P **Pdif** **23 39 22.6 +2.2**
comp=Z,14nm,2.2s
DLV T Lat 99.28 83 IAMs_20 IAMs_20 00 21 14.9
comp=Z,1µm,19.0s
DAVOX Davos/Dischmat 99.33 354 LR LR 00 25 30.1
comp=Z,2µm,20.3s,baz=141,slow=36
KBA Koelnbreinsper 99.45 356 *e*P **PP** **23 43 24.9 -1.1**
comp=Z,18nm,1.6s
FETA Feichten 99.52 355 *i* P **Pdif** **23 39 23.7 +1.6**
comp=Z,9.3nm,1.3s
FETA *e*P **PP** **23 43 21.3 -5.2**
comp=Z,8.8nm,1.5s
ARSA Arzberg 99.55 358 *e*P **Pdif** **23 39 24.7 +2.6**
comp=Z,2.7nm,1.0s
ARSA *e*P **PP** **23 43 24.9 -1.7**
comp=Z,15nm,2.1s
SQTA Sankt Quirin 99.69 355 *e*P **Pdif** **23 39 24.3 +1.5**
comp=Z,14nm,2.6s
SQTA *e*P **PP** **23 43 24.1 -3.7**
comp=Z,12nm,1.9s
WTTA Wattenberg 99.71 355 *e*P **Pdif** **23 39 24.3 +1.3**
comp=Z,4.0nm,1.1s
WTTA *i* P **PP** **23 43 25.7 -2.2**
comp=Z,20nm,1.8s
WATA Walderalm 99.78 355 *e*P **Pdif** **23 39 24.6 +1.3**
comp=Z,7.2nm,1.4s
WATA *e*P **PP** **23 43 26.2 -2.3**
comp=Z,24nm,2.4s
MOTA Moosalm 99.82 355 *e*P **Pdif** **23 39 24.8 +1.4**
comp=Z,4.8nm,1.1s
MOTA *e*P **PP** **23 43 26.2 -2.6**
comp=Z,17nm,1.8s
DAVA Damuels 99.83 354 *e*P **PP** **23 43 26.8 -2.1**
comp=Z,13nm,1.5s
RETA Reutte 99.98 355 *e*P **Pdif** **23 39 25.5 +1.4**
comp=Z,8.0nm,1.5s
RETA *i* P **PP** **23 43 27.1 -2.8**
comp=Z,17nm,2.0s
BIOA Bad Ischl, Aus 100.05 357 *e*P **PP** **23 43 28.0 -2.4**
comp=Z,19nm,1.6s
MYLDM Lahad Datu 100.07 95 IAMs_20 IAMs_20 00 17 10.4
comp=Z,1µm,21.0s
SRO Srobarova 100.08 360 *e*P **Pdif** **23 39 27.7 +3.4**
SRO *e* 23 43 31.6
SRO Srobarova 100.08 360 *e*PDIFF **Pdif** **23 39 27.7 +3.4**
SRO *e*PP **PP** **23 43 31.6 +1.1**
RJOB Jochberg 100.13 356 *e*PP **PP** **23 43 26.9 -4.1**
MOA Molln 100.18 357 *e*P **PP** **23 43 29.2 -2.2**
comp=Z,16nm,1.4s
PSZ Piszkesteto 100.19 1 IAMs_20 IAMs_20 00 29 06.2
comp=Z,3µm,20.0s
CONA Conrad Observa 100.22 358 *e*P **Pdif** **23 39 26.9 +1.8**
comp=Z,7.3nm,1.9s
CONA *e*P **PP** **23 43 30.7 -1.0**
comp=Z,18nm,1.7s
DZM Mont Dzumac 100.49 150 *e*PS PS 23 52 32.6 -0.7
comp=Z,426nm,25.1s
DZM Mont Dzumac 100.49 150 *e*LR LR 00 12 09.8
comp=Z,2µm,21.8s
FUR Furstenfeldbru 100.63 355 *e*PP **PP** **23 43 32.1 -2.6**
FUR *e*L L 00 30 18.3
comp=Z,3µm,19.3s
UZH Uzhgorod 100.94 2 *e*P **Pdif** **23 39 34.0 +5.8**
UZH *e*S **Sdif** **23 51 11.0 +5.6**
UZH MLR MLR
comp=E,300nm,20.0s
ECH Echery 100.96 352 IAMs_20 IAMs_20 00 28 34.9
comp=Z,2µm,19.0s
BFO Black Forest 100.98 353 IAMs_20 IAMs_20 00 31 20.4
comp=Z,2µm,18.0s
BFO Black Forest 100.98 353 *e*L L 00 31 21.2
comp=Z,1µm,19.0s
CKRC Cesky Krumlov 101.15 357 *e*PP **PP** **23 43 38.2 -0.5**
CKRC *e*SS SS 23 57 57.8 -10
GEC2 GERESS Array S 101.20 357 *e*PP **PP** **23 43 37.4 -1.7**
GEC2 *e*L L 00 30 29.1
comp=Z,3µm,19.3s
GERES GERESS Array B 101.20 357 PP **PP** **23 43 36.8 -2.3**
comp=Z,0.5nm,0.7s,baz=160,slow=8.5,SNR=11
KOUNC Koumac, New Ca 101.22 147 IAMs_20 IAMs_20 00 29 53.4
comp=Z,2µm,18.0s
KRUC Moravsky 101.34 358 *e*PP **PP** **23 43 37.4 -2.7**
STU Stuttgart 101.36 354 IAMs_20 IAMs_20 00 30 51.4
comp=Z,3µm,19.0s
KHC Kasperske Hory 101.49 357 *e*PP **PP** **23 43 37.7 -3.5**
KHC *e*SS SS 23 58 01.9 -11
KHC AMS AMS 00 29 50.0
comp=Z,3µm,18.6s
WET Wettzell 101.53 356 *e*PP **PP** **23 43 39.9 -1.6**
WET *e*L L 00 29 29.9
comp=Z,3µm,20.6s
VRAC Vranov 101.59 359 *e*PP **PP** **23 43 40.4 -1.6**
TREC Trest 101.60 358 *e*SS SS 23 58 01.7 -13
TREC AMS AMS 00 25 50.0
comp=Z,2µm,19.3s
LIFNC LIFOU 101.95 150 IAMs_20 IAMs_20 00 25 52.2
comp=Z,2µm,20.0s
MORC Moravsky Berou 102.05 359 *e*PP **PP** **23 43 45.1 -0.4**
OKC Ostrava-Krasne 102.10 360 *e*SS SS 23 58 10.6 -11
OKC AMS AMS 00 29 00.0
comp=Z,1µm,18.9s
GRFO Grafenberg 102.15 355 IAMs_20 IAMs_20 00 25 54.4
comp=Z,2µm,20.0s
GRA1 Grafenberg Arr 102.15 355 IAMs_20 IAMs_20 00 25 44.4
comp=Z,2µm,20.0s
GRF Grafenberg Arr 102.15 355 *e*L L 00 25 54.8
comp=Z,2µm,20.5s
ROTZ Rotzenmuhle 102.18 356 *e*PP **PP** **23 43 45.4 -1.0**
PRU Pruhonice 102.31 357 *e*SS SS 23 58 11.2 -13
PRU AMS AMS 00 25 20.0
comp=Z,2µm,18.7s
KRLC Kraliky 102.35 359 *e*SS SS 23 58 25.7 +0.9
KRLC AMS AMS 00 32 10.0
comp=Z,2µm,17.6s
WLF Walferdange 102.48 352 IAMs_20 IAMs_20 00 27 36.2
comp=Z,2µm,20.0s
WLF Walferdange 102.48 352 *d*PP **PKiKP** **23 43 49.3 -6.9**
NKC Novy Kostel 102.63 356 *e*SS SS 23 58 13.9 -15
NKC AMS AMS 00 28 10.0
comp=Z,3µm,22.2s
DPC Dobruska-Polom 102.64 358 *e*PP **PP** **23 43 48.6 -1.3**
DPC *e*SS SS 23 58 14.6 -14
DPC AMS AMS 00 28 10.0
comp=Z,2µm,18.3s
WERN Wernitzgruen 102.69 356 *e*PP **PP** **23 43 48.5 -1.8**
GUNZ Gunzen 102.77 356 *e*PP **PKiKP** **23 43 49.3 -7.5**
UPC Upice 102.80 358 *e*SS SS 23 58 18.4 -12
UPC AMS AMS 00 28 20.0
comp=Z,2µm,21.6s
OSTC Ostas 102.84 358 *e*PP **PKiKP** **23 43 50.3 -6.5**
OSTC AMS AMS 00 28 20.0
comp=Z,2µm,20.1s
PVCC Panska Ves 102.85 357 AMS AMS 00 31 50.0
comp=Z,2µm,19.0s
TNS Taunus Mts 102.85 353 *e*L L 00 26 13.4
comp=Z,2µm,21.1s
CHVC Chvalec 102.88 358 AMS AMS 00 28 40.0
comp=Z,2µm,19.7s
MOX Moxa 103.08 355 *e*PP **PKiKP** **23 43 52.0 -5.3**
MOX *e*L L 00 28 38.3
comp=Z,2µm,21.8s
BRG Berggiesshubel 103.22 357 PS PS 23 53 11.0 +8.7
BRG Berggiesshubel 103.22 357 SS SS 23 58 29.0 -7.6
BRG Berggiesshubel 103.22 357 *e*PP **PKiKP** **23 43 52.6 -4.9**
BRG Berggiesshubel 103.22 357 PP **PKiKP** **23 43 53.0 -4.5**
BRG Berggiesshubel 103.22 357 Amp 23 43 55.1
comp=Z,123nm,2.2s
FBE Freiberg 103.29 357 *e*PP **PKiKP** **23 43 53.2 -4.4**
AKASG Malin Array Be 103.36 7 PP **PKiKP** **23 43 53.3 -4.4**
comp=Z,0.5nm,0.6s,baz=198,slow=7.7,SNR=6.1
LSA Lhasa 103.38 59 IAMs_20 IAMs_20 00 20 12.5
comp=Z,2µm,20.0s
LSA Lhasa 103.38 59 P **PKiKP** **23 43 56.3 -2.8**
LSA pmax pmax
comp=Z,11nm,2.0s
BTNL Ternell 103.40 352 *d*PP **PKiKP** **23 43 54.5 -3.4**
TBI Tubuai 103.63 191 *e*PP **PKiKP** **23 43 53.3 -6.0**
comp=Z,84nm,26.8s
TBI Tubuai 103.63 191 *e*SS SS 23 58 39.6 -0.8
comp=Z,702nm,26.0s
TBI Tubuai 103.63 191 *e*LR LR 00 13 27.7
comp=Z,4µm,33.5s,baz=170
NEUB Neuenburg 103.64 356 *e*PP **PKiKP** **23 43 56.5 -1.7**
CLL Collm 103.69 356 IAMs_20 IAMs_20 00 30 41.9
comp=Z,2µm,19.0s
CLL Collm 103.69 356 *e*PP **PKiKP** **23 43 55.0 -3.3**
comp=Z,105nm,2.5s
CLL *ex* x 23 44 16.0
CLL *e*SKSac **SKSac** **23 50 21.0 +1.9**
CLL *e*PS PS 23 53 11.0 +3.8
CLL *e*PPS PPS 23 54 00.0
CLL *e*SS **SS** **23 58 42.0 -1.0**
CLL *ex* x 23 59 48.0
CLL LmV 00 30 00.0
comp=Z,2µm,20.0s
CLL LmH 00 31 00.0
comp=N,2µm,19.0s
CLL LmH 00 31 00.0
comp=E,800nm,21.2s
CLL Collm 103.69 356 *e*PP **PKiKP** **23 43 55.1 -3.2**
CLL *e*L L 00 30 33.1
comp=E,2µm,20.1s
RETH Rethem/Aller, 105.30 354 *e*PP **PKiKP** **23 44 07.8 +6.6**
QIZ Qiongzhong 105.60 79 IAMs_20 IAMs_20 00 19 32.2
comp=Z,2µm,22.0s
QIZ Qiongzhong 105.60 79 Pdif **Pdif** **23 39 49.6 -0.1**
QIZ PP **PP** **23 44 12.6 +0.4**
QIZ S **Sdif** **23 51 45.8 +0.1**
QIZ SS **SS** **23 59 11.1 +1.2**
QIZ LR LR
comp=Z,1µm,16.2s
QIZ LR LR
comp=Z,850nm,18.9s
QIZ LR LR
comp=Z,1µm,19.6s
HDC Heredia 105.64 266 IAMs_20 IAMs_20 00 23 45.2
comp=Z,1µm,20.0s
KMI Kunming 106.13 70⇓ PKP **PKiKP** **23 44 09.8 +5.8**
KMI Kunming 106.13 70 SS SS 23 59 23.3 +5.7
KMI LR LR
comp=N,920nm,18.9s
KMI LR LR
comp=E,750nm,18.2s
KMI LR LR
comp=Z,1µm,20.3s
SUW Suwalki 106.35 3 IAMs_20 IAMs_20 00 30 42.1
comp=Z,3µm,21.0s
JTS Las Juntas de 106.37 265 IAMs_20 IAMs_20 00 25 53.9
comp=Z,1µm,20.0s
AAK Ala-Archa 106.42 40 IAMs_20 IAMs_20 00 24 06.5
comp=Z,2µm,22.0s
BSEG Bad Segeberg 106.44 355 *e*L L 00 30 28.1
comp=Z,2µm,19.7s
PZH PanZhiHua 106.63 68 Pdif **Pdif** **23 39 57.3 +3.1**
PZH LR LR
comp=Z,900nm,19.6s
PZH LR LR
comp=Z,900nm,18.5s
PZH LR LR
comp=Z,1µm,19.4s
RGN Rugen 106.91 357 IAMs_20 IAMs_20 00 33 51.2
comp=Z,2µm,20.0s
PABE Paberze 107.87 3 IAMs_20 IAMs_20 00 31 58.3
comp=Z,2µm,19.0s
MTDJ Mount Denham 108.00 277 IAMs_20 IAMs_20 00 27 08.0
comp=Z,1µm,19.0s
OBN Obninsk 108.41 11 IAMs_20 IAMs_20 00 33 20.3
comp=Z,2µm,19.0s
BOAB BOACO BROADBAND 108.49 266 IAMs_20 IAMs_20 00 26 34.0
comp=Z,2µm,20.0s
PPT2 Papeete2 109.32 192 *e*PP **PP** **23 44 33.2 -5.1**
comp=Z,139nm,24.8s
PPT2 Papeete2 109.32 192 *e*PS PS 23 54 02.0 -3.2
comp=Z,1µm,27.5s
PPT2 *e*SS SS 23 59 57.6 -0.5
comp=Z,1µm,23.8s
PPT2 Papeete2 109.32 192 *e*LR LR 00 16 08.5
comp=Z,4µm,25.2s,baz=171
GYA Guiyang 109.41 72⇑ PKP **PKiKP** **23 44 12.1 +2.2**
GYA PP **PP** **23 44 37.3 -3.0**
GYA SS SS 23 59 57.3 -4.5
GYA AMB AMB
comp=Z,160nm,5.9s
GYA LR LR
comp=Z,710nm,18.8s
GYA LR LR
comp=Z,520nm,15.3s
GYA LR LR
comp=Z,740nm,17.6s
GOMU GeErMu 110.38 57 Pdif **Pdif** **23 40 10.8 -0.2**
GOMU LR LR
comp=Z,1µm,19.9s
GOMU LR LR
comp=Z,750nm,19.0s
GOMU LR LR
comp=Z,1µm,19.9s
HKPS Hong Kong Po S 110.66 80 IAMs_20 IAMs_20 00 22 05.3
comp=Z,1µm,21.0s
CD2 Chengdu 111.13 67 Pdif **Pdif** **23 40 15.3 +1.2**
CD2 LR LR
comp=Z,1µm,20.1s
CD2 LR LR
comp=Z,2µm,22.0s
KONO Kongsberg 112.17 355 IAMs_20 IAMs_20 00 35 51.4
comp=Z,2µm,20.0s
MAKZ Makanchi 112.85 42 IAMs_20 IAMs_20 00 31 59.7
comp=Z,1µm,20.0s
WMQ Urumqi 112.91 47 *e*PKP **PKiKP** **23 44 17.1 +1.2**
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,850nm,19.3s
WMQ LR LR
comp=Z,1µm,20.7s
MK31 Makanchi Array 112.96 42 *i* PKiKP **PKiKP** **23 44 15.5 -0.4**
MKAR Makanchi Array 112.96 42 PKiKP **PKiKP** **23 44 14.4 -1.4**
comp=Z,1.2nm,1.0s,baz=164,slow=1.1,SNR=8.2
ARU Arti 113.55 23 *i* PKIKP **PKiKP** **23 44 18.5 +1.9**
ARU 23 45 14.6
ARU PPP PPP 23 47 34.7
ARU 23 51 30.8
ARU SP SP 23 54 50.0 +7.0
ARU SS **SS** **00 00 57.6 +1.6**
ARU MLR MLR
comp=Z,2µm,22.0s
ARU Arti 113.55 23 IAMs_20 IAMs_20 00 31 46.9
comp=Z,2µm,22.0s
BRVK Borovoye 113.82 31 *i* PKIKP **PKiKP** **23 44 17.5 +0.3**
BRVK Borovoye 113.82 31 IAMs_20 IAMs_20 00 30 13.8
comp=Z,2µm,20.0s
ENH Enshi 113.91 71 IAMs_20 IAMs_20 00 28 49.0
comp=Z,1µm,19.0s
SVE Sverdlovsk 114.41 24 *i* PKIKP PKPdf 23 44 17.6 -0.6
SVE pmax pmax
comp=Z,12nm,1.6s
KURBB Kurchatov Arra 114.61 37 PKiKP PKPdf 23 44 17.3 -1.5
comp=Z,0.7nm,0.8s,baz=227,slow=2.9,SNR=6.7
KURK Kurchatov 114.72 37 *i* PKIKP **PKiKP** **23 44 19.8 +0.8**
KURK Kurchatov 114.72 37 IAMs_20 IAMs_20 00 36 21.8
comp=Z,1µm,20.0s
KNMB Chin-men Tao 114.86 82 IAMs_20 IAMs_20 00 27 27.6
comp=Z,1µm,19.0s
LZH Lanzhou 115.06 63 *e*PKP **PKiKP** **23 44 20.6 +0.2**
LZH sPKP 23 44 25.0
LZH PP **PP** **23 45 17.8 -2.9**
LZH AMB AMB
comp=Z,320nm,8.9s
LZH LR LR
comp=Z,1µm,17.4s
LZH LR LR
comp=Z,1µm,17.9s
LZH LR LR
comp=Z,2µm,20.1s
GTA Gaotai 115.39 58 *e*Pdif **Pdif** **23 40 40.3 +7.4**
GTA Gaotai 115.39 58 pPKP PKiKP 23 44 28.8 +7.9
GTA Gaotai 115.39 58 PKP **PKPdf** **23 44 20.6 -0.3**
GTA PP **PP** **23 45 23.5 +0.6**
GTA AMB AMB
comp=Z,140nm,8.0s
GTA LR LR
comp=Z,1µm,19.3s
GTA LR LR
comp=Z,790nm,20.7s
GTA LR LR
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 116.12 203 *e*PP PP 23 45 24.3 -2.7
comp=Z,258nm,29.1s
TAOE Nuku Hiva Isla 116.12 203 *e*PS PS 23 55 01.2 -7.2
comp=Z,424nm,25.3s
TAOE *e*SS SS 00 01 27.7 -1.0
comp=Z,504nm,24.9s
TAOE Nuku Hiva Isla 116.12 203 *e*LR LR 00 19 19.8
comp=Z,4µm,32.9s
NACB Ninganchiao 116.58 84 IAMs_20 IAMs_20 00 33 30.2
comp=Z,1µm,18.0s
ZALV Zalesovo Beam 119.60 38 PKP **PKPdf** **23 44 26.1 -2.3**
comp=Z,1.1nm,0.6s,baz=276,slow=1.3,SNR=6.9
APA Apatity 120.40 7⇓ *i* PKIKP **PKiKP** **23 44 29.9 +0.4**
APA pmax pmax
comp=Z,8.0nm,1.1s
NJ2 Nanjing 120.69 76 *e*PKP **PKiKP** **23 44 32.0 +0.8**
NJ2 LR LR
comp=Z,800nm,11.0s
NJ2 LR LR
comp=Z,560nm,15.9s
NJ2 LR LR
comp=Z,1µm,15.1s
TIGA Tifton 121.47 282 P **PKiKP** **23 44 33.5 +0.7**
baz=136
HNS HongShan 122.05 69⇑ PKP **PKPdf** **23 44 32.9 -0.7**
HNS PP **PP** **23 46 05.0 -3.8**
HNS LR LR
comp=Z,510nm,19.2s
HNS LR LR

comp=Z,1µm,20.4s
HNS LR LR
comp=Z,1µm,19.6s
HRV Adam Dziewonsk 122.38 299 P PKiKP 23 44 35.5 +1.3
baz=134
CBN Corbin Frederi 122.60 292 IAMs_20 IAMs_20 00 31 07.1
comp=Z,1µm,21.0s
HHC Hu-ho-hao-te 122.69 64 ePKP PKPdf 23 44 33.8 -1.1
HHC AMB AMB
comp=Z,160nm,6.5s
HHC LR LR
comp=Z,630nm,20.3s
HHC LR LR
comp=Z,760nm,19.7s
HHC LR LR
comp=Z,1µm,20.9s
GOGA Godfrey 122.79 283 IAMs_20 IAMs_20 00 37 21.3
comp=Z,865nm,20.0s
GOGA Godfrey 122.79 283 P PKiKP 23 44 35.5 +0.2
baz=135
L61B Northampton 122.94 298 P PKiKP 23 44 35.6 +0.3
baz=134
PKME Peaks-Kenny Pk 123.09 303 P PKPdf 23 44 35.1 -0.2
baz=133
N59A State Game Lan 123.57 295 P PKPdf 23 44 36.3 -0.1
baz=133
BLA Blacksburg 123.66 289 P PKPdf 23 44 36.1 -0.7
baz=134
LBNH Lisbon 123.76 300 P PKPdf 23 44 36.2 -0.4
baz=133
SSPA Standing Stone 124.56 293 P PKPdf 23 44 37.6 -0.7
baz=133
BINY Binghamton 124.56 296 P PKPdf 23 44 37.6 -0.7
baz=132
LRAL Lakeview Retre 124.63 281 P PKPdf 23 44 37.8 -0.9
baz=135
BJT Baijiatuan 124.68 68 IAMs_20 IAMs_20 00 36 56.9
comp=Z,934nm,21.0s
O56A Blue Knob Stat 124.69 293 P PKPdf 23 44 38.2 -0.5
baz=133
BJI Beijing 124.70 68 PKP PKPdf 23 44 38.3 -0.3
BJI LR LR
comp=Z,490nm,17.9s
BJI LR LR
comp=Z,440nm,19.0s
BJI LR LR
comp=Z,1µm,20.1s
SONM Songino Array 124.73 55 PKP PKPdf 23 44 36.5 -2.1
comp=Z,4.0nm,1.0s,baz=206,slow=2.4,SNR=22
SONM PP PP 23 46 24.9 -2.1
comp=Z,0.2nm,0.3s,baz=150,slow=1.2,SNR=4.1
MOY Mondy 124.73 49 ePKIKP PKPdf 23 44 37.5 -0.9
MOY pmax pmax
comp=Z,69nm,2.3s
ZAK Zakamensk 124.93 51 ePKIKP PKPdf 23 44 37.5 -1.3
ZAK pmax pmax
comp=Z,25nm,1.7s
MCWV Mont Chateau 125.00 291 IAMs_20 IAMs_20 00 33 49.6
comp=Z,1µm,20.0s
MCWV Mont Chateau 125.00 291 P PKPdf 23 44 39.0 -0.2
baz=133
TZTN Tazewell 125.02 286 IAMs_20 IAMs_20 00 38 44.2
comp=Z,834nm,19.0s
TZTN Tazewell 125.02 286 P PKPdf 23 44 39.0 -0.3
baz=133
ULN Ulaanbaatar 125.08 55 PKIKP PKPdf 23 44 38.6 -0.7
ULN Ulaanbaatar 125.08 55 PKPdf PKPdf 23 44 38.6 -0.7
ULN Ulaanbaatar 125.08 55 IAMs_20 IAMs_20 00 32 44.1
comp=Z,2µm,22.0s
LONY Lake Ozonia 125.42 299 IAMs_20 IAMs_20 00 28 29.6
comp=Z,926nm,20.0s
LONY Lake Ozonia 125.42 299 P PKPdf 23 44 39.7 -0.1
baz=132
N54A Moraine State 125.96 292 P PKPdf 23 44 40.7 -0.3
baz=132
M54A Oil Creek Stat 126.14 293 P PKPdf 23 44 41.4 +0.1
baz=132
O53A New Philadelph 126.17 291 P PKPdf 23 44 41.2 -0.2
baz=132
VBMS Vicksburg 126.18 277 P PKPdf 23 44 41.3 -0.4
baz=135
P52A Corning 126.29 290 IAMs_20 IAMs_20 00 33 02.7
comp=Z,1µm,22.0s
P52A Corning 126.29 290 P PKPdf 23 44 40.9 -0.8
baz=132
IRK Irkutsk 126.63 50 ePKIKP PKPdf 23 44 40.3 -1.6
IRK pmax pmax
comp=Z,71nm,2.3s
M53A WI Miller and 126.66 292 P PKPdf 23 44 41.9 -0.4
baz=132
ERPA Erie 126.72 293 P PKPdf 23 44 42.3 -0.1
baz=131
OXF Oxford 127.10 280 IAMs_20 IAMs_20 00 36 52.4
comp=Z,1µm,22.0s
OXF Oxford 127.10 280 P PKPdf 23 44 42.5 -0.9
baz=134
ACSO Alum Creek Sta 127.17 290 IAMs_20 IAMs_20 00 33 39.2
comp=Z,1µm,21.0s
ACSO Alum Creek Sta 127.17 290 P PKPdf 23 44 42.3 -1.0
baz=132
XLT XiLinHaoTe 127.21 64 iPKP PKPdf 23 44 43.3 -0.1
XLT PP PP 23 46 38.8 -4.7
XLT AMB AMB
comp=Z,290nm,6.8s
XLT LR LR
comp=Z,900nm,18.6s
XLT LR LR
comp=Z,760nm,18.5s
WVT Waverly 127.26 283 PKIKP PKPdf 23 44 43.1 -0.5
WVT MLR MLR
comp=Z,900nm,20.0s
WVT Waverly 127.26 283 PKPdf PKPdf 23 44 43.1 -0.5
WVT Waverly 127.26 283 IAMs_20 IAMs_20 00 37 10.6
comp=Z,897nm,20.0s
WVT Waverly 127.26 283 P PKPdf 23 44 42.8 -0.8
baz=133
P49A Miami Univ. Ec 127.71 288 IAMs_20 IAMs_20 00 32 45.5
comp=Z,1µm,21.0s
P49A Miami Univ. Ec 127.71 288 P PKPdf 23 44 43.2 -1.2
baz=132
HKT Hockley 127.81 271 IAMs_20 IAMs_20 00 36 58.3
comp=Z,843nm,20.0s
SCHQ Scheiferville 128.24 313 PKP PKPdf 23 44 43.8 -1.1
comp=Z,19nm,1.0s,baz=104,slow=3.4,SNR=15
Z41A Richland Creek 128.29 277 P PKPdf 23 44 45.9 +0.3
baz=134
O48B Farmland 128.44 288 P PKPdf 23 44 45.0 -0.7
baz=131
833A Chaparral WMA, 128.82 267 P PKPdf 23 44 46.3 -0.5
baz=136
AAM Ann Arbor 128.91 291 P PKPdf 23 44 45.8 -0.7
baz=130
INCN Inchon 129.05 77 IAMs_20 IAMs_20 00 35 38.4
comp=Z,974nm,22.0s
L48A N Adams 129.12 291 PKPdf 23 44 47.1 +0.2
X40A Basin Creek Fa 129.15 278 P PKPdf 23 44 47.0 -0.3
baz=133
SIUC Southern Illin 129.15 283 PKPdf 23 44 47.1 -0.1
OLIL Olney 129.16 285 PKPdf 23 44 47.2 +0.1
W41B Gary Mavity, V 129.26 279 P PKPdf 23 44 47.8 +0.3
baz=133,SNR=8.2
435B Jarrell 129.47 271 IAMs_20 IAMs_20 00 38 57.8
comp=Z,706nm,18.0s
435B Jarrell 129.47 271 P PKPdf 23 44 48.1 +0.1
baz=135
SFIN Lafayette 129.65 287 P PKPdf 23 44 47.4 -0.6
baz=130
KSAR Wonju Array Be 129.77 78 PKIKP PKPdf 23 44 47.8 -0.5
KSAR Wonju Array Be 129.77 78 PKPdf PKPdf 23 44 47.8 -0.5
KSRS Korea Array 129.80 78 PKP PKPdf 23 44 46.6 -1.8
comp=Z,1.0nm,0.6s,baz=204,slow=2.7,SNR=7.7
SNY Shenyang 130.09 71 jPKP PKiKP 23 44 58.1 +8.5
SNY Shenyang 130.09 71 PP PP 23 47 00.5 -1.7
SNY LR LR
comp=N,730nm,16.7s
SNY LR LR
comp=E,820nm,18.1s
SNY LR LR
comp=Z,800nm,17.7s
SFJD Kangerlussuaq 130.12 331 PKIKP PKPdf 23 44 48.3 +0.3
SFJD Kangerlussuaq 130.12 331 PKPdf PKPdf 23 44 48.3 +0.3
W39A Magazine 130.20 278 P PKPdf 23 44 49.2 0.0
baz=133,SNR=7.1
WHTX Lake Whitney, 130.24 272 P PKPdf 23 44 49.0 -0.4
baz=134
U40A Yellville 130.42 279 IAMs_20 IAMs_20 00 40 30.2
comp=Z,761nm,18.0s
U40A Yellville 130.42 279 P PKPdf 23 44 49.3 -0.4
baz=132,SNR=9.1
CCM Cathedral Cave 130.58 282 PKIKP PKPdf 23 44 49.9 0.0
CCM Cathedral Cave 130.58 282 PKPdf PKPdf 23 44 49.9 0.0
CCM Cathedral Cave 130.58 282 P PKPdf 23 44 49.4 -0.5
baz=131
JCT Junction City 130.61 269 P PKPdf 23 44 49.5 -0.8
baz=135
CIT Chita 130.96 55 ePKIKP PKiKP 23 44 50.7 -0.4
GLMI Grayling 131.04 293 P PKPdf 23 44 50.4 -0.1
baz=128
HDIL Hopedale 131.04 286 P PKPdf 23 44 50.3 -0.4
baz=130
L44A Lake County Fo 131.27 289 P PKPdf 23 44 51.0 0.0
baz=129
NRIK Noril'sk 131.56 26 PKP PKPdf 23 44 48.8 -2.0
comp=Z,1.0nm,0.3s,baz=256,slow=2.1,SNR=8.7
NRIK SKPbc SKPbc 23 48 14.4 -1.1
comp=Z,0.7nm,0.3s,baz=349,slow=9.4,SNR=8.2
NRIK Noril'sk 131.56 26 PKIKP PKPdf 23 44 49.5 -1.3
NRIK Noril'sk 131.56 26 PKPdf PKPdf 23 44 49.5 -1.3
TUL1 Leonard 131.89 277 P PKPdf 23 44 51.6 -0.9
baz=132
ABTX Abilene, Hawle 132.01 271 P PKPdf 23 44 52.7 -0.1
baz=134
TXAR Lajitas Array 132.14 264 PKP PKPdf 23 44 52.5 -0.8
comp=Z,2.3nm,1.1s,baz=149,slow=4.2,SNR=13
CN2 Changchun 132.40 70 ePKP PKPdf 23 44 52.3 -0.8
CN2 ePP PP 23 47 19.4 +2.3
CN2 SKS SKSdf 23 51 58.3 -5.5
CN2 SKKS SKKSac 23 54 06.3 -5.6
CN2 AMB AMB
comp=Z,300nm,8.0s
CN2 LR LR
comp=Z,890nm,20.0s
CN2 LR LR
comp=Z,460nm,20.0s
CN2 LR LR
comp=Z,930nm,23.0s
HIA Hailar 132.52 61 i PKIKP PKiKP 23 44 54.5 +0.2
WMOK Wichita Mounta 132.92 274 P PKPdf 23 44 54.3 -0.2
baz=132
JFWS Jewell Farm 133.08 288 P PKPdf 23 44 54.4 0.0
baz=128
L40A Anamosa 133.12 286 PKPdf PKiKP 23 44 55.4 -0.3
SCIA State Center 134.19 285 IAMs_20 IAMs_20 00 44 38.1
comp=Z,968nm,18.0s
SCIA State Center 134.19 285 P PKPdf 23 44 56.7 +0.1
baz=128
COWI Conover 134.35 292 IAMs_20 IAMs_20 00 37 16.1
comp=Z,1µm,20.0s
BOD Bodaibo 134.44 48 ePKIKP PKPdf 23 44 54.9 -1.6
BOD pmax pmax
comp=Z,13nm,2.2s
KSU1 Kansas State U 134.46 280 P PKPdf 23 44 57.3 +0.1
baz=130
AMTX Amarillo 134.79 271 P PKPdf 23 44 58.1 0.0
baz=132
MSTX Muleshoe 134.84 270 P PKPdf 23 44 58.2 0.0
baz=133
MNTX Cornudas Mount 134.86 265 P PKPdf 23 44 57.7 -0.5
baz=135
MDJ Mudanjiang 135.27 71 PKP PKiKP 23 44 59.5 -0.5
MDJ PP PP 23 47 38.3 +2.9
MDJ LR LR
comp=Z,640nm,20.6s
MDJ LR LR
comp=Z,570nm,18.1s
MDJ LR LR
comp=Z,1µm,21.9s
MAJO Matsushiro 135.40 86 IAMs_20 IAMs_20 00 40 28.6
comp=Z,853nm,20.0s
SPMN Marine on St. 135.93 289 P PKPdf 23 44 59.8 +0.1
baz=125
CBKS Cedar Bluff 136.17 277 IAMs_20 IAMs_20 00 43 10.3
comp=Z,1µm,21.0s
CBKS Cedar Bluff 136.17 277 P PKPdf 23 45 00.4 0.0
baz=129
EYMN Ely 136.73 293 P PKPdf 23 45 01.7 +0.6
baz=123
BGNE Belgrade 136.82 281 P PKPdf 23 45 01.3 -0.2
baz=127
ECSD EROS Data Cent 137.29 285 P PKPdf 23 45 02.4 +0.1
baz=126
Y22D IRIS PASSCAL I 137.43 266 IAMs_20 IAMs_20 00 42 43.6
comp=Z,1µm,19.0s
Y22D IRIS PASSCAL I 137.43 266 P PKPdf 23 45 03.9 +0.9
baz=133
ANMO Albuquerque 137.74 268 i PKIKP PKPdf 23 45 04.4 +0.7
ANMO Albuquerque 137.74 268 PKPdf PKPdf 23 45 04.1 +0.4
ANMO Albuquerque 137.74 268 P PKPdf 23 45 03.8 +0.1
baz=132
T25A Trinidad 137.93 272 PKiKP 23 45 05.1 -0.9
T25A Trinidad 137.93 272 P PKPdf 23 45 04.4 +0.4
baz=130
KSCO Kaye Shedlock' 138.04 275 P PKPdf 23 45 04.6 +0.6
baz=129
TUC Tucson 138.56 261 PKIKP PKPdf 23 45 05.8 +0.7
TUC Tucson 138.56 261 PKPdf PKPdf 23 45 05.8 +0.7
TUC Tucson 138.56 261 P PKPdf 23 45 05.6 +0.5
baz=135
OGNE Ogallala 138.87 278 PKPdf 23 45 06.3 +0.8
OGNE IAMs_20 IAMs_20 00 41 06.9
comp=Z,1µm,22.0s
OGNE Ogallala 138.87 278 P PKPdf 23 45 05.4 -0.1
baz=127
ZEA Zeya 138.87 59 i PKIKP PKPdf 23 45 04.5 -0.3
ZEA pmax pmax
comp=Z,10.0nm,1.8s
SDCO Great Sand Dun 138.99 272 P PKPdf 23 45 06.3 +0.3
baz=130
KLR Kul'dur 139.06 67 PKP PKPdf 23 45 03.6 -1.8
comp=Z,3.7nm,1.0s,baz=278,slow=3.2,SNR=9.6
KLR Kul'dur 139.06 67 i PKIKP PKiKP 23 45 07.1 -0.5
SUSD Miller 139.08 284 P PKPdf 23 45 05.9 +0.3
baz=124
AGMN Agassiz Nation 139.38 291 P PKPdf 23 45 05.5 -0.5
baz=122
214A Organ Pipe Nat 139.52 259 P PKPdf 23 45 07.1 +0.3
baz=135
Q24A Divide 139.54 273 P PKPdf 23 45 06.9 -0.1
baz=129
X18A Snowflake 139.58 264 PKPdf 23 45 07.7 +0.7
TEY Ternei 139.60 75 ePKHKP PKPpre 23 44 46.1
W18A Petrified Fore 139.85 265 P PKPdf 23 45 08.0 +0.4
baz=132
TULEG Thule 139.87 339 PKiKP 23 45 08.1 -0.4
TULEG IAMs_20 IAMs_20 00 45 01.1
comp=Z,1µm,21.0s
ISCO Idaho Springs 140.34 274 P PKPdf 23 45 08.8 +0.3
baz=128,SNR=8.0
ULM Lac du Bonnet 140.39 294 PKP PKPdf 23 45 06.3 -1.4
comp=Z,2.0nm,0.5s,baz=134,slow=3.1,SNR=3.9
MVCO Mesa Verde 140.47 269 PKPdf PKPdf 23 45 09.3 +0.7
MVCO IAMs_20 IAMs_20 00 42 54.1
comp=Z,1µm,19.0s
MVCO Mesa Verde 140.47 269 P PKPdf 23 45 09.3 +0.7
baz=130
113A Mohawk Valley, 140.67 259 PKPdf PKPdf 23 45 09.3 +0.5
WUAZ Wupatki 141.11 264 PKPdf PKPdf 23 45 10.9 +1.1
WUAZ Wupatki 141.11 264 P PKPdf 23 45 10.2 +0.4
baz=132
PHWY Pilot Hill 141.16 276 IAMs_20 IAMs_20 00 42 59.4
comp=Z,995nm,21.0s
PV15 Paradox Valley 141.18 270 PKPdf 23 45 10.7 +0.8
N23A Red Feather La 141.21 275 P PKPdf 23 45 10.1 +0.2
baz=127,SNR=5.9
MDND Maddock 141.30 288 P PKPdf 23 45 09.9 +0.4
baz=121
GLA Glamis 141.50 258 P PKPdf 23 45 10.8 +0.4
baz=135
RSSD Black Hills 141.92 281 PKIKP PKPdf 23 45 11.4 +0.4
RSSD Black Hills 141.92 281 PKPdf PKPdf 23 45 11.4 +0.4
RSSD Black Hills 141.92 281 IAMs_20 IAMs_20 00 42 45.6
comp=Z,1µm,21.0s
RSSD Black Hills 141.92 281 P PKPdf 23 45 10.6 -0.4
baz=124
PDMCI Parker Dam,Lak 141.96 260 P PKPdf 23 45 11.6 +0.5
baz=134
IKP In-Ko-Pah, Jac 141.98 256 P PKPdf 23 45 11.1 -0.2
baz=136
SWSC Sam W. Stewart 142.00 257 P PKPdf 23 45 11.3 +0.1
baz=135
O20A White River Ci 142.15 272 PKPdf 23 45 11.2 -0.3
O20A White River Ci 142.15 272 P PKPdf 23 45 11.2 -0.3
baz=128
U15A North Rim 142.27 264 PKPdf PKPdf 23 45 12.6 +0.6
BC3 Big Chuckawall 142.29 258 P PKPdf 23 45 12.5 +0.6
baz=134
MONP2 Monument Peak 142.33 256 P PKPdf 23 45 13.0 +0.9
baz=135
IRM Iron Mountain 142.46 259 P PKPdf 23 45 12.6 +0.5
baz=134
109C Camp Elliot, M 142.74 256 P PKPdf 23 45 12.7 +0.2
baz=136
TPFO Pinon Flats 142.86 257 P PKPdf 23 45 13.8 +0.9
baz=135
BELC Belle Mtn. Jos 142.86 258 P PKPdf 23 45 13.9 +1.0
baz=134
PFO Pinyon Flats O 142.86 257 P PKPdf 23 45 13.8 +0.9
baz=135
Q16A Castle Valley 143.18 269 PKPdf PKPdf 23 45 13.2 -0.2
GMRC Granite Mounta 143.20 259 P PKPdf 23 45 14.2 +0.7
baz=133
YAK Yakutsk 143.35 47 ePKHKP PKPpre 23 45 07.5
YAK pmax pmax
comp=Z,40nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=N,643nm,16.0s
YAK MLR MLR
comp=E,550nm,18.0s
YAK Yakutsk 143.35 47 IAMs_20 IAMs_20 00 46 17.2
comp=Z,1µm,20.0s
BBRC Big Bear Solar 143.59 258 P PKPdf 23 45 13.7 -0.6
baz=134
TUQ Turquoise Moun 143.80 260 P PKPdf 23 45 13.5 -1.0
baz=133
CIS Catalina Islan 143.87 255 P PKPdf 23 45 13.7 -0.8
baz=135
BFSC Mount Baldy Ra 144.01 257 P PKPdf 23 45 14.7 -0.2
baz=134
GSC Goldstone, Bar 144.24 259 P PKPbc 23 45 13.9 +0.5
baz=133
YSS Yuzh-Sakhalins 144.26 76 i PKIKP PKPab 23 45 11.5 -1.1
YSS eSS SS 00 07 07.6 -8.3
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,600nm,20.0s
YSS Yuzh-Sakhalins 144.26 76 IAMs_20 IAMs_20 00 50 27.1
comp=Z,880nm,21.0s
DGMT Dagmar 144.27 287 P PKPdf 23 45 14.0 -0.8
baz=119
DECC Green Verdugo 144.42 256 P PKPab 23 45 13.5 -0.2
baz=134
BW06 Boulder Array 144.49 275 P PKPab 23 45 13.5 -0.5
baz=124,SNR=14
PDAR Pinedale Array 144.49 275 PKP PKPab 23 45 13.8 -0.3
comp=Z,16nm,0.7s,baz=131,slow=5.0,SNR=105
LAO LASA Array 144.59 283 P PKPbc 23 45 14.8 +0.6
baz=120
EDW2 Edwards Air Fo 144.66 257 P PKPbc 23 45 14.7 -0.1
baz=134
QSM Queen of Sheba 144.72 260 PKPdf PKPdf 23 45 15.9 -0.1
CCAC Calif City Air 144.86 258 PKPdf 23 45 16.4 +0.1
LRMC Laurel Mtn Rad 144.88 258 P PKPbc 23 45 15.7 +0.1
baz=133
UGL Uglegorsk 144.88 73 ePKIKP PKPab 23 45 14.7 -0.2
UGL pmax pmax
comp=Z,110nm,2.3s
OSI Osito Audit: C 144.91 256 P PKPbc 23 45 15.9 +0.3
baz=134
TIXI Tiksi 144.96 31 PKP PKPab 23 45 13.3 -1.2
comp=Z,120nm,1.1s,baz=92,slow=21,SNR=211
TIXI Tiksi 144.96 31 PKIKP PKPab 23 45 13.6 -0.9
TIXI Tiksi 144.96 31 PKPdf PKPab 23 45 13.6 -0.9
TIXI IAMs_20 IAMs_20 00 57 36.9
comp=Z,1µm,20.0s
DUG Dugway, Tooele 144.97 269 P PKPdf 23 45 16.4 -0.1
baz=127
TPNV Topopah Spring 145.00 262 P PKPdf 23 45 16.5 -0.1
baz=131
FURC Furnace Creek, 145.06 260 P PKPdf 23 45 16.8 +0.4
baz=132
MPMC Manual Prospec 145.16 259 P PKPdf 23 45 17.3 +0.3
baz=132
ARVC Arvin 145.32 257 P PKPab 23 45 17.4 +0.4
baz=134
SBC Santa Barbara 145.37 255 P PKPab 23 45 17.6 +0.5
baz=135
ISA Isabella, Lake 145.48 258 P PKPab 23 45 18.5 +0.9
baz=133
R11A Troy Canyon, C 145.51 264 PKPab 23 45 17.9 +0.1
R11A Troy Canyon, C 145.51 264 P PKPab 23 45 18.4 +0.5
baz=130
RLMT Red Lodge 145.60 279 P PKPab 23 45 18.2 +0.2
baz=122
FFC Flin Flon 145.69 298 PKP2 PKPdf 23 45 16.8 -0.1
FFC Flin Flon 145.69 298 PKPdf PKPdf 23 45 16.8 -0.1
GRAC Grapevine Rang 145.71 261 P PKPab 23 45 18.7 +0.3
baz=131
CWC Cottonwood Cre 145.77 259 P PKPab 23 45 18.9 +0.1
baz=132
NKL Nikolayevsk 145.85 65 i PKP2 PKPab 23 45 19.8 +1.5
NKL MLR MLR
comp=E,33nm,12.0s
NKL MLR MLR
comp=N,11µm,19.0s
NKL MLR MLR
comp=Z,531nm,17.0s
VES Vestal, Richgr 145.96 257 P PKPab 23 45 19.1 -0.2
baz=133
LKWY Lake 145.99 277 PKP2 PKPab 23 45 20.0 +0.4
LKWY MLR MLR
comp=Z,2µm,18.0s
LKWY Lake 145.99 277 PKPab 23 45 20.0 +0.4
RES Resolute Bay 146.01 334 PKPbc PKPdf 23 45 16.1 -0.8
comp=Z,32nm,1.0s,baz=92,slow=2.7,SNR=43
RES Resolute Bay 146.01 334 PKP2 PKPbc 23 45 17.9 +0.1
RES Resolute Bay 146.01 334 PKPdf PKPbc 23 45 17.9 +0.1
H17A Grant Village 146.01 277 P PKPbc 23 45 19.3 +0.2
baz=122
SMMC Simmler 146.14 256 P PKPab 23 45 20.7 +0.6
baz=134
TIN Tinemaha, Big 146.26 260 P PKPab 23 45 20.5 -0.2
baz=132
KUR Kuril'sk 146.43 82 ePKP2 PKPdf 23 45 18.0 -0.5
KUR 23 48 39.7
KUR pmax pmax
comp=Z,2µm,7.7s
KUR MLR MLR
comp=Z,900nm,17.0s
VOG Valley Oaks Go 146.46 258 P PKPbc 23 45 20.1 -0.2
baz=133
MLAC Mammoth, Mammo 147.01 260 P PKPab 23 45 23.0 -0.6
baz=131
NVAR Mina Array Bea 147.20 262 PKPbc PKPbc 23 45 22.4 -0.2
comp=Z,8.0nm,0.8s,baz=131,slow=4.2,SNR=35
BOZ Bozeman (W) 147.27 278 P PKPbc 23 45 23.0 +0.5
baz=121,SNR=17
EGMT Eagleton 147.34 283 PKPbc 23 45 21.8 -0.7
EGMT Eagleton 147.34 283 P PKPbc 23 45 22.3 -0.2
baz=118
BMN Battle Mountai 147.79 266 PKP2 PKPbc 23 45 24.6 +0.5
BMN Battle Mountai 147.79 266 PKPbc 23 45 24.6 +0.5
HLID Hailey 147.89 273 PKPbc 23 45 23.9 -0.4
HLID Hailey 147.89 273 P PKiKP 23 45 25.3 -0.9
baz=123
CMB Columbia Colle 148.20 259 PKIKP PKPdf 23 45 23.1 +1.3
CMB Columbia Colle 148.20 259 PKPdf PKPdf 23 45 23.1 +1.3
PNTR Pine Nut 148.40 261 PKPbc 23 45 24.8 -1.1
MSO Missoula 149.28 278 P PKiKP 23 45 28.2 -0.6
baz=119,SNR=31
O03E Paynes Creek 150.48 261 P PKiKP 23 45 31.4 -0.1
baz=128
O02D Mt. Diablo Mer 151.00 260 P PKiKP 23 45 33.1 +0.6
baz=128
WDC Whiskeytown Da 151.10 261 PKIKP PKPdf 23 45 27.3 +1.1
WDC Whiskeytown Da 151.10 261 PKPdf PKPdf 23 45 27.3 +1.1
I07A Izee 151.27 270 PKPdf PKPdf 23 45 24.0 -2.6
M04C Macdoel 151.40 264 PKPbc PKiKP 23 45 33.9 +0.5
M04C Macdoel 151.40 264 P PKiKP 23 45 33.9 +0.5
baz=126
N02D Trinity Center 151.44 261 PKPbc PKiKP 23 45 34.5 +1.1
N02D PKPab PKPab 23 45 41.6 +0.2
N02D Trinity Center 151.44 261 P PKiKP 23 45 33.7 +0.2
baz=127
G08A Pilot Rock 151.56 272 PKPbc PKiKP 23 45 34.6 +1.0

M02C	**Callahan**	**151.78**	**262**	PKPbc	**PKiKP**	**23 45 35.4**	**+1.2**
M02C	**Callahan**	**151.78**	**262**	P	**PKiKP**	**23 45 34.4**	**+0.3**
	baz=127						
K04D	**Chiloquin, OR**	**151.83**	**265**	P	**PKiKP**	**23 45 34.6**	**+0.4**
	baz=125						
NEW	**Newport**	**151.85**	**279**	PKPab	**PKPab**	**23 45 43.0**	**+0.1**
J05D	**Fort Rock, OR**	**151.89**	**267**	P	**PKiKP**	**23 45 35.0**	**+0.6**
	baz=124						
L04D	**Klamath Falls**	**151.94**	**264**	P	**PKiKP**	**23 45 35.1**	**+0.6**
	baz=125						
E08A	**Dider Farm, El**	**152.22**	**274**		pPKPab	23 45 46.2	-1.4
J04D	**Umpqua Nationa**	**152.40**	**266**	PKPdf	**PKPdf**	**23 45 29.2**	**+0.8**
J04D	**Umpqua Nationa**	**152.40**	**266**	P	**PKiKP**	**23 45 35.8**	**+0.3**
	baz=124						
HAWA	**Hanford**	**152.46**	**274**	PKPbc	**PKiKP**	**23 45 36.1**	**+0.8**
I05D	**Terrebonne, OR**	**152.52**	**269**	P	**PKiKP**	**23 45 36.2**	**+0.7**
	baz=122						
L02E	**Cave Junction**	**152.69**	**263**	P	**PKiKP**	**23 45 36.1**	**+0.2**
	baz=126						
I04A	**Tendick Farm,**	**152.88**	**267**	P	**PKiKP**	**23 45 37.1**	**+0.8**
	baz=123						
MA2	**Magadan**	**152.93**	**56**	PKP	**PKPdf**	**23 45 26.8**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=253,slow=8.0,SNR=5.7						
MA2				PKPbc	**PKPbc**	**23 45 34.9**	**-0.8**
	comp=Z,13nm,0.8s,baz=230,slow=1.8,SNR=16						
MA2	**Magadan**	**152.93**	**56**	PKIKP	**PKPdf**	**23 45 26.9**	**-1.4**
MA2						23 45 34.7	
MA2	**Magadan**	**152.93**	**56**	PKPdf	**PKPdf**	**23 45 26.9**	**-1.4**
MA2				PKPbc	**PKPbc**	**23 45 34.7**	**-0.9**
MA2				PKPab	**PKPab**	**23 45 46.7**	**-0.3**
MA2				IAMs_20	IAMs_20	01 05 51.7	
	comp=Z,1µm,20.0s						
G05D	**Wamic, OR**	**152.98**	**270**	P	**PKiKP**	**23 45 37.7**	**+1.3**
	baz=120						
F05D	**White Salmon**	**153.38**	**271**	P	**PKiKP**	**23 45 38.3**	**+1.1**
	baz=119						
YKA	**Yellowknife Ar**	**153.66**	**310**	PKP	**PKPdf**	**23 45 25.9**	**-3.4**
	comp=Z,3.9nm,1.1s,baz=94,slow=1.3,SNR=16						
YKA				PKPbc	**PKPbc**	**23 45 36.5**	**-0.6**
	comp=Z,12nm,1.0s,baz=70,slow=2.3,SNR=33						
PNT	**Penticton**	**153.79**	**280**	PKIKP	**PKPdf**	**23 45 24.8**	**-5.2**
SKR	**Severo-Kuril's**	**153.82**	**77**	*e*PKIKP	PKPdf	23 45 17.8	-12
SEY	**Seymchan**	**153.86**	**49**	PKP	**PKPdf**	**23 45 28.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=242,slow=1.6,SNR=11						
SEY				PKPbc	**PKPbc**	**23 45 37.2**	**-0.3**
	comp=Z,15nm,1.1s,baz=252,slow=3.2,SNR=6.0						
A36M	**Sachs Harbour**	**155.06**	**334**	IAMs_20	IAMs_20	01 05 51.7	
	comp=Z,1µm,20.0s						
A36M	**Sachs Harbour**	**155.06**	**334**	P	**PKPab**	**23 45 56.9**	**+1.3**
	baz=58,SNR=6.8						
D03D	**Eldon**	**155.14**	**274**	P	**PKPab**	**23 45 57.6**	**+0.8**
	baz=116						
C36M	**Paulatuk**	**155.97**	**328**	IAMs_20	IAMs_20	01 01 06.4	
	comp=Z,1µm,20.0s						
C36M	**Paulatuk**	**155.97**	**328**	P	**PKPab**	**23 45 59.6**	**0.0**
	baz=65,SNR=5.7						
PET	**Petropavlovsk**	**156.04**	**73**	*i* PKIKP	**PKPdf**	**23 45 38.2**	**+5.4**
PET				*e*PPP	PPP	23 53 20.3	
PET				*e*SSS	SSS	00 15 18.6	
PET	**Petropavlovsk**	**156.04**	**73**	IAMs_20	IAMs_20	00 53 55.5	
	comp=Z,1µm,20.0s						
BILL	**Bilibino**	**158.16**	**33**	*e*PKIKP	**PKPdf**	**23 45 33.4**	**-1.7**
BILL				*i*		23 46 08.7	
BILL				*e*		23 49 48.2	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BILL	**Bilibino**	**158.16**	**33**	IAMs_20	IAMs_20	01 06 26.0	
	comp=Z,1µm,20.0s						
INK	**Inuvik**	**159.46**	**330**	PKP	**PKPdf**	**23 45 31.9**	**-4.7**
	comp=Z,2.1nm,0.8s,baz=63,slow=3.4,SNR=12						
INK				PKPab	**PKPab**	**23 46 14.9**	**+0.2**
	comp=Z,9.6nm,1.1s,baz=44,slow=5.3,SNR=7.2						
INK	**Inuvik**	**159.46**	**330**	PKIKP	**PKPdf**	**23 45 32.5**	**-4.1**
INK	**Inuvik**	**159.46**	**330**	PKPdf	**PKPdf**	**23 45 32.5**	**-4.1**
INK	**Inuvik**	**159.46**	**330**	P	**PKPab**	**23 46 15.8**	**+1.1**
	baz=54						
TGTN	**Hyland Airport**	**160.16**	**310**	P	**PKPab**	**23 46 19.6**	**+1.5**
	baz=78						
WTLY	**Watson Lake, Y**	**160.66**	**306**	P	**PKPab**	**23 46 21.7**	**+1.4**
	baz=82						
A21K	**Barrow**	**161.13**	**355**	P	**PKPab**	**23 46 23.5**	**+1.5**
	baz=8.7						
MMPY	**Sheldon Lake,**	**161.24**	**314**	P	**PKPab**	**23 46 24.4**	**+1.6**
	baz=71						
DLBC	**Dease Lake**	**161.47**	**301**	PKPab	**PKPab**	**23 46 23.9**	**-0.1**
	comp=Z,35nm,1.4s,baz=141,slow=3.9,SNR=6.8						
FARO	**Faro, Yukon**	**162.28**	**314**	P	**PKPab**	**23 46 28.7**	**+1.4**
	baz=70						
P33M	**Teslin, Yukon**	**162.61**	**307**	P	**PKPab**	**23 46 29.9**	**+1.0**
	baz=76						
I29M	**Ogilvie Camp,**	**162.73**	**326**	PKPdf	**PKPdf**	**23 45 41.3**	**+1.0**
I29M					**PKPab**	**23 46 30.4**	**+1.2**
I29M	**Ogilvie Camp,**	**162.73**	**326**	P	**PKPab**	**23 46 30.5**	**+1.3**
	baz=53						
M31M	**Drury Creek, Y**	**162.75**	**314**	PKPdf	**PKPdf**	**23 45 42.6**	**+2.2**
M31M					**PKPab**	**23 46 30.9**	**+1.5**
M31M	**Drury Creek, Y**	**162.75**	**314**	P	**PKPab**	**23 46 30.9**	**+1.5**
	baz=68						
WRAK	**Wrangell Islan**	**162.82**	**294**	P	**PKPab**	**23 46 31.5**	**+1.7**
	baz=89						
TOLK	**Toolik Lake Re**	**163.00**	**345**	P	**PKPab**	**23 46 31.4**	**+1.1**
	baz=25						
BMAR	**Burnt Mountain**	**163.07**	**338**	PKPdf	**PKPdf**	**23 45 37.9**	**-2.7**
BMAR					**pPKPab**	**23 46 33.3**	**-0.5**
J29M	**Klondike Camp**	**163.23**	**324**	P	**PKPab**	**23 46 32.5**	**+1.1**
	baz=56						
WHY	**Whitehorse**	**163.48**	**309**	P	**PKPab**	**23 46 33.4**	**+0.7**
	baz=72						
M30M	**Minto, Yukon**	**163.62**	**317**	P	**PKPab**	**23 46 34.2**	**+1.0**
	baz=64						
N31M	**Braeburn, Yuko**	**163.62**	**313**	P	**PKPab**	**23 46 34.2**	**+0.9**
	baz=68						
DAWY	**Dawson**	**163.87**	**324**	PKPdf	**PKPdf**	**23 45 42.7**	**+1.3**
DAWY					**PKPab**	**23 46 35.6**	**+1.3**
DAWY	**Dawson**	**163.87**	**324**	P	**PKPab**	**23 46 35.7**	**+1.3**
	baz=55						
SKAG	**Skagway**	**164.02**	**306**	P	**PKPab**	**23 46 36.9**	**+1.9**
	baz=76						
EGAK	**Eagle**	**164.05**	**327**		**PKPab**	**23 46 36.3**	**+1.4**
EGAK	**Eagle**	**164.05**	**327**	P	**PKPab**	**23 46 36.3**	**+1.4**
	baz=50,SNR=6.4						
COLD	**Coldfoot**	**164.38**	**344**	P	**PKPab**	**23 46 37.2**	**+0.8**
	baz=26,SNR=6.4						
SIT	**Sitka**	**164.43**	**297**	P	**PKPab**	**23 46 38.1**	**+1.3**
	baz=84						
RDOG	**Red Dog Mine**	**164.52**	**2**	P	**PKPab**	**23 46 36.9**	**0.0**
	baz=356						
HYT	**Haines Junctio**	**164.64**	**312**	P	**PKPab**	**23 46 39.3**	**+1.4**
	baz=68						
PRP	**Porcupine Dome**	**164.81**	**334**	PKPdf	**PKPdf**	**23 45 43.0**	**+0.6**
PRP					**pPKPab**	**23 46 40.2**	**-1.4**
PRP	**Porcupine Dome**	**164.81**	**334**	P	**PKPab**	**23 46 40.1**	**+1.6**
	baz=39,SNR=7.9						
YUK4	**Talbot Arm**	**164.94**	**314**	P	**PKPab**	**23 46 40.3**	**+1.0**
	baz=64						
YUK6	**Outpost Mounta**	**164.99**	**313**	P	**PKPab**	**23 46 41.1**	**+1.6**
	baz=66						
J26L	**Joseph Creek**	**165.00**	**329**	P	**PKPab**	**23 46 40.7**	**+1.4**
	baz=46						
H24K	**Noodor Dome**	**165.14**	**338**	P	**PKPab**	**23 46 41.2**	**+1.4**
	baz=33						
BCAR	**Beaver Creek A**	**165.33**	**323**	PKPdf	**PKPdf**	**23 45 40.8**	**-2.0**
L27K	**Beaver Creek,**	**165.35**	**323**	PKPdf	**PKPdf**	**23 45 41.5**	**-1.3**
L27K					**PKPab**	**23 46 42.2**	**+1.5**
L27K	**Beaver Creek,**	**165.35**	**323**	P	**PKPab**	**23 46 42.4**	**+1.6**
	baz=53						
BVCY	**Beaver Creek**	**165.35**	**320**	P	**PKPab**	**23 46 42.1**	**+1.2**
	baz=57						
J25K	**Salcha River,**	**165.46**	**332**	PKPdf	**PKPdf**	**23 45 44.6**	**+1.8**
J25K				PKPab	**PKPab**	**23 46 42.6**	**+1.3**
J25K	**Salcha River,**	**165.46**	**332**	P	**PKPab**	**23 46 42.9**	**+1.6**
	baz=42,SNR=10						
SCRK	**Sand Creek**	**165.50**	**328**		pPKPab	23 46 43.2	-1.5
SCRK	**Sand Creek**	**165.50**	**328**	P	**PKPab**	**23 46 43.5**	**+2.0**
	baz=46,SNR=8.3						
YUK3	**Moose Creek**	**165.52**	**317**	P	**PKPab**	**23 46 43.0**	**+1.2**
	baz=60,SNR=5.6						
POKR	**Poker Plat Res**	**165.62**	**336**	P	**PKPab**	**23 46 42.9**	**+1.0**
	baz=36						
DOT	**Dot Lake**	**165.75**	**327**	PKPdf	**PKPdf**	**23 45 43.6**	**+0.6**
DOT					**pPKPab**	**23 46 44.3**	**-1.4**
ILAR	**Eielson Array**	**165.76**	**334**	PKP	**PKPdf**	**23 45 36.0**	**-7.0**
	comp=Z,1.0nm,1.1s,baz=337,slow=2.1,SNR=6.5						
ILAR				PKPab	**PKPab**	**23 46 42.5**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=19,slow=3.2,SNR=28						
M27K	**Edge Creek, AK**	**165.77**	**321**		**PKPab**	**23 46 44.3**	**+1.5**
M27K	**Edge Creek, AK**	**165.77**	**321**	P	**PKPab**	**23 46 43.9**	**+1.1**
	baz=55						
L26K	**Log Cabin Wild**	**165.91**	**325**		pPKPab	23 46 45.0	-1.4
L26K	**Log Cabin Wild**	**165.91**	**325**	P	pPKPab	23 46 45.1	-1.4
	baz=50,SNR=11						
RIDG	**Independent Ri**	**165.94**	**329**	P	**PKPab**	**23 46 45.1**	**+1.7**
	baz=45,SNR=10.0						
PNL	**Peninsula**	**165.94**	**309**	P	**PKPab**	**23 46 45.1**	**+1.6**
	baz=69						
I23K	**Minto, Yukon-K**	**166.05**	**339**	P	**PKPab**	**23 46 44.3**	**+0.6**
	baz=31						
HDA	**Harding Lake**	**166.06**	**333**	P	**PKPab**	**23 46 44.8**	**+0.9**
	baz=38,SNR=6.4						
IMAR	**Indian Mountai**	**166.09**	**347**	PKPdf	**PKPdf**	**23 45 40.8**	**-2.4**
H21K	**Melozitna Rive**	**166.25**	**345**	P	**PKPab**	**23 46 45.2**	**+0.5**
	baz=22						
CTG	**Chitna Glacier**	**166.28**	**315**	P	**PKPab**	**23 46 46.5**	**+1.4**
	baz=61						
WRH	**Wood River Hil**	**166.31**	**335**		pPKPab	23 46 46.8	-1.3
BARN	**Barnard Glacie**	**166.37**	**316**	PKPab	**PKPab**	**23 46 46.5**	**+0.9**
MLY	**Manley**	**166.45**	**341**	PKPdf	**PKPdf**	**23 45 42.4**	**-1.2**
MLY	**Manley**	**166.45**	**341**	P	**PKPab**	**23 46 46.3**	**+0.8**
	baz=28						
NEA2	**Nenana**	**166.46**	**337**	P	**PKPab**	**23 46 46.0**	**+0.4**
	baz=33						
I21K	**Tanana**	**166.55**	**343**	P	**PKPab**	**23 46 46.4**	**+0.5**
	baz=25						
TNA	**Tin City**	**166.62**	**12**	P	**PKPab**	**23 46 45.8**	**-0.4**
	baz=342						
PAX	**Paxson**	**166.68**	**327**	P	**PKPab**	**23 46 48.6**	**+1.8**
	baz=46,SNR=8.4						
MCARA	**McCarthy VSAT**	**166.77**	**319**	PKPab	**PKPab**	**23 46 48.5**	**+1.4**
MCARA	**McCarthy VSAT**	**166.77**	**319**	P	**PKPab**	**23 46 48.6**	**+1.6**
	baz=56						
GLB	**Gilahina Butte**	**167.05**	**320**	PKPab	**PKPab**	**23 46 50.0**	**+1.6**
MCK	**McKinley**	**167.13**	**335**	P	**PKPab**	**23 46 49.3**	**+0.7**
	baz=36						
DHY	**Denali Highway**	**167.21**	**330**	PKPdf	**PKPdf**	**23 45 46.5**	**+2.2**
DHY					**pPKPab**	**23 46 50.8**	**-1.5**
DHY	**Denali Highway**	**167.21**	**330**	P	**PKPab**	**23 46 50.7**	**+1.5**
	baz=41,SNR=15						
N25K	**Chitina, Valde**	**167.26**	**321**	P	**PKPab**	**23 46 50.8**	**+1.5**
	baz=52,SNR=11						
BPAW	**Bear Paw Mtn.**	**167.31**	**339**	P	**PKPab**	**23 46 50.8**	**+1.4**
	baz=30						
M24K	**Tolsona, Glenn**	**167.51**	**325**	P	**PKPab**	**23 46 51.1**	**+0.7**
	baz=47						
GAMB	**Gambell**	**167.59**	**22**	P	**PKPab**	**23 46 50.8**	**+0.3**
	baz=329						
GCSA	**Galena City Sc**	**167.64**	**351**	P	**PKPab**	**23 46 51.5**	**+0.8**
	baz=12						
WAT6	**Susitna Watana**	**167.69**	**329**	P	**PKPab**	**23 46 52.7**	**+1.4**
	baz=42,SNR=9.3						
TRF	**Thorofare Moun**	**167.71**	**336**	P	**PKPab**	**23 46 51.6**	**+0.2**
	baz=33						
CHUM	**Lake Minchumin**	**167.78**	**341**	P	**PKPab**	**23 46 51.9**	**+0.5**
	baz=26						
KLU	**Klutina**	**167.82**	**323**	P	**PKPab**	**23 46 53.4**	**+1.6**
	baz=50,SNR=15						
J20K	**Nowinta River**	**167.84**	**345**	P	**PKPab**	**23 46 51.9**	**+0.2**
	baz=21						
ANM	**Nome**	**167.86**	**8**	PKIKP	**PKPdf**	**23 45 44.3**	**-0.2**
ANM	**Nome**	**167.86**	**8**	PKPdf	**PKPdf**	**23 45 44.3**	**-0.2**
ANM	**Nome**	**167.86**	**8**	P	**PKPab**	**23 46 52.0**	**+0.2**
	baz=348						
SCM	**Sheep Creek Mo**	**168.09**	**326**	P	**PKPab**	**23 46 54.3**	**+1.3**
	baz=45						
KAIM	**Kayak Island**	**168.12**	**315**	P	**PKPab**	**23 46 55.9**	**+2.8**
	baz=59						
CAST	**Castle Rocks**	**168.15**	**339**	P	**PKPab**	**23 46 55.5**	**+2.4**
	baz=28						
EYAK	**Cordova Ski Ar**	**168.34**	**319**	P	**PKPab**	**23 46 55.6**	**+1.6**
	baz=54						
SML	**Sawmill**	**168.44**	**328**	P	**PKPab**	**23 46 55.8**	**+1.2**
	baz=43						
CUT	**Chulitna**	**168.57**	**333**	P	**PKPab**	**23 46 55.0**	**+0.1**
	baz=36						
K20K	**Telida**	**168.59**	**343**	P	**PKPab**	**23 46 55.5**	**+0.4**
	baz=22						
PPLA	**Purkeypile**	**168.63**	**338**	P	**PKPab**	**23 46 55.4**	**0.0**
	baz=29						
GHO	**Glory Hole Cre**	**168.66**	**329**	PKPdf	**PKPdf**	**23 45 46.7**	**+1.4**
GHO					**PKPab**	**23 46 56.9**	**+1.4**
KNK	**Knik Glacier**	**168.77**	**327**	P	**PKPab**	**23 46 57.0**	**+1.1**
	baz=44						
PMR	**Palmer**	**168.86**	**328**	P	**PKPab**	**23 46 57.4**	**+1.1**
	baz=41						
M22K	**Willow**	**169.04**	**331**	P	**PKPab**	**23 46 58.1**	**+1.0**
	baz=38						
PWL	**Port Wells**	**169.12**	**324**	P	**PKPab**	**23 46 58.4**	**+0.9**
	baz=46						
Q23K	**Middleton Isla**	**169.22**	**315**	P	**PKPab**	**23 46 59.1**	**+1.2**
	baz=57						
TTA	**Tatalina**	**169.30**	**347**		**PKPab**	**23 46 59.8**	**+1.5**
TTA	**Tatalina**	**169.30**	**347**	P	**PKPab**	**23 46 59.0**	**+0.7**
	baz=17						
L20K	**Farewell, AK**	**169.36**	**341**	P	**PKPab**	**23 46 58.8**	**+0.3**
	baz=25						
RC01	**Rabbit Creek A**	**169.43**	**328**	PKPab	**PKPab**	**23 47 00.5**	**+1.7**
RC01	**Rabbit Creek A**	**169.43**	**328**	P	**PKPab**	**23 47 00.3**	**+1.4**
	baz=41						
L19K	**White Mountain**	**169.82**	**343**		**PKPdf**	**23 45 43.3**	**-2.6**
L19K				PKPab	**PKPab**	**23 47 01.3**	**+0.7**
L19K	**White Mountain**	**169.82**	**343**	P	**PKPab**	**23 47 01.3**	**+0.7**
	baz=22						
M19K	**Big River Lodg**	**169.99**	**341**		pPKPab	23 47 03.2	-1.3
SEW	**Seward**	**170.04**	**323**	P	**PKPab**	**23 47 03.0**	**+1.5**
	baz=46						
SPCR	**Spurr Chakacha**	**170.09**	**333**	P	**PKPab**	**23 47 02.3**	**+0.5**
	baz=34						
BRSE	**Bradley Lake S**	**170.76**	**325**	P	**PKPab**	**23 47 06.4**	**+1.6**
	baz=44						
N19K	**Bonanza Creek**	**170.99**	**338**	P	**PKPab**	**23 47 05.8**	**0.0**
	baz=27						
O20K	**Slope Mountain**	**171.12**	**331**	P	**PKPab**	**23 47 07.3**	**+0.9**
	baz=36						
HOM	**Homer**	**171.13**	**326**	P	**PKPab**	**23 47 07.2**	**+0.9**
	baz=41						
P19K	**Oil Pt**	**171.65**	**330**	P	**PKPab**	**23 47 09.1**	**+0.4**
	baz=36						
Q19K	**Cape Douglas,**	**172.35**	**329**	PKPdf	**PKPdf**	**23 45 47.8**	**+0.4**
Q19K					**PKPab**	**23 47 13.2**	**+1.3**
Q19K	**Cape Douglas,**	**172.35**	**329**	P	**PKPab**	**23 47 11.6**	**-0.3**
	baz=37						
P18K	**Big Mountain,**	**172.42**	**336**	P	**PKPab**	**23 47 11.9**	**-0.2**
	baz=29						
KDAK	**Kodiak Island**	**172.82**	**319**	P	**PKPab**	**23 47 14.1**	**+0.2**
	baz=47						
OHAK	**Old Harbor**	**173.47**	**318**	P	**PKPab**	**23 47 17.1**	**+0.3**
	baz=48						
CHIR	**Chirikof Islan**	**175.37**	**316**	P	**PKPab**	**23 47 25.1**	**-0.2**
	baz=48						
UNV	**Unalaska Valle**	**176.67**	**67**	P	**PKPab**	**23 47 29.7**	**-1.5**
	baz=289						

*NNC **14** 23:35:41.6±0.4, 44.03N×77.04E, h0km, mb2.9, mpv2.7,*
Error ellipse: s-maj=3.1km s-min=1.8km az=170.0
*SOME **14** 23:35:41.7, 44.02N×77.00E, h0km*

ISC 14 23:35:41.2±1.0, **44.05N**±0.03×**77.03E**±0.02, **h9**km±8km,
n43,σ1s37/78, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.20**	**190**	*e*P	**Pg**	**23 35 45.4**	**+0.1**
	30nm,0.1s						
CHKK				*e*S	**Sg**	**23 35 47.8**	**-0.3**
	319nm,0.3s						
CHKK	**Chushkaly**	**0.20**	**190**	P	**Pg**	**23 35 45.4**	**+0.1**
	30nm,0.1s						
CHKK				S	**Sg**	**23 35 48.0**	**-0.1**
	319nm,0.3s						
KTBS	**Karatobe**	**0.42**	**217**	*e*P	**Pg**	**23 35 49.7**	**+0.2**
	24nm,0.2s						
KTBS				*e*S	**Sg**	**23 35 55.5**	**+0.4**
	34nm,0.2s						
KTBS	**Karatobe**	**0.42**	**217**	P	**Pg**	**23 35 49.7**	**+0.2**
	24nm,0.2s						
KTBS				S	**Sg**	**23 35 55.4**	**+0.4**
	26nm,0.3s						
KUU	**Kurty**	**0.52**	**253**	*e*P	**Pg**	**23 35 51.7**	**+0.3**
	4.0nm,0.1s						
KUU				*e*S	**Sg**	**23 35 58.7**	**+0.4**
	70nm,0.2s						
KUU	**Kurty**	**0.52**	**253**	P	**Pg**	**23 35 51.7**	**+0.3**
	2.3nm,0.1s						
KUU				S	**Sg**	**23 35 58.7**	**+0.4**

	60nm,0.2s						
KOTS	**Kotyrbulak**	**0.81**	**176**	*e*P	**Pb**	**23 35 57.2**	**-0.4**
	1.0nm,0.1s						
KOTS				*e*S	**Sb**	**23 36 08.5**	**-0.3**
	19nm,0.3s						
KOTS	**Kotyrbulak**	**0.81**	**176**	P	**Pb**	**23 35 57.2**	**-0.4**
	1.0nm,0.1s						
KOTS				S	**Sb**	**23 36 08.5**	**-0.3**
	19nm,0.3s						
MDOK	**Medeo**	**0.88**	**179**	*e*P	**Pb**	**23 35 58.5**	**-0.3**
	0.8nm,0.3s						
MDOK				*e*S	**Sb**	**23 36 10.2**	**-0.6**
	13nm,0.5s						
MDOK	**Medeo**	**0.88**	**179**	⇑P	**Pb**	**23 35 59.0**	**+0.2**
	1.4nm,0.5s						
MDOK				S	**Sg**	**23 36 09.6**	**-0.2**
	11nm,0.5s						
MDOK	**Medeo**	**0.88**	**179**	Pg	**Pb**	**23 35 58.5**	**-0.3**
	0.8nm,0.3s						
MDOK				Lg	Lg	23 36 10.2	
	13nm,0.5s						
KURS	**Kuram**	**1.00**	**124**	*e*P	**Pn**	**23 36 00.7**	**-0.8**
	6.3nm,0.2s						
KURS				*e*S	**Sn**	**23 36 14.4**	**-1.2**
	4.2nm,0.2s						
KURS	**Kuram**	**1.00**	**124**	P	**Pn**	**23 36 00.6**	**-0.8**
	6.3nm,0.2s						
KURS				S	**Sn**	**23 36 14.4**	**-1.2**
	4.2nm,0.2s						
TNSS	**Tian-Shan**	**1.01**	**184**	*e*P	**Pn**	**23 36 01.3**	**-0.7**
	0.6nm,0.1s						
TNSS				*e*S	**Sb**	**23 36 14.8**	**+0.1**
	3.1nm,0.4s						
TNSS	**Tian-Shan**	**1.01**	**184**	P	**Pn**	**23 36 01.3**	**-0.7**
	0.6nm,0.1s						
TNSS				S	**Sb**	**23 36 14.8**	**+0.1**
	3.1nm,0.4s						
BLB	**Baldybastay**	**1.04**	**87**	*e*P	**Pb**	**23 36 01.0**	**-0.5**
	4.2nm,0.1s						
BLB				*e*S	**Sg**	**23 36 14.4**	**-0.4**
	16nm,0.4s						
KRBS	**Karabastau**	**1.04**	**251**	*e*P	**Pb**	**23 36 01.0**	**-0.5**
	1.0nm,0.1s						
KRBS				*e*S	**Sg**	**23 36 14.7**	**-0.2**
	8.0nm,0.3s						
DGS	**Degeres**	**1.22**	**229**	*e*P	**Pn**	**23 36 03.9**	**-0.6**
	3.1nm,0.3s						
DGS				*e*S	**Sb**	**23 36 20.0**	**-0.4**
	10.0nm,0.3s						
DGS	**Degeres**	**1.22**	**229**	P	**Pn**	**23 36 03.9**	**-0.6**
	3.1nm,0.3s						
DGS				S	**Sb**	**23 36 20.1**	**-0.3**
	10.0nm,0.3s						
KPKS	**Kokpek**	**1.33**	**115**	*e*P	**Pg**	**23 36 06.4**	**-0.3**
	4.5nm,0.1s						
KPKS				*e*S	**Sg**	**23 36 23.6**	**-0.4**
	38nm,0.3s						
ZHN	**Zhinishke**	**1.35**	**130**	*e*P	**Pb**	**23 36 06.3**	**-0.4**
ZHN				*e*S	**Sn**	**23 36 23.7**	**-0.6**
SATY	**Saty**	**1.41**	**134**	*e*P	**Pg**	**23 36 07.6**	**-0.6**
	1.8nm,0.1s						
SATY				*e*S	**Sg**	**23 36 26.3**	**-0.1**
	17nm,0.1s						
SATY	**Saty**	**1.41**	**134**	P	**Pg**	**23 36 07.6**	**-0.6**
	2.4nm,0.1s						
SATY				S	**Sg**	**23 36 26.4**	**0.0**
	17nm,0.1s						
TKM2	**Tokmak 2**	**1.54**	**223**	⇓Pn	**Pb**	**23 36 09.7**	**-0.2**
	0.5nm,0.2s						
TKM2				⇑Sn	**Sg**	**23 36 30.7**	**+0.1**
	1.9nm,0.2s						
KNOS	**Konyrlen**	**1.57**	**78**	*e*P	**Pg**	**23 36 10.7**	**-0.8**
	1.1nm,0.2s						
KNOS				*e*S	**Sg**	**23 36 31.2**	**-0.7**
	0.8nm,0.1s						
UZB	**Uzynbulak**	**1.70**	**121**	*e*P	**Pb**	**23 36 12.9**	**+0.1**
	4.6nm,0.2s						
UZB				*e*S	**Sg**	**23 36 34.9**	**-1.1**
	6.1nm,0.3s						
UZB	**Uzynbulak**	**1.70**	**121**	P	**Pb**	**23 36 12.9**	**+0.1**
	4.6nm,0.2s						
UZB				S	**Sg**	**23 36 34.9**	**-1.1**
	6.1nm,0.3s						
SGDS	**Sogindy**	**1.84**	**252**	*e*P	**Pb**	**23 36 14.9**	**-0.2**
	1.5nm,0.3s						
SGDS				*e*S	**Sb**	**23 36 38.9**	**+0.7**
	4.7nm,0.2s						
SGDS	**Sogindy**	**1.84**	**252**	P	**Pb**	**23 36 14.9**	**-0.2**
	1.5nm,0.3s						
SGDS				S	**Sb**	**23 36 38.9**	**+0.7**
	4.7nm,0.2s						
PDGK	**Podgornoye**	**1.92**	**111**	P	**Pb**	**23 36 16.2**	**-0.3**
	1.8nm,0.3s						
PDGK				S	**Sg**	**23 36 41.4**	**-1.6**
	4.2nm,0.4s						
PDGK	**Podgornoye**	**1.92**	**111**	⇑Pn	**Pb**	**23 36 16.1**	**-0.3**
	4.7nm,0.5s						
PDGK

NEIC 14 23:53:49.6±0.6, 37°004N×0°007×98°03W±0°02, h7km±4km, Error ellipse: s-maj=2.0km s-min=0.8km az=114.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.00**	**232**	Pg	Pg	23 54 08.0	-0.8
T35A	**Sooner Cattle**	**1.22**	**94**	Pn	Pg	23 54 12.3	-0.8
R32A	**Long Quarter,**	**1.52**	**339**		Pn	23 54 17.2	-0.1
OKCFA	**Oklahoma City**	**1.65**	**163**	Pn	Pn	23 54 19.5	+0.3
OKCSW	**OKLAHOMA CITY**	**1.67**	**163**	Pn	Pn	23 54 18.8	-0.5
FNO	**Franklin**	**1.82**	**164**	Pn	Pn	23 54 22.0	+0.6
W35A	**Tecumseh**	**2.07**	**153**	Pn	Pn	23 54 25.5	+0.6
TUL1	**Leonard**	**2.11**	**120**		Pn	23 54 25.5	+0.1
TUL1				IAmb_Lg		23 54 58.7	
	comp=Z,16nm,0.8s						
CBKS	**Cedar Bluff**	**2.26**	**324**		Pn	23 54 27.4	0.0
CBKS				IAmb_Lg		23 55 07.0	
	comp=Z,13nm,0.8s						
WMOK	**Wichita Mounta**	**2.34**	**195**		Pn	23 54 29.4	+0.7
KSU1	**Kansas State U**	**2.38**	**28**		Pn	23 54 29.1	0.0
KSU1	**Kansas State U**	**2.38**	**28**	IAmb_Lg		23 55 04.8	
	comp=Z,15nm,0.7s						
X34A	**Smith Ranch, M**	**2.40**	**176**		Pn	23 54 29.6	+0.2
X34A				IAmb_Lg		23 55 04.2	
	comp=Z,11nm,0.9s						
U38A	**Gravette**	**2.98**	**100**	Pn	Pn	23 54 37.2	-0.2
HHAR	**Hobbs**	**3.37**	**101**	Pn	Pn	23 54 43.8	+1.1
Z35A	**Perchaven, San**	**3.72**	**170**	Pn	Pn	23 54 47.2	-0.4
KSCO	**Kaye Shedlock'**	**4.15**	**300**	Pn	Pn	23 54 51.3	-2.3
U40A	**Yellville**	**4.21**	**97**		Pn	23 54 54.3	-0.1
P38A	**Dawn**	**4.40**	**52**		Pn	23 54 56.4	-0.5
P38A				IAmb_Lg		23 56 06.3	
	comp=Z,6.8nm,1.1s						
ABTX	**Abilene, Hawle**	**4.57**	**197**	Pn	Pn	23 54 59.4	+0.2
MGMO	**Mountain Grove**	**4.61**	**86**	Pn	Pn	23 54 59.9	+0.1
R40A	**Maddies Statio**	**4.75**	**73**		Pn	23 55 02.0	+0.3
L34A	**Svendsen Farm,**	**5.12**	**14**	IAmb_Lg		23 56 35.7	
	comp=Z,12nm,0.8s						
N38A	**Joes South For**	**5.32**	**43**	IAmb_Lg		23 56 39.0	
	comp=Z,14nm,0.7s						
FVM	**French Village**	**6.12**	**79**	IAmb_Lg		23 57 07.2	
	comp=Z,13nm,1.3s						
SCIA	**State Center**	**6.15**	**36**	IAmb_Lg		23 57 16.3	
	comp=Z,11nm,0.7s						
JCT	**Junction City**	**6.67**	**193**	IAmb_Lg		23 57 26.6	
	comp=Z,7.7nm,0.8s						
N23A	**Red Feather La**	**7.29**	**305**	IAmb_Lg		23 57 43.6	
	comp=Z,7.1nm,0.8s						
L40A	**Anamosa**	**7.29**	**44**	IAmb_Lg		23 57 45.4	
	comp=Z,9.2nm,0.8s						

*IDC **14** 23:54:08.6±1.3, 52°.41S×18°.71E, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.8/28, mbtmp4.3/6, MS4.3/1, Ms1 4.2/1, ms1mx3.5/57, Error ellipse: s-maj=74.1km s-min=21.5km az=97.0*

*NEIC **14** 23:54:10.5±1.0, 52°.50S±0°.05×18°.8E±0°.3, h10km±1km, mb4.6/13, Error ellipse: s-maj=28.2km s-min=3.8km az=105.0*

ISC 14 23:54:10.0±0.7, 52°.37S±0°.09×18°.8E±0°.2, h10km, n23, σ1§19/22, mb4.6/9, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.03**	**5**	P	**P**	**23 58 44.4**	**+1.3**
	9.1nm,1.1s,baz=180,slow=12,SNR=2.8						
SUR				S	**S**	**00 02 24.5**	**-3.8**
	13nm,1.2s,baz=180,slow=2.0,SNR=2.0						
SUR	**Sutherland**	**20.03**	**5**	IAmb	IAmb	23 58 50.5	
	comp=Z,24nm,1.1s						
SNAA	**Sanae**	**21.61**	**198**	P	**P**	**23 58 59.8**	**0.0**
	comp=Z,18nm,1.2s,baz=42,slow=10,SNR=3.8						
SNAA	**Sanae**	**21.61**	**198**	P	**P**	**23 58 58.8**	**-1.1**
BOSA	**Boshof**	**24.21**	**14**	P	**P**	**23 59 27.2**	**+0.3**
	comp=Z,6.7nm,1.0s,baz=259,slow=16,SNR=3.2						
BOSA				LR	LR	00 07 01.0	
	comp=Z,710nm,19.6s,baz=4.5,slow=32						
BOSA	**Boshof**	**24.21**	**14**	P	**P**	**23 59 28.1**	**+1.2**
BOSA				IAmb	IAmb	23 59 37.5	
	comp=Z,12nm,1.1s						
BELA	**Belgrano 2**	**31.86**	**199**	P	**P**	**00 00 34.5**	**-0.2**
LSZ	**Lusaka**	**37.75**	**15**	P	**P**	**00 01 27.6**	**+1.4**
QSPA	**South Pole Qui**	**37.85**	**180**	P	**P**	**00 01 26.5**	**-0.1**
	comp=Z,11nm,0.9s,baz=243,slow=2.8,SNR=20						
QSPA	**South Pole Qui**	**37.85**	**180**	P	**P**	**00 01 26.2**	**-0.5**
QSPA				IAmb	IAmb	00 01 28.4	
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**48.35**	**170**	P	**P**	**00 02 50.8**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=219,slow=6.7,SNR=4.5						
VNDA	**Vanda**	**48.35**	**170**	IAmb	IAmb	00 02 58.7	
	comp=Z,3.3nm,1.1s						
SBA	**Scott Base**	**48.54**	**171**	P	**P**	**00 02 53.7**	**+1.1**
ITAB	**Concordia**	**57.48**	**267**	P	**P**	**00 03 58.9**	**-0.2**
ITAB				IAmb	IAmb	00 04 14.9	
	comp=Z,6.4nm,1.1s						
MT09	**Talagante**	**63.98**	**248**	P	**P**	**00 04 44.2**	**+0.7**
MT09				IAmb	IAmb	00 04 54.1	
	comp=Z,8.1nm,1.0s						
PB09	**IPOC Station P**	**71.89**	**258**	P	**P**	**00 05 33.6**	**+0.1**
PB09				IAmb	IAmb	00 05 45.9	
	comp=Z,8.3nm,1.1s						
TA01	**Diego Aracena**	**73.40**	**258**	P	**P**	**00 05 41.9**	**-0.3**
PB12	**IPOC Station P**	**74.98**	**259**	P	**P**	**00 05 51.1**	**-0.5**
PB12				IAmb	IAmb	00 06 00.1	
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**76.79**	**123**	P	**P**	**00 06 00.4**	**-1.3**
ASAR	**Alice Springs**	**85.58**	**124**	P	**P**	**00 06 49.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=200,slow=4.6,SNR=5.1						
ASAR	**Alice Springs**	**85.58**	**124**	P	**P**	**00 06 47.7**	**-0.8**
PDAR	**Pinedale Array**	**144.57**	**275**	PKP	**PKPab**	**00 13 44.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=123,slow=4.4,SNR=8.1						
TIXI	**Tiksi**	**144.67**	**31**		**PKPdf**	**00 13 45.9**	**+0.7**

*IDC **15** 00:26:35.8±3.0, 39°.45N×73°.41E, h0km, mb3.6/4, mb1 3.6/9, mb1mx3.4/67, mbtmp3.5/9, ML2.4/4, Error ellipse: s-maj=43.7km s-min=20.3km az=168.0*

*SOME **15** 00:26:36.4, 39°.55N×73°.78E, h15km*

*KRNET **15** 00:26:37.3±0.1, 39°.54N×73°.69E, mb3.8*

*NNC **15** 00:26:39.1±2.6, 39°.62N×73°.79E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=21.4km s-min=14.4km az=171.0*

*ISU **15** 00:26:39, 39°.40N×73°.40E, h5km*

ISC 15 00:26:35.4±1.4, 39°53N±0°.04×73°92E±0°.02, h1km±10km, n104, σ1§96/149, mb3.5/4, 38C-19D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.32**	**319**	⇑*iP*	**Pg**	**00 27 00.0**	**-0.7**
	baz=25						
OHH				⇑*iS*	**Sg**	**00 27 17.1**	**-0.6**
	baz=25						
KSH	**Kashi**	**1.59**	**90**	P	**Pb**	**00 27 04.8**	**-0.9**
KSH				S	**Sg**	**00 27 26.4**	**-0.1**
KSH				smax	smax		
	comp=N,300nm,0.8s						
KSH				smax	smax		
	comp=E,270nm,0.9s						
DRK	**Karamyk**	**1.64**	**269**	⇑*iP*	**Pn**	**00 27 04.9**	**-0.8**
	baz=68						
DRK				⇑*iS*	**Sn**	**00 27 25.2**	**-2.4**
	baz=68						
ANR	**Andizhan**	**1.71**	**316**	*iP*	**Pg**	**00 27 09.0**	**+0.9**
ANR				*iS*	**Sg**	**00 27 31.0**	**+0.8**
FRG	**Fergana**	**1.84**	**298**	*iP*	**Pn**	**00 27 09.0**	**+0.8**
FRG				*iS*	**Sn**	**00 27 31.0**	**-1.2**
NAM	**Namangan**	**2.26**	**311**	*eP*	**Pg**	**00 27 19.0**	**+0.3**
NAM				*eS*	**Sg**	**00 27 48.0**	**0.0**
ARLS	**Aral**	**2.34**	**7**	⇓*iP*	**Pg**	**00 27 19.6**	**-0.8**
	baz=12						
ARLS				⇓*iS*	**Sg**	**00 27 50.4**	**-0.4**
	baz=12						
MINT	**Mingtut**	**2.44**	**293**	*eP*	**Pb**	**00 27 19.0**	**-1.2**
MINT				*eS*	**Sb**	**00 27 51.0**	**+0.2**
BTK	**Batken**	**2.44**	**283**	⇓*iP*	**Pn**	**00 27 18.2**	**+1.6**
	baz=84						
BTK				⇓*iS*	**Sn**	**00 27 48.1**	**+0.9**
	baz=84						
BTK	**Batken**	**2.44**	**283**	*eP*	**Pn**	**00 27 18.0**	**+1.4**
BTK				*eS*	**Sb**	**00 27 50.0**	**-0.9**
AML	**Almayashu**	**2.60**	**356**	P	**Pb**	**00 27 23.1**	**0.0**
	SNR=75						
ARK	**Arkit**	**2.71**	**327**	⇓*iP*	**Pb**	**00 27 22.9**	**-1.8**
	baz=30						
ARK				⇓*iS*	**Sn**	**00 27 56.2**	**+2.5**
	baz=30						
UCH	**Uchtor**	**2.73**	**9**	P	**Pb**	**00 27 25.9**	**+0.6**
	SNR=77						
UCH	**Uchtor**	**2.73**	**9**	⇓*iP*	**Pb**	**00 27 25.2**	**-0.1**
	baz=13						
UCH				⇓*iS*	**Sb**	**00 28 00.1**	**+0.6**
	baz=13						
GAR	**Garm**	**2.85**	**260**	⇑*iP*	**Pn**	**00 27 23.7**	**+1.6**
	baz=59						
GAR				⇑*iS*	**Sn**	**00 27 57.6**	**+0.5**
	baz=59						
TRKS	**Terek-Say**	**2.91**	**314**	⇑*iP*	**Pn**	**00 27 24.6**	**+1.6**
	baz=16						
TRKS				⇑*iS*	**Sn**	**00 27 58.8**	**+0.1**
	baz=16						
EKS2	**Erkin-Say**	**3.13**	**358**	P	**Pb**	**00 27 30.7**	**-1.2**
	SNR=20						
EKS2	**Erkin-Say**	**3.13**	**358**	⇑*iP*	**Pb**	**00 27 30.1**	**-1.8**
	baz=1.0						
EKS2				⇑*iS*	**Sb**	**00 28 08.5**	**-2.1**
	baz=1.0						
AAK	**Ala-Archa**	**3.13**	**8**	Pn	**Pb**	**00 27 31.6**	**-0.4**
	comp=E,8.2nm,0.3s,baz=173,slow=8.1,SNR=110						
AAK				Lg	Lg	00 28 14.6	
	comp=E,1.9nm,0.3s,baz=132,slow=5.9,SNR=4.1						
AAK	**Ala-Archa**	**3.13**	**8**	P	**Pb**	**00 27 31.6**	**-0.4**
	SNR=32						
AAK	**Ala-Archa**	**3.13**	**8**	⇓*iP*	**Pb**	**00 27 30.6**	**-1.4**
	baz=11						
AAK				⇓*iS*	**Sb**	**00 28 09.3**	**-1.4**
	baz=11						
AAK	**Ala-Archa**	**3.13**	**8**	⇓Pn	**Pb**	**00 27 31.3**	**-0.7**
	comp=E,11nm,0.4s						
AAK				⇑Lg	Lg	00 28 17.6	
	comp=E,81nm,0.8s						
KBK	**Karagaybulak**	**3.21**	**14**	P	**Pb**	**00 27 33.9**	**+0.5**
	SNR=6.9						
KBK	**Karagaybulak**	**3.21**	**14**	⇓*iP*	**Pb**	**00 27 31.9**	**-1.5**
	baz=17						
KBK				⇓*iS*	**Sb**	**00 28 11.8**	**-1.4**
	baz=17						
ULHL	**Ulahol**	**3.23**	**32**	P	**Pg**	**00 27 36.3**	**-1.1**
	SNR=6.3						
ULHL	**Ulahol**	**3.23**	**32**	⇑*iP*	**Pb**	**00 27 32.9**	**-0.8**
	baz=35						
ULHL				⇑*iS*	**Sb**	**00 28 13.5**	**-0.2**
	baz=35						
MRKS	**Merke**	**3.25**	**351**	*eP*	**Pg**	**00 27 37.0**	**-0.7**
	comp=E,19nm,0.4s						
MRKS				*eS*	**Sg**	**00 28 20.2**	**+0.4**
	comp=E,134nm,0.1s						
MRKS	**Merke**	**3.25**	**351**	Pg	**Pb**	**00 27 34.1**	**+0.2**
	comp=E,14nm,0.4s						
MRKS				Lg	Lg	00 28 20.2	
	comp=E,134nm,0.5s						
FRU1	**Bishkek**	**3.32**	**9**	⇑*iP*	**Pb**	**00 27 33.3**	**-1.8**
	baz=12						
FRU1				⇑*iS*	**Sb**	**00 28 14.2**	**-1.8**
	baz=12						
BOOM	**Boomskoye usch**	**3.33**	**27**	⇑*iP*	**Pb**	**00 27 34.1**	**-1.2**
	baz=29						
BOOM				⇑*iS*	**Sb**	**00 28 15.3**	**-1.1**
	baz=29						
CHMS	**Chumysh**	**3.52**	**10**	P	**Pb**	**00 27 36.7**	**-1.8**
	SNR=14						
CHMS	**Chumysh**	**3.52**	**10**	⇑*iP*	**Pb**	**00 27 36.0**	**-2.5**
	baz=13						
CHMS				⇑*iS*	**Sb**	**00 28 18.5**	**-3.3**
	baz=13						
KDJ	**Kajisay**	**3.58**	**43**	⇑*iP*	**Pb**	**00 27 38.2**	**-1.5**
	baz=45						
KDJ				⇑*iS*	**Sb**	**00 28 22.8**	**-1.0**
	baz=45						
TKM2	**Tokmak 2**	**3.61**	**20**	P	**Pb**	**00 27 38.6**	**-1.6**
	SNR=20						
TKM2	**Tokmak 2**	**3.61**	**20**	⇑*iP*	**Pb**	**00 27 37.7**	**-2.5**
	baz=22						
TKM2				⇑*iS*	**Sb**	**00 28 21.8**	**-2.9**
	baz=22						
TKM2	**Tokmak 2**	**3.61**	**20**	⇑Pn	**Pb**	**00 27 38.2**	**-2.0**
	comp=E,20nm,1.2s						
TKM2				⇑Lg	Lg	00 28 33.3	
	comp=E,32nm,0.8s						
USP	**Ospenovka**	**3.75**	**7**	P	**Pb**	**00 27 39.9**	**-2.7**
	SNR=8.6						
USP	**Ospenovka**	**3.75**	**7**	⇑*iP*	**Pb**	**00 27 39.3**	**-3.3**
	baz=9.0						
USP				⇑*iS*	**Sb**	**00 28 24.3**	**-4.3**
	baz=9.0						
CHGR	**Chuyangaron**	**3.81**	**258**	⇑*iP*	**Pn**	**00 27 37.1**	**+1.8**
	baz=57						
CHGR				⇑*iS*	**Sn**	**00 28 20.6**	**-0.2**
	baz=57						
DZA	**Taraz**	**3.88**	**331**	*eP*	**Pb**	**00 27 46.9**	**+2.2**
	comp=E,17nm,0.2s						
DZA				*eS*	**Sb**	**00 28 36.6**	**+4.4**
	comp=E,142nm,0.1s						
DZA	**Taraz**	**3.88**	**331**	Pg	**Pb**	**00 27 44.5**	**-0.2**
	comp=E,22nm,0.1s						
DZA				Lg	Lg	00 28 37.3	
	comp=E,169nm,0.6s						
IUG	**luzhnay**	**3.94**	**313**	*eP*	**Pb**	**00 27 47.9**	**+2.2**
	comp=E,150nm,0.5s						
IUG				*eS*	**Sg**	**00 28 38.7**	**-3.2**
	comp=E,75nm,0.2s						
IUG	**luzhnay**	**3.94**	**313**	Pg	**Pn**	**00 27 39.8**	**+2.7**
	comp=E,217nm,0.7s						
IUG				Lg	Lg	00 28 29.8	
	comp=E,77nm,0.7s						
SGDS	**Sogindy**	**3.95**	**8**	*eP*	**Pg**	**00 27 49.9**	**-1.2**
	comp=E,5.8nm,0.4s						
SGDS				*eS*	**Sg**	**00 28 42.1**	**-0.2**
	comp=E,38nm,0.2s						
SGDS	**Sogindy**	**3.95**	**8**	Pg	**Pb**	**00 27 47.6**	**+1.7**
	comp=E,11nm,0.5s						
SGDS				Lg	Lg	00 28 42.1	
	comp=E,38nm,0.8s						
DGS	**Degeres**	**3.96**	**20**	*eP*	**Pg**	**00 27 50.3**	**-0.9**
	comp=E,14nm,0.8s						
DGS				*eS*	**Sg**	**00 28 43.5**	**+0.9**
	comp=E,34nm,0.8s						
DGS	**Degeres**	**3.96**	**20**	Pg	**Pb**	**00 27 46.5**	**+0.4**
	comp=E,15nm,0.6s						
DGS				Lg	Lg	00 28 41.6	
	comp=E,34nm,0.8s						
MTBS	**Maitube**	**4.06**	**27**	*eP*	**Pg**	**00 27 52.9**	**-0.3**
	comp=E,9.5nm,0.6s						
MTBS				*eS*	**Sg**	**00 28 47.8**	**+2.0**
	comp=E,19nm,0.3s						
MTBS	**Maitube**	**4.06**	**27**	Pg	**Pb**	**00 27 49.3**	**+1.5**
	comp=E,18nm,0.6s						
MTBS				Lg	Lg	00 28 46.9	
	comp=E,19nm,0.3s						
TNSS	**Tian-Shan**	**4.18**	**32**	*eP*	**Pg**	**00 27 56.0**	**+0.5**
	comp=E,11nm,0.2s						
TNSS				*eS*	**Sg**	**00 28 53.0**	**+3.4**
	comp=E,15nm,0.7s						
TNSS	**Tian-Shan**	**4.18**	**32**	Pg	**Pg**	**00 27 54.0**	**-1.5**
	comp=E,11nm,0.4s						
TNSS				Lg	Lg	00 28 53.0	
	comp=E,15nm,0.7s						
MDOK	**Medeo**	**4.32**	**32**	*eP*	**Pg**	**00 27 57.9**	**-0.3**
	comp=E,4.5nm,0.1s						
MDOK				*eS*	**Sg**	**00 28 56.4**	**+2.1**
	comp=E,32nm,0.1s						
MDOK	**Medeo**	**4.32**	**32**	⇑Pn	**Pb**	**00 27 49.5**	**-2.8**
	comp=E,4.8nm,0.5s						
MDOK				⇓Pg	**Pg**	**00 28 01.5**	**+3.2**
	comp=E,13nm,0.6s						
MDOK				⇓Lg	Lg	00 28 56.3	
	comp=E,45nm,0.8s						
MDOK	**Medeo**	**4.32**	**32**	Pg	**Pg**	**00 27 55.5**	**-2.8**
	comp=E,15nm,0.6s						
MDOK				Lg	Lg	00 28 55.8	
	comp=E,33nm,0.9s						
KNDC	**Almaty**	**4.33**	**31**	⇓Pg	**Pg**	**00 28 00.6**	**+2.1**
	comp=E,43nm,0.8s						
KNDC				⇑Lg	Lg	00 28 57.4	
	comp=E,165nm,1.1s						
KRBS	**Karabastau**	**4.36**	**17**	*eP*	**Pg**	**00 27 57.4**	**-1.6**
	comp=E,3.0nm,0.1s						
KRBS				*eS*	**Sg**	**00 28 56.3**	**+0.8**
	comp=E,17nm,0.6s						
KRBS	**Karabastau**	**4.36**	**17**	Pg	**Pb**	**00 27 54.8**	**+1.9**
	comp=E,11nm,0.4s						
KRBS				Lg	Lg	00 28 54.8	
	comp=E,17nm,0.6s						
KK02	**Karatay Array**	**4.39**	**325**	⇓Pn	**Pn**	**00 27 46.0**	**+2.7**
	comp=E,2.4nm,0.4s						
KK02				⇓Pg	**Pb**	**00 27 55.6**	**+2.2**
	comp=E,9.7nm,0.7s						
KK02				⇑Lg	Lg	00 28 56.3	
	comp=E,16nm,0.5s						
KOTS	**Kotyrbulak**	**4.41**	**32**	*eP*	**Pg**	**00 28 00.4**	**+0.5**
	comp=E,8.6nm,0.5s						
KOTS				*eS*	**Sg**	**00 29 00.1**	**+3.1**
	comp=E,121nm,0.2s						
KOTS	**Kotyrbulak**	**4.41**	**32**	Pg	**Pg**	**00 27 58.8**	**-1.1**
	comp=E,11nm,0.6s						
KOTS				Lg	Lg	00 29 01.4	
	comp=E,121nm,0.8s						
BRLS	**Boroldaу**	**4.65**	**320**	*eP*	**Pb**	**00 27 59.3**	**+1.5**
	comp=E,1.4nm,0.6s						
BRLS				*eS*	**Sb**	**00 28 58.7**	**+4.3**
	comp=E,12nm,0.1s						
KTBS	**Karatobe**	**4.66**	**25**	*eP*	**Pg**	**00 28 03.1**	**-1.6**
	comp=E,7.4nm,0.0s						
KTBS				*eS*	**Sg**	**00 29 05.0**	**-0.1**
	comp=E,36nm,0.2s						
KTBS	**Karatobe**	**4.66**	**25**	Pg	**Pg**	**00 28 01.3**	**-3.4**
	comp=E,9.5nm,0.7s						
KTBS				Lg	Lg	00 29 05.7	
	comp=E,26nm,0.4s						
KUU	**Kurty**	**4.72**	**22**	*eP*	**Pg**	**00 28 04.1**	**-1.7**
	comp=E,11nm,0.1s						
KUU				*eS*	**Sg**	**00 29 06.6**	**-0.3**
	comp=E,31nm,0.2s						
KUU	**Kurty**	**4.72**	**22**	Pg	**Pb**	**00 28 01.8**	**+2.9**
	comp=E,11nm,0.5s						
KUU				Lg	Lg	00 29 06.6	
	comp=E,31nm,0.7s						
SATY	**Saty**	**4.88**	**42**	*eP*	**Pg**	**00 28 08.9**	**0.0**
	comp=E,4.3nm,0.1s						
SATY				*eS*	**Sg**	**00 29 15.3**	**+3.1**
	comp=E,23nm,0.1s						
SATY	**Saty**	**4.88**	**42**	Pg	**Pg**	**00 28 06.9**	**-2.0**
	comp=E,8.4nm,0.9s						
SATY				Lg	Lg	00 29 15.3	
	comp=E,23nm,0.7s						
CHKK	**Chushkaly**	**4.89**	**27**	*eP*	**Pg**	**00 28 08.1**	**-1.0**
	comp=E,5.7nm,0.1s						
CHKK				*eS*	**Sg**	**00 29 14.0**	**+1.5**
	comp=E,26nm,0.2s						
CHKK	**Chushkaly**	**4.89**	**27**	Pg	**Pg**	**00 28 05.9**	**-3.2**
	comp=E,10nm,0.5s						
CHKK				Lg	Lg	00 29 14.0	
	comp=E,23nm,0.9s						
ZHN	**Zhinishke**	**4.97**	**42**	*eP*	**Pg**	**00 28 10.0**	**-0.7**
	comp=E,4.0nm,0.5s						
ZHN				*eS*	**Sg**	**00 29 17.5**	**+2.3**
	comp=E,11nm,0.2s						
ZHN	**Zhinishke**	**4.97**	**42**	Pg	**Pg**	**00 28 08.2**	**-2.5**
	comp=E,3.5nm,0.2s						
ZHN				Lg	Lg	00 29 17.5	
	comp=E,11nm,0.8s						
KURS	**Kuram**	**5.08**	**38**	*eP*	**Pg**	**00 28 12.6**	**-0.1**
	comp=E,7.8nm,0.1s						
KURS				*eS*	**Sg**	**00 29 21.2**	**+2.6**
	comp=E,16nm,0.6s						
KURS	**Kuram**	**5.08**	**38**	Pg	**Pg**	**00 28 11.5**	**-1.2**
	comp=E,10nm,0.7s						
KURS				Lg	Lg	00 29 23.2	
	comp=E,16nm,1.5s						
UZB	**Uzynbulak**	**5.27**	**45**	*eP*	**Pg**	**00 28 15.9**	**-0.5**
	comp=E,4.6nm,0.5s						
UZB				*eS*	**Sg**	**00 29 27.5**	**+2.8**
	comp=E,9.4nm,0.2s						
UZB	**Uzynbulak**	**5.27**	**45**	Pg	**Pg**	**00 28 14.2**	**-2.2**
	comp=E,3.9nm,0.4s						
UZB				Lg	Lg	00 29 27.5	
	comp=E,9.5nm,0.5s						
KPKS	**Kokpek**	**5.31**	**41**	*eP*	**Pg**	**00 28 15.5**	**-1.7**
	comp=E,7.4nm,0.1s						
KPKS				*eS*	**Sg**	**00 29 27.5**	**+1.4**
	comp=E,26nm,0.1s						
BTLS	**Baital**	**5.50**	**1**	*eP*	**Pg**	**00 28 17.8**	**-3.0**
	comp=E,3.2nm,0.2s						
BTLS				*eS*	**Sg**	**00 29 30.9**	**-1.3**
	comp=E,9.4nm,0.1s						
BTLS	**Baital**	**5.50**	**1**	Pg	**Pb**	**00 28 16.4**	**+4.1**
	comp=E,3.3nm,0.5s						
BTLS				Lg	Lg	00 29 31.5	
	comp=E,8.7nm,0.6s						
SHLS	**Shalkode**	**5.52**	**47**	*eP*	**Pg**	**00 28 25.4**	**+4.2**
	comp=E,4.8nm,0.0s						
SHLS				*eS*	Sg	00 29 43.7	+11
	comp=E,10nm,0.2s						
SHLS	**Shalkode**	**5.52**	**47**	Pg	**Pg**	**00 28 23.5**	**+2.3**
	comp=E,4.9nm,0.7s						
SHLS				Lg	Lg	00 29 43.7	
	comp=E,10nm,0.8s						
PDGK	**Podgornoye**	**5.65**	**46**	Pg	**Pg**	**00 28 21.4**	**-2.2**
	comp=E,1.8nm,0.7s						
PDGK				Lg	Lg	00 29 40.2	
	comp=E,6.4nm,1.0s						
PDGK	**Podgornoye**	**5.65**	**46**	Pn	Pn	00 28 06.0	+5.4
	comp=E,3.2nm,0.6s						
PDGK				Pg	**Pg**	**00 28 23.4**	**-0.2**
	comp=E,6.1nm,0.7s						
PDGK				Lg	Lg	00 29 41.9	
	comp=E,21nm,1.1s						
BLB	**Baldybastay**	**5.69**	**35**	*eP*	**Pg**	**00 28 23.4**	**-1.1**
	comp=E,9.8nm,0.2s						
BLB				*eS*	**Sg**	**00 29 39.9**	**+1.8**
	comp=E,15nm,0.9s						
BLB	**Baldybastay**	**5.69**	**35**	Pg	**Pg**	**00 28 20.3**	**-4.2**
	comp=E,9.8nm,0.6s						
BLB				Lg	Lg	00 29 39.9	
	comp=E,15nm,0.9s						
KTMS	**Ketmen**	**6.21**	**49**	*eP*	**Pg**	**00 28 34.0**	**-0.5**
	comp=E,4.3nm,0.8s						
KTMS				*eS*	**Sg**	**00 29 58.5**	**+3.6**
	comp=E,6.6nm,1.0s						
KTMS	**Ketmen**	**6.21**	**49**	Pg	**Pg**	**00 28 32.1**	**-2.3**
	comp=E,4.3nm,0.8s						
KTMS				Lg	Lg	00 29 58.5	
	comp=E,6.6nm,1.0s						
TDK	**Taldyqorghan**	**6.40**	**30**	*eP*	**Pg**	**00 28 34.8**	**-3.1**
	comp=E,8.0nm,0.4s						
TDK				*eS*	**Sg**	**00 29 59.7**	**-1.1**
	comp=E,35nm,0.8s						
TDK	**Taldyqorghan**	**6.40

comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=12
BELG Belogornoye 22.20 314 P **P 00 31 30.6 -2.4**
comp=E,4.0nm,0.7s,baz=120,slow=20,SNR=1.9
SONM Songino Array 24.76 60 P **P 00 32 01.8 +3.1**
comp=E,0.3nm,0.8s,baz=269,slow=7.3,SNR=4.4
FINES FINESS Array B 36.35 323 P **P 00 33 39.5 -1.1**
comp=E,2.0nm,0.9s,baz=99,slow=8.6,SNR=6.2
NOA NORSAR Array B 43.41 321 P **P 00 34 38.2 -1.2**
comp=E,0.2nm,0.5s,baz=87,slow=7.6,SNR=3.4

IDC ***15*** *00:35:10.8±1.6, 6.54N×125.00E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.4/3, Error ellipse: s-maj=32.8km s-min=11.9km az=129.0*
MAN ***15*** *00:35:15.1, 6.90N×126.12E, h45km, mb4.0, ML2.7, MS2.3*
ISC 15 00:35:15.8±1.6, 7.0N±0.2×126.1E±0.1, h50km, n5, σ0s56/6, mb3.4/3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.48**	**282**	Pg	**Pn**		**00 35 27.4**	**+0.6**
	156nm,0.3s,baz=261,slow=4.4,SNR=13							
DAV				Lg	Lg		00 35 34.8	
	317nm,0.3s,baz=247,slow=21,SNR=5.3							
KCP	**Kidapawan**	**0.95**	**273**	⇓*e*P	**Pn**		**00 35 32.9**	**-0.1**
KCP				*i* S	**Sn**		**00 35 45.5**	**0.0**
WRA	**Warramunga Arr**	**27.96**	**163**	P	**P**		**00 41 02.5**	**+0.6**
	0.8nm,0.9s,baz=332,slow=11,SNR=1.9							
ASAR	**Alice Springs**	**31.40**	**166**	P	**P**		**00 41 32.0**	**-0.3**
	0.3nm,0.3s,baz=341,slow=6.8,SNR=4.7							
MKAR	**Makanchi Array**	**54.54**	**324**	P	**P**		**00 44 38.5**	**-0.3**
	0.3nm,0.7s,baz=115,slow=8.0,SNR=2.2							

TUL ***15*** *00:50:14.2±1.2, 36.289N±0.010×97.49W±0.01, h5km±7km, ML2.5, mb_Lg2.2/14(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=69.0*
NEIC 15 00:50:14.1±1.2, 36.293N±0.010×97.49W±0.01, h4km±7km, Error ellipse: s-maj=1.8km s-min=1.3km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.88**	**178**	Pg	Pg		00 50 30.6	-0.3
OKCSW	**OKLAHOMA CITY**	**0.89**	**177**	Pg	Pg		00 50 30.6	-0.5
T35A	**Sooner Cattle**	**1.00**	**51**		Pg		00 50 33.7	+0.3
U32A	**Winter Ranch,**	**1.22**	**274**	Pg	Pg		00 50 36.3	-1.3
W35A	**Tecumseh**	**1.24**	**156**	Pg	Pg		00 50 37.2	-0.8
X34A	**Smith Ranch, M**	**1.71**	**189**		Pb		00 50 45.6	-0.5
WMOK	**Wichita Mounta**	**1.87**	**214**		Pn		00 50 46.9	-0.1
R32A	**Long Quarter,**	**2.34**	**336**	Pn	Pn		00 50 53.0	-0.3
HHAR	**Hobbs**	**2.87**	**89**		Pn		00 51 00.8	+0.2
KSU1	**Kansas State U**	**2.89**	**14**	Pg	Pg		00 51 09.4	0.0
W39A	**Magazine**	**3.21**	**109**	IAmb_Lg			00 52 00.2	
	comp=Z,7.4nm,0.8s							
S39A	**Bolivar**	**3.62**	**66**	IAmb_Lg			00 52 08.9	
	comp=Z,5.1nm,0.9s							
AMTX	**Amarillo**	**3.69**	**249**	IAmb_Lg			00 52 18.5	
	comp=Z,9.1nm,1.1s							
U40A	**Yellville**	**3.75**	**88**	IAmb_Lg			00 52 12.4	
	comp=Z,7.1nm,0.7s							
P38A	**Dawn**	**4.57**	**42**	IAmb_Lg			00 52 44.9	
	comp=Z,4.4nm,0.8s							
P40A	**Paris**	**5.38**	**51**	IAmb_Lg			00 53 10.0	
	comp=Z,7.5nm,0.7s							

NEIC ***15*** *00:50:48.4±1.5, 19.7S±0.1×178.1W±0.1, h494km±11km, mb4.3/12, Error ellipse: s-maj=21.3km s-min=15.1km az=145.0*
IDC ***15*** *00:50:51.5±2.1, 19.59S×178.18W, h541km±23km, mb3.1/4, mb1 3.3/7, mb1mx3.1/31, mbtmp4.0/7, Error ellipse: s-maj=35.1km s-min=27.0km az=169.0*
ISC 15 00:50:48.3±0.7, 19.7S±0.1×177.98W±0.0, h500km, n28, σ1s76/28, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**297**	P	**P**		**00 52 13.1**	**+4.2**
	2.6nm,0.3s,baz=100,slow=24,SNR=15							
MSVF	**Nonsavu**	**4.25**	**297**	P	**P**		**00 52 12.1**	**+3.2**
NIUE	**Niue**	**7.62**	**87**	P	**P**		**00 52 38.0**	**-2.8**
AFI	**Afiamalu**	**8.27**	**47**	P	**P**		**00 52 46.5**	**-1.2**
PINNC	**Pines Island,**	**13.90**	**255**	P	**P**		**00 53 45.7**	**-1.2**
LIFNC	**LIFOU**	**13.92**	**263**	P	**P**		**00 53 46.1**	**-1.0**
OUENC	**Ouen Island, N**	**14.43**	**257**	P	**P**		**00 53 52.0**	**-0.5**
DZM	**Mont Dzumac**	**14.75**	**258**	P	**P**		**00 53 55.8**	**-0.3**
	0.2nm,0.3s,baz=136,slow=16,SNR=1.8							
DZM	**Mont Dzumac**	**14.75**	**258**	P	**P**		**00 53 55.2**	**-0.9**
SANVU	**Saraoutou**	**14.75**	**284**	P	**P**		**00 53 54.8**	**-1.2**
MXZ	**Matakaoa Point**	**18.08**	**190**	P	**P**		**00 54 30.8**	**+1.6**
URZ	**Urewera**	**18.97**	**192**	P	**P**		**00 54 39.0**	**+1.6**
	0.2nm,0.3s,baz=162,slow=18,SNR=1.4							
QRZ	**Quartz Range**	**22.56**	**199**	P	**P**		**00 55 10.2**	**+0.4**
QRZ				IAmb	IAmb		00 55 23.5	
	comp=Z,18nm,1.1s							
CTA	**Charters Tower**	**33.60**	**263**	P	**P**		**00 56 46.3**	**-0.3**
	comp=Z,3.6nm,0.4s,baz=79,slow=10,SNR=7.2							
BBOO	**Buckleboo**	**42.92**	**243**	P	**P**		**00 58 00.8**	**-1.6**
BBOO				IAmb	IAmb		00 58 16.1	
	comp=Z,8.7nm,1.0s							
WR0	**Warramunga Arr**	**44.55**	**261**	P	**P**		**00 58 13.9**	**-1.4**
WB0	**Warramunga Arr**	**44.71**	**262**	P	**P**		**00 58 15.3**	**-1.3**
WB2	**Warramunga Arr**	**44.73**	**261**	P	**P**		**00 58 15.3**	**-1.3**
WB2				IAmb	IAmb		00 58 28.9	
	comp=Z,5.4nm,1.1s							
ASAR	**Alice Springs**	**44.73**	**256**	P	**P**		**00 58 15.5**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=85,slow=8.8,SNR=18							
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**		**00 58 15.3**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=96,slow=8.2,SNR=44							
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**		**00 58 15.4**	**-1.4**
FORT	**Forrest**	**49.63**	**246**	P	**P**		**00 58 51.9**	**-1.6**
FORT				IAmb	IAmb		00 58 58.9	
	comp=Z,24nm,1.0s							
KNRA	**Kununurra**	**50.74**	**266**	P	**P**		**00 59 01.1**	**-0.8**
KNRA				IAmb	IAmb		00 59 01.3	
	comp=Z,17nm,1.1s							
PSA00	**Pilbara Seismi**	**57.87**	**256**	P	**P**		**00 59 51.0**	**-1.1**
PSA00				IAmb	IAmb		01 00 10.4	
	comp=Z,10nm,1.1s							
MCCM	**Marconi Confer**	**77.36**	**42**	P	**P**		**01 01 51.5**	**+0.5**
PMSA	**Palmer Station**	**82.00**	**157**	P	**P**		**01 02 18.5**	**+3.3**
TXAR	**Lajitas Array**	**86.61**	**57**	P	**P**		**01 02 38.4**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=206,slow=6.0,SNR=3.8							
TXAR	**Lajitas Array**	**86.61**	**57**	P	**P**		**01 02 39.0**	**+0.4**

IDC ***15*** *01:27:08.7±9.4, 20.05S×177.23W, h457km±101km, mb3.1/4, mb1 3.3/5, mb1mx2.9/45, mbtmp4.0/5, Error ellipse: s-maj=55.6km s-min=39.7km az=20.0*
ISC 15 01:27:08.0±1.5, 20.0S±0.2×177.2W±0.3, h450km, n6, σ0s39/7, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.83**	**194**	P	**P**		**01 30 58.4**	**0.0**
	0.9nm,0.3s,baz=336,slow=8.8,SNR=2.1							
CTA	**Charters Tower**	**34.29**	**263**	P	**P**		**01 33 15.4**	**+0.1**
	2.5nm,0.5s,baz=76,slow=8.3,SNR=2.0							
ASAR	**Alice Springs**	**45.37**	**256**	P	**P**		**01 34 44.8**	**-0.1**
	2.4nm,0.8s,baz=89,slow=8.1,SNR=21							
ASAR				PcP		**pwP**	**01 36 14.8**	**+0.6**
	0.4nm,0.5s,baz=94,slow=3.7,SNR=4.5							
WRA	**Warramunga Arr**	**45.42**	**261**	P	**P**		**01 34 44.8**	**-0.5**
	0.9nm,0.4s,baz=98,slow=6.8,SNR=14							
ILAR	**Eielson Array**	**87.69**	**13**	P	**P**		**01 39 07.1**	**0.0**
	0.2nm,0.6s,baz=213,slow=4.8,SNR=1.7							
GERES	**GERESS Array B**	**149.94**	**346**	PKPbc		**PKPbc**	**01 46 06.7**	**+0.1**
	0.4nm,0.7s,baz=41,slow=3.1,SNR=3.8							

KRSC 15 01:34:55.9±1.7, 49.75N×156.97E, h61km±33km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**330**	*e*P		Pn	01 35 15.4	+0.3
SKR				*e*S		Sn	01 35 29.1	-0.2
PAU	**Pauzhetka**	**1.72**	**357**	*e*P		Pn	01 35 25.3	+1.7
PAU				*e*S		Sn	01 35 46.8	+2.2
KDTR	**Khodutka, Kamc**	**2.18**	**18**	*e*P		Pn	01 35 32.7	+3.0
KDTR				*e*S		Sn	01 35 59.7	+4.1
MTVR	**Mutnovka**	**2.84**	**15**	*e*P		Pn	01 35 42.1	+3.2
MTVR				*e*S		Sn	01 36 15.9	+3.9
RUS	**Russkaya**	**2.86**	**19**	*e*P		Pn	01 35 41.6	+2.6
RUS				*e*S		Sn	01 36 14.9	+2.7
GRL	**Gorelyy**	**2.89**	**13**	*e*P		Pn	01 35 42.9	+3.3
UGLR	**Uglovaya**	**3.65**	**18**	*e*P		Pn	01 35 53.6	+3.6
AVH	**Avacha**	**3.69**	**17**	*e*P		Pn	01 35 54.1	+3.6
KOK	**Koryaka**	**3.70**	**16**	*e*P		Pn	01 35 54.5	+3.9
SDLR	**Sedlovina**	**3.73**	**18**	*e*P		Pn	01 35 54.0	+2.9
SPN	**Mys Shipunski**	**3.86**	**28**	*e*P		Pn	01 35 56.0	+3.3
SPN				*e*S		Sn	01 36 40.6	+3.9
MKZ	**Mys Kozlova**	**5.63**	**29**	*e*P		Pn	01 36 19.0	+2.1

IDC 15 01:40:34.8±1.6, 19.36N×144.81E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/53, mbtmp3.8/4, Error ellipse: s-maj=182.5km s-min=27.9km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.39**	**195**	P	P		01 48 14.3	-0.4
	0.5nm,0.3s,baz=6.7,slow=8.4,SNR=30							
FITZ	**Fitzroy Crossi**	**41.72**	**208**	P	P		01 48 26.6	+0.9
	1.8nm,0.6s,baz=31,slow=8.6,SNR=12							
ASAR	**Alice Springs**	**44.07**	**194**	P	P		01 48 43.8	-1.0
	0.5nm,0.4s,baz=16,slow=7.0,SNR=8.9							
YKA	**Yellowknife Ar**	**77.80**	**28**	P	P		01 52 33.8	+0.1
	0.1nm,0.6s,baz=286,slow=5.4,SNR=4.4							

IDC 15 01:47:58.0±10.0, 19.51S×178.39W, h570km±48km, mb2.7/2, mb1 2.9/4, mb1mx2.8/28, mbtmp3.7/4, Error ellipse: s-maj=252.6km s-min=91.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.81**	**297**	P	P		01 49 20.3	+0.1
	0.8nm,0.3s,baz=172,slow=23,SNR=4.2							
DZM	**Mont Dzumac**	**14.41**	**257**	P	P		01 51 00.2	-1.3
	0.2nm,0.3s,baz=92,slow=16,SNR=2.6							
WRA	**Warramunga Arr**	**44.39**	**261**	P	P		01 55 18.7	-0.3
	0.2nm,0.3s,baz=96,slow=7.8,SNR=19							
ASAR	**Alice Springs**	**44.40**	**256**	P	P		01 55 19.2	+0.2
	1.1nm,0.6s,baz=95,slow=7.5,SNR=14							
AKASG	**Malin Array Be**	**141.98**	**331**	PKP		PKPdf	02 06 23.4	-2.0
	0.4nm,0.4s,baz=40,slow=4.1,SNR=2.4							

IDC ***15*** *01:52:27.5±2.2, 30.26S×178.00W, h74km±14km, mb3.2/2, mb1 3.5/3, mb1mx3.4/24, mbtmp3.6/3, Error ellipse: s-maj=57.9km s-min=17.3km az=105.0*
ISC 15 01:52:28.3±1.0, 30.1S±0.1×178.6W±0.2, h50km, n5, σ2s24/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**35**	P	**Pn**		**01 52 47.6**	**+1.0**
	666nm,0.3s,baz=88,slow=9.6,SNR=46							
RAO				S	**Sn**		**01 53 00.6**	**+0.4**
	629nm,0.3s,baz=73,slow=23,SNR=16							
URZ	**Urewera**	**8.86**	**202**	P	**Pn**		**01 54 33.3**	**-0.3**
	0.5nm,0.3s,baz=260,slow=4.4,SNR=9.9							
URZ				S	**Sn**		**01 56 12.8**	**+0.8**
	0.7nm,0.3s,baz=155,slow=5.8,SNR=1.7							
ASAR	**Alice Springs**	**42.60**	**267**	P	**P**		**02 00 20.8**	**+1.0**
	0.2nm,0.3s,baz=104,slow=7.4,SNR=5.9							
WRA	**Warramunga Arr**	**43.57**	**272**	P	**P**		**02 00 28.5**	**+0.9**
	1.2nm,0.9s,baz=111,slow=7.9,SNR=14							
FINES	**FINESS Array B**	**144.70**	**340**	PKPbc		**PKPbc**	**02 11 53.6**	**-4.1**
	0.5nm,0.4s,baz=50,slow=4.3,SNR=6.8							

MEX 15 02:13:18.0±1.3, 19.73N×105.39W, h53km±47km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.40**	**125**	*e*P		Pn	02 13 25.2	-3.2
CJM				*i* S		Sn	02 13 32.2	-3.6
R15V		**1.44**	**112**	*e*P		Pn	02 13 39.9	-1.9
R15V				*e*S		Sn	02 13 56.7	-2.9
R15V		**1.44**	**112**	*e*P		Pn	02 13 40.1	-1.7
R15V				*e*S		Sn	02 13 57.6	-2.1
MNGA	**Volcan de Coli**	**1.69**	**99**	*e*P		Pn	02 13 45.6	+0.3
MNGA				*e*S		Sn	02 14 04.6	-1.5
MNGA	**Volcan de Coli**	**1.69**	**99**	*e*P		Pn	02 13 44.6	-0.7
MNGA				*e*S		Sn	02 14 04.6	-1.5
COIG	**Colima**	**1.69**	**109**	*e*		Pn	02 13 39.5	-5.8
COIG				*e*			02 14 03.2	
COIG	**Colima**	**1.69**	**109**	*e*		Pn	02 13 43.4	-2.0
COIG				*e*			02 14 03.2	
INCO	**Volcan de Coli**	**1.70**	**97**	*e*P		Pn	02 13 43.6	-2.0
INCO				*e*S		Sn	02 14 04.0	-2.5
INCO	**Volcan de Coli**	**1.70**	**97**	*e*P		Pn	02 13 43.6	-2.0
INCO				*e*S		Sn	02 14 04.6	-1.8
EZ5V		**1.71**	**98**	*e*P		Pn	02 13 44.7	-0.9
EZ5V				*e*S		Sn	02 14 02.5	-3.9
EZ5V		**1.71**	**98**	*e*P		Pn	02 13 44.5	-1.1
EZ5V				*e*S		Sn	02 14 04.5	-1.9
JUBC	**Volcan de Coli**	**1.73**	**97**	*i* P		Pn	02 13 44.7	-1.2
JUBC				*e*S		Sn	02 14 03.6	-3.5
JUBC	**Volcan de Coli**	**1.73**	**97**	*i* P		Pn	02 13 44.6	-1.4
JUBC				*e*S		Sn	02 14 04.8	-2.3

SOME ***15*** *02:35:06.8, 39.57N×74.47E, h5km*
NNC ***15*** *02:35:09.9±5.6, 39.26N×74.49E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=45.7km s-min=31.6km az=151.0*
KRNET ***15*** *02:35:09.1±0.1, 39.38N×74.54E, mb3.1*
ISC 15 02:35:05.2±1.7, 39.50N±0.06×74.56E±0.03, h5km±16km, n29, σ1s69/57, 26C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.70**	**307**	⇑*i*P		**Pg**	**02 35 41.2**	**+3.4**
	baz=11							
OHH				⇑*i*S		**Sg**	**02 36 04.9**	**+5.0**
	baz=11							
DRK	**Karamyk**	**2.13**	**270**	⇑*i*P		**Pg**	**02 35 46.1**	**0.0**
	baz=74							
DRK				⇑*i*S		**Sg**	**02 36 13.6**	**-0.2**
	baz=74							
ARLS	**Aral**	**2.36**	**356**	⇑*i*P		**Pg**	**02 35 51.3**	**+0.8**
	baz=56							
ARLS				⇑*i*S		**Sg**	**02 36 21.9**	**+0.8**
	baz=56							
UCH	**Uchtor**	**2.72**	**359**	⇑*i*P		**Pb**	**02 35 56.4**	**+1.8**
	baz=60							
UCH				⇑*i*S		**Sg**	**02 36 30.8**	**-1.8**
	baz=60							
BTK	**Batken**	**2.94**	**282**	⇑*i*P		**Pb**	**02 35 57.6**	**-0.5**
	baz=84							
BTK				⇑*i*S		**Sb**	**02 36 33.1**	**-1.2**
	baz=84							
ULHL	**Ulahol**	**3.02**	**24**	⇑*i*P		**Pb**	**02 36 00.4**	**+0.8**
	baz=24							
ULHL				⇑*i*S		**Sb**	**02 36 37.8**	**+0.9**
	baz=24							
ARK	**Arkit**	**3.02**	**320**	⇑*i*P		**Pb**	**02 36 00.0**	**+0.4**
	baz=22							
ARK				⇑*i*S		**Sb**	**02 36 37.1**	**+0.2**
	baz=22							
AAK	**Ala-Archa**	**3.13**	**359**	⇑*e*P		**Pb**	**02 36 02.1**	**+0.7**
	baz=59							
AAK				⇑*i*S		**Sb**	**02 36 40.6**	**+0.6**
	baz=59							
AAK	**Ala-Archa**	**3.13**	**359**	⇑P		**Pb**	**02 36 03.0**	**+1.6**
	9.8nm,0.7s							
AAK				⇓S		**Sg**	**02 36 44.3**	**-1.4**
	9.1nm,0.7s							
BOOM	**Boomskoye usch**	**3.16**	**19**	⇑*i*P		**Pb**	**02 36 02.5**	**+0.5**
	baz=18							
BOOM				⇑*i*S		**Sb**	**02 36 41.3**	**+0.4**
	baz=18							
KBK	**Karagaybulak**	**3.16**	**5**	⇑*i*P		**Pb**	**02 36 02.5**	**+0.5**
	baz=5.0							
KBK				⇑*i*S		**Sb**	**02 36 41.4**	**+0.5**
	baz=5.0							
EKS2	**Erkin-Say**	**3.21**	**350**	⇑*e*P		**Pb**	**02 36 03.1**	**+0.3**
	baz=50							
EKS2				⇑*i*S		**Sb**	**02 36 42.4**	**+0.2**
	baz=50							
KDJ	**Kajisay**	**3.29**	**36**	⇓*i*P		**Pb**	**02 36 04.1**	**-0.1**
	baz=35							
KDJ				⇓*i*S		**Sb**	**02 36 44.2**	**-0.5**
	baz=35							
TRKS	**Terek-Say**	**3.30**	**309**	⇑*i*P		**Pb**	**02 36 02.6**	**-1.7**
	baz=10.0							
TRKS				⇑*i*S		**Sb**	**02 36 41.8**	**-3.0**
	baz=10.0							
MRKS	**Merke**	**3.39**	**343**	*e*P		**Pg**	**02 36 09.0**	**-1.2**
	3.1nm,0.1s							
MRKS				*e*S		**Sg**	**02 36 53.9**	**-0.2**
	6.7nm,0.3s							
TKM2	**Tokmak 2**	**3.50**	**13**	⇓P		**Pb**	**02 36 08.7**	**+0.9**
	5.7nm,0.8s							
TKM2				⇓S		**Sg**	**02 36 56.1**	**-1.6**
	12nm,0.6s							
DGS	**Degeres**	**3.84**	**13**	*e*P		**Pg**	**02 36 17.7**	**-1.1**
	4.6nm,0.3s							
DGS				*e*S		**Sg**	**02 37 08.8**	**+0.2**
	16nm,0.2s							
SGDS	**Sogindy**	**3.94**	**1**	*e*P		**Pg**	**02 36 19.1**	**-1.7**
	0.3nm,0.1s							
SGDS				*e*S		**Sg**	**02 37 10.9**	**-1.0**
	5.6nm,0.2s							
TNSS	**Tian-Shan**	**3.96**	**26**	*e*P		**Pg**	**02 36 20.9**	**-0.3**
	2.3nm,0.1s							
TNSS				*e*S		**Sg**	**02 37 13.7**	**+1.3**
	5.7nm,0.0s							
MDOK	**Medeo**	**4.11**	**26**	*e*P		**Pg**	**02 36 23.0**	**-0.9**
	1.0nm,0.2s							
MDOK				*e*S		**Sg**	**02 37 17.1**	**0.0**
	7.5nm,0.2s							
MDOK	**Medeo**	**4.11**	**26**	P		**Pb**	**02 36 18.6**	**+0.5**
	3.1nm,0.7s							
MDOK				S		**Sb**	**02 37 11.9**	**+3.8**
	12nm,1.0s							
KOTS	**Kotyrbulak**	**4.19**	**26**	*e*P		**Pg**	**02 36 25.1**	**-0.4**
	1.5nm,0.1s							
KOTS				*e*S		**Sg**	**02 37 21.4**	**+1.5**
	41nm,0.7s							
KRBS	**Karabastau**	**4.27**	**11**	*e*P		**Pg**	**02 36 25.1**	**-2.0**
	0.6nm,0.2s							
KRBS				*e*S		**Sg**	**02 37 21.5**	**-0.9**
	6.7nm,0.3s							
KTBS	**Karatobe**	**4.50**	**20**	*e*P		**Pg**	**02 36 30.0**	**-1.3**
	1.9nm,0.1s							
KTBS				*e*S		**Sg**	**02 37 29.4**	**-0.1**
	23nm,0.1s							
KUU	**Kurty**	**4.58**	**16**	*e*P		**Pg**	**02 36 31.2**	**-1.8**
	0.7nm,0.0s							
KUU				*e*S		**Sg**	**02 37 31.3**	**-1.0**
	8.1nm,0.3s							
KK09	**Karatay Array**	**4.73**	**321**	⇓P		Pb	02 36 23.1	-5.5
	0.7nm,0.5s							
KK09				⇑S		**Sb**	**02 37 25.6**	**-0.4**
	1.2nm,0.4s,baz=137,slow=30							
BRLS	**Boroldaу**	**5.01**	**316**	*e*P		**Pg**	**02 36 36.5**	**+3.2**
	0.9nm,0.0s							
BRLS				*e*S		**Sg**	**02 37 40.6**	**-5.4**
	1.5nm,0.1s							
KPKS	**Kokpek**	**5.03**	**37**	*e*P		**Pg**	**02 36 39.7**	**-1.8**
	1.8nm,0.1s							
KPKS				*e*S		**Sg**	**02 37 46.4**	**-0.2**
	4.4nm,0.1s							
BLB	**Baldybastay**	**5.44**	**31**	*e*P		**Pg**	**02 36 48.5**	**-0.9**
	3.2nm,0.1s							
BLB				*e*S		**Sg**	**02 38 01.3**	**+1.3**
	5.1nm,0.3s							

GUC ***15*** *02:35:56.3±0.5, 18.77S×69.58W, h93km±3km, ML3.7*
IDC ***15*** *02:35:58.5±1.8, 18.94S×69.13W, h123km±18km, mb3.3/1, mb1 3.4/4, mb1mx3.1/32, mbtmp3.6/4, Error ellipse: s-maj=31.8km s-min=13.7km az=108.0*
ISC 15 02:35:54.9±0.9, 18.78S±0.04×69.53W±0.07, h93km±7km, n17, σ1s87/25, 3C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.44**	**3**	⇑*i*P		**Pn**	**02 36 12.0**	**+1.7**
PB16				*i* S		**Sn**	**02 36 24.0**	**+2.3**
PB16				IAML			02 36 25.2	
	comp=N,3μm,0.5s							
PB12	**IPOC Station P**	**0.77**	**282**	⇑*i*P		**Pn**	**02 36 12.7**	**+0.2**
PB12				*i* S		**Sn**	**02 36 25.6**	**-0.2**
PB12				IAML			02 36 26.0	
	comp=N,6μm,0.2s							
AP01	**Chacalluta**	**0.87**	**298**	⇑*i*P		**Pn**	**02 36 14.1**	**+0.7**
AP01				*i* S		**Sn**	**02 36 28.1**	**+0.8**
AP01				IAML			02 36 28.6	
	comp=E,4μm,0.3s							
GO01	**Chusmiza**	**0.94**	**160**	*e*P		**Pn**	**02 36 16.4**	**+1.7**
GO01				IAML			02 36 38.2	
	comp=N,3μm,0.1s							
PB11	**IPOC Station P**	**0.98**	**187**	⇓*i*P		**Pn**	**02 36 15.7**	**+0.8**
PB11				*i* S		**Sn**	**02 36 30.9**	**+1.0**
PB11				IAML			02 36 32.0	
	comp=N,1μm,0.2s							
PB08	**IPOC Station P**	**1.40**	**165**	⇓*i*P		**Pn**	**02 36 21.8**	**+1.8**
PB08				*i* S		**Sn**	**02 36 41.1**	**+2.2**
PB08				IAML			02 36 43.0	
	comp=E,1μm,0.4s							
TA02	**Huaiquique**	**1.59**	**201**	IAML			02 36 48.4	
	comp=N,1μm,0.2s							
PB01	**IPOC Station P**	**2.25**	**179**	⇓*i*P		**Pn**	**02 36 31.5**	**+0.8**
PB01				*i* S		**Sn**	**02 36 59.0**	**+1.0**
PB01				IAML			02 37 06.0	
	comp=N,688nm,0.2s							
PB02	**IPOC Station P**	**2.55**	**188**	⇓*i*P		**Pn**	**02 36 35.5**	**+0.9**
PB02				IAML			02 37 15.3	
	comp=N,593nm,0.4s							
LPAZ	**La Paz**	**2.81**	**29**	P		**Pn**	**02 36 42.9**	**+4.3**
	comp=N,0.9nm,0.3s,baz=205,slow=5.7,SNR=39							
PB07	**IPOC Station P**	**2.95**	**186**	*e*P		**Pn**	**02 36 40.9**	**+0.8**
PB09	**IPOC Station P**	**3.02**	**175**	⇓*i*P		**Pn**	**02 36 42.

DUNU	**Dundret**	**0.70**	**170**	⇓	*i*	P	**Pg**	**02 50 42.2**	**-0.1**
DUNU					*i*	S	**Sg**	**02 50 52.0**	**+0.7**
LANU	**Lannavaara**	**0.70**	**69**		*e*	P	**Pg**	**02 50 42.2**	**-0.1**
LANU					*e*	S	**Sg**	**02 50 51.4**	**0.0**
MASU	**Masugnsbyn**	**0.76**	**117**	⇓	*i*	P	**Pg**	**02 50 43.4**	**0.0**
SALU	**Saltoluokta**	**0.79**	**238**		*i*	P	**Pg**	**02 50 43.6**	**-0.5**
KIF	**Kilpisjarvi**	**1.22**	**9**		*e*	P	**Pg**	**02 50 52.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.22**	**9**		*e*	P	**Pg**	**02 50 52.0**	**-0.2**
KIF					*e*	S	**Sg**	**02 51 07.8**	**-0.3**
PAJU	**Pajala**	**1.36**	**124**		*e*	P	**Pg**	**02 50 54.1**	**-0.8**
PAJU					*e*	S	**Sg**	**02 51 12.0**	**-0.4**
HEF	**Hetta**	**1.41**	**63**		*e*	P	**Pg**	**02 50 55.2**	**-0.8**
HEF	**Hetta**	**1.41**	**63**		*e*	P	**Pg**	**02 50 54.9**	**-1.1**
HEF					*e*	S	**Sg**	**02 51 13.1**	**-1.3**
HEF				MSG				02 51 18.8	
	comp=Z,8.0nm,0.1s								
ERTU	**Ertsjaerv**	**1.47**	**148**		*e*	P	**Pn**	**02 50 56.1**	**-0.6**
ERTU					*e*	S	**Sg**	**02 51 15.6**	**-0.5**
KLF	**Kolari**	**1.54**	**110**		*e*	P	**Pn**	**02 50 57.3**	**-0.3**
KLF					*e*	S	**Sg**	**02 51 16.9**	**-1.4**
KLF				MSG				02 51 19.5	
	comp=Z,9.6nm,0.1s								
HARU	**Harads**	**1.68**	**170**		*e*	P	**Pn**	**02 50 59.4**	**-0.1**
KALU	**Kalix**	**2.31**	**146**		*e*	P	**Pn**	**02 51 09.4**	**+1.2**
KALU					*e*	S	**Sn**	**02 51 38.3**	**+1.1**
TOF	**Tornio**	**2.36**	**135**		*e*	P	**Pn**	**02 51 10.6**	**+1.7**
TOF					*e*	S	**Sn**	**02 51 40.3**	**+1.8**
TOF				MSG				02 51 44.5	
	comp=Z,4.6nm,0.1s								
SGF	**Sodankyl**	**2.43**	**96**		*e*	P	**Pn**	**02 51 10.6**	**+0.8**
SGF					*e*	S	**Sn**	**02 51 41.0**	**+0.8**
RNF	**Rovaniemi**	**2.55**	**116**		*e*	P	**Pn**	**02 51 13.3**	**+1.8**
RNF					*e*	S	**Sn**	**02 51 44.0**	**+0.9**
ARA0	**ARCESS Array S**	**2.59**	**45**		*e*	P	**Pn**	**02 51 13.3**	**+1.2**
ARA0					*e*	S	**Sn**	**02 51 44.4**	**+0.2**
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn			**Pn**	**02 51 12.4**	**+0.3**
	baz=222,slow=15,SNR=31								
ARCES					Lg		Lg	02 51 44.8	
	baz=227,slow=23,SNR=25								
KEV	**Kevo**	**3.14**	**48**		*e*	P	**Pn**	**02 51 20.1**	**+0.5**
KEV					*e*	S	**Sn**	**02 51 57.9**	**+0.2**
OUL	**Oulu**	**3.55**	**138**		*e*	P	**Pn**	**02 51 27.4**	**+2.1**
OUL					*e*	S	**Sn**	**02 52 08.4**	**+0.7**
VRF	**Varrio**	**3.56**	**87**		*e*	P	**Pn**	**02 51 25.6**	**+0.3**
VRF					*e*	S	**Sn**	**02 52 07.6**	**-0.4**
OBF4	**Vikkela, Lumij**	**3.59**	**145**		*e*	P	**Pn**	**02 51 26.9**	**+1.2**
OBF4					*e*	S	**Sn**	**02 52 08.9**	**+0.2**
FINES	**FINESS Array B**	**6.86**	**156**	Pn			**Pn**	**02 52 11.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=11,SNR=5.8								
FINES					Sn		**Sn**	**02 53 27.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=24,SNR=1.5								
FINES					Lg		Lg	02 54 01.8	
	comp=Z,0.4nm,0.3s,baz=334,slow=29,SNR=5.5								
NOA	**NORSAR Array B**	**7.83**	**214**	Pn			**Pn**	**02 52 24.8**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=10,slow=12,SNR=1.4								
NOA					Sn		**Sn**	**02 53 55.2**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=318,slow=2.0,SNR=1.2								
NOA					Lg		Lg	02 54 33.2	
	comp=Z,0.0nm,0.3s,baz=4.0,slow=19,SNR=5.3								
HFS	**Hagfors**	**8.22**	**204**		Sn		**Sn**	**02 53 56.8**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=355,slow=33,SNR=1.6								
HFS					Lg		Lg	02 54 46.8	
	comp=Z,0.3nm,0.3s,baz=39,slow=30,SNR=4.1								

IDC ***15*** *02:53:46.6±3.7, 5°.49S×103°.12E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/36, mbtmp3.7/3, Error ellipse: s-maj=192.8km s-min=31.4km az=53.0*
DJA ***15*** *02:53:52.8±2.7, 6°S±13°×10°3E±°, h28km±25km, M3.9/3, MLv3.9/3*

ISC 15 02:53:52.6±1.3, 5°.5S±0°.1×103°.27E±0°.10, h35km, n6, σ0§79/8, mb3.6/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LWLI	**Liwa**	**0.94**	**57**	P		**Pn**	**02 54 09.3**	**-0.1**
LWLI				S		**Sn**	**02 54 21.9**	**+0.3**
MNAI	**Manna**	**1.20**	**345**	P		**Pn**	**02 54 13.8**	**+0.8**
KASI	**Kota Agung**	**1.22**	**90**	P		**Pn**	**02 54 13.4**	**+0.2**
KASI				S		**Sn**	**02 54 28.8**	**+0.3**
WRA	**Warramunga Arr**	**33.43**	**118**	P		**P**	**03 00 28.5**	**+0.1**
	0.6nm,0.8s,baz=288,slow=11,SNR=2.0							
STKA	**Stephens Creek**	**44.38**	**131**	P		**P**	**03 02 00.5**	**+0.5**
	2.0nm,0.7s,baz=293,slow=6.5,SNR=5.2							
MKAR	**Makanchi Array**	**55.32**	**343**	P		**P**	**03 03 21.4**	**-1.4**
	0.3nm,0.8s,baz=154,slow=8.5,SNR=3.7							

IDC ***15*** *03:05:24.5±6.9, 14°.43N×93°.39W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/35, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=185.9km s-min=56.7km az=27.0*
MEX ***15*** *03:05:27.7±0.7, 14°.41N×93°.83W, h83km±91km, MD4.0*

ISC 15 03:05:25.2±2.6, 14°.51N±0°.08×93°.74W±0°.06, h2km±16km, n17, σ1§62/27, mb3.7/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.29**	**23**	*e*	P	**Pb**	**03 05 50.7**	**+0.5**
PCIG				*i*	S	**Sg**	**03 06 08.6**	**+1.9**
THIG		**1.48**	**74**	*e*	P	**Pb**	**03 05 53.1**	**-0.4**
THIG				*i*	S	**Sg**	**03 06 12.3**	**-0.5**
PATR	**El Naranjo**	**1.58**	**67**	*e*	P	**Pn**	**03 05 54.3**	**-0.1**
PATR				*i*	S	**Sg**	**03 06 15.0**	**-0.9**
PAVE	**Pavencul**	**1.66**	**66**	*e*	P	**Pb**	**03 05 55.8**	**-0.9**
PAVE				*i*	S	**Sg**	**03 06 18.1**	**-0.4**
CARR	**Arriaga**	**1.74**	**354**	*e*	P	**Pn**	**03 05 56.4**	**0.0**
CARR				*e*	S	**Sn**	**03 06 18.2**	**-0.9**
TGIG		**2.33**	**15**	*e*	P	**Pn**	**03 06 04.9**	**+0.2**
TGIG				*i*	S	**Sn**	**03 06 34.1**	**+0.1**
CCIG	**Comitan**	**2.34**	**41**	*e*	P	**Pb**	**03 06 07.6**	**-0.7**
CCIG				*e*	S	**Sb**	**03 06 35.0**	**-2.8**
HUIG	**Huatulco**	**2.61**	**299**	*e*		**Pn**	**03 06 06.3**	**-2.1**
HUIG				*e*			03 06 33.0	
CMIG	**Matias Romero**	**2.79**	**337**	*e*	P	**Pn**	**03 06 10.3**	**-0.7**
CMIG				*i*	S	**Sn**	**03 06 42.7**	**-2.6**
UXUV	**UXUV**	**2.82**	**352**	*e*	P	**Pn**	**03 06 11.6**	**+0.3**
UXUV				*i*	S	**Sn**	**03 06 43.8**	**-2.1**
NEUV	**Arroyo Zacate**	**3.75**	**328**	*e*	P	**Pn**	**03 06 22.8**	**-1.4**
NEUV				*i*	S	**Sn**	**03 07 05.8**	**-3.1**
TXAR	**Lajitas Array**	**17.38**	**330**	P		**P**	**03 09 33.5**	**+3.1**
	0.0nm,0.3s,baz=155,slow=11,SNR=3.6							
PDAR	**Pinedale Array**	**31.28**	**337**	P		**P**	**03 11 48.0**	**+1.2**
	0.4nm,0.8s,baz=131,slow=11,SNR=1.9							
NVAR	**Mina Array Bea**	**32.23**	**322**	P		**P**	**03 11 57.9**	**+2.7**
	0.4nm,0.8s,baz=134,slow=10,SNR=1.9							
YKA	**Yellowknife Ar**	**50.16**	**348**	P		**P**	**03 14 22.0**	**+0.1**
	1.2nm,0.7s,baz=154,slow=7.3,SNR=23							
ILAR	**Eielson Array**	**61.71**	**337**	P		**P**	**03 15 45.0**	**+0.2**
	0.5nm,0.9s,baz=144,slow=4.5,SNR=6.0							
NOA	**NORSAR Array B**	**84.50**	**28**	P		**P**	**03 17 59.7**	**0.0**
	0.5nm,0.8s,baz=293,slow=4.7,SNR=3.3							

NEIC 15 03:07:47.4±0.4, 37°.055N±0°.009×97°.905W±0°.004, h4km±4km, Error ellipse: s-maj=1.4km s-min=0.5km az=176.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
T35A	**Sooner Cattle**	**1.12**	**97**	Pg		Pg	03 08 08.2	-0.8
R32A	**Long Quarter,**	**1.51**	**335**			Pn	03 08 14.6	-0.7
OKCFA	**Oklahoma City**	**1.68**	**167**	IAmb_Lg			03 08 42.8	
	comp=Z,20nm,0.8s							
OKCSW	**OKLAHOMA CITY**	**1.69**	**167**			Pn	03 08 16.7	-1.0
FNO	**Franklin**	**1.84**	**167**			Pn	03 08 18.7	-1.1
W35A	**Tecumseh**	**2.07**	**156**			Pn	03 08 22.1	-1.0
KSU1	**Kansas State U**	**2.29**	**26**	IAmb_Lg			03 09 00.3	
	comp=Z,11nm,0.8s							
X37A	**Clayton**	**3.21**	**139**	IAmb_Lg			03 09 33.4	
	comp=Z,5.9nm,0.7s							
Z35A	**Perchaven, San**	**3.75**	**172**	IAmb_Lg			03 09 52.6	
	comp=Z,4.6nm,0.7s							
P38A	**Dawn**	**4.29**	**52**	IAmb_Lg			03 10 09.2	
	comp=Z,4.4nm,1.1s							
L34A	**Svendsen Farm,**	**5.05**	**13**	IAmb_Lg			03 10 34.3	
	comp=Z,7.5nm,0.7s							

TUL ***15*** *03:09:04.3±0.6, 35°.82N±0°.02×96°.81W±0°.04, h6km±6km, ML3.3, mb_Lg2.8/66(NEIC), Error ellipse: s-maj=5.4km s-min=2.2km az=116.0*

NEIC 15 03:09:04.5±0.5, 35°.82N±0°.02×96°.81W±0°.04, h9km±5km, Error ellipse: s-maj=5.5km s-min=1.5km az=120.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.35**	**242**	Pg		Pg	03 09 11.3	-0.1
OK001	**Jones High Sch**	**0.47**	**236**	Pg		Pg	03 09 13.4	-0.2
OKCSW	**OKLAHOMA CITY**	**0.66**	**231**	Pg		Pg	03 09 16.6	-0.6
OKCFA	**Oklahoma City**	**0.66**	**232**	Pg		Pg	03 09 16.7	-0.6
W35A	**Tecumseh**	**0.67**	**184**	Pg		Pg	03 09 17.1	-0.3
FNO	**Franklin**	**0.74**	**221**	Pg		Pg	03 09 18.2	-0.6
TUL1	**Leonard**	**0.83**	**84**	Pg		Pg	03 09 20.1	-0.5
T35A	**Sooner Cattle**	**1.12**	**12**			Pg	03 09 25.1	-0.9
X34A	**Smith Ranch, M**	**1.48**	**215**			Pn	03 09 31.4	+0.1
X37A	**Clayton**	**1.70**	**136**	Pn		Pn	03 09 34.3	-0.1
X37A				IAmb_Lg			03 09 58.3	
	comp=Z,14nm,0.8s							
U32A	**Winter Ranch,**	**1.86**	**288**			Pn	03 09 36.9	+0.3
WMOK	**Wichita Mounta**	**1.94**	**237**			Pn	03 09 37.7	0.0
Z35A	**Perchaven, San**	**2.51**	**188**	Pn		Pn	03 09 45.5	0.0
Z35A				IAmb_Lg			03 10 30.3	
	comp=Z,12nm,0.8s							
W39A	**Magazine**	**2.55**	**103**			Pn	03 09 46.1	+0.1
W39A				IAmb_Lg			03 10 30.3	
	comp=Z,41nm,0.8s							
Z38A	**Mt. Pleasant**	**2.97**	**149**	Pn		Pn	03 09 51.8	0.0
R32A	**Long Quarter,**	**3.01**	**330**	Pn		Pn	03 09 52.3	-0.1
R32A				IAmb_Lg			03 10 40.8	
	comp=Z,19nm,0.7s							
U40A	**Yellville**	**3.25**	**79**			Pn	03 09 55.3	-0.4
U40A				IAmb_Lg			03 10 48.5	
	comp=Z,24nm,0.8s							
KSU1	**Kansas State U**	**3.28**	**3**	Pn		Pn	03 09 55.9	-0.1
S39A	**Bolivar**	**3.37**	**55**	Pn		Pn	03 09 57.1	-0.1
X40A	**Basin Creek Fa**	**3.52**	**111**	Pn		Pn	03 09 58.9	-0.4
WLAR	**White Oak Lake**	**3.72**	**124**	IAmb_Lg			03 11 03.2	
	comp=Z,16nm,1.1s							
WHAR	**Wooly Hollow**	**3.73**	**97**	IAmb_Lg			03 11 07.8	
	comp=Z,19nm,1.0s							
W41B	**Gary Mavity, V**	**3.78**	**99**	Pn		Pn	03 10 03.1	+0.2
CBKS	**Cedar Bluff**	**3.79**	**323**	Pn		Pn	03 10 02.5	-0.6
CBKS				IAmb_Lg			03 11 13.9	
	comp=Z,16nm,0.7s							
FCAR	**Ozark Folk Cen**	**3.81**	**88**	IAmb_Lg			03 11 08.7	
	comp=Z,31nm,0.9s							
WHTX	**Lake Whitney,**	**3.86**	**188**	Pn		Pn	03 10 03.4	-0.6
ABTX	**Abilene, Hawle**	**3.96**	**217**	Pn		Pn	03 10 05.3	-0.1
AMTX	**Amarillo**	**4.09**	**258**	IAmb_Lg			03 11 24.1	
	comp=Z,15nm,0.9s							
R40A	**Maddies Statio**	**4.39**	**55**	Pn		Pn	03 10 11.3	-0.1
R40A				IAmb_Lg			03 11 22.0	
	comp=Z,15nm,0.8s							
CCAR	**Cane Creek**	**4.56**	**113**	IAmb_Lg			03 11 38.2	
	comp=Z,13nm,0.7s							
P38A	**Dawn**	**4.60**	**33**	Pn		Pn	03 10 14.4	+0.2
P38A				IAmb_Lg			03 11 30.3	
	comp=Z,26nm,0.8s							
CCM	**Cathedral Cave**	**4.99**	**62**	Pn		Pn	03 10 19.4	-0.1
CCM				IAmb_Lg			03 11 39.4	
	comp=Z,21nm,0.9s							
435B	**Jarrell**	**5.07**	**188**	IAmb_Lg			03 11 54.7	
	comp=Z,15nm,0.8s							
MSTX	**Muleshoe**	**5.24**	**251**	Pn		Pn	03 10 23.0	-0.1
PBMO	**Poplar Bluff**	**5.24**	**78**	IAmb_Lg			03 11 50.9	
	comp=Z,20nm,0.8s							
FVM	**French Village**	**5.55**	**65**	IAmb_Lg			03 12 06.1	
	comp=Z,15nm,0.8s							
N38A	**Joes South For**	**5.70**	**28**	IAmb_Lg			03 12 17.5	
	comp=Z,17nm,0.7s							
JCT	**Junction City**	**5.89**	**206**	IAmb_Lg			03 12 13.4	
	comp=Z,12nm,0.7s							
SLM	**Saint Louis**	**5.95**	**60**	IAmb_Lg			03 12 18.0	
	comp=Z,15nm,0.7s							
T25A	**Trinidad**	**6.26**	**284**	IAmb_Lg			03 12 29.2	
	comp=Z,22nm,1.2s							
S44A	**Carbondale**	**6.35**	**71**	IAmb_Lg			03 12 33.5	
	comp=Z,22nm,0.8s							
N41A	**Harden Midland**	**6.76**	**42**	IAmb_Lg			03 12 35.3	
	comp=Z,17nm,0.8s							
Q44A	**Meyer Farm, Va**	**6.93**	**61**	IAmb_Lg			03 12 49.6	
	comp=Z,20nm,0.8s							
K31A	**O'Neill**	**6.96**	**348**	IAmb_Lg			03 13 03.0	
	comp=Z,16nm,0.7s							
HDIL	**Hopedale**	**7.57**	**49**	IAmb_Lg			03 13 06.6	
	comp=Z,16nm,0.8s							
L40A	**Anamosa**	**7.60**	**33**	IAmb_Lg			03 13 11.7	
	comp=Z,7.5nm,0.8s							
O44A	**Mansfield**	**7.88**	**54**	IAmb_Lg			03 13 17.2	
	comp=Z,14nm,0.8s							
X48A	**Hartselle**	**8.12**	**97**	IAmb_Lg			03 13 29.7	
	comp=Z,6.7nm,1.1s							
P46A	**Rosedale**	**8.50**	**61**	IAmb_Lg			03 13 36.8	
	comp=Z,16nm,0.8s							
JFWS	**Jewell Farm**	**8.71**	**34**	IAmb_Lg			03 13 42.6	
	comp=Z,9.7nm,0.7s							
N23A	**Red Feather La**	**8.78**	**308**	IAmb_Lg			03 13 50.0	
	comp=Z,8.5nm,0.8s							
SFIN	**Lafayette**	**8.91**	**56**	IAmb_Lg			03 13 42.8	
	comp=Z,8.7nm,0.8s							

NEIC ***15*** *03:15:01.6±0.8, 18°.84N±0°.07×67°.42W±0°.08, h28km±15km, Error ellipse: s-maj=13.8km s-min=3.9km az=132.0*
RSPR ***15*** *03:15:03.1, 18°.85N×67°.39W, h10km±1km, MD2.7/10*
OSPL ***15*** *03:15:04.5±1.0, 18°.72N×67°.43W, h0km±999km, ML1.6*

ISC 15 03:15:02.7±1.8, 18°.82N±0°.09×67°.36W±0°.05, h27km, n39, σ0§64/42, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.42**	**146**	⇑	*e*	P	**Pb**	**03 15 11.9**	**+0.2**
AGPR	**Aguadilla, PR**	**0.42**	**146**		*e*	S	**Sb**	**03 15 18.6**	**+0.8**
AGPR	**Aguadilla, PR**	**0.42**	**146**				**Pb**	**03 15 11.9**	**+0.2**
AGPR							**Sb**	**03 15 18.6**	**+0.8**
AGPR	**Aguadilla, PR**	**0.42**	**146**	IAML				03 15 18.6	
	comp=N,197nm,0.3s								
AGPR				IAML				03 15 18.8	
	comp=E,161nm,0.5s								
AGPR	**Aguadilla, PR**	**0.42**	**146**	*i*	P		**Pb**	**03 15 12.0**	**+0.3**
AGPR					*e*	S	**Sb**	**03 15 16.1**	**-1.7**
AGPR				IAML				03 15 19.7	
	comp=Z,69nm,0.7s								
IDE	**Isla Desecheo**	**0.44**	**194**	⇑	*e*	P	**Pb**	**03 15 12.1**	**0.0**
IDE	**Isla Desecheo**	**0.44**	**194**		*e*	S	**Sb**	**03 15 19.3**	**+0.9**
PRSN	**Puerto Rico Se**	**0.63**	**161**	Pg		Pb		**03 15 15.3**	**+0.1**
LSP	**Las Mesas**	**0.69**	**158**	⇑	*e*	P	**Pb**	**03 15 16.4**	**+0.2**
LSP	**Las Mesas**	**0.69**	**158**		*e*	S	**Sb**	**03 15 26.2**	**+0.9**
AOPR	**Arecibo Observ**	**0.74**	**129**	⇑	*e*	P	**Pb**	**03 15 16.6**	**-0.4**
AOPR	**Arecibo Observ**	**0.74**	**129**		*e*	S	**Sb**	**03 15 28.1**	**+1.3**
AOPR	**Arecibo Observ**	**0.74**	**129**				**Pb**	**03 15 16.6**	**-0.4**
AOPR							**Sb**	**03 15 28.1**	**+1.3**
AOPR	**Arecibo Observ**	**0.74**	**129**	IAML				03 15 29.9	
	comp=E,97nm,0.3s								
AOPR				IAML				03 15 44.6	
	comp=N,48nm,1.3s								
UUPR	**Utuado, UPR, P**	**0.83**	**133**	⇓	*e*	P	**Pn**	**03 15 17.9**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.83**	**133**		*e*	S	**Sb**	**03 15 29.5**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.83**	**133**				**Pn**	**03 15 17.9**	**-0.6**
UUPR							**Sb**	**03 15 29.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.84**	**164**	⇑	*e*	P	**Pn**	**03 15 18.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.84**	**164**		*e*	S	**Sb**	**03 15 29.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.84**	**164**				**Pn**	**03 15 18.3**	**-0.4**
CRPR							**Sb**	**03 15 29.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.84**	**164**	IAML				03 15 50.0	
	comp=N,38nm,2.0s								
CRPR	**Cabo Rojo, PR**	**0.84**	**164**	*i*	P		**Pn**	**03 15 18.5**	**-0.2**
CRPR					*e*	S	**Sb**	**03 15 28.7**	**-0.9**
CRPR				IAML				03 15 33.8	
	comp=Z,27nm,0.5s								
EMPR	**Esperanza - Ma**	**0.86**	**113**	⇓	*e*	P	**Pn**	**03 15 18.5**	**-0.5**
EMPR	**Esperanza - Ma**	**0.86**	**113**		*e*	S	**Sb**	**03 15 30.8**	**+0.7**
EMPR	**Esperanza - Ma**	**0.86**	**113**				**Pn**	**03 15 18.5**	**-0.5**
EMPR							**Sb**	**03 15 30.8**	**+0.7**
EMPR	**Esperanza - Ma**	**0.86**	**113**	IAML				03 15 34.1	
	comp=N,97nm,1.6s								
MLPR	**Magueyes Islan**	**0.89**	**160**	⇑	*e*	P	**Pn**	**03 15 19.2**	**-0.3**
MLPR	**Magueyes Islan**	**0.89**	**160**		*e*	S	**Sb**	**03 15 31.1**	**-0.1**
MLPR	**Magueyes Islan**	**0.89**	**160**				**Pn**	**03 15 19.2**	**-0.3**
MLPR							**Sb**	**03 15 31.1**	**-0.1**
MLPR	**Magueyes Islan**	**0.89**	**160**	IAML				03 15 31.8	
	comp=E,24nm,0.3s								
MLPR				IAML				03 15 41.0	
	comp=N,33nm,2.1s								
PCDR	**Punta Cana, DR**	**1.01**	**253**	*i*	P		**Pn**	**03 15 20.9**	**-0.3**
PCDR				IAML				03 15 35.6	
	comp=Z,7.3nm,0.1s								
CELP	**Cerrillos**	**1.04**	**135**	⇑	*e*	P	**Pn**	**03 15 21.4**	**-0.1**
CELP	**Cerrillos**	**1.04**	**135**		*e*	S	**Sn**	**03 15 35.8**	**+0.4**
CELP	**Cerrillos**	**1.04**	**135**				**Pn**	**03 15 21.4**	**-0.1**
CELP							**Sn**	**03 15 35.8**	**+0.4**
CELP	**Cerrillos**	**1.04**	**135**	IAML				03 15 38.9	
	comp=N,18nm,0.2s								
OBIP	**Obispado Ponce**	**1.05**	**137**	⇓	*e*	P	**Pn**	**03 15 20.9**	**-0.8**
OBIP	**Obispado Ponce**	**1.05**	**137**		*e*	S	**Sn**	**03 15 35.2**	**-0.2**
OBIP	**Obispado Ponce**	**1.05**	**137**				**Pn**	**03 15 20.9**	**-0.8**
OBIP	**Obispado Ponce**	**1.05**	**137**				**Sn**	**03 15 35.2**	**-0.2**

IDC ***15*** *03:23:47.7±0.6, 17°.96N×120°.01E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.1/47, mbtmp4.1/16, MS3.6/13, Ms1 3.6/13, ms1mx3.2/88, Error ellipse: s-maj=28.4km s-min=12.5km az=70.0*
MAN ***15*** *03:23:48.0, 18°.71N×120°.36E, h56km, mb5.0, ML3.9, MS3.9*
NEIC ***15*** *03:23:53.2±1.0, 17°.97N±0°.09×119°.9E±0°.1, h30km±6km, mb4.5/33, Error ellipse: s-maj=20.6km s-min=13.4km az=85.0*

ISC 15 03:23:53.2±0.5, 17°.99N±0°.05×119°.80E±0°.07, h35km, n80, σ1§06/77, mb4.4/30, MS3.7/13, 7C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.63**	**96**	⇑	*i*	P	**Pn**	**03 24 04.5**	**-1.2**
SIPP					*i*	S	Sn	03 24 22.6	+8.1
APYP	**Conner**	**1.38**	**95**	⇓	*e*	P	**Pn**	**03 24 15.2**	**-0.8**
SAMP	**Sagada Mountai**	**1.39**	**130**	⇑	*i*	P	**Pn**	**03 24 15.6**	**-0.5**
BOLP	**Bolinao**	**1.60**	**176**	⇓	*e*	P	**Pn**	**03 24 17.6**	**-1.4**
SMPP	**San Manuel, Pa**	**2.02**	**155**	⇓	*e*	P	**Pn**	**03 24 24.9**	**+0.2**
SGCP	**Gonzaga**	**2.15**	**83**	⇓	*e*	P	**Pn**	**03 24 27.4**	**+0.8**
SCZP	**Santa Cruz**	**2.20**	**177**	⇓	*e*	P	**Pn**	**03 24 25.4**	**-1.9**
BALP	**Baler**	**2.81**	**142**	⇓	*e*	P	**Pn**	**03 24 35.6**	**0.0**
BALP	**Baler**	**2.81**	**142**	⇓	*e*	P	**Pn**	**03 24 34.7**	**+1.8**
MACP	**Maragondon, Ca**	**3.81**	**166**	⇑	*e*	P	Pn	03 24 55.2	+5.8
TGY	**Tagaytay City**	**4.02**	**164**	Pn			**Pn**	**03 24 54.5**	**+2.2**
	57nm,0.3s,baz=252,slow=8.9,SNR=1.2								
LQP	**Lukban**	**4.20**	**156**	⇑	*e*	P	**Pn**	**03 24 58.4**	**+3.4**
LUBP	**Lubang**	**4.25**	**174**	⇑	*e*	P	Pn	03 25 03.1	+7.6
PGP	**Puerto Galera**	**4.60**	**166**	⇑	*e*	P	Pn	03 25 07.1	+6.8
JCNP	**Jose Panganiba**	**4.62**	**142**	⇑	*e*	P	**Pn**	**03 25 01.9**	**+1.4**
TPUB	**Ta-pu**	**5.34**	**8**	Pn			**Pn**	**03 25 09.6**	**-0.9**
TPUB							Sn	**03 26 08.7**	**-2.2**
YULB	**Yu-li**	**5.56**	**14**				**Pn**	**03 25 13.6**	**+0.2**
YULB							**Sn**	**03 26 14.7**	**-1.4**
SSLB	**Suanglung**	**5.87**	**10**	Pn			**Pn**	**03 25 18.2**	**+0.4**
CHTO	**Chiang Mai**	**19.80**	**276**	P			**Pn**	**03 28 22.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.82**	**275**	P			**Pn**	**03 28 22.9**	**+0.2**
	4.3nm,0.7s,baz=93,slow=9.1,SNR=25								
CMAR				LR			LR	03 35 51.5	
	comp=Z,65nm,19.6s,baz=85,slow=36								
CMAR	**Chiang Mai Arr**	**19.82**	**275**	P			**P**	**03 28 22.1**	**+1.

PWL	**Port Wells**	**75.38**	**30**	P		**P**		**03 35 33.5**	**+0.5**
FINES	**FINESS Array B**	**76.14**	**330**	P		**P**		**03 35 36.8**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=103,slow=6.0,SNR=2.4								
GLB	**Gilahina Butte**	**77.39**	**29**	P		**P**		**03 35 45.3**	**+0.8**
GLB				IAmb		IAmb		03 35 57.6	
	comp=Z,5.3nm,1.1s								
L27K	**Beaver Creek,**	**77.87**	**27**	P		**P**		**03 35 48.3**	**+1.2**
L27K				IAmb		IAmb		03 35 58.1	
	comp=Z,5.3nm,1.4s								
CTGM	**Chitina Glacie**	**78.67**	**29**	P		**P**		**03 35 53.3**	**+1.6**
LOGN	**Logan Glacier**	**78.87**	**30**	P		**P**		**03 35 53.2**	**+0.4**
LOGN				IAmb		IAmb		03 36 08.7	
	comp=Z,7.2nm,0.9s								
M30M	**Minto, Yukon**	**80.22**	**27**	P		**P**		**03 36 00.7**	**+0.7**
A36M	**Sachs Harbour**	**80.40**	**17**	P		**P**		**03 36 01.3**	**+0.6**
A36M				IAmb		IAmb		03 36 18.8	
	comp=Z,2.6nm,0.7s								
NB2	**NORSAR Subarra**	**83.08**	**332**	P		**P**		**03 36 14.4**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=68,slow=5.3								
NOA	**NORSAR Array B**	**83.08**	**332**	P		**P**		**03 36 14.3**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=64,slow=4.9,SNR=3.6								
NOA				LR		LR		04 15 37.6	
	comp=Z,48nm,18.1s,baz=300,slow=37								
YKA	**Yellowknife Ar**	**89.16**	**22**	P		**P**		**03 36 45.5**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=312,slow=4.4,SNR=42								
TXAR	**Lajitas Array**	**116.97**	**42**	PKP		**PKiKP**		**03 42 35.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=138,slow=1.1,SNR=4.7								
TXAR	**Lajitas Array**	**116.97**	**42**			**PKiKP**		**03 42 35.4**	**+0.3**

NEIC ***15*** *03:24:29.5±0.9, 59.79°N±0.04°×153.02°W±0.08, h116km±4km, Error ellipse: s-maj=6.0km s-min=5.0km az=98.0*

AEIC ***15*** *03:24:30±1.1, 59.78°N±0.04°×152.99°W±0.08, h107km±4km, ML2.6, ML2.9/104(NEIC), Error ellipse: s-maj=5.8km s-min=5.0km az=101.0*

IDC ***15*** *03:24:33.2±8.8, 60.24°N×153.12°W, h127km±71km, mb2.8/1, mb1 2.8/3, mb1mx2.7/43, mbtmp3.1/3, Error ellipse: s-maj=72.2km s-min=41.8km az=23.0*

ISC 15 03:24:29.2±1.0, 59.79°N±0.04°×153.00°W±0.04, h119km±5km, n151, σ0 82/134, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.18**	**222**		**Pn**	**03 24 45.6**	**0.0**
P19K	**Oil Pt**	**0.18**	**222**		**Pn**	**03 24 45.5**	**-0.2**
P19K					**Sn**	**03 24 57.3**	**-0.7**
IVE	**Iliamna Volcan**	**0.23**	**357**		**Pn**	**03 24 45.6**	**-0.3**
IVE					**Sn**	**03 24 57.4**	**-1.1**
O20K	**Slope Mountain**	**0.35**	**32**		**Pn**	**03 24 46.3**	**0.0**
O20K					**Sn**	**03 24 58.7**	**-0.5**
AU22	**Augustine Moun**	**0.46**	**204**		**Pn**	**03 24 46.6**	**-0.1**
AU22					**Sn**	**03 24 59.4**	**-0.5**
AU2	**Augustine Isla**	**0.46**	**205**		**Pn**	**03 24 46.8**	**0.0**
AUL	**Augustine Lava**	**0.46**	**209**		**Pn**	**03 24 46.8**	**0.0**
AUL					**Sn**	**03 24 59.5**	**-0.4**
AUH	**Augustine H**	**0.48**	**208**		**Pn**	**03 24 47.1**	**+0.2**
AUQ	**Augustine Qik'**	**0.48**	**206**		**Pn**	**03 24 47.0**	**0.0**
RED	**Redoubt Volcan**	**0.65**	**10**		**Pn**	**03 24 47.9**	**-0.1**
RED					**Sn**	**03 25 01.2**	**-1.1**
RSO	**Redoubt South**	**0.69**	**10**		**Pn**	**03 24 48.5**	**0.0**
HOM	**Homer**	**0.70**	**100**		**Pn**	**03 24 48.5**	**+0.2**
HOM					**Sn**	**03 25 02.8**	**0.0**
HOM	**Homer**	**0.70**	**100**	IAML		03 25 04.0	
	comp=N,636nm,0.4s						
HOM				IAML		03 25 04.5	
	comp=E,461nm,0.4s						
RDWB	**Redoubt West**	**0.71**	**6**		**Pn**	**03 24 48.5**	**-0.2**
RDWB					**Sn**	**03 25 02.1**	**-1.2**
NCT	**North Crescent**	**0.78**	**2**		**Pn**	**03 24 49.1**	**-0.1**
NCT					**Sn**	**03 25 03.3**	**-1.0**
O19K	**Port Alsworth**	**0.78**	**302**		**Pn**	**03 24 49.1**	**0.0**
RDJH	**Redoubt Jeurge**	**0.81**	**7**		**Pn**	**03 24 49.5**	**0.0**
DFR	**Drift River**	**0.82**	**11**		**Pn**	**03 24 49.5**	**0.0**
DFR					**Sn**	**03 25 04.3**	**-0.7**
Q19K	**Cape Douglas,**	**0.92**	**201**		**Pn**	**03 24 50.4**	**0.0**
CNPM	**China Poot**	**0.93**	**106**		**Pn**	**03 24 50.3**	**-0.2**
CNPM					**Sn**	**03 25 05.5**	**-1.0**
CNPM	**China Poot**	**0.93**	**106**	IAML		03 25 07.0	
	comp=E,325nm,0.3s						
CNPM				IAML		03 25 07.5	
	comp=N,362nm,0.5s						
BRLK	**Bradley Lake**	**1.07**	**90**		**Pn**	**03 24 51.7**	**-0.1**
BRLK	**Bradley Lake**	**1.07**	**90**	IAML		03 25 08.9	
	comp=E,364nm,0.3s						
BRLK				IAML		03 25 09.0	
	comp=N,490nm,0.1s						
BRSE	**Bradley Lake S**	**1.14**	**91**		**Pn**	**03 24 52.5**	**-0.1**
P18K	**Big Mountain,**	**1.20**	**252**		**Pn**	**03 24 53.0**	**-0.2**
N19K	**Bonanza Creek**	**1.27**	**325**		**Pn**	**03 24 54.1**	**+0.1**
CAPN	**Captain Cook N**	**1.35**	**42**		**Pn**	**03 24 56.7**	**+2.0**
SPCR	**Spurr Chakacha**	**1.47**	**15**		**Pn**	**03 24 56.5**	**+0.2**
SPU	**Mount Spurr**	**1.48**	**18**		**Pn**	**03 24 56.7**	**+0.4**
SPBG	**Spurr Blockage**	**1.51**	**12**		**Pn**	**03 24 57.3**	**+0.5**
SLKM	**Skilak Lake**	**1.56**	**61**		**Pn**	**03 24 57.0**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.59**	**17**		**Pn**	**03 24 58.1**	**+0.5**
O22K	**Cooper Landing**	**1.78**	**66**		**Pn**	**03 25 00.2**	**+0.4**
O22K	**Cooper Landing**	**1.78**	**66**	IAML		03 25 31.0	
	comp=E,216nm,0.6s						
SEW	**Seward**	**1.81**	**78**		**Pn**	**03 25 00.5**	**+0.3**
STLK	**Strandline Lak**	**1.81**	**18**		**Pn**	**03 25 01.0**	**+0.7**
SVW2	**Sparrevohn**	**1.84**	**317**		**Pn**	**03 25 00.6**	**0.0**
FIS	**Fire Island**	**1.94**	**44**		**Pn**	**03 25 03.0**	**+1.3**
FIS	**Fire Island**	**1.94**	**44**	IAML		03 25 19.7	
	comp=N,67nm,3.9s						
FIS				IAML		03 25 45.1	
	comp=E,84nm,3.8s						
KDAK	**Kodiak Island**	**2.02**	**174**		**Pn**	**03 25 02.3**	**-0.5**
KDAK	**Kodiak Island**	**2.02**	**174**	IAML		03 25 28.8	
	comp=E,138nm,0.2s						
RC01	**Rabbit Creek A**	**2.08**	**50**		**Pn**	**03 25 03.6**	**+0.1**
RC01	**Rabbit Creek A**	**2.08**	**50**	IAML		03 25 30.2	
	comp=E,68nm,0.4s						
RC01				IAML		03 25 36.4	
	comp=N,46nm,0.3s						
CAHL	**Cahill**	**2.11**	**216**		**Pn**	**03 25 04.8**	**+0.8**
M19K	**Big River Lodg**	**2.23**	**343**		**Pn**	**03 25 05.7**	**+0.2**
M22K	**Willow**	**2.43**	**34**		**Pn**	**03 25 08.5**	**+0.6**
M22K	**Willow**	**2.43**	**34**	IAML		03 25 39.2	
	comp=E,59nm,0.7s						
M22K				IAML		03 25 43.9	
	comp=N,62nm,0.6s						
PWL	**Port Wells**	**2.56**	**63**		**Pn**	**03 25 09.0**	**-0.6**
PWL	**Port Wells**	**2.56**	**63**	IAML		03 25 40.7	
	comp=E,60nm,0.1s						
PWL				IAML		03 25 40.9	
	comp=N,91nm,0.3s						
L19K	**White Mountain**	**2.57**	**340**		**Pn**	**03 25 09.7**	**-0.1**
OHAK	**Old Harbor**	**2.58**	**184**		**Pn**	**03 25 08.8**	**-1.1**
OHAK	**Old Harbor**	**2.58**	**184**	IAML		03 25 39.4	
	comp=N,56nm,0.3s						
OHAK				IAML		03 25 40.5	
	comp=E,51nm,0.3s						
PMR	**Palmer**	**2.63**	**45**		**Pn**	**03 25 09.9**	**-0.6**
L20K	**Farewell, AK**	**2.74**	**351**		**Pn**	**03 25 12.2**	**+0.3**
KNK	**Knik Glacier**	**2.77**	**52**		**Pn**	**03 25 11.8**	**-0.6**
KNK	**Knik Glacier**	**2.77**	**52**	IAML		03 25 45.1	
	comp=E,29nm,0.5s						
KNK				IAML		03 25 46.2	
	comp=N,27nm,0.4s						
GHO	**Glory Hole Cre**	**2.82**	**43**		**Pn**	**03 25 12.6**	**-0.5**
SML	**Sawmill**	**3.06**	**46**		**Pn**	**03 25 15.6**	**-0.5**
PPLA	**Purkeypile**	**3.15**	**7**		**Pn**	**03 25 18.5**	**+1.0**
SII	**Sitkinak Islan**	**3.30**	**192**		**Pn**	**03 25 18.3**	**-1.1**
JPK	**Jack Peak**	**3.42**	**65**		**Pn**	**03 25 21.2**	**+0.3**
SCM	**Sheep Creek Mo**	**3.45**	**51**		**Pn**	**03 25 21.2**	**-0.2**
SCM	**Sheep Creek Mo**	**3.45**	**51**	IAML		03 26 11.7	
	comp=N,16nm,3.7s						
SCM				IAML		03 26 24.0	
	comp=E,13nm,2.5s						
TT01	**Tatalina**	**3.45**	**336**		**Pn**	**03 25 21.3**	**0.0**
CAST	**Castle Rocks**	**3.67**	**6**		**Pn**	**03 25 24.2**	**0.0**
WAT6	**Susitna Watana**	**3.79**	**40**		**Pn**	**03 25 25.6**	**-0.3**
DIV	**Divide**	**3.82**	**66**		**Pn**	**03 25 27.0**	**+0.7**
KLU	**Klutina**	**3.88**	**61**		**Pn**	**03 25 26.6**	**-0.5**
KLU	**Klutina**	**3.88**	**61**	IAML		03 26 11.4	
	comp=E,25nm,0.5s						
TRF	**Thorofare Moun**	**3.90**	**18**		**Pn**	**03 25 27.6**	**+0.2**
TRF	**Thorofare Moun**	**3.90**	**18**	IAML		03 26 19.8	
	comp=N,16nm,4.6s						
TRF				IAML		03 27 08.7	
	comp=E,18nm,3.4s						
KTH	**Kantishna Hill**	**3.91**	**14**		**Pn**	**03 25 27.6**	**+0.2**
KTH	**Kantishna Hill**	**3.91**	**14**	IAML		03 26 43.0	
	comp=E,10nm,4.8s						
KTH				IAML		03 27 20.8	
	comp=N,10nm,4.1s						
M24K	**Tolsona, Glenn**	**4.06**	**52**		**Pn**	**03 25 29.8**	**+0.3**
M24K	**Tolsona, Glenn**	**4.06**	**52**	IAML		03 26 13.4	
	comp=N,30nm,4.2s						
RND	**Reindeer**	**4.14**	**27**		**Pn**	**03 25 30.7**	**+0.2**
RND	**Reindeer**	**4.14**	**27**	IAML		03 26 09.0	
	comp=E,13nm,4.9s						
RND				IAML		03 27 07.2	
	comp=N,13nm,4.8s						
GOAT	**Goat Mountain**	**4.21**	**76**		**Pn**	**03 25 31.9**	**+0.5**
RAGM	**Ragged Mountai**	**4.21**	**78**	Pn	**Pn**	**03 25 32.0**	**+0.5**
CHIR	**Chirikof Islan**	**4.22**	**201**		**Pn**	**03 25 30.5**	**-1.0**
DHY	**Denali Highway**	**4.26**	**37**		**Pn**	**03 25 32.2**	**-0.1**
DHY	**Denali Highway**	**4.26**	**37**	IAML		03 26 24.8	
	comp=E,8.1nm,0.7s						
DHY				IAML		03 28 17.7	
	comp=N,12nm,3.8s						
KAIM	**Kayak Island**	**4.33**	**84**		**Pn**	**03 25 33.9**	**+0.9**
BMRM	**Bremner River**	**4.33**	**71**		**Pn**	**03 25 33.5**	**+0.4**
BMRM	**Bremner River**	**4.33**	**71**	IAML		03 26 21.7	
	comp=E,23nm,0.4s						
BMRM				IAML		03 26 31.1	
	comp=N,23nm,4.3s						
PS11	**TAPS Pump St11**	**4.33**	**55**		**Pn**	**03 25 33.8**	**+0.8**
MCK	**McKinley**	**4.40**	**24**		**Pn**	**03 25 34.5**	**+0.5**
MCK	**McKinley**	**4.40**	**24**	IAML		03 26 49.0	
	comp=E,11nm,3.3s						
MCK				IAML		03 28 32.5	
	comp=N,14nm,4.5s						
HMT	**Hamilton**	**4.41**	**79**		**Pn**	**03 25 34.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**4.43**	**11**		**Pn**	**03 25 35.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**4.43**	**11**	IAML		03 26 25.6	
	comp=N,10nm,3.4s						
BPAW				IAML		03 26 47.7	
	comp=E,10nm,4.0s						
J20K	**Nowinta River**	**4.44**	**353**		**Pn**	**03 25 35.0**	**+0.5**
J20K	**Nowinta River**	**4.44**	**353**	IAML		03 27 39.2	
	comp=N,7.8nm,4.8s						
J20K				IAML		03 28 05.2	
	comp=E,11nm,3.6s						
N25K	**Chitina, Valde**	**4.51**	**63**		**Pn**	**03 25 36.4**	**+0.9**
N25K	**Chitina, Valde**	**4.51**	**63**	IAML		03 26 46.4	
	comp=E,9.8nm,4.5s						
N25K				IAML		03 27 07.9	
	comp=N,11nm,4.7s						
NICHA	**Nichawak Mount**	**4.55**	**80**		**Pn**	**03 25 36.4**	**+0.4**
BERG	**Berg Lake**	**4.69**	**79**		**Pn**	**03 25 38.3**	**+0.3**
BWN	**Browne**	**4.71**	**19**		**Pn**	**03 25 38.4**	**+0.4**
GLB	**Gilahina Butte**	**4.82**	**66**		**Pn**	**03 25 40.0**	**+0.3**
GLB	**Gilahina Butte**	**4.82**	**66**	IAML		03 28 39.7	
	comp=N,9.7nm,4.0s						
GLB				IAML		03 28 50.3	
	comp=E,11nm,4.5s						
PAX	**Paxson**	**4.83**	**45**		**Pn**	**03 25 40.0**	**+0.2**
VRDI	**Verde Repeater**	**4.93**	**69**		**Pn**	**03 25 41.5**	**+0.2**
VRDI	**Verde Repeater**	**4.93**	**69**	IAML		03 27 04.6	
	comp=E,9.0nm,4.7s						
VRDI				IAML		03 27 32.5	
	comp=N,14nm,4.1s						
PS10	**TAPS Pump St10**	**5.02**	**40**		**Pn**	**03 25 43.2**	**+0.9**
WAX	**Waxell Ridge**	**5.12**	**78**		**Pn**	**03 25 44.1**	**+0.5**
TGL	**Tana Glacier**	**5.15**	**75**		**Pn**	**03 25 44.6**	**+0.4**
NEA2	**Nenana**	**5.16**	**19**		**Pn**	**03 25 43.9**	**-0.3**
NEA2	**Nenana**	**5.16**	**19**	IAML		03 28 50.5	
	comp=N,8.8nm,4.5s						
NEA2				IAML		03 28 58.4	
	comp=E,11nm,4.4s						
MCARA	**McCarthy VSAT**	**5.17**	**68**		**Pn**	**03 25 44.6**	**+0.3**
MCARA	**McCarthy VSAT**	**5.17**	**68**	IAML		03 27 22.9	
	comp=E,13nm,4.1s						
WRH	**Wood River Hil**	**5.23**	**24**		**Pn**	**03 25 44.7**	**-0.4**
WRH	**Wood River Hil**	**5.23**	**24**	IAML		03 28 49.7	
	comp=N,12nm,4.4s						
MLY	**Manley**	**5.37**	**10**		**Pn**	**03 25 47.5**	**+0.5**
MLY	**Manley**	**5.37**	**10**	IAML		03 28 20.2	
	comp=N,8.1nm,4.9s						
MLY				IAML		03 29 20.1	
	comp=E,6.7nm,4.3s						
ISLE	**Juniper Island**	**5.38**	**77**		**Pn**	**03 25 47.7**	**+0.5**
PTPK	**Patty Peak**	**5.39**	**70**		**Pn**	**03 25 48.3**	**+0.8**
KIAG	**Kiagna River**	**5.40**	**73**		**Pn**	**03 25 48.2**	**+0.6**
BALM	**Baldy**	**5.43**	**72**		**Pn**	**03 25 48.3**	**+0.5**
HDA	**Harding Lake**	**5.44**	**29**		**Pn**	**03 25 47.7**	**-0.2**
CCB	**Clear Creek Bu**	**5.45**	**24**		**Pn**	**03 25 47.5**	**-0.4**
MENT	**Mentasta**	**5.47**	**51**		**Pn**	**03 25 48.0**	**-0.3**
BAGL	**Bagley Icefiel**	**5.50**	**78**		**Pn**	**03 25 49.6**	**+0.9**
RIDG	**Independent Ri**	**5.54**	**41**		**Pn**	**03 25 49.7**	**+0.4**
COLA	**College**	**5.64**	**23**	Pn	**Pn**	**03 25 50.4**	**-0.2**
I23K	**Minto, Yukon-K**	**5.64**	**16**		**Pn**	**03 25 50.8**	**+0.3**
MDM	**Murphy Dome**	**5.64**	**21**		**Pn**	**03 25 50.5**	**-0.1**
L26K	**Log Cabin Wild**	**5.66**	**51**		**Pn**	**03 25 52.6**	**+1.7**
IL31		**5.76**	**27**		**Pn**	**03 25 51.8**	**-0.3**
ILAR	**Eielson Array**	**5.76**	**27**	P	**Pn**	**03 25 51.8**	**-0.4**
	comp=E,0.4nm,0.3s,baz=219,slow=14,SNR=12						
ILAR				S	**Sn**	**03 26 52.0**	**-4.8**
	comp=E,0.5nm,0.3s,baz=9.9,slow=33,SNR=4.2						
BARN	**Barnard Glacie**	**5.76**	**72**		**Pn**	**03 25 53.2**	**+0.8**
CTGM	**Chitina Glacie**	**5.91**	**73**		**Pn**	**03 25 55.2**	**+0.8**
CTGM	**Chitina Glacie**	**5.91**	**73**		**Sn**	**03 25 57.6**	**-3.1**
POKR	**Poker Flat Res**	**5.94**	**23**		**Pn**	**03 25 54.8**	**+0.1**
TABL	**Table Mountain**	**5.96**	**79**		**Sn**	**03 27 00.3**	**-2.0**
TABL	**Table Mountain**	**5.96**	**79**		**Pn**	**03 25 55.8**	**+0.6**
SCRK	**Sand Creek**	**5.98**	**42**		**Pn**	**03 25 55.4**	**0.0**
J25K	**Salcha River,**	**6.01**	**33**		**Pn**	**03 25 55.5**	**-0.3**
LOGN	**Logan Glacier**	**6.05**	**75**		**Pn**	**03 25 56.9**	**+0.6**
IM03		**6.23**	**357**		**Pn**	**03 25 59.1**	**+0.6**
YUK2	**White River**	**6.28**	**66**		**Pn**	**03 26 00.4**	**+1.0**
L27K	**Beaver Creek,**	**6.28**	**54**		**Pn**	**03 26 00.2**	**+0.8**
BC03		**6.30**	**54**		**Pn**	**03 26 00.7**	**+1.2**
PCA	**Pinnacle**	**6.41**	**82**		**Pn**	**03 26 02.0**	**+0.9**
BVCY	**Beaver Creek**	**6.45**	**61**		**Pn**	**03 26 03.0**	**+1.4**
YUK3	**Moose Creek**	**6.45**	**67**		**Pn**	**03 26 02.8**	**+1.0**
PNL	**Peninsula**	**6.88**	**85**		**Pn**	**03 26 07.7**	**+0.4**
YUK6	**Outpost Mounta**	**7.35**	**75**		**Pn**	**03 26 14.7**	**+0.7**
YKA	**Yellowknife Ar**	**18.54**	**65**	P	**P**	**03 28 38.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=276,slow=10.0,SNR=8.2						
YKA	**Yellowknife Ar**	**18.54**	**65**	P	**P**	**03 28 37.1**	**+0.9**
MKAR	**Makanchi Array**	**64.60**	**321**	P	**P**	**03 34 54.0**	**+0.6**
	comp=E,0.1nm,0.6s,baz=44,slow=6.4,SNR=1.4						
MKAR	**Makanchi Array**	**64.60**	**321**	P	**P**	**03 34 54.3**	**+0.8**

CNRM ***15*** *03:42:24.6, 35.60°N×3.74°W, h14km, ml3.8*

MDD ***15*** *03:42:26.6±0.4, 35.37°N×3.74°W, h0km, mb_Lg3.1/14, Error ellipse: s-maj=3.6km s-min=2.6km az=172.0*

IDC ***15*** *03:42:27.4±1.4, 35.39°N×3.87°W, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/41, mbtmp3.2/4, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/48, Error ellipse: s-maj=47.3km s-min=18.6km az=100.0*

IGIL ***15*** *03:42:28.5, 35.30°N×3.87°W, h24km*

SFS ***15*** *03:42:28.0, 35.49°N×3.74°W, ML3.7, ALBORAN SUR*

ISC 15 03:42:27.0±1.2, 35.44°N±0.02°×3.78°W±0.02, h7km±9km, n56, σ2 15/90, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.26**	**210**	P	**Pg**	**03 42 32.9**	**+0.7**
PALE				S	**Sb**	**03 42 37.6**	**-1.3**
EMEL	**Melilla**	**0.69**	**102**	Pg	**Pg**	**03 42 39.7**	**-0.5**
EMEL				Sg	**Sg**	**03 42 49.0**	**-0.2**
EALB	**Alboran**	**0.78**	**50**	Pg	**Pg**	**03 42 41.0**	**-1.1**
EALB				Sg	**Sb**	**03 42 53.8**	**-0.1**
EALB				*i* Vmb_Lg		03 42 56.3	
TAF	**Taforalt**	**1.28**	**119**	P	**Pn**	**03 42 49.0**	**-2.5**
TAF	**Taforalt**	**1.28**	**119**	P	**Pn**	**03 42 48.9**	**-2.5**
TAF				S	**Sn**	**03 43 09.6**	**+0.7**
CHEFC	**Chefchaouen**	**1.32**	**256**	P	**Pn**	**03 42 50.0**	**-1.9**
CHEFC				S	**Sg**	**03 43 10.9**	**+1.4**
SMIR	**Smir Dam**	**1.33**	**281**	P	**Pn**	**03 42 48.0**	**-4.0**
SMIR	**Smir Dam**	**1.33**	**281**	P	**Pn**	**03 42 48.0**	**-4.0**
SMIR				S	**Sb**	**03 43 06.4**	**-3.1**
CEU	**Ceuta**	**1.38**	**290**	P	**Pn**	**03 42 48.2**	**-4.4**
CEU				S	**Sn**	**03 43 04.2**	**-6.8**
EMIJ	**Mijas**	**1.38**	**325**	Pg	**Pn**	**03 42 51.1**	**-1.6**
EMIJ				Sg	**Sn**	**03 43 10.9**	**-0.3**
EMIJ				*i* Vmb_Lg		03 43 13.4	
EMAL	**Malaga-Limoner**	**1.42**	**338**	P	**Pn**	**03 42 50.5**	**-2.7**
EMAL				S	**Sn**	**03 43 10.6**	**-1.5**
ELGU	**Los Guajares,**	**1.43**	**5**	Pg	**Pn**	**03 42 53.0**	**-0.5**
ELGU				Sg	**Sb**	**03 43 12.5**	**0.0**
ELGU				*i* Vmb_Lg		03 43 12.6	
JBK	**JBK**	**1.49**	**138**	P	**Pn**	**03 42 51.7**	**-2.6**
JBK	**JBK**	**1.49**	**138**	P	**Pn**	**03 42 51.8**	**-2.6**
JBK				S	**Sn**	**03 43 10.4**	**-3.8**
EBER	**Berja**	**1.62**	**26**	Pg	**Pn**	**03 42 55.6**	**-0.6**
EBER				Sg	**Sn**	**03 43 17.2**	**-0.3**
EBER				*i* Vmb_Lg		03 43 28.8	
EGOR	**Sierra Gorda,**	**1.69**	**351**	Pn	**Pn**	**03 42 56.3**	**-0.7**
EGOR				Sn	**Sb**	**03 43 19.5**	**-0.5**
EGOR				*i* Vmb_Lg		03 43 28.5	
EJIF	**Jimena Fronter**	**1.70**	**307**	Pg	**Pn**	**03 42 56.7**	**-0.4**
SICH	**Sidi Chahed**	**1.84**	**224**	P	**Pn**	**03 42 59.8**	**+0.8**
SICH				S	**Sb**	**03 43 23.8**	**-0.4**
LCRM	**LCR**	**1.96**	**207**	P	**Pn**	**03 42 60.0**	**-0.9**
LCRM	**LCR**	**1.96**	**207**	P	**Pn**	**03 43 00.0**	**-0.9**
LCRM				S	**Sb**	**03 43 28.0**	**0.0**
IFR	**Ifrane**	**2.22**	**210**	P	**Pn**	**03 43 03.1**	**-1.3**
IFR				S	**Sn**	**03 43 29.6**	**-2.5**
EQES	**Quesada**	**2.42**	**13**	Pn	**Pn**	**03 43 07.2**	**0.0**
EQES				Sn	**Sn**	**03 43 37.9**	**+0.8**
EQES				*i* Vmb_Lg		03 43 46.9	
CZD	**Col de Zad**	**2.62**	**204**	P	**Pn**	**03 43 09.6**	**-0.5**
CZD				S	**Sb**	**03 43 45.4**	**-1.6**
MD31	**MD31**	**2.69**	**198**	P	**Pn**	**03 43 10.1**	**-0.8**
MD31				S	**Sn**	**03 43 44.8**	**+1.0**
MDT	**Midelt**	**2.71**	**195**	Pn	**Pn**	**03 43 10.2**	**-0.9**
	1.4nm,0.3s,baz=188,slow=10,SNR=53						
MDT				Pg	**Pb**	**03 43 16.5**	**+0.6**
	5.7nm,0.3s,baz=131,slow=21,SNR=27						
MDT				Lg	Lg	03 43 47.8	
	7.5nm,0.3s,baz=56,slow=9.3,SNR=6.7						
MDT				LR	LR	03 44 05.7	
	comp=Z,70nm,19.8s,baz=192,slow=37						
MDT	**Midelt**	**2.71**	**195**	P	**Pn**	**03 43 10.0**	**-1.1**
EADA	**Adamuz**	**2.79**	**347**	Pn	**Pn**	**03 43 12.5**	**+0.3**
EADA				Sn	**Sn**	**03 43 46.9**	**+0.7**
EADA				*i* Vmb_Lg		03 43 56.4	
TDRA	**Tendrara**	**2.80**	**148**	P	**Pn**	**03 43 11.7**	**-0.7**
TDRA				S	**Sn**	**03 43 47.1**	**+0.5**
ECAB	**El Cabril**	**2.94**	**334**	Pn	**Pn**	**03 43 14.5**	**+0.3**
ECAB				Sn	**Sn**	**03 43 50.6**	**+0.8**
ECAB				*i* Vmb_Lg		03 44 07.2	
EZAR	**Zarzadilla de**	**2.95**	**34**	Pn	**Pn**	**03 43 12.1**	**-2.3**
EZAR				Sn	**Sn**	**03 43 50.8**	**+0.7**
CART	**Cartagena**	**3.10**	**45**	P	**Pn**	**03 43 12.0**	**-4.3**
CART				S	**Sn**	**03 43 46.6**	**-7.0**
EMIN	**Mina Concepcio**	**3.29**	**316**	Pn	**Pn**	**03 43 17.7**	**-1.2**
EMIN				Sn	**Sn**	**03 43 58.8**	**+0.5**
EGRO	**El Granado**	**3.64**	**306**	Pn	**Pn**	**03 43 22.8**	**-1.0**
EGRO				Sn	**Sn**	**03 44 07.5**	**+0.5**
EGRO				*i* Vmb_Lg		03 44 15.9	
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**03 43 23.5**	**-0.7**
ETOB				*i* Vmb_Lg		03 43 26.4	
ETOB				Sn	**Sn**	**03 44 08.9**	**+1.3**
AVE	**Averroes**	**3.69**	**236**	P	**Pn**	**03 43 26.4**	**+2.0**
AVE				S	**Sn**	**03 44 08.7**	**+0.5**
GOLM	**Goulmima**	**3.85**	**195**	P	**Pn**	**03 43 28.8**	**+1.9**
GOLM				S	**Sn**	**03 44 15.1**	**+2.6**
PAB	**San Pablo**	**4.12**	**354**	Pn	**Pn**	**03 43 30.4**	**-0.1**
PAB				Sn	**Sn**	**03 44 20.8**	**+1.8**
EBAD	**Badajoz**	**4.20**	**323**	Pn	**Pn**	**03 43 31.3**	**-0.2**
EBAD				Sn	**Sn**	**03 44 21.4**	**+0.7**
EBAD				*i* Vmb_Lg		03 44 23.7	
ESDC	**Sonseca Array**	**4.23**	**358**	Pn	**Pn**	**03 43 31.9**	**0.0**
	1.4nm,0.3s,baz=177,slow=12,SNR=39

GOMU	**GeErMu**	**5.23**	**309**	Pn	Pb	04 29 29.0	-4.2
GOMU				Sn	Sb	04 30 38.6	+1.9
GOMU				smax	smax		
	comp=N,28nm,1.1s						
GOMU				smax	smax		
	comp=E,6.0nm,1.1s						
GOMU				LR	LR		
	comp=N,460nm,6.2s						
GOMU				LR	LR		
	comp=E,340nm,5.2s						
GOMU				LR	LR		
	comp=Z,300nm,6.4s						
SONM	**Songino Array**	**15.65**	**17**	Pn	Pn	04 31 43.3	+0.7
	comp=Z,0.1nm,0.3s,baz=202,slow=16,SNR=2.4						
MKAR	**Makanchi Array**	**19.21**	**321**	P	P	04 32 26.3	+0.2
	comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=5.2						
ZALV	**Zalesovo Beam**	**23.52**	**337**	P	P	04 33 11.7	-0.6
	comp=Z,1.2nm,0.5s,baz=139,slow=9.2,SNR=7.1						
KURBB	**Kurchatov Arra**	**23.58**	**325**	P	P	04 33 13.1	+0.3
	comp=Z,1.1nm,0.8s,baz=132,slow=10.0,SNR=7.5						

BJI ***15*** *04:28:21.7±0.0,29.˚73N×98.˚00E,h6km,mb4.4/22, mB4.5/4,ML4.2/7,Ms3.9/10,Ms7 3.9/11*
IDC ***15*** *04:28:22.0±0.5,29.˚83N×98.˚14E,h0km,mb4.4/27, mb1 4.5/29,mb1mx4.3/55,mbtmp4.4/29,ML4.4/2,MS3.6/3, Ms1 3.6/3,ms1mx2.9/76,Error ellipse: s-maj=18.2km s-min=11.0km az=57.0*
NEIC ***15*** *04:28:26.5±1.4,29.˚87N±0.˚10×98.˚0E±0.˚1,h24km±5km, mb4.7/68, Error ellipse: s-maj=14.6km s-min=14.1km az=69.0*
MOS ***15*** *04:28:26.5±1.1,29.˚79N×98.˚03E,h47km,mb4.7/23,Error ellipse: s-maj=10.5km s-min=5.6km az=109.6*

ISC 15 04:28:24.3±1.6**,29.˚92N**±0.˚04×**97.˚95E**±0.˚04**,h11**km±10km**, n186,**σ1**%66/**216**,mb4.6**/66,**MS3.5**/4,**6C-1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**3.17**	**216**	*eP*	**Pn**	**04 29 16.6**	**+2.5**
LKP				*eS*	**Sb**	**04 29 59.3**	**0.0**
LKP				IAML		04 30 17.9	
	comp=E,1μm,1.2s						
DIBR	**DIBRUGARH**	**3.62**	**228**	*eP*	**Pn**	**04 29 23.7**	**+3.4**
DIBR				*eS*	**Sn**	**04 30 06.8**	**+3.8**
ITAN	**ITANAGAR**	**4.64**	**234**	*eP*	Pb	04 29 40.5	-5.1
ITAN				*eS*	**Sn**	**04 30 30.7**	**+2.6**
ITAN				IAML		04 30 50.5	
	comp=E,595nm,0.0s						
PZH	**PanZhiHua**	**4.77**	**135**	Pn	**Pn**	**04 29 36.6**	**+0.4**
PZH				Pg	**Pb**	**04 29 45.5**	**-2.5**
PZH				Sn	**Sn**	**04 30 36.3**	**+4.7**
PZH				smax	smax		
	comp=E,100nm,1.4s						
PZH				smax	smax		
	comp=E,110nm,1.2s						
PZH				LR	LR		
	comp=E,910nm,8.8s						
PZH				LR	LR		
	comp=E,1μm,8.0s						
PZH				LR	LR		
	comp=E,1μm,8.8s						
CD2	**Chengdu**	**5.11**	**77**	Pn	**Pn**	**04 29 44.0**	**+3.2**
CD2				Sn	**Sn**	**04 30 46.4**	**+6.5**
CD2				Sg	**Sg**	**04 31 04.4**	**-4.0**
CD2				LR	LR		
	comp=E,1μm,5.2s						
CD2				LR	LR		
	comp=E,1μm,7.1s						
KOHI	**KOHIMA**	**5.39**	**220**	*ex*	x	04 29 46.6	
KOHI				*eS*	**Sn**	**04 30 51.1**	**+4.1**
KOHI				IAML		04 31 21.9	
	comp=E,612nm,0.0s						
TEZP	**TEZPUR**	**5.61**	**235**	*eP*	**Pn**	**04 29 49.9**	**+2.2**
TEZP				*eS*	**Sn**	**04 30 53.0**	**+0.9**
LSA	**Lhasa**	**5.92**	**270**	Pg	Pb	04 30 02.8	-4.9
LSA				Sn	**Sn**	**04 31 07.8**	**+7.5**
LSA				smax	smax		
	comp=E,48nm,1.3s						
LSA				smax	smax		
	comp=E,32nm,1.0s						
KMI	**Kunming**	**6.39**	**137**	⇑Pg	Pb	04 30 20.3	+4.6
KMI				Sg	Sg	04 31 39.1	-10
KMI				smax	smax		
	comp=N,53nm,1.4s						
KMI				smax	smax		
	comp=E,77nm,1.3s						
GUWA	**GUWAHATI**	**6.66**	**238**	*eP*	**Pb**	**04 30 17.6**	**-2.5**
GUWA				*eS*	**Sn**	**04 31 16.9**	**-1.1**
GUWA				IAML		04 31 51.9	
	comp=E,69nm,0.4s						
SHL	**Shillong**	**6.91**	**233**	P	**Pn**	**04 30 05.3**	**-0.3**
SHL	**Shillong**	**6.91**	**233**		**Pn**	**04 30 05.3**	**-0.3**
LZH	**Lanzhou**	**7.89**	**37**	*eP*	**Pn**	**04 30 18.9**	**-0.2**
LZH				pP	Pb	04 30 22.3	-19
LZH				pmax	pmax		
	comp=E,18nm,1.1s						
TURI	**Tura**	**8.03**	**239**	*eP*	Pn	04 30 26.9	+6.0
TURI				*eS*	**Sn**	**04 31 49.8**	**-2.0**
GTK	**Tadong**	**8.62**	**255**	IAML		04 32 13.7	
	comp=E,66nm,0.4s						
TAPN	**Taplejung**	**9.36**	**257**	*e*Pn	**Pn**	**04 30 40.6**	**+1.2**
TAPN				*e*Sn	**Sn**	**04 32 27.4**	**+2.6**
	comp=E,103nm,1.0s						
GTA	**Gaotai**	**9.59**	**9**	*eP*	**Pn**	**04 30 45.6**	**+3.2**
GTA				pP		04 30 49.4	
GTA				pmax	pmax		
	comp=E,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=E,91nm,4.4s						
GTA				LR	LR		
	comp=E,680nm,10.9s						
GTA				LR	LR		
	comp=E,770nm,10.5s						
ODAN	**Odare**	**9.79**	**254**	*e*Pn	**Pn**	**04 30 46.8**	**+1.6**
ODAN				*e*Sn	**Sn**	**04 32 37.6**	**+2.3**
	comp=E,152nm,0.9s						
XAN	**Xi'an**	**10.18**	**63**	P	**Pn**	**04 30 51.3**	**+0.9**
XAN				pmax	pmax		
	comp=E,15nm,0.9s						
RAMN	**Ramite**	**10.42**	**256**	*e*Pn	**Pn**	**04 30 54.8**	**+0.9**
RAMN				*e*Sn	**Sn**	**04 32 52.0**	**+1.1**
	comp=E,53nm,0.6s						
JIRN	**Jiri**	**10.56**	**261**	*e*Pn	**Pn**	**04 30 56.7**	**+0.7**
JIRN				*e*Sn	**Sn**	**04 32 55.3**	**+0.8**
	comp=E,18nm,0.5s						
GUN	**Gumba**	**10.77**	**262**	*e*Pn	**Pn**	**04 30 58.6**	**-0.1**
GUN				*e*Sn	**Sn**	**04 32 58.7**	**-0.8**
	comp=E,50nm,0.8s						
CHTO	**Chiang Mai**	**11.09**	**175**	P	**Pn**	**04 31 02.7**	**-0.2**
CHTO	**Chiang Mai**	**11.09**	**175**	Pn	**Pn**	**04 31 02.7**	**-0.2**
PKI	**Pulchoki**	**11.26**	**261**	*e*Pn	**Pn**	**04 31 04.8**	**-0.6**
PKI				*e*Sn	**Sn**	**04 33 11.4**	**0.0**
	comp=E,37nm,0.7s						
PKIN	**Phulchoki**	**11.26**	**261**	*e*Pn	**Pn**	**04 31 05.0**	**-0.5**
PKIN				*e*Sn	**Sn**	**04 33 11.4**	**-0.1**
	comp=E,43nm,0.7s						
KKN	**Kakani**	**11.31**	**262**	*e*Pn	**Pn**	**04 31 05.6**	**-0.5**
KKN				*e*Sn	**Sn**	**04 33 11.5**	**-1.1**
	comp=E,46nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.44**	**175**	Pn	**Pn**	**04 31 07.4**	**-0.4**
	comp=E,0.9nm,0.3s,baz=342,slow=13,SNR=34						
CMAR				Lg	Lg	04 34 24.4	
	comp=E,1.0nm,0.3s,baz=355,slow=29,SNR=1.9						
DMN	**Daman**	**11.51**	**262**	*e*Pn	**Pn**	**04 31 09.3**	**+0.5**
DMN				*e*Sn	**Sn**	**04 33 15.5**	**-1.9**
	comp=E,31nm,0.7s						
DANN	**Dangsing**	**12.51**	**266**	*e*Pn	**Pn**	**04 31 20.6**	**-1.9**
DANN				*e*Sn	**Sn**	**04 33 37.2**	**-4.8**
	comp=E,21nm,0.6s						
KOLN	**Koldanda**	**12.76**	**264**	*e*Pn	**Pn**	**04 31 25.0**	**-0.9**
KOLN				*e*Sn	**Sn**	**04 33 45.6**	**-2.6**
	comp=E,19nm,0.5s						
PYUN	**Piuthan**	**13.22**	**266**	*e*Pn	**Pn**	**04 31 29.7**	**-2.5**
PYUN				*e*Sn	**Sn**	**04 33 54.8**	**-4.6**
	comp=E,36nm,0.8s						
WMQ	**Urumqi**	**16.10**	**332**	*e*P	**Pn**	**04 32 11.9**	**+1.3**
SONM	**Songino Array**	**19.04**	**18**	P	**P**	**04 32 47.4**	**+0.9**
	comp=E,0.8nm,0.3s,baz=200,slow=12,SNR=53						
SONM				LR	LR	04 40 56.3	
	comp=E,196nm,20.2s,baz=192,slow=40						
SONM	**Songino Array**	**19.04**	**18**	*e*P	**P**	**04 32 47.6**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**19.04**	**18**	P	**P**	**04 32 47.2**	**+0.8**

ULN	**Ulaanbaatar**	**19.25**	**19**	*ce*P	**P**	**04 32 48.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**19.25**	**19**	P	**P**	**04 32 49.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**20.09**	**311**	P	**P**	**04 32 56.5**	**-1.8**
KSH	**Kashi**	**20.41**	**304**	P	Pn	04 33 04.8	+1.3
KSH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KSH				LR	LR		
	comp=Z,140nm,7.9s						
KSH				LR	LR		
	comp=Z,190nm,9.8s						
KDJ	**Kajisay**	**20.70**	**312**	P	**P**	**04 33 05.6**	**+1.0**
KDJ				pmax	pmax		
	comp=Z,63nm,1.4s						
KDJ	**Kajisay**	**20.70**	**312**	P	**P**	**04 33 05.6**	**+1.0**
KDJ				IAmb	IAmb	04 33 11.5	
	comp=Z,63nm,1.4s						
MK31	**Makanchi Array**	**20.79**	**328**	P	**P**	**04 33 05.8**	**+0.4**
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**20.79**	**328**	P	**P**	**04 33 05.8**	**+0.4**
MKAR	**Makanchi Array**	**20.79**	**328**	P	**P**	**04 33 07.5**	**+2.1**
	comp=Z,9.9nm,0.7s,baz=141,slow=13,SNR=35						
MKAR				PcP	**PcP**	**04 37 13.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=186,slow=2.2,SNR=2.6						
MKAR				LR	LR	04 41 47.7	
	comp=Z,85nm,19.3s,baz=134,slow=38						
MKAR	**Makanchi Array**	**20.79**	**328**	P	**P**	**04 33 06.7**	**+1.3**
ZAK	**Zakamensk**	**20.83**	**10**	*eP*	**P**	**04 33 07.3**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,50nm,1.3s						
MAKZ	**Makanchi**	**20.94**	**328**	P	**P**	**04 33 07.4**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.1s						
MAKZ	**Makanchi**	**20.94**	**328**	P	**P**	**04 33 07.4**	**+0.4**
NIL	**Nilore**	**21.31**	**286**	P	**P**	**04 33 11.3**	**+0.2**
NIL				pmax	pmax		
	comp=Z,49nm,0.7s						
NIL	**Nilore**	**21.31**	**286**	P	**P**	**04 33 11.3**	**+0.2**
HYBB	**Hyderabad (bro**	**21.65**	**239**	*eP*	**P**	**04 33 16.8**	**+1.9**
BOOM	**Boomskoye usch**	**21.67**	**311**	P	**P**	**04 33 16.7**	**+1.6**
BOOM				pmax	pmax		
	comp=Z,13nm,0.9s						
BOOM	**Boomskoye usch**	**21.67**	**311**	P	**P**	**04 33 16.7**	**+1.6**
MOY	**Mondy**	**21.85**	**5**	*eP*	**P**	**04 33 18.4**	**+1.6**
MOY				pmax	pmax		
	comp=Z,40nm,1.8s						
AAK	**Ala-Archa**	**22.69**	**310**	P	**P**	**04 33 27.5**	**+1.6**
	comp=Z,3.6nm,0.7s,baz=135,slow=7.9,SNR=9.2						
AAK	**Ala-Archa**	**22.69**	**310**	*ce*P	**P**	**04 33 28.3**	**+2.3**
AAK				pmax	pmax		
	comp=Z,16nm,1.7s						
AAK	**Ala-Archa**	**22.69**	**310**	P	**P**	**04 33 27.6**	**+1.6**
BTK	**Batken**	**24.34**	**302**	P	**P**	**04 33 42.8**	**+0.6**
BTK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BTK	**Batken**	**24.34**	**302**	P	**P**	**04 33 42.8**	**+0.6**
GAR	**Garm**	**24.45**	**299**	P	**P**	**04 33 43.8**	**+0.5**
GAR				IAmb	IAmb	04 33 47.4	
	comp=Z,28nm,0.9s						
KBL	**Kabul**	**24.84**	**288**	P	**P**	**04 33 47.5**	**+0.5**
KBL				pmax	pmax		
	comp=Z,21nm,0.8s						
KBL	**Kabul**	**24.84**	**288**	P	**P**	**04 33 47.5**	**+0.5**
KBL				IAmb	IAmb	04 33 50.1	
	comp=Z,21nm,0.8s						
CHGR	**Chuyangaron**	**25.26**	**298**	P	**P**	**04 33 51.4**	**+0.9**
CHGR				IAmb	IAmb	04 33 54.2	
	comp=Z,16nm,0.8s						
KURBB	**Kurchatov Arra**	**25.30**	**330**	P	**P**	**04 33 52.1**	**+1.5**
	comp=Z,6.5nm,0.6s,baz=136,slow=11,SNR=27						
KURBB				PcP	**PcP**	**04 37 22.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=132,slow=2.0,SNR=5.0						
KURBB				LR	LR	04 44 57.7	
	comp=Z,176nm,21.9s,baz=124,slow=39						
KURK	**Kurchatov**	**25.33**	**331**	*ce*P	**P**	**04 33 52.3**	**+1.4**
KURK				pmax	pmax		
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**25.33**	**331**	P	**P**	**04 33 50.8**	**-0.1**
KURK				IAmb	IAmb	04 33 55.2	
	comp=Z,34nm,1.4s						
KKAR	**Karatay Array**	**25.55**	**309**	P	**P**	**04 33 54.0**	**+0.9**
KKAR	**Karatay Array**	**25.55**	**309**	P	**P**	**04 33 54.0**	**+0.9**
ZALV	**Zalesovo Beam**	**25.84**	**342**	P	**P**	**04 33 56.6**	**+1.1**
	comp=Z,12nm,0.7s,baz=155,slow=10,SNR=18						
CN2	**Changchun**	**25.86**	**50**	*eP*	**P**	**04 33 56.5**	**+0.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**25.97**	**65**	P	**P**	**04 33 55.6**	**-1.3**
	comp=Z,6.1nm,0.8s,baz=257,slow=14,SNR=20						
PSI	**Prapat**	**26.98**	**178**	P	**P**	**04 34 06.2**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=350,slow=12,SNR=4.0						
PSI				LR	LR	04 45 54.1	
	comp=Z,103nm,18.0s,baz=350,slow=39						
BKNI	**Bangkinang**	**29.57**	**174**	P	**P**	**04 34 28.7**	**-0.6**
BVAR	**Borovoye Array**	**30.64**	**327**	P	**P**	**04 34 40.0**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=70,slow=22,SNR=10						
BVAR				PcP	**PcP**	**04 37 36.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=321,slow=42,SNR=6.2						
BRVK	**Borovoye**	**30.71**	**327**	*ce*P	**P**	**04 34 40.9**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRVK	**Borovoye**	**30.71**	**327**	P	**P**	**04 34 38.9**	**-0.1**
BRVK				IAmb	IAmb	04 34 41.7	
	comp=Z,16nm,1.4s						
ABKAR	**Akbulak array**	**34.61**	**315**	P	**P**	**04 35 14.8**	**+1.6**
ABKAR	**Akbulak array**	**34.61**	**315**	P	**P**	**04 35 14.4**	**+1.3**
ABKAR				IAmb	IAmb	04 35 15.1	
	comp=Z,3.8nm,0.8s						
WSAR	**Wadi Sarin**	**35.66**	**269**	P	**P**	**04 35 22.3**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=308,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**36.18**	**316**	P	**P**	**04 35 27.8**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=111,slow=8.3,SNR=9.6						
ARU	**Arti**	**38.25**	**325**	P	**P**	**04 35 45.5**	**+1.3**
	comp=Z,2.0nm,0.2s,baz=295,slow=13,SNR=1.6						
ARU	**Arti**	**38.25**	**325**	*d*P	**P**	**04 35 45.2**	**+1.0**
ARU						04 37 12.8	
ARU				S	**S**	**04 41 33.6**	**-4.1**
ARU				SS	**SnSn**	**04 44 16.8**	**-5.1**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
NRIK	**Noril'sk**	**39.91**	**354**	P	**P**	**04 35 58.2**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=141,slow=8.2,SNR=8.1						
NRIK	**Noril'sk**	**39.91**	**354**	*eP*	**P**	**04 35 58.9**	**+1.0**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NRIK	**Noril'sk**	**39.91**	**354**	P	**P**	**04 35 58.6**	**+0.6**
COCO	**West Island**	**41.88**	**182**	*i* P	**P**	**04 36 18.0**	**+3.4**
BELG	**Belogornoye**	**42.97**	**316**	*i* P	**P**	**04 36 23.6**	**+0.4**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KIRV	**Kirov**	**43.63**	**325**	P	**P**	**04 36 29.2**	**+0.8**
	comp=Z,6.6nm,0.5s,baz=242,slow=2.2,SNR=2.8						
KIRV	**Kirov**	**43.63**	**325**	*ce*P	**P**	**04 36 26.5**	**-1.9**
TIXI	**Tiksi**	**45.04**	**13**	P	**P**	**04 36 39.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	**45.04**	**13**	P	**P**	**04 36 39.1**	**-0.5**
RAYN	**Ar Rayn**	**46.95**	**275**	P	**P**	**04 36 55.3**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
RAYN	**Ar Rayn**	**46.95**	**275**	P	**P**	**04 36 55.3**	**-0.1**
RAYN				IAmb	IAmb	04 36 55.7	
	comp=Z,5.6nm,1.1s						
PETK	**Petropavlovsk-**	**48.73**	**44**	P	**P**	**04 37 07.4**	**-1.4**
	comp=Z,3.2nm,0.9s,baz=289,slow=4.5,SNR=2.3						
KLMR	**Klimovskoe**	**49.07**	**326**	*eP*	**P**	**04 37 10.7**	**-0.5**
KLMR				AMP		04 37 13.4	
	comp=Z,19nm,1.2s						
KLMR				*e*PcP	**PcP**	**04 38 33.5**	**-1.2**
AKASG	**Malin Array Be**	**54.32**	**313**	P	**P**	**04 37 50.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=73,slow=6.7,SNR=4.1						
AKASG	**Malin Array Be**	**54.32**	**313**	*eP*	**P**	**04 37 53.3**	**+2.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**54.32**	**313**	P	**P**	**04 37 50.4**	**-0.2**
MNK	**Minsk**	**54.85**	**318**	*i* P	**P**	**04 37 57.2**	**+2.8**
MNK				*i* *PP	sP	04 38 19.3	+18
MNK				*i*		04 38 58.2	
MNK				*i*		04 39 57.3	
MNK				*i* PPP	PPP	04 41 13.4	
MNK				*i* S	**S**	**04 45 31.2**	**-4.1**
MNK				*i*		04 47 37.5	
MNK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,295nm,18.0s						
MNK				MLR	MLR		
	comp=E,21nm,14.0s						
MNK				MLR	MLR		
	comp=Z,276nm,15.0s						
MNK	**Minsk**	**54.85**	**318**	*i* P	**P**	**04 37 57.2**	**+2.8**
	comp=E,2.0nm,0.8s						
MNK				*i* P	**P**	**04 37 57.2**	**+2.8**
	comp=N,14nm,0.8s						
MNK				*i* P	**P**	**04 37 57.2**	**+2.8**
	comp=Z,8.0nm,0.8s,baz=86						
MNK				*i* pP	sP	04 38 19.4	+18
MNK				*i* PP	**PP**	**04 39 57.4**	**+0.4**
MNK				*i* PPP	PPP	04 41 13.4	
MNK				*i* S	**S**	**04 45 31.2**	**-4.1**
MNK				*i* sS	sS	04 46 10.5	+27
MNK				*i* SS	SS	04 49 35.8	+18
MNK				*i* SSS	SSS	04 51 30.3	
MNK				*i* LQ	LQ	04 56 22.2	
MNK				*i* LR	LR	05 02 06.1	
MNK				*i* LRM	MLR	05 04 29.1	
	comp=N,295nm,18.1s						
MNK				*i* LRM	MLR	05 04 30.4	
	comp=E,21nm,14.2s						
MNK				*i* LRM	MLR	05 04 36.2	
	comp=Z,276nm,15.5s						
FINES	**FINESS Array B**	**55.60**	**326**	P	**P**	**04 38 00.6**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=109,slow=10,SNR=9.5						
ARA0	**ARCESS Array S**	**56.18**	**336**	*eP*	**P**	**04 38 04.6**	**+0.9**
ARCES	**ARCESS Array B**	**56.18**	**336**	P	**P**	**04 38 04.4**	**+0.6**
	comp=E,11nm,1.1s,baz=69,slow=6.6,SNR=8.6						
ARCES	**ARCESS Array B**	**56.18**	**336**	*eP*	**P**	**04 38 04.0**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,12nm,1.1s						
ARCES	**ARCESS Array B**	**56.18**	**336**	P	**P**	**04 38 04.8**	**+1.0**
KTK1	**Kautokeino**	**56.95**	**336**	*eP*	**P**	**04 38 09.8**	**+0.6**
SPA0	**Spitsbergen Ar**	**59.22**	**346**	*eP*	**P**	**04 38 25.2**	**+0.2**
FAUS	**Fauske**	**59.97**	**334**	*eP*	**P**	**04 38 30.0**	**-0.3**
WB0	**Warramunga Arr**	**60.60**	**140**	P	**P**	**04 38 33.4**	**-1.8**
WRAB	**Tennant Creek**	**60.70**	**140**	P	**P**	**04 38 35.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRAB	**Tennant Creek**	**60.70**	**140**	P	**P**	**04 38 35.0**	**-0.9**
WRA	**Warramunga Arr**	**60.71**	**140**	P	**P**	**04 38 34.5**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=327,slow=7.5,SNR=31						
WRA	**Warramunga Arr**	**60.71**	**140**	*eP*	**P**	**04 38 34.4**	**-1.5**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**60.71**	**140**	P	**P**	**04 38 33.8**	**-2.1**
WB2	**Warramunga Arr**	**60.71**	**140**	P	**P**	**04 38 33.9**	**-2.1**
HFS	**Hagfors**	**61.77**	**326**	P	**P**	**04 38 43.1**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=146,slow=16,SNR=11						
NB2	**NORSAR Subarra**	**62.77**	**327**	P	**P**	**04 38 49.1**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=78,slow=6.9						
NB2	**NORSAR Subarra**	**62.77**	**327**	P	**P**	**04 38 49.1**	**-0.3**
	baz=78,slow=6.9						
NOA	**NORSAR Array B**	**62.77**	**327**	P	**P**	**04 38 49.3**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=77,slow=6.6,SNR=25						
NC204	**NORSAR Array S**	**62.93**	**327**	P	**P**	**04 38 50.7**	**+0.2**
OSL	**Oslo**	**63.27**	**326**	*eP*	**P**	**04 38 53.7**	**+1.1**
ASAR	**Alice Springs**	**63.49**	**143**	P	**P**	**04 38 53.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=328,slow=6.8,SNR=10.0						
DOMB	**Dombas**	**63.54**	**328**	*eP*	**P**	**04 38 54.8**	**+0.3**
KONO	**Kongsberg**	**63.89**	**326**	*eP*	**P**	**04 38 56.7**	**-0.1**
SKAR	**Skarslia**	**64.24**	**327**	*eP*	**P**	**04 39 00.1**	**+1.0**
CLL	**Collm**	**64.26**	**316**	*eP*	**P**	**04 38 59.0**	**-0.4**
CLL				*e**SP	**PcP**	**04 39 34.0**	**-0.1**
CLL	**Collm**	**64.26**	**316**	*eP*	**P**	**04 38 59.0**	**-0.4**
CLL				*e*PcP	**PcP**	**04 39 34.0**	**-0.1**
AKN	**Aaknes**	**64.44**	**329**	*eP*	**P**	**04 39 00.6**	**+0.2**
GERES	**GERESS Array B**	**64.53**	**313**	P	**P**	**04 39 02.2**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=54,slow=6.8,SNR=9.7						
GERES	**GERESS Array B**	**64.53**	**313**	P	**P**	**04 39 01.0**	**-0.4**
SNART	**Snartemo**	**65.44**	**325**	*eP*	**P**	**04 39 07.3**	**+0.4**
DAVOX	**Davos/Dischmat**	**67.63**	**312**	P	**P**	**04 39 21.6**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=85,slow=5.6,SNR=8.3						
EUNU	**Eureka**	**70.23**	**1**	P	**P**	**04 39 37.2**	**+0.3**
EUNU				IAmb	IAmb	04 39 38.8	
	comp=Z,9.4nm,1.1s						
H21K	**Melozitna Rive**	**70.55**	**25**	P	**P**	**04 39 39.3**	**+0.4**
H21K				IAmb	IAmb	04 39 40.1	
	comp=Z,5.3nm,1.1s						
MLY	**Manley**	**71.61**	**25**	P	**P**	**04 39 45.1**	**-0.3**
MLY				IAmb	IAmb	04 39 46.6	
	comp=Z,5.6nm,0.9s						
EKA	**Eskdalemuir Ar**	**71.84**	**324**	P	**P**	**04 39 47.4**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=65,slow=7.1,SNR=9.7						
CAST	**Castle Rocks**	**71.95**	**26**	P	**P**	**04 39 48.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**72.01**	**26**	P	**P**	**04 39 48.2**	**+0.4**
BPAW				IAmb	IAmb	04 39 50.3	
	comp=Z,4.3nm,0.8s						
I23K	**Minto, Yukon-K**	**72.05**	**24**	P	**P**	**04 39 48.2**	**+0.2**
I23K				IAmb	IAmb	04 39 49.1	
	comp=Z,4.1nm,0.8s						
PPLA	**Purkeypile**	**72.18**	**27**	P	**P**	**04 39 48.5**	**-0.5**
PPLA				IAmb	IAmb	04 39 49.9	
	comp=Z,7.5nm,0.6s						
KEST	**Kesra**	**72.20**	**301**	P	**P**	**04 39 50.5**	**

KLU	Klutina	75.40	26	P	P	04 40 08.4	+0.5	
N25K	Chitina, Valde	75.84	26	P	P	04 40 10.1	-0.3	
N25K				IAmb	IAmb	04 40 11.4		
	comp=Z,5.7nm,0.6s							
L27K	Beaver Creek,	75.95	24	P	P	04 40 11.6	+0.7	
L27K				IAmb	IAmb	04 40 12.4		
	comp=Z,5.1nm,0.8s							
BCAR	Beaver Creek A	75.96	24	P	P	04 40 11.7	+0.6	
DAWY	Dawson	76.13	22	P	P	04 40 11.9	-0.1	
DAWY				IAmb	IAmb	04 40 12.5		
	comp=Z,4.6nm,0.8s							
BMRM	Bremner River	76.23	26	P	P	04 40 12.4	-0.1	
BMRM				IAmb	IAmb	04 40 13.4		
	comp=Z,7.7nm,0.8s							
M27K	Edge Creek, AK	76.38	25	P	P	04 40 14.0	+0.5	
M27K				IAmb	IAmb	04 40 14.9		
	comp=Z,5.4nm,0.9s							
C36M	Paulatuk	76.40	14	P	P	04 40 13.1	-0.1	
C36M				IAmb	IAmb	04 40 13.7		
	comp=Z,7.8nm,0.7s							
BARN	Barnard Glacie	77.29	25	P	P	04 40 19.1	+0.3	
N31M	Braeburn, Yuko	79.11	23	P	P	04 40 29.2	+0.6	
SKAG	Skagway	80.70	25	P	P	04 40 37.7	+0.5	
SKAG				IAmb	IAmb	04 40 39.0		
	comp=Z,8.0nm,0.8s							
YKA	Yellowknife Ar	84.28	15	P	P	04 40 55.1	-0.6	
	comp=Z,2.3nm,0.8s,baz=328,slow=4.9,SNR=32							
TORD	Torodi Ar. Bea	88.86	284	P	P	04 41 19.8	+0.8	
	comp=Z,2µm,0.3s,baz=34,slow=3.4,SNR=1.4							
TXAR	Lajitas Array	117.57	21	PKP	PKPdf	04 47 09.5	-1.4	
	comp=Z,0.2nm,0.5s,baz=24,slow=2.4,SNR=4.6							
ROSC	El Rosal	144.66	347	PKP	PKPab	04 48 01.2	+0.3	
	comp=Z,24nm,0.7s,baz=87,slow=5.8,SNR=9.5							
BDFB	Brasilia	145.70	287	PKPbc	PKPdf	04 48 03.2	-0.5	
	comp=Z,3.1nm,0.8s,baz=68,slow=7.3,SNR=3.7							

VAO ***15*** *04:30:10.3±0.5,22.03S×68.43W,h141km,mb4.0*
GUC ***15*** *04:30:11.4±0.7,21.795S×68.47W,h118km±5km,ML3.2*
ISC 15 04:30:09.5±0.7,21°33S±0.04×68°46W±0.09,
h127km±11km,n36,σ1§10/45,7C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.73**	**272**	⇑*iP*		**Pn**	**04 30 30.5**	**+0.5**
PB09				*i* S		**Sn**	**04 30 45.4**	**-0.2**
PB09				IAML			04 30 49.5	
	comp=N,339nm,0.7s							
LVC	**Limon Verde**	**0.88**	**208**	*e*P		**Pn**	**04 30 31.9**	**+0.3**
PB01	**IPOC Station P**	**1.24**	**309**	⇑*iP*		**Pn**	**04 30 34.6**	**0.0**
PB01				*i* S		**Sn**	**04 30 52.9**	**-0.8**
PB01				IAML			04 30 55.9	
	comp=E,376nm,0.1s							
PB07	**IPOC Station P**	**1.33**	**274**	*e*P		**Pn**	**04 30 35.9**	**+0.2**
PB07				*i* S		**Sn**	**04 30 55.4**	**-0.3**
PB07				IAML			04 30 57.5	
	comp=E,480nm,0.3s							
PB06	**IPOC Station P**	**1.35**	**230**	⇑*iP*		**Pn**	**04 30 36.8**	**+0.8**
PB06				*i* S		**Sn**	**04 30 57.3**	**+1.2**
PB06				IAML			04 30 58.0	
	comp=E,256nm,0.4s							
PB02	**IPOC Station P**	**1.43**	**290**	⇑*iP*		**Pn**	**04 30 36.9**	**+0.1**
PB02				*i* S		**Sn**	**04 30 56.9**	**-0.6**
PB02				IAML			04 30 58.9	
	comp=N,700nm,0.5s							
PB04	**IPOC Station P**	**1.65**	**252**	⇑*iP*		**Pn**	**04 30 39.6**	**+0.3**
PB04				IAML			04 31 08.4	
	comp=E,198nm,0.4s							
PB15	**IPOC Station P**	**1.66**	**214**	⇑*iP*		**Pn**	**04 30 40.6**	**+1.0**
PB15				*i* S		**Sn**	**04 31 04.2**	**+1.8**
PB08	**IPOC Station P**	**1.80**	**339**	⇓*iP*		**Pn**	**04 30 42.4**	**+1.0**
PB08				*i* S		**Sn**	**04 31 05.7**	**+0.1**
PB08				IAML			04 31 08.3	
	comp=E,189nm,0.5s							
TA01	**Diego Aracena**	**2.04**	**308**	⇑*iP*		**Pn**	**04 30 43.8**	**-0.1**
TA01				*i* S		**Sn**	**04 31 08.9**	**-1.2**
TA01				IAML			04 31 10.5	
	comp=E,274nm,0.2s							
TA02	**Huaiquique**	**2.20**	**314**	IAML			04 31 21.2	
	comp=E,396nm,0.2s							
GO01	**Chusmiza**	**2.26**	**342**	*e*P		**Pn**	**04 30 47.7**	**+0.7**
GO01				*i* S		**Sn**	**04 31 16.4**	**+0.7**
GO01				IAML			04 31 23.4	
	comp=N,219nm,0.2s							
PB11	**IPOC Station P**	**2.34**	**331**	⇓*iP*		**Pn**	**04 30 47.9**	**+0.1**
PB11				*i* S		**Sn**	**04 31 16.6**	**-0.6**
PB11				IAML			04 31 18.1	
	comp=N,365nm,0.7s							
PB10	**IPOC Station P**	**2.56**	**229**	*e*P		**Pn**	**04 30 51.8**	**+1.4**
PB16	**IPOC Station P**	**3.61**	**344**	*e*P		**Pn**	**04 31 06.1**	**+1.4**
PB12	**IPOC Station P**	**3.65**	**331**	*e*P		**Pn**	**04 31 04.7**	**0.0**
LPAZ	**La Paz**	**5.52**	**3**	*e*P		**Pn**	**04 31 33.4**	**+3.2**
VILB	**Vilhena**	**11.83**	**43**	*e*P		**Pn**	**04 32 57.1**	**+2.7**
AQDB	**Aquidauana**	**11.98**	**86**	*e*P		**Pn**	**04 32 55.9**	**-0.4**
ITQB	**Itaqui**	**13.21**	**129**	*e*P		**Pn**	**04 33 10.8**	**-1.4**
PDRB	**Porto dos Gac**	**15.13**	**50**	*e*P		**P**	**04 33 38.0**	**-1.0**
PCMB	**Pacaembu**	**15.98**	**92**	*e*P		**P**	**04 33 46.8**	**-1.5**
CLDB	**Colider**	**16.30**	**50**	*e*P		**P**	**04 33 53.1**	**+1.2**
ARAG	**Araguaiana, MT**	**16.89**	**72**	*e*P		**P**	**04 33 58.6**	**+0.3**
TBTG	**Tabatinga, AM**	**17.59**	**355**	*e*P		**Pn**	**04 34 08.5**	**+1.6**
SNDB	**Serra Nova Dou**	**19.11**	**62**	*e*P		**P**	**04 34 22.7**	**0.0**
RCLB	**Rio Claro- Sao**	**19.40**	**96**	*e*P		**P**	**04 34 25.9**	**+0.1**
MACA	**Manacapuru-AM**	**20.03**	**23**	*e*P		**Pn**	**04 34 34.8**	**-0.9**
ITTB	**Itaituba**	**21.30**	**37**	*e*P		**P**	**04 34 45.5**	**-0.7**
PRPB	**Parauapebas**	**23.82**	**52**	*e*P		**P**	**04 35 10.5**	**-0.5**
SMTB	**Santa Maria do**	**23.86**	**61**	*e*P		**P**	**04 35 12.0**	**+0.6**
MALB	**Monte Alegre**	**24.19**	**37**	*e*P		**P**	**04 35 15.6**	**+1.3**
BOAV	**Boa Vista**	**25.29**	**19**	*e*P		**P**	**04 35 25.4**	**+1.0**
ALF01	**Guarapari-ES**	**25.87**	**92**	*e*P		**P**	**04 35 29.9**	**+0.3**
NAN01	**Guarapari, ES**	**26.93**	**87**	*e*P		**P**	**04 35 37.6**	**-1.4**
NBMA	**Muriti-CE**	**32.04**	**68**	*e*P		**P**	**04 36 23.7**	**-0.7**

BJI ***15*** *04:40:36.0±0.0,35.76N×3.70W,h10km,mb5.3/62, mB5.7/49,Ms5.5/46,Ms7 5.1/44*
MOS ***15*** *04:40:37.5±0.9,35.72N×3.60W,h13km,mb5.5/90, MS4.9/27,Error ellipse: s-maj=5.9km s-min=3.1km az=53.3*
IDC ***15*** *04:40:37.3±0.3,35.69N×3.67W,h0km,mb5.1/35, mb1 5.2/42,mb1mx5.2/44,mbtmp5.0/42,ML4.5/5,MS4.6/66, Ms1 4.6/66,ms1mx4.5/80,Error ellipse: s-maj=10.7km s-min=8.0km az=119.0*
CNRM ***15*** *04:40:38.5,35.73N×3.62W,h27km,ml5.7*
SFS ***15*** *04:40:38.0,35.60N×3.65W,ML5.2,ALBORAN SUR*
CRAAG ***15*** *04:40:38.9,35.66N×3.71W,Mb5.0*
INMG ***15*** *04:40:39.1±2.1,35.68N×3.73W,h0km,ML5.0,Error ellipse: s-maj=4.5km s-min=3.1km az=179.0*
NEIC ***15*** *04:40:39.1±1.3,35.69N±0.04×3.63W±0.03,h10km±1km, mb5.6/788,Ms_20 5.0/156,Mwb5.2/20,Mwr5.2/21,Mww5.2, mb_Lg5.1(MDD),Error ellipse: s-maj=6.4km s-min=3.8km az=202.0*
MED_RC ***15*** *04:40:39.0±0.2,35.57N×3.74W,h10km,MW5.3/38, Moment Tensor Solution. Body waves: s17,c21;Mantle waves: s38,c77; Duration: 1§0 Moment tensor: Scale 1017Nm; Mrr0.87±.01; Mθθ-0.87±.01; Mϕϕ0.00±.02; Mrθ0.34±.05; Mθϕ-0.32±.01; Mϕr-0.27±.06; Best double couple: Mo1.02000×1017 NP1:ϕs92.00000°,δ56.00000°, λ115.00000°. NP2:ϕs232.00000°,δ41.00000°,λ58.00000°. Principal axes: T 1.0400, Plg68.0000°, Azm54.0000°; N -0.0300, Plg20.0000°, Azm257.0000°; P -1.0100, Plg8.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
IGIL ***15*** *04:40:39.3,35.69N×3.65W,h0km,ML5.2*
MDD ***15*** *04:40:40.1±0.2,35.62N×3.65W,h12km,mb_Lg5.2/35, Error ellipse: s-maj=2.2km s-min=1.5km az=161.0*
GCMT ***15*** *04:40:40.1±0.1,35.63N±0.01×3.68W±0.01,h12km, MW5.3/143,Moment Tensor Solution. s80,c124; s143,c269; Duration: 1§1 Moment tensor: Scale 1017 Nm; Mrr0.99±.01; Mθθ-1.04±.01; Mϕϕ0.04±.01; Mrθ0.05±.04; Mθϕ-0.27±.01; Mϕr0.07±.04; Best double couple: Mo1.05200×1017 NP1:ϕs260.00000°,δ43.00000°, λ95.00000°. NP2:ϕs73.00000°,δ47.00000°,λ85.00000°. Principal axes: T 1.0000, Plg86.0000°, Azm282.0000°; N 0.1050, Plg3.0000°, Azm77.0000°; P -1.1040, Plg2.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *04:40:40.1,35.78N×3.62W,h4km,Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr6.06; Mθθ-6.50; Mϕϕ0.44; Mrθ-5.10; Mθϕ-2.50; Mϕr-2.37; Fault plane solution: Mo8.80000×1016 NP1:ϕs246.97000°, δ65.13000°,λ84.97000°. NP2:ϕs78.79000°,δ25.34000°, λ100.71000°. Principal axes: T 8.1426, Plg69.0000°, Azm147.0000°; N 1.1898, Plg5.0000°, Azm249.0000°; P -9.3324, Plg20.0000°, Azm341.0000°;*
NEIC ***15*** *04:40:40.1,35.78N×3.62W,h4km,Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr5.42; Mθθ-4.58; Mϕϕ-0.84; Mrθ-4.83; Mθϕ-1.69; Mϕr-2.03; Fault plane solution: Mo7.48000×1016 NP1:ϕs247.76000°, δ67.27000°,λ89.09000°. NP2:ϕs70.12000°,δ22.74000°, λ92.18000°. Principal axes: T 7.5740, Plg68.0000°, Azm156.0000°; N -0.1955, Plg1.0000°, Azm248.0000°; P -7.3784, Plg22.0000°, Azm338.0000°;*
LDG ***15*** *04:40:42.4±0.3,35.68N×3.76W,h10km,Md5.0/2,Ml5.0/78 Error ellipse: s-maj=6.8km s-min=4.6km az=170.0*
NEIC ***15*** *04:40:44,35.66N×3.86W,h12km,Moment Tensor Solution. Duration: 8§0 Moment tensor: Scale 1016Nm; Mrr8.38; Mθθ-7.63; Mϕϕ-0.74; Mrθ0.86; Mθϕ-3.19; Mϕr-1.37; Fault plane solution: Mo8.79000×1016 NP1: ϕs238.00000°,δ45.00000°,λ74.00000°. NP2:ϕs79.00000°, δ47.00000°,λ105.00000°. Principal axes: T 8.6900, Plg79.0000°, Azm63.0000°; N 0.1949, Plg11.0000°, Azm249.0000°; P -8.8849, Plg1.0000°, Azm159.0000°;*
BGR ***15*** *04:41:10.4±0.0,37.28N×0.49W,h33km,Ms4.0*
ISC 15 04:40:39.9±0.5,35.71N±0.02×3.64W±0.02,h19km±1km, n1842,σ1§75/1758,mb5.5/529,MS5.0/179,88C-47D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.54**	**64**	Pg		**Pb**	**04 40 50.7**	**-0.1**
EALB				Sg		**Sb**	**04 40 58.8**	**+0.6**
EALB	**Alboran**	**0.54**	**64**	*e*Pg		**Pg**	**04 40 49.4**	**-0.5**
EALB				Sg		**Sb**	**04 40 58.8**	**+0.6**
EALB				*i* Vmb_Lg			04 41 01.7	
PALE	**Palemas**	**0.55**	**207**	P		**Pg**	**04 40 49.5**	**-1.4**
PALE				S		**Sg**	**04 40 57.1**	**-1.2**
EMEL	**Melilla**	**0.69**	**126**	Pg		**Pb**	**04 40 51.8**	**-1.4**
EMEL				Sg		**Sg**	**04 41 00.6**	**-2.1**
EMLI	**Melilla**	**0.69**	**126**	Pg		**Pb**	**04 40 52.2**	**-1.1**
EMLI				Sg		**Sg**	**04 40 59.7**	**-3.2**
ELGU	**Los Guajares,**	**1.16**	**0**			**Pn**	**04 41 00.3**	**-0.9**
ELGU				Sg		**Sg**	**04 41 19.2**	**+1.5**
ELGU	**Los Guajares,**	**1.16**	**0**	Pg		**Pn**	**04 40 59.6**	**-1.6**
ELGU				Sg		**Sb**	**04 41 16.2**	**+0.1**
ELGU				*i* Vmb_Lg			04 41 25.4	
EMAL	**Malaga-Limoner**	**1.23**	**329**	P		**Pn**	**04 41 00.9**	**-1.2**
EMAL				S		**Sb**	**04 41 15.2**	**-2.9**
EMIJ	**Mijas**	**1.26**	**313**			**Pn**	**04 41 01.2**	**-1.2**
EMIJ						**Sg**	**04 41 19.6**	**-1.1**
EMIJ	**Mijas**	**1.26**	**313**	Pg		**Pn**	**04 41 00.9**	**-1.5**
EMIJ				Sg		**Sb**	**04 41 17.0**	**-1.7**
EMIJ				*i* Vmb_Lg			04 41 23.8	
EBER	**Berja**	**1.33**	**27**			**Pn**	**04 41 02.5**	**-1.2**
EBER						**Sb**	**04 41 22.0**	**+0.8**
EBER	**Berja**	**1.33**	**27**	Pg		**Pn**	**04 41 02.5**	**-1.2**
EBER				Sn		**Sb**	**04 41 21.3**	**+0.1**
EBER				*i* Vmb_Lg			04 41 29.6	
TAF	**Taforalt**	**1.34**	**131**	P		**Pn**	**04 41 01.9**	**-1.7**
TAF				S		**Sn**	**04 41 18.0**	**-2.9**
SMIR	**Smir Dam**	**1.42**	**270**	P		**Pn**	**04 41 01.6**	**-3.0**
SMIR	**Smir Dam**	**1.42**	**270**	P		**Pn**	**04 41 01.9**	**-2.8**
SMIR				S		**Sn**	**04 41 19.2**	**-3.6**
CEU	**Ceuta**	**1.42**	**278**	P		**Pn**	**04 41 01.8**	**-2.9**
CEU				S		**Sn**	**04 41 18.5**	**-4.3**
EGOR	**Sierra Gorda,**	**1.45**	**345**			**Pn**	**04 41 05.5**	**+0.2**
EGOR				Sg		**Sg**	**04 41 26.9**	**-0.1**
EGOR	**Sierra Gorda,**	**1.45**	**345**	Pn		**Pn**	**04 41 04.5**	**-0.8**
EGOR				Sn		**Sg**	**04 41 26.1**	**-0.9**
EGOR				*i* Vmb_Lg			04 41 43.1	
EQUE	**Quentar**	**1.50**	**6**	Pn		**Pn**	**04 41 05.9**	**-0.1**
EQUE				Sn		**Sb**	**04 41 27.0**	**+1.0**
EQUE				*i* Vmb_Lg			04 41 35.9	
CHEFC	**Chefchaouen**	**1.51**	**247**	P		**Pn**	**04 41 05.3**	**-0.7**
CHEFC				S		**Sn**	**04 41 25.7**	**+0.4**
JBK	**JBK**	**1.63**	**147**	P		**Pn**	**04 41 05.8**	**-1.9**
JBK				S		**Sn**	**04 41 25.2**	**-3.0**
EJIF	**Jimena Fronter**	**1.66**	**297**	P		**Pn**	**04 41 07.6**	**-0.4**
EJIF	**Jimena Fronter**	**1.66**	**297**			**Pn**	**04 41 07.6**	**-0.4**
EJIF	**Jimena Fronter**	**1.66**	**297**	Pn		**Pn**	**04 41 06.7**	**-1.2**
EJIF				Pg		**Pn**	**04 41 07.6**	**-0.4**
ENIJ	**Nijar**	**1.71**	**42**	Pn		**Pn**	**04 41 08.8**	**+0.1**
ENIJ				Sn		**Sb**	**04 41 32.0**	**+0.1**
ENIJ	**Nijar**	**1.71**	**42**	Pn		**Pn**	**04 41 07.1**	**-1.7**
ENIJ				Sn		**Sn**	**04 41 28.9**	**-1.2**
ENIJ				Sg		**Sb**	**04 41 32.4**	**+0.6**
ENIJ				*i* Vmb_Lg			04 41 45.5	
SICH	**Sidi Chahed**	**2.11**	**221**	P		**Pn**	**04 41 14.3**	**+0.1**
SICH				S		**Sb**	**04 41 42.4**	**-0.9**
ESPR	**Espera**	**2.13**	**304**	Pn		**Pn**	**04 41 15.8**	**+1.4**
ESPR				Sn		**Sn**	**04 41 41.2**	**+0.7**
ESPR	**Espera**	**2.13**	**304**	Pn		**Pn**	**04 41 15.9**	**+1.4**
ESPR				Sn		**Sb**	**04 41 42.3**	**-1.7**
ESPR				*i* Vmb_Lg			04 42 17.6	
EQES	**Quesada**	**2.14**	**12**	Pn		**Pb**	**04 41 16.5**	**-1.6**
EQES				Sn		**Sb**	**04 41 44.0**	**-0.3**
EQES				*i* Vmb_Lg			04 42 12.5	
SFS	**San Fernando**	**2.21**	**291**	P		**Pn**	**04 41 17.2**	**+1.7**
SFS				S		**Sg**	**04 41 52.0**	**+0.8**
SFS	**San Fernando**	**2.21**	**291**	P		**Pn**	**04 41 15.3**	**-0.3**
SFS							04 41 42.3	
SFS	**San Fernando**	**2.21**	**291**	Pn		**Pn**	**04 41 15.3**	**-0.3**
SFS				Sn		**Sn**	**04 41 42.3**	**0.0**
SFS	**San Fernando**	**2.21**	**291**	P		**Pb**	**04 41 18.2**	**-1.1**
LCRM	**LCR**	**2.25**	**207**	P		**Pn**	**04 41 15.5**	**-0.7**
LCRM				S		**Sn**	**04 41 44.4**	**+0.9**
OTSS	**Djebel Tessala**	**2.36**	**100**	P		**Pn**	**04 41 18.0**	**+0.3**
IFR	**Ifrane**	**2.50**	**210**	P		**Pn**	**04 41 18.8**	**-1.0**
IFR				S		**Sn**	**04 41 46.9**	**-3.0**
USTO	**Oran**	**2.51**	**88**	P		**Pn**	**04 41 19.0**	**-0.7**
EADA	**Adamuz**	**2.57**	**343**	Pn		**Pn**	**04 41 20.9**	**+0.3**
EADA				Sn		**Sn**	**04 41 53.6**	**+2.3**
EADA				*i* Vmb_Lg			04 42 06.4	
EZAR	**Zarzadilla de**	**2.67**	**35**	Pn		**Pn**	**04 41 21.4**	**-0.5**
EZAR				Pg		**Pb**	**04 41 28.3**	**+1.2**
EZAR				Sn		**Sn**	**04 41 52.4**	**-1.4**
EZAR				Sg		**Sg**	**04 42 03.3**	**-2.5**
ECAB	**El Cabril**	**2.76**	**329**	Pn		**Pn**	**04 41 23.2**	**+0.1**
ECAB				Sn		**Sn**	**04 41 57.6**	**+1.6**
ECAB				*i* Vmb_Lg			04 42 09.0	
CART	**Cartagena**	**2.83**	**48**	P		**Pn**	**04 41 23.0**	**-1.1**
CART				S		**Sn**	**04 41 53.4**	**-4.3**
CART	**Cartagena**	**2.83**	**48**	Pn		**Pn**	**04 41 22.9**	**-1.1**
CART	**Cartagena**	**2.83**	**48**	P		**Pn**	**04 41 23.0**	**-1.1**
CART				S		**Sn**	**04 41 55.0**	**-2.6**
ARNO	**Arenosillo**	**2.86**	**300**	P		**Pn**	**04 41 24.8**	**+0.3**
ARNO				S		**Sn**	**04 41 59.8**	**+1.5**
ODJA	**Bouhanifia**	**2.87**	**96**	P		**Pn**	**04 41 22.0**	**-2.7**
CZD	**Col de Zad**	**2.91**	**204**	P		**Pn**	**04 41 26.0**	**+0.6**
CZD	**Col de Zad**	**2.91**	**204**	P		**Pn**	**04 41 25.1**	**-0.4**
TDRA	**Tendrara**	**2.97**	**153**	P		**Pn**	**04 41 25.1**	**-1.1**
MD31	**MD31**	**2.98**	**198**	P		**Pn**	**04 41 25.3**	**-0.9**
MDT	**Midelt**	**2.99**	**196**	Pn		**Pn**	**04 41 25.4**	**-1.0**
	31nm,0.3s,baz=243,slow=9.2,SNR=296							
MDT				Sn		**Sn**	**04 42 00.4**	**-1.4**
	130nm,0.3s,baz=138,slow=21,SNR=5.9							
MDT				LR		LR	04 42 06.1	
	comp=Z,5µm,20.6s,baz=30,slow=30							
MDT				Lg		Lg	04 42 11.3	
	311nm,0.3s,baz=297,slow=10,SNR=7.5							
MDT	**Midelt**	**2.99**	**196**	P		**Pn**	**04 41 25.4**	**-1.0**
EMIN	**Mina Concepcio**	**3.19**	**311**	Pn		**Pn**	**04 41 28.5**	**-0.5**
EMIN				Sn		**Sn**	**04 42 06.4**	**-0.1**
EMIN				Sg		**Sb**	**04 42 17.7**	**+3.3**
EMIN				*i* Vmb_Lg			04 42 19.8	
OJBR	**Djebel Berber**	**3.25**	**91**	P		**Pn**	**04 41 30.0**	**+0.1**
ETOB	**Tobarra**	**3.38**	**29**	Pn		**Pn**	**04 41 32.3**	**+0.6**
ETOB				Sn		**Sn**	**04 42 13.9**	**+2.7**
ETOB				Sg		**Sg**	**04 42 26.8**	**-1.6**
ETOB				*i* Vmb_Lg			04 42 47.8	
OKGL	**Djebel Kef Gue**	**3.49**	**83**	P		**Pn**	**04 41 31.0**	**-2.2**
PTAV	**Tavira**	**3.54**	**295**	*e*Pn		**Pn**	**04 41 34.8**	**+1.1**
PTAV				*e*Sn		**Sn**	**04 42 15.8**	**+0.8**
OJGS	**Djebel Guires**	**3.58**	**92**	P		**Pn**	**04 41 34.0**	**-0.5**
EGRO	**El Granado**	**3.59**	**302**	Pn		**Pn**	**04 41 33.7**	**-0.8**
EGRO				Sn		**Sn**	**04 42 14.3**	**-2.1**
EGRO				*i* Vmb_Lg			04 42 31.8	
PBAR	**Barrancos**	**3.67**	**313**	*e*Pn		**Pn**	**04 41 35.4**	**-0.3**
PBAR				*e*Sn		**Sn**	**04 42 18.2**	**-0.2**
PBAR				A		A	04 42 20.8	
	2µm,0.5s							
PVAQ	**Vaqueiros**	**3.69**	**298**	*e*Pn		**Pn**	**04 41 35.9**	**-0.1**
PVAQ				*e*Sn		**Sn**	**04 42 17.3**	**-1.7**
PVAQ				A		A	04 42 27.8	
	2µm,0.5s							
PVAQ	**Vaqueiros**	**3.69**	**298**	Pn		**Pn**	**04 41 35.3**	**-0.7**
PVAQ				Sn		**Sn**	**04 42 17.4**	**-1.6**
PVAQ	**Vaqueiros**	**3.69**	**298**	P		**Pn**	**04 41 35.6**	**-0.4**
PVAQ				S		**Sn**	**04 42 15.2**	**-3.7**
PFARO	**Faro**	**3.70**	**292**	*e*Pn		**Pn**	**04 41 37.4**	**+1.4**
PFARO				*e*Sn		**Sn**	**04 42 20.0**	**+1.0**
PBDV	**Barranco-do-Ve**	**3.79**	**295**	*e*Pn		**Pn**	**04 41 37.0**	**-0.2**
PBDV				*e*Sn		**Sn**	**04 42 19.7**	**-1.5**
PBDV				A		A	04 42 27.9	
	2µm,0.8s							
AFON	**Font Roja**	**3.85**	**39**	Pn		**Pn**	**04 41 39.1**	**+0.9**
AFON				Sn		**Sn**	**04 42 25.0**	**+2.0**
AFON				*i* Vmb_Lg			04 43 15.3	
EANR	**'Ain N'Sour**	**3.86**	**85**	P		**Pn**	**04 41 40.0**	**+1.7**
PAB	**San Pablo**	**3.88**	**352**			**Pn**	**04 41 38.5**	**0.0**
PAB				Sn		**Sn**	**04 42 24.3**	**+0.8**
PAB	**San Pablo**	**3.88**	**352**	Pn		**Pn**	**04 41 39.4**	**+0.9**
PAB				Sn		**Sn**	**04 42 25.7**	**+2.2**
PAB				Sg		**Sg**	**04 42 41.3**	**-3.1**
PAB				*i* Vmb_Lg			04 43 00.1	
AVE	**Averroes**	**3.94**	**233**	P		**Pn**	**04 41 38.0**	**-1.3**
AVE				S		**Sn**	**04 42 17.6**	**-7.2**
AVE	**Averroes**	**3.94**	**233**	P		**Pn**	**04 41 38.0**	**-1.3**
AVE				S		**Sn**	**04 42 22.9**	**-2.0**
PALBU	**Albufeira**	**3.97**	**292**	*e*Pn		**Pn**	**04 41 41.4**	**+1.7**
PALBU				*e*Sn		**Sn**	**04 42 26.7**	**+1.0**
ESDC	**Sonseca Array**	**3.97**	**356**	Pn		**Pn**	**04 41 40.4**	**+0.6**
	35nm,0.3s,baz=179,slow=12,SNR=1661							
ESDC				Sn		**Sn**	**04 42 25.3**	**-0.5**
	30nm,0.3s,baz=186,slow=16,SNR=3.7							
ESDC				Lg		Lg	04 42 43.7	
	69nm,0.3s,baz=180,slow=29,SNR=1.4							
ESDC	**Sonseca Array**	**3.97**	**356**	Pn		**Pn**	**04 41 39.2**	**-0.6**
ESDC						**Sn**	**04 42 24.4**	**-1.4**
ESDC	**Sonseca Array**	**3.97**	**356**	Pn		**Pn**	**04 41 40.8**	**+1.0**
ESDC				Sn		**Sn**	**04 42 26.3**	**+0.5**
ESDC				Sg		**Sg**	**04 42 44.4**	**-3.1**
ESDC				*i* Vmb_Lg			04 43 00.7	
ESBB	**Sonseca Array**	**3.97**	**356**	Pn		**Pn**	**04 41 39.7**	**-0.1**
PCVE	**Castro Verde**	**4.03**	**300**	*e*Pn		**Pn**	**04 41 40.3**	**-0.2**
PCVE				*e*Sn		**Sn**	**04 42 21.3**	**-5.8**
PCVE				A		A	04 42 30.3	
	1µm,0.9s							
EBAD	**Badajoz**	**4.07**	**320**	Pn		**Pn**	**04 41 41.0**	**0.0**
EBAD				Sn		**Sn**	**04 42 27.6**	**-0.5**
EBAD				*i* Vmb_Lg			04 42 51.2	
ECHA	**Ech Chlef**	**4.09**	**82**	P		**Pn**	**04 41 42.0**	**+0.7**
PBEJ	**Beja**	**4.11**	**306**	*e*Pn		**Pn**	**04 41 41.3**	**-0.3**
PBEJ				*e*Sn		**Sn**	**04 42 28.4**	**-0.7**
PBEJ				A		A	04 42 45.3	
	1µm,0.7s							
GOLM	**Goulmima**	**4.14**	**196**	P		**Pn**	**04 41 44.0**	**+1.8**
GOLM	**Goulmima**	**4.14**	**196**	P		**Pn**	**04 41 41.6**	**-0.6**
PPOR	**Portimao**	**4.20**	**291**	*e*Pn		**Pn**	**04 41 46.0**	**+3.2**
PPOR				*e*Sn		**Sn**	**04 42 32.3**	**+1.0**
EBNR	**Beni Rached**	**4.23**	**81**	P		**Pn**	**04 41 45.0**	**+1.6**
PLAGO	**Lagos**	**4.30**	**290**	*e*Pn		**Pn**	**04 41 48.4**	**+4.1**
PLAGO				*e*Sn		**Sn**	**04 42 35.4**	**+1.5**
MORF	**Marmelete**	**4.34**	**293**	*e*P		**Pn**	**04 41 44.3**	**-0.6**
MORF				*e*S		**Sn**	**04 42 32.1**	**-2.9**
MORF				IAML			04 42 40.8	
	comp=N,3µm,0.6s							

OUZM	OUZ	5.45	210	P		Pn	04 41 59.7	-0.5	
PMAFR	Mafra	5.54	307	*e*Pn		Pn	04 42 01.5	+0.1	
PMAFR				*e*Sn		Sn	04 43 02.7	-1.9	
PMAFR				A		A	04 43 04.5		
	comp=N,2µm,0.7s								
PSBE	So Bento	5.59	314⇓	*e*Pn		Pn	04 42 02.4	+0.4	
PSBE				*e*Sn		Sn	04 43 02.9	-2.7	
PSBE				A		A	04 43 34.6		
	comp=N,1µm,0.8s								
MTE	Manteigas	5.61	328⇓	*e*Pn		Pn	04 42 03.0	+0.7	
MTE				*e*Sn		Sn	04 43 04.9	-1.3	
MTE				A		A	04 43 37.0		
	comp=N,2µm,0.7s								
MTE	Manteigas	5.61	328	Pn		Pn	04 42 01.6	-0.7	
OUK	Oukaimeden	5.71	219	P		Pn	04 42 02.3	-1.7	
PCAS	Casmilo, Conde	5.80	320⇓	*e*Pn		Pn	04 42 05.2	+0.4	
PCAS				*e*Sn		Sn	04 43 08.0	-2.8	
PCAS				A		A	04 43 59.1		
	comp=N,1µm,0.7s								
ZGR	Zagora	5.81	197	P		Pn	04 42 06.0	+0.8	
ZGR	Zagora	5.81	197	P		Pn	04 42 04.6	-0.6	
COI	Coimbra	5.87	321⇓	*e*Pn		Pn	04 42 06.3	+0.5	
COI				*e*Sn		Sn	04 43 09.9	-2.6	
COI				A		A	04 43 14.4		
	comp=N,3µm,0.8s								
COI	Coimbra	5.87	321	P		Pn	04 42 05.8	0.0	
COI	Coimbra	5.87	321	Pn		Pn	04 42 05.8	0.0	
PVIS	Viseu	6.02	327	*e*Pn		Pn	04 42 08.5	+0.6	
PVIS				*e*Sn		Sn	04 43 14.4	-1.9	
PVIS				A		A	04 43 18.1		
	comp=N,1µm,0.7s								
MVO	Moncorvo	6.07	335⇓	*e*Pn		Pn	04 42 09.4	+0.8	
MVO				*e*Sn		Sn	04 43 15.7	-1.8	
MVO				A		A	04 43 52.0		
	comp=N,1µm,0.8s								
EAH	EAH	6.40	232	P		Pn	04 42 11.4	-1.7	
PVRL	Vila Real	6.42	331	*e*Pn		Pn	04 42 14.3	+0.9	
PVRL				*e*Sn		Sn	04 43 23.6	-2.4	
PVRL				A		A	04 43 27.7		
	comp=N,2µm,0.7s								
POLO	Lamas de Olo	6.53	331	*e*Pn		Pn	04 42 15.4	+0.4	
POLO				*e*Sn		Sn	04 43 26.4	-2.5	
POLO				A		A	04 44 12.7		
	comp=N,344nm,0.6s								
TTIG	Tnine Tigouga,	6.53	219	P		Pn	04 42 12.0	-3.1	
TTIG	Tnine Tigouga,	6.53	219	P		Pn	04 42 11.9	-3.1	
PBRG	Braganca	6.55	339	*e*Pn		Pn	04 42 15.9	+0.6	
PBRG				*e*Sn		Sn	04 43 28.7	-0.8	
PBRG				A		A	04 44 14.6		
	comp=N,891nm,0.7s								
PTO	Porto	6.68	326	*e*Pn		Pn	04 42 17.6	+0.7	
PTO				*e*Sn		Sn	04 43 30.5	-1.9	
PTO				A		A	04 43 32.5		
	comp=N,2µm,0.8s								
EPOB	Poblet	6.74	32	Pn		Pn	04 42 19.6	+1.7	
EPOB				Sn		Sn	04 43 36.3	+2.2	
EPOB				*i* Vmb_Lg			04 44 33.7		
PCAB	Cabril	6.91	332	*e*Pn		Pn	04 42 21.0	+0.9	
PCAB				*e*Sn		Sn	04 43 35.1	-3.0	
PCAB				A		A	04 43 40.5		
	comp=N,2µm,0.7s								
ELOB	Lobios	7.05	332	Pn		Pn	04 42 23.1	+0.9	
ELOB				Sn		Sn	04 43 40.0	-1.8	
ELOB				Sg		Sg	04 44 18.5	-7.7	
ELOB				*i* Vmb_Lg			04 44 25.1		
PGAV	Gavieira, Arco	7.22	331	*e*Pn		Pn	04 42 25.3	+0.9	
PGAV				*e*Sn		Sn	04 43 42.7	-3.2	
EARA	Aranguren	7.24	12	Pn		Pn	04 42 28.2	+3.6	
EARA				*i* Vmb_Lg			04 44 53.0		
CGR	Cap Guir	7.28	228	P		Pn	04 42 23.8	-1.4	
SET	Setif	7.35	84	P		Pn	04 42 30.0	+3.8	
EMIR	Miracle	7.39	31	Pn		Pn	04 42 29.4	+2.6	
EMIR				*i* Vmb_Lg			04 44 53.1		
ELAN	Lanestosa	7.52	1	Pn		Pn	04 42 29.6	+1.1	
ELAN				Sn		Sn	04 43 58.5	+5.3	
ELAN				Sg		Sg	04 44 46.1		
ELAN				*i* Vmb_Lg			04 45 05.5		
EZAM	Zamans	7.54	330	Pn		Pn	04 42 29.3	+0.5	
EZAM				Sn		Sn	04 43 49.7	-4.0	
EZAM				Sg		Sg	04 44 39.2		
EZAM				*i* Vmb_Lg			04 44 44.1		
ECHI	Chisagues Biel	7.56	22	Pn		Pn	04 42 32.0	+2.8	
ECHI				Sg		Sg	04 44 47.2		
ECHI				*i* Vmb_Lg			04 45 02.6		
ETSF	Etsaut	7.57	17	*e*Pn		Pn	04 42 30.3	+1.1	
ETSF				*e*Sn		Sn	04 43 51.7	-2.8	
	comp=N,528nm,1.1s								
ETSF				*e*Sg		Sg	04 44 39.1		
	comp=N,1µm,1.0s								
SJPF	Ste Jean	7.63	13	*e*Pn		Pn	04 42 31.4	+1.4	
SJPF				*e*Sn		Sn	04 43 52.2	-3.7	
	comp=N,182nm,0.7s								
SJPF				*e*Sg		Sg	04 44 42.0		
	comp=N,9µm,1.8s								
EARI	Arriondas	7.68	351	Pn		Pn	04 42 31.8	+1.1	
EARI				Sn		Sn	04 43 58.5	+1.3	
EARI				Sg		Sg	04 44 42.5		
EARI				*i* Vmb_Lg			04 44 59.1		
EALK	Alkurruntz	7.68	12	Pn		Pn	04 42 32.6	+1.8	
EAGO	Agolada(Pontev	7.88	335	Pn		Pn	04 42 34.5	+1.0	
EAGO				Sn		Sn	04 44 00.0	-2.1	
EAGO				Sg		Sg	04 44 44.5		
EAGO				*i* Vmb_Lg			04 44 58.5		
EPF	Esparros	7.94	22	*e*Pn		Pn	04 42 35.4	+1.2	
EPF				*e*Sn		Sn	04 44 00.1	-3.4	
	comp=N,417nm,1.1s								
EPF				*e*Sg		Sg	04 44 50.3		
	comp=N,3µm,1.8s								
EMAZ	Mazaricos	8.33	332	Pn		Pn	04 42 40.7	+1.1	
EMAZ				Sn		Sn	04 44 08.9	-4.2	
EMAZ				Sg		Sg	04 45 02.1		
EMAZ				*i* Vmb_Lg			04 45 10.7		
MTLF	Montolieu	8.86	29	*e*Pn		Pn	04 42 49.6	+2.7	
MTLF				*e*Sn		Sn	04 44 22.6	-3.6	
	comp=N,181nm,1.0s								
MTLF				*e*Sg			04 45 22.1		
	comp=N,2µm,1.7s								
TANT	Tantan	9.72	224	P		Pn	04 42 57.1	-1.6	
LFF	La Frestale	9.81	19	*e*Pn		Pn	04 43 00.0	+0.2	
LFF				*e*Sn		Sn	04 44 44.2	-5.2	
	comp=N,234nm,1.0s								
LFF				*e*Sg			04 45 47.1		
	comp=N,330nm,1.1s								
LASF	Ste Croix	10.15	32	*e*Pn		Pn	04 43 06.7	+2.2	
LASF				*e*Sn		Sn	04 44 52.2	-5.5	
	comp=N,111nm,1.2s								
LASF				*e*Sg			04 46 01.9		
	comp=N,142nm,0.8s								
CAF	Calviac	10.18	24	*e*Pn		Pn	04 43 05.1	+0.1	
CAF				*e*Sn		Sn	04 44 47.3	-11	
	comp=N,176nm,1.2s								
CAF				*e*Sg			04 46 02.4		
	comp=N,153nm,1.0s								
RJF	Les Rejaudoux	10.36	21	*e*Pn		Pn	04 43 06.4	-1.0	
RJF				*e*Sn		Sn	04 44 55.3	-7.5	
	comp=N,218nm,1.2s								
RJF				*e*Sg			04 46 07.4		
	comp=N,116nm,0.7s								
KEST	Kesra	10.56	86	Pn		Pn	04 43 10.2	-0.1	
	comp=N,0.9nm,0.3s,baz=260,slow=2.4,SNR=14								
KEST				Sn		Sn	04 45 06.4	-1.6	
	comp=N,0.3nm,0.3s,baz=196,slow=15,SNR=1.2								
KEST				LR		LR	04 47 57.3		
	comp=N,2µm,21.0s,baz=201,slow=42								
KEST	Kesra	10.56	86			Pn	04 43 10.8	+0.6	
PMPST	Porto Santo, M	10.81	260	*e*P		Pn	04 43 09.8	-3.8	
PMPST				*e*S		Sn	04 44 58.0	-16	
PMPS	Porto Santo	10.82	260	*e*P		Pn	04 43 10.6	-3.1	
PMPS				*e*S		Sn	04 45 00.6	-14	
SMRF	Simiane la Rot	10.87	38	*e*Pn		Pn	04 43 14.8	+0.3	
SMRF				*e*Sg			04 46 27.5		
	comp=N,639nm,1.7s								
LMR	La Mourre	10.92	43	*e*Pn		Pn	04 43 18.7	+3.6	
LMR				*e*Sn		Sn	04 45 10.7	-6.0	
	comp=N,24nm,0.6s								
LMR				*e*Sg			04 46 29.8		
	comp=N,134nm,1.4s								
VSL	Villasalto	11.00	66			Pn	04 43 14.7	-1.4	
VIVF	Saint-Julien-l	11.12	32	*e*Pn		Pn	04 43 20.4	+2.6	
VIVF				*e*Sn		Sn	04 45 16.9	-4.7	
	comp=N,96nm,1.2s								
VIVF				*e*Sg			04 46 35.7		
	comp=N,1µm,2.1s								
FRF	La Foret Royal	11.15	42	*e*Pn		Pn	04 43 18.5	+0.3	
FRF				*e*Sn		Sn	04 45 14.9	-7.3	
	comp=N,31nm,0.8s								
FRF				*e*Sg			04 46 32.4		
	comp=N,53nm,1.0s								
MFF	Saint Martin d	11.20	12	*e*Pn		Pn	04 43 18.4	-0.5	
MFF				*e*Sn		Sn	04 45 14.9	-8.5	
	comp=N,174nm,1.1s								
MFF				*e*Sg			04 46 35.5		
	comp=N,314nm,1.2s								
CFUE	Fuerteventura	11.20	234	Pn		Pn	04 43 17.6	-1.4	
CFUE				Sn		Sn	04 45 19.0	-4.7	
PMAR	Madeira	11.39	259	*e*P		Pn	04 43 18.0	-3.7	
PMAR				*e*S		Sn	04 45 16.7	-12	
PMAR	Madeira	11.39	259	P		Pn	04 43 17.9	-3.7	
FUL	Funchal	11.39	258	*e*P		Pn	04 43 17.8	-3.8	
FUL				*e*S		Sn	04 45 16.7	-12	
TCF	Toulx Ste Croi	11.45	21	*e*Pn		Pn	04 43 21.7	-0.7	
TCF				*e*Sn		Sn	04 45 24.8	-4.9	
	comp=N,65nm,0.9s								
TCF				*e*Sg			04 46 43.3		
	comp=N,1µm,2.0s								
PMOZ	Porto Moniz, M	11.58	260	*e*P		Pn	04 43 20.9	-3.4	
PMOZ				*e*S		Sn	04 45 23.3	-10	
PMOZ	Porto Moniz, M	11.58	260	Pn		Pn	04 43 21.2	-3.0	
PMOZ	Porto Moniz, M	11.58	260	P		Pn	04 43 20.8	-3.4	
ORIF	Oris-en-Rattie	11.71	35	*e*Pn		Pn	04 43 30.5	+4.5	
ORIF				*e*Sg			04 46 52.2		
	comp=N,135nm,1.2s								
SBF	Sospel	11.78	43	*e*Pn		Pn	04 43 29.1	+2.2	
SBF				*e*Sg			04 46 54.3		
	comp=N,33nm,0.9s								
BGF	Bois d'Agland	11.89	22	*e*Pn		Pn	04 43 28.3	0.0	
BGF				*e*Sn		Sn	04 45 32.8	-7.5	
	comp=N,184nm,0.9s								
BGF				*e*Sg			04 46 53.7		
	comp=N,199nm,1.2s								
PGF	Pioggiola	11.95	51	*e*Pn		Pn	04 43 29.9	+0.6	
PGF				*e*Sn		Sn	04 45 40.5	-1.5	
	comp=N,27nm,0.8s								
MBDF	Montbardon	12.01	38	*e*Pn		Pn	04 43 32.5	+2.4	
MBDF				*e*Sg			04 47 02.9		
	comp=N,32nm,1.1s								
BNI	Bardonecchia	12.20	37	P		Pn	04 43 33.2	+0.5	
BNI	Bardonecchia	12.20	37			Pn	04 43 33.2	+0.5	
QUIF	Quistinic	12.21	2	*e*Pn		Pn	04 43 32.5	-0.1	
QUIF				*e*Sn		Sn	04 45 42.0	-6.1	
	comp=N,244nm,1.1s								
QUIF				*e*Sg			04 47 02.4		
	comp=N,138nm,1.0s								
AVF	Avril sur Loir	12.25	23	*e*Pn		Pn	04 43 33.9	+0.6	
AVF				*e*Sn		Sn	04 45 44.3	-4.9	
	comp=N,137nm,1.2s								
AVF				*e*Sg			04 47 05.7		
	comp=N,182nm,1.1s								
SMF	Signal de Mont	12.29	25	*e*Pn		Pn	04 43 33.4	-0.4	
SMF				*e*Sn		Sn	04 45 40.7	-9.4	
	comp=N,65nm,1.0s								
SMF				*e*Sg			04 47 09.1		
	comp=N,195nm,1.2s								
HYF	Humbligny	12.47	20	*e*Pn		Pn	04 43 36.3	+0.1	
HYF				*e*Sn		Sn	04 45 46.9	-7.6	
	comp=N,97nm,0.6s								
HYF				*e*Sg			04 47 14.4		
	comp=N,82nm,0.5s								
SSF	Saint Saulge	12.54	23	*e*Pn		Pn	04 43 36.8	-0.4	
SSF				*e*Sn		Sn	04 45 52.2	-4.1	
	comp=N,146nm,1.3s								
SSF				*e*Sg			04 47 18.0		
	comp=N,140nm,1.0s								
LPG	La Plagne	12.56	36	*e*Pn		Pn	04 43 42.8	+5.1	
LPG				*e*Sg			04 47 18.5		
	comp=N,175nm,1.5s								
LPL	La Plagne	12.56	36	*e*Pn		Pn	04 43 42.6	+4.9	
LPL				*e*Sg			04 47 18.6		
	comp=N,118nm,1.2s								
SGMF	Signal Gilles	12.56	3	*e*Pn		Pn	04 43 37.4	-0.1	
SGMF				*e*Sn		Sn	04 45 48.9	-7.9	
	comp=N,120nm,0.8s								
SGMF				*e*Sg			04 47 17.2		
	comp=N,114nm,1.3s								
ROSF	Rostrenen	12.62	1	*e*P		Pn	04 43 39.0	+0.7	
ROSF	Rostrenen	12.62	1	*e*Pn		Pn	04 43 37.9	-0.4	
ROSF				*e*Sn		Sn	04 45 49.5	-8.8	
	comp=N,166nm,1.0s								
LOR	Lormes	12.84	24	*e*Pn		Pn	04 43 41.8	+0.5	
	baz=207								
LOR				*e*Sn		Sn	04 46 02.7	-0.9	
	comp=N,252nm,1.5s								
LOR				*e*Sg			04 47 22.7		
	comp=N,1µm,2.0s								
GRR	Gorron	12.84	8	*e*Pn		Pn	04 43 41.8	+0.5	
GRR				*e*Sn		Sn	04 45 53.5	-10	
	comp=N,110nm,1.0s								
GRR				*e*Sg			04 47 21.7		
	comp=N,121nm,1.1s								
CLF	Chambon-Foret	13.06	18	Pn		Pn	04 43 44.7	+0.4	
CGUI	Guimar, Teneri	13.12	239	Pn		Pn	04 43 42.8	-2.4	
CGUI				Sn		Sn	04 45 59.5	-11	
CABF	La Chapelle	13.12	31	*e*Pn		Pn	04 43 47.2	+2.0	
CABF				*e*Sn		Sn	04 46 02.8	-7.7	
	comp=N,125nm,1.3s								
CABF				*e*Sg		Sg	04 47 31.1		
	comp=N,226nm,1.1s								
LDF	La Druitiere	13.14	10	*e*Pn		Pn	04 43 45.8	+0.4	
LDF				*e*Sn		Sn	04 46 04.5	-6.3	
	comp=N,41nm,0.8s								
LDF				*e*Sg		Sg	04 47 30.5		
	comp=N,59nm,0.9s								
MSSA	Maissana	13.24	46				04 43 46.4	-0.4	
SENIN	Lac Senin/Sane	13.46	34	Pn		Pn	04 43 49.5	-0.5	
CLTB	Caltabellotta	13.66	77	Pn		Pn	04 43 52.5	-0.2	
OSSC	Osservatorio P	13.86	51	Pn		Pn	04 43 56.4	+1.1	
SFTF	Sexfontaines	14.05	25	*e*Pn		Pn	04 44 00.2	+2.4	
SFTF				*e*Sn		Sn	04 46 24.4	-8.6	
	comp=N,3.0nm,0.3s								
SFTF				*e*Sg			04 47 59.3		
	comp=N,68nm,0.8s								
ZCCA	Zocca	14.12	48	Pn		Pn	04 43 57.8	-1.1	
MEZF	Maizieres J'vi	14.31	24	*e*Pn		Pn	04 44 04.6	+3.3	
MEZF				*e*Sn		Sn	04 46 30.6	-8.8	
	comp=N,44nm,0.9s								
MEZF				*e*Sg			04 48 09.2		
	comp=N,2µm,2.2s								
HAU	Haudompre	14.35	28	*e*Pn		Pn	04 44 04.0	+2.0	
HAU				*e*Sn		Sn	04 46 32.3	-8.2	
	comp=N,5.4nm,0.5s								
HAU				*e*Sg			04 48 10.7		
	comp=N,142nm,1.2s								
HINF	Hinteralfeld	14.39	30	*e*Pn		Pn	04 44 05.1	+2.5	
HINF				*e*Sn		Sn	04 46 33.1	-8.5	
	comp=N,1.5nm,0.5s								
HINF				*e*Sg			04 48 18.2		
	comp=N,1µm,2.4s								
SAVF	Savonnieres en	14.43	24	*e*Pn		Pn	04 44 05.1	+2.1	
SAVF				*e*Sn		Sn	04 46 33.7	-8.6	
	comp=N,22nm,0.9s								
SAVF				*e*Sg			04 48 15.5		
	comp=N,163nm,1.1s								
TUE	Stuetta	14.52	38	Pn		Pn	04 44 04.5	0.0	
MURB	Monte Urbino	14.57	54	Pn		Pn	04 44 05.1	0.0	
PAGF	Fort de Pagny	14.58	25	*e*Pn		Pn	04 44 06.6	+1.5	
PAGF				*e*Sn		Sn	04 46 38.4	-7.7	
	comp=N,3.7nm,0.4s								
PAGF				*e*Sg			04 48 19.8		
	comp=N,413nm,1.3s								
SALO	Salr	14.59	43	Pn		Pn	04 44 05.4	+0.1	
VAE	Valguarnera	14.61	78	Pn		Pn	04 44 07.0	+1.3	
	baz=312,slow=1.5,SNR=7.9								
NRCA	Norcia	14.79	56			Pn	04 44 06.1	-1.9	
AQU	L'Aquila	14.80	58	P		Pn	04 44 06.2	-2.0	
AQU	L'Aquila	14.80	58	Pn		Pn	04 44 06.2	-2.0	
AQU	L'Aquila	14.80	58	*e*P		Pn	04 44 07.6	-0.6	
ECH	Echery	14.84	29	P		Pn	04 44 06.7	-1.9	
ECH	Echery	14.84	29	Pn		Pn	04 44 06.7	-1.9	
DAVOX	Davos/Dischmat	15.00	38	Pn		Pn	04 44 13.1	+2.2	
	comp=N,0.2nm,0.3s,baz=216,slow=7.1,SNR=15								
CDF	Champ du Feu	15.04	29	*e*Pn		Pn	04 44 13.1	+1.7	
CDF				*e*Sn		Sn	04 46 50.9	-6.5	
CDF				*e*Sg			04 48 33.4		
	comp=N,47nm,0.9s								
TEOL	Teolo	15.09	46	Pn		Pn	04 44 11.2	-0.8	
PAOL	Paolisi	15.23	64	Pn		Pn	04 44 12.2	-1.7	
DAVA	Damuels	15.35	37	*i* P		Pn	04 44 17.2	+1.6	
	comp=N,71nm,1.0s,SNR=12								
BFO	Black Forest	15.41	31	P		Pn	04 44 16.1	-0.1	
BFO				pmax	pmax				
	comp=Z,51nm,1.3s								
BFO	Black Forest	15.41	31	Pn		Pn	04 44 16.1	-0.1	
BFO	Black Forest	15.41	31	*e*P		Pn	04 44 18.3	+2.1	
	comp=Z,68nm,1.4s,baz=219,slow=12								
BFO				*e*L		L	04 49 27.9		
	comp=Z,2µm,20.9s								
BAIF	Baives	15.44	19	*e*Pn		Pn	04 44 17.0	+0.5	
BAIF				*e*Sn		Sn	04 46 58.2	-8.7	
BAIF				*e*Sg			04 48 46.8		
	comp=Z,235nm,1.3s								
CTI	Castel Tesino	15.48	43	P		Pn	04 44 16.0	-1.2	
CTI				pmax	pmax				
	comp=Z,39nm,1.1s								
CTI	Castel Tesino	15.48	43	Pn		Pn	04 44 16.0	-1.2	
DOU	Dourbes	15.58	20	*b*P		Pn	04 44 17.7	-0.7	
DOU				*d*PP		PbPb	04 45 07.8	-2.3	
FETA	Feichten	15.60	39	*i* P		P	04 44 24.1	+1.3	
	comp=Z,97nm,1.1s,SNR=22								
GIVF	Givet	15.65	21	*e*Pn		Pn	04 44 18.8	-0.5	
GIVF				*e*Sn		Sn	04 47 06.3	-5.7	
	comp=Z,4.6nm,0.3s								
GIVF				*e*Sg			04 48 54.5		
	comp=Z,53nm,0.8s								
WLF	Walferdange	15.68	24	P		Pn	04 44 18.9	-0.7	
WLF				pmax	pmax				
	comp=Z,94nm,1.0s								
WLF	Walferdange	15.68	24	Pn		Pn	04 44 18.9	-0.7	
WLF	Walferdange	15.68	24	*e*P		P	04 44 22.7	-0.9	
	comp=Z,134nm,1.4s,baz=219,slow=12								
WLF	Walferdange	15.68	24	*dx*		P	04 44 23.3	-0.3	
UBR	Ueberruh	15.74	36	*e*P		Pn	04 44 22.1	+1.6	
	comp=Z,143nm,1.3s,baz=219,slow=12								
RCHB	Rochefort	15.82	21	*d*P		Pn	04 44 20.7	-0.7	
	comp=Z,63nm,0.8s								
SWN1	Swindon	15.86	4	*e*P		P	04 44 27.5	+2.0	
SNF	Seneffe	15.87	19	*d*PP		PbPb	04 45 14.2	-0.8	
RETA	Reutte	15.92	38	*i* P		Pn	04 44 23.3	+0.4	
	comp=Z,61nm,1.1s,SNR=28								
SQTA	Sankt Quirin	15.97	39	*i* P		Pn	04 44 24.4	+0.8	
	comp=Z,119nm,1.1s,SNR=34								
BGES	Gesves	15.98	21	*d*P		Pn	04 44 23.5	0.0	
	comp=Z,50nm,1.2s								
BGES				*d*PP		PbPb	04 45 16.4	-0.5	
MOTA	Moosalm	16.00	39	*i* P		Pn	04 44 24.5	+0.5	
	comp=Z,60nm,1.2s,SNR=8.1								
BCLA	Clavier	16.07	21	*d*P		Pn	04 44 25.1	+0.4	
BCLA				*d*PP		PbPb	04 45 16.3	-2.2	
STRD	Stroud	16.10	3	*e*P		Pn	04 44 25.7	+0.7	
BRJN	Brijuni	16.11	50	*i* P		P	04 44 28.6	+0.3	
STU	Stuttgart	16.12	32	*e*P		P	04 44 27.5	-1.0	
	comp=Z,123nm,1.2s,baz=219,slow=12								
UCC	Uccle	16.16	19	P		Pn	04 44 26.8	+1.1	
UCC				pmax	pmax				
	comp=Z,36nm,1.1s								
UCC	Uccle	16.16	19	Pn		Pn	04 44 26.8	+1.1	
UCC	Uccle	16.16	19	*dx*		P	04 44 33.2	+4.4	
WTTA	Wattenberg	16.23	40	*i* P		Pn	04 44 27.3	+0.5	
	comp=Z,168nm,1.6s,SNR=31								
BHOU	Houvegnez	16.23	23	*d*P		P	04 44 28.8	-0.9	
	comp=Z,41nm,1.3s								
BHOU				*d*PP			04 45 48.3		
WATA	Walderalm	16.24	40	*i* P		Pn	04 44 27.5	+0.5	
	comp=Z,99nm,1.1s,SNR=29								
RSBS	Rosebush, Pemb	16.26	358	*e*P		P	04 44 29.7	-0.3	
BSTI	Sart Tilman	16.30	21	*d*P		Pn	04 44 28.6	+1.1	
ABTA	Abfaltersbach	16.38	43	*i* P		Pn	04 44 29.8	+1.1	
	comp=Z,112nm,1.4s,SNR=27								
MEM	Membach	16.45	22	*d*P		Pn	04 44 30.5	+1.0	
	comp=Z,40nm,1.0s								
BTNL	Ternell	16.47	22	*d*P		P	04 44 32.2	-0.1	
	comp=Z,50nm,1.0s								
BEBN	Eben Emael	16.52	21	*d*P		P	04 44 32.2	-0.7	
TRI	Trieste	16.52	47	P		Pn	04 44 30.0	-0.4	
TRI				pmax	pmax				
	comp=Z,48nm,1.2s								
TRI	Trieste	16.52	47	Pn		Pn	04 44 30.0	-0.4	
TIP	Timpagrande	16.56	72	⇑P		Pn	04 44 31.2	+0.1	
TIP	Timpagrande	16.56	72	Pn		Pn	04 44 29.8	-1.3	
FUR	Furstenfeldbru	16.64	37	*e*P		Pn	04 44 32.9	+1.0	
	comp=Z,220nm,1.4s,baz=219,slow=12								
FUR				*e*L		L	04 50 37.0		
	comp=Z,2µm,20.3s								
AHRW	Bad Neuenahr-A	16.74	24	*e*P		P	04 44 35.5	+0.2	
	comp=Z,169nm,2.0s,baz=219,slow=12								
CADS	Cadrg	16.78	46	*i* Pn		Pn	04 44 34.2	+0.5	
MORI	Morici	16.93	55	*i* P		P	04 44 37.9	+0.4	
CEY	Cerknica	16.93	48⇑	*i*P		Pn	04 44 34.8	-0.9	
MYKA	Terra Mystica	16.94	45	*e*P		Pn	04 44 36.6	+0.8	
	comp

comp=Z,15nm,1.2s,baz=219,slow=12
HPK Haverah Park 18.31 4 *e*P **P 04 44 55.4 +2.8**
HPK IAmb IAmb 04 44 58.4
comp=Z,104nm,0.9s
ARSA Arzberg 18.36 45 *i* P **Pn 04 44 53.9 +0.6**
comp=Z,53nm,1.3s,SNR=9.2
TREB Trebinje 18.39 61 *e*P **P 04 44 52.6 -1.1**
ILTH Belurgan, Co L 18.42 355 *e*P **Pn 04 44 56.4 +2.5**
KHC Kasperske Hory 18.42 38 *e*P **P 04 44 53.9 -0.1**
KHC *e*S **S 04 48 23.4 -0.1**
KHC MLR MLR
comp=Z,6µm,9.8s
KHC Kasperske Hory 18.42 38 *e*P **P 04 44 53.9 -0.1**
KHC *ex* x 04 45 09.1
KHC *e*S **S 04 48 23.4 -0.1**
KHC *e*PCP **PcP 04 49 22.9 -1.2**
KHC AMS AMS 04 52 50.0
comp=Z,6µm,9.8s
KHC Kasperske Hory 18.42 38 P **P 04 44 53.9 -0.1**
IBBN Ibbenburen 18.47 23 *e*P **Pn 04 44 57.6 +3.0**
comp=Z,667nm,2.7s,baz=219,slow=12
MOX Moxa 18.56 32 *e*P **Pn 04 44 57.1 +1.3**
comp=Z,67nm,1.2s,baz=219,slow=12
MOX *e*L L 04 51 24.5
comp=Z,1µm,20.9s
BRY Bratogost 18.58 61 *e*P **P 04 44 55.2 -0.6**
BRY Bratogost 18.58 61⇑*i*P **P 04 44 55.6 -0.2**
GTTG Gottingen 18.59 27 *e*P **Pn 04 44 58.2 +2.1**
comp=Z,66nm,1.1s,baz=219,slow=12
CKRC Cesky Krumlov 18.60 40 *e*P **P 04 44 55.7 -0.2**
CKRC *e*S **Sn 04 48 24.0 +0.5**
NKC Novy Kostel 18.63 34 *e*P **Pn 04 44 57.8 +1.2**
NKC *e*S **S 04 48 29.7 +2.0**
NKC MLR MLR
comp=Z,6µm,11.1s
NKC Novy Kostel 18.63 34 *e*P **Pn 04 44 57.8 +1.2**
NKC *e*S **S 04 48 29.7 +2.0**
NKC AMS AMS 04 52 50.0
comp=Z,6µm,11.1s
WERN Wernitzgruen 18.64 34 *e*P **Pn 04 44 57.5 +0.8**
comp=Z,1µm,3.4s,baz=219,slow=12
GUNZ Gunzen 18.67 33 *e*P **Pn 04 44 58.0 +0.9**
comp=Z,471nm,2.7s,baz=219,slow=12
BUM Brajici-Budva 18.68 63⇑*i*P **P 04 44 56.7 -0.2**
PLN Plauen 18.68 33 *e*P **Pn 04 44 57.8 +0.6**
comp=Z,151nm,1.8s,baz=219,slow=12
BEHE Becsehely 18.72 49 *e*P **P 04 44 56.4 -0.8**
BEHE Becsehely 18.72 49 P **Pn 04 44 58.7 +1.0**
WERD Werda 18.72 33 *e*P **Pn 04 44 58.5 +0.8**
comp=Z,271nm,2.3s,baz=219,slow=12
CEME Cevo 18.76 62⇑*i*P **P 04 44 57.6 -0.1**
TANN Tannenbergstha 18.77 33 *e*P **Pn 04 44 58.8 +0.6**
comp=Z,52nm,1.1s,baz=219,slow=12
VLO Vlora 18.80 68 P **Pn 04 44 58.8 +0.1**
VLO pmax pmax
comp=Z,583nm,1.2s
VLO Vlora 18.80 68 P **Pn 04 44 58.8 +0.1**
VLO IAmb IAmb 04 45 01.2
comp=Z,582nm,1.2s
NKME Niksic 18.84 61⇑*i*P **P 04 44 58.3 -0.3**
DRME Dracevica, Mon 18.87 63⇑*i*P **P 04 44 59.1 +0.2**
DRME Dracevica, Mon 18.87 63⇑*i*P **P 04 44 59.1 +0.2**
KESW Keswick, Cumbr 18.89 1 *e*P **Pn 04 45 01.2 +1.6**
KESW IAmb IAmb 04 45 04.8
comp=Z,78nm,1.0s
UPM Unac-Piva 18.91 60 *e*P **Pn 04 45 00.7 +0.4**
UPM Unac-Piva 18.91 60⇑*i*P **P 04 44 59.7 +0.1**
CONA Conrad Observa 18.92 44 *i* P **P 04 44 59.2 -0.3**
comp=Z,41nm,1.2s,SNR=10
KEK Kerkira 18.96 71 P **P 04 44 59.6 -0.3**
PDG Podgorica 18.97 62⇓P **Pn 04 45 00.5 -0.2**
PDG Podgorica 18.97 62 P **Pn 04 45 00.5 -0.2**
PDG Podgorica 18.97 62⇑*i*P **P 04 44 59.8 -0.2**
TTG Podgorica 18.97 62⇑*i*P **P 04 45 00.2 +0.2**
CLZ Clausthal 18.98 27 *e*P **Pn 04 45 03.0 +2.1**
comp=Z,108nm,1.2s,baz=219,slow=12
PBCC Pribram 18.99 37 *ex* **PcP 04 49 25.2 +0.2**
NEUB Neuenburg 19.05 31 *e*P **Pn 04 45 03.5 +1.9**
comp=Z,112nm,0.9s,baz=219,slow=12
SRN Sarande 19.12 70 P **P 04 45 00.0 -1.7**
EDMD Edmundbyers 19.16 3 *e*P **Pn 04 45 04.1 +1.1**
EDMD IAmb IAmb 04 45 07.6
comp=Z,98nm,0.9s
SOP Sopron 19.19 45 P **Pn 04 45 03.8 +0.5**
TIR Tirane 19.21 66⇑P **P 04 45 02.9 +0.3**
TIR Tirane 19.21 66 P **P 04 45 02.1 -0.5**
TIR Tirane 19.21 66 P **P 04 45 02.5 -0.1**
TIR pmax pmax
comp=Z,219nm,1.5s
TIR Tirane 19.21 66 P **P 04 45 02.5 -0.1**
KOME Kolasin 19.26 61⇑*i*P **Pn 04 45 03.8 -0.5**
PLE Pljevlja 19.29 60⇑*i*P **P 04 45 03.9 +0.3**
KEF3 Kipouria, Keph 19.32 75 P **P 04 45 01.2 -2.7**
ASSE Asse, Remlinge 19.33 27 *e*P **Pn 04 45 05.2 +0.3**
comp=Z,92nm,1.6s,baz=219,slow=12
IGT Igoumenitsa 19.35 71 P **P 04 45 03.5 -0.7**
RUDO Rudo 19.36 59 *e*P **P 04 45 03.4 -0.8**
RETH Rethem/Aller, 19.36 24 *e*P **Pn 04 45 06.6 +1.4**
comp=Z,796nm,2.5s,baz=219,slow=12
KOVH Kovagotottos 19.37 51 P **Pn 04 45 05.1 -0.5**
NRDL Niedersach Rie 19.41 26 *e*P **Pn 04 45 05.7 -0.2**
comp=Z,247nm,1.9s,baz=219,slow=12
NEWG New Galloway 19.42 359 *e*P **Pn 04 45 06.8 +0.9**
NEWG IAmb IAmb 04 45 13.0
comp=Z,77nm,1.0s
BBLS Lazi?i 19.45 58⇑*i*P **P 04 45 05.3 0.0**
CLGH Cloghs, Cushen 19.45 356 *e*P **Pn 04 45 07.7 +1.2**
PRU Pruhonice 19.46 37 *e*P **Pn 04 45 06.9 +0.4**
PRU *e*S **Sn 04 48 39.3 -4.9**
PRU MLR MLR
comp=Z,4µm,9.5s
PRU Pruhonice 19.46 37 *e*P **Pn 04 45 06.9 +0.4**
PRU *ep*P **sP 04 45 11.3 -1.7**
PRU *e*S **Sn 04 48 39.3 -4.9**
PRU AMS AMS 04 54 20.0
comp=Z,4µm,9.5s
FSK Fiskardo 19.49 75 P **P 04 45 04.7 -1.0**
TREC Trest 19.50 40 *e*P **Pn 04 45 07.4 +0.3**
TREC MLR MLR
comp=Z,3µm,9.3s
TREC Trest 19.50 40 *e*P **Pn 04 45 07.4 +0.3**
TREC *ex* x 04 45 24.7
TREC AMS AMS 04 53 30.0
comp=Z,3µm,9.3s
EGYH Egyhazaskeszo 19.51 47 P **Pn 04 45 07.6 +0.5**
MPLH Magyarpolny 19.51 48 P **Pn 04 45 06.9 -0.3**
VLS Valsamata 19.51 76 P **P 04 45 05.7 -0.3**
PVY Plav 19.52 62⇑*i*P **Pn 04 45 07.2 -0.2**
FBE Freiberg 19.53 34 *e*P **Pn 04 45 07.4 +0.1**
comp=Z,115nm,1.1s,baz=219,slow=12
IVA Berane 19.53 61⇑*i*P **P 04 45 06.6 +0.3**
EVGI Lefkada island 19.57 74 P **P 04 45 06.1 -0.5**
ESK Eskdalemuir 19.61 1 *e*P **Pn 04 45 07.6 -0.7**
ESK IAmb IAmb 04 45 11.5
comp=Z,53nm,1.0s
ESK Eskdalemuir 19.61 1 P **Pn 04 45 07.9 -0.5**
ESK pmax pmax
comp=Z,47nm,0.9s
ESK Eskdalemuir 19.61 1 P **Pn 04 45 07.9 -0.5**
EKA Eskdalemuir Ar 19.63 1 P **Pn 04 45 08.7 +0.1**
baz=178,slow=11,SNR=44
EKA LR LR 04 52 59.9
comp=Z,3µm,19.5s,baz=192,slow=38
CLL Collm 19.65 32⇑*i*P **Pn 04 45 09.0 +0.2**
CLL *e*S **Sn 04 48 51.0 +2.3**
CLL pmax pmax
comp=Z,152nm,1.1s
CLL Collm 19.65 32 P **Pn 04 45 08.5 -0.3**
CLL Collm 19.65 32⇑*i*P **Pn 04 45 09.0 +0.2**
comp=Z,152nm,1.1s
CLL *e*Pmax 04 45 14.0
CLL *e*PPP PPP 04 45 32.0
CLL *e*S **Sn 04 48 51.0 +2.3**
CLL *e*SSS SSS 04 49 18.0
CLL Lmax 04 54 00.0
CLL Collm 19.65 32 *e*P **Pn 04 45 09.0 +0.2**
comp=Z,151nm,1.1s,baz=219,slow=12
CLL *e*L L 04 49 41.6
comp=Z,370nm,21.6s
PHP Peshkopia 19.69 65 P **Pn 04 45 08.7 -0.7**
FLTG Flechtingen 19.70 28 *e*P **Pn 04 45 09.6 +0.3**
comp=Z,93nm,1.5s,baz=219,slow=12
JAN Janina 19.76 71 P **P 04 45 06.7 -2.0**
BRG Berggiesshubel 19.76 34 *i* P **Pn 04 45 10.2 +0.1**
BRG Amp 04 45 12.7
comp=Z,129nm,1.3s
BRG S **Sn 04 48 53.0 +1.5**
BRG Amp 04 53 48.0
comp=Z,4.3nm,10.1s
BRG Amp 04 53 51.0
comp=N,5.1nm,10.3s
BRG Amp 04 53 52.0
comp=E,2.1nm,7.8s
BRG Berggiesshubel 19.76 34 *i* P **Pn 04 45 10.2 +0.1**
BRG S **Sn 04 48 53.0 +1.5**
BRG pmax pmax
comp=Z,129nm,1.3s
BRG smax smax
comp=Z,4µm,10.1s
BRG MLR MLR
comp=N,5µm,10.3s
BRG MLR MLR
comp=E,2µm,7.8s
BRG Berggiesshubel 19.76 34 *e*P **Pn 04 45 10.4 +0.3**
comp=E,129nm,1.3s,baz=219,slow=12
ZST Bratislava 19.77 44 *e*P **Pn 04 45 10.1 -0.1**
ZST pmax pmax
comp=Z,821nm,2.1s
ZST Bratislava 19.77 44 *e*P **Pn 04 45 10.1 -0.1**
MORH Mrgy, Hungar 19.77 51⇑*i*P **P 04 45 09.3 +0.6**
MORH Mrgy, Hungar 19.77 51 P **P 04 45 08.8 +0.1**
KBN Korca 19.80 68 P **P 04 45 09.5 +0.3**
KBN Korca 19.80 68 P **P 04 45 09.3 +0.1**
KBN pmax pmax
comp=Z,175nm,1.3s
KBN Korca 19.80 68 P **P 04 45 09.2 +0.1**
PVCC Panska Ves 19.82 36 *e*P **Pn 04 45 11.1 +0.2**
PVCC MLR MLR
comp=Z,4µm,10.9s
PVCC Panska Ves 19.82 36 *e*P **Pn 04 45 11.1 +0.2**
PVCC *e*PCP **PcP 04 49 26.9 +0.5**
PVCC AMS AMS 04 53 40.0
comp=Z,4µm,10.9s
KRUC Moravsky 19.85 42 *e*P **P 04 45 09.8 +0.2**
KRUC *e*S **Sn 04 48 55.3 +1.7**
OHR Ohrid 19.87 67 *i* P **Pn 04 45 11.6 0.0**
OHR *e*S **S 04 48 53.3 +0.5**
DIVS Divibare 19.92 58 P **P 04 45 10.4 -0.1**
DIVS Divibare 19.92 58⇑*i*P **P 04 45 10.2 -0.3**
CSKK Cskako 20.04 48 P Pn 04 45 13.1 -0.3
EBL Broad Law 20.07 1 *e*P Pn 04 45 14.0 +0.2
VRAC Vranov 20.10 41⇑P **P 04 45 13.0 +0.8**
VRAC Vranov 20.10 41 P **P 04 45 13.1 +0.9**
comp=Z,16nm,0.7s,baz=233,slow=11,SNR=24
VRAC PcP **PcP 04 49 27.4 +0.5**
comp=Z,8.2nm,1.0s,baz=187,slow=4.5,SNR=3.1
VRAC Vranov 20.10 41 *e*P **P 04 45 12.3 0.0**
VRAC *e*S **S 04 48 57.7 +0.6**
PGBU Glenifferbraes 20.12 359 *e*P Pn 04 45 14.1 -0.2
PGBU IAmb IAmb 04 45 20.7
comp=Z,458nm,1.6s
SMOL Smolenice 20.12 44 *e*P Pn 04 45 14.1 -0.3
SMOL pmax pmax
comp=Z,44nm,1.2s
SMOL Smolenice 20.12 44 *e*P Pn 04 45 14.1 -0.3
FRGS Fruska Gora 20.13 55⇓P **P 04 45 12.6 -0.1**
FRGS Fruska Gora 20.13 55⇑*i*P **P 04 45 11.7 -1.0**
KPRO Kipourio 20.18 70 P Pn 04 45 15.3 +0.1
RLS Riolos of Patr 20.20 76 P Pn 04 45 15.5 0.0
EDI Edinburgh 20.22 1 *e*P Pn 04 45 15.9 +0.4
EDI IAmb IAmb 04 45 21.8
comp=Z,236nm,1.3s
ESY Stoneypath 20.23 2 *e*P Pn 04 45 16.0 +0.4
FNA Florina 20.26 68 P **P 04 45 13.8 -0.4**
FNA Florina 20.26 68 P **P 04 45 13.6 -0.6**
FNA pmax pmax
comp=Z,74nm,1.2s
FNA Florina 20.26 68 P **P 04 45 13.6 -0.6**
SRO Srobarova 20.28 47 *e*P Pn 04 45 16.1 -0.2
SRO pmax pmax
comp=Z,132nm,1.3s
SRO Srobarova 20.28 47 *e*P Pn 04 45 16.1 -0.2
SRO2 Moca 20.30 47 *e*P **P 04 45 15.0 +0.5**
SRO2 pmax pmax
comp=Z,38nm,1.0s
SRO2 Moca 20.30 47 *e*P **P 04 45 15.0 +0.5**
DRO Drossia 20.40 76 P **P 04 45 15.4 -0.3**
JAVC Velka Javorina 20.44 43 *e*P **P 04 45 17.0 +1.0**
EVR Evrytania 20.47 73 P Pn 04 45 19.5 +0.8
SKO Skopje 20.47 65 *i* P **P 04 45 16.4 0.0**
UPC Upice 20.52 38 *e*P **P 04 45 17.4 +0.6**
UPC *e*S **S 04 49 07.0 +1.6**
UPC *e* 04 49 29.0
UPC MLR MLR
comp=Z,3µm,18.0s
UPC Upice 20.52 38 *e*P **P 04 45 17.4 +0.6**
UPC *e*S **S 04 49 07.0 +1.6**
UPC *e*PCP **PcP 04 49 29.0 +1.3**
UPC AMS AMS 04 53 40.0
comp=Z,3µm,18.0s
EFP Efpalio 20.55 75 P Pn 04 45 19.6 +0.1
BUD Budapest 20.55 48 P **P 04 45 18.2 +1.0**
ANX Ano Chora 20.56 74 P Pn 04 45 19.4 -0.3
DPC Dobruska-Polom 20.57 38 *e*P **P 04 45 18.1 +0.6**
DPC *e*S **S 04 49 07.2 +0.6**
DPC *e* 04 49 28.7
DPC MLR MLR
comp=Z,4µm,10.0s
DPC Dobruska-Polom 20.57 38 *e*P **P 04 45 18.1 +0.6**
DPC *e*S **S 04 49 07.2 +0.6**
DPC *e*PCP **PcP 04 49 28.7 +0.8**
DPC AMS AMS 04 55 10.0
comp=Z,4µm,10.0s
CHVC Chvalec 20.59 38 *e*P **P 04 45 18.6 +1.0**
CHVC *e*PCP **PcP 04 49 28.1 +0.2**
CHVC AMS AMS 04 53 40.0
comp=Z,3µm,8.6s
LAWE Loch Awe, Argy 20.59 357 *e*P Pn 04 45 19.2 -0.6
LAWE IAmb IAmb 04 45 22.9
comp=Z,155nm,1.3s
ITM Ithomi 20.61 78 P **P 04 45 17.8 -0.1**
ITM Ithomi 20.61 78 P **P 04 45 18.2 +0.3**
KRLC Kraliky 20.64 40 *e*P **P 04 45 19.2 +1.0**
KRLC *e*S **S 04 49 06.6 -1.4**
KRLC *e* 04 49 28.5
KRLC MLR MLR
comp=Z,3µm,9.9s
KRLC Kraliky 20.64 40 *e*P **P 04 45 19.2 +1.0**
KRLC *e*S **S 04 49 06.6 -1.4**
KRLC *e*PCP **PcP 04 49 28.5 +0.5**
KRLC AMS AMS 04 54 40.0
comp=Z,3µm,9.9s
OSTC Ostas 20.65 38 *e*P **P 04 45 18.9 +0.7**
OSTC *e*S Sn 04 49 10.7 -2.2
OSTC *ex* x 04 49 29.2
OSTC AMS AMS 04 53 10.0
comp=Z,2µm,11.3s
THL Klokotos Trika 20.65 72 P **P 04 45 17.4 -1.0**
BSEG Bad Segeberg 20.67 24 *e*P Pn 04 45 20.7 -0.1
comp=Z,380nm,1.3s,baz=219,slow=12
BSEG *e*L L 04 52 55.4
comp=Z,3µm,20.3s
KOLL Kolacno 20.71 45 *e*P **P 04 45 19.4 +0.5**
MAKR Makrakomi, Fth 20.73 73 P Pn 04 45 22.6 +1.0
KLV Kalavryta, Ach 20.74 76 P **P 04 45 19.7 +0.3**
RUE Ruedersdorf 20.83 31 *e*P Pn 04 45 22.4 -0.2
RUE Ruedersdorf 20.83 31 *e*P Pn 04 45 22.1 -0.5
comp=Z,606nm,1.3s,baz=219,slow=12
EDU Dundee 20.85 1 *e*P Pn 04 45 22.4 -0.4
KSP Ksiaz 20.86 37 *e*P **P 04 45 21.7 +1.2**
MORC Moravsky Berou 20.87 41⇓P **P 04 45 21.8 +1.1**
MORC Moravsky Berou 20.87 41 P **P 04 45 21.4 +0.7**
MORC pmax pmax
comp=Z,161nm,1.4s
MORC Moravsky Berou 20.87 41 P **P 04 45 21.4 +0.7**
MORC Moravsky Berou 20.87 41 *e*P **P 04 45 21.2 +0.5**
MORC *e*S **S 04 49 13.8 +1.3**
AGG Agios Georgios 20.88 73 P Pn 04 45 23.3 -0.1
AGG Agios Georgios 20.88 73 P **P 04 45 20.2 -0.7**
AGG pmax pmax
comp=Z,227nm,1.2s
AGG Agios Georgios 20.88 73 P **P 04 45 20.2 -0.7**
AGG IAmb IAmb 04 45 26.1
comp=Z,227nm,1.2s
VYHS Vyhne 20.91 45 *e*P **P 04 45 22.0 +0.8**
VYHS pmax pmax
comp=Z,22nm,1.2s
VYHS Vyhne 20.91 45 *e*P **P 04 45 22.0 +0.8**
STIP Stip 20.98 66 *i* P **P 04 45 23.1 +1.1**
BOVS Bovan 21.00 60⇓P **P 04 45 22.3 +0.3**
LIT Litokhoron 21.05 70 P **P 04 45 23.8 +1.1**
LIT Litokhoron 21.05 70 P **P 04 45 22.1 -0.6**
LIT pmax pmax
comp=Z,163nm,1.3s
LIT Litokhoron 21.05 70 P **P 04 45 22.1 -0.6**
GRG Griva 21.05 68 P **P 04 45 21.7 -1.0**
KOWA Kowa 21.12 181 P **P 04 45 21.9 -1.7**
AMBH Ambrzfalva 21.15 52⇑P **P 04 45 25.1 +1.5**
AMBH Ambrzfalva 21.15 52 P **P 04 45 25.2 +1.5**
VAY Valandovo 21.22 67 *i* P **P 04 45 23.2 -1.3**
VAY *e*S **S 04 49 14.7 -4.8**
DRUM Mains of Drumt 21.23 2 *e*P **P 04 45 26.2 +1.8**
DRUM IAmb IAmb 04 45 32.2
comp=Z,328nm,1.1s
OKC Ostrava-Krasne 21.23 42 *e*P **P 04 45 25.1 +0.6**
OKC *e*S **S 04 49 20.4 +0.8**
OKC *e* 04 49 30.4
OKC MLR MLR
comp=Z,4µm,11.3s
OKC Ostrava-Krasne 21.23 42 *e*P **P 04 45 25.1 +0.6**
OKC *e*S **S 04 49 20.4 +0.8**
OKC *e*PCP **PcP 04 49 30.4 +1.3**
OKC AMS AMS 04 54 30.0
comp=Z,4µm,11.3s
BSZH Besenyszg 21.23 50 P **P 04 45 26.7 +2.2**
PSZ Piszkesteto 21.27 48 P **P 04 45 25.0 0.0**
PSZ pmax pmax
comp=Z,120nm,1.3s
PSZ Piszkesteto 21.27 48 P **P 04 45 25.0 0.0**
PSZ Piszkesteto 21.27 48 P **P 04 45 25.2 +0.1**
MDVR Moldovita 21.30 57⇓P **P 04 45 25.9 +0.5**
KNT Kendrikon 21.45 67 P P 04 45 16.3 -11
THE Thessaloniki 21.45 69 P **P 04 45 25.2 -1.7**
IZAB Izabela 21.46 46 *e*P **P 04 45 28.0 +1.0**
BZS Buzias 21.49 55⇓P **P 04 45 28.0 +0.7**
HORT Hortiatis 21.55 69 P **P 04 45 25.9 -2.2**
LANS Liptovska Anna 21.60 44 *e*P **P 04 45 29.8 +1.2**
LANS pmax pmax
comp=Z,39nm,1.2s
LANS Liptovska Anna 21.60 44 *e*P **P 04 45 29.8 +1.2**
KKB Krupnik 21.67 65 P **P 04 45 29.7 +0.4**
KPL Plockton 21.68 357 *e*P **P 04 45 31.5 +2.2**
KPL IAmb IAmb 04 45 38.9
comp=Z,218nm,1.7s
SIRR Siria 21.73 53⇓P **P 04 45 30.0 +0.1**
MDO Dochfour 21.75 359 *e*P **P 04 45 31.6 +1.6**
SOH Sokhos 21.76 68 P **P 04 45 24.9 -5.4**
KAC Achnashellach 21.83 358 *e*P **P 04 45 34.0 +3.1**
KECS Kecovo 21.88 47 *e*P **P 04 45 33.0 +1.5**
KECS Kecovo 21.88 47 *e*P **P 04 45 33.0 +1.5**
MCD Coleburn Disti 21.89 1 *e*P **P 04 45 32.9 +1.5**
VTS Vitosha 21.89 63⇑P **P 04 45 31.9 +0.1**
VTS Vitosha 21.89 63 P **P 04 45 31.1 -0.8**
VTS pmax pmax
comp=Z,86nm,1.3s
VTS Vitosha 21.89 63 P **P 04 45 31.1 -0.8**
VTS Vitosha 21.89 63 P **P 04 45 31.4 -0.5**
MMB Musomiste 22.12 66 P **P 04 45 33.5 -0.6**
NVR Nevrokopi 22.19 67 P **P 04 45 32.1 -2.9**
GZR Gura Zlata 22.20 56⇑P **P 04 45 34.9 -0.1**
RGN Rugen 22.21 27 P **P 04 45 36.2 +1.3**
RGN IAmb IAmb 04 45 40.0
comp=Z,150nm,0.9s
LTVH Ltavrtes, Hu 22.29 51⇑P **P 04 45 36.9 +1.1**
LTVH Ltavrtes, Hu 22.29 51 P **P 04 45 36.6 -0.3**
OJC Ojcow 22.33 42 *e*P **P 04 45 36.4 +0.1**
OJC *e*PcP **PcP 04 49 31.8 +0.5**
OJC Ojcow 22.33 42 P **P 04 45 36.0 -0.4**
OJC pmax pmax
comp=Z,64nm,1.2s
OJC Ojcow 22.33 42 P **P 04 45 36.0 -0.4**
MPEP Malo Peshtene 22.39 62 P **P 04 45 38.8 +1.8**
DEV Deva 22.43 55⇓P **P 04 45 37.9 +0.5**
LLD Lille Linde 22.45 24 *i* P **P 04 45 38.0 +0.5**
LLD IAmb IAmb 04 45 39.8
comp=Z,49nm,0.9s
LINV Loch Inver, As 22.48 358 *e*P **P 04 45 38.7 +0.9**
LINV IAmb IAmb 04 45 42.4
comp=Z,129nm,1.1s
MUD Monsted U'grnd 22.50 19 *i* P **P 04 45 38.0 0.0**
MUD IAmb IAmb 04 45 43.6
comp=Z,30nm,0.6s
LEWI Lewis, Hebride 22.55 356 *e*P **P 04 45 40.9 +2.3**
LEWI IAmb IAmb 04 45 44.4
comp=Z,92nm,1.0s
PGB Panagyurishte 22.56 64 P P 04 45 49.5 +11
DRGR 22.59 53⇓P **P 04 45 40.2 +1.0**
MLA1 Latheron 22.61 0 *e*P **P 04 45 39.6 +0.5**
CRVS Cervenica-Dubn 22.64 47 *e*P **P 04 45 41.0 +1.3**
CRVS pmax pmax
comp=Z,181nm,1.1s
CRVS Cervenica-Dubn 22.64 47 *e*P **P 04 45 41.0 +1.3**
BIGH Upper Bighouse 22.80 360 *e*P **P 04 45 41.0 -0.2**
BIGH IAmb IAmb 04 45 45.2
comp=Z,137nm,0.9s
COP Copenhagen 22.81 24 *i* P **P 04 45 41.5 +0.2**
COP IAmb IAmb 04 45 46.1
comp=Z,255nm,0.7s
RZN Rozhen 22.86 66 P **P 04 45 43.0 +0.7**
MESR Meseseni 22.87 52⇑P **P 04 45 43.7 +1.7**
GKP Gorka Klasztor 22.88 33 *e*P **P 04 45 42.0 -0.1**
GKP *e*PcP **PcP 04 49 33.2 +0.9**
GKP Gorka Klasztor 22.88 33 *e*P **P 04 45 43.0 +0.9**
LOT Lotru 22.88 56⇑P **P 04 45 43.5 +1.2**
PLD Plovdiv 22.90 65 P **P 04 45 42.2 -0.2**
TORD Torodi Ar. Bea 22.97 167 P **P 04 45 43.0 -0.3**
comp=Z,2µm,0.4s,baz=340,slow=11,SNR=1.5
TORD Torodi Ar. Bea 22.97 167 P **P 04 45 43.3 0.0**
TRPA Tarpa 22.97 49⇑P **P 04 45 43.1 0.0**
TRPA Tarpa 22.97 49 P **P 04 45 42.4 -0.7**
UZH Uzhgorod 23.02 48⇓*i*P **P 04 45 41.0 -2.6**
UZH *i* 04 45 48.3
UZH *e* 04 46 12.3
UZH *i* S **S 04 49 46.0 -7.2**
UZH *e*SS **SnSn 04 50 37.0 +11**
GOET G??ttrup 23.03 18 *i* P **P 04 45 43.9 +0.3**
GOET IAmb IAmb 04 45 49.0
comp=Z,51nm,0.8s
CJR Cluj-Napoca 23.14 53⇓P **P 04 45 45.4 +0.4**
IDI Anoyia 23.20 83⇑P **P 04 45 46.7 +1.0**
IDI Anoyia 23.20 83 P **P 04 45 47.2 +1.6**
comp=Z,106nm,1.1s,baz=268,slow=15,SNR=5.2
IDI Anoyia 23.20 83 P **P 04 45 46.8 +1.1**
IDI Anoyia 23.20 83 P **P 04 45 47.0 +1.3**
IDI IAmb IAmb 04 46 03.5
comp=Z,248nm,1.1s
BSD Bornholm Skovb 23.24 28 *i* P **P 04 45 46.3 +0.6**
BSD IAmb IAmb 04 45 47.6
comp=Z,12nm,0.9s
BSD Bornholm Skovb 23.24 28 *e*P **P 04 45 47.0 +1.3**
BMR Baia Mare 23.40 51⇑P **P 04 45 48.3 +0.9**
RDO Rodhopi 23.43 68 P **P 04 45 45.5 -2.3**
ARR Arges 23.45 57⇑P **P 04 45 47.9 -0.2**
APE Apeiranthos 23.48 78 *i* P **P 04 45 50.5 +2.1**
APE pmax pmax
comp=Z,117nm,1.2s
HUMR Humele 23.50 59⇓P **P 04 45 49.0 +0.6**
OVD Ostervraa, Den 23.53 19 *i* P **P 04 45 50.0 +1.4**
OVD IAmb IAmb 04 45 53.0
comp=Z,63nm,0.8s
KWP Kalwaria Pacla 23.70 46 *e*P **P 04 45 50.5 +0.2**
KWP Kalwaria Pacla 23.70 46 P **P 04 45 50.3 -0.1**
KWP pmax pmax
comp=Z,534nm,1.0s
KWP MLR MLR
comp=Z,10µm,18.0s
KWP Kalwaria Pacla 23.70 46 P **P 04 45 50.3 -0.1**
BEL Belsk 23.73 40 *e*P **P 04 45 50.5 -0.1**
BEL *e*PcP **PcP 04 49 35.2 +1.1**
ARCR ARCALIA 23.75 53⇓P **P 04 45 51.7 +0.8**
VOIR 23.75 57⇑P **P 04 45 51.1 +0.1**
SNART Snartemo 23.76 14 *i* P **P 04 45 50.0 -0.8**
SNART Snartemo 23.76 14 *e*P **P 04 45 51.6 +0.8**
DEL Delary 23.92 24 *i* P **P 04 45 53.0 +0.6**
DEL Delary 23.92 24 *e*P **P 04 45 54.0 +1.6**
HOMB Homborsund 23.97 16 *e*P **P 04 45 53.0 +0.2**
DOPR Dopca 24.11 56⇓P **P 04 45 54.3 0.0**
KMY Karmoy 24.23 11 *e*P **P 04 45 56.5 +1.3**
MBO M'Bour 24.36 213 P **P 04 45 57.0 +0.3**

MBO IAmb IAmb 04 45 59.5
comp=Z,132nm,0.9s
MLR Muntele Rosu 24.38 57 ⇓P **P 04 45 58.1 +1.2**
MLR Muntele Rosu 24.38 57 P **P 04 45 57.5 +0.6**
comp=Z,74nm,1.0s,baz=239,slow=4.9,SNR=31
MLR LR LR 04 56 06.9
comp=Z,987nm,18.2s,baz=261,slow=38
MLR Muntele Rosu 24.38 57 P **P 04 45 57.5 +0.6**
OZUR 24.41 56 ⇓P **P 04 45 57.9 +0.8**
BUR08 Bucovina Ar. S 24.47 52 P **P 04 45 57.7 -0.1**
BURAR Bucovina Array 24.48 52 ⇓P **P 04 45 58.7 +1.0**
BURAR Bucovina Array 24.48 52 P **P 04 45 58.2 +0.5**
LRW Lerwick 24.50 3 *e*P **P 04 45 58.2 +0.6**
LRW IAmb IAmb 04 46 05.7
comp=Z,213nm,1.4s
LVV L'vov 24.55 46 *e*P **P 04 45 57.4 -0.9**
LVV *e* 04 46 43.2
LVV *e*S **S 04 50 13.6 -4.4**
LVV MLR MLR
comp=N,500nm,12.0s
LVV MLR MLR
comp=Z,1μm,11.0s
NEHR Nehoiu 24.60 58 ⇑P **P 04 45 59.9 +1.0**
BLS5 Blasjo 24.63 12 *e*P **P 04 45 59.7 +0.8**
COVR Voineasa-Covas 24.64 57 ⇑P **P 04 46 00.1 +1.0**
VRI Vrincioaia 25.00 57 ⇓P **P 04 46 02.3 -0.1**
TESR Tescani 25.10 55 ⇑P **P 04 46 02.8 -0.5**
ODD1 Odda 25.12 12 *e*P **P 04 46 03.8 +0.5**
PANC Panciu 25.28 57 ⇓P **P 04 46 06.1 +1.2**
BER Bergen 25.36 10 *e*P **P 04 46 07.0 +1.5**
ASK Askoy 25.44 10 *e*P **P 04 46 07.8 +1.6**
KONO Kongsberg 25.46 16*ce*P **P 04 46 07.1 +0.7**
KONO pmax pmax
comp=Z,84nm,1.7s
KONO Kongsberg 25.46 16 P **P 04 46 06.9 +0.5**
KONO Kongsberg 25.46 16 IAMs_20 IAMs_20 04 57 07.2
comp=Z,4μm,19.0s
KONO Kongsberg 25.46 16 *e*P **P 04 46 07.8 +1.4**
HARR Harsova 25.60 60 ⇑P **P 04 46 07.3 -0.5**
MANT Manisa 25.76 74 P **P 04 46 09.6 0.0**
CFR Carcaliu 25.83 59 ⇓P **P 04 46 09.9 +0.1**
VASR Vaslui 25.89 55 ⇑P **P 04 46 10.4 -0.1**
SUE Sulen 25.93 9 *e*P **P 04 46 12.2 +1.6**
OSL Oslo 25.98 17 *e*P **P 04 46 12.3 +1.3**
SUW Suwalki 26.14 37 *e*P **P 04 46 11.6 -1.0**
SUW *e*PcP **PcP 04 49 39.4 0.0**
SUW Suwalki 26.14 37 P **P 04 46 11.6 -1.0**
SUW 04 49 39.3
SUW pmax pmax
comp=Z,196nm,1.1s
SUW MLR MLR
comp=Z,700nm,19.0s
SUW Suwalki 26.14 37 P **P 04 46 11.6 -1.0**
SUW IAmb IAmb 04 46 19.0
comp=Z,196nm,1.1s
SUW PcP **PcP 04 49 39.3 -0.1**
SUW Suwalki 26.14 37 *e*P **P 04 46 12.4 -0.2**
SUW Suwalki 26.14 37 *e*P **PcP 04 49 39.8 +0.4**
SKAR Skarslia 26.14 13 *e*P **P 04 46 13.8 +1.1**
HYA Hoyanger 26.24 11 *e*P **P 04 46 14.9 +1.5**
VIKU Vikbolandet 26.47 24 *e*P **P 04 46 15.8 +0.4**
PBUR Paburge 26.75 33 *e*P **PcP 04 49 41.9 +1.2**
NAO01 NORSAR Array S 26.82 16 P **P 04 46 19.5 +0.8**
NAO01 IAmb IAmb 04 46 23.4
comp=Z,148nm,1.1s
NAO01 **PcP 04 49 40.9 0.0**
NC602 NORSAR Array S 26.87 17 P **P 04 46 19.8 +0.7**
NC602 IAmb IAmb 04 46 23.7
comp=Z,178nm,1.1s
NC602 NORSAR Array S 26.87 17 *e*P **P 04 46 19.6 +0.5**
HFS Hagfors 26.89 19 P **P 04 46 19.7 +0.4**
comp=Z,48nm,0.9s,baz=203,slow=11,SNR=44
HFS PcP **PcP 04 49 40.3 -0.7**
comp=Z,12nm,0.9s,baz=198,slow=9.2,SNR=5.2
HFS LR LR 04 57 24.0
comp=Z,2μm,18.6s,baz=209,slow=37
NBO00 NORSAR Array S 26.97 16 P **P 04 46 20.5 +0.5**
NBO00 IAmb IAmb 04 46 25.3
comp=Z,99nm,1.0s
ELL Elmali 27.01 78 P **P 04 46 20.8 0.0**
ELL pmax pmax
comp=Z,170nm,1.2s
ELL Elmali 27.01 78 P **P 04 46 20.8 0.0**
ELL IAmb IAmb 04 46 25.6
comp=Z,170nm,1.2s
NB2 NORSAR Subarra 27.07 16 P **P 04 46 21.4 +0.4**
comp=Z,89nm,1.2s,baz=210,slow=8.6
NB2 NORSAR Subarra 27.07 16 PKPdf **PcP 04 49 41.5 0.0**
comp=Z,53nm,2.0s,baz=202,slow=1.9
NB2 NORSAR Subarra 27.07 16 PKPdf **PcP 04 49 41.5 0.0**
baz=202,slow=1.9
NB2 NORSAR Subarra 27.07 16 P **P 04 46 21.4 +0.4**
baz=210,slow=8.6
NOA NORSAR Array B 27.07 16 P **P 04 46 21.4 +0.4**
comp=Z,29nm,0.9s,baz=208,slow=8.9,SNR=32
NOA PcP **PcP 04 49 41.7 +0.2**
comp=Z,8.4nm,0.9s,baz=212,slow=2.6,SNR=9.3
NOA LR LR 04 58 47.5
comp=Z,4μm,18.3s,baz=205,slow=40
NB201 NORSAR Array S 27.10 16 P **P 04 46 21.7 +0.5**
NB201 IAmb IAmb 04 46 25.9
comp=Z,146nm,1.2s
NC204 NORSAR Array S 27.18 15 P **P 04 46 22.8 +0.8**
NC204 IAmb IAmb 04 46 26.9
comp=Z,143nm,1.2s
NC405 NORSAR Array S 27.25 16 P **P 04 46 22.9 +0.4**
NC405 IAmb IAmb 04 46 32.2
comp=Z,167nm,1.4s
NC303 NORSAR Array S 27.27 16 P **P 04 46 22.3 -0.4**
AKN Aaknes 27.33 11 *e*P **P 04 46 26.3 +3.0**
PABE Paberze 27.36 35 P **P 04 46 23.1 -0.5**
PABE IAmb IAmb 04 46 34.1
comp=Z,177nm,1.5s
PABE PcP **PcP 04 49 42.9 +0.6**
PABE Paberze 27.36 35 *e*P **P 04 46 24.0 +0.4**
PABE Paberze 27.36 35 *e*P **PcP 04 49 43.0 +0.8**
DOMB Dombas 27.55 13 *e*P **P 04 46 27.1 +1.9**
MOL Molde 27.78 11 *e*P **P 04 46 28.8 +1.5**
UPP Uppsala 27.82 23 *e*P **P 04 46 27.8 +0.1**
UPP Uppsala 27.82 23 *e*P **PcP 04 49 42.7 -0.6**
AKASG Malin Array Be 27.98 47 P **P 04 46 26.8 -2.3**
comp=Z,6.0nm,0.8s,baz=245,slow=11,SNR=13
AKASG PcP **PcP 04 49 43.5 -0.3**
comp=Z,6.6nm,0.9s,baz=265,slow=2.8,SNR=9.4
AKASG LR LR 04 57 52.0
comp=Z,535nm,18.8s,baz=272,slow=37
AKASG Malin Array Be 27.98 47 P **P 04 46 26.2 -2.9**
AKASG PcP **PcP 04 49 43.3 -0.5**
AKBB Malin Array Si 27.98 47 P **P 04 46 26.1 -3.0**
AKBB pmax pmax
comp=Z,16nm,1.1s
AKBB Malin Array Si 27.98 47 P **P 04 46 26.1 -3.0**
IIGN Ignalina 28.35 37 *e*P **P 04 46 33.5 +1.1**
IIGN Ignalina 28.35 37 *e*P **PcP 04 49 45.8 +1.1**
NACGM Naroch 28.40 38 *i*P **P 04 46 32.0 -0.8**
ISAL Salakas 28.42 36 *e*P **PcP 04 49 46.6 +1.8**
IDID Didziasalis 28.58 37 *e*P **P 04 46 35.4 +0.9**
IDID Didziasalis 28.58 37 *e*P **PcP 04 49 46.6 +1.3**
MNK Minsk 28.76 39 *i*P **P 04 46 35.4 -0.7**
MNK *i* PPP PPP 04 47 33.2
MNK *i* 04 49 46.3
MNK *i*S **S 04 51 23.9 -0.5**
MNK *i*SS **SnSn 04 52 44.9 -0.9**
MNK *i*SSS SSS 04 53 05.3
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=N,475nm,17.0s
MNK MLR MLR
comp=E,38nm,13.0s
MNK MLR MLR
comp=Z,379nm,16.0s
MNK Minsk 28.76 39 *i*P **P 04 46 35.4 -0.7**
comp=E,4.0nm,1.1s
MNK *i*P **P 04 46 35.4 -0.7**
comp=N,15nm,0.8s
MNK *i*P **P 04 46 35.4 -0.7**
comp=Z,16nm,0.9s,baz=243
MNK *i* PPP PPP 04 47 33.2
MNK *i*S **S 04 51 23.9 -0.5**
MNK *i*SS **SnSn 04 52 44.9 -0.9**
MNK *i*SSS SSS 04 53 05.3
MNK *i*LQ LQ 04 55 46.6
MNK *i*LR LR 04 56 51.1
MNK *i*LRM MLR 04 59 08.2
comp=N,475nm,17.0s
MNK *i*LRM MLR 04 59 11.3
comp=E,38nm,13.2s
MNK *i*LRM MLR 04 59 20.6
comp=Z,379nm,15.7s
AAL Aland 28.84 25 *e*P **P 04 46 36.6 -0.1**
TBLU Trondheim 28.88 13 *e*P **P 04 46 38.6 +1.6**
DBIC Dimbokro 28.92 183 P **P 04 46 37.2 -0.6**
comp=Z,51nm,0.9s,baz=12,slow=9.3,SNR=35
DBIC LR LR 04 58 50.5
comp=Z,4μm,18.6s,baz=12,slow=38
DBIC Dimbokro 28.92 183 P **P 04 46 37.0 -0.8**
DBIC IAmb IAmb 04 46 38.7
comp=Z,117nm,1.1s
TIC Toumodi 28.95 183 *e*P **P 04 46 37.5 -0.6**
KIC Kosan Boka 29.22 182 *e*P **P 04 46 40.0 -0.5**
comp=Z,221nm,1.0s
MTSE Matsula 29.25 30 *e*P **P 04 46 39.9 -0.4**
MTSE Matsula 29.25 30 *e*P **PcP 04 49 47.3 +0.5**
LIC Lamto 29.37 183 *e*P **P 04 46 41.2 -0.6**
comp=Z,320nm,1.2s
BR131 Keskin Array S 29.62 71 *i*P **P 04 46 43.9 -0.2**
BRTR Keskin Array B 29.62 71 P **P 04 46 44.7 +0.6**
comp=Z,1.6nm,1.0s,baz=304,slow=38,SNR=2.3
BRTR PcP **PcP 04 49 50.4 +2.0**
comp=Z,2.5nm,0.9s,baz=207,slow=3.5,SNR=3.7
BRTR Keskin Array B 29.62 71 P **P 04 46 43.0 -1.0**
BRTR PcP **PcP 04 49 46.3 -2.1**
VSU Vasula 30.30 32*c i*P **P 04 46 48.7 -1.0**
VSU Vasula 30.30 32 *e*P **P 04 46 49.1 -0.6**
VSU Vasula 30.30 32 *e*P **PcP 04 49 49.1 -0.4**
NSS Namsos 30.36 13 *e*P **P 04 46 52.2 +2.1**
BORG Borgarnes 30.97 345 LR LR 04 58 05.9
comp=Z,2μm,21.9s,baz=169,slow=34
FINES FINESS Array B 31.87 27 P **P 04 47 03.2 -0.3**
comp=Z,12nm,1.0s,baz=231,slow=8.3,SNR=21
FINES PcP **PcP 04 49 53.2 -0.5**
comp=Z,24nm,0.8s,baz=159,slow=1.6,SNR=14
FINES LR LR 04 59 59.4
comp=Z,993nm,19.2s,baz=228,slow=36
FINES FINESS Array B 31.87 27 P **P 04 47 02.3 -1.2**
FINES PcP **PcP 04 49 53.5 -0.2**
FIA1 FINESS Array S 31.88 27 P **P 04 47 03.7 +0.2**
FIA1 IAmb IAmb 04 47 11.1
comp=Z,60nm,1.1s
FIA1 PcP **PcP 04 49 54.0 +0.3**
MOR8 Moi Rana 32.30 14 *e*P **P 04 47 09.5 +2.3**
ANN Anapa 32.34 61 *e*P **P 04 47 06.4 -1.4**
ANN *e*S **S 04 52 16.6 -4.1**
ANN pmax pmax
comp=Z,112nm,1.8s
KONS Konsvik 32.35 12 *e*P **P 04 47 09.0 +1.4**
EIL Elat 32.88 89 LR LR 05 02 30.8
comp=Z,293nm,18.1s,baz=304,slow=40
FAUS Fauske 33.53 13 *e*P **P 04 47 19.2 +1.3**
OBN Obninsk 33.62 42*ce*P **P 04 47 17.5 -1.4**
OBN *e* 04 48 33.0
OBN *i*S **S 04 52 32.8 -7.5**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,449nm,13.0s
OBN Obninsk 33.62 42 P **P 04 47 16.4 -2.4**
OBN PcP **PcP 04 49 58.7 0.0**
SOC Sochi 33.98 63 *e*P **P 04 47 20.1 -2.1**
SOC *e* 04 48 32.1
SOC *e*S **S 04 52 45.1 -1.1**
SOC *e*SS **SnSn 04 54 52.9 -0.1**
SOC pmax pmax
comp=Z,45nm,0.9s
SOC MLR MLR
comp=Z,268nm,18.0s
STEI Steigen 34.01 13 *e*P **P 04 47 23.5 +1.4**
VORD Divnogorie 34.22 50 *e*P **P 04 47 24.2 +0.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 34.29 49 *e*P **P 04 47 24.2 -0.5**
VORR pmax pmax
comp=Z,60nm,0.4s
LPSR Galich'ya Gora 34.30 47 *e*P **P 04 47 24.1 -0.7**
LPSR pmax pmax
comp=Z,40nm,1.1s
MOS Moscow 34.39 41 *e*P **P 04 47 24.0 -1.5**
MOS *e* 04 50 00.6
MOS *e* 04 57 45.9
MOS pmax pmax
comp=Z,77nm,1.5s
MOS MLR MLR
comp=Z,1μm,11.0s
JMIC Jan Mayen 35.44 357 LR LR 05 02 01.6
comp=Z,1μm,19.3s,baz=214,slow=36
VRH Novokhopyorsk 35.77 50 *e*P **P 04 47 35.8 -1.6**
VRH pmax pmax
comp=Z,60nm,1.2s
SHA1 Shidzhatmaz 36.11 63 *i*P **P 04 47 40.7 -0.1**
KIV Kislovodsk 36.12 62 *e*P **P 04 47 40.5 -0.2**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,133nm,16.0s
KIV Kislovodsk 36.12 62 P **P 04 47 40.9 +0.3**
TRO Tromso 36.16 13 *e*P **P 04 47 41.3 +0.7**
NEY Neytrino 36.19 64 *i*P **P 04 47 42.3 +0.9**
NEY pmax pmax
comp=Z,14nm,1.6s
SCO Scoresbysund 36.20 350 P **P 04 47 41.8 +0.8**
SCO pmax pmax
comp=Z,53nm,1.0s
SCO Scoresbysund 36.20 350 *i*P **P 04 47 43.5 +2.6**
SCO IAmb IAmb 04 47 47.3
comp=Z,18nm,0.7s
SCO Scoresbysund 36.20 350 P **P 04 47 41.8 +0.8**
SCO IAMs_20 IAMs_20 05 00 37.2
comp=Z,2μm,21.0s
KBZ Khabaz 36.28 63 P **P 04 47 42.9 +0.9**
comp=Z,10nm,1.2s,baz=287,slow=8.9,SNR=6.5
KBZ Khabaz 36.28 63*c i*P **P 04 47 43.1 +1.2**
KBZ pmax pmax
comp=Z,25nm,1.5s
GOF Gofitskoye 36.33 61 ⇑*i*P **P 04 47 42.4 0.0**
GOF pmax pmax
comp=Z,120nm,1.4s
JETT Jettan, Norway 36.38 14 *e*P **P 04 47 45.5 +3.0**
KTK1 Kautokeino 36.53 16 *e*P **P 04 47 44.2 +0.5**
NRS Narsarsuaq 36.64 327 P **P 04 47 46.6 +1.9**
NRS pmax pmax
comp=Z,59nm,1.0s
NRS Narsarsuaq 36.64 327 *i*P **P 04 47 45.9 +1.2**
NRS Narsarsuaq 36.64 327 P **P 04 47 46.6 +1.9**
NRS IAMs_20 IAMs_20 04 59 17.7
comp=Z,3μm,20.0s
ZEI Tsey 37.09 64 *e*P **P 04 47 49.3 +0.2**
ZEI pmax pmax
comp=Z,20nm,1.7s
KLMR Klimovskoe 37.13 34 *e*P **P 04 47 46.3 -2.6**
KLMR *e* 04 50 07.6
KLMR pmax pmax
comp=Z,67nm,1.3s
KLMR MLR MLR
comp=Z,2μm,10.0s
KLMR Klimovskoe 37.13 34 *e*P **P 04 47 46.4 -2.5**
KLMR AMP 04 48 03.0
comp=Z,67nm,1.3s
KLMR *e*PcP **PcP 04 50 07.7 -1.1**
KLMR LQ LQ 04 58 19.3
KLMR LQ LQ 04 58 19.3
KLMR LR LR 05 00 33.6
KLMR AMP 05 05 02.9
comp=Z,2μm,10.0s
ARA0 ARCESS Array S 37.45 16 *e*P **P 04 47 53.0 +1.4**
ARCES ARCESS Array B 37.45 16 P **P 04 47 53.1 +1.6**
comp=Z,8.8nm,0.6s,baz=213,slow=6.5,SNR=20
ARCES PcP **PcP 04 50 09.4 -0.2**
comp=Z,8.3nm,0.8s,baz=196,slow=5.6,SNR=4.4
ARCES ARCESS Array B 37.45 16 P **P 04 47 51.0 -0.6**
ARCES PcP **PcP 04 50 09.5 -0.2**
HAMF Hammerfest 37.92 14 *e*P **P 04 47 57.1 +1.6**
KEV Kevo 37.96 17 IAMs_20 IAMs_20 05 03 58.6
comp=Z,2μm,20.0s
GNI Garni 38.05 68*ce*P **P 04 47 56.7 -0.5**
GNI pmax pmax
comp=Z,48nm,1.7s
GNI Garni 38.05 68 P **P 04 47 57.4 +0.2**
APA Apatity 38.20 22 ⇓*i*P **P 04 48 01.1 +3.2**
APA *i* 04 49 32.0
APA *i* 04 50 19.0
APA *i*S **S 04 53 51.0 +0.8**
APA *i*SS **SnSn 04 56 22.0 -12**
APA pmax pmax
comp=Z,27nm,0.9s
APA MLR MLR
comp=Z,3μm,18.0s
GROC Groznyy 38.43 63 *e*P **P 04 48 01.2 +1.0**
GROC *e* 04 49 29.4
GROC pmax pmax
comp=Z,47nm,1.1s
LVZ Lovozero 38.78 22 *i*P **P 04 48 02.3 -0.6**
LVZ pmax pmax
comp=Z,78nm,1.3s
LVZ Lovozero 38.78 22 IAMs_20 IAMs_20 05 04 03.2
comp=Z,2μm,18.0s
ICESG Greenland Ices 38.86 340 *i*P **P 04 48 05.8 +1.9**
DY2G Dye2 39.42 335 *i*P **P 04 48 09.2 +0.8**
DY2G IAmb IAmb 04 48 16.9
comp=Z,12nm,0.9s
DBG Daneborg 39.52 353 *i*P **P 04 48 11.2 +2.4**
DBG IAmb IAmb 04 48 15.2
comp=Z,7.1nm,0.8s
BELG Belogornoye 39.53 49 LR LR 05 06 07.3
comp=Z,401nm,18.9s,baz=313,slow=39
MAK Makhachkala 39.70 63 *e*P P 04 48 05.7 -5.1
MAK *e*S **S 04 54 07.4 -5.9**
MAK *e*SS **SS 04 56 56.4 -12**
MAK pmax pmax
comp=Z,283nm,1.2s
PRGR Permogore 40.17 34 *e*P **P 04 48 12.6 -1.8**
PRGR *e* 04 50 16.9
DRLN Deer Lake 41.12 306 P **P 04 48 22.2 -0.3**
SFJD Kangerlussuaq 41.19 334 LR LR 05 02 32.4
comp=Z,1μm,21.2s,baz=119,slow=32
KIRV Kirov 41.31 39 LR LR 05 05 37.2
comp=Z,310nm,20.8s,baz=262,slow=36
KIRV Kirov 41.31 39*ce*P **P 04 48 23.0 -0.8**
DAG Danmarks Havn 41.72 355 *i*P **P 04 48 28.5 +1.5**
DAG IAmb IAmb 04 48 29.9
comp=Z,24nm,0.9s
KBS Kingsbay 43.81 4 *i*P **P 04 48 46.7 +2.8**
RAYN Ar Rayn 44.00 92 P **P 04 48 46.7 +0.4**
RAYN pmax pmax
comp=Z,39nm,1.5s
RAYN MLR MLR
comp=Z,300nm,20.0s
RAYN Ar Rayn 44.00 92 P **P 04 48 46.7 +0.4**
GBN Guysborough 44.17 301 P **P 04 48 47.4 +0.1**
GBN IAmb IAmb 04 48 54.4
comp=Z,74nm,0.9s
HAL Halifax 45.75 300 P **P 04 48 58.2 -1.7**
HAL pmax pmax
comp=Z,43nm,1.1s
HAL Halifax 45.75 300 P **P 04 48 58.2 -1.7**
ARU Arti 46.05 43 LR LR 05 09 44.1
comp=Z,503nm,18.9s,baz=270,slow=38
ARU Arti 46.05 43*c i*P **P 04 49 01.7 -0.4**
ARU 04 50 38.1
ARU 04 50 50.4
ARU S **S 04 55 48.3 +2.0**
ARU SS **SS 04 59 09.5 -1.5**
ARU pmax pmax
comp=Z,37nm,0.8s
ARU MLR MLR
comp=Z,441nm,11.0s
ARU Arti 46.05 43 P **P 04 49 01.4 -0.6**
ARU IAmb IAmb 04 49 12.8
comp=Z,38nm,0.7s
AKTO Aktyubinsk 46.07 51 LR LR 05 10 03.6
comp=Z,381nm,18.2s,baz=308,slow=38
AKTO Aktyubinsk 46.07 51 P **P 04 49 02.1 -0.2**
NOR Nord 46.27 357 *i*P **P 04 49 04.3 +0.8**
NOR IAmb IAmb 04 49 11.1
comp=Z,13nm,0.9s
LMN Caledonia Moun 46.38 302 P **P 04 49 04.2 -0.6**
LMN IAmb IAmb 04 49 14.5
comp=Z,85nm,1.0s
SCHQ Schefferville 46.66 315 P **P 04 49 07.7 +0.7**
comp=Z,16nm,0.8s,baz=96,slow=5.2,SNR=24
SCHQ LR LR 05 05 29.4
comp=Z,487nm,20.4s,baz=91,slow=32
SCHQ Schefferville 46.66 315 P **P 04 49 07.5 +0.5**
TEND Ethiopian Broa 46.77 109 *e*P **P 04 49 06.2 -2.0**
AAE Adis Abeba 46.83 114 *e*P **P 04 49 12.2 +3.2**
AAE Adis Abeba 46.83 114 *e*P **P 04 49 08.7 -0.4**
FURI Furi 46.85 114 IAMs_20 IAMs_20 05 10 55.2
comp=Z,2μm,20.0s
FURI Furi 46.85 114 *e*P **P 04 49 12.8 +3.5**
FURI Furi 46.85 114 *e*P **P 04 49 09.3 +0.1**
BATG Bathurst New B 46.99 304 P **P 04 49 09.2 -0.5**
BATG IAmb IAmb 04 49 13.9
comp=Z,66nm,1.0s
ANKE Ethiopia-Afar 47.18 113 *e*P **P 04 49 13.1 +1.2**
ANKE Ethiopia-Afar 47.18 113 *e*P **P 04 49 13.2 +1.3**
SVE Sverdlovsk 47.19 42 *e*P **P 04 49 11.2 +0.2**
SVE pmax pmax
comp=Z,41nm,1.1s
SVE MLR MLR
comp=Z,885nm,12.0s
AB31 Akbulak array 47.45 53 *i*P **P 04 49 13.7 +0.5**
ABKAR Akbulak array 47.45 53 P **P 04 49 13.7 +0.6**
ABKAR IAmb IAmb 04 49 15.0
comp=Z,58nm,1.0s
ABKAR Akbulak array 47.45 53 P **P 04 49 13.7 +0.6**
FRB Frobisher Bay 47.63 327 LR LR 05 05 40.6
comp=Z,1μm,21.6s,baz=77,slow=32
GGN Saint George 47.92 302 P **P 04 49 16.4 -0.4**
GGN IAmb IAmb 04 49 20.7
comp=Z,98nm,1.2s
DILA Dilla 48.20 117 *e*P **P 04 49 22.5 +2.9**
DILA Dilla 48.20 117 *e*P **P 04 49 19.4 -0.2**
LODK Lodwar 48.25 123 P **P 04 49 21.3 +1.4**
LODK IAmb IAmb 04 49 23.1
comp=Z,73nm,1.1s
LODK Lodwar 48.25 123 P **P 04 49 21.9 +2.1**
SNR=50
LODK Lodwar 48.25 123 *e*P **P 04 49 20.8 +0.9**
LODK Lodwar 48.25 123 *e*P **P 04 49 18.8 -1.1**
MBAR Mbarara 48.27 131*c i*P **P 04 49 21.7 +1.6**
MBAR Mbarara 48.27 131 P **P 04 49 21.4 +1.3**
MBAR IAmb IAmb 04 49 23.3
comp=Z,82nm,1.2s
MBAR Mbarara 48.27 131 IAMs_20 IAMs_20 05 08 47.6
comp=Z,2μm,22.0s
MBAR Mbarara 48.27 131 *e*P **P 04 49 17.9 -2.1**
MBAR Mbarara 48.27 131 *e*P **P 04 49 22.1 +2.1**
ATD Arta Tunnel 48.35 108 LR LR 05 12 39.2
comp=Z,694nm,18.5s,baz=310,slow=40
ATD Arta Tunnel 48.35 108 P **P 04 49 21.1 +0.5**
ATD IAmb IAmb 04 49 24.5
comp=Z,86nm,1.2s
G65A Princeton 48.41 302 P **P 04 49 21.1 +0.6**
PQI Presque Isle 48.42 304 P **P 04 49 21.2 +0.6**
PQI IAmb IAmb 04 49 30.7
comp=Z,43nm,0.9s
PQI IAMs_20 IAMs_20 05 09 13.9
comp=Z,2μm,18.0s
EMMW East Machias 48.44 301 IAMs_20 IAMs_20 05 07 07.5
comp=Z,1μm,19.0s
GEYT Alibeck 48.68 68 P **P 04 49 23.0 +0.1**
comp=Z,6.2nm,0.7s,baz=316,slow=4.1,SNR=6.4
GEYT Alibeck 48.68 68 P **P 04 49 22.4 -0.5**
F64A Sherman 48.81 303 P **P 04 49 24.3 +0.6**
F64A IAmb IAmb 04 49 28.2
comp=Z,55nm,0.9s
D62A Allapoint, All 49.03 305 P **P 04 49 24.8 -0.6**
D62A IAmb IAmb 04 49 30.0
comp=Z,74nm,0.9s
F63A Nahmakanta, Br 49.36 303 P **P 04 49 28.1 +0.2**
PKME Peaks-Kenny Pk 49.59 302 P **P 04 49 29.5 -0.1**
PKME IAmb IAmb 04 49 37.0
comp=Z,61nm,1.2s
PKME IAMs_20 IAMs_20 05 08 59.8
comp=Z,1μm,18.0s
PKME Peaks-Kenny Pk 49.59 302 P **P 04 49 30.7 +1.1**
baz=77
LMQ La Malbaie 49.79 305 P **P 04 49 31.2 0.0**

TULEG Thule 49.84 344 P P 04 49 32.0 +0.8
F62A Pittston Farm, 49.90 303 P P 04 49 33.1 +1.0
F62A IAmb IAmb 04 49 39.2
comp=Z,48nm,1.1s
WVL Waterville 50.00 302 IAMs_20 IAMs_20 05 09 05.9
comp=Z,1µm,20.0s
G62A West of Eustis 50.45 303 P P 04 49 37.0 +0.8
MZR Muzera 50.73 88 P P 04 49 40.3 +1.6
SNR=16
MZR Muzera 50.73 88 *i* P P 04 49 39.4 +0.7
SNR=11
H62A Milan 51.04 302 P P 04 49 41.1 +0.5
H62A IAmb IAmb 04 49 45.4
comp=Z,50nm,0.9s
RCBR Riachuelo 51.24 223 LR LR 05 09 44.4
comp=Z,560nm,18.6s,baz=185,slow=34
RCBR Riachuelo 51.24 223 P P 04 49 43.6 +1.1
RCBR pmax pmax
comp=Z,65nm,1.4s
RCBR MLR MLR
comp=Z,700nm,18.0s
RCBR Riachuelo 51.24 223 P P 04 49 43.6 +1.1
RCBR Riachuelo 51.24 223 *eP* P 04 49 44.0 +1.5
AJN Ajban 51.24 86 P P 04 49 42.7 +0.3
NBCL Cascavel-CE 51.30 227 *eP* P 04 49 44.8 +1.9
UMQ Umm Al-Quwin 51.36 84 P P 04 49 43.7 +0.4
NBPV Pedro Velho 51.39 222 *eP* P 04 49 45.4 +1.8
ASUD Al Ashush, Dub 51.49 85 P P 04 49 45.0 +0.6
M65A Busby, Falmout 51.49 298 P P 04 49 44.5 +0.4
baz=73
SHME Shamm 51.52 83 P P 04 49 43.6 -0.9
NAZ Nazwa, Dubai 51.60 85 P P 04 49 45.5 +0.4
NBMO Morrinhos-CE 51.64 229 *eP* P 04 49 46.5 +1.1
FAQ Al Faqa, Dubai 51.65 85 P P 04 49 45.6 +0.1
LBNH Lisbon 51.66 302 P P 04 49 46.1 +0.8
LBNH pmax pmax
comp=Z,55nm,0.9s
LBNH Lisbon 51.66 302 P P 04 49 46.1 +0.8
LBNH IAmb IAmb 04 49 50.7
comp=Z,55nm,0.8s
LBNH IAMs_20 IAMs_20 05 10 22.5
comp=Z,1µm,20.0s
LBNH Lisbon 51.66 302 P P 04 49 46.9 +1.6
baz=74,SNR=8.2
FFD Franklin Falls 51.67 301 IAMs_20 IAMs_20 05 07 55.2
comp=Z,1µm,21.0s
BANOM Banah 51.70 83 P P 04 49 45.4 -0.6
WES Weston 51.74 299 P P 04 49 45.4 -0.5
WES pmax pmax
comp=Z,87nm,1.1s
WES Weston 51.74 299 P P 04 49 45.4 -0.5
WES IAmb IAmb 04 49 51.0
comp=Z,87nm,1.1s
HRV Adam Dziewonsk 51.88 299 P P 04 49 47.8 +0.8
baz=73
HNH Hanover 52.05 301 IAMs_20 IAMs_20 05 08 19.1
comp=Z,1µm,19.0s
HATD Hatta, Dubai 52.05 85 P P 04 49 48.2 -0.3
ASHO Ashiyiah 52.06 85 P P 04 49 50.0 +1.4
SNR=7.6
ASHO Ashiyiah 52.06 85 *i* P P 04 49 48.4 -0.2
SNR=6.2
UOSS Minazif 52.06 84 P P 04 49 47.9 -0.7
UOSS Minazif 52.06 84 P P 04 49 47.9 -0.7
ALNE Al Ain 52.09 86 P P 04 49 49.4 +0.6
SNR=14
ALNE Al Ain 52.09 86 *i* P P 04 49 49.5 +0.6
SNR=8.4
VT1 Waterbury 52.20 302 IAMs_20 IAMs_20 05 10 51.1
comp=Z,1µm,19.0s
K62A Royalston 52.31 300 P P 04 49 51.1 +0.9
K62A IAmb IAmb 04 49 59.2
comp=Z,73nm,1.1s
J61A Chester 52.34 301 P P 04 49 50.6 +0.2
MNTQ Montreal, Queb 52.48 304 P P 04 49 52.5 +1.1
MNTQ IAmb IAmb 04 49 56.2
comp=Z,54nm,0.8s
M63A Gales Ferry 52.55 298 P P 04 49 53.2 +1.2
M63A IAmb IAmb 04 49 57.4
comp=Z,82nm,0.9s
FRNY Flat Rock 52.64 303 P P 04 49 53.4 +0.8
L61B Northampton 52.69 300 P P 04 49 52.8 -0.2
L61B IAmb IAmb 04 49 58.3
comp=Z,45nm,0.8s
L61B Northampton 52.69 300 P P 04 49 54.2 +1.3
baz=73
SOHO SOHO 52.69 85 *i* P P 04 49 53.3 +0.1
SNR=11
KMBO Kilima Mbogo 52.86 125 P P 04 49 56.7 +1.9
comp=Z,24nm,1.0s,baz=327,slow=7.6,SNR=47
KMBO LR LR 05 14 37.5
comp=Z,2µm,18.1s,baz=311,slow=39
KMBO Kilima Mbogo 52.86 125 *ceP* P 04 49 57.5 +2.6
KMBO pmax pmax
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 52.86 125 P P 04 49 55.4 +0.6
KMBO IAmb IAmb 04 49 59.1
comp=Z,62nm,1.2s
KMBO Kilima Mbogo 52.86 125 *eP* P 04 49 53.2 -1.6
KMBO Kilima Mbogo 52.86 125 *iP* P 04 49 57.4 +2.6
SNR=29
TRQ Mont Tremblant 52.92 305 P P 04 49 53.9 -0.8
ARQ Araqi 53.05 86 P P 04 49 57.0 +1.0
SNR=23
ACCN Adirondack Com 53.11 301 P P 04 49 56.6 +0.5
NBPB Pedra_Branca-C 53.12 227 *eP* P 04 49 57.7 +1.3
BRVK Borovoye 53.18 46 *ceP* P 04 49 56.9 +0.4
BRVK pmax pmax
comp=Z,88nm,1.7s
BRVK Borovoye 53.18 46 P P 04 49 57.0 +0.6
NBRF Rio Formoso - 53.20 220 *eP* P 04 49 59.3 +2.4
YLE Yale 53.21 298 P P 04 49 57.4 +0.6
TRY Troy 53.30 300 P P 04 49 57.5 0.0
TRY IAmb IAmb 04 50 03.1
comp=Z,52nm,1.0s
NCB Newcomb 53.32 302 P P 04 49 58.4 +0.7
NCB IAmb IAmb 04 50 03.2
comp=Z,54nm,0.9s
NBPS Pedro II - PI 53.35 230 *eP* P 04 49 59.7 +1.5
LONY Lake Ozonia 53.38 303 P P 04 49 58.1 0.0
LONY IAMs_20 IAMs_20 05 11 48.1
comp=Z,1µm,21.0s
LONY Lake Ozonia 53.38 303 P P 04 49 59.2 +1.1
baz=73,SNR=6.6
ABTO Aybut 53.39 94 P P 04 50 00.1 +1.6
SNR=12
DOK Doka 53.41 93 P P 04 50 00.0 +1.4
SNR=6.0
KSCT Kent School, K 53.48 299 P P 04 49 57.9 -0.9
KSCT IAmb IAmb 04 50 03.8
comp=Z,48nm,0.9s
WHFO Wadi Hawf 53.48 94 P P 04 50 01.0 +1.8
SNR=8.0
HOQ Hoqain 53.58 85 P P 04 50 01.3 +1.5
SNR=9.1
J59A Piesco 53.66 301 P P 04 49 59.9 -0.3
EUNU Eureka 53.84 348 P P 04 50 02.3 +1.3
BSY Bisya 53.88 86 P P 04 50 03.0 +1.0
SNR=22
ROSB Rosrio 53.91 233 *eP* P 04 50 02.9 +0.6
PAL Palisades 54.01 298 P P 04 50 03.5 +0.8
baz=71
SINGT Singida 54.02 130 *i* S P 04 50 03.7 +0.4
RBK Rabkut 54.05 94 P P 04 50 05.0 +1.6
SNR=6.5
NBMA Muriti-CE 54.11 225 *eP* P 04 50 05.5 +1.7
TRNY Table Rock, Ra 54.19 299 P P 04 50 04.3 +0.3
TRNY IAmb IAmb 04 50 13.4
comp=Z,94nm,1.1s
BBAT Babati 54.20 129 *i* S P 04 50 10.6 +6.0
J58A Remsen 54.24 301 P P 04 50 04.8 +0.4
BIDO Bidbid 54.27 85 P P 04 50 06.0 +1.1
SNR=14
KIBK Kibwezi 54.28 125 P P 04 50 05.3 +0.2
KIBK IAmb IAmb 04 50 09.1
comp=Z,58nm,1.2s
KIBK Kibwezi 54.28 125 P P 04 50 08.1 +3.0
SNR=15
VLDQ Val d'Or 54.32 308 P P 04 50 05.2 +0.4
MDP Montagnes des 54.33 248 LR LR 05 09 31.8
comp=Z,615nm,20.6s,baz=47,slow=32
SMDO Samad 54.42 86 P P 04 50 07.0 +0.9
SNR=17
ODNJ Ogdensburg 54.48 299 P P 04 50 07.0 +0.9
ODNJ IAmb IAmb 04 50 11.0
comp=Z,49nm,1.0s
NBAN Anadia - AL 54.63 221 *eP* P 04 50 09.5 +2.0
J57A Williamstown 54.72 302 P P 04 50 08.5 +0.7
KOND Kondoa 54.76 129 *i* S P 04 50 10.1 +1.4
JMDO Jabal Madar 54.79 86 P P 04 50 09.0 +0.3
SNR=27
WSAR Wadi Sarin 54.81 85 LR LR 05 18 52.0
comp=Z,109nm,18.2s,baz=304,slow=42
BINY Binghamton 55.09 300 P P 04 50 11.1 +0.5
BINY IAmb IAmb 04 50 16.0
comp=Z,59nm,0.9s
BINY Binghamton 55.09 300 P P 04 50 12.1 +1.5
baz=71,SNR=8.3
KSPA Keystone Colle 55.15 299 P P 04 50 11.3 +0.3
KSPA IAmb IAmb 04 50 16.4
comp=Z,52nm,1.0s
LUPA Lehigh Univers 55.19 298 P P 04 50 11.5 +0.2
LUPA IAmb IAmb 04 50 16.5
comp=Z,42nm,1.0s
K57A Scipio Center 55.29 301 P P 04 50 12.7 +0.7
K57A IAmb IAmb 04 50 17.3
comp=Z,55nm,0.9s
BIM Bigot 55.32 263 P P 04 50 11.5 -1.0
MHTO MHTO 55.35 88 P P 04 50 14.0 +1.3
SNR=30
N59A State Game Lan 55.37 299 P P 04 50 13.5 +0.9
baz=70
BRZS Berezniki 55.39 50 *c iP* P 04 50 12.9 +0.3
BRZS pmax pmax
comp=Z,59nm,1.2s
BRZS Berezniki 55.39 50⇑ *iP* P 04 50 12.9 +0.3
comp=Z,59nm,1.2s,baz=50
DELO Deloro Mine 55.48 303 P P 04 50 14.0 +0.6
DQM DQM 55.53 89 P P 04 50 15.0 +1.0
SNR=5.3
BRLS Borolday 55.61 58 *eP* P 04 50 24.0 +10
BRLS pmax pmax
comp=Z,11nm,1.4s
JLN Jalan Bani Buh 55.96 86 P P 04 50 18.0 +0.9
SNR=15
IUG luzhnay 56.04 59 *c iP* P 04 50 17.6 +0.1
IUG luzhnay 56.04 59⇑ *iP* P 04 50 17.7 +0.1
baz=60
KKAR Karatay Array 56.05 58 P P 04 50 17.8 +0.3
KKAR Karatay Array 56.05 58 P P 04 50 17.8 +0.3
N58A Sunbury 56.07 299 P P 04 50 16.2 -1.4
N58A IAmb IAmb 04 50 23.5
comp=Z,111nm,1.2s
MVL Millersville 56.10 298 P P 04 50 18.6 +0.8
MVL IAmb IAmb 04 50 23.3
comp=Z,78nm,1.0s
TMAB Tom-Au,PA,Br 56.18 237 *eP* P 04 50 19.8 +1.1
M57A Sunshine Farm, 56.19 300 P P 04 50 19.1 +0.7
M57A IAmb IAmb 04 50 24.0
comp=Z,71nm,0.9s
L56A Greenwood 56.22 301 P P 04 50 19.2 +0.5
L56A IAmb IAmb 04 50 24.0
comp=Z,37nm,0.9s
MMNY Mt. Morris Dam 56.26 301 P P 04 50 19.4 +0.4
MMNY IAmb IAmb 04 50 24.3
comp=Z,66nm,1.0s
RES Resolute Bay 56.26 341 P P 04 50 19.5 +1.1
RES pmax pmax
comp=Z,61nm,1.3s
RES Resolute Bay 56.26 341 P P 04 50 19.5 +1.1
RES IAmb IAmb 04 50 23.6
comp=Z,61nm,1.3s
PAGS Pennsylvania G 56.28 298 P P 04 50 19.6 +0.4
PAGS IAmb IAmb 04 50 24.2
comp=Z,106nm,1.1s
SADO Sadowa 56.43 304 LR LR 05 11 48.5
comp=Z,912nm,21.4s,baz=74,slow=33
SADO Sadowa 56.43 304 P P 04 50 20.5 +0.3
NBLA Lagarto - SE 56.55 221 *eP* P 04 50 21.8 +0.6
CDVI St. Croix 56.59 269 P P 04 50 22.0 +0.4
CHGR Chuyangaron 56.64 64 P P 04 50 21.1 -0.7
CHGR IAmb IAmb 04 50 26.0
comp=Z,90nm,1.0s
SDMD Soldier's Deli 56.66 297 P P 04 50 22.4 +0.5
DZA Taraz 56.69 58 *eP* P 04 50 22.0 -0.1
DZA Taraz 56.69 58 *eP* P 04 50 22.0 -0.1
baz=58
SOCY Socotra 56.77 99 P P 04 50 21.8 -1.2
SOCY Socotra 56.77 99 P P 04 50 23.0 -0.1
SNR=6.0
WVNY West Valley, N 56.85 301 P P 04 50 22.9 -0.3
WVNY IAmb IAmb 04 50 28.5
comp=Z,41nm,1.0s
SSPA Standing Stone 56.97 299 P P 04 50 24.6 +0.5
SSPA IAmb IAmb 04 50 30.0
comp=Z,98nm,1.2s
SSPA Standing Stone 56.97 299 P P 04 50 24.7 +0.7
baz=69
MTP Monte Pirata 57.05 269 P P 04 50 26.2 +1.3
MTP IAmb IAmb 04 50 30.4
comp=Z,56nm,0.9s
CBYP Canovanas 57.21 270 P P 04 50 26.7 +0.6
HUMP Col San Antoni 57.27 270 P P 04 50 26.9 +0.5
HUMP IAmb IAmb 04 50 32.2
comp=Z,95nm,1.1s
M55A Ridgway 57.30 300 P P 04 50 27.1 +0.7
M55A IAmb IAmb 04 50 31.8
comp=Z,100nm,1.1s
BTK Batken 57.33 61 P P 04 50 27.0 +0.3
BTK pmax pmax
comp=Z,42nm,1.2s
BTK Batken 57.33 61 P P 04 50 27.0 +0.3
GAR Garm 57.35 63 P P 04 50 27.4 +0.5
GCPR Guaynabo City 57.38 270 P P 04 50 28.1 +0.9
GCPR IAmb IAmb 04 50 32.2
comp=Z,84nm,1.2s
P57A Homestead Farm 57.48 298 P P 04 50 27.3 -0.3
PDPR Patillas Dam, 57.48 270 P P 04 50 29.3 +1.5
PDPR IAmb IAmb 04 50 33.5
comp=Z,81nm,1.1s
CBN Corbin Frederi 57.49 296 P P 04 50 28.6 +0.9
CBN IAmb IAmb 04 50 33.0
comp=Z,57nm,0.9s
CBN Corbin Frederi 57.49 296 P P 04 50 29.2 +1.4
baz=68,SNR=7.1
NRIK Noril'sk 57.51 25 P P 04 50 28.8 +1.5
comp=Z,15nm,1.0s,baz=274,slow=6.3,SNR=17
NRIK LR LR 05 16 46.5
comp=Z,1µm,21.3s,baz=300,slow=38
NRIK Noril'sk 57.51 25 *c iP* P 04 50 28.2 +0.8
NRIK pmax pmax
comp=Z,47nm,1.4s
NRIK Noril'sk 57.51 25 P P 04 50 28.6 +1.2
MCPB Macapa, AP 57.55 242 *eP* P 04 50 29.3 +0.8
O56A Blue Knob Stat 57.59 299 P P 04 50 29.0 +0.5
O56A IAmb IAmb 04 50 33.8
comp=Z,64nm,1.1s
O56A Blue Knob Stat 57.59 299 P P 04 50 29.8 +1.4
baz=68,SNR=7.3
NBPN Ponto Novo - B 57.75 224 *eP* P 04 50 30.1 +0.3
BTLS Baital 57.80 55 *c iP* P 04 50 30.2 +0.4
BTLS pmax pmax
comp=Z,47nm,1.4s
BTLS Baital 57.80 55⇑ *iP* P 04 50 30.2 +0.4
comp=Z,47nm,1.4s,baz=55
CELP Cerrillos 57.90 270 P P 04 50 30.0 -0.9
CELP IAmb IAmb 04 50 33.9
comp=Z,49nm,1.0s
AOPR Arecibo Observ 57.90 270 P P 04 50 31.3 +0.4
AOPR IAmb IAmb 04 50 33.0
comp=Z,80nm,0.8s
M54A Oil Creek Stat 57.91 301 P P 04 50 31.1 +0.4
M54A IAmb IAmb 04 50 36.0
comp=Z,88nm,1.4s
M54A Oil Creek Stat 57.91 301 P P 04 50 31.7 +1.0
baz=69,SNR=5.3
ERPA Erie 57.92 301 P P 04 50 30.0 -0.7
ERPA IAmb IAmb 04 50 35.8
comp=Z,71nm,0.9s
ERPA Erie 57.92 301 P P 04 50 31.7 +1.0
baz=69
OBIP Obispado Ponce 57.94 270 P P 04 50 31.4 +0.2
OBIP IAmb IAmb 04 50 33.0
comp=Z,80nm,1.0s
R58B Mineral 57.95 296 P P 04 50 32.6 +1.6
R58B IAmb IAmb 04 50 37.1
comp=Z,71nm,1.1s
ICMP Isla Caja de M 57.96 270 P P 04 50 31.7 +0.4
ICMP IAmb IAmb 04 50 41.8
comp=Z,108nm,1.1s
JSRW J. Sargeant Re 58.05 296 P P 04 50 31.7 0.0
T59A Double "B" Far 58.09 295 P P 04 50 33.3 +1.3
T59A IAmb IAmb 04 50 37.2
comp=Z,51nm,1.2s
KBL Kabul 58.13 68 P P 04 50 32.3 -0.3
SNR=6.2
TSUM Tsumeb 58.20 156 *eP* P 04 50 31.9 -1.0
TSUM Tsumeb 58.20 156 P P 04 50 33.8 +0.9
TSUM IAmb IAmb 04 50 35.5
comp=Z,66nm,1.1s
ALLY Alegheny Colle 58.20 301 P P 04 50 33.2 +0.5
ALLY IAmb IAmb 04 50 37.8
comp=Z,72nm,1.2s
DRK Karamyk 58.24 62 P P 04 50 33.8 +0.4
DRK IAmb IAmb 04 50 35.8
comp=Z,66nm,1.3s
PRSN Puerto Rico Se 58.29 270 IAmb IAmb 04 50 51.8
comp=Z,45nm,0.9s
N54A Moraine State 58.34 300 P P 04 50 33.7 0.0
N54A Moraine State 58.34 300 P P 04 50 34.6 +0.9
baz=68
CRPR Cabo Rojo, PR 58.37 270 P P 04 50 34.4 +0.2
CRPR IAmb IAmb 04 50 37.4
comp=Z,73nm,0.8s
EKS2 Erkin-Say 58.46 58 P P 04 50 35.2 +0.5
SNR=24
Q56A Snyder Ridge, 58.49 298 P P 04 50 35.6 +0.8
Q56A IAmb IAmb 04 50 40.1
comp=Z,60nm,1.2s
U59A Littleton 58.51 294 P P 04 50 35.1 +0.1
U59A IAmb IAmb 04 50 40.4
comp=Z,72nm,1.1s
AML Almayashu 58.59 58 P P 04 50 36.2 +0.4
SNR=21
AML Almayashu 58.59 58 *i* P P 04 50 36.3 +0.4
SNR=21
M53A WI Miller and 58.64 301 P P 04 50 36.0 +0.2
M53A IAmb IAmb 04 50 40.8
comp=Z,51nm,0.9s
M53A WI Miller and 58.64 301 P P 04 50 36.4 +0.6
baz=68
MCWV Mont Chateau 58.73 299 P P 04 50 36.6 +0.2
MCWV IAmb IAmb 04 50 41.8
comp=Z,57nm,1.1s
MCWV Mont Chateau 58.73 299 P P 04 50 37.6 +1.2
baz=68
USP Ospenovka 58.73 57 P P 04 50 36.1 -0.4
SNR=7.7
SGDS Sogindy 58.76 57 *eP* P 04 50 36.1 -0.5
SGDS pmax pmax
comp=Z,58nm,0.9s
SGDS Sogindy 58.76 57⇑ *iP* P 04 50 36.4 -0.3
baz=57
KURBB Kurchatov Arra 58.77 48 LR LR 05 17 00.1
comp=Z,296nm,18.3s,baz=284,slow=37
KURBB Kurchatov Arra 58.77 48 P P 04 50 35.5 -1.0
KURK Kurchatov 58.79 47 *ceP* P 04 50 36.7 +0.1
KURK pmax pmax
comp=Z,234nm,1.7s
KURK Kurchatov 58.79 47 P P 04 50 36.8 +0.1
S57A Dark Hollow, R 58.81 296 P P 04 50 37.7 +0.7
S57A IAmb IAmb 04 50 43.0
comp=Z,62nm,1.2s
O54A Avella 58.91 299 P P 04 50 38.1 +0.5
O54A IAmb IAmb 04 50 42.5
comp=Z,29nm,0.9s
AAK Ala-Archa 58.96 57 LR LR 05 19 00.7
comp=Z,406nm,20.4s,baz=328,slow=39
AAK Ala-Archa 58.96 57 P P 04 50 39.1 +0.9
SNR=18
AAK Ala-Archa 58.96 57 *ceP* P 04 50 39.2 +1.0
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 58.96 57 P P 04 50 38.4 +0.2
AAK IAmb IAmb 04 50 42.5
comp=Z,39nm,1.1s
AAK Ala-Archa 58.96 57 *i* P P 04 50 39.1 +0.9
SNR=24
LSZ Lusaka 58.99 144 P P 04 50 39.3 +0.8
LSZ pmax pmax
comp=Z,89nm,1.2s
LSZ MLR MLR
comp=Z,4µm,18.0s
LSZ Lusaka 58.99 144 P P 04 50 39.3 +0.8
LSZ IAmb IAmb 04 50 41.3
comp=Z,89nm,1.1s
N53A Lisbon 58.99 300 P P 04 50 38.3 +0.1
N53A IAmb IAmb 04 50 43.0
comp=Z,40nm,1.0s
CHMS Chumysh 59.00 57 P P 04 50 38.9 +0.6
SNR=17
CNNC Cliffs of the 59.03 293 P P 04 50 39.7 +1.1
baz=66
M52A Chesterland 59.08 301 P P 04 50 39.0 +0.1
M52A IAmb IAmb 04 50 43.9
comp=Z,48nm,0.9s
UCH Uchtor 59.12 58 P P 04 50 40.6 +0.9
SNR=19
I49A Point Hope 59.20 304 P P 04 50 38.7 -0.9
I49A IAmb IAmb 04 50 44.4
comp=Z,33nm,0.9s
KBK Karagaybulak 59.26 57 P P 04 50 39.5 -0.8
SNR=8.7
E46A Sault Ste Mari 59.30 307 P P 04 50 40.6 +0.3
E46A IAmb IAmb 04 50 45.1
comp=Z,46nm,1.1s
T57A Hurt 59.33 296 P P 04 50 40.4 -0.2
R55A Marlinton 59.45 297 P P 04 50 42.9 +1.3
R55A IAmb IAmb 04 50 56.1
comp=Z,64nm,1.4s
O53A New Philadelph 59.47 300 P P 04 50 41.2 -0.3
O53A IAmb IAmb 04 50 46.4
comp=Z,42nm,0.9s
O53A New Philadelph 59.47 300 P P 04 50 43.0 +1.5
baz=67,SNR=6.4
K50A Casco 59.49 303 P P 04 50 42.1 +0.4
K50A IAmb IAmb 04 50 46.6
comp=Z,63nm,0.9s
TKM2 Tokmak 2 59.61 57 P P 04 50 43.0 +0.3
SNR=16
TKM2 Tokmak 2 59.61 57 P P 04 50 42.3 -0.4
Q54A Coxs Mills 59.69 298 P P 04 50 43.2 +0.1
V58A Windy Hill, Pi 59.72 294 P P 04 50 43.2 0.0
V58A IAmb IAmb 04 50 48.6
comp=Z,84nm,1.2s
KUU Kurty 59.75 56 *c iP* P 04 50 43.8 +0.4
KUU *eS* S 04 58 54.6 +1.2
KUU pmax pmax
comp=Z,71nm,1.2s
KUU Kurty 59.75 56⇑ *iP* P 04 50 43.9 +0.4
comp=Z,71nm,1.2s,baz=56
KUU *eS* S 04 58 54.6 +1.2
baz=56
GDU01 Guandu, BA 59.77 221 *eP* P 04 50 44.2 +0.4
DR12 Loma Pena Alta 59.82 272 P P 04 50 44.2 -0.1
SEM Semipalatinsk 59.87 47 *c iP* P 04 50 44.8 +0.4
SEM pmax pmax
comp=Z,18nm,1.2s
SEM Semipalatinsk 59.87 47⇑ *iP* P 04 50 44.8 +0.4
comp=Z,18nm,1.2s,baz=48
P53A Whipple 59.89 299 P P 04 50 44.4 -0.1
P53A IAmb IAmb 04 50 49.7
comp=Z,105nm,1.4s
O52A Adamsville 59.96 300 P P 04 50 45.5 +0.6
O52A IAmb IAmb 04 50 50.2
comp=Z,73nm,1.1s
BOOM Boomskoye usch 60.01 57 P P 04 50 45.9 +0.5
BOOM pmax pmax
comp=Z,56nm,1.5s
BOOM Boomskoye usch 60.01 57 P P 04 50 45.9 +0.5
BOOM IAmb IAmb 04 51 00.7
comp=Z,56nm,1.4s
N51A Ashland 60.03 301 P P 04 50 45.2 -0.2
GLMI Grayling 60.06 306 P P 04 50 46.2 +0.6
GLMI IAmb IAmb 04 50 50.6
comp=Z,51nm,0.8s
GLMI IAMs_20 IAMs_20 05 16 02.8
comp=Z,1µm,20.0s
GLMI Grayling 60.06 306 P P 04 50 46.7 +1.1
baz=68,SNR=6.3
BLA Blacksburg 60.10 296 P P 04 50 46.3 +0.3
BLA pmax pmax
comp=Z,71nm,1.3s
BLA Blacksburg 60.10 296 P P 04 50 46.3 +0.3
BLA IAmb IAmb 04 50 51.1
comp=Z,71nm,1.2s

BLA Blacksburg 60.10 296 P **P** **04 50 47.0 +1.0**
baz=66

PRPB Parauapebas 60.11 236 *e*P **P** **04 50 47.3 +1.1**
MALB Monte Alegre 60.17 243 *e*P **P** **04 50 47.9 +1.2**
CHKK Chushkaly 60.20 55 *e*P **P** **04 50 46.5 0.0**
baz=56

Y59A Loris 60.29 292 P **P** **04 50 47.1 -0.1**
M50A Fremont 60.30 302 P **P** **04 50 47.6 +0.4**
M50A IAmb IAmb 04 50 52.0
comp=Z,39nm,0.9s

P52A Corning 60.36 299 P **P** **04 50 47.9 +0.2**
P52A Corning 60.36 299 P **P** **04 50 49.0 +1.3**
baz=66,SNR=32

AAM Ann Arbor 60.38 303 P **P** **04 50 48.5 +0.8**
AAM pmax pmax
comp=Z,17nm,0.9s

AAM Ann Arbor 60.38 303 P **P** **04 50 48.5 +0.8**
AAM IAMs_20 IAMs_20 05 13 40.1
comp=Z,1μm,21.0s

AAM Ann Arbor 60.38 303 P **P** **04 50 48.6 +0.9**
baz=67

AAA Alma-Ata 60.39 56 *e*P **P** **04 50 49.0 +1.1**
AAA pmax pmax
comp=Z,35nm,0.8s

AAA Alma-Ata 60.39 56 *e*P **P** **04 50 49.0 +1.1**
comp=Z,35nm,0.8s,baz=56

U56A King 60.43 295 P **P** **04 50 48.2 0.0**
U56A IAmb IAmb 04 50 53.7
comp=Z,64nm,1.3s

TNSS Tian-Shan 60.48 56 *e*P **P** **04 50 49.6 +0.7**
baz=56

FCC Fort Churchill 60.49 323 P **P** **04 50 48.9 +0.7**
FCC pmax pmax
comp=Z,43nm,1.1s

FCC Fort Churchill 60.49 323 P **P** **04 50 48.9 +0.7**
FCC IAmb IAmb 04 50 52.7
comp=Z,43nm,1.1s

MDOK Medeo 60.50 56 *i* P **P** **04 50 49.2 +0.4**
MDOK *e*S **S** **04 59 03.9 +0.5**
MDOK Medeo 60.50 56 *i* P **P** **04 50 49.2 +0.4**
baz=56
MDOK *e*S **S** **04 59 04.0 +0.5**
baz=56

S54A Dingess, Beckl 60.51 297 P **P** **04 50 49.0 +0.2**
S54A IAmb IAmb 04 50 53.6
comp=Z,63nm,1.2s

W57A Gilead 60.63 294 P **P** **04 50 49.9 +0.4**
W57A IAmb IAmb 04 50 54.8
comp=Z,66nm,1.2s

SMTB Santa Maria do 60.65 232 *e*P **P** **04 50 50.8 +0.9**
G45A Suttons Bay 60.67 306 P **P** **04 50 50.7 +1.1**
G45A IAmb IAmb 04 50 54.4
comp=Z,57nm,0.8s

TDK Taldyqorghan 60.70 54 *e*P **P** **04 50 50.5 +0.6**
TDK pmax pmax
comp=Z,56nm,1.2s

TDK Taldyqorghan 60.70 54 *e*P **P** **04 50 50.5 +0.6**
comp=Z,56nm,1.2s,baz=54

NBIT Itapeh - BA 60.70 220 *e*P **P** **04 50 50.8 +0.6**
ACSO Alum Creek Sta 60.72 300 P **P** **04 50 50.9 +0.8**
ACSO Alum Creek Sta 60.72 300 P **P** **04 50 51.2 +1.1**
baz=66,SNR=24

Q52A Bidwell 60.73 299 P **P** **04 50 51.0 +0.9**
R53A Hurricane 60.76 298 P **P** **04 50 50.0 -0.4**
R53A IAmb IAmb 04 50 55.0
comp=Z,37nm,0.8s

J47A Sunmer 60.81 304 P **P** **04 50 49.9 -0.8**
J47A IAmb IAmb 04 50 55.5
comp=Z,60nm,0.8s

KDJ Kajisay 60.99 57 P **P** **04 50 51.2 -1.0**
KDJ pmax pmax
comp=Z,22nm,0.9s

KDJ Kajisay 60.99 57 P **P** **04 50 51.1 -1.0**
E43A Lone Tree Farm 61.02 308 P **P** **04 50 52.2 +0.1**
E43A IAmb IAmb 04 50 56.7
comp=Z,63nm,0.9s

L48A N Adams 61.05 303 P **P** **04 50 52.8 +0.5**
P51A Williamsport 61.08 300 P **P** **04 50 52.5 -0.1**
P51A IAmb IAmb 04 50 57.3
comp=Z,65nm,1.0s

CMC01 Camacan, BA 61.10 220 *e*P **P** **04 50 54.2 +1.3**
BIRD Birdtown, Kers 61.20 294 P **P** **04 50 53.8 +0.4**
BIRD IAmb IAmb 04 50 58.6
comp=Z,54nm,1.2s

KSH Kashi 61.20 60 P **P** **04 50 53.3 -0.2**
KSH sP sP 04 51 00.6 -1.0
KSH sS sS 04 59 17.3 -5.0
KSH pmax pmax
comp=Z,71nm,1.3s
KSH pmax pmax
comp=Z,480nm,2.7s
KSH LR LR
comp=Z,370nm,15.9s
KSH LR LR
comp=Z,390nm,11.4s
KSH LR LR
comp=Z,440nm,9.8s

ZALV Zalesovo Beam 61.21 42 P **P** **04 50 53.4 +0.2**
comp=Z,7.8nm,0.6s,baz=290,slow=6.8,SNR=15
ZALV LR LR 05 18 29.3
comp=Z,216nm,19.4s,baz=304,slow=37

V55A Taylorsville 61.25 295 P **P** **04 50 52.8 -1.0**
V55A IAmb IAmb 04 50 59.2
comp=Z,71nm,1.3s

SDDR Presa de Saban 61.27 274 P **P** **04 50 53.4 -0.8**
N49A Columbus Grove 61.28 302 P **P** **04 50 53.4 -0.5**
N49A IAmb IAmb 04 50 58.7
comp=Z,43nm,1.1s

U54A Nelsons Funny 61.41 296 P **P** **04 50 55.5 +0.5**
U54A IAmb IAmb 04 50 59.9
comp=Z,79nm,1.3s

Y57A Sumter 61.41 293 P **P** **04 50 55.4 +0.5**
Y57A IAmb IAmb 04 51 00.3
comp=Z,98nm,1.4s

ZHN Zhinishke 61.43 56 *e*P **P** **04 50 55.1 +0.1**
ZHN Zhinishke 61.43 56 *e*P **P** **04 50 55.1 +0.1**
baz=56

I45A Fountain 61.44 305 P **P** **04 50 54.8 -0.1**
I45A IAmb IAmb 04 50 59.9
comp=Z,40nm,0.9s

SATY Saty 61.45 56 *i* P **P** **04 50 55.6 +0.4**
SATY pmax pmax
comp=Z,33nm,1.4s

SATY Saty 61.45 56 *i* P **P** **04 50 55.7 +0.5**
comp=Z,33nm,1.4s,baz=56

Q51A Peebles 61.47 299 P **P** **04 50 54.0 -1.3**
KPKS Kokpek 61.48 55*c i*P **P** **04 50 55.7 +0.4**
KPKS pmax pmax
comp=Z,22nm,1.2s

KPKS Kokpek 61.48 55⇑*i*P **P** **04 50 55.8 +0.4**
comp=Z,22nm,1.2s,baz=55

TARG Taragay, Kyrgy 61.58 57 P **P** **04 50 56.8 +0.4**
TARG IAmb IAmb 04 51 00.6
comp=Z,48nm,1.0s

KMSC Kings Mountain 61.63 294 P **P** **04 50 57.1 +0.7**
KMSC IAmb IAmb 04 51 01.7
comp=Z,58nm,1.1s

KMSC Kings Mountain 61.63 294 P **P** **04 50 57.8 +1.4**
baz=64,SNR=13

NHSC New Hope 61.65 292 P **P** **04 50 57.9 +1.4**
NHSC New Hope 61.65 292 P **P** **04 50 58.2 +1.8**
baz=64,SNR=12

NIL Nilore 61.68 67 P **P** **04 50 57.3 +0.5**
NIL pmax pmax
comp=Z,105nm,1.3s

NIL Nilore 61.68 67 P **P** **04 50 57.3 +0.5**
O49A Covington 61.69 301 IAmb IAmb 04 51 00.9
comp=Z,43nm,1.0s

SDBA SAO DESIDERIO 61.73 227 *e*P **P** **04 50 57.9 +0.7**
D41A Chassel 61.76 309 IAmb IAmb 04 51 01.9
comp=Z,65nm,0.9s

UZB Uzynbulak 61.83 55*c i*P **P** **04 50 58.0 +0.2**
UZB pmax pmax
comp=Z,43nm,1.7s

UZB Uzynbulak 61.83 55⇑*i*P **P** **04 50 58.0 +0.2**
comp=Z,43nm,1.7s,baz=56

JSC Jenkinsville 61.95 294 IAmb IAmb 04 51 03.9
comp=Z,70nm,1.2s

F42A Maple Grove Fa 62.00 308 IAmb IAmb 04 51 03.2
comp=Z,37nm,1.1s

BOAV Boa Vista 62.07 251 *e*P **P** **04 51 00.8 +1.2**
SHLS Shalkode 62.12 55*c i*P **P** **04 51 02.4 +2.7**
SHLS pmax pmax
comp=Z,20nm,1.1s

SHLS Shalkode 62.12 55⇑*i*P **P** **04 51 02.4 +2.7**
comp=Z,20nm,1.1s,baz=55

PAULI Pauline 62.13 294 IAmb IAmb 04 51 05.0
comp=Z,72nm,1.5s

S51A Beattyville 62.22 298 IAmb IAmb 04 51 05.6
comp=Z,65nm,1.2s

P49A Miami Univ. Ec 62.23 300 IAmb IAmb 04 51 04.7
comp=Z,41nm,1.0s

P49A Miami Univ. Ec 62.23 300 P **P** **04 51 00.9 +0.6**
baz=65,SNR=13

O48B Farmland 62.23 301 P **P** **04 51 00.9 +0.5**
baz=65,SNR=24

GUA01 Guaratinga, BA 62.27 220 *e*P **P** **04 51 02.1 +1.4**
H43A Windswept, Lux 62.28 306 IAmb IAmb 04 51 05.4
comp=Z,31nm,1.0s

MAKZ Makanchi 62.29 51 P **P** **04 51 01.0 +0.4**
MAKZ pmax pmax
comp=Z,93nm,1.0s
MAKZ MLR MLR
comp=Z,400nm,19.0s

MAKZ Makanchi 62.29 51 P **P** **04 51 01.0 +0.4**
L46A Eue Claire 62.29 303 IAmb IAmb 04 51 05.2
comp=Z,72nm,1.1s

R50A Paris 62.48 299 IAmb IAmb 04 51 07.0
comp=Z,66nm,1.2s

MK31 Makanchi Array 62.49 51 P **P** **04 51 02.4 +0.4**
MK31 pmax pmax
comp=Z,75nm,1.1s

MK31 Makanchi Array 62.49 51 P **P** **04 51 02.4 +0.4**
MKAR Makanchi Array 62.49 51 P **P** **04 51 02.3 +0.3**
comp=Z,72nm,0.9s,baz=290,slow=5.4,SNR=299
MKAR PKPPKP **P'P'df** **05 20 08.8 -3.5**
comp=Z,0.9nm,0.9s,baz=88,slow=4.9,SNR=3.8

MKAR Makanchi Array 62.49 51 P **P** **04 51 02.4 +0.4**
V53A Saluda 62.50 296 IAmb IAmb 04 51 07.4
comp=Z,60nm,1.4s

COWI Conover 62.50 309 IAmb IAmb 04 51 06.6
comp=Z,39nm,0.9s

TZTN Tazewell 62.66 297 IAmb IAmb 04 51 08.4
comp=Z,71nm,1.4s

TZTN Tazewell 62.66 297 P **P** **04 51 04.5 +1.2**
baz=64,SNR=8.4

HODGE Hodges 62.72 294 IAmb IAmb 04 51 09.0
comp=Z,49nm,1.4s

P48A Milroy 62.76 300 IAmb IAmb 04 51 08.0
comp=Z,61nm,1.0s

BG3 Lake Jocassee 62.88 295 IAmb IAmb 04 51 10.0
comp=Z,40nm,1.3s

ITTB Itatiuba 62.96 242 *e*P **P** **04 51 06.5 +1.0**
V52A Sevierville 63.00 296 IAmb IAmb 04 51 10.6
comp=Z,52nm,1.4s

TKL Tuckaleechee C 63.21 296 LR LR 05 17 32.7
comp=Z,473nm,18.8s,baz=66,slow=35

TKL Tuckaleechee C 63.21 296 IAmb IAmb 04 51 11.9
comp=Z,64nm,1.3s

EYMN Ely 63.22 311 IAmb IAmb 04 51 11.1
comp=Z,62nm,1.0s

EYMN Ely 63.22 311 P **P** **04 51 07.3 +0.5**
baz=66,SNR=44

I42A Draeger Farm, 63.26 306 IAmb IAmb 04 51 11.8
comp=Z,48nm,0.9s

L44A Lake County Fo 63.32 304 IAmb IAmb 04 51 10.4
comp=Z,45nm,0.9s

L44A Lake County Fo 63.32 304 P **P** **04 51 07.7 +0.2**
baz=65,SNR=6.4

JMU Jammu 63.33 68 *e*P **P** **04 51 05.5 -2.2**
K43A Burlington 63.38 305 IAmb IAmb 04 51 10.9
comp=Z,48nm,0.9s

T50A Nancy 63.38 298 IAmb IAmb 04 51 12.8
comp=Z,57nm,1.1s

BLWY Bulawayo 63.39 146 *e*P **P** **04 51 08.7 +0.4**
BLWY IAmb IAmb 04 51 10.2
comp=Z,212nm,1.1s

JANB Januaria 63.49 225 *e*P **P** **04 51 09.3 +0.4**
NAN01 Guarapari, ES 63.49 219 *e*P **P** **04 51 09.9 +1.1**
G40A Rib Lake 63.52 308 IAmb IAmb 04 51 13.5
comp=Z,48nm,0.9s

SFIN Lafayette 63.53 302 IAmb IAmb 04 51 12.6
comp=Z,18nm,0.7s

SFIN Lafayette 63.53 302 P **P** **04 51 09.2 +0.3**
baz=64,SNR=11

V51A Loudon 63.56 296 IAmb IAmb 04 51 13.2
comp=Z,73nm,1.3s

PEXB Peixe 63.57 230 *e*P **P** **04 51 10.2 +0.7**
MATP Matopo 63.59 146 LR LR 05 20 21.4
comp=Z,2μm,18.3s,baz=334,slow=38

BLO Bloomington 63.65 301 IAmb IAmb 04 51 14.2
comp=Z,50nm,0.9s

ZSN Zaisan 63.82 49*c i*P **P** **04 51 11.8 +1.0**
ZSN *e*S **S** **04 59 46.7 +1.8**
ZSN pmax pmax
comp=Z,35nm,1.0s

ZSN Zaisan 63.82 49⇑*i*P **P** **04 51 11.9 +1.0**
comp=Z,35nm,1.0s,baz=49
ZSN *e*S **S** **04 59 46.8 +1.8**
baz=49

CPCT Cooper Cave 63.85 296 IAmb IAmb 04 51 16.4
comp=Z,53nm,1.2s

WCI Wyandotte Cave 63.90 300 P **P** **04 51 11.9 +0.5**
baz=64

P46A Rosedale 63.93 301 IAmb IAmb 04 51 13.6
comp=Z,23nm,0.8s

GOGA Godfrey 63.98 294 IAmb IAmb 04 51 17.6
comp=Z,41nm,1.2s

GOGA Godfrey 63.98 294 P **P** **04 51 13.5 +1.5**
baz=63,SNR=6.4

THN Thein Dam 64.07 68 *e*P **P** **04 51 12.6 0.0**
U49A Red Boiling Sp 64.29 298 IAmb IAmb 04 51 19.7
comp=Z,48nm,1.1s

I40A Norwalk 64.38 307 IAmb IAmb 04 51 18.9
comp=Z,42nm,0.8s

B35A Bob, Littlefor 64.40 312 IAmb IAmb 04 51 18.6
comp=Z,35nm,1.0s

X51A Calhoun 64.49 295 IAmb IAmb 04 51 20.5
comp=Z,42nm,1.1s

NPGB Novo Progresso 64.56 240 *e*P **P** **04 51 16.8 +0.8**
JFWS Jewell Farm 64.56 306 IAmb IAmb 04 51 19.7
comp=Z,30nm,0.9s

JFWS Jewell Farm 64.56 306 P **P** **04 51 15.8 +0.1**
baz=64,SNR=12

O44A Mansfield 64.57 302 IAmb IAmb 04 51 20.1
comp=Z,46nm,0.9s

L42A Oliver, Polo 64.57 305 IAmb IAmb 04 51 19.9
comp=Z,37nm,0.8s

SJMB Sao Joao De Ma 64.76 220 *e*P **P** **04 51 17.6 +0.5**
ULM Lac du Bonnet 64.84 315 P **P** **04 51 17.4 0.0**
comp=Z,32nm,1.0s,baz=73,slow=6.5,SNR=22
ULM LR LR 05 16 46.2
comp=Z,566nm,20.6s,baz=67,slow=34

ULM Lac du Bonnet 64.84 315 IAmb IAmb 04 51 21.3
comp=Z,71nm,1.1s

RIB01 Linhares ES 64.86 219 *e*P **P** **04 51 19.1 +1.3**
CLTN Cedars of Leba 64.87 297 IAmb IAmb 04 51 19.3
comp=Z,28nm,1.0s

DWPF Disney Wildern 64.89 288 P **P** **04 51 17.9 -0.1**
baz=61

HDIL Hopedale 64.96 303 IAmb IAmb 04 51 22.4
comp=Z,44nm,0.8s

HDIL Hopedale 64.96 303 P **P** **04 51 18.6 +0.3**
baz=64,SNR=12

TIGA Tifton 64.98 292 P **P** **04 51 20.4 +1.8**
baz=62,SNR=5.4

SWET Sewanee 64.98 296 IAmb IAmb 04 51 24.1
comp=Z,62nm,1.3s

USIN University of 64.98 300 IAmb IAmb 04 51 22.4
comp=Z,55nm,1.1s

FPAL Fort Paine 65.06 296 IAmb IAmb 04 51 22.6
comp=Z,56nm,1.0s

A36M Sachs Harbour 65.20 343 P **P** **04 51 19.9 +0.6**
A36M Sachs Harbour 65.20 343 P **P** **04 51 20.8 +1.5**
baz=50,SNR=230

SPMN Marine on St. 65.20 309 IAmb IAmb 04 51 23.5
comp=Z,89nm,1.4s

SPMN Marine on St. 65.20 309 P **P** **04 51 20.1 +0.3**
baz=64,SNR=18

Z51A Franklin 65.30 294 IAmb IAmb 04 51 26.1
comp=Z,54nm,0.9s

F36A Milaca 65.37 310 IAmb IAmb 04 51 25.0
comp=Z,38nm,1.1s

SNDB Serra Nova Dou 65.38 233 *e*P **P** **04 51 22.2 +0.9**
V48A Smith Brothers 65.39 297 IAmb IAmb 04 51 25.7
comp=Z,52nm,1.1s

Q44A Meyer Farm, Va 65.51 301 IAmb IAmb 04 51 25.6
comp=Z,43nm,1.1s

P43A Skaggs, Pawnee 65.52 302 IAmb IAmb 04 51 25.9
comp=Z,36nm,0.8s

L40A Anamosa 65.58 305 IAmb IAmb 04 51 26.3
comp=Z,60nm,0.9s

AGMN Agassiz Nation 65.70 313 IAmb IAmb 04 51 25.9
comp=Z,31nm,0.9s

AGMN Agassiz Nation 65.70 313 P **P** **04 51 23.4 +0.4**
baz=63,SNR=20

DIAM Diamantina, MG 65.75 222 *e*P **P** **04 51 25.1 +1.3**
SMLA Simla 65.77 68 *e*P **P** **04 51 22.7 -1.0**
MACA Manacapuru-AM 65.78 247 *e*P **P** **04 51 25.4 +1.4**
WVT Waverly 65.94 298 P **P** **04 51 24.4 -0.3**
WVT pmax pmax
comp=Z,20nm,1.0s

WVT Waverly 65.94 298 P **P** **04 51 24.4 -0.3**
WVT Waverly 65.94 298 IAMs_20 IAMs_20 05 18 56.8
comp=Z,796nm,18.0s

WVT Waverly 65.94 298 P **P** **04 51 24.5 -0.2**
baz=62

N41A Harden Midland 65.95 304 IAmb IAmb 04 51 28.5
comp=Z,54nm,0.9s

MSNA Messina 65.95 146 *e*P **P** **04 51 24.6 -0.3**
MSNA IAmb IAmb 04 51 27.1
comp=Z,79nm,1.1s

Y49A Blount Mountai 65.96 295 IAmb IAmb 04 51 29.8
comp=Z,56nm,0.9s

AJM Ajmer 66.06 74 *e*P **P** **04 51 24.5 -1.2**
FFC Flin Flon 66.12 321 P **P** **04 51 25.7 +0.1**
FFC pmax pmax
comp=Z,63nm,1.3s

FFC Flin Flon 66.12 321 P **P** **04 51 25.6 +0.1**
FFC IAmb IAmb 04 51 30.1
comp=Z,63nm,1.2s

FFC IAMs_20 IAMs_20 05 15 48.0
comp=Z,806nm,20.0s

ALF01 Guarapari-ES 66.12 218 *e*P **P** **04 51 27.1 +1.2**
BDFB Brasilia 66.12 227 P **P** **04 51 26.9 +0.7**
comp=Z,49nm,1.0s,baz=41,slow=7.5,SNR=44
BDFB LR LR 05 19 47.4
comp=Z,317nm,18.1s,baz=50,slow=36

BDFB Brasilia 66.12 227 P **P** **04 51 26.0 -0.2**
I37A Lemond, Waseca 66.12 308 IAmb IAmb 04 51 29.8
comp=Z,72nm,1.2s

X48A Hartselle 66.14 296 IAmb IAmb 04 51 30.7
comp=Z,59nm,0.9s

SIUC Southern Illin 66.19 300 IAmb IAmb 04 51 29.8
comp=Z,38nm,0.9s

SDV Santo Domingo 66.20 264 LR LR 05 16 58.8
comp=Z,160nm,20.0s,baz=69,slow=33

SDV Santo Domingo 66.20 264 P **P** **04 51 26.1 -0.8**
SDV IAmb IAmb 04 51 29.6
comp=Z,62nm,1.0s

SDV Santo Domingo 66.20 264 *e*P **P** **04 51 28.4 +1.5**
SDV Santo Domingo 66.20 264 *e*P **P** **04 51 28.2 +1.3**
S44A Carbondale 66.23 300 IAmb IAmb 04 51 29.9
comp=Z,37nm,0.9s

K38A Parkersburg 66.34 306 IAmb IAmb 04 51 29.3
comp=Z,42nm,0.9s

LBTB Lobatse 66.42 151 LR LR 05 21 17.8
comp=Z,2μm,20.7s,baz=337,slow=37

LBTB Lobatse 66.42 151⇑*i*P **P** **04 51 28.4 +0.5**
LBTB IAmb IAmb 04 51 28.8
comp=Z,54nm,1.2s

LBTB Lobatse 66.42 151 P **P** **04 51 27.7 -0.2**
LBTB pmax pmax
comp=Z,43nm,1.1s

LBTB Lobatse 66.42 151 P **P** **04 51 27.7 -0.2**
LBTB IAmb IAmb 04 51 29.6
comp=Z,42nm,1.1s

C36M Paulatuk 66.61 341 P **P** **04 51 29.3 +0.8**
baz=50,SNR=50

LRAL Lakeview Retre 66.78 295 IAmb IAmb 04 51 34.8
comp=Z,36nm,0.9s

LRAL Lakeview Retre 66.78 295 P **P** **04 51 30.9 +0.7**
baz=61,SNR=18

DDI Dehra Dun 66.83 69 *e*P **P** **04 51 29.8 -0.8**
FVM French Village 66.91 301 IAmb IAmb 04 51 34.7
comp=Z,60nm,0.9s

SCIA State Center 66.98 306 IAmb IAmb 04 51 34.9
comp=Z,31nm,0.9s

SCIA State Center 66.98 306 P **P** **04 51 30.9 -0.4**
baz=62

PARMO Parma 67.06 299 IAmb IAmb 04 51 32.3
comp=Z,62nm,1.0s

F33A 5 Mile Ranch, 67.10 311 IAmb IAmb 04 51 35.7
comp=Z,34nm,1.0s

WMQ Urumqi 67.22 52 P **P** **04 51 34.1 +1.2**
WMQ pP sP 04 51 40.3 -0.7
WMQ S **S** **05 00 30.3 +3.6**
WMQ pmax pmax
comp=Z,110nm,1.1s
WMQ pmax pmax
comp=Z,520nm,4.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,11.5s
WMQ LR LR
comp=Z,330nm,19.9s

P40A Paris 67.31 303 IAmb IAmb 04 51 37.0
comp=Z,40nm,0.8s

CCM Cathedral Cave 67.45 301 P **P** **04 51 34.2 -0.1**
CCM pmax pmax
comp=Z,54nm,0.8s

CCM Cathedral Cave 67.45 301 P **P** **04 51 34.2 -0.1**
CCM Cathedral Cave 67.45 301 P **P** **04 51 34.2 -0.1**
baz=62

PBMO Poplar Bluff 67.48 300 IAmb IAmb 04 51 37.8
comp=Z,45nm,1.1s

N38A Joes South For 67.51 305 IAmb IAmb 04 51 38.1
comp=Z,48nm,1.1s

CLDB Colider 67.57 237 *e*P **P** **04 51 36.0 +0.6**
MOPA Mopani 67.59 145 *e*P **P** **04 51 35.7 +0.5**
MOPA IAmb IAmb 04 51 37.3
comp=Z,37nm,1.0s

CAM01 Campos-RJ 67.61 218 *e*P **P** **04 51 36.3 +0.9**
YKA Yellowknife Ar 67.70 332 P **P** **04 51 36.0 +0.5**
comp=Z,71nm,0.9s,baz=60,slow=6.3,SNR=552
YKA S **S** **05 00 34.6 +2.9**
comp=Z,1.8nm,1.1s,baz=57,slow=12,SNR=7.2
YKA PKPPKP P'P'df 05 19 53.4 -11
comp=Z,2.1nm,1.0s,baz=234,slow=2.8,SNR=7.2

BRAL Brewton 67.71 293 P **P** **04 51 36.9 +0.8**
baz=61

OXF Oxford 67.84 297 P **P** **04 51 35.8 -1.0**
baz=61,SNR=17

TIXI Tiksi 67.86 15 P **P** **04 51 36.9 +0.6**
TIXI pmax pmax
comp=Z,14nm,1.1s
TIXI MLR MLR
comp=Z,2μm,21.0s

TIXI Tiksi 67.86 15 P **P** **04 51 36.9 +0.6**
LL6C La Loma 6 Bece 67.86 266 *e*P **P** **04 51 36.6 -0.7**
UPI Upington 67.91 156 *e*P **P** **04 51 35.8 -1.4**
UPI IAmb IAmb 04 51 39.0
comp=Z,44nm,1.0s

R40A Maddies Statio 68.05 302 IAmb IAmb 04 51 41.9
comp=Z,64nm,1.0s

IPMB Ipameri, GO 68.07 226 *e*P **P** **04 51 38.8 +0.4**
MDND Maddock 68.13 314 P **P** **04 51 38.6 +0.1**
baz=61,SNR=8.3

KEIM Keimoes 68.14 157 *e*P **P** **04 51 38.5 -0.2**
KEIM IAmb IAmb 04 51 40.4
comp=Z,66nm,1.1s

SLR Silverton 68.15 149 *e*P **P** **04 51 39.3 +0.4**
SLR IAmb IAmb 04 51 40.6
comp=Z,64nm,1.3s

DUB01 Friburgo-RJ 68.18 219 *e*P **P** **04 51 40.3 +1.2**
SWZ Schweizer 68.27 152 *e*P **P** **04 51 38.6 -1.0**
SWZ IAmb IAmb 04 51 40.9
comp=Z,92nm,1.3s

P38A Dawn 68.27 304 IAmb IAmb 04 51 43.5
comp=Z,62nm,1.1s

ECSD EROS Data Cent 68.31 309 IAmb IAmb 04 51 43.0
comp=Z,32nm,1.0s

ECSD EROS Data Cent 68.31 309 P **P** **04 51 39.7 0.0**
baz=61,SNR=30

MSEY Mahe Island 68.32 113 P **P** **04 51 40.4 +0.2**
MSEY pmax pmax
comp=Z,58nm,1.3s
MSEY MLR MLR
comp=Z,1μm,20.0s

MSEY Mahe Island 68.32 113 P **P** **04 51 40.4 +0.2**
MSEY IAmb IAmb 04 51 43.1
comp=Z,58nm,1.2s

MSEY Mahe Island 68.32 113 *i* P **P** **04 51 41.8 +1.6**
SNR=6.1

LCAR Lake Charles 68.34 299 IAmb IAmb 04 51 43.4
comp=Z,64nm,1.4s

146A Union 68.49 295 IAmb IAmb 04 51 50.6

comp=Z,43nm,1.1s
ARAG Araguaiana, MT 68.50 230 *e*P **P 04 51 42.3 +1.1**
BSCB Bom Sucesso 68.55 221 *e*P **P 04 51 42.0 +0.6**
TAMC Tame, Arauca 68.55 262 *e*P **P 04 51 41.4 -0.2**
PDRB Porto dos Gac 68.73 237 *e*P **P 04 51 43.4 +0.8**
SOR Soroa 68.75 283 IAmb IAmb 04 51 46.0
comp=Z,28nm,1.0s
PAMC Pamplona, Colo 68.76 264 *e*P **P 04 51 40.5 -3.0**
PRYS Parys 68.83 150 *e*P **P 04 51 42.9 -0.3**
PRYS IAmb IAmb 04 51 46.7
comp=Z,90nm,1.8s
PTH Pithoragarh 68.84 68 *e*P **P 04 51 43.0 -0.4**
VAS01 Vassouras-RJ 68.89 219 *e*P **P 04 51 44.6 +1.1**
FCAR Ozark Folk Cen 69.11 300 IAmb IAmb 04 51 48.5
comp=Z,61nm,0.9s
CRLN Carolina, Mapu 69.12 148 *e*P **P 04 51 47.5 +2.5**
U40A Yellville 69.39 300 P **P 04 51 46.7 +0.1**
baz=60,SNR=57
SUSD Miller 69.43 310 P **P 04 51 46.7 +0.1**
baz=60
POO Poona 69.46 82 *e*P **P 04 51 47.0 -0.3**
BOSA Boshof 69.53 153 P **P 04 51 47.4 0.0**
comp=Z,28nm,1.0s,baz=344,slow=6.4,SNR=23
BOSA Boshof 69.53 153 *i*P **P 04 51 47.4 0.0**
BOSA IAmb IAmb 04 51 48.6
comp=Z,79nm,1.2s
W41B Gary Mavity, V 69.55 299 IAmb IAmb 04 51 51.3
comp=Z,65nm,1.1s
W41B Gary Mavity, V 69.55 299 P **P 04 51 47.3 -0.2**
baz=60,SNR=23
MAN01 Angra dos Reis 69.65 220 *e*P **P 04 51 50.0 +1.9**
KNGR Kungsbacka, Tuv 69.67 42 *d i*P **P 04 51 49.8 +1.7**
VBMS Vicksburg 69.77 296 IAmb IAmb 04 51 53.2
comp=Z,53nm,0.8s
VBMS Vicksburg 69.77 296 P **P 04 51 49.3 +0.5**
baz=60
INK Inuvik 69.80 342 LR LR 05 22 40.8
comp=Z,267nm,19.7s,baz=30,slow=36
INK Inuvik 69.80 342 IAmb IAmb 04 51 50.4
comp=Z,40nm,1.1s
INK Inuvik 69.80 342 P **P 04 51 49.1 +0.7**
baz=42,SNR=33
CCAR Cane Creek 69.83 298 IAmb IAmb 04 51 52.6
comp=Z,85nm,1.2s
BHPL Bhopal 69.86 75 *e*P **P 04 51 48.8 -0.9**
BHPL IAmb IAmb 04 51 50.3
comp=Z,416nm,2.5s
RUSC La Rusia 69.91 263 *e*P **P 04 51 50.5 -0.1**
SNKL Senekal, Frees 70.19 151 *e*P **P 04 51 50.3 -1.2**
SNKL IAmb IAmb 04 51 52.2
comp=Z,75nm,1.2s
X40A Basin Creek Fa 70.31 299 P **P 04 51 52.1 -0.1**
baz=60,SNR=45
CNG Changalane 70.34 146 *e*P **P 04 51 52.8 +0.6**
CNG IAmb IAmb 04 51 53.5
comp=Z,19nm,1.2s
MOTC Monteria, Cord 70.35 267 *e*P **P 04 51 52.8 +0.1**
CVNA Calvinia 70.35 159 *e*P **P 04 51 52.6 +0.2**
CVNA IAmb IAmb 04 51 54.4
comp=Z,88nm,1.3s
SBV Sambava 70.37 124 P **P 04 51 55.3 +2.6**
SNR=9.2
SBV Sambava 70.37 124 P **P 04 51 55.5 +2.8**
ZARC Zaragoza, Cauc 70.42 265 IAmb IAmb 04 51 59.2
comp=Z,86nm,1.1s
ZARC Zaragoza, Cauc 70.42 265 *e*P **P 04 51 52.9 -0.3**
BGNE Belgrade 70.45 307 P **P 04 51 53.1 +0.1**
baz=59,SNR=26
DGMT Dagmar 70.46 316 P **P 04 51 54.2 +1.2**
baz=58,SNR=30
NWCL Newcastle 70.59 149 *e*P **P 04 51 53.4 -0.5**
NWCL IAmb IAmb 04 51 55.6
comp=Z,65nm,1.1s
KSU1 Kansas State U 70.60 305 P **P 04 51 54.1 +0.2**
baz=59,SNR=31
W39A Magazine 70.63 300 P **P 04 51 54.5 +0.3**
baz=60,SNR=32
PTBC PUERTO BERRIO, 70.64 264 *e*P P 04 51 48.7 -5.8
PTBC *e*P *p*P 04 51 51.4 -9.1
ITRB Iturama 70.67 227 *e*P **P 04 51 55.8 +1.3**
BB19B Bebedouro 70.68 224 *e*P **P 04 51 56.0 +1.5**
UREC San Jos de Ur 70.82 266 *e*P **P 04 51 53.6 -2.0**
SPBC San Pablo de B 70.85 263 *e*P **P 04 51 52.4 -3.5**
AKL Akola 70.86 78 *e*P **P 04 51 55.2 -0.6**
PARB Paraibuna 70.90 221 *e*P **P 04 51 57.8 +1.9**
Z41A Richland Creek 70.91 298 P **P 04 51 56.5 +0.6**
baz=59,SNR=21
WLAR White Oak Lake 70.91 298 IAmb IAmb 04 51 59.9
comp=Z,59nm,1.0s
MOY Mondy 70.94 40 *e*P **P 04 51 57.0 +1.1**
MOY pmax pmax
comp=Z,79nm,1.8s
POGA Pongola 71.03 147 *e*P **P 04 51 56.9 +0.4**
POGA IAmb IAmb 04 51 58.6
comp=Z,89nm,1.1s
GOA Goa 71.06 84 *e*P **P 04 51 56.7 -0.3**
SALV Santo Antonio 71.14 233 *e*P **P 04 51 58.6 +1.3**
CHIC Chingaza 71.17 262 *e*P **P 04 51 54.8 -3.4**
RCLB Rio Claro- Sao 71.19 223 *e*P **P 04 51 59.2 +1.6**
VAO Valinhos 71.35 222 *e*P **P 04 52 00.0 +1.4**
HVD Gariep Dam 71.42 154 *e*P **P 04 51 58.9 -0.1**
HVD IAmb IAmb 04 52 00.7
comp=Z,110nm,1.2s
SUR Sutherland 71.50 158 P **P 04 51 59.8 +0.3**
SUR IAmb IAmb 04 52 01.7
comp=Z,100nm,1.2s
ROSC El Rosal 71.52 263 P **P 04 52 01.4 +1.1**
comp=Z,12nm,0.6s,baz=103,slow=10,SNR=12
ROSC LR LR 05 19 59.4
comp=Z,358nm,20.2s,baz=44,slow=33
ROSC El Rosal 71.52 263 IAmb IAmb 04 52 14.0
comp=Z,35nm,1.1s
A21K Barrow 71.55 351 IAMs_20 IAMs_20 05 21 19.0
comp=Z,898nm,21.0s
A21K Barrow 71.55 351 P **P 04 52 00.4 +1.3**
baz=23
PYUN Piuthan 71.67 68 *e*P **P 04 52 00.7 -0.1**
comp=Z,208nm,1.1s
TUL1 Leonard 71.67 301 P **P 04 52 00.6 +0.1**
baz=59,SNR=36
HELC Santa Helena 71.71 264 *e*P **P 04 52 00.8 -0.6**
DBBC Dabeiba 71.79 266 *e*P **P 04 51 58.8 -2.8**
GRAN Grantham 71.85 157 *e*P **P 04 52 01.3 -0.1**
GRAN IAmb IAmb 04 52 03.6
comp=Z,20nm,1.0s
PP1B Ponte de Pedra 71.86 232 *e*P **P 04 52 02.9 +1.2**
VILB Vilhena 72.07 239 *e*P **P 04 52 04.8 +1.7**
DANN Dangsing 72.12 68 *e*P **P 04 52 03.3 -0.3**
comp=Z,247nm,1.1s
GUY2C Guyana, Caldas 72.14 263 *e*P **P 04 52 00.8 -3.3**
ALBI Allahabad 72.21 71 *e*P **P 04 52 02.9 -1.0**
IRK Irkutsk 72.28 38 *e*P **P 04 52 03.6 -0.2**
IRK pmax pmax
comp=Z,104nm,3.4s
CBOC Ciudad Bolivar 72.29 264 *e*P **P 04 52 04.7 0.0**
KOLN Koldanda 72.30 68 *e*P **P 04 52 03.9 -0.7**
comp=Z,127nm,1.3s
PET01 Itanhaem-SP 72.55 221 *e*P **P 04 52 07.3 +1.7**
LAO LASA Array 72.58 315 IAmb IAmb 04 52 10.9
comp=Z,98nm,1.2s
LAO LASA Array 72.58 315 P **P 04 52 06.9 +1.1**
baz=56,SNR=14
ANIL Santa Ana 72.60 263 *e*P **P 04 52 04.7 -1.9**
ABPO Ambohimpanom 72.68 130 P **P 04 52 07.2 +0.5**
ABPO pmax pmax
comp=Z,18nm,1.3s
ABPO MLR MLR
comp=Z,900nm,18.0s
ABPO Ambohimpanom 72.68 130 P **P 04 52 07.2 +0.5**
ABPO Ambohimpanom 72.68 130 IAMs_20 IAMs_20 05 25 29.4
comp=Z,850nm,18.0s
PCMB Pacaembu 72.68 226 *e*P **P 04 52 07.9 +1.4**
RSSD Black Hills 72.70 312 P **P 04 52 07.5 +0.7**
RSSD pmax pmax
comp=Z,79nm,1.3s
RSSD Black Hills 72.70 312 P **P 04 52 07.5 +0.7**
RSSD IAmb IAmb 04 52 12.2
comp=Z,79nm,1.2s
RSSD Black Hills 72.70 312 P **P 04 52 07.5 +0.7**
baz=57
MACC Macarena, Meta 72.72 260 *e*P **P 04 52 06.1 -0.9**
VLK Valmikinagar 72.74 69 *e*P **P 04 52 06.6 -0.4**
CBKS Cedar Bluff 72.83 306 P **P 04 52 08.2 +0.7**
baz=58,SNR=22
ZAK Zakamensk 72.86 40 *e*P **P 04 52 08.1 +0.7**
ZAK pmax pmax
comp=Z,39nm,1.6s
TOLK Toolik Lake Re 72.92 348 IAmb IAmb 04 52 13.2
comp=Z,45nm,0.9s
TOLK IAMs_20 IAMs_20 05 25 32.3
comp=Z,803nm,19.0s
TOLK Toolik Lake Re 72.92 348 P **P 04 52 08.8 +1.3**
baz=28,SNR=43
GKN Gorkha 72.96 68 *e*P **P 04 52 07.9 -0.6**
NATX Nacogdoches 73.02 297 IAmb IAmb 04 52 10.5
comp=Z,45nm,0.9s
NATX Nacogdoches 73.02 297 P **P 04 52 09.4 +0.8**
baz=58
FRTB Fartura 73.06 224 *e*P **P 04 52 10.7 +1.9**
PLMC San Jos del P 73.07 264 *e*P **P 04 52 08.2 -1.0**
PTLB Pontes e Lacer 73.10 236 *e*P **P 04 52 10.5 +1.4**
OGNE Ogallala 73.18 308 P **P 04 52 10.1 +0.6**
baz=57,SNR=11
BOD Bodaibo 73.22 30 *e*P **P 04 52 08.0 -1.3**
BOD pmax pmax
comp=Z,44nm,1.7s
TGTN Hyland Airport 73.24 336 P **P 04 52 11.2 +1.8**
baz=44,SNR=19
ELIM Elim 73.27 160 *e*P **P 04 52 11.1 +1.3**
ELIM IAmb IAmb 04 52 11.7
comp=Z,99nm,1.2s
I29M Ogilvie Camp, 73.28 342 IAmb IAmb 04 52 12.0
comp=Z,64nm,0.9s
I29M IAMs_20 IAMs_20 05 25 17.0
comp=Z,974nm,21.0s
I29M Ogilvie Camp, 73.28 342 P **P 04 52 10.9 +1.3**
baz=37
MMPY Sheldon Lake, 73.41 338 P **P 04 52 12.7 +2.3**
baz=42,SNR=33
TBTG Tabatinga, AM 73.47 252 *e*P **P 04 52 11.5 +0.1**
TBTG Tabatinga, AM 73.47 252 *e*P **P 04 52 12.4 +1.0**
DMN Daman 73.52 68 *e*P **P 04 52 11.6 -0.3**
KKN Kakani 73.56 67 *e*P **P 04 52 11.7 -0.4**
YOTC Yotoco, Valle 73.65 263 *e*P **P 04 52 12.2 -0.4**
PKIN Phulchoki 73.75 68 *e*P **P 04 52 12.7 -0.6**
comp=Z,171nm,1.3s
PKI Pulchoki 73.77 68 *e*P **P 04 52 12.9 -0.6**
comp=Z,217nm,1.4s
EGMT Eagleton 73.80 318 P **P 04 52 13.9 +0.9**
baz=54,SNR=23
HYBB Hyderabad (bro 73.83 80 *e*P **P 04 52 12.4 -1.1**
HYB Hyderabad 73.83 80 *e*P **P 04 52 12.2 -1.4**
HYB IAmb IAmb 04 52 15.7
comp=Z,35nm,1.3s
FYU Fort Yukon 73.89 345 IAMs_20 IAMs_20 05 23 14.0
comp=Z,991nm,21.0s
GUN Gumba 73.94 67 *e*P **P 04 52 14.1 -0.4**
comp=Z,209nm,1.3s
J29M Klondike Camp 73.99 341 P **P 04 52 15.1 +1.4**
baz=37
GARC Garzon, Huila 74.02 261 *e*P **P 04 52 12.9 -2.1**
ETMB Extrema 74.28 245 *e*P **P 04 52 17.0 +0.9**
COLD Coldfoot 74.29 347 P **P 04 52 16.7 +1.3**
baz=28,SNR=33
JIRN Jiri 74.31 67 *e*P **P 04 52 16.3 -0.4**
comp=Z,154nm,1.3s
TIJ01 Guaruva-PR 74.32 222 *e*P **P 04 52 19.8 +3.6**
FARO Faro, Yukon 74.35 338 P **P 04 52 17.7 +1.8**
baz=40,SNR=32
WMOK Wichita Mounta 74.36 302 IAmb IAmb 04 52 21.0
comp=Z,68nm,1.1s
WMOK Wichita Mounta 74.36 302 P **P 04 52 17.1 +0.6**
baz=57,SNR=62
TRCB Terra Rica 74.40 226 *e*P **P 04 52 18.4 +1.7**
FLOC Florencia 74.50 261 *e*P P 04 52 10.9 -6.7
AQDB Aquidauana 74.51 230 IAmb IAmb 04 52 19.4
comp=Z,50nm,0.9s
AQDB Aquidauana 74.51 230 *e*P **P 04 52 18.5 +1.3**
VOI Vohitsoka 74.58 132 P **P 04 52 20.1 +2.3**
DAWY Dawson 74.60 341 IAmb IAmb 04 52 20.1
comp=Z,39nm,0.9s
DAWY Dawson 74.60 341 P **P 04 52 18.9 +1.6**
baz=36,SNR=35
KSCO Kaye Shedlock' 74.62 307 P **P 04 52 19.0 +0.9**
baz=56,SNR=10
PTLC Puerto Leguiza 74.66 259 *e*P **P 04 52 19.2 +0.8**
PCON Cinco Dias 74.66 262 *e*P **P 04 52 18.4 -0.7**
M31M Dry Creek, Y 74.68 338 P **P 04 52 19.7 +1.9**
baz=40,SNR=30
POPC Popayan, Colom 74.76 262 *e*P **P 04 52 19.5 +0.2**
SIV San Ignacio 74.80 237 P **P 04 52 20.0 +0.9**
comp=Z,93nm,0.8s,baz=65,slow=6.3,SNR=302
SIV LR LR 05 23 41.1
comp=Z,308nm,18.9s,baz=90,slow=35
HKT Hockley 74.84 296 *c i*P **P 04 52 20.0 +0.9**
HKT pmax pmax
comp=Z,70nm,1.1s
HKT Hockley 74.84 296 P **P 04 52 19.6 +0.4**
HKT IAmb IAmb 04 52 21.5
comp=Z,49nm,0.9s
PRP Porcupine Dome 74.85 345 IAmb IAmb 04 52 22.0
comp=Z,40nm,0.9s
PRP Porcupine Dome 74.85 345 P **P 04 52 20.7 +1.8**
baz=31,SNR=58
WHTX Lake Whitney, 74.91 299 P **P 04 52 20.2 +0.5**
baz=57,SNR=33
SOTA Rioblanco 74.95 262 *e*P **P 04 52 20.2 -0.5**
RAMN Ramite 75.00 68 *e*P **P 04 52 19.3 -1.2**
K22A Casper 75.03 312 P **P 04 52 20.6 +0.2**
baz=55,SNR=10.0
H24K Noodor Dome 75.07 346 P **P 04 52 21.5 +1.5**
baz=29,SNR=22
M30M Minto, Yukon 75.09 340 P **P 04 52 21.7 +1.5**
baz=38
PHWY Pilot Hill 75.14 310 IAmb IAmb 04 52 26.1
comp=Z,77nm,1.0s
RLMT Red Lodge 75.22 315 IAmb IAmb 04 52 27.2
comp=Z,48nm,1.2s
RLMT Red Lodge 75.22 315 P **P 04 52 22.3 +0.8**
baz=54
J26L Joseph Creek 75.27 343 P **P 04 52 22.9 +1.7**
baz=33
RDOG Red Dog Mine 75.39 352 IAmb IAmb 04 52 27.4
comp=Z,58nm,1.4s
RDOG IAMs_20 IAMs_20 05 23 36.3
comp=Z,609nm,20.0s
RDOG Red Dog Mine 75.39 352 P **P 04 52 22.6 +0.9**
baz=17
GMAL Guarumal, Vera 75.45 269 *e*P **P 04 52 18.9 -4.0**
PTGB Pitanga 75.55 225 *e*P **P 04 52 25.1 +1.8**
YAK Yakutsk 75.57 21 LR LR 05 30 15.7
comp=Z,809nm,20.8s,baz=310,slow=39
YAK Yakutsk 75.57 21 *e*P **P 04 52 23.1 +0.2**
YAK *e*PP **pP 04 52 26.3 -2.5**
YAK *e* 04 52 33.9
YAK *e*S **S 05 02 03.1 +0.8**
YAK *e**SS **SKSac 05 02 21.6 -10**
YAK *e* 05 02 37.1
YAK *e*SS **SS 05 06 58.2 +6.0**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,91nm,3.0s
YAK pmax pmax
comp=N,68nm,3.3s
YAK pmax pmax
comp=E,33nm,3.2s
YAK smax smax
comp=N,180nm,3.8s
YAK smax smax
comp=E,48nm,3.2s
YAK MLR MLR
comp=Z,858nm,22.0s
YAK MLR MLR
comp=N,617nm,17.0s
YAK MLR MLR
comp=E,736nm,18.0s
YAK Yakutsk 75.57 21 IAMs_20 IAMs_20 05 30 34.5
comp=Z,906nm,20.0s
J25K Salcha River, 75.59 344 P **P 04 52 24.4 +1.3**
baz=31,SNR=15
POKR Poker Plat Res 75.61 345 IAmb IAmb 04 52 25.9
comp=Z,47nm,1.0s
POKR IAMs_20 IAMs_20 05 26 24.3
comp=Z,666nm,21.0s
POKR Poker Plat Res 75.61 345 P **P 04 52 24.6 +1.6**
baz=30,SNR=14
TAPN Taplejung 75.61 67 *e*P **P 04 52 23.5 -0.6**
ODAN Odare 75.64 67 *e*P **P 04 52 23.4 -0.8**
N31M Braeburn, Yuko 75.66 338 IAmb IAmb 04 52 25.8
comp=Z,44nm,1.0s
N31M Braeburn, Yuko 75.66 338 P **P 04 52 24.5 +1.1**
baz=38,SNR=17
435B Jarrell 75.66 298 IAmb IAmb 04 52 25.6
comp=Z,73nm,0.9s
435B Jarrell 75.66 298 P **P 04 52 24.5 +0.5**
baz=57
N23A Red Feather La 75.67 310 P **P 04 52 25.4 +1.2**
baz=55,SNR=45
P33M Teslin, Yukon 75.72 336 IAmb IAmb 04 52 26.6
comp=Z,43nm,0.9s
P33M Teslin, Yukon 75.72 336 P **P 04 52 25.4 +1.5**
baz=40,SNR=37
ILAR Eielson Array 75.79 345 P **P 04 52 25.0 +0.9**
comp=Z,6.1nm,0.8s,baz=31,slow=4.2,SNR=33
ILAR PKPPKP **P'P'df 05 19 44.7 -5.4**
comp=Z,0.7nm,0.9s,baz=272,slow=2.2,SNR=4.4
ILAR LR LR 05 27 45.4
comp=Z,294nm,20.4s,baz=34,slow=37
SCRK Sand Creek 75.82 343 IAmb IAmb 04 52 27.6
comp=Z,34nm,0.9s
SCRK IAMs_20 IAMs_20 05 25 28.9
comp=Z,832nm,22.0s
SCRK Sand Creek 75.82 343 P **P 04 52 26.2 +1.8**
baz=32,SNR=38
GOMU GeErMu 75.83 56 P **P 04 52 26.3 +1.0**
GOMU sP sP 04 52 34.3 +0.8
GOMU S **S 05 02 08.6 +1.7**
GOMU pmax pmax
comp=Z,15nm,1.7s
GOMU pmax pmax
comp=Z,120nm,3.6s
GOMU LR LR
comp=Z,240nm,13.6s
GOMU LR LR
comp=Z,400nm,13.1s
GOMU LR LR
comp=Z,170nm,13.5s
COLA College 75.91 345 P **P 04 52 25.7 +1.0**
COLA pmax pmax
comp=Z,35nm,1.3s
COLA MLR MLR
comp=Z,500nm,20.0s
COLA College 75.91 345 P **P 04 52 25.7 +1.0**
COLA College 75.91 345 P **P 04 52 25.9 +1.2**
baz=29
TCOL CIGO, UAF Yank 75.91 345 P **P 04 52 26.1 +1.4**
baz=29
MDM Murphy Dome 75.91 345 IAMs_20 IAMs_20 05 26 41.3
comp=Z,575nm,20.0s
YMP Mirror Lake Pl 75.95 315 IAmb IAmb 04 52 30.9
comp=Z,50nm,1.0s
I23K Minto, Yukon-K 75.97 346 IAMs_20 IAMs_20 05 24 55.0
comp=Z,844nm,21.0s
I23K Minto, Yukon-K 75.97 346 P **P 04 52 26.1 +1.0**
baz=28,SNR=12
SONM Songino Array 76.02 41 P **P 04 52 27.0 +1.1**
comp=Z,8.3nm,1.0s,baz=317,slow=5.5,SNR=40
SONM LR LR 05 27 01.7
comp=Z,767nm,20.1s,baz=335,slow=37
SONM Songino Array 76.02 41 P **P 04 52 27.0 +1.1**
WHY Whitehorse 76.03 338 P **P 04 52 26.8 +1.1**
baz=39,SNR=23
L27K Beaver Creek, 76.06 342 IAMs_20 IAMs_20 05 23 52.3
comp=Z,828nm,22.0s
L27K Beaver Creek, 76.06 342 P **P 04 52 27.7 +2.0**
baz=34
GCUF Volcan Galeras 76.08 261 *e*P **P 04 52 27.0 -0.1**
ISCO Idaho Springs 76.09 309 IAmb IAmb 04 52 32.5
comp=Z,116nm,1.4s
ISCO Idaho Springs 76.09 309 P **P 04 52 27.8 +1.1**
baz=55,SNR=57
CCB Clear Creek Bu 76.09 345 IAMs_20 IAMs_20 05 24 35.2
comp=Z,720nm,22.0s
DLBC Dease Lake 76.10 334 IAmb IAmb 04 52 29.1
comp=Z,45nm,0.9s
DOT Dot Lake 76.11 343 IAmb IAmb 04 52 29.2
comp=Z,40nm,0.9s
HDA Harding Lake 76.12 344 IAmb IAmb 04 52 28.4
comp=Z,54nm,1.0s
HDA IAMs_20 IAMs_20 05 24 37.8
comp=Z,969nm,22.0s
HDA Harding Lake 76.12 344 P **P 04 52 27.2 +1.2**
baz=30,SNR=47
ABTX Abilene, Hawle 76.12 300 IAmb IAmb 04 52 28.4
comp=Z,73nm,0.9s
ABTX Abilene, Hawle 76.12 300 P **P 04 52 27.1 +0.5**
baz=56,SNR=20
BOK Bokaro 76.16 71 *e*P **P 04 52 25.8 -1.2**
BOK IAmb IAmb 04 52 28.0
comp=Z,49nm,1.3s
H21K Melozitna Rive 76.17 347 IAmb IAmb 04 52 32.0
comp=Z,47nm,1.5s
H21K Melozitna Rive 76.17 347 P **P 04 52 28.1 +1.9**
baz=25
YUF Upper Falls 76.17 315 IAmb IAmb 04 52 35.5
comp=Z,50nm,1.5s
RIDG Independent Ri 76.22 343 IAmb IAmb 04 52 32.8
comp=Z,94nm,1.1s
RIDG Independent Ri 76.22 343 P **P 04 52 28.6 +1.9**
baz=32,SNR=43
CVTR Volcan Turrial 76.23 273 IAmb IAmb 04 52 37.9
comp=Z,43nm,1.1s
YNR Norris Junctio 76.27 315 IAmb IAmb 04 52 42.8
comp=Z,45nm,1.3s
Q24A Divide 76.27 308 IAmb IAmb 04 52 37.4
comp=Z,45nm,1.1s
Q24A Divide 76.27 308 P **P 04 52 28.4 +0.6**
baz=55,SNR=14
BOZ Bozeman (W) 76.28 317 IAmb IAmb 04 52 30.0
comp=Z,43nm,1.1s
BOZ Bozeman (W) 76.28 317 P **P 04 52 28.8 +1.3**
baz=53,SNR=48
AMTX Amarillo 76.28 303 IAmb IAmb 04 52 34.7
comp=Z,78nm,1.4s
AMTX Amarillo 76.28 303 P **P 04 52 28.3 +0.8**
baz=56
BILL Bilibino 76.29 4 P **P 04 52 27.3 +0.4**
WRH Wood River Hil 76.31 345 IAmb IAmb 04 52 31.9
comp=Z,47nm,1.1s
BVCY Beaver Creek 76.34 341 P **P 04 52 29.1 +1.8**
baz=35,SNR=18
MLY Manley 76.35 346 IAMs_20 IAMs_20 05 25 36.9
comp=Z,847nm,21.0s
MLY Manley 76.35 346 P **P 04 52 28.5 +1.2**
baz=27,SNR=16
SRBA San Rafael, Bu 76.35 272 IAmb IAmb 04 52 33.2
comp=Z,58nm,1.4s
ULN Ulaanbaatar 76.35 40 *ce*P **P 04 52 28.6 +0.8**
ULN pmax pmax
comp=Z,49nm,1.7s
H17A Grant Village 76.40 315 P **P 04 52 30.0 +1.7**
baz=53,SNR=14
JTMT Jette 76.40 319 IAmb IAmb 04 52 32.4
comp=Z,45nm,1.2s
NEA2 Nenana 76.40 345 IAMs_20 IAMs_20 05 24 02.4
comp=Z,962nm,22.0s
NEA2 Nenana 76.40 345 P **P 04 52 28.5 +0.8**
baz=28,SNR=11
I21K Tanana 76.45 347 IAmb IAmb 04 52 33.4
comp=Z,99nm,1.4s
I21K IAMs_20 IAMs_20 05 24 42.5
comp=Z,773nm,22.0s
I21K Tanana 76.45 347 P **P 04 52 29.4 +1.6**
baz=26
RIMA Rio Macho 76.46 272 IAmb IAmb 04 52 30.9
comp=Z,51nm,1.3s
YMR Madison River 76.46 316 IAmb IAmb 04 52 34.0
comp=Z,40nm,1.1s
L26K Log Cabin Wild 76.47 342 IAmb IAmb 04 52 34.1
comp=Z,42nm,0.9s
L26K Log Cabin Wild 76.47 342 P **P 04 52 30.1 +2.1**
baz=33,SNR=31
YFT Old Faithful 76.52 315 IAmb IAmb 04 52 35.6
comp=Z,89nm,1.3s
PEZE Perez Zeledon, 76.53 272 IAmb IAmb 04 52 30.8
comp=Z,41nm,1.2s
YUK4 Talbot Arm 76.61 339 P **P 04 52 30.2 +1.1**
baz=36,SNR=29
M27K Edge Creek, AK 76.66 341 IAmb IAmb 04 52 41.6
comp=Z,61nm,1.2s
M27K IAMs_20 IAMs_20 05 25 31.2
comp=Z,679nm,19.0s
M27K Edge Creek, AK 76.66 341 P **P 04 52 31.3 +2.1**
baz=34

HYT	**Haines Junctio**	**76.69**	**339**	P	**P**	**04 52 31.1**	**+1.7**
	baz=37,SNR=21							
TULM	**Tulcn-Chalpat**	**76.73**	**261**	*e*P	**P**	**04 52 32.3**	**+1.5**
YUK3	**Moose Creek**	**76.76**	**340**	P	**P**	**04 52 31.4**	**+1.5**
	baz=35,SNR=27							
BW06	**Boulder Array**	**76.78**	**313**	IAmb	IAmb	04 52 34.4		
	comp=Z,54nm,1.1s							
BW06	**Boulder Array**	**76.78**	**313**	P	**P**	**04 52 30.4**	**0.0**
	baz=53,SNR=56							
PD31	**Pinedale Array**	**76.78**	**313**	IAmb	IAmb	04 52 34.4		
	comp=Z,53nm,1.1s							
PDAR	**Pinedale Array**	**76.78**	**313**	P	**P**	**04 52 30.3**	**-0.1**
	comp=Z,16nm,0.8s,baz=64,slow=6.6,SNR=126							
PDAR				LR	LR	05 24 55.5		
	comp=Z,367nm,18.4s,baz=60,slow=35							
MSO	**Missoula**	**76.79**	**319**	IAmb	IAmb	04 52 34.6		
	comp=Z,66nm,1.3s							
MSO	**Missoula**	**76.79**	**319**	P	**P**	**04 52 30.6**	**+0.3**
	baz=52,SNR=25							
T25A	**Trinidad**	**76.84**	**306**	P	**P**	**04 52 31.9**	**+1.0**
	baz=55,SNR=15							
YUK6	**Outpost Mounta**	**76.85**	**339**	P	**P**	**04 52 32.3**	**+1.8**
	baz=36,SNR=33							
BWN	**Browne**	**76.86**	**345**	IAmb	IAmb	04 52 32.2		
	comp=Z,46nm,1.0s							
LSA	**Lhasa**	**76.86**	**63**	IAmb	IAmb	04 52 33.3		
	comp=Z,49nm,1.1s							
LSA				IAMs_20	IAMs_20	05 32 34.1		
	comp=Z,595nm,18.0s							
LSA	**Lhasa**	**76.86**	**63**	P	**P**	**04 52 31.6**	**+0.2**
LSA				pmax	pmax			
	comp=Z,50nm,1.1s							
TER01	**Tubaro-SC**	**76.94**	**220**	*e*P	**P**	**04 52 33.6**	**+2.5**
PAX	**Paxson**	**77.03**	**343**	P	**P**	**04 52 32.5**	**+1.2**
	baz=31,SNR=13							
JTS	**Las Juntas de**	**77.05**	**273**	P	**P**	**04 52 31.4**	**-0.7**
	comp=Z,15nm,1.1s,baz=22,slow=5.7,SNR=5.9							
JTS				LR	LR	05 23 43.3		
	comp=Z,172nm,18.6s,baz=114,slow=34							
JTS	**Las Juntas de**	**77.05**	**273**	*i* P	**P**	**04 52 30.9**	**-1.2**
JTS				pmax	pmax			
	comp=Z,24nm,1.2s							
JTS	**Las Juntas de**	**77.05**	**273**	P	**P**	**04 52 31.3**	**-0.7**
SNOW	**Snow King Moun**	**77.06**	**314**	IAmb	IAmb	04 52 37.2		
	comp=Z,49nm,1.4s							
SKAG	**Skagway**	**77.11**	**337**	P	**P**	**04 52 32.8**	**+1.2**
	baz=38,SNR=7.4							
MCK	**McKinley**	**77.14**	**345**	IAmb	IAmb	04 52 36.6		
	comp=Z,42nm,1.2s							
MCK				IAMs_20	IAMs_20	05 26 02.8		
	comp=Z,531nm,20.0s							
MCK	**McKinley**	**77.14**	**345**	P	**P**	**04 52 32.6**	**+0.8**
	baz=28,SNR=17							
TPAW	**Teton Pass**	**77.16**	**315**	IAmb	IAmb	04 52 36.7		
	comp=Z,50nm,1.4s							
REDW	**Red Top Meadow**	**77.18**	**314**	IAmb	IAmb	04 52 38.4		
	comp=Z,107nm,1.4s							
SDCO	**Great Sand Dun**	**77.20**	**307**	P	**P**	**04 52 33.7**	**+0.7**
	baz=55,SNR=41							
BPAW	**Bear Paw Mtn.**	**77.23**	**346**	IAMs_20	IAMs_20	05 26 16.2		
	comp=Z,776nm,21.0s							
BPAW	**Bear Paw Mtn.**	**77.23**	**346**	P	**P**	**04 52 32.5**	**+0.2**
	baz=27,SNR=9.4							
GTA	**Gaotai**	**77.25**	**51**	⇑P	**P**	**04 52 33.6**	**+0.6**
GTA				pP	sP	04 52 39.9	-1.5	
GTA				sP	PcP	04 52 44.5	+0.9	
GTA				S	**S**	**05 02 22.4**	**+0.5**	
GTA				sS	pS	05 02 28.5	-0.9	
GTA				pmax	pmax			
	comp=Z,30nm,1.2s							
GTA				pmax	pmax			
	comp=Z,290nm,4.4s							
GTA				LR	LR			
	comp=Z,540nm,16.0s							
GTA				LR	LR			
	comp=Z,1μm,16.7s							
GTA				LR	LR			
	comp=Z,2μm,17.1s							
SMCO	**Snowmass**	**77.31**	**309**	IAmb	IAmb	04 52 39.3		
	comp=Z,59nm,1.2s							
PETF	**Flores**	**77.33**	**282**	IAmb	IAmb	04 52 34.5		
	comp=Z,69nm,0.9s							
DHY	**Denali Highway**	**77.37**	**344**	IAmb	IAmb	04 52 38.7		
	comp=Z,50nm,1.1s							
DHY				IAMs_20	IAMs_20	05 25 54.0		
	comp=Z,827nm,20.0s							
DHY	**Denali Highway**	**77.37**	**344**	P	**P**	**04 52 34.5**	**+1.2**
	baz=30,SNR=38							
RND	**Reindeer**	**77.41**	**345**	IAMs_20	IAMs_20	05 26 01.0		
	comp=Z,860nm,22.0s							
JCT	**Junction City**	**77.42**	**298**	IAMs_20	IAMs_20	05 25 36.9		
	comp=Z,663nm,19.0s							
JCT	**Junction City**	**77.42**	**298**	P	**P**	**04 52 34.7**	**+0.7**
	baz=56,SNR=48							
HARP	**HAARP**	**77.44**	**343**	P	**P**	**04 52 35.1**	**+1.6**
	baz=31							
MSTX	**Muleshoe**	**77.54**	**303**	IAmb	IAmb	04 52 40.4		
	comp=Z,70nm,1.1s							
MSTX	**Muleshoe**	**77.54**	**303**	P	**P**	**04 52 35.5**	**+0.8**
	baz=55,SNR=23							
ITAB	**Concordia**	**77.54**	**223**	*e*P	**P**	**04 52 36.2**	**+1.8**
O20A	**White River Ci**	**77.54**	**311**	P	**P**	**04 52 35.1**	**+0.4**
	baz=54,SNR=9.8							
OTAV	**Otavalo**	**77.55**	**261**	P	**P**	**04 52 34.9**	**-0.5**
OTAV				pmax	pmax			
	comp=Z,141nm,1.4s							
OTAV	**Otavalo**	**77.55**	**261**	P	**P**	**04 52 34.9**	**-0.5**
OTAV	**Otavalo**	**77.55**	**261**	*e*P	**P**	**04 52 37.0**	**+1.6**
NEW	**Newport**	**77.55**	**321**	LR	LR	05 22 58.0		
	comp=Z,899nm,21.9s,baz=38,slow=33							
NEW	**Newport**	**77.55**	**321**	P	**P**	**04 52 34.6**	**+0.2**
	baz=50,SNR=22							
BESE	**Bessie Mountai**	**77.64**	**336**	IAmb	IAmb	04 52 40.7		
	comp=Z,34nm,0.9s							
CTGM	**Chitina Glacie**	**77.67**	**340**	IAmb	IAmb	04 52 37.9		
	comp=Z,41nm,0.9s							
CTGM				IAMs_20	IAMs_20	05 27 13.1		
	comp=Z,619nm,20.0s							
TRF	**Thorofare Moun**	**77.67**	**345**	IAmb	IAmb	04 52 39.4		
	comp=Z,53nm,1.2s							
TRF				IAMs_20	IAMs_20	05 27 12.8		
	comp=Z,569nm,19.0s							
TRF	**Thorofare Moun**	**77.67**	**345**	P	**P**	**04 52 35.3**	**+0.4**
	baz=27,SNR=16							
CTG	**Chitna Glacier**	**77.67**	**340**	P	**P**	**04 52 36.7**	**+1.7**
	baz=34,SNR=28							
CHUM	**Lake Minchumin**	**77.68**	**346**	P	**P**	**04 52 35.3**	**+0.6**
	baz=26,SNR=12							
AHID	**Auburn Hatcher**	**77.69**	**314**	IAmb	IAmb	04 52 45.4		
	comp=Z,36nm,1.1s							
LOGN	**Logan Glacier**	**77.69**	**340**	IAmb	IAmb	04 52 40.7		
	comp=Z,32nm,0.8s							
LOGN				IAMs_20	IAMs_20	05 27 06.8		
	comp=Z,801nm,20.0s							
GCSA	**Galena City Sc**	**77.69**	**349**	P	**P**	**04 52 36.1**	**+1.3**
	baz=22,SNR=5.6							
KTH	**Kantishna Hill**	**77.71**	**346**	IAmb	IAmb	04 52 36.8		
	comp=Z,58nm,1.0s							
KTH				IAMs_20	IAMs_20	05 26 27.8		
	comp=Z,874nm,22.0s							
JIS	**Juneau Island**	**77.72**	**336**	IAmb	IAmb	04 52 40.9		
	comp=Z,38nm,0.9s							
J20K	**Nowinta River**	**77.76**	**347**	IAMs_20	IAMs_20	05 25 33.1		
	comp=Z,531nm,20.0s							
J20K	**Nowinta River**	**77.76**	**347**	P	**P**	**04 52 36.2**	**+1.0**
	baz=24							
MCARA	**McCarthy VSAT**	**77.77**	**341**	IAMs_20	IAMs_20	05 23 36.6		
	comp=Z,661nm,20.0s							
MCARA	**McCarthy VSAT**	**77.77**	**341**	P	**P**	**04 52 37.0**	**+1.6**
	baz=33,SNR=29							
CZSB	**Cruzeiro do Su**	**77.85**	**251**	*e*P	**P**	**04 52 37.3**	**+0.8**
WAT6	**Susitna Watana**	**77.89**	**344**	P	**P**	**04 52 37.4**	**+1.2**
	baz=29,SNR=31							
GLB	**Gilahina Butte**	**77.92**	**342**	IAMs_20	IAMs_20	05 27 44.8		
	comp=Z,560nm,20.0s							
M24K	**Tolsona, Glenn**	**77.94**	**343**	P	**P**	**04 52 37.7**	**+1.3**
	baz=30							
N25K	**Chitina, Valde**	**77.98**	**342**	IAMs_20	IAMs_20	05 26 10.3		
	comp=Z,748nm,22.0s							
N25K	**Chitina, Valde**	**77.98**	**342**	P	**P**	**04 52 38.1**	**+1.5**
	baz=32,SNR=21							
VRDI	**Verde Repeater**	**78.01**	**341**	IAmb	IAmb	04 52 40.9		
	comp=Z,40nm,0.9s							
VRDI				IAMs_20	IAMs_20	05 23 58.1		
	comp=Z,554nm,20.0s							
TABL	**Table Mountain**	**78.05**	**340**	IAmb	IAmb	04 52 46.4		
	comp=Z,36nm,0.9s							
CAST	**Castle Rocks**	**78.06**	**346**	IAMs_20	IAMs_20	05 25 31.1		
	comp=Z,776nm,21.0s							
CAST	**Castle Rocks**	**78.06**	**346**	P	**P**	**04 52 37.0**	**0.0**
	baz=26,SNR=11							
PCA	**Pinnacle**	**78.09**	**339**	IAmb	IAmb	04 52 40.1		
	comp=Z,39nm,0.9s							
PNL	**Peninsula**	**78.19**	**339**	P	**P**	**04 52 38.9**	**+1.2**
	baz=35,SNR=14							
ISLE	**Juniper Island**	**78.25**	**341**	IAmb	IAmb	04 52 43.5		
	comp=Z,56nm,0.9s							
ISLE				IAMs_20	IAMs_20	05 19 52.3		
	comp=Z,662nm,19.0s							
LLLB	**Lillooet**	**78.32**	**325**	IAmb	IAmb	04 52 42.8		
	comp=Z,57nm,1.4s							
TNA	**Tin City**	**78.32**	**353**	P	**P**	**04 52 38.8**	**+0.6**
	baz=13,SNR=14							
833A	**Chaparral WMA,**	**78.33**	**296**	IAmb	IAmb	04 52 42.4		
	comp=Z,81nm,0.9s							
833A	**Chaparral WMA,**	**78.33**	**296**	P	**P**	**04 52 40.0**	**+1.0**
	baz=56,SNR=38							
KLU	**Klutina**	**78.41**	**343**	IAmb	IAmb	04 52 45.6		
	comp=Z,52nm,1.2s							
KLU				IAMs_20	IAMs_20	05 27 03.4		
	comp=Z,776nm,21.0s							
KLU	**Klutina**	**78.41**	**343**	P	**P**	**04 52 40.5**	**+1.5**
	baz=30,SNR=23							
SCM	**Sheep Creek Mo**	**78.45**	**343**	IAmb	IAmb	04 52 42.0		
	comp=Z,68nm,1.0s							
SCM				IAMs_20	IAMs_20	05 24 27.5		
	comp=Z,811nm,19.0s							
SCM	**Sheep Creek Mo**	**78.45**	**343**	P	**P**	**04 52 40.6**	**+1.4**
	baz=29,SNR=27							
WRAK	**Wrangell Islan**	**78.45**	**334**	P	**P**	**04 52 39.6**	**+0.5**
	baz=40							
K20K	**Telida**	**78.49**	**347**	IAmb	IAmb	04 52 44.0		
	comp=Z,61nm,1.1s							
K20K				IAMs_20	IAMs_20	05 28 30.5		
	comp=Z,528nm,20.0s							
K20K	**Telida**	**78.49**	**347**	P	**P**	**04 52 40.0**	**+0.7**
	baz=24							
WAX	**Waxell Ridge**	**78.51**	**341**	IAmb	IAmb	04 52 46.3		
	comp=Z,72nm,1.0s							
BMRM	**Bremner River**	**78.53**	**342**	IAMs_20	IAMs_20	05 26 14.8		
	comp=Z,776nm,19.0s							
BMRM	**Bremner River**	**78.53**	**342**	P	**P**	**04 52 41.0**	**+1.4**
	baz=22,SNR=53							
PPLA	**Purkeypile**	**78.55**	**346**	P	**P**	**04 52 39.9**	**+0.1**
	baz=26,SNR=9.5							
CUT	**Chulitna**	**78.60**	**345**	IAMs_20	IAMs_20	05 26 33.3		
	comp=Z,684nm,21.0s							
CUT	**Chulitna**	**78.60**	**345**	P	**P**	**04 52 39.8**	**0.0**
	baz=27							
B08A	**Colville Reser**	**78.61**	**322**	IAmb	IAmb	04 52 45.0		
	comp=Z,73nm,1.1s							
HWUT	**Hardware Ranch**	**78.67**	**313**	IAmb	IAmb	04 52 45.5		
	comp=Z,88nm,1.3s							
SML	**Sawmill**	**78.70**	**344**	IAMs_20	IAMs_20	05 26 49.2		
	comp=Z,670nm,19.0s							
SML	**Sawmill**	**78.70**	**344**	P	**P**	**04 52 41.4**	**+0.8**
	baz=29,SNR=9.2							
SNH	**Sunshine Point**	**78.74**	**341**	IAmb	IAmb	04 52 45.4		
	comp=Z,52nm,0.9s							
BERG	**Berg Lake**	**78.79**	**341**	IAmb	IAmb	04 52 46.7		
	comp=Z,47nm,0.8s							
PV07	**Paradox Valley**	**78.80**	**309**	IAmb	IAmb	04 52 46.4		
	comp=Z,61nm,1.3s							
GHO	**Glory Hole Cre**	**78.87**	**344**	IAMs_20	IAMs_20	05 25 54.6		
	comp=Z,875nm,21.0s							
HMT	**Hamilton**	**78.98**	**341**	IAmb	IAmb	04 52 47.8		
	comp=Z,44nm,1.0s							
SIT	**Sitka**	**79.00**	**335**	P	**P**	**04 52 43.5**	**+1.4**
	baz=38							
PV23	**Carpenter Ridg**	**79.02**	**310**	IAmb	IAmb	04 52 45.1		
	comp=Z,68nm,1.0s							
PV11	**David Mesa, Pa**	**79.03**	**309**	IAmb	IAmb	04 52 48.5		
	comp=Z,75nm,1.1s							
ANM	**Nome**	**79.03**	**352**	IAMs_20	IAMs_20	05 26 11.6		
	comp=Z,718nm,21.0s							
ANM	**Nome**	**79.03**	**352**	P	**P**	**04 52 42.9**	**+0.7**
	baz=15,SNR=7.9							
PMR	**Palmer**	**79.07**	**344**	P	**P**	**04 52 43.4**	**+0.9**
	baz=28,SNR=15							
PV13	**Radium Mtn., P**	**79.08**	**309**	IAmb	IAmb	04 52 45.3		
	comp=Z,45nm,1.0s							
KNK	**Knik Glacier**	**79.08**	**344**	IAmb	IAmb	04 52 47.9		
	comp=Z,39nm,1.0s							
KNK	**Knik Glacier**	**79.08**	**344**	P	**P**	**04 52 43.8**	**+1.2**
	baz=28,SNR=14							
P18A	**Preston Nutter**	**79.08**	**311**	IAmb	IAmb	04 52 49.8		
	comp=Z,84nm,1.4s							
SUCK	**Suckling Hills**	**79.08**	**341**	IAmb	IAmb	04 52 46.0		
	comp=Z,47nm,0.9s							
PV10	**Paradox Valley**	**79.08**	**309**	IAmb	IAmb	04 52 57.2		
	comp=Z,89nm,1.0s							
F10A	**Beach Ranch, E**	**79.09**	**319**	IAmb	IAmb	04 52 46.7		
	comp=Z,53nm,1.1s							
HLID	**Hailey**	**79.10**	**316**	P	**P**	**04 52 44.7**	**+1.4**
	baz=51,SNR=33							
M22K	**Willow**	**79.15**	**344**	IAmb	IAmb	04 52 47.2		
	comp=Z,55nm,0.9s							
M22K				IAMs_20	IAMs_20	05 25 55.0		
	comp=Z,667nm,22.0s							
M22K	**Willow**	**79.15**	**344**	P	**P**	**04 52 43.7**	**+0.8**
	baz=27							
EYAK	**Cordova Ski Ar**	**79.18**	**342**	IAmb	IAmb	04 52 48.8		
	comp=Z,40nm,1.0s							
EYAK	**Cordova Ski Ar**	**79.18**	**342**	P	**P**	**04 52 45.0**	**+1.9**
	baz=30,SNR=13							
E09A	**Wood Farm, Sta**	**79.22**	**320**	IAmb	IAmb	04 52 47.7		
	comp=Z,70nm,1.4s							
TTA	**Tatalina**	**79.24**	**348**	P	**P**	**04 52 44.7**	**+1.2**
	baz=22,SNR=15							
L20K	**Farewell, AK**	**79.26**	**346**	P	**P**	**04 52 43.8**	**+0.2**
	baz=24,SNR=9.4							
KAIM	**Kayak Island**	**79.37**	**341**	IAmb	IAmb	04 52 48.7		
	comp=Z,62nm,0.9s							
KAIM	**Kayak Island**	**79.37**	**341**	P	**P**	**04 52 46.1**	**+1.9**
	baz=32							
MVCO	**Mea Verde**	**79.44**	**308**	P	**P**	**04 52 46.4**	**+1.1**
	baz=53,SNR=12							
ANMO	**Albuquerque**	**79.46**	**305**	LR	LR	05 26 47.9		
	comp=Z,638nm,19.2s,baz=56,slow=35							
ANMO	**Albuquerque**	**79.46**	**305**	P	**P**	**04 52 45.7**	**+0.3**
ANMO				pmax	pmax			
	comp=Z,17nm,1.2s							
ANMO	**Albuquerque**	**79.46**	**305**	P	**P**	**04 52 45.7**	**+0.3**
ANMO	**Albuquerque**	**79.46**	**305**	P	**P**	**04 52 46.6**	**+1.2**
	baz=54							
CRAG	**Craig**	**79.46**	**333**	P	**P**	**04 52 45.0**	**+0.4**
	baz=40							
P17A	**Butcher Ranch,**	**79.48**	**311**	IAmb	IAmb	04 52 50.6		
	comp=Z,116nm,1.5s							
CCIG	**Comitan**	**79.49**	**282**	IAmb	IAmb	04 52 50.1		
	comp=Z,74nm,1.0s							
PWL	**Port Wells**	**79.54**	**343**	IAmb	IAmb	04 52 54.4		
	comp=Z,88nm,1.4s							
PWL	**Port Wells**	**79.54**	**343**	P	**P**	**04 52 45.9**	**+0.8**
	baz=28,SNR=13							
SRU	**San Rafael Swe**	**79.56**	**311**	IAmb	IAmb	04 52 59.0		
	comp=Z,52nm,1.1s							
RC01	**Rabbit Creek A**	**79.66**	**344**	P	**P**	**04 52 46.7**	**+1.0**
	baz=27,SNR=11							
C06D	**Leavenworth**	**79.67**	**323**	P	**P**	**04 52 46.6**	**+0.5**
	baz=47							
SHL	**Shillong**	**79.71**	**66**	IAmb	IAmb	04 52 47.5		
	comp=Z,115nm,1.0s							
SHL	**Shillong**	**79.71**	**66**	*e*P	**P**	**04 52 46.1**	**-0.7**
SHL				IAmb	IAmb	04 52 47.5		
	comp=Z,64nm,0.8s							
SHL	**Shillong**	**79.71**	**66**	P	**P**	**04 52 46.6**	**-0.3**
	SNR=49							
FIS	**Fire Island**	**79.71**	**344**	IAmb	IAmb	04 52 48.9		
	comp=Z,48nm,0.9s							
L19K	**White Mountain**	**79.72**	**347**	IAMs_20	IAMs_20	05 27 07.9		
	comp=Z,540nm,21.0s							
L19K	**White Mountain**	**79.72**	**347**	P	**P**	**04 52 46.7**	**+0.7**
	baz=23,SNR=8.8							
SEY	**Seymchan**	**79.83**	**11**	LR	LR	05 33 31.6		
	comp=Z,325nm,18.9s,baz=344,slow=40							
CPUP	**Villa Florida**	**79.85**	**227**	P	**P**	**04 52 47.5**	**+0.4**
	comp=Z,98nm,1.0s,baz=34,slow=4.6,SNR=61							
CPUP				LR	LR	05 28 32.2		
	comp=Z,410nm,18.1s,baz=50,slow=36							
CPUP	**Villa Florida**	**79.85**	**227**	*e*P	**P**	**04 52 47.6**	**+0.4**
TMUT	**Trail Mountain**	**79.87**	**311**	IAmb	IAmb	04 52 52.1		
	comp=Z,59nm,1.2s							
M19K	**Big River Lodg**	**79.89**	**346**	IAMs_20	IAMs_20	05 27 26.4		
	comp=Z,791nm,21.0s							
M19K	**Big River Lodg**	**79.89**	**346**	P	**P**	**04 52 47.7**	**+0.7**
	baz=24							
LPAZ	**La Paz**	**79.94**	**242**	P	**P**	**04 52 48.5**	**0.0**
	comp=Z,16nm,0.9s,baz=63,slow=4.0,SNR=36							
LPAZ				LR	LR	05 24 54.6		
	comp=Z,261nm,21.5s,baz=58,slow=33							
LPAZ	**La Paz**	**79.94**	**242**	*e*P	**P**	**04 52 48.6**	**0.0**
Q16A	**Castle Valley**	**80.08**	**311**	IAmb	IAmb	04 52 54.8		
	comp=Z,63nm,1.4s							
O22K	**Cooper Landing**	**80.19**	**344**	IAmb	IAmb	04 52 54.4		
	comp=Z,109nm,1.5s							
O22K	**Cooper Landing**	**80.19**	**344**	P	**P**	**04 52 49.4**	**+0.8**
	baz=27							
Y22D	**IRIS PASSCAL I**	**80.28**	**305**	IAmb	IAmb	04 52 55.4		
	comp=Z,74nm,1.1s							
Y22D	**IRIS PASSCAL I**	**80.28**	**305**	P	**P**	**04 52 51.3**	**+1.5**
	baz=53							
DUG	**Dugway, Tooele**	**80.28**	**313**	P	**P**	**04 52 50.0**	**+0.3**
	baz=51,SNR=20							
CBB	**Campbell River**	**80.32**	**326**	P	**P**	**04 52 50.1**	**+0.5**
CBB				IAmb	IAmb	04 52 54.0		
	comp=Z,94nm,1.4s							
GAMB	**Gambell**	**80.40**	**355**	IAMs_20	IAMs_20	05 26 26.8		
	comp=Z,661nm,22.0s							
GAMB	**Gambell**	**80.40**	**355**	P	**P**	**04 52 49.9**	**+0.3**
	baz=9.8,SNR=12							
SEW	**Seward**	**80.47**	**343**	P	**P**	**04 52 50.9**	**+0.8**
	baz=28,SNR=7.6							
CLRS	**Cowichan Lake**	**80.61**	**325**	IAmb	IAmb	04 53 01.1		
	comp=Z,91nm,1.2s							
MNTX	**Cornudas Mount**	**80.64**	**302**	P	**P**	**04 52 51.8**	**+0.2**
	baz=54,SNR=20							
CPSB	**Cacapava Do Su**	**80.72**	**222**	*e*P	**P**	**04 52 52.9**	**+1.2**
TXAR	**Lajitas Array**	**80.83**	**299**	P	**P**	**04 52 54.0**	**+1.2**
	comp=Z,8.8nm,0.8s,baz=74,slow=5.5,SNR=89							
TXAR				LR	LR	05 28 22.3		
	comp=Z,608nm,19.3s,baz=45,slow=36							
TXAR	**Lajitas Array**	**80.83**	**299**	P	**P**	**04 52 54.0**	**+1.2**
N19K	**Bonanza Creek**	**80.91**	**346**	IAMs_20	IAMs_20	05 27 34.4		
	comp=Z,843nm,22.0s							
N19K	**Bonanza Creek**	**80.91**	**346**	P	**P**	**04 52 52.8**	**+0.2**
	baz=24							
D03D	**Eldon**	**81.02**	**323**	P	**P**	**04 52 54.8**	**+1.5**
	baz=46,SNR=7.7							
BRSE	**Bradley Lake S**	**81.09**	**344**	P	**P**	**04 52 54.2**	**+0.7**
	baz=26,SNR=8.6							
D04E	**Lakebay**	**81.11**	**323**	P	**P**	**04 52 55.3**	**+1.5**
	baz=46							
O20K	**Slope Mountain**	**81.19**	**345**	P	**P**	**04 52 54.3**	**+0.2**
	baz=25,SNR=7.1							
PALK	**Pallekele**	**81.22**	**87**	LR	LR	05 29 07.1		
	comp=Z,92nm,21.8s,baz=51,slow=36							
PALK	**Pallekele**	**81.22**	**87**	P	**P**	**04 52 53.8**	**-1.1**
PALK				pmax	pmax			
	comp=Z,50nm,1.2s							
PALK	**Pallekele**	**81.22**	**87**	P	**P**	**04 52 53.8**	**-1.1**
PALK				IAmb	IAmb	04 52 56.8		
	comp=Z,50nm,1.2s							
MTPU	**Mount Pierson**	**81.25**	**311**	IAmb	IAmb	04 53 09.1		
	comp=Z,46nm,1.0s							
ZEA	**Zeya**	**81.32**	**27**	*e*P	**P**	**04 52 55.9**	**+1.1**
ZEA				*e*S	**S**	**05 03 08.0**	**+3.7**
ZEA				pmax	pmax			
	comp=N,10.0nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.5s							
ZEA				smax	smax			
	comp=N,200nm,9.3s							
F05D	**White Salmon**	**81.35**	**321**	P	**P**	**04 52 55.8**	**+0.7**
	baz=47							
ELK	**Elko**	**81.37**	**314**	IAmb	IAmb	04 53 00.9		
	comp=Z,66nm,1.4s							
CNPM	**China Poot**	**81.39**	**344**	IAmb	IAmb	04 52 60.0		
	comp=Z,37nm,1.0s							
E04D	**Cinebar**	**81.44**	**322**	P	**P**	**04 52 55.8**	**+0.2**
	baz=46							
O19K	**Port Alsworth**	**81.44**	**346**	IAMs_20	IAMs_20	05 28 21.5		
	comp=Z,714nm,22.0s							
O19K	**Port Alsworth**	**81.44**	**346**	P	**P**	**04 52 55.2**	**0.0**
	baz=24,SNR=8.9							
J08A	**Circle Bar Ran**	**81.48**	**318**	IAmb	IAmb	04 53 00.9		
	comp=Z,59nm,1.3s							
W18A	**Petrified Fore**	**81.50**	**307**	P	**P**	**04 52 56.9**	**+0.5**
	baz=52,SNR=10							
HIA	**Hailar**	**81.62**	**34**	*i* P	**P**	**04 52 56.5**	**0.0**
HIA				pmax	pmax			
	comp=Z,15nm,0.8s							
HIA	**Hailar**	**81.62**	**34**	P	**P**	**04 52 56.3**	**-0.2**
PKCU	**Pink Cliffs**	**81.70**	**310**	IAmb	IAmb	04 53 02.0		
	comp=Z,62nm,1.3s							
P19K	**Oil Pt**	**81.71**	**345**	IAmb	IAmb	04 53 00.7		
	comp=Z,33nm,0.8s							
G05D	**Wamic, OR**	**81.71**	**321**	P	**P**	**04 52 57.2**	**+0.1**
	baz=47							
121A	**Cookes Peak, D**	**81.78**	**304**	IAmb	IAmb	04 53 05.5		
	comp=Z,45nm,0.9s							
121A	**Cookes Peak, D**	**81.78**	**304**	P	**P**	**04 52 59.5**	**+1.6**
	baz=53,SNR=32							
LZH	**Lanzhou**	**81.80**	**51**	⇑P	**P**	**04 52 59.0**	**+1.1**
LZH				sP	sP	04 53 06.3	0.0	
LZH				S	**S**	**05 03 08.3**	**-1.9**	
LZH				sS	pS	05 03 16.8	-1.1	
LZH				SS	**SS**	**05 08 28.5**	**+1.1**	
LZH				pmax	pmax			
	comp=Z,77nm,1.3s							
LZH				pmax	pmax			
	comp=Z,390nm,7.6s							
LZH				LR	LR			
	comp=Z,760nm,16.8s							
LZH				LR	LR			
	comp=Z,2μm,16.2s							
LZH				LR	LR			
	comp=Z,2μm,17.9s							
HOOD	**Mount Hood Mea**	**81.83**	**321**	IAmb	IAmb	04 53 11.7		
	comp=Z,78nm,1.1s							
PLTB	**P

comp=Z,37nm,1.1s
R11A Troy Canyon, C 83.12 313 P P 04 53 05.7 +0.9
baz=49,SNR=43
PB08 IPOC Station P 83.22 239 IAmb IAmb 04 53 09.8
comp=Z,65nm,1.0s
KDAK Kodiak Island 83.27 344 LR LR 05 32 01.7
comp=Z,388nm,19.8s,baz=50,slow=37
KDAK Kodiak Island 83.27 344 P P 04 53 05.2 +0.3
KDAK pmax pmax
comp=Z,66nm,1.0s
KDAK Kodiak Island 83.27 344 P P 04 53 05.2 +0.3
KDAK Kodiak Island 83.27 344 P P 04 53 06.1 +1.2
baz=25
I04A Tendick Farm, 83.28 320 P P 04 53 06.6 +1.3
baz=46
HHC Hu-ho-hao-te 83.36 44 *eP* **P 04 53 07.0 +1.2**
HHC sP sP 04 53 17.1 +2.9
HHC S **S 05 03 28.0 +2.1**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,560nm,4.3s
HHC LR LR
comp=Z,500nm,15.1s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,16.6s
PRN Pahroc Range 83.41 312 IAmb IAmb 04 53 12.5
comp=Z,57nm,1.1s
MOD Modoc Plateau 83.46 318 IAmb IAmb 04 53 11.9
comp=Z,44nm,1.2s
J04D Umpqua Nationa 83.51 320 P P 04 53 07.7 +1.0
baz=46
HPIG 83.66 299 IAmb IAmb 04 53 12.9
comp=Z,56nm,1.5s
NNA Nana 83.67 250 P P 04 53 09.2 +1.5
comp=Z,107nm,1.0s,baz=21,slow=4.2,SNR=28
NNA LR LR 05 28 04.4
comp=Z,173nm,21.4s,baz=38,slow=34
NNA Nana 83.67 250 P P 04 53 07.8 +0.1
S11A Rachel 83.67 312 IAmb IAmb 04 53 16.6
comp=Z,55nm,0.9s
XLT XiLinHaoTe 83.69 39⇑ *iP* **P 04 53 09.0 +1.5**
XLT pP sP 04 53 14.0 -1.9
XLT sP pP 04 53 16.4 +2.7
XLT S **S 05 03 32.3 +3.1**
XLT sS pS 05 03 35.6 -1.3
XLT pmax pmax
comp=Z,32nm,0.9s
XLT pmax pmax
comp=Z,400nm,4.1s
XLT LR LR
comp=Z,850nm,20.0s
XLT LR LR
comp=Z,590nm,17.1s
Q09A Carvers 83.75 314 IAmb IAmb 04 53 14.3
comp=Z,41nm,0.9s
TLIG Tlapa 83.83 287 IAmb IAmb 04 53 19.9
comp=Z,41nm,0.9s
I03D Drain, OR 83.83 321 P P 04 53 08.6 +0.6
baz=45
ZAIG Zacatecas 83.86 293 IAmb IAmb 04 53 15.9
comp=Z,48nm,1.1s
TUC Tucson 83.92 306 P P 04 53 09.7 +0.8
TUC pmax pmax
comp=Z,175nm,1.5s
TUC Tucson 83.92 306 P P 04 53 09.7 +0.8
TUC Tucson 83.92 306 P P 04 53 10.7 +1.9
baz=51
OHAK Old Harbor 83.94 344 P P 04 53 08.8 +0.5
baz=24
TA02 Huaiquique 83.99 240 IAmb IAmb 04 53 17.8
comp=Z,28nm,0.8s
PB01 IPOC Station P 84.05 239 IAmb IAmb 04 53 13.8
comp=Z,39nm,0.9s
SHPR Sheep Range 84.05 311 IAmb IAmb 04 53 15.8
comp=Z,66nm,1.4s
KVN Kaiserville 84.14 315 IAmb IAmb 04 53 15.5
comp=Z,45nm,1.5s
W13A Hualapai Mount 84.17 309 IAmb IAmb 04 53 15.8
comp=Z,47nm,1.4s
L04D Klamath Falls 84.32 319 P P 04 53 11.5 +0.7
baz=46
Y14A Wickenburg 84.35 308 IAmb IAmb 04 53 17.2
comp=Z,58nm,1.2s
M04C Macdoel 84.37 319 IAmb IAmb 04 53 24.9
comp=Z,55nm,1.2s
M04C Macdoel 84.37 319 P P 04 53 12.0 +1.0
baz=46
TPNV Topopah Spring 84.43 312 P P 04 53 12.7 +1.2
baz=49,SNR=11
PAHR Pah Rah Range 84.43 316 IAmb IAmb 04 53 25.7
comp=Z,38nm,1.1s
J01E Myrtle Point 84.51 321 P P 04 53 12.8 +1.3
baz=45
RYN Ryan 84.67 314 IAmb IAmb 04 53 17.2
comp=Z,34nm,1.3s
NVAR Mina Array Bea 84.67 314 P P 04 53 13.0 +0.3
comp=Z,2.0nm,0.7s,baz=55,slow=5.0,SNR=16
NVAR PKKPbc **PKKPbc 05 11 23.6 +2.1**
comp=Z,0.9nm,0.8s,baz=201,slow=4.8,SNR=5.6
NVAR LR LR 05 29 47.2
comp=Z,310nm,18.3s,baz=36,slow=35
LVC Limon Verde 84.69 237 LR LR 05 29 30.3
comp=Z,127nm,21.9s,baz=36,slow=35
LVC Limon Verde 84.69 237 P P 04 53 13.0 -0.1
LVC pmax pmax
comp=Z,72nm,1.0s
LVC Limon Verde 84.69 237 P P 04 53 13.0 -0.1
LVC Limon Verde 84.69 237 *eP* **P 04 53 13.8 +0.8**
PDMCI Parker Dam,Lak 84.84 309 P P 04 53 14.7 +1.4
baz=50,SNR=17
CD2 Chengdu 84.96 55 P P 04 53 14.9 +0.8
CD2 S **S 05 03 43.0 +0.8**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,180nm,4.3s
CD2 LR LR
comp=Z,650nm,14.7s
CD2 LR LR
comp=Z,1μm,14.2s
PNTR Pine Nut 84.97 315 IAmb IAmb 04 53 20.7
comp=Z,54nm,0.9s
L02E Cave Junction 85.05 320 P P 04 53 15.3 +1.0
baz=45
GRAC Grapevine Rang 85.07 313 IAmb IAmb 04 53 20.3
comp=Z,86nm,1.4s
GRAC Grapevine Rang 85.07 313 P P 04 53 16.0 +1.5
baz=48,SNR=17
FURC Furnace Creek, 85.12 312 P P 04 53 16.5 +1.9
baz=48,SNR=21
M02C Callahan 85.19 319 P P 04 53 15.3 +0.2
baz=45
PB06 IPOC Station P 85.21 238 IAmb IAmb 04 53 17.4
comp=Z,51nm,0.9s
TUQ Turquoise Moun 85.22 311 P P 04 53 16.8 +1.4
baz=49,SNR=20
EMB Emerald Bay 85.34 316 IAmb IAmb 04 53 30.4
comp=Z,60nm,1.1s
N02D Trinity Center 85.40 318 P P 04 53 16.5 +0.4
baz=45
QSM Queen of Sheba 85.45 312 IAmb IAmb 04 53 22.4
comp=Z,73nm,1.4s
214A Organ Pipe Nat 85.48 306 IAmb IAmb 04 53 20.2
comp=Z,23nm,0.8s
214A Organ Pipe Nat 85.48 306 P P 04 53 17.7 +1.0
baz=50,SNR=22
GMRC Granite Mounta 85.48 310 P P 04 53 17.9 +1.1
baz=49,SNR=20
MLAC Mammoth, Mammo 85.52 314 P P 04 53 18.7 +1.7
baz=48,SNR=6.7
TIN Tinemaha, Big 85.55 313 P P 04 53 18.6 +1.6
baz=48
IRM Iron Mountain 85.57 309 P P 04 53 18.5 +1.4
baz=49,SNR=25
113A Mohawk Valley, 85.58 307 IAmb IAmb 04 53 23.4
comp=Z,55nm,1.4s
OMMB Old Mammoth Mi 85.62 314 IAmb IAmb 04 53 32.6
comp=Z,34nm,1.1s
ORV Oroville 85.73 317 IAmb IAmb 04 53 22.9
comp=Z,47nm,1.4s
MPMC Manual Prospec 85.77 312 P P 04 53 19.6 +1.4
baz=48,SNR=17
GSC Goldstone, Bar 85.85 311 P P 04 53 20.0 +1.5
baz=48,SNR=10

CWC Cottonwood Cre 85.87 313 P P 04 53 20.0 +1.3
baz=48
HEC Hector,Ludlow 85.87 310 P P 04 53 20.3 +1.7
baz=49
TIY Taiyuan 85.97 46 *eP* **P 04 53 19.4 +0.4**
O02D Mt. Diablo Mer 86.01 318 P P 04 53 19.5 +0.4
baz=45
GLA Glamis 86.08 308 IAmb IAmb 04 53 27.4
comp=Z,35nm,1.2s
GLA Glamis 86.08 308 P P 04 53 20.6 +1.0
baz=49
BC3 Big Chuckawall 86.09 309 P P 04 53 20.7 +1.0
baz=49,SNR=5.7
NKL Nikolayevsk 86.24 21 *eP* **P 04 53 17.8 -2.1**
NKL *eS* **SKSac 05 03 35.3 -10**
NKL pmax pmax
comp=N,545nm,0.7s
NKL pmax pmax
comp=E,4.0nm,0.7s
NKL pmax pmax
comp=Z,16nm,1.3s
NKL smax smax
comp=E,3.0nm,3.4s
NKL smax smax
comp=N,528nm,5.5s
NKL MLR MLR
comp=E,142nm,22.0s
NKL MLR MLR
comp=N,90nm,26.0s
NKL MLR MLR
comp=Z,284nm,16.0s
LRMC Laurel Mtn Rad 86.27 312 P P 04 53 21.9 +1.3
baz=48,SNR=9.0
PZH PanZhiHua 86.30 60 smax smax
comp=E,110nm,0.7s
PZH smax smax
comp=N,110nm,0.7s
PZH PanZhiHua 86.30 60⇑ **P P 04 53 21.1 +0.2**
PZH PP **PP 04 56 38.0 -3.6**
PZH S **S 05 03 58.1 +2.4**
PZH pmax pmax
comp=N,60nm,1.2s
PZH pmax pmax
comp=N,370nm,3.5s
PZH LR LR
comp=N,1μm,14.5s
PZH LR LR
comp=N,740nm,14.7s
PZH LR LR
comp=N,640nm,14.0s
XAN Xi'an 86.30 50 P P 04 53 21.3 +0.6
XAN pP sP 04 53 27.9 -1.2
XAN PP **PP 04 56 44.8 +3.6**
XAN S **S 05 04 00.5 +5.2**
XAN pmax pmax
comp=N,49nm,1.4s
XAN pmax pmax
comp=N,400nm,3.8s
XAN LR LR
comp=N,490nm,15.4s
XAN LR LR
comp=N,1μm,17.2s
XAN LR LR
comp=N,990nm,16.9s
BJI Beijing 86.46 42 P P 04 53 22.3 +1.0
BJI pP **pP 04 53 27.1 -0.4**
BJI sP **sP 04 53 29.5 -0.2**
BJI SKS **SKSac 05 03 45.5 -1.3**
BJI S **S 05 03 56.8 +0.3**
BJI pmax pmax
comp=N,38nm,1.1s
BJI pmax pmax
comp=N,270nm,4.0s
BJI LR LR
comp=N,490nm,13.0s
BJI LR LR
comp=N,1μm,14.0s
BJI LR LR
comp=N,1μm,14.7s
BJT Baijiatuau 86.48 42 IAmb IAmb 04 53 23.3
comp=Z,41nm,1.0s
BBRC Big Bear Solar 86.61 310 P P 04 53 23.8 +1.4
baz=48
KLR Kul'dur 86.62 27 LR LR 05 36 28.5
comp=Z,266nm,20.9s,baz=340,slow=39
ISA Isabella, Lake 86.62 312 IAmb IAmb 04 53 26.1
comp=Z,24nm,0.8s
ISA Isabella, Lake 86.62 312 P P 04 53 23.7 +1.4
baz=48,SNR=12
CCAC Calif City Air 86.69 312 IAmb IAmb 04 53 26.5
comp=Z,30nm,0.9s
PFO Pinyon Flats O 86.75 310 LR LR 05 29 18.6
comp=Z,191nm,21.8s,baz=39,slow=34
PFO Pinyon Flats O 86.75 310 P P 04 53 23.4 +0.4
PFO pmax pmax
comp=Z,17nm,1.0s
PFO Pinyon Flats O 86.75 310 P P 04 53 23.4 +0.4
PFO Pinyon Flats O 86.75 310 P P 04 53 24.9 +1.9
baz=48,SNR=8.3
TPFO Pinon Flats 86.75 310 P P 04 53 25.0 +2.0
baz=48,SNR=9.4
SWSC Sam W. Stewart 86.77 309 P P 04 53 24.4 +1.5
baz=49
EDW2 Edwards Air Fo 86.86 311 P P 04 53 24.7 +1.2
baz=48
GRNR Gornyy 86.98 24⇓ *iP* **P 04 53 23.7 0.0**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
BFSC Mount Baldy Ra 87.08 311 P P 04 53 25.1 +0.5
baz=48
IKP In-Ko-Pah, Jac 87.16 309 P P 04 53 25.9 +0.9
baz=49
MONP2 Monument Peak 87.20 309 P P 04 53 26.3 +1.0
baz=48
MURC Murrieta 87.22 310 P P 04 53 26.3 +1.1
baz=48
HNS HongShan 87.50 45⇑ **P P 04 53 27.3 +0.9**
HNS S **S 05 04 12.8 +6.2**
HNS pmax pmax
comp=Z,52nm,1.1s
HNS LR LR
comp=Z,490nm,15.2s
HNS LR LR
comp=Z,420nm,16.5s
HNS LR LR
comp=Z,590nm,18.6s
DGPR DIGLIPUR 87.65 76 *eP* **P 04 53 27.2 -0.3**
DGPR IAmb IAmb 04 53 36.0
comp=Z,52nm,1.3s
AC02 Maricunga 87.66 234 IAmb IAmb 04 53 33.4
comp=Z,58nm,1.1s
KMI Kunming 87.86 60⇓ **P P 04 53 29.4 +0.7**
KMI pmax pmax
comp=Z,24nm,1.4s
KMI pmax pmax
comp=Z,280nm,4.1s
KMI LR LR
comp=Z,530nm,14.1s
KMI LR LR
comp=Z,440nm,15.8s
KMI LR LR
comp=Z,400nm,19.9s
SRIG Santa Rosalia 88.04 302 IAmb IAmb 04 53 38.4
comp=Z,42nm,1.2s
LYN LuoYang 88.14 48⇑ **P P 04 53 30.4 +0.9**
LYN pP pP 04 53 33.6 -2.2
LYN S **S 05 04 15.3 +2.4**
LYN SS **SS 05 10 01.3 +0.9**
LYN pmax pmax
comp=Z,40nm,1.3s
LYN pmax pmax
comp=Z,250nm,4.3s
LYN LR LR
comp=Z,500nm,14.3s
LYN LR LR
comp=Z,410nm,16.9s
AC01 Pan de Azucar 88.19 236 IAmb IAmb 04 53 34.1
comp=Z,45nm,1.0s
CN2 Changchun 88.33 34 *eP* **P 04 53 27.3 -2.9**
CN2 *es*P pP 04 53 34.3 -2.2
CN2 *eS* **S 05 04 08.5 -5.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,640nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
PBA Port Blair 88.39 77 *eP* **P 04 53 31.4 +0.4**
PBA IAmb IAmb 04 53 34.9
comp=Z,485nm,2.5s
PBA Port Blair 88.39 77 P P 04 53 33.1 +2.1
SNR=10
LPIG La Paz 88.70 299 LR LR 05 33 11.6
comp=Z,630nm,18.9s,baz=46,slow=36
AC06 Mina Casimiro 88.82 235 IAmb IAmb 04 53 36.9
comp=Z,22nm,0.9s
GO03 Copiap 88.90 235 IAmb IAmb 04 53 37.4
comp=Z,34nm,0.8s
CHTO Chiang Mai 88.95 68 P P 04 53 33.3 -0.3
CHTO pmax pmax
comp=Z,33nm,1.2s
CHTO MLR MLR
comp=Z,200nm,19.0s
CHTO Chiang Mai 88.95 68 P P 04 53 33.3 -0.3
CHTO IAmb IAmb 04 53 35.0
comp=Z,33nm,1.2s
ENH Enshi 89.15 53 IAMs_20 IAMs_20 05 23 43.7
comp=Z,448nm,18.0s
CMAR Chiang Mai Arr 89.17 68 P P 04 53 35.2 +0.6
comp=Z,16nm,1.0s,baz=304,slow=6.1,SNR=70
GYA Guiyang 89.75 57⇑ **P P 04 53 37.3 -0.1**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,280nm,3.8s
GYA LR LR
comp=Z,500nm,15.2s
GYA LR LR
comp=Z,600nm,13.1s
GYA LR LR
comp=Z,580nm,14.1s
AC04 Llanos de Chal 89.86 235 IAmb IAmb 04 53 41.9
comp=Z,41nm,0.9s
PETK Petropavlovsk- 90.08 11 LR LR 05 41 48.6
comp=Z,390nm,18.7s,baz=333,slow=41
PET Petropavlovsk 90.30 11 *eP* **P 04 53 38.0 -1.3**
PET *eS* **SKKSac 05 04 25.2 +2.2**
PET pmax pmax
comp=Z,30nm,1.3s
PET MLR MLR
comp=Z,900nm,21.0s
PET MLR MLR
comp=Z,900nm,18.0s
ZON Zonda 90.53 231 IAmb IAmb 04 53 45.2
comp=Z,45nm,1.3s
USRK Ussuriysk Ar. 90.85 30 P P 04 53 41.8 -0.2
comp=Z,4.0nm,1.0s,baz=7.5,slow=16,SNR=6.3
USRK LR LR 05 39 15.1
comp=Z,326nm,18.0s,baz=329,slow=39
USRK Ussuriysk Ar. 90.85 30 P P 04 53 41.9 -0.1
USRK Ussuriysk Ar. 90.85 30 P P 04 53 41.9 -0.1
SHEM Shemya Is, Ala 91.91 1 LR LR 05 36 57.8
comp=Z,171nm,18.9s,baz=354,slow=37
YSS Yuzh-Sakhalins 92.35 22 *i P* **P 04 53 50.7 +1.8**
YSS pmax pmax
comp=Z,36nm,1.5s
MT09 Talagante 93.47 230 IAmb IAmb 04 53 55.4
comp=Z,45nm,1.1s
MT01 Popeta 93.69 230 IAmb IAmb 04 53 56.0
comp=Z,23nm,1.0s
NJ2 Nanjing 93.69 46 *eP* **P 04 53 54.8 -0.6**
BO01 Tunca 93.93 230 IAmb IAmb 04 53 57.4
comp=Z,28nm,1.1s
KSAR Wonju Array Be 94.45 37 P P 04 53 58.2 -0.6
KSAR Wonju Array Be 94.45 37 P P 04 53 58.2 -0.6
KSRS Korea Array 94.47 37 P P 04 53 58.5 -0.4
comp=Z,4.6nm,0.8s,baz=328,slow=3.9,SNR=15
KSRS LR LR 05 41 48.6
comp=Z,436nm,18.6s,baz=320,slow=39
ASAJ Asahikawa 94.83 24 LR LR 05 41 41.6
comp=Z,501nm,19.6s,baz=338,slow=39
QIZ Qiongzhong 96.80 61 P P 04 54 10.3 +0.5
QIZ S **S 05 05 31.5 +0.4**
QIZ LR LR
comp=Z,420nm,13.7s
QIZ LR LR
comp=Z,420nm,12.4s
QIZ LR LR
comp=Z,430nm,12.9s
PLCA Paso Flores 97.77 225 P Pdif 04 54 14.5 +0.8
comp=Z,14nm,0.8s,baz=45,slow=5.0,SNR=30
PLCA LR LR 05 38 08.1
comp=Z,212nm,20.1s,baz=66,slow=35
PLCA Paso Flores 97.77 225 *eP* Pdif 04 54 14.9 +1.2
LL04 Puerto Octay 98.96 226 IAmb IAmb 04 54 20.0
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 99.84 30 LR LR 05 43 00.6
comp=Z,273nm,18.2s,baz=352,slow=38
SYO Syowa Base 109.17 165⇑ *e*Pdiff **Pdif 04 55 05.8 +2.3**
SYO Syowa Base 109.17 165⇑ *es*Pdiff **Pdif 04 55 11.0 +7.5**
MYLDM Lahad Datu 112.28 66 IAMs_20 IAMs_20 05 54 27.2
comp=Z,412nm,20.0s
QSPA South Pole Qui 125.58 180 PKP **PKPdf 04 59 38.8 -0.1**
comp=Z,26nm,1.0s,baz=221,slow=1.4,SNR=25
QSPA South Pole Qui 125.58 180 PKiKP 04 59 39.5 +0.2
TAOE Nuku Hiva Isla 132.25 293 *e*LR LR 05 41 42.5
comp=Z,451nm,24.9s
VNDA Vanda 137.61 175 PKP **PKPdf 05 00 02.2 +0.9**
comp=Z,2.5nm,0.8s,baz=294,slow=5.7,SNR=5.6
WRA Warramunga Arr 139.98 78 PKhKP PKPpre 04 59 58.1
comp=Z,3.1nm,0.9s,baz=338,slow=2.2,SNR=6.3
WRA PKP **PKiKP 05 00 08.8 -1.0**
comp=Z,2.8nm,0.9s,baz=325,slow=2.0,SNR=8.5
ASAR Alice Springs 141.49 84 PKhKP PKPpre 05 00 03.0
comp=Z,3.5nm,0.8s,baz=305,slow=3.1,SNR=23
ASAR PKP **PKPdf 05 00 09.9 0.0**
comp=Z,5.9nm,0.9s,baz=322,slow=2.3,SNR=12
ASAR PP **PP 05 03 11.7 -1.9**
comp=Z,2.8nm,1.0s,baz=322,slow=5.9,SNR=5.1
ASAR Alice Springs 141.49 84 PKiKP **PKPdf 05 00 10.0 0.0**
TVO Taravao 144.72 291 *e*PKiKP **PKPab 05 00 13.4 -1.2**
comp=Z,1.4nm,1.2s
PPT Papeete 144.84 292 PKP **PKPdf 05 00 15.7 -0.3**
comp=Z,37nm,0.9s,baz=67,slow=14,SNR=2.5
PPT2 Papeete2 144.85 292 *e*PKiKP **PKPab 05 00 13.7 -1.4**
comp=Z,63nm,1.2s
PPT2 Papeete2 144.85 292 *e*LR LR 05 47 31.0
comp=Z,317nm,22.8s
PAE Paea 144.90 292 *e*PKiKP **PKPab 05 00 13.7 -1.5**
comp=Z,17nm,1.0s
BBOO Buckleboo 146.72 97 PKPdf 05 00 19.5 +0.7
TBI Tubuai 147.97 283 *e*PKiKP **PKPdf 05 00 19.5 -1.6**
comp=Z,79nm,1.0s
TBI Tubuai 147.97 283 *e*LR LR 05 48 59.2
comp=Z,258nm,25.5s
STKA Stephens Creek 150.95 93 PKPbc **PKPbc 05 00 31.1 -0.3**
comp=Z,74nm,1.0s,baz=328,slow=3.6,SNR=45
STKA Stephens Creek 150.95 93 PKPbc 05 00 31.3 -0.1
DZM Mont Dzumac 163.89 35 *e*LR LR 05 56 34.5
comp=Z,568nm,25.1s

SJA ***15*** *04:41:14.4±0.7, 31°.44S×72°.22W, h13km, ML4.4, MW4.1*
IDC ***15*** *04:41:15.7±1.7, 31°.40S×71°.64W, h0km, mb4.4/1, mb1 3.9/6, mb1mx3.8/26, mbtmp3.7/6, ML3.6/5, MS3.2/4, Ms1 3.2/4, ms1mx3.0/49, Error ellipse: s-maj=54.6km s-min=28.6km az=107.0*
GUC ***15*** *04:41:19.9±0.8, 31°.49S×71°.74W, h36km±2km, ML4.3*
NEIC ***15*** *04:41:21.0±1.4, 31°.46S±0°.03×71°.75W±0°.08, h41km±13km, mb4.3/6, ML4.3(GUC), Error ellipse: s-maj=10.4km s-min=4.0km az=84.0*

ISC 15 04:41:17.5±1.0, 31°.44S±0°.02×71°.80W±0°.03, h19km±3km, n112, σ1°94/163, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.72**	**72**		**Pn**	**04 41 33.1**	**+0.2**
CO02				Sn	**Sn**	**04 41 43.9**	**+0.5**
CO02	**Combarbal**	**0.72**	**72**	⇓ *iP*	**Pn**	**04 41 33.2**	**+0.4**
CO02				*eS*	**Sn**	**04 41 42.8**	**-0.6**
CO02				IAML		04 41 48.8	
	comp=E,13μm,0.5s						
CO02	**Combarbal**	**0.72**	**72**	*eP*	**Pn**	**04 41 33.0**	**+0.2**
CO02				*eP*	Pg	04 41 44.3	+12
CO06	**Fray Jorge**	**0.77**	**11**		**Pn**	**04 41 35.0**	**+1.7**
CO06				Sn	**Sn**	**04 41 46.5**	**+2.1**
CO06	**Fray Jorge**	**0.77**	**11**	⇓ *eP*	**Pn**	**04 41 35.1**	**+1.8**
CO06				*eS*	**Sn**	**04 41 46.5**	**+2.1**
CO03	**El Pedregal**	**1.13**	**58**		**Pg**	**04 41 39.5**	**+0.1**
CO03				Sn	**Sg**	**04 41 54.3**	**+0.2**

CO03	**El Pedregal**	1.13	58	⇓	*i*	P	Pg	04 41 39.6 +0.3
CO03					*e*	S	Sg	04 41 54.4 +0.2
CO03					IAML			04 42 01.0
	comp=E,3µm,0.4s							
CO03	**El Pedregal**	1.13	58		*e*	P	Pg	04 41 40.0 +0.6
CO03					*e*	S	Sg	04 41 55.4 +1.2
VA06	**Catapilco**	1.20	159			P	Pb	04 41 40.0 +0.4
VA06					Sn		Sn	04 41 55.0 0.0
VA06	**Catapilco**	1.20	159	⇓	*i*	P	Pb	04 41 40.2 +0.6
VA06					*e*	S	Sb	04 41 54.6 -0.1
VA06					IAML			04 41 58.4
	comp=E,26µm,0.4s							
GO04	**Tololo Observa**	1.53	35			P	Pg	04 41 46.3 -0.7
GO04					Sn		Sg	04 42 06.3 -0.6
GO04	**Tololo Observa**	1.53	35		*e*	P	Pg	04 41 46.8 -0.2
GO04					*e*	S	Sg	04 42 07.1 +0.1
GO04					IAML			04 42 09.9
	comp=E,6µm,0.4s							
GO04	**Tololo Observa**	1.53	35		*e*	P	Pg	04 41 46.8 -0.2
GO04					*e*	S	Sg	04 42 07.7 +0.7
VA01	**Torpederas**	1.59	175			P	Pb	04 41 46.1 -0.1
VA01	**Torpederas**	1.59	175		*e*	P	Pb	04 41 46.2 +0.1
VA01					*e*	S	Sb	04 42 06.3 +0.4
VA01					IAML			04 42 12.6
	comp=E,2µm,0.4s							
VA01	**Torpederas**	1.59	175		*e*	P	Pn	04 41 45.8 +1.2
VA01					*e*	S	Sg	04 42 07.9 -1.0
CO05	**La Serena**	1.59	18			P	Pb	04 41 47.2 +1.0
CO05	**La Serena**	1.59	18		*e*	P	Pg	04 41 47.7 -0.4
CO05					*e*	S	Sg	04 42 09.0 +0.1
ROCH	**El Roble**	1.67	157	⇓	*e*	P	Pb	04 41 47.4 -0.4
ROCH					*e*	S	Sb	04 42 08.1 -0.5
ROCH					IAML			04 42 13.7
	comp=N,13µm,0.3s							
ROC1	**El Roble**	1.67	157			P	Pn	04 41 45.8 -0.2
ROC1	**El Roble**	1.67	157		*e*	P	Pn	04 41 45.5 -0.5
ROC1					*e*	S	Sb	04 42 08.7 +0.1
VA03	**San Esteban**	1.70	142			P	Pb	04 41 47.4 -0.8
VA03	**San Esteban**	1.70	142	⇓	*i*	P	Pb	04 41 48.2 0.0
VA03					*e*	S	Sb	04 42 09.1 0.0
VA03					IAML			04 42 12.5
	comp=E,12µm,0.2s							
VA03	**San Esteban**	1.70	142		*e*	P	Pb	04 41 48.6 +0.4
VA03					*e*	S	Sg	04 42 11.0 -1.4
VA03					IAML			04 42 12.9
	comp=Z,4µm,0.5s							
MT02	**Curacav**	1.90	163			P	Pb	04 41 50.7 -0.9
MT02	**Curacav**	1.90	163		*e*	P	Pn	04 41 50.4 +1.5
MT02					*e*	S	Sn	04 42 12.2 -0.2
MT02					IAML			04 42 19.8
	comp=E,2µm,0.4s							
MT02	**Curacav**	1.90	163		*e*	P	Pn	04 41 45.8 -3.1
MT02					*e*	P	Pn	04 41 50.6 +1.7
MT02					*e*	S	Sb	04 42 15.9 +0.9
PEL	**Peldehue**	1.95	151			P	Pb	04 41 51.5 -0.9
PEL	**Peldehue**	1.95	151	⇑	*e*	P	Pn	04 41 51.1 +1.5
PEL					*e*	S	Sb	04 42 15.5 -0.8
PEL					IAML			04 42 19.2
	comp=E,6µm,0.3s							
PEL	**Peldehue**	1.95	151		*e*	P	Pb	04 41 51.8 -0.6
PEL					*e*	P	Pn	04 41 52.0 +2.4
PEL					*e*	S	Sg	04 42 18.7 -1.7
MT05	**Renca**	2.15	155			P	Pn	04 41 54.2 +1.9
MT05	**Renca**	2.15	155		*e*	P	Pb	04 41 55.3 -0.5
MT05					*e*	S	Sn	04 42 19.9 +1.5
MT05					IAML			04 42 32.0
	comp=N,4µm,0.3s							
MT05	**Renca**	2.15	155		*e*	P	Pb	04 41 55.0 -0.8
MT05					*e*	S	Sb	04 42 23.3 +1.2
MT05					IAML			04 42 26.6
	comp=Z,2µm,0.3s							
RTLS	**Leoncito**	2.17	100		*e*	P	Pn	04 41 51.8 -1.1
RTLS					*e*	P	Pn	04 41 57.3 +4.5
RTLS					*e*	S	Sn	04 42 20.3 +1.0
RTLS					IAML			04 42 30.1
	comp=Z,1µm,0.6s							
AUSP	**Uspallata**	2.20	112		*e*	P	Pn	04 41 51.8 -1.5
AUSP					*e*	P	Pn	04 41 57.7 +4.4
AUSP					*e*	S	Sg	04 42 27.2 -1.3
VA05	**Santo Domingo**	2.22	176			P	Pn	04 41 54.3 +1.0
VA05	**Santo Domingo**	2.22	176		*e*	P	Pn	04 41 54.8 +1.6
VA05					*e*	S	Sn	04 42 20.1 0.0
VA05					IAML			04 42 33.0
	comp=E,3µm,0.3s							
FCH	**Farellones**	2.28	146	⇑	*e*	P	Pb	04 41 56.6 -1.6
FCH					*e*	S	Sb	04 42 24.8 -1.3
FCH					IAML			04 42 28.3
	comp=E,2µm,0.2s							
MT03	**Universidad Ad**	2.33	152			P	Pn	04 41 56.5 +1.7
MT03	**Universidad Ad**	2.33	152	⇑	*e*	P	Pb	04 41 57.1 -1.7
MT03					*e*	S	Sb	04 42 25.1 -2.1
MT03					IAML			04 42 36.1
	comp=E,5µm,0.6s							
MT03	**Universidad Ad**	2.33	152		*e*	P	Pb	04 41 57.3 -1.6
MT03					*e*	S	Sb	04 42 29.4 +2.2
MT03					IAML			04 42 34.2
	comp=Z,2µm,0.2s							
AROD	**Rodeo**	2.37	58		*e*	P	Pb	04 42 00.8 +1.1
AROD					*e*	P	Pn	04 42 01.0 +5.4
AROD					*e*	S	Sg	04 42 31.7 -2.2
MT09	**Talagante**	2.43	164			P	Pn	04 41 58.5 +2.2
MT09	**Talagante**	2.43	164	⇑	*e*	P	Pn	04 41 58.5 +2.2
MT09					*e*	S	Sn	04 42 27.7 +2.1
MT09					IAML			04 42 34.3
	comp=N,2µm,0.3s							
MT01	**Popeta**	2.47	169		Pn	P	Pn	04 41 57.7 +1.1
MT01	**Popeta**	2.47	169	⇑	*e*	P	Pn	04 41 58.2 +1.6
MT01					*e*	S	Sn	04 42 27.2 +1.0
MT01					IAML			04 42 38.8
	comp=E,2µm,0.2s							
MT01	**Popeta**	2.47	169		*e*	P	Pn	04 41 53.8 -2.9
MT01					*e*	P	Pn	04 41 58.0 +1.4
MT01					*e*	S	Sg	04 42 35.3 -1.6
MT01					IAML			04 42 36.5
	comp=Z,993nm,0.4s							
ACCO	**Cerro Coronel**	2.50	71		*e*	P	Pb	04 42 02.8 +0.8
ACCO					*e*	S	Sg	04 42 38.4 +0.4
LCO	**Las Campanas**	2.60	22		Pn	P	Pb	04 42 01.4 -2.2
LCO	**Las Campanas**	2.60	22	⇑	*e*	P	Pn	04 42 01.3 +2.6
LCO					*e*	S	Sb	04 42 32.9 -2.3
LCO	**Las Campanas**	2.60	22		*e*	P	Pn	04 42 01.0 +2.3
ACDV	**Cuesta del Vie**	2.63	62		*e*	P	Pb	04 42 05.0 +0.9
ACDV					*e*	S	Sg	04 42 42.2 0.0
ZON	**Zonda**	2.67	93		*e*	P	Pb	04 42 05.0 +0.3
ZON					*e*	S	Sg	04 42 41.9 -1.6
ZON					IAML			04 42 45.5
	comp=Z,749nm,0.5s							
BO04	**La Punta**	2.74	159			P	Pn	04 42 02.3 +1.9
BO04	**La Punta**	2.74	159	⇑	*e*	P	Pn	04 42 02.6 +2.2
BO04					*e*	S	Sn	04 42 35.1 +2.1
BO04					IAML			04 42 43.1
	comp=E,2µm,0.7s							
LMEL	**Las Melosas**	2.76	151			P	Pn	04 42 01.7 +0.9
LMEL	**Las Melosas**	2.76	151		*e*	P	Pn	04 42 03.5 +2.7
LMEL					*e*	S	Sb	04 42 36.7 -3.0
LMEL					IAML			04 42 44.8
	comp=N,2µm,0.2s							
ASAL	**Salagasta**	2.77	115		*e*	P	Pb	04 42 06.0 -0.5
ASAL					*e*	S	Sb	04 42 40.8 +0.7
ARCO	**CERRO ARCO**	2.81	121		*e*	P	Pb	04 42 07.0 -0.2
ARCO					*e*	P	Pn	04 42 07.8 +6.2
ARCO					*e*	S	Sg	04 42 44.8 -3.1
ARCO					IAML			04 42 54.8
	comp=Z,1µm,0.9s							
RTCV	**Cerro Valdivia**	2.81	100		*e*	P	Pb	04 42 07.8 +0.6
RTCV					*e*	S	Sg	04 42 47.4 -0.7
RTLL	**Cerro Villicun**	2.85	89		*e*	P	Pb	04 42 04.8 -3.0
RTLL					*e*	P	Pn	04 42 06.9 +4.9
RTLL					*e*	P	Pn	04 42 07.0 +5.0
RTLL					*e*	S	Sg	04 42 47.6 -1.5
RTLL					*e*	S	Sg	04 42 49.8 +0.7
AAGR	**Agrelo**	3.01	124		*e*	P	Pb	04 42 10.0 -0.5
AAGR					*e*	S	Sb	04 42 49.8 +2.9
BO01	**Tunca**	3.01	169		Pn	P	Pn	04 42 05.2 +1.1
BO01	**Tunca**	3.01	169		*e*	P	Pn	04 42 02.8 -1.3
BO01					*e*	P	Pn	04 42 06.0 +1.9
BO01					*e*	S	Sn	04 42 43.3 +3.7
BO01					IAML			04 42 53.8
	comp=Z,731nm,0.8s							
AC04	**Llanos de Chal**	3.28	11		Pn	P	Pn	04 42 10.1 +2.2
AC04	**Llanos de Chal**	3.28	11		*e*	P	Pn	04 42 10.0 +2.2
AC04					*e*	S	Sb	04 42 51.8 -2.9

BO02	**Sierra Bellavi**	3.46	166			P	Pn	04 42 11.9 +1.5
BO02	**Sierra Bellavi**	3.46	166		*e*	P	Pn	04 42 12.6 +2.3
GO05	**Huala**	3.57	182			P	Pn	04 42 12.5 +0.7
GO05	**Huala**	3.57	182		*e*	P	Pn	04 42 07.8 -4.0
AVFE	**Valle Fertil**	3.81	79		*e*	P	Pb	04 42 19.6 -4.6
GO03	**Copiap**	4.07	20			P	Pn	04 42 21.1 +2.4
VCA	**Vinchina**	4.12	50		IAML			04 43 30.1
	comp=Z,517nm,0.5s							
AC06	**Mina Casimiro**	4.26	18			P	Pn	04 42 23.7 +2.4
ML02	**Panimavida**	4.33	176			P	Pn	04 42 23.9 +1.6
RFA	**San Rafael**	4.35	141		*e*	S	Sg	04 43 35.8 -1.3
ACHE	**Chepes**	4.41	88		*e*	P	Pb	04 42 29.0 -5.4
ACHE					*e*	S	Sb	04 43 25.5 -1.7
ACLC	**CERRO LA CRUZ**	4.64	66		*e*	P	Pn	04 42 31.2 +4.4
ACLC					*e*	P	Pn	04 42 31.2 +4.4
ACLC					*e*	S	Sn	04 43 24.8 +4.5
ACLC					IAML			04 43 34.3
	comp=Z,772nm,0.7s							
APLL	**PUNTA DE LOS L**	4.65	78		*e*	P	Pn	04 42 31.3 +4.6
APLL					*e*	S	Sb	04 43 32.2 -1.9
AC02	**Maricunga**	5.15	28		Pn	P	Pn	04 42 36.2 +2.2
AC02	**Maricunga**	5.15	28		*e*	P	Pn	04 42 37.1 +3.1
AC02					*e*	P	Pn	04 42 37.1 +3.1
AC02					*e*	S	Sb	04 43 44.3 -4.5
MRA	**San Martin**	5.27	102		*e*	P	Pn	04 42 39.0 +3.7
MRA					*e*	S	Sb	04 43 44.5 -7.4
AC01	**Pan de Azucar**	5.37	12		*e*	P	Pn	04 42 39.0 +2.4
AC01					*e*	S	Sb	04 43 53.8 -1.1
AC01					*e*	S	Sb	04 43 53.8 -1.1
H03N1	**Juan Fernandez**	6.33	250		Pn	P	Pn	04 42 51.6 +2.0
H03N1					T	T		04 49 34.0
	baz=79,slow=73,SNR=3870							
H03N3	**Juan Fernandez**	6.35	250		Pn	P	Pn	04 42 52.0 +2.2
H03N3					T	T		04 49 32.1
	baz=79,slow=73,SNR=3777							
H03N2	**Juan Fernandez**	6.35	250		Pn	P	Pn	04 42 51.9 +2.1
H03N2					T	T		04 49 33.4
	baz=79,slow=73,SNR=3028							
H03S3	**Juan Fernandez**	6.45	246		T	T		04 49 55.2
	baz=80							
H03S1	**Juan Fernandez**	6.45	246		T	T		04 49 52.5
	baz=80							
H03S2	**Juan Fernandez**	6.47	246		T	T		04 49 51.2
	baz=80							
AHML	**Horco Molle**	7.31	52		*e*	P	Pn	04 43 11.0 +7.6
LC01	**Cunco**	7.45	180			P	Pn	04 43 05.6 +0.5
LVC	**Limon Verde**	9.16	17		Pn	P	Pn	04 43 27.7 -1.2
	comp=Z,0.1nm,0.3s,baz=87,slow=7.9,SNR=1.6							
LVC						LR	LR	04 47 12.2
	comp=Z,146nm,20.7s,baz=214,slow=39							
PLCA	**Paso Flores**	9.33	174		Pn	P	Pn	04 43 32.5 +1.5
	comp=Z,0.4nm,0.3s,baz=331,slow=12,SNR=15							
PLCA						LR	LR	04 47 05.7
	comp=Z,131nm,21.5s,baz=318,slow=37							
PLCA	**Paso Flores**	9.33	174			P	Pn	04 43 32.6 +1.6
CPUP	**Villa Florida**	13.66	72		Pn	P	Pn	04 44 29.3 -0.9
	comp=Z,0.2nm,0.3s,baz=266,slow=9.6,SNR=4.6							
CPUP						LR	LR	04 50 13.5
	comp=Z,196nm,20.6s,baz=237,slow=40							
LPAZ	**La Paz**	15.45	13		Pn	P	Pn	04 44 56.3 +1.3
	comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=2.0							
LPAZ	**La Paz**	15.45	13			P	Pn	04 44 55.6 +0.7
SIV	**San Ignacio**	18.23	35		P	P	Pn	04 45 29.7 +0.2
	comp=Z,0.1nm,0.3s,baz=219,slow=13,SNR=6.0							
NNA	**Nana**	19.91	345		LR	LR		04 51 59.2
	comp=Z,43nm,18.3s,baz=194,slow=32							
BDFB	**Brasilia**	26.80	60		P	P		04 46 56.2 -0.4
	comp=Z,5.4nm,0.9s,baz=210,slow=12,SNR=6.7							
BDFB	**Brasilia**	26.80	60		P	P		04 46 57.0 +0.3
BDFB					IAmb	IAmb		04 47 12.4
	comp=Z,7.3nm,1.0s							
OTAV	**Otavalo**	32.13	347		P	P		04 47 42.7 -1.6
OTAV					IAmb	IAmb		04 47 47.8
	comp=Z,5.3nm,0.9s							
QSPA	**South Pole Qui**	58.79	180		P	P		04 51 14.8 +0.5
TORD	**Torodi Ar. Bea**	83.15	70		P	P		04 53 43.1 +0.6
	comp=Z,2µm,0.4s,baz=242,slow=3.8,SNR=1.4							
H11S2	**WAKE ISLAND Hyl**	25.97	271		T	T		07 19 15.1
	baz=117,slow=74,SNR=50							
H11S1	**WAKE ISLAND Hyl**	25.98	271		T	T		07 19 14.2
	baz=117,slow=74,SNR=27							
H11S3	**WAKE ISLAND Hyl**	25.99	271		T	T		07 19 12.7
	baz=117,slow=74,SNR=22							
H11N3	**WAKE ISLAND Hyl**	26.32	272		T	T		07 19 34.4
	baz=116,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hyl**	26.33	272		T	T		07 19 35.2
	baz=116,slow=75,SNR=8.9							
H11N2	**WAKE ISLAND Hyl**	26.33	272		T	T		07 19 41.9
	baz=116,slow=75,SNR=39							
ZALV	**Zalesovo Beam**	151.93	30		PKPbc	PKiKP		05 01 11.9 +0.9
	comp=Z,9.0nm,0.7s,baz=295,slow=3.2,SNR=28							
MKAR	**Makanchi Array**	154.87	45		PKPbc	PKiKP		05 01 18.4 +1.0
	comp=Z,0.6nm,0.7s,baz=343,slow=2.5,SNR=5.5							

RSNC 15 04:41:48.4±0.9, 2°39N×75°67W, h4km±2km, ML3.4, Mw3.5, 2C-7D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
GARC	**Garzon, Huila**	0.27	138	⇓	*i*	P	04 41 53.7	0.0
GARC					*e*	S	04 41 58.0	+0.7
GARC					*i*		04 41 59.7	
	comp=Z,9µm,0.2s							
BETC	**Betania**	0.37	38	⇑	*i*	P	04 41 56.1	+0.5
BETC					*e*	S	04 42 00.9	+0.4
BETC					*i*		04 42 02.9	
	comp=Z,4µm,0.2s							
MARP	**Paez Belalcaza**	0.53	328	⇓	*e*	P	04 41 57.9	-0.8
MARP					*e*	S	04 42 05.5	-0.1
MARP					*i*		04 42 06.2	
	comp=Z,2µm,0.1s							
PCON	**Cinco Dias**	0.73	265	⇓	*i*	P	04 42 02.2	-0.2
PCON					*e*	S	04 42 12.5	+0.6
PCON					*i*		04 42 13.6	
	comp=Z,2µm,0.2s							
FLOC	**Florencia**	0.80	179	⇑	*i*	P	04 42 02.4	-1.4
FLOC					*e*	S	04 42 13.4	-0.8
FLOC					*i*		04 42 15.5	
	comp=Z,2µm,0.3s							
SOTA	**Rioblanco**	0.97	255	⇓	*i*	P	04 42 06.2	-0.9
SOTA					*e*	S	04 42 19.7	0.0
SOTA					*i*		04 42 21.1	
	comp=Z,928nm,0.2s							
POPC	**Popayan, Colom**	1.01	279	⇓	*i*	P	04 42 06.6	-1.3
POPC					*e*	S	04 42 19.6	-1.5
CRUC	**La Cruz**	1.52	237		*e*	P	04 42 15.6	-1.1
CRUC					*e*	S	04 42 35.0	-2.0
CRUC					*i*		04 42 38.1	
	comp=Z,425nm,0.3s							
ORTC	**Ortega, Tolima**	1.57	16	⇓	*e*	P	04 42 15.5	-1.6
ORTC					*e*	S	04 42 37.0	-0.9
ORTC					*i*		04 42 41.2	
	comp=Z,1µm,0.1s							
YOTC	**Yotoco, Valle**	1.72	337		*e*	P	04 42 17.5	-1.7
YOTC					*e*	S	04 42 40.7	-1.1
YOTC					*i*		04 42 41.6	
	comp=Z,222nm,0.3s							
MACC	**Macarena, Meta**	1.84	98	⇓	*i*	P	04 42 19.4	-1.4
MACC					*e*	S	04 42 42.8	-1.8
MACC					*i*		04 42 47.6	
	comp=Z,459nm,0.2s							
CPAS2	**Pasto**	1.96	234		*e*	P	04 42 23.2	+0.5
CPAS2					*e*	S	04 42 49.1	-0.7
GCUF	**Volcan Galeras**	2.03	235		*e*	P	04 42 24.3	+0.4
GCUF					*e*	S	04 42 52.0	0.0
GCUF					*i*		04 42 54.7	
	comp=Z,191nm,0.3s							
ANIL	**Santa Ana**	2.10	7		*e*	P	04 42 23.4	-1.3
ANIL					*e*	S	04 42 52.0	+0.5
PTLC	**Puerto Leguiza**	2.37	158		*e*	P	04 42 30.9	-0.8
PTLC					*e*	S	04 43 04.3	-0.3
PTLC					*i*		04 43 15.8	
	comp=Z,395nm,0.3s							
PLMC	**San Jos del P**	2.57	346		*e*	P	04 42 31.1	+0.1
PLMC					*e*	S	04 43 03.5	+0.8
PLMC					*i*		04 43 12.4	
	comp=Z,84nm,0.3s							
VILC	**Villavicencio,**	2.61	49		*e*	P	04 42 31.2	-0.3
VILC					*e*	S	04 43 04.6	+0.7
TULM	**Tulcn-Chalpat**	2.69	232		*e*	P	04 42 35.2	-2.2
TULM					*e*	S	04 43 08.5	+2.3
GUY2C	**Guyana, Caldas**	2.83	6		*e*	P	04 42 35.4	+0.5
GUY2C					*e*	S	04 43 10.2	+0.5
GUY2C					*i*		04 43 22.5	
	comp=Z,60nm,0.6s							
CHIC	**Chingaza**	2.95	41		*e*	P	04 42 36.0	-0.5
CHIC					*e*	S	04 43 15.2	+2.6
CHIC					*i*		04 43 27.5	
	comp=Z,107nm,0.5s							
GUVC	**San Jose del G**	3.05	87		*e*	P	04 42 35.9	-1.6
GUVC					*e*	S	04 43 18.9	-1.9
GUVC					*i*		04 43 26.6	
	comp=Z,410nm,0.3s							
NORC	**Norcasia**	3.25	14		*e*	P	04 42 38.7	-1.6
NORC					*e*	S	04 43 24.4	-2.4
NORC					*i*		04 43 28.4	
	comp=Z,53nm,0.2s							
CBOC	**Ciudad Bolivar**	3.47	354		*e*	P	04 42 43.5	+0.1
CBOC					*e*	S	04 43 32.7	-0.4
SPBC	**San Pablo de B**	3.61	26		*e*	P	04 42 43.1	-2.1
SPBC					*e*	S	04 43 32.7	+4.2
SPBC					*i*		04 43 50.9	
	comp=Z,61nm,0.5s							
PTGC	**Puerto Gaitan,**	3.96	63		*e*	P	04 42 50.2	+0.1
PTGC					*i*		04 43 54.7	
	comp=Z,98nm,0.2s							
PTBC	**PUERTO BERRIO,**	4.30	16		*e*	P	04 42 52.4	-2.3
PTBC					*e*	S	04 43 43.1	-2.2
PTBC					*i*		04 44 06.4	
	comp=Z,28nm,0.7s							
RUSC	**La Rusia**	4.33	36		*e*	P	04 42 54.9	-0.6
RUSC					*e*	S	04 43 55.3	-3.0
RUSC					*i*		04 44 06.5	
	comp=Z,21nm,0.6s							
ZARC	**Zaragoza, Cauc**	5.13	9		*e*	P	04 43 05.9	-0.2
ZARC					*i*		04 44 37.2	
	comp=Z,11nm,0.4s							
TAMC	**Tame, Arauca**	5.58	44		*e*	P	04 43 10.3	-1.9
TAMC					*i*		04 44 53.1	
	comp=Z,18nm,0.4s							

MDD ***15*** *04:46:27.6±0.3, 35°.66N×3°.74W, h0km, mb_Lg3.7/26, Error ellipse: s-maj=2.9km s-min=2.3km az=4.0*
SFS ***15*** *04:46:27.0, 35°.58N×3°.71W, ML3.9, ALBORAN SUR*
CNRM ***15*** *04:46:28.1, 35°.70N×3°.69W, h26km, ml3.5*

ISC 15 04:46:26.7±1.1, 35°.69N±0°.02×3°.70W±0°.03, h12km±10km, n60, σ1°.35/90, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PALE	**Palemas**	0.51	202		P	Pb	04 46 38.4	+0.7
PALE					S	Sb	04 46 45.7	+0.7
EALB	**Alboran**	0.60	65		Pg	Pb	04 46 39.4	+0.3
EALB					Sg	Sb	04 46 48.2	+0.8
EALB					*i* Vmb_Lg		04 46 48.7	
EMEL	**Melilla**	0.72	122		Pg	Pg	04 46 40.2	-0.6
EMEL					Sg	Sg	04 46 50.0	-0.3
EMEL					*i* Vmb_Lg		04 46 50.9	
ELGU	**Los Guajares,**	1.18	3		Pg	Pb	04 46 48.3	-0.7
ELGU					Sg	Sb	04 47 03.9	-0.3
ELGU					*i* Vmb_Lg		04 47 06.9	
AKLM	**AKL**	1.19	186		P	Pg	04 46 49.4	-0.1
AKLM					S	Sn	04 47 05.4	+0.1
EMAL	**Malaga-Limoner**	1.22	331		P	Pn	04 46 49.2	-0.4
EMAL					S	Sb	04 47 04.7	-0.7
EMIJ	**Mijas**	1.23	315		Pg	Pn	04 46 49.3	-0.4
EMIJ					Sg	Sb	04 47 05.2	-0.5
EMIJ					*i* Vmb_Lg		04 47 06.6	
SMIR	**Smir Dam**	1.37	270		P	Pn	04 46 50.0	-1.5
SMIR					S	Sb	04 47 07.2	-2.4
TAF	**Taforalt**	1.37	129		P	Pn	04 46 50.7	-1.0
TAF					S	Sb	04 47 08.5	-1.3
EBER	**Berja**	1.37	28		Pn	Pn	04 46 51.4	-0.5
EBER					Sn	Sg	04 47 12.0	+1.0
EBER					*i* Vmb_Lg		04 47 15.6	
CEU	**Ceuta**	1.37	279		P	Pn	04 46 49.8	-1.9
CEU					S	Sb	04 47 05.6	-4.2
EGOR	**Sierra Gorda,**	1.45	347		Pn	Pb	04 46 53.7	-0.1
EGOR					Pg	Pg	04 46 54.3	-0.3
EGOR					Sn	Sg	04 47 14.1	+0.5
EGOR					*i* Vmb_Lg		04 47 19.1	
CHEFC	**Chefchaouen**	1.46	247		P	Pb	04 46 54.0	+0.2
CHEFC	**Chefchaouen**	1.46	247		P	Pb	04 46 53.8	0.0
CHEFC					S	Sb	04 47 12.6	+0.2
EQUE	**Quentar**	1.52	8		Pn	Pb	04 46 55.0	0.0
EQUE					*i* Vmb_Lg		04 47 19.9	
EJIF	**Jimena Fronter**	1.62	298		Sn	Sb	04 47 17.0	+0.1
JBK	**JBK**	1.64	145		P	Pn	04 46 54.5	-1.0
JBK	**JBK**	1.64	145		P	Pn	04 46 54.6	-1.0
ENIJ	**Nijar**	1.76	43		Pn	Pn	04 46 56.5	-0.5
ENIJ					*i* Vmb_Lg		04 47 25.2	
SICH	**Sidi Chahed**	2.07	220		P	Pn	04 47 02.7	+1.5
SICH					S	Sb	04 47 29.7	0.0
ESPR	**Espera**	2.10	305		Pn

TANT	**Tantan**	**9.67**	**223**	P	**Pn**	**04 48 45.6 -0.1**
CLL	**Collm**	**19.69**	**32**	*e*Px	Px	04 51 01.0

*LDG **15** 04:56:38.5±0.6, 35°.43N×3°.73W, h12km, Ml2.7/3, Error ellipse: s-maj=12.3km s-min=6.6km az=2.0*
*MDD **15** 04:56:39.4±0.3, 35°.62N×3°.66W, h0km, mb_Lg3.0/6, Error ellipse: s-maj=2.8km s-min=2.1km az=175.0*
*SFS **15** 04:56:39.0, 35°.59N×3°.67W, ML3.2, ALBORAN SUR*
*CNRM **15** 04:56:39.0, 35°.75N×3°.56W, h22km, ml3.2*
*IGIL **15** 04:56:40.0, 35°.57N×3°.67W, h8km, ML2.9*
ISC 15 04:56:40.6±0.9, 35°.67N±0°.02×3°.63W±0°.02, h20km±11km, n79, σ1§64/117, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.51**	**209**	P	**Pn**	**Pb**	**04 56 50.5**	**-0.4**
PALE				S		**Sb**	**04 56 58.2**	**+0.3**
EALB	**Alboran**	**0.56**	**60**	Pg	**Pn**	**Pb**	**04 56 51.4**	**-0.3**
EALB				Sg		**Sb**	**04 56 59.8**	**+0.5**
EMEL	**Melilla**	**0.66**	**123**	Pg	**Pn**	**Pb**	**04 56 52.7**	**-0.8**
EMEL				Sg		**Sb**	**04 57 01.2**	**-1.1**
AKLM	**AKL**	**1.17**	**189**	P	**Pn**	**Pn**	**04 57 01.3**	**-0.5**
AKLM				S		**Sn**	**04 57 18.2**	**+0.9**
ELGU	**Los Guajares,**	**1.20**	**0**	Pg	**Pn**	**Pn**	**04 57 00.7**	**-1.6**
ELGU				Sg		**Sb**	**04 57 17.8**	**0.0**
EMAL	**Malaga-Limoner**	**1.27**	**330**	P	**Pn**	**Pn**	**04 57 01.6**	**-1.6**
EMAL				S		**Sn**	**04 57 16.8**	**-2.8**
EMIJ	**Mijas**	**1.29**	**315**	Pg	**Pn**	**Pn**	**04 57 01.6**	**-1.8**
EMIJ				Sg		**Sn**	**04 57 18.2**	**-1.9**
TAF	**Taforalt**	**1.31**	**130**	P	**Pn**	**Pn**	**04 57 02.6**	**-1.2**
TAF	**Taforalt**	**1.31**	**130**	P	**Pn**	**Pn**	**04 57 02.5**	**-1.2**
TAF				S		**Sn**	**04 57 19.0**	**-1.8**
EBER	**Berja**	**1.37**	**26**	Pn	**Pn**	**Pn**	**04 57 03.1**	**-1.6**
EBER				Sn		**Sb**	**04 57 22.9**	**+0.2**
EBER				*i* Vmb_Lg			04 57 23.4	
SMIR	**Smir Dam**	**1.42**	**271**	P	**Pn**	**Pn**	**04 57 05.0**	**-0.3**
SMIR	**Smir Dam**	**1.42**	**271**	P	**Pn**	**Pn**	**04 57 02.3**	**-2.9**
SMIR				S		**Sn**	**04 57 21.9**	**-1.5**
CEU	**Ceuta**	**1.43**	**280**	P	**Pn**	**Pn**	**04 57 02.2**	**-3.2**
CEU				S		**Sn**	**04 57 19.3**	**-4.4**
EGOR	**Sierra Gorda,**	**1.49**	**345**	Pn	**Pn**	**Pn**	**04 57 05.2**	**-1.2**
EGOR				Sn		**Sb**	**04 57 26.8**	**+0.5**
CHEFC	**Chefchaouen**	**1.50**	**249**	P	**Pn**	**Pn**	**04 57 06.3**	**-0.2**
CHEFC	**Chefchaouen**	**1.50**	**249**	P	**Pn**	**Pn**	**04 57 06.2**	**-0.2**
CHEFC				S		**Sb**	**04 57 26.1**	**-0.4**
EQUE	**Quentar**	**1.54**	**6**	Pn	**Pn**	**Pn**	**04 57 07.0**	**-0.1**
JBK	**JBK**	**1.59**	**146**	P	**Pn**	**Pn**	**04 57 06.5**	**-1.2**
JBK	**JBK**	**1.59**	**146**	P	**Pn**	**Pn**	**04 57 06.4**	**-1.4**
JBK				S		**Sn**	**04 57 25.3**	**-2.6**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pn	**Pn**	**Pn**	**04 57 08.0**	**-0.8**
ENIJ	**Nijar**	**1.74**	**41**	Pn	**Pn**	**Pn**	**04 57 07.9**	**-1.8**
ENIJ				Sn		**Sn**	**04 57 29.4**	**-1.9**
SICH	**Sidi Chahed**	**2.08**	**222**	P	**Pn**	**Pn**	**04 57 15.7**	**+1.3**
SICH				S		**Sb**	**04 57 44.5**	**+1.4**
ESPR	**Espera**	**2.16**	**304**	Pn	**Pn**	**Pn**	**04 57 16.4**	**+1.0**
ESPR				Sn		**Sn**	**04 57 42.4**	**+0.8**
EQES	**Quesada**	**2.18**	**12**	Pn	**Pn**	**Pn**	**04 57 17.4**	**+1.6**
EQES				Sn		**Sb**	**04 57 44.9**	**-1.1**
LCRM	**LCR**	**2.22**	**207**	P	**Pn**	**Pn**	**04 57 16.3**	**0.0**
LCRM				S		**Sb**	**04 57 48.4**	**+1.3**
IFR	**Ifrane**	**2.47**	**210**	P	**Pn**	**Pn**	**04 57 19.4**	**-0.4**
IFR				S		**Sn**	**04 57 48.2**	**-1.4**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**Pn**	**04 57 22.0**	**+0.4**
EADA				Sn		**Sn**	**04 57 55.4**	**+2.6**
EZAR	**Zarzadilla de**	**2.70**	**35**	Pn	**Pn**	**Pn**	**04 57 22.5**	**-0.5**
ECAB	**El Cabril**	**2.80**	**330**	Pn	**Pn**	**Pn**	**04 57 24.7**	**+0.5**
ECAB				Sn		**Sn**	**04 57 59.2**	**+1.8**
CZD	**Col de Zad**	**2.87**	**204**	P	**Pn**	**Pn**	**04 57 26.1**	**+0.7**
ARNO	**Arenosillo**	**2.88**	**301**	P	**Pn**	**Pn**	**04 57 22.6**	**-2.7**
ARNO				S		**Sn**	**04 58 00.8**	**+1.4**
TDRA	**Tendrara**	**2.94**	**153**	P	**Pn**	**Pn**	**04 57 26.1**	**-0.2**
MD31	**MD31**	**2.94**	**199**	P	**Pn**	**Pn**	**04 57 26.3**	**0.0**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**Pn**	**04 57 26.6**	**+0.1**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**Pn**	**04 57 26.6**	**+0.1**
EMIN	**Mina Concepcio**	**3.22**	**312**	Pn	**Pn**	**Pn**	**04 57 29.5**	**-0.4**
EMIN				Sn		**Sn**	**04 58 06.8**	**-1.0**
ETOB	**Tobarra**	**3.41**	**29**	Pn	**Pn**	**Pn**	**04 57 33.9**	**+1.2**
ETOB				Sn		**Sn**	**04 58 13.7**	**+1.2**
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**Pn**	**04 57 35.0**	**-0.4**
EGRO				Sn		**Sn**	**04 58 15.8**	**-1.7**
PVAQ	**Vaqueiros**	**3.72**	**299**	P	**Pn**	**Pn**	**04 57 36.4**	**-0.4**
PVAQ	**Vaqueiros**	**3.72**	**299**	P	**Pn**	**Pn**	**04 57 36.4**	**-0.4**
PVAQ				S		**Sn**	**04 58 18.4**	**-1.7**
AVE	**Averroes**	**3.91**	**234**	P	**Pn**	**Pn**	**04 57 39.4**	**-0.1**
AVE				S		**Sn**	**04 58 23.1**	**-1.8**
AVE	**Averroes**	**3.91**	**234**	P	**Pn**	**Pn**	**04 57 39.6**	**+0.1**
PAB	**San Pablo**	**3.92**	**352**	P	**Pn**	**Pn**	**04 57 40.3**	**+0.6**
PAB	**San Pablo**	**3.92**	**352**	Pn	**Pn**	**Pn**	**04 57 40.0**	**+0.4**
PAB				Sn		**Sn**	**04 58 26.8**	**+1.8**
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**Pn**	**04 57 41.7**	**+0.8**
ESDC				Sn		**Sn**	**04 58 29.4**	**+2.1**
EBAD	**Badajoz**	**4.10**	**320**	Pn	**Pn**	**Pn**	**04 57 41.9**	**-0.1**
EBAD				Sn		**Sn**	**04 58 31.0**	**+1.6**
MORF	**Marmelete**	**4.36**	**294**	*e*P	**Pn**	**Pn**	**04 57 44.9**	**-0.9**
MORF				*e*S		**Sn**	**04 58 32.2**	**-3.8**
MORF				IAML			04 58 39.1	
	comp=E,24nm,0.4s							
PFVI	**Vila Bisbo**	**4.44**	**291**	P	**Pn**	**Pn**	**04 57 47.1**	**+0.3**
PFVI	**Vila Bisbo**	**4.44**	**291**	P	**Pn**	**Pn**	**04 57 47.0**	**+0.3**
ECHE	**Chera**	**4.45**	**28**	Pn	**Pn**	**Pn**	**04 57 47.6**	**+0.6**
ECHE				*i* Vmb_Lg			04 59 56.9	
PESTR	**Estremoz**	**4.49**	**317**	P	**Pn**	**Pn**	**04 57 47.5**	**0.0**
PESTR	**Estremoz**	**4.49**	**317**	P	**Pn**	**Pn**	**04 57 47.5**	**0.0**
EVO	**Evora**	**4.52**	**311**	P	**Pn**	**Pn**	**04 57 47.7**	**-0.2**
EVO				S		**Sn**	**04 58 37.6**	**-2.2**
UCM	**Universidad Co**	**4.64**	**4**	P	**Pn**	**Pn**	**04 57 50.4**	**+0.8**
EPLA	**Plasencia**	**4.80**	**337**	Pn	**Pn**	**Pn**	**04 57 52.5**	**+0.8**
EPLA				Sn		**Sn**	**04 58 47.8**	**+1.0**
EPLA				*i* Vmb_Lg			04 58 50.9	
TZRR	**Tazzarine**	**5.13**	**199**	P	**Pn**	**Pn**	**04 57 56.2**	**-0.1**
ETOR	**Torete**	**5.29**	**13**	Pn	**Pn**	**Pn**	**04 58 00.2**	**+1.6**
ETOR				*i* Vmb_Lg			04 59 23.4	
OUZM	**OUZ**	**5.42**	**210**	P	**Pn**	**Pn**	**04 58 01.0**	**+0.7**
OUZM	**OUZ**	**5.42**	**210**	P	**Pn**	**Pn**	**04 58 01.1**	**+0.7**
OUK	**Oukaimeden**	**5.68**	**220**	P	**Pn**	**Pn**	**04 58 03.9**	**-0.3**
ZGR	**Zagora**	**5.78**	**197**	P	**Pn**	**Pn**	**04 58 05.9**	**+0.6**
EAH	**EAH**	**6.38**	**233**	P	**Pn**	**Pn**	**04 58 13.0**	**-0.4**
EAH	**EAH**	**6.38**	**233**	P	**Pn**	**Pn**	**04 58 13.1**	**-0.4**
TTIG	**Tnine Tigouga,**	**6.50**	**220**	P	**Pn**	**Pn**	**04 58 13.2**	**-2.1**
ELOB	**Lobios**	**7.09**	**332**	Pn	**Pn**	**Pn**	**04 58 24.2**	**+0.9**
ELOB				Sn		**Sn**	**04 59 41.5**	**-1.8**
ELOB				*i* Vmb_Lg			04 59 44.8	
ELAN	**Lanestosa**	**7.56**	**1**	Pn	**Pn**	**Pn**	**04 58 30.4**	**+0.7**
ETSF	**Etsaut**	**7.61**	**17**	*e*Pn	**Pn**	**Pn**	**04 58 31.6**	**+1.3**
ETSF				*e*Sn		**Sn**	**04 59 53.1**	**-2.8**
	comp=E,0.4nm,0.3s							
SJPF	**Ste Jean**	**7.67**	**13**	*e*Pn	**Pn**	**Pn**	**04 58 31.7**	**+0.6**
SJPF				*e*Sn		**Sn**	**04 59 55.6**	**-1.8**
	comp=E,0.6nm,0.3s							
EALK	**Alkurruntz**	**7.72**	**12**	Pn	**Pn**	**Pn**	**04 58 33.8**	**+1.9**
EARI	**Arriondas**	**7.72**	**351**	Pn	**Pn**	**Pn**	**04 58 33.0**	**+1.1**
EARI				*i* Vmb_Lg			04 58 48.7	
EAGO	**Agolada(Pontev**	**7.92**	**335**	Pn	**Pn**	**Pn**	**04 58 34.2**	**-0.3**
EPF	**Esparros**	**7.97**	**21**	*e*P	**Pn**	**Pn**	**04 58 40.0**	**+4.7**
MTLF	**Montolieu**	**8.90**	**29**	*e*P	**Pn**	**Pn**	**04 58 51.8**	**+3.9**
MTLF				*e*Sn		**Sn**	**05 00 24.2**	**-3.4**
	comp=E,0.3nm,0.3s							
SMRF	**Simiane la Rot**	**10.90**	**38**	*e*P	**Pn**	**Pn**	**04 59 19.8**	**+4.3**
LMR	**La Mourre**	**10.95**	**43**	*e*P	**Pn**	**Pn**	**04 59 20.7**	**+4.7**
PGF	**Pioggiola**	**11.97**	**51**	*e*P	**Pn**	**Pn**	**04 59 33.1**	**+2.9**
MBDF	**Montbardon**	**12.04**	**38**	*e*Pn	**Pn**	**Pn**	**04 59 29.8**	**-1.3**
QUIF	**Quistinic**	**12.25**	**1**	*e*Pn	**Pn**	**Pn**	**04 59 33.2**	**-0.5**
SGMF	**Saint Gilles**	**12.61**	**3**	*e*Pn	**Pn**	**Pn**	**04 59 38.1**	**-0.5**

*MDD **15** 05:00:08.9±0.3, 35°.68N×3°.65W, h0km, mb_Lg3.0/12, Error ellipse: s-maj=2.9km s-min=2.1km az=171.0*
*CNRM **15** 05:00:09.1, 35°.65N×3°.40W, h13km, ml2.8*
*IGIL **15** 05:00:10.7, 35°.82N×3°.68W, h2km*
*SFS **15** 05:00:10.0, 35°.81N×3°.67W, ML3.1, ALBORAN SUR*
*LDG **15** 05:00:11.6±0.6, 35°.72N×3°.55W, h10km, Ml2.8/1, Error ellipse: s-maj=13.0km s-min=5.1km az=166.0*
ISC 15 05:00:08.7±1.0, 35°.66N±0°.02×3°.59W±0°.02, h20km±6km, n56, σ1§61/89, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**213**	P	**Pn**	**Pb**	**05 00 19.3**	**0.0**
PALE				S		**Sb**	**05 00 26.9**	**+0.3**
EALB	**Alboran**	**0.53**	**59**	Pg	**Pn**	**Pb**	**05 00 19.7**	**+0.4**
EALB				Sg		**Sn**	**05 00 28.7**	**-0.8**
EALB				*i* Vmb_Lg			05 00 30.0	
EMEL	**Melilla**	**0.63**	**125**	Pg	**Pn**	**Pb**	**05 00 21.0**	**-0.2**
EMEL				Pn		**Pn**	**05 00 21.3**	**-1.3**
EMEL				Sg		**Sb**	**05 00 30.0**	**+0.4**
AKLM	**AKL**	**1.17**	**191**	P	**Pn**	**Pb**	**05 00 30.3**	**0.0**
AKLM				S		**Sn**	**05 00 46.2**	**+0.7**
ELGU	**Los Guajares,**	**1.20**	**359**	Pg	**Pn**	**Pn**	**05 00 29.9**	**-0.6**
ELGU				Sg		**Sb**	**05 00 44.9**	**-1.1**
ELGU				*i* Vmb_Lg			05 00 50.5	
TAF	**Taforalt**	**1.28**	**131**	P	**Pn**	**Pn**	**05 00 31.3**	**-0.3**
TAF	**Taforalt**	**1.28**	**131**	P	**Pn**	**Pn**	**05 00 31.0**	**-0.6**
TAF				S		**Sn**	**05 00 47.6**	**-0.6**
EMAL	**Malaga-Limoner**	**1.29**	**329**	P	**Pn**	**Pn**	**05 00 30.4**	**-1.2**
EMAL				S		**Sn**	**05 00 46.8**	**-1.4**
EMIJ	**Mijas**	**1.31**	**314**	Pg	**Pn**	**Pn**	**05 00 30.9**	**-1.0**
EMIJ				Sg		**Sn**	**05 00 46.5**	**-2.3**
EMIJ				*i* Vmb_Lg			05 00 48.2	
EBER	**Berja**	**1.36**	**25**	Pg	**Pn**	**Pn**	**05 00 32.3**	**-0.4**
EBER				Sg		**Sn**	**05 00 49.9**	**-0.3**
EBER				*i* Vmb_Lg			05 00 52.1	
SMIR	**Smir Dam**	**1.46**	**271**	P	**Pn**	**Pn**	**05 00 31.7**	**-2.2**
CEU	**Ceuta**	**1.47**	**280**	P	**Pn**	**Pn**	**05 00 31.5**	**-2.5**
CEU				S		**Sn**	**05 00 48.4**	**-4.2**
EGOR	**Sierra Gorda,**	**1.50**	**344**	Pn	**Pn**	**Pn**	**05 00 35.1**	**+0.5**
EGOR				Sn		**Sb**	**05 00 54.2**	**-0.5**
CHEFC	**Chefchaouen**	**1.53**	**249**	P	**Pn**	**Pb**	**05 00 38.1**	**+1.6**
CHEFC	**Chefchaouen**	**1.53**	**249**	P	**Pn**	**Pn**	**05 00 35.2**	**+0.2**
CHEFC				S		**Sn**	**05 00 54.3**	**0.0**
EQUE	**Quentar**	**1.54**	**5**	Pn	**Pn**	**Pn**	**05 00 36.6**	**-0.1**
EQUE				Sn		**Sn**	**05 00 55.0**	**+0.3**
JBK	**JBK**	**1.57**	**147**	P	**Pn**	**Pn**	**05 00 35.3**	**-0.4**
JBK	**JBK**	**1.57**	**147**	P	**Pn**	**Pn**	**05 00 35.0**	**-0.6**
JBK				S		**Sn**	**05 00 54.3**	**-1.1**
EJIF	**Jimena Fronter**	**1.71**	**298**	Pn	**Pn**	**Pn**	**05 00 37.9**	**+0.5**
EJIF				Sn		**Sn**	**05 00 58.3**	**-0.4**
ENIJ	**Nijar**	**1.72**	**40**	Pn	**Pn**	**Pn**	**05 00 36.9**	**-0.6**
ENIJ				Sn		**Sn**	**05 00 58.6**	**-0.3**
EQES	**Quesada**	**2.17**	**11**	Pn	**Pn**	**Pb**	**05 00 46.5**	**-1.0**
EQES				Sn		**Sn**	**05 01 11.6**	**+1.3**
ESPR	**Espera**	**2.19**	**304**	Pn	**Pn**	**Pn**	**05 00 44.2**	**+0.2**
ESPR				Sn		**Sn**	**05 01 09.8**	**-0.6**
ESPR				*i* Vmb_Lg			05 01 20.7	
LCRM	**LCR**	**2.23**	**208**	P	**Pn**	**Pb**	**05 00 50.0**	**+1.5**
IFR	**Ifrane**	**2.49**	**211**	P	**Pn**	**Pn**	**05 00 49.0**	**+0.8**
IFR				S		**Sn**	**05 01 15.6**	**-2.5**
EADA	**Adamuz**	**2.62**	**343**	Pn	**Pn**	**Pn**	**05 00 51.7**	**+1.8**
EADA				Sn		**Sn**	**05 01 23.8**	**+2.7**
EADA				*i* Vmb_Lg			05 01 30.2	
EZAR	**Zarzadilla de**	**2.68**	**34**	Pn	**Pn**	**Pn**	**05 00 50.9**	**0.0**
EZAR				Sn		**Sn**	**05 01 24.3**	**+1.5**
ECAB	**El Cabril**	**2.82**	**329**	Pn	**Pn**	**Pn**	**05 00 53.6**	**+1.0**
ECAB				Sn		**Sn**	**05 01 27.8**	**+1.7**
CZD	**Col de Zad**	**2.89**	**205**	P	**Pn**	**Pn**	**05 00 54.9**	**+1.0**
TDRA	**Tendrara**	**2.92**	**153**	P	**Pn**	**Pn**	**05 00 55.0**	**+0.8**
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**Pn**	**05 00 55.6**	**+1.1**
MDT	**Midelt**	**2.96**	**197**	P	**Pn**	**Pn**	**05 00 56.6**	**+1.9**
MDT	**Midelt**	**2.96**	**197**	P	**Pn**	**Pn**	**05 00 56.6**	**+1.9**
EMIN	**Mina Concepcio**	**3.25**	**311**	Pn	**Pn**	**Pn**	**05 00 58.5**	**0.0**
EMIN				Sn		**Sn**	**05 01 36.4**	**-0.1**
ETOB	**Tobarra**	**3.39**	**28**	Pn	**Pn**	**Pn**	**05 01 02.8**	**+2.2**
ETOB				Sn		**Sn**	**05 01 41.7**	**+1.4**
ETOB				*i* Vmb_Lg			05 03 13.2	
EGRO	**El Granado**	**3.65**	**302**	Pn	**Pn**	**Pn**	**05 01 04.5**	**+0.6**
EGRO				Sn		**Sn**	**05 01 48.**	**-0.5**
EGRO				*i* Vmb_Lg			05 01 49.5	
PVAQ	**Vaqueiros**	**3.75**	**299**	P	**Pn**	**Pn**	**05 01 05.8**	**+0.4**
PVAQ				S		**Sn**	**05 01 48.2**	**-0.7**
PAB	**San Pablo**	**3.92**	**351**	P	**Pn**	**Pn**	**05 01 09.6**	**+1.7**
PAB	**San Pablo**	**3.92**	**351**	Pn	**Pn**	**Pn**	**05 01 09.6**	**+1.7**
PAB				Sn		**Sn**	**05 01 54.0**	**+0.7**
PAB				*i* Vmb_Lg			05 02 31.0	
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**Pn**	**05 01 10.8**	**+1.6**
ESDC				Sn		**Sn**	**05 01 56.6**	**+1.0**
ESDC				*i* Vmb_Lg			05 04 00.3	
EBAD	**Badajoz**	**4.12**	**320**	Pn	**Pn**	**Pn**	**05 01 11.1**	**+0.6**
EBAD				Sn		**Sn**	**05 01 57.8**	**-0.3**
EBAD				*i* Vmb_Lg			05 04 03.2	
MORF	**Marmelete**	**4.39**	**293**	*e*P	**Pn**	**Pn**	**05 01 14.9**	**+0.6**
ECHE	**Chera**	**4.44**	**27**	Pn	**Pn**	**Pn**	**05 01 16.2**	**+1.3**
PESTR	**Estremoz**	**4.51**	**316**	P	**Pn**	**Pn**	**05 01 17.3**	**+1.3**
EVO	**Evora**	**4.55**	**310**	P	**Pn**	**Pn**	**05 01 16.9**	**+0.5**
EVO				S		**Sn**	**05 02 06.**	**-2.2**
EPLA	**Plasencia**	**4.81**	**337**	Pn	**Pn**	**Pn**	**05 01 22.2**	**+2.1**
ETOR	**Torete**	**5.29**	**13**	Pn	**Pn**	**Pn**	**05 01 28.4**	**+1.8**
ETOR				Sn		**Sn**	**05 02 31.1**	**+4.1**
OUZM	**OUZ**	**5.43**	**210**	P	**Pn**	**Pn**	**05 01 30.1**	**+1.4**
OUK	**Oukaimeden**	**5.70**	**220**	P	**Pn**	**Pn**	**05 01 32.0**	**-0.6**
EAH	**EAH**	**6.40**	**233**	P	**Pn**	**Pn**	**05 01 41.9**	**0.0**
TTIG	**Tnine Tigouga,**	**6.53**	**220**	P	**Pn**	**Pn**	**05 01 42.9**	**-0.8**
ETSF	**Etsaut**	**7.60**	**17**	*e*Pn	**Pn**	**Pn**	**05 02 00.1**	**+1.8**
ETSF				*e*Sn		**Sn**	**05 03 20.0**	**-3.8**
SJPF	**Ste Jean**	**7.66**	**13**	*e*Pn	**Pn**	**Pn**	**05 01 58.5**	**-0.7**
SJPF	**Ste Jean**	**7.66**	**13**	*e*P	Pn		05 02 04.6	+5.4
SJPF				*e*Sn		**Sn**	**05 03 19.8**	**-5.5**
EPF	**Esparros**	**7.96**	**21**	*e*Pn	**Pn**	**Pn**	**05 02 03.9**	**+0.6**
EPF				*e*Sn		**Sn**	**05 03 27.6**	**-5.2**
	0.6nm,0.3s							
CAF	**Calviac**	**10.21**	**23**	*e*Pn	**Pn**	**Pn**	**05 02 34.0**	**-0.1**
TCF	**Toulx Ste Croi**	**11.48**	**21**	*e*P	Pn		05 02 57.4	+5.9

*IDC **15** 05:02:05.5±1.3, 35°.43N×3°.89W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/45, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=45.7km s-min=15.6km az=100.0*
*CNRM **15** 05:02:07.0, 35°.55N×3°.80W, h24km, ml3.4*
*IGIL **15** 05:02:08.8, 35°.30N×3°.74W, h26km, ML3.2*
*MDD **15** 05:02:08.5±0.6, 35°.39N×3°.77W, h12km±4km, mb_Lg3.3/13, Error ellipse: s-maj=3.7km s-min=2.0km az=164.0*
*SFS **15** 05:02:08.0, 35°.30N×3°.74W, ML3.2, ALBORAN SUR*
*LDG **15** 05:02:09.0±0.3, 35°.36N×3°.76W, h10km, Ml2.8/3, Error ellipse: s-maj=6.2km s-min=2.8km az=178.0*
ISC 15 05:02:07.4±1.1, 35°.48N±0°.02×3°.79W±0°.02, h15km±8km, n75, σ1§60/119, mb3.6/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**204**	P	**Pn**	**Pn**	**05 02 21.0**	**+3.7**
PALE	**Palemas**	**0.29**	**204**	P	**Pb**	**Pb**	**05 02 14.1**	**-0.3**
PALE				S		**Sb**	**05 02 18.5**	**-0.6**
EMEL	**Melilla**	**0.71**	**105**	Pg	**Pg**	**Pg**	**05 02 20.9**	**-0.3**
EMEL				Sg		**Sg**	**05 02 29.9**	**-0.6**
EALB	**Alboran**	**0.77**	**53**	Pg	**Pb**	**Pb**	**05 02 22.5**	**0.0**
EALB				Sg		**Sb**	**05 02 33.2**	**+0.5**
AKLM	**AKL**	**0.97**	**183**	P	**Pb**	**Pb**	**05 02 25.8**	**-0.3**
AKLM				S		**Sb**	**05 02 38.6**	**-0.1**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pg**	**Pg**	**05 02 35.0**	**+2.3**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**Pn**	**05 02 29.1**	**-2.2**
SMIR				S		**Sb**	**05 02 43.9**	**-4.5**
TAF	**Taforalt**	**1.31**	**120**	S	**Pn**	**Pn**	**05 02 32.0**	**+0.6**
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**Pn**	**05 02 30.3**	**-1.0**
TAF				S		**Sb**	**05 02 48.5**	**-0.1**
CHEFC	**Chefchaouen**	**1.32**	**254**	P	**Pn**	**Pn**	**05 02 31.7**	**+0.2**
CHEFC				S		**Sn**	**05 02 49.1**	**+0.2**
EMIJ	**Mijas**	**1.34**	**324**	Pn	**Pn**	**Pn**	**05 02 31.2**	**-0.5**
EMIJ				Sn		**Sb**	**05 02 47.9**	**-1.4**
EMIJ				*i* Vmb_Lg			05 02 57.1	
CEU	**Ceuta**	**1.35**	**288**	P	**Pn**	**Pn**	**05 02 29.7**	**-2.1**
CEU				S		**Sn**	**05 02 45.2**	**-4.3**
EMAL	**Malaga-Limoner**	**1.38**	**338**	P	**Pn**	**Pb**	**05 02 33.0**	**+0.2**
EMAL				S		**Sn**	**05 02 48.8**	**-1.3**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**Pn**	**05 02 31.5**	**-0.9**
ELGU				Sn		**Sn**	**05 02 48.5**	**-2.0**
JBK	**JBK**	**1.53**	**138**	P	**Pn**	**Pn**	**05 02 32.8**	**-1.6**
JBK				S		**Sn**	**05 02 53.3**	**-0.8**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**Pn**	**05 02 34.6**	**-0.6**
EBER				Sn		**Sn**	**05 02 54.9**	**-0.8**
EBER				*i* Vmb_Lg			05 02 57.5	
EGOR	**Sierra Gorda,**	**1.64**	**351**	Pn	**Pb**	**Pb**	**05 02 36.9**	**-0.6**
EGOR				Sn		**Sg**	**05 02 59.4**	**-1.0**
EJIF	**Jimena Fronter**	**1.67**	**306**	Pn	**Pb**	**Pb**	**05 02 38.0**	**+0.1**
EQUE	**Quentar**	**1.74**	**9**	Pn	**Pb**	**Pb**	**05 02 38.9**	**-0.3**
EQUE				Sn		**Sn**	**05 02 59.9**	**+0.7**
ENIJ	**Nijar**	**1.96**	**40**	Pn	**Pn**	**Pn**	**05 02 39.3**	**-0.9**
ENIJ				Sn		**Sn**	**05 03 02.9**	**-1.7**
LCRM	**LCR**	**2.00**	**206**	P	**Pg**	**Pg**	**05 02 45.0**	**-0.7**
LCRM	**LCR**	**2.00**	**206**	P	**Pn**	**Pn**	**05 02 41.0**	**+0.1**
LCRM				S		**Sb**	**05 03 07.3**	**-1.0**
ESPR	**Espera**	**2.17**	**310**	Sn	**Sb**	**Sb**	**05 03 12.1**	**-1.0**
IFR	**Ifrane**	**2.25**	**210**	P	**Pn**	**Pn**	**05 02 44.2**	**-0.2**
IFR				S		**Sn**	**05 03 10.6**	**-1.3**
EQES	**Quesada**	**2.39**	**14**	Pn	**Pn**	**Pb**	**05 02 48.7**	**-1.5**
EQES				Sn		**Sb**	**05 03 17.4**	**-2.1**
CZD	**Col de Zad**	**2.66**	**203**	P	**Pn**	**Pn**	**05 02 52.0**	**+2.0**
CZD	**Col de Zad**	**2.66**	**203**	P	**Pn**	**Pn**	**05 02 50.9**	**+0.9**
CZD				S		**Sn**	**05 03 22.6**	**+0.5**
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**Pn**	**05 02 51.6**	**+0.7**
MDT	**Midelt**	**2.75**	**194**	Pn	**Pn**	**Pn**	**05 02 51.1**	**0.0**
	2.7nm,0.3s,baz=180,slow=8.2,SNR=2.3							
MDT				Sn		**Sn**	**05 03 23.2**	**-1.0**
	9.3nm,0.3s,baz=83,slow=19,SNR=6.9							
MDT				Lg	Lg		05 03 30.7	
	6.8nm,0.3s,baz=202,slow=20,SNR=5.6							
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**Pn**	**05 02 51.4**	**+0.2**
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**Pn**	**05 02 51.4**	**+0.2**
EADA	**Adamuz**	**2.75**	**347**	Pn	**Pn**	**Pn**	**05 02 52.6**	**+1.5**
EADA				Sn		**Sn**	**05 03 24.9**	**+0.8**
EADA				*i* Vmb_Lg			05 03 37.8	
TDRA	**Tendrara**	**2.84**	**149**	P	**Pn**	**Pn**	**05 02 52.6**	**+0.2**
ECAB	**El Cabril**	**2.90**	**334**	Pn	**Pn**	**Pn**	**

NMR eS Sn 05 07 11.5 -4.6
JSD Sado 4.29 251 Pn Pn 05 06 29.0 +0.8
GLVR Golovnino 4.50 20 eP Pn 05 06 30.2 -0.8
GLVR eS Sn 05 07 20.4 -2.6
GLVR smax smax
comp=N,784nm,0.4s
GLVR smax smax
comp=E,2μm,0.4s
ASAJ Asahikawa 4.63 353 Pn Pn 05 06 34.0 +1.1
comp=E,7.6nm,0.3s,baz=205,slow=13,SNR=26
ASAJ Sn Sn 05 07 23.9 -2.3
comp=E,8.0nm,0.3s,baz=51,slow=29,SNR=4.6
ASAJ LR LR 05 08 48.7
comp=E,1μm,21.7s,baz=133,slow=44
ASAJ Asahikawa 4.63 353 P Pn 05 06 33.2 +0.4
JKA Kamikawa-asahi 4.63 353 Pn Pn 05 06 33.2 +0.4
RUSJ Misakicho 4.78 16 eP Pn 05 06 37.4 +2.5
RUSJ eS Sn 05 07 27.6 -2.3
YUK Yuzh-Kuril'sk 4.87 21 eP Pn 05 06 36.2 +0.1
YUK eS Sn 05 07 28.3 -3.7
YUK pmax pmax
comp=Z,490nm,0.5s
YUK pmax pmax
comp=N,120nm,0.4s
YUK pmax pmax
comp=E,170nm,0.3s
YUK smax smax
comp=E,1μm,0.3s
YUK smax smax
comp=N,2μm,0.5s
YUK MLR MLR
comp=Z,852nm,8.0s
YUK MLR MLR
comp=N,578nm,5.0s
SHO Shikotan 5.04 29 eP Pn 05 06 36.5 -2.0
SHO eS Sn 05 07 30.1 -6.3
SHO pmax pmax
comp=Z,114nm,0.7s
SHO pmax pmax
comp=E,31nm,0.4s
SHO pmax pmax
comp=N,71nm,0.5s
SHO smax smax
comp=N,520nm,0.5s
SHO smax smax
comp=E,680nm,0.4s
SHO MLR MLR
comp=Z,1μm,14.0s
MJAR Matsushiro Arr 5.07 236 Pn Pn 05 06 39.8 +0.9
comp=Z,3.6nm,0.3s,baz=37,slow=12,SNR=253
MJAR Sn Sn 05 07 42.4 +5.2
baz=335,slow=33,SNR=1.1
MJAR LR LR 05 08 50.3
comp=Z,1μm,20.1s,baz=128,slow=42
MJAR Matsushiro Arr 5.07 236 Pn Pn 05 06 40.0 +1.0
MAJO Matsushiro 5.07 236 c i P Pn 05 06 40.2 +1.2
MAJO Matsushiro 5.07 236 Pn Pn 05 06 39.9 +0.9
MJB9 Matsu-Tunnel 5.07 236 Pn Pn 05 06 40.1 +1.2
JGF Kuroka 6.20 233 Pn Pn 05 06 54.8 +0.3
INU Inuyama 6.57 233 Pn Pn 05 06 59.5 0.0
KUR Kuril'sk 6.59 29 eP Pn 05 06 59.1 -0.6
JHJ Hachijo jima 2 7.03 206 Pn Pn 05 07 04.6 -1.2
baz=280,slow=12,SNR=0.9
JHJ LR LR 05 09 45.7
comp=Z,580nm,18.4s,baz=141,slow=38
YSS Yuzh-Sakhalins 7.44 357 c e P Pn 05 07 13.1 +1.7
YSS pmax pmax
comp=Z,91nm,1.3s
YSS Yuzh-Sakhalins 7.44 357 Pn Pn 05 07 12.3 +0.9
TEY Ternei 7.46 320 ⇑ eP Pn 05 07 14.8 +3.0
TEY pmax pmax
comp=N,80nm,0.7s
TEY pmax pmax
comp=E,90nm,0.7s
TEY pmax pmax
comp=Z,120nm,0.7s
TEY MLR MLR
comp=E,100nm,13.0s
TEY MLR MLR
comp=N,100nm,14.0s
TEY MLR MLR
comp=Z,100nm,15.0s
JHS Saijyo 9.36 244 Pn Pn 05 07 38.4 +0.5
JMN Monobe 9.59 236 Pn Pn 05 07 40.5 -0.5
UGL Uglegorsk 9.60 355 ⇑ eP Pn 05 07 41.7 +0.7
UGL pmax pmax
comp=Z,80nm,0.8s
UGL MLR MLR
comp=N,2μm,18.0s
UGL MLR MLR
comp=E,1μm,18.0s
UGL MLR MLR
comp=Z,2μm,15.0s
UGL pmax pmax
comp=Z,190nm,0.4s
USA0B Ussuriysk Arra 9.71 302 P Pn 05 07 44.4 +1.8
USA0B Ussuriysk Arra 9.71 302 Pn 05 07 44.4 +1.8
USRK Ussuriysk Ar. 9.71 302 Pn Pn 05 07 44.6 +2.1
baz=110,slow=17,SNR=24
USRK LR LR 05 11 19.9
comp=Z,1μm,20.5s,baz=108,slow=37
USRK Ussuriysk Ar. 9.71 302 Pn Pn 05 07 44.4 +1.9
TYV Tymovskoe 11.35 358 eP Pn 05 08 06.2 +1.2
TYV eS Sn 05 10 12.7 +1.3
TYV pmax pmax
comp=Z,100nm,1.2s
TYV pmax pmax
comp=Z,22nm,0.8s
TYV smax smax
comp=N,100nm,4.4s
TYV smax smax
comp=E,200nm,4.4s
TYV MLR MLR
comp=Z,2μm,17.0s
MDJ Mudanjiang 11.45 301 Pn Pn 05 08 08.0 +1.5
MDJ Mudanjiang 11.45 301 P Pn 05 08 08.3 +1.9
MDJ pP 05 08 15.1
MDJ sP 05 08 19.0
MDJ pmax pmax
comp=Z,13nm,1.2s
MDJ pmax pmax
comp=Z,500nm,8.7s
MDJ LR LR
comp=Z,1μm,12.4s
MDJ LR LR
comp=Z,2μm,13.6s
MDJ LR LR
comp=Z,2μm,13.2s
JNU Nakatsue 11.95 242 Pn Pn 05 08 12.0 -1.3
GRNR Gornyy 12.27 339 ⇓ i P Pn 05 08 18.7 +1.2
GRNR eS Sn 05 10 37.4 +3.5
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR smax smax
comp=E,3.0nm,0.7s
GRNR MLR MLR
comp=E,1μm,14.0s
GRNR MLR MLR
comp=N,320nm,18.0s
GRNR MLR MLR
comp=Z,1μm,14.0s
KSRS Korea Array 12.31 265 Pn Pn 05 08 20.3 +2.2
comp=Z,0.5nm,0.3s,baz=80,slow=13,SNR=32
KSRS LR LR 05 12 44.5
comp=Z,1μm,18.1s,baz=75,slow=36
KS19 Wonju Array Si 12.34 265 Pn 05 08 20.9 +2.3
KSAR Wonju Array Be 12.34 265 P Pn 05 08 20.0 +1.4
KSAR Wonju Array Be 12.34 265 Pn 05 08 19.9 +1.4
KLR Kul'dur 12.78 323 Pn Pn 05 08 24.6 +0.2
comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=17
TJN Taejon 13.04 261 c e P Pn 05 08 30.0 +1.8
OKH Okha 14.03 359 d e P P 05 08 46.5 -2.9
OKH eS Sn 05 11 19.8 +2.9
OKH MLR MLR
comp=E,2μm,17.0s
OKH MLR MLR
comp=N,2μm,17.0s
OKH MLR MLR
comp=Z,1μm,16.0s
CN2 Changchun 14.08 293 eP Pn 05 08 41.0 -1.4
CN2 ePP P 05 08 52.5 +2.5
CN2 eS Sn 05 11 17.0 -1.3
CN2 eSS SnSn 05 11 24.1 -15
CN2 eSS SnSn 05 11 33.1 +2.6
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,640nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,2μm,16.0s
PETK Petropavlovsk- 16.75 31 Pn Pn 05 09 19.3 +2.0
baz=238,slow=21,SNR=7.2
PETK LR LR 05 16 56.4
comp=Z,276nm,18.7s,baz=215,slow=41
PETK Petropavlovsk- 16.75 31 P Pn 05 09 19.5 +2.1
DL2 Dalian 16.89 275 P P 05 09 20.9 -0.3
DL2 pmax pmax
comp=Z,46nm,1.2s
DL2 pmax pmax
comp=Z,160nm,6.0s
DL2 LR LR
comp=Z,1μm,14.5s
DL2 LR LR
comp=Z,610nm,14.9s
DL2 LR LR
comp=Z,1μm,15.7s
PET Petropavlovsk 17.08 33 eP P 05 09 24.8 +1.6
PET eS Sn 05 12 32.4 +1.5
PET pmax pmax
comp=Z,46nm,1.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 17.08 33 P P 05 09 24.9 +1.8
ZEA Zeya 17.97 328 eP Pn 05 09 30.4 -2.1
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA pmax pmax
comp=N,200nm,3.0s
ZEA pmax pmax
comp=Z,200nm,4.8s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
HIA Hailar 19.44 308 P P 05 09 47.3 -2.0
HIA pmax pmax
comp=Z,32nm,0.7s
HIA Hailar 19.44 308 P P 05 09 47.3 -2.0
HIA IAmb IAmb 05 10 01.7
comp=Z,32nm,0.7s
MA2 Magadan 20.61 11 P P 05 10 03.1 +1.3
MA2 pmax pmax
comp=Z,45nm,0.8s
MA2 Magadan 20.61 11 P P 05 10 03.1 +1.3
MA2 IAmb IAmb 05 10 04.0
comp=Z,45nm,0.8s
XLT XiLinHaoTe 20.82 291 ⇑ i P P 05 10 02.4 -2.0
XLT pP sP 05 10 10.3 +0.4
XLT sP pwP 05 10 12.8 +1.7
XLT S S 05 13 42.1 -14
XLT SS SnSn 05 14 14.9 -1.3
XLT pmax pmax
comp=Z,52nm,1.4s
XLT pmax pmax
comp=Z,220nm,3.9s
XLT LR LR
comp=Z,990nm,15.4s
XLT LR LR
comp=Z,880nm,15.7s
BJI Beijing 20.91 280 P P 05 10 03.5 -1.7
BJI pP Pn 05 10 07.5 -0.3
BJI sP sP 05 10 10.9 +0.2
BJI PP PnPn 05 10 24.5 +0.7
BJI S Sn 05 13 59.9 -3.7
BJI pmax pmax
comp=Z,28nm,1.3s
BJI LR LR
comp=Z,510nm,13.5s
BJI LR LR
comp=Z,1μm,14.5s
BJI LR LR
comp=Z,1μm,15.3s
BJT Baijiatuau 20.92 280 P P 05 10 03.1 -2.2
BJT pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 20.92 280 P P 05 10 03.1 -2.2
TIA Tai'an 20.98 269 ⇓ P P 05 10 04.4 -1.7
TIA pmax pmax
comp=Z,54nm,1.2s
TIA pmax pmax
comp=Z,250nm,4.3s
TIA LR LR
comp=Z,710nm,15.3s
TIA LR LR
comp=Z,2μm,15.5s
TIA LR LR
comp=Z,2μm,14.9s
NJ2 Nanjing 21.23 257 eP P 05 10 08.9 +0.2
NJ2 pmax pmax
comp=Z,17nm,0.6s
NJ2 LR LR
comp=Z,900nm,15.2s
NJ2 LR LR
comp=Z,950nm,14.7s
NJ2 LR LR
comp=Z,990nm,19.1s
HNS HongShan 22.53 274 ⇓ P P 05 10 19.5 -3.2
HNS S S 05 14 26.3 -3.0
HNS pmax pmax
comp=Z,17nm,1.1s
HNS LR LR
comp=Z,450nm,16.3s
HNS LR LR
comp=Z,2μm,15.2s
HNS LR LR
comp=Z,2μm,14.3s
YAK Yakutsk 24.04 344 P P 05 10 37.1 -0.5
comp=Z,32nm,0.5s,baz=327,slow=1.0,SNR=13
YAK Yakutsk 24.04 344 eP P 05 10 36.3 -1.3
YAK e*PP pP 05 10 40.6 -1.1
YAK ePPP PPP 05 11 10.1
YAK eS S 05 14 53.2 -0.8
YAK e*SS sS 05 15 04.1 +3.4
YAK eSS SnSn 05 15 33.1 -1.6
YAK pmax pmax
comp=Z,69nm,0.8s
YAK pmax pmax
comp=N,27nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax smax
comp=N,83nm,2.5s
YAK smax smax
comp=E,32nm,1.6s
YAK MLR MLR
comp=Z,450nm,13.0s
YAK MLR MLR
comp=N,478nm,13.0s
YAK MLR MLR
comp=E,310nm,17.0s
YAK Yakutsk 24.04 344 P P 05 10 36.0 -1.6
CIT Chita 24.09 311 eP P 05 10 37.0 -1.3
CIT e 05 10 45.1
CIT e 05 10 52.0
CIT e 05 11 15.5
HHC Hu-ho-hao-te 24.30 283 eP P 05 10 40.9 +0.6
HHC pmax pmax
comp=E,14nm,1.1s
HHC pmax pmax
comp=E,170nm,5.5s
HHC LR LR
comp=E,500nm,14.1s
HHC LR LR
comp=E,1μm,14.3s
HHC LR LR
comp=E,2μm,16.8s
SSLB Suanglung 24.63 237 P P 05 10 41.0 -2.4
YULB Yu-li 24.69 236 P P 05 10 40.8 -3.1
YULB IAmb IAmb 05 10 45.5
comp=Z,46nm,1.2s
LYN LuoYang 25.12 268 ⇓ i P P 05 10 48.4 +0.7
LYN sP pwP 05 10 57.0 +2.4
LYN pmax pmax
comp=Z,40nm,0.9s
LYN LR LR
comp=Z,750nm,12.7s
LYN LR LR
comp=Z,2μm,13.6s
LYN LR LR
comp=Z,2μm,14.1s
WHN Wuhan 25.34 258 ⇓ i P P 05 10 50.1 +0.4
WHN pP pP 05 10 54.5 +0.8
WHN pmax pmax
comp=Z,200nm,0.9s
WHN LR LR
comp=Z,2μm,14.1s
WHN LR LR
comp=Z,2μm,15.4s
WHN LR LR
comp=Z,2μm,14.7s
BTO Baotou 25.49 283 eP P 05 10 50.8 -0.4
BTO S S 05 15 18.8 +0.9
BTO LR LR
comp=Z,1μm,10.7s
BTO LR LR
comp=Z,5μm,16.7s
GUMO Guam 25.87 177 LR LR 05 19 45.7
comp=Z,197nm,22.0s,baz=350,slow=34
BOD Bodaibo 26.35 324 eP P 05 10 58.8 +0.1
BOD pmax pmax
comp=Z,63nm,0.9s
ULN Ulaanbaatar 27.37 300 c e P P 05 11 08.8 +0.6
ULN pmax pmax
comp=Z,56nm,1.3s
ULN Ulaanbaatar 27.37 300 P P 05 11 08.7 +0.6
SONM Songino Array 27.81 300 P P 05 11 12.7 +0.6
comp=Z,14nm,0.8s,baz=92,slow=8.8,SNR=84
SONM Songino Array 27.81 300 P P 05 11 13.1 +1.0
XAN Xi'an 28.04 270 P P 05 11 14.8 +0.6
XAN pP sP 05 11 19.6 -0.3
XAN pmax pmax
comp=Z,21nm,1.2s
H11N2 WAKE ISLAND Hy 28.25 127 T T 05 42 13.5
baz=318,slow=74,SNR=318
H11N1 WAKE ISLAND Hy 28.26 128 T T 05 42 05.8
baz=318,slow=74,SNR=377
H11N3 WAKE ISLAND Hy 28.27 127 T T 05 42 07.5
baz=318,slow=74,SNR=492
H11S1 WAKE ISLAND Hy 29.06 129 T T 05 43 10.1
baz=319,slow=76,SNR=38
H11S3 WAKE ISLAND Hy 29.06 129 T T 05 43 12.1
baz=319,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 29.08 129 T T 05 43 17.1
baz=319,slow=76,SNR=32
ENH Enshi 29.17 262 P P 05 11 23.5 -0.7
ZAK Zakamensk 30.05 305 eP P 05 11 31.8 -0.1
ZAK pmax pmax
comp=Z,22nm,1.4s
BILL Bilibino 31.20 16 ⇓ eP P 05 11 41.8 +0.1
BILL e 05 12 43.3
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,354nm,18.0s
BILL Bilibino 31.20 16 P P 05 11 42.3 +0.6
BILL IAmb IAmb 05 11 55.3
comp=Z,12nm,1.1s
LZH Lanzhou 31.27 276 eP P 05 11 43.4 +0.5
LZH sP pwP 05 11 56.0 +6.1
LZH pmax pmax
comp=Z,27nm,1.2s
LZH LR LR
comp=Z,780nm,13.0s
LZH LR LR
comp=Z,2μm,13.2s
LZH LR LR
comp=Z,2μm,15.7s
MOY Mondy 31.62 307 eP P 05 11 46.0 +0.3
MOY pmax pmax
comp=Z,25nm,1.6s
TIXI Tiksi 33.03 352 P P 05 11 57.9 +0.2
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 33.03 352 P P 05 11 57.9 +0.2
GYA Guiyang 33.23 258 ⇓ i P P 05 12 00.0 -0.1
GYA pP pwP 05 12 09.5 +2.5
GYA pmax pmax
comp=Z,49nm,1.0s
GYA pmax pmax
comp=Z,220nm,5.6s
CD2 Chengdu 33.29 267 P P 05 12 00.3 -0.2
CD2 pmax pmax
comp=Z,20nm,0.5s
GTA Gaotai 33.41 284 ⇑ P P 05 12 02.3 +0.8
GTA pP pwP 05 12 08.9 +0.4
GTA sP sP 05 12 13.3 +6.0
GTA PcP PcP 05 14 44.3 +1.5
GTA pmax pmax
comp=Z,39nm,1.2s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,540nm,16.4s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,16.7s
QIZ Qiongzhong 35.40 245 P P 05 12 19.8 +1.0
QIZ S S 05 17 53.6 +0.6
QIZ pmax pmax
comp=Z,12nm,1.9s
QIZ LR LR
comp=Z,470nm,14.7s
QIZ LR LR
comp=Z,410nm,14.8s
QIZ LR LR
comp=Z,460nm,16.9s
DAV Davao City (W) 36.07 211 LR LR 05 24 57.3
comp=Z,190nm,21.4s,baz=336,slow=33
KMI Kunming 36.92 260 ⇓ P P 05 12 32.3 +0.2
KMI pmax pmax
comp=Z,25nm,1.2s
PZH PanZhiHua 36.95 262 P P 05 12 32.3 +0.1
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,180nm,4.3s
TNA Tin City 37.92 31 P P 05 12 41.5 +1.7
TNA IAmb IAmb 05 12 54.9
comp=Z,12nm,1.0s
TNA Tin City 37.92 31 P P 05 12 41.2 +1.5
baz=251,SNR=5.3
GOMU GeErMu 38.14 281 P P 05 12 43.3 +0.8
GOMU pP pP 05 12 46.8 +0.2
GOMU sP pwP 05 12 50.5 +1.0
GOMU S S 05 18 31.9 -3.4
GOMU pmax pmax
comp=Z,53nm,0.9s
GOMU pmax pmax
comp=Z,170nm,5.1s
GOMU LR LR
comp=Z,160nm,11.2s
GOMU LR LR
comp=Z,210nm,10.9s
GOMU LR LR
comp=Z,280nm,10.8s
WMQ Urumqi 41.17 295 P P 05 13 08.3 +1.1
WMQ pP pwP 05 13 14.6 +0.3
WMQ PcP PcP 05 15 09.6 +3.3
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,210nm,4.7s
WMQ LR LR
comp=Z,230nm,19.9s
ZAA0 Zalesovo Array 41.45 310 P P 05 13 08.6 -0.6
ZAA0 IAmb IAmb 05 13 10.6
comp=Z,18nm,0.7s
ZALV Zalesovo Beam 41.45 310 P P 05 13 09.6 +0.3
comp=Z,15nm,0.5s,baz=88,slow=7.8,SNR=61
ZALV PcP PcP 05 15 07.5 +0.7
comp=Z,7.6nm,0.8s,baz=100,slow=2.7,SNR=4.9
ZALV LR LR 05 31 08.6
comp=Z,398nm,19.3s,baz=356,slow=37
ZALV Zalesovo Beam 41.45 310 P P 05 13 08.6 -0.6
NRIK Noril'sk 41.69 334 P P 05 13 11.5 +0.4

comp=Z,3.7nm,0.5s,baz=103,slow=16,SNR=6.5
NRIK Noril'sk 41.69 334 *ce* P **P 05 13 09.9 -1.2**
NRIK pmax pmax
comp=Z,13nm,1.4s
NRIK Noril'sk 41.69 334 P P **05 13 10.9 -0.2**
ZSN Zaisan 42.31 301 *c i* P **P 05 13 17.2 +0.8**
ZSN pmax pmax
comp=Z,20nm,1.3s
ZSN Zaisan 42.31 301 ⇑ *i* P **P 05 13 17.3 +0.8**
comp=Z,20nm,1.3s,baz=301
N19K Bonanza Creek 43.13 39 P P **05 13 24.8 +1.8**
baz=270
K20K Telida 43.39 36 P P **05 13 26.7 +1.6**
baz=267
J20K Nowinta River 43.40 34 P P **05 13 26.2 +1.1**
baz=266
SII Sitkinak Islan 43.43 46 P P **05 13 26.8 +1.4**
baz=274
CHTO Chiang Mai 43.44 255 P P **05 13 24.8 -1.1**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 43.44 255 P P **05 13 24.8 -1.1**
L20K Farewell, AK 43.45 37 P P **05 13 26.9 +1.4**
baz=268
A21K Barrow 43.55 24 P P **05 13 27.7 +1.5**
baz=256
LSA Lhasa 43.58 274 P P **05 13 28.6 +1.1**
LSA pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 43.66 254 P P **05 13 28.6 +0.9**
comp=Z,2.4nm,0.4s,baz=46,slow=6.7,SNR=17
CMAR LR LR 05 33 33.2
comp=Z,167nm,19.1s,baz=355,slow=39
IMAR Indian Mountai 43.71 32 P P **05 13 29.0 +1.5**
O20K Slope Mountain 44.06 40 P P **05 13 30.8 +0.3**
baz=272
H21K Melozitna Rive 44.07 32 P P **05 13 32.0 +1.5**
baz=266
MK31 Makanchi Array 44.17 300 *c i* P P **05 13 31.6 +0.1**
MK31 Makanchi Array 44.17 300 P P **05 13 31.1 -0.4**
MK31 IAmb IAmb 05 13 33.0
comp=Z,24nm,0.9s
MKAR Makanchi Array 44.17 300 P P **05 13 32.0 +0.5**
comp=Z,19nm,0.8s,baz=83,slow=9.4,SNR=141
MKAR LR LR 05 32 50.8
comp=Z,664nm,18.2s,baz=20,slow=37
MKAR Makanchi Array 44.17 300 P P **05 13 31.8 +0.3**
CHUM Lake Minchumin 44.20 35 P P **05 13 33.2 +1.8**
baz=268
PPLA Purkeypile 44.23 36 P P **05 13 33.6 +1.7**
baz=270
CAST Castle Rocks 44.29 36 IAmb IAmb 05 13 47.7
comp=Z,9.8nm,1.0s
CAST Castle Rocks 44.29 36 P P **05 13 33.6 +1.4**
baz=269
I21K Tanana 44.39 33 P P **05 13 34.9 +1.9**
I21K Tanana 44.39 33 P P **05 13 34.4 +1.4**
baz=267
SEM Semipalatinsk 44.72 306 *eP* P **05 13 34.7 -1.3**
SEM Semipalatinsk 44.72 306 *eP* P **05 13 34.8 -1.3**
baz=306
KTH Kantishna Hill 44.81 35 P P **05 13 37.8 +1.3**
KTH IAmb IAmb 05 13 53.0
comp=Z,14nm,1.0s
MLY Manley 44.91 33 P P **05 13 38.5 +1.3**
MLY Manley 44.91 33 P P **05 13 38.8 +1.7**
baz=269,SNR=8.4
BRSE Bradley Lake S 45.02 41 P P **05 13 39.9 +1.8**
baz=274
SHL Shillong 45.03 268 P P **05 13 37.7 -1.1**
SHL pmax pmax
comp=Z,14nm,0.8s
SHL Shillong 45.03 268 P P **05 13 37.7 -1.1**
SHL IAmb IAmb 05 13 55.4
comp=Z,14nm,0.8s
TRF Thorofare Moun 45.09 36 P P **05 13 40.7 +1.8**
baz=271
CUT Chulitna 45.12 37 P P **05 13 39.8 +1.0**
baz=272
COLD Coldfoot 45.22 30 P P **05 13 40.7 +1.2**
COLD Coldfoot 45.22 30 P P **05 13 40.7 +1.2**
baz=267
RC01 Rabbit Creek A 45.44 39 P P **05 13 42.7 +1.3**
baz=273
I23K Minto, Yukon-K 45.49 33 P P **05 13 43.6 +1.8**
I23K Minto, Yukon-K 45.49 33 P P **05 13 42.7 +1.0**
baz=270
TOLK Toolik Lake Re 45.54 28 P P **05 13 43.6 +1.5**
baz=266,SNR=6.6
NEA2 Nenana 45.62 34 IAmb IAmb 05 13 58.6
comp=Z,14nm,1.0s
NEA2 Nenana 45.62 34 P P **05 13 43.8 +1.0**
baz=271
KURK Kurchatov 45.67 306 *ce* P **P 05 13 43.3 0.0**
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 45.67 306 P P **05 13 42.9 -0.4**
MCK McKinley 45.69 35 IAmb IAmb 05 14 10.9
comp=Z,8.8nm,1.0s
MCK McKinley 45.69 35 P P **05 13 44.3 +0.9**
baz=272,SNR=6.3
PMR Palmer 45.70 38 P P **05 13 44.5 +1.2**
baz=274
RND Reindeer 45.74 36 P P **05 13 44.6 +0.8**
RND pmax pmax
comp=Z,17nm,1.5s
RND Reindeer 45.74 36 P P **05 13 44.6 +0.8**
RND IAmb IAmb 05 13 59.8
comp=Z,17nm,1.5s
KURBB Kurchatov Arra 45.75 306 LR LR 05 34 27.6
comp=Z,275nm,18.4s,baz=292,slow=38
KURBB Kurchatov Arra 45.75 306 P P **05 13 44.1 +0.2**
GHO Glory Hole Cre 45.78 38 IAmb IAmb 05 14 11.3
comp=Z,13nm,1.1s
MDM Murphy Dome 45.98 33 P P **05 13 47.4 +1.8**
MDM IAmb IAmb 05 14 01.3
comp=Z,10nm,1.0s
KNK Knik Glacier 46.03 38 P P **05 13 47.3 +1.2**
baz=274
WRH Wood River Hil 46.05 34 P P **05 13 47.5 +1.3**
SML Sawmill 46.06 38 P P **05 13 47.3 +0.9**
baz=274
H24K Noodor Dome 46.11 32 P P **05 13 48.1 +1.4**
baz=270
PWL Port Wells 46.13 39 P P **05 13 47.7 +0.8**
baz=275
TCOL CIGO, UAF Yank 46.13 33 P P **05 13 47.7 +0.9**
baz=271
COLA College 46.14 33 P P **05 13 48.2 +1.4**
baz=271
WAT6 Susitna Watana 46.29 37 P P **05 13 49.3 +1.0**
baz=274
POKR Poker Plat Res 46.31 33 P P **05 13 50.0 +1.8**
POKR IAmb IAmb 05 13 51.1
comp=Z,15nm,0.9s
POKR Poker Plat Res 46.31 33 P P **05 13 49.4 +1.2**
baz=272
DHY Denali Highway 46.42 36 IAmb IAmb 05 14 04.5
comp=Z,7.7nm,0.9s
DHY Denali Highway 46.42 36 P P **05 13 50.6 +1.2**
baz=274
SCM Sheep Creek Mo 46.54 38 P P **05 13 50.9 +0.8**
baz=275
HDA Harding Lake 46.54 34 IAmb IAmb 05 13 52.0
comp=Z,5.3nm,0.7s
HDA Harding Lake 46.54 34 P P **05 13 50.7 +0.6**
baz=273,SNR=7.3
IL31 46.55 34 P P **05 13 50.6 +0.6**
IL31 IAmb IAmb 05 14 04.3
comp=Z,13nm,0.9s
ILAR Eielson Array 46.55 34 P P **05 13 51.1 +1.0**
comp=Z,4.8nm,0.7s,baz=264,slow=6.5,SNR=60
ILAR Eielson Array 46.55 34 P P **05 13 50.8 +0.7**
ILAR Eielson Array 46.55 34 P P **05 13 50.8 +0.7**
M24K Tolsona, Glenn 47.05 37 P P **05 13 54.7 +0.5**
baz=276
PRP Porcupine Dome 47.09 33 IAmb IAmb 05 14 09.1
comp=Z,8.8nm,0.8s
PRP Porcupine Dome 47.09 33 P P **05 13 55.6 +1.0**
baz=273,SNR=11
SHLS Shalkode 47.11 296 *eP* P **05 13 52.6 -2.3**
SHLS Shalkode 47.11 296 *eP* P **05 13 52.7 -2.3**
baz=296
J25K Salcha River, 47.21 34 P P **05 13 55.8 +0.4**
J25K Salcha River, 47.21 34 P P **05 13 55.9 +0.5**
baz=274
KLU Klutina 47.24 38 IAmb IAmb 05 14 18.0
comp=Z,7.6nm,0.9s
KLU Klutina 47.24 38 P P **05 13 56.8 +1.2**
baz=276
TDK Taldyqorghan 47.26 299 *eP* P **05 13 56.7 +0.8**
TDK pmax pmax
comp=Z,27nm,1.1s
TDK Taldyqorghan 47.26 299 *eP* P **05 13 56.8 +0.8**
comp=Z,28nm,1.1s,baz=299
PAX Paxson 47.30 36 P P **05 13 57.7 +1.6**
baz=275
DIV Divide 47.35 39 IAmb IAmb 05 14 13.4
comp=Z,15nm,1.1s
TAPN Taplejung 47.36 273 *eP* P **05 13 58.1 +0.8**
UZB Uzynbulak 47.41 296 *eP* P **05 13 57.5 +0.2**
UZB Uzynbulak 47.41 296 *eP* P **05 13 57.5 +0.2**
baz=296
EYAK Cordova Ski Ar 47.43 39 P P **05 13 58.1 +1.1**
baz=277
RIDG Independent Ri 47.51 35 P P **05 13 58.4 +0.8**
baz=275
KPKS Kokpek 47.55 297 *c i* P P **05 13 58.7 +0.4**
KPKS pmax pmax
comp=Z,15nm,1.4s
KPKS Kokpek 47.55 297 ⇑ *i* P P **05 13 58.8 +0.4**
comp=Z,15nm,1.4s,baz=297
ODAN Odare 47.85 272 *eP* P **05 14 01.2 +0.2**
DOT Dot Lake 47.87 35 IAmb IAmb 05 14 07.1
comp=Z,11nm,1.5s
SCRK Sand Creek 47.87 35 P P **05 14 01.2 +0.7**
SCRK IAmb IAmb 05 14 15.4
comp=Z,9.4nm,1.0s
SCRK Sand Creek 47.87 35 P P **05 14 01.2 +0.7**
baz=276,SNR=7.7
SATY Saty 47.87 296 *c i* P P **05 14 01.4 +0.6**
SATY pmax pmax
comp=Z,12nm,1.8s
SATY Saty 47.87 296 ⇑ *i* P P **05 14 01.4 +0.6**
comp=Z,12nm,1.8s,baz=296
BMRM Bremner River 47.93 39 P P **05 14 03.0 +2.0**
BMRM IAmb IAmb 05 14 11.5
comp=Z,15nm,1.3s
BMRM Bremner River 47.93 39 P P **05 14 02.5 +1.5**
baz=278
J26L Joseph Creek 48.00 34 P P **05 14 02.1 +0.6**
baz=276
MENT Mentasta 48.10 36 IAmb IAmb 05 14 14.7
comp=Z,5.1nm,0.8s
L26K Log Cabin Wild 48.26 36 P P **05 14 04.5 +1.1**
baz=277,SNR=6.6
JIRN Jiri 48.38 274 *eP* P **05 14 05.5 +0.2**
RAMN Ramite 48.41 273 *eP* P **05 14 05.8 +0.4**
comp=Z,11nm,0.5s
GUN Gumba 48.50 275 *eP* P **05 14 06.3 +0.2**
comp=Z,62nm,0.5s
CHKK Chushkaly 48.59 298 *eP* P **05 14 06.2 0.0**
baz=298
MCARA McCarthy VSAT 48.63 38 P P **05 14 08.2 +1.9**
MCARA IAmb IAmb 05 14 17.6
comp=Z,8.7nm,1.0s
MCARA McCarthy VSAT 48.63 38 P P **05 14 07.8 +1.5**
baz=279
MDOK Medeo 48.77 297 *eP* P **05 14 08.5 +0.6**
MDOK Medeo 48.77 297 *eP* P **05 14 08.5 +0.6**
baz=297
AAA Alma-Ata 48.85 297 *eP* P **05 14 09.1 +0.8**
AAA Alma-Ata 48.85 297 *eP* P **05 14 09.1 +0.8**
baz=297
TNSS Tian-Shan 48.89 297 *eP* P **05 14 09.9 +0.8**
baz=297
L27K Beaver Creek, 48.94 36 IAmb IAmb 05 14 30.7
comp=Z,8.8nm,0.9s
L27K Beaver Creek, 48.94 36 P P **05 14 10.4 +1.8**
baz=278,SNR=6.3
EGAK Eagle 49.00 33 IAmb IAmb 05 14 23.6
comp=Z,7.7nm,0.8s
KKN Kakani 49.02 275 *eP* P **05 14 10.5 +0.5**
KUU Kurty 49.02 298 *i* P P **05 14 09.4 -0.1**
KUU pmax pmax
comp=Z,22nm,0.8s
KUU Kurty 49.02 298 *i* P P **05 14 09.5 -0.1**
comp=Z,22nm,0.8s,baz=298
M27K Edge Creek, AK 49.02 37 IAmb IAmb 05 14 27.3
comp=Z,8.6nm,0.9s
M27K Edge Creek, AK 49.02 37 P P **05 14 11.0 +1.5**
baz=279
PKI Pulchoki 49.03 274 *eP* P **05 14 10.2 0.0**
PKIN Phulchoki 49.03 274 *eP* P **05 14 10.3 +0.1**
comp=Z,18nm,0.5s
DMN Dan 49.24 275 *eP* P **05 14 12.3 +0.5**
GRNC Granite Creek 49.35 39 IAmb IAmb 05 14 30.9
comp=Z,7.9nm,0.8s
GKN Gorkha 49.41 275 *eP* P **05 14 13.1 +0.2**
BVCY Beaver Creek 49.48 36 P P **05 14 14.0 +1.2**
baz=280
CTG Chitna Glacier 49.51 38 P P **05 14 14.4 +1.3**
baz=280
BRZS Berezniki 49.54 307 *eP* P **05 14 13.6 +0.2**
BRZS pmax pmax
comp=Z,7.0nm,0.6s
BRZS Berezniki 49.54 307 *eP* P **05 14 13.7 +0.2**
comp=Z,7.1nm,0.6s,baz=307
YUK3 Moose Creek 49.78 37 P P **05 14 16.6 +1.3**
baz=280,SNR=7.9
TKM2 Tokmak 2 49.86 297 P P **05 14 17.0 +0.8**
SNR=30
TKM2 Tokmak 2 49.86 297 P P **05 14 16.5 +0.3**
DAWY Dawson 49.86 34 P P **05 14 17.0 +1.3**
baz=279
DANN Danging 49.91 276 *eP* P **05 14 17.2 +0.3**
comp=Z,106nm,0.6s
BVAR Borovoye Array 50.09 311 P P **05 14 18.4 +0.8**
comp=Z,12nm,0.6s,baz=53,slow=25,SNR=60
BRVK Borovoye 50.14 311 *ce* P **P 05 14 18.4 +0.5**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 50.14 311 P P **05 14 18.8 +0.9**
BTLS Baital 50.18 300 *i* P P **05 14 18.2 -0.2**
BTLS pmax pmax
comp=Z,12nm,1.5s
BTLS Baital 50.18 300 *i* P P **05 14 18.3 -0.2**
comp=Z,12nm,1.5s,baz=300
OTUK Ortayu 50.27 305 P P **05 14 18.8 -0.2**
KOLN Koldanda 50.32 276 *eP* P **05 14 20.1 +0.2**
SGDS Sogindy 50.33 298 *eP* P **05 14 19.9 +0.2**
comp=Z,20nm,2.1s,baz=298
KBK Karagaybulak 50.40 297 P P **05 14 21.2 +1.0**
SNR=18
USP Ospenovka 50.49 298 P P **05 14 21.3 +0.5**
SNR=7.7
PYUN Piuthan 50.63 276 *eP* P **05 14 22.5 +0.3**
comp=Z,165nm,1.2s
YUK4 Talbot Arm 50.71 38 P P **05 14 24.4 +2.0**
baz=282,SNR=5.5
AAK Ala-Archa 50.72 297 LR LR 05 36 56.2
comp=Z,470nm,18.6s,baz=30,slow=37
AAK Ala-Archa 50.72 297 *ce* P **P 05 14 22.9 +0.2**
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 50.72 297 P P **05 14 23.1 +0.4**
AAK IAmb IAmb 05 14 24.2
comp=Z,12nm,1.2s
KSH Kashi 50.85 293 P P **05 14 27.8 +4.1**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,290nm,16.5s
KSH LR LR
comp=Z,560nm,17.1s
KSH LR LR
comp=Z,790nm,15.2s
YUK6 Outpost Mounta 50.93 38 P P **05 14 25.4 +1.3**
baz=283
EKS2 Erkin-Say 51.20 297 P P **05 14 27.1 +0.9**
SNR=8.0
M30M Minto, Yukon 51.30 36 IAmb IAmb 05 14 53.4
comp=Z,12nm,1.4s
M30M Minto, Yukon 51.30 36 P P **05 14 28.4 +1.8**
baz=283
HYT Haines Junctio 51.37 38 IAmb IAmb 05 14 32.1
comp=Z,18nm,0.9s
HYT Haines Junctio 51.37 38 P P **05 14 29.6 +2.4**
baz=284,SNR=19
AML Almayashu 51.45 297 P P **05 14 29.4 +0.9**
SNR=16
INK Inuvik 51.45 28 P P **05 14 28.8 +1.3**
comp=Z,4.4nm,0.7s,baz=289,slow=6.6,SNR=20
INK Inuvik 51.45 28 P P **05 14 28.7 +1.1**
baz=281,SNR=6.5
N31M Braeburn, Yuko 52.02 37 IAmb IAmb 05 14 35.8
comp=Z,8.2nm,0.8s
N31M Braeburn, Yuko 52.02 37 P P **05 14 34.2 +2.2**
baz=284
M31M Drury Creek, Y 52.48 36 P P **05 14 36.9 +1.6**
baz=285,SNR=5.4
WHY Whitehorse 52.66 38 P P **05 14 38.6 +1.8**
baz=286
SKAG Skagway 52.77 39 P P **05 14 39.4 +1.8**
baz=286
DZA Taraz 52.78 299 *eP* P **05 14 38.3 +0.4**
DZA Taraz 52.78 299 *eP* P **05 14 38.4 +0.4**
baz=299
FARO Faro, Yukon 52.94 36 P P **05 14 40.2 +1.4**
baz=286
KKAR Karatay Array 53.26 299 P P **05 14 41.1 -0.3**
KKAR Karatay Array 53.26 299 P P **05 14 41.1 -0.3**
A36M Sachs Harbour 53.36 23 IAmb IAmb 05 14 45.0
comp=Z,7.3nm,0.8s
A36M Sachs Harbour 53.36 23 P P **05 14 43.3 +1.7**
baz=286,SNR=9.4
SIT Sitka 53.48 42 P P **05 14 44.9 +2.2**
baz=288
MMPY Sheldon Lake, 53.76 35 P P **05 14 46.6 +1.7**
baz=287
P33M Teslin, Yukon 53.77 38 P P **05 14 46.9 +1.9**
baz=288
IUG Iuzhnay 53.96 298 *eP* P **05 14 47.1 +0.4**
IUG Iuzhnay 53.96 298 *eP* P **05 14 47.1 +0.4**
baz=298
BTK Batken 54.27 296 IAmb IAmb 05 15 04.4
comp=Z,22nm,1.4s
SVE Sverdlovsk 54.34 318 ⇑ *eP* P **05 14 50.7 +1.7**
SVE pmax pmax
comp=Z,54nm,0.9s
SVE MLR MLR
comp=Z,1μm,14.0s
PSI Prapat 54.41 239 LR LR 05 42 21.0
comp=Z,195nm,18.2s,baz=352,slow=41
C36M Paulatuk 54.51 26 IAmb IAmb 05 14 52.3
comp=Z,6.1nm,0.8s
C36M Paulatuk 54.51 26 P P **05 14 51.0 +0.9**
baz=288,SNR=8.7
NDI New Delhi 54.76 280 *eP* P **05 14 52.0 -0.5**
TGTN Hyland Airport 55.44 36 P P **05 14 58.7 +1.7**
baz=290
ARU Arti 55.55 318 P P **05 14 58.8 +1.0**
comp=Z,10nm,0.6s,baz=63,slow=4.3,SNR=38
ARU LR LR 05 41 19.5
comp=Z,662nm,18.1s,baz=58,slow=39
ARU Arti 55.55 318 *c i* P P **05 14 58.5 +0.7**
ARU 05 15 53.4
ARU 05 16 59.7
ARU PPP PPP 05 18 13.8
ARU S **S 05 22 46.6 +4.1**
ARU SS **SS 05 26 27.5 +0.7**
ARU pmax pmax
comp=Z,57nm,0.9s
ARU MLR MLR
comp=Z,876nm,14.0s
ARU Arti 55.55 318 P P **05 14 58.6 +0.7**
LEM Lembang 56.76 224 P P **05 15 06.9 -0.2**
comp=Z,28nm,0.8s,baz=249,slow=22,SNR=4.1
EUNU Eureka 57.49 9 IAmb IAmb 05 15 38.6
comp=Z,13nm,1.1s
AB31 Akbulak array 57.55 310 *i* P P **05 15 12.6 +0.4**
KBL Kabul 58.00 290 P P **05 15 15.8 -0.1**
KBL pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 58.00 290 P P **05 15 15.8 -0.1**
AKTO Aktyubinsk 58.19 311 P P **05 15 17.0 +0.3**
comp=Z,9.0nm,0.8s,baz=71,slow=12,SNR=23
AKTO LR LR 05 40 18.3
comp=Z,146nm,18.4s,baz=37,slow=36
AKTO Aktyubinsk 58.19 311 P P **05 15 16.2 -0.5**
SPITS Spitsbergen Ar 58.38 349 LR LR 05 42 32.1
comp=Z,239nm,18.1s,baz=268,slow=38
NOR Nord 58.66 357 *i* P P **05 15 19.0 -0.5**
NOR IAmb IAmb 05 15 20.6
comp=Z,2.6nm,0.8s
KIRV Kirov 59.22 323 *i* P P **05 15 24.1 +0.5**
PRGR Permogore 59.54 327 *eP* P **05 15 25.2 -0.6**
PRGR pmax pmax
comp=Z,22nm,1.1s
WB0 Warramunga Arr 59.58 190 P P **05 15 25.6 -0.9**
WB0 IAmb IAmb 05 15 34.1
comp=Z,8.9nm,1.0s
WR0 Warramunga Arr 59.75 190 P P **05 15 26.5 -1.2**
WR0 IAmb IAmb 05 15 32.6
comp=Z,9.7nm,1.1s
WB2 Warramunga Arr 59.76 190 P P **05 15 26.4 -1.3**
WB2 IAmb IAmb 05 15 53.1
comp=Z,13nm,1.1s
WRA Warramunga Arr 59.76 190 P P **05 15 26.5 -1.3**
comp=Z,2.5nm,0.7s,baz=6.2,slow=6.9,SNR=16
WRA Warramunga Arr 59.76 190 IAmb IAmb 05 15 35.0
comp=Z,0.6nm,1.1s
RES Resolute Bay 59.80 15 IAmb IAmb 05 15 29.4
comp=Z,10nm,0.8s
HYBB Hyderabad (bro 59.84 268 *eP* P **05 15 28.6 0.0**
YKA Yellowknife Ar 60.87 31 P P **05 15 35.6 +0.7**
comp=Z,2.3nm,0.7s,baz=301,slow=6.7,SNR=44
ARCES ARCESS Array B 62.22 339 P P **05 15 43.9 -0.1**
comp=Z,7.9nm,0.9s,baz=30,slow=7.3,SNR=6.8
ARCES LR LR 05 45 36.8
comp=Z,228nm,21.2s,baz=46,slow=39
TULEG Thule 62.42 8 *i* P P **05 15 44.6 -0.6**
TULEG IAmb IAmb 05 15 45.4
comp=Z,6.7nm,0.6s
KLMR Klimovskoe 62.49 328 *eP* P **05 15 42.0 -3.9**
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR Klimovskoe 62.49 328 *eP* P **05 15 42.0 -3.9**
KLMR AMP 05 15 47.4
comp=Z,33nm,1.5s
KLMR *e*PP **PP 05 17 58.1 -4.8**
KTK1 Kautokeino 63.17 340 *eP* P **05 15 51.6 +1.2**
DAG Danmarks Havn 63.42 355 *i* P P **05 15 51.0 -0.8**
DAG IAmb IAmb 05 15 53.2
comp=Z,6.2nm,0.8s
ASAR Alice Springs 63.49 190 P P **05 15 52.9 0.0**
comp=Z,2.6nm,0.9s,baz=6.2,slow=5.7,SNR=14
JETT Jettan, Norway 63.55 341 *eP* P **05 15 54.2 +1.4**
TRO Tromso 63.87 341 *eP* P **05 15 55.8 +1.0**
GEYT Alibeck 64.01 299 P P **05 15 56.0 -0.4**
comp=Z,2.6nm,0.5s,baz=60,slow=8.7,SNR=3.0
GEYT Alibeck 64.01 299 IAmb IAmb 05 16 12.2
comp=Z,8.9nm,0.9s
MOS Moscow 66.18 323 *eP* P **05 16 09.7 -0.4**
MOS pmax pmax
comp=Z,30nm,0.7s
MOS MLR MLR
comp=Z,700nm,18.0s
FAUS Fauske 66.43 341 *eP* P **05 16 12.8 +1.2**
VRH Novokhopyorsk 66.78 318 *eP* P **05 16 12.9 -1.2**
VRH pmax pmax
comp=Z,20nm,1.0s
I05D Terrebonne, OR 67.00 51 P P **05 16 17.1 +1.4**
baz=303
OBN Obninsk 67.04 323 ⇑ *eP* P **05 16 14.1 -1.5**
OBN *e* 05 16 40.7
OBN *e* 05 18 43.3
OBN *e*S S 05 25 36.2 +28
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,574nm,15.0s
NEW Newport 67.26 46 IAmb IAmb 05 16 19.3
comp=Z,4.3nm,0.9s
NEW Newport 67.26 46 P P **05 16 18.6 +1.4**
baz=304
FINES FINESS Array B 67.34 332 P P **05 16 17.8 +0.4**
comp=Z,13nm,0.7s,baz=49,slow=8.6,SNR=40
FINES LR LR 05 48 34.8
comp=Z,549nm,18.1s,baz=18,slow=38
LPSR Galich'ya Gora 67.39 320 *eP* P **05 16 17.8 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
MOR8 Moi Rana 67.57 340 *eP* P **05 16 18.9 0.0**
VORR Voronezh 67.80 319 *eP* P **05 16 23.6 +3.1**
VORR pmax pmax
comp=Z,90nm,0.4s
MAK Makhachkala 68.16 308 *eP* P **05 16 18.6 -4.3**
MAK *e*PPP PPP 05 20 27.6
MAK *e*S **S 05 25 16.9 -5.3**

MAK pmax pmax
comp=Z,195nm,1.0s
MAK MLR MLR
comp=Z,189nm,13.0s
VORD Divnogorie 68.17 319 *eP* **P 05 16 21.9 -0.9**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VSU Vasula 69.10 330 *eP* **P 05 16 29.4 +1.0**
GOF Gofitskoye 69.60 312⇑ *eP* **P 05 16 32.8 +0.9**
GOF pmax pmax
comp=Z,35nm,0.9s
MSO Missoula 69.85 46 P **P 05 16 34.4 +0.9**
baz=307
MTSE Matsula 70.04 331 *eP* **P 05 16 35.1 +0.9**
BEKR Beckworth 70.12 54 P **P 05 16 36.7 +1.3**
BEKR IAmb IAmb 05 16 48.1
comp=Z,4.6nm,0.8s
AAL Aland 70.36 334 *eP* **P 05 16 36.6 +0.4**
ZEI Tsey 70.43 310 *eP* **P 05 16 36.8 -0.4**
ZEI pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 70.45 311⇑P **P 05 16 38.5 +1.3**
KIV Kislovodsk 70.45 311 *eP* **P 05 16 38.1 +0.9**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,258nm,18.0s
KIV Kislovodsk 70.45 311 P **P 05 16 38.6 +1.4**
KBZ Khabaz 70.47 311 P **P 05 16 38.4 +1.3**
comp=Z,18nm,0.9s,baz=61,slow=4.3,SNR=18
KBZ Khabaz 70.47 311 *ceP* **P 05 16 37.5 +0.4**
KBZ pmax pmax
comp=Z,31nm,1.0s
SHA1 Shidzhatmaz 70.60 311 *i* P **P 05 16 37.1 -1.2**
FFC Flin Flon 70.77 34 P **P 05 16 38.9 +0.1**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 70.77 34 P **P 05 16 38.9 +0.1**
FFC IAmb IAmb 05 16 40.6
comp=Z,6.3nm,0.9s
PAHR Pah Rah Range 70.83 54 IAmb IAmb 05 16 55.4
comp=Z,6.8nm,1.1s
NEY Neytrino 70.85 311 *i* P **P 05 16 38.1 -1.7**
NEY pmax pmax
comp=Z,4.0nm,1.0s
FCC Fort Churchill 71.07 28 P **P 05 16 40.6 0.0**
FCC pmax pmax
comp=Z,10.0nm,1.4s
FCC Fort Churchill 71.07 28 P **P 05 16 40.6 0.0**
FCC IAmb IAmb 05 17 03.7
comp=Z,10nm,1.4s
IDID Didziasalis 71.23 327 *eP* **P 05 16 42.9 +1.2**
MNK Minsk 71.31 326 *i* P **P 05 16 42.5 +0.5**
MNK *i* 05 17 01.7
MNK *i* PPP PPP 05 21 11.3
MNK *i* S **S 05 25 58.0 -0.9**
MNK *i* SS **SS 05 30 34.9 +2.8**
MNK pmax pmax
comp=Z,27nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=N,21nm,0.8s
MNK MLR MLR
comp=N,215nm,17.0s
MNK MLR MLR
comp=E,17nm,19.0s
MNK MLR MLR
comp=Z,359nm,19.0s
MNK Minsk 71.31 326 *i* P **P 05 16 42.5 +0.5**
comp=E,1.0nm,0.7s
MNK *i* P **P 05 16 42.5 +0.5**
comp=N,21nm,0.8s
MNK *i* P **P 05 16 42.5 +0.5**
comp=Z,27nm,1.0s,baz=227
MNK *i* PcP **PcP 05 17 01.8 -0.1**
MNK *i* PP **PP 05 19 12.8 -6.9**
MNK *i* PPP PPP 05 21 11.4
MNK *i* S **S 05 25 58.0 -0.9**
MNK *i* SS **SS 05 30 35.0 +2.8**
MNK *i* SSS SSS 05 33 54.7
MNK *i* LQ LQ 05 43 14.4
MNK *i* LR LR 05 48 40.7
MNK *i* LRM MLR 05 50 40.4
comp=N,215nm,17.4s
MNK *i* LRM MLR 05 50 54.8
comp=E,17nm,19.4s
MNK *i* LRM MLR 05 51 04.5
comp=Z,359nm,18.7s
ISAL Salakas 71.31 328 *eP* **P 05 16 43.3 +1.2**
EGMT Eagleton 71.37 43 IAmb IAmb 05 17 05.7
comp=Z,7.0nm,1.1s
EGMT Eagleton 71.37 43 P **P 05 16 43.7 +0.9**
baz=309
UPP Uppsala 71.39 334 *eP* **P 05 16 43.3 +0.8**
IIGN Ignalina 71.43 328 *eP* **P 05 16 43.8 +0.9**
GNI Garni 71.47 307 LR LR 05 51 31.2
comp=Z,168nm,19.0s,baz=59,slow=39
NACGM Naroch 71.50 327 *i* P **P 05 16 44.5 +1.2**
HLID Hailey 71.54 49 P **P 05 16 45.0 +1.0**
baz=307
ICESG Greenland Ices 71.68 1 *i* P **P 05 16 43.5 -1.0**
ICESG IAmb IAmb 05 16 59.8
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 71.87 46 IAmb IAmb 05 16 52.3
comp=Z,7.0nm,1.2s
BOZ Bozeman (W) 71.87 46 P **P 05 16 46.9 +1.1**
baz=308
KVN Kaiserville 72.02 54 P **P 05 16 48.5 +1.6**
KVN pmax pmax
comp=Z,10.0nm,1.3s
KVN Kaiserville 72.02 54 P **P 05 16 48.5 +1.6**
KVN IAmb IAmb 05 17 02.8
comp=Z,10nm,1.3s
LHV Little Huntoon 72.23 55 IAmb IAmb 05 17 05.2
comp=Z,12nm,1.1s
PABE Paberze 72.24 329 *eP* **P 05 16 48.7 +1.0**
NVAR Mina Array Bea 72.26 55 P **P 05 16 50.0 +1.6**
comp=Z,2.2nm,0.8s,baz=289,slow=5.8,SNR=13
DOMB Dombas 72.28 339 *eP* **P 05 16 48.5 +0.6**
NC303 NORSAR Array S 72.29 338 IAmb IAmb 05 16 49.4
comp=Z,10nm,0.8s
HFS Hagfors 72.45 336 P **P 05 16 49.5 +0.6**
comp=Z,8.4nm,0.6s,baz=112,slow=4.0,SNR=32
HFS LR LR 05 52 01.7
comp=Z,222nm,20.0s,baz=16,slow=39
NB2 NORSAR Subarra 72.49 338 P **P 05 16 49.3 +0.2**
comp=Z,1.4nm,0.8s,baz=38,slow=5.9
NB2 NORSAR Subarra 72.49 338 P **P 05 16 49.3 +0.2**
baz=38,slow=5.9
NOA NORSAR Array B 72.49 338 P **P 05 16 49.6 +0.4**
comp=Z,11nm,0.8s,baz=38,slow=6.0,SNR=44
NOA LR LR 05 54 14.0
comp=Z,182nm,18.0s,baz=40,slow=40
UOSS Minazif 72.53 288 P **P 05 16 49.4 -0.6**
NBO00 NORSAR Array S 72.62 338 P **P 05 16 50.4 +0.5**
AKN Aaknes 72.72 340 *eP* **P 05 16 51.7 +1.2**
VIKU Vikbolandet 72.74 334 *eP* **P 05 16 51.4 +0.9**
NAO01 NORSAR Array S 72.74 338 *eP* **P 05 16 51.2 +0.6**
H17A Grant Village 73.20 46 P **P 05 16 55.4 +1.4**
baz=309
AKASG Malin Array Be 73.28 323 P **P 05 16 54.1 +0.1**
comp=Z,8.7nm,0.7s,baz=45,slow=6.0,SNR=35
AKASG LR LR 05 53 55.5
comp=Z,145nm,18.3s,baz=350,slow=40
AKASG Malin Array Be 73.28 323 *i* P **P 05 16 54.0 +0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 73.28 323 *ceP* **P 05 16 53.1 -0.8**
AKBB Malin Array Si 73.28 323 IAmb IAmb 05 16 55.1
comp=Z,13nm,0.9s
OSL Oslo 73.52 337 *eP* **P 05 16 56.6 +1.4**
HVU Hansel Valley 73.59 49 IAmb IAmb 05 17 02.0
comp=Z,10nm,1.5s
SKAR Skarslia 73.61 339 *eP* **P 05 16 56.2 +0.4**
SKAR *eP* **pP 05 16 56.5 -3.6**
GRAC Grapevine Rang 73.71 55 P **P 05 16 58.2 +1.4**
baz=307
FRB Frobisher Bay 73.98 14 LR LR 05 54 03.8
comp=Z,180nm,18.6s,baz=358,slow=40
R11A Troy Canyon, C 74.01 53 P **P 05 17 00.1 +1.4**
baz=308
LAO LASA Array 74.07 42 P **P 05 17 00.1 +1.3**
baz=311
KONO Kongsberg 74.09 338 *eP* **P 05 16 59.5 +1.0**

S11A Rachel 74.34 54 IAmb IAmb 05 17 08.1
comp=Z,10nm,1.1s
FURC Furnace Creek, 74.35 56 P **P 05 17 01.9 +1.5**
baz=308
TPNV Topopah Spring 74.45 55 P **P 05 17 02.7 +1.4**
baz=308
DUG Dugway, Tooele 74.55 51 P **P 05 17 03.3 +1.5**
baz=309
BW06 Boulder Array 74.81 47 P **P 05 17 04.3 +0.9**
baz=310
PDAR Pinedale Array 74.81 47 P **P 05 17 04.1 +0.7**
comp=Z,1.7nm,0.8s,baz=278,slow=2.3,SNR=15
SHPR Sheep Range 75.41 55 P **P 05 17 09.4 +2.5**
SORM Soroca 75.45 321⇓P **P 05 17 06.9 +0.3**
MARD Mardin 75.65 307 P **P 05 17 08.8 +0.7**
SNART Snartemo 75.87 338 *eP* **P 05 17 09.7 +0.9**
RDMU Red Mountain 76.22 49 IAmb IAmb 05 17 16.1
comp=Z,8.7nm,1.0s
P17A Butcher Ranch, 76.24 50 IAmb IAmb 05 17 18.4
comp=Z,12nm,1.4s
LVV L'vov 76.28 324 *eP* **P 05 17 12.2 +0.9**
TPFO Pinon Flats 76.38 58 P **P 05 17 13.5 +1.2**
baz=309
KNB Kanab 76.55 53 IAmb IAmb 05 17 20.6
comp=Z,9.9nm,1.3s
K22A Casper 76.58 45 P **P 05 17 14.0 +0.5**
baz=312
SRU San Rafael Swe 76.60 50 IAmb IAmb 05 17 21.8
comp=Z,6.7nm,1.0s
RSSD Black Hills 76.93 43 P **P 05 17 16.1 +0.7**
baz=313
KWP Kalwaria Pacla 77.01 325 *eP* **P 05 17 17.1 +1.6**
O20A White River Ci 77.28 48 P **P 05 17 18.5 +1.1**
baz=311
BUR08 Bucovina Ar. S 77.30 322 IAmb IAmb 05 17 19.1
comp=Z,7.5nm,0.8s
BURAR Bucovina Array 77.31 322⇑P **P 05 17 18.3 +0.9**
BURAR Bucovina Array 77.31 322 IAmb IAmb 05 17 19.4
comp=Z,7.3nm,0.8s
TESR Tescani 77.41 321 P **P 05 17 18.7 +0.9**
CFR Carcaliu 77.61 319 P **P 05 17 20.0 +1.1**
TPGR Topolog 77.69 319 P **P 05 17 20.2 +0.8**
OJC Ojcow 77.83 327 *eP* **P 05 17 21.2 +1.1**
OJC Ojcow 77.83 327 P **P 05 17 21.3 +1.2**
OJC pmax pmax
comp=Z,22nm,1.0s
OJC Ojcow 77.83 327 P **P 05 17 21.3 +1.2**
UZH Uzhgorod 77.92 324 *eP* **P 05 17 19.0 -1.6**
UZH *e* 05 17 31.8
PV23 Carpenter Ridg 77.93 50 IAmb IAmb 05 17 36.8
comp=Z,6.0nm,0.8s
AGMN Agassiz Nation 78.00 36 P **P 05 17 21.3 +0.2**
baz=317
N23A Red Feather La 78.08 46 P **P 05 17 22.9 +1.0**
baz=312
CRVS Cervenica-Dubn 78.09 325 *eP* **P 05 17 22.6 +1.0**
CRVS Cervenica-Dubn 78.09 325 *eP* **P 05 17 22.6 +1.0**
OZUR 78.13 321 P **P 05 17 23.6 +1.8**
TRPA Tarpa 78.18 324⇓P **P 05 17 23.5 +1.5**
BR131 Keskin Array S 78.36 312 *i* P **P 05 17 23.6 +0.3**
BRTR Keskin Array B 78.36 312 P **P 05 17 23.7 +0.3**
comp=Z,3.2nm,1.0s,baz=86,slow=5.1,SNR=8.2
BRTR LR LR 05 57 27.4
comp=Z,175nm,18.1s,baz=12,slow=40
BRTR Keskin Array B 78.36 312 *i* P **P 05 17 24.2 +0.8**
BRTR pmax pmax
comp=Z,7.0nm,1.2s
DOPR Dopca 78.41 321⇓P **P 05 17 25.3 +1.9**
MLR Muntele Rosu 78.48 320 LR LR 05 56 13.5
comp=Z,213nm,20.2s,baz=26,slow=39
BSEG Bad Segeberg 78.53 334 *eP* **P 05 17 25.1 +1.3**
comp=Z,20nm,1.2s,baz=37,slow=5.6
LANS Liptovska Anna 78.78 326 *eP* **P 05 17 27.6 +2.2**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 78.78 326 *eP* **P 05 17 27.6 +2.2**
KSP Ksiaz 78.79 329 *eP* **P 05 17 26.6 +1.2**
VOIR 78.96 321⇑P **P 05 17 26.9 +0.4**
OSTC Ostas 79.05 329 *eP* **P 05 17 27.5 +0.7**
MVCO Mesa Verde 79.05 51 P **P 05 17 28.4 +1.0**
baz=312
CHVC Chvalec 79.09 329 *eP* **P 05 17 28.1 +1.1**
MORC Moravsky Berou 79.11 328⇑P **P 05 17 28.6 +1.4**
MORC Moravsky Berou 79.11 328 P **P 05 17 28.1 +0.9**
MORC pmax pmax
comp=Z,13nm,1.0s
MORC Moravsky Berou 79.11 328 P **P 05 17 28.1 +0.9**
MORC IAmb IAmb 05 17 29.4
comp=Z,13nm,1.0s
MORC Moravsky Berou 79.11 328 *eP* **P 05 17 28.3 +1.1**
HLG Helgoland 79.14 335 *eL* L 05 55 47.5
comp=Z,264nm,19.4s
DPC Dobruska-Polom 79.17 329 *eP* **P 05 17 28.6 +1.1**
DPC Dobruska-Polom 79.17 329 *eP* **P 05 17 28.6 +1.1**
KRLC Kraliky 79.19 328 *eP* **P 05 17 28.5 +0.8**
KRLC Kraliky 79.19 328 *eP* **P 05 17 28.5 +0.8**
ARR Arges 79.21 321 P **P 05 17 29.7 +1.9**
FLTG Flechtingen 79.52 332 *eP* **P 05 17 29.5 +0.3**
comp=Z,15nm,1.1s,baz=37,slow=5.6
PSZ Piszkesteto 79.53 325 P **P 05 17 30.8 +1.3**
PSZ Piszkesteto 79.53 325 IAmb IAmb 05 17 31.9
comp=Z,13nm,1.0s
BRG Berggiesshubel 79.69 330 *eP* **P 05 17 30.7 +0.4**
BRG Amp 05 17 33.7
comp=Z,9.7nm,1.1s
BRG Berggiesshubel 79.69 330 *eP* **P 05 17 30.7 +0.4**
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 79.69 330 *eP* **P 05 17 30.6 +0.3**
comp=Z,9.7nm,1.1s,baz=37,slow=5.6
CLL Collm 79.70 331 *i* P **P 05 17 30.6 +0.3**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 79.70 331 *i* P **P 05 17 30.6 +0.3**
comp=Z,15nm,1.0s
CLL LmV 05 55 00.0
comp=Z,200nm,20.0s
CLL Collm 79.70 331 *eP* **P 05 17 30.6 +0.3**
comp=Z,15nm,1.0s,baz=37,slow=5.6
CLL *eL* L 05 55 57.1
comp=Z,242nm,20.0s
PVCC Panska Ves 79.72 330 *eP* **P 05 17 31.4 +0.9**
PVCC Panska Ves 79.72 330 *eP* **P 05 17 31.4 +0.9**
JAVC Velka Javorina 79.77 327 *eP* **P 05 17 32.7 +1.9**
RETH Rethem/Aller, 79.84 334 *eP* **P 05 17 31.9 +0.9**
comp=Z,15nm,1.2s,baz=37,slow=5.6
VRAC Vranov 79.87 328⇓P **P 05 17 32.9 +1.6**
VRAC Vranov 79.87 328 P **P 05 17 32.3 +1.0**
comp=Z,6.5nm,0.7s,baz=42,slow=5.8,SNR=7.9
VRAC LR LR 05 56 23.5
comp=Z,250nm,18.1s,baz=31,slow=38
VRAC Vranov 79.87 328 *eP* **P 05 17 32.3 +1.0**
FBE Freiberg 79.88 331 *eP* **P 05 17 32.2 +0.9**
comp=Z,9.8nm,0.9s,baz=37,slow=5.6
GZR Gura Zlata 80.09 322 P **P 05 17 33.5 +0.9**
SMOL Smolenice 80.13 327 *eP* **P 05 17 34.3 +1.6**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 80.13 327 *eP* **P 05 17 34.3 +1.6**
KRUC Moravsky 80.14 328 *eP* **P 05 17 33.7 +0.9**
PRU Pruhonice 80.16 329 *eP* **P 05 17 34.1 +1.3**
PRU Pruhonice 80.16 329 *eP* **P 05 17 34.1 +1.3**
EYMN Ely 80.20 34 P **P 05 17 33.3 +0.2**
baz=320
CLZ Clausthal 80.23 333 *eP* **P 05 17 34.1 +0.9**
comp=Z,16nm,1.2s,baz=37,slow=5.6
SRO Srobarova 80.30 326 *eP* **P 05 17 35.3 +1.7**
SRO Srobarova 80.30 326 *eP* **P 05 17 35.3 +1.7**
SRO2 Moca 80.30 326 *eP* **P 05 17 34.4 +0.8**
SRO2 pmax pmax
comp=Z,11nm,1.1s
SRO2 Moca 80.30 326 *eP* **P 05 17 34.4 +0.8**
TREC Trest 80.33 328 *eP* **P 05 17 34.9 +1.1**
TREC Trest 80.33 328 *eP* **P 05 17 34.9 +1.1**
BZS Buzias 80.47 323 P **P 05 17 35.0 +0.4**
TANN Tannenbergstha 80.62 331 *eP* **P 05 17 36.0 +0.6**
comp=Z,30nm,2.0s,baz=37,slow=5.6
GUNZ Gunzen 80.71 331 *eP* **P 05 17 36.6 +0.8**
comp=Z,9.9nm,1.2s,baz=37,slow=5.6
MOX Moxa 80.75 331 *eP* **P 05 17 36.4 +0.4**
comp=Z,8.7nm,1.1s,baz=37,slow=5.6
MOX *eL* L 05 56 30.1
comp=Z,153nm,18.3s
WERN Wernitzgruen 80.76 331 *eP* **P 05 17 36.9 +0.8**
comp=Z,11nm,1.1s,baz=37,slow=5.6

NKC Novy Kostel 80.78 331 *eP* **P 05 17 37.4 +1.2**
NKC Novy Kostel 80.78 331 *eP* **P 05 17 37.4 +1.2**
ECSD EROS Data Cent 81.00 39 P **P 05 17 37.9 +0.4**
baz=317
MANZ Manzenberg 81.10 331 *eP* **P 05 17 38.9 +0.9**
comp=Z,1.7nm,1.1s,baz=37,slow=5.6
RAYN Ar Rayn 81.14 293 P **P 05 17 39.0 +0.4**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 81.14 293 P **P 05 17 39.0 +0.4**
RAYN IAmb IAmb 05 17 39.9
comp=Z,9.9nm,0.9s
CKRC Cesky Krumlov 81.18 329 *eP* **P 05 17 39.7 +1.3**
KHC Kasperske Hory 81.22 329 *eP* **P 05 17 39.0 +0.4**
KHC Kasperske Hory 81.22 329 *eP* **P 05 17 39.0 +0.4**
KHC Kasperske Hory 81.22 329 IAmb IAmb 05 17 40.6
comp=Z,10nm,1.0s
ROTZ Rotzenmuhle 81.24 330 *eP* **P 05 17 39.1 +0.5**
comp=Z,2.2nm,1.1s,baz=37,slow=5.6
CONA Conrad Observa 81.25 327 *i* P **P 05 17 40.3 +1.5**
comp=Z,11nm,1.0s,SNR=6.1
EKA Eskdalemuir Ar 81.29 341 P **P 05 17 39.8 +1.0**
comp=Z,2.3nm,0.8s,baz=16,slow=4.3,SNR=6.2
GEC2 GERESS Array S 81.40 329 *eP* **P 05 17 39.8 +0.2**
comp=Z,8.0nm,1.2s,baz=37,slow=5.6
GEC2 *eL* L 05 56 41.0
comp=Z,196nm,20.7s
GERES GERESS Array B 81.40 329 P **P 05 17 39.9 +0.2**
comp=Z,1.8nm,0.8s,baz=44,slow=7.9,SNR=16
GERES LR LR 05 57 01.3
comp=Z,197nm,18.7s,baz=3.0,slow=38
WET Wettzell 81.49 330 *eP* **P 05 17 40.7 +0.7**
comp=Z,15nm,1.3s,baz=37,slow=5.6
WET *eL* L 05 59 25.0
comp=Z,128nm,21.1s
T25A Trinidad 81.51 48 P **P 05 17 41.0 +0.4**
baz=314
GRF Grafenberg Arr 81.68 331 *eP* **P 05 17 42.1 +1.1**
comp=Z,21nm,1.0s,baz=37,slow=5.6
GRF *eL* L 05 58 49.8
comp=Z,96nm,21.5s
GRFO Grafenberg 81.68 331 P **P 05 17 41.5 +0.6**
GRFO pmax pmax
comp=Z,17nm,1.0s
GRFO Grafenberg 81.68 331 P **P 05 17 41.5 +0.6**
VTS Vitosha 81.91 320⇑P **P 05 17 43.9 +1.4**
VTS Vitosha 81.91 320 IAmb IAmb 05 17 44.8
comp=Z,7.9nm,0.8s
SOCY Socotra 81.92 279 P **P 05 17 40.9 -1.9**
BGNE Belgrade 81.92 42 P **P 05 17 43.4 +1.0**
baz=317
ARSA Arzberg 81.92 327 *i* P **P 05 17 43.3 +0.9**
comp=Z,6.6nm,1.2s
MOA Molln 81.97 328 *i* P **P 05 17 43.0 +0.4**
comp=Z,1.2nm,0.5s
TNS Taunus Mts 82.25 333 *eL* L 05 57 54.8
comp=Z,180nm,19.3s
BIOA Bad Ischl, Aus 82.35 328 *eP* **P 05 17 45.2 +0.6**
comp=Z,8.2nm,0.9s
SCHQ Schefferville 82.51 17 P **P 05 17 45.7 +0.5**
comp=Z,3.3nm,0.9s,baz=340,slow=3.0,SNR=4.4
PERS Pernice 82.58 327 *i* P **P 05 17 46.5 +0.6**
SOKA Soboth 82.58 327 *i* P **P 05 17 46.7 +0.8**
comp=Z,22nm,1.1s,SNR=6.3
RJOB Jochberg 82.65 329 *eP* **P 05 17 47.2 +1.0**
comp=Z,8.6nm,1.0s,baz=37,slow=5.6
FUR Furstenfeldbru 82.90 330 *eL* L 05 57 57.3
comp=Z,266nm,19.0s
OBKA Obir 82.92 327 *i* P **P 05 17 48.7 +1.1**
comp=Z,7.1nm,0.8s
KBA Koelnbreinsper 82.96 328 *i* P **P 05 17 49.7 +1.7**
comp=Z,9.3nm,1.0s
GCIS Gornji Cirnik 82.97 326 *i* P **P 05 17 48.0 +0.2**
WATA Walderalm 83.46 329 *i* P **P 05 17 50.8 +0.3**
comp=Z,11nm,1.4s
WTTA Wattenberg 83.50 329 *i* P **P 05 17 51.2 +0.5**
comp=Z,9.1nm,1.0s
ABTA Abfaltersbach 83.57 328 *eP* **P 05 17 51.5 +0.6**
comp=Z,6.3nm,1.0s
MOTA Moosalm 83.64 330 *eP* **P 05 17 51.9 +0.5**
comp=Z,23nm,1.2s,SNR=5.7
RETA Reutte 83.66 330 *i* P **P 05 17 51.8 +0.4**
comp=Z,15nm,1.1s
SQTA Sankt Quirin 83.70 329 *i* P **P 05 17 52.4 +0.7**
comp=Z,14nm,1.2s
BFO Black Forest 83.88 332 *eL* L 06 02 17.3
comp=Z,127nm,19.4s
PDG Podgorica 83.99 322 P **P 05 17 53.6 +0.5**
FETA Feichten 84.05 330 *eP* **P 05 17 53.2 -0.3**
comp=Z,12nm,1.0s,SNR=5.5
DAVA Damuels 84.16 330 *eP* **P 05 17 54.7 +0.6**
comp=Z,14nm,0.8s,SNR=8.3
EIL Elat 84.31 304 LR LR 05 58 45.9
comp=Z,93nm,18.9s,baz=65,slow=38
CTI Castel Tesino 84.48 329 IAmb IAmb 05 17 56.0
comp=Z,8.2nm,1.0s
DAVOX Davos/Dischmat 84.58 330 P **P 05 17 55.9 -0.4**
comp=Z,7.5nm,0.8s,baz=39,slow=3.0,SNR=14
DAVOX LR LR 05 59 13.9
comp=Z,171nm,19.0s,baz=8.5,slow=38
SENIN Lac Senin/Sane 85.91 331 IAmb IAmb 05 18 03.9
comp=Z,5.7nm,0.9s
IDI Anoyia 86.42 314 LR LR 06 01 18.5
comp=Z,68nm,18.1s,baz=112,slow=39
TXAR Lajitas Array 87.37 54 P **P 05 18 10.9 +0.6**
comp=Z,0.8nm,0.8s,baz=302,slow=2.7,SNR=8.9
CCM Cathedral Cave 87.94 40 P **P 05 18 12.3 -0.4**
CCM pmax pmax
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 87.94 40 P **P 05 18 12.3 -0.4**
CCM IAmb IAmb 05 18 14.5
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 87.94 40 P **P 05 18 13.5 +0.8**
baz=321
SFIN Lafayette 88.09 36 P **P 05 18 13.5 +0.1**
baz=324
U40A Yellville 88.43 42 P **P 05 18 15.4 +0.3**
baz=320
ATD Arta Tunnel 90.75 286 LR LR 06 03 08.5
comp=Z,55nm,18.1s,baz=30,slow=38
ESDC Sonseca Array 95.72 335 LR LR 06 07 20.1
comp=Z,166nm,18.1s,baz=22,slow=39
LPAZ La Paz 144.07 59 PKP **PKPab 05 24 58.5 +1.4**
comp=Z,1.2nm,0.8s,baz=5.8,slow=7.7,SNR=4.7
BDFB Brasilia 154.19 26 PKPbc **PKPbc 05 25 23.7 +0.3**
comp=Z,1.1nm,0.6s,baz=3.2,slow=8.6,SNR=3.8

IDC ***15*** *05:08:22.3± 1.2, 35°.70N×3°.63W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/46, mbtmp3.3/6, ML3.4/3, Error ellipse: s-maj=33.9km s-min=14.1km az=99.0*
CNRM ***15*** *05:08:23.4, 35°.71N×3°.55W, h24km, ml3.4*
SFS ***15*** *05:08:23.0, 35°.63N×3°.68W, ML3.2, ALBORAN SUR*
MDD ***15*** *05:08:23.6± 0.3, 35°.64N×3°.66W, h0km, mb_Lg3.3/12, Error ellipse: s-maj=2.7km s-min=2.0km az=170.0*
IGIL ***15*** *05:08:24.2, 35°.63N×3°.69W, h0km, ML3.0*
LDG ***15*** *05:08:25.5, 35°.45N×3°.58W, h30km*
ISC 15 05:08:23.9±1.1, 35°.67N±0°.02×3°.62W±0°.02, h16km±8km, n76, σ1°.97/118, mb3.7/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**211**	P		**Pb**	**05 08 34.7**	**+0.1**
PALE				S		**Sb**	**05 08 42.1**	**+0.2**
EALB	**Alboran**	**0.55**	**60**	Pg		**Pb**	**05 08 35.0**	**-0.1**
EALB				Sg		**Sb**	**05 08 43.8**	**+1.1**
EMEL	**Melilla**	**0.65**	**124**	Pg		**Pg**	**05 08 36.5**	**-0.1**
EMEL				Sg		**Sg**	**05 08 45.5**	**+0.3**
AKLM	**AKL**	**1.17**	**190**	P		**Pn**	**05 08 45.1**	**-0.6**
AKLM				S		**Sg**	**05 09 01.8**	**0.0**
ELGU	**Los Guajares,**	**1.20**	**360**	Pg		**Pn**	**05 08 44.6**	**-1.5**
ELGU				Sg		**Sb**	**05 09 00.7**	**-0.8**
ELGU				*i* Vmb_Lg			05 09 03.9	
EMAL	**Malaga-Limoner**	**1.28**	**329**	P		**Pn**	**05 08 45.4**	**-1.6**
EMAL				S		**Sb**	**05 09 02.3**	**-1.4**
EMIJ	**Mijas**	**1.30**	**314**	Pg		**Pn**	**05 08 46.0**	**-1.4**
EMIJ				Sg		**Sb**	**05 09 01.7**	**-2.6**
TAF	**Taforalt**	**1.30**	**130**	P		**Pn**	**05 08 46.4**	**-1.0**
TAF	**Taforalt**	**1.30**	**130**	P		**Pn**	**05 08 46.3**	**-1.1**
TAF				S		**Sb**	**05 09 03.2**	**-1.2**
EBER	**Berja**	**1.36**	**25**	Pn		**Pn**	**05 08 47.2**	**-1.2**
EBER				Sn		**Sn**	**05 09 05.5**	**-0.7**
SMIR	**Smir Dam**	**1.44**	**271**	P		**Pn**	**05 08 46.3**	**-2.9**
SMIR				S		**Sn**	**05 09 06.2**	**-1.5**
CEU	**Ceuta**	**1.45**	**280**	P		**Pn**	**05 08 46.6**	**-2.8**

CEU				S	Sn	05 09 04.5	-3.5	
EGOR	**Sierra Gorda,**	**1.50**	**345**	Pn	Pn	**05 08 49.6**	**-0.6**	
EGOR				Sn	Sg	**05 09 11.1**	**-1.1**	
EGOR				*i* Vmb_Lg		05 09 14.6		
CHEFC	**Chefchaouen**	**1.51**	**249**	P	Pg	**05 08 54.0**	**+0.9**	
CHEFC	**Chefchaouen**	**1.51**	**249**	P	Pn	**05 08 50.4**	**0.0**	
CHEFC				S	Sb	**05 09 11.0**	**+0.4**	
EQUE	**Quentar**	**1.54**	**5**	Pn	Pn	**05 08 51.2**	**+0.4**	
EQUE				Sn	Sb	**05 09 10.9**	**-0.5**	
JBK	**JBK**	**1.58**	**147**	P	Pn	**05 08 50.4**	**-1.0**	
JBK				S	Sn	**05 09 10.0**	**-1.6**	
JBK	**JBK**	**1.58**	**147**	P	Pn	**05 08 50.1**	**-1.3**	
JBK				S	Sn	**05 09 09.5**	**-2.1**	
EJIF	**Jimena Fronter**	**1.69**	**298**	Pn	Pn	**05 08 52.8**	**0.0**	
EJIF				Sn	Sb	**05 09 15.5**	**-0.2**	
ENIJ	**Nijar**	**1.73**	**41**	Pn	Pn	**05 08 51.8**	**-1.5**	
ENIJ				Sn	Sn	**05 09 12.7**	**-2.3**	
SICH	**Sidi Chahed**	**2.09**	**222**	P	Pb	**05 09 00.3**	**-1.2**	
SICH				S	Sb	**05 09 27.1**	**-0.1**	
ESPR	**Espera**	**2.17**	**304**	Pn	Pn	**05 09 00.9**	**+1.6**	
ESPR				Sn	Sb	**05 09 28.2**	**-1.2**	
ESPR				*i* Vmb_Lg		05 09 37.4		
EQES	**Quesada**	**2.18**	**11**	Pn	Pb	**05 09 01.3**	**-1.7**	
EQES				Sn	Sb	**05 09 28.7**	**-1.1**	
EQES				*i* Vmb_Lg		05 09 31.0		
LCRM	**LCR**	**2.22**	**208**	P	Pn	**05 08 59.8**	**-0.4**	
LCRM				S	Sn	**05 09 28.1**	**+0.7**	
IFR	**Ifrane**	**2.48**	**211**	P	Pn	**05 09 03.0**	**-0.7**	
IFR				S	Sn	**05 09 30.3**	**-3.5**	
EADA	**Adamuz**	**2.61**	**343**	Pn	Pn	**05 09 06.4**	**+0.9**	
EADA				Sn	Sb	**05 09 40.8**	**-1.4**	
EADA				*i* Vmb_Lg		05 09 44.1		
EZAR	**Zarzadilla de**	**2.69**	**34**	Pn	Pn	**05 09 06.2**	**-0.4**	
EZAR				Sn	Sn	**05 09 37.6**	**-1.2**	
ECAB	**El Cabril**	**2.81**	**330**	Pn	Pn	**05 09 08.7**	**+0.6**	
ECAB				Sn	Sn	**05 09 42.7**	**+1.1**	
ECAB				*i* Vmb_Lg		05 09 51.9		
CART	**Cartagena**	**2.85**	**47**	P	Pn	**05 09 07.0**	**-1.6**	
CART				S	Sn	**05 09 38.4**	**-4.1**	
CZD	**Col de Zad**	**2.88**	**205**	P	Pn	**05 09 11.0**	**+1.7**	
CZD	**Col de Zad**	**2.88**	**205**	P	Pn	**05 09 10.1**	**+0.7**	
ARNO	**Arenosillo**	**2.89**	**301**	P	Pn	**05 09 07.0**	**-2.2**	
ARNO				S	Sn	**05 09 44.8**	**+1.2**	
TDRA	**Tendrara**	**2.93**	**153**	P	Pn	**05 09 09.8**	**-0.1**	
MD31	**MD31**	**2.95**	**199**	P	Pn	**05 09 10.6**	**+0.6**	
MDT	**Midelt**	**2.96**	**196**	Pn	Pn	**05 09 10.8**	**+0.5**	
	1.0nm,0.3s,baz=128,slow=9.3,SNR=18							
MDT				Lg	Lg	05 09 57.1		
	7.9nm,0.3s,baz=277,slow=2.7,SNR=8.2							
MDT	**Midelt**	**2.96**	**196**	P	Pn	**05 09 10.5**	**+0.2**	
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	Pn	**05 09 13.6**	**-0.2**	
EMIN				Sn	Sn	**05 09 50.0**	**-2.0**	
ETOB	**Tobarra**	**3.40**	**28**	Pn	Pn	**05 09 17.7**	**+1.3**	
ETOB				Sn	Sn	**05 09 57.5**	**+1.1**	
EGRO	**El Granado**	**3.63**	**302**	Pn	Pn	**05 09 19.1**	**-0.3**	
EGRO				Sn	Sn	**05 09 59.9**	**-1.9**	
EGRO				*i* Vmb_Lg		05 10 02.3		
PVAQ	**Vaqueiros**	**3.73**	**299**	P	Pn	**05 09 20.5**	**-0.2**	
AFON	**Font Roja**	**3.87**	**38**	Pn	Pn	**05 09 24.5**	**+1.7**	
PAB	**San Pablo**	**3.92**	**352**	P	Pn	**05 09 24.4**	**+1.0**	
PAB	**San Pablo**	**3.92**	**352**	Pn	Pn	**05 09 24.4**	**+1.0**	
PAB				Sn	Sn	**05 10 10.6**	**+1.5**	
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	Pn	**05 09 25.8**	**+1.1**	
	1.6nm,0.3s,baz=178,slow=12,SNR=61							
ESDC				Sn	Sn	**05 10 11.2**	**-0.2**	
	1.2nm,0.3s,baz=174,slow=21,SNR=5.9							
ESDC				Lg	Lg	05 10 26.8		
	2.3nm,0.3s,baz=178,slow=28,SNR=9.8							
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	Pn	**05 09 25.7**	**+1.1**	
ESDC				Sn	Sn	**05 10 11.2**	**-0.2**	
GOLM	**Goulmima**	**4.10**	**196**	P	Pn	**05 09 27.3**	**+1.3**	
EBAD	**Badajoz**	**4.11**	**320**	Pn	Pn	**05 09 25.8**	**-0.1**	
EBAD				Sn	Sn	**05 10 12.6**	**-1.1**	
EBAD				*i* Vmb_Lg		05 10 14.6		
MORF	**Marmelete**	**4.38**	**293**	*e*P	Pn	**05 09 29.3**	**-0.4**	
MORF				*e*S	Sn	**05 10 17.1**	**-3.3**	
MORF				IAML		05 10 26.0		
	comp=N,32nm,0.4s							
ECHE	**Chera**	**4.45**	**27**	Pn	Pn	**05 09 31.7**	**+1.1**	
ECHE				Sn	Sn	**05 10 24.6**	**+2.5**	
ECHE				*i* Vmb_Lg		05 11 09.5		
PFVI	**Vila Bisbo**	**4.45**	**291**	P	Pn	**05 09 31.0**	**+0.3**	
PESTR	**Estremoz**	**4.50**	**316**	P	Pn	**05 09 31.6**	**+0.3**	
EPLA	**Plasencia**	**4.80**	**337**	Pn	Pn	**05 09 36.5**	**+0.9**	
EPLA				Sn	Sn	**05 10 31.6**	**+0.7**	
EPLA				*i* Vmb_Lg		05 11 00.7		
ETOR	**Torete**	**5.29**	**13**	Pn	Pn	**05 09 43.8**	**+1.5**	
ETOR				Sn	Sn	**05 10 44.9**	**+1.9**	
OUZM	**OUZ**	**5.42**	**210**	P	Pn	**05 09 45.0**	**+0.8**	
OUK	**Oukaimeden**	**5.69**	**220**	P	Pn	**05 09 47.0**	**-1.1**	
EAH	**EAH**	**6.39**	**233**	P	Pn	**05 09 57.0**	**-0.3**	
ELOB	**Lobios**	**7.10**	**332**	Pn	Pn	**05 10 08.3**	**+1.2**	
ELOB				Sn	Sn	**05 11 24.3**	**-3.1**	
ELOB				*i* Vmb_Lg		05 11 27.3		
ELAN	**Lanestosa**	**7.56**	**1**	Pn	Pn	**05 10 14.6**	**+1.3**	
ETSF	**Etsaut**	**7.60**	**17**	*e*Pn	Pn	**05 10 16.6**	**+2.6**	
ETSF				*e*Sn	Sn	**05 11 37.7**	**-2.1**	
	comp=N,0.5nm,0.2s							
SJPF	**Ste Jean**	**7.67**	**13**	*e*Pn	Pn	**05 10 16.2**	**+1.4**	
SJPF				*e*Sn	Sn	**05 11 39.9**	**-1.4**	
	comp=N,1.3nm,0.3s							
EALK	**Alkurruntz**	**7.72**	**12**	Pn	Pn	**05 10 18.3**	**+2.7**	
EALK				Sn	Sn	**05 11 42.4**	**-0.3**	
EARI	**Arriondas**	**7.72**	**351**	Pn	Pn	**05 10 16.5**	**+0.9**	
EARI				Sn	Sn	**05 11 41.6**	**-1.2**	
EAGO	**Agolada(Pontev**	**7.93**	**335**	Pn	Pn	**05 10 19.3**	**+0.9**	
EPF	**Esparros**	**7.97**	**21**	*e*Pn	Pn	**05 10 19.6**	**+0.6**	
EPF	**Esparros**	**7.97**	**21**	*e*P	Pn	05 10 25.5	+6.5	
EPF				*e*Sn	Sn	**05 11 44.9**	**-3.9**	
	comp=N,1.0nm,0.4s							
LFF	**La Frestale**	**9.84**	**18**	*e*Pn	Pn	**05 10 45.3**	**+0.7**	
LASF	**Ste Croix**	**10.17**	**32**	*e*Pn	Pn	**05 10 49.7**	**+0.5**	
RJF	**Les Rejaudoux**	**10.39**	**20**	*e*Pn	Pn	**05 10 53.6**	**+1.5**	
VIVF	**Saint-Julien-l**	**11.15**	**32**	*e*P	Pn	05 11 08.1	+5.6	
SBF	**Sospel**	**11.80**	**43**	*e*P	Pn	05 11 17.7	+6.3	
PGF	**Pioggiola**	**11.96**	**51**	*e*Pn	Pn	**05 11 15.0**	**+1.2**	
QUIF	**Quistinic**	**12.25**	**1**	*e*Pn	Pn	**05 11 18.2**	**+0.7**	
EKA	**Eskdalemuir Ar**	**19.67**	**1**	P	Pn	**05 12 53.3**	**-0.1**	
	baz=182,slow=10,SNR=1.8							
MKAR	**Makanchi Array**	**62.50**	**51**	P	P	**05 18 46.8**	**+0.3**	
	comp=N,0.7nm,0.7s,baz=291,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**67.75**	**332**	P	P	**05 19 21.1**	**+0.8**	
	comp=N,0.3nm,0.6s,baz=61,slow=6.3,SNR=4.5							
PDAR	**Pinedale Array**	**76.82**	**313**	P	P	**05 20 16.6**	**+1.5**	
	comp=N,0.2nm,0.6s,baz=55,slow=7.8,SNR=1.9							

*SFS **15** 05:16:40.0, 35.˙70N×3.˙60W, ML2.5, ALBORAN SUR*
*MDD **15** 05:16:40.5±0.3, 35.˙72N×3.˙65W, h0km, mb_Lg2.5/18,*
Error ellipse: s-maj=2.7km s-min=2.1km az=169.0
*CNRM **15** 05:16:40.5, 35.˙67N×3.˙63W, h20km, ml2.8*
ISC 15 05:16:40.4±3.0, 35.67N±0.02×3.66W±0.02, h17km±22km, n34,σ1s04/72, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.57**	**62**	Pg	**Pb**	**05 16 51.8**	**-0.1**
EALB				Sg	**Sb**	**05 17 00.6**	**+0.8**
EALB				*i* Vmb_Lg		05 17 02.4	
EMEL	**Melilla**	**0.68**	**123**	Pg	Pb	**05 16 53.4**	**-0.4**
EMEL				Sg	**Sb**	**05 17 02.8**	**-0.1**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg	Pn	**05 17 02.2**	**-0.3**
ELGU				Sg	**Sb**	**05 17 17.3**	**-0.5**
ELGU				*i* Vmb_Lg		05 17 20.2	
EMAL	**Malaga-Limoner**	**1.26**	**330**	P	Pn	**05 17 01.8**	**-1.4**
EMAL				S	**Sb**	**05 17 18.4**	**-1.1**
EMIJ	**Mijas**	**1.27**	**315**	Pg	Pn	**05 17 03.6**	**+0.2**
EMIJ				Sg	**Sb**	**05 17 18.9**	**-1.1**
EMIJ				*i* Vmb_Lg		05 17 20.8	
TAF	**Taforalt**	**1.33**	**130**	P	Pn	**05 17 03.4**	**-0.8**
TAF				S	Sn	**05 17 21.3**	**-0.2**
EBER	**Berja**	**1.37**	**27**	Pg	Pn	**05 17 05.0**	**+0.1**
EBER				Sg	**Sb**	**05 17 22.9**	**-0.2**
EBER				*i* Vmb_Lg		05 17 31.1	
CEU	**Ceuta**	**1.42**	**280**	P	Pn	**05 17 02.8**	**-2.6**
CEU				S	Sn	**05 17 19.3**	**-4.2**
EGOR	**Sierra Gorda,**	**1.48**	**346**	Pn	Pn	**05 17 05.9**	**-0.6**
EGOR				Sn	Sn	**05 17 25.6**	**0.0**
EGOR				*i* Vmb_Lg		05 17 35.7	
CHEFC	**Chefchaouen**	**1.49**	**248**	P	Pn	**05 17 07.4**	**+0.9**
CHEFC				S	Sn	**05 17 26.3**	**+0.8**
EQUE	**Quentar**	**1.54**	**6**	Pn	Pn	**05 17 07.3**	**+0.1**
EQUE				Sn	Sn	**05 17 27.1**	**+0.2**
EQUE				*i* Vmb_Lg		05 17 36.5	
JBK	**JBK**	**1.60**	**146**	P	Pn	**05 17 07.4**	**-0.7**
JBK				S	Sn	**05 17 28.2**	**-0.3**
EJIF	**Jimena Fronter**	**1.66**	**298**	Pn	Pn	**05 17 09.2**	**+0.4**
EJIF				Sn	Sn	**05 17 30.4**	**+0.6**
ENIJ	**Nijar**	**1.75**	**42**	Pn	Pn	**05 17 10.2**	**+0.2**
ENIJ				Sn	Sn	**05 17 31.7**	**-0.2**
ENIJ				Sg	Sb	**05 17 32.2**	**-1.5**
ENIJ				*i* Vmb_Lg		05 17 34.2	
SICH	**Sidi Chahed**	**2.08**	**222**	P	Pn	**05 17 16.7**	**+2.2**
SICH				S	Sn	**05 17 40.8**	**+0.9**
ESPR	**Espera**	**2.14**	**305**	Pn	Pn	**05 17 15.5**	**+0.1**
ESPR				Sn	Sn	**05 17 42.0**	**+0.4**
ESPR				Sg	Sb	**05 17 46.7**	**+1.6**
ESPR				*i* Vmb_Lg		05 17 50.5	
EQES	**Quesada**	**2.18**	**12**	Pn	Pn	**05 17 15.9**	**-0.1**
EQES				Sn	Sn	**05 17 41.9**	**-0.7**
EQES				Sg	Sb	**05 17 47.0**	**+0.8**
EQES				*i* Vmb_Lg		05 17 52.2	
LCRM	**LCR**	**2.21**	**207**	P	Pb	**05 17 19.7**	**-0.3**
LCRM				S	Sb	**05 17 46.6**	**-0.6**
IFR	**Ifrane**	**2.47**	**210**	P	Pn	**05 17 18.6**	**-1.4**
IFR				S	Sn	**05 17 49.3**	**-0.5**
EADA	**Adamuz**	**2.60**	**344**	Pn	Pn	**05 17 21.4**	**-0.3**
EADA				Pg	Pb	**05 17 26.8**	**+0.2**
EADA				Sn	Sn	**05 17 53.1**	**+0.2**
EADA				Sg	Sb	**05 17 59.5**	**+1.3**
EADA				*i* Vmb_Lg		05 18 07.3	
EZAR	**Zarzadilla de**	**2.71**	**35**	Pn	Pn	**05 17 23.5**	**+0.3**
EZAR				Sn	Sn	**05 17 55.8**	**+0.1**
ECAB	**El Cabril**	**2.79**	**330**	Pn	Pn	**05 17 24.6**	**+0.4**
ECAB				Pg	Pb	**05 17 29.1**	**-0.7**
ECAB				Sn	Sn	**05 17 58.0**	**+0.5**
ECAB				Sg	Sb	**05 18 06.6**	**+3.0**
ECAB				*i* Vmb_Lg		05 18 12.9	
CZD	**Col de Zad**	**2.87**	**204**	P	Pn	**05 17 25.6**	**-0.1**
CZD				S	Sn	**05 18 00.4**	**+0.4**
MD31	**MD31**	**2.94**	**198**	P	Pn	**05 17 28.0**	**+1.6**
MD31				S	Sn	**05 18 01.4**	**0.0**
TDRA	**Tendrara**	**2.95**	**152**	P	Pn	**05 17 26.9**	**+0.3**
TDRA				S	Sn	**05 18 01.4**	**-0.3**
MDT	**Midelt**	**2.96**	**196**	P	Pn	**05 17 26.5**	**-0.2**
MDT				S	Sn	**05 18 02.1**	**+0.3**
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	Pn	**05 17 30.1**	**+0.2**
EMIN				Sn	Sn	**05 18 07.2**	**-0.5**
EMIN				*i* Vmb_Lg		05 18 07.8	
ETOB	**Tobarra**	**3.41**	**29**	Pn	Pn	**05 17 34.9**	**+2.0**
ETOB				Sn	Sn	**05 18 12.8**	**-0.2**
ETOB				*i* Vmb_Lg		05 18 29.7	
EGRO	**El Granado**	**3.60**	**302**	Pn	Pn	**05 17 35.5**	**+0.1**
EGRO				Sn	Sn	**05 18 16.2**	**-1.2**
EGRO				*i* Vmb_Lg		05 18 17.1	
PVAQ	**Vaqueiros**	**3.70**	**299**	P	Pn	**05 17 36.7**	**-0.1**
PVAQ				S	Sn	**05 18 19.0**	**-1.0**
PAB	**San Pablo**	**3.91**	**352**	Pn	Pn	**05 17 40.3**	**+0.5**
EBAD	**Badajoz**	**4.08**	**320**	Pn	Pn	**05 17 42.5**	**+0.4**
EBAD				Sn	Sn	**05 18 29.6**	**+0.2**
EBAD				*i* Vmb_Lg		05 18 31.4	
OUZM	**OUZ**	**5.41**	**210**	P	Pn	**05 18 01.9**	**+1.4**
OUK	**Oukaimeden**	**5.67**	**220**	P	Pn	**05 18 04.0**	**-0.3**

*LDG **15** 05:40:36.6±0.4, 35.˙60N×3.˙73W, h10km, Ml2.5/3, Error*
ellipse: s-maj=9.2km s-min=5.2km az=6.0
*CNRM **15** 05:40:36.8, 35.˙77N×3.˙52W, h20km, ml2.7*
*MDD **15** 05:40:38.0±0.5, 35.˙68N×3.˙68W, h0km±3km, mb_Lg2.8/12,*
Error ellipse: s-maj=2.9km s-min=2.1km az=167.0
*IGIL **15** 05:40:38.4, 35.˙68N×3.˙68W, h0km, ML2.6*
*SFS **15** 05:40:38.0, 35.˙68N×3.˙68W, ML2.9, ALBORAN SUR*
ISC 15 05:40:36.8±1.3, 35.62N±0.02×3.69W±0.03, h17km±11km,
n48,σ1s84/83, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.62**	**59**	Pg	Pn	**05 40 49.9**	**-0.9**
EALB				Sg	Sb	**05 40 58.1**	**+0.6**
EMEL	**Melilla**	**0.68**	**118**	Pg	Pn	**05 40 51.4**	**-0.2**
EMEL				Sg	Sn	**05 41 00.3**	**-1.5**
ELGU	**Los Guajares,**	**1.24**	**2**	Pg	Pn	**05 40 58.8**	**-0.7**
ELGU				Sg	Sb	**05 41 13.9**	**-1.8**
EMAL	**Malaga-Limoner**	**1.29**	**332**	P	Pn	**05 40 59.6**	**-0.4**
EMAL				S	Sb	**05 41 14.7**	**-2.1**
EMIJ	**Mijas**	**1.29**	**317**	Pg	Pn	**05 40 59.8**	**-0.3**
EMIJ				Sg	Sb	**05 41 15.2**	**-1.7**
TAF	**Taforalt**	**1.32**	**127**	P	Pb	**05 41 01.2**	**+0.1**
TAF	**Taforalt**	**1.32**	**127**	P	Pb	**05 41 01.2**	**+0.1**
TAF				S	Sb	**05 41 16.8**	**-1.0**
CEU	**Ceuta**	**1.40**	**282**	P	Pn	**05 41 00.7**	**-0.8**
CEU				S	Sn	**05 41 16.3**	**-3.3**
EBER	**Berja**	**1.43**	**27**	Pn	Pn	**05 41 02.0**	**-0.1**
EBER				Sn	Sn	**05 41 19.2**	**-1.4**
CHEFC	**Chefchaouen**	**1.45**	**250**	P	Pg	**05 41 04.3**	**-0.4**
CHEFC	**Chefchaouen**	**1.45**	**250**	P	Pg	**05 41 04.4**	**-0.3**
CHEFC				S	Sg	**05 41 24.8**	**+1.3**
EGOR	**Sierra Gorda,**	**1.52**	**347**	Pn	Pb	**05 41 04.3**	**-0.4**
EGOR				Sn	Sb	**05 41 23.8**	**0.0**
EGOR				*i* Vmb_Lg		05 41 29.6	
JBK	**JBK**	**1.58**	**144**	P	Pb	**05 41 05.1**	**-0.6**
JBK	**JBK**	**1.58**	**144**	P	Pb	**05 41 05.1**	**-0.6**
JBK				S	Sn	**05 41 24.6**	**+0.3**
EQUE	**Quentar**	**1.59**	**7**	Pn	Pb	**05 41 05.2**	**-0.7**
EQUE				Sn	Sn	**05 41 24.0**	**-0.5**
EQUE				*i* Vmb_Lg		05 41 27.1	
EJIF	**Jimena Fronter**	**1.67**	**300**	Pn	Pb	**05 41 07.9**	**+0.2**
ENIJ	**Nijar**	**1.80**	**41**	Pn	Pn	**05 41 07.9**	**+0.7**
ENIJ				Sn	Sn	**05 41 27.2**	**-2.4**
ENIJ				*i* Vmb_Lg		05 41 27.2	
SICH	**Sidi Chahed**	**2.02**	**222**	P	Pg	**05 41 14.7**	**-0.9**
SICH				S	Sg	**05 41 41.0**	**-0.9**
ESPR	**Espera**	**2.15**	**306**	Pn	Pb	**05 41 15.5**	**+0.2**
LCRM	**LCR**	**2.16**	**207**	P	Pb	**05 41 15.0**	**-0.6**
EQES	**Quesada**	**2.23**	**13**	Pn	Pb	**05 41 15.9**	**-0.9**
EQES				Sn	Sb	**05 41 43.0**	**-1.2**
EQES				*i* Vmb_Lg		05 41 44.9	
IFR	**Ifrane**	**2.41**	**210**	P	Pb	**05 41 18.0**	**-1.9**
IFR				S	Sn	**05 41 47.5**	**+2.5**
EADA	**Adamuz**	**2.64**	**345**	Pn	Pn	**05 41 20.7**	**+2.1**
EADA				Sn	Sn	**05 41 51.8**	**+1.5**
EADA				*i* Vmb_Lg		05 41 59.1	
EZAR	**Zarzadilla de**	**2.76**	**35**	Pn	Pn	**05 41 20.1**	**-0.3**
EZAR				Sn	Sn	**05 41 52.7**	**-0.7**
ECAB	**El Cabril**	**2.81**	**331**	Pn	Pn	**05 41 20.4**	**+2.3**
ECAB				Sn	Sn	**05 41 56.0**	**+1.4**
ECAB				*i* Vmb_Lg		05 42 04.1	
CZD	**Col de Zad**	**2.82**	**204**	P	Pb	**05 41 24.8**	**-2.0**
CZD				S	Sb	**05 41 59.2**	**-2.0**
TDRA	**Tendrara**	**2.92**	**152**	P	Pn	**05 41 24.8**	**+2.1**
TDRA				S	Sn	**05 41 58.8**	**+1.4**
EMIN	**Mina Concepcio**	**3.22**	**313**	Pn	Pn	**05 41 27.6**	**+1.1**
EMIN				Sn	Sn	**05 42 04.3**	**-0.2**
EMIN				*i* Vmb_Lg		05 42 05.2	
ETOB	**Tobarra**	**3.47**	**29**	Pn	Pn	**05 41 32.5**	**+2.4**
ETOB				Sn	Sn	**05 42 12.4**	**+1.7**
EGRO	**El Granado**	**3.60**	**303**	Pn	Pn	**05 41 33.0**	**+1.2**
EGRO				Sn	Sn	**05 42 13.9**	**-0.1**
EGRO				*i* Vmb_Lg		05 42 15.7	
PVAQ	**Vaqueiros**	**3.70**	**300**	P	Pn	**05 41 34.2**	**+1.0**
PVAQ	**Vaqueiros**	**3.70**	**300**	P	Pn	**05 41 34.2**	**+1.0**
PVAQ				S	Sn	**05 42 15.7**	**-0.7**
PAB	**San Pablo**	**3.95**	**353**	Pn	Pn	**05 41 39.2**	**+2.4**
PAB				Sn	Sn	**05 42 23.6**	**+0.9**
PAB				*i* Vmb_Lg		05 42 42.8	
ESDC	**Sonseca Array**	**4.05**	**357**	Pn	Pn	**05 41 39.7**	**+1.7**
ESDC				Sn	Sn	**05 42 24.4**	**-0.7**
EBAD	**Badajoz**	**4.10**	**321**	Pn	Pn	**05 41 40.2**	**+1.4**
EBAD				Sn	Sn	**05 42 25.7**	**-0.6**
MORF	**Marmelete**	**4.34**	**294**	*e*P	Pn	**05 41 43.4**	**+1.4**
MORF				*e*S	Sn	**05 42 30.9**	**-1.4**
MORF				IAML		05 42 36.2	
	comp=N,11nm,0.3s						
EVO	**Evora**	**4.52**	**311**	P	Pn	**05 41 45.8**	**+1.3**
EVO				S	Sn	**05 42 34.9**	**-1.6**
EPLA	**Plasencia**	**4.82**	**338**	Pn	Pn	**05 41 51.7**	**+3.0**
EPLA				Sn	Sn	**05 42 44.1**	**-0.1**
EPLA				*i* Vmb_Lg		05 43 08.4	
ETOR	**Torete**	**5.34**	**13**	Pn	Pn	**05 41 58.8**	**+2.9**
ETOR				Sn	Sn	**05 42 56.2**	**-0.9**
ETSF	**Etsaut**	**7.66**	**18**	*e*P	Pn	**05 42 30.8**	**+3.1**
ETSF				*e*Sn	Sn	**05 43 50.3**	**-3.8**
	comp=N,0.2nm,0.2s						
SJPF	**Ste Jean**	**7.72**	**14**	*e*Pn	Pn	**05 42 28.0**	**-0.4**
SJPF				*e*Sn	Sn	**05 43 50.7**	**-4.7**
	comp=N,0.3nm,0.2s						
EPF	**Esparros**	**8.03**	**22**	*e*Pn	Pn	**05 42 31.5**	**-1.2**
EPF				*e*Sn	Sn	**05 43 57.2**	**-5.9**
	comp=N,0.9nm,0.3s						
MTLF	**Montolieu**	**8.96**	**29**	*e*P	Pn	**05 42 48.9**	**+3.5**
CAF	**Calviac**	**10.28**	**24**	*e*Pn	Pn	**05 43 03.9**	**+0.4**
SMRF	**Simiane la Rot**	**10.96**	**38**	*e*Pn	Pn	**05 43 12.8**	**-0.1**
LMR	**La Mourre**	**11.01**	**43**	*e*P	Pn	**05 43 17.3**	**+3.8**
SBF	**Sospel**	**11.87**	**43**	*e*P	Pn	**05 43 28.9**	**+3.6**
PGF	**Pioggiola**	**12.03**	**51**	*e*P	Pn	**05 43 30.7**	**+3.1**

*NNC **15** 05:47:57.2±2.5, 53.˙69N×87.˙00E, h0km, mb2.9, mpv2.7,*
Error ellipse: s-maj=21.9km s-min=10.5km az=42.0,
Suspected Mining explosion.
*IDC **15** 05:47:59.0±2.4, 53.˙65N×86.˙99E, h0km, mb1 2.8/2,*
mb1mx2.8/44, mbtmp2.8/2, ML2.5/2, Error ellipse:
s-maj=22.9km s-min=13.2km az=72.0
ISC 15 05:47:59.9±3.6, 53.7N±0.1×86.8E±0.2, h0km, n8,σ1s41/11,
4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**285**	*i*		05 56 30.0	
	baz=99,slow=336,SNR=3.7						
ZAA0	**Zalesovo Array**	**1.18**	**285**	⇑P	**Pg**	**05 48 21.3**	**-1.3**
	1.0nm,0.8s						
ZAA0				⇑S	**Sb**	**05 48 40.1**	**+1.1**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**1.18**	**285**	Pg	**Pb**	**05 48 22.7**	**-0.4**
	1.4nm,0.3s,baz=102,slow=16,SNR=16						
ZALV				Lg	Lg	05 48 41.7	
	2.0nm,0.3s,baz=106,slow=26,SNR=17						
KURK	**Kurchatov**	**5.81**	**243**	⇓Pn	**Pn**	**05 49 28.3**	**+1.0**
	0.8nm,0.9s						
KURK				⇑Lg	Lg	05 51 07.6	
	5.6nm,0.9s						
KURBB	**Kurchatov Arra**	**5.91**	**242**	Pn	**Pn**	**05 49 30.4**	**+1.8**
	0.1nm,0.3s,baz=62,slow=14,SNR=5.0						
KURBB				Lg	Lg	05 51 09.4	
	0.0nm,0.3s,baz=62,slow=33,SNR=6.9						
KURBB	**Kurchatov Arra**	**5.91**	**242**	⇓Pn	**Pn**	**05 49 28.7**	**+0.1**
	3.5nm,1.2s						
KURBB				⇑Sn	**Sn**	**05 50 37.6**	**+0.7**
	1.1nm,0.5s						
KURBB				⇓Lg	Lg	05 51 09.8	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**7.45**	**204**	Pn	**Pn**	**05 49 51.2**	**+1.4**
	0.2nm,0.4s,baz=28,slow=14,SNR=12						
MK31				⇓Sn	**Sn**	**05 51 13.4**	**-1.6**
	0.2nm,0.5s						
MK31				Lg	Lg	05 51 54.1	
	3.1nm,0.9s,baz=36,slow=28,SNR=6.2						
MKAR	**Makanchi Array**	**7.45**	**204**	Pn	**Pn**	**05 49 51.2**	**+1.3**
	0.2nm,0.3s,baz=26,slow=13,SNR=13						
MKAR				Sn	**Sn**	**05 51 13.6**	**-1.4**
	0.1nm,0.3s,baz=24,slow=26,SNR=4.1						
MKAR				Lg	Lg	05 51 55.4	
	0.0nm,0.3s,baz=19,slow=34,SNR=8.2						

*CNRM **15** 05:50:09.0, 35.˙65N×3.˙62W, h4km, ml2.3*
*SFS **15** 05:50:10.0, 35.˙69N×3.˙67W, ML2.6, ALBORAN SUR*
*MDD **15** 05:50:10.5±0.4, 35.˙71N×3.˙70W, h1km±2km, mb_Lg2.5/18,*
Error ellipse: s-maj=2.5km s-min=2.1km az=169.0
ISC 15 05:50:08.9±1.3, 35.68N±0.02×3.67W±0.02, h9km±10km,
n42,σ1s20/82, Strait of Gibraltar

| Code | Station Name | Δ

ESDC				Sg	**Sg**	**05 52 15.9**	**-1.3**
EBAD	**Badajoz**	**4.07**	**320**	Pn	**Pn**	**05 51 12.4**	**+1.1**
EBAD				Sn	**Sn**	**05 51 58.6**	**-0.4**
EBAD				*i* Vmb_Lg		05 52 01.3	
EVO	**Evora**	**4.49**	**311**	P	**Pn**	**05 51 18.7**	**+1.7**
EVO				S	**Sn**	**05 52 08.3**	**-1.1**
EPLA	**Plasencia**	**4.78**	**337**	Pn	**Pn**	**05 51 22.2**	**+1.1**
EPLA				Sn	**Sn**	**05 52 15.2**	**-1.4**
ETOR	**Torete**	**5.29**	**13**	Pn	**Pn**	**05 51 30.3**	**+2.1**
OUZM	**OUZ**	**5.41**	**209**	P	**Pn**	**05 51 32.2**	**+2.3**
OUK	**Oukaimeden**	**5.67**	**219**	P	**Pn**	**05 51 33.4**	**-0.3**

ISK ***15*** *05:52:28.5, 35°.37N×23°.61E, h18km, ML2.9/5*
ATH ***15*** *05:52:29.5, 35°.46N×23°.64E, h22km±2km, ML2.7/2, Error ellipse: s-maj=8.9km s-min=1.0km az=33.0*
THE ***15*** *05:52:29.3, 35°.40N×23°.59E, h12km±2km, ML2.6/5, Error ellipse: s-maj=2.2km s-min=0.7km az=149.0*

ISC 15 05:52:28.5±1.1, 35°.38N±0°.05×23°.58E±0°.04, h18km±4km, n17, σ0.28/28, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.17**	**149**	P	**Pg**	**05 52 32.8**	**-0.1**
KNDR				S	**Sg**	**05 52 35.9**	**-0.1**
	7μm,0.1s						
KNDR	**Palaiochora Ch**	**0.17**	**149**	PG	**Pg**	**05 52 32.8**	**-0.1**
KNDR				SG	**Sg**	**05 52 35.9**	**-0.1**
RODP	**Rodopos**	**0.23**	**39**	P	**Pb**	**05 52 34.3**	**+0.2**
RODP				S	**Sg**	**05 52 37.8**	**+0.2**
	1μm,0.3s						
RODP	**Rodopos**	**0.23**	**39**	PG	**Pb**	**05 52 34.4**	**+0.3**
RODP				SG	**Sg**	**05 52 37.9**	**+0.3**
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pb**	**05 52 35.9**	**-0.2**
IMMV				S	**Sg**	**05 52 40.8**	**+0.2**
IMMV				AML	AML	05 52 41.1	
	comp=N,4116μm,0.2s						
IMMV				AML	AML	05 52 43.2	
	comp=E,3519μm,0.5s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pb**	**05 52 35.9**	**-0.2**
IMMV				S	**Sb**	**05 52 40.9**	**-0.1**
	comp=E,2μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	PG	**Pb**	**05 52 35.8**	**-0.2**
IMMV				SG	**Sb**	**05 52 41.0**	**-0.1**
VAM	**Vamos**	**0.51**	**87**	P	**Pb**	**05 52 39.0**	**+0.1**
VAM				S	**Sg**	**05 52 45.9**	**+0.3**
VAM				AML	AML	05 52 48.2	
	comp=E,1798μm,0.2s						
VAM				AML	AML	05 52 48.6	
	comp=N,2809μm,0.2s						
VAM	**Vamos**	**0.51**	**87**	P	**Pb**	**05 52 38.9**	**+0.1**
VAM				S	**Sb**	**05 52 46.3**	**+0.4**
	comp=N,1μm,0.2s						
ANKY	**Antikythira Is**	**0.54**	**335**	P	**Pb**	**05 52 39.5**	**+0.2**
ANKY				S	**Sb**	**05 52 46.5**	**-0.2**
ANKY	**Antikythira Is**	**0.54**	**335**	P	**Pb**	**05 52 39.8**	**+0.5**
ANKY				S	**Sb**	**05 52 46.6**	**-0.1**
	comp=N,335nm,0.4s						
GVD	**Gavdhos**	**0.68**	**142**	PG	**Pg**	**05 52 41.9**	**0.0**
KTHA	**Kythira Island**	**0.97**	**334**	P	**Pb**	**05 52 47.2**	**+0.4**
KTHR	**Kythira**	**0.99**	**332**	P	**Pb**	**05 52 47.6**	**+0.4**
IDI	**Anoyia**	**1.08**	**95**	P	**Pg**	**05 52 49.2**	**-0.2**
IDI	**Anoyia**	**1.08**	**95**	PG	**Pb**	**05 52 48.8**	**+0.2**
VLI	**Veliai**	**1.43**	**339**	P	**Pg**	**05 52 55.4**	**-0.7**

NEIC 15 05:58:33.4±0.1, 15°.1N±0°.1×145°.6E±0°.2, h10km±2km, ML3.5/6, Error ellipse: s-maj=34.8km s-min=5.6km az=128.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.66**	**206**	Pn	Pn	05 59 02.5	-0.1
GUMO				Sn	Sn	05 59 23.8	-0.2
GUMO				IAML		05 59 30.7	
	508nm,0.7s						
JCJ	**Chichijima**	**12.37**	**346**	Pn	Pn	06 01 29.3	-0.4

SVSA 15 05:59:32.7±0.4, 38°.59N×28°.53W, h13km±4km, ML1.9(INMG), Error ellipse: s-maj=1.2km s-min=1.2km az=26.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**232**	*e*P	Pg	05 59 35.7	0.0
HOR				*e*S	Sg	05 59 38.0	+0.2
HOR				A	A	05 59 38.8	
	465nm,0.1s						
PICO	**Pico**	**0.12**	**136**	*e*P	Pg	05 59 36.3	+0.3
PICO				*e*S	Sg	05 59 39.0	+0.6
PICO				A	A	05 59 39.7	
	152nm,0.1s						
PCAN	**Candelaria**	**0.13**	**163**	*e*P	Pg	05 59 36.4	+0.3
PCAN				*e*S	Sg	05 59 38.8	+0.3
PCAN				A	A	05 59 40.3	
	241nm,0.1s						
CALA	**Caldeira**	**0.13**	**268**	*e*P	Pg	05 59 36.4	+0.2
CALA				*e*S	Sb	05 59 39.4	-0.6
CALA				A	A	05 59 39.9	
	689nm,0.1s						
PCED	**Cedros**	**0.14**	**287**	*e*S	Sg	05 59 39.0	+0.3
PCED				A	A	05 59 39.2	
	116nm,0.2s						
PFCBR	**Castelo Branco**	**0.16**	**246**	*e*P	Pg	05 59 36.6	+0.1
PFCBR				*e*S	Sg	05 59 39.3	+0.2
PFCBR				A	A	05 59 39.8	
	76nm,0.2s						
ROSA	**Rosais**	**0.26**	**60**	*e*P	Pg	05 59 37.9	-0.4
ROSA				*e*S	Sg	05 59 42.0	0.0
ROSA				A	A	05 59 42.5	
	122nm,0.1s						

SVSA 15 05:59:44.1±1.2, 38°.60N×28°.54W, h14km±8km, ML2.4(INMG), 1C-1D, Error ellipse: s-maj=3.6km s-min=3.0km az=6.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**226**	⇑*i*P	Pg	05 59 46.4	-0.8
HOR				*e*S	Sg	05 59 48.6	-0.7
HOR				A	A	05 59 49.5	
	2μm,0.2s						
PICO	**Pico**	**0.13**	**138**	⇓*i*P	Pg	05 59 47.0	-0.6
PICO				*e*S	Sg	05 59 49.7	-0.3
PICO				A	A	05 59 50.8	
	812nm,0.2s						
CALA	**Caldeira**	**0.13**	**263**	*e*P	Pg	05 59 47.1	-0.6
CALA				*e*S	Sg	05 59 50.0	-0.1
CALA				A	A	05 59 50.6	
	2μm,0.1s						
PCED	**Cedros**	**0.13**	**284**	*e*P	Pg	05 59 47.0	-0.6
PCED				*e*S	Sg	05 59 49.4	-0.6
PCED				A	A	05 59 50.0	
	360nm,0.1s						
PCAN	**Candelaria**	**0.14**	**163**	*e*P	Pg	05 59 46.9	-0.8
PCAN				*e*S	Sg	05 59 49.8	-0.4
PCAN				A	A	05 59 51.1	
	556nm,0.1s						
PFCBR	**Castelo Branco**	**0.16**	**242**	*e*P	Pg	05 59 47.4	-0.6
PFCBR				*e*S	Sg	05 59 50.4	-0.2
PFCBR				A	A	05 59 51.1	
	152nm,0.1s						
PCAPE	**Capelo, Faial**	**0.23**	**270**	*e*P	Pg	05 59 48.7	-0.3
PCAPE				*e*S	Sg	05 59 52.3	-0.1
PCAPE				A	A	05 59 53.7	
	1μm,0.2s						
PPNO	**Prainha do Nor**	**0.25**	**120**	*e*P	Pg	05 59 48.8	-0.6
PPNO				*e*S	Sg	05 59 52.9	-0.1
PPNO				A	A	05 59 54.1	
	471nm,0.1s						
ROSA	**Rosais**	**0.26**	**62**	*e*P	Pg	05 59 48.8	-0.9
ROSA				*e*S	Sg	05 59 52.7	-0.7
ROSA				A	A	05 59 53.2	
	340nm,0.1s						

SOME ***15*** *06:10:43.2, 43°.40N×81°.87E, h10km*
NNC ***15*** *06:10:45.8±1.0, 43°.58N×81°.81E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8.9km s-min=2.9km az=137.0*

ISC 15 06:10:39.9±1.8, 43°.40N±0°.06×81°.96E±0°.06, h11km±11km, n59, σ1.81/92, 15C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.17**	**273**	*e*P	**Pg**	**06 11 05.2**	**+2.8**
KTMS				*e*S	**Sn**	**06 11 21.9**	**+3.6**
	390nm,0.1s						
KTMS	**Ketmen**	**1.17**	**273**	P	**Pg**	**06 11 05.2**	**+2.8**
KTMS				S	**Sn**	**06 11 21.9**	**+3.6**
	581nm,0.4s						
PDGK	**Podgornoye**	**1.80**	**268**	P	**Pg**	**06 11 16.2**	**+1.8**
PDGK				S	**Sg**	**06 11 40.1**	**+2.3**
	294nm,0.3s						
PDGK	**Podgornoye**	**1.80**	**268**	⇑P	**Pg**	**06 11 18.0**	**+3.5**
PDGK				⇓S	**Sg**	**06 11 41.2**	**+3.4**
	567nm,0.8s						
SHLS	**Shalkode**	**1.84**	**263**	*e*P	**Pn**	**06 11 11.6**	**+0.1**
SHLS				*e*S	**Sn**	**06 11 32.2**	**-2.7**
	817nm,0.3s						
SHLS	**Shalkode**	**1.84**	**263**	P	**Pn**	**06 11 11.6**	**+0.1**
SHLS				S	**Sn**	**06 11 32.2**	**-2.7**
	817nm,0.3s						
UZB	**Uzynbulak**	**2.16**	**264**	*e*P	**Pg**	**06 11 22.6**	**+1.3**
UZB				*e*S	**Sg**	**06 11 51.3**	**+2.0**
	333nm,0.1s						
UZB	**Uzynbulak**	**2.16**	**264**	Pg	**Pg**	**06 11 22.8**	**+1.5**
UZB				Lg	Lg	06 11 51.3	
	388nm,0.5s						
KNOS	**Konyrlen**	**2.23**	**296**	*e*P	**Pg**	**06 11 23.4**	**+0.9**
KNOS				*e*S	**Sg**	**06 11 52.4**	**+0.9**
	59nm,0.1s						
KPKS	**Kokpek**	**2.39**	**273**	*e*P	**Pg**	**06 11 26.7**	**+1.1**
KPKS				*e*S	**Sg**	**06 11 58.5**	**+2.0**
	570nm,0.3s						
ZHN	**Zhinishke**	**2.58**	**266**	*e*P	**Pg**	**06 11 30.3**	**+0.9**
ZHN				*e*S	**Sg**	**06 12 04.2**	**+1.3**
	471nm,0.1s						
ZHN	**Zhinishke**	**2.58**	**266**	Pg	**Pg**	**06 11 30.3**	**+0.9**
ZHN				Lg	Lg	06 12 04.2	
	385nm,0.2s						
BLB	**Baldybastay**	**2.62**	**287**	*e*P	**Pg**	**06 11 30.1**	**+0.1**
BLB				*e*S	**Sg**	**06 12 04.5**	**+0.6**
	183nm,0.1s						
BLB	**Baldybastay**	**2.62**	**287**	Pg	**Pg**	**06 11 30.1**	**+0.1**
BLB				Lg	Lg	06 12 04.5	
	132nm,0.3s						
SATY	**Saty**	**2.62**	**264**	*e*P	**Pg**	**06 11 31.1**	**+1.0**
SATY				*e*S	**Sg**	**06 12 05.9**	**+1.9**
	428nm,0.3s						
SATY	**Saty**	**2.62**	**264**	Pg	**Pg**	**06 11 31.2**	**+1.2**
SATY				Lg	Lg	06 12 05.9	
	428nm,0.3s						
KAPS	**Kapalarasan**	**2.65**	**316**	*e*P	**Pg**	**06 11 31.4**	**+0.7**
KAPS				*e*S	**Sg**	**06 12 06.4**	**+1.4**
	94nm,0.3s						
KAPS	**Kapalarasan**	**2.65**	**316**	Pg	**Pg**	**06 11 31.4**	**+0.7**
KAPS				Lg	Lg	06 12 06.4	
	94nm,0.3s						
KURS	**Kuram**	**2.76**	**273**	*e*P	**Pg**	**06 11 33.4**	**+0.7**
KURS				*e*S	**Sg**	**06 12 09.9**	**+1.3**
	89nm,0.2s						
KURS	**Kuram**	**2.76**	**273**	Pg	**Pg**	**06 11 33.4**	**+0.7**
KURS				Lg	Lg	06 12 09.9	
	87nm,0.5s						
TDK	**Taldyqorghan**	**3.01**	**303**	*e*P	**Pg**	**06 11 37.2**	**-0.4**
TDK				*e*S	**Sg**	**06 12 16.0**	**-0.6**
	199nm,0.0s						
TDK	**Taldyqorghan**	**3.01**	**303**	Pg	**Pg**	**06 11 37.2**	**-0.4**
TDK				Lg	Lg	06 12 16.0	
	190nm,0.5s						
MK31	**Makanchi Array**	**3.40**	**4**	⇑Pn	**Pb**	**06 11 37.2**	**-2.9**
	0.7nm,0.2s,baz=185,slow=13,SNR=60						
MK31				⇑Pg	**Pg**	**06 11 46.6**	**+1.7**
	2.0nm,0.3s,baz=184,slow=13,SNR=14						
MK31				⇑Sn	**Sn**	**06 12 16.7**	**+3.5**
	14nm,0.6s,baz=186,slow=23,SNR=3.3						
MK31				⇑Lg	Lg	06 12 28.9	
	44nm,0.6s,baz=172,slow=27,SNR=9.6						
MAKZ	**Makanchi**	**3.40**	**0**	⇓Pn	**Pb**	**06 11 37.4**	**-2.8**
	5.8nm,0.3s						
MAKZ				⇑Pg	**Pg**	**06 11 46.5**	**+1.5**
	6.0nm,0.5s						
MAKZ				⇑Sn	**Sn**	**06 12 17.8**	**+4.6**
	16nm,0.6s						
MAKZ				⇓Lg	Lg	06 12 28.0	
	28nm,0.5s						
KOTS	**Kotyrbulak**	**3.54**	**269**	*e*P	**Pg**	**06 11 47.1**	**-0.6**
	3.5nm,0.1s						
KOTS				*e*S	**Sg**	**06 12 32.9**	**-0.7**
	142nm,0.3s						
KOTS	**Kotyrbulak**	**3.54**	**269**	Pg	**Pg**	**06 11 47.4**	**-0.3**
	14nm,0.3s						
KOTS				Lg	Lg	06 12 33.9	
	142nm,0.5s						
MDOK	**Medeo**	**3.59**	**268**	*e*P	**Pg**	**06 11 48.1**	**-0.6**
	2.6nm,0.0s						
MDOK				*e*S	**Sg**	**06 12 35.2**	**-0.1**
	72nm,0.2s						
MDOK	**Medeo**	**3.59**	**268**	Pn	**Pb**	**06 11 43.8**	**+0.3**
	8.7nm,0.6s						
MDOK				⇑Lg	Lg	06 12 37.4	
	50nm,0.5s						
MDOK	**Medeo**	**3.59**	**268**	Pg	**Pg**	**06 11 48.2**	**-0.6**
	3.9nm,0.3s						
MDOK				Lg	Lg	06 12 35.2	
	72nm,0.4s						
CHKK	**Chushkaly**	**3.64**	**279**	*e*P	**Pg**	**06 11 47.9**	**-1.6**
	1.6nm,0.1s						
CHKK				*e*S	**Sg**	**06 12 34.8**	**-1.9**
	39nm,0.1s						
CHKK	**Chushkaly**	**3.64**	**279**	Pg	**Pg**	**06 11 47.9**	**-1.6**
	4.3nm,0.3s						
CHKK				Lg	Lg	06 12 34.7	
	38nm,0.2s						
KNDC	**Almaty**	**3.65**	**269**	⇑Pg	**Pg**	**06 11 52.7**	**+2.9**
	1.4nm,0.1s						
KNDC				⇑Lg	Lg	06 12 39.1	
	164nm,0.7s						
TNSS	**Tian-Shan**	**3.68**	**266**	*e*P	**Pg**	**06 11 50.3**	**-0.1**
	6.7nm,0.0s						
TNSS				*e*S	**Sg**	**06 12 38.5**	**+0.3**
	36nm,0.4s						
TNSS	**Tian-Shan**	**3.68**	**266**	Pg	**Pg**	**06 11 50.3**	**-0.1**
	6.7nm,0.2s						
TNSS				Lg	Lg	06 12 38.4	
	36nm,0.4s						
KTBS	**Karatobe**	**3.85**	**276**	*e*P	**Pg**	**06 11 52.2**	**-1.4**
	2.5nm,0.1s						
KTBS				*e*S	**Sg**	**06 12 41.7**	**-1.8**
	83nm,0.3s						
KTBS	**Karatobe**	**3.85**	**276**	Pg	**Pg**	**06 11 52.5**	**-1.1**
	4.9nm,0.4s						
KTBS				Lg	Lg	06 12 42.6	
	84nm,0.6s						
IZV	**Izvestkoviy**	**3.92**	**266**	*e*P	**Pg**	**06 11 54.5**	**-0.6**
	5.8nm,0.1s						
IZV				*e*S	**Sg**	**06 12 45.6**	**-0.3**
	56nm,0.2s						
IZV	**Izvestkoviy**	**3.92**	**266**	Pg	**Pg**	**06 11 54.8**	**-0.3**
	9.1nm,0.5s						
IZV				Lg	Lg	06 12 46.5	
	56nm,0.4s						
MTBS	**Maitube**	**4.05**	**268**	*e*P	**Pg**	**06 11 56.4**	**-1.0**
	6.8nm,0.0s						
MTBS				*e*S	**Sg**	**06 12 49.0**	**-0.8**
	46nm,0.0s						
MTBS	**Maitube**	**4.05**	**268**	Pg	**Pg**	**06 11 56.4**	**-1.0**
	6.9nm,0.3s						
MTBS				Lg	Lg	06 12 49.0	
	56nm,0.4s						
KUU	**Kurty**	**4.11**	**279**	*e*P	**Pg**	**06 11 57.1**	**-1.5**
	2.1nm,0.1s						
KUU				*e*S	**Sg**	**06 12 50.5**	**-1.3**
	32nm,0.1s						
KUU	**Kurty**	**4.11**	**279**	Pg	**Pg**	**06 11 57.1**	**-1.5**
	2.1nm,0.1s						
KUU				Lg	Lg	06 12 50.4	
	40nm,0.3s						
DGS	**Degeres**	**4.52**	**270**	*e*P	**Pg**	**06 12 04.4**	**-2.0**
	4.0nm,0.1s						
DGS				*e*S	**Sg**	**06 13 03.0**	**-1.9**
	52nm,0.2s						
DGS	**Degeres**	**4.52**	**270**	Pg	**Pg**	**06 12 04.4**	**-2.0**
	4.1nm,0.4s						
DGS				Lg	Lg	06 13 03.0	
	52nm,0.5s						
ZSN	**Zaisan**	**4.53**	**26**	*e*P	**Pg**	**06 12 04.9**	**-1.8**
	7.9nm,0.1s						
ZSN				*e*S	**Sg**	**06 13 03.5**	**-1.8**
	43nm,0.7s						
ZSN	**Zaisan**	**4.53**	**26**	Pg	**Pg**	**06 12 04.9**	**-1.8**
	8.2nm,0.5s						
ZSN				Lg	Lg	06 13 03.5	
	43nm,0.7s						
KRBS	**Karabastau**	**4.58**	**276**	*e*P	**Pg**	**06 12 06.3**	**-1.2**
	1.8nm,0.1s						
KRBS				*e*S	**Sg**	**06 13 05.8**	**-1.0**
	32nm,0.2s						
KRBS	**Karabastau**	**4.58**	**276**	Pg	**Pg**	**06 12 05.0**	**-2.6**
	4.3nm,0.4s						
KRBS				Lg	Lg	06 13 04.0	
	32nm,0.6s						
TKM2	**Tokmak 2**	**4.68**	**266**	⇑Pn	**Pb**	**06 11 58.9**	**-3.1**
	3.0nm,0.5s						
TKM2				⇑Lg	Lg	06 13 12.8	
	46nm,0.8s						
SGDS	**Sogindy**	**5.34**	**273**	*e*P	**Pg**	**06 12 20.4**	**-1.7**
	2.6nm,0.2s						
SGDS				*e*S	**Sg**	**06 13 30.1**	**-1.1**
	14nm,0.3s						
SGDS	**Sogindy**	**5.34**	**273**	Pg	**Pg**	**06 12 20.4**	**-1.7**
	2.7nm,0.5s						
SGDS				Lg	Lg	06 13 30.1	
	14nm,0.3s						
AAK	**Ala-Archa**	**5.53**	**265**	Pg	**Pg**	**06 12 25.9**	**+0.2**
	3.4nm,0.8s						
AAK				Lg	Lg	06 13 39.1	
	23nm,0.9s						
BTLS	**Baital**	**5.92**	**289**	*e*P	**Pg**	**06 12 31.3**	**-1.8**
	1.1nm,0.1s						
BTLS				*e*S	**Sg**	**06 13 49.3**	**-0.4**
	2.8nm,0.0s						
BTLS	**Baital**	**5.92**	**289**	Pg	**Pg**	**06 12 31.3**	**-1.8**
	2.0nm,0.6s						
BTLS				Lg	Lg	06 13 49.3	
	2.7nm,0.6s						
MRKS	**Merke**	**6.43**	**267**	*e*P	**Pg**	**06 12 41.7**	**-1.2**
	1.4nm,0.0s						
MRKS				*e*S	**Sg**	**06 14 07.7**	**+1.5**
	8.4nm,0.1s						
MRKS	**Merke**	**6.43**	**267**	Pg	**Pg**	**06 12 41.7**	**-1.2**
	2.1nm,0.4s						
MRKS				Lg	Lg	06 14 07.7	
	7.6nm,0.5s						
KURBB	**Kurchatov Arra**	**7.59**	**343**	⇓Pn	Pn	06 12 37.0	+6.6
	3.1nm,0.8s						
KURBB				⇓Sn	**Sn**	**06 14 00.2**	**+3.9**
	13nm,0.8s						
KURBB				⇑Lg	Lg	06 14 39.5	
	33nm,0.6s						
KURK	**Kurchatov**	**7.66**	**344**	⇓Pn	Pn	06 12 37.4	+6.1
	4.2nm,0.9s						
KURK				⇓Sn	**Sn**	**06 13 59.9**	**+1.9**
	3.4nm,0.7s						
KURK				⇓Lg	Lg	06 14 41.8	
	9.2nm,0.5s						
KK06	**Karatay Array**	**8.35**	**272**	⇑Pg	**Pg**	**06 13 18.3**	**-1.4**
	1.2nm,0.7s						
KK06				⇑Lg	Lg	06 15 07.7	
	3.3nm,0.6s						

IDC 15 06:22:04.4±3.0, 54°.15N×87°.29E, h0km, mb1 2.7/2, mb1mx2.6/64, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=25.4km s-min=19.4km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**263**	*i*		06 31 46.3	
	baz=84,slow=326,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.47**	**263**	Pg	Pn	06 22 29.7	-2.4
	2.1nm,0.3s,baz=80,slow=12,SNR=15						
ZALV				Lg	Lg	06 22 50.6	
	0.7nm,0.3s,baz=84,slow=29,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	06 23 40.9	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=5.5						
KURBB				Sn	Sn	06 24 53.8	-0.3
	0.0nm,0.3s,baz=56,slow=23,SNR=1.3						
KURBB				Lg	Lg	06 25 31.6	
	0.0nm,0.3s,baz=47,slow=31,SNR=1.2						
MKAR	**Makanchi Array**	**8.03**	**205**	Pn	Pn	06 24 03.7	+1.5
	0.1nm,0.3s,baz=28,slow=10,SNR=4.6						

IDC ***15*** *06:30:08.7±1.6, 35°.70N×4°.11W, h0km, mb3.6/1, mb1 3.9/2, mb1mx3.4/44, mbtmp3.6/2, ML3.3/2, MS4.5/1, Ms1 4.5/1, ms1mx2.7/98, Error ellipse: s-maj=77.4km s-min=16.6km az=89.0*
CNRM ***15*** *06:30:08.4, 35°.71N×3°.57W, h19km, ml3.4*
MDD ***15*** *06:30:09.4±0.3, 35°.65N×3°.65W, h0km, mb_Lg3.2/10, Error ellipse: s-maj=3.0km s-min=2.2km az=176.0*
IGIL ***15*** *06:30:09.6, 35°.68N×3°.69W, h0km, ML2.9*
SFS ***15*** *06:30:09.0, 35°.67N×3°.68W, ML3.3, ALBORAN SUR*
INMG ***15*** *06:30:10.4±1.4, 35°.68N×3°.78W, h0km, ML3.0, Error ellipse: s-maj=4.8km s-min=3.9km az=162.0*
LDG ***15*** *06:30:11.1±0.3, 35°.61N×3°.61W, h10km, Ml3.1/3, Error ellipse: s-maj=6.8km s-min=4.2km az=8.0*

ISC 15 06:30:08.1±1.2, 35°.68N±0°.02×3°.65W±0°.02, h8km±9km, n98, σ1.57/161, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**208**	P	**Pb**	**06 30 19.9**	**+0.4**
PALE				S	**Sb**	**06 30 26.9**	**-0.2**
EALB	**Alboran**	**0.56**	**62**	Pg	**Pb**	**06 30 20.9**	**+0.6**
EALB				Sg	**Sb**	**06 30 29.8**	**+1.4**
EMEL	**Melilla**	**0.68**	**123**	Pg	**Pb**	**06 30 22.2**	**+0.1**
EMEL				Sg	**Sb**	**06 30 31.5**	**-0.2**
AKLM	**AKL**	**1.18**	**189**	P	**Pg**	**06 30 30.8**	**+0.1**
AKLM				S	**Sg**	**06 30 45.9**	**-0.1**
ELGU	**Los Guajares,**	**1.19**	**1**	Pg	**Pg**	**06 30 30.2**	**-0.8**
ELGU				Sg	**Sg**	**06 30 46.2**	**-0.3**
EMAL	**Malaga-Limoner**	**1.26**	**330**	P	**Pn**	**06 30 31.1**	**-0.8**
EMAL				S	**Sb**	**06 30 47.1**	**-1.3**
EMIJ	**Mijas**	**1.27**	**315**	Pg	**Pn**	**06 30 31.5**	**-0.8**
EMIJ				Sg	**Sb**	**06 30 47.8**	**-1.1**
TAF	**Taforalt**	**1.32**	**130**	P	**Pn**	**06 30 33.0**	**-0.1**
TAF	**Taforalt**	**1.32**	**130**	P	**Pn**	**06 30 32.1**	**-0.9**
TAF				S	**Sb**	**06 30 48.6**	**-1.8**
EBER	**Berja**	**1.36**	**26**	Pn	**Pn**	**06 30 33.1**	**-0.6**
EBER				Sn	**Sb**	**06 30 51.4**	**-0.3**
SMIR	**Smir Dam**	**1.41**	**271**	P	**Pn**	**06 30 32.2**	**-1.9**
SMIR				S	**Sb**	**06 30 51.5**	**-1.4**
CEU	**Ceuta**	**1.42**	**280**	P	**Pn**	**06 30 32.3**	**-2.0**
CEU				S	**Sn**	**06 30 48.3**	**-4.8**
EGOR	**Sierra Gorda,**	**1.48**	**346**	Pn	**Pn**	**06 30 34.9**	**-0.3**
EGOR				Sn	**Sg**	**06 30 55.6**	**-0.2**
EGOR				*i* Vmb_Lg		06 30 57.6	
CHEFC	**Chefchaouen**	**1.50**	**248**	P	**Pb**	**06 30 36.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.50**	**248**	P	**Pn**	**06 30 35.8**	**+0.4**
CHEFC				S	**Sg**	**06 30 56.0**	**-0.2**
EQUE	**Quentar**	**1.54**	**6**	Pn	**Pb**	**06 30 36.5**	**-0.4**
EQUE				Sn	**Sn**	**06 30 55.8**	**-0.3**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**06 30 36.0**	**-1.0**
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**06 30 35.9**	**-1.1**
JBK				S	**Sn**	**06 30 54.9**	**-3.1**
EJIF	**Jimena Fronter**	**1.67**	**298**	Pn	**Pb**	**06 30 38.5**	**-0.6**
**

SICH				S	**Sb**	**06 31 13.4**	**+1.1**	
ESPR	**Espera**	**2.15**	**304**	Pn	**Pb**	**06 30 46.9**	**-0.3**	
ESPR				Sn	**Sb**	**06 31 12.8**	**-1.2**	
ESPR				*i* Vmb_Lg		06 31 18.4		
EQES	**Quesada**	**2.17**	**12**	Pn	**Pb**	**06 30 47.1**	**-0.7**	
EQES				Sn	**Sb**	**06 31 14.5**	**-0.5**	
IFR	**Ifrane**	**2.48**	**210**	P	**Pn**	**06 30 48.9**	**0.0**	
IFR				S	**Sn**	**06 31 19.3**	**-0.1**	
EADA	**Adamuz**	**2.60**	**344**	Pn	**Pn**	**06 30 51.9**	**+1.4**	
EADA				Sn	**Sb**	**06 31 26.7**	**-0.3**	
EADA				*i* Vmb_Lg		06 31 31.9		
EZAR	**Zarzadilla de**	**2.70**	**35**	Pn	**Pn**	**06 30 51.9**	**0.0**	
EZAR				Sn	**Sn**	**06 31 23.5**	**-1.3**	
ECAB	**El Cabril**	**2.79**	**330**	Pn	**Pn**	**06 30 54.6**	**+1.5**	
ECAB				Sn	**Sn**	**06 31 27.3**	**+0.4**	
ECAB				*i* Vmb_Lg		06 31 36.0		
CART	**Cartagena**	**2.86**	**47**	P	**Pn**	**06 30 54.4**	**+0.4**	
CART				S	**Sn**	**06 31 23.2**	**-5.4**	
CZD	**Col de Zad**	**2.88**	**204**	P	**Pn**	**06 30 56.0**	**+1.4**	
CZD	**Col de Zad**	**2.88**	**204**	P	**Pn**	**06 30 55.5**	**+1.0**	
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**06 30 55.6**	**+0.2**	
TDRA	**Tendrara**	**2.95**	**153**	P	**Pn**	**06 30 55.7**	**+0.2**	
MDT	**Midelt**	**2.96**	**196**	Pn	**Pn**	**06 30 55.7**	**+0.1**	
	0.5nm,0.3s,baz=22,slow=19,SNR=25							
MDT				Sn	**Sn**	**06 31 32.4**	**+1.1**	
	3.0nm,0.3s,baz=40,slow=16,SNR=6.1							
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**06 30 56.2**	**+0.6**	
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**06 30 56.2**	**+0.6**	
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	**Pn**	**06 30 59.4**	**+0.6**	
EMIN				Sn	**Sn**	**06 31 36.8**	**-0.3**	
ETOB	**Tobarra**	**3.41**	**29**	Pn	**Pn**	**06 31 04.0**	**+2.3**	
ETOB				Sn	**Sn**	**06 31 43.6**	**+1.3**	
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**06 31 04.7**	**+0.5**	
EGRO				Sn	**Sn**	**06 31 46.1**	**-0.8**	
PBAR	**Barrancos**	**3.69**	**314**	*e*Pn	**Pn**	**06 31 06.0**	**+0.5**	
PBAR				*e*Sn	**Sn**	**06 31 48.1**	**-1.0**	
PBAR				A	A	06 32 09.6		
	22nm,0.6s							
PVAQ	**Vaqueiros**	**3.70**	**299**	*e*Pn	**Pn**	**06 31 06.1**	**+0.4**	
PVAQ				*e*Sn	**Sn**	**06 31 48.1**	**-1.4**	
PVAQ				A	A	06 31 50.9		
	22nm,0.4s							
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**06 31 06.3**	**+0.7**	
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**06 31 06.3**	**+0.7**	
PVAQ				S	**Sn**	**06 31 49.4**	**-0.1**	
PBDV	**Barranco-do-Ve**	**3.79**	**296**	*e*Pn	**Pn**	**06 31 07.3**	**+0.4**	
PBDV				*e*Sn	**Sn**	**06 31 50.8**	**-0.9**	
PBDV				A	A	06 32 01.5		
	19nm,0.5s							
PAB	**San Pablo**	**3.90**	**352**	P	**Pn**	**06 31 10.4**	**+1.9**	
PAB	**San Pablo**	**3.90**	**352**	Pn	**Pn**	**06 31 09.9**	**+1.4**	
PAB				Sn	**Sn**	**06 31 54.8**	**+0.2**	
PAB				*i* Vmb_Lg		06 32 20.4		
ESDC	**Sonseca Array**	**4.00**	**357**	Pn	**Pn**	**06 31 11.7**	**+1.9**	
	2.3nm,0.3s,baz=181,slow=12,SNR=68							
ESDC				Sn	**Sn**	**06 31 56.7**	**-0.2**	
	1.5nm,0.3s,baz=177,slow=23,SNR=5.2							
ESDC				Lg	Lg	06 32 13.3		
	2.9nm,0.3s,baz=169,slow=27,SNR=8.1							
ESDC	**Sonseca Array**	**4.00**	**357**	Pn	**Pn**	**06 31 11.7**	**+1.9**	
ESDC				Sn	**Sn**	**06 31 57.2**	**+0.3**	
PCVE	**Castro Verde**	**4.04**	**300**	*e*Pn	**Pn**	**06 31 10.7**	**+0.5**	
PCVE				*e*Sn	**Sn**	**06 31 56.5**	**-1.2**	
PCVE				A	A	06 31 59.6		
	24nm,0.5s							
EBAD	**Badajoz**	**4.08**	**320**	Pn	**Pn**	**06 31 11.8**	**+1.0**	
EBAD				Sn	**Sn**	**06 31 58.5**	**-0.3**	
PBEJ	**Beja**	**4.12**	**306**	*e*Pn	**Pn**	**06 31 12.4**	**+1.0**	
PBEJ				*e*Sn	**Sn**	**06 31 58.5**	**-1.2**	
PBEJ				A	A	06 32 02.1		
	13nm,0.5s							
MORF	**Marmelete**	**4.35**	**293**	*e*P	**Pn**	**06 31 14.5**	**-0.1**	
MORF				*e*S	**Sn**	**06 32 02.2**	**-3.3**	
MORF				IAML		06 32 11.4		
	comp=E,24nm,0.6s							
MORF	**Marmelete**	**4.35**	**293**	*e*Pn	**Pn**	**06 31 15.4**	**+0.8**	
MORF				*e*Sn	**Sn**	**06 32 06.0**	**+0.6**	
MORF				A	A	06 32 16.7		
	comp=E,9.9nm,0.5s							
PFVI	**Vila Bisbo**	**4.42**	**291**	*e*Pn	**Pn**	**06 31 16.2**	**+0.6**	
PFVI				*e*Sn	**Sn**	**06 32 05.8**	**-1.4**	
PFVI				A	A	06 32 19.5		
	comp=E,18nm,0.6s							
PFVI	**Vila Bisbo**	**4.42**	**291**	P	**Pn**	**06 31 17.1**	**+1.6**	
PFVI	**Vila Bisbo**	**4.42**	**291**	P	**Pn**	**06 31 17.1**	**+1.6**	
PESTR	**Estremoz**	**4.48**	**317**	*e*Pn	**Pn**	**06 31 17.4**	**+1.1**	
PESTR				*e*Sn	**Sn**	**06 32 07.3**	**-1.3**	
PESTR				A	A	06 32 37.6		
	comp=E,16nm,0.5s							
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**06 31 17.4**	**+1.1**	
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**06 31 17.4**	**+1.1**	
PTEO	**Sao Teotonio**	**4.49**	**296**	*e*Pn	**Pn**	**06 31 18.0**	**+1.5**	
PTEO				*e*Sn	**Sn**	**06 32 08.8**	**-0.1**	
PTEO				A	A	06 32 13.2		
	comp=E,19nm,0.5s							
EVO	**Evora**	**4.51**	**311**	P	**Pn**	**06 31 17.6**	**+0.9**	
EVO				S	**Sn**	**06 32 08.5**	**-0.8**	
EVO	**Evora**	**4.51**	**311**	*e*Pn	**Pn**	**06 31 17.9**	**+1.2**	
EVO				*e*Sn	**Sn**	**06 32 08.1**	**-1.2**	
EVO				A	A	06 32 15.4		
	comp=E,14nm,0.4s							
PNCL	**Nicolau / Gran**	**4.61**	**303**	*e*Pn	**Pn**	**06 31 18.5**	**+0.4**	
PNCL				*e*Sn	**Sn**	**06 32 10.5**	**-1.2**	
PNCL				A	A	06 32 14.0		
	comp=E,11nm,0.6s							
PMRV	**Marv??o**	**4.78**	**323**	*e*Pn	**Pn**	**06 31 22.1**	**+1.6**	
PMRV				*e*Sn	**Sn**	**06 32 15.4**	**-0.7**	
PMRV				A	A	06 32 44.3		
	comp=E,16nm,0.5s							
EPLA	**Plasencia**	**4.79**	**337**	Pn	**Pn**	**06 31 22.0**	**+1.5**	
EPLA				Sn	**Sn**	**06 32 18.5**	**+2.2**	
EPLA				*i* Vmb_Lg		06 32 42.2		
PMTG	**Montargil**	**4.98**	**314**	*e*Pn	**Pn**	**06 31 25.8**	**+2.7**	
PMTG				*e*Sn	**Sn**	**06 32 19.0**	**-1.9**	
PMTG				A	A	06 32 54.8		
	comp=E,15nm,0.7s							
PCBR	**Castelo Branco**	**5.15**	**325**	*e*Pn	**Pn**	**06 31 27.2**	**+1.7**	
PCBR				*e*Sn	**Sn**	**06 32 23.8**	**-1.3**	
PACT	**Alcochete**	**5.16**	**308**	*e*Pn	**Pn**	**06 31 27.6**	**+1.9**	
PACT				*e*Sn	**Sn**	**06 32 25.4**	**0.0**	
ETOR	**Torete**	**5.29**	**13**	Pn	**Pn**	**06 31 29.2**	**+1.7**	
ETOR				Sn	**Sn**	**06 32 28.4**	**-0.2**	
ETOR				*i* Vmb_Lg		06 32 55.3		
OUZM	**OUZ**	**5.42**	**210**	P	**Pn**	**06 31 30.5**	**+1.2**	
PMAFR	**Mafra**	**5.56**	**308**	*e*Pn	**Pn**	**06 31 32.6**	**+1.5**	
PMAFR				*e*Sn	**Sn**	**06 32 33.7**	**-1.5**	
PSBE	**So Bento**	**5.60**	**315**	*e*Pn	**Pn**	**06 31 33.3**	**+1.5**	
PSBE				*e*Sn	**Sn**	**06 32 35.3**	**-1.0**	
PSBE				A	A	06 33 16.1		
	comp=E,13nm,0.6s							
MTE	**Manteigas**	**5.63**	**328**	*e*Pn	**Pn**	**06 31 34.2**	**+2.0**	
MTE				*e*Sn	**Sn**	**06 32 35.7**	**-1.4**	
MTE				A	A	06 33 14.9		
	comp=E,34nm,0.7s							
OUK	**Oukaimeden**	**5.68**	**220**	P	**Pn**	**06 31 32.6**	**-0.6**	
PCAS	**Casmilo, Conde**	**5.81**	**320**	*e*Pn	**Pn**	**06 31 36.2**	**+1.5**	
PCAS				*e*Sn	**Sn**	**06 32 38.8**	**-2.8**	
PCAS				A	A	06 33 22.1		
	comp=E,22nm,0.6s							
PVIS	**Viseu**	**6.04**	**328**	*e*Pn	**Pn**	**06 31 39.5**	**+1.7**	
PVIS				*e*Sn	**Sn**	**06 32 44.5**	**-2.7**	
PVIS				A	A	06 33 25.3		
	comp=E,9.8nm,0.8s							
MVO	**Moncorvo**	**6.09**	**335**	*e*Pn	**Pn**	**06 31 40.3**	**+1.8**	
MVO				*e*Sn	**Sn**	**06 32 46.0**	**-2.4**	
MVO				A	A	06 33 35.4		
	comp=E,16nm,0.6s							
PVRL	**Vila Real**	**6.44**	**332**	*e*Pn	**Pn**	**06 31 44.9**	**+1.6**	
PVRL				*e*Sn	**Sn**	**06 32 53.6**	**-3.3**	
TTIG	**Tnine Tigouga,**	**6.50**	**220**	P	**Pn**	**06 31 43.1**	**-1.2**	
POLO	**Lamas de Olo**	**6.55**	**332**	*e*Pn	**Pn**	**06 31 46.6**	**+1.7**	
POLO				*e*Sn	**Sn**	**06 32 57.5**	**-2.3**	
PBRG	**Braganca**	**6.58**	**339**	*e*Pn	**Pn**	**06 31 46.6**	**+1.4**	
PBRG				*e*Sn	**Sn**	**06 33 00.2**	**-0.2**	
PTO	**Porto**	**6.70**	**326**	*e*Pn	**Pn**	**06 31 48.3**	**+1.5**	
PCAB	**Cabril**	**6.93**	**332**	*e*Pn	**Pn**	**06 31 51.3**	**+1.3**	
ELOB	**Lobios**	**7.08**	**332**	Pn	**Pn**	**06 31 54.3**	**+2.2**	
ELOB				Sn	**Sn**	**06 33 10.0**	**-2.8**	
PGAV	**Gavieira, Arco**	**7.24**	**332**	*e*Pn	**Pn**	**06 31 56.5**	**+2.1**	
PGAV				*e*Sn	**Sn**	**06 33 14.6**	**-2.2**	
ETSF	**Etsaut**	**7.60**	**17**	*e*Pn	**Pn**	**06 32 01.5**	**+2.3**	
ETSF				*e*Sn	**Sn**	**06 33 21.9**	**-3.7**	
	comp=E,1.5nm,0.3s							
SJPF	**Ste Jean**	**7.66**	**13**	*e*Pn	**Pn**	**06 32 00.6**	**+0.6**	
SJPF				*e*Sn	**Sn**	**06 33 23.9**	**-3.1**	
	comp=E,5.7nm,0.7s							
EARI	**Arriondas**	**7.71**	**351**	Pn	**Pn**	**06 32 03.0**	**+2.2**	
EARI				*i* Vmb_Lg		06 37 10.7		
EALK	**Alkurruntz**	**7.71**	**12**	Pn	**Pn**	**06 32 03.4**	**+2.5**	
EALK				Sn	**Sn**	**06 33 27.4**	**-1.0**	
EPF	**Esparros**	**7.97**	**22**	*e*Pn	**Pn**	**06 32 04.2**	**-0.1**	
EPF	**Esparros**	**7.97**	**22**	*e*P	Pn	06 32 10.6	+6.3	
EPF				*e*Sn	**Sn**	**06 33 29.2**	**-5.4**	
	comp=E,1.2nm,0.3s							
MTLF	**Montolieu**	**8.89**	**29**	*e*Pn	**Pn**	**06 32 16.9**	**0.0**	
LFF	**La Frestale**	**9.84**	**19**	*e*Pn	**Pn**	**06 32 31.6**	**+1.7**	
LMR	**La Mourre**	**10.95**	**43**	*e*P	Pn	06 32 52.3	+7.2	
FRF	**La Foret Royal**	**11.18**	**42**	*e*P	Pn	06 32 54.7	+6.5	
SBF	**Sospel**	**11.80**	**43**	*e*Pn	**Pn**	**06 32 57.6**	**+0.8**	
TORD	**Torodi Ar. Bea**	**22.94**	**167**	P	**P**	**06 35 16.0**	**+3.1**	
	comp=E,2µm,0.3s,baz=342,slow=9.1,SNR=1.4							
KMBO	**Kilima Mbogo**	**52.85**	**125**	LR	LR	07 01 30.5		
	comp=E,444nm,20.4s,baz=70,slow=35							
YKA	**Yellowknife Ar**	**67.73**	**332**	P	**P**	**06 41 06.5**	**+0.8**	
	comp=E,0.1nm,0.5s,baz=60,slow=6.2,SNR=5.7							

IDC 15 06:43:02.0±2.3, 8°39S×129°96E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=125.5km s-min=34.6km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.24**	**160**	Pn		Pn	06 45 56.6	-1.2
	0.1nm,0.3s,baz=342,slow=13,SNR=2.4							
WRA				Sn		Sn	06 48 09.1	-6.0
	0.2nm,0.3s,baz=329,slow=24,SNR=1.5							
ASAR	**Alice Springs**	**15.65**	**166**	Pn		Pn	06 46 45.7	+1.6
	0.1nm,0.3s,baz=350,slow=9.8,SNR=2.1							
ASAR				Sn		Sn	06 49 34.4	-4.1
	0.0nm,0.3s,baz=12,slow=32,SNR=0.9							
MKAR	**Makanchi Array**	**69.36**	**327**	P		P	06 54 11.6	0.0
	0.2nm,0.6s,baz=122,slow=7.7,SNR=2.1							

*IDC **15** 06:53:32.2±1.0, 16°52N×46°64W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/38, mbtmp4.1/12, ML3.9/1, MS3.7/45, Ms1 3.7/45, ms1mx3.6/83, Error ellipse: s-maj=30.4km s-min=17.3km az=107.0*

*NEIC **15** 06:53:34.9±2.5, 16°5N±0°.1×46°.64W±0°.07, h10km±1km, mb4.2/10, Error ellipse: s-maj=22.7km s-min=6.7km az=154.0*

*GCMT **15** 06:53:36.9±0.5, 16°.98N±0°.07×46°.43W±0°.03, h20km±1km, MW4.8/68, Moment Tensor Solution. s18,c18; s68,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.92±.23; $M_{\theta\theta}$0.25±.14; $M_{\phi\phi}$1.67±.14; $M_{r\theta}$0.92±.40; $M_{\theta\phi}$-0.03±.09; $M_{\phi r}$-0.91±.21; Best double couple: M≥2.18000×10^{16} NP1:ϕs192.00000°, δ33.00000°, λ-60.00000°. NP2: ϕs337.00000°, δ62.00000°, λ-108.00000°. Principal axes: T 1.9280, Plg15.0000°, Azm80.0000°; N 0.5050, Plg15.0000°, Azm346.0000°; P -2.4330, Plg68.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 06:53:34.8±0.7, 16°56N±0°.08×46°.6W±0°.1, h13km, n85, σ0s90/39, mb4.2/11, MS3.8/43, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.84**	**208**	Pn		**Pn**	**06 56 36.8**	**-0.3**
	0.6nm,0.3s,baz=13,slow=15,SNR=20							
MDP				Sn		Sn	06 58 46.6	-13
	0.1nm,0.3s,baz=27,slow=7.7,SNR=2.0							
MDP				LR		LR	07 00 37.9	
	comp=Z,126nm,20.9s,baz=358,slow=33							
H05S1	**Guadeloupe/Mar**	**13.89**	**263**	T		T	07 11 08.5	
	SNR=23							
MCPB	**Macapa, AP**	**17.65**	**198**	*e*P		**Pn**	**06 57 41.2**	**+0.6**
SJG	**San Juan**	**18.74**	**278**	LR		LR	07 03 51.4	
	comp=Z,176nm,21.9s,baz=92,slow=33							
OBIP	**Obispado Ponce**	**19.17**	**277**			**P**	**06 57 56.5**	**-1.7**
OBIP				IAmb		IAmb	06 58 17.7	
	comp=Z,20nm,1.1s							
ROSB	**Rosrio**	**19.48**	**173**	*e*P		**P**	**06 58 00.7**	**-0.9**
BOAV	**Boa Vista**	**19.64**	**226**	*e*P		**P**	**06 58 04.0**	**+0.5**
MALB	**Monte Alegre**	**19.80**	**203**	*e*P		**P**	**06 58 05.3**	**+0.2**
NBPS	**Pedro II - PI**	**21.43**	**166**	*e*P		**P**	**06 58 21.8**	**-1.1**
ITTB	**Itaituba**	**22.67**	**204**	*e*P		**P**	**06 58 35.7**	**-0.4**
PRPB	**Parauapebas**	**22.81**	**188**	*e*P		**P**	**06 58 37.6**	**0.0**
MACA	**Manacapuru-AM**	**24.04**	**217**	*e*P		**P**	**06 58 50.6**	**+0.8**
RCBR	**Riachuelo**	**24.63**	**154**	LR		LR	07 06 07.7	
	comp=Z,170nm,19.5s,baz=132,slow=31							
SDV	**Santo Domingo**	**24.64**	**255**	P		**P**	**06 58 55.6**	**+0.1**
	comp=Z,7.6nm,0.9s,baz=68,slow=16,SNR=8.8							
SDV				S		S	07 03 05.6	-11
	comp=Z,0.5nm,0.4s,baz=360,slow=22,SNR=1.5							
SDV	**Santo Domingo**	**24.64**	**255**	P		**P**	**06 58 55.5**	**-0.1**
SDV				IAmb		IAmb	06 58 58.9	
	comp=Z,12nm,1.1s							
SDV	**Santo Domingo**	**24.64**	**255**	*e*P		**P**	**06 58 58.5**	**+2.9**
NPGB	**Novo Progresso**	**25.00**	**201**	*e*P		**P**	**06 58 59.1**	**+0.6**
SMTB	**Santa Maria do**	**25.27**	**182**	*e*P		**P**	**06 59 02.4**	**+1.4**
SNDB	**Serra Nova Dou**	**28.73**	**190**	*e*P		**P**	**06 59 32.2**	**+0.1**
ROSC	**El Rosal**	**29.58**	**250**	P		**P**	**06 59 40.3**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=74,slow=16,SNR=2.1							
ROSC				LR		LR	07 13 28.7	
	comp=Z,184nm,18.9s,baz=52,slow=40							
ROSC	**El Rosal**	**29.58**	**250**	IAmb		IAmb	06 59 49.2	
	comp=Z,8.2nm,0.4s							
TBTG	**Tabatinga, AM**	**30.92**	**230**	*e*P		**P**	**06 59 52.7**	**+1.1**
ARAG	**Araguaiana, MT**	**32.47**	**189**	*e*P		**P**	**07 00 04.8**	**-0.3**
ETMB	**Extrema**	**32.61**	**218**	*e*P		**P**	**07 00 06.5**	**+0.1**
SALV	**Santo Antonio**	**33.48**	**196**	*e*P		**P**	**07 00 14.1**	**+0.1**
PTLB	**Pontes e Lacer**	**34.13**	**202**	*e*P		**P**	**07 00 20.5**	**+0.9**
OTAV	**Otavalo**	**35.34**	**246**	*e*P		**P**	**07 00 31.7**	**+1.0**
CZSB	**Cruzeiro do Su**	**35.36**	**229**	*e*P		**P**	**07 00 31.1**	**-0.2**
SIV	**San Ignacio**	**35.36**	**205**	LR		LR	07 14 32.0	
	comp=Z,99nm,18.1s,baz=98,slow=36							
TKL	**Tuckaleechee C**	**38.13**	**307**	LR		LR	07 13 30.8	
	comp=Z,151nm,19.2s,baz=134,slow=31							
LPAZ	**La Paz**	**38.94**	**214**	P		P	07 00 58.5	-2.9
	comp=Z,0.7nm,0.3s,baz=51,slow=1.8,SNR=8.4							
LPAZ				LR		LR	07 16 17.4	
	comp=Z,87nm,20.4s,baz=35,slow=35							
SADO	**Sadowa**	**39.23**	**323**	LR		LR	07 13 18.3	
	comp=Z,80nm,21.2s,baz=156,slow=30							
ATAH	**Atahualpa**	**39.30**	**236**	LR		LR	07 18 28.0	
	comp=Z,94nm,18.3s,baz=53,slow=38							
H10N3	**ASCENSION HYDR**	**39.95**	**125**	T		T	07 43 18.2	
	baz=307,slow=75,SNR=95							
H10N2	**ASCENSION HYDR**	**39.95**	**125**	T		T	07 43 18.5	
	baz=307,slow=75,SNR=109							
H10N1	**ASCENSION HYDR**	**39.97**	**125**	T		T	07 43 20.8	
	baz=307,slow=75,SNR=162							
H10S3	**ASCENSION HYDR**	**40.50**	**126**	T		T	07 44 04.0	
	baz=306,slow=74,SNR=41							
H10S2	**ASCENSION HYDR**	**40.52**	**126**	T		T	07 44 05.9	
	baz=274,slow=74,SNR=21							
MDT	**Midelt**	**41.14**	**59**	LR		LR	07 16 51.5	
	comp=Z,92nm,19.7s,baz=316,slow=34							
NNA	**Nana**	**41.22**	**228**	LR		LR	07 19 11.3	
	comp=Z,45nm,20.5s,baz=20,slow=37							
DBIC	**Dimbokro**	**41.96**	**99**	LR		LR	07 16 05.0	
	comp=Z,147nm,20.0s,baz=274,slow=32							
ESDC	**Sonseca Array**	**43.56**	**49**	LR		LR	07 16 20.8	
	comp=Z,80nm,19.7s,baz=248,slow=31							
CPUP	**Villa Florida**	**43.89**	**194**	P		**P**	**07 01 40.6**	**-0.5**
	comp=Z,13nm,0.9s,baz=19,slow=8.4,SNR=14							
CPUP				LR		LR	07 20 41.2	
	comp=Z,44nm,18.5s,baz=52,slow=37							
CPUP	**Villa Florida**	**43.89**	**194**	P		**P**	**07 01 40.7**	**-0.5**
CPUP	**Villa Florida**	**43.89**	**194**	*e*P		**P**	**07 01 41.5**	**+0.3**
LVC	**Limon Verde**	**44.64**	**210**	LR		LR	07 21 28.9	
	comp=Z,46nm,18.9s,baz=16,slow=38							
P40A	**Paris**	**45.59**	**309**	P		**P**	**07 01 55.2**	**+0.5**
ITQB	**Itaqui**	**46.97**	**192**	*e*P		**P**	**07 02 05.5**	**-0.1**
CPSB	**Cacapava Do Su**	**47.15**	**188**	*e*P		**P**	**07 02 07.0**	**0.0**
TXAR	**Lajitas Array**	**53.62**	**294**	P		**P**	**07 02 56.7**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=65,slow=6.8,SNR=2.6							
TXAR				LR		LR	07 24 23.4	
	comp=Z,60nm,21.5s,baz=85,slow=34							
DAVOX	**Davos/Dischmat**	**55.26**	**44**	LR		LR	07 25 35.2	
	comp=Z,58nm,18.3s,baz=326,slow=35							
ANMO	**Albuquerque**	**56.15**	**301**	LR		LR	07 24 43.2	
	comp=Z,152nm,21.3s,baz=86,slow=33							
PDAR	**Pinedale Array**	**59.16**	**310**	P		**P**	**07 03 34.1**	**-1.6**
	comp=Z,2.0nm,1.1s,baz=99,slow=9.2,SNR=9.3							
PDAR				LR		LR	07 26 17.3	
	comp=Z,101nm,22.0s,baz=103,slow=33							
LPIG	**La Paz**	**59.80**	**289**	LR		LR	07 31 50.6	
	comp=Z,71nm,18.2s,baz=36,slow=38							
NOA	**NORSAR Array B**	**60.26**	**28**	P		**P**	**07 03 44.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=248,slow=6.2,SNR=2.4							
PLCA	**Paso Flores**	**61.19**	**201**	P		**P**	**07 03 48.0**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=21,slow=11,SNR=4.1							
PLCA				LR		LR	07 30 36.6	
	comp=Z,39nm,20.8s,baz=86,slow=36							
PLCA	**Paso Flores**	**61.19**	**201**	*e*P		**P**	**07 03 49.3**	**0.0**
ELK	**Elko**	**63.29**	**308**	LR		LR	07 29 33.0	
	comp=Z,105nm,19.9s,baz=98,slow=34							
PFO	**Pinyon Flats O**	**64.44**	**300**	LR		LR	07 31 20.6	
	comp=Z,49nm,19.4s,baz=90,slow=35							
NEW	**Newport**	**64.89**	**316**	LR		LR	07 31 04.3	
	comp=Z,71nm,19.3s,baz=95,slow=35							
YKA	**Yellowknife Ar**	**65.32**	**332**	P		**P**	**07 04 15.4**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=101,slow=7.3,SNR=7.8							
YKA				LR		LR	07 30 37.4	
	comp=Z,90nm,18.3s,baz=326,slow=34							
IDI	**Anoyia**	**65.66**	**58**	LR		LR	07 31 42.3	
	comp=Z,46nm,20.6s,baz=223,slow=35							
NVAR	**Mina Array Bea**	**65.69**	**305**	LR		LR	07 32 26.4	
	comp=Z,78nm,19.0s,baz=284,slow=36							
MLR	**Muntele Rosu**	**66.19**	**47**	LR		LR	07 29 55.8	
	comp=Z,86nm,21.3s,baz=312,slow=33							
AKASG	**Malin Array Be**	**68.41**	**42**	P		**P**	**07 04 36.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=296,slow=11,SNR=2.0							
AKASG	**Malin Array Be**	**68.41**	**42**	IAmb		IAmb	07 05 02.2	
	comp=Z,1.0nm,0.8s							
YBH	**Yreka Blue Hor**	**68.90**	**309**	LR		LR	07 33 53.8	
	comp=Z,72nm,19.6s,baz=97,slow=35							
BBB	**Bella Bella**	**71.93**	**320**	LR		LR	07 33 25.7	
	comp=Z,36nm,21.3s,baz=340,slow=33							
TSUM	**Tsumeb**	**72.41**	**117**	LR		LR	07 28 56.2	
	comp=Z,71nm,21.6s,baz=211,slow=29							
DLBC	**Dease Lake**	**72.63**	**327**	LR		LR	07 33 42.3	
	comp=Z,61nm,21.3s,baz=108,slow=33							
INK	**Inuvik**	**73.62**	**337**	LR		LR	07 34 05.8	
	comp=Z,61nm,22.0s,baz=56,slow=33							
MMAI	**Mont Meron Ar**	**74.58**	**60**	LR		LR	07 37 37.3	
	comp=Z,22nm,21.8s,baz=34,slow=35							
RPN	**Rapa Nui**	**74.75**	**235**	LR		LR	07 33 57.0	
	comp=Z,42nm,21.9s,baz=112,slow=32							
EIL	**Elat**	**74.80**	**63**	LR		LR	07 38 10.3	
	comp=Z,64nm,19.6s,baz=285,slow=36							
MBAR	**Mbarara**	**78.03**	**94**	LR		LR	07 39 23.1	
	comp=Z,50nm,18.8s,baz=344,slow=35							
ILAR	**Eielson Array**	**79.49**	**335**	P		**P**	**07 05 40.3**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=89,slow=4.8,SNR=27							
ILAR	**Eielson Array**	**79.49**	**335**	P		**P**	**07 05 41.0**	**+0.1**
LSZ	**Lusaka**	**80.28**	**109**	LR		LR	07 34 28.0	
	comp=Z,74nm,20.9s,baz=97,slow=31							
SUR	**Sutherland**	**80.74**	**128**	LR		LR	07 33 16.4	

az=60.0

ISC 15 07:19:07.6±1.4, 13°9N±0.2×93°0E±0.2, h32km, n8, σ0°76/8, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.26**	**51**	Pn	**Pn**	**07 20 52.0**	**+0.4**
	baz=242,slow=17,SNR=5.0						
MKAR	**Makanchi Array**	**33.99**	**347**	P	**P**	**07 25 48.9**	**+0.5**
	0.6nm,0.5s,baz=164,slow=8.9,SNR=9.9						
SONM	**Songino Array**	**35.60**	**16**	P	**P**	**07 26 01.9**	**-0.5**
	0.2nm,0.3s,baz=200,slow=9.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**38.46**	**345**	P	**P**	**07 26 27.2**	**+0.7**
	0.9nm,0.7s,baz=167,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**40.46**	**353**	P	**P**	**07 26 42.0**	**-1.1**
	0.8nm,0.4s,baz=187,slow=10,SNR=4.9						
ZALV				LR	LR	07 46 48.9	
	comp=Z,38nm,20.4s,baz=268,slow=41						
WRA	**Warramunga Arr**	**52.76**	**129**	P	**P**	**07 28 19.5**	**-0.5**
	1.1nm,1.1s,baz=315,slow=7.2,SNR=2.2						
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**07 28 34.6**	**+0.4**
	0.3nm,0.5s,baz=306,slow=6.7,SNR=5.4						
FINES	**FINESS Array B**	**66.91**	**331**	P	**P**	**07 29 56.7**	**+0.1**
	0.3nm,0.3s,baz=64,slow=6.3,SNR=1.8						

WEL 15 07:39:28.5±0.7, 31°S±5°×17°9E±°, h33km, M4.2/13, mB4.8/13, ML4.6/14, MLv4.5/13, Mw(mB)4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.50**	**60**	P	**Pn**	**07 40 16.2**	**-2.4**
GLKZ				S	Sn	07 41 01.2	+0.4
MXZ	**Matakaoa Point**	**6.49**	**182**	P	Pn	07 41 05.0	+3.3
MXZ				S	Sn	07 42 18.3	+3.7
HAZ	**Te Kaha**	**6.72**	**186**	P	Pn	07 41 05.9	+1.2
HAZ				S	Sn	07 42 25.0	+4.9
WMGZ	**Waiomatatini S**	**6.75**	**181**	P	Pn	07 41 04.8	-0.4
WMGZ				S	Sn	07 42 22.1	+1.3
RUGZ	**Raukumara Rang**	**6.93**	**186**	P	Pn	07 41 08.7	+0.9
RUGZ				S	Sn	07 42 30.1	+4.5
OPRZ	**Ohinepanea**	**6.98**	**193**	P	Pn	07 41 15.2	+6.8
PUZ	**Puketiti**	**7.00**	**182**	P	Pn	07 41 09.8	+1.1
PUZ				S	Sn	07 42 28.7	+1.5
TWGZ	**Tauwhareparae**	**7.12**	**184**	P	Pn	07 41 13.8	+3.5
TWGZ				S	Sn	07 42 33.8	+3.6
URZ	**Urewera**	**7.29**	**189**	P	Pn	07 41 13.3	+0.7
URZ				S	Sn	07 42 37.7	+3.6
MWZ	**Matawai**	**7.31**	**187**	P	Pn	07 41 14.1	+1.1
MWZ				S	Sn	07 42 37.8	+3.0
CNGZ	**Carnagh Statio**	**7.42**	**182**	P	Pn	07 41 15.9	+1.6
CNGZ				S	Sn	07 42 36.5	-0.8
RAGZ	**Rawiri**	**7.48**	**187**	P	Pn	07 41 17.6	+2.3
MUGZ	**Murupara**	**7.55**	**191**	P	Pn	07 41 16.8	+0.6
MUGZ				S	Sn	07 42 45.1	+4.3
RIGZ	**Rimuhau**	**7.66**	**185**	P	Pn	07 41 16.7	-1.0
RIGZ				S	Sn	07 42 43.5	+0.1
TLZ	**Tolley Road**	**7.68**	**198**	P	Pn	07 41 25.4	+7.4
MTHZ	**Maungataniwha**	**7.91**	**190**	P	Pn	07 41 21.9	+0.7
MTHZ				S	Sn	07 42 53.5	+4.0
RAHZ	**Arahi**	**7.94**	**189**	P	Pn	07 41 22.5	+1.0
KNZ	**Kokohu**	**7.98**	**185**	P	Pn	07 41 21.8	-0.3
WHHZ	**Waihua**	**8.08**	**188**	P	Pn	07 41 25.1	+1.7
ARHZ	**Aropaoanui**	**8.29**	**189**	P	Pn	07 41 25.8	-0.6
ARHZ				S	Sn	07 43 01.9	+3.0
TMVZ	**Te Maari**	**8.38**	**196**	P	Pn	07 41 30.1	+2.4
OTVZ	**Oturere**	**8.44**	**196**	P	Pn	07 41 29.9	+1.4
FWVZ	**Far West T-bar**	**8.55**	**196**	P	Pn	07 41 31.9	+1.8
WNVZ	**Wahianoa**	**8.61**	**196**	P	Pn	07 41 31.3	+0.4
PKVZ	**Pokaka**	**8.63**	**197**	P	Pn	07 41 32.2	+1.1
KAHZ	**Kahuranaki**	**8.83**	**189**	P	Pn	07 41 32.7	-1.0
KAHZ				S	Sn	07 43 11.8	-0.3
PNHZ	**Pukenui**	**9.05**	**192**	P	Pn	07 41 34.8	-2.0
PNHZ				S	Sn	07 43 16.2	-1.3
PXZ	**Pawanui**	**9.06**	**189**	P	Pn	07 41 34.7	-2.2
PXZ				S	Sn	07 43 14.7	-3.1
WPHZ	**Waipukurau**	**9.16**	**190**	P	Pn	07 41 36.3	-1.9
WPHZ				S	Sn	07 43 16.9	-3.2
TSZ	**Takapari Road**	**9.23**	**193**	P	Pn	07 41 36.4	-2.9
TSZ				S	Sn	07 43 20.0	-2.1
PRHZ	**Porangahau**	**9.33**	**189**	P	Pn	07 41 38.6	-1.9
DVHZ	**Dannevirke**	**9.43**	**191**	P	Pn	07 41 39.2	-2.8
DVHZ				S	Sn	07 43 24.2	-2.6
ANWZ	**Angora Road**	**9.54**	**190**	P	Pn	07 41 41.1	-2.4
ANWZ				S	Sn	07 43 23.8	-5.7
BFZ	**Birch Farm**	**9.79**	**191**	P	Pn	07 41 42.7	-4.2
BFZ				S	Sn	07 43 29.5	-6.2
TIWZ	**Tintock**	**9.94**	**192**	P	Pn	07 41 45.4	-3.6
HOWZ	**Holdsworth Sta**	**10.13**	**193**	P	Pn	07 41 47.1	-4.5

IDC 15 07:43:31.6±2.8, 6°.65S×129°.69E, h145km±31km, mb3.5/3, mb1 3.4/7, mb1mx3.2/33, mbtmp3.8/7, Error ellipse: s-maj=40.7km s-min=16.8km az=74.0

ISC 15 07:43:30.9±0.8, 6°.60S±0°.06×129°.6E±0°.1, h150km, n17, σ2°91/20, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.93**	**16**	P	**Pn**	**07 44 57.5**	**+0.7**
	1.5nm,0.3s,baz=114,slow=24,SNR=1.1						
SIJI				S	**Sn**	**07 45 57.9**	**-6.1**
	5.3nm,0.3s,baz=224,slow=22,SNR=10						
DRS	**Darwin Rock St**	**5.94**	**168**	P	**Pn**	**07 44 58.2**	**+1.4**
KDU	**Kakadu**	**6.68**	**155**	P	**Pn**	**07 45 07.3**	**+0.5**
KNRA	**Kununurra**	**9.06**	**185**	P	**Pn**	**07 45 40.1**	**+1.7**
PLAI	**Plampang**	**11.91**	**259**	P	**P**	**07 46 22.9**	**0.0**
FITZ	**Fitzroy Crossi**	**12.06**	**198**	P	**Pn**	**07 46 19.1**	**+1.1**
	0.2nm,0.3s,baz=39,slow=11,SNR=9.2						
FITZ				S	**Sn**	**07 48 23.0**	**-8.4**
	0.2nm,0.3s,baz=332,slow=17,SNR=1.3						
WRA	**Warramunga Arr**	**14.04**	**161**	P	**Pn**	**07 46 41.6**	**-1.9**
	0.4nm,0.3s,baz=346,slow=13,SNR=18						
WRA				S	Sn	07 49 08.8	-10
	0.6nm,0.3s,baz=338,slow=21,SNR=6.3						
QIS	**Mount Isa**	**16.94**	**146**	P	**Pn**	**07 47 19.3**	**+0.1**
ASAR	**Alice Springs**	**17.47**	**167**	P	**Pn**	**07 47 25.4**	**-0.1**
	0.3nm,0.3s,baz=343,slow=11,SNR=14						
ASAR				S	**S**	**07 50 36.7**	**-2.1**
	0.1nm,0.3s,baz=358,slow=28,SNR=4.5						
PSA00	**Pilbara Seismi**	**17.61**	**211**	P	**Pn**	**07 47 30.2**	**+3.0**
CTA	**Charters Tower**	**21.01**	**131**	P	**P**	**07 48 03.8**	**+1.0**
	1.1nm,0.3s,baz=322,slow=9.6,SNR=1.9						
OOD	**Oodnadatta**	**21.86**	**165**	P	**P**	**07 48 12.6**	**+0.9**
MULG	**Mulgathing**	**23.93**	**170**	P	**P**	**07 48 33.7**	**+2.5**
QLP	**Quilpie**	**24.28**	**147**	P	**P**	**07 48 35.8**	**+1.4**
STKA	**Stephens Creek**	**27.54**	**157**	P	**P**	**07 49 03.4**	**-0.2**
	0.6nm,0.3s,baz=326,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**27.54**	**157**	P	**P**	**07 49 04.2**	**+0.5**
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**07 54 13.6**	**+1.7**
	0.7nm,0.4s,baz=124,slow=7.5,SNR=17						

CNRM 15 07:58:31.0, 35°.66N×3°.68W, h10km, ml2.1
MDD 15 07:58:32.9±0.5, 35°.71N×3°.71W, h0km, mb_Lg2.5/13, Error ellipse: s-maj=4.0km s-min=2.6km az=9.0
SFS 15 07:58:33.0, 35°.56N×3°.74W, ML2.8, ALBORAN SUR

ISC 15 07:58:32.0±1.6, 35°.66N±0°.02×3°.70W±0°.03, h13km±12km, n25, σ0°88/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.61**	**63**	Pg	**Pb**	**07 58 44.8**	**+0.3**
EALB				Sg	**Sb**	**07 58 53.3**	**+0.3**
EALB				*i* Vmb_Lg		07 58 54.1	
EMEL	**Melilla**	**0.71**	**121**	Pg	**Pb**	**07 58 46.3**	**0.0**
EMEL				Sg	**Sg**	**07 58 55.0**	**-0.2**
ELGU	**Los Guajares,**	**1.20**	**3**	Pg	**Pn**	**07 58 53.7**	**-1.0**
ELGU				Sg	**Sb**	**07 59 09.8**	**-0.5**
ELGU				*i* Vmb_Lg		07 59 12.1	
EMAL	**Malaga-Limoner**	**1.24**	**332**	P	**Pn**	**07 58 54.4**	**-0.7**
EMAL				S	**Sb**	**07 59 10.3**	**-1.0**
EMIJ	**Mijas**	**1.25**	**316**	Pg	**Pn**	**07 58 54.9**	**-0.4**
EMIJ				Sg	**Sb**	**07 59 10.7**	**-0.8**
EMIJ				*i* Vmb_Lg		07 59 12.2	
TAF	**Taforalt**	**1.35**	**128**	P	**Pn**	**07 58 56.1**	**-0.6**
TAF				S	**Sn**	**07 59 13.7**	**-0.8**
SMIR	**Smir Dam**	**1.37**	**271**	P	**Pn**	**07 58 55.5**	**-1.3**
SMIR				S	**Sn**	**07 59 13.8**	**-0.9**
CEU	**Ceuta**	**1.38**	**280**	P	**Pn**	**07 58 56.1**	**-0.8**
CEU				S	**Sn**	**07 59 12.4**	**-2.6**
EBER	**Berja**	**1.40**	**28**	Pn	**Pb**	**07 58 58.1**	**0.0**
EBER				Sn	**Sn**	**07 59 15.4**	**-0.4**
EBER				*i* Vmb_Lg		07 59 19.0	
CHEFC	**Chefchaouen**	**1.45**	**248**	P	**Pb**	**07 58 59.4**	**+0.5**
CHEFC				S	**Sg**	**07 59 18.3**	**-0.4**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pb**	**07 58 59.7**	**+0.2**
EGOR				Sn	**Sg**	**07 59 19.2**	**-0.6**
EGOR				*i* Vmb_Lg		07 59 28.6	
JBK	**JBK**	**1.62**	**145**	P	**Pn**	**07 59 00.0**	**-0.5**
JBK				S	**Sn**	**07 59 19.3**	**-2.1**
EJIF	**Jimena Fronter**	**1.63**	**299**	Pn	**Pn**	**07 59 00.6**	**+0.1**
EJIF				Sn	**Sb**	**07 59 21.5**	**-1.0**
EQES	**Quesada**	**2.19**	**13**	Pn	**Pn**	**07 59 08.8**	**+0.5**
EQES				Pg	**Pb**	**07 59 10.9**	**-0.7**
EQES				Sn	**Sn**	**07 59 35.8**	**+0.4**
EQES				*i* Vmb_Lg		07 59 39.9	
EADA	**Adamuz**	**2.59**	**345**	Pn	**Pn**	**07 59 14.2**	**+0.5**
EADA				Pg	**Pb**	**07 59 19.4**	**+1.0**
EADA				Sn	**Sn**	**07 59 45.2**	**+0.1**
EADA				*i* Vmb_Lg		07 59 53.7	
ECAB	**El Cabril**	**2.77**	**331**	Pn	**Pn**	**07 59 16.6**	**+0.4**
ECAB				Pg	**Pb**	**07 59 21.8**	**+0.4**
ECAB				Sn	**Sn**	**07 59 49.5**	**0.0**
ECAB				Sg	**Sb**	**07 59 57.9**	**+2.6**
ECAB				*i* Vmb_Lg		07 59 59.1	
MD31	**MD31**	**2.92**	**198**	P	**Pn**	**07 59 19.6**	**+1.3**
MD31				S	**Sn**	**07 59 53.5**	**+0.1**
MDT	**Midelt**	**2.94**	**195**	P	**Pn**	**07 59 19.6**	**+1.1**
MDT				S	**Sn**	**07 59 54.6**	**+0.8**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**07 59 20.0**	**+1.0**
TDRA				S	**Sn**	**07 59 54.1**	**-0.3**
EMIN	**Mina Concepcio**	**3.18**	**312**	Pn	**Pn**	**07 59 22.8**	**+1.0**
EMIN				Sn	**Sn**	**07 59 59.0**	**-0.5**
EMIN				*i* Vmb_Lg		08 00 00.1	
EGRO	**El Granado**	**3.57**	**303**	Pn	**Pn**	**07 59 28.1**	**+1.1**
EGRO				Sn	**Sn**	**08 00 09.0**	**-0.1**
EGRO				*i* Vmb_Lg		08 00 10.2	
PVAQ	**Vaqueiros**	**3.67**	**299**	P	**Pn**	**07 59 28.7**	**+0.3**
PVAQ				S	**Sn**	**08 00 11.7**	**+0.1**
PAB	**San Pablo**	**3.91**	**353**	Pn	**Pn**	**07 59 32.0**	**+0.2**
PAB				Sn	**Sn**	**08 00 17.6**	**0.0**
PAB				*i* Vmb_Lg		08 00 26.3	
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**07 59 34.2**	**+1.0**
ESDC				Sn	**Sn**	**08 00 19.8**	**-0.3**
EBAD	**Badajoz**	**4.06**	**320**	Pn	**Pn**	**07 59 34.7**	**+0.8**
EBAD				Sn	**Sn**	**08 00 21.3**	**0.0**
EBAD				*i* Vmb_Lg		08 00 23.8	

NNC 15 08:16:02.2±3.7, 54°.27N×87°.63E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=26.2km s-min=22.5km az=66.0, Suspected Mining explosion.
IDC 15 08:16:09.4±3.1, 54°.22N×87°.27E, h0km, mb1 2.6/2, mb1mx2.6/46, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=15.9km az=65.0

ISC 15 08:16:01.3±3.8, 54°.4N±0°.2×87°.6E±0°.2, h0km, n9, σ1°68/11, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**255**	*i*		08 25 39.0	
	baz=77,slow=342,SNR=5.4						
ZAA0	**Zalesovo Array**	**1.71**	**255**	⇑P	**Pn**	**08 16 33.0**	**+0.7**
	0.3nm,0.5s						
ZAA0				⇓S	**Sg**	**08 16 56.3**	**+0.2**
	2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**1.71**	**255**	Pg	**Pg**	**08 16 35.2**	**+1.2**
	0.9nm,0.3s,baz=76,slow=16,SNR=10						
ZALV				Lg	Lg	08 16 56.4	
	1.3nm,0.3s,baz=80,slow=30,SNR=8.0						
KURK	**Kurchatov**	**6.61**	**240**	⇑Pn	**Pn**	**08 17 39.0**	**-0.6**
	1.3nm,1.1s						
KURK				⇑Sn	**Sn**	**08 18 53.0**	**-2.7**
	1.2nm,0.9s						
KURK				⇓Lg	Lg	08 19 27.1	
	2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.71**	**239**	Pn	Pn	08 17 46.3	+5.2
	0.1nm,0.3s,baz=56,slow=13,SNR=3.9						
KURBB				Sn	**Sn**	**08 18 58.0**	**-0.2**
	0.0nm,0.3s,baz=52,slow=23,SNR=1.5						
KURBB				Lg	Lg	08 19 35.4	
	0.0nm,0.3s,baz=57,slow=33,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.71**	**239**	⇓Pn	**Pn**	**08 17 38.2**	**-2.9**
	3.9nm,1.3s						
KURBB				⇑Sn	**Sn**	**08 18 58.7**	**+0.5**
	2.8nm,0.7s						
KURBB				⇑Lg	Lg	08 19 37.1	
	2.4nm,0.6s						
MK31	**Makanchi Array**	**8.34**	**206**	Sn	**Sn**	**08 19 39.9**	**+1.6**
	0.6nm,0.6s,baz=27,slow=26,SNR=6.3						
MK31				⇑Lg	Lg	08 20 25.7	
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**8.34**	**206**	Pn	Pn	08 18 09.7	+6.3
	0.1nm,0.3s,baz=27,slow=15,SNR=2.3						
MKAR				Sn	**Sn**	**08 19 39.2**	**+1.0**
	0.1nm,0.3s,baz=27,slow=27,SNR=10						
MKAR				Lg	Lg	08 20 25.8	
	0.1nm,0.3s,baz=20,slow=34,SNR=1.5						
MAKZ	**Makanchi**	**8.41**	**207**	⇓Sn	**Sn**	**08 19 39.3**	**-0.7**
	1.4nm,0.8s						
MAKZ				⇑Lg	Lg	08 20 26.7	
	1.6nm,0.9s						

IDC 15 08:20:59.1±2.7, 54°.24N×87°.26E, h0km, mb1 3.0/2, mb1mx2.9/51, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.1km s-min=15.6km az=58.0
NNC 15 08:20:59.3±3.0, 54°.21N×87°.25E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=23.1km s-min=15.6km az=32.0, Suspected Mining explosion.

ISC 15 08:20:59.5±4.2, 54°.3N±0°.2×87°.0E±0°.2, h0km, n10, σ1°63/16, 9C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**255**	*i*		08 30 20.0	
	baz=77,slow=338,SNR=12						
ZAA0	**Zalesovo Array**	**1.34**	**255**	⇓P	**Pn**	**08 21 25.5**	**0.0**
	0.8nm,0.7s						
ZAA0				⇓S	**Sn**	**08 21 47.2**	**+3.2**
	3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**1.34**	**255**	Pg	**Pg**	**08 21 24.7**	**-0.6**
	1.6nm,0.3s,baz=81,slow=18,SNR=21						
ZALV				Lg	Lg	08 21 45.5	
	2.2nm,0.3s,baz=80,slow=29,SNR=12						
KURK	**Kurchatov**	**6.27**	**238**	⇑Pn	**Pn**	**08 22 33.1**	**0.0**
	2.8nm,1.3s						
KURK				⇑Sn	**Sn**	**08 23 44.4**	**-0.9**
	1.7nm,1.1s						
KURK				⇑Lg	Lg	08 24 19.4	
	2.8nm,0.9s						
KURBB	**Kurchatov Arra**	**6.37**	**238**	Pn	**Pn**	**08 22 35.8**	**+1.3**
	0.1nm,0.3s,baz=55,slow=13,SNR=6.2						
KURBB				Sn	**Sn**	**08 23 48.1**	**+0.3**
	0.0nm,0.3s,baz=70,slow=8.9,SNR=0.7						
KURBB				Lg	Lg	08 24 27.8	
	0.0nm,0.3s,baz=54,slow=31,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.37**	**238**	⇓Pn	**Pn**	**08 22 35.0**	**+0.4**
	1.8nm,0.7s						
KURBB				⇑Sn	**Sn**	**08 23 49.5**	**+1.6**
	3.8nm,0.8s						
KURBB				⇑Lg	Lg	08 24 26.1	
	3.2nm,0.7s						
MK31	**Makanchi Array**	**8.11**	**204**	Pn	**Pn**	**08 23 00.0**	**+1.5**
	0.2nm,0.5s,baz=27,slow=13,SNR=12						
MK31				⇓Sn	**Sn**	**08 24 29.0**	**-1.9**
	0.5nm,0.5s,baz=23,slow=25,SNR=6.2						
MK31				⇑Lg	Lg	08 25 16.9	
	3.2nm,1.1s,baz=84,slow=82,SNR=4.0						
MKAR	**Makanchi Array**	**8.11**	**204**	Pn	**Pn**	**08 22 59.5**	**+1.0**
	0.2nm,0.3s,baz=25,slow=13,SNR=15						
MKAR				Sn	**Sn**	**08 24 28.8**	**-2.1**
	0.3nm,0.3s,baz=24,slow=26,SNR=12						
MKAR				Lg	Lg	08 25 17.9	
	0.1nm,0.3s,baz=27,slow=29,SNR=2.9						
MAKZ	**Makanchi**	**8.18**	**205**	⇑Pn	**Pn**	**08 23 00.5**	**+1.2**
	1.1nm,0.7s						
MAKZ				⇑Sn	**Sn**	**08 24 34.1**	**+1.7**
	2.5nm,0.6s						
MAKZ				⇑Lg	Lg	08 25 17.5	
	3.0nm,1.0s						
BVAR	**Borovoye Array**	**9.95**	**269**	Sn	**Sn**	**08 25 14.1**	**-1.9**
	0.3nm,0.3s,baz=72,slow=16,SNR=2.0						

NEIC 15 08:28:44.0±1.8, 6°.58S±0°.07×130°.03E±0°.07, h182km±8km, mb4.2/12, Error ellipse: s-maj=12.3km s-min=8.0km az=135.0
DJA 15 08:28:44.7±0.3, 7°.5S±4°×13°.0E±°, h154km±10km, M4.6/7, mB5.2/3, mb4.3/7, MLv4.7/6, Mw(mB)4.6/3
IDC 15 08:28:58.5±8.1, 7°.51S×131°.31E, h167km±80km, mb3.3/2, mb1 3.4/4, mb1mx3.1/43, mbtmp3.8/4, Error ellipse: s-maj=94.3km s-min=35.4km az=65.0

ISC 15 08:28:45.3±0.6, 6°.59S±0°.06×129°.96E±0°.10, h200km, n40, σ2°§16/40, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**136**	Pn	**Pn**	**08 29 20.6**	**-2.5**
SAUI	**Saumlaki**	**1.92**	**136**	P	**Pn**	**08 29 20.5**	**-2.5**
SAUI	**Saumlaki**	**1.92**	**136**	P	**Pn**	**08 29 19.2**	**-3.8**
FAKI	**Fak Fak**	**4.30**	**32**	Pn	**Pn**	**08 29 47.8**	**-3.1**
FAKI	**Fak Fak**	**4.30**	**32**	P	**Pn**	**08 29 47.7**	**-3.1**
SWI	**Sorong**	**5.83**	**13**	P	**Pn**	**08 30 08.0**	**-2.4**
	0.6nm3µm52nm,0.5s						
DRS	**Darwin Rock St**	**5.88**	**171**	P	**Pn**	**08 30 09.6**	**-1.4**
KDU	**Kakadu**	**6.55**	**158**	P	**Pn**	**08 30 18.3**	**-1.4**
KNRA	**Kununurra**	**9.11**	**187**		**Pn**	**08 30 51.4**	**-1.6**
KNRA	**Kununurra**	**9.11**	**187**	P	**Pn**	**08 30 51.2**	**-1.8**
TOLI2	**Tolitoli**	**11.93**	**310**	Pn	**Pn**	**08 31 28.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.19**	**200**	Pn	**Pn**	**08 31 31.3**	**-1.4**
WB0	**Warramunga Arr**	**13.79**	**162**	Pn	**Pn**	**08 31 51.5**	**-1.2**
WRA	**Warramunga Arr**	**13.94**	**163**	P	**Pn**	**08 31 52.2**	**-2.3**
	1.3nm,0.3s,baz=348,slow=13,SNR=32						
WRA				S	S	08 34 16.5	-13
	3.0nm,0.3s,baz=344,slow=21,SNR=11						
WRA	**Warramunga Arr**	**13.94**	**163**		**Pn**	**08 31 53.1**	**-1.5**
WB2	**Warramunga Arr**	**13.94**	**163**	Pn	**Pn**	**08 31 53.8**	**-0.9**
WR0	**Warramunga Arr**	**14.02**	**162**	Pn	**Pn**	**08 31 54.3**	**-1.2**
COEN	**Coen**	**14.92**	**120**	P	**Pn**	**08 32 04.9**	**-1.7**
COEN	**Coen**	**14.92**	**120**	P	**P**	**08 32 10.0**	**+2.6**
QIS	**Mount Isa**	**16.74**	**147**	P	**Pn**	**08 32 31.4**	**+2.8**
AS31	**Alice Springs**	**17.40**	**168**	P	**P**	**08 32 33.1**	**-1.5**
ASAR	**Alice Springs**	**17.40**	**168**	P	**Pn**	**08 32 39.0**	**+2.7**
	0.5nm,0.3s,baz=355,slow=11,SNR=22						
ASAR				S	**S**	**08 35 39.7**	**-5.6**
	0.6nm,0.3s,baz=357,slow=26,SNR=7.3						
ASAR	**Alice Springs**	**17.40**	**168**	P	**P**	**08 32 32.9**	**-1.8**
PSA00	**Pilbara Seismi**	**17.82**	**212**	P	**Pn**	**08 32 39.7**	**-1.6**
PSA00				lAmb	lAmb	08 32 49.4	
	comp=Z,24nm,1.4s						
WRKA	**Warakurna**	**18.42**	**185**	P	**Pn**	**08 32 49.9**	**+1.6**
FORT	**Forrest**	**24.13**	**184**	P	**P**	**08 33 42.5**	**-0.5**
BBOO	**Buckleboo**	**26.70**	**169**	P	**P**	**08 34 05.5**	**-0.6**
BBOO				lAmb	lAmb	08 34 15.7	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**08 34 16.2**	**+3.9**
	comp=Z,2.0nm,0.7s,baz=335,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**08 34 13.4**	**+1.1**
ARMA	**Armidale**	**31.24**	**142**	P	**P**	**08 34 47.7**	**+1.3**
ARMA				lAmb	lAmb	08 35 13.4	
	comp=Z,18nm,1.4s						
LTZ	**Lake Taylor**	**51.83**	**141**	P	**P**	**08 37 34.4**	**+1.4**
PETK	**Petropavlovsk-**	**63.95**	**18**	P	**P**	**08 38 57.8**	**+0.9**
MK31	**Makanchi Array**	**67.86**	**327**	P	**P**	**08 39 23.2**	**+1.1**
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	08 39 48.3	+26
	comp=Z,0.2nm,0.3s,baz=122,slow=7.5,SNR=1.7						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**08 39 24.6**	**+2.5**
VNDA	**Vanda**	**72.86**	**173**	P	**P**	**08 39 51.8**	**0.0**
VNDA				lAmb	lAmb	08 40 02.3	
	comp=Z,6.4nm,1.4s						
ABKAR	**Akbulak array**	**82.16**	**322**	P	**P**	**08 40 44.9**	**+1.1**
QSPA	**South Pole Qui**	**83.39**	**180**	P	**P**	**08 40 50.6**	**+0.7**
QSPA				lAmb	lAmb	08 41 16.4	
	comp=Z,2.8nm,1.3s						
KDAK	**Kodiak Island**	**88.89**	**32**	P	**P**	**08 41 15.9**	**-0.7**
KDAK				lAmb	lAmb	08 41 36.0	
	comp=Z,1.7nm,0.9s						
SNAA	**Sanae**	**96.05**	**194**	P	**P**	**08 41 50.3**	**+0.7**

NEIC 15 08:30:17.3±2.3, 10°.6S±0°.1×163°.7E±0°.1, h35km±2km, mb4.6/10, Error ellipse: s-maj=21.4km s-min=13.5km az=44.0
IDC 15 08:30:19.1±6.3, 10°.75S×164°.11E, h56km±59km, mb3.9/8, mb1 4.1/10, mb1mx3.7/45, mbtmp4.2/10, ML3.9/2, MS3.6/34, Ms1 3.6/34, ms1mx3.5/63, Error ellipse: s-maj=34.4km s-min=22.6km az=176.0

**ISC 15 08:30:15.3±0.6, 10°.59S±0°.09×163°.86E±0°.08, h25km, n71, σ1°§52/38, mb4.2/13, MS3.7/32, Bougainville-Solomon Islands

FITZ					IAmb	IAmb	08 37 53.5		
	comp=Z,4.9nm,0.9s								
FORT	**Forrest**	**38.80**	**233**	P	**P**		**08 37 36.4**	**-2.0**	
DAV	**Davao City (W)**	**41.95**	**293**	LR	LR		08 56 32.4		
	comp=Z,38nm,18.1s,baz=202,slow=37								
PPT2	**Papeete2**	**45.61**	**104**	*e*LR	LR		08 51 21.7		
	comp=Z,82nm,24.5s								
TBI	**Tubuai**	**46.22**	**112**	*e*LQ	LQ		08 49 44.8		
	comp=Z,414nm,29.5s								
TBI				*e*LR	LR		08 51 43.0		
	comp=Z,137nm,29.0s								
JHJ	**Hachijo jima 2**	**49.15**	**333**	LR	LR		08 57 13.9		
	comp=Z,42nm,21.5s,baz=98,slow=33								
JOW	**Kunigami**	**50.76**	**318**	LR	LR		09 00 37.9		
	comp=Z,81nm,19.0s,baz=126,slow=36								
MJAR	**Matsushiro Arr**	**52.73**	**334**	LR	LR		09 01 07.1		
	comp=Z,29nm,21.1s,baz=136,slow=35								
ASAJ	**Asahikawa**	**57.77**	**342**	LR	LR		09 00 35.4		
	comp=Z,93nm,21.9s,baz=139,slow=31								
KSRS	**Korea Array**	**58.47**	**327**	LR	LR		09 04 03.0		
	comp=Z,32nm,20.2s,baz=95,slow=34								
PETK	**Petropavlovsk-**	**63.66**	**356**	LR	LR		09 03 38.7		
	comp=Z,82nm,20.6s,baz=176,slow=31								
SHEM	**Shemya Is, Ala**	**63.67**	**7**	LR	LR		09 03 08.8		
	comp=Z,76nm,20.2s,baz=341,slow=31								
KLR	**Kul'dur**	**65.92**	**338**	P	**P**		**08 41 00.7**	**+1.6**	
	comp=Z,1.8nm,0.8s,baz=73,slow=7.2,SNR=5.8								
KLR				LR	LR		09 10 25.8		
	comp=Z,35nm,18.7s,baz=154,slow=36								
VNDA	**Vanda**	**66.92**	**180**	LR	LR		09 06 58.8		
	comp=Z,63nm,18.5s,baz=344,slow=33								
VNDA	**Vanda**	**66.92**	**180**	P	**P**		**08 41 03.9**	**-1.3**	
VNDA				IAmb	IAmb		08 41 26.4		
	comp=Z,8.0nm,1.4s								
CMAR	**Chiang Mai Arr**	**70.23**	**294**	P	**P**		**08 41 29.3**	**+2.5**	
	comp=Z,3.0nm,0.3s,baz=110,slow=4.6,SNR=12								
CMAR				LR	LR		09 10 05.1		
	comp=Z,18nm,21.5s,baz=135,slow=34								
CMAR	**Chiang Mai Arr**	**70.23**	**294**	P	**P**		**08 41 25.6**	**-1.3**	
SEY	**Seymchan**	**73.83**	**355**	LR	LR		09 09 58.9		
	comp=Z,72nm,20.1s,baz=356,slow=32								
KDAK	**Kodiak Island**	**76.85**	**22**	LR	LR		09 14 34.8		
	comp=Z,42nm,18.4s,baz=232,slow=34								
SONM	**Songino Array**	**77.21**	**324**	LR	LR		09 17 05.3		
	comp=Z,38nm,18.1s,baz=144,slow=36								
SVW2	**Sparrevohn**	**78.27**	**19**	P	**P**		**08 42 14.7**	**+1.9**	
SVW2				IAmb	IAmb		08 42 41.7		
	comp=Z,9.5nm,1.4s								
M19K	**Big River Lodg**	**79.25**	**19**	P	**P**		**08 42 20.1**	**+1.9**	
M19K				IAmb	IAmb		08 42 47.1		
	comp=Z,11nm,1.4s								
L19K	**White Mountain**	**79.32**	**18**	P	**P**		**08 42 18.6**	**0.0**	
QSPA	**South Pole Qui**	**79.41**	**180**	LR	LR		09 14 11.7		
	comp=Z,47nm,18.7s,baz=82,slow=33								
QSPA	**South Pole Qui**	**79.41**	**180**	P	**P**		**08 42 19.8**	**+0.5**	
IMAR	**Indian Mountai**	**82.50**	**16**	P	**P**		**08 42 36.0**	**+0.6**	
ILAR	**Eielson Array**	**83.68**	**19**	P	**P**		**08 42 41.2**	**-0.3**	
	comp=Z,1.3nm,1.1s,baz=336,slow=4,SNR=5.4								
ILAR	**Eielson Array**	**83.68**	**19**	P	**P**		**08 42 40.2**	**-1.4**	
BCAR	**Beaver Creek A**	**84.36**	**22**	P	**P**		**08 42 45.8**	**+0.7**	
EGAK	**Eagle**	**85.60**	**21**	P	**P**		**08 42 52.4**	**+1.2**	
DLBC	**Dease Lake**	**86.90**	**29**	LR	LR		09 15 17.3		
	comp=Z,66nm,20.8s,baz=262,slow=31								
NVAR	**Mina Array Bea**	**87.15**	**50**	P	**P**		**08 42 59.5**	**-0.4**	
	comp=Z,0.4nm,0.8s,baz=246,slow=6.4,SNR=4.6								
NRIK	**Noril'sk**	**95.05**	**340**	LR	LR		09 27 18.5		
	comp=Z,33nm,19.5s,baz=27,slow=36								
KURBB	**Kurchatov Arra**	**95.15**	**320**	LR	LR		09 28 33.5		
	comp=Z,43nm,19.2s,baz=56,slow=37								
YKA	**Yellowknife Ar**	**95.42**	**27**	P	**P**		**08 43 36.5**	**-1.0**	
	comp=Z,0.2nm,0.4s,baz=207,slow=4.5,SNR=5.2								
AAK	**Ala-Archa**	**96.61**	**312**	LR	LR		09 29 10.6		
	comp=Z,32nm,19.0s,baz=342,slow=36								
AKASG	**Malin Array Be**	**125.46**	**326**	PKP	**PKPdf**		**08 49 14.2**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=50,slow=13,SNR=1.8								
AKASG	**Malin Array Be**	**125.46**	**326**		**PKiKP**		**08 49 14.9**	**+0.3**	
NOA	**NORSAR Array B**	**125.77**	**344**	PKP	**PKiKP**		**08 49 15.8**	**+0.8**	
	comp=Z,0.4nm,0.7s,baz=337,slow=2.2,SNR=1.7								
GERES	**GERESS Array B**	**134.46**	**333**	PKP	**PKPdf**		**08 49 30.6**	**-1.0**	
	comp=Z,0.2nm,0.2s,baz=323,slow=1.5,SNR=3.6								
GERES	**GERESS Array B**	**134.46**	**333**		**PKPdf**		**08 49 31.2**	**-0.4**	

*IDC **15** 08:34:14.9±0.8, 7.°82N×126.°40E, h142km±7km, mb3.8/21, mb1 4.0/22, mb1mx3.8/45, mbtmp4.2/22, MS3.6/2, Ms1 3.6/2, ms1mx2.6/76, Error ellipse: s-maj=20.8km s-min=11.7km az=84.0*

*NEIC **15** 08:34:16.0±1.6, 7.°89N±0.°09×126.°4E±0.°1, h142km±5km, mb4.5/43, Error ellipse: s-maj=17.0km s-min=12.8km az=83.0*

*MAN **15** 08:34:16.8, 7.°80N×126.°36E, h120km, mb4.9, ML3.8, MS3.8*

*DJA **15** 08:34:17.0±0.4, 8.°N±3.°×12.°6E±.°, h149km±4km, M4.5/12, mb5.2/2, mb4.5/12, MLv4.5/4, Mw(mB)4.6/2*

ISC 15 08:34:15.8±0.4, 7.°80N±0.°05×126.°39E±0.°07, h150km, n105, σ1°90/111, mb4.4/37, 5C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.86**	**189**	*e*P	**Pn**	**08 34 38.2**	**-1.3**
DAV	**Davao City (W)**	**1.08**	**228**	P	**Pn**	**08 34 41.0**	**-0.4**
	156nm,0.3s,baz=18,slow=1.7,SNR=12						
DAV				S	**Sn**	**08 34 59.2**	**-1.6**
	105nm,0.3s,baz=256,slow=22,SNR=28						
DAV	**Davao City (W)**	**1.08**	**228**		**Pn**	**08 34 41.3**	**-0.1**
BUKP	**Musuan**	**1.32**	**274**	*e*P	**Pn**	**08 34 43.5**	**-0.1**
BUTP	**Butuan**	**1.39**	**327**	*i*P	**Pn**	**08 34 45.4**	**+1.1**
KCP	**Kidapawan**	**1.51**	**239**	*i*P	**Pn**	**08 34 45.0**	**-0.6**
KCP				*i* S	**Sn**	**08 35 06.5**	**-1.8**
DDMP	**Don Marcelino,**	**1.81**	**202**	*i*P	**Pn**	**08 34 47.6**	**-1.3**
GLSP	**General Luna,**	**1.99**	**352**	*i*P	**Pn**	**08 34 50.6**	**-0.3**
CTBH	**Cotabato--PC H**	**2.20**	**255**	*i*P	**Pn**	**08 34 52.7**	**-0.6**
GSPH	**General Santos**	**2.22**	**220**	*e*P	**Pn**	**08 34 53.5**	**-0.2**
GSPH				*i* S	**Sn**	**08 35 21.4**	**-1.5**
MSLP	**Maasin**	**2.77**	**327**	*e*P	**Pn**	**08 35 02.9**	**+2.6**
PAGZ	**Pagadian**	**2.98**	**271**	*e*P	**Pn**	**08 35 03.5**	**+0.5**
TBP	**Tagbilaran**	**3.13**	**307**	*i*P	Pn	08 34 52.5	-12
TBP				*i* S	**Sn**	**08 35 41.4**	**-1.4**
SNPH	**Sibulan**	**3.48**	**296**	*i*P	**Pn**	**08 35 10.0**	**+0.6**
GTOI	**Gorontalo**	**7.87**	**206**	P	**Pn**	**08 36 06.3**	**-1.3**
	0.1nm16nm,1.0s						
GTOI				S	Sn	08 37 28.5	-7.0
	0.1nm16nm,1.0s						
TOLI2	**Tolitoli**	**8.68**	**220**	Pn	**Pn**	**08 36 16.6**	**-1.9**
SANI	**Sanana**	**9.79**	**182**	P	**Pn**	**08 36 31.5**	**-1.7**
	906nm19nm,0.9s						
APSI	**Ampana**	**9.86**	**209**	P	**Pn**	**08 36 33.7**	**-0.4**
	20nm,1.1s						
SIJI	**Sorong**	**9.89**	**150**	P	**Pn**	**08 36 34.2**	**-0.3**
	4.3nm,0.3s,baz=319,slow=13,SNR=4.5						
SBUM	**Sibu**	**15.08**	**250**		**P**	**08 37 44.3**	**+1.3**
SBUM				IAmb	IAmb	08 37 46.9	
	comp=Z,14nm,0.6s						
DLV	**T Lat**	**18.11**	**285**		**Pn**	**08 38 18.5**	**+0.2**
DLV				IAmb	IAmb	08 38 20.7	
	comp=Z,28nm,0.8s						
KNRA	**Kununurra**	**23.44**	**174**	P	**P**	**08 39 13.0**	**+1.2**
KNRA				IAmb	IAmb	08 39 35.9	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**25.74**	**182**	P	**P**	**08 39 32.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=330,slow=16,SNR=1.7						
FITZ	**Fitzroy Crossi**	**25.74**	**182**	P	**P**	**08 39 34.4**	**+1.8**
WRA	**Warramunga Arr**	**28.66**	**164**	P	**P**	**08 39 59.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=4.8,slow=10.0,SNR=1.5						
WRA				PcP	**PcP**	**08 43 06.3**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=335,slow=2.9,SNR=4.9						
WRA				ScP	**ScP**	**08 46 36.3**	**+3.0**
	comp=Z,0.8nm,0.9s,baz=5.3,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**28.66**	**164**	P	**P**	**08 39 58.3**	**-0.4**
WB2	**Warramunga Arr**	**28.66**	**164**	P	**P**	**08 39 58.8**	**+0.1**
WB2				IAmb	IAmb	08 40 05.7	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**28.73**	**164**	P	**P**	**08 40 00.9**	**+1.6**
WR0				IAmb	IAmb	08 40 23.7	
	comp=Z,17nm,1.5s						
PSA00	**Pilbara Seismi**	**29.89**	**192**	P	**P**	**08 40 10.8**	**+1.3**
PSA00				IAmb	IAmb	08 40 19.8	
	comp=Z,18nm,1.2s						
MJAR	**Matsushiro Arr**	**30.57**	**19**	P	**P**	**08 40 14.0**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=198,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**32.12**	**167**	P	**P**	**08 40 27.9**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=345,slow=6.6,SNR=2.3						
ASAR				PcP	**PcP**	**08 43 15.2**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=350,slow=3.5,SNR=8.2						
ASAR				ScP	**ScP**	**08 46 44.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=327,slow=3.0,SNR=2.0						
JMM	**Marumori**	**32.65**	**21**	P	**P**	**08 40 33.1**	**-0.4**
USA0B	**Ussuriysk Arra**	**36.59**	**7**	P	**P**	**08 41 06.3**	**-1.0**
USA0B				IAmb	IAmb	08 41 12.3	
	comp=Z,4.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.59**	**7**	P	**P**	**08 41 07.2**	**-0.1**
MORW	**Morawa**	**37.99**	**195**	P	**P**	**08 41 21.5**	**+2.2**
MORW				IAmb	IAmb	08 41 26.1	
	comp=Z,13nm,1.3s						
FORT	**Forrest**	**38.39**	**178**	P	**P**	**08 41 23.1**	**+0.5**
ASAJ	**Asahikawa**	**38.84**	**19**	P	**P**	**08 41 26.0**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=229,slow=19,SNR=2.5						
BBOO	**Buckleboo**	**41.42**	**168**	P	**P**	**08 41 47.7**	**+0.1**
BBOO				IAmb	IAmb	08 41 48.0	
	comp=Z,8.2nm,1.1s						
KLR	**Kul'dur**	**41.54**	**5**	P	**P**	**08 41 47.8**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=202,slow=7.1,SNR=5.4						
SONM	**Songino Array**	**43.37**	**340**	P	**P**	**08 42 03.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=159,slow=7.6,SNR=11						
SONM				PcP	**PcP**	**08 43 49.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=144,slow=3.0,SNR=3.1						
SONM	**Songino Array**	**43.37**	**340**	P	**P**	**08 42 04.2**	**+0.9**
TOO	**Toolangi**	**48.54**	**160**	P	**P**	**08 42 44.3**	**+0.5**
PETK	**Petropavlovsk-**	**51.83**	**23**	P	**P**	**08 43 08.7**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=208,slow=8.2,SNR=2.8						
MK31	**Makanchi Array**	**54.07**	**324**	P	**P**	**08 43 25.9**	**+1.0**
MK31				IAmb	IAmb	08 43 26.4	
	comp=Z,7.1nm,0.8s						
MKAR	**Makanchi Array**	**54.07**	**324**	P	**P**	**08 43 25.5**	**+0.6**
	comp=Z,6.5nm,0.5s,baz=86,slow=6.2,SNR=93						
MKAR				PcP	**PcP**	**08 44 28.1**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=114,slow=4.1,SNR=18						
MAKZ	**Makanchi**	**54.26**	**324**	P	**P**	**08 43 26.4**	**+0.1**
MAKZ				IAmb	IAmb	08 43 27.7	
	comp=Z,7.6nm,0.8s						
MA2	**Magadan**	**54.87**	**15**	LR	LR	09 07 04.2	
	comp=Z,58nm,21.3s,baz=149,slow=36						
NIL	**Nilore**	**55.24**	**306**	P	**P**	**08 43 33.6**	**0.0**
TKM2	**Tokmak 2**	**56.53**	**317**	P	**P**	**08 43 43.8**	**+0.9**
	SNR=5.4						
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**08 43 43.9**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=114,slow=7.5,SNR=4.4						
ZALV				PcP	**PcP**	**08 44 37.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=180,slow=5.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**56.84**	**332**	P	**P**	**08 43 44.4**	**-0.2**
UCH	**Uchtor**	**57.00**	**316**	P	**P**	**08 43 47.7**	**+1.2**
	SNR=13						
USP	**Ospenovka**	**57.40**	**317**	P	**P**	**08 43 49.3**	**+0.5**
	SNR=11						
AML	**Almayashu**	**57.54**	**315**	P	**P**	**08 43 51.5**	**+1.3**
	SNR=10						
EKS2	**Erkin-Say**	**57.67**	**316**	P	**P**	**08 43 51.7**	**+0.9**
	SNR=6.8						
KURK	**Kurchatov**	**58.17**	**326**	P	**P**	**08 43 54.6**	**+0.6**
KURK				IAmb	IAmb	08 43 55.7	
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**58.84**	**306**	P	**P**	**08 43 59.0**	**-0.2**
BTK	**Batken**	**58.91**	**312**	P	**P**	**08 43 59.8**	**+0.4**
BTK				IAmb	IAmb	08 44 01.3	
	comp=Z,8.2nm,1.1s						
GAR	**Garm**	**58.98**	**311**	P	**P**	**08 43 59.6**	**-0.3**
KKAR	**Karatay Array**	**60.08**	**316**	P	**P**	**08 44 07.1**	**-0.1**
TIXI	**Tiksi**	**63.80**	**1**	P	**P**	**08 44 31.1**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=272,slow=21,SNR=9.3						
TIXI	**Tiksi**	**63.80**	**1**	P	**P**	**08 44 31.2**	**-0.4**
TIXI				IAmb	IAmb	08 44 31.7	
	comp=Z,3.4nm,0.6s						
BRVK	**Borovoye**	**63.83**	**326**	P	**P**	**08 44 31.7**	**-0.4**
BRVK				IAmb	IAmb	08 44 33.1	
	comp=Z,5.8nm,0.9s						
RAO	**Raoul Island**	**65.00**	**127**	P	**P**	**08 44 41.4**	**+1.3**
BKZ	**Black Stump Fm**	**65.84**	**139**	P	**P**	**08 44 46.1**	**+0.7**
ABKAR	**Akbulak array**	**68.82**	**320**	P	**P**	**08 45 03.8**	**-0.1**
ABKAR	**Akbulak array**	**68.82**	**320**	P	**P**	**08 45 03.9**	**-0.1**
ABKAR				IAmb	IAmb	08 45 04.6	
	comp=Z,7.8nm,1.2s						
SOCY	**Socotra**	**71.27**	**280**	P	**P**	**08 45 19.3**	**-0.3**
SOCY				IAmb	IAmb	08 45 23.0	
	comp=Z,7.4nm,1.1s						
N19K	**Bonanza Creek**	**77.93**	**29**	P	**P**	**08 45 59.0**	**+1.8**
RAYN	**Ar Rayn**	**78.61**	**292**	P	**P**	**08 46 00.9**	**-0.7**
RAYN				IAmb	IAmb	08 46 02.1	
	comp=Z,6.2nm,0.7s						
KDAK	**Kodiak Island**	**78.66**	**33**	P	**P**	**08 46 01.2**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=350,slow=8.1,SNR=1.7						
KDAK	**Kodiak Island**	**78.66**	**33**	P	**P**	**08 46 01.3**	**+0.2**
KDAK				IAmb	IAmb	08 46 27.6	
	comp=Z,9.6nm,1.2s						
IMAR	**Indian Mountai**	**78.79**	**24**	P	**P**	**08 46 02.5**	**+0.8**
MLY	**Manley**	**79.96**	**25**	P	**P**	**08 46 08.6**	**+0.5**
KBZ	**Khabaz**	**79.97**	**313**	P	**P**	**08 46 08.7**	**+0.3**
	comp=Z,5.4nm,1.1s,baz=48,slow=3.6,SNR=3.6						
TOLK	**Toolik Lake Re**	**80.61**	**22**	P	**P**	**08 46 11.8**	**+0.4**
ILAR	**Eielson Array**	**81.60**	**26**	P	**P**	**08 46 16.4**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=249,slow=4.5,SNR=10.0						
J25K	**Saloha River,**	**82.25**	**26**	P	**P**	**08 46 19.7**	**-0.6**
BMAR	**Burnt Mountain**	**82.48**	**23**	P	**P**	**08 46 22.8**	**+1.4**
BCAR	**Beaver Creek A**	**83.93**	**27**	P	**P**	**08 46 29.9**	**+1.0**
EGAK	**Eagle**	**84.05**	**25**	P	**P**	**08 46 30.1**	**+0.7**
DAWY	**Dawson**	**84.89**	**26**	P	**P**	**08 46 34.5**	**+0.8**
INK	**Inuvik**	**86.52**	**22**	P	**P**	**08 46 41.7**	**+0.2**
ARCES	**ARCESS Array B**	**86.54**	**340**	P	**P**	**08 46 42.1**	**+0.5**
	comp=Z,9.7nm,1.1s,baz=72,slow=5.2,SNR=4.0						
ARCES	**ARCESS Array B**	**86.54**	**340**	P	**P**	**08 46 41.0**	**-0.6**
BRTR	**Keskin Array B**	**87.19**	**310**	P	**P**	**08 46 44.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=108,slow=4.7,SNR=2.3						
MAW	**Mawson**	**87.43**	**200**	P	**P**	**08 46 47.6**	**+1.8**
MAW				IAmb	IAmb	08 47 07.4	
	comp=Z,4.4nm,1.1s						
VNDA	**Vanda**	**87.48**	**173**	P	**P**	**08 46 46.7**	**+0.8**
VNDA				IAmb	IAmb	08 47 15.1	
	comp=Z,8.4nm,1.5s						
FIA1	**FINESS Array S**	**88.11**	**332**	P	**P**	**08 46 48.3**	**-1.0**
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**08 46 48.4**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=81,slow=6.0,SNR=15						
FINES	**FINESS Array B**	**88.11**	**332**	P	**P**	**08 46 48.8**	**-0.5**
AKASG	**Malin Array Be**	**88.54**	**321**	P	**P**	**08 46 50.5**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=68,slow=4.6,SNR=13						
AKASG	**Malin Array Be**	**88.54**	**321**	P	**P**	**08 46 51.0**	**-0.5**
AKASG				IAmb	IAmb	08 46 51.8	
	comp=Z,3.5nm,1.1s						
RES	**Resolute Bay**	**93.89**	**10**	LR	LR	09 31 28.8	
	comp=Z,32nm,19.8s,baz=86,slow=37						
NOA	**NORSAR Array B**	**95.01**	**334**	P	**P**	**08 47 20.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=58,slow=5.1,SNR=1.6						
YKA	**Yellowknife Ar**	**95.95**	**24**	P	**P**	**08 47 25.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=299,slow=4.7,SNR=7.7						
GERES	**GERESS Array B**	**98.70**	**322**	P	Pdif	08 47 38.5	+0.2
	comp=Z,0.3nm,0.3s,baz=44,slow=5.9,SNR=5.6						
TXAR	**Lajitas Array**	**119.32**	**50**	PKP	**PKiKP**	**08 52 48.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=16,slow=1.2,SNR=5.8						
TXAR	**Lajitas Array**	**119.32**	**50**		**PKPdf**	**08 52 47.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**121.26**	**290**	PKP	**PKPdf**	**08 52 50.9**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=28,slow=2.3,SNR=8.6						
TORD	**Torodi Ar. Bea**	**121.26**	**290**		**PKPdf**	**08 52 51.4**	**-0.7**
PLCA	**Paso Flores**	**143.89**	**158**	PKP	PKPbc	08 53 32.6	+0.6
	comp=Z,1.0nm,0.6s,baz=286,slow=1.5,SNR=9.7						
PLCA	**Paso Flores**	**143.89**	**158**		PKPbc	08 53 32.8	+0.8
LPAZ	**La Paz**	**163.49**	**122**	PKP	**PKPdf**	**08 54 02.3**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=254,slow=5.1,SNR=3.9						
LPAZ	**La Paz**	**163.49**	**122**		**PKPdf**	**08 54 01.0**	**-1.5**
LPAZ				PKPab	**PKPab**	**08 54 51.5**	**-3.0**

*THE **15** 08:35:40.8, 35.°39N×23.°58E, h13km±3km, ML2.2/5, Error ellipse: s-maj=3.3km s-min=0.9km az=184.0*

*ATH **15** 08:35:41.1, 35.°38N×23.°59E, h12km±4km, ML2.3/2, Error ellipse: s-maj=8.5km s-min=1.2km az=32.0*

*ISK **15** 08:35:41.1, 35.°35N×23.°68E, h13km±1km, ML2.5/5*

ISC 15 08:35:40.4±1.2, 35.°36N±0.°04×23.°57E±0.°04, h17km±8km, n16, σ0°30/26, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.16**	**143**	P	**Pg**	**08 35 44.5**	**0.0**
KNDR				S	**Sg**	**08 35 47.4**	**+0.1**
	1um,0.2s						
KNDR	**Palaiochora Ch**	**0.16**	**143**	PG	**Pg**	**08 35 44.6**	**0.0**
KNDR				SG	**Sg**	**08 35 47.3**	**-0.1**
RODP	**Rodopos**	**0.25**	**37**	P	**Pg**	**08 35 46.2**	**+0.2**
RODP				S	**Sg**	**08 35 49.8**	**-0.2**
	622nm,0.3s						
RODP	**Rodopos**	**0.25**	**37**	PG	**Pg**	**08 35 46.3**	**+0.2**
RODP				SG	**Sg**	**08 35 49.9**	**-0.1**
IMMV	**Iera Moni Meta**	**0.35**	**73**	P	**Pg**	**08 35 47.6**	**-0.1**
IMMV				S	**Sg**	**08 35 52.7**	**0.0**
IMMV				AML	AML	08 35 54.1	
	comp=E,1434µm,0.4s						
IMMV				AML	AML	08 35 54.7	
	comp=N,875µm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**73**	P	**Pg**	**08 35 47.7**	**-0.1**
IMMV				S	**Sg**	**08 35 52.9**	**+0.2**
	comp=N,570nm,0.4s						
IMMV	**Iera Moni Meta**	**0.35**	**73**	PG	**Pg**	**08 35 47.0**	**-0.7**
VAM	**Vamos**	**0.52**	**84**	P	**Pg**	**08 35 50.6**	**-0.1**
VAM				S	**Sg**	**08 35 57.3**	**-0.4**
VAM				AML	AML	08 36 00.4	
	comp=N,1154µm,0.3s						
VAM				AML	AML	08 36 01.3	
	comp=E,849µm,0.5s						
VAM	**Vamos**	**0.52**	**84**	P	**Pg**	**08 35 50.8**	**+0.1**
VAM				S	**Sg**	**08 35 58.1**	**+0.4**
	comp=E,532nm,0.3s						
ANKY	**Antikythira Is**	**0.55**	**337**	P	**Pg**	**08 35 51.5**	**0.0**
ANKY				S	**Sg**	**08 35 58.6**	**-0.3**
ANKY	**Antikythira Is**	**0.55**	**337**	P	**Pg**	**08 35 51.8**	**+0.4**
ANKY				S	**Sg**	**08 35 58.3**	**-0.5**
	comp=E,228nm,0.4s						
GVD	**Gavdhos**	**0.67**	**141**	PG	**Pg**	**08 35 53.5**	**-0.1**
KTHA	**Kythira Island**	**0.99**	**335**	P	**Pb**	**08 35 58.7**	**-0.4**
IDI	**Anoyia**	**1.08**	**93**	P	**Pb**	**08 36 01.1**	**+0.4**
IDI	**Anoyia**	**1.08**	**93**	PG	**Pb**	**08 36 00.7**	**0.0**
VLI	**Veliai**	**1.45**	**339**	P	**Pb**	**08 36 07.4**	**+0.4**

*DJA **15** 09:01:30.4±0.3, 9.°S±3.°×11.°3E±.°, h10km, M4.6/23, mb4.9/5, mB5.3/3, MLv4.4/23, Mw(mB)4.7/3*

*IDC **15** 09:01:32.5±3.1, 8.°64S×113.°08E, h48km±31km, mb3.7/8, mb1 3.9/10, mb1mx3.5/50, mbtmp4.0/10, ML4.3/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/74, Error ellipse: s-maj=34.6km s-min=15.2km az=47.0*

*NEIC **15** 09:01:34.3±1.7, 8.°8S±0.°1×112.°85E±0.°05, h66km±4km, mb4.0/11, Error ellipse: s-maj=17.1km s-min=6.4km az=194.0*

ISC 15 09:01:32.5±0.9, 9.°02S±0.°06×112.°76E±0.°03, h54km±10km, n72, σ1°40/78, mb4.1/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.00**	**43**	P	**Pn**	**09 01 50.3**	**-0.1**
GMJI				S	**Sn**	**09 02 02.5**	**-1.1**
PWJI	**Pagerwojo**	**1.37**	**316**	P	**Pn**	**09 01 55.4**	**+0.1**
PWJI				S	**Sn**	**09 02 11.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.48**	**69**		**Pn**	**09 01 56.5**	**-0.4**
JAGI				Sn	**Sn**	**09 02 14.9**	**-0.2**
JAGI	**Jajag, Banyuwa**	**1.48**	**69**	P	**Pn**	**09 01 57.0**	**+0.2**
JAGI				S	**Sn**	**09 02 13.4**	**-1.7**
JAGI	**Jajag, Banyuwa**	**1.48**	**69**	P	**Pn**	**09 01 57.3**	**+0.5**
BLJI	**Banyuglugur**	**1.51**	**33**	P	**Pn**	**09 01 58.9**	**+1.7**
BLJI				S	**Sn**	**09 02 17.5**	**+1.7**
PCJI	**Pacitan**	**1.77**	**298**	P	**Pn**	**09 02 00.6**	**-0.1**
PCJI				S	**Sn**

GEYT	**Alibeck**	**69.10 316**	P	**P**	**09 12 31.5**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**69.10 316**	P	**P**	**09 12 31.4**	**-1.8**
ABKAR	**Akbulak array**	**74.13 327**	P	**P**	**09 13 02.0**	**-1.1**
ABKAR			IAmb	IAmb	09 13 13.5	
	comp=Z,1.5nm,1.0s					
YKA	**Yellowknife Ar**	**116.65 22**	PKP	**PKPdf**	**09 20 09.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=319,slow=2.0,SNR=8.2					

IDC 15 09:10:06.3±3.3, 53.78N×88.27E, h0km, mb1 2.9/2, mb1mx2.8/51, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=30.4km s-min=19.1km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**276**	*i*		09 23 10.0	
	baz=89,slow=338,SNR=3.0						
ZALV	**Zalesovo Beam**	**2.05**	**276**	Pg	Pb	09 10 43.6	-0.8
	1.2nm,0.3s,baz=97,slow=11,SNR=20						
ZALV				Lg	Lg	09 11 10.8	
	1.5nm,0.3s,baz=94,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.77**	**246**	Pn	Pn	09 11 48.1	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=9.9						
KURBB				Lg	Lg	09 13 40.4	
	baz=61,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**7.97**	**211**	Pn	Pn	09 12 03.6	+0.2
	0.1nm,0.3s,baz=28,slow=13,SNR=4.3						
MKAR				Lg	Lg	09 14 18.9	
	0.0nm,0.3s,baz=22,slow=30,SNR=2.1						

IDC 15 09:17:47.7±2.8, 53.62N×87.86E, h0km, mb1 3.4/2, mb1mx3.1/39, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=23.3km s-min=15.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**282**	*i*		09 30 00.0	
	baz=95,slow=332,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.84**	**282**	Pg	Pn	09 18 20.4	-0.1
	2.8nm,0.3s,baz=98,slow=16,SNR=37						
ZALV				Lg	Lg	09 18 47.1	
	5.1nm,0.3s,baz=103,slow=25,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	09 19 24.9	+0.6
	0.2nm,0.3s,baz=62,slow=14,SNR=16						
KURBB				Sn	Sn	09 20 36.5	-2.4
	0.0nm,0.3s,baz=60,slow=28,SNR=1.3						
KURBB				Lg	Lg	09 21 13.4	
	0.1nm,0.3s,baz=62,slow=34,SNR=5.2						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	09 19 42.5	+1.3
	0.9nm,0.3s,baz=3.4,slow=7.2,SNR=6.4						
MKAR				Sn	Sn	09 21 09.9	+0.8
	0.1nm,0.3s,baz=28,slow=28,SNR=2.9						
MKAR				Lg	Lg	09 21 49.8	
	0.1nm,0.3s,baz=29,slow=32,SNR=5.1						

IDC 15 09:23:42.3±3.2, 54.25N×89.15E, h0km, mb1 3.1/3, mb1mx3.0/36, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=26.7km s-min=20.8km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.57**	**265**	*i*		09 40 20.0	
	baz=78,slow=341,SNR=4.6						
ZALV	**Zalesovo Beam**	**2.57**	**265**	Pn	Pn	09 24 25.8	+0.7
	1.7nm,0.3s,baz=82,slow=16,SNR=10						
ZALV				Lg	Lg	09 25 01.1	
	3.0nm,0.3s,baz=86,slow=26,SNR=15						
KURBB	**Kurchatov Arra**	**7.44**	**245**	Pn	Pn	09 25 31.8	-0.1
	0.1nm,0.3s,baz=60,slow=14,SNR=7.1						
KURBB				Sn	Sn	09 26 58.0	+1.1
	0.0nm,0.3s,baz=57,slow=29,SNR=1.8						
MKAR	**Makanchi Array**	**8.65**	**213**	Pn	Pn	09 25 49.3	+0.7
	0.2nm,0.3s,baz=32,slow=14,SNR=8.7						
MKAR				Sn	Sn	09 27 25.9	-0.9
	0.5nm,0.3s,baz=35,slow=26,SNR=13						
MKAR				Lg	Lg	09 28 15.5	
	baz=27,slow=29,SNR=1.1						

ASRS 15 09:28:40.5±0.2, 54°N±1°×9°5E±°, h10km, MLh4.1/12, Error ellipse: s-maj=3.0km s-min=2.3km az=48.3, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINR	**Mina**	**1.28**	**334**	Pg	Pg	09 29 05.9	+0.8
MINR				Sg	Sg	09 29 23.9	+2.2
ARDR	**Aradan**	**1.58**	**223**	Pg	Pg	09 29 11.0	+0.4
ARDR				Sg	Sg	09 29 31.7	+0.6
KZLR	**Kyzyl**	**2.10**	**192**	Pg	Pg	09 29 19.7	-0.9
KZLR				Sg	Sg	09 29 46.7	-1.1
ABNR	**Abakan**	**2.22**	**271**	Sg	Sg	09 29 52.2	+0.4
ABNR	**Abakan**	**2.22**	**271**	Pg	Pg	09 29 21.4	+0.7
CERR	**Cheremushki**	**2.43**	**250**	Pg	Pg	09 29 26.2	-0.8
CERR				Sg	Sg	09 29 56.8	-1.7
DJOS	**Djoyskaya Sosn**	**2.46**	**249**	Pg	Pb	09 29 25.9	+1.1
DJOS				Sg	Sg	09 29 57.9	-1.7
DJO	**Djoy, Khakassi**	**2.57**	**249**	Pg	Pb	09 29 26.6	0.0
DJO				Sg	Sb	09 30 00.2	+2.0
GZL	**Zheleznogorsk**	**2.69**	**340**	Pg	Pb	09 29 28.4	-0.2
GZL				Sg	Sg	09 30 07.1	+0.3
SHTK	**Zheleznogorsk-**	**2.74**	**341**	Pg	Pb	09 29 29.4	-0.1
SHTK				Sg	Sb	09 30 03.6	+0.5
SHRR	**Shira**	**3.04**	**286**	Sg	Sg	09 30 17.3	-0.8
SHRR	**Shira**	**3.04**	**286**	Pg	Pb	09 29 31.8	-2.8
KNGR	**Kungurtug, Tuv**	**3.47**	**155**	Pg	Pb	09 29 42.9	+1.0
KNGR				Sg	Sg	09 30 30.8	-0.9
ERNS	**Erzin**	**3.50**	**180**	Pg	Pb	09 29 44.6	+2.2
ERNS				Sg	Sb	09 30 26.9	+1.9
LUZB	**Luzhba, Kemero**	**3.73**	**271**	Pg	Pg	09 29 49.7	-2.2
LUZB				Sg	Sg	09 30 36.2	-4.0
MOY	**Mondy**	**4.11**	**118**	Pn	Pn	09 29 41.5	-1.9
MOY				P	Pb	09 29 41.7	-11
MOY				Pg	Pg	09 29 56.5	-2.5
MOY				Sg	Sg	09 30 49.9	-2.4
BRCR	**Berchikul'**	**4.41**	**298**	Pn	Pn	09 29 43.6	-3.7
BRCR				Pg	Pg	09 30 02.0	-2.8
BRCR				Sg	Sg	09 31 01.6	-0.2
TASR	**Tashtagol**	**4.49**	**260**	Pg	Pg	09 30 04.4	-2.1
TASR				Sg	Sg	09 30 59.1	-5.5

IDC 15 09:30:39.9±2.8, 18.22S×178.18W, h631km±25km, mb2.8/5, mb1 3.1/6, mb1mx2.8/25, mbtmp3.8/6, Error ellipse: s-maj=95.1km s-min=23.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**277**	P	P	09 32 05.3	-0.1
	0.7nm,0.3s,baz=108,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**38.67**	**242**	P	P	09 37 11.4	-0.4
	1.6nm,0.7s,baz=72,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**44.79**	**260**	P	P	09 37 60.0	+0.1
	1.2nm,0.3s,baz=97,slow=7.4,SNR=74						
ASAR	**Alice Springs**	**44.92**	**255**	P	P	09 38 01.1	+0.2
	1.9nm,0.5s,baz=88,slow=8.0,SNR=33						
TXAR	**Lajitas Array**	**85.98**	**58**	P	P	09 42 15.8	+0.4
	0.2nm,0.8s,baz=227,slow=5.0,SNR=4.0						
ILAR	**Eielson Array**	**86.14**	**13**	P	P	09 42 14.6	-0.6
	0.3nm,0.9s,baz=216,slow=6.3,SNR=1.6						

NEIC ***15*** *09:42:12.9±1.1, 46.59N±0.01×121.77W±0.02, h10km±4km, Error ellipse: s-maj=2.2km s-min=1.5km az=114.0*
ANF ***15*** *09:42:12.8±0.5, 46.60N×121.77W, h16km±4km, ML2.5/6, ML2.7/4, Error ellipse: s-maj=2.7km s-min=2.1km az=101.0*
SEA ***15*** *09:42:13.3±0.9, 46.600N±0.010×121.76W±0.01, h10km±5km, ML2.2/3, ML2.6/42(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=211.0*

ISC 15 09:42:13.0±0.9, 46.60N±0.02×121.79W±0.02, h14km±7km, n70, σ0.52/78, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LON	**Longmire**	**0.15**	**353**		**Pg**	**09 42 16.6**	**-0.1**
REMR	**Mount Rainier-**	**0.22**	**350**		**Pg**	**09 42 17.8**	**-0.1**
REMR					**Sg**	**09 42 21.2**	**-0.2**
RCS	**Mount Rainier-**	**0.27**	**8**		**Pg**	**09 42 18.7**	**-0.2**
OBSR	**Observation Ro**	**0.30**	**356**		**Pg**	**09 42 19.3**	**-0.1**
FMW	**Mount Fremont**	**0.34**	**13**		**Pg**	**09 42 19.9**	**-0.1**
RVC	**Mount Rainier-**	**0.36**	**340**		**Pg**	**09 42 20.3**	**-0.1**
SOSW	**Source of Smit**	**0.43**	**214**		**Pg**	**09 42 21.4**	**-0.2**
JRO	**Jston Ridge Ob**	**0.44**	**223**		**Pg**	**09 42 21.7**	**-0.1**
B201	**Coldwater, Mou**	**0.45**	**228**		**Pg**	**09 42 21.7**	**-0.1**
B201					**Sg**	**09 42 28.1**	**+0.2**
BOLM	**Sugar Bowl**	**0.47**	**215**		**Pg**	**09 42 22.4**	**0.0**
STD	**Studebaker Rid**	**0.47**	**220**		**Pg**	**09 42 22.2**	**-0.2**
STD					**Sg**	**09 42 29.0**	**+0.3**
ESD	**East Dome**	**0.48**	**212**		**Pg**	**09 42 22.4**	**0.0**
VALT	**Mount Saint He**	**0.48**	**216**		**Pg**	**09 42 22.4**	**0.0**
ERK	**Elk Rock**	**0.48**	**233**		**Pg**	**09 42 22.5**	**-0.1**
B941	**Kapowsin**	**0.49**	**322**		**Pg**	**09 42 22.1**	**-0.4**
HSR	**South Ridge**	**0.51**	**213**		**Pg**	**09 42 22.9**	**-0.1**
SHW	**Mount Saint He**	**0.52**	**218**		**Pg**	**09 42 23.0**	**-0.1**
CDFW	**Cedar Flats**	**0.52**	**201**		**Pg**	**09 42 22.9**	**-0.3**
E04D	**Cinebar**	**0.54**	**265**	Pg	**Pg**	**09 42 23.9**	**+0.3**
E04D	**Cinebar**	**0.54**	**265**	P	**Pg**	**09 42 23.7**	**+0.1**
	baz=85,SNR=34						
GHW	**Garrison Hill**	**0.55**	**323**		**Pg**	**09 42 23.3**	**-0.5**
FL2	**Flat Top 2**	**0.56**	**224**		**Pg**	**09 42 23.9**	**-0.2**
B203	**Quarry, Mount**	**0.58**	**221**		**Pg**	**09 42 24.0**	**-0.3**
B203					**Sg**	**09 42 32.1**	**+0.2**
GSM	**Grass Mountain**	**0.60**	**359**		**Pg**	**09 42 24.6**	**-0.2**
D05A	**Enumclaw**	**0.60**	**347**		**Pg**	**09 42 24.5**	**-0.3**
MTMW	**Mount Mitchell**	**0.65**	**207**		**Pg**	**09 42 25.1**	**-0.5**
NAC	**Naches**	**0.67**	**78**		**Pb**	**09 42 27.0**	**+0.4**
F05D	**White Salmon**	**0.75**	**162**		**Pg**	**09 42 27.4**	**-0.2**
F05D				IAML		09 42 52.4	
	comp=N,121nm,0.3s						
F05D				IAML		09 42 54.4	
	comp=E,155nm,0.4s						
F05D	**White Salmon**	**0.75**	**162**	P	**Pg**	**09 42 27.0**	**-0.6**
	baz=344,SNR=9.7						
F04A	**Amboy**	**0.80**	**214**		**Pg**	**09 42 27.8**	**-0.7**
F04A				IAML		09 42 55.4	
	comp=N,98nm,0.5s						
RVW	**Rose Valley**	**0.80**	**236**		**Pg**	**09 42 28.0**	**-0.5**
RATT	**Rattlesnake La**	**0.82**	**359**		**Pg**	**09 42 28.5**	**-0.5**
D04E	**Lakebay**	**0.89**	**311**	P	**Pg**	**09 42 30.2**	**0.0**
	baz=130						
D04E				S	**Sn**	**09 42 43.2**	**-0.6**
	baz=130						
EBG	**Ellensburg**	**0.89**	**69**		**Pg**	**09 42 29.8**	**-0.4**
F04D	**Rainier, OR**	**0.99**	**239**		**Pb**	**09 42 31.5**	**-0.5**
F04D	**Rainier, OR**	**0.99**	**239**	P	**Pb**	**09 42 31.4**	**-0.6**
	baz=59,SNR=6.2						
F04D				S	**Sg**	**09 42 45.6**	**+0.4**
	baz=59						
BMW	**Boistfort Moun**	**1.00**	**263**		**Pb**	**09 42 31.5**	**-0.7**
LTY	**Liberty**	**1.01**	**49**		**Pb**	**09 42 31.2**	**-1.1**
LTY				IAML		09 42 55.7	
	comp=N,100nm,0.4s						
B023	**Clatskanie**	**1.02**	**242**		**Pb**	**09 42 31.5**	**-1.0**
C05A	**Tolt Reservoir**	**1.09**	**3**		**Pb**	**09 42 33.0**	**-0.7**
E03A	**Lebam**	**1.23**	**268**	Pn	**Pn**	**09 42 35.2**	**-0.5**
E03A				IAML		09 43 05.1	
	comp=N,134nm,2.2s						
E03A				IAML		09 43 05.8	
	comp=E,124nm,1.7s						
HOOD	**Mount Hood Mea**	**1.28**	**176**	Pn	**Pb**	**09 42 37.3**	**+0.2**
HOOD				IAML		09 43 20.5	
	comp=E,59nm,3.3s						
D03D	**Eldon**	**1.29**	**317**	P	**Pn**	**09 42 35.9**	**-0.7**
	baz=135						
D03D				S	**Sb**	**09 42 53.3**	**-0.2**
	baz=135						
TDH	**Tom, Dick, Har**	**1.31**	**180**		**Pn**	**09 42 36.6**	**-0.5**
E07A	**Sunnyside**	**1.33**	**91**		**Pn**	**09 42 37.2**	**0.0**
E07A				IAML		09 43 09.6	
	comp=N,43nm,0.7s						
G05D	**Wamic, OR**	**1.40**	**166**	Pb	**Pb**	**09 42 38.7**	**-0.2**
	baz=347,SNR=32						
ETW	**Entiat**	**1.41**	**44**		**Pn**	**09 42 38.3**	**-0.2**
C06D	**Leavenworth**	**1.45**	**24**	S	**Sb**	**09 42 58.5**	**+0.3**
	baz=204						
WISH	**Wishkah**	**1.46**	**291**	Pn	**Pb**	**09 42 39.8**	**0.0**
WISH				IAML		09 42 51.7	
	comp=N,137nm,2.3s						
WISH				IAML		09 43 28.0	
	comp=E,158nm,4.3s						
F07A	**Phinny Hill Vi**	**1.47**	**118**	Pn	**Pn**	**09 42 39.5**	**+0.4**
F07A				IAML		09 43 11.5	
	comp=E,39nm,1.1s						
F07A				IAML		09 43 12.1	
	comp=N,94nm,0.5s						
HAWA	**Hanford**	**1.57**	**97**		**Pn**	**09 42 40.8**	**+0.3**
GPW	**Glacier Peak**	**1.58**	**16**		**Pb**	**09 42 41.8**	**-0.4**
NLWA	**Neilton Lookou**	**1.63**	**300**	Pn	**Pn**	**09 42 41.9**	**+0.5**
NLWA				IAML		09 42 56.5	
	comp=N,64nm,4.1s						
NLWA				IAML		09 43 20.3	
	comp=N,68nm,2.6s						
WTV	**Waterville**	**1.66**	**48**		**Pb**	**09 42 43.4**	**0.0**
B05A	**Bryant**	**1.68**	**353**	S	**Sn**	**09 43 03.9**	**+0.7**
	baz=172						
G03D	**McMinnville, O**	**1.73**	**217**	Pn	**Pn**	**09 42 43.4**	**+0.7**
G03D				IAML		09 43 24.0	
	comp=N,111nm,3.6s						
G03D				IAML		09 43 44.9	
	comp=E,108nm,2.3s						
NLW	**Nelson Butte**	**1.77**	**33**		**Pb**	**09 42 45.7**	**+0.3**
H04A	**Detroit Lake**	**1.94**	**188**	Pn	**Pn**	**09 42 46.6**	**+1.1**
HEBD	**Mount Hebo**	**1.95**	**225**	Pn	**Pn**	**09 42 45.9**	**+0.1**
H04D	**Lebanon**	**2.18**	**198**	Pn	**Pn**	**09 42 50.5**	**+1.6**
COR	**Corvallis**	**2.28**	**208**	Pn	**Pn**	**09 42 49.5**	**-0.7**
PGC	**Sidney**	**2.34**	**332**	Pn	**Pn**	**09 42 51.3**	**+0.3**
PGC				IAML		09 43 23.8	
	comp=E,39nm,4.0s						
PGC				IAML		09 44 11.3	
	comp=N,50nm,3.5s						
G08A	**Pilot Rock**	**2.37**	**123**	Pn	**Pn**	**09 42 51.1**	**-0.4**
B08A	**Colville Reser**	**2.42**	**43**	Pn	**Pn**	**09 42 53.6**	**+1.4**
B08A				IAML		09 43 40.4	
	comp=N,14nm,0.3s						
B08A				IAML		09 43 49.4	
	comp=E,12nm,3.1s						
E09A	**Wood Farm, Sta**	**2.51**	**91**	Pn	**Pn**	**09 42 53.1**	**-0.3**
C09A	**Chrisman Ranch**	**2.68**	**62**	Pn	**Pn**	**09 42 54.9**	**-0.8**
B926	**Mesachie Lake**	**2.73**	**325**		**Pn**	**09 42 57.2**	**+0.9**
B926					**Pb**	**09 43 02.3**	**+0.8**
CLRS	**Cowichan Lake**	**2.73**	**325**	Pn	**Pn**	**09 42 56.6**	**+0.3**
I07A	**Izee**	**2.99**	**147**	Pn	**Pn**	**09 43 00.7**	**+0.6**
L04D	**Klamath Falls**	**4.40**	**185**	Pn	**Pn**	**09 43 19.7**	**+0.3**

ANF 15 09:42:23.4±0.3, 46.60N×121.78W, h14km±2km, Error ellipse: s-maj=2.5km s-min=1.5km az=98.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E04D	**Cinebar**	**0.55**	**266**	S	Sb	09 42 42.2	-0.2
	baz=86						
F05D	**White Salmon**	**0.75**	**163**	P	Pg	09 42 37.8	-0.2
	baz=343						
F05D				S	Sb	09 42 48.7	+0.4
	baz=343						
D04E	**Lakebay**	**0.89**	**311**	P	Pg	09 42 40.9	+0.1
	baz=130						
D04E				S	Sn	09 42 53.7	-0.5
	baz=130						
F04D	**Rainier, OR**	**1.00**	**239**	P	Pb	09 42 42.2	-0.3
	baz=59						
F04D				S	Sn	09 42 56.3	-0.5
	baz=59						
D03D	**Eldon**	**1.29**	**317**	P	Pn	09 42 47.1	0.0
	baz=136						
D03D				S	Sn	09 43 04.2	+0.1
	baz=136						
G05D	**Wamic, OR**	**1.40**	**166**	Pb	Pb	09 42 49.5	+0.2
	baz=347						
C06D	**Leavenworth**	**1.45**	**24**	P	Pn	09 42 49.5	+0.2
	baz=204						
C06D				S	Sb	09 43 09.2	+0.5
	baz=204						
B05A	**Bryant**	**1.68**	**353**	S	Sb	09 43 15.7	+0.7
	baz=172						
G03D	**McMinnville, O**	**1.73**	**217**	Sb	Sg	09 43 18.1	-1.0
	baz=36						
H04D	**Lebanon**	**2.18**	**198**	Sb	Sb	09 43 31.1	+1.5
	baz=18						

CNRM ***15*** *09:48:56.3, 35.64N×3.81W, h0km, ml2.4*
MDD ***15*** *09:48:58.6±0.5, 35.72N×3.68W, h0km±3km, mb_Lg2.4/16, Error ellipse: s-maj=3.1km s-min=2.6km az=19.0*
SFS ***15*** *09:49:00.0, 35.61N×3.62W, ML2.6, ALBORAN SUR*

ISC 15 09:48:59.3±1.1, 35.66N±0.02×3.65W±0.03, h28km±12km, n31, σ1.04/61, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.57**	**61**	Pg	**Pb**	**09 49 10.5**	**-0.3**
EALB				Sg	**Sb**	**09 49 19.2**	**+0.6**
EALB				*i* Vmb_Lg		09 49 20.5	
EMEL	**Melilla**	**0.67**	**122**	Pg	**Pb**	**09 49 11.7**	**-0.8**
EMEL				Sg	**Sb**	**09 49 20.7**	**-0.7**
GOG	**Mont Gurugu**	**0.69**	**129**	P	**Pb**	**09 49 12.2**	**-0.6**
GOG				S	**Sn**	**09 49 21.7**	**-1.3**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg	**Pn**	**09 49 19.4**	**-0.9**
ELGU				Sg	**Sn**	**09 49 35.0**	**-0.7**
ELGU				*i* Vmb_Lg		09 49 39.2	
EMAL	**Malaga-Limoner**	**1.27**	**330**	P	**Pn**	**09 49 20.2**	**-0.8**
EMAL				S	**Sn**	**09 49 36.5**	**-0.7**
EMIJ	**Mijas**	**1.28**	**315**	Pg	**Pn**	**09 49 20.6**	**-0.7**
EMIJ				Sg	**Sn**	**09 49 36.2**	**-1.4**
EMIJ				*i* Vmb_Lg		09 49 37.9	
TAF	**Taforalt**	**1.32**	**130**	P	**Pn**	**09 49 21.5**	**-0.4**
EBER	**Berja**	**1.38**	**26**	Pn	**Pn**	**09 49 22.3**	**-0.4**
EBER				Sn	**Sn**	**09 49 40.3**	**+0.2**
EBER				*i* Vmb_Lg		09 49 48.2	
SMIR	**Smir Dam**	**1.41**	**271**	P	**Pn**	**09 49 21.0**	**-2.1**
SMIR				S	**Sn**	**09 49 38.9**	**-1.8**
CEU	**Ceuta**	**1.42**	**280**	P	**Pn**	**09 49 21.7**	**-1.5**
CEU				S	**Sn**	**09 49 38.1**	**-2.9**
CHEFC	**Chefchaouen**	**1.49**	**249**	P	**Pn**	**09 49 24.2**	**-0.1**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn	**Pn**	**09 49 24.5**	**+0.2**
EGOR				Sn	**Sn**	**09 49 42.5**	**-0.4**
EGOR				*i* Vmb_Lg		09 49 53.0	
EQUE	**Quentar**	**1.55**	**6**	Pn	**Pn**	**09 49 26.0**	**+1.0**
EQUE				Sn	**Sn**	**09 49 44.5**	**+0.2**
EQUE				*i* Vmb_Lg		09 49 49.2	
JBK	**JBK**	**1.59**	**146**	P	**Pn**	**09 49 25.2**	**-0.5**
EJIF	**Jimena Fronter**	**1.67**	**299**	Pn	**Pn**	**09 49 27.7**	**+1.0**
EJIF				Sn	**Sn**	**09 49 47.1**	**-0.1**
ENIJ	**Nijar**	**1.75**	**41**	Pn	**Pn**	**09 49 28.0**	**+0.3**
ENIJ				Sn	**Sn**	**09 49 48.7**	**-0.4**
ENIJ				*i* Vmb_Lg		09 49 48.9	
ESPR	**Espera**	**2.15**	**305**	Pn	**Pn**	**09 49 34.4**	**+1.1**
ESPR				Sn	**Sn**	**09 49 59.2**	**+0.2**
ESPR				*i* Vmb_Lg		09 50 03.1	
ESPR				Sg	**Sb**	**09 50 05.3**	**+1.5**
EQES	**Quesada**	**2.19**	**12**	Pn	**Pn**	**09 49 34.5**	**+0.6**
EQES				Pg	**Pb**	**09 49 36.7**	**-1.5**
EQES				Sn	**Sn**	**09 49 60.0**	**0.0**
EQES				Sg	**Sb**	**09 50 05.6**	**+0.6**
EQES				*i* Vmb_Lg		09 50 05.9	
IFR	**Ifrane**	**2.46**	**210**	P	**Pn**	**09 49 38.7**	**+1.0**
IFR				S	**Sn**	**09 50 07.4**	**+0.4**
EADA	**Adamuz**	**2.61**	**344**	Pn	**Pn**	**09 49 40.5**	**+0.9**
EADA				Sn	**Sn**	**09 50 10.8**	**+0.4**
EADA				Sg	**Sb**	**09 50 18.5**	**+1.6**
EADA				*i* Vmb_Lg		09 50 19.2	
ECAB	**El Cabril**	**2.80**	**330**	Pn	**Pn**	**09 49 42.4**	**+0.2**
ECAB				Sn	**Sn**	**09 50 15.3**	**+0.3**
ECAB				Sg	**Sb**	**09 50 24.0**	**+1.7**
ECAB				*i* Vmb_Lg		09 50 30.4	
CZD	**Col de Zad**	**2.87**	**204**	P	**Pn**	**09 49 45.0**	**+1.6**
CZD				S	**Sn**	**09 50 16.7**	**-0.3**
MD31	**MD31**	**2.94**	**199**	P	**Pn**	**09 49 45.3**	**+1.1**
MD31				S	**Sn**	**09 50 18.1**	**-0.4**
MDT	**Midelt**	**2.95**	**196**	P	**Pn**	**09 49 45.8**	**+1.4**
EMIN	**Mina Concepcio**	**3.21**	**312**	Pn	**Pn**	**09 49 48.1**	**+0.3**
EMIN				Sn	**Sn**	**09 50 25.3**	**+0.1**
EMIN				*i* Vmb_Lg		09 50 37.2	
ZHG	**ZHG**	**3.32**	**229**	P	**Pn**	**09 49 50.0**	**+0.7**
EGRO	**El Granado**	**3.61**	**302**	Pn	**Pn**	**09 49 53.3**	**+0.1**
EGRO				Sn	**Sn**	**09 50 34.3**	**-0.6**
EGRO				*i* Vmb_Lg		09 50 40.6	
PVAQ	**Vaqueiros**	**3.71**	**299**	P	**Pn**	**09 49 55.0**	**+0.3**
PVAQ				S	**Sn**	**09 50 35.3**	**-2.2**
PAB	**San Pablo**	**3.92**	**352**	Pn	**Pn**	**09 49 57.9**	**+0.3**
PAB				Sn	**Sn**	**09 50 42.0**	**-0.6**
PAB				*i* Vmb_Lg		09 50 59.4	
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**09 50 00.8**	**+0.9**
EBAD				Sn	**Sn**	**09 50 47.0**	**+0.1**
EBAD				*i* Vmb_Lg		09 50 56.6	
OUZM	**OUZ**	**5.41**	**210**	P	**Pn**	**09 50 20.5**	**+2.3**

SSNC ***15*** *09:54:32.1±1.2, 19.88N×73.52W, h11km±7km, MD3.2, ML2.8, MW3.3*
OSPL ***15*** *09:54:33.1±1.3, 19.95N×73.59W, h90km±43km, ML2.6*

ISC 15 09:54:30.9±1.4, 20.0N±0.1×73.52W±0.05, h20km±6km, n14, σ1.17/24, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.70**	**285**	*eP*	**Pb**	**09 54 44.9**	**+0.5**
MASC				*eS*	**Sb**	**09 54 54.4**	**+0.9**
MASC				IAML		09 54 55.7	
	comp=E,384nm,0.2s						
MASC				IAML		09 54 56.0	
	comp=N,492nm,0.2s						
GTBY	**Guantanamo Bay**	**1.50**	**268**	*eP*	**Pn**	**09 54 56.9**	**+0.3**
GTBY				*eS*	**Sn**	**09 55 15.1**	**-0.6**
GTBY	**Guantanamo Bay**	**1.50**	**268**	*i* P	**Pn**	**09 54 57.0**	**+0.3**
GTBY				*eS*	**Sn**	**09 55 14.7**	**-1.0**
GTBY				IAML		09 55 20.1	
	comp=Z,67nm,0.2s						
MOAC	**Moa**	**1.51**	**296**	*eP*	**Pn**	**09 54 57.0**	**+0.3**
MOAC				*eS*	**Sn**	**09 55 15.6**	**-0.3**
MOAC				IAML		09 55 16.9	
	comp=E,146

NEUV	**Arroyo Zacate**	**0.83**	**309**	*i* P		**Pn**	**10 02 21.1**	**-0.2**
NEUV				*i* S		**Sn**	**10 02 36.0**	**-1.4**
UXUV	**UXUV**	**0.95**	**82**	*i* P		**Pn**	**10 02 22.4**	**0.0**
UXUV				*i* S		**Sn**	**10 02 37.5**	**-1.6**
MIHL	**Minatitlan**	**0.97**	**35**	*eP*		**Pn**	**10 02 22.5**	**0.0**
MIHL				*i* S		**Sn**	**10 02 38.5**	**-1.0**
TUIG	**Tuzandepetl**	**1.07**	**39**			**Pn**	**10 02 23.5**	**0.0**
TUIG						**Sn**	**10 02 40.0**	**-1.4**
TUIG	**Tuzandepetl**	**1.07**	**39**	*eP*		**Pn**	**10 02 23.5**	**0.0**
TUIG				*i* S		**Sn**	**10 02 40.0**	**-1.4**
CARR	**Arriaga**	**1.50**	**129**	*i* P		**Pn**	**10 02 28.5**	**+0.5**
CARR				*i* S		**Sn**	**10 02 48.6**	**-0.7**
OXLC	**Oaxaca**	**1.51**	**265**	*eP*		**Pn**	**10 02 30.0**	**+1.6**
OXLC				*eS*		**Sn**	**10 02 51.9**	**+2.0**
OXBJ	**Oaxaca**	**1.53**	**266**			**Pn**	**10 02 30.0**	**+1.4**
OXBJ						**Sn**	**10 02 51.9**	**+1.5**
OXBJ	**Oaxaca**	**1.53**	**266**	*eP*		**Pn**	**10 02 30.0**	**+1.4**
OXBJ				*i* S		**Sn**	**10 02 51.9**	**+1.5**
VHO	**Vista Hermosa**	**1.54**	**266**	*eP*		**Pn**	**10 02 30.1**	**+1.3**
VHO				*eS*		**Sn**	**10 02 51.8**	**+1.2**
HUIG	**Huatulco**	**1.70**	**214**			**Pn**	**10 02 29.5**	**-0.9**
HUIG						**Sn**	**10 02 52.8**	**-0.7**
HUIG	**Huatulco**	**1.70**	**214**	*eP*		**Pn**	**10 02 29.5**	**-0.9**
HUIG				*eS*		**Sn**	**10 02 52.8**	**-0.7**
TGIG		**1.96**	**102**			**Pn**	**10 02 33.8**	**+0.2**
TGIG						**Sn**	**10 02 57.6**	**-1.6**
TGIG		**1.96**	**102**	*eP*		**Pn**	**10 02 33.8**	**+0.2**
TGIG				*i* S		**Sn**	**10 02 57.6**	**-1.6**
TOIG	**Toxpalan**	**2.06**	**296**	*eP*		**Pn**	**10 02 35.9**	**+1.1**
TOIG				*i* S		**Sn**	**10 03 01.3**	**0.0**
VHSA	**Villahermosa**	**2.23**	**69**	*eP*		**Pn**	**10 02 37.2**	**+0.4**
VHSA				*i* S		**Sn**	**10 03 03.5**	**-1.8**
PEIG	**Puerto Escondi**	**2.27**	**239**	*eP*		**Pn**	**10 02 36.2**	**-1.2**
PEIG				*i* S		**Sn**	**10 03 05.3**	**-0.7**
YOIG	**Yosondua**	**2.34**	**262**	*eP*		**Pn**	**10 02 39.0**	**+0.6**
YOIG				*eS*		**Sn**	**10 03 08.3**	**+0.5**
PCIG		**2.35**	**129**			**Pn**	**10 02 36.2**	**-2.2**
PCIG						**Sn**	**10 03 08.5**	**+0.8**
PCIG		**2.35**	**129**	*eP*		**Pn**	**10 02 36.2**	**-2.2**
PCIG				*i* S		**Sn**	**10 03 08.5**	**+0.8**
TPIG	**Tehuac#an**	**2.45**	**300**			**Pn**	**10 02 41.4**	**+1.6**
TPIG						**Sn**	**10 03 10.3**	**0.0**
TPIG	**Tehuac#an**	**2.45**	**300**	*eP*		**Pn**	**10 02 41.4**	**+1.6**
TPIG				*eS*		**Sn**	**10 03 10.3**	**0.0**
OZST	**Orizaba**	**2.50**	**312**	*eP*		**Pn**	**10 02 40.5**	**+0.1**
OZST				*i* S		**Sn**	**10 03 10.5**	**-0.9**
TXIG	**Tlaxiaco**	**2.52**	**272**	*eP*		**Pn**	**10 02 42.0**	**+1.2**
TXIG				*i* S		**Sn**	**10 03 11.4**	**-0.7**
HLIG	**Huajuapan de L**	**2.63**	**284**	*i* P		**Pn**	**10 02 43.6**	**+1.5**
HLIG				*i* S		**Sn**	**10 03 14.2**	**-0.2**
JAUV	**Jalcomulco**	**2.69**	**324**	*eP*		**Pn**	**10 02 41.9**	**-0.8**
JAUV				*i* S		**Sn**	**10 03 13.4**	**-2.0**
FTIG	**Fresnillo de T**	**2.96**	**284**	*eP*		**Pn**	**10 02 47.9**	**+1.7**
FTIG				*eS*		**Sn**	**10 03 21.4**	**-0.3**
PNIG	**Pinotepa**	**2.98**	**255**			**Pn**	**10 02 45.6**	**-0.9**
PNIG						**Sn**	**10 03 20.0**	**-2.2**
PNIG	**Pinotepa**	**2.98**	**255**	*eP*		**Pn**	**10 02 45.6**	**-0.9**
PNIG				*eS*		**Sn**	**10 03 20.0**	**-2.2**
CCIG	**Comitan**	**3.00**	**107**			**Pn**	**10 02 47.0**	**+0.1**
CCIG					Sn	**Sn**	**10 03 22.3**	**-0.7**
CCIG	**Comitan**	**3.00**	**107**	*i* P		**Pn**	**10 02 48.0**	**+1.1**
CCIG				*eS*		**Sn**	**10 03 21.0**	**-2.0**
TLIG	**Tlapa**	**3.31**	**277**			**Pn**	**10 02 51.4**	**+0.6**
TLIG	**Tlapa**	**3.31**	**277**	*eP*		**Pn**	**10 02 52.1**	**+1.3**
TLIG				*i* S		**Sn**	**10 03 28.7**	**-1.2**
MGIG	**Malinaltepec**	**3.35**	**271**	*eP*		**Pn**	**10 02 52.3**	**+0.8**
MGIG				*eS*		**Sn**	**10 03 29.9**	**-1.1**
PATR	**El Naranjo**	**3.46**	**126**	*eP*		**Pn**	**10 02 54.1**	**+1.1**
PATR				*eS*		**Sn**	**10 03 34.7**	**+1.0**
PAVE	**Pavencul**	**3.46**	**125**	*eP*		**Pn**	**10 02 54.1**	**+1.1**
PAVE				*i* S		**Sn**	**10 03 35.0**	**+1.3**
THIG		**3.57**	**129**	*i* P		Pn	10 02 48.8	-5.3
THIG				*eS*		**Sn**	**10 03 37.2**	**+1.3**
CRIG	**Cruz Grande**	**3.86**	**264**			**Pn**	**10 02 57.4**	**-0.6**
CRIG						**Sn**	**10 03 41.6**	**-1.2**
CRIG	**Cruz Grande**	**3.86**	**264**	*eP*		**Pn**	**10 02 57.4**	**-0.6**
CRIG				*eS*		**Sn**	**10 03 41.6**	**-1.2**
HUEH	**Huehuetenango**	**3.95**	**118**	Pn		**Pn**	**10 02 59.8**	**+0.5**
YAIG	**Yautepec**	**4.10**	**294**			**Pn**	**10 03 03.8**	**+2.4**
YAIG	**Yautepec**	**4.10**	**294**	*eP*		**Pn**	**10 03 03.8**	**+2.4**
YAIG				*eS*		**Sn**	**10 03 44.6**	**-4.2**
PLIG	**Platanillo**	**4.34**	**287**			**Pn**	**10 03 06.5**	**+2.1**
PLIG	**Platanillo**	**4.34**	**287**	*eP*		**Pn**	**10 03 06.5**	**+2.1**
PLIG				*eS*		**Sn**	**10 03 51.4**	**-2.9**
MEIG	**Mezcala**	**4.35**	**280**			**Pn**	**10 03 06.5**	**+1.9**
MEIG	**Mezcala**	**4.35**	**280**	*eP*		**Pn**	**10 03 06.5**	**+1.9**
MEIG				*eS*		**Sn**	**10 03 51.9**	**-2.6**
CAIG	**El Cayaco**	**4.92**	**269**			**Pn**	**10 03 12.1**	**0.0**
CAIG	**El Cayaco**	**4.92**	**269**	*eP*		**Pn**	**10 03 12.1**	**0.0**
CAIG				*eS*		**Sn**	**10 04 03.3**	**-4.7**
PETF	**Flores**	**5.04**	**92**	Pn		**Pn**	**10 03 14.6**	**+0.8**
ESQI	**Esquipulas**	**6.15**	**114**	Pn		**Pn**	**10 03 30.0**	**+1.2**
MTO3	**Montecristo**	**6.21**	**116**	Pn		**Pn**	**10 03 28.7**	**-1.0**
JTS	**Las Juntas de**	**12.03**	**123**	Pn		**Pn**	**10 04 48.2**	**+0.7**
X40A	**Basin Creek Fa**	**17.35**	**6**	P		**P**	**10 05 54.1**	**+0.4**
X34A	**Smith Ranch, M**	**17.51**	**353**	P		**Pn**	**10 05 56.2**	**0.0**
X34A				IAmb		IAmb	10 06 10.1	
	comp=Z,4.3nm,0.8s							
W45A	**Hickory Valley**	**18.66**	**15**	P		**Pn**	**10 06 09.5**	**-0.4**

*TUL **15** 10:12:45.6±1.2,36°.663N±0°.010×97°.26W±0°.01, h4km±7km, ML3.1, mb_Lg2.9/56(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=101.0*

NEIC 15 10:12:45.8±1.1, 36°.66N±0°.01×97°.25W±0°.02, h4km±7km, Error ellipse: s-maj=2.2km s-min=1.6km az=58.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.65**	**66**	Pg	Pg	10 12 58.3	0.0
T35A				Sg	Sg	10 13 06.9	+0.3
OKCFA	**Oklahoma City**	**1.25**	**188**	Pg	Pg	10 13 09.3	-0.5
OKCSW	**OKLAHOMA CITY**	**1.26**	**187**	Pg	Pg	10 13 09.2	-0.8
TUL1	**Leonard**	**1.40**	**122**	Pn	Pn	10 13 11.5	-0.6
FNL	**Franklin**	**1.40**	**185**	Pn	Pn	10 13 11.6	-0.7
U32A	**Winter Ranch,**	**1.44**	**259**	Pn	Pn	10 13 12.0	-0.7
W35A	**Tecumseh**	**1.53**	**168**		Pn	10 13 13.4	-0.6
X34A	**Smith Ranch, M**	**2.11**	**193**		Pn	10 13 22.8	+0.9
X34A				IAmb_Lg		10 13 58.3	
	comp=Z,51nm,0.8s						
R32A	**Long Quarter,**	**2.11**	**327**		Pn	10 13 21.9	-0.1
R32A				IAmb_Lg		10 13 51.7	
	comp=Z,43nm,0.8s						
WMOK	**Wichita Mounta**	**2.29**	**213**		Pn	10 13 25.3	+0.9
KSU1	**Kansas State U**	**2.49**	**12**		Pn	10 13 27.8	+0.6
X37A	**Clayton**	**2.57**	**143**		Pn	10 13 27.9	-0.3
HHAR	**Hobbs**	**2.69**	**97**	Pn	Pn	10 13 30.4	+0.4
CBKS	**Cedar Bluff**	**2.92**	**318**	Pn	Pn	10 13 33.4	+0.3
W39A	**Magazine**	**3.17**	**116**	IAmb_Lg		10 14 33.8	
	comp=Z,37nm,0.7s						
S39A	**Bolivar**	**3.30**	**71**		Pn	10 13 38.0	-0.3
Z35A	**Perchaven, San**	**3.32**	**180**	Pn	Pn	10 13 39.5	+1.0
U40A	**Yellville**	**3.56**	**94**	Pn	Pn	10 13 41.8	0.0
Z38A	**Mt. Pleasant**	**3.87**	**151**	Pn	Pn	10 13 45.8	-0.3
Z38A				IAmb_Lg		10 14 54.4	
	comp=Z,32nm,0.7s						
AMTX	**Amarillo**	**4.01**	**245**	Pn	Pn	10 13 48.8	+0.6
AMTX				IAmb_Lg		10 14 59.5	
	comp=Z,34nm,1.1s						
MGMO	**Mountain Grove**	**4.02**	**81**		Pn	10 13 49.1	+0.9
MGMO				IAmb_Lg		10 14 51.7	
	comp=Z,41nm,0.9s						
P38A	**Dawn**	**4.17**	**44**	Pn	Pn	10 13 50.4	+0.2
X40A	**Basin Creek Fa**	**4.20**	**120**	Pn	Pn	10 13 51.4	+0.7
FCAR	**Ozark Folk Cen**	**4.21**	**99**	Pn	Pn	10 13 50.7	-0.1
FCAR				IAmb_Lg		10 14 59.3	
	comp=Z,33nm,0.8s						
WHAR	**Wooly Hollow**	**4.25**	**107**	Pn	Pn	10 13 50.8	-0.6
WHAR				IAmb_Lg		10 14 58.7	
	comp=Z,37nm,1.1s						
R40A	**Maddies Statio**	**4.29**	**66**		Pn	10 13 51.6	-0.2
W41B	**Gary Mavity, V**	**4.32**	**109**	IAmb_Lg		10 15 06.5	
	comp=Z,27nm,0.7s						
N35A	**Tabor**	**4.38**	**16**	Pn	Pn	10 13 53.1	0.0
WLAR	**White Oak Lake**	**4.50**	**130**	IAmb_Lg		10 15 06.8	
	comp=Z,27nm,0.9s						
WHTX	**Lake Whitney,**	**4.66**	**182**	Pn	Pn	10 13 57.5	+0.5
BGNE	**Belgrade**	**4.79**	**352**	IAmb_Lg		10 15 20.5	
	comp=Z,21nm,0.8s						
237A	**Washetta, Mont**	**4.80**	**165**	Pn	Pn	10 13 59.2	+0.3
LCAR	**Lake Charles**	**4.96**	**95**	IAmb_Lg		10 15 22.3	
	comp=Z,18nm,0.9s						
CCM	**Cathedral Cave**	**4.98**	**72**	Pn	Pn	10 14 01.6	+0.2
Z41A	**Richland Creek**	**4.98**	**132**	Pn	Pn	10 14 00.9	-0.5
Z41A				IAmb_Lg		10 15 26.2	
	comp=Z,20nm,0.9s						
P40A	**Paris**	**5.01**	**53**	Pn	Pn	10 14 01.8	0.0
N38A	**Joes South For**	**5.19**	**36**	IAmb_Lg		10 15 39.7	
	comp=Z,22nm,0.8s						
L34A	**Svendsen Farm,**	**5.34**	**7**	IAmb_Lg		10 15 43.7	
	comp=Z,27nm,0.7s						
HBAR	**Harrisburg**	**5.45**	**100**	Pn	Pn	10 14 06.9	-1.0
PBMO	**Poplar Bluff**	**5.48**	**87**	Pn	Pn	10 14 07.1	-1.2
PBMO				IAmb_Lg		10 15 48.4	
	comp=Z,26nm,0.8s						
FVM	**French Village**	**5.60**	**74**	Pn	Pn	10 14 09.0	-0.9
OGNE	**Ogallala**	**5.68**	**320**	IAmb_Lg		10 15 49.1	
	comp=Z,21nm,0.8s						
T25A	**Trinidad**	**5.76**	**277**	IAmb_Lg		10 15 51.2	
	comp=Z,24nm,0.9s						
435B	**Jarrell**	**5.87**	**183**	IAmb_Lg		10 16 06.0	
	comp=Z,22nm,1.1s						
SCIA	**State Center**	**6.11**	**30**	IAmb_Lg		10 16 12.3	
	comp=Z,14nm,0.7s						
N41A	**Harden Midland**	**6.43**	**49**	IAmb_Lg		10 16 22.9	
	comp=Z,14nm,0.8s						
S44A	**Carbondale**	**6.47**	**78**	IAmb_Lg		10 16 14.7	
	comp=Z,23nm,0.7s						
SIUC	**Southern Illin**	**6.50**	**78**	IAmb_Lg		10 16 09.5	
	comp=Z,23nm,0.8s						
JCT	**Junction City**	**6.52**	**200**	IAmb_Lg		10 16 27.8	
	comp=Z,14nm,0.8s						
Q24A	**Divide**	**6.66**	**293**	Pn	Pn	10 14 24.2	-0.6
SDCO	**Great Sand Dun**	**6.67**	**282**	Pn	Pn	10 14 26.4	+1.5
OXF	**Oxford**	**6.74**	**106**	IAmb_Lg		10 16 19.8	
	comp=Z,12nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.78**	**62**	IAmb_Lg		10 16 28.3	
	comp=Z,17nm,0.8s						
ECSD	**EROS Data Cent**	**7.08**	**4**	Pn	Pn	10 14 30.1	-0.2
ISCO	**Idaho Springs**	**7.29**	**298**	Pn	Pn	10 14 34.1	+0.7
OLIL	**Olney**	**7.55**	**71**	IAmb_Lg		10 16 47.0	
	comp=Z,15nm,0.9s						
O44A	**Mansfield**	**7.73**	**61**	IAmb_Lg		10 16 51.8	
	comp=Z,12nm,0.7s						
N23A	**Red Feather La**	**8.00**	**305**	Pn	Pn	10 14 43.8	+0.7

IDC 15 10:18:32.4±26.0, 15°.97S×172°.57W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.6/39, mbtmp4.2/4, Error ellipse: s-maj=499.7km s-min=168.7km az=73.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.30**	**258**	P	P	10 26 03.2	-0.2
	3.3nm,0.8s,baz=79,slow=10,SNR=2.2						
STKA	**Stephens Creek**	**44.45**	**241**	P	P	10 26 45.5	+0.1
	2.1nm,0.6s,baz=90,slow=9.1,SNR=4.8						
WRA	**Warramunga Arr**	**50.49**	**257**	P	P	10 27 32.5	-0.1
	0.6nm,0.3s,baz=94,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**50.70**	**252**	P	P	10 27 34.0	-0.2
	3.1nm,0.4s,baz=90,slow=8.3,SNR=47						

*IDC **15** 10:30:37.9±1.3, 35°.81N×3°.71W, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/38, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=43.1km s-min=19.1km az=93.0*
*IGIL **15** 10:30:38.9, 35°.66N×3°.67W, h1km*
*MDD **15** 10:30:38.6±0.3, 35°.66N×3°.65W, h0km, mb_Lg3.0/11, Error ellipse: s-maj=3.2km s-min=2.5km az=10.0*
*CNRM **15** 10:30:38.9, 35°.59N×3°.70W, h26km, ml2.9*
*SFS **15** 10:30:38.0, 35°.66N×3°.67W, ML3.1, ALBORAN SUR*

ISC 15 10:30:37.8±1.2, 35°.66N±0°.02×3°.67W±0°.02, h9km±9km, n55, σ1§41/82, mb3.4/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.59**	**61**	Pg	**Pb**	**10 30 49.9**	**-0.3**
EALB				Sg	**Sb**	**10 30 58.3**	**-0.3**
EMEL	**Melilla**	**0.68**	**121**	Pg	**Pb**	**10 30 51.2**	**-0.6**
EMEL				Sg	**Sg**	**10 31 00.0**	**+0.2**
GOG	**Mont Gurugu**	**0.70**	**128**	P	**Pg**	**10 30 51.2**	**-0.1**
GOG				S	**Sg**	**10 31 00.8**	**+0.3**
ELGU	**Los Guajares,**	**1.21**	**2**	Pg	**Pb**	**10 30 59.6**	**-1.3**
ELGU				Sg	**Sb**	**10 31 15.3**	**-1.3**
ELGU				*i* Vmb_Lg		10 31 20.9	
EMAL	**Malaga-Limoner**	**1.26**	**331**	P	**Pn**	**10 31 00.6**	**-1.0**
EMAL				S	**Sn**	**10 31 17.9**	**-0.8**
EMIJ	**Mijas**	**1.27**	**316**	Pg	**Pn**	**10 31 00.8**	**-1.0**
EMIJ				Sg	**Sb**	**10 31 17.2**	**-1.2**
EMIJ				*i* Vmb_Lg		10 31 18.7	
TAF	**Taforalt**	**1.33**	**129**	P	**Pn**	**10 31 00.7**	**-1.8**
TAF				S	**Sb**	**10 31 17.6**	**-2.3**
EBER	**Berja**	**1.39**	**27**	Pn	**Pn**	**10 31 02.2**	**-1.3**
EBER				Sn	**Sb**	**10 31 20.3**	**-1.6**
EBER				*i* Vmb_Lg		10 31 24.5	
SMIR	**Smir Dam**	**1.40**	**272**	P	**Pn**	**10 31 01.6**	**-1.8**
SMIR	**Smir Dam**	**1.40**	**272**	P	**Pn**	**10 31 01.6**	**-1.8**
SMIR				S	**Sb**	**10 31 19.5**	**-2.3**
CEU	**Ceuta**	**1.41**	**280**	P	**Pn**	**10 31 01.8**	**-1.8**
CEU				S	**Sn**	**10 31 18.6**	**-3.6**
CHEFC	**Chefchaouen**	**1.47**	**249**	P	**Pg**	**10 31 07.0**	**+0.9**
CHEFC	**Chefchaouen**	**1.47**	**249**	P	**Pg**	**10 31 05.4**	**-0.6**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn	**Pb**	**10 31 04.9**	**-0.9**
EGOR				Sn	**Sg**	**10 31 25.2**	**-0.6**
EGOR				*i* Vmb_Lg		10 31 32.9	
EQUE	**Quentar**	**1.56**	**7**	Pn	**Pb**	**10 31 06.0**	**-0.8**
EQUE				Sn	**Sn**	**10 31 25.5**	**-0.5**
JBK	**JBK**	**1.60**	**145**	P	**Pn**	**10 31 05.1**	**-1.3**
JBK	**JBK**	**1.60**	**145**	P	**Pn**	**10 31 05.3**	**-1.1**
JBK				S	**Sn**	**10 31 24.1**	**-3.1**
EJIF	**Jimena Fronter**	**1.66**	**299**	Pn	**Pb**	**10 31 07.7**	**-0.8**
ESPR	**Espera**	**2.14**	**305**	Pn	**Pb**	**10 31 15.7**	**-1.0**
ESPR				Sn	**Sb**	**10 31 44.1**	**+0.8**
ESPR				*i* Vmb_Lg		10 31 47.8	
EQES	**Quesada**	**2.19**	**12**	Pn	**Pb**	**10 31 16.5**	**-1.2**
EQES				Sn	**Sb**	**10 31 42.9**	**-2.2**
LCRM	**LCR**	**2.20**	**207**	P	**Pg**	**10 31 21.0**	**+1.1**
LCRM	**LCR**	**2.20**	**207**	P	**Pb**	**10 31 16.8**	**-1.0**
IFR	**Ifrane**	**2.45**	**210**	P	**Pn**	**10 31 17.2**	**-0.9**
IFR				S	**Sn**	**10 31 48.2**	**-0.1**
EADA	**Adamuz**	**2.61**	**344**	Pn	**Pn**	**10 31 21.2**	**+1.0**
EADA				Sn	**Sb**	**10 31 54.0**	**-2.9**
EADA				*i* Vmb_Lg		10 32 01.1	
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn	**Pn**	**10 31 21.4**	**-0.3**
EZAR				Sn	**Sn**	**10 31 54.2**	**-0.6**
ECAB	**El Cabril**	**2.79**	**330**	Pn	**Pn**	**10 31 23.9**	**+1.2**
ECAB				Sn	**Sn**	**10 31 58.1**	**+1.6**
ECAB				*i* Vmb_Lg		10 32 07.1	
CART	**Cartagena**	**2.88**	**47**	P	**Pn**	**10 31 24.8**	**+0.9**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**10 31 25.5**	**+0.9**
MDIT	**Midelt**	**2.94**	**196**	Pn	**Pn**	**10 31 26.2**	**+1.5**
	0.5nm,0.3s,baz=238,slow=5.2,SNR=10						
MDT				Sn	**Sb**	**10 32 07.7**	**+1.2**
	1.7nm,0.3s,baz=46,slow=22,SNR=2.2						
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**10 31 26.3**	**+1.5**
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**10 31 26.3**	**+1.5**
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	**10 31 24.2**	**-0.7**
TDRA				S	**Sn**	**10 31 59.8**	**-0.6**
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	**Pn**	**10 31 28.4**	**+0.1**
EMIN				Sn	**Sn**	**10 32 06.1**	**-0.4**
EMIN				*i* Vmb_Lg		10 32 07.0	
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**10 31 31.0**	**+1.3**
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**10 31 29.1**	**-0.6**
ZHG				S	**Sn**	**10 32 08.2**	**-0.8**
ETOB	**Tobarra**	**3.43**	**29**	Pn	**Pn**	**10 31 33.0**	**+1.6**
EGRO	**El Granado**	**3.60**	**303**	Pn	**Pn**	**10 31 34.1**	**+0.4**
EGRO				Sn	**Sn**	**10 32 15.4**	**-0.8**
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**10 31 34.7**	**-0.4**
PVAQ				S	**Sn**	**10 32 17.5**	**-1.3**
PAB	**San Pablo**	**3.92**	**352**	P	**Pn**	**10 31 39.4**	**+1.2**
PAB	**San Pablo**	**3.92**	**352**	Pn	**Pn**	**10 31 39.0**	**+0.9**
PAB				Sn	**Sn**	**10 32 24.1**	**-0.2**
ESDC	**Sonseca Array**	**4.02**	**357**	Pn	**Pn**	**10 31 40.7**	**+1.1**
	1.0nm,0.3s,baz=179,slow=12,SNR=19						
ESDC				Sn	**Sn**	**10 32 25.2**	**-1.5**
	0.5nm,0.3s,baz=176,slow=23,SNR=7.7						
ESDC	**Sonseca Array**	**4.02**	**357**	Pn	**Pn**	**10 31 40.6**	**+1.1**
ESDC				Sn	**Sn**	**10 32 25.6**	**-1.1**
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**10 31 41.2**	**+0.8**
EBAD				Sn	**Sn**	**10 32 27.5**	**-0.8**
EBAD				*i* Vmb_Lg		10 32 30.0	
EBEN2	**Beniarda presa**	**4.10**	**42**	Pn	**Pn**	**10 31 40.5**	**-0.1**
MORF	**Marmelete**	**4.34**	**294**	*eP*	**Pn**	**10 31 44.0**	**+0.1**
EPLA	**Plasencia**	**4.80**	**337**	Pn	**Pn**	**10 31 52.3**	**+2.1**
EPLA				*i* Vmb_Lg		10 33 18.9	
ETOR	**Torete**	**5.31**	**13**	Pn	**Pn**	**10 31 59.1**	**+1.8**
OUZM	**OUZ**	**5.40**	**210**	P	**Pn**	**10 31 59.9**	**+1.4**
TTIG	**Tnine Tigouga,**	**6.48**	**219**	P	Pn	10 32 01.7	-12
TTIG	**Tnine Tigouga,**	**6.48**	**219**	P	Pn	10 32 01.7	-12
ELOB	**Lobios**	**7.09**	**332**	Pn	**Pn**	**10 32 23.0**	**+1.3**
EARI	**Arriondas**	**7.73**	**352**	Pn	**Pn**	**10 32 31.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**22.93**	**166**	P	**P**	**10 35 46.8**	**+4.6**
	1.1nm,0.8s,baz=339,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**62.54**	**51**	P	**P**	**10 41 01.9**	**+0.1**
	0.2nm,0.7s,baz=303,slow=6.2,SNR=2.7						
YKA	**Yellowknife Ar**	**67.73**	**332**	P	**P**	**10 41 35.8**	**+0.6**
	0.2nm,0.6s,baz=64,slow=6.6,SNR=2.8						

*FUNV **15** 10:47:34.0, 8°.55N×71°.39W, h5km, MW3.6*

ISC 15 10:47:32.3±1.4, 8°.57N±0°.04×71°.34W±0°.03, h6km±11km, n19, σ1§36/36, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.77**	**66**	*eP*	**Pg**	**10 47 47.0**	**-0.2**
SDV				*eS*	**Sg**	**10 47 58.0**	**+0.7**
SDV				*i*		10 47 58.4	
	comp=Z,104nm,0.2s						
CAPV	**Capacho**	**1.19**	**234**	*eS*	**Sg**	**10 48 10.7**	**+0.1**
PAMC	**Pamplona, Colo**	**1.81**	**228**	*eP*	**Pn**	**10 48 05.0**	**+0.4**
PAMC				*eS*	**Sn**	**10 48 29.8**	**+1.6**
PAMC				*i*		10 48 33.2	
	comp=Z,141nm,0.3s						
MCQV	**Machiques**	**1.89**	**322**	*eP*	**Pb**	**10 48 06.9**	**-0.3**
MCQV				*eS*	**Sb**	**10 48 30.1**	**-0.9**
OCAC	**Ocana**	**1.98**	**261**	*eP*	**Pn**	**10 48 06.1**	**-0.5**
OCAC				*eS*	**Sn**	**10 48 32.5**	**+0.7**
OCAC				*i*		10 48 34.0	
	comp=Z,565nm,0.2s						
CURV	**Curarigua**	**1.98**	**43**	*eP*	**Pb**	**10 48 09.0**	**+0.1**
CURV				*eS*	**Sn**	**10 48 33.5**	**+1.7**
SANV	**Sanarito**	**2.01**	**62**	*eP*	**Pb**	**10 48 09.0**	**-0.4**
SANV				*eS*	**Sb**	**10 48 35.1**	**+0.2**
TAMC	**Tame, Arauca**	**2.16**	**192**	*eP*	**Pn**	**10 48 09.6**	**+0.6**
TAMC				*eS*	**Sn**	**10 48 37.9**	**+1.7**
TAMC				*i*		10 48 50.6	
	comp=Z,141nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.23**	**302**	*eP*	**Pn**	**10 48 09.7**	**-0.2**
LL6C				*eS*	**Sn**	**10 48 38.2**	**+0.5**
LL6C				*i*		10 48 41.8	
	comp=Z,58nm,0.3s						
DABV	**Dabajuro**	**2.44**	**17**	*eP*	**Pn**	**10 48 13.8**	**+1.0**
DABV				*eS*	**Sn**	**10 48 43.0**	**0.0**
SIQV	**Siquisique**	**2.56**	**36**	*eP*	**Pn**	**10 48 16.2**	**+1.6**
SIQV				*eS*	**Sn**	**10 48 47.1**	**+1.0**
BARC	**Barichara**	**2.68**	**223**	*i* P	**Pb**	**10 48 20.4**	**-0.5**
BARC				*i*		10 48 22.9	
	comp=Z,59nm,0.5s						
BARC				*eS*	**S

comp=N,174nm,21.6s,baz=88,slow=37
SMY Shemya 7.72 283 Pn Pn 11 00 30.1 -2.5
SDPT Sand Point 8.64 59 Pn Pn 11 00 45.0 -0.3
SDPT Sand Point 8.64 59 P Pn 11 00 47.0 +1.7
baz=248
CHGN Chignik 10.07 56 Pn Pn 11 01 04.5 -0.3
CHGN Chignik 10.07 56 P Pn 11 01 06.6 +1.8
baz=247
CHIR Chirikof Islan 11.41 61 Pn Pn 11 01 21.1 -2.0
GAMB Gambell 12.28 4 P Pn 11 01 38.6 +3.8
baz=185,SNR=16
SII Sitkinak Islan 12.38 59 Pn Pn 11 01 33.9 -2.5
P18K Big Mountain, 12.95 46 Pn Pn 11 01 42.0 -2.2
OHAK Old Harbor 13.04 56 Pn Pn 11 01 43.2 -2.2
OHAK Old Harbor 13.04 56 P Pn 11 01 44.0 -1.4
baz=252
Q19K Cape Douglas, 13.47 49 Pn 11 01 50.0 -1.3
KDAK Kodiak Island 13.57 55 Pn Pn 11 01 50.1 -2.5
comp=N,1.5nm,0.3s,baz=254,slow=6.4,SNR=20
KDAK Kodiak Island 13.57 55 P Pn 11 01 53.3 +0.7
baz=251
ANM Nome 13.70 15 P P 11 01 59.0 -2.7
baz=201,SNR=6.0
SVW2 Sparrevohn 13.73 39 Pn Pn 11 01 52.1 -2.6
O19K Port Alsworth 13.75 44 P Pn 11 01 57.3 +2.3
baz=239
P19K Oil Pt 13.97 47 Pn Pn 11 01 56.3 -1.8
N19K Bonanza Creek 14.01 41 Pn Pn 11 02 00.1 +1.4
N19K Bonanza Creek 14.01 41 P Pn 11 01 59.4 +0.8
baz=236
TNA Tin City 14.32 9 Pn Pn 11 02 01.2 -1.4
TNA Tin City 14.32 9 P P 11 02 04.4 -4.0
baz=194,SNR=7.1
O20K Slope Mountain 14.44 46 P Pn 11 02 04.2 -0.2
baz=242
RSO Redoubt South 14.56 44 Pn Pn 11 02 05.5 -0.6
L19K White Mountain 14.66 36 Pn Pn 11 02 07.8 +0.6
L19K White Mountain 14.66 36 P P 11 02 11.6 -0.7
baz=231
M19K Big River Lodg 14.66 38 Pn Pn 11 02 06.8 -0.5
M19K Big River Lodg 14.66 38 P P 11 02 12.3 -0.1
baz=233
HOM Homer 14.71 48 Pn Pn 11 02 07.9 +0.1
TTA Tatalina 14.74 33 Pn Pn 11 02 07.2 -1.0
TTA Tatalina 14.74 33 P P 11 02 15.3 +2.1
baz=227,SNR=10
CNPM China Poot 14.85 49 Pn Pn 11 02 08.9 -0.7
BRLK Bradley Lake 15.10 48 Pn Pn 11 02 11.2 -1.8
BRLK IAmb IAmb 11 02 38.1
comp=Z,14nm,0.9s
BRSE Bradley Lake S 15.16 49 P P 11 02 14.9 -3.0
baz=247
L20K Farewell, AK 15.20 36 P P 11 02 17.6 -0.8
baz=232
CAPN Captain Cook N 15.40 45 Pn Pn 11 02 16.5 -0.3
CAPN IAmb IAmb 11 02 43.3
comp=Z,25nm,0.8s
K20K Telida 15.68 34 P P 11 02 22.9 -0.8
baz=230
GCSA Galena City Sc 15.77 27 P P 11 02 24.9 +0.2
baz=220,SNR=9.1
SEW Seward 15.90 48 Pn Pn 11 02 21.8 -1.4
SEW IAmb IAmb 11 02 23.6
comp=Z,39nm,1.5s
SEW Seward 15.90 48 P Pn 11 02 22.1 -1.1
baz=248
O22K Cooper Landing 15.92 47 P 11 02 23.9 -2.3
O22K Cooper Landing 15.92 47 P P 11 02 24.1 -2.2
baz=246
PPLA Purkeypile 16.08 37 P P 11 02 29.2 +1.0
baz=234
RC01 Rabbit Creek A 16.17 45 Pn Pn 11 02 24.4 -2.1
J20K Nowinta River 16.20 31 Pn Pn 11 02 24.9 -2.0
J20K Nowinta River 16.20 31 P P 11 02 31.2 +1.8
baz=227
M22K Willow 16.30 42 Pn Pn 11 02 27.3 -0.9
M22K Willow 16.30 42 P P 11 02 28.9 -1.6
baz=241
CAST Castle Rocks 16.42 36 P P 11 02 32.2 +0.3
baz=233,SNR=10
CUT Chulitna 16.56 40 Pn Pn 11 02 29.5 -2.0
CUT Chulitna 16.56 40 P P 11 02 33.3 -0.1
baz=239
PMR Palmer 16.65 44 Pn 11 02 31.8 -0.8
PMR Palmer 16.65 44 P P 11 02 32.7 -1.7
baz=243
PWL Port Wells 16.70 46 Pn Pn 11 02 31.0 -2.2
PWL Port Wells 16.70 46 P Pn 11 02 32.2 -1.1
baz=247
GHO Glory Hole Cre 16.82 43 Pn Pn 11 02 33.1 -1.7
KNK Knik Glacier 16.86 45 Pn Pn 11 02 33.9 -1.5
KNK Knik Glacier 16.86 45 P Pn 11 02 34.8 -0.5
baz=245
SML Sawmill 17.09 43 Pn 11 02 35.8 -2.3
SML Sawmill 17.09 43 P P 11 02 38.1 -1.1
baz=244
TRF Thorofare Moun 17.11 37 P P 11 02 39.4 -0.1
baz=236
BPAW Bear Paw Mtn. 17.22 35 P 11 02 41.7 +1.0
BPAW Bear Paw Mtn. 17.22 35 P P 11 02 41.9 +1.2
baz=233,SNR=5.5
SCM Sheep Creek Mo 17.53 44 P P 11 02 43.1 -1.1
SCM IAmb IAmb 11 02 59.1
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 17.53 44 P P 11 02 43.7 -0.5
baz=246,SNR=5.5
I21K Tanana 17.56 31 P P 11 02 44.9 +0.5
I21K Tanana 17.56 31 P P 11 02 46.4 +2.1
baz=229
IMAR Indian Mountai 17.58 27 Pn 11 02 43.0 -1.1
PEA0B Petropavlovsk- 17.62 286 Pn 11 02 42.3 -2.4
PEA0B IAmb IAmb 11 02 53.5
comp=Z,75nm,1.5s
PETK Petropavlovsk- 17.62 286 P P 11 02 44.5 -0.6
comp=Z,0.8nm,0.3s,baz=98,slow=13,SNR=18
H21K Melozitna Rive 17.62 29 P P 11 02 43.8 -1.4
H21K Melozitna Rive 17.62 29 P P 11 02 47.1 +2.0
baz=226
RND Reindeer 17.63 38 Pn 11 02 43.4 -1.4
WAT6 Susitna Watana 17.68 41 P P 11 02 45.4 -0.5
baz=243
MCK McKinley 17.77 37 Pn 11 02 45.5 -1.0
MCK McKinley 17.77 37 P P 11 02 46.9 +0.2
baz=238,SNR=7.3
EYAK Cordova Ski Ar 17.78 49 P 11 02 46.5 -0.3
EYAK Cordova Ski Ar 17.78 49 P P 11 02 46.2 -0.7
baz=252
BWN Browne 17.81 36 P P 11 02 48.0 +0.9
BWN IAmb IAmb 11 03 12.1
comp=Z,13nm,0.6s
MLY Manley 17.87 32 P P 11 02 49.3 +1.4
baz=231,SNR=18
DIV Divide 17.96 47 P Pn 11 02 46.5 -2.4
KLU Klutina 18.02 46 P P 11 02 47.7 -1.9
KLU IAmb IAmb 11 03 07.9
comp=Z,24nm,1.4s
KLU Klutina 18.02 46 P P 11 02 48.1 -1.4
baz=248,SNR=6.4
DHY Denali Highway 18.05 40 Pn Pn 11 02 50.7 +0.7
DHY Denali Highway 18.05 40 P Pn 11 02 50.5 +0.5
baz=242
M24K Tolsona, Glenn 18.14 44 Pn 11 02 51.2 +0.1
M24K IAmb IAmb 11 03 11.1
comp=Z,14nm,0.7s
M24K Tolsona, Glenn 18.14 44 P Pn 11 02 51.3 +0.3
baz=246
NEA2 Nenana 18.19 35 Pn 11 02 50.6 -1.0
NEA2 Nenana 18.19 35 P Pn 11 02 51.2 -0.3
baz=235,SNR=8.9
RAGM Ragged Mountai 18.25 50 Pn 11 02 51.5 -0.8
RAGM IAmb IAmb 11 03 09.7
comp=Z,14nm,0.9s
KAIM Kayak Island 18.25 51 P 11 02 50.1 -1.9
KAIM IAmb IAmb 11 02 58.4
comp=Z,17nm,0.7s
I23K Minto, Yukon-K 18.41 33 P 11 02 52.4 -1.3
I23K IAmb IAmb 11 03 13.2
comp=Z,18nm,0.9s
I23K Minto, Yukon-K 18.41 33 P Pn 11 02 55.0 +0.8
baz=233,SNR=22
HMT Hamilton 18.43 50 P 11 02 53.0 -1.0
HMT IAmb IAmb 11 03 09.7
comp=Z,13nm,0.6s
BMRM Bremner River 18.45 48 Pn 11 02 53.8 -1.0
BMRM Bremner River 18.45 48 P Pn 11 02 56.2 +1.4
baz=252
WRH Wood River Hil 18.48 36 P Pn 11 02 54.0 -1.0
N25K Chitina, Valde 18.65 46 P P 11 02 52.6 -3.9
N25K Chitina, Valde 18.65 46 P Pn 11 02 57.6 +0.3
baz=250
CCB Clear Creek Bu 18.67 36 P P 11 02 55.6 -1.0
CCB IAmb IAmb 11 03 00.1
comp=Z,11nm,0.4s
HARP HAARP 18.69 44 P Pn 11 02 58.1 +0.4
baz=247
MDM Murphy Dome 18.69 35 P Pn 11 02 57.4 -0.3
BERG Berg Lake 18.71 50 P Pn 11 02 57.3 -0.7
BERG IAmb IAmb 11 03 03.4
comp=Z,12nm,0.6s
TCOL CIGO, UAF Yank 18.78 35 P Pn 11 02 57.1 -1.5
TCOL CIGO, UAF Yank 18.78 35 P Pn 11 02 58.6 -0.1
baz=237
COLA College 18.78 35 P Pn 11 03 00.0 +1.4
baz=237
PAX Paxson 18.79 42 P Pn 11 02 59.0 +0.1
PAX Paxson 18.79 42 P Pn 11 02 59.0 +0.1
baz=245
HDA Harding Lake 18.87 37 P P 11 02 57.4 -1.4
HDA IAmb IAmb 11 03 14.6
comp=Z,15nm,0.6s
HDA Harding Lake 18.87 37 P Pn 11 02 59.3 -0.4
baz=239,SNR=32
GLB Gilahina Butte 18.96 47 P P 11 02 58.1 -1.7
VRDI Verde Repeater 19.06 48 P Pn 11 03 02.0 -0.3
POKR Poker Plat Res 19.06 35 P P 11 02 58.4 -2.5
POKR Poker Plat Res 19.06 35 P Pn 11 03 01.2 -0.9
baz=237
IL31 19.08 36 P P 11 02 59.8 -1.2
IL31 IAmb IAmb 11 03 03.6
comp=Z,12nm,0.5s
ILAR Eielson Array 19.08 36 P Pn 11 03 01.1 -1.1
comp=Z,3.5nm,0.3s,baz=228,slow=9.0,SNR=172
ILAR LR LR 11 10 21.1
comp=Z,78nm,19.0s,baz=302,slow=37
ILAR Eielson Array 19.08 36 P P 11 03 00.1 -1.0
WAX Waxell Ridge 19.14 50 P Pn 11 03 03.0 -0.1
WAX IAmb IAmb 11 03 30.9
comp=Z,11nm,0.7s
BILL Bilibino 19.23 337 P P 11 03 01.9 -0.7
MCARA McCarthy VSAT 19.30 48 P P 11 03 02.2 -1.3
MCARA McCarthy VSAT 19.30 48 P Pn 11 03 05.0 0.0
baz=253
H24K Noodor Dome 19.31 33 P Pn 11 03 04.0 -1.1
H24K IAmb IAmb 11 03 21.6
comp=Z,15nm,0.7s
H24K Noodor Dome 19.31 33 P Pn 11 03 04.4 -0.7
baz=234
RIDG Independent Ri 19.37 40 P Pn 11 03 04.1 -1.7
RIDG Independent Ri 19.37 40 P Pn 11 03 04.7 -1.1
baz=244,SNR=18
ISLE Juniper Island 19.42 50 P Pn 11 03 05.7 -0.8
ISLE IAmb IAmb 11 03 16.0
comp=Z,20nm,1.2s
COLD Coldfoot 19.46 28 P P 11 03 03.1 -2.1
COLD Coldfoot 19.46 28 P Pn 11 03 07.1 +0.3
baz=227
MENT Mentasta 19.51 43 P Pn 11 03 07.8 +0.3
J25K Salcha River, 19.56 37 P P 11 03 05.1 -1.3
J25K Salcha River, 19.56 37 P Pn 11 03 06.4 -1.7
baz=241,SNR=74
DOT Dot Lake 19.65 41 P P 11 03 05.8 -1.6
L26K Log Cabin Wild 19.70 43 P P 11 03 06.4 -1.5
L26K IAmb IAmb 11 03 15.0
comp=Z,7.6nm,0.6s
L26K Log Cabin Wild 19.70 43 P Pn 11 03 08.2 -1.5
baz=248,SNR=16
GRNC Granite Creek 19.73 50 P Pn 11 03 08.4 -1.8
GRNC IAmb IAmb 11 03 34.8
comp=Z,12nm,0.8s
SCRK Sand Creek 19.81 40 P P 11 03 08.8 -0.4
SCRK IAmb IAmb 11 03 11.1
comp=Z,14nm,0.5s
SCRK Sand Creek 19.81 40 P Pn 11 03 09.2 -1.9
baz=245,SNR=29
BARN Barnard Glacie 19.85 49 P P 11 03 09.6 -0.1
PRP Porcupine Dome 19.95 35 P P 11 03 10.5 -0.3
PRP IAmb IAmb 11 03 17.0
comp=Z,6.2nm,0.5s
PRP Porcupine Dome 19.95 35 P Pn 11 03 10.7 -2.1
baz=239,SNR=10
CTG Chitna Glacier 19.98 49 P Pn 11 03 11.2 -1.9
baz=256
CTGM Chitina Glacie 19.98 49 P Pn 11 03 11.6 -1.6
CTGM IAmb IAmb 11 03 37.9
comp=Z,11nm,0.8s
M27K Edge Creek, AK 20.11 45 P Pn 11 03 12.5 -2.1
M27K IAmb IAmb 11 03 39.2
comp=Z,13nm,1.1s
M27K Edge Creek, AK 20.11 45 P Pn 11 03 13.1 -1.6
baz=252
J26L Joseph Creek 20.21 39 P Pn 11 03 13.6 -2.1
baz=244
L27K Beaver Creek, 20.36 43 P P 11 03 12.5 -2.6
L27K IAmb IAmb 11 03 22.4
comp=Z,5.6nm,0.6s
L27K Beaver Creek, 20.36 43 P Pn 11 03 17.6 +0.1
baz=250
BCAR Beaver Creek A 20.38 43 P P 11 03 12.9 -2.4
BVCY Beaver Creek 20.58 46 P Pn 11 03 18.8 -1.3
baz=253,SNR=6.8
YUK3 Moose Creek 20.59 47 P P 11 03 17.5 -0.3
baz=255
TOLK Toolik Lake Re 20.61 25 P Pn 11 03 18.5 -1.9
TOLK IAmb IAmb 11 03 47.8
comp=Z,9.3nm,0.8s
TOLK Toolik Lake Re 20.61 25 P Pn 11 03 18.9 -1.5
baz=226,SNR=9.5
BCPM Bancas Point 20.61 53 P P 11 03 16.1 -1.7
BCPM IAmb IAmb 11 03 34.2
comp=Z,26nm,1.0s
FYU Fort Yukon 20.61 33 P P 11 03 15.1 -2.6
FYU IAmb IAmb 11 03 38.1
comp=Z,14nm,1.0s
PNL Peninsula 20.69 54 P Pn 11 03 19.7 -1.7
baz=262
A21K Barrow 21.24 15 P P 11 03 21.9 -2.4
A21K IAmb IAmb 11 03 34.7
comp=Z,11nm,0.8s
EGAK Eagle 21.26 39 P P 11 03 25.1 +0.4
BMAR Burnt Mountain 21.30 31 P P 11 03 25.8 +0.6
YUK4 Talbot Arm 21.34 49 P P 11 03 27.7 +1.9
baz=258
SEY Seymchan 21.39 315 P P 11 03 26.6 +0.6
comp=Z,1.7nm,0.6s,baz=86,slow=22,SNR=12
YUK6 Outpost Mounta 21.40 50 P P 11 03 27.9 +1.5
baz=259,SNR=5.6
DAWY Dawson 21.72 42 P P 11 03 30.2 +0.5
DAWY Dawson 21.72 42 P P 11 03 29.9 +0.2
baz=251,SNR=9.8
HYT Haines Junctio 21.79 51 P P 11 03 30.8 +0.2
HYT IAmb IAmb 11 03 52.0
comp=Z,7.5nm,0.7s
HYT Haines Junctio 21.79 51 P P 11 03 31.6 +1.0
baz=261,SNR=8.3
J29M Klondike Camp 22.34 41 P P 11 03 37.6 +1.3
baz=251
M30M Minto, Yukon 22.45 46 P P 11 03 37.9 +0.4
M30M Minto, Yukon 22.45 46 P P 11 03 37.9 +0.4
baz=257
I29M Ogilvie Camp, 22.60 39 P P 11 03 38.5 -0.6
I29M IAmb IAmb 11 03 57.6
comp=Z,11nm,1.0s
I29M Ogilvie Camp, 22.60 39 P P 11 03 38.4 -0.7
baz=249
N31M Braeburn, Yuko 22.72 49 P P 11 03 43.3 +3.0
baz=261
SKAG Skagway 22.73 55 P P 11 03 40.0 -0.4
SKAG IAmb IAmb 11 04 12.0
comp=Z,8.1nm,0.7s
SKAG Skagway 22.73 55 P P 11 03 41.5 +1.1
baz=266
BESE Bessie Mountai 22.94 57 P P 11 03 42.2 -0.5
BESE IAmb IAmb 11 04 05.7
comp=Z,12nm,0.9s
WHY Whitehorse 23.05 52 P P 11 03 45.7 +1.8
baz=264
M31M Drury Creek, Y 23.48 48 P P 11 03 48.3 +0.4
baz=261
MIDW Midway 23.51 189 P P 11 03 48.4 +0.1
EPYK Eagle Plains 23.57 37 P P 11 03 48.5 -0.2
EPYK IAmb IAmb 11 04 09.0
comp=Z,8.8nm,0.8s
EPYK Eagle Plains 23.57 37 P P 11 03 49.1 +0.4
baz=249
FARO Faro, Yukon 23.97 48 P P 11 03 54.5 +2.1
baz=262
P33M Teslin, Yukon 24.04 53 P P 11 03 52.9 -0.2
P33M IAmb IAmb 11 04 20.2
comp=Z,8.2nm,1.1s
P33M Teslin, Yukon 24.04 53 P P 11 03 55.1 +2.0
baz=267
MMPY Sheldon Lake, 24.98 47 P P 11 04 02.8 +1.1
baz=263
INK Inuvik 25.42 34 P P 11 04 06.2 +0.8
comp=Z,4.3nm,0.6s,baz=239,slow=7.4,SNR=42
INK Inuvik 25.42 34 P P 11 04 05.3 -0.2
INK IAmb IAmb 11 04 08.0
comp=Z,18nm,1.4s
INK Inuvik 25.42 34 P P 11 04 06.3 +0.8
baz=249,SNR=11
DLBC Dease Lake 25.48 57 P P 11 04 09.6 +3.4
comp=Z,6.8nm,0.9s,baz=229,slow=7.9,SNR=24
DLBC LR LR 11 12 54.4
comp=Z,71nm,20.0s,baz=272,slow=34
DLBC Dease Lake 25.48 57 P P 11 04 05.0 -1.2
DLBC IAmb IAmb 11 04 11.8
comp=Z,21nm,1.3s
TGTN Hyland Airport 26.31 50 P P 11 04 14.8 +1.1
baz=268
C36M Paulatuk 29.01 34 P P 11 04 36.2 -1.4
C36M Paulatuk 29.01 34 P P 11 04 37.9 +0.2
baz=258
A36M Sachs Harbour 29.32 28 P P 11 04 38.4 -2.0
A36M IAmb IAmb 11 04 52.9
comp=Z,5.1nm,0.9s
A36M Sachs Harbour 29.32 28 P P 11 04 40.9 +0.5
baz=252
YAK Yakutsk 31.78 311 LR LR 11 18 21.6
comp=Z,98nm,18.6s,baz=88,slow=37
TIXI Tiksi 32.12 330 P P 11 05 05.9 +0.8
comp=Z,1.4nm,0.5s,baz=268,slow=22,SNR=7.5
TIXI LR LR 11 19 43.8
comp=Z,74nm,18.6s,baz=181,slow=40
YKA Yellowknife Ar 32.68 47 P P 11 05 11.3 +1.3
comp=Z,1.3nm,0.4s,baz=274,slow=7.9,SNR=51
YKA PcP PcP 11 07 56.5 +1.9
comp=Z,0.2nm,0.3s,baz=285,slow=3.2,SNR=5.2
YKA LR LR 11 21 11.3
comp=Z,116nm,19.7s,baz=326,slow=41
YKA Yellowknife Ar 32.68 47 P P 11 05 10.4 +0.4
I02E Swisshome, OR 33.59 83 P P 11 05 18.8 +0.6
baz=300
HAWA Hanford 35.11 77 P P 11 05 32.4 +1.1
H11N2 WAKE ISLAND Hy 35.31 213 T T 11 43 35.2
baz=21,slow=76,SNR=10
H11N3 WAKE ISLAND Hy 35.32 213 T T 11 43 47.4
baz=21,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 35.33 213 T T 11 43 38.2
baz=21,slow=76,SNR=12
YBH Yreka Blue Hor 35.56 86 LR LR 11 17 14.0
comp=Z,57nm,20.6s,baz=323,slow=31
NEW Newport 35.69 73 P P 11 05 38.3 +2.0
comp=Z,1.8nm,0.5s,baz=278,slow=15,SNR=7.2
NEW Newport 35.69 73 P P 11 05 37.8 +1.5
NEW IAmb IAmb 11 05 55.4
comp=Z,5.2nm,0.8s
NEW Newport 35.69 73 P P 11 05 38.3 +2.0
baz=297
EDM Edmonton 35.80 63 P P 11 05 36.7 -0.4
G08A Pilot Rock 36.00 78 P P 11 05 36.5 -2.6
G08A IAmb IAmb 11 06 03.7
comp=Z,5.7nm,1.2s
I07A Izee 36.28 80 P P 11 05 40.2 -1.4
I07A IAmb IAmb 11 05 59.9
comp=Z,5.5nm,0.7s
H11S1 WAKE ISLAND Hy 36.51 213 T T 11 45 07.9
baz=20,slow=76,SNR=47
H11S2 WAKE ISLAND Hy 36.53 213 T T 11 45 09.5
baz=20,slow=76,SNR=42
H11S3 WAKE ISLAND Hy 36.53 213 T T 11 45 09.5
baz=20,slow=76,SNR=22
USA0B Ussuriysk Arra 36.54 280 P P 11 05 43.4 -0.1
USRK Ussuriysk Ar. 36.54 280 P P 11 05 44.0 +0.5
comp=Z,8.3nm,0.7s,baz=55,slow=9.8,SNR=10
USRK LR LR 11 21 27.1
comp=Z,48nm,20.4s,baz=350,slow=38
USRK Ussuriysk Ar. 36.54 280 P P 11 05 43.8 +0.3
MOD Modoc Plateau 36.97 84 P P 11 05 44.5 -2.9
MOD IAmb IAmb 11 06 05.2
comp=Z,6.0nm,0.8s
MAJO Matsushiro 37.10 265 P P 11 05 47.9 -0.6
MJAR Matsushiro Arr 37.10 265 P P 11 05 50.2 +1.8
comp=Z,1.8nm,0.4s,baz=46,slow=7.0,SNR=2.7
MJAR LR LR 11 20 35.8
comp=Z,46nm,19.6s,baz=62,slow=36
MJAR Matsushiro Arr 37.10 265 P P 11 05 46.1 -2.3
MJAR IAmb IAmb 11 05 56.0
comp=Z,5.1nm,1.4s
J08A Circle Bar Ran 37.30 80 P P 11 05 47.5 -2.7
J08A IAmb IAmb 11 06 08.5
comp=Z,5.7nm,0.8s
WVOR Wild Horse Val 37.70 82 P P 11 05 51.3 -2.3
WVOR IAmb IAmb 11 06 12.4
comp=Z,5.6nm,0.8s
PLID Pearl Lake 37.90 77 P P 11 05 55.3 -0.1
RES Resolute Bay 38.18 25 P P 11 05 58.2 +1.2
RES IAmb IAmb 11 05 58.4
comp=Z,4.2nm,1.4s
PAHR Pah Rah Range 38.80 86 P P 11 06 00.5 -2.3
PAHR IAmb IAmb 11 06 19.9
comp=Z,3.9nm,0.7s
VCNR Virginia City 38.87 87 P P 11 06 02.2 -1.4
VCNR IAmb IAmb 11 06 31.1
comp=Z,3.6nm,0.9s
PNTR Pine Nut 39.03 87 P P 11 06 03.6 -1.3
YERR Yerington 39.31 87 P P 11 06 04.6 -2.6
YERR IAmb IAmb 11 06 32.8
comp=Z,8.6nm,1.3s
HLID Hailey 39.68 78 P P 11 06 12.4 +2.2
baz=303
BCYI Bear Canyon 39.89 76 P P 11 06 08.7 -3.3
RYN Ryan 39.98 87 P P 11 06 10.1 -2.6
RYN IAmb IAmb 11 06 31.4
comp=Z,4.7nm,1.1s
KVN Kaiserville 39.98 86 P P 11 06 10.9 -1.9
KVN IAmb IAmb 11 06 30.2
comp=Z,4.7nm,1.2s
PMPB Monarch Peak 40.05 91 P P 11 06 10.6 -2.6
EGMT Eagleton 40.14 69 P P 11 06 11.6 -2.3
EGMT Eagleton 40.14 69 P P 11 06 15.2 +1.3
baz=300
NVAR Mina Array Bea 40.23 87 P P 11 06 16.5 +1.6
comp=Z,1.1nm,0.7s,baz=285,slow=8.4,SNR=8.9
NVAR Mina Array Bea 40.23 87 P P 11 06 13.2 -1.7
BOZ Bozeman (W) 40.27 73 P P 11 06 16.3 +1.2
baz=301
Q09A Carvers 40.69 85 P P 11 06 15.7 -2.9
FFC Flin Flon 41.31 56 P P 11 06 24.5 +1.3
FFC IAmb IAmb 11 06 39.2
comp=Z,5.3nm,0.8s
H17A Grant Village 41.55 74 P P 11 06 28.5 +2.8
baz=303
R11A Troy Canyon, C 41.97 85 P P 11 06 27.6 -1.6
R11A Troy Canyon, C 41.97 85 P P 11 06 32.2 +3.0
baz=308
MPMC Manual Prospec 42.22 89 P P 11 06 33.1 +1.9
baz=310
TPNV Topopah Spring 42.43 87 P P 11 06 33.2 +0.4
TPNV IAmb IAmb 11 06 50.0
comp=Z,4.6nm,0.7s
TPNV Topopah Spring 42.43 87 P P 11 06 35.4 +2.6
baz=309
DUG Dugway, Tooele 42.58 81 P P 11 06 32.0 -2.1
DUG IAmb IAmb 11 06 51.4
comp=Z,9.7nm,1.3s
QSM Queen of Sheba 42.66 89 P P 11 06 33.8 -0.8
QSM IAmb IAmb 11 06 50.9
comp=Z,4.1nm,0.6s
LAO LASA Array 42.89 69 P P 11 06 33.8 -2.5
LAO IAmb IAmb 11 06 52.8
comp=Z,14nm,1.2s
PRN Pahroc Range 42.89 86 P P 11 06 34.2 -2.3
PRN IAmb IAmb 11 06 52.1
comp=Z,8.8nm,0.9s
PSUT Pine Spring 42.94 83 P P 11 06 35.6 -1.4
PSUT IAmb IAmb 11 06 54.0
comp=Z,4.1nm,0.8s
KSRS Korea Array 42.94 275 P P 11 06 38.3 +1.5

	comp=Z,4.0nm,0.7s,baz=53,slow=7.8,SNR=14								
KSRS					LR	LR	11 23 55.4		
	comp=Z,19nm,20.3s,baz=160,slow=35								
KSAR	**Wonju Array Be**	**42.97**	**275**		P	**P**	**11 06 35.4**	**-1.6**	
BW06	**Boulder Array**	**43.07**	**76**		P	**P**	**11 06 34.4**	**-3.7**	
BW06					IAmb	IAmb	11 06 57.0		
	comp=Z,4.7nm,0.9s								
BW06	**Boulder Array**	**43.07**	**76**		P	**P**	**11 06 39.5**	**+1.4**	
	baz=305								
PD31	**Pinedale Array**	**43.07**	**76**		P	**P**	**11 06 35.2**	**-2.9**	
PD31					IAmb	IAmb	11 06 57.0		
	comp=Z,4.4nm,0.9s								
PDAR	**Pinedale Array**	**43.07**	**76**		P	**P**	**11 06 39.6**	**+1.5**	
	comp=Z,1.2nm,0.4s,baz=313,slow=3.1,SNR=35								
PDAR	**Pinedale Array**	**43.07**	**76**		P	**P**	**11 06 38.1**	**0.0**	
DGMT	**Dagmar**	**43.12**	**66**		P	**P**	**11 06 35.5**	**-2.6**	
DGMT					IAmb	IAmb	11 06 40.8		
	comp=Z,7.1nm,0.8s								
GSC	**Goldstone, Bar**	**43.13**	**89**		P	**P**	**11 06 34.6**	**-3.9**	
GSC					IAmb	IAmb	11 06 53.3		
	comp=Z,8.3nm,0.9s								
GSC	**Goldstone, Bar**	**43.13**	**89**		P	**P**	**11 06 41.7**	**+3.3**	
	baz=310								
JLU	**Jordanelle**	**43.17**	**79**		P	**P**	**11 06 37.3**	**-1.7**	
JLU					IAmb	IAmb	11 06 56.0		
	comp=Z,4.1nm,0.8s								
BFSC	**Mount Baldy Ra**	**43.29**	**91**		P	**P**	**11 06 43.1**	**+3.3**	
	baz=311								
TUQ	**Turquoise Moun**	**43.59**	**88**		P	**P**	**11 06 42.9**	**+0.6**	
	baz=310								
HEC	**Hector,Ludlow**	**43.73**	**89**		P	**P**	**11 06 45.4**	**+2.1**	
	baz=311								
MSU	**Marysvale**	**43.99**	**82**		P	**P**	**11 06 44.4**	**-1.1**	
MURC	**Murrieta**	**44.00**	**91**		P	**P**	**11 06 47.4**	**+1.9**	
	baz=312								
Q16A	**Castle Valley**	**44.36**	**81**		P	**P**	**11 06 47.4**	**-1.0**	
Q16A					IAmb	IAmb	11 07 06.7		
	comp=Z,5.6nm,0.7s								
PFO	**Pinyon Flats O**	**44.45**	**91**		LR	LR	11 23 56.0		
	comp=Z,74nm,18.6s,baz=218,slow=34								
PFO	**Pinyon Flats O**	**44.45**	**91**		P	**P**	**11 06 48.5**	**-0.6**	
PFO					IAmb	IAmb	11 07 04.8		
	comp=Z,8.1nm,1.4s								
KNB	**Kanab**	**44.52**	**84**		P	**P**	**11 06 48.5**	**-1.3**	
KNB					IAmb	IAmb	11 07 10.4		
	comp=Z,4.3nm,1.1s								
SRU	**San Rafael Swe**	**44.64**	**81**		P	**P**	**11 06 48.3**	**-2.4**	
SRU					IAmb	IAmb	11 07 08.5		
	comp=Z,9.5nm,1.1s								
O20A	**White River Ci**	**45.42**	**78**		P	**P**	**11 06 55.0**	**-1.9**	
O20A	**White River Ci**	**45.42**	**78**		P	**P**	**11 06 57.9**	**+1.0**	
	baz=307								
CCX	**Cicese**	**45.49**	**93**		P	**P**	**11 06 55.9**	**-1.3**	
RSSD	**Black Hills**	**45.59**	**71**		P	**P**	**11 06 55.9**	**-2.3**	
RSSD					IAmb	IAmb	11 07 14.9		
	comp=Z,2.8nm,0.7s								
RSSD	**Black Hills**	**45.59**	**71**		P	**P**	**11 06 59.8**	**+1.6**	
	baz=305								
NRIK	**Noril'sk**	**45.89**	**331**		P	**P**	**11 07 00.9**	**+1.0**	
	comp=Z,4.4nm,0.5s,baz=86,slow=7.6,SNR=7.4								
NRIK	**Noril'sk**	**45.89**	**331**		P	**P**	**11 07 00.0**	**+0.1**	
NRIK					IAmb	IAmb	11 07 01.3		
	comp=Z,4.1nm,0.6s								
PV21	**Cone Mtn., Par**	**45.93**	**80**		P	**P**	**11 06 59.9**	**-1.1**	
PV11	**David Mesa, Pa**	**46.16**	**80**		P	**P**	**11 07 01.5**	**-1.2**	
WUAZ	**Wupatki**	**46.37**	**85**		P	**P**	**11 07 06.9**	**+2.5**	
	baz=310								
ULM	**Lac du Bonnet**	**46.77**	**59**		P	**P**	**11 07 08.2**	**+1.1**	
	comp=Z,3.5nm,0.4s,baz=307,slow=8.7,SNR=9.5								
ULM	**Lac du Bonnet**	**46.77**	**59**		P	**P**	**11 07 05.0**	**-2.1**	
ULM					IAmb	IAmb	11 07 23.7		
	comp=Z,3.9nm,0.6s								
W18A	**Petrified Fore**	**47.65**	**84**		P	**P**	**11 07 13.5**	**-0.8**	
W18A					IAmb	IAmb	11 07 30.6		
	comp=Z,4.7nm,1.1s								
AGMN	**Agassiz Nation**	**47.87**	**62**		P	**P**	**11 07 16.3**	**+0.6**	
	baz=305								
SDCO	**Great Sand Dun**	**48.57**	**79**		P	**P**	**11 07 22.1**	**+0.5**	
	baz=309								
TUC	**Tucson**	**48.86**	**88**		P	**P**	**11 07 24.0**	**+0.4**	
	baz=312								
F33A	**5 Mile Ranch,**	**49.06**	**64**		P	**P**	**11 07 20.7**	**-4.1**	
ULN	**Ulaanbaatar**	**49.11**	**299**		P	**P**	**11 07 24.4**	**-1.0**	
ULN					IAmb	IAmb	11 07 27.0		
	comp=Z,5.0nm,1.1s								
SONM	**Songino Array**	**49.49**	**299**		P	**P**	**11 07 29.5**	**+1.3**	
	comp=Z,2.7nm,0.4s,baz=48,slow=7.6,SNR=20								
SONM					LR	LR	11 29 31.7		
	comp=Z,67nm,18.6s,baz=27,slow=38								
KSCO	**Kaye Shedlock'**	**49.52**	**75**		P	**P**	**11 07 25.7**	**-2.9**	
T25A	**Trinidad**	**49.63**	**78**		P	**P**	**11 07 30.1**	**+0.6**	
	baz=310								
ECSD	**EROS Data Cent**	**50.14**	**67**		P	**P**	**11 07 33.4**	**+0.3**	
ECSD					IAmb	IAmb	11 07 49.7		
	comp=Z,4.4nm,0.8s								
ECSD	**EROS Data Cent**	**50.14**	**67**		P	**P**	**11 07 33.5**	**+0.4**	
	baz=308								
BNM	**Barren Site**	**50.22**	**83**		P	**P**	**11 07 31.4**	**-2.7**	
EYMN	**Ely**	**50.45**	**60**		P	**P**	**11 07 34.3**	**-1.0**	
EYMN	**Ely**	**50.45**	**60**		P	**P**	**11 07 37.1**	**+1.7**	
	baz=307								
F36A	**Milaca**	**50.59**	**63**		P	**P**	**11 07 35.5**	**-1.0**	
F36A					IAmb	IAmb	11 07 50.5		
	comp=Z,4.7nm,1.0s								
BGNE	**Belgrade**	**50.69**	**70**		P	**P**	**11 07 39.1**	**+1.9**	
	baz=309								
HHC	**Hu-ho-hao-te**	**50.79**	**289**		*e*P	**P**	**11 07 40.5**	**+2.3**	
HHC					pmax	pmax			
	comp=Z,18nm,0.9s								
HHC					pmax	pmax			
	comp=Z,140nm,7.3s								
MNTX	**Cornudas Mount**	**52.64**	**84**		P	**P**	**11 07 53.4**	**+1.4**	
	baz=313								
JFWS	**Jewell Farm**	**54.27**	**64**		P	**P**	**11 08 05.0**	**+1.2**	
	baz=310								
L40A	**Anamosa**	**54.27**	**65**		P	**P**	**11 08 00.7**	**-3.0**	
I42A	**Draeger Farm,**	**54.38**	**62**		P	**P**	**11 08 03.4**	**-1.2**	
P38A	**Dawn**	**54.53**	**69**		P	**P**	**11 08 03.0**	**-2.6**	
H43A	**Windswept, Lux**	**54.64**	**61**		P	**P**	**11 08 03.8**	**-2.6**	
TX31	**Lajitas Ar. Si**	**55.34**	**85**		P	**P**	**11 08 09.7**	**-2.0**	
TX32	**Lajitas Array**	**55.34**	**85**		P	**P**	**11 08 09.7**	**-2.0**	
TX32					IAmb	IAmb	11 08 27.7		
	comp=Z,2.6nm,0.8s								
TXAR	**Lajitas Array**	**55.34**	**85**		P	**P**	**11 08 12.8**	**+1.0**	
	comp=Z,0.9nm,0.7s,baz=300,slow=5.3,SNR=12								
TXAR	**Lajitas Array**	**55.34**	**85**		P	**P**	**11 08 11.9**	**+0.1**	
P40A	**Paris**	**55.45**	**68**		P	**P**	**11 08 09.4**	**-2.9**	
R40A	**Maddies Statio**	**56.15**	**69**		P	**P**	**11 08 16.1**	**-1.3**	
ZALV	**Zalesovo Beam**	**56.25**	**316**		P	**P**	**11 08 18.1**	**+0.3**	
	comp=Z,0.6nm,0.4s,baz=65,slow=7.3,SNR=3.7								
ZALV	**Zalesovo Beam**	**56.25**	**316**		P	**P**	**11 08 14.9**	**-2.9**	
MGMO	**Mountain Grove**	**56.91**	**70**		P	**P**	**11 08 22.3**	**-0.5**	
JCT	**Junction City**	**56.93**	**81**		P	**P**	**11 08 20.2**	**-2.9**	
JCT					IAmb	IAmb	11 08 41.9		
	comp=Z,3.1nm,0.8s								
SCHQ	**Schefferville**	**57.74**	**41**		P	**P**	**11 08 29.5**	**+1.1**	
	comp=Z,1.8nm,0.4s,baz=308,slow=6.8,SNR=15								
SCHQ	**Schefferville**	**57.74**	**41**		P	**P**	**11 08 28.4**	**0.0**	
FCAR	**Ozark Folk Cen**	**57.86**	**71**		P	**P**	**11 08 27.5**	**-1.9**	
WHAR	**Wooly Hollow**	**58.17**	**72**		P	**P**	**11 08 29.6**	**-2.1**	
S44A	**Carbondale**	**58.30**	**68**		P	**P**	**11 08 29.8**	**-2.8**	
LCAR	**Lake Charles**	**58.31**	**71**		P	**P**	**11 08 28.6**	**-4.0**	
SIUC	**Southern Illin**	**58.31**	**68**		P	**P**	**11 08 28.4**	**-4.2**	
ARCES	**ARCESS Array B**	**58.41**	**352**		P	**P**	**11 08 33.8**	**+1.0**	
	comp=Z,17nm,1.2s,baz=14,slow=6.9,SNR=6.8								
ARCES					PcP	**PcP**	**11 09 24.5**	**+1.5**	
	comp=Z,1.9nm,0.5s,baz=17,slow=4.5,SNR=7.3								
ARCES	**ARCESS Array B**	**58.41**	**352**		P	**P**	**11 08 32.8**	**0.0**	
LZH	**Lanzhou**	**58.48**	**290**		*e*P	**P**	**11 08 36.1**	**+2.1**	
LZH					pP	pP	11 08 42.8	-3.7	
LZH					pmax	pmax			
	comp=Z,17nm,1.3s								
GTA	**Gaotai**	**58.53**	**295**		⇑P	**P**	**11 08 34.9**	**+0.6**	
GTA					pP	pwP	11 08 48.3	-4.2	
GTA					sP	sP	11 08 52.3	+0.4	
GTA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
GTA					pmax	pmax			
	comp=Z,83nm,5.1s								
GTA					LR	LR			
	comp=N,110nm,16.4s								
GTA					LR	LR			
	comp=E,110nm,17.1s								
GTA					LR	LR			
	comp=Z,91nm,17.5s								
O48B	**Farmland**	**58.88**	**63**		P	**P**	**11 08 36.9**	**+0.4**	
	baz=313								
M53A	**WI Miller and**	**60.52**	**60**		P	**P**	**11 08 48.7**	**+0.9**	
	baz=314								
N54A	**Moraine State**	**61.23**	**60**		P	**P**	**11 08 53.8**	**+1.2**	
	baz=315								
KURK	**Kurchatov**	**61.23**	**316**		P	**P**	**11 08 52.0**	**-0.4**	
KURBB	**Kurchatov Arra**	**61.34**	**316**		LR	LR	11 36 34.1		
	comp=Z,60nm,18.2s,baz=313,slow=37								
LONY	**Lake Ozonia**	**61.45**	**53**		P	**P**	**11 08 54.6**	**+0.5**	
	baz=315								
WMQ	**Urumqi**	**61.97**	**306**		*e*P	P	11 09 02.0	+4.4	
MKAR	**Makanchi Array**	**62.45**	**311**		P	**P**	**11 09 01.3**	**+0.5**	
	comp=Z,2.6nm,0.4s,baz=48,slow=6.1,SNR=57								
BINY	**Binghamton**	**62.47**	**56**		P	**P**	**11 09 01.5**	**+0.6**	
	baz=316								
SSPA	**Standing Stone**	**62.58**	**59**		P	**P**	**11 09 02.9**	**+1.2**	
	baz=316								
FINES	**FINESS Array B**	**66.25**	**350**		P	**P**	**11 09 25.9**	**+0.6**	
	comp=Z,1.0nm,0.4s,baz=25,slow=6.8,SNR=11								
FINES					PcP	**PcP**	**11 09 56.2**	**+1.2**	
	comp=Z,2.1nm,0.5s,baz=48,slow=2.8,SNR=7.8								
FINES	**FINESS Array B**	**66.25**	**350**		P	**P**	**11 09 23.5**	**-1.8**	
PZH	**PanZhiHua**	**66.55**	**283**		P	**P**	**11 09 29.8**	**+1.9**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PZH					pmax	pmax			
	comp=Z,100nm,5.9s								
NB2	**NORSAR Subarra**	**67.68**	**358**		P	**P**	**11 09 35.2**	**+0.8**	
	comp=Z,0.5nm,0.5s,baz=4.5,slow=6.9								
NOA	**NORSAR Array B**	**67.68**	**358**		P	**P**	**11 09 35.3**	**+0.8**	
	comp=Z,0.6nm,0.6s,baz=254,slow=4.8,SNR=5.7								
HFS	**Hagfors**	**68.50**	**356**		P	**P**	**11 09 40.0**	**+0.4**	
	comp=Z,1.2nm,0.4s,baz=38,slow=2.6,SNR=9.7								
OBN	**Obninsk**	**70.78**	**342**		LR	LR	11 45 08.4		
	comp=Z,17nm,19.4s,baz=163,slow=40								
KSH	**Kashi**	**70.98**	**310**		P	P	11 10 00.0	+4.7	
KSH					pP	pwP	11 10 10.4	-2.1	
KSH					sP	PcP	11 10 14.8	-0.7	
KSH					PcP	sP	11 10 20.9	+7.1	
KSH					pmax	pmax			
	comp=Z,11nm,0.7s								
CMAR	**Chiang Mai Arr**	**74.27**	**280**		P	**P**	**11 10 17.0**	**+2.0**	
	comp=Z,1.1nm,0.3s,baz=26,slow=7.6,SNR=6.2								
CMAR	**Chiang Mai Arr**	**74.27**	**280**		P	**P**	**11 10 12.9**	**-2.1**	
GUN	**Gumba**	**74.81**	**296**		*e*P	**P**	**11 10 20.2**	**+1.8**	
	comp=Z,35nm,0.4s								
JIRN	**Jiri**	**74.83**	**295**		*e*P	**P**	**11 10 20.5**	**+1.9**	
	comp=Z,42nm,0.6s								
RAMN	**Ramite**	**75.14**	**295**		*e*P	**P**	**11 10 21.8**	**+1.6**	
	comp=Z,20nm,0.4s								
PKI	**Pulchoki**	**75.34**	**296**		*e*P	**P**	**11 10 22.5**	**+1.1**	
	comp=Z,10nm,0.5s								
PKIN	**Phulchoki**	**75.34**	**296**		*e*P	**P**	**11 10 22.6**	**+1.2**	
	comp=Z,16nm,0.5s								
DANN	**Dangsing**	**75.65**	**297**		*e*P	**P**	**11 10 24.6**	**+1.4**	
KOLN	**Koldanda**	**76.19**	**297**		*e*P	**P**	**11 10 27.6**	**+1.4**	
PYUN	**Piuthan**	**76.27**	**298**		*e*P	**P**	**11 10 28.0**	**+1.4**	
	comp=Z,22nm,0.5s								
AKASG	**Malin Array Be**	**76.29**	**345**		P	**P**	**11 10 26.5**	**+0.4**	
	comp=Z,2.9nm,0.4s,baz=16,slow=5.9,SNR=21								
GERES	**GERESS Array B**	**79.77**	**355**		P	**P**	**11 10 46.9**	**+1.3**	
	comp=Z,0.6nm,0.5s,baz=14,slow=6.9,SNR=5.0								
KBZ	**Khabaz**	**79.98**	**334**		P	**P**	**11 10 48.7**	**+2.1**	
	comp=Z,1.8nm,0.7s,baz=297,slow=2.3,SNR=1.5								
MLR	**Muntele Rosu**	**81.87**	**346**		P	**P**	**11 10 58.1**	**+1.3**	
	comp=Z,2.3nm,0.6s,baz=273,slow=22,SNR=3.9								
DAVOX	**Davos/Dischmat**	**81.98**	**359**		P	**P**	**11 10 59.6**	**+2.2**	
	comp=Z,2.0nm,0.5s,baz=20,slow=3.8,SNR=4.7								
WRA	**Warramunga Arr**	**84.53**	**228**		P	**P**	**11 11 10.4**	**-0.2**	
	comp=Z,0.4nm,0.6s,baz=8.0,slow=5.0,SNR=1.0								
BRTR	**Keskin Array B**	**86.04**	**339**		P	**P**	**11 11 19.5**	**+1.3**	
	comp=Z,1.3nm,0.5s,baz=62,slow=1.0,SNR=3.2								
ASAR	**Alice Springs**	**87.95**	**227**		P	**P**	**11 11 28.1**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=30,slow=4.9,SNR=6.6								
ASAR	**Alice Springs**	**87.95**	**227**		P	**P**	**11 11 25.4**	**-1.9**	
H03N2	**Juan Fernandez**	**118.04**	**109**		T	T	13 26 47.6		
	baz=317,slow=77,SNR=4.9								
H03N1	**Juan Fernandez**	**118.05**	**109**		T	T	13 26 57.4		
	baz=317,slow=77,SNR=4.5								
H03N3	**Juan Fernandez**	**118.06**	**109**		T	T	13 27 09.0		
	baz=317,slow=77,SNR=2.7								
BOSA	**Boshof**	**153.10**	**321**		PKPbc	**PKiKP**	**11 18 36.1**	**+1.1**	
	comp=Z,1.1nm,0.4s,baz=32,slow=2.9,SNR=4.0								
BOSA	**Boshof**	**153.10**	**321**		PKPdf	**PKPdf**	**11 18 23.2**	**-4.3**	
BOSA						**PKPbc**	**11 18 32.5**	**-2.4**	
BOSA					PKPab	**sPKPdf**	**11 18 44.8**	**-1.4**	

*TUL **15** 11:06:16.7±1.0,36°.66N±0°.01×97°.26W±0°.02, h2km±7km, ML2.5,mb_Lg2.6/36(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=64.0*

NEIC 15 11:06:16.8±0.5, 36°.65N±0°.02×97°.26W±0°.01, h5km±7km, Error ellipse: s-maj=2.8km s-min=0.7km az=205.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.66**	**66**	Pg	Pg	11 06 29.4	-0.1
OKCFA	**Oklahoma City**	**1.24**	**187**		Pg	11 06 40.3	-0.2
OKCSW	**OKLAHOMA CITY**	**1.25**	**187**	Pg	Pg	11 06 40.6	-0.1
FNO	**Franklin**	**1.39**	**185**		Pn	11 06 42.8	0.0
TUL1	**Leonard**	**1.40**	**121**		Pn	11 06 42.6	-0.3
U32A	**Winter Ranch,**	**1.43**	**260**		Pn	11 06 43.2	-0.2
W35A	**Tecumseh**	**1.52**	**168**	Pn	Pn	11 06 44.4	-0.3
X34A	**Smith Ranch, M**	**2.09**	**193**	Pn	Pn	11 06 53.3	+0.8
R32A	**Long Quarter,**	**2.12**	**327**	Pn	Pb	11 06 54.5	-1.2
R32A				IAmb_Lg		11 07 22.9	
	comp=Z,21nm,0.8s						
WMOK	**Wichita Mounta**	**2.27**	**213**	Pn	Pn	11 06 56.6	+1.6
WMOK				IAmb_Lg		11 07 31.2	
	comp=Z,22nm,0.8s						
KSU1	**Kansas State U**	**2.51**	**12**	Pn	Pn	11 06 58.2	-0.1
X37A	**Clayton**	**2.56**	**143**	Pn	Pn	11 07 00.1	+1.0
HHAR	**Hobbs**	**2.70**	**97**	Pn	Pn	11 07 00.7	-0.2
CBKS	**Cedar Bluff**	**2.92**	**319**	Pn	Pn	11 07 04.3	+0.3
W39A	**Magazine**	**3.17**	**116**	IAmb_Lg		11 08 05.3	
	comp=Z,17nm,0.8s						
S39A	**Bolivar**	**3.31**	**70**	Pn	Pn	11 07 09.6	+0.3
U40A	**Yellville**	**3.56**	**93**	Pn	Pn	11 07 11.9	-0.9
U40A				IAmb_Lg		11 08 09.1	
	comp=Z,21nm,0.9s						
Z38A	**Mt. Pleasant**	**3.86**	**150**	IAmb_Lg		11 08 25.6	
	comp=Z,15nm,0.8s						
MGMO	**Mountain Grove**	**4.03**	**81**	IAmb_Lg		11 08 23.2	
	comp=Z,16nm,0.8s						
P38A	**Dawn**	**4.18**	**44**	Pn	Pn	11 07 20.9	-0.4
X40A	**Basin Creek Fa**	**4.20**	**120**	Pn	Pn	11 07 21.3	-0.3
X40A				IAmb_Lg		11 08 35.0	
	comp=Z,10.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.22**	**99**	IAmb_Lg		11 08 30.4	
	comp=Z,20nm,0.8s						
WHAR	**Wooly Hollow**	**4.25**	**107**	IAmb_Lg		11 08 36.6	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	**4.30**	**66**	Pn	Pn	11 07 22.6	-0.2
W41B	**Gary Mavity, V**	**4.33**	**108**	IAmb_Lg		11 08 37.6	
	comp=Z,14nm,0.7s						
WHTX	**Lake Whitney,**	**4.64**	**182**	IAmb_Lg		11 08 47.0	
	comp=Z,9.9nm,1.0s						
BGNE	**Belgrade**	**4.81**	**352**	IAmb_Lg		11 08 48.5	
	comp=Z,14nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.86**	**301**	IAmb_Lg		11 08 54.7	
	comp=Z,9.3nm,0.8s						
LCAR	**Lake Charles**	**4.96**	**95**	IAmb_Lg		11 08 54.3	
	comp=Z,8.5nm,0.8s						
CCM	**Cathedral Cave**	**5.00**	**72**	IAmb_Lg		11 09 02.8	
	comp=Z,11nm,0.9s						
P40A	**Paris**	**5.02**	**53**	IAmb_Lg		11 09 03.7	
	comp=Z,8.3nm,1.0s						
FVM	**French Village**	**5.61**	**74**	IAmb_Lg		11 09 18.5	
	comp=Z,8.1nm,0.8s						
T25A	**Trinidad**	**5.75**	**277**	IAmb_Lg		11 09 26.7	
	comp=Z,9.1nm,0.8s						
S44A	**Carbondale**	**6.48**	**78**	IAmb_Lg		11 09 41.5	
	comp=Z,11nm,0.8s						

*AEIC **15** 11:06:42±1.3,51°.40N±0°.07×173°.5W±0°.1, h26km±8km, ML2.5/10,mb3.5/10(NEIC), Error ellipse: s-maj=13.3km s-min=9.4km az=121.0*

NEIC 15 11:06:42.6±2.9, 51°.41N±0°.08×173°.3W±0°.2, h36km±31km, Error ellipse: s-maj=14.7km s-min=11.0km az=90.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.97**	**326**		Pn	11 06 59.0	-0.6
ATKA					Sn	11 07 13.5	+1.4
KOFP	**Korovin Flat P**	**1.00**	**331**		Pn	11 06 59.9	-0.1
KOKL	**Mount Kliuchef**	**1.07**	**329**		Pn	11 07 00.9	-0.1
GSMY	**Great Sitkin M**	**1.82**	**292**		Pn	11 07 11.1	-0.3
GSCK	**Great Sitkin C**	**1.87**	**290**		Pn	11 07 11.9	-0.2
GSTD	**Great Sitkin T**	**1.88**	**291**		Pn	11 07 11.9	-0.3
GSTD					Sn	11 07 35.0	+0.4
ADK	**Adak**	**2.15**	**284**		Pn	11 07 15.3	-0.6
ADK					Sn	11 07 41.0	-0.3
KIWB	**Kanaga Island**	**2.43**	**282**	Pn	Pn	11 07 18.8	-0.9
SCM	**Sheep Creek Mo**	**17.57**	**44**		P	11 10 46.0	+0.8
MLY	**Manley**	**17.95**	**32**	Pn	Pn	11 10 47.7	-1.3
DIV	**Divide**	**17.99**	**47**		P	11 10 50.8	+1.0
DIV				IAmb	IAmb	11 11 00.6	
	comp=Z,5.9nm,1.2s						
KLU	**Klutina**	**18.05**	**45**		Pn	11 10 50.3	0.0
KLU				IAmb	IAmb	11 11 18.4	
	comp=Z,4.3nm,1.2s						
VRDI	**Verde Repeater**	**19.08**	**47**	P	Pn	11 11 03.4	+0.5
VRDI				IAmb	IAmb	11 11 17.2	
	comp=Z,4.0nm,1.2s						
IL31		**19.14**	**36**	P	Pn	11 11 05.0	+1.7
H24K	**Noodor Dome**	**19.39**	**32**	P	Pn	11 11 07.1	+0.7
H24K				IAmb	IAmb	11 11 08.8	
	comp=Z,3.2nm,1.4s						
J25K	**Salcha River,**	**19.62**	**37**	P	Pn	11 11 09.0	-0.2
J25K				IAmb	IAmb	11 11 33.8	
	comp=Z,2.0nm,1.1s						
EGAK	**Eagle**	**21.32**	**39**	P	P	11 11 28.0	+2.1

*IDC **15** 11:14:21.0±1.6,35°.78N×141°.13E, h0km, mb3.7/4, mb1 3.8/6,mb1mx3.5/60,mbtmp3.7/6,ML3.5/2,MS3.2/1, Ms1 3.2/1,ms1mx2.3/88, Error ellipse: s-maj=41.7km s-min=22.0km az=60.0*

*JMA **15** 11:14:24.4±0.2,35°.82N×141°.01E,h26km±1km,MM3.7*

JMA Felt I J1.

*NIED **15** 11:14:24.4,35°.82N×141°.01E,h26km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.10; Mθθ-2.41; Mφφ 1.31; Mrθ2.22; Mrφ0.58; Mθφ-2.25; Fault plane solution: M0 3.82000×10¹⁴ NP1: φs133.00000°,δ80.00000°,λ118.00000°. NP2: φs241.00000°,δ30.00000°,λ20.00000°.*

ISC 15 11:14:23.9±2.2, 35°.85N±0°.05×141°.06E±0°.08, h19km±17km, n23, σ0°95/17, mb3.6/4, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.22**	**229**	⇑P	**Pb**	**11 14 29.6**	**+0.8**
CHOJ				S	**Sb**	**11 14 33.3**	**+1.4**
JIHU	**Itakohorinouch**	**0.45**	**286**	⇑P	**Pb**	**11 14 33.9**	**+0.6**
JSMT	**Sammumatsuo**	**0.54**	**248**	⇑P	**Pb**	**11 14 34.9**	**+0.2**
JHYU	**Hitachinakayam**	**0.63**	**322**	P	**Pb**	**11 14 36.8**	**+0.6**
JHYU				S	**Sb**	**11 14 45.4**	**+0.9**
JYT	**Yasato**	**0.80**	**299**	⇑P	**Pb**	**11 14 38.3**	**-0.9**
JYT				*e*S	**Sb**	**11 14 49.3**	**-0.3**
JHO	**Hitachi**	**0.86**	**333**	⇓P	**Pb**	**11 14 39.8**	**-0.5**
BSO3	**Boso 3**	**1.13**	**204**	P	**Pn**	**11 14 43.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.41**	**288**	Pn	**Pn**	**11 15 02.1**	**-0.3**
	1.3nm,0.3s,baz=92,slow=9.1,SNR=54						
MJAR				Sn	**Sb**	**11 15 34.1**	**-1.9**
	1.0nm,0.3s,baz=48,slow=29,SNR=7.4						
ASAJ	**Asahikawa**	**8.35**	**8**	Pn	**Pn**	**11 16 23.6**	**-0.2**
	1.4nm,0.3s,baz=236,slow=10,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**27.81**	**118**	T	T	11 49 15.6	
	baz=311,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	11 49 13.9	
	baz=311,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	11

	baz=286								
VWDT	**VWDT**	**0.61**	**268**	P		**Pn**	**11 17 56.7**	**+0.2**	
	baz=259								
VWDT				S		**Sn**	**11 18 05.0**	**-1.1**	
	baz=259								
WHF	**Hehuan Shan**	**0.62**	**307**	P		**Pn**	**11 17 56.4**	**-0.7**	
	baz=308								
WHF				S		**Sb**	**11 18 04.6**	**+0.8**	
	baz=308								
EYUL	**Yuli**	**0.62**	**227**	P		**Pn**	**11 17 56.8**	**+0.2**	
	baz=230								
EYUL				S		**Sn**	**11 18 06.1**	**-0.2**	
	baz=230								
TWF1	**Yuli**	**0.63**	**228**	*i* P		**Pn**	**11 17 56.7**	**-0.1**	
	baz=231								
TWF1				*e*S		**Sn**	**11 18 06.6**	**0.0**	
	baz=231								
CHGB	**Renai**	**0.65**	**296**	P		**Pn**	**11 17 56.9**	**-0.3**	
	baz=296								
CHGB				S		**Sb**	**11 18 05.4**	**+1.0**	
	baz=296								
ENA	**Nanau**	**0.65**	**355**	P		**Pn**	**11 17 57.0**	**-0.1**	
ENA				S		**Sn**	**11 18 06.3**	**-0.8**	
EWUT	**Wuta**	**0.67**	**358**	P		**Pn**	**11 17 57.4**	**+0.1**	
	baz=3.0								
EWUT				S		**Sn**	**11 18 06.7**	**-0.7**	
	baz=3.0								
WUSB	**Renai**	**0.67**	**289**	P		**Pn**	**11 17 57.2**	**-0.2**	
	baz=288								
WUSB				S		**Sb**	**11 18 05.6**	**+0.6**	
	baz=288								
FUSS	**Fushou**	**0.70**	**312**	P		**Pn**	**11 17 57.5**	**-0.4**	
	baz=320								
FUSS				S		**Sb**	**11 18 06.8**	**+0.9**	
	baz=320								
FULB	**Fuli**	**0.74**	**220**	P		**Pn**	**11 17 59.0**	**+0.6**	
	baz=226								
FULB				S		**Sn**	**11 18 09.8**	**+0.4**	
	baz=226								
TWT	**Tachien**	**0.75**	**309**	P		**Pn**	**11 17 58.6**	**0.0**	
	baz=309								
TWT				S		**Sb**	**11 18 07.7**	**+0.4**	
	baz=309								
NNSB	**Datong**	**0.76**	**329**	P		**Pn**	**11 17 58.3**	**-0.3**	
	baz=326								
NNSB				S		**Sb**	**11 18 08.0**	**+0.5**	
	baz=326								
NNS	**Nan Shan**	**0.77**	**329**	P		**Pn**	**11 17 58.6**	**-0.3**	
	baz=326								
NNS				S		**Sb**	**11 18 08.5**	**+0.5**	
	baz=326								
SSLB	**Suanglung**	**0.78**	**271**	P		**Pn**	**11 17 58.8**	**-0.1**	
	baz=268								
SSLB				S		**Sb**	**11 18 08.7**	**+0.5**	
	baz=268								
CHKT	**Chengkung**	**0.79**	**211**	P		**Pn**	**11 17 58.9**	**-0.1**	
	baz=197								
CHKT				*e*S		**Sb**	**11 18 09.1**	**+0.9**	
	baz=197								
LATG	**Datong**	**0.80**	**341**	P		**Pn**	**11 17 58.9**	**-0.4**	
	baz=336								
LATG				S		**Sb**	**11 18 09.3**	**+0.6**	
	baz=336								
WPL	**Puli Township**	**0.81**	**287**	P		**Pn**	**11 17 59.1**	**-0.2**	
	baz=282								
WPL				S		**Sb**	**11 18 09.4**	**+0.4**	
	baz=282								
TWC	**Suao**	**0.83**	**3**	P		**Pn**	**11 18 00.1**	**+0.5**	
	baz=7.0								
TWC				S		**Sn**	**11 18 11.3**	**-0.2**	
	baz=7.0								
YUS	**Yu-Shan**	**0.84**	**250**	P		**Pn**	**11 18 00.2**	**+0.2**	
	baz=246								
YUS				S		**Sb**	**11 18 10.5**	**+0.4**	
	baz=246								
SMLT	**Sun Moon Lake**	**0.84**	**277**	P		**Pn**	**11 17 59.7**	**-0.1**	
	baz=277								
SMLT				S		**Sb**	**11 18 10.3**	**+0.5**	
	baz=277								
DPDB	**Guoxing**	**0.85**	**288**	P		**Pn**	**11 17 59.7**	**-0.1**	
	baz=283								
DPDB				S		**Sb**	**11 18 10.2**	**+0.1**	
	baz=283								
NDS	**Dongshan**	**0.86**	**354**	*i* P		**Pn**	**11 18 00.0**	**+0.1**	
	baz=347								
NDS				S		**Sn**	**11 18 11.4**	**-0.8**	
	baz=347								
NDT	**Datong Townshi**	**0.87**	**342**	*i* P		**Pn**	**11 17 60.0**	**-0.1**	
	baz=337								
NDT				S		**Sb**	**11 18 11.0**	**+0.5**	
	baz=337								
ECS	**Chishang**	**0.87**	**219**	P		**Pn**	**11 18 00.7**	**+0.6**	
	baz=214								
ECS				S		**Sn**	**11 18 12.6**	**+0.2**	
	baz=214								
WCS	**Beigang Elemen**	**0.87**	**289**	P		**Pn**	**11 17 59.9**	**-0.1**	
	baz=284								
WCS				S		**Sb**	**11 18 10.6**	**0.0**	
	baz=284								
TYC	**Yuchr**	**0.88**	**279**	P		**Pn**	**11 18 00.1**	**-0.1**	
	baz=281								
TYC				S		**Sb**	**11 18 10.7**	**-0.2**	
	baz=281								
ENTT	**Nioudou**	**0.89**	**346**	P		**Pn**	**11 18 00.5**	**+0.1**	
	baz=349								
ENTT				S		**Sb**	**11 18 11.8**	**+0.6**	
	baz=349								
EDH	**Donghe**	**0.93**	**210**	P		**Pn**	**11 18 00.6**	**-0.2**	
	baz=200								
EDH				*e*S		**Sg**	**11 18 12.5**	**-0.1**	
	baz=200								
ELDTW	**Lidau**	**0.93**	**231**	P		**Pn**	**11 18 00.8**	**-0.3**	
	baz=225								
ELDTW				S		**Sb**	**11 18 13.0**	**+0.4**	
	baz=225								
WHP	**Taichung City**	**0.93**	**302**	P		**Pn**	**11 18 01.3**	**+0.3**	
	baz=308								
WHP				S		**Sb**	**11 18 12.8**	**+0.2**	
	baz=308								
TWE	**Neicheng**	**0.95**	**352**	P		**Pn**	**11 18 01.5**	**+0.3**	
	baz=346								
TWE				S		**Sg**	**11 18 13.5**	**+0.2**	
	baz=346								
ALS	**Alishan**	**0.96**	**254**	P		**Pn**	**11 18 02.2**	**+0.7**	
	baz=251								
ALS				S		**Sn**	**11 18 14.3**	**-0.7**	
	baz=251								
YHNB	**Yeheng**	**0.97**	**336**	P		**Pn**	**11 18 01.7**	**+0.1**	
	baz=339								
YHNB				S		**Sb**	**11 18 13.5**	**-0.2**	
	baz=339								
NSK	**Sanguang**	**0.99**	**335**	P		**Pn**	**11 18 01.8**	**+0.1**	
	baz=338								
NSK				S		**Sb**	**11 18 13.5**	**-0.6**	
	baz=338								
WJS	**Zhushan**	**0.99**	**273**	P		**Pn**	**11 18 02.5**	**+0.7**	
	baz=271								
WJS				*e*S		**Sn**	**11 18 15.3**	**-0.1**	
	baz=271								
FUSB	**Fushanzhiwuyua**	**1.00**	**348**	P		**Pn**	**11 18 01.9**	**0.0**	
	baz=351								
FUSB				S		**Sg**	**11 18 14.7**	**-0.3**	
	baz=351								
NWLT	**Wulai**	**1.03**	**344**	P		**Pn**	**11 18 02.4**	**0.0**	
	baz=340								
NWLT				S		**Sb**	**11 18 15.2**	**-0.2**	
	baz=340								
WNT	**Mingjian**	**1.03**	**276**	P		**Pn**	**11 18 03.3**	**+0.9**	
	baz=274								
WNT				S		**Sn**	**11 18 16.5**	**-0.1**	
	baz=274								
WNT1	**Nantou City**	**1.04**	**277**	P		**Pn**	**11 18 03.9**	**+1.4**	
	baz=276								
WNT1				S		**Sn**	**11 18 17.1**	**+0.4**	
	baz=276								
WWF	**Wufeng**	**1.05**	**285**	P		**Pn**	**11 18 03.2**	**+0.6**	
	baz=285								
WWF				S		**Sn**	**11 18 17.7**	**+0.8**	
	baz=285								
CHN5	**Tsauling**	**1.05**	**260**	P		**Pn**	**11 18 03.3**	**+0.7**	
	baz=258								
CHN5				S		**Sg**	**11 18 16.2**	**-0.4**	
	baz=258								
NFF	**Wufeng Townshi**	**1.06**	**324**	P		**Pn**	**11 18 03.2**	**+0.5**	
	baz=325								
NFF				S		**Sn**	**11 18 16.9**	**-0.4**	
	baz=325								
LONT	**Longtian**	**1.07**	**216**	P		**Pb**	**11 18 02.6**	**0.0**	
	baz=212								
LONT				*e*S		**Sn**	**11 18 17.5**	**+0.2**	
	baz=212								
NTC	**Toucheng**	**1.07**	**1**	P		**Pg**	**11 18 03.7**	**+0.5**	
	baz=4.0								
NTC				S		**Sn**	**11 18 17.7**	**+0.3**	
	baz=4.0								
TCU	**Taichung**	**1.10**	**290**	P		**Pg**	**11 18 04.3**	**+0.5**	
	baz=289								
TCU				*e*S		**Sn**	**11 18 19.5**	**+1.3**	
	baz=289								
TWQ1	**Liyutan**	**1.10**	**301**	P		**Pg**	**11 18 04.2**	**+0.3**	
	baz=301								
TWQ1				S		**Sn**	**11 18 18.5**	**+0.2**	
	baz=301								
STYH	**Taoyuan**	**1.12**	**238**	P		**Pg**	**11 18 04.6**	**+0.4**	
	baz=229								
NSTT	**Nanjuang**	**1.13**	**319**	P		**Pg**	**11 18 04.8**	**+0.6**	
	baz=308								
NSTT				S		**Sg**	**11 18 18.3**	**-0.7**	
	baz=308								
LIOB	**Emei**	**1.13**	**320**	P		**Pg**	**11 18 04.8**	**+0.5**	
	baz=309								
LIOB				S		**Sn**	**11 18 18.9**	**+0.1**	
	baz=309								
WYL	**Yuanlin Townsh**	**1.14**	**280**	P		**Pg**	**11 18 05.5**	**+1.0**	
	baz=278								
WYL				S		**Sn**	**11 18 20.1**	**+1.0**	
	baz=278								
STYT	**Tauyuan**	**1.14**	**238**	P		**Pg**	**11 18 04.8**	**+0.2**	
	baz=229								
STYT				S		**Sn**	**11 18 19.9**	**+0.6**	
	baz=229								
NSY	**Sanyi**	**1.15**	**304**	P		**Pg**	**11 18 04.9**	**+0.2**	
	baz=304								
NSY				S		**Sn**	**11 18 19.6**	**+0.2**	
	baz=304								
NJD	**Zhudong**	**1.16**	**326**	P		**Pg**	**11 18 05.8**	**+0.9**	
	baz=333								
NJD				*e*S		**Sn**	**11 18 21.0**	**+1.4**	
	baz=333								
TWGBT	**Beinan**	**1.17**	**215**	P		**Pn**	**11 18 03.5**	**-0.6**	
	baz=212								
TWGBT				*e*S		**Sg**	**11 18 20.2**	**-0.1**	
	baz=212								
TWG	**Pinlang**	**1.17**	**216**	*e*P		**Pn**	**11 18 03.7**	**-0.5**	
	baz=212								
TWG				*e*S		**Sg**	**11 18 20.1**	**-0.1**	
	baz=212								
WDLH	**Douliu**	**1.17**	**266**	P		**Pg**	**11 18 05.1**	**+0.1**	
	baz=263								
WDLH				S		**Sn**	**11 18 20.4**	**+0.7**	
	baz=263								
TPUB	**Ta-pu**	**1.18**	**247**	P		**Pg**	**11 18 05.5**	**+0.2**	
	baz=244								
TPUB				S		**Sg**	**11 18 21.1**	**+0.3**	
	baz=244								
WCHH	**Zhanghua**	**1.18**	**285**	P		**Pg**	**11 18 05.2**	**-0.1**	
	baz=284								
WCHH				S		**Sg**	**11 18 20.8**	**0.0**	
	baz=284								
TIPB	**Shuangxi**	**1.19**	**1**	P		**Pg**	**11 18 05.9**	**+0.4**	
	baz=354								
TIPB				S		**Sg**	**11 18 21.0**	**0.0**	
	baz=354								
NMLH	**Miaoli**	**1.20**	**309**	P		**Pg**	**11 18 05.4**	**-0.3**	
	baz=310								
NMLH				*e*S		**Sb**	**11 18 19.3**	**-0.9**	
	baz=310								
NHDH	**Xindian Distri**	**1.21**	**348**	P		**Pg**	**11 18 05.7**	**-0.1**	
	baz=350								
NHDH				S		**Sb**	**11 18 20.1**	**-0.4**	
	baz=350								
WDJ	**Dajia District**	**1.21**	**298**	P		**Pg**	**11 18 05.5**	**-0.4**	
	baz=298								
WDJ				S		**Sn**	**11 18 20.4**	**-0.5**	
	baz=298								
TWA	**Mucha**	**1.22**	**350**	P		**Pg**	**11 18 06.4**	**+0.5**	
	baz=347								
TWA				S		**Sg**	**11 18 21.4**	**-0.5**	
	baz=347								
WTP	**Ta-pu**	**1.22**	**245**	P		**Pg**	**11 18 06.1**	**+0.1**	
	baz=241								
WTP				S		**Sg**	**11 18 21.9**	**0.0**	
	baz=241								
TATO	**Taipei**	**1.23**	**346**	P		**Pg**	**11 18 05.6**	**-0.6**	
	baz=349								
TATO				S		**Sb**	**11 18 21.1**	**+0.1**	
	baz=349								
HSN1	**Hsinchu**	**1.23**	**324**	P		**Pg**	**11 18 06.5**	**+0.2**	
	baz=314								
HSN1				S		**Sg**	**11 18 21.5**	**-0.8**	
	baz=314								
TWB1	**Santiao Chiao**	**1.24**	**8**	P		**Pg**	**11 18 06.3**	**0.0**	
	baz=11								
TWB1				S		**Sb**	**11 18 21.4**	**+0.2**	
	baz=11								
SBCB	**Hsinchu**	**1.26**	**324**	P		**Pg**	**11 18 06.8**	**0.0**	
	baz=325								
SBCB				*e*S		**Sb**	**11 18 21.0**	**-0.9**	
	baz=325								
NWF	**Wu-fen Shan**	**1.29**	**359**	P		**Pg**	**11 18 07.1**	**-0.3**	
	baz=349								
NWF				S		**Sg**	**11 18 24.1**	**-0.1**	
	baz=349								
WFSB	**Wu-fen Shan**	**1.29**	**359**	P		**Pg**	**11 18 07.0**	**-0.4**	
	baz=350								
WFSB				S		**Sg**	**11 18 23.9**	**-0.3**	
	baz=350								
YOJ	**Yonaguni jima**	**1.29**	**58**	P		**Pg**	**11 18 07.8**	**+0.4**	
YOJ				S		**Sg**	**11 18 24.6**	**+0.3**	
YOJ	**Yonaguni jima**	**1.29**	**58**	P		**Pg**	**11 18 08.2**	**+0.8**	
	baz=60								
YOJ				S		**Sg**	**11 18 24.3**	**0.0**	
	baz=60								
WTK	**Tuku**	**1.30**	**266**	P		**Pg**	**11 18 07.7**	**+0.1**	
	baz=264								
WTK				S		**Sg**	**11 18 23.8**	**-0.8**	
	baz=264								
SXI1	**Grass Mountain**	**1.31**	**3**	P		**Pg**	**11 18 07.6**	**-0.2**	
	baz=351								
SXI1				*e*S		**Sg**	**11 18 24.3**	**-0.6**	
	baz=351								
TWK	**Hsinying**	**1.31**	**248**	P		**Pg**	**11 18 07.5**	**-0.3**	
	baz=244								
TWK				S		**Sg**	**11 18 24.6**	**-0.4**	
	baz=244								
CHN1	**Nanshi**	**1.31**	**244**	P		**Pg**	**11 18 07.7**	**-0.2**	
	baz=241								
CHN1				S		**Sg**	**11 18 24.2**	**-0.7**	
	baz=241								
NCUH	**Zhongli**	**1.32**	**335**	P		**Pg**	**11 18 07.2**	**-0.7**	
	baz=337								
NCUH				S		**Sg**	**11 18 24.5**	**-0.5**	
	baz=337								
WRL	**Guolierlin Hig**	**1.32**	**276**	*e*P		**Pg**	**11 18 07.0**	**-0.9**	
	baz=274								
WRL				*e*S		**Sn**	**11 18 23.6**	**+0.1**	
	baz=274								
SGST	**Jiashian**	**1.32**	**239**	P		**Pb**	**11 18 07.1**	**+0.1**	
	baz=235								
SGST				S		**Sg**	**11 18 24.1**	**-1.1**	
	baz=235								
SLGT	**Liugui**	**1.32**	**234**	P		**Pg**	**11 18 08.3**	**+0.4**	
	baz=240								
SLGT				*e*S		**Sg**	**11 18 25.1**	**-0.1**	
	baz=240								
TWS1	**Kuangyinshan**	**1.37**	**345**	P		**Pb**	**11 18 07.8**	**+0.2**	
	baz=348								
TWS1				S		**Sb**	**11 18 25.3**	**+0.4**	
	baz=348								
YM01	**YM01**	**1.38**	**351**	*e*S		**Sn**	**11 18 24.6**	**-0.6**	
	baz=353								
WTCT	**Ta-ch'eng**	**1.40**	**274**	P		**Pb**	**11 18 08.2**	**-0.1**	
	baz=272								
WTCT				S		**Sg**	**11 18 27.0**	**-0.8**	
	baz=272								
YM08	**YM08**	**1.42**	**352**	P		**Pn**	**11 18 07.8**	**+0.1**	
	baz=342								
YM08				*e*S		**Sb**	**11 18 26.5**	**0.0**	
	baz=342								
ICHU	**Yijhu**	**1.46**	**254**	P		**Pb**	**11 18 08.7**	**-0.6**	
	baz=251								
ICHU				S		**Sb**	**11 18 27.8**	**+0.1**	
	baz=251								
SCST	**Cishan**	**1.50**	**234**	P		**Pg**	**11 18 11.3**	**-0.1**	
	baz=242								
SCST				S		**Sg**	**11 18 30.8**	**-0.1**	
	baz=242								
TSMG	**Majia**	**1.51**	**225**	P		**Pg**	**11 18 11.1**	**-0.4**	
	baz=222								
TSMG				S		**Sg**	**11 18 30.1**	**-1.1**	
	baz=222								
MASBT	**Mashibuluo**	**1.59**	**223**	*e*P		**Pb**	**11 18 10.9**	**-0.6**	
	baz=220								
MASBT				*e*S		**Sb**	**11 18 30.9**	**-0.3**	
	baz=220								
EAST	**Anshuo**	**1.65**	**213**	P		**Pb**	**11 18 11.7**	**-0.7**	
	baz=210								
EAST				*e*S		**Sn**	**11 18 31.8**	**+0.2**	
	baz=210								
TAWH	**Dawu Township**	**1.66**	**211**	*e*P		**Pb**	**11 18 12.2**	**-0.6**	
	baz=208								
TAWH				S		**Sn**	**11 18 31.4**	**-0.6**	
	baz=208								
SSPT	**Xinbi**	**1.72**	**222**	*e*P		**Pg**	**11 18 14.9**	**-0.6**	
	baz=219								
SSPT				*e*S		**Sg**	**11 18 36.9**	**-1.1**	
	baz=219								
LAY	**Lan-yu**	**1.75**	**188**	P		**Pn**	**11 18 12.1**	**0.0**	
	baz=187								
LYUB	**Lan-yu**	**1.78**	**187**	*e*P		**Pn**	**11 18 11.0**	**-1.5**	
	baz=179								
LYUB				*e*S		**Sn**	**11 18 32.3**	**-2.5**	
	baz=179								
SLIU	**Shizi**	**1.81**	**211**	P		**Pb**	**11 18 14.2**	**-1.0**	
	baz=209								
SLIU				*e*S		**Sn**	**11 18 34.9**	**-0.7**	
	baz=209								
IRIF	**Iriomote-Funau**	**1.84**	**72**	P		**Pb**	**11 18 15.5**	**-0.3**	
IRIF				S		**Sb**	**11 18 38.3**	**-0.3**	
HATJ	**Hateruma jima**	**1.85**	**81**	P		**Pb**	**11 18 15.5**	**-0.4**	
HATJ				*e*S		**Sn**	**11 18 38.4**	**+1.8**	
WDGT	**Dungji**	**2.04**	**256**	*i* P		**Pn**	**11 18 16.6**	**+0.4**	
	baz=243								
WDGT				*e*S		**Sn**	**11 18 39.6**	**-1.6**	
	baz=243								
TWKBT	**Hengchun**	**2.04**	**207**	P		**Pn**	**11 18 16.8**	**+0.6**	
	baz=195								
TWKBT				S		**Sn**	**11 18 41.7**	**+0.3**	
	baz=195								
TWK1	**Hengchun**	**2.05**	**207**	P		**Pn**	**11 18 17.0**	**+0.7**	
	baz=195								
TWK1				S		**Sn**	**11 18 41.6**	**+0.1**	
	baz=195								
JKRS	**Kuro-shima**	**2.06**	**77**	P		**Pb**	**11 18 18.5**	**-1.1**	
JKRS				*e*S		**Sn**	**11 18 44.0**	**+2.1**	
PHUB	**P'eng-hu**	**2.07**	**263**	P		**Pn**	**11 18 16.5**	**-0.1**	
	baz=248								
PHUB				*e*S		**Sn**	**11 18 40.1**	**-1.9**	
	baz=248								
PNG	**Penghu**	**2.08**	**265**	P		**Pn**	**11 18 16.6**	**0.0**	
	baz=262								
PNG				*e*S		**Sn**	**11 18 40.4**	**-1.8**	
	baz=262								
JIJ	**Ishigaki jima**	**2.21**	**74**	P		**Pn**	**11 18 20.1**	**+1.6**	
JIJ				*e*S		**Sn**	**11 18 45.7**	**+0.1**	
VCHM	**Qimei**	**2.26**	**256**	P		**Pn**	**11 18 19.1**	**0.0**	
	baz=253								
VCHM				*e*S		**Sn**	**11 18 44.7**	**-2.0**	
	baz=253								
JISG	**Ishigakijimahi**	**2.42**	**70**	P		**Pn**	**11 18 22.9**	**+1.5**	
JISG				S		**Sn**	**11 18 50.9**	**+0.1**	
VWUC	**VWUC**	**2.47**	**300**	*e*P		**Pn**	**11 18 21.0**	**-1.0**	
	baz=299								
VWUC				*e*S		**Sn**	**11 18 47.8**	**-4.1**	
	baz=299								
JTJ	**Tarama**	**2.78**	**71**	*e*S		**Sn**	**11 19 00.8**	**+1.3**	
MATB	**Ma-tsu**	**2.91**	**325**	*e*P		**Pn**	**11 18 27.0**	**-1.1**	
	baz=314								
KNM	**Kinmen**	**3.15**	**282**	*e*P		**Pn**	**11 18 32.4**	**+0.9**	
	baz=281								
KNMB	**Chin-men Tao**	**3.20**	**283**	*e*P		**Pn**	**11 18 31.1**	**-1.0**	
	baz=282								
LYJJ	**Jianjiangzhen**	**3.33**	**327**	*e*P		**Pn**	**11 18 32.9**	**-1.0**	
	baz=326								
MHZQ	**Yeshan**	**3.42**	**313**	*e*P		**Pn**	**11 18 33.7**	**-1.5**	
	baz=312								
XPSS	**Dashiqiu**	**3.46**	**335**	*e*P		**Pn**	**11 18 34.8**	**-1.0**	
	baz=345								
AXDP	**Jialang**	**3.68**	**289**	*e*P		**Pn**	**11 18 37.8**	**-0.9**	
	baz=287								
ZPLA	**Ao Xicun**	**3.72**	**273**	*e*P		**Pn**	**11 18 38.6**	**-0.7**	
	baz=282								
SXFK	**Yanhouchang**	**4.59**	**306**	*e*P		**Pn**	**11 18 50.8**	**-0.5**	
	baz=305								

IDC 15 11:33:24.0±3.5, 27.78S×66.08E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.2/38, mbtmp3.8/2, Error ellipse: s-maj=101.7km s-min=54.3km az=53.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**55.91**	**38**	P	P	11 43 03.8	-0.1
	0.4nm,0.3s,baz=221,slow=7.2,SNR=5.6						
ASAR	**Alice Springs**	**60.55**	**103**	P	P	11 43 36.5	0.0
	0.6nm,0.8s,baz=247,slow=6.4,SNR=7.3						
YKA	**Yellowknife Ar**	**145.28**	**1**	PKPbc	PKPbc	11 53 01.9	-0.8
	0.2nm,0.7s,baz=354,slow=3.7,SNR=4.9						

*UPA **15** 11:33:45.1±1.5, 8.96N×82.86W, h8km±5km, MW4.0*
*UCR **15** 11:33:45.6±1.6, 8.98N×82.91W, h19km±4km, MW3.9*
*INET **15** 11:33:46.0±1.5, 8.95N×83.01W, h15km±15km, MW3.1*

ISC 15 11:33:44.8±0.9, 8.99N±0.03×82.89W±0.02, h17km±8km, n40, σ0°82/63, 10C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDSV	**San Vito**	**0.18**	**206**	*e*P	**Pb**	**11 33 50.8**	**+0.9**
EDSV				*e*S	**Sb**	**11 33 55.5**	**+2.3**
MLIR3	**Monte Lirio, C**	**0.20**	**161**	*i* P	**Pb**	**11 33 51.0**	**+0.8**
BRU2	**Volcan**	**0.28**	**134**	*i* P	**Pb**	**11 33 51.6**	**+0.2**
BRU2				*e*S	**Sb**	**11 33 56.5**	**+0.6**
BC3P	**Paso Ancho**	**0.33**	**121**	*i* P	**Pg**	**11 33 52.1**	**+0.3**
BC3P				*e*S	**Sb**	**11 33 57.2**	**-0.1**
CDITO	**Canoas**	**0.41**	**177**	*e*P	**Pb**	**11 33 53.5**	**-0.1**
CDITO				*e*S	**Sb**	**11 33 58.9**	**-0.7**
EDBA	**Buenos Aires**	**0.42**	**295**	*e*P	**Pb**	**11 33 54.7**	**+0.9**
EDBA				*e*S	**Sb**	**11 34 01.9**	**+2.0**
DRK0	**Durika**	**0.45**	**308**	*e*P	**Pg**	**11 33 54.0**	**0.0**
DRK0				*e*S	**Sg**	**11 34 00.7**	**+0.6**
LNBQ3	**Los Naranjos,**	**0.48**	**113**	*i* P	**Pg**	**11 33 54.5**	**-0.2**
LNBQ3				*e*S	**Sg**	**11 34 01.6**	**+0.3**
EDPN	**Palmar Norte**	**0.56**	**268**	*e*P	**Pb**	**11 33 56.2**	**+0.1**
EDPN				*e*S	**Sb**	**11 34 04.8**	**+1.0**
LESP3	**La Esperanza,**	**0.58**	**170**	*e*P	**Pg**	**11 33 56.2**	**-0.2**
LESP3				*e*S	**Sb**	**11 34 05.4**	**+0.8**
CNI2	**El Empalme, Bo**	**0.60**	**44**	*i* P	**Pg**	**11 33 56.2**	**-0.5**
CNI2				*e*S	**Sg**	**11 34 05.0**	**+0.2**
RIOS	**Rincon, Osa**	**0.68**	**245**	*e*P	**Pg**	**11 33 57.0**	**-1.2**
DVD	**David**	**0.70**	**141**	*e*P	**Pg**	**11 33 58.2**	**-0.4**
DVD				*i* S	**Sb**	**11 34 08.1**	**+0.2**
PIRO	**Carate, Puerto**	**0.73**	**217**	*e*P	**Pg**	**11 33 58.2**	**-0.9**
PIRO	**Carate, Puerto**	**0.73**	**217**	*e*P	**Pg**	**11 33 58.2**	**-0.9**
PIRO				*e*S	**Sn**	**11 34 09.6**	**-1.4**
PIRO	**Carate, Puerto**	**0.73**	**217**	*e*P	**Pg**	**11 33 58.1**	**-1.0**
CHGR2	**Aguacate**	**0.74**	**94**	*e*P	**Pg**	**11 33 58.1**	**-1.2**
CHGR2				*e*S	**Sg**	**11 34 08.0**	**-1.2**

HDC				*i* S		**Sg**	**11 34 35.3**	**-0.3**
JACO	**JACO, Garabito**	**1.87**	**291**⇑	*e*P		**Pn**	**11 34 16.6**	**+0.5**
JACO				*e*S		**Sn**	**11 34 40.1**	**+0.9**
GMAL	**Guarumal, Vera**	**2.04**	**126**	*e*P		**Pn**	**11 34 18.3**	**-0.1**
GMAL				*e*S		**Sn**	**11 34 43.1**	**-0.4**
LAFE	**Finca La Fe, P**	**2.15**	**292**	*e*P		**Pn**	**11 34 20.7**	**+0.8**
LAFE	**Finca La Fe, P**	**2.15**	**292**	*e*P		**Pn**	**11 34 20.6**	**+0.6**
ARE1	**Arenal 1**	**2.32**	**309**	*e*P		**Pn**	**11 34 22.9**	**+0.6**
JTS	**Las Juntas de**	**2.41**	**303**	*e*P		**Pn**	**11 34 25.0**	**+1.5**
JTS	**Las Juntas de**	**2.41**	**303**	*e*P		**Pn**	**11 34 25.2**	**+1.7**
JTS				*e*S		**Sb**	**11 34 56.3**	**-0.9**
BCIP	**Isla Barro Col**	**3.02**	**86**	*e*P		**Pn**	**11 34 33.1**	**+1.3**
ACON	**Acoyapa**	**3.72**	**323**	*e*P		**Pn**	**11 34 42.1**	**+0.6**

*SJA **15** 11:44:37.8±0.5, 30°05'S×72°52'W, h9km, ML4.0, MW3.9*
*IDC **15** 11:44:41.8±1.5, 30°30'S×71°92'W, h0km, mb4.0/3, mb1 4.0/6, mb1mx3.8/30, mbtmp3.9/6, ML3.8/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/52, Error ellipse: s-maj=46.9km s-min=33.3km az=85.0*
*GUC **15** 11:44:42.8±0.8, 30°24'S×72°21'W, h30km±6km, ML4.0*
*NEIC **15** 11:44:44.7±1.5, 30°18'S±0°01'×72°0'W±0°1, h22km±7km, mb4.5/3, ML4.0(GUC), Error ellipse: s-maj=14.3km s-min=1.5km az=92.0*

ISC 15 11:44:40.6±1.7, 30°23'S±0°03'×72°27'W±0°06, h1km±10km, n58, σ1°86/67, mb4.5/5, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.71**	**129**			**Pg**	**11 44 55.2**	**+1.0**
CO06	**Fray Jorge**	**0.71**	**129**	*e*P		**Pg**	**11 44 55.3**	**+1.1**
CO06				*i* S		**Sg**	**11 45 04.2**	**+0.8**
CO05	**La Serena**	**0.95**	**71**			**Pg**	**11 44 58.5**	**-0.2**
CO05	**La Serena**	**0.95**	**71**	⇓*i*P		**Pg**	**11 44 58.6**	**-0.2**
CO05				*i* S		**Sg**	**11 45 10.9**	**-0.1**
CO05				IAML			11 45 15.1	
	comp=E,5μm,0.6s							
GO04	**Tololo Observa**	**1.28**	**88**			**Pn**	**11 45 03.9**	**-1.9**
GO04	**Tololo Observa**	**1.28**	**88**	⇓*i*P		**Pn**	**11 45 04.0**	**-1.9**
GO04	**Tololo Observa**	**1.28**	**88**	*e*P		**Pn**	**11 45 05.0**	**-0.7**
CO02	**Combarbal**	**1.47**	**132**			**Pn**	**11 45 08.1**	**-0.2**
CO02	**Combarbal**	**1.47**	**132**	⇓*i*P		**Pn**	**11 45 07.6**	**-0.6**
CO02				*i* S		**Sn**	**11 45 26.3**	**-1.9**
CO02				IAML			11 45 29.6	
	comp=N,6μm,0.5s							
CO03	**El Pedregal**	**1.50**	**114**			**Pn**	**11 45 07.5**	**-1.1**
CO03	**El Pedregal**	**1.50**	**114**	*e*P		**Pn**	**11 45 07.6**	**-1.1**
CO03				*i* S		**Sn**	**11 45 27.0**	**-1.9**
CO03				IAML			11 45 29.6	
	comp=E,2μm,0.5s							
LCO	**Las Campanas**	**1.83**	**49**			**Pn**	**11 45 12.4**	**-0.9**
LCO	**Las Campanas**	**1.83**	**49**	*e*P		**Pn**	**11 45 12.0**	**-1.4**
LCO				*i* S		**Sn**	**11 45 37.3**	**-0.1**
AC04	**Llanos de Chal**	**2.27**	**28**	Pn		**Pn**	**11 45 18.0**	**-1.3**
AC04	**Llanos de Chal**	**2.27**	**28**	*i* P		**Pn**	**11 45 17.7**	**-1.5**
AROD	**Rodeo**	**2.42**	**89**	*e*P		**Pn**	**11 45 23.7**	**+2.1**
AROD				*e*S		**Sb**	**11 45 58.0**	**+2.2**
VA06	**Catapilco**	**2.47**	**161**	Pn		**Pn**	**11 45 22.4**	**+0.4**
ACDV	**Cuesta del Vie**	**2.73**	**90**	*e*P		**Pn**	**11 45 27.9**	**+2.2**
ACDV				*e*S		**Sb**	**11 46 06.3**	**+2.0**
ACDV				IAML			11 46 09.8	
	comp=Z,393nm,0.6s							
ACCO	**Cerro Coronel**	**2.79**	**98**	*e*P		**Pn**	**11 45 29.6**	**+2.9**
ACCO				*e*S		**Sb**	**11 46 06.6**	**+0.2**
VA01	**Torpederas**	**2.84**	**169**			**Pn**	**11 45 28.1**	**+1.1**
VA01	**Torpederas**	**2.84**	**169**	IAML			11 46 24.3	
	comp=N,291nm,0.8s							
VA03	**San Esteban**	**2.93**	**150**			**Pn**	**11 45 29.6**	**+1.2**
VA03	**San Esteban**	**2.93**	**150**	*e*P		**Pn**	**11 45 29.3**	**+1.0**
VA03				*i* S		**Sn**	**11 46 03.6**	**-0.6**
VA03				IAML			11 46 24.6	
	comp=N,580nm,0.8s							
ROCH	**El Roble**	**2.94**	**159**	*e*P		Pb	11 45 29.3	-4.6
ROCH				*e*P		**Pn**	**11 45 27.5**	**-1.2**
ROCH				*i* S		**Sn**	**11 46 00.6**	**-4.1**
ROCH				*i* S		**Sb**	**11 46 03.7**	**-6.8**
ROCH				IAML			11 46 19.4	
	comp=E,387nm,0.5s							
ROCH				IAML			11 46 21.5	
	comp=N,646nm,0.5s							
RTLS	**Leoncito**	**3.00**	**122**	*e*P		**Pb**	**11 45 33.0**	**-2.0**
RTLS				*e*S		**Sb**	**11 46 09.1**	**-3.1**
RTLS				IAML			11 46 20.7	
	comp=Z,379nm,0.8s							
MT02	**Curacav**	**3.17**	**163**			**Pn**	**11 45 33.5**	**+1.9**
GO03	**Copiap**	**3.17**	**35**			**Pn**	**11 45 30.6**	**-1.2**
PEL	**Peldehue**	**3.21**	**155**			**Pn**	**11 45 32.9**	**+0.7**
AC06	**Mina Casimiro**	**3.32**	**31**			**Pn**	**11 45 32.5**	**-1.2**
ZON	**Zonda**	**3.36**	**114**			**Pn**	**11 45 32.5**	**-1.8**
VA05	**Santo Domingo**	**3.46**	**171**			**Pn**	**11 45 36.3**	**+0.7**
MT03	**Universidad Ád**	**3.59**	**156**			**Pn**	**11 45 38.8**	**+1.4**
MT09	**Talagante**	**3.70**	**163**	*i* P		**Pn**	**11 45 40.4**	**+1.3**
MT09				*i* S		**Sn**	**11 46 22.5**	**-1.0**
MT09				IAML			11 46 49.5	
	comp=N,224nm,0.5s							
VCA	**Vinchina**	**3.84**	**68**	*e*P		**Pn**	**11 45 42.5**	**+1.5**
VCA				*e*S		**Sg**	**11 46 43.1**	**-1.0**
VCA				IAML			11 46 49.4	
	comp=Z,298nm,0.9s							
ARCO	**CERRO ARCO**	**3.86**	**133**	*e*P		**Pn**	**11 45 44.5**	**+3.2**
ARCO				*e*S		**Sb**	**11 46 36.6**	**-0.4**
ARCO				IAML			11 46 51.0	
	comp=Z,170nm,0.8s							
BO04	**La Punta**	**4.01**	**160**			**Pn**	**11 45 44.6**	**+1.4**
LMEL	**Las Melosas**	**4.01**	**155**			**Pn**	**11 45 44.6**	**+1.2**
AVFE	**Valle Fertil**	**4.18**	**97**	*e*P		**Pn**	**11 45 48.4**	**+2.8**
AVFE				*e*S		**Sb**	**11 46 41.6**	**-4.5**
AVFE				IAML			11 46 57.5	
	comp=Z,147nm,0.8s							
AC02	**Maricunga**	**4.37**	**40**	Pn		**Pn**	**11 45 46.7**	**-1.8**
PB14	**IPOC Station P**	**5.82**	**17**			**Pn**	**11 46 08.7**	**+0.3**
H03N1	**Juan Fernandez**	**6.49**	**239**	T		T	11 53 31.0	
	baz=70,slow=72,SNR=222							
H03N2	**Juan Fernandez**	**6.51**	**239**	T		T	11 53 28.8	
	baz=70,slow=72,SNR=153							
H03N3	**Juan Fernandez**	**6.51**	**239**	T		T	11 53 35.5	
	baz=70,slow=72,SNR=178							
LVC	**Limon Verde**	**8.16**	**22**	LR		LR	11 49 50.8	
	comp=Z,166nm,19.9s,baz=198,slow=38							
LVC	**Limon Verde**	**8.16**	**22**	Pn		**Pn**	**11 46 39.8**	**-0.8**
PB09	**IPOC Station P**	**8.83**	**19**	Pn		**Pn**	**11 46 50.1**	**+0.6**
PLCA	**Paso Flores**	**10.58**	**173**	Pn		**Pn**	**11 47 14.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=339,slow=12,SNR=7.1							
CPUP	**Villa Florida**	**13.73**	**77**	LR		LR	11 53 30.1	
	comp=Z,128nm,19.2s,baz=236,slow=39							
LPAZ	**La Paz**	**14.38**	**16**	Pn		**Pn**	**11 48 07.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=0.8,SNR=7.0							
LPAZ				LR		LR	11 54 41.5	
	comp=E,60nm,20.0s,baz=128,slow=42							
SIV	**San Ignacio**	**17.50**	**38**	Pn		**Pn**	**11 48 46.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=225,slow=13,SNR=13							
RPN	**Rapa Nui**	**32.57**	**266**	LR		LR	11 59 47.6	
	comp=Z,43nm,21.3s,baz=76,slow=28							
SNAA	**Sanae**	**55.16**	**159**	P		**P**	**11 54 14.9**	**+0.5**
SNAA				IAmb		IAmb	11 54 31.1	
	comp=Z,14nm,1.2s							
TXAR	**Lajitas Array**	**66.36**	**330**	P		**P**	**11 55 34.1**	**+2.9**
	comp=Z,0.2nm,0.8s,baz=155,slow=8.8,SNR=1.8							
VNDA	**Vanda**	**67.75**	**191**	P		**P**	**11 55 40.8**	**+1.4**
VNDA				IAmb		IAmb	11 56 07.0	
	comp=Z,3.9nm,1.2s							
DBIC	**Dimbokro**	**74.19**	**72**	P		**P**	**11 56 19.0**	**-0.4**
	comp=Z,4.4nm,0.9s,baz=242,slow=6.4,SNR=4.1							
DBIC	**Dimbokro**	**74.19**	**72**	P		**P**	**11 56 17.5**	**-1.9**
DBIC				IAmb		IAmb	11 56 20.3	
	comp=Z,4.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.13**	**71**	P		**P**	**11 57 08.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=258,slow=3.8,SNR=10							
ZALV	**Zalesovo Beam**	**151.08**	**28**	PKPbc		**PKiKP**	**12 04 35.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=293,slow=3.7,SNR=8.3							

*IDC **15** 12:00:03.3±12.0, 21°78S×177°02W, h234km±85km, mb3.3/4, mb1 3.4/5, mb1mx3.2/24, mbtmp3.8/5, Error ellipse: s-maj=143.8km s-min=27.2km az=135.0*

ISC 15 12:00:01.3±1.6, 21°9S±0°2×176°9W±0°2, h223km, n7, σ0°47/8, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.32**	**310**	P		**Pn**	**12 01 33.3**	**+0.2**
	0.2nm,0.3s,baz=137,slow=18,SNR=2.2							

STKA	**Stephens Creek**	**38.17**	**246**	P		**P**	**12 06 59.5**	**0.0**
	1.5nm,0.6s,baz=90,slow=7.5,SNR=5.5								
ASAR	**Alice Springs**	**45.25**	**258**	P		**P**	**12 07 56.9**	**-0.1**
	1.6nm,0.7s,baz=94,slow=8.5,SNR=23								
ASAR				PcP		**PcP**	**12 09 33.5**	**+0.6**
	0.2nm,0.4s,baz=116,slow=4.1,SNR=4.6								
WRA	**Warramunga Arr**	**45.47**	**263**	P		**P**	**12 07 58.1**	**-0.5**
	0.6nm,0.4s,baz=95,slow=8.2,SNR=34								
ILAR	**Eielson Array**	**89.43**	**12**	P		**P**	**12 12 32.1**	**-0.2**
	0.2nm,0.5s,baz=218,slow=5.3,SNR=4.8								
AKASG	**Malin Array Be**	**144.73**	**331**	PKP		**PKPab**	**12 19 10.3**	**-0.4**
	0.5nm,0.5s,baz=40,slow=4.5,SNR=4.8								
BRTR	**Keskin Array B**	**148.55**	**311**	PKPbc		**PKPbc**	**12 19 22.7**	**+0.5**
	0.8nm,0.4s,baz=120,slow=3.9,SNR=1.7								

IDC 15 12:16:41.5±6.5, 19°65S×176°24W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/39, mbtmp4.1/2, Error ellipse: s-maj=285.0km s-min=102.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.33**	**256**	P		P	12 25 09.4	-0.2
	1.7nm,0.5s,baz=93,slow=8.1,SNR=69								
WRA	**Warramunga Arr**	**46.36**	**261**	P		P	12 25 09.8	-0.1
	1.0nm,0.3s,baz=97,slow=7.6,SNR=84								
AKASG	**Malin Array Be**	**143.04**	**333**	PKP		PKPdf	12 36 16.6	-0.6
	0.2nm,0.3s,baz=35,slow=4.0,SNR=4.3								

*IDC **15** 12:16:53.2±1.1, 22°66N×12°41W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/57, mbtmp3.6/7, ML3.9/2, Error ellipse: s-maj=39.7km s-min=29.5km az=92.0*

ISC 15 12:16:54.8±1.0, 22°6N±0°1×12°4W±0°2, h10km, n9, σ0°15/9, mb3.6/5, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.38**	**123**	Pn		**Pn**	**12 20 44.9**	**0.0**
	0.2nm,0.3s,baz=309,slow=12,SNR=6.3								
DBIC	**Dimbokro**	**17.46**	**154**	P		**Pn**	**12 20 58.6**	**0.0**
	0.9nm,0.3s,baz=358,slow=8.1,SNR=9.5								
GERES	**GERESS Array B**	**33.33**	**32**	P		**P**	**12 23 32.7**	**-0.2**
	0.4nm,0.5s,baz=215,slow=12,SNR=2.4								
KURBB	**Kurchatov Arra**	**73.39**	**42**	P		**P**	**12 28 27.1**	**+0.1**
	0.3nm,0.4s,baz=281,slow=6.2,SNR=2.7								
YKA	**Yellowknife Ar**	**75.63**	**332**	P		**P**	**12 28 39.9**	**+0.1**
	0.1nm,0.6s,baz=62,slow=7.1,SNR=2.0								
MKAR	**Makanchi Array**	**76.91**	**45**	P		**P**	**12 28 47.6**	**+0.2**
	0.2nm,0.5s,baz=284,slow=6.9,SNR=2.2								
PLCA	**Paso Flores**	**83.03**	**221**	P		**P**	**12 29 20.4**	**-0.1**
	1.7nm,0.8s,baz=27,slow=6.8,SNR=3.7								
WRA	**Warramunga Arr**	**148.91**	**91**	PKPbc		**PKPbc**	**12 36 43.5**	**-0.1**
	1.1nm,0.8s,baz=342,slow=0.6,SNR=2.3								
ASAR	**Alice Springs**	**149.02**	**99**	PKPbc		**PKPbc**	**12 36 43.9**	**+0.1**
	0.4nm,0.6s,baz=282,slow=2.1,SNR=8.3								

*NEIC **15** 12:18:49.9±2.5, 23°30S±0°07×67°8W±0°1, h157km±10km, Error ellipse: s-maj=14.6km s-min=9.4km az=99.0*
*IDC **15** 12:18:49.8±1.1, 23°26S×67°64W, h145km±12km, mb3.7/2, mb1 3.7/7, mb1mx3.4/39, mbtmp4.0/7, Error ellipse: s-maj=21.0km s-min=20.1km az=112.0*
*GUC **15** 12:18:50.2±0.6, 23°24S×67°90W, h170km±4km, ML4.3*

ISC 15 12:18:49.9±0.7, 23°27S±0°04×67°88W±0°05, h162km±7km, n54, σ1°20/72, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.15**	**304**	P		**Pn**	**12 19 18.3**	**+0.7**
	45nm,0.3s,baz=132,slow=6.2,SNR=768								
LVC				S		**Sn**	**12 19 38.8**	**0.0**
	207nm,0.3s,baz=330,slow=20,SNR=15								
LVC	**Limon Verde**	**1.15**	**304**	Pn		**Pn**	**12 19 18.1**	**+0.5**
LVC	**Limon Verde**	**1.15**	**304**	*e*P		**Pn**	**12 19 17.7**	**+0.1**
LVC				*e*S		**Sn**	**12 19 38.6**	**-0.1**
PB15	**IPOC Station P**	**1.46**	**272**			**Pn**	**12 19 20.8**	**+0.5**
PB15				Sn		**Sn**	**12 19 44.4**	**+0.8**
PB15	**IPOC Station P**	**1.46**	**272**	⇑*i*P		**Pn**	**12 19 21.1**	**+0.8**
PB15				*e*S		**Sn**	**12 19 44.2**	**+0.6**
PB06	**IPOC Station P**	**1.66**	**289**			**Pn**	**12 19 22.4**	**+0.1**
PB06				Sn		**Sn**	**12 19 47.1**	**+0.1**
PB06	**IPOC Station P**	**1.66**	**289**	⇑*i*P		**Pn**	**12 19 23.0**	**+0.8**
PB06				*i* S		**Sn**	**12 19 47.1**	**+0.1**
PB06				IAML			12 19 50.0	
	comp=N,3μm,0.3s							
PB09	**IPOC Station P**	**1.93**	**319**			**Pn**	**12 19 26.2**	**+1.0**
PB09				Sn		**Sn**	**12 19 53.6**	**+1.1**
PB09	**IPOC Station P**	**1.93**	**319**	⇑*i*P		**Pn**	**12 19 26.3**	**+1.5**
PB09				*i* S		**Sn**	**12 19 52.8**	**+0.4**
PB04	**IPOC Station P**	**2.29**	**294**			**Pn**	**12 19 29.9**	**+0.5**
PB04	**IPOC Station P**	**2.29**	**294**	⇑*i*P		**Pn**	**12 19 29.9**	**+0.5**
PB04				*i* S		**Sn**	**12 19 59.7**	**-0.1**
PB04				IAML			12 20 05.0	
	comp=E,1μm,0.4s							
PB07	**IPOC Station P**	**2.41**	**309**			**Pn**	**12 19 31.0**	**+0.2**
PB07	**IPOC Station P**	**2.41**	**309**	⇑*i*P		**Pn**	**12 19 31.2**	**+0.5**
PB07				*i* S		**Sn**	**12 20 01.3**	**-1.0**
PB07				IAML			12 20 03.1	
	comp=E,1μm,0.2s							
PB10	**IPOC Station P**	**2.47**	**264**	Pn		**Pn**	**12 19 31.7**	**+0.5**
PB10	**IPOC Station P**	**2.47**	**264**	⇑*i*P		**Pn**	**12 19 31.8**	**+0.5**
PB10				*e*S		**Sn**	**12 20 03.3**	**0.0**
PB10				IAML			12 20 05.1	
	comp=E,466nm,0.2s							
SLA	**San Lorenzo**	**2.61**	**124**	⇑*i*P		**Pn**	**12 19 33.9**	**+0.8**
SLA				*e*S		**Sn**	**12 20 08.0**	**+1.3**
PB01	**IPOC Station P**	**2.67**	**326**			**Pn**	**12 19 33.9**	**+0.1**
PB01	**IPOC Station P**	**2.67**	**326**	⇑*e*P		**Pn**	**12 19 34.0**	**+0.1**
PB01				*e*S		**Sn**	**12 20 07.2**	**-0.6**
PB01				IAML			12 20 08.2	
	comp=E,949nm,0.2s							
PB14	**IPOC Station P**	**2.67**	**239**	Pn		**Pn**	**12 19 33.9**	**-0.2**
PB14	**IPOC Station P**	**2.67**	**239**	⇑*e*P		**Pn**	**12 19 34.0**	**0.0**
PB14				*i* S		**Sn**	**12 20 06.9**	**-1.3**
PB14				IAML			12 20 08.2	
	comp=E,425nm,0.2s							
PB02	**IPOC Station P**	**2.69**	**316**			**Pn**	**12 19 34.2**	**+0.1**
PB02	**IPOC Station P**	**2.69**	**316**	⇑*i*P		**Pn**	**12 19 34.2**	**+0.1**
PB02				*i* S		**Sn**	**12 20 06.8**	**-1.5**
PB02				IAML			12 20 13.7	
	comp=E,1μm,0.3s							
PB08	**IPOC Station P**	**3.33**	**339**			**Pn**	**12 19 41.0**	**-1.4**
PB08	**IPOC Station P**	**3.33**	**339**	*i* P		**Pn**	**12 19 43.1**	**+0.8**
PB08				*i* S		**Sn**	**12 20 23.2**	**+0.2**
PB08				IAML			12 20 25.6	
	comp=E,296nm,0.3s							
TA01	**Diego Aracena**	**3.43**	**321**	Pn		**Pn**	**12 19 43.2**	**-0.1**
TA01	**Diego Aracena**	**3.43**	**321**	*e*P		**Pn**	**12 19 43.0**	**-0.3**
TA01				*e*S		**Sn**	**12 20 22.2**	**-2.5**
TA01				IAML			12 20 26.5	
	comp=E,364nm,0.2s							
TA02	**Huaiquique**	**3.64**	**325**	Pn		**Pn**	**12 19 44.3**	**-1.6**
AC02	**Maricunga**	**3.73**	**197**	Pn		**Pn**	**12 19 47.4**	**-0.1**
AC01	**Pan de Azucar**	**3.78**	**220**			**Pn**	**12 19 46.5**	**-1.2**
GO01	**Chusmiza**	**3.79**	**341**			**Pn**	**12 19 48.3**	**+0.1**
GO01	**Chusmiza**	**3.79**	**341**	*e*P		**Pn**	**12 19 48.2**	**-0.1**
GO01				*e*S		**Sn**	**12 20 33.6**	**0.0**
GO01				IAML			12 20 37.6	
	comp=E,438nm,0.2s							
PB11	**IPOC Station P**	**3.86**	**334**			**Pn**	**12 19 48.1**	**-0.8**
AC06	**Mina Casimiro**	**4.64**	**208**	Pn		**Pn**	**12 19 56.8**	**-2.2**
GO03	**Copiap**	**4.80**	**206**	Pn		**Pn**	**12 19 59.5**	**-1.5**
PB16	**IPOC Station P**	**5.14**	**342**	Pn		**Pn**	**12 20 05.7**	**-0.3**
PB12	**IPOC Station P**	**5.17**	**333**	Pn		**Pn**	**12 20 04.9**	**-1.0**
AP01	**Chacalluta**	**5.39**	**334**	Pn		**Pn**	**12 20 05.0**	**-3.7**
AC04	**Llanos de Chal**	**5.70**	**210**	Pn		**Pn**	**12 20 09.5**	**-3.2**
LCO	**Las Campanas**	**6.25**	**203**	Pn		**Pn**	**12 20 17.4**	**-3.0**
LPAZ	**La Paz**	**6.95**	**358**	P		**Pn**	**12 20 30.2**	**+0.3**
	comp=E,1.5nm,0.3s,baz=177,slow=7.5,SNR=18								
LPAZ				S		**Sn**	**12 21 49.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=319,slow=15,SNR=4.3								
LPAZ	**La Paz**	**6.95**	**358**	Pn		**Pn**	**12 20 29.1**	**-0.9**
CO06	**Fray Jorge**	**8.10**	**204**	Pn		Pn	12 20 39.9	-4.7
SIV	**San Ignacio**	**9.67**	**43**	P		**Pn**	**12 21 03.1**	**-2.5**
	comp=E,2.1nm,0.3s,baz=242,slow=8.8,SNR=16								
SIV				S		Sn	12 22 39.7	-13
	comp=E,0.7nm,0.3s,baz=277,slow=12,SNR=7.0								
CPUP	**Villa Florida**	**10.06**	**110**	P		**Pn**	**12 21 07.5**	**-3.0**
	comp=E,0.2nm,0.3s,baz=264,slow=6.2,SNR=2.9								
CPUP	**Villa Florida**	**10.06**	**110**	Pn		**Pn**	**12 21 09.9**	**-0.6**
PLCA	**Paso Flores**	**17.56**	**187**	P		**Pn**	**12 22 45.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=357,slow=10,SNR=8.0								

PLCA	**Paso Flores**	**17.56**	**187**	P		**Pn**	**12 22 45.0**	**+0.2**
PLCA				IAmb		IAmb	12 22 46.1		
	comp=Z,1.8nm,0.7s								
LL02	**Futaleuf**	**20.14**	**188**	P		**P**	**12 23 10.4**	**-1.0**
LL02				IAmb		IAmb	12 23 28.1		
	comp=Z,2.2nm,0.9s								
BDFB	**Brasilia**	**20.20**	**72**	P		**P**	**12 23 11.4**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=243,slow=6.8,SNR=3.9								
BDFB	**Brasilia**	**20.20**	**72**	P		**P**	**12 23 11.4**	**-1.0**
BDFB				IAmb		IAmb	12 23 12.6		
	comp=Z,7.4nm,1.1s								
QSPA	**South Pole Qui**	**66.93**	**180**	P		**P**	**12 29 26.5**	**+1.8**
TORD	**Torodi Ar. Bea**	**77.07**	**69**	P		**P**	**12 30 26.4**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=254,slow=5.2,SNR=12								
YKA	**Yellowknife Ar**	**93.17**	**340**	P		**P**	**12 31 47.0**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=135,slow=4.5,SNR=9.2								
MKAR	**Makanchi Array**	**146.47**	**38**	PKPbc		**PKPbc**	**12 38 12.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.1,SNR=2.4								

*NEIC **15** 12:24:57.0±1.3, 21°21S±0°04×68°76W±0°06, h116km±5km, mb4.2/2, ML4.1(GUC), Error ellipse: s-maj=8.1km s-min=5.8km az=111.0*
*GUC **15** 12:24:57.2±0.6, 21°22S×68°65W, h112km±5km, ML4.1*
*IDC **15** 12:25:20.8±1.6, 18°96S×67°56W, h254km±13km, mb3.6/5, mb1 3.7/7, mb1mx3.4/34, mbtmp4.2/7, Error ellipse: s-maj=26.6km s-min=21.4km az=48.0*

ISC 15 12:24:56.3±0.7, 21°24S±0°04×68°67W±0°07, h113km±7km, n52, σ1°22/65, mb4.1/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.77**	**224**			**Pn**	**12 25 16.6**	**+0.8**
PB09				Sn		**Sn**	**12 25 31.7**	**+1.2**
PB09	**IPOC Station P**	**0.77**	**224**	*e*P		**Pn**	**12 25 16.6**	**+0.8**
PB09				*i* S		**Sn**	**12 25 31.8**	**+1.2**
PB09				IAML			12 25 32.5	
	comp=N,9μm,0.3s							
PB01	**IPOC Station P**	**0.79**	**284**			**Pn**	**12 25 15.4**	**-0.5**
PB01				Sn		**Sn**	**12 25 30.6**	**0.0**
PB01	**IPOC Station P**	**0.79**	**284**	*e*P		**Pn**	**12 25 15.7**	**-0.2**
PB01				*i* S		**Sn**	**12 25 30.6**	**0.0**
PB02	**IPOC Station P**	**1.15**	**266**			**Pn**	**12 25 19.1**	**-0.4**
PB02				Sn		**Sn**	**12 25 37.8**	**+0.8**
PB02	**IPOC Station P**	**1.15**	**266**	*e*P		**Pn**	**12 25 19.7**	**+0.2**
PB02				*i* S		**Sn**	**12 25 37.1**	**+0.1**
PB02				IAML			12 25 38.5	
	comp=N,8μm,0.3s							
PB08	**IPOC Station P**	**1.19**	**337**			**Pn**	**12 25 20.5**	**+0.3**
PB08	**IPOC Station P**	**1.19**	**337**	*e*P		**Pn**	**12 25 20.7**	**+0.5**
PB08				*i* S		**Sn**	**12 25 38.6**	**+0.4**
PB08				IAML			12 25 41.0	
	comp=E,2μm,0.5s							
PB07	**IPOC Station P**	**1.24**	**247**			**Pn**	**12 25 20.4**	**-0.1**
PB07				Sn		**Sn**	**12 25 39.4**	**+0.6**
PB07	**IPOC Station P**	**1.24**	**247**	*e*P		**Pn**	**12 25 20.8**	**+0.3**
PB07				*i* S		**Sn**	**12 25 39.4**	**+0.6**
PB07				IAML			12 25 45.2	
	comp=E,5μm,0.5s			

JOSM	**Okushiri--Mats**	**8.65**	**229**	P	**Pn**	**12 34 27.0**	**-0.3**
MJAR	**Matsushiro Arr**	**13.72**	**216**	P	**P**	**12 35 25.8**	**+2.3**
	0.1nm,0.3s,baz=8.9,slow=14,SNR=3.6						
SEY	**Seymchan**	**15.06**	**7**	P	**P**	**12 35 38.6**	**+1.0**
	0.1nm,0.3s,baz=73,slow=19,SNR=1.6						
KSRS	**Korea Array**	**18.29**	**242**	P	**P**	**12 36 14.4**	**+2.0**
	0.2nm,0.3s,baz=41,slow=12,SNR=5.3						
TIXI	**Tiksi**	**25.32**	**346**	P	**P**	**12 37 15.7**	**-1.1**
	1.8nm,0.3s,baz=269,slow=23,SNR=4.5						
SONM	**Songino Array**	**27.81**	**285**	P	**P**	**12 37 39.3**	**-0.1**
	0.3nm,0.6s,baz=71,slow=9.4,SNR=2.7						
SONM				ScP	**ScP**	**12 43 44.1**	**-1.2**
	0.3nm,0.6s,baz=101,slow=1.5,SNR=3.7						
ILAR	**Eielson Array**	**37.58**	**39**	P	**P**	**12 39 02.2**	**-0.3**
	0.5nm,0.6s,baz=261,slow=7.1,SNR=10						
INK	**Inuvik**	**42.29**	**33**	P	**P**	**12 39 40.4**	**-0.2**
	0.4nm,0.7s,baz=272,slow=5.1,SNR=1.8						
MKAR	**Makanchi Array**	**43.41**	**294**	P	**P**	**12 39 49.5**	**-0.4**
	0.5nm,0.5s,baz=72,slow=6.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**43.97**	**301**	P	**P**	**12 39 53.2**	**-1.0**
	0.4nm,0.6s,baz=71,slow=8.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**49.60**	**251**	P	**P**	**12 40 38.1**	**+0.5**
	0.8nm,0.4s,baz=39,slow=7.9,SNR=7.6						
YKA	**Yellowknife Ar**	**51.79**	**36**	P	**P**	**12 40 53.0**	**-0.1**
	0.1nm,0.6s,baz=305,slow=7.5,SNR=2.2						
FINES	**FINESS Array B**	**61.39**	**332**	P	**P**	**12 41 58.5**	**-1.2**
	2.9nm,0.5s,baz=54,slow=9.7,SNR=18						
NVAR	**Mina Array Bea**	**64.67**	**60**	P	**P**	**12 42 23.3**	**+1.6**
	0.2nm,0.5s,baz=292,slow=4.8,SNR=2.4						
NB2	**NORSAR Subarra**	**65.85**	**339**	P	**P**	**12 42 27.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**65.85**	**339**	P	**P**	**12 42 27.6**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=29,slow=6.7,SNR=17						
PDAR	**Pinedale Array**	**66.55**	**52**	P	**P**	**12 42 33.9**	**+0.4**
	comp=Z,0.4nm,1.0s,baz=57,slow=3.3,SNR=3.9						
AKASG	**Malin Array Be**	**68.57**	**323**	P	**P**	**12 42 44.3**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=36,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**68.86**	**194**	P	**P**	**12 42 47.9**	**+0.2**
	comp=Z,1.3nm,1.1s,baz=8.7,slow=6.2,SNR=8.1						
ASAR	**Alice Springs**	**72.58**	**194**	P	**P**	**12 43 11.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=7.5,slow=5.7,SNR=9.0						
GERES	**GERESS Array B**	**75.76**	**331**	P	**P**	**12 43 27.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=12,slow=6.8,SNR=4.4						
TXAR	**Lajitas Array**	**79.62**	**58**	P	**P**	**12 43 50.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=281,slow=3.2,SNR=3.7						

*SOME **15** 12:57:08.0,40°.58N×70°.27E, h10km*
*KRNET **15** 12:57:16.6±0.1, 41°.15N×70°.12E, h12km, mb2.9*
ISC 15 12:57:17.1±0.8**, 41°.09N**±0°.03×**70°.13E**±0°.03**, h10km, n17, σ1§93/33, 18C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.67**	**291**	⇑*iP*		**Pg**		**12 57 29.0**	**-1.0**
	baz=86								
TAS				⇑*iS*		**Sg**		**12 57 38.0**	**-0.8**
	baz=86								
TRKS	**Terek-Say**	**0.88**	**60**	⇑*iP*		**Pg**		**12 57 32.7**	**-1.4**
	baz=68								
TRKS				⇑*iS*		**Sg**		**12 57 44.5**	**-1.1**
	baz=68								
IUG	**luzhnay**	**1.06**	**356**	*eP*		**Pn**		**12 57 37.0**	**-1.1**
	448nm,0.3s								
IUG				*eS*		**Sn**		**12 57 59.4**	**+6.4**
	101nm,0.3s								
BTK	**Batken**	**1.16**	**153**	⇓*iP*		**Pn**		**12 57 39.8**	**+0.4**
	baz=54								
BTK				⇓*iS*		**Sn**		**12 57 56.4**	**+1.0**
	baz=54								
ARK	**Arkit**	**1.55**	**62**	⇑*iP*		**Pb**		**12 57 45.0**	**-1.0**
	baz=64								
ARK				⇑*iS*		**Sg**		**12 58 05.9**	**-1.1**
	baz=64								
BRLS	**Borolday**	**1.95**	**354**	*eP*		**Pn**		**12 57 48.7**	**-1.6**
	1.3nm,0.4s								
BRLS				*eS*		**Sg**		**12 58 18.9**	**-0.9**
	3.3nm,0.3s								
KK09	**Karatay Array**	**2.05**	**8**	⇓Pn		**Pg**		**12 57 54.9**	**-1.5**
	6.4nm,0.5s,baz=182,slow=14								
KK09				⇓Sn		**Sg**		**12 58 24.0**	**+1.0**
	9.0nm,0.7s,baz=185,slow=26								
DRK	**Karamyk**	**2.06**	**141**	⇑*iP*		**Pb**		**12 57 54.7**	**0.0**
	baz=42								
DRK				⇑*iS*		**Sg**		**12 58 22.3**	**-0.9**
	baz=42								
GAR	**Garm**	**2.09**	**176**	⇑*iP*		**Pb**		**12 57 55.3**	**+0.1**
	baz=76								
GAR				⇑*iS*		**Sg**		**12 58 23.7**	**-0.6**
	baz=76								
OHH	**Osh**	**2.10**	**105**	⇑*iP*		**Pb**		**12 57 54.8**	**-0.5**
	baz=6.0								
OHH				⇑*iS*		**Sg**		**12 58 22.8**	**-1.7**
	baz=6.0								
CHGR	**Chuyangaron**	**2.54**	**197**	⇑*iP*		**Pb**		**12 58 01.5**	**-1.3**
	baz=97								
CHGR				⇑*iS*		**Sb**		**12 58 34.5**	**+0.3**
	baz=97								
MRKS	**Merke**	**2.84**	**53**	*eP*		**Pb**		**12 58 05.1**	**-2.9**
	1.2nm,0.0s								
MRKS				*eS*		**Sg**		**12 58 47.5**	**-0.9**
	12nm,0.6s								
ARLS	**Aral**	**3.25**	**75**	⇓*eP*		**Pn**		**12 58 10.4**	**+2.2**
	baz=76								
ARLS				⇓*iS*		**Sn**		**12 58 49.6**	**+2.6**
	baz=76								
UCH	**Uchtor**	**3.48**	**69**	⇑*eP*		**Pn**		**12 58 13.6**	**+1.9**
	baz=70								
UCH				⇑*eS*		**Sn**		**12 58 55.6**	**+2.4**
	baz=70								
SGDS	**Sogindy**	**4.09**	**53**	*eP*		**Pb**		**12 58 27.3**	**-1.9**
	1.4nm,0.1s								
SGDS				*eS*		**Sg**		**12 59 25.3**	**-3.2**
	2.7nm,0.2s								
TKM2	**Tokmak 2**	**4.47**	**64**	⇑Pg		**Pb**		**12 58 36.7**	**+0.9**
	0.8nm,0.3s								
TKM2				⇑Lg		Lg		12 59 36.6	
	3.9nm,0.7s								
BTLS	**Baital**	**4.88**	**35**	*eP*		**Pb**		**12 58 44.2**	**+1.6**
	0.6nm,0.1s								
BTLS				*eS*		**Sg**		**12 59 53.2**	**-0.6**
	1.8nm,0.2s								

*IDC **15** 13:05:36.7±1.9, 39°.42N×143°.53E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.5/44, mbtmp3.8/9, ML3.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/88, Error ellipse: s-maj=40.4km s-min=23.7km az=102.0*
*JMA **15** 13:05:38.8±0.2, 39°.47N×143°.57E, h34km, M3.8*
*NIED **15** 13:05:38.9, 39°.47N×143°.57E, h34km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.08; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-4.11; $M_{r\theta}$0.70; $M_{\theta\phi}$-1.39; $M_{\phi r}$1.65; Fault plane solution: $M_0$4.66000×10^{14} NP1:ϕ_s20.00000°, δ56.00000°, λ93.00000°. NP2:ϕ_s194.00000°, δ34.00000°, λ85.00000°.*
ISC 15 13:05:41.9±1.1**, 39°.47N**±0°.06×**143°.45E**±0°.09**, h35km, n28, σ0§68/26, mb3.7/7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.27**	**275**	P		P	**Pn**	**13 06 02.2**	**-0.8**
MIYJ				*eS*			**Sn**	**13 06 18.7**	**-0.1**
JTH	**Tanohata**	**1.31**	**291**	P		P	**Pn**	**13 06 02.7**	**-0.9**
JTH				*eS*			**Sn**	**13 06 20.3**	**+0.4**
OFUJ	**Ofunato**	**1.44**	**255**	P		P	**Pn**	**13 06 04.6**	**-0.8**
JOM	**Ohasama**	**1.67**	**271**	P		P	**Pn**	**13 06 08.5**	**-0.1**
JANG	**Nango**	**1.74**	**302**	P		P	**Pn**	**13 06 08.6**	**-1.0**
JMK	**Ichinoseki**	**1.81**	**254**	P		P	**Pn**	**13 06 10.2**	**-0.3**
JIO	**Ouri**	**1.93**	**239**	P		P	**Pn**	**13 06 11.1**	**-1.1**
JIO				*eS*			**Sn**	**13 06 34.5**	**-0.7**
JRG	**Rokugo**	**2.18**	**269**	P		P	**Pn**	**13 06 16.0**	**+0.3**
JYK	**Kaneyama**	**2.46**	**258**	P		P	**Pn**	**13 06 19.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.85**	**350**	P		P	**Pn**	**13 06 24.7**	**-0.2**
JNBK				*eS*			**Sn**	**13 06 58.9**	**+0.9**
JFT	**Otama**	**3.13**	**232**	P		P	**Pn**	**13 06 28.4**	**-0.3**
JCH	**Churui**	**3.14**	**359**	P		P	**Pn**	**13 06 27.9**	**-0.9**
ASAJ	**Asahikawa**	**4.68**	**352**	Pn		Pn	**Pn**	**13 06 50.1**	**+0.1**
	0.7nm,0.3s,baz=200,slow=15,SNR=15								
ASAJ				Sn			**Sn**	**13 07 41.8**	**-1.3**
	1.3nm,0.3s,baz=202,slow=19,SNR=1.9								
MJAR	**Matsushiro Arr**	**5.07**	**236**	Pn			**Pn**	**13 06 56.0**	**+0.6**
	0.5nm,0.3s,baz=40,slow=11,SNR=38								
SEY	**Seymchan**	**24.10**	**10**	P		**P**		**13 10 54.6**	**+0.7**
	0.4nm,0.3s,baz=185,slow=8.9,SNR=5.2								
SONM	**Songino Array**	**27.86**	**300**	P		**P**		**13 11 28.3**	**+0.1**
	0.8nm,0.7s,baz=88,slow=8.2,SNR=7.4								

H11N2	**WAKE ISLAND Hy**	**28.19**	**127**	T		T		13 40 54.7
	baz=320,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.20**	**128**	T		T		13 40 58.8
	baz=320,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.21**	**127**	T		T		13 40 59.2
	baz=320,slow=75							
H11S1	**WAKE ISLAND Hy**	**29.00**	**129**	T		T		13 42 03.3
	baz=322							
H11S3	**WAKE ISLAND Hy**	**29.00**	**129**	T		T		13 42 01.7
	baz=322							
H11S2	**WAKE ISLAND Hy**	**29.02**	**129**	T		T		13 42 05.5
	baz=322							
ZALV	**Zalesovo Beam**	**41.51**	**310**	P		**P**		**13 13 25.3**	**-0.1**
	0.8nm,0.5s,baz=79,slow=8.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**43.68**	**254**	P		**P**		**13 13 43.6**	**+0.2**
	0.3nm,0.3s,baz=46,slow=7.7,SNR=1.6							
MKAR	**Makanchi Array**	**44.23**	**300**	P		**P**		**13 13 48.1**	**+0.5**
	1.0nm,0.7s,baz=64,slow=8.5,SNR=11							
KURBB	**Kurchatov Arra**	**45.80**	**306**	P		**P**		**13 14 00.6**	**+0.6**
	2.8nm,0.7s,baz=81,slow=8.2,SNR=22							
AAK	**Ala-Archa**	**50.77**	**297**	LR		LR		13 36 06.5
	comp=Z,51nm,18.4s,baz=338,slow=36							
WRA	**Warramunga Arr**	**59.72**	**190**	P		**P**		**13 15 42.5**	**-0.5**
	1.1nm,0.9s,baz=5.0,slow=6.7,SNR=2.5							

*TUL **15** 13:21:36.8±2.5, 36°.53N±0°.02×98°.98W±0°.02, h6km±5km, ML2.8, mb_Lg2.0/4(NEIC), Error ellipse: s-maj=3.5km s-min=1.4km az=129.0*
NEIC 15 13:21:34.6±1.6**, 36°.57N**±0°.03×**99°.08W**±0°.04**, h19km**±3km**, Error ellipse: s-maj=5.5km s-min=2.2km az=125.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.20**	**162**	Pg		Pg		13 21 40.0	+0.3
U32A				Sg		Sb		13 21 42.3	+0.1
T35A	**Sooner Cattle**	**2.09**	**80**	Pn		Pn		13 22 09.0	+0.3
W35A	**Tecumseh**	**2.28**	**128**	Pn		Pn		13 22 12.3	+0.9
W35A				IAmb_Lg				13 22 49.0	
	comp=Z,6.3nm,0.7s								
AMTX	**Amarillo**	**2.71**	**232**	IAmb_Lg				13 23 07.8	
	comp=Z,5.3nm,0.7s								
X37A	**Clayton**	**3.61**	**122**	Pn		Pn		13 22 28.9	-0.7

*KRNET **15** 13:31:13.8±0.1, 43°.02N×71°.42E, h15km, mb2.3*
*NNC **15** 13:31:17.6±0.6, 42°.94N×71°.45E, h0km, mb2.8, mpv1.9, Error ellipse: s-maj=5.3km s-min=3.3km az=8.0*
ISC 15 13:31:13.6±2.1**, 43°.07N**±0°.08×**71°.47E**±0°.05**, h1km**±17km**, n9, σ0§86/16, 13C-1D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.72**	**275**	⇑P			**Pn**	**13 31 31.8**	**+0.9**
	0.3nm,0.2s,baz=102,slow=17								
KK08	**Karatay Array**	**0.72**	**273**	⇓S			**Sn**	**13 31 41.7**	**-1.1**
	2.2nm,0.3s,baz=104,slow=32								
ARK	**Arkit**	**1.32**	**164**	⇑*iP*			**Pg**	**13 31 38.2**	**-0.7**
	baz=62								
ARK				⇑*iS*			**Sg**	**13 31 56.3**	**+0.3**
	baz=62								
TRKS	**Terek-Say**	**1.56**	**189**	⇑*iP*			**Pg**	**13 31 43.3**	**-0.2**
	baz=87								
TRKS				⇑*iS*			**Sg**	**13 32 04.8**	**+1.1**
	baz=87								
EKS2	**Erkin-Say**	**1.74**	**103**	⇑*iP*			**Pg**	**13 31 47.0**	**0.0**
	baz=1.0								
EKS2				⇑*iS*			**Sg**	**13 32 10.7**	**+1.1**
	baz=1.0								
AAK	**Ala-Archa**	**2.26**	**100**	⇑*iP*			**Pb**	**13 31 55.2**	**-0.2**
	baz=99								
AAK				⇑*iS*			**Sb**	**13 32 25.1**	**+1.2**
	baz=99								
AAK	**Ala-Archa**	**2.26**	**100**	Pn			**Pg**	**13 31 56.3**	**-0.7**
	0.8nm,0.3s								
AAK				Sn			**Sg**	**13 32 26.1**	**-0.2**
	1.2nm,0.3s								
UCH	**Uchtor**	**2.39**	**110**	⇑*eP*			**Pb**	**13 31 56.9**	**-0.9**
	baz=8.0								
UCH				⇑*iS*			**Sb**	**13 32 28.4**	**+0.4**
	baz=8.0								
ARLS	**Aral**	**2.43**	**119**	⇑*iP*			**Pb**	**13 31 57.3**	**-0.9**
	baz=18								
ARLS				⇑*iS*			**Sb**	**13 32 28.8**	**+0.1**
	baz=18								

*MOS **15** 13:35:16.5±1.1, 55°.98S×27°.21W, h40km, mb5.2/15, Error ellipse: s-maj=18.2km s-min=10.8km az=112.6*
*NEIC **15** 13:35:17.7±1.2, 56°.02S±0°.09×27°.1W±0°.2, h41km±4km, mb5.2/107, Error ellipse: s-maj=12.7km s-min=12.3km az=205.0*
*IDC **15** 13:35:19.4±1.7, 55°.98S×27°.08W, h56km±14km, mb4.6/27, mb1 4.6/29, mb1mx4.6/35, mbtmp4.9/29, MS3.8/31, Ms1 3.8/31, ms1mx3.8/44, Error ellipse: s-maj=12.8km s-min=10.1km az=30.0*
*GCMT **15** 13:35:19.7±0.4, 55°.84S±0°.03×26°.37W±0°.05, h49km±2km, MW4.9/52, Moment Tensor Solution. s36,c43; s52,c62; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.22; $M_{\theta\theta}$-0.36±.20; $M_{\phi\phi}$-2.09±.17; $M_{r\theta}$-0.58±.18; $M_{\theta\phi}$1.66±.13; $M_{\phi r}$1.13±.12; Best double couple: $M_0$3.05100×10^{16} NP1:ϕ_s146.00000°, δ33.00000°, λ86.00000°. NP2: ϕ_s331.00000°, δ57.00000°, λ93.00000°. Principal axes: T 2.7300, Plg77.0000°, Azm250.0000°; N 0.6430, Plg2.0000°, Azm150.0000°; P -3.3730, Plg12.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 13:35:18.4±1.0**, 56°.03S**±0°.06×**27°.16W**±0°.06**, h48km**±8km**, n484, σ1§03/489, mb5.2/71, MS3.9/31, 6C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.63**	**284**	P		P	**Pn**	**13 36 39.1**	**-0.2**
HOPE	**Hope Point**	**5.63**	**284**	Pn		Pn	**Pn**	**13 36 39.1**	**-0.2**
ESPZ	**Base Esperanza**	**16.63**	**232**	Pn		Pn	**Pn**	**13 39 07.5**	**-0.2**
VNA1	**Neumayer--Stat**	**16.81**	**158**	P		P	**P**	**13 39 13.2**	**+1.7**
VNA3	**Neumayer Olymp**	**17.00**	**161**	P		P	**P**	**13 39 14.3**	**+0.6**
VNA2	**Neumayer--Watz**	**17.20**	**158**	P		P	**P**	**13 39 17.3**	**+1.4**
	baz=316,slow=12								
EFI	**East Falkland**	**18.65**	**271**	P		**Pn**		**13 39 32.3**	**-0.4**
EFI				pmax		pmax			
	comp=Z,63nm,1.4s								
EFI	**East Falkland**	**18.65**	**271**	P		**Pn**		**13 39 32.3**	**-0.4**
SNAA	**Sanae**	**18.75**	**156**	P		**Pn**		**13 39 33.8**	**0.0**
SNAA	**Sanae**	**18.75**	**156**	PcP		**PcP**		**13 43 58.5**	**+0.1**
SNAA	**Sanae**	**18.75**	**156**	P		**P**		**13 39 33.4**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=319,slow=12,SNR=24								
SNAA				LR		LR		13 45 28.1	
	comp=Z,199nm,18.5s,baz=354,slow=32								
SNAA	**Sanae**	**18.75**	**156**	*ceP*			**Pn**	**13 39 34.7**	**+0.9**
SNAA				pmax		pmax			
	comp=Z,73nm,2.5s								
SNAA	**Sanae**	**18.75**	**156**	P		**Pn**		**13 39 33.8**	**0.0**
PMSA	**Palmer Station**	**19.93**	**229**	P		**Pn**		**13 39 47.1**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=84,slow=9.1,SNR=4.7								
PMSA				LR		LR		13 46 16.2	
	comp=Z,518nm,20.1s,baz=96,slow=33								
PMSA	**Palmer Station**	**19.93**	**229**	Pn		Pn	**Pn**	**13 39 48.9**	**+1.2**
PMSA				IAmb		IAmb		13 39 56.8	
	comp=Z,160nm,1.2s								
PMSA	**Palmer Station**	**19.93**	**229**	*eP*			**Pn**	**13 39 49.5**	**+1.8**
SMAI	**San Martin Ant**	**21.79**	**220**	P		P	**P**	**13 40 06.8**	**+1.0**
BELA	**Belgrano 2**	**22.10**	**184**	P		P	**P**	**13 40 09.3**	**+0.3**
BELA				IAmb		IAmb		13 40 23.8	
	comp=Z,67nm,0.7s								
NVL	**N'lazarevskaya**	**22.27**	**147**	*eP*		P		13 40 23.6	+13
NVL				pmax		pmax			
	comp=Z,123nm,2.2s								
MG01	**Puerto William**	**22.73**	**256**	P		**P**		**13 40 16.7**	**+0.8**
MG01				IAmb		IAmb		13 40 28.0	
	comp=Z,57nm,0.8s								
USHA	**Ushuaia**	**23.20**	**256**	P		**P**		**13 40 21.3**	**+0.6**
	comp=Z,7.7nm,0.3s,baz=162,slow=1.1,SNR=10.0								
DSPA	**Despedida**	**23.43**	**258**	P		**P**		**13 40 22.4**	**-0.5**
MG02	**Cerro Sombrero**	**24.42**	**260**	P		**P**		**13 40 31.6**	**-0.4**
MG03	**Isla Dawson**	**24.67**	**257**	P		**P**		**13 40 33.7**	**-0.6**
MG05	**Puerto Natales**	**26.71**	**260**	P		**P**		**13 40 53.0**	**+0.2**
MG05				IAmb		IAmb		13 40 54.4	
	comp=Z,118nm,1.5s								

PLTB	**Pedras Altas**	**30.50**	**312**	P		**P**		**13 41 27.1**	**+0.5**
PLTB				IAmb		IAmb		13 41 28.2	
	comp=Z,48nm,0.6s								
PLTB	**Pedras Altas**	**30.50**	**312**	*eP*		**P**		**13 41 27.7**	**+1.0**
AY01	**Puyuhuapi**	**30.77**	**273**	P		**P**		**13 41 27.6**	**-1.4**
AY01						**PcP**		**13 44 24.6**	**-0.6**
SYO	**Syowa Base**	**31.59**	**141**	⇓*eP*		**P**		**13 41 33.0**	**-2.9**
SYO	**Syowa Base**	**31.59**	**141**	⇓*ep*		pP		13 41 43.4	-4.3
CPSB	**Cacapava Do Su**	**31.61**	**313**	*eP*		**P**		**13 41 37.0**	**+0.5**
TER01	**Tubaro-SC**	**31.65**	**321**	*eP*		**P**		**13 41 38.0**	**+1.2**
PLCA	**Paso Flores**	**32.01**	**280**	P		**P**		**13 41 38.8**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=147,slow=7.4,SNR=9.1								
PLCA				PcP		**PcP**		**13 44 28.6**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=118,slow=4.9,SNR=7.1								
PLCA				ScP		**ScP**		**13 48 06.6**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=86,slow=5.0,SNR=6.7								
PLCA	**Paso Flores**	**32.01**	**280**	P		**P**		**13 41 37.9**	**-2.1**
ITQB	**Itaqui**	**33.60**	**309**	P		**P**		**13 41 53.9**	**+0.1**
ITQB	**Itaqui**	**33.60**	**309**	*eP*		**P**		**13 41 54.3**	**+0.5**
ITAB	**Concordia**	**33.92**	**318**	P		**P**		**13 41 57.4**	**+0.7**
ITAB				IAmb		IAmb		13 41 58.8	
	comp=Z,61nm,1.3s								
ITAB	**Concordia**	**33.92**	**318**	*eP*		**P**		**13 41 58.0**	**+1.3**
LC01	**Cunco**	**34.02**	**281**			**PcP**		**13 44 34.4**	**0.0**
QSPA	**South Pole Qui**	**34.22**	**180**	P		**P**		**13 42 00.2**	**+1.1**
	comp=Z,13nm,0.5s,baz=207,slow=2.1,SNR=155								
QSPA				PcP		**PcP**		**13 44 34.4**	**-0.1**
	comp=Z,6.7nm,0.8s,baz=261,slow=2.3,SNR=3.7								
QSPA				LR		LR		13 55 32.4	
	comp=Z,211nm,19.5s,baz=194,slow=35								
QSPA	**South Pole Qui**	**34.22**	**180**	P		**P**		**13 42 00.3**	**+1.1**
QSPA				IAmb		IAmb		13 42 14.1	
	comp=Z,32nm,0.8s								
PET01	**Itanhaem-SP**	**34.96**	**327**	*eP*		**P**		**13 42 05.9**	**+0.2**
PARB	**Paraibuna**	**35.37**	**330**	*eP*		**P**		**13 42 09.4**	**+0.1**
MAN01	**Angra dos Reis**	**35.38**	**333**	*eP*		**P**		**13 42 10.8**	**+1.5**
DUB01	**Friburgo-RJ**	**35.73**	**335**	*eP*		**P**		**13 42 13.2**	**+0.8**
VAS01	**Vassouras-RJ**	**35.80**	**334**	*eP*		**P**		**13 42 14.0**	**+1.0**
VAO	**Valinhos**	**36.08**	**328**	*eP*		**P**		**13 42 16.2**	**+0.8**
PTGB	**Pitanga**	**36.18**	**320**	*eP*		**P**		**13 42 16.6**	**+0.3**
BO02	**Sierra Bellavi**	**36.44**	**287**	P		**P**		**13 42 16.6**	**-1.7**
BO02				IAmb		IAmb		13 42 40.0	
	comp=Z,24nm,1.5s								
BO02						**PcP**		**13 44 41.4**	**-0.1**
CPUP	**Villa Florida**	**36.81**	**311**	P		**P**		**13 42 21.5**	**0.0**
	comp=Z,16nm,0.6s,baz=149,slow=6.8,SNR=33								
CPUP				PcP		**PcP**		**13 44 42.4**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=142,slow=6.6,SNR=4.0								
CPUP				LR		LR		13 55 31.7	
	comp=Z,145nm,20.6s,baz=160,slow=33								
CPUP	**Villa Florida**	**36.81**	**311**	P		**P**		**13 42 21.1**	**-0.4**
CPUP				IAmb		IAmb		13 42 22.4	
	comp=Z,52nm,1.2s								
CPUP	**Villa Florida**	**36.81**	**311**	*eP*		**P**		**13 42 21.3**	**-0.2**
GO05	**Huala**	**36.89**	**286**	P		**P**		**13 42 20.5**	**-1.7**
GO05				IAmb		IAmb		13 42 27.2	
	comp=Z,34nm,1.5s								
BO04	**La Punta**	**36.95**	**288**	P		**P**		**13 42 21.8**	**-0.9**
MT09	**Talagante**	**37.32**	**288**	P		**P**		**13 42 24.4**	**-1.5**
MT01	**Popeta**	**37.39**	**288**	P		**P**		**13 42 23.6**	**-2.8**
PEL	**Peldehue**	**37.64**	**289**	P		**P**		**13 42 27.1**	**-1.5**
PEL				pmax		pmax			
	comp=Z,28nm,0.8s								
PEL	**Peldehue**	**37.64**	**289**	P		**P**		**13 42 27.1**	**-1.5**
PEL				IAmb		IAmb		13 42 29.1	
	comp=Z,28nm,0.8s								
VA05	**Santo Domingo**	**37.74**	**287**	P		**P**		**13 42 28.1**	**-1.2**
VA05				IAmb		IAmb		13 42 29.0	
	comp=Z,38nm,0.8s								
MT02	**Curacav**	**37.80**	**288**	P		**P**		**13 42 28.5**	**-1.3**
MT02				IAmb		IAmb		13 42 29.7	
	comp=Z,17nm,0.8s								
ZON	**Zonda**	**37.84**

SDBA SAO DESIDERIO 45.65 335 *e*P **P 13 43 34.5 +0.3**
NBLA Lagarto - SE 45.69 345 *e*P **P 13 43 34.3 -0.1**
BOSA Boshof 45.95 76 P **P 13 43 35.8 -0.8**
comp=Z,4.2nm,0.6s,baz=223,slow=6.7,SNR=12
BOSA LR LR 13 58 50.3
comp=Z,338nm,21.1s,baz=196,slow=31
BOSA Boshof 45.95 76 P **P 13 43 35.7 -0.8**
BOSA pmax pmax
comp=Z,11nm,1.3s
BOSA Boshof 45.95 76 P **P 13 43 35.7 -0.8**
SBA Scott Base 46.10 184 P **P 13 43 38.1 +1.1**
SBA pmax pmax
comp=Z,16nm,1.1s
SBA Scott Base 46.10 184 P **P 13 43 38.1 +1.1**
PB04 IPOC Station P 46.14 299 P **P 13 43 38.0 -0.2**
PB09 IPOC Station P 46.16 300 P **P 13 43 38.8 +0.5**
NBPN Ponto Novo - B 46.22 342 *e*P **P 13 43 38.1 -0.5**
PB07 IPOC Station P 46.53 300 P **P 13 43 41.4 +0.2**
VNDA Vanda 46.59 183 P **P 13 43 42.1 +1.3**
comp=Z,13nm,0.6s,baz=186,slow=7.4,SNR=29
VNDA Vanda 46.59 183 P **P 13 43 42.3 +1.5**
VNDA pmax pmax
comp=Z,15nm,0.7s
VNDA Vanda 46.59 183 P **P 13 43 42.3 +1.5**
VNDA IAmb IAmb 13 43 45.0
comp=Z,15nm,0.7s
NBAN Anadia - AL 46.80 348 *e*P **P 13 43 43.0 -0.1**
PEXB Peixe 46.80 331 *e*P **P 13 43 44.4 +1.2**
PB02 IPOC Station P 46.88 300 P **P 13 43 43.8 0.0**
PB01 IPOC Station P 46.91 301 P **P 13 43 44.4 +0.2**
PTLB Pontes e Lacer 47.29 316 *e*P **P 13 43 47.2 +0.2**
PB08 IPOC Station P 47.52 302 P **P 13 43 49.6 +0.4**
SIV San Ignacio 47.57 313 P **P 13 43 48.8 -0.4**
comp=Z,9.9nm,0.6s,baz=160,slow=7.4,SNR=46
SIV LR LR 14 02 23.0
comp=Z,112nm,21.8s,baz=140,slow=34
TA01 Diego Aracena 47.66 300 P **P 13 43 49.6 -0.1**
TA01 IAmb IAmb 13 43 50.6
comp=Z,20nm,0.7s
SNDB Serra Nova Dou 47.79 327 *e*P **P 13 43 51.7 +0.9**
GO01 Chusmiza 47.95 302 P **P 13 43 53.1 +0.4**
PB11 IPOC Station P 48.09 301 P **P 13 43 53.6 +0.3**
LBTB Lobatse 48.99 73 P **P 13 43 59.6 -0.5**
comp=Z,4.4nm,0.7s,baz=218,slow=8.7,SNR=6.5
LBTB LR LR 14 00 18.9
comp=Z,74nm,21.1s,baz=222,slow=31
LBTB Lobatse 48.99 73 P **P 13 43 59.4 -0.7**
H10N1 ASCENSION HYDR 49.09 17 T T 14 37 35.9
baz=189,slow=74
H10N3 ASCENSION HYDR 49.09 17 T T 14 37 38.1
baz=189,slow=74
H10N2 ASCENSION HYDR 49.11 17 T T 14 37 36.6
baz=189,slow=74
PB16 IPOC Station P 49.24 302 P **P 13 44 02.9 +0.2**
PB16 IAmb IAmb 13 44 04.3
comp=Z,14nm,0.4s
PB12 IPOC Station P 49.40 301 P **P 13 44 02.7 -0.6**
PB12 IAmb IAmb 13 44 25.1
comp=Z,26nm,1.2s
NBMA Muriti-CE 49.40 345 *e*P **P 13 44 03.7 +0.5**
TSUM Tsumeb 49.66 61 LR LR 14 00 54.2
comp=Z,93nm,21.3s,baz=170,slow=31
TSUM Tsumeb 49.66 61 P **P 13 44 04.6 -0.7**
SMTB Santa Maria do 49.72 333 *e*P **P 13 44 06.3 +0.7**
NBPV Pedro Velho 49.90 349 *e*P **P 13 44 07.3 +0.4**
PDRB Porto dos Gac 49.92 321 *e*P **P 13 44 07.0 -0.1**
VILB Vilhena 49.98 316 *e*P **P 13 44 07.4 -0.2**
CLDB Colider 50.28 322 *e*P **P 13 44 09.9 0.0**
LPAZ La Paz 50.38 305 P **P 13 44 12.1 +0.7**
comp=Z,38nm,0.5s,baz=115,slow=3.8,SNR=152
LPAZ LR LR 14 06 45.1
comp=Z,65nm,19.6s,baz=155,slow=37
LPAZ La Paz 50.38 305 P **P 13 44 11.5 +0.2**
LPAZ La Paz 50.38 305 *e*P **P 13 44 12.4 +1.0**
RCBR Riachuelo 50.55 349 LR LR 14 03 02.1
comp=Z,34nm,18.4s,baz=318,slow=33
RCBR Riachuelo 50.55 349 P **P 13 44 11.0 -0.9**
RCBR pmax pmax
comp=Z,24nm,1.3s
RCBR Riachuelo 50.55 349 P **P 13 44 11.0 -0.9**
RCBR IAmb IAmb 13 44 24.7
comp=Z,24nm,1.2s
RCBR Riachuelo 50.55 349 *e*P **P 13 44 11.2 -0.7**
NBPB Pedra_Branca-C 51.31 344 *e*P **P 13 44 18.1 +0.5**
NBCL Cascavel-CE 52.42 346 *e*P **P 13 44 26.0 +0.2**
NBPS Pedro II - PI 52.74 342 *e*P **P 13 44 28.5 +0.1**
PRPB Parauapebas 52.88 331 *e*P **P 13 44 30.2 +0.9**
NBMO Morrinhos-CE 53.57 344 *e*P **P 13 44 34.6 +0.3**
NPGB Novo Progresso 53.71 324 *e*P **P 13 44 35.4 0.0**
MATP Matopo 54.26 73 P **P 13 44 39.0 -0.6**
comp=Z,5.3nm,0.7s,baz=206,slow=7.0,SNR=13
MATP LR LR 14 04 12.5
comp=Z,46nm,20.0s,baz=230,slow=32
ROSB Rosrio 54.71 339 *e*P **P 13 44 42.7 +0.1**
ETMB Extrema 55.26 311 *e*P **P 13 44 46.6 -0.1**
ITTB Itaituba 56.35 325 *e*P **P 13 44 54.3 -0.1**
NNA Nana 58.25 299 P **P 13 45 07.9 0.0**
comp=Z,11nm,0.4s,baz=176,slow=6.2,SNR=6.8
NNA LR LR 14 10 04.2
comp=Z,88nm,22.0s,baz=146,slow=36
NNA Nana 58.25 299 *ce*P **P 13 45 08.8 +0.8**
NNA pmax pmax
comp=Z,77nm,1.7s
NNA Nana 58.25 299 P **P 13 45 07.2 -0.8**
NNA IAmb IAmb 13 45 09.1
comp=Z,34nm,1.1s
MALB Monte Alegre 58.26 328 *e*P **P 13 45 08.8 +0.9**
MCPB Macapa, AP 59.05 331 *e*P **P 13 45 14.6 +1.2**
MACA Manacapuru-AM 59.16 320 *e*P **P 13 45 13.5 -0.7**
CZSB Cruzeiro do Su 59.99 305 *e*P **P 13 45 19.8 -0.1**
ATAH Atahualpa 63.20 300 P **P 13 45 43.7 +1.7**
comp=Z,20nm,0.8s,baz=144,slow=5.2,SNR=11
ATAH LR LR 14 16 34.2
comp=Z,50nm,18.2s,baz=165,slow=39
RPN Rapa Nui 63.67 260 LR LR 14 07 01.2
comp=Z,76nm,21.8s,baz=115,slow=30
BOAV Boa Vista 64.27 322 *e*P **P 13 45 48.1 -0.4**
MDP Montagnes des 64.43 332 P **P 13 45 49.1 -0.5**
comp=Z,8.3nm,0.8s,baz=182,slow=10,SNR=2.4
MDP LR LR 14 11 19.2
comp=Z,104nm,19.9s,baz=181,slow=34
LIC Lamto 64.67 24 *e*P **P 13 45 52.0 +0.9**
comp=Z,21nm,0.7s
KIC Kosan Boka 64.87 25 *e*P **P 13 45 53.3 +0.9**
comp=Z,8.2nm,0.7s
TIC Toumodi 65.08 24 *e*P **P 13 45 54.5 +0.7**
DBIC Dimbokro 65.14 25 P **P 13 45 53.9 -0.3**
comp=Z,5.1nm,0.7s,baz=203,slow=7.4,SNR=8.1
DBIC LR LR 14 07 18.2
comp=Z,141nm,21.4s,baz=192,slow=30
DBIC Dimbokro 65.14 25 P **P 13 45 53.8 -0.3**
OTAV Otavalo 69.66 304 P **P 13 46 23.2 -0.1**
OTAV pmax pmax
comp=Z,12nm,0.7s
OTAV Otavalo 69.66 304 P **P 13 46 23.2 -0.1**
OTAV IAmb IAmb 13 46 26.8
comp=Z,12nm,0.7s
OTAV Otavalo 69.66 304 *e*P **P 13 46 24.7 +1.4**
ROSC El Rosal 71.88 310 P **P 13 46 37.2 +0.5**
comp=Z,10nm,0.4s,baz=213,slow=4.2,SNR=4.7
ROSC LR LR 14 21 45.8
comp=Z,46nm,18.4s,baz=154,slow=39
ROSC El Rosal 71.88 310 P **P 13 46 36.8 +0.1**
ROSC IAmb IAmb 13 46 38.1
comp=Z,14nm,0.6s
MBAR Mbarara 72.13 63 LR LR 14 15 09.2
comp=Z,75nm,21.9s,baz=62,slow=33
MBAR Mbarara 72.13 63 *i* P **P 13 46 38.6 +0.6**
KOWA Kowa 72.90 23 P **P 13 46 42.3 +0.1**
PLCV Puerto La Cruz 72.92 321 P **P 13 46 43.3 +0.9**
PCRV Puerto La Cruz 72.94 321 P **P 13 46 43.3 +0.7**
comp=Z,35nm,0.7s,baz=177,slow=4.0,SNR=13
TORD Torodi Ar. Bea 73.03 29 P **P 13 46 43.2 +0.2**
comp=Z,21nm,0.7s,baz=200,slow=6.5,SNR=94
GRGR Grenville 73.76 325 P **P 13 46 47.3 0.0**
BIRV Birongo 73.81 320 P **P 13 46 47.7 +0.1**
BIRV IAmb IAmb 13 46 49.2
comp=Z,58nm,1.3s
SDV Santo Domingo 74.01 315 P **P 13 46 48.5 -0.5**
comp=Z,20nm,0.8s,baz=151,slow=6.7,SNR=26
SDV LR LR 14 18 37.5
comp=Z,136nm,21.9s,baz=154,slow=35
SDV Santo Domingo 74.01 315 P **P 13 46 48.6 -0.4**
SDV IAmb IAmb 13 46 50.6
comp=Z,20nm,0.8s

SDV Santo Domingo 74.01 315 *e*P **P 13 46 49.4 +0.3**
ZARC Zaragoza, Cauc 74.49 310 P **P 13 46 50.2 -1.5**
KMBO Kilima Mbogo 75.02 69 LR LR 14 18 51.3
comp=Z,85nm,18.3s,baz=84,slow=35
HATO Hato, Curacao 76.37 318 P **P 13 47 02.2 -0.1**
SJCC San Jacinto, C 76.78 311 P **P 13 47 04.1 -0.7**
SJCC IAmb IAmb 13 47 06.4
comp=Z,29nm,1.0s
CBE Ff, Capester 77.44 326 P **P 13 47 09.1 +0.7**
WHZ Wether Hill Ro 77.66 191 P **P 13 47 09.4 +0.1**
GDHS Morne Mazeau, 77.69 326 P **P 13 47 10.0 +0.2**
MLZ Mavora Lakes 78.16 191 P **P 13 47 11.4 -0.8**
MLZ IAmb IAmb 13 47 23.4
comp=Z,50nm,1.5s
ANWB Willy Bob 79.00 327 P **P 13 47 17.4 +0.4**
RPZ Rata Peaks 79.44 193 P **P 13 47 19.0 -0.2**
comp=Z,14nm,0.9s,baz=135,slow=7.1,SNR=2.6
RPZ Rata Peaks 79.44 193 P **P 13 47 19.5 +0.3**
RPZ IAmb IAmb 13 47 37.0
comp=Z,43nm,1.3s
DRK0 Durika 79.81 304 P **P 13 47 22.2 +0.5**
DRK0 IAmb IAmb 13 47 23.4
comp=Z,41nm,0.9s
SRBA San Rafael, Bu 79.84 304 P **P 13 47 21.6 -0.2**
MTP Monte Pirata 80.62 323 P **P 13 47 24.6 -1.0**
MTP IAmb IAmb 13 47 53.2
comp=Z,17nm,1.1s
STVI Saint Thomas 80.66 324 P **P 13 47 25.1 -0.7**
STVI IAmb IAmb 13 47 44.2
comp=Z,24nm,1.1s
PDPR Patillas Dam, 80.71 323 P **P 13 47 25.4 -0.8**
PDPR IAmb IAmb 13 47 31.4
comp=Z,16nm,1.0s
SJG San Juan 80.84 323 LR LR 14 22 45.3
comp=Z,47nm,22.0s,baz=148,slow=35
CBYP Canovanas 80.89 323 P **P 13 47 26.9 -0.2**
THZ Tophouse 81.10 195 P **P 13 47 28.0 -0.2**
THZ IAmb IAmb 13 47 34.3
comp=Z,25nm,0.7s
TUWZ Tuamarina 81.27 196 P **P 13 47 28.8 -0.2**
TAU Tasmania Unive 81.32 176 P **P 13 47 29.3 0.0**
TAU pmax pmax
comp=Z,57nm,1.1s
TAU Tasmania Unive 81.32 176 P **P 13 47 29.3 0.0**
TAU IAmb IAmb 13 47 34.7
comp=Z,57nm,1.1s
JTS Las Juntas de 81.52 303 P **P 13 47 30.1 -0.5**
comp=Z,7.8nm,0.9s,baz=120,slow=5.7,SNR=4.4
JTS LR LR 14 23 41.4
comp=Z,27nm,21.7s,baz=196,slow=36
JTS Las Juntas de 81.52 303 *i* P **P 13 47 30.9 +0.3**
JTS pmax pmax
comp=Z,16nm,1.1s
NNZ Nelson 81.57 196 P **P 13 47 30.3 -0.3**
QRZ Quartz Range 82.08 195 P **P 13 47 30.9 -2.4**
BKZ Black Stump Fm 83.06 198 P **P 13 47 38.6 +0.1**
SDDR Presa de Saban 83.47 318 P **P 13 47 41.5 +0.8**
SDDR IAmb IAmb 13 47 43.2
comp=Z,19nm,1.3s
BOAB BOACO BROADBAND 83.73 303 P **P 13 47 41.8 -0.3**
BOAB IAmb IAmb 13 47 46.0
comp=Z,37nm,1.0s
URZ Urewera 83.83 199 P **P 13 47 42.9 +0.5**
comp=Z,5.8nm,0.9s,baz=111,slow=9.9,SNR=2.4
URZ LR LR 14 21 20.1
comp=Z,56nm,19.8s,baz=193,slow=33
HIZ Hauiti 83.98 197 P **P 13 47 41.4 -1.8**
MTO3 Montecristo 87.18 301 P **P 13 47 59.2 -0.3**
MTO3 IAmb IAmb 13 48 00.2
comp=Z,15nm,0.9s
OUZ Omahuta 87.40 197 P **P 13 47 58.4 -1.8**
OUZ IAmb IAmb 13 48 01.9
comp=Z,12nm,0.9s
ATD Arta Tunnel 88.64 67 LR LR 14 24 14.4
comp=Z,73nm,21.9s,baz=132,slow=33
DGAR Diego Garcia 89.25 102 *i* P **P 13 48 09.6 +0.4**
STKA Stephens Creek 91.92 170 P **P 13 48 22.8 +1.3**
comp=Z,2.5nm,0.6s,baz=146,slow=4.7,SNR=8.6
STKA LR LR 14 27 25.3
comp=Z,56nm,19.9s,baz=205,slow=34
PPT Papeete 92.22 234 LR LR 14 21 29.9
comp=Z,43nm,18.5s,baz=138,slow=30
ESDC Sonseca Array 97.36 18 P Pdif 13 48 46.2 +0.2
comp=Z,0.5nm,0.7s,baz=195,slow=4.0,SNR=2.5
ASAR Alice Springs 99.00 162 P **Pdif 13 48 53.5 -0.5**
comp=Z,1.2nm,0.5s,baz=189,slow=4.1,SNR=17
ASAR PP **PP 13 52 52.7 -2.6**
comp=Z,1.1nm,0.7s,baz=191,slow=6.1,SNR=7.8
ASAR PKiKP **PKiKP 13 53 23.9 -0.4**
comp=Z,0.3nm,0.6s,baz=181,slow=1.2,SNR=5.3
ASAR PKKP **PKKPbc 14 05 18.0 +0.9**
comp=Z,0.3nm,0.8s,baz=21,slow=2.6,SNR=5.0
ASAR LR LR 14 30 04.8
comp=Z,15nm,21.3s,baz=170,slow=33
WRA Warramunga Arr 102.72 162 Pdiff **Pdif 13 49 10.2 -0.3**
comp=Z,0.8nm,0.7s,baz=189,slow=4.1,SNR=6.7
WRA PKiKP **PKiKP 13 53 30.5 -0.5**
comp=Z,1.0nm,0.9s,baz=194,slow=1.1,SNR=1.7
WRA PKKPbc **PKKPbc 14 05 06.7 +0.2**
comp=Z,0.2nm,0.4s,baz=354,slow=2.8,SNR=8.2
KSU1 Kansas State U 111.50 308 P **PKiKP 13 53 47.8 +1.3**
baz=146
CLL Collm 112.02 26 *e*PKiKP **PKiKP 13 53 47.0 0.0**
WUAZ Wupatki 115.62 296 P **PKiKP 13 53 55.6 +0.9**
baz=142
KIV Kislovodsk 115.64 49 *e*PKiKP **PKiKP 13 53 55.6 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
IKP In-Ko-Pah, Jac 115.83 290 P **PKiKP 13 53 56.0 +0.9**
baz=142
EYMN Ely 116.69 317 P **PKiKP 13 53 58.4 +2.3**
baz=146
BELC Belle Mtn. Jos 116.82 291 P **PKiKP 13 53 57.3 +0.2**
baz=141
TMUT Trail Mountain 118.48 299 **PKiKP 13 54 00.4 +0.1**
EDW2 Edwards Air Fo 118.55 291 P **PKiKP 13 54 00.5 +0.2**
baz=140
MNK Minsk 118.99 33 *i* P **Pdif 13 50 28.7 +7.1**
MNK *i* 13 53 57.5
MNK *i* 13 55 19.9
MNK *i* 14 01 06.9
MNK *i* PS **PS 14 05 07.2 -1.0**
MNK *i* SS SS 14 11 39.6 +1.9
MNK *i* SSS SSS 14 16 04.7
MNK pmax pmax
comp=N,16nm,0.7s
MNK pmax pmax
comp=Z,11nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,159nm,17.0s
MNK MLR MLR
comp=N,324nm,20.0s
MNK MLR MLR
comp=E,11nm,13.0s
MNK Minsk 118.99 33 *i* P **Pdif 13 50 28.7 +7.1**
comp=E,2.0nm,0.9s
MNK *i* P **Pdif 13 50 28.7 +7.1**
comp=N,16nm,0.7s
MNK *i* P **Pdif 13 50 28.7 +7.1**
comp=Z,11nm,0.6s,baz=211
MNK *i* PKP **PKPdf 13 53 57.6 -2.7**
MNK *i* PP **PP 13 55 20.0 -1.3**
MNK *i* SKS **SKSdf 14 01 06.9 -0.8**
MNK *i* PS **PS 14 05 07.2 -1.0**
MNK *i* SS **SS 14 11 39.6 +2.0**
MNK *i* SSS SSS 14 16 04.7
MNK *i* LR LR 14 41 39.2
MNK *i* LRM MLR 14 44 42.3
comp=Z,159nm,16.6s
MNK *i* LRM MLR 14 44 47.3
comp=N,324nm,20.3s
MNK *i* LRM MLR 14 45 13.4
comp=E,11nm,13.0s
MPMC Manual Prospec 119.18 292 P **PKPdf 13 54 01.6 0.0**
baz=140
TPNV Topopah Spring 119.22 293 P **PKiKP 13 54 02.4 +0.7**
baz=140
ISA Isabella, Lake 119.40 291 P **PKiKP 13 54 03.0 +1.1**
baz=140
CWC Cottonwood Cre 119.78 292 P **PKiKP 13 54 03.5 +0.8**
baz=140
DUG Dugway, Tooele 119.96 298 P **PKiKP 13 54 03.3 +0.4**
baz=140
PDAR Pinedale Array 120.35 302 PKP **PKPdf 13 54 02.2 -1.5**

comp=E,0.5nm,0.6s,baz=110,slow=5.0,SNR=8.7
HWUT Hardware Ranch 120.43 300 **PKPdf 13 54 03.1 -0.7**
NB2 NORSAR Subarra 120.58 21 PKPdf **PKPdf 13 54 02.3 -0.9**
comp=Z,1.4nm,1.1s,baz=202,slow=1.9
NOA NORSAR Array B 120.58 21 PKP **PKPdf 13 54 01.9 -1.3**
comp=Z,1.2nm,0.7s,baz=208,slow=1.9,SNR=5.1
NVAR Mina Array Bea 121.40 293 PKP **PKPdf 13 54 05.6 -0.2**
comp=Z,0.9nm,0.5s,baz=138,slow=2.7,SNR=11
MOOW Moose Ponds 121.66 302 **PKPdf 13 54 05.5 -0.6**
LKWY Lake 122.11 303 PKIKP **PKiKP 13 54 08.5 +1.3**
LKWY Lake 122.11 303 **PKiKP 13 54 08.5 +1.3**
DGMT Dagmar 122.27 310 P **PKiKP 13 54 08.6 +1.5**
baz=140
FINES FINESS Array B 124.36 28 PKP **PKPdf 13 54 09.8 -0.6**
comp=Z,4.2nm,0.6s,baz=148,slow=1.9,SNR=19
HRY Holter Researc 124.38 304 **PKPdf 13 54 11.1 0.0**
CMAR Chiang Mai Arr 125.06 110 PKP **PKPdf 13 54 11.6 -1.6**
comp=Z,0.8nm,0.4s,baz=243,slow=3.4,SNR=9.4
GAR Garm 125.14 71 PKPdf **PKPdf 13 54 12.8 -0.1**
PLID Pearl Lake 125.17 300 **PKPdf 13 54 12.6 -0.3**
MSO Missoula 125.45 303 **PKiKP 13 54 13.4 -0.1**
MSO Missoula 125.45 303 P **PKiKP 13 54 14.2 +0.6**
baz=137
N02D Trinity Center 125.57 292 P **PKiKP 13 54 14.9 +1.0**
baz=137
BMO Blue Mountains 125.64 299 PKIKP **PKPdf 13 54 13.2 -0.4**
BMO Blue Mountains 125.64 299 **PKPdf 13 54 13.2 -0.4**
M04C Macdoel 125.70 293 P **PKiKP 13 54 15.1 +0.8**
baz=136
M02C Callahan 125.95 292 P **PKiKP 13 54 15.2 +0.5**
baz=136
J05D Fort Rock, OR 126.48 295 P **PKiKP 13 54 16.8 +1.0**
baz=136
G08A Pilot Rock 126.77 298 **PKiKP 13 54 16.5 +0.2**
J04D Umpqua Nationa 126.89 294 P **PKiKP 13 54 17.2 +0.6**
baz=136
I05D Terrebonne, OR 127.28 296 P **PKiKP 13 54 17.6 +0.4**
baz=135
ABKAR Akbulak array 127.34 55 PKPdf **PKPdf 13 54 16.4 -0.1**
ABKAR Akbulak array 127.34 55 **PKPdf 13 54 15.9 -0.6**
KLMR Klimovskoe 127.80 35 *e*PKiKP **PKiKP 13 54 20.7 +3.2**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR Klimovskoe 127.80 35 *e*PKPdf **PKiKP 13 54 20.8 +3.2**
KLMR AMP 13 54 28.7
comp=Z,19nm,1.4s
G05D Wamic, OR 127.91 297 P **PKiKP 13 54 19.4 +1.0**
baz=135
KKAR Karatay Array 128.20 67 PKIKP **PKPdf 13 54 17.9 -0.5**
KKAR Karatay Array 128.20 67 PKPdf **PKPdf 13 54 17.9 -0.5**
KSH Kashi 128.55 74 PKP **PKPdf 13 54 19.5 +0.2**
AAK Ala-Archa 129.96 71 P **PKPdf 13 54 22.0 0.0**
comp=Z,1.4nm,0.4s,baz=257,slow=4.7,SNR=4.7
AAK Ala-Archa 129.96 71 *c i* PKiKP **PKiKP 13 54 24.6 +1.8**
AAK pmax pmax
comp=Z,10.0nm,2.5s
PRGR Permogore 130.38 37 *e*PKiKP **PKPdf 13 54 21.1 -0.8**
PRGR pmax pmax
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 130.92 22 PKP **PKPdf 13 54 22.5 -0.2**
comp=Z,1.9nm,0.5s,baz=48,slow=1.8,SNR=6.2
PZH PanZhiHua 133.10 107 PKP **PKPdf 13 54 28.6 +0.2**
BRVK Borovoye 134.73 57 *c i* PKiKP **PKiKP 13 54 32.0 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 134.73 57 PKPdf **PKPdf 13 54 30.4 0.0**
YKA Yellowknife Ar 136.17 318 PKhKP PKPpre 13 54 19.8
comp=Z,0.3nm,0.5s,baz=126,slow=3.1,SNR=5.0
YKA PKP **PKPdf 13 54 32.1 -0.7**
comp=Z,3.7nm,0.7s,baz=129,slow=2.3,SNR=32
YKA PP **PP 13 57 10.9 -3.3**
comp=Z,1.3nm,0.8s,baz=117,slow=7.3,SNR=8.5
YKA SKPbc **SKPbc 13 57 58.3 -2.1**
comp=Z,1.0nm,0.7s,baz=126,slow=3.7,SNR=7.4
YKA Yellowknife Ar 136.17 318 PKPdf **PKPdf 13 54 33.4 +0.7**
MK31 Makanchi Array 136.87 71 PKiKP **PKiKP 13 54 35.7 -0.7**
MK31 Makanchi Array 136.87 71 PKPdf **PKiKP 13 54 35.7 -0.7**
MKAR Makanchi Array 136.87 71 PKhKP PKPpre 13 54 25.7
comp=Z,0.1nm,0.5s,baz=318,slow=30,SNR=2.2
MKAR PKP **PKPdf 13 54 34.2 -0.4**
comp=Z,0.6nm,0.6s,baz=242,slow=2.5,SNR=7.2
MKAR SKPbc **SKPbc 13 58 01.6 -1.5**
comp=Z,0.3nm,0.7s,baz=224,slow=4.7,SNR=2.6
MKAR SKPab **SKiKP 13 58 07.7 -0.6**
comp=Z,0.6nm,0.8s,baz=190,slow=2.2,SNR=3.7
KURK Kurchatov 137.38 65 *i* PKiKP **PKiKP 13 54 36.4 -0.9**
CD2 Chengdu 137.65 105 PKP **PKPdf 13 54 36.1 -0.5**
WMQ Urumqi 137.88 78 *e*PKP **PKiKP 13 54 38.3 -0.4**
GTA Gaotai 141.71 93 *e*PKP **PKiKP 13 54 46.0 -0.7**
GTA LR LR
comp=Z,71nm,20.7s
GTA LR LR
comp=Z,110nm,19.3s
GTA LR LR
comp=Z,93nm,18.2s
ZALV Zalesovo Beam 142.35 64 PKhKP PKPpre 13 54 39.1
comp=Z,0.8nm,0.4s,baz=221,slow=2.6,SNR=3.7
ZALV PKP **PKPdf 13 54 44.1 -0.1**
comp=Z,3.1nm,0.7s,baz=204,slow=4.2,SNR=5.5
ZALV Zalesovo Beam 142.35 64 PKPpre PKPpre 13 54 38.9
WHY Whitehorse 143.55 308 PKPpre 13 54 43.7
M31M Drury Creek, Y 144.00 310 PKPdf PKPab 13 54 44.6 +0.1
A36M Sachs Harbour 144.20 328 PKPdf PKPbc 13 54 45.3 -0.1
N31M Braeburn, Yuko 144.30 309 PKPbc 13 54 46.3 +0.3
HYT Haines Junctio 144.79 307 PKPdf PKPbc 13 54 47.8 0.0
HYT Haines Junctio 144.79 307 P **PKPdf 13 54 48.5 0.0**
baz=114
LYN LuoYang 145.10 111 *j* PKPbc **PKPbc 13 54 49.3 -0.1**
M30M Minto, Yukon 145.17 310 **PKPbc 13 54 48.6 -0.2**
M30M Minto, Yukon 145.17 310 P **PKPdf 13 54 49.5 +0.5**
baz=112
PNL Peninsula 145.17 305 P **PKPdf 13 54 49.4 +0.3**
baz=114
YUK6 Outpost Mounta 145.22 307 P **PKPdf 13 54 50.4 +0.9**
baz=113
YUK4 Talbot Arm 145.51 308 P **PKPab 13 54 50.7 +0.3**
baz=113,SNR=23
INK Inuvik 145.80 321 PKP2 **PKPbc 13 54 50.1 -0.4**
INK Inuvik 145.80 321 PKPdf **PKPbc 13 54 50.1 -0.4**
INK Inuvik 145.80 321 P **PKPab 13 54 50.7 -0.3**
baz=106
TABL Table Mountain 146.29 305 PKPdf **PKPbc 13 54 51.9 -0.6**
NJ2 Nanjing 146.34 121 *e*PKPbc **PKPdf 13 54 51.8 -0.2**
LOGN Logan Glacier 146.37 306 PKPdf **PKPbc 13 54 52.6 -0.1**
EPYK Eagle Plains 146.42 317 PKPdf **PKPbc 13 54 52.0 -0.6**
EPYK Eagle Plains 146.42 317 P **PKPbc 13 54 52.6 0.0**
baz=107
J29M Klondike Camp 146.43 313 P **PKPbc 13 54 52.8 +0.2**
baz=109
YUK3 Moose Creek 146.47 308 P **PKPbc 13 54 52.7 -0.4**
baz=111,SNR=9.3
CTGM Chitina Glacie 146.57 306 PKPdf **PKPbc 13 54 52.8 -0.5**
CTG Chitina Glacier 146.57 306 P **PKPbc 13 54 52.9 -0.3**
baz=112,SNR=9.8
BARN Barnard Glacie 146.75 306 PKPdf **PKPdf 13 54 52.8 +0.8**
DAWY Dawson 146.79 312 PKPdf **PKPbc 13 54 52.9 -0.7**
DAWY Dawson 146.79 312 P **PKPbc 13 54 53.3 -0.4**
baz=108
BVCY Beaver Creek 146.88 309 P **PKPbc 13 54 53.8 -0.2**
baz=110
ISLE Juniper Island 146.90 305 **PKPbc 13 54 54.4 +0.3**
M27K Edge Creek, AK 147.30 308 PKPbc **PKPbc 13 54 55.6 +0.4**
M27K Edge Creek, AK 147.30 308 P **PKPbc 13 54 55.3 0.0**
baz=109
BERG Berg Lake 147.45 304 **PKPbc 13 54 56.4 +0.9**
MCARA McCarthy VSAT 147.49 306 P **PKPbc 13 54 55.9 +0.3**
baz=110
BCAR Beaver Creek A 147.49 310 PKPdf **PKPbc 13 54 54.8 -0.8**
L27K Beaver Creek, 147.51 310 PKPdf **PKPbc 13 54 55.0 -0.7**
L27K Beaver Creek, 147.51 310 P **PKPbc 13 54 55.6 -0.1**
baz=108
VRDI Verde Repeater 147.63 306 **PKPbc 13 54 55.9 -0.3**
HMT Hamilton 147.69 304 PKPdf **PKPbc 13 54 55.2 -1.1**
RAGM Ragged Mountai 147.90 304 **PKPbc 13 54 56.9 +0.1**
BMRM Bremner River 148.06 305 **PKPbc 13 54 57.1 -0.2**
BMRM Bremner River 148.06 305 P **PKPbc 13 54 57.3 +0.1**
baz=110
L26K Log Cabin Wild 148.16 309 **PKPbc 13 54 57.3 -0.1**
L26K Log Cabin Wild 148.16 309 P **PKPbc 13 54 57.2 -0.1**
baz=107,SNR=21
BTO Baotou 148.22 101 *e*PKPbc **PKPbc 13 54 58.0 -0.4**
N25K Chitina, Valde 148.27 306 **PKPbc 13 54 57.7 -0.1**
N25K Chitina, Valde 148.27 306 P **PKPbc 13 54 58.2 +0.4**
baz=109
MENT Mentasta 148.29 309 **PKPbc 13 54 57.7 -0.1**

HNS	HongShan	148.45 110	⇑PKPbc	PKPbc	13 54 58.9	0.0
EYAK	Cordova Ski Ar	148.45 304		PKPbc	13 54 58.3	+0.1
EYAK	Cordova Ski Ar baz=110	148.45 304	P	PKPbc	13 54 58.7	+0.6
DOT	Dot Lake	148.64 310		PKPbc	13 54 58.7	+0.1
DIV	Divide	148.66 305		PKPbc	13 54 58.8	0.0
J26L	Joseph Creek baz=105	148.66 312	P	PKPbc	13 54 58.8	+0.1
SCRK	Sand Creek	148.70 311		PKPbc	13 54 58.8	-0.1
SCRK	Sand Creek baz=105,SNR=19	148.70 311	P	PKPbc	13 54 58.8	-0.1
HARP	HAARP baz=107	148.77 308	P	PKPbc	13 54 59.1	+0.1
TIA	Tai'an	148.80 114	*e*PKPbc	PKPbc	13 54 58.8	-1.1
KLU	Klutina	148.84 306		PKPbc	13 54 59.5	+0.2
KLU	Klutina baz=108,SNR=20	148.84 306	P	PKPbc	13 54 59.5	+0.2
NRIK	Noril'sk comp=Z,6.7nm,0.8s,baz=190,slow=6.1,SNR=11	148.98 39	PKPbc	PKPbc	13 54 59.7	+0.4
NRIK	Noril'sk	148.98 39	*c i*PKP2	PKPbc	13 54 58.6	-0.7
NRIK	comp=Z,8.0nm,0.9s		pmax	pmax		
NRIK	Noril'sk	148.98 39		PKPbc	13 54 59.4	+0.2
RIDG	Independent Ri	149.00 310		PKPbc	13 54 59.8	+0.2
RIDG	Independent Ri baz=105,SNR=32	149.00 310	P	PKPbc	13 54 59.7	+0.2
PAX	Paxson	149.07 309	PKP2	PKPbc	13 55 00.0	+0.2
PAX	Paxson	149.07 309		PKPbc	13 55 00.0	+0.2
PAX	Paxson baz=106,SNR=13	149.07 309	P	PKPbc	13 54 59.5	-0.3
M24K	Tolsona, Glenn	149.14 307		PKiKP	13 55 00.5	-0.6
M24K	Tolsona, Glenn baz=107,SNR=9.5	149.14 307	P	PKPbc	13 54 59.9	0.0
HHC	Hu-ho-hao-te	149.23 102	*e*PKPbc	PKPdf	13 54 57.8	+1.2
J25K	Salcha River,	149.44 312		PKPbc	13 55 00.3	-0.3
J25K	Salcha River, baz=103,SNR=12	149.44 312	P	PKPbc	13 55 00.5	-0.1
SCM	Sheep Creek Mo	149.58 306	PKP2	PKPbc	13 55 01.3	+0.2
SCM	Sheep Creek Mo	149.58 306		PKPbc	13 55 01.3	+0.2
SCM	Sheep Creek Mo baz=106,SNR=11	149.58 306	P	PKPbc	13 55 01.2	+0.2
BMAR	Burnt Mountain	149.68 317		PKPbc	13 55 01.2	+0.1
PRP	Porcupine Dome	149.71 313		PKPbc	13 55 01.1	-0.3
PRP	Porcupine Dome baz=102	149.71 313	P	PKPbc	13 55 01.0	-0.3
MOY	Mondy	149.71 76	*e*PKP2	PKPbc	13 55 02.0	+0.2
PWL	Port Wells	149.76 304		PKPbc	13 55 01.4	0.0
PWL	Port Wells baz=108,SNR=9.3	149.76 304	P	PKPbc	13 55 01.5	0.0
DHY	Denali Highway	149.94 308		PKPbc	13 55 02.0	0.0
DHY	Denali Highway baz=104,SNR=10	149.94 308	P	PKPbc	13 55 02.0	0.0
WAT6	Susitna Watana baz=105,SNR=25	149.97 307	P	PKPbc	13 55 01.8	-0.3
KNK	Knik Glacier	149.98 305		PKPbc	13 55 01.8	-0.2
KNK	Knik Glacier baz=106,SNR=7.1	149.98 305	P	PKPbc	13 55 01.8	-0.2
SML	Sawmill	150.03 306		PKPbc	13 55 02.0	-0.2
SML	Sawmill baz=106,SNR=14	150.03 306	P	PKPbc	13 55 01.9	-0.2
SEW	Seward	150.05 302		PKPbc	13 55 01.9	-0.2
SEW	Seward baz=108	150.05 302	P	PKPbc	13 55 02.0	-0.1
HDA	Harding Lake	150.06 311		PKPbc	13 55 01.6	-0.4
HDA	Harding Lake baz=102,SNR=10	150.06 311	P	PKPbc	13 55 01.8	-0.3
IL31		150.11 312		PKPbc	13 55 01.7	-0.4
ILAR	Eielson Array comp=Z,12nm,0.8s,baz=130,slow=3.1,SNR=126	150.11 312	PKPbc	PKPbc	13 55 01.8	-0.4
ILAR			PKPab	pPKPdf	13 55 09.1	-2.1
GHO	comp=Z,13nm,0.6s,baz=110,slow=3.5,SNR=18 Glory Hole Cre	150.29 305		PKPbc	13 55 02.6	-0.2
O22K	Cooper Landing	150.30 303		PKPbc	13 55 02.5	-0.2
O22K	Cooper Landing baz=107	150.30 303	P	PKPbc	13 55 02.5	-0.2
ZAK	Zakamensk comp=Z,10.0nm,1.3s	150.33 80	*e*PKIKP	PKPbc	13 55 01.9	-1.4
ZAK			pmax	pmax		
PMR	Palmer	150.34 305	PKIKP	PKPbc	13 55 02.6	-0.2
PMR	Palmer	150.34 305		PKPbc	13 55 02.6	-0.2
PMR	Palmer baz=106,SNR=5.4	150.34 305	P	PKPbc	13 55 02.8	+0.1
POKR	Poker Plat Res	150.41 312		PKPab	13 55 09.9	+0.3
POKR	Poker Plat Res baz=101	150.41 312	P	PKiKP	13 55 03.5	-0.1
CCB	Clear Creek Bu	150.47 311		PKPbc	13 55 02.2	-0.9
RC01	Rabbit Creek A	150.48 304		PKPbc	13 55 03.1	0.0
RC01	Rabbit Creek A baz=106,SNR=8.0	150.48 304	P	PKiKP	13 55 03.6	-0.3
COLA	College baz=101	150.54 312	P	PKPbc	13 55 02.9	-0.2
TCOL	CIGO, UAF Yank	150.54 312		PKPbc	13 55 02.6	-0.6
TCOL	CIGO, UAF Yank baz=101	150.54 312	P	PKPbc	13 55 02.9	-0.3
BRSE	Bradley Lake S baz=108	150.56 301	P	PKPbc	13 55 03.3	-0.1
WRH	Wood River Hil	150.56 311	PKPbc	PKPbc	13 55 02.8	-0.4
BRLK	Bradley Lake	150.63 301		PKPbc	13 55 03.4	-0.3
RND	Reindeer	150.66 309	PKIKP	PKPbc	13 55 03.8	+0.2
RND	Reindeer	150.66 309		PKPbc	13 55 03.8	+0.2
SONM	Songino Array comp=Z,9.7nm,0.6s,baz=222,slow=3.7,SNR=91	150.71 86	PKPbc	PKPbc	13 55 04.0	-0.3
SONM			PKPab	PKPab	13 55 11.4	-0.1
SONM	comp=Z,8.3nm,0.8s,baz=215,slow=3.9,SNR=11 Songino Array	150.71 86		PKPbc	13 55 03.9	-0.4
MDM	Murphy Dome	150.71 312		PKPbc	13 55 02.7	-1.0
MDM			PKPab	PKPab	13 55 11.0	+0.1
H24K	Noodor Dome	150.72 314		PKPbc	13 55 03.2	-0.5
CNPM	China Poot	150.73 300		PKPbc	13 55 03.7	-0.1
MCK	McKinley	150.77 309	PKIKP	PKPbc	13 55 03.5	-0.3
MCK	McKinley	150.77 309	PKPbc	PKPbc	13 55 03.5	-0.3
MCK	McKinley baz=102,SNR=18	150.77 309	P	PKPbc	13 55 03.5	-0.3
KDAK	Kodiak Island	150.82 296	PKIKP	PKPbc	13 55 04.0	0.0
KDAK	Kodiak Island	150.82 296		PKPbc	13 55 04.0	0.0
KDAK	Kodiak Island baz=110	150.82 296	P	PKiKP	13 55 04.5	-0.2
M22K	Willow	150.84 305		PKPbc	13 55 04.0	0.0
M22K	Willow baz=105,SNR=14	150.84 305	P	PKiKP	13 55 04.6	+0.1
HOM	Homer baz=108	150.97 300	P	PKiKP	13 55 05.1	+0.2
OHAK	Old Harbor	150.98 295		PKPbc	13 55 04.4	-0.1
OHAK	Old Harbor baz=111	150.98 295	P	PKiKP	13 55 04.8	-0.1
NEA2	Nenana	151.00 311		PKPbc	13 55 03.9	-0.4
NEA2	Nenana baz=100,SNR=21	151.00 311	P	PKPbc	13 55 03.7	-0.6
CAPN	Captain Cook N baz=106	151.06 303	P	PKiKP	13 55 05.5	+0.5
CUT	Chulitna	151.06 306		PKPbc	13 55 04.6	+0.1
CUT	Chulitna baz=104,SNR=18	151.06 306	P	PKPbc	13 55 04.0	-0.4
BWN	Browne	151.09 310		PKPbc	13 55 04.2	-0.3
ULN	Ulaanbaatar	151.09 87	PKIKP	PKPbc	13 55 04.5	-0.8
ULN	Ulaanbaatar	151.09 87		PKPbc	13 55 04.5	-0.8
SII	Sitkinak Islan baz=112	151.20 293	P	PKiKP	13 55 05.3	-0.2
I23K	Minto, Yukon-K	151.22 312		PKPbc	13 55 03.9	-0.9
I23K	Minto, Yukon-K baz=99,SNR=6.0	151.22 312	P	PKPbc	13 55 04.6	-0.1
TRF	Thorofare Moun	151.30 308		PKPbc	13 55 04.8	-0.5
TRF	Thorofare Moun baz=102,SNR=10	151.30 308	P	PKPbc	13 55 04.9	-0.4
O20K	Slope Mountain baz=106	151.56 301	P	PKiKP	13 55 06.1	-0.2
KTH	Kantishna Hill	151.60 308		PKPbc	13 55 05.5	-0.3
SPCR	Spurr Chakacha baz=104	151.66 303	P	PKPbc	13 55 06.0	-0.1
TOLK	Toolik Lake Re	151.68 319		PKPbc	13 55 05.7	-0.1
TOLK	Toolik Lake Re baz=93,SNR=47	151.68 319	P	PKPbc	13 55 05.4	-0.4
RSO	Redoubt South	151.73 302		PKPbc	13 55 05.5	-0.8
BPAW	Bear Paw Mtn.	151.73 310		PKPbc	13 55 05.5	-0.5
BPAW	Bear Paw Mtn. baz=100,SNR=32	151.73 310	P	PKPbc	13 55 05.5	-0.5
MLY	Manley	151.78 312		PKPbc	13 55 05.6	-0.5
MLY	Manley baz=98	151.78 312	P	PKPbc	13 55 06.1	0.0
COLD	Coldfoot	151.82 316		PKiKP	13 55 06.3	-0.2
COLD	Coldfoot baz=95,SNR=14	151.82 316	P	PKPbc	13 55 05.9	-0.2
PPLA	Purkeypile	152.04 307		PKPbc	13 55 06.4	-0.5
PPLA	Purkeypile baz=101,SNR=7.2	152.04 307	P	PKPbc	13 55 06.3	-0.6
CAST	Castle Rocks	152.09 308		PKPbc	13 55 05.8	-1.0
CAST	Castle Rocks baz=100,SNR=16	152.09 308	P	PKPbc	13 55 05.9	-1.0
CHUM	Lake Minchumin baz=99,SNR=17	152.27 309	P	PKPbc	13 55 06.7	-0.5
I21K	Tanana	152.32 312	PKPbc	PKPbc	13 55 06.6	-0.7
I21K	Tanana baz=97	152.32 312	P	PKPbc	13 55 07.3	0.0
O19K	Port Alsworth	152.41 301		PKPbc	13 55 06.6	-1.0
O19K	Port Alsworth baz=105	152.41 301	P	PKPbc	13 55 07.4	-0.2
P18K	Big Mountain,	152.64 299		PKPbc	13 55 07.1	-1.1
P18K	Big Mountain, baz=106	152.64 299	P	PKPbc	13 55 07.9	-0.4
N19K	Bonanza Creek	152.65 302		PKPbc	13 55 07.0	-1.2
N19K	Bonanza Creek baz=104	152.65 302	P	PKPbc	13 55 08.0	-0.3
K20K	Telida	152.96 308		PKPbc	13 55 08.1	-0.8
L19K	White Mountain baz=101	153.11 305	P	PKPbc	13 55 09.1	-0.1
IMAR	Indian Mountai	153.13 313		PKPbc	13 55 08.8	-0.3
TTA	Tatalina	153.77 306	PKIKP	PKPbc	13 55 10.6	0.0
TTA	Tatalina	153.77 306		PKPbc	13 55 10.6	0.0
TTA	Tatalina baz=98	153.77 306	P	PKiKP	13 55 11.5	+0.8
A21K	Barrow	153.95 326		PKPbc	13 55 10.5	-0.2
SDPT	Sand Point baz=111	154.06 288	P	PKiKP	13 55 12.8	+1.3
KSRS	Korea Array comp=Z,1.3nm,0.7s,baz=230,slow=4.0,SNR=4.3	155.00 128	PKPab	PKPab	13 55 28.0	-1.6
ANM	Nome baz=87	158.00 310	P	PKPab	13 55 42.5	+0.6
TNA	Tin City	158.98 313		PKPab	13 55 46.9	+0.8
TNA	Tin City baz=82	158.98 313	P	PKPab	13 55 47.2	+1.1
PETK	Petropavlovsk- comp=Z,3.2nm,0.7s,baz=77,slow=9.4,SNR=2.0	175.93 226	PKPab	PKPab	13 57 01.0	-0.3
PETK	Petropavlovsk-	175.93 226	PKP2	PKPab	13 57 01.0	-0.3

ISK ***15*** *13:51:56.9, 35.33N×23.63E, h16km±1km, ML2.5/5*
THE ***15*** *13:51:57.3, 35.40N×23.57E, h10km±2km, ML2.3/3, Error ellipse: s-maj=2.2km s-min=0.4km az=36.0*
ATH ***15*** *13:51:57.2, 35.37N×23.56E, h12km±3km, ML2.4/3, Error ellipse: s-maj=4.0km s-min=1.2km az=49.0*

ISC 15 13:51:56.6±1.2, 35.35N±0.04×23.55E±0.04, h14km±9km, n18, σ0 s23/27, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	Palaiochora Ch	0.16	138	PG	Pg	13 52 00.4	-0.2
KNDR				SG	Sg	13 52 03.1	-0.1
RODP	Rodopos	0.27	39	PG	Pb	13 52 02.9	-0.2
IMMV	Iera Moni Meta	0.36	73	P	Pg	13 52 04.2	+0.1
IMMV				S	Sg	13 52 09.4	+0.3
IMMV				AML	AML	13 52 13.6	
IMMV	comp=N,1613μm,0.4s			AML	AML	13 52 15.7	
IMMV	comp=E,1656μm,0.5s Iera Moni Meta	0.36	73	P	Pg	13 52 04.1	+0.1
IMMV				S	Sg	13 52 09.4	+0.3
IMMV	comp=E,800nm,0.4s Iera Moni Meta	0.36	73	PG	Pg	13 52 04.2	+0.1
IMMV				SG	Sg	13 52 09.2	+0.1
VAM	Vamos	0.53	84	P	Pg	13 52 07.2	+0.1
VAM				S	Sg	13 52 14.5	+0.3
VAM	comp=N,1268μm,0.2s			AML	AML	13 52 16.8	
VAM	comp=E,810μm,0.2s			AML	AML	13 52 17.2	
VAM	Vamos	0.53	84	P	Pg	13 52 07.1	+0.1
VAM				S	Sb	13 52 14.8	-0.3
ANKY	comp=E,470nm,0.3s Antikythira Is	0.55	338	P	Pg	13 52 07.4	0.0
ANKY				S	Sg	13 52 14.9	0.0
ANKY	Antikythira Is	0.55	338	P	Pg	13 52 07.5	0.0
ANKY	comp=E,245nm,0.2s			S	Sg	13 52 14.9	0.0
GVD	Gavdhos	0.68	139	P	Pb	13 52 10.1	0.0
GVD	comp=N,865μm,0.3s			AML	AML	13 52 22.8	
GVD	comp=E,665μm,0.2s			AML	AML	13 52 23.0	
GVD	Gavdhos	0.68	139	P	Pb	13 52 10.6	+0.5
GVD	Gavdhos	0.68	139	PG	Pg	13 52 09.7	-0.1
KTHA	Kythira Island	0.99	336	P	Pb	13 52 15.4	0.0
KTHA	Kythira Island	0.99	336	P	Pb	13 52 15.3	-0.1
IDI	Anoyia	1.09	93	P	Pb	13 52 17.0	-0.3
IDI	Anoyia	1.09	93	P	Pb	13 52 17.2	-0.1
IDI	Anoyia	1.09	93	PG	Pb	13 52 17.1	-0.2
IDI				SG	Sg	13 52 32.1	+0.1
VLI	Veliai	1.45	340	P	Pb	13 52 23.7	+0.4

NOU ***15*** *14:41:37.0, 19.83S×175.18W, h243km, mb4.9/71, Tonga Islands*
NEIC ***15*** *14:41:39.6±2.2, 19.8S±0.1×175.56W±0.08, h233km±7km, mb4.8/91, Error ellipse: s-maj=15.0km s-min=11.3km az=169.0*
IDC ***15*** *14:41:41.3±1.7, 20.01S×175.90W, h244km±16km, mb4.0/19, mb1 4.2/21, mb1mx4.1/32, mbtmp4.6/21, Error ellipse: s-maj=15.8km s-min=10.0km az=134.0*

ISC 15 14:41:35.8±0.3, 20.13S±0.05×175.56W±0.05, h204km, n376, σ1 s75/400, mb4.8/82, 13C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue baz=5.2,SNR=31	5.41	80	P	Pn	14 42 56.1	+0.5
NIUE	baz=5.2			S	S	14 43 55.4	-2.9
NIUE	Niue	5.41	80		Pn	14 42 56.9	+1.3
MSVF	Nonsavu	6.50	290	P	Pn	14 43 12.2	+2.4
MSVF	6.6nm,0.3s,baz=127,slow=17,SNR=39			S	S	14 44 26.1	+2.0
MSVF	baz=170,slow=22,SNR=0.5 Nonsavu	6.50	290		Pn	14 43 11.6	+1.8
MSVF	Nonsavu	6.50	290	P	Pn	14 43 13.3	+3.5
AFI	Afiamalu	7.17	31	P	Pn	14 43 12.8	-5.6
AFI	40nm,0.3s,baz=198,slow=2.7,SNR=93			S	S	14 44 25.9	-14
AFI	82nm,0.3s,baz=54,slow=23,SNR=17 Afiamalu	7.17	31		Pn	14 43 13.3	-5.1
AFI	Afiamalu	7.17	31	P	Pn	14 43 13.6	-4.8
GLKZ	Green Lake	9.34	193	P	Pn	14 43 46.2	-0.2
GLKZ				S	S	14 45 30.7	-0.5
RAR	Rarotonga 3.8nm,0.3s,baz=276,slow=8.2,SNR=6.4	14.81	97	P	P	14 45 09.4	+13
MARNC	Mare, Loyalty	15.41	262	P	P	14 45 04.8	+1.8
MARNC	Mare, Loyalty	15.41	262	P	P	14 45 05.2	+2.2
DVP	Devils Point	15.57	276	P	P	14 45 08.4	+3.6
PINNC	Pines Island,	16.02	258	Pn	Pn	14 45 13.1	+2.8
PINNC	Pines Island,	16.02	258	P	Pn	14 45 13.8	+3.5
LIFNC	LIFOU	16.14	265	P	P	14 45 09.0	-2.1
YATNC	Mamie plateau,	16.49	260	P	Pn	14 45 19.0	+3.0
OUENC	Ouen Island, N	16.56	259		Pn	14 45 18.8	+1.9
OUENC	Ouen Island, N	16.56	259	P	Pn	14 45 19.1	+2.3
DZM	Mont Dzumac 7.6nm,0.3s,baz=79,slow=17,SNR=97	16.91	260	P	Pn	14 45 22.7	+1.7
DZM	Mont Dzumac	16.91	260	P	Pn	14 45 21.9	+0.9
DZM	Mont Dzumac	16.91	260	P	Pn	14 45 23.1	+2.1
ONTNC	Ouen Toro	16.91	259	P	Pn	14 45 21.5	+0.6
ONTNC	Ouen Toro	16.91	259	P	Pn	14 45 23.0	+2.0
NOUC	Port Laguerre	17.04	260	P	Pn	14 45 24.4	+1.9
SANVU	Saraoutou	17.06	283		Pn	14 45 21.7	-1.1
SANVU	Saraoutou	17.06	283	P	Pn	14 45 23.6	+0.8
OUZ	Omahuta	17.82	210		Pn	14 45 33.2	+1.8
OUZ	comp=Z,19nm,0.9s			IAmb	IAmb	14 45 42.1	
OUZ	Omahuta	17.82	210	P	Pn	14 45 34.2	+2.7
OUZ	Omahuta	17.82	210	P	Pn	14 45 33.7	+2.3
WCZ	Waipu Caves	18.07	207	P	Pn	14 45 35.9	+1.4
MXZ	Matakaoa Point	18.17	196	P	Pn	14 45 37.1	+1.5
MXZ	Matakaoa Point	18.17	196	P	Pn	14 45 36.8	+1.2
WMGZ	Waiomatatini S	18.39	195	P	Pn	14 45 40.2	+2.1
HAZ	Te Kaha	18.49	197	P	Pn	14 45 40.1	+0.8
HAZ				S	S	14 48 56.9	+0.2
MYRZ	Mayor Island	18.52	201	P	Pn	14 45 42.8	+3.1
PKGZ	Pakihiroa	18.54	196	P	Pn	14 45 41.8	+1.8
PUZ	Puketiti	18.66	195	P	Pn	14 45 41.7	+0.3
PUZ				S	S	14 48 54.2	-6.1
RUGZ	Raukumara Rang	18.72	197	P	Pn	14 45 42.6	+0.5
RUGZ				S	S	14 48 55.2	-6.3
TWGZ	Tauwhareparae	18.84	196	P	Pn	14 45 45.5	+2.1
TWGZ				S	S	14 48 59.8	-3.9
KOUNC	Koumac, New Ca	18.91	265	P	Pn	14 45 43.7	-0.7
TGRZ	Tauranga	18.92	200	P	Pn	14 45 46.5	+2.1
OPRZ	Ohinepanea	18.93	200	P	Pn	14 45 44.6	+0.1
CNGZ	Carnagh Statio	19.07	195	P	Pn	14 45 47.7	+1.6
CNGZ				S	S	14 49 05.4	-2.7
MWZ	Matawai	19.10	197	P	P	14 45 45.3	+2.0
MWZ				S	S	14 49 05.6	-3.3
TKGZ	Te Karaka	19.12	196	P	P	14 45 45.9	+2.5
TKGZ				S	S	14 49 04.5	-4.7
KMRZ	Kaimai	19.14	201	P	Pn	14 45 48.3	+1.4
URZ	Urewera comp=Z,18nm,0.3s,baz=278,slow=2.9,SNR=114	19.15	198	P	P	14 45 45.1	+1.4
URZ				S	S	14 49 07.4	-2.3
URZ	comp=Z,2.5nm,0.3s,baz=78,slow=23,SNR=11 Urewera	19.15	198	P	P	14 45 45.2	+1.4
URZ	Urewera	19.15	198	P	P	14 45 45.1	+1.4
URZ				S	S	14 49 04.6	-5.2
URZ	Urewera	19.15	198	P	P	14 45 45.6	+1.9
TOZ	Tahuroa Road	19.18	202	P	Pn	14 45 48.8	+1.4
TOZ				S	S	14 49 04.8	-5.6
KARZ	Kaharoa	19.19	200	P	Pn	14 45 47.9	+0.3
OMRZ	Omania	19.23	200	P	Pn	14 45 49.3	+1.2
RAGZ	Rawiri	19.29	197	P	P	14 45 47.5	+2.2
RAGZ				S	S	14 49 07.0	-5.6
NGRZ	Ngongotaha	19.29	200	P	Pn	14 45 50.2	+1.4
TARZ	Mount Tarawera	19.31	199	P	Pn	14 45 49.2	+0.1
UTU	Utuhina	19.35	200	P	Pn	14 45 49.7	+0.2
RIGZ	Rimuhau	19.39	196	P	Pn	14 45 49.7	-0.3
RIGZ				S	S	14 49 12.6	-2.0
RRRZ	Republican Roa	19.40	199	P	Pn	14 45 50.4	+0.3
MUGZ	Murupara	19.45	198	P	P	14 45 48.3	+1.3
HSRZ	Hossack Road	19.46	200	P	Pn	14 45 53.3	+2.5
HRRZ	Handcock Road	19.52	200	P	P	14 45 48.1	+0.3
PRGZ	Paritu Road	19.56	195	P	Pn	14 45 53.1	+1.0
PRGZ				S	S	14 49 14.2	-3.7
PRRZ	Plateau Road	19.59	199	P	P	14 45 50.0	+1.6
WPRZ	Whakapapataran	19.68	200	P	Pn	14 45 52.7	-0.7
TLZ	Tolley Road	19.71	201	P	Pn	14 45 53.8	0.0
KNZ	Kokohu	19.71	196	P	P	14 45 52.4	+2.6
KNZ				S	S	14 49 17.9	-2.9
KUTZ	Kaahu Road	19.76	200	P	Pn	14 45 54.2	-0.2
RAHZ	Arahi	19.77	197	P	P	14 45 52.0	+1.6
RAHZ				S	S	14 49 20.1	-1.8
MHKZ	Mahia Peninsul	19.78	195	P	Pn	14 45 54.7	+0.1
MHGZ				S	S	14 49 15.9	-6.2
MRHZ	Matea Rd	19.89	199	P	P	14 45 53.6	+1.9
MRHZ				S	S	14 49 25.1	+0.8
WATZ	Wairara	19.98	200	P	P	14 45 55.8	+3.1
HATZ	Hinemaiaia	20.04	199	P	P	14 45 54.6	+1.3
HIZ	Hauiti	20.11	202	P	Pn	14 45 57.9	-0.8
HIZ	Hauiti	20.11	202	P	Pn	14 45 58.1	-0.5
HIZ	Hauiti	20.11	202	P	Pn	14 45 58.2	-0.5
ARHZ	Aropaoanui	20.12	197	P	P	14 45 55.9	+1.8
ARHZ				S	S	14 49 25.7	-3.0
RATZ	Rangitukua	20.12	200	P	P	14 45 56.2	+2.0
BKZ	Black Stump Fm	20.17	198	P	P	14 45 55.8	+1.1
BKZ				S	S	14 49 29.1	-0.7
BKZ	Black Stump Fm	20.17	198	P	P	14 45 55.3	+0.5
KATZ	Kakaramea	20.24	200	P	P	14 45 58.0	+2.4
NTVZ	North Tongarir	20.36	200	P	P	14 45 58.8	+2.0
NTVZ				S	S	14 49 32.1	-1.5
TMVZ	Te Maari	20.36	200	P	P	14 45 58.1	+1.2
TMVZ				S	S	14 49 36.5	+2.8
KRVZ	Karewarewa	20.37	200	P	P	14 45 59.0	+2.1
MCHZ	McNeill Hill	20.37	197	P	P	14 45 58.5	+1.7
MCHZ				S	S	14 49 34.3	+0.8
ETVZ	East Tongariro	20.38	200	P	P	14 45 57.7	+0.6
WTVZ	West Tongariro	20.40	200	P	P	14 45 58.5	+1.2
NNVZ	North Ngauruho	20.41	200	P	P	14 45 59.5	+2.1
TWVZ	Taurewa	20.41	200	P	P	14 45 58.9	+1.5
OTVZ	Oturere	20.42	200	P	P	14 45 57.8	+0.2
KWHZ	Kaweka Forest	20.43	198	P	P	14 45 59.1	+1.5
KWHZ				S	S	14 49 35.8	+0.9
SNVZ	South Ngauruho	20.45	200	P	P	14 45 58.8	+1.0
NGZ	Ngauruhoe	20.45	200	P	P	14 45 59.6	+1.7
NGZ				S	S	14 49 38.0	+2.6
CKHZ	Cape Kidnapper	20.46	196	P	Pn	14 46 02.0	-1.1
CKHZ				S	S	14 49 37.0	+1.6
TUVZ	Tukino	20.52	200	P	P	14 45 59.8	+1.2
TUVZ				S	S	14 49 40.8	+4.1
FWVZ	Far West T-bar	20.54	200	P	P	14 45 59.6	+0.7
WHVZ	Whangaehu Hut	20.55	200	P	P	14 46 00.2	+1.2
TRVZ	Turoa	20.58	200	P	P	14 46 00.8	+1.4
TRVZ				S	S	14 49 42.6	+4.6
WNVZ	Wahianoa	20.59	200	P	P	14 46 00.3	+1.0
WNVZ				S	S	14 49 40.5	+2.4
BHHZ	Black Hill Sta	20.60	199	P	P	14 45 59.4	+0.1
BHHZ				S	S	14 49 34.4	-3.6
MOVZ	Moawhango	20.61	199	P	P	14 46 00.0	+0.5
MOVZ				S	S	14 49 38.5	+0.1
PKVZ	Pokaka	20.64	200	P	P	14 46 01.3	+1.6
KAHZ	Kahuranaki	20.65	197	P	P	14 46 02.0	+2.2
KAHZ				S	S	14 49 37.8	-1.1
KRHZ	Kereru	20.65	198	P	P	14 46 00.0	+0.2
KRHZ				S	S	14 49 37.6	-1.3
MTVZ	Mangateitei	20.68	200	P	P	14 46 02.0	+1.7
VRZ	Vera Road	20.69	202	P	P	14 46 03.1	+2.9
MHEZ	Mangahewa	20.80	203	P	P	14 46 04.3	+2.9
PXZ	Pawanui	20.87	197	P	P	14 46 04.0	+1.9
PNHZ	Pukenui	20.95	198	P	P	14 46 03.5	+0.6
WPHZ	Waipukurau	21.02	197	P	P	14 46 06.9	+3.3
PKE	Pukeiti	21.03	203	P	P	14 46 07.7	+3.9
NEZ	North Egmont	21.05	203	P	P	14 46 08.2	+4.0
KHEZ	Kahui Hut	21.11	203	P	P	14 46 09.3	+4.6
LREZ	Lake Rotokare	21.11	202	P	P	14 46 08.9	+4.2
TSZ	Takapari Road	21.15	198	P	P	14 46 05.0	-0.1
PRHZ	Porangahau	21.15	197	P	P	14 46 06.0	+0.9
WAZ	Wanganui	21.18	201

EIDS	**Eidsvold**	**31.15**	**254**	P	**P**	**14 47 36.0**	**+0.3**
EIDS				IAmb	IAmb	14 47 36.8	
	comp=Z,20nm,0.7s						
ARMA	**Armidale**	**31.29**	**244**	P	**P**	**14 47 38.2**	**+1.2**
	baz=32,SNR=5.5						
ARMA	**Armidale**	**31.29**	**244**	P	**P**	**14 47 37.8**	**+0.8**
ARMA				IAmb	IAmb	14 47 39.4	
	comp=Z,9.8nm,0.9s						
ARMA	**Armidale**	**31.29**	**244**	P	**P**	**14 47 38.1**	**+1.1**
RK1H	**Rockhampton Ha**	**31.66**	**258**	P	**P**	**14 47 40.7**	**+0.6**
MGCD	**Mangrove Creek**	**32.36**	**239**	P	**P**	**14 47 47.7**	**+1.5**
	baz=33,SNR=8.6						
MGCD	**Mangrove Creek**	**32.36**	**239**	P	**P**	**14 47 47.6**	**+1.4**
SYDH	**Sydney Hard Ro**	**32.81**	**239**	P	**P**	**14 47 51.1**	**+1.1**
RMQ	**Roma**	**33.30**	**252**	P	**P**	**14 47 55.6**	**+1.2**
	baz=34,SNR=11						
RMQ	**Roma**	**33.30**	**252**	P	**P**	**14 47 56.0**	**+1.5**
CNB	**Canberra Magne**	**34.33**	**236**	P	**P**	**14 48 04.3**	**+1.0**
	baz=35,SNR=8.5						
CNB	**Canberra Magne**	**34.33**	**236**	P	**P**	**14 48 04.3**	**+1.0**
CAN	**Canberra**	**34.62**	**237**	P	**P**	**14 48 06.3**	**+0.5**
CAN				IAmb	IAmb	14 48 22.6	
	comp=Z,58nm,1.5s						
CAN	**Canberra**	**34.62**	**237**	P	**P**	**14 48 06.5**	**+0.7**
RABL	**Rabaul**	**35.20**	**292**	P	**P**	**14 48 10.0**	**-0.9**
CTA	**Charters Tower**	**35.81**	**263**	P	**P**	**14 48 15.6**	**-0.4**
	baz=36						
CTA	**Charters Tower**	**35.81**	**263**	P	**P**	**14 48 16.2**	**+0.2**
CMSA	**Cobar Meteorol**	**36.51**	**244**	P	**P**	**14 48 22.1**	**+0.3**
	baz=37,SNR=31						
CMSA	**Cobar Meteorol**	**36.51**	**244**	P	**P**	**14 48 22.3**	**+0.5**
QLP	**Quilpie**	**37.35**	**252**	P	**P**	**14 48 28.6**	**-0.4**
	baz=38,SNR=21						
QLP	**Quilpie**	**37.35**	**252**	P	**P**	**14 48 29.1**	**+0.1**
PMG	**Port Moresby**	**37.51**	**281**	P	**P**	**14 48 29.9**	**-0.5**
PMG	**Port Moresby**	**37.51**	**281**	P	**P**	**14 48 30.5**	**+0.1**
MTSU	**Mount Surprise**	**37.90**	**266**	P	**P**	**14 48 33.3**	**-0.4**
	baz=38,SNR=31						
MTSU	**Mount Surprise**	**37.90**	**266**	P	**P**	**14 48 33.7**	**0.0**
TOO	**Toolangi**	**37.97**	**234**	P	**P**	**14 48 34.7**	**+0.6**
	baz=38,SNR=6.4						
TOO	**Toolangi**	**37.97**	**234**	P	**P**	**14 48 34.7**	**+0.6**
TOO				IAmb	IAmb	14 48 38.4	
	comp=Z,10nm,0.8s						
TOO	**Toolangi**	**37.97**	**234**	P	**P**	**14 48 35.3**	**+1.3**
TAU	**Tasmania Unive**	**38.50**	**225**	P	**P**	**14 48 39.4**	**+1.1**
TAU				IAmb	IAmb	14 48 54.4	
	comp=Z,69nm,1.5s						
TAU	**Tasmania Unive**	**38.50**	**225**	P	**P**	**14 48 40.5**	**+2.1**
COEN	**Coen**	**39.85**	**272**	P	**P**	**14 48 49.3**	**-0.6**
COEN				IAmb	IAmb	14 48 50.5	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**39.85**	**272**	P	**P**	**14 48 49.6**	**-0.3**
STKA	**Stephens Creek**	**40.01**	**244**	P	**P**	**14 48 51.1**	**0.0**
	comp=Z,7.6nm,0.8s,baz=87,slow=11,SNR=21						
STKA				PcP	**PcP**	**14 50 53.2**	**+1.3**
	comp=Z,5.4nm,0.6s,baz=91,slow=3.6,SNR=7.3						
STKA	**Stephens Creek**	**40.01**	**244**	P	**P**	**14 48 51.3**	**+0.2**
	baz=40,SNR=12						
STKA	**Stephens Creek**	**40.01**	**244**	P	**P**	**14 48 51.0**	**0.0**
STKA	**Stephens Creek**	**40.01**	**244**	P	**P**	**14 48 51.6**	**+0.6**
MANU	**Manus Island**	**40.42**	**292**	P	**P**	**14 48 53.7**	**-0.8**
MANU				IAmb	IAmb	14 48 55.1	
	comp=Z,25nm,0.7s						
INKA	**Innaminka**	**40.49**	**251**	P	**P**	**14 48 55.7**	**+0.8**
QIS	**Mount Isa**	**41.94**	**261**	P	**P**	**14 49 05.9**	**-1.0**
	baz=42,SNR=12						
QIS	**Mount Isa**	**41.94**	**261**	P	**P**	**14 49 06.1**	**-0.8**
HTT	**Hallett**	**42.42**	**242**	P	**P**	**14 49 10.6**	**-0.1**
	baz=43,SNR=7.8						
HTT	**Hallett**	**42.42**	**242**	P	**P**	**14 49 10.9**	**+0.2**
LCRK	**Leigh Creek**	**42.79**	**247**	P	**P**	**14 49 13.9**	**+0.3**
NAPP	**Napperby**	**43.04**	**243**	P	**P**	**14 49 16.0**	**+0.4**
NPH	**North Pit**	**44.04**	**28**	P	**P**	**14 49 21.5**	**-2.2**
BBOO	**Buckleboo**	**44.76**	**243**	P	**P**	**14 49 28.6**	**-0.7**
	baz=45,SNR=13						
BBOO	**Buckleboo**	**44.76**	**243**	P	**P**	**14 49 28.6**	**-0.7**
BBOO				IAmb	IAmb	14 49 29.6	
	comp=Z,22nm,1.1s						
BBOO	**Buckleboo**	**44.76**	**243**	P	**P**	**14 49 28.8**	**-0.5**
OOD	**Oodnadatta**	**44.97**	**250**	P	**P**	**14 49 31.7**	**+0.7**
JAY	**Jayapura**	**46.12**	**287**	P	**P**	**14 49 39.7**	**-0.5**
	comp=Z,43nm,0.8s						
MULG	**Mulgathing**	**46.37**	**247**	P	**P**	**14 49 41.8**	**-0.2**
GENI	**Genyem**	**46.57**	**286**	P	**P**	**14 49 43.2**	**-0.5**
	comp=Z,190nm,0.8s						
WR0	**Warramunga Arr**	**46.73**	**261**	P	**P**	**14 49 43.5**	**-1.4**
WR0				IAmb	IAmb	14 49 44.8	
	comp=Z,14nm,0.5s						
AS31	**Alice Springs**	**46.83**	**256**	P	**P**	**14 49 44.6**	**-1.1**
ASAR	**Alice Springs**	**46.83**	**256**	P	**P**	**14 49 44.9**	**-0.8**
	comp=Z,23nm,0.5s,baz=91,slow=8.3,SNR=608						
ASAR				PcP	**PcP**	**14 51 15.9**	**+0.6**
	comp=Z,2.8nm,0.4s,baz=107,slow=3.9,SNR=7.6						
ASAR				S	**S**	**14 56 14.5**	**-6.1**
	comp=Z,0.5nm,0.8s,baz=87,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**46.83**	**256**	P	**P**	**14 49 44.7**	**-1.0**
WB0	**Warramunga Arr**	**46.90**	**261**	P	**P**	**14 49 44.6**	**-1.6**
WB0				IAmb	IAmb	14 49 46.2	
	comp=Z,30nm,0.6s						
WB2	**Warramunga Arr**	**46.91**	**261**	P	**P**	**14 49 44.9**	**-1.4**
	baz=47						
WB2	**Warramunga Arr**	**46.91**	**261**	P	**P**	**14 49 44.9**	**-1.4**
WB2				IAmb	IAmb	14 49 46.4	
	comp=Z,48nm,1.2s						
WRA	**Warramunga Arr**	**46.92**	**261**	P	**P**	**14 49 44.9**	**-1.5**
	comp=Z,14nm,0.6s,baz=90,slow=4.9,SNR=303						
WRA				S	**S**	**14 56 15.7**	**-6.3**
	comp=Z,1.3nm,1.0s,baz=96,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**46.92**	**261**	P	**P**	**14 49 44.8**	**-1.5**
SMPI	**Sarmi**	**48.14**	**286**	P	**P**	**14 49 55.3**	**-0.5**
	comp=Z,48nm,1.0s						
KDU	**Kakadu**	**50.24**	**270**	P	**P**	**14 50 10.5**	**-1.2**
	baz=50,SNR=31						
KDU	**Kakadu**	**50.24**	**270**	P	**P**	**14 50 10.6**	**-1.0**
GUMO	**Guam**	**51.37**	**308**	P	**P**	**14 50 18.8**	**-1.1**
FORT	**Forrest**	**51.54**	**246**	P	**P**	**14 50 20.4**	**-0.8**
	baz=52,SNR=7.8						
FORT	**Forrest**	**51.54**	**246**	P	**P**	**14 50 20.4**	**-0.8**
FORT				IAmb	IAmb	14 50 25.7	
	comp=Z,28nm,0.9s						
FORT	**Forrest**	**51.54**	**246**	P	**P**	**14 50 20.6**	**-0.6**
WRKA	**Warakurna**	**51.77**	**254**	P	**P**	**14 50 22.3**	**-0.7**
	baz=52,SNR=126						
WRKA	**Warakurna**	**51.77**	**254**	P	**P**	**14 50 22.6**	**-0.4**
DRS	**Darwin Rock St**	**51.79**	**270**	P	**P**	**14 50 22.0**	**-1.2**
KNRA	**Kununurra**	**52.97**	**265**	P	**P**	**14 50 31.1**	**-0.7**
	baz=53,SNR=34						
KNRA	**Kununurra**	**52.97**	**265**	P	**P**	**14 50 31.1**	**-0.7**
KNRA				IAmb	IAmb	14 50 33.2	
	comp=Z,32nm,0.8s						
KNRA	**Kununurra**	**52.97**	**265**	P	**P**	**14 50 31.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.35**	**262**	P	**P**	**14 50 48.8**	**-0.3**
SWI	**Sorong**	**55.38**	**283**	P	**P**	**14 50 48.7**	**-0.6**
	comp=Z,930nmcomp=Z,111nm,0.8s						
SBA	**Scott Base**	**58.40**	**184**	P	**P**	**14 51 12.2**	**+2.8**
SBA				IAmb	IAmb	14 51 28.4	
	comp=Z,13nm,1.2s						
LBMI	**Labuha**	**58.91**	**282**	P	**P**	**14 51 14.0**	**-0.1**
	comp=Z,27nm,1.0s						
TNTI	**Ternate**	**59.60**	**283**	P	**P**	**14 51 15.4**	**-3.3**
TNTI				IAmb	IAmb	14 51 19.5	
	comp=Z,26nm,0.8s						
SANI	**Sanana**	**59.77**	**280**	P	**P**	**14 51 18.5**	**-1.4**
	comp=Z,26nm,0.7s						
PSA00	**Pilbara Seismi**	**59.98**	**256**	P	**P**	**14 51 19.4**	**-1.8**
PSA00				IAmb	IAmb	14 51 21.2	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**59.98**	**256**	P	**P**	**14 51 20.8**	**-0.5**
MEEK	**Meekatharra**	**60.20**	**250**	P	**P**	**14 51 22.2**	**-0.5**
	baz=60,SNR=7.0						
MMRI	**Maumere**	**61.03**	**271**	P	**P**	**14 51 27.5**	**-1.0**
MMRI				IAmb	IAmb	14 51 48.5	
	comp=Z,33nm,1.0s						
BLDU	**Ballidu**	**61.29**	**245**	P	**P**	**14 51 29.6**	**-0.4**
	baz=62,SNR=5.5						
BLDU	**Ballidu**	**61.29**	**245**	P	**P**	**14 51 29.5**	**-0.4**
MUN	**Mundaring**	**61.55**	**244**	P	**P**	**14 51 31.8**	**+0.1**
	baz=62,SNR=4.5						
MUN	**Mundaring**	**61.55**	**244**	P	**P**	**14 51 32.2**	**+0.5**
MORW	**Morawa**	**62.09**	**247**	P	**P**	**14 51 34.6**	**-0.7**
MORW				IAmb	IAmb	14 51 36.5	
	comp=Z,23nm,1.3s						
LUWI	**Luwuk**	**63.13**	**279**	P	**P**	**14 51 41.8**	**-0.6**
LUWI				IAmb	IAmb	14 51 43.1	
	comp=Z,21nm,0.8s						
GTOI	**Gorontalo**	**63.54**	**281**	P	**P**	**14 51 46.9**	**+1.8**
	comp=Z,7.9nm,0.8s						
GIRL	**Giralia**	**64.86**	**254**	P	**P**	**14 51 53.6**	**0.0**
	baz=65,SNR=5.2						
GIRL	**Giralia**	**64.86**	**254**	P	**P**	**14 51 54.0**	**+0.5**
GIRL	**Giralia**	**64.86**	**254**	P	**P**	**14 51 54.4**	**+0.9**
PLAI	**Plampang**	**65.17**	**269**	P	**P**	**14 51 55.4**	**-0.3**
TOLI2	**Tolitoli**	**65.78**	**281**	P	**P**	**14 51 58.9**	**-0.7**
TOLI2				IAmb	IAmb	14 51 59.6	
	comp=Z,9.9nm,0.9s						
TOLI2	**Tolitoli**	**65.78**	**281**	P	**P**	**14 51 58.7**	**-0.9**
MPSI	**Mapaga**	**66.31**	**280**	P	**P**	**14 52 02.2**	**-0.7**
	comp=Z,18nm,0.7s						
JAGI	**Jajag, Banyuwa**	**68.68**	**269**	P	**P**	**14 52 16.2**	**-1.6**
JAGI				IAmb	IAmb	14 52 16.8	
	comp=Z,29nm,0.8s						
JYT	**Yasato**	**69.95**	**323**	P	**P**	**14 52 24.3**	**-0.8**
JYT				IAmb	IAmb	14 52 37.2	
	comp=Z,51nm,1.4s						
PWJI	**Pagerwojo**	**71.03**	**268**	P	**P**	**14 52 31.5**	**-0.6**
	comp=Z,38nm,1.0s						
MJAR	**Matsushiro Arr**	**71.30**	**322**	P	**P**	**14 52 31.8**	**-1.5**
	comp=Z,8.7nm,0.7s,baz=160,slow=5.7,SNR=16						
MJAR	**Matsushiro Arr**	**71.30**	**322**	P	**P**	**14 52 31.6**	**-1.7**
MAJO	**Matsushiro**	**71.30**	**322**	P	**P**	**14 52 31.6**	**-1.7**
MAJO				IAmb	IAmb	14 52 33.5	
	comp=Z,10nm,0.8s						
MAJO	**Matsushiro**	**71.30**	**322**	P	**P**	**14 52 31.3**	**-2.0**
MJB9	**Matsu-Tunnel**	**71.31**	**322**	P	**P**	**14 52 31.4**	**-1.9**
MJB9				IAmb	IAmb	14 52 33.4	
	comp=Z,9.8nm,0.8s						
PCJI	**Pacitan**	**71.56**	**268**	P	**P**	**14 52 34.7**	**-0.6**
	comp=Z,171nm,0.6s						
KKM	**Kota Kinabalu**	**71.89**	**284**	P	**P**	**14 52 36.9**	**-0.5**
KKM				IAmb	IAmb	14 52 37.6	
	comp=Z,23nm,0.6s						
KKM	**Kota Kinabalu**	**71.89**	**284**	P	**P**	**14 52 37.1**	**-0.3**
JMN	**Monobe**	**72.04**	**317**	P	**P**	**14 52 37.5**	**-0.3**
JMN				IAmb	IAmb	14 52 46.0	
	comp=Z,38nm,1.4s						
UGM	**Wanagama**	**72.27**	**268**	P	**P**	**14 52 38.8**	**-0.7**
UGM	**Wanagama**	**72.27**	**268**	P	**P**	**14 52 39.2**	**-0.3**
JSD	**Sado**	**72.32**	**323**	P	**P**	**14 52 39.1**	**-0.1**
JSD				IAmb	IAmb	14 52 47.8	
	comp=Z,34nm,1.0s						
JHS	**Saijyo**	**73.34**	**318**	P	**P**	**14 52 45.0**	**-0.4**
JHS				IAmb	IAmb	14 52 46.6	
	comp=Z,20nm,0.9s						
KPJI	**Karang Pucung**	**73.94**	**268**	P	**P**	**14 52 48.7**	**-0.6**
	comp=Z,26nm,0.8s						
STKI	**Sintang**	**74.05**	**276**	P	**P**	**14 52 49.1**	**-0.8**
JEW	**Eniwo**	**74.12**	**329**	P	**P**	**14 52 50.2**	**+0.6**
JKA	**Kamikawa-asahi**	**74.53**	**330**	P	**P**	**14 52 52.4**	**+0.4**
JKA	**Kamikawa-asahi**	**74.53**	**330**	IAmb	IAmb	14 53 17.3	
	comp=Z,45nm,1.5s						
ASAJ	**Asahikawa**	**74.53**	**330**	P	**P**	**14 52 52.4**	**+0.4**
	comp=Z,3.8nm,0.6s,baz=184,slow=6.3,SNR=7.1						
KSM	**Kuching**	**75.64**	**277**	P	**P**	**14 52 58.9**	**-0.1**
KSM				IAmb	IAmb	14 53 00.0	
	comp=Z,12nm,0.8s						
KSM	**Kuching**	**75.64**	**277**	P	**P**	**14 52 58.8**	**-0.3**
TPUB	**Ta-pu**	**75.72**	**302**	P	**P**	**14 52 56.7**	**-2.6**
TPUB				IAmb	IAmb	14 52 57.9	
	comp=Z,32nm,0.9s						
PEA0B	**Petropavlovsk-**	**76.53**	**344**	P	**P**	**14 53 02.8**	**-0.4**
PETK	**Petropavlovsk-**	**76.53**	**344**	P	**P**	**14 53 02.5**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=116,slow=6.4,SNR=6.9						
PETK	**Petropavlovsk-**	**76.53**	**344**	P	**P**	**14 53 02.1**	**-1.1**
YSS	**Yuzh-Sakhalins**	**76.62**	**332**	P	**P**	**14 53 03.6**	**-0.1**
YSS				IAmb	IAmb	14 53 05.8	
	comp=Z,24nm,1.1s						
KSRS	**Korea Array**	**78.15**	**317**	P	**P**	**14 53 12.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=148,slow=7.6,SNR=5.8						
NVAR	**Mina Array Bea**	**79.20**	**42**	P	**P**	**14 53 20.4**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=224,slow=7.4,SNR=7.6						
KDAK	**Kodiak Island**	**79.95**	**12**	P	**P**	**14 53 22.2**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=262,slow=2.1,SNR=7.1						
P18K	**Big Mountain,**	**80.97**	**10**	P	**P**	**14 53 26.6**	**-0.7**
NJ2	**Nanjing**	**81.43**	**309**	*e*P	**P**	**14 53 30.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MDJ	**Mudanjiang**	**81.56**	**324**	P	**P**	**14 53 31.4**	**+0.7**
MDJ				IAmb	IAmb	14 53 32.5	
	comp=Z,12nm,1.0s						
CN2	**Changchun**	**83.43**	**321**	*e*P	**P**	**14 53 40.3**	**0.0**
CN2				*e*pP	pwP	14 54 34.5	+1.8
CN2				*e*PP	sP	14 54 57.8	+7.6
CN2	**Changchun**	**83.43**	**321**	*e*S	**S**	**15 03 41.0**	**-3.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
H03S2	**Juan Fernandez**	**84.30**	**124**	T	T	16 26 37.7	
	baz=247						
H03S1	**Juan Fernandez**	**84.31**	**124**	T	T	16 26 38.8	
	baz=247						
H03S3	**Juan Fernandez**	**84.31**	**124**	T	T	16 26 37.5	
	baz=247						
H03N2	**Juan Fernandez**	**84.43**	**123**	T	T	16 26 42.7	
	baz=249,slow=71						
H03N3	**Juan Fernandez**	**84.43**	**123**	T	T	16 26 44.3	
	baz=249,slow=71						
H03N1	**Juan Fernandez**	**84.45**	**123**	T	T	16 26 43.2	
	baz=249,slow=71						
BMRM	**Bremner River**	**84.58**	**15**	P	**P**	**14 53 45.5**	**-0.3**
BMRM				IAmb	IAmb	14 53 47.4	
	comp=Z,14nm,1.2s						
TXAR	**Lajitas Array**	**84.94**	**56**	P	**P**	**14 53 51.3**	**+2.9**
	comp=Z,0.6nm,0.8s,baz=215,slow=7.7,SNR=5.6						
UBPT	**Khong Chiam**	**85.19**	**288**		**P**	**14 53 50.0**	**+0.2**
UBPT				IAmb	IAmb	14 53 50.9	
	comp=Z,11nm,1.2s						
LOGN	**Logan Glacier**	**85.36**	**16**		**P**	**14 53 50.6**	**+0.8**
IPM	**Ipoh**	**85.36**	**276**		**P**	**14 53 50.9**	**+0.1**
IPM				IAmb	IAmb	14 53 51.7	
	comp=Z,12nm,0.6s						
IPM	**Ipoh**	**85.36**	**276**	P	**P**	**14 53 49.3**	**-1.5**
TNA	**Tin City**	**85.62**	**3**	P	**P**	**14 53 50.1**	**-0.6**
TRF	**Thorofare Moun**	**85.63**	**11**	P	**P**	**14 53 50.9**	**-0.3**
TRF				IAmb	IAmb	14 53 51.7	
	comp=Z,7.6nm,0.8s						
KULM	**Kulim**	**86.00**	**277**	P	**P**	**14 53 53.6**	**-0.2**
KULM				IAmb	IAmb	14 53 55.2	
	comp=Z,12nm,1.2s						
MCK	**McKinley**	**86.14**	**12**	P	**P**	**14 53 53.0**	**-0.4**
MCK				IAmb	IAmb	14 53 54.4	
	comp=Z,10nm,1.0s						
M27K	**Edge Creek, AK**	**86.44**	**15**		**P**	**14 53 56.1**	**+1.0**
SEY	**Seymchan**	**86.56**	**346**	P	**P**	**14 53 55.0**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=147,slow=5.8,SNR=25						
I21K	**Tanana**	**86.94**	**10**		**P**	**14 53 57.5**	**+0.3**
WRH	**Wood River Hil**	**86.97**	**12**	P	**P**	**14 53 57.1**	**-0.2**
MLY	**Manley**	**87.01**	**10**	P	**P**	**14 53 57.4**	**-0.3**
DOT	**Dot Lake**	**87.06**	**14**	P	**P**	**14 53 58.3**	**+0.4**
PDAR	**Pinedale Array**	**87.14**	**42**	P	**P**	**14 53 59.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=249,slow=1.7,SNR=3.8						
CCB	**Clear Creek Bu**	**87.18**	**12**		**P**	**14 53 58.2**	**-0.2**
CCB					**pwP**	**14 54 53.9**	**+3.1**
N31M	**Braeburn, Yuko**	**87.34**	**18**		**P**	**14 54 00.5**	**+1.2**
I23K	**Minto, Yukon-K**	**87.35**	**11**	P	**P**	**14 53 58.9**	**-0.2**
SCRK	**Sand Creek**	**87.36**	**13**		**P**	**14 54 00.3**	**+0.9**
IMAR	**Indian Mountai**	**87.43**	**9**	P	**P**	**14 53 59.7**	**+0.2**
IL31		**87.47**	**12**	P	**P**	**14 53 59.5**	**-0.2**
ILAR	**Eielson Array**	**87.47**	**12**	P	**P**	**14 53 59.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=213,slow=5.1,SNR=27						
ILAR	**Eielson Array**	**87.47**	**12**	P	**P**	**14 53 59.6**	**-0.2**
SYO	**Syowa Base**	**87.57**	**192**	*e*P	**P**	**14 54 01.8**	**+1.4**
SYO	**Syowa Base**	**87.57**	**192**	*e*sP	sP	14 55 22.8	+12
J25K	**Salcha River,**	**87.63**	**13**	P	**P**	**14 54 00.2**	**-0.4**
POKR	**Poker Plat Res**	**87.67**	**12**	P	**P**	**14 54 00.7**	**0.0**
PRP	**Porcupine Dome**	**88.40**	**12**	P	**P**	**14 54 04.2**	**-0.1**
DAWY	**Dawson**	**88.50**	**15**	P	**P**	**14 54 04.2**	**-0.5**
DAWY				IAmb	IAmb	14 54 06.6	
	comp=Z,8.9nm,1.3s						
XLT	**XiLinHaoTe**	**89.20**	**318**	*e*P	**P**	**14 54 09.3**	**+0.8**
XLT				pP	pwP	14 55 02.3	+0.9
XLT				sP	sP	14 55 24.4	+5.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,140nm,6.0s						
XAN	**Xi'an**	**89.75**	**306**	P	**P**	**14 54 12.3**	**+1.0**
XAN				pP	PcP	14 54 21.9	+9.5
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**90.75**	**314**	*e*P	**P**	**14 54 17.1**	**+1.2**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
CMAR	**Chiang Mai Arr**	**92.16**	**289**	P	**P**	**14 54 23.5**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=120,slow=2.9,SNR=25						
CMAR	**Chiang Mai Arr**	**92.16**	**289**		**P**	**14 54 23.1**	**+0.4**
CHTO	**Chiang Mai**	**92.28**	**289**		**P**	**14 54 23.3**	**0.0**
CHTO				IAmb	IAmb	14 54 24.8	
	comp=Z,4.3nm,0.7s						
PZH	**PanZhiHua**	**92.57**	**297**	P	**P**	**14 54 25.3**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,5.3s						
INK	**Inuvik**	**93.33**	**14**	P	**P**	**14 54 27.1**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=238,slow=2.9,SNR=6.2						
INK	**Inuvik**	**93.33**	**14**	IAmb	IAmb	14 54 28.2	
	comp=Z,4.1nm,1.1s						
YKA	**Yellowknife Ar**	**95.23**	**24**	P	**P**	**14 54 36.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=240,slow=4.5,SNR=9.2						
SONM	**Songino Array**	**96.99**	**318**	P	**P**	**14 54 43.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=122,slow=5.5,SNR=2.2						
MKAR	**Makanchi Array**	**112.61**	**313**	PKiKP	**PKiKP**	**14 59 47.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=58,slow=1.2,SNR=6.2						
ARCES	**ARCESS Array B**	**128.95**	**351**	PKP	**PKiKP**	**15 00 19.0**	**-0.3**
	comp=Z,9.0nm,1.0s,baz=64,slow=2.1,SNR=6.2						
FINES	**FINESS Array B**	**136.04**	**345**	PKiKP	PKPpre	15 00 25.2	
	comp=Z,1.9nm,1.0s,baz=205,slow=32,SNR=1.8						
FINES				PKP	**PKPdf**	**15 00 32.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=90,slow=4.2,SNR=5.0						
AKASG	**Malin Array Be**	**143.76**	**333**	PKhKP	PKPpre	15 00 43.4	
	comp=Z,1.3nm,0.3s,baz=42,slow=3.9,SNR=7.3						
SORM	**Soroca**	**146.04**	**331**	⇑P	**PKPbc**	**15 00 51.3**	**-0.3**
BURAR	**Bucovina Array**	**147.82**	**333**	⇑P	**PKiKP**	**15 00 57.8**	**-0.7**
CLL	**Collm**	**148.17**	**350**	*i* PKPbc	**PKiKP**	**15 00 58.1**	**-0.9**
	comp=Z,8.0nm,1.0s						
CLL				*i* PKPab	**PKPab**	**15 01 02.4**	**+1.6**
	comp=Z,7.0nm,0.7s						
CLL				*ep*PKPbc	**pPKPab**	**15 01 56.0**	**+4.8**
CRVS	**Cervenica-Dubn**	**148.21**	**338**	*e*PKP	**PKPab**	**15 01 02.2**	**+1.1**
OSTC	**Ostas**	**148.24**	**346**	*e*PKP	**PKiKP**	**15 00 58.9**	**-0.3**
BRTR	**Keskin Array B**	**148.26**	**314**	PKPbc	**PKPbc**	**15 00 58.6**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=101,slow=2.9,SNR=9.2						
CFR	**Carcaliu**	**148.26**	**327**	⇑P	**PKPbc**	**15 00 57.8**	**0.0**
TPGR	**Topolog**	**148.34**	**327**	⇑P	**PKiKP**	**15 00 58.8**	**-0.7**
DPC	**Dobruska-Polom**	**148.41**	**345**	*e*PKP	**PKPbc**	**15 00 58.4**	**+0.3**
VRI	**Vrincioaia**	**148.46**	**330**	⇑P	**PKPbc**	**15 00 57.2**	**-1.2**
KRLC	**Kraliky**	**148.55**	**345**	*e*PKP	**PKiKP**	**15 00 59.5**	**-0.4**
HARR	**Harsova**	**148.71**	**327**	⇑P	**PKiKP**	**15 00 59.6**	**-0.7**
DOPR	**Dopca**	**149.01**	**331**	⇑P	**PKiKP**	**15 01 01.0**	**+0.1**
MLR	**Muntele Rosu**	**149.11**	**330**	⇑P	**PKPbc**	**15 01 00.4**	**+0.2**
PRU	**Pruhonice**	**149.14**	**347**	*e*PKP	**PKiKP**	**15 01 00.9**	**-0.1**
SECR		**149.39**	**329**	⇑P	**PKPbc**	**15 01 00.2**	**-0.5**
VOIR		**149.57**	**331**	⇑P	**PKPbc**	**15 01 01.5**	**+0.3**
ARR	**Arges**	**149.81**	**331**	⇑P	**PKiKP**	**15 01 03.4**	**+0.8**
KHC	**Kasperske Hory**	**150.16**	**348**	*e*PKP	**PKiKP**	**15 01 03.5**	**+0.3**
CKRC	**Cesky Krumlov**	**150.30**	**347**	*e*PKP	**PKiKP**	**15 01 03.5**	**0.0**
GERES	**GERESS Array B**	**150.40**	**348**	PKPbc	**PKiKP**	**15 01 03.8**	**0.0**
	comp=Z,3.5nm,0

RIDG					IAmb	IAmb	14 46 29.9	
	comp=Z,6.2nm,1.4s							
J25K	**Salcha River,**	**19.59**	**37**			**P**	**14 46 08.5**	**-0.6**
DOT	**Dot Lake**	**19.68**	**41**			**P**	**14 46 09.8**	**-0.3**
SCRK	**Sand Creek**	**19.84**	**40**	P		**P**	**14 46 10.6**	**-1.3**
SCRK					IAmb	IAmb	14 46 17.1	
	comp=Z,1.3nm,0.6s							
PRP	**Porcupine Dome**	**19.99**	**35**	P		**P**	**14 46 13.3**	**-0.3**
PRP					IAmb	IAmb	14 46 33.0	
	comp=Z,5.9nm,1.5s							
LOGN	**Logan Glacier**	**20.14**	**50**	P		**P**	**14 46 16.2**	**+1.0**
L27K	**Beaver Creek,**	**20.39**	**43**	Pn		Pn	14 46 20.7	+0.6
BCAR	**Beaver Creek A**	**20.41**	**43**	Pn		Pn	14 46 20.9	+0.6
TOLK	**Toolik Lake Re**	**20.64**	**25**	P		**P**	**14 46 20.7**	**+0.2**
TOLK					IAmb	IAmb	14 46 44.0	
	comp=Z,6.5nm,1.5s							
FYU	**Fort Yukon**	**20.65**	**33**	Pn		Pn	14 46 23.9	+0.9
A21K	**Barrow**	**21.27**	**15**	P		**P**	**14 46 26.7**	**-0.5**
A21K					IAmb	IAmb	14 46 36.3	
	comp=Z,4.8nm,1.2s							
EGAK	**Eagle**	**21.30**	**39**	P		**P**	**14 46 27.1**	**-0.4**
BMAR	**Burnt Mountain**	**21.34**	**31**	P		**P**	**14 46 30.4**	**+2.4**
DAWY	**Dawson**	**21.75**	**42**	P		**P**	**14 46 31.9**	**-0.6**
HYT	**Haines Junctio**	**21.82**	**51**	P		**P**	**14 46 33.5**	**+0.2**
HYT					IAmb	IAmb	14 46 35.5	
	comp=Z,2.5nm,1.2s							
YKA	**Yellowknife Ar**	**32.71**	**47**	P		**P**	**14 48 12.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=274,slow=8.0,SNR=5.1							
PDAR	**Pinedale Array**	**43.09**	**76**	P		**P**	**14 49 41.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=305,slow=5.2,SNR=3.5							
FCC	**Fort Churchill**	**43.43**	**48**	P		**P**	**14 49 43.5**	**+0.4**
SONM	**Songino Array**	**49.49**	**299**	P		**P**	**14 50 31.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=61,slow=8.1,SNR=4.2							
SONM	**Songino Array**	**49.49**	**299**		IAmb	IAmb	14 50 57.5	
	comp=Z,0.5nm,1.1s							
MK31	**Makanchi Array**	**62.47**	**311**	P		**P**	**14 52 03.3**	**-0.5**
MK31					IAmb	IAmb	14 52 30.3	
	comp=Z,0.8nm,1.1s							
MKAR	**Makanchi Array**	**62.47**	**311**	P		**P**	**14 52 03.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=52,slow=6.5,SNR=6.6							
ABKAR	**Akbulak array**	**69.74**	**326**	P		**P**	**14 52 50.1**	**-0.1**
KKAR	**Karatay Array**	**70.65**	**316**	P		**P**	**14 52 56.1**	**+0.2**

*SKHL **15** 14:44:53.4±0.3, 44.˚50N×148.˚50E, h49km±5km, mb4.3/3*
*JMA **15** 14:44:54.0±0.4, 44.˚07N×148.˚15E, h0km, M3.9*
ISC 15 14:44:50.1±4.2, 44.˚47N±0.˚10×148.˚6E±0.˚2, h30km±27km, n18, σ2s00/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.94**	**325**	*i* P		**Pn**	**14 45 07.8**	**+0.4**
KUR					AMB	AMB	14 45 08.2	
	430nm,0.5s							
KUR				*i* S		**Sb**	**14 45 18.8**	**-1.3**
KUR					A	A	14 45 19.8	
	890nm,0.3s							
KUR					A	A	14 45 19.8	
	550nm,0.3s							
SHO	**Shikotan**	**1.43**	**246**	*i* P		**Pn**	**14 45 14.9**	**+0.8**
SHO					AMB	AMB	14 45 15.9	
	40nm,0.3s							
SHO				*e*S		**Sn**	**14 45 30.4**	**-1.5**
SHO					A	A	14 45 37.2	
	240nm,0.4s							
SHO					A	A	14 45 37.2	
	240nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.04**	**259**	*e*P		**Pn**	**14 45 24.4**	**+2.0**
YUK					AMB	AMB	14 45 26.8	
	140nm,0.3s							
YUK				*e*S		**Sn**	**14 45 46.6**	**-0.3**
YUK					A	A	14 45 51.5	
	290nm,0.4s							
YUK					A	A	14 45 51.5	
	550nm,0.4s							
GLVR	**Golovnino**	**2.36**	**253**	*e*P		**Pn**	**14 45 28.9**	**+2.1**
GLVR				*e*S		**Sn**	**14 45 54.5**	**-0.3**
GLVR					A	A	14 45 59.9	
	590nm,0.5s							
GLVR					A	A	14 45 59.9	
	330nm,0.5s							
NEM2	**Nemuro 2**	**2.37**	**243**	P		**Pn**	**14 45 27.6**	**+0.7**
NEM2				*e*S		**Sn**	**14 45 52.6**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.37**	**244**	*i* P		**Pn**	**14 45 27.8**	**+0.8**
NMR				*i* S		**Sn**	**14 45 53.4**	**-1.7**
JRA	**Rausu**	**2.59**	**259**	P		**Pn**	**14 45 32.0**	**+2.1**
JNSB	**Nemuroshibetsu**	**2.71**	**257**	P		**Pn**	**14 45 34.2**	**+2.6**
JKHN	**Kushirohamanak**	**2.88**	**242**	P		**Pn**	**14 45 35.2**	**+1.3**
JNK	**Nakash**	**2.96**	**254**	*e*S		**Sn**	**14 46 09.0**	**-0.6**
AKK	**Akkeshi**	**3.11**	**244**	*e*P		**Pn**	**14 45 38.6**	**+1.5**
AKK				*e*S		**Sn**	**14 46 12.2**	**-1.1**
JAK	**Akkeshi**	**3.21**	**244**	P		**Pn**	**14 45 39.7**	**+1.2**
JAK				*e*S		**Sn**	**14 46 13.6**	**-2.2**
JAR	**Ashorobuto**	**3.71**	**253**	P		**Pn**	**14 45 48.1**	**+2.7**
JAR				*e*S		**Sn**	**14 46 28.9**	**+0.8**
JCH	**Churui**	**4.26**	**246**	P		**Pn**	**14 45 55.3**	**+2.4**
JCH				*e*S		**Sn**	**14 46 40.1**	**-1.5**
JFR	**Furan**	**4.57**	**256**	P		**Pn**	**14 46 01.7**	**+4.5**
JNBK	**Urakawa-nobuka**	**4.82**	**245**	P		**Pn**	**14 46 01.9**	**+1.3**
JKB	**Kayabe**	**6.13**	**248**	P		**Pn**	**14 46 19.7**	**+1.1**
JKB				*e*S		**Sn**	**14 47 23.8**	**-3.9**
JOT	**Ohata**	**6.37**	**244**	P		**Pn**	**14 46 22.4**	**+0.5**

*TAP **15** 14:57:45.6, 24.˚75N×122.˚35E, h2km, ML2.8, C*
*JMA **15** 14:57:46.2±0.1, 24.˚74N×122.˚35E, h48km±3km, M2.0*
ISC 15 14:57:44.0±1.0, 24.˚83N±0.˚03×122.˚38E±0.˚02, h35km±8km, n69, σ0s72/125, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**296**	*i* P		**Pn**	**14 57 53.2**	**-2.1**
	baz=308							
TWB1				*i* S		**Sb**	**14 57 58.0**	**-0.7**
	baz=308							
EGS		**0.41**	**272**	*i* P		**Pb**	**14 57 52.9**	**0.0**
	baz=283							
EGS				*i* S		**Sg**	**14 57 58.1**	**+0.3**
	baz=283							
NTC	**Toucheng**	**0.50**	**273**	*e*P		**Pb**	**14 57 54.6**	**+0.1**
	baz=282							
NTC				*e*S		**Sb**	**14 58 02.3**	**+0.6**
	baz=282							
TIPB	**Shuangxi**	**0.52**	**286**	*i* P		**Pn**	**14 57 55.4**	**-1.6**
	baz=294							
TIPB				*i* S		**Sn**	**14 58 04.1**	**-1.6**
	baz=294							
SXI1	**Grass Mountain**	**0.53**	**300**	P		**Pn**	**14 57 56.1**	**-1.0**
	baz=308							
SXI1				S		**Sb**	**14 58 02.7**	**+0.2**
	baz=308							
TWC	**Suao**	**0.53**	**245**	*i* P		**Pg**	**14 57 54.1**	**-0.5**
	baz=252							
TWC				S		**Sg**	**14 58 02.2**	**+0.5**
	baz=252							
ILA	**Ilan**	**0.58**	**264**	S		**Sb**	**14 58 03.5**	**-0.4**
	baz=271							
NWF	**Wu-fen Shan**	**0.59**	**294**	*i* P		**Pn**	**14 57 58.0**	**-0.1**
	baz=301							
NWF				*i* S		**Sn**	**14 58 06.5**	**-1.0**
	baz=301							
WFSB	**Wu-fen Shan**	**0.59**	**294**	P		**Pn**	**14 57 57.8**	**-0.2**
	baz=301							
WFSB				S		**Sn**	**14 58 06.5**	**-0.9**
	baz=301							
NDS	**Dongshan**	**0.64**	**252**	P		**Pb**	**14 57 56.5**	**-0.3**
	baz=258							
NDS				S		**Sb**	**14 58 05.2**	**-0.4**
	baz=258							
TNOU	**National Taiwa**	**0.64**	**300**	P		**Pn**	**14 57 58.2**	**-0.3**
	baz=307							
TNOU				S		**Sn**	**14 58 07.4**	**-1.0**
	baz=307							
JYNG	**Yonagunijimaku**	**0.64**	**126**	P		**Pn**	**14 57 58.7**	**+0.1**
JYNG				*e*S		**Sn**	**14 58 08.2**	**-0.2**
TWE	**Neicheng**	**0.66**	**260**	*i* P		**Pb**	**14 57 56.7**	**-0.6**
	baz=266							
TWE				*i* S		**Sg**	**14 58 06.1**	**+0.5**
	baz=266							
EWUT	**Wuta**	**0.67**	**235**	P		**Pg**	**14 57 57.4**	**+0.3**
	baz=239							
EWUT				S		**Sb**	**14 58 06.2**	**-0.3**
	baz=239							
YOJ	**Yonaguni jima**	**0.68**	**123**	P		**Pn**	**14 57 59.5**	**+0.4**
YOJ				*e*S		**Sn**	**14 58 09.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.68**	**123**	P		**Pn**	**14 57 59.6**	**+0.5**
	baz=115							
ENA	**Nanau**	**0.71**	**236**	*i* P		**Pb**	**14 57 57.7**	**-0.4**
	baz=239							
ENA				*i* S		**Sb**	**14 58 07.5**	**-0.2**
	baz=239							
FUSB	**Fushanzhiwuyua**	**0.72**	**264**	P		**Pg**	**14 57 58.1**	**-0.1**
	baz=270							
FUSB				S		**Sg**	**14 58 08.2**	**+0.4**
	baz=270							
TWA	**Mucha**	**0.74**	**282**	P		**Pn**	**14 57 59.2**	**-0.8**
	baz=288							
TWA				S		**Sn**	**14 58 10.0**	**-1.0**
	baz=288							
ENTT	**Nioudou**	**0.77**	**256**	P		**Pg**	**14 57 59.3**	**+0.4**
	baz=260							
ENTT				S		**Sg**	**14 58 09.6**	**+0.6**
	baz=260							
NHDH	**Xindian Distri**	**0.79**	**280**	*i* P		**Pn**	**14 58 01.1**	**+0.5**
	baz=285							
NHDH				S		**Sn**	**14 58 11.5**	**-0.6**
	baz=285							
NWLT	**Wulai**	**0.80**	**266**	*e*P		**Pg**	**14 57 59.7**	**+0.1**
	baz=271							
NWLT				*e*S		**Sg**	**14 58 10.8**	**+0.6**
	baz=271							
YM01	**YM01**	**0.80**	**293**	P		**Pn**	**14 58 01.1**	**+0.3**
	baz=299							
YM01				S		**Sn**	**14 58 12.1**	**-0.5**
	baz=299							
TAP	**Taipei**	**0.82**	**285**	*e*P		**Pn**	**14 58 00.4**	**-0.7**
	baz=290							
TAP				*e*S		**Sn**	**14 58 12.7**	**-0.3**
	baz=290							
NDT	**Datong Townshi**	**0.82**	**254**	*i* P		**Pn**	**14 58 00.8**	**-0.3**
	baz=258							
NDT				S		**Sb**	**14 58 10.8**	**-0.2**
	baz=258							
LATG	**Datong**	**0.83**	**249**	P		**Pg**	**14 58 00.2**	**0.0**
	baz=253							
LATG				S		**Sb**	**14 58 10.6**	**-0.7**
	baz=253							
TWY	**Chenhua**	**0.83**	**302**	P		**Pn**	**14 58 02.2**	**+0.9**
	baz=307							
TWY				*i* S		**Sn**	**14 58 14.1**	**+0.8**
	baz=307							
PCYT	**Pengchaiyu**	**0.84**	**341**	*i* P		**Pn**	**14 58 03.3**	**+1.9**
	baz=344							
PCYT				*i* S		**Sn**	**14 58 15.8**	**+2.2**
	baz=344							
ANP	**Anpu**	**0.86**	**294**	*e*S		**Sn**	**14 58 14.2**	**+0.2**
	baz=300							
NTST	**Danshui**	**0.91**	**292**	*e*P		**Pn**	**14 58 04.1**	**+1.8**
	baz=296							
NTST				S		**Sn**	**14 58 16.3**	**+1.2**
	baz=296							
TWS1	**Kuangyinshan**	**0.92**	**287**	P		**Pn**	**14 58 02.2**	**-0.2**
	baz=292							
TWS1				S		**Sn**	**14 58 16.0**	**+0.7**
	baz=292							
YHNB	**Yeheng**	**0.93**	**260**	P		**Pn**	**14 58 02.3**	**-0.3**
	baz=264							
YHNB				S		**Sg**	**14 58 14.3**	**+0.1**
	baz=264							
NSK	**Sanguang**	**0.94**	**261**	P		**Pn**	**14 58 02.2**	**-0.7**
	baz=265							
NSK				S		**Sn**	**14 58 15.4**	**-0.7**
	baz=265							
ETL	**Fush Village**	**0.96**	**226**	P		**Pb**	**14 58 02.3**	**-0.2**
	baz=228							
ETL				S		**Sb**	**14 58 15.5**	**+0.5**
	baz=228							
NACB	**Ninganchiao**	**0.97**	**228**	P		**Pb**	**14 58 02.3**	**-0.3**
	baz=230							
NACB				S		**Sb**	**14 58 15.4**	**+0.2**
	baz=230							
NNSB	**Datong**	**0.99**	**246**	P		**Pn**	**14 58 03.1**	**-0.5**
	baz=249							
NNSB				S		**Sb**	**14 58 16.1**	**+0.1**
	baz=249							
NNS	**Nan Shan**	**1.00**	**247**	P		**Pg**	**14 58 03.5**	**+0.1**
	baz=250							
NNS				S		**Sb**	**14 58 16.0**	**-0.1**
	baz=250							
ETLH	**Xiulin Townshi**	**1.03**	**233**	P		**Pn**	**14 58 03.8**	**-0.2**
	baz=235							
ETLH				S		**Sb**	**14 58 16.4**	**-0.6**
	baz=235							
TWD	**Chiawan**	**1.04**	**224**	P		**Pb**	**14 58 03.6**	**-0.1**
	baz=225							
TWD				S		**Sb**	**14 58 17.7**	**+0.6**
	baz=225							
NFF	**Wufeng Townshi**	**1.17**	**260**	*e*P		**Pn**	**14 58 07.0**	**+0.5**
	baz=263							
NFF				*e*S		**Sg**	**14 58 22.2**	**+0.4**
	baz=263							
FUSS	**Fushou**	**1.19**	**241**	*e*P		**Pg**	**14 58 07.3**	**+0.3**
	baz=243							
FUSS				*e*S		**Sb**	**14 58 21.4**	**-0.3**
	baz=243							
WHF	**Hehuan Shan**	**1.23**	**236**	P		**Pb**	**14 58 07.2**	**0.0**
	baz=238							
WHF				S		**Sn**	**14 58 23.3**	**-0.2**
	baz=238							
LIOB	**Emei**	**1.26**	**262**	P		**Pg**	**14 58 09.5**	**+1.2**
	baz=265							
LIOB				S		**Sg**	**14 58 25.0**	**+0.4**
	baz=265							
NSTT	**Nanjuang**	**1.27**	**261**	*e*P		**Pg**	**14 58 08.1**	**-0.5**
	baz=264							
NSTT				*e*S		**Sg**	**14 58 25.4**	**+0.3**
	baz=264							
IRIF	**Iriomote-Funau**	**1.32**	**112**	P		**Pg**	**14 58 08.7**	**-0.8**
IRIF				*e*S		**Sg**	**14 58 26.2**	**-0.6**
CHGB	**Renai**	**1.34**	**235**	P		**Pg**	**14 58 10.1**	**+0.2**
	baz=237							
CHGB				S		**Sn**	**14 58 25.9**	**-0.3**
	baz=237							
OWD	**Renai**	**1.40**	**232**	P		**Pg**	**14 58 10.9**	**-0.2**
	baz=233							
OWD				S		**Sb**	**14 58 28.1**	**+0.2**
	baz=233							
WHP	**Taichung City**	**1.42**	**247**	P		**Pg**	**14 58 11.3**	**-0.1**
	baz=249							
WHP				*e*S		**Sb**	**14 58 28.7**	**+0.5**
	baz=249							
WUSB	**Renai**	**1.42**	**234**	P		**Pg**	**14 58 11.7**	**+0.2**
	baz=236							
WUSB				S		**Sb**	**14 58 29.0**	**+0.6**
	baz=236							
EGFH	**Guangfu**	**1.45**	**217**	*e*P		**Pg**	**14 58 11.7**	**-0.3**
	baz=217							
EGFH				*e*S		**Sb**	**14 58 30.6**	**+1.7**
	baz=217							
WCS	**Beigang Elemen**	**1.55**	**240**	*e*P		**Pg**	**14 58 13.8**	**+0.1**
	baz=242							
VWDT	**VWDT**	**1.56**	**227**	P		**Pg**	**14 58 14.1**	**+0.1**
	baz=227							
VWDT				S		**Sb**	**14 58 33.3**	**+1.2**
	baz=227							
HGSD	**Ruisui**	**1.59**	**213**	P		**Pg**	**14 58 14.7**	**0.0**
	baz=213							
JKRS	**Kuro-shima**	**1.60**	**111**	P		**Pb**	**14 58 13.0**	**-0.2**
JKRS				*e*S		**Sb**	**14 58 33.8**	**+0.6**
EHY	**Hungye**	**1.64**	**216**	P		**Pb**	**14 58 14.0**	**0.0**
	baz=216							
EHY				*e*S		**Sb**	**14 58 34.5**	**+0.1**
	baz=216							
SMLT	**Sun Moon Lake**	**1.65**	**235**	*e*P		**Pb**	**14 58 13.6**	**-0.6**
	baz=236							
SMLT				*e*S		**Sn**	**14 58 33.5**	**-0.1**
	baz=236							
WDJ	**Dajia District**	**1.66**	**253**	*e*P		**Pb**	**14 58 13.5**	**-0.8**
	baz=255							
SSLB	**Suanglung**	**1.67**	**232**	P		**Pg**	**14 58 15.4**	**-0.7**
	baz=232							
TYC	**Yuchr**	**1.67**	**237**	*e*P		**Pb**	**14 58 14.6**	**+0.1**
	baz=237							
TYC				*e*S		**Sn**	**14 58 34.0**	**+0.1**
	baz=237							
JIJ	**Ishigaki jima**	**1.67**	**106**	P		**Pb**	**14 58 13.7**	**-0.8**
JIJ				*e*S		**Sb**	**14 58 35.9**	**+0.5**
YULB	**Yu-li**	**1.74**	**215**	*e*P		**Pb**	**14 58 15.1**	**-0.6**
	baz=215							
YULB				*e*S		**Sn**	**14 58 36.3**	**+0.5**
	baz=215							
EYUL	**Yuli**	**1.77**	**214**	*e*P		**Pb**	**14 58 15.5**	**-0.7**
	baz=213							
JISG	**Ishigakijimahi**	**1.77**	**98**	P		**Pb**	**14 58 15.1**	**-1.1**
FULB	**Fuli**	**1.91**	**212**	*e*P		**Pb**	**14 58 17.7**	**-0.9**
	baz=211							
FULB				*e*S		**Sn**	**14 58 40.9**	**+1.1**
	baz=211							
CHKT	**Chengkung**	**1.96**	**209**	*e*P		**Pn**	**14 58 17.7**	**+0.9**
	baz=208							
ELDTW	**Lidau**	**2.06**	**218**	*e*P		**Pn**	**14 58 19.5**	**+1.3**
	baz=217							
EDH	**Donghe**	**2.10**	**208**	*e*P		**Pb**	**14 58 20.4**	**-1.4**
	baz=208							
EDH				*e*S		**Sn**	**14 58 45.4**	**+0.9**
	baz=208							
WTK	**Tuku**	**2.15**	**238**	*e*P		**Pb**	**14 58 21.4**	**-1.2**
	baz=239							
WTP	**Ta-pu**	**2.26**	**226**	*e*P		**Pb**	**14 58 23.8**	**-0.8**
	baz=226							

*IDC **15** 15:09:30.0±3.6, 24.˚02N×108.˚72W, h0km, mb2.9/1, mb1 3.5/4, mb1mx3.4/48, mbtmp3.1/4, ML3.9/2, Error ellipse: s-maj=53.9km s-min=20.5km az=150.0*
*MEX **15** 15:09:37.5±0.5, 24.˚75N×109.˚18W, h16km±5km, MD3.9*
ISC 15 15:09:34.3±0.9, 24.˚64N±0.˚06×109.˚14W±0.˚05, h10km, n14, σ2s68/17, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.96**	**5**	*e*P		**Pg**	**15 09 51.1**	**-1.7**
TSIG				*e*S		**Sg**	**15 10 01.5**	**-3.8**
LPIG	**La Paz**	**1.20**	**243**	Pg		**Pn**	**15 09 56.1**	**-1.0**
	50nm,0.3s,baz=79,slow=5.2,SNR=27							
LPIG					Lg	Lg	15 10 10.4	
	152nm,0.3s,baz=324,slow=19,SNR=6.4							
LPIG	**La Paz**	**1.20**	**243**	*e*P		**Pn**	**15 09 56.0**	**-1.2**
LPIG				*i* S		**Sb**	**15 10 09.8**	**-2.8**
SLBS	**Sierra La Lagu**	**1.21**	**218**	*e*P		**Pn**	**15 09 57.2**	**-0.2**
SLBS				*i* S		**Sb**	**15 10 11.8**	**-1.2**
SLBS				*i* S		**Sb**	**15 10 11.8**	**-1.2**
SSIG	**Sanalona**	**1.82**	**84**	*i* P		**Pn**	**15 10 05.2**	**-0.6**
SSIG				*e*S		**Sn**	**15 10 26.8**	**-2.2**
CSIG	**Choix**	**2.28**	**17**	*e*P		Pn	15 10 03.3	-8.8
CSIG				*e*S		Sn	15 10 30.0	-10
MAIG	**Mazatlaan**	**2.87**	**120**	*e*P		**Pn**	**15 10 19.6**	**-0.6**
MAIG				*e*S		Sn	15 10 50.0	-4.8
TXAR	**Lajitas Array**	**6.75**	**45**	Pn		**Pn**	**15 11 13.9**	**+0.2**
	0.3nm,0.3s,baz=220,slow=14,SNR=10							
TXAR					Pg	Pb	15 11 38.3	+6.4
	0.4nm,0.3s,baz=218,slow=14,SNR=5.8							
TXAR					Sn	**Sn**	**15 12 29.0**	**-1.8**
	0.3nm,0.3s,baz=198,slow=17,SNR=1.3							
TXAR					Lg	Lg	15 13 08.6	
	0.9nm,0.3s,baz=231,slow=30,SNR=5.3							
NVAR	**Mina Array Bea**	**15.80**	**333**	Pn		**P**	**15 13 27.2**	**+6.2**
	0.0nm,0.3s,baz=166,slow=12,SNR=4.7							
NVAR					Sn	**S**	**15 16 25.9**	**-1.3**
	0.4nm,0.3s,baz=62,slow=13,SNR=11							
PDAR	**Pinedale Array**	**18.08**	**359**	P		**P**	**15 13 48.9**	**+2.6**
	0.1nm,0.3s,baz=179,slow=11,SNR=2.6							
YKA	**Yellowknife Ar**	**38.02**	**356**	P		**P**	**15 16 56.2**	**+3.8**
	0.1nm,0.6s,baz=169,slow=7.2,SNR=2.6							
H03N2	**Juan Fernandez**	**64.52**	**152**	T		T	16 30 26.5	
	baz=331							
H03N1	**Juan Fernandez**	**64.53**	**152**	T		T	16 30 26.5	
	baz=331							
H03N3	**Juan Fernandez**	**64.54**	**152**	T		T	16 30 25.1	
	baz=331							

*IDC **15** 15:24:04.6±7.7, 51.˚00N×173.˚28W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/62, mbtmp3.5/5, ML3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/46, Error ellipse: s-maj=203.3km s-min=26.5km az=166.0*
*AEIC **15** 15:24:11.1±1.6, 51.˚5N±0.˚1×173.˚48W±0.˚07, h26km±6km, Error ellipse: s-maj=16.7km s-min=6.1km az=176.0*
*NEIC **15** 15:24:12.7±1.8, 51.˚49N±0.˚08×173.˚47W±0.˚08, h33km±5km, mb3.7/24, ML2.8/12(AEIC), Error ellipse: s-maj=11.3km s-min=6.7km az=169.0*
ISC 15 15:24:12.8±1.1, 51.˚5N±0.˚1×173.˚48W±0.˚05, h37km, n47, σ0s91/48, mb3.4/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.85**	**329**			**Pn**	**15 24 27.1**	**-1.2**
ATKA						**Sn**	**15 24 39.5**	**-0.1**
KOFP	**Korovin Flat P**	**0.89**	**335**			**Pn**	**15 24 28.0**	**-0.8**
KOKL	**Mount Kliuchef**	**0.96**	**332**			**Pn**	**15 24 29.1**	**-0.7**
GSMY	**Great Sitkin M**	**1.70**	**291**			**Pn**	**15 24 40.0**	**0.0**
GSTR	**Great Sitkin T**	**1.72**	**292**	Pn		**Pn**	**15 24 40.2**	**+0.1**
GSTD	**Great Sitkin T**	**1.76**	**290**			**Pn**	**15 24 40.5**	**-0.3**
GSTD						**Sn**	**15 25 03.0**	**+1.2**
ADK	**Adak**	**2.04**	**283**			**Pn**	**15 24 44.2**	**-0.3**
ADK						**Sn**	**15 25 08.8**	**+0.1**
KIWB	**Kanaga Island**	**2.32**	**281**			**Pn**	**15 24 48.7**	**+0.3**
KIMD	**Kanaga Island**	**2.36**	**278**			**Pn**	**15 24 49.2**	**+0.3**
TASE	**Tanaga Southea**	**2.86**	**279**			**Pn**	**15 24 56.3**	**+0.4**
NIKH	**Nikolski High**	**3.21**	**60**	Pn		**Pn**	**15 25 01.2**	**+0.6**
UNV	**Unalaska Valle**	**4.86**	**58**	Pn		**Pn**	**15 25 24.5**	**+1.2**
FALS	**False Pass**	**6.93**	**57**	Pn		**Pn**	**15 25 51.4**	**-0.2**
SDPT	**Sand Point**	**8.68**	**58**	Pn		**Pn**	**15 26 15.6**	**0.0**
CHIR	**Chirikof Islan**	**11.44**	**61**	Pn		**Pn**	**15 26 53.7**	**+0.2**
GAMB	**Gambell**	**12.37**	**4**	Pn		**Pn**	**15 27 06.9**	**+0.9**
KDAK	**Kodiak Island**	**13.62**	**54**	Pn		**Pn**	**15 27 23.9**	**+0.8**
	0.1nm,0.3s,baz=217,slow=3.8,SNR=5.3							
M19K	**Big River Lodg**	**14.73**	**37**	P		**P**	**15 27 44.8**	**+1.0**
CNPM	**China Poot**	**14.90**	**49**	Pn		**Pn**	**15 27 39.5**	**-1.0**
GHO	**Glory Hole Cre**	**16.88**	**43**	Pn		**Pn**	**15 28 04.8**	**-1.2**
GHO				IAmb		IAmb	15 28 19.0	
	comp=Z,6.9nm,1.3s							
KNK	**Knik Glacier**	**16.92**	**44**	Pn		**Pn**	**15 28 05.1**	**-1.4**
KNK				IAmb		IAmb	15 28 32.2	
	comp=Z,5.5nm,1.2s							
KTH	**Kantishna Hill**	**17.00**	**36**	P		**P**	**15 28 08.5**	**-0.5**
KTH				IAmb		IAmb	15 28 36.2	
	comp=Z,10nm,1.4s							
BPAW	**Bear Paw Mtn.**	**17.29**	**34**	P		**P**	**15 28 13.3**	**+1.1**
SCM	**Sheep Creek

*IDC **15** 15:27:50.5±6.8,24°.12N×109°.12W,h0km,mb3.2/1, mb1 3.6/3,mb1mx3.4/36,mbtmp3.1/3,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.7/26,Error ellipse: s-maj=120.3km s-min=13.8km az=161.0*

*MEX **15** 15:27:54.8±0.4,24°.26N×109°.16W,h58km±14km,MD3.9*

ISC 15 15:27:53.0±1.1,24°.22N±0°.08×109°.15W±0°.06,h22km,n12, σ1s54/13,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.90**	**234**	*eP*			**Pn**	**15 28 10.1**	**-0.3**
SLBS				*eS*			**Sn**	**15 28 22.3**	**-0.5**
LPIG	**La Paz**	**1.06**	**264**	Pg			**Pb**	**15 28 12.2**	**-0.5**
	95nm,0.3s,baz=54,slow=2.9,SNR=38								
LPIG				Lg			Lg	15 28 25.2	
	162nm,0.3s,baz=30,slow=20,SNR=6.4								
LPIG	**La Paz**	**1.06**	**264**	*i* P			**Pb**	**15 28 12.1**	**-0.6**
LPIG				*i* S			**Sb**	**15 28 25.4**	**-0.8**
TSIG	**Topolobambo**	**1.38**	**4**	*eP*			**Pn**	**15 28 16.2**	**-0.7**
TSIG				*eS*			**Sn**	**15 28 32.0**	**-2.5**
SSIG	**Sanalona**	**1.93**	**72**	*eP*			**Pn**	**15 28 23.8**	**-0.6**
SSIG				*eS*			**Sn**	**15 28 45.6**	**-2.4**
TXAR	**Lajitas Array**	**7.07**	**43**	Pn			**Pn**	**15 29 36.4**	**+1.2**
	0.3nm,0.3s,baz=214,slow=14,SNR=8.5								
TXAR				Sn			**Sn**	**15 30 54.2**	**-0.7**
	0.4nm,0.3s,baz=245,slow=25,SNR=2.4								
TXAR				Lg			Lg	15 31 27.3	
	0.1nm,0.3s,baz=214,slow=25,SNR=2.4								
PDAR	**Pinedale Array**	**18.50**	**359**	P			**Pn**	**15 32 10.4**	**+2.3**
	0.1nm,0.3s,baz=174,slow=9.6,SNR=2.8								
TKL	**Tuckaleechee C**	**24.70**	**57**	LR			LR	15 43 16.0	
	comp=Z,50nm,19.6s,baz=334,slow=37								
YKA	**Yellowknife Ar**	**38.44**	**356**	P			**P**	**15 35 14.1**	**+1.4**
	0.3nm,0.9s,baz=179,slow=7.0,SNR=4.8								
H03N2	**Juan Fernandez**	**64.16**	**152**	T			T	16 48 18.0	
	baz=331,slow=77								
H03N1	**Juan Fernandez**	**64.17**	**152**	T			T	16 48 21.1	
	baz=331,slow=77								
H03N3	**Juan Fernandez**	**64.17**	**152**	T			T	16 48 15.6	
	baz=331,slow=77								

TAP 15 15:34:16.5,24°.88N×122°.42E,h6km±1km,ML2.7,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**288**	*i* P			Pg	15 34 25.3	+0.8
	baz=288								
TWB1				*i* S			Sb	15 34 32.4	-0.3
	baz=288								
NTC	**Toucheng**	**0.54**	**268**	*e*S			Sb	15 34 35.8	-0.5
	baz=267								
SXI1	**Grass Mountain**	**0.54**	**294**	P			Pb	15 34 28.3	-0.1
	baz=293								
SXI1				S			Sb	15 34 36.7	+0.3
	baz=293								
TIPB	**Shuangxi**	**0.55**	**280**	*i* P			Pb	15 34 28.3	-0.2
	baz=279								
TIPB				*i* S			Sb	15 34 37.2	+0.6
	baz=279								
TWC	**Suao**	**0.58**	**243**	*i* P			Pb	15 34 28.6	-0.5
	baz=242								
NWF	**Wu-fen Shan**	**0.61**	**288**	*i* P			Pb	15 34 29.7	+0.1
	baz=288								
NWF				*i* S			Sb	15 34 38.7	+0.1
	baz=288								
WFSB	**Wu-fen Shan**	**0.61**	**288**	P			Pb	15 34 29.6	0.0
	baz=288								
WFSB				S			Sb	15 34 39.1	+0.6
	baz=288								
TNOU	**National Taiwa**	**0.65**	**295**	*e*P			Pb	15 34 29.7	-0.5
	baz=294								
YOJ	**Yonaguni jima**	**0.68**	**128**	*e*P			Pb	15 34 30.4	-0.3
	baz=127								
YOJ				S			Sb	15 34 40.8	+0.5
	baz=127								
NDS	**Dongshan**	**0.69**	**249**	*e*P			Pb	15 34 30.5	-0.4
	baz=249								
NDS				*e*S			Sb	15 34 40.8	+0.3
	baz=249								
TWE	**Neicheng**	**0.70**	**257**	*e*P			Pb	15 34 31.1	-0.1
	baz=256								
EWUT	**Wuta**	**0.73**	**234**	*e*P			Pb	15 34 32.1	+0.6
	baz=233								
ENA	**Nanau**	**0.76**	**234**	*e*P			Pb	15 34 32.2	0.0
	baz=233								
FUSB	**Fushanzhiwuyua**	**0.77**	**261**	*e*P			Pb	15 34 32.3	0.0
	baz=261								
TWA	**Mucha**	**0.77**	**278**	*e*P			Pb	15 34 32.1	-0.1
	baz=277								
TWA				S			Sb	15 34 44.0	+1.1
	baz=277								
PCYT	**Pengchaiyu**	**0.81**	**337**	*e*P			Pb	15 34 32.7	-0.3
	baz=337								
ENTT	**Nioudou**	**0.81**	**253**	*e*P			Pb	15 34 33.0	0.0
	baz=252								
YM01	**YM01**	**0.82**	**289**	P			Pb	15 34 33.7	+0.6
	baz=289								
YM01				S			Sb	15 34 44.7	+0.3
	baz=289								
NHDH	**Xindian Distri**	**0.82**	**276**	*e*P			Pb	15 34 33.5	+0.4
	baz=275								
NWLT	**Wulai**	**0.84**	**263**	*e*P			Pb	15 34 34.1	+0.6
	baz=263								
TAP	**Taipei**	**0.85**	**281**	*e*S			Sb	15 34 45.2	+0.1
	baz=280								
NDT	**Datong Townshi**	**0.87**	**252**	*e*P			Pb	15 34 34.4	+0.4
	baz=251								
NDT				*e*S			Sb	15 34 47.0	+1.1
	baz=251								
LATG	**Datong**	**0.88**	**247**	*e*P			Pb	15 34 33.9	-0.3
	baz=247								
LATG				*e*S			Sn	15 34 47.8	-0.9
	baz=247								
YHNB	**Yeheng**	**0.97**	**258**	*e*P			Pn	15 34 36.5	-0.2
	baz=257								
YHNB				*e*S			Sn	15 34 50.2	-0.6
	baz=257								
NSK	**Sanguang**	**0.99**	**258**	*e*P			Pb	15 34 36.2	+0.2
	baz=257								
NSK				*e*S			Sb	15 34 50.0	+0.7
	baz=257								
ETL	**Fush Village**	**1.02**	**226**	*e*P			Pb	15 34 36.5	-0.1
	baz=225								
ETL				*e*S			Sn	15 34 51.8	-0.2
	baz=225								
NACB	**Ninganchiao**	**1.03**	**227**	*e*P			Pb	15 34 36.7	0.0
	baz=227								
NACB				*e*S			Sn	15 34 51.9	-0.2
	baz=227								
NNS	**Nan Shan**	**1.05**	**246**	*e*S			Sn	15 34 52.4	-0.4
	baz=245								
ETLH	**Xiulin Townshi**	**1.08**	**232**	*e*P			Pn	15 34 38.1	-0.1
	baz=231								
TWD	**Chiawan**	**1.09**	**224**	*e*P			Pg	15 34 37.5	0.0
	baz=223								
TWD				*e*S			Sn	15 34 53.6	-0.1
	baz=223								
NCU	**National Centr**	**1.12**	**275**	*e*P			Pg	15 34 37.2	-0.9
	baz=274								

*JMA **15** 15:34:16.1±0.2,23°.45N×122°.02E,h27km,M2.9*

*TAP **15** 15:34:17.1,23°.45N×122.00E,h37km,ML3.0,D*

ISC 15 15:34:17.4±4.9,23°.41N±0°.02×122°.02E±0°.02,h37km±5km, n102,σ1s25/187,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.53**	**260**	P			**Pn**	**15 34 27.5**	**-1.0**
	baz=248								
ECBN				S			**Sn**	**15 34 35.1**	**-1.2**
	baz=248								
TEGC	**Jichi Village**	**0.53**	**304**	P			**Pn**	**15 34 27.2**	**-1.4**
	baz=302								
TEGC				S			**Sn**	**15 34 35.2**	**-1.2**
	baz=302								
HGSD	**Ruisui**	**0.56**	**279**	⇓P			**Pn**	**15 34 27.3**	**-1.6**
	baz=275								
HGSD				S			**Sn**	**15 34 34.8**	**-2.1**
	baz=275								
TEYL	**Yanliau Villag**	**0.60**	**320**	P			**Pn**	**15 34 28.6**	**-1.0**
	baz=330								
TEYL				S			**Sn**	**15 34 36.9**	**-1.1**
	baz=330								
EGFH	**Guangfu**	**0.60**	**296**	P			**Pn**	**15 34 28.0**	**-1.6**
	baz=300								
EGFH				S			**Sn**	**15 34 36.4**	**-1.7**
	baz=300								
EYUL	**Yuli**	**0.65**	**265**	*i* P			**Pn**	**15 34 29.3**	**-0.9**
	baz=257								
EYUL				*i* S			**Sn**	**15 34 38.9**	**-0.3**
	baz=257								
EHY	**Hungye**	**0.65**	**279**	*i* P			**Pn**	**15 34 29.1**	**-1.2**
	baz=276								
EHY				S			**Sn**	**15 34 37.9**	**-1.4**
	baz=276								
YULB	**Yu-li**	**0.67**	**269**	P			**Pn**	**15 34 29.1**	**-1.3**
	baz=261								
YULB				S			**Sn**	**15 34 39.0**	**-0.6**
	baz=261								
TWF1	**Yuli**	**0.67**	**265**	*i* P			**Pn**	**15 34 29.2**	**-1.2**
	baz=257								
TWF1				*i* S			**Sn**	**15 34 39.5**	**-0.2**
	baz=257								
ESL	**Shilin**	**0.68**	**307**	*i* P			**Pn**	**15 34 28.6**	**-1.9**
	baz=305								
ESL				S			**Sn**	**15 34 36.9**	**-3.0**
	baz=305								
CHKT	**Chengkung**	**0.68**	**243**	*i* P			**Pn**	**15 34 29.2**	**-1.4**
	baz=233								
CHKT				*i* S			**Sn**	**15 34 37.9**	**-1.9**
	baz=233								
HWA	**Hwalien**	**0.68**	**326**	*e*P			**Pn**	**15 34 29.6**	**-1.0**
	baz=333								
HWA				*e*S			**Sn**	**15 34 37.8**	**-2.1**
	baz=333								
FULB	**Fuli**	**0.70**	**253**	*i* P			**Pn**	**15 34 29.6**	**-1.3**
	baz=242								
FULB				*i* S			**Sn**	**15 34 38.6**	**-1.9**
	baz=242								
ETM	**Tongmen**	**0.74**	**319**	P			**Pn**	**15 34 29.9**	**-1.3**
	baz=318								
ETM				S			**Sn**	**15 34 39.1**	**-2.2**
	baz=318								
TWD	**Chiawan**	**0.77**	**330**	*i* P			**Pn**	**15 34 30.6**	**-1.2**
	baz=330								
TWD				*i* S			**Sn**	**15 34 39.7**	**-2.5**
	baz=330								
EDH	**Donghe**	**0.79**	**237**	*i* P			**Pn**	**15 34 30.8**	**-1.2**
	baz=230								
EDH				S			**Sn**	**15 34 41.3**	**-1.3**
	baz=230								
ETL	**Fush Village**	**0.83**	**334**	P			**Pn**	**15 34 31.4**	**-1.3**
	baz=334								
ETL				S			**Sn**	**15 34 41.9**	**-1.8**
	baz=334								
NACB	**Ninganchiao**	**0.86**	**333**	P			**Pn**	**15 34 31.6**	**-1.4**
	baz=333								
NACB				S			**Sn**	**15 34 41.9**	**-2.4**
	baz=333								
VWDT	**VWDT**	**0.88**	**293**	⇓P			**Pn**	**15 34 32.6**	**-0.6**
	baz=291								
VWDT				S			**Sn**	**15 34 43.9**	**-0.9**
	baz=291								
ETLH	**Xiulin Townshi**	**0.94**	**328**	P			**Pn**	**15 34 33.1**	**-1.0**
	baz=328								
ETLH				S			**Sn**	**15 34 44.6**	**-1.7**
	baz=328								
OWD	**Renai**	**0.95**	**305**	*i* P			**Pn**	**15 34 33.3**	**-1.0**
	baz=304								
OWD				*i* S			**Sn**	**15 34 44.8**	**-1.9**
	baz=304								
ELDTW	**Lidau**	**0.95**	**257**	*i* P			**Pn**	**15 34 33.2**	**-1.1**
	baz=245								
ELDTW				S			**Sn**	**15 34 44.7**	**-2.0**
	baz=245								
LONT	**Longtian**	**0.96**	**239**	*i* P			**Pn**	**15 34 33.9**	**-0.4**
	baz=232								
LONT				*i* S			**Sn**	**15 34 46.5**	**-0.3**
	baz=232								
WHF	**Hehuan Shan**	**1.01**	**317**	*i* P			**Pn**	**15 34 34.5**	**-0.9**
	baz=316								
WHF				*i* S			**Sn**	**15 34 46.8**	**-1.8**
	baz=316								
CHGB	**Renai**	**1.01**	**310**	⇓P			**Pn**	**15 34 34.5**	**-0.7**
	baz=309								
CHGB				S			**Sn**	**15 34 46.8**	**-1.6**
	baz=309								
WUSB	**Renai**	**1.01**	**305**	P			**Pn**	**15 34 34.6**	**-0.6**
	baz=304								
WUSB				S			**Sn**	**15 34 46.7**	**-1.6**
	baz=304								
TTN	**Taitung**	**1.04**	**231**	P			**Pn**	**15 34 35.9**	**+0.5**
	baz=229								
TTN				S			**Sn**	**15 34 48.2**	**-0.4**
	baz=229								
ENA	**Nanau**	**1.05**	**346**	*i* P			**Pn**	**15 34 34.7**	**-0.9**
	baz=346								
ENA				*i* S			**Sn**	**15 34 47.5**	**-1.4**
	baz=346								
TWGBT	**Beinan**	**1.05**	**236**	P			**Pn**	**15 34 34.9**	**-0.7**
	baz=247								
TWGBT				S			**Sn**	**15 34 48.0**	**-0.9**
	baz=247								
SSLB	**Suanglung**	**1.05**	**291**	P			**Pn**	**15 34 35.1**	**-0.5**
	baz=290								
SSLB				S			**Sn**	**15 34 48.2**	**-0.8**
	baz=290								
TWG	**Pinlang**	**1.05**	**236**	P			**Pn**	**15 34 34.8**	**-0.8**
	baz=247								
TWG				*i* S			**Sn**	**15 34 48.0**	**-1.0**
	baz=247								
EWUT	**Wuta**	**1.06**	**348**	P			**Pn**	**15 34 35.2**	**-0.5**
	baz=348								
EWUT				S			**Sn**	**15 34 48.1**	**-1.0**
	baz=348								
FUSS	**Fushou**	**1.10**	**320**	P			**Pn**	**15 34 35.9**	**-0.6**
	baz=319								
FUSS				S			**Sn**	**15 34 49.0**	**-1.5**
	baz=319								
ALS	**Alishan**	**1.12**	**275**	*i* P			**Pn**	**15 34 36.9**	**+0.1**
	baz=274								
ALS				*i* S			**Sn**	**15 34 51.5**	**+0.3**
	baz=274								
SMLT	**Sun Moon Lake**	**1.13**	**295**	*i* P			**Pn**	**15 34 36.7**	**-0.1**
	baz=299								
SMLT				S			**Sn**	**15 34 51.3**	**+0.1**
	baz=299								
STYH	**Taoyuan**	**1.17**	**259**	P			**Pn**	**15 34 37.3**	**+0.1**
	baz=251								
STYH				*e*S			**Sn**	**15 34 52.2**	**+0.3**
	baz=251								
NNSB	**Datong**	**1.17**	**330**	*e*P			**Pn**	**15 34 37.2**	**-0.1**
	baz=244								
NNSB	**Datong**	**1.17**	**330**	P			**Pn**	**15 34 36.9**	**-0.4**
	baz=320								
NNSB				S			**Sn**	**15 34 50.7**	**-1.5**
	baz=320								
TYC	**Yuchr**	**1.18**	**295**	P			**Pn**	**15 34 37.0**	**-0.3**
	baz=294								
TYC				S			**Sn**	**15 34 52.4**	**+0.3**
	baz=294								
NNS	**Nan Shan**	**1.19**	**330**	*i* P			**Pn**	**15 34 37.0**	**-0.5**
	baz=320								
NNS				*i* S			**Sn**	**15 34 51.2**	**-1.3**
	baz=320								
NNS	**Nan Shan**	**1.19**	**330**	P			**Pn**	**15 34 37.1**	**-0.5**
	baz=245								
WCS	**Beigang Elemen**	**1.21**	**303**	*e*P			**Pn**	**15 34 37.6**	**-0.1**
	baz=308								
WCS				*e*S			**Sn**	**15 34 51.6**	**-1.2**
	baz=308								
TWC	**Suao**	**1.21**	**352**	*i* P			**Pn**	**15 34 37.5**	**-0.2**
	baz=353								
TWC				*i* S			**Sn**	**15 34 52.2**	**-0.6**
	baz=353								
TWC	**Suao**	**1.21**	**352**	*i* S			**Pn**	**15 34 37.8**	**+0.1**
	baz=242								
LATG	**Datong**	**1.21**	**338**	P			**Pn**	**15 34 37.4**	**-0.4**
	baz=338								
LATG				*e*S			**Sn**	**15 34 52.0**	**-1.1**
	baz=338								
CHN5	**Tsauling**	**1.25**	**279**	*i* P			**Pn**	**15 34 39.2**	**+0.8**
	baz=277								
CHN5				*e*S			**Sn**	**15 34 54.1**	**+0.2**
	baz=277								
NDS	**Dongshan**	**1.25**	**347**	P			**Pn**	**15 34 38.1**	**-0.2**
	baz=341								
NDS				S			**Sn**	**15 34 53.5**	**-0.4**
	baz=341								
WJS	**Zhushan**	**1.26**	**289**	*e*P			**Pn**	**15 34 39.9**	**+1.5**
	baz=288								
WJS				*e*S			**Sn**	**15 34 55.2**	**+1.1**
	baz=288								
NDT	**Datong Townshi**	**1.28**	**339**	*e*P			**Pn**	**15 34 38.4**	**-0.3**
	baz=339								
NDT				*e*S			**Sn**	**15 34 54.6**	**0.0**
	baz=339								
TPUB	**Ta-pu**	**1.28**	**265**	P			**Pn**	**15 34 39.6**	**+0.8**
	baz=264								
TPUB				*e*S			**Sn**	**15 34 55.7**	**+0.9**
	baz=264								
ENTT	**Nioudou**	**1.29**	**341**	P			**Pn**	**15 34 38.7**	**-0.3**
	baz=342								
ENTT				*e*S			**Sn**	**15 34 53.7**	**-1.3**
	baz=342								
WTP	**Ta-pu**	**1.30**	**263**	*i* P			**Pn**	**15 34 40.1**	**+1.0**
	baz=261								
WTP				*i* S			**Sn**	**15 34 56.9**	**+1.6**
	baz=261								
WHP	**Taichung City**	**1.31**	**311**	P			**Pn**	**15 34 41.1**	**+1.9**
	baz=311								
WHP				S			**Sn**	**15 34 55.5**	**-0.1**
	baz=311								
WNT	**Mingjian**	**1.31**	**291**	P			**Pn**	**15 34 40.4**	**+1.2**
	baz=290								
WNT				S			**Sn**	**15 34 57.6**	**+2.2**
	baz=290								
SLGT	**Liugui**	**1.33**	**252**	P			**Pn**	**15 34 40.3**	**+0.9**
	baz=247								
SLGT				S			**Sn**	**15 34 56.5**	**+0.6**
	baz=247								
JYNG	**Yonagunijimaku**	**1.34**	**39**	P			**Pn**	**15 34 39.1**	**-0.4**
JYNG				S			**Sn**	**15 34 55.9**	**-0.2**
TWE	**Neicheng**	**1.35**	**346**	P			**Pn**	**15 34 39.6**	**0.0**
	baz=347								
TWE				*e*S			**Sn**	**15 34 55.6**	**-0.7**
	baz=347								
SGST	**Jiashian**	**1.36**	**256**	P			**Pn**	**15 34 40.2**	**+0.3**
	baz=255								
SGST				S			**Sn**	**15 34 58.2**	**+1.5**
	baz=255								
YOJ	**Yonaguni jima**	**1.39**	**41**	S			**Sn**	**15 34 57.0**	**-0.2**
YHNB	**Yeheng**	**1.39**	**335**	P			**Pn**	**15 34 40.0**	**-0.3**
	baz=335								
YHNB				S			**Sn**	**15 34 55.8**	**-1.6**
	baz=335								
WDLH	**Douliu**	**1.39**	**282**	*e*P			**Pn**	**15 34 41.4**	**+1.2**
	baz=280								
WDLH				*e*S			**Sn**	**15 34 59.4**	**+2.0**
	baz=280								
CHN1	**Nanshi**	**1.39**	**261**	*i* P			**Pn**	**15 34 41.5**	**+1.2**
	baz=260								
CHN1				S			**Sn**	**15 35 00.1**	**+2.7**
	baz=260								
NSK	**Sanguang**	**1.40**	**334**	P			**Pn**	**15 34 40.3**	**-0.2**
	baz=335								
NSK				S			**Sn**	**15 34 56.5**	**-1.2**
	baz=335								
FUSB	**Fushanzhiwuyua**	**1.40**	**344**	*e*P			**Pn**	**15 34 40.7**	**+0.2**
	baz=335								
TWK	**Hsinying**	**1.42**	**265**	P			**Pn**	**15 34 42.1**	**+1.5**
	baz=263								
TWK				S			**Sn**	**15 35 00.4**	**+2.3**
	baz=263								
LAY	**Lan-yu**	**1.43**	**198**	*e*P			**Pn**	**15 34 39.6**	**-1.2**
	baz=197								
LAY				*e*S			**Sn**	**15 34 57.5**	**-0.9**
	baz=197								
TCU	**Taichung**	**1.44**	**301**	*e*P			**Pn**	**15 34 42.6**	**+1.7**
	baz=300								
TCU				S			**Sn**	**15 35 02.0**	**+3.6**
	baz=300								
SSD	**Sandimen**	**1.44**	**243**	*e*P			**Pn**	**15 34 42.1**	**+1.2**
	baz=239								
SSD				*e*S			**Sn**	**15 34 57.7**	**-0.8**
	baz=239								
NWLT	**Wulai**	**1.44**	**341**	*e*P			**Pn**	**15 34 41.2**	**+0.2**
	baz=330								
NWLT				*e*S			**Sn**	**15 34 58.0**	**-0.7**
	baz=330								
TSMG	**Majia**	**1.45**	**241**	*e*P			**Pn**	**15 34 42.9**	**+1.8**
	baz=238								
TSMG				*e*S			**Sn**	**15 34 57.9**	**-0.9**
	baz=238								
LYUB	**Lan-yu**	**1.46**	**196**	*e*P			**Pn**	**15 34 39.4**	**-1.8**
	baz=195								
LYUB				*e*S			**Sn**	**15 34 56.7**	**-2.3**
	baz=195								
CHY	**Chiayi**	**1.47**	**274**	*e*P			**Pn**	**15 34 42.7**	**+1.3**
	baz=272								
NFF	**Wufeng Townshi**	**1.47**	**326**	*e*P			**Pn**	**15 34 42.7**	**+1.2**
	baz=326								
NFF				*e*S			**Sn**	**15 34 59.8**	**+0.3**
	baz=326								
TWQ1	**Liyutan**	**1.48**	**310**	P			**Pn**	**15 34 43.2**	**+1.7**
	baz=319								
TWQ1				S			**Sn**	**15 35 00.7**	**+1.2**
	baz=319								
EAST	**Anshuo**	**1.49**	**227**	P			**Pn**	**15 34 41.3**	**-0.3**
	baz=233								
EAST				*e*S			**Sn**	**15 34 58.0**	**-1.8**
	baz=233								
TAWH	**Dawu Township**	**1.49**	**225**	*e*S			**Sn**	**15 34 59.1**	**-0.8**
	baz=231								
WCHH	**Zhanghua**	**1.50**	**297**	*e*P			**Pn**	**15 34 43.5**	**+1.8**
	baz=296								
WCHH				*e*S			**Sn**	**15 35 00.6**	**+0.6**
	baz=296								
SCST	**Cishan**	**1.50**	**250**	*e*P			**Pn**	**15 34 43.8**	**+2.1**
	baz=249								
SCST				*e*S			**Sn**	**15 35 02.7**	**+2.6**
	baz=249								
MASBT	**Mashibuluo**	**1.51**	**238**	P			**Pn**	**15 34 42.0**	**+0.2**
	baz=234								
MASBT				S			**Sn**	**15 34 59.4**	**-0.8**
	baz=234								
WTK	**Tuku**	**1.52**	**281**	*e*P			**Pn**	**15 34 43.4**	**+1.3**
	baz=280								
NSTT	**Nanjuang**	**1.53**	**323**	*e*S			**Sn**	**15 35 01.3**	**+0.4**
	baz=322								
LIOB	**Emei**	**1.54**	**323**	*e*P			**Pn**	**15 34 43.9**	**+1.6**
	baz=323								
LIOB				*e*S			**Sn**	**15 35 01.6**	**+0.6**
	baz=323								
TIPB	**Shuangxi**	**1.57**	**353**	*e*P			**Pn**	**15 34 43.5**	**+0.8**
	baz=7.0								
TIPB				*e*S			**Sn**	**15 35 02.1**	**+0.4**
	baz=7.0								
WRL	**Guolierlin Hig**	**1.59**	**288**	*e*P			**Pn**	**15 34 44.5**	**+1.6**
	baz=277								
WRL				*e*S			**Sn**	**15 35 04.4**	**+2.2**
	baz=277								
SHHT	**Tainan City**	**1.59**	**256**	*e*P			**Pn**	**15 34 45.9**	**+3.0**
	baz=255								
NMLH	**Miaoli**	**1.59**	**315**	*e*S			**Sn**	**15 35 03.7**	**+1.4**
	baz=314								
ICHU	**Yijhu**	**1.60**	**269**	*e*P			**Pn**	**15 34 44.7**	**+1.6**
	baz=267								
NHDH	**Xindian Distri**	**1.61**	**344**	*e*P			**Pn**	**15 34 44.1**	**+0.8**
	baz=334								
NHDH				*e*S			**Sn**	**15 35 03.4**	**+0.5**
	baz=334								
SSPT	**Xinbi**	**1.63**	**236**	*e*P			**Pn**	**15 34 45.8**	**+2.4**
	baz=225								
SLIU	**Shizi**	**1.64**	**224**	*e*P			**Pn**	**15 34 43.1**	**-0.6**
	baz=229								
NWF	**Wu-fen Shan**	**1.67**	**352**	*e*S			**Sn**	**15 35 04.8**	**+0.4**
	baz=353								
SXI1	**Grass Mountain**	**1.68**	**355**	*e*P			**Pn**	**15 34 44.9**	**+0.6**
	baz=10.0								
SXI1				*e*S			**Sn**	**15 35 06.4**	**+1.6**
	baz=10.0								
HATJ	**Hateruma jima**	**1.76**	**68**	P			**Pn**	**15 34 45.0**	**-0.3**
HATJ			

	baz=315							
JIRB	**Irabujima**	**3.21**	**63**	P	**Pn**	**15 35 05.2**	**0.0**
JIRB				S	**Sn**	**15 35 43.1**	**+0.9**
JMJ2	**Miyako jima3**	**3.30**	**66**	P	**Pn**	**15 35 07.2**	**+0.7**

IDC ***15*** *15:34:58.7±1.8, 32.98N×25.82E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.3/40, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=214.2km s-min=27.1km az=141.0*
ISK ***15*** *15:34:59.9, 35.38N×23.63E, h3km, ML3.3/7*
THE ***15*** *15:34:59.9, 35.40N×23.58E, h0km±1km, ML3.0/7, Error ellipse: s-maj=1.2km s-min=0.4km az=268.0*
ATH ***15*** *15:35:00.7, 35.43N×23.62E, h14km±2km, ML3.1/4, Error ellipse: s-maj=3.3km s-min=1.0km az=59.0*

ISC 15 15:35:00.1±0.9, 35.40N±0.03×23.59E±0.03, h13km±6km, n36, σ1s23/50, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.18**	**155**	P	**Pg**	**15 35 03.5**	**-0.7**
KNDR				S	**Sg**	**15 35 06.5**	**-0.6**
	8μm,0.2s						
KNDR	**Palaiochora Ch**	**0.18**	**155**	PG	**Pg**	**15 35 03.5**	**-0.7**
KNDR				SG	**Sg**	**15 35 06.4**	**-0.6**
RODP	**Rodopos**	**0.21**	**40**	P	**Pg**	**15 35 04.9**	**+0.2**
RODP				S	**Sg**	**15 35 08.3**	**+0.5**
	6μm,0.3s						
RODP	**Rodopos**	**0.21**	**40**	PG	**Pg**	**15 35 04.9**	**+0.2**
RODP				SG	**Sg**	**15 35 08.8**	**+1.0**
IMMV	**Iera Moni Meta**	**0.32**	**79**	P	**Pb**	**15 35 06.8**	**-0.9**
IMMV				S	**Sb**	**15 35 11.3**	**-1.6**
IMMV				AML	AML	15 35 11.9	
	comp=N,12043μm,0.3s						
IMMV				AML	AML	15 35 12.6	
	comp=E,10072μm,0.6s						
IMMV	**Iera Moni Meta**	**0.32**	**79**	P	**Pg**	**15 35 06.5**	**-0.2**
IMMV				S	**Sb**	**15 35 11.6**	**-1.3**
	comp=E,6μm,0.4s						
IMMV	**Iera Moni Meta**	**0.32**	**79**	PG	**Pb**	**15 35 06.7**	**-1.1**
IMMV				SG	**Sb**	**15 35 11.6**	**-1.3**
VAM	**Vamos**	**0.50**	**89**	P	**Pg**	**15 35 09.5**	**-0.4**
VAM				S	**Sb**	**15 35 16.9**	**-1.0**
VAM				AML	AML	15 35 19.4	
	comp=N,5370μm,0.3s						
VAM				AML	AML	15 35 20.9	
	comp=E,5450μm,0.6s						
VAM	**Vamos**	**0.50**	**89**	P	**Pg**	**15 35 09.5**	**-0.4**
VAM				S	**Sb**	**15 35 17.5**	**-0.4**
	comp=E,2μm,0.3s						
ANKY	**Antikythira Is**	**0.52**	**333**	P	**Pg**	**15 35 10.2**	**-0.2**
ANKY				S	**Sg**	**15 35 18.3**	**+0.9**
ANKY				AML	AML	15 35 18.6	
	comp=N,6016μm,0.5s						
ANKY				AML	AML	15 35 22.1	
	comp=E,4018μm,0.5s						
ANKY	**Antikythira Is**	**0.52**	**333**	P	**Pg**	**15 35 10.0**	**-0.4**
ANKY				S	**Sg**	**15 35 18.1**	**+0.7**
	comp=E,2μm,0.4s						
GVDS	**Gavdos**	**0.69**	**144**	P	**Pg**	**15 35 12.8**	**-0.7**
GVDS				S	**Sb**	**15 35 23.6**	**+0.2**
	comp=E,2μm,0.3s						
GVD	**Gavdhos**	**0.69**	**144**	P	**Pb**	**15 35 14.3**	**+0.3**
GVD				S	**Sb**	**15 35 23.9**	**+0.5**
GVD				AML	AML	15 35 32.8	
	comp=N,3566μm,0.4s						
GVD				AML	AML	15 35 33.3	
	comp=E,3010μm,0.4s						
GVD	**Gavdhos**	**0.69**	**144**	P	**Pg**	**15 35 13.3**	**-0.2**
GVD				S	**Sb**	**15 35 24.0**	**+0.5**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**0.69**	**144**	PG	**Pg**	**15 35 13.5**	**0.0**
PRNS	**Prines Rethymn**	**0.74**	**92**	P	**Pg**	**15 35 13.0**	**-1.5**
KTHA	**Kythira Island**	**0.96**	**333**	P	**Pg**	**15 35 18.1**	**-0.5**
KTHA	**Kythira Island**	**0.96**	**333**	P	**Pg**	**15 35 17.8**	**-0.8**
KTHR	**Kythira**	**0.98**	**331**	P	**Pg**	**15 35 18.2**	**-0.9**
IDI	**Anoyia**	**1.07**	**96**	P	**Pg**	**15 35 20.1**	**-0.5**
IDI	**Anoyia**	**1.07**	**96**	P	**Pg**	**15 35 19.8**	**-0.9**
IDI	**Anoyia**	**1.07**	**96**	PG	**Pb**	**15 35 20.3**	**-0.2**
KSTL	**Kastelli Herak**	**1.21**	**94**	P	**Pn**	**15 35 35.6**	**+3.8**
HRKL	**Herakleio**	**1.24**	**94**	PN	**Pn**	**15 35 23.9**	**+0.8**
VLI	**Veliai**	**1.42**	**338**	P	**Pn**	**15 35 26.1**	**+0.5**
VLI	**Veliai**	**1.42**	**338**	P	**Pn**	**15 35 26.2**	**+0.5**
MHLO	**Agia Marina, M**	**1.45**	**27**	P	**Pn**	**15 35 26.6**	**+0.6**
NPS	**Neapolis**	**1.66**	**94**	P	**Pn**	**15 35 29.2**	**+0.3**
ZKR	**Zakros**	**2.17**	**97**	PN	**Pn**	**15 35 37.8**	**+1.9**
ITM	**Ithomi**	**2.23**	**323**	PN	**Pn**	**15 35 39.4**	**+2.6**
APE	**Apeiranthos**	**2.29**	**43**	PN	**Pn**	**15 35 39.7**	**+2.1**
VLY	**Voula,Athens**	**2.45**	**4**	P	**Pn**	**15 35 41.1**	**+1.2**
KLV	**Kalavryta, Ach**	**2.88**	**337**	P	**Pn**	**15 35 46.1**	**+0.3**
BRTR	**Keskin Array B**	**9.07**	**59**	Pn	**Pn**	**15 37 14.9**	**+4.0**
	comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=1.6						
TORD	**Torodi Ar. Bea**	**29.69**	**227**	P	**P**	**15 41 05.5**	**-0.4**
	comp=E,0.6nm,0.6s,baz=43,slow=7.9,SNR=3.9						
MKAR	**Makanchi Array**	**44.71**	**57**	P	**P**	**15 43 12.2**	**-0.7**
	comp=E,0.5nm,0.6s,baz=270,slow=7.8,SNR=8.5						

CNRM ***15*** *15:44:05.4, 35.64N×3.62W, h0km, ml2.9*
MDD ***15*** *15:44:07.5±0.3, 35.67N×3.70W, h0km, mb_Lg2.9/11, Error ellipse: s-maj=2.9km s-min=2.3km az=173.0*
SFS ***15*** *15:44:07.0, 35.66N×3.68W, ML2.9, ALBORAN SUR*

ISC 15 15:44:07.0±1.1, 35.64N±0.03×3.69W±0.02, h16km±10km, n46, σ1s19/78, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.61**	**61**	Pg	**Pb**	**15 44 19.3**	**+0.1**
EALB				Sg	**Sb**	**15 44 28.0**	**+0.5**
EMEL	**Melilla**	**0.69**	**120**	Pg	**Pb**	**15 44 20.6**	**+0.1**
EMEL				Sg	**Sg**	**15 44 29.0**	**-0.5**
EMEL				*i* Vmb_Lg		15 44 30.1	
GOG	**Mont Gurugu**	**0.70**	**126**	P	**Pg**	**15 44 20.5**	**-0.3**
GOG				S	**Sg**	**15 44 29.8**	**-0.3**
ELGU	**Los Guajares,**	**1.22**	**2**	Pg	**Pn**	**15 44 28.4**	**-1.1**
ELGU				Sg	**Sb**	**15 44 45.2**	**-0.2**
EMAL	**Malaga-Limoner**	**1.27**	**332**	P	**Pn**	**15 44 28.9**	**-1.0**
EMAL				S	**Sn**	**15 44 47.3**	**+0.6**
EMIJ	**Mijas**	**1.27**	**317**	Pg	**Pn**	**15 44 29.4**	**-0.7**
EMIJ				Sg	**Sb**	**15 44 45.7**	**-1.0**
TAF	**Taforalt**	**1.33**	**128**	P	**Pn**	**15 44 30.4**	**-0.5**
TAF	**Taforalt**	**1.33**	**128**	P	**Pn**	**15 44 30.2**	**-0.7**
TAF				S	**Sn**	**15 44 47.4**	**-0.9**
SMIR	**Smir Dam**	**1.38**	**272**	P	**Pn**	**15 44 30.3**	**-1.2**
SMIR				S	**Sn**	**15 44 47.4**	**-2.0**
CEU	**Ceuta**	**1.39**	**281**	P	**Pn**	**15 44 29.6**	**-2.1**
CEU				S	**Sn**	**15 44 47.9**	**-1.9**
EBER	**Berja**	**1.41**	**27**	Pn	**Pn**	**15 44 31.2**	**-0.9**
EBER				Sn	**Sb**	**15 44 50.4**	**-0.4**
CHEFC	**Chefchaouen**	**1.45**	**249**	P	**Pb**	**15 44 34.1**	**+0.5**
CHEFC	**Chefchaouen**	**1.45**	**249**	P	**Pb**	**15 44 33.9**	**+0.3**
CHEFC				S	**Sg**	**15 44 53.5**	**-0.3**
EGOR	**Sierra Gorda,**	**1.50**	**347**	Pn	**Pn**	**15 44 33.8**	**+0.4**
EGOR				Sn	**Sn**	**15 44 52.9**	**+0.2**
EGOR				*i* Vmb_Lg		15 45 01.0	
EQUE	**Quentar**	**1.57**	**7**	Pn	**Pn**	**15 44 34.3**	**0.0**
EQUE				Sn	**Sn**	**15 44 54.1**	**-0.2**
EQUE				*i* Vmb_Lg		15 45 00.9	
JBK	**JBK**	**1.60**	**144**	P	**Pn**	**15 44 34.1**	**-0.5**
JBK	**JBK**	**1.60**	**144**	P	**Pn**	**15 44 34.2**	**-0.5**
JBK				S	**Sn**	**15 44 53.3**	**-1.8**
EJIF	**Jimena Fronter**	**1.65**	**300**	Pn	**Pb**	**15 44 36.6**	**-0.4**
EJIF				Sn	**Sb**	**15 44 58.1**	**+0.5**
ENIJ	**Nijar**	**1.79**	**42**	Pn	**Pn**	**15 44 37.2**	**+0.1**
ENIJ				Sn	**Sn**	**15 44 60.0**	**+0.4**
ESPR	**Espera**	**2.14**	**306**	Pn	**Pb**	**15 44 44.4**	**-0.9**
ESPR				Sn	**Sn**	**15 45 08.9**	**+0.8**
LCRM	**LCR**	**2.18**	**207**	P	**Pg**	**15 44 49.6**	**+0.8**
EQES	**Quesada**	**2.21**	**13**	Pn	**Pb**	**15 44 45.2**	**-1.4**
EQES				Sn	**Sn**	**15 45 11.3**	**+1.1**
IFR	**Ifrane**	**2.43**	**210**	P	**Pn**	**15 44 47.3**	**+1.1**
IFR				S	**Sn**	**15 45 16.8**	**+1.2**
EADA	**Adamuz**	**2.62**	**344**	Pn	**Pn**	**15 44 49.9**	**+1.3**
EADA				Sn	**Sn**	**15 45 20.7**	**+0.6**
EZAR	**Zarzadilla de**	**2.75**	**35**	Pn	**Pn**	**15 44 49.9**	**-0.5**
EZAR				Sn	**Sn**	**15 45 22.9**	**-0.4**
ECAB	**El Cabril**	**2.80**	**331**	Pn	**Pn**	**15 44 52.7**	**+1.6**
ECAB				Sn	**Sn**	**15 45 24.2**	**-0.2**
ECAB				*i* Vmb_Lg		15 45 38.4	
CZD	**Col de Zad**	**2.83**	**204**	P	**Pn**	**15 44 54.1**	**+2.4**
MD31	**MD31**	**2.91**	**198**	P	**Pn**	**15 44 54.5**	**+1.9**
MDT	**Midelt**	**2.92**	**195**	P	**Pn**	**15 44 55.2**	**+2.3**
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	**15 44 53.7**	**+0.6**
EMIN	**Mina Concepcio**	**3.20**	**312**	Pn	**Pn**	**15 44 57.3**	**+0.7**
EMIN				Sn	**Sn**	**15 45 33.2**	**-1.2**
ZHG	**ZHG**	**3.28**	**229**	P	**Pn**	**15 44 60.0**	**+2.3**
ZHG	**ZHG**	**3.28**	**229**	P	**Pn**	**15 44 58.9**	**+1.2**
ETOB	**Tobarra**	**3.45**	**29**	Pn	**Pn**	**15 45 02.0**	**+2.0**
ETOB				*i* Vmb_Lg		15 45 03.0	
ETOB				Sn	**Sn**	**15 45 41.5**	**+0.9**
EGRO	**El Granado**	**3.59**	**303**	Pn	**Pn**	**15 45 02.8**	**+0.9**
EGRO				Sn	**Sn**	**15 45 43.4**	**-0.6**
PVAQ	**Vaqueiros**	**3.69**	**300**	P	**Pn**	**15 45 04.2**	**+0.9**
PVAQ	**Vaqueiros**	**3.69**	**300**	P	**Pn**	**15 45 04.2**	**+0.9**
PVAQ				S	**Sn**	**15 45 45.8**	**-0.7**
PAB	**San Pablo**	**3.93**	**353**	Pn	**Pn**	**15 45 07.9**	**+1.2**
PAB				Sn	**Sn**	**15 45 53.2**	**+0.7**
ESDC	**Sonseca Array**	**4.03**	**357**	Pn	**Pn**	**15 45 09.2**	**+1.2**
ESDC				Sn	**Sn**	**15 45 55.5**	**+0.5**
ESDC				*i* Vmb_Lg		15 46 29.8	
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**15 45 09.7**	**+0.9**
EBAD				Sn	**Sn**	**15 45 55.9**	**-0.3**
EBAD				*i* Vmb_Lg		15 45 58.3	
PESTR	**Estremoz**	**4.48**	**317**	P	**Pn**	**15 45 14.8**	**+0.7**
EPLA	**Plasencia**	**4.80**	**338**	Pn	**Pn**	**15 45 20.1**	**+1.4**
EPLA				Sn	**Sn**	**15 46 12.2**	**-1.8**
EPLA				*i* Vmb_Lg		15 46 42.8	
ETOR	**Torete**	**5.33**	**13**	Pn	**Pn**	**15 45 27.6**	**+1.7**
ETOR				Sn	**Sn**	**15 46 25.8**	**-1.1**
ETOR				*i* Vmb_Lg		15 46 55.6	
OUZM	**OUZ**	**5.38**	**209**	P	**Pn**	**15 45 28.9**	**+2.3**
ELOB	**Lobios**	**7.09**	**333**	Pn	**Pn**	**15 45 51.9**	**+1.8**
ELOB				Sn	**Sn**	**15 47 07.5**	**-2.9**
ELOB				*i* Vmb_Lg		15 49 23.3	
EALK	**Alkurruntz**	**7.75**	**12**	Pn	**Pn**	**15 46 01.3**	**+2.1**

IDC 15 15:46:55.2±15.0, 10.61S×161.99E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=443.7km s-min=47.2km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.20**	**247**	P	P	15 52 50.4	+0.5
	0.4nm,0.7s,baz=70,slow=7.0,SNR=2.1						
ASAR	**Alice Springs**	**29.74**	**240**	P	P	15 53 03.1	-0.5
	0.2nm,0.7s,baz=62,slow=10,SNR=4.8						
SONM	**Songino Array**	**76.17**	**325**	P	P	15 58 45.4	+0.1
	0.3nm,0.6s,baz=134,slow=5.2,SNR=2.3						

IDC ***15*** *15:54:04.4±2.5, 48.72N×153.20E, h166km±25km, mb2.9/5, mb1 3.1/9, mb1mx2.9/45, mbtmp3.5/9, Error ellipse: s-maj=35.6km s-min=17.6km az=139.0*
KRSC ***15*** *15:54:05.2±2.0, 48.90N×153.98E, h223km±17km, ML4.2*

ISC 15 15:54:01.9±1.0, 48.8N±0.1×153.3E±0.1, h140km, n19, σ2s32/25, mb3.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.65**	**43**	S	**Sn**	**15 55 21.6**	**+4.4**
PAU	**Pauzhetka**	**3.53**	**39**	P	**Pn**	**15 54 58.1**	**+2.5**
PAU				S	**Sn**	**15 55 39.0**	**+1.8**
MTVR	**Mutnovka**	**4.85**	**38**	P	**Pn**	**15 55 15.5**	**+2.3**
MTVR				S	**Sn**	**15 56 08.4**	**-0.3**
RUS	**Russkaya**	**4.95**	**40**	P	**Pn**	**15 55 15.5**	**+1.1**
RUS				S	**Sn**	**15 56 08.6**	**-2.3**
PETK	**Petropavlovsk-**	**5.16**	**31**	P	**Pn**	**15 55 20.0**	**+2.8**
	1.8nm,0.3s,baz=208,slow=15,SNR=26						
DALK	**Dalny**	**5.49**	**37**	P	**Pn**	**15 55 24.8**	**+3.2**
DALK				S	**Sn**	**15 56 22.7**	**-1.1**
SDLR	**Sedlovina**	**5.73**	**36**	P	**Pn**	**15 55 27.0**	**+2.1**
SDLR				S	**Sn**	**15 56 28.4**	**-1.3**
NLC	**Nalytchevo**	**5.84**	**39**	S	**Sn**	**15 56 27.8**	**-4.2**
SPN	**Mys Shipunski**	**6.07**	**42**	P	**Pn**	**15 55 29.5**	**+0.1**
SPN				S	**Sn**	**15 56 32.6**	**-5.2**
ASAJ	**Asahikawa**	**8.72**	**242**	P	**Pn**	**15 56 06.8**	**+1.8**
	0.6nm,0.3s,baz=82,slow=15,SNR=11						
KBTR	**Krutoberegovo**	**9.44**	**34**	P	**Pn**	**15 56 13.8**	**-0.7**
BKI	**Bering**	**10.13**	**46**	P	**Pn**	**15 56 23.7**	**+0.2**
BKI				S	Sn	15 58 04.2	-11
KLR	**Kul'dur**	**14.15**	**280**	P	**P**	**15 57 18.7**	**-0.5**
	0.2nm,0.3s,baz=87,slow=8.7,SNR=6.0						
SEY	**Seymchan**	**14.21**	**358**	P	**P**	**15 57 20.4**	**+0.6**
	0.0nm,0.3s,baz=96,slow=18,SNR=1.4						
KSRS	**Korea Array**	**21.59**	**248**	P	**P**	**15 58 39.6**	**-0.9**
	0.8nm,0.6s,baz=53,slow=9.9,SNR=2.5						
MKAR	**Makanchi Array**	**46.15**	**296**	P	**P**	**16 02 10.8**	**-1.3**
	0.3nm,0.8s,baz=56,slow=7.8,SNR=2.6						
YKA	**Yellowknife Ar**	**49.24**	**38**	P	**P**	**16 02 36.2**	**+0.6**
	0.1nm,0.5s,baz=297,slow=7.0,SNR=2.3						
CMAR	**Chiang Mai Arr**	**52.99**	**255**	P	**P**	**16 03 03.1**	**-1.1**
	0.4nm,0.3s,baz=28,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**74.16**	**198**	P	**P**	**16 05 22.4**	**-0.5**
	0.4nm,0.9s,baz=7.4,slow=5.3,SNR=6.2						

SNET ***15*** *16:05:57.6±3.4, 12.37N×88.44W, h7km, ML4.0, ML3.8*
NEIC ***15*** *16:05:59.2±1.0, 12.35N±0.07×88.34W±0.07, h25km±12km, Error ellipse: s-maj=12.9km s-min=7.4km az=224.0*
INET ***15*** *16:06:02.3±0.6, 12.56N×88.31W, h28km±12km, MW3.6*

ISC 15 16:05:58.5±1.9, 12.37N±0.07×88.35W±0.07, h24km±15km, n51, σ0s85/55, mb4.4/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.88**	**6**	*e*P	**Pb**	**16 06 15.4**	**+0.2**
JUCU				*e*S	**Sb**	**16 06 25.5**	**-1.1**
JUCU				IAML		16 06 26.3	
	comp=Z,3μm,0.2s						
JUCU	**Jucuarįn**	**0.88**	**6**	*e*P	**Pb**	**16 06 15.4**	**+0.2**
JUCU				*e*S	**Sb**	**16 06 25.7**	**-0.9**
ALJI	**Alcalda de J**	**0.97**	**347**	*e*P	**Pn**	**16 06 16.8**	**+0.1**
ALJI				IAML		16 06 28.3	
	comp=Z,2μm,0.1s						
CSGN	**Cosiguina Volc**	**0.97**	**52**	*e*P	**Pb**	**16 06 17.7**	**+0.9**
LCND	**La Caada**	**1.03**	**25**	IAML		16 06 38.6	
	comp=Z,2μm,0.3s						
LCY	**Lacayo**	**1.04**	**3**	*e*P	**Pn**	**16 06 18.1**	**+0.3**
COEB	**Comit de Eme**	**1.13**	**351**	*e*P	**Pn**	**16 06 19.1**	**+0.1**
COEB				*e*S	**Sn**	**16 06 32.4**	**-1.5**
COEB	**Comit de Eme**	**1.13**	**351**	*e*P	**Pn**	**16 06 19.3**	**+0.3**
TECO	**Alcaldia de Te**	**1.23**	**340**	*e*P	**Pn**	**16 06 20.2**	**0.0**
CRIN	**San Cristobal**	**1.31**	**75**	Pn	**Pn**	**16 06 22.4**	**+1.0**
FAGO	**Alcalda de S**	**1.33**	**10**	IAML		16 06 31.6	
	comp=Z,960nm,0.3s						
COEG	**Centro de Oper**	**1.34**	**337**	*e*P	**Pn**	**16 06 22.2**	**+0.3**
COEG				IAML		16 06 42.3	
	comp=Z,1μm,0.2s						
SCLA	**Alcaldia de Sa**	**1.37**	**344**	*e*P	**Pn**	**16 06 22.9**	**+0.7**
LFRS	**El Faro**	**1.43**	**331**	*e*P	**Pn**	**16 06 23.1**	**+0.1**
PAVA	**Las Pavas**	**1.45**	**337**	*e*P	**Pn**	**16 06 23.9**	**+0.6**
PAVA				*e*S	**Sn**	**16 06 40.7**	**-1.0**
PAVA				IAML		16 06 45.6	
	comp=Z,1μm,0.3s						
PAVA	**Las Pavas**	**1.45**	**337**	*e*P	**Pn**	**16 06 24.1**	**+0.7**
LBRS	**Las Brisas**	**1.52**	**333**	*e*P	**Pn**	**16 06 25.1**	**+0.8**
LFU	**La Fuente**	**1.56**	**331**	*e*P	**Pn**	**16 06 25.6**	**+0.8**
SNET	**Serv Nac Est T**	**1.56**	**327**	Pn	**Pn**	**16 06 25.1**	**+0.1**
CNGN	**Cerro Negro**	**1.61**	**85**	*e*P	**Pn**	**16 06 26.7**	**+1.1**
BOQS	**Boqueron**	**1.63**	**326**	*e*P	**Pn**	**16 06 26.6**	**+0.7**
BOQS				IAML		16 06 50.6	
	comp=Z,774nm,0.2s						
JAYA	**Jayaque - finc**	**1.67**	**320**	*e*P	**Pn**	**16 06 26.6**	**+0.2**
JAYA				*e*S	**Sn**	**16 06 45.0**	**-2.1**
JAYA				IAML		16 06 45.7	
	comp=Z,2μm,0.2s						
MOMN	**Momotombo**	**1.76**	**89**	*e*P	**Pb**	**16 06 29.9**	**-0.4**
TACO	**Tacachico**	**1.87**	**328**	*e*P	**Pn**	**16 06 30.1**	**+1.1**
CEVE	**Cerro Verde**	**1.91**	**319**	*e*P	**Pn**	**16 06 30.8**	**+1.0**
CEVE				IAML		16 07 04.0	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.92**	**320**	*e*P	**Pn**	**16 06 31.3**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.97**	**32**	Pn	**Pn**	**16 06 31.0**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.97**	**32**	*e*P	**Pn**	**16 06 32.0**	**+1.4**
NUBE	**Las Nubes**	**2.06**	**318**	*e*P	**Pn**	**16 06 32.8**	**+0.9**
NUBE				*e*S	**Sn**	**16 06 56.0**	**-1.0**
NUBE				IAML		16 06 56.6	
	comp=Z,570nm,0.2s						
HUEN		**2.12**	**91**	*e*P	**Pn**	**16 06 34.7**	**+2.2**
MTO3	**Montecristo**	**2.24**	**334**	Pn	**Pn**	**16 06 35.4**	**+1.0**
MTO3	**Montecristo**	**2.24**	**334**	*e*P	**Pn**	**16 06 35.4**	**+1.0**
MTO3	**Montecristo**	**2.24**	**334**	*e*P	**Pn**	**16 06 34.9**	**+0.6**
ESQI	**Esquipulas**	**2.38**	**336**	Pn	**Pn**	**16 06 36.5**	**+0.3**
ESQI	**Esquipulas**	**2.38**	**336**	*e*S	**Sn**	**16 07 03.9**	**-0.7**
MATN	**Matagalpa**	**2.43**	**77**	Pn	**Pn**	**16 06 37.4**	**+0.6**
MATN	**Matagalpa**	**2.43**	**77**	*e*P	**Pn**	**16 06 38.2**	**+1.4**
BOAB	**BOAO BROADBAN**	**2.62**	**88**	Pn	**Pn**	**16 06 39.2**	**-0.1**
HZTE	**Horizontes, Gu**	**3.16**	**121**	Pn	**Pn**	**16 06 46.1**	**-0.7**
ORTG	**Ortega, Santa**	**3.46**	**125**	Pn	**Pn**	**16 06 50.5**	**-0.6**
DUNO	**Dulce Nombre,**	**3.61**	**129**	Pn	**Pn**	**16 06 53.1**	**+0.1**
JTS	**Las Juntas de**	**3.92**	**122**	Pn	**Pn**	**16 06 57.7**	**+0.5**
CAO2	**Cobano, Puntar**	**4.15**	**130**	Pn	**Pn**	**16 07 00.3**	**-0.1**
RIOS	**Rincon, Osa**	**5.99**	**127**	Pn	**Pn**	**16 07 26.1**	**+0.4**
FSCY	**Frank Sound, G**	**9.75**	**44**	Pn	**Pn**	**16 08 17.9**	**+0.6**
TX31	**Lajitas Ar. Si**	**22.09**	**322**	P	**P**	**16 10 52.6**	**+0.5**
TX31				IAmb	IAmb	16 10 58.2	
	comp=Z,2.9nm,0.9s						
TX32	**Lajitas Array**	**22.09**	**322**	P	**P**	**16 10 52.3**	**+0.2**
TXAR	**Lajitas Array**	**22.09**	**322**	P	**P**	**16 10 52.5**	**+0.4**
R49A	**Shelbyville**	**25.97**	**6**	P	**P**	**16 11 29.0**	**-0.2**
R49A				IAmb	IAmb	16 11 37.8	
	comp=Z,20nm,1.2s						
R50A	**Paris**	**26.05**	**7**	P	**P**	**16 11 30.7**	**+0.7**
SRU	**San Rafael Swe**	**33.10**	**327**	P	**P**	**16 12 32.9**	**0.0**
SRU				IAmb	IAmb	16 12 35.1	
	comp=Z,4.7nm,0.9s						

NEIC ***15*** *16:19:53.8±0.4, 52.3S±0.2×18.8E±0.2, h10km±1km, mb4.4/4, Error ellipse: s-maj=31.6km s-min=20.2km az=343.0*
IDC ***15*** *16:19:53.4±1.9, 52.47S×18.96E, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.8/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/57, Error ellipse: s-maj=73.3km s-min=52.2km az=73.0*

ISC 15 16:19:54.2±1.0, 52.4S±0.2×18.7E±0.3, h10km, n15, σ0s41/9, mb4.2/4, MS3.2/4, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.06**	**5**	LR	LR	16 30 34.1	
	comp=Z,16nm,19.1s,baz=170,slow=32						
BELA	**Belgrano 2**	**31.82**	**199**	P	**P**	**16 26 18.7**	**+0.3**
BELA				IAmb	IAmb	16 26 44.0	
	comp=Z,9.9nm,1.5s						
MATP	**Matopo**	**32.80**	**17**	LR	LR	16 38 26.3	
	comp=Z,36nm,18.6s,baz=183,slow=34						
LSZ	**Lusaka**	**37.79**	**15**	LR	LR	16 41 23.1	
	comp=Z,42nm,18.4s,baz=152,slow=34						
QSPA	**South Pole Qui**	**37.83**	**180**	P	**P**	**16 27 10.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=240,slow=5.9,SNR=12						
QSPA	**South Pole Qui**	**37.83**	**180**	IAmb	IAmb	16 27 16.4	
	comp=Z,2.6nm,0.9s						
DSPA	**Despedida**	**48.96**	**231**	P	**P**	**16 28 40.1**	**-0.1**
MBAR	**Mbarara**	**52.59**	**15**	LR	LR	16 49 50.0	
	comp=Z,58nm,18.3s,baz=153,slow=34						
SOCY	**Socotra**	**71.13**	**37**	P	**P**	**16 31 12.9**	**+0.1**
SOCY				IAmb	IAmb	16 31 13.1	
	comp=Z,5.2nm,0.9s						
ASAR	**Alice Springs**	**85.62**	**124**	P	**P**	**16 32 33.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=201,slow=5.0,SNR=5.3						
ASAR	**Alice Springs**	**85.62**	**124**	P	**P**	**16 32 32.3**	**-0.7**
PDAR	**Pinedale Array**	**144.50**	**275**	PKP	PKPbc	16 39 29.6	+0.6
	comp=Z,0.8nm,0.7s,baz=126,slow=4.6,SNR=8.8						
PDAR	**Pinedale Array**	**144.50**	**275**	PKPdf	**PKPab**	**16 39 28.9**	**+0.2**
TIXI	**Tiksi**	**144.73**	**31**		**PKPdf**	**16 39 29.8**	**+0.3**
NVAR	**Mina Array Bea**	**147.27**	**262**	PKPbc	**PKPab**	**16 39 38.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=156,slow=4.9,SNR=2.0						

JMA ***15*** *16:24:18.2±0.2, 39.48N×143.57E, h28km±5km, M3.3*
*I

σ1$22/46, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**18 05 19.1**	**+0.3**
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**18 05 19.1**	**+0.3**
ERTU	**Ertsjaerv**	**0.72**	**135**	*e*P	**Pg**	**18 05 21.4**	**-0.2**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**18 05 24.1**	**-0.2**
PAJU	**Pajala**	**0.86**	**92**	*e*P	**Pg**	**18 05 23.9**	**-0.3**
PAJU	baz=280			*e*S	**Sg**	**18 05 31.3**	**-4.0**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**18 05 25.2**	**0.0**
HARU	**Harads**	**0.91**	**179**	*e*P	**Pg**	**18 05 25.2**	**0.0**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**18 05 27.6**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**18 05 27.6**	**-0.7**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**18 05 28.2**	**-0.4**
NIKU	**Nikkaluokta**	**1.09**	**319**	*e*P	**Pg**	**18 05 28.2**	**-0.4**
KLF	**Kolari**	**1.20**	**81**	*e*P	**Pg**	**18 05 30.1**	**-0.7**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 05 36.6**	**-0.1**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**18 05 36.5**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**18 05 37.2**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**18 05 37.2**	**+0.1**
TOF	**Tornio**	**1.68**	**125**	*e*PG	**Pn**	**18 05 38.8**	**+0.3**
TOF	comp=Z,22nm,0.2s			MSG		18 05 58.4	
TOF				*e*SN	**Sg**	**18 06 02.2**	**+0.5**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 05 39.2**	**+0.4**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 05 38.8**	**+0.1**
HEF	comp=Z,13nm,0.2s			MSG		18 05 58.4	
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**18 05 41.3**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**18 05 41.3**	**+0.6**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**18 05 44.4**	**+0.2**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**18 05 43.7**	**-0.4**
KIF	comp=Z,29nm,0.2s			MSG		18 06 07.2	
KIF				*e*SG	**Sg**	**18 06 11.3**	**+1.0**
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB	**Pn**	**18 05 44.8**	**+1.1**
RNF				*e*SG	**Sb**	**18 06 13.8**	**+1.5**
SGF	**Sodankyl**	**2.21**	**78**	*e*PB	**Pn**	**18 05 46.9**	**+1.2**
OBF0	**Syolatti, Pyha**	**2.92**	**151**	*e*PG	**Pb**	**18 06 02.3**	**+1.6**
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P	**Pn**	**18 05 57.3**	**+0.6**
ARCES	**ARCESS Array B** baz=215,slow=12,SNR=2.1	**3.01**	**32**	Pn	**Pn**	**18 05 57.2**	**+0.5**
ARCES	baz=216,slow=22,SNR=1.3			Sn	**Sn**	**18 06 34.8**	**+1.5**
OUF	**Merijarvi** baz=336	**3.13**	**148**	*e*P	**Pn**	**18 06 00.1**	**+1.7**
OUF	comp=Z,4.0nm,0.2s			MSG		18 06 40.9	
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**18 06 00.2**	**+1.0**
UMAU				*e*SG	**Sb**	**18 06 45.9**	**+1.0**
VRF	**Varrio**	**3.42**	**74**	*e*PG	**Pb**	**18 06 09.0**	**-0.2**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**18 06 07.9**	**+1.3**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**18 06 08.9**	**+1.2**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**18 06 13.0**	**+1.3**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=1.3	**6.07**	**156**	Pn	**Pn**	**18 06 40.2**	**+1.4**
FINES	comp=Z,0.1nm,0.3s,baz=345,slow=21,SNR=1.5			Sn	**Sn**	**18 07 45.6**	**-3.3**
FINES	comp=Z,0.2nm,0.3s,baz=347,slow=28,SNR=1.7			Lg	Lg	18 08 20.1	
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=21,slow=10,0,SNR=1.5	**7.39**	**220**	Pn	**Pn**	**18 06 55.5**	**-1.4**
NOA	comp=Z,0.0nm,0.3s,baz=32,slow=21,SNR=1.8			Sn	**Sn**	**18 08 19.9**	**-1.4**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=44,slow=8.8,SNR=1.5	**7.66**	**208**	Pn	**Pn**	**18 07 00.3**	**-0.3**
HFS	comp=Z,0.1nm,0.3s,baz=42,slow=22,SNR=1.6			Sn	**Sn**	**18 08 25.4**	**-2.6**

*IDC **15** 18:10:03.3±0.8, 16°.84N×121°.82E, h0km, mb4.0/11, mb1 4.2/11, mb1mx3.7/58, mbtmp4.1/11, MS3.0/2, Ms1 3.0/2, ms1mx2.5/89, Error ellipse: s-maj=28.0km s-min=12.0km az=89.0*
*MAN **15** 18:10:07.5, 16°.73N×121°.57E, h9km, mb4.8, ML3.7, MS3.6*
*NEIC **15** 18:10:09.3±1.7, 16°.81N±0°.08×121°.7E±0°.1, h40km±8km, mb4.4/28, Error ellipse: s-maj=15.5km s-min=12.2km az=87.0*

ISC 15 18:10:08.3±0.5, **16°.84N**±0°.04×**121°.71E**±0°.06, **h35**km, **n79,** σ1**$50**/67, **mb4.3**/24, **11C-6D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMP	**Sagada Mountai**	**0.81**	**287**	‖*e*P	**Pn**	**18 10 20.0**	**-3.3**
BALP	**Baler**	**1.10**	**187**	‖*e*P	**Pn**	**18 10 25.7**	**-1.4**
SMPP	**San Manuel, Pa**	**1.21**	**236**	‖*e*P	**Pn**	**18 10 26.8**	**-1.9**
PCPH	**Palayan**	**1.40**	**205**	‖*e*P	**Pn**	**18 10 30.7**	**-0.7**
PCPH				*e*S	**Sn**	**18 10 50.2**	**+1.6**
SGCP	**Gonzaga**	**1.43**	**13**	‖*e*P	**Pn**	**18 10 31.8**	**0.0**
SIPP	**Brgy, Tapao**	**1.61**	**312**	‖*i*P	**Pn**	**18 10 35.2**	**+1.0**
SIPP				*i* S	Sn	18 11 16.6	+23
BOLP	**Bolinao**	**1.79**	**256**	‖*i*P	**Pn**	**18 10 36.6**	**-0.1**
SCZP	**Santa Cruz**	**2.03**	**239**	‖*i*P	**Pn**	**18 10 40.9**	**+1.0**
QVP	**Quezon City--P**	**2.31**	**197**	‖*i*P	**Pn**	**18 10 45.1**	**+1.3**
LQP	**Lukban**	**2.72**	**184**	‖*e*P	**Pn**	**18 10 50.1**	**+0.5**
MACP	**Maragondon, Ca**	**2.73**	**201**	‖*e*P	**Pn**	**18 10 51.6**	**+2.0**
TGY	**Tagaytay City** 69nm,0.3s,baz=347,slow=18,SNR=12	**2.82**	**196**	Pg	**Pn**	**18 10 54.1**	**+3.1**
TGY	273nm,0.3s,baz=60,slow=20,SNR=4.2			Lg	Lg	18 11 36.4	
TGY	**Tagaytay City**	**2.82**	**196**	‖*e*P	Pn	18 11 04.2	+13
TGY				*e*S	Sn	18 11 40.3	+17
GQP	**Guinayangan**	**3.00**	**166**	‖*e*P	Pn	18 10 45.4	-7.9
GQP				*e*S	**Sn**	**18 11 32.4**	**+4.3**
BOAC	**Boac**	**3.36**	**178**	‖*e*P	**Pn**	**18 11 01.1**	**+2.8**
LUBP	**Lubang**	**3.40**	**205**	‖*e*P	**Pn**	**18 11 01.6**	**+2.8**
PGP	**Puerto Galera**	**3.40**	**193**	‖*e*P	**Pn**	**18 11 01.5**	**+2.6**
PVCP	**Virac**	**3.99**	**144**	‖*e*P	**Pn**	**18 11 08.1**	**+1.1**
TWG	**Pinlang**	**5.98**	**354**	Pn	**Pn**	**18 11 34.9**	**+0.5**
TPUB	**Ta-pu**	**6.51**	**351**	Pn	**Pn**	**18 11 42.3**	**+0.7**
YULB	**Yu-li**	**6.53**	**357**	Pn	**Pn**	**18 11 44.9**	**+3.0**
SSLB	**Suanglung**	**6.95**	**354**	Pn	**Pn**	**18 11 50.1**	**+2.4**
NACB	**Ninganchiao**	**7.30**	**355**	Pn	**Pn**	**18 11 54.7**	**+2.2**
YHNB	**Yeheng**	**7.80**	**358**	Pn	**Pn**	**18 12 00.3**	**+0.9**
DAV	**Davao City (W)** comp=Z,106nm,20.4s,baz=343,slow=42	**10.42**	**158**	LR	LR	18 17 17.5	
QIZ	**Qiongzhong**	**11.51**	**283**	Pn	**Pn**	**18 12 48.2**	**-2.0**
JOW	**Kunigami**	**11.66**	**30**	Pn	Pn	18 12 48.7	-3.5
JTU	**Tsushima**	**18.91**	**20**	P	**P**	**18 14 25.0**	**-1.0**
JTU	comp=Z,29nm,1.3s			IAmb	IAmb	18 14 30.6	
KSAR	**Wonju Array Be**	**21.23**	**14**	P	**P**	**18 14 50.7**	**-0.5**
KSRS	**Korea Array** comp=Z,4.7nm,0.7s,baz=197,slow=11,SNR=21	**21.25**	**14**	P	**P**	**18 14 51.9**	**+0.5**
KS19	**Wonju Array Si**	**21.29**	**14**	P	**P**	**18 14 51.9**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.8s,baz=75,slow=9.4,SNR=7.3	**21.76**	**278**	P	**P**	**18 14 59.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.76**	**278**	P	**P**	**18 14 57.0**	**0.0**
GUMO	**Guam** comp=Z,36nm,19.3s,baz=248,slow=35	**22.57**	**95**	LR	LR	18 23 11.0	
KULM	**Kulim**	**23.61**	**243**	P	**P**	**18 15 17.0**	**+0.7**
KULM	comp=Z,24nm,1.6s			IAmb	IAmb	18 15 44.0	
IPM	**Ipoh**	**23.72**	**241**	P	**P**	**18 15 16.7**	**-0.6**
IPM	comp=Z,12nm,1.2s			IAmb	IAmb	18 15 17.8	
MMRI	**Maumere**	**25.32**	**179**	P	**P**	**18 15 30.7**	**-1.2**
BATI	**Baumata** comp=Z,14nm,0.8s,baz=5.7,slow=10,SNR=1.9	**26.94**	**176**	P	**P**	**18 15 48.1**	**+1.5**
KNRA	**Kununurra**	**33.05**	**167**	P	**P**	**18 16 40.4**	**-0.2**
ULN	**Ulaanbaatar**	**33.21**	**342**	P	**P**	**18 16 42.3**	**+0.4**
ULN	comp=Z,3.7nm,1.2s			IAmb	IAmb	18 16 48.9	
KLR	**Kul'dur** comp=Z,3.3nm,0.9s,baz=235,slow=5.5,SNR=9.8	**33.32**	**12**	P	**P**	**18 16 43.7**	**+0.9**
SONM	**Songino Array** comp=Z,1.9nm,0.7s,baz=157,slow=10,SNR=20	**33.38**	**341**	P	**P**	**18 16 44.3**	**+0.9**
SONM	**Songino Array** comp=Z,1.6nm,0.8s	**33.38**	**341**	IAmb	IAmb	18 16 46.3	
PSA00	**Pilbara Seismi**	**38.22**	**183**	P	**P**	**18 17 24.3**	**-0.6**
PSA00	comp=Z,4.0nm,1.1s			IAmb	IAmb	18 17 52.9	
WB0	**Warramunga Arr**	**38.45**	**161**	P	**P**	**18 17 26.7**	**-0.3**
WB0	comp=Z,21nm,1.6s			IAmb	IAmb	18 17 51.0	
WRAB	**Tennant Creek**	**38.59**	**161**	P	**P**	**18 17 27.7**	**-0.5**
WRA	**Warramunga Arr** comp=Z,2.2nm,0.8s,baz=339,slow=9.3,SNR=9.8	**38.60**	**161**	P	**P**	**18 17 27.1**	**-1.1**
WRA	**Warramunga Arr** comp=Z,0.2nm,1.0s	**38.60**	**161**	IAmb	IAmb	18 17 29.2	
WB2	**Warramunga Arr**	**38.60**	**161**	P	**P**	**18 17 27.6**	**-0.6**
WR0	**Warramunga Arr**	**38.68**	**160**	P	**P**	**18 17 27.0**	**-1.8**
WR0	comp=Z,16nm,1.4s			IAmb	IAmb	18 17 57.6	
ASAR	**Alice Springs** comp=Z,0.8nm,0.7s,baz=342,slow=6.7,SNR=14	**41.98**	**163**	P	**P**	**18 17 56.0**	**-0.2**
ASAR	**Alice Springs**	**41.98**	**163**	P	**P**	**18 17 55.3**	**-0.9**
H11S3	**WAKE ISLAND Hy** baz=276,slow=74	**42.80**	**81**	T	T	19 03 15.7	
H11S1	**WAKE ISLAND Hy** baz=276	**42.81**	**81**	T	T	19 03 15.9	
H11S2	**WAKE ISLAND Hy** baz=276,slow=74	**42.82**	**81**	T	T	19 03 09.2	
H11N1	**WAKE ISLAND Hy** baz=272	**42.90**	**79**	T	T	19 03 25.3	
H11N2	**WAKE ISLAND Hy** baz=272	**42.91**	**79**	T	T	19 03 33.5	
H11N3	**WAKE ISLAND Hy** baz=272	**42.92**	**79**	T	T	19 03 29.4	
MK31	**Makanchi Array**	**44.16**	**321**	P	**P**	**18 18 13.8**	**+0.2**
MKAR	**Makanchi Array** comp=Z,1.4nm,1.2s,baz=108,slow=8.0,SNR=4.4	**44.16**	**321**	P	**P**	**18 18 14.2**	**+0.6**
MAKZ	**Makanchi**	**44.35**	**321**	P	**P**	**18 18 14.8**	**-0.3**
EIDS	**Eidsvold**	**50.77**	**145**	P	**P**	**18 19 02.9**	**-2.4**
TIXI	**Tiksi**	**54.97**	**3**	P	**P**	**18 19 34.9**	**-0.6**
TIXI	comp=Z,2.6nm,0.8s			IAmb	IAmb	18 19 36.1	
LIFNC	**LIFOU**	**58.24**	**128**	P	**P**	**18 19 59.2**	**-0.3**
BILL	**Bilibino**	**58.44**	**18**	P	**P**	**18 19 59.4**	**-0.9**
BILL	comp=Z,3.2nm,0.7s			IAmb	IAmb	18 20 01.9	
ABKAR	**Akbulak array**	**59.05**	**318**	P	**P**	**18 20 04.7**	**-0.1**
ABKAR	**Akbulak array**	**59.05**	**318**	P	**P**	**18 20 04.5**	**-0.4**
ABKAR	comp=Z,6.7nm,1.6s			IAmb	IAmb	18 20 30.1	
J20K	**Nowinta River**	**72.44**	**27**	P	**P**	**18 21 33.5**	**+2.6**
IMAR	**Indian Mountai**	**72.54**	**25**	P	**P**	**18 21 33.1**	**+1.7**
H21K	**Melozitna Rive**	**72.95**	**26**	P	**P**	**18 21 35.2**	**+1.3**
H21K	comp=Z,3.8nm,1.2s			IAmb	IAmb	18 21 39.5	
CAST	**Castle Rocks**	**73.40**	**28**	P	**P**	**18 21 38.0**	**+1.4**
CAST	comp=Z,3.6nm,0.9s			IAmb	IAmb	18 21 39.0	
KDAK	**Kodiak Island**	**73.65**	**34**	P	**P**	**18 21 38.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**73.83**	**27**	P	**P**	**18 21 38.9**	**-0.2**
BPAW	comp=Z,10nm,1.6s			IAmb	IAmb	18 21 45.5	
MLY	**Manley**	**73.86**	**26**	P	**P**	**18 21 39.0**	**-0.2**
MLY	comp=Z,3.5nm,1.3s			IAmb	IAmb	18 22 02.9	
FINES	**FINESS Array B** comp=Z,4.4nm,1.2s,baz=28,slow=8.9,SNR=5.0	**78.04**	**331**	P	**P**	**18 22 03.8**	**+0.8**
AKASG	**Malin Array Be** comp=Z,1.2nm,0.6s,baz=66,slow=4.7,SNR=7.2	**78.71**	**320**	P	**P**	**18 22 06.6**	**-0.4**
AKASG	**Malin Array Be** comp=Z,3.5nm,1.4s	**78.71**	**320**	IAmb	IAmb	18 22 29.0	
NB2	**NORSAR Subarra** comp=Z,7.8nm,1.1s,baz=62,slow=5.1	**84.94**	**333**	P	**P**	**18 22 39.3**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.8nm,0.8s,baz=62,slow=4.9,SNR=7.6	**84.94**	**333**	P	**P**	**18 22 39.6**	**0.0**

*CNRM **15** 18:18:16.4, 35°.80N×3°.50W, h31km, ml2.5*
*MDD **15** 18:18:17.6±0.8, 35°.58N×3°.70W, h24km±7km, mb_Lg2.1/5, Error ellipse: s-maj=8.4km s-min=5.3km az=179.0*

ISC 15 18:18:17.4±1.1, **35°.69N**±0°.03×**3°.63W**±0°.03, **h27**km±13km, **n14,** σ1**$63**/26, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.54**	**62**	Pg	**Pn**	**18 18 28.9**	**-0.4**
EALB				Sg	**Sn**	**18 18 38.3**	**+0.7**
EALB				*i* Vmb_Lg		18 18 39.8	
EMEL	**Melilla**	**0.67**	**125**	Pg	**Pn**	**18 18 31.0**	**0.0**
EMEL				Sg	**Sb**	**18 18 39.2**	**-0.2**
GOG	**Mont Gurugu**	**0.69**	**132**	P	**Pn**	**18 18 31.0**	**-0.4**
GOG				S	**Sn**	**18 18 40.2**	**-1.1**
ELGU	**Los Guajares,**	**1.18**	**360**	Pn	**Pb**	**18 18 39.3**	**+0.1**
ELGU				Sn	**Sb**	**18 18 55.5**	**+1.4**
ELGU				*i* Vmb_Lg		18 18 59.2	
EMIJ	**Mijas**	**1.28**	**314**	Pn	**Pb**	**18 18 39.9**	**-0.9**
EMIJ				Sn	**Sb**	**18 18 56.2**	**-0.7**
EMIJ				*i* Vmb_Lg		18 18 57.8	
TAF	**Taforalt**	**1.32**	**131**	P	**Pb**	**18 18 40.6**	**-1.0**
TAF				S	**Sn**	**18 18 55.2**	**-1.6**
EBER	**Berja**	**1.35**	**26**	Sg	**Sb**	**18 19 01.8**	**+2.8**
EBER				*i* Vmb_Lg		18 19 04.5	
SMIR	**Smir Dam**	**1.43**	**270**	P	**Pn**	**18 18 37.6**	**-3.9**
SMIR				S	**Sn**	**18 18 59.6**	**+0.2**
EGOR	**Sierra Gorda,**	**1.47**	**345**	Pn	**Pb**	**18 18 42.9**	**-1.4**
EGOR				Sn	**Sn**	**18 19 01.1**	**+0.3**
EGOR				*i* Vmb_Lg		18 19 10.0	
CHEFC	**Chefchaouen**	**1.52**	**248**	P	**Pb**	**18 18 43.9**	**-1.0**
CHEFC				S	**Sb**	**18 19 07.0**	**+3.3**
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**18 18 43.9**	**-0.3**
JBK				S	**Sn**	**18 19 03.3**	**-0.7**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**18 19 03.3**	**+0.6**
MDT	**Midelt**	**2.98**	**196**	P	**Pn**	**18 19 03.3**	**+0.4**
MDT				S	**Sn**	**18 19 41.1**	**+3.3**
PVAQ	**Vaqueiros**	**3.71**	**299**	P	**Pn**	**18 19 13.2**	**+0.3**
PVAQ				S	**Sn**	**18 19 56.8**	**+1.0**

MEX 15 18:26:14.7±0.7, **15°.86N×94°.51W, h27**km±12km, **MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**97**	*e*P	Pn	18 26 33.5	-3.0
PCIG				*e*S	Sn	18 26 49.4	-3.1
PCIG		**1.25**	**97**	*e*P	Pn	18 26 33.5	-3.0
PCIG				*e*S	Sn	18 26 49.3	-3.2
CMIG	**Matias Romero**	**1.28**	**344**	*e*P	Pn	18 26 34.5	-2.4
CMIG				*e*S	Sn	18 26 50.9	-2.2
UXUV	**UXUV**	**1.50**	**14**	*e*P	Pn	18 26 37.6	-2.2
UXUV				*e*S	Sn	18 26 55.6	-2.8
UXUV	**UXUV**	**1.50**	**14**	*e*P	Pn	18 26 37.6	-2.2
UXUV				*e*S	Sn	18 26 55.0	-3.5
HUIG	**Huatulco**	**1.54**	**267**	*e*P	Pn	18 26 38.1	-2.3
HUIG				*e*S	Sn	18 26 56.6	-2.9
HUIG	**Huatulco**	**1.54**	**267**	*e*P	Pn	18 26 38.0	-2.4
HUIG				*e*S	Sn	18 26 56.3	-3.3
TGIG		**1.62**	**55**	*e*P	Pn	18 26 38.1	-2.5
TGIG				*e*S	Sn	18 26 58.5	-3.1
TGIG		**1.62**	**55**	*e*P	Pn	18 26 38.0	-3.6
TGIG				*e*S	Sn	18 26 56.3	-5.4
PATR	**El Naranjo**	**2.32**	**108**	*e*P	Pn	18 26 48.1	-3.3
PATR				*e*S	Sn	18 27 15.9	-3.2
PATR	**El Naranjo**	**2.32**	**108**	*e*P	Pn	18 26 49.2	-2.1
PATR				*e*S	Sn	18 27 16.2	-2.9
CCIG	**Comitan**	**2.32**	**79**	*e*P	Pn	18 26 48.5	-2.9
CCIG				*e*S	Sn	18 27 15.7	-3.5
CCIG	**Comitan**	**2.32**	**79**	*e*P	Pn	18 26 48.7	-2.7
CCIG				*e*S	Sn	18 27 15.0	-4.1
PAVE	**Pavencul**	**2.35**	**106**	*e*P	Pn	18 26 49.0	-2.8
PAVE				*e*S	Sn	18 27 16.7	-3.1
PAVE	**Pavencul**	**2.35**	**106**	*e*P	Pn	18 26 49.4	-2.3
PAVE				*e*S	Sn	18 27 17.2	-2.6
VHO	**Vista Hermosa**	**2.45**	**300**	*e*P	Pn	18 26 51.4	-1.8
VHO				*e*S	Sn	18 27 18.9	-3.5
PEIG	**Puerto Escondi**	**2.54**	**274**	*e*P	Pn	18 26 51.3	-2.9
PEIG				*e*S	Sn	18 27 20.2	-4.1
PEIG	**Puerto Escondi**	**2.54**	**274**	*e*P	Pn	18 26 52.4	-1.8
PEIG				*e*S	Sn	18 27 21.7	-2.6
YOIG	**Yosondua**	**3.08**	**289**	*e*	Pn	18 27 02.3	+0.4
YOIG				*e*		18 27 36.6	
TOIG	**Toxpalan**	**3.31**	**313**	*e*	Pn	18 27 04.8	-0.1
TOIG				*e*		18 27 43.6	
TXIG	**Tlaxiaco**	**3.42**	**294**	*e*	Pn	18 27 06.2	-0.4
TXIG				*e*		18 27 45.5	
PNIG	**Pinotepa**	**3.52**	**279**	*e*	Pn	18 27 05.6	-2.0
PNIG				*e*		18 27 42.9	

IDC 15 18:29:45.5±430.0, **57°.01N×28°.07E, h0**km, **Error ellipse: s-maj=100.9km s-min=72.0km az=156.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** baz=275,slow=326,SNR=0.8	**5.03**	**89**	*i*		18 58 50.0	
I26DE	**FREYUNG INFRAS** baz=37,slow=324,SNR=0.5	**11.88**	**233**	*i*		19 50 40.0	
I37NO	**I37NO** baz=156,slow=326,SNR=0.8	**12.82**	**345**	*i*		19 49 30.0	

*SKHL **15** 18:47:02.7±0.0, 44°.40N×146°.50E, h166km±5km, mb4.5/3, msha4.9/3*
*JMA **15** 18:47:04.0±0.4, 44°.51N×146°.41E, h178km±3km, M3.5*
*IDC **15** 18:47:04.2±2.3, 44°.68N×146°.31E, h188km±23km, mb2.9/5, mb1 3.2/7, mb1mx3.0/43, mbtmp3.5/7, Error ellipse: s-maj=30.3km s-min=20.3km az=135.0*

ISC 15 18:47:03.0±0.8, **44°.52N**±0°.08×**146°.45E**±0°.06, **h183**km±7km, **n34,** σ0**$90**/41, **mb3.2**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.64**	**221**	*i* P	**Pn**	**18 47 29.3**	**+0.5**
YUK				AMB	AMB	18 47 30.5	
YUK	230nm,0.3s			*i* S	**Sn**	**18 47 49.3**	**+0.7**
YUK				A	A	18 47 50.4	
YUK	270nm,0.5s			A	A	18 47 50.4	
SHO	390nm,0.5s **Shikotan**	**0.70**	**157**	*i* P	**Pn**	**18 47 29.0**	**-0.1**
SHO				AMB	AMB	18 47 29.6	
SHO	200nm,0.3s			*e*S	**Sn**	**18 47 48.2**	**-1.0**
SHO				A	A	18 47 49.6	
SHO	760nm,0.4s			A	A	18 47 49.6	
JRA	640nm,0.4s **Rausu**	**1.12**	**239**	P	**Pn**	**18 47 32.2**	**+0.3**
KUR	**Kuril'sk**	**1.23**	**54**	*e*P	**Pn**	**18 47 32.6**	**-0.2**
KUR				*e*P	**Pn**	**18 47 32.6**	**-0.2**
KUR	100nm,0.4s			AMB	AMB	18 47 32.9	
KUR				*e*S	**Sn**	**18 47 56.2**	**+0.3**
KUR	110nm,0.4s			A	A	18 48 04.9	
KUR	50nm,0.4s			A	A	18 48 04.9	
NEM2	**Nemuro 2**	**1.26**	**204**	P	**Pn**	**18 47 33.2**	**+0.1**
NEM2				*e*S	**Sn**	**18 47 55.4**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.26**	**205**	*i* P	**Pn**	**18 47 33.3**	**+0.2**
NMR				*e*S	**Sn**	**18 47 55.9**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.28**	**235**	P	**Pn**	**18 47 33.9**	**+0.7**
JNK	**Nakash**	**1.56**	**234**	P	**Pn**	**18 47 36.4**	**+0.6**
JKHN	**Kushirohamanak**	**1.71**	**213**	P	**Pn**	**18 47 37.7**	**+0.4**
AKK	**Akkeshi**	**1.90**	**218**	*e*P	**Pn**	**18 47 39.6**	**+0.4**
AKK				*e*S	**Sn**	**18 48 06.5**	**-0.7**
JTKR	**Abashiri--Toko**	**1.91**	**254**	P	**Pn**	**18 47 39.5**	**+0.3**
JTKR				*e*S	**Sn**	**18 48 07.3**	**0.0**
JAK	**Akkeshi**	**1.98**	**220**	P	**Pn**	**18 47 40.5**	**+0.5**
JAK				*e*S	**Sn**	**18 48 08.4**	**-0.4**
JMP	**Maruseppu**	**2.28**	**258**	P	**Pn**	**18 47 43.6**	**+0.3**
JAR	**Ashorobuto**	**2.29**	**239**	P	**Pn**	**18 47 44.5**	**+1.1**
JOB	**Onbets**	**2.49**	**230**	P	**Pn**	**18 47 46.7**	**+1.0**
JOB				*e*S	**Sn**	**18 48 19.1**	**+0.2**
JKK2	**Kamakawa 2**	**2.74**	**258**	P	**Pn**	**18 47 49.3**	**+0.7**
JKK2				*e*S	**Sn**	**18 48 24.7**	**+0.5**
JSE	**Soyaes**	**2.79**	**280**	P	**Pn**	**18 47 49.0**	**-0.2**
ASAJ	**Asahikawa** 4.3nm,0.3s,baz=87,slow=9.9,SNR=49	**2.79**	**263**	P	**Pn**	**18 47 50.0**	**+0.7**
JCH	**Churui**	**2.94**	**231**	P	**Pn**	**18 47 51.5**	**+0.4**
JCH				*e*S	**Sn**	**18 48 27.0**	**-1.5**
JFR	**Furan**	**3.10**	**245**	P	**Pn**	**18 47 54.3**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.50**	**232**	P	**Pn**	**18 47 57.5**	**-0.4**
JNBK				*e*S	**Sn**	**18 48 37.4**	**-3.4**
JEW	**Eniwo**	**4.00**	**247**	P	**Pn**	**18 48 05.6**	**+1.5**
USRK	**Ussuriysk Ar.** baz=77,slow=15,SNR=2.4	**10.37**	**273**	P	**Pn**	**18 49 26.5**	**-0.6**
SONM	**Songino Array** 0.2nm,0.4s,baz=78,slow=8.0,SNR=1.7	**27.72**	**291**	P	**P**	**18 52 33.7**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=330,slow=75,SNR=4.5	**30.01**	**139**	T	T	19 24 23.1	
H11N1	**WAKE ISLAND Hy** baz=330,slow=75,SNR=4.0	**30.02**	**139**	T	T	19 24 16.8	
H11N3	**WAKE ISLAND Hy** baz=330,slow=75,SNR=4.0	**30.03**	**139**	T	T	19 24 20.4	
H11S1	**WAKE ISLAND Hy** baz=331,slow=76,SNR=8.1	**30.98**	**140**	T	T	19 25 26.9	
H11S3	**WAKE ISLAND Hy** baz=331,slow=76,SNR=4.7	**30.99**	**140**	T	T	19 25 26.3	
H11S2	**WAKE ISLAND Hy** baz=331,slow=76,SNR=7.0	**31.00**	**140**	T	T	19 25 26.1	
ILAR	**Eielson Array** 0.5nm,0.7s,baz=256,slow=6.6,SNR=7.3	**41.17**	**37**	P	**P**	**18 54 28.9**	**-0.1**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=51,slow=9.4,SNR=2.2	**43.79**	**297**	P	**P**	**18 54 49.5**	**-0.8**

*NEIC **15** 18:58:40.3±1.6, 52.7°N±0.2°×175.6°W±0.1°, h218km±8km, mb4.0/59, ML3.6/29(AEIC), Error ellipse: s-maj=28.7km s-min=9.2km az=169.0*
*AEIC **15** 18:58:40±2.5, 52.3°N±0.2°×175.5°W±0.1°, h228km±5km, Error ellipse: s-maj=27.9km s-min=9.0km az=167.0*
*IDC **15** 18:58:43.8±7.9, 52.97°N×175.14°W, h225km±71km, mb3.1/5, mb1 3.3/8, mb1mx3.0/51, mbtmp3.6/8, Error ellipse: s-maj=62.5km s-min=17.5km az=12.0*

ISC 15 18:58:40.1±0.6, 52.7°N±0.1°×175.62°W±0.06, h218km±7km, n105, σ0.9 97/109, mb3.9/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.62**	**206**		**Pn**	**18 59 10.1**	**+0.3**
GSTR					**S**	**18 59 32.8**	**-0.2**
GSMY	**Great Sitkin M**	**0.67**	**204**		**Pn**	**18 59 10.0**	**-0.1**
GSTD	**Great Sitkin T**	**0.68**	**208**		**Pn**	**18 59 10.0**	**-0.1**
GSTD					**S**	**18 59 33.6**	**+0.1**
GSCK	**Great Sitkin C**	**0.73**	**208**		**Pn**	**18 59 10.3**	**0.0**
GSCK					**S**	**18 59 34.2**	**+0.5**
ADAG	**Mount Adagdak**	**0.91**	**222**		**Pn**	**18 59 11.4**	**+0.2**
KOKL	**Mount Kliuchef**	**0.93**	**110**		**Pn**	**18 59 11.8**	**+0.4**
ETKA	**Kagalaska Isla**	**0.93**	**212**		**Pn**	**18 59 11.2**	**-0.2**
ATKA	**Atka Island**	**0.98**	**117**		**Pn**	**18 59 11.4**	**-0.2**
KOFP	**Korovin Flat P**	**1.00**	**112**		**Pn**	**18 59 12.2**	**+0.4**
ADK	**Adak**	**1.01**	**221**		**Pn**	**18 59 11.5**	**-0.3**
ADK					**S**	**18 59 35.9**	**-0.6**
KIKV	**Kanaga Island**	**1.23**	**231**		**Pn**	**18 59 13.4**	**+0.1**
KIWB	**Kanaga Island**	**1.24**	**230**		**Pn**	**18 59 13.3**	**-0.1**
KIMD	**Kanaga Island**	**1.34**	**229**		**Pn**	**18 59 13.9**	**-0.2**
KIMD					**S**	**18 59 40.0**	**-0.5**
TAPA	**Tanaga Point A**	**1.59**	**239**		**Pn**	**18 59 16.1**	**-0.1**
TAFP	**Tanaga Falls P**	**1.64**	**243**		**Pn**	**18 59 16.8**	**+0.2**
TAFP					**S**	**18 59 44.6**	**-0.3**
TAFL	**Tanaga Flats**	**1.67**	**238**		**Pn**	**18 59 16.9**	**+0.1**
TASE	**Tanaga Southea**	**1.70**	**242**		**Pn**	**18 59 17.4**	**+0.2**
GAEA	**Gareloi East**	**2.11**	**247**		**Pn**	**18 59 21.2**	**+0.1**
GALAA	**Gareloi Lava P**	**2.14**	**246**		**Pn**	**18 59 21.4**	**+0.1**
GASW	**Gareloi Southw**	**2.18**	**247**		**Pn**	**18 59 21.7**	**0.0**
MSW	**Makushin Switc**	**5.45**	**73**	Pn	**Pn**	**19 00 01.1**	**+0.6**
UNV	**Unalaska Valle**	**5.60**	**74**		**Pn**	**19 00 03.1**	**+0.7**
AKUT	**Akutan**	**6.07**	**72**	Pn	**Pn**	**19 00 08.4**	**0.0**
SDPT	**Sand Point**	**9.31**	**67**	Pn	**Pn**	**19 00 49.2**	**-0.8**
CHGN	**Chignik**	**10.65**	**63**	Pn	**Pn**	**19 01 05.0**	**-2.1**
SII	**Sitkinak Islan**	**13.01**	**64**	Pn	**Pn**	**19 01 35.9**	**-0.9**
SVW2	**Sparrevohn**	**13.79**	**44**	P	**P**	**19 01 47.8**	**-0.2**
Q19K	**Cape Douglas,**	**13.82**	**54**		**P**	**19 01 47.5**	**-1.0**
KDAK	**Kodiak Island**	**14.08**	**60**	P	**Pn**	**19 01 48.3**	**-1.7**
KDAK	1.0nm,0.3s,baz=287,slow=8.0,SNR=35			S	S	19 04 12.2	-13
	0.1nm,0.3s,baz=70,slow=16,SNR=1.8						
N19K	**Bonanza Creek**	**14.13**	**46**	P	**P**	**19 01 52.9**	**+0.9**
P19K	**Oil Pt**	**14.26**	**52**	P	**P**	**19 01 54.9**	**+1.6**
TTA	**Tatalina**	**14.60**	**38**	P	**Pn**	**19 01 55.8**	**-0.6**
L19K	**White Mountain**	**14.63**	**41**	P	**P**	**19 01 58.8**	**+1.4**
CNPM	**China Poot**	**15.18**	**53**	P	**Pn**	**19 02 02.9**	**-0.6**
BRLK	**Bradley Lake**	**15.42**	**53**	P	**Pn**	**19 02 06.6**	**+0.3**
K20K	**Telida**	**15.57**	**38**	P	**Pn**	**19 02 09.5**	**+1.5**
K20K				IAmb	IAmb	19 02 28.4	
	comp=Z,7.5nm,1.4s						
J20K	**Nowinta River**	**16.01**	**36**	P	**Pn**	**19 02 13.5**	**+0.2**
J20K				IAmb	IAmb	19 02 30.9	
	comp=Z,9.3nm,1.5s						
PPLA	**Purkeypile**	**16.06**	**41**	P	**Pn**	**19 02 15.8**	**+1.7**
FIS	**Fire Island**	**16.17**	**48**	P	**P**	**19 02 12.9**	**-1.5**
SEW	**Seward**	**16.21**	**52**	P	**Pn**	**19 02 15.3**	**-0.4**
CAST	**Castle Rocks**	**16.36**	**40**	P	**Pn**	**19 02 18.4**	**+0.8**
CAST				IAmb	IAmb	19 02 20.4	
	comp=Z,3.7nm,0.8s						
CUT	**Chulitna**	**16.63**	**44**	P	**Pn**	**19 02 19.5**	**-1.2**
KTH	**Kantishna Hill**	**16.88**	**40**	P	**Pn**	**19 02 23.6**	**-0.1**
KTH				IAmb	IAmb	19 02 24.5	
	comp=Z,6.8nm,0.7s						
PWL	**Port Wells**	**16.95**	**50**	P	**P**	**19 02 23.1**	**+0.1**
PWL				IAmb	IAmb	19 02 43.1	
	comp=Z,6.2nm,0.7s						
GHO	**Glory Hole Cre**	**16.98**	**47**	P	**Pn**	**19 02 23.7**	**-1.1**
GHO				IAmb	IAmb	19 02 36.0	
	comp=Z,16nm,1.6s						
KNK	**Knik Glacier**	**17.07**	**48**	P	**P**	**19 02 23.4**	**-0.7**
KNK				IAmb	IAmb	19 02 57.7	
	comp=Z,11nm,1.3s						
TRF	**Thorofare Moun**	**17.08**	**41**	P	**P**	**19 02 22.5**	**-2.0**
TRF				IAmb	IAmb	19 02 30.4	
	comp=Z,10nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.13**	**38**	P	**Pn**	**19 02 25.2**	**-1.3**
SML	**Sawmill**	**17.25**	**47**	P	**Pn**	**19 02 27.1**	**-1.0**
IMAR	**Indian Mountai**	**17.26**	**31**	P	**Pn**	**19 02 27.4**	**-0.7**
I21K	**Tanana**	**17.35**	**35**	P	**Pn**	**19 02 29.3**	**+0.2**
I21K				IAmb	IAmb	19 02 30.0	
	comp=Z,4.6nm,0.8s						
H21K	**Melozitna Rive**	**17.36**	**33**	P	**Pn**	**19 02 28.4**	**-0.8**
H21K				IAmb	IAmb	19 02 33.5	
	comp=Z,7.4nm,1.3s						
MLY	**Manley**	**17.71**	**36**	P	**Pn**	**19 02 32.3**	**-1.0**
MLY				IAmb	IAmb	19 02 33.4	
	comp=Z,4.5nm,0.7s						
SCM	**Sheep Creek Mo**	**17.71**	**48**	P	**P**	**19 02 30.8**	**-0.4**
SCM				IAmb	IAmb	19 03 03.9	
	comp=Z,7.6nm,1.2s						
MCK	**McKinley**	**17.75**	**41**	P	**Pn**	**19 02 32.2**	**-1.7**
MCK				IAmb	IAmb	19 03 09.4	
	comp=Z,11nm,1.6s						
NEA2	**Nenana**	**18.10**	**38**	P	**P**	**19 02 33.3**	**-2.0**
NEA2				IAmb	IAmb	19 02 37.1	
	comp=Z,3.8nm,1.0s						
DHY	**Denali Highway**	**18.12**	**44**	P	**P**	**19 02 36.2**	**+0.4**
KLU	**Klutina**	**18.25**	**49**	P	**Pn**	**19 02 40.8**	**+0.9**
KLU				IAmb	IAmb	19 02 48.7	
	comp=Z,6.4nm,1.4s						
I23K	**Minto, Yukon-K**	**18.27**	**37**	P	**P**	**19 02 37.7**	**+0.5**
I23K				IAmb	IAmb	19 02 43.0	
	comp=Z,9.9nm,1.4s						
M24K	**Tolsona, Glenn**	**18.31**	**47**	P	**P**	**19 02 37.8**	**0.0**
WRH	**Wood River Hil**	**18.41**	**39**	P	**P**	**19 02 37.9**	**-0.9**
WRH				IAmb	IAmb	19 03 06.9	
	comp=Z,7.6nm,1.6s						
MDM	**Murphy Dome**	**18.59**	**38**	P	**P**	**19 02 41.5**	**+0.8**
MDM				IAmb	IAmb	19 02 42.5	
	comp=Z,3.3nm,0.8s						
CCB	**Clear Creek Bu**	**18.60**	**39**	P	**P**	**19 02 41.3**	**+0.5**
HMT	**Hamilton**	**18.79**	**53**	P	**P**	**19 02 42.2**	**-0.7**
N25K	**Chitina, Valde**	**18.89**	**50**	P	**P**	**19 02 44.1**	**0.0**
N25K				IAmb	IAmb	19 03 11.1	
	comp=Z,7.1nm,1.4s						
PAX	**Paxson**	**18.90**	**45**	P	**P**	**19 02 44.5**	**+0.4**
IL31		**19.01**	**39**	P	**P**	**19 02 46.0**	**+0.9**
ILAR	**Eielson Array**	**19.01**	**39**	P	**P**	**19 02 44.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=233,slow=8.9,SNR=9.2						
H24K	**Noodor Dome**	**19.15**	**36**	P	**P**	**19 02 45.0**	**-1.7**
H24K				IAmb	IAmb	19 03 07.1	
	comp=Z,7.3nm,1.4s						
GLB	**Gilahina Butte**	**19.22**	**50**	P	**P**	**19 02 45.7**	**-1.9**
RIDG	**Independent Ri**	**19.42**	**43**	P	**P**	**19 02 47.9**	**-1.8**
RIDG				IAmb	IAmb	19 03 04.0	
	comp=Z,12nm,1.6s						
SEY	**Seymchan**	**19.69**	**314**	P	**Pn**	**19 02 55.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=3.5						
DOT	**Dot Lake**	**19.72**	**44**	P	**P**	**19 02 51.4**	**-1.4**
DOT				IAmb	IAmb	19 02 55.2	
	comp=Z,2.7nm,0.8s						
TOLK	**Toolik Lake Re**	**20.21**	**28**	P	**P**	**19 02 58.8**	**+0.7**
M27K	**Edge Creek, AK**	**20.32**	**48**	P	**P**	**19 02 59.0**	**-0.4**
M27K				IAmb	IAmb	19 03 02.5	
	comp=Z,5.1nm,1.0s						
L27K	**Beaver Creek,**	**20.51**	**46**	P	**P**	**19 02 59.8**	**-1.5**
BCAR	**Beaver Creek A**	**20.53**	**46**	P	**P**	**19 03 00.8**	**-0.8**
YKA	**Yellowknife Ar**	**32.92**	**48**	P	**P**	**19 04 53.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=285,slow=8.6,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**36.78**	**209**	T	T	19 43 59.6	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**36.79**	**209**	T	T	19 44 13.4	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**36.79**	**209**	T	T	19 43 46.6	
	baz=18						
K05A	**Summer Lake**	**37.31**	**83**	P	**P**	**19 05 32.9**	**+1.5**
K05A				IAmb	IAmb	19 05 56.3	
	comp=Z,8.4nm,1.4s						
I07A	**Izee**	**37.39**	**80**	P	**P**	**19 05 33.0**	**+1.2**
NVAR	**Mina Array Bea**	**41.47**	**86**	P	**P**	**19 06 07.4**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=297,slow=6.7,SNR=4.8						
KS19	**Wonju Array Si**	**41.58**	**272**	P	**P**	**19 06 03.8**	**-2.5**
PD31	**Pinedale Array**	**44.06**	**75**	P	**P**	**19 06 26.5**	**+0.1**
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**19 06 26.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=314,slow=3.3,SNR=13						
PDAR	**Pinedale Array**	**44.06**	**75**	P	**P**	**19 06 26.4**	**-0.1**
PSUT	**Pine Spring**	**44.11**	**83**	P	**P**	**19 06 27.1**	**+0.2**
NLU	**North Lily Min**	**44.28**	**80**	P	**P**	**19 06 27.3**	**-0.9**
U15A	**North Rim**	**46.42**	**84**	P	**P**	**19 06 45.8**	**+0.8**
O20A	**White River Ci**	**46.46**	**77**	P	**P**	**19 06 44.9**	**-0.4**
O20A				IAmb	IAmb	19 06 45.7	
	comp=Z,2.8nm,0.6s						
PV04	**Paradox Valley**	**47.18**	**80**	P	**P**	**19 06 50.8**	**0.0**
PV11	**David Mesa, Pa**	**47.26**	**80**	P	**P**	**19 06 51.3**	**-0.1**
PV05	**Paradox Valley**	**47.27**	**80**	P	**P**	**19 06 52.8**	**+1.3**
PV05				IAmb	IAmb	19 06 53.7	
	comp=Z,12nm,1.6s						
PV18	**Skein Mesa, Pa**	**47.27**	**80**	P	**P**	**19 06 51.9**	**+0.4**
PV18				IAmb	IAmb	19 06 52.9	
	comp=Z,7.2nm,1.4s						
PV03	**Paradox Valley**	**47.30**	**80**	P	**P**	**19 06 51.7**	**-0.1**
PV03				IAmb	IAmb	19 06 52.6	
	comp=Z,3.1nm,0.6s						
PV07	**Paradox Valley**	**47.30**	**80**	P	**P**	**19 06 52.1**	**+0.3**
PV07				IAmb	IAmb	19 06 52.6	
	comp=Z,3.1nm,0.5s						
PV13	**Radium Mtn., P**	**47.38**	**80**	P	**P**	**19 06 51.7**	**-0.8**
SFX	**San Felipe**	**48.53**	**92**	P	**P**	**19 07 01.1**	**+0.2**
SFX				IAmb	IAmb	19 07 02.1	
	comp=Z,9.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**56.54**	**84**	P	**P**	**19 08 00.2**	**+0.4**
TX31				IAmb	IAmb	19 08 00.5	
	comp=Z,2.6nm,0.6s						
TX32	**Lajitas Array**	**56.54**	**84**	P	**P**	**19 07 59.8**	**0.0**
TXAR	**Lajitas Array**	**56.54**	**84**	P	**P**	**19 08 00.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=298,slow=4.0,SNR=9.6						
TXAR	**Lajitas Array**	**56.54**	**84**	P	**P**	**19 07 59.6**	**-0.2**
MKAR	**Makanchi Array**	**60.76**	**310**	P	**P**	**19 08 31.9**	**+3.4**
	comp=Z,0.3nm,0.9s,baz=49,slow=8.3,SNR=2.3						
MKAR				pP	**pwP**	**19 09 22.4**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=57,slow=5.3,SNR=1.5						

*IDC **15** 19:26:42.3±1.4, 43.52°N×105.42°W, h0km, mb1 3.6/4, mb1mx3.3/54, mbtmp3.3/4, ML3.4/4, Error ellipse: s-maj=17.8km s-min=8.8km az=142.0*
*NEIC **15** 19:26:43.8±1.7, 43.59°N±0.04°×105.27°W±0.06, h0km±1km, ML3.6/70, Error ellipse: s-maj=7.5km s-min=6.9km az=76.0*

ISC 15 19:26:42.8±0.9, 43.56°N±0.06°×105.27°W±0.07, h0km, n87, σ1.8 11/82, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.05**	**58**		**Pb**	**19 27 03.7**	**-0.3**
K22A	**Casper**	**1.30**	**226**		**Pg**	**19 27 06.8**	**-0.9**
K22A				IAML		19 27 29.1	
	comp=E,714nm,0.8s						
K22A				IAML		19 27 29.8	
	comp=N,1μm,0.3s						
PHWY	**Pilot Hill**	**2.27**	**184**		**Pn**	**19 27 22.7**	**+0.9**
RWWY	**Rawlins**	**2.36**	**218**		**Pn**	**19 27 24.2**	**+1.1**
RWWY				IAML		19 27 57.3	
	comp=N,470nm,1.2s						
RWWY				IAML		19 27 57.4	
	comp=N,387nm,1.1s						
N23A	**Red Feather La**	**2.71**	**191**		**Pn**	**19 27 29.6**	**+1.6**
N23A				IAML		19 28 12.3	
	comp=N,252nm,0.9s						
N23A				IAML		19 28 13.2	
	comp=E,211nm,0.9s						
LAO	**LASA Array**	**3.20**	**348**		**Pn**	**19 27 34.1**	**-0.3**
LAO				IAML		19 28 41.2	
	comp=E,190nm,0.8s						
LAO				IAML		19 28 49.5	
	comp=E,211nm,1.0s						
BW06	**Boulder Array**	**3.24**	**257**		**Pn**	**19 27 35.6**	**+0.5**
BW06				IAML		19 28 37.0	
	comp=E,104nm,1.2s						
PD31	**Pinedale Array**	**3.24**	**257**		**Pn**	**19 27 35.6**	**+0.4**
PDAR	**Pinedale Array**	**3.24**	**257**	Pn	**Pn**	**19 27 35.5**	**+0.4**
	comp=E,4.4nm,0.3s,baz=80,slow=16,SNR=49						
PDAR				Lg	Lg	19 28 19.6	
	comp=E,24nm,0.3s,baz=73,slow=35,SNR=14						
PDAR	**Pinedale Array**	**3.24**	**257**		**Pn**	**19 27 35.2**	**+0.1**
RLMT	**Red Lodge**	**3.27**	**300**		**Pn**	**19 27 35.7**	**+0.2**
RLMT				IAML		19 28 40.5	
	comp=E,114nm,1.1s						
OGNE	**Ogallala**	**3.55**	**136**		**Pn**	**19 27 40.7**	**+1.4**
YMP	**Mirror Lake PI**	**3.71**	**290**		**Pn**	**19 27 42.6**	**+0.9**
ISCO	**Idaho Springs**	**3.77**	**184**		**Pn**	**19 27 43.5**	**+1.0**
LKWY	**Lake**	**3.83**	**287**		**Pn**	**19 27 45.1**	**+1.8**
LKWY				IAML		19 28 50.7	
	comp=E,130nm,1.0s						
GCMT	**Greycliff**	**3.85**	**307**	Pn	**Pn**	**19 27 44.7**	**+1.3**
LOHW	**Long Hollow**	**3.88**	**273**		**Pn**	**19 27 46.1**	**+2.2**
LOHW				IAML		19 28 47.9	
	comp=E,70nm,1.1s						
LOHW				IAML		19 28 52.6	
	comp=E,66nm,1.1s						
H17A	**Grant Village**	**3.92**	**284**		**Pn**	**19 27 46.5**	**+1.9**
H17A				IAML		19 28 50.2	
	comp=N,64nm,1.4s						
YUF	**Upper Falls**	**3.95**	**289**		**Pn**	**19 27 48.0**	**+3.1**
FLWY	**Flagg Ranch**	**3.97**	**279**		**Pn**	**19 27 46.0**	**+0.8**
FLWY				IAML		19 29 06.8	
	comp=N,91nm,1.1s						
FLWY				IAML		19 29 11.7	
	comp=N,95nm,1.2s						
MOOW	**Moose Ponds**	**3.98**	**275**		**Pn**	**19 27 46.6**	**+1.3**
SNOW	**Snow King Moun**	**3.99**	**270**		**Pn**	**19 27 46.5**	**+0.9**
SNOW				IAML		19 29 02.9	
	comp=N,130nm,1.2s						
SNOW				IAML		19 29 10.2	
	comp=N,133nm,1.2s						
REDW	**Red Top Meadow**	**4.07**	**269**		**Pn**	**19 27 47.4**	**+0.8**
REDW				IAML		19 29 04.2	
	comp=N,132nm,1.1s						
O20A	**White River Ci**	**4.08**	**214**		**Pn**	**19 27 48.2**	**+1.5**
YFT	**Old Faithful**	**4.12**	**284**		**Pn**	**19 27 48.2**	**+1.0**
YFT				IAML		19 29 02.7	
	comp=E,55nm,1.1s						
TPAW	**Teton Pass**	**4.13**	**271**		**Pn**	**19 27 48.3**	**+0.8**
TPAW				IAML		19 29 10.5	
	comp=E,95nm,0.9s						
TPAW				IAML		19 29 12.7	
	comp=E,52nm,1.2s						
YHH	**Holmes Hill**	**4.20**	**289**		**Pn**	**19 27 49.6**	**+1.2**
YHH				IAML		19 28 58.6	
	comp=N,66nm,1.3s						
YMR	**Madison River**	**4.25**	**287**		**Pn**	**19 27 49.4**	**+0.4**
YMR				IAML		19 28 59.9	
	comp=N,124nm,1.0s						
AHID	**Auburn Hatcher**	**4.34**	**261**		**Pn**	**19 27 51.3**	**+1.0**
AHID				IAML		19 29 03.5	
	comp=N,72nm,1.5s						
AHID				IAML		19 29 04.0	
	comp=N,92nm,0.9s						
RDMU	**Red Mountain**	**4.38**	**228**		**Pn**	**19 27 52.7**	**+1.9**
RDMU				IAML		19 29 06.3	
	comp=N,76nm,1.4s						
RDMU				IAML		19 29 07.0	
	comp=E,82nm,1.0s						
E28A	**Huff**	**4.42**	**46**		**Pn**	**19 27 52.0**	**+0.8**
YHL	**Hebgen Lake**	**4.45**	**289**		**Pn**	**19 27 52.9**	**+1.1**
YHL				IAML		19 29 16.3	
	comp=N,106nm,1.2s						
YHL				IAML		19 29 16.9	
	comp=E,74nm,1.1s						
ECR	**Eagle Creek**	**4.49**	**266**		**Pn**	**19 27 52.9**	**+0.6**
SMCO	**Snowmass**	**4.57**	**197**		**Pn**	**19 27 55.0**	**+1.5**
SMCO				IAML		19 29 12.8	
	comp=E,76nm,1.2s						
SMCO				IAML		19 29 20.3	
	comp=E,53nm,1.2s						
Q24A	**Divide**	**4.60**	**179**		**Pn**	**19 27 54.4**	**+0.5**
Q24A				IAML		19 29 10.4	
	comp=E,57nm,1.2s						
QLMT	**Earthquake Lak**	**4.61**	**288**		**Pn**	**19 27 51.8**	**-2.1**
K31A	**O'Neill**	**4.86**	**99**		**Pn**	**19 27 58.3**	**+1.1**
DGMT	**Dagmar**	**4.96**	**8**	Pn	**Pn**	**19 27 59.2**	**+0.6**
KSCO	**Kaye Shedlock'**	**4.96**	**156**		**Pn**	**19 28 00.2**	**+1.4**
BOZ	**Bozeman (W)**	**4.98**	**296**		**Pn**	**19 27 57.3**	**-1.7**
BOZ				IAML		19 29 19.6	
	comp=E,32nm,1.2s						
BOZ				IAML		19 29 26.6	
	comp=E,28nm,1.1s						
HWUT	**Hardware Ranch**	**5.04**	**249**		**Pn**	**19 28 00.7**	**+0.8**
HWUT				IAML		19 29 43.4	
	comp=E,60nm,1.4s						
P18A	**Preston Nutter**	**5.42**	**225**		**Pn**	**19 28 04.3**	**-1.0**
EGMT	**Eagleton**	**5.45**	**326**		**Pn**	**19 28 06.0**	**+0.6**
JLU	**Jordanelle**	**5.47**	**239**		**Pn**	**19 28 05.5**	**-0.3**
DLMT	**Dillon**	**5.55**	**291**		**Pn**	**19 28 07.6**	**+0.9**
MCMT	**McKenzie Canyo**	**5.60**	**286**		**Pn**	**19 28 06.8**	**-0.8**
LRM	**Limekiln Ridge**	**5.60**	**296**		**Pn**	**19 28 08.1**	**+0.5**
HRY	**Holter Researc**	**5.61**	**306**		**Pn**	**19 28 07.8**	**+0.2**
BGNE	**Belgrade**	**5.69**	**110**		**Pn**	**19 28 10.8**	**+2.2**
PV07	**Paradox Valley**	**5.72**	**208**		**Pn**	**19 28 09.4**	**+0.1**
PV15	**Paradox Valley**	**5.76**	**206**		**Pn**	**19 28 11.7**	**+2.0**
P17A	**Butcher Ranch,**	**5.79**	**227**		**Pn**	**19 28 11.5**	**+1.3**
SDCO	**Great Sand Dun**	**5.81**	**182**		**Pn**	**19 28 11.3**	**+0.7**
MDND	**Maddock**	**5.84**	**41**	Pn	**Pn**	**19 28 11.5**	**+0.9**
PV23	**Carpenter Ridg**	**5.84**	**210**		**Pn**	**19 28 11.2**	**+0.3**
BCYI	**Bear Canyon**	**5.92**	**280**	Pn	**Pn**	**19 28 13.4**	**+1.3**
PV11	**David Mesa, Pa**	**5.93**	**209**		**Pn**	**19 28 12.8**	**+0.8**
MPU	**Maple Canyon**	**5.93**	**235**		**Pn**	**19 28 13.5**	**+1.3**
SRU	**San Rafael Swe**	**5.95**	**223**		**Pn**	**19 28 12.4**	**0.0**
PV13	**Radium Mtn., P**	**6.03**	**208**		**Pn**	**19 28 13.6**	**0.0**
TMUT	**Trail Mountain**	**6.17**	**228**		**Pn**	**19 28 15.3**	**-0.3**
NLU	**North Lily Min**	**6.24**	**237**		**Pn**	**19 28 16.7**	**+0.4**
ECSD	**EROS Data Cent**	**6.28**	**85**		**Pn**	**19 28 17.1**	**+0.4**
CBKS	**Cedar Bluff**	**6.32**	**137**		**Pn**	**19 28 17.7**	**+0.5**
BGU	**Big Grassy Mou**	**6.34**	**248**		**Pn**	**19 28 17.6**	**0.0**
Q16A	**Castle Valley**	**6.43**	**226**		**Pn**	**19 28 19.0**	**+0.1**
T25A	**Trinidad**	**6.45**	**174**		**Pn**	**19 28 21.1**	**+1.8**
N33A	**J Bar K, Exete**	**6.46**	**113**	Pn	**Pn**	**19 28 20.6**	**+1.5**
HLID	**Hailey**	**6.65**	**273**		**Pn**	**19 28 22.4**	**+0.5**
L34A	**Svendsen Farm,**	**6.73**	**101**	Pn	**Pn**	**19 28 23.1**	**+0.1**
F33A	**5 Mile Ranch,**	**6.79**	**67**	Pn	**Pn**	**19 28 22.5**	**-1.1**
R32A	**Long Quarter,**	**7.14**	**134**	Pn	**Pn**	**19 28 27.9**	**-0.6**
MSU	**Marysvale**	**7.26**	**228**	Pn	**Pn**	**19 28 30.3**	**-0.1**
PLID	**Pearl Lake**	**7.85**	**285**		**Pn**	**19 28 38.3**	**-0.1**
ELK	**Elko**	**7.93**	**253**	Lg	Lg	19 30 44.7	
	comp=E,0.0nm,0.3s,baz=44,slow=17,SNR=1.3						
PKCU	**Pink Cliffs**	**8.13**	**224**		**Pn**	**19 28 43.1**	**+0.7**
PSUT	**Pine Spring**	**8.21**	**235**		**Pn**	**19 28 42.7**	**-0.7**
ANMO	**Albuquerque**	**8.66**	**187**	Lg	Lg	19 31 12.5	
	comp=E,0.1nm,0.3s,baz=61,slow=8.0,SNR=1.3						
F36A	**Milaca**	**8.67**	**71**	Pn	**Pn**	**19 28 50.5**	**+1.0**
I10CA	**LAC DU BONNET**	**9.16**	**40**	*i*		20 21 10.0	
	baz=223,slow=322,SNR=8.8						
ULM	**Lac du Bonnet**	**9.27**	**41**	Pn	**Pn**	**19 28 56.3**	**-1.4**
	comp=E,1.7nm,0.3s,baz=237,slow=10,SNR=10						
ULM				Lg	Lg	19 31 27.0	
	comp=E,0.3nm,0.3s,baz=164,slow=21,SNR=1.9						
WUAZ	**Wupatki**	**9.32**	**212**	Pn	**Pn**	**19 28 58.6**	**+0.1**
B35A	**Bob, Littlefor**	**9.36**	**55**		**Pn**	**19 28 58.4**	**-0.4**
NEW	**Newport**	**9.51**	**304**	Lg	Lg	19 31 28.5	
	comp=E,0.1nm,0.3s,baz=156,slow=21,SNR=1.9						
I56US	**NEWPORT INFRAS**	**9.51**	**304**	*i*		20 29 20.0	
	baz=116,slow=321,SNR=1.4						
NVAR	**Mina Array Bea**	**11.11**	**247**	Pn	**Pn**	**19 29 24.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=70,slow=16,SNR=2.5						
YKA	**Yellowknife Ar**	**19.74**	**347**	P	**P**	**19 31 14.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=156,slow=12,SNR=5.3						
YKA				Lg	Lg	19 37 00.9	
	comp=E,0.0nm,0.3s,baz=155,slow=29,SNR=2.4						

*IDC **15** 19:26:43.8±1.4, 35.25°N×23.69°E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/52, mbtmp3.6/4, Error ellipse: s-maj=37.9km s-min=13.0km az=174.0*
*ISK **15** 19:26:47.6, 34.84°N×24.17°E, h23km, ML3.2/5*
*ATH **15** 19:26:47.8, 34.73°N×24.09°E, h22km±3km, ML2.9/3, Error ellipse: s-maj=5.7km s-min=3.1km az=213.0*
*THE **15** 19:26:49.7, 34.84°N×24.21°E, h5km±3km, ML2.9/4, Error ellipse: s-maj=3.6km s-min=1.1km az=207.0*

ISC 15 19:26:47.7±0.9, 34.80°N±0.07°×24.12°E±0.05, h23km±5km, n27, σ0.8 80/37, mb3.5/4, Crete

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

WR0	**Warramunga Arr**	**44.88 262**	P	**P**	**19 41 18.1**	**-0.4**
ASAR	**Alice Springs**	**45.01 256**	P	**P**	**19 41 19.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=90,slow=8.2,SNR=7.9					
WB0	**Warramunga Arr**	**45.05 262**	P	**P**	**19 41 19.0**	**-0.7**
WB0			IAmb	IAmb	19 41 24.7	
	comp=Z,26nm,1.5s					
WB2	**Warramunga Arr**	**45.06 262**	P	**P**	**19 41 19.0**	**-0.8**
WB2			IAmb	IAmb	19 41 23.5	
	comp=Z,5.0nm,1.1s					
WRAB	**Tennant Creek**	**45.06 262**	P	**P**	**19 41 18.6**	**-1.2**
WRAB			IAmb	IAmb	19 41 30.6	
	comp=Z,28nm,1.5s					
WRA	**Warramunga Arr**	**45.07 262**	P	**P**	**19 41 18.9**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=95,slow=8.1,SNR=18					
QSPA	**South Pole Qui**	**69.91 180**	P	**P**	**19 44 10.8**	**+1.9**
QSPA			IAmb	IAmb	19 44 15.3	
	comp=Z,6.0nm,1.4s					
AKASG	**Malin Array Be**	**142.92 332**	PKP	**PKPdf**	**19 52 22.8**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=44,slow=4.1,SNR=7.0					

BJI ***15*** *19:35:27.5±0.0, 11˚.00N×142˚.33E, h10km, mb4.7/60, mB5.1/36, Ms4.7/45, Ms7 4.5/45*

MOS ***15*** *19:35:33.0±1.0, 11˚.47N×141˚.72E, h10km, mb4.9/22, Error ellipse: s-maj=10.5km s-min=5.5km az=106.8*

NEIC ***15*** *19:35:35.3±1.6, 11˚.52N±0˚.07×141˚.71E±0˚.06, h10km±1km, mb5.2/204, Error ellipse: s-maj=12.0km s-min=9.3km az=192.0*

IDC ***15*** *19:35:37.3±3.2, 11˚.63N×141˚.73E, h17km±19km, mb4.4/25, mb1 4.5/26, mb1mx4.4/43, mbtmp4.5/26, ML4.3/1, MS4.3/64, Ms1 4.3/64, ms1mx4.2/82, Error ellipse: s-maj=15.5km s-min=11.9km az=64.0*

DJA ***15*** *19:35:40.4±0.4, 12˚N×3˚×14˚2E±˚, h48km±4km, M4.8/36, mb4.7/36, mB5.2/19, MLv5.4/1, Mw(mB)4.6/19, MwMwp4.9/1, Mwp5.2/1*

GCMT ***15*** *19:35:41.3±0.2, 11˚.34N±0˚.01×141˚.53E±0˚.03, h17km, MW4.9/94, Moment Tensor Solution. s45,c55; s94,c131; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.65±.14; Mθθ-2.72±.10; Mφφ0.07±.09; Mrθ0.68±.22; Mrφ-0.65±.07; Mθφ-0.92±.31; Best double couple: Mo2.98700×10¹⁶ NP1:ϕs97.00000°, δ53.00000°, λ115.00000°. NP2: ϕs239.00000°, δ84.00000°, λ61.00000°. Principal axes: T 3.0670, Plg70.0000°, Azm65.0000°; N -0.1550, Plg20.0000°, Azm261.0000°; P -2.9070, Plg5.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 19:35:38.0±0.7, 11˚.53N±0˚.04×141˚.77E±0˚.05, h28km±4km, n504, σ1ş42/452, mb5.0/174, MS4.3/82, 12C-5D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.65**	**56**	Pn		**Pn**	**Pn**	**19 36 33.7**	**+1.0**
	25nm,0.3s,baz=198,slow=13,SNR=17								
GUMO				Sn		**Sn**	**Sn**	**19 37 17.3**	**+2.4**
	17nm,0.3s,baz=180,slow=20,SNR=1.9								
GUMO				LR		LR	LR	19 38 10.9	
	comp=Z,2μm,21.2s,baz=236,slow=42								
GUMO	**Guam**	**3.65**	**56**	Pn		**Pn**	**Pn**	**19 36 34.2**	**+1.5**
GENI	**Genyem**	**14.12 187**		P		**Pn**	**Pn**	**19 38 57.4**	**+1.1**
	78nm,1.5s								
SWI	**Sorong**	**16.14 221**		P		**Pn**	**Pn**	**19 39 24.7**	**+1.6**
	614nm22nm,1.1s								
SIJI	**Sorong**	**16.15 221**		LR		LR	LR	19 44 47.4	
	comp=Z,1μm,18.8s,baz=49,slow=34								
DAV	**Davao City (W)**	**16.58 256**		LR		LR	LR	19 45 24.7	
	comp=Z,699nm,18.5s,baz=102,slow=36								
PATS	**Pohnpei**	**16.98 105**				**P**	**P**	**19 39 35.8**	**+0.4**
PATS				IAmb		IAmb	IAmb	19 40 18.6	
	comp=Z,286nm,1.4s								
TNTI	**Ternate**	**17.85 234**		Pn		**Pn**	**Pn**	**19 39 41.9**	**-2.7**
LBMI	**Labuha**	**18.63 230**		P		**Pn**	**Pn**	**19 39 55.6**	**+1.5**
	comp=Z,1μmcomp=Z,37nm,1.1s								
RABL	**Rabaul**	**18.73 146**		P		**P**	**P**	**19 39 52.1**	**-2.6**
RABL				IAmb		IAmb	IAmb	19 40 05.4	
	comp=Z,122nm,1.1s								
MSAI	**Masohi**	**19.53 222**		P		**Pn**	**Pn**	**19 40 04.9**	**0.0**
	comp=Z,252nmcomp=Z,27nm,1.2s								
JOW	**Kunigami**	**19.83 322**		LR		LR	LR	19 46 11.0	
	comp=Z,638nm,20.5s,baz=142,slow=32								
JOW	**Kunigami**	**19.83 322**				**P**	**P**	**19 40 04.8**	**-1.9**
AAI	**Ambon**	**20.27 223**		P		**P**	**P**	**19 40 13.0**	**+1.4**
	comp=Z,1μmcomp=Z,95nm,0.9s								
TGY	**Tagaytay City**	**20.48 279**		P		**P**	**P**	**19 40 14.8**	**+0.9**
	comp=Z,149nm,0.3s,baz=52,slow=5.7,SNR=4.4								
SANI	**Sanana**	**20.69 230**		P		**P**	**P**	**19 40 17.7**	**+1.5**
	comp=Z,510nmcomp=Z,22nm,1.1s								
KMSI	**Cibinong**	**20.75 240**		P		Pn		19 40 18.7	-0.6
	comp=Z,79nm,0.7s								
PMG	**Port Moresby**	**21.48 165**		P		**P**	**P**	**19 40 23.3**	**-1.3**
	comp=Z,49nm,1.1s,baz=0.4,slow=9.7,SNR=26								
PMG				LR		LR	LR	19 48 05.4	
	comp=Z,779nm,19.1s,baz=334,slow=35								
PMG	**Port Moresby**	**21.48 165**	*ce*	P		**P**	**P**	**19 40 24.1**	**-0.5**
PMG				pmax		pmax			
	comp=Z,117nm,1.3s								
PMG	**Port Moresby**	**21.48 165**		P		**P**	**P**	**19 40 22.9**	**-1.6**
PMG				IAmb		IAmb	IAmb	19 40 38.1	
	comp=Z,119nm,1.2s								
GTOI	**Gorontalo**	**21.54 241**		P		**P**	**P**	**19 40 26.8**	**+1.5**
	comp=Z,477nmcomp=Z,25nm,0.9s								
JHJ	**Hachijo jima 2**	**21.57 355**		LR		LR	LR	19 47 19.4	
	comp=Z,1μm,19.0s,baz=170,slow=33								
JSU	**Suzuyama**	**22.46 334**		P		**P**	**P**	**19 40 35.2**	**+0.1**
MRSI	**Marisa**	**22.55 242**		P		**P**	**P**	**19 40 37.6**	**+1.5**
	comp=Z,1μmcomp=Z,64nm,1.3s								
LUWI	**Luwuk**	**22.64 238**		P		**P**	**P**	**19 40 35.1**	**-2.0**
LUWI	**Luwuk**	**22.64 238**		P		**P**	**P**	**19 40 38.5**	**+1.4**
	comp=Z,2μmcomp=Z,174nm,1.3s								
YULB	**Yu-li**	**22.78 304**		P		**P**	**P**	**19 40 39.5**	**+0.9**
SSLB	**Suanglung**	**23.25 304**		P		**P**	**P**	**19 40 41.8**	**-1.5**
JMN	**Monobe**	**23.25 343**		P		**P**	**P**	**19 40 42.8**	**-0.5**
JMN				IAmb		IAmb	IAmb	19 40 45.5	
	comp=Z,194nm,1.8s								
TOLI2	**Tolitoli**	**23.26 245**		P		**P**	**P**	**19 40 42.5**	**-1.0**
APSI	**Ampana**	**23.51 240**		P		**P**	**P**	**19 40 47.5**	**+1.6**
	comp=Z,502nmcomp=Z,34nm,1.2s								
JNU	**Nakatsue**	**23.70 337**		P		**P**	**P**	**19 40 47.4**	**-0.3**
JNU				IAmb		IAmb	IAmb	19 40 49.6	
	comp=Z,36nm,0.8s								
MYLDM	**Lahad Datu**	**23.86 257**		P		**P**	**P**	**19 40 50.0**	**+0.6**
INU	**Inuyama**	**24.10 350**		P		**P**	**P**	**19 40 50.9**	**-0.4**
MPSI	**Mapaga**	**24.40 244**		P		**P**	**P**	**19 40 53.9**	**-0.4**
	comp=Z,528nmcomp=Z,22nm,1.9s								
JYT	**Yasato**	**24.63 357**		P		**P**	**P**	**19 40 54.9**	**-1.3**
JHS	**Saijyo**	**24.66 343**		P		**P**	**P**	**19 40 56.3**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**25.11 353**	*eP*			**P**	**P**	**19 41 02.3**	**+1.7**
MJA0				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MJAR	**Matsushiro Arr**	**25.11 353**		P		**P**	**P**	**19 40 59.4**	**-1.2**
	comp=Z,5.1nm,0.7s,baz=174,slow=9.9,SNR=10								
MJAR				LR		LR	LR	19 49 41.0	
	comp=Z,602nm,20.9s,baz=162,slow=34								
MJAR	**Matsushiro Arr**	**25.11 353**		P		**P**	**P**	**19 41 00.8**	**+0.3**
MJAR				pmax		pmax			
	comp=Z,11nm,1.4s								
MJAR	**Matsushiro Arr**	**25.11 353**		P		**P**	**P**	**19 41 00.8**	**+0.3**
MAJO	**Matsushiro**	**25.11 353**	*i*	P		**P**	**P**	**19 41 00.9**	**+0.3**
MAJO				pmax		pmax			
	comp=Z,13nm,0.7s								
MAJO	**Matsushiro**	**25.11 353**		P		**P**	**P**	**19 41 00.2**	**-0.3**
MJB9	**Matsu-Tunnel**	**25.12 353**		P		**P**	**P**	**19 41 00.2**	**-0.4**
KWAJ	**Kwajalein Atol**	**25.57 94**		P		**P**	**P**	**19 41 05.4**	**+0.4**
KWAJ				pmax		pmax			
	comp=Z,506nm,1.4s								
KWAJ	**Kwajalein Atol**	**25.57 94**		P		**P**	**P**	**19 41 05.4**	**+0.4**
KKM	**Kota Kinabalu**	**25.83 260**		P		**P**	**P**	**19 41 06.7**	**-0.7**
KKM				IAmb		IAmb	IAmb	19 41 40.8	
	comp=Z,33nm,1.1s								
JMM	**Marumori**	**26.24 358**		P		**P**	**P**	**19 41 09.3**	**-1.4**
JMM				IAmb		IAmb	IAmb	19 41 31.6	
	comp=Z,72nm,1.3s								
BNSI	**Bone**	**26.74 235**		P		**P**	**P**	**19 41 16.8**	**+1.3**
	comp=Z,572nmcomp=Z,24nm,1.5s								
TJN	**Taejon**	**27.95 335**	*ce*	P		**P**	**P**	**19 41 26.8**	**+0.7**
TJN	**Taejon**	**27.95 335**		P		**P**	**P**	**19 41 25.6**	**-0.6**
BATI	**Baumata**	**28.11 220**		LR		LR	LR	19 52 28.0	
	comp=Z,527nm,19.8s,baz=44,slow=36								
KSRS	**Korea Array**	**28.65 337**		P		**P**	**P**	**19 41 32.4**	**0.0**
	comp=Z,3.4nm,0.8s,baz=163,slow=9.4,SNR=11								
KSRS				ScP		**ScP**	**ScP**	**19 48 24.9**	**+2.6**
	comp=Z,0.8nm,0.9s,baz=186,slow=3.7,SNR=4.1								
KSRS				LR		LR		19 53 09.9	
	comp=Z,572nm,18.2s,baz=155,slow=37								
KSRS	**Korea Array**	**28.65 337**	*eP*			**P**		**19 41 32.6**	**+0.2**
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KSAR	**Wonju Array Be**	**28.66 337**		P		**P**		**19 41 29.6**	**-2.8**
KSAR	**Wonju Array Be**	**28.66 337**		P		**P**		**19 41 29.6**	**-2.8**
NJ2	**Nanjing**	**29.38 318**	*eP*			**P**		**19 41 38.9**	**0.0**
NJ2				pmax		pmax			
	comp=Z,13nm,0.6s								
NJ2				LR		LR			
	comp=Z,570nm,12.8s								
NJ2				LR		LR			
	comp=Z,1μm,15.2s								
NJ2				LR		LR			
	comp=Z,740nm,18.5s								
KNRA	**Kununurra**	**29.94 206**		P		**P**		**19 41 41.9**	**-2.1**
KNRA				IAmb		IAmb		19 42 34.1	
	comp=Z,35nm,1.3s								
ERM	**Erimo**	**30.39**	**2**	P		**P**		**19 41 45.8**	**-1.9**
ERM				pmax		pmax			
	comp=Z,142nm,1.5s								
ERM	**Erimo**	**30.39**	**2**	P		**P**		**19 41 45.8**	**-1.9**
SBUM	**Sibu**	**30.66 255**		P		**P**		**19 41 49.4**	**-1.0**
QIZ	**Qiongzhong**	**31.65 288**		P		**P**		**19 41 59.8**	**+0.6**
QIZ				S		**S**		**19 47 11.5**	**+4.5**
QIZ				LR		LR			
	comp=Z,340nm,11.4s								
QIZ				LR		LR			
	comp=Z,360nm,18.1s								
QIZ				LR		LR			
	comp=Z,420nm,15.3s								
CTA	**Charters Tower**	**31.73 172**		LR		LR		19 54 40.3	
	comp=Z,787nm,18.7s,baz=352,slow=36								
WB0	**Warramunga Arr**	**31.94 193**		P		**P**		**19 41 59.9**	**-1.7**
WB0				IAmb		IAmb		19 42 23.9	
	comp=Z,85nm,1.9s								
WR0	**Warramunga Arr**	**32.09 193**		P		**P**		**19 42 01.9**	**-1.0**
WR0				IAmb		IAmb		19 43 02.5	
	comp=Z,52nm,1.7s								
WRAB	**Tennant Creek**	**32.11 193**		P		**P**		**19 42 01.7**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,109nm,2.0s								
WRAB	**Tennant Creek**	**32.11 193**		P		**P**		**19 42 01.6**	**-1.4**
WB2	**Warramunga Arr**	**32.12 193**		P		**P**		**19 42 01.5**	**-1.7**
WB2				IAmb		IAmb		19 42 06.5	
	comp=Z,37nm,1.4s								
WRA	**Warramunga Arr**	**32.12 193**		P		**P**		**19 42 02.2**	**-1.0**
	comp=Z,6.4nm,0.9s,baz=13,slow=9.5,SNR=11								
WRA				LR		LR		19 55 59.7	
	comp=Z,405nm,19.4s,baz=33,slow=38								
WRA	**Warramunga Arr**	**32.12 193**		P		**P**		**19 42 01.8**	**-1.4**
ASAJ	**Asahikawa**	**32.48**	**1**	LR		LR		19 56 24.2	
	comp=Z,150nm,20.2s,baz=173,slow=38								
TIA	**Tai'an**	**33.16 322**	*eP*			**P**		**19 42 12.3**	**+0.2**
TIA				S		**S**		**19 47 29.8**	**-0.2**
TIA				pmax		pmax			
	comp=Z,9.0nm,1.3s								
TIA				LR		LR			
	comp=Z,310nm,19.6s								
TIA				LR		LR			
	comp=Z,260nm,15.2s								
TIA				LR		LR			
	comp=Z,290nm,12.6s								
FITZ	**Fitzroy Crossi**	**33.47 209**		P		**P**		**19 42 13.6**	**-1.4**
USA0B	**Ussuriysk Arra**	**33.63 347**		P		**P**		**19 42 15.3**	**-0.8**
USA0B				pmax		pmax			
	comp=Z,27nm,0.8s								
USA0B	**Ussuriysk Arra**	**33.63 347**		P		**P**		**19 42 15.3**	**-0.8**
USA0B				IAmb		IAmb		19 42 18.2	
	comp=Z,27nm,0.8s								
USRK	**Ussuriysk Ar.**	**33.63 347**		P		**P**		**19 42 16.8**	**+0.7**
	comp=Z,19nm,0.7s,baz=168,slow=7.1,SNR=22								
USRK				LR		LR		19 55 03.3	
	comp=Z,513nm,18.8s,baz=147,slow=35								
USRK	**Ussuriysk Ar.**	**33.63 347**		P		**P**		**19 42 15.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.63 347**		P		**P**		**19 42 15.8**	**-0.4**
CN2	**Changchun**	**35.12 339**	*eP*			**P**		**19 42 26.8**	**-2.2**
CN2				*es*S		sS		19 48 20.8	+10
CN2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CN2				LR		LR			
	comp=Z,480nm,19.0s								
CN2				LR		LR			
	comp=Z,580nm,19.0s								
CN2				LR		LR			
	comp=Z,600nm,21.0s								
LYN	**LuoYang**	**35.16 315**	*eP*			**P**		**19 42 30.3**	**+0.7**
LYN				S		**S**		**19 47 59.3**	**-1.8**
LYN				sS		sS		19 48 19.3	+7.3
LYN				ScS		**ScS**		**19 52 44.5**	**-4.0**
LYN				LR		LR			
	comp=Z,890nm,19.8s								
LYN				LR		LR			
	comp=Z,460nm,18.0s								
LYN				LR		LR			
	comp=Z,940nm,18.0s								
ENH	**Enshi**	**35.27 307**		P		**P**		**19 42 30.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**35.32**	**1**	*i* P		**P**		**19 42 30.3**	**-0.4**
YSS				pmax		pmax			
	comp=Z,7.0nm,1.0s								
HNS	**HongShan**	**35.40 321**	⇓	P		**P**		**19 42 32.4**	**+0.9**
HNS				S		S		19 48 15.8	+11
HNS				pmax		pmax			
	comp=Z,27nm,1.1s								
HNS				LR		LR			
	comp=Z,400nm,18.6s								
HNS				LR		LR			
	comp=Z,240nm,16.7s								
HNS				LR		LR			
	comp=Z,520nm,14.2s								
UBPT	**Khong Chiam**	**35.48 280**		P		**P**		**19 42 31.5**	**-1.1**
AS31	**Alice Springs**	**35.81 192**		P		**P**		**19 42 34.6**	**-0.7**
ASAR	**Alice Springs**	**35.81 192**		P		**P**		**19 42 35.0**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=19,slow=11,SNR=22								
ASAR				PcP		**PcP**		**19 45 03.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=33,slow=1.9,SNR=7.3								
ASAR				LR		LR		19 57 19.5	
	comp=Z,315nm,20.1s,baz=5.0,slow=36								
ASAR	**Alice Springs**	**35.81 192**		P		**P**		**19 42 34.1**	**-1.2**
ASAR	**Alice Springs**	**35.81 192**		P		**P**		**19 42 34.0**	**-1.2**
BJT	**Baijiatuan**	**36.30 326**		P		**P**		**19 42 38.9**	**-0.3**
BJT				pmax		pmax			
	comp=Z,24nm,0.8s								
BJT	**Baijiatuan**	**36.30 326**		P		**P**		**19 42 38.9**	**-0.3**
BJT				IAmb		IAmb		19 42 41.6	
	comp=Z,24nm,0.8s								
BJI	**Beijing**	**36.31 326**		P		**P**		**19 42 39.8**	**+0.5**
BJI				sP		**pP**		**19 42 46.3**	**+0.6**
BJI				S		**S**		**19 48 17.5**	**-1.0**
BJI				PcS		**PcS**		**19 48 50.9**	**-0.5**
BJI				pmax		pmax			
	comp=Z,30nm,1.1s								
BJI				pmax		pmax			
	comp=Z,120nm,3.8s								
BJI				LR		LR			
	comp=Z,480nm,15.1s								
BJI				LR		LR			
	comp=Z,190nm,14.1s								
BJI				LR		LR			
	comp=Z,540nm,16.2s								
SANVU	**Saraoutou**	**36.77 136**		P		**P**		**19 42 43.4**	**-0.1**
TIY	**Taiyuan**	**37.01 320**	*eP*			**P**		**19 42 46.6**	**+1.2**
TIY				S		**S**		**19 48 36.9**	**+7.4**
TIY				pmax		pmax			
	comp=Z,17nm,0.6s								
TIY				pmax		pmax			
	comp=Z,160nm,5.5s								
TIY				LR		LR			
	comp=Z,190nm,17.2s								
TIY				LR		LR			
	comp=Z,310nm,9.3s								
TIY				LR		LR			
	comp=Z,570nm,15.5s								
EIDS	**Eidsvold**	**37.78 166**		P		**P**		**19 42 50.9**	**-1.0**
EIDS				IAmb		IAmb		19 42 57.8	
	comp=Z,58nm,1.9s								
KLR	**Kul'dur**	**38.50 349**		LR		LR		19 56 47.1	
	comp=Z,539nm,21.5s,baz=162,slow=33								
LEM	**Lembang**	**38.56 243**		LR		LR		19 59 52.1	
	comp=Z,180nm,20.2s,baz=76,slow=38								
XLT	**XiLinHaoTe**	**39.14 330**	⇑	*i* P		**P**		**19 43 02.4**	**-0.9**
XLT				pP		pP		19 43 07.6	-2.1
XLT				sP		sP		19 43 10.5	-2.1
XLT				S		**S**		**19 49 09.4**	**+7.9**
XLT				pmax		pmax			
	comp=Z,62nm,0.8s								
XLT				pmax		pmax			
	comp=Z,220nm,3.8s								
XLT				LR		LR			
	comp=Z,420nm,16.3s								
XLT				LR		LR			
	comp=Z,560nm,16.5s								
TYV	**Tymovskoe**	**39.23**	**1**	*e*P		**P**		**19 43 04.4**	**+0.6**
TYV				pmax		pmax			
	comp=Z,29nm,0.7s								
TYV				pmax		pmax			
	comp=Z,300nm,4.4s								
PSA00	**Pilbara Seismi**	**39.31 213**		P		**P**		**19 43 02.9**	**-2.0**
GRNR	**Gornyy**	**39.37 355**	⇓	*i* P		**P**		**19 43 06.3**	**+1.2**
GRNR				pmax		pmax			
	comp=Z,8.0nm,0.6s								
GRNR				MLR		MLR			
	comp=E,140nm,18.0s								
HHC	**Hu-ho-hao-te**	**39.47 323**	*e*P			**P**		**19 43 07.4**	**+1.2**
HHC				sP		sP		19 43 15.6	+0.1
HHC				S		S		19 49 15.3	+8.6
HHC				pmax		pmax			
	comp=E,15nm,1.0s								
HHC				pmax		pmax			
	comp=E,200nm,6.9s								
HHC				LR		LR			
	comp=E,340nm,14.4s								
HHC				LR		LR			
	comp=E,340nm,15.1s								
HHC				LR		LR			
	comp=E,500nm,15.4s								
CD2	**Chengdu**	**40.08 305**		P		**P**		**19 43 11.6**	**+0.3**
CD2				S		**S**		**19 49 18.6**	**+2.7**
CD2				pmax		pmax			
	comp=E,20nm,0.5s								
CD2				LR		LR			
	comp=E,410nm,14.7s								
CD2				LR		LR			
	comp=E,630nm,14.2s								
BTO	**Baotou**	**40.25 322**	*eP*			**P**		**19 43 14.3**	**+1.7**
BTO				S		**S**		**19 49 25.1**	**+6.8**
BTO				LR		LR			
	comp=E,810nm,5.2s								
BTO				LR		LR			
	comp=E,1μm,8.5s								
PZH	**PanZhiHua**	**40.48 297**		P		**P**		**19 43 15.5**	**+0.7**
PZH				S		**S**		**19 49 26.8**	**+4.6**
PZH				pmax		pmax			
	comp=E,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=E,100nm,4.3s								
PZH				LR		LR			
	comp=E,360nm,17.3s								
PZH				LR		LR			
	comp=E,520nm,16.1s								
PZH				LR		LR			
	comp=E,890nm,17.1s								
LIFNC	**LIFOU**	**40.71 142**		P		**P**		**19 43 16.0**	**-0.5**
LIFNC				IAmb		IAmb		19 44 21.8	
	comp=Z,95nm,1.4s								
IPM	**Ipoh**	**40.91 264**		P		**P**		**19 43 16.0**	**-2.4**
KULM	**Kulim**	**41.12 265**		P		**P**		**19 43 19.1**	**-0.9**
DZM	**Mont Dzumac**	**41.24 144**		P		**P**		**19 43 23.1**	**+2.1**
	comp=Z,12nm,1.1s,baz=319,slow=14,SNR=5.0								
DZM				LR		LR		19 58 36.6	
	comp=Z,247nm,19.8s,baz=336,slow=33								
DZM	**Mont Dzumac**	**41.24 144**	*eS*			**S**		**19 49 39.2**	**+5.8**
	comp=Z,194nm,29.4s								
DZM				*e*LR		LR		19 54 49.3	
	comp=Z,489nm,32.3s								
DZM	**Mont Dzumac**	**41.24 144**		P		**P**		**19 43 19.6**	**-1.4**
DZM				IAmb		IAmb		19 43 47.5	
	comp=Z,41nm,1.4s								
SRIT	**Nakonsritamara**	**41.60 270**		P		**P**		**19 43 21.6**	**-2.3**
SRIT				IAmb		IAmb		19 43 27.8	
	comp=Z,26nm,0.9s								
HIA	**Hailar**	**41.83 338**		P		**P**		**19 43 24.6**	**-0.8**
HIA				pmax		pmax			
	comp=Z,12nm,0.7s								
HIA	**Hailar**	**41.83 338**		P		**P**		**19 43 24.6**	**-0.8**
CM31	**Chiang Mai Arr**	**41.86 285**		P		**P**		**19 43 24.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**41.86 285**		P		**P**		**19 43 27.6**	**+1.5**
	comp=Z,2.9nm,0.6s,baz=87,slow=6.5,SNR=30								
CMAR				PcP		**PcP**		**19 45 22.9**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=101,slow=2.0,SNR=6.4								
CMAR				LR		LR		20 01 35.1	
	comp=Z,203nm,19.3s,baz=110,slow=37								
CMAR	**Chiang Mai Arr**	**41.86 285**		P		**P**		**19 43 26.6**	**+0.5**
CMAR								19 45 23.0	
CMAR	**Chiang Mai Arr**	**41.86 285**		P		**P**		**19 43 26.6**	**+0.5**
CHTO	**Chiang Mai**	**41.88 285**		P		**P**		**19 43 25.1**	**-1.2**
CHTO				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CHTO	**Chiang Mai**	**41.88 285**		P		**P**		**19 43 25.1**	**-1.2**
LZH	**Lanzhou**	**42.04 312**	⇓	P		**P**		**19 43 28.6**	**+1.1**
LZH				pP		pP		19 43 32.0	-2.1
LZH				sP		sP		19 43 34.0	-2.2
LZH				sS		sS		19 49 57.6	+1.2
LZH				pmax		pmax			
	comp=Z,25nm,1.3s								
LZH				pmax		pmax			
	comp=Z,200nm,5.4s								
LZH				LR		LR			
	comp=Z,400nm,13.2s								
LZH				LR		LR			
	comp=Z,510nm,13.6s								
LZH				LR		LR			
	comp=Z,610nm,15.3s								
STKA	**Stephens Creek**	**43.16 180**		P		**P**		**19 43 38.4**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=343,slow=11,SNR=2.0								
STKA				LR		LR		20 03 02.9	
	comp=Z,652nm,18.0s,baz=25,slow=38								
STKA	**Stephens Creek**	**43.16 180**		P		**P**		**19 43 35.4**	**-1.0**

comp=Z,460nm,17.4s
CIT Chita 46.39 336 *e*P P **19 44 03.1 +1.1**
CIT *e* 19 45 41.4
CIT pmax pmax
comp=Z,65nm,1.5s
ULN Ulaanbaatar 46.43 328*ce*P P **19 44 03.6 +1.1**
ULN pmax pmax
comp=Z,22nm,1.7s
ULN Ulaanbaatar 46.43 328 P P **19 44 02.0 -0.5**
SONM Songino Array 46.75 328 P P **19 44 05.7 +0.7**
comp=Z,2.8nm,0.6s,baz=141,slow=8.1,SNR=30
SONM PcP **PcP** **19 45 38.9 +0.8**
comp=Z,1.2nm,0.7s,baz=164,slow=4.9,SNR=2.7
SONM ScP **ScP** **19 49 30.5 +0.5**
comp=Z,0.9nm,0.9s,baz=116,slow=3.4,SNR=4.6
SONM LR LR 20 04 27.5
comp=Z,374nm,19.3s,baz=138,slow=37
SONM Songino Array 46.75 328 *e*P P **19 44 06.1 +1.1**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 46.75 328 P P **19 44 04.8 -0.2**
SONM lAmb lAmb 19 44 08.1
comp=Z,42nm,1.7s
MORW Morawa 47.40 211 P P **19 44 09.4 -0.6**
MORW lAmb lAmb 19 44 14.0
comp=Z,32nm,1.1s
MA2 Magadan 48.43 6 LR LR 20 04 48.7
comp=Z,190nm,19.1s,baz=155,slow=36
MA2 Magadan 48.43 6*ce*P P **19 44 18.4 +0.8**
MA2 pmax pmax
comp=Z,27nm,1.7s
MA2 Magadan 48.43 6 P P **19 44 16.9 -0.7**
MA2 lAmb lAmb 19 44 19.6
comp=Z,10nm,0.8s
SHEM Shemya Is, Ala 48.60 26 LR LR 20 01 15.6
comp=Z,340nm,21.8s,baz=274,slow=32
GOMU GeErMu 48.86 308 P P **19 44 21.3 -0.5**
GOMU pP pP 19 44 25.1 -3.4
GOMU sP sP 19 44 29.0 -1.6
GOMU S S **19 51 28.8 +4.7**
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,160nm,6.3s
GOMU LR LR
comp=Z,180nm,14.6s
GOMU LR LR
comp=Z,200nm,15.3s
GOMU LR LR
comp=Z,150nm,14.3s
TOO Toolangi 48.96 176 P P **19 44 21.7 -0.4**
TOO pmax pmax
comp=Z,79nm,1.9s
TOO Toolangi 48.96 176 P P **19 44 21.7 -0.4**
SHL Shillong 49.04 294 P P **19 44 22.5 -0.6**
SHL pmax pmax
comp=Z,14nm,0.4s
SHL Shillong 49.04 294 P P **19 44 22.5 -0.6**
SHL lAmb lAmb 19 46 09.2
comp=Z,14nm,0.4s
ZAK Zakamensk 49.94 329 *e*P P **19 44 28.8 -0.7**
ZAK pmax pmax
comp=Z,43nm,1.4s
LSA Lhasa 50.29 299 P P **19 44 32.8 -0.2**
LSA pmax pmax
comp=Z,6.0nm,1.0s
LSA Lhasa 50.29 299 P P **19 44 32.8 -0.2**
BOD Bodaibo 50.81 341 *e*P P **19 44 35.4 -0.4**
BOD pmax pmax
comp=Z,63nm,0.9s
YAK Yakutsk 51.18 353 LR LR 20 04 30.7
comp=Z,342nm,20.9s,baz=136,slow=34
YAK Yakutsk 51.18 353*ce* P P **19 44 38.2 -0.2**
YAK *e* 19 45 59.8
YAK *e*S S **19 51 52.1 -2.6**
YAK *e* 19 54 31.2
YAK *e*SS SS **19 55 22.3 -7.9**
YAK pmax pmax
comp=Z,32nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,182nm,3.8s
YAK pmax pmax
comp=N,127nm,3.9s
YAK pmax pmax
comp=E,118nm,3.8s
YAK smax smax
comp=N,53nm,2.9s
YAK smax smax
comp=E,42nm,3.0s
YAK Yakutsk 51.18 353 P P **19 44 37.9 -0.5**
MOY Mondy 51.86 329 *e*P P **19 44 44.8 +0.8**
MOY pmax pmax
comp=Z,31nm,1.5s
SEY Seymchan 51.88 6 LR LR 20 06 49.4
comp=Z,224nm,19.1s,baz=104,slow=36
SEY Seymchan 51.88 6 *i* P P **19 44 44.4 +0.7**
SEY pmax pmax
comp=Z,22nm,1.5s
KIWB Kanaga Island 52.12 31 P P **19 44 44.8 -0.9**
ADK Adak 52.38 31 P P **19 44 47.5 -0.1**
ADK pmax pmax
comp=Z,379nm,2.0s
ADK Adak 52.38 31 P P **19 44 47.5 -0.1**
AFI Afiamalu 52.53 118 LR LR 20 04 26.1
comp=Z,310nm,19.4s,baz=290,slow=33
TAPN Taplejung 52.96 296 *e*P P **19 44 52.5 -0.2**
ODAN Odare 53.19 295 *e*P P **19 44 53.8 -0.6**
JIRN Jiri 54.33 296 *e*P P **19 45 02.9 0.0**
GUN Gumba 54.63 296 *e*P P **19 45 04.8 -0.2**
comp=Z,38nm,0.9s
PKI Pulchoki 55.02 296 *e*P P **19 45 06.7 -1.1**
PKIN Phulchoki 55.03 296 *e*P P **19 45 06.6 -1.2**
KKN Kakani 55.15 296 *e*P P **19 45 08.7 +0.1**
comp=Z,9.0nm,0.7s
OUZ Omahuta 55.40 148 P P **19 45 12.1 +2.2**
OUZ lAmb lAmb 19 45 16.2
comp=Z,17nm,1.0s
GKN Gorkha 55.73 296 *e*P P **19 45 12.3 -0.5**
WMQ Urumqi 56.41 315 P P **19 45 17.8 +0.6**
WMQ sP sP 19 45 27.0 +0.9
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,330nm,5.7s
WMQ LR LR
comp=Z,270nm,14.3s
WMQ LR LR
comp=Z,550nm,8.3s
WMQ LR LR
comp=Z,210nm,18.9s
DANN Dangsing 56.54 296 *e*P P **19 45 18.2 -0.5**
KOLN Koldanda 56.63 296 *e*P P **19 45 18.9 -0.3**
comp=Z,24nm,0.9s
KOLN Koldanda 56.63 296 *e*P P **19 45 18.9 -0.3**
comp=Z,22nm,0.9s
NIKH Nikolski High 57.04 33 P P **19 45 21.7 +0.3**
baz=242
PYUN Piuthan 57.19 296 *e*P P **19 45 22.7 -0.5**
comp=Z,34nm,1.0s
HIZ Hauiti 58.59 150 P P **19 45 32.5 0.0**
BILL Bilibino 58.70 11*ce*P P **19 45 33.3 +0.5**
BILL *e* 19 47 45.6
BILL *e*SS SS 19 57 35.0 +6.3
BILL pmax pmax
comp=Z,8.0nm,0.7s
BILL MLR MLR
comp=Z,214nm,18.0s
BILL Bilibino 58.70 11 P P **19 45 32.3 -0.5**
BILL lAmb lAmb 19 45 34.0
comp=Z,13nm,1.1s
AKUT Akutan 59.20 33 P P **19 45 36.3 -0.2**
QRZ Quartz Range 59.35 153 P P **19 45 38.1 +0.5**
URZ Urewera 59.54 148 P P **19 45 41.1 +2.1**
comp=Z,13nm,1.0s,baz=51,slow=5.2,SNR=5.3
URZ LR LR 20 10 47.7
comp=Z,106nm,18.0s,baz=25,slow=35
BKZ Black Stump Fm 59.91 149 P P **19 45 41.7 0.0**
TIXI Tiksi 60.60 355 LR LR 20 11 58.8
comp=Z,122nm,18.2s,baz=180,slow=36
TIXI Tiksi 60.60 355*ce*P P **19 45 45.9 +0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.3s

TIXI Tiksi 60.60 355 P P **19 45 45.1 -0.7**
FALS False Pass 60.75 33 P P **19 45 47.1 0.0**
baz=247
MK31 Makanchi Array 60.91 317 P P **19 45 48.3 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 60.91 317 P P **19 45 48.3 -0.1**
MKAR Makanchi Array 60.91 317 P P **19 45 48.5 +0.1**
comp=Z,4.4nm,0.8s,baz=98,slow=9.6,SNR=38
MKAR LR LR 20 13 43.5
comp=Z,308nm,19.3s,baz=90,slow=38
MKAR Makanchi Array 60.91 317 P P **19 45 48.3 -0.1**
MKAR Makanchi Array 60.91 317 P P **19 45 48.3 -0.1**
RPZ Rata Peaks 61.11 156 LR LR 20 10 58.8
comp=Z,227nm,19.1s,baz=322,slow=35
RPZ Rata Peaks 61.11 156 P P **19 45 49.9 +0.2**
MAKZ Makanchi 61.12 317 P P **19 45 49.4 -0.5**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 61.12 317 P P **19 45 49.4 -0.5**
PLWZ Palliser 61.18 152 P P **19 45 49.0 -1.3**
HYBB Hyderabad (bro 61.27 284 *e*P P **19 45 49.4 -2.0**
LBZ Lake Benmore 61.34 157 P P **19 45 50.7 -0.5**
GAMB Gambell 61.48 22 P P **19 45 51.6 -0.2**
GAMB lAmb lAmb 19 45 54.5
comp=Z,19nm,1.4s
GAMB Gambell 61.48 22 P P **19 45 52.9 +1.0**
baz=234
ZAA0 Zalesovo Array 61.57 326 P P **19 45 51.9 -0.8**
ZAA0 lAmb lAmb 19 45 53.4
comp=Z,34nm,2.0s
ZALV Zalesovo Beam 61.57 326 P P **19 45 52.6 -0.1**
comp=Z,2.6nm,0.7s,baz=105,slow=7.1,SNR=13
ZALV LR LR 20 14 28.5
comp=Z,342nm,18.8s,baz=102,slow=38
ZALV Zalesovo Beam 61.57 326 P P **19 45 51.6 -1.1**
SDPT Sand Point 62.50 33 P P **19 45 58.2 -0.7**
SDPT Sand Point 62.50 33 P P **19 45 59.1 +0.2**
baz=249
TARG Taragay, Kyrgy 63.02 311 P P **19 46 01.0 -2.2**
KDJ Kajisay 63.54 311 P P **19 46 04.2 -2.2**
KDJ pmax pmax
comp=Z,15nm,1.0s
KDJ Kajisay 63.54 311 P P **19 46 04.2 -2.2**
KDJ lAmb lAmb 19 46 07.9
comp=Z,15nm,0.9s
TNA Tin City 63.83 21 P P **19 46 06.9 -0.6**
TNA lAmb lAmb 19 46 10.1
comp=Z,20nm,1.4s
TNA Tin City 63.83 21 P P **19 46 07.8 +0.2**
baz=237
CHGN Chignik 63.92 32 P P **19 46 09.4 +1.1**
KSH Kashi 64.11 308 P P **19 46 12.3 +2.2**
KSH pmax pmax
comp=Z,4.0nm,0.7s
ANM Nome 64.24 22 P P **19 46 10.7 +0.4**
ANM pmax pmax
comp=Z,46nm,1.8s
ANM Nome 64.24 22 P P **19 46 10.7 +0.4**
ANM Nome 64.24 22 P P **19 46 10.8 +0.6**
baz=240,SNR=9.6
KURK Kurchatov 64.24 321*ce*P P **19 46 10.7 +0.2**
KURK pmax pmax
comp=Z,21nm,0.7s
KURK Kurchatov 64.24 321 P P **19 46 09.6 -0.9**
KURBB Kurchatov Arra 64.27 321 LR LR 20 16 06.0
comp=Z,262nm,18.3s,baz=84,slow=38
BOOM Boomskoye usch 64.50 312 P P **19 46 11.0 -1.7**
BOOM pmax pmax
comp=Z,7.0nm,1.1s
BOOM Boomskoye usch 64.50 312 P P **19 46 11.0 -1.7**
AAK Ala-Archa 65.58 312 LR LR 20 18 41.3
comp=Z,183nm,18.0s,baz=86,slow=40
AAK Ala-Archa 65.58 312*ce*P P **19 46 20.5 +0.8**
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 65.58 312 P P **19 46 18.6 -1.1**
NIL Nilore 65.87 302 P P **19 46 20.8 -0.7**
NIL pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 65.87 302 P P **19 46 20.8 -0.7**
NIL lAmb lAmb 19 46 22.7
comp=Z,18nm,0.8s
RAR Rarotonga 65.98 119 LR LR 20 11 23.5
comp=Z,140nm,20.7s,baz=272,slow=32
SII Sitkinak Islan 66.24 33 P P **19 46 24.2 +0.8**
P18K Big Mountain, 66.53 30 P P **19 46 25.9 +0.6**
P18K lAmb lAmb 19 46 27.0
comp=Z,26nm,1.4s
P18K Big Mountain, 66.53 30 P P **19 46 26.4 +1.1**
baz=252
RDOG Red Dog Mine 66.82 20 P P **19 46 26.4 -0.5**
RDOG lAmb lAmb 19 46 33.5
comp=Z,10nm,0.7s
RDOG Red Dog Mine 66.82 20 P P **19 46 27.5 +0.6**
baz=241
OHAK Old Harbor 66.89 32 P P **19 46 28.0 +0.4**
OHAK Old Harbor 66.89 32 P P **19 46 28.4 +0.8**
baz=255
SVW2 Sparrevohn 66.90 28 P P **19 46 28.1 +0.6**
SVW2 lAmb lAmb 19 46 29.8
comp=Z,36nm,1.6s
NRIK Noril'sk 67.11 342 P P **19 46 28.8 +0.1**
comp=Z,2.2nm,0.8s,baz=141,slow=10,SNR=4.0
NRIK LR LR 20 16 50.4
comp=Z,360nm,18.0s,baz=108,slow=37
NRIK Noril'sk 67.11 342 P P **19 46 27.8 -0.9**
NRIK lAmb lAmb 19 46 40.7
comp=Z,14nm,1.3s
Q19K Cape Douglas, 67.17 31 P P **19 46 28.3 -1.1**
Q19K lAmb lAmb 19 47 20.6
comp=Z,22nm,1.0s
O19K Port Alsworth 67.21 29 P P **19 46 29.0 -0.5**
O19K lAmb lAmb 19 46 32.2
comp=Z,29nm,1.4s
O19K Port Alsworth 67.21 29 P P **19 46 30.4 +0.9**
baz=253
N19K Bonanza Creek 67.32 28 P P **19 46 29.9 -0.4**
N19K lAmb lAmb 19 46 34.8
comp=Z,13nm,0.9s
N19K Bonanza Creek 67.32 28 P P **19 46 31.5 +1.2**
baz=252
TTA Tatalina 67.32 26 P P **19 46 29.9 -0.4**
TTA pmax pmax
comp=Z,19nm,1.5s
TTA Tatalina 67.32 26 P P **19 46 29.9 -0.4**
TTA lAmb lAmb 19 46 33.0
comp=Z,19nm,1.5s
TTA Tatalina 67.32 26 P P **19 46 31.0 +0.7**
baz=250,SNR=6.0
DRK Karamyk 67.32 308 P P **19 46 30.3 -0.7**
KDAK Kodiak Island 67.41 32 P P **19 46 31.7 +0.9**
comp=Z,12nm,1.0s,baz=268,slow=4.7,SNR=4.2
KDAK LR LR 20 12 02.6
comp=Z,161nm,22.0s,baz=264,slow=32
KDAK Kodiak Island 67.41 32 P P **19 46 30.2 -0.6**
KDAK pmax pmax
comp=Z,43nm,1.4s
KDAK Kodiak Island 67.41 32 P P **19 46 30.2 -0.6**
KDAK Kodiak Island 67.41 32 P P **19 46 31.5 +0.7**
baz=255
L19K White Mountain 67.58 27 P P **19 46 31.8 0.0**
L19K lAmb lAmb 19 46 34.8
comp=Z,29nm,1.5s
L19K White Mountain 67.58 27 P P **19 46 32.7 +0.8**
baz=251
P19K Oil Pt 67.58 30 P P **19 46 30.4 -1.5**
M19K Big River Lodg 67.70 27 P P **19 46 33.0 +0.4**
M19K lAmb lAmb 19 47 20.5
comp=Z,27nm,1.5s
M19K Big River Lodg 67.70 27 P P **19 46 34.0 +1.4**
baz=252
O20K Slope Mountain 67.99 29 P P **19 46 35.5 +1.0**
baz=254
RSO Redoubt South 68.03 29 P P **19 46 33.9 -1.1**
L20K Farewell, AK 68.10 27 P P **19 46 36.9 +1.7**
baz=252
BTK Batken 68.11 309 P P **19 46 34.1 -1.7**
BTK pmax pmax
comp=Z,10.0nm,1.3s
BTK Batken 68.11 309 P P **19 46 34.0 -1.7**
K20K Telida 68.29 26 P P **19 46 36.8 +0.4**
K20K Telida 68.29 26 P P **19 46 37.0 +0.6**
baz=252
GAR Garm 68.45 307 P P **19 46 36.0 -1.9**

GAR lAmb lAmb 19 46 52.1
comp=Z,30nm,1.4s
J20K Nowinta River 68.52 25 P P **19 46 37.2 -0.5**
J20K Nowinta River 68.52 25 P P **19 46 38.9 +1.1**
baz=251
CNPM China Poot 68.53 30 P P **19 46 37.2 -0.6**
KKAR Karatay Array 68.54 312 P P **19 46 36.5 -1.8**
KKAR Karatay Array 68.54 312 P P **19 46 36.5 -1.8**
BRLK Bradley Lake 68.76 30 P P **19 46 37.8 -1.5**
BRSE Bradley Lake S 68.82 30 P P **19 46 39.4 -0.3**
baz=256
PPLA Purkeypile 68.97 27 P P **19 46 41.3 +0.5**
PPLA Purkeypile 68.97 27 P P **19 46 41.0 +0.2**
baz=254
CAST Castle Rocks 69.17 26 P P **19 46 42.2 +0.4**
CAST Castle Rocks 69.17 26 P P **19 46 41.9 +0.2**
baz=254,SNR=11
CHUM Lake Minchumin 69.20 26 P P **19 46 42.4 +0.5**
baz=253,SNR=7.9
IMAR Indian Mountai 69.27 23 P P **19 46 42.4 +0.1**
CHGR Chuyangaron 69.34 307 P P **19 46 43.8 +0.4**
CHGR lAmb lAmb 19 46 57.5
comp=Z,35nm,1.4s
H21K Melozitna Rive 69.53 24 P P **19 46 43.7 -0.3**
H21K lAmb lAmb 19 46 47.0
comp=Z,30nm,1.5s
H21K Melozitna Rive 69.53 24 P P **19 46 44.7 +0.7**
baz=252
SEW Seward 69.54 30 P P **19 46 44.0 -0.1**
SEW lAmb lAmb 19 46 46.4
comp=Z,31nm,1.2s
SEW Seward 69.54 30 P P **19 46 44.7 +0.6**
baz=257
M22K Willow 69.60 28 P P **19 46 43.1 -1.3**
M22K Willow 69.60 28 P P **19 46 44.7 +0.3**
baz=256
RC01 Rabbit Creek A 69.62 29 P P **19 46 43.8 -0.8**
RC01 Rabbit Creek A 69.62 29 P P **19 46 44.5 -0.1**
baz=257
KTH Kantishna Hill 69.70 26 P P **19 46 44.8 -0.4**
KTH lAmb lAmb 19 46 47.9
comp=Z,25nm,1.2s
I21K Tanana 69.72 24 P P **19 46 44.3 -0.8**
I21K lAmb lAmb 19 46 47.5
comp=Z,29nm,1.4s
I21K Tanana 69.72 24 P P **19 46 45.9 +0.8**
baz=253
BRVK Borovoye 69.75 322*ce*P P **19 46 45.8 +0.3**
BRVK pmax pmax
comp=Z,24nm,1.7s
BRVK Borovoye 69.75 322 P P **19 46 44.6 -1.0**
BRVK lAmb lAmb 19 46 59.1
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 69.82 26 P P **19 46 45.3 -0.6**
BPAW Bear Paw Mtn. 69.82 26 P P **19 46 46.0 +0.2**
baz=254,SNR=12
TRF Thorofare Moun 69.95 26 P P **19 46 45.2 -1.6**
TRF lAmb lAmb 19 46 53.0
comp=Z,11nm,0.9s
TRF Thorofare Moun 69.95 26 P P **19 46 46.5 -0.3**
baz=255,SNR=6.2
PMR Palmer 70.03 28 P P **19 46 46.0 -1.0**
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 70.03 28 P P **19 46 46.0 -1.0**
PMR Palmer 70.03 28 P P **19 46 46.6 -0.4**
baz=257
GHO Glory Hole Cre 70.16 28 lAmb lAmb 19 47 04.5
comp=Z,19nm,1.2s
MLY Manley 70.18 25 lAmb lAmb 19 46 51.3
comp=Z,16nm,1.1s
MLY Manley 70.18 25 P P **19 46 48.4 +0.3**
baz=254,SNR=18
A21K Barrow 70.24 18 P P **19 46 48.9 +0.7**
baz=246
PWL Port Wells 70.24 29 lAmb lAmb 19 46 56.4
comp=Z,18nm,0.8s
PWL Port Wells 70.24 29 P P **19 46 48.4 0.0**
baz=258
KNK Knik Glacier 70.30 29 P P **19 46 48.7 -0.1**
baz=258
SML Sawmill 70.44 28 P P **19 46 49.6 -0.1**
baz=258,SNR=5.8
BWN Browne 70.49 26 P P **19 46 49.9 0.0**
RND Reindeer 70.57 27 lAmb lAmb 19 47 04.6
comp=Z,13nm,1.2s
MCK McKinley 70.61 26 lAmb lAmb 19 46 51.6
comp=Z,29nm,1.4s
MCK McKinley 70.61 26 P P **19 46 49.8 -0.8**
baz=256,SNR=8.2
NEA2 Nenana 70.76 25 P P **19 46 51.2 -0.3**
baz=256
I23K Minto, Yukon-K 70.77 25 P P **19 46 51.9 +0.3**
I23K Minto, Yukon-K 70.77 25 P P **19 46 52.1 +0.6**
baz=256,SNR=17
WAT6 Susitna Watana 70.88 28 P P **19 46 52.2 -0.3**
baz=258,SNR=8.5
SCM Sheep Creek Mo 70.92 28 P P **19 46 52.3 -0.3**
baz=259,SNR=8.0
COLD Coldfoot 70.99 22 lAmb lAmb 19 47 00.7
comp=Z,10nm,0.9s
COLD Coldfoot 70.99 22 P P **19 46 53.8 +0.9**
baz=254
WRH Wood River Hil 71.14 26 lAmb lAmb 19 46 54.6
comp=Z,29nm,1.4s
DHY Denali Highway 71.15 27 P P **19 46 52.8 -1.3**
DHY lAmb lAmb 19 46 55.6
comp=Z,37nm,1.8s
DHY Denali Highway 71.15 27 P P **19 46 53.9 -0.2**
baz=258
MDM Murphy Dome 71.19 25 lAmb lAmb 19 47 02.4
comp=Z,22nm,1.7s
CCB Clear Creek Bu 71.30 25 lAmb lAmb 19 46 56.3
comp=Z,36nm,1.6s
COLA College 71.33 25 *i* P P **19 46 55.2 +0.3**
COLA pmax pmax
comp=Z,6.0nm,1.2s
EYAK Cordova Ski Ar 71.43 30 P P **19 46 55.8 +0.2**
baz=260
M24K Tolsona, Glenn 71.50 28 P P **19 46 56.6 +0.5**
baz=260
KLU Klutina 71.51 29 lAmb lAmb 19 46 58.1
comp=Z,54nm,1.8s
KLU Klutina 71.51 29 P P **19 46 56.3 +0.1**
baz=260
DIV Divide 71.52 29 lAmb lAmb 19 47 11.7
comp=Z,27nm,1.3s
H24K Noodor Dome 71.54 24 P P **19 46 54.8 -1.5**
H24K lAmb lAmb 19 46 58.5
comp=Z,35nm,1.6s
H24K Noodor Dome 71.54 24 P P **19 46 56.4 +0.1**
baz=257,SNR=12
POKR Poker Plat Res 71.56 25 P P **19 46 57.2 +0.8**
baz=257
HDA Harding Lake 71.61 26 P P **19 46 57.4 +0.7**
baz=258
TOLK Toolik Lake Re 71.61 21 lAmb lAmb 19 46 59.9
comp=Z,37nm,1.5s
TOLK Toolik Lake Re 71.61 21 P P **19 46 57.8 +1.1**
baz=254
IL31 71.71 25 lAmb lAmb 19 46 58.4
comp=Z,22nm,1.4s
ILAR Eielson Array 71.71 25 P P **19 46 56.7 -0.6**
comp=Z,3.3nm,0.8s,baz=247,slow=6.0,SNR=30
ILAR LR LR 20 17 17.9
comp=Z,258nm,20.0s,baz=257,slow=35
ILAR Eielson Array 71.71 25 *e*P P **19 46 56.1 -1.2**
ILAR pmax pmax
comp=Z,3.0nm,0.7s
PAX Paxson 71.98 27 P P **19 46 58.5 -0.5**
PAX pmax pmax
comp=Z,21nm,1.4s
PAX Paxson 71.98 27 P P **19 46 58.5 -0.5**
PAX lAmb lAmb 19 47 01.4
comp=Z,21nm,1.4s
PAX Paxson 71.98 27 P P **19 46 58.8 -0.2**
baz=260,SNR=6.9
KAIM Kayak Island 71.99 31 P P **19 46 58.4 -0.6**
baz=262
HARP HAARP 72.02 28 P P **19 46 59.7 +0.5**
baz=260
N25K Chitina, Valde 72.16 29 P P **19 46 59.6 -0.5**
N25K lAmb lAmb 19 47 29.4
comp=Z,17nm,1.2s
N25K Chitina, Valde 72.16 29 P P **19 47 00.7 +0.6**
baz=261
J25K Salcha River, 72.32 26 lAmb lAmb 19 47 17.8

comp=Z,23nm,1.6s
J25K Salcha River, 72.32 26 P **P 19 47 00.4 -0.6**
baz=260,SNR=5.6
RIDG Independent Ri 72.39 27 P **P 19 47 01.0 -0.4**
baz=260,SNR=8.0
PRP Porcupine Dome 72.43 25 P **P 19 47 01.5 -0.3**
baz=259
GLB Gilahina Butte 72.50 29 IAmb IAmb 19 47 05.5
comp=Z,24nm,1.3s
DOT Dot Lake 72.72 27 P **P 19 47 03.0 -0.3**
SCRK Sand Creek 72.81 26 IAmb IAmb 19 47 06.3
comp=Z,20nm,1.4s
SCRK Sand Creek 72.81 26 P **P 19 47 04.0 +0.1**
baz=261,SNR=7.5
MCARA McCarthy VSAT 72.87 29 P **P 19 47 04.0 -0.3**
MCARA IAmb IAmb 19 47 12.2
comp=Z,18nm,1.2s
MCARA McCarthy VSAT 72.87 29 P **P 19 47 04.5 +0.3**
baz=263
L26K Log Cabin Wild 72.94 27 P **P 19 47 05.1 +0.4**
baz=262,SNR=10.0
J26L Joseph Creek 73.07 26 P **P 19 47 05.5 0.0**
baz=261
ISLE Juniper Island 73.11 30 P **P 19 47 06.2 +0.4**
ISLE IAmb IAmb 19 47 07.9
comp=Z,53nm,1.7s
M27K Edge Creek, AK 73.53 28 IAmb IAmb 19 47 10.5
comp=Z,48nm,1.9s
M27K Edge Creek, AK 73.53 28 P **P 19 47 08.6 +0.3**
baz=263
CTG Chitna Glacier 73.63 30 P **P 19 47 09.7 +0.8**
baz=264,SNR=7.0
CTGM Chitina Glacie 73.64 30 P **P 19 47 08.8 -0.2**
L27K Beaver Creek, 73.64 27 P **P 19 47 10.2 +1.4**
baz=263
TABL Table Mountain 73.68 30 P **P 19 47 08.3 -1.0**
TABL IAmb IAmb 19 47 12.2
comp=Z,15nm,1.0s
PPT Papeete 73.69 112 LR LR 20 15 10.2
comp=Z,205nm,18.9s,baz=59,slow=32
PPT2 Papeete2 73.70 112 *e*LR LR 20 09 57.8
comp=Z,168nm,21.0s
BVCY Beaver Creek 74.01 28 P **P 19 47 11.7 +0.7**
baz=264
YUK3 Moose Creek 74.13 29 P **P 19 47 12.5 +0.6**
baz=265,SNR=8.5
DAWY Dawson 74.83 27 P **P 19 47 14.6 -1.2**
DAWY Dawson 74.83 27 P **P 19 47 16.4 +0.7**
baz=265,SNR=9.9
YUK4 Talbot Arm 74.97 29 P **P 19 47 18.3 +1.5**
baz=267,SNR=10
YUK6 Outpost Mounta 75.08 30 P **P 19 47 18.2 +0.7**
baz=267
J29M Klondike Camp 75.37 26 P **P 19 47 20.0 +1.1**
baz=266
I29M Ogilvie Camp, 75.39 25 IAmb IAmb 19 47 21.8
comp=Z,36nm,1.6s
HYT Haines Junctio 75.49 30 P **P 19 47 19.7 0.0**
HYT IAmb IAmb 19 47 23.3
comp=Z,13nm,1.0s
HYT Haines Junctio 75.49 30 P **P 19 47 20.8 +1.1**
baz=268,SNR=9.3
TBI Tubuai 75.64 118 *e*LR LR 20 10 53.0
comp=Z,136nm,22.0s
M30M Minto, Yukon 75.90 28 IAmb IAmb 19 47 24.7
comp=Z,47nm,2.0s
M30M Minto, Yukon 75.90 28 P **P 19 47 22.9 +1.0**
baz=268
ABKAR Akbulak array 76.04 318 P **P 19 47 21.9 -1.0**
ABKAR Akbulak array 76.04 318 P **P 19 47 22.2 -0.7**
ABKAR IAmb IAmb 19 47 35.9
comp=Z,5.5nm,1.0s
EPYK Eagle Plains 76.11 24 IAmb IAmb 19 47 26.1
comp=Z,45nm,1.8s
EPYK Eagle Plains 76.11 24 P **P 19 47 23.6 +0.6**
baz=267
N31M Braeburn, Yuko 76.35 29 P **P 19 47 25.0 +0.5**
N31M IAmb IAmb 19 47 27.1
comp=Z,45nm,1.7s
N31M Braeburn, Yuko 76.35 29 P **P 19 47 25.7 +1.2**
baz=269
SKAG Skagway 76.55 31 IAmb IAmb 19 47 29.1
comp=Z,41nm,1.7s
SKAG Skagway 76.55 31 P **P 19 47 26.8 +1.2**
baz=270
SIT Sitka 76.56 34 P **P 19 47 25.7 +0.1**
baz=270
ARU Arti 76.73 325 LR LR 20 24 03.1
comp=Z,479nm,18.7s,baz=80,slow=38
ARU Arti 76.73 325*d i* P **P 19 47 26.4 -0.3**
ARU 19 47 37.9
ARU 19 50 13.3
ARU S **S 19 57 14.3 +2.4**
ARU pmax pmax
comp=Z,16nm,1.9s
ARU MLR MLR
comp=Z,561nm,18.0s
ARU Arti 76.73 325 P **P 19 47 24.4 -2.3**
WHY Whitehorse 76.78 30 IAmb IAmb 19 47 30.5
comp=Z,23nm,1.2s
WHY Whitehorse 76.78 30 P **P 19 47 28.2 +1.2**
baz=270,SNR=9.8
M31M Drury Creek, Y 77.01 29 P **P 19 47 28.2 0.0**
M31M Drury Creek, Y 77.01 29 P **P 19 47 28.7 +0.5**
baz=270,SNR=8.4
AKTO Aktyubinsk 77.24 319 LR LR 20 21 54.2
comp=Z,126nm,21.0s,baz=68,slow=36
INK Inuvik 77.41 22 P **P 19 47 30.3 +0.1**
comp=Z,4.3nm,0.7s,baz=259,slow=8.6,SNR=7.2
INK Inuvik 77.41 22 IAmb IAmb 19 47 31.6
comp=Z,23nm,1.5s
INK Inuvik 77.41 22 P **P 19 47 30.0 -0.2**
baz=270
FARO Faro, Yukon 77.50 29 P **P 19 47 31.9 +1.0**
baz=271,SNR=5.0
P33M Teslin, Yukon 77.81 31 P **P 19 47 33.8 +1.1**
baz=272
GEYT Alibeck 78.04 307 P **P 19 47 34.5 +0.1**
comp=Z,2.4nm,0.6s,baz=196,slow=10,SNR=5.4
GEYT LR LR 20 27 09.3
comp=Z,186nm,18.6s,baz=116,slow=40
GEYT Alibeck 78.04 307 P **P 19 47 32.7 -1.8**
WRAK Wrangell Islan 78.22 34 P **P 19 47 36.1 +1.2**
baz=273
MMPY Sheldon Lake, 78.46 28 P **P 19 47 37.7 +1.4**
baz=273
WSAR Wadi Sarin 79.31 292 LR LR 20 26 04.2
comp=Z,43nm,19.0s,baz=96,slow=38
DLBC Dease Lake 79.33 32 P **P 19 47 42.0 +0.8**
comp=Z,5.0nm,0.9s,baz=291,slow=3.8,SNR=6.8
DLBC LR LR 20 19 27.0
comp=Z,112nm,20.4s,baz=304,slow=33
DLBC Dease Lake 79.33 32 P **P 19 47 41.1 -0.1**
DLBC IAmb IAmb 19 47 45.9
comp=Z,50nm,2.0s
TGTN Hyland Airport 79.94 29 P **P 19 47 45.3 +0.9**
baz=276
A36M Sachs Harbour 80.05 18 IAmb IAmb 19 47 52.1
comp=Z,16nm,0.8s
A36M Sachs Harbour 80.05 18 P **P 19 47 44.7 0.0**
baz=276,SNR=12
TAOE Nuku Hiva Isla 80.23 101 *e*LR LR 20 13 04.0
comp=Z,186nm,22.5s
C36M Paulatuk 80.77 21 P **P 19 47 48.0 -0.6**
C36M IAmb IAmb 19 47 49.9
comp=Z,48nm,1.6s
C36M Paulatuk 80.77 21 P **P 19 47 48.2 -0.4**
baz=278
BBB Bella Bella 81.07 39 LR LR 20 18 04.0
comp=Z,238nm,19.3s,baz=260,slow=31
KIRV Kirov 81.49 328 LR LR 20 27 59.5
comp=Z,448nm,18.0s,baz=60,slow=39
D03D Eldon 85.03 43 P **P 19 48 12.7 +1.5**
baz=282
MAK Makhachkala 85.34 313 *e*P P 19 48 06.8 -6.0
MAK *e* 19 51 24.9
MAK 19 58 28.1
MAK *e*SS SS 20 04 13.3 -3.2
MAK pmax pmax
comp=Z,390nm,1.5s
SPITS Spitsbergen Ar 85.57 350 LR LR 20 27 51.0
comp=Z,204nm,18.6s,baz=183,slow=37
H04D Lebanon 85.89 46 P **P 19 48 16.9 +1.4**
baz=282
YKA Yellowknife Ar 86.06 27 P **P 19 48 16.4 +0.5**
comp=Z,3.7nm,0.8s,baz=292,slow=5.3,SNR=39
YKA LR LR 20 27 48.5
comp=Z,114nm,19.2s,baz=304,slow=36
YKA Yellowknife Ar 86.06 27 *e*P **P 19 48 16.8 +0.8**
YKA pmax pmax
comp=Z,4.0nm,0.8s
I04A Tendick Farm, 86.27 46 P **P 19 48 19.9 +2.3**
baz=282
M02C Callahan 86.46 49 P **P 19 48 21.3 +2.7**
baz=282
YBH Yreka Blue Hor 86.49 48 P **P 19 48 19.8 +1.1**
comp=Z,3.5nm,0.9s,baz=279,slow=4.1,SNR=5.2
YBH Yreka Blue Hor 86.49 48 IAmb IAmb 19 48 41.9
comp=Z,43nm,1.8s
J04D Umpqua Nationa 86.61 47 P **P 19 48 20.5 +1.1**
baz=283
L04D Klamath Falls 86.69 48 P **P 19 48 20.0 +0.3**
baz=282
G05D Wamic, OR 86.72 45 P **P 19 48 20.6 +0.9**
baz=283
O02D Mt. Diablo Mer 86.77 50 P **P 19 48 21.3 +1.2**
baz=282
I05D Terrebonne, OR 86.91 46 P **P 19 48 21.6 +1.0**
baz=283
K04D Chiloquin, OR 87.00 47 P **P 19 48 21.9 +0.7**
baz=283
M04C Macdoel 87.12 48 P **P 19 48 22.3 +0.5**
baz=283
J05D Fort Rock, OR 87.22 47 P **P 19 48 23.1 +0.8**
baz=283
RES Resolute Bay 87.23 13 P **P 19 48 22.1 +0.7**
comp=Z,4.2nm,0.7s,baz=301,slow=5.2,SNR=26
RES LR LR 20 29 04.0
comp=Z,59nm,20.3s,baz=312,slow=37
RES Resolute Bay 87.23 13 P **P 19 48 21.5 +0.1**
RES pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 87.23 13 P **P 19 48 21.5 +0.1**
RES IAmb IAmb 19 48 23.6
comp=Z,7.3nm,0.9s
PINE Pine Mountain 87.31 46 P **P 19 48 21.8 -1.0**
B08A Colville Reser 87.31 41 P **P 19 48 22.3 -0.2**
B08A IAmb IAmb 19 48 24.4
comp=Z,20nm,1.4s
ARCES ARCESS Array B 88.09 342 LR LR 20 31 14.0
comp=Z,260nm,19.6s,baz=1.0,slow=38
MOD Modoc Plateau 88.21 48 IAmb IAmb 19 48 40.3
comp=Z,36nm,1.9s
KBZ Khabaz 88.44 314 LR LR 20 31 51.8
comp=Z,160nm,18.9s,baz=56,slow=38
KIV Kislovodsk 88.53 314 *e*P P 19 48 19.4 -9.1
KIV pmax pmax
comp=Z,5.0nm,1.1s
BEKR Beckworth 88.65 50 IAmb IAmb 19 48 32.8
comp=Z,9.5nm,1.1s
NEW Newport 88.76 41 P **P 19 48 30.7 +1.3**
comp=Z,3.4nm,0.9s,baz=273,slow=3.2,SNR=4.2
NEW LR LR 20 21 33.7
comp=Z,164nm,19.9s,baz=312,slow=31
NEW Newport 88.76 41 P **P 19 48 29.9 +0.5**
baz=286
OBN Obninsk 89.15 326 LR LR 20 31 29.4
comp=Z,138nm,19.1s,baz=16,slow=38
J08A Circle Bar Ran 89.16 46 P **P 19 48 31.5 +0.1**
J08A IAmb IAmb 19 48 35.8
comp=Z,11nm,1.1s
WVOR Wild Horse Val 89.28 47 IAmb IAmb 19 48 34.3
comp=Z,33nm,1.9s
BMO Blue Mountains 89.57 44 IAmb IAmb 19 48 36.4
comp=Z,27nm,1.8s
VNDA Vanda 89.63 176 LR LR 20 28 28.9
comp=Z,288nm,18.4s,baz=340,slow=35
SMMC Simmler 90.03 54 P **P 19 48 36.6 +1.0**
baz=284
KVN Kaiserville 90.55 50 P **P 19 48 37.9 -0.2**
KVN pmax pmax
comp=Z,8.0nm,1.1s
KVN Kaiserville 90.55 50 P **P 19 48 37.9 -0.2**
NVAR Mina Array Bea 90.56 51 P **P 19 48 39.6 +1.4**
comp=Z,2.9nm,0.7s,baz=263,slow=6.1,SNR=4.3
MFID Camas Ranch 91.00 45 IAmb IAmb 19 48 42.3
comp=Z,20nm,1.6s
FINES FINESS Array B 91.72 334 P **P 19 48 41.3 -1.5**
comp=Z,1.9nm,0.6s,baz=62,slow=5.1,SNR=14
FINES LR LR 20 34 37.2
comp=Z,213nm,18.1s,baz=70,slow=39
MPMC Manual Prospec 91.81 53 P **P 19 48 44.8 +0.7**
baz=286
LRMC Laurel Mtn Rad 91.81 53 P **P 19 48 45.1 +1.1**
baz=286
HLID Hailey 91.94 45 P **P 19 48 44.9 +0.4**
HLID Hailey 91.94 45 P **P 19 48 45.5 +1.0**
baz=288
BFSC Mount Baldy Ra 92.16 55 P **P 19 48 47.1 +1.4**
baz=286
FURC Furnace Creek, 92.19 52 P **P 19 48 47.3 +1.8**
baz=286
ELK Elko 92.19 48 P **P 19 48 46.9 +1.1**
comp=Z,1.8nm,0.8s,baz=292,slow=6.4,SNR=6.5
ELK LR LR 20 23 44.3
comp=Z,93nm,21.2s,baz=288,slow=31
QSM Queen of Sheba 92.32 53 P **P 19 48 46.9 +0.7**
QSM IAmb IAmb 19 48 48.8
comp=Z,20nm,1.7s
GWY Greenwater Val 92.42 52 IAmb IAmb 19 48 50.8
comp=Z,9.7nm,1.4s
TPNV Topoah Spring 92.53 52 P **P 19 48 48.5 +1.2**
baz=286
GSC Goldstone, Bar 92.55 53 P **P 19 48 48.1 +0.7**
baz=286
BOZ Bozeman (W) 93.16 42 P **P 19 48 50.1 0.0**
baz=290
TUQ Turquoise Moun 93.21 53 P **P 19 48 51.3 +0.8**
baz=287
PFO Pinyon Flats O 93.29 55 LR LR 20 23 31.0
comp=Z,138nm,21.8s,baz=268,slow=31
PFO Pinyon Flats O 93.29 55 P **P 19 48 50.5 -0.4**
baz=286
TPFO Pinon Flats 93.30 55 P **P 19 48 51.1 +0.2**
baz=286
BELC Belle Mtn. Jos 93.55 54 P **P 19 48 52.0 -0.1**
baz=286
YHH Holmes Hill 93.96 43 P **P 19 48 53.1 -0.9**
YHH IAmb IAmb 19 48 58.7
comp=Z,23nm,1.9s
SWSC Sam W. Stewart 94.01 55 P **P 19 48 53.7 -0.3**
baz=286
YNR Norris Junctio 94.10 43 IAmb IAmb 19 49 00.0
comp=Z,21nm,1.4s
IRM Iron Mountain 94.19 54 P **P 19 48 55.7 +0.8**
baz=287
FLWY Flagg Ranch 94.31 44 P **P 19 48 55.1 -0.3**
FLWY IAmb IAmb 19 48 59.7
comp=Z,5.9nm,0.9s
RLMT Red Lodge 94.89 42 P **P 19 48 58.8 +0.7**
baz=292
AKASG Malin Array Be 94.92 324 LR LR 20 35 08.9
comp=Z,407nm,18.8s,baz=38,slow=38
FFC Flin Flon 95.15 31 P **P 19 48 58.9 +0.2**
FFC Flin Flon 95.15 31 P **P 19 48 58.9 +0.2**
JMIC Jan Mayen 95.24 351 LR LR 20 32 02.3
comp=Z,55nm,18.7s,baz=68,slow=36
BRTR Keskin Array B 96.25 312 LR LR 20 37 12.8
comp=Z,79nm,20.1s,baz=41,slow=38
MMAI Mount Meron Ar 97.14 306 LR LR 20 37 08.8
comp=Z,67nm,21.4s,baz=246,slow=38
HFS Hagfors 97.50 337 LR LR 20 36 46.7
comp=Z,253nm,18.8s,baz=24,slow=38
NOA NORSAR Array B 97.86 338 LR LR 20 35 45.4
comp=Z,141nm,19.6s,baz=25,slow=37
MLR Muntele Rosu 99.16 320 LR LR 20 37 38.2
comp=Z,292nm,18.5s,baz=50,slow=38
SYO Syowa Base 105.05 201 ‖ *e*PKiKP **PKiKP 19 53 56.0 -1.1**
TORD Torodi Ar. Bea 133.42 301 PKP **PKPdf 19 54 53.0 +0.3**
comp=Z,1.0nm,0.8s,baz=45,slow=2.1,SNR=4.6
PLCA Paso Flores 139.33 141 PKP **PKPdf 19 55 02.9 -0.2**
comp=Z,0.9nm,0.8s,baz=233,slow=5.1,SNR=2.4
PLCA Paso Flores 139.33 141 *e*PKiKP **PKiKP 19 55 09.4 +4.1**
PLCA pmax pmax
comp=Z,1.0nm,0.9s
DBIC Dimbokro 142.20 297 PKhKP PKPpre 19 55 03.5
comp=Z,2.3nm,0.6s,baz=126,slow=2.9,SNR=4.9
PB11 IPOC Station P 148.69 109 **PKPdf 19 55 17.9 -2.1**
LVC Limon Verde 148.74 115 PKHKP PKPpre 19 55 16.6
LVC Limon Verde 148.74 115 **PKPdf 19 55 16.6 -3.7**
PB08 IPOC Station P 149.09 110 **PKPdf 19 55 17.0 -3.9**
LPAZ La Paz 150.61 103 PKPbc **PKiKP 19 55 31.0 +1.1**
comp=Z,11nm,0.9s,baz=303,slow=2.2,SNR=13
LPAZ La Paz 150.61 103 PKIKP **PKPdf 19 55 20.2 -3.5**
LPAZ 19 55 25.9
LPAZ La Paz 150.61 103 PKPdf **PKPdf 19 55 20.2 -3.5**
LPAZ PKPbc **PKPbc 19 55 25.9 -3.2**
CPUP Villa Florida 156.74 132 PKPab **PKPab 19 56 02.2 +1.4**
comp=Z,1.1nm,0.4s,baz=239,slow=4.6,SNR=3.7

IDC ***15*** *19:49:17.0±0.7, 11°.50N×141°.76E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/42, mbtmp4.0/15, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/79, Error ellipse: s-maj=21.8km s-min=15.5km az=88.0*
NEIC ***15*** *19:49:19.5±2.1, 11°.51N±0°.09×141°.64E±0°.09, h10km±1km, mb5.0/25, Error ellipse: s-maj=18.0km s-min=11.6km az=312.0*
ISC 15 19:49:21.3±0.5, 11°.49N±0°.07×141°.70E±0°.08, h27km, n48, σ1ş22/48, mb4.7/26, 1C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.73**	**56**	Pn	**Pn**	**19 50 16.3**	**-0.9**
	9.1nm,0.3s,baz=203,slow=16,SNR=3.2						
GUMO				Sn	**Sn**	**19 51 02.2**	**+1.9**
	12nm,0.3s,baz=35,slow=20,SNR=1.4						
SIJI	**Sorong**	**16.07**	**221**	LR	LR	19 58 51.2	
	comp=Z,208nm,18.7s,baz=74,slow=36						
PMG	**Port Moresby**	**21.45**	**165**	P	**P**	**19 54 06.8**	**-1.0**
	11nm,0.9s,baz=5.0,slow=8.7,SNR=6.6						
PMG	**Port Moresby**	**21.45**	**165**	P	**P**	**19 54 07.7**	**-0.1**
JNU	**Nakatsue**	**23.71**	**337**	P	**P**	**19 54 32.9**	**+1.7**
MYLDM	**Lahad Datu**	**23.79**	**257**	P	**P**	**19 54 34.5**	**+2.5**
MYLDM				IAmb	IAmb	19 55 21.6	
	comp=Z,30nm,1.2s						
MAJO	**Matsushiro**	**25.14**	**353**	P	**P**	**19 54 42.0**	**-2.3**
MAJO				IAmb	IAmb	19 55 07.1	
	comp=Z,57nm,1.9s						
MJB9	**Matsu-Tunnel**	**25.15**	**353**		**P**	**19 54 42.0**	**-2.3**
MJB9				IAmb	IAmb	19 55 07.1	
	comp=Z,57nm,1.9s						
WB0	**Warramunga Arr**	**31.88**	**193**	P	**P**	**19 55 43.1**	**-1.4**
WB0				IAmb	IAmb	19 56 43.9	
	comp=Z,45nm,1.6s						
WR0	**Warramunga Arr**	**32.04**	**193**	P	**P**	**19 55 45.0**	**-0.9**
WRAB	**Tennant Creek**	**32.05**	**193**	P	**P**	**19 55 44.5**	**-1.6**
WB2	**Warramunga Arr**	**32.06**	**193**	P	**P**	**19 55 45.5**	**-0.6**
WB2				IAmb	IAmb	19 56 49.6	
	comp=Z,47nm,1.6s						
WRA	**Warramunga Arr**	**32.06**	**193**	P	**P**	**19 55 45.6**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=16,slow=9.7,SNR=11						
USA0B	**Ussuriysk Arra**	**33.65**	**347**	P	**P**	**19 55 57.5**	**-2.3**
USA0B				IAmb	IAmb	19 56 00.6	
	comp=Z,36nm,1.8s						
USRK	**Ussuriysk Ar.**	**33.65**	**347**	P	**P**	**19 55 58.7**	**-1.1**
AS31	**Alice Springs**	**35.76**	**192**	P	**P**	**19 56 19.2**	**+0.9**
ASAR	**Alice Springs**	**35.76**	**192**	P	**P**	**19 56 18.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=18,slow=12,SNR=27						
ASAR	**Alice Springs**	**35.76**	**192**	P	**P**	**19 56 18.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.81**	**285**	P	**P**	**19 57 10.4**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=94,slow=6.0,SNR=4.9						
FORT	**Forrest**	**44.02**	**197**	P	**P**	**19 57 27.0**	**+0.2**
FORT				IAmb	IAmb	19 57 41.0	
	comp=Z,29nm,1.1s						
BBOO	**Buckleboo**	**44.38**	**187**	P	**P**	**19 57 29.1**	**-0.4**
BBOO				IAmb	IAmb	19 58 34.9	
	comp=Z,43nm,1.6s						
GSI	**Gunungsitoli**	**44.94**	**260**	P	**P**	**19 57 33.6**	**-0.9**
GSI				IAmb	IAmb	19 58 59.0	
	comp=Z,13nm,1.0s						
MSVF	**Nonsavu**	**46.17**	**128**	P	**P**	**19 57 45.2**	**+1.0**
	comp=Z,4.3nm,0.5s,baz=267,slow=11,SNR=4.5						
MSVF	**Nonsavu**	**46.17**	**128**	IAmb	IAmb	19 57 49.9	
	comp=Z,37nm,1.7s						
SONM	**Songino Array**	**46.75**	**328**	P	**P**	**19 57 48.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=141,slow=7.3,SNR=3.8						
SONM				PcP	**PcP**	**19 59 21.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=111,slow=2.9,SNR=1.9						
SONM	**Songino Array**	**46.75**	**328**	P	**P**	**19 57 49.6**	**+1.1**
MORW	**Morawa**	**47.33**	**211**	P	**P**	**19 57 53.0**	**+0.1**
JOHN	**Johnston Islan**	**47.49**	**78**	P	**P**	**19 57 55.5**	**+1.1**
YAK	**Yakutsk**	**51.21**	**353**	P	**P**	**19 58 22.5**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=215,slow=0.4,SNR=1.7						
SEY	**Seymchan**	**51.93**	**6**	P	**P**	**19 58 27.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=214,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**60.89**	**317**	P	**P**	**19 59 32.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=86,slow=8.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**61.56**	**326**	P	**P**	**19 59 35.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=6.1,SNR=2.1						
KURK	**Kurchatov**	**64.22**	**321**	P	**P**	**19 59 54.4**	**+0.6**
N19K	**Bonanza Creek**	**67.39**	**28**	P	**P**	**20 00 14.0**	**-0.2**
N19K				IAmb	IAmb	20 00 40.0	
	comp=Z,30nm,1.9s						
P19K	**Oil Pt**	**67.65**	**30**	P	**P**	**20 00 15.5**	**-0.3**
CNPM	**China Poot**	**68.59**	**30**	P	**P**	**20 00 21.6**	**-0.1**
IMAR	**Indian Mountai**	**69.33**	**23**	P	**P**	**20 00 25.8**	**-0.3**
H21K	**Melozitna Rive**	**69.60**	**24**	P	**P**	**20 00 28.0**	**+0.1**
H21K				IAmb	IAmb	20 00 46.0	
	comp=Z,17nm,2.0s						
MLY	**Manley**	**70.24**	**25**	P	**P**	**20 00 32.5**	**+0.6**
MLY				IAmb	IAmb	20 02 13.9	
	comp=Z,16nm,1.8s						
ILAR	**Eielson Array**	**71.78**	**25**	P	**P**	**20 00 39.6**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=246,slow=5.7,SNR=7.7						
ILAR	**Eielson Array**	**71.78**	**25**	P	**P**	**20 00 43.8**	**+2.7**
BMAR	**Burnt Mountain**	**73.22**	**23**	P	**P**	**20 00 51.0**	**+1.3**
ABKAR	**Akbulak array**	**76.02**	**318**	P	**P**	**20 01 06.0**	**-0.2**
YKA	**Yellowknife Ar**	**86.13**	**27**	P	**P**	**20 01 58.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=289,slow=5.1,SNR=3.1						
NVAR	**Mina Array Bea**	**90.64**	**51**	P	**P**	**20 02 23.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=269,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**91.73**	**334**	P	**P**	**20 02 25.4**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=20,slow=6.1,SNR=4.6						
SYO	**Syowa Base**	**104.99**	**201**	‖ *e*Pdiff	**Pdif**	**20 03 27.4**	**+1.6**
LPAZ	**La Paz**	**150.66**	**103**	PKPbc	**PKPbc**	**20 09 10.7**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=231,slow=6.5,SNR=3.4						

NEIC ***15*** *20:06:17.5±2.5, 21°.84S±0°.08×170°.74E±0°.10, h64km±6km, mb4.9/8, Error ellipse: s-maj=12.9km s-min=11.3km az=82.0*
IDC ***15*** *20:06:23.1±6.9, 21°.63S×170°.40E, h106km±44km, mb3.7/6, mb1 3.8/7, mb1mx3.6/34, mbtmp4.0/7, Error ellipse: s-maj=70.6km s-min=47.1km az=149.0*
NOU ***15*** *20:06:31.6, 21°.44S×169°.69E, h72km, MLv4.4/12, Southeast of Loyalty Islands*
ISC 15 20:06:22.4±0.8, 21°.72S±0°.07×170°.37E±0°.08, h100km, n41, σ1ş46/45, mb4.3/10, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.19**	**276**		**Pn**	**20 06 58.0**	**+0.6**
MARNC				Sn	**Sn**	**20 07 26.3**	**+2.1**
MARNC	**Mare, Loyalty**	**2.19**	**276**	P	**Pn**	**20 06 58.5**	**+1.1**
PINNC	**Pines Island,**	**2.85**	**251**		**Pn**	**20 07 06.8**	**+0.6**
PINNC				Sn	**Sn**	**20 07 40.4**	**+0.6**
PINNC	**Pines Island,**	**2.85**	**251**	P	**Pn**	**20 07 07.1**	**+1.0**
LIFNC	**LIFOU**	**3.06**	**287**		**Pn**	**20 07 06.1**	**-2.9**
LIFNC				Sn	**Sn**	**20 07 41.8**	**-3.1**
LIFNC	**LIFOU**	**3.06**	**287**	P	**Pn**	**20 07 06.3**	**-2.7**
YATNC	**Mamie plateau,**	**3.25**	**263**	P	**Pn**	**20 07 12.0**	**+0.5**
OUENC	**Ouen Island, N**	**3.34**	**257**		**Pn**	**20 07 13.7**	**+1.0**
OUENC				Sn	**Sn**	**20 07 52.4**	**+0.7**
OUENC	**Ouen Island, N**	**3.34**	**257**	P	**Pn**	**20 07 14.1**	**+1.3**
DZM	**Mont Dzumac**	**3.66**	**264**	P	**Pn**	**20 07 18.6**	**+1.5**
DZM	27nm,0.3s,baz=75,slow=16,SNR=293			S	**Sn**	**20 08 01.7**	**+2.3**
	38nm,0.3s,baz=114,slow=22,SNR=21						
DZM	**Mont Dzumac**	**3.66**	**264**		**Pn**	**20 07 18.2**	**+1.0**
DZM					**Sn**	**20 07 59.7**	**+0.2**
DZM					Sn	20 08 01.1	+1.6
DZM	**Mont Dzumac**	**3.66**	**264**	P	**Pn**	**20 07 18.8**	**+1.7**
ONTNC	**Ouen Toro**	**3.68**	**260**		**Pn**	**20 07 18.5**	**+1.3**
ONTNC				Sn	**Sn**	**20 08 00.1**	**+0.4**
ONTNC	**Ouen Toro**	**3.68**	**260**	P	**Pn**	**20 07 18.9**	**+1.6**
NOUC	**Port Laguerre**	**3.79**	**264**	P	**Pn**	**20 07 20.5**	**+1.7**
RTV	**Rentapao**	**4.31**	**335**	P	**Pn**	**20 07 28.1**	**+2.2**
DVP	**Devils Point**	**4.47**	**332**	P	**Pn**	**20 07 30.8**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.79**	**280**	Pn	**Pn**	**20 07 46.3**	**+0.4**
SANVU	**Saraoutou**	**6.92**	**334**	Pn	**Pn**	**20 08 02.2**	**+0.9**
OUZ	**Omahuta**	**13.74**	**169**	P	**Pn**	**20 09 33.7**	**+0.7**
PMG	**Port Moresby**	**25.44**	**295**	P	**P**	**20 11 42.2**	**+1.1**
	3.9nm,0.5s,baz=112,slow=5.4,SNR=2.4						
PMG	**Port Moresby**	**25.44**	**295**	IAmb	IAmb	20 12 19.2	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**26.98**	**282**	P	**P**	**20 11 53.2**	**-1.9**

COEN IAmb IAmb 20 12 49.3
comp=Z,39nm,1.4s
WR0 Warramunga Arr 33.48 266 P P 20 12 52.1 -0.3
WR0 IAmb IAmb 20 14 02.8
comp=Z,37nm,1.6s
ASAR Alice Springs 33.64 260 P P 20 12 54.1 +0.4
comp=Z,0.4nm,0.5s,baz=82,slow=8.3,SNR=12
WB0 Warramunga Arr 33.65 267 P P 20 12 53.8 -0.1
WB0 IAmb IAmb 20 13 39.4
comp=Z,34nm,1.8s
WB2 Warramunga Arr 33.66 266 P P 20 12 53.6 -0.3
WRAB Tennant Creek 33.66 266 P P 20 12 53.7 -0.3
WRAB IAmb IAmb 20 13 00.4
comp=Z,22nm,1.4s
WRA Warramunga Arr 33.67 266 P P 20 12 53.3 -0.8
comp=Z,1.0nm,0.7s,baz=92,slow=8.5,SNR=15
XMAS Kiritimati 39.34 57 P P 20 13 38.6 -3.6
WAKE Wake Island 40.91 355 P P 20 13 53.7 -1.3
SIJI Sorong 43.36 293 P P 20 14 15.1 -0.1
comp=Z,3.9nm,0.6s,baz=96,slow=10,SNR=7.3
TOLI2 Tolitoli 53.44 289 P P 20 15 33.8 +1.2
SBA Scott Base 56.21 181 P P 20 15 49.8 -1.8
MAJO Matsushiro 65.43 332 P P 20 16 55.1 +0.5
QSPA South Pole Qui 68.35 180 P P 20 17 10.2 -2.7
CMAR Chiang Mai Arr 80.48 294 P P 20 18 25.1 +1.3
comp=Z,0.3nm,0.3s,baz=119,slow=5.2,SNR=4.1
SYO Syowa Base 82.85 196⇑ eP P 20 18 33.6 -1.8
SONM Songino Array 89.83 323 P P 20 19 08.9 -1.0
comp=Z,0.2nm,0.3s,baz=131,slow=4.4,SNR=2.8
GERES GERESS Array B 147.16 331 PKPbc PKPdf 20 25 52.3 +0.7
comp=Z,0.3nm,0.6s,baz=20,slow=3.1,SNR=2.2
GERES GERESS Array B 147.16 331 PKPdf 20 25 52.5 +0.8

*IDC **15** 20:10:38.4±1.2,21°.52S×66°.99W,h167km±18km,mb3.4/1, mb1 3.1/4,mb1mx3.0/23,mbtmp3.6/4,Error ellipse: s-maj=47.4km s-min=14.7km az=132.0*
*SCB **15** 20:10:41.6±1.5,21°.37S×67°.44W,h159km±14km,ML3.1/4, Error ellipse: s-maj=4.8km s-min=4.0km az=0.0*
ISC 15 20:10:39.4±1.0,21°.34S±0°.05×67°.35W±0°.05,h185km±9km, n30,σ1°59/47,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.59**	**87**	P	**Pn**	**20 11 14.7**	**+1.5**
MOCB				S	**Sn**	**20 11 39.8**	**+0.5**
MOCB				IAML		20 11 40.5	
	39nm,0.4s						
PB09	**IPOC Station P**	**1.82**	**255**	*eP*	**Pn**	**20 11 16.4**	**+1.2**
LVC	**Limon Verde**	**1.92**	**229**	P	**Pn**	**20 11 17.2**	**+0.8**
	1.5nm,0.3s,baz=42,slow=8.8,SNR=28						
LVC				S	**Sn**	**20 11 45.1**	**-0.1**
	4.4nm,0.3s,baz=160,slow=17,SNR=35						
LVC	**Limon Verde**	**1.92**	**229**	*eP*	**Pn**	**20 11 17.4**	**+1.0**
LVC				*eS*	**Sn**	**20 11 44.5**	**-0.6**
LVC	**Limon Verde**	**1.92**	**229**	P	**Pn**	**20 11 17.2**	**+0.8**
PB01	**IPOC Station P**	**2.02**	**278**	*eP*	**Pn**	**20 11 17.8**	**+0.7**
PB01				*eS*	**Sn**	**20 11 46.5**	**+0.1**
PB01				IAML		20 11 47.6	
	comp=N,169nm,0.1s						
PB01	**IPOC Station P**	**2.02**	**278**	P	**Pn**	**20 11 18.1**	**+1.0**
PB08	**IPOC Station P**	**2.07**	**305**	*eP*	**Pn**	**20 11 19.7**	**+1.7**
PB08				*eS*	**Sn**	**20 11 49.2**	**+1.3**
PB08	**IPOC Station P**	**2.07**	**305**	P	**Pn**	**20 11 19.8**	**+1.7**
PB02	**IPOC Station P**	**2.38**	**270**	*eP*	**Pn**	**20 11 21.7**	**+0.6**
PB02				*eS*	**Sn**	**20 11 52.3**	**-1.2**
PB02				IAML		20 11 54.0	
	comp=E,223nm,0.2s						
PB02	**IPOC Station P**	**2.38**	**270**	P	**Pn**	**20 11 21.7**	**+0.6**
PB02				S	**Sn**	**20 11 51.3**	**-2.2**
PB02				IAML		20 11 52.9	
	comp=E,159nm,0.2s						
PB07	**IPOC Station P**	**2.40**	**260**	*eP*	**Pn**	**20 11 22.1**	**+0.7**
PB07				*eS*	**Sn**	**20 11 52.7**	**-1.3**
PB07				IAML		20 11 53.8	
	comp=E,142nm,0.3s						
PB07	**IPOC Station P**	**2.40**	**260**	P	**Pn**	**20 11 22.1**	**+0.7**
PB07				S	**Sn**	**20 11 51.6**	**-2.4**
PB07				IAML		20 11 54.0	
	comp=E,124nm,0.2s						
PB06	**IPOC Station P**	**2.47**	**236**	*eP*	**Pn**	**20 11 22.6**	**+0.4**
PB06				*eS*	**Sn**	**20 11 54.5**	**-1.1**
PB06				IAML		20 11 56.2	
	comp=E,163nm,0.3s						
PB06	**IPOC Station P**	**2.47**	**236**	P	**Pn**	**20 11 22.7**	**+0.5**
PB11	**IPOC Station P**	**2.68**	**306**	*eP*	**Pn**	**20 11 25.4**	**+0.8**
PB11				*eS*	**Sn**	**20 11 58.8**	**-1.0**
PB11				IAML		20 12 01.7	
	comp=N,205nm,0.2s						
PB11	**IPOC Station P**	**2.68**	**306**	P	**Pn**	**20 11 25.4**	**+0.8**
PB11				S	**Sn**	**20 11 58.2**	**-1.6**
PB15	**IPOC Station P**	**2.71**	**226**	*eP*	**Pn**	**20 11 25.8**	**+0.8**
PB15				*eS*	**Sn**	**20 11 59.7**	**-0.9**
PB15	**IPOC Station P**	**2.71**	**226**	P	**Pn**	**20 11 25.6**	**+0.6**
PB04	**IPOC Station P**	**2.79**	**249**	*eP*	**Pn**	**20 11 26.1**	**+0.2**
PB04				*eS*	**Sn**	**20 12 00.5**	**-1.6**
PB04				IAML		20 12 02.4	
	comp=N,90nm,0.1s						
PB16	**IPOC Station P**	**3.62**	**325⇑**	*eP*	**Pn**	**20 11 38.3**	**+1.8**
PB16				*eS*	**Sn**	**20 12 22.5**	**+1.4**
PB16	**IPOC Station P**	**3.62**	**325**	P	**Pn**	**20 11 38.3**	**+1.8**
PB16				S	**Sn**	**20 12 19.6**	**-1.4**
PB16				IAML		20 12 24.3	
	comp=N,22nm,0.4s						
PB10	**IPOC Station P**	**3.67**	**233**	P	**Pn**	**20 11 36.2**	**-0.3**
BBOE	**La Paz, Chanca**	**4.54**	**352**	P	**Pn**	**20 11 50.9**	**+2.7**
BBOD	**La Paz, Gloria**	**4.83**	**346**	P	**Pn**	**20 11 53.2**	**+1.4**
LPAZ	**La Paz**	**5.08**	**351**	P	**Pn**	**20 11 57.0**	**+1.8**
	comp=N,1.1nm,0.3s,baz=180,slow=9.1,SNR=24						
LPAZ	**La Paz**	**5.08**	**351**	P	**Pn**	**20 11 57.0**	**+1.8**
SIV	**San Ignacio**	**7.98**	**49**	P	**Pn**	**20 12 30.9**	**-1.6**
	comp=N,1.1nm,0.3s,baz=230,slow=11,SNR=11						
SIV				S	**Sn**	**20 13 56.2**	**-6.0**
	comp=N,0.2nm,0.3s,baz=126,slow=22,SNR=1.7						
TORD	**Torodi Ar. Bea**	**75.93**	**70**	P	**P**	**20 22 05.7**	**-0.5**
	comp=N,0.4nm,0.3s,baz=250,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**144.64**	**37**	PKP	**PKPab**	**20 29 54.1**	**+1.0**
	comp=N,0.2nm,0.5s,baz=288,slow=2.3,SNR=4.1						

*IDC **15** 20:35:35.4±4.4, 11°.54N×141°.73E,h20km±28km,mb4.0/16, mb1 4.2/17,mb1mx4.0/41,mbtmp4.2/17,ML4.2/1,MS3.6/16, Ms1 3.6/16,ms1mx3.3/79,Error ellipse: s-maj=19.7km s-min=14.7km az=85.0*
*NEIC **15** 20:35:35.2±1.2, 11°.54N±0°.09×141°.70E±0°.10,h19km±5km, mb4.8/79,Error ellipse: s-maj=14.5km s-min=12.7km az=134.0*
*BJI **15** 20:35:37.0±0.0, 11°.50N×141°.70E,h51km,mb4.6/16, mB4.9/8,Ms4.3/3,Ms7 4.2/3*
ISC 15 20:35:36.0±0.4,11°.51N±0°.07×141°.66E±0°.08,h27km,n120, σ0°90/113,mb4.7/58,MS3.6/14,1C,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.76**	**56**	Pn	**Pn**	**20 36 33.1**	**+0.9**
	19nm,0.3s,baz=261,slow=5.3,SNR=7.5						
GUMO				Sn	**Sn**	**20 37 16.5**	**+0.8**
	12nm,0.3s,baz=343,slow=19,SNR=2.1						
GUMO				LR	LR	20 37 58.9	
	comp=Z,363nm,18.1s,baz=232,slow=39						
GUMO	**Guam**	**3.76**	**56**		**Pn**	**20 36 31.4**	**-0.8**
SIJI	**Sorong**	**16.05**	**221**	LR	LR	20 44 55.4	
	comp=Z,230nm,18.3s,baz=90,slow=35						
JOW	**Kunigami**	**19.78**	**322**	LR	LR	20 47 05.7	
	comp=Z,156nm,19.2s,baz=30,slow=35						
PMG	**Port Moresby**	**21.48**	**165**	P	**P**	**20 40 22.6**	**-0.1**
	4.3nm,0.3s,baz=359,slow=7.9,SNR=6.7						
PMG	**Port Moresby**	**21.48**	**165**	P	**P**	**20 40 22.0**	**-0.7**
JHJ	**Hachijo jima 2**	**21.58**	**356**	LR	LR	20 47 25.3	
	comp=Z,230nm,18.3s,baz=190,slow=33						
JSU	**Suzuyama**	**22.43**	**334**	P	**P**	**20 40 33.0**	**+0.1**
JNU	**Nakatsue**	**23.68**	**337**	P	**P**	**20 40 45.0**	**-0.5**
JNU				IAmb	IAmb	20 40 47.4	
	comp=Z,16nm,0.7s						
MYLDM	**Lahad Datu**	**23.75**	**257**	P	**P**	**20 40 46.9**	**+0.6**
MYLDM				IAmb	IAmb	20 40 56.0	
	comp=Z,22nm,0.9s						
JHS	**Saijyo**	**24.64**	**343**	P	**P**	**20 40 53.7**	**-0.8**
JHS				IAmb	IAmb	20 40 57.3	
	comp=Z,24nm,1.3s						
MJAR	**Matsushiro Arr**	**25.12**	**353**	P	**P**	**20 40 57.8**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=170,slow=9.9,SNR=5.9						
MJAR				LR	LR	20 50 23.8	
	comp=Z,89nm,18.4s,baz=169,slow=35						
MJAR	**Matsushiro Arr**	**25.12**	**353**	P	**P**	**20 40 58.5**	**-0.2**
MAJO	**Matsushiro**	**25.12**	**353**	P	**P**	**20 40 57.9**	**-0.8**
MAJO				IAmb	IAmb	20 41 15.7	
	comp=Z,24nm,1.4s						
MJB9	**Matsu-Tunnel**	**25.13**	**353**	P	**P**	**20 40 57.8**	**-1.0**
MJB9				IAmb	IAmb	20 41 15.6	
	comp=Z,24nm,1.4s						
JTU	**Tsushima**	**25.49**	**336**	P	**P**	**20 41 03.0**	**+0.9**
JSD	**Sado**	**26.59**	**354**	P	**P**	**20 41 12.0**	**0.0**
KSRS	**Korea Array**	**28.63**	**337**	P	**P**	**20 41 30.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=163,slow=9.0,SNR=5.6						
KSRS				LR	LR	20 53 07.2	
	comp=Z,88nm,18.1s,baz=155,slow=37						
CTA	**Charters Tower**	**31.72**	**172**	LR	LR	20 54 48.6	
	comp=Z,158nm,18.3s,baz=344,slow=36						
WB0	**Warramunga Arr**	**31.89**	**193**	P	**P**	**20 42 00.4**	**+1.1**
WB0				IAmb	IAmb	20 42 09.0	
	comp=Z,19nm,1.3s						
WR0	**Warramunga Arr**	**32.04**	**193**	P	**P**	**20 42 00.9**	**+0.2**
WRAB	**Tennant Creek**	**32.06**	**193**	P	**P**	**20 42 00.5**	**-0.2**
WB2	**Warramunga Arr**	**32.07**	**193**	P	**P**	**20 42 01.3**	**+0.5**
WB2				IAmb	IAmb	20 42 16.9	
	comp=Z,32nm,1.5s						
WRA	**Warramunga Arr**	**32.07**	**193**	P	**P**	**20 42 00.7**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=12,slow=9.7,SNR=5.2						
ASAJ	**Asahikawa**	**32.50**	**1**	LR	LR	20 55 41.0	
	comp=Z,47nm,20.7s,baz=192,slow=37						
FITZ	**Fitzroy Crossi**	**33.40**	**208**	P	**P**	**20 42 11.7**	**-0.7**
FITZ				IAmb	IAmb	20 42 47.1	
	comp=Z,16nm,1.2s						
USA0B	**Ussuriysk Arra**	**33.63**	**347**	P	**P**	**20 42 13.6**	**-0.6**
USA0B				IAmb	IAmb	20 42 16.1	
	comp=Z,12nm,0.8s						
USRK	**Ussuriysk Ar.**	**33.63**	**347**	P	**P**	**20 42 15.5**	**+1.3**
	comp=Z,9.6nm,0.6s,baz=186,slow=8.7,SNR=14						
USRK	**Ussuriysk Ar.**	**33.63**	**347**	P	**P**	**20 42 13.7**	**-0.5**
ASAR	**Alice Springs**	**35.77**	**192**	P	**P**	**20 42 34.3**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=18,slow=12,SNR=10						
ASAR				LR	LR	20 58 14.9	
	comp=Z,55nm,20.5s,baz=342,slow=38						
ASAR	**Alice Springs**	**35.77**	**192**	P	**P**	**20 42 33.8**	**+0.8**
BJT	**Baijiatuau**	**36.26**	**326**	P	**P**	**20 42 36.2**	**-0.7**
BJT				IAmb	IAmb	20 42 39.6	
	comp=Z,8.3nm,0.6s						
KLR	**Kul'dur**	**38.50**	**350**	LR	LR	20 59 03.7	
	comp=Z,96nm,18.0s,baz=156,slow=37						
KULM	**Kulim**	**41.00**	**265**	P	**P**	**20 43 17.6**	**+0.4**
KULM				IAmb	IAmb	20 43 19.5	
	comp=Z,18nm,1.3s						
DZM	**Mont Dzumac**	**41.29**	**144**	LR	LR	20 58 32.5	
	comp=Z,111nm,18.2s,baz=264,slow=33						
CMAR	**Chiang Mai Arr**	**41.76**	**285**	P	**P**	**20 43 25.4**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=85,slow=6.6,SNR=10						
CMAR				PcP	**PcP**	**20 45 20.2**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=62,slow=2.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**41.76**	**285**	P	**P**	**20 43 23.4**	**0.0**
LZH	**Lanzhou**	**41.97**	**312**	*eP*	P	20 43 36.8	+12
LZH				pP	pwP	20 43 41.5	+3.8
LZH				pmax	pmax		
	comp=Z,14nm,1.4s						
FORT	**Forrest**	**44.03**	**197**	P	**P**	**20 43 41.8**	**+0.4**
FORT				IAmb	IAmb	20 43 53.1	
	comp=Z,24nm,1.1s						
BBOO	**Buckleboo**	**44.39**	**187**	P	**P**	**20 43 43.7**	**-0.7**
GSI	**Gunungsitoli**	**44.89**	**260**	P	**P**	**20 43 48.3**	**-0.5**
GSI				IAmb	IAmb	20 43 54.0	
	comp=Z,11nm,1.0s						
MSVF	**Nonsavu**	**46.21**	**128**	P	**P**	**20 44 00.0**	**+0.9**
GTA	**Gaotai**	**46.29**	**314**	⇑P	**P**	**20 44 00.3**	**+0.7**
GTA				pP	sP	20 44 08.8	+0.5
GTA				PcP	**PcP**	**20 45 36.5**	**+1.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,72nm,4.5s						
GTA				LR	LR		
	comp=Z,170nm,17.1s						
GTA				LR	LR		
	comp=Z,170nm,18.9s						
GTA				LR	LR		
	comp=Z,120nm,17.4s						
ULN	**Ulaanbaatar**	**46.39**	**328**	P	**P**	**20 44 00.2**	**-0.1**
SONM	**Songino Array**	**46.71**	**328**	P	**P**	**20 44 04.1**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=143,slow=6.3,SNR=22						
SONM				PcP	**PcP**	**20 45 36.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=149,slow=4.7,SNR=3.8						
SONM				LR	LR	21 04 34.9	
	comp=Z,61nm,19.7s,baz=76,slow=37						
SONM	**Songino Array**	**46.71**	**328**	P	**P**	**20 44 03.7**	**+0.9**
SONM				IAmb	IAmb	20 44 06.2	
	comp=Z,11nm,1.7s						
SONM				PcP	**PcP**	**20 45 36.5**	**+0.5**
MORW	**Morawa**	**47.32**	**211**	P	**P**	**20 44 06.2**	**-1.3**
MA2	**Magadan**	**48.46**	**6**	LR	LR	21 03 57.6	
	comp=Z,42nm,19.4s,baz=114,slow=35						
MA2	**Magadan**	**48.46**	**6**	P	**P**	**20 44 15.6**	**-0.4**
MA2				IAmb	IAmb	20 44 19.1	
	comp=Z,5.6nm,0.6s						
YAK	**Yakutsk**	**51.19**	**353**	LR	LR	21 05 16.5	
	comp=Z,56nm,20.2s,baz=256,slow=35						
YAK	**Yakutsk**	**51.19**	**353**	P	**P**	**20 44 36.4**	**-0.2**
UNV	**Unalaska Valle**	**58.77**	**33**	P	**P**	**20 45 30.4**	**-1.2**
FALS	**False Pass**	**60.83**	**33**	P	**P**	**20 45 44.2**	**-1.6**
MK31	**Makanchi Array**	**60.85**	**317**	P	**P**	**20 45 46.3**	**+0.1**
MKAR	**Makanchi Array**	**60.85**	**317**	P	**P**	**20 45 46.9**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=98,slow=8.5,SNR=25						
MKAR				ScP	**ScP**	**20 50 30.7**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=98,slow=2.9,SNR=1.5						
MKAR	**Makanchi Array**	**60.85**	**317**	P	**P**	**20 45 45.9**	**-0.2**
MAKZ	**Makanchi**	**61.06**	**317**	P	**P**	**20 45 47.1**	**-0.5**
ZAA0	**Zalesovo Array**	**61.52**	**326**	P	**P**	**20 45 49.8**	**-0.7**
ZALV	**Zalesovo Beam**	**61.52**	**326**	P	**P**	**20 45 50.9**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=104,slow=9.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**61.52**	**326**	P	**P**	**20 45 49.8**	**-0.7**
SDPT	**Sand Point**	**62.59**	**33**	P	**P**	**20 45 56.7**	**-0.9**
CHGN	**Chignik**	**64.00**	**32**	P	**P**	**20 46 06.5**	**-0.4**
KSH	**Kashi**	**64.04**	**308**	P	**P**	**20 46 11.0**	**+3.3**
KURK	**Kurchatov**	**64.18**	**321**	P	**P**	**20 46 08.3**	**0.0**
KURK				IAmb	IAmb	20 46 09.6	
	comp=Z,9.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.22**	**321**	P	**P**	**20 46 08.8**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=106,slow=6.7,SNR=46						
AAK	**Ala-Archa**	**65.51**	**312**	P	**P**	**20 46 17.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=97,slow=8.1,SNR=4.3						
AAK	**Ala-Archa**	**65.51**	**312**	P	**P**	**20 46 16.9**	**-0.5**
SVW2	**Sparrevohn**	**66.97**	**28**	P	**P**	**20 46 26.6**	**+0.4**
SVW2				IAmb	IAmb	20 46 34.0	
	comp=Z,6.6nm,1.1s						
Q19K	**Cape Douglas,**	**67.25**	**31**	P	**P**	**20 46 26.2**	**-1.8**
N19K	**Bonanza Creek**	**67.39**	**28**	P	**P**	**20 46 29.4**	**+0.5**
N19K				IAmb	IAmb	20 47 06.7	
	comp=Z,14nm,1.6s						
KDAK	**Kodiak Island**	**67.49**	**32**	P	**P**	**20 46 29.3**	**-0.1**
L19K	**White Mountain**	**67.65**	**27**	P	**P**	**20 46 28.6**	**-1.8**
L19K				IAmb	IAmb	20 46 45.3	
	comp=Z,12nm,1.5s						
P19K	**Oil Pt**	**67.66**	**30**	P	**P**	**20 46 30.1**	**-0.5**
M19K	**Big River Lodg**	**67.77**	**27**	P	**P**	**20 46 29.4**	**-1.8**
M19K				IAmb	IAmb	20 46 47.1	
	comp=Z,13nm,1.6s						
J20K	**Nowinta River**	**68.59**	**25**	P	**P**	**20 46 35.4**	**-0.8**
CNPM	**China Poot**	**68.60**	**30**	P	**P**	**20 46 35.7**	**-0.8**
CNPM				IAmb	IAmb	20 46 51.6	
	comp=Z,9.0nm,0.9s						
BRLK	**Bradley Lake**	**68.83**	**30**	P	**P**	**20 46 37.3**	**-0.6**
CAST	**Castle Rocks**	**69.24**	**26**	P	**P**	**20 46 39.7**	**-0.7**
KTH	**Kantishna Hill**	**69.78**	**26**	P	**P**	**20 46 43.3**	**-0.4**
KTH				IAmb	IAmb	20 46 44.4	
	comp=Z,8.6nm,1.2s						
BPAW	**Bear Paw Mtn.**	**69.89**	**26**	P	**P**	**20 46 44.3**	**-0.1**
BPAW				IAmb	IAmb	20 46 45.7	
	comp=Z,21nm,1.6s						
TRF	**Thorofare Moun**	**70.02**	**26**	P	**P**	**20 46 44.5**	**-0.8**
TRF				IAmb	IAmb	20 46 51.6	
	comp=Z,13nm,1.5s						
MLY	**Manley**	**70.25**	**25**	P	**P**	**20 46 46.2**	**-0.4**
MLY				IAmb	IAmb	20 46 51.8	
	comp=Z,11nm,1.5s						
A21K	**Barrow**	**70.29**	**18**	P	**P**	**20 46 46.6**	**0.0**
A21K				IAmb	IAmb	20 46 48.2	
	comp=Z,5.8nm,0.8s						
PWL	**Port Wells**	**70.32**	**29**	P	**P**	**20 46 46.6**	**-0.5**
PWL				IAmb	IAmb	20 47 03.0	
	comp=Z,12nm,1.1s						
RND	**Reindeer**	**70.64**	**27**	P	**P**	**20 46 48.2**	**-0.8**
RND				IAmb	IAmb	20 46 53.1	
	comp=Z,11nm,1.6s						
I23K	**Minto, Yukon-K**	**70.84**	**25**	P	**P**	**20 46 49.5**	**-0.5**
I23K				IAmb	IAmb	20 46 52.4	
	comp=Z,20nm,1.8s						
COLD	**Coldfoot**	**71.06**	**22**	P	**P**	**20 46 52.0**	**+0.6**
COLD				IAmb	IAmb	20 46 53.5	
	comp=Z,8.9nm,1.4s						
WRH	**Wood River Hil**	**71.21**	**26**	P	**P**	**20 46 51.9**	**-0.4**
WRH				IAmb	IAmb	20 46 59.8	
	comp=Z,9.9nm,1.5s						
MDM	**Murphy Dome**	**71.26**	**25**	P	**P**	**20 46 52.1**	**-0.6**
MDM				IAmb	IAmb	20 46 54.8	
	comp=Z,9.2nm,1.5s						
H24K	**Noodor Dome**	**71.61**	**24**	P	**P**	**20 46 53.7**	**-1.1**
IL31		**71.78**	**25**	P	**P**	**20 46 54.6**	**-1.1**
IL31				IAmb	IAmb	20 46 55.8	
	comp=Z,17nm,1.8s						
ILAR	**Eielson Array**	**71.78**	**25**	P	**P**	**20 46 54.5**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=245,slow=6.3,SNR=26						
ILAR				LR	LR	21 17 54.9	
	comp=Z,60nm,19.6s,baz=241,slow=35						
PAX	**Paxson**	**72.05**	**27**	P	**P**	**20 46 57.3**	**-0.3**
PAX				IAmb	IAmb	20 47 33.6	
	comp=Z,7.2nm,1.2s						
KAIM	**Kayak Island**	**72.07**	**31**	P	**P**	**20 46 57.6**	**0.0**
HMT	**Hamilton**	**72.20**	**30**	P	**P**	**20 46 57.9**	**-0.6**
J25K	**Salcha River,**	**72.39**	**26**	P	**P**	**20 46 59.4**	**-0.2**
J25K				IAmb	IAmb	20 47 20.8	
	comp=Z,11nm,1.8s						
VRDI	**Verde Repeater**	**72.72**	**29**	P	**P**	**20 47 01.1**	**-0.7**
DOT	**Dot Lake**	**72.79**	**27**	P	**P**	**20 47 01.8**	**-0.2**
DOT				IAmb	IAmb	20 47 06.7	
	comp=Z,14nm,1.6s						
FYU	**Fort Yukon**	**72.81**	**24**	P	**P**	**20 46 59.9**	**-2.0**
SCRK	**Sand Creek**	**72.88**	**26**	P	**P**	**20 47 02.5**	**0.0**
SCRK				IAmb	IAmb	20 47 03.5	
	comp=Z,19nm,1.8s						
BMAR	**Burnt Mountain**	**73.22**	**23**		**P**	**20 47 05.3**	**+0.9**
CTGM	**Chitina Glacie**	**73.71**	**30**	P	**P**	**20 47 08.0**	**+0.4**
DAWY	**Dawson**	**74.90**	**27**	P	**P**	**20 47 14.1**	**-0.2**
HYT	**Haines Junctio**	**75.57**	**30**	P	**P**	**20 47 18.6**	**+0.3**
ABKAR	**Akbulak array**	**75.98**	**318**	P	**P**	**20 47 20.4**	**-0.3**
ABKAR	**Akbulak array**	**75.98**	**318**	P	**P**	**20 47 20.5**	**-0.2**
ARU	**Arti**	**76.69**	**325**	P	**P**	**20 47 23.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=270,slow=2.7,SNR=3.6						
ARU	**Arti**	**76.69**	**325**	IAmb	IAmb	20 47 30.4	
	comp=Z,17nm,1.6s						
WHY	**Whitehorse**	**76.85**	**30**	P	**P**	**20 47 26.7**	**+1.2**
WHY				IAmb	IAmb	20 47 39.5	
	comp=Z,9.3nm,1.4s						
A36M	**Sachs Harbour**	**80.10**	**18**	P	**P**	**20 47 42.9**	**-0.2**
A36M				IAmb	IAmb	20 48 02.4	
	comp=Z,4.7nm,0.7s						
C36M	**Paulatuk**	**80.83**	**21**	P	**P**	**20 47 46.2**	**-0.8**
C36M				IAmb	IAmb	20 47 48.5	
	comp=Z,11nm,1.6s						
YKA	**Yellowknife Ar**	**86.13**	**27**	P	**P**	**20 48 14.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=292,slow=5.1,SNR=17						
RES	**Resolute Bay**	**87.28**	**13**	P	**P**	**20 48 20.1**	**+0.3**
VNDA	**Vanda**	**89.62**	**176**	LR	LR	21 29 31.1	
	comp=Z,100nm,18.0s,baz=208,slow=36						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**20 48 37.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=242,slow=4.9,SNR=8.1						
FINES	**FINESS Array B**	**91.69**	**334**	P	**P**	**20 48 38.9**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=56,slow=5.2,SNR=9.9						
FINES	**FINESS Array B**	**91.69**	**334**	P	**P**	**20 48 38.5**	**-2.3**
TORD	**Torodi Ar. Bea**	**133.33**	**301**	PKP	**PKPdf**	**20 54 49.5**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=46,slow=2.2,SNR=2.1						
DBIC	**Dimbokro**	**142.10**	**297**	PKhKP	PKPpre	20 55 02.5	
	comp=Z,1.3nm,0.6s,baz=90,slow=2.0,SNR=1.7						
LPAZ	**La Paz**	**150.71**	**103**	PKPbc	**PKiKP**	**20 55 29.2**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=345,slow=3.3,SNR=4.2						

*IDC **15** 20:37:48.7±0.8, 11°.56N×141°.81E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.9/39,mbtmp3.9/11,Error ellipse: s-maj=38.3km s-min=19.0km az=85.0*
*NEIC **15** 20:37:50.4±2.4, 11°.52N±0°.02×141°.7E±0°.1,h10km±1km, mb4.6/24,Error ellipse: s-maj=19.7km s-min=3.5km az=273.0*
ISC 15 20:37:49.7±0.5,11°.47N±0°.08×141°.65E±0°.09,h10km,n40, σ1°22/41,mb4.4/21,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.79**	**56**	Pn	**Pn**	**20 38 50.5**	**+2.4**
	10nm,0.3s,baz=180,slow=18,

FINES FINES Array B 91.72 334 P **P** **20 50 56.3 -1.0**
comp=Z,2.4nm,1.0s,baz=96,slow=5.7,SNR=2.0

IDC 15 20:41:46.3±1.4, 1°.84N×126°.62E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/29, mbtmp3.5/5, ML3.3/1, MS3.2/2, Ms1 3.3/2, ms1mx2.6/49, Error ellipse: s-maj=113.1km s-min=19.5km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.83**	**183**	P	P	20 46 19.4	+0.6
	0.1nm,0.3s,baz=352,slow=10,SNR=1.0						
WRA	**Warramunga Arr**	**22.93**	**161**	P	P	20 46 50.7	-1.6
	1.9nm,0.7s,baz=340,slow=9.8,SNR=23						
WRA				LR	LR	20 57 29.2	
	comp=Z,81nm,18.3s,baz=45,slow=41						
ASAR	**Alice Springs**	**26.32**	**165**	P	P	20 47 23.9	-0.2
	0.8nm,0.4s,baz=344,slow=11,SNR=7.6						
CMAR	**Chiang Mai Arr**	**31.77**	**303**	LR	LR	21 01 12.1	
	comp=Z,31nm,19.8s,baz=100,slow=37						
SONM	**Songino Array**	**49.05**	**342**	P	P	20 50 36.7	+1.4
	0.1nm,0.4s,baz=165,slow=7.3,SNR=2.0						
MKAR	**Makanchi Array**	**59.05**	**326**	P	P	20 51 48.2	-0.1
	0.4nm,0.4s,baz=120,slow=8.0,SNR=13						

WEL 15 21:02:21.7±1.1, 35°S±17°×18°0W±2°3, h33km, M3.6/6, mB5.0/2, ML4.0/13, MLv3.6/6, Mw(mB)4.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=126.1, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.87**	**214**	P	Pn	21 03 04.8	-0.3
WMGZ				S	Sb	21 03 43.3	-3.6
PKGZ	**Pakihiroa**	**3.09**	**218**	P	Pn	21 03 07.7	-0.5
PKGZ				S	Sn	21 03 47.1	+3.2
HAZ	**Te Kaha**	**3.14**	**222**	P	Pn	21 03 07.2	-1.6
HAZ				S	Sn	21 03 47.8	+2.6
PUZ	**Puketiti**	**3.15**	**214**	P	Pn	21 03 09.8	+0.9
PUZ				S	Sn	21 03 49.0	+3.6
RUGZ	**Raukumara Rang**	**3.35**	**221**	P	Pn	21 03 11.8	0.0
RUGZ				S	Sn	21 03 52.9	+2.4
TWGZ	**Tauwhareparae**	**3.36**	**216**	P	Pn	21 03 13.0	+1.1
TWGZ				S	Sn	21 03 52.1	+1.5
CNGZ	**Carnagh Statio**	**3.51**	**210**	P	Pn	21 03 14.9	+1.0
TKGZ	**Te Karaka**	**3.63**	**214**	P	Pn	21 03 16.0	+0.4
MWZ	**Matawai**	**3.71**	**218**	P	Pn	21 03 17.1	+0.5
URZ	**Urewera**	**3.87**	**223**	S	Sn	21 04 00.3	-2.9
MTHZ	**Maungataniwha**	**4.45**	**219**	P	Pn	21 03 26.0	-0.9
MTHZ				S	Sn	21 04 18.1	+0.6
KWHZ	**Kaweka Forest**	**5.09**	**218**	P	Pn	21 03 36.3	+0.6
KWHZ				S	Sn	21 04 33.2	-0.2
TMVZ	**Te Maari**	**5.26**	**225**	P	Pn	21 03 38.7	+0.7
NTVZ	**North Tongarir**	**5.26**	**225**	P	Pn	21 03 37.4	-0.7
OTVZ	**Oturere**	**5.32**	**225**	P	Pn	21 03 39.9	+1.1
PXZ	**Pawanui**	**5.38**	**211**	S	Sn	21 04 38.6	-1.7
MRZ	**Mangatainoka R**	**6.46**	**215**	P	Pn	21 03 52.1	-2.3
MRZ				S	Sn	21 05 00.6	-6.4

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*IDC **15** 21:32:41.8±0.4, 47°.97N×80°.46E, h0km, mb4.2/24, mb1 4.3/31, mb1mx4.1/63, mbtmp4.2/31, ML3.9/8, MS3.6/19, Ms1 3.6/19, ms1mx3.3/96, Error ellipse: s-maj=9.3km s-min=5.7km az=42.0*

*BJI **15** 21:32:42.2±0.0, 48°.02N×80°.45E, h15km, mb4.2/39, mB4.7/27, ML4.8/9, Ms4.5/28, Ms7 4.0/28*

*MOS **15** 21:32:42.1±1.1, 47°.99N×80°.37E, h13km, mb4.6/15, Error ellipse: s-maj=6.1km s-min=4.0km az=81.5*

*NNC **15** 21:32:43.2±0.4, 47°.93N×80°.40E, h0km, mb5.3, mpv5.0, Error ellipse: s-maj=3.7km s-min=2.6km az=48.0*

*NEIC **15** 21:32:44.0±1.6, 47°.99N±0°.05×80°.43E±0°.08, h15km±4km, mb4.5/54, Error ellipse: s-maj=9.2km s-min=6.4km az=51.0*

*SOME **15** 21:32:43.3, 48°.02N×80°.12E, h10km, MS4.0*

*ASRS **15** 21:32:48.2±0.3, 48°N±1°×8°1E±°, h5km, MLh5.7/6, Error ellipse: s-maj=4.1km s-min=3.0km az=81.6, confirmed*

ISC 15 21:32:43.2±0.8, **47°.96N**±0°.02×**80°.46E**±0°.02, **h13**km±5km, **n334**, σ**2**ᵗ**30**/415, **mb4.5**/75, **MS3.7**/20, **42C-58D, Fault plane solution: NP1**:φ=354.27100°, δ=80.12885°, λ=-59.54077°. **NP2**:φ=100.52292°, δ=31.87209°, λ=-161.05449°. **Principal axes:** T Plg28.6380°, Azm60.1658°; N Plg29.9617°, Azm168.5140°; P Plg46.1964°, Azm295.4592°; **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.55**	**138**		**Pb**	**21 33 11.8**	**0.0**
MAKZ				Sn	**Sg**	**21 33 32.9**	**0.1**
MAKZ	**Makanchi**	**1.55**	**138**	⇑P	**Pb**	**21 33 11.9**	**+0.2**
	642nm,0.4s						
MAKZ				⇓S	**Sg**	**21 33 33.0**	**-0.1**
	4μm,0.4s						
MAKZ	**Makanchi**	**1.55**	**138**	Pg	**Pb**	**21 33 11.7**	**0.0**
MAKZ				Sg	**Sg**	**21 33 33.1**	**+0.1**
MK31	**Makanchi Array**	**1.71**	**133**	*i* PN	**Pb**	**21 33 14.9**	**+0.5**
MK31				pmax	pmax		
	comp=Z,513nm,0.3s						
MK31	**Makanchi Array**	**1.71**	**133**		**Pb**	**21 33 14.6**	**+0.3**
MK31	**Makanchi Array**	**1.71**	**133**	⇑P	**Pb**	**21 33 14.7**	**+0.3**
	comp=Z,512nm,0.3s,baz=317,slow=15						
MK31				⇑S	**Sb**	**21 33 36.7**	**+0.9**
	comp=Z,2μm,0.3s,baz=81,slow=39,SNR=6.0						
MKAR	**Makanchi Array**	**1.71**	**133**	Pg	**Pb**	**21 33 14.9**	**+0.5**
	comp=Z,1μm,0.3s,baz=314,slow=15						
MKAR				Lg	Lg	21 33 37.4	
	comp=Z,3μm,0.3s,baz=316,slow=28,SNR=35						
MKAR	**Makanchi Array**	**1.71**	**133**		**Pb**	**21 33 14.5**	**+0.1**
MKAR	**Makanchi Array**	**1.71**	**133**	Pg	**Pb**	**21 33 15.1**	**+0.7**
MKAR				Sg	**Sb**	**21 33 36.8**	**+1.0**
SEM	**Semipalatinsk**	**2.45**	**357**	*i* PN	**Pn**	**21 33 24.2**	**+1.2**
SEM				*e*		21 33 56.0	
SEM	**Semipalatinsk**	**2.45**	**357**	*e*P	**Pn**	**21 33 24.8**	**+1.8**
	comp=Z,568nm,0.1s						
SEM				*e*S	**Sb**	**21 33 55.4**	**-2.0**
	comp=Z,5μm,0.1s						
SEM	**Semipalatinsk**	**2.45**	**357**	*i* Pb	**Pn**	**21 33 24.2**	**+1.2**
	baz=360						
SEM				*i* Pg	**Pn**	**21 33 24.8**	**+1.8**
	baz=360						
SEM				*e*Sb	**Sb**	**21 33 56.0**	**-1.3**
	baz=360						
KAPS	**Kapalarasan**	**2.79**	**196**	*e*P	**Pb**	**21 33 33.8**	**+1.0**
	comp=Z,397nm,0.2s						
KAPS				*e*S	**Sg**	**21 34 10.1**	**-2.5**
	comp=Z,4μm,0.4s						
KAPS	**Kapalarasan**	**2.79**	**196**	Pg	**Pb**	**21 33 33.0**	**+0.2**
	comp=Z,860nm,0.5s						
KAPS				Lg	Lg	21 34 10.1	
	comp=Z,4μm,0.4s						
KURBB	**Kurchatov Arra**	**2.95**	**335**	Pn	**Pn**	**21 33 30.6**	**+1.0**
	comp=Z,9.1nm,0.3s,baz=147,slow=13,SNR=205						
KURBB				Lg	Lg	21 34 15.9	
	comp=Z,172nm,0.3s,baz=146,slow=39,SNR=7.5						
KURBB				LR	LR	21 34 36.3	
	comp=Z,411nm,21.5s,baz=286,slow=39						
KURBB	**Kurchatov Arra**	**2.95**	**335**	⇓Pn	**Pn**	**21 33 30.6**	**+1.0**
	comp=Z,67nm,0.3s						
KURBB				⇓Pg	**Pg**	**21 33 41.6**	**+2.0**
	comp=Z,613nm,0.7s						
KURBB				⇑Lg	Lg	21 34 17.8	
	comp=Z,11μm,0.6s						
KURK	**Kurchatov**	**3.01**	**337**	*ce*PN	**Pn**	**21 33 31.0**	**+0.6**
KURK				pmax	pmax		
	comp=Z,51nm,0.6s						
KURK	**Kurchatov**	**3.01**	**337**	Pn	**Pn**	**21 33 31.1**	**+0.6**
KURK	**Kurchatov**	**3.01**	**337**	⇑Pn	**Pn**	**21 33 31.4**	**+0.9**
	comp=Z,26nm,0.3s						
KURK				⇑Pg	**Pg**	**21 33 40.3**	**-0.4**
	comp=Z,323nm,0.5s						
KURK				⇑Lg	Lg	21 34 18.5	
	comp=Z,3μm,0.6s						
KURK	**Kurchatov**	**3.01**	**337**	Pn	**Pg**	**21 33 38.9**	**-1.8**
KURK				Pg	Pb	21 33 45.3	+8.8
KURK				Sg	**Sg**	**21 34 21.8**	**+2.2**
ZSN	**Zaisan**	**3.02**	**98**	*i* PN	**Pb**	**21 33 34.4**	**-2.3**
ZSN				*e*		21 33 39.9	
ZSN				*e*		21 34 15.3	
ZSN	**Zaisan**	**3.02**	**98**	*e*P	**Pb**	**21 33 36.8**	**+0.1**
	comp=Z,129nm,0.0s						
ZSN				*e*S	**Sb**	**21 34 15.1**	**+1.5**
	comp=Z,1μm,0.1s						
ZSN	**Zaisan**	**3.02**	**98**	*i* Pn	**Pb**	**21 33 34.5**	**-2.3**
	baz=97						
ZSN				*e*Pg	**Pg**	**21 33 40.0**	**-1.0**
	baz=97						
ZSN				*e*Sn	**Sb**	**21 34 15.3**	**+1.8**
	baz=97						
TDK	**Taldyqorghan**	**3.29**	**206**	*d* PN	**Pn**	**21 33 35.8**	**+1.5**
TDK				*e*		21 33 44.9	
TDK				*e*		21 34 25.3	
TDK	**Taldyqorghan**	**3.29**	**206**	*e*P	**Pg**	**21 33 43.8**	**-2.3**
	comp=Z,4μm,0.4s						
TDK				*e*S	**Sg**	**21 34 27.6**	**-0.9**
	comp=Z,9μm,0.5s						
TDK	**Taldyqorghan**	**3.29**	**206**	⇓*i* Pn	**Pn**	**21 33 35.9**	**+1.5**
	baz=204						
TDK				*e*Pg	**Pg**	**21 33 44.9**	**-1.1**
	baz=204						
TDK				*e*Sb	**Sg**	**21 34 25.4**	**-3.2**
	baz=204						
TDK	**Taldyqorghan**	**3.29**	**206**	Pg	**Pg**	**21 33 44.0**	**-2.1**
	comp=Z,4μm,0.4s						
TDK				Lg	Lg	21 34 27.6	
	comp=Z,9μm,0.9s						
DJR	**Jarkent**	**3.66**	**188**	*e*P	**Pb**	**21 33 50.3**	**+2.5**
	comp=Z,551nm,0.1s						
DJR				*e*S	**Sg**	**21 34 38.2**	**-2.5**
	comp=Z,1μm,0.1s						
DJR	**Jarkent**	**3.66**	**188**	Pg	**Pb**	**21 33 48.6**	**+0.9**
	comp=Z,813nm,0.6s						
DJR				Lg	Lg	21 34 36.0	
	comp=Z,1μm,0.5s						
UKR	**Ust'-Kan**	**4.09**	**42**	Pn	**Pn**	**21 33 49.7**	**+4.2**
UKR				Pg	**Pg**	**21 33 59.2**	**-2.4**
UKR				S	**Sn**	**21 34 35.2**	**+1.9**
UKR				Sg	**Sg**	**21 34 52.7**	**-1.8**
BLB	**Baldybastay**	**4.11**	**200**	*e*P	**Pb**	**21 33 58.5**	**+3.2**
	comp=Z,669nm,0.1s						
BLB				*e*S	**Sg**	**21 34 53.2**	**-1.8**
	comp=Z,3μm,0.1s						
BLB	**Baldybastay**	**4.11**	**200**	Pg	**Pb**	**21 33 58.5**	**+3.2**
	comp=Z,807nm,0.5s						
BLB				Lg	Lg	21 34 53.2	
	comp=Z,3μm,0.4s						
KTMS	**Ketmen**	**4.52**	**181**	*e*P	**Pb**	**21 34 05.9**	**+3.5**
	comp=Z,47nm,0.0s						
KTMS				*e*S	**Sg**	**21 35 04.9**	**-3.3**
	comp=Z,382nm,0.3s						
KTMS	**Ketmen**	**4.52**	**181**	Pg	**Pb**	**21 34 04.1**	**+1.7**
	comp=Z,78nm,0.3s						
KTMS				Lg	Lg	21 35 02.4	
	comp=Z,382nm,0.3s						
KPKS	**Kokpek**	**4.67**	**196**	*d* PN	**Pn**	**21 33 54.7**	**+1.3**
KPKS				*e*		21 34 09.4	
KPKS				*e*		21 35 18.8	
KPKS	**Kokpek**	**4.67**	**196**	*e*P	**Pg**	**21 34 09.0**	**-3.5**
	comp=Z,144nm,0.1s						
KPKS				*e*S	**Sg**	**21 35 10.0**	**-2.9**
	comp=Z,1μm,0.1s						
KPKS	**Kokpek**	**4.67**	**196**	⇓*i* Pn	**Pn**	**21 33 54.7**	**+1.3**
	baz=195						
KPKS				*e*Pg	**Pg**	**21 34 09.4**	**-3.1**
	baz=195						
KPKS				*e*Sg	**Sg**	**21 35 18.8**	**+5.9**
	baz=195						
PDGK	**Podgornoye**	**4.69**	**189**	PN	**Pn**	**21 33 54.9**	**+1.3**
PDGK	**Podgornoye**	**4.69**	**189**	Pg	**Pb**	**21 34 08.3**	**+3.2**
	comp=Z,236nm,0.5s						
PDGK				Lg	Lg	21 35 09.5	
	comp=Z,415nm,0.4s						
PDGK	**Podgornoye**	**4.69**	**189**	⇑Pn	**Pn**	**21 33 54.9**	**+1.3**
	comp=Z,58nm,0.5s						
PDGK				⇑Pg	**Pg**	**21 34 10.5**	**-2.3**
	comp=Z,315nm,0.5s						
PDGK				⇑Lg	Lg	21 35 09.8	
	comp=Z,1μm,0.8s						
KURS	**Kuram**	**4.75**	**201**	*e*P	**Pg**	**21 34 11.2**	**-2.9**
	comp=Z,137nm,0.1s						
KURS				*e*S	**Sg**	**21 35 14.6**	**-1.2**
	comp=Z,804nm,0.3s						
KURS	**Kuram**	**4.75**	**201**	Pg	**Pg**	**21 34 11.2**	**-2.9**
	comp=Z,220nm,0.4s						
CHKK	**Chushkaly**	**4.77**	**212**	*e*P	**Pb**	**21 34 08.6**	**+2.0**
	comp=Z,77nm,0.3s						
CHKK				*e*S	**Sg**	**21 35 10.4**	**-5.9**
	comp=Z,1μm,0.5s						
CHKK	**Chushkaly**	**4.77**	**212**	*i* Pn	**Pn**	**21 33 55.4**	**+0.7**
	baz=210						
CHKK				*e*Lg	Lg	21 35 13.6	
	baz=210						
CHKK	**Chushkaly**	**4.77**	**212**	Pg	**Pb**	**21 34 08.6**	**+2.0**
	comp=Z,77nm,0.3s						
CHKK				Lg	Lg	21 35 10.4	
	comp=Z,1μm,0.5s						
SHLS	**Shalkode**	**4.86**	**189**	*d* PN	**Pn**	**21 33 56.9**	**+0.9**
SHLS				*e*		21 34 12.8	
SHLS				*e*		21 35 12.4	
SHLS	**Shalkode**	**4.86**	**189**	*e*P	**Pb**	**21 34 11.6**	**+3.4**
	comp=Z,111nm,0.4s						
SHLS				*e*S	**Sg**	**21 35 15.0**	**-4.1**
	comp=Z,1μm,0.5s						
SHLS	**Shalkode**	**4.86**	**189**	⇓*i* Pn	**Pn**	**21 33 56.9**	**+0.9**
	baz=183						
SHLS				*e*Pg	**Pg**	**21 34 12.8**	**-3.3**
	baz=183						
SHLS				*e*Sb	**Sb**	**21 35 12.5**	**+5.9**
	baz=183						
SHLS	**Shalkode**	**4.86**	**189**	Pg	**Pb**	**21 34 11.6**	**+3.4**
	comp=Z,111nm,0.4s						
SHLS				Lg	Lg	21 35 15.0	
	comp=Z,1μm,0.5s						
DGZ	**Jazzator, Alta**	**4.92**	**67**	Pn	**Pn**	**21 34 00.2**	**+3.3**
DGZ				Pg	**Pg**	**21 34 17.3**	**-0.1**
DGZ				Sg	**Sg**	**21 35 21.7**	**+0.6**
UZB	**Uzynbulak**	**4.92**	**192**	*d* PN	**Pn**	**21 33 58.1**	**+1.2**
UZB				*e*		21 34 14.3	
UZB	**Uzynbulak**	**4.92**	**192**	*e*P	**Pg**	**21 34 14.3**	**-3.1**
	comp=Z,240nm,0.1s						
UZB				*e*S	**Sg**	**21 35 19.6**	**-1.5**
	comp=Z,696nm,0.1s						
UZB	**Uzynbulak**	**4.92**	**192**	⇓*i* Pn	**Pn**	**21 33 58.1**	**+1.2**
	baz=191						
UZB				*e*Pg	**Pg**	**21 34 14.4**	**-3.1**
	baz=191						
UZB	**Uzynbulak**	**4.92**	**192**	Pg	**Pg**	**21 34 14.3**	**-3.1**
	comp=Z,241nm,0.5s						
UZB				Lg	Lg	21 35 19.6	
	comp=Z,704nm,0.3s						
KUU	**Kurty**	**4.98**	**217**	*d* PN	**Pn**	**21 33 58.0**	**+0.4**
KUU	**Kurty**	**4.98**	**217**	*e*P	**Pb**	**21 34 13.2**	**+3.0**
	comp=Z,45nm,0.1s						
KUU				*e*S	**Sg**	**21 35 17.9**	**-5.1**
	comp=Z,2μm,0.2s						
KUU	**Kurty**	**4.98**	**217**	⇓*i* Pn	**Pn**	**21 33 58.0**	**+0.4**
	baz=216						
KUU				*e*Lg	Lg	21 35 19.6	
	baz=216						
KUU	**Kurty**	**4.98**	**217**	Pg	**Pb**	**21 34 13.2**	**+3.0**
	comp=Z,45nm,0.2s						
KUU				Lg	Lg	21 35 17.9	
	comp=Z,3μm,0.8s						
ZHN	**Zhinishke**	**5.00**	**197**	*e*P	**Pg**	**21 34 15.5**	**-3.4**
	comp=Z,147nm,0.3s						
ZHN				*e*S	**Sg**	**21 35 21.7**	**-2.0**
	comp=Z,1μm,0.1s						
ZHN	**Zhinishke**	**5.00**	**197**	Pg	**Pg**	**21 34 15.5**	**-3.4**
	comp=Z,147nm,0.3s						
ZHN				Lg	Lg	21 35 21.7	
	comp=Z,1μm,0.3s						
KTBS	**Karatobe**	**5.00**	**213**	*e*P	**Pb**	**21 34 12.9**	**+2.3**
	comp=Z,38nm,0.0s						
KTBS				*e*S	**Sg**	**21 35 17.8**	**-5.9**
	comp=Z,2μm,0.3s						
KTBS	**Karatobe**	**5.00**	**213**	Pg	**Pb**	**21 34 12.6**	**+2.0**
	comp=Z,38nm,0.5s						
KTBS				Lg	Lg	21 35 17.8	
	comp=Z,3μm,0.5s						
SATY	**Saty**	**5.11**	**197**	*i* PN	**Pn**	**21 34 00.9**	**+1.4**
SATY	**Saty**	**5.11**	**197**	*e*P	**Pg**	**21 34 17.6**	**-3.4**
	comp=Z,115nm,0.1s						
SATY				*e*S	**Sg**	**21 35 25.4**	**-1.8**
	comp=Z,971nm,0.2s						
SATY	**Saty**	**5.11**	**197**	*i* Pn	**Pn**	**21 34 00.9**	**+1.4**
	baz=196						
SATY				*e*Lg	Lg	21 35 26.8	
	baz=196						
SATY	**Saty**	**5.11**	**197**	Pg	**Pg**	**21 34 17.6**	**-3.4**
	comp=Z,115nm,0.4s						
SATY				Lg	Lg	21 35 25.4	
	comp=Z,974nm,0.5s						
CHBI	**Chibit, Altay**	**5.19**	**60**	Pn	Pn	21 34 06.2	+5.8
CHBI				Pg	**Pg**	**21 34 21.0**	**-1.4**
CHBI				S	**Sn**	**21 35 02.7**	**+2.5**
CHBI				Sg	**Sg**	**21 35 28.5**	**-1.0**
AKAR	**Aktash**	**5.26**	**61**	Pn	**Pn**	**21 34 05.4**	**+3.9**
AKAR				S	**Sn**	**21 35 07.2**	**+5.2**
AKAR				Sg	**Sg**	**21 35 28.9**	**-3.0**
KOTS	**Kotyrbulak**	**5.28**	**208**	*e*P	**Pg**	**21 34 19.9**	**-4.3**
	comp=Z,78nm,0.5s						
KOTS				*e*S	**Sg**	**21 35 29.6**	**-3.0**
	comp=Z,1μm,0.3s						
KOTS	**Kotyrbulak**	**5.28**	**208**	Pg	**Pg**	**21 34 19.9**	**-4.3**
	comp=Z,78nm,0.5s						
KOTS				Lg	Lg	21 35 29.6	
	comp=Z,1μm,1.1s						
BTLS	**Baital**	**5.30**	**239**	*e*P	**Pb**	**21 34 18.1**	**+2.4**
	comp=Z,50nm,0.2s						
BTLS				*e*S	**Sg**	**21 35 26.7**	**-6.7**
	comp=Z,714nm,0.3s						
BTLS	**Baital**	**5.30**	**239**	Pg	**Pb**	**21 34 18.1**	**+2.4**
	comp=Z,61nm,0.4s						
BTLS				Lg	Lg	21 35 26.7	
	comp=Z,277nm,0.7s						
KNDC	**Almaty**	**5.34**	**209**	PN	**Pn**	**21 34 02.0**	**-0.6**
KNDC	**Almaty**	**5.34**	**209**	⇑Pn	**Pn**	**21 34 03.7**	**+1.1**
	comp=Z,65nm,0.6s						
KNDC				⇓Pg	**Pb**	**21 34 20.8**	**+4.5**
	comp=Z,366nm,0.8s						
KNDC				⇓Lg	Lg	21 35 32.2	
	comp=Z,6μm,1.2s						
MDOK	**Medeo**	**5.37**	**208**	*i* PN	**Pn**	**21 34 03.7**	**+0.7**
MDOK	**Medeo**	**5.37**	**208**	*e*P	**Pb**	**21 34 20.9**	**+4.2**
	comp=Z,78nm,0.1s						
MDOK				*e*S	**Sg**	**21 35 31.3**	**-4.0**
	comp=Z,1μm,0.9s						
MDOK	**Medeo**	**5.37**	**208**	*i* Pn	**Pn**	**21 34 03.8**	**+0.7**
	baz=207						
MDOK				*e*Lg	Lg	21 35 33.1	
	baz=207						
MDOK	**Medeo**	**5.37**	**208**	⇓Pn	**Pn**	**21 34 03.7**	**+0.7**
	comp=Z,42nm,0.5s						
MDOK				⇑Lg	Lg	21 35 30.9	
	comp=Z,2μm,1.1s						
MDOK	**Medeo**	**5.37**	**208**	Pg	**Pb**	**21 34 21.0**	**+4.2**
	comp=Z,78nm,0.4s						
MDOK				Lg	Lg	21 35 31.3	
	comp=Z,1μm,0.9s						
AAA	**Alma-Ata**	**5.37**	**209**	*i* PN	**Pn**	**21 34 04.4**	**+1.5**
AAA	**Alma-Ata**	**5.37**	**209**	*e*P	**Pb**	**21 34 20.7**	**+3.9**
	comp=Z,192nm,0.4s						
AAA				*e*S	**Sg**	**21 35 31.3**	**-4.0**
	comp=Z,963nm,0.2s						
AAA	**Alma-Ata**	**5.37**	**209**	*i* Pn	**Pn**	**21 34 04.4**	**+1.5**
	baz=208						
AAA				*e*Lg	Lg	21 35 33.6	
	baz=208						
AAA	**Alma-Ata**	**5.37**	**209**	Pg	**Pb**	**21 34 20.7**	**+3.9**
	comp=Z,192nm,0.4s						
AAA				Lg	Lg	21 35 31.3	
	comp=Z,60nm,0.7s						
KRBS	**Karabastau**	**5.42**	**220**	*e*P	**Pb**	**21 34 21.0**	**+3.3**
	comp=Z,30nm,0.3s						
KRBS				*e*S	**Sg**	**21 35 31.3**	**-5.8**
	comp=Z,857nm,0.2s						
KRBS	**Karabastau**	**5.42**	**220**	Pg	**Pb**	**21 34 21.0**	**+3.3**
	comp=Z,30nm,0.3s						
KRBS				Lg	Lg	21 35 31.3	
	comp=Z,831nm,0.7s						
OTUK	**Ortayu**	**5.45**	**276**	PN	**Pn**	**21 34 04.9**	**+0.9**
OTUK	**Ortayu**	**5.45**	**276**	⇑Pn	**Pn**	**21 34 04.9**	**+0.9**
	comp=Z,23nm,0.3s						
OTUK				⇑Pg	**Pb**	**21 34 19.5**	**+1.3**
	comp=Z,81nm,0.4s						
OTUK				⇑Lg	Lg	21 35 31.7	
	comp=Z,1μm,0.7s						
BRZS	**Berezniki**	**5.51**	**294**	PN	**Pn**	**21 34 05.9**	**+1.1**
BRZS	**Berezniki**	**5.51**	**294**	*e*P	**Pb**	**21 34 19.5**	**+0.3**
	comp=Z,24nm,0.1s						
BRZS				*e*S	**Sb**	**21 35 28.4**	**+3.3**
	comp=Z,326nm,0.1s						
BRZS	**Berezniki**	**5.51**	**294**	*i* Pn	**Pn**	**21 34 06.0**	**+1.1**
	baz=295						
BRZS				*e*Pg	**Pb**	**21 34 22.8**	**+3.7**
	baz=295						
BRZS				*e*Lg	Lg	21 35 32.9	
	baz=295						
BRZS	**Berezniki**	**5.51**	**294**	Pg	**Pb**	**21 34 17.1**	**-2.1**
	comp=Z,61nm,0.5s						
BRZS				Lg	Lg	21 35 25.2	
	comp=Z,588nm,0.7s						
TNSS	**Tian-Shan**	**5.51**	**208**	*e*P	**Pb**	**21 34 23.6**	**+4.1**
	comp=Z,154nm,0.1s						
TNSS				*e*S	**Sg**	**21 35 35.5**	**-4.5**
	comp=Z,284nm,0.6s						
TNSS	**Tian-Shan**	**5.51**	**208**	*i* Pn	**Pn**	**21 34 06.2**	**+0.9**
	baz=207						
TNSS				*e*Lg	Lg	21 35 38.2	
	baz=207						
TNSS	**Tian-Shan**	**5.51**	**208**	Pg	**Pb**	**21 34 23.6**	**+4.1**
	comp=Z,212nm,0.4s						
TNSS				Lg	Lg	21 35 35.5	
	comp=Z,284nm,0.6s						
ULGR	**Ulagan, Altay**	**5.58**	**59**	Pn	Pn	21 34 11.2	+5.3
ULGR				Pg	**Pg**	**21 34 31.3**	**+1.3**
ULGR				S	**Sn**	**21 35 10.6**	**+0.6**
ULGR				Sg	**Sg**	**21 35 40.3**	**-1.9**
MTBS	**Maitube**	**5.60**	**212**	*e*P	**Pb**	**21 34 24.8**	**+4.1**
	comp=Z,50nm,0.1s						
MTBS				*e*S	**Sg**	**21 35 37.6**	**-5.3**
	comp=Z,870nm,0.2s						
MTBS	**Maitube**	**5.60**	**212**	Pg	**Pb**	**21 34 24.8**	**+4.1**
MTBS				Lg	Lg	21 35 37.6	
CUR	**Chagan-Uzun**	**5.61**	**65**	Pn	**Pn**	**21 34 10.1**	**+3.8**
CUR				Pg	**Pg**	**21 34 27.4**	**-3.2**
CUR				Sg	**Sg**	**21 35 40.3**	**-2.9**
DGS	**Degeres**	**5.75**	**217**	*e*P	Pb	21 34 28.2	+4.8
	comp=Z,153nm,0.0s						
DGS				*e*S	**Sg**	**21 35 43.3**	**-4.5**
	comp=Z,1μm,0.4s						
DGS	**Degeres**	**5.

comp=Z,430nm,0.9s
WMQ LR LR
comp=Z,4μm,5.3s
WMQ LR LR
comp=Z,4μm,6.9s
WMQ LR LR
comp=Z,330nm,13.3s
KBK Karagaybulak 6.58 218 P **Pn 21 34 20.6 +1.0**
SNR=9.3
FRU1 Bishkek 6.59 221 PN **Pn 21 34 20.8 +1.1**
FRU1 Bishkek 6.59 221 **Pn 21 34 20.8 +1.1**
ZAA0 Zalesovo Array 6.59 23 Pn **Pn 21 34 21.7 +2.0**
ZAA0 Zalesovo Array 6.59 23 ⇓Pn **Pn 21 34 21.6 +1.9**
comp=Z,11nm,0.3s
ZAA0 ⇑Pg Pb 21 34 30.2 -7.4
comp=Z,26nm,0.5s
ZAA0 ⇑Sn **Sn 21 35 35.4 +0.8**
comp=Z,43nm,0.5s
ZAA0 ⇓Lg Lg 21 36 10.0
comp=Z,250nm,1.2s
ZALV Zalesovo Beam 6.59 23 Pn **Pn 21 34 21.2 +1.5**
comp=Z,46nm,0.3s,baz=218,slow=14,SNR=625
ZALV Sn **Sn 21 35 36.0 +1.4**
comp=Z,61nm,0.3s,baz=208,slow=21,SNR=9.6
ZALV Lg Lg 21 36 12.7
comp=Z,37nm,0.3s,baz=202,slow=23,SNR=9.6
ZALV LR LR 21 37 07.3
comp=Z,419nm,18.0s,baz=212,slow=40
ZALV Zalesovo Beam 6.59 23 *e*PN **Pn 21 34 21.7 +2.0**
ZALV pmax pmax
comp=Z,46nm,0.3s
ZALV Zalesovo Beam 6.59 23 Pn **Pn 21 34 21.9 +2.2**
TASR Tashtagol 6.75 42 Pn **Pn 21 34 25.0 +3.1**
TASR Pg **Pg 21 34 52.2 0.0**
TASR S **Sn 21 35 41.4 +2.9**
TASR Sg **Sg 21 36 18.7 -0.9**
AAK Ala-Archa 6.79 220 Pn **Pn 21 34 23.5 +1.0**
comp=Z,11nm,0.3s,baz=85,slow=6.2,SNR=150
AAK Sn **Sn 21 35 37.0 -2.7**
comp=Z,19nm,0.3s,baz=282,slow=16,SNR=4.5
AAK Lg Lg 21 36 14.5
comp=Z,27nm,0.3s,baz=221,slow=20,SNR=7.4
AAK LR LR 21 37 20.1
comp=Z,159nm,19.0s,baz=22,slow=41
AAK Ala-Archa 6.79 220 P **Pn 21 34 23.4 +0.9**
SNR=35
AAK Ala-Archa 6.79 220 *i* PN **Pn 21 34 23.4 +0.9**
AAK pmax pmax
comp=Z,13nm,0.4s
AAK Ala-Archa 6.79 220 Pn **Pn 21 34 23.4 +0.9**
AAK Ala-Archa 6.79 220 Pn **Pn 21 34 23.4 +0.9**
comp=Z,12nm,0.4s
AAK Lg Lg 21 36 16.8
comp=Z,968nm,0.8s
KHAR Kharino, NSO, 6.94 15 Pn **Pn 21 34 27.2 +2.8**
KHAR S **Sn 21 35 44.5 +1.3**
KHAR Sg **Sg 21 36 26.7 +1.0**
KOST Kostenkovo, Ku 6.97 33 Pn Pn 21 34 30.7 +5.8
KOST S **Sn 21 35 46.4 +2.3**
KOST Sg **Sg 21 36 29.0 +2.2**
EKS2 Erkin-Say 7.09 224 P **Pn 21 34 27.3 +0.6**
SNR=22
UCH Uchtor 7.11 218 P **Pn 21 34 28.8 +1.5**
SNR=20
AML Almayashu 7.54 222 P **Pn 21 34 34.9 +1.7**
SNR=16
BVAR Borovoye Array 8.18 312 Pn **Pn 21 34 42.1 +0.7**
comp=Z,9.0nm,0.3s,baz=134,slow=45,SNR=103
BVAR Sn **Sn 21 36 10.3 -3.3**
comp=Z,44nm,0.3s,baz=170,slow=27,SNR=9.5
BVAR Lg Lg 21 37 00.5
comp=Z,43nm,0.3s,baz=110,slow=37,SNR=5.5
BRVK Borovoye 8.25 312 *ce*P **Pn 21 34 43.2 +0.8**
BRVK pmax pmax
comp=Z,15nm,0.6s
BRVK Borovoye 8.25 312 Pn **Pn 21 34 43.9 +1.6**
BRVK Borovoye 8.25 312 ⇑Pn **Pn 21 34 43.1 +0.7**
comp=Z,16nm,0.6s
BRVK ⇑Sn **Sn 21 36 17.9 +2.6**
comp=Z,98nm,0.5s
BRVK ⇑Lg Lg 21 37 03.7
comp=Z,2μm,1.4s
KKAR Karatay Array 8.51 239 P **Pn 21 34 45.5 -0.5**
KKAR Karatay Array 8.51 239 Pn **Pn 21 34 45.5 -0.5**
KK07 Karatay Array 8.52 239 ⇑Pn **Pn 21 34 45.7 -0.5**
comp=Z,6.3nm,0.5s
KK07 ⇓Pg Pg 21 35 00.4 -26
comp=Z,18nm,0.4s
KK07 ⇑Sn **Sn 21 36 23.6 +1.5**
comp=Z,155nm,1.1s
KK07 ⇑Lg Lg 21 37 11.8
comp=Z,453nm,0.8s
BRLS Borolday 8.94 240 *e*P **Pn 21 34 55.0 +3.1**
BRLS *e* 21 36 37.6
BRLS Borolday 8.94 240 *e*Pn **Pn 21 34 55.1 +3.1**
baz=239
BRLS *e*Sn **Sn 21 36 37.6 +5.1**
baz=239
BRLS *e*Lg Lg 21 37 30.2
baz=239
KSH Kashi 9.04 203 P Pn 21 35 02.1 +8.6
KSH S Sn 21 36 52.4 +17
KSH pmax pmax
comp=Z,7.0nm,1.5s
KSH smax smax
comp=Z,130nm,1.3s
KSH smax smax
comp=Z,170nm,1.4s
KSH LR LR
comp=Z,830nm,10.8s
IUG Iuzhnay 9.39 236 *i* P **Pn 21 34 58.9 +0.7**
IUG Iuzhnay 9.39 236 *i* Pn **Pn 21 34 58.1 -0.1**
baz=235
IUG *e*Lg Lg 21 37 38.6
baz=235
BTK Batken 10.51 225 P **Pn 21 35 13.8 +0.2**
BTK Batken 10.51 225 Pn **Pn 21 35 13.8 +0.2**
DRK Karamyk 10.54 220 Pn **Pn 21 35 15.5 +1.4**
KNGR Kungurtug, Tuv 11.45 70 *i* P **Pn 21 35 27.0 +0.7**
GAR Garm 11.59 223 **Pn 21 35 29.8 +1.5**
CHGR Chuyangaron 12.41 226 Pn **Pn 21 35 40.1 +0.6**
AB31 Akbulak array 13.64 283 Pn **Pn 21 35 56.5 +0.5**
comp=Z,17nm,0.6s,baz=94,slow=14,SNR=259
AB31 ⇓Lg Lg 21 39 54.8
comp=Z,38nm,0.7s,baz=92,slow=27,SNR=3.8
ABKAR Akbulak array 13.64 283 Pn **Pn 21 35 53.5 -2.6**
ABKAR Akbulak array 13.64 283 Pn **Pn 21 35 53.6 -2.4**
MOY Mondy 13.76 67 *e*P **P 21 36 08.6 +2.2**
MOY *e*S **Sn 21 38 34.1 +3.7**
AKTO Aktyubinsk 14.87 288 Pn **Pn 21 36 10.6 -2.3**
comp=Z,5.3nm,0.3s,baz=95,slow=12,SNR=113
AKTO Sn **Sn 21 38 49.7 -7.7**
baz=48,slow=15,SNR=2.1
AKTO Lg Lg 21 40 24.2
comp=Z,1.2nm,0.3s,baz=225,slow=22,SNR=3.8
AKTO LR LR 21 42 21.9
comp=Z,141nm,21.6s,baz=98,slow=39
AKTO Aktyubinsk 14.87 288 ⇓Pn **Pn 21 36 12.5 -0.4**
comp=Z,24nm,0.6s
AKTO ⇑Lg Lg 21 40 34.2
comp=Z,68nm,0.9s
SVE Sverdlovsk 14.96 314 *e*P **Pn 21 36 13.0 -1.0**
SVE *e*S **Sn 21 39 02.7 +3.3**
SVE pmax pmax
comp=Z,18nm,0.6s
ZAK Zakamensk 15.11 72 *e*P **P 21 36 19.1 -2.3**
ZAK pmax pmax
comp=Z,19nm,1.4s
NIL Nilore 15.29 203 P **Pn 21 36 17.3 -1.4**
NIL pmax pmax
comp=Z,14nm,0.7s
NIL Nilore 15.29 203 Pn **Pn 21 36 17.3 -1.4**
NIL IAmb IAmb 21 36 25.9
comp=Z,14nm,0.7s
ARU Arti 15.82 311 Pn **Pn 21 36 21.8 -3.5**
comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=10
ARU Sn **Sn 21 39 12.3 -8.1**
comp=Z,0.0nm,0.3s,baz=114,slow=18,SNR=2.3
ARU Lg Lg 21 40 57.4
comp=Z,0.0nm,0.3s,baz=91,slow=22,SNR=1.5
ARU LR LR 21 42 29.3
comp=Z,200nm,19.9s,baz=271,slow=37
ARU Arti 15.82 311 *d i* P **Pn 21 36 24.6 -0.7**
ARU S **Sn 21 39 22.3 +2.0**
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 15.82 311 Pn **Pn 21 36 23.6 -1.8**
ARU IAmb IAmb 21 36 49.3
comp=Z,18nm,0.6s
GOMU GeErMu 15.84 133 P **Pn 21 36 24.5 -1.6**
GOMU pP P 21 36 28.0 -1.9
GOMU sP pP 21 36 32.5 -1.2
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,97nm,5.3s
GOMU LR LR
comp=Z,490nm,7.3s
GOMU LR LR
comp=Z,630nm,7.8s
GOMU LR LR
comp=Z,200nm,7.4s
KBL Kabul 15.90 217 P **Pn 21 36 28.2 +1.5**
KBL pmax pmax
comp=Z,14nm,1.2s
KBL Kabul 15.90 217 Pn **Pn 21 36 28.2 +1.5**
GTA Gaotai 16.37 114 ⇑P **Pn 21 36 32.8 +0.1**
GTA pP pP 21 36 37.6 -1.8
GTA sP sP 21 36 40.5 -0.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=Z,540nm,14.5s
GTA LR LR
comp=Z,530nm,16.7s
GTA LR LR
comp=Z,440nm,17.4s
SONM Songino Array 17.37 81 P **Pn 21 36 45.0 -0.2**
comp=Z,0.2nm,0.3s,baz=276,slow=12,SNR=20
SONM Lg Lg 21 41 52.5
comp=Z,0.3nm,0.3s,baz=292,slow=21,SNR=7.6
SONM LR LR 21 43 46.8
comp=Z,206nm,20.9s,baz=294,slow=38
SONM Songino Array 17.37 81 Pn **Pn 21 36 44.8 -0.4**
ULN Ulaanbaatar 17.80 80 *i* P **Pn 21 36 50.4 -0.2**
ULN pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 17.80 80 **Pn 21 36 49.5 -1.1**
GEYT Alibeck 19.12 247 P **Pn 21 37 07.0 +0.3**
comp=Z,0.2nm,0.3s,baz=49,slow=18,SNR=1.7
GEYT Lg Lg 21 42 48.3
comp=Z,0.4nm,0.3s,baz=37,slow=36,SNR=1.4
HRA Herat 19.22 232 P **P 21 37 06.1 -1.0**
DANN Dangsing 19.75 171 *e*P **P 21 37 12.5 -0.5**
comp=Z,16nm,0.5s
PYUN Piuthan 19.93 173 *e*P **P 21 37 14.1 -0.7**
comp=Z,28nm,0.4s
LSA Lhasa 20.01 152 P **P 21 37 15.4 -0.6**
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 20.01 152 P **P 21 37 15.4 -0.6**
LSA Lhasa 20.01 152 P Pn 21 37 17.1 -0.6
LSA pmax pmax
comp=Z,4.0nm,0.9s
GKN Gorkha 20.19 169 *e*P **P 21 37 17.8 +0.2**
comp=Z,13nm,0.3s
KOLN Koldanda 20.31 172 *e*P **P 21 37 18.8 -0.1**
comp=Z,14nm,0.4s
GUN Gumba 20.46 166 *e*P **P 21 37 20.8 0.0**
comp=Z,22nm,0.4s
KKN Kakani 20.49 168 *e*P **P 21 37 20.8 -0.1**
DMN Daman 20.64 168 *e*P **P 21 37 22.2 -0.4**
comp=Z,9.5nm,0.4s
PKIN Phulchoki 20.71 168 *e*P **P 21 37 23.1 -0.3**
comp=Z,14nm,0.5s
PKI Pulchoki 20.72 168 *e*P **P 21 37 23.4 -0.2**
comp=Z,17nm,0.4s
JIRN Jiri 20.76 166 *e*P **P 21 37 24.2 +0.2**
LZH Lanzhou 20.95 116 ⇓P **P 21 37 27.0 +1.2**
LZH pP sP 21 37 33.1 +1.6
LZH sP pP 21 37 36.6 +6.9
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,130nm,5.0s
LZH LR LR
comp=Z,570nm,13.0s
LZH LR LR
comp=Z,750nm,13.6s
LZH LR LR
comp=Z,500nm,16.3s
KIRV Kirov 21.19 312 P **P 21 37 26.9 -1.1**
comp=Z,15nm,0.6s,baz=127,slow=4.1,SNR=6.5
KIRV Lg Lg 21 43 45.9
comp=Z,9.7nm,0.7s,baz=202,slow=24,SNR=1.7
TAPN Taplejung 21.34 162 *e*P **P 21 37 30.0 -0.2**
comp=Z,41nm,0.4s
BELG Belogornoye 21.38 294 P **P 21 37 30.0 0.0**
comp=Z,45nm,0.8s,baz=117,slow=3.3,SNR=10.0
BELG S **S 21 41 28.1 +1.2**
comp=Z,11nm,0.8s,baz=16,slow=16,SNR=1.4
BELG Lg Lg 21 43 56.8
comp=Z,24nm,0.9s,baz=53,slow=18,SNR=1.7
RAMN Ramite 21.52 165 *e*P **P 21 37 31.3 -0.8**
comp=Z,27nm,0.4s
NRIK Noril'sk 21.73 7 P **P 21 37 33.8 +0.1**
comp=Z,200nm,0.5s,baz=183,slow=8.4,SNR=25
NRIK S **S 21 41 31.9 -1.6**
comp=Z,1.4nm,0.5s,baz=64,slow=18,SNR=1.5
NRIK LR LR 21 46 53.9
comp=Z,200nm,18.7s,baz=205,slow=39
NRIK Noril'sk 21.73 7 *e*P **P 21 37 35.2 +1.5**
NRIK pmax pmax
comp=Z,21nm,0.5s
NRIK Noril'sk 21.73 7 P **P 21 37 33.6 -0.1**
ODAN Odare 21.75 163 *e*P **P 21 37 34.4 -0.2**
comp=Z,48nm,0.5s
BOD Bodaibo 22.29 51 *e*P **P 21 37 40.2 +0.4**
BOD pmax pmax
comp=Z,18nm,0.9s
HHC Hu-ho-hao-te 23.22 96 *e*P **P 21 37 51.3 +1.4**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.0s
PRGR Permogore 23.93 318 *e*P P 21 38 07.3 +11
PRGR pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 24.10 154 P **P 21 37 58.6 0.0**
SHL pmax pmax
comp=Z,13nm,1.1s
SHL Shillong 24.10 154 P **P 21 37 58.6 0.0**
SHL IAmb IAmb 21 38 17.3
comp=Z,13nm,1.1s
XLT XiLinHaoTe 24.96 86 *e*P **P 21 38 06.1 -0.1**
XLT S **S 21 42 23.4 -6.1**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,180nm,5.9s
XLT LR LR
comp=Z,58nm,15.2s
XLT LR LR
comp=Z,420nm,12.4s
XLT LR LR
comp=Z,400nm,11.3s
VRH Novokhopyorsk 25.12 292 *e*P **P 21 38 07.3 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
XAN Xi'an 25.42 113 P **P 21 38 13.4 +3.0**
XAN pP sP 21 38 19.4 +3.1
XAN pmax pmax
comp=Z,13nm,1.0s
HIA Hailar 25.81 72 *i* P **P 21 38 15.1 +1.3**
HIA pmax pmax
comp=Z,5.0nm,0.7s
NCK Nalchik 25.95 274 *i* P **P 21 38 16.7 +1.6**
NCK pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 26.38 275 *e*P **P 21 38 19.4 +0.3**
KIV *e*S **S 21 42 53.0 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,150nm,15.0s
ONI Oni 26.41 272 P **P 21 38 19.4 +0.1**
ONI pmax pmax
comp=Z,13nm,1.2s
ONI Oni 26.41 272 P **P 21 38 19.4 +0.1**
ONI IAmb IAmb 21 38 39.0
comp=Z,13nm,1.2s
KLMR Klimovskoe 26.59 314 *e*P **P 21 38 23.5 +2.9**
KLMR pmax pmax
comp=Z,31nm,1.3s
KLMR Klimovskoe 26.59 314 *e*P **P 21 38 23.6 +2.9**
KLMR AMP 21 38 25.0
comp=Z,31nm,1.3s
VORR Voronezh 26.62 294 *e*P **P 21 38 27.6 +6.6**
VORR pmax pmax
comp=Z,20nm,0.4s
GNI Garni 26.64 266 P **P 21 38 24.0 +2.4**
comp=Z,4.9nm,0.9s,baz=112,slow=2.1,SNR=3.9
GNI Garni 26.64 266 P **P 21 38 24.0 +2.4**
GNI Garni 26.64 266 P **P 21 38 21.5 0.0**
GNI IAmb IAmb 21 38 43.7
comp=Z,19nm,1.4s
LPSR Galich'ya Gora 26.66 296 *e*P **P 21 38 21.1 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
HNS HongShan 27.09 100 ⇑P **P 21 38 31.8 +6.4**
PZH PanZhiHua 27.15 135 P **P 21 38 28.8 +2.7**
PZH S **S 21 43 00.8 -3.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,4.9s
PZH LR LR
comp=Z,620nm,21.2s
PZH LR LR
comp=Z,900nm,21.2s
PZH LR LR
comp=Z,660nm,15.1s
GYA Guiyang 29.69 127 ⇑P P 21 38 56.3 +7.5
GYA pmax pmax
comp=Z,11nm,1.4s
YAK Yakutsk 30.69 44 *i* P **P 21 38 57.4 +0.3**
YAK pmax pmax
comp=Z,7.0nm,0.8s
CN2 Changchun 31.25 81 *e*P **P 21 39 00.9 -1.4**
CN2 *e*PP **PnPn 21 40 03.5 -0.7**
CN2 *e*S **S 21 44 07.0 -1.3**
CN2 LR LR
comp=Z,410nm,15.0s
CN2 LR LR
comp=Z,330nm,15.0s
CN2 LR LR
comp=Z,220nm,16.0s
TIXI Tiksi 32.47 26 P **P 21 39 12.2 -0.5**
comp=Z,4.4nm,0.4s,baz=292,slow=12,SNR=27
TIXI Tiksi 32.47 26 *ce*P **P 21 39 12.9 +0.2**
TIXI pmax pmax
comp=Z,20nm,2.5s
TIXI Tiksi 32.47 26 P **P 21 39 12.2 -0.5**
TIXI IAmb IAmb 21 39 15.6
comp=Z,15nm,1.5s
MNK Minsk 32.89 301 *i* P P 21 39 07.5 -9.1
MNK *i* PPP PPP 21 40 26.4
MNK *i* S **S 21 44 25.1 -8.5**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK MLR MLR
comp=Z,336nm,17.0s
MNK MLR MLR
comp=E,23nm,16.0s
MNK MLR MLR
comp=N,155nm,15.0s
MNK Minsk 32.89 301 *i* P P 21 39 07.5 -9.0
comp=E,1.0nm,0.7s
MNK *i* P P 21 39 07.5 -9.0
comp=N,9.0nm,0.8s
MNK *i* P P 21 39 07.5 -9.0
comp=Z,12nm,0.8s,baz=80
MNK *i* PP **PnPn 21 40 16.2 -9.0**
MNK *i* PPP PPP 21 40 26.5
MNK *i* S **S 21 44 25.1 -8.5**
MNK *i* SS **SnSn 21 46 23.8 -6.5**
MNK *i* SSS SSS 21 46 39.4
MNK *i* LQ LQ 21 49 57.8
MNK *i* LR LR 21 51 57.3
MNK *i* LRM MLR 21 53 02.8
comp=Z,336nm,17.1s
MNK *i* LRM MLR 21 53 36.5
comp=E,23nm,15.9s
MNK *i* LRM MLR 21 53 52.4
comp=N,155nm,15.3s
AKASG Malin Array Be 32.96 294 P **P 21 39 17.3 +0.1**
comp=N,0.5nm,0.4s,baz=64,slow=8.9,SNR=9.6
AKASG Malin Array Be 32.96 294 *e*P **P 21 39 17.6 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 32.96 294 P **P 21 39 16.6 -0.6**
NJ2 Nanjing 33.03 105 *e*P **P 21 39 18.6 +0.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
CM31 Chiang Mai Arr 33.06 147 P **P 21 39 18.6 +0.2**
CMAR Chiang Mai Arr 33.06 147 P **P 21 39 18.7 +0.3**
comp=Z,1.3nm,0.7s,baz=323,slow=8.4,SNR=16
CMAR LR LR 21 53 27.2
comp=Z,47nm,21.2s,baz=295,slow=38
CMAR Chiang Mai Arr 33.06 147 P **P 21 39 18.1 -0.3**
FIA1 FINESS Array S 33.13 314 P **P 21 39 18.6 +0.1**
FIA1 IAmb IAmb 21 39 22.7
comp=Z,5.9nm,1.0s
FINES FINESS Array B 33.13 314 P **P 21 39 18.9 +0.3**
comp=Z,1.3nm,0.5s,baz=102,slow=10,SNR=12
FINES FINESS Array B 33.13 314 *e*P **P 21 39 19.1 +0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 33.13 314 P **P 21 39 18.6 0.0**
KLR Kul'dur 33.41 68 P **P 21 39 23.0 +1.8**
comp=Z,0.5nm,0.5s,baz=317,slow=9.3,SNR=2.3
ARCES ARCESS Array B 34.01 329 P **P 21 39 28.2 +1.9**
comp=Z,11nm,1.1s,baz=94,slow=11,SNR=1.9
BR131 Keskin Array S 34.31 274 P **P 21 39 29.7 +0.4**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 34.31 274 P **P 21 39 29.7 +0.4**
BRTR Keskin Array B 34.31 274 P **P 21 39 31.1 +1.8**
comp=Z,3.8nm,0.7s,baz=83,slow=7.6,SNR=11
BRTR Keskin Array B 34.31 274 P **P 21 39 30.1 +0.8**
USRK Ussuriysk Ar. 35.40 76 P **P 21 39 39.1 +0.7**
comp=Z,0.7nm,0.4s,baz=265,slow=8.2,SNR=1.4
USRK LR LR 21 55 39.2
comp=Z,94nm,18.3s,baz=296,slow=39
KSRS Korea Array 35.91 89 P **P 21 39 43.3 +0.4**
comp=Z,0.7nm,0.3s,baz=292,slow=8.6,SNR=6.9
KSRS LR LR 21 55 31.1
comp=Z,144nm,18.5s,baz=305,slow=38
KSRS Korea Array 35.91 89 *e*P **P 21 39 44.5 +1.7**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
BUR08 Bucovina Ar. S 36.44 291 P **P 21 39 47.8 +0.3**
BUR08 IAmb IAmb 21 40 11.9
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 36.44 291 ⇑P **P 21 39 48.9 +1.4**
BURAR Bucovina Array 36.44 291 P **P 21 39 47.7 +0.2**
BURAR IAmb IAmb 21 39 59.8
comp=Z,5.0nm,0.8s
MLR Muntele Rosu 36.80 287 P **P 21 39 51.4 +0.8**
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 36.80 287 P **P 21 39 51.4 +0.8**
RAYN Ar Rayn 36.92 241 P **P 21 39 52.2 +0.4**
RAYN pmax pmax
comp=Z,8.0nm,1.4s
RAYN Ar Rayn 36.92 241 P **P 21 39 52.1 +0.4**
DOPR Dopca 36.96 288 ⇓P **P 21 39 54.3 +2.4**
QIZ Qiongzhong 37.44 130 P **P 21 39 56.1 0.0**
QIZ IAmb IAmb 21 40 07.2
comp=Z,12nm,0.9s
ELL Elmali 38.36 272 P **P 21 40 04.2 +0.3**
ELL pmax pmax
comp=Z,55nm,1.2s
ELL Elmali 38.36 272 P **P 21 40 04.2 +0.3**
BZS Buzias 39.51 289 ⇓P P 21 40 01.2 -12
NC405 NORSAR Array S 40.04 315 P **P 21 40 17.9 +0.4**
NB2 NORSAR Subarra 40.29 315 P **P 21 40 19.6 0.0**
comp=Z,2.7nm,0.6s,baz=77,slow=8.6
NOA NORSAR Array B 40.29 315 P **P 21 40 19.8 +0.2**
comp=Z,2.0nm,0.5s,baz=76,slow=8.2,SNR=19
NOA LR LR 21 57 52.4
comp=Z,69nm,18.8s,baz=5.0,slow=38

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	Pallekele	40.55	180	P	P	21 40 21.7	-0.5
	comp=Z,1.7nm,0.4s,baz=346,slow=4.2,SNR=2.0						
PALK	Pallekele	40.55	180	P	P	21 40 21.7	-0.5
PALK				IAmb	IAmb	21 40 22.2	
	comp=Z,11nm,1.3s						
DPC	Dobruska-Polom	40.85	298	eP	P	21 40 26.0	+1.6
DPC				e		21 40 35.9	
DPC	Dobruska-Polom	40.85	298	eP	P	21 40 26.0	+1.6
DPC				ex	x	21 40 35.9	
SEY	Seymchan	41.07	41	P	P	21 40 25.9	-0.1
	comp=Z,0.4nm,0.3s,baz=249,slow=8.8,SNR=4.8						
SEY	Seymchan	41.07	41	iP	P	21 40 26.1	+0.1
SEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MA2	Magadan	41.18	47	LR	LR	21 57 31.5	
	comp=Z,80nm,19.5s,baz=264,slow=36						
SOCY	Socotra	41.97	221	P	P	21 40 31.2	-2.7
SOCY				IAmb	IAmb	21 40 35.9	
	comp=Z,9.0nm,1.1s						
JMN	Monobe	42.01	90	P	P	21 40 34.9	+0.8
CONA	Conrad Observa	42.11	295	eP	P	21 40 37.3	+2.5
	comp=Z,1.0nm,0.5s						
AGG	Agios Georgios	42.20	280	P	P	21 40 35.7	+0.1
AGG				pmax	pmax		
	comp=Z,13nm,1.2s						
AGG	Agios Georgios	42.20	280	P	P	21 40 35.7	+0.1
AGG				IAmb	IAmb	21 40 36.0	
	comp=Z,13nm,1.2s						
CLL	Collm	42.42	301	eP	P	21 40 38.0	+0.8
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLL	Collm	42.42	301	P	P	21 40 36.3	-0.9
CLL	Collm	42.42	301	eP	P	21 40 38.0	+0.8
	comp=Z,4.0nm,0.7s						
CLL				ex	x	21 40 49.0	
CLL				ex	x	21 40 53.0	
CLL				ePP	PP	21 42 17.0	+1.7
CLL				ePPP	PPP	21 42 49.0	
CLL				LmH		21 55 00.0	
	comp=N,400nm,21.5s						
CLL				LmH		21 55 00.0	
	comp=E,300nm,19.7s						
CLL				LmV		21 58 00.0	
	comp=Z,100nm,21.0s						
CKRC	Cesky Krumlov	42.67	297	eP	P	21 40 42.8	+3.6
CKRC				ex	x	21 40 51.5	
KHC	Kasperske Hory	42.97	298	eP	P	21 40 43.2	+1.5
KHC				e		21 40 53.2	
KHC	Kasperske Hory	42.97	298	eP	P	21 40 43.2	+1.5
KHC				ex	x	21 40 53.2	
GERES	GERESS Array B	43.02	297	P	P	21 40 43.1	+0.9
	comp=Z,0.4nm,0.5s,baz=66,slow=7.9,SNR=2.8						
OBKA	Obir	43.53	294	eP	P	21 40 47.5	+1.1
	comp=Z,1.0nm,0.4s						
ABTA	Abfaltersbach	44.67	295	eP	P	21 40 57.4	+1.9
	comp=Z,0.6nm,0.4s						
BILL	Bilibino	45.21	32	⇑eP	P	21 41 02.7	+3.4
BILL				e		21 42 46.6	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,73nm,17.0s						
SQTA	Sankt Quirin	45.24	296	eP	P	21 41 02.3	+2.2
	comp=Z,1.3nm,0.4s						
DAG	Danmarks Havn	45.89	342	iP	P	21 41 05.0	+0.4
DAVOX	Davos/Dischmat	46.25	296	LR	LR	22 02 49.6	
	comp=Z,101nm,21.3s,baz=46,slow=39						
JHJ	Hachijo jima 2	46.34	86	LR	LR	22 01 00.0	
	comp=Z,95nm,18.4s,baz=14,slow=37						
TUE	Stuetta	46.72	296	P	P	21 41 11.8	0.0
TUE				IAmb	IAmb	21 41 27.8	
	comp=Z,5.4nm,0.8s						
BNI	Bardonecchia	49.05	296	P	P	21 41 30.5	+0.7
BNI				pmax	pmax		
	comp=Z,12nm,1.2s						
BNI	Bardonecchia	49.05	296	P	P	21 41 30.4	+0.7
EUNU	Eureka	52.02	357	P	P	21 41 52.5	+0.9
EUNU				IAmb	IAmb	21 42 04.3	
	comp=Z,5.8nm,1.1s						
ANM	Nome	56.70	28	P	P	21 42 26.3	+0.5
ANM				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ANM	Nome	56.70	28	P	P	21 42 26.3	+0.5
ANM				IAmb	IAmb	21 42 28.2	
	comp=Z,5.8nm,1.4s						
ANGG	Ammassalik, Gr	57.16	334	P	P	21 42 29.4	+0.3
TOLK	Toolik Lake Re	57.94	19	P	P	21 42 34.6	+0.1
TOLK				IAmb	IAmb	21 42 47.0	
	comp=Z,7.6nm,1.4s						
ESDC	Sonseca Array	58.58	296	P	P	21 42 39.6	+0.1
	comp=Z,0.9nm,0.6s,baz=48,slow=6.8,SNR=10						
ESDC				LR	LR	22 07 50.5	
	comp=Z,158nm,18.1s,baz=22,slow=36						
ESDC	Sonseca Array	58.58	296	P	P	21 42 39.6	+0.1
PAB	San Pablo	58.90	296	P	P	21 42 41.5	-0.2
PAB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
PAB	San Pablo	58.90	296	P	P	21 42 41.5	-0.2
PAB				IAmb	IAmb	21 42 56.2	
	comp=Z,8.9nm,1.4s						
A36M	Sachs Harbour	58.98	9	P	P	21 42 41.9	+0.3
A36M				IAmb	IAmb	21 42 44.1	
	comp=Z,4.6nm,0.8s						
IMAR	Indian Mountai	59.02	23	P	P	21 42 41.6	-0.5
SFJD	Kangerlussuaq	59.52	340	LR	LR	22 12 26.6	
	comp=Z,51nm,18.0s,baz=40,slow=40						
H21K	Melozitna Rive	59.52	23	P	P	21 42 45.5	-0.1
H21K				IAmb	IAmb	21 43 02.5	
	comp=Z,4.6nm,1.4s						
LEM	Lembang	59.58	148	LR	LR	22 13 20.7	
	comp=Z,55nm,18.2s,baz=244,slow=41						
BMAR	Burnt Mountain	60.02	18	P	P	21 42 49.6	+0.6
MLY	Manley	60.55	22	P	P	21 42 53.0	+0.3
C36M	Paulatuk	61.62	10		P	21 42 59.3	-0.4
IL31		61.72	21	P	P	21 43 00.2	-0.3
IL31				IAmb	IAmb	21 43 01.5	
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	61.72	21	P	P	21 43 00.6	0.0
	comp=Z,2.2nm,0.6s,baz=326,slow=5.6,SNR=31						
ILAR				LR	LR	22 11 51.5	
	comp=Z,46nm,18.3s,baz=262,slow=38						
DHY	Denali Highway	63.00	22	P	P	21 43 08.9	-0.5
DHY				IAmb	IAmb	21 43 09.4	
	comp=Z,3.8nm,0.6s						
EGAK	Eagle	63.01	19	P	P	21 43 09.7	+0.5
EGAK				IAmb	IAmb	21 43 31.3	
	comp=Z,4.0nm,1.2s						
RIDG	Independent Ri	63.07	21	P	P	21 43 08.9	-0.8
RIDG				IAmb	IAmb	21 43 10.3	
	comp=Z,4.4nm,0.8s						
SCRK	Sand Creek	63.07	20	P	P	21 43 09.2	-0.5
SCRK				IAmb	IAmb	21 43 10.6	
	comp=Z,2.6nm,0.7s						
SML	Sawmill	63.81	23	P	P	21 43 14.3	-0.3
SCM	Sheep Creek Mo	64.05	23	P	P	21 43 16.3	+0.1
SCM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SCM	Sheep Creek Mo	64.05	23	P	P	21 43 16.3	+0.1
BCAR	Beaver Creek A	64.36	20	P	P	21 43 18.7	+0.5
CNPM	China Poot	64.86	26	P	P	21 43 22.2	+0.8
CNPM				IAmb	IAmb	21 43 40.6	
	comp=Z,6.4nm,1.1s						
M31M	Drury Creek, Y	66.70	17	P	P	21 43 33.5	+0.2
YKA	Yellowknife Ar	69.24	7	P	P	21 43 49.1	0.0
	comp=Z,2.0nm,0.5s,baz=349,slow=6.5,SNR=51						
YKA	Yellowknife Ar	69.24	7	P	P	21 43 48.8	-0.4
TOA0	Torodi Ar. Sit	72.85	271	P	P	21 44 11.5	-0.3
TOA0				IAmb	IAmb	21 44 12.5	
	comp=Z,2.8nm,0.8s						
TORD	Torodi Ar. Bea	72.85	271	P	P	21 44 11.7	-0.1
	comp=Z,1.5nm,0.6s,baz=37,slow=5.7,SNR=12						
FITZ	Fitzroy Crossi	77.18	136	P	P	21 44 36.0	-0.5
	comp=Z,2.8nm,0.9s,baz=346,slow=8.3,SNR=2.2						
FITZ	Fitzroy Crossi	77.18	136	P	P	21 44 36.3	-0.2
ULM	Lac du Bonnet	82.12	358	LR	LR	22 22 53.1	
	comp=Z,31nm,21.6s,baz=338,slow=37						
WRA	Warramunga Arr	83.01	130	P	P	21 45 06.9	-1.2
	comp=Z,0.7nm,0.9s,baz=337,slow=5.3,SNR=7.8						
WR0	Warramunga Arr	83.13	130	P	P	21 45 08.0	-0.6
ASAR	Alice Springs	85.90	132	P	P	21 45 21.7	-0.9
	comp=Z,1.0nm,0.7s,baz=324,slow=4.7,SNR=10						
ASAR	Alice Springs	85.90	132	P	P	21 45 22.4	-0.2
ASAR	Alice Springs	85.90	132	P	P	21 45 22.4	-0.2

IDC 15 21:38:39.4±1.3, 0°.83N×97°.64E, h0km, mb4.1/8, mb1 4.1/10, mb1mx3.8/43, mbtmp4.0/10, ML3.6/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/84 Error ellipse: s-maj=33.9km s-min=24.1km az=52.0
DJA 15 21:38:46.6±0.5, 1°N±4°×9°8E±°, h29km±6km, M4.1/13, mb4.1/2, MLv4.1/13
NEIC 15 21:38:46.2±1.1, 0°.94N±0°.06×97°.63E±0°.09, h40km±6km, mb4.4/20, Error ellipse: s-maj=14.9km s-min=6.1km az=63.0
ISC 15 21:38:46.0±0.6, **1°.04N**±0°.06×**97°.79E**±0°.06, **h35km, n56, σ1s24**/52, **mb4.3**/17, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.34	321		Pn	21 38 55.4	+0.9
GSI				Sn	Sn	21 39 02.6	+2.3
GSI	Gunungsitoli	0.34	321	P	Pn	21 38 55.4	+0.9
GSI				S	Sn	21 39 02.4	+2.1
MNSI	Mandailing Nat	1.81	98	P	Pn	21 39 15.9	+1.3
RPSI	Rantau Prapat	2.00	35		Pn	21 39 19.0	+1.7
PSI	Prapat	2.09	33	Pn	Pn	21 39 19.0	+0.4
	2.7nm,0.3s,baz=202,slow=11,SNR=12						
PSI				Sn	Sn	21 39 42.1	-1.4
	4.6nm,0.3s,baz=220,slow=23,SNR=8.9						
PSI				LR	LR	21 40 29.2	
	comp=Z,310nm,20.1s,baz=227,slow=49						
KCSI	Kotacane, Aceh	2.47	360	P	Pn	21 39 24.3	+0.5
SISI	Saibi	2.68	151	P	Pn	21 39 28.2	+1.5
PPI	Padang Panjang	3.00	120	P	Pn	21 39 32.7	+1.6
BKNI	Bangkinang	3.33	102	Pn	Pn	21 39 37.7	+2.1
BKNI	Bangkinang	3.33	102	P	Pn	21 39 37.8	+2.2
LHMI	Lhok Sumawe	4.25	349	Pn	Pn	21 39 49.4	+1.1
LHMI	Lhok Sumawe	4.25	349	P	Pn	21 39 49.4	+1.1
IPM	Ipoh	4.71	43	Pn	Pn	21 39 57.3	+2.7
RGRI	Rengat	4.75	107	P	Pn	21 39 56.8	+1.7
KRJI	Kerinci	4.81	130	P	Pn	21 39 57.6	+1.5
KULM	Kulim	5.10	34	Pn	Pn	21 40 01.6	+1.6
DSRI	Dabo	6.95	102	P	Pn	21 40 27.1	+1.7
MNAI	Manna	7.44	136	Pn	Pn	21 40 32.5	+0.3
UBPT	Khong Chiam	16.06	28		Pn	21 42 29.3	0.0
CMAR	Chiang Mai Arr	17.35	4	P	Pn	21 42 44.6	-0.9
	0.2nm,0.3s,baz=198,slow=11,SNR=11						
CHTO	Chiang Mai	17.70	4	P	Pn	21 42 51.1	+1.2
KAPI	Kappang	22.75	106	LR	LR	21 53 35.2	
	comp=Z,41nm,19.3s,baz=284,slow=39						
TOLI2	Tolitoli	22.99	90	P	P	21 43 47.1	-0.8
KOHI	KOHIMA	24.80	352	eP	P	21 44 07.4	+2.4
SHL	Shillong	25.05	347	P	P	21 44 07.7	+0.4
SHL				IAmb	IAmb	21 44 12.1	
	comp=Z,8.5nm,0.5s						
LKP	Lekhapani	26.21	356	eP	P	21 44 19.2	+1.6
H08S2	Diego Garcia H	26.66	251	T	T	22 11 47.4	
	baz=70,slow=76						
H08S3	Diego Garcia H	26.66	251	T	T	22 11 47.4	
	baz=70,slow=76						
H08S1	Diego Carcia H	26.68	251	T	T	22 11 48.3	
	baz=70,slow=76						
LSA	Lhasa	29.20	348	P	P	21 44 44.5	-0.4
LSA				IAmb	IAmb	21 44 47.1	
	comp=Z,5.8nm,1.1s						
JOW	Kunigami	38.93	46	LR	LR	22 00 24.0	
	comp=Z,63nm,21.2s,baz=194,slow=33						
WRA	Warramunga Arr	41.45	122	P	P	21 46 28.4	-1.4
	comp=Z,1.6nm,0.9s,baz=304,slow=9.0,SNR=24						
WRAB	Tennant Creek	41.45	122	P	P	21 46 28.7	-1.1
WRAB				IAmb	IAmb	21 46 33.6	
	comp=Z,7.4nm,0.9s						
DRK	Karamyk	45.01	331	P	P	21 46 59.1	+0.5
KSAR	Wonju Array Be	45.62	34	P	P	21 47 02.9	-0.1
KSRS	Korea Array	45.65	34	P	P	21 47 03.1	-0.2
	comp=Z,4.5nm,0.8s,baz=222,slow=8.8,SNR=19						
BTK	Batken	45.94	331	P	P	21 47 06.0	+0.4
BTK				IAmb	IAmb	21 47 10.9	
	comp=Z,6.0nm,0.9s						
HRA	Herat	46.93	319	P	P	21 47 13.6	-0.1
HRA				IAmb	IAmb	21 47 34.7	
	comp=Z,2.7nm,0.9s						
JHS	Saijyo	47.16	40	P	P	21 47 15.3	0.0
SONM	Songino Array	47.21	8	P	P	21 47 15.5	0.0
	comp=Z,0.8nm,0.6s,baz=190,slow=10.0,SNR=4.6						
SONM	Songino Array	47.21	8	IAmb	IAmb	21 47 22.4	
	comp=Z,3.2nm,1.3s						
MK31	Makanchi Array	47.54	346	P	P	21 47 17.9	-0.1
MK31				IAmb	IAmb	21 47 19.1	
	comp=Z,6.4nm,1.2s						
MKAR	Makanchi Array	47.54	346	P	P	21 47 18.4	+0.3
	comp=Z,2.8nm,0.8s,baz=157,slow=8.7,SNR=12						
MKAR	Makanchi Array	47.54	346	P	P	21 47 17.9	-0.1
ZAA0	Zalesovo Array	53.81	351	P	P	21 48 04.9	-0.2
ZAA0				IAmb	IAmb	21 48 07.5	
	comp=Z,7.6nm,1.4s						
ZALV	Zalesovo Beam	53.81	351	P	P	21 48 05.0	-0.1
	comp=Z,1.3nm,0.4s,baz=176,slow=6.1,SNR=6.4						
BRVK	Borovoye	56.66	341	P	P	21 48 25.1	-0.6
BRVK				IAmb	IAmb	21 48 42.9	
	comp=Z,3.9nm,1.2s						
ABKAR	Akbulak array	57.94	332	P	P	21 48 33.8	-0.9
ABKAR	Akbulak array	57.94	332	P	P	21 48 33.5	-1.2
ABKAR				IAmb	IAmb	21 48 35.5	
	comp=Z,5.1nm,1.1s						
TIXI	Tiksi	73.25	10	P	P	21 50 12.0	-1.2
AKASG	Malin Array Be	75.75	322	P	P	21 50 26.8	-1.3
	comp=Z,0.5nm,0.5s,baz=96,slow=4.4,SNR=4.8						
BURAR	Bucovina Array	77.54	319	P	P	21 50 38.5	+0.1
BUR08	Bucovina Ar. S	77.55	319	P	P	21 50 38.8	+0.3
FINES	FINESS Array B	80.42	332	P	P	21 50 53.2	-0.5
	comp=Z,4.2nm,1.1s,baz=57,slow=5.1,SNR=1.3						
GERES	GERESS Array B	85.32	319	P	P	21 51 19.7	0.0
	comp=Z,0.3nm,0.5s,baz=92,slow=6.9,SNR=4.3						
TXAR	Lajitas Array	143.49	32	PKP	PKPbc	21 58 16.2	+1.1
	comp=Z,0.1nm,0.4s,baz=173,slow=0.7,SNR=2.0						

PRU 15 21:41:41.6±0.0, **49°.76N×18°.65E, h0km, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.34	284	eSG	Sg	21 41 52.5	+0.2
	comp=Z,7.1nm,0.2s						
MORC	Moravsky Berou	0.72	272	ePG	Pg	21 41 55.8	+0.4
MORC				eSG	Sg	21 42 04.6	-0.1
KRLC	Kraliky	1.25	285	ePG	Pg	21 42 04.1	-1.4
KRLC				eSG	Sg	21 42 21.6	-0.1
DPC	Dobruska-Polom	1.61	292	eSG	Sn	21 42 31.7	-1.2
DPC	Dobruska-Polom	1.61	292	e	Sn	21 42 31.7	-1.2

KRNET 15 21:44:34.9±0.1, 41°.33N×71°.82E, h15km, mb2.6
ISU 15 21:44:36, 41°.24N×71°.72E, h5km
NNC 15 21:44:37.3±2.8, 41°.32N×71°.82E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=24.9km s-min=8.6km az=4.0
SOME 15 21:44:37.3, 41°.45N×71°.92E, h5km
ISC 15 21:44:34.4±1.0, **41°.33N**±0°.02×**71°.91E**±0°.02, **h17km**±10km, **n35, σ1s58**/64, **14C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.47	5	⇑iP	Pb	21 44 44.1	-0.2
	baz=13						
ARK				⇑iS	Sb	21 44 50.9	-0.2
	baz=13						
TRKS	Terek-Say	0.61	290	⇑iP	Pb	21 44 44.8	-1.9
	baz=86						
TRKS				⇑iS	Sb	21 44 51.9	-3.2
	baz=86						
OHH	Osh	1.04	140	⇑iP	Pg	21 44 55.7	+1.1
	baz=37						
OHH				⇑iS	Sn	21 45 10.7	+2.2
	baz=37						
OHH	Osh	1.04	140	eP	Pg	21 45 07.0	+12
OHH				eS	Sn	21 45 12.0	+3.5
CHMG	Chimgan	1.44	279	eP	Pb	21 45 01.0	+0.1
CHMG				eS	Sn	21 45 19.0	+0.5
CHRV	Charvak	1.50	283	eP	Pg	21 45 03.0	-0.3
CHRV				eS	Sg	21 45 24.0	+1.1
BTK	Batken	1.52	213	⇓iP	Pb	21 45 02.6	+0.5
	baz=11						
BTK				⇓iS	Sg	21 45 22.9	-0.3
	baz=11						
BTK	Batken	1.52	213	eP	Pb	21 45 02.0	-0.1
BTK				eS	Sg	21 45 23.0	-0.3
DZA	Taraz	1.62	345	eP	Pg	21 45 05.6	+0.1
	7.1nm,0.1s						
DZA				eS	Sg	21 45 26.0	-0.7
	88nm,0.3s						
DZA	Taraz	1.62	345	P	Pg	21 45 06.6	+1.0
	22nm,0.1s						
DZA				S	Sg	21 45 27.6	+0.9
	88nm,0.3s						
IUG	Iuzhnay	1.62	301	eP	Pg	21 45 05.8	+0.1
	166nm,0.1s						
IUG				eS	Sg	21 45 26.3	-0.5
	73nm,0.2s						
IUG	Iuzhnay	1.62	301	P	Pg	21 45 05.2	-0.4
	238nm,0.2s						
IUG				S	Sg	21 45 26.3	-0.5
	73nm,0.2s						
MRKS	Merke	1.72	34	eP	Pg	21 45 09.7	+2.1
	4.2nm,0.1s						
MRKS				eS	Sg	21 45 33.1	+3.2
	32nm,0.2s						
MRKS	Merke	1.72	34	P	Pg	21 45 09.7	+2.1
	7.0nm,0.1s						
MRKS				S	Sg	21 45 33.1	+3.2
	32nm,0.2s						
DRK	Karamyk	1.85	183	⇑iP	Pg	21 45 08.3	-1.6
	baz=80						
DRK				⇑iS	Sg	21 45 33.4	-0.6
	baz=80						
ARLS	Aral	1.89	73	⇓iP	Pg	21 45 10.2	-0.5
	baz=73						
ARLS				⇓iS	Sg	21 45 37.0	+1.8
	baz=73						
EKS2	Erkin-Say	1.93	46	⇑iP	Pg	21 45 11.2	-0.2
	baz=47						
EKS2				⇑iS	Sg	21 45 37.7	+1.2
	baz=47						
CHM	Chimkent	1.99	301	eP	Pg	21 45 13.1	+0.6
	3.7nm,0.3s						
CHM				eS	Sg	21 45 38.8	+0.5
	123nm,0.3s						
KK09	Karatay Array	2.08	330	⇑Pn	Pg	21 45 13.2	-1.0
	2.4nm,0.7s,baz=157,slow=16						
KK09				⇓Sn	Sb	21 45 38.8	+1.7
	9.0nm,0.3s,baz=150,slow=30						
UCH	Uchtor	2.15	64	⇑iP	Pg	21 45 14.8	-0.8
	baz=65						
UCH				⇑iS	Sg	21 45 43.5	0.0
	baz=65						
BRLS	Borolday	2.29	319	eP	Pb	21 45 16.6	+1.3
	6.4nm,0.0s						
BRLS				eS	Sb	21 45 44.6	+1.2
	28nm,0.1s						
AAK	Ala-Archa	2.33	55	⇑Pn	Pg	21 45 18.4	-0.6
	5.7nm,0.9s						
AAK				⇓Sn	Sg	21 45 50.3	+1.0
	18nm,0.6s						
SGDS	Sogindy	2.93	43	eP	Pg	21 45 29.2	-1.3
	1.8nm,0.1s						
SGDS				eS	Sg	21 46 06.5	-1.9
	14nm,0.2s						
SGDS	Sogindy	2.93	43	Pg	Pg	21 45 29.2	-1.3
	1.7nm,0.2s						
SGDS				Lg	Lg	21 46 06.5	
	15nm,0.5s						
DGS	Degeres	3.45	55	eP	Pg	21 45 39.0	-1.4
	3.5nm,0.7s						
DGS				eS	Sg	21 46 23.7	-1.4
	17nm,0.7s						
DGS	Degeres	3.45	55	Pg	Pg	21 45 39.3	-1.1
	3.5nm,0.7s						
DGS				Lg	Lg	21 46 23.7	
	17nm,0.7s						
KRBS	Karabastau	3.65	48	eP	Pg	21 45 43.0	-1.4
	1.1nm,0.0s						
KRBS				eS	Sg	21 46 29.7	-2.0
	13nm,0.5s						
KRBS	Karabastau	3.65	48	Pg	Pg	21 45 42.2	-2.2
	4.4nm,0.5s						
KRBS				Lg	Lg	21 46 28.7	
	13nm,0.5s						
MTBS	Maitube	3.81	60	eP	Pg	21 45 45.8	-1.5
	2.1nm,0.1s						
MTBS				eS	Sg	21 46 34.8	-1.9
	11nm,0.1s						
BTLS	Baital	4.03	22	eP	Pg	21 45 49.2	-2.2
	7.9nm,0.1s						
BTLS				eS	Sg	21 46 40.6	-3.0
	2.8nm,0.2s						
TNSS	Tian-Shan	4.12	64	eP	Pg	21 45 52.2	-1.0
	1.8nm,0.1s						
TNSS				eS	Sg	21 46 45.8	-0.7
	3.0nm,0.8s						
TNSS	Tian-Shan	4.12	64	Pg	Pg	21 45 52.2	-1.0
	2.1nm,0.4s						
KUU	Kurty	4.16	50	eP	Pg	21 45 52.3	-1.7
	1.5nm,0.1s						
KUU				eS	Sg	21 46 45.8	-2.0
	7.0nm,0.2s						
KUU	Kurty	4.16	50	Pg	Pg	21 45 51.9	-2.1
	2.7nm,0.5s						
KTBS	Karatobe	4.26	54	eP	Pg	21 45 54.0	-1.9
	0.6nm,0.1s						
KTBS				eS	Sg	21 46 48.9	-2.1
	15nm,0.2s						

IDC 15 21:48:59.8±6.5, 4°.81N×124°.25E, h483km±89km, mb2.9/6, mb1 3.0/6, mb1mx2.8/29, mbtmp3.8/6, Error ellipse: s-maj=70.5km s-min=17.6km az=58.0
ISC 15 21:49:01.0±1.2, **4°.8N**±0°.2×**124°.2E**±0°.4, **h500km, n6, σ0s59**/7, **mb3.3**/6, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.52	158	P	P	21 53 57.4	-0.7
	0.1nm,0.4s,baz=333,slow=11,SNR=6.7						
CMAR	Chiang Mai Arr	28.19	301	P	P	21 54 12.6	-0.2
	0.6nm,0.3s,baz=108,slow=6.9,SNR=5.7						
ASAR	Alice Springs	29.83	162	P	P	21 54 27.4	+0.4
	0.1nm,0.3s,baz=337,slow=7.2,SNR=1.4						
SONM	Songino Array	45.52	343	P	P	21 56 35.5	+0.2
	0.9nm,0.9s,baz=157,slow=7.5,SNR=5.2						
MKAR	Makanchi Array	55.27	326	P	P	21 57 46.9	+0.3
	2.0nm,0.3s,baz=120,slow=7.5,SNR=68						
MKAR				PcP	PcP	21 58 40.3	+0.3
	0.2nm,0.4s,baz=116,slow=4.7,SNR=2.3						
ZALV	Zalesovo Beam	58.52	334	P	P	21 58 08.0	-0.7
	0.6nm,0.5s,baz=126,slow=7.4,SNR=2.9						

IDC 15 21:49:50.4±1.6, 41°.33N×117°.12W, h0km, mb2.6/1, mb1 3.1/2, mb1mx3.0/32, mbtmp2.7/2, ML2.3/1, Error ellipse: s-maj=14.3km s-min=6.7km az=163.0
NEIC 15 21:49:51.5±0.8, 41°.20N±0°.03×117°.22W±0°.05, h0km±2km, ML2.5/48, ML2.7(REN), Error ellipse: s-maj=7.0km s-min=3.0km az=233.0
ISC 15 21:49:50.8±1.0, **41°.20N**±0°.04×**117°.21W**±0°.04, **h0km, n28, σ0s69**/26, **Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BMN	Battle Mountai	0.77	181	Pg	Pb	21 50 07.3	+0.2
ELK	Elko	1.56	106	Pg	Pn	21 50 19.6	-0.5
	2.2nm,0.3s,baz=294,slow=11,SNR=50						
ELK				Lg	Lg	21 50 38.7	
	8.1nm,0.3s,baz=356,slow=19,SNR=27						
ELK	Elko	1.56	106	Pn	Pn	21 50 20.1	+0.1
WVOR	Wild Horse Val	1.63	320		Pb	21 50 21.4	-0.4
PAHR	Pah Rah Range	2.23	229		Pn	21 50 29.6	+0.4
PAHR				IAML		21 51 15.4	
	comp=E,23nm,1.1s						
KVN	Kaiserville	2.25	198	Pn	Pn	21 50 30.0	+0.5
KVN				IAML		21 51 13.2	
	comp=E,20nm,1.0s						
J08A	Circle Bar Ran	2.35	337		Pn	21 50 32.2	+1.4
MOD	Modoc Plateau	2.42	288		Pn	21 50 31.9	+0.1
MOD				IAML		21 51 14.1	
	comp=E,24nm,0.8s						
MOD				IAML		21 51 24.2	
	comp=N,24nm,1.3s						
MFID	Camas Ranch	2.44	24	Pn	Pn	21 50 32.6	+0.6
MFID				IAML		21 51 13.6	
	comp=N,20nm,0.9s						
VCNR	Virginia City	2.67	225	Pn	Pn	21 50 35.3	+0.1
VCNR				IAML		21 51 32.6	
	comp=N,20nm,0.7s						
YERR	Yerington	2.70	216		Pn	21 50 36.1	+0.4
YERR				IAML		21 51 26.1	
	comp=N,17nm,0.9s						

YERR					IAML			21 51 27.5	
	comp=E,27nm,1.2s								
BEKR	**Beckworth**		**2.74**	**242**	Pn	**Pn**	**21 50 36.5**	**+0.2**	
BEKR					IAML		21 51 28.1		
	comp=E,14nm,2.8s								
NV11	**Mina Array Sit**		**2.86**	**195**		**Pn**	**21 50 38.0**	**+0.2**	
NV11					IAML		21 51 32.0		
	comp=E,16nm,3.3s								
NV11					IAML		21 51 35.9		
	comp=N,10nm,3.3s								
MPK	**Martis Peak**		**2.88**	**230**	Pn	**Pn**	**21 50 38.3**	**+0.1**	
MPK					IAML		21 51 16.5		
	comp=N,20nm,4.8s								
MPK					IAML		21 51 41.2		
	comp=E,23nm,0.9s								
NVAR	**Mina Array Bea**		**2.89**	**197**	Pn	**Pn**	**21 50 39.1**	**+0.8**	
	comp=E,0.3nm,0.3s,baz=16,slow=13,SNR=11								
NVAR					Pg	**Pg**	**21 50 45.6**	**-0.6**	
	comp=E,2.2nm,0.3s,baz=22,slow=20,SNR=13								
NVAR					Lg	Lg	21 51 26.8		
	comp=E,3.0nm,0.3s,baz=15,slow=35,SNR=7.7								
LHV	**Little Huntoon**		**3.11**	**199**		**Pn**	**21 50 41.6**	**+0.6**	
R11A	**Troy Canyon, C**		**3.11**	**156**		**Pn**	**21 50 42.0**	**+0.7**	
EMB	**Emerald Bay**		**3.14**	**226**	Pn	**Pn**	**21 50 41.6**	**-0.1**	
EMB					IAML		21 51 35.6		
	comp=N,11nm,3.6s								
EMB					IAML		21 51 41.9		
	comp=E,10nm,3.5s								
HLID	**Hailey**		**3.14**	**40**	Pn	**Pn**	**21 50 41.7**	**0.0**	
HLID					IAML		21 51 34.9		
	comp=E,9.8nm,0.9s								
HLID					IAML		21 51 39.3		
	comp=E,10nm,0.7s								
BGU	**Big Grassy Mou**		**3.17**	**94**		**Pn**	**21 50 41.7**	**-0.5**	
BGU					IAML		21 51 41.4		
	comp=E,12nm,1.4s								
I07A	**Izee**		**3.34**	**330**	Pn	**Pn**	**21 50 45.6**	**+1.2**	
I07A					IAML		21 51 51.7		
	comp=E,15nm,5.0s								
M04C	**Macdoel**		**3.52**	**281**	Pn	**Pn**	**21 50 47.0**	**0.0**	
PRN	**Pahroc Range**		**4.14**	**155**		**Pn**	**21 50 57.3**	**+1.9**	
YBH	**Yreka Blue Hor**		**4.17**	**279**	Lg	Lg	21 52 04.4		
	comp=E,0.2nm,0.3s,baz=206,slow=23,SNR=1.8								
HWUT	**Hardware Ranch**		**4.27**	**83**		**Pn**	**21 50 58.0**	**+0.8**	
HWUT					IAML		21 52 17.6		
	comp=E,7.5nm,4.3s								
I56US	**NEWPORT INFRAS**		**7.06**	**0**	*i*		22 35 40.0		
	baz=176,slow=324,SNR=4.6								
I10CA	**LAC DU BONNET**		**17.27**	**51**	*i*		23 39 40.0		
	baz=240,slow=323,SNR=3.0								
YKA	**Yellowknife Ar**		**21.38**	**3**	P	**P**	**21 54 39.5**	**-0.2**	
	comp=E,0.2nm,0.7s,baz=184,slow=11,SNR=3.6								

IDC 15 22:16:05.1±2.0, 1°59'S×137°19'E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/39, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=115.1km s-min=30.8km az=108.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.46**	**189**	P	Pn	22 20 21.0	-1.5
	0.1nm,0.3s,baz=8.5,slow=12,SNR=6.5						
FITZ	**Fitzroy Crossi**	**19.95**	**214**	P	P	22 20 39.4	+0.5
	0.1nm,0.3s,baz=34,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**22.18**	**188**	P	P	22 21 03.6	+0.6
	0.4nm,0.5s,baz=14,slow=10,SNR=5.6						
ILAR	**Eielson Array**	**85.45**	**25**	P	P	22 28 44.3	-0.1
	0.2nm,0.8s,baz=255,slow=5.5,SNR=1.3						

IDC 15 22:16:10.3±6.2, 19°46S×174°78W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/43, mbtmp3.8/4, Error ellipse: s-maj=257.0km s-min=40.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.62**	**262**	P	P	22 23 19.4	+0.6
	5.1nm,0.9s,baz=66,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**47.71**	**255**	P	P	22 24 49.0	-0.2
	0.8nm,0.5s,baz=93,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**47.75**	**260**	P	P	22 24 49.0	-0.6
	0.4nm,0.3s,baz=98,slow=7.4,SNR=17						
ILAR	**Eielson Array**	**86.66**	**12**	P	P	22 28 55.4	0.0
	0.4nm,0.8s,baz=208,slow=4.9,SNR=3.0						

NNC 15 22:38:27.5±0.4, 47°.94N×80°.41E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=4.0km s-min=2.7km az=44.0
SOME 15 22:38:28.5, 47°.95N×80°.27E, h10km
ASRS 15 22:38:30.2±0.4, 48°N±2°×8°1E±°, h5km, MLh3.6/9, Error ellipse: s-maj=4.4km s-min=3.4km az=80.7, confirmed
ISC 15 22:38:29.3±1.2, 48°09N±0°.02×80°53E±0°.02, h3km±11km, n63, σ2s06/110, 12C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.61**	**142**	⇓P	**Pn**	**22 38 55.9**	**-2.8**
	4.3nm,0.2s						
MAKZ				⇓S	**Sn**	**22 39 16.8**	**-3.2**
	67nm,0.4s						
MAKZ	**Makanchi**	**1.61**	**142**	Pg	**Pn**	**22 38 55.9**	**-2.8**
MAKZ				Sg	**Sn**	**22 39 17.1**	**-2.8**
MK31	**Makanchi Array**	**1.76**	**137**	⇑P	**Pn**	**22 38 58.8**	**-1.9**
	8.8nm,0.2s,baz=316,slow=16,SNR=439						
MK31				S	**Sn**	**22 39 21.4**	**-2.2**
	40nm,0.4s,baz=316,slow=27,SNR=21						
MKAR	**Makanchi Array**	**1.76**	**137**	Pg	**Pn**	**22 38 58.9**	**-1.8**
MKAR				Sg	**Sn**	**22 39 21.6**	**-2.1**
SEM	**Semipalatinsk**	**2.33**	**356**	*eP*	**Pb**	**22 39 10.0**	**-2.0**
	2.9nm,0.1s						
SEM				*eS*	**Sb**	**22 39 39.6**	**-1.6**
	38nm,0.3s						
KURBB	**Kurchatov Arra**	**2.85**	**333**	⇓Pn	**Pn**	**22 39 14.6**	**-1.1**
	0.8nm,0.3s						
KURBB				⇑Pg	**Pg**	**22 39 23.6**	**-0.4**
	1.3nm,0.2s						
KURBB				⇓Lg	Lg	22 40 01.5	
	84nm,0.7s						
KURK	**Kurchatov**	**2.91**	**335**	⇑Pn	**Pn**	**22 39 15.1**	**-1.3**
	4.3nm,1.4s						
KURK				⇑Pg	**Pg**	**22 39 23.7**	**-1.4**
	1.0nm,0.3s						
KURK				⇑Lg	Lg	22 40 01.6	
	18nm,0.5s						
KURK	**Kurchatov**	**2.91**	**335**	Pn	**Pn**	**22 39 14.6**	**-1.8**
KURK				Pg	**Pg**	**22 39 24.5**	**-0.6**
KURK				Sg	**Sg**	**22 40 06.0**	**+3.2**
KAPS	**Kapalarasan**	**2.92**	**197**	*eP*	**Pn**	**22 39 18.2**	**+1.5**
	11nm,0.4s						
KAPS				*eS*	**Sn**	**22 39 54.6**	**+2.4**
	43nm,0.4s						
KAPS	**Kapalarasan**	**2.92**	**197**	Pg	**Pn**	**22 39 18.2**	**+1.5**
	11nm,0.4s						
KAPS				Lg	Lg	22 39 54.6	
	43nm,0.4s						
ZSN	**Zaisan**	**2.99**	**101**	*eP*	**Pb**	**22 39 24.3**	**+1.1**
	2.1nm,0.2s						
ZSN				*eS*	**Sb**	**22 40 04.7**	**+4.6**
	21nm,0.2s						
TDK	**Taldyqorghan**	**3.42**	**206**	*eP*	**Pb**	**22 39 28.8**	**-1.7**
	51nm,0.4s						
TDK				*eS*	**Sb**	**22 40 12.1**	**-0.3**
	55nm,0.5s						
TDK	**Taldyqorghan**	**3.42**	**206**	Pg	**Pb**	**22 39 28.8**	**-1.7**
	51nm,0.4s						
TDK				Lg	Lg	22 40 12.1	
	55nm,0.5s						
DJR	**Jarkent**	**3.79**	**188**	*eP*	**Pb**	**22 39 35.9**	**-1.0**
	15nm,0.5s						
DJR				*eS*	**Sb**	**22 40 24.6**	**+1.4**
	22nm,0.5s						
DJR	**Jarkent**	**3.79**	**188**	Pg	**Pb**	**22 39 35.9**	**-1.0**
	15nm,0.5s						
DJR				Lg	Lg	22 40 24.6	
	22nm,0.5s						
UKR	**Ust'-Kan**	**3.97**	**43**	Pn	**Pn**	**22 39 32.9**	**+1.8**
UKR				Pg	**Pg**	**22 39 43.1**	**-2.2**
UKR				Sg	**Sg**	**22 40 37.0**	**+0.2**
BLB	**Baldybastay**	**4.24**	**200**	*eP*	**Pb**	**22 39 42.3**	**-2.3**
	8.9nm,0.5s						
BLB				*eS*	**Sb**	**22 40 35.8**	**-0.3**
	41nm,0.4s						
BLB	**Baldybastay**	**4.24**	**200**	Pg	**Pb**	**22 39 42.3**	**-2.3**
	8.9nm,0.5s						
BLB				Lg	Lg	22 40 35.8	
	41nm,0.4s						
KTMS	**Ketmen**	**4.64**	**182**	*eP*	**Pb**	**22 39 49.0**	**-2.5**
	1.1nm,0.3s						
KTMS				*eS*	**Sb**	**22 40 47.0**	**-0.8**
	3.0nm,0.2s						
KTMS	**Ketmen**	**4.64**	**182**	Pg	**Pb**	**22 39 49.0**	**-2.5**
	1.1nm,0.3s						
KTMS				Lg	Lg	22 40 47.0	
	3.0nm,0.2s						
KPKS	**Kokpek**	**4.80**	**196**	*eP*	**Pb**	**22 39 53.0**	**-1.1**
	5.1nm,0.4s						
KPKS				*eS*	**Sb**	**22 40 53.9**	**+1.7**
	15nm,0.7s						
PDGK	**Podgornoye**	**4.82**	**189**	Pg	**Pb**	**22 39 54.2**	**-0.2**
	3.7nm,0.5s						
PDGK				Lg	Lg	22 40 55.2	
	4.6nm,0.5s						
PDGK	**Podgornoye**	**4.82**	**189**	⇑Pg	**Pb**	**22 39 54.3**	**0.0**
	4.6nm,0.5s						
PDGK				⇑Lg	Lg	22 40 55.2	
	6.7nm,0.5s						
DGZ	**Jazzator, Alta**	**4.83**	**68**	Pn	**Pn**	**22 39 43.4**	**+0.4**
DGZ				Pg	**Pg**	**22 40 01.0**	**-0.8**
DGZ				Sg	**Sg**	**22 41 03.9**	**-0.5**
SHLS	**Shalkode**	**4.99**	**189**	*eP*	**Pb**	**22 39 55.7**	**-1.6**
	2.0nm,0.4s						
SHLS				*eS*	**Sb**	**22 40 58.2**	**+0.6**
	10nm,0.4s						
SHLS	**Shalkode**	**4.99**	**189**	Pg	**Pb**	**22 39 55.7**	**-1.6**
	2.0nm,0.4s						
SHLS				Lg	Lg	22 40 58.2	
	10nm,0.4s						
UZB	**Uzynbulak**	**5.05**	**193**	*eP*	**Pb**	**22 39 58.3**	**-0.2**
	4.5nm,0.3s						
UZB				*eS*	**Sb**	**22 41 02.5**	**+3.0**
	5.1nm,0.3s						
UZB	**Uzynbulak**	**5.05**	**193**	Pg	**Pb**	**22 39 58.3**	**-0.2**
	4.5nm,0.3s						
UZB				Lg	Lg	22 41 02.6	
	5.1nm,0.3s						
CHBI	**Chibit, Altay**	**5.08**	**61**	Pn	**Pn**	**22 39 49.1**	**+2.7**
CHBI				Pg	**Pg**	**22 40 04.5**	**-2.2**
CHBI				Sg	**Sg**	**22 41 11.5**	**-1.0**
KUU	**Kurty**	**5.11**	**216**	*eP*	**Pb**	**22 39 57.8**	**-1.5**
	0.9nm,0.2s						
KUU				*eS*	**Sb**	**22 41 02.2**	**+1.1**
	21nm,0.3s						
KUU	**Kurty**	**5.11**	**216**	Pg	**Pb**	**22 39 57.8**	**-1.5**
	0.9nm,0.2s						
KUU				Lg	Lg	22 41 02.2	
	21nm,0.3s						
KTBS	**Karatobe**	**5.13**	**213**	*eP*	**Pb**	**22 39 58.5**	**-1.2**
	1.8nm,0.2s						
KTBS				*eS*	**Sb**	**22 41 03.4**	**+1.6**
	20nm,0.5s						
KTBS	**Karatobe**	**5.13**	**213**	Pg	**Pb**	**22 39 58.5**	**-1.2**
	1.8nm,0.2s						
KTBS				Lg	Lg	22 41 03.4	
	20nm,0.5s						
ZHN	**Zhinishke**	**5.14**	**197**	*eP*	**Pb**	**22 39 59.5**	**-0.3**
	5.1nm,0.2s						
ZHN				*eS*	**Sb**	**22 41 04.7**	**+2.8**
	11nm,0.2s						
ZHN	**Zhinishke**	**5.14**	**197**	Pg	**Pb**	**22 39 59.5**	**-0.3**
	5.1nm,0.2s						
ZHN				Lg	Lg	22 41 04.7	
	11nm,0.2s						
AKAR	**Aktash**	**5.16**	**62**	Pn	**Pn**	**22 39 50.2**	**+2.7**
AKAR				Pg	**Pg**	**22 40 06.5**	**-1.6**
AKAR				Sg	**Sg**	**22 41 13.9**	**-0.9**
SATY	**Saty**	**5.25**	**197**	*eP*	**Pb**	**22 40 02.4**	**+0.7**
	2.1nm,0.2s						
SATY				*eS*	**Sb**	**22 41 09.7**	**+4.6**
	5.0nm,0.2s						
SATY	**Saty**	**5.25**	**197**	Pg	**Pb**	**22 40 02.4**	**+0.7**
	2.1nm,0.2s						
SATY				Lg	Lg	22 41 09.7	
	5.0nm,0.2s						
BTLS	**Baital**	**5.41**	**238**	*eP*	**Pb**	**22 40 02.8**	**-1.6**
	0.9nm,0.2s						
BTLS				*eS*	**Sb**	**22 41 10.7**	**+1.0**
	5.9nm,0.5s						
BTLS	**Baital**	**5.41**	**238**	Pg	**Pb**	**22 40 02.8**	**-1.6**
	0.9nm,0.2s						
BTLS				Lg	Lg	22 41 10.7	
	5.9nm,0.5s						
KOTS	**Kotyrbulak**	**5.41**	**208**	*eP*	**Pb**	**22 40 04.3**	**-0.2**
	1.2nm,0.2s						
KOTS				*eS*	**Sb**	**22 41 13.3**	**+3.4**
	15nm,0.6s						
KOTS	**Kotyrbulak**	**5.41**	**208**	Pg	**Pb**	**22 40 04.3**	**-0.2**
	1.2nm,0.2s						
KOTS				Lg	Lg	22 41 13.3	
	15nm,0.6s						
ULGR	**Ulagan, Altay**	**5.48**	**60**	Pn	**Pn**	**22 39 55.2**	**+3.4**
ULGR				Pg	**Pg**	**22 40 13.6**	**-0.6**
ULGR				Sg	**Sg**	**22 41 28.6**	**+3.5**
OTUK	**Ortayu**	**5.49**	**275**	⇑Pn	**Pn**	**22 39 48.2**	**-3.7**
	1.6nm,1.1s						
OTUK				⇑Sn	**Sn**	**22 40 53.1**	**-2.3**
	0.8nm,0.3s						
OTUK				⇑Lg	Lg	22 41 19.5	
	12nm,0.8s						
MDOK	**Medeo**	**5.50**	**208**	*eP*	**Pb**	**22 40 05.1**	**-0.9**
	2.1nm,0.3s						
MDOK				*eS*	**Sb**	**22 41 14.6**	**+2.3**
	8.0nm,0.7s						
MDOK	**Medeo**	**5.50**	**208**	Pn	**Pn**	**22 39 49.1**	**-3.0**
	3.6nm,1.1s						
MDOK				⇑Lg	Lg	22 41 15.9	
	6.8nm,0.6s						
MDOK	**Medeo**	**5.50**	**208**	Pg	**Pb**	**22 40 05.1**	**-0.9**
	2.1nm,0.3s						
MDOK				Lg	Lg	22 41 14.6	
	8.0nm,0.7s						
BRZS	**Berezniki**	**5.50**	**293**	*eP*	**Pb**	**22 40 05.2**	**-0.7**
	2.3nm,0.3s						
BRZS				*eS*	**Sb**	**22 41 15.1**	**+2.8**
	1.4nm,0.2s						
BRZS	**Berezniki**	**5.50**	**293**	Pg	**Pb**	**22 40 05.2**	**-0.7**
	2.3nm,0.3s						
CUR	**Chagan-Uzun**	**5.52**	**66**	Pn	**Pn**	**22 39 53.5**	**+1.1**
CUR				Pg	**Pb**	**22 40 11.0**	**+4.7**
CUR				S	**Sn**	**22 40 54.9**	**-1.5**
CUR				Sg	**Sg**	**22 41 27.9**	**+1.5**
KRBS	**Karabastau**	**5.55**	**219**	*eP*	**Pb**	**22 40 03.8**	**-3.0**
	1.2nm,0.5s						
KRBS				*eS*	**Sb**	**22 41 12.9**	**-0.8**
	9.3nm,0.7s						
KRBS	**Karabastau**	**5.55**	**219**	Lg	Lg	22 41 12.9	
	9.3nm,0.7s						
TNSS	**Tian-Shan**	**5.64**	**208**	*eP*	**Pb**	**22 40 08.3**	**-0.3**
	2.2nm,0.5s						
TNSS				*eS*	**Sb**	**22 41 19.8**	**+3.0**
	2.7nm,0.6s						
TNSS	**Tian-Shan**	**5.64**	**208**	Pg	**Pb**	**22 40 08.3**	**-0.3**
	2.2nm,0.5s						
TNSS				Lg	Lg	22 41 19.8	
	2.7nm,0.6s						
ARTR	**Artybash**	**5.72**	**47**	Pn	**Pn**	**22 39 58.3**	**+3.2**
ARTR				S	**Sn**	**22 41 00.1**	**-1.2**
ARTR				Sg	**Sg**	**22 41 33.8**	**+0.8**
MTBS	**Maitube**	**5.73**	**212**	*eP*	**Pb**	**22 40 10.2**	**+0.2**
	0.9nm,0.1s						
MTBS				*eS*	**Sb**	**22 41 23.4**	**+4.3**
	8.7nm,0.3s						
MTBS	**Maitube**	**5.73**	**212**	Pg	**Pb**	**22 40 10.2**	**+0.2**
	0.9nm,0.1s						
MTBS				Lg	Lg	22 41 23.4	
	8.7nm,0.3s						
DGS	**Degeres**	**5.88**	**216**	*eP*	**Pb**	**22 40 10.7**	**-1.8**
	3.4nm,0.3s						
DGS				*eS*	**Sb**	**22 41 25.0**	**+1.6**
	13nm,0.5s						
DGS	**Degeres**	**5.88**	**216**	Pg	**Pb**	**22 40 10.7**	**-1.8**
	3.4nm,0.3s						
DGS				Lg	Lg	22 41 25.0	
	13nm,0.5s						
SGDS	**Sogindy**	**6.21**	**224**	*eP*	**Pb**	**22 40 19.5**	**+1.5**
	0.8nm,0.0s						
SGDS				*eS*	**Sb**	**22 41 38.6**	**+6.0**
	7.3nm,0.1s						
TKM2	**Tokmak 2**	**6.22**	**216**	⇑Lg	Lg	22 41 38.1	
	4.3nm,0.5s						
ELT	**Eltsovka**	**6.32**	**33**	S	**Sn**	**22 41 15.9**	**0.0**
ELT				Sg	**Sg**	**22 41 53.0**	**+0.8**
TASR	**Tashtagol**	**6.62**	**42**	S	**Sn**	**22 41 22.5**	**-0.9**
TASR				Sg	**Sg**	**22 42 03.9**	**+2.0**

IDC 15 22:52:07.8±1.7, 0°.12N×123°.45E, h157km±16km, mb3.7/20, mb1 3.8/23, mb1mx3.6/47, mbtmp4.2/23, Error ellipse: s-maj=16.3km s-min=9.9km az=74.0
DJA 15 22:52:07.4±0.4, 0°S±4°×12°3E±°, h142km, 8km, M4.5/20, mb4.5/8, mB4.9/2, MLv4.4/20, Mw(mB)4.2/2
NEIC 15 22:52:07.0±2.5, 0°.00N±0°.07×123°.40E±0°.06, h141km±6km, mb4.4/45, Error ellipse: s-maj=9.7km s-min=8.3km az=181.0
ISC 15 22:52:07.9±0.3, 0°.03S±0°.04×123°.40E±0°.04, h157km, n121, σ1s56/135, mb4.3/53, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.83**	**44**	P	**Pn**	**22 52 30.4**	**-1.7**
LUWI	**Luwuk**	**1.19**	**212**		**Pn**	**22 52 32.6**	**-2.4**
LUWI				Sn	**Sn**	**22 52 51.0**	**-4.8**
LUWI	**Luwuk**	**1.19**	**212**	P	**Pn**	**22 52 32.8**	**-2.2**
LUWI	**Luwuk**	**1.19**	**212**	P	**Pn**	**22 52 32.8**	**-2.2**
MRSI	**Marisa**	**1.54**	**289**	P	**Pn**	**22 52 36.1**	**-2.4**
APSI	**Ampana**	**1.96**	**243**	P	**Pn**	**22 52 41.6**	**-1.4**
TOLI2	**Tolitoli**	**2.85**	**293**	Pn	**Pn**	**22 52 52.0**	**-1.8**
TOLI2				Sn	**Sn**	**22 53 24.7**	**-4.5**
TOLI2	**Tolitoli**	**2.85**	**293**	P	**Pn**	**22 52 54.8**	**+1.0**
SANI	**Sanana**	**3.27**	**128**	P	**Pn**	**22 52 56.6**	**-2.5**
SANI	**Sanana**	**3.27**	**128**	P	**Pn**	**22 52 56.8**	**-2.3**
MPSI	**Mapaga**	**3.52**	**276**	P	**Pn**	**22 53 01.2**	**-1.0**
TNTI	**Ternate**	**4.04**	**79**	Pn	**Pn**	**22 53 07.6**	**-1.4**
TNTI				Sn	**Sn**	**22 53 52.4**	**-4.1**
TNTI	**Ternate**	**4.04**	**79**	P	**Pn**	**22 53 07.6**	**-1.4**
TNTI	**Ternate**	**4.04**	**79**	P	**Pn**	**22 53 07.9**	**-1.1**
LBMI	**Labuha**	**4.14**	**98**	P	**Pn**	**22 53 09.0**	**-1.3**
TTSI	**Tana Toraja**	**4.67**	**230**	P	**Pn**	**22 53 15.5**	**-1.6**
SPSI	**Sidrap Palu**	**5.33**	**223**	P	**Pn**	**22 53 25.1**	**-0.8**
	0.3nm902nm53nm,0.6s						
BNSI	**Bone**	**5.45**	**217**	P	**Pn**	**22 53 26.4**	**-1.0**
	0.2nm38nm,0.6s						
AAI	**Ambon**	**6.01**	**127**	P	**Pn**	**22 53 34.6**	**-0.3**
	0.4nm72nm,0.7s						
KAPI	**Kappang**	**6.15**	**216**	P	**Pn**	**22 53 38.4**	**+1.6**
	3.7nm,0.3s,baz=171,slow=23,SNR=4.8						
KAPI				S	**Sn**	**22 54 40.8**	**-5.5**
	1.0nm,0.3s,baz=212,slow=22,SNR=1.4						
KAPI	**Kappang**	**6.15**	**216**		**Pn**	**22 53 35.9**	**-0.9**
BKSI	**Bulukumba**	**6.19**	**212**	P	**Pn**	**22 53 35.7**	**-1.6**
	0.1nm16nm,0.6s						
MYLDM	**Lahad Datu**	**7.12**	**317**	Pn	**Pn**	**22 53 49.3**	**-0.4**
SWI	**Sorong**	**7.90**	**96**	P	**Pn**	**22 53 59.5**	**-0.6**
	0.2nm41nm,1.0s						
SIJI	**Sorong**	**7.91**	**96**	P	**Pn**	**22 53 59.7**	**-0.5**
	4.9nm,0.3s,baz=290,slow=9.8,SNR=10						
SIJI				S	**Sn**	**22 55 28.4**	**-0.1**
	0.7nm,0.3s,baz=275,slow=24,SNR=1.1						
MTKI	**Muara Teweh, K**	**8.55**	**264**	P	Pn	22 54 21.3	+13
KKM	**Kota Kinabalu**	**9.37**	**310**	Pn	**Pn**	**22 54 23.1**	**+3.4**
KKM	**Kota Kinabalu**	**9.37**	**310**	P	**Pn**	**22 54 24.3**	**+4.6**
	51nm,0.7s						
KMMI	**Kalianget**	**11.71**	**233**	P	**Pn**	**22 54 53.6**	**+3.2**
PWJI	**Pagerwojo**	**14.02**	**235**	P	**P**	**22 55 23.5**	**+0.6**
SMPI	**Sarmi**	**15.43**	**97**	P	**P**	**22 55 40.0**	**+1.4**
KNRA	**Kununurra**	**16.42**	**161**	P	**Pn**	**22 55 50.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.09**	**173**	P	**P**	**22 56 08.4**	**+0.6**
	0.7nm,0.3s,baz=19,slow=7.7,SNR=18						
FITZ	**Fitzroy Crossi**	**18.09**	**173**	P	**P**	**22 56 08.6**	**+0.8**
DLV	**T Lat**	**18.99**	**309**		**Pn**	**22 56 19.6**	**-0.7**
WB0	**Warramunga Arr**	**22.38**	**152**	P	**P**	**22 56 53.4**	**-0.1**
WB0				IAmb	IAmb	22 57 03.9	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**22 56 54.4**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=339,slow=11,SNR=50						
WRA				PcP	**PcP**	**23 00 43.8**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=338,slow=1.9,SNR=4.2						
WRA				S	**S**	**23 00 46.8**	**-3.2**
	comp=Z,0.7nm,0.7s,baz=335,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**22 56 53.8**	**-0.9**
IPM	**Ipoh**	**22.80**	**282**	P	**P**	**22 56 57.5**	**0.0**
IPM				IAmb	IAmb	22 56 59.2	
	comp=Z,24nm,1.2s						
PPI	**Padang Panjang**	**23.01**	**269**	P	**P**	**22 57 01.3**	**+1.9**
QIZ	**Qiongzhong**	**23.15**	**326**	P	**P**	**22 57 01.3**	**+0.7**
QIZ				IAmb	IAmb	22 57 17.0	
	comp=Z,28nm,1.4s						
KULM	**Kulim**	**23.33**	**283**	P	**P**	**22 57 02.6**	**+0.4**
KULM				IAmb	IAmb	22 57 04.2	
	comp=Z,14nm,0.8s						
UBPT	**Khong Chiam**	**23.35**	**311**	P	**P**	**22 57 03.2**	**+0.7**
UBPT				IAmb	IAmb	22 57 05.2	
	comp=Z,9.6nm,0.9s						
SSLB	**Suanglung**	**23.79**	**354**	P	**P**	**22 57 07.9**	**+1.4**
SSLB				IAmb	IAmb	22 57 12.1	
	comp=Z,8.8nm,0.7s						
COEN	**Coen**	**23.97**	**126**	P	**P**	**22 57 10.0**	**+1.9**
COEN				IAmb	IAmb	22 57 10.8	
	comp=Z,8.3nm,0.9s						
AS31	**Alice Springs**	**25.61**	**157**	P	**P**	**22 57 25.2**	**+2.3**
ASAR	**Alice Springs**	**25.61**	**157**	P	**P**	**22 57 23.6**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=337,slow=11,SNR=3.1						
ASAR				PcP	**PcP**	**23 00 50.5**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=346,slow=2.2,SNR=10						
ASAR				ScP	**ScP**	**23 04 13.0**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=354,slow=2.5,SNR=5.4						
ASAR	**Alice Springs**	**25.61**	**157**	P	**P**	**22 57 25.6**	**+2.6**
ASAR					**PcP**	**23 00 50.4**	**+0.6**
ASAR					**ScP**	**23 04 15.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.25**	**309**	P	**P**	**22 58 04.0**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=135,slow=7.0,SNR=25						
CMAR

PKIN	Phulchoki	45.64	310	eP		P		23 00 13.5	+0.2
	comp=Z,7.4nm,0.5s									
KKN	Kakani	45.83	310	eP		P		23 00 15.0	+0.2
GKN	Gorkha	46.43	310	eP		P		23 00 19.9	+0.5
KOLN	Koldanda	47.12	309	eP		P		23 00 25.6	+0.9
	comp=Z,68nm,0.8s									
ASAJ	Asahikawa	47.17	19	P		P		23 00 23.9	-0.6
	comp=Z,8.3nm,0.6s,baz=236,slow=8.1,SNR=5.8									
JKA	Kamikawa-asahi	47.17	19	P		P		23 00 24.9	+0.3
JKA				IAmb		IAmb		23 00 25.8		
	comp=Z,12nm,0.7s									
DANN	Dangsing	47.27	310	eP		P		23 00 26.2	+0.1
	comp=Z,58nm,0.7s									
PYUN	Piuthan	47.75	309	eP		P		23 00 30.7	+1.1
	comp=Z,54nm,0.6s									
KLR	Kul'dur	49.59	7	P		P		23 00 42.2	-0.8
	comp=Z,1.0nm,0.5s,baz=217,slow=4.9,SNR=5.8									
ULN	Ulaanbaatar	49.78	346	P		P		23 00 44.2	-0.5
ULN				IAmb		IAmb		23 00 46.1		
	comp=Z,3.7nm,0.6s									
SONM	Songino Array	49.92	345	P		P		23 00 45.3	-0.4
	comp=Z,3.7nm,0.7s,baz=161,slow=9.0,SNR=31									
SONM				PcP		PcP		23 02 03.0	-0.7
	comp=Z,0.7nm,0.6s,baz=176,slow=4.5,SNR=4.0									
SONM	Songino Array	49.92	345	P		P		23 00 45.5	-0.2
WMQ	Urumqi	54.03	329	eP		P		23 01 18.8	+2.7
MK31	Makanchi Array	58.85	328	P		P		23 01 49.5	-0.6
MKAR	Makanchi Array	58.85	328	P		P		23 01 49.6	-0.5
	comp=Z,1.4nm,0.5s,baz=122,slow=8.6,SNR=36									
MKAR				PcP		PcP		23 02 36.7	-1.2
	comp=Z,1.0nm,0.6s,baz=133,slow=3.8,SNR=6.9									
MKAR	Makanchi Array	58.85	328	P		P		23 01 49.3	-0.8
AAK	Ala-Archa	61.01	321	P		P		23 02 04.8	-0.4
AAK				IAmb		IAmb		23 02 08.9		
	comp=Z,3.6nm,1.4s									
KBL	Kabul	61.27	310	P		P		23 02 06.1	-1.0
KBL				IAmb		IAmb		23 02 08.5		
	comp=Z,5.5nm,0.6s									
YAK	Yakutsk	62.09	3	P		P		23 02 10.3	-1.4
	comp=Z,5.6nm,0.4s,baz=66,slow=2.3,SNR=4.3									
YAK	Yakutsk	62.09	3	P		P		23 02 10.9	-0.7
GAR	Garm	62.12	315	P		P		23 02 11.3	-1.2
GAR				IAmb		IAmb		23 02 14.3		
	comp=Z,13nm,1.3s									
BKZ	Black Stump Fm	62.15	135	P		P		23 02 13.5	+0.8
ZAA0	Zalesovo Array	62.51	335	P		P		23 02 13.6	-1.0
ZALV	Zalesovo Beam	62.51	335	P		P		23 02 12.9	-1.7
	comp=Z,1.3nm,0.5s,baz=94,slow=5.3,SNR=8.0									
ZALV	Zalesovo Beam	62.51	335	P		P		23 02 13.3	-1.4
MA2	Magadan	63.16	15	P		P		23 02 16.7	-2.1
	comp=Z,5.1nm,0.6s,baz=187,slow=17,SNR=2.7									
MA2	Magadan	63.16	15	P		P		23 02 18.6	-0.3
MA2				IAmb		IAmb		23 02 21.0		
	comp=Z,7.6nm,0.8s									
KURBB	Kurchatov Arra	63.19	330	P		P		23 02 17.8	-1.5
	comp=Z,1.1nm,0.5s,baz=136,slow=6.2,SNR=27									
KURBB				PcP		PcP		23 02 54.0	-1.3
	comp=Z,0.5nm,0.6s,baz=125,slow=3.8,SNR=5.1									
KURK	Kurchatov	63.20	330	P		P		23 02 18.5	-0.8
KURK				IAmb		IAmb		23 02 19.6		
	comp=Z,3.8nm,0.5s									
SEY	Seymchan	66.44	14	P		P		23 02 40.5	+0.5
	comp=Z,1.3nm,0.6s,baz=132,slow=23,SNR=3.1									
TIXI	Tiksi	71.65	2	P		P		23 03 10.1	-1.9
	comp=Z,4.3nm,0.8s,baz=95,slow=19,SNR=12									
TIXI	Tiksi	71.65	2	P		P		23 03 11.0	-1.0
TIXI				IAmb		IAmb		23 03 12.0		
	comp=Z,4.8nm,0.8s									
ABKAR	Akbulak array	73.00	322	P		P		23 03 18.6	-1.9
NRIK	Noril'sk	73.31	347	P		P		23 03 20.6	-1.2
	comp=Z,0.9nm,0.3s,baz=105,slow=6.5,SNR=3.6									
RAYN	Ar Rayn	78.92	294	P		P		23 03 53.6	-1.0
RAYN				IAmb		IAmb		23 04 11.0		
	comp=Z,5.8nm,1.4s									
XMAS	Kiritimati	79.16	88	P		P		23 03 54.6	-1.5
VNDA	Vanda	80.16	172	P		P		23 04 01.0	+0.8
	comp=Z,1.1nm,0.8s,baz=349,slow=5.4,SNR=2.3									
VNDA	Vanda	80.16	172	P		P		23 04 01.0	+0.8
ANM	Nome	82.04	24	P		P		23 04 10.7	+0.4
SDPT	Sand Point	82.15	34	P		P		23 04 11.5	+0.5
TTA	Tatalina	85.73	27	P		P		23 04 30.0	+0.8
TTA				IAmb		IAmb		23 04 35.9		
	comp=Z,6.9nm,1.3s									
L19K	White Mountain	86.16	28	P		P		23 04 32.0	+0.8
OHAK	Old Harbor	86.39	33	P		P		23 04 33.0	+0.6
CAST	Castle Rocks	87.56	27	P		P		23 04 38.5	+0.5
ILAR	Eielson Array	89.90	25	P		P		23 04 47.8	-1.1
	comp=Z,0.3nm,0.5s,baz=247,slow=5.0,SNR=1.5									
QSPA	South Pole Qui	89.90	180	P		P		23 04 49.9	+0.8
QSPA				IAmb		IAmb		23 05 14.8		
	comp=Z,5.5nm,1.4s									
TORD	Torodi Ar. Bea	120.80	285	PKP		PKPdf		23 10 41.5	-1.0
	comp=Z,0.4nm,0.3s,baz=85,slow=2.0,SNR=15									
SCHQ	Schefferville	124.73	7	PKP		PKPdf		23 10 48.6	-0.3
	comp=Z,0.7nm,0.4s,baz=18,slow=16,SNR=1.9									
TXAR	Lajitas Array	126.51	53	PKP		PKiKP		23 10 53.8	+0.1
	comp=Z,0.1nm,0.5s,baz=86,slow=1.4,SNR=3.4									

*IDC **15** 22:55:11.0±0.9,51.˚84N×173.˚68W,h0km,mb4.0/25, mb1 4.1/26,mb1mx4.1/45,mbtmp4.0/26,ML4.5/1,MS3.7/15, Ms1 3.7/15,ms1mx3.2/100,Error ellipse: s-maj=25.8km s-min=12.7km az=175.0*

*NEIC **15** 22:55:11.3±1.9,51.˚44N±0.˚06×173.˚46W±0.˚07,h10km±1km, mb4.3/107,ML3.8(AEIC),Error ellipse: s-maj=10.5km s-min=6.9km az=197.0*

*AEIC **15** 22:55:14±3.0,51.˚54N±0.˚07×173.˚55W±0.˚08,h57km±5km, Error ellipse: s-maj=10.6km s-min=7.2km az=182.0*

ISC 15 22:55:15.6±0.5,51.˚59N±0.˚08×173.˚51W±0.˚04,h37km, n287,σ1§10/273,mb4.2/52,MS3.7/17,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.74	325		Pn	22 55 29.9	+0.4
ATKA					Sn	22 55 40.6	+1.0
KOFP	Korovin Flat P	0.78	332		Pn	22 55 30.8	+0.8
GSMY	Great Sitkin M	1.65	287		Pn	22 55 41.9	0.0
GSTR	Great Sitkin T	1.66	289		Pn	22 55 42.0	-0.1
GSCK	Great Sitkin C	1.70	285		Pn	22 55 42.5	-0.2
GSTD	Great Sitkin T	1.70	287		Pn	22 55 42.1	-0.6
GSTD					Sn	22 56 05.5	+2.3
ADK	Adak	2.00	280	Pn	Pn	22 55 45.4	-1.3
ADK	Adak	2.00	280		Sn	22 56 10.4	0.0
KIWB	Kanaga Island	2.28	278		Pn	22 55 50.2	-0.4
KIKV	Kanaga Island	2.30	279		Pn	22 55 50.8	0.0
KIMD	Kanaga Island	2.33	276		Pn	22 55 51.3	+0.1
TAPA	Tanaga Point A	2.69	276		Pn	22 55 56.4	+0.1
TAFL	Tanaga Flats	2.74	275		Pn	22 55 57.2	+0.3
TAFP	Tanaga Falls P	2.80	278		Pn	22 55 57.9	+0.1
TASE	Tanaga Southea	2.83	277		Pn	22 55 58.4	+0.2
NIKH	Nikolski High	3.17	62		Pn	22 56 01.7	-1.2
NIKH	Nikolski High	3.17	62		Sn	22 56 42.0	+2.6
NIKH	Nikolski High	3.17	62	P	Pn	22 56 03.7	+0.9
	baz=243						
GANO	Gareloi North	3.30	276		Pn	22 56 04.7	0.0
OKSP	Okmok Steeple	3.60	60		Pn	22 56 08.8	0.0
MSW	Makushin Switc	4.70	58		Pn	22 56 24.2	+0.4
UNV	Unalaska Valle	4.82	59	Pn	Pn	22 56 26.4	+1.0
UNV	Unalaska Valle	4.82	59	P	Pn	22 56 27.2	+1.8
	baz=243,SNR=5.6						
ISLZ	Isanotski Laza	6.67	58		Pn	22 56 51.5	+0.6
FALS	False Pass	6.88	58	Pn	Pn	22 56 55.0	+1.2
FALS	False Pass	6.88	58	P	Pn	22 56 55.8	+2.0
	baz=244						
SDPT	Sand Point	8.63	59	Pn	Pn	22 57 18.2	+0.5
SDPT	Sand Point	8.63	59	P	Pn	22 57 19.2	+1.5
	baz=248						
CHGN	Chignik	10.06	56	Pn	Pn	22 57 37.3	0.0
GAMB	Gambell	12.26	4	Pn	Pn	22 58 09.7	+2.5
GAMB	Gambell	12.26	4	P	Pn	22 58 11.3	+4.1
	baz=185,SNR=9.4						
OHAK	Old Harbor	13.03	56	P	Pn	22 58 16.1	-1.7
	baz=252						
Q19K	Cape Douglas,	13.46	49	P	Pn	22 58 24.4	+0.6
	baz=245						
KDAK	Kodiak Island	13.56	55	Pn	Pn	22 58 22.7	-2.4
	0.6nm,0.3s,baz=233,slow=2.6,SNR=16						
KDAK				Sn	S	23 01 12.4	-4.1
	0.1nm,0.3s,baz=24,slow=6.6,SNR=2.6						
KDAK	Kodiak Island	13.56	55	P	Pn	22 58 25.6	+0.5
	baz=251						
ANM	Nome	13.68	15	Pn	Pn	22 58 25.9	-0.8
ANM	Nome	13.68	15	P	P	22 58 32.9	-2.0
	baz=202						
SVW2	Sparrevohn	13.71	39		Pn	22 58 27.3	+0.1
P19K	Oil Pt	13.96	47	P	P	22 58 36.2	-1.9
	baz=243						
N19K	Bonanza Creek	13.99	41		Pn	22 58 33.7	+2.6
N19K	Bonanza Creek	13.99	41	P	Pn	22 58 33.3	+2.2
	baz=237						
TNA	Tin City	14.30	9		Pn	22 58 36.5	+1.5
TNA	Tin City	14.30	9	P	P	22 58 39.1	-2.6
	baz=194						
O20K	Slope Mountain	14.43	46	P	P	22 58 41.1	-2.1
	baz=243						
L19K	White Mountain	14.64	36		Pn	22 58 40.6	+0.8
L19K	White Mountain	14.64	36	P	Pn	22 58 42.0	+2.2
	baz=232						
M19K	Big River Lodg	14.65	38		Pn	22 58 42.0	+2.1
M19K	Big River Lodg	14.65	38	P	Pn	22 58 42.5	+2.6
	baz=233						
TTA	Tatalina	14.72	33	P	P	22 58 44.4	-2.1
TTA	Tatalina	14.72	33	P	P	22 58 44.9	-1.6
	baz=227,SNR=15						
BRLK	Bradley Lake	15.09	48		Pn	22 58 44.5	-1.3
BRLK				IAmb	IAmb	22 59 13.3	
	comp=Z,14nm,1.0s						
BRSE	Bradley Lake S	15.15	49	P	Pn	22 58 47.0	+0.4
	baz=247						
L20K	Farewell, AK	15.19	37	P	Pn	22 58 49.3	+2.2
	baz=233						
K20K	Telida	15.67	34	P	P	22 58 56.3	-0.6
K20K				IAmb	IAmb	22 59 14.4	
	comp=Z,21nm,1.3s						
K20K	Telida	15.67	34	P	P	22 58 55.2	-1.7
	baz=230						
SEW	Seward	15.89	48	P	Pn	22 58 54.8	-1.2
	baz=248						
PPLA	Purkeypile	16.07	37		P	22 59 01.8	+0.3
RC01	Rabbit Creek A	16.16	45		P	22 59 01.1	-1.2
J20K	Nowinta River	16.18	31	P	P	22 59 02.8	+0.2
J20K	Nowinta River	16.18	31	P	P	22 59 02.8	+0.2
	baz=228						
CAST	Castle Rocks	16.41	36	P	P	22 59 05.4	+0.2
CAST	Castle Rocks	16.41	36	P	Pn	22 59 03.9	+1.1
	baz=233,SNR=7.1						
CUT	Chulitna	16.55	40		P	22 59 05.8	-0.8
CUT				IAmb	IAmb	22 59 31.3	
	comp=Z,26nm,1.3s						
CHUM	Lake Minchumin	16.61	34	P	P	22 59 06.3	-1.0
	baz=232						
PWL	Port Wells	16.69	46	P	Pn	22 59 04.5	-1.7
	baz=247						
KNK	Knik Glacier	16.85	45	Pn	Pn	22 59 07.2	-1.1
KNK	Knik Glacier	16.85	45	P	Pn	22 59 07.2	-1.1
	baz=245						
KTH	Kantishna Hill	16.91	36	P	P	22 59 10.2	-0.5
KTH				IAmb	IAmb	22 59 16.4	
	comp=Z,18nm,1.0s						
SML	Sawmill	17.07	43	P	Pn	22 59 10.7	-0.4
	baz=244						
TRF	Thorofare Moun	17.09	37	P	P	22 59 12.5	-0.4
TRF	Thorofare Moun	17.09	37	P	Pn	22 59 12.0	+0.6
	baz=236						
BPAW	Bear Paw Mtn.	17.21	35	P	P	22 59 15.1	+1.1
BPAW				IAmb	IAmb	22 59 43.2	
	comp=Z,23nm,1.4s						
BPAW	Bear Paw Mtn.	17.21	35	P	P	22 59 14.6	+0.6
	baz=233						
SCM	Sheep Creek Mo	17.52	44		Pn	22 59 16.1	-0.6
SCM				IAmb	IAmb	22 59 38.8	
	comp=Z,15nm,1.0s						
SCM	Sheep Creek Mo	17.52	44	P	Pn	22 59 16.5	-0.2
	baz=246						
I21K	Tanana	17.54	31	P	P	22 59 18.3	+0.6
I21K				IAmb	IAmb	22 59 38.5	
	comp=Z,12nm,0.9s						
I21K	Tanana	17.54	31	P	P	22 59 18.1	+0.5
	baz=229						
IMAR	Indian Mountai	17.56	27		P	22 59 19.1	+1.2
H21K	Melozitna Rive	17.61	29	P	P	22 59 19.3	+0.9
H21K	Melozitna Rive	17.61	29	P	P	22 59 18.8	+0.5
	baz=226						
RND	Reindeer	17.61	38		Pn	22 59 17.1	-0.8
WAT6	Susitna Watana	17.66	42	P	Pn	22 59 17.9	-0.6
	baz=243						
MCK	McKinley	17.75	37		Pn	22 59 18.6	-0.8
MCK	McKinley	17.75	37	P	Pn	22 59 19.6	+0.1
	baz=238						
BWN	Browne	17.80	36		P	22 59 20.3	-0.1
BWN				IAmb	IAmb	22 59 44.5	
	comp=Z,20nm,1.1s						
MLY	Manley	17.86	32	P	P	22 59 22.1	+0.9
MLY	Manley	17.86	32	P	P	22 59 22.2	+1.0
	baz=232						
KLU	Klutina	18.01	46	P	Pn	22 59 21.3	-1.4
KLU				IAmb	IAmb	22 59 41.6	
	comp=Z,18nm,1.4s						
KLU	Klutina	18.01	46	P	Pn	22 59 21.9	-0.8
	baz=249						
DHY	Denali Highway	18.04	40	P	Pn	22 59 22.4	-0.7
DHY	Denali Highway	18.04	40	P	Pn	22 59 23.3	+0.2
	baz=242						
M24K	Tolsona, Glenn	18.13	44	P	Pn	22 59 23.7	-0.4
M24K				IAmb	IAmb	22 59 50.8	
	comp=Z,9.9nm,0.8s						
M24K	Tolsona, Glenn	18.13	44	P	P	22 59 24.4	+0.2
	baz=247						
NEA2	Nenana	18.17	35	P	Pn	22 59 23.2	-1.4
NEA2	Nenana	18.17	35	P	Pn	22 59 24.4	-0.3
	baz=235						
I23K	Minto, Yukon-K	18.39	33	P	P	22 59 27.0	+0.1
I23K				IAmb	IAmb	22 59 43.9	
	comp=Z,23nm,1.1s						
I23K	Minto, Yukon-K	18.39	33	P	Pn	22 59 28.0	+0.8
	baz=234,SNR=17						
HMT	Hamilton	18.42	50	P	P	22 59 26.9	-0.5
HMT				IAmb	IAmb	22 59 50.4	
	comp=Z,15nm,1.0s						
WRH	Wood River Hil	18.46	36	P	P	22 59 26.3	-1.4
N25K	Chitina, Valde	18.64	46	P	P	22 59 29.2	-0.7
	baz=250						
CCB	Clear Creek Bu	18.66	36	P	P	22 59 28.9	-1.0
HARP	HAARP	18.68	44	P	P	22 59 29.9	-0.3
	baz=247						
BERG	Berg Lake	18.70	50	P	P	22 59 30.2	-0.2
BERG				IAmb	IAmb	22 59 56.6	
	comp=Z,10nm,0.9s						
PAX	Paxson	18.77	42	P	P	22 59 31.0	-0.3
PAX	Paxson	18.77	42	P	P	22 59 31.3	0.0
	baz=245						
HDA	Harding Lake	18.85	37	P	P	22 59 31.8	-0.3
HDA				IAmb	IAmb	22 59 47.1	
	comp=Z,7.9nm,0.7s						
HDA	Harding Lake	18.85	37	P	P	22 59 31.9	-0.2
	baz=239,SNR=8.5						
GLB	Gilahina Butte	18.95	47	P	P	22 59 32.8	-0.4
POKR	Poker Plat Res	19.05	35	P	Pn	22 59 35.4	+0.2
	baz=237						
IL31		19.06	36	P	P	22 59 33.1	-1.2
ILAR	Eielson Array	19.06	36	P	P	22 59 34.0	-0.4
	comp=Z,1.4nm,0.3s,baz=231,slow=9.0,SNR=98						
ILAR	Eielson Array	19.06	36	P	P	22 59 32.6	-1.8
WAX	Waxell Ridge	19.12	50	P	P	22 59 34.8	-0.4
WAX				IAmb	IAmb	22 59 54.7	
	comp=Z,14nm,1.0s						
BILL	Bilibino	19.20	337	P	P	22 59 34.9	-1.0
BILL				IAmb	IAmb	22 59 43.9	
	comp=Z,11nm,1.0s						
MCARA	McCarthy VSAT	19.29	48	P	P	22 59 37.1	+0.2
	baz=253						
H24K	Noodor Dome	19.30	33	P	P	22 59 37.4	+0.4
H24K				IAmb	IAmb	22 59 47.4	
	comp=Z,16nm,0.8s						
H24K	Noodor Dome	19.30	33	P	P	22 59 37.5	+0.6
	baz=234						
RIDG	Independent Ri	19.36	40	P	P	22 59 37.1	-0.5
RIDG				IAmb	IAmb	22 59 53.6	
	comp=Z,6.1nm,0.6s						
RIDG	Independent Ri	19.36	40	P	P	22 59 37.5	-0.1
	baz=244						
COLD	Coldfoot	19.45	28	P	P	22 59 38.4	-0.1
COLD	Coldfoot	19.45	28	P	Pn	22 59 40.1	+0.2
	baz=228						
MENT	Mentasta	19.50	43	P	P	22 59 39.7	+0.5
J25K	Salcha River,	19.55	37	P	P	22 59 38.9	-0.9
J25K				IAmb	IAmb	22 59 40.4	
	comp=Z,47nm,1.4s						
J25K	Salcha River,	19.55	37	P	P	22 59 38.6	-1.1
	baz=241,SNR=26						
DOT	Dot Lake	19.63	41	P	P	22 59 40.4	-0.3
L26K	Log Cabin Wild	19.69	43	P	Pn	22 59 42.4	-0.4
L26K				IAmb	IAmb	22 59 47.5	
	comp=Z,12nm,1.2s						
L26K	Log Cabin Wild	19.69	43	P	P	22 59 39.9	-1.3
	baz=248						
SCRK	Sand Creek	19.80	40	P	P	22 59 41.7	-0.8
SCRK				IAmb	IAmb	22 59 57.0	
	comp=Z,6.4nm,0.6s						
SCRK	Sand Creek	19.80	40	P	P	22 59 41.4	-1.2
	baz=245,SNR=18						
PRP	Porcupine Dome	19.94	35	P	P	22 59 44.2	+0.1
PRP	Porcupine Dome	19.94	35	P	P	22 59 44.1	+0.1
	baz=239,SNR=7.5						
TABL	Table Mountain	19.95	51	P	P	22 59 43.5	-0.8
TABL				IAmb	IAmb	22 59 55.2	
	comp=Z,15nm,1.0s						
CTG	Chitna Glacier	19.97	50	P	P	22 59 44.2	-0.3
	baz=256						
CTGM	Chitina Glacier	19.97	50	P	P	22 59 43.7	-0.8
CTGM				IAmb	IAmb	23 00 09.6	
	comp=Z,6.9nm,0.8s						
LOGN	Logan Glacier	20.10	50	P	P	22 59 44.9	-0.9
LOGN				IAmb	IAmb	23 00 07.4	
	comp=Z,13nm,0.9s						
M27K	Edge Creek, AK	20.10	45	P	P	22 59 46.5	+0.7
M27K				IAmb	IAmb	22 59 54.2	
	comp=Z,6.5nm,0.8s						
M27K	Edge Creek, AK	20.10	45	P	P	22 59 46.2	+0.3
	baz=252						
J26L	Joseph Creek	20.19	39	P	P	22 59 46.6	-0.2
	baz=244						
PCA	Pinnacle	20.32	52	P	P	22 59 48.5	+0.3
PCA				IAmb	IAmb	23 00 08.3	
	comp=Z,21nm,0.8s						
PINM	Pinnacle	20.32	52	P	P	22 59 48.3	+0.1
	baz=260						
L27K	Beaver Creek,	20.35	43	P	P	22 59 48.5	0.0
L27K	Beaver Creek,	20.35	43	P	P	22 59 49.1	+0.7
	baz=250						
YUK3	Moose Creek	20.58	48	P	P	22 59 50.5	-0.6
	baz=255						
TOLK	Toolik Lake Re	20.59	25	P	P	22 59 51.3	+0.3
TOLK				IAmb	IAmb	23 00 18.3	
	comp=Z,9.7nm,0.9s						
TOLK	Toolik Lake Re	20.59	25	P	P	22 59 52.0	+1.0
	baz=226,SNR=10						
FYU	Fort Yukon	20.60	33	P	P	22 59 50.0	-1.0
FYU				IAmb	IAmb	23 00 19.3	
	comp=Z,12nm,1.0s						
PNL	Peninsula	20.68	54	P	P	22 59 50.9	-1.1
	baz=262						
EGAK	Eagle	21.25	39	P	P	22 59 58.1	0.0
EGAK	Eagle	21.25	39	P	P	22 59 59.0	+0.9
	baz=247,SNR=37						
BMAR	Burnt Mountain	21.29	31	P	P	22 59 58.8	+0.3
YUK4	Talbot Arm	21.33	49	P	P	23 00 00.4	+1.2
	baz=258						
SEY	Seymchan	21.37	315	P	P	22 59 56.5	-2.8
	comp=Z,0.7nm,0.5s,baz=131,slow=23,SNR=2.5						
SEY				LR	LR	23 09 39.0	
	comp=Z,178nm,18.4s,baz=59,slow=41						
YUK6	Outpost Mounta	21.39	50	P	P	22 59 59.9	0.0
	baz=260						
MA2	Magadan	21.48	306	LR	LR	23 08 12.2	
	comp=Z,194nm,18.5s,baz=116,slow=37						
DAWY	Dawson	21.71	42	P	P	23 00 01.5	-1.6
DAWY	Dawson	21.71	42	P	P	23 00 02.4	-0.7
	baz=251						
HYT	Haines Junctio	21.78	51	P	P	23 00 04.8	+0.8
HYT				IAmb	IAmb	23 00 31.8	
	comp=Z,6.9nm,0.8s						
HYT	Haines Junctio	21.78	51	P	P	23 00 04.6	+0.7
	baz=261						
WHY	Whitehorse	23.04	52	P	P	23 00 17.9	+0.6
WHY				IAmb	IAmb	23 00 40.7	
	comp=Z,6.7nm,1.2s						
M31M	Drury Creek, Y	23.47	48	P	P	23 00 20.5	-0.9
P33M	Teslin, Yukon	24.03	53	P	P	23 00 25.8	-1.0
P33M				IAmb	IAmb	23 00 52.5	
	comp=Z,6.6nm,1.0s						
MMPY	Sheldon Lake,	24.97	47	P	P	23 00 35.8	+0.6
	baz=263						
INK	Inuvik	25.41	34	P	P	23 00 38.4	-0.7
	comp=Z,6.5nm,0.9s,baz=217,slow=9.2,SNR=8.1						
INK	Inuvik	25.41	34	P	P	23 00 38.4	-0.7
INK				IAmb	IAmb	23 00 40.9	
	comp=Z,12nm,1.1s						
INK	Inuvik	25.41	34	P	P	23 00 38.9	-0.1
	baz=249,SNR=5.7						
DLBC	Dease Lake	25.47	57	P	P	23 00 41.3	+1.4
	comp=Z,7.0nm,1.0s,baz=286,slow=12,SNR=6.9						
DLBC	Dease Lake	25.47	57	P	P	23 00 41.7	+1.9
DLBC				IAmb	IAmb	23 00 58.0	
	comp=Z,12nm,1.1s						
TGTN	Hyland Airport	26.30	50	P	P	23 00 47.9	+0.6
	baz=268						
C36M	Paulatuk	29.00	34	P	P	23 01 11.6	+0.3
	baz=258						
A36M	Sachs Harbour	29.31	28	P	P	23 01 14.0	0.0
A36M				IAmb	IAmb	23 01 25.4	
	comp=Z,4.5nm,0.8s						
A36M	Sachs Harbour	29.31	28	P	P	23 01 13.2	-0.7
	baz=252						
YAK	Yakutsk	31.76	311	LR	LR	23 15 03.7	
	comp=Z,169nm,18.1s,baz=88,slow=38						
TIXI	Tiksi	32.10	330	P	P	23 01 37.1	-1.5
	comp=Z,0.8nm,0.4s,baz=268,slow=23,SNR=5.0						
TIXI	Tiksi	32.10	330	P	P	23 01 39.2	+0.7
TIXI				IAmb	IAmb	23 01 52.8	
	comp=Z,3.8nm,1.4s		

comp=Z,1.8nm,0.6s,baz=51,slow=7.2,SNR=8.5
KSRS LR LR 23 22 26.3
comp=Z,26nm,19.2s,baz=355,slow=38
KSAR Wonju Array Be 42.97 275 P P 23 03 10.8 0.0
PD31 Pinedale Array 43.07 76 P P 23 03 11.1 -0.7
PD31 IAmb IAmb 23 03 29.8
comp=Z,4.5nm,0.9s
PDAR Pinedale Array 43.07 76 P P 23 03 12.8 +1.0
comp=Z,0.5nm,0.4s,baz=298,slow=2.5,SNR=7.6
PDAR Pinedale Array 43.07 76 P P 23 03 11.1 -0.7
GSC Goldstone, Bar 43.13 89 P P 23 03 11.6 -0.7
GSC IAmb IAmb 23 03 27.0
comp=Z,8.4nm,0.9s
FCC Fort Churchill 43.39 48 P P 23 03 13.9 0.0
FCC IAmb IAmb 23 03 16.3
comp=Z,5.8nm,1.1s
PFO Pinyon Flats O 44.45 91 LR LR 23 19 56.7
comp=Z,79nm,18.9s,baz=316,slow=33
NRIK Noril'sk 45.87 321 P P 23 03 32.2 -1.3
comp=Z,2.6nm,0.7s,baz=84,slow=8.4,SNR=3.0
PV13 Radium Mtn., P 46.28 80 P P 23 03 37.1 -0.4
B35A Bob, Littlefor 48.99 60 P P 23 03 57.6 -0.5
ULN Ulaanbaatar 49.09 299 P P 23 03 58.6 -0.5
ULN IAmb IAmb 23 04 13.6
comp=Z,5.3nm,1.2s
SONM Songino Array 49.47 299 P P 23 04 01.4 -0.6
comp=Z,0.9nm,0.4s,baz=49,slow=4.5,SNR=18
SONM LR LR 23 24 53.8
comp=Z,105nm,19.3s,baz=25,slow=36
SONM Songino Array 49.47 299 P P 23 04 01.8 -0.1
SONM IAmb IAmb 23 04 16.9
comp=Z,5.4nm,1.5s
HHC Hu-ho-hao-te 50.78 289 *e*P **P 23 04 10.8 -1.1**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.4s
E46A Sault Ste Mari 55.26 57 P P 23 04 44.8 +0.1
TXAR Lajitas Array 55.34 85 P P 23 04 45.8 +0.1
comp=Z,0.3nm,0.8s,baz=300,slow=9.2,SNR=4.0
TXAR Lajitas Array 55.34 85 P P 23 04 46.0 +0.3
P40A Paris 55.45 68 P P 23 04 45.8 -0.3
TUL1 Leonard 55.66 74 P P 23 04 46.5 -1.2
baz=312
SCHQ Schefferville 57.73 41 P P 23 05 02.0 -0.1
comp=Z,2.2nm,0.9s,baz=303,slow=6.9,SNR=6.1
SCHQ LR LR 23 33 11.2
comp=Z,76nm,18.2s,baz=76,slow=40
ARCES ARCESS Array B 58.38 352 P P 23 05 05.3 -1.3
comp=Z,1.0nm,0.5s,baz=7.6,slow=8.2,SNR=0.7
LZH Lanzhou 58.47 290 *e*P P 23 05 21.9 +14
LZH pP sP 23 05 25.8 +3.3
LZH pmax pmax
comp=Z,15nm,1.4s
LZH LR LR
comp=N,320nm,13.5s
LZH LR LR
comp=E,320nm,15.1s
LZH LR LR
comp=Z,250nm,15.8s
GTA Gaotai 58.52 295 *e*P **P 23 05 08.6 +0.5**
GTA pP pP 23 05 15.8 -2.0
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.1s
GTA LR LR
comp=N,100nm,18.5s
GTA LR LR
comp=E,160nm,16.7s
GTA LR LR
comp=Z,130nm,17.1s
KURK Kurchatov 61.21 316 P P 23 05 26.4 +0.2
KURK IAmb IAmb 23 05 28.8
comp=Z,3.3nm,0.9s
LONY Lake Ozonia 61.45 53 P P 23 05 26.5 -1.4
baz=315
L56A Greenwood 61.68 57 P P 23 05 29.7 +0.1
WMQ Urumqi 61.95 306 *e*P **P 23 05 33.8 +2.4**
J58A Remsen 61.99 55 P P 23 05 32.6 +1.0
MK31 Makanchi Array 62.44 311 P P 23 05 33.9 -0.7
MK31 IAmb IAmb 23 05 58.2
comp=Z,2.5nm,1.1s
MKAR Makanchi Array 62.44 311 P P 23 05 33.9 -0.7
comp=Z,0.9nm,0.4s,baz=47,slow=6.1,SNR=30
MKAR Makanchi Array 62.44 311 P P 23 05 34.0 -0.6
SSPA Standing Stone 62.58 59 P P 23 05 35.9 +0.4
BRVK Borovoye 62.82 322 P P 23 05 37.2 +0.2
BRVK IAmb IAmb 23 05 39.4
comp=Z,7.6nm,1.5s
L59A Walton 62.95 56 P P 23 05 39.0 +0.9
ARU Arti 64.10 331 P P 23 05 45.3 0.0
FIA1 FINESS Array S 66.23 350 P P 23 05 58.5 -0.5
FINES FINESS Array B 66.23 350 P P 23 05 57.8 -1.3
comp=Z,0.5nm,0.3s,baz=6.2,slow=6.6,SNR=7.5
FINES FINESS Array B 66.23 350 P P 23 05 58.6 -0.5
PZH PanZhiHua 66.54 283 P P 23 06 02.4 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s
NOA NORSAR Array B 67.65 358 P P 23 06 07.7 -0.5
comp=Z,0.6nm,0.9s,baz=2.9,slow=7.2,SNR=4.3
NOA LR LR 23 36 13.5
comp=Z,79nm,18.1s,baz=15,slow=36
BOOM Boomskoye usch 68.65 312 P P 23 06 15.8 +0.9
BOOM IAmb IAmb 23 06 16.7
comp=Z,2.7nm,0.7s
AAK Ala-Archa 69.20 313 P P 23 06 18.9 +0.6
ABKAR Akbulak array 69.69 326 P P 23 06 21.3 +0.3
ABKAR IAmb IAmb 23 06 23.5
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 69.69 326 P P 23 06 21.3 +0.3
LSA Lhasa 70.44 293 P P 23 06 27.5 +1.0
KKAR Karatay Array 70.61 316 P P 23 06 26.6 -0.2
KSH Kashi 70.96 310 P P 23 06 32.6 +3.5
KSH pmax pmax
comp=Z,10.0nm,1.2s
BTK Batken 72.93 314 P P 23 06 41.1 +0.2
BTK IAmb IAmb 23 06 58.7
comp=Z,6.2nm,1.1s
DRK Karamyk 72.95 313 P P 23 06 41.6 +0.4
SHL Shillong 73.13 290 P P 23 06 42.1 -0.2
SHL IAmb IAmb 23 06 43.2
comp=Z,6.4nm,1.0s
RAR Rarotonga 73.48 167 LR LR 23 35 35.9
comp=Z,68nm,19.4s,baz=222,slow=33
GAR Garm 74.01 313 P P 23 06 47.9 +0.6
TAPN Taplejung 74.19 294 *e*P **P 23 06 49.3 +0.6**
CMAR Chiang Mai Arr 74.26 280 P P 23 06 49.6 +0.8
comp=Z,1.0nm,0.3s,baz=24,slow=6.5,SNR=7.1
CMAR Chiang Mai Arr 74.26 280 P P 23 06 49.5 +0.6
GUN Gumba 74.80 296 *e*P **P 23 06 52.8 +0.5**
JIRN Jiri 74.81 295 *e*P **P 23 06 53.3 +0.9**
comp=Z,17nm,0.7s
CHGR Chuyangaron 74.81 314 P P 23 06 52.1 +0.2
RAMN Ramite 75.13 295 *e*P **P 23 06 54.7 +0.6**
comp=Z,8.3nm,0.4s
KKN Kakani 75.23 296 *e*P **P 23 06 55.2 +0.6**
PKI Pulchoki 75.32 296 *e*P **P 23 06 55.9 +0.6**
PKIN Phulchoki 75.33 296 *e*P **P 23 06 55.6 +0.4**
GKN Gorkha 75.42 297 *e*P **P 23 06 56.1 +0.4**
DANN Dangsing 75.64 297 *e*P **P 23 06 57.6 +0.5**
comp=Z,22nm,0.6s
KOLN Koldanda 76.18 297 *e*P **P 23 07 00.3 +0.3**
PYUN Piuthan 76.26 298 *e*P **P 23 07 00.8 +0.3**
AKASG Malin Array Be 76.27 345 P P 23 06 59.2 -0.7
comp=Z,0.9nm,0.4s,baz=16,slow=5.8,SNR=6.1
NIL Nilore 76.95 308 P P 23 07 04.6 +0.5
DPC Dobruska-Polom 78.09 354 *e*P **P 23 07 10.4 +0.2**
KBL Kabul 78.24 312 P P 23 07 10.9 -0.7
KHC Kasperske Hory 79.47 355 *e*P **P 23 07 17.5 -0.3**
GERES GERESS Array B 79.75 355 P P 23 07 17.8 -1.6
comp=Z,0.5nm,0.7s,baz=35,slow=3.7,SNR=4.0
BUR08 Bucovina Ar. S 79.85 347 P P 23 07 19.8 -0.2
BUR08 IAmb IAmb 23 07 35.0
comp=Z,2.7nm,0.9s
BURAR Bucovina Array 79.87 347 P P 23 07 19.9 -0.2
GEYT Alibeck 80.09 321 P P 23 07 21.4 +0.1
comp=Z,1.8nm,0.4s,baz=57,slow=6.6,SNR=3.7
GEYT Alibeck 80.09 321 P P 23 07 21.8 +0.4
GEYT IAmb IAmb 23 07 23.8
comp=Z,8.4nm,1.2s
GYA0B ALIBECK ARRAY 80.09 321 P P 23 07 21.3 0.0
HRA Herat 81.43 316 P P 23 07 28.6 -0.2
DAVOX Davos/Dischmat 81.96 358 LR LR 23 44 01.8
comp=Z,46nm,19.9s,baz=68,slow=36
TIRR Tirgusor 82.47 344 P P 23 07 34.1 +0.4
BRTR Keskin Array B 86.02 339 P P 23 07 52.5 +0.4
comp=Z,1.2nm,0.8s,baz=46,slow=4.2,SNR=4.2
ASAR Alice Springs 87.97 227 P P 23 08 02.3 +0.9
comp=Z,0.4nm,0.7s,baz=32,slow=4.3,SNR=3.3
ESDC Sonseca Array 88.65 8 P P 23 08 04.2 -0.5
comp=Z,1.1nm,1.1s,baz=328,slow=6.2,SNR=4.0
H03N2 Juan Fernandez 118.05 109 T T 01 23 35.1
baz=316
H03N1 Juan Fernandez 118.06 109 T T 01 23 36.8
baz=316
H03N3 Juan Fernandez 118.07 109 T T 01 23 35.1
baz=316
BOSA Boshof 153.09 321 PKPbc PKiKP 23 15 11.1 +2.0
comp=Z,1.0nm,0.6s,baz=6.1,slow=3.7,SNR=5.2

*NIC **15** 23:08:13.3±0.0,34.˚61N×33.˚11E,h19km±1km,Ml2.5/4*
*GII **15** 23:08:15.4±0.0,34.˚60N×32.˚99E,h20km*
ISC 15 23:08:14.8±1.1**,34.˚64N**±0.˚07×**33.˚09E**±0.˚04**,h13**km±9km**,**
n13,σ0s69/21,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.19**	**41**	P	**Pg**	**23 08 18.7**	**-0.5**
ASGA				S	**Sg**	**23 08 23.0**	**+0.8**
ASGA				AML	AML	23 08 23.8	
	2.6nm,0.2s						
ASGA				AML	AML	23 08 23.8	
	2.6nm,0.2s						
ASGA				AML	AML	23 08 23.9	
	3.7nm,0.3s						
ASGA				AML	AML	23 08 23.9	
	3.7nm,0.3s						
SZAC	**Souni**	**0.21**	**303**	P	**Pg**	**23 08 18.9**	**-0.5**
SZAC				AML	AML	23 08 22.2	
	4.6nm,0.3s						
SZAC				AML	AML	23 08 22.2	
	4.6nm,0.3s						
SZAC				AML	AML	23 08 22.5	
	7.8nm,0.2s						
SZAC				AML	AML	23 08 22.5	
	7.8nm,0.2s						
SZAC				S	**Sg**	**23 08 22.6**	**0.0**
CSS	**Mathiatis**	**0.37**	**31**	P	**Pg**	**23 08 21.8**	**-0.6**
CSS				S	**Sg**	**23 08 28.1**	**+0.6**
NATA	**Nata**	**0.45**	**288**	P	**Pg**	**23 08 23.6**	**-0.2**
NATA				AML	AML	23 08 34.8	
	1.1nm,0.6s						
NATA				AML	AML	23 08 38.4	
	1.9nm,0.6s						
ATHAL	**Athalassa**	**0.56**	**26**	P	**Pg**	**23 08 25.1**	**-0.7**
ATHAL				S	**Sg**	**23 08 33.9**	**+0.7**
MVOU	**Mavrovouni**	**0.58**	**50**	P	**Pg**	**23 08 25.0**	**-1.2**
MVOU				S	**Sg**	**23 08 34.5**	**+0.7**
MVOU				AML	AML	23 08 40.2	
	0.3nm,0.6s						
MVOU				AML	AML	23 08 40.2	
	0.3nm,0.6s						
ALFC	**Alefka**	**0.66**	**322**	P	**Pg**	**23 08 26.8**	**-0.9**
AKMS	**Akamas**	**0.73**	**301**	S	**Sb**	**23 08 39.5**	**+0.3**
MMA0B	**Mount Meron ar**	**2.52**	**130**	Pn	**Pn**	**23 08 55.6**	**+0.2**
MMA0B				Sn	**Sn**	**23 09 25.5**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.57**	**123**	Pn	**Pn**	**23 08 56.6**	**+0.5**
HMDT	**Nahal Hemdat**	**3.13**	**139**	Pn	**Pn**	**23 09 03.7**	**-0.1**
HMDT				Sn	**Sn**	**23 09 41.9**	**+0.8**
AMAZ	**Amatzia**	**3.46**	**153**	Pn	**Pn**	**23 09 09.1**	**+0.8**
PRNI	**Paran**	**4.57**	**159**	Pn	**Pn**	**23 09 23.6**	**-0.1**
PRNI				Sn	**Sn**	**23 10 15.9**	**-0.8**

*NIC **15** 23:10:12.9±0.0,34.˚68N×33.˚08E,h14km±1km,Ml2.6/3*
*GII **15** 23:10:13.4±0.0,34.˚52N×33.˚21E,h1km,Mm2.2/1*
ISC 15 23:10:13.0±1.0**,34.˚65N**±0.˚07×**33.˚09E**±0.˚04**,h14**km±9km**,**
n15,σ0s46/24,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.19**	**43**	P	**Pg**	**23 10 17.3**	**-0.1**
ASGA				S	**Sg**	**23 10 20.9**	**+0.5**
ASGA				AML	AML	23 10 21.1	
	4.1nm,0.3s						
ASGA				AML	AML	23 10 21.1	
	4.1nm,0.3s						
ASGA				AML	AML	23 10 22.3	
	5.6nm,0.3s						
ASGA				AML	AML	23 10 22.3	
	5.6nm,0.3s						
SZAC	**Souni**	**0.20**	**302**	P	**Pg**	**23 10 17.1**	**-0.5**
SZAC				AML	AML	23 10 20.5	
	8.1nm,0.3s						
SZAC				AML	AML	23 10 20.5	
	8.1nm,0.3s						
SZAC				S	**Sg**	**23 10 20.7**	**-0.1**
SZAC				AML	AML	23 10 20.8	
	13nm,0.2s						
SZAC				AML	AML	23 10 20.8	
	13nm,0.2s						
CSS	**Mathiatis**	**0.37**	**32**	P	**Pg**	**23 10 19.9**	**-0.7**
CSS				S	**Sg**	**23 10 25.9**	**+0.3**
NATA	**Nata**	**0.45**	**287**	P	**Pg**	**23 10 21.9**	**0.0**
NATA				S	**Sg**	**23 10 28.6**	**+0.5**
NATA				AML	AML	23 10 33.0	
	1.3nm,0.3s						
NATA				AML	AML	23 10 33.0	
	1.3nm,0.3s						
NATA				AML	AML	23 10 36.8	
	2.4nm,0.4s						
NATA				AML	AML	23 10 36.8	
	2.4nm,0.4s						
ATHAL	**Athalassa**	**0.55**	**27**	P	**Pg**	**23 10 23.7**	**-0.2**
MVOU	**Mavrovouni**	**0.58**	**50**	P	**Pg**	**23 10 23.9**	**-0.5**
MVOU				S	**Sb**	**23 10 33.5**	**+0.5**
ALFC	**Alefka**	**0.65**	**322**	P	**Pg**	**23 10 25.2**	**-0.5**
MMA0B	**Mount Meron ar**	**2.52**	**130**	Pn	**Pn**	**23 10 53.5**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.58**	**123**	Pn	**Pn**	**23 10 54.9**	**+0.6**
GEM				Sn	**Sn**	**23 11 24.4**	**-1.0**
HMDT	**Nahal Hemdat**	**3.14**	**139**	Pn	**Pn**	**23 11 02.2**	**+0.1**
HMDT				Sn	**Sn**	**23 11 39.3**	**0.0**
AMAZ	**Amatzia**	**3.46**	**153**	Pn	**Pn**	**23 11 07.2**	**+0.6**
AMAZ				Sn	**Sn**	**23 11 47.4**	**0.0**
PRNI	**Paran**	**4.58**	**159**	Pn	**Pn**	**23 11 22.0**	**+0.1**
PRNI				Sn	**Sn**	**23 12 15.0**	**+0.1**
KRMI	**Paran Flat**	**4.72**	**163**	Pn	**Pn**	**23 11 23.6**	**-0.3**
MBRI	**Mt Berech**	**5.08**	**162**	Pn	**Pn**	**23 11 28.8**	**-0.1**
EIL	**Elat**	**5.21**	**162**	Pn	**Pn**	**23 11 30.7**	**+0.2**

NEIC 15 23:11:34.3±0.3**,37.˚152N**±0.˚007×**98.˚01W**±0.˚01**,h5**km±2km**,**
Error ellipse: s-maj=1.6km s-min=1.0km az=96.0,
Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.11**	**226**	Pg	Pg	23 11 54.5	-1.1
T35A	**Sooner Cattle**	**1.22**	**101**		Pg	23 11 56.7	-1.0
T35A				Sg	Sg	23 12 12.6	-0.9
R32A	**Long Quarter,**	**1.39**	**336**		Pn	23 11 59.4	-1.0
TUL1	**Leonard**	**2.17**	**124**	Pn	Pn	23 12 10.8	-0.3
TUL1				lAmb_Lg		23 12 43.5	
	comp=Z,23nm,1.0s						
W35A	**Tecumseh**	**2.19**	**155**	Pn	Pn	23 12 10.9	-0.6
W35A				lAmb_Lg		23 12 47.7	
	comp=Z,16nm,0.7s						
WMOK	**Wichita Mounta**	**2.49**	**195**	Pn	Pn	23 12 14.0	-1.6
X37A	**Clayton**	**3.33**	**139**	Pn	Pn	23 12 27.1	0.0
AMTX	**Amarillo**	**3.74**	**234**	lAmb_Lg		23 13 40.8	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.77**	**80**	Pn	Pn	23 12 31.8	-1.2
W39A	**Magazine**	**3.93**	**118**	lAmb_Lg		23 13 46.1	
	comp=Z,16nm,0.8s						
U40A	**Yellville**	**4.21**	**99**	Pn	Pn	23 12 39.7	+0.5
U40A				lAmb_Lg		23 13 45.7	
	comp=Z,14nm,0.8s						
MGMO	**Mountain Grove**	**4.58**	**88**	Pn	Pn	23 12 45.1	+0.8
MGMO				lAmb_Lg		23 14 00.1	
	comp=Z,8.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.90**	**103**	lAmb_Lg		23 14 13.2	
	comp=Z,9.5nm,1.1s						
N38A	**Joes South For**	**5.20**	**44**	lAmb_Lg		23 14 24.2	
	comp=Z,8.9nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**78**	lAmb_Lg		23 14 30.5	
	comp=Z,6.5nm,1.0s						

IDC 15 23:36:48.2±2.2**,5.˚96S**×**130.˚10E,h0**km**,mb3.6/1,**
mb1 3.6/4,mb1mx3.2/29,mbtmp3.4/4,ML3.1/3,Error
ellipse: s-maj=93.1km s-min=29.1km az=77.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.83**	**199**	Pn	Pn	23 39 52.6	+0.7
	0.2nm,0.3s,baz=22,slow=11,SNR=1.3						
FITZ				Sn	Sn	23 42 00.7	-15
	0.3nm,0.3s,baz=193,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**14.50**	**164**	Pn	Pn	23 40 15.3	+0.4
	0.1nm,0.3s,baz=346,slow=12,SNR=1.6						
WRA				Sn	Sn	23 42 40.4	-16
	0.2nm,0.3s,baz=344,slow=25,SNR=6.8						
ASAR	**Alice Springs**	**17.98**	**169**	P	Pn	23 40 58.8	-1.0
	0.1nm,0.3s,baz=350,slow=10,SNR=1.4						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	23 47 45.6	+0.1
	0.3nm,0.5s,baz=113,slow=7.3,SNR=6.3						

*TUL **15** 23:44:10.9±0.4,36.˚286N×0.˚007×97.˚49W±0.˚01,h7km±3km,*
ML2.7,mb_Lg2.5/28(NEIC),Error ellipse: s-maj=1.5km
s-min=1.0km az=70.0
NEIC 15 23:44:11.5±0.4**,36.˚290N**×0.˚009×**97.˚49W**±0.˚01**,h1**km±4km**,**
Error ellipse: s-maj=1.4km s-min=1.3km az=58.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.87**	**178**	Pg	Pg	23 44 27.3	-0.9
OKCSW	**OKLAHOMA CITY**	**0.88**	**178**	Pg	Pg	23 44 27.6	-0.8
T35A	**Sooner Cattle**	**1.00**	**51**	Pg	Pg	23 44 29.6	-1.1
T35A				Sg	Sg	23 44 43.0	-0.7
FNO	**Franklin**	**1.03**	**176**		Pg	23 44 30.3	-1.0
FNO				Sg	Sg	23 44 44.3	-0.4
U32A	**Winter Ranch,**	**1.23**	**275**	Pg	Pg	23 44 33.6	-1.5
U32A				Sg	Sg	23 44 50.6	-0.4
W35A	**Tecumseh**	**1.24**	**156**		Pg	23 44 33.6	-1.6
TUL1	**Leonard**	**1.42**	**105**		Pn	23 44 36.7	-1.8
WMOK	**Wichita Mounta**	**1.88**	**215**	Pn	Pn	23 44 44.0	-0.7
X37A	**Clayton**	**2.42**	**134**	Pn	Pn	23 44 51.2	-1.0
X37A				lAmb_Lg		23 45 33.3	
	comp=Z,14nm,0.8s						
HHAR	**Hobbs**	**2.86**	**89**	Pn	Pn	23 44 57.8	-0.6
CBKS	**Cedar Bluff**	**3.09**	**325**	lAmb_Lg		23 45 50.6	
	comp=Z,10nm,0.8s						
W39A	**Magazine**	**3.20**	**109**	lAmb_Lg		23 45 57.6	
	comp=Z,12nm,0.7s						
AMTX	**Amarillo**	**3.70**	**249**	lAmb_Lg		23 46 12.2	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.20**	**114**	lAmb_Lg		23 46 25.4	
	comp=Z,9.6nm,0.8s						
MGMO	**Mountain Grove**	**4.28**	**77**	lAmb_Lg		23 46 25.9	
	comp=Z,7.6nm,0.7s						
W41B	**Gary Mavity, V**	**4.40**	**103**	Pn	Pn	23 45 19.9	+0.4
P38A	**Dawn**	**4.56**	**42**	lAmb_Lg		23 46 38.1	
	comp=Z,8.3nm,0.8s						
N35A	**Tabor**	**4.79**	**17**	Pn	Pn	23 45 24.2	-0.5
N35A				lAmb_Lg		23 46 51.8	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**5.12**	**91**	lAmb_Lg		23 46 57.7	
	comp=Z,7.9nm,1.2s						
CCM	**Cathedral Cave**	**5.29**	**69**	lAmb_Lg		23 47 05.5	
	comp=Z,7.0nm,0.7s						
P40A	**Paris**	**5.38**	**51**	lAmb_Lg		23 47 08.4	
	comp=Z,7.8nm,0.7s						
FVM	**French Village**	**5.89**	**71**	lAmb_Lg		23 47 18.4	
	comp=Z,7.1nm,0.8s						
Q24A	**Divide**	**6.64**	**296**	lAmb_Lg		23 47 42.6	
	comp=Z,7.1nm,1.1s						
PHWY	**Pilot Hill**	**7.99**	**311**	lAmb_Lg		23 48 30.6	
	comp=Z,6.9nm,0.9s						

*MDD **15** 23:47:25.5±0.5,35.˚65N×3.˚73W,h2km±3km,mb_Lg2.4/14,*
Error ellipse: s-maj=3.0km s-min=2.3km az=168.0
*SFS **15** 23:47:25.0,35.˚64N×3.˚74W,ML2.7,ALBORAN SUR*
*CNRM **15** 23:47:25.2,35.˚68N×3.˚67W,h30km,ml2.2*
ISC 15 23:47:24.9±1.2**,35.˚63N**±0.˚02×**3.˚73W**±0.˚03**,h15**km±10km**,**
n30,σ1s05/62,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.65**	**61**	Pg	**Pb**	**23 47 38.5**	**+0.6**
EALB				Sg	**Sb**	**23 47 47.4**	**+0.6**
EALB				*i* Vmb_Lg		23 47 49.9	
EMEL	**Melilla**	**0.71**	**117**	Pg	**Pg**	**23 47 39.0**	**+0.2**
EMEL				Sg	**Sg**	**23 47 47.7**	**-0.6**
GOG	**Mont Gurugu**	**0.72**	**124**	P	**Pg**	**23 47 38.6**	**-0.5**
GOG				S	**Sg**	**23 47 48.7**	**0.0**
ELGU	**Los Guajares,**	**1.24**	**4**	Pg	**Pn**	**23 47 47.3**	**-0.6**
ELGU				Sg	**Sb**	**23 48 03.5**	**-0.5**
ELGU				*i* Vmb_Lg		23 48 06.8	
EMIJ	**Mijas**	**1.26**	**318**	Pg	**Pn**	**23 47 48.0**	**-0.1**
EMIJ				Sg	**Sb**	**23 48 04.2**	**-0.2**
EMIJ				*i* Vmb_Lg		23 48 05.4	
EMAL	**Malaga-Limoner**	**1.27**	**334**	P	**Pn**	**23 47 47.5**	**-0.5**
EMAL				S	**Sb**	**23 48 03.7**	**-0.9**
SMIR	**Smir Dam**	**1.34**	**273**	P	**Pn**	**23 47 47.3**	**-1.8**
SMIR				S	**Sn**	**23 48 05.3**	**-1.4**
TAF	**Taforalt**	**1.35**	**126**	P	**Pn**	**23 47 48.7**	**-0.6**
TAF				S	**Sn**	**23 48 05.7**	**-1.2**
CEU	**Ceuta**	**1.36**	**282**	P	**Pn**	**23 47 47.3**	**-2.0**
CEU				S	**Sn**	**23 48 03.8**	**-3.3**
CHEFC	**Chefchaouen**	**1.41**	**249**	P	**Pb**	**23 47 51.5**	**+0.4**
CHEFC				S	**Sb**	**23 48 09.4**	**+0.6**
EBER	**Berja**	**1.44**	**28**	Pn	**Pn**	**23 47 50.2**	**-0.4**
EBER				Sn	**Sn**	**23 48 08.7**	**-0.7**
EBER				*i* Vmb_Lg		23 48 17.3	
EGOR	**Sierra Gorda,**	**1.51**	**349**	Pn	**Pb**	**23 47 52.8**	**0.0**
EGOR				Sn	**Sb**	**23 48 12.0**	**+0.2**
EGOR				*i* Vmb_Lg		23 48 15.0	
EQUE	**Quentar**	**1.59**	**8**	Pn	**Pb**	**23 47 53.5**	**-0.6**
EQUE				Sn	**Sb**	**23 48 13.2**	**-0.9**
JBK	**JBK**	**1.60**	**143**	P	**Pn**	**23 47 51.9**	**-1.0**
JBK				S	**Sn**	**23 48 11.3**	**-2.2**
EJIF	**Jimena Fronter**	**1.63**	**301**	Pn	**Pb**	**23 47 54.4**	**-0.3**
EJIF				Sn	**Sn**	**23 48 12.8**	**-1.0**
ENIJ	**Nijar**	**1.82**	**42**	Pn	**Pn**	**23 47 55.8**	**0.0**
ENIJ				Sn	**Sn**	**23 48 17.6**	**-1.0**
ENIJ				*i* Vmb_Lg		23 48 28.6	
ESPR	**Espera**	**2.12**	**306**	Pn	**Pn**	**23 48 00.5**	**+0.8**
ESPR				Sn	**Sn**	**23 48 25.6**	**-0.2**
EQES	**Quesada**	**2.24**	**14**	Pn	**Pn**	**23 48 01.5**	**0.0**
EQES				Sn	**Sn**	**23 48 29.0**	**+0.1**
EQES				*i* Vmb_Lg		23 48 34.5	
IFR	**Ifrane**	**2.40**	**209**	P	**Pn**	**23 48 04.8**	**+1.0**
IFR				S	**Sn**	**23 48 33.0**	**0.0**
EADA	**Adamuz**	**2.62**	**345**	Pn	**Pn**	**23 48 08.2**	**+1.4**
EADA				Sn	**Sn**	**23 48 38.4**	**0.0**
EADA				Sg	**Sb**	**23 48 45.4**	**+1.6**
EADA				*i* Vmb_Lg		23 48 47.7	
EZAR	**Zarzadilla de**	**2.78**	**36**	Pn	**Pn**	**23 48 09.2**	**+0.2**
EZAR				Sn	**Sn**	**23 48 41.8**	**-0.5**
ECAB	**El Cabril**	**2.79**	**332**	Pn	**Pn**	**23 48 09.6**	**+0.5**
ECAB				Sn	**Sn**	**23 48 43.0**	**+0.4**
ECAB				Sg	**Sb**	**23 48 50.1**	**+1.5**
ECAB				*i* Vmb_Lg		23 48 57.4	
MD31	**MD31**	**2.88**	**197**	P	**Pn**	**23 48 11.3**	**+0.9**
MD31				S	**Sn**	**23 48 46.3**	**+1.5**
MDT	**Midelt**	**2.90**	**195**	P	**Pn**	**23 48 12.6**	**+2.1**
MDT				S	**Sn**	**23 48 44.9**	**-0.3**
EMIN	**Mina Concepcio**	**3.19**	**313**	Pn	**Pn**	**23 48 15.6**	**+1.1**
EMIN				Sn	**Sn**	**23 48 52.0**	**-0.1**
ETOB	**Tobarra**	**3.48**	**29**	Pn	**Pn**	**23 48 20.6**	**+2.0**
ETOB				Sn	**Sn**	**23 48 59.4**	**-0.3**
ETOB				*i* Vmb_Lg		23 49 13.4	
EGRO	**El Granado**	**3.57**	**303**	Pn	**Pn**	**23 48 20.7**	**+1.0**
EGRO				Sn	**Sn**	**23 49 01.2**	**-0.4**
EGRO				*i* Vmb_Lg		23 49 06.4	
PVAQ	**Vaqueiros**	**3.67**	**300**	P	**Pn**	**23 48 21.9**	**+0.8**
PVAQ				S	**Sn**	**23 49 02.8**

Error ellipse: s-maj=5.1km s-min=3.0km az=196.0
*AEIC **15** 23:51:50±1.6, 56°.58N±0°.03×155°.49W±0°.06, h38km±7km, ML3.4, mb3.9/3(NEIC), ML3.5/34(NEIC), Error ellipse: s-maj=4.9km s-min=4.6km az=153.0*
*IDC **15** 23:51:52.9±3.9, 57°.08N×155°.51W, h73km±30km, mb3.2/9, mb1 3.5/10, mb1mx3.3/46, mbtmp3.5/10, Error ellipse: s-maj=35.7km s-min=19.4km az=33.0*

ISC 15 23:51:49.4±0.9, 56°.59N±0°.05×155°.49W±0°.04, h56km±9km, n144, σ0s95/152, mb3.6/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.72**	**92**	Pn	**Pn**	**23 52 03.2**	**-0.5**
SII				Sn	**Sn**	**23 52 15.6**	**+1.4**
SII	**Sitkinak Islan**	**0.72**	**92**	P	**Pn**	**23 52 03.5**	**-0.2**
	baz=272						
SII				S	**Sn**	**23 52 15.3**	**+1.1**
	baz=272						
CHIR	**Chirikof Islan**	**0.77**	**186**	Pn	**Pn**	**23 52 03.2**	**-1.1**
CHIR				Sn	**Sn**	**23 52 14.3**	**-0.8**
CHIR				IAML		23 52 17.1	
	comp=E,2μm,0.9s						
CHIR				IAML		23 52 17.9	
	comp=N,2μm,0.8s						
CHIR	**Chirikof Islan**	**0.77**	**186**	P	**Pn**	**23 52 03.1**	**-1.1**
	baz=5.5						
CHIR				S	**Sn**	**23 52 14.7**	**-0.5**
	baz=5.5						
PLK3	**Peulik 3**	**1.18**	**339**		**Pn**	**23 52 09.3**	**-0.4**
PLK3					**Sn**	**23 52 25.0**	**+0.2**
PLK2	**Peulik 2**	**1.26**	**339**		**Pn**	**23 52 10.7**	**-0.1**
PLBL	**Peulik Blue Cr**	**1.33**	**328**		**Pn**	**23 52 11.7**	**+0.1**
PLK1	**Peulik 1**	**1.36**	**334**		**Pn**	**23 52 12.2**	**+0.1**
OHAK	**Old Harbor**	**1.37**	**61**	Pn	**Pn**	**23 52 11.6**	**-0.5**
OHAK				Sn	**Sn**	**23 52 29.3**	**+0.2**
OHAK	**Old Harbor**	**1.37**	**61**	P	**Pn**	**23 52 11.8**	**-0.3**
	baz=243						
OHAK				S	**Sn**	**23 52 28.0**	**-1.1**
	baz=243						
CAHL	**Cahill**	**1.47**	**4**		**Pn**	**23 52 13.5**	**-0.1**
ANPB	**Aniakchak Plen**	**1.55**	**279**		**Pn**	**23 52 14.2**	**-0.5**
ANCK	**Angle Creek**	**1.61**	**360**		**Pn**	**23 52 15.9**	**+0.3**
ACHA	**Angle Creek He**	**1.63**	**3**		**Pn**	**23 52 16.0**	**+0.2**
CHGN	**Chignik**	**1.65**	**261**		**Pn**	**23 52 15.1**	**-0.8**
CHGN				IAML		23 52 37.9	
	comp=E,549nm,0.5s						
CHGN	**Chignik**	**1.65**	**261**	P	**Pn**	**23 52 15.4**	**-0.5**
	baz=79						
KDAK	**Kodiak Island**	**1.98**	**52**	P	**Pn**	**23 52 20.2**	**-0.3**
	comp=E,11nm,0.3s,baz=214,slow=6.6,SNR=361						
KDAK				S	**Sn**	**23 52 42.7**	**-1.5**
	comp=E,38nm,0.3s,baz=265,slow=10,SNR=5.7						
KDAK	**Kodiak Island**	**1.98**	**52**	Pn	**Pn**	**23 52 20.2**	**-0.3**
KDAK				IAML		23 52 59.0	
	comp=E,281nm,0.9s						
VNHG	**Veniaminof 1**	**2.08**	**261**		**Pn**	**23 52 21.6**	**-0.3**
Q19K	**Cape Douglas,**	**2.55**	**22**	Pn	**Pn**	**23 52 28.9**	**+0.6**
Q19K	**Cape Douglas,**	**2.55**	**22**	P	**Pn**	**23 52 28.6**	**+0.4**
	baz=204						
P18K	**Big Mountain,**	**2.81**	**3**	Pn	**Pn**	**23 52 31.9**	**0.0**
P18K	**Big Mountain,**	**2.81**	**3**	P	**Pn**	**23 52 31.2**	**-0.7**
	baz=183						
AUQ	**Augustine Qik'**	**2.99**	**21**		**Pn**	**23 52 35.1**	**+0.8**
AUL	**Augustine Lava**	**3.01**	**20**		**Pn**	**23 52 35.3**	**+0.8**
AU22	**Augustine Moun**	**3.01**	**21**		**Pn**	**23 52 34.3**	**-0.2**
SDPT	**Sand Point**	**3.06**	**248**	Pn	**Pn**	**23 52 35.5**	**+0.3**
SDPT				IAML		23 53 32.8	
	comp=N,146nm,0.6s						
SDPT				IAML		23 53 33.9	
	comp=E,156nm,0.8s						
OPT	**Oil Point**	**3.30**	**20**		**Pn**	**23 52 39.2**	**+0.7**
P19K	**Oil Pt**	**3.30**	**20**	Pn	**Pn**	**23 52 39.3**	**+0.8**
P19K				IAML		23 53 25.6	
	comp=E,144nm,0.4s						
P19K				IAML		23 53 37.7	
	comp=N,122nm,0.9s						
P19K	**Oil Pt**	**3.30**	**20**	P	**Pn**	**23 52 39.3**	**+0.8**
	baz=202						
O19K	**Port Alsworth**	**3.67**	**9**	Pn	**Pn**	**23 52 43.1**	**-0.5**
IVE	**Iliamna Volcan**	**3.68**	**20**		**Pn**	**23 52 44.1**	**+0.4**
HOM	**Homer**	**3.69**	**32**		**Pn**	**23 52 44.2**	**+0.3**
CNPM	**China Poot**	**3.71**	**36**	Pn	**Pn**	**23 52 44.2**	**0.0**
CNPM				IAML		23 53 43.8	
	comp=N,67nm,0.6s						
O20K	**Slope Mountain**	**3.81**	**22**		**Pn**	**23 52 46.4**	**+0.8**
O20K	**Slope Mountain**	**3.81**	**22**	P	**Pn**	**23 52 46.4**	**+0.8**
	baz=204						
BRLK	**Bradley Lake**	**4.01**	**36**	Pn	**Pn**	**23 52 47.6**	**-0.7**
BRLK				IAML		23 53 47.6	
	comp=N,48nm,0.6s						
BRLK				IAML		23 53 48.4	
	comp=E,49nm,0.5s						
BRSE	**Bradley Lake S**	**4.04**	**37**		**Pn**	**23 52 48.2**	**-0.5**
BRSE	**Bradley Lake S**	**4.04**	**37**	P	**Pn**	**23 52 48.2**	**-0.5**
	baz=220						
RSO	**Redoubt South**	**4.14**	**19**	Pn	**Pn**	**23 52 50.4**	**+0.2**
RDWB	**Redoubt West**	**4.15**	**18**		**Pn**	**23 52 50.5**	**+0.2**
NCT	**North Crescent**	**4.20**	**18**		**Pn**	**23 52 51.4**	**+0.5**
N19K	**Bonanza Creek**	**4.27**	**7**		**Pn**	**23 52 52.2**	**+0.3**
N19K				IAML		23 54 10.2	
	comp=N,44nm,0.8s						
N19K				IAML		23 54 14.3	
	comp=E,43nm,0.7s						
DFR	**Drift River**	**4.28**	**19**		**Pn**	**23 52 52.1**	**+0.2**
SVW2	**Sparrevohn**	**4.52**	**359**	Pn	**Pn**	**23 52 55.3**	**0.0**
SVW2				IAML		23 54 18.9	
	comp=E,36nm,1.2s						
SEW	**Seward**	**4.75**	**40**	Pn	**Pn**	**23 52 56.3**	**-2.0**
SLKM	**Skilak Lake**	**4.80**	**33**		**Pn**	**23 52 58.7**	**-0.4**
FALS	**False Pass**	**4.81**	**252**	Pn	**Pn**	**23 53 00.3**	**+1.2**
SPU	**Mount Spurr**	**4.94**	**20**	Pn	**Pn**	**23 53 01.4**	**+0.4**
SPBG	**Spurr Blockage**	**4.96**	**18**		**Pn**	**23 53 01.5**	**+0.3**
CRP	**Crater Peak**	**5.00**	**19**		**Pn**	**23 53 02.3**	**+0.3**
ISLZ	**Isanotski Laza**	**5.01**	**252**		**Pn**	**23 53 02.0**	**-0.1**
SPCG	**Spurr Capps Gl**	**5.05**	**19**		**Pn**	**23 53 03.1**	**+0.6**
STLK	**Strandline Lak**	**5.27**	**19**		**Pn**	**23 53 05.8**	**+0.2**
M19K	**Big River Lodg**	**5.36**	**6**		**Pn**	**23 53 07.0**	**+0.3**
M19K				IAML		23 54 45.4	
	comp=E,24nm,0.8s						
M19K				IAML		23 54 54.5	
	comp=N,20nm,2.0s						
RC01	**Rabbit Creek A**	**5.41**	**31**	Pn	**Pn**	**23 53 06.8**	**-0.6**
WESE	**West Dahl East**	**5.58**	**251**		**Pn**	**23 53 10.0**	**+0.1**
L19K	**White Mountain**	**5.62**	**3**	Pn	**Pn**	**23 53 10.6**	**+0.2**
L19K	**White Mountain**	**5.62**	**3**	P	**Pn**	**23 53 10.5**	**+0.2**
	baz=184						
PWL	**Port Wells**	**5.68**	**38**	Pn	**Pn**	**23 53 10.0**	**-1.0**
PWL	**Port Wells**	**5.68**	**38**	P	**Pn**	**23 53 10.0**	**-1.0**
	baz=224						
L20K	**Farewell, AK**	**5.97**	**7**		**Pn**	**23 53 15.5**	**+0.5**
KNK	**Knik Glacier**	**6.05**	**34**	Pn	**Pn**	**23 53 15.8**	**-0.3**
GHO	**Glory Hole Cre**	**6.20**	**30**	Pn	**Pn**	**23 53 17.8**	**-0.4**
TT01	**Tatalina**	**6.34**	**358**		**Pn**	**23 53 20.4**	**+0.3**
TTA	**Tatalina**	**6.37**	**358**	Pn	**Pn**	**23 53 19.8**	**-0.7**
SML	**Sawmill**	**6.39**	**32**	Pn	**Pn**	**23 53 21.0**	**+0.1**
JPK	**Jack Peak**	**6.43**	**42**		**Pn**	**23 53 20.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**6.46**	**48**	Pn	**Pn**	**23 53 20.4**	**-1.3**
PPLA	**Purkeypile**	**6.54**	**13**	Pn	**Pn**	**23 53 24.5**	**+1.5**
SCM	**Sheep Creek Mo**	**6.72**	**35**	Pn	**Pn**	**23 53 24.7**	**-0.7**
KAIM	**Kayak Island**	**6.73**	**56**	Pn	**Pn**	**23 53 25.7**	**+0.3**
DIV	**Divide**	**6.79**	**44**		**Pn**	**23 53 26.2**	**-0.1**
RAGM	**Ragged Mountai**	**6.83**	**52**	Pn	**Pn**	**23 53 25.2**	**-1.7**
K20K	**Telida**	**6.83**	**5**		**Pn**	**23 53 27.2**	**+0.4**
GOAT	**Goat Mountain**	**6.90**	**50**		**Pn**	**23 53 26.9**	**-1.0**
KLU	**Klutina**	**6.96**	**41**		**Pn**	**23 53 28.1**	**-0.6**
HMT	**Hamilton**	**6.98**	**53**	Pn	**Pn**	**23 53 28.8**	**-0.2**
CAST	**Castle Rocks**	**7.06**	**13**	Pn	**Pn**	**23 53 30.8**	**+0.8**
WAT6	**Susitna Watana**	**7.18**	**30**		**Pn**	**23 53 30.7**	**-1.0**
BERG	**Berg Lake**	**7.26**	**53**	Pn	**Pn**	**23 53 31.3**	**-1.3**
M24K	**Tolsona, Glenn**	**7.29**	**37**	Pn	**Pn**	**23 53 33.4**	**+0.2**
KTH	**Kantishna Hill**	**7.35**	**16**	Pn	**Pn**	**23 53 34.7**	**+0.7**
TRF	**Thorofare Moun**	**7.36**	**19**	Pn	**Pn**	**23 53 33.9**	**-0.3**
GRIN	**Grindle Hills**	**7.38**	**55**		**Pn**	**23 53 33.4**	**-1.0**
KHIT	**Khitrov Hills**	**7.48**	**54**		**Pn**	**23 53 34.7**	**-1.1**
SNH	**Sunshine Point**	**7.56**	**56**	Pn	**Pn**	**23 53 36.5**	**-0.3**
RND	**Reindeer**	**7.60**	**23**	Pn	**Pn**	**23 53 36.2**	**-1.2**
J20K	**Nowinta River**	**7.64**	**4**	Pn	**Pn**	**23 53 39.5**	**+1.6**
WAX	**Waxell Ridge**	**7.66**	**54**	Pn	**Pn**	**23 53 37.0**	**-1.3**
DHY	**Denali Highway**	**7.68**	**29**	Pn	**Pn**	**23 53 38.9**	**+0.3**
VRDI	**Verde Repeater**	**7.77**	**48**	Pn	**Pn**	**23 53 39.2**	**-0.6**
BPAW	**Bear Paw Mtn.**	**7.86**	**15**	Pn	**Pn**	**23 53 40.6**	**-0.3**
MCK	**McKinley**	**7.87**	**22**	Pn	**Pn**	**23 53 40.9**	**-0.2**
ISLE	**Juniper Island**	**7.96**	**54**	Pn	**Pn**	**23 53 41.4**	**-0.9**
BAGL	**Bagley Icefiel**	**8.02**	**55**		**Pn**	**23 53 42.0**	**-1.1**
BALM	**Baldy**	**8.14**	**51**		**Pn**	**23 53 43.7**	**-1.2**
PAX	**Paxson**	**8.15**	**34**	Pn	**Pn**	**23 53 44.7**	**-0.2**
GRNC	**Granite Creek**	**8.27**	**54**		**Pn**	**23 53 45.6**	**-1.1**
TABL	**Table Mountain**	**8.44**	**57**	Pn	**Pn**	**23 53 47.9**	**-1.2**
CTGM	**Chitina Glacier**	**8.56**	**53**	Pn	**Pn**	**23 53 49.9**	**-0.7**
LOGN	**Logan Glacier**	**8.65**	**55**	Pn	**Pn**	**23 53 51.0**	**-0.8**
WRH	**Wood River Hil**	**8.70**	**22**	Pn	**Pn**	**23 53 49.9**	**-2.5**
PCA	**Pinnacle**	**8.74**	**60**	Pn	**Pn**	**23 53 51.8**	**-1.3**
MLY	**Manley**	**8.78**	**13**	Pn	**Pn**	**23 53 53.2**	**-0.3**
I21K	**Tanana**	**8.79**	**10**	Pn	**Pn**	**23 53 51.7**	**-1.8**
RIDG	**Independent Ri**	**8.91**	**32**	Pn	**Pn**	**23 53 55.1**	**-0.2**
CCB	**Clear Creek Bu**	**8.92**	**22**	Pn	**Pn**	**23 53 52.5**	**-2.7**
M27K	**Edge Creek, AK**	**9.01**	**44**	Pn	**Pn**	**23 53 56.8**	**0.0**
DOT	**Dot Lake**	**9.08**	**34**	Pn	**Pn**	**23 53 58.2**	**+0.6**
I23K	**Minto, Yukon-K**	**9.09**	**17**	Pn	**Pn**	**23 53 56.2**	**-1.4**
MDM	**Murphy Dome**	**9.11**	**20**	Pn	**Pn**	**23 53 56.1**	**-1.9**
H21K	**Melozitna Rive**	**9.19**	**7**	Pn	**Pn**	**23 53 59.0**	**-0.1**
IL31		**9.22**	**24**	Pn	**Pn**	**23 53 58.8**	**-0.7**
ILAR	**Eielson Array**	**9.22**	**24**	P	**Pn**	**23 53 57.4**	**-2.1**
	comp=N,0.4nm,0.3s,baz=218,slow=14,SNR=16						
ILAR				S	Sn	23 55 32.0	-10
	comp=N,0.0nm,0.3s,baz=208,slow=17,SNR=1.5						
ILAR	**Eielson Array**	**9.22**	**24**	Pn	**Pn**	**23 53 59.2**	**-0.3**
SCRK	**Sand Creek**	**9.34**	**33**	Pn	**Pn**	**23 54 01.0**	**-0.3**
ANM	**Nome**	**9.35**	**333**	Pn	**Pn**	**23 54 01.9**	**+0.6**
L27K	**Beaver Creek,**	**9.44**	**41**	Pn	**Pn**	**23 54 02.9**	**+0.3**
J25K	**Salcha River,**	**9.45**	**27**	Pn	**Pn**	**23 54 02.7**	**0.0**
IM03		**9.46**	**4**		**Pn**	**23 54 03.6**	**+0.8**
IMAR	**Indian Mountai**	**9.46**	**4**	Pn	**Pn**	**23 54 02.8**	**0.0**
PRP	**Porcupine Dome**	**10.16**	**24**	Pn	**Pn**	**23 54 10.8**	**-1.6**
EGAK	**Eagle**	**10.78**	**35**	Pn	**Pn**	**23 54 20.9**	**+0.2**
GAMB	**Gambell**	**10.79**	**319**	Pn	**Pn**	**23 54 22.3**	**+1.4**
TNA	**Tin City**	**10.80**	**331**	Pn	**Pn**	**23 54 22.4**	**+1.3**
BMAR	**Burnt Mountain**	**12.00**	**21**	Pn	**Pn**	**23 54 35.0**	**-2.4**
C36M	**Paulatuk**	**18.86**	**35**	P	**Pn**	**23 56 04.6**	**-0.9**
C36M				IAmb	IAmb	23 56 29.9	
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**21.25**	**57**	P	**P**	**23 56 31.2**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=274,slow=9.7,SNR=29						
BCYI	**Bear Canyon**	**29.00**	**97**	P	**P**	**23 57 44.5**	**+0.7**
FCC	**Fort Churchill**	**31.90**	**60**	P	**P**	**23 58 10.3**	**+1.3**
FCC				IAmb	IAmb	23 58 25.3	
	comp=Z,4.5nm,1.4s						
PDAR	**Pinedale Array**	**32.12**	**96**	P	**P**	**23 58 13.4**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=321,slow=4.5,SNR=5.3						
PDAR	**Pinedale Array**	**32.12**	**96**	P	**P**	**23 58 13.8**	**+2.4**
TXAR	**Lajitas Array**	**45.20**	**105**	P	**P**	**00 00 02.9**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=309,slow=5.8,SNR=7.0						
SONM	**Songino Array**	**55.74**	**306**	P	**P**	**00 01 19.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=43,slow=5.1,SNR=4.1						
SONM	**Songino Array**	**55.74**	**306**	P	**P**	**00 01 20.0**	**-0.1**
SONM				IAmb	IAmb	00 01 36.9	
	comp=Z,2.3nm,1.4s						
ZALV	**Zalesovo Beam**	**59.34**	**323**	P	**P**	**00 01 44.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=27,slow=6.6,SNR=1.6						
ZALV	**Zalesovo Beam**	**59.34**	**323**	P	**P**	**00 01 44.7**	**-0.4**
NOA	**NORSAR Array B**	**62.25**	**7**	P	**P**	**00 02 03.0**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=352,slow=6.8,SNR=1.6						
FINES	**FINESS Array B**	**62.30**	**359**	P	**P**	**00 02 02.7**	**-2.4**
	comp=Z,1.3nm,0.9s,baz=8.7,slow=10,SNR=1.3						
MKAR	**Makanchi Array**	**66.26**	**321**	P	**P**	**00 02 30.0**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=32,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**66.26**	**321**	P	**P**	**00 02 31.3**	**+0.1**
ABKAR	**Akbulak array**	**70.49**	**336**	P	**P**	**00 02 57.4**	**-0.2**
AKASG	**Malin Array Be**	**73.00**	**357**	P	**P**	**00 03 12.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=5.1,slow=6.1,SNR=2.0						

IDC 16 00:07:07.7±4.5, 3°.69N×90°.90E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/49, mbtmp3.3/4, Error ellipse: s-maj=154.7km s-min=33.8km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**21.54**	**239**	T	T	00 32 21.2	
	baz=60,slow=74,SNR=16						
H08S2	**Diego Garcia H**	**21.54**	**238**	T	T	00 32 20.4	
	baz=60,slow=74,SNR=5.7						
H08S1	**Diego Garcia H**	**21.56**	**238**	T	T	00 32 28.5	
	baz=60						
MKAR	**Makanchi Array**	**43.58**	**351**	P	P	00 15 13.4	-0.1
	comp=N,0.6s,baz=175,slow=7.4,SNR=2.5						
H01W3	**Cape Leeuwin H**	**44.15**	**152**	T	T	01 01 38.8	
	baz=325,slow=76,SNR=4.4						
H01W2	**Cape Leeuwin H**	**44.16**	**152**	T	T	01 01 48.5	
	baz=325,slow=76,SNR=5.9						
H01W1	**Cape Leeuwin H**	**44.17**	**152**	T	T	01 01 39.1	
	baz=325,slow=76,SNR=5.3						
SONM	**Songino Array**	**45.96**	**15**	P	P	00 15 32.6	0.0
	0.5nm,0.5s,baz=198,slow=8.8,SNR=6.7						
KURBB	**Kurchatov Arra**	**47.92**	**349**	P	P	00 15 47.4	-0.3
	0.2nm,0.6s,baz=166,slow=7.3,SNR=2.4						
WRA	**Warramunga Arr**	**48.70**	**121**	P	P	00 15 54.1	-0.2
	0.7nm,1.0s,baz=298,slow=8.6,SNR=1.4						

IDC 16 00:07:39.3±2.0, 0°.20N×132°.30E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/38, mbtmp3.1/3, Error ellipse: s-maj=41.6km s-min=26.7km az=103.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.48**	**224**	Pn	Pb	00 08 08.4	+0.6
	20nm,0.3s,baz=107,slow=10,SNR=169						
SIJI				Sn	Sg	00 08 26.4	-0.5
	32nm,0.3s,baz=186,slow=22,SNR=36						
WRA	**Warramunga Arr**	**20.11**	**174**	P	P	00 12 14.8	-0.1
	0.3nm,0.5s,baz=352,slow=12,SNR=1.5						
ASAR	**Alice Springs**	**23.77**	**176**	P	P	00 12 53.4	-0.3
	0.4nm,0.5s,baz=351,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**63.64**	**324**	P	P	00 18 12.1	-0.3
	0.1nm,0.6s,baz=132,slow=6.0,SNR=1.9						

*BJI **16** 00:24:49.3±0.0, 39°.48N×143°.14E, h11km, mb4.9/72, mB5.0/43, Ms4.6/67, Ms7 4.5/65*
*IDC **16** 00:24:49.2±0.6, 39°.51N×143°.28E, h0km, mb4.5/23, mb1 4.7/30, mb1mx4.6/39, mbtmp4.5/30, ML3.9/6, MS4.1/59, Ms1 4.1/59, ms1mx3.9/92, Error ellipse: s-maj=15.0km s-min=12.5km az=128.0*
*JMA **16** 00:24:50.8±0.2, 39°.52N×143°.47E, h36km, M4.9*
JMA Felt I J1.
*MOS **16** 00:24:50.8±0.9, 39°.62N×143°.25E, h19km, mb5.1/59, MS4.2/9, Error ellipse: s-maj=6.0km s-min=3.8km az=110.2*
*NIED **16** 00:24:50.8, 39°.52N×143°.47E, h36km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.69; $M_{\theta\theta}$0.05; $M_{\phi\phi}$ -0.74; $M_{r\theta}$0.48; $M_{\theta\phi}$ -0.32; $M_{r\phi}$0.82; Fault plane solution: $M_0$1.23000×10^{16} NP1:ϕ_{ss}29.00000°, δ71.00000°, λ,98.00000°. NP2:ϕ_s187.00000°, δ21.00000°, λ,69.00000°.*
*NEIC **16** 00:24:53.4±1.5, 39°.53N±0°.06×143°.2E±0°.1, h23km±4km, mb4.8/116 Error ellipse: s-maj=12.2km s-min=7.6km az=110.0*

ISC 16 00:24:52.3±0.9, 39°.52N±0°.04×143°.36E±0°.04, h24km±6km, n512, σ1§41/516, mb4.8/147, MS4.4/83, 64C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.19**	**273**	⇑P	**Pn**	**00 25 12.9**	**-0.6**
MIYJ				eS	**Sn**	**00 25 29.0**	**0.0**
JTH	**Tanohata**	**1.23**	**290**	⇑P	**Pn**	**00 25 13.4**	**-0.6**
JTH				eS	**Sn**	**00 25 30.0**	**+0.2**
OFUJ	**Ofunato**	**1.39**	**252**	⇑P	**Pn**	**00 25 15.5**	**-0.6**
OFUJ				eS	**Sn**	**00 25 33.1**	**-0.6**
JKEN	**Kujiedanarisaw**	**1.44**	**299**	⇑P	**Pn**	**00 25 15.8**	**-1.1**
JOM	**Ohasama**	**1.60**	**269**	⇑P	**Pn**	**00 25 19.2**	**+0.1**
JOM				eS	**Sn**	**00 25 40.0**	**+1.0**
JANG	**Nango**	**1.66**	**302**	⇑P	**Pn**	**00 25 18.9**	**-1.0**
JMK	**Ichinoseki**	**1.76**	**252**	⇑P	**Pn**	**00 25 21.1**	**-0.1**
JMK				eS	**Sn**	**00 25 42.0**	**-0.3**
JIO	**Ouri**	**1.90**	**236**	⇑P	**Pn**	**00 25 22.4**	**-0.7**
JIO				eS	**Sn**	**00 25 45.2**	**-1.1**
JRG	**Rokugo**	**2.12**	**267**	⇑P	**Pn**	**00 25 26.6**	**+0.4**
JTM	**Tenmabayashi**	**2.17**	**306**	⇑P	**Pn**	**00 25 26.8**	**-0.1**
JTM				eS	**Sn**	**00 25 54.2**	**+1.3**
JTM	**Tenmabayashi**	**2.17**	**306**	Pn	**Pn**	**00 25 26.6**	**-0.3**
JYK	**Kaneyama**	**2.41**	**256**	⇑P	**Pn**	**00 25 30.6**	**+0.4**
ERM	**Erimo**	**2.50**	**356**	*c*eP	**Pn**	**00 25 31.3**	**-0.1**
ERM				pmax	pmax		
	comp=E,341nm,1.3s						
ERM	**Erimo**	**2.50**	**356**	Pn	**Pn**	**00 25 31.3**	**-0.1**
JOT	**Ohata**	**2.56**	**317**	P	**Pn**	**00 25 32.5**	**+0.2**
JMM	**Marumori**	**2.60**	**231**		**Pn**	**00 25 32.0**	**-0.9**
JNBK	**Urakawa-nobuka**	**2.79**	**351**	P	**Pn**	**00 25 35.9**	**+0.4**
JNBK				eS	**Sn**	**00 26 09.7**	**+1.3**
JKB	**Kayabe**	**2.95**	**324**	P	**Pn**	**00 25 38.3**	**+0.6**
JCH	**Churui**	**3.09**	**360**	P	**Pn**	**00 25 38.9**	**-0.7**
JCH				eS	**Sn**	**00 26 14.2**	**-1.5**
JEW	**Eniwo**	**3.62**	**337**	Pn	**Pn**	**00 25 48.5**	**+1.7**
JYT	**Yasato**	**4.13**	**218**	Pn	**Pn**	**00 25 53.0**	**-0.9**
JSD	**Sado**	**4.25**	**251**	Pn	**Pn**	**00 25 55.7**	**+0.2**
GLVR	**Golovnino**	**4.51**	**20**	⇑*i*P	**Pn**	**00 25 59.2**	**+0.1**
GLVR				*i* S	**Sn**	**00 26 47.6**	**-3.2**
GLVR				pmax	pmax		
	comp=E,128nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,199nm,0.3s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
ASAJ	**Asahikawa**	**4.63**	**353**	Pn	**Pn**	**00 26 00.2**	**-0.5**
	comp=E,13nm,0.3s,baz=214,slow=13,SNR=33						
ASAJ				Sn	**Sn**	**00 26 51.3**	**-2.3**
	comp=E,7.3nm,0.3s,baz=88,slow=7.6,SNR=4.7						
ASAJ	**Asahikawa**	**4.63**	**353**	P	**Pn**	**00 26 01.2**	**+0.5**
JKA	**Kamikawa-asahi**	**4.63**	**353**	Pn	**Pn**	**00 26 01.2**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**4.88**	**22**	*d*iP	**Pn**	**00 26 03.4**	**-0.7**
YUK				*i* S	**Sn**	**00 26 54.1**	**-5.7**
YUK				pmax	pmax		
	comp=E,146nm,0.2s						
YUK				pmax	pmax		
	comp=Z,348nm,0.2s						
YUK				pmax	pmax		
	comp=N,49nm,0.1s						
YUK				smax	smax		
	comp=N,988nm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
MAJO	**Matsushiro**	**5.04**	**235**	*i* P	**Pn**	**00 26 07.6**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,295nm,0.6s						
MAJO	**Matsushiro**	**5.04**	**235**	Pn	**Pn**	**00 26 07.5**	**+1.1**
MJAR	**Matsushiro Arr**	**5.04**	**235**	Pn	**Pn**	**00 26 06.8**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=37,slow=12,SNR=304						
MJAR				LR	LR	00 28 17.9	
	comp=Z,2μm,18.6s,baz=136,slow=42						
MJAR	**Matsushiro Arr**	**5.04**	**235**	P	**Pn**	**00 26 07.2**	**+0.8**
MJAR	**Matsushiro Arr**	**5.04**	**235**		**Pn**	**00 26 07.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**5.04**	**236**	Pn	**Pn**	**00 26 07.1**	**+0.6**
SHO	**Shikotan**	**5.06**	**30**	*c*iP	**Pn**	**00 26 04.7**	**-1.9**
SHO				*i* S	**Sn**	**00 26 57.4**	**-6.9**
SHO				pmax	pmax		
	comp=N,41nm,0.2s						
SHO				pmax	pmax		
	comp=E,24nm,0.2s						
SHO				pmax	pmax		
	comp=Z,75nm,0.2s						
SHO				smax	smax		
	comp=N,56nm,0.2s						
SHO				smax	smax		
	comp=E,858nm,0.3s						
JGF	**Kuroka**	**6.17**	**233**	Pn	**Pn**	**00 26 22.3**	**+0.4**
INU	**Inuyama**	**6.54**	**232**	Pn	**Pn**	**00 26 26.8**	**-0.2**
KUR	**Kuril'sk**	**6.61**	**29**	P	**Pn**	**00 26 27.0**	**-0.

GRNR MLR MLR
comp=N,590nm,14.0s
GRNR MLR MLR
comp=Z,980nm,15.0s
KSRS Korea Array 12.28 265 Pn **Pn 00 27 46.5 +0.9**
comp=Z,0.5nm,0.3s,baz=87,slow=13,SNR=30
KSRS LR LR 00 32 11.5
comp=Z,1μm,18.4s,baz=75,slow=36
KS19 Wonju Array Si 12.31 265 Pn **Pn 00 27 48.7 +2.7**
KSAR Wonju Array Be 12.31 265 P **Pn 00 27 48.3 +2.3**
KSAR Wonju Array Be 12.31 265 Pn **Pn 00 27 48.3 +2.3**
KLR Kul'dur 12.76 323 Pn **Pn 00 27 52.1 0.0**
comp=Z,0.3nm,0.3s,baz=133,slow=13,SNR=14
KLR LR LR 00 32 57.5
comp=Z,1μm,19.6s,baz=134,slow=38
TJN Taejon 13.01 261*c iP* **Pn 00 27 55.6 0.0**
TJN Taejon 13.01 261 Pn **Pn 00 27 55.9 +0.3**
BNX BinXian 13.28 303 ⇓P **Pn 00 27 59.6 +0.3**
BNX pmax pmax
comp=Z,25nm,0.7s
BNX pmax pmax
comp=Z,310nm,3.9s
NKL Nikolayevsk 13.76 353 *e*P **Pn 00 28 04.1 -1.5**
NKL *e*S **Sn 00 30 38.4 +0.9**
NKL pmax pmax
comp=E,4.0nm,0.6s
NKL pmax pmax
comp=N,292nm,0.7s
NKL pmax pmax
comp=Z,31nm,0.9s
NKL smax smax
comp=N,506nm,1.1s
NKL smax smax
comp=E,3.0nm,1.1s
NKL MLR MLR
comp=E,56nm,15.0s
NKL MLR MLR
comp=N,14μm,20.0s
NKL MLR MLR
comp=Z,391nm,13.0s
OKH Okha 14.04 359*de*P Pn 00 28 03.6 -5.9
OKH *e*S **Sn 00 30 41.5 -2.8**
OKH MLR MLR
comp=E,2μm,17.0s
OKH MLR MLR
comp=N,2μm,18.0s
OKH MLR MLR
comp=Z,1μm,15.0s
CN2 Changchun 14.06 293 *e*P **Pn 00 28 05.6 -4.2**
CN2 *e*PP **P 00 28 16.9 -0.5**
CN2 *e*S **Sn 00 30 41.8 -3.2**
CN2 *es*S Sn 00 30 48.6 +3.6
CN2 LR LR
comp=Z,620nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
PETK Petropavlovsk- 16.77 31 Pn **P 00 28 47.3 -0.2**
comp=Z,0.1nm,0.3s,baz=207,slow=19,SNR=4.4
DL2 Dalian 16.86 275 P **P 00 28 48.0 -0.5**
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,310nm,7.7s
DL2 LR LR
comp=Z,840nm,14.4s
DL2 LR LR
comp=Z,760nm,14.2s
DL2 LR LR
comp=Z,1μm,15.9s
PET Petropavlovsk 17.10 33 *i* P **P 00 28 51.0 -0.1**
ZEA Zeya 17.95 328 *e*P **Pn 00 28 57.6 -2.5**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA MLR MLR
comp=E,700nm,17.0s
ZEA MLR MLR
comp=N,600nm,19.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
HIA Hailar 19.42 308 *i* P **P 00 29 14.7 -2.0**
HIA pmax pmax
comp=Z,22nm,0.7s
HIA Hailar 19.42 308 P **P 00 29 14.7 -2.0**
HIA IAmb IAmb 00 29 25.8
comp=Z,38nm,0.8s
MA2 Magadan 20.62 11 P **P 00 29 30.3 +0.7**
comp=Z,27nm,0.8s,baz=197,slow=9.3,SNR=24
MA2 LR LR 00 38 57.3
comp=Z,242nm,18.3s,baz=148,slow=41
MA2 Magadan 20.62 11*ce*P Pn 00 29 30.7 -1.2
MA2 pmax pmax
comp=Z,27nm,0.8s
MA2 Magadan 20.62 11 P Pn 00 29 30.8 -1.1
MA2 IAmb IAmb 00 29 31.6
comp=Z,34nm,0.8s
XLT XiLinHaoTe 20.79 291⇑*i*P **P 00 29 29.3 -2.4**
XLT sP pP 00 29 39.1 +1.4
XLT PP **PnPn 00 29 53.3 +3.2**
XLT S **S 00 33 22.1 -0.5**
XLT pmax pmax
comp=Z,54nm,1.3s
XLT pmax pmax
comp=Z,290nm,5.6s
XLT LR LR
comp=Z,890nm,15.4s
XLT LR LR
comp=Z,820nm,16.3s
BJI Beijing 20.88 280 P **P 00 29 30.0 -2.6**
BJI S **S 00 33 23.0 -1.1**
BJI pmax pmax
comp=Z,19nm,1.1s
BJI pmax pmax
comp=Z,140nm,5.5s
BJI LR LR
comp=Z,430nm,12.5s
BJI LR LR
comp=Z,1μm,15.9s
BJT Baijiatuao 20.89 280 P **P 00 29 30.0 -2.7**
BJT pmax pmax
comp=Z,34nm,1.2s
BJT Baijiatuau 20.89 280 P **P 00 29 30.0 -2.7**
TIA Tai'an 20.95 269 *e*P **P 00 29 31.3 -2.1**
TIA pmax pmax
comp=Z,50nm,1.1s
TIA LR LR
comp=Z,550nm,12.8s
TIA LR LR
comp=Z,1μm,15.3s
TIA LR LR
comp=Z,2μm,15.3s
NJ2 Nanjing 21.19 257 *e*P **P 00 29 34.3 -1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,5.1s
NJ2 LR LR
comp=Z,500nm,13.3s
NJ2 LR LR
comp=Z,600nm,16.6s
NJ2 LR LR
comp=Z,790nm,16.6s
HNS HongShan 22.50 274 ⇓P **P 00 29 46.6 -3.4**
HNS S **S 00 33 54.0 -1.5**
HNS pmax pmax
comp=Z,19nm,0.9s
HNS LR LR
comp=Z,380nm,16.7s
HNS LR LR
comp=Z,2μm,16.3s
HNS LR LR
comp=Z,1μm,16.7s
YAK Yakutsk 24.04 344 P **P 00 30 04.4 -0.8**
comp=Z,34nm,0.6s,baz=290,slow=3.1,SNR=13
YAK Yakutsk 24.04 344*ce*P **P 00 30 03.9 -1.2**
YAK pmax pmax
comp=Z,80nm,1.0s
YAK Yakutsk 24.04 344 P **P 00 30 03.7 -1.4**
SEY Seymchan 24.07 10 P **P 00 30 05.5 0.0**
comp=Z,28nm,0.9s,baz=191,slow=8.4,SNR=33
SEY Seymchan 24.07 10 *i* P **P 00 30 06.4 +1.0**

SEY pmax pmax
comp=Z,45nm,1.0s
CIT Chita 24.07 311 *e*P **P 00 30 04.2 -1.5**
CIT *e* 00 30 15.0
CIT *e* 00 30 32.8
CIT pmax pmax
comp=Z,124nm,2.1s
HHC Hu-ho-hao-te 24.26 283 *e*P **P 00 30 07.3 -0.3**
HHC S **S 00 34 16.6 -8.4**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,250nm,6.4s
HHC LR LR
comp=Z,440nm,15.2s
HHC LR LR
comp=Z,2μm,15.9s
HHC LR LR
comp=Z,2μm,15.2s
SSLB Suanglung 24.60 237 P **P 00 30 09.1 -1.6**
SSLB IAmb IAmb 00 30 26.4
comp=Z,31nm,0.9s
YULB Yu-li 24.66 236 P **P 00 30 08.3 -2.9**
YULB IAmb IAmb 00 30 25.5
comp=Z,21nm,0.8s
LYN LuoYang 25.09 268⇓*e*P **P 00 30 15.6 +0.6**
LYN pP pP 00 30 19.9 -1.6
LYN S **S 00 34 39.3 +1.2**
LYN pmax pmax
comp=Z,30nm,1.4s
LYN LR LR
comp=Z,870nm,14.3s
LYN LR LR
comp=Z,1μm,14.4s
LYN LR LR
comp=Z,2μm,13.9s
WHN Wuhan 25.30 258⇑P **P 00 30 16.5 -0.4**
WHN S **S 00 34 42.9 +1.3**
WHN pmax pmax
comp=Z,170nm,0.8s
WHN LR LR
comp=Z,920nm,11.7s
WHN LR LR
comp=Z,2μm,14.2s
WHN LR LR
comp=Z,2μm,19.5s
GUMO Guam 25.86 177 LR LR 00 39 24.5
comp=Z,196nm,20.7s,baz=9.5,slow=34
BOD Bodaibo 26.34 324 *e*P **P 00 30 25.7 -0.4**
BOD pmax pmax
comp=Z,46nm,0.9s
ULN Ulaanbaatar 27.34 300*ce*P **P 00 30 35.8 +0.4**
ULN pmax pmax
comp=Z,47nm,1.3s
ULN Ulaanbaatar 27.34 300 P **P 00 30 35.5 0.0**
SONM Songino Array 27.78 300 P **P 00 30 39.9 +0.6**
comp=Z,13nm,0.8s,baz=102,slow=9.2,SNR=68
SONM LR LR 00 42 19.2
comp=Z,1μm,18.7s,baz=98,slow=38
SONM Songino Array 27.78 300 P **P 00 30 39.7 +0.3**
SONM pmax pmax
comp=Z,24nm,0.9s
SONM Songino Array 27.78 300 P **P 00 30 39.7 +0.3**
SONM IAmb IAmb 00 30 51.9
comp=Z,24nm,0.9s
XAN Xi'an 28.01 270 P **P 00 30 40.4 -1.0**
XAN pP sP 00 30 51.1 +0.4
XAN pmax pmax
comp=Z,19nm,0.9s
XAN LR LR
comp=Z,540nm,11.7s
XAN LR LR
comp=Z,980nm,15.1s
XAN LR LR
comp=Z,870nm,11.7s
H11N2 WAKE ISLAND Hy 28.27 127 T T 01 01 40.6
baz=318,slow=75,SNR=226
H11N1 WAKE ISLAND Hy 28.28 127 T T 01 01 39.4
baz=318,slow=75,SNR=192
H11N3 WAKE ISLAND Hy 28.29 127 T T 01 01 39.7
baz=318,slow=75,SNR=226
H11S3 WAKE ISLAND Hy 29.09 129 T T 01 02 36.8
baz=318,slow=74,SNR=30
H11S2 WAKE ISLAND Hy 29.10 129 T T 01 02 43.1
baz=250,slow=74,SNR=30
ZAK Zakamensk 30.03 305 *e*P **P 00 30 58.8 -0.4**
ZAK pmax pmax
comp=Z,36nm,1.4s
BILL Bilibino 31.21 16 *i* P **P 00 31 09.4 0.0**
BILL *i* 00 32 13.1
BILL *i* S **S 00 36 16.6 +2.7**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,253nm,17.0s
BILL Bilibino 31.21 16 P **P 00 31 09.3 0.0**
LZH Lanzhou 31.24 276⇑P **P 00 31 10.6 +0.4**
LZH pP pP 00 31 14.4 -2.3
LZH sP sP 00 31 20.1 +0.6
LZH sS sS 00 36 25.5 -0.8
LZH SS **SnSn 00 37 59.5 +1.0**
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,200nm,5.2s
LZH LR LR
comp=Z,630nm,13.0s
LZH LR LR
comp=Z,1μm,13.1s
LZH LR LR
comp=Z,1μm,14.6s
MOY Mondy 31.59 307 *e*P **P 00 31 13.6 +0.6**
MOY pmax pmax
comp=Z,34nm,2.4s
TIXI Tiksi 33.03 352 LR LR 00 47 10.3
comp=Z,324nm,18.2s,baz=180,slow=41
TIXI Tiksi 33.03 352*ce*P **P 00 31 25.2 0.0**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 33.03 352 P **P 00 31 24.5 -0.7**
GYA Guiyang 33.19 258⇑P **P 00 31 26.9 -0.4**
GYA pP pwP 00 31 36.3 -0.4
GYA S **S 00 36 42.8 -3.0**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,83nm,3.5s
GYA LR LR
comp=Z,440nm,13.1s
GYA LR LR
comp=Z,490nm,13.1s
GYA LR LR
comp=Z,540nm,13.4s
CD2 Chengdu 33.26 267 P **P 00 31 26.9 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 Chengdu 33.26 267 P **P 00 31 27.3 -0.5**
CD2 S **S 00 36 45.8 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,670nm,14.7s
CD2 LR LR
comp=Z,1μm,13.3s
GTA Gaotai 33.38 284 *e*P **P 00 31 29.8 +1.0**
GTA pP pP 00 31 37.0 +1.6
GTA PcP **PcP 00 34 11.8 +1.7**
GTA S **S 00 36 48.4 -0.1**
GTA pmax pmax
comp=Z,31nm,1.1s
GTA pmax pmax
comp=Z,64nm,5.4s
GTA LR LR
comp=Z,380nm,15.3s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,2μm,16.4s
KNGR Kungurtug, Tuv 33.72 305 *i* P **P 00 31 31.9 +0.3**
QIZ Qiongzhong 35.37 244 P **P 00 31 46.6 +0.5**
QIZ S **S 00 37 19.6 +0.4**
QIZ LR LR
comp=Z,400nm,16.1s
QIZ LR LR
comp=Z,370nm,18.0s
QIZ LR LR
comp=Z,540nm,16.1s
DAV Davao City (W) 36.05 211 LR LR 00 44 46.8
comp=Z,121nm,21.9s,baz=337,slow=33
KMI Kunming 36.89 259⇑P **P 00 31 59.3 0.0**
KMI pP pP 00 32 06.3 +0.3
KMI sP sP 00 32 09.5 +0.8
KMI pmax pmax
comp=Z,23nm,1.2s
KMI LR LR
comp=Z,370nm,15.5s
KMI LR LR
comp=Z,300nm,20.3s
KMI LR LR
comp=Z,370nm,21.2s
PZH PanZhiHua 36.92 262 P **P 00 31 59.4 -0.1**
PZH S **S 00 37 42.1 -1.1**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,170nm,3.7s
PZH LR LR
comp=Z,960nm,13.8s
PZH LR LR
comp=Z,910nm,13.4s
PZH LR LR
comp=Z,1μm,14.7s
TNA Tin City 37.94 31 P **P 00 32 08.7 +1.2**
GOMU GeErMu 38.11 281 P **P 00 32 10.3 +0.6**
GOMU pP pP 00 32 13.8 -2.6
GOMU sP pwP 00 32 15.4 -3.7
GOMU PP **PnPn 00 33 37.9 -0.5**
GOMU PcP **PcP 00 34 25.0 +0.6**
GOMU S **S 00 38 04.4 +2.9**
GOMU sS ScP 00 38 10.8 +0.3
GOMU pmax pmax
comp=Z,45nm,0.9s
GOMU pmax pmax
comp=Z,200nm,4.0s
GOMU LR LR
comp=Z,270nm,14.9s
GOMU LR LR
comp=Z,260nm,15.8s
GOMU LR LR
comp=Z,240nm,13.4s
ANM Nome 38.68 33 P **P 00 32 15.3 +1.6**
ANM pmax pmax
comp=Z,9.0nm,1.2s
ANM Nome 38.68 33 P **P 00 32 15.3 +1.6**
WMQ Urumqi 41.14 295⇑*i*P **P 00 32 35.5 +1.0**
WMQ pP sP 00 32 43.4 -0.4
WMQ PP **PnPn 00 34 14.3 +0.3**
WMQ pmax pmax
comp=Z,43nm,0.9s
WMQ pmax pmax
comp=Z,320nm,4.5s
WMQ LR LR
comp=Z,520nm,9.7s
WMQ LR LR
comp=Z,440nm,6.5s
WMQ LR LR
comp=Z,150nm,15.9s
DLV T Lat 41.30 238 P **P 00 32 37.0 +0.8**
DLV IAmb IAmb 00 32 38.2
comp=Z,45nm,1.5s
ZAA0 Zalesovo Array 41.42 310 P **P 00 32 36.1 -0.5**
ZAA0 IAmb IAmb 00 32 37.8
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 41.42 310 P **P 00 32 37.2 +0.6**
comp=Z,14nm,0.7s,baz=87,slow=8.0,SNR=65
ZALV PcP **PcP 00 34 34.8 +0.6**
comp=Z,4.1nm,0.6s,baz=91,slow=3.5,SNR=3.7
ZALV LR LR 00 50 34.9
comp=Z,366nm,19.1s,baz=88,slow=37
ZALV Zalesovo Beam 41.42 310 P **P 00 32 36.2 -0.4**
NRIK Noril'sk 41.68 334 P **P 00 32 38.5 0.0**
comp=Z,1.6nm,0.4s,baz=104,slow=9.5,SNR=4.7
NRIK LR LR 00 51 06.5
comp=Z,528nm,18.5s,baz=107,slow=38
NRIK Noril'sk 41.68 334 P **P 00 32 38.5 0.0**
SIJI Sorong 41.70 198 LR LR 00 47 25.2
comp=Z,147nm,21.8s,baz=76,slow=32
ZSN Zaisan 42.28 301*c iP* **P 00 32 44.7 +0.9**
ZSN pmax pmax
comp=Z,15nm,0.9s
ZSN Zaisan 42.28 301⇑*iP* **P 00 32 44.7 +0.9**
comp=Z,15nm,0.9s,baz=301
CHTO Chiang Mai 43.41 255 P **P 00 32 53.3 +0.1**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 43.41 255 P **P 00 32 53.3 +0.1**
CHTO IAmb IAmb 00 33 01.0
comp=Z,11nm,0.8s
J20K Nowinta River 43.43 34 P **P 00 32 54.1 +1.4**
LSA Lhasa 43.55 274 P **P 00 32 55.3 +0.5**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 43.55 274 P **P 00 32 55.3 +0.5**
LSA Lhasa 43.55 274 P **P 00 32 56.1 +1.3**
CMAR Chiang Mai Arr 43.63 254 P **P 00 32 54.8 -0.1**
comp=Z,2.8nm,0.7s,baz=45,slow=7.1,SNR=11
CMAR LR LR 00 53 00.2
comp=Z,213nm,18.1s,baz=50,slow=39
CMAR Chiang Mai Arr 43.63 254 *i* P **P 00 32 55.7 +0.8**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 43.63 254 P **P 00 32 55.1 +0.2**
IMAR Indian Mountai 43.73 32 P **P 00 32 56.9 +1.6**
RSO Redoubt South 44.01 40 P **P 00 32 58.4 +0.7**
MK31 Makanchi Array 44.15 300 P **P 00 32 58.8 0.0**
MK31 pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 44.15 300 P **P 00 32 58.8 0.0**
MK31 IAmb IAmb 00 33 00.2
comp=Z,20nm,0.8s
MKAR Makanchi Array 44.15 300 P **P 00 32 59.1 +0.3**
comp=Z,14nm,0.7s,baz=83,slow=9.5,SNR=169
MKAR LR LR 00 52 08.2
comp=Z,515nm,19.6s,baz=64,slow=37
MKAR Makanchi Array 44.15 300 P **P 00 32 58.9 +0.1**
KDAK Kodiak Island 44.23 44 P **P 00 33 00.6 +1.3**
comp=Z,6.2nm,0.9s,baz=283,slow=14,SNR=3.0
KDAK LR LR 00 50 39.4
comp=Z,99nm,21.1s,baz=254,slow=35
CAST Castle Rocks 44.31 36 P **P 00 33 01.8 +1.9**
MAKZ Makanchi 44.35 300 P **P 00 33 00.3 -0.2**
MAKZ pmax pmax
comp=Z,24nm,1.0s
MAKZ Makanchi 44.35 300 P **P 00 33 00.3 -0.2**
MAKZ IAmb IAmb 00 33 02.0
comp=Z,24nm,0.9s
SEM Semipalatinsk 44.69 306 *e*P **P 00 33 03.1 -0.3**
SEM Semipalatinsk 44.69 306 *e*P **P 00 33 03.2 -0.3**
baz=306
KTH Kantishna Hill 44.83 35 P **P 00 33 05.8 +1.7**
KTH IAmb IAmb 00 33 29.5
comp=Z,14nm,1.0s
MLY Manley 44.93 33 P **P 00 33 06.0 +1.1**
SHL Shillong 45.00 268 P **P 00 33 05.0 -1.1**
SHL pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 45.00 268 P **P 00 33 05.0 -1.1**
SHL IAmb IAmb 00 33 27.1
comp=Z,12nm,0.8s
RC01 Rabbit Creek A 45.46 39 P **P 00 33 10.2 +1.2**
RC01 IAmb IAmb 00 33 14.3
comp=Z,11nm,1.0s
TOLK Toolik Lake Re 45.56 28 P **P 00 33 12.1 +2.3**
TOLK IAmb IAmb 00 33 39.6
comp=Z,19nm,1.5s
KURK Kurchatov 45.65 306*ce*P **P 00 33 10.8 +0.1**
KURK pmax pmax
comp=Z,78nm,1.7s
KURK Kurchatov 45.65 306 P **P 00 33 10.5 -0.1**
KURBB Kurchatov Arra 45.72 306 LR LR 00 51 19.4
comp=Z,153nm,18.2s,baz=49,slow=35
KURBB Kurchatov Arra 45.72 306 P **P 00 33 10.4 -0.9**
MDM Murphy Dome 46.00 33 P **P 00 33 14.2 +0.9**
WRH Wood River Hil 46.07 34 P **P 00 33 15.4 +1.6**
POKR Poker Plat Res 46.33 33 P **P 00 33 17.0 +1.1**
POKR IAmb IAmb 00 33 35.9
comp=Z,10nm,0.9s
HDA Harding Lake 46.56 34 P **P 00 33 18.0 +0.3**
IL31 46.58 34 P **P 00 33 18.3 +0.6**
IL31 IAmb IAmb 00 33 31.9
comp=Z,8.9nm,0.9s

ILAR Eielson Array 46.58 34 P **P** **00 33 18.9 +1.2**
comp=Z,2.8nm,0.8s,baz=265,slow=6.7,SNR=26
ILAR Eielson Array 46.58 34 P **P** **00 33 19.0 +1.2**
ILAR Eielson Array 46.58 34 P **P** **00 33 18.6 +0.8**
SHLS Shalkode 47.08 296*c iP* **P** **00 33 19.9 -2.3**
SHLS pmax pmax
comp=Z,9.0nm,1.3s
SHLS Shalkode 47.08 296⇑ *iP* **P** **00 33 19.9 -2.3**
comp=Z,8.8nm,1.3s,baz=296
PRP Porcupine Dome 47.12 33 P **P** **00 33 23.9 +1.7**
TDK Taldyqorghan 47.24 299 *eP* **P** **00 33 23.9 +0.6**
TDK Taldyqorghan 47.24 299 *eP* **P** **00 33 24.0 +0.6**
baz=299
KLU Klutina 47.26 38 P **P** **00 33 24.9 +1.6**
KLU IAmb IAmb 00 33 30.0
comp=Z,12nm,1.3s
TAPN Taplejung 47.33 273 *eP* **P** **00 33 25.6 +1.1**
UZB Uzynbulak 47.39 296 *eP* **P** **00 33 24.7 +0.1**
UZB Uzynbulak 47.39 296 *eP* **P** **00 33 24.8 +0.1**
baz=296
BMAR Burnt Mountain 47.42 30 P **P** **00 33 26.6 +2.3**
KPKS Kokpek 47.52 297 *eP* **P** **00 33 25.9 +0.3**
KPKS pmax pmax
comp=Z,13nm,1.2s
KPKS Kokpek 47.52 297 *eP* **P** **00 33 25.9 +0.3**
comp=Z,13nm,1.2s,baz=297
ZHN Zhinishke 47.79 297 *eP* **P** **00 33 27.9 +0.2**
ZHN Zhinishke 47.79 297 *eP* **P** **00 33 27.9 +0.2**
baz=296
ODAN Odare 47.82 272 *eP* **P** **00 33 28.9 +0.6**
comp=Z,23nm,0.7s
SATY Saty 47.84 296*c iP* **P** **00 33 28.5 +0.4**
SATY pmax pmax
comp=Z,27nm,2.1s
SATY Saty 47.84 296⇑ *iP* **P** **00 33 28.6 +0.4**
comp=Z,27nm,2.1s,baz=296
SCRK Sand Creek 47.89 35 P **P** **00 33 29.0 +0.8**
SCRK IAmb IAmb 00 33 44.8
comp=Z,6.7nm,0.9s
L26K Log Cabin Wild 48.28 36 P **P** **00 33 33.0 +1.8**
L26K IAmb IAmb 00 33 50.7
comp=Z,7.8nm,1.0s
JIRN Jiri 48.35 274 *eP* **P** **00 33 33.1 +0.6**
RAMN Ramite 48.38 273 *eP* **P** **00 33 32.8 +0.1**
GUN Gumba 48.46 274 *eP* **P** **00 33 33.8 +0.4**
comp=Z,96nm,0.7s
MDOK Medeo 48.75 297 *eP* **P** **00 33 35.6 +0.4**
MDOK Medeo 48.75 297 *eP* **P** **00 33 35.6 +0.4**
baz=297
AAA Alma-Ata 48.82 297 *eP* **P** **00 33 36.3 +0.7**
AAA Alma-Ata 48.82 297 *eP* **P** **00 33 36.4 +0.7**
baz=297
TNSS Tian-Shan 48.86 297 *eP* **P** **00 33 36.1 -0.2**
baz=297
BCAR Beaver Creek A 48.98 36 P **P** **00 33 38.4 +1.8**
KKN Kakani 48.99 275 *eP* **P** **00 33 37.6 +0.3**
KUU Kurty 48.99 298*c iP* **P** **00 33 36.7 -0.1**
KUU pmax pmax
comp=Z,16nm,0.8s
KUU Kurty 48.99 298⇑ *iP* **P** **00 33 36.8 -0.1**
comp=Z,16nm,0.8s,baz=298
PKI Pulchoki 48.99 274 *eP* **P** **00 33 37.4 -0.1**
PKIN Phulchoki 49.00 274 *eP* **P** **00 33 37.2 -0.2**
KDJ Kajisay 49.01 296 P **P** **00 33 37.1 -0.1**
KDJ pmax pmax
comp=Z,14nm,1.1s
KDJ Kajisay 49.01 296 P **P** **00 33 37.1 -0.1**
KDJ IAmb IAmb 00 33 45.4
comp=Z,14nm,1.1s
DMN Daman 49.21 275 *eP* **P** **00 33 39.2 +0.2**
GKN Gorkha 49.38 275 *eP* **P** **00 33 40.3 +0.1**
comp=Z,72nm,0.8s
BRZS Berezniki 49.52 307 *eP* **P** **00 33 40.8 0.0**
BRZS pmax pmax
comp=Z,5.0nm,0.6s
BRZS Berezniki 49.52 307 *eP* **P** **00 33 40.9 0.0**
comp=Z,4.9nm,0.6s,baz=307
BOOM Boomskoye usch 49.74 297 P **P** **00 33 42.9 +0.1**
BOOM pmax pmax
comp=Z,22nm,1.0s
BOOM Boomskoye usch 49.74 297 P **P** **00 33 42.9 +0.1**
TKM2 Tokmak 2 49.83 297 P **P** **00 33 44.5 +1.0**
SNR=11
TKM2 Tokmak 2 49.83 297 P **P** **00 33 44.1 +0.6**
DANN Dangsing 49.88 276 *eP* **P** **00 33 44.8 +0.6**
comp=Z,219nm,0.8s
BRVK Borovoye 50.12 311*ceP* **P** **00 33 46.0 +0.7**
BRVK pmax pmax
comp=Z,30nm,1.3s
BRVK Borovoye 50.12 311 P **P** **00 33 45.6 +0.3**
KOLN Koldanda 50.29 276 *eP* **P** **00 33 47.5 +0.3**
KBK Karagaybulak 50.37 297 P **P** **00 33 48.4 +0.8**
SNR=20
USP Ospenovka 50.46 298 P **P** **00 33 48.5 +0.4**
SNR=14
FRU1 Bishkek 50.53 297 P **P** **00 33 49.1 +0.4**
FRU1 pmax pmax
comp=Z,17nm,1.0s
FRU1 Bishkek 50.53 297 P **P** **00 33 49.1 +0.4**
FRU1 IAmb IAmb 00 34 01.7
comp=Z,17nm,0.9s
PYUN Piuthan 50.60 276 *eP* **P** **00 33 49.9 +0.4**
comp=Z,124nm,1.0s
EPYK Eagle Plains 50.61 31 P **P** **00 33 50.0 +1.2**
EPYK IAmb IAmb 00 34 07.8
comp=Z,20nm,1.2s
AAK Ala-Archa 50.69 297 LR LR 00 56 31.8
comp=Z,394nm,18.8s,baz=70,slow=38
AAK Ala-Archa 50.69 297*ceP* **P** **00 33 50.6 +0.6**
AAK pmax pmax
comp=Z,15nm,1.7s
AAK Ala-Archa 50.69 297 P **P** **00 33 49.3 -0.7**
AAK IAmb IAmb 00 34 16.6
comp=Z,8.3nm,1.0s
AAK Ala-Archa 50.69 297 *i* P **P** **00 33 50.3 +0.4**
SNR=8.2
KSH Kashi 50.82 293 P **P** **00 33 55.1 +4.1**
KSH pP pwP 00 34 01.8 +1.0
KSH sP sP 00 34 05.6 +5.3
KSH PcP **PcP** **00 35 12.6 +5.1**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH LR LR
comp=Z,540nm,11.9s
KSH LR LR
comp=Z,510nm,12.2s
KSH LR LR
comp=Z,780nm,15.3s
EKS2 Erkin-Say 51.17 297 P **P** **00 33 53.9 +0.4**
SNR=11
HYT Haines Junctio 51.39 38 P **P** **00 33 57.5 +2.5**
HYT IAmb IAmb 00 34 14.2
comp=Z,12nm,0.9s
AML Almayashu 51.43 297 P **P** **00 33 56.8 +1.0**
SNR=19
AML Almayashu 51.43 297 *i* P **P** **00 33 56.6 +0.8**
SNR=19
INK Inuvik 51.47 28 LR LR 00 59 33.3
comp=Z,93nm,19.0s,baz=250,slow=40
INK Inuvik 51.47 28 P **P** **00 33 56.6 +1.4**
INK pmax pmax
comp=Z,15nm,1.5s
INK Inuvik 51.47 28 P **P** **00 33 56.6 +1.4**
INK IAmb IAmb 00 34 13.7
comp=Z,15nm,1.5s
M31M Drury Creek, Y 52.50 36 P **P** **00 34 05.4 +2.4**
DZA Taraz 52.76 299 *eP* **P** **00 34 05.5 +0.3**
DZA Taraz 52.76 299 *eP* **P** **00 34 05.5 +0.3**
baz=298
KKAR Karatay Array 53.23 299 P **P** **00 34 08.4 -0.3**
KKAR Karatay Array 53.23 299 P **P** **00 34 08.4 -0.3**
A36M Sachs Harbour 53.38 23 P **P** **00 34 11.1 +1.8**
A36M IAmb IAmb 00 34 31.5
comp=Z,8.3nm,0.9s
DRK Karamyk 53.79 295 P **P** **00 34 13.7 +0.5**
DRK IAmb IAmb 00 34 33.6
comp=Z,8.5nm,0.7s
IUG Iuzhnay 53.93 298 *eP* **P** **00 34 14.4 +0.4**
IUG Iuzhnay 53.93 298 *eP* **P** **00 34 14.4 +0.4**
baz=298
BTK Batken 54.24 296 P **P** **00 34 16.0 -0.2**
BTK pmax pmax
comp=Z,12nm,1.1s
BTK Batken 54.24 296 P **P** **00 34 16.0 -0.2**
BTK IAmb IAmb 00 34 34.7
comp=Z,12nm,1.1s
SVE Sverdlovsk 54.32 318‖ *eP* **P** **00 34 17.4 +1.0**
SVE pmax pmax
comp=Z,53nm,1.1s
SVE MLR MLR
comp=Z,1μm,15.0s
PSI Prapat 54.38 239 LR LR 00 59 06.7
comp=Z,145nm,18.8s,baz=44,slow=38
C36M Paulatuk 54.53 26 P **P** **00 34 18.2 +0.5**
C36M IAmb IAmb 00 34 43.0
comp=Z,15nm,1.5s
BKNI Bangkinang 54.87 235 P **P** **00 34 22.0 +1.1**
GAR Garm 55.04 295 P **P** **00 34 21.6 -0.5**
NIL Nilore 55.31 287 P **P** **00 34 23.6 -0.4**
NIL pmax pmax
comp=Z,33nm,1.2s
NIL Nilore 55.31 287 P **P** **00 34 23.6 -0.4**
ARU Arti 55.53 318 LR LR 01 00 37.0
comp=Z,523nm,18.5s,baz=60,slow=39
ARU Arti 55.53 318*d iP* **P** **00 34 25.4 +0.3**
ARU 00 35 21.5
ARU S **S** **00 42 11.1 +2.2**
ARU SS **SS** **00 45 47.7 -5.6**
ARU pmax pmax
comp=Z,43nm,0.9s
ARU MLR MLR
comp=Z,795nm,14.0s
ARU Arti 55.53 318 P **P** **00 34 25.5 +0.3**
CHGR Chuyangaron 56.00 295 P **P** **00 34 28.9 -0.1**
AB31 Akbulak array 57.53 310 *i* P **P** **00 34 39.2 -0.3**
ABKAR Akbulak array 57.53 310 P **P** **00 34 39.4 -0.1**
KBL Kabul 57.97 290 P **P** **00 34 42.6 -0.6**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 57.97 290 P **P** **00 34 42.6 -0.6**
KBL IAmb IAmb 00 34 54.7
comp=Z,15nm,0.8s
AKTO Aktyubinsk 58.17 311 LR LR 01 03 00.9
comp=Z,218nm,18.1s,baz=51,slow=39
AKTO Aktyubinsk 58.17 311 P **P** **00 34 43.0 -1.0**
SPITS Spitsbergen Ar 58.38 349 LR LR 01 03 30.5
comp=Z,265nm,18.1s,baz=227,slow=40
NOR Nord 58.67 357 *i* P **P** **00 34 46.7 -0.3**
NOR IAmb IAmb 00 34 47.7
comp=Z,2.1nm,0.7s
KIRV Kirov 59.20 323 LR LR 01 02 21.5
comp=Z,270nm,18.4s,baz=32,slow=38
BBB Bella Bella 59.22 46 LR LR 01 03 01.5
comp=Z,26nm,18.9s,baz=286,slow=39
CTA Charters Tower 59.36 177 LR LR 00 57 28.8
comp=Z,44nm,21.4s,baz=30,slow=33
PRGR Permogore 59.52 327 *eP* **P** **00 34 52.9 -0.3**
WB0 Warramunga Arr 59.57 190 P **P** **00 34 53.8 -0.2**
WR0 Warramunga Arr 59.74 190 P **P** **00 34 54.7 -0.4**
WB2 Warramunga Arr 59.75 190 P **P** **00 34 55.4 +0.2**
WB2 IAmb IAmb 00 35 11.6
comp=Z,16nm,1.1s
WRA Warramunga Arr 59.75 190 P **P** **00 34 54.2 -1.0**
comp=Z,3.6nm,0.7s,baz=7.1,slow=6.9,SNR=15
WRA LR LR 00 58 29.8
comp=Z,46nm,21.1s,baz=213,slow=34
WRA Warramunga Arr 59.75 190 P **P** **00 34 55.5 +0.3**
WRA Warramunga Arr 59.75 190 P **P** **00 34 55.5 +0.3**
RES Resolute Bay 59.81 15 P **P** **00 34 54.9 -0.1**
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 59.81 15 P **P** **00 34 54.9 -0.1**
RES IAmb IAmb 00 34 56.5
comp=Z,6.1nm,0.8s
HYBB Hyderabad (bro 59.81 268 *eP* **P** **00 34 56.2 +0.3**
YKA Yellowknife Ar 60.89 31 P **P** **00 35 03.3 +0.8**
comp=Z,1.3nm,0.6s,baz=300,slow=6.6,SNR=27
YKA Yellowknife Ar 60.89 31 P **P** **00 35 02.5 0.0**
TULEG Thule 62.43 8 *i* P **P** **00 35 11.9 -0.8**
TULEG IAmb IAmb 00 35 13.4
comp=Z,7.0nm,0.7s
TULEG Thule 62.43 8 P **P** **00 35 13.6 +0.9**
TULEG IAmb IAmb 00 35 14.1
comp=Z,7.4nm,0.7s
KLMR Klimovskoe 62.48 328 *eP* **P** **00 35 10.3 -3.0**
KLMR *e* 00 37 26.8
KLMR pmax pmax
comp=Z,41nm,1.3s
KLMR Klimovskoe 62.48 328 *eP* **P** **00 35 10.4 -2.9**
KLMR AMP 00 35 14.8
comp=Z,41nm,1.3s
KLMR *e*PP **PP** **00 37 26.8 -3.5**
HRA Herat 62.93 293 P **P** **00 35 16.6 -0.4**
HRA IAmb IAmb 00 35 18.7
comp=Z,10nm,1.4s
BELG Belogornoye 63.03 317 LR LR 01 05 18.2
comp=Z,310nm,18.2s,baz=73,slow=39
DAG Danmarks Havn 63.43 355 *i* P **P** **00 35 19.0 -0.3**
DAG IAmb IAmb 00 35 19.8
comp=Z,4.5nm,0.7s
ASAR Alice Springs 63.48 190 P **P** **00 35 21.1 +0.9**
comp=Z,2.3nm,0.7s,baz=3.5,slow=5.4,SNR=12
ASAR LR LR 01 03 11.8
comp=Z,43nm,19.4s,baz=339,slow=36
ASAR Alice Springs 63.48 190 P **P** **00 35 21.6 +1.3**
ASAR Alice Springs 63.48 190 P **P** **00 35 21.6 +1.3**
GEYT Alibeck 63.98 299 P **P** **00 35 23.9 +0.2**
comp=Z,3.0nm,0.7s,baz=83,slow=24,SNR=4.6
GEYT LR LR 01 05 58.2
comp=Z,195nm,18.5s,baz=58,slow=39
GEYT Alibeck 63.98 299 P **P** **00 35 22.4 -1.3**
GEYT IAmb IAmb 00 35 45.7
comp=Z,5.2nm,0.8s
GYA0B ALIBECK ARRAY 63.98 299 P **P** **00 35 23.0 -0.7**
GYA0B IAmb IAmb 00 35 45.6
comp=Z,7.8nm,0.9s
PALK Pallekele 64.40 258 LR LR 01 05 44.6
comp=Z,91nm,20.3s,baz=138,slow=38
DZM Mont Dzumac 64.96 156 LR LR 01 00 08.7
comp=Z,137nm,20.9s,baz=75,slow=33
DZM Mont Dzumac 64.96 156 *eLR* LR 00 55 11.7
comp=Z,210nm,21.5s
MSVF Nonsavu 65.53 143 LR LR 01 00 55.1
comp=Z,90nm,18.5s,baz=77,slow=33
MOS Moscow 66.17 323 *eP* **P** **00 35 36.8 -0.7**
MOS MLR MLR
comp=Z,500nm,15.0s
OBN Obninsk 67.02 323 *i* P **P** **00 35 42.7 -0.2**
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,488nm,16.0s
FIA1 FINESS Array S 67.33 332 P **P** **00 35 44.4 -0.4**
FINES FINESS Array B 67.33 332 P **P** **00 35 45.2 +0.5**
comp=Z,11nm,0.7s,baz=44,slow=8.0,SNR=34
FINES LR LR 01 08 11.4
comp=Z,380nm,18.2s,baz=22,slow=39
AFI Afiamalu 67.60 132 LR LR 00 58 30.8
comp=Z,83nm,20.6s,baz=298,slow=30
VORR Voronezh 67.78 319 *eP* **P** **00 35 48.5 +0.7**
VORR pmax pmax
comp=Z,20nm,0.6s
MAK Makhachkala 68.13 308 *eP* **P** **00 35 46.5 -3.7**
MAK *e*PPP PPP 00 39 54.2
MAK *e*S **S** **00 44 44.7 -3.9**
MAK *e*SSS SSS 00 52 18.4
MAK pmax pmax
comp=Z,235nm,1.1s
MAK MLR MLR
comp=Z,211nm,10.0s
VSU Vasula 69.08 330 *eP* **P** **00 35 56.1 +0.3**
MTSE Matsula 70.03 331 *eP* **P** **00 36 02.1 +0.5**
BEKR Beckworth 70.15 54 P **P** **00 36 04.6 +1.6**
NCK Nalchik 70.17 310 *i* P **P** **00 36 03.7 +0.8**
NCK pmax pmax
comp=Z,12nm,1.1s
AAL Aland 70.35 334 *eP* **P** **00 36 03.6 0.0**
ZEI Tsey 70.40 310 *eP* **P** **00 36 03.5 -1.1**
ZEI pmax pmax
comp=Z,11nm,1.2s
KIV Kislovodsk 70.43 311⇑ P **P** **00 36 05.6 +1.1**
KIV Kislovodsk 70.43 311⇑ P **P** **00 36 05.6 +1.1**
KIV Kislovodsk 70.43 311 P **P** **00 36 05.1 +0.5**
KIV Kislovodsk 70.43 311 *i* P **P** **00 36 06.7 +2.1**
SNR=10
KBZ Khabaz 70.44 311 P **P** **00 36 05.0 +0.6**
comp=Z,14nm,0.9s,baz=80,slow=2.8,SNR=18
KBZ LR LR 01 12 29.8
comp=Z,180nm,19.1s,baz=45,slow=41
SHA1 Shidzhatmaz 70.58 311 *i* P **P** **00 36 06.1 +0.5**
FFC Flin Flon 70.79 34 P **P** **00 36 07.5 +1.1**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC Flin Flon 70.79 34 P **P** **00 36 07.5 +1.1**
ONI Oni 70.79 310 P **P** **00 36 08.3 +1.6**
ONI pmax pmax
comp=Z,18nm,1.0s
ONI Oni 70.79 310 P **P** **00 36 08.3 +1.6**
PAHR Pah Rah Range 70.85 54 P **P** **00 36 09.9 +2.6**
PAHR IAmb IAmb 00 36 14.4
comp=Z,7.4nm,1.2s
FCC Fort Churchill 71.09 28 P **P** **00 36 08.7 +0.6**
FCC pmax pmax
comp=Z,4.0nm,1.0s
FCC Fort Churchill 71.09 28 P **P** **00 36 08.7 +0.6**
HRY Holter Researc 71.10 45 P **P** **00 36 10.0 +1.3**
IDID Didziasalis 71.22 327 *eP* **P** **00 36 09.8 +0.8**
MNK Minsk 71.29 326 *i* P **P** **00 36 09.2 -0.2**
MNK *i* 00 36 28.8
MNK *i* 00 38 46.9
MNK *i* PPP PPP 00 40 30.0
MNK *i* S **S** **00 45 24.4 -0.9**
MNK *i* SS **SS** **00 50 00.9 +2.3**
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK MLR MLR
comp=Z,351nm,17.0s
MNK MLR MLR
comp=N,194nm,18.0s
MNK MLR MLR
comp=E,35nm,17.0s
MNK Minsk 71.29 326 *i* P **P** **00 36 09.2 -0.2**
comp=E,1.0nm,1.0s
MNK *i* P **P** **00 36 09.2 -0.2**
comp=N,10.0nm,1.0s
MNK *i* P **P** **00 36 09.2 -0.2**
comp=Z,19nm,0.9s,baz=48
MNK *i* PcP **PcP** **00 36 28.9 -0.3**
MNK *i* PP **PP** **00 38 47.0 -0.1**
MNK *i* PPP PPP 00 40 30.1
MNK *i* S **S** **00 45 24.5 -0.9**
MNK *i* SS **SS** **00 50 01.0 +2.3**
MNK *i* SSS SSS 00 53 50.6
MNK *i* LQ LQ 01 02 34.1
MNK *i* LR LR 01 04 41.3
MNK *i* LRM MLR 01 10 05.5
comp=Z,351nm,17.2s
MNK *i* LRM MLR 01 10 30.9
comp=N,194nm,17.7s
MNK *i* LRM MLR 01 11 46.6
comp=E,35nm,17.2s
LRM Limekiln Ridge 71.31 46 P **P** **00 36 10.9 +0.9**
SLIT Slitere, Latvi 71.37 331 *eP* **P** **00 36 09.5 -0.3**
YERR Yerington 71.37 55 P **P** **00 36 12.2 +1.7**
YERR IAmb IAmb 00 36 17.9
comp=Z,17nm,1.3s
UPP Uppsala 71.39 334 *eP* **P** **00 36 10.0 +0.1**
IIGN Ignalina 71.41 328 *eP* **P** **00 36 11.1 +0.9**
GNI Garni 71.45 307 LR LR 01 10 35.4
comp=Z,182nm,18.3s,baz=72,slow=38
GNI Garni 71.45 307*ceP* **P** **00 36 10.0 -0.9**
GNI pmax pmax
comp=Z,9.0nm,1.3s
NACGM Naroch 71.49 327 *i* P **P** **00 36 10.8 +0.2**
ICESG Greenland Ices 71.68 1 *i* P **P** **00 36 12.9 +0.8**
ICESG IAmb IAmb 00 36 28.5
comp=Z,7.4nm,0.8s
WSAR Wadi Sarin 71.70 285 LR LR 01 13 07.0
comp=Z,110nm,18.2s,baz=107,slow=40
BANOM Banah 71.86 289 P **P** **00 36 13.5 0.0**
BOZ Bozeman (W) 71.90 46 P **P** **00 36 14.7 +1.2**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 71.90 46 P **P** **00 36 14.7 +1.2**
SHME Shamm 71.91 289 P **P** **00 36 13.6 0.0**
KVN Kaiserville 72.04 54 P **P** **00 36 14.3 -0.2**
KVN pmax pmax
comp=Z,10.0nm,1.2s
KVN Kaiserville 72.04 54 P **P** **00 36 14.3 -0.2**
KVN IAmb IAmb 00 36 21.8
comp=Z,9.6nm,1.2s
PABE Paberze 72.23 329 P **P** **00 36 15.5 +0.5**
PABE Paberze 72.23 329 *eP* **P** **00 36 15.0 0.0**
NC405 NORSAR Array S 72.27 338 P **P** **00 36 15.1 -0.1**
NC303 NORSAR Array S 72.28 338 P **P** **00 36 15.5 +0.2**
NC303 IAmb IAmb 00 36 17.0
comp=Z,14nm,1.0s
NVAR Mina Array Bea 72.28 55 P **P** **00 36 18.0 +2.0**
comp=Z,1.6nm,0.7s,baz=289,slow=6.6,SNR=9.4
NVAR Mina Array Bea 72.28 55 P **P** **00 36 17.8 +1.8**
NC204 NORSAR Array S 72.42 338 P **P** **00 36 16.4 +0.2**
HFS Hagfors 72.45 336 LR LR 01 11 30.2
comp=Z,224nm,19.8s,baz=32,slow=39
NB201 NORSAR Array S 72.45 338 P **P** **00 36 16.5 +0.1**
NB2 NORSAR Subarra 72.48 338 P **P** **00 36 16.7 +0.2**
comp=Z,5.7nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 72.48 338 P **P** **00 36 16.9 +0.4**
comp=Z,8.3nm,0.7s,baz=38,slow=6.0,SNR=62
NOA LR LR 01 13 10.3
comp=Z,187nm,18.4s,baz=30,slow=40
UOSS Minazif 72.50 288 P **P** **00 36 16.7 -0.6**
UOSS IAmb IAmb 00 36 18.3
comp=Z,12nm,0.9s
UOSS Minazif 72.50 288 P **P** **00 36 17.8 +0.5**
NBO00 NORSAR Array S 72.61 338 P **P** **00 36 17.5 +0.2**
HATD Hatta, Dubai 72.63 288 P **P** **00 36 18.6 +0.6**
VIKU Vikbolandet 72.73 334 *eP* **P** **00 36 18.1 +0.2**
ASHO Ashiyiah 72.76 288 P **P** **00 36 19.2 +0.3**
ELK Elko 72.79 51 LR LR 01 07 37.1
comp=Z,25nm,18.4s,baz=356,slow=35
FAQ Al Faqa, Dubai 73.07 288 P **P** **00 36 20.9 +0.3**
TPH Tonopah 73.18 54 P **P** **00 36 23.1 +1.8**
TPH pmax pmax
comp=Z,32nm,1.2s
TPH Tonopah 73.18 54 P **P** **00 36 23.1 +1.8**
AKASG Malin Array Be 73.26 323 P **P** **00 36 21.3 0.0**
comp=Z,5.7nm,0.6s,baz=44,slow=6.2,SNR=26
AKASG LR LR 01 12 35.5
comp=Z,243nm,19.7s,baz=18,slow=39
AKASG Malin Array Be 73.26 323 P **P** **00 36 20.9 -0.4**
AKBB Malin Array Si 73.26 323 P **P** **00 36 20.9 -0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 73.26 323 P **P** **00 36 20.9 -0.4**
AKBB IAmb IAmb 00 36 22.0
comp=Z,6.6nm,0.8s
SFJD Kangerlussuaq 73.27 6 LR LR 01 10 28.0
comp=Z,180nm,19.0s,baz=338,slow=37
ASUD Al Ashush, Dub 73.33 288 P **P** **00 36 22.9 +0.7**
ALNE Al Ain 73.36 288 P **P** **00 36 22.9 +0.6**
MOOW Moose Ponds 73.55 47 P **P** **00 36 24.2 +0.8**
FRB Frobisher Bay 74.00 14 LR LR 01 13 22.0
comp=Z,181nm,18.5s,baz=350,slow=39
R11A Troy Canyon, C 74.03 53 P **P** **00 36 28.6 +2.3**
KONO Kongsberg 74.08 338⇑ P **P** **00 36 26.6 +0.7**
GURO Guroymak-BITLI 74.08 307 P **P** **00 36 27.3 +0.8**
GURO IAmb IAmb 00 36 29.0
comp=Z,11nm,0.9s
TPNV Topopah Spring 74.48 55 P **P** **00 36 29.2 +0.3**
TPNV pmax pmax
comp=Z,3.0nm,1.0s
TPNV Topopah Spring 74.48 55 P **P** **00 36 29.2 +0.3**
QSM Queen of Sheba 74.69 56 P **P** **00 36 31.7 +1.8**
PDAR Pinedale Array 74.84 47 P **P** **00 36 32.4 +1.4**
comp=Z,1.1nm,0.7s,baz=240,slow=2.4,SNR=8.1
PDAR Pinedale Array 74.84 47 P **P** **00 36 31.8 +0.8**
SORM Soroca 75.43 321⇑ P **P** **00 36 34.1 +0.2**
SORM Soroca 75.43 321⇑ P **P** **00 36 34.1 +0.2**
SHPR Sheep Range 75.44 55 P **P** **00 36 36.9 +2.5**
MARD Mardin 75.63 307 P **P** **00 36 36.4 +0.9**
MZR Muzera 75.66 288 *i* P **P** **00 36 35.7 0.0**
SNR=7.2
RDMU Red Mountain 76.25 49 P **P** **00 36 40.6 +1.5**
RDMU IAmb IAmb 00 36 46.4
comp=Z,10nm,1.1s
P17A Butcher Ranch, 76.27 50 P **P** **00 36 40.9 +1.8**
PFO Pinyon Flats O 76.40 58 LR LR 01 01 47.8
comp=Z,62nm,20.6s,baz=325,slow=29
SRU San Rafael Swe 76.63 50 P **P** **00 36 42.2 +1.0**
SRU San Rafael Swe 76.63 50 P **P** **00 36 42.2 +1.0**

SRU				IAmb	IAmb	00 36 52.4
	comp=Z,6.3nm,0.9s					
KWP	**Kalwaria Pacla**	**76.99 325**	*eP*	**P**	**P**	**00 36 44.1 +1.3**
VLDR	**Vladesti**	**77.15 320**	⇑P	**P**	**P**	**00 36 44.2 +0.4**
BUR08	**Bucovina Ar. S**	**77.29 322**	P	**P**	**P**	**00 36 44.8 +0.1**
BUR08				IAmb	IAmb	00 36 45.9
	comp=Z,7.0nm,0.9s					
BURAR	**Bucovina Array**	**77.30 322**	⇑P	**P**	**P**	**00 36 45.7 +1.0**
BURAR	**Bucovina Array**	**77.30 322**	⇑P	**P**	**P**	**00 36 45.7 +1.0**
BURAR	**Bucovina Array**	**77.30 322**	P	**P**	**P**	**00 36 45.6 +1.0**
BURAR				IAmb	IAmb	00 36 46.4
	comp=Z,5.6nm,0.8s					
TESR	**Tescani**	**77.39 321**	⇑P	**P**	**P**	**00 36 45.8 +0.7**
CFR	**Carcaliu**	**77.59 319**	⇑P	**P**	**P**	**00 36 46.9 +0.7**
CFR	**Carcaliu**	**77.59 319**	⇑P	**P**	**P**	**00 36 46.9 +0.7**
BNN	**Bunyan**	**77.63 310**	P	**P**	**P**	**00 36 47.5 +0.7**
OJC	**Ojcow**	**77.82 327**	*eP*	**P**	**P**	**00 36 48.4 +1.0**
OJC	**Ojcow**	**77.82 327**	P	**P**	**P**	**00 36 48.0 +0.6**
OJC				pmax	pmax	
	comp=Z,20nm,1.1s					
OJC	**Ojcow**	**77.82 327**	P	**P**	**P**	**00 36 48.0 +0.6**
OJC				IAmb	IAmb	00 36 49.6
	comp=Z,20nm,1.1s					
CRVS	**Cervenica-Dubn**	**78.08 325**	*eP*	**P**	**P**	**00 36 49.8 +0.9**
CRVS	**Cervenica-Dubn**	**78.08 325**	*eP*	**P**	**P**	**00 36 49.8 +0.9**
EFOR	**EFORIE**	**78.10 318**	⇑P	**P**	**P**	**00 36 52.8 +3.7**
NIE	**Niedzica**	**78.20 326**	*eP*	**P**	**P**	**00 36 51.4 +1.7**
BRTR	**Keskin Array B**	**78.34 312**	P	**P**	**P**	**00 36 51.2 +0.5**
	comp=Z,3.1nm,1.0s,baz=72,slow=4.0,SNR=9.1					
BRTR				LR	LR	01 16 04.3
	comp=Z,154nm,18.1s,baz=36,slow=39					
BRTR	**Keskin Array B**	**78.34 312**	P	**P**	**P**	**00 36 50.4 -0.3**
MLR	**Muntele Rosu**	**78.47 320**	LR	LR	LR	01 15 13.4
	comp=Z,256nm,19.2s,baz=33,slow=39					
ANTO	**Ankara**	**78.72 313**	P	**P**	**P**	**00 36 53.4 +0.6**
ANTO				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ANTO	**Ankara**	**78.72 313**	P	**P**	**P**	**00 36 53.4 +0.6**
ANTO				IAmb	IAmb	00 36 54.4
	comp=Z,10nm,0.8s					
LANS	**Liptovska Anna**	**78.77 326**	*eP*	**P**	**P**	**00 36 55.1 +2.3**
LANS	**Liptovska Anna**	**78.77 326**	*eP*	**P**	**P**	**00 36 55.1 +2.3**
KSP	**Ksiaz**	**78.78 329**	*eP*	**P**	**P**	**00 36 54.1 +1.3**
VOIR		**78.94 321**	⇑P	**P**	**P**	**00 36 54.8 +0.9**
VOIR		**78.94 321**	⇑P	**P**	**P**	**00 36 54.8 +0.9**
CHVC	**Chvalec**	**79.08 329**	*eP*	**P**	**P**	**00 36 55.7 +1.3**
MORC	**Moravsky Berou**	**79.10 328**	⇑P	**P**	**P**	**00 36 55.6 +1.0**
MORC	**Moravsky Berou**	**79.10 328**	⇑P	**P**	**P**	**00 36 55.6 +1.0**
MORC	**Moravsky Berou**	**79.10 328**	P	**P**	**P**	**00 36 55.0 +0.4**
MORC				IAmb	IAmb	00 36 56.8
	comp=Z,11nm,1.0s					
MORC	**Moravsky Berou**	**79.10 328**	*eP*	**P**	**P**	**00 36 55.5 +1.0**
DPC	**Dobruska-Polom**	**79.15 329**	*eP*	**P**	**P**	**00 36 56.5 +1.6**
DPC	**Dobruska-Polom**	**79.15 329**	*eP*	**P**	**P**	**00 36 56.5 +1.6**
UPC	**Upice**	**79.16 329**	*eP*	**P**	**P**	**00 36 56.0 +1.2**
UPC	**Upice**	**79.16 329**	*eP*	**P**	**P**	**00 36 56.0 +1.2**
KRLC	**Kraliky**	**79.18 328**	*eP*	**P**	**P**	**00 36 56.3 +1.3**
KRLC	**Kraliky**	**79.18 328**	*eP*	**P**	**P**	**00 36 56.3 +1.3**
ARR	**Arges**	**79.20 321**	⇑P	**P**	**P**	**00 36 57.0 +1.7**
PSZ	**Piszkesteto**	**79.51 325**	⇑P	**P**	**P**	**00 36 58.3 +1.4**
PSZ	**Piszkesteto**	**79.51 325**	⇑P	**P**	**P**	**00 36 58.3 +1.4**
PSZ	**Piszkesteto**	**79.51 325**	P	**P**	**P**	**00 36 57.7 +0.8**
PSZ				IAmb	IAmb	00 36 59.3
	comp=Z,12nm,1.1s					
CLL	**Collm**	**79.69 331**	⇑*iP*	**P**	**P**	**00 36 58.0 +0.3**
CLL			*i* *PP	**pP**	**pP**	**00 37 05.1 +0.4**
CLL				pmax	pmax	
	comp=Z,11nm,1.0s					
CLL				MLR	MLR	
	comp=Z,300nm,18.0s					
CLL	**Collm**	**79.69 331**	P	**P**	**P**	**00 36 57.6 0.0**
CLL				IAmb	IAmb	00 36 58.7
	comp=Z,9.6nm,1.0s					
CLL	**Collm**	**79.69 331**	⇑*iP*	**P**	**P**	**00 36 58.0 +0.3**
	comp=Z,11nm,1.0s					
CLL			*i* pP	**pP**	**pP**	**00 37 05.1 +0.4**
CLL			*e*PP	**PP**	**PP**	**00 40 02.0 +4.0**
CLL			Lm	MLR	MLR	01 15 00.0
	comp=Z,300nm,18.0s					
PVCC	**Panska Ves**	**79.71 330**	*eP*	**P**	**P**	**00 36 59.2 +1.4**
PVCC	**Panska Ves**	**79.71 330**	*eP*	**P**	**P**	**00 36 59.2 +1.4**
JAVC	**Velka Javorina**	**79.75 327**	*eP*	**P**	**P**	**00 37 00.0 +1.8**
VRAC	**Vranov**	**79.85 328**	LR	LR	LR	01 15 51.3
	comp=Z,332nm,18.3s,baz=28,slow=38					
VRAC	**Vranov**	**79.85 328**	*eP*	**P**	**P**	**00 36 59.9 +1.2**
SMOL	**Smolenice**	**80.12 327**	*eP*	**P**	**P**	**00 37 02.1 +2.0**
SMOL				pmax	pmax	
	comp=Z,6.0nm,1.3s					
SMOL	**Smolenice**	**80.12 327**	*eP*	**P**	**P**	**00 37 02.1 +2.0**
KRUC	**Moravsky**	**80.13 328**	*eP*	**P**	**P**	**00 37 01.0 +0.9**
PRU	**Pruhonice**	**80.15 329**	*eP*	**P**	**P**	**00 37 01.3 +1.1**
PRU	**Pruhonice**	**80.15 329**	*eP*	**P**	**P**	**00 37 01.3 +1.1**
SRO	**Srobarova**	**80.28 326**	*eP*	**P**	**P**	**00 37 02.6 +1.7**
SRO				pmax	pmax	
	comp=Z,11nm,1.0s					
SRO	**Srobarova**	**80.28 326**	*eP*	**P**	**P**	**00 37 02.6 +1.7**
BZS	**Buzias**	**80.45 323**	⇑P	**P**	**P**	**00 37 02.0 +0.1**
BZS	**Buzias**	**80.45 323**	⇑P	**P**	**P**	**00 37 02.0 +0.1**
RAYN	**Ar Rayn**	**81.11 293**	⇑P	**P**	**P**	**00 37 06.0 +0.1**
RAYN	**Ar Rayn**	**81.11 293**	P	**P**	**P**	**00 37 06.2 +0.3**
RAYN	**Ar Rayn**	**81.11 293**	*i* P	**P**	**P**	**00 37 06.4 +0.4**
	SNR=6.0					
CKRC	**Cesky Krumlov**	**81.17 329**	*eP*	**P**	**P**	**00 37 06.2 +0.5**
KHC	**Kasperske Hory**	**81.21 329**	P	**P**	**P**	**00 37 06.3 +0.3**
KHC				pmax	pmax	
	comp=Z,15nm,1.2s					
KHC	**Kasperske Hory**	**81.21 329**	*eP*	**P**	**P**	**00 37 06.9 +0.9**
KHC	**Kasperske Hory**	**81.21 329**	P	**P**	**P**	**00 37 06.3 +0.3**
KHC				IAmb	IAmb	00 37 08.1
	comp=Z,15nm,1.2s					
CONA	**Conrad Observa**	**81.23 327**	*eP*	**P**	**P**	**00 37 07.5 +1.3**
	comp=Z,4.2nm,0.9s,SNR=6.6					
EKA	**Eskdalemuir Ar**	**81.28 341**	LR	LR	LR	01 16 30.2
	comp=Z,46nm,19.4s,baz=14,slow=38					
GERES	**GERESS Array B**	**81.39 329**	P	**P**	**P**	**00 37 07.8 +0.7**
	comp=Z,2.7nm,0.9s,baz=36,slow=7.0,SNR=11					
GERES				LR	LR	01 16 17.8
	comp=Z,275nm,18.4s,baz=354,slow=38					
FRGS	**Fruska Gora**	**81.64 323**	⇑P	**P**	**P**	**00 37 08.1 -0.2**
ANMO	**Albuquerque**	**81.82 51**	LR	LR	LR	01 12 08.9
	comp=Z,40nm,19.5s,baz=348,slow=35					
ANMO	**Albuquerque**	**81.82 51**	*i* P	**P**	**P**	**00 37 11.1 +1.4**
ANMO				pmax	pmax	
	comp=Z,5.0nm,1.2s					
SOCY	**Socotra**	**81.88 279**	P	**P**	**P**	**00 37 07.2 -2.9**
SOCY				IAmb	IAmb	00 37 09.5
	comp=Z,15nm,0.8s					
VTS	**Vitosha**	**81.89 320**	⇑P	**P**	**P**	**00 37 11.2 +1.3**
VTS	**Vitosha**	**81.89 320**	⇑P	**P**	**P**	**00 37 11.2 +1.3**
VTS	**Vitosha**	**81.89 320**	P	**P**	**P**	**00 37 10.5 +0.6**
VTS				IAmb	IAmb	00 37 12.1
	comp=Z,6.6nm,0.8s					
ARSA	**Arzberg**	**81.91 327**	*eP*	**P**	**P**	**00 37 10.7 +1.0**
	comp=Z,4.8nm,0.9s					
BIOA	**Bad Ischl, Aus**	**82.34 328**	*eP*	**P**	**P**	**00 37 13.0 +1.1**
	comp=Z,9.8nm,1.1s					
DIVS	**Divibare**	**82.36 323**	P	**P**	**P**	**00 37 11.2 -0.9**
DIVS				IAmb	IAmb	00 37 13.7
	comp=Z,16nm,1.4s					
SOKA	**Soboth**	**82.57 327**	*eP*	**P**	**P**	**00 37 13.7 +0.5**
	comp=Z,15nm,0.9s,SNR=6.1					
MEM	**Membach**	**82.76 334**	*dP*	**P**	**P**	**00 37 14.6 +0.6**
KBA	**Koelnbreinsper**	**82.95 328**	*eP*	**P**	**P**	**00 37 17.1 +1.8**
	comp=Z,5.9nm,0.8s					
WATA	**Walderalm**	**83.45 329**	*eP*	**P**	**P**	**00 37 19.1 +1.3**
	comp=Z,14nm,1.6s					
MOTA	**Moosalm**	**83.63 330**	*i* P	**P**	**P**	**00 37 19.5 +0.7**
	comp=Z,9.6nm,0.9s					
RETA	**Reutte**	**83.65 330**	*eP*	**P**	**P**	**00 37 19.6 +0.8**
	comp=Z,11nm,1.1s,SNR=7.7					
SQTA	**Sankt Quirin**	**83.69 329**	*eP*	**P**	**P**	**00 37 20.5 +1.4**
	comp=Z,5.7nm,0.9s					
PMOR	**Pomariorio Ree**	**83.80 115**	*e*T	T	T	02 09 29.2
	comp=Z,5.8nm,0.2s					
BFO	**Black Forest**	**83.87 332**	P	**P**	**P**	**00 37 19.8 0.0**
BFO				pmax	pmax	
	comp=Z,23nm,1.4s					
BFO	**Black Forest**	**83.87 332**	P	**P**	**P**	**00 37 19.8 0.0**
PDG	**Podgorica**	**83.98 322**	⇓P	**P**	**P**	**00 37 21.1 +0.6**
PDG	**Podgorica**	**83.98 322**	P	**P**	**P**	**00 37 20.7 +0.3**
FETA	**Feichten**	**84.04 330**	*eP*	**P**	**P**	**00 37 21.2 +0.3**
	comp=Z,10nm,1.0s,SNR=8.5					
DAVA	**Damuels**	**84.15 330**	*eP*	**P**	**P**	**00 37 22.2 +0.8**
	comp=Z,8.6nm,0.9s					
EIL	**Elat**	**84.29 304**	LR	LR	LR	01 19 44.2
	comp=Z,97nm,18.4s,baz=55,slow=39					
PPT2	**Papeete2**	**84.42 118**	*e*LR	LR	LR	01 04 07.9
	comp=Z,185nm,22.5s					
DAVOX	**Davos/Dischmat**	**84.57 330**	LR	LR	LR	01 18 38.6
	comp=Z,186nm,19.3s,baz=28,slow=38					
KBN	**Korca**	**84.60 320**	P	**P**	**P**	**00 37 24.5 +0.8**
KBN				pmax	pmax	
	comp=Z,18nm,1.0s					
KBN	**Korca**	**84.60 320**	P	**P**	**P**	**00 37 24.5 +0.8**
TUE	**Stuetta**	**85.03 330**	P	**P**	**P**	**00 37 26.4 +0.4**
TUE				IAmb	IAmb	00 37 27.6
	comp=Z,11nm,1.0s					
TAOE	**Nuku Hiva Isla**	**85.32 105**	*e*LR	LR	LR	01 04 39.7
	comp=Z,292nm,23.3s					
NRCA	**Norcia**	**86.46 326**	P	**P**	**P**	**00 37 33.4 +0.5**
RPZ	**Rata Peaks**	**86.55 160**	LR	LR	LR	01 13 40.6
	comp=Z,146nm,19.8s,baz=334,slow=34					
LPIG	**La Paz**	**86.64 61**	LR	LR	LR	01 12 42.7
	comp=Z,52nm,18.1s,baz=215,slow=33					
TXAR	**Lajitas Array**	**87.40 54**	P	**P**	**P**	**00 37 39.6 +1.8**
	comp=Z,0.7nm,0.9s,baz=300,slow=3.1,SNR=5.7					
TXAR	**Lajitas Array**	**87.40 54**	P	**P**	**P**	**00 37 38.6 +0.8**
SADO	**Sadowa**	**87.78 29**	LR	LR	LR	01 19 10.4
	comp=Z,41nm,18.9s,baz=4.0,slow=37					
TBI	**Tubuai**	**88.51 122**	*e*LR	LR	LR	01 05 19.4
	comp=Z,83nm,25.2s					
ATD	**Arta Tunnel**	**90.72 285**	LR	LR	LR	01 21 26.8
	comp=Z,53nm,20.6s,baz=75,slow=38					
KEST	**Kesra**	**93.94 324**	LR	LR	LR	01 25 20.6
	comp=Z,188nm,18.4s,baz=327,slow=39					
ESDC	**Sonseca Array**	**95.71 335**	LR	LR	LR	01 26 48.2
	comp=Z,198nm,18.8s,baz=20,slow=39					
SNAA	**Sanae**	**143.57 197**	PKHKP	PKPpre		00 44 20.1
SNAA	**Sanae**	**143.57 197**	PKPpre	PKPpre		00 44 20.1
PB11	**IPOC Station P**	**145.47 65**	PKPdf	**PKPab**		**00 44 29.4 +0.4**
SIV	**San Ignacio**	**148.30 49**	PKPbc	**PKPbc**		**00 44 37.0 +0.2**
	comp=Z,2.1nm,0.8s,baz=245,slow=2.9,SNR=10					
PLCA	**Paso Flores**	**154.13 104**	PKIKP	**PKPdf**		**00 44 41.7 0.0**
PLCA	**Paso Flores**	**154.13 104**		**PKPdf**		**00 44 41.7 0.0**

IDC 16 00:41:54.7±1.7, 12°.24N×86°.46W, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/38, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=152.8km s-min=18.6km az=55.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**2.44**	**142**	Pn	Pn	00 42 36.8	+1.0
	0.7nm,0.3s,baz=356,slow=16,SNR=1.6						
JTS				Sn	Sn	00 43 06.4	+0.1
	5.0nm,0.3s,baz=289,slow=22,SNR=6.3						
TXAR	**Lajitas Array**	**23.36**	**319**	P	P	00 47 05.1	+0.1
	0.3nm,0.6s,baz=136,slow=10.0,SNR=4.7						
PDAR	**Pinedale Array**	**36.42**	**331**	P	P	00 49 00.8	-0.6
	0.2nm,0.4s,baz=121,slow=11,SNR=3.0						
SIV	**San Ignacio**	**37.65**	**138**	P	P	00 49 11.4	-0.4
	1.0nm,0.6s,baz=322,slow=9.9,SNR=3.9						
YKA	**Yellowknife Ar**	**54.07**	**344**	P	P	00 51 21.1	+0.2
	0.2nm,0.7s,baz=141,slow=7.3,SNR=6.4						

*IDC **16** 00:44:37.9±1.0, 56°.16S×28°.76W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/32, mbtmp4.3/4, ML5.0/1, Error ellipse: s-maj=53.8km s-min=25.1km az=107.0*
*NEIC **16** 00:44:50.8±1.1, 56°.5S±0°.1×29°.2W±0°.2, h92km±3km, mb4.4/7, Error ellipse: s-maj=22.8km s-min=16.1km az=221.0*

ISC 16 00:44:50.6±0.8, 56°.4S±0°.1×29°.1W±0°.1, h100km, n17, σ1°.20/18, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.74**	**293**	Pn	**Pn**	**00 45 59.6**	**-0.1**
PMSA	**Palmer Station**	**18.88**	**229**	P	**P**	**00 49 01.2**	**-1.4**
	4.9nm,0.3s,baz=97,slow=8.1,SNR=9.4						
PMSA	**Palmer Station**	**18.88**	**229**	P	**P**	**00 49 01.0**	**-1.6**
BELA	**Belgrano 2**	**21.66**	**183**	P	**P**	**00 49 31.4**	**-1.1**
BELA				IAmb	IAmb	00 49 37.2	
	comp=Z,15nm,1.3s						
PLTB	**Pedras Altas**	**29.98**	**315**	P	**P**	**00 50 50.6**	**+1.2**
PLTB				IAmb	IAmb	00 50 58.0	
	comp=Z,8.2nm,1.3s						
QSPA	**South Pole Qui**	**33.85**	**180**	P	**P**	**00 51 23.1**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=225,slow=1.6,SNR=16						
QSPA	**South Pole Qui**	**33.85**	**180**	P	**P**	**00 51 23.0**	**-0.1**
QSPA				IAmb	IAmb	00 51 26.9	
	comp=Z,16nm,1.4s						
BO01	**Tunca**	**36.01**	**290**	P	**P**	**00 51 42.1**	**+0.3**
BO01				IAmb	IAmb	00 51 58.8	
	comp=Z,19nm,1.5s						
VNDA	**Vanda**	**46.17**	**183**	P	**P**	**00 53 06.7**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=177,slow=5.8,SNR=5.2						
VNDA	**Vanda**	**46.17**	**183**	P	**P**	**00 53 06.0**	**+1.6**
VNDA				IAmb	IAmb	00 53 24.6	
	comp=Z,3.8nm,1.3s						
TOA0	**Torodi Ar. Sit**	**73.89**	**31**	P	**P**	**00 56 14.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.89**	**31**	P	**P**	**00 56 12.1**	**-2.3**
	comp=Z,0.9nm,0.9s,baz=202,slow=6.0,SNR=5.1						
YKA	**Yellowknife Ar**	**135.74**	**318**	PKP	**PKiKP**	**01 03 58.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=127,slow=2.6,SNR=3.3						
ILAR	**Eielson Array**	**149.57**	**312**	PKPbc	**PKiKP**	**01 04 27.6**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=114,slow=2.2,SNR=22						
ILAR	**Eielson Array**	**149.57**	**312**		**PKiKP**	**01 04 27.5**	**-0.2**
SONM	**Songino Array**	**151.79**	**89**	PKPbc	**PKPbc**	**01 04 32.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=214,slow=2.9,SNR=5.2						
SONM	**Songino Array**	**151.79**	**89**		**PKPdf**	**01 04 26.5**	**+0.4**
SONM				PKPbc	**PKiKP**	**01 04 33.4**	**+0.4**

IDC 16 00:50:22.2±12.0, 4°.60S×129°.85E, h268km±137km, mb2.7/1, mb1 3.0/3, mb1mx2.8/27, mbtmp3.5/3, Error ellipse: s-maj=107.8km s-min=46.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**164**	P	Pn	00 53 52.2	+0.1
	0.3nm,0.3s,baz=343,slow=11,SNR=24						
WRA				S	S	00 56 44.5	+0.7
	0.2nm,0.3s,baz=350,slow=20,SNR=6.5						
ASAR	**Alice Springs**	**19.35**	**169**	P	P	00 54 28.1	-0.4
	0.2nm,0.3s,baz=342,slow=11,SNR=16						
MKAR	**Makanchi Array**	**66.16**	**326**	P	P	01 00 41.3	0.0
	0.1nm,0.3s,baz=115,slow=8.3,SNR=2.1						

*IDC **16** 02:20:44.6±1.1, 26°.30N×125°.34E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/45, mbtmp3.5/8, ML2.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/65, Error ellipse: s-maj=27.0km s-min=20.9km az=52.0*
*JMA **16** 02:20:44.8±0.3, 26°.05N×125°.46E, h11km±3km, M3.0*

ISC 16 02:20:43.5±2.4, 26°.08N±0°.07×125°.46E±0°.08, h3km±16km, n15, σ0°.94/20, mb3.4/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.17**	**189**	P	**Pb**	**02 21 05.8**	**-0.4**
JIKM				S	**Sg**	**02 21 20.8**	**-0.1**
JKE	**Kume jima 2**	**1.22**	**78**	P	**Pb**	**02 21 07.2**	**0.0**
JKE				S	**Sg**	**02 21 23.8**	**+1.1**
JIRB	**Irabujima**	**1.27**	**192**	P	**Pb**	**02 21 07.9**	**-0.1**
JIRB				S	**Sg**	**02 21 24.2**	**-0.1**
JOGS	**Gusukube**	**1.31**	**182**	S	**Sg**	**02 21 25.3**	**-0.4**
JMJ2	**Miyako jima3**	**1.34**	**185**	P	**Pb**	**02 21 09.0**	**-0.1**
JMJ2				S	**Sn**	**02 21 25.6**	**-1.7**
JTJ	**Tarama**	**1.58**	**206**	P	**Pn**	**02 21 12.8**	**+0.4**
JTJ				eS	**Sn**	**02 21 32.3**	**-1.1**
JISG	**Ishigakijimahi**	**1.81**	**215**	P	**Pn**	**02 21 15.8**	**+0.3**
JOW	**Kunigami**	**2.64**	**73**	Pn	**Pb**	**02 21 29.4**	**-1.9**
	2.7nm,0.3s,baz=95,slow=6.7,SNR=2.2						
JOW				Sn	**Sb**	**02 22 04.0**	**-0.1**
	3.7nm,0.3s,baz=298,slow=17,SNR=2.3						
KLR	**Kul'dur**	**23.63**	**10**	P	**P**	**02 25 55.9**	**+0.3**
	0.7nm,0.6s,baz=180,slow=9.1,SNR=2.3						
SONM	**Songino Array**	**26.39**	**330**	P	**P**	**02 26 20.5**	**-0.6**
	0.2nm,0.3s,baz=156,slow=3.9,SNR=3.7						
SONM				LR	LR	02 37 35.3	
	comp=Z,82nm,18.0s,baz=227,slow=39						
MKAR	**Makanchi Array**	**39.79**	**313**	P	**P**	**02 28 18.0**	**+0.3**
	0.6nm,0.6s,baz=97,slow=10.0,SNR=6.8						
KURBB	**Kurchatov Arra**	**43.26**	**317**	P	**P**	**02 28 45.4**	**-0.6**
	0.5nm,0.7s,baz=105,slow=8.1,SNR=5.6						
WRA	**Warramunga Arr**	**46.55**	**168**	P	P	02 29 17.4	+4.8
	0.5nm,0.6s,baz=349,slow=8.2,SNR=2.1						
ASAR	**Alice Springs**	**50.12**	**170**	P	**P**	**02 29 42.1**	**+1.9**
	0.3nm,0.5s,baz=356,slow=13,SNR=2.6						
YKA	**Yellowknife Ar**	**79.70**	**24**	P	**P**	**02 32 52.2**	**0.0**
	0.3nm,0.7s,baz=308,slow=5.1,SNR=6.5						

IDC 16 02:23:48.3±12.0, 11°.41S×110°.85W, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.6/20, mbtmp3.3/4, MS3.6/12, Ms1 3.6/12, ms1mx3.5/21, Error ellipse: s-maj=296.6km s-min=190.2km az=135.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**33.29**	**94**	LR	LR	02 39 14.6	
	comp=Z,57nm,20.6s,baz=258,slow=28						
LPIG	**La Paz**	**35.30**	**1**	LR	LR	02 40 43.9	
	comp=Z,87nm,20.2s,baz=203,slow=29						
TXAR	**Lajitas Array**	**41.09**	**10**	P	P	02 31 33.7	-0.4
	0.4nm,0.9s,baz=189,slow=10.0,SNR=3.4						
LVC	**Limon Verde**	**41.49**	**111**	LR	LR	02 44 14.4	
	comp=Z,63nm,18.8s,baz=265,slow=30						
LPAZ	**La Paz**	**41.70**	**102**	LR	LR	02 44 57.1	
	comp=Z,57nm,19.3s,baz=264,slow=30						
PFO	**Pinyon Flats O**	**45.09**	**353**	LR	LR	02 45 31.6	
	comp=Z,61nm,19.6s,baz=182,slow=29						
PLCA	**Paso Flores**	**45.89**	**137**	LR	LR	02 47 38.3	
	comp=Z,56nm,19.1s,baz=241,slow=31						
RAR	**Rarotonga**	**47.79**	**252**	LR	LR	02 46 48.3	
	comp=Z,62nm,19.1s,baz=236,slow=29						
NVAR	**Mina Array Bea**	**50.06**	**352**	P	P	02 32 44.8	-0.4
	0.3nm,0.6s,baz=156,slow=6.7,SNR=2.2						
NVAR				LR	LR	02 48 46.3	
	comp=Z,76nm,19.0s,baz=224,slow=30						
ELK	**Elko**	**52.05**	**356**	LR	LR	02 49 57.6	
	comp=Z,70nm,19.1s,baz=152,slow=30						
CPUP	**Villa Florida**	**52.42**	**114**	LR	LR	02 51 21.5	
	comp=Z,82nm,18.1s,baz=247,slow=32						
PDAR	**Pinedale Array**	**53.92**	**1**	P	P	02 33 14.4	+0.5
	0.4nm,0.8s,baz=159,slow=5.6,SNR=2.9						
PDAR				LR	LR	02 52 02.3	
	comp=Z,71nm,18.3s,baz=346,slow=31						
YBH	**Yreka Blue Hor**	**53.99**	**349**	LR	LR	02 50 56.5	
	comp=Z,46nm,19.2s,baz=192,slow=30						
YKA	**Yellowknife Ar**	**73.73**	**358**	P	P	02 35 23.9	+0.1
	0.2nm,0.9s,baz=172,slow=5.0,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**86.54**	**290**	T	T	04 13 32.3	
	baz=100,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**86.55**	**290**	T	T	04 13 39.0	
	baz=100,slow=75,SNR=37						
H11S3	**WAKE ISLAND Hy**	**86.56**	**290**	T	T	04 13 34.4	
	baz=100,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**86.63**	**291**	T	T	04 13 37.2	
	baz=102,slow=74,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**86.64**	**291**	T	T	04 13 38.4	
	baz=102,slow=74,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**86.65**	**291**	T	T	04 13 37.8	
	baz=102,slow=74,SNR=5.5						

*IDC **16** 03:27:52.4±1.3, 67°.78N×18°.65W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/48, mbtmp3.4/5, ML3.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/51, Error ellipse: s-maj=30.7km s-min=24.0km az=31.0*

ISC 16 03:27:53.8±1.1, 67°.8N±0°.1×18°.6W±0°.1, h10km, n7, σ0s.92/6, mb3.2/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.95**	**338**	*eP*	Pn	03 28 36.0	-4.6
BORG	**Borgarnes**	**3.26**	**201**	Pn	**Pn**	**03 28 43.7**	**-1.1**
	3.2nm,0.3s,baz=355,slow=6.1,SNR=7.6						
BORG				Sn	**Sn**	**03 29 24.6**	**+1.0**
	1.5nm,0.3s,baz=287,slow=23,SNR=6.1						
FINES	**FINESS Array B**	**19.78**	**87**	P	**P**	**03 32 23.6**	**-0.1**
	0.1nm,0.3s,baz=312,slow=10.0,SNR=4.5						
GERES	**GERESS Array B**	**24.96**	**123**	P	**P**

Fault plane solution: $M_0$1.06000×10^{17} NP1: ϕ_s353.00000°,δ32.00000°,λ87.00000°. NP2: ϕ_s176.00000°,δ58.00000°,λ92.00000°. Principal axes: T 1.0129, Plg77.0000°, Azm91.0000°; N 0.0861, Plg1.0000°, Azm355.0000°; P -1.0990, Plg13.0000°, Azm265.0000°;

ISC 16 03:49:32.2±1.0, 31°27S±0.0, 72°71.85W±0.04, h24 km±6km, n733, σ1§42/619, mb5.3/188, MS4.9/50, 35C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.62**	**17**	Op Pn	**Pb**	**03 49 43.9**	**-0.6**
CO06					**Sb**	**03 49 52.6**	**-0.3**
CO06	**Fray Jorge**	**0.62**	**17**	*eP*	**Pb**	**03 49 43.5**	**-1.0**
CO06				*i* S	**Sb**	**03 49 52.4**	**-0.4**
CO02	**Combarbal**	**0.73**	**85**	Pn	**Pb**	**03 49 45.7**	**-0.5**
CO02				Sn	**Sb**	**03 49 55.2**	**-0.7**
CO02	**Combarbal**	**0.73**	**85**	*eP*	**Pb**	**03 49 45.8**	**-0.5**
CO02				eS	**Sb**	**03 49 56.2**	**+0.3**
CO02				IAML		03 49 58.9	
	comp=N,366μm,0.2s						
CO03	**El Pedregal**	**1.08**	**67**	Pn	**Pn**	**03 49 50.5**	**-1.4**
CO03				Sn	**Sb**	**03 50 04.1**	**-2.0**
CO03	**El Pedregal**	**1.08**	**67**	*iP*	**Pn**	**03 49 51.0**	**-0.9**
CO03				eS	**Sb**	**03 50 05.6**	**-0.5**
VA06	**Catapilco**	**1.37**	**160**	Pn	**Pn**	**03 49 56.2**	**+0.4**
VA06	**Catapilco**	**1.37**	**160**	*iP*	**Pn**	**03 49 56.1**	**+0.4**
VA06				eS	**Sn**	**03 50 13.5**	**+0.5**
VA06				IAML		03 50 21.8	
	comp=E,153μm,0.4s						
GO04	**Tololo Observa**	**1.42**	**40**	Pn	**Pn**	**03 49 56.5**	**-0.2**
GO04	**Tololo Observa**	**1.42**	**40**	*eP*	**Pn**	**03 49 56.5**	**-0.2**
GO04				eS	**Sn**	**03 50 15.1**	**+0.3**
GO04				IAML		03 50 19.4	
	comp=N,193μm,0.5s						
GO04	**Tololo Observa**	**1.42**	**40**	*eP*	**Pb**	**03 49 57.6**	**-0.6**
GO04				eS	**Sb**	**03 50 17.7**	**+1.8**
CO05	**La Serena**	**1.45**	**21**	Pn	**Pn**	**03 49 56.4**	**-0.5**
CO05	**La Serena**	**1.45**	**21**	*eP*	**Pn**	**03 49 56.0**	**-0.9**
CO05				eS	**Sn**	**03 50 15.6**	**+0.5**
VA01	**Torpederas**	**1.75**	**175**	Pn	**Pn**	**03 50 01.2**	**+0.1**
VA01	**Torpederas**	**1.75**	**175**	*iP*	**Pn**	**03 50 00.9**	**-0.2**
VA01				eS	**Sn**	**03 50 23.9**	**+1.3**
ROCH	**El Roble**	**1.84**	**157**	*iP*	**Pn**	**03 50 03.1**	**+0.7**
ROCH				eS	**Sn**	**03 50 25.8**	**+0.8**
ROCH				IAML		03 50 34.1	
	comp=N,125μm,0.6s						
ROC1	**El Roble**	**1.84**	**158**	Pn	**Pn**	**03 50 01.2**	**-1.3**
ROC1	**El Roble**	**1.84**	**158**	*eP*	**Pn**	**03 50 04.0**	**+1.5**
ROC1				eS	**Sb**	**03 50 29.5**	**+1.6**
VA03	**San Esteban**	**1.85**	**144**	Pn	**Pn**	**03 50 03.6**	**+1.1**
VA03	**San Esteban**	**1.85**	**144**	*iP*	**Pn**	**03 50 03.9**	**+1.4**
VA03				eS	**Sb**	**03 50 26.7**	**-1.4**
MT02	**Curacav**	**2.07**	**163**	Pn	**Pn**	**03 50 05.8**	**+0.3**
MT02	**Curacav**	**2.07**	**163**	*iP*	**Pn**	**03 50 05.9**	**+0.4**
MT02				eS	**Sn**	**03 50 31.5**	**+1.0**
RTLS	**Leoncito**	**2.24**	**104**	*eP*	**Pb**	**03 50 12.2**	**+0.1**
RTLS				eS	**Sb**	**03 50 43.7**	**+4.2**
RTLS				IAML		03 50 46.6	
	comp=Z,65μm,1.0s						
MT05	**Renca**	**2.31**	**156**		**Pn**	**03 50 08.6**	**-0.2**
MT05	**Renca**	**2.31**	**156**	*iP*	**Pn**	**03 50 09.6**	**+0.8**
MT05				eS	**Sb**	**03 50 39.1**	**-2.2**
AROD	**Rodeo**	**2.32**	**62**	*eP*	**Pb**	**03 50 12.5**	**-1.1**
VA05	**Santo Domingo**	**2.38**	**175**		**Pn**	**03 50 09.4**	**-0.3**
VA05	**Santo Domingo**	**2.38**	**175**	*iP*	**Pn**	**03 50 09.5**	**-0.3**
VA05				eS	**Sn**	**03 50 38.9**	**+0.7**
VA05				IAML		03 50 51.4	
	comp=E,56μm,0.5s						
FCH	**Farellones**	**2.44**	**148**	*iP*	**Pn**	**03 50 12.2**	**+1.4**
FCH				eS	**Sb**	**03 50 43.3**	**-1.9**
FCH				IAML		03 50 55.6	
	comp=N,22μm,0.6s						
LCO	**Las Campanas**	**2.46**	**24**	*eP*	**Pn**	**03 50 10.5**	**-0.6**
LCO	**Las Campanas**	**2.46**	**24**	Pn	**Pn**	**03 50 10.5**	**-0.6**
LCO	**Las Campanas**	**2.46**	**24**	*iP*	**Pn**	**03 50 10.3**	**-0.8**
LCO				eS	**Sn**	**03 50 40.4**	**-0.2**
ACCO	**Cerro Coronel**	**2.49**	**75**	*eP*	**Pb**	**03 50 15.4**	**-0.9**
MT03	**Universidad Ad**	**2.49**	**153**		**Pn**	**03 50 12.1**	**+0.9**
MT03	**Universidad Ad**	**2.49**	**153**	*iP*	**Pn**	**03 50 12.5**	**+1.2**
MT03				eS	**Sn**	**03 50 42.6**	**+1.7**
MT03				IAML		03 50 55.5	
	comp=N,46μm,0.4s						
ACDV	**Cuesta del Vie**	**2.59**	**66**	*eP*	**Pb**	**03 50 16.3**	**-1.8**
ACDV				eS	**Sb**	**03 50 49.3**	**-0.3**
ACDV				IAML		03 50 58.6	
	comp=Z,16μm,1.5s						
MT09	**Talagante**	**2.60**	**164**	Pn	**Pn**	**03 50 13.6**	**+0.7**
MT09	**Talagante**	**2.60**	**164**	*iP*	**Pn**	**03 50 13.9**	**+1.1**
MT09				eS	**Sn**	**03 50 44.7**	**+1.0**
MT09				IAML		03 50 59.5	
	comp=N,35μm,0.4s						
MT01	**Popeta**	**2.63**	**169**	Pn	**Pn**	**03 50 13.5**	**+0.3**
MT01	**Popeta**	**2.63**	**169**	*iP*	**Pn**	**03 50 13.5**	**+0.3**
MT01				eS	**Sn**	**03 50 45.1**	**+0.8**
MT01				IAML		03 50 58.0	
	comp=E,26μm,0.5s						
ZON	**Zonda**	**2.72**	**97**	*eP*	**Pb**	**03 50 18.4**	**-1.9**
ZON				eS	**Sb**	**03 50 51.3**	**-1.9**
ZON				IAML		03 51 01.6	
	comp=Z,19μm,1.4s						
ASAL	**Salagasta**	**2.88**	**118**	*eP*	**Pb**	**03 50 21.7**	**-1.2**
ASAL				eS	Sb	03 51 09.6	+12
RTCV	**Cerro Valdivia**	**2.88**	**103**	*eP*	**Pb**	**03 50 20.7**	**-2.2**
RTCV				eS	**Sb**	**03 50 58.8**	**+1.0**
BO04	**La Punta**	**2.90**	**159**	*iP*	**Pn**	**03 50 17.8**	**+0.9**
BO04				eS	**Sn**	**03 50 50.8**	**-0.3**
BO04				IAML		03 51 05.6	
	comp=E,27μm,0.5s						
LMEL	**Las Melosas**	**2.92**	**152**	*iP*	**Pn**	**03 50 18.9**	**+1.7**
LMEL				eS	**Sn**	**03 50 52.5**	**+0.9**
LMEL				IAML		03 51 05.0	
	comp=N,17μm,0.3s						
AAGR	**Agrelo**	**3.13**	**126**	*eP*	**Pb**	**03 50 24.4**	**-2.8**
AC04	**Llanos de Chal**	**3.13**	**13**	Pn	**Pn**	**03 50 18.4**	**-1.6**
AC04	**Llanos de Chal**	**3.13**	**13**	*eP*	**Pn**	**03 50 18.4**	**-1.6**
AC04				eS	**Sn**	**03 50 55.1**	**-1.6**
BO01	**Tunca**	**3.17**	**169**	Pn	**Pn**	**03 50 21.2**	**+0.6**
BO01	**Tunca**	**3.17**	**169**	*iP*	**Pn**	**03 50 20.9**	**+0.3**
BO01				eS	**Sn**	**03 50 57.3**	**-0.5**
BO01				IAML		03 51 15.7	
	comp=N,10μm,0.6s						
BO03	**Pichilemu**	**3.21**	**182**	*iP*	**Pn**	**03 50 20.3**	**-0.8**
BO03				eS	**Sn**	**03 50 54.3**	**-4.4**
BO03				IAML		03 51 20.8	
	comp=E,5μm,0.5s						
BO02	**Sierra Bellavi**	**3.62**	**166**	Pn	**Pn**	**03 50 27.2**	**+0.3**
BO02	**Sierra Bellavi**	**3.62**	**166**	*eP*	**Pn**	**03 50 27.1**	**+0.3**
BO02				eS	**Sn**	**03 51 09.6**	**+0.8**
GO05	**Huala**	**3.73**	**181**		**Pn**	**03 50 28.0**	**-0.2**
GO03	**Copiap**	**3.93**	**21**		**Pn**	**03 50 30.4**	**-0.6**
VCA	**Vinchina**	**4.05**	**52**	*eP*	Pn	03 50 24.3	-8.5
VCA				eS	**Sn**	**03 51 24.3**	**+4.8**
VCA				IAML		03 51 40.5	
	comp=Z,11μm,0.6s						
AC06	**Mina Casimiro**	**4.11**	**19**	Pn	**Pn**	**03 50 31.6**	**-2.0**
AC02	**Maricunga**	**5.02**	**29**	Pn	**Pn**	**03 50 46.0**	**-0.5**
AC01	**Pan de Azucar**	**5.22**	**12**		**Pn**	**03 50 46.4**	**-2.5**
H03N1	**Juan Fernandez**	**6.36**	**248**	Pn	**Pn**	**03 51 03.3**	**-0.7**
	baz=114,slow=18,SNR=1016						
H03N1				T	T	03 57 50.0	
	baz=77,slow=72,SNR=3714						
H03N3	**Juan Fernandez**	**6.37**	**248**	Pn	**Pn**	**03 51 03.5**	**-0.8**
	baz=114,slow=18,SNR=1083						
H03N3				T	T	03 57 49.6	
	baz=77,slow=72,SNR=3876						
H03N2	**Juan Fernandez**	**6.37**	**248**	Pn	**Pn**	**03 51 03.6**	**-0.6**
	baz=114,slow=18,SNR=671						
H03N2				T	T	03 57 49.4	
	baz=77,slow=72,SNR=4029						
GO02	**Mina Guanaco**	**6.41**	**19**	*eP*	**Pn**	**03 51 03.1**	**-2.3**
H03S3	**Juan Fernandez**	**6.48**	**245**	Pn	**Pn**	**03 51 04.3**	**-1.5**
	SNR=36						
H03S3				T	T	03 58 13.5	
	SNR=113						
H03S1	**Juan Fernandez**	**6.49**	**245**	Pn	**Pn**	**03 51 04.1**	**-1.8**
	SNR=22						
H03S1				T	T	03 58 12.0	
	SNR=164						
H03S2	**Juan Fernandez**	**6.50**	**245**	Pn	**Pn**	**03 51 04.0**	**-2.0**
	SNR=45						
H03S2				T	T	03 58 11.5	
	SNR=166						
PB10	**IPOC Station P**	**7.81**	**9**	*eP*	**Pn**	**03 51 20.3**	**-4.1**
LR04	**Corral**	**8.68**	**188**	Pn	**Pn**	**03 51 36.2**	**0.0**
LVC	**Limon Verde**	**9.02**	**18**	Pn	**Pn**	**03 51 37.8**	**-3.4**
	comp=Z,2.7nm,0.3s,baz=202,slow=10,SNR=14						
LVC				LR	LR	03 55 06.5	
	comp=Z,8μm,20.7s,baz=212,slow=38						
LVC	**Limon Verde**	**9.02**	**18**	P	**Pn**	**03 51 38.6**	**-2.6**
LVC	**Limon Verde**	**9.02**	**18**	Pn	**Pn**	**03 51 38.6**	**-2.6**
LVC	**Limon Verde**	**9.02**	**18**	*eP*	**Pn**	**03 51 37.6**	**-3.7**
PB04	**IPOC Station P**	**9.03**	**10**	*eP*	**Pn**	**03 51 39.0**	**-2.3**
PLCA	**Paso Flores**	**9.50**	**174**	Pn	**Pn**	**03 51 48.2**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=332,slow=11,SNR=51						
PLCA				Lg	Lg	03 54 23.8	
	comp=Z,1.7nm,0.3s,baz=20,slow=11,SNR=3.0						
PLCA				LR	LR	03 55 27.9	
	comp=Z,7μm,18.6s,baz=348,slow=38						
PLCA	**Paso Flores**	**9.50**	**174**	*eP*	**Pn**	**03 51 48.5**	**+1.0**
PLCA	**Paso Flores**	**9.50**	**174**	*eP*	**Pn**	**03 51 48.3**	**+0.8**
LL04	**Puerto Octay**	**9.63**	**183**		**Pn**	**03 51 49.4**	**+0.3**
PB07	**IPOC Station P**	**9.67**	**11**		**Pn**	**03 51 50.3**	**+0.3**
PB07	**IPOC Station P**	**9.67**	**11**	*eP*	**Pn**	**03 51 46.7**	**-3.3**
PB09	**IPOC Station P**	**9.72**	**14**		**Pn**	**03 51 50.8**	**0.0**
PB09	**IPOC Station P**	**9.72**	**14**	*eP*	**Pn**	**03 51 47.8**	**-2.9**
LL03	**Petrohue**	**9.86**	**182**	Pn	**Pn**	**03 51 51.4**	**-0.9**
PB02	**IPOC Station P**	**10.07**	**10**		**Pn**	**03 51 53.2**	**-2.2**
PB01	**IPOC Station P**	**10.41**	**12**		**Pn**	**03 51 57.2**	**-2.8**
PB01	**IPOC Station P**	**10.41**	**12**	*eP*	**Pn**	**03 51 55.7**	**-4.3**
PB11	**IPOC Station P**	**11.63**	**10**		**Pn**	**03 52 16.5**	**-0.4**
GO01	**Chusmiza**	**11.80**	**12**		**Pn**	**03 52 17.9**	**-1.6**
LL02	**Futaleuf**	**11.89**	**180**	Pn	**Pn**	**03 52 21.0**	**+0.7**
GO07	**Milladeo Hill,**	**11.91**	**186**		**Pn**	**03 52 19.1**	**-1.3**
LPA	**La Plata**	**12.22**	**111**	*i* P	**Pn**	**03 52 23.5**	**-1.2**
LPA				pPP		03 52 37.0	
LPA				PP	**PbPb**	**03 53 05.5**	**+0.4**
LPA				S	**Sn**	**03 54 39.4**	**-0.7**
LPA				SS	**SnSn**	**03 54 56.7**	**+4.6**
LPA				SSS	SSS	03 55 10.2	
LPA				PCP	**PcP**	**04 05 04.5**	**-2.5**
LPA				SCS	**ScS**	**04 05 14.5**	**+0.1**
LPA				PKIKP	**PKiKP**	**04 06 07.1**	**+2.4**
LPA				SKIKP		04 09 38.5	
LPA				PKIKS		04 09 43.4	
LPA				SKIKS		04 13 00.0	
PB16	**IPOC Station P**	**13.06**	**10**		**Pn**	**03 52 36.2**	**-0.6**
AY01	**Puyuhuapi**	**13.14**	**183**		**Pn**	**03 52 36.8**	**-0.3**
ITQB	**Itaqui**	**13.23**	**87**	Pn	**Pn**	**03 52 36.7**	**-1.8**
ITQB	**Itaqui**	**13.23**	**87**	*eP*	**Pn**	**03 52 36.6**	**-1.9**
CPUP	**Villa Florida**	**13.65**	**72**	Pn	**Pn**	**03 52 42.4**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=244,slow=11,SNR=17						
CPUP				Sn	**Sn**	**03 55 16.4**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=252,slow=13,SNR=3.0						
CPUP				Lg	Lg	03 56 31.7	
	comp=Z,4.1nm,0.3s,baz=191,slow=11,SNR=3.8						
CPUP				LR	LR	03 58 26.1	
	comp=Z,12μm,18.2s,baz=250,slow=40						
CPUP	**Villa Florida**	**13.65**	**72**	Pn	**Pn**	**03 52 41.0**	**-3.2**
CPUP	**Villa Florida**	**13.65**	**72**	*eP*	**Pn**	**03 52 41.0**	**-3.2**
COYC	**Coyhaique**	**14.28**	**181**	Pn	**Pn**	**03 52 51.6**	**-1.1**
LPAZ	**La Paz**	**15.30**	**14**	Pn	**Pn**	**03 53 07.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=186,slow=9.0,SNR=56						
LPAZ	**La Paz**	**15.30**	**14**	*eP*	**Pn**	**03 53 07.6**	**+0.4**
LPAZ	**La Paz**	**15.30**	**14**	Pn	**Pn**	**03 53 06.3**	**-0.9**
LPAZ	**La Paz**	**15.30**	**14**	*eP*	**Pn**	**03 53 07.3**	**+0.1**
LPAZ	**La Paz**	**15.30**	**14**	*eP*	**Pn**	**03 53 07.2**	**+0.1**
PLTB	**Pedras Altas**	**15.57**	**97**	Pn	**Pn**	**03 53 05.8**	**-4.3**
PLTB	**Pedras Altas**	**15.57**	**97**	*eP*	**Pn**	**03 53 06.8**	**-3.4**
ITAB	**Concordia**	**17.67**	**82**	P	**Pn**	**03 53 35.9**	**-0.7**
ITAB	**Concordia**	**17.67**	**82**	*eP*	**Pn**	**03 53 35.7**	**-1.0**
AQDB	**Aquidauana**	**18.05**	**57**	P	**Pn**	**03 53 38.8**	**-2.6**
AQDB	**Aquidauana**	**18.05**	**57**	*eP*	**Pn**	**03 53 39.0**	**-2.4**
SIV	**San Ignacio**	**18.11**	**35**	P	**Pn**	**03 53 41.1**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=221,slow=11,SNR=65						
PTGB	**Pitanga**	**18.64**	**74**	*eP*	**P**	**03 53 48.0**	**-0.3**
TRCB	**Terra Rica**	**19.07**	**68**	P	**P**	**03 53 50.9**	**-2.1**
TRCB				IAmb	IAmb	03 54 04.8	
	comp=Z,146nm,0.9s						
PTLB	**Pontes e Lacer**	**19.57**	**39**	*eP*	**P**	**03 53 57.9**	**-0.6**
NNA	**Nana**	**19.74**	**345**	P	**Pn**	**03 54 01.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=178,slow=7.9,SNR=5.0						
NNA				LR	LR	04 00 21.0	
	comp=Z,2μm,18.5s,baz=168,slow=33						
NNA	**Nana**	**19.74**	**345**	*eP*	**Pn**	**03 54 03.7**	**+1.8**
NNA	**Nana**	**19.74**	**345**		**Pn**	**03 54 01.3**	**-0.6**
TER01	**Tubaro-SC**	**19.88**	**88**	*eP*	**P**	**03 54 01.8**	**0.0**
MG05	**Puerto Natales**	**20.39**	**181**		**P**	**03 54 08.1**	**+1.0**
PP1B	**Ponte de Pedra**	**20.55**	**52**	*eP*	**P**	**03 54 09.1**	**0.0**
PCMB	**Pacaembu**	**20.77**	**67**	*eP*	**P**	**03 54 10.4**	**-1.1**
TIJ01	**Guaruva-PR**	**20.95**	**79**	*eP*	**P**	**03 54 10.6**	**-3.0**
VILB	**Vilhena**	**21.16**	**33**	*eP*	**P**	**03 54 15.0**	**-0.7**
SALV	**Santo Antonio**	**21.25**	**48**	*eP*	**P**	**03 54 15.4**	**-1.2**
FRTB	**Fartura**	**21.29**	**74**	*eP*	**P**	**03 54 16.2**	**-1.0**
GO10	**Punta Arenas**	**21.87**	**179**	P	**P**	**03 54 23.7**	**+0.6**
GO10				IAmb	IAmb	03 54 26.8	
	comp=Z,116nm,1.0s						
ETMB	**Extrema**	**21.98**	**15**	*eP*	**P**	**03 54 25.0**	**+0.5**
ITRB	**Iturama**	**22.52**	**64**	*eP*	**P**	**03 54 29.1**	**-1.1**
MG03	**Isla Dawson**	**22.58**	**178**	P	**P**	**03 54 31.2**	**+0.6**
MG03				IAmb	IAmb	03 54 57.4	
	comp=Z,113nm,1.0s						
EFI	**East Falkland**	**22.78**	**157**	*ceP*	**P**	**03 54 34.4**	**+1.7**
EFI				pmax	pmax		
	comp=Z,154nm,1.0s						
EFI	**East Falkland**	**22.78**	**157**	P	**P**	**03 54 32.5**	**-0.2**
PET01	**Itanhaem-SP**	**22.80**	**78**	*eP*	**P**	**03 54 31.5**	**-1.7**
DSPA	**Despedida**	**22.81**	**175**	P	**P**	**03 54 33.8**	**+0.7**
BB19B	**Bebedouro**	**23.22**	**70**	*eP*	**P**	**03 54 35.8**	**-1.8**
RCLB	**Rio Claro- Sao**	**23.38**	**74**	*eP*	**P**	**03 54 37.5**	**-1.8**
CZSB	**Cruzeiro do Su**	**23.44**	**358**	*eP*	**P**	**03 54 40.8**	**+1.1**
VAO	**Valinhos**	**23.59**	**76**	*eP*	**P**	**03 54 39.6**	**-1.7**
USHA	**Ushuaia**	**23.67**	**175**	P	**P**	**03 54 43.3**	**+1.6**
	comp=Z,38nm,1.0s,baz=360,slow=8.2,SNR=10						
USHA				LR	LR	04 04 49.8	
	comp=Z,5μm,18.8s,baz=356,slow=39						
ARAG	**Araguaiana, MT**	**23.97**	**54**	*eP*	**P**	**03 54 42.7**	**-2.2**
PDRB	**Porto dos Gac**	**24.05**	**39**	*eP*	**P**	**03 54 43.9**	**-1.6**
PARB	**Paraibuna**	**24.57**	**78**	*eP*	**P**	**03 54 49.0**	**-1.4**
ATAH	**Atahualpa**	**24.78**	**344**	P	**P**	**03 54 59.1**	**+6.4**
	comp=Z,4.0nm,0.8s,baz=122,slow=18,SNR=2.4						
ATAH				LR	LR	04 03 16.7	
	comp=Z,2μm,19.1s,baz=174,slow=33						
CLDB	**Colider**	**25.16**	**40**	*eP*	**P**	**03 54 54.7**	**-1.1**
IPMB	**Ipameri, GO**	**25.16**	**64**	*eP*	**P**	**03 54 54.4**	**-1.4**
MAN01	**Angra dos Reis**	**26.15**	**78**	*eP*	**P**	**03 55 04.0**	**-0.7**
BSCB	**Bom Sucesso**	**26.31**	**74**	*eP*	**P**	**03 55 05.1**	**-1.1**
BDFB	**Brasilia**	**26.75**	**60**	P	**P**	**03 55 09.0**	**-1.2**
	comp=Z,83nm,0.9s,baz=230,slow=7.3,SNR=77						
BDFB				LR	LR	04 06 54.8	
	comp=Z,10μm,18.2s,baz=232,slow=39						
BDFB	**Brasília**	**26.75**	**60**	P	**P**	**03 55 08.2**	**-2.0**
BDFB				IAmb	IAmb	03 55 10.9	
	comp=Z,80nm,0.9s						
VAS01	**Vassouras-RJ**	**26.83**	**77**	*eP*	**P**	**03 55 10.4**	**-0.4**
SNDB	**Serra Nova Dou**	**27.00**	**49**	*eP*	**P**	**03 55 11.5**	**-0.9**
TBTG	**Tabatinga, AM**	**27.01**	**4**	*eP*	**P**	**03 55 12.0**	**-0.3**
TBTG	**Tabatinga, AM**	**27.01**	**4**	*eP*	**P**	**03 55 13.3**	**+1.0**
DUB01	**Friburgo-RJ**	**27.81**	**78**	*eP*	**P**	**03 55 19.1**	**-0.6**
CAM01	**Campos-RJ**	**28.52**	**78**	*eP*	**P**	**03 55 25.8**	**-0.1**
DIAM	**Diamantina, MG**	**28.56**	**70**	*eP*	**P**	**03 55 26.1**	**-0.4**
NPGB	**Novo Progresso**	**28.62**	**36**	*eP*	**P**	**03 55 25.2**	**-1.6**
PEXB	**Peixe**	**28.91**	**54**	*eP*	**P**	**03 55 28.8**	**-0.7**
ALF01	**Guarapari-ES**	**29.84**	**77**	*eP*	**P**	**03 55 37.4**	**-0.2**
MACA	**Manacapuru-AM**	**29.88**	**23**	*eP*	**P**	**03 55 38.3**	**+0.3**
JANB	**Januaria**	**29.90**	**64**	*eP*	**P**	**03 55 37.7**	**-1.2**
SJMB	**Sao Joao De Ma**	**30.37**	**73**	*eP*	**P**	**03 55 41.7**	**-0.7**
RIB01	**Linhares ES**	**30.72**	**75**	*eP*	**P**	**03 55 45.0**	**-0.4**
ITTB	**Itaituba**	**30.76**	**33**	*eP*	**P**	**03 55 44.5**	**-1.3**
SDBA	**SAO DESIDERIO**	**31.13**	**59**	*eP*	**P**	**03 55 48.2**	**-0.9**
PTLC	**Puerto Leguiza**	**31.40**	**354**	*eP*	**P**	**03 55 48.0**	**-3.4**
NAN01	**Guarapari, ES**	**31.67**	**73**	*eP*	**P**	**03 55 52.7**	**-1.2**
SMTB	**Santa Maria do**	**31.73**	**51**	*eP*	**P**	**03 55 54.1**	**-0.3**
OTAV	**Otavalo**	**31.96**	**347**	P	**P**	**03 55 57.3**	**+0.4**
OTAV				pmax	pmax		
	comp=Z,35nm,1.5s						
OTAV	**Otavalo**	**31.96**	**347**	P	**P**	**03 55 57.3**	**+0.4**
OTAV				IAmb	IAmb	03 56 02.0	
	comp=Z,35nm,1.5s						
PRPB	**Parauapebas**	**32.40**	**44**	*eP*	**P**	**03 55 59.0**	**-1.3**
GUA01	**Guaratinga, BA**	**32.59**	**71**	*eP*	**P**	**03 56 00.9**	**-1.0**
GCUF	**Volcan Galeras**	**32.74**	**350**	*eP*	**P**	03 55 58.4	-5.4
FLOC	**Florencia**	**32.88**	**353**	*eP*	**P**	**03 56 04.7**	**+0.3**
RPN	**Rapa Nui**	**32.88**	**268**	LR	LR	04 05 43.5	
	comp=Z,2μm,20.0s,baz=102,slow=30						
MACC	**Macarena, Meta**	**33.29**	**356**	*eP*	**P**	**03 56 08.7**	**+0.7**
GARC	**Garzon, Huila**	**33.46**	**353**	*eP*	**P**	**03 56 05.4**	**-4.3**
CMC01	**Camacan, BA**	**33.49**	**69**	*eP*	**P**	**03 56 09.0**	**-0.8**
MALB	**Monte Alegre**	**33.65**	**33**	*eP*	**P**	**03 56 10.0**	**-1.2**
NBIT	**Itapeh - BA**	**33.80**	**69**	*eP*	**P**	**03 56 12.1**	**-0.3**
PMSA	**Palmer Station**	**33.87**	**174**	LR	LR	04 10 07.3	
	comp=Z,3μm,18.9s,baz=312,slow=36						
PMSA	**Palmer Station**	**33.87**	**174**	*eP*	**P**	**03 56 14.7**	**+2.2**
POPC	**Popayan, Colom**	**33.94**	**351**	*eP*	**P**	**03 56 16.0**	**+2.0**
GDU01	**Guandu, BA**	**34.38**	**67**	*eP*	**P**	**03 56 16.3**	**-1.2**
ORTC	**Ortega, Tolima**	**35.14**	**354**	*eP*	**P**	**03 56 26.3**	**+2.2**
BOAV	**Boa Vista**	**35.17**	**20**	*eP*	**P**	**03 56 24.1**	**-0.2**
PTGC	**Puerto Gaitan,**	**35.27**	**360**	*eP*	**P**	**03 56 23.5**	**-1.7**
YOTC	**Yotoco, Valle**	**35.32**	**352**	*eP*	**P**	**03 56 27.1**	**+1.4**
NBPN	**Ponto Novo - B**	**35.65**	**62**	*eP*	**P**	**03 56 27.5**	**-1.0**
CHIC	**Chingaza**	**35.75**	**357**	*eP*	**P**	**03 56 30.4**	**+0.7**
ROSC	**El Rosal**	**35.99**	**356**	P	**P**	**03 56 33.3**	**+1.5**
	comp=Z,20nm,0.9s,baz=219,slow=3.5,SNR=8.3						
ROSC	**El Rosal**	**35.99**	**356**	P	**P**	**03 56 31.3**	**-0.5**
ROSC				IAmb	IAmb	03 56 37.8	
	comp=Z,46nm,1.2s						
ROSC	**El Rosal**	**35.99**	**356**	*eP*	**P**	**03 56 33.2**	**+1.5**
MCPB	**Macapa, AP**	**36.01**	**35**	*eP*	**P**	**03 56 30.9**	**-0.7**
PLMC	**San Jos del P**	**36.22**	**353**	*eP*	**P**	**03 56 30.2**	**-3.2**
GUY2C	**Guyana, Caldas**	**36.45**	**354**	*eP*	**P**	**03 56 37.5**	**+1.7**
TMAB	**Tom-Au,PA,Br**	**36.46**	**43**	*eP*	**P**	**03 56 35.1**	**-0.2**
NORC	**Norcasia**	**36.74**	**355**	*eP*	**P**	**03 56 37.8**	**0.0**
SPBC	**San Pablo de B**	**36.78**	**356**	*eP*	**P**	**03 56 38.0**	**-0.2**
RUSC	**La Rusia**	**36.98**	**358**	*eP*	**P**	**03 56 41.0**	**+0.7**
CBOC	**Ciudad Bolivar**	**37.14**	**353**	*eP*	**P**	**03 56 43.2**	**+1.8**
NBLA	**Lagarto - SE**	**37.40**	**65**	*eP*	**P**	**03 56 42.0**	**-1.4**
HELC	**Santa Helena**	**37.42**	**354**	*eP*	**P**	**03 56 45.4**	**+1.4**
TAMC	**Tame, Arauca**	**37.50**	**0**	*eP*	**P**	**03 56 43.0**	**-1.2**
BARC	**Barichara**	**37.67**	**358**	*eP*	**P**	**03 56 45.5**	**-0.4**
PTBC	**PUERTO BERRIO,**	**37.68**	**356**	*eP*	**P**	**03 56 45.4**	**-0.4**
DBBC	**Dabeiba**	**38.30**	**353**	*eP*	**P**	**03 56 53.2**	**+2.1**
PAMC	**Pamplona, Colo**	**38.40**	**359**	*eP*	**P**	**03 56 52.9**	**+0.6**
ROSB	**Rosrio**	**38.47**	**48**	*eP*	**P**	**03 56 51.6**	**-0.9**
ZARC	**

DWPF **Disney Wildern** 59.76 350 P P 03 59 35.7 +0.7
baz=170
656A **Willston** 61.16 349 P P 03 59 44.4 -0.2
553A **Crawfordville** 62.28 348 P P 03 59 51.5 -0.7
TIGA **Tifton** 63.36 349 P P 03 59 59.3 0.0
TIGA **Tifton** 63.36 349 P P 03 59 59.7 +0.4
baz=169
352A **Blakely** 63.63 348 P P 04 00 00.4 -0.7
255A **Hazlehurst** 63.66 350 P P 04 00 01.5 +0.2
250A **Grady** 64.38 346 P P 04 00 06.1 +0.1
250A IAmb IAmb 04 00 07.1
comp=Z,33nm,1.1s
154A **Montrose** 64.43 349 P P 04 00 06.3 0.0
NHSC **New Hope** 64.52 352 P P 04 00 07.4 +0.5
NHSC **New Hope** 64.52 352 P P 04 00 08.3 +1.4
baz=172
346A **Big Creek Wild** 64.52 343 P P 04 00 06.4 -0.6
152A **Waverly Hall** 64.75 348 P P 04 00 08.3 -0.2
152A IAmb IAmb 04 00 09.3
comp=Z,24nm,1.0s
833A **Chaparral WMA,** 64.82 333 P P 04 00 09.9 +0.9
833A **Chaparral WMA,** 64.82 333 P P 04 00 10.4 +1.4
baz=154
344A **Westbrook Farm** 64.90 342 P P 04 00 10.3 +0.8
HKT **Hockley** 65.02 337 *i* P P 04 00 11.9 +1.7
HKT pmax pmax
comp=Z,33nm,1.6s
HKT **Hockley** 65.02 337 P P 04 00 10.1 -0.1
HKT IAmb IAmb 04 00 33.6
comp=Z,22nm,1.5s
342A **Flagon Creek P** 65.26 341 P P 04 00 11.8 +0.1
GOGA **Godfrey** 65.27 349 P P 04 00 11.7 -0.1
GOGA pmax pmax
comp=Z,25nm,1.2s
GOGA **Godfrey** 65.27 349 P P 04 00 11.7 -0.1
GOGA IAmb IAmb 04 00 24.5
comp=Z,25nm,1.1s
GOGA **Godfrey** 65.27 349 P P 04 00 11.8 0.0
baz=169,SNR=5.2
Y57A **Sumter** 65.44 352 P P 04 00 13.2 +0.3
Y57A IAmb IAmb 04 00 25.3
comp=Z,40nm,1.2s
LRAL **Lakeview Retre** 65.55 346 P P 04 00 13.2 -0.4
LRAL IAmb IAmb 04 00 14.8
comp=Z,21nm,1.2s
LRAL **Lakeview Retre** 65.55 346 P P 04 00 14.4 +0.8
baz=166
VBMS **Vicksburg** 65.58 343 P P 04 00 14.0 +0.2
VBMS **Vicksburg** 65.58 343 P P 04 00 15.7 +1.9
baz=162
146A **Union** 65.62 344 P P 04 00 13.7 -0.4
JSC **Jenkinsville** 65.81 351 P P 04 00 15.5 +0.3
JSC pmax pmax
comp=Z,29nm,1.2s
JSC **Jenkinsville** 65.81 351 P P 04 00 15.5 +0.3
JSC IAmb IAmb 04 00 16.5
comp=Z,29nm,1.2s
Y52A **Lilburn** 65.81 349 P P 04 00 15.3 0.0
X58A **Rowland** 65.86 353 P P 04 00 15.9 +0.4
X58A IAmb IAmb 04 00 17.1
comp=Z,29nm,1.1s
HODGE **Hodges** 65.89 351 P P 04 00 15.8 0.0
HODGE IAmb IAmb 04 00 28.1
comp=Z,30nm,1.4s
Z47A **Carrollton** 65.93 345 P P 04 00 16.7 +0.6
Z47A IAmb IAmb 04 00 17.6
comp=Z,28nm,1.0s
BIRD **Birdtown, Kers** 66.07 352 P P 04 00 17.2 +0.3
BIRD IAmb IAmb 04 00 25.6
comp=Z,18nm,1.1s
Y49A **Blount Mountai** 66.22 347 P P 04 00 17.5 -0.5
Y49A IAmb IAmb 04 00 19.1
comp=Z,19nm,1.1s
LPIG **La Paz** 66.24 322 LR LR 04 24 12.3
comp=Z,302nm,18.1s,baz=124,slow=31
66.28 327 IAmb IAmb 04 00 21.2
comp=Z,16nm,1.1s
NATX **Nacogdoches** 66.31 339 P P 04 00 20.6 +2.0
baz=159
PAULI **Pauline** 66.41 351 IAmb IAmb 04 00 32.3
comp=Z,42nm,1.3s
W57A **Gilead** 66.52 353 IAmb IAmb 04 00 21.0
comp=Z,29nm,1.1s
KMSC **Kings Mountain** 66.66 352 IAmb IAmb 04 00 22.1
comp=Z,28nm,1.2s
KMSC **Kings Mountain** 66.66 352 P P 04 00 21.3 +0.6
baz=171,SNR=6.1
BG3 **Lake Jocassee** 66.74 350 IAmb IAmb 04 00 34.5
comp=Z,25nm,1.0s
FPAL **Fort Paine** 66.74 348 IAmb IAmb 04 00 34.1
comp=Z,22nm,1.1s
VNDA **Vanda** 66.80 191 P P 04 00 22.7 +1.5
comp=Z,5.0nm,1.0s,baz=127,slow=6.4,SNR=10
VNDA LR LR 04 27 18.3
comp=Z,192nm,18.4s,baz=156,slow=34
VNDA **Vanda** 66.80 191 P P 04 00 22.5 +1.3
VNDA IAmb IAmb 04 00 24.7
comp=Z,19nm,1.3s
JCT **Junction City** 66.91 334 P P 04 00 23.7 +1.3
baz=154,SNR=10
TAOE **Nuku Hiva Isla** 66.93 274 *e*S S 04 09 29.6 +14
comp=Z,426nm,24.4s
TAOE **Nuku Hiva Isla** 66.93 274 *e*LR LR 04 20 53.9
comp=Z,759nm,28.0s
W52A **Murphy** 66.99 349 IAmb IAmb 04 00 24.4
comp=Z,39nm,1.2s
V58A **Windy Hill, Pi** 67.06 354 IAmb IAmb 04 00 24.5
comp=Z,25nm,1.1s
Z41A **Richland Creek** 67.17 341 P P 04 00 25.7 +1.7
baz=160
V55A **Taylorsville** 67.35 352 IAmb IAmb 04 00 26.6
comp=Z,34nm,1.1s
V53A **Saluda** 67.38 350 IAmb IAmb 04 00 26.6
comp=Z,30nm,1.1s
WHTX **Lake Whitney,** 67.44 337 IAmb IAmb 04 00 28.6
comp=Z,37nm,1.2s
WHTX **Lake Whitney,** 67.44 337 P P 04 00 27.0 +1.2
baz=156,SNR=8.0
TXAR **Lajitas Array** 67.45 330 P P 04 00 27.1 +1.1
comp=Z,3.5nm,0.8s,baz=151,slow=8.4,SNR=30
TXAR LR LR 04 25 45.9
comp=Z,764nm,18.2s,baz=144,slow=32
TX31 **Lajitas Ar. Si** 67.45 330 IAmb IAmb 04 00 27.7
comp=Z,25nm,1.1s
OXF **Oxford** 67.50 344 P P 04 00 26.9 +0.9
baz=164,SNR=5.3
U59A **Littleton** 67.50 355 IAmb IAmb 04 00 35.2
comp=Z,27nm,1.1s
PLAL **Pickwick Lake** 67.65 346 IAmb IAmb 04 00 40.4
comp=Z,17nm,0.9s
U56A **King** 67.74 353 IAmb IAmb 04 00 29.2
comp=Z,38nm,1.2s
V51A **Loudon** 67.75 349 IAmb IAmb 04 00 28.8
comp=Z,26nm,1.1s
TBI **Tubuai** 68.14 255 *e*LR LR 04 21 16.9
comp=Z,1µm,25.8s
T57A **Hurt** 68.27 354 IAmb IAmb 04 00 43.5
comp=Z,33nm,1.4s
SYO **Syowa Base** 68.34 159⇑ *i*X P 04 00 24.2 -6.8
SYO **Syowa Base** 68.34 159⇑ *es*P sP 04 00 43.3 +2.1
TZTN **Tazewell** 68.35 350 IAmb IAmb 04 00 32.6
comp=Z,44nm,1.5s
TZTN **Tazewell** 68.35 350 P P 04 00 31.6 +0.2
baz=169
CLTN **Cedars of Leba** 68.38 347 IAmb IAmb 04 00 32.9
comp=Z,32nm,1.1s
MIAR **Mount Ida** 68.59 341 IAmb IAmb 04 00 46.5
comp=Z,28nm,1.4s
MIAR **Mount Ida** 68.59 341 P P 04 00 33.7 +0.7
baz=160
U49A **Red Boiling Sp** 68.69 348 IAmb IAmb 04 00 46.4
comp=Z,24nm,1.1s
WVT **Waverly** 68.71 346 P P 04 00 32.8 -0.8
WVT pmax pmax
comp=Z,49nm,1.0s
WVT **Waverly** 68.71 346 P P 04 00 32.8 -0.8
WVT **Waverly** 68.71 346 P P 04 00 33.6 0.0
baz=165
ABTX **Abilene, Hawle** 68.78 335 IAmb IAmb 04 00 36.2
comp=Z,38nm,1.1s
ABTX **Abilene, Hawle** 68.78 335 P P 04 00 35.2 +1.0
baz=155,SNR=8.0
W41B **Gary Mavity, V** 68.83 342 IAmb IAmb 04 00 47.8
comp=Z,23nm,1.3s
W41B **Gary Mavity, V** 68.83 342 P P 04 00 35.0 +0.7
baz=161,SNR=5.3

WHAR **Wooly Hollow** 68.95 342 P P 04 00 35.5 +0.4
WHAR IAmb IAmb 04 00 48.6
comp=Z,44nm,1.4s
S57A **Dark Hollow, R** 69.00 354 IAmb IAmb 04 00 37.1
comp=Z,26nm,1.1s
R58B **Mineral** 69.11 355 IAmb IAmb 04 00 38.4
comp=Z,42nm,1.4s
X37A **Clayton** 69.16 339 IAmb IAmb 04 00 50.1
comp=Z,31nm,1.4s
W39A **Magazine** 69.26 341 P P 04 00 38.3 +1.2
baz=160,SNR=12
S54A **Dingess, Beckl** 69.28 352 IAmb IAmb 04 00 49.3
comp=Z,42nm,1.4s
S51A **Beattyville** 69.43 350 IAmb IAmb 04 00 51.0
comp=Z,15nm,0.9s
FCAR **Ozark Folk Cen** 69.47 343 IAmb IAmb 04 00 51.5
comp=Z,25nm,1.4s
R55A **Marlinton** 69.63 353 IAmb IAmb 04 00 41.4
comp=Z,26nm,1.1s
PBMO **Poplar Bluff** 69.90 344 IAmb IAmb 04 00 54.7
comp=Z,27nm,0.8s
X34A **Smith Ranch, M** 69.95 337 IAmb IAmb 04 01 03.7
comp=Z,41nm,1.2s
U40A **Yellville** 70.10 342 IAmb IAmb 04 00 56.1
comp=Z,25nm,0.8s
U40A **Yellville** 70.10 342 P P 04 00 42.8 +0.5
baz=161,SNR=12
R50A **Paris** 70.17 350 IAmb IAmb 04 00 43.6
comp=Z,17nm,1.2s
MNTX **Cornudas Mount** 70.23 330 P P 04 00 43.2 +0.1
baz=150,SNR=22
Q56A **Snyder Ridge,** 70.29 354 IAmb IAmb 04 00 52.8
comp=Z,43nm,1.4s
HHAR **Hobbs** 70.33 341 IAmb IAmb 04 00 58.0
comp=Z,23nm,0.9s
WMOK **Wichita Mounta** 70.39 337 P P 04 00 43.2 -0.9
WMOK pmax pmax
comp=Z,13nm,1.2s
WMOK **Wichita Mounta** 70.39 337 P P 04 00 43.2 -0.9
WMOK **Wichita Mounta** 70.39 337 P P 04 00 44.5 +0.5
baz=156,SNR=7.5
FNO **Franklin** 70.41 338 IAmb IAmb 04 01 07.4
comp=Z,25nm,1.2s
TVO **Taravao** 70.44 261 *e*T T 05 17 41.5
comp=Z,2.5nm,0.2s
WCI **Wyandotte Cave** 70.45 348 P P 04 00 43.4 -0.9
WCI pmax pmax
comp=Z,16nm,1.0s
WCI **Wyandotte Cave** 70.45 348 P P 04 00 43.4 -0.9
WCI IAmb IAmb 04 00 44.9
comp=Z,16nm,0.9s
SDMD **Soldier's Deli** 70.48 356 IAmb IAmb 04 00 57.8
comp=Z,20nm,1.4s
TUL1 **Leonard** 70.51 340 IAmb IAmb 04 00 58.5
comp=Z,29nm,1.1s
TUL1 **Leonard** 70.51 340 P P 04 00 45.2 +0.4
baz=158,SNR=7.0
SIUC **Southern Illin** 70.53 345 IAmb IAmb 04 00 58.4
comp=Z,28nm,0.9s
MGMO **Mountain Grove** 70.70 343 IAmb IAmb 04 01 00.8
comp=Z,24nm,1.1s
Q51A **Peebles** 70.76 351 IAmb IAmb 04 00 59.6
comp=Z,26nm,1.0s
PPT2 **Papeete2** 70.81 261 *e*S SKiKP 04 10 16.4 -12
comp=Z,500nm,27.2s
PPT2 **Papeete2** 70.81 261 *e*LR LR 04 22 30.5
comp=Z,768nm,24.0s,baz=116
WUPA **West Chester U** 70.93 357 IAmb IAmb 04 00 49.5
comp=Z,23nm,1.2s
MCWV **Mont Chateau** 70.96 353 IAmb IAmb 04 00 56.3
comp=Z,15nm,0.7s
MVL **Millersville** 71.04 356 IAmb IAmb 04 00 57.5
comp=Z,17nm,1.1s
MSTX **Muleshoe** 71.15 333 P P 04 00 49.4 +0.5
baz=152,SNR=16
P51A **Williamsport** 71.16 351 IAmb IAmb 04 00 49.6
comp=Z,41nm,1.2s
P52A **Corning** 71.19 352 P P 04 00 49.2 +0.4
baz=171,SNR=7.0
CCM **Cathedral Cave** 71.31 344 P P 04 00 49.8 +0.2
CCM pmax pmax
comp=Z,36nm,0.9s
CCM **Cathedral Cave** 71.31 344 P P 04 00 49.8 +0.2
CCM **Cathedral Cave** 71.31 344 P P 04 00 50.2 +0.7
baz=162
O56A **Blue Knob Stat** 71.45 355 IAmb IAmb 04 01 04.3
comp=Z,25nm,1.1s
O56A **Blue Knob Stat** 71.45 355 P P 04 00 51.3 +0.8
baz=174
P49A **Miami Univ. Ec** 71.46 350 IAmb IAmb 04 00 51.1
comp=Z,25nm,1.1s
P49A **Miami Univ. Ec** 71.46 350 P P 04 00 50.1 -0.3
baz=168
S39A **Bolivar** 71.48 342 IAmb IAmb 04 01 04.6
comp=Z,36nm,1.1s
P48A **Milroy** 71.50 349 IAmb IAmb 04 01 03.0
comp=Z,35nm,1.1s
AMTX **Amarillo** 71.55 334 IAmb IAmb 04 00 53.1
comp=Z,40nm,1.2s
AMTX **Amarillo** 71.55 334 P P 04 00 52.2 +1.0
baz=153
T35A **Sooner Cattle** 71.66 339 IAmb IAmb 04 00 53.5
comp=Z,32nm,1.2s
319A **Doglas** 71.71 327 IAmb IAmb 04 00 55.1
comp=Z,26nm,1.2s
SSPA **Standing Stone** 71.77 355 P P 04 00 51.9 -0.4
SSPA IAmb IAmb 04 01 02.1
comp=Z,24nm,1.1s
SSPA **Standing Stone** 71.77 355 P P 04 00 53.1 +0.9
baz=174
ACSO **Alum Creek Sta** 71.89 351 IAmb IAmb 04 00 54.1
comp=Z,34nm,1.0s
ACSO **Alum Creek Sta** 71.89 351 P P 04 00 52.9 -0.1
baz=170,SNR=7.1
N58A **Sunbury** 71.89 356 IAmb IAmb 04 01 06.3
comp=Z,56nm,1.4s
N59A **State Game Lan** 71.92 357 IAmb IAmb 04 01 03.0
comp=Z,35nm,1.2s
N59A **State Game Lan** 71.92 357 P P 04 00 54.8 +1.5
baz=176
U32A **Winter Ranch,** 71.95 337 IAmb IAmb 04 00 55.4
comp=Z,26nm,0.9s
P46A **Rosedale** 71.96 348 IAmb IAmb 04 00 53.9
comp=Z,26nm,0.9s
121A **Cookes Peak, D** 71.99 329 IAmb IAmb 04 00 57.1
comp=Z,32nm,1.1s
121A **Cookes Peak, D** 71.99 329 P P 04 00 56.2 +2.1
baz=148,SNR=16
O49A **Covington** 72.04 350 IAmb IAmb 04 00 54.9
comp=Z,38nm,1.1s
O48B **Farmland** 72.23 349 P P 04 00 54.9 -0.2
baz=168
N54A **Moraine State** 72.27 354 IAmb IAmb 04 00 56.8
comp=Z,26nm,1.1s
N54A **Moraine State** 72.27 354 P P 04 00 56.3 +1.0
baz=173
M57A **Sunshine Farm,** 72.41 356 IAmb IAmb 04 01 05.5
comp=Z,34nm,1.3s
P43A **Skaggs, Pawnee** 72.44 346 IAmb IAmb 04 00 57.3
comp=Z,33nm,0.9s
M55A **Ridgway** 72.66 355 IAmb IAmb 04 01 06.5
comp=Z,21nm,0.9s
M53A **WI Miller and** 72.81 353 IAmb IAmb 04 01 07.6
comp=Z,35nm,1.1s
M53A **WI Miller and** 72.81 353 P P 04 00 59.0 +0.5
baz=172
N47A **Urbana** 72.93 349 IAmb IAmb 04 01 11.4
comp=Z,25nm,0.8s
M52A **Chesterland** 72.98 353 IAmb IAmb 04 01 00.6
comp=Z,37nm,1.1s
TUC **Tucson** 73.19 326 P P 04 01 00.9 -0.2
TUC pmax pmax
comp=Z,13nm,1.3s
TUC **Tucson** 73.19 326 P P 04 01 00.9 -0.2
TUC **Tucson** 73.19 326 P P 04 01 02.4 +1.4
baz=146
P38A **Dawn** 73.36 343 IAmb IAmb 04 01 15.3
comp=Z,25nm,1.0s
L61B **Northampton** 73.36 359 P P 04 01 02.8 +1.1
baz=179
ERPA **Erie** 73.41 354 IAmb IAmb 04 01 03.3
comp=Z,34nm,1.1s
ERPA **Erie** 73.41 354 P P 04 01 02.4 +0.3
baz=173
ANMO **Albuquerque** 73.48 331 P P 04 01 03.8 +0.9
comp=Z,8.1nm,1.2s,baz=149,slow=8.6,SNR=15
ANMO LR LR 04 29 05.5
comp=Z,836nm,19.7s,baz=152,slow=32

ANMO **Albuquerque** 73.48 331 *ce*P P 04 01 04.7 +1.8
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO **Albuquerque** 73.48 331 P P 04 01 02.9 +0.1
ANMO **Albuquerque** 73.48 331 P P 04 01 04.3 +1.4
baz=150
WVNY **West Valley, N** 73.58 355 IAmb IAmb 04 01 04.8
comp=Z,46nm,1.1s
R32A **Long Quarter,** 73.72 338 IAmb IAmb 04 01 05.9
comp=Z,23nm,1.1s
N41A **Harden Midland** 73.75 345 IAmb IAmb 04 01 17.4
comp=Z,32nm,0.8s
LIC **Lamto** 73.77 72 *e*P P 04 01 04.4 -0.4
comp=Z,194nm,1.2s
MMNY **Mt. Morris Dam** 73.85 355 IAmb IAmb 04 01 06.3
comp=Z,40nm,1.1s
214A **Organ Pipe Nat** 73.89 325 P P 04 01 07.3 +2.2
baz=144,SNR=9.4
TIC **Toumodi** 74.02 72 *e*P P 04 01 05.8 -0.5
KIC **Kosan Boka** 74.08 72 *e*P P 04 01 06.3 -0.4
comp=Z,112nm,0.9s
DBIC **Dimbokro** 74.17 72 P P 04 01 06.9 -0.2
comp=Z,58nm,0.9s,baz=234,slow=5.7,SNR=47
DBIC LR LR 04 30 55.4
comp=Z,2µm,20.6s,baz=232,slow=34
DBIC **Dimbokro** 74.17 72 P P 04 01 06.7 -0.4
K50A **Casco** 74.35 352 IAmb IAmb 04 01 08.1
comp=Z,34nm,0.9s
CBKS **Cedar Bluff** 74.41 338 IAmb IAmb 04 01 10.1
comp=Z,32nm,1.0s
CBKS **Cedar Bluff** 74.41 338 P P 04 01 09.4 +1.4
baz=155
J57A **Williamstown** 74.42 357 IAmb IAmb 04 01 09.5
comp=Z,35nm,1.2s
T25A **Trinidad** 74.57 333 IAmb IAmb 04 01 12.0
comp=Z,39nm,1.0s
T25A **Trinidad** 74.57 333 P P 04 01 11.3 +2.1
baz=151,SNR=22
W18A **Petrified Fore** 75.04 329 IAmb IAmb 04 01 14.8
comp=Z,37nm,1.2s
W18A **Petrified Fore** 75.04 329 P P 04 01 13.9 +2.0
baz=147,SNR=13
J47A **Sunmer** 75.10 350 IAmb IAmb 04 01 12.5
comp=Z,52nm,1.3s
L40A **Anamosa** 75.13 345 IAmb IAmb 04 01 25.9
comp=Z,31nm,0.8s
LBNH **Lisbon** 75.15 360 P P 04 01 13.3 +1.1
baz=180
SDCO **Great Sand Dun** 75.52 333 P P 04 01 16.5 +1.7
baz=151,SNR=19
KSCO **Kaye Shedlock'** 75.57 336 IAmb IAmb 04 01 29.9
comp=Z,36nm,1.2s
KSCO **Kaye Shedlock'** 75.57 336 P P 04 01 16.3 +1.4
baz=153
LONY **Lake Ozonia** 75.57 358 IAmb IAmb 04 01 23.7
comp=Z,31nm,1.2s
LONY **Lake Ozonia** 75.57 358 P P 04 01 15.9 +1.4
baz=177
DELO **Deloro Mine** 75.61 356 IAmb IAmb 04 01 16.2
comp=Z,48nm,1.5s
JFWS **Jewell Farm** 75.74 346 IAmb IAmb 04 01 16.9
comp=Z,38nm,1.1s
JFWS **Jewell Farm** 75.74 346 P P 04 01 16.2 +0.7
baz=164,SNR=6.0
MAW **Mawson** 75.74 164 LR LR 04 33 30.0
comp=Z,1µm,21.7s,baz=230,slow=35
FRNY **Flat Rock** 75.76 359 IAmb IAmb 04 01 24.8
comp=Z,25nm,1.1s
SADO **Sadowa** 75.97 355 P P 04 01 16.6 -0.2
comp=Z,13nm,0.8s,baz=217,slow=2.0,SNR=12
SADO LR LR 04 36 58.9
comp=Z,289nm,20.5s,baz=174,slow=38
SADO **Sadowa** 75.97 355 IAmb IAmb 04 01 18.1
comp=Z,33nm,1.1s
SUR **Sutherland** 76.01 119 LR LR 04 30 34.8
comp=Z,878nm,20.1s,baz=234,slow=32
WUAZ **Wupatki** 76.11 328 IAmb IAmb 04 01 21.1
comp=Z,26nm,1.1s
WUAZ **Wupatki** 76.11 328 P P 04 01 20.0 +1.9
baz=146,SNR=14
MVCO **Mesa Verde** 76.27 331 IAmb IAmb 04 01 21.6
comp=Z,22nm,1.1s
MVCO **Mesa Verde** 76.27 331 P P 04 01 20.7 +1.7
baz=148,SNR=12
BGNE **Belgrade** 76.29 340 P P 04 01 20.1 +1.3
baz=157
L34A **Svendsen Farm,** 76.30 341 IAmb IAmb 04 01 37.9
comp=Z,20nm,0.8s
Q24A **Divide** 76.44 334 IAmb IAmb 04 01 22.6
comp=Z,30nm,0.9s
Q24A **Divide** 76.44 334 P P 04 01 21.9 +1.9
baz=151,SNR=15
BC3 **Big Chuckawall** 76.57 324 P P 04 01 22.6 +2.0
baz=143,SNR=9.6
I40A **Norwalk** 76.75 346 IAmb IAmb 04 01 22.3
comp=Z,31nm,1.1s
IRM **Iron Mountain** 76.82 324 P P 04 01 23.7 +1.8
baz=143,SNR=7.2
TPFO **Pinon Flats** 77.05 323 P P 04 01 25.6 +2.2
baz=142
PFO **Pinyon Flats O** 77.05 323 LR LR 04 28 51.0
comp=Z,522nm,20.6s,baz=144,slow=31
PFO **Pinyon Flats O** 77.05 323 P P 04 01 24.2 +0.8
PFO pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 77.05 323 P P 04 01 24.2 +0.8
PFO **Pinyon Flats O** 77.05 323 P P 04 01 25.7 +2.4
baz=142,SNR=5.2
BELC **Belle Mtn. Jos** 77.12 324 P P 04 01 25.8 +2.0
baz=142
TRQ **Mont Tremblant** 77.17 358 IAmb IAmb 04 01 25.1
comp=Z,31nm,1.0s
PV13 **Radium Mtn., P** 77.21 331 IAmb IAmb 04 01 26.8
comp=Z,18nm,1.0s
SMCO **Snowmass** 77.33 333 IAmb IAmb 04 01 28.2
comp=Z,30nm,1.0s
ISCO **Idaho Springs** 77.35 334 P P 04 01 26.7 +1.6
baz=151,SNR=12
MURC **Murrieta** 77.43 323 P P 04 01 27.2 +1.8
baz=141
PV10 **Paradox Valley** 77.48 331 IAmb IAmb 04 01 27.8
comp=Z,19nm,1.0s
GMRC **Granite Mounta** 77.57 324 P P 04 01 28.4 +2.2
baz=143,SNR=7.6
RAR **Rarotonga** 77.60 253 LR LR 04 27 06.8
comp=Z,230nm,21.6s,baz=96,slow=29
HEC **Hector,Ludlow** 77.95 324 P P 04 01 30.7 +2.4
baz=142
G40A **Rib Lake** 77.99 347 IAmb IAmb 04 01 29.4
comp=Z,24nm,1.2s
KNB **Kanab** 78.01 328 IAmb IAmb 04 01 31.8
comp=Z,29nm,1.1s
ECSD **EROS Data Cent** 78.01 342 IAmb IAmb 04 01 29.8
comp=Z,33nm,1.0s
ECSD **EROS Data Cent** 78.01 342 P P 04 01 28.8 +0.5
baz=158,SNR=24
D62A **Allapoint, All** 78.03 2 P P 04 01 28.6 +0.3
D62A IAmb IAmb 04 01 30.4
comp=Z,34nm,1.0s
BFSC **Mount Baldy Ra** 78.16 323 P P 04 01 31.4 +1.8
baz=141
TUQ **Turquoise Moun** 78.22 325 P P 04 01 31.9 +2.0
baz=142,SNR=9.7
LATQ **La Tuque** 78.30 359 IAmb IAmb 04 01 31.4
comp=Z,23nm,1.0s
N23A **Red Feather La** 78.43 334 P P 04 01 32.8 +1.8
baz=151,SNR=6.4
LMQ **La Malbaie** 78.47 1 P P 04 01 31.0 +0.2
LMQ IAmb IAmb 04 01 39.9
comp=Z,25nm,1.1s
SPMN **Marine on St.** 78.49 345 P P 04 01 30.9 0.0
baz=162
GSC **Goldstone, Bar** 78.56 324 P P 04 01 33.6 +2.0
baz=142
COWI **Conover** 78.59 348 IAmb IAmb 04 01 32.8
comp=Z,23nm,1.2s
O20A **White River Ci** 78.65 332 IAmb IAmb 04 01 34.8
comp=Z,29nm,1.2s
O20A **White River Ci** 78.65 332 P P 04 01 34.0 +1.7
baz=149,SNR=8.4
CCUT **Cedar City** 78.69 328 IAmb IAmb 04 01 35.9
comp=Z,21nm,1.1s
EDW2 **Edwards Air Fo** 78.84 323 P P 04 01 34.9 +1.7
baz=141,SNR=5.4
P18A **Preston Nutter** 79.04 331 IAmb IAmb 04 01 37.1
comp=Z,25nm,1.0s
P17A **Butcher Ranch,** 79.12 330 IAmb IAmb 04 01 37.1
comp=Z,27nm,1.2s

LRMC Laurel Mtn Rad 79.14 323 P **P** **04 01 36.8 +1.9**
baz=141,SNR=6.0
VLDQ Val d'Or 79.18 356 IAmb IAmb 04 01 36.2
comp=Z,30nm,1.1s
F36A Milaca 79.25 345 IAmb IAmb 04 01 35.9
comp=Z,19nm,1.0s
PRN Pahroc Range 79.37 326 IAmb IAmb 04 01 39.3
comp=Z,24nm,1.1s
KOWA Kowa 79.37 66 P **P** **04 01 36.1 -0.4**
MPMC Manual Prospec 79.49 324 P **P** **04 01 38.4 +1.5**
baz=142,SNR=5.9
FURC Furnace Creek, 79.50 325 P **P** **04 01 38.8 +2.1**
baz=142
RDMU Red Mountain 79.56 332 IAmb IAmb 04 01 39.3
comp=Z,17nm,1.0s
TPNV Topopah Spring 79.58 325 P **P** **04 01 39.5 +2.2**
baz=142,SNR=10
ISA Isabella, Lake 79.69 323 P **P** **04 01 40.0 +2.1**
baz=141,SNR=7.9
TSUM Tsumeb 79.81 106 LR LR 04 33 19.2
comp=Z,1µm,19.2s,baz=254,slow=33
TSUM Tsumeb 79.81 106 P **P** **04 01 38.5 -0.6**
TSUM IAmb IAmb 04 01 40.7
comp=Z,44nm,1.1s
CWC Cottonwood Cre 80.09 324 P **P** **04 01 41.4 +1.3**
baz=141
VES Vestal, Richgr 80.14 323 P **P** **04 01 41.8 +1.6**
baz=140,SNR=7.5
GRAC Grapevine Rang 80.17 325 P **P** **04 01 42.7 +2.4**
baz=142
K22A Casper 80.17 335 IAmb IAmb 04 01 42.8
comp=Z,33nm,1.2s
K22A Casper 80.17 335 P **P** **04 01 41.9 +1.5**
baz=150,SNR=9.9
SMMC Simmler 80.22 322 P **P** **04 01 43.4 +2.7**
baz=140
R11A Troy Canyon, C 80.37 327 P **P** **04 01 43.7 +2.1**
baz=143,SNR=5.7
RSSD Black Hills 80.59 337 P **P** **04 01 42.5 -0.2**
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 80.59 337 P **P** **04 01 42.5 -0.2**
RSSD Black Hills 80.59 337 P **P** **04 01 43.7 +1.0**
baz=152
DUG Dugway, Tooele 80.61 329 P **P** **04 01 44.3 +1.5**
baz=145,SNR=12
TIN Tinemaha, Big 80.64 324 P **P** **04 01 45.2 +2.2**
baz=141
BOSA Boshof 81.20 118 P **P** **04 01 46.4 0.0**
BOSA LR LR 04 35 40.4
comp=Z,18nm,1.0s,baz=230,slow=5.6,SNR=16
BOSA LR LR 04 35 40.4
comp=Z,1µm,18.4s,baz=240,slow=34
BOSA Boshof 81.20 118 P **P** **04 01 45.2 -1.2**
BOSA IAmb IAmb 04 01 47.5
comp=Z,31nm,1.1s
MLAC Mammoth, Mammo 81.39 324 P **P** **04 01 49.5 +2.3**
baz=141
BW06 Boulder Array 81.41 333 P **P** **04 01 47.8 +0.7**
baz=148
PDAR Pinedale Array 81.41 333 P **P** **04 01 47.6 +0.5**
comp=Z,2.2nm,1.0s,baz=156,slow=4.4,SNR=12
PDAR LR LR 04 34 37.0
comp=Z,438nm,20.1s,baz=152,slow=33
LHV Little Huntoon 81.71 325 IAmb IAmb 04 01 51.6
comp=Z,21nm,1.2s
NVAR Mina Array Bea 81.75 325 P **P** **04 01 49.8 +0.8**
comp=Z,4.8nm,0.9s,baz=152,slow=6.1,SNR=26
NVAR LR LR 04 31 18.7
comp=Z,292nm,21.9s,baz=158,slow=31
AGMN Agassiz Nation 82.08 344 P **P** **04 01 50.5 +0.3**
baz=159,SNR=8.6
ELK Elko 82.13 328 LR LR 04 33 35.0
comp=Z,418nm,21.0s,baz=148,slow=32
MDND Maddock 82.61 342 P **P** **04 01 54.0 +1.0**
baz=156
CASY Casey 82.74 181 P **P** **04 01 54.5 +0.9**
PNTR Pine Nut 82.90 325 IAmb IAmb 04 01 57.9
comp=Z,20nm,1.0s
TORD Torodi Ar. Bea 83.13 70 P **P** **04 01 56.2 -0.2**
comp=Z,57nm,0.9s,baz=256,slow=4.2,SNR=197
TORD Torodi Ar. Bea 83.13 70 P **P** **04 01 55.4 -1.1**
PAHR Pah Rah Range 83.27 325 IAmb IAmb 04 01 59.6
comp=Z,20nm,1.2s
MPK Martis Peak 83.27 324 IAmb IAmb 04 01 59.9
comp=Z,23nm,1.1s
RLMT Red Lodge 83.30 334 P **P** **04 01 57.7 +0.8**
baz=148
LBTB Lobatse 83.31 115 LR LR 04 35 48.8
comp=Z,2µm,19.2s,baz=232,slow=33
LBTB Lobatse 83.31 115 P **P** **04 01 56.5 -1.0**
LBTB pmax pmax
comp=Z,44nm,1.2s
LBTB Lobatse 83.31 115 P **P** **04 01 56.5 -1.0**
YMR Madison River 83.56 333 IAmb IAmb 04 02 00.8
comp=Z,19nm,1.3s
LAO LASA Array 83.58 337 IAmb IAmb 04 02 07.2
comp=Z,16nm,1.0s
LAO LASA Array 83.58 337 P **P** **04 01 58.8 +0.7**
baz=151
ULM Lac du Bonnet 83.92 345 P **P** **04 01 59.4 -0.3**
comp=Z,9.3nm,0.9s,baz=168,slow=5.4,SNR=12
ULM Lac du Bonnet 83.92 345 IAmb IAmb 04 02 00.4
comp=Z,21nm,1.1s
HLID Hailey 84.05 330 P **P** **04 02 02.1 +1.4**
baz=144,SNR=10.0
ORV Oroville 84.21 324 IAmb IAmb 04 02 04.2
comp=Z,28nm,1.2s
DGMT Dagmar 84.50 339 P **P** **04 02 03.7 +1.0**
baz=152,SNR=8.7
BOZ Bozeman (W) 84.60 333 P **P** **04 02 04.0 +0.5**
baz=147
URZ Urewera 85.61 227 LR LR 04 31 01.1
comp=Z,632nm,21.6s,baz=192,slow=29
J08A Circle Bar Ran 85.67 328 IAmb IAmb 04 02 11.3
comp=Z,26nm,1.2s
RPZ Rata Peaks 85.82 220 LR LR 04 33 18.6
comp=Z,335nm,19.4s,baz=134,slow=31
SCHQ Schefferville 85.86 3 P **P** **04 02 09.0 -0.3**
comp=Z,14nm,1.1s,baz=180,slow=5.0,SNR=9.4
SCHQ LR LR 04 44 20.8
comp=Z,136nm,18.1s,baz=209,slow=38
SCHQ Schefferville 85.86 3 P **P** **04 02 08.6 -0.7**
M04C Macdoel 86.06 325 IAmb IAmb 04 02 24.8
comp=Z,15nm,1.1s
M04C Macdoel 86.06 325 P **P** **04 02 12.0 +1.2**
baz=139
I07A Izee 86.70 328 IAmb IAmb 04 02 23.7
comp=Z,25nm,1.5s
J05D Fort Rock, OR 86.90 326 P **P** **04 02 16.4 +1.4**
baz=139
PINE Pine Mountain 87.15 327 IAmb IAmb 04 02 26.3
comp=Z,26nm,1.3s
MATP Matopo 87.99 113 LR LR 04 37 31.3
comp=Z,1µm,20.3s,baz=238,slow=33
WALA Waterton Lakes 88.34 334 IAmb IAmb 04 02 23.2
comp=Z,15nm,1.1s
HAWA Hanford 88.50 329 IAmb IAmb 04 02 24.4
comp=Z,25nm,1.4s
FFC Flin Flon 89.50 343 P **P** **04 02 26.7 -0.1**
FFC pmax pmax
comp=Z,14nm,1.3s
FFC Flin Flon 89.50 343 P **P** **04 02 26.6 -0.1**
FFC IAmb IAmb 04 02 27.6
comp=Z,14nm,1.3s
MDT Midelt 89.98 51 LR LR 04 43 11.8
comp=Z,426nm,18.5s,baz=238,slow=36
LSZ Lusaka 90.50 108 LR LR 04 40 33.6
comp=Z,813nm,18.1s,baz=244,slow=34
PVAQ Vaqueiros 90.86 46 *e*LR LR 04 38 37.5
comp=Z,1µm,20.0s
AFI Afiamalu 91.14 253 LR LR 04 35 35.1
comp=Z,600nm,18.1s,baz=108,slow=30
EDM Edmonton 91.56 337 IAmb IAmb 04 02 36.4
comp=Z,8.1nm,1.0s
FCC Fort Churchill 91.60 349 IAmb IAmb 04 02 38.0
comp=Z,22nm,1.3s
PMRV Marv??o 92.34 44 *e*LR LR 04 37 41.9
comp=Z,740nm,22.0s
MTE Manteigas 92.86 44 *e*LR LR 04 38 01.7
comp=Z,866nm,22.0s
PGAV Gavieira, Arco 93.44 42 *e*LR LR 04 40 10.0
comp=Z,1µm,20.0s
MVO Moncorvo 93.65 43 *e*LR LR 04 38 42.3
comp=Z,797nm,20.0s
ESDC Sonseca Array 94.57 46 P **P** **04 02 50.5 -0.3**
ESDC LR LR 04 45 17.5
comp=Z,1.5nm,1.0s,baz=244,slow=3.6,SNR=4.8
comp=Z,916nm,18.4s,baz=223,slow=36

FRB Frobisher Bay 94.73 1 LR LR 04 48 42.4
comp=Z,170nm,19.9s,baz=182,slow=38
MSVF Nonsavu 97.13 244 LR LR 04 40 25.7
comp=Z,192nm,18.3s,baz=162,slow=31
SFJD Kangerlussuaq 99.28 8 LR LR 04 47 04.5
comp=Z,193nm,21.4s,baz=200,slow=35
YKA Yellowknife Ar 99.53 341 P **Pdif** **04 03 12.6 +0.1**
comp=Z,0.5nm,0.7s,baz=137,slow=4.7,SNR=9.7
MBAR Mbarara 100.44 97 *i* P **Pdif** **04 03 16.3 -1.7**
MBAR pmax pmax
comp=Z,3.0nm,1.2s
DZM Mont Dzumac 102.97 234 *e*SS SS 04 22 41.0 +18
comp=Z,211nm,26.3s
DZM Mont Dzumac 102.97 234 *e*LR LR 04 37 20.5
comp=Z,989nm,23.6s
GERES GERESS Array B 110.12 45 PKiKP **PKiKP** **04 08 01.9 +0.3**
comp=Z,1.7nm,0.8s,baz=304,slow=1.0,SNR=9.2
CLL Collm 110.72 42 *e*PKiKP **PKiKP** **04 08 04.0 +1.6**
CLL MLR MLR
comp=Z,700nm,18.9s
CLL Collm 110.72 42 *e*PKiKP **PKiKP** **04 08 04.0 +1.6**
CLL *e*PP **PP** **04 08 42.0 +1.9**
CLL *e*(SPP) 04 19 00.0
CLL *e*SSS SSS 04 28 30.0
CLL Lm MLR 04 53 00.0
comp=Z,700nm,18.9s
ILAR Eielson Array 111.84 334 PKiKP **PKiKP** **04 08 05.2 +1.0**
comp=Z,1.1nm,1.2s,baz=130,slow=1.4,SNR=2.5
ARR Arges 115.75 51 ⇑P **PKPdf** **04 08 12.2 -0.2**
VOIR 116.05 51 ⇑P PKPpre 04 08 03.5
VOIR 116.05 51 ⇑PKiKP PKPpre 04 08 03.5
MLR Muntele Rosu 116.67 51 ⇑P **PKPdf** **04 08 13.6 -0.6**
MLR Muntele Rosu 116.67 51 ⇑PKiKP **PKPdf** **04 08 13.6 -0.6**
LVV L'vov 116.77 46 *e*PKiKP **PKPdf** **04 08 13.8 -0.3**
BUR08 Bucovina Ar. S 116.85 49 PKPdf **PKiKP** **04 08 14.8 +0.3**
BURAR Bucovina Array 116.85 49 ⇑P **PKiKP** **04 08 15.1 +0.6**
BURAR Bucovina Array 116.85 49 ⇑PKiKP **PKiKP** **04 08 15.1 +0.6**
VRI Vrincioaia 117.31 51 ⇑P **PKPdf** **04 08 13.8 -1.5**
VRI Vrincioaia 117.31 51 ⇑PKiKP **PKPdf** **04 08 13.8 -1.5**
SUW Suwalki 117.47 42 *e*P **PKPdf** **04 08 14.9 -0.4**
SORM Soroca 119.02 49 ⇓P **PKPdf** **04 08 17.4 -1.0**
SORM Soroca 119.02 49 ⇓PKiKP **PKPdf** **04 08 17.4 -1.0**
IIGN Ignalina 119.52 41 *e*P **PKiKP** **04 08 19.8 +0.5**
NACGM Naroch 119.73 41 *e*PKP **PKiKP** **04 08 20.0 +0.3**
IDID Didziasalis 119.80 41 *e*P **PKPdf** **04 08 19.6 -0.1**
ASAR Alice Springs 120.06 207 PKP **PKPdf** **04 08 21.0 -0.4**
comp=Z,1.3nm,0.7s,baz=142,slow=2.2,SNR=11
ASAR Alice Springs 120.06 207 PKiKP **PKPdf** **04 08 21.0 -0.4**
AKASG Malin Array Be 120.21 46 PKP **PKPdf** **04 08 19.6 -1.1**
comp=Z,4.7nm,0.8s,baz=269,slow=2.6,SNR=22
AKBB Malin Array Si 120.21 46 PKiKP **PKPdf** **04 08 19.9 -0.7**
AKBB Malin Array Si 120.21 46 PKPdf **PKPdf** **04 08 19.9 -0.7**
MNK Minsk 120.27 42 *i* PKiKP **PKPdf** **04 08 20.0 -0.6**
MNK *i* 04 15 14.8
MNK *i* SS SS 04 26 12.4 -1.1
MNK *i* SSS SSS 04 30 38.4
MNK pmax pmax
comp=Z,28nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,16nm,1.0s
MNK MLR MLR
comp=N,398nm,19.0s
MNK MLR MLR
comp=E,60nm,20.0s
MNK MLR MLR
comp=Z,490nm,19.0s
MNK Minsk 120.27 42 *i* PKP **PKPdf** **04 08 20.1 -0.6**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **04 08 20.1 -0.6**
comp=N,16nm,1.0s
MNK *i* PKP **PKPdf** **04 08 20.1 -0.6**
comp=Z,28nm,1.0s,baz=258
MNK *i* PP PP 04 09 34.9 -12
MNK *i* SKP 04 11 24.8
MNK *i* PPP PPP 04 12 04.5
MNK *i* SKS **SKSac** **04 15 14.8 -1.2**
MNK *i* SKKS **SKKSac** **04 16 36.1 -8.4**
MNK *i* PS **PKKPdf** **04 19 08.6 +6.7**
MNK *i* SS **SKKSdf** **04 26 12.4 -0.8**
MNK *i* SSS SSS 04 30 38.5
MNK *i* LQ LQ 04 48 11.3
MNK *i* LR LR 04 52 53.0
MNK *i* LRM MLR 04 59 07.2
comp=N,398nm,19.4s
MNK *i* LRM MLR 04 59 34.3
comp=E,60nm,19.7s
MNK *i* LRM MLR 04 59 34.3
comp=Z,490nm,19.0s
BRTR Keskin Array B 120.34 59 PKP **PKiKP** **04 08 21.6 0.0**
comp=Z,3.0nm,0.8s,baz=126,slow=1.7,SNR=9.2
BRTR PP **PP** **04 09 51.9 +3.7**
comp=Z,3.2nm,1.0s,baz=216,slow=8.8,SNR=5.3
VSU Vasula 120.44 37 *e*P **PKiKP** **04 08 21.2 +0.3**
FINES FINESS Array B 120.65 34 PKP **PKiKP** **04 08 21.2 0.0**
comp=Z,2.4nm,0.9s,baz=280,slow=1.2,SNR=4.9
BNN Bunyan 121.73 61 PKPdf **PKPdf** **04 08 24.0 -0.2**
WRA Warramunga Arr 123.21 210 PKP **PKPdf** **04 08 26.7 -0.9**
comp=Z,2.9nm,0.6s,baz=254,slow=2.8,SNR=48
WRA Warramunga Arr 123.21 210 PKiKP **PKPdf** **04 08 27.0 -0.5**
WRA Warramunga Arr 123.21 210 **PKPdf** **04 08 27.0 -0.5**
RAYN Ar Rayn 124.48 81 ⇑PKiKP **PKiKP** **04 08 30.3 +0.2**
OBN Obninsk 125.33 42 *i* PKiKP **PKPdf** **04 08 29.9 -0.4**
OBN *i* 04 08 37.1
OBN pmax pmax
comp=Z,20nm,1.0s
OBN MLR MLR
comp=Z,282nm,18.0s
SOC Sochi 125.70 56 *e*PKiKP **PKPdf** **04 08 30.1 -1.3**
SOC *e*PS **PS** **04 20 22.4 -3.5**
SOC *e*SS SS 04 27 18.1 -5.0
SOC *e*SSS SSS 04 31 59.1
SOC MLR MLR
comp=Z,198nm,21.0s
H11S2 WAKE ISLAND Hyl 125.93 271 T T 06 27 21.1
baz=115,slow=75,SNR=159
H11S1 WAKE ISLAND Hyl 125.94 271 T T 06 27 19.1
baz=115,slow=75,SNR=144
H11S3 WAKE ISLAND Hyl 125.95 271 T T 06 27 20.9
baz=115,slow=75,SNR=104
PSA00 Pilbara Seismi 126.27 194 PKPdf **PKPdf** **04 08 32.9 -0.4**
H11N3 WAKE ISLAND Hyl 126.27 272 T T 06 27 46.1
baz=116,slow=75,SNR=115
H11N1 WAKE ISLAND Hyl 126.29 272 T T 06 27 46.0
baz=116,slow=75,SNR=30
H11N2 WAKE ISLAND Hyl 126.29 272 T T 06 27 48.2
baz=116,slow=75,SNR=215
LPSR Galich'ya Gora 126.48 45 *e*PKiKP **PKPdf** **04 08 31.3 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 126.55 47 *e*PKiKP **PKPdf** **04 08 31.5 -1.3**
VORD pmax pmax
comp=Z,20nm,1.3s
VORR Voronezh 126.57 46 *e*PKiKP **PKPdf** **04 08 30.3 -2.5**
VORR pmax pmax
comp=Z,90nm,0.5s
KLMR Klimovskoe 127.10 35 *e*PKiKP **PKPdf** **04 08 32.2 -1.3**
KLMR pmax pmax
comp=Z,52nm,1.2s
KLMR Klimovskoe 127.10 35 *e*PKPdf **PKPdf** **04 08 32.3 -1.3**
KLMR AMP 04 08 35.2
comp=Z,52nm,1.2s
KIV Kislovodsk 127.88 56 *i* PKiKP **PKPdf** **04 08 35.9 +0.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 128.00 57 PKP **PKPdf** **04 08 35.9 +0.1**
comp=Z,5.0nm,1.0s,baz=131,slow=5.2,SNR=5.0
VRH Novokhopyorsk 128.09 47 *e*PKiKP **PKPdf** **04 08 35.2 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
NCK Nalchik 128.46 57 *i* PKiKP **PKiKP** **04 08 37.8 +0.4**
NCK pmax pmax
comp=Z,9.0nm,1.0s
PRGR Permogore 129.98 34 *e*PKiKP **PKPdf** **04 08 38.5 -0.5**
BILL Bilibino 130.45 335 *i* PKiKP **PKPdf** **04 08 39.3 -0.5**
BILL *i* 04 08 47.6
BILL *i* 04 08 54.5
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,166nm,18.0s
ARU Arti 137.55 39 *i* PKiKP **PKPdf** **04 08 54.1 +0.7**
ARU 04 11 34.9
ARU MLR MLR
comp=Z,521nm,17.0s
SEY Seymchan 137.73 332 *i* PKiKP **PKiKP** **04 08 55.4 -0.1**
SEY pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 138.04 350 *i* PKiKP **PKPdf** **04 08 53.4 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 138.04 350 PKPdf **PKPdf** **04 08 53.4 -0.5**
AKTO Aktyubinsk 138.43 48 PKiKP **PKPdf** **04 08 55.0 -0.2**
GEYT Alibeck 138.69 67 PKP **PKPdf** **04 08 56.3 +0.1**
comp=Z,3.3nm,0.6s,baz=238,slow=10,SNR=4.8
AB31 Akbulak array 139.83 49 *i* PKiKP **PKPdf** **04 08 57.9 +0.1**
MA2 Magadan 139.94 328 *c i* PKiKP **PKiKP** **04 08 59.9 -0.2**
MA2 pmax pmax
comp=Z,15nm,1.3s
PALK Pallekele 144.96 127 PKiKP PKPbc 04 09 07.4 +0.1
PALK Pallekele 144.96 127 PKPdf PKPbc 04 09 07.4 0.0
BRVK Borovoye 145.07 40 *i* PKiKP **PKPbc** **04 09 06.2 -0.3**
BRVK Borovoye 145.07 40 PKPdf **PKPdf** **04 09 06.8 -0.2**
YAK Yakutsk 146.21 342 *e*PKiKP **PKPdf** **04 09 08.7 +0.1**
YAK *e* 04 12 32.5
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,189nm,4.0s
YAK pmax pmax
comp=E,161nm,4.4s
YAK pmax pmax
comp=N,148nm,3.7s
YAK Yakutsk 146.21 342 PKPdf **PKPbc** **04 09 09.4 -0.3**
KBL Kabul 147.14 74 PKiKP **PKPdf** **04 09 09.9 -1.5**
KBL Kabul 147.14 74 PKPdf **PKPdf** **04 09 09.9 -1.5**
TOLI2 Tolitoli 147.71 204 **PKPbc** **04 09 14.9 -0.5**
UCTAR Ortayu 148.03 48 PKiKP **PKPdf** **04 09 11.6 -0.6**
YSS Yuzh-Sakhalins 149.22 311 *c i* PKHKP PKPpre 04 09 16.3
YSS pmax pmax
comp=Z,51nm,1.7s
HYBB Hyderabad (bro 149.82 110 *e*PKPbc **PKPdf** **04 09 17.2 +1.2**
EKS2 Erkin-Say 150.47 58 P **PKiKP** **04 09 22.9 +0.4**
SNR=18
AML Almayashu 150.51 59 P **PKPdf** **04 09 17.8 +0.9**
SNR=5.7
KURBB Kurchatov Arra 150.73 40 PKiKP **PKPbc** **04 09 20.9 -1.0**
KURK Kurchatov 150.73 40 PKiKP **PKPdf** **04 09 17.0 +0.6**
KURK Kurchatov 150.73 40 PKPdf **PKPdf** **04 09 17.0 +0.6**
USP Ospenovka 150.86 56 P **PKPdf** **04 09 17.5 +0.6**
SNR=5.2
AAK Ala-Archa 150.99 57 P **PKiKP** **04 09 23.5 -0.1**
SNR=21
AAK Ala-Archa 150.99 57 PKiKP **PKPbc** **04 09 23.0 -0.1**
UCH Uchtor 151.09 58 P **PKPdf** **04 09 19.3 +1.4**
SNR=9.3
CHMS Chumysh 151.10 57 P **PKiKP** **04 09 24.1 +0.4**
SNR=13
KBK Karagaybulak 151.31 57 P **PKiKP** **04 09 24.9 +0.6**
SNR=11
TKM2 Tokmak 2 151.72 57 P **PKPdf** **04 09 19.1 +0.7**
SNR=5.6
TKM2 Tokmak 2 151.72 57 PKiKP **PKPdf** **04 09 17.6 -0.9**
ZAA0 Zalesovo Array 151.81 30 PKPdf **PKPdf** **04 09 18.2 +0.3**
ZALV Zalesovo Beam 151.81 30 PKP **PKPdf** **04 09 18.1 +0.1**
comp=Z,9.2nm,0.9s,baz=277,slow=2.4,SNR=23
ZALV PKPbc **PKPbc** **04 09 24.4 +0.1**
comp=Z,79nm,0.8s,baz=294,slow=3.3,SNR=98
ZALV Zalesovo Beam 151.81 30 PKPdf **PKPdf** **04 09 18.2 +0.3**
ULHL Ulahol 152.34 58 P **PKPdf** **04 09 20.6 +1.2**
SNR=6.1
IPM Ipoh 152.52 164 **PKPbc** **04 09 26.2 -1.0**
KSH Kashi 152.62 64 PKPbc **PKPdf** **04 09 17.3 -2.5**
KSH pPKP PKiKP 04 09 27.0 0.0
KSH PP **PP** **04 13 08.0 -2.6**
KSH SKS **SKSdf** **04 16 20.3 -5.3**
KSH LR LR
comp=Z,360nm,17.5s
KSH LR LR
comp=Z,380nm,16.7s
KSH LR LR
comp=Z,610nm,20.6s
MDOK Medeo 152.69 55 PKiKP **PKPbc** **04 09 25.8 -1.1**
BOD Bodaibo 153.15 353 *e*PKiKP **PKPdf** **04 09 19.0 -0.8**
BOD pmax pmax
comp=Z,26nm,1.4s
ZEA Zeya 153.66 334 *e*PKiKP **PKPdf** **04 09 20.6 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
MJAR Matsushiro Arr 154.57 290 PKPbc **PKPbc** **04 09 30.0 -0.9**
comp=Z,3.3nm,0.9s,baz=80,slow=1.5,SNR=5.6
KLR Kul'dur 154.75 322 PKP **PKPdf** **04 09 21.9 -0.4**
comp=Z,3.9nm,1.0s,baz=10,slow=2.3,SNR=10
MK31 Makanchi Array 154.78 45 *i* PKiKP **PKPdf** **04 09 21.8 -0.7**
MKAR Makanchi Array 154.78 45 PKP **PKPdf** **04 09 22.5 0.0**
comp=Z,2.9nm,0.8s,baz=299,slow=1.6,SNR=31
MKAR PKPbc **PKiKP** **04 09 31.8 +0.7**
comp=Z,9.4nm,0.8s,baz=280,slow=4.3,SNR=37
MOY Mondy 158.95 12 *e*PKiKP **PKPdf** **04 09 28.8 +1.0**
MOY pmax pmax
comp=Z,33nm,2.0s
WMQ Urumqi 159.57 46 *e*PKP **PKPdf** **04 09 29.6 +0.9**
WMQ PKPab **PKPab** **04 10 07.8 +0.8**
WMQ PP **PP** **04 13 50.5 +1.9**
WMQ AMB AMB
comp=Z,200nm,4.1s
WMQ LR LR
comp=Z,580nm,16.3s
WMQ LR LR
comp=Z,470nm,18.7s
WMQ LR LR
comp=Z,370nm,21.1s
ZAK Zakamensk 160.57 9 *e*PKiKP **PKPdf** **04 09 29.4 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
KSRS Korea Array 162.56 296 PKP **PKPdf** **04 09 31.6 -0.4**
comp=Z,0.5nm,0.3s,baz=119,slow=1.6,SNR=6.7
KSRS PKPab **PKPab** **04 10 21.8 +1.6**
comp=Z,1.2nm,0.8s,baz=108,slow=4.1,SNR=4.1
KSAR Wonju Array Be 162.60 296 PKiKP **PKPdf** **04 09 31.9 -0.2**
KSAR Wonju Array Be 162.60 296 **PKPdf** **04 09 31.9 -0.2**
SONM Songino Array 163.41 4 PKP **PKPdf** **04 09 32.8 +0.1**
comp=Z,1.5nm,0.7s,baz=259,slow=1.5,SNR=11
SONM PKPab **PKPab** **04 10 24.2 +0.6**
comp=Z,2.4nm,1.0s,baz=352,slow=2.9,SNR=6.3
SONM Songino Array 163.41 4 **PKPdf** **04 09 32.2 -0.4**
CMAR Chiang Mai Arr 164.76 145 PKP **PKPdf** **04 09 35.2 +0.6**
comp=Z,0.8nm,0.3s,baz=239,slow=1.9,SNR=12
CMAR PKPab **PKPab** **04 10 30.1 0.0**
comp=Z,1.5nm,0.2s,baz=226,slow=5.6,SNR=11
XLT XiLinHaoTe 165.93 336 *e*PKP **PKPdf** **04 09 35.0 0.0**
GOMU GeErMu 167.86 63 PKP **PKPdf** **04 09 37.5 +0.5**
GOMU pPKP pPKPdf 04 09 40.5 -4.0
GOMU sPKP 04 09 43.0
GOMU PP **PP** **04 14 33.5 +0.3**
GOMU AMB AMB
comp=Z,130nm,5.1s
GOMU LR LR
comp=Z,270nm,21.6s
GOMU LR LR
comp=Z,200nm,18.2s
GOMU LR LR
comp=Z,300nm,20.6s
GTA Gaotai 169.41 38 *e*PKP **PKPdf** **04 09 38.0 +0.4**
GTA pPKP pPKPdf 04 09 46.4 +1.2
GTA PKPab **PKPab** **04 10 50.4 -0.1**
GTA AMB AMB
comp=Z,270nm,7.6s
GTA LR LR
comp=Z,210nm,20.4s
GTA LR LR
comp=Z,350nm,21.4s
GTA LR LR
comp=Z,230nm,23.6s
HHC Hu-ho-hao-te 170.06 345 *e*PKP **PKPdf** **04 09 36.3 -1.6**
NJ2 Nanjing 170.85 278 *e*PKP **PKPdf** **04 09 39.1 +0.6**
HNS HongShan 171.84 320 ⇓PKP **PKPdf** **04 09 40.0 +1.2**
LZH Lanzhou 174.00 36 *e*PKP **PKPdf** **04 09 40.1 +0.1**
LZH pPKP pPKPdf 04 09 46.9 -0.6
LZH sPKP 04 09 50.1
LZH PKPab **PKPab** **04 11 11.3 +0.3**
LZH PP **PP** **04 15 08.4 +5.8**
LZH SS SS 04 36 22.6 +2.8
LZH AMB AMB
comp=Z,230nm,9.5s

LZH					LR	LR			
	comp=Z,370nm,17.3s								
LZH					LR	LR			
	comp=Z,300nm,18.4s								
LZH					LR	LR			
	comp=Z,500nm,20.1s								
CD2	**Chengdu**	**176.21**	**94**		PKP	**PKPdf**	**04 09 40.9**	**+0.3**	
XAN	**Xi'an**	**177.17**	**347**		PKP	**PKPdf**	**04 09 41.3**	**+0.6**	
XAN					pPKP	pPKPdf	04 09 49.1	+0.9	
XAN					LR	LR			
	comp=Z,490nm,17.3s								
XAN					LR	LR			
	comp=Z,430nm,10.8s								

IDC ***16*** *03:52:45.7±0.9, 12˚.07N×143˚.32E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/39, mbtmp3.9/11, ML3.7/1, MS4.6/1, Ms1 4.6/1, ms1mx2.8/80, Error ellipse: s-maj=29.8km s-min=18.5km az=114.0*
NEIC ***16*** *03:52:50.7±2.0, 12˚.01N±0˚.1×143˚.4E±0˚.2, h34km±3km, mb4.3/6, Error ellipse: s-maj=25.5km s-min=9.2km az=117.0*

ISC 16 03:52:49.1±0.8, 12˚.1N±0˚.1×143˚.5E±0˚.1, h25km, n28, σ1§39/23, mb4.1/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
GUMO	**Guam**	**2.01**	**43**	Pn		**Pb**	**03**	**53**	**24.2 -0.8**
	25nm,0.3s,baz=192,slow=9.7,SNR=4.9								
GUMO				Sn		**Sb**	**03**	**53**	**49.4 -0.2**
	68nm,0.3s,baz=174,slow=23,SNR=13								
GUMO				LR		LR	03	54	24.7
	comp=Z,121nm,18.5s,baz=100,slow=46								
GUMO	**Guam**	**2.01**	**43**	Pn		**Pb**	**03**	**53**	**23.9 -1.1**
GUMO				Sn		**Sb**	**03**	**53**	**48.7 -0.9**
H11S3	**WAKE ISLAND Hy**	**23.27**	**71**	T		T	04	22	11.7
	baz=248								
H11S1	**WAKE ISLAND Hy**	**23.29**	**71**	T		T	04	22	09.6
	baz=248								
H11S2	**WAKE ISLAND Hy**	**23.29**	**71**	T		T	04	22	10.2
	baz=248								
H11N1	**WAKE ISLAND Hy**	**23.75**	**68**	T		T	04	22	43.7
	baz=255,slow=75,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**23.76**	**68**	T		T	04	22	49.6
	baz=255,slow=75,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**23.77**	**68**	T		T	04	22	53.1
	baz=255,slow=75,SNR=6.1								
WR0	**Warramunga Arr**	**33.06**	**196**	P		**P**	**03**	**59**	**22.0 -0.9**
WB2	**Warramunga Arr**	**33.09**	**196**	P		**P**	**03**	**59**	**22.3 -0.9**
WB2				IAmb		IAmb	03	59	27.0
	comp=Z,17nm,1.4s								
WRA	**Warramunga Arr**	**33.09**	**196**	P		**P**	**03**	**59**	**22.1 -1.0**
	comp=Z,0.9nm,0.7s,baz=21,slow=9.7,SNR=7.2								
WRA	**Warramunga Arr**	**33.09**	**196**	P		**P**	**03**	**59**	**21.2 -2.0**
ASAR	**Alice Springs**	**36.77**	**195**	P		**P**	**03**	**59**	**54.9 0.0**
	comp=Z,0.4nm,0.6s,baz=19,slow=11,SNR=5.6								
ASAR	**Alice Springs**	**36.77**	**195**	P		**P**	**03**	**59**	**52.5 -2.3**
SONM	**Songino Array**	**47.17**	**326**	P		**P**	**04**	**01**	**18.0 -1.7**
	comp=Z,0.3nm,0.3s,baz=142,slow=6.3,SNR=1.7								
SONM	**Songino Array**	**47.17**	**326**	P		**P**	**04**	**01**	**17.3 -2.4**
SONM				IAmb		IAmb	04	01	18.1
	comp=Z,0.7nm,1.0s								
MKAR	**Makanchi Array**	**61.61**	**317**	P		**P**	**04**	**03**	**06.0 +1.3**
	comp=Z,0.9nm,0.8s,baz=81,slow=7.5,SNR=7.0								
MKAR	**Makanchi Array**	**61.61**	**317**	P		**P**	**04**	**03**	**04.1 -0.5**
ZALV	**Zalesovo Beam**	**62.03**	**325**	P		**P**	**04**	**03**	**08.2 +0.9**
	comp=Z,1.1nm,0.4s,baz=98,slow=7.5,SNR=4.8								
ZALV	**Zalesovo Beam**	**62.03**	**325**	P		**P**	**04**	**03**	**08.3 +1.0**
KURK	**Kurchatov**	**64.83**	**321**	P		**P**	**04**	**03**	**27.2 +1.3**
KURK				IAmb		IAmb	04	03	28.0
	comp=Z,4.8nm,1.1s								
ILAR	**Eielson Array**	**70.48**	**25**	P		**P**	**04**	**04**	**01.4 +0.1**
	comp=Z,0.7nm,0.5s,baz=247,slow=5.6,SNR=12								
ABKAR	**Akbulak array**	**76.71**	**318**	P		**P**	**04**	**04**	**38.1 -0.1**
ABKAR				IAmb		IAmb	04	04	40.0
	comp=Z,1.5nm,0.8s								
YKA	**Yellowknife Ar**	**84.80**	**27**	P		**P**	**04**	**05**	**22.7 +1.5**
	comp=Z,0.3nm,0.4s,baz=265,slow=5.1,SNR=4.8								
ARCES	**ARCESS Array B**	**88.06**	**342**	P		**P**	**04**	**05**	**38.2 +1.1**
	comp=Z,2.2nm,0.6s,baz=27,slow=7.1,SNR=1.5								
NVAR	**Mina Array Bea**	**88.91**	**51**	P		**P**	**04**	**05**	**44.5 +2.4**
	comp=Z,1.1nm,0.8s,baz=274,slow=6.0,SNR=4.5								
FINES	**FINESS Array B**	**91.91**	**335**	P		**P**	**04**	**05**	**54.9 -0.3**
	comp=Z,1.2nm,0.8s,baz=60,slow=3.8,SNR=4.5								
EIL	**Elat**	**99.64**	**303**	LR		LR	04	57	33.7
	comp=Z,232nm,19.4s,baz=256,slow=39								

IDC ***16*** *03:59:37.3±1.2, 31˚.13S×72˚.09W, h0km, mb4.2/3, mb1 4.3/8, mb1mx4.0/32, mbtmp4.2/8, ML3.9/5, MS4.0/3, Ms1 4.0/3, ms1mx3.5/49, Error ellipse: s-maj=34.7km s-min=27.1km az=110.0*
SJA ***16*** *03:59:39.6±0.7, 31˚.11S×72˚.02W, h10km, ML4.6, MW4.3*
GUC ***16*** *03:59:41.8±0.7, 31˚.27S×71˚.86W, h24km±3km, ML4.4*
NEIC ***16*** *03:59:42.9±2.0, 31˚.23S±0˚.03×71˚.84W±0˚.06, h25km±3km, mb4.9/5, Mwr4.4/73, ML4.4(GUC), Error ellipse: s-maj=7.5km s-min=4.0km az=88.0*
NEIC ***16*** *03:59:44.1, 31˚.20S×71˚.78W, h26km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.58; Mθθ0.21; Mθθ-2.79; Mrθ1.56; Mθθ-0.52; Mθr-2.98; Fault plane solution: Mo4.34000×10¹⁵ NP1:φ162.90000°, δ71.73000°, λ71.10000°. NP2:φ30.42000°, δ26.06000°, λ134.45000°. Principal axes: T 4.5262, Plg59.0000°, Azm47.0000°; N -0.4039, Plg18.0000°, Azm169.0000°; P -4.1223, Plg24.0000°, Azm267.0000°;*

ISC 16 03:59:38.5±1.3, 31˚.21S±0˚.02×71˚.90W±0˚.03, h3km±8km, n98, σ2§06/148, mb4.8/6, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
CO06	**Fray Jorge**	**0.58**	**23**			**Pn**	**03**	**59**	**54.4 +0.6**
CO06						**Sn**	**04**	**00**	**03.4 -0.5**
CO06	**Fray Jorge**	**0.58**	**23**	⇓	*i*P	**Pn**	**03**	**59**	**53.6 -0.1**
CO06					*i* S	**Sn**	**04**	**00**	**02.4 -1.4**
CO06					IAML		04	00	05.4
	comp=E,37μm,0.2s								
CO02	**Combarbal**	**0.77**	**90**	Pn		**Pn**	**03**	**59**	**56.3 -0.3**
CO02						**Sb**	**04**	**00**	**06.3 +0.6**
CO02	**Combarbal**	**0.77**	**90**	⇓	*i*P	**Pn**	**03**	**59**	**56.1 -0.3**
CO02					*i* S	**Sb**	**04**	**00**	**06.2 +0.6**
CO02					IAML		04	00	08.6
	comp=E,58μm,0.4s								
CO02	**Combarbal**	**0.77**	**90**	*e*P		**Pn**	**03**	**59**	**56.2 -0.3**
CO02				*e*S		**Sb**	**04**	**00**	**06.4 +0.6**
CO02					IAML		04	00	07.3
	comp=Z,20μm,0.4s								
CO03	**El Pedregal**	**1.11**	**71**	Pn		**Pn**	**04**	**00**	**01.5 +0.4**
CO03				Sn		**Sb**	**04**	**00**	**15.5 +0.3**
CO03	**El Pedregal**	**1.11**	**71**	⇓	*i*P	**Pn**	**04**	**00**	**01.4 +0.4**
CO03					*i* S	**Sb**	**04**	**00**	**15.5 +0.3**
CO03					IAML		04	00	18.1
	comp=N,19μm,0.7s								
CO03	**El Pedregal**	**1.11**	**71**	*e*P		**Pn**	**04**	**00**	**01.0 -0.1**
CO03				*e*P		**Pn**	**04**	**00**	**01.5 +0.4**
CO03				*e*S		**Sn**	**04**	**00**	**17.6 +0.8**
CO03					IAML		04	00	18.9
	comp=Z,8μm,0.6s								
GO04	**Tololo Observa**	**1.41**	**43**	Pn		**Pg**	**04**	**00**	**06.9 +1.4**
GO04	**Tololo Observa**	**1.41**	**43**	⇑	*e*P	**Pg**	**04**	**00**	**06.7 +1.2**
GO04					*i* S	**Sg**	**04**	**00**	**25.0 +1.3**
CO05	**La Serena**	**1.41**	**24**			**Pg**	**04**	**00**	**06.5 +0.9**
CO05				Sn		**Sg**	**04**	**00**	**25.9 +2.1**
CO05	**La Serena**	**1.41**	**24**	*e*P		**Pg**	**04**	**00**	**06.7 +1.1**
CO05					*i* S	**Sg**	**04**	**00**	**25.5 +1.6**
CO05					IAML		04	00	30.9
	comp=N,7μm,0.4s								
VA06	**Catapilco**	**1.44**	**159**			**Pb**	**04**	**00**	**06.6 +0.5**
VA06				Sn		**Sn**	**04**	**00**	**24.6 -0.4**
VA06	**Catapilco**	**1.44**	**159**	⇑	*i*P	**Pn**	**04**	**00**	**05.7 +0.2**
VA06					*i* S	**Sn**	**04**	**00**	**23.3 -1.6**
VA06					IAML		04	00	30.1
	comp=N,10μm,0.4s								
VA01	**Torpederas**	**1.82**	**173**			**Pn**	**04**	**00**	**11.9 +1.1**
VA01	**Torpederas**	**1.82**	**173**	*i* P		**Pb**	**04**	**00**	**12.1 -0.4**
VA01					IAML		04	00	45.9
	comp=E,1μm,0.5s								
ROCH	**El Roble**	**1.91**	**157**	⇑	*i*P	**Pb**	**04**	**00**	**13.4 -0.8**
ROCH					*e*P	**Pn**	**04**	**00**	**11.7 -0.5**
ROCH					*i* S	**Sn**	**04**	**00**	**35.1 -1.9**
ROCH					*i* S	**Sb**	**04**	**00**	**37.1 -1.5**
ROCH					IAML		04	00	44.5
	comp=N,12μm,0.5s								
ROC1	**El Roble**	**1.91**	**157**			**Pn**	**04**	**00**	**11.8 -0.5**
VA03	**San Esteban**	**1.93**	**144**			**Pb**	**04**	**00**	**14.4 0.0**
VA03	**San Esteban**	**1.93**	**144**	*i* P		**Pb**	**04**	**00**	**13.7 -0.7**
VA03					*i* S	**Sn**	**04**	**00**	**37.7 +0.6**
VA03					IAML		04	00	43.1
	comp=E,11μm,0.5s								
MT02	**Curacav**	**2.14**	**163**			**Pn**	**04**	**00**	**16.1 +0.9**
MT02	**Curacav**	**2.14**	**163**	⇑	*e*P	**Pn**	**04**	**00**	**16.2 +1.0**
MT02					*i* S	**Sn**	**04**	**00**	**43.4 +1.1**
MT02					IAML		04	00	50.8
	comp=E,2μm,0.5s								
MT02	**Curacav**	**2.14**	**163**	*e*P		**Pb**	**04**	**00**	**17.5 -0.5**
MT02				*e*S		**Sg**	**04**	**00**	**47.6 +0.3**
MT02					IAML		04	00	49.4
	comp=Z,1μm,0.8s								
PEL	**Peldehue**	**2.19**	**152**	Pn		**Pb**	**04**	**00**	**17.7 -1.1**
RTLS	**Leoncito**	**2.30**	**105**	*e*P		**Pb**	**04**	**00**	**22.0 +1.1**
RTLS				*e*P		**Pg**	**04**	**00**	**22.3 -0.4**
RTLS				*e*S		**Sg**	**04**	**00**	**54.1 +1.5**
RTLS					IAML		04	00	56.6
	comp=Z,2μm,0.6s								
AROD	**Rodeo**	**2.34**	**64**	*e*P		**Pb**	**04**	**00**	**22.0 +0.5**
AROD				*e*S		**Sg**	**04**	**00**	**53.5 -0.2**
AUSP	**Uspallata**	**2.37**	**116**	*e*P		**Pn**	**04**	**00**	**17.6 -1.0**
AUSP				*e*P		**Pb**	**04**	**00**	**23.1 +1.1**
AUSP				*e*S		**Sg**	**04**	**00**	**54.6 -0.1**
MT05	**Renca**	**2.39**	**156**			**Pn**	**04**	**00**	**20.2 +1.6**
MT05	**Renca**	**2.39**	**156**	⇑	*e*P	**Pn**	**04**	**00**	**20.7 +2.0**
MT05					*i* S	**Sb**	**04**	**00**	**51.4 -0.7**
MT05					IAML		04	01	00.8
	comp=E,6μm,0.2s								
LCO	**Las Campanas**	**2.43**	**26**	Pn		**Pn**	**04**	**00**	**20.9 +1.5**
LCO	**Las Campanas**	**2.43**	**26**	*i* P		**Pn**	**04**	**00**	**20.5 +1.1**
LCO					*i* S	**Sb**	**04**	**00**	**53.7 +0.2**
VA05	**Santo Domingo**	**2.45**	**174**	*e*P		**Pn**	**04**	**00**	**21.2 +1.7**
VA05					*i* S	**Sn**	**04**	**00**	**51.4 +1.5**
VA05					IAML		04	01	11.5
	comp=E,3μm,0.5s								
FCH	**Farellones**	**2.51**	**147**	⇑	*i*P	**Pn**	**04**	**00**	**22.5 +1.9**
FCH					*i* S	**Sb**	**04**	**00**	**54.7 -1.3**
FCH					IAML		04	01	04.5
	comp=E,1μm,0.6s								
ACCO	**Cerro Coronel**	**2.52**	**76**	*e*P		**Pb**	**04**	**00**	**25.0 +0.4**
ACCO				*e*S		**Sg**	**04**	**01**	**00.6 +1.1**
ACCO					IAML		04	01	02.9
	comp=Z,2μm,1.0s								
MT03	**Universidad Ad**	**2.56**	**153**			**Pn**	**04**	**00**	**22.9 +1.8**
MT03	**Universidad Ad**	**2.56**	**153**	⇑	*i*P	**Pn**	**04**	**00**	**22.9 +1.8**
MT03					*i* S	**Sn**	**04**	**00**	**54.1 +1.3**
MT03					IAML		04	01	05.8
	comp=N,5μm,0.5s								
ACDV	**Cuesta del Vie**	**2.61**	**67**	*e*P		**Pb**	**04**	**00**	**27.0 +0.9**
ACDV				*e*S		**Sb**	**04**	**00**	**58.1 -0.6**
ACDV					IAML		04	01	05.6
	comp=Z,2μm,1.1s								
MT09	**Talagante**	**2.67**	**163**			**Pn**	**04**	**00**	**24.2 +1.6**
MT09	**Talagante**	**2.67**	**163**	⇑	*i*P	**Pn**	**04**	**00**	**24.3 +1.6**
MT09					IAML		04	01	17.3
	comp=N,2μm,0.8s								
MT01	**Popeta**	**2.70**	**168**			**Pn**	**04**	**00**	**24.1 +1.2**
MT01	**Popeta**	**2.70**	**168**	*e*P		**Pn**	**04**	**00**	**24.2 +1.3**
MT01					IAML		04	01	10.5
	comp=N,3μm,0.9s								
ZON	**Zonda**	**2.78**	**98**	*e*P		**Pb**	**04**	**00**	**29.0 +0.2**
ZON				*e*P		**Pb**	**04**	**00**	**29.1 +0.2**
ZON				*e*S		**Sb**	**04**	**01**	**00.6 -2.8**
ZON				*e*S		**Sg**	**04**	**01**	**08.1 +0.3**
ZON					IAML		04	01	16.1
	comp=Z,2μm,0.9s								
RTLL	**Cerro Villicun**	**2.94**	**93**	*e*P		**Pb**	**04**	**00**	**30.6 -1.0**
RTLL				*e*P		**Pg**	**04**	**00**	**31.0 -3.9**
RTLL				*e*S		**Sn**	**04**	**01**	**02.6 +0.6**
RTLL				*e*S		**Sb**	**04**	**01**	**08.6 +0.6**
RTCV	**Cerro Valdivia**	**2.94**	**104**	*e*P		**Pb**	**04**	**00**	**31.0 -0.7**
RTCV				*e*S		**Sb**	**04**	**01**	**08.6 +0.5**
RTCV				*e*S		**Sg**	**04**	**01**	**09.1 -4.0**
RTCV					IAML		04	01	25.1
	comp=Z,42nm,1.0s								
ASAL	**Salagasta**	**2.95**	**119**	*e*P		**Pb**	**04**	**00**	**31.9 +0.1**
ASAL				*e*S		**Sb**	**04**	**01**	**07.6 -0.7**
ASAL					IAML		04	01	17.2
	comp=Z,2μm,1.1s								
BO04	**La Punta**	**2.98**	**159**			**Pn**	**04**	**00**	**28.6 +1.8**
BO04	**La Punta**	**2.98**	**159**	⇑	*i*P	**Pn**	**04**	**00**	**28.3 +1.6**
BO04					*i* S	**Sb**	**04**	**01**	**09.2 +0.1**
BO04					IAML		04	01	15.2
	comp=E,2μm,0.7s								
LMEL	**Las Melosas**	**2.99**	**152**			**Pn**	**04**	**00**	**29.4 +2.3**
ARCO	**CERRO ARCO**	**3.00**	**124**	*e*P		**Pb**	**04**	**00**	**33.4 +0.6**
ARCO				*e*S		**Sb**	**04**	**01**	**12.6 +2.7**
ARCO					IAML		04	01	20.5
	comp=Z,2μm,0.9s								
AC04	**Llanos de Chal**	**3.08**	**14**			**Pn**	**04**	**00**	**28.6 +0.4**
AC04	**Llanos de Chal**	**3.08**	**14**	*e*P		**Pn**	**04**	**00**	**28.8 +0.6**
AC04					*i* S	**Sb**	**04**	**01**	**10.3 -1.8**
AC04					IAML		04	01	27.0
	comp=N,1μm,0.5s								
AAGR	**Agrelo**	**3.21**	**126**	*e*P		**Pb**	**04**	**00**	**35.0 -1.2**
AAGR				*e*S		**Sb**	**04**	**01**	**17.6 +1.8**
AAGR					IAML		04	01	23.1
	comp=Z,942nm,0.7s								
BO01	**Tunca**	**3.25**	**168**			**Pn**	**04**	**00**	**32.7 +2.4**
BO01	**Tunca**	**3.25**	**168**	*e*P		**Pn**	**04**	**00**	**32.1 +1.8**
BO01					IAML		04	01	31.3
	comp=E,550nm,0.4s								
BO01	**Tunca**	**3.25**	**168**	*e*P		**Pn**	**04**	**00**	**32.9 +2.5**
BO01				*e*S		**Sb**	**04**	**01**	**16.3 -0.4**
BO01					IAML		04	01	35.4
	comp=Z,520nm,0.7s								
BO03	**Pichilemu**	**3.27**	**181**	⇑	*e*P	**Pn**	**04**	**00**	**31.2 +0.5**
BO03					IAML		04	01	43.3
	comp=N,433nm,0.8s								
BO02	**Sierra Bellavi**	**3.69**	**166**			**Pn**	**04**	**00**	**38.9 +2.3**
GO05	**Huala**	**3.79**	**180**	Pn		**Pn**	**04**	**00**	**38.1 +0.2**
AVFE	**Valle Fertil**	**3.86**	**83**	*e*P		**Pn**	**04**	**00**	**43.0 +4.1**
AVFE				*e*S		**Sb**	**04**	**01**	**30.6 -4.0**
AVFE				*e*S		**Sn**	**04**	**01**	**32.6 +7.7**
AVFE					IAML		04	01	37.0
	comp=Z,2μm,0.5s								
GO03	**Copiap**	**3.89**	**22**			**Pn**	**04**	**00**	**40.4 +1.0**
GO03	**Copiap**	**3.89**	**22**	*e*P		**Pn**	**04**	**00**	**40.3 +1.0**
GO03					*i* S	**Sn**	**04**	**01**	**28.1 +2.6**
GO03	**Copiap**	**3.89**	**22**	*e*P		**Pn**	**04**	**00**	**41.1 +1.8**
GO03				*e*S		**Sn**	**04**	**01**	**29.1 +3.6**
VCA	**Vinchina**	**4.05**	**53**	*e*P		**Pb**	**04**	**00**	**47.5 -3.1**
VCA				*e*S		**Sn**	**04**	**01**	**32.6 +3.0**
VCA				*e*S		**Sb**	**04**	**01**	**36.1 -3.9**
VCA					IAML		04	01	50.5
	comp=Z,3μm,0.5s								
AC06	**Mina Casimiro**	**4.07**	**20**			**Pn**	**04**	**00**	**42.4 +0.6**
AC06	**Mina Casimiro**	**4.07**	**20**	*e*P		**Pn**	**04**	**00**	**42.2 +0.4**
ACHE	**Chepes**	**4.49**	**91**	*e*P		Pb	04	00	53.0 -5.1
ACHE				*e*S		**Sb**	**04**	**01**	**48.6 -4.2**
ACLC	**CERRO LA CRUZ**	**4.64**	**69**	*e*P		**Pn**	**04**	**00**	**54.0 +4.3**
ACLC				*e*S		**Sn**	**04**	**01**	**44.6 +0.5**
ACLC				*e*S		**Sb**	**04**	**01**	**51.8 -5.1**
ACLC					IAML		04	01	59.0
	comp=Z,3μm,0.5s								
AC02	**Maricunga**	**4.99**	**30**	Pn		**Pn**	**04**	**00**	**56.6 +1.7**
AC02	**Maricunga**	**4.99**	**30**	*e*P		Pb	04	01	01.0 -5.9
AC02				*e*S		**Sb**	**04**	**02**	**00.6 -6.9**
AC02					IAML		04	02	20.4
	comp=Z,671nm,1.4s								
AC01	**Pan de Azucar**	**5.17**	**13**	*e*P		**Pn**	**04**	**01**	**00.0 +3.1**
AC01				*e*S		**Sb**	**04**	**02**	**10.6 -1.7**
AC01					IAML		04	02	30.0
	comp=Z,304nm,1.1s								
MRA	**San Martin**	**5.40**	**104**	*e*P		Pn	04	01	05.8 +5.7
MRA				*e*S		**Sb**	**04**	**02**	**11.8 -7.1**
MRA					IAML		04	02	36.3
	comp=Z,996nm,0.7s								
H03N1	**Juan Fernandez**	**6.33**	**248**	T		T	04	08	00.6
	baz=77,slow=72,SNR=971								
H03N3	**Juan Fernandez**	**6.35**	**248**	T		T	04	07	58.5
	baz=77,slow=72,SNR=1095								
H03N2	**Juan Fernandez**	**6.35**	**248**	T		T	04	08	00.9
	baz=77,slow=72,SNR=922								
GO02	**Mina Guanaco**	**6.36**	**19**	*e*P		Pn	04	01	02.6 -11
GO02				*e*S		**Sb**	**04**	**02**	**44.6 -2.2**
FSA	**Cafayete**	**7.27**	**47**	*e*P		**Pn**	**04**	**01**	**29.0 +3.1**
FSA				*e*S		**Sb**	**04**	**03**	**05.2 -7.7**
LVC	**Limon Verde**	**8.97**	**18**	Pn		**Pn**	**04**	**01**	**47.3 -2.1**
	comp=Z,0.2nm,0.3s,baz=280,slow=14,SNR=1.3								
LVC					LR	LR	04	05	17.4
	comp=Z,546nm,21.0s,baz=202,slow=38								
LVC	**Limon Verde**	**8.97**	**18**			**Pn**	**04**	**01**	**49.3 -0.1**
PLCA	**Paso Flores**	**9.56**	**174**	Pn		**Pn**	**04**	**01**	**58.4 +1.2**
	comp=Z,0.3nm,0.3s,baz=335,slow=12,SNR=9.9								
CPUP	**Villa Florida**	**13.67**	**73**	Pn		**Pn**	**04**	**02**	**56.0 +2.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=4.5,SNR=2.0								
CPUP				Sn		**Sn**	**04**	**05**	**29.2 +3.3**
	comp=Z,1.1nm,0.3s,baz=204,slow=13,SNR=1.4								
CPUP				LR		LR	04	08	35.7
	comp=Z,766nm,19.0s,baz=242,slow=39								
CPUP	**Villa Florida**	**13.67**	**73**			**Pn**	**04**	**02**	**54.2 +0.8**
LPAZ	**La Paz**	**15.25**	**14**	Pn		**Pn**	**04**	**03**	**15.7 +0.3**
	comp=Z,0.3nm,0.3s,baz=194,slow=8.0,SNR=9.4								
SIV	**San Ignacio**	**18.09**	**36**	P		**Pn**	**04**	**03**	**50.9 -0.2**
	comp=Z,0.8nm,0.3s,baz=256,slow=6.2,SNR=5.4								
RPN	**Rapa Nui**	**32.83**	**268**	LR		LR	04	15	53.0
	comp=Z,354nm,18.1s,baz=115,slow=30								
SNAA	**Sanae**	**54.12**	**159**	P		**P**	**04**	**09**	**04.2 -0.3**
SNAA				IAmb		IAmb	04	09	32.6
	comp=Z,15nm,1.2s								
SOR	**Soroa**	**54.74**	**347**	P		**P**	**04**	**09**	**10.4 +1.0**
SOR				IAmb		IAmb	04	09	12.8
	comp=Z,16nm,1.2s								
QSPA	**South Pole Qui**	**59.02**	**180**	P		**P**	**04**	**09**	**40.5 +1.0**
QSPA				IAmb		IAmb	04	09	50.9
	comp=Z,12nm,1.4s								
TXAR	**Lajitas Array**	**67.37**	**330**	P		**P**	**04**	**10**	**33.3 -1.9**
	comp=Z,0.3nm,0.6s,baz=145,slow=9.7,SNR=2.4								
TXAR	**Lajitas Array**	**67.37**	**330**	P		**P**	**04**	**10**	**34.5 -0.8**
DBIC	**Dimbokro**	**74.19**	**72**	P		**P**	**04**	**11**	**16.8 -0.2**
	comp=Z,4.3nm,0.8s,baz=246,slow=4.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P		**P**	**04**	**12**	**05.6 -0.8**
	comp=Z,3.2nm,0.7s,baz=287,slow=6.0,SNR=31								
TORD	**Torodi Ar. Bea**	**83.16**	**70**	P		**P**	**04**	**12**	**03.8 -2.6**
WRA	**Warramunga Arr**	**123.24**	**210**	PKP		**PKPdf**	**04**	**18**	**36.2 -1.3**
	comp=Z,0.5nm,0.7s,baz=162,slow=1.5,SNR=5.1								
H11S2	**WAKE ISLAND Hy**	**125.88**	**271**	T		T	06	37	30.7
	baz=115,slow=75,SNR=34								
H11S1	**WAKE ISLAND Hy**	**125.89**	**271**	T		T	06	37	31.1
	baz=115,slow=75,SNR=20								
H11S3	**WAKE ISLAND Hy**	**125.90**	**271**	T		T	06	37	33.1
	baz=115,slow=75,SNR=21								
ZALV	**Zalesovo Beam**	**151.78**	**30**	PKPbc		**PKiKP**	**04**	**19**	**34.3 -0.2**
	comp=Z,3.5nm,0.6s,baz=303,slow=3.1,SNR=9.9								
ZALV	**Zalesovo Beam**	**151.78**	**30**			**PKPbc**	**04**	**19**	**33.4 -0.8**

SJA ***16*** *04:06:52.7±1.1, 31˚.19S×72˚.29W, h25km, ML4.3, MW4.4*
IDC ***16*** *04:06:54.0±1.2, 31˚.19S×71˚.66W, h0km, mb4.2/4, mb1 4.1/8, mb1mx3.9/31, mbtmp4.0/8, ML3.7/4, Error ellipse: s-maj=39.3km s-min=26.6km az=99.0*
GUC ***16*** *04:06:57.3±0.7, 31˚.27S×71˚.84W, h37km±3km, ML4.0*
NEIC ***16*** *04:06:58.7±1.4, 31˚.24S±0˚.03×71˚.80W±0˚.09, h35km±6km, mb4.2/5, ML4.1(GUC), Error ellipse: s-maj=10.8km s-min=4.2km az=94.0*

ISC 16 04:06:55.2±1.3, 31˚.20S±0˚.02×71˚.87W±0˚.04, h13km±8km, n105, σ1§42/143, mb4.1/5, 5C-4D, Near coast of central Chile

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

MT09					IAML			04 08 20.7	
	comp=E,912nm,0.4s								
MT01	**Popeta**	**2.71**	**169**		Pn		**Pn**	**04 07 38.5**	**0.0**
MT01	**Popeta**	**2.71**	**169**		*eP*		**Pn**	**04 07 38.8**	**+0.2**
MT01					IAML			04 08 23.6	
	comp=E,553nm,0.3s								
MT01	**Popeta**	**2.71**	**169**		*eP*		**Pn**	**04 07 38.6**	**+0.2**
MT01					*eS*		**Sn**	**04 08 11.9**	**+0.8**
MT01					*eS*		**Sn**	**04 08 13.4**	**+2.3**
MT01					IAML			04 08 23.2	
	comp=Z,525nm,0.4s								
ZON	**Zonda**	**2.75**	**98**		*eP*		**Pb**	**04 07 44.4**	**+0.1**
ZON					*eS*		**Sg**	**04 08 21.9**	**-1.7**
RTLL	**Cerro Villicun**	**2.91**	**93**		*eP*		**Pb**	**04 07 46.0**	**-1.0**
RTLL					*eS*		**Sb**	**04 08 20.4**	**-2.2**
RTCV	**Cerro Valdivia**	**2.92**	**104**		*eP*		**Pb**	**04 07 47.1**	**0.0**
RTCV					*eS*		**Sg**	**04 08 27.6**	**-1.4**
ASAL	**Salagasta**	**2.93**	**119**		*eP*		**Pb**	**04 07 46.9**	**-0.5**
ASAL					*eS*		**Sb**	**04 08 23.9**	**+0.7**
BO04	**La Punta**	**2.98**	**159**				**Pn**	**04 07 42.1**	**-0.1**
BO04	**La Punta**	**2.98**	**159**		*eP*		**Pn**	**04 07 43.3**	**+1.0**
BO04					*i* S		**Sn**	**04 08 15.3**	**-2.5**
BO04					IAML			04 08 35.0	
	comp=N,756nm,0.6s								
ARCO	**CERRO ARCO**	**2.99**	**124**		*eP*		**Pn**	**04 07 42.4**	**0.0**
ARCO					*eP*		**Pb**	**04 07 47.7**	**-0.6**
ARCO					*eS*		**Sg**	**04 08 28.4**	**-2.7**
ARCO					IAML			04 08 39.4	
	comp=Z,620nm,0.7s								
LMEL	**Las Melosas**	**2.99**	**152**				**Pn**	**04 07 42.8**	**+0.3**
LMEL	**Las Melosas**	**2.99**	**152**		*eP*		**Pn**	**04 07 44.6**	**+2.1**
LMEL					*i* S		**Sn**	**04 08 19.2**	**+0.9**
AC04	**Llanos de Chal**	**3.06**	**13**		Pn		**Pn**	**04 07 44.2**	**+0.9**
AC04	**Llanos de Chal**	**3.06**	**13**	‖	*eP*		**Pn**	**04 07 44.2**	**+0.9**
AC04	**Llanos de Chal**	**3.06**	**13**		*eP*		**Pn**	**04 07 44.0**	**+0.7**
AC04					*eS*		**Sb**	**04 08 26.9**	**0.0**
AAGR	**Agrelo**	**3.19**	**127**		*eP*		**Pb**	**04 07 50.0**	**-1.9**
AAGR					*eS*		**Sg**	**04 08 37.3**	**-0.5**
BO01	**Tunca**	**3.25**	**168**		Pn		**Pn**	**04 07 46.7**	**+0.8**
BO01	**Tunca**	**3.25**	**168**		*eP*		**Pn**	**04 07 46.7**	**+0.8**
BO01	**Tunca**	**3.25**	**168**		*eP*		**Pn**	**04 07 46.9**	**+1.0**
BO01					*eS*		**Sn**	**04 08 24.6**	**+0.1**
BO03	**Pichilemu**	**3.29**	**181**		*eP*		**Pn**	**04 07 45.5**	**-0.9**
BO03					IAML			04 08 47.4	
	comp=N,534nm,0.9s								
BO02	**Sierra Bellavi**	**3.70**	**166**		Pn		**Pn**	**04 07 52.9**	**+0.8**
BO02	**Sierra Bellavi**	**3.70**	**166**		*eP*		**Pn**	**04 07 53.1**	**+1.0**
BO02					*eS*		**Sn**	**04 08 39.9**	**+4.3**
BO02					IAML			04 08 53.3	
	comp=Z,434nm,0.6s								
GO05	**Huala**	**3.80**	**181**				**Pn**	**04 07 52.6**	**-0.9**
GO05	**Huala**	**3.80**	**181**		*eP*		**Pn**	**04 07 53.0**	**-0.5**
GO05					*eS*		**Sb**	**04 08 50.9**	**+2.8**
AVFE	**Valle Fertil**	**3.83**	**83**		*eP*		**Pn**	**04 07 58.0**	**+4.0**
AVFE					*eS*		**Sb**	**04 08 46.9**	**-2.2**
AVFE					IAML			04 08 53.8	
	comp=Z,434nm,0.6s								
GO03	**Copiap**	**3.87**	**22**				**Pn**	**04 07 56.3**	**+1.9**
VCA	**Vinchina**	**4.02**	**53**		*eP*		**Pb**	**04 08 02.6**	**-3.3**
VCA					*eS*		**Sb**	**04 08 52.4**	**-2.1**
VCA					IAML			04 09 05.7	
	comp=Z,798nm,0.5s								
AC06	**Mina Casimiro**	**4.05**	**19**		Pn		**Pn**	**04 07 57.8**	**+0.9**
RFA	**San Rafael**	**4.57**	**142**		*eP*		**Pn**	**04 08 06.4**	**+2.3**
RFA					*eP*		**Pn**	**04 08 06.9**	**+2.8**
RFA					IAML			04 09 27.4	
	comp=Z,119nm,1.0s								
ACLC	**CERRO LA CRUZ**	**4.61**	**69**		*eP*		**Pn**	**04 08 09.0**	**+4.3**
AC02	**Maricunga**	**4.97**	**30**		Pn		**Pn**	**04 08 11.9**	**+2.0**
AC02	**Maricunga**	**4.97**	**30**		*eP*		**Pn**	**04 08 11.9**	**+2.0**
AC02					*eS*		**Sb**	**04 09 21.9**	**-0.3**
AC01	**Pan de Azucar**	**5.16**	**13**				**Pn**	**04 08 13.7**	**+1.5**
H03N1	**Juan Fernandez**	**6.37**	**248**		T		T	04 15 12.0	
	baz=77,slow=72,SNR=423								
H03N3	**Juan Fernandez**	**6.38**	**247**		T		T	04 15 07.9	
	baz=77,slow=72,SNR=738								
H03N2	**Juan Fernandez**	**6.38**	**248**		T		T	04 15 03.6	
	baz=77,slow=72,SNR=562								
FSA	**Cafayete**	**7.24**	**47**		*eP*		Pn	04 08 47.1	+6.2
LVC	**Limon Verde**	**8.95**	**18**		Pn		**Pn**	**04 09 02.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=1.2								
LVC					Sn		**Sn**	**04 10 44.2**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=191,slow=11,SNR=2.6								
PLCA	**Paso Flores**	**9.57**	**174**		Pn		**Pn**	**04 09 12.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=183,slow=19,SNR=1.7								
PLCA	**Paso Flores**	**9.57**	**174**				**Pn**	**04 09 13.2**	**+0.5**
LPAZ	**La Paz**	**15.23**	**14**		Pn		**Pn**	**04 10 31.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=187,slow=8.7,SNR=5.1								
LPAZ	**La Paz**	**15.23**	**14**				**Pn**	**04 10 30.7**	**+0.1**
SIV	**San Ignacio**	**18.07**	**36**		P		**Pn**	**04 11 06.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=237,slow=13,SNR=4.3								
BDFB	**Brasilia**	**26.73**	**60**		P		**P**	**04 12 34.4**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=239,slow=13,SNR=4.7								
BDFB	**Brasilia**	**26.73**	**60**		P		**P**	**04 12 34.2**	**-0.4**
GRFF	**Grenada Fort F**	**44.09**	**14**		*e*		**P**	**04 15 04.5**	**+1.3**
GCMP	**Grenada, Carri**	**44.58**	**15**		*e*		P	04 14 58.2	-8.9
BBGH	**Gun Hill**	**45.65**	**17**		*e*		P	04 15 01.8	-14
MCLT	**Moule a Chique**	**45.87**	**15**		*e*		P	04 15 29.4	+12
MPOM	**Morne Pois Mar**	**46.60**	**15**		*e*		**P**	**04 15 19.7**	**-3.4**
TDBA	**Terre de Bas,**	**47.80**	**13**		*e*		P	04 15 47.5	+15
QSPA	**South Pole Qui**	**59.03**	**180**		P		**P**	**04 16 54.8**	**+0.1**
QSPA					IAmb		IAmb	04 16 58.4	
	comp=Z,0.7nm,0.7s								
TXAR	**Lajitas Array**	**67.37**	**330**		P		**P**	**04 17 52.0**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=165,slow=7.5,SNR=3.0								
DBIC	**Dimbokro**	**74.16**	**72**		P		**P**	**04 18 31.5**	**-0.4**
	comp=Z,5.5nm,0.9s,baz=212,slow=6.2,SNR=5.3								
TORD	**Torodi Ar. Bea**	**83.13**	**70**		P		**P**	**04 19 21.4**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=259,slow=4.7,SNR=18								
H11S2	**WAKE ISLAND Hy**	**125.91**	**271**		T		T	06 44 47.2	
	baz=116,slow=75,SNR=9.5								
H11S1	**WAKE ISLAND Hy**	**125.92**	**271**		T		T	06 44 45.6	
	baz=116,slow=75,SNR=8.1								
H11S3	**WAKE ISLAND Hy**	**125.92**	**271**		T		T	06 44 47.1	
	baz=116,slow=75,SNR=7.6								
H11N3	**WAKE ISLAND Hy**	**126.25**	**273**		T		T	06 45 09.3	
	baz=154,slow=74,SNR=12								
H11N2	**WAKE ISLAND Hy**	**126.27**	**273**		T		T	06 45 12.9	
	baz=120,slow=74,SNR=15								
KBZ	**Khabaz**	**127.98**	**57**		PKP		**PKiKP**	**04 26 02.2**	**+1.1**
	comp=Z,3.8nm,1.1s,baz=287,slow=11,SNR=3.7								
ZALV	**Zalesovo Beam**	**151.76**	**30**		PKPbc		**PKPbc**	**04 26 49.6**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=294,slow=2.9,SNR=17								
MKAR	**Makanchi Array**	**154.75**	**45**		PKPdc		**PKPbc**	**04 26 55.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=310,slow=2.8,SNR=6.9								

IDC ***16*** *04:09:19.8±0.7,39.˚55N×143.˚28E, h0km, mb4.1/21, mb1 4.3/24, mb1mx4.2/56, mbtmp4.1/24, ML3.6/3, MS4.1/14, Ms1 4.1/14, ms1mx3.5/90, Error ellipse: s-maj=17.5km s-min=14.2km az=128.0*

JMA ***16*** *04:09:20.6±0.1,39.˚50N×143.˚50E, h35km, M4.5*

NIED ***16*** *04:09:20.7,39.˚50N×143.˚50E, h35km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.49; Mθθ-0.03; Mϕϕ-2.46; Mrθ1.85; Mθϕ-1.22; Mϕr3.33; Fault plane solution: M₀4.69000×10¹⁵ NP1:φs28.00000°, δ72.00000°, λ94.00000°. NP2:φs195.00000°, δ18.00000°, λ77.00000°.*

NEIC ***16*** *04:09:25.5±1.3,39.˚54N±0.˚06×143.˚12E±0.˚10, h37km±7km, mb4.6/31, Mwr4.3/10 Error ellipse: s-maj=11.6km s-min=7.3km az=115.0*

NEIC ***16*** *04:09:25.5,39.˚54N×143.˚13E, h22km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.82; Mθθ1.45; Mϕϕ-3.27; Mrθ1.47; Mθϕ2.00; Mϕr1.72; Fault plane solution: M₀4.14000×10¹⁵ NP1:φs16.06000°, δ69.91000°, λ138.28000°. NP2:φs123.10000°, δ51.32000°, λ26.11000°. Principal axes: T 4.0504, Plg43.0000°, Azm332.0000°; N 0.1774, Plg45.0000°, Azm175.0000°; P -4.2278, Plg11.0000°, Azm73.0000°;*

ISC 16 04:09:24.5±1.0, 39.˚55N±0.˚04×143.˚26E±0.˚05, h33km±3km, n116, σ0s93/121, mb4.5/38, MS4.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.11**	**272**	P	**Pn**	**04 09 43.2**	**-0.5**
MIYJ				*eS*	**Sn**	**04 09 59.3**	**+1.4**
JTH	**Tanohata**	**1.14**	**291**	P	**Pn**	**04 09 43.8**	**-0.4**
JTH				*eS*	**Sb**	**04 10 00.5**	**+0.2**
OFUJ	**Ofunato**	**1.31**	**250**	P	**Pn**	**04 09 45.8**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.36**	**300**	P	**Pn**	**04 09 46.4**	**-0.8**
JKEN				*eS*	**Sb**	**04 10 05.6**	**-0.9**
JOM	**Ohasama**	**1.52**	**268**	P	**Pn**	**04 09 49.6**	**+0.2**
JOM				*eS*	**Sb**	**04 10 10.6**	**-0.5**
JANG	**Nango**	**1.57**	**302**	P	**Pn**	**04 09 49.2**	**-0.9**
JMK	**Ichinoseki**	**1.69**	**250**	P	**Pn**	**04 09 51.4**	**-0.3**
JMK				*eS*	**Sn**	**04 10 13.4**	**+1.3**
JIO	**Ouri**	**1.84**	**234**	P	**Pn**	**04 09 52.6**	**-1.2**
JIO				*eS*	**Sn**	**04 10 15.8**	**-0.1**
JRG	**Rokugo**	**2.03**	**267**	P	**Pn**	**04 09 56.9**	**+0.5**
JTM	**Tenmabayashi**	**2.08**	**307**		**Pn**	**04 09 57.5**	**+0.4**
JTM				Sn	**Sn**	**04 10 21.9**	**0.0**
JYK	**Kaneyama**	**2.33**	**255**	P	**Pn**	**04 10 00.9**	**+0.3**
ERM	**Erimo**	**2.47**	**358**		**Pn**	**04 10 02.6**	**+0.2**
ERM				Sn	**Sn**	**04 10 32.2**	**+0.8**
JOT	**Ohata**	**2.49**	**318**	P	**Pn**	**04 10 02.8**	**+0.1**
JMM	**Marumori**	**2.55**	**230**		**Pn**	**04 10 02.2**	**-1.4**
JMM				Sn	**Sn**	**04 10 31.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.76**	**352**	P	**Pn**	**04 10 06.3**	**-0.1**
JNBK				*eS*	**Sn**	**04 10 39.6**	**+1.0**
JFT	**Otama**	**3.06**	**229**	P	**Pn**	**04 10 09.9**	**-0.6**
JFT				*eS*	**Sn**	**04 10 47.4**	**+1.5**
JCH	**Churui**	**3.07**	**1**	P	**Pn**	**04 10 09.4**	**-1.2**
JCH				S	**Sn**	**04 10 44.4**	**-1.8**
JEW	**Eniwo**	**3.56**	**338**	Pn	**Pn**	**04 10 18.9**	**+1.5**
JYT	**Yasato**	**4.10**	**217**		**Pn**	**04 10 23.7**	**-1.2**
JSD	**Sado**	**4.18**	**250**		**Pn**	**04 10 25.9**	**0.0**
ASAJ	**Asahikawa**	**4.59**	**354**	Pn	**Pn**	**04 10 31.1**	**-0.5**
	5.2nm,0.3s,baz=217,slow=15,SNR=7.9						
ASAJ				Sn	**Sn**	**04 11 23.7**	**-0.1**
	6.0nm,0.3s,baz=341,slow=8.1,SNR=3.6						
ASAJ				LR	LR	04 12 18.1	
	comp=Z,251nm,21.0s,baz=10,slow=39						
JKA	**Kamikawa-asahi**	**4.59**	**354**		**Pn**	**04 10 32.3**	**+0.7**
MJAR	**Matsushiro Arr**	**4.99**	**235**	Pn	**Pn**	**04 10 37.8**	**+0.8**
	1.1nm,0.3s,baz=39,slow=11,SNR=79						
MJAR				LR	LR	04 12 48.6	
	comp=Z,658nm,18.9s,baz=140,slow=42						
MAJO	**Matsushiro**	**4.99**	**235**		**Pn**	**04 10 37.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**4.99**	**235**		**Pn**	**04 10 37.7**	**+0.7**
JGF	**Kuroka**	**6.12**	**232**		**Pn**	**04 10 52.4**	**-0.2**
INU	**Inuyama**	**6.49**	**232**		**Pn**	**04 10 56.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**9.60**	**303**		**Pn**	**04 11 40.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.60**	**303**	Pn	**Pn**	**04 11 43.2**	**+2.8**
	baz=84,slow=16,SNR=12						
USRK				LR	LR	04 15 16.9	
	comp=Z,592nm,21.1s,baz=127,slow=37						
USRK	**Ussuriysk Ar.**	**9.60**	**303**	Pn	**Pn**	**04 11 42.1**	**+1.8**
MDJ	**Mudanjiang**	**11.34**	**301**		**Pn**	**04 12 04.4**	**+0.3**
KSRS	**Korea Array**	**12.19**	**265**	Pn	**Pn**	**04 12 18.9**	**+3.0**
	0.3nm,0.3s,baz=87,slow=14,SNR=11						
KSRS				LR	LR	04 16 42.0	
	comp=Z,431nm,18.4s,baz=75,slow=36						
KLR	**Kul'dur**	**12.69**	**323**	Pn	**Pn**	**04 12 22.0**	**-0.6**
	0.1nm,0.3s,baz=141,slow=12,SNR=5.5						
KLR				LR	LR	04 17 27.9	
	comp=Z,470nm,19.1s,baz=112,slow=38						
HIA	**Hailar**	**19.34**	**308**	P	**P**	**04 13 44.0**	**-2.9**
MA2	**Magadan**	**20.61**	**11**	P	**P**	**04 14 00.4**	**-0.2**
	4.9nm,0.5s,baz=196,slow=6.3,SNR=6.9						
MA2				LR	LR	04 21 01.0	
	comp=Z,154nm,20.5s,baz=68,slow=34						
YAK	**Yakutsk**	**23.99**	**344**	LR	LR	04 24 08.6	
	comp=Z,87nm,19.5s,baz=196,slow=37						
SEY	**Seymchan**	**24.06**	**10**	P	**P**	**04 14 36.5**	**+0.1**
	10nm,0.9s,baz=192,slow=7.5,SNR=19						
ULN	**Ulaanbaatar**	**27.26**	**300**	P	**P**	**04 15 04.8**	**-1.0**
ULN				IAmb	IAmb	04 15 07.5	
	comp=Z,26nm,1.4s						
SONM	**Songino Array**	**27.70**	**300**	P	**P**	**04 15 10.4**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=102,slow=9.4,SNR=12						
SONM				LR	LR	04 26 49.8	
	comp=Z,465nm,19.0s,baz=38,slow=38						
SONM	**Songino Array**	**27.70**	**300**	P	**P**	**04 15 08.6**	**-1.0**
SONM				IAmb	IAmb	04 15 21.2	
	comp=Z,38nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**28.35**	**127**	T	T	04 46 02.3	
	baz=318,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**28.36**	**127**	T	T	04 45 51.8	
	baz=318,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.37**	**127**	T	T	04 46 06.3	
	baz=318,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**29.16**	**129**	T	T	04 47 16.6	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.17**	**129**	T	T	04 47 22.0	
	baz=316,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.18**	**129**	T	T	04 47 23.2	
	baz=316,slow=74						
TIXI	**Tiksi**	**32.99**	**352**	P	**P**	**04 15 54.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=272,slow=23,SNR=1.5						
TIXI	**Tiksi**	**32.99**	**352**	P	**P**	**04 15 55.3**	**-0.7**
TIXI				IAmb	IAmb	04 16 35.2	
	comp=Z,8.4nm,1.4s						
ZAA0	**Zalesovo Array**	**41.35**	**310**	P	**P**	**04 17 05.8**	**-1.1**
ZALV	**Zalesovo Beam**	**41.35**	**310**	P	**P**	**04 17 07.5**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=88,slow=7.6,SNR=16						
ZALV				PcP	**PcP**	**04 19 05.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=99,slow=4.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**41.35**	**310**	P	**P**	**04 17 07.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**43.55**	**254**	P	**P**	**04 17 26.1**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=47,slow=7.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**43.55**	**254**	P	**P**	**04 17 24.4**	**-0.9**
MK31	**Makanchi Array**	**44.06**	**300**	P	**P**	**04 17 29.3**	**+0.1**
MK31				IAmb	IAmb	04 17 30.5	
	comp=Z,6.1nm,0.8s						
MKAR	**Makanchi Array**	**44.06**	**300**	P	**P**	**04 17 29.5**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=83,slow=9.7,SNR=36						
MKAR	**Makanchi Array**	**44.06**	**300**	P	**P**	**04 17 28.7**	**-0.5**
SPU	**Mount Spurr**	**44.37**	**39**	P	**P**	**04 17 31.9**	**+0.5**
MLY	**Manley**	**44.96**	**33**	P	**P**	**04 17 37.3**	**+1.2**
KURK	**Kurchatov**	**45.57**	**306**	P	**P**	**04 17 40.6**	**-0.4**
IL31		**46.60**	**34**	P	**P**	**04 17 48.8**	**-0.1**
IL31				IAmb	IAmb	04 18 50.7	
	comp=Z,15nm,1.8s						
ILAR	**Eielson Array**	**46.60**	**34**	P	**P**	**04 17 49.4**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=262,slow=6.6,SNR=21						
JIRN	**Jiri**	**48.26**	**274**	*eP*	**P**	**04 18 03.3**	**+0.5**
RAMN	**Ramite**	**48.30**	**273**	*eP*	**P**	**04 18 01.8**	**-1.2**
GUN	**Gumba**	**48.38**	**274**	*eP*	**P**	**04 18 03.9**	**+0.2**
	comp=Z,28nm,0.5s						
KKN	**Kakani**	**48.90**	**275**	*eP*	**P**	**04 18 08.4**	**+0.8**
PKI	**Pulchoki**	**48.91**	**274**	*eP*	**P**	**04 18 07.5**	**-0.3**
KDJ	**Kajisay**	**48.92**	**296**	P	**P**	**04 18 06.8**	**-0.7**
KDJ				IAmb	IAmb	04 18 15.7	
	comp=Z,5.9nm,0.9s						
GKN	**Gorkha**	**49.29**	**275**	*eP*	**P**	**04 18 11.1**	**+0.6**
	comp=Z,17nm,0.2s						
BOOM	**Boomskoye usch**	**49.66**	**296**	P	**P**	**04 18 12.8**	**-0.3**
BOOM				IAmb	IAmb	04 18 15.0	
	comp=Z,10.0nm,1.1s						
DANN	**Dangsing**	**49.80**	**276**	*eP*	**P**	**04 18 15.0**	**+0.5**
	comp=Z,62nm,0.7s						
BRVK	**Borovoye**	**50.04**	**311**	P	**P**	**04 18 15.1**	**-0.5**
BRVK				IAmb	IAmb	04 18 17.2	
	comp=Z,5.9nm,0.8s						
KOLN	**Koldanda**	**50.20**	**276**	*eP*	**P**	**04 18 17.9**	**+0.4**
PYUN	**Piuthan**	**50.51**	**276**	*eP*	**P**	**04 18 20.2**	**+0.4**
EPYK	**Eagle Plains**	**50.63**	**31**	P	**P**	**04 18 21.2**	**+1.3**
HYT	**Haines Junctio**	**51.43**	**38**	P	**P**	**04 18 27.7**	**+1.6**
HYT				IAmb	IAmb	04 18 33.7	
	comp=Z,9.5nm,1.1s						
INK	**Inuvik**	**51.49**	**28**	P	**P**	**04 18 27.2**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=312,slow=5.1,SNR=14						
INK	**Inuvik**	**51.49**	**28**	P	**P**	**04 18 26.7**	**+0.4**
KKAR	**Karatay Array**	**53.15**	**299**	P	**P**	**04 18 38.2**	**-0.9**
A36M	**Sachs Harbour**	**53.39**	**23**	P	**P**	**04 18 41.0**	**+0.7**
A36M				IAmb	IAmb	04 18 55.7	
	comp=Z,5.9nm,0.9s						
C36M	**Paulatuk**	**54.54**	**26**	P	**P**	**04 18 49.3**	**+0.5**
C36M				IAmb	IAmb	04 19 04.0	
	comp=Z,14nm,1.6s						
CHGR	**Chuyangaron**	**55.92**	**295**	P	**P**	**04 18 59.1**	**-0.2**
ABKAR	**Akbulak array**	**57.45**	**309**	P	**P**	**04 19 10.0**	**+0.1**
ABKAR	**Akbulak array**	**57.45**	**309**	P	**P**	**04 19 10.1**	**+0.2**
ABKAR				IAmb	IAmb	04 19 11.9	
	comp=Z,4.5nm,0.7s						
WRA	**Warramunga Arr**	**59.76**	**190**	P	**P**	**04 19 24.6**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=6.9,slow=6.9,SNR=7.0						
RES	**Resolute Bay**	**59.81**	**15**	P	**P**	**04 19 26.2**	**+0.3**
RES				IAmb	IAmb	04 19 46.6	
	comp=Z,2.7nm,0.8s						
YKA	**Yellowknife Ar**	**60.91**	**31**	P	**P**	**04 19 33.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=301,slow=6.5,SNR=11						
YKA	**Yellowknife Ar**	**60.91**	**31**	P	**P**	**04 19 33.5**	**-0.1**
ASAR	**Alice Springs**	**63.49**	**190**	P	**P**	**04 19 53.2**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=7.7,slow=7.1,SNR=4.8						
FINES	**FINESS Array B**	**67.27**	**332**	P	**P**	**04 20 15.6**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=47,slow=8.4,SNR=12						
JMIC	**Jan Mayen**	**67.92**	**350**	LR	LR	04 52 49.5	
	comp=Z,250nm,18.5s,baz=237,slow=38						
KIV	**Kislovodsk**	**70.36**	**311**	P	**P**	**04 20 35.0**	**0.0**
KBZ	**Khabaz**	**70.36**	**311**	P	**P**	**04 20 35.4**	**+0.5**
	comp=Z,6.5nm,1.0s,baz=340,slow=1.8,SNR=5.7						
YERR	**Yerington**	**71.42**	**55**	P	**P**	**04 20 42.2**	**+0.5**
YERR				IAmb	IAmb	04 20 48.6	
	comp=Z,6.7nm,1.3s						
KVN	**Kaiserville**	**72.10**	**54**	P	**P**	**04 20 46.6**	**+0.8**
NVAR	**Mina Array Bea**	**72.34**	**55**	P	**P**	**04 20 47.7**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=295,slow=5.9,SNR=10						
NC204	**NORSAR Array S**	**72.37**	**338**	P	**P**	**04 20 47.2**	**+0.4**
NB2	**NORSAR Subarra**	**72.42**	**338**	P	**P**	**04 20 47.0**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.42**	**338**	P	**P**	**04 20 47.2**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=38,slow=6.0,SNR=20						
NOA				LR	LR	04 58 20.5	
	comp=Z,143nm,18.4s,baz=240,slow=41						
AKASG	**Malin Array Be**	**73.19**	**323**	P	**P**	**04 20 51.7**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=44,slow=6.0,SNR=10						
AKASG				LR	LR	04 56 04.8	
	comp=Z,377nm,20.3s,baz=252,slow=38						
AKASG	**Malin Array Be**	**73.19**	**323**	P	**P**	**04 20 51.4**	**-0.4**
TPH	**Tonopah**	**73.23**	**54**	P	**P**	**04 20 52.9**	**+0.4**
PDAR	**Pinedale Array**	**74.88**	**47**	P	**P**	**04 21 02.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=259,slow=0.9,SNR=9.0						
RDMU	**Red Mountain**	**76.30**	**49**	P	**P**	**04 21 10.2**	**0.0**
RDMU				IAmb	IAmb	04 21 17.1	
	comp=Z,8.1nm,1.3s						
MTPU	**Mount Pierson**	**76.37**	**52**	P	**P**	**04 21 11.5**	**+0.6**
MTPU				IAmb	IAmb	04 21 19.2	
	comp=Z,6.5nm,0.5s						
BRTR	**Keskin Array B**	**78.26**	**312**	P	**P**	**04 21 21.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=70,slow=1.4,SNR=4.1						
BRTR				LR	LR	05 01 57.2	
	comp=Z,764nm,21.1s,baz=243,slow=40						
BRTR	**Keskin Array B**	**78.26**	**312**	P	**P**	**04 21 19.8**	**-1.4**
MLR	**Muntele Rosu**	**78.39**	**320**	LR	LR	05 00 05.7	
	comp=Z,656nm,18.8s,baz=240,slow=39						
MORC	**Moravsky Berou**	**79.03**	**328**	P	**P**	**04 21 25.3**	**+0.2**
CLL	**Collm**	**79.63**	**331**	*i* P	**P**	**04 21 28.6**	**+0.4**
	comp=Z,5.0nm,0.9s						
CLL				*ep*P	**sP**	**04 21 42.0**	**+0.5**
KHC	**Kasperske Hory**	**81.15**	**329**	*eP*	**P**	**04 21 36.5**	**0.0**
GERES	**GERESS Array B**	**81.33**	**329**	P	**P**	**04 21 38.1**	**+0.5**
	comp=Z,0.5nm,0.6s,

OHR	**Ohrid**	**1.32**	**66**	*i* Pn		**Pb**	**04 22 58.2**	**-0.3**
IGT	**Igoumenitsa**	**1.36**	**140**	P		**Pb**	**04 22 59.7**	**+0.5**
IGT				S		**Sg**	**04 23 19.1**	**+0.7**
	comp=N,1μm,0.6s							
ULC	**Ulcinj**	**1.38**	**1**	⇓*i* Pg		**Pb**	**04 22 59.9**	**+0.3**
ULC				*i* Sg		**Sg**	**04 23 19.9**	**+0.8**
NEST	**Nestorio**	**1.42**	**96**	P		**Pb**	**04 23 00.5**	**+0.3**
NEST				S		**Sg**	**04 23 21.4**	**+1.1**
	comp=N,1μm,0.5s							
PHP	**Peshkopia**	**1.44**	**40**	P		**Pb**	**04 23 00.4**	**-0.2**
PHP				S		**Sg**	**04 23 20.6**	**-0.5**
PHP	**Peshkopia**	**1.44**	**40**	P		**Pb**	**04 23 00.6**	**-0.1**
	baz=39							
PHP				S		**Sg**	**04 23 20.1**	**-1.0**
	baz=39							
PHP				AMP				
	comp=N,6.6nm,0.5s,baz=39							
JAN	**Janina**	**1.56**	**126**	P		**Pn**	**04 23 01.7**	**+0.6**
JAN				S		**Sg**	**04 23 24.8**	**-0.1**
	comp=N,1μm,0.5s							
DRME	**Dracevica, Mon**	**1.60**	**359**	*e*Pn		**Pn**	**04 23 01.6**	**0.0**
DRME	**Dracevica, Mon**	**1.60**	**359**	⇑*i* Pn		**Pb**	**04 23 02.9**	**-0.4**
DRME				*i* Sn		**Sg**	**04 23 25.2**	**-1.0**
NOCI	**Noci**	**1.64**	**278**	P		**Pb**	**04 23 03.2**	**-0.8**
NOCI				AML	AML			
	comp=E,4505μm,0.5s							
NOCI				AML	AML			
	comp=N,5665μm,0.3s							
FNA	**Florina**	**1.66**	**82**	P		**Pb**	**04 23 03.7**	**-0.7**
FNA				S		**Sg**	**04 23 27.8**	**-0.3**
	comp=N,4μm,0.7s							
BUM	**Brajici-Budva**	**1.73**	**352**	⇓*i* Pn		**Pb**	**04 23 04.8**	**-0.8**
BUM				*i* Sn		**Sb**	**04 23 28.4**	**+1.4**
KPRO	**Kipourio**	**1.77**	**110**	P		**Pb**	**04 23 06.1**	**0.0**
KPRO				S		**Sg**	**04 23 30.0**	**-1.4**
	comp=N,1μm,1.0s							
PDG	**Podgorica**	**1.85**	**1**	⇑P		**Pn**	**04 23 05.9**	**+1.0**
PDG				⇑S		**Sb**	**04 23 31.3**	**+1.1**
PDG	**Podgorica**	**1.85**	**1**	*e*Pn		**Pn**	**04 23 05.4**	**+0.5**
PDG				*e*Sn		**Sb**	**04 23 31.0**	**+0.9**
PDG	**Podgorica**	**1.85**	**1**	*e*Pn		**Pn**	**04 23 05.1**	**+0.2**
TTG	**Podgorica**	**1.85**	**1**	⇑*i* Pn		**Pb**	**04 23 06.4**	**-1.1**
TTG				*i* Sn		**Sb**	**04 23 31.0**	**+0.9**
BCI	**Bajram Curri**	**1.90**	**20**	P		**Pb**	**04 23 07.1**	**-1.2**
	baz=19							
BCI				S		**Sb**	**04 23 33.2**	**+1.6**
	baz=19							
MATE	**Matera**	**1.90**	**273**	⇑P		**Pb**	**04 23 09.0**	**+0.6**
MATE				⇑S		**Sg**	**04 23 35.9**	**+0.2**
MATE	**Matera**	**1.90**	**273**	AML	AML			
	comp=N,3140μm,0.4s							
MATE				AML	AML			
	comp=E,3275μm,0.5s							
HCY	**Herceg Novi**	**1.94**	**344**	*e*Pn		**Pn**	**04 23 06.3**	**0.0**
HCY	**Herceg Novi**	**1.94**	**344**	⇑*i* Pn		**Pn**	**04 23 06.2**	**0.0**
HCY				*i* Sn		**Sb**	**04 23 33.6**	**+0.8**
CEME	**Cevo**	**1.98**	**354**	⇑*i* Pn		**Pn**	**04 23 08.1**	**+1.3**
CEME				*i* Sn		**Sb**	**04 23 34.1**	**+0.2**
AMUR	**Altamura**	**2.00**	**280**	P		**Pn**	**04 23 08.3**	**+1.2**
AMUR				AML	AML			
	comp=E,2400μm,0.4s							
AMUR				AML	AML			
	comp=N,3150μm,0.5s							
TSLK	**Tsoukalades, L**	**2.08**	**147**	P		**Pn**	**04 23 09.7**	**+1.5**
PVY	**Plav**	**2.09**	**15**	⇓*i* Pn		**Pn**	**04 23 09.7**	**+1.3**
PVY				*i* Sn		**Sb**	**04 23 36.5**	**-0.8**
MIGL	**Miglionico**	**2.10**	**272**	AML	AML			
	comp=N,13650μm,0.6s							
MIGL				AML	AML			
	comp=E,9270μm,1.2s							
LKD2	**Lefkada island**	**2.11**	**147**	P		**Pn**	**04 23 09.8**	**+1.2**
CRAC	**Craco**	**2.12**	**265**	P		**Pb**	**04 23 10.4**	**-1.8**
CRAC				AML	AML			
	comp=E,5530μm,1.6s							
CRAC				AML	AML			
	comp=N,6145μm,0.4s							
PIPA	**Pietrapaola**	**2.14**	**240**	P		**Pn**	**04 23 10.6**	**+1.6**
PIPA				AML	AML			
	comp=E,1008μm,0.6s							
PIPA				AML	AML			
	comp=N,905μm,0.7s							
PIPA				AML	AML			
	comp=E,1056μm,0.6s							
PIPA				AML	AML			
	comp=N,904μm,0.7s							
ORI	**Oriolo Calabro**	**2.17**	**257**	P		**Pn**	**04 23 11.1**	**+1.7**
ORI				AML	AML			
	comp=E,3485μm,0.6s							
ORI				AML	AML			
	comp=N,3015μm,0.5s							
SKO	**Skopje**	**2.18**	**50**	*i* Pn		**Pn**	**04 23 10.8**	**+1.2**
NKME	**Niksic**	**2.19**	**355**	⇓*i* Pn		**Pn**	**04 23 11.3**	**+1.6**
NKME				*i* Sn		**Sb**	**04 23 39.4**	**-0.7**
NYDR	**Nydri-Lefkada**	**2.19**	**148**	P		**Pn**	**04 23 10.7**	**+1.0**
TREB	**Trebinje**	**2.23**	**344**	*e*Pn		**Pn**	**04 23 10.6**	**+0.4**
TREB				*e*Sn		**Sn**	**04 23 38.7**	**+1.6**
TREB	**Trebinje**	**2.23**	**344**	*e*Pn		**Pn**	**04 23 10.2**	**0.0**
KTI	**Kastanea**	**2.23**	**94**	P		**Pb**	**04 23 12.8**	**-1.3**
DBRK	**Dubrovnik**	**2.23**	**340**	*e*Pn		**Pn**	**04 23 10.5**	**+0.3**
NKY	**Niksic**	**2.23**	**356**	⇑*i* Pn		**Pn**	**04 23 11.8**	**+1.4**
NKY				*i* Sn		**Sb**	**04 23 40.4**	**-1.0**
EVGI	**Lefkada island**	**2.26**	**150**	P		**Pn**	**04 23 11.4**	**+0.8**
KOME	**Kolasin**	**2.28**	**6**	⇑*i* Pn		**Pn**	**04 23 12.5**	**+1.5**
KOME				*i* Sn		**Sb**	**04 23 41.3**	**-1.4**
SALB	**San Lorenzo Be**	**2.30**	**253**	P		**Pn**	**04 23 12.4**	**+1.1**
SALB				AML	AML			
	comp=E,1143μm,0.8s							
SALB				AML	AML			
	comp=N,802μm,1.4s							
SALB				AML	AML			
	comp=E,1178μm,0.8s							
SALB				AML	AML			
	comp=N,783μm,0.8s							
MRVN	**Minervino Murg**	**2.33**	**283**	P		**Pn**	**04 23 12.9**	**+1.3**
MRVN				AML	AML			
	comp=E,1485μm,0.6s							
MRVN				AML	AML			
	comp=N,1690μm,1.2s							
IVA	**Berane**	**2.34**	**12**	⇑*i* Pn		**Pn**	**04 23 13.2**	**+1.3**
IVA				*i* Sn		**Sb**	**04 23 42.7**	**-1.9**
TIP	**Timpagrande**	**2.35**	**234**	⇑P		**Pb**	**04 23 14.4**	**-1.6**
TIP				⇑S		**Sb**	**04 23 44.7**	**+0.1**
TIP	**Timpagrande**	**2.35**	**234**	P		**Pn**	**04 23 13.6**	**+1.7**
TIP				AML	AML			
	comp=E,432μm,0.9s							
TIP				AML	AML			
	comp=N,302μm,0.9s							
TIP				AML	AML			
	comp=E,508μm,0.9s							
TIP				AML	AML			
	comp=N,370μm,0.8s							
FSK	**Fiskardo**	**2.37**	**153**	P		**Pn**	**04 23 13.2**	**+1.1**
BRY	**Bratogost**	**2.37**	**348**	*e*Pn		**Pn**	**04 23 12.6**	**+0.3**
BRY	**Bratogost**	**2.37**	**348**	⇓*i* Pn		**Pn**	**04 23 13.8**	**+1.5**
BRY				*i* Sn		**Sb**	**04 23 43.8**	**-1.6**
THL	**Klokotos Trika**	**2.38**	**114**	P		**Pn**	**04 23 14.0**	**+1.7**
SCHR	**S. Chirico Rap**	**2.42**	**262**	P		**Pn**	**04 23 15.0**	**+2.1**
SCHR				AML	AML			
	comp=E,796μm,0.6s							
SCHR				AML	AML			
	comp=N,816μm,0.6s							
GRG	**Griva**	**2.46**	**80**	P		**Pn**	**04 23 14.2**	**+0.8**
ACER	**Acerenza**	**2.49**	**276**	P		**Pn**	**04 23 15.6**	**+1.7**
ACER				AML	AML			
	comp=E,3660μm,1.0s							
ACER				AML	AML			
	comp=N,2970μm,0.9s							
ACER				AML	AML			
	comp=E,3795μm,1.0s							
ACER				AML	AML			
	comp=N,2960μm,0.9s							
PALZ	**Palazzo San Ge**	**2.49**	**279**	AML	AML			
	comp=N,3430μm,0.6s							
PALZ				AML	AML			
	comp=E,3640μm,0.7s							
STIP	**Stip**	**2.51**	**63**	*i* Pn		**Pb**	**04 23 17.3**	**-1.5**
STON	**Ston**	**2.55**	**334**	*e*Pn		**Pn**	**04 23 14.7**	**+0.1**
STON	**Ston**	**2.55**	**334**	*e*Pn		**Pn**	**04 23 14.9**	**+0.3**
SPS2	**Spezzano della**	**2.55**	**241**	AML	AML			
	comp=N,232μm,0.5s							
SPS2				AML	AML			
	comp=E,258μm,1.1s							
LIT	**Litokhoron**	**2.56**	**100**	P		**Pn**	**04 23 16.2**	**+1.5**
SIRI	**Monte Sirino -**	**2.58**	**262**	AML	AML			
	comp=E,1080μm,1.5s							
SIRI				AML	AML			
	comp=N,894μm,0.9s							
SIRI				AML	AML			
	comp=E,1080μm,0.4s							
SIRI				AML	AML			
	comp=N,908μm,1.0s							
EVR	**Evrytania**	**2.61**	**129**	P		**Pb**	**04 23 18.2**	**-2.3**
MCEL	**Monticello**	**2.61**	**265**	AML	AML			
	comp=N,1486μm,0.6s							
MCEL				AML	AML			
	comp=E,956μm,0.5s							
MCEL				AML	AML			
	comp=N,1462μm,0.6s							
MCEL				AML	AML			
	comp=E,970μm,0.5s							
UPM	**Unac-Piva**	**2.63**	**355**	*e*Pn		**Pn**	**04 23 16.8**	**+0.9**
UPM	**Unac-Piva**	**2.63**	**355**	⇑*i* Pn		**Pn**	**04 23 17.3**	**+1.4**
UPM				*i* Sn		**Sn**	**04 23 49.8**	**+2.5**
VLS	**Valsamata**	**2.63**	**155**	P		**Pn**	**04 23 16.4**	**+0.7**
MTSN	**Montesano sull**	**2.66**	**264**	AML	AML			
	comp=N,671μm,0.5s							
MTSN				AML	AML			
	comp=E,982μm,0.7s							
CAR1	**CAROLEI**	**2.66**	**241**	AML	AML			
	comp=N,732μm,1.0s							
CAR1				AML	AML			
	comp=E,748μm,1.0s							
CAR1				AML	AML			
	comp=E,650μm,0.6s							
CAR1				AML	AML			
	comp=N,775μm,1.0s							
PSDA	**Pessada-Kefalo**	**2.69**	**156**	P		**Pn**	**04 23 17.7**	**+1.2**
CET2	**Cetraro**	**2.71**	**248**	AML	AML			
	comp=N,1480μm,0.7s							
CET2				AML	AML			
	comp=E,1915μm,0.7s							
SLCN	**Sala Consilina**	**2.73**	**267**	P		**Pn**	**04 23 18.9**	**+1.7**
SLCN				AML	AML			
	comp=E,1740μm,0.6s							
SLCN				AML	AML			
	comp=N,2215μm,0.5s							
MSAG	**Monte S. Angel**	**2.73**	**295**	AML	AML			
	comp=E,1095μm,0.7s							
MSAG				AML	AML			
	comp=N,2750μm,1.2s							
SJES	**Sjenica**	**2.74**	**12**	*e*Pn		**Pn**	**04 23 19.0**	**+1.7**
SJES				*e*Sn		**Sn**	**04 23 51.8**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.75**	**124**	P		**Pn**	**04 23 19.9**	**+2.6**
PLE	**Pljevlja**	**2.75**	**3**	⇓*i* Pn		**Pn**	**04 23 18.9**	**+1.4**
PLE				*i* Sn		**Sn**	**04 23 52.8**	**+2.6**
VULT	**Monte Vulture**	**2.75**	**279**	P		**Pn**	**04 23 20.1**	**+2.6**
VULT				AML	AML			
	comp=E,1845μm,1.5s							
VULT				AML	AML			
	comp=N,2575μm,0.6s							
VULT				AML	AML			
	comp=E,1880μm,1.5s							
VULT				AML	AML			
	comp=N,2660μm,0.6s							
GRI	**Girifalco**	**2.77**	**232**	AML	AML			
	comp=N,321μm,0.6s							
GRI				AML	AML			
	comp=E,311μm,1.2s							
LSTV	**Lastovo**	**2.79**	**322**	*e*Pn		**Pn**	**04 23 17.9**	**0.0**
MGR	**Morigerati**	**2.83**	**262**	AML	AML			
	comp=E,862μm,0.6s							
MGR				AML	AML			
	comp=N,878μm,1.5s							
KNT	**Kendrikon**	**2.86**	**77**	P		**Pn**	**04 23 19.6**	**+0.7**
SGRT	**San Giovanni R**	**2.86**	**295**	AML	AML			
	comp=E,956μm,1.2s							
SGRT				AML	AML			
	comp=N,964μm,0.9s							
AGG	**Agios Georgios**	**2.87**	**122**	P		**Pn**	**04 23 21.0**	**+2.0**
ANX	**Ano Chora**	**2.89**	**133**	P		**Pn**	**04 23 21.8**	**+2.4**
PRVS	**Prvonek**	**2.89**	**47**	*e*Pn		**Pn**	**04 23 19.9**	**+0.6**
BARS	**Barje**	**2.97**	**40**	*e*Pn		**Pn**	**04 23 21.5**	**+1.1**
BARS	**Barje**	**2.97**	**40**	*e*Pn		**Pg**	**04 23 34.6**	**+3.3**
BARS				*e*Sn		**Sn**	**04 23 55.8**	**+0.4**
CDRU	**Civita di Ruta**	**2.97**	**269**	P		**Pn**	**04 23 22.1**	**+1.5**
CDRU				AML	AML			
	comp=E,585μm,0.9s							
CDRU				AML	AML			
	comp=N,396μm,0.8s							
CMPR	**Campora**	**2.99**	**266**	AML	AML			
	comp=N,530μm,1.1s							
CMPR				AML	AML			
	comp=E,567μm,1.0s							
SELS	**Selova**	**3.00**	**28**	*e*Pn		**Pn**	**04 23 22.2**	**+1.4**
SELS				*e*Sn		**Sn**	**04 23 58.6**	**+2.4**
EFP	**Efpalio**	**3.00**	**135**	P		**Pn**	**04 23 23.1**	**+2.3**
APRC	**Apricena**	**3.00**	**294**	AML	AML			
	comp=N,2070μm,0.6s							
APRC				AML	AML			
	comp=E,1425μm,0.4s							
PLAC	**Placanica**	**3.02**	**226**	AML	AML			
	comp=E,202μm,0.6s							
PLAC				AML	AML			
	comp=N,216μm,1.1s							
RUDO	**Rudo**	**3.04**	**2**	*e*Pn		**Pn**	**04 23 22.4**	**+1.1**
CAFE	**Carife**	**3.04**	**280**	AML	AML			
	comp=E,1390μm,0.9s							
CAFE				AML	AML			
	comp=E,1380μm,0.9s							
CAFE				AML	AML			
	comp=N,881μm,1.6s							
CAFE				AML	AML			
	comp=N,872μm,0.5s							
SNAL	**S. Angelo Dei**	**3.05**	**278**	AML	AML			
	comp=N,1410μm,0.7s							
SNAL				AML	AML			
	comp=E,1255μm,1.6s							
SNAL				AML	AML			
	comp=N,1405μm,0.7s							
SNAL				AML	AML			
	comp=E,1285μm,0.6s							
IVAS	**Ivanjica**	**3.07**	**13**	*e*Pn		**Pn**	**04 23 22.0**	**+0.1**
IVAS				*e*Sn		**Sn**	**04 24 00.8**	**+2.7**
SERG	**Sergoula**	**3.09**	**134**	P		**Pn**	**04 23 24.6**	**+2.5**
BOSS	**Bosilegrad**	**3.12**	**51**	*e*Pn		**Pn**	**04 23 23.0**	**+0.6**
BOSS				*e*Sn		**Sn**	**04 23 58.8**	**-0.3**
LAKA	**Lakka**	**3.18**	**137**	P		**Pn**	**04 23 25.2**	**+1.9**
KKB	**Krupnik**	**3.19**	**65**	*i* P		**Pn**	**04 23 24.4**	**+0.9**
MELA	**Melanico ??? S**	**3.28**	**291**	AML	AML			
	comp=E,2435μm,1.2s							
MELA				AML	AML			
	comp=E,2365μm,1.2s							
MELA				AML	AML			
	comp=N,2860μm,1.0s							
MELA				AML	AML			
	comp=N,2935μm,1.0s							
BBLS	**Lazići**	**3.29**	**3**	*e*Pn		**Pn**	**04 23 26.1**	**+1.3**
BBLS				*e*Sn		**Sn**	**04 24 04.3**	**+1.0**
BBLS	**Lazići**	**3.29**	**3**	*e*Pn		**Pn**	**04 23 25.7**	**+0.9**
RICI	**Ricice**	**3.29**	**333**	*e*Pn		**Pn**	**04 23 27.3**	**+2.4**
RICI				Sn		**Sn**	**04 24 04.1**	**+0.7**
HVAR	**Hvar**	**3.31**	**322**	*e*Pn		**Pn**	**04 23 26.0**	**+0.9**
SRS	**Serrai**	**3.37**	**79**	P		**Pn**	**04 23 26.7**	**+0.8**
PSB1	**Pescosannita**	**3.39**	**282**	AML	AML			
	comp=N,529μm,0.9s							
PSB1				AML	AML			
	comp=E,460μm,1.0s							
PSB1				AML	AML			
	comp=E,446μm,1.0s							
PSB1				AML	AML			
	comp=N,544μm,0.9s							
KLV	**Kalavryta, Ach**	**3.41**	**137**	P		**Pn**	**04 23 28.3**	**+1.8**
GRUS	**Gruza**	**3.49**	**18**	*e*Pn		**Pn**	**04 23 28.6**	**+1.1**
ATAL	**Atalanti**	**3.50**	**121**	P		**Pn**	**04 23 29.6**	**+1.9**
VITU	**Vitulano (BN)**	**3.52**	**281**	AML	AML			
	comp=E,337μm,0.8s							
VITU				AML	AML			
	comp=N,977μm,0.5s							
VITU				AML	AML			
	comp=E,856μm,0.6s							
VITU				AML	AML			
	comp=N,979μm,0.5s							
DIVS	**Divibare**	**3.56**	**9**	*e*Pn		**Pn**	**04 23 29.2**	**+0.6**
DIVS				*e*Sn		**Sn**	**04 24 10.7**	**+0.5**
DIVS	**Divibare**	**3.56**	**9**	*e*Pn		**Pn**	**04 23 28.7**	**+0.1**
DIVS	**Divibare**	**3.56**	**9**	AML	AML			
	comp=N,130μm,1.1s							
DIVS				AML	AML			
	comp=E,171μm,1.5s							
MMB	**Musomiste**	**3.56**	**72**	*i* P		**Pn**	**04 23 29.9**	**+1.3**
NVR	**Nevrokopi**	**3.61**	**76**	P		**Pn**	**04 23 30.8**	**+1.6**
BSSO	**Busso**	**3.62**	**287**	AML	AML			
	comp=E,176μm,1.2s							
BSSO				AML	AML			
	comp=E,446μm,1.2s							
BSSO				AML	AML			
	comp=N,435μm,0.8s							
BSSO				AML	AML			
	comp=N,178μm,0.7s							
VTS	**Vitosha**	**3.64**	**55**	⇑P		**Pn**	**04 23 28.7**	**-1.1**
VTS				⇑S		**Sn**	**04 24 11.1**	**-1.1**
VTS	**Vitosha**	**3.64**	**55**	*e*Pn		**Pn**	**04 23 30.4**	**+0.6**
VTS				*e*Sn		**Sn**	**04 24 11.0**	**-1.3**
VTS	**Vitosha**	**3.64**	**55**	AML	AML			
	comp=N,113μm,0.7s							
VTS				AML	AML			
	comp=E,59μm,0.7s							
VTS	**Vitosha**	**3.64**	**55**	*i* P		**Pn**	**04 23 30.3**	**+0.5**
MSRU	**Castanea**	**3.68**	**232**	AML	AML			
	comp=E,250μm,1.1s							
MSRU				AML	AML			
	comp=N,177μm,1.2s							
FRES	**Fresagrandinar**	**3.69**	**294**	AML	AML			
	comp=N,224μm,1.5s							
FRES				AML	AML			
	comp=E,384μm,0.7s							
ZAPS	**Zavoj**	**3.71**	**42**	*e*Pn		**Pn**	**04 23 31.6**	**+1.0**
SGG	**Gregorio Mates**	**3.74**	**284**	AML	AML			
	comp=N,496μm,0.5s							
SGG				AML	AML			
	comp=E,615μm,0.6s							
TRUS	**Trudelj**	**3.75**	**13**	*e*Pn		**Pn**	**04 23 32.9**	**+1.8**
MIDA	**Miranda**	**3.89**	**287**	AML	AML			
	comp=E,400μm,0.5s							
MIDA				AML	AML			
	comp=E,367μm,0.6s							
MIDA				AML	AML			
	comp=N,444μm,0.7s							
MIDA				AML	AML			
	comp=N,351μm,0.6s							
ZAGS	**Zajecar**	**3.94**	**34**	*e*Pn		**Pn**	**04 23 33.7**	**+0.1**
SVIS	**Svilajnac**	**3.97**	**21**	*e*Pn		**Pn**	**04 23 34.6**	**+0.5**
TEKS	**Tekeris**	**3.97**	**3**	*e*Pn		**Pn**	**04 23 35.9**	**+1.7**
TEKS	**Tekeris**	**3.97**	**3**	*e*Pn		**Pg**	**04 23 48.0**	**-2.4**
BLKB	**Belogradchik**	**3.99**	**39**	⇓S		**Sn**	**04 24 19.6**	**-1.0**
KIJV	**Kijevo**	**4.00**	**330**	*e*Pn		**Pn**	**04 23 36.1**	**+1.5**
KIJV				Sn		**Sn**	**04 24 20.9**	**0.0**
CERA	**Filignano**	**4.05**	**286**	AML	AML			
	comp=N,648μm,0.8s							
CERA				AML	AML			
	comp=E,408μm,0.6s							
CERA				AML	AML			
	comp=E,406μm,0.6s							
CERA				AML	AML			
	comp=N,643μm,0.8s							
ZIRJ	**Zirje**	**4.05**	**320**	*e*Pn		**Pn**	**04 23 35.7**	**+0.4**
ZIRJ				Sn		**Sn**	**04 24 20.9**	**-1.3**
LPEL	**Lama dei Pelig**	**4.05**	**293**	AML	AML			
	comp=N,313μm,0.6s							
LPEL				AML	AML			
	comp=E,339μm,1.2s							
NOV	**Novara**	**4.06**	**232**	AML	AML			
	comp=E,174μm,0.6s							
NOV				AML	AML			
	comp=N,134μm,0.7s							
MGRS	**Mrkonjic Grad**	**4.14**	**338**	*e*Pn		**Pn**	**04 23 38.0**	**+1.5**
MORI	**Morici**	**4.18**	**323**	*e*Pn		**Pn**	**04 23 37.9**	**+0.9**
INTR	**Introdacqua**	**4.24**	**291**	AML	AML			
	comp=E,350μm,1.1s							
INTR				AML	AML			
	comp=N,616μm,0.6s							
RZN	**Rozhen**	**4.31**	**73**	*i* P		**Pn**	**04 23 40.5**	**+1.6**
VVLD	**Vila Vallelon**	**4.40**	**289**	AML	AML			
	comp=N,210μm,1.1s							
VVLD				AML	AML			
	comp=E,222μm,0.6s							
VCEL	**Villa Celiera**	**4.42**	**296**	AML	AML			
	comp=N,403μm,0.9s							
VCEL				AML	AML			
	comp=E,392μm,1.4s							
BLY	**Banja Luka**	**4.42**	**341**	*e*Pn		**Pn**	**04 23 39.1**	**-1.2**
AGST	**Augusta-Monte**	**4.54**	**224**	AML	AML			
	comp=N,166μm,1.6s							
AGST				AML	AML			
	comp=E,144μm,1.6s							
FAGN	**Fagnano**	**4.55**	**294**	AML	AML			
	comp=N,364μm,0.7s							
FAGN				AML	AML			
	comp=E,472μm,0.5s							
DUGI	**Dugi Otok**	**4.59**	**319**	*e*Pn		**Pn**	**04 23 43.5**	**+0.8**
FRGS	**Fruska Gora**	**4.59**	**5**	⇑P		**Pn**	**04 23 44.9**	**+2.2**
FRGS	**Fruska Gora**	**4.59**	**5**	*e*Pn		**Pn**	**04 23 44.0**	**+1.3**
FRGS	**Fruska Gora**	**4.59**	**5**	*e*Pn		**Pn**	**04 23 41.1**	**-1.6**
AQU	**L'Aquila**	**4.71**	**294**	*e*Pn		**Pn**	**04 23 46.3**	**+2.0**
PRIJ	**Prijedor**	**4.76**	**338**	*e*Pn		**Pn**	**04 23 48.6**	**+3.7**
VAE	**Valguarnera**	**4.85**	**232**	Pn	Pn		04 23 51.6	+5.3
	comp=E,1.7nm,0.3s,baz=152,slow=18,SNR=1.7							
HERR	**Herculane**	**4.90**	**28**	⇓P		**Pn**	**04 23 47.0**	**0.0**
PLIT	**Plitvice**	**5.04**	**330**	*e*Pn		**Pn**	**04 23 50.4**	**+1.5**
LNSS	**Leonessa**	**5.04**	**296**	AML	AML			
	comp=N,178μm,1.4s							
LNSS				AML	AML			
	comp=E,227μm,0.4s							
NRCA	**Norcia**	**5.08**	**298**	AML	AML			
	comp=E,242μm,0.4s							
NRCA				AML	AML			
	comp=N,250μm,0.4s							
NVLJ	**Novalja**	**5.11**	**323**	*e*Pn		**Pn**	**04 23 50.7**	**+1.0**
NVLJ				Sn		**Sn**	**04 24 46.7**	**-1.4**
RABC	**Rab**	**5.29**	**323**	*e*Pn		**Pn**	**04 23 53.0**	**+0.7**
BZS	**Buzias**	**5.33**	**19**	⇑P		**Pn**	**04 23 52.6**	**-0.2**
MOSL	**Moslavina**	**5.34**	**341**	*e*Pn		**Pn**	**04 23 52.4**	**-0.5**
GZR	**Gura Zlata**	**5.48**	**27**	⇑P		**Pn**	**04 23 55.2**	**+0.4**
KOVH	**Kovagotottos**	**5.56**	**352**	PN		**Pn**	**04 23 56.1**	**+0.1**
KOVH				SN		**Sn**	**04 24 55.0**	**-4.3**
OZLJ	**Ozalj**	**5.73**	**333**	*e*Pn		**Pn**	**04 23 59.7**	**+1.5**
SMRN	**Sveta Marina**	**5.80**	**322**	*e*Pn		**Pn**	**04 23 59.8**	**+0.7**
PTJ	**Puntijarka**	**5.82**	**337**	*e*Pn		**Pn**	**04 23 59.1**	**-0.5**
RIY	**Rijeka**	**5.87**	**325**	*e*Pn		**Pn**	**04 24 00.7**	**+0.4**
RIY	**Rijeka**	**5.87**	**325**	*e*Pn		**Pn**	**04 24 00.6**	**+0.4**
KALN	**Kalnik**	**5.90**	**341**	*e*Pn		**Pn**	**04 24 00.1**	**-0.5**
BRJN	**Brijuni**	**5.90**	**319**	*e*Pn		**Pn**	**04 24 01.2**	**+0.7**
GBRS	**Gornja Briga**	**5.90**	**328**	*e*Pn		**Pn**	**04 24 02.0**	**+1.3**
GBRS				*i* Sn		**Sn**	**04 25 06.4**	**-1.3**
CRES	**Cresnjev**	**5.91**	**334**	*e*Pn		**Pn**	**04 24 01.4**	**+0.6**
LOBO	**Lobor**	**6.02**	**339**	*e*Pn		**Pn**	**04

ABTA	**Abfaltersbach**	**7.84**	**324**	*e*Pn		**Pn**	**04 24 29.0**	**+1.7**
	comp=N,2.0nm,0.4s							
ABTA				*e*Sn		**Sn**	**04 25 52.4**	**-3.1**
	comp=N,17nm,0.6s							
PGF	**Pioggiola**	**7.90**	**288**	*e*Pn		**Pn**	**04 24 28.3**	**+0.1**
PGF	**Pioggiola**	**7.90**	**288**	*e*P		**Pn**	**04 24 32.8**	**+4.6**
PGF				*e*Sn		**Sn**	**04 25 51.9**	**-5.2**
	comp=N,3.4nm,0.5s							
MOA	**Molln**	**8.08**	**336**	*e*Pn		**Pn**	**04 24 32.0**	**+1.4**
	comp=N,3.5nm,0.2s							
MOA				*e*Sn		**Sn**	**04 25 58.2**	**-3.2**
	comp=N,4.8nm,0.4s							
BIOA	**Bad Ischl, Aus**	**8.15**	**332**	*e*Pn		**Pn**	**04 24 33.5**	**+1.9**
	comp=N,3.2nm,0.3s							
BIOA				*e*Sn		**Sn**	**04 26 01.1**	**-2.1**
	comp=N,4.1nm,0.5s							
WTTA	**Wattenberg**	**8.62**	**323**	*e*Pn		**Pn**	**04 24 40.1**	**+1.9**
	comp=N,1.4nm,0.3s							
WATA	**Walderalm**	**8.71**	**323**	*e*Pn		**Pn**	**04 24 40.9**	**+1.6**
	comp=N,2.3nm,0.3s							
SQTA	**Sankt Quirin**	**8.79**	**322**	*e*Pn		**Pn**	**04 24 42.1**	**+1.7**
	comp=N,2.1nm,0.3s							
FETA	**Feichten**	**8.88**	**319**	*e*Pn		**Pn**	**04 24 46.0**	**+4.2**
	comp=N,0.9nm,0.4s							
MOTA	**Moosalm**	**8.93**	**322**	*e*Pn		**Pn**	**04 24 43.8**	**+1.4**
	comp=N,5.6nm,0.5s							
MOTA				*e*Sn		**Sn**	**04 26 20.8**	**-1.6**
	comp=N,4.7nm,0.5s							
CKRC	**Cesky Krumlov**	**8.94**	**339**	*e*PN		**Pn**	**04 24 43.8**	**+1.4**
CKRC				*e*SN		**Sn**	**04 26 18.6**	**-3.9**
GERES	**GERESS Array B**	**9.14**	**336**	Pn		**Pn**	**04 24 45.0**	**-0.2**
	comp=N,0.5nm,0.3s,baz=139,slow=15,SNR=8.7							
GERES				Sn		**Sn**	**04 26 23.1**	**-4.3**
	comp=N,0.8nm,0.3s,baz=152,slow=23,SNR=6.0							
KEST	**Kesra**	**9.15**	**241**	Pn		Pn	04 24 53.8	+8.5
	comp=N,0.1nm,0.3s,baz=281,slow=20,SNR=2.4							
DAVOX	**Davos/Dischmat**	**9.16**	**316**	Pn		**Pn**	**04 24 46.9**	**+1.3**
	comp=N,0.5nm,0.3s,baz=255,slow=15,SNR=2.4							
DAVOX				Sn		**Sn**	**04 26 27.5**	**-0.7**
	comp=N,0.8nm,0.3s,baz=325,slow=19,SNR=4.1							
RETA	**Reutte**	**9.19**	**321**	*e*Pn		**Pn**	**04 24 47.9**	**+2.0**
	comp=N,0.8nm,0.3s							
SBF	**Sospel**	**9.33**	**294**	*e*Pn		**Pn**	**04 24 47.0**	**-0.7**
SBF	**Sospel**	**9.33**	**294**	*e*P		**Pn**	**04 24 52.1**	**+4.4**
SBF				*e*Sn		**Sn**	**04 26 27.0**	**-5.0**
	comp=N,6.9nm,0.5s							
KHC	**Kasperske Hory**	**9.43**	**337**	*e*PN		**Pn**	**04 24 50.9**	**+1.8**
KHC				*ex*		x	04 25 03.0	
KHC				*e*SN		**Sn**	**04 26 30.2**	**-4.4**
FRF	**La Foret Royal**	**9.80**	**292**	*e*Pn		Pn	04 24 50.0	-4.2
FRF				*e*Sn		**Sn**	**04 26 37.8**	**-5.8**
	comp=N,2.9nm,0.5s							
LMR	**La Mourre**	**9.85**	**290**	*e*Sn		**Sn**	**04 26 42.9**	**-1.8**
	comp=N,1.8nm,0.6s							
MBDF	**Montbardon**	**10.05**	**298**	*e*Pn		**Pn**	**04 24 57.8**	**+0.1**
MBDF				*e*Sn		**Sn**	**04 26 43.4**	**-6.5**
	comp=N,0.5nm,0.2s							
LPG	**La Plagne**	**10.35**	**302**	*e*Pn		**Pn**	**04 25 00.7**	**-1.3**
LPG	**La Plagne**	**10.35**	**302**	*e*P		Pn	04 25 06.8	+4.8
LPG				*e*Sn		Sn	04 26 43.2	-14
	comp=N,1.1nm,0.2s							
LPL	**La Plagne**	**10.37**	**302**	*e*Pn		**Pn**	**04 25 01.0**	**-1.2**
LPL	**La Plagne**	**10.37**	**302**	*e*P		**Pn**	**04 25 06.8**	**+4.6**
LPL				*e*Sn		Sn	04 26 43.2	-15
	comp=N,4.2nm,0.4s							
SMRF	**Simiane la Rot**	**10.65**	**293**	*e*Pn		Pn	04 25 02.1	-3.8
SMRF	**Simiane la Rot**	**10.65**	**293**	*e*P		**Pn**	**04 25 10.0**	**+4.1**
SMRF				*e*Sn		**Sn**	**04 26 58.1**	**-6.4**
	comp=N,0.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**10.71**	**298**	*e*Pn		**Pn**	**04 25 05.7**	**-1.0**
ORIF				*e*Sn		Sn	04 26 59.1	-7.0
	comp=N,0.1nm,0.2s							
BRTR	**Keskin Array B**	**11.08**	**90**	Pn		**Pn**	**04 25 14.4**	**+2.5**
	comp=N,0.1nm,0.3s,baz=277,slow=13,SNR=4.3							
CABF	**La Chapelle**	**11.25**	**307**	*e*Pn		**Pn**	**04 25 12.9**	**-1.2**
CABF	**La Chapelle**	**11.25**	**307**	*e*P		Pn	04 25 19.7	+5.6
CABF				*e*Sn		**Sn**	**04 27 12.3**	**-7.0**
	comp=N,3.2nm,0.4s							
HINF	**Hinteralfeld**	**11.43**	**313**	*e*P		**Pn**	**04 25 19.7**	**+3.2**
HINF				*e*Sn		Sn	04 27 16.3	-7.3
	comp=N,1.3nm,0.2s							
VIVF	**Saint-Julien-l**	**11.51**	**297**	*e*Pn		**Pn**	**04 25 16.3**	**-1.3**
CDF	**Champ du Feu**	**11.56**	**317**	*e*Pn		**Pn**	**04 25 16.9**	**-1.4**
CDF	**Champ du Feu**	**11.56**	**317**	*e*P		Pn	04 25 23.7	+5.4
CDF				*e*Sn		Sn	04 27 18.9	-7.8
	comp=N,1.4nm,0.3s							
HAU	**Haudompre**	**11.82**	**313**	*e*Pn		**Pn**	**04 25 20.5**	**-1.3**
HAU	**Haudompre**	**11.82**	**313**	*e*P		Pn	04 25 27.9	+6.1
HAU				*e*Sn		Sn	04 27 25.4	-7.6
	comp=N,8.7nm,0.4s							
LASF	**Ste Croix**	**11.88**	**292**	*e*Pn		Pn	04 25 18.0	-4.7
SMF	**Signal de Mont**	**12.67**	**304**	*e*Pn		**Pn**	**04 25 32.0**	**-1.4**
SMF	**Signal de Mont**	**12.67**	**304**	*e*P		P	04 25 39.6	-5.0
SMF				*e*Sn		Sn	04 27 42.7	-11
	comp=N,3.3nm,0.4s							
LOR	**Lormes**	**12.91**	**306**	*e*Pn		**Pn**	**04 25 35.4**	**-1.3**
	baz=126							
LOR				*e*Sn		Sn	04 27 51.7	-8.1
	comp=N,3.6nm,0.4s							
MTLF	**Montolieu**	**12.94**	**288**	*e*Pn		**Pn**	**04 25 36.6**	**-0.5**
AVF	**Avril sur Loir**	**13.03**	**304**	*e*Pn		**Pn**	**04 25 37.6**	**-0.7**
AVF	**Avril sur Loir**	**13.03**	**304**	*e*P		**Pn**	**04 25 41.0**	**+2.7**
AVF				*e*Sn		Sn	04 27 55.1	-7.6
	comp=N,1.2nm,0.5s							
SSF	**Saint Saulge**	**13.04**	**305**	*e*Pn		**Pn**	**04 25 37.0**	**-1.5**
SSF				*e*Sn		Sn	04 27 53.7	-9.3
	comp=N,3.0nm,0.5s							
BGF	**Bois d'Agland**	**13.27**	**302**	*e*Pn		**Pn**	**04 25 42.1**	**+0.5**
BGF				*e*Sn		Sn	04 28 00.0	-8.5
	comp=N,3.5nm,0.5s							
TCF	**Toulx Ste Croi**	**13.59**	**300**	*e*Pn		**Pn**	**04 25 47.3**	**+1.3**
TCF				*e*Sn		Sn	04 28 07.9	-8.5
MMAI	**Mount Meron Ar**	**15.00**	**115**	LR		LR	04 33 19.2	
	comp=N,51nm,21.9s,baz=188,slow=43							
ESDC	**Sonseca Array**	**17.74**	**275**	P		**P**	**04 26 42.8**	**+1.9**
	comp=N,0.1nm,0.3s,baz=73,slow=9.5,SNR=5.1							
KBZ	**Khabaz**	**17.83**	**72**	P		**Pn**	**04 26 40.9**	**-0.3**
	comp=N,0.1nm,0.3s,baz=350,slow=11,SNR=2.6							
HFS	**Hagfors**	**19.87**	**352**	P		**P**	**04 27 04.7**	**+0.6**
	comp=N,0.2nm,0.3s,baz=190,slow=7.3,SNR=2.3							
MDT	**Midelt**	**20.57**	**255**	P		Pn	04 27 15.3	+1.0
	comp=N,2.4nm,1.0s,baz=289,slow=23,SNR=3.9							
EKA	**Eskdalemuir Ar**	**20.89**	**322**	P		Pn	04 27 16.7	-1.0
	comp=N,0.4nm,0.5s,baz=116,slow=13,SNR=2.6							
NB2	**NORSAR Subarra**	**21.07**	**349**	P		**P**	**04 27 17.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**21.07**	**349**	P		**P**	**04 27 17.5**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=161,slow=9.7,SNR=6.8							
FINES	**FINESS Array B**	**21.31**	**9**	P		**P**	**04 27 19.2**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=169,slow=11,SNR=4.9							
BELG	**Belogornoye**	**22.70**	**49**	P		**P**	**04 27 33.7**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=93,slow=1.9,SNR=4.4							
AKTO	**Aktyubinsk**	**28.63**	**57**	P		**P**	**04 28 28.3**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=268,slow=5.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**31.35**	**214**	P		**P**	**04 28 57.2**	**+3.5**
	comp=Z,0.4nm,0.7s,baz=20,slow=14,SNR=3.2							
ZALV	**Zalesovo Beam**	**44.88**	**50**	P		**P**	**04 30 47.2**	**0.0**
	comp=Z,2.0nm,0.4s,baz=280,slow=8.9,SNR=8.3							
MKAR	**Makanchi Array**	**44.95**	**60**	P		**P**	**04 30 47.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=283,slow=7.6,SNR=10							
SONM	**Songino Array**	**59.73**	**51**	P		**P**	**04 32 37.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=280,slow=8.5,SNR=4.4							
PSI	**Prapat**	**80.37**	**95**	LR		LR	05 15 41.1	
	comp=Z,349nm,18.9s,baz=214,slow=40							

*JSN **16** 05:00:03.3±1.1, 18°.12N×76°.74W, h15km±15km, MD2.6*
*SSNC **16** 05:00:04.3±1.4, 18°.37N×76°.84W, h17km±17km, MD2.7, ML1.7, MW2.7*

ISC 16 05:00:00.8±1.9, **18°.3N**±0°.1×**76°.77W**±0°.04, **h13**km±22km, **n9, s0.83/14, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STH	**Stony Hill**	**0.27**	**188**	*i* P		**Pg**	**05 00 06.3**	**-0.1**
HOJ	**Hope**	**0.34**	**177**	*i* P		**Pg**	**05 00 06.6**	**-1.0**
CMJ	**Castle Mountai**	**0.43**	**118**	*i* P		**Pb**	**05 00 10.3**	**+0.1**
MTDJ	**Mount Denham**	**0.74**	**261**	*e*P		**Pb**	**05 00 15.4**	**-0.1**
MTDJ				*e*S		**Sb**	**05 00 25.9**	**+0.2**
MTDJ				IAML			05 00 27.2	
	comp=Z,32nm,0.1s							
MTDJ				IAML			05 00 27.2	
	54nm,0.1s							
MCJ	**Malvern**	**0.97**	**245**	*i* P		**Pg**	**05 00 19.1**	**-0.4**
MCJ				*i* S		**Sg**	**05 00 32.7**	**+0.6**
LMGC	**Las Mercedes**	**1.73**	**353**	*e*P		**Pn**	**05 00 31.1**	**+0.4**
LMGC				*e*S		**Sn**	**05 00 51.6**	**-1.0**
LMGC				IAML			05 00 53.9	
	comp=N,36nm,0.1s							
LMGC				IAML			05 00 54.0	
	comp=E,34nm,0.1s							
RCC	**Rio Carpintero**	**1.93**	**31**	*e*P		**Pn**	**05 00 34.3**	**+0.9**
RCC				*e*S		**Sn**	**05 00 57.4**	**-0.2**
RCC				IAML			05 01 00.1	
	comp=N,1.0nm,0.1s							
RCC				IAML			05 01 01.0	
	comp=E,1.0nm,0.1s							
GTBY	**Guantanamo Bay**	**2.22**	**45**	*e*P		**Pn**	**05 00 38.5**	**+1.0**
GTBY				*e*S		**Sn**	**05 01 03.3**	**-1.5**
MASC	**Masc**	**3.01**	**52**	*e*S		**Sn**	**05 01 24.0**	**-0.3**

*IDC **16** 05:08:53.1±7.2, 51°.45N×173°.64W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/42, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=183.8km s-min=38.8km az=165.0*
*NEIC **16** 05:08:59.9±1.5, 51°.6N±0°.3×173°.6W±0°.1, h46km±10km, mb3.6/8, Error ellipse: s-maj=37.5km s-min=9.3km az=170.0*

ISC 16 05:08:59.8±2.9, **51°.6N**±0°.5×**173°.59W**±0°.10, **h37**km, **n17, s01/16, mb3.4/4, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSTR	**Great Sitkin T**	**1.60**	**288**	Pn		**Pn**	**05 09 27.3**	**+1.7**
ADK	**Adak**	**1.94**	**279**	Pn		**Pn**	**05 09 29.8**	**-0.4**
KIWB	**Kanaga Island**	**2.22**	**277**			**Pn**	**05 09 34.7**	**+0.6**
NIKH	**Nikolski High**	**3.21**	**63**	Pn		**Pn**	**05 09 48.0**	**+0.3**
UNV	**Unalaska Valle**	**4.85**	**60**	Pn		**Pn**	**05 10 11.2**	**+1.0**
CNPM	**China Poot**	**14.86**	**49**	Pn		**Pn**	**05 12 26.4**	**-0.6**
BRLK	**Bradley Lake**	**15.11**	**49**	Pn		**Pn**	**05 12 29.8**	**-0.6**
BRLK				IAmb		IAmb	05 12 33.4	
	comp=Z,5.2nm,1.2s							
CAST	**Castle Rocks**	**16.42**	**36**			**P**	**05 12 50.7**	**+1.2**
ILAR	**Eielson Array**	**19.07**	**36**	P		**P**	**05 13 18.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=226,slow=8.9,SNR=23							
H24K	**Noodor Dome**	**19.31**	**33**	P		**P**	**05 13 19.4**	**-2.0**
J25K	**Salcha River,**	**19.56**	**38**	P		**P**	**05 13 23.6**	**-0.5**
J25K				IAmb		IAmb	05 13 26.6	
	comp=Z,3.8nm,1.2s							
EGAK	**Eagle**	**21.26**	**39**	P		**P**	**05 13 42.4**	**-0.1**
EGAK				IAmb		IAmb	05 14 03.3	
	comp=Z,3.4nm,0.9s							
HYT	**Haines Junctio**	**21.81**	**51**	P		**P**	**05 13 49.8**	**+1.3**
INK	**Inuvik**	**25.42**	**34**	P		**P**	**05 14 23.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=222,slow=7.8,SNR=4.4							
INK	**Inuvik**	**25.42**	**34**	IAmb		IAmb	05 14 43.3	
	comp=Z,2.7nm,1.4s							
YKA	**Yellowknife Ar**	**32.69**	**47**	P		**P**	**05 15 28.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=269,slow=7.7,SNR=4.1							
MKAR	**Makanchi Array**	**62.38**	**311**	P		**P**	**05 19 17.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=49,slow=7.5,SNR=2.3							

IDC 16 05:20:27.4±4.7, **4°.17S×153°.06E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/39, mbtmp3.6/2, Error ellipse: s-maj=240.7km s-min=52.8km az=121.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.05**	**228**	P		P	05 25 44.5	-0.1
	0.9nm,0.4s,baz=53,slow=9.3,SNR=5.7							
ASAR	**Alice Springs**	**26.79**	**222**	P		P	05 26 09.3	0.0
	0.2nm,0.3s,baz=50,slow=8.6,SNR=1.8							
TORD	**Torodi Ar. Bea**	**150.35**	**289**	PKPbc		PKPbc	05 40 21.6	-0.3
	0.3nm,0.4s,baz=74,slow=2.5,SNR=4.1							

*PRU **16** 05:22:01.4±0.0, 43°.68N×14°.93E, h0km*
*LDG **16** 05:22:08.5±0.3, 44°.11N×14°.71E, h10km, Ml2.9/17, Error ellipse: s-maj=6.1km s-min=2.9km az=133.0*
*VIE **16** 05:22:08.8±0.6, 44°.19N×14°.65E, h8km, mb2.8/18, ml2.9/18, Error ellipse: s-maj=5.1km s-min=3.2km az=158.0 130 km S of Rijeka*
*BEO **16** 05:22:09.7±0.8, 44°.29N×14°.59E, h4km±5km, ML3.1/9*

ISC 16 05:22:07.7±1.2, **44°.21N**±0°.02×**14°.48E**±0°.03, **h3**km±9km, **n99, s1.90/149, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NVLJ	**Novalja**	**0.45**	**38**	*e*Pg		**Pg**	**05 22 15.7**	**-0.8**
NVLJ				Sg		**Sg**	**05 22 21.6**	**-0.7**
DUGI	**Dugi Otok**	**0.47**	**117**	*i* Pg		**Pg**	**05 22 16.7**	**0.0**
DUGI				Sg		**Sg**	**05 22 23.8**	**+1.0**
RABC	**Rab**	**0.58**	**22**	*i* Pg		**Pg**	**05 22 18.1**	**-0.8**
RABC				Sg		**Sg**	**05 22 26.4**	**-0.2**
SMRN	**Sveta Marina**	**0.86**	**345**	*e*Pg		**Pg**	**05 22 23.9**	**-0.3**
BRJN	**Brijuni**	**0.87**	**324**	*e*Pg		**Pb**	**05 22 25.7**	**+0.3**
BRJN				Sg		**Sb**	**05 22 38.2**	**+0.7**
A250A	**Rusevo Krmpots**	**0.93**	**19**	*e*Pg		**Pg**	**05 22 24.6**	**-1.0**
A250A				Sg		**Sg**	**05 22 38.3**	**+0.7**
MORI	**Morici**	**0.95**	**111**	*e*Pg		**Pg**	**05 22 25.3**	**-0.6**
MORI				Sg		**Sg**	**05 22 39.8**	**+1.5**
UDBI	**Udbina**	**0.98**	**70**	*e*Pg		**Pg**	**05 22 25.4**	**-1.0**
ZIRJ	**Zirje**	**1.01**	**123**	*e*Pg		**Pg**	**05 22 26.2**	**-0.8**
ZIRJ				Sg		**Sg**	**05 22 41.6**	**+1.5**
PLIT	**Plitvice**	**1.06**	**50**	*e*Pg		**Pg**	**05 22 26.3**	**-1.7**
PLIT				Sg		**Sg**	**05 22 41.1**	**-0.6**
RIY	**Rijeka**	**1.12**	**0**	*e*Pg		**Pg**	**05 22 28.8**	**-0.3**
RIY				*e*Sg		**Sg**	**05 22 42.8**	**-0.8**
RIY	**Rijeka**	**1.12**	**0**	*e*Pn		**Pg**	**05 22 29.0**	**-0.1**
RIY	**Rijeka**	**1.12**	**0**	*e*Pg		**Pg**	**05 22 29.0**	**-0.1**
SKDS	**Skadanscina**	**1.38**	**346**	*e*Pn		**Pg**	**05 22 33.5**	**-0.6**
BOJS	**Bojanci**	**1.41**	**23**	*e*Pg		**Pn**	**05 22 33.1**	**-1.1**
BOJS				*e*Sg		**Sg**	**05 22 51.8**	**-1.1**
BOJS	**Bojanci**	**1.41**	**23**	*i* Pn		**Pn**	**05 22 32.8**	**-1.4**
BOJS				*i* Sn		**Sg**	**05 22 52.3**	**-0.6**
BOJS				IAML			05 22 56.3	
	comp=Z,48nm,0.3s							
CEY	**Cerknica**	**1.53**	**359**	*e*Pg		**Pn**	**05 22 36.1**	**+0.1**
CEY				*e*Sg		**Sb**	**05 22 55.6**	**-0.9**
CEY	**Cerknica**	**1.53**	**359**	*e*Pn		**Pn**	**05 22 35.9**	**-0.1**
OZLJ	**Ozalj**	**1.57**	**26**	*e*Pn		**Pn**	**05 22 36.6**	**+0.1**
OZLJ				Sn		**Sn**	**05 22 57.8**	**+0.5**
A251A	**Rujevac**	**1.57**	**54**	*i* Pn		**Pn**	**05 22 37.2**	**+0.7**
A251A				*i* Sn		**Sg**	**05 22 59.0**	**+0.7**
VISS	**Visnje**	**1.62**	**9**	*e*Pn		**Pn**	**05 22 37.4**	**+0.3**
VISS				*i* Sn		**Sg**	**05 23 00.1**	**+0.5**
VISS				IAML			05 23 07.1	
	comp=Z,16nm,0.0s							
CRES	**Cresnjev**	**1.76**	**23**	*e*Pn		**Pn**	**05 22 39.8**	**+0.7**
HVAR	**Hvar**	**1.76**	**125**	*e*Pn		**Pn**	**05 22 39.6**	**+0.6**
HVAR				Sn		**Sn**	**05 23 03.0**	**+1.0**
PRIJ	**Prijedor**	**1.77**	**64**	*e*Pn		**Pn**	**05 22 40.2**	**+1.0**
LJU	**Ljubljana**	**1.84**	**1**	*e*Pg		**Pn**	**05 22 41.1**	**+1.0**
LJU				*e*Sg		**Sn**	**05 23 04.7**	**+0.8**
LJU	**Ljubljana**	**1.84**	**1**	*e*Pn		**Pn**	**05 22 41.1**	**+1.0**
MGRS	**Mrkonjic Grad**	**1.88**	**83**	*e*Pn		**Pn**	**05 22 41.5**	**+0.7**
ZAG	**Zagreb**	**1.94**	**33**	*e*Pn		**Pn**	**05 22 42.7**	**+1.2**
ZAG	**Zagreb**	**1.94**	**33**	*e*Pn		**Pn**	**05 22 42.8**	**+1.2**
PTJ	**Puntijarka**	**2.00**	**31**	*e*Pn		**Pn**	**05 22 42.2**	**-0.3**
BLY	**Banja Luka**	**2.01**	**73**	*e*Pg		**Pn**	**05 22 43.8**	**+1.2**
BLY				*e*Sg		**Sb**	**05 23 10.6**	**+0.3**
BLY	**Banja Luka**	**2.01**	**73**	*e*Pn		**Pn**	**05 22 43.7**	**+1.2**
AQU	**L'Aquila**	**2.01**	**203**	*e*Pn		**Pn**	**05 22 43.5**	**+0.9**
RICI	**Ricice**	**2.05**	**109**	*e*Pn		**Pn**	**05 22 44.2**	**+1.1**
RICI				Sn		**Sb**	**05 23 11.8**	**+0.3**
MOSL	**Moslavina**	**2.14**	**48**	*e*Pn		**Pn**	**05 22 43.7**	**-0.2**
LOBO	**Lobor**	**2.25**	**29**	*e*Pn		**Pn**	**05 22 45.6**	**-0.2**
LSTV	**Lastovo**	**2.27**	**128**	*e*Pn		**Pn**	**05 22 47.5**	**+1.5**
LSTV				Sn		**Sn**	**05 23 16.2**	**+1.6**
OBKA	**Obir**	**2.30**	**1**	Pn		**Pn**	**05 22 47.5**	**+0.9**
	comp=Z,2.7nm,0.2s,SNR=14							
KALN	**Kalnik**	**2.38**	**35**	*e*Pn		**Pn**	**05 22 47.0**	**-0.6**
MYKA	**Terra Mystica**	**2.49**	**347**	Pn		**Pn**	**05 22 50.5**	**+1.3**
	comp=Z,3.8nm,0.4s							
SOKA	**Soboth**	**2.50**	**9**	*e*Pn		**Pn**	**05 22 49.8**	**+0.5**
	comp=Z,1.4nm,0.2s,SNR=7.6							
STON	**Ston**	**2.70**	**119**	*e*Pn		**Pn**	**05 22 53.2**	**+1.3**
STON				*e*Sn		**Sn**	**05 23 26.7**	**+1.7**
STON	**Ston**	**2.70**	**119**	*e*Pn		**Pn**	**05 22 53.8**	**+1.9**
STON	**Ston**	**2.70**	**119**	*e*Pn		**Pn**	**05 22 53.3**	**+1.3**
BEHE	**Becsehely**	**2.78**	**35**	PN		**Pn**	**05 22 53.6**	**+0.5**
BEHE				SN		**Sb**	**05 23 31.3**	**-1.2**
ABTA	**Abfaltersbach**	**2.89**	**332**	Pn		**Pn**	**05 22 56.2**	**+1.5**
	comp=Z,2.3nm,0.3s,SNR=6.9							
ABTA				Pg		**Pg**	**05 23 05.3**	**+2.2**
	comp=Z,19nm,0.6s							
KBA	**Koelnbreinsper**	**2.98**	**345**	*e*Pn		**Pn**	**05 22 57.3**	**+1.3**
	comp=Z,1.9nm,0.3s,SNR=4.8							
DBRK	**Dubrovnik**	**3.08**	**119**	*e*Pn		**Pn**	**05 22 58.8**	**+1.5**
ARSA	**Arzberg**	**3.13**	**13**	*e*Pn		**Pn**	**05 22 58.2**	**+0.3**
	comp=Z,1.2nm,0.3s							
KOVH	**Kovagotottos**	**3.18**	**52**	PN		**Pn**	**05 22 58.2**	**-0.4**
KOVH				SN		**Sn**	**05 23 35.0**	**-1.9**
TREB	**Trebinje**	**3.19**	**117**	*e*Pn		**Pn**	**05 23 01.6**	**+2.9**
BRY	**Bratogost**	**3.23**	**112**	*e*Pn		**Pn**	**05 23 03.3**	**+3.9**
UPM	**Unac-Piva**	**3.36**	**106**	*e*Pn		**Pb**	**05 23 06.1**	**-2.0**
HCY	**Herceg Novi**	**3.42**	**120**	*e*Pn		**Pn**	**05 23 05.1**	**+3.2**
BIOA	**Bad Ischl, Aus**	**3.53**	**351**	*e*Pn		**Pn**	**05 23 04.5**	**+1.0**
	comp=Z,3.5nm,0.3s							
BBLS	**Lazići**	**3.57**	**94**	*e*Pn		**Pn**	**05 23 03.6**	**-0.4**
BBLS				*e*Sn		**Sn**	**05 23 46.4**	**-0.3**
BBLS	**Lazići**	**3.57**	**94**	*e*Pn		**Pb**	**05 23 13.6**	**+2.1**
RUDO	**Rudo**	**3.58**	**98**	*e*Pn		**Pn**	**05 23 07.5**	**+3.4**
MOA	**Molln**	**3.65**	**358**	*e*Pn		**Pn**	**05 23 05.3**	**+0.4**
	comp=Z,1.8nm,0.2s,SNR=6.7							
WTTA	**Wattenberg**	**3.65**	**328**	*e*Pn		**Pn**	**05 23 07.4**	**+2.3**
	comp=Z,3.1nm,0.3s,SNR=7.0							
WTTA				*e*Sn		**Sn**	**05 23 53.5**	**+4.7**
	comp=Z,4.6nm,0.4s							
MPLH	**Magyarpolny**	**3.66**	**35**	PN		**Pn**	**05 23 04.8**	**-0.3**
MPLH				SN		**Sn**	**05 23 50.4**	**+1.7**
WATA	**Walderalm**	**3.73**	**328**	*e*Pn		**Pn**	**05 23 08.8**	**+2.6**
	comp=Z,16nm,0.4s,SNR=12							
SQTA	**Sankt Quirin**	**3.78**	**324**	*i* Pn		**Pn**	**05 23 09.6**	**+2.6**
	comp=Z,18nm,0.4s,SNR=20							
CONA	**Conrad Observa**	**3.84**	**14**	*i* Pn		**Pn**	**05 23 08.3**	**+0.5**
	comp=Z,1.1nm,0.2s,SNR=7.1							
FETA	**Feichten**	**3.85**	**318**	*e*Pn		**Pn**	**05 23 10.6**	**+2.6**
	comp=Z,1.1nm,0.3s,SNR=6.3							
PDG	**Podgorica**	**3.91**	**115**	*e*Pn		**Pn**	**05 23 10.5**	**+1.9**
FRGS	**Fruska Gora**	**3.92**	**74**	*e*Pn		**Pb**	**05 23 15.4**	**-2.0**
MOTA	**Moosalm**	**3.92**	**324**	*e*Pn		**Pn**	**05 23 11.7**	**+2.8**
	comp=Z,16nm,0.4s,SNR=22							
MOTA				*e*Sn		**Sn**	**05 23 58.5**	**+2.9**
	comp=Z,11nm,0.7s							
DIVS	**Divibare**	**3.97**	**90**	*e*Pn		**Pn**	**05 23 10.3**	**+0.8**
DIVS				*e*Sn		**Sn**	**05

MJAR	Matsushiro Arr	4.99	234	Pn		Pn		05 24 22.2	+0.7
	0.8nm,0.3s,baz=36,slow=12,SNR=28								
MJAR	Matsushiro Arr	4.99	234			Pn		05 24 22.6	+1.1
MAJO	Matsushiro	5.00	234			Pn		05 24 22.6	+1.1
MJB9	Matsu-Tunnel	5.00	234			Pn		05 24 22.6	+1.1
JGF	Kuroka	6.13	231			Pn		05 24 38.6	+1.5
KSRS	Korea Array	12.16	265	Pn		Pn		05 26 00.2	+0.5
	0.3nm,0.3s,baz=85,slow=14,SNR=4.8								
KLR	Kul'dur	12.61	323	Pn		Pn		05 26 03.8	-2.0
	0.1nm,0.3s,baz=151,slow=13,SNR=2.4								
MA2	Magadan	20.55	11	P		P		05 27 44.5	-0.5
	4.2nm,0.7s,baz=191,slow=9.2,SNR=3.6								
MA2	Magadan	20.55	11	IAmb		IAmb		05 27 55.2	
	comp=Z,14nm,1.4s								
SEY	Seymchan	24.00	10	P		P		05 28 20.9	-0.2
	comp=Z,1.0nm,0.4s,baz=184,slow=7.6,SNR=8.2								
SONM	Songino Array	27.63	299	P		P		05 28 54.3	0.0
	comp=Z,0.6nm,0.3s,baz=86,slow=8.1,SNR=5.2								
H11N2	WAKE ISLAND Hy	28.43	127	T		T		05 59 42.0	
	baz=318,slow=75,SNR=40								
H11N1	WAKE ISLAND Hy	28.43	127	T		T		05 59 51.9	
	baz=318,slow=75,SNR=31								
H11N3	WAKE ISLAND Hy	28.44	127	T		T		05 59 47.5	
	baz=318,slow=75,SNR=37								
ZALV	Zalesovo Beam	41.27	310	P		P		05 30 51.5	-0.2
	comp=Z,1.8nm,0.6s,baz=89,slow=7.6,SNR=3.6								
NRIK	Noril'sk	41.54	334	P		P		05 30 53.6	-0.1
	comp=Z,1.9nm,0.5s,baz=108,slow=5.6,SNR=5.2								
IMAR	Indian Mountai	43.72	32	P		P		05 31 13.3	+1.8
MK31	Makanchi Array	43.99	300	P		P		05 31 13.3	-0.7
MK31				IAmb		IAmb		05 31 14.5	
	comp=Z,2.3nm,0.9s								
MKAR	Makanchi Array	43.99	300	P		P		05 31 13.8	-0.2
	comp=Z,1.8nm,0.6s,baz=84,slow=9.5,SNR=18								
MKAR	Makanchi Array	43.99	300	P		P		05 31 13.4	-0.6
KURK	Kurchatov	45.49	306	P		P		05 31 25.2	-0.7
ILAR	Eielson Array	46.56	34	P		P		05 31 33.6	-0.5
	comp=Z,0.4nm,0.8s,baz=277,slow=6.2,SNR=5.1								
INK	Inuvik	51.45	28	P		P		05 32 12.2	+0.7
	comp=Z,0.7nm,0.7s,baz=308,slow=1.6,SNR=3.5								
WRA	Warramunga Arr	59.82	190	P		P		05 33 15.4	+3.2
	comp=Z,0.5nm,0.5s,baz=8.7,slow=7.0,SNR=8.1								
YKA	Yellowknife Ar	60.87	31	P		P		05 33 17.6	-1.3
	comp=Z,0.1nm,0.6s,baz=298,slow=6.2,SNR=1.8								
FINES	FINESS Array B	67.19	332	P		P		05 33 59.6	-0.7
	comp=Z,2.6nm,1.0s,baz=28,slow=8.6,SNR=4.6								
HFS	Hagfors	72.31	336	P		P		05 34 30.9	-1.1
	comp=Z,0.8nm,0.4s,baz=15,slow=6.3,SNR=5.6								
NB2	NORSAR Subarra	72.34	338	P		P		05 34 31.5	-0.7
	comp=Z,0.6nm,0.7s,baz=36,slow=6.5								
NOA	NORSAR Array B	72.34	338	P		P		05 34 31.6	-0.7
	comp=Z,0.8nm,0.6s,baz=38,slow=5.9,SNR=6.4								
AKASG	Malin Array Be	73.11	323	P		P		05 34 35.7	-1.2
	comp=Z,0.4nm,0.4s,baz=44,slow=6.9,SNR=2.6								
LPIG	La Paz	86.70	61	P		P		05 35 53.2	+2.3
	comp=Z,34nm,0.3s,baz=4.5,slow=1.7,SNR=4.9								

TUL ***16*** *05:31:27.8±0.5, 36.84N±0.02×98.28W±0.03, h5km±7km, ML3.2, mb_Lg3.0/79(NEIC), Error ellipse: s-maj=3.7km s-min=1.2km az=131.0*

NEIC ***16*** *05:31:28.2±0.5, 36.83N±0.03×98.27W±0.04, h9km±7km, Error ellipse: s-maj=5.8km s-min=1.3km az=134.0*

ANF ***16*** *05:31:29.9±2.5, 36.82N×98.22W, h16km±19km, ML4.0/14, Error ellipse: s-maj=5.7km s-min=4.3km az=37.0*

ISC 16 05:31:27.7±0.8, 36.84N±0.04×98.29W±0.04, h10km, n61, σ1s85/31, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
U32A	Winter Ranch,	0.74	232	Pg		Pg	05 31 42.4	+0.5
T35A	Sooner Cattle	1.42	86			Pn	05 31 54.1	+0.5
OKCFA	Oklahoma City	1.57	154	IAmb_Lg			05 32 19.3	
	comp=Z,117nm,0.9s							
R32A	Long Quarter,	1.62	348	Pn		Pn	05 31 57.7	+1.4
W35A	Tecumseh	2.04	145			Pn	05 32 02.5	+0.5
WMOK	Wichita Mounta	2.14	191			Pn	05 32 04.5	+1.1
WMOK	Wichita Mounta	2.14	191	P		Pn	05 32 04.6	+1.1
	baz=11							
WMOK				Sb		Sb	05 32 34.6	+1.6
	baz=11							
TUL1	Leonard	2.21	114	P		Pn	05 32 06.3	+1.8
	baz=295							
TUL1				Sb		Sb	05 32 36.3	+1.0
	baz=295							
X34A	Smith Ranch, M	2.26	171	IAmb_Lg			05 32 41.8	
	comp=Z,60nm,0.8s							
CBKS	Cedar Bluff	2.28	330	P		Pn	05 32 07.1	+1.6
	baz=149							
CBKS				S		Sb	05 32 37.8	+0.5
	baz=149							
KSU1	Kansas State U	2.62	30	Sb		Sg	05 32 50.5	-1.3
	baz=210							
X37A	Clayton	3.27	133	IAmb_Lg			05 33 19.0	
	comp=Z,42nm,0.8s							
AMTX	Amarillo	3.38	236	Pb		Pb	05 32 29.7	+2.0
	baz=54							
HHAR	Hobbs	3.54	98	Pn		Pn	05 32 23.6	+0.8
HHAR				IAmb_Lg			05 33 29.5	
	comp=Z,33nm,0.7s							
Z35A	Perchaven, San	3.60	166	IAmb_Lg			05 33 30.7	
	comp=Z,40nm,1.1s							
N33A	J Bar K, Exete	3.95	9	IAmb_Lg			05 33 37.1	
	comp=Z,38nm,0.7s							
W39A	Magazine	4.00	113	Sb		Sg	05 33 33.0	-3.1
	baz=296							
S39A	Bolivar	4.05	76			Pn	05 32 30.8	+1.1
S39A				IAmb_Lg			05 33 35.2	
	comp=Z,28nm,0.8s							
KSCO	Kaye Shedlock'	4.06	304	P		Pn	05 32 31.7	+1.7
	baz=121							
U40A	Yellville	4.40	95			Pn	05 32 35.0	+0.5
U40A	Yellville	4.40	95	P		Pn	05 32 35.3	+0.8
	baz=278							
MIAR	Mount Ida	4.46	119	IAmb_Lg			05 33 49.6	
	comp=Z,35nm,0.8s							
MIAR	Mount Ida	4.46	119	P		Pn	05 32 37.1	+1.7
	baz=302							
Z38A	Mt. Pleasant	4.48	142	IAmb_Lg			05 33 54.1	
	comp=Z,41nm,0.7s							
BGNE	Belgrade	4.56	1			Pn	05 32 37.5	+0.7
BGNE	Belgrade	4.56	1	P		Pn	05 32 38.2	+1.3
	baz=181							
MGMO	Mountain Grove	4.83	84	IAmb_Lg			05 34 01.2	
	comp=Z,38nm,0.8s							
WHTX	Lake Whitney,	4.88	172			Pn	05 32 41.9	+0.7
WHTX	Lake Whitney,	4.88	172	P		Pn	05 32 42.1	+0.9
	baz=352							
R40A	Maddies Statio	4.99	71			Pn	05 32 43.1	+0.4
R40A				IAmb_Lg			05 34 15.6	
	comp=Z,21nm,0.9s							
X40A	Basin Creek Fa	5.02	116	IAmb_Lg			05 34 19.8	
	comp=Z,25nm,0.8s							
X40A	Basin Creek Fa	5.02	116	P		Pn	05 32 44.6	+1.6
	baz=299							
OGNE	Ogallala	5.04	326	P		Pn	05 32 45.9	+2.6
	baz=143							
FCAR	Ozark Folk Cen	5.06	99	IAmb_Lg			05 34 05.3	
	comp=Z,27nm,0.8s							
WHAR	Wooly Hollow	5.10	106	IAmb_Lg			05 34 16.3	
	comp=Z,38nm,0.8s							
W41B	Gary Mavity, V	5.17	107	IAmb_Lg			05 34 09.7	
	comp=Z,25nm,0.8s							
W41B	Gary Mavity, V	5.17	107	P		Pn	05 32 45.9	+0.8
	baz=290							
237A	Washetta, Mont	5.24	156	IAmb_Lg			05 34 25.7	
	comp=Z,21nm,0.8s							
WLAR	White Oak Lake	5.27	125	IAmb_Lg			05 34 24.5	
	comp=Z,22nm,0.8s							
N38A	Joes South For	5.58	43	IAmb_Lg			05 34 37.3	
	comp=Z,38nm,0.7s							
P40A	Paris	5.60	59	IAmb_Lg			05 34 28.6	
	comp=Z,36nm,0.9s							
Z41A	Richland Creek	5.74	127	IAmb_Lg			05 34 34.0	
	comp=Z,28nm,0.8s							
LCAR	Lake Charles	5.80	95	IAmb_Lg			05 34 34.9	
	comp=Z,29nm,0.7s							
Q24A	Divide	5.83	293	IAmb_Lg			05 34 41.0	
	comp=Z,19nm,0.7s							
435B	Jarrell	6.07	174	IAmb_Lg			05 34 45.7	
	comp=Z,26nm,0.8s							
FVM	French Village	6.36	77	IAmb_Lg			05 34 50.7	
	comp=Z,18nm,0.7s							
SCIA	State Center	6.40	36	IAmb_Lg			05 34 59.8	
	comp=Z,31nm,0.7s							
ISCO	Idaho Springs	6.47	299	P		Pn	05 33 04.5	+1.2
	baz=115							
SLM	Saint Louis	6.62	72	IAmb_Lg			05 34 57.3	
	comp=Z,18nm,0.9s							
ANMO	Albuquerque	6.90	257	Sb		Sg	05 35 02.8	-6.3
	baz=72							
N41A	Harden Midland	6.97	54	IAmb_Lg			05 35 21.9	
	comp=Z,24nm,0.8s							
ECSD	EROS Data Cent	7.00	10	IAmb_Lg			05 35 13.1	
	comp=Z,13nm,1.0s							
ECSD	EROS Data Cent	7.00	10	S		Sn	05 34 28.0	-1.9
	baz=191							
S44A	Carbondale	7.25	81	IAmb_Lg			05 35 33.1	
	comp=Z,17nm,0.8s							
P43A	Skaggs, Pawnee	7.44	65	IAmb_Lg			05 35 36.0	
	comp=Z,23nm,0.7s							
SUSD	Miller	7.61	356	IAmb_Lg			05 35 49.6	
	comp=Z,19nm,0.9s							
Q44A	Meyer Farm, Va	7.61	72	IAmb_Lg			05 35 42.2	
	comp=Z,20nm,0.8s							
HDIL	Hopedale	7.95	59	IAmb_Lg			05 35 51.3	
	comp=Z,23nm,0.8s							
O44A	Mansfield	8.38	64	IAmb_Lg			05 36 07.5	
	comp=Z,20nm,1.1s							
RSSD	Black Hills	8.49	331	IAmb_Lg			05 36 05.6	
	comp=Z,9.9nm,0.9s							
JFWS	Jewell Farm	8.66	43	IAmb_Lg			05 36 05.6	
	comp=Z,19nm,0.8s							

IDC ***16*** *06:02:29.5±1.2, 39.61N×143.26E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/57, mbtmp3.9/14, ML2.9/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/91, Error ellipse: s-maj=28.4km s-min=19.0km az=149.0*

NIED ***16*** *06:02:30.6, 39.48N×143.48E, h35km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.69; Mθθ-0.00; Mφφ-0.69; Mrθ0.54; Mθφ-0.24; Mφr0.58; Fault plane solution: M0 1.08000×10^15 NP1:φ36.00000°, δ69.00000°, λ104.00000°. NP2:φ180.00000°, δ25.00000°, λ57.00000°.*

JMA ***16*** *06:02:30.5±0.2, 39.48N×143.48E, h35km, M4.2*

NEIC ***16*** *06:02:35±2.6, 39.55N±0.07×143.2E±0.1, h34km±7km, mb4.3/4, Error ellipse: s-maj=17.8km s-min=8.6km az=114.0*

ISC 16 06:02:34.1±0.8, 39.51N±0.06×143.31E±0.08, h35km, n50, σ0s83/44, mb4.0/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	Miyakonagasawa	1.16	274	P		Pn	06 02 52.8	-0.9
MIYJ				eS		Sn	06 03 08.7	+0.4
JTH	Tanohata	1.20	292	P		Pn	06 02 53.4	-0.9
OFUJ	Ofunato	1.34	252	P		Pn	06 02 55.4	-0.9
JOM	Ohasama	1.56	269	P		Pn	06 02 59.2	-0.1
JANG	Nango	1.63	303	P		Pn	06 02 58.9	-1.4
JMK	Ichinoseki	1.71	252	P		Pn	06 03 01.0	-0.4
JIO	Ouri	1.85	236	P		Pn	06 03 02.1	-1.2
JIO				eS		Sn	06 03 24.3	-1.2
JRG	Rokugo	2.08	268	P		Pn	06 03 05.5	+0.1
JTM	Tenmibayashi	2.14	307			Pn	06 03 07.5	+0.2
JYK	Kaneyama	2.37	257	P		Pn	06 03 10.6	+0.2
ERM	Erimo	2.51	357	Pn		Pn	06 03 12.2	-0.1
JOT	Ohata	2.55	318	P		Pn	06 03 13.5	+0.6
JMM	Marumori	2.56	231			Pn	06 03 11.8	-1.2
JNBK	Urakawa-nobuka	2.80	352	P		Pn	06 03 16.3	-0.1
JNBK				eS		Sn	06 03 49.7	+0.7
JFT	Otama	3.06	231	P		Pn	06 03 19.3	-0.7
JCH	Churui	3.11	1	P		Pn	06 03 19.3	-1.3
JCH				eS		Sn	06 03 55.1	-1.3
JEW	Eniwo	3.62	338	Pn		Pn	06 03 28.9	+1.4
JSD	Sado	4.21	251	Pn		Pn	06 03 36.1	+0.4
MAJO	Matsushiro	5.00	235			Pn	06 03 47.7	+1.1
MJAR	Matsushiro Arr	5.00	235	Pn		Pn	06 03 46.1	-0.5
	0.9nm,0.3s,baz=38,slow=11,SNR=44							
MJAR				LR		LR	06 05 58.6	
	comp=Z,161nm,18.5s,baz=154,slow=42							
MJAR	Matsushiro Arr	5.00	235			Pn	06 03 47.8	+1.2
MJB9	Matsu-Tunnel	5.00	235			Pn	06 03 47.6	+1.0
JGF	Kuroka	6.13	232			Pn	06 04 02.4	+0.3
USRK	Ussuriysk Ar.	9.66	303	Pn		Pn	06 04 49.3	-1.2
	baz=105,slow=17,SNR=2.4							
USRK				LR		LR	06 08 27.6	
	comp=Z,80nm,20.2s,baz=139,slow=37							
KSRS	Korea Array	12.23	265	Pn		Pn	06 05 27.1	+1.4
	0.3nm,0.3s,baz=96,slow=13,SNR=4.4							
KSRS				LR		LR	06 09 51.7	
	comp=Z,96nm,18.0s,baz=65,slow=36							
KLR	Kul'dur	12.75	323	LR		LR	06 10 47.6	
	comp=Z,161nm,18.4s,baz=38,slow=39							
SEY	Seymchan	24.09	10	P		P	06 07 45.6	-0.4
	1.4nm,0.3s,baz=165,slow=6.5,SNR=7.0							
GUMO	Guam	25.85	177	LR		LR	06 18 22.5	
	comp=Z,32nm,18.8s,baz=122,slow=37							
SONM	Songino Array	27.75	300	P		P	06 08 18.9	-0.6
	1.4nm,0.7s,baz=89,slow=8.3,SNR=4.2							
SONM	Songino Array	27.75	300	IAmb		IAmb	06 08 26.8	
	comp=Z,2.3nm,1.0s							
H11N2	WAKE ISLAND Hy	28.29	127	T		T	06 37 59.4	
	baz=320,slow=75,SNR=40							
H11N1	WAKE ISLAND Hy	28.30	127	T		T	06 37 52.0	
H11N3	WAKE ISLAND Hy	28.31	127	T		T	06 37 57.0	
	baz=314,slow=75,SNR=26							
ZALV	Zalesovo Beam	41.40	310	P		P	06 10 16.1	-0.7
	comp=Z,1.5nm,0.5s,baz=91,slow=6.6,SNR=4.5							
IMAR	Indian Mountai	43.77	32	P		P	06 10 37.0	+1.3
RSO	Redoubt South	44.05	40	P		P	06 10 37.8	-0.5
MKAR	Makanchi Array	44.12	300	P		P	06 10 39.1	+0.2
	comp=Z,1.9nm,0.6s,baz=85,slow=11,SNR=5.8							
MKAR	Makanchi Array	44.12	300	P		P	06 10 39.7	+0.8
KURK	Kurchatov	45.62	306	P		P	06 10 50.8	0.0
KURBB	Kurchatov Arra	45.70	306	P		P	06 10 51.0	-0.4
	comp=Z,5.1nm,0.7s,baz=80,slow=8.4,SNR=3.3							
ILAR	Eielson Array	46.61	34	P		P	06 10 58.4	0.0
	comp=Z,0.6nm,0.7s,baz=256,slow=6.6,SNR=9.3							
INK	Inuvik	51.51	28	P		P	06 11 36.8	+1.1
	comp=Z,1.3nm,1.0s,baz=302,slow=6.4,SNR=6.9							
INK	Inuvik	51.51	28	IAmb		IAmb	06 11 42.3	
	comp=Z,3.5nm,1.2s							
ABKAR	Akbulak array	57.51	310	P		P	06 12 20.0	+0.4
ABKAR				IAmb		IAmb	06 12 32.0	
	comp=Z,2.0nm,0.6s							
WRA	Warramunga Arr	59.73	190	P		P	06 12 36.4	+1.1
	comp=Z,0.4nm,0.8s,baz=7.6,slow=6.9,SNR=2.0							
YKA	Yellowknife Ar	60.92	31	P		P	06 12 43.3	+0.3
	comp=Z,0.2nm,0.5s,baz=301,slow=5.1,SNR=6.6							
FINES	FINESS Array B	67.32	332	P		P	06 13 23.9	-1.1
	comp=Z,2.7nm,0.8s,baz=38,slow=9.6,SNR=4.8							
NB2	NORSAR Subarra	72.48	338	P		P	06 13 56.8	+0.1
	comp=Z,0.8nm,0.7s,baz=38,slow=5.9							
NOA	NORSAR Array B	72.48	338	P		P	06 13 57.1	+0.4
	comp=Z,0.9nm,0.6s,baz=37,slow=5.9,SNR=4.5							
MMAI	Mount Meron Ar	81.74	306	LR		LR	06 54 23.1	
	comp=Z,56nm,18.3s,baz=18,slow=38							

IDC ***16*** *06:03:55.8±1.1, 35.53N×3.88W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/49, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=33.5km s-min=20.5km az=89.0*

SFS ***16*** *06:03:57.0, 35.40N×3.70W, ML3.1, ALBORAN SUR*

IGIL ***16*** *06:03:57.6, 35.46N×3.80W, h1km, ML2.9*

MDD ***16*** *06:03:58.2±0.4, 35.43N×3.77W, h7km±3km, mb_Lg2.9/13, Error ellipse: s-maj=3.9km s-min=2.0km az=158.0*

CNRM ***16*** *06:03:58.0, 35.35N×3.84W, h6km, ml3.4*

LDG ***16*** *06:03:58.6±0.3, 35.33N×3.76W, h10km, Ml2.9/3, Error ellipse: s-maj=7.4km s-min=3.2km az=176.0*

ISC 16 06:03:58.6±0.7, 35.46N±0.02×3.80W±0.02, h21km±3km, n73, σ1s72/124, mb3.8/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVLZ	Peæn de	0.50	235	P		Pb	06 04 08.1	-0.6
PVLZ				S		Sb	06 04 15.6	+0.1
EMEL	Melilla	0.71	103	Pg		Pb	06 04 11.3	-1.0
EMEL				Sg		Sb	06 04 20.1	-1.5
EALB	Alboran	0.79	52	Pg		Pb	06 04 12.8	-0.8
EALB				Sg		Sb	06 04 23.4	-0.4
TAF	Taforalt	1.31	119	P		Pb	06 04 23.0	+0.6
TAF	Taforalt	1.31	119	P		Pn	06 04 20.0	-1.7
TAF				S		Sb	06 04 40.0	+1.1
CHEFC	Chefchaouen	1.31	255	P		Pb	06 04 22.1	-0.4
CHEFC	Chefchaouen	1.31	255	P		Pb	06 04 22.9	+0.4
CHEFC				S		Sb	06 04 40.9	+2.1
SMIR	Smir Dam	1.31	280	P		Pn	06 04 19.4	-2.2
SMIR				S		Sn	06 04 37.1	-1.4
CEU	Ceuta	1.35	289	P		Pn	06 04 18.8	-3.4
CEU				S		Sn	06 04 35.5	-4.0
EMIJ	Mijas	1.35	325	Pn		Pn	06 04 21.1	-1.3
EMIJ				Sn		Sn	06 04 38.7	-1.0
EMIJ				*i*	Vmb_Lg		06 04 46.0	
EMAL	Malaga-Limoner	1.40	339	P		Pn	06 04 21.8	-1.1
EMAL				S		Sn	06 04 39.4	-1.3
ELGU	Los Guajares,	1.41	6	Pn		Pn	06 04 21.7	-1.5
ELGU				Sn		Sn	06 04 39.6	-1.6
JBK	JBK	1.51	138	P		Pn	06 04 24.0	-0.7
JBK	JBK	1.51	138	P		Pn	06 04 22.9	-1.8
JBK				S		Sb	06 04 49.0	+4.1
EBER	Berja	1.61	27	Pn		Pn	06 04 24.6	-1.4
EBER				Sn		Sn	06 04 44.8	-1.5
EGOR	Sierra Gorda,	1.67	351	Pn		Pn	06 04 26.2	-0.6
EGOR				Sn		Sb	06 04 49.1	-0.2
EGOR				*i*	Vmb_Lg		06 04 55.5	
EJIF	Jimena Fronter	1.68	307	Pn		Pn	06 04 26.5	-0.2
EQUE	Quentar	1.77	9	Pn		Pn	06 04 28.2	+0.2
EQUE				Sn		Sn	06 04 50.1	+0.1
SICH	Sidi Chahed	1.84	223	P		Pb	06 04 30.6	-0.9
SICH				S		Sb	06 04 54.1	0.0
LIJA	Lijar	1.94	319	P		Pb	06 04 34.0	+0.7
LIJA				S		Sb	06 04 57.3	+0.2
LCRM	LCR	1.97	207	P		Pn	06 04 32.0	+1.0
LCRM	LCR	1.97	207	P		Pn	06 04 31.7	+0.7
LCRM				S		Sb	06 04 57.1	-1.0
ENIJ	Nijar	1.98	40	Pn		Pn	06 04 29.5	-1.5
ENIJ				Sn		Sn	06 04 53.3	-1.9
ESPR	Espera	2.18	311	Pn		Pn	06 04 34.7	+1.1
ESPR				Sn		Sn	06 05 02.1	+2.1
ESPR				*i*	Vmb_Lg		06 05 08.3	
IFR	Ifrane	2.23	210	P		Pn	06 04 34.4	-0.1
IFR				S		Sn	06 05 00.3	-1.1
EQES	Quesada	2.41	14	Pn		Pn	06 04 38.6	+1.6
EQES				Sn		Sn	06 05 07.8	+1.8
CZD	Col de Zad	2.63	203	P		Pn	06 04 40.3	+0.2
CZD				S		Sn	06 05 12.9	+1.3
MD31	MD31	2.71	197	P		Pn	06 04 42.2	+1.2
MD31				S		Sn	06 05 13.5	+0.4
MDT	Midelt	2.72	194	Pn		Pn	06 04 41.5	+0.2
	2.7nm,0.3s,baz=181,slow=12,SNR=52							
MDT				Sn		Sn	06 05 13.0	-0.5
	10.0nm,0.3s,baz=14,slow=23,SNR=5.6							
MDT	Midelt	2.72	194	P		Pn	06 04 41.3	+0.1
MDT	Midelt	2.72	194	P		Pn	06 04 41.3	+0.1
MDT				S		Sn	06 05 14.5	+0.9
EADA	Adamuz	2.77	347	Pn		Pn	06 04 42.7	+0.8
EADA				Sn		Sn	06 05 16.1	+1.3
TDRA	Tendrara	2.83	148	P		Pn	06 04 43.2	+0.5
TDRA				S		Sn	06 05 18.0	+1.8
ECAB	El Cabril	2.92	334	Pn		Pn	06 04 44.7	+0.9
ECAB				Sn		Sn	06 05 20.3	+2.0
ECAB				*i*	Vmb_Lg		06 05 29.7	
EZAR	Zarzadilla de	2.95	34	Pn		Pn	06 04 43.8	-0.5
EZAR				Sn		Sn	06 05 17.5	-1.5
CART	Cartagena	3.10	46	P		Pn	06 04 43.1	-3.2
CART				S		Sn	06 05 16.2	-6.4
CART	Cartagena	3.10	46	P		Pn	06 04 44.5	-1.8
CART				S		Sn	06 05 18.3	-4.3
EMIN	Mina Concepcio	3.26	316	Pn		Pn	06 04 48.4	-0.2
EMIN				Sn		Sn	06 05 26.6	-0.1
EGRO	El Granado	3.62	306	Pn		Pn	06 04 53.3	-0.1
EGRO				Sn		Sn	06 05 34.7	-0.8
ETOB	Tobarra	3.65	29	Pn		Pn	06 04 55.6	+1.6
ETOB				Sn		Sn	06 05 37.6	+1.0
ETOB				*i*	Vmb_Lg		06 05 39.2	
AVE	Averroes	3.68	235	P		Pn	06 04 56.0	+1.7
AVE				S		Sn	06 05 36.1	-1.1
PVAQ	Vaqueiros	3.71	303	S		Sn	06 05 33.8	-3.9
PAB	San Pablo	4.10	354	Pn		Pn	06 05 01.1	+1.0
PAB				Sn		Sn	06 05 46.9	-0.7
PAB				*i*	Vmb_Lg		06 06 05.8	
AFON	Font Roja	4.13	38	Pn		Pn	06 05 01.8	+1.3
AFON				Sn		Sn	06 05 47.8	-0.4
AFON				*i*	Vmb_Lg		06 05 51.1	
EBAD	Badajoz	4.17	323	Pn		Pn	06 05 01.0	-0.1
EBAD				Sn		Sn	06 05 48.3	-0.9
EBAD				*i*	Vmb_Lg		06 05 53.1	
ESDC	Sonseca Array	4.21	358	Pn		Pn	06 05 01.5	-0.1
	0.5nm,0.3s,baz=177,slow=13,SNR=24							
ESDC				Sn		Sn	06 05 49.8	-0.4
	0.7nm,0.3s,baz=181,slow=16,SNR=2.1							
ESDC	Sonseca Array	4.21	358	Pn		Pn	06 05 02.3	+0.7
ESDC				Sn		Sn

	0.1nm,0.3s,baz=55,slow=14,SNR=7.3						
KURBB				Lg	Lg	06 18 13.0	
	0.1nm,0.3s,baz=63,slow=30,SNR=3.1						
KURBB	**Kurchatov Arra**	**6.28**	**237**	⇓Pn	**Pn**	**06 16 30.8**	**+1.8**
	6.8nm,1.5s						
KURBB				⇑Sn	**Sn**	**06 17 41.6**	**+0.1**
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	06 18 11.1	
	4.4nm,0.8s						
MK31	**Makanchi Array**	**8.07**	**203**	⇓Pn	**Pn**	**06 16 53.2**	**-0.3**
	0.1nm,0.3s,baz=31,slow=14,SNR=4.7						
MK31				⇑Sn	**Sn**	**06 18 24.2**	**-1.2**
	0.8nm,0.7s						
MK31				⇓Lg	Lg	06 19 07.0	
	2.3nm,0.8s,baz=29,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**8.07**	**203**	Pn	**Pn**	**06 16 55.2**	**+1.7**
	0.1nm,0.3s,baz=26,slow=13,SNR=4.2						
MKAR				Sn	**Sn**	**06 18 24.8**	**-0.6**
	0.1nm,0.3s,baz=25,slow=26,SNR=3.7						
MKAR				Lg	Lg	06 19 09.3	
	0.0nm,0.3s,baz=18,slow=33,SNR=3.8						

*IDC **16** 06:33:09.4±1.0, 1°.74N×128°.47E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/35, mbtmp3.8/8, ML3.7/1, Error ellipse: s-maj=67.2km s-min=17.2km az=68.0*
*DJA **16** 06:33:13.3±0.5, 2°N±6'×12°9E±°, h10km, M4.2/9, mb4.4/3, MLv4.0/9*

ISC 16 06:33:16.9±0.9, 1°.7N±0°.1×128°.7E±0°.1, h61km, n21, σ1§80/17, mb3.8/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.63**	**235**	P	**Pn**	**06 33 41.3**	**-2.1**
LBMI	**Labuha**	**2.62**	**207**	P	**Pn**	**06 33 57.5**	**+0.6**
SWI	**Sorong**	**3.61**	**135**	P	**Pn**	**06 34 08.3**	**-2.1**
SIJI	**Sorong**	**3.62**	**135**	Pn	**Pn**	**06 34 08.5**	**-2.0**
	5.6nm,0.3s,baz=289,slow=23,SNR=6.2						
KMSI	**Cibinong**	**4.86**	**257**	P	Pn	06 34 42.2	+15
GTOI	**Gorontalo**	**5.79**	**259**	P	**Pn**	**06 34 40.9**	**+0.6**
	0.0nm13nm,1.2s						
MRSI	**Marisa**	**6.87**	**260**	P	**Pn**	**06 34 55.7**	**+0.6**
	0.1nm31nm,1.0s						
TTSI	**Tana Toraja**	**10.06**	**242**	P	**Pn**	**06 35 38.2**	**-0.6**
SPSI	**Sidrap Palu**	**10.56**	**238**	P	**Pn**	**06 35 46.2**	**+0.6**
TBJI	**Tambak Boyo**	**18.84**	**243**	P	**P**	**06 37 27.7**	**-4.4**
KPJI	**Karang Pucung**	**21.68**	**245**	P	**P**	**06 38 05.4**	**+2.6**
WRA	**Warramunga Arr**	**22.21**	**166**	P	**P**	**06 38 08.2**	**-0.3**
	0.8nm,0.6s,baz=344,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**25.72**	**169**	P	**P**	**06 38 43.0**	**+1.2**
	0.9nm,0.9s,baz=348,slow=7.0,SNR=6.4						
STKA	**Stephens Creek**	**35.57**	**161**	P	**P**	**06 40 09.8**	**+1.3**
	1.2nm,0.4s,baz=336,slow=13,SNR=4.5						
KSRS	**Korea Array**	**35.58**	**359**	P	**P**	**06 40 08.7**	**+0.2**
	0.6nm,0.6s,baz=186,slow=9.7,SNR=1.7						
H11N1	**WAKE ISLAND Hy**	**41.40**	**62**	T	T	07 25 04.2	
	baz=249,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**41.41**	**62**	T	T	07 25 06.7	
	baz=249,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**41.42**	**62**	T	T	07 25 04.7	
	baz=249,slow=75,SNR=7.2						
MKAR	**Makanchi Array**	**60.33**	**325**	P	**P**	**06 43 18.7**	**-0.9**
	0.9nm,0.5s,baz=123,slow=8.4,SNR=12						
AKTO	**Aktyubinsk**	**76.46**	**322**	P	**P**	**06 45 00.4**	**+0.2**
	0.8nm,0.7s,baz=101,slow=5.2,SNR=3.6						
VNDA	**Vanda**	**81.19**	**173**	P	**P**	**06 45 26.5**	**+0.9**
	0.9nm,0.8s,baz=307,slow=7.1,SNR=2.4						

*KRNET **16** 06:41:11.8±0.1, 41°.13N×69°.65E, h18km, mb2.6*

ISC 16 06:41:12.4±1.6, 41°.07N±0°.04×69°.69E±0°.06, h5km±16km, n9, σ1§39/17, 13C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**1.19**	**67**	⇑*eP*	**Pb**	**06 41 34.2**	**-1.3**
	baz=73						
TRKS				⇑*iS*	**Sg**	**06 41 50.6**	**0.0**
	baz=73						
BTK	**Batken**	**1.33**	**139**	⇑*eP*	**Pb**	**06 41 37.7**	**-0.1**
	baz=40						
BTK				⇑*iS*	**Sg**	**06 41 56.8**	**+1.8**
	baz=40						
ARK	**Arkit**	**1.86**	**66**	⇓*eP*	**Pb**	**06 41 46.2**	**-0.7**
	baz=68						
ARK				⇓*iS*	**Sg**	**06 42 11.0**	**-1.1**
	baz=68						
GAR	**Garm**	**2.12**	**167**	⇓*iP*	**Pb**	**06 41 50.8**	**-0.6**
	baz=66						
GAR				⇓*iS*	**Sb**	**06 42 19.1**	**+1.1**
	baz=66						
KK09	**Karatay Array**	**2.14**	**16**	⇑Pn	**Pg**	**06 41 53.6**	**+0.2**
	7.3nm,0.6s,baz=198,slow=15						
KK09				⇓Sn	**Sg**	**06 42 23.3**	**+2.1**
	14nm,0.6s,baz=201,slow=26						
DRK	**Karamyk**	**2.26**	**134**	⇑*iP*	**Pb**	**06 41 52.8**	**-1.1**
	baz=34						
DRK				⇑*eS*	**Sb**	**06 42 22.9**	**+0.6**
	baz=34						
OHH	**Osh**	**2.41**	**102**	⇑*iP*	**Pb**	**06 41 54.5**	**-1.8**
	baz=3.0						
OHH				⇑*iS*	**Sb**	**06 42 25.5**	**-0.9**
	baz=3.0						
CHGR	**Chuyangaron**	**2.44**	**190**	⇑*eP*	**Pb**	**06 41 55.0**	**-1.8**
	baz=89						
CHGR				⇑*iS*	**Sb**	**06 42 26.4**	**-0.9**
	baz=89						
ARLS	**Aral**	**3.57**	**76**	⇑*iP*	Pb	06 42 10.8	-5.3
	baz=77						
ARLS				⇑*iS*	**Sn**	**06 42 52.8**	**+1.6**
	baz=77						

*RSNC **16** 06:50:23.1±1.2, 5°.25N×73°.74W, h148km±5km, ML3.1, Mw3.4*
*IDC **16** 06:50:24.0±2.7, 5°.23N×74°.22W, h161km±13km, mb3.0/1, mb1 3.4/1, mb1mx2.9/20, mbtmp3.4/1, Error ellipse: s-maj=201.5km s-min=54.5km az=91.0*

ISC 16 06:50:21.4±1.0, 5°.31N±0°.03×73°.74W±0°.04, h163km±6km, n31, σ1§68/60, 7C-7D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.47**	**316**	⇓*iP*	**Pn**	**06 50 44.5**	**+0.2**
SPBC				*eS*	**Sn**	**06 51 00.7**	**-1.1**
SPBC				*i*		06 51 03.5	
	comp=Z,670nm,0.4s						
CHIC	**Chingaza**	**0.68**	**179**	⇓*iP*	**Pn**	**06 50 45.5**	**-0.3**
CHIC				*eS*	**Sn**	**06 51 01.9**	**-2.5**
CHIC				*i*		06 51 05.8	
	comp=Z,204nm,0.4s						
ROSC	**El Rosal**	**0.74**	**231**	P	**Pn**	**06 50 47.3**	**+1.2**
	comp=Z,55nm,0.3s,baz=102,slow=23,SNR=132						
ROSC				S	**Sn**	**06 51 05.3**	**+0.3**
	comp=Z,107nm,0.3s,baz=214,slow=23,SNR=16						
ROSC	**El Rosal**	**0.74**	**231**	⇓*iP*	**Pn**	**06 50 47.3**	**+1.2**
ROSC				*eS*	**Sn**	**06 51 05.0**	**+0.1**
ROSC				*i*		06 51 08.7	
	comp=Z,301nm,0.5s						
RUSC	**La Rusia**	**0.88**	**48**	⇓*iP*	**Pn**	**06 50 47.9**	**+0.8**
RUSC				*eS*	**Sn**	**06 51 06.3**	**-0.5**
RUSC				*i*		06 51 07.8	
	comp=Z,134nm,0.3s						
NORC	**Norcasia**	**1.15**	**283**	⇑*iP*	**Pn**	**06 50 49.1**	**+0.3**
NORC				⇓*eP*	**Pn**	**06 50 49.1**	**+0.3**
NORC				*eS*	**Sn**	**06 51 08.1**	**-1.7**
NORC				*eS*	**Sn**	**06 51 08.6**	**-1.3**
BARC	**Barichara**	**1.39**	**24**	⇓*eP*	**Pn**	**06 50 51.6**	**+0.4**
BARC				*eS*	**Sn**	**06 51 13.0**	**-1.2**
BARC				*i*		06 51 18.3	
	comp=Z,191nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.41**	**330**	⇑*eP*	**Pn**	**06 50 51.2**	**0.0**
PTBC				*eS*	**Sn**	**06 51 13.1**	**-1.1**
PTBC				*i*		06 51 14.9	
	comp=Z,176nm,0.4s						
GUY2C	**Guyana, Caldas**	**1.62**	**267**	*eP*	**Pn**	**06 50 54.3**	**+0.6**
GUY2C				*eS*	**Sn**	**06 51 17.9**	**-0.6**
GUY2C				*i*		06 51 22.1	
	comp=Z,73nm,0.3s						
PTGC	**Puerto Gaitan,**	**1.94**	**124**	⇓*iP*	**Pn**	**06 50 56.9**	**+0.1**
PTGC				*eS*	**Sn**	**06 51 22.0**	**-2.1**
PTGC				*i*		06 51 26.8	
	comp=Z,233nm,0.3s						
HELC	**Santa Helena**	**1.98**	**296**	⇑*iP*	**Pn**	**06 50 58.5**	**+0.9**
HELC				*eS*	**Sn**	**06 51 24.8**	**-0.6**
HELC				*i*		06 51 28.6	
	comp=Z,85nm,0.2s						
ORTC	**Ortega, Tolima**	**2.04**	**227**	*eP*	**Pn**	**06 50 58.2**	**+0.3**
ORTC				*eS*	**Sn**	**06 51 24.8**	**-1.4**
ORTC				*i*		06 51 28.7	
	comp=Z,68nm,0.2s						
TAMC	**Tame, Arauca**	**2.24**	**60**	*eP*	**Pn**	**06 51 01.4**	**+1.2**
TAMC				*eS*	**Sn**	**06 51 29.7**	**-0.5**
TAMC				*i*		06 51 31.9	
	comp=Z,45nm,0.2s						
PAMC	**Pamplona, Colo**	**2.27**	**27**	*eP*	**Pn**	**06 51 02.1**	**+1.1**
PAMC				*eS*	**Sn**	**06 51 32.8**	**+1.2**
PAMC				*i*		06 51 34.7	
	comp=Z,53nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.33**	**284**	*eP*	**Pn**	**06 51 02.3**	**+1.0**
CBOC				*eS*	**Sn**	**06 51 32.1**	**0.0**
CBOC				*i*		06 51 37.5	
	comp=Z,31nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.44**	**333**	⇑*iP*	**Pn**	**06 51 02.1**	**-0.4**
ZARC				*eS*	**Sn**	**06 51 33.9**	**-0.4**
ZARC				*i*		06 51 40.7	
	comp=Z,212nm,0.2s						
PLMC	**San Jos del P**	**2.56**	**261**	*eS*	**Sn**	**06 51 38.8**	**+1.8**
YOTC	**Yotoco, Valle**	**2.91**	**243**	*eP*	**Pn**	**06 51 09.0**	**+0.6**
YOTC				*eS*	**Sn**	**06 51 40.9**	**-3.9**
OCAC	**Ocana**	**2.94**	**8**	⇑*iP*	**Pn**	**06 51 10.0**	**+1.2**
OCAC				*eS*	**Sn**	**06 51 46.3**	**+0.7**
GUVC	**San Jose del G**	**2.96**	**158**	*eP*	**Pn**	**06 51 08.2**	**-0.7**
GUVC				*eS*	**Sn**	**06 51 43.5**	**-2.3**
GUVC				*i*		06 51 48.7	
	comp=Z,150nm,0.2s						
UREC	**San Jos de Ur**	**3.01**	**324**	⇑*eP*	**Pn**	**06 51 08.7**	**-0.8**
UREC				*eS*	**Sn**	**06 51 45.0**	**-1.8**
UREC				*i*		06 51 47.0	
	comp=Z,96nm,0.2s						
MACC	**Macarena, Meta**	**3.14**	**182**	⇑*iP*	**Pn**	**06 51 10.3**	**-0.9**
MACC				*eS*	**Sn**	**06 51 46.7**	**-3.2**
MACC				*i*		06 51 47.0	
	comp=Z,30nm,0.4s						
GARC	**Garzon, Huila**	**3.56**	**209**	*eP*	**Pn**	**06 51 16.5**	**-0.2**
GARC				*eS*	**Sn**	**06 51 58.8**	**-0.9**
GARC				*i*		06 52 31.6	
	comp=Z,28nm,0.2s						
MOTC	**Monteria, Cord**	**3.94**	**331**	*eP*	**Pn**	**06 51 20.3**	**-1.0**
MOTC				*eS*	**Sn**	**06 52 07.2**	**-0.8**
MOTC				*i*		06 52 09.5	
	comp=Z,33nm,0.2s						
FLOC	**Florencia**	**4.16**	**207**	*eP*	**Pn**	**06 51 24.8**	**+0.6**
SDV	**Santo Domingo**	**4.71**	**41**	*eP*	**Pn**	**06 51 32.8**	**+1.4**
SDV				*eS*	**Sn**	**06 52 24.0**	**-2.1**
SDV				*i*		06 52 30.2	
	comp=Z,9.2nm,0.6s						
SJCC	**San Jacinto, C**	**4.78**	**343**	*eP*	**Pn**	**06 51 31.1**	**-1.1**
SJCC				*eS*	**Sn**	**06 52 23.7**	**-3.9**
SJCC				*i*		06 52 30.0	
	comp=Z,28nm,0.3s						
CRJC	**Cerrejon, Guaj**	**5.74**	**8**	*eP*	**Pn**	**06 51 44.7**	**-0.2**
CRJC				*eS*	**Sn**	**06 52 43.6**	**-6.8**
CRJC				*i*		06 52 50.3	
	comp=Z,23nm,0.2s						
URIC	**Uribia, Colomb**	**6.58**	**15**	*eP*	**Pn**	**06 51 56.3**	**+0.3**
URIC				*eS*	**Sn**	**06 53 07.9**	**-2.4**
URIC				*i*		06 53 19.4	
	comp=Z,3.1nm,0.2s						
YKA	**Yellowknife Ar**	**64.47**	**340**	P	**P**	**07 00 42.4**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=133,slow=6.2,SNR=6.3						
WRA	**Warramunga Arr**	**149.06**	**239**	PKPbc	**PKiKP**	**07 09 52.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=109,slow=2.6,SNR=1.4						

*UPA **16** 07:07:41.4±0.7, 9°.07N×84°.04W, h8km±8km, MW4.2*
*INET **16** 07:07:42.7±0.6, 9°.17N×83°.85W, h18km±3km, MW2.7*

ISC 16 07:07:40.0±1.6, 9°.08N±0°.04×84°.07W±0°.06, h10km±11km, n16, σ0§74/25, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.49**	**52**	*eP*	**Pb**	**07 07 51.1**	**+0.2**
CDM	**Cerro de Muert**	**0.56**	**33**	*eP*	**Pb**	**07 07 52.2**	**-0.1**
CDM				*eS*	**Sb**	**07 08 00.6**	**+0.1**
RIOS	**Rincon, Osa**	**0.67**	**124**	*eP*	**Pg**	**07 07 53.8**	**+0.7**
RIMA	**Rio Macho**	**0.71**	**17**	*eP*	**Pg**	**07 07 54.5**	**+0.6**
RIMA				*eS*	**Sb**	**07 08 04.5**	**-0.1**
DRK0	**Durika**	**0.84**	**77**	*eP*	**Pb**	**07 07 56.5**	**-0.3**
HDC3	**Heredia 3**	**0.92**	**358**	*eP*	**Pg**	**07 07 58.8**	**+1.1**
PIRO	**Carate, Puerto**	**0.99**	**133**	*eP*	**Pb**	**07 07 59.3**	**0.0**
LAFE	**Finca La Fe, P**	**1.10**	**311**	*eP*	**Pn**	**07 08 00.6**	**-0.8**
BATAN	**Batan**	**1.22**	**34**	*eP*	**Pn**	**07 08 03.5**	**+0.3**
BATAN				*eS*	**Sn**	**07 08 20.0**	**+0.2**
MLIR3	**Monte Lirio, C**	**1.27**	**103**	*eS*	**Sn**	**07 08 21.2**	**+0.2**
CDITO	**Canoas**	**1.29**	**113**	*eP*	**Pn**	**07 08 03.8**	**-0.3**
CDITO				*eS*	**Sg**	**07 08 21.1**	**-0.5**
BRU2	**Volcan**	**1.40**	**102**	*eP*	**Pn**	**07 08 06.0**	**+0.3**
BRU2				*eS*	**Sg**	**07 08 25.0**	**0.0**
PTPM	**Petroterminale**	**1.47**	**126**	*eP*	**Pn**	**07 08 06.5**	**0.0**
PTPM				*eS*	**Sb**	**07 08 26.2**	**+0.1**
BCO2	**Palmira**	**1.57**	**103**	*eP*	**Pn**	**07 08 08.5**	**+0.4**
BCO2				*eS*	**Sg**	**07 08 29.0**	**-1.6**
CNI2	**El Empalme, Bo**	**1.62**	**78**	*eP*	**Pn**	**07 08 08.4**	**-0.2**
CNI2				*eS*	**Sg**	**07 08 30.2**	**-1.9**
DVD	**David**	**1.73**	**112**	*eP*	**Pn**	**07 08 11.1**	**+0.9**
DVD				*eS*	**Sb**	**07 08 32.9**	**-0.7**

IDC 16 07:20:53.0±2.4, 54°.33N×86°.04E, h0km, mb1 3.1/2, mb1mx2.9/52, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=18.5km s-min=11.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**243**	*i*		07 26 51.9	
	baz=62,slow=334,SNR=2.8						
ZALV	**Zalesovo Beam**	**0.81**	**243**	Pg	Pg	07 21 07.3	-1.2
	1.8nm,0.3s,baz=64,slow=16,SNR=20						
ZALV				Lg	Lg	07 21 19.9	
	11nm,0.3s,baz=60,slow=29,SNR=45						
KURBB	**Kurchatov Arra**	**5.90**	**234**	Pn	Pn	07 22 23.3	+1.7
	0.2nm,0.3s,baz=50,slow=14,SNR=8.7						
KURBB				Lg	Lg	07 24 01.7	
	0.0nm,0.3s,baz=50,slow=33,SNR=3.1						
MKAR	**Makanchi Array**	**7.91**	**199**	Pn	Pn	07 22 49.6	+0.3
	0.3nm,0.3s,baz=23,slow=10,SNR=11						

*NNC **16** 07:22:58.2±2.5, 54°.56N×86°.97E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=31.4km s-min=13.8km az=164.0, Suspected Mining explosion.*
*IDC **16** 07:23:00.3±2.8, 54°.51N×86°.89E, h0km, mb1 3.3/2, mb1mx3.1/53, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=24.4km s-min=16.1km az=59.0*

ISC 16 07:23:04.7±3.8, 54°.8N±0°.2×83°.67E±0°.09, h0km, n7, σ1§26/10, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**140**	*i*		07 31 40.0	
	baz=66,slow=335,SNR=4.3						
ZAA0	**Zalesovo Array**	**1.05**	**140**	⇓P	**Pg**	**07 23 23.7**	**-1.0**
	1.1nm,0.7s						
ZAA0				⇑S	**Sn**	**07 23 43.6**	**+1.6**
	6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**1.05**	**140**	Pg	**Pg**	**07 23 23.6**	**-1.1**
	1.7nm,0.3s,baz=63,slow=17,SNR=9.3						
ZALV				Lg	Lg	07 23 42.5	
	2.9nm,0.3s,baz=66,slow=27,SNR=8.7						
KURBB	**Kurchatov Arra**	**5.18**	**219**	Pn	**Pb**	**07 24 37.1**	**+1.0**
	0.2nm,0.3s,baz=53,slow=14,SNR=12						
KURBB				Lg	Lg	07 26 25.0	
	0.1nm,0.3s,baz=48,slow=30,SNR=5.3						
KURBB	**Kurchatov Arra**	**5.18**	**219**	⇑Pn	**Pb**	**07 24 36.5**	**+0.4**
	2.9nm,0.6s						
KURBB				⇓Sn	**Sg**	**07 25 49.5**	**-1.5**
	3.4nm,0.5s						
KURBB				⇑Lg	Lg	07 26 21.7	
	10nm,0.7s						
MK31	**Makanchi Array**	**8.01**	**187**	⇓Pn	**Pn**	**07 25 02.5**	**+0.2**
	0.6nm,0.6s,baz=28,slow=13,SNR=17						
MK31				⇓Sn	**Sn**	**07 26 34.7**	**+1.0**
	0.9nm,0.6s,baz=24,slow=26,SNR=5.9						
MK31				⇑Lg	Lg	07 27 23.0	
	0.9nm,0.6s,baz=26,slow=32,SNR=4.9						
MKAR	**Makanchi Array**	**8.01**	**187**	Pn	**Pn**	**07 25 02.0**	**-0.3**
	0.4nm,0.3s,baz=24,slow=12,SNR=16						
MKAR				Sn	**Sn**	**07 26 34.9**	**+1.2**
	0.3nm,0.3s,baz=19,slow=25,SNR=8.2						
MKAR				Lg	Lg	07 27 21.9	
	0.1nm,0.3s,baz=19,slow=27,SNR=4.1						

IDC 16 07:24:13.9±3.5, 54°.29N×87°.63E, h0km, mb1 3.0/2, mb1mx2.8/51, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=29.0km s-min=20.7km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**260**	*i*		07 33 30.0	
	baz=77,slow=336,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.69**	**260**	Pg	Pn	07 24 43.6	-0.9
	baz=74,slow=16,SNR=2.1						
ZALV				Lg	Lg	07 25 07.8	
	1.7nm,0.3s,baz=82,slow=22,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.66**	**240**	Pn	Pn	07 25 53.3	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=5.3						
KURBB				Lg	Lg	07 27 45.2	
	0.0nm,0.3s,baz=52,slow=32,SNR=1.6						
MKAR	**Makanchi Array**	**8.23**	**206**	Pn	Pn	07 26 15.8	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=1.8						
MKAR				Lg	Lg	07 28 35.5	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.9						

*IDC **16** 07:28:04.0±0.9, 39°.39N×143°.37E, h0km, mb3.9/15, mb1 4.0/20, mb1mx3.9/47, mbtmp3.9/20, ML3.3/5, MS3.3/9, Ms1 3.3/9, ms1mx2.9/92, Error ellipse: s-maj=21.0km s-min=16.7km az=115.0*
*JMA **16** 07:28:06.5±0.1, 39°.52N×143°.42E, h33km±4km, M4.4*
*NIED **16** 07:28:06.5, 39°.52N×143°.42E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.46; Mθθ0.18; Mϕϕ-0.65; Mrθ0.53; Mθϕ-0.14; Mϕr1.19; Fault plane solution: M₀1.43000×10¹⁵ NP1:ϕ₀24.00000°, δ79.00000°, λ,98.00000°. NP2:ϕ₀167.00000°, δ14.00000°, λ,54.00000°.*
*NEIC **16** 07:28:09.3±1.0, 39°.52N±0°.07×143°.4E±0°.1, h30km±7km, mb4.3/14 Error ellipse: s-maj=15.1km s-min=7.6km az=119.0*

ISC 16 07:28:09.8±0.7, 39°.49N±0°.06×143°.32E±0°.07, h35km, n84, σ1§16/74, mb4.2/28, MS3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.17**	**275**	P	**Pn**	**07 28 28.1**	**-1.5**
MIYJ				S	**Sn**	**07 28 43.4**	**-0.9**
JTH	**Tanohata**	**1.21**	**292**	P	**Pn**	**07 28 28.8**	**-1.5**
JTH				*eS*	**Sn**	**07 28 45.0**	**-0.4**
OFUJ	**Ofunato**	**1.35**	**253**	P	**Pn**	**07 28 30.9**	**-1.2**
JKEN	**Kujiedanarisaw**	**1.43**	**300**	P	**Pn**	**07 28 31.3**	**-2.0**
JOM	**Ohasama**	**1.57**	**270**	P	**Pn**	**07 28 34.5**	**-0.7**
JOM				*eS*	**Sn**	**07 28 55.0**	**+0.7**
JANG	**Nango**	**1.65**	**303**	P	**Pn**	**07 28 34.5**	**-1.8**
JMK	**Ichinoseki**	**1.72**	**252**	P	**Pn**	**07 28 36.5**	**-0.7**
JIO	**Ouri**	**1.85**	**237**	P	**Pn**	**07 28 38.1**	**-1.0**
JRG	**Rokugo**	**2.08**	**268**	P	**Pn**	**07 28 41.9**	**-0.4**
JTM	**Tenmabayashi**	**2.16**	**308**	P	**Pn**	**07 28 42.1**	**-1.2**
JTM	**Tenmabayashi**	**2.16**	**308**	Pn	**Pn**	**07 28 42.7**	**-0.6**
JAH	**Hinai**	**2.18**	**289**	P	**Pn**	**07 28 43.1**	**-0.5**
JOU	**Okura**	**2.36**	**242**	P	**Pn**	**07 28 45.6**	**-0.5**
JYK	**Kaneyama**	**2.37**	**257**	P	**Pn**	**07 28 46.2**	**0.0**
ERM	**Erimo**	**2.52**	**357**	Pn	**Pn**	**07 28 47.4**	**-0.9**
JMM	**Marumori**	**2.56**	**231**		**Pn**	**07 28 47.7**	**-1.1**
JOT	**Ohata**	**2.57**	**318**	P	**Pn**	**07 28 47.9**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.82**	**351**	P	**Pn**	**07 28 51.8**	**-0.6**
JNBK				*eS*	**Sn**	**07 29 26.0**	**+0.9**
JKB	**Kayabe**	**2.96**	**325**	P	**Pn**	**07 28 53.6**	**-0.7**
JEW	**Eniwo**	**3.63**	**338**		**Pn**	**07 29 06.0**	**+2.5**
JYT	**Yasato**	**4.09**	**218**		**Pn**	**07 29 09.1**	**-0.8**
JSD	**Sado**	**4.21**	**251**		**Pn**	**07 29 11.7**	**+0.2**
JKA	**Kamikawa-asahi**	**4.65**	**354**		**Pn**	**07 29 15.9**	**-1.7**
ASAJ	**Asahikawa**	**4.65**	**354**	Pn	**Pn**	**07 29 15.9**	**-1.7**
	3.2nm,0.3s,baz=182,slow=8.5,SNR=7.8						
ASAJ				LR	LR	07 30 44.7	
	comp=Z,48nm,19.9s,baz=165,slow=34						
MJAR	**Matsushiro Arr**	**5.00**	**236**	Pn	**Pn**	**07 29 21.6**	**-0.8**
	0.9nm,0.3s,baz=36,slow=12,SNR=58						
MJAR				LR	LR	07 31 42.2	
	comp=Z,213nm,18.6s,baz=109,slow=44						
MJAR	**Matsushiro Arr**	**5.00**	**236**		**Pn**	**07 29 23.4**	**+1.1**
MAJO	**Matsushiro**	**5.00**	**236**		**Pn**	**07 29 23.5**	**+1.1**
MJB9	**Matsu-Tunnel**	**5.00**	**236**		**Pn**	**07 29 22.4**	**+0.1**
JGF	**Kuroka**	**6.13**	**233**		**Pn**	**07 29 38.9**	**+1.0**
INU	**Inuyama**	**6.50**	**232**		**Pn**	**07 29 43.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.68**	**303**	Pn	**Pn**	**07 30 27.4**	**+1.0**
	baz=102,slow=12,SNR=5.5						
USRK				LR	LR	07 34 01.0	
	comp=Z,192nm,21.3s,baz=82,slow=37						
MDJ	**Mudanjiang**	**11.42**	**301**	P	**Pn**	**07 30 51.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,230nm,7.4

GUN	**Gumba**	**48.44**	**274**	*e*Pg		**P**	**07 36 52.0 +2.8**
	comp=Z,26nm,0.5s						
KKN	**Kakani**	**48.96**	**275**	*e*P		**P**	**07 36 55.9 +2.8**
PKI	**Pulchoki**	**48.97**	**274**	*e*P		**P**	**07 36 56.2 +2.9**
	comp=Z,5.5nm,0.2s						
PKIN	**Phulchoki**	**48.97**	**274**	*e*P		**P**	**07 36 55.8 +2.6**
	comp=Z,7.3nm,0.4s						
BOOM	**Boomskoye usch**	**49.73**	**297**	P		**P**	**07 36 58.9 +0.1**
BOOM				IAmb		IAmb	07 37 10.1
	comp=Z,4.4nm,0.9s						
DANN	**Dangsing**	**49.85**	**276**	*e*P		**P**	**07 37 00.4 +0.4**
	comp=Z,50nm,0.5s						
BRVK	**Borovoye**	**50.11**	**311**	P		**P**	**07 37 01.3 0.0**
BRVK				IAmb		IAmb	07 37 11.9
	comp=Z,2.9nm,0.8s						
PYUN	**Piuthan**	**50.57**	**276**	*e*P		**P**	**07 37 05.7 +0.4**
AAK	**Ala-Archa**	**50.68**	**297**	LR		LR	07 59 48.2
	comp=Z,71nm,19.0s,baz=50,slow=38						
INK	**Inuvik**	**51.52**	**28**	P		**P**	**07 37 12.7 +1.1**
	comp=Z,0.4nm,0.4s,baz=311,slow=4.9,SNR=4.5						
PSI	**Prapat**	**54.34**	**239**	LR		LR	08 01 24.9
	comp=Z,41nm,19.7s,baz=118,slow=37						
ARU	**Arti**	**55.53**	**318**	P		**P**	**07 37 40.8 -0.4**
	comp=Z,1.3nm,0.5s,baz=117,slow=4.5,SNR=5.3						
ARU	**Arti**	**55.53**	**318**	IAmb		IAmb	07 37 42.2
	comp=Z,4.6nm,0.7s						
ABKAR	**Akbulak array**	**57.52**	**310**	P		**P**	**07 37 55.3 -0.2**
ABKAR	**Akbulak array**	**57.52**	**310**	IAmb		IAmb	07 38 07.8
	comp=Z,3.9nm,0.9s						
AKTO	**Aktyubinsk**	**58.17**	**311**	P		**P**	**07 37 59.8 -0.2**
	comp=Z,1.5nm,0.7s,baz=74,slow=13,SNR=7.1						
WRA	**Warramunga Arr**	**59.72**	**190**	P		**P**	**07 38 09.9 -1.0**
	comp=Z,0.5nm,0.6s,baz=6.7,slow=6.9,SNR=7.4						
YKA	**Yellowknife Ar**	**60.93**	**31**	P		**P**	**07 38 19.3 +0.5**
	comp=Z,0.2nm,0.6s,baz=302,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**63.44**	**190**	P		**P**	**07 38 33.7 -2.4**
	comp=Z,0.2nm,0.7s,baz=9.2,slow=7.5,SNR=1.9						
DZM	**Mont Dzumac**	**64.94**	**156**	LR		LR	08 06 53.4
	comp=Z,34nm,18.5s,baz=94,slow=36						
FINES	**FINESS Array B**	**67.34**	**332**	P		**P**	**07 39 00.6 -0.3**
	comp=Z,2.9nm,0.7s,baz=41,slow=10,SNR=5.4						
GNI	**Garni**	**71.44**	**307**	LR		LR	08 13 40.4
	comp=Z,36nm,18.8s,baz=60,slow=38						
NB2	**NORSAR Subarra**	**72.50**	**338**	P		**P**	**07 39 32.5 -0.1**
	comp=Z,1.0nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**72.50**	**338**	P		**P**	**07 39 32.8 +0.2**
	comp=Z,1.6nm,0.7s,baz=36,slow=5.0,SNR=8.9						
YMR	**Madison River**	**72.89**	**46**	P		**P**	**07 39 34.0 -1.5**
AKASG	**Malin Array Be**	**73.27**	**323**	P		**P**	**07 39 36.8 -0.4**
	comp=Z,0.7nm,0.4s,baz=44,slow=6.1,SNR=5.7						

WEL 16 07:51:33.9±0.4,**39°S**±3°×**17°7E**±°,**h29**km±4km,**M3.4**/18, **ML3.8**/18,**MLv3.4**/18,**Error ellipse: s-maj=0.0km s-min=0.0km az=157.9,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAHZ	**Arahi**	**0.02**	**325**	P	Pb	07 51 39.9	+1.2
RAHZ				S	Sb	07 51 44.7	+2.7
WHHZ	**Waihua**	**0.17**	**144**	P	Pn	07 51 41.1	+0.4
MTHZ	**Maungataniwha**	**0.22**	**292**	P	Pn	07 51 41.3	0.0
MTHZ				S	Sb	07 51 46.8	+2.3
SNGZ	**Shannon Statio**	**0.24**	**50**	P	Pn	07 51 41.5	-0.1
SNGZ				S	Sb	07 51 47.5	+2.6
NMHZ	**Naumai**	**0.28**	**235**	P	Pn	07 51 42.3	+0.1
NMHZ				S	Sn	07 51 49.0	+1.4
RTZ	**Ruatahuna**	**0.33**	**343**	P	Pn	07 51 42.8	-0.1
RTZ				S	Sn	07 51 49.7	+0.9
ARHZ	**Aropaoanui**	**0.34**	**194**	P	Pn	07 51 43.0	+0.1
ARHZ				S	Sn	07 51 50.4	+1.6
KNZ	**Kokohu**	**0.45**	**101**	P	Pn	07 51 44.1	-0.3
KNZ				S	Sn	07 51 52.5	+0.9
RAGZ	**Rawiri**	**0.50**	**29**	P	Pn	07 51 45.1	-0.1
RAGZ				S	Sn	07 51 55.0	+2.0
MUGZ	**Murupara**	**0.53**	**330**	P	Pn	07 51 45.5	0.0
BKZ	**Black Stump Fm**	**0.53**	**244**	P	Pn	07 51 45.5	0.0
BKZ				S	Sn	07 51 54.4	+0.8
MRHZ	**Matea Rd**	**0.55**	**281**	P	Pn	07 51 46.0	+0.2
MRHZ				S	Sn	07 51 54.5	+0.5
RIGZ	**Rimuhau**	**0.56**	**66**	P	Pn	07 51 46.0	0.0
MCHZ	**McNeill Hill**	**0.60**	**212**	P	Pn	07 51 47.0	+0.5
PRGZ	**Paritu Road**	**0.61**	**89**	P	Pb	07 51 46.3	+0.3
PRGZ				S	Sn	07 51 57.4	+1.8
MHGZ	**Mahia Peninsul**	**0.66**	**109**	P	Pb	07 51 46.9	-0.1
URZ	**Urewera**	**0.68**	**1**	P	Pn	07 51 47.5	-0.1
MWZ	**Matawai**	**0.69**	**29**	P	Pn	07 51 47.8	+0.1
ALRZ	**Allen Road**	**0.70**	**302**	P	Pn	07 51 48.3	+0.4
PRRZ	**Plateau Road**	**0.71**	**308**	P	Pn	07 51 48.2	+0.3
KWRZ	**Kaweka Forest**	**0.72**	**227**	P	Pn	07 51 48.6	+0.4
CKHZ	**Cape Kidnapper**	**0.72**	**182**	P	Pb	07 51 48.1	+0.1
RRRZ	**Republican Roa**	**0.75**	**322**	P	Pn	07 51 48.9	+0.3
TKGZ	**Te Karaka**	**0.77**	**50**	P	Pn	07 51 48.8	0.0
HATZ	**Hinemaiaia**	**0.79**	**273**	P	Pn	07 51 49.8	+0.6
HRRZ	**Handcock Road**	**0.84**	**310**	P	Pb	07 51 50.0	+0.1
TARZ	**Mount Tarawera**	**0.84**	**326**	P	Pb	07 51 50.3	+0.4
WPRZ	**Whakapapatarin**	**0.84**	**299**	P	Pb	07 51 50.3	+0.3
EDRZ	**Edgecumbe**	**0.88**	**341**	P	Pb	07 51 50.5	-0.1
KAHZ	**Kahuranaki**	**0.88**	**191**	P	Pb	07 51 50.5	-0.1
HLRZ	**Highlands Stat**	**0.90**	**319**	P	Pb	07 51 51.2	+0.3
KRHZ	**Kereru**	**0.91**	**219**	P	Pn	07 51 50.8	0.0
HSRZ	**Hossack Road**	**0.92**	**313**	P	Pn	07 51 51.0	+0.1
WHTZ	**Whakaora**	**0.94**	**286**	P	Pb	07 51 51.9	+0.4
MKRZ	**Makatiti**	**0.94**	**328**	P	Pb	07 51 52.5	+0.8
RITZ	**Rihia Road**	**0.97**	**267**	P	Pb	07 51 52.6	+0.4
CNGZ	**Carnagh Statio**	**0.97**	**63**	P	Pn	07 51 51.3	-0.3
BHHZ	**Black Hill Sta**	**0.98**	**235**	P	Pn	07 51 52.2	-0.1
MAHZ	**Manawahe**	**1.01**	**340**	P	Pn	07 51 52.4	+0.2
OMRZ	**Omania**	**1.01**	**325**	P	Pn	07 51 52.2	0.0
TWGZ	**Tauwhareparae**	**1.02**	**43**	P	Pn	07 51 52.5	+0.2
RATZ	**Rangitukua**	**1.04**	**273**	P	Pb	07 51 53.4	+0.1
RUGZ	**Raukumara Rang**	**1.07**	**25**	P	Pn	07 51 53.3	+0.2
WHRZ	**Whale Island**	**1.08**	**355**	P	Pb	07 51 54.1	+0.1
WATZ	**Wairara**	**1.09**	**282**	P	Pb	07 51 53.9	-0.3
KUTZ	**Kaahu Road**	**1.10**	**294**	P	Pn	07 51 53.7	+0.3
KATZ	**Kakaramea**	**1.10**	**267**	P	Pb	07 51 54.3	0.0
NGRZ	**Ngongotaha**	**1.10**	**319**	P	Pb	07 51 53.9	-0.4
ETVZ	**East Tongariro**	**1.10**	**259**	P	Pb	07 51 54.3	-0.1
TMVZ	**Te Maari**	**1.10**	**260**	P	Pb	07 51 54.3	-0.1
PXZ	**Pawanui**	**1.11**	**190**	P	Pn	07 51 52.6	-0.9
NTVZ	**North Tongarir**	**1.12**	**261**	P	Pb	07 51 54.7	-0.1
KARZ	**Kaharoa**	**1.14**	**323**	P	Pn	07 51 53.7	-0.2
OTVZ	**Oturere**	**1.14**	**258**	P	Pb	07 51 54.9	-0.2
KRVZ	**Karewarewa**	**1.15**	**262**	P	Pb	07 51 55.0	-0.3
MOVZ	**Moawhango**	**1.15**	**245**	P	Pb	07 51 55.1	-0.1
SNVZ	**South Ngauruho**	**1.17**	**257**	P	Pb	07 51 55.3	-0.3
OPRZ	**Ohinepanea**	**1.17**	**338**	P	Pn	07 51 53.9	-0.4
NNVZ	**North Ngauruho**	**1.18**	**260**	P	Pb	07 51 55.5	-0.1
TUVZ	**Tukino**	**1.18**	**253**	P	Pb	07 51 56.4	+0.8
WTVZ	**West Tongariro**	**1.19**	**261**	P	Pb	07 51 55.6	-0.3
NGZ	**Ngauruhoe**	**1.19**	**258**	P	Pb	07 51 55.6	-0.4
PNHZ	**Pukenui**	**1.20**	**215**	P	Pn	07 51 54.3	-0.5
WHVZ	**Whangaehu Hut**	**1.23**	**253**	P	Pb	07 51 56.3	-0.3
WNVZ	**Wahianoa**	**1.23**	**251**	P	Pn	07 51 56.0	+0.6
WPHZ	**Waipukurau**	**1.24**	**204**	P	Pn	07 51 55.0	-0.3
DRZ	**Dome Shelter**	**1.25**	**254**	P	Pb	07 51 57.2	+0.2
FWVZ	**Far West T-bar**	**1.25**	**255**	P	Pb	07 51 56.6	-0.4
PUZ	**Puketiti**	**1.25**	**47**	P	Pn	07 51 54.9	-0.6
TRVZ	**Turoa**	**1.26**	**253**	P	Pb	07 51 56.6	-0.6
HAZ	**Te Kaha**	**1.29**	**25**	P	Pn	07 51 55.9	-0.1
PKGZ	**Pakihiroa**	**1.29**	**36**	P	Pn	07 51 56.3	+0.2
TWVZ	**Taurewa**	**1.30**	**264**	P	Pn	07 51 56.9	+0.6
MTVZ	**Mangateitei**	**1.35**	**250**	P	Pb	07 51 57.8	-0.7
TLZ	**Tolley Road**	**1.37**	**296**	P	Pn	07 51 57.0	-0.1
TGRZ	**Tauranga**	**1.38**	**331**	P	Pn	07 51 56.9	-0.3
PRHZ	**Porangahau**	**1.38**	**195**	P	Pn	07 51 56.2	-1.0
PKVZ	**Pokaka**	**1.41**	**255**	P	Pn	07 51 58.6	+0.9
KMRZ	**Kaimai**	**1.42**	**320**	P	Pn	07 51 58.7	+0.8
TSZ	**Takapari Road**	**1.43**	**218**	P	Pn	07 51 57.3	-0.6
WMGZ	**Waiomatatini S**	**1.52**	**43**	P	Pn	07 51 58.7	-0.4
DVHZ	**Dannevirke**	**1.54**	**208**	P	Pn	07 51 58.0	-1.5
ANWZ	**Angora Road**	**1.60**	**197**	P	Pn	07 51 59.6	-0.6
MXZ	**Matakaoa Point**	**1.67**	**35**	P	Pn	07 52 01.3	+0.1
TOZ	**Tahuroa Road**	**1.74**	**313**	P	Pn	07 52 02.0	-0.2
POWZ	**Post Office Ro**	**1.78**	**215**	P	Pn	07 52 02.4	-0.3
HIZ	**Hauiti**	**1.81**	**283**	P	Pn	07 52 04.1	+1.0
WAZ	**Wanganui**	**1.83**	**243**	P	Pb	07 52 05.3	-1.4
VRZ	**Vera Road**	**1.84**	**263**	P	Pn	07 52 04.7	+1.2
PRWZ	**Pori Road**	**1.84**	**208**	P	Pn	07 52 02.9	-0.6
BFZ	**Birch Farm**	**1.86**	**200**	P	Pn	07 52 02.2	-1.7
TIWZ	**Tintock**	**2.06**	**207**	P	Pn	07 52 05.2	-1.5
MRZ	**Mangatainoka R**	**2.08**	**214**	P	Pn	07 52 05.1	-1.8
LREZ	**Lake Rotokare**	**2.16**	**255**	P	Pn	07 52 09.5	+1.5
MHEZ	**Mangahewa**	**2.17**	**265**	P	Pb	07 52 11.1	-1.4
HOWZ	**Holdsworth Sta**	**2.31**	**211**	P	Pn	07 52 07.7	-2.4
PREZ	**Palmer Road**	**2.33**	**259**	P	Pn	07 52 12.0	+1.7
TMWZ	**Te Maipa**	**2.36**	**203**	P	Pn	07 52 08.7	-2.1
NEZ	**North Egmont**	**2.36**	**261**	P	Pn	07 52 12.7	+1.8
MKAZ	**Moumakai**	**2.39**	**319**	P	Pn	07 52 12.5	+1.4
KHEZ	**Kahui Hut**	**2.43**	**261**	P	Pn	07 52 13.8	+2.1
PKE	**Pukeiti**	**2.44**	**263**	P	Pn	07 52 13.9	+2.1
KUZ	**Kuaotunu**	**2.44**	**333**	P	Pn	07 52 12.5	+0.6
MTW	**Mount Morrison**	**2.54**	**208**	P	Pn	07 52 10.5	-2.6
NBEZ	**Newall Road No**	**2.54**	**261**	P	Pn	07 52 15.3	+2.1
KIW	**Kapiti Island**	**2.56**	**221**	P	Pn	07 52 11.6	-1.9
ETAZ	**East Tamaki Re**	**2.62**	**318**	P	Pn	07 52 15.9	+1.6
WIAZ	**Waiheke Island**	**2.65**	**323**	P	Pn	07 52 15.8	+1.2
CAW	**Cannon Point**	**2.67**	**215**	P	Pn	07 52 12.3	-2.7
AWAZ	**Awhitu Peninsu**	**2.70**	**313**	P	Pn	07 52 16.6	+1.3
PAWZ	**Paruwai Farm**	**2.76**	**207**	P	Pn	07 52 14.1	-2.1
MBAZ	**Motutapu North**	**2.78**	**320**	P	Pn	07 52 17.9	+1.4
WTAZ	**Waiatarua**	**2.83**	**314**	P	Pn	07 52 18.7	+1.5
RVAZ	**Riverhead Bore**	**2.94**	**316**	P	Pn	07 52 20.1	+1.4
ABAZ	**Army Bay**	**2.94**	**322**	P	Pn	07 52 20.5	+1.7
TUWZ	**Tuamarina**	**3.47**	**223**	P	Pn	07 52 24.3	-1.7
WCZ	**Waipu Caves**	**3.71**	**323**	P	Pn	07 52 29.8	+0.6
QRZ	**Quartz Range**	**3.99**	**240**	P	Pn	07 52 34.1	+1.0
MRNZ	**Matariki Terra**	**4.14**	**232**	P	Pn	07 52 35.7	+0.5
THZ	**Tophouse**	**4.27**	**227**	P	Pn	07 52 35.2	-1.8
OUZ	**Omahuta**	**4.65**	**322**	P	Pn	07 52 44.6	+2.4

WEL 16 07:56:43.3±0.9,**34°S**±17°×**18°0E**±2°9,**h335**km±15km, **M4.1/4,mB4.6/1,ML4.2/15,MLv4.1/4,Mw(mB)3.8/1,Error ellipse: s-maj=0.0km s-min=0.0km az=118.1,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.64**	**197**	P	Pn	07 57 46.1	-1.5
MXZ				S	S	07 58 40.5	+1.0
HAZ	**Te Kaha**	**3.97**	**202**	P	Pn	07 57 49.5	-1.4
HAZ				S	S	07 58 46.6	+1.2
PKGZ	**Pakihiroa**	**4.01**	**198**	P	Pn	07 57 50.6	-0.9
PKGZ				S	S	07 58 46.6	+0.2
PUZ	**Puketiti**	**4.14**	**195**	P	Pn	07 57 52.5	-0.3
PUZ				S	S	07 58 48.5	-0.3
RUGZ	**Raukumara Rang**	**4.19**	**202**	P	Pn	07 57 52.9	-0.6
RUGZ				S	S	07 58 47.8	-2.2
CNGZ	**Carnagh Statio**	**4.55**	**194**	P	Pn	07 57 58.7	+1.6
MWZ	**Matawai**	**4.58**	**201**	P	Pn	07 57 58.0	+0.4
MWZ				S	S	07 58 58.5	+1.1
TKGZ	**Te Karaka**	**4.59**	**198**	P	Pn	07 57 56.8	-0.8
TKGZ				S	S	07 59 00.1	+2.6
URZ	**Urewera**	**4.65**	**205**	P	Pn	07 57 57.8	-0.4
URZ				S	S	07 58 59.4	+0.7
RIGZ	**Rimuhau**	**4.86**	**197**	P	Pn	07 58 01.3	+0.6
RIGZ				S	S	07 59 05.0	+1.9
MUGZ	**Murupara**	**4.96**	**207**	P	Pn	07 58 01.8	+0.1
RTZ	**Ruatahuna**	**5.01**	**204**	P	Pn	07 58 02.2	-0.1
RTZ				S	S	07 59 08.3	+2.1
NMHZ	**Naumai**	**5.50**	**203**	P	Pn	07 58 09.0	+1.1
BKZ	**Black Stump Fm**	**5.67**	**205**	P	Pn	07 58 09.9	+0.1
BKZ				S	S	07 59 17.2	-2.6
NTVZ	**North Tongarir**	**5.94**	**211**	P	Pn	07 58 13.8	+0.9
TMVZ	**Te Maari**	**5.94**	**211**	P	Pn	07 58 13.7	+0.7
OTVZ	**Oturere**	**5.99**	**211**	P	Pn	07 58 14.3	+0.6
SNVZ	**South Ngauruho**	**6.02**	**211**	P	Pn	07 58 14.6	+0.6
BHHZ	**Black Hill Sta**	**6.11**	**207**	P	Pn	07 58 14.8	-0.1
PNHZ	**Pukenui**	**6.44**	**204**	P	Pn	07 58 18.7	0.0
PNHZ				S	S	07 59 38.7	+2.7
PRHZ	**Porangahau**	**6.63**	**200**	P	Pn	07 58 21.5	+0.7
BFZ	**Birch Farm**	**7.12**	**201**	P	Pn	07 58 26.6	0.0
BFZ				S	S	07 59 49.6	-1.0
MRZ	**Mangatainoka R**	**7.32**	**205**	P	Pn	07 58 28.3	-0.7
MRZ				S	S	07 59 54.1	-0.8
TIWZ	**Tintock**	**7.32**	**203**	P	Pn	07 58 29.1	0.0

*SFS **16** 08:42:20.0,35°.67N×3°.72W,ML2.1,ALBORAN SUR*
*MDD **16** 08:42:20.2±0.6,35°.67N×3°.73W,h0km,mb_Lg2.1/9,Error ellipse: s-maj=5.3km s-min=3.4km az=30.0*
*CNRM **16** 08:42:21.5,35°.68N×3°.59W,h29km,ml2.5*
ISC 16 08:42:20.2±1.1,**35°.68N**±0°.02×**3°.67W**±0°.03,**h13**km±10km, **n19,**σ1**$**41/38,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.58**	**63**	Pg	**Pg**	**08 42 32.0**	**+0.5**
EALB				Sg	**Sg**	**08 42 40.9**	**+1.7**
EALB				*i* Vmb_Lg		08 42 41.4	
EMEL	**Melilla**	**0.69**	**123**	Pg	**Pg**	**08 42 33.4**	**-0.2**
EMEL				Sg	**Sg**	**08 42 42.4**	**-0.4**
GOG	**Mont Gurugu**	**0.71**	**129**	P	**Pg**	**08 42 34.2**	**+0.2**
GOG				S	**Sg**	**08 42 44.2**	**+0.8**
ELGU	**Los Guajares,**	**1.19**	**2**	Pg	**Pb**	**08 42 41.4**	**-1.2**
ELGU				Sg	**Sb**	**08 42 57.4**	**-0.5**
ELGU				*i* Vmb_Lg		08 43 00.8	
EMAL	**Malaga-Limoner**	**1.25**	**331**	P	**Pn**	**08 42 41.8**	**-1.4**
EMAL				S	**Sb**	**08 42 56.6**	**-2.8**
EMIJ	**Mijas**	**1.26**	**315**	Pg	**Pn**	**08 42 42.3**	**-1.2**
EMIJ				Sg	**Sb**	**08 42 58.6**	**-1.2**
EMIJ				*i* Vmb_Lg		08 42 59.7	
TAF	**Taforalt**	**1.34**	**130**	P	**Pn**	**08 42 43.3**	**-1.3**
TAF				S	**Sb**	**08 43 01.0**	**-1.3**
EBER	**Berja**	**1.37**	**27**	Pg	**Pn**	**08 42 45.6**	**+0.5**
EBER				Sg	**Sb**	**08 43 03.1**	**-0.2**
EBER				*i* Vmb_Lg		08 43 08.8	
EGOR	**Sierra Gorda,**	**1.48**	**346**	Pg	**Pb**	**08 42 47.4**	**-0.1**
EGOR				Sg	**Sn**	**08 43 05.6**	**-0.1**
EGOR				*i* Vmb_Lg		08 43 11.1	
CHEFC	**Chefchaouen**	**1.48**	**248**	P	**Pb**	**08 42 47.0**	**-0.5**
CHEFC				S	**Sg**	**08 43 06.1**	**-1.6**
JBK	**JBK**	**1.61**	**146**	P	**Pn**	**08 42 47.3**	**-1.2**
JBK				S	**Sn**	**08 43 08.4**	**-2.2**
EQES	**Quesada**	**2.18**	**13**	Pn	**Pn**	**08 42 58.2**	**+2.0**
EQES				Sn	**Sn**	**08 43 25.0**	**+2.0**
EQES				*i* Vmb_Lg		08 43 27.3	
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**08 43 02.9**	**+1.1**
EADA				Sn	**Sn**	**08 43 34.1**	**+0.9**
EADA				*i* Vmb_Lg		08 43 41.0	
ECAB	**El Cabril**	**2.77**	**330**	Pn	**Pn**	**08 43 05.6**	**+1.3**
ECAB				Sn	**Sn**	**08 43 38.1**	**+0.5**
ECAB				*i* Vmb_Lg		08 43 48.1	
MD31	**MD31**	**2.94**	**198**	P	**Pn**	**08 43 07.6**	**+1.0**
MD31				S	**Sn**	**08 43 43.2**	**+1.4**
MDT	**Midelt**	**2.96**	**195**	P	**Pn**	**08 43 08.6**	**+1.7**
MDT				S	**Sn**	**08 43 43.8**	**+1.6**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn	**Pn**	**08 43 09.5**	**-0.4**
EMIN				Sn	**Sn**	**08 43 46.9**	**-0.9**
EMIN				*i* Vmb_Lg		08 43 48.1	
ZHG	**ZHG**	**3.31**	**229**	P	**Pn**	**08 43 14.9**	**+3.3**
ZHG				S	**Sn**	**08 43 52.6**	**+1.7**
PVAQ	**Vaqueiros**	**3.69**	**299**	P	**Pn**	**08 43 17.4**	**+0.6**
PVAQ				S	**Sn**	**08 44 01.2**	**+1.1**

*CNRM **16** 08:49:18.0,35°.74N×3°.54W,h22km,ml2.8*
*MDD **16** 08:49:18.1±0.4,35°.66N×3°.71W,h0km,mb_Lg2.9/14, Error ellipse: s-maj=3.2km s-min=2.6km az=6.0*
*SFS **16** 08:49:18.0,35°.68N×3°.70W,ML2.9,ALBORAN S.*
*LDG **16** 08:49:20.0,35°.55N×3°.52W,h30km*
ISC 16 08:49:18.2±1.1,**35°.68N**±0°.02×**3°.62W**±0°.02,**h21**km±4km, **n44,**σ1**$**79/84,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.55**	**61**	Pg	**Pn**	**08 49 29.9**	**-0.8**
EALB				Sg	**Sn**	**08 49 39.0**	**-0.3**
EMEL	**Melilla**	**0.66**	**125**	Pg	**Pn**	**08 49 31.1**	**0.0**
EMEL				Sg	**Sb**	**08 49 40.6**	**+0.7**
GOG	**Mont Gurugu**	**0.69**	**131**	P	**Pb**	**08 49 31.2**	**-0.3**
GOG	**Mont Gurugu**	**0.69**	**131**	P	**Pb**	**08 49 31.2**	**-0.3**
GOG				S	**Sn**	**08 49 41.7**	**-1.2**
ELGU	**Los Guajares,**	**1.19**	**360**	Pg	**Pn**	**08 49 38.9**	**-0.7**
ELGU				Sg	**Sb**	**08 49 54.8**	**-0.1**
EMAL	**Malaga-Limoner**	**1.26**	**329**	P	**Pn**	**08 49 39.7**	**-0.9**
EMAL				S	**Sn**	**08 49 55.1**	**-1.8**
EMIJ	**Mijas**	**1.28**	**314**	Pg	**Pn**	**08 49 40.0**	**-1.0**
EMIJ				Sg	**Sn**	**08 49 56.2**	**-1.4**
EMIJ				*i* Vmb_Lg		08 49 56.7	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**08 49 41.1**	**-0.3**
TAF				S	**Sb**	**08 50 00.2**	**+1.6**
EBER	**Berja**	**1.35**	**26**	Pn	**Pn**	**08 49 41.7**	**-0.3**
EBER				Sn	**Sb**	**08 50 00.2**	**+0.3**
EBER				*i* Vmb_Lg		08 50 04.5	
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pb**	**08 49 44.5**	**-0.6**
EGOR				Sn	**Sb**	**08 50 04.1**	**+0.6**
EGOR				*i* Vmb_Lg		08 50 09.4	
CHEFC	**Chefchaouen**	**1.51**	**248**	P	**Pb**	**08 49 45.0**	**-0.6**
CHEFC	**Chefchaouen**	**1.51**	**248**	P	**Pb**	**08 49 45.0**	**-0.6**
CHEFC				S	**Sb**	**08 50 04.7**	**+0.3**
EQUE	**Quentar**	**1.53**	**5**	Pn	**Pb**	**08 49 46.5**	**+0.6**
EQUE				Sn	**Sb**	**08 50 05.2**	**+0.3**
EQUE				*i* Vmb_Lg		08 50 07.4	
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**08 49 45.0**	**-0.4**
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**08 49 45.0**	**-0.4**
JBK				S	**Sn**	**08 50 04.3**	**-1.2**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pn	**Pn**	**08 49 47.0**	**+0.6**
EJIF				Sn	**Sn**	**08 50 06.4**	**-0.9**
ENIJ	**Nijar**	**1.72**	**41**	Pn	**Pn**	**08 49 47.7**	**+0.7**
ENIJ				Sn	**Sn**	**08 50 07.6**	**-0.8**
SICH	**Sidi Chahed**	**2.10**	**222**	P	**Pb**	**08 49 55.4**	**-0.1**
SICH				S	**Sb**	**08 50 20.4**	**-0.7**
ESPR	**Espera**	**2.16**	**304**	Pn	**Pb**	**08 49 55.8**	**-0.8**
ESPR				Sn	**Sb**	**08 50 22.6**	**-0.2**
ESPR				*i* Vmb_Lg		08 50 30.0	
EQES	**Quesada**	**2.17**	**12**	Pn	**Pb**	**08 49 56.1**	**-0.7**
EQES				Sn	**Sb**	**08 50 23.1**	**-0.1**
EQES				*i* Vmb_Lg		08 50 25.5	
LCRM	**LCR**	**2.23**	**207**	P	**Pn**	**08 49 55.7**	**+1.6**
LCRM				S	**Sb**	**08 50 24.9**	**-0.3**
IFR	**Ifrane**	**2.49**	**210**	P	**Pn**	**08 49 56.1**	**-1.5**
IFR				S	**Sn**	**08 50 24.0**	**-3.5**
EADA	**Adamuz**	**2.60**	**343**	Pn	**Pn**	**08 50 00.5**	**+1.5**
EADA				Pg	**Pb**	**08 50 04.8**	**+0.7**
EADA				Sn	**Sn**	**08 50 32.5**	**+2.5**
EADA				*i* Vmb_Lg		08 50 39.3	
ECAB	**El Cabril**	**2.79**	**329**	Pn	**Pn**	**08 50 03.1**	**+1.5**
ECAB				Pg	**Pb**	**08 50 07.1**	**-0.2**
ECAB				Sn	**Sn**	**08 50 36.7**	**+1.9**
ECAB				*i* Vmb_Lg		08 50 45.1	
CZD	**Col de Zad**	**2.89**	**204**	P	**Pn**	**08 50 04.7**	**+1.4**
CZD				S	**Sn**	**08 50 38.3**	**+0.8**
TDRA	**Tendrara**	**2.94**	**153**	P	**Pn**	**08 50 05.7**	**+1.8**
TDRA				S	**Sn**	**08 50 39.6**	**+0.9**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**08 50 05.7**	**+1.7**
MD31				S	**Sn**

ZALV	**Zalesovo Beam**	**1.03 306**	Pg	**Pg**	**09 01 03.2**	**+0.3**	
	2.2nm,0.3s,baz=69,slow=17,SNR=16						
ZALV			Lg	Lg	09 01 17.8		
	8.1nm,0.3s,baz=74,slow=30,SNR=29						
I46RU	**ZALESOVO INFRA**	**1.03 306**	*i*		09 07 16.3		
	baz=68,slow=332,SNR=4.2						
KURBB	**Kurchatov Arra**	**5.49 243**	Pn	**Pb**	**09 02 18.6**	**-1.3**	
	0.3nm,0.3s,baz=51,slow=13,SNR=17						
KURBB			Lg	Lg	09 03 57.3		
	0.1nm,0.3s,baz=58,slow=32,SNR=4.2						
KURBB	**Kurchatov Arra**	**5.49 243**	⇑Pn	**Pb**	**09 02 18.1**	**-1.8**	
	0.9nm,0.2s						
KURBB			⇓Sn	**Sb**	**09 03 27.3**	**+1.1**	
	2.3nm,0.6s						
KURBB			⇑Lg	Lg	09 03 53.9		
	2.7nm,0.6s						
MK31	**Makanchi Array**	**7.04 203**	⇓Pn	**Pb**	**09 02 45.4**	**-1.0**	
	0.1nm,0.2s,baz=25,slow=14,SNR=18						
MK31			⇓Sn	**Sb**	**09 04 13.4**	**+2.6**	
	0.2nm,0.4s,baz=24,slow=27,SNR=5.8						
MK31			⇓Lg	Lg	09 04 59.5		
	0.5nm,0.6s,baz=21,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**7.04 203**	Pn	**Pb**	**09 02 44.7**	**-1.6**	
	0.3nm,0.3s,baz=24,slow=13,SNR=14						
MKAR			Sn	**Sb**	**09 04 12.6**	**+1.8**	
	0.2nm,0.3s,baz=22,slow=25,SNR=5.7						
MKAR			Lg	Lg	09 04 57.8		
	0.1nm,0.3s,baz=24,slow=32,SNR=5.3						

IDC 16 09:09:54.3±3.0, 53.63N×87.96E, h0km, mb1 2.8/2, mb1mx2.6/47, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=17.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	*i*			09 22 03.7	
	baz=94,slow=326,SNR=4.4							
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pn		Pn	09 10 28.1	+0.3
	2.0nm,0.3s,baz=98,slow=15,SNR=18							
ZALV				Lg		Lg	09 10 53.7	
	2.4nm,0.3s,baz=100,slow=29,SNR=12							
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn		Pn	09 11 32.4	+0.7
	0.1nm,0.3s,baz=64,slow=14,SNR=6.1							
KURBB				Lg		Lg	09 13 22.2	
	0.0nm,0.3s,baz=62,slow=30,SNR=4.5							
MKAR	**Makanchi Array**	**7.75**	**210**	Pn		Pn	09 11 49.4	+1.1
	0.1nm,0.3s,baz=28,slow=13,SNR=7.1							
MKAR				Lg		Lg	09 13 58.1	
	0.0nm,0.3s,baz=31,slow=31,SNR=3.0							

*IDC **16** 09:13:35.3±0.5, 55.63S×147.10E, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.4/27, mbtmp4.5/14, ML3.6/1, MS4.3/33, Ms1 4.2/33, ms1mx4.2/44, Error ellipse: s-maj=23.0km s-min=15.2km az=89.0*

*NEIC **16** 09:13:36.8±1.2, 55.69S±0.10×146.8E±0.2, h10km±1km, mb5.0/35, Error ellipse: s-maj=16.7km s-min=16.5km az=87.0*

*GCMT **16** 09:13:38.8±0.2, 55.66S±0.01×146.91E±0.03, h14km±1km, MW5.0/108, Moment Tensor Solution. s34,c41; s108,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.82±.16; Mθθ2.35±.13; Mφφ-1.53±.12; Mrθ0.24±.26; Mθφ-3.93±.11; Mφr-0.04±.26; Best double couple: M=4.38900×10^16 NP1:φ167.00000°, δ87.00000°, λ0.00000°. NP2:φ77.00000°, δ90.00000°, λ177.00000°. Principal axes: T 4.8020, Plg2.0000°, Azm32.0000°; N -0.8290, Plg87.0000°, Azm248.0000°; P -3.9750, Plg2.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 09:13:37.4±0.3, 55.68S±0.06×146.90E±0.09, h12km, n219, σ1.959/185, mb5.0/29, MS4.2/33, 2D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CORO	**Coronation Par**	**14.24**	**1**	P		**P**	**09 17 06.6**	**+0.5**
GLAD	**Gladstone**	**14.72**	**3**	P		**P**	**09 17 13.0**	**+1.5**
WHZ	**Wether Hill Ro**	**16.46**	**62**			**Pn**	**09 17 28.2**	**+0.2**
WHZ				IAmb	IAmb	IAmb	09 17 51.0	
	comp=Z,111nm,1.7s							
MLZ	**Mavora Lakes**	**16.92**	**61**	P		**P**	**09 17 36.6**	**+0.7**
GEXS	**Deakin Univers**	**17.57**	**353**	P		**P**	**09 17 44.8**	**+1.8**
TOO	**Toolangi**	**18.14**	**356**	P		**Pn**	**09 17 47.5**	**-1.5**
BRAT	**Ballarat**	**18.25**	**352**	P		**P**	**09 17 51.9**	**+1.4**
ARPS	**Mount Arapiles**	**19.23**	**348**	P		**Pn**	**09 18 03.5**	**+1.3**
RPZ	**Rata Peaks**	**19.57**	**62**	P		**P**	**09 18 04.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=42,slow=8.4,SNR=3.6							
RPZ				LR		LR	09 24 06.7	
	comp=Z,3μm,19.4s,baz=224,slow=32							
RPZ	**Rata Peaks**	**19.57**	**62**	IAmb		IAmb	09 18 13.9	
	comp=Z,51nm,1.1s							
CASY	**Casey**	**20.25**	**224**	P		**P**	**09 18 10.0**	**-2.2**
CASY				IAmb		IAmb	09 18 21.2	
	comp=Z,136nm,1.9s							
CAN	**Canberra**	**20.41**	**5**			**P**	**09 18 13.5**	**-0.7**
CAN				IAmb		IAmb	09 18 24.2	
	comp=Z,71nm,1.1s							
CAN	**Canberra**	**20.41**	**5**	P		Pn	09 18 15.9	-0.4
CNB	**Canberra Magne**	**20.44**	**6**	P		Pn	09 18 15.3	-1.4
TWOA	**Tennyson Woods**	**21.43**	**341**	P		**P**	**09 18 25.4**	**+0.3**
VNDA	**Vanda**	**22.57**	**172**	P		**P**	**09 18 35.3**	**-1.7**
	comp=Z,7.9nm,1.0s,baz=331,slow=11,SNR=8.8							
VNDA				LR		LR	09 26 34.9	
	comp=Z,501nm,18.5s,baz=346,slow=34							
VNDA	**Vanda**	**22.57**	**172**	P		**P**	**09 18 36.1**	**-0.9**
VNDA				IAmb		IAmb	09 18 55.0	
	comp=Z,75nm,1.4s							
HTT	**Hallett**	**22.93**	**343**	P		**P**	**09 18 41.7**	**+0.5**
NAPP	**Napperby**	**23.31**	**341**	P		**P**	**09 18 46.4**	**+1.4**
SBA	**Scott Base**	**23.33**	**170**	P		**P**	**09 18 44.5**	**-0.3**
SBA				IAmb		IAmb	09 19 23.5	
	comp=Z,48nm,1.5s							
WHYH	**Whyalla**	**23.56**	**340**	P		**P**	**09 18 47.1**	**-0.4**
STKA	**Stephens Creek**	**24.09**	**349**	P		**P**	**09 18 51.9**	**-0.7**
	comp=Z,20nm,0.9s,baz=174,slow=10,SNR=3.3							
STKA				LR		LR	09 26 36.5	
	comp=Z,702nm,18.2s,baz=173,slow=32							
STKA	**Stephens Creek**	**24.09**	**349**	P		**P**	**09 18 52.4**	**-0.2**
STKA	**Stephens Creek**	**24.09**	**349**	P		**P**	**09 18 53.3**	**+0.7**
BBOO	**Buckleboo**	**24.09**	**337**	P		**P**	**09 18 52.1**	**-0.5**
BBOO				IAmb		IAmb	09 18 58.3	
	comp=Z,30nm,0.9s							
BBOO	**Buckleboo**	**24.09**	**337**	P		**P**	**09 18 52.5**	**-0.1**
CMSA	**Cobar Meteorol**	**24.15**	**357**	P		**P**	**09 18 53.5**	**+0.3**
ARMA	**Armidale**	**25.47**	**10**	P		**P**	**09 19 04.8**	**-0.5**
ARMA	**Armidale**	**25.47**	**10**	P		**P**	**09 19 06.1**	**+0.8**
LCRK	**Leigh Creek**	**25.96**	**343**	P		**P**	**09 19 09.6**	**0.0**
URZ	**Urewera**	**26.68**	**62**	P		**P**	**09 19 13.1**	**-3.0**
	comp=Z,7.5nm,0.9s,baz=229,slow=4.3,SNR=2.0							
URZ				LR		LR	09 28 56.6	
	comp=Z,1μm,19.9s,baz=208,slow=35							
MULG	**Mulgathing**	**26.98**	**335**	P		**P**	**09 19 18.2**	**-0.6**
FORT	**Forrest**	**28.24**	**324**	P		**P**	**09 19 29.5**	**-0.6**
FORT	**Forrest**	**28.24**	**324**	P		**P**	**09 19 29.7**	**-0.4**
INKA	**Innaminka**	**28.27**	**348**	P		**P**	**09 19 31.0**	**+0.6**
OOD	**Oodnadatta**	**29.02**	**339**	P		**P**	**09 19 36.9**	**-0.1**
QLP	**Quilpie**	**29.14**	**355**	P		**P**	**09 19 38.7**	**+0.6**
RMQ	**Roma**	**29.20**	**3**	P		**P**	**09 19 38.8**	**+0.1**
EIDS	**Eidsvold**	**30.43**	**7**	P		**P**	**09 19 49.0**	**-0.6**
EIDS				IAmb		IAmb	09 19 50.7	
	comp=Z,51nm,1.6s							
EIDS	**Eidsvold**	**30.43**	**7**	P		**P**	**09 19 49.6**	**0.0**
H01W1	**Cape Leeuwin H**	**30.58**	**299**	T		T	09 52 12.1	
	baz=142,slow=75,SNR=55							
H01W2	**Cape Leeuwin H**	**30.59**	**299**	T		T	09 52 12.6	
	baz=142,slow=75,SNR=49							
H01W3	**Cape Leeuwin H**	**30.60**	**299**	T		T	09 52 08.5	
	baz=142,slow=75,SNR=81							
RK1H	**Rockhampton Ha**	**32.36**	**6**	P		**P**	**09 20 07.4**	**+0.8**
ASAR	**Alice Springs**	**33.39**	**338**	P		**P**	**09 20 14.8**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=164,slow=8.9,SNR=39							
ASAR				PcP		**PcP**	**09 22 55.4**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=138,slow=2.9,SNR=2.9							
AS31	**Alice Springs**	**33.39**	**338**	P		**P**	**09 20 14.7**	**-0.9**
WRKA	**Warakurna**	**33.51**	**328**	P		**P**	**09 20 15.7**	**-1.0**
QSPA	**South Pole Qui**	**34.43**	**180**	P		**P**	**09 20 23.2**	**-1.2**
	comp=Z,5.4nm,1.0s,baz=193,slow=8.7,SNR=3.3							
QSPA				LR		LR	09 33 17.8	
	comp=Z,282nm,18.1s,baz=3.0,slow=34							
QSPA	**South Pole Qui**	**34.43**	**180**	P		**P**	**09 20 24.9**	**+0.4**
QSPA				IAmb		IAmb	09 20 30.1	
	comp=Z,30nm,1.4s							
QIS	**Mount Isa**	**35.49**	**348**	P		**P**	**09 20 33.4**	**-0.4**
CTA	**Charters Tower**	**35.54**	**359**	LR		LR	09 34 01.1	
	comp=Z,1μm,18.6s,baz=180,slow=34							
CTA	**Charters Tower**	**35.54**	**359**	P		**P**	**09 20 34.2**	**0.0**
RAO	**Raoul Island**	**36.37**	**58**	LR		LR	09 33 31.6	
	comp=Z,342nm,22.0s,baz=150,slow=33							
DZM	**Mont Dzumac**	**36.58**	**31**	P		**P**	**09 20 42.3**	**-0.9**
	comp=Z,12nm,1.0s,baz=180,slow=12,SNR=5.2							
DZM				LR		LR	09 32 41.4	
	comp=Z,907nm,19.6s,baz=199,slow=31							
DZM	**Mont Dzumac**	**36.58**	**31**	*e*P		**P**	**09 20 42.5**	**-0.7**
	comp=Z,58nm,1.4s							
DZM				*e*S		**S**	**09 26 22.0**	**-3.6**
	comp=Z,186nm,25.2s							
DZM				*e*LR		LR	09 30 26.1	
	comp=Z,2μm,25.9s,baz=220							
DZM	**Mont Dzumac**	**36.58**	**31**	P		**P**	**09 20 43.1**	**-0.1**
DZM				IAmb		IAmb	09 20 43.8	
	comp=Z,31nm,1.2s							
DZM	**Mont Dzumac**	**36.58**	**31**	P		**P**	**09 20 43.5**	**+0.3**
WR0	**Warramunga Arr**	**36.86**	**340**	P		**P**	**09 20 44.6**	**-0.9**
WB2	**Warramunga Arr**	**36.91**	**340**	P		**P**	**09 20 45.0**	**-0.9**
WRA	**Warramunga Arr**	**36.91**	**340**	P		**P**	**09 20 44.8**	**-1.2**
	comp=Z,22nm,1.0s,baz=167,slow=7.7,SNR=78							
WRA				PcP		**PcP**	**09 23 05.1**	**-2.2**
	comp=Z,1.9nm,1.1s,baz=170,slow=2.5,SNR=2.6							
WRA				LR		LR	09 34 16.1	
	comp=Z,192nm,20.4s,baz=222,slow=34							
WRA	**Warramunga Arr**	**36.91**	**340**	P		**P**	**09 20 44.6**	**-1.3**
WRAB	**Tennant Creek**	**36.92**	**340**	P		**P**	**09 20 44.8**	**-1.2**
WRAB	**Tennant Creek**	**36.92**	**340**	P		**P**	**09 20 45.1**	**-0.9**
WB0	**Warramunga Arr**	**37.08**	**340**	P		**P**	**09 20 46.3**	**-1.1**
WB0				IAmb		IAmb	09 20 52.2	
	comp=Z,35nm,0.8s							
KOUNC	**Koumac, New Ca**	**37.43**	**27**	P		**P**	**09 20 49.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**37.43**	**27**	P		**P**	**09 20 50.2**	**-0.1**
MTSU	**Mount Surprise**	**37.53**	**356**	P		**P**	**09 20 51.5**	**+0.3**
PSA00	**Pilbara Seismi**	**39.58**	**318**	P		**P**	**09 21 07.5**	**-0.8**
PSA00	**Pilbara Seismi**	**39.58**	**318**	P		**P**	**09 21 08.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.84**	**328**	LR		LR	09 36 55.3	
	comp=Z,34nm,19.7s,baz=168,slow=34							
FITZ	**Fitzroy Crossi**	**40.84**	**328**	P		**P**	**09 21 18.2**	**-0.7**
FITZ				IAmb		IAmb	09 21 35.4	
	comp=Z,50nm,1.6s							
COEN	**Coen**	**41.73**	**355**	P		**P**	**09 21 24.7**	**-1.5**
KNRA	**Kununurra**	**42.28**	**334**	P		**P**	**09 21 30.1**	**-0.6**
KNRA				IAmb		IAmb	09 21 36.9	
	comp=Z,31nm,0.8s							
KNRA	**Kununurra**	**42.28**	**334**	P		**P**	**09 21 30.1**	**-0.6**
SANVU	**Saraoutou**	**43.08**	**29**	P		**P**	**09 21 36.1**	**-1.0**
SANVU				IAmb		IAmb	09 21 37.5	
	comp=Z,47nm,1.1s							
SANVU	**Saraoutou**	**43.08**	**29**	P		**P**	**09 21 35.7**	**-1.5**
KDU	**Kakadu**	**44.34**	**340**	P		**P**	**09 21 45.4**	**-1.9**
MSVF	**Nonsavu**	**44.65**	**45**	LR		LR	09 36 55.1	
	comp=Z,410nm,18.4s,baz=197,slow=31							
SYO	**Syowa Base**	**44.92**	**209**	*e*P		**P**	**09 21 52.4**	**+1.0**
SYO	**Syowa Base**	**44.92**	**209**	*e*PcP		**PcP**	**09 23 33.0**	**+0.5**
PMG	**Port Moresby**	**46.16**	**0**	LR		LR	09 40 09.9	
	comp=Z,981nm,18.1s,baz=175,slow=35							
BELA	**Belgrano 2**	**46.70**	**180**	P		**P**	**09 22 04.9**	**-0.4**
BELA				IAmb		IAmb	09 22 11.5	
	comp=Z,15nm,1.1s							
BATI	**Baumata**	**48.90**	**329**	LR		LR	09 42 14.7	
	comp=Z,363nm,19.0s,baz=192,slow=35							
SNAA	**Sanae**	**51.17**	**192**	P		**P**	**09 22 39.7**	**-0.1**
SNAA	**Sanae**	**51.17**	**192**	P		**P**	**09 22 39.4**	**-0.3**
	comp=Z,9.5nm,1.1s,baz=176,slow=9.3,SNR=1.9							
SNAA	**Sanae**	**51.17**	**192**	P		**P**	**09 22 39.7**	**-0.1**
RAR	**Rarotonga**	**52.26**	**71**	LR		LR	09 40 12.2	
	comp=Z,204nm,21.7s,baz=258,slow=31							
VNA3	**Neumayer Olymp**	**52.29**	**189**	P		**P**	**09 22 47.7**	**-0.4**
VNA2	**Neumayer--Watz**	**52.37**	**190**	P		**P**	**09 22 47.3**	**-1.4**
	baz=147,slow=5.0							
AFI	**Afiamalu**	**52.42**	**54**	LR		LR	09 42 21.4	
	comp=Z,173nm,21.0s,baz=175,slow=33							
VNA1	**Neumayer--Stat**	**52.72**	**190**	P		**P**	**09 22 50.6**	**-0.6**
KAPI	**Kappang**	**54.99**	**326**	LR		LR	09 46 12.2	
	comp=Z,94nm,19.9s,baz=146,slow=36							
SPSI	**Sidrap Palu**	**55.98**	**327**	P		**P**	**09 23 13.9**	**-1.6**
	comp=Z,18nm,1.2s							
SANI	**Sanana**	**56.08**	**335**	P		**P**	**09 23 20.1**	**+3.8**
	comp=Z,22nm,1.0s							
LEM	**Lembang**	**57.81**	**312**	LR		LR	09 44 33.5	
	comp=Z,220nm,21.2s,baz=186,slow=32							
LEM	**Lembang**	**57.81**	**312**	P		**P**	**09 23 31.1**	**+2.3**
	comp=Z,32nm,1.2s							
BBKI	**Banjar Baru**	**58.09**	**321**	P		P	09 23 40.3	+10
PPT2	**Papeete2**	**60.77**	**78**	*e*LR		LR	09 41 45.8	
	comp=Z,279nm,22.2s,baz=228							
KSM	**Kuching**	**64.30**	**319**	P		**P**	**09 24 11.3**	**-1.3**
KSM				IAmb		IAmb	09 24 15.7	
	comp=Z,18nm,1.2s							
SBUM	**Sibu**	**64.51**	**321**	P		**P**	**09 24 13.1**	**-0.9**
DAV	**Davao City (W)**	**64.98**	**337**	LR		LR	09 52 26.5	
	comp=Z,342nm,19.2s,baz=36,slow=36							
GUMO	**Guam**	**69.02**	**358**	LR		LR	09 53 42.5	
	comp=Z,52nm,19.2s,baz=185,slow=35							
PSI	**Prapat**	**70.20**	**308**	LR		LR	09 50 42.7	
	comp=Z,318nm,21.9s,baz=128,slow=32							
RPN	**Rapa Nui**	**75.31**	**117**	LR		LR	09 50 26.1	
	comp=Z,239nm,19.0s,baz=210,slow=29							
LL02	**Futaleuf**	**76.17**	**152**	P		**P**	**09 25 24.4**	**-0.7**
LL02				IAmb		IAmb	09 25 30.2	
	comp=Z,12nm,1.1s							
UBPT	**Khong Chiam**	**78.81**	**319**	P		**P**	**09 25 39.6**	**-0.3**
PLCA	**Paso Flores**	**78.81**	**152**	P		**P**	**09 25 39.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=175,slow=10,SNR=3.9							
SUR	**Sutherland**	**80.97**	**224**	LR		LR	09 55 05.2	
	comp=Z,276nm,19.9s,baz=175,slow=31							
BOSA	**Boshof**	**82.45**	**229**	P		**P**	**09 26 01.2**	**+1.5**
	comp=Z,8.5nm,1.1s,baz=139,slow=9.3,SNR=4.8							
BOSA				LR		LR	09 55 37.2	
	comp=Z,81nm,21.8s,baz=184,slow=30							
H03S2	**Juan Fernandez**	**82.63**	**143**	T		T	10 57 47.1	
	baz=202,SNR=18							
H03S1	**Juan Fernandez**	**82.63**	**143**	T		T	10 57 49.6	
	baz=202,SNR=20							
H03S3	**Juan Fernandez**	**82.65**	**143**	T		T	10 57 47.9	
	baz=202,SNR=24							
PALK	**Pallekele**	**82.92**	**294**	P		**P**	**09 26 02.7**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=88,slow=1.6,SNR=3.7							
PALK				LR		LR	09 54 53.6	
	comp=Z,212nm,21.7s,baz=258,slow=30							
PALK	**Pallekele**	**82.92**	**294**	P		**P**	**09 26 01.2**	**-0.9**
PALK				IAmb		IAmb	09 26 16.3	
	comp=Z,24nm,1.8s							
H03N3	**Juan Fernandez**	**82.98**	**143**	T		T	10 58 17.2	
	baz=194							
H03N2	**Juan Fernandez**	**82.99**	**143**	T		T	10 58 12.4	
	baz=194							
H03N1	**Juan Fernandez**	**83.00**	**143**	T		T	10 58 15.4	
	baz=194							
JOW	**Kunigami**	**83.71**	**343**	LR		LR	10 01 35.9	
	comp=Z,73nm,21.3s,baz=176,slow=34							
CMAR	**Chiang Mai Arr**	**84.22**	**315**	P		**P**	**09 26 08.3**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=183,slow=4.7,SNR=10.0							
CMAR				LR		LR	10 00 23.0	
	comp=Z,115nm,21.8s,baz=160,slow=33							
CMAR	**Chiang Mai Arr**	**84.22**	**315**	P		**P**	**09 26 08.5**	**0.0**
CHTO	**Chiang Mai**	**84.54**	**315**	P		**P**	**09 26 09.4**	**-0.7**
MATP	**Matopo**	**88.09**	**236**	LR		LR	10 01 26.5	
	comp=Z,194nm,18.1s,baz=174,slow=32							
JHJ	**Hachijo jima 2**	**88.65**	**354**	LR		LR	10 02 34.8	
	comp=Z,125nm,21.7s,baz=115,slow=33							
PZH	**PanZhiHua**	**90.45**	**321**	P		P	09 26 44.4	+5.7
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,150nm,5.9s							
NJ2	**Nanjing**	**90.61**	**336**	*e*P		**P**	**09 26 41.1**	**+2.0**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
MJAR	**Matsushiro Arr**	**92.16**	**353**	P		**P**	**09 26 46.8**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=193,slow=4.0,SNR=1.6							
MJAR				LR		LR	10 09 01.9	
	comp=Z,65nm,18.3s,baz=162,slow=36							
MJAR	**Matsushiro Arr**	**92.16**	**353**	P		**P**	**09 26 45.2**	**-0.9**
MJAR				IAmb		IAmb	09 26 46.8	
	comp=Z,17nm,1.8s							
TSUM	**Tsumeb**	**94.00**	**227**	LR		LR	10 04 42.2	
	comp=Z,180nm,19.8s,baz=158,slow=33							
KSRS	**Korea Array**	**94.17**	**345**	LR		LR	10 06 30.2	
	comp=Z,59nm,21.8s,baz=85,slow=34							
CPUP	**Villa Florida**	**95.74**	**158**	LR		LR	10 04 57.7	
	comp=Z,66nm,21.0s,baz=196,slow=32							
LZH	**Lanzhou**	**98.51**	**326**	*e*P		Pdif	09 27 16.8	+1.4
LZH				sP		pwP	09 27 24.3	+2.6
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
ASAJ	**Asahikawa**	**99.49**	**357**	LR		LR	10 10 49.7	
	comp=Z,67nm,21.1s,baz=118,slow=34							
HHC	**Hu-ho-hao-te**	**100.75**	**333**	*e*P		**Pdif**	**09 27 27.0**	**+1.8**
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
WMQ	**Urumqi**	**111.02**	**318**	*e*PKP		**PKiKP**	**09 32 10.6**	**+0.8**
KURBB	**Kurchatov Arra**	**120.15**	**317**	PKP		**PKiKP**	**09 32 27.7**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=138,slow=2.5,SNR=3.5							
KURK	**Kurchatov**	**120.19**	**317**			**PKiKP**	**09 32 26.9**	**-0.2**
NVAR	**Mina Array Bea**	**123.19**	**69**	PKP		**PKiKP**	**09 32 35.1**	**+1.3**
	comp=Z,1.9nm,1.1s,baz=207,slow=1.0,SNR=2.7							
TXAR	**Lajitas Array**	**124.49**	**87**	PKP		**PKiKP**	**09 32 37.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=181,slow=4.5,SNR=8.3							
TXAR	**Lajitas Array**	**124.49**	**87**			**PKiKP**	**09 32 36.6**	**+0.1**
MNTX	**Cornudas Mount**	**125.30**	**84**	P		**PKiKP**	**09 32 41.6**	**+3.7**
	baz=221							
ANM	**Nome**	**125.37**	**23**	P		**PKiKP**	**09 32 41.6**	**+4.7**
	baz=211							
TNA	**Tin City**	**125.68**	**21**	P		**PKiKP**	**09 32 41.9**	**+4.4**
	baz=210							
DUG	**Dugway, Tooele**	**127.39**	**72**	P		**PKiKP**	**09 32 46.0**	**+4.0**
	baz=224							
MVCO	**Mesa Verde**	**127.61**	**77**	P		**PKiKP**	**09 32 46.8**	**+4.2**
	baz=224							
CHUM	**Lake Minchumin**	**128.07**	**29**	P		**PKiKP**	**09 32 46.2**	**+3.9**
	baz=219							
PV13	**Radium Mtn., P**	**128.11**	**76**	PKPdf		**PKPdf**	**09 32 42.2**	**-0.8**
MSTX	**Muleshoe**	**128.46**	**84**	P		**PKiKP**	**09 32 47.9**	**+3.6**
	baz=223							
N25K	**Chitina, Valde**	**128.66**	**35**	P		**PKiKP**	**09 32 45.6**	**+1.9**
	baz=222							
RND	**Reindeer**	**128.70**	**31**			**PKPdf**	**09 32 42.8**	**-0.3**
I21K	**Tanana**	**129.17**	**28**	P		**PKiKP**	**09 32 47.8**	**+3.2**
	baz=220							
TORD	**Torodi Ar. Bea**	**129.74**	**226**	PKP		**PKiKP**	**09 32 48.4**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=148,slow=1.2,SNR=8.1							
HDA	**Harding Lake**	**130.01**	**31**	P		**PKiKP**	**09 32 49.1**	**+2.8**
	baz=223							
ILAR	**Eielson Array**	**130.29**	**31**	PKP		**PKPdf**	**09 32 44.7**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=273,slow=2.8,SNR=2.9							
SCRK	**Sand Creek**	**130.58**	**33**	P		**PKiKP**	**09 32 50.9**	**+3.3**
	baz=224							
L27K	**Beaver Creek,**	**130.61**	**35**	P		**PKiKP**	**09 32 51.2**	**+3.6**
	baz=225							
J25K	**Salcha River,**	**130.62**	**32**	P		**PKiKP**	**09 32 51.0**	**+3.5**
	baz=224							
PDAR	**Pinedale Array**	**130.94**	**71**	PKP		**PKiKP**	**09 32 51.0**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=204,slow=2.0,SNR=4.1							
WMOK	**Wichita Mounta**	**131.27**	**87**	P		**PKiKP**	**09 32 52.8**	**+3.0**
	baz=223							
TOLK	**Toolik Lake Re**	**132.40**	**26**	P		**PKiKP**	**09 32 54.7**	**+3.7**
	baz=223							
BRTR	**Keskin Array B**	**134.19**	**279**	PKP		**PKiKP**	**09 32 55.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=165,slow=5.1,SNR=3.8							
EPYK	**Eagle Plains**	**134.46**	**33**	P		**PKiKP**	**09 32 58.0**	**+2.8**
	baz=230							
W41B	**Gary Mavity, V**	**135.28**	**92**	P		**PKiKP**	**09 33 00.5**	**+2.7**
	baz=224							
U40A	**Yellville**	**135.79**	**90**	P		**PKiKP**	**09 33 00.2**	**+1.3**
	baz=224							
YKA	**Yellowknife Ar**	**140.24**	**46**	PKhKP		PKPpre	09 32 59.5	
	comp=Z,1.1nm,0.9s,baz=239,slow=3.1,SNR=12							
YKA	**Yellowknife Ar**	**140.24**	**46**	PKPdf		**PKPdf**	**09 33 03.4**	**-1.1

Ms1 3.7/3,ms1mx2.9/92,Error ellipse: s-maj=33.5km s-min=17.1km az=61.0

ISC 16 09:16:27.2±0.8,29°9N±0.1′×98°3E±0.2,h35km,n14, σ0:62/13,mb3.6/11,MS3.5/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.37**	**177**	Pn	**Pn**	**09 19 07.3**	**+0.1**
	baz=347,slow=12,SNR=5.7						
CMAR				LR	LR	09 23 46.2	
	comp=Z,38nm,18.9s,baz=340,slow=39						
SONM	**Songino Array**	**18.99**	**17**	P	**Pn**	**09 20 46.7**	**-0.1**
	0.1nm,0.3s,baz=202,slow=10.0,SNR=5.8						
MKAR	**Makanchi Array**	**21.01**	**328**	P	**P**	**09 21 08.8**	**+1.1**
	1.2nm,0.6s,baz=139,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**25.51**	**330**	P	**P**	**09 21 51.6**	**-0.6**
	1.2nm,0.6s,baz=137,slow=10,SNR=7.9						
KSRS	**Korea Array**	**25.69**	**65**	P	**P**	**09 21 55.1**	**+1.1**
	0.6nm,0.4s,baz=258,slow=9.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**26.00**	**342**	P	**P**	**09 21 56.0**	**-0.5**
	1.0nm,0.6s,baz=163,slow=10,SNR=3.8						
ZALV				LR	LR	09 33 25.0	
	comp=Z,65nm,20.3s,baz=26,slow=39						
AKTO	**Aktyubinsk**	**36.45**	**316**	P	**P**	**09 23 28.9**	**+0.3**
	0.5nm,0.4s,baz=97,slow=8.1,SNR=2.2						
AKTO				LR	LR	09 41 21.3	
	comp=Z,80nm,19.8s,baz=358,slow=41						
NRIK	**Noril'sk**	**40.01**	**354**	P	**P**	**09 23 57.9**	**-0.3**
	2.8nm,0.5s,baz=162,slow=3.2,SNR=5.8						
WRA	**Warramunga Arr**	**60.45**	**141**	P	**P**	**09 26 33.6**	**+0.1**
	0.9nm,0.7s,baz=327,slow=7.5,SNR=5.8						
NOA	**NORSAR Array B**	**63.00**	**327**	P	**P**	**09 26 50.4**	**+0.1**
	0.3nm,0.4s,baz=78,slow=6.5,SNR=2.2						
ASAR	**Alice Springs**	**63.25**	**143**	P	**P**	**09 26 51.8**	**-0.5**
	0.2nm,0.6s,baz=338,slow=7.3,SNR=1.2						
ILAR	**Eielson Array**	**73.05**	**24**	P	**P**	**09 27 53.2**	**-0.1**
	0.5nm,0.8s,baz=302,slow=5.2,SNR=6.5						
YKA	**Yellowknife Ar**	**84.25**	**15**	P	**P**	**09 28 54.4**	**-0.4**
	0.2nm,0.7s,baz=327,slow=4.9,SNR=5.6						
DBIC	**Dimbokro**	**98.03**	**282**	LR	LR	10 21 37.7	
	comp=Z,121nm,18.0s,baz=166,slow=40						

*IDC **16** 09:24:22.5±0.5,58°.92S×23°.51W,h0km,mb4.7/13, mb1 4.7/13,mb1mx4.5/25,mbtmp4.7/13,MS4.0/22, Ms1 4.0/22,ms1mx3.9/40,Error ellipse: s-maj=17.3km s-min=16.3km az=38.0*

*NEIC **16** 09:24:24.2±1.9,58°.99S±0°.09×23°.6W±0°.2,h10km±1km, mb5.0/70,Error ellipse: s-maj=16.6km s-min=13.5km az=209.0*

*GCMT **16** 09:24:26.2±0.3,59°.14S±0°.02×22°.97W±0°.03,h18km±1km, MW4.9/91,Moment Tensor Solution. s30,c32; s91,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.07±.19; $M_{\theta\theta}$-0.37±.16; $M_{\phi\phi}$1.44±.15; $M_{r\theta}$0.73±.31; $M_{r\phi}$2.93±.10; $M_{\theta\phi}$0.09±.29; Best double couple: M_o3.18400×10^{16} NP1:$\phi_1$352.00000°,δ72.00000°,λ-171.00000°. NP2: $\phi_2$260.00000°,δ81.00000°,λ-18.00000°. Principal axes: T 3.6580, Plg6.0000°, Azm307.0000°; N -0.9450, Plg70.0000°, Azm55.0000°; P -2.7110, Plg19.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 09:24:23.7±0.3,59°.01S±0°.07×23°.61W±0°.07,h10km,n225, σ0:92/214,mb5.0/41,MS4.2/23,1C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.53**	**298**		**Pn**	**09 26 26.0**	**-1.1**
ORCD	**Orcadas**	**10.75**	**252**	Pn	**Pn**	**09 26 57.4**	**0.0**
VNA1	**Neumayer--Stat**	**13.31**	**157**	P	**Pn**	**09 27 32.2**	**-0.3**
VNA3	**Neumayer Olymp**	**13.54**	**161**	P	**Pn**	**09 27 34.6**	**-1.0**
VNA2	**Neumayer--Watz**	**13.71**	**157**	P	**Pn**	**09 27 36.2**	**-1.7**
	baz=316,slow=16						
SNAA	**Sanae**	**15.24**	**155**	P	**Pn**	**09 27 56.9**	**-1.7**
SNAA	**Sanae**	**15.24**	**155**	Pn	**Pn**	**09 27 56.9**	**-1.7**
	16nm,0.3s,baz=325,slow=15,SNR=216						
SNAA				Sn	Sn	09 30 33.7	-13
	0.2nm,0.3s,baz=9.2,slow=23,SNR=2.2						
SNAA				LR	LR	09 33 01.7	
	comp=Z,441nm,18.9s,baz=319,slow=34						
SNAA	**Sanae**	**15.24**	**155**		**Pn**	**09 27 56.9**	**-1.7**
ESPZ	**Base Esperanza**	**16.54**	**240**	Pn	**Pn**	**09 28 15.0**	**-0.4**
ESPZ				IAmb	IAmb	09 28 38.1	
	comp=Z,200nm,1.3s						
BELA	**Belgrano 2**	**19.30**	**187**	P	**P**	**09 28 48.3**	**-0.1**
BELA				IAmb	IAmb	09 28 53.6	
	comp=Z,89nm,1.5s						
PMSA	**Palmer Station**	**19.62**	**236**	LR	LR	09 35 52.2	
	comp=Z,599nm,19.1s,baz=54,slow=35						
EFI	**East Falkland**	**20.73**	**276**	P	**P**	**09 29 04.2**	**+0.1**
EFI				IAmb	IAmb	09 29 06.8	
	comp=Z,113nm,1.1s						
SMAI	**San Martin Ant**	**20.93**	**226**	P	Pn	09 29 08.9	+0.4
MG01	**Puerto William**	**24.00**	**260**	P	**P**	**09 29 38.4**	**+0.3**
USHA	**Ushuaia**	**24.45**	**260**	P	**P**	**09 29 43.9**	**+1.6**
	comp=Z,106nm,0.8s,baz=116,slow=8.7,SNR=22						
USHA				LR	LR	09 37 10.6	
	comp=Z,624nm,20.3s,baz=163,slow=31						
DSPA	**Despedida**	**24.80**	**262**	P	**P**	**09 29 45.7**	**+0.3**
MG02	**Cerro Sombrero**	**25.89**	**264**	P	**P**	**09 29 53.8**	**-1.6**
MG03	**Isla Dawson**	**25.97**	**261**	P	**P**	**09 29 57.8**	**+1.7**
MG03				IAmb	IAmb	09 29 58.2	
	comp=Z,35nm,0.8s						
SYO	**Syowa Base**	**28.07**	**137**	iX	P	09 30 08.4	-6.5
MG05	**Puerto Natales**	**28.18**	**263**	P	**P**	**09 30 14.9**	**-1.1**
MG05				IAmb	IAmb	09 30 15.8	
	comp=Z,34nm,0.8s						
QSPA	**South Pole Qui**	**31.23**	**180**	P	**P**	**09 30 45.1**	**+2.1**
	comp=Z,20nm,0.8s,baz=208,slow=3.2,SNR=82						
QSPA	**South Pole Qui**	**31.23**	**180**	P	**P**	**09 30 45.2**	**+2.1**
COYC	**Coyhaique**	**31.78**	**273**	P	**P**	**09 30 48.0**	**+0.1**
COYC				IAmb	IAmb	09 30 49.2	
	comp=Z,27nm,1.1s						
AY01	**Puyuhuapi**	**32.87**	**274**	P	**P**	**09 30 56.7**	**-0.7**
LL02	**Futaleuf**	**33.32**	**277**	P	**P**	**09 31 01.0**	**-0.4**
LL02				IAmb	IAmb	09 31 01.9	
	comp=Z,15nm,1.1s						
PLTB	**Pedras Altas**	**33.90**	**310**	P	**P**	**09 31 06.7**	**0.0**
PLCA	**Paso Flores**	**34.44**	**281**	P	**P**	**09 31 11.0**	**-0.3**
	comp=Z,12nm,1.0s,baz=148,slow=7.3,SNR=23						
PLCA				LR	LR	09 44 05.5	
	comp=Z,194nm,20.6s,baz=136,slow=34						
PLCA	**Paso Flores**	**34.44**	**281**	P	**P**	**09 31 10.9**	**-0.3**
PLCA	**Paso Flores**	**34.44**	**281**	*eP*	**P**	**09 31 11.1**	**-0.3**
LL03	**Petrohue**	**35.09**	**279**	P	**P**	**09 31 15.8**	**-0.9**
LL04	**Puerto Octay**	**35.26**	**279**	IAmb	IAmb	09 31 19.2	
	comp=Z,46nm,1.7s						
LR03	**Panguipulli**	**36.18**	**280**	P	**P**	**09 31 26.1**	**0.0**
LR03				IAmb	IAmb	09 31 30.2	
	comp=Z,45nm,1.2s						
LC01	**Cunco**	**36.49**	**282**	P	**P**	**09 31 28.2**	**-0.7**
LC01				IAmb	IAmb	09 31 32.2	
	comp=Z,30nm,1.2s						
ITQB	**Itaqui**	**36.96**	**308**	P	**P**	**09 31 30.4**	**-2.4**
ITQB				IAmb	IAmb	09 31 34.4	
	comp=Z,26nm,1.2s						
ITQB	**Itaqui**	**36.96**	**308**	*eP*	**P**	**09 31 32.1**	**-0.7**
ITAB	**Concordia**	**37.41**	**316**	*eP*	**P**	**09 31 36.9**	**+0.2**
TIJ01	**Guaruva-PR**	**38.09**	**321**	*eP*	**P**	**09 31 43.3**	**+0.6**
DUB01	**Friburgo-RJ**	**39.27**	**332**	*eP*	**P**	**09 31 53.1**	**+0.7**
GO05	**Huala**	**39.54**	**286**	IAmb	IAmb	09 31 56.2	
	comp=Z,118nm,2.0s						
VAO	**Valinhos**	**39.63**	**325**	*eP*	**P**	**09 31 56.7**	**+1.2**
PTGB	**Pitanga**	**39.69**	**317**	*eP*	**P**	**09 31 56.2**	**+0.2**
BO04	**La Punta**	**39.70**	**288**	P	**P**	**09 31 55.4**	**-0.6**
SUR	**Sutherland**	**39.76**	**68**	P	**P**	**09 31 56.4**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=219,slow=8.4,SNR=1.8						
SUR	**Sutherland**	**39.76**	**68**	P	**P**	**09 31 56.1**	**-0.5**
MT03	**Universidad Ad**	**40.05**	**289**	P	**P**	**09 31 58.1**	**-0.8**
MT09	**Talagante**	**40.06**	**288**	P	**P**	**09 31 56.6**	**-2.5**
MT09				IAmb	IAmb	09 32 15.6	
	comp=Z,29nm,1.0s						
CPUP	**Villa Florida**	**40.21**	**309**	P	**P**	**09 32 00.7**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=148,slow=8.9,SNR=4.2						
CPUP				LR	LR	09 46 41.6	
	comp=Z,141nm,19.3s,baz=177,slow=33						
CPUP	**Villa Florida**	**40.21**	**309**	P	**P**	**09 31 58.5**	**-1.7**
MT05	**Renca**	**40.25**	**288**	P	**P**	**09 32 00.7**	**+0.2**
PEL	**Peldehue**	**40.42**	**289**	P	**P**	**09 32 01.7**	**-0.3**
PEL				IAmb	IAmb	09 32 17.9	
	comp=Z,73nm,1.5s						
VA05	**Santo Domingo**	**40.47**	**287**	P	**P**	**09 32 02.1**	**-0.1**
MT02	**Curacav**	**40.55**	**288**	P	**P**	**09 32 02.8**	**-0.2**
MT02				IAmb	IAmb	09 32 19.1	
	comp=Z,36nm,1.2s						
VA03	**San Esteban**	**40.66**	**289**	P	**P**	**09 32 03.1**	**-1.0**
ROC1	**El Roble**	**40.72**	**288**	P	**P**	**09 32 04.2**	**-0.4**
BSCB	**Bom Sucesso**	**40.92**	**329**	*eP*	**P**	**09 32 05.7**	**-0.5**
RIB01	**Linhares ES**	**41.48**	**336**	*eP*	**P**	**09 32 12.6**	**+1.9**
TRCB	**Terra Rica**	**41.66**	**318**	P	**P**	**09 32 12.2**	**0.0**
BB19B	**Bebedouro**	**41.92**	**324**	*eP*	**P**	**09 32 15.0**	**+0.6**
SJMB	**Sao Joao De Ma**	**42.25**	**335**	*eP*	**P**	**09 32 17.1**	**+0.2**
PCMB	**Pacaembu**	**42.29**	**320**	*eP*	**P**	**09 32 17.6**	**+0.3**
NAN01	**Guarapari, ES**	**42.85**	**337**	*eP*	**P**	**09 32 22.4**	**+0.6**
DIAM	**Diamantina, MG**	**43.22**	**332**	*eP*	**P**	**09 32 26.3**	**+1.3**
SBA	**Scott Base**	**43.24**	**183**	P	**P**	**09 32 24.6**	**+0.2**
SBA				IAmb	IAmb	09 32 28.6	
	comp=Z,30nm,1.2s						
VNDA	**Vanda**	**43.68**	**182**	P	**P**	**09 32 30.5**	**+2.5**
	comp=Z,10nm,0.9s,baz=188,slow=7.3,SNR=25						
VNDA				LR	LR	09 50 45.9	
	comp=Z,82nm,18.1s,baz=178,slow=36						
VNDA	**Vanda**	**43.68**	**182**	P	**P**	**09 32 28.7**	**+0.7**
LCO	**Las Campanas**	**43.83**	**292**	P	**P**	**09 32 30.3**	**+0.3**
LCO				IAmb	IAmb	09 32 50.7	
	comp=Z,45nm,1.8s						
GUA01	**Guaratinga, BA**	**44.01**	**337**	*eP*	**P**	**09 32 32.1**	**+0.8**
AC04	**Llanos de Chal**	**44.68**	**292**	P	**P**	**09 32 36.4**	**-0.2**
AC04				IAmb	IAmb	09 32 58.2	
	comp=Z,14nm,0.8s						
IPMB	**Ipameri, GO**	**44.74**	**326**	*eP*	**P**	**09 32 38.6**	**+1.4**
AQDB	**Aquidauana**	**44.88**	**315**	P	**P**	**09 32 37.5**	**-0.7**
AC02	**Maricunga**	**44.91**	**295**	P	**P**	**09 32 37.9**	**-1.1**
BOSA	**Boshof**	**45.01**	**69**	P	**P**	**09 32 38.6**	**-0.7**
	comp=Z,14nm,0.7s,baz=198,slow=6.8,SNR=20						
BOSA	**Boshof**	**45.01**	**69**	P	**P**	**09 32 38.6**	**-0.7**
BOSA				IAmb	IAmb	09 32 41.6	
	comp=Z,15nm,0.8s						
JANB	**Januaria**	**46.49**	**332**	*eP*	**P**	**09 32 51.7**	**+0.7**
BDFB	**Brasilia**	**46.91**	**327**	P	**P**	**09 32 54.9**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=152,slow=9.2,SNR=5.2						
BDFB				LR	LR	09 50 04.0	
	comp=Z,230nm,21.9s,baz=146,slow=33						
BDFB	**Brasilia**	**46.91**	**327**	P	**P**	**09 32 53.9**	**-0.5**
BDFB				IAmb	IAmb	09 33 09.9	
	comp=Z,33nm,1.6s						
ARAG	**Araguaiana, MT**	**47.98**	**322**	*eP*	**P**	**09 33 03.5**	**+0.9**
LBTB	**Lobatse**	**48.20**	**67**	P	**P**	**09 33 03.6**	**-0.7**
LBTB				IAmb	IAmb	09 33 06.6	
	comp=Z,16nm,0.9s						
LVC	**Limon Verde**	**48.44**	**299**	LR	LR	09 54 36.7	
	comp=Z,110nm,19.7s,baz=170,slow=38						
LVC	**Limon Verde**	**48.44**	**299**	P	**P**	**09 33 06.6**	**0.0**
SALV	**Santo Antonio**	**49.10**	**317**	*eP*	**P**	**09 33 11.8**	**+0.6**
NBLA	**Lagarto - SE**	**49.11**	**341**	*eP*	**P**	**09 33 11.8**	**+0.6**
SDBA	**SAO DESIDERIO**	**49.18**	**332**	*eP*	**P**	**09 33 12.7**	**+0.9**
TSUM	**Tsumeb**	**49.63**	**55**	P	**P**	**09 33 14.8**	**-0.6**
TSUM				IAmb	IAmb	09 33 18.3	
	comp=Z,12nm,1.1s						
NBPN	**Ponto Novo - B**	**49.68**	**338**	*eP*	**P**	**09 33 15.7**	**+0.1**
NBAN	**Anadia - AL**	**50.17**	**344**	*eP*	**P**	**09 33 19.7**	**+0.4**
PEXB	**Peixe**	**50.35**	**328**	*eP*	**P**	**09 33 22.2**	**+1.5**
H10S2	**ASCENSION HYDR**	**50.41**	**12**	T	T	10 27 42.2	
	baz=186,slow=74,SNR=4.0						
H10S3	**ASCENSION HYDR**	**50.41**	**11**	T	T	10 27 51.2	
	baz=34,slow=74,SNR=6.3						
PTLB	**Pontes e Lacer**	**50.76**	**314**	*eP*	**P**	**09 33 24.1**	**+0.3**
SIV	**San Ignacio**	**51.00**	**311**	LR	LR	09 55 52.1	
	comp=Z,96nm,19.8s,baz=176,slow=37						
TA02	**Huaiquique**	**51.03**	**299**	P	**P**	**09 33 24.5**	**-1.3**
SNDB	**Serra Nova Dou**	**51.34**	**324**	*eP*	**P**	**09 33 29.4**	**+1.2**
H10N1	**ASCENSION HYDR**	**51.53**	**12**	T	T	10 29 13.1	
	baz=193						
H10N3	**ASCENSION HYDR**	**51.53**	**12**	T	T	10 29 15.2	
	baz=193						
H10N2	**ASCENSION HYDR**	**51.54**	**12**	T	T	10 29 17.4	
	baz=193						
NBMA	**Muriti-CE**	**52.82**	**341**	*eP*	**P**	**09 33 40.1**	**+0.8**
NBPV	**Pedro Velho**	**53.23**	**345**	*eP*	**P**	**09 33 43.2**	**+1.0**
SMTB	**Santa Maria do**	**53.27**	**330**	*eP*	**P**	**09 33 43.6**	**+1.1**
PDRB	**Porto dos Gac**	**53.44**	**318**	*eP*	**P**	**09 33 42.8**	**-0.9**
VILB	**Vilhena**	**53.45**	**314**	*eP*	**P**	**09 33 44.0**	**+0.2**
LPAZ	**La Paz**	**53.65**	**303**	P	**P**	**09 33 46.3**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=147,slow=5.3,SNR=13						
LPAZ				LR	LR	09 57 01.4	
	comp=Z,93nm,22.0s,baz=150,slow=36						
LPAZ	**La Paz**	**53.65**	**303**	P	**P**	**09 33 44.3**	**-1.6**
CLDB	**Colider**	**53.81**	**320**	*eP*	**P**	**09 33 46.6**	**+0.1**
RCBR	**Riachuelo**	**53.90**	**345**	LR	LR	09 53 09.7	
	comp=Z,97nm,18.8s,baz=311,slow=32						
NBPB	**Pedra_Branca-C**	**54.74**	**340**	*eP*	**P**	**09 33 54.1**	**+0.9**
NBPS	**Pedro II - PI**	**56.21**	**338**	*eP*	**P**	**09 34 04.4**	**+0.5**
PRPB	**Parauapebas**	**56.43**	**328**	*eP*	**P**	**09 34 07.2**	**+1.8**
NPGB	**Novo Progresso**	**57.25**	**322**	*eP*	**P**	**09 34 11.7**	**+0.5**
LSZ	**Lusaka**	**57.80**	**64**	P	**P**	**09 34 15.8**	**+0.5**
LSZ				IAmb	IAmb	09 34 17.6	
	comp=Z,13nm,0.9s						
ETMB	**Extrema**	**58.65**	**309**	*eP*	**P**	**09 34 20.9**	**-0.1**
ITTB	**Itaituba**	**59.89**	**322**	*eP*	**P**	**09 34 31.6**	**+2.0**
NNA	**Nana**	**61.34**	**297**	LR	LR	09 59 11.5	
	comp=Z,108nm,21.7s,baz=150,slow=34						
MALB	**Monte Alegre**	**61.81**	**325**	*eP*	**P**	**09 34 44.0**	**+1.3**
MCPB	**Macapa, AP**	**62.60**	**328**	*eP*	**P**	**09 34 49.4**	**+1.5**
LIC	**Lamto**	**66.71**	**20**	*eP*	**P**	**09 35 17.1**	**+2.4**
	comp=Z,39nm,1.2s						
KIC	**Kosan Boka**	**66.89**	**20**	*eP*	**P**	**09 35 18.1**	**+2.2**
	comp=Z,11nm,0.8s						
TIC	**Toumodi**	**67.12**	**20**	*eP*	**P**	**09 35 19.7**	**+2.3**
DBIC	**Dimbokro**	**67.18**	**20**	P	**P**	**09 35 19.2**	**+1.6**
	comp=Z,8.6nm,0.9s,baz=203,slow=5.1,SNR=6.8						
DBIC	**Dimbokro**	**67.18**	**20**	P	**P**	**09 35 17.7**	**+0.1**
DBIC				IAmb	IAmb	09 35 20.8	
	comp=Z,15nm,1.1s						
BOAV	**Boa Vista**	**67.80**	**320**	*eP*	**P**	**09 35 21.9**	**+0.2**
MDP	**Montagnes des**	**67.98**	**329**	LR	LR	10 02 03.4	
	comp=Z,102nm,21.6s,baz=183,slow=33						
MBAR	**Mbarara**	**71.91**	**59**	LR	LR	10 05 19.1	
	comp=Z,133nm,18.2s,baz=162,slow=34						
OTAV	**Otavalo**	**72.88**	**301**	P	**P**	**09 35 52.4**	**-0.9**
OTAV				IAmb	IAmb	09 35 57.7	
	comp=Z,12nm,1.4s						
KIBK	**Kibwezi**	**73.73**	**66**	P	**P**	**09 35 57.6**	**-0.3**
KMBO	**Kilima Mbogo**	**74.42**	**65**	LR	LR	10 06 10.8	
	comp=Z,316nm,18.1s,baz=102,slow=34						
TOA0	**Torodi Ar. Sit**	**74.80**	**26**	P	**P**	**09 36 04.4**	**+0.5**
TOA0				IAmb	IAmb	09 36 07.4	
	comp=Z,20nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.80**	**26**	P	**P**	**09 36 03.9**	**0.0**
	comp=Z,12nm,0.9s,baz=197,slow=6.1,SNR=36						
KOWA	**Kowa**	**74.98**	**20**	P	**P**	**09 36 04.8**	**-0.1**
KOWA				IAmb	IAmb	09 36 08.9	
	comp=Z,16nm,1.3s						
ROSC	**El Rosal**	**75.24**	**307**	LR	LR	10 09 56.4	
	comp=Z,147nm,20.1s,baz=170,slow=36						
SDV	**Santo Domingo**	**77.46**	**312**	LR	LR	10 09 39.6	
	comp=Z,284nm,21.9s,baz=152,slow=35						
SDV	**Santo Domingo**	**77.46**	**312**	P	**P**	**09 36 19.1**	**-0.2**
SDV				IAmb	IAmb	09 36 23.0	
	comp=Z,13nm,1.1s						
ZARC	**Zaragoza, Cauc**	**77.86**	**308**	P	**P**	**09 36 20.1**	**-1.3**
DRK0	**Durika**	**83.03**	**301**	P	**P**	**09 36 48.0**	**-1.3**
SRBA	**San Rafael, Bu**	**83.06**	**301**	P	**P**	**09 36 48.4**	**-1.0**
SRBA				IAmb	IAmb	09 36 51.5	
	comp=Z,9.1nm,1.2s						
RIMA	**Rio Macho**	**83.75**	**301**	P	**P**	**09 36 52.3**	**-0.8**
RIMA				IAmb	IAmb	09 37 08.7	
	comp=Z,22nm,1.8s						
CRPR	**Cabo Rojo, PR**	**84.59**	**319**	P	**P**	**09 36 56.7**	**-0.3**
TBI	**Tubuai**	**86.63**	**228**	*e*LR	LR	10 04 42.5	
	comp=Z,105nm,24.2s						
MATN	**Matagalpa**	**87.47**	**300**	P	**P**	**09 37 10.0**	**-1.4**
MATN				IAmb	IAmb	09 37 12.8	
	comp=Z,10nm,0.9s						
FORT	**Forrest**	**87.49**	**156**	P	**P**	**09 37 10.8**	**-0.6**
ATD	**Arta Tunnel**	**88.13**	**64**	LR	LR	10 13 50.1	
	comp=Z,82nm,18.2s,baz=165,slow=34						
STKA	**Stephens Creek**	**88.61**	**167**	P	**P**	**09 37 16.9**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=212,slow=6.8,SNR=6.7						
STKA				LR	LR	10 13 25.7	
	comp=Z,139nm,21.7s,baz=201,slow=33						
STKA	**Stephens Creek**	**88.61**	**167**	P	**P**	**09 37 16.4**	**-0.3**
MTO3	**Montecristo**	**90.32**	**298**	P	**P**	**09 37 25.1**	**+0.1**
MTO3				IAmb	IAmb	09 37 26.2	
	comp=Z,8.5nm,0.9s						
PPT2	**Papeete2**	**91.88**	**231**	*e*LR	LR	10 07 08.7	
	comp=Z,94nm,22.8s						
ASAR	**Alice Springs**	**95.55**	**159**	P	**P**	**09 37 48.6**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=196,slow=4.1,SNR=12						
ASAR				LR	LR	10 18 05.7	
	comp=Z,91nm,20.0s,baz=170,slow=34						
TAOE	**Nuku Hiva Isla**	**95.60**	**243**	*e*LR	LR	10 08 53.5	
	comp=Z,150nm,26.4s						
FITZ	**Fitzroy Crossi**	**99.13**	**150**	LR	LR	10 21 14.6	
	comp=Z,66nm,18.2s,baz=190,slow=34						
WRA	**Warramunga Arr**	**99.26**	**159**	LR	LR	10 20 21.6	
	comp=Z,110nm,20.8s,baz=238,slow=34						
PDAR	**Pinedale Array**	**123.51**	**298**	PKP	**PKPdf**	**09 43 19.6**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=145,slow=5.6,SNR=5.2						
HWUT	**Hardware Ranch**	**123.52**	**296**	PKPdf	**PKPdf**	**09 43 20.5**	**-0.1**
ULM	**Lac du Bonnet**	**123.71**	**313**	PKP	**PKPdf**	**09 43 19.3**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=198,slow=2.9,SNR=3.8						
ULM	**Lac du Bonnet**	**123.71**	**313**		**PKPdf**	**09 43 19.6**	**-0.8**
NVAR	**Mina Array Bea**	**124.26**	**289**	PKP	**PKPdf**	**09 43 21.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=125,slow=2.5,SNR=8.5						
LOHW	**Long Hollow**	**124.65**	**298**		**PKPdf**	**09 43 22.9**	**+0.2**
TPAW	**Teton Pass**	**124.71**	**298**		**PKPdf**	**09 43 22.6**	**-0.3**
MOOW	**Moose Ponds**	**124.82**	**298**	PKPdf	**PKPdf**	**09 43 23.2**	**+0.2**
FLWY	**Flagg Ranch**	**125.06**	**298**		**PKiKP**	**09 43 24.4**	**+0.6**
FINES	**FINESS Array B**	**126.13**	**27**	PKP	**PKPdf**	**09 43 24.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=209,slow=1.4,SNR=5.9						
ABKAR	**Akbulak array**	**127.47**	**55**	PKPdf	**PKPdf**	**09 43 27.2**	**-0.4**
ABKAR	**Akbulak array**	**127.47**	**55**	PKPdf	**PKPdf**	**09 43 27.1**	**-0.5**
PLID	**Pearl Lake**	**128.26**	**296**	PKPdf	**PKPdf**	**09 43 30.0**	**+0.4**
MSO	**Missoula**	**128.62**	**298**	PKPdf	**PKPdf**	**09 43 30.4**	**+0.3**
BMO	**Blue Mountains**	**128.70**	**295**	PKPdf	**PKPdf**	**09 43 30.5**	**+0.3**
G08A	**Pilot Rock**	**129.81**	**294**	PKPdf	**PKPdf**	**09 43 33.0**	**+0.7**
PZH	**PanZhiHua**	**130.40**	**106**	PKP	**PKPdf**	**09 43 34.6**	**+0.5**
CD2	**Chengdu**	**135.02**	**105**	PKP	**PKPdf**	**09 43 42.1**	**-0.5**
MKAR	**Makanchi Array**	**135.99**	**72**	PKP	**PKPdf**	**09 43 43.1**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=198,slow=3.7,SNR=5.7						
WMQ	**Urumqi**	**136.59**	**79**	*e*PKP	**PKiKP**	**09 43 46.5**	**-0.4**
YKA	**Yellowknife Ar**	**139.65**	**314**	PKhKP	PKPpre	09 43 43.6	
	comp=Z,0.5nm,0.7s,baz=127,slow=2.6,SNR=10						
YKA				PKP	**PKPdf**	**09 43 50.0**	**0.0**
	comp=Z,3.7nm,0.8s,baz=126,slow=2.3,SNR=32						
YKA				PP	**PP**	**09 46 45.2**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=124,slow=6.7,SNR=6.4						
YKA	**Yellowknife Ar**	**139.65**	**314**	PKPdf	**PKPdf**	**09 43 50.5**	**+0.4**
NJ2	**Nanjing**	**143.16**	**120**	*e*PKP	**PKPdf**	**09 43 57.0**	**-0.3**
HNS	**HongShan**	**145.62**	**110**	∥PKPbc	**PKPbc**	**09 44 02.0**	**+0.3**
P33M	**Teslin, Yukon**	**145.74**	**303**	PKPdf	**PKPbc**	**09 44 02.0**	**+0.6**
BTO	**Baotou**	**145.75**	**102**	*e*PKPbc	**PKPdf**	**09 44 00.8**	**-0.9**
TIA	**Tai'an**	**145.82**	**114**	∥PKPbc	**PKPdf**	**09 44 02.4**	**+0.6**
C36M	**Paulatuk**	**146.45**	**321**	PKPdf	**PKPdf**	**09 44 02.6**	**+0.8**
HHC	**Hu-ho-hao-te**	**146.71**	**103**	*e*PKPbc	**PKPdf**	**09 44 00.3**	**-3.0**
M31M	**Drury Creek, Y**	**147.35**	**306**		**PKPbc**	**09 44 05.9**	**-0.2**
N31M	**

MSVF **Nonsavu** 3.05 269 P **P** 09 36 56.1 +0.2
MSVF **Nonsavu** 3.05 269 P **P** 09 36 57.0 +1.1
AFI **Afiamalu** 7.71 62 P P 09 37 32.6 -3.4
52nm,0.3s,baz=161,slow=1.5,SNR=46
AFI S S 09 39 01.5 -8.4
1.9nm,0.3s,baz=198,slow=20,SNR=1.5
AFI **Afiamalu** 7.71 62 P P 09 37 32.4 -3.5
AFI **Afiamalu** 7.71 62 P **P** 09 37 32.8 -3.2
NIUE **Niue** 8.48 101 P **P** 09 37 43.0 -0.6
baz=8.6,SNR=7.3
NIUE S **S** 09 39 20.5 -3.5
baz=8.6
NIUE **Niue** 8.48 101 P **P** 09 37 41.9 -1.7
NIUE **Niue** 8.48 101 P **P** 09 37 43.3 -0.3
RTV **Rentapao** 12.22 268 P **P** 09 38 22.8 +0.7
DVP **Devils Point** 12.45 268 P **P** 09 38 26.1 +1.6
MARNC **Mare, Loyalty** 13.01 251 P **P** 09 38 27.6 -2.6
LIFNC **LIFOU** 13.57 255 P **P** 09 38 33.2 -3.0
SANVU **Saraoutou** 13.65 277 P **P** 09 38 35.5 -1.6
PINNC **Pines Island,** 13.84 247 P **P** 09 38 38.2 -0.8
OUENC **Ouen Island, N** 14.32 249 P **P** 09 38 42.7 -1.2
DZM **Mont Dzumac** 14.58 250 P **P** 09 38 44.9 -1.8
2.2nm,0.3s,baz=82,slow=18,SNR=26
DZM **Mont Dzumac** 14.58 250 P **P** 09 38 45.4 -1.3
ONTNC **Ouen Toro** 14.63 249 P **P** 09 38 45.8 -1.3
KOUNC **Koumac, New Ca** 16.27 257 P **P** 09 39 03.2 -0.7
KOUNC **Koumac, New Ca** 16.27 257 P **P** 09 39 03.7 -0.1
KNTN **Kanton** 16.38 26 P **P** 09 39 01.8 -3.2
NFK **Norfolk Island** 16.61 225 P **P** 09 39 05.0 -1.9
baz=17
RAR **Rarotonga** 18.23 104 P **P** 09 39 21.7 -0.1
0.9nm,0.3s,baz=233,slow=11,SNR=3.1
RAR **Rarotonga** 18.23 104 P **P** 09 39 23.4 +1.5
RAR **Rarotonga** 18.23 104 P **P** 09 39 18.8 -3.0
OUZ **Omahuta** 18.71 200 P **P** 09 39 28.5 +2.5
MXZ **Matakaoa Point** 19.93 187 P **P** 09 39 37.0 -0.2
URZ **Urewera** 20.78 189 P **P** 09 39 42.8 -2.0
22nm,0.7s,baz=358,slow=2.5,SNR=17
URZ **Urewera** 20.78 189 P **P** 09 39 42.4 -2.4
URZ IAmb IAmb 09 39 45.3
comp=Z,22nm,0.7s
URZ **Urewera** 20.78 189 P **P** 09 39 43.3 -1.5
QRZ **Quartz Range** 24.22 196 P **P** 09 40 15.8 +0.3
QRZ **Quartz Range** 24.22 196 P **P** 09 40 16.3 +0.7
KHZ **Kahutara** 25.48 193 P **P** 09 40 25.0 -1.6
RPZ **Rata Peaks** 27.31 196 P **P** 09 40 41.7 -1.1
comp=Z,5.9nm,0.4s,baz=34,slow=4.4,SNR=12
RPZ **Rata Peaks** 27.31 196 P **P** 09 40 42.0 -0.8
EIDS **Eidsvold** 29.02 250 P **P** 09 40 57.3 -0.7
baz=29,SNR=11
EIDS **Eidsvold** 29.02 250 P **P** 09 40 57.4 -0.6
EIDS IAmb IAmb 09 40 58.3
comp=Z,24nm,0.6s
EIDS **Eidsvold** 29.02 250 P **P** 09 40 58.1 +0.1
MLZ **Mavora Lakes** 29.67 199 P **P** 09 41 03.5 +0.1
ARMA **Armidale** 29.75 239 P **P** 09 41 04.9 +0.5
baz=30,SNR=54
ARMA **Armidale** 29.75 239 P **P** 09 41 05.3 +0.9
ARMA **Armidale** 29.75 239 P **P** 09 41 05.5 +1.1
MGCD **Mangrove Creek** 31.14 235 P **P** 09 41 16.8 +0.7
baz=31,SNR=24
MGCD **Mangrove Creek** 31.14 235 P **P** 09 41 17.7 +1.6
RMQ **Roma** 31.27 248 P **P** 09 41 17.6 +0.2
baz=31,SNR=6.0
RMQ **Roma** 31.27 248 P **P** 09 41 18.0 +0.6
CTA **Charters Tower** 33.16 260 P **P** 09 41 33.1 -0.4
comp=Z,26nm,0.7s,baz=89,slow=9.6,SNR=39
CTA **Charters Tower** 33.16 260 P **P** 09 41 33.4 -0.1
CNB **Canberra Magne** 33.28 232 P **P** 09 41 35.2 +0.8
baz=33,SNR=54
CNB **Canberra Magne** 33.28 232 P **P** 09 41 35.1 +0.7
CAN **Canberra** 33.56 232 P **P** 09 41 37.0 +0.3
CAN IAmb IAmb 09 41 37.9
comp=Z,33nm,0.9s
PMG **Port Moresby** 34.11 279 P **P** 09 41 41.8 +0.3
comp=Z,17nm,0.9s,baz=94,slow=7.9,SNR=4.5
PMG **Port Moresby** 34.11 279 P **P** 09 41 40.7 -0.8
PMG IAmb IAmb 09 41 42.7
comp=Z,33nm,1.1s
MILA **Mila** 34.16 229 P **P** 09 41 42.1 +0.3
baz=34,SNR=5.1
CMSA **Cobar Meteorol** 34.96 240 P **P** 09 41 48.5 +0.1
baz=35,SNR=55
CMSA **Cobar Meteorol** 34.96 240 P **P** 09 41 49.0 +0.5
MTSU **Mount Surprise** 35.10 264 P **P** 09 41 49.4 -0.5
baz=35,SNR=8.4
MTSU **Mount Surprise** 35.10 264 P **P** 09 41 50.5 +0.6
QLP **Quilpie** 35.30 249 P **P** 09 41 50.9 -0.4
baz=35,SNR=17
QLP **Quilpie** 35.30 249 P **P** 09 41 51.8 +0.5
COEN **Coen** 36.78 270 P **P** 09 42 03.7 -0.1
COEN IAmb IAmb 09 42 05.0
comp=Z,26nm,0.8s
TOO **Toolangi** 37.04 230 P **P** 09 42 06.1 +0.5
baz=37,SNR=32
TOO **Toolangi** 37.04 230 P **P** 09 42 05.7 +0.1
TOO **Toolangi** 37.04 230 P **P** 09 42 06.5 +0.9
TAU **Tasmania Unive** 38.16 222 P **P** 09 42 15.2 +0.6
STKA **Stephens Creek** 38.43 241 P **P** 09 42 17.4 +0.3
comp=Z,33nm,0.6s,baz=87,slow=9.7,SNR=88
STKA **Stephens Creek** 38.43 241 P **P** 09 42 17.4 +0.3
baz=38,SNR=68
STKA **Stephens Creek** 38.43 241 P **P** 09 42 17.2 +0.1
STKA **Stephens Creek** 38.43 241 P **P** 09 42 18.0 +0.9
INKA **Innaminka** 38.52 248 P **P** 09 42 18.6 +0.9
QIS **Mount Isa** 39.37 259 P **P** 09 42 23.6 -1.1
baz=39,SNR=4.6
ARPS **Mount Arapiles** 39.50 233 P **P** 09 42 25.8 +0.2
baz=40,SNR=13
ARPS **Mount Arapiles** 39.50 233 P **P** 09 42 26.5 +0.9
HTT **Hallett** 40.96 239 P **P** 09 42 37.6 +0.2
baz=41,SNR=39
HTT **Hallett** 40.96 239 P **P** 09 42 38.3 +0.9
LCRK **Leigh Creek** 41.04 244 P **P** 09 42 38.6 +0.6
JAY **Jayapura** 42.54 286 P **P** 09 42 48.1 -2.0
comp=Z,16nm,1.2s
OOD **Oodnadatta** 42.98 248 P **P** 09 42 53.6 +0.3
BBOO **Buckleboo** 43.21 241 P **P** 09 42 54.8 -0.2
baz=43,SNR=50
BBOO **Buckleboo** 43.21 241 P **P** 09 42 55.0 0.0
BBOO **Buckleboo** 43.21 241 P **P** 09 42 55.3 +0.3
HMH **Humu'ula Sheep** 43.56 33 P **P** 09 42 58.7 +0.5
WR0 **Warramunga Arr** 44.16 259 P **P** 09 43 01.4 -1.1
WR0 IAmb IAmb 09 43 02.1
comp=Z,71nm,1.9s
WB0 **Warramunga Arr** 44.31 260 P **P** 09 43 02.6 -1.2
WC3 **Warramunga Arr** 44.31 259 P **P** 09 43 02.6 -1.2
baz=44
WB2 **Warramunga Arr** 44.33 259 P **P** 09 43 02.8 -1.2
WB2 IAmb IAmb 09 43 03.6
comp=Z,14nm,0.7s
WRA **Warramunga Arr** 44.34 259 P **P** 09 43 02.8 -1.3
comp=Z,12nm,0.8s,baz=96,slow=7.2,SNR=137
WRA PcP **PcP** 09 44 36.6 +0.2
comp=Z,2.5nm,0.9s,baz=90,slow=3.9,SNR=4.1
WRA ScP **ScP** 09 47 39.0 +1.7
comp=Z,1.9nm,1.0s,baz=92,slow=3.3,SNR=2.9
WRA S **S** 09 48 52.5 -6.9
comp=Z,1.3nm,0.9s,baz=93,slow=13,SNR=4.3
WRA **Warramunga Arr** 44.34 259 P **P** 09 43 03.2 -0.8
AS31 **Alice Springs** 44.53 254 P **P** 09 43 05.0 -0.4
ASAR **Alice Springs** 44.53 254 P **P** 09 43 04.8 -0.6
comp=Z,94nm,0.6s,baz=88,slow=8.2,SNR=1247
ASAR PcP **PcP** 09 44 37.0 -0.1
comp=Z,3.0nm,0.6s,baz=100,slow=4.1,SNR=3.2
ASAR ScP **ScP** 09 47 40.2 +2.3
comp=Z,2.1nm,0.8s,baz=112,slow=4.0,SNR=7.0
ASAR S **S** 09 48 59.1 -2.8
comp=Z,8.1nm,1.0s,baz=85,slow=16,SNR=31
ASAR **Alice Springs** 44.53 254 P **P** 09 43 05.3 -0.1
ASPA **Alice Springs** 44.53 254 P **P** 09 43 04.1 -1.4
baz=44
MULG **Mulgathing** 44.59 245 P **P** 09 43 05.9 +0.1
KDU **Kakadu** 47.23 269 P **P** 09 43 25.4 -0.7
baz=47,SNR=22
WRKA **Warakurna** 49.59 252 P **P** 09 43 43.2 -0.4
baz=50,SNR=278
WRKA **Warakurna** 49.59 252 P **P** 09 43 43.8 +0.3
FORT **Forrest** 49.79 244 P **P** 09 43 44.4 -0.5
baz=50,SNR=36
FORT **Forrest** 49.79 244 P **P** 09 43 44.5 -0.3
FORT **Forrest** 49.79 244 P **P** 09 43 45.5 +0.6
KNRA **Kununurra** 50.18 264 P **P** 09 43 47.4 -0.5
baz=50,SNR=8.9
KNRA **Kununurra** 50.18 264 P **P** 09 43 47.4 -0.5
KNRA IAmb IAmb 09 43 48.1
comp=Z,24nm,0.7s
SIJI **Sorong** 51.88 283 P **P** 09 44 00.2 0.0
comp=Z,11nm,0.5s,baz=24,slow=20
FITZ **Fitzroy Crossi** 52.74 260 P **P** 09 44 06.5 +0.2
FITZ IAmb IAmb 09 44 32.5
comp=Z,46nm,1.7s
PSA00 **Pilbara Seismi** 57.64 255 P **P** 09 44 40.3 -0.2
PSA00 **Pilbara Seismi** 57.64 255 P **P** 09 44 40.2 -0.2
PSA00 IAmb IAmb 09 45 39.8
comp=Z,32nm,1.3s
MEEK **Meekatharra** 58.19 249 P **P** 09 44 43.5 -0.7
baz=58,SNR=7.0
KLBR **Kellerberrin** 58.62 243 P **P** 09 44 46.5 -0.5
baz=59,SNR=6.6
MORW **Morawa** 60.26 246 P **P** 09 44 57.2 -0.8
baz=60,SNR=3.4
MORW **Morawa** 60.26 246 P **P** 09 44 57.7 -0.3
MORW IAmb IAmb 09 45 54.3
comp=Z,75nm,1.6s
SBA **Scott Base** 60.59 183 P **P** 09 45 02.0 +2.7
VNDA **Vanda** 60.60 185 P **P** 09 45 00.6 +1.2
comp=Z,1.0nm,0.6s,baz=357,slow=6.7,SNR=7.4
VNDA **Vanda** 60.60 185 P **P** 09 45 01.1 +1.8
JYT **Yasato** 66.22 325 P **P** 09 45 35.4 -0.6
MJAR **Matsushiro Arr** 67.56 324 P **P** 09 45 43.5 -0.8
comp=Z,16nm,0.8s,baz=162,slow=5.6,SNR=22
MJAR **Matsushiro Arr** 67.56 324 P **P** 09 45 44.0 -0.2
MJAR IAmb IAmb 09 45 44.6
comp=Z,9.2nm,0.8s
MAJO **Matsushiro** 67.56 324 P **P** 09 45 44.1 -0.2
MAJO IAmb IAmb 09 45 44.7
comp=Z,18nm,0.8s
MJB9 **Matsu-Tunnel** 67.57 324 P **P** 09 45 44.1 -0.2
MJB9 IAmb IAmb 09 45 44.6
comp=Z,18nm,0.9s
JTM **Tenmabayashi** 69.14 328 P **P** 09 45 54.0 +0.3
UGM **Wanagama** 69.33 268 P **P** 09 45 55.3 -0.2
ADK **Adak** 69.33 1 P **P** 09 45 54.0 -0.5
JHS **Saijyo** 69.54 319 P **P** 09 45 57.0 +0.8
JHS IAmb IAmb 09 45 57.8
comp=Z,25nm,0.8s
NIKH **Nikolski High** 70.92 6 P **P** 09 46 03.4 -0.5
NIKH **Nikolski High** 70.92 6 P **P** 09 46 02.9 -1.0
baz=190
UNV **Unalaska Valle** 72.05 8 P **P** 09 46 09.5 -1.0
UNV **Unalaska Valle** 72.05 8 P **P** 09 46 09.3 -1.2
baz=192
QSPA **South Pole Qui** 72.33 180 P **P** 09 46 13.4 +1.1
PEA0B **Petropavlovsk-** 73.42 345 P **P** 09 46 18.6 +0.2
PETK **Petropavlovsk-** 73.42 345 P **P** 09 46 18.4 0.0
comp=Z,23nm,0.8s,baz=125,slow=7.3,SNR=14
KSRS **Korea Array** 74.34 318 P **P** 09 46 24.9 +0.9
comp=Z,1.8nm,0.7s,baz=128,slow=6.4,SNR=7.7
KSAR **Wonju Array Be** 74.36 318 P **P** 09 46 22.6 -1.5
SDPT **Sand Point** 74.42 11 P **P** 09 46 23.4 -0.6
CHGN **Chignik** 75.70 12 P **P** 09 46 30.8 -0.3
CHGN **Chignik** 75.70 12 P **P** 09 46 30.3 -0.8
baz=200
CHIR **Chirikof Islan** 75.82 13 P **P** 09 46 31.5 -0.3
baz=203
USRK **Ussuriysk Ar.** 76.28 326 P **P** 09 46 36.1 +1.5
comp=Z,4.4nm,0.8s,baz=156,slow=10.0,SNR=4.6
SAO **San Andreas Ge** 76.52 44 P **P** 09 46 35.8 -0.4
SAO IAmb IAmb 09 47 01.4
comp=Z,21nm,1.1s
SMMC **Simmler** 76.69 46 P **P** 09 46 38.9 +1.7
baz=237
HOPS **Hopland Field** 76.75 41 P **P** 09 46 38.2 +0.8
SII **Sitkinak Islan** 76.82 14 P **P** 09 46 37.4 0.0
SII **Sitkinak Islan** 76.82 14 P **P** 09 46 37.2 -0.2
baz=204
BCW **Bitter Crk WRg** 76.89 47 P **P** 09 46 40.0 +1.6
BCW IAmb IAmb 09 46 40.2
comp=Z,19nm,0.8s
KMRM **Mail Ridge** 77.08 40 P **P** 09 46 40.8 +1.5
KMRM IAmb IAmb 09 46 41.6
comp=Z,38nm,0.8s
PASC **Pasadena Art C** 77.34 48 P **P** 09 46 41.0 +0.2
PASC IAmb IAmb 09 46 42.1
comp=Z,16nm,0.8s
CBX **Cerro Bola** 77.47 50 P **P** 09 46 43.0 +1.3
NJ2 **Nanjing** 77.57 310 *eP* **P** 09 46 43.4 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
VES **Vestal, Richgr** 77.60 46 P **P** 09 46 42.5 +0.4
baz=237,SNR=8.5
O02D **Mt. Diablo Mer** 77.62 41 P **P** 09 46 43.9 +1.7
O02D **Mt. Diablo Mer** 77.62 41 P **P** 09 46 43.9 +1.7
baz=234,SNR=5.5
OHAK **Old Harbor** 77.63 14 P **P** 09 46 41.8 +0.1
OHAK IAmb IAmb 09 46 42.5
comp=Z,36nm,0.7s
OHAK **Old Harbor** 77.63 14 P **P** 09 46 41.6 0.0
baz=205
BFSC **Mount Baldy Ra** 77.75 48 P **P** 09 46 43.5 +0.5
baz=239,SNR=6.7
MURC **Murrieta** 77.75 49 P **P** 09 46 43.5 +0.5
baz=239
EDW2 **Edwards Air Fo** 77.84 47 P **P** 09 46 44.5 +1.0
baz=238,SNR=14
MDJ **Mudanjiang** 77.85 325 P **P** 09 46 43.0 -0.2
MDJ IAmb IAmb 09 46 45.2
comp=Z,21nm,0.8s
MDJ **Mudanjiang** 77.85 325 P **P** 09 46 44.0 +0.8
MDJ pmax pmax
comp=Z,29nm,1.4s
MDJ pmax pmax
comp=Z,370nm,6.0s
ISA **Isabella, Lake** 77.92 46 P **P** 09 46 44.4 +0.5
ISA IAmb IAmb 09 46 45.9
comp=Z,19nm,0.9s
ISA **Isabella, Lake** 77.92 46 P **P** 09 46 45.1 +1.2
baz=238,SNR=11
CMB **Columbia Colle** 77.93 43 P **P** 09 46 44.5 +0.6
MONP2 **Monument Peak** 77.94 50 P **P** 09 46 45.4 +1.1
baz=239,SNR=11
RMX **La Rumorosa** 78.05 50 IAmb IAmb 09 46 46.9
comp=Z,19nm,0.8s
IKP **In-Ko-Pah, Jac** 78.05 50 P **P** 09 46 46.0 +1.3
baz=240,SNR=6.0
ORV **Oroville** 78.07 42 P **P** 09 46 44.8 +0.3
N02D **Trinity Center** 78.14 40 P **P** 09 46 46.5 +1.5
baz=234,SNR=6.1
SFX **San Felipe** 78.19 52 P **P** 09 46 45.8 +0.5
PFO **Pinyon Flats O** 78.28 49 P **P** 09 46 46.8 +0.8
baz=240
BBRC **Big Bear Solar** 78.28 48 P **P** 09 46 46.9 +0.8
baz=239
KDAK **Kodiak Island** 78.30 14 P **P** 09 46 45.2 -0.1
comp=Z,21nm,0.6s,baz=243,slow=1.8,SNR=29
KDAK **Kodiak Island** 78.30 14 P **P** 09 46 44.6 -0.7
KDAK IAmb IAmb 09 46 46.9
comp=Z,35nm,0.9s
KDAK **Kodiak Island** 78.30 14 P **P** 09 46 45.4 +0.1
baz=206
M02C **Callahan** 78.30 40 P **P** 09 46 46.4 +0.6
M02C **Callahan** 78.30 40 P **P** 09 46 47.3 +1.5
baz=234,SNR=6.3
O03E **Paynes Creek** 78.30 41 P **P** 09 46 46.2 +0.3
O03E IAmb IAmb 09 46 47.5
comp=Z,22nm,1.1s
LRMC **Laurel Mtn Rad** 78.38 47 P **P** 09 46 47.4 +1.0
baz=238,SNR=8.4
SWSC **Sam W. Stewart** 78.42 50 P **P** 09 46 47.6 +1.1
baz=240,SNR=5.0
YBH **Yreka Blue Hor** 78.59 39 P **P** 09 46 48.3 +1.0
comp=Z,12nm,0.8s,baz=150,slow=1.6,SNR=24
YBH **Yreka Blue Hor** 78.59 39 IAmb IAmb 09 46 49.4
comp=Z,17nm,0.9s
K02D **Willamette Mer** 78.59 38 P **P** 09 46 48.4 +1.0
baz=233
CWC **Cottonwood Cre** 78.61 46 P **P** 09 46 48.7 +1.1
baz=238
MLAC **Mammoth, Mammo** 78.73 44 P **P** 09 46 49.9 +1.5
baz=237,SNR=6.6
BELC **Belle Mtn. Jos** 78.81 49 P **P** 09 46 49.8 +1.0
baz=240,SNR=8.0
MPMC **Manual Prospec** 78.81 46 P **P** 09 46 49.9 +1.1
baz=238,SNR=11
MPK **Martis Peak** 78.86 43 P **P** 09 46 49.9 +0.7
MPK IAmb IAmb 09 46 50.9
comp=Z,32nm,0.7s
GSC **Goldstone, Bar** 78.89 47 P **P** 09 46 49.3 +0.1
GSC **Goldstone, Bar** 78.89 47 P **P** 09 46 50.1 +1.0
baz=239
HEC **Hector,Ludlow** 78.98 48 P **P** 09 46 50.4 +0.7
baz=239,SNR=9.0
BC3 **Big Chuckawall** 79.03 49 P **P** 09 46 51.0 +1.1
baz=240,SNR=5.7
PNTR **Pine Nut** 79.03 43 IAmb IAmb 09 46 51.9
comp=Z,36nm,0.8s
Q19K **Cape Douglas,** 79.11 13 P **P** 09 46 49.4 -0.3
baz=204
VCNR **Virginia City** 79.11 43 P **P** 09 46 50.8 +0.4
L04D **Klamath Falls** 79.12 39 P **P** 09 46 50.8 +0.6
L04D IAmb IAmb 09 46 51.9
comp=Z,21nm,0.8s
L04D **Klamath Falls** 79.12 39 P **P** 09 46 51.2 +1.0
baz=234,SNR=6.8
M04C **Macdoel** 79.14 40 IAmb IAmb 09 46 51.8
comp=Z,75nm,1.9s
M04C **Macdoel** 79.14 40 P **P** 09 46 51.3 +0.9
baz=234
GLA **Glamis** 79.19 50 P **P** 09 46 51.4 +0.7
GLA **Glamis** 79.19 50 P **P** 09 46 52.4 +1.7
baz=241
QSM **Queen of Sheba** 79.19 47 P **P** 09 46 51.4 +0.8
YERR **Yerington** 79.20 43 P **P** 09 46 51.4 +0.6
YERR IAmb IAmb 09 46 52.5
comp=Z,24nm,0.7s
P18K **Big Mountain,** 79.21 12 P **P** 09 46 49.2 -1.0
P18K **Big Mountain,** 79.21 12 P **P** 09 46 49.7 -0.5
baz=203,SNR=15
LHV **Little Huntoon** 79.29 44 P **P** 09 46 51.8 +0.8
LHV IAmb IAmb 09 46 53.3
comp=Z,25nm,0.9s
LCH **Last Change Ra** 79.32 45 P **P** 09 46 51.9 +0.4
I03D **Drain, OR** 79.38 37 P **P** 09 46 52.1 +0.7
baz=233
GRAC **Grapevine Rang** 79.39 46 P **P** 09 46 52.6 +1.0
GRAC IAmb IAmb 09 46 53.8
comp=Z,51nm,1.4s
GRAC **Grapevine Rang** 79.39 46 P **P** 09 46 53.1 +1.5
baz=238,SNR=5.9
GMRC **Granite Mounta** 79.44 48 P **P** 09 46 53.1 +1.0
baz=240,SNR=5.2
GWY **Greenwater Val** 79.44 47 P **P** 09 46 52.4 +0.3
FURC **Furnace Creek,** 79.45 46 P **P** 09 46 53.1 +1.1
baz=239,SNR=5.4
RYN **Ryan** 79.48 44 P **P** 09 46 53.0 +0.7
IRM **Iron Mountain** 79.50 49 P **P** 09 46 53.6 +1.3
baz=240,SNR=8.6
PAHR **Pah Rah Range** 79.50 42 P **P** 09 46 52.8 +0.5
NVAR **Mina Array Bea** 79.52 44 P **P** 09 46 53.4 +0.8
comp=Z,12nm,0.7s,baz=225,slow=9.0,SNR=101
TUQ **Turquoise Moun** 79.58 48 P **P** 09 46 54.2 +1.3
baz=240
CN2 **Changchun** 79.67 323 *eP* **P** 09 46 53.5 +0.6
CN2 *ePP* pP 09 48 44.4 -2.9
CN2 *ePP* **PP** 09 50 04.5 +0.5
CN2 *eS* **S** 09 56 13.3 +2.2
CN2 pmax pmax
comp=Z,20nm,1.2s
BNX **BinXian** 79.75 325 ⇑P **P** 09 46 53.4 +0.1
BNX pmax pmax
comp=Z,16nm,0.8s
BNX pmax pmax
comp=Z,290nm,5.3s
KLR **Kul'dur** 79.78 330 P **P** 09 46 54.1 +0.7
comp=Z,3.9nm,1.0s,baz=111,slow=1.3
J04D **Umpqua Nationa** 79.83 38 P **P** 09 46 55.2 +1.1
baz=234,SNR=10.0
I04A **Tendick Farm,** 79.98 38 P **P** 09 46 55.0 +0.4
baz=234
TPNV **Topopah Spring** 80.13 46 P **P** 09 46 56.7 +1.0
baz=239,SNR=9.9
O19K **Port Aylsworth** 80.13 12 P **P** 09 46 54.5 -0.4
baz=204,SNR=28
MOD **Modoc Plateau** 80.15 40 IAmb IAmb 09 46 57.4
comp=Z,16nm,0.7s
214A **Organ Pipe Nat** 80.16 52 P **P** 09 46 57.5 +1.7
baz=242,SNR=5.3
CNPM **China Poot** 80.18 14 IAmb IAmb 09 46 55.9
comp=Z,26nm,0.8s
K05A **Summer Lake** 80.26 39 P **P** 09 46 56.5 +0.2
K05A IAmb IAmb 09 46 58.4
comp=Z,28nm,1.0s
PDMCI **Parker Dam,Lak** 80.29 49 P **P** 09 46 57.8 +1.4
baz=241
O20K **Slope Mountain** 80.38 13 P **P** 09 46 56.0 -0.3
baz=205
J05D **Fort Rock, OR** 80.38 39 P **P** 09 46 58.1 +1.3
baz=235,SNR=18
BRLK **Bradley Lake** 80.47 14 P **P** 09 46 55.7 -1.1
BRLK IAmb IAmb 09 46 57.2
comp=Z,36nm,0.8s
BRSE **Bradley Lake S** 80.49 14 P **P** 09 46 56.8 -0.1
baz=207,SNR=16
H04A **Detroit Lake** 80.64 37 IAmb IAmb 09 46 58.9
comp=Z,14nm,0.7s
N19K **Bonanza Creek** 80.67 12 IAmb IAmb 09 46 57.9
comp=Z,18nm,0.8s
N19K **Bonanza Creek** 80.67 12 P **P** 09 46 56.8 -1.0
baz=203
SVW2 **Sparrevohn** 80.72 11 P **P** 09 46 57.3 -0.7
S11A **Rachel** 80.83 46 IAmb IAmb 09 47 01.1
comp=Z,21nm,1.0s
PINE **Pine Mountain** 80.85 38 IAmb IAmb 09 47 01.4
comp=Z,25nm,0.8s
I05D **Terrebonne, OR** 80.93 38 P **P** 09 47 00.3 +0.7
baz=234
E03A **Lebam** 80.99 35 IAmb IAmb 09 47 01.0
comp=Z,33nm,0.9s
SEW **Seward** 81.11 14 IAmb IAmb 09 47 00.3
comp=Z,22nm,0.8s
SEW **Seward** 81.11 14 P **P** 09 46 59.3 -0.7
baz=208,SNR=7.4
PRN **Pahroc Range** 81.18 46 IAmb IAmb 09 47 03.5
comp=Z,22nm,0.9s
BMN **Battle Mountai** 81.29 43 IAmb IAmb 09 47 03.5
comp=Z,22nm,0.9s
R11A **Troy Canyon, C** 81.29 45 P **P** 09 47 02.3 +0.6
baz=239,SNR=9.5
HOOD **Mount Hood Mea** 81.32 37 IAmb IAmb 09 47 02.6
comp=Z,12nm,0.7s
O22K **Cooper Landing** 81.38 14 P **P** 09 47 01.0 -0.4
baz=208,SNR=11
GAMB **Gambell** 81.42 3 IAmb IAmb 09 47 02.8
comp=Z,22nm,0.7s
GAMB **Gambell** 81.42 3 P **P** 09 47 01.9 +0.4
baz=187
SPCR **Spurr Chakacha** 81.48 13 P **P** 09 47 01.1 -0.9
baz=235,SNR=5.2
WVOR **Wild Horse Val** 81.48 40 IAmb IAmb 09 47 04.4
comp=Z,31nm,1.1s
E04D **Cinebar** 81.54 35 P **P** 09 47 03.5 +1.0
baz=233
M19K **Big River Lodg** 81.69 11 IAmb IAmb 09 47 03.3
comp=Z,17nm,0.8s
M19K **Big River Lodg** 81.69 11 P **P** 09 47 02.7 -0.3
baz=203
F05D **White Salmon** 81.76 36 P **P** 09 47 04.5 +0.8
baz=234
D04E **Lakebay** 81.80 35 P **P** 09 47 05.5 +1.6
baz=233
TUC **Tucson** 81.84 52 P **P** 09 47 06.1 +1.5
TUC IAmb IAmb 09 47 07.4
comp=Z,16nm,0.9s
TUC **Tucson** 81.84 52 P **P** 09 47 06.6 +2.0
baz=243
D03D **Eldon** 81.85 34 P **P** 09 47 05.0 +0.9
baz=233
L19K **White Mountain** 81.86 11 IAmb IAmb 09 47 05.6
comp=Z,16nm,0.8s
L19K **White Mountain** 81.86 11 P **P** 09 47 04.1 +0.2
baz=203,SNR=9.8
I07A **Izee** 81.86 39 IAmb IAmb 09 47 06.3
comp=Z,21nm,0.8s
RC01 **Rabbit Creek A** 81.92 14 IAmb IAmb 09 47 04.6
comp=Z,30nm,1.0s
RC01 **Rabbit Creek A** 81.92 14 P **P** 09 47 03.5 -0.6
baz=208,SNR=9.3
PWL **Port Wells** 82.04 14 P **P** 09 47 04.1 -0.7
baz=209,SNR=10
J08A **Circle Bar Ran** 82.08 40 IAmb IAmb 09 47 07.3
comp=Z,21nm,0.9s
D05A **Enumclaw** 82.24 35 IAmb IAmb 09 47 11.6
comp=Z,22nm,1.0s
KAIM **Kayak Island** 82.24 17 P **P** 09 47 06.2 +0.4
baz=213
LCMT **Little Creek M** 82.24 47 IAmb IAmb 09 47 08.6
comp=Z,13nm,0.9s

L20K	Farewell, AK baz=204	82.31	11	P	P	09 47 05.9	-0.3	
X16A	Lo Mia Camp, P comp=Z,19nm,0.9s	82.31	50	IAmb	IAmb	09 47 09.6		
TTA	Tatalina comp=Z,24nm,1.0s	82.35	10	IAmb	IAmb	09 47 07.5		
TTA	Tatalina baz=202,SNR=18	82.35	10	P	P	09 47 06.6	+0.2	
EYAK	Cordova Ski Ar baz=212	82.41	16	P	P	09 47 06.0	-0.6	
M22K	Willow baz=208,SNR=7.4	82.42	13	P	P	09 47 06.1	-0.5	
KNK	Knik Glacier comp=Z,25nm,0.8s	82.50	14	IAmb	IAmb	09 47 07.6		
KNK	Knik Glacier baz=209,SNR=11	82.50	14	P	P	09 47 06.6	-0.5	
PMR	Palmer comp=Z,52nm,1.4s	82.50	14	IAmb	IAmb	09 47 07.4		
PMR	Palmer baz=208,SNR=13	82.50	14	P	P	09 47 06.4	-0.6	
RAGM	Ragged Mountai comp=Z,27nm,1.1s	82.56	16	IAmb	IAmb	09 47 08.2		
PSUT	Pine Spring comp=Z,14nm,0.8s	82.56	46	IAmb	IAmb	09 47 09.9		
319A	Douglas comp=Z,25nm,1.0s	82.58	54	IAmb	IAmb	09 47 11.2		
U15A	North Rim comp=Z,27nm,0.9s	82.64	48	IAmb	IAmb	09 47 11.2		
ANM	Nome comp=Z,25nm,1.4s	82.67	6	IAmb	IAmb	09 47 09.4		
ANM	Nome baz=193,SNR=11	82.67	6	P	P	09 47 08.1	+0.2	
ELK	Elko comp=Z,13nm,0.8s	82.75	43	IAmb	IAmb	09 47 10.8		
B05A	Bryant baz=233,SNR=6.8	82.82	34	P	P	09 47 09.5	+0.5	
BERG	Berg Lake comp=Z,46nm,1.3s	82.83	17	IAmb	IAmb	09 47 09.6		
G08A	Pilot Rock comp=Z,21nm,1.0s	82.86	38	IAmb	IAmb	09 47 11.1		
WUAZ	Wupatki comp=Z,20nm,1.0s	82.87	49	IAmb	IAmb	09 47 12.7		
WUAZ	Wupatki baz=242	82.87	49	P	P	09 47 11.3	+1.5	
SML	Sawmill baz=209	82.87	14	P	P	09 47 08.4	-0.6	
CUT	Chulitna baz=207,SNR=21	82.97	13	P	P	09 47 08.6	-0.8	
PPLA	Purkeypile comp=Z,43nm,1.6s	83.02	12	IAmb	IAmb	09 47 10.3		
PPLA	Purkeypile baz=206	83.02	12	P	P	09 47 08.1	-1.8	
E07A	Sunnyside comp=Z,22nm,0.9s	83.06	37	IAmb	IAmb	09 47 12.0		
BMRM	Bremner River baz=213,SNR=16	83.07	16	P	P	09 47 09.7	-0.3	
K20K	Telida baz=204	83.08	11	P	P	09 47 09.9	-0.1	
PKCU	Pink Cliffs comp=Z,37nm,1.1s	83.10	47	IAmb	IAmb	09 47 14.1		
SCM	Sheep Creek Mo baz=210,SNR=25	83.13	14	P	P	09 47 10.0	-0.3	
HAWA	Hanford comp=Z,21nm,0.9s	83.15	37	IAmb	IAmb	09 47 12.4		
KLU	Klutina comp=Z,21nm,1.1s	83.18	15	IAmb	IAmb	09 47 11.1		
KLU	Klutina baz=211,SNR=8.1	83.18	15	P	P	09 47 10.2	-0.4	
TNA	Tin City comp=Z,33nm,1.0s	83.43	5	IAmb	IAmb	09 47 12.9		
TNA	Tin City baz=190	83.43	5	P	P	09 47 11.9	+0.2	
WRAK	Wrangell Islan baz=224	83.47	24	P	P	09 47 12.8	+0.7	
MTPU	Mount Pierson comp=Z,17nm,1.0s	83.48	47	IAmb	IAmb	09 47 15.8		
E08A	Dider Farm, El comp=Z,13nm,0.7s	83.48	37	IAmb	IAmb	09 47 13.9		
CAST	Castle Rocks baz=206,SNR=55	83.51	12	P	P	09 47 10.5	-1.7	
SEY	Seymchan comp=Z,39nm,0.7s,baz=145,slow=5.7,SNR=120	83.52	347	P	P	09 47 11.9	-0.3	
TCRU	Three Creeks R comp=Z,17nm,1.1s	83.56	46	IAmb	IAmb	09 47 15.7		
VRDI	Verde Repeater comp=Z,23nm,0.9s	83.59	16	IAmb	IAmb	09 47 13.4		
N25K	Chitina, Valde baz=213,SNR=42	83.61	16	P	P	09 47 12.6	-0.2	
M24K	Tolsona, Glenn baz=211,SNR=14	83.64	15	P	P	09 47 13.1	+0.2	
GRNC	Granite Creek comp=Z,30nm,1.0s	83.65	17	IAmb	IAmb	09 47 13.9		
WAT6	Susitna Watana baz=210,SNR=26	83.68	14	P	P	09 47 12.6	-0.6	
MFID	Camas Ranch comp=Z,17nm,1.0s	83.75	41	IAmb	IAmb	09 47 15.6		
J20K	Nowinta River comp=Z,21nm,0.8s	83.83	11	IAmb	IAmb	09 47 14.5		
J20K	Nowinta River baz=204	83.83	11	P	P	09 47 13.4	-0.2	
MCARA	McCarthy VSAT baz=214,SNR=7.1	83.84	16	P	P	09 47 13.7	-0.1	
KTH	Kantishna Hill comp=Z,28nm,0.9s	83.86	12	IAmb	IAmb	09 47 13.4		
D08A	Wollman Farm, comp=Z,17nm,0.9s	83.87	36	IAmb	IAmb	09 47 15.9		
CHUM	Lake Minchumin baz=205,SNR=20	83.89	11	P	P	09 47 12.9	-1.1	
TRF	Thorofare Moun baz=207,SNR=39	83.90	12	P	P	09 47 13.0	-1.2	
GCSA	Galena City Sc baz=201,SNR=9.7	83.91	9	P	P	09 47 14.1	+0.1	
CTG	Chitna Glacier baz=216,SNR=6.8	83.96	17	P	P	09 47 14.6	0.0	
CTGM	Chitina Glacie comp=Z,27nm,0.8s	83.96	17	IAmb	IAmb	09 47 15.4		
HARP	HAARP baz=212,SNR=20	84.14	15	P	P	09 47 15.0	-0.2	
DHY	Denali Highway baz=210,SNR=11	84.20	14	P	P	09 47 15.1	-0.6	
121A	Cookes Peak, D baz=245	84.22	53	P	P	09 47 18.2	+1.6	
F10A	Beach Ranch, E comp=Z,24nm,0.9s	84.25	38	IAmb	IAmb	09 47 17.5		
BPAW	Bear Paw Mtn. baz=206,SNR=7.3	84.34	12	P	P	09 47 14.7	-1.5	
B08A	Colville Reser comp=Z,13nm,0.8s	84.38	35	IAmb	IAmb	09 47 17.6		
MCK	McKinley baz=208,SNR=26	84.43	13	P	P	09 47 15.7	-1.0	
PAX	Paxson comp=Z,13nm,0.9s	84.55	15	IAmb	IAmb	09 47 17.4		
PAX	Paxson baz=212,SNR=13	84.55	15	P	P	09 47 16.5	-0.8	
ZAIG	Zacatecas	84.63	64	P	P	09 47 20.9	+2.0	
C09A	Chrisman Ranch comp=Z,17nm,1.1s	84.65	36	IAmb	IAmb	09 47 19.4		
HLID	Hailey	84.70	41	P	P	09 47 19.4	+0.7	
HLID				IAmb	IAmb	09 47 20.7		
	comp=Z,12nm,0.8s							
HLID	Hailey baz=240,SNR=26	84.70	41	P	P	09 47 19.8	+1.1	
YUK3	Moose Creek baz=216,SNR=8.6	84.87	17	P	P	09 47 19.4	+0.3	
M27K	Edge Creek, AK comp=Z,26nm,0.8s	84.95	16	IAmb	IAmb	09 47 20.6		
M27K	Edge Creek, AK baz=215	84.95	16	P	P	09 47 19.6	+0.2	
MENT	Mentasta comp=Z,19nm,0.9s	84.95	15	IAmb	IAmb	09 47 20.1		
L26K	Log Cabin Wild comp=Z,14nm,0.8s	85.12	15	IAmb	IAmb	09 47 20.9		
L26K	Log Cabin Wild baz=214,SNR=13	85.12	15	P	P	09 47 20.1	0.0	
I21K	Tanana comp=Z,13nm,0.8s	85.13	11	IAmb	IAmb	09 47 20.6		
I21K	Tanana baz=206	85.13	11	P	P	09 47 19.7	-0.3	
NEA2	Nenana baz=208	85.16	12	P	P	09 47 18.9	-1.3	
MLY	Manley baz=207,SNR=10	85.22	12	P	P	09 47 19.1	-1.4	
BVCY	Beaver Creek baz=216,SNR=15	85.27	17	P	P	09 47 21.0	+0.2	
RIDG	Independent Ri comp=Z,23nm,0.8s	85.36	14	IAmb	IAmb	09 47 21.7		
RIDG	Independent Ri baz=212,SNR=15	85.36	14	P	P	09 47 20.8	-0.4	
H21K	Melozitna Rive comp=Z,44nm,2.0s	85.42	10	IAmb	IAmb	09 47 22.6		
H21K	Melozitna Rive baz=205	85.42	10	P	P	09 47 21.1	-0.3	
HDA	Harding Lake comp=Z,17nm,0.8s	85.45	13	IAmb	IAmb	09 47 21.8		
HDA	Harding Lake baz=210,SNR=19	85.45	13	P	P	09 47 20.9	-0.7	
CCB	Clear Creek Bu comp=Z,32nm,1.2s	85.47	13	IAmb	IAmb	09 47 21.5		
L27K	Beaver Creek, baz=215	85.54	16	P	P	09 47 21.9	-0.2	
NEW	Newport comp=Z,7.9nm,0.7s	85.55	36	IAmb	IAmb	09 47 23.4		
NEW	Newport baz=237,SNR=7.5	85.55	36	P	P	09 47 22.5	0.0	
HWUT	Hardware Ranch comp=Z,23nm,1.8s	85.58	44	IAmb	IAmb	09 47 24.6		
I23K	Minto, Yukon-K baz=208	85.60	12	P	P	09 47 21.1	-1.1	
MDM	Murphy Dome comp=Z,19nm,1.0s	85.66	13	IAmb	IAmb	09 47 22.5		
TCOL	CIGO, UAF Yank baz=209,SNR=5.9	85.66	13	P	P	09 47 21.7	-0.8	
COLA	College	85.66	13	P	P	09 47 21.5	-1.0	
WHY	Whitehorse baz=222,SNR=6.5	85.69	20	P	P	09 47 23.2	+0.2	
MNTX	Cornudas Mount comp=Z,13nm,1.2s	85.74	55	IAmb	IAmb	09 47 25.9		
MNTX	Cornudas Mount baz=246	85.74	55	P	P	09 47 24.7	+0.9	
SCRK	Sand Creek comp=Z,8.7nm,0.8s	85.76	15	IAmb	IAmb	09 47 25.1		
SCRK	Sand Creek baz=213,SNR=16	85.76	15	P	P	09 47 22.8	-0.4	
IL31		85.78	13	IAmb	IAmb	09 47 23.1		
	comp=Z,12nm,0.7s							
ILAR	Eielson Array comp=Z,6.3nm,0.5s,baz=224,slow=5.1,SNR=93	85.78	13	P	P	09 47 21.9	-1.2	
DLBC	Dease Lake comp=Z,17nm,1.0s	85.79	23	IAmb	IAmb	09 47 25.0		
PV23	Carpenter Ridg comp=Z,8.7nm,0.8s	85.88	48	IAmb	IAmb	09 47 26.2		
XAN	Xi'an	85.89	308	P	P	09 47 25.5	+1.0	
XAN				pmax	pmax			
	comp=Z,24nm,1.0s							
POKR	Poker Plat Res comp=Z,13nm,0.6s	85.96	13	IAmb	IAmb	09 47 23.7		
POKR	Poker Plat Res baz=210,SNR=9.4	85.96	13	P	P	09 47 22.9	-1.1	
J25K	Salcha River, comp=Z,11nm,0.9s	85.98	14	IAmb	IAmb	09 47 25.2		
J25K	Salcha River, baz=212,SNR=17	85.98	14	P	P	09 47 23.4	-0.8	
N31M	Braeburn, Yuko comp=Z,21nm,1.1s	86.03	19	IAmb	IAmb	09 47 25.6		
N31M	Braeburn, Yuko baz=221,SNR=6.1	86.03	19	P	P	09 47 24.4	0.0	
P33M	Teslin, Yukon baz=223	86.05	21	P	P	09 47 25.1	+0.4	
TX31	Lajitas Ar. Si	86.17	58	P	P	09 47 27.6	+1.6	
TX32	Lajitas Array comp=Z,18nm,0.9s	86.17	58	IAmb	IAmb	09 47 28.9		
TXAR	Lajitas Array comp=Z,12nm,0.8s,baz=219,slow=6.2,SNR=127	86.17	58	P	P	09 47 27.7	+1.7	
TXAR	Lajitas Array	86.17	58	P	P	09 47 27.6	+1.6	
BILL	Bilibino	86.21	354	P	P	09 47 24.5	-0.6	
ANMO	Albuquerque	86.24	52	P	P	09 47 26.9	+0.7	
ANMO	Albuquerque baz=246	86.24	52	P	P	09 47 27.0	+0.7	
J26L	Joseph Creek baz=213	86.30	14	P	P	09 47 25.9	+0.1	
MCMT	McKenzie Canyo	86.31	41	P	P	09 47 26.8	+0.4	
RDOG	Red Dog Mine baz=195	86.31	6	P	P	09 47 25.6	0.0	
AHID	Auburn Hatcher comp=Z,26nm,1.6s	86.43	43	IAmb	IAmb	09 47 28.9		
H24K	Noodor Dome baz=209	86.50	12	P	P	09 47 24.7	-1.9	
M30M	Minto, Yukon comp=Z,17nm,0.8s	86.56	18	IAmb	IAmb	09 47 27.8		
M30M	Minto, Yukon baz=220	86.56	18	P	P	09 47 26.9	0.0	
MSO	Missoula baz=240	86.64	38	P	P	09 47 27.7	-0.1	
PRP	Porcupine Dome baz=212,SNR=8.9	86.72	13	P	P	09 47 26.9	-0.9	
TPAW	Teton Pass comp=Z,12nm,0.9s	86.87	42	IAmb	IAmb	09 47 30.1		
REDW	Red Top Meadow comp=Z,22nm,1.0s	86.87	43	IAmb	IAmb	09 47 31.0		
HHC	Hu-ho-hao-te	86.91	315	*e*P	P	09 47 30.1	+0.9	
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,6.4s							
DAWY	Dawson	87.00	16	P	P	09 47 29.1	+0.1	
DAWY				IAmb	IAmb	09 47 29.9		
	comp=Z,11nm,1.1s							
DAWY	Dawson baz=217,SNR=6.3	87.00	16	P	P	09 47 28.8	-0.2	
M31M	Drury Creek, Y baz=222,SNR=5.3	87.00	19	P	P	09 47 28.5	-0.5	
EGAK	Eagle comp=Z,9.8nm,0.7s	87.12	15	IAmb	IAmb	09 47 30.1		
EGAK	Eagle baz=216	87.12	15	P	P	09 47 29.2	-0.3	
LOHW	Long Hollow comp=Z,8.0nm,0.7s	87.15	42	IAmb	IAmb	09 47 32.1		
O20A	White River Ci comp=Z,17nm,1.3s	87.16	46	IAmb	IAmb	09 47 32.2		
O20A	White River Ci baz=244	87.16	46	P	P	09 47 31.4	+0.8	
COLD	Coldfoot comp=Z,17nm,0.8s	87.29	11	IAmb	IAmb	09 47 31.2		
COLD	Coldfoot baz=207	87.29	11	P	P	09 47 30.4	+0.1	
FLWY	Flagg Ranch comp=Z,19nm,0.9s	87.31	42	IAmb	IAmb	09 47 33.4		
FARO	Faro, Yukon baz=223	87.36	20	P	P	09 47 30.5	-0.2	
YHL	Hebgen Lake comp=Z,19nm,0.8s	87.36	41	IAmb	IAmb	09 47 34.0		
YMR	Madison River comp=Z,15nm,0.8s	87.41	41	IAmb	IAmb	09 47 34.1		
BOZ	Bozeman (W) comp=Z,10nm,1.1s	87.44	40	IAmb	IAmb	09 47 33.5		
BOZ	Bozeman (W) baz=242,SNR=9.6	87.44	40	P	P	09 47 32.4	+0.8	
BW06	Boulder Array comp=Z,24nm,1.4s	87.44	44	IAmb	IAmb	09 47 33.0		
BW06	Boulder Array baz=243	87.44	44	P	P	09 47 32.4	+0.5	
PD31	Pinedale Array comp=Z,22nm,1.4s	87.44	44	IAmb	IAmb	09 47 33.0		
PDAR	Pinedale Array comp=Z,5.5nm,0.6s,baz=215,slow=3.3,SNR=68	87.44	44	P	P	09 47 32.0	+0.2	
KMI	Kunming	87.46	297	⇓P	P	09 47 30.8	-1.5	
KMI				pmax	pmax			
	comp=Z,62nm,0.8s							
H17A	Grant Village comp=Z,14nm,0.8s	87.53	42	IAmb	IAmb	09 47 35.2		
H17A	Grant Village baz=242,SNR=14	87.53	42	P	P	09 47 34.3	+2.1	
YNR	Norris Junctio comp=Z,11nm,1.2s	87.61	41	IAmb	IAmb	09 47 36.3		
J29M	Klondike Camp baz=218,SNR=8.6	87.62	16	P	P	09 47 32.5	+0.6	
WALA	Waterton Lakes	87.78	37	P	P	09 47 33.3	+0.2	
WALA				IAmb	IAmb	09 47 34.4		
	comp=Z,7.3nm,0.8s							
HRY	Holter Researc	87.85	39	P	P	09 47 34.1	+0.6	
SDCO	Great Sand Dun	88.09	49	P	P	09 47 35.3	+0.2	
SDCO	Great Sand Dun baz=246,SNR=5.5	88.09	49	P	P	09 47 35.8	+0.7	
MMPY	Sheldon Lake, baz=225,SNR=16	88.31	20	P	P	09 47 35.8	+0.6	
I29M	Ogilvie Camp, comp=Z,8.0nm,0.8s	88.31	16	IAmb	IAmb	09 47 35.4		
I29M	Ogilvie Camp, baz=218,SNR=7.2	88.31	16	P	P	09 47 34.4	-0.7	
CMAR	Chiang Mai Arr	88.51	290	P	P	09 47 38.3	+1.2	
	comp=Z,1.9nm,0.4s,baz=98,slow=3.0,SNR=14							
CMAR	Chiang Mai Arr	88.51	290	P	P	09 47 37.4	+0.3	
RWWY	Rawlins comp=Z,11nm,0.8s	88.53	45	IAmb	IAmb	09 47 55.1		
TGTN	Hyland Airport baz=227,SNR=14	88.56	22	P	P	09 47 37.0	+0.6	
T25A	Trinidad baz=247	88.64	50	P	P	09 47 38.2	+0.6	
MSTX	Muleshoe comp=Z,11nm,0.9s	88.64	54	IAmb	IAmb	09 47 38.9		
MSTX	Muleshoe baz=248	88.64	54	P	P	09 47 37.9	+0.4	
TOLK	Toolik Lake Re baz=209	88.66	10	P	P	09 47 36.2	-0.5	
RLMT	Red Lodge comp=Z,11nm,0.9s	88.69	42	IAmb	IAmb	09 47 39.6		
RLMT	Red Lodge baz=243,SNR=7.3	88.69	42	P	P	09 47 38.5	+0.9	
PZH	PanZhiHua	88.78	298	P	P	09 47 39.5	+1.2	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,6.1s							
Q24A	Divide comp=Z,22nm,1.6s	88.84	48	IAmb	IAmb	09 47 41.0		
Q24A	Divide baz=246,SNR=5.7	88.84	48	P	P	09 47 39.7	+1.1	
ISCO	Idaho Springs baz=246	88.85	48	P	P	09 47 39.6	+1.0	
N23A	Red Feather La comp=Z,16nm,1.1s	89.07	46	IAmb	IAmb	09 47 41.5		
N23A	Red Feather La baz=246,SNR=8.0	89.07	46	P	P	09 47 40.3	+0.8	
833A	Chaparral WMA, comp=Z,9.5nm,0.9s	89.29	60	IAmb	IAmb	09 47 42.7		
833A	Chaparral WMA, baz=250	89.29	60	P	P	09 47 41.9	+1.4	
K22A	Casper comp=Z,11nm,1.2s	89.40	45	IAmb	IAmb	09 47 42.4		
K22A	Casper baz=245	89.40	45	P	P	09 47 41.2	+0.3	
EPYK	Eagle Plains baz=220	89.51	16	P	P	09 47 40.3	-0.4	
PHWY	Pilot Hill comp=Z,6.0nm,0.8s	89.57	46	IAmb	IAmb	09 47 43.2		
EGMT	Eagleton comp=Z,12nm,1.2s	89.71	39	IAmb	IAmb	09 48 42.4		
EGMT	Eagleton baz=243	89.71	39	P	P	09 47 42.1	+0.1	
JCT	Junction City comp=Z,8.4nm,0.8s	89.71	58	IAmb	IAmb	09 47 43.8		
JCT	Junction City baz=249	89.71	58	P	P	09 47 43.1	+0.7	
AMTX	Amarillo comp=Z,14nm,1.1s	89.82	53	IAmb	IAmb	09 47 44.2		
AMTX	Amarillo baz=248	89.82	53	P	P	09 47 43.5	+0.6	
A21K	Barrow comp=Z,7.0nm,0.7s	90.11	7	IAmb	IAmb	09 47 43.6		
A21K	Barrow baz=201	90.11	7	P	P	09 47 42.9	-0.4	
EDM	Edmonton comp=Z,12nm,0.9s	90.18	33	IAmb	IAmb	09 47 44.7		
LZH	Lanzhou	90.52	308	⇑P	P	09 47 48.0	+1.8	
LZH				pmax	pmax			
	comp=Z,15nm,1.4s							
ABTX	Abilene, Hawle baz=249	90.59	56	P	P	09 47 47.2	+0.7	
SNAA	Sanae	90.79	179	P	P	09 47 46.8	+0.1	
VNA3	Neumayer Olymp	90.94	176	P	P	09 47 47.5	+0.2	
LAO	LASA Array baz=246	91.29	41	P	P	09 47 50.9	+1.5	
VNA2	Neumayer--Watz baz=26,slow=3.0	91.38	177	P	P	09 47 49.6	+0.3	
RSSD	Black Hills baz=247	91.66	44	P	P	09 47 51.7	+0.3	
PLCA	Paso Flores comp=Z,1.8nm,1.1s,baz=242,slow=8.2,SNR=3.3	91.69	134	P	P	09 47 52.6	+1.0	
INK	Inuvik comp=Z,13nm,1.0s,baz=205,slow=4.8,SNR=18	91.79	15	P	P	09 47 50.1	-0.9	
INK	Inuvik comp=Z,12nm,0.9s	91.79	15	IAmb	IAmb	09 47 51.3		
INK	Inuvik baz=223	91.79	15	P	P	09 47 50.4	-0.6	
U32A	Winter Ranch,	92.39	53	P	P	09 47 54.2	-0.5	
SONM	Songino Array comp=Z,0.9nm,0.7s,baz=104,slow=1.9,SNR=5.7	93.20	319	P	P	09 47 57.9	-0.3	
DGMT	Dagmar baz=247	93.26	40	P	P	09 47 59.0	+0.7	
YKA	Yellowknife Ar comp=Z,5.4nm,0.8s,baz=244,slow=4.5,SNR=36	94.30	25	P	P	09 48 02.1	-0.5	
C36M	Paulatuk comp=Z,7.3nm,1.1s	95.01	17	IAmb	IAmb	09 48 06.6		
C36M	Paulatuk baz=231	95.01	17	P	P	09 48 05.1	-0.6	
KSU1	Kansas State U baz=252	95.08	51	P	P	09 48 08.0	+1.1	
A36M	Sachs Harbour baz=230	96.38	15	P	P	09 48 11.8	-0.1	
ZALV	Zalesovo Beam comp=Z,1.0nm,0.6s,baz=161,slow=1.1,SNR=5.2	107.89	322	PKiKP	PKiKP	09 53 06.2	-1.1	
MKAR	Makanchi Array comp=Z,1.0nm,0.5s,baz=216,slow=1.0,SNR=16	108.77	314	PKiKP	PKiKP	09 53 08.3	-1.0	
KURBB	Kurchatov Arra comp=Z,1.5nm,0.7s,baz=92,slow=1.8,SNR=13	111.52	318	PKiKP	PKiKP	09 53 13.3	-1.0	
BVAR	Borovoye Array comp=Z,2.5nm,0.7s,baz=46,slow=17,SNR=10	116.50	321	PKP	PKPdf	09 53 22.9	-0.9	
SVB	Belmont	119.83	85		PKPdf	09 53 32.1	+0.7	
ABKAR	Akbulak array	123.58	318		PKPdf	09 53 37.0	-0.5	
AKTO	Aktyubinsk	124.52	320	PKP	PKPdf	09 53 38.7	-0.6	
FINES	FINESS Array B comp=Z,2.3nm,0.8s,baz=48,slow=2.1,SNR=4.1	132.92	344	PKP	PKPdf	09 53 55.5	+0.6	
NOA	NORSAR Array B comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=3.7	136.15	353	PKP	PKPdf	09 54 01.6	+0.5	
AKASG	Malin Array Be comp=Z,0.6nm,0.4s,baz=40,slow=4.2,SNR=7.4	140.24	332	PKhKP	PKPpre	09 54 00.4		
AKASG				PKP	PKPdf	09 54 08.4	-0.4	
	comp=Z,1.8nm,0.5s,baz=41,slow=2.5,SNR=6.7							
LAWE	Loch Awe, Argy	141.20	6	*e*P	PKPdf	09 54 04.7	-5.5	
BNN	Bunyan	143.29	312		PKPbc	09 54 13.7	+0.6	
LODK	Lodwar	143.68	251	PKPdf	PKPab	09 54 14.8	-0.1	
ILGA	Ilgaz	143.72	317		PKPbc	09 54 14.7	+0.2	
KWP	Kalwaria Pacla	143.77	336	*e*PKP	PKPab	09 54 13.9	-0.2	
KWP	Kalwaria Pacla	143.77	336		PKPbc	09 54 14.3	+0.2	
WPS	Cemaes, Angles	144.11	6	*e*P	PKPbc	09 54 14.6	-0.4	
WME	Myndd Eilian	144.13	6	*e*P	PKPbc	09 54 14.8	-0.2	
WLF1	Llynfaes	144.23	6	*e*P	PKPbc	09 54 14.6	-0.7	
TLCR		144.24	326	⇑P	PKPdf	09 54 16.1	+0.2	
YRC	Rhoscolyn	144.25	6⇑	*e*P	PKPbc	09 54 14.5	-0.9	
BUR08	Bucovina Ar. S	144.28	332		PKPab	09 54 16.2	0.0	
BURAR	Bucovina Array	144.30	332	⇑P	PKPdf	09 54 16.5	+0.3	
BURAR	Bucovina Array	144.30	332		PKPab	09 54 16.3	0.0	
OJC	Ojcow	144.32	339	*e*PKP	PKPbc	09 54 15.3	-0.5	
OJC	Ojcow	144.32	339		PKPbc	09 54 15.5	-0.3	
YLL	Llanberis	144.40	6	*e*P	PKPbc	09 54 15.6	-0.3	
BR131	Keskin Array S	144.42	315		PKPbc	09 54 14.5	-2.1	
BRTR	Keskin Array B comp=Z,7.4nm,0.7s,baz=122,slow=3.4,SNR=23	144.42	315	PKP	PKPbc	09 54 16.4	-0.2	
BRTR	Keskin Array B	144.42	315		PKPbc	09 54 16.0	-0.6	
TESR	Tescani	144.43	329	⇑P	PKPdf	09 54 16.5	+0.2	
RETH	Rethem/Aller, baz=18,slow=2.8	144.48	352	*e*PKPbc	PKPbc	09 54 16.0	-0.1	
FLTG	Flechtingen baz=18,slow=2.8	144.58	349	*e*PKPbc	PKPdf	09 54 16.1	-0.2	
CFR	Carcaliu	144.60	326	⇑P	PKPab	09 54 17.6	+0.2	
NRDL	Niedersach Rie baz=18,slow=2.8	144.61	351	*e*PKPbc	PKPdf	09 54 16.4	+0.2	
TPGR	Topolog	144.66	326	⇑P	PKPab	09 54 17.5	-0.2	
FOEL	Foel Wylfa	144.73	5⇑	*e*P	PKPdf	09 54 16.8	+0.2	
NIE	Niedzica	144.83	338	*e*PKP	PKPab	09 54 18.6	+0.4	
CRVS	Cervenica-Dubn	144.84	337	*e*PKP	PKPbc	09 54 17.6	+0.2	
KSP	Ksiaz	144.84	343	*e*PKP	PKPbc	09 54 17.5	+0.2	
VRI	Vrincioaia	144.85	329	⇑P	PKPab	09 54 18.3	0.0	
ASSE	Asse, Remlinge baz=18,slow=2.8	144.87	350	*e*PKPbc	PKPbc	09 54 17.4	+0.1	
PLOR	Plostina	144.90	329	⇑P	PKPab	09 54 18.5	-0.1	
ANTO	Ankara	144.92

baz=18,slow=2.8
UPC Upice 145.22 343 *e*PKP **PKPab** 09 54 19.2 -0.4
DPC Dobruska-Polom 145.28 343 *e*PKP **PKPab** 09 54 19.5 -0.4
LANS Liptovska Anna 145.35 339 *e*PKP **PKPab** 09 54 20.1 -0.1
KRLC Kraliky 145.39 342 *e*PKP **PKPbc** 09 54 19.3 +0.2
BRG Berggiesshubel 145.41 346 *e*PKP **PKPbc** 09 54 19.6 +0.6
BRG Amp 09 54 20.3
comp=Z,24nm,0.9s
BRG Berggiesshubel 145.41 346 *e*PKPbc **PKPbc** 09 54 19.3 +0.3
baz=18,slow=2.8
MORC Moravsky Berou 145.43 341 ⇑P **PKPbc** 09 54 19.6 +0.4
MORC Moravsky Berou 145.43 341 **PKPbc** 09 54 19.9 +0.7
MORC Moravsky Berou 145.43 341 *e*PKP **PKPbc** 09 54 19.4 +0.2
DOPR Dopca 145.43 330 ⇑P **PKPbc** 09 54 18.9 -0.4
FBE Freiberg 145.50 346 *e*PKPbc **PKPbc** 09 54 19.9 +0.6
baz=18,slow=2.8
MLR Muntele Rosu 145.50 329 ⇑P **PKPab** 09 54 20.8 -0.2
MLR Muntele Rosu 145.50 329 **PKPbc** 09 54 20.0 +0.3
RSBS Rosebush, Pemb 145.52 7 *e*P **PKPdf** 09 54 18.6 +0.7
GTTG Gottingen 145.55 350 *e*PKPbc **PKPbc** 09 54 19.7 +0.3
baz=18,slow=2.8
NEUB Neuenburg 145.55 348 *e*PKPbc **PKPbc** 09 54 19.8 +0.3
baz=18,slow=2.8
PVCC Panska Ves 145.57 345 *e*PKP **PKPbc** 09 54 20.1 +0.6
MCH1 Michaelchurch 145.63 5⇑*e*P **PKPbc** 09 54 19.3 -0.4
MDUB Mudurnu 145.65 318 PKPdf **PKPdf** 09 54 18.3 -0.4
MDUB **PKPbc** 09 54 20.7 +0.4
CJR Cluj-Napoca 145.70 332 ⇑P **PKPbc** 09 54 20.8 +0.7
SECR 145.76 328 ⇑P **PKPbc** 09 54 20.5 +0.3
VOIR 145.98 329 ⇑P **PKPbc** 09 54 21.6 +0.7
DRGR 146.03 333 ⇑P **PKPbc** 09 54 21.1 +0.1
PRU Pruhonice 146.08 345 *e*PKP **PKPbc** 09 54 21.4 +0.4
KASTN Kahler Asten 146.11 352 *e*PKPbc **PKPbc** 09 54 21.1 0.0
baz=18,slow=2.8
MOX Moxa 146.12 348 *e*PKPbc **PKPbc** 09 54 21.2 +0.1
baz=18,slow=2.8
VYHS Vyhne 146.13 339 *e*PKP **PKPbc** 09 54 21.9 +0.7
VRAC Vranov 146.13 342 *e*PKP **PKPbc** 09 54 21.3 +0.1
PLN Plauen 146.16 347 *e*PKPbc **PKPbc** 09 54 21.4 +0.2
baz=18,slow=2.8
TANN Tannenbergstha 146.17 347 *e*PKPbc **PKPbc** 09 54 21.4 +0.1
baz=18,slow=2.8
WERD Werda 146.17 347 *e*PKPbc **PKPbc** 09 54 21.6 +0.3
baz=18,slow=2.8
JAVC Velka Javorina 146.20 340 *e*PKP **PKPab** 09 54 22.7 -0.9
KOLL Kolacno 146.20 339 *e*PKP **PKPbc** 09 54 22.4 +1.0
ARR Arges 146.23 330 ⇑P **PKPbc** 09 54 22.6 +0.9
PSZ Piszkesteto 146.24 337 ⇑P **PKPbc** 09 54 21.8 +0.2
PSZ Piszkesteto 146.24 337 PKPdf **PKPdf** 09 54 19.7 +0.3
PSZ **PKPbc** 09 54 22.2 +0.6
GUNZ Gunzen 146.24 347 *e*PKPbc **PKPbc** 09 54 21.8 +0.4
baz=18,slow=2.8
WERN Wernitzgruen 146.31 347 *e*PKPbc **PKPbc** 09 54 22.1 +0.4
baz=18,slow=2.8
NKC Novy Kostel 146.34 347 *e*PKP **PKPbc** 09 54 22.2 +0.5
NKC *ex* x 09 54 24.7
KRUC Moravsky 146.41 342 *e*PKP **PKPbc** 09 54 22.1 +0.2
BORA Eskisehir 146.45 317 PKPdf **PKPdf** 09 54 19.6 -0.5
BORA **PKPbc** 09 54 22.4 0.0
BORA PKPab **PKiKP** 09 54 25.7 +1.0
PBCC Pribram 146.50 345 *e*PKP **PKPbc** 09 54 22.5 +0.3
SMOL Smolenice 146.58 340 *e*PKP **PKPbc** 09 54 23.6 +1.2
MANZ Manzenberg 146.65 347 *e*PKPbc **PKPbc** 09 54 22.9 +0.3
baz=18,slow=2.8
BEBN Eben Emael 146.81 355 *d*PKPab **PKPab** 09 54 25.8 0.0
ROTZ Rotzenmuhle 146.83 347 *e*PKPbc **PKPbc** 09 54 23.3 +0.3
baz=18,slow=2.8
SIRR Siria 146.89 334 ⇑P **PKPbc** 09 54 23.6 +0.3
MEM Membach 146.97 354 *d*PKPdf **PKPdf** 09 54 21.4 +1.0
MEM *d*PKPbc **PKPbc** 09 54 23.4 0.0
BTNL Ternell 146.98 354 *d*PKPbc **PKPbc** 09 54 23.5 0.0
BSTI Sart Tilman 147.03 355 *d*PKPbc **PKPbc** 09 54 24.0 +0.5
TNS Taunus Mts 147.06 351 *e*PKPbc **PKPbc** 09 54 23.9 +0.2
baz=18,slow=2.8
GZR Gura Zlata 147.08 332 ⇑P **PKPbc** 09 54 23.5 -0.5
GRF Grafenberg Arr 147.11 348 *e*PKPbc **PKPbc** 09 54 24.3 +0.5
baz=18,slow=2.8
GRF *eL* L 10 51 23.4
comp=Z,113nm,19.5s
KHC Kasperske Hory 147.11 345 *e*PKP **PKPbc** 09 54 24.4 +0.6
KHC *ex* x 09 54 27.6
KHC Kasperske Hory 147.11 345 **PKPbc** 09 54 24.5 +0.6
KHC PKPab **PKPab** 09 54 28.0 +0.8
SNF Seneffe 147.20 356 *d*PKPab **PKPab** 09 54 27.1 -0.3
CKRC Cesky Krumlov 147.21 344 *e*PKP **PKPbc** 09 54 24.6 +0.5
BCLA Clavier 147.22 355 *d*PKPbc **PKPbc** 09 54 24.3 +0.3
BCLA *d*PKPab **PKPab** 09 54 27.3 -0.2
BHOU Houvegnez 147.22 354 *d*PKPdf **PKPdf** 09 54 21.8 +0.9
BHOU *d*PKPbc **PKPbc** 09 54 24.3 +0.2
WET Wettzell 147.27 346 *e*PKPbc **PKPbc** 09 54 24.6 +0.3
baz=18,slow=2.8
BGES Gesves 147.27 355 *d*PKPbc **PKPbc** 09 54 24.3 +0.1
BGES *d*PKiKP **PKiKP** 09 54 26.2 +0.3
BGES *d*PKPab **PKPab** 09 54 28.0 +0.3
GEC2 GERESS Array S 147.35 345 **PKPbc** 09 54 24.6 0.0
GEC2 PKPab **PKPab** 09 54 28.8 +0.6
GEC2 GERESS Array S 147.35 345 *e*PKPbc **PKPbc** 09 54 24.7 +0.1
baz=18,slow=2.8
GERES GERESS Array B 147.35 345 PKP **PKPdf** 09 54 21.1 -0.2
comp=Z,9.2nm,0.7s,baz=64,slow=2.3,SNR=33
GERES PKPbc **PKPbc** 09 54 24.6 0.0
comp=Z,9.5nm,0.7s,baz=35,slow=4.9,SNR=50
GERES GERESS Array B 147.35 345 **PKPdf** 09 54 21.3 0.0
GERES PKPbc **PKPbc** 09 54 24.9 +0.3
BZS Buzias 147.42 333 ⇑P **PKPbc** 09 54 24.8 0.0
RCHB Rochefort 147.49 355 *d*PKPbc **PKPbc** 09 54 24.9 +0.1
CONA Conrad Observa 147.58 342 *e*P **PKPbc** 09 54 25.6 +0.4
comp=Z,25nm,1.0s,SNR=12
DOU Dourbes 147.59 356 *d*PKPbc **PKPbc** 09 54 24.9 -0.2
DOU *d*PKPab **PKPab** 09 54 28.9 -0.1
HERR Herculane 147.64 331 ⇑P **PKPbc** 09 54 25.2 -0.1
WLF Walferdange 147.89 354 *e*PKPbc **PKPbc** 09 54 26.6 +0.8
baz=18,slow=2.8
WLF Walferdange 147.89 354 *d*PKPbc **PKPbc** 09 54 26.7 +0.9
WLF *d*PKPab **PKPab** 09 54 30.1 -0.2
MOA Molln 148.12 343 *e*P **PKPbc** 09 54 26.3 -0.2
comp=Z,4.3nm,0.7s
ARSA Arzberg 148.29 341 *e*P **PKPbc** 09 54 26.7 -0.2
comp=Z,5.9nm,1.0s
BIOA Bad Ischl, Aus 148.43 344 *e*P **PKPbc** 09 54 27.2 -0.1
comp=Z,11nm,1.1s
JSA Saint Aubin 148.49 4⇑*e*P **PKPbc** 09 54 27.2 -0.1
FUR Furstenfeldbru 148.55 347 *e*PKPbc **PKPbc** 09 54 27.9 +0.4
baz=18,slow=2.8
FRGS Fruska Gora 148.55 334 ⇑P **PKPbc** 09 54 26.5 -1.2
BOVS Bovan 148.92 331 ⇑P **PKPbc** 09 54 27.9 -0.6
VTS Vitosha 148.93 328 ⇑P **PKPbc** 09 54 29.1 +0.3
VTS Vitosha 148.93 328 PKPdf **PKPdf** 09 54 23.9 -0.2
VTS **PKPbc** 09 54 29.4 +0.5
VTS PKPab **PKPab** 09 54 35.6 +0.6
BFO Black Forest 148.93 351 **PKPbc** 09 54 28.9 +0.5
BFO PKPab **PKPab** 09 54 34.1 -0.5
BFO Black Forest 148.93 351 *e*PKPbc **PKPbc** 09 54 28.5 0.0
baz=18,slow=2.8
SOKA Soboth 148.96 341 *e*P **PKPbc** 09 54 28.3 -0.4
comp=Z,7.7nm,0.8s
KBA Koelnbreinsper 149.07 344 *e*P **PKPbc** 09 54 28.4 -0.6
comp=Z,7.8nm,0.6s
UBR Ueberruh 149.25 348 *e*PKPbc **PKPbc** 09 54 29.5 +0.2
baz=18,slow=2.8
WATA Walderalm 149.27 346 *e*P **PKPbc** 09 54 29.2 -0.3
comp=Z,23nm,1.2s
RETA Reutte 149.30 347 *e*P **PKPbc** 09 54 29.3 -0.2
comp=Z,7.9nm,0.7s
WTTA Wattenberg 149.32 346 *i* P **PKPbc** 09 54 29.7 0.0
comp=Z,2nm,0.5s,SNR=7.6
DIVS Divibare 149.33 333 **PKPbc** 09 54 30.0 +0.3
MOTA Moosalm 149.36 347 *e*P **PKPbc** 09 54 29.6 -0.1
comp=Z,18nm,0.9s
MYKA Terra Mystica 149.40 343 *e*P **PKPbc** 09 54 29.0 -0.7
comp=Z,12nm,0.5s
SQTA Sankt Quirin 149.46 347 *e*P **PKPbc** 09 54 29.9 0.0
comp=Z,15nm,0.8s
VNDS Vrh nad Dolski 149.57 341 *i* PKPbc **PKPbc** 09 54 29.9 -0.2
ABTA Abfaltersbach 149.59 345 *e*P **PKPbc** 09 54 29.6 -0.6
comp=Z,22nm,0.7s,SNR=6.7
DAVA Damuels 149.67 348 *e*P **PKiKP** 09 54 31.1 -0.1
comp=Z,26nm,1.2s,SNR=5.2
CRNS Crni Vrh 149.72 342 *i* PKPbc **PKPbc** 09 54 29.9 -0.5
FETA Feichten 149.75 347 *e*P **PKPbc** 09 54 30.9 +0.3
comp=Z,20nm,1.0s,SNR=5.7
VOJS Vojsko 149.88 342 *i* PKPbc **PKPbc** 09 54 30.2 -0.7
STIP Stip 150.13 327 *i* P **PKPbc** 09 54 30.9 -0.6
SKO Skopje 150.30 329 *i* P **PKPbc** 09 54 31.6 -0.3
CTI Castel Tesino 150.46 345 **PKPab** 09 54 40.9 -0.2
PDG Podgorica 150.98 332 ⇑P **PKPbc** 09 54 33.2 -0.2
PDG Podgorica 150.98 332 PKPdf **PKPdf** 09 54 27.1 0.0
FNA Florina 151.21 327 **PKPbc** 09 54 33.5 -0.7
FNA PKPab **PKPab** 09 54 44.4 -0.1
OHR Ohrid 151.26 328 *i* P **PKiKP** 09 54 35.2 +0.7
PCAB Cabril 154.80 16 *e*PKPab **PKPab** 09 55 00.1 +0.4
PBRG Braganca 155.04 14 *e*PKPab **PKPab** 09 55 00.1 -0.6
POLO Lamas de Olo 155.18 16 *e*PKPab **PKPab** 09 55 01.8 +0.4
PVRL Vila Real 155.29 16 *e*PKPab **PKPab** 09 55 02.3 +0.5
MVO Moncorvo 155.57 15 *e*PKPab **PKPab** 09 55 03.5 +0.5
PVIS Viseu 155.76 17 *e*PKPab **PKPab** 09 55 04.3 +0.4
MTE Manteigas 156.16 17 *e*PKPab **PKPab** 09 55 02.1 -3.5
PCBR Castelo Branco 156.70 17 *e*PKPab **PKPab** 09 55 07.5 -0.3
PMRV Marv??o 157.10 17 *e*PKPab **PKPab** 09 55 09.7 +0.1
PMTG Montargil 157.18 19 *e*PKPab **PKPab** 09 55 09.6 -0.4
PESTR Estremoz 157.56 18 *e*PKPab **PKPab** 09 55 11.2 -0.4
ESDC Sonseca Array 157.66 11 PKP **PKPdf** 09 54 37.1 +0.7
comp=Z,0.7nm,0.7s,baz=336,slow=3.3,SNR=4.6
ESDC PKPab **PKPab** 09 55 11.7 -0.4
comp=Z,1.1nm,0.6s,baz=341,slow=3.9,SNR=14
ESDC Sonseca Array 157.66 11 **PKPdf** 09 54 36.4 -0.1
ESDC PKPab **PKPab** 09 55 11.5 -0.6
PNCL Nicolau / Gran 157.95 21 *e*PKPab **PKPab** 09 55 13.4 +0.1
PBAR Barrancos 158.37 18 *e*PKPab **PKPab** 09 55 15.3 +0.2
PCVE Castro Verde 158.55 21 *e*PKPab **PKPab** 09 55 16.2 +0.2
PVAQ Vaqueiros 158.87 20 *e*PKPab **PKPab** 09 55 18.0 +0.7
TORD Torodi Ar. Bea 175.43 185 PKP **PKPdf** 09 54 49.2 -1.1
comp=Z,1.9nm,0.8s,baz=185,slow=2.0,SNR=10

*IDC **16** 09:45:33.6±0.8, 14.˚86N×122.˚91E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/50, mbtmp3.9/10, ML4.9/1, MS3.8/5, Ms1 3.8/5, ms1mx3.1/84, Error ellipse: s-maj=24.5km s-min=16.2km az=64.0*
*MAN **16** 09:45:36.4, 14.˚96N×122.˚62E, h5km, mb5.1, ML4.1, MS4.2 MAN INTENSITY II - POLILIO, MAUBAN & INFANTA, QUEZON; INTENSITY I - DAET & MERCEDES, CAMARINES NORTE.*
*NEIC **16** 09:45:40.0±1.1, 14.˚84N±0.˚08×122.˚8E±0.˚1, h44km±9km, mb4.3/16, Error ellipse: s-maj=15.7km s-min=11.6km az=106.0*
ISC 16 09:45:39.7±1.3, 14.˚90N±0.˚06×122.˚74E±0.˚06, h41km±14km, n55, σ1s56/49, mb4.1/18, MS3.9/5, 5C-5D, Luzon

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GQP Guinayangan 1.03 196⇑*e*P **Pn** 09 45 56.6 -1.1
GQP *eS* **Sn** 09 46 10.5 -0.4
LQP Lukban 1.40 236⇓*i*P **Pn** 09 46 02.0 -1.0
LQP *i* S **Sn** 09 46 19.6 -0.8
PCPH Palayan 1.72 293⇑*e*P **Pn** 09 46 05.1 -2.1
PCPH *eS* **Sn** 09 46 26.6 -1.2
PVCP Virac 1.89 133⇑*e*P **Pn** 09 46 11.1 +1.6
TGY Tagaytay City 1.92 246 Pn **Pn** 09 46 10.8 +0.8
445nm,0.3s,baz=84,slow=2.5,SNR=44
TGY Sn **Sn** 09 46 37.2 +4.3
2µm,0.3s,baz=162,slow=23,SNR=34
TGY Tagaytay City 1.92 246 *e*P **Pn** 09 46 06.2 -3.8
TGY *i* S **Sn** 09 46 36.2 +3.3
MACP Maragondon, Ca 2.06 252⇓*e*P **Pn** 09 46 12.3 +0.5
PGP Puerto Galera 2.22 231⇑*e*P **Pn** 09 46 14.2 +0.1
PGP *i* S **Sn** 09 46 40.9 +0.5
SMPP San Manuel, Pa 2.34 302⇓*e*P **Pn** 09 46 14.0 -1.8
LUBP Lubang 2.68 245⇓*e*P **Pn** 09 46 20.2 -0.1
RCP Roxas 3.32 180⇑*e*P **Pn** 09 46 32.4 +3.2
JAP San Jose, Anti 4.20 191⇓*e*P Pn 09 46 26.3 -15
TWG Pinlang 8.04 349 Pn **Pn** 09 47 34.7 +0.7
YULB Yu-li 8.56 351 Pn **Pn** 09 47 40.8 -0.3
SBUM Sibu 16.15 221 P **P** 09 49 27.5 +0.9
GUMO Guam 21.49 91 P **P** 09 50 24.0 -1.0
KSAR Wonju Array Be 22.91 11 P **P** 09 50 40.8 +0.8
CM31 Chiang Mai Arr 23.06 282 P **P** 09 50 41.6 -0.2
CM31 IAmb IAmb 09 50 43.6
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 23.06 282 P **P** 09 50 41.9 +0.1
comp=Z,11nm,1.0s,baz=92,slow=7.4,SNR=37
CHTO Chiang Mai 23.10 283 P **P** 09 50 41.7 -0.5
CHTO IAmb IAmb 09 50 42.7
comp=Z,6.0nm,1.0s
SRIT Nakonsritamara 23.49 257 P **P** 09 50 45.8 -0.2
SRIT IAmb IAmb 09 50 47.1
comp=Z,11nm,0.5s
KULM Kulim 23.73 249 P **P** 09 50 47.4 -0.9
KULM IAmb IAmb 09 50 48.6
comp=Z,19nm,1.4s
IPM Ipoh 23.75 246 P **P** 09 50 47.7 -0.8
IPM IAmb IAmb 09 50 48.4
comp=Z,14nm,0.9s
LSA Lhasa 32.60 302 P **P** 09 52 09.3 +1.2
LSA IAmb IAmb 09 52 10.6
comp=Z,9.6nm,1.2s
SONM Songino Array 35.52 341 P **P** 09 52 33.5 +0.7
comp=Z,1.2nm,0.9s,baz=162,slow=9.8,SNR=4.4
SONM Songino Array 35.52 341 P **P** 09 52 33.4 +0.7
SONM IAmb IAmb 09 52 52.8
comp=Z,2.1nm,1.2s
WRA Warramunga Arr 36.46 161 P **P** 09 52 39.0 -1.8
comp=Z,1.6nm,0.9s,baz=344,slow=9.1,SNR=6.6
WRA Warramunga Arr 36.46 161 P **P** 09 52 39.3 -1.5
WB2 Warramunga Arr 36.46 161 P **P** 09 52 39.4 -1.5
WR0 Warramunga Arr 36.53 161 P **P** 09 52 38.2 -3.3
ASAR Alice Springs 39.85 164 P **P** 09 53 08.1 -1.4
comp=Z,0.7nm,0.6s,baz=338,slow=7.6,SNR=8.0
ASAR Alice Springs 39.85 164 P **P** 09 53 08.0 -1.5
H11S3 WAKE ISLAND Hy 42.17 79 T T 10 38 37.5
baz=271,slow=75,SNR=33
H11S1 WAKE ISLAND Hy 42.18 79 T T 10 38 29.3
baz=271,slow=75,SNR=32
H11S2 WAKE ISLAND Hy 42.19 79 T T 10 38 38.9
baz=271,slow=75,SNR=46
H11N1 WAKE ISLAND Hy 42.34 77 T T 10 38 51.1
baz=276,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 42.34 77 T T 10 38 51.6
baz=276,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 42.35 77 T T 10 38 51.6
baz=276,slow=76,SNR=13
MK31 Makanchi Array 46.28 322 P **P** 09 54 02.2 +1.0
MK31 IAmb IAmb 09 54 13.8
comp=Z,2.9nm,1.2s
MKAR Makanchi Array 46.28 322 P **P** 09 54 02.2 +1.0
comp=Z,1.3nm,0.8s,baz=121,slow=8.7,SNR=10
MKAR Makanchi Array 46.28 322 P **P** 09 54 01.9 +0.7
ZAA0 Zalesovo Array 48.93 331 P **P** 09 54 22.2 +0.6
ZAA0 IAmb IAmb 09 54 22.6
comp=Z,2.1nm,0.8s
ZALV Zalesovo Beam 48.93 331 P **P** 09 54 21.3 -0.3
comp=Z,1.2nm,0.8s,baz=108,slow=8.0,SNR=4.3
MA2 Magadan 49.13 18 LR LR 10 15 58.5
comp=Z,94nm,19.6s,baz=104,slow=37
AAK Ala-Archa 49.64 314 LR LR 10 15 40.8
comp=Z,116nm,20.6s,baz=180,slow=36
STKA Stephens Creek 49.90 159 P **P** 09 54 28.6 -0.7
comp=Z,1.3nm,0.7s,baz=323,slow=20,SNR=4.6
STKA Stephens Creek 49.90 159 P **P** 09 54 27.4 -1.9
KURK Kurchatov 50.32 325 P **P** 09 54 32.2 0.0
KURBB Kurchatov Arra 50.33 325 P **P** 09 54 32.8 +0.5
comp=Z,3.9nm,1.0s,baz=121,slow=8.0,SNR=14
SEY Seymchan 52.29 17 LR LR 10 17 09.5
comp=Z,107nm,20.6s,baz=16,slow=36
ABKAR Akbulak array 61.14 318 P **P** 09 55 50.5 +0.6
RPZ Rata Peaks 73.13 146 LR LR 10 26 03.5
comp=Z,28nm,21.9s,baz=231,slow=33
ARCES ARCESS Array B 78.67 339 LR LR 10 34 01.7
comp=Z,103nm,19.9s,baz=114,slow=37
NOA NORSAR Array B 87.10 333 P **P** 09 58 21.0 -0.1
comp=Z,1.2nm,1.0s,baz=68,slow=4.8,SNR=3.4
YKA Yellowknife Ar 90.91 23 P **P** 09 58 40.1 +1.3
comp=Z,0.4nm,1.0s,baz=298,slow=4.7,SNR=6.1

*NEIC **16** 09:45:57.0±1.4, 55.˚35±0.˚1×147.˚9E±0.˚2, h10km±1km, mb4.5/14, Error ellipse: s-maj=21.8km s-min=18.0km az=65.0*
*IDC **16** 09:45:58.5±1.4, 55.˚18S×146.˚30E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/24, mbtmp4.3/4, MS3.8/14, Ms1 3.8/14, ms1mx3.4/49, Error ellipse: s-maj=73.5km s-min=29.4km az=85.0*
ISC 16 09:45:57.6±0.6, 55.˚24S±0.˚09×147.˚6E±0.˚2, h10km, n53, σ1s14/33, mb4.4/10, MS3.8/13, West of Macquarie Island

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MCQ Macquarie Isla 6.62 88 Pn Pn 09 47 31.8 -3.0
TAU Tasmania Unive 12.34 359 Pn **Pn** 09 48 52.6 -0.6
DCZ Deep Cove 15.82 60 **Pn** 09 49 40.3 +0.1
DCZ IAmb IAmb 09 49 51.7
comp=Z,36nm,1.5s
RPZ Rata Peaks 19.02 62 LR LR 09 56 33.9
comp=Z,586nm,18.3s,baz=215,slow=32
CAN Canberra 19.94 3 P **P** 09 50 29.3 -0.3
CAN IAmb IAmb 09 50 40.4
comp=Z,62nm,1.5s
VNDA Vanda 22.95 172 P **P** 09 51 00.1 -1.4
comp=Z,5.7nm,1.0s,baz=331,slow=11,SNR=6.3
VNDA Vanda 22.95 172 P **P** 09 50 59.3 -2.2
VNDA IAmb IAmb 09 51 09.1
comp=Z,13nm,1.1s
STKA Stephens Creek 23.73 347 P **P** 09 51 10.6 +0.9
comp=Z,6.5nm,0.9s,baz=168,slow=11,SNR=9.4
STKA Stephens Creek 23.73 347 P **P** 09 51 10.8 +1.1
BBOO Buckleboo 23.83 335 P **P** 09 51 10.9 +0.2
BBOO IAmb IAmb 09 51 27.6
comp=Z,16nm,1.4s
URZ Urewera 26.14 62 LR LR 10 00 40.4
comp=Z,274nm,21.1s,baz=210,slow=33
FORT Forrest 28.11 322 P **P** 09 51 48.8 -0.6
EIDS Eidsvold 29.95 6 P **P** 09 52 04.3 -1.5
EIDS IAmb IAmb 09 52 11.5
comp=Z,5.1nm,0.9s
H01W1 Cape Leeuwin H 30.70 298 T T 10 24 35.4
baz=142,slow=75,SNR=33
H01W2 Cape Leeuwin H 30.71 298 T T 10 24 33.4
baz=142,slow=75,SNR=26
H01W3 Cape Leeuwin H 30.72 298 T T 10 24 34.5
baz=142,slow=75,SNR=23
ASAR Alice Springs 33.12 337 P **P** 09 52 33.1 -0.7
comp=Z,1.8nm,0.7s,baz=164,slow=9.2,SNR=15
ASAR PcP **PcP** 09 55 18.1 +1.3
comp=Z,1.2nm,0.8s,baz=152,slow=2.6,SNR=6.2
ASAR Alice Springs 33.12 337 P **P** 09 52 33.4 -0.4
AS31 Alice Springs 33.12 337 P **P** 09 52 34.1 +0.3
QSPA South Pole Qui 34.87 180 P **P** 09 52 48.4 -0.3
QSPA IAmb IAmb 09 53 17.6
comp=Z,5.9nm,1.3s
CTA Charters Tower 35.10 358 LR LR 10 05 47.9
comp=Z,233nm,19.1s,baz=182,slow=34
DZM Mont Dzumac 36.01 31 LR LR 10 04 49.9
comp=Z,245nm,18.3s,baz=209,slow=31
WR0 Warramunga Arr 36.57 339 P **P** 09 53 02.8 -0.8
WR0 IAmb IAmb 09 53 08.4
comp=Z,7.8nm,0.8s
WB2 Warramunga Arr 36.63 339 P **P** 09 53 03.1 -0.9
WRA Warramunga Arr 36.63 339 P **P** 09 53 03.1 -1.0
comp=Z,6.3nm,0.8s,baz=167,slow=7.5,SNR=22
WRA Warramunga Arr 36.63 339 P **P** 09 53 03.8 -0.2
WRAB Tennant Creek 36.64 339 P **P** 09 53 03.2 -0.9
WB0 Warramunga Arr 36.79 339 P **P** 09 53 04.8 -0.7
WB0 IAmb IAmb 09 53 10.2
comp=Z,14nm,0.9s
MAW Mawson 38.97 217 LR LR 10 08 54.0
comp=Z,238nm,18.4s,baz=202,slow=36
MSVF Nonsavu 44.06 44 LR LR 10 08 13.7
comp=Z,66nm,20.2s,baz=204,slow=30
AFI Afiamalu 51.85 54 LR LR 10 14 50.6
comp=Z,36nm,18.8s,baz=248,slow=33
LEM Lembang 57.80 311 LR LR 10 16 42.2
comp=Z,68nm,21.9s,baz=222,slow=32
RPN Rapa Nui 75.17 116 LR LR 10 24 47.4
comp=Z,17nm,18.7s,baz=148,slow=31
PLCA Paso Flores 79.03 151 LR LR 10 27 57.5
comp=Z,57nm,18.2s,baz=178,slow=32
SUR Sutherland 81.55 223 LR LR 10 34 19.3
comp=Z,59nm,18.2s,baz=168,slow=36
H03S2 Juan Fernandez 82.76 143 T T 11 29 59.8
baz=202
H03S1 Juan Fernandez 82.76 143 T T 11 30 14.5
baz=202
H03S3 Juan Fernandez 82.77 143 T T 11 30 00.8
baz=202
PALK Pallekele 83.09 293 LR LR 10 27 33.4
comp=Z,43nm,21.3s,baz=265,slow=30
CMAR Chiang Mai Arr 84.18 314 P **P** 09 58 28.9 0.0
comp=Z,0.8nm,0.3s,baz=179,slow=4.5,SNR=7.0
LSZ Lusaka 93.24 237 LR LR 10 36 15.9
comp=Z,57nm,18.1s,baz=138,slow=33
CPUP Villa Florida 96.01 158 LR LR 10 41 25.9
comp=Z,29nm,18.2s,baz=196,slow=34
NVAR Mina Array Bea 122.67 69 PKP **PKiKP** 10 04 56.5 +3.2
comp=Z,0.5nm,0.9s,baz=208,slow=3.7,SNR=4.0
ILAR Eielson Array 129.72 30 PKhKP PKPpre 10 05 03.2
comp=Z,0.2nm,0.6s,baz=268,slow=2.6,SNR=2.0
YKA Yellowknife Ar 139.66 45 PKP **PKPdf** 10 05 24.7 +0.6
comp=Z,0.5nm,1.0s,baz=244,slow=2.6,SNR=3.8
AKASG Malin Array Be 143.66 289 PKhKP PKPpre 10 05 29.6
comp=Z,0.4nm,0.3s,baz=94,slow=2.8,SNR=6.2
KEST Kesra 145.50 253 PKP **PKPdf** 10 05 37.0 +1.6
comp=Z,5.9nm,0.5s,baz=1.1,slow=1.0,SNR=6.0
FINES FINESS Array B 149.61 306 PKPbc **PKiKP** 10 05 47.7 +0.8
comp=Z,2.9nm,0.9s,baz=84,slow=4.3,SNR=3.6
ARCES ARCESS Array B 150.96 322 PKPbc **PKiKP** 10 05 50.4 +0.9
comp=Z,6.8nm,0.9s,baz=104,slow=3.8,SNR=4.7
GERES GERESS Array B 151.35 277 PKPbc **PKPbc** 10 05 50.5 0.0
comp=Z,2.3nm,0.8s,baz=107,slow=3.4,SNR=12
GERES GERESS Array B 151.35 277 PKPdf **PKPdf** 10 05 43.8 -0.7
GERES **PKiKP** 10 05 51.0 0.0
CLL Collm 152.92 281 *e*PKPbc **PKiKP** 10 05 55.0 +1.0
CLL *ex* x 10 05 59.0
CLL *e*(PKPab) **sPKPab** 10 06 10.0 +1.8
CLL LmV 13 05 00.0
comp=Z,300nm,19.9s
ESDC Sonseca Array 155.48 242 PKPab **PKPab** 10 06 15.3 -1.2
comp=Z,0.9nm,1.0s,baz=136,slow=2.9,SNR=6.1

*IDC **16** 09:54:52.0±3.2, 53.˚73N×90.˚80E, h0km, mb1 2.9/3, mb1mx2.8/65, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=27.2km s-min=22.0km az=55.0*
*NNC **16** 09:54:53.5±3.9, 53.˚73N×90.˚55E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=30.0km s-min=19.9km az=56.0, Suspected Mining explosion.*
ISC 16 09:54:54.2±4.1, 53.˚7N±0.˚1×90.˚6E±0.˚2, h0km, n8, σ0s60/11, 5C-3D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
I46RU ZALESOVO INFRA 3.41 277 *i* 10 17 37.3
baz=88,slow=334,SNR=4.1
ZAA0 Zalesovo Array 3.41 277 ⇑Pg **Pb** 09 55 54.4 -1.0
0.9nm,0.6s
ZAA0 ⇑Lg Lg 09 56 44.4
5.5nm,0.9s
ZALV Zalesovo Beam 3.41 277 Pn **Pn** 09 55 49.4 +0.8
0.2nm,0.3s,baz=100,slow=11,SNR=2.0
ZALV Pg **Pb** 09 55 54.9 -0.5
0.8nm,0.3s,baz=89,slow=15,SNR=11
ZALV Lg Lg 09 56 44.8
2.8nm,0.3s,baz=92,slow=26,SNR=11
KURBB Kurchatov Arra 8.01 252 Pn **Pn** 09 56 51.9 +0.2
0.1nm,0.3s,baz=68,slow=15,SNR=7.0
KURBB Sn **Sn** 09 58 22.9 0.0
0.0nm,0.3s,baz=68,slow=26,SNR=6.5
KURBB Lg Lg 09 59 10.8
0.0nm,0.3s,baz=59,slow=33,SNR=6.7
KURBB Kurchatov Arra 8.01 252 ⇓Pn **Pn** 09 56 52.3 +0.6
0.7nm,0.3s
KURBB ⇑Sn **Sn** 09 58 22.9 0.0
11nm,0.9s
KURBB ⇓Lg Lg 09 59 07.3
34nm,1.1s
MK31 Makanchi Array 8.70 221 ⇓Pn **Pn** 09 57 01.5 +0.3
0.2nm,0.3s,baz=33,slow=13,SNR=10.0
MK31 ⇑Sn **Sn** 09 58 40.7 +0.7
3.2nm,1.1s
MK31 ⇑Lg Lg 09 59 30.1
9.4nm,1.2s,baz=40,slow=30,SNR=5.4
MKAR Makanchi Array 8.70 221 Pn **Pn** 09 57 01.1 -0.2
0.2nm,0.3s,baz=34,slow=12,SNR=9.7
MKAR Sn **Sn** 09 58 40.0 +0.1
0.1nm,0.3s,baz=40,slow=19,SNR=3.7
MKAR Lg Lg 09 59 28.9
0.0nm,0.3s,baz=30,slow=29,SNR=2.6
SONM Songino Array 11.61 114 Lg Lg 10 00 48.8
0.1nm,0.3s,baz=290,slow=26,SNR=9.0

*NEIC **16** 10:14:13.5±1.8, 27.˚17N±0.˚09×140.˚1E±0.˚1, h388km±8km,*

mb4.3/37,Error ellipse: s-maj=17.6km s-min=11.8km az=58.0

IDC ***16*** *10:14:14.7±2.1,27°.12N×140°.19E,h409km±23km, mb3.3/13,mb1 3.5/15,mb1mx3.2/49,mbtmp4.1/15,Error ellipse: s-maj=22.5km s-min=11.5km az=97.0*

JMA ***16*** *10:14:15.9±0.2,27°.47N×140°.89E,h399km, M4.0*

ISC 16 10:14:14.3±0.6,27°.21N±0°.07×140°.4E±0°.1,h400km,n76, σ1º39/81,mb4.2/31,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.62**	**94**	P	**Pn**	**10 15 07.8**	**-0.3**
CBIJ				S	**S**	**10 15 48.7**	**-2.8**
JCJ	**Chichijima**	**1.62**	**94**	Pn	**Pn**	**10 15 07.8**	**-0.3**
JCJ				Sn	**S**	**10 15 48.7**	**-2.8**
JHH2	**Haha-jima-NKT2**	**1.71**	**109**	P	**Pn**	**10 15 08.9**	**+0.3**
JHH2				*e*S	**S**	**10 15 50.4**	**-2.0**
JHCJ	**Hachijojimakas**	**5.86**	**355**	P	**Pn**	**10 15 45.3**	**0.0**
JHJ2	**Mitsune**	**5.90**	**355**	P	**Pn**	**10 15 45.9**	**+0.2**
JHJ2	**Mitsune**	**5.90**	**355**	Pn	**Pn**	**10 15 46.3**	**+0.6**
JHJ	**Hachijo jima 2**	**5.91**	**355**	P	**Pn**	**10 15 46.1**	**+0.2**
	29nm,0.3s,baz=90,slow=18,SNR=8.7						
JHJ				S	**S**	**10 16 56.1**	**-4.4**
	6.7nm,0.3s,baz=56,slow=23,SNR=1.4						
BSO1	**Boso 1**	**7.44**	**4**	P	**P**	**10 16 02.7**	**0.0**
BSO1				*e*S	**S**	**10 17 27.1**	**-3.5**
JIE	**Ise**	**7.82**	**337**	P	**P**	**10 16 03.3**	**+1.7**
JOD2	**Odawara 2**	**8.10**	**353**	P	**P**	**10 16 11.6**	**+0.9**
JMN	**Monobe**	**8.57**	**321**	Pn	**P**	**10 16 18.4**	**+2.4**
JRY	**Ryogami san**	**8.87**	**352**	P	**P**	**10 16 18.7**	**-0.5**
JYT	**Yasato**	**8.99**	**359**		**Pn**	**10 16 19.7**	**-0.8**
MJAR	**Matsushiro Arr**	**9.48**	**349**		**P**	**10 16 24.8**	**-1.2**
JMM	**Marumori**	**10.63**	**2**	P	**P**	**10 16 37.8**	**-0.9**
USRK	**Ussuriysk Ar.**	**18.25**	**340**	P	**P**	**10 18 03.1**	**+1.8**
	baz=174,slow=10,SNR=5.4						
KLR	**Kul'dur**	**22.97**	**345**	P	**P**	**10 18 45.9**	**+0.3**
	0.8nm,0.4s,baz=164,slow=9.3,SNR=5.9						
PET	**Petropavlovsk**	**29.16**	**23**	P	**P**	**10 19 40.5**	**+0.1**
MA2	**Magadan**	**33.14**	**10**	P	**P**	**10 20 16.1**	**+1.3**
	3.6nm,0.3s,baz=180,slow=3.0,SNR=2.8						
SEY	**Seymchan**	**36.59**	**9**	P	**P**	**10 20 44.8**	**+1.0**
	1.3nm,0.6s,baz=76,slow=23,SNR=6.8						
WB0	**Warramunga Arr**	**47.06**	**188**	P	**P**	**10 22 06.9**	**-1.0**
WB0				IAmb	IAmb	10 23 14.3	
	comp=Z,53nm,1.8s						
WRAB	**Tennant Creek**	**47.23**	**188**	P	**P**	**10 22 08.3**	**-0.9**
WR0	**Warramunga Arr**	**47.23**	**187**	P	**P**	**10 22 07.8**	**-1.4**
WB2	**Warramunga Arr**	**47.24**	**188**	P	**P**	**10 22 08.3**	**-1.0**
WRA	**Warramunga Arr**	**47.24**	**188**	P	**P**	**10 22 08.2**	**-1.2**
	comp=I,1.6nm,0.5s,baz=6.9,slow=8.5,SNR=47						
WRA	**Warramunga Arr**	**47.24**	**188**	P	**P**	**10 22 07.7**	**-1.6**
MKAR	**Makanchi Array**	**49.15**	**310**	P	**P**	**10 22 22.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=83,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**49.15**	**310**	P	**P**	**10 22 22.8**	**-0.8**
ASAR	**Alice Springs**	**50.96**	**188**	P	**P**	**10 22 35.6**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=355,slow=5.2,SNR=9.4						
ASAR	**Alice Springs**	**50.96**	**188**	P	**P**	**10 22 35.5**	**-1.7**
KURK	**Kurchatov**	**51.75**	**315**	P	**P**	**10 22 41.7**	**-0.8**
PSA00	**Pilbara Seismi**	**52.41**	**204**	P	**P**	**10 22 46.9**	**-0.7**
PSA00				IAmb	IAmb	10 24 05.7	
	comp=Z,22nm,1.8s						
TTA	**Tatalina**	**54.16**	**30**	P	**P**	**10 23 01.3**	**+1.4**
L19K	**White Mountain**	**54.57**	**31**	P	**P**	**10 23 04.7**	**+2.0**
L19K				IAmb	IAmb	10 24 08.5	
	comp=Z,21nm,1.7s						
K20K	**Telida**	**55.10**	**30**	P	**P**	**10 23 08.5**	**+2.0**
K20K				IAmb	IAmb	10 23 21.4	
	comp=Z,21nm,1.8s						
J20K	**Nowinta River**	**55.20**	**29**	P	**P**	**10 23 09.1**	**+2.1**
IMAR	**Indian Mountai**	**55.67**	**27**	P	**P**	**10 23 11.8**	**+1.4**
CAST	**Castle Rocks**	**56.00**	**30**	P	**P**	**10 23 14.5**	**+1.7**
CAST				IAmb	IAmb	10 24 16.2	
	comp=Z,20nm,1.8s						
BPAW	**Bear Paw Mtn.**	**56.56**	**29**	P	**P**	**10 23 18.4**	**+1.7**
BPAW				IAmb	IAmb	10 23 43.3	
	comp=Z,22nm,2.0s						
MLY	**Manley**	**56.77**	**28**	P	**P**	**10 23 19.7**	**+1.6**
TRF	**Thorofare Moun**	**56.80**	**30**	P	**P**	**10 23 19.4**	**+0.9**
TRF				IAmb	IAmb	10 24 15.3	
	comp=Z,19nm,1.7s						
RC01	**Rabbit Creek A**	**56.89**	**33**	P	**P**	**10 23 19.6**	**+0.7**
RC01				IAmb	IAmb	10 23 31.2	
	comp=Z,23nm,1.7s						
MCK	**McKinley**	**57.43**	**30**	P	**P**	**10 23 23.4**	**+0.8**
KNK	**Knik Glacier**	**57.52**	**33**	P	**P**	**10 23 24.5**	**+1.2**
KNK				IAmb	IAmb	10 24 38.8	
	comp=Z,32nm,1.8s						
KKAR	**Karatay Array**	**57.70**	**306**	P	**P**	**10 23 24.4**	**-0.5**
SCM	**Sheep Creek Mo**	**58.07**	**32**	P	**P**	**10 23 28.0**	**+0.9**
SCM				IAmb	IAmb	10 24 44.4	
	comp=Z,15nm,1.3s						
IL31		**58.39**	**29**	P	**P**	**10 23 29.4**	**+0.3**
ILAR	**Eielson Array**	**58.39**	**29**	P	**P**	**10 23 29.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=254,slow=5.6,SNR=13						
KLU	**Klutina**	**58.74**	**33**	P	**P**	**10 23 32.9**	**+1.1**
KLU				IAmb	IAmb	10 23 59.6	
	comp=Z,15nm,1.6s						
RIDG	**Independent Ri**	**59.25**	**30**	P	**P**	**10 23 36.0**	**+0.9**
RIDG				IAmb	IAmb	10 24 00.6	
	comp=Z,25nm,2.0s						
BCAR	**Beaver Creek A**	**60.64**	**31**	P	**P**	**10 23 45.6**	**+1.2**
DAWY	**Dawson**	**61.65**	**30**	P	**P**	**10 23 52.4**	**+1.3**
HYT	**Haines Junctio**	**62.85**	**33**	P	**P**	**10 24 01.0**	**+1.9**
HYT				IAmb	IAmb	10 25 26.2	
	comp=Z,17nm,1.6s						
INK	**Inuvik**	**63.59**	**24**	P	**P**	**10 24 04.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=296,slow=4.9,SNR=6.3						
INK	**Inuvik**	**63.59**	**24**	P	**P**	**10 24 04.1**	**+0.4**
INK				IAmb	IAmb	10 24 44.0	
	comp=Z,14nm,1.9s						
ABKAR	**Akbulak array**	**63.85**	**314**	P	**P**	**10 24 04.8**	**-0.8**
WHY	**Whitehorse**	**64.15**	**33**	P	**P**	**10 24 09.6**	**+2.0**
P33M	**Teslin, Yukon**	**65.24**	**33**	P	**P**	**10 24 15.6**	**+1.1**
P33M				IAmb	IAmb	10 24 39.4	
	comp=Z,11nm,1.5s						
A36M	**Sachs Harbour**	**65.73**	**20**	P	**P**	**10 24 18.2**	**+1.0**
C36M	**Paulatuk**	**66.76**	**23**	P	**P**	**10 24 24.1**	**+0.5**
C36M				IAmb	IAmb	10 25 40.1	
	comp=Z,14nm,1.8s						
EUNU	**Eureka**	**70.01**	**8**	P	**P**	**10 24 44.2**	**+0.7**
EUNU				IAmb	IAmb	10 26 39.6	
	comp=Z,15nm,1.8s						
RES	**Resolute Bay**	**72.32**	**13**	P	**P**	**10 24 57.2**	**0.0**
RES				IAmb	IAmb	10 25 00.5	
	comp=Z,14nm,1.9s						
YKA	**Yellowknife Ar**	**72.80**	**28**	P	**P**	**10 25 00.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=297,slow=6.1,SNR=32						
YKA	**Yellowknife Ar**	**72.80**	**28**	P	**P**	**10 25 00.7**	**+0.5**
ARCES	**ARCESS Array B**	**72.90**	**340**	P	**P**	**10 25 00.1**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=336,slow=2.7,SNR=3.7						
ARCES	**ARCESS Array B**	**72.90**	**340**	P	**P**	**10 25 01.2**	**+0.5**
FIA1	**FINESS Array S**	**77.12**	**333**	P	**P**	**10 25 23.9**	**-0.8**
FINES	**FINESS Array B**	**77.12**	**333**	P	**P**	**10 25 23.9**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=65,slow=4.6,SNR=28						
WALA	**Waterton Lakes**	**79.41**	**40**	P	**P**	**10 25 39.1**	**+1.6**
BEKR	**Beckworth**	**79.63**	**51**	P	**P**	**10 25 39.9**	**+1.0**
BEKR				IAmb	IAmb	10 26 22.3	
	comp=Z,13nm,1.9s						
NVAR	**Mina Array Bea**	**81.71**	**51**	P	**P**	**10 25 51.4**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=290,slow=5.7,SNR=8.8						
NVAR	**Mina Array Bea**	**81.71**	**51**	P	**P**	**10 25 51.5**	**+1.6**
HRY	**Holter Researc**	**81.80**	**41**	P	**P**	**10 25 51.5**	**+1.5**
NC405	**NORSAR Array S**	**82.67**	**338**	P	**P**	**10 25 53.1**	**-1.0**
NOA	**NORSAR Array B**	**82.90**	**338**	P	**P**	**10 25 54.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=53,slow=6.7,SNR=4.1						
PDAR	**Pinedale Array**	**85.26**	**44**	P	**P**	**10 26 08.7**	**+1.1**

IDC ***16*** *11:03:43.1±1.0,35°.84N×4°.13W,h0km,mb3.5/5,mb1 3.5/7, mb1mx3.3/46,mbtmp3.4/7,ML2.9/2,Error ellipse: s-maj=42.6km s-min=12.5km az=94.0*

LDG ***16*** *11:03:43.6,35°.38N×3°.43W,h30km*

SFS ***16*** *11:03:44.0,35°.66N×3°.74W,ML2.9,ALBORAN SUR*

CNRM ***16*** *11:03:44.2,35°.73N×3°.53W,h23km,ml2.8*

MDD ***16*** *11:03:44.1±0.4,35°.63N×3°.68W,h0km,mb_Lg2.9/11, Error ellipse: s-maj=3.3km s-min=2.6km az=8.0*

ISC 16 11:03:43.9±1.1,35°.67N±0°.02×3°.68W±0°.02,h12km±8km, n63,σ1º79/102,mb3.4/5,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.59**	**63**	Pg	**Pg**	**11 03 55.7**	**+0.3**
EALB				Sg	**Sg**	**11 04 04.4**	**+1.1**
EMEL	**Melilla**	**0.70**	**122**	Pg	**Pg**	**11 03 57.0**	**-0.3**
EMEL				Sg	**Sg**	**11 04 06.0**	**-0.5**
GOG	**Mont Gurugu**	**0.71**	**128**	P	**Pg**	**11 03 57.2**	**-0.6**
GOG				S	**Sb**	**11 04 09.0**	**+0.9**
GOG	**Mont Gurugu**	**0.71**	**128**	P	**Pg**	**11 03 57.2**	**-0.6**
GOG				S	**Sb**	**11 04 09.0**	**+0.9**
ELGU	**Los Guajares,**	**1.20**	**2**	Pg	**Pn**	**11 04 04.9**	**-1.6**
ELGU				Sg	**Sb**	**11 04 21.8**	**-0.3**
EMAL	**Malaga-Limoner**	**1.25**	**331**	P	**Pn**	**11 04 05.9**	**-1.2**
EMAL				S	**Sb**	**11 04 20.0**	**-3.4**
EMIJ	**Mijas**	**1.26**	**316**	Pg	**Pn**	**11 04 06.1**	**-1.2**
EMIJ				Sg	**Sb**	**11 04 22.7**	**-1.1**
EMIJ				*i* Vmb_Lg		11 04 24.2	
TAF	**Taforalt**	**1.34**	**129**	P	**Pn**	**11 04 07.0**	**-1.5**
TAF	**Taforalt**	**1.34**	**129**	P	**Pn**	**11 04 07.0**	**-1.5**
TAF				S	**Sg**	**11 04 27.1**	**0.0**
EBER	**Berja**	**1.38**	**27**	Pn	**Pn**	**11 04 07.7**	**-1.5**
EBER				Sn	**Sn**	**11 04 27.6**	**0.0**
CEU	**Ceuta**	**1.39**	**280**	P	**Pn**	**11 04 07.7**	**-1.5**
CEU				S	**Sn**	**11 04 24.0**	**-3.5**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pb**	**11 04 11.0**	**-0.2**
CHEFC	**Chefchaouen**	**1.47**	**248**	P	**Pb**	**11 04 11.0**	**-0.2**
CHEFC				S	**Sg**	**11 04 34.1**	**+3.0**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pn**	**11 04 09.5**	**-1.1**
EGOR				Sn	**Sn**	**11 04 30.8**	**+0.9**
EGOR				*i* Vmb_Lg		11 04 39.2	
EQUE	**Quentar**	**1.55**	**7**	Pn	**Pn**	**11 04 11.2**	**-0.2**
JBK	**JBK**	**1.61**	**145**	P	**Pn**	**11 04 10.8**	**-1.6**
JBK	**JBK**	**1.61**	**145**	P	**Pn**	**11 04 10.8**	**-1.6**
JBK				S	**Sn**	**11 04 31.1**	**-2.1**
EJIF	**Jimena Fronter**	**1.65**	**299**	Pn	**Pn**	**11 04 12.6**	**0.0**
ENIJ	**Nijar**	**1.76**	**42**	Pn	**Pn**	**11 04 12.8**	**-1.5**
SICH	**Sidi Chahed**	**2.06**	**221**	P	**Pb**	**11 04 21.7**	**+0.5**
SICH				S	**Sg**	**11 04 48.8**	**-1.3**
ESPR	**Espera**	**2.13**	**305**	Pn	**Pn**	**11 04 20.8**	**+1.5**
ESPR				Sn	**Sb**	**11 04 48.5**	**-0.2**
ESPR				*i* Vmb_Lg		11 04 55.3	
EQES	**Quesada**	**2.19**	**13**	Pn	**Pn**	**11 04 21.7**	**+1.5**
EQES				Sn	**Sn**	**11 04 49.1**	**+1.8**
LCRM	**LCR**	**2.20**	**206**	P	**Pb**	**11 04 23.6**	**-0.1**
LCRM				S	**Sb**	**11 04 51.1**	**+0.1**
IFR	**Ifrane**	**2.46**	**209**	P	**Pn**	**11 04 24.0**	**0.0**
IFR				S	**Sn**	**11 04 52.3**	**-1.7**
EADA	**Adamuz**	**2.60**	**344**	Pn	**Pn**	**11 04 26.3**	**+0.5**
EADA				Pg	**Pb**	**11 04 30.3**	**-0.1**
EADA				Sn	**Sn**	**11 04 59.9**	**+2.7**
EADA				*i* Vmb_Lg		11 05 04.8	
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn	**Pn**	**11 04 26.7**	**-0.8**
ECAB	**El Cabril**	**2.78**	**330**	Pn	**Pn**	**11 04 29.1**	**+0.8**
ECAB				Sn	**Sn**	**11 05 02.6**	**+0.9**
ECAB				*i* Vmb_Lg		11 05 11.0	
CZD	**Col de Zad**	**2.86**	**204**	P	**Pn**	**11 04 30.8**	**+1.2**
CZD				S	**Sn**	**11 05 03.4**	**-0.7**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**11 04 31.5**	**+1.0**
MD31				S	**Sn**	**11 05 07.7**	**+2.1**
MDT	**Midelt**	**2.95**	**195**	Pn	**Pn**	**11 04 31.1**	**+0.5**
	0.6nm,0.3s,baz=157,slow=21,SNR=25						
MDT				Pg	**Pg**	**11 04 38.5**	**-1.9**
	3.2nm,0.3s,baz=104,slow=11,SNR=13						
MDT				Sn	**Sn**	**11 05 06.8**	**+0.7**
	2.4nm,0.3s,baz=39,slow=22,SNR=6.1						
MDT				Lg	Lg	11 05 22.6	
	3.1nm,0.3s,baz=214,slow=16,SNR=4.4						
MDT	**Midelt**	**2.95**	**195**	P	**Pn**	**11 04 31.1**	**+0.4**
MDT	**Midelt**	**2.95**	**195**	P	**Pn**	**11 04 31.1**	**+0.4**
MDT				S	**Sb**	**11 05 09.1**	**-3.4**
TDRA	**Tendrara**	**2.96**	**152**	P	**Pn**	**11 04 31.5**	**+0.6**
TDRA				S	**Sn**	**11 05 04.1**	**-2.3**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn	**Pn**	**11 04 34.1**	**+0.2**
EMIN				Sn	**Sn**	**11 05 11.6**	**-0.2**
EMIN				*i* Vmb_Lg		11 05 16.6	
ZHG	**ZHG**	**3.30**	**229**	P	**Pn**	**11 04 37.4**	**+1.9**
ZHG				S	**Sn**	**11 05 17.3**	**+2.7**
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**11 04 38.5**	**+1.3**
ETOB				*i* Vmb_Lg		11 04 52.1	
ETOB				Sn	**Sn**	**11 05 19.2**	**+1.4**
EGRO	**El Granado**	**3.58**	**302**	Pn	**Pn**	**11 04 39.1**	**-0.2**
EGRO				Sn	**Sn**	**11 05 21.0**	**-0.5**
EGRO				*i* Vmb_Lg		11 05 21.3	
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**11 04 40.6**	**0.0**
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**11 04 40.6**	**0.0**
PVAQ				S	**Sb**	**11 05 29.8**	**-3.7**
PAB	**San Pablo**	**3.91**	**352**	P	**Pn**	**11 04 44.8**	**+1.0**
PAB	**San Pablo**	**3.91**	**352**	P	**Pn**	**11 04 44.8**	**+1.0**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**11 04 44.8**	**+1.0**
PAB				Sn	**Sn**	**11 05 31.4**	**+1.7**
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**11 04 45.4**	**+0.2**
	0.7nm,0.3s,baz=179,slow=12,SNR=18						
ESDC				Lg	Lg	11 05 46.4	
	0.6nm,0.3s,baz=180,slow=27,SNR=5.0						
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**11 04 45.9**	**+0.7**
EBAD	**Badajoz**	**4.07**	**320**	Pn	**Pn**	**11 04 46.2**	**+0.2**
EBAD				Sn	**Sn**	**11 05 33.9**	**+0.3**
EBAD				*i* Vmb_Lg		11 05 36.7	
EVO	**Evora**	**4.49**	**311**	P	**Pn**	**11 04 52.0**	**+0.3**
EVO				S	**Sn**	**11 05 42.3**	**-1.6**
EPLA	**Plasencia**	**4.78**	**337**	Pn	**Pn**	**11 04 57.1**	**+1.4**
EPLA				Sn	**Sn**	**11 05 52.2**	**+1.1**
EPLA				*i* Vmb_Lg		11 06 23.6	
OUZM	**OUZ**	**5.40**	**209**	P	**Pn**	**11 05 05.4**	**+1.0**
OUZM				S	**Sn**	**11 06 08.6**	**+2.1**
OUK	**Oukaimeden**	**5.66**	**219**	P	**Pn**	**11 05 09.4**	**+1.3**
OUK				S	**Sn**	**11 06 15.0**	**+1.7**
TTIG	**Tnine Tigouga,**	**6.48**	**219**	P	**Pn**	**11 05 18.7**	**-0.5**
TTIG				S	**Sn**	**11 06 37.2**	**+4.0**
ETSF	**Etsaut**	**7.62**	**18**	*e*P	**Pn**	**11 05 37.2**	**+2.5**
SJPF	**Ste Jean**	**7.67**	**14**	*e*Pn	**Pn**	**11 05 35.4**	**-0.1**
SJPF				*e*Sn	**Sn**	**11 06 56.9**	**-5.5**
	0.3nm,0.2s						
EARI	**Arriondas**	**7.71**	**352**	Pn	**Pn**	**11 05 36.3**	**+0.2**
EPF	**Esparros**	**7.98**	**22**	*e*Sn	**Sn**	**11 07 04.0**	**-6.0**
	1.1nm,0.3s						
MTLF	**Montolieu**	**8.91**	**29**	*e*Pn	**Pn**	**11 05 48.8**	**-3.7**
LMR	**La Mourre**	**10.97**	**43**	*e*P	**Pn**	**11 06 24.2**	**+3.5**
SBF	**Sospel**	**11.83**	**43**	*e*Pn	**Pn**	**11 06 29.7**	**-2.8**
PGF	**Pioggiola**	**12.00**	**51**	*e*Pn	Pn	11 06 30.8	-4.0
TORD	**Torodi Ar. Bea**	**22.94**	**166**	P	**P**	**11 08 51.7**	**+3.6**
	0.8nm,1.0s,baz=335,slow=13,SNR=4.1						
NRIK	**Noril'sk**	**57.56**	**25**	P	**P**	**11 13 33.9**	**+1.0**
	1.2nm,0.4s,baz=252,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**62.54**	**51**	P	**P**	**11 14 09.3**	**+1.8**
	0.1nm,0.4s,baz=277,slow=5.7,SNR=1.7						
ULM	**Lac du Bonnet**	**64.84**	**315**	P	**P**	**11 14 20.4**	**-2.2**
	1.1nm,0.5s,baz=11,slow=20,SNR=1.7						
YKA	**Yellowknife Ar**	**67.72**	**332**	P	**P**	**11 14 40.1**	**-0.7**
	0.1nm,0.6s,baz=64,slow=7.1,SNR=2.6						

IDC ***16*** *11:27:46.1±1.1,8°.93S×108°.89W,h0km,mb4.1/14, mb1 4.3/14,mb1mx4.2/41,mbtmp4.1/14,MS4.2/33, Ms1 4.2/33,ms1mx4.1/49,Error ellipse: s-maj=43.9km s-min=15.6km az=54.0*

NEIC ***16*** *11:27:48.3±2.0,9°.1S±0°.1×109°.0W±0°.1,h10km±1km, mb4.9/200,Error ellipse: s-maj=22.5km s-min=17.5km az=270.0*

GCMT ***16*** *11:27:51.3±0.3,9°.01S±0°.02×108°.90W±0°.02,h14km±1km, MW4.9/77,Moment Tensor Solution. s20,c27; s77,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.71±.16; Mθθ1.46±.11; Mϕϕ1.25±.11; Mrθ0.08±.22; Mrϕ1.37±.06; Mθϕ-0.21±.22; Best double couple: Mo2.72900×10¹⁶ NP1:ϕs232.0000°,δ44.0000°,λ-84.0000°; NP2: ϕs43.0000°,δ46.0000°,λ-96.0000°. Principal axes: T 2.7300, Plg1.0000°, Azm137.0000°; N -0.0030, Plg4.0000°, Azm47.0000°; P -2.7270, Plg86.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 11:27:47.3±0.5,9°.08S±0°.08×109°.0W±0°.1,h10km,n269, σ1º94/172,mb4.9/102,MS4.2/35,1C,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**17.96**	**181**	LR	LR	11 37 05.5	
	comp=Z,814nm,21.0s,baz=1.0,slow=31						
RPN	**Rapa Nui**	**17.96**	**181**		**P**	**11 31 57.7**	**-0.1**
RPN				IAmb	IAmb	11 32 47.4	
	comp=Z,175nm,1.4s						
PTCN	**Pitcairn Islan**	**25.63**	**229**	P	**P**	**11 33 15.9**	**-1.3**
CAO2	**Cobano, Puntar**	**30.21**	**52**	P	**P**	**11 33 60.0**	**+1.7**
ATAH	**Atahualpa**	**30.34**	**89**	LR	LR	11 42 59.8	
	comp=Z,698nm,19.8s,baz=253,slow=30						
ORTG	**Ortega, Santa**	**30.35**	**51**	P	**P**	**11 33 59.4**	**-0.2**
HZTE	**Horizontes, Gu**	**30.46**	**50**	P	**P**	**11 33 58.0**	**-2.6**
JTS	**Las Juntas de**	**30.70**	**52**	LR	LR	11 43 06.0	
	comp=Z,159nm,21.9s,baz=290,slow=30						
TAOE	**Nuku Hiva Isla**	**30.78**	**268**	*e*LR	LR	11 41 53.5	
	comp=Z,672nm,25.3s						
NNA	**Nana**	**31.73**	**98**	LR	LR	11 43 20.7	
	comp=Z,575nm,21.1s,baz=278,slow=30						
LPIG	**La Paz**	**33.00**	**358**	LR	LR	11 44 18.4	
	comp=Z,517nm,21.4s,baz=172,slow=30						
HPIG		**35.94**	**5**	P	**P**	**11 34 47.7**	**-0.7**
H03N2	**Juan Fernandez**	**36.80**	**136**	T	T	12 13 47.8	
	baz=308,slow=77,SNR=79						
H03N1	**Juan Fernandez**	**36.81**	**136**	T	T	12 13 50.5	
	baz=308,slow=77,SNR=97						
H03N3	**Juan Fernandez**	**36.81**	**136**	T	T	12 13 50.4	
	baz=308,slow=77,SNR=88						
ROSC	**El Rosal**	**37.22**	**70**	LR	LR	11 47 17.1	
	comp=Z,115nm,19.6s,baz=294,slow=32						
ZARC	**Zaragoza, Cauc**	**37.78**	**65**	P	**P**	**11 35 04.1**	**0.0**
833A	**Chaparral WMA,**	**38.32**	**14**	P	**P**	**11 35 09.3**	**+1.0**
TXAR	**Lajitas Array**	**38.53**	**7**	LR	LR	11 48 06.9	
	comp=Z,182nm,21.9s,baz=180,slow=32						
PB16	**IPOC Station P**	**39.37**	**108**	P	**P**	**11 35 15.6**	**-2.5**
PB11	**IPOC Station P**	**39.45**	**110**	P	**P**	**11 35 17.0**	**-1.2**
PB11				IAmb	IAmb	11 35 20.8	
	comp=Z,33nm,1.4s						
PB01	**IPOC Station P**	**39.84**	**112**	P	**P**	**11 35 21.7**	**+0.3**
319A	**Douglas**	**40.22**	**360**	P	**P**	**11 35 25.3**	**+0.9**
JCT	**Junction City**	**40.30**	**12**	P	**P**	**11 35 25.1**	**+0.1**
PPT2	**Papeete2**	**40.32**	**254**	*e*LR	LR	11 46 28.7	
	comp=Z,424nm,27.2s						
LPAZ	**La Paz**	**40.44**	**104**	P	**P**	**11 35 26.2**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=292,slow=7.3,SNR=6.8						
LPAZ				LR	LR	11 48 23.2	
	comp=Z,490nm,19.9s,baz=254,slow=31						
LPAZ	**La Paz**	**40.44**	**104**	P	**P**	**11 35 27.3**	**+0.2**
MNTX	**Cornudas Mount**	**40.69**	**5**	P	**P**	**11 35 27.9**	**-0.2**
MNTX	**Cornudas Mount**	**40.69**	**5**	P	**P**	**11 35 28.3**	**+0.2**
	baz=186						
LVC	**Limon Verde**	**40.69**	**114**	P	**P**	**11 35 28.8**	**0.0**
	comp=Z,5.7nm,1.0s,baz=260,slow=6.5,SNR=6.1						
LVC				LR	LR	11 47 48.4	
	comp=Z,521nm,20.3s,baz=296,slow=30						
LVC	**Limon Verde**	**40.69**	**114**	P	**P**	**11 35 29.6**	**+0.9**
GO03	**Copiap**	**40.91**	**122**	P	**P**	**11 35 31.0**	**+0.9**
435B	**Jarrell**	**41.11**	**15**	P	**P**	**11 35 32.0**	**+0.4**
TUC	**Tucson**	**41.19**	**358**	P	**P**	**11 35 31.5**	**-0.8**
TBI	**Tubuai**	**41.21**	**245**	*e*LR	LR	11 47 05.2	
	comp=Z,186nm,27.0s						
121A	**Cookes Peak, D**	**41.39**	**2**	P	**P**	**11 35 33.5**	**-0.5**
121A	**Cookes Peak, D**	**41.39**	**2**	P	**P**	**11 35 34.7**	**+0.7**
	baz=182						
AC02	**Maricunga**	**41.60**	**120**	P	**P**	**11 35 37.1**	**+0.7**
AC02				IAmb	IAmb	11 35 39.2	
	comp=Z,25nm,1.4s						
113A	**Mohawk Valley,**	**41.86**	**354**	P	**P**	**11 35 38.9**	**+1.3**
RMX	**La Rumorosa**	**41.99**	**351**	P	**P**	**11 35 38.7**	**-0.2**
SDV	**Santo Domingo**	**42.16**	**66**	LR	LR	11 51 03.5	
	comp=Z,119nm,19.6s,baz=247,slow=33						
GLA	**Glamis**	**42.26**	**353**	P	**P**	**11 35 42.

comp=Z,18nm,1.6s
SDCO Great Sand Dun 46.69 4 P P 11 36 16.2 -0.5
baz=185
W41B Gary Mavity, V 46.77 19 IAmb IAmb 11 36 18.0
comp=Z,15nm,0.9s
W41B Gary Mavity, V 46.77 19 P P 11 36 17.5 +0.5
baz=203
WHAR Wooly Hollow 46.86 19 P P 11 36 17.1 -0.6
LL02 Futaleuf 46.95 143 P P 11 36 18.4 0.0
LL02 IAmb IAmb 11 36 22.1
comp=Z,13nm,1.1s
PV13 Radium Mtn., P 46.99 0 P P 11 36 18.7 -0.2
PV13 IAmb IAmb 11 36 20.6
comp=Z,21nm,1.6s
SIV San Ignacio 47.19 103 P P 11 36 20.4 -0.3
comp=Z,2.1nm,0.7s,baz=266,slow=9.1,SNR=9.3
SIV LR LR 11 52 37.0
comp=Z,186nm,20.6s,baz=283,slow=32
R11A Troy Canyon, C 47.58 353 P P 11 36 25.1 +1.6
baz=171
Q24A Divide 47.92 4 P P 11 36 26.8 +0.5
baz=185
NV11 Mina Array Sit 48.03 350 IAmb IAmb 11 36 30.5
comp=Z,22nm,1.6s
NVAR Mina Array Bea 48.05 350 P P 11 36 27.3 +0.1
comp=Z,3.6nm,1.0s,baz=172,slow=7.9,SNR=21
CMB Columbia Colle 48.06 348 IAmb IAmb 11 36 29.6
comp=Z,17nm,1.6s
PLAL Pickwick Lake 48.08 23 IAmb IAmb 11 36 27.3
comp=Z,8.2nm,0.8s
P17A Butcher Ranch, 48.33 358 IAmb IAmb 11 36 32.1
comp=Z,22nm,1.5s
P18A Preston Nutter 48.47 359 IAmb IAmb 11 36 33.4
comp=Z,16nm,1.6s
ISCO Idaho Springs 48.73 3 P P 11 36 33.2 +0.7
baz=184
YERR Yerington 48.76 349 IAmb IAmb 11 36 36.4
comp=Z,24nm,1.4s
NLU North Lily Min 48.86 357 IAmb IAmb 11 36 36.9
comp=Z,18nm,1.6s
EMB Emerald Bay 48.91 348 IAmb IAmb 11 36 37.5
comp=Z,12nm,1.2s
PNTR Pine Nut 48.92 349 IAmb IAmb 11 36 37.7
comp=Z,18nm,1.2s
O20A White River Ci 48.97 1 IAmb IAmb 11 36 42.4
comp=Z,12nm,1.3s
O20A White River Ci 48.97 1 P P 11 36 35.1 +0.9
baz=181
VCNR Virginia City 49.13 349 IAmb IAmb 11 36 39.2
comp=Z,10nm,1.2s
DUG Dugway, Tooele 49.15 356 P P 11 36 37.5 +1.9
baz=175
MPK Martis Peak 49.20 349 IAmb IAmb 11 36 40.0
comp=Z,28nm,1.5s
KSU1 Kansas State U 49.29 13 P P 11 36 35.5 -1.0
KSU1 IAmb IAmb 11 36 48.0
comp=Z,14nm,1.1s
PAHR Pah Rah Range 49.48 349 IAmb IAmb 11 36 41.8
comp=Z,14nm,1.4s
ORV Oroville 49.76 347 IAmb IAmb 11 36 42.7
comp=Z,16nm,1.5s
BEKR Beckworth 49.82 349 IAmb IAmb 11 36 43.4
comp=Z,14nm,1.5s
ELK Elko 49.91 354 P P 11 36 41.5 +0.1
comp=Z,2.6nm,1.0s,baz=161,slow=8.2,SNR=9.2
ELK LR LR 11 53 43.8
comp=Z,276nm,20.4s,baz=170,slow=31
ELK Elko 49.91 354 IAmb IAmb 11 36 44.0
comp=Z,17nm,1.5s
SJG San Juan 50.18 57 LR LR 11 55 06.8
comp=Z,77nm,18.5s,baz=236,slow=33
PHWY Pilot Hill 50.23 3 IAmb IAmb 11 36 46.0
comp=Z,16nm,1.4s
HWUT Hardware Ranch 50.49 357 IAmb IAmb 11 36 48.4
comp=Z,19nm,1.6s
WDC Whiskeytown Da 50.97 347 IAmb IAmb 11 36 51.4
comp=Z,28nm,1.6s
PDAR Pinedale Array 51.59 359 P P 11 36 53.5 -0.6
comp=Z,0.6nm,0.6s,baz=172,slow=7.8,SNR=6.9
PDAR LR LR 11 55 37.7
comp=Z,286nm,18.8s,baz=192,slow=32
CPUP Villa Florida 51.76 116 LR LR 11 54 44.8
comp=Z,351nm,21.4s,baz=290,slow=31
MOD Modoc Plateau 51.78 349 IAmb IAmb 11 36 58.1
comp=Z,24nm,1.4s
M02C Callahan 51.81 347 IAmb IAmb 11 37 00.6
comp=Z,29nm,1.6s
M04C Macdoel 51.97 348 P P 11 36 58.6 +1.8
baz=164
WVOR Wild Horse Val 52.01 351 IAmb IAmb 11 37 00.6
comp=Z,34nm,1.6s
YBH Yreka Blue Hor 52.10 347 LR LR 11 54 03.7
comp=Z,358nm,19.3s,baz=167,slow=30
TPAW Teton Pass 52.34 358 IAmb IAmb 11 37 00.9
comp=Z,20nm,1.6s
MFID Camas Ranch 52.61 354 IAmb IAmb 11 37 03.5
comp=Z,28nm,1.4s
HLID Hailey 52.62 355 IAmb IAmb 11 37 03.7
comp=Z,18nm,1.6s
HLID Hailey 52.62 355 P P 11 37 03.2 +1.5
baz=173,SNR=5.7
J08A Circle Bar Ran 52.89 351 IAmb IAmb 11 37 07.0
comp=Z,30nm,1.5s
FLWY Flagg Ranch 52.93 358 IAmb IAmb 11 37 05.4
comp=Z,23nm,1.4s
RSSD Black Hills 53.13 4 P P 11 37 04.9 -0.6
RSSD IAmb IAmb 11 37 36.5
comp=Z,17nm,1.6s
RSSD Black Hills 53.13 4 P P 11 37 06.0 +0.5
baz=186
J05D Fort Rock, OR 53.29 349 P P 11 37 08.2 +1.6
baz=165
PINE Pine Mountain 53.73 349 IAmb IAmb 11 37 49.7
comp=Z,20nm,1.6s
RLMT Red Lodge 53.95 360 P P 11 37 11.4 -0.1
baz=180
DLMT Dillon 54.28 357 P P 11 37 14.0 +0.2
DLMT IAmb IAmb 11 37 21.2
comp=Z,17nm,1.6s
D08A Wollman Farm, 56.58 352 IAmb IAmb 11 37 32.7
comp=Z,18nm,1.4s
JTMT Jette 56.77 356 IAmb IAmb 11 37 33.4
comp=Z,24nm,1.6s
EGMT Eagleton 56.85 359 P P 11 37 32.9 +0.7
baz=179
C09A Chrisman Ranch 57.22 353 IAmb IAmb 11 37 37.2
comp=Z,14nm,1.1s
DGMT Dagmar 57.45 4 P P 11 37 37.1 +0.8
baz=186
NEW Newport 57.54 354 P P 11 37 37.1 +0.1
comp=Z,4.6nm,1.1s,baz=162,slow=6.3,SNR=6.5
NEW LR LR 11 58 01.8
comp=Z,205nm,20.4s,baz=187,slow=32
NEW Newport 57.54 354 IAmb IAmb 11 37 39.1
comp=Z,24nm,1.6s
NEW Newport 57.54 354 P P 11 37 37.3 +0.3
baz=170
MDP Montagnes des 57.90 78 LR LR 12 00 55.0
comp=Z,137nm,18.5s,baz=253,slow=34
WALA Waterton Lakes 58.05 356 IAmb IAmb 11 37 42.8
comp=Z,28nm,1.6s
SADO Sadowa 59.98 24 LR LR 12 03 15.1
comp=Z,98nm,18.7s,baz=194,slow=36
ULM Lac du Bonnet 60.17 10 P P 11 37 53.8 -1.4
comp=Z,3.0nm,0.6s,baz=206,slow=5.6,SNR=4.3
ULM LR LR 12 01 51.2
comp=Z,135nm,18.1s,baz=196,slow=34
ULM Lac du Bonnet 60.17 10 P P 11 37 53.7 -1.5
LLLB Lillooet 60.48 351 P P 11 37 57.4 0.0
LLLB IAmb IAmb 11 38 03.4
comp=Z,15nm,1.5s
AFI Afiamalu 61.58 259 LR LR 11 58 21.3
comp=Z,147nm,21.7s,baz=98,slow=30
BBB Bella Bella 63.19 347 LR LR 12 00 45.1
comp=Z,90nm,20.7s,baz=180,slow=31
PMSA Palmer Station 63.82 160 LR LR 11 58 18.2
comp=Z,273nm,19.3s,baz=306,slow=29
FFC Flin Flon 63.83 5 P P 11 38 18.8 -0.9
FFC IAmb IAmb 11 38 19.6
comp=Z,12nm,1.4s
FCC Fort Churchill 68.67 8 P P 11 38 49.0 -1.6
FCC IAmb IAmb 11 38 50.9
comp=Z,8.5nm,0.8s
DLBC Dease Lake 69.42 348 P P 11 38 54.0 -1.5
comp=Z,3.6nm,1.0s,baz=283,slow=5.6,SNR=4.4
YKA Yellowknife Ar 71.48 357 P P 11 39 07.2 -0.6
comp=Z,1.3nm,0.8s,baz=165,slow=6.0,SNR=19
YKA LR LR 12 08 22.2
comp=Z,162nm,18.2s,baz=311,slow=34
TGTN Hyland Airport 71.99 350 P P 11 39 12.8 +1.8
baz=160,SNR=6.1
RCBR Riachuelo 72.44 93 LR LR 12 08 50.6
comp=Z,219nm,19.5s,baz=74,slow=34
MMPY Sheldon Lake, 73.52 349 P P 11 39 21.6 +1.5
baz=157
M31M Drury Creek, Y 73.75 348 IAmb IAmb 11 39 24.6
comp=Z,17nm,1.6s
M30M Minto, Yukon 74.60 347 IAmb IAmb 11 39 29.3
comp=Z,12nm,1.4s
YUK3 Moose Creek 74.78 345 P P 11 39 29.0 +1.4
baz=148
VRDI Verde Repeater 75.12 344 IAmb IAmb 11 39 32.5
comp=Z,27nm,1.6s
KDAK Kodiak Island 75.47 338 LR LR 12 05 55.2
comp=Z,338nm,18.1s,baz=160,slow=30
M27K Edge Creek, AK 75.63 345 IAmb IAmb 11 39 40.3
comp=Z,19nm,1.6s
L27K Beaver Creek, 76.21 345 IAmb IAmb 11 39 38.2
comp=Z,9.9nm,1.1s
L27K Beaver Creek, 76.21 345 P P 11 39 35.9 +0.3
baz=147
DAWY Dawson 76.48 347 P P 11 39 38.1 +0.9
baz=149,SNR=8.3
PAX Paxson 77.09 344 IAmb IAmb 11 39 42.5
comp=Z,18nm,1.5s
PAX Paxson 77.09 344 P P 11 39 40.9 +0.2
baz=143
PMR Palmer 77.09 342 IAmb IAmb 11 39 42.8
comp=Z,12nm,1.2s
PMR Palmer 77.09 342 P P 11 39 41.2 +0.7
baz=139
WAT6 Susitna Watana 77.43 343 P P 11 39 42.7 0.0
baz=141
EGAK Eagle 77.49 346 IAmb IAmb 11 40 08.5
comp=Z,12nm,1.4s
EGAK Eagle 77.49 346 P P 11 39 43.6 +0.8
baz=148
SCRK Sand Creek 77.51 345 P P 11 39 43.8 +0.8
SCRK IAmb IAmb 11 39 45.2
comp=Z,17nm,1.7s
SCRK Sand Creek 77.51 345 P P 11 39 42.9 -0.2
baz=145
RIDG Independent Ri 77.54 345 P P 11 39 43.8 +0.6
RIDG Independent Ri 77.54 345 P P 11 39 43.6 +0.5
baz=144
DHY Denali Highway 77.71 343 IAmb IAmb 11 39 46.3
comp=Z,16nm,1.6s
J26L Joseph Creek 77.83 345 P P 11 39 45.4 +0.6
baz=145
EPYK Eagle Plains 77.94 349 P P 11 39 46.0 +0.7
baz=152
CUT Chulitna 78.06 342 P P 11 39 47.0 +1.1
baz=138
J25K Salcha River, 78.38 345 P P 11 39 48.5 +0.7
baz=143,SNR=5.6
RND Reindeer 78.39 343 IAmb IAmb 11 39 49.2
comp=Z,22nm,1.4s
MCK McKinley 78.66 343 P P 11 39 49.6 +0.3
baz=140
TRF Thorofare Moun 78.85 342 IAmb IAmb 11 39 52.7
comp=Z,11nm,1.2s
ILAR Eielson Array 78.91 344 P P 11 39 50.3 -0.3
comp=Z,0.9nm,0.6s,baz=171,slow=5.5,SNR=18
ILAR LR LR 12 07 46.7
comp=Z,142nm,18.4s,baz=120,slow=30
WRH Wood River Hil 79.00 344 IAmb IAmb 11 39 53.4
comp=Z,22nm,1.4s
M19K Big River Lodg 79.03 340 IAmb IAmb 11 39 52.7
comp=Z,11nm,1.2s
M19K Big River Lodg 79.03 340 P P 11 39 51.9 +0.6
baz=134
KTH Kantishna Hill 79.11 342 IAmb IAmb 11 39 53.1
comp=Z,12nm,1.0s
INK Inuvik 79.13 351 LR LR 12 10 52.1
comp=Z,234nm,21.2s,baz=148,slow=33
INK Inuvik 79.13 351 IAmb IAmb 11 39 53.9
comp=Z,12nm,1.4s
INK Inuvik 79.13 351 P P 11 39 52.2 +0.5
baz=155
PRP Porcupine Dome 79.15 345 IAmb IAmb 11 39 54.5
comp=Z,15nm,1.3s
PRP Porcupine Dome 79.15 345 P P 11 39 52.6 +0.5
baz=143,SNR=6.7
L20K Farewell, AK 79.27 341 P P 11 39 52.8 +0.1
baz=135
NEA2 Nenana 79.36 344 P P 11 39 53.6 +0.5
baz=140,SNR=6.9
CAST Castle Rocks 79.37 342 IAmb IAmb 11 39 55.2
comp=Z,27nm,1.5s
CAST Castle Rocks 79.37 342 P P 11 39 53.6 +0.4
baz=137,SNR=6.7
L19K White Mountain 79.38 340 P P 11 39 53.7 +0.4
L19K IAmb IAmb 11 40 00.2
comp=Z,19nm,1.4s
L19K White Mountain 79.38 340 P P 11 39 53.6 +0.3
baz=134
MDM Murphy Dome 79.41 344 IAmb IAmb 11 39 55.8
comp=Z,18nm,1.5s
BPAW Bear Paw Mtn. 79.54 343 IAmb IAmb 11 40 00.2
comp=Z,23nm,1.7s
BPAW Bear Paw Mtn. 79.54 343 P P 11 39 54.7 +0.6
baz=138
CHUM Lake Minchumin 79.78 342 P P 11 39 55.4 +0.1
baz=137
I23K Minto, Yukon-K 79.86 344 IAmb IAmb 11 40 03.4
comp=Z,23nm,1.6s
I23K Minto, Yukon-K 79.86 344 P P 11 39 56.7 +1.0
baz=140,SNR=5.3
K20K Telida 79.95 341 IAmb IAmb 11 39 58.2
comp=Z,16nm,1.1s
K20K Telida 79.95 341 P P 11 39 56.5 +0.1
baz=135
SBA Scott Base 79.98 192 P P 11 39 57.4 +1.1
SBA IAmb IAmb 11 40 18.3
comp=Z,23nm,1.6s
H24K Noodor Dome 80.00 345 P P 11 39 57.1 +0.5
baz=141
MLY Manley 80.16 343 P P 11 39 57.4 -0.1
MLY IAmb IAmb 11 39 59.9
comp=Z,14nm,1.4s
MLY Manley 80.16 343 P P 11 39 57.9 +0.4
baz=138,SNR=5.1
BMAR Burnt Mountain 80.47 347 P P 11 40 00.3 +1.1
J20K Nowinta River 80.55 342 P P 11 39 59.4 -0.1
J20K IAmb IAmb 11 40 01.5
comp=Z,29nm,1.5s
J20K Nowinta River 80.55 342 P P 11 39 58.7 -0.9
baz=135
I21K Tanana 80.63 343 IAmb IAmb 11 40 01.2
comp=Z,25nm,1.6s
I21K Tanana 80.63 343 P P 11 40 00.6 +0.7
baz=137,SNR=8.1
QSPA South Pole Qui 81.00 180 LR LR 12 11 10.9
comp=Z,245nm,18.4s,baz=164,slow=32
QSPA South Pole Qui 81.00 180 P P 11 40 03.6 +1.3
QSPA IAmb IAmb 11 40 34.4
comp=Z,21nm,1.4s
H21K Melozitna Rive 81.21 343 IAmb IAmb 11 40 05.2
comp=Z,17nm,1.6s
H21K Melozitna Rive 81.21 343 P P 11 40 03.3 +0.3
baz=136
A36M Sachs Harbour 81.60 355 P P 11 40 05.1 +0.1
baz=164
COLD Coldfoot 81.67 345 P P 11 40 06.9 +1.4
baz=139,SNR=8.3
GCSA Galena City Sc 81.81 341 P P 11 40 07.6 +1.4
baz=132,SNR=5.7
TOLK Toolik Lake Re 82.59 346 IAmb IAmb 11 40 12.4
comp=Z,12nm,1.6s
RES Resolute Bay 84.06 4 P P 11 40 16.8 -0.8
comp=Z,1.9nm,0.8s,baz=179,slow=7.2,SNR=9.2
RES LR LR 12 14 60.0
comp=Z,222nm,20.4s,baz=217,slow=34
RES Resolute Bay 84.06 4 P P 11 40 17.5 -0.2
RES IAmb IAmb 11 40 19.1
comp=Z,7.4nm,1.4s
ANM Nome 84.56 339 P P 11 40 22.1 +1.6
baz=124,SNR=5.2
TNA Tin City 86.01 339 IAmb IAmb 11 40 29.8
comp=Z,8.8nm,1.2s
TNA Tin City 86.01 339 P P 11 40 29.1 +1.5
baz=122,SNR=5.7
SNAA Sanae 86.46 162 P P 11 40 28.0 -2.0
GAMB Gambell 86.52 337 IAmb IAmb 11 40 38.9
comp=Z,12nm,1.6s
SFJD Kangerlussuaq 86.59 20 LR LR 12 19 59.7
comp=Z,50nm,18.1s,baz=250,slow=36
H11S2 WAKE ISLAND Hy 87.50 289 T T 13 17 22.7
baz=100,slow=74,SNR=133
H11S1 WAKE ISLAND Hy 87.51 289 T T 13 17 28.2
baz=100,slow=74,SNR=72
H11S3 WAKE ISLAND Hy 87.52 289 T T 13 17 24.0
baz=100,slow=74,SNR=58
H11N3 WAKE ISLAND Hy 87.53 290 T T 13 17 29.8
baz=102,slow=74,SNR=27
H11N2 WAKE ISLAND Hy 87.55 290 T T 13 17 28.8
baz=102,slow=74,SNR=25
H11N1 WAKE ISLAND Hy 87.55 290 T T 13 17 25.2
baz=102,slow=74,SNR=14
SONM Songino Array 131.17 329 PKP PKiKP 11 47 00.7 -0.2
comp=Z,0.5nm,0.6s,baz=46,slow=4.3,SNR=3.5
SONM Songino Array 131.17 329 PKPdf 11 46 59.5 -0.5
MKAR Makanchi Array 141.20 348 PKhKP PKPpre 11 47 11.7
comp=Z,0.7nm,0.8s,baz=22,slow=1.9,SNR=4.0
MKAR Makanchi Array 141.20 348 PKPdf 11 47 18.5 +0.1
KMBO Kilima Mbogo 144.87 105 PKP PKPdf 11 47 27.2 +1.0
comp=Z,0.9nm,0.3s,baz=228,slow=5.5,SNR=8.7
KMBO Kilima Mbogo 144.87 105 PKPab 11 47 24.8 -0.4
GOMU GeErMu 145.39 325 PKPbc PKPab 11 47 26.8 +0.2
GOMU pPKP sPKPdf 11 47 29.8 +0.1
GOMU sPKP 11 47 33.6
GOMU AMB AMB
comp=Z,140nm,6.3s
KMI Kunming 145.86 302 ⇑PKPbc PKPab 11 47 28.3 -0.2
PZH PanZhiHua 146.13 305 PKPbc PKPdf 11 47 27.5 -0.3
KSH Kashi 149.36 352 PKPbc PKiKP 11 47 38.8 +0.5
CMAR Chiang Mai Arr 151.35 292 PKPbc PKPbc 11 47 42.0 -0.4
comp=Z,3.2nm,0.8s,baz=41,slow=0.2,SNR=17
CMAR Chiang Mai Arr 151.35 292 PKPdf PKPdf 11 47 34.5 -1.8
CMAR PKPbc 11 47 42.2 -0.2

*GCG **16** 11:30:40.9±0.6, 13.65N×91.53W, h16km±6km, MD4.3*
*INET **16** 11:30:45.7±1.1, 14.00N×91.30W, h7km±16km, ML4.1*
*SNET **16** 11:30:46.4±1.2, 14.00N×91.20W, h18km±7km, ML4.3, MW3.9*
*NEIC **16** 11:30:46.7±1.9, 14.01N±0.08×91.36W±0.10, h59km±8km, mb4.2/14, Error ellipse: s-maj=16.7km s-min=6.9km az=49.0*
*UCR **16** 11:30:46.6±1.3, 14.01N×91.20W, h17km±6km, ML4.1, MW3.9, mb4.2(NEIC)*
*IDC **16** 11:30:51.3±3.0, 14.37N×90.78W, h104km±27km, mb3.6/9, mb1 3.7/11, mb1mx3.4/51, mbtmp3.9/11, Error ellipse: s-maj=46.1km s-min=15.0km az=45.0*

ISC 16 11:30:45.4±1.2, 13.92N±0.07×91.37W±0.07, h67km±10km, n84, σ1°35/97, mb4.1/12, 2C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.68**	**332**		**Pn**	**11 30 58.3**	**-1.6**
FUG	**Fuego 3**	**0.73**	**44**	***eP***	**Pn**	**11 31 00.0**	**-0.6**
STG3	**Santiaguito 3,**	**0.81**	**346**	***eP***	**Pn**	**11 31 00.5**	**-1.2**
PCG	**Pacaya**	**0.87**	**57**	***eP***	**Pn**	**11 31 02.5**	**0.0**
NBG	**Las Nubes**	**1.19**	**56**	***eP***	**Pn**	**11 31 07.9**	**+1.5**
HUEH	**Huehuetenango**	**1.40**	**355**		**Pn**	**11 31 09.4**	**+0.3**
HUEH				Sn	**Sn**	**11 31 28.5**	**+1.6**
HUEH	**Huehuetenango**	**1.40**	**355**	***eP***	**Pn**	**11 31 09.5**	**+0.3**
NUBE	**Las Nubes**	**1.54**	**90**	***eP***	**Pn**	**11 31 10.5**	**-0.5**
NUBE				***eS***	**Sn**	**11 31 29.2**	**-1.0**
NUBE	**Las Nubes**	**1.54**	**90**	***eP***	**Pn**	**11 31 10.5**	**-0.5**
NUBE				***eS***	**Sn**	**11 31 29.2**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.54**	**86**	***eP***	**Pn**	**11 31 10.6**	**-0.3**
SLOZ				***eS***	**Sn**	**11 31 30.0**	**-0.1**
RTR	**El Retiro**	**1.67**	**91**	***eP***	**Pn**	**11 31 13.2**	**+0.5**
RTR	**El Retiro**	**1.67**	**91**	***eP***	**Pn**	**11 31 13.2**	**+0.5**
CEVE	**Cerro Verde**	**1.69**	**93**	***eP***	**Pn**	**11 31 13.3**	**+0.2**
CEVE				***eS***	**Sn**	**11 31 34.5**	**+0.4**
CEVE	**Cerro Verde**	**1.69**	**93**	***eP***	**Pn**	**11 31 13.3**	**+0.2**
CEVE				***eS***	**Sn**	**11 31 34.5**	**+0.4**
SBLS	**San Blas**	**1.69**	**93**	***eP***	**Pn**	**11 31 13.2**	**0.0**
SBLS	**San Blas**	**1.69**	**93**	***eP***	**Pn**	**11 31 13.2**	**0.0**
SNJE	**San Jose**	**1.71**	**92**	***eP***	**Pn**	**11 31 13.5**	**+0.2**
SNJE	**San Jose**	**1.71**	**92**	***eP***	**Pn**	**11 31 13.5**	**+0.2**
JAYA	**Jayaque - finc**	**1.88**	**98**	***eP***	**Pn**	**11 31 15.3**	**-0.3**
JAYA				***eS***	**Sn**	**11 31 38.0**	**-0.5**
JAYA				IAML		11 31 42.4	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**1.88**	**98**	***eP***	**Pn**	**11 31 15.3**	**-0.3**
JAYA				***eS***	**Sn**	**11 31 38.0**	**-0.5**
JAYA				IAML		11 31 42.4	
	comp=Z,4μm,0.2s						
TACO	**Tacachico**	**1.95**	**88**	***eP***	**Pn**	**11 31 16.7**	**+0.2**
TACO				***eS***	**Sn**	**11 31 40.2**	**+0.1**
TACO	**Tacachico**	**1.95**	**88**	***eP***	**Pn**	**11 31 16.7**	**+0.2**
TACO				***eS***	**Sn**	**11 31 40.2**	**+0.1**
MRL	**Marmol**	**2.00**	**54**	***eP***	**Pn**	**11 31 18.2**	**+1.0**
MRL				***eS***	**Sn**	**11 31 48.1**	**+6.7**
MTO3	**Montecristo**	**2.00**	**76**		**Pn**	**11 31 17.1**	**-0.2**
MTO3	**Montecristo**	**2.00**	**76**	***||iP***	**Pn**	**11 31 17.0**	**-0.2**
MTO3	**Montecristo**	**2.00**	**76**	***||iP***	**Pn**	**11 31 17.0**	**-0.2**
MTO3	**Montecristo**	**2.00**	**76**	***eP***	**Pn**	**11 31 17.0**	**-0.2**
ESQI	**Esquipulas**	**2.06**	**72**		**Pn**	**11 31 18.2**	**+0.1**
ESQI	**Esquipulas**	**2.06**	**72**	***||iP***	**Pn**	**11 31 18.1**	**+0.1**
SNET	**Serv Nac Est T**	**2.09**	**96**		**Pn**	**11 31 20.0**	**+1.7**
SNET	**Serv Nac Est T**	**2.09**	**96**	***eP***	**Pn**	**11 31 20.0**	**+1.7**
SNET				IAML		11 31 49.1	
	comp=Z,2μm,0.4s						
SNET	**Serv Nac Est T**	**2.09**	**96**	***eP***	**Pn**	**11 31 20.0**	**+1.7**
SNET				IAML		11 31 49.1	
	comp=Z,2μm,0.4s						
LFRS	**El Faro**	**2.26**	**97**	***eP***	**Pn**	**11 31 21.4**	**+0.7**
LFRS	**El Faro**	**2.26**	**97**	***eP***	**Pn**	**11 31 21.4**	**+0.7**
PAVA	**Las Pavas**	**2.37**	**95**	***eP***	**Pn**	**11 31 22.6**	**+0.5**
COEG	**Centro de Oper**	**2.43**	**97**	***eP***	**Pn**	**11 31 24.1**	**+1.1**
CCIG	**Comitan**	**2.46**	**343**		**Pn**	**11 31 24.4**	**+0.9**
PETF	**Flores**	**3.31**	**26**		**Pn**	**11 31 35.2**	**+0.4**
PETF	**Flores**	**3.31**	**26**	***eP***	**Pn**	**11 31 35.4**	**+0.5**
CSGN	**Cosiguina Volc**	**3.82**	**104**	***eP***	**Pn**	**11 31 43.6**	**+1.7**
TGUH	**Tegucigalpa,Un**	**3.98**	**88**		**Pn**	**11 31 44.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.98**	**88**	***eP***	**Pn**	**11 31 44.8**	**+0.7**
TGUH				IAML		11 32 55.0	
	comp=Z,258nm,0.6s						
CRIN	**San Cristobal**	**4.37**	**106**		**Pn**	**11 31 52.0**	**+2.5**
CNQN	**Cerro Negro**	**4.76**	**107**		**Pn**	**11 31 54.5**	**-0.3**
MATN	**Matagalpa**	**5.38**	**100**		**Pn**	**11 32 04.5**	**+1.2**
BOAB	**BOACO BROADBAN**	**6.74**	**104**		**Pn**	**11 32 08.8**	**+0.7**
HZTE	**Horizontes, Gu**	**6.48**	**119**		**Pn**	**11 32 19.6**	**+1.3**
ORTG	**Ortega, Santa**	**6.77**	**121**		**Pn**	**11 32 24.4**	**+2.1**
DUNO	**Dulce Nombre,**	**6.90**	**123**		**Pn**	**11 32 26.9**	**+3.0**
JTS	**Las Juntas de**	**7.24**	**119**	P	**Pn**	**11 32 30.7**	**+2.1**
	comp=Z,2.6nm,0.3s,baz=12,slow=22,SNR=9.4						
JTS				S	**Sn**	**11 33 50.9**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=127,slow=23,SNR=0.8						
JTS	**Las Juntas de**	**7.24**	**119**		**Pn**	**11 32 30.5**	**+1.9**
CAO2	**Cobano, Puntar**	**7.43**	**124**		**Pn**	**11 32 33.9**	**+2.6**
RIMA	**Rio Macho**	**8.42**	**119**		**Pn**	**11 32 48.4**	**+3.4**
SRBA	**San Rafael, Bu**	**9.12**	**120**		**Pn**	**11 32 56.3**	**+1.8**
SOR	**Soroa**	**11.86**	**41**	Pn	**Pn**	**11 33 32.2**	**+0.4**
SJCC	**San Jacinto, C**	**16.33**	**102**	Pn	**Pn**	**11 34 30.9**	**+0.2**
SJCC				IAmb	IAmb	11 34 36.1	
	comp=Z,18nm,1.0s						
342A	**Flagon Creek P**	**17.40**	**357**	P	**Pn**	**11 34 43.3**	**-0.4**
342A				IAmb	IAmb	11 34 43.8	
	comp=Z,11nm,0.6s						
TXAR	**Lajitas Array**	**19.11**	**325**	P	**Pn**	**11 35 05.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=14						
TXAR	**Lajitas Array**	**19.11**	**325**	P	**Pn**	**11 35 04.8**	**+0.3**
ABTX	**Abilene, Hawle**	**20.09**	**339**	P	**Pn**	**11 35 14.0**	**+0.2**
Y49A	**Blount Mountai**	**20.35**	**12**	P	Pn	11 35 17.7	-1.3
Y49A				IAmb	IAmb	11 35 20.2	
	comp=Z,6.7nm,0.7s						
SDV	**Santo Domingo**	**20.92**	**102**	P	**P**	**11 35 20.9**	**-2.1**
	comp=Z,2.1nm,0.4s,baz=285,slow=6.7,SNR=6.8						
SDV	**Santo Domingo**	**20.92**	**102**	P	**P**	**11 35 21.4**	**-1.6**
SDV				IAmb	IAmb	11 35 28.9	
	comp=Z,4.2nm,0.6s						
FPAL	**Fort Paine**	**21.18**	**13**	P	**P**	**11 35 26.3**	**+0.8**
LCAR	**Lake Charles**	**22.06**	**0**	P	**P**	**11 35 35.5**	**+0.8**
LCAR				IAmb	IAmb	11 35 37.2	
	comp=Z,6.1nm,0.7s						
T42A	**Van Buren**	**23.02**	**1**	P	**P**	**11 35 44.4**	**-0.5**
TZTN	**Tazewell**	**23.59**	**16**	P	**P**	**11 35 50.1**	**-0.1**
S39A	**Bolivar**	**23.74**	**356**	P	**P**	**11 35 51.0**	**-0.6**
CCM	**Cathedral Cave**	**24.04**	**0**	P	**P**	**11 35 54.0**	**-0.2**
CCM				IAmb	IAmb	11 35 57.2	
	comp=Z,6.1nm,0.8s						
U54A	**Nelsons Funny**	**24.08**	**19**	P	**P**	**11 35 55.7**	**+1.0**

V58A Windy Hill, Pi 24.41 25 P P 11 35 57.7 +0.1
V58A IAmb IAmb 11 35 57.9
comp=Z,6.9nm,0.7s
P40A Paris 25.52 359 P P 11 36 07.6 -0.1
P40A IAmb IAmb 11 36 10.2
comp=Z,5.8nm,0.8s
NVAR Mina Array Bea 34.12 321 P P 11 37 26.9 +2.7
comp=Z,1.2nm,0.7s,baz=131,slow=8.2,SNR=5.5
NVAR PcP PcP 11 40 02.0 +1.7
comp=Z,0.9nm,0.7s,baz=145,slow=3.0,SNR=6.2
ULM Lac du Bonnet 36.42 355 P P 11 37 43.5 0.0
comp=Z,2.1nm,0.8s,baz=35,slow=1.3,SNR=2.9
SIV San Ignacio 42.19 134 P P 11 38 32.9 +0.9
comp=Z,2.0nm,0.7s,baz=320,slow=10,SNR=8.0
YKA Yellowknife Ar 51.25 346 P P 11 39 41.8 -0.4
comp=Z,1.1nm,0.6s,baz=148,slow=7.5,SNR=10.0
YKA PcP PcP 11 40 56.2 -0.2
comp=Z,0.6nm,0.7s,baz=152,slow=3.8,SNR=7.1
ILAR Eielson Array 63.16 337 P P 11 41 06.0 -0.1
comp=Z,0.3nm,0.5s,baz=118,slow=5.1,SNR=7.5
ILAR Eielson Array 63.16 337 P P 11 41 06.5 +0.4
EKA Eskdalemuir Ar 77.67 36 P P 11 42 31.7 -3.0
comp=Z,0.4nm,0.4s,baz=269,slow=7.3,SNR=3.8
HFS Hagfors 85.37 29 P P 11 43 13.9 -1.4
comp=Z,1.5nm,0.8s,baz=305,slow=5.1,SNR=2.0
TORD Torodi Ar. Bea 89.80 77 P P 11 43 35.7 -1.7
comp=Z,0.1nm,0.4s,baz=283,slow=5.6,SNR=1.7
WRA Warramunga Arr 135.97 256 PKhKP PKPpre 11 49 58.8
comp=Z,1.3nm,1.1s,baz=192,slow=26,SNR=1.6
CMAR Chiang Mai Arr 146.26 342 PKPbc **PKPbc 11 50 19.4 +0.1**
comp=Z,3.6nm,0.6s,baz=339,slow=3.4,SNR=16
CMAR Chiang Mai Arr 146.26 342 PKPdf 11 50 17.3 -0.9
CMAR PKPbc **PKPab 11 50 20.0 -0.1**

MAN 16 11:39:36.7, 17.42N×119.93E, h34km, mb4.6, ML3.5, MS3.4, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.71**	**45**	**i**	**P**	11 39 51.2	+0.5
SIPP				*i*	S	11 40 00.6	+0.4
SAMP	**Sagada Mountai**	**0.99**	**110**	*e*	**P**	11 39 54.6	+0.5
BOLP	**Bolinao**	**1.03**	**181**	*e*	**P**	11 39 55.1	+0.3
APYP	**Conner**	**1.32**	**70**	**i**	**P**	11 40 01.0	0.0

TUL ***16*** *11:49:03.6±0.5, 36.52N±0.01×98.70W±0.01, h6km±3km, ML2.5, mb_Lg2.2/13(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=180.0*

NEIC 16 11:49:04.2±0.3, 36.519N±0.008×98.69W±0.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=0.8km az=133.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.29**	**241**	Pg	Pg	11 49 09.6	-0.2
U32A				Sg	Sg	11 49 14.1	+0.6
FNO	**Franklin**	**1.64**	**140**	Pn	Pn	11 49 33.4	-0.3
WMOK	**Wichita Mounta**	**1.78**	**182**	Pn	Pn	11 49 35.0	-0.6
WMOK				IAmb_Lg		11 50 03.8	
comp=Z,7.0nm,0.8s							
T35A	**Sooner Cattle**	**1.80**	**77**	IAmb_Lg		11 50 03.7	
comp=Z,12nm,0.8s							
R32A	**Long Quarter,**	**1.90**	**360**	IAmb_Lg		11 50 06.3	
comp=Z,5.9nm,0.7s							
X34A	**Smith Ranch, M**	**2.04**	**160**	IAmb_Lg		11 50 09.6	
comp=Z,7.5nm,0.9s							
TUL1	**Leonard**	**2.42**	**104**	IAmb_Lg		11 50 23.0	
comp=Z,10nm,0.8s							
AMTX	**Amarillo**	**2.93**	**237**	IAmb_Lg		11 50 37.8	
comp=Z,20nm,1.0s							
X37A	**Clayton**	**3.32**	**124**	IAmb_Lg		11 50 53.6	
comp=Z,8.9nm,0.7s							

MAN ***16*** *12:04:47.9, 4.24N×125.15E, h33km, mb5.7, ML4.7, MS5.0*
KLM ***16*** *12:04:52, 4.75N×125.39E, h18km, mb5.2*
NEIC ***16*** *12:04:52.5±1.8, 4.67N±0.05×125.01E±0.06, h10km±1km, mb5.2/162, Error ellipse: s-maj=10.8km s-min=8.6km az=272.0*
MOS ***16*** *12:04:53.9±1.1, 4.72N×125.07E, h36km, mb5.1/30, MS4.5/7, Error ellipse: s-maj=9.6km s-min=5.7km az=105.8*
GCMT ***16*** *12:04:54.5±0.1, 4.67N±0.01×125.01E±0.01, h15km±1km, MW5.2/133, Moment Tensor Solution. s78,c99; s133,c212; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.34±.11; Mθθ-2.29±.11; Mϕϕ2.63±.12; Mrθ-2.27±.28; Mθϕ-6.22±.12; Mϕr0.03±.20; Best double couple: M=7.06900×10^16 NP1:ϕs10.00000°, δ71.00000°, λ-4.00000°. NP2:ϕs101.00000°, δ86.00000°, λ-161.00000°. Principal axes: T 7.0950, Plg10.0000°, Azm234.0000°; N -0.0470, Plg71.0000°, Azm113.0000°; P -7.0440, Plg16.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***16*** *12:04:56.8±0.0, 4.70N×125.10E, h40km, mb4.5/60, mB5.1/46, Ms4.8/64, Ms7 4.6/57*
DJA ***16*** *12:04:57.3±0.5, 5°N±2°×125°E±°, h31km±4km, M5.0/73, mb5.2/73, mB5.5/48, MLv5.2/14, Mw(mB)5.0/48, MwMwp4.9/13, Mwp5.2/13*
IDC ***16*** *12:04:57.4±1.6, 4.68N×125.19E, h50km±15km, mb4.4/21, mb1 4.5/24, mb1mx4.3/36, mbtmp4.7/24, ML5.0/3, MS4.3/61, Ms1 4.3/61, ms1mx4.2/79, Error ellipse: s-maj=15.3km s-min=8.0km az=77.0*

ISC 16 12:04:53.4±0.6, 4.70N±0.02×125.08E±0.04, h16km±3km, h17km:pP-P, n560, σ1s86/509, mb5.1/160, MS4.4/86, 50C-44D, Fault plane solution: NP1:ϕs39.65446°, δ51.06958°, λ17.98332°. NP2:ϕs298.12601°, δ76.10332°, λ139.65993°. Principal axes: T Plg37.8906°, Azm251.2000°; N Plg47.7234°, Azm102.3351°; P Plg15.9323°, Azm354.0357°; Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.10**	**156**	P	**Pb**	**12 05 13.3**	**-0.8**
SGSI				S	**Sg**	**12 05 27.6**	**-1.6**
GSPH	**General Santos**	**1.38**	**355**	*e*	**Pn**	**12 05 16.1**	**-2.1**
GSPH				*i*	**Sn**	**12 05 34.1**	**-2.1**
KCP	**Kidapawan**	**2.29**	**0**	*e*	**Pn**	**12 05 31.9**	**+1.2**
KCP				*i*	**Sb**	**12 06 02.6**	**0.0**
DAV	**Davao City (W)**	**2.41**	**12**	P	**Pn**	**12 05 33.8**	**+1.7**
202nm,0.3s,baz=149,slow=1.7,SNR=26							
DAV				S	**Sn**	**12 06 04.0**	**+2.7**
228nm,0.3s,baz=269,slow=19,SNR=4.0							
DAV	**Davao City (W)**	**2.41**	**12**		**Pn**	**12 05 33.8**	**+1.7**
DAV				Sn	**Sn**	**12 06 02.5**	**+1.2**
DAV	**Davao City (W)**	**2.41**	**12**	P	**Pb**	**12 05 36.0**	**-0.4**
MATI	**Mati**	**2.52**	**28**	*e*	**Pn**	**12 05 31.1**	**-2.7**
CTBH	**Cotabato--PC H**	**2.64**	**342**	*e*	**Pn**	**12 05 35.6**	**+0.4**
CTBH				*i*	**Sn**	**12 06 07.8**	**+0.8**
PAGZ	**Pagadian**	**3.55**	**332**	*e*	**Pn**	**12 05 47.0**	**-0.8**
ZCP	**Zamboanga City**	**3.72**	**307**	**i**	**Pn**	**12 05 49.1**	**-1.1**
ZCP				*i*	**Sn**	**12 06 29.4**	**-4.2**
DCPH	**Dipolog City**	**4.22**	**336**	*e*	**Pb**	12 06 02.1	-5.1
KMSI	**Cibinong**	**4.24**	**195**	P	**Pn**	**12 06 00.7**	**+3.4**
TNTI	**Ternate**	**4.52**	**150**	Pn	**Pn**	**12 06 00.8**	**-0.5**
TNTI	**Ternate**	**4.52**	**150**	P	**Pn**	**12 06 03.7**	**+2.5**
TNTI	**Ternate**	**4.52**	**150**	P	**Pn**	**12 06 02.6**	**+1.4**
GTOI	**Gorontalo**	**4.53**	**207**	P	**Pn**	**12 05 59.3**	**-2.1**
SNPH	**Sibulan**	**4.96**	**339**	**i**	**Pn**	**12 06 10.3**	**+3.0**
SNPH				*e*	**Sb**	**12 07 18.1**	**-1.3**
TBP	**Tagbilaran**	**5.10**	**346**	*e*	**Pb**	12 06 16.6	-5.7
GLSP	**General Luna,**	**5.16**	**12**	**i**	**Pn**	**12 06 10.6**	**+0.6**
MRSI	**Marisa**	**5.23**	**217**	P	**Pn**	**12 06 09.6**	**-1.4**
3.4nm7μm7μm708nm,0.8s							
TOLI2	**Tolitoli**	**5.58**	**230**	Pn	**Pn**	**12 06 12.7**	**-3.0**
TOLI2				Sn	**Sn**	**12 07 14.0**	**-5.5**
LLP	**Lapu-Lapu**	**5.69**	**349**	*e*	**Pn**	**12 06 19.6**	**+2.4**
LLP				*e*	**Sg**	**12 07 49.0**	**-7.1**
LBMI	**Labuha**	**5.83**	**155**	P	**Pn**	**12 06 20.0**	**+0.8**
2.0nm3μm4μm196nm,0.4s							
LUWI	**Luwuk**	**6.15**	**202**		**Pn**	**12 06 23.1**	**-0.5**
LUWI	**Luwuk**	**6.15**	**202**	P	**Pn**	**12 06 26.8**	**+3.2**
3.5nm6μm9μm833nm,0.8s							
LUWI	**Luwuk**	**6.15**	**202**	P	**Pn**	**12 06 25.2**	**+1.6**
APSI	**Ampana**	**6.54**	**212**	P	**Pn**	**12 06 31.9**	**+2.9**
1.2nm4μm3μm275nm,0.9s							
MYLDM	**Lahad Datu**	**6.57**	**274**	Pn	**Pn**	**12 06 29.4**	**+0.1**
MPSI	**Mapaga**	**6.75**	**230**	P	**Pn**	**12 06 32.1**	**+0.3**
0.6nm7μm1μm66nm,0.6s							
SANI	**Sanana**	**6.77**	**172**	P	**Pn**	**12 06 31.1**	**-1.0**
0.9nm3μm3μm233nm,0.7s							
SANI	**Sanana**	**6.77**	**172**	P	**Pn**	**12 06 31.2**	**-0.9**
BESP	**Borongan**	**6.87**	**3**	**i**	**Pn**	**12 06 37.9**	**+4.5**
RCP	**Roxas**	**7.20**	**341**	*e*	**Pn**	**12 06 41.7**	**+3.7**
PPR	**Puerto Princes**	**8.06**	**309**	**i**	**Pn**	**12 06 53.0**	**+3.1**
SWI	**Sorong**	**8.29**	**132**	P	**Pn**	**12 06 54.8**	**+1.8**
1μm83nm,0.4s							
BATP	**Bataraza**	**8.29**	**300**	**i**	**P**	**12 06 52.5**	**-0.5**
SIJI	**Sorong**	**8.30**	**132**	P	**Pn**	**12 06 54.1**	**+0.9**
28nm,0.3s,baz=329,slow=15,SNR=52							
SIJI				S	**Sn**	**12 08 25.8**	**-0.8**
1.9nm,0.3s,baz=116,slow=22,SNR=2.3							
SIJI				LR	LR	12 10 41.3	
comp=Z,2μm,19.3s,baz=306,slow=42							
MSAI	**Masohi**	**8.87**	**154**	P	**Pn**	**12 07 03.2**	**+2.2**
29nm,0.8s							
AAI	**Ambon**	**8.89**	**159**	P	**Pn**	**12 07 00.9**	**-0.4**
4μm7μm538nm,0.5s							
KKM	**Kota Kinabalu**	**8.92**	**279**	Pn	**Pn**	**12 07 00.8**	**-0.9**
KKM	**Kota Kinabalu**	**8.92**	**279**	P	**Pn**	**12 07 03.5**	**+1.7**
TTSI	**Tana Toraja**	**9.31**	**214**	P	**Pn**	**12 07 08.8**	**+1.7**
3μm1μm67nm,1.0s							
LQP	**Lukban**	**9.98**	**340**	**i**	**P**	12 07 25.0	+8.6
SPSI	**Sidrap Palu**	**10.11**	**212**	P	**Pn**	12 07 22.2	+4.2
1μm51nm,0.8s							
LUBP	**Lubang**	**10.16**	**332**	**i**	**P**	**12 07 14.7**	**-4.0**
BNSI	**Bone**	**10.31**	**209**	P	**Pn**	**12 07 24.6**	**+3.8**
3μm1μm40nm,1.0s							
KAPI	**Kappang**	**11.02**	**209**	LR	LR	12 11 55.2	
comp=Z,1μm,18.6s,baz=32,slow=38							
KAPI	**Kappang**	**11.02**	**209**	P	**Pn**	**12 07 31.1**	**+0.7**
KAPI	**Kappang**	**11.02**	**209**	Pn	**Pn**	**12 07 31.1**	**+0.7**
MTKI	**Muara Teweh, K**	**11.61**	**241**	P	Pn	12 07 43.0	+4.4
70nm,0.8s							
SMPP	**San Manuel, Pa**	**12.17**	**340**	**i**	*e*P	12 08 01.0	+15
BAKI	**Biak**	**12.48**	**118**	P	**Pn**	**12 07 52.3**	**+1.9**
SBUM	**Sibu**	**13.02**	**261**	Pn	**Pn**	**12 07 57.0**	**-0.9**
SBUM	**Sibu**	**13.02**	**261**	P	**Pn**	**12 08 00.0**	**+2.1**
BBKI	**Banjar Baru**	**13.05**	**232**	P	Pn	12 08 02.9	+4.7
7μm84nm,1.0s							
MMRI	**Maumere**	**13.54**	**192**	Pn	**Pn**	**12 08 01.7**	**-3.3**
STKI	**Sintang**	**14.34**	**252**	P	**P**	**12 08 18.8**	**-4.1**
12nm,0.4s							
BATI	**Baumata**	**14.87**	**185**	P	**Pn**	**12 08 25.1**	**+1.9**
6.5nm,0.3s,baz=172,slow=5.6,SNR=7.4							
BATI				LR	LR	12 14 34.4	
comp=Z,2μm,21.0s,baz=14,slow=39							
BATI	**Baumata**	**14.87**	**185**	P	**Pn**	**12 08 24.6**	**+1.4**
1μm121nm,1.1s							
KSM	**Kuching**	**15.09**	**258**	Pn	**Pn**	**12 08 26.0**	**0.0**
KSM				IAmb	IAmb	12 08 45.1	
comp=Z,122nm,1.1s							
KSM	**Kuching**	**15.09**	**258**	P	**Pn**	**12 08 27.5**	**+1.5**
SMPI	**Sarmi**	**15.16**	**116**	P	**P**	**12 08 34.9**	**+2.9**
comp=Z,26nm,1.2s							
PLAI	**Plampang**	**15.28**	**208**	P	**P**	**12 08 33.8**	**+0.4**
comp=Z,2μmcomp=Z,3μmcomp=Z,142nm,0.9s							
PLAI	**Plampang**	**15.28**	**208**	P	**Pn**	**12 08 29.3**	**+0.7**
WBSI	**Waikabubak, Su**	**15.33**	**202**	P	**P**	**12 08 31.0**	**-3.0**
comp=Z,3μmcomp=Z,177nm,1.0s							
KMMI	**Kalinget**	**16.10**	**224**	P	**P**	**12 08 42.1**	**-0.3**
comp=Z,3μmcomp=Z,59nm,1.1s							
GENI	**Genyem**	**16.73**	**115**	P	**P**	**12 08 51.7**	**+2.2**
comp=Z,4μmcomp=Z,144nm,0.9s							
GENI	**Genyem**	**16.73**	**115**	P	**P**	**12 08 51.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**17.02**	**220**	P	**P**	**12 08 51.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**17.02**	**220**	P	P	12 08 59.6	+6.9
comp=Z,90nm,1.1s							
JAY	**Jayapura**	**17.18**	**114**	P	**P**	**12 08 54.8**	**+0.3**
comp=Z,448nmcomp=Z,34nm,1.1s							
GMJI	**Gumukmas**	**17.34**	**222**	P	**P**	**12 09 02.5**	**+6.3**
comp=Z,70nm,1.0s							
DLV	**T Lat**	**17.91**	**295**	P	**Pn**	**12 09 01.9**	**-0.3**
DLV	**T Lat**	**17.91**	**295**	P	**P**	**12 09 05.2**	**+2.4**
comp=Z,50nm,1.3s							
UWJI	**Ujung Watu**	**17.91**	**232**	P	**P**	**12 09 05.6**	**+3.0**
comp=Z,206nm,1.1s							
DRS	**Darwin Rock St**	**17.98**	**161**	P	**Pn**	**12 09 01.6**	**-1.2**
comp=Z,120nm,0.9s							
PWJI	**Pagerwojo**	**18.30**	**226**	P	**P**	**12 09 10.0**	**+3.2**
comp=Z,4μmcomp=Z,207nm,1.1s							
TWG	**Pinlang**	**18.43**	**348**	P	**P**	**12 09 07.7**	**-0.4**
KDU	**Kakadu**	**18.77**	**157**	P	**P**	**12 09 10.2**	**-1.8**
baz=19,SNR=11							
KDU	**Kakadu**	**18.77**	**157**	P	**Pn**	**12 09 12.8**	**+0.3**
PCJI	**Pacitan**	**18.87**	**227**	P	**Pn**	**12 09 17.9**	**+4.2**
comp=Z,3μmcomp=Z,58nm,1.0s							
YULB	**Yu-li**	**18.94**	**349**	P	**P**	**12 09 12.8**	**-1.1**
TPUB	**Ta-pu**	**18.98**	**347**	P	**Pn**	**12 09 18.7**	**+3.7**
YOGI	**Yogyakarta**	**19.29**	**230**	P	Pn	12 09 35.1	+16
SSLB	**Suanglung**	**19.39**	**349**	P	**P**	**12 09 17.8**	**-1.0**
SSLB				IAmb	IAmb	12 09 38.6	
comp=Z,64nm,0.8s							
SSLB	**Suanglung**	**19.39**	**349**	P	**Pn**	**12 09 24.3**	**+4.4**
KPJI	**Karang Pucung**	**20.06**	**234**	P	**Pn**	**12 09 30.0**	**+2.1**
comp=Z,2μmcomp=Z,176nm,1.0s							
PPBI	**Pangkal Pinang**	**20.11**	**251**	P	Pn	12 09 29.2	+0.6
comp=Z,3μmcomp=Z,20μmcomp=Z,58nm,1.2s							
YHNB	**Yeheng**	**20.17**	**350**	P	Pn	12 09 29.6	+0.3
KNRA	**Kununurra**	**20.57**	**170**	P	**P**	**12 09 30.6**	**-1.0**
baz=21,SNR=70							
KNRA	**Kununurra**	**20.57**	**170**	P	**P**	**12 09 31.0**	**-0.6**
KNRA				IAmb	IAmb	12 09 47.1	
comp=Z,117nm,0.8s							
KNRA	**Kununurra**	**20.57**	**170**	P	**P**	**12 09 31.7**	**+0.1**
QIZ	**Qiongzhong**	**20.59**	**315**	P	Pn	12 09 34.0	-0.1
QIZ				S	**S**	**12 13 22.4**	**+0.8**
QIZ				pmax	pmax		
comp=Z,13nm,1.3s							
QIZ				pmax	pmax		
comp=Z,520nm,9.2s							
QIZ				LR	LR		
comp=Z,990nm,15.2s							
QIZ				LR	LR		
comp=Z,1μm,16.7s							
QIZ				LR	LR		
comp=Z,2μm,18.4s							
QIZ	**Qiongzhong**	**20.59**	**315**	P	Pn	12 09 34.7	+0.6
KNMB	**Chin-men Tao**	**20.68**	**343**	P	**P**	**12 09 31.6**	**-1.1**
KNMB				IAmb	IAmb	12 10 01.7	
comp=Z,72nm,1.0s							
CMJI	**Cimerak**	**20.71**	**233**	P	Pn	12 09 39.0	+3.4
comp=Z,2μmcomp=Z,2μmcomp=Z,138nm,1.2s							
LEM	**Lembang**	**20.85**	**237**	P	Pn	12 09 37.2	-0.2
comp=Z,44nm,0.9s,baz=116,slow=14,SNR=6.2							
LEM				LR	LR	12 18 30.1	
comp=Z,2μm,20.1s,baz=44,slow=39							
LEM	**Lembang**	**20.85**	**237**	P	Pn	12 09 38.4	+1.0
comp=Z,1μmcomp=Z,2μmcomp=Z,102nm,1.1s							
TPRI	**Tanjung Pinang**	**20.86**	**260**	P	Pn	12 09 37.0	-0.4
comp=Z,119nm,1.4s							
QZH	**Quanzhou**	**21.07**	**343**	**i**	**P**	12 09 45.3	+8.3
QZH				S	Sn	12 13 39.3	+1.7
QZH				pmax	pmax		
comp=Z,410nm,5.2s							
QZH				LR	LR		
comp=N,810nm,18.6s							
QZH				LR	LR		
comp=E,1μm,17.4s							
QZH				LR	LR		
comp=Z,1μm,17.7s							
DSRI	**Dabo**	**21.11**	**256**	P	**P**	**12 09 40.5**	**+2.9**
comp=Z,1μmcomp=Z,62nm,1.5s							
CBJI	**Citeko**	**21.29**	**239**	P	**P**	**12 09 43.9**	**+4.5**
comp=Z,15μmcomp=Z,253nm,0.8s							
MYKOM	**Kota Tinggi**	**21.39**	**263**	P	**P**	**12 09 39.7**	**-0.8**
MYKOM				IAmb	IAmb	12 09 53.5	
comp=Z,85nm,1.0s							
MYKOM	**Kota Tinggi**	**21.39**	**263**	P	**P**	**12 09 42.0**	**+1.5**
GUMO	**Guam**	**21.43**	**64**	LR	LR	12 16 39.0	
comp=Z,1μm,21.7s,baz=211,slow=33							
CNJI	**Cibinong**	**21.52**	**236**	P	**P**	**12 09 48.2**	**+6.3**
comp=Z,2μmcomp=Z,4μmcomp=Z,378nm,1.1s							
UBPT	**Khong Chiam**	**21.96**	**300**	P	**P**	**12 09 46.2**	**-0.4**
UBPT				IAmb	IAmb	12 10 01.8	
comp=Z,75nm,1.3s							
BLSI	**Bandar Lampung**	**22.19**	**243**	P	**P**	**12 09 52.7**	**+3.6**
comp=Z,3μmcomp=Z,110nm,0.5s							
JOW	**Kunigami**	**22.22**	**8**	LR	LR	12 19 20.7	
comp=Z,523nm,19.7s,baz=194,slow=39							
JOW	**Kunigami**	**22.22**	**8**	P	**P**	**12 09 49.8**	**+0.4**
JOW				IAmb	IAmb	12 10 38.0	
comp=Z,116nm,1.3s							
JOW	**Kunigami**	**22.22**	**8**	P	**P**	**12 09 52.6**	**+3.2**
comp=Z,68nm,1.1s							
KLI	**Kotabumi**	**22.32**	**245**	P	**P**	**12 09 52.9**	**+2.4**
comp=Z,228nm,0.4s							
KLSI		**22.36**	**246**	P	**P**	**12 09 53.7**	**+2.7**
comp=Z,1μmcomp=Z,120nm,1.2s							
CGJI	**Cibinong**	**22.38**	**240**	P	**P**	**12 09 55.6**	**+4.5**
comp=Z,2μmcomp=Z,127nm,1.2s							
JRMM	**Jerantut**	**22.55**	**269**	P	**P**	**12 09 54.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**22.66**	**179**	P	**P**	**12 09 52.9**	**-1.2**
comp=Z,14nm,0.5s,baz=9.9,slow=5.2,SNR=35							
FITZ	**Fitzroy Crossi**	**22.66**	**179**	P	**P**	**12 09 52.4**	**-1.6**
FITZ				IAmb	IAmb	12 10 11.7	
comp=Z,53nm,1.0s							
MDSI	**Maura Dua**	**22.78**	**247**	P	**P**	**12 09 58.4**	**+2.9**
comp=Z,952nmcomp=Z,46nm,1.2s							
KASI	**Kota Agung**	**22.92**	**244**	P	**P**	**12 10 01.8**	**+4.9**
comp=Z,103nm,1.0s							
LWLI	**Liwa**	**23.10**	**246**	P	**P**	**12 10 01.4**	**+2.5**
MANU	**Manus Island**	**23.26**	**106**	P	**P**	**12 10 00.4**	**0.0**
KSI	**Kapahiang**	**23.94**	**250**	P	**P**	**12 10 09.1**	**+1.9**
comp=Z,5μmcomp=Z,114nm,1.5s							
IPM	**Ipoh**	**23.97**	**270**	P	**P**	**12 10 06.1**	**-1.3**
IPM				IAmb	IAmb	12 10 19.6	
comp=Z,136nm,1.4s							
IPM	**Ipoh**	**23.97**	**270**	P	**P**	**12 10 09.0**	**+1.6**
IPM	**Ipoh**	**23.97**	**270**	P	**P**	**12 10 08.7**	**+1.3**
MASI	**Maura Aman, Be**	**24.11**	**252**	P	**P**	**12 10 11.4**	**+2.7**
comp=Z,4μmcomp=Z,232nm,0.9s							
KULM	**Kulim**	**24.34**	**272**	P	**P**	**12 10 08.7**	**-2.0**
KULM	**Kulim**	**24.34**	**272**	P	**P**	**12 10 12.0**	**+1.2**
BKNI	**Bangkinang**	**24.40**	**260**	P	**P**	**12 10 08.2**	**-3.1**
BKNI	**Bangkinang**	**24.40**	**260**	P	**P**	**12 10 12.5**	**+1.2**
comp=Z,3μmcomp=Z,152nm,1.3s							
BKNI	**Bangkinang**	**24.40**	**260**	P	**P**	**12 10 13.4**	**+2.1**
XMIS	**Christmas Isla**	**24.53**	**232**	P	**P**	**12 10 10.2**	**-2.2**
XMIS				IAmb	IAmb	12 10 33.9	
comp=Z,29nm,0.8s							
KRJI	**Kerinci**	**24.54**	**255**	P	**P**	**12 10 17.7**	**+5.0**
comp=Z,4μmcomp=Z,196nm,1.5s							
GULI	**GuiLin**	**24.87**	**327**	P	**P**	**12 10 17.6**	**+2.2**
GULI				pmax	pmax		
comp=Z,10.0nm,1.2s							
GULI				LR	LR		
comp=Z,2μm,19.9s							
GULI				LR	LR		
comp=Z,1μm,21.4s							
GULI				LR	LR		
comp=Z,1μm,19.2s							
SRIT	**Nakonsritamara**	**25.59**	**280**	P	**P**	**12 10 20.4**	**-1.7**
SRIT				IAmb	IAmb	12 10 34.8	
comp=Z,38nm,1.0s							
MNSI	**Mandailing Nat**	**25.75**	**262**	P	**P**	**12 10 26.7**	**+3.1**
comp=Z,2μmcomp=Z,157nm,1.3s							
COEN	**Coen**	**25.81**	**136**	P	**P**	**12 10 23.3**	**-0.7**
COEN				IAmb	IAmb	12 10 35.0	
comp=Z,106nm,1.5s							
COEN	**Coen**	**25.81**	**136**	P	**P**	**12 10 25.2**	**+1.1**
WB0	**Warramunga Arr**	**25.98**	**160**	P	**P**	**12 10 24.6**	**-1.0**
PMG	**Port Moresby**	**26.09**	**122**	P	**P**	**12 10 24.7**	**-1.9**
comp=Z,13nm,0.7s,baz=315,slow=7.2,SNR=4.4							
PMG				LR	LR	12 21 32.1	
comp=Z,410nm,21.1s,baz=292,slow=38							
PMG	**Port Moresby**	**26.09**	**122**	*ce*	**P**	**12 10 27.5**	**+0.9**
PMG				pmax	pmax		
comp=Z,27nm,1.7s							
PMG	**Port Moresby**	**26.09**	**122**	P	**P**	**12 10 26.0**	**-0.6**
PMG				IAmb	IAmb	12 11 14.9	
comp=Z,57nm,1.3s							
PMG	**Port Moresby**	**26.09**	**122**	P	**P**	**12 10 29.7**	**+3.1**
PMG	**Port Moresby**	**26.09**	**122**	P	**P**	**12 10 29.8**	**+3.1**
WRAB	**Tennant Creek**	**26.12**	**160**	*d*	**P**	**12 10 25.7**	**-1.1**
WRAB				pmax	pmax		
comp=Z,157nm,1.0s							
WRAB	**Tennant Creek**	**26.12**	**160**	P	**P**	**12 10 25.9**	**-1.0**
WRAB	**Tennant Creek**	**26.12**	**160**	P	**P**	**12 10 26.3**	**-0.5**
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**12 10 25.2**	**-1.6**
comp=Z,113nm,1.0s,baz=330,slow=11,SNR=268							
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**12 10 25.3**	**-1.6**
WRA				pmax	pmax		
comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**26.13**	**160**	P	**P**	**12 10 25.3**	**-1.6**
WB2	**Warramunga Arr**	**26.13**	**160**	P	**P**	**12 10 26.2**	**-0.7**
baz=26							
WB2	**Warramunga Arr**	**26.13**	**160**	P	**P**	**12 10 26.0**	**-0.9**
PSI	**Prapat**	**26.16**	**267**	P	**P**	**12 10 28.6**	**+1.2**
comp=Z,22nm,0.9s,baz=78,slow=4.5,SNR=11							
PSI				LR	LR	12 21 46.1	
comp=Z,472nm,21.9s,baz=92,slow=38							
WR0	**Warramunga Arr**	**26.21**	**159**	P	**P**	**12 10 26.7**	**-0.9**
MBWA	**Marble Bar**	**26.23**	**191**	P	**P**	**12 10 26.6**	**-1.1**
MBWA				IAmb	IAmb	12 10 29.9	
comp=Z,81nm,1.2s							
SSE	**Sheshan**	**26.51**	**353**	P	**P

CMAR LR LR 12 24 56.0
comp=Z,689nm,18.1s,baz=120,slow=41
CMAR Chiang Mai Arr 28.96 300 P P 12 10 52.9 +0.6
CHTO Chiang Mai 29.11 301 P P 12 10 53.1 -0.6
CHTO pmax pmax
comp=Z,27nm,1.4s
CHTO Chiang Mai 29.11 301 P P 12 10 53.1 -0.6
CHTO Chiang Mai 29.11 301 P P 12 10 56.9 +3.2
GIRL Giralia 29.17 201 P P 12 10 52.8 -1.3
ENH Enshi 29.39 332 P P 12 10 56.2 +0.2
ENH IAmb IAmb 12 11 13.2
comp=Z,33nm,1.0s
AS31 Alice Springs 29.48 163 P P 12 10 56.4 -0.5
ASAR Alice Springs 29.48 163 P P 12 10 55.6 -1.2
comp=Z,7.2nm,0.4s,baz=343,slow=6.8,SNR=112
ASAR LR LR 12 24 23.5
comp=Z,221nm,20.9s,baz=1.0,slow=40
ASAR Alice Springs 29.48 163 P P 12 10 56.2 -0.7
ASAR Alice Springs 29.48 163 P P 12 10 56.2 -0.7
MTSU Mount Surprise 29.58 141 P P 12 10 57.5 -0.4
baz=30,SNR=6.3
WRKA Warakurna 29.72 174 P P 12 10 58.2 -0.8
baz=30,SNR=55
WRKA Warakurna 29.72 174 P P 12 10 59.2 +0.2
comp=Z,26nm,1.0s
JMN Monobe 30.02 15 P P 12 11 01.8 +0.2
JMN IAmb IAmb 12 11 05.7
comp=Z,29nm,0.9s
PZH PanZhiHua 31.11 317 P P 12 11 12.5 +1.1
PZH S S 12 16 16.4 -0.1
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,140nm,6.3s
PZH LR LR
comp=Z,2μm,26.5s
PZH LR LR
comp=Z,2μm,25.5s
PZH LR LR
comp=Z,2μm,26.0s
JHJ Hachijo jima 2 31.43 24 LR LR 12 25 32.4
comp=Z,452nm,18.1s,baz=240,slow=39
TJN Taejon 31.60 4 *c*eP **P 12 11 18.7 +3.3**
MEEK Meekatharra 31.77 191 P P 12 11 15.8 -1.3
baz=32,SNR=21
MEEK Meekatharra 31.77 191 P P 12 11 16.8 -0.3
LYN LuoYang 31.92 340 *e*P **P 12 11 22.4 +4.1**
LYN pmax pmax
comp=Z,190nm,7.1s
LYN LR LR
comp=Z,340nm,18.2s
LYN LR LR
comp=Z,750nm,17.9s
LYN LR LR
comp=Z,720nm,16.7s
CTA Charters Tower 32.25 140 P P 12 11 21.1 -0.3
comp=Z,12nm,1.0s,baz=316,slow=7.9,SNR=5.5
CTA LR LR 12 25 02.2
comp=Z,224nm,18.1s,baz=306,slow=38
CTA Charters Tower 32.25 140 P P 12 11 22.6 +1.2
INU Inuyama 32.44 18 P P 12 11 21.8 -1.0
KSAR Wonju Array Be 32.69 4 P P 12 11 25.1 +0.1
KSAR Wonju Array Be 32.69 4 P P 12 11 25.1 +0.1
KSRS Korea Array 32.70 4 P P 12 11 25.2 +0.2
comp=Z,1.3nm,0.5s,baz=175,slow=10.0,SNR=8.1
KS19 Wonju Array Si 32.75 4 P P 12 11 26.0 +0.5
XAN Xi'an 32.83 335 P P 12 11 26.0 -0.3
XAN pP pwP 12 11 35.6 -1.2
XAN S S 12 16 41.5 -1.6
XAN pmax pmax
comp=Z,31nm,1.1s
XAN pmax pmax
comp=Z,81nm,2.7s
XAN LR LR
comp=Z,1μm,13.7s
XAN LR LR
comp=Z,700nm,11.7s
XAN LR LR
comp=Z,2μm,15.1s
CD2 Chengdu 32.90 325 P P 12 11 30.0 +3.0
CD2 S S 12 16 44.5 +0.2
CD2 LR LR
comp=Z,170nm,20.8s
CD2 LR LR
comp=Z,2μm,24.6s
CD2 LR LR
comp=Z,1μm,18.5s
OOD Oodnadatta 33.89 163 P P 12 11 35.8 +0.2
MAJO Matsushiro 33.91 19 ⇓*i*P **P 12 11 33.7 -2.0**
MAJO pmax pmax
comp=Z,28nm,1.4s
MAJO Matsushiro 33.91 19 P P 12 11 34.5 -1.2
MAJO IAmb IAmb 12 11 35.2
comp=Z,46nm,1.4s
MJAR Matsushiro Arr 33.91 19 P P 12 11 33.9 -1.9
comp=Z,9.5nm,0.5s,baz=200,slow=8.9,SNR=20
MJAR LR LR 12 25 07.0
comp=Z,388nm,19.8s,baz=212,slow=36
MJAR Matsushiro Arr 33.91 19 P P 12 11 34.1 -1.6
MJAR pmax pmax
comp=Z,18nm,1.4s
MJAR Matsushiro Arr 33.91 19 P P 12 11 34.1 -1.6
MJB9 Matsu-Tunnel 33.91 19 P P 12 11 34.7 -1.0
MJB9 IAmb IAmb 12 11 35.1
comp=Z,42nm,1.4s
MORW Morawa 34.68 194 P P 12 11 41.9 -0.5
baz=35,SNR=4.5
MORW Morawa 34.68 194 P P 12 11 41.3 -1.1
MORW IAmb IAmb 12 12 17.2
comp=Z,28nm,1.1s
JSD Sado 35.30 18 P P 12 11 46.4 -1.2
JSD IAmb IAmb 12 12 16.0
comp=Z,62nm,1.2s
FORT Forrest 35.39 176 P P 12 11 48.8 +0.3
baz=36,SNR=16
FORT Forrest 35.39 176 P P 12 11 48.2 -0.3
FORT IAmb IAmb 12 12 47.1
comp=Z,27nm,0.8s
INKA Innaminka 35.62 156 P P 12 11 51.8 +1.3
MULG Mulgathing 35.83 167 P P 12 11 53.2 +0.9
JMM Marumori 36.00 21 P P 12 11 53.2 -0.4
BLDU Ballidu 36.02 192 P P 12 11 53.7 -0.2
baz=36,SNR=14
BJT Baijiatuan 36.07 348 P P 12 11 53.6 -0.7
BJT pmax pmax
comp=Z,20nm,1.3s
BJT Baijiatuan 36.07 348 P P 12 11 53.6 -0.7
BJI Beijing 36.09 348 P P 12 11 53.8 -0.6
BJI pP **pwP 12 12 07.3 +2.4**
BJI PP **PP 12 13 18.8 +2.2**
BJI ScP **ScP 12 17 59.3 -6.9**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,110nm,11.3s
BJI LR LR
comp=Z,450nm,14.3s
QLP Quilpie 36.21 150 P P 12 11 55.8 +0.2
KLBR Kellerberrin 36.76 190 P P 12 11 59.2 -1.0
baz=37,SNR=6.9
LZH Lanzhou 36.85 331 ⇑P **P 12 12 02.8 +1.6**
LZH pP pwP 12 12 13.0 +1.3
LZH sP sP 12 12 18.3 +12
LZH S **S 12 17 44.3 -0.9**
LZH sS ScP 12 18 07.8 -1.6
LZH pmax pmax
comp=Z,45nm,1.3s
LZH pmax pmax
comp=Z,330nm,5.2s
LZH LR LR
comp=Z,1μm,13.3s
LZH LR LR
comp=Z,970nm,13.5s
LZH LR LR
comp=Z,2μm,15.9s
LCRK Leigh Creek 37.14 161 P P 12 12 04.2 +0.7
RK1H Rockhampton Ha 37.35 139 P P 12 12 06.2 +0.9
comp=Z,21nm,0.8s
MUN Mundaring 37.44 192 P P 12 12 05.6 -0.4
baz=38,SNR=4.8
SHL Shillong 37.98 307 P P 12 12 09.4 -1.5
SHL pmax pmax
comp=Z,37nm,0.8s
SHL Shillong 37.98 307 P P 12 12 09.4 -1.5
SHL IAmb IAmb 12 12 36.9
comp=Z,37nm,0.8s
HHC Hu-ho-hao-te 37.98 343 *e*P **P 12 12 13.3 +2.6**
HHC S **S** 12 18 05.3 +3.0
HHC sS ScP 12 18 22.3 +8.8
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,180nm,5.6s
HHC LR LR
comp=Z,890nm,16.5s
HHC LR LR
comp=Z,730nm,16.5s
HHC LR LR
comp=Z,970nm,16.5s
BBOO Buckleboo 38.73 165 P P 12 12 16.0 -0.9
baz=39,SNR=235
BBOO Buckleboo 38.73 165 P P 12 12 16.6 -0.3
BBOO Buckleboo 38.73 165 P P 12 12 17.0 +0.1
EIDS Eidsvold 39.13 141 P P 12 12 19.6 -0.8
baz=39,SNR=4.7
EIDS Eidsvold 39.13 141 P P 12 12 19.8 -0.6
EIDS Eidsvold 39.13 141 P P 12 12 20.9 +0.5
comp=Z,21nm,1.3s
WHYH Whyalla 39.35 163 P P 12 12 21.9 -0.2
comp=Z,111nm,0.9s
STKA Stephens Creek 39.63 158 P P 12 12 24.6 +0.2
comp=Z,34nm,0.8s,baz=335,slow=8.6,SNR=47
STKA Stephens Creek 39.63 158 P P 12 12 24.7 +0.2
baz=40,SNR=46
STKA Stephens Creek 39.63 158 P P 12 12 24.3 -0.2
STKA pmax pmax
comp=Z,13nm,1.1s
STKA Stephens Creek 39.63 158 P P 12 12 24.3 -0.2
STKA Stephens Creek 39.63 158 P P 12 12 25.1 +0.7
NAPP Napperby 39.66 163 P P 12 12 25.2 +0.5
comp=Z,48nm,1.1s
USRK Ussuriysk Ar. 39.81 8 P P 12 12 25.7 -0.1
comp=Z,4.3nm,0.6s,baz=167,slow=5.8,SNR=6.8
USRK LR LR 12 27 45.4
comp=Z,337nm,21.4s,baz=180,slow=34
USRK Ussuriysk Ar. 39.81 8 P P 12 12 26.4 +0.6
USRK Ussuriysk Ar. 39.81 8 P P 12 12 26.4 +0.6
USA0B Ussuriysk Arra 39.81 8 P P 12 12 26.3 +0.5
USA0B pmax pmax
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 39.81 8 P P 12 12 26.3 +0.5
MDJ Mudanjiang 39.95 5 P P 12 12 27.1 +0.1
MDJ Mudanjiang 39.95 5 P P 12 12 23.8 -3.2
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,340nm,7.3s
MDJ Mudanjiang 39.95 5 P P 12 12 30.4 +3.4
HTT Hallett 40.13 162 P P 12 12 28.5 -0.1
baz=40,SNR=78
HTT Hallett 40.13 162 P P 12 12 29.6 +1.0
LSA Lhasa 40.56 312 P P 12 12 31.0 -1.9
LSA pmax pmax
comp=Z,12nm,0.6s
LSA Lhasa 40.56 312 P P 12 12 31.0 -1.9
LSA Lhasa 40.56 312 P P 12 12 34.9 +2.1
LSA LR LR
comp=Z,110nm,11.0s
LSA LR LR
comp=Z,230nm,15.9s
CMSA Cobar Meteorol 41.05 153 P P 12 12 36.3 +0.1
baz=41,SNR=10.0
CMSA Cobar Meteorol 41.05 153 P P 12 12 37.4 +1.2
GTA Gaotai 41.43 330 *e*P **P 12 12 40.3 +0.9**
GTA pP pwP 12 12 53.9 +3.9
GTA sP sP 12 12 59.1 +14
GTA PP **PnPn 12 14 23.3 +3.3**
GTA S **S 12 18 53.6 -0.5**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,56nm,4.4s
GTA LR LR
comp=Z,560nm,16.7s
GTA LR LR
comp=Z,730nm,17.1s
GTA LR LR
comp=Z,1μm,16.7s
TWOA Tennyson Woods 41.51 163 P P 12 12 40.4 +0.4
comp=Z,122nm,0.7s
GOMU GeErMu 41.91 322 P P 12 12 45.1 +1.4
GOMU PP **PP 12 14 22.0 +1.2**
GOMU PcP **PcP 12 14 38.4 -0.9**
GOMU S **S 12 19 07.6 +5.9**
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU pmax pmax
comp=Z,220nm,6.7s
GOMU LR LR
comp=Z,790nm,17.4s
GOMU LR LR
comp=Z,560nm,17.9s
GOMU LR LR
comp=Z,640nm,19.6s
TAPN Taplejung 42.12 306 *e*P **P 12 12 46.8 +1.4**
ODAN Odare 42.17 306 *e*P **P 12 12 46.9 +1.1**
ASAJ Asahikawa 42.18 19 LR LR 12 30 27.6
comp=Z,522nm,20.9s,baz=173,slow=36
ASAJ Asahikawa 42.18 19 P **P 12 12 46.1 +0.8**
ASAJ pmax pmax
comp=Z,47nm,1.1s
JKA Kamikawa-asahi 42.18 19 P **P 12 12 46.1 +0.7**
JKA IAmb IAmb 12 13 01.3
comp=Z,47nm,1.1s
KWAJ Kwajalein Atol 42.42 82 P P 12 12 47.0 -0.7
KWAJ pmax pmax
comp=Z,765nm,1.3s
KWAJ Kwajalein Atol 42.42 82 P P 12 12 47.0 -0.7
RAMN Ramite 42.85 305 *e*P **P 12 12 53.0 +1.7**
comp=Z,13nm,0.6s
ARMA Armidale 43.19 146 P P 12 12 54.9 +1.1
H11N1 WAKE ISLAND Hy 43.36 66 T T 12 58 46.4
baz=259,slow=75,SNR=7.4
H11N2 WAKE ISLAND Hy 43.37 66 T T 12 58 45.8
H11N3 WAKE ISLAND Hy 43.37 66 T T 12 58 47.9
baz=253,slow=75,SNR=6.7
JIRN Jiri 43.47 306 *e*P **P 12 12 57.9 +1.4**
comp=Z,29nm,0.7s
GUN Gumba 43.82 306 *e*P **P 12 13 00.5 +1.2**
comp=Z,50nm,0.7s
PKI Pulchoki 44.07 305 *e*P **P 12 13 02.0 +0.7**
PKIN Phulchoki 44.08 305 *e*P **P 12 13 02.3 +1.0**
ARPS Mount Arapiles 44.13 161 P **P 12 13 01.3 +0.2**
baz=44,SNR=59
ARPS Mount Arapiles 44.13 161 P **P 12 13 02.5 +1.4**
PALK Pallekele 44.19 276 LR LR 12 35 00.7
comp=Z,240nm,18.3s,baz=196,slow=41
KKN Kakani 44.26 306 *e*P **P 12 13 03.7 +1.0**
DMN Daman 44.33 305 *e*P **P 12 13 04.3 +1.0**
YSS Yuzh-Sakhalins 44.78 17 *e*P **P 12 13 05.2 -1.0**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS Yuzh-Sakhalins 44.78 17 P **P 12 13 05.3 -0.9**
YSS IAmb IAmb 12 13 34.5
comp=Z,20nm,1.0s
BRAT Ballarat 45.55 159 P **P 12 13 14.4 +1.9**
comp=Z,26nm,0.7s
KOLN Koldanda 45.62 305 *e*P **P 12 13 15.1 +1.6**
comp=Z,83nm,0.8s
ULN Ulaanbaatar 45.70 343 ⇑*e*P **P 12 13 13.1 -0.7**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 45.70 343 P **P 12 13 12.7 -1.1**
DANN Dangsing 45.71 306 *e*P **P 12 13 15.3 +1.0**
CAN Canberra 45.72 152 P **P 12 13 12.6 -1.3**
CAN pmax pmax
comp=Z,55nm,1.1s
CAN Canberra 45.72 152 P **P 12 13 12.6 -1.3**
CAN Canberra 45.72 152 P **P 12 13 14.9 +1.0**
SONM Songino Array 45.87 343 P **P 12 13 16.1 +1.1**
comp=Z,1.3nm,0.7s,baz=179,slow=5.8,SNR=2.1
SONM LR LR 12 34 15.1
comp=Z,524nm,18.9s,baz=150,slow=38
SONM Songino Array 45.87 343 P **P 12 13 12.8 -2.3**
TOO Toolangi 46.15 157 P **P 12 13 18.6 +1.3**
baz=46,SNR=20
TOO Toolangi 46.15 157 P **P 12 13 17.7 +0.4**
TOO pmax pmax
comp=Z,62nm,1.0s
TOO Toolangi 46.15 157 P **P 12 13 17.7 +0.4**
TOO Toolangi 46.15 157 P **P 12 13 19.3 +2.0**
PYUN Piuthan 46.24 305 *e*P **P 12 13 19.9 +1.5**
comp=Z,125nm,0.9s
SANVU Saraoutou 46.27 116 P **P 12 13 17.9 -0.6**
SANVU IAmb IAmb 12 14 02.9
comp=Z,30nm,0.9s
SANVU Saraoutou 46.27 116 P **P 12 13 20.2 +1.7**
UGL Uglegorsk 46.52 15 *e*P **P 12 13 20.7 +0.7**
GRNR Gornyy 46.89 10 ⇓*i*P **P 12 13 23.1 +0.2**
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR MLR MLR
comp=E,250nm,17.0s
GRNR MLR MLR
comp=N,220nm,19.0s
GRNR MLR MLR
comp=Z,440nm,18.0s
HYBB Hyderabad (bro 47.24 289 *e*P **P 12 13 26.3 +0.2**
DZM Mont Dzumac 48.44 125 P **P 12 13 35.2 -0.2**
comp=Z,13nm,0.9s,baz=206,slow=15,SNR=8.4
DZM LR LR 12 32 30.1
comp=Z,124nm,21.4s,baz=329,slow=34
DZM Mont Dzumac 48.44 125 *e*P **P 12 13 36.7 +1.3**
comp=Z,62nm,1.2s
DZM Mont Dzumac 48.44 125 *e*LR LR 12 27 13.4
comp=Z,409nm,26.8s
DZM Mont Dzumac 48.44 125 P **P 12 13 34.0 -1.4**
DZM IAmb IAmb 12 13 44.2
comp=Z,36nm,1.2s
DZM Mont Dzumac 48.44 125 P **P 12 13 37.0 +1.6**
YATNC Mamie plateau, 48.80 125 P **P 12 13 39.4 +1.3**
ZEA Zeya 48.92 2 *e*P **P 12 13 37.6 -0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,300nm,17.0s
ZEA MLR MLR
comp=Z,300nm,19.0s
OUENC Ouen Island, N 48.93 125 P **P 12 13 38.5 -0.6**
OUENC IAmb IAmb 12 13 39.8
comp=Z,30nm,1.2s
ZAK Zakamensk 49.08 342 *e*P P 12 13 48.9 +8.9
ZAK pmax pmax
comp=Z,5.0nm,1.4s
WMQ Urumqi 50.99 326 *e*P **P 12 13 55.6 +1.0**
WMQ pP pwP 12 14 08.3 +4.2
WMQ sP sP 12 14 15.1 +15
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ LR LR
comp=Z,630nm,21.3s
WMQ LR LR
comp=Z,370nm,17.9s
WMQ LR LR
comp=Z,320nm,20.1s
PETK Petropavlovsk- 55.18 23 P **P 12 14 24.9 -0.2**
comp=Z,11nm,0.9s,baz=117,slow=0.8,SNR=9.8
PETK LR LR 12 38 01.7
comp=Z,249nm,20.3s,baz=219,slow=36
PETK Petropavlovsk- 55.18 23 P **P 12 14 25.0 -0.2**
MK31 Makanchi Array 55.83 326 *i* P **P 12 14 29.1 -0.9**
MK31 Makanchi Array 55.83 326 P **P 12 14 29.7 -0.3**
MKAR Makanchi Array 55.83 326 P **P 12 14 29.8 -0.2**
comp=Z,3.9nm,0.6s,baz=119,slow=8.1,SNR=51
MKAR LR LR 12 40 23.4
comp=Z,495nm,18.7s,baz=119,slow=38
MKAR Makanchi Array 55.83 326 P **P 12 14 29.5 -0.5**
MKAR Makanchi Array 55.83 326 P **P 12 14 29.5 -0.5**
KSH Kashi 56.20 315 P **P 12 14 34.8 +1.9**
KSH sP pwP 12 14 52.8 +10
KSH PcP **PcP 12 15 28.3 -2.3**
KSH ScS ScS 12 24 13.4 -8.5
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH LR LR
comp=Z,280nm,15.1s
KSH LR LR
comp=Z,480nm,16.7s
KSH LR LR
comp=Z,510nm,19.1s
KDJ Kajisay 56.53 319 P **P 12 14 35.4 +0.1**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
KDJ Kajisay 56.53 319 P **P 12 14 35.4 +0.1**
MSVF Nonsavu 56.81 115 ⇑*i*P **P 12 14 38.7 +1.2**
MSVF pmax pmax
comp=Z,8.0nm,1.1s
MDOK Medeo 57.10 320 P **P 12 14 40.2 +0.9**
YAK Yakutsk 57.31 3 LR LR 12 41 56.7
comp=Z,431nm,19.8s,baz=228,slow=39
YAK Yakutsk 57.31 3 *e*P **P 12 14 39.6 -0.6**
YAK *e**PP **pwP 12 14 47.7 -3.2**
YAK *e* 12 15 33.4
YAK *e* 12 16 45.8
YAK *e*S **S 12 22 33.8 -1.8**
YAK *e**SS sS 12 22 51.7 +10
YAK *e* 12 24 28.9
YAK *e*SS **SS 12 26 22.6 -2.4**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,124nm,4.2s
YAK pmax pmax
comp=E,110nm,3.7s
YAK pmax pmax
comp=N,112nm,5.2s
YAK smax smax
comp=N,300nm,5.3s
YAK smax smax
comp=E,184nm,4.7s
YAK MLR MLR
comp=Z,645nm,22.0s
YAK MLR MLR
comp=N,437nm,27.0s
YAK Yakutsk 57.31 3 P **P 12 14 39.3 -0.8**
TKM2 Tokmak 2 57.93 319 P **P 12 14 44.4 -0.8**
MA2 Magadan 58.19 15 *d*iP **P 12 14 46.5 +0.1**
MA2 *i* *PP **pwP 12 14 57.9 +1.4**
MA2 pmax pmax
comp=Z,50nm,1.3s
MA2 Magadan 58.19 15 P **P 12 14 46.5 +0.1**
MA2 IAmb IAmb 12 14 48.0
comp=Z,27nm,0.8s
AAK Ala-Archa 58.54 318 LR LR 12 43 25.4
comp=Z,454nm,21.9s,baz=98,slow=39
AAK Ala-Archa 58.54 318 ⇑*e*P **P 12 14 50.9 +1.5**
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 58.54 318 P **P 12 14 49.8 +0.3**
ZAA0 Zalesovo Array 58.99 334 P **P 12 14 49.6 -2.4**
ZALV Zalesovo Beam 58.99 334 P **P 12 14 50.1 -1.9**
comp=Z,1.1nm,0.5s,baz=129,slow=6.3,SNR=6.9
ZALV LR LR 12 42 33.1
comp=Z,411nm,18.8s,baz=120,slow=38
ZALV Zalesovo Beam 58.99 334 P **P 12 14 50.3 -1.8**
ZALV Zalesovo Beam 58.99 334 P **P 12 14 50.3 -1.8**
KBL Kabul 59.63 307 P **P 12 14 57.1 -0.1**
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 59.63 307 P **P 12 14 57.1 -0.1**
KBL IAmb IAmb 12 15 09.9
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 60.04 328 LR LR 12 43 14.8
comp=Z,217nm,18.4s,baz=104,slow=38
KURBB Kurchatov Arra 60.04 328 P **P 12 14 57.6 -1.8**
KURK Kurchatov 60.04 328 *d*iP **P 12 14 58.8 -0.6**
KURK pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 60.04 328 P **P 12 14 58.8 -0.6**
KURK IAmb IAmb 12 15 27.6
comp=Z,23nm,0.9s
GAR Garm 60.06 313 P **P 12 14 59.8 -0.1**
BTK Batken 60.06 314 P **P 12 14 59.9 -0.1**
BTK pmax pmax
comp=Z,22nm,1.0s
BTK Batken 60.06 314 P **P 12 14 59.9 -0.1**
BTK IAmb IAmb 12 15 42.4
comp=Z,22nm,1.0s
CHGR Chuyangaron 60.80 312 P **P 12 15 04.6 -0.4**

KKAR	**Karatay Array**	**61.40**	**317**	P	**P**	**12 15 08.0**	**-0.9**		
KKAR	**Karatay Array**	**61.40**	**317**	P	**P**	**12 15 08.0**	**-0.9**		
SEY	**Seymchan**	**61.48**	**14**	LR	LR	12 39 24.8			
	comp=Z,186nm,21.9s,baz=222,slow=34								
SEY	**Seymchan**	**61.48**	**14**	*i* P	**P**	**12 15 09.7**	**+0.7**		
SEY				pmax	pmax				
	comp=Z,14nm,1.2s								
SHEM	**Shemya Is, Ala**	**62.48**	**31**	LR	LR	12 41 00.8			
	comp=Z,113nm,19.6s,baz=290,slow=35								
WHZ	**Wether Hill Ro**	**63.13**	**148**	P	**P**	**12 15 20.3**	**0.0**		
RPZ	**Rata Peaks**	**63.50**	**144**	LR	LR	12 43 51.0			
	comp=Z,190nm,19.4s,baz=306,slow=37								
URZ	**Urewera**	**64.37**	**136**	LR	LR	12 45 21.0			
	comp=Z,250nm,19.1s,baz=334,slow=38								
HRA	**Herat**	**65.03**	**306**	P	**P**	**12 15 33.1**	**-0.3**		
HRA				IAmb	IAmb	12 15 45.4			
	comp=Z,15nm,1.0s								
AFI	**Afiamalu**	**65.31**	**108**	LR	LR	12 38 53.9			
	comp=Z,79nm,21.2s,baz=285,slow=31								
BRVK	**Borovoye**	**65.69**	**327**	P	**P**	**12 15 36.1**	**-0.9**		
BRVK				pmax	pmax				
	comp=Z,25nm,1.1s								
BRVK	**Borovoye**	**65.69**	**327**	P	**P**	**12 15 36.1**	**-0.9**		
BRVK				IAmb	IAmb	12 16 06.8			
	comp=Z,25nm,1.1s								
TIXI	**Tiksi**	**66.91**	**1**	LR	LR	12 48 22.3			
	comp=Z,159nm,18.5s,baz=181,slow=39								
TIXI	**Tiksi**	**66.91**	**1**	*de* P	**P**	**12 15 42.2**	**-2.3**		
TIXI				pmax	pmax				
	comp=Z,19nm,1.3s								
TIXI	**Tiksi**	**66.91**	**1**	P	**P**	**12 15 42.9**	**-1.5**		
TIXI				IAmb	IAmb	12 15 46.9			
	comp=Z,15nm,1.1s								
GEYT	**Alibeck**	**69.00**	**309**	P	**P**	**12 15 58.9**	**+0.5**		
	comp=Z,2.8nm,0.5s,baz=176,slow=22,SNR=4.6								
GEYT	**Alibeck**	**69.00**	**309**	P	**P**	**12 15 57.0**	**-1.4**		
GEYT				IAmb	IAmb	12 16 11.1			
	comp=Z,15nm,1.1s								
GYA0B	**ALIBECK ARRAY**	**69.00**	**309**	P	**P**	**12 15 56.8**	**-1.6**		
GYA0B				IAmb	IAmb	12 16 11.0			
	comp=Z,16nm,1.0s								
BILL	**Bilibino**	**69.05**	**15**	*c i* P	**P**	**12 15 56.8**	**-1.2**		
BILL				*i*		12 16 23.8			
BILL				*i*		12 18 29.8			
BILL				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,203nm,19.0s								
BILL	**Bilibino**	**69.05**	**15**	P	**P**	**12 15 57.0**	**-1.0**		
BILL				IAmb	IAmb	12 15 58.6			
	comp=Z,27nm,1.6s								
NRIK	**Noril'sk**	**69.11**	**347**	P	**P**	**12 15 57.4**	**-1.0**		
	comp=Z,1.6nm,0.5s,baz=127,slow=8.4,SNR=3.0								
NRIK				LR	LR	12 50 05.6			
	comp=Z,306nm,19.0s,baz=144,slow=39								
AB31	**Akbulak array**	**70.36**	**321**	*i* P	**P**	**12 16 05.7**	**-0.8**		
ABKAR	**Akbulak array**	**70.36**	**321**	P	**P**	**12 16 05.5**	**-0.9**		
ABKAR	**Akbulak array**	**70.36**	**321**	P	**P**	**12 16 05.8**	**-0.7**		
SOCY	**Socotra**	**70.55**	**281**	P	**P**	**12 16 06.9**	**-1.5**		
AKTO	**Aktyubinsk**	**71.88**	**322**	LR	LR	12 50 44.6			
	comp=Z,638nm,20.0s,baz=110,slow=38								
AKTO	**Aktyubinsk**	**71.88**	**322**	P	**P**	**12 16 12.8**	**-2.9**		
ARU	**Arti**	**73.24**	**328**	LR	LR	12 51 20.0			
	comp=Z,247nm,18.9s,baz=98,slow=38								
ARU	**Arti**	**73.24**	**328**	*c i* P	**P**	**12 16 26.1**	**+2.5**		
ARU						12 19 03.2			
ARU				S	**SKiKP**	**12 25 54.3**	**-0.7**		
ARU				SS	**SS**	**12 30 25.7**	**-7.2**		
ARU				pmax	pmax				
	comp=Z,13nm,1.8s								
GAMB	**Gambell**	**74.19**	**24**	IAmb	IAmb	12 16 30.6			
	comp=Z,22nm,1.2s								
GAMB	**Gambell**	**74.19**	**24**	P	**P**	**12 16 29.2**	**+0.1**		
	baz=248								
TNA	**Tin City**	**76.35**	**23**	P	**P**	**12 16 41.2**	**-0.2**		
TNA	**Tin City**	**76.35**	**23**	P	**P**	**12 16 41.3**	**-0.2**		
	baz=251								
ANM	**Nome**	**77.07**	**25**	P	**P**	**12 16 45.2**	**-0.4**		
ANM				pmax	pmax				
	comp=Z,8.0nm,1.2s								
ANM	**Nome**	**77.07**	**25**	P	**P**	**12 16 45.2**	**-0.4**		
ANM	**Nome**	**77.07**	**25**	P	**P**	**12 16 45.5**	**0.0**		
	baz=253								
KIRV	**Kirov**	**78.54**	**329**	LR	LR	12 54 58.4			
	comp=Z,433nm,20.2s,baz=97,slow=38								
RAYN	**Ar Rayn**	**78.59**	**293**	P	**P**	**12 16 54.3**	**-0.6**		
RAYN				pmax	pmax				
	comp=Z,13nm,1.0s								
RAYN	**Ar Rayn**	**78.59**	**293**	P	**P**	**12 16 54.2**	**-0.6**		
RAYN				IAmb	IAmb	12 16 58.8			
	comp=Z,13nm,1.0s								
BELG	**Belogornoye**	**78.64**	**322**	LR	LR	12 55 54.7			
	comp=Z,179nm,19.4s,baz=114,slow=39								
RDOG	**Red Dog Mine**	**78.98**	**21**	IAmb	IAmb	12 16 57.1			
	comp=Z,26nm,1.4s								
RDOG	**Red Dog Mine**	**78.98**	**21**	P	**P**	**12 16 56.3**	**+0.2**		
	baz=255								
GNI	**Garni**	**79.60**	**310**	LR	LR	12 58 07.3			
	comp=Z,84nm,19.2s,baz=89,slow=40								
ZEI	**Tsey**	**80.35**	**312**	*e* P	**P**	**12 17 06.6**	**+2.3**		
ZEI				pmax	pmax				
	comp=Z,16nm,1.3s								
GCSA	**Galena City Sc**	**80.67**	**25**	P	**P**	**12 17 05.9**	**+0.6**		
	baz=261								
SVW2	**Sparrevohn**	**80.75**	**29**	P	**P**	**12 17 06.5**	**+0.6**		
SVW2				IAmb	IAmb	12 17 07.4			
	comp=Z,20nm,1.2s								
TTA	**Tatalina**	**80.79**	**27**	IAmb	IAmb	12 17 09.8			
	comp=Z,25nm,1.4s								
TTA	**Tatalina**	**80.79**	**27**	P	**P**	**12 17 06.2**	**+0.1**		
	baz=262								
VOI	**Vohitsoka**	**80.92**	**247**	P	**P**	**12 17 06.9**	**-0.8**		
VOI				IAmb	IAmb	12 17 10.7			
	comp=Z,13nm,0.8s								
VOI	**Vohitsoka**	**80.92**	**247**	P	**P**	**12 17 10.1**	**+2.4**		
KBZ	**Khabaz**	**81.12**	**313**	LR	LR	12 57 44.9			
	comp=Z,329nm,20.6s,baz=77,slow=39								
L19K	**White Mountain**	**81.23**	**28**	P	**P**	**12 17 08.4**	**0.0**		
L19K				IAmb	IAmb	12 17 10.5			
	comp=Z,20nm,1.1s								
L19K	**White Mountain**	**81.23**	**28**	P	**P**	**12 17 08.3**	**-0.1**		
	baz=263								
N19K	**Bonanza Creek**	**81.25**	**29**	IAmb	IAmb	12 17 10.2			
	comp=Z,25nm,1.1s								
N19K	**Bonanza Creek**	**81.25**	**29**	P	**P**	**12 17 08.6**	**-0.1**		
	baz=264								
O19K	**Port Alsworth**	**81.27**	**30**	IAmb	IAmb	12 17 59.3			
	comp=Z,24nm,1.4s								
O19K	**Port Alsworth**	**81.27**	**30**	P	**P**	**12 17 08.8**	**+0.3**		
	baz=264								
KIV	**Kislovodsk**	**81.28**	**314**	*e* P	**P**	**12 17 09.5**	**+0.4**		
KIV				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,248nm,19.0s								
M19K	**Big River Lodg**	**81.41**	**28**	P	**P**	**12 17 10.1**	**+0.8**		
M19K				IAmb	IAmb	12 17 51.6			
	comp=Z,32nm,1.5s								
M19K	**Big River Lodg**	**81.41**	**28**	P	**P**	**12 17 10.2**	**+0.8**		
	baz=264								
ATD	**Arta Tunnel**	**81.47**	**281**	LR	LR	12 51 42.6			
	comp=Z,75nm,21.4s,baz=123,slow=34								
GURO	**Guroymak-BITLI**	**81.65**	**308**	P	**P**	**12 17 11.0**	**-0.3**		
GURO				IAmb	IAmb	12 17 17.5			
	comp=Z,16nm,1.0s								
L20K	**Farewell, AK**	**81.71**	**28**	P	**P**	**12 17 11.6**	**+0.7**		
	baz=264								
K20K	**Telida**	**81.72**	**27**	IAmb	IAmb	12 17 12.7			
	comp=Z,17nm,1.1s								
K20K	**Telida**	**81.72**	**27**	P	**P**	**12 17 11.7**	**+0.8**		
	baz=264								
J20K	**Nowinta River**	**81.77**	**26**	IAmb	IAmb	12 17 12.8			
	comp=Z,13nm,1.1s								
J20K	**Nowinta River**	**81.77**	**26**	P	**P**	**12 17 11.7**	**+0.6**		
	baz=264								
A21K	**Barrow**	**81.83**	**19**	P	**P**	**12 17 11.4**	**+0.1**		
	baz=260,SNR=24								
KDAK	**Kodiak Island**	**81.96**	**32**	LR	LR	12 48 40.4			
	comp=Z,256nm,22.0s,baz=266,slow=32								
H21K	**Melozitna Rive**	**82.49**	**24**	IAmb	IAmb	12 17 16.5			
	comp=Z,18nm,1.4s								
H21K	**Melozitna Rive**	**82.49**	**24**	P	**P**	**12 17 15.4**	**+0.4**		
	baz=265								
PPLA	**Purkeypile**	**82.53**	**27**	IAmb	IAmb	12 17 16.9			
	comp=Z,37nm,1.5s								
PPLA	**Purkeypile**	**82.53**	**27**	P	**P**	**12 17 15.1**	**-0.3**		
	baz=266								
CHUM	**Lake Minchumin**	**82.55**	**26**	P	**P**	**12 17 15.9**	**+0.7**		
	baz=265,SNR=11								
CAST	**Castle Rocks**	**82.61**	**27**	IAmb	IAmb	12 17 16.6			
	comp=Z,18nm,1.0s								
CAST	**Castle Rocks**	**82.61**	**27**	P	**P**	**12 17 15.8**	**+0.1**		
	baz=266,SNR=17								
I21K	**Tanana**	**82.79**	**25**	IAmb	IAmb	12 17 18.7			
	comp=Z,18nm,0.9s								
I21K	**Tanana**	**82.79**	**25**	P	**P**	**12 17 16.8**	**+0.3**		
	baz=266								
BRSE	**Bradley Lake S**	**83.03**	**31**	P	**P**	**12 17 16.3**	**-1.6**		
	baz=267								
BPAW	**Bear Paw Mtn.**	**83.15**	**26**	P	**P**	**12 17 18.3**	**-0.1**		
	baz=267,SNR=21								
MLY	**Manley**	**83.31**	**25**	IAmb	IAmb	12 17 21.0			
	comp=Z,24nm,1.1s								
MLY	**Manley**	**83.31**	**25**	P	**P**	**12 17 19.1**	**-0.1**		
	baz=267,SNR=31								
CUT	**Chulitna**	**83.38**	**28**	P	**P**	**12 17 18.1**	**-1.5**		
	baz=267								
TRF	**Thorofare Moun**	**83.42**	**27**	IAmb	IAmb	12 17 23.1			
	comp=Z,26nm,1.2s								
TRF	**Thorofare Moun**	**83.42**	**27**	P	**P**	**12 17 19.5**	**-0.5**		
	baz=267,SNR=12								
M22K	**Willow**	**83.42**	**28**	P	**P**	**12 17 19.2**	**-0.6**		
	baz=268,SNR=16								
O22K	**Cooper Landing**	**83.57**	**30**	P	**P**	**12 17 19.9**	**-0.7**		
	baz=268								
RC01	**Rabbit Creek A**	**83.58**	**29**	IAmb	IAmb	12 17 24.6			
	comp=Z,18nm,0.8s								
RC01	**Rabbit Creek A**	**83.58**	**29**	P	**P**	**12 17 20.2**	**-0.5**		
	baz=268,SNR=9.0								
COLD	**Coldfoot**	**83.65**	**23**	IAmb	IAmb	12 17 23.1			
	comp=Z,20nm,1.0s								
COLD	**Coldfoot**	**83.65**	**23**	P	**P**	**12 17 21.3**	**+0.4**		
	baz=267,SNR=20								
SEW	**Seward**	**83.69**	**30**	P	**P**	**12 17 21.3**	**+0.1**		
	baz=268,SNR=8.9								
KLMR	**Klimovskoe**	**83.76**	**331**	*e* P	**P**	**12 17 18.1**	**-3.4**		
KLMR				pmax	pmax				
	comp=Z,23nm,1.3s								
KLMR	**Klimovskoe**	**83.76**	**331**	*e* P	**P**	**12 17 18.2**	**-3.3**		
KLMR				AMP		12 17 24.8			
	comp=Z,23nm,1.3s								
PMR	**Palmer**	**83.89**	**29**	IAmb	IAmb	12 17 22.9			
	comp=Z,19nm,1.0s								
PMR	**Palmer**	**83.89**	**29**	P	**P**	**12 17 21.5**	**-0.7**		
	baz=268,SNR=12								
I23K	**Minto, Yukon-K**	**83.90**	**25**	P	**P**	**12 17 22.5**	**+0.3**		
	baz=268,SNR=29								
TOLK	**Toolik Lake Re**	**83.95**	**22**	P	**P**	**12 17 23.1**	**+0.6**		
	baz=267,SNR=18								
NEA2	**Nenana**	**84.00**	**26**	IAmb	IAmb	12 17 24.8			
	comp=Z,18nm,0.9s								
NEA2	**Nenana**	**84.00**	**26**	P	**P**	**12 17 22.8**	**0.0**		
	baz=268,SNR=20								
MCK	**McKinley**	**84.04**	**27**	P	**P**	**12 17 22.5**	**-0.5**		
	baz=268,SNR=16								
RND	**Reindeer**	**84.06**	**27**	IAmb	IAmb	12 17 23.7			
	comp=Z,30nm,1.4s								
KNK	**Knik Glacier**	**84.21**	**29**	P	**P**	**12 17 23.9**	**0.0**		
	baz=269,SNR=8.8								
PWL	**Port Wells**	**84.26**	**29**	P	**P**	**12 17 24.0**	**-0.2**		
	baz=269,SNR=8.7								
SML	**Sawmill**	**84.28**	**28**	P	**P**	**12 17 24.0**	**-0.3**		
	baz=269,SNR=8.6								
MDM	**Murphy Dome**	**84.37**	**25**	IAmb	IAmb	12 17 27.3			
	comp=Z,12nm,1.0s								
WRH	**Wood River Hil**	**84.42**	**26**	IAmb	IAmb	12 17 25.5			
	comp=Z,21nm,1.1s								
TCOL	**CIGO, UAF Yank**	**84.53**	**25**	P	**P**	**12 17 24.6**	**-0.8**		
TCOL				IAmb	IAmb	12 17 27.5			
	comp=Z,20nm,1.4s								
TCOL	**CIGO, UAF Yank**	**84.53**	**25**	P	**P**	**12 17 24.4**	**-0.9**		
	baz=269								
COLA	**College**	**84.53**	**25**	P	**P**	**12 17 24.6**	**-0.8**		
COLA				pmax	pmax				
	comp=Z,18nm,1.4s								
COLA	**College**	**84.53**	**25**	P	**P**	**12 17 24.6**	**-0.8**		
COLA				IAmb	IAmb	12 17 27.5			
	comp=Z,18nm,1.4s								
H24K	**Noodor Dome**	**84.53**	**24**	IAmb	IAmb	12 17 28.5			
	comp=Z,15nm,0.8s								
H24K	**Noodor Dome**	**84.53**	**24**	P	**P**	**12 17 26.0**	**+0.5**		
	baz=269								
CCB	**Clear Creek Bu**	**84.55**	**26**	P	**P**	**12 17 24.9**	**-0.6**		
CCB				IAmb	IAmb	12 17 25.9			
	comp=Z,19nm,1.1s								
WAT6	**Susitna Watana**	**84.56**	**28**	P	**P**	**12 17 25.5**	**-0.3**		
	baz=270,SNR=12								
VNDA	**Vanda**	**84.59**	**172**	P	**P**	**12 17 25.4**	**-0.1**		
	comp=Z,3.1nm,0.8s,baz=344,slow=2.9,SNR=11								
VNDA				LR	LR	12 56 57.4			
	comp=Z,57nm,18.3s,baz=323,slow=37								
VNDA	**Vanda**	**84.59**	**172**	P	**P**	**12 17 25.3**	**-0.1**		
VNDA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
VNDA	**Vanda**	**84.59**	**172**	P	**P**	**12 17 25.3**	**-0.1**		
DHY	**Denali Highway**	**84.73**	**27**	P	**P**	**12 17 26.2**	**-0.5**		
	baz=270								
SCM	**Sheep Creek Mo**	**84.75**	**28**	P	**P**	**12 17 26.6**	**-0.1**		
	baz=270								
HDA	**Harding Lake**	**84.92**	**26**	IAmb	IAmb	12 17 27.3			
	comp=Z,10nm,0.8s								
HDA	**Harding Lake**	**84.92**	**26**	P	**P**	**12 17 26.3**	**-1.1**		
	baz=270,SNR=11								
IL31		**84.94**	**25**	IAmb	IAmb	12 17 34.4			
	comp=Z,10.0nm,1.1s								
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**12 17 26.2**	**-1.3**		
	comp=Z,4.7nm,0.9s,baz=256,slow=4.3,SNR=36								
ILAR				LR	LR	12 57 28.9			
	comp=Z,31nm,20.2s,baz=256,slow=37								
M24K	**Tolsona, Glenn**	**85.29**	**28**	P	**P**	**12 17 29.5**	**+0.1**		
M24K	**Tolsona, Glenn**	**85.29**	**28**	P	**P**	**12 17 30.1**	**+0.6**		
	baz=271,SNR=6.5								
OBN	**Obninsk**	**85.32**	**325**	LR	LR	12 58 05.8			
	comp=Z,101nm,20.1s,baz=24,slow=37								
OBN	**Obninsk**	**85.32**	**325**	*i* P	**P**	**12 17 27.0**	**-2.6**		
OBN				*i*		12 17 33.2			
OBN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,389nm,20.0s								
KLU	**Klutina**	**85.43**	**29**	P	**P**	**12 17 29.4**	**-0.8**		
KLU	**Klutina**	**85.43**	**29**	P	**P**	**12 17 30.1**	**0.0**		
	baz=271								
J25K	**Salcha River,**	**85.60**	**26**	P	**P**	**12 17 29.8**	**-1.1**		
	baz=272,SNR=6.8								
PAX	**Paxson**	**85.60**	**27**	P	**P**	**12 17 30.6**	**-0.3**		
PAX				pmax	pmax				
	comp=Z,11nm,1.2s								
PAX	**Paxson**	**85.60**	**27**	P	**P**	**12 17 30.6**	**-0.3**		
PAX	**Paxson**	**85.60**	**27**	P	**P**	**12 17 30.8**	**-0.1**		
	baz=272,SNR=6.2								
HARP	**HAARP**	**85.76**	**28**	P	**P**	**12 17 31.8**	**+0.1**		
	baz=272								
RIDG	**Independent Ri**	**85.86**	**26**	IAmb	IAmb	12 18 09.4			
	comp=Z,17nm,1.1s								
RIDG	**Independent Ri**	**85.86**	**26**	P	**P**	**12 17 32.2**	**0.0**		
	baz=272,SNR=6.6								
SCRK	**Sand Creek**	**86.23**	**26**	P	**P**	**12 17 34.3**	**+0.2**		
	baz=273								
J26L	**Joseph Creek**	**86.38**	**26**	P	**P**	**12 17 34.1**	**-0.7**		
	baz=273								
L26K	**Log Cabin Wild**	**86.56**	**27**	P	**P**	**12 17 35.4**	**-0.3**		
	baz=274								
PPT2	**Papeete2**	**86.98**	**108**	*e* LR	LR	12 45 01.2			
	comp=Z,182nm,24.2s								
MMAI	**Mount Meron Ar**	**87.20**	**303**	LR	LR	13 02 20.2			
	comp=Z,90nm,21.4s,baz=238,slow=39								
L27K	**Beaver Creek,**	**87.25**	**27**	P	**P**	**12 17 39.1**	**+0.1**		
	baz=275								
M27K	**Edge Creek, AK**	**87.29**	**28**	P	**P**	**12 17 39.7**	**+0.4**		
	baz=275								
EGAK	**Eagle**	**87.39**	**25**	P	**P**	**12 17 39.2**	**-0.4**		
	baz=275								
CTG	**Chitna Glacier**	**87.67**	**29**	P	**P**	**12 17 40.5**	**-0.7**		
	baz=275								
CTGM	**Chitina Glacie**	**87.67**	**29**	IAmb	IAmb	12 17 47.6			
	comp=Z,8.5nm,0.9s								
TBI	**Tubuai**	**87.69**	**114**	*e* LR	LR	12 45 20.5			
	comp=Z,239nm,34.8s								
KMBO	**Kilima Mbogo**	**87.92**	**269**	LR	LR	12 53 56.7			
	comp=Z,147nm,21.9s,baz=90,slow=33								
BRTR	**Keskin Array B**	**88.14**	**310**	P	**P**	**12 17 46.3**	**+2.4**		
	comp=Z,2.2nm,0.7s,baz=111,slow=7.0,SNR=6.5								
BRTR				LR	LR	13 00 29.4			
	comp=Z,79nm,21.8s,baz=100,slow=38								
DAWY	**Dawson**	**88.23**	**26**	P	**P**	**12 17 43.0**	**-0.7**		
DAWY	**Dawson**	**88.23**	**26**	P	**P**	**12 17 43.5**	**-0.2**		
	baz=277								
EPYK	**Eagle Plains**	**89.02**	**24**	IAmb	IAmb	12 17 47.8			
	comp=Z,16nm,1.1s								
EPYK	**Eagle Plains**	**89.02**	**24**	P	**P**	**12 17 47.1**	**-0.3**		
	baz=279								
SPITS	**Spitsbergen Ar**	**89.21**	**349**	LR	LR	13 04 47.7			
	comp=Z,130nm,18.4s,baz=245,slow=40								
M30M	**Minto, Yukon**	**89.61**	**27**	P	**P**	**12 17 50.3**	**+0.1**		
	baz=279								
INK	**Inuvik**	**89.87**	**21**	P	**P**	**12 17 49.8**	**-1.4**		
	baz=282								
AKASG	**Malin Array Be**	**90.10**	**321**	LR	LR	13 04 25.5			
	comp=Z,190nm,18.1s,baz=70,slow=40								
FINES	**FINESS Array B**	**90.20**	**332**	P	**P**	**12 17 50.4**	**-2.5**		
	comp=Z,1.0nm,0.6s,baz=64,slow=4.4,SNR=5.2								
FINES				LR	LR	13 03 08.1			
	comp=Z,200nm,19.9s,baz=84,slow=39								
FINES	**FINESS Array B**	**90.20**	**332**	*i* P	**P**	**12 17 51.9**	**-1.0**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MNK	**Minsk**	**90.38**	**325**	*i* P	**P**	**12 17 52.9**	**-1.0**		
MNK				*i* S	**SKSac**	**12 28 21.0**	**-3.6**		
MNK				pmax	pmax				
	comp=Z,12nm,0.8s								
MNK				pmax	pmax				
	comp=N,23nm,0.9s								
MNK				pmax	pmax				
	comp=E,1.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,273nm,20.0s								
MNK				MLR	MLR				
	comp=E,46nm,20.0s								
MNK				MLR	MLR				
	comp=N,640nm,20.0s								
MNK	**Minsk**	**90.38**	**325**	*i* P	**P**	**12 17 52.9**	**-1.0**		
	comp=E,1.0nm,0.9s								
MNK				*i* P	**P**	**12 17 52.9**	**-1.0**		
	comp=N,23nm,0.9s								
MNK				*i* P	**P**	**12 17 52.9**	**-1.0**		
	comp=Z,12nm,0.8s,baz=81								
MNK				*i* PP	PP	12 21 13.6	-14		
MNK				*i* PPP	PPP	12 24 03.6			
MNK				*i* S	**SKSac**	**12 28 21.0**	**-3.6**		
MNK				*i* SKKS		12 31 51.9			
MNK				*i* SS	SS	12 34 34.1	-14		
MNK				*i* SSS	SSS	12 37 58.6			
MNK				*i* LQ	LQ	12 49 41.6			
MNK				*i* LR	LR	12 54 57.2			
MNK				*i* LRM	MLR	12 59 56.0			
	comp=Z,273nm,19.9s								
MNK				*i* LRM	MLR	12 59 57.0			
	comp=E,46nm,19.7s								
MNK				*i* LRM	MLR	13 00 18.1			
	comp=N,640nm,19.6s								
WHY	**Whitehorse**	**90.85**	**29**	P	**P**	**12 17 56.3**	**+0.2**		
	baz=281								
FARO	**Faro, Yukon**	**91.25**	**27**	P	**P**	**12 17 57.3**	**-0.5**		
	baz=282								
A36M	**Sachs Harbour**	**91.55**	**17**	IAmb	IAmb	12 18 01.8			
	comp=Z,7.1nm,0.9s								
A36M	**Sachs Harbour**	**91.55**	**17**	P	**P**	**12 17 58.4**	**-0.5**		
	baz=290								
MMPY	**Sheldon Lake,**	**92.10**	**27**	P	**P**	**12 18 01.9**	**+0.1**		
	baz=284								
SYO	**Syowa Base**	**92.73**	**201**	*e* PcP	**PcP**	**12 18 06.8**	**+1.7**		
C36M	**Paulatuk**	**92.85**	**19**	IAmb	IAmb	12 18 06.9			
	comp=Z,5.2nm,1.0s								
C36M	**Paulatuk**	**92.85**	**19**	P	**P**	**12 18 03.7**	**-1.3**		
	baz=291								
MLR	**Muntele Rosu**	**93.06**	**316**	LR	LR	13 04 28.3			
	comp=Z,307nm,21.9s,baz=68,slow=38								
TGTN	**Hyland Airport**	**93.75**	**27**	P	**P**	**12 18 09.3**	**-0.2**		
	baz=287								
DLBC	**Dease Lake**	**93.76**	**31**	LR	LR	12 54 49.9			
	comp=Z,247nm,21.8s,baz=289,slow=32								
MBAR	**Mbarara**	**94.37**	**270**	LR	LR	12 57 46.8			
	comp=Z,101nm,20.8s,baz=56,slow=34								
QSPA	**South Pole Qui**	**94.60**	**180**	LR	LR	13 01 29.4			
	comp=Z,150nm,19.9s,baz=335,slow=36								
TAOE	**Nuku Hiva Isla**	**95.42**	**98**	*e* LR	LR	12 48 58.4			
	comp=Z,338nm,25.2s								
HFS	**Hagfors**	**96.40**	**332**	LR	LR	13 04 30.5			
	comp=Z,325nm,20.3s,baz=62,slow=37								
BBB	**Bella Bella**	**96.51**	**36**	LR	LR	12 55 23.5			
	comp=Z,64nm,21.9s,baz=282,slow=31								
RES	**Resolute Bay**	**97.15**	**10**	LR	LR	13 04 28.8			
	comp=Z,94nm,22.0s,baz=280,slow=37								
RES	**Resolute Bay**	**97.15**	**10**	IAmb	IAmb	12 18 24.4			
	comp=Z,4.3nm,1.1s								
NOA	**NORSAR Array B**	**97.19**	**333**	LR	LR	13 05 51.0			
	comp=Z,325nm,20.6s,baz=75,slow=38								
MATP	**Matopo**	**97.78**	**250**	LR	LR	13 02 41.6			
	comp=Z,92nm,18.1s,baz=87,slow=35								
LSZ	**Lusaka**	**97.85**	**255**	LR	LR	13 00 15.4			
	comp=Z,185nm,20.1s,baz=110,slow=34								
VRAC	**Vranov**	**98.35**	**321**	LR	LR	13 07 20.0			
	comp=Z,196nm,19.4s,baz=74,slow=38								
JMIC	**Jan Mayen**	**98.53**	**346**	LR	LR	13 10 38.3			
	comp=Z,70nm,18.1s,baz=65,slow=40					

LVZ	**Lovozero**	**1.56**	**82**	P	Pn	12 06 32.8	-1.3
LVZ				S	Sn	12 06 52.9	-2.1
KEV	**Kevo**	**2.41**	**329**	*eP*	Pn	12 06 43.6	-2.0

KOLA 16 12:06:34.7, 67°.57N×30°.65E, h0km, ML2.3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.90**	**87**	P	Pg	12 06 51.2	-0.6
APA0				S	Sg	12 07 02.4	-1.1
LVZ	**Lovozero**	**1.56**	**76**	P	Pn	12 07 01.5	-2.2
LVZ				S	Sn	12 07 23.2	-1.4
PRVG	**Vayda Guba**	**2.25**	**14**	P	Pn	12 07 12.2	-0.9
PRVG				S	Sn	12 07 40.8	-0.8
ARCES	**ARCESS Array B**	**2.73**	**319**	S	Sn	12 07 53.0	-0.3

*DJA **16** 12:15:38.7±1.8, 4°.1N±17°.1×12°.8E±°, h10km, M4.4/7, mb4.7/5, mB5.1/2, MLv4.3/7, Mw(mB)4.5/2*
*IDC **16** 12:15:43.4±2.0, 4°.26N×127°.90E, h89km±20km, mb3.7/10, mb1 3.8/12, mb1mx3.5/50, mbtmp4.0/12, Error ellipse: s-maj=36.8km s-min=10.9km az=67.0*
*NEIC **16** 12:15:43.3±1.1, 4°.24N±0°.06×127°.85E±0°.05, h79km±8km, mb4.4/22, Error ellipse: s-maj=10.2km s-min=3.6km az=139.0*
ISC 16 12:15:44.0±0.5, **4°.16N**±0°.06×**127°.79E**±0°.08, **h100**km, **n49,** σ1s**36**/50, **mb4.2**/19, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.39**	**187**		**Pn**	**12 16 36.0**	**+1.0**
TNTI	**Ternate**	**3.39**	**187**	P	**Pn**	**12 16 36.4**	**+1.4**
DAV	**Davao City (W)**	**3.64**	**323**	P	**Pn**	**12 16 35.8**	**-2.6**
	84nm,0.3s,baz=144,slow=16,SNR=2.3						
DAV				S	**Sn**	**12 17 20.6**	**+0.2**
	49nm,0.3s,baz=226,slow=23,SNR=1.3						
DAV	**Davao City (W)**	**3.64**	**323**		**Pn**	**12 16 35.6**	**-2.8**
LBMI	**Labuha**	**4.77**	**183**	P	**Pn**	**12 16 55.5**	**+1.8**
	0.2nm65nm,0.8s						
SWI	**Sorong**	**6.07**	**145**	P	**Pn**	**12 17 10.6**	**-0.8**
	0.2nm38nm,0.7s						
SIJI	**Sorong**	**6.08**	**145**	P	**Pn**	**12 17 10.4**	**-1.0**
	7.6nm,0.3s,baz=106,slow=12,SNR=23						
SIJI				S	**Sn**	**12 18 15.8**	**-3.9**
	1.5nm,0.3s,baz=167,slow=23,SNR=1.8						
SANI	**Sanana**	**6.42**	**196**	P	**Pn**	**12 17 15.0**	**-1.1**
	2µm55nm,0.5s						
MRSI	**Marisa**	**6.89**	**238**	P	**Pn**	**12 17 24.1**	**+1.6**
LUWI	**Luwuk**	**7.20**	**224**	Pn	**Pn**	**12 17 25.4**	**-1.2**
TOLI2	**Tolitoli**	**7.63**	**247**	Pn	**Pn**	**12 17 33.4**	**+0.9**
SBUM	**Sibu**	**15.64**	**264**		**P**	**12 19 20.2**	**-0.8**
KSM	**Kuching**	**17.66**	**262**	P	**Pn**	**12 19 44.7**	**+0.8**
KSM				IAmb	IAmb	12 19 45.5	
	comp=Z,13nm,0.6s						
KNRA	**Kununurra**	**19.73**	**177**	P	**P**	**12 20 04.4**	**-1.5**
KNRA				IAmb	IAmb	12 20 11.4	
	comp=Z,35nm,1.1s						
YULB	**Yu-li**	**20.13**	**342**	P	Pn	12 20 09.4	-3.5
WB0	**Warramunga Arr**	**24.64**	**165**	P	**P**	**12 20 56.2**	**+0.8**
WRAB	**Tennant Creek**	**24.79**	**165**	P	**P**	**12 20 57.5**	**+0.7**
WRA	**Warramunga Arr**	**24.80**	**165**	P	**P**	**12 20 57.5**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=345,slow=10,SNR=11						
WRA	**Warramunga Arr**	**24.80**	**165**	P	**P**	**12 20 57.4**	**+0.6**
WB2	**Warramunga Arr**	**24.80**	**165**	P	**P**	**12 20 58.1**	**+1.2**
WB2				IAmb	IAmb	12 21 16.9	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**24.87**	**165**	P	**P**	**12 20 58.5**	**+1.0**
WR0				IAmb	IAmb	12 21 15.1	
	comp=Z,18nm,1.4s						
ASAR	**Alice Springs**	**28.29**	**168**	P	**P**	**12 21 29.5**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=357,slow=8.9,SNR=9.2						
KSRS	**Korea Array**	**33.14**	**0**	P	**P**	**12 22 10.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=169,slow=10,SNR=5.1						
FORT	**Forrest**	**34.74**	**180**	P	**P**	**12 22 24.9**	**+0.3**
JMM	**Marumori**	**35.60**	**18**	P	**P**	**12 22 32.8**	**+0.8**
EIDS	**Eidsvold**	**37.05**	**144**	P	**P**	**12 22 44.8**	**+0.3**
BBOO	**Buckleboo**	**37.59**	**169**	P	**P**	**12 22 50.5**	**+1.5**
STKA	**Stephens Creek**	**38.17**	**161**	P	**P**	**12 22 55.9**	**+2.1**
	comp=Z,4.0nm,0.9s,baz=354,slow=7.8,SNR=6.2						
STKA	**Stephens Creek**	**38.17**	**161**	P	**P**	**12 22 55.2**	**+1.4**
PETK	**Petropavlovsk**	**54.64**	**22**	P	**P**	**12 25 03.6**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=186,slow=2.9,SNR=1.4						
PETK	**Petropavlovsk**	**54.64**	**22**	P	**P**	**12 25 03.4**	**+1.0**
MK31	**Makanchi Array**	**57.82**	**325**	P	**P**	**12 25 25.9**	**+0.8**
MK31				IAmb	IAmb	12 25 26.8	
	comp=Z,1.3nm,1.0s						
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**	**12 25 26.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**	**12 25 25.8**	**+0.7**
MAKZ	**Makanchi**	**58.01**	**324**	P	**P**	**12 25 23.9**	**-2.6**
MAKZ				IAmb	IAmb	12 25 28.5	
	comp=Z,7.6nm,1.5s						
ZALV	**Zalesovo Beam**	**60.70**	**332**	P	**P**	**12 25 44.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=101,slow=7.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.96**	**327**	P	**P**	**12 25 53.1**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=255,slow=15,SNR=5.8						
KURK	**Kurchatov**	**61.96**	**327**	P	**P**	**12 25 54.0**	**+0.7**
KURK				IAmb	IAmb	12 25 54.7	
	comp=Z,2.6nm,0.7s						
KKAR	**Karatay Array**	**63.65**	**317**	P	**P**	**12 26 04.9**	**+0.1**
TIXI	**Tiksi**	**67.41**	**0**	P	**P**	**12 26 27.6**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=87,slow=23,SNR=9.5						
ABKAR	**Akbulak array**	**72.50**	**320**	P	**P**	**12 27 00.7**	**+0.8**
ANM	**Nome**	**76.45**	**24**	P	**P**	**12 27 23.5**	**+1.0**
ANM				IAmb	IAmb	12 27 39.7	
	comp=Z,4.2nm,1.4s						
IMAR	**Indian Mountai**	**81.53**	**24**	P	**P**	**12 27 51.6**	**+1.3**
PPLA	**Purkeypile**	**81.77**	**27**	P	**P**	**12 27 52.8**	**+1.1**
PPLA				IAmb	IAmb	12 27 58.0	
	comp=Z,9.9nm,1.4s						
MLY	**Manley**	**82.65**	**25**	P	**P**	**12 27 57.1**	**+1.0**
MLY				IAmb	IAmb	12 27 59.0	
	comp=Z,2.9nm,1.1s						
ILAR	**Eielson Array**	**84.27**	**25**	P	**P**	**12 28 04.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=246,slow=6.5,SNR=5.1						
SBA	**Scott Base**	**84.61**	**172**	P	**P**	**12 28 03.3**	**-2.5**
SBA				IAmb	IAmb	12 28 04.1	
	comp=Z,10nm,1.3s						
BCAR	**Beaver Creek A**	**86.52**	**27**	P	**P**	**12 28 16.7**	**+1.0**
WHY	**Whitehorse**	**90.00**	**29**	P	**P**	**12 28 33.0**	**+0.6**

TAP 16 12:20:16.9, 23°.64N×121°.45E, h28km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.04**	**316**	*i* P	Pb	12 20 21.9	+0.4
	baz=315						
EGFH				*i* S	Sb	12 20 25.6	+0.8
	baz=315						
TEGC	**Jichi Village**	**0.10**	**50**	P	Pb	12 20 22.2	+0.3
	baz=53						
TEGC				S	Sb	12 20 26.4	+1.1
	baz=53						
HGSD	**Ruisui**	**0.15**	**190**	P	Pn	12 20 23.2	-0.2
	baz=190						
HGSD				*e*S	Sb	12 20 27.0	+1.0
	baz=190						
ESL	**Shilin**	**0.17**	**354**	*i* P	Pb	12 20 22.6	+0.1
	baz=355						
ESL				*i* S	Sb	12 20 26.7	+0.3
	baz=355						
EHY	**Hungye**	**0.18**	**222**	P	Pb	12 20 23.1	+0.4
	baz=219						
EHY				S	Sb	12 20 27.6	+1.0
	baz=219						
YULB	**Yu-li**	**0.29**	**210**	P	Pb	12 20 24.3	+0.3
	baz=210						
YULB				S	Sb	12 20 29.6	+0.8
	baz=210						
VWDT	**VWDT**	**0.31**	**291**	P	Pn	12 20 25.6	0.0
	baz=290						
TWF1	**Yuli**	**0.32**	**207**	P	Pb	12 20 24.8	+0.4
	baz=205						
TWF1				S	Sb	12 20 30.6	+1.0
	baz=205						
OWD	**Renai**	**0.40**	**321**	P	Pn	12 20 26.4	-0.6
	baz=320						
OWD				S	Sn	12 20 32.8	-0.9
	baz=320						
TWD	**Chiawan**	**0.45**	**17**	P	Pn	12 20 27.1	-0.5
	baz=17						
TWD				S	Sn	12 20 34.5	-0.3
	baz=17						
WUSB	**Renai**	**0.46**	**318**	P	Pn	12 20 27.7	-0.1
	baz=318						
WHF	**Hehuan Shan**	**0.53**	**341**	P	Pb	12 20 27.9	-0.1
	baz=341						

*IDC **16** 12:40:57.2±2.0, 24°.04S×66°.86W, h168km±19km, mb3.2/2, mb1 3.5/7, mb1mx3.3/37, mbtmp3.8/7, Error ellipse: s-maj=30.0km s-min=21.2km az=170.0*
*GUC **16** 12:40:59.9±0.5, 23°.99S×67°.49W, h224km±5km, ML4.2*
*VAO **16** 12:41:00.3±0.5, 24°.05S×67°.19W, h228km, mb3.9*
ISC 16 12:40:58.4±0.7, **24°.02S**±0°.05×**67°.26W**±0°.08, **h209**km±10km, **n57,** σ0s**99**/72, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.06**	**312**	P	**Pn**	**12 41 39.3**	**+0.7**
	12nm,0.3s,baz=125,slow=8.3,SNR=71						
LVC				S	**S**	**12 42 09.4**	**-0.1**
	50nm,0.3s,baz=17,slow=22,SNR=58						
LVC	**Limon Verde**	**2.06**	**312**	*e*P	**Pn**	**12 41 39.3**	**+0.7**
LVC				*i* S	**S**	**12 42 09.3**	**-0.1**
PB15	**IPOC Station P**	**2.18**	**291**	*e*P	**Pn**	**12 41 40.5**	**+0.9**
PB15				*i* S	**S**	**12 42 11.1**	**-0.2**
GO02	**Mina Guanaco**	**2.41**	**241**	*e*P	**Pn**	**12 41 42.6**	**+0.5**
GO02				*i* S	**S**	**12 42 16.1**	**+0.3**
GO02				IAML		12 42 18.9	
	comp=N,781nm,0.1s						
PB06	**IPOC Station P**	**2.49**	**301**	*e*P	**Pn**	**12 41 43.5**	**+0.6**
PB06				*i* S	**S**	**12 42 16.9**	**-0.3**
PB06				IAML		12 42 18.8	
	comp=N,1µm,0.5s						
PB09	**IPOC Station P**	**2.87**	**320**	*e*P	**Pn**	**12 41 48.5**	**+1.3**
PB09				*i* S	**S**	**12 42 24.8**	**0.0**
PB09				IAML		12 42 26.8	
	comp=E,300nm,0.4s						
PB14	**IPOC Station P**	**2.93**	**257**	*e*P	**Pn**	**12 41 48.4**	**+0.5**
PB14				*i* S	**S**	**12 42 25.6**	**-0.7**
PB10	**IPOC Station P**	**3.06**	**279**	*e*P	**Pn**	**12 41 49.6**	**+0.4**
PB10				*i* S	**S**	**12 42 26.8**	**-1.6**
PB10				IAML		12 42 39.1	
	comp=N,133nm,0.2s						
PB04	**IPOC Station P**	**3.14**	**302**	*e*P	**Pn**	**12 41 50.8**	**+0.5**
PB04				*i* S	**S**	**12 42 29.3**	**-1.2**
PB04				IAML		12 42 37.1	
	comp=N,537nm,0.3s						
PB07	**IPOC Station P**	**3.32**	**313**	*e*P	**Pn**	**12 41 53.1**	**+0.6**
PB07				*i* S	**S**	**12 42 33.2**	**-1.2**
PB01	**IPOC Station P**	**3.60**	**325**	*e*P	**Pn**	**12 41 56.3**	**+0.5**
PB01				*i* S	**S**	**12 42 39.4**	**-1.0**
PB02	**IPOC Station P**	**3.62**	**317**	*e*P	**Pn**	**12 41 56.6**	**+0.6**
PB02				*i* S	**S**	**12 42 39.4**	**-1.4**
PB08	**IPOC Station P**	**4.24**	**335**	*e*P	**Pn**	**12 42 04.8**	**+0.9**
PB08				*i* S	**S**	**12 42 55.1**	**+0.3**
AC06	**Mina Casimiro**	**4.34**	**219**	*e*P	**Pn**	**12 42 03.6**	**-1.2**
AC06				*i* S	**S**	**12 42 55.2**	**-1.4**
TA01	**Diego Aracena**	**4.37**	**321**	*e*P	**Pn**	**12 42 05.8**	**+0.6**
TA01				*i* S	**S**	**12 42 55.9**	**-1.4**
PB11	**IPOC Station P**	**4.78**	**332**	*e*P	**Pn**	**12 42 09.9**	**-0.6**
PB11				*i* S	**S**	**12 43 04.7**	**-2.2**
LPAZ	**La Paz**	**7.73**	**354**	P	**Pn**	**12 42 48.5**	**-0.4**
	comp=N,0.7nm,0.3s,baz=165,slow=7.7,SNR=9.4						
LPAZ	**La Paz**	**7.73**	**354**	*e*P	**Pn**	**12 42 49.7**	**+0.9**
SIV	**San Ignacio**	**9.88**	**37**	P	**Pn**	**12 43 11.7**	**-4.4**
	comp=N,0.2nm,0.3s,baz=214,slow=15,SNR=2.9						
AQDB	**Aquidauana**	**11.27**	**74**	*e*P	**Pn**	**12 43 34.2**	**+0.3**
TRCB	**Terra Rica**	**13.49**	**88**	*e*P	**Pn**	**12 44 02.8**	**+1.0**
SALV	**Santo Antonio**	**13.54**	**56**	*e*P	**P**	**12 44 04.4**	**-0.2**
CPSB	**Cacapava Do Su**	**13.84**	**120**	*e*P	**P**	**12 44 07.1**	**-0.8**
PTGB	**Pitanga**	**13.87**	**96**	*e*P	**P**	**12 44 07.7**	**-0.6**
PCMB	**Pacaembu**	**14.95**	**84**	*e*P	**P**	**12 44 20.4**	**+0.2**
PDRB	**Porto dos Gac**	**15.89**	**41**	*e*P	**Pn**	**12 44 31.5**	**+0.4**
ARAG	**Araguaiana, MT**	**16.71**	**63**	*e*P	**P**	**12 44 40.1**	**+0.4**
PLCA	**Paso Flores**	**16.90**	**189**	P	**Pn**	**12 44 44.1**	**+1.2**
	comp=N,0.1nm,0.3s,baz=355,slow=12,SNR=5.2						
PLCA	**Paso Flores**	**16.90**	**189**	*e*P	**P**	**12 44 41.9**	**+0.3**
CZSB	**Cruzeiro do Su**	**17.01**	**341**	*e*P	**Pn**	**12 44 45.0**	**+0.5**
CLDB	**Colider**	**17.03**	**42**	*e*P	**P**	**12 44 43.9**	**+0.7**
BB19B	**Bebedouro**	**17.55**	**84**	*e*P	**P**	**12 44 48.6**	**-0.3**
PET01	**Itanhaem-SP**	**18.25**	**95**	*e*P	**P**	**12 44 55.4**	**-1.0**
VAO	**Valinhos**	**18.64**	**91**	*e*P	**P**	**12 44 59.8**	**-1.0**
IPMB	**Ipameri, GO**	**18.77**	**75**	*e*P	**P**	**12 45 01.7**	**-0.4**
SNDB	**Serra Nova Dou**	**19.32**	**54**	*e*P	**P**	**12 45 07.2**	**-0.8**
PARB	**Paraibuna**	**19.83**	**92**	*e*P	**P**	**12 45 12.9**	**-0.7**
BDFB	**Brasilia**	**19.92**	**69**	P	**P**	**12 45 13.9**	**-0.7**
	comp=N,1.2nm,0.3s,baz=248,slow=12,SNR=13						
NPGB	**Novo Progresso**	**20.38**	**36**	*e*P	**P**	**12 45 19.7**	**+0.4**
BSCB	**Bom Sucesso**	**20.99**	**86**	*e*P	**P**	**12 45 25.2**	**-0.7**
PEXB	**Peixe**	**21.54**	**60**	*e*P	**P**	**12 45 30.8**	**-0.8**
ITTB	**Itaituba**	**22.48**	**31**	*e*P	**P**	**12 45 39.3**	**-1.1**
DIAM	**Diamantina, MG**	**22.71**	**80**	*e*P	**P**	**12 45 42.3**	**-0.4**
DUB01	**Friburgo-RJ**	**22.98**	**90**	*e*P	**P**	**12 45 44.3**	**-0.7**
JANB	**Januaria**	**23.37**	**72**	*e*P	**P**	**12 45 47.9**	**-0.7**
SMTB	**Santa Maria do**	**24.10**	**57**	*e*P	**P**	**12 45 56.7**	**+0.6**
SDBA	**SAO DESIDERIO**	**24.13**	**65**	*e*P	**P**	**12 45 55.1**	**-0.5**
PRPB	**Paraiuapebas**	**24.41**	**46**	*e*P	**P**	**12 45 58.6**	**+0.6**
MALB	**Monte Alegre**	**25.37**	**32**	*e*P	**P**	**12 46 08.4**	**+1.7**
GUA01	**Guaratinga, BA**	**26.76**	**79**	*e*P	**P**	**12 46 18.3**	**-0.8**
GDU01	**Guandu, BA**	**28.08**	**74**	*e*P	**P**	**12 46 29.8**	**-1.0**
NBPN	**Ponto Novo - B**	**28.88**	**68**	*e*P	**P**	**12 46 38.2**	**+0.2**
NBPB	**Pedra_Branca-C**	**32.34**	**60**	*e*P	**P**	**12 47 07.3**	**-1.0**
TXAR	**Lajitas Array**	**63.55**	**325**	P	P	12 51 13.3	+6.4
	comp=N,0.4nm,1.0s,baz=116,slow=4.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**12 52 28.1**	**+0.6**
	comp=N,0.7nm,0.5s,baz=271,slow=6.7,SNR=5.7						
WRA	**Warramunga Arr**	**131.50**	**208**	PKP	**PKiKP**	**12 59 48.6**	**+0.7**
	comp=N,0.1nm,0.4s,baz=156,slow=1.6,SNR=1.2						
MKAR	**Makanchi Array**	**146.69**	**39**	PKPbc	**PKPab**	**13 00 16.7**	**-0.4**
	comp=N,0.2nm,0.6s,baz=349,slow=4.4,SNR=2.9						

*IDC **16** 12:44:50.3±1.9, 19°.03S×65°.48E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/54, mbtmp3.9/7, Error ellipse: s-maj=64.6km s-min=28.3km az=43.0*
*NEIC **16** 12:44:51.3±0.6, 19°.15±0°.1×65°.5E±0°.1, h10km±2km, mb4.4/9, Error ellipse: s-maj=18.3km s-min=16.5km az=217.0*
ISC 16 12:44:51.4±0.9, **19°.0S**±0°.2×**65°.5E**±0°.1, **h10**km, **n25,** σ0s**72**/22, **mb4.3**/12, **Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.38**	**255**	Pn	**Pn**	**12 47 06.6**	**-0.3**
H08S1	**Diego Garcia H**	**13.21**	**32**	T	T	13 01 13.1	
	baz=211,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**13.22**	**32**	T	T	13 01 13.7	
	baz=211,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**13.23**	**32**	T	T	13 01 14.5	
	baz=211,slow=75,SNR=91						
KAAM	**Kaadhehdhoo**	**20.76**	**22**	P	**P**	**12 49 32.4**	**-0.3**
PALK	**Pallekele**	**30.15**	**31**	P	**P**	**12 51 00.7**	**-1.2**
PALK				IAmb	IAmb	12 51 13.9	
	comp=Z,4.9nm,0.9s						
KMBO	**Kilima Mbogo**	**32.89**	**299**	P	**P**	**12 51 25.3**	**-1.0**
KMBO				IAmb	IAmb	12 51 37.3	
	comp=Z,2.6nm,0.5s						
LBTB	**Lobatse**	**37.34**	**254**	P	**P**	**12 52 04.4**	**-0.1**
LBTB				IAmb	IAmb	12 52 25.1	
	comp=Z,12nm,1.4s						
GSI	**Gunungsitoli**	**37.46**	**61**	P	**P**	**12 52 04.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**49.69**	**43**	P	**P**	**12 53 45.0**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=229,slow=8.9,SNR=5.4						
KBL	**Kabul**	**53.38**	**4**	P	**P**	**12 54 12.0**	**+0.5**
KBL				IAmb	IAmb	12 54 14.0	
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**63.37**	**107**	P	**P**	**12 55 22.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=264,slow=6.1,SNR=6.9						
WRA	**Warramunga Arr**	**64.48**	**104**	P	**P**	**12 55 28.3**	**-0.5**
	comp=Z,1.1nm,1.1s,baz=262,slow=5.8,SNR=3.5						
MK31	**Makanchi Array**	**67.26**	**12**	P	**P**	**12 55 45.8**	**-0.3**
MKAR	**Makanchi Array**	**67.26**	**12**	P	**P**	**12 55 45.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=197,slow=4.4,SNR=5.7						
MKAR	**Makanchi Array**	**67.26**	**12**	P	**P**	**12 55 45.9**	**-0.1**
ABKAR	**Akbulak array**	**68.16**	**356**	P	**P**	**12 55 52.0**	**+0.3**
ZAA0	**Zalesovo Array**	**74.57**	**12**	P	**P**	**12 56 31.0**	**+0.7**
ZAA0				IAmb	IAmb	12 56 31.7	
	comp=Z,2.8nm,1.1s						
ZALV	**Zalesovo Beam**	**74.57**	**12**	P	**P**	**12 56 30.2**	**0.0**
	comp=Z,1.0nm,0.8s,baz=193,slow=6.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**74.57**	**12**	P	**P**	**12 56 30.4**	**+0.2**

AKASG	**Malin Array Be**	**76.41**	**337**	P	**P**	**12 56 41.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=135,slow=4.5,SNR=5.9						
GERES	**GERESS Array B**	**81.76**	**328**	P	**P**	**12 57 10.8**	**+0.3**
FINES	**FINESS Array B**	**86.16**	**342**	P	**P**	**12 57 33.8**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=107,slow=8.9,SNR=2.7						
FINES	**FINESS Array B**	**86.16**	**342**	P	**P**	**12 57 32.6**	**+0.1**
ULM	**Lac du Bonnet**	**145.48**	**339**	PKPbc	**PKPdf**	**13 04 29.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=38,slow=8.7,SNR=4.1						

*BJI **16** 13:09:49.9±0.0, 4°.55N×125°.33E, h17km, mb4.9/76, mB5.4/72, Ms5.5/91, Ms7 5.4/80*
*MOS **16** 13:09:50.5±1.2, 4°.76N×125°.09E, h11km, mb5.5/49, MS5.1/19, Error ellipse: s-maj=8.1km s-min=4.4km az=110.7*
*MAN **16** 13:09:51.6, 4°.58N×125°.24E, h42km, mb6.1, ML5.1, MS5.6*
*IDC **16** 13:09:51.3±0.4, 4°.81N×125°.17E, h0km, mb4.9/37, mb1 4.9/40, mb1mx4.8/55, mbtmp4.8/40, ML4.7/3, MS4.9/53, Ms1 5.0/53, ms1mx4.9/66, Error ellipse: s-maj=13.4km s-min=9.6km az=68.0*
*NEIC **16** 13:09:52.8±1.9, 4°.73N±0°.05×125°.15E±0°.07, h10km±1km, mb5.6/142, Ms_20 5.2/189, Mwb5.5/18, Mww5.5, Error ellipse: s-maj=11.7km s-min=9.3km az=86.0*
*NEIC **16** 13:09:52.8, 4°.66N×125°.08E, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=-0.35; Mθθ=0.61; Mφφ 0.96; Mrθ=-0.18; Mθφ=-2.28; Mφr=0.33; Fault plane solution: M₀2.46000×10¹⁷ NP1:φs99.84000°, δ80.68000°, λ-175.36000°. NP2:φs9.08000°, δ85.42000°, λ-9.35000°. Principal axes: T 2.5987, Plg3.0000°, Azm55.0000°; N -0.3025, Plg80.0000°, Azm163.0000°; P -2.2962, Plg10.0000°, Azm324.0000°;*
*GCMT **16** 13:09:53.8±0.1, 4°.68N±0°.01×125°.04E±0°.01, h15km, MW5.6/153, Moment Tensor Solution. s113,c181; s153,c296; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr0.16±.03; Mθθ-1.18±.03; Mφφ1.02±.03; Mrθ-0.83±.08; Mθφ-2.44±.04; Mφr0.01±.07; Best double couple: M₀2.79900×10¹⁷ NP1:φs12.00000°, δ73.00000°, λ-2.00000°. NP2:φs102.00000°, δ89.00000°, λ-163.00000°. Principal axes: T 2.6830, Plg11.0000°, Azm236.0000°; N 0.2280, Plg73.0000°, Azm107.0000°; P -2.9140, Plg13.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **16** 13:09:54, 4°.84N×125°.24E, h14km, mb5.5*
*DJA **16** 13:09:54.1±0.9, 5°.N±2°.×12°.5E±°, h14km±6km, M5.5/78, mB5.9/73, mb5.3/78, MLv5.6/13, Mw(mB)5.5/73, MwMwp5.3/42, Mwp5.5/42*
*NEIC **16** 13:09:57, 4°.65N×125°.08E, h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.35; Mθθ-0.92; Mφφ 1.27; Mrθ-0.65; Mθφ-1.65; Mφr-0.22; Fault plane solution: M₀2.12000×10¹⁷ NP1: φs15.00000°, δ73.00000°, λ-13.00000°. NP2:φs109.00000°, δ77.00000°, λ-162.00000°. Principal axes: T 2.1611, Plg3.0000°, Azm241.0000°; N -0.0882, Plg68.0000°, Azm144.0000°; P -2.0728, Plg22.0000°, Azm332.0000°;*
ISC 16 13:09:52.6±0.5, **4°.75N**±0°.03×**125°.16E**±0°.04, **h9**km±2km, **h10**km:**pP-P, n827,** σ1s**74**/798, **mb5.4**/199, **MS5.2**/176, **34C-29D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.12**	**161**	P	**Pb**	**13 10 12.7**	**-1.4**
GSPH	**General Santos**	**1.34**	**351**	*e*P	**Pn**	**13 10 16.5**	**-1.2**
GSPH				*i* S	**Sb**	**13 10 35.2**	**-0.2**
DAV	**Davao City (W)**	**2.34**	**10**	Pn	**Pn**	**13 10 32.0**	**+0.7**
	160nm,0.3s,baz=152,slow=2.0,SNR=46						
DAV	**Davao City (W)**	**2.34**	**10**		**Pn**	**13 10 31.3**	**0.0**
DAV	**Davao City (W)**	**2.34**	**10**	P	**Pg**	**13 10 36.5**	**-1.0**
MATI	**Mati**	**2.44**	**27**	*e*P	**Pn**	**13 10 31.6**	**-1.0**
CTBH	**Cotabato--PC H**	**2.62**	**340**	*e*P	**Pn**	**13 10 35.2**	**+0.1**
CTBH				*i* S	**Sn**	**13 11 08.1**	**+1.1**
PAGZ	**Pagadian**	**3.55**	**330**	*e*P	**Pn**	**13 10 46.3**	**-1.6**
ZCP	**Zamboanga City**	**3.76**	**305**	*i* P	**Pn**	**13 10 48.0**	**-2.8**
ZCP				*i* S	**Sn**	**13 11 30.2**	**-5.0**
DCPH	**Dipolog City**	**4.21**	**335**	*e*P	**Pn**	**13 10 59.2**	**+2.2**
KMSI	**Cibinong**	**4.31**	**196**	P	**Pn**	**13 10 57.0**	**-1.4**
TNTI	**Ternate**	**4.52**	**151**

BATI Baumata 14.93 186 LR LR 13 19 35.6
comp=Z,10μm,21.5s,baz=13,slow=39
SMPI Sarmi 15.10 116 P **P** **13 13 30.1 -1.5**
4μm2μm70nm,1.5s
PBKI Pangkalan Bun 15.38 241 P **Pn** **13 13 30.3 +0.3**
5μm412nm,1.8s
SRBI Singaraja 16.16 218 P **Pn** **13 13 38.7 -1.3**
7μm10μm608nm,0.7s
ABJI Asem Bagus 16.56 221 P **Pn** **13 13 43.3 -1.9**
10μm9μm496nm,0.7s
GENI Genyem 16.67 116 P **P** **13 13 48.6 -0.5**
7μm12μm574nm,2.1s
JAY Jayapura 17.13 115 P **P** **13 13 55.0 +0.9**
2μm3μm94nm,1.8s
GMJI Gumukmas 17.43 222 P **Pn** **13 13 55.3 -0.9**
9μm278nm,0.8s
DLV T Lat 17.97 294 P **Pn** **13 14 03.0 -0.1**
TWG Pinlang 18.39 348 P **P** **13 14 08.7 +0.7**
YULB Yu-li 18.91 349 P **P** **13 14 13.2 -0.5**
TPUB Ta-pu 18.95 347 P **P** **13 14 12.0 -2.2**
TPUB IAmb IAmb 13 14 46.2
comp=Z,257nm,1.0s
TPI Tanjungpandan 19.02 247 P **P** **13 14 13.7 -1.2**
SSLB Suanglung 19.36 348 P **P** **13 14 17.2 -1.4**
YOGI Yogyakarta 19.39 230 P **P** **13 14 18.3 -0.7**
comp=Z,5μmcomp=Z,13μmcomp=Z,696nm,1.9s
YHNB Yeheng 20.14 350 P **P** **13 14 26.8 -0.4**
YHNB IAmb IAmb 13 14 53.8
comp=Z,525nm,1.8s
PPBI Pangkal Pinang 20.21 251 P **P** **13 14 28.9 +0.9**
comp=Z,7μmcomp=Z,34μmcomp=Z,459nm,2.0s
JCJI Jatiwangi 20.22 237 P Pn 13 14 41.9 +12
TATO Taipei 20.42 350 IAMs_20 IAMs_20 13 23 38.6
comp=Z,11μm,21.0s
TATO Taipei 20.42 350 P Pn 13 14 31.7 -0.5
HKPS Hong Kong Po S 20.43 330 IAMs_20 IAMs_20 13 22 47.3
comp=Z,8μm,19.0s
MCO Taipa Grande 20.60 328 P **P** **13 14 32.0 -0.2**
QIZ Qiongzhong 20.61 315 P **P** **13 14 31.3 -1.0**
QIZ IAmb IAmb 13 14 55.8
comp=Z,502nm,1.8s
QIZ Qiongzhong 20.61 315 P Pn 13 14 34.4 -0.2
QIZ pmax pmax
comp=Z,29nm,1.0s
QIZ pmax pmax
comp=Z,3μm,11.8s
QIZ LR LR
comp=Z,4μm,13.2s
QIZ LR LR
comp=Z,6μm,16.2s
QIZ LR LR
comp=Z,7μm,15.7s
KNMB Chin-men Tao 20.66 342 P **P** **13 14 31.6 -1.2**
KNMB IAmb IAmb 13 14 49.1
comp=Z,510nm,1.7s
CMJI Cimerak 20.81 233 P Pn 13 14 49.3 +12
LEM Lembang 20.95 237 P Pn 13 14 40.0 +1.3
comp=Z,97nm,0.9s,baz=4.8,slow=9.0,SNR=10
LEM LR LR 13 23 30.8
comp=Z,8μm,20.2s,baz=43,slow=39
TPRI Tanjung Pinang 20.95 260 P Pn 13 14 37.4 -1.2
comp=Z,8μmcomp=Z,291nm,1.3s
QZH Quanzhou 21.05 343 ⇓*iP* **P** **13 14 37.4 +0.5**
QZH S Sn 13 18 38.3 +0.7
QZH pmax pmax
comp=Z,120nm,1.6s
QZH pmax pmax
comp=Z,2μm,8.6s
QZH LR LR
comp=Z,4μm,17.5s
QZH LR LR
comp=Z,5μm,15.6s
QZH LR LR
comp=Z,7μm,17.5s
DSRI Dabo 21.21 256 P **P** **13 14 39.6 +0.8**
comp=Z,3μmcomp=Z,4μmcomp=Z,199nm,1.7s
GUMO Guam 21.33 64 LR LR 13 21 39.3
comp=Z,5μm,21.7s,baz=222,slow=33
MYKOM **Kota Tinggi** 21.48 263 P **P** **13 14 41.5 -0.2**
MYKOM IAmb IAmb 13 14 53.5
comp=Z,204nm,1.1s
MYKOM **Kota Tinggi** 21.48 263 P **P** **13 14 43.0 +1.3**
GZH Guangzhou 21.51 329 ⇓*iP* **P** **13 14 46.4 +4.5**
GZH S Sn 13 18 48.3 -0.5
GZH pmax pmax
comp=Z,2μm,4.3s
GZH LR LR
comp=Z,6μm,19.3s
GZH LR LR
comp=Z,8μm,16.9s
DBJI Dramaga 21.54 239 P **P** **13 14 42.6 +0.2**
comp=Z,45μmcomp=Z,204nm,2.0s
CNJI Cibinong 21.62 236 P **P** **13 14 43.3 +0.1**
comp=Z,7μmcomp=Z,17μmcomp=Z,971nm,1.8s
PMBI Palembang 21.75 250 P **P** **13 14 45.9 +1.3**
PMBI IAMs_20 IAMs_20 13 24 06.2
comp=Z,9μm,20.0s
PMBI Palembang 21.75 250 P **P** **13 14 46.2 +1.6**
comp=Z,8μmcomp=Z,14μmcomp=Z,506nm,1.3s
SKJI Sukabumi 21.93 238 P P 13 15 03.6 +17
UBPT Khong Chiam 22.01 300 P **P** **13 14 46.7 -0.7**
JOW Kunigami 22.16 7 P **P** **13 14 49.7 +0.8**
comp=Z,96nm,1.0s,baz=208,slow=8.3,SNR=9.7
JOW LR LR 13 24 12.3
comp=Z,3μm,19.4s,baz=183,slow=39
JOW Kunigami 22.16 7 P **P** **13 14 49.3 +0.4**
JOW IAmb IAmb 13 14 56.6
comp=Z,198nm,1.2s
BLSI Bandar Lampung 22.28 243 P **P** **13 14 51.2 +0.8**
comp=Z,7μmcomp=Z,297nm,2.5s
BLSI Bandar Lampung 22.28 243 P **P** **13 14 50.9 +0.5**
comp=Z,7μmcomp=Z,297nm,2.5s
JMBI JAMBI 22.41 254 P **P** **13 14 53.0 +1.2**
comp=Z,4μmcomp=Z,209nm,1.4s
KLI Kotabumi 22.42 245 P **P** **13 14 50.1 -1.7**
comp=Z,6μmcomp=Z,11μmcomp=Z,596nm,2.0s
KLSI 22.46 246 P **P** **13 14 53.5 +1.2**
comp=Z,3μmcomp=Z,6μmcomp=Z,307nm,2.0s
JRMM Jerantut 22.64 269 P **P** **13 14 57.0 +2.8**
FITZ Fitzroy Crossi 22.71 179 P **P** **13 14 55.8 +0.9**
comp=Z,48nm,0.6s,baz=3.4,slow=11,SNR=3.3
FITZ LR LR 13 24 52.4
comp=Z,1μm,19.1s,baz=7.0,slow=40
FITZ Fitzroy Crossi 22.71 179 P **P** **13 14 53.6 -1.2**
MDSI Maura Dua 22.88 247 P **P** **13 14 56.6 -0.1**
comp=Z,3μmcomp=Z,3μmcomp=Z,157nm,1.9s
KASI Kota Agung 23.02 244 P **P** **13 14 58.5 +0.3**
comp=Z,6μmcomp=Z,6μmcomp=Z,291nm,1.1s
MANU Manus Island 23.19 106 P **P** **13 14 58.6 -1.3**
MANU IAmb IAmb 13 15 09.5
comp=Z,391nm,1.9s
LWLI Liwa 23.20 246 P **P** **13 15 00.6 +0.4**
comp=Z,336nm,1.8s
RGRI Rengat 23.36 258 P **P** **13 15 00.9 -0.7**
comp=Z,48μmcomp=Z,203nm,0.4s
MNAI Manna 23.96 248 P **P** **13 15 08.0 +0.6**
MNAI IAMs_20 IAMs_20 13 25 30.1
comp=Z,6μm,19.0s
MNAI Manna 23.96 248 P **P** **13 15 07.7 +0.2**
comp=Z,9μmcomp=Z,18μmcomp=Z,464nm,1.1s
IPM Ipoh 24.06 270 P **P** **13 15 08.8 +0.3**
IPM Ipoh 24.06 270 P **P** **13 15 10.0 +1.5**
MASI Maura Aman, Be 24.20 252 P **P** **13 15 10.6 +0.8**
comp=Z,9μmcomp=Z,19μmcomp=Z,523nm,0.9s
KULM Kulim 24.42 272 P **P** **13 15 11.9 +0.1**
KULM IAmb IAmb 13 15 23.9
comp=Z,438nm,1.5s
KULM IAMs_20 IAMs_20 13 25 58.8
comp=Z,6μm,18.0s
KULM Kulim 24.42 272 P **P** **13 15 14.0 +2.2**
BKNI Bangkinang 24.49 260 P **P** **13 15 12.3 -0.1**
BKNI Bangkinang 24.49 260 P **P** **13 15 12.6 +0.2**
comp=Z,5μmcomp=Z,8μmcomp=Z,338nm,1.6s
XMIS Christmas Isla 24.62 232 P **P** **13 15 11.7 -1.9**
XMIS IAmb IAmb 13 15 23.6
comp=Z,328nm,1.6s
GULI GuiLin 24.88 327 ⇓P **P** **13 15 18.5 +2.7**
GULI S **S** **13 19 44.5 +5.5**
GULI pmax pmax
comp=Z,20nm,1.3s
GULI LR LR
comp=Z,9μm,19.2s
GULI LR LR
comp=Z,5μm,20.6s
GULI LR LR
comp=Z,6μm,19.9s

PPI Padang Panjang 25.27 259 P **P** **13 15 20.0 +0.5**
comp=Z,2μmcomp=Z,130nm,0.9s
SRIT Nakonsritamara 25.67 280 P **P** **13 15 22.9 -0.2**
SRIT IAmb IAmb 13 16 06.9
comp=Z,308nm,1.6s
COEN Coen 25.79 136 P **P** **13 15 24.2 +0.1**
COEN IAmb IAmb 13 15 34.3
comp=Z,161nm,1.4s
MNSI Mandailing Nat 25.85 262 P **P** **13 15 25.8 +1.1**
comp=Z,4μmcomp=Z,283nm,1.1s
PMG Port Moresby 26.05 123 P **P** **13 15 26.0 -0.4**
comp=Z,30nm,1.0s,baz=328,slow=7.0,SNR=11
PMG LR LR 13 26 32.2
comp=Z,2μm,19.7s,baz=290,slow=38
PMG Port Moresby 26.05 123 ⇑*iP* **P** **13 15 25.2 -1.3**
PMG pmax pmax
comp=Z,19nm,0.9s
PMG Port Moresby 26.05 123 P **P** **13 15 26.2 -0.3**
PMG IAmb IAmb 13 16 14.0
comp=Z,117nm,1.1s
WRAB Tennant Creek 26.14 160 *ciP* **P** **13 15 25.6 -1.7**
WRAB pmax pmax
comp=Z,229nm,0.9s
WRAB Tennant Creek 26.14 160 P **P** **13 15 26.0 -1.2**
WRAB IAmb IAmb 13 15 30.3
comp=Z,261nm,1.0s
WC3 Warramunga Arr 26.17 160 P **P** **13 15 25.2 -2.4**
baz=17
PSI Prapat 26.25 267 P **P** **13 15 29.4 +0.9**
comp=Z,38nm,1.0s,baz=99,slow=10,SNR=16
RPSI Rantau Prapat 26.26 266 P **P** **13 15 29.4 +1.0**
SSE Sheshan 26.47 352 P **P** **13 15 31.3 +1.2**
SSE S **S** **13 20 09.0 +4.8**
SSE pmax pmax
comp=Z,19nm,0.6s
SSE pmax pmax
comp=Z,370nm,9.0s
SSE LR LR
comp=Z,2μm,17.0s
SSE LR LR
comp=Z,2μm,17.9s
TSI Tuntungan 26.55 268 P **P** **13 15 30.0 -1.1**
SISI Saibi 26.74 258 P **P** **13 15 33.0 +0.2**
comp=Z,4μmcomp=Z,290nm,1.8s
JSU Suzuyama 27.08 10 P **P** **13 15 36.3 +0.7**
KCSI Kotacane, Aceh 27.34 268 P **P** **13 15 39.2 +0.9**
comp=Z,2μmcomp=Z,126nm,1.5s
WHN Wuhan 27.61 340 ⇑P **P** **13 15 41.1 +0.7**
WHN LR LR
comp=Z,6μm,13.9s
WHN LR LR
comp=Z,7μm,13.0s
WHN LR LR
comp=Z,14μm,21.3s
GSI Gunungsitoli 27.75 264 P **P** **13 15 40.9 -1.0**
GSI Gunungsitoli 27.75 264 P **P** **13 15 41.9 0.0**
comp=Z,3μmcomp=Z,7μmcomp=Z,142nm,1.5s
NJ2 Nanjing 27.80 348 *eP* **P** **13 15 48.1 +6.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,570nm,6.1s
NJ2 LR LR
comp=N,4μm,15.6s
NJ2 LR LR
comp=E,4μm,16.6s
NJ2 LR LR
comp=Z,5μm,20.8s
GYA Guiyang 27.91 323 ⇑P **P** **13 15 45.3 +2.0**
GYA pP pwP 13 15 49.9 -1.2
GYA S **S** **13 20 26.5 -0.7**
GYA pmax pmax
comp=Z,8.0nm,1.1s
GYA pmax pmax
comp=Z,600nm,6.2s
GYA LR LR
comp=Z,8μm,15.3s
GYA LR LR
comp=Z,6μm,13.7s
GYA LR LR
comp=Z,6μm,21.0s
RABL Rabaul 28.40 108 P **P** **13 15 47.5 -0.2**
JNU Nakatsue 28.73 10 P **P** **13 15 50.8 +0.4**
JNU IAmb IAmb 13 15 55.1
comp=Z,74nm,1.0s
QIS Mount Isa 28.88 151 P **P** **13 15 51.3 -0.5**
baz=29,SNR=11
CM31 Chiang Mai Arr 29.01 300 P **P** **13 15 53.7 +0.6**
CM31 IAmb IAmb 13 16 15.0
comp=Z,139nm,1.8s
CMAR Chiang Mai Arr 29.01 300 P **P** **13 15 53.9 +0.8**
comp=Z,6.2nm,0.8s,baz=113,slow=7.2,SNR=18
CMAR LR LR 13 29 56.3
comp=Z,2μm,18.5s,baz=110,slow=42
CMAR Chiang Mai Arr 29.01 300 *i*P **P** **13 15 54.5 +1.4**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 29.01 300 P **P** **13 15 53.5 +0.4**
CHTO Chiang Mai 29.16 301 P **P** **13 15 54.3 -0.1**
CHTO pmax pmax
comp=Z,45nm,1.2s
CHTO MLR MLR
comp=Z,3μm,22.0s
CHTO Chiang Mai 29.16 301 P **P** **13 15 54.3 -0.1**
CHTO Chiang Mai 29.16 301 P **P** **13 15 54.9 +0.5**
ENH Enshi 29.38 332 P **P** **13 15 55.8 -0.5**
ENH IAmb IAmb 13 16 08.9
comp=Z,145nm,1.2s
ENH IAMs_20 IAMs_20 13 28 45.2
comp=Z,7μm,19.0s
ASAR Alice Springs 29.50 164 LR LR 13 29 23.1
comp=Z,773nm,19.3s,baz=4.5,slow=40
KMI Kunming 29.56 316 ⇑P **P** **13 16 00.0 +1.9**
KMI pP pwP 13 16 09.1 +3.2
KMI sP sP 13 16 12.5 +12
KMI PP **PnPn** **13 16 51.5 -1.1**
KMI PcP **PcP** **13 19 02.3 -1.0**
KMI S **S** **13 20 54.1 +0.7**
KMI pmax pmax
comp=Z,22nm,1.5s
KMI pmax pmax
comp=Z,570nm,11.0s
KMI LR LR
comp=Z,2μm,13.5s
KMI LR LR
comp=Z,2μm,22.8s
KMI LR LR
comp=Z,4μm,14.8s
MTSU Mount Surprise 29.57 141 P **P** **13 15 58.0 0.0**
baz=30,SNR=8.5
JMN Monobe 29.95 15 P **P** **13 16 01.9 +0.6**
JMN IAmb IAmb 13 16 06.8
comp=Z,102nm,0.9s
JHS Saijyo 30.99 13 P **P** **13 16 09.9 -0.5**
JHS IAmb IAmb 13 16 23.8
comp=Z,222nm,1.8s
PZH PanZhiHua 31.13 316 P **P** **13 16 11.8 -0.1**
PZH S **S** **13 21 17.9 0.0**
PZH ScP **ScP** **13 22 47.3 -3.2**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,300nm,5.3s
PZH LR LR
comp=Z,10μm,21.4s
PZH LR LR
comp=Z,9μm,21.4s
PZH LR LR
comp=Z,10μm,23.7s
JHJ Hachijo jima 2 31.35 24 LR LR 13 30 23.2
comp=Z,3μm,18.1s,baz=229,slow=39
TJN Taejon 31.54 3⇓*eP* **P** **13 16 12.0 -3.2**
LYN LuoYang 31.90 340 *eP* **P** **13 16 18.8 +0.4**
LYN S **S** **13 21 28.3 -1.2**
LYN sS sS 13 21 46.5 +15
LYN SS **SnSn** **13 23 25.8 +7.9**
LYN pmax pmax
comp=Z,10.0nm,0.4s
LYN pmax pmax
comp=Z,570nm,8.2s
LYN LR LR
comp=Z,2μm,14.7s
LYN LR LR
comp=Z,4μm,13.3s
LYN LR LR
comp=Z,3μm,21.6s

TIA Tai'an 32.17 348 *eP* **P** **13 16 18.1 -2.7**
TIA PP **PnPn** **13 17 27.1 +0.4**
TIA pmax pmax
comp=Z,9.0nm,1.3s
TIA pmax pmax
comp=Z,300nm,10.8s
TIA LR LR
comp=Z,2μm,29.4s
TIA LR LR
comp=Z,3μm,23.5s
TIA LR LR
comp=Z,4μm,32.8s
CTA Charters Tower 32.23 141 P **P** **13 16 22.1 +0.6**
comp=Z,29nm,1.0s,baz=323,slow=9.8,SNR=9.3
CTA Charters Tower 32.23 141 P **P** **13 16 21.9 +0.4**
baz=32
INU Inuyama 32.36 18 P **P** **13 16 22.0 -0.4**
INU IAmb IAmb 13 16 24.3
comp=Z,101nm,0.9s
INCN Inchon 32.61 2 IAMs_20 IAMs_20 13 31 46.4
comp=Z,4μm,20.0s
KSAR Wonju Array Be 32.63 4 P **P** **13 16 25.6 +0.8**
KSAR Wonju Array Be 32.63 4 P **P** **13 16 25.6 +0.8**
KSRS Korea Array 32.65 4 P **P** **13 16 24.9 0.0**
comp=Z,3.9nm,0.7s,baz=184,slow=9.8,SNR=17
KSRS PcP **PcP** **13 19 11.9 +1.0**
comp=Z,2.5nm,0.9s,baz=183,slow=2.9,SNR=4.7
KS19 Wonju Array Si 32.69 4 P **P** **13 16 26.1 +0.8**
JGF Kuroka 32.70 19 P **P** **13 16 24.5 -1.0**
PBA Port Blair 32.79 284 *eP* **P** **13 16 28.4 +2.0**
DGPR DIGLIPUR 32.88 287 *eP* **P** **13 16 28.4 +1.1**
CD2 Chengdu 32.91 325 P **P** **13 16 27.8 +0.4**
CD2 S **S** **13 21 44.8 -0.6**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,590nm,7.4s
CD2 LR LR
comp=Z,8μm,26.5s
CD2 LR LR
comp=Z,5μm,20.8s
HJU Haeju 33.14 1 P P 13 16 40.2 +11
MJAR Matsushiro Arr 33.84 19 P **P** **13 16 32.9 -2.4**
comp=Z,52nm,0.8s,baz=197,slow=8.6,SNR=56
MJAR LR LR 13 27 41.4
comp=Z,2μm,20.8s,baz=214,slow=32
MJAR Matsushiro Arr 33.84 19 P **P** **13 16 33.1 -2.3**
MJAR pmax pmax
comp=Z,52nm,0.9s
MJAR Matsushiro Arr 33.84 19 P **P** **13 16 33.1 -2.3**
MJAR IAmb IAmb 13 16 36.2
comp=Z,52nm,0.9s
MAJO Matsushiro 33.84 19 ⇓*eP* **P** **13 16 33.2 -2.1**
MAJO pmax pmax
comp=Z,61nm,0.9s
MAJO Matsushiro 33.84 19 P **P** **13 16 34.2 -1.1**
MAJO IAmb IAmb 13 16 36.2
comp=Z,58nm,0.9s
MJB9 Matsu-Tunnel 33.84 19 P **P** **13 16 34.4 -0.9**
MJB9 IAmb IAmb 13 16 36.2
comp=Z,56nm,0.9s
HNS HongShan 33.87 345 ⇓P **P** **13 16 35.0 -0.6**
HNS PP **PnPn** **13 17 48.3 0.0**
HNS S **S** **13 21 57.1 -3.0**
HNS pmax pmax
comp=Z,23nm,1.2s
HNS LR LR
comp=Z,4μm,22.6s
HNS LR LR
comp=Z,2μm,20.6s
HNS LR LR
comp=Z,6μm,22.1s
PYAG Pyongyang 34.15 1 P P 13 16 50.0 +12
PYAG sP pwP 13 17 00.2 +14
PYAG S S 13 22 14.3 +10
PYAG AmB
comp=Z,827nm,4.6s
PYAG AMS AMS
comp=N,234nm,3.4s
PYAG AMS AMS
comp=E,866nm,12.6s
PYAG AMS AMS
comp=Z,388nm,5.7s
DL2 Dalian 34.15 355 P P 13 16 45.8 +7.8
DL2 S S 13 22 16.8 +12
DL2 pmax pmax
comp=Z,32nm,0.8s
DL2 pmax pmax
comp=Z,260nm,5.4s
DL2 LR LR
comp=N,4μm,19.5s
DL2 LR LR
comp=E,2μm,17.1s
DL2 LR LR
comp=Z,6μm,18.7s
JYT Yasato 34.24 22 P **P** **13 16 36.8 -2.0**
JYT IAmb IAmb 13 16 41.7
comp=Z,114nm,1.3s
TIY Taiyuan 34.81 342 ⇑P **P** **13 16 46.5 +2.7**
TIY PP **PP** **13 18 04.3 +1.5**
TIY S **S** **13 22 10.8 -3.9**
TIY pmax pmax
comp=Z,15nm,0.5s
TIY pmax pmax
comp=Z,480nm,6.4s
TIY LR LR
comp=Z,4μm,15.7s
TIY LR LR
comp=Z,2μm,14.2s
TIY LR LR
comp=Z,3μm,16.9s
JSD Sado 35.22 18 P **P** **13 16 46.2 -1.1**
JSD IAmb IAmb 13 16 48.5
comp=Z,103nm,0.8s
JMM Marumori 35.92 21 P **P** **13 16 52.4 -0.9**
BJT Baijiatuau 36.04 348 P **P** **13 16 53.7 -0.6**
BJT pmax pmax
comp=Z,33nm,1.0s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 36.04 348 P **P** **13 16 53.7 -0.6**
BJI Beijing 36.06 348 P **P** **13 16 54.3 -0.1**
BJI pP **sP** **13 16 59.0 +2.6**
BJI sP **pwP** **13 17 00.9 -1.4**
BJI S **S** **13 22 36.9 +3.3**
BJI pmax pmax
comp=Z,35nm,1.0s
BJI pmax pmax
comp=Z,360nm,11.0s
BJI LR LR
comp=Z,2μm,24.9s
QLP Quilpie 36.21 150 P **P** **13 16 55.8 -0.1**
baz=36,SNR=4.7
LZH Lanzhou 36.84 331 ⇑P **P** **13 17 02.8 +1.4**
LZH sP pwP 13 17 07.8 -1.5
LZH S **S** **13 22 46.3 +0.1**
LZH sS sS 13 22 56.3 +7.9
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,650nm,5.4s
LZH LR LR
comp=Z,6μm,13.2s
LZH LR LR
comp=Z,5μm,13.4s
LZH LR LR
comp=Z,7μm,16.3s
SNY Shenyang 36.95 358 ⇓P **P** **13 17 00.6 -1.4**
SNY S **S** **13 22 44.6 -2.5**
SNY pmax pmax
comp=Z,19nm,0.5s
SNY pmax pmax
comp=Z,370nm,5.1s
SNY LR LR
comp=Z,4μm,25.0s
SNY LR LR
comp=Z,7μm,19.0s
SNY LR LR
comp=Z,8μm,23.9s
HHC Hu-ho-hao-te 37.96 343 *eP* **P** **13 17 11.4 +0.6**
HHC PP **PnPn** **13 18 40.5 +1.7**
HHC S **S** **13 23 00.8 -2.1**
HHC SS **SnSn** **13 25 40.6 -4.1**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax

comp=Z,600nm,6.7s
HHC LR LR
comp=Z,4μm,15.2s
HHC LR LR
comp=Z,3μm,16.5s
HHC LR LR
comp=Z,5μm,15.9s
SHL Shillong 38.02 306 P P 13 17 10.9 -0.7
SHL pmax pmax
comp=Z,218nm,1.4s
SHL Shillong 38.02 306 P P 13 17 10.8 -0.7
SHL IAmb IAmb 13 17 31.6
comp=Z,218nm,1.4s
SHL Shillong 38.02 306 eP P 13 17 11.1 -0.4
SHL Shillong 38.02 306 P P 13 17 12.3 +0.8
SNR=37
BTO Baotou 38.21 341 eP P 13 17 13.0 +0.1
BTO LR LR
comp=Z,4μm,9.4s
BTO LR LR
comp=Z,9μm,15.6s
RMQ Roma 38.55 145 P P 13 17 14.7 -1.1
baz=39,SNR=5.0
JTM Tenmabayashi 38.62 19 P P 13 17 15.9 -0.3
JTM IAmb IAmb 13 17 33.1
comp=Z,102nm,0.9s
VLA Vladivostok 38.67 8 d iP P 13 17 13.7 -2.9
VLA pmax pmax
comp=Z,13nm,0.8s
BBOO Buckleboo 38.76 165 P P 13 17 16.2 -1.2
BBOO IAmb IAmb 13 17 18.3
comp=Z,112nm,0.8s
CN2 Changchun 38.89 0 eP P 13 17 15.0 -3.4
CN2 eS **S 13 23 13.3 -3.3**
CN2 eSS **SnSn 13 25 56.6 -10**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,140nm,6.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
EIDS Eidsvold 39.12 141 P P 13 17 20.9 +0.4
baz=39,SNR=6.2
EIDS Eidsvold 39.12 141 P P 13 17 19.5 -1.0
EIDS IAmb IAmb 13 17 30.7
comp=Z,138nm,1.4s
STKA Stephens Creek 39.65 158 P P 13 17 23.7 -1.2
comp=Z,56nm,0.7s,baz=331,slow=8.3,SNR=88
STKA Stephens Creek 39.65 158 P P 13 17 23.7 -1.2
baz=29,SNR=98
STKA Stephens Creek 39.65 158 P P 13 17 23.2 -1.6
USA0B Ussuriysk Arra 39.75 8 P P 13 17 26.1 +0.6
USA0B pmax pmax
comp=Z,118nm,1.7s
USA0B Ussuriysk Arra 39.75 8 P P 13 17 26.1 +0.6
USRK Ussuriysk Ar. 39.75 8 P P 13 17 25.7 +0.2
comp=Z,30nm,0.9s,baz=183,slow=7.9,SNR=14
USRK LR LR 13 33 18.9
comp=Z,2μm,21.9s,baz=183,slow=36
USRK Ussuriysk Ar. 39.75 8 P P 13 17 26.3 +0.8
USRK Ussuriysk Ar. 39.75 8 P P 13 17 26.3 +0.8
XLT XiLinHaoTe 39.80 350 eP P 13 17 29.1 +2.9
XLT sP pwP 13 17 35.5 +1.4
XLT PP **PP 13 18 58.8 +1.1**
XLT PcP **PcP 13 19 35.8 +3.5**
XLT PcS **PcS 13 23 21.0 -1.4**
XLT S **S 13 23 33.6 +3.0**
XLT ScS **ScS 13 27 33.1 -1.2**
XLT pmax pmax
comp=Z,30nm,0.9s
XLT pmax pmax
comp=Z,460nm,6.1s
XLT LR LR
comp=Z,3μm,16.4s
XLT LR LR
comp=Z,2μm,18.1s
MDJ Mudanjiang 39.90 5 P P 13 17 26.3 -0.5
MDJ Mudanjiang 39.90 5 P P 13 17 26.8 0.0
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,180nm,5.3s
MDJ LR LR
comp=Z,5μm,20.5s
MDJ LR LR
comp=Z,990nm,21.8s
MDJ LR LR
comp=Z,6μm,20.1s
ERM Erimo 40.43 21 IAMs_20 IAMs_20 13 32 30.8
comp=Z,3μm,20.0s
LSA Lhasa 40.59 312 P P 13 17 34.2 +0.8
LSA pmax pmax
comp=Z,30nm,0.8s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 40.59 312 P P 13 17 34.2 +0.8
LSA Lhasa 40.59 312 P P 13 17 34.4 +1.0
LSA LR LR
comp=Z,1μm,17.1s
LSA LR LR
comp=Z,1μm,16.3s
LSA Lhasa 40.59 312 P P 13 17 35.2 +1.8
BNX BinXian 40.88 2 ⇑P P 13 17 35.3 +0.4
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,350nm,4.9s
CMSA Cobar Meteorol 41.05 153 P P 13 17 36.9 +0.3
baz=41,SNR=18
TEY Ternei 41.36 12 ⇑eP P 13 17 40.6 +1.8
TEY *e* 13 23 51.6
TEY pmax pmax
comp=N,20nm,1.0s
TEY pmax pmax
comp=Z,40nm,1.0s
GTA Gaotai 41.43 330 ⇓P P 13 17 39.6 -0.1
GTA pP pwP 13 17 44.8 -2.8
GTA sP sP 13 17 48.4 +6.7
GTA PP **PnPn 13 19 18.1 -2.0**
GTA S **S 13 23 55.0 -0.1**
GTA pmax pmax
comp=Z,260nm,5.0s
GTA LR LR
comp=Z,3μm,15.6s
GTA LR LR
comp=Z,4μm,16.7s
GTA LR LR
comp=Z,7μm,17.1s
GOMU GeErMu 41.92 322 P P 13 17 45.4 +1.3
GOMU pP pwP 13 17 49.3 -2.7
GOMU sP sP 13 17 50.8 +4.7
GOMU PP **PP 13 19 21.3 +0.2**
GOMU PcP **PcP 13 19 41.3 +1.6**
GOMU S **S 13 23 56.8 -6.1**
GOMU pmax pmax
comp=Z,9.0nm,1.1s
GOMU pmax pmax
comp=Z,630nm,6.6s
GOMU LR LR
comp=Z,3μm,19.4s
GOMU LR LR
comp=Z,2μm,19.0s
GOMU LR LR
comp=Z,3μm,19.2s
ASAJ Asahikawa 42.11 19 P P 13 17 45.3 +0.3
comp=Z,65nm,0.9s,baz=245,slow=13,SNR=19
ASAJ LR LR 13 35 17.0
comp=Z,2μm,21.2s,baz=194,slow=36
JKA Kamikawa-asahi 42.11 19 P P 13 17 45.1 +0.1
TAPN Taplejung 42.16 306 eP P 13 17 46.6 +0.5
ODAN Odare 42.21 305 eP P 13 17 47.1 +0.7
comp=Z,143nm,1.0s
BOK Bokaro 42.30 300 eP P 13 17 46.8 -0.2
RAMN Ramite 42.89 305 eP P 13 17 53.1 +1.1
comp=Z,33nm,0.6s
RAGD RAYAGADA 43.12 293 eP P 13 17 54.1 +0.5
ARMA Armidale 43.18 146 P P 13 17 54.2 +0.1
baz=43,SNR=7.5
ARMA Armidale 43.18 146 P P 13 17 53.1 -0.9
ARMA IAmb IAmb 13 18 02.8
comp=Z,230nm,1.6s
H11N1 WAKE ISLAND Hy 43.26 66 T T 14 03 48.5
baz=254,slow=75,SNR=8.0
H11N2 WAKE ISLAND Hy 43.27 66 T T 14 03 47.5
baz=254,slow=75,SNR=6.6
H11N3 WAKE ISLAND Hy 43.28 66 T T 14 03 40.6
baz=254,slow=75,SNR=8.8
JHSG JHARSUGUGA 43.50 297 eP P 13 17 55.7 -1.0
JIRN Jiri 43.51 306 eP P 13 17 57.7 +0.6
GUN Gumba 43.86 306 eP P 13 18 00.6 +0.6
PKI Pulchoki 44.11 305 eP P 13 18 02.2 +0.3
PKIN Phulchoki 44.12 305 eP P 13 18 02.3 +0.4
ARPS Mount Arapiles 44.15 161 P P 13 18 00.7 -0.9
baz=33,SNR=67
PALK Pallekele 44.27 276 P P 13 18 04.0 +0.9
comp=Z,4.6nm,0.7s,baz=306,slow=8.7,SNR=3.3
PALK Pallekele 44.27 276 P P 13 18 04.0 +0.9
PALK Pallekele 44.27 276 P P 13 18 05.8 +2.7
PALK P P 13 18 05.8 +2.7
KKN Kakani 44.30 306 eP P 13 18 03.4 +0.1
DMN Daman 44.37 305 eP P 13 18 04.3 +0.4
HIA Hailar 44.60 355 IAMs_20 IAMs_20 13 38 10.9
comp=Z,3μm,19.0s
KLR Kul'dur 44.67 6 P P 13 18 05.7 0.0
comp=Z,7.2nm,0.8s,baz=214,slow=4.4,SNR=24
YSS Yuzh-Sakhalins 44.71 17 eP P 13 18 06.6 +0.6
YSS eS **S 13 24 40.2 -2.4**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=Z,500nm,3.6s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=E,900nm,15.0s
YSS Yuzh-Sakhalins 44.71 17 P P 13 18 05.9 -0.1
YSS IAmb IAmb 13 18 09.9
comp=Z,62nm,1.1s
GKN Gorkha 44.91 306 eP P 13 18 08.1 0.0
KUR Kuril'sk 44.94 23 ⇓iP P 13 18 06.8 -1.0
KUR pmax pmax
comp=Z,189nm,1.2s
MDRS Chennai 45.07 284 eP P 13 18 10.8 +1.5
MDRS IAmb IAmb 13 18 40.6
comp=Z,67nm,1.1s
VJD Vijayawada 45.17 289 eP P 13 18 12.8 +2.7
VAR Varanasi 45.26 301 eP P 13 18 12.6 +1.9
VLK Valmikinagar 45.27 304 eP P 13 18 07.7 -3.0
KOLN Koldanda 45.66 305 eP P 13 18 15.0 +0.9
comp=Z,145nm,0.8s
ULN Ulaanbaatar 45.68 343 P P 13 18 13.6 -0.3
ULN pmax pmax
comp=Z,42nm,1.4s
ULN MLR MLR
comp=Z,3μm,21.0s
ULN Ulaanbaatar 45.68 343 P P 13 18 13.6 -0.3
ULN Ulaanbaatar 45.68 343 IAMs_20 IAMs_20 13 38 04.6
comp=Z,3μm,21.0s
ULN Ulaanbaatar 45.68 343 P P 13 18 15.7 +1.8
ULN P P 13 18 15.7 +1.8
CAN Canberra 45.72 153 IAMs_20 IAMs_20 13 40 21.6
comp=Z,2μm,18.0s
DANN Dangsing 45.75 306 eP P 13 18 15.6 +0.6
comp=Z,114nm,0.6s
SONM Songino Array 45.85 342 P P 13 18 14.7 -0.5
comp=Z,2.6nm,0.7s,baz=154,slow=9.2,SNR=5.4
SONM LR LR 13 39 15.1
comp=Z,3μm,18.6s,baz=156,slow=38
SONM Songino Array 45.85 342 P P 13 18 14.9 -0.3
SONM pmax pmax
comp=Z,29nm,1.6s
SONM Songino Array 45.85 342 P P 13 18 14.9 -0.3
TOO Toolangi 46.16 157 P P 13 18 18.6 +0.9
baz=35,SNR=20
TOO Toolangi 46.16 157 P P 13 18 17.3 -0.4
TOO pmax pmax
comp=Z,84nm,1.0s
TOO Toolangi 46.16 157 P P 13 18 17.3 -0.4
TOO IAmb IAmb 13 18 22.1
comp=Z,84nm,0.9s
SANVU Saraoutou 46.22 117 P P 13 18 18.5 +0.1
PYUN Piuthan 46.28 305 eP P 13 18 19.8 +0.7
ALBI Allahabad 46.30 301 eP P 13 18 17.8 -1.1
UGL Uglegorsk 46.45 15 eP P 13 18 21.4 +1.7
UGL eS S 13 24 57.7 -10
UGL pmax pmax
comp=Z,100nm,1.0s
UGL pmax pmax
comp=Z,2μm,2.6s
UGL smax smax
comp=E,1μm,5.0s
UGL smax smax
comp=N,2μm,8.0s
UGL MLR MLR
comp=E,2μm,20.0s
UGL MLR MLR
comp=N,900nm,13.0s
UGL MLR MLR
comp=Z,2μm,19.0s
GRNR Gornyy 46.83 10 ⇑iP P 13 18 23.4 +0.7
GRNR eS **S 13 25 18.8 +5.7**
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=N,940nm,16.0s
GRNR MLR MLR
comp=E,600nm,16.0s
GRNR MLR MLR
comp=Z,1μm,18.0s
SALM Salem 46.93 281 ⇑iP P 13 18 27.6 +3.6
JBP Jabalpur 47.26 297 eP P 13 18 28.0 +1.5
JBP IAmb IAmb 13 18 33.8
comp=Z,72nm,1.1s
JBP eS **S 13 25 23.3 +3.3**
HYB Hyderabad 47.30 289 eP P 13 18 29.1 +2.2
HYB IAmb IAmb 13 18 42.8
comp=Z,38nm,0.5s
HYBB Hyderabad (bro 47.30 289 eP P 13 18 28.0 +1.0
HYBB IVmB_BB 13 18 56.8
comp=Z,511nm,2.3s
KOD Kodaikanal 47.56 279 eP P 13 18 29.3 0.0
TYV Tymovskoe 48.24 15 eP P 13 18 35.2 +1.5
TYV *e* 13 25 33.7
TYV pmax pmax
comp=Z,600nm,6.9s
TYV pmax pmax
comp=Z,61nm,1.3s
DZM Mont Dzumac 48.40 125 P P 13 18 35.6 +0.2
comp=Z,18nm,0.9s,baz=226,slow=5.3,SNR=9.4
DZM Mont Dzumac 48.40 125 eP P 13 18 35.9 +0.4
comp=Z,221nm,1.3s
DZM eS **S 13 25 37.9 +1.5**
comp=Z,588nm,29.6s
DZM eLQ LQ 13 30 19.3
comp=Z,3μm,28.1s
DZM eLR LR 13 32 20.7
comp=Z,2μm,26.9s
DZM Mont Dzumac 48.40 125 P P 13 18 35.1 -0.3
DZM IAmb IAmb 13 18 47.4
comp=Z,95nm,1.1s
ZEA Zeya 48.87 2 eP P 13 18 38.8 +0.4
ZEA eS **S 13 25 35.9 -6.0**
ZEA *e* 13 28 27.9
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=Z,300nm,7.6s
ZEA pmax pmax
comp=Z,500nm,10.2s
ZEA smax smax
comp=E,300nm,5.9s
ZEA MLR MLR
comp=E,800nm,20.0s
ZEA MLR MLR
comp=N,1μm,18.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
OUENC Ouen Island, N 48.89 125 P P 13 18 38.7 -0.4
ZAK Zakamensk 49.06 342 eP P 13 18 38.8 -1.3
ZAK pmax pmax
comp=Z,8.0nm,1.4s
PTH Pithoragarh 49.08 305 eP P 13 18 42.8 +2.1
JHNI Jhansi 49.16 300 eP P 13 18 39.9 -1.3
AKL Akola 49.35 293 eP P 13 18 42.9 +0.2
AKL ex x 13 25 54.5
PINNC Pines Island, 49.47 125 P P 13 18 42.0 -1.6
BHPL Bhopal 49.55 297 eP P 13 18 44.5 +0.2
BHPL IAmb IAmb 13 18 47.6
comp=Z,186nm,1.6s
IRK Irkutsk 50.40 343 eP P 13 18 53.4 +3.2
IRK pmax pmax
comp=Z,72nm,2.3s
MOY Mondy 50.90 341 eP P 13 18 52.9 -1.2
MOY pmax pmax
comp=Z,53nm,1.9s
WMQ Urumqi 51.00 325 eP P 13 18 55.6 +0.7
WMQ pP pwP 13 19 00.8 -2.1
WMQ sP sP 13 19 10.9 +14
WMQ S **S 13 26 11.5 -0.8**
WMQ SS **SS 13 29 42.9 -4.5**
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ pmax pmax
comp=Z,500nm,5.3s
WMQ LR LR
comp=Z,4μm,17.5s
WMQ LR LR
comp=Z,4μm,14.7s
WMQ LR LR
comp=Z,3μm,19.5s
NDI New Delhi 51.26 303 eP P 13 18 55.6 -1.4
KAD Karad 51.41 288 eP P 13 18 58.2 -0.2
TAU Tasmania Unive 51.51 159 P P 13 18 58.9 +0.2
TAU pmax pmax
comp=Z,180nm,1.8s
TAU Tasmania Unive 51.51 159 P P 13 18 58.9 +0.2
TAU IAmb IAmb 13 19 18.3
comp=Z,180nm,1.8s
GOA Goa 51.53 286 eP P 13 19 00.4 +1.1
KUDL Kundal 51.70 302 eP P 13 18 59.3 -1.1
MNCY Minicoy 51.88 277 eP P 13 19 20.4 +18
POO Poona 51.90 290 eP P 13 19 03.9 +1.8
SMLA Simla 52.10 306 eP P 13 19 03.8 +0.4
SMLA IAmb IAmb 13 19 07.8
comp=Z,92nm,2.7s
KAAM Kaadhehdhoo 52.27 267 P P 13 19 07.7 +2.8
AJM Ajmer 52.81 300 eP P 13 19 07.6 -1.2
AJM eP **sP 13 19 10.7 0.0**
AJM ex x 13 26 37.5
DHRM DHARAMSHALA 53.18 307 eP P 13 19 10.9 -0.7
DHRM IAmb IAmb 13 19 15.3
comp=Z,147nm,0.5s
BOD Bodaibo 53.65 353 eP P 13 19 13.0 -1.2
BOD pmax pmax
comp=Z,30nm,2.0s
THN Thein Dam 53.71 307 iP P 13 19 15.0 -0.2
DGAR Diego Garcia 53.96 257 ⇓eP P 13 19 15.0 -2.3
DGAR pmax pmax
comp=Z,46nm,1.3s
DGAR Diego Garcia 53.96 257 IAMs_20 IAMs_20 13 44 21.5
comp=Z,2μm,20.0s
DGAR Diego Garcia 53.96 257 P P 13 19 15.5 -1.8
DGAR P P 13 19 15.5 -1.8
JMU Jammu 54.45 307 eP P 13 19 21.6 +1.0
ZSN Zaisan 54.81 328 eP P 13 19 22.0 -0.9
ZSN Zaisan 54.81 328 eP P 13 19 22.0 -0.9
baz=328
PETK Petropavlovsk- 55.10 23 P P 13 19 24.9 0.0
comp=Z,35nm,0.9s,baz=207,slow=8.0,SNR=17
PETK LR LR 13 42 51.8
comp=Z,1μm,20.5s,baz=216,slow=36
PETK Petropavlovsk- 55.10 23 P P 13 19 25.6 +0.7
PETK Petropavlovsk- 55.10 23 P P 13 19 25.6 +0.7
PET Petropavlovsk 55.42 24 ⇑eP P 13 19 25.7 -1.5
PET pmax pmax
comp=Z,37nm,1.0s
SHLS Shalkode 55.57 321 eP P 13 19 26.2 -2.4
SHLS Shalkode 55.57 321 eP P 13 19 26.2 -2.4
baz=321
MK31 Makanchi Array 55.83 326 P P 13 19 29.9 -0.5
MK31 pmax pmax
comp=Z,73nm,1.6s
MK31 Makanchi Array 55.83 326 P P 13 19 29.9 -0.5
MK31 IAmb IAmb 13 20 11.0
comp=Z,73nm,1.6s
MKAR Makanchi Array 55.83 326 P P 13 19 28.5 -1.9
comp=Z,9.7nm,0.6s,baz=118,slow=7.7,SNR=43
MKAR LR LR 13 45 24.2
comp=Z,2μm,19.1s,baz=118,slow=38
MKAR Makanchi Array 55.83 326 P P 13 19 28.7 -1.7
MKAR Makanchi Array 55.83 326 P P 13 19 28.7 -1.7
UZB Uzynbulak 55.84 320 eP P 13 19 29.9 -0.7
UZB Uzynbulak 55.84 320 eP P 13 19 30.0 -0.7
baz=320
TARG Taragay, Kyrgy 55.95 318 P P 13 19 31.8 0.0
MAKZ Makanchi 56.02 325 P P 13 19 31.2 -0.5
MAKZ Makanchi 56.02 325 P P 13 19 31.0 -0.7
SATY Saty 56.19 320 eP P 13 19 32.0 -1.1
SATY Saty 56.19 320 eP P 13 19 32.1 -1.1
baz=320
KPKS Kokpek 56.22 321 eP P 13 19 32.4 -0.9
KPKS Kokpek 56.22 321 eP P 13 19 32.4 -0.9
baz=321
KSH Kashi 56.22 315 P P 13 19 34.4 +1.0
KSH pP pwP 13 19 40.0 -1.4
KSH PcP **PcP 13 20 30.4 -0.7**
KSH PP **PP 13 21 40.4 +1.7**
KSH S **S 13 27 29.9 +6.5**
KSH pmax pmax
comp=Z,16nm,1.4s
KSH pmax pmax
comp=Z,340nm,4.3s
KSH LR LR
comp=Z,1μm,16.3s
KSH LR LR
comp=Z,3μm,18.6s
KSH LR LR
comp=Z,3μm,20.1s
ZHN Zhinishke 56.23 320 eP P 13 19 32.2 -1.1
ZHN Zhinishke 56.23 320 eP P 13 19 32.3 -1.1
baz=320
BHUJ Bhuj 56.54 295 eP P 13 19 37.7 +1.9
BHUJ IAmb IAmb 13 19 42.8
comp=Z,72nm,0.5s
KDJ Kajisay 56.55 319 P P 13 19 34.6 -1.2
KDJ pmax pmax
comp=Z,27nm,1.0s
KDJ Kajisay 56.55 319 P P 13 19 34.6 -1.2
MSVF Nonsavu 56.76 115 P P 13 19 39.0 +1.5
comp=Z,14nm,1.1s,baz=303,slow=2.9,SNR=4.1
MSVF Nonsavu 56.76 115 ⇑eP P 13 19 37.4 -0.1
MSVF pmax pmax
comp=Z,122nm,1.5s
MSVF Nonsavu 56.76 115 P P 13 19 37.6 +0.1
MSVF IAmb IAmb 13 19 50.7
comp=Z,165nm,1.5s
MDOK Medeo 57.12 320 eP P 13 19 38.5 -1.2
MDOK Medeo 57.12 320 eP P 13 19 38.5 -1.2
baz=320
TNSS Tian-Shan 57.12 319 eP P 13 19 38.9 -1.2
baz=319
TDK Taldyqorghan 57.15 322 eP P 13 19 38.3 -1.5
TDK pmax pmax
comp=Z,26nm,1.9s
TDK Taldyqorghan 57.15 322 eP P 13 19 38.3 -1.5
comp=Z,26nm,1.9s,baz=322
YAK Yakutsk 57.25 3 LR LR 13 46 57.4
comp=Z,2μm,19.9s,baz=183,slow=39
YAK Yakutsk 57.25 3 eP P 13 19 40.5 +0.4
YAK e*PP **pwP 13 19 47.0 -1.2**
YAK *e* 13 20 34.1
YAK eS **S 13 27 37.5 +1.6**
YAK e*SS sS 13 27 51.1 +13
YAK eSS **SS 13 31 28.0 +2.8**
YAK pmax pmax
comp=Z,154nm,0.9s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,231nm,3.3s
YAK pmax pmax
comp=E,108nm,4.3s
YAK pmax pmax

comp=N,150nm,3.5s
YAK smax smax
comp=N,945nm,6.0s
YAK smax smax
comp=E,302nm,4.1s
YAK MLR MLR
comp=Z,3µm,20.0s
YAK MLR MLR
comp=N,2µm,18.0s
YAK MLR MLR
comp=E,539nm,19.0s
CHKK Chushkaly 57.48 320 *e*P **P 13 19 41.4 -0.7**
baz=320
KUU Kurty 57.91 320 *e*P **P 13 19 44.5 -0.7**
KUU pmax pmax
comp=Z,51nm,1.4s
KUU Kurty 57.91 320 *e*P **P 13 19 44.5 -0.7**
comp=Z,51nm,1.4s,baz=320
TKM2 Tokmak 2 57.95 319 P **P 13 19 46.3 +0.5**
SNR=10
TKM2 Tokmak 2 57.95 319 P **P 13 19 45.5 -0.2**
MA2 Magadan 58.12 15*ce*P **P 13 19 47.4 +1.1**
MA2 pmax pmax
comp=Z,158nm,1.7s
MA2 Magadan 58.12 15 P **P 13 19 46.9 +0.7**
MA2 IAmb IAmb 13 19 49.0
comp=Z,90nm,1.0s
MA2 IAMs_20 IAMs_20 13 48 21.6
comp=Z,2µm,19.0s
UCH Uchtor 58.37 318 P **P 13 19 50.2 +1.2**
SNR=20
AAK Ala-Archa 58.56 318 LR LR 13 48 14.2
comp=Z,2µm,21.3s,baz=98,slow=39
AAK Ala-Archa 58.56 318*de*P **P 13 19 49.4 -0.5**
AAK pmax pmax
comp=Z,44nm,2.2s
AAK Ala-Archa 58.56 318 P **P 13 19 49.1 -0.8**
AAK IAmb IAmb 13 20 10.7
comp=Z,67nm,1.6s
AAK Ala-Archa 58.56 318 IAMs_20 IAMs_20 13 48 01.3
comp=Z,2µm,21.0s
AAK Ala-Archa 58.56 318 P **P 13 19 50.5 +0.6**
AAK P **P 13 19 50.5 +0.6**
AAK Ala-Archa 58.56 318 *i* P **P 13 19 50.8 +0.9**
SNR=10
SGDS Sogindy 58.82 319 *e*P **P 13 19 50.3 -1.3**
SGDS pmax pmax
comp=Z,60nm,3.0s
SGDS Sogindy 58.82 319 *e*P **P 13 19 50.7 -0.9**
baz=319
USP Ospenovka 58.83 319 P **P 13 19 51.8 +0.2**
SNR=15
AML Almayashu 58.88 317 P **P 13 19 53.5 +1.0**
SNR=26
AML Almayashu 58.88 317 P **P 13 19 53.5 +1.0**
AML Almayashu 58.88 317 *i* P **P 13 19 52.9 +0.5**
SNR=26
ZAA0 Zalesovo Array 58.98 333 P **P 13 19 50.2 -2.2**
ZALV Zalesovo Beam 58.98 333 P **P 13 19 51.3 -1.1**
comp=Z,2.0nm,0.5s,baz=116,slow=6.8,SNR=14
ZALV LR LR 13 47 52.4
comp=Z,2µm,18.0s,baz=129,slow=39
ZALV Zalesovo Beam 58.98 333 P **P 13 19 50.4 -2.0**
SEM Semipalatinsk 59.01 328 *e*P **P 13 19 51.1 -1.9**
SEM Semipalatinsk 59.01 328 *e*P **P 13 19 51.1 -1.9**
baz=328
EKS2 Erkin-Say 59.05 318 P **P 13 19 54.2 +1.0**
SNR=16
DRK Karamyk 59.18 314 P **P 13 19 53.4 -1.0**
DRK IAmb IAmb 13 20 20.7
comp=Z,47nm,1.0s
KBL Kabul 59.66 307 P **P 13 19 56.7 -1.1**
KBL pmax pmax
comp=Z,41nm,0.8s
KBL Kabul 59.66 307 P **P 13 19 56.7 -1.1**
KBL IAmb IAmb 13 20 18.4
comp=Z,41nm,0.8s
KBL Kabul 59.66 307 P **P 13 19 57.3 -0.5**
SNR=36
KBL P **P 13 19 57.3 -0.5**
SNR=36
BTLS Baital 59.90 320 *e*P **P 13 19 58.0 -0.9**
BTLS Baital 59.90 320 *e*P **P 13 19 58.0 -0.9**
baz=320
KURBB Kurchatov Arra 60.04 328 LR LR 13 47 29.2
comp=Z,1µm,18.6s,baz=106,slow=38
KURBB Kurchatov Arra 60.04 328 P **P 13 19 58.9 -0.9**
KURK Kurchatov 60.05 328 *d* iP **P 13 19 58.5 -1.3**
KURK pmax pmax
comp=Z,72nm,1.2s
KURK Kurchatov 60.05 328 P **P 13 19 58.6 -1.2**
KURK IAmb IAmb 13 20 05.2
comp=Z,64nm,1.1s
BTK Batken 60.09 314 P **P 13 20 01.1 +0.6**
BTK pmax pmax
comp=Z,69nm,1.2s
BTK Batken 60.09 314 P **P 13 20 01.1 +0.6**
BTK IAmb IAmb 13 20 38.0
comp=Z,69nm,1.1s
CHGR Chuyangaron 60.83 312 P **P 13 20 05.2 -0.4**
SEY Seymchan 61.41 14 LR LR 13 45 33.4
comp=Z,629nm,22.0s,baz=200,slow=35
SEY Seymchan 61.41 14‖ *e*P **P 13 20 09.3 +0.4**
SEY pmax pmax
comp=Z,35nm,1.1s
KKAR Karatay Array 61.42 317 P **P 13 20 07.9 -1.5**
KKAR Karatay Array 61.42 317 P **P 13 20 07.9 -1.5**
SHEM Shemya Is, Ala 62.39 31 LR LR 13 42 55.5
comp=Z,626nm,20.9s,baz=304,slow=32
DCZ Deep Cove 62.43 148 P **P 13 20 14.8 -1.2**
DCZ IAmb IAmb 13 20 43.9
comp=Z,64nm,1.2s
BRZS Berezniki 62.96 325 *e*P **P 13 20 18.9 -0.7**
BRZS pmax pmax
comp=Z,17nm,0.8s
BRZS Berezniki 62.96 325 *e*P **P 13 20 18.9 -0.7**
comp=Z,16nm,0.8s,baz=325
LBZ Lake Benmore 63.40 145 P **P 13 20 21.3 -1.2**
RPZ Rata Peaks 63.49 144 LR LR 13 48 51.0
comp=Z,966nm,19.7s,baz=306,slow=37
URZ Urewera 64.35 137 P **P 13 20 29.7 +0.8**
comp=Z,7.5nm,0.9s,baz=16,slow=7.4
URZ Urewera 64.35 137 IAmb IAmb 13 21 01.2
comp=Z,81nm,1.6s
URZ IAMs_20 IAMs_20 13 49 39.4
comp=Z,1µm,20.0s
HRA Herat 65.07 306 P **P 13 20 33.9 -0.2**
HRA IAmb IAmb 13 20 38.8
comp=Z,70nm,1.4s
AFI Afiamalu 65.24 108 LR LR 13 43 55.2
comp=Z,265nm,20.9s,baz=282,slow=31
BRVK Borovoye 65.69 327 *de*P **P 13 20 35.9 -1.5**
BRVK pmax pmax
comp=Z,50nm,1.2s
BRVK Borovoye 65.69 327 P **P 13 20 35.9 -1.5**
BRVK IAmb IAmb 13 21 17.3
comp=Z,64nm,1.2s
BRVK Borovoye 65.69 327 IAMs_20 IAMs_20 13 49 36.2
comp=Z,2µm,22.0s
JLN Jalan Bani Buh 65.78 292 P **P 13 20 39.3 +0.8**
WSAR Wadi Sarin 66.59 293 P **P 13 20 45.5 +1.8**
comp=Z,4.0nm,0.6s,baz=113,slow=5.5,SNR=6.1
TIXI Tiksi 66.86 1 LR LR 13 53 14.6
comp=Z,1µm,18.1s,baz=181,slow=39
TIXI Tiksi 66.86 1‖ *e*P **P 13 20 42.6 -1.9**
TIXI pmax pmax
comp=Z,50nm,1.6s
TIXI MLR MLR
comp=Z,3µm,21.0s
TIXI Tiksi 66.86 1 P **P 13 20 43.9 -0.5**
TIXI IAmb IAmb 13 20 55.1
comp=Z,143nm,1.7s
JMDO Jabal Madar 67.00 292 P **P 13 20 47.7 +1.3**
JMDO P **P 13 20 47.7 +1.3**
MHTO MHTO 67.03 291 P **P 13 20 48.3 +1.7**
SNR=9.8
MHTO P **P 13 20 48.3 +1.7**
SNR=9.8
BIDO Bidbid 67.07 293 P **P 13 20 47.6 +0.8**
SNR=6.4
BIDO P **P 13 20 47.6 +0.8**
SNR=6.4
DQM DQM 67.36 290 P **P 13 20 51.5 +2.8**
SNR=6.3
DQM P **P 13 20 51.5 +2.8**
SNR=6.3

SOHO SOHO 68.58 294 P **P 13 20 58.5 +2.2**
BANOM Banah 68.94 296 P **P 13 21 01.5 +3.0**
UOSS Minazif 68.94 295 P **P 13 21 00.2 +1.6**
UOSS Minazif 68.94 295 P **P 13 21 00.7 +2.1**
BILL Bilibino 68.98 15 *d* iP **P 13 20 57.6 -0.4**
BILL *i* 13 21 23.0
BILL *i* 13 23 27.5
BILL *i* S S 13 29 51.4 -11
BILL pmax pmax
comp=Z,58nm,1.5s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 68.98 15 P **P 13 20 57.1 -0.8**
BILL IAmb IAmb 13 21 34.3
comp=Z,49nm,1.4s
BILL IAMs_20 IAMs_20 13 55 38.6
comp=Z,1µm,18.0s
HATD Hatta, Dubai 68.99 295 *i* P **P 13 21 01.4 +2.5**
SNR=5.3
MSFE Esma-Masafi 69.01 295 P **P 13 21 01.6 +2.6**
GEYT Alibeck 69.04 309 P **P 13 20 59.5 +0.6**
comp=Z,11nm,1.1s,baz=65,slow=22,SNR=9.0
GYA0B ALIBECK ARRAY 69.04 309 P **P 13 20 59.4 +0.4**
ASHO Ashiyiah 69.05 294 P **P 13 21 02.1 +2.8**
NRIK Noril'sk 69.08 347 P **P 13 20 57.9 -0.6**
comp=Z,8.7nm,0.8s,baz=126,slow=4.9,SNR=10
NRIK LR LR 13 52 18.2
comp=Z,2µm,21.8s,baz=146,slow=37
NRIK Noril'sk 69.08 347 P **P 13 20 57.4 -1.1**
SHME Shamm 69.09 296 P **P 13 21 02.2 +2.8**
SHAO Shalim 69.09 287 P **P 13 21 02.8 +3.2**
ALNE Al Ain 69.28 294 P **P 13 21 02.4 +1.6**
SNR=9.5
ALNE P **P 13 21 02.4 +1.6**
SNR=9.5
ALNE Al Ain 69.28 294 *i* P **P 13 21 03.1 +2.3**
SNR=12
FAQ Al Faqa, Dubai 69.48 295 P **P 13 21 02.4 +0.5**
ASUD Al Ashush, Dub 69.71 294 P **P 13 21 05.7 +2.4**
ASUD P **P 13 21 05.7 +2.4**
ASUD Al Ashush, Dub 69.71 294 P **P 13 21 05.6 +2.4**
MSEY Mahe Island 70.23 263 IAMs_20 IAMs_20 13 48 44.7
comp=Z,1µm,21.0s
MSEY Mahe Island 70.23 263 P **P 13 21 08.2 +1.4**
MSEY P **P 13 21 08.2 +1.4**
MSEY Mahe Island 70.23 263 *i* P **P 13 21 08.7 +2.0**
SNR=7.9
AB31 Akbulak array 70.38 321 *i* P **P 13 21 05.0 -1.9**
ABKAR Akbulak array 70.38 321 P **P 13 21 05.7 -1.2**
ABKAR Akbulak array 70.38 321 P **P 13 21 06.6 -0.3**
ABKAR IAmb IAmb 13 21 27.8
comp=Z,25nm,1.1s
SOCY Socotra 70.63 281 P **P 13 21 08.7 -0.5**
SNR=10.0
MZR Muzera 71.30 293 P **P 13 21 14.3 +1.2**
SNR=18
MZR P **P 13 21 14.3 +1.2**
SNR=18
MZR Muzera 71.30 293 *i* P **P 13 21 13.2 +0.1**
SNR=6.3
AKTO Aktyubinsk 71.89 322 LR LR 13 55 35.3
comp=Z,2µm,20.2s,baz=110,slow=38
AKTO Aktyubinsk 71.89 322 P **P 13 21 15.6 -0.5**
GHWR Ruwais 71.90 294 P **P 13 21 16.5 -0.1**
GHWR P **P 13 21 16.5 -0.1**
SVE Sverdlovsk 72.28 329 *e*P **P 13 21 17.7 -0.6**
SVE *e*S **S 13 30 42.0 +0.7**
SVE pmax pmax
comp=Z,81nm,1.9s
SVE MLR MLR
comp=Z,1µm,18.0s
ARU Arti 73.24 328 LR LR 13 54 56.0
comp=Z,1µm,20.8s,baz=104,slow=37
ARU Arti 73.24 328 *c* iP **P 13 21 23.6 -0.4**
ARU 13 21 40.2
ARU 13 24 06.0
ARU S **SKiKP 13 30 54.6 -1.6**
ARU SS **SS 13 35 36.0 +2.1**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 73.24 328 P **P 13 21 23.5 -0.5**
TRNA Turayna 73.45 294 P **P 13 21 25.1 -0.8**
GAMB Gambell 74.11 24 P **P 13 21 29.5 +0.6**
GAMB IAmb IAmb 13 21 41.5
comp=Z,119nm,1.7s
GAMB Gambell 74.11 24 P **P 13 21 29.7 +0.8**
baz=248
TNA Tin City 76.27 23 P **P 13 21 41.2 -0.1**
TNA Tin City 76.27 23 P **P 13 21 42.3 +0.9**
baz=251
SBV Sambava 76.82 255 P **P 13 21 47.1 +1.7**
SNR=8.0
ANM Nome 76.99 25 P **P 13 21 44.8 -0.7**
ANM pmax pmax
comp=Z,25nm,1.2s
ANM Nome 76.99 25 P **P 13 21 44.8 -0.7**
ANM Nome 76.99 25 P **P 13 21 45.4 -0.1**
baz=253
SDPT Sand Point 77.23 34 P **P 13 21 47.4 +0.5**
baz=260
MAK Makhachkala 77.75 313 *e*P P 13 21 42.6 -7.5
MAK *e*S S 13 31 32.9 -10
MAK *e*SSS SSS 13 40 00.2
MAK pmax pmax
comp=Z,283nm,1.1s
RAR Rarotonga 77.88 113 LR LR 13 56 07.6
comp=Z,86nm,18.1s,baz=276,slow=36
KIRV Kirov 78.54 329 LR LR 13 59 48.8
comp=Z,2µm,20.6s,baz=102,slow=38
RAYN Ar Rayn 78.64 293 P **P 13 21 54.6 -1.0**
RAYN pmax pmax
comp=Z,55nm,1.2s
RAYN Ar Rayn 78.64 293 P **P 13 21 54.5 -1.0**
RAYN IAmb IAmb 13 22 07.5
comp=Z,55nm,1.2s
RAYN Ar Rayn 78.64 293 *i* P **P 13 21 55.6 0.0**
SNR=7.7
BELG Belogornoye 78.65 322 LR LR 14 01 04.2
comp=Z,610nm,19.2s,baz=103,slow=39
RDOG Red Dog Mine 78.91 21 P **P 13 21 56.2 +0.1**
RDOG IAmb IAmb 13 22 08.7
comp=Z,99nm,1.6s
RDOG Red Dog Mine 78.91 21 P **P 13 21 57.2 +1.1**
baz=255,SNR=6.7
GROC Groznyy 79.01 313 *e*P **P 13 21 57.1 -0.1**
GROC *e* 13 22 06.4
GROC *e* 13 24 54.4
GROC *e*S **S 13 31 53.7 -2.7**
GROC pmax pmax
comp=Z,20nm,0.7s
GNI Garni 79.63 310‖ *e*P **P 13 22 01.3 +0.5**
GNI pmax pmax
comp=Z,73nm,1.7s
CHIR Chirikof Islan 80.03 34 IAMs_20 IAMs_20 13 52 13.6
comp=Z,1µm,19.0s
OPO Ambohidratompo 80.16 250 P **P 13 22 03.5 -0.5**
comp=Z,5.1nm,0.9s,baz=67,slow=6.5,SNR=9.0
ABPO Ambohimpanom 80.19 250 P **P 13 22 03.6 -0.6**
ABPO pmax pmax
comp=Z,105nm,1.9s
ABPO Ambohimpanom 80.19 250 P **P 13 22 03.6 -0.6**
ABPO IAmb IAmb 13 22 16.5
comp=Z,105nm,1.9s
ZEI Tsey 80.38 312 *e*P **P 13 22 03.0 -1.9**
ZEI pmax pmax
comp=Z,27nm,1.5s
GCSA Galena City Sc 80.59 25 P **P 13 22 06.2 +0.9**
baz=261,SNR=6.0
P18K Big Mountain, 80.64 31 P **P 13 22 06.1 +0.4**
baz=263
SVW2 Sparrevohn 80.67 29 P **P 13 22 05.9 +0.1**
SVW2 IAmb IAmb 13 22 19.0
comp=Z,108nm,1.6s
TTA Tatalina 80.71 27 P **P 13 22 06.9 +0.8**
TTA pmax pmax
comp=Z,61nm,1.4s
TTA Tatalina 80.71 27 P **P 13 22 06.9 +0.8**
TTA IAmb IAmb 13 22 19.0
comp=Z,61nm,1.4s
TTA Tatalina 80.71 27 P **P 13 22 06.6 +0.5**
baz=262,SNR=12
SII Sitkinak Islan 80.90 34 P **P 13 22 07.1 0.0**
baz=265

VOI Vohitsoka 81.02 247 P **P 13 22 06.5 -2.1**
VOI Vohitsoka 81.02 247 P **P 13 22 09.2 +0.7**
L19K White Mountain 81.14 28 P **P 13 22 09.4 +1.1**
L19K IAmb IAmb 13 22 21.4
comp=Z,118nm,1.6s
L19K White Mountain 81.14 28 P **P 13 22 09.2 +0.9**
baz=263
KBZ Khabaz 81.15 313 P **P 13 22 09.8 +1.1**
comp=Z,5.1nm,1.0s,baz=6.0,slow=13,SNR=5.6
KBZ LR LR 14 02 45.0
comp=Z,1µm,20.4s,baz=78,slow=39
N19K Bonanza Creek 81.17 29 P **P 13 22 09.6 +1.0**
baz=264
O19K Port Alsworth 81.18 30 P **P 13 22 08.9 +0.4**
O19K IAmb IAmb 13 22 22.5
comp=Z,114nm,1.6s
O19K Port Alsworth 81.18 30 P **P 13 22 09.8 +1.4**
baz=264
KIV Kislovodsk 81.31 314 *e*P **P 13 22 10.6 +0.9**
KIV *e*S **S 13 32 21.9 +1.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 81.31 314 IAMs_20 IAMs_20 14 02 46.2
comp=Z,1µm,20.0s
KIV Kislovodsk 81.31 314 P **P 13 22 10.4 +0.7**
KIV P **P 13 22 10.4 +0.7**
M19K Big River Lodg 81.33 28 P **P 13 22 10.3 +1.0**
M19K IAmb IAmb 13 22 50.2
comp=Z,45nm,1.1s
M19K Big River Lodg 81.33 28 P **P 13 22 11.0 +1.7**
baz=264
Q19K Cape Douglas, 81.41 31 IAMs_20 IAMs_20 13 49 30.8
comp=Z,768nm,20.0s
Q19K Cape Douglas, 81.41 31 P **P 13 22 09.8 0.0**
baz=265
OHAK Old Harbor 81.45 33 P **P 13 22 10.3 +0.4**
OHAK IAmb IAmb 13 22 13.2
comp=Z,89nm,1.4s
OHAK Old Harbor 81.45 33 P **P 13 22 11.1 +1.2**
baz=265
ATD Arta Tunnel 81.55 281 *e*P **P 13 22 14.9 +3.5**
ATD Arta Tunnel 81.55 281 *e*P **P 13 22 14.1 +2.6**
ATD *e*S **S 13 32 18.0 -6.2**
ATD Arta Tunnel 81.55 281 *e*P **P 13 22 15.3 +3.8**
ATD *e*S **S 13 32 28.5 +4.4**
ATD Arta Tunnel 81.55 281 *e*P **P 13 22 14.1 +2.6**
L20K Farewell, AK 81.63 28 P **P 13 22 12.1 +1.2**
baz=264
K20K Telida 81.63 27 P **P 13 22 12.3 +1.4**
baz=264
GURO Guroymak-BITLI 81.69 308 P **P 13 22 11.4 -0.4**
GURO IAmb IAmb 13 22 24.6
comp=Z,121nm,1.6s
J20K Nowinta River 81.69 26 P **P 13 22 12.2 +1.1**
J20K IAmb IAmb 13 22 24.5
comp=Z,151nm,1.6s
J20K Nowinta River 81.69 26 P **P 13 22 12.6 +1.5**
baz=264
A21K Barrow 81.75 19 IAMs_20 IAMs_20 14 02 40.4
comp=Z,1µm,20.0s
A21K Barrow 81.75 19 P **P 13 22 12.3 +1.0**
baz=260
KDAK Kodiak Island 81.87 32 P **P 13 22 12.2 0.0**
comp=Z,17nm,0.9s,baz=287,slow=2.8,SNR=15
KDAK LR LR 13 54 03.6
comp=Z,787nm,21.9s,baz=266,slow=32
KDAK Kodiak Island 81.87 32‖ *e*P **P 13 22 12.5 +0.3**
KDAK pmax pmax
comp=Z,84nm,2.2s
KDAK Kodiak Island 81.87 32 IAMs_20 IAMs_20 13 52 44.2
comp=Z,2µm,22.0s
KDAK Kodiak Island 81.87 32 P **P 13 22 12.7 +0.6**
baz=266
RSO Redoubt South 81.98 30 P **P 13 22 12.2 -0.8**
IMAR Indian Mountai 82.06 24 P **P 13 22 12.8 -0.2**
VRH Novokhopyorsk 82.21 321 *e*P **P 13 22 12.0 -2.1**
VRH pmax pmax
comp=Z,30nm,1.6s
SPCR Spurr Chakacha 82.31 29 P **P 13 22 15.7 +1.1**
baz=266,SNR=7.4
SPU Mount Spurr 82.38 29 P **P 13 22 15.0 +0.1**
H21K Melozitna Rive 82.41 24 P **P 13 22 14.6 -0.3**
H21K Melozitna Rive 82.41 24 P **P 13 22 16.2 +1.2**
baz=265
PPLA Purkeypile 82.44 27 P **P 13 22 14.6 -0.7**
PPLA Purkeypile 82.44 27 P **P 13 22 16.1 +0.8**
baz=266,SNR=7.2
CHUM Lake Minchumin 82.46 26 P **P 13 22 16.4 +1.3**
baz=265,SNR=20
CAST Castle Rocks 82.53 27 P **P 13 22 16.5 +0.9**
CAST Castle Rocks 82.53 27 P **P 13 22 16.7 +1.0**
baz=266,SNR=31
MARD Mardin 82.68 307 P **P 13 22 17.1 0.0**
MARD IAmb IAmb 13 22 36.0
comp=Z,54nm,1.5s
CNPM China Poot 82.68 31 P **P 13 22 15.5 -1.0**
I21K Tanana 82.71 25 P **P 13 22 16.0 -0.4**
I21K IAmb IAmb 13 22 28.9
comp=Z,93nm,1.4s
I21K Tanana 82.71 25 P **P 13 22 18.0 +1.5**
baz=266
BRSE Bradley Lake S 82.94 31 P **P 13 22 18.3 +0.5**
baz=267,SNR=8.2
KTH Kantishna Hill 83.06 27 P **P 13 22 17.7 -0.7**
BPAW Bear Paw Mtn. 83.06 26 P **P 13 22 18.4 +0.1**
BPAW Bear Paw Mtn. 83.06 26 P **P 13 22 18.5 +0.2**
baz=266,SNR=40
MLY Manley 83.23 25 P **P 13 22 18.0 -1.2**
MLY Manley 83.23 25 P **P 13 22 20.0 +0.8**
baz=267,SNR=49
CUT Chulitna 83.30 28 P **P 13 22 20.4 +0.9**
baz=267,SNR=9.8
TEND Ethiopian Broa 83.33 281 *e*P **P 13 22 23.4 +2.7**
TEND *e*S **S 13 32 45.9 +3.5**
TRF Thorofare Moun 83.34 27 P **P 13 22 19.6 -0.4**
TRF Thorofare Moun 83.34 27 P **P 13 22 19.3 -0.7**
baz=267,SNR=30
M22K Willow 83.34 28 P **P 13 22 20.0 +0.2**
baz=268,SNR=40
SOC Sochi 83.45 313 *e*P **P 13 22 17.8 -3.0**
SOC *e* 13 25 27.9
SOC *e*PPP PPP 13 27 21.2
SOC *e*S **S 13 32 39.4 -3.1**
SOC *e*SS **SS 13 38 04.4 -3.6**
SOC *e*SSS SSS 13 41 40.0
O22K Cooper Landing 83.48 30 P **P 13 22 20.0 -0.5**
O22K Cooper Landing 83.48 30 P **P 13 22 20.5 0.0**
baz=268,SNR=12
RC01 Rabbit Creek A 83.50 29 IAMs_20 IAMs_20 13 55 52.0
comp=Z,788nm,21.0s
RC01 Rabbit Creek A 83.50 29 P **P 13 22 20.6 0.0**
baz=268,SNR=17
COLD Coldfoot 83.57 23 P **P 13 22 21.4 +0.5**
COLD Coldfoot 83.57 23 P **P 13 22 21.8 +0.9**
baz=267,SNR=44
SEW Seward 83.61 30 P **P 13 22 21.3 +0.2**
SEW Seward 83.61 30 P **P 13 22 21.5 +0.3**
baz=268,SNR=14
VORD Divnogorie 83.73 321 *e*P **P 13 22 21.4 -0.6**
VORD pmax pmax
comp=Z,20nm,1.6s
KLMR Klimovskoe 83.75 331 *e*P **P 13 22 19.4 -2.5**
KLMR *e* 13 25 31.7
KLMR pmax pmax
comp=Z,52nm,1.4s
KLMR Klimovskoe 83.75 331 *e*P **P 13 22 19.4 -2.5**
KLMR AMP 13 22 26.0
comp=Z,52nm,1.4s
KLMR *e*PP **PP 13 25 31.7 -3.1**
KLMR LQ LQ 13 53 54.5
KLMR LQ LQ 13 53 54.5
KLMR LR LR 13 58 53.8
VORR Voronezh 83.79 321 *e*P **P 13 22 23.2 +0.9**
VORR pmax pmax
comp=Z,90nm,0.4s
PMR Palmer 83.81 29 P **P 13 22 22.1 0.0**
PMR pmax pmax
comp=Z,172nm,1.6s
PMR Palmer 83.81 29 P **P 13 22 22.1 0.0**
PMR Palmer 83.81 29 P **P 13 22 22.3 +0.2**
baz=268,SNR=29
I23K Minto, Yukon-K 83.81 25 P **P 13 22 22.0 -0.1**
I23K Minto, Yukon-K 83.81 25 P **P 13 22 22.4 +0.3**

baz=268,SNR=76
TOLK Toolik Lake Re 83.88 22 IAMs_20 IAMs_20 14 03 44.6
comp=Z,753nm,21.0s
TOLK Toolik Lake Re 83.88 22 P **P** **13 22 23.0 +0.5**
baz=267,SNR=40
GHO Glory Hole Cre 83.91 28 IAMs_20 IAMs_20 13 55 15.8
comp=Z,1µm,22.0s
NEA2 Nenana 83.92 26 P **P** **13 22 23.0 +0.2**
baz=268
MCK McKinley 83.95 27 P **P** **13 22 22.9 -0.1**
MCK pmax pmax
comp=Z,479nm,1.9s
MCK McKinley 83.95 27 P **P** **13 22 22.9 -0.1**
MCK McKinley 83.95 27 P **P** **13 22 22.9 -0.1**
baz=268,SNR=60
LPSR Galich'ya Gora 83.97 322 *e*P **P** **13 22 21.5 -1.7**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
RND Reindeer 83.98 27 P **P** **13 22 22.3 -0.9**
RND pmax pmax
comp=Z,288nm,1.9s
RND MLR MLR
comp=Z,800nm,22.0s
RND Reindeer 83.98 27 P **P** **13 22 22.3 -0.9**
KNK Knik Glacier 84.12 29 P **P** **13 22 24.4 +0.6**
baz=269,SNR=22
PWL Port Wells 84.18 29 IAMs_20 IAMs_20 13 55 32.0
comp=Z,767nm,19.0s
PWL Port Wells 84.18 29 P **P** **13 22 24.6 +0.4**
baz=269,SNR=20
SML Sawmill 84.19 28 IAMs_20 IAMs_20 13 56 22.3
comp=Z,920nm,22.0s
SML Sawmill 84.19 28 P **P** **13 22 25.0 +0.8**
baz=269,SNR=16
MDM Murphy Dome 84.29 25 P **P** **13 22 24.4 -0.2**
WRH Wood River Hil 84.34 26 P **P** **13 22 23.7 -1.2**
TCOL CIGO, UAF Yank 84.44 25 P **P** **13 22 25.9 +0.5**
baz=269
COLA College 84.45 25 P **P** **13 22 25.1 -0.2**
COLA pmax pmax
comp=Z,22nm,1.0s
COLA College 84.45 25 P **P** **13 22 25.1 -0.2**
COLA College 84.45 25 P **P** **13 22 25.6 +0.3**
baz=269
H24K Noodor Dome 84.45 24 P **P** **13 22 25.4 -0.1**
H24K Noodor Dome 84.45 24 P **P** **13 22 26.2 +0.8**
baz=269
WAT6 Susitna Watana 84.48 28 P **P** **13 22 26.0 +0.2**
baz=270,SNR=28
POKR Poker Plat Res 84.63 25 P **P** **13 22 26.8 +0.5**
baz=270,SNR=5.2
VNDA Vanda 84.63 172 P **P** **13 22 25.7 -0.3**
comp=Z,3.9nm,0.8s,baz=315,slow=6.2,SNR=10
DHY Denali Highway 84.65 27 P **P** **13 22 26.4 -0.3**
DHY IAMs_20 IAMs_20 13 54 29.2
comp=Z,978nm,21.0s
DHY Denali Highway 84.65 27 P **P** **13 22 27.2 +0.6**
baz=270,SNR=8.6
SCM Sheep Creek Mo 84.67 28 P **P** **13 22 27.0 +0.3**
baz=270,SNR=7.2
MOS Moscow 84.72 325 *e*P **P** **13 22 25.2 -1.7**
MOS *e* 13 22 33.8
MOS MLR MLR
comp=Z,1µm,21.0s
ANKE Ethiopia-Afar 84.72 279 *e*P **P** **13 22 29.9 +1.6**
ANKE *e*S **S** **13 32 59.8 +2.7**
ANKE Ethiopia-Afar 84.72 279 *e*P **P** **13 22 29.9 +1.6**
ANKE *e*S **S** **13 32 54.7 -2.4**
HDA Harding Lake 84.83 26 P **P** **13 22 27.6 +0.2**
baz=270,SNR=36
ILAR Eielson Array 84.86 25 P **P** **13 22 25.9 -1.6**
comp=Z,13nm,1.0s,baz=242,slow=5.7,SNR=50
ILAR LR LR 13 59 10.4
comp=Z,238nm,22.0s,baz=242,slow=35
ANN Anapa 85.07 314 *e*P **P** **13 22 25.2 -3.7**
ANN *e**PP **pP** **13 22 28.8 -1.6**
ANN *e* 13 32 57.0
ANN pmax pmax
comp=Z,88nm,1.6s
ANN MLR MLR
comp=Z,1µm,25.0s
M24K Tolsona, Glenn 85.21 28 P **P** **13 22 30.3 +0.9**
baz=271,SNR=12
OBN Obninsk 85.33 325 *i* P **P** **13 22 27.4 -2.6**
OBN *i* 13 22 36.9
OBN pmax pmax
comp=Z,23nm,1.2s
OBN MLR MLR
comp=Z,2µm,18.0s
KLU Klutina 85.34 29 P **P** **13 22 29.4 -0.6**
KLU IAmb IAmb 13 22 42.6
comp=Z,93nm,1.7s
KLU Klutina 85.34 29 P **P** **13 22 31.3 +1.3**
baz=271
PRP Porcupine Dome 85.43 25 P **P** **13 22 31.1 +0.6**
baz=271
EYAK Cordova Ski Ar 85.45 30 P **P** **13 22 31.3 +0.9**
baz=272
J25K Salcha River, 85.52 26 P **P** **13 22 28.9 -2.0**
J25K Salcha River, 85.52 26 P **P** **13 22 30.9 0.0**
baz=272,SNR=14
PAX Paxson 85.52 27 P **P** **13 22 30.5 -0.4**
baz=272,SNR=14
FYU Fort Yukon 85.52 24 P **P** **13 22 30.5 -0.3**
HARP HAARP 85.68 28 P **P** **13 22 32.4 +0.8**
baz=272
AAE Adis Abeba 85.72 279 *e*P **P** **13 22 37.1 +3.9**
AAE Adis Abeba 85.72 279 *e*P **P** **13 22 33.9 +0.7**
AAE ⇓*e*S **S** **13 33 09.8 +3.0**
AAE Adis Abeba 85.72 279 *e*P **P** **13 22 37.6 +4.4**
AAE *e*S **S** **13 33 15.2 +8.5**
AAE Adis Abeba 85.72 279 *e*P **P** **13 22 33.9 +0.7**
AAE *e*S **S** **13 32 58.8 -8.0**
BMAR Burnt Mountain 85.75 23 P **P** **13 22 31.8 -0.2**
RIDG Independent Ri 85.77 26 IAMs_20 IAMs_20 13 56 35.0
comp=Z,1µm,22.0s
RIDG Independent Ri 85.77 26 P **P** **13 22 31.8 -0.3**
baz=272,SNR=13
FURI Furi 85.81 279 IAMs_20 IAMs_20 13 57 31.7
comp=Z,1µm,22.0s
FURI Furi 85.81 279 *e*P **P** **13 22 37.9 +4.2**
FURI Furi 85.81 279 *e*P **P** **13 22 36.4 +2.7**
FURI ⇓*e*S **S** **13 33 03.8 -3.9**
FURI Furi 85.81 279 *e*P **P** **13 22 37.6 +3.9**
FURI *e*S **S** **13 33 05.2 -2.5**
FURI Furi 85.81 279 *e*P **P** **13 22 36.4 +2.7**
N25K Chitina, Valde 85.97 29 P **P** **13 22 32.6 -0.6**
N25K Chitina, Valde 85.97 29 P **P** **13 22 34.3 +1.0**
baz=272
BMRM Bremner River 86.00 29 P **P** **13 22 34.8 +1.5**
baz=272,SNR=6.4
KAIM Kayak Island 86.14 30 P **P** **13 22 34.5 +0.6**
baz=273
SCRK Sand Creek 86.14 26 P **P** **13 22 33.1 -0.9**
SCRK IAmb IAmb 13 22 46.3
comp=Z,68nm,1.6s
SCRK Sand Creek 86.14 26 P **P** **13 22 34.6 +0.6**
baz=273
HMT Hamilton 86.20 30 IAMs_20 IAMs_20 13 56 51.3
comp=Z,1µm,21.0s
J26L Joseph Creek 86.30 26 P **P** **13 22 35.4 +0.6**
baz=273
APA Apatity 86.32 337 ⇓*i* P **P** **13 22 35.6 +0.9**
APA pmax pmax
comp=Z,16nm,1.1s
GLB Gilahina Butte 86.36 29 P **P** **13 22 34.9 -0.2**
GLB IAmb IAmb 13 23 20.7
comp=Z,38nm,1.2s
DILA Dilla 86.38 276 *e*P **P** **13 22 38.9 +2.6**
DILA Dilla 86.38 276 *e*P **P** **13 22 38.9 +2.6**
BERG Berg Lake 86.47 30 IAMs_20 IAMs_20 13 56 23.6
comp=Z,916nm,19.0s
L26K Log Cabin Wild 86.48 27 IAMs_20 IAMs_20 14 06 28.8
comp=Z,683nm,20.0s
L26K Log Cabin Wild 86.48 27 P **P** **13 22 36.0 +0.4**
baz=274
VRDI Verde Repeater 86.54 29 IAMs_20 IAMs_20 13 56 13.4
comp=Z,746nm,21.0s
MCARA McCarthy VSAT 86.74 29 IAMs_20 IAMs_20 13 57 43.6
comp=Z,843nm,22.0s
PPT2 Papeete2 86.92 108 *e*S **S** **13 33 15.0 -2.9**
comp=Z,362nm,23.2s
PPT2 Papeete2 86.92 108 *e*LQ LQ 13 46 32.2
comp=Z,2µm,31.5s
PPT2 *e*LR LR 13 50 11.2
comp=Z,850nm,25.8s

ISLE Juniper Island 87.13 30 IAMs_20 IAMs_20 13 57 24.0
comp=Z,835nm,22.0s
L27K Beaver Creek, 87.17 27 P **P** **13 22 38.6 -0.4**
L27K Beaver Creek, 87.17 27 P **P** **13 22 39.4 +0.4**
baz=275
BCAR Beaver Creek A 87.19 27 P **P** **13 22 38.7 -0.4**
M27K Edge Creek, AK 87.21 28 IAMs_20 IAMs_20 13 57 55.9
comp=Z,895nm,22.0s
M27K Edge Creek, AK 87.21 28 P **P** **13 22 39.8 +0.5**
baz=275
EGAK Eagle 87.31 25 IAMs_20 IAMs_20 13 59 43.6
comp=Z,863nm,22.0s
EGAK Eagle 87.31 25 P **P** **13 22 40.2 +0.7**
baz=275
KIBK Kibwezi 87.32 267 P **P** **13 22 42.6 +1.8**
SNR=18
GRNC Granite Creek 87.41 29 IAMs_20 IAMs_20 13 58 20.3
comp=Z,783nm,21.0s
CTG Chitna Glacier 87.59 29 P **P** **13 22 42.1 +0.9**
baz=275,SNR=8.9
CTGM Chitina Glacie 87.59 29 IAMs_20 IAMs_20 13 52 50.1
comp=Z,820nm,22.0s
TBI Tubuai 87.63 114 *e*S **S** **13 33 24.5 +0.1**
comp=Z,671nm,31.0s
TBI Tubuai 87.63 114 *e*LQ LQ 13 46 46.5
TBI comp=Z,1µm,27.5s *e*LR LR 13 50 33.7
comp=Z,1µm,34.2s
TABL Table Mountain 87.73 30 IAMs_20 IAMs_20 13 57 50.9
comp=Z,756nm,20.0s
LOGN Logan Glacier 87.76 29 P **P** **13 22 42.3 +0.2**
LOGN IAmb IAmb 13 23 21.5
comp=Z,65nm,1.8s
YUK3 Moose Creek 87.93 28 P **P** **13 22 43.4 +0.5**
baz=276
YUK3 S **S** **13 33 27.8 +1.5**
baz=276
KMBO Kilima Mbogo 88.01 269 P **P** **13 22 44.7 +0.4**
comp=Z,1.3nm,0.4s,baz=83,slow=4.7,SNR=18
KMBO Kilima Mbogo 88.01 269 P **P** **13 22 45.3 +1.0**
DAWY Dawson 88.15 26 P **P** **13 22 42.9 -0.8**
DAWY Dawson 88.15 26 P **P** **13 22 44.5 +0.8**
baz=277
DAWY S **S** **13 33 31.3 +3.3**
baz=277
BRTR Keskin Array B 88.17 310 P **P** **13 22 44.5 0.0**
comp=Z,3.5nm,0.9s,baz=142,slow=6.3,SNR=4.7
BRTR Keskin Array B 88.17 310 P **P** **13 22 43.1 -1.3**
PUL Pulkovo 88.37 330⇑ *e*P **P** **13 22 45.2 +0.5**
PUL pmax pmax
comp=Z,74nm,0.7s
I29M Ogilvie Camp, 88.44 25 IAMs_20 IAMs_20 14 07 46.5
comp=Z,889nm,19.0s
I29M Ogilvie Camp, 88.44 25 P **P** **13 22 45.5 +0.4**
baz=278
YUK4 Talbot Arm 88.84 29 P **P** **13 22 47.6 +0.4**
baz=278
EPYK Eagle Plains 88.94 24 IAMs_20 IAMs_20 14 07 07.5
comp=Z,702nm,20.0s
EPYK Eagle Plains 88.94 24 P **P** **13 22 47.7 +0.3**
baz=279
ARCES ARCESS Array B 88.96 340 P **P** **13 22 46.2 -1.1**
comp=Z,6.0nm,0.8s,baz=40,slow=6.6,SNR=5.2
ARCES LR LR 14 07 10.3
comp=Z,655nm,18.2s,baz=82,slow=39
YUK6 Outpost Mounta 89.03 29 S **S** **13 33 42.8 +6.0**
baz=278
SPITS Spitsbergen Ar 89.18 349 LR LR 14 10 22.3
comp=Z,804nm,18.1s,baz=243,slow=41
HYT Haines Junctio 89.46 29 P **P** **13 22 49.4 -0.6**
baz=279
LODK Lodwar 89.52 273 *e*P **P** **13 22 53.3 +2.1**
LODK Lodwar 89.52 273 *e*P **P** **13 22 49.8 -1.5**
LODK Lodwar 89.52 273 *e*P **P** **13 22 53.7 +2.5**
LODK *e*S SKSac 13 33 06.9 -16
LODK Lodwar 89.52 273 *e*P **P** **13 22 49.8 -1.5**
M30M Minto, Yukon 89.52 27 P **P** **13 22 50.3 +0.2**
baz=279
M30M S **S** **13 33 45.8 +4.9**
baz=279
INK Inuvik 89.79 21 P **P** **13 22 50.4 -0.8**
INK pmax pmax
comp=Z,69nm,2.0s
INK Inuvik 89.79 21 P **P** **13 22 50.4 -0.8**
INK IAmb IAmb 13 23 02.6
comp=Z,69nm,2.0s
INK Inuvik 89.79 21 P **P** **13 22 51.2 -0.1**
baz=282
AKASG Malin Array Be 90.12 321 P **P** **13 22 51.8 -1.3**
comp=Z,3.2nm,1.0s,baz=70,slow=4.4,SNR=8.0
AKASG LR LR 14 09 35.5
comp=Z,748nm,18.1s,baz=76,slow=40
AKBB Malin Array Si 90.12 321⇑ *e*P **P** **13 22 51.8 -1.3**
N31M Braeburn, Yuko 90.18 28 IAMs_20 IAMs_20 13 59 30.6
comp=Z,965nm,22.0s
N31M Braeburn, Yuko 90.18 28 P **P** **13 22 53.6 +0.4**
baz=280,SNR=8.3
FINES FINESS Array B 90.20 332 P **P** **13 22 51.5 -1.8**
comp=Z,1.5nm,0.8s,baz=162,slow=31,SNR=7.9
FINES LR LR 14 08 08.3
comp=Z,1µm,18.8s,baz=82,slow=39
VSU Vasula 90.39 329⇑ *e*P **P** **13 22 52.6 -1.6**
VSU pmax pmax
comp=Z,25nm,1.1s
MNK Minsk 90.39 325 *i* P **P** **13 22 50.5 -3.8**
MNK *i* PPP PPP 13 28 22.0
MNK *i* S **SKSac** **13 33 21.4 -4.4**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=N,998nm,20.0s
MNK MLR MLR
comp=Z,1µm,19.0s
MNK MLR MLR
comp=E,172nm,19.0s
MNK Minsk 90.39 325 *i* P **P** **13 22 50.6 -3.8**
comp=E,2.0nm,0.8s
MNK *i* P **P** **13 22 50.6 -3.8**
comp=N,10.0nm,0.8s
MNK *i* P **P** **13 22 50.6 -3.8**
comp=Z,13nm,0.8s,baz=81
MNK *i* PP PP 13 26 08.2 -20
MNK *i* PPP PPP 13 28 22.0
MNK *i* S **SKSac** **13 33 21.5 -4.4**
MNK *i* SS SS 13 39 34.4 -15
MNK *i* SSS SSS 13 43 51.3
MNK *i* LQ LQ 13 54 06.4
MNK *i* LR LR 13 58 06.8
MNK *i* LRM MLR 14 05 44.5
comp=N,998nm,19.8s
MNK *i* LRM MLR 14 05 56.5
comp=Z,1µm,19.3s
MNK *i* LRM MLR 14 06 02.5
comp=E,172nm,19.3s
M31M Drury Creek, Y 90.69 27 IAMs_20 IAMs_20 13 59 33.1
comp=Z,767nm,22.0s
M31M Drury Creek, Y 90.69 27 P **P** **13 22 56.4 +0.8**
baz=281
WHY Whitehorse 90.76 29 P **P** **13 22 56.6 +0.6**
WHY Whitehorse 90.76 29 P **P** **13 22 57.2 +1.1**
baz=281,SNR=6.8
SKAG Skagway 90.77 30 P **P** **13 22 56.1 +0.2**
baz=281
NACGM Naroch 90.96 325 *i* P **P** **13 22 57.3 +0.3**
FARO Faro, Yukon 91.17 27 P **P** **13 22 58.6 +0.8**
baz=282,SNR=14
JIS Juneau Island 91.47 31 IAMs_20 IAMs_20 13 57 52.0
comp=Z,1µm,22.0s
A36M Sachs Harbour 91.48 17 IAMs_20 IAMs_20 14 11 01.3
comp=Z,693nm,20.0s
A36M Sachs Harbour 91.48 17 P **P** **13 22 59.5 +0.5**
baz=290,SNR=19
A36M S **S** **13 33 55.6 -2.8**
baz=290
P33M Teslin, Yukon 91.86 29 IAMs_20 IAMs_20 14 00 49.0
comp=Z,852nm,21.0s
P33M Teslin, Yukon 91.86 29 P **P** **13 23 01.6 +0.4**
baz=283
NOR Nord 91.94 355 *e*P P 13 22 50.4 -11
NOR IAmb IAmb 13 22 53.2
comp=Z,1.7nm,0.7s
MMPY Sheldon Lake, 92.02 27 P **P** **13 23 03.0 +1.2**
baz=284,SNR=7.2

ALE Alert 92.76 1 IAMs_20 IAMs_20 14 08 10.8
comp=Z,1µm,19.0s
C36M Paulatuk 92.78 19 P **P** **13 23 04.4 -0.6**
C36M IAmb IAmb 13 23 16.4
comp=Z,69nm,1.9s
C36M IAMs_20 IAMs_20 14 11 43.8
comp=Z,753nm,20.0s
C36M Paulatuk 92.78 19 P **P** **13 23 05.1 0.0**
C36M S **S** **13 34 09.2 -1.0**
baz=291
SYO Syowa Base 92.81 201⇑ *e*P **P** **13 23 04.6 -0.5**
MLR Muntele Rosu 93.08 316 LR LR 14 09 06.6
comp=Z,1µm,22.0s,baz=68,slow=38
MLR Muntele Rosu 93.08 316 IAMs_20 IAMs_20 14 09 28.8
comp=Z,1µm,20.0s
DLBC Dease Lake 93.67 31 P **P** **13 23 10.6 +1.1**
comp=Z,8.1nm,1.0s,baz=253,slow=6.3,SNR=8.5
DLBC LR LR 14 01 09.9
comp=Z,654nm,21.7s,baz=286,slow=33
EUNU Eureka 93.82 5 P **P** **13 23 09.5 -0.3**
EUNU IAmb IAmb 13 23 37.6
comp=Z,48nm,1.8s
MBAR Mbarara 94.46 270 LR LR 14 02 58.7
comp=Z,519nm,21.6s,baz=46,slow=34
MBAR Mbarara 94.46 270 *e*P P 13 23 05.5 -8.7
QSPA South Pole Qui 94.65 180 LR LR 14 09 14.7
comp=Z,452nm,18.0s,baz=350,slow=38
QSPA South Pole Qui 94.65 180 P **P** **13 23 13.2 -0.7**
QSPA IAmb IAmb 13 23 27.5
comp=Z,50nm,1.6s
UZH Uzhgorod 94.92 320 *e*P **P** **13 23 12.0 -3.4**
TAOE Nuku Hiva Isla 95.34 98 *e*LR LR 13 54 09.8
comp=Z,1µm,27.0s
CRVS Cervenica-Dubn 95.39 320 *e*P **P** **13 23 21.0 +3.4**
CRVS Cervenica-Dubn 95.39 320 *e*PDIFF **P** **13 23 21.0 +3.4**
DAG Danmarks Havn 96.04 352 *i* P **P** **13 23 15.6 -4.3**
DAG IAmb IAmb 13 23 20.3
comp=Z,2.6nm,0.8s
HFS Hagfors 96.39 332 P **P** **13 23 21.7 -0.1**
comp=Z,2.0nm,1.0s,baz=32,slow=47,SNR=2.7
HFS LR LR 14 11 02.9
comp=Z,860nm,18.2s,baz=62,slow=38
BBB Bella Bella 96.42 36 LR LR 14 01 53.6
comp=Z,182nm,21.3s,baz=284,slow=32
RES Resolute Bay 97.09 10 LR LR 14 13 26.4
comp=Z,326nm,18.8s,baz=294,slow=39
NB2 NORSAR Subarra 97.18 333 P **P** **13 23 24.3 -1.2**
comp=Z,2.2nm,0.9s,baz=68,slow=4.8
NOA NORSAR Array B 97.18 333 P **P** **13 23 24.5 -1.0**
comp=Z,1.4nm,0.8s,baz=67,slow=4.7,SNR=5.0
NOA LR LR 14 09 56.0
comp=Z,2µm,22.0s,baz=70,slow=37
DIVS Divibare 97.52 315 IAMs_20 IAMs_20 14 16 19.1
comp=Z,639nm,20.0s
MATP Matopo 97.87 250 LR LR 14 07 22.7
comp=Z,422nm,18.3s,baz=85,slow=35
LSZ Lusaka 97.95 255 LR LR 14 07 54.9
comp=Z,682nm,18.1s,baz=86,slow=36
DBG Daneborg 98.28 351 *i* P **P** **13 23 29.4 -0.7**
DBG IAmb IAmb 13 23 31.5
comp=Z,1.2nm,0.7s
VRAC Vranov 98.37 321 LR LR 14 12 19.7
comp=Z,773nm,19.4s,baz=75,slow=38
TULEG Thule 98.43 3 IAMs_20 IAMs_20 14 11 17.5
comp=Z,635nm,18.0s
PDG Podgorica 98.45 314 IAMs_20 IAMs_20 14 14 15.7
comp=Z,745nm,21.0s
JMIC Jan Mayen 98.50 346 LR LR 14 13 01.5
comp=Z,414nm,20.1s,baz=58,slow=38
YKA Yellowknife Ar 99.22 24 P **Pdif** **13 23 34.8 +0.3**
comp=Z,3.8nm,0.9s,baz=298,slow=4.7,SNR=38
YKA LR LR 14 12 10.3
comp=Z,185nm,19.7s,baz=295,slow=38
TIP Timpagrande 101.11 311 IAMs_20 IAMs_20 14 18 58.5
comp=Z,706nm,21.0s
CEL Celeste 102.01 311 IAMs_20 IAMs_20 14 19 36.3
comp=Z,596nm,22.0s
AQU L'Aquila 102.63 315 IAMs_20 IAMs_20 14 19 03.3
comp=Z,647nm,19.0s
NEW Newport 104.39 38 IAMs_20 IAMs_20 14 02 55.1
comp=Z,760nm,22.0s
ECH Echery 104.58 322 IAMs_20 IAMs_20 14 14 56.8
comp=Z,913nm,21.0s
SENIN Lac Senin/Sane 105.26 321 IAMs_20 IAMs_20 14 17 32.8
comp=Z,956nm,21.0s
BMO Blue Mountains 105.66 41 IAMs_20 IAMs_20 14 03 38.9
comp=Z,548nm,22.0s
NVAR Mina Array Bea 107.39 47 Pdiff **Pdif** **13 24 14.4 +2.8**
comp=Z,0.6nm,0.8s,baz=250,slow=7.4,SNR=4.4
NVAR PKKPab **PKKPab** **13 39 51.2 -0.1**
comp=Z,0.6nm,0.8s,baz=104,slow=4.7,SNR=4.0
SSB Saint Sauveur 107.47 320 IAMs_20 IAMs_20 14 15 56.2
comp=Z,835nm,20.0s
EGMT Eagleton 108.88 35 IAMs_20 IAMs_20 14 04 26.7
comp=Z,676nm,22.0s
FFC Flin Flon 109.04 27 IAMs_20 IAMs_20 14 10 30.2
comp=Z,697nm,20.0s
R11A Troy Canyon, C 109.40 47 P **PKiKP** **13 28 24.4 +0.3**
baz=293
FLWY Flagg Ranch 110.25 39 IAMs_20 IAMs_20 14 23 56.2
comp=Z,545nm,20.0s
MOOW Moose Ponds 110.38 40 IAMs_20 IAMs_20 14 05 36.7
comp=Z,805nm,22.0s
LOHW Long Hollow 110.53 40 IAMs_20 IAMs_20 14 06 16.8
comp=Z,837nm,22.0s
GMRC Granite Mounta 110.69 50 P **PKiKP** **13 28 27.1 +0.5**
baz=292
PDAR Pinedale Array 111.61 40 PKKPbc PKKPbc 13 39 31.9 +8.4
comp=Z,0.2nm,0.6s,baz=73,slow=40,SNR=2.6
LAO LASA Array 111.62 35 IAMs_20 IAMs_20 14 07 59.3
comp=Z,539nm,20.0s
RWWY Rawlins 113.66 40 IAMs_20 IAMs_20 14 08 27.5
comp=Z,907nm,22.0s
O20A White River Ci 113.75 42 P **PKiKP** **13 28 33.5 +1.1**
baz=299
RSSD Black Hills 114.33 37 IAMs_20 IAMs_20 14 05 42.0
comp=Z,524nm,18.0s
CART Cartagena 114.66 315 IAMs_20 IAMs_20 14 25 52.8
comp=Z,697nm,19.0s
PHWY Pilot Hill 114.98 40 IAMs_20 IAMs_20 14 09 55.6
comp=Z,813nm,22.0s
W18A Petrified Fore 115.01 48 P **PKPdf** **13 28 35.1 +0.2**
baz=296
ISCO Idaho Springs 115.66 41 P **PKPdf** **13 28 36.8 +0.6**
baz=301
SDCO Great Sand Dun 116.79 43 P **PKiKP** **13 28 39.5 +1.2**
baz=300
ANMO Albuquerque 117.48 47 P **PKiKP** **13 28 41.2 +1.5**
baz=298
121A Cookes Peak, D 117.60 50 P **PKiKP** **13 28 40.8 +0.8**
baz=296
T25A Trinidad 117.84 43 P **PKiKP** **13 28 41.9 +1.5**
baz=301
ECSD EROS Data Cent 118.82 33 IAMs_20 IAMs_20 14 10 46.2
comp=Z,756nm,22.0s
ECSD EROS Data Cent 118.82 33 P **PKiKP** **13 28 41.9 +0.1**
baz=311
MNTX Cornudas Mount 119.79 49 P **PKiKP** **13 28 45.0 +0.9**
baz=298
MSTX Muleshoe 120.61 46 P **PKiKP** **13 28 46.9 +1.2**
baz=301
TORD Torodi Ar. Bea 121.11 288 PKP **PKiKP** **13 28 47.2 +0.2**
comp=Z,1.9nm,0.7s,baz=55,slow=1.8,SNR=9.3
TORD PKKPbc **PKKPab** **13 38 52.4 +2.0**
comp=Z,1.3nm,0.9s,baz=284,slow=3.4,SNR=5.7
TXAR Lajitas Array 122.19 51 PKP **PKPdf** **13 28 48.6 -0.1**
comp=Z,3.4nm,0.9s,baz=239,slow=1.0,SNR=21
JFWS Jewell Farm 122.75 30 P **PKPdf** **13 28 48.6 -0.7**
baz=317
WMOK Wichita Mounta 122.98 43 P **PKiKP** **13 28 50.2 -0.1**
baz=305
JCT Junction City 124.56 48 P **PKiKP** **13 28 53.4 -0.1**
baz=301
CCM Cathedral Cave 125.64 35 P **PKPdf** **13 28 54.8 -0.2**
baz=313
U40A Yellville 125.82 38 P **PKiKP** **13 28 55.9 +0.1**
baz=311,SNR=5.9
833A Chaparral WMA, 125.96 50 P **PKiKP** **13 28 56.4 +0.1**
baz=300
W39A Magazine 125.99 40 P **PKPdf** **13 28 55.5 -0.2**
baz=309
AAM Ann Arbor 126.34 26 IAMs_20 IAMs_20 14 25 13.9
comp=Z,584nm,20.0s
NATX Nacogdoches 127.51 43 IAMs_20 IAMs_20 14 31 05.7
comp=Z,508nm,20.0s
P49A Miami Univ. Ec 128.03 29 IAMs_20 IAMs_20 14 20 38.9
comp=Z,708nm,21.0s

P49A	**Miami Univ. Ec**	**128.03**	**29**	P		**PKPdf**	**13 28 59.1**	**-0.5**
	baz=321							
WCI	**Wyandotte Cave**	**128.23**	**32**	IAMs_20		IAMs_20	14 35 40.4	
	comp=Z,684nm,20.0s							
ACSO	**Alum Creek Sta**	**128.31**	**27**	P		**PKiKP**	**13 29 00.5**	**-0.1**
	baz=323							
M54A	**Oil Creek Stat**	**128.69**	**24**	P		**PKiKP**	**13 29 01.6**	**+0.2**
	baz=328							
WVT	**Waverly**	**128.94**	**35**	P		**PKPdf**	**13 29 01.2**	**-0.1**
	baz=316							
O53A	**New Philadelph**	**129.08**	**26**	P		**PKPdf**	**13 29 01.3**	**-0.2**
	baz=325							
P52A	**Corning**	**129.17**	**27**	IAMs_20		IAMs_20	14 19 57.9	
	comp=Z,710nm,22.0s							
P52A	**Corning**	**129.17**	**27**	P		**PKPdf**	**13 29 01.5**	**-0.2**
	baz=324							
BINY	**Binghamton**	**129.47**	**20**	P		**PKPdf**	**13 29 02.0**	**-0.3**
	baz=332							
SSPA	**Standing Stone**	**130.13**	**23**	IAMs_20		IAMs_20	14 31 17.8	
	comp=Z,636nm,20.0s							
SSPA	**Standing Stone**	**130.13**	**23**	P		**PKPdf**	**13 29 03.2**	**-0.3**
	baz=329							
LRAL	**Lakeview Retre**	**131.61**	**37**	IAMs_20		IAMs_20	14 35 49.4	
	comp=Z,574nm,19.0s							
LRAL	**Lakeview Retre**	**131.61**	**37**	P		**PKPdf**	**13 29 06.8**	**+0.3**
	baz=315							
GOGA	**Godfrey**	**133.36**	**33**	IAMs_20		IAMs_20	14 36 40.4	
	comp=Z,540nm,20.0s							
DWPF	**Disney Wildern**	**138.47**	**37**	IAMs_20		IAMs_20	14 34 47.2	
	comp=Z,598nm,20.0s							
PLCA	**Paso Flores**	**141.49**	**161**	PKP		**PKPdf**	**13 29 24.2**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=199,slow=6.5,SNR=9.4							
PLCA	**Paso Flores**	**141.49**	**161**	*eP*		**PKiKP**	**13 29 27.8**	**+0.3**
JTS	**Las Juntas de**	**146.49**	**63**	*c*	*i* PKP2	**PKPab**	**13 29 37.1**	**+0.8**
LCO	**Las Campanas**	**151.57**	**150**	PKIKP		**PKPbc**	**13 29 46.7**	**-1.6**
LCO	**Las Campanas**	**151.57**	**150**			**PKPbc**	**13 29 46.7**	**-1.6**
SJG	**San Juan**	**154.69**	**26**	IAMs_20		IAMs_20	14 37 08.5	
	comp=Z,494nm,22.0s							
OTAV	**Otavalo**	**155.90**	**79**	*eP*		**PKPdf**	**13 29 51.1**	**+2.1**
ATAH	**Atahualpa**	**156.45**	**97**	PKP		**PKPdf**	**13 29 51.6**	**+1.9**
	comp=Z,5.3nm,1.0s,baz=292,slow=4.1,SNR=6.3							
SEUS	**St. Eustatius**	**156.48**	**20**	IAMs_20		IAMs_20	14 33 29.3	
	comp=Z,437nm,19.0s							
ITAB	**Concordia**	**157.49**	**186**	*eP*		**PKPdf**	**13 29 53.3**	**+3.3**
LVC	**Limon Verde**	**157.63**	**144**	*eP*		**PKPdf**	**13 29 53.0**	**+2.1**
ROSC	**El Rosal**	**158.34**	**64**	PKP		**PKPdf**	**13 29 52.8**	**+0.8**
	comp=Z,10.0nm,0.3s,baz=120,slow=5.2,SNR=4.7							
CPUP	**Villa Florida**	**158.41**	**174**	PKP		**PKPdf**	**13 29 51.5**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=127,slow=1.7,SNR=3.2							
CPUP				PKPab		**PKPab**	**13 30 25.7**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=286,slow=1.2,SNR=3.2							
CPUP	**Villa Florida**	**158.41**	**174**	*eP*		**PKPdf**	**13 29 52.1**	**+0.9**
CAM01	**Campos-RJ**	**158.75**	**216**	*eP*		**PKPdf**	**13 29 54.7**	**+2.9**
TIJ01	**Guaruva-PR**	**158.79**	**195**	*eP*		**PKPdf**	**13 29 54.1**	**+2.2**
SDV	**Santo Domingo**	**159.23**	**49**	PKP		**PKPdf**	**13 29 52.8**	**+0.1**
	comp=Z,14nm,1.1s,baz=266,slow=2.7,SNR=8.0							
SDV	**Santo Domingo**	**159.23**	**49**	*eP*		**PKPdf**	**13 29 55.0**	**+2.2**
LPAZ	**La Paz**	**162.63**	**132**	PKP		**PKPdf**	**13 29 58.3**	**+1.4**
	comp=Z,4.6nm,0.8s,baz=30,slow=3.7,SNR=15							
SIV	**San Ignacio**	**167.26**	**152**	PKP		**PKPdf**	**13 30 00.0**	**-0.1**
	comp=Z,4.9nm,1.0s,baz=289,slow=2.3,SNR=11							

*IDC **16** 13:11:26.6±0.9, 11°.67S×118°.43E, h0km, mb4.4/7, mb1 4.7/10, mb1mx4.2/43, mbtmp4.6/10, ML4.9/3, MS4.6/3, Ms1 4.6/3, ms1mx3.7/63, Error ellipse: s-maj=30.9km s-min=21.0km az=57.0*

*NEIC **16** 13:11:27.0±1.6, 11°.94S±0°.07×118°.37E±0°.07, h10km±1km, mb4.9/15, Error ellipse: s-maj=13.4km s-min=9.5km az=227.0*

*DJA **16** 13:11:27.0±0.2, 12°.5S±2°×11°.8E±°, h10km, M5.5/44, mMB6.0/30, mb5.3/44, MLv5.4/22, Mw(mB)5.7/30, MwMwp5.2/15, Mwp5.4/15*

*BJI **16** 13:11:28.5±0.0, 11°.76S×118°.15E, h9km, mb4.7/22, mB5.4/5, Ms5.2/7, Ms7 5.0/7*

ISC 16 13:11:26.9±0.4, 11°.91S±0°.05×118°.52E±0°.06, h10km, n119, σ2s00/116, mb4.8/24, MS4.9/5, 1C, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.41**	**21**	P		**Pn**	**13 12 06.9**	**+0.4**
BASI	**Baing, Sumba**	**2.63**	**51**	P		**Pn**	**13 12 09.9**	**+0.4**
PLAI	**Plampang**	**3.15**	**347**	P		**Pn**	**13 12 15.6**	**-1.0**
PLAI	**Plampang**	**3.15**	**347**	P		**Pn**	**13 12 15.9**	**-0.7**
IGBI	**Denpasar**	**4.52**	**313**	P		**Pn**	**13 12 33.4**	**-2.1**
DNP	**Denpasar**	**4.57**	**314**	P		**Pn**	**13 12 34.2**	**-2.0**
MMRI	**Maumere**	**4.90**	**49**	Pn		**Pn**	**13 12 40.2**	**-0.5**
MMRI	**Maumere**	**4.90**	**49**	P		**Pn**	**13 12 40.5**	**-0.2**
	3.8nm14µm209nm,0.4s							
MMRI	**Maumere**	**4.90**	**49**	P		**Pn**	**13 12 41.4**	**+0.7**
SRBI	**Singaraja**	**5.00**	**319**	P		**Pn**	**13 12 41.9**	**-0.2**
BATI	**Baumata**	**5.33**	**72**	Pn		**Pn**	**13 12 48.7**	**+2.1**
	16nm,0.3s,baz=264,slow=1.9,SNR=16							
BATI				Sn		**Sn**	**13 13 46.0**	**-2.2**
	224nm,0.3s,baz=241,slow=3.2,SNR=13							
BATI	**Baumata**	**5.33**	**72**	P		**Pn**	**13 12 48.1**	**+1.5**
	2.3nm5µm117nm,0.4s							
JAGI	**Jajag, Banyuwa**	**5.49**	**308**	Pn		**Pn**	**13 12 46.5**	**-2.3**
JAGI	**Jajag, Banyuwa**	**5.49**	**308**	P		**Pn**	**13 12 46.0**	**-2.8**
	4.8nm26µm1µm,0.6s							
JAGI	**Jajag, Banyuwa**	**5.49**	**308**	P		**Pn**	**13 12 46.7**	**-2.1**
	1µm,0.6s							
ABJI	**Asem Bagus**	**5.87**	**314**	P		**Pn**	**13 12 53.2**	**-0.9**
	2.6nm10µm8µm723nm,0.8s							
BSSI	**Bau Bau, Buton**	**6.05**	**19**	P		**Pn**	**13 12 57.4**	**+0.8**
	1.5nm4µm230nm,0.8s							
GMJI	**Gumukmas**	**6.16**	**305**	P		**Pn**	**13 12 55.6**	**-2.5**
	2.6nm15µm556nm,0.5s							
BLJI	**Banyuglugur**	**6.37**	**310**	P		**Pn**	**13 12 59.4**	**-1.6**
	2.5nm7µm10µm478nm,0.4s							
KMMI	**Kalianget**	**6.59**	**317**	P		**Pn**	**13 13 03.5**	**-0.4**
	1.9nm13µm7µm545nm,0.8s							
BKSI	**Bulukumba**	**6.74**	**14**	P		**Pn**	**13 13 07.7**	**+1.8**
	1.5nm328nm,0.7s							
KAPI	**Kappang**	**6.96**	**10**	Pn		**Pn**	**13 13 10.9**	**+1.9**
	15nm,0.3s,baz=167,slow=7.6,SNR=11							
KAPI				Sn		**Sn**	**13 14 22.2**	**-6.0**
	52nm,0.3s,baz=25,slow=22,SNR=12							
KAPI	**Kappang**	**6.96**	**10**	P		**Pn**	**13 13 09.7**	**+0.7**
	162nm,0.9s							
BBSI	**Bau Bau**	**7.54**	**32**	P		**Pn**	**13 13 17.0**	**+0.1**
	0.1nm29nm,1.3s							
BNSI	**Bone**	**7.62**	**12**	P		**Pn**	**13 13 20.7**	**+2.5**
	0.9nm140nm,1.8s							
PWJI	**Pagerwojo**	**7.66**	**300**	P		**Pn**	**13 13 17.4**	**-1.2**
	3.5nm14µm289nm,0.7s							
GRJI	**Gresik**	**7.75**	**309**	P		**Pn**	**13 13 17.8**	**-2.1**
	0.7nm765nm3µm175nm,0.6s							
PCJI	**Pacitan**	**8.11**	**296**	P		**Pn**	**13 13 22.5**	**-2.4**
	3.1nm10µm13µm581nm,0.5s							
UGM	**Wanagama**	**8.82**	**296**	Pn		**Pn**	**13 13 32.8**	**-1.7**
UGM	**Wanagama**	**8.82**	**296**	P		**Pn**	**13 13 32.9**	**-1.7**
	10µm8µm409nm,1.0s							
UGM	**Wanagama**	**8.82**	**296**	P		**Pn**	**13 13 33.9**	**-0.7**
	411nm,1.0s							
YOGI	**Yogyakarta**	**9.06**	**296**	P		**Pn**	**13 13 36.7**	**-1.2**
	5µm13µm145nm,0.9s							
FITZ	**Fitzroy Crossi**	**9.23**	**133**	Pn		**Pn**	**13 13 41.0**	**+0.7**
	69nm,0.3s,baz=322,slow=7.4,SNR=606							
FITZ				Sn		**Sn**	**13 15 18.9**	**-5.3**
	17nm,0.3s,baz=184,slow=22,SNR=6.9							
FITZ	**Fitzroy Crossi**	**9.23**	**133**	P		**Pn**	**13 13 40.9**	**+0.7**
	baz=9.4							
FITZ				S		**Sn**	**13 15 20.4**	**-3.8**
	baz=9.4							
UWJI	**Ujung Watu**	**9.25**	**305**	P		**Pn**	**13 13 40.1**	**-0.4**
	15µm220nm,0.8s							
SMRI	**Semarang**	**9.31**	**301**	Pn		**Pn**	**13 13 40.3**	**-1.1**
SMRI	**Semarang**	**9.31**	**301**	P		**Pn**	**13 13 41.0**	**-0.4**
	22µm28µm211nm,0.8s							
PSA00	**Pilbara Seismi**	**9.69**	**173**	Pn		**Pn**	**13 13 46.5**	**0.0**
PSA00	**Pilbara Seismi**	**9.69**	**173**	Pn		**Pn**	**13 13 45.9**	**-0.7**
PSA00	**Pilbara Seismi**	**9.69**	**173**	P		**Pn**	**13 13 46.9**	**+0.4**
	106nm,0.6s							
KPJI	**Karang Pucung**	**10.48**	**295**	P		**Pn**	**13 13 55.9**	**-1.5**
	11µm208nm,0.5s							
KNRA	**Kununurra**	**10.63**	**112**	P		**Pn**	**13 14 00.0**	**+0.6**
	baz=11,SNR=203							
KNRA	**Kununurra**	**10.63**	**112**	Pn		**Pn**	**13 14 00.1**	**+0.6**
KNRA	**Kununurra**	**10.63**	**112**	P		**Pn**	**13 14 00.6**	**+1.2**
	97nm,0.6s							
CMJI	**Cimerak**	**10.73**	**292**	P		**Pn**	**13 13 58.3**	**-2.5**
	4µm8µm69nm,0.8s							
GIRL	**Giralia**	**11.43**	**200**	P		**Pn**	**13 14 11.0**	**+0.7**
	baz=12,SNR=31							
GIRL	**Giralia**	**11.43**	**200**	Pn		**Pn**	**13 14 10.4**	**+0.1**
GIRL	**Giralia**	**11.43**	**200**	P		**Pn**	**13 14 10.4**	**+0.1**
	126nm,1.0s							
LEM	**Lembang**	**11.88**	**294**	Pn		**Pn**	**13 14 15.9**	**-0.8**
	5.0nm,0.3s,baz=202,slow=22,SNR=2.6							
LEM	**Lembang**	**11.88**	**294**	P		**Pn**	**13 14 16.2**	**-0.4**
	6µm10µm170nm,2.5s							
CNJI	**Cibinong**	**12.12**	**291**	P		**Pn**	**13 14 17.0**	**-2.8**
	7µm17µm85nm,0.9s							
XMIS	**Christmas Isla**	**12.70**	**275**	Pn		Pn	13 14 22.8	-5.0
XMIS	**Christmas Isla**	**12.70**	**275**	P		**Pn**	**13 14 25.5**	**-2.3**
	70nm,0.9s							
SKJI	**Sukabumi**	**12.76**	**291**	P		**Pn**	**13 14 25.3**	**-3.3**
	4µm93nm,0.7s							
DBJI	**Dramaga**	**12.77**	**294**	P		**Pn**	**13 14 26.6**	**-2.1**
	41µm161nm,1.5s							
CGJI	**Cibinong**	**13.70**	**291**	P		**Pn**	**13 14 37.9**	**-3.5**
	8µm164nm,0.5s							
MEEK	**Meekatharra**	**14.65**	**180**	P		**Pn**	**13 14 53.1**	**-1.3**
	baz=15,SNR=67							
KLI	**Kotabumi**	**15.21**	**296**	P		**Pn**	**13 14 55.9**	**-6.1**
	6µm11µm596nm,2.0s							
KASI	**Kota Agung**	**15.23**	**293**	P		**Pn**	**13 15 00.5**	**-1.8**
	6µm6µm291nm,1.1s							
LWLI	**Liwa**	**15.85**	**294**	P		Pn	13 15 01.4	-9.0
	336nm,1.8s							
WRKA	**Warakurna**	**16.00**	**146**	P		**Pn**	**13 15 11.6**	**-0.7**
	baz=16,SNR=254							
SWI	**Sorong**	**16.74**	**50**	P		**Pn**	**13 15 22.7**	**+0.9**
	81nm,0.7s							
WRA	**Warramunga Arr**	**17.18**	**120**	P		**Pn**	**13 15 26.2**	**-1.0**
	4.6nm,0.3s,baz=336,slow=10.0,SNR=187							
WRA	**Warramunga Arr**	**17.18**	**120**	P		**Pn**	**13 15 26.0**	**-1.2**
WRA	**Warramunga Arr**	**17.18**	**120**	pmax		pmax		
	comp=Z,28nm,1.0s							
WRA	**Warramunga Arr**	**17.18**	**120**	P		**Pn**	**13 15 26.0**	**-1.2**
MORW	**Morawa**	**17.23**	**187**	P		**Pn**	**13 15 27.0**	**-0.8**
	baz=17,SNR=60							
MORW	**Morawa**	**17.23**	**187**			**Pn**	**13 15 27.4**	**-0.4**
BLDU	**Ballidu**	**18.69**	**185**	P		**Pn**	**13 15 46.9**	**+1.1**
	baz=19,SNR=46							
ASPA	**Alice Springs**	**18.72**	**131**	P		**Pn**	**13 15 49.0**	**+2.7**
	baz=19							
ASAR	**Alice Springs**	**18.73**	**131**	P		**Pn**	**13 15 48.6**	**+2.3**
	comp=Z,18nm,0.3s,baz=306,slow=12,SNR=540							
ASAR				S		**Sn**	**13 19 07.7**	**-8.3**
	comp=Z,2.5nm,0.3s,baz=314,slow=25,SNR=8.2							
ASAR	**Alice Springs**	**18.73**	**131**	P		**Pn**	**13 15 48.6**	**+2.3**
KRJI	**Kerinci**	**19.52**	**299**	P		**P**	**13 15 53.0**	**-1.7**
	comp=Z,1µm,0.8s							
KLBR	**Kellerberrin**	**19.60**	**182**	P		**Pn**	**13 15 58.5**	**+1.8**
	baz=20,SNR=13							
KMBL	**Kambalda**	**19.61**	**171**	P		**Pn**	**13 15 58.1**	**+1.2**
	baz=20,SNR=4.9							
MUN	**Mundaring**	**20.09**	**186**	P		Pn	13 16 03.1	+0.6
	baz=20,SNR=20							
FORT	**Forest**	**20.75**	**156**	P		Pn	13 16 11.0	+0.6
	baz=21,SNR=29							
FORT	**Forrest**	**20.75**	**156**	P		**P**	**13 16 08.0**	**0.0**
SMPI	**Sarmi**	**22.32**	**65**	P		**P**	**13 16 26.5**	**+1.6**
	comp=Z,13µmcomp=Z,34nm,1.9s							
RKGY	**Rocky Gully**	**22.64**	**183**	P		**P**	**13 16 30.8**	**+2.6**
	baz=23,SNR=5.4							
IPM	**Ipoh**	**23.82**	**312**	P		**P**	**13 16 39.5**	**-0.9**
KULM	**Kulim**	**24.65**	**313**	P		**P**	**13 16 46.4**	**-1.7**
KULM				IAmb		IAmb	13 16 50.2	
	comp=Z,56nm,1.1s							
TSI	**Tuntungan**	**25.06**	**306**	P		**P**	**13 16 53.0**	**+1.3**
	comp=Z,25µmcomp=Z,237nm,0.9s							
BBOO	**Buckleboo**	**26.30**	**145**	P		**P**	**13 17 05.0**	**+2.1**
	baz=26,SNR=20							
HTT	**Hallett**	**28.41**	**142**	P		**P**	**13 17 24.6**	**+2.8**
	baz=29,SNR=13							
CMAR	**Chiang Mai Arr**	**35.82**	**327**	P		**P**	**13 18 26.1**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=152,slow=6.0,SNR=5.8							
GYA	**Guiyang**	**39.84**	**343**	P		**P**	**13 19 04.1**	**+3.2**
GYA				pmax		pmax		
	comp=Z,17nm,1.6s							
PZH	**PanZhiHua**	**41.52**	**337**	P		**P**	**13 19 17.3**	**+2.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	**43.71**	**0**	*eP*		**P**	**13 19 34.3**	**+2.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
CD2	**Chengdu**	**44.87**	**342**	P		**P**	**13 19 42.8**	**+1.1**
CD2				pmax		pmax		
	comp=Z,30nm,0.8s							
LIFNC	**LIFOU**	**47.43**	**107**	P		**P**	**13 20 02.5**	**+0.4**
LZH	**Lanzhou**	**49.71**	**344**	*eP*		**P**	**13 20 18.8**	**-0.7**
LZH				pP		pwP	13 20 28.6	+0.9
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
LZH				LR		LR		
	comp=Z,1µm,15.3s							
LZH				LR		LR		
	comp=Z,1µm,15.0s							
LZH				LR		LR		
	comp=Z,1µm,17.3s							
KSRS	**Korea Array**	**49.89**	**10**	P		**P**	**13 20 20.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=166,slow=41,SNR=2.2							
MJAR	**Matsushiro Arr**	**51.64**	**20**	P		**P**	**13 20 33.9**	**0.0**
	comp=Z,2.4nm,0.8s,baz=192,slow=7.8,SNR=2.5							
HHC	**Hu-ho-hao-te**	**52.88**	**353**	*eP*		**P**	**13 20 46.6**	**+3.4**
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
GTA	**Gaotai**	**53.95**	**342**	*eP*		**P**	**13 20 53.6**	**+2.6**
GTA				pP		pwP	13 21 03.3	+4.0
GTA				sP		sP	13 21 06.9	+14
GTA				pmax		pmax		
	comp=Z,9.0nm,1.4s							
USRK	**Ussuriysk Ar.**	**57.17**	**12**	P		**P**	**13 21 13.7**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=192,slow=7.7,SNR=4.6							
MSVF	**Nonsavu**	**57.65**	**104**	LR		LR	13 45 58.9	
	comp=Z,562nm,19.7s,baz=294,slow=36							
SONM	**Songino Array**	**60.45**	**351**	P		**P**	**13 21 36.3**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=33,slow=30,SNR=4.2							
SONM	**Songino Array**	**60.45**	**351**	P		**P**	**13 21 35.7**	**-1.2**
SONM				IAmb		IAmb	13 21 48.4	
	comp=Z,6.3nm,0.8s							
WMQ	**Urumqi**	**62.16**	**335**	*eP*		**P**	**13 21 50.4**	**+1.9**
WMQ				LR		LR		
	comp=Z,450nm,14.9s							
WMQ				LR		LR		
	comp=Z,730nm,14.9s							
WMQ				LR		LR		
	comp=Z,440nm,12.1s							
BOOM	**Boomskoye usch**	**66.73**	**327**	P		**P**	**13 22 17.9**	**-0.7**
BOOM				IAmb		IAmb	13 22 35.2	
	comp=Z,11nm,1.1s							
MK31	**Makanchi Array**	**66.83**	**334**	P		**P**	**13 22 18.1**	**-0.8**
MK31				IAmb		IAmb	13 22 33.0	
	comp=Z,7.3nm,0.9s							
MKAR	**Makanchi Array**	**66.83**	**334**	P		**P**	**13 22 18.8**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=142,slow=6.5,SNR=11							
AAK	**Ala-Archa**	**67.61**	**326**	P		**P**	**13 22 22.9**	**-1.2**
AAK				IAmb		IAmb	13 22 36.4	
	comp=Z,9.3nm,1.1s							
OPO	**Ambohidratompo**	**68.77**	**255**	LR		LR	13 46 28.5	
	comp=Z,136nm,21.1s,baz=226,slow=31							
ZAA0	**Zalesovo Array**	**71.58**	**340**	P		**P**	**13 22 47.5**	**-0.7**
ZAA0				IAmb		IAmb	13 22 53.3	
	comp=Z,8.5nm,0.5s							
ZALV	**Zalesovo Beam**	**71.58**	**340**	P		**P**	**13 22 47.2**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=146,slow=5.0,SNR=1.7							
GEYT	**Alibeck**	**75.12**	**315**	LR		LR	13 57 19.7	
	comp=Z,908nm,21.7s,baz=99,slow=37							
RAYN	**Ar Rayn**	**79.57**	**297**	P		**P**	**13 23 32.4**	**-2.4**
ABKAR	**Akbulak array**	**79.66**	**325**	P		**P**	**13 23 34.5**	**-0.1**
ABKAR	**Akbulak array**	**79.66**	**325**	P		**P**	**13 23 34.6**	**-0.1**
ABKAR				IAmb		IAmb	13 23 42.8	
	comp=Z,7.5nm,1.1s							
GURO	**Guroymak-BITLI**	**87.01**	**310**	P		**P**	**13 24 11.2**	**-1.8**
GURO				IAmb		IAmb	13 24 16.5	
	comp=Z,6.9nm,1.0s							
SNAA	**Sanae**	**88.09**	**196**	P		**P**	**13 24 18.0**	**+0.5**
SNAA				IAmb		IAmb	13 24 19.9	
	comp=Z,6.0nm,0.8s							
BELA	**Belgrano 2**	**89.09**	**185**	P		**P**	**13 24 22.9**	**+0.9**
BELA				IAmb		IAmb	13 24 24.3	
	comp=Z,5.7nm,1.0s							
YKA	**Yellowknife Ar**	**117.02**	**25**	PKP		**PKPdf**	**13 30 11.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=298,slow=1.8,SNR=6.6							
LVC	**Limon Verde**	**144.93**	**168**	PKPbc		**PKPdf**	**13 31 07.2**	**+1.4**
	comp=Z,7.5nm,0.7s,baz=196,slow=8.0,SNR=5.2							
BDFB	**Brasilia**	**149.55**	**206**	PKPbc		**PKiKP**	**13 31 19.1**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=97,slow=8.0,SNR=4.1							
LPAZ	**La Paz**	**151.22**	**167**	PKPbc		**PKiKP**	**13 31 24.4**	**+1.4**
	comp=Z,5.0nm,0.8s,baz=127,slow=1.4,SNR=5.5							

*NEIC **16** 13:16:30.8±2.5, 4°.60N±0°.05×125°.02E±0°.05, h10km±1km, mb4.8/34, Error ellipse: s-maj=11.9km s-min=4.4km az=222.0*

*DJA **16** 13:16:30.0±1.0, 5°N±8°×12°5E±°, h10km, M4.9/7, mb4.9/4, MLv4.9/7*

*IDC **16** 13:16:36.1±2.2, 4°.77N×125°.25E, h59km±21km, mb4.0/8, mb1 4.2/11, mb1mx3.7/50, mbtmp4.4/11, ML4.4/3, Error ellipse: s-maj=27.9km s-min=10.9km az=75.0*

ISC 16 13:16:29.9±0.5, 4°.67N±0°.05×125°.08E±0°.07, h10km, n58, σ0s97/60, mb4.7/22, 4C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.08**	**155**	P		**Pn**	**13 16 51.2**	**+0.1**
SGSI				S		**Sn**	**13 17 06.3**	**+0.2**
GSPH	**General Santos**	**1.41**	**355**	*eP*		**Pn**	**13 16 54.8**	**-1.0**
KCP	**Kidapawan**	**2.32**	**0**	*eP*		**Pn**	**13 17 10.2**	**+1.9**
DAV	**Davao City (W)**	**2.44**	**12**	P		**Pn**	**13 17 13.1**	**+3.3**
	66nm,0.3s,baz=176,slow=19,SNR=2.2							
DAV				S		**Sn**	**13 17 39.5**	**-0.1**
	97nm,0.3s,baz=252,slow=23,SNR=5.0							
MATI	**Mati**	**2.55**	**27**	*eP*		**Pn**	**13 17 10.9**	**-0.5**
PAGZ	**Pagadian**	**3.58**	**332**	*eP*		**Pn**	**13 17 24.8**	**-0.7**
TNTI	**Ternate**	**4.50**	**149**	Pn		**Pn**	**13 17 37.2**	**-1.0**
TNTI	**Ternate**	**4.50**	**149**	P		**Pn**	**13 17 38.2**	**0.0**
LBMI	**Labuha**	**5.80**	**155**	P		**Pn**	**13 17 56.5**	**+0.4**
	0.7nm75nm,0.8s							
LUWI	**Luwuk**	**6.12**	**202**	Pn		**Pn**	**13 17 59.1**	**-1.5**
LUWI	**Luwuk**	**6.12**	**202**	P		**Pn**	**13 18 01.5**	**+1.0**
	1.5nm372nm,1.3s							
SANI	**Sanana**	**6.74**	**172**	P		**Pn**	**13 18 08.9**	**-0.1**
SIJI	**Sorong**	**8.28**	**132**	P		**Pn**	**13 18 32.5**	**+2.4**
	2.0nm,0.3s,baz=155,slow=23,SNR=3.0							
SIJI				S		**Sn**	**13 20 03.9**	**+0.1**
	1.0nm,0.3s,baz=52,slow=22,SNR=5.8							
SBUM	**Sibu**	**13.02**	**261**	Pn		**Pn**	**13 19 35.9**	**+0.8**
BATI	**Baumata**	**14.85**	**185**	P		**P**	**13 20 04.6**	**-1.4**
	4.1nm,0.3s,baz=298,slow=3.5,SNR=5.9							
DLV	**T Lat**	**17.93**	**295**	P		**Pn**	**13 20 40.6**	**+0.9**
TPUB	**Ta-pu**	**19.01**	**347**	P		**P**	**13 20 51.9**	**-0.1**
TPUB				IAmb		IAmb	13 21 16.9	
	comp=Z,51nm,1.1s							
YHNB	**Yeheng**	**20.20**	**350**	P		**P**	**13 21 05.9**	**+0.9**
YHNB				IAmb		IAmb	13 21 22.4	
	comp=Z,82nm,1.5s							
KNRA	**Kununurra**	**20.54**	**170**	P		**P**	**13 21 09.1**	**+0.4**
KNRA				IAmb		IAmb	13 21 25.3	
	comp=Z,133nm,1.5s							
QIZ	**Qiongzhong**	**20.61**	**315**	P		**P**	**13 21 11.1**	**+1.6**
UBPT	**Khong Chiam**	**21.98**	**300**	P		**P**	**13 21 26.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**22.63**	**179**	P		**P**	**13 21 31.3**	**+0.1**
FITZ				IAmb		IAmb	13 21 59.0	
	comp=Z,32nm,1.4s							
KULM	**Kulim**	**24.34**	**272**	P		**P**	**13 21 48.7**	**+0.5**
KULM				IAmb		IAmb	13 22 01.4	
	comp=Z,19nm,1.1s							
WB0	**Warramunga Arr**	**25.96**	**160**	P		**P**	**13 22 02.4**	**-0.4**
WRAB	**Tennant Creek**	**26.09**	**160**	P		**P**	**13 22 04.0**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.45**	**317**	P	**P**	**13 34 00.4**	**+0.3**
	3.2nm,0.3s,baz=136,slow=11,SNR=31						
ASAR	**Alice Springs**	**43.71**	**257**	P	**P**	**13 39 59.1**	**+0.9**
	0.2nm,0.6s,baz=95,slow=8.2,SNR=6.3						
ASAR				PcP	**pwP**	13 41 34.2	-0.4
	0.3nm,0.6s,baz=118,slow=5.0,SNR=5.1						
WRA	**Warramunga Arr**	**43.82**	**263**	P	**P**	**13 39 59.1**	**-0.1**
	0.7nm,1.1s,baz=148,slow=33,SNR=2.0						
NVAR	**Mina Array Bea**	**81.90**	**44**	P	**P**	**13 44 05.5**	**+0.6**
	0.6nm,0.7s,baz=226,slow=10.0,SNR=3.8						
TXAR	**Lajitas Array**	**87.94**	**58**	P	**P**	**13 44 34.8**	**+0.4**
	0.6nm,0.8s,baz=216,slow=6.2,SNR=5.1						
ILAR	**Eielson Array**	**88.98**	**13**	P	**P**	**13 44 37.9**	**-0.4**
	0.2nm,0.5s,baz=228,slow=5.9,SNR=6.3						
PDAR	**Pinedale Array**	**89.83**	**44**	P	**P**	**13 44 42.9**	**-0.1**
	0.3nm,0.6s,baz=232,slow=3.6,SNR=4.1						
AKASG	**Malin Array Be**	**143.12**	**330**	PKP	**PKPdf**	**13 51 12.8**	**-1.5**
	0.5nm,0.3s,baz=41,slow=4.2,SNR=15						

*IDC **16** 13:36:13.5±1.2,4.°67N×125.°13E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/42,mbtmp3.9/6,ML4.1/1, Error ellipse: s-maj=66.2km s-min=20.0km az=76.0*

*DJA **16** 13:36:16.5±0.7,5.°1N×12.°5E±.°,h10km,M4.2/7,mb4.3/4, MLv4.2/7*

ISC 16 13:36:19.6±0.8,4.°68N±0.°06×124.°9E±0.°2,h50km,n12, σ1§80/13,mb3.8/5,1C-1D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.40**	**4**	**‖** *eP*	**Pn**	**13 36 40.1**	**-2.8**
DAV	**Davao City (W)**	**2.48**	**17**	Pn	**Pn**	**13 36 56.4**	**-1.2**
	47nm,0.3s,baz=82,slow=21,SNR=1.7						
DAV				Sn	**Sn**	13 37 29.5	+2.9
	54nm,0.3s,baz=309,slow=23,SNR=8.6						
PAGZ	**Pagadian**	**3.47**	**335**	**‖** *eP*	**Pn**	**13 37 09.4**	**-1.7**
GTOI	**Gorontalo**	**4.42**	**205**	P	**Pn**	**13 37 21.6**	**-2.5**
MRSI	**Marisa**	**5.09**	**215**	P	**Pn**	**13 37 33.7**	**+0.4**
	0.2nm41nm,0.5s						
APSI	**Ampana**	**6.41**	**210**	P	**Pn**	**13 37 49.9**	**-1.6**
	0.1nm18nm,0.9s						
BATI	**Baumata**	**14.84**	**185**	Pn	**Pn**	**13 39 47.5**	**+1.1**
	1.9nm,0.3s,baz=173,slow=20,SNR=1.7						
FITZ	**Fitzroy Crossi**	**22.65**	**178**	P	**P**	**13 41 16.3**	**-0.3**
	5.0nm,1.1s,baz=349,slow=5.2,SNR=3.0						
WRA	**Warramunga Arr**	**26.18**	**159**	P	**P**	**13 41 48.9**	**-0.8**
	1.7nm,0.6s,baz=343,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**29.52**	**163**	P	**P**	**13 42 19.1**	**-0.4**
	0.5nm,0.6s,baz=352,slow=7.4,SNR=10						
STKA	**Stephens Creek**	**39.70**	**157**	P	**P**	**13 43 46.9**	**-0.2**
	2.8nm,0.7s,baz=341,slow=3.6,SNR=7.8						
MKAR	**Makanchi Array**	**55.72**	**326**	P	**P**	**13 45 52.1**	**+1.0**
	0.2nm,0.5s,baz=123,slow=7.0,SNR=5.0						

*MEX **16** 13:36:42.0±1.1,14.°14N×93.°78W,h10km,MD4.2*

*NEIC **16** 13:36:43.8±2.2,14.°48N±0.°04×93.°62W±0.°02,h10km±1km, mb4.0/6,Md4.2/21(MEX),Error ellipse: s-maj=6.5km s-min=2.8km az=203.0*

*IDC **16** 13:36:57.1±4.6,14.°66N×93.°43W,h120km±39km,mb3.4/6, mb1 3.7/8,mb1mx3.4/36,mbtmp3.7/8,MS4.3/1,Ms1 4.3/1, ms1mx3.1/39,Error ellipse: s-maj=87.8km s-min=20.9km az=38.0*

ISC 16 13:36:41.0±2.7,14.°40N±0.°06×93.°68W±0.°04,h0km±16km, n41,σ1§38/56,mb3.9/8,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.38**	**19**		**Pn**	**13 37 07.0**	**-0.3**
PCIG					**Sg**	**13 37 25.7**	**+0.5**
PCIG		**1.38**	**19**	*eP*	**Pn**	**13 37 07.0**	**-0.3**
PCIG				*eS*	**Sg**	**13 37 25.7**	**+0.5**
THIG		**1.46**	**69**		**Pn**	**13 37 07.9**	**-0.7**
THIG					**Sb**	**13 37 26.9**	**-1.1**
THIG		**1.46**	**69**	*eP*	**Pn**	**13 37 07.9**	**-0.7**
THIG				*eS*	**Sb**	**13 37 26.9**	**-1.1**
PATR	**El Naranjo**	**1.57**	**63**	*eP*	**Pn**	**13 37 09.3**	**-1.0**
PATR				*eS*	**Sb**	**13 37 30.6**	**-0.9**
PAVE	**Pavencul**	**1.65**	**61**	*eP*	**Pn**	**13 37 10.7**	**-0.7**
PAVE				*eS*	**Sn**	**13 37 32.2**	**-1.3**
CHUJ	**Union Juarez**	**1.67**	**65**	*eP*	**Pn**	**13 37 10.8**	**-0.9**
CHUJ				*eS*	**Sn**	**13 37 31.8**	**-2.0**
RTAL	**Retalhuleu**	**1.92**	**86**		**Pn**	**13 37 14.6**	**-0.4**
HUEH	**Huehuetenango**	**2.29**	**66**		**Pn**	**13 37 20.4**	**+0.2**
CCIG	**Comitan**	**2.39**	**38**		**Pb**	**13 37 23.7**	**-1.3**
CCIG	**Comitan**	**2.39**	**38**	*eP*	**Pb**	**13 37 23.7**	**-1.3**
CCIG				*i* S	**Sn**	**13 37 49.0**	**-2.7**
CCIG				*eS*	**Sb**	**13 37 54.8**	**-0.4**
TGIG		**2.43**	**13**		**Pn**	**13 37 23.5**	**+1.5**
TGIG					**Sb**	**13 37 54.1**	**-2.0**
TGIG		**2.43**	**13**	*eP*	**Pn**	**13 37 23.5**	**+1.5**
TGIG				*eS*	**Sb**	**13 37 54.1**	**-2.0**
HUIG	**Huatulco**	**2.72**	**300**		**Pn**	**13 37 24.6**	**-1.3**
HUIG					**Sn**	**13 37 56.0**	**-3.4**
HUIG	**Huatulco**	**2.72**	**300**	*eP*	**Pn**	**13 37 24.6**	**-1.3**
HUIG				*eS*	**Sn**	**13 37 56.0**	**-3.4**
CMIG	**Matias Romero**	**2.92**	**337**		**Pn**	**13 37 29.4**	**+0.7**
CMIG					**Sn**	**13 38 04.8**	**+0.3**
CMIG	**Matias Romero**	**2.92**	**337**	*i* P	**Pn**	**13 37 29.4**	**+0.7**
CMIG				*i* S	**Sn**	**13 38 04.8**	**+0.3**
UXUV	**UXUV**	**2.94**	**351**	*eP*	**Pn**	**13 37 30.1**	**+1.2**
UXUV				*eS*	**Sb**	**13 38 07.8**	**-3.0**
MTO3	**Montecristo**	**4.18**	**89**		**Pn**	**13 37 47.1**	**+0.9**
ESQI	**Esquipulas**	**4.20**	**87**	Pn	**Pn**	**13 37 46.3**	**-0.1**
PETF	**Flores**	**4.44**	**55**		**Pn**	**13 37 50.4**	**+0.8**
JTS	**Las Juntas de**	**9.45**	**115**	P	Pn	13 39 10.5	+12
	0.4nm,0.3s,baz=8.4,slow=18,SNR=1.8						
TX31	**Lajitas Ar. Si**	**17.50**	**330**	P	**Pn**	**13 40 46.6**	**0.0**
TX31				IAmb	IAmb	13 41 08.9	
	comp=Z,35nm,1.6s						
TX32	**Lajitas Array**	**17.50**	**330**	P	**Pn**	**13 40 46.8**	**+0.1**
TX32				IAmb	IAmb	13 41 08.9	
	comp=Z,13nm,1.7s						
TXAR	**Lajitas Array**	**17.50**	**330**	P	**P**	**13 40 50.6**	**+2.8**
	comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=5.7						
TXAR	**Lajitas Array**	**17.50**	**330**	P	**Pn**	**13 40 47.2**	**+0.6**
MNTX	**Cornudas Mount**	**20.29**	**330**	P	**P**	**13 41 19.4**	**+1.1**
121A	**Cookes Peak, D**	**22.17**	**327**	P	**P**	**13 41 38.6**	**-0.3**
121A				IAmb	IAmb	13 41 44.2	
	comp=Z,8.5nm,0.9s						
BANI	**BANI**	**22.71**	**77**	P	**P**	**13 41 45.2**	**+0.5**
BNM	**Barren Site**	**22.90**	**331**	P	**P**	**13 41 46.8**	**+0.2**
SDV	**Santo Domingo**	**23.21**	**101**	P	**P**	**13 41 50.8**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=270,slow=4.6,SNR=4.6						
TUC	**Tucson**	**23.70**	**322**	P	**P**	**13 41 55.4**	**+0.7**
TUC				IAmb	IAmb	13 41 59.0	
	comp=Z,2.7nm,0.9s						
T50A	**Nancy**	**23.87**	**18**	P	**P**	**13 41 55.2**	**-0.9**
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**13 43 05.8**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=151,slow=9.4,SNR=3.9						
NVAR	**Mina Array Bea**	**32.35**	**322**	P	**P**	**13 43 14.6**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=128,slow=8.2,SNR=5.9						
NEW	**Newport**	**38.94**	**335**	LR	LR	14 02 19.9	
	comp=Z,500nm,21.9s,baz=294,slow=39						
YKA	**Yellowknife Ar**	**50.28**	**348**	P	**P**	**13 45 39.3**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=154,slow=7.3,SNR=34						
YKA				PcP	**PcP**	**13 46 56.5**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=148,slow=4.1,SNR=4.3						
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**13 47 02.9**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=147,slow=4.5,SNR=8.5						
NOA	**NORSAR Array B**	**84.57**	**28**	P	**P**	**13 49 16.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=292,slow=4.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**145.07**	**339**	PKP	**PKPab**	**13 56 20.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=336,slow=3.4,SNR=9.6						
CMAR	**Chiang Mai Arr**	**145.07**	**339**		**PKPab**	**13 56 20.2**	**-0.3**

*GUC **16** 13:41:33.8±0.7,31.°04S×71.°37W,h32km±2km,ML4.0*

*NEIC **16** 13:41:34.1±1.7,31.°02S±0.°04×71.°33W±0.°08,h25km±7km, mb4.6/7,ML4.0(GUC),Error ellipse: s-maj=10.2km s-min=5.0km az=80.0*

ISC 16 13:41:34.0±1.0,31.°02S±0.°02×71.°39W±0.°04,h25km±8km, n55,σ1§07/76,mb4.6/5,2C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.38**	**119**	Pg	**Pb**	**13 41 41.8**	**-0.5**
CO02	**Combarbal**	**0.38**	**119**	**‖** *iP*	**Pb**	**13 41 42.0**	**-0.3**
CO02				*i* S	**Sb**	**13 41 47.6**	**-0.3**
CO02				IAML		13 41 48.4	
	comp=N,36μm,0.3s						
CO06	**Fray Jorge**	**0.41**	**328**		**Pb**	**13 41 43.0**	**+0.3**
CO06	**Fray Jorge**	**0.41**	**328**	**‖** *iP*	**Pb**	**13 41 43.0**	**+0.3**
CO06				*i* S	**Sb**	**13 41 49.5**	**+0.8**
CO06				IAML		13 41 52.0	
	comp=N,27μm,0.2s						
CO03	**El Pedregal**	**0.63**	**73**		**Pb**	**13 41 45.5**	**-0.9**
CO03	**El Pedregal**	**0.63**	**73**	**‖** *iP*	**Pb**	**13 41 45.9**	**-0.5**
CO03				*i* S	**Sb**	**13 41 54.6**	**-0.2**
CO03				IAML		13 41 55.0	
	comp=E,13μm,0.3s						
GO04	**Tololo Observa**	**0.99**	**31**		**Pn**	**13 41 52.1**	**-0.5**
GO04	**Tololo Observa**	**0.99**	**31**	**‖** *iP*	**Pn**	**13 41 52.1**	**-0.5**
GO04				*i* S	**Sn**	**13 42 05.2**	**-0.7**
GO04				IAML		13 42 08.6	
	comp=N,17μm,0.2s						
CO05	**La Serena**	**1.11**	**7**		**Pn**	**13 41 53.6**	**-0.3**
CO05	**La Serena**	**1.11**	**7**	**‖** *iP*	**Pn**	**13 41 53.7**	**-0.3**
CO05				*i* S	**Sb**	**13 42 08.6**	**+0.1**
CO05				IAML		13 42 13.7	
	comp=E,3μm,0.3s						
VA06	**Catapilco**	**1.54**	**177**	Pn	**Pn**	**13 41 59.7**	**-0.2**
VA06	**Catapilco**	**1.54**	**177**	*eP*	**Pn**	**13 41 59.7**	**-0.2**
VA06				*i* S	**Sn**	**13 42 19.4**	**+0.3**
VA06				IAML		13 42 23.7	
	comp=E,4μm,0.5s						
VA03	**San Esteban**	**1.88**	**158**		**Pn**	**13 42 05.2**	**+0.5**
VA03	**San Esteban**	**1.88**	**158**	**‖** *iP*	**Pn**	**13 42 05.2**	**+0.5**
VA03				*i* S	**Sn**	**13 42 28.9**	**+1.3**
VA03				IAML		13 42 34.7	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.97**	**171**	*eP*	**Pn**	**13 42 06.7**	**+0.6**
ROCH				*eS*	**Sn**	**13 42 31.9**	**+1.8**
ROCH				IAML		13 42 36.6	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**1.97**	**171**		**Pn**	**13 42 05.7**	**-0.4**
VA01	**Torpederas**	**2.01**	**186**		**Pn**	**13 42 06.4**	**0.0**
VA01	**Torpederas**	**2.01**	**186**	*eP*	**Pn**	**13 42 06.8**	**+0.4**
LCO	**Las Campanas**	**2.09**	**17**	Pn	**Pn**	**13 42 08.0**	**+0.3**
LCO	**Las Campanas**	**2.09**	**17**	*eP*	**Pn**	**13 42 08.1**	**+0.3**
LCO				*eS*	**Sn**	**13 42 34.4**	**+1.2**
PEL	**Peldehue**	**2.20**	**164**		**Pn**	**13 42 09.0**	**0.0**
MT02	**Curacav**	**2.24**	**175**		**Pn**	**13 42 10.0**	**+0.5**
MT02	**Curacav**	**2.24**	**175**	**‖** *eP*	**Pn**	**13 42 10.1**	**+0.5**
MT02				*i* S	**Sn**	**13 42 38.0**	**+1.5**
MT02				IAML		13 42 44.2	
	comp=E,526nm,0.4s						
MT05	**Renca**	**2.42**	**167**		**Pn**	**13 42 13.5**	**+1.3**
MT05	**Renca**	**2.42**	**167**	*eP*	**Pn**	**13 42 13.6**	**+1.4**
MT05				IAML		13 42 54.6	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**2.48**	**158**	*eP*	**Pn**	**13 42 14.4**	**+1.3**
FCH				*eS*	**Sn**	**13 42 45.5**	**+2.7**
FCH				IAML		13 42 53.8	
	comp=E,619nm,0.2s						
MT03	**Universidad Ad**	**2.57**	**163**		**Pn**	**13 42 14.6**	**+0.3**
MT03	**Universidad Ad**	**2.57**	**163**	*eP*	**Pn**	**13 42 15.7**	**+1.4**
MT03				*eS*	**Sn**	**13 42 46.8**	**+1.9**
MT03				IAML		13 42 59.3	
VA05	**Santo Domingo**	**2.63**	**184**		**Pn**	**13 42 14.0**	**-1.0**
VA05	**Santo Domingo**	**2.63**	**184**	*eP*	**Pn**	**13 42 14.3**	**-0.7**
VA05				*eS*	**Sn**	**13 42 45.8**	**-0.3**
VA05				IAML		13 43 06.0	
	comp=E,860nm,0.2s						
MT09	**Talagante**	**2.77**	**173**		**Pn**	**13 42 17.6**	**+0.6**
MT09	**Talagante**	**2.77**	**173**	**‖** *eP*	**Pn**	**13 42 17.7**	**+0.7**
MT09				*eS*	**Sn**	**13 42 51.3**	**+1.7**
MT09				IAML		13 43 04.1	
	comp=N,814nm,0.3s						
AC04	**Llanos de Chal**	**2.82**	**6**	*eP*	**Pn**	**13 42 18.6**	**+1.0**
AC04				*eS*	**Sn**	**13 42 53.3**	**+2.5**
AC04				IAML		13 43 03.5	
	comp=E,331nm,0.3s						
MT01	**Popeta**	**2.83**	**178**	Pn	**Pn**	**13 42 18.8**	**+1.0**
MT01	**Popeta**	**2.83**	**178**	*eP*	**Pn**	**13 42 18.8**	**+1.0**
MT01				*eS*	**Sn**	**13 42 52.2**	**+1.1**
MT01				IAML		13 43 07.7	
	comp=E,409nm,0.2s						
LMEL	**Las Melosas**	**2.99**	**161**	*eP*	**Pn**	**13 42 21.7**	**+1.7**
LMEL				*eS*	**Sn**	**13 42 56.3**	**+1.1**
LMEL				IAML		13 43 08.6	
	comp=N,642nm,0.2s						
BO04	**La Punta**	**3.03**	**168**		**Pn**	**13 42 21.2**	**+0.7**
BO04	**La Punta**	**3.03**	**168**	*eP*	**Pn**	**13 42 21.5**	**+1.0**
BO04				*i* S	**Sn**	**13 42 55.4**	**-0.6**
BO04				IAML		13 43 10.0	
	comp=E,424nm,0.4s						
BO01	**Tunca**	**3.37**	**176**	Pn	**Pn**	**13 42 26.0**	**+0.9**
BO01	**Tunca**	**3.37**	**176**	*eP*	**Pn**	**13 42 26.4**	**+1.2**
BO01				*eS*	**Sn**	**13 43 05.6**	**+1.2**
BO01				IAML		13 43 21.6	
	comp=E,173nm,0.7s						
BO03	**Pichilemu**	**3.50**	**188**	*eP*	**Pn**	**13 42 26.2**	**-0.6**
BO03				*eS*	**Sn**	**13 43 05.0**	**-2.5**
BO03				IAML		13 43 28.1	
	comp=E,102nm,0.4s						
GO03	**Copiap**	**3.56**	**17**		**Pn**	**13 42 29.2**	**+1.3**
GO03	**Copiap**	**3.56**	**17**	*eP*	**Pn**	**13 42 29.1**	**+1.3**
GO03				*eS*	**Sn**	**13 43 10.7**	**+1.5**
GO03				IAML		13 43 26.0	
	comp=E,268nm,0.6s						
AC06	**Mina Casimiro**	**3.76**	**14**	Pn	**Pn**	**13 42 31.5**	**+0.9**
BO02	**Sierra Bellavi**	**3.79**	**172**	Pn	**Pn**	**13 42 32.5**	**+1.5**
GO05	**Huala**	**4.00**	**186**		**Pn**	**13 42 32.8**	**-1.1**
ML02	**Panimavida**	**4.73**	**180**	Pn	**Pn**	**13 42 43.0**	**-0.8**
LC01	**Cunco**	**7.87**	**183**	Pn	**Pn**	**13 43 25.6**	**-1.4**
MG03	**Isla Dawson**	**22.82**	**179**	P	**P**	**13 46 34.5**	**-0.4**
MG03				IAmb	IAmb	13 46 46.2	
	comp=Z,58nm,1.4s						
OTAV	**Otavalo**	**31.80**	**347**	P	**P**	**13 47 55.6**	**-1.7**
OTAV				IAmb	IAmb	13 47 57.2	
	comp=Z,6.1nm,1.4s						
BCIP	**Isla Barro Col**	**40.77**	**347**	P	**P**	**13 49 12.6**	**-0.7**
SRBA	**San Rafael, Bu**	**41.64**	**342**	P	**P**	**13 49 20.2**	**-0.4**
JACO	**JACO, Garabito**	**42.41**	**340**	P	**P**	**13 49 26.2**	**-0.6**
JACO				IAmb	IAmb	13 49 46.7	
	comp=Z,17nm,0.8s						
SNAA	**Sanae**	**54.14**	**159**	P	**P**	**13 50 56.3**	**-0.5**
SNAA				IAmb	IAmb	13 51 04.5	
	comp=Z,7.3nm,1.1s						
QSPA	**South Pole Qui**	**59.20**	**180**	P	**P**	**13 51 34.0**	**+1.1**
QSPA				IAmb	IAmb	13 51 39.4	
	comp=Z,6.1nm,1.5s						

*ANF **16** 13:53:58.8±0.4,63.°58N×147.°74W,h0km±3km,ML4.0/60, ML4.0/61,Error ellipse: s-maj=1.9km s-min=1.7km az=56.0*

*NEIC **16** 13:53:59.3±2.3,63.°56N±0.°01×147.°70W±0.°03,h2km±6km, Error ellipse: s-maj=1.9km s-min=1.8km az=127.0*

*AEIC **16** 13:53:59±2.0,63.°56N±0.°01×147.°71W±0.°03,h5km±3km, ML3.6,ML3.8/114(NEIC),Mwr3.5/21(SLM), Error ellipse: s-maj=1.9km s-min=1.7km az=127.0*

*NEIC **16** 13:53:59,63.°62N×147.°87W,h14km,Moment Tension Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.02; $M_{\theta\theta}$=1.18; $M_{\phi\phi}$=0.17; $M_{r\theta}$=1.51; $M_{r\phi}$=0.98; $M_{\theta\phi}$=0.45; Fault plane solution: $M_0$2.16000×10^{14} NP1:φ=150.00000°, δ35.00000°, λ-30.00000°. NP2:φ=265.00000°,δ73.00000°, λ-121.00000°. Principal axes: T 2.1590, Plg22.0000°, Azm19.0000°; N 0.0018, Plg30.0000°, Azm275.0000°; P -2.1607, Plg51.0000°, Azm139.0000°;*

*IDC **16** 13:54:00.5±1.0,63.°66N×147.°54W,h0km,mb3.6/2, mb1 3.8/6,mb1mx3.4/56,mbtmp3.6/6,ML3.2/4 Error ellipse: s-maj=11.0km s-min=8.9km az=101.0*

ISC 16 13:53:59.4±1.0,63.°58N±0.°02×147.°69W±0.°02,h8km±8km, n209,σ1§05/206,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**0.52**	**164**		**Pg**	**13 54 09.2**	**-0.4**
DHY					**Sg**	**13 54 15.9**	**-0.5**
DHY	**Denali Highway**	**0.52**	**164**	IAML		13 54 16.2	
	comp=N,8μm,0.4s						
DHY				IAML		13 54 16.4	
	comp=E,11μm,0.5s						
DHY	**Denali Highway**	**0.52**	**164**	P	**Pg**	**13 54 09.1**	**-0.4**
	baz=343,SNR=967						
DHY				S	**Sg**	**13 54 15.9**	**-0.5**
	baz=343						
RND	**Reindeer**	**0.55**	**252**		**Pg**	**13 54 09.8**	**-0.2**
RND					**Sg**	**13 54 17.1**	**-0.2**
RND	**Reindeer**	**0.55**	**252**	IAML		13 54 18.3	
	comp=E,3μm,0.7s						
RND				IAML		13 54 18.3	
	comp=N,9μm,0.6s						
MCK	**McKinley**	**0.58**	**286**		**Pg**	**13 54 10.8**	**+0.3**
MCK					**Sg**	**13 54 18.9**	**+0.8**
MCK	**McKinley**	**0.58**	**286**	P	**Pg**	**13 54 10.9**	**+0.3**
	baz=106,SNR=404						
PS10	**TAPS Pump St10**	**0.87**	**99**		**Pg**	**13 54 16.0**	**-0.1**
HDA	**Harding Lake**	**0.90**	**21**		**Pb**	**13 54 17.2**	**0.0**
HDA					**Sb**	**13 54 29.2**	**-0.1**
HDA	**Harding Lake**	**0.90**	**21**	IAML		13 54 29.8	
	comp=N,3μm,0.3s						
HDA	**Harding Lake**	**0.90**	**21**	P	**Pb**	**13 54 17.3**	**0.0**
	baz=202,SNR=1000						
WRH	**Wood River Hil**	**0.91**	**349**		**Pb**	**13 54 17.5**	**0.0**
WRH	**Wood River Hil**	**0.91**	**349**	IAML		13 54 32.1	
	comp=E,4μm,0.8s						
WRH				IAML		13 54 32.8	
	comp=N,3μm,0.3s						
PS09	**TAPS Pump Stn9**	**0.92**	**67**		**Pg**	**13 54 17.7**	**+0.5**
PS09					**Sb**	**13 54 30.2**	**+0.1**
BWN	**Browne**	**0.99**	**308**		**Pg**	**13 54 17.8**	**-0.5**
WAT6	**Susitna Watana**	**1.00**	**181**		**Pg**	**13 54 17.5**	**-1.1**
WAT6	**Susitna Watana**	**1.00**	**181**	P	**Pg**	**13 54 17.5**	**-1.1**
	baz=0.8,SNR=310						
WAT6				S	**Sg**	**13 54 30.1**	**-1.5**
	baz=0.8						
PS08	**TAPS Pump Stn8**	**1.04**	**21**		**Pb**	**13 54 19.9**	**+0.3**
PS08					**Sg**	**13 54 33.3**	**+0.5**
CCB	**Clear Creek Bu**	**1.07**	**357**		**Pb**	**13 54 20.3**	**0.0**
CCB					**Sg**	**13 54 34.0**	**+0.1**
CCB	**Clear Creek Bu**	**1.07**	**357**	IAML		13 54 35.4	
	comp=N,2μm,0.2s						
PAX	**Paxson**	**1.17**	**120**		**Pg**	**13 54 20.6**	**-1.3**
PAX	**Paxson**	**1.17**	**120**	P	**Pg**	**13 54 20.5**	**-1.4**
	baz=302,SNR=154						
TRF	**Thorofare Moun**	**1.17**	**265**		**Pg**	**13 54 20.9**	**-1.1**
TRF	**Thorofare Moun**	**1.17**	**265**	IAML		13 54 37.0	
	comp=E,2μm,0.5s						
TRF				IAML		13 54 38.0	
	comp=N,2μm,0.7s						
TRF	**Thorofare Moun**	**1.17**	**265**	P	**Pg**	**13 54 20.8**	**-1.1**
	baz=83,SNR=529						
NEA2	**Nenana**	**1.19**	**330**		**Pg**	**13 54 21.6**	**-0.5**
NEA2	**Nenana**	**1.19**	**330**	P	**Pg**	**13 54 21.6**	**-0.5**
	baz=149,SNR=559						
NEA2				S	**Sg**	**13 54 37.4**	**-0.1**
	baz=149						
IL31		**1.25**	**16**		**Pg**	**13 54 22.8**	**-0.6**
ILAR	**Eielson Array**	**1.25**	**16**	Pg	**Pg**	**13 54 22.8**	**-0.6**
	comp=N,92nm,0.3s,baz=198,slow=16,SNR=1691						
ILAR				Lg	Lg	13 54 40.1	
	comp=N,289nm,0.3s,baz=194,slow=28,SNR=9.1						
ILAR	**Eielson Array**	**1.25**	**16**		**Pg**	**13 54 22.4**	**-0.9**
RIDG	**Independent Ri**	**1.28**	**81**		**Pg**	**13 54 23.1**	**-0.7**
RIDG	**Independent Ri**	**1.28**	**81**	IAML		13 54 44.7	
	comp=E,1μm,0.5s						
RIDG				IAML		13 54 45.3	
	comp=N,1μm,0.5s						
RIDG	**Independent Ri**	**1.28**	**81**	P	**Pg**	**13 54 23.1**	**-0.7**
	baz=264,SNR=371						
TCOL	**CIGO, UAF Yank**	**1.30**	**357**		**Pg**	**13 54 23.7**	**-0.6**
TCOL	**CIGO, UAF Yank**	**1.30**	**357**	P	**Pg**	**13 54 23.7**	**-0.6**
	baz=177,SNR=320						
COLA	**College**	**1.30**	**357**		**Pg**	**13 54 23.5**	**-0.8**
COLA	**College**	**1.30**	**357**	P	**Pg**	**13 54 23.7**	**-0.6**
	baz=177						
COLA				S	**Sb**	**13 54 41.7**	**+0.7**
	baz=177						
MDM	**Murphy Dome**	**1.41**	**351**		**Pn**	**13 54 25.2**	**-0.2**
MDM					**Sb**	**13 54 44.8**	**+0.7**
KTH	**Kantishna Hill**	**1.45**	**270**		**Pn**	**13 54 25.6**	**-0.5**
J25K	**Salcha River,**	**1.45**	**43**		**Pn**	**13 54 25.8**	**-0.2**
J25K					**Sg**	**13 54 46.1**	**0.0**
J25K	**Salcha River,**	**1.45**	**43**	P	**Pn**	**13 54 25.9**	**-0.2**
	baz=225,SNR=590						
POKR	**Poker Plat Res**	**1.55**	**4**		**Pn**	**13 54 27.2**	**-0.1**
POKR	**Poker Plat Res**	**1.55**	**4**	IAML		13 54 51.3	
	comp=N,2μm,0.5s						
POKR				IAML		13 54 52.1	
	comp=E,2μm,0.8s						
POKR	**Poker Plat Res**	**1.55**	**4**	P	**Pn**	**13 54 27.2**	**-0.1**
	baz=185,SNR=59						
BPAW	**Bear Paw Mtn.**	**1.55**	**291**		**Pn**	**13 54 26.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**1.55**	**291**	IAML		13 54 50.8	
	comp=N,1μm,0.5s						
BPAW	**Bear Pa

baz=207,SNR=163
KNK Knik Glacier 2.20 190 Pn 13 54 36.2 -0.1
KNK Knik Glacier 2.20 190 P Pn 13 54 36.2 -0.1
baz=8.8,SNR=70
KLU Klutina 2.25 158 Pn 13 54 37.4 +0.4
KLU Sn 13 55 07.0 +2.1
KLU Klutina 2.25 158 IAML 13 55 07.9
comp=N,616nm,0.7s
KLU Klutina 2.25 158 P Pn 13 54 37.0 0.0
baz=339,SNR=73
H24K Noodor Dome 2.27 358 Pn 13 54 37.7 +0.5
H24K Noodor Dome 2.27 358 IAML 13 55 12.4
comp=E,535nm,0.8s
H24K IAML 13 55 13.2
comp=N,369nm,0.5s
H24K Noodor Dome 2.27 358 P Pn 13 54 37.7 +0.5
baz=178,SNR=124
N25K Chitina, Valde 2.44 143 Pn 13 54 41.1 +1.4
N25K Chitina, Valde 2.44 143 P Pn 13 54 40.5 +0.9
baz=325,SNR=70
PS06 TAPS Pump Stn6 2.45 340 Pn 13 54 40.2 +0.5
I21K Tanana 2.46 313 P Pn 13 54 39.6 -0.3
baz=129
JPK Jack Peak 2.58 168 Pn 13 54 42.9 +1.3
DIV Divide 2.62 159 Pn 13 54 43.5 +1.5
RC01 Rabbit Creek A 2.68 202 Pn 13 54 44.2 +1.4
RC01 Rabbit Creek A 2.68 202 IAML 13 55 24.8
comp=N,553nm,0.5s
RC01 Rabbit Creek A 2.68 202 P Pn 13 54 43.5 +0.7
baz=20,SNR=56
L27K Beaver Creek, 2.69 98 Pn 13 54 42.9 -0.2
L27K IAML 13 55 26.5
comp=N,220nm,0.9s
L27K Beaver Creek, 2.69 98 P Pn 13 54 43.3 +0.2
baz=283
BC03 2.71 98 Pn 13 54 43.3 +0.1
BCAR Beaver Creek A 2.71 98 Pn 13 54 42.9 -0.5
PWL Port Wells 2.75 187 Pn 13 54 45.3 +1.5
PWL Port Wells 2.75 187 IAML 13 55 26.1
comp=N,494nm,0.5s
PWL IAML 13 55 33.6
comp=E,302nm,0.6s
PWL Port Wells 2.75 187 P Pn 13 54 45.3 +1.5
baz=5.8,SNR=50
GLB Gilahina Butte 2.80 138 Pn 13 54 46.0 +1.5
GLB Gilahina Butte 2.80 138 IAML 13 55 28.7
comp=N,221nm,0.6s
STLK Strandline Lak 2.84 224 Pn 13 54 45.1 0.0
K20K Telida 2.88 268 Pn 13 54 44.5 -1.0
K20K IAML 13 55 30.8
comp=N,254nm,0.7s
K20K IAML 13 55 32.1
comp=E,237nm,0.7s
K20K Telida 2.88 268 P Pn 13 54 44.7 -0.8
baz=83
J20K Nowinta River 2.92 285 Pn Pn 13 54 45.1 -1.0
J20K IAML 13 55 34.7
comp=E,184nm,0.4s
J20K IAML 13 55 38.4
comp=N,247nm,0.7s
J20K Nowinta River 2.92 285 P Pn 13 54 45.3 -0.8
baz=99
M27K Edge Creek, AK 2.92 112 Pn 13 54 46.7 +0.4
M27K IAML 13 55 38.2
comp=N,309nm,0.8s
M27K Edge Creek, AK 2.92 112 P Pn 13 54 47.1 +0.8
baz=297
BMRM Bremner River 2.99 150 Pn 13 54 48.5 +1.3
BMRM Bremner River 2.99 150 IAML 13 55 34.8
comp=E,190nm,1.0s
BMRM IAML 13 55 44.4
comp=N,223nm,0.9s
BMRM Bremner River 2.99 150 P Pn 13 54 48.3 +1.1
baz=332,SNR=39
L20K Farewell, AK 3.03 251 P Pn 13 54 47.6 -0.1
baz=66
H21K Melozitna Rive 3.04 316 Pn 13 54 47.3 -0.4
H21K IAML 13 55 34.4
comp=E,284nm,0.7s
H21K Melozitna Rive 3.04 316 P Pn 13 54 47.3 -0.4
baz=131
SPCG Spurr Capps Gl 3.05 223 Pn 13 54 48.7 +0.6
VRDI Verde Repeater 3.07 138 Pn 13 54 50.2 +1.8
MCARA McCarthy VSAT 3.09 133 Pn 13 54 50.9 +2.4
MCARA McCarthy VSAT 3.09 133 IAML 13 55 42.7
comp=E,210nm,0.9s
MCARA IAML 13 55 43.4
comp=N,218nm,0.8s
MCARA McCarthy VSAT 3.09 133 P Pn 13 54 50.2 +1.8
baz=317,SNR=38
EGAK Eagle 3.10 64 P Pn 13 54 49.0 +0.4
baz=250
EYAK Cordova Ski Ar 3.17 162 Pn 13 54 51.1 +1.5
EYAK Cordova Ski Ar 3.17 162 P Pn 13 54 50.8 +1.2
baz=344,SNR=6.6
FYU Fort Yukon 3.17 18 Pn 13 54 50.5 +0.9
FYU Fort Yukon 3.17 18 IAML 13 55 40.9
comp=E,257nm,0.4s
FYU IAML 13 55 45.5
comp=N,333nm,1.3s
SPCR Spurr Chakacha 3.18 223 P Pn 13 54 49.5 -0.4
baz=39,SNR=24
O22K Cooper Landing 3.25 198 P Pn 13 54 50.7 0.0
baz=16
SLKM Skilak Lake 3.31 202 Pn 13 54 53.2 +1.8
BVCY Beaver Creek 3.33 108 P Pn 13 54 51.9 +0.1
baz=293
PTPK Patty Peak 3.42 132 Pn 13 54 55.9 +2.8
PS05 TAPS Pump Stn5 3.48 340 Pn 13 54 54.5 +0.6
M19K Big River Lodg 3.51 244 Pn 13 54 54.2 -0.1
M19K IAML 13 55 56.5
comp=N,132nm,0.8s
M19K IAML 13 55 59.8
comp=E,139nm,0.6s
M19K Big River Lodg 3.51 244 P Pn 13 54 54.1 -0.1
baz=59
IM03 3.54 316 Pn 13 54 54.4 -0.3
IMAR Indian Mountai 3.54 316 Pn Pn 13 54 54.6 -0.1
BALM Baldy 3.57 133 Pn 13 54 57.9 +2.8
L19K White Mountain 3.57 250 Pn 13 54 55.6 +0.6
L19K White Mountain 3.57 250 IAML 13 55 57.8
comp=E,121nm,0.8s
L19K White Mountain 3.57 250 P Pn 13 54 55.4 +0.3
baz=64
SEW Seward 3.59 194 Pn 13 54 57.5 +2.2
SEW Seward 3.59 194 P Pn 13 54 57.4 +2.1
baz=13,SNR=11
KIAG Kiagna River 3.65 135 Pn 13 54 58.5 +2.1
DAWY Dawson 3.71 79 Pn 13 54 57.6 +0.6
DAWY Dawson 3.71 79 IAML 13 56 05.0
comp=N,180nm,0.6s
DAWY IAML 13 56 07.7
comp=E,148nm,0.7s
DAWY Dawson 3.71 79 P Pn 13 54 57.6 +0.6
baz=266,SNR=57
KHIT Khitrov Hills 3.78 144 Pn 13 54 59.5 +1.5
BARN Barnard Glacie 3.78 129 Pn 13 55 00.1 +2.0
YUK3 Moose Creek 3.79 115 P Pn 13 54 59.0 +0.7
baz=301
DFR Drift River 3.81 220 Pn 13 55 00.1 +1.6
COLD Coldfoot 3.81 345 Pn 13 54 59.2 +0.7
COLD Coldfoot 3.81 345 P Pn 13 54 59.1 +0.7
baz=163,SNR=24
TTA Tatalina 3.82 264 Pn 13 54 58.1 -0.5
TTA IAML 13 56 02.6
comp=E,141nm,0.6s
TTA IAML 13 56 04.0
comp=N,110nm,0.8s
TTA Tatalina 3.82 264 P Pn 13 54 58.3 -0.3
baz=77
TT01 Tatalina 3.83 264 Pn 13 55 00.0 +1.4
WAX Waxell Ridge 3.88 142 Pn 13 55 00.8 +1.4
WAX Waxell Ridge 3.88 142 IAML 13 56 09.4
comp=E,118nm,0.5s
WAX IAML 13 56 09.8
comp=N,202nm,0.8s
GRIN Grindle Hills 3.90 146 Pn 13 55 01.5 +1.8
ISLE Juniper Island 3.90 138 Pn 13 55 01.4 +1.6
ISLE Juniper Island 3.90 138 IAML 13 56 06.6
comp=N,145nm,1.4s
CTG Chitna Glacier 3.96 129 P Pn 13 55 03.4 +2.8
baz=314,SNR=12
BM03 Burnt Mountain 4.06 17 Pn 13 55 02.5 +0.6
BAGL Bagley Icefiel 4.07 137 Pn 13 55 03.2 +1.3
BRSE Bradley Lake S 4.12 202 Pn 13 55 04.1 +1.5
BRSE Bradley Lake S 4.12 202 P Pn 13 55 03.9 +1.3
baz=19
BRLK Bradley Lake 4.12 203 Pn 13 55 04.3 +1.7
BRLK Bradley Lake 4.12 203 IAML 13 56 11.5
comp=N,72nm,0.8s
LOGN Logan Glacier 4.17 128 Pn 13 55 05.6 +2.1
N19K Bonanza Creek 4.22 232 P Pn 13 55 03.7 -0.4
baz=46
J29M Klondike Camp 4.26 74 P Pn 13 55 05.5 +0.9
baz=262,SNR=7.7
CNPM China Poot 4.41 204 Pn 13 55 08.0 +1.4
I29M Ogilvie Camp, 4.44 62 P Pn 13 55 07.5 +0.5
baz=250,SNR=36
SVW2 Sparrevohn 4.44 239 Pn 13 55 06.9 -0.2
YUK4 Talbot Arm 4.76 114 P Pn 13 55 11.8 +0.2
baz=301
M30M Minto, Yukon 5.05 97 Pn 13 55 15.5 0.0
M30M IAML 13 56 44.8
comp=E,55nm,0.7s
M30M IAML 13 56 45.1
comp=N,86nm,1.0s
M30M Minto, Yukon 5.05 97 P Pn 13 55 15.5 0.0
baz=286
TOLK Toolik Lake Re 5.14 352 P Pn 13 55 18.3 +1.7
baz=171,SNR=41
EPYK Eagle Plains 5.43 54 Pn 13 55 20.3 -0.4
EPYK Eagle Plains 5.43 54 P Pn 13 55 20.5 -0.1
baz=244,SNR=29
Q19K Cape Douglas, 5.48 214 Pn 13 55 22.3 +1.0
Q19K Cape Douglas, 5.48 214 P Pn 13 55 22.5 +1.2
baz=29
PNL Peninsula 5.57 131 P Pn 13 55 23.6 +1.1
baz=318
M31M Drury Creek, Y 6.23 97 P Pn 13 55 32.0 +0.4
baz=288
KDAK Kodiak Island 6.29 205 Pn Pn 13 55 31.4 -1.0
comp=N,0.3nm,0.3s,baz=66,slow=10,SNR=28
KDAK Sn Sn 13 56 42.9 -1.5
comp=N,0.6nm,0.3s,baz=105,slow=23,SNR=1.2
KDAK Kodiak Island 6.29 205 P Pn 13 55 32.3 -0.1
baz=20
WHY Whitehorse 6.68 110 P Pn 13 55 38.3 +0.4
baz=301
INK Inuvik 7.47 44 Pn Pn 13 55 48.4 -0.2
comp=N,1.2nm,0.3s,baz=227,slow=18,SNR=7.2
INK Sn Sn 13 57 11.4 -1.8
comp=N,0.4nm,0.3s,baz=205,slow=17,SNR=3.2
INK Lg Lg 13 57 54.2
comp=N,0.3nm,0.3s,baz=267,slow=6.9,SNR=4.9
INK Inuvik 7.47 44 P Pn 13 55 48.6 +0.1
baz=237
MMPY Sheldon Lake, 7.51 90 P Pn 13 55 49.4 +0.2
baz=284
ANM Nome 7.81 285 Pn Pn 13 55 53.6 +0.3
ANM Nome 7.81 285 P Pn 13 55 53.1 -0.2
baz=89
A21K Barrow 8.49 340 P Pn 13 56 02.7 +0.2
baz=152
DLBC Dease Lake 9.98 113 Pn Pn 13 56 26.4 +3.4
comp=N,0.1nm,0.3s,baz=178,slow=16,SNR=2.1
DLBC Lg Lg 13 59 14.6
comp=N,0.1nm,0.3s,baz=201,slow=20,SNR=3.7
C36M Paulatuk 11.01 48 P Pn 13 56 35.2 -1.8
baz=250,SNR=14
A36M Sachs Harbour 11.87 35 P Pn 13 56 47.9 -0.8
baz=236
YKA Yellowknife Ar 14.95 79 Pn Pn 13 57 29.6 -1.2
comp=N,0.1nm,0.3s,baz=287,slow=13,SNR=13
YKA Sn Sn 14 00 11.9 -4.4
comp=N,0.1nm,0.3s,baz=296,slow=23,SNR=4.5
PDAR Pinedale Array 30.21 115 P P 14 00 12.6 +2.2
comp=N,0.5nm,0.9s,baz=318,slow=6.6,SNR=2.8
ESDC Sonseca Array 73.12 29 P P 14 05 30.6 +0.5
comp=N,0.8nm,0.8s,baz=330,slow=6.8,SNR=5.2

*IDC **16** 14:04:14.4±1.8, 1′.55N×97′.20E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/53, mbtmp3.5/5, ML2.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/66, Error ellipse: s-maj=53.7km s-min=24.1km az=53.0*
*DJA **16** 14:04:17.6±0.6, 2′N±3′×9′8E±′, h10km, M3.2/6, MLv3.2/6*
ISC 16 14:04:16.9±1.1, 1′.88N±0′.06×97′.5E±0′.1, h10km, n14, σ1s25/10, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	0.57	175	P	Pg	14 04 29.2	+1.1
KCSI	Kotacane, Aceh	1.65	9	P	Pb	14 04 46.8	-0.7
PSI	Prapat	1.67	57	Pn	Pg	14 04 50.6	+1.6
	1.2nm,0.3s,baz=137,slow=20,SNR=2.4						
TSI	Tuntungan	1.92	33	P	Pn	14 04 48.3	-1.3
MNSI	Mandailing Nat	2.32	118	P	Pn	14 04 54.0	-1.2
H08S2	Diego Garcia H	26.70	249	T	T	14 37 07.3	
	baz=70,slow=75,SNR=60						
H08S3	Diego Garcia H	26.70	249	T	T	14 37 07.6	
	baz=70,slow=75,SNR=165						
H08S1	Diego Garcia H	26.72	249	T	T	14 37 08.6	
	baz=70,slow=75,SNR=16						
WRA	Warramunga Arr	42.12	123	P	P	14 12 08.9	-0.8
	0.5nm,1.0s,baz=296,slow=12,SNR=1.2						
ASAR	Alice Springs	43.55	128	P	P	14 12 21.1	-0.2
	0.3nm,0.9s,baz=300,slow=7.4,SNR=1.4						
KSRS	Korea Array	45.11	35	LR	LR	14 33 48.1	
	comp=Z,44nm,20.0s,baz=155,slow=39						
MKAR	Makanchi Array	46.67	346	P	P	14 12 45.8	+0.1
	0.2nm,0.4s,baz=155,slow=7.9,SNR=4.1						
KURBB	Kurchatov Arra	51.16	345	P	P	14 13 20.9	+0.7
	0.2nm,0.3s,baz=167,slow=6.3,SNR=1.7						
ZALV	Zalesovo Beam	52.94	351	P	P	14 13 34.8	+1.5
	1.8nm,0.5s,baz=171,slow=6.3,SNR=7.1						

*IDC **16** 14:10:49.1±0.6, 4′.72N×125′.15E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.1/54, mbtmp4.3/18, ML4.2/3, MS3.3/9, Ms1 3.3/9, ms1mx3.1/79, Error ellipse: s-maj=27.7km s-min=11.6km az=80.0*
*NEIC **16** 14:10:51.5±1.7, 4′.66N±0′.02×125′.09E±0′.08, h10km±1km, mb4.7/31, Error ellipse: s-maj=13.1km s-min=3.2km az=280.0*
*DJA **16** 14:10:53.0±0.4, 5′N±3′×12′5E±′, h10km, M4.6/12, mb4.8/8, mB5.0/4, MLv4.5/12, Mw(mB)4.3/4*
*MAN **16** 14:10:54.4, 4′.84N×125′.11E, h33km, mb5.2, ML4.1, MS4.2*
ISC 16 14:10:51.1±0.4, 4′.71N±0′.04×125′.15E±0′.07, h10km, n106, σ1s38/103, mb4.6/30, MS3.2/8, 4C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.08	159	P	Pg	14 11 11.6	-0.4
SGSI				S	Sb	14 11 26.3	+0.1
GSPH	General Santos	1.38	352	iePn	Pn	14 11 15.1	-1.6
DAV	Davao City (W)	2.39	10	Pn	Pn	14 11 30.6	+0.2
	76nm,0.3s,baz=350,slow=0.5,SNR=8.8						
DAV				Sn	Sb	14 12 05.8	+2.0
	130nm,0.3s,baz=279,slow=22,SNR=8.7						
DAV	Davao City (W)	2.39	10		Pn	14 11 31.0	+0.6
MATI	Mati	2.48	261	iePn	Pn	14 11 31.7	0.0
CTBH	Cotabato--PC H	2.65	340	↓iP	Pn	14 11 35.1	+1.1
CTBH				*i* S	Sn	14 12 07.1	+0.8
PAGZ	Pagadian	3.58	331	↑iePn	Pn	14 11 46.8	+0.1
TNTI	Ternate	4.49	150	Pn	Pn	14 11 58.7	-0.7
GTOI	Gorontalo	4.57	208	P	Pn	14 11 58.2	-2.2
GLSP	General Luna,	5.14	11	↑iePn	Pn	14 12 09.6	+1.4
MRSI	Marisa	5.28	217	P	Pn	14 12 09.6	-0.6
	0.8nm2μm130nm,0.6s						
TOLI2	Tolitoli	5.64	231	Pn	Pn	14 12 12.0	-3.1
LBMI	Labuha	5.81	156	P	Pn	14 12 19.4	+2.0
	0.3nm56nm,0.7s						
LUWI	Luwuk	6.18	203		Pn	14 12 22.9	+0.3
LUWI	Luwuk	6.18	203	P	Pn	14 12 24.2	+1.6
	1.1nm2μm151nm,1.0s						
APSI	Ampana	6.58	212	P	Pn	14 12 31.1	+3.0
	0.3nm719nm49nm,0.8s						
MYLDM	Lahad Datu	6.64	274		Pn	14 12 28.1	-0.7
SANI	Sanana	6.76	173	P	Pn	14 12 30.0	-0.6
	0.2nm792nm69nm,0.8s						
SIJI	Sorong	8.25	132	Pn	Pn	14 12 51.1	+0.1
	2.2nm,0.3s,baz=168,slow=21,SNR=6.9						
AAI	Ambon	8.88	160	P	Pn	14 12 59.6	0.0
LQP	Lukban	10.00	339	↓ieP	Pn	14 13 24.0	+8.8
KAPI	Kappang	11.06	209	LR	LR	14 17 53.1	
	comp=Z,186nm,20.0s,baz=35,slow=38						
BATI	Baumata	14.89	186	Pn	Pn	14 14 22.5	+0.6
	0.9nm,0.3s,baz=332,slow=10,SNR=1.8						
BATI				LR	LR	14 20 12.0	
	comp=Z,187nm,20.1s,baz=268,slow=38						
DRS	Darwin Rock St	17.96	161	P	Pn	14 15 00.2	-1.0
KDU Kakadu 18.75 157 P P 14 15 08.2 -2.2
baz=18,SNR=5.1
KDU Kakadu 18.75 157 P P 14 15 08.6 -1.8
TPUB Ta-pu 18.99 347 P P 14 15 14.1 +1.0
TPUB IAmb IAmb 14 15 35.7
comp=Z,49nm,1.2s
KNRA Kununurra 20.57 170 P P 14 15 30.1 -0.2
baz=19,SNR=15
KNRA Kununurra 20.57 170 P P 14 15 29.7 -0.6
KNRA IAmb IAmb 14 15 50.6
comp=Z,32nm,1.0s
KNRA Kununurra 20.57 170 P P 14 15 30.3 +0.1
LEM Lembang 20.91 237 LR LR 14 23 56.3
comp=Z,105nm,21.5s,baz=26,slow=38
GUMO Guam 21.36 64 LR LR 14 22 56.9
comp=Z,66nm,19.9s,baz=260,slow=34
UBPT Khong Chiam 22.02 300 P P 14 15 47.5 +1.5
JOW Kunigami 22.20 7 LR LR 14 25 43.9
comp=Z,57nm,19.1s,baz=1.0,slow=40
JOW Kunigami 22.20 7 P P 14 15 48.7 +0.8
JOW IAmb IAmb 14 15 58.1
comp=Z,36nm,1.2s
FITZ Fitzroy Crossi 22.67 179 P P 14 15 51.6 -1.2
comp=Z,6.0nm,0.6s,baz=8.7,slow=7.1,SNR=15
FITZ Fitzroy Crossi 22.67 179 P P 14 15 53.3 +0.5
baz=21,SNR=5.1
FITZ Fitzroy Crossi 22.67 179 P P 14 15 52.7 -0.1
WB0 Warramunga Arr 25.97 160 P P 14 16 23.2 -1.0
PMG Port Moresby 26.04 123 LR LR 14 26 27.9
comp=Z,92nm,20.2s,baz=329,slow=36
WRAB Tennant Creek 26.11 160 P P 14 16 24.6 -0.8
WRAB Tennant Creek 26.11 160 P P 14 16 25.0 -0.4
WRA Warramunga Arr 26.11 160 P P 14 16 24.7 -0.7
comp=Z,33nm,0.9s,baz=343,slow=10.0,SNR=88
WRA Warramunga Arr 26.11 160 P P 14 16 23.6 -1.8
WB2 Warramunga Arr 26.11 160 P P 14 16 24.9 -0.6
baz=25
PSA00 Pilbara Seismi 26.63 191 P P 14 16 29.3 -0.8
PSA00 IAmb IAmb 14 16 51.7
comp=Z,19nm,1.1s
JNU Nakatsue 28.77 10 P P 14 16 49.9 +0.7
JNU IAmb IAmb 14 16 53.9
comp=Z,9.5nm,0.9s
QIS Mount Isa 28.84 151 P P 14 16 50.8 +0.9
baz=28,SNR=4.6
QIS Mount Isa 28.84 151 P P 14 16 52.2 +2.2
CMAR Chiang Mai Arr 29.02 300 P P 14 16 52.6 +1.0
comp=Z,0.3nm,0.3s,baz=113,slow=6.9,SNR=1.4
CMAR LR LR 14 27 48.7
comp=Z,25nm,21.3s,baz=95,slow=35
AS31 Alice Springs 29.47 164 P P 14 16 54.6 -0.9
ASAR Alice Springs 29.47 164 P P 14 16 55.0 -0.6
comp=Z,3.3nm,0.7s,baz=357,slow=7.3,SNR=64
ASAR PcP PcP 14 20 00.9 -0.3
comp=Z,0.5nm,0.5s,baz=352,slow=2.6,SNR=4.4
ASPA Alice Springs 29.47 164 P P 14 16 55.1 -0.4
baz=28
WRKA Warakurna 29.72 174 P P 14 16 57.5 -0.3
baz=28,SNR=9.0
WRKA Warakurna 29.72 174 P P 14 16 57.8 0.0
JMN Monobe 30.00 15 P P 14 17 01.0 +0.9
JMN IAmb IAmb 14 17 15.0
comp=Z,17nm,1.1s
MEEK Meekatharra 31.80 191 P P 14 17 15.5 -0.6
baz=31,SNR=5.8
CTA Charters Tower 32.21 141 LR LR 14 33 25.1
comp=Z,121nm,18.3s,baz=269,slow=42
INU Inuyama 32.40 18 P P 14 17 20.8 -0.4
KSRS Korea Array 32.69 4 P P 14 17 23.6 -0.1
comp=Z,0.6nm,0.8s,baz=180,slow=11,SNR=4.3
OOD Oodnadatta 33.88 163 P P 14 17 34.2 0.0
MJAR Matsushiro Arr 33.88 19 P P 14 17 32.6 -1.6
comp=Z,6.8nm,0.8s,baz=201,slow=9.2,SNR=12
MJAR LR LR 14 29 36.5
comp=Z,51nm,20.9s,baz=250,slow=33
MJAR Matsushiro Arr 33.88 19 IAmb IAmb 14 17 35.3
comp=Z,3.4nm,1.1s
FORT Forrest 35.40 176 P P 14 17 46.8 -0.5
FORT IAmb IAmb 14 18 12.0
comp=Z,19nm,1.1s
MULG Mulgathing 35.82 167 P P 14 17 51.1 +0.1
JMM Marumori 35.96 21 P P 14 17 52.4 +0.3
LCRK Leigh Creek 37.13 161 P P 14 18 02.4 +0.3
BBOO Buckleboo 38.72 165 P P 14 18 15.6 0.0
baz=38,SNR=22
BBOO Buckleboo 38.72 165 P P 14 18 15.3 -0.3
BBOO IAmb IAmb 14 18 16.3
comp=Z,21nm,0.8s
BBOO Buckleboo 38.72 165 P P 14 18 15.8 +0.2
CN2 Changchun 38.93 0 eP P 14 18 15.8 -1.4
CN2 esP sP 14 18 22.8 +3.5
CN2 eS S 14 24 14.0 -1.7
CN2 esS sS 14 24 21.4 +3.0
CN2 eSS SnSn 14 26 57.5 -8.9
CN2 LR LR
comp=N,290nm,9.0s
CN2 LR LR
comp=E,250nm,9.0s
CN2 LR LR
comp=Z,190nm,11.0s
STKA Stephens Creek 39.61 158 P P 14 18 23.2 +0.2
comp=Z,14nm,0.8s,baz=333,slow=8.4,SNR=38
STKA Stephens Creek 39.61 158 P P 14 18 23.4 +0.4
baz=38,SNR=19
STKA Stephens Creek 39.61 158 P P 14 18 23.1 +0.1
STKA Stephens Creek 39.61 158 P P 14 18 23.9 +0.9
HTT Hallett 40.11 162 P P 14 18 27.8 +0.5
baz=39,SNR=22
HTT Hallett 40.11 162 P P 14 18 28.2 +1.0
GTA Gaotai 41.46 330 eP P 14 18 39.8 +1.4
GTA pP pwP 14 18 45.6 -0.2
GTA sP sP 14 18 48.3 +7.4
GTA pmax pmax
comp=Z,2.0nm,1.2s
TWOA Tennyson Woods 41.50 163 P P 14 18 39.9 +1.3
ASAJ Asahikawa 42.15 19 P P 14 18 43.9 +0.1
comp=Z,8.7nm,0.8s,baz=244,slow=11,SNR=8.2
JKA Kamikawa-asahi 42.15 19 P P 14 18 43.9 +0.1
JKA Kamikawa-asahi 42.15 19 IAmb IAmb 14 18 49.4
comp=Z,31nm,1.2s
ARPS Mount Arapiles 44.11 161 P P 14 19 00.7 +0.9
baz=43,SNR=26
ARPS Mount Arapiles 44.11 161 P P 14 19 00.7 +0.9
KLR Kul'dur 44.72 6 P P 14 19 04.0 -0.5
comp=Z,0.8nm,0.6s,baz=254,slow=3.2,SNR=3.9
TOO Toolangi 46.13 157 P P 14 19 17.8 +2.0
baz=45,SNR=5.8
TOO Toolangi 46.13 157 P P 14 19 17.1 +1.3
TOO Toolangi 46.13 157 P P 14 19 17.9 +2.0
PETK Petropavlovsk- 55.14 23 P P 14 20 24.3 +0.7
comp=Z,4.3nm,0.8s,baz=197,slow=4.6,SNR=2.4
MK31 Makanchi Array 55.86 326 P P 14 20 28.9 -0.1
MK31 IAmb IAmb 14 20 30.1
comp=Z,4.4nm,1.4s
MKAR Makanchi Array 55.86 326 P P 14 20 28.7 -0.3
comp=Z,1.1nm,0.5s,baz=120,slow=8.4,SNR=19
MAKZ Makanchi 56.05 325 P P 14 20 30.0 -0.3
KDJ Kajisay 56.57 319 P P 14 20 34.9 +0.6
YAK Yakutsk 57.30 3 P P 14 20 37.7 -1.1
comp=Z,11nm,0.4s,baz=200,slow=5.1,SNR=4.1
ZALV Zalesovo Beam 59.01 333 P P 14 20 49.1 -2.0
comp=Z,0.5nm,0.5s,baz=134,slow=10,SNR=2.3
KBL Kabul 59.68 307 P P 14 20 56.5 +0.2
KBL IAmb IAmb 14 21 22.1
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 60.07 328 P P 14 20 57.7 -0.7
comp=Z,2.1nm,0.8s,baz=124,slow=5.8,SNR=16
KURK Kurchatov 60.08 328 P P 14 20 57.8 -0.6
KURK IAmb IAmb 14 20 58.6
comp=Z,6.1nm,1.1s
OUZ Omahuta 60.37 135 P P 14 20 59.4 -1.2
OUZ IAmb IAmb 14 21 04.0
comp=Z,8.4nm,1.2s
MLY Manley 83.27 25 P P 14 23 18.1 +0.3
MLY IAmb IAmb 14 23 19.3
comp=Z,6.1nm,1.2s
I23K Minto, Yukon-K 83.86 25 P P 14 23 20.7 -0.1
H24K Noodor Dome 84.49 24 P P 14 23 24.5 +0.4
H24K IAmb IAmb 14 23 26.9
comp=Z,8.7nm,1.3s
IL31 84.90 25 P P 14 23 25.9 -0.1
IL31 IAmb IAmb 14 23 38.7
comp=Z,2.8nm,1.1s
ILAR Eielson Array 84.90 25 P P 14 23 25.0 -1.1
comp=Z,0.8nm,0.7s,baz=248,slow=4.8,SNR=13

ILAR	**Eielson Array**	**84.90**	**25**	P	**P**	**14 23 25.7**	**-0.4**
YKA	**Yellowknife Ar**	**99.26**	**24**	P	**Pdif**	**14 24 32.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=291,slow=5.1,SNR=2.9						

*CNRM **16** 14:16:38.4, 35.˚65N×3.˚58W, h12km, ml2.5*
*SFS **16** 14:16:40.0, 35.˚42N×3.˚60W, h32km, ML2.5, ALBORAN SUR*
*MDD **16** 14:16:41.1±0.5, 35.˚43N×3.˚57W, h32km±3km, mb_Lg2.4/15, Error ellipse: s-maj=4.4km s-min=3.0km az=172.0*

ISC 16 14:16:38.4±1.1, **35.˚51N**±0.˚02×**3.˚61W**±0.˚02, **h20**km±6km, **n31**, σ1=**43**/62, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**0.57**	**111**	Pg	**Pn**	**14 16 51.4**	**0.0**
EMEL				Sg	**Sn**	**14 16 59.0**	**-1.3**
GOG	**Mont Gurugu**	**0.58**	**120**	P	**Pn**	**14 16 51.4**	**-0.3**
GOG				S	**Sn**	**14 16 59.7**	**-0.9**
EALB	**Alboran**	**0.64**	**47**	Pg	**Pn**	**14 16 53.2**	**+0.9**
EALB				Sg	**Sn**	**14 17 03.5**	**+1.6**
EALB				*i* Vmb_Lg		14 17 04.5	
PVLZ	**Peæn de**	**0.66**	**240**	P	**Pb**	**14 16 51.6**	**+0.4**
PVLZ				S	**Sn**	**14 17 01.7**	**-0.7**
TAF	**Taforalt**	**1.20**	**125**	P	**Pg**	**14 17 01.2**	**-0.5**
TAF				S	**Sg**	**14 17 19.7**	**+2.2**
ELGU	**Los Guajares,**	**1.36**	**359**	Pn	**Pg**	**14 17 03.5**	**-1.2**
ELGU				Sn	**Sb**	**14 17 20.1**	**-0.1**
ELGU				*i* Vmb_Lg		14 17 26.2	
EMIJ	**Mijas**	**1.41**	**318**	Pn	**Pg**	**14 17 04.7**	**-1.0**
EMIJ				Sn	**Sb**	**14 17 21.5**	**-0.3**
EMIJ				*i* Vmb_Lg		14 17 28.5	
EMAL	**Malaga-Limoner**	**1.42**	**332**	P	**Pg**	**14 17 04.5**	**-1.3**
EMAL				S	**Sb**	**14 17 21.9**	**+0.1**
JBK	**JBK**	**1.45**	**144**	P	**Pg**	**14 17 05.4**	**-1.1**
JBK				S	**Sg**	**14 17 25.1**	**-0.3**
SMIR	**Smir Dam**	**1.46**	**277**	P	**Pb**	**14 17 04.1**	**-0.7**
SMIR				S	**Sg**	**14 17 25.4**	**-0.1**
CHEFC	**Chefchaouen**	**1.47**	**255**	P	**Pg**	**14 17 06.7**	**-0.2**
CHEFC				S	**Sg**	**14 17 25.9**	**-0.2**
CEU	**Ceuta**	**1.49**	**286**	P	**Pn**	**14 17 01.1**	**-3.0**
CEU				S	**Sn**	**14 17 19.4**	**-3.5**
EBER	**Berja**	**1.50**	**23**	Pg	**Pg**	**14 17 06.6**	**-0.8**
EBER				Sn	**Sn**	**14 17 23.4**	**-0.2**
EBER				*i* Vmb_Lg		14 17 32.2	
EGOR	**Sierra Gorda,**	**1.65**	**346**	Pn	**Pb**	**14 17 07.3**	**-1.0**
EGOR				Sn	**Sb**	**14 17 28.5**	**-0.1**
EGOR				*i* Vmb_Lg		14 17 38.3	
EQUE	**Quentar**	**1.70**	**5**	Pn	**Pg**	**14 17 10.0**	**-1.1**
EQUE				Sn	**Sb**	**14 17 29.4**	**-0.6**
EQUE				*i* Vmb_Lg		14 17 41.2	
EJIF	**Jimena Fronter**	**1.78**	**302**	Pn	**Pb**	**14 17 10.4**	**0.0**
EJIF				Sn	**Sn**	**14 17 30.6**	**+0.6**
ENIJ	**Nijar**	**1.85**	**37**	Pn	**Pb**	**14 17 10.5**	**-1.0**
ENIJ				Sn	**Sn**	**14 17 32.5**	**+0.6**
ENIJ				*i* Vmb_Lg		14 17 46.9	
LCRM	**LCR**	**2.09**	**210**	P	**Pg**	**14 17 17.1**	**-1.6**
LCRM				S	**Sg**	**14 17 48.3**	**+2.5**
ESPR	**Espera**	**2.27**	**307**	Pn	**Pn**	**14 17 15.8**	**+1.0**
ESPR				Sn	**Sn**	**14 17 42.5**	**+0.3**
ESPR				*i* Vmb_Lg		14 17 56.4	
EQES	**Quesada**	**2.33**	**11**	Pn	**Pn**	**14 17 17.2**	**+1.4**
EQES				Sn	**Sn**	**14 17 43.3**	**-0.6**
EQES				*i* Vmb_Lg		14 17 50.9	
EADA	**Adamuz**	**2.76**	**344**	Pn	**Pb**	**14 17 24.8**	**-2.4**
EADA				Sn	**Sn**	**14 17 55.1**	**+0.6**
EADA				*i* Vmb_Lg		14 18 04.1	
TDRA	**Tendrara**	**2.79**	**152**	P	**Pb**	**14 17 26.7**	**-1.0**
TDRA				S	**Sb**	**14 18 01.8**	**+0.3**
MD31	**MD31**	**2.80**	**200**	P	**Pb**	**14 17 24.9**	**-3.0**
MD31				S	**Sb**	**14 18 01.8**	**0.0**
MDT	**Midelt**	**2.81**	**197**	P	**Pn**	**14 17 24.9**	**+2.5**
MDT				S	**Sb**	**14 18 03.6**	**+1.5**
ECAB	**El Cabril**	**2.94**	**331**	Pn	**Pn**	**14 17 26.4**	**+2.2**
ECAB				Sn	**Sn**	**14 17 59.5**	**+0.5**
ECAB				*i* Vmb_Lg		14 18 14.7	
ZHG	**ZHG**	**3.24**	**231**	P	**Pn**	**14 17 30.9**	**+2.6**
ZHG				S	**Sb**	**14 18 13.2**	**-1.2**
EMIN	**Mina Concepcio**	**3.34**	**313**	Pn	**Pn**	**14 17 31.3**	**+1.7**
EMIN				Sn	**Sn**	**14 18 07.8**	**-0.8**
EMIN				*i* Vmb_Lg		14 18 16.0	
EGRO	**El Granado**	**3.72**	**304**	Pn	**Pn**	**14 17 36.2**	**+1.5**
EGRO				Sn	**Sn**	**14 18 17.7**	**-0.3**
EGRO				*i* Vmb_Lg		14 18 28.6	
PVAQ	**Vaqueiros**	**3.81**	**301**	P	**Pn**	**14 17 38.1**	**+2.1**
PVAQ				S	**Sn**	**14 18 21.5**	**+1.2**
PAB	**San Pablo**	**4.07**	**352**	Pn	**Pn**	**14 17 42.3**	**+2.6**
PAB				Sn	**Sn**	**14 18 25.3**	**-1.5**
PAB				*i* Vmb_Lg		14 18 43.8	
EBAD	**Badajoz**	**4.23**	**321**	Pn	**Pn**	**14 17 43.7**	**+2.0**
EBAD				Sn	**Sn**	**14 18 31.1**	**+0.5**
EBAD				*i* Vmb_Lg		14 18 45.3	

*IDC **16** 14:17:52.2±1.4, 29.˚52N×100.˚01E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.2/51, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=69.3km s-min=21.6km az=65.0*

ISC 16 14:17:53.9±1.5, **29.˚5N**±0.˚1×**99.˚6E**±0.˚2, **h10**km, **n11**, σ1=**33**/10, **mb3.7**/3, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**10.71**	**261**	*e*P	**Pn**	**14 20 28.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**10.98**	**183**	Pn	**Pn**	**14 20 32.4**	**+1.2**
	0.0nm,0.3s,baz=0.0,slow=9.5,SNR=4.4						
CMAR				Pg		14 21 13.9	
	0.3nm,0.3s,baz=359,slow=17,SNR=4.4						
CMAR				Lg	Lg	14 23 37.7	
	0.2nm,0.3s,baz=360,slow=27,SNR=1.0						
RAMN	**Ramite**	**11.76**	**261**	*e*P	**Pn**	**14 20 41.8**	**-0.3**
JIRN	**Jiri**	**11.95**	**265**	*e*P	**Pn**	**14 20 44.5**	**-0.3**
GUN	**Gumba**	**12.17**	**266**	*e*P	**Pn**	**14 20 47.1**	**-0.7**
PKI	**Pulchoki**	**12.65**	**265**	*e*P	**Pn**	**14 20 52.5**	**-1.8**
PKIN	**Phulchoki**	**12.66**	**265**	*e*P	**Pn**	**14 20 52.7**	**-1.6**
DANN	**Dangsing**	**13.95**	**269**	*e*P	Pn	14 21 09.0	-3.0
MKAR	**Makanchi Array**	**21.94**	**327**	P	**P**	**14 22 48.6**	**+1.0**
	2.1nm,0.7s,baz=137,slow=12,SNR=10						
KURBB	**Kurchatov Arra**	**26.42**	**329**	P	**P**	**14 23 31.9**	**+1.2**
	1.3nm,0.8s,baz=144,slow=9.2,SNR=6.6						
WRA	**Warramunga Arr**	**59.44**	**142**	P	**P**	**14 27 55.7**	**-1.4**
	0.5nm,0.7s,baz=324,slow=8.3,SNR=8.5						

IDC 16 14:18:36.1±2.0, **5.˚45N**×**126.˚38E**, **h0**km, **mb3.7**/5, **mb1 3.8**/5, **mb1mx3.4**/45, **mbtmp3.7**/5, **Error ellipse: s-maj=197.0km s-min=21.6km az=65.0**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.42**	**163**	P	P	14 24 14.0	-0.7
	2.3nm,0.9s,baz=343,slow=10.0,SNR=6.6						
ASAR	**Alice Springs**	**29.86**	**166**	P	P	14 24 44.4	-1.0
	0.2nm,0.6s,baz=6.2,slow=9.4,SNR=4.6						
STKA	**Stephens Creek**	**39.85**	**160**	P	P	14 26 13.2	+1.7
	1.1nm,0.5s,baz=329,slow=9.9,SNR=4.0						
MKAR	**Makanchi Array**	**55.95**	**325**	P	P	14 28 16.3	+0.1
	0.3nm,0.6s,baz=117,slow=8.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**60.11**	**327**	P	P	14 28 44.9	-0.3
	0.4nm,0.7s,baz=129,slow=5.6,SNR=4.4						

*CNRM **16** 14:50:55.7, 34.˚63N×3.˚61W, h7km, ml2.7*
*MDD **16** 14:50:56.8±1.0, 34.˚50N×3.˚47W, h25km±10km, Mb3.3/4, M_mb2.5/5, Error ellipse: s-maj=13.9km s-min=4.7km az=124.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*

ISC 16 14:50:55.3±1.2, **34.˚65N**±0.˚03×**3.˚60W**±0.˚02, **h14**km±10km, **n31**, σ1=**41**/54, **3C**, **Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOG	**Mont Gurugu**	**0.75**	**41**	P	**Pb**	**14 51 10.4**	**+0.1**
GOG	**Mont Gurugu**	**0.75**	**41**	P	**Pb**	**14 51 10.4**	**+0.1**
GOG				S	**Sn**	**14 51 23.9**	**+1.0**
EMEL	**Melilla**	**0.83**	**39**	Pg	**Pn**	**14 51 12.7**	**+0.1**
EMEL				Sg	**Sn**	**14 51 24.6**	**-0.1**
JBK	**JBK**	**0.91**	**110**	P	**Pg**	**14 51 11.6**	**-1.4**
JBK	**JBK**	**0.91**	**110**	P	**Pg**	**14 51 11.6**	**-1.4**
JBK				S	**Sn**	**14 51 26.5**	**-0.3**
TAF	**Taforalt**	**0.99**	**80**	P	**Pn**	**14 51 15.0**	**+0.1**
TAF	**Taforalt**	**0.99**	**80**	P	**Pn**	**14 51 15.0**	**+0.1**
TAF				S	**Sn**	**14 51 31.1**	**+2.5**
LCRM	**LCR**	**1.42**	**228**	P	**Pg**	**14 51 22.6**	**-0.1**
LCRM				S	**Sg**	**14 51 46.2**	**+5.0**
CHEFC	**Chefchaouen**	**1.50**	**288**	S	**Sg**	**14 51 44.3**	**+0.5**
SICH	**Sidi Chahed**	**1.52**	**249**	P	**Pn**	**14 51 23.0**	**+0.8**
SICH	**Sidi Chahed**	**1.52**	**249**	P	**Pn**	**14 51 23.0**	**+0.8**
SICH				S	**Sg**	**14 51 45.3**	**+0.9**
IFR	**Ifrane**	**1.70**	**229**	P	**Pn**	**14 51 24.4**	**-0.3**
IFR				S	**Sn**	**14 51 45.0**	**-1.4**
SMIR	**Smir Dam**	**1.79**	**306**	P	**Pn**	**14 51 25.5**	**-0.3**
SMIR				S	**Sn**	**14 51 48.7**	**+0.5**
CZD	**Col de Zad**	**2.01**	**217**	P	**Pb**	**14 51 31.1**	**-0.8**
CZD				S	**Sg**	**14 51 59.3**	**-0.9**
MDT	**Midelt**	**2.02**	**205**	P	**Pn**	**14 51 29.8**	**+0.8**
MDT	**Midelt**	**2.02**	**205**	P	**Pn**	**14 51 29.8**	**+0.8**
MDT				S	**Sb**	**14 51 56.9**	**+0.1**
MD31	**MD31**	**2.03**	**209**	P	**Pn**	**14 51 29.9**	**+0.7**
MD31				S	**Sn**	**14 51 56.0**	**+1.7**
TDRA	**Tendrara**	**2.07**	**140**	P	**Pb**	**14 51 31.4**	**-1.4**
TDRA				S	**Sb**	**14 51 58.5**	**0.0**
EMIJ	**Mijas**	**2.13**	**334**	Pn	**Pb**	**14 51 32.9**	**-0.9**
EMIJ				⇑*i* Vmb_V		14 51 33.8	
	75nm,SNR=3.3						
EMIJ				Sn	**Sb**	**14 51 59.7**	**-0.5**
EBER	**Berja**	**2.31**	**14**	Pn	**Pn**	**14 51 32.8**	**-0.4**
EBER				⇑*i* Vmb_V		14 51 34.1	
	50nm,SNR=3.9						
EBER				Sn	**Sn**	**14 52 01.3**	**-0.3**
EQUE	**Quentar**	**2.55**	**3**	Pn	**Pn**	**14 51 38.5**	**+2.1**
EQUE				Sn	**Sn**	**14 52 06.7**	**-0.6**
ZHG	**ZHG**	**2.80**	**245**	P	**Pb**	**14 51 43.4**	**-1.8**
ZHG				S	**Sb**	**14 52 19.9**	**+0.5**
EQES	**Quesada**	**3.17**	**8**	Pn	**Pn**	**14 51 46.5**	**+1.5**
EQES				⇑*i* Vmb_V		14 51 47.4	
	63nm,SNR=5.4						
EQES				Sn	**Sn**	**14 52 23.6**	**+0.9**
PVAQ	**Vaqueiros**	**4.32**	**311**	*e*Pn	**Pn**	**14 52 03.1**	**+2.5**
PVAQ				*e*Sn	**Sn**	**14 52 48.3**	**-2.5**
PVAQ				A	A	14 52 57.4	
	3.0nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.36**	**308**	*e*Pn	**Pn**	**14 52 00.8**	**-0.4**
PBDV				*e*Sn	**Sn**	**14 52 50.6**	**-1.3**
PBDV				A	A	14 52 58.9	
	3.7nm,0.9s						
PBAR	**Barrancos**	**4.48**	**323**	*e*Pn	**Pn**	**14 52 04.2**	**+1.4**
PBAR				*e*Sn	**Sn**	**14 52 54.4**	**-0.3**
PBAR				A	A	14 52 59.3	
	1.8nm,0.4s						
PCVE	**Castro Verde**	**4.67**	**311**	*e*Pn	**Pn**	**14 52 05.3**	**0.0**
PCVE				*e*Sn	**Sn**	**14 53 02.4**	**+3.1**
MORF	**Marmelete**	**4.88**	**304**	*e*Sn	**Sn**	**14 53 06.1**	**+1.5**
PFVI	**Vila Bisbo**	**4.91**	**302**	*e*Sn	**Sn**	**14 53 04.7**	**-0.7**
EVO	**Evora**	**5.25**	**319**	*e*Pn	**Pn**	**14 52 14.0**	**+0.6**
EVO				*e*Sn	**Sn**	**14 53 11.1**	**-2.7**
PNCL	**Nicolau / Gran**	**5.27**	**312**	*e*Pn	**Pn**	**14 52 13.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**14 53 13.1**	**-1.0**
PNCL				A	A	14 53 17.4	
	2.0nm,0.5s						

*IDC **16** 14:50:59.6±2.0, 42.˚66N×78.˚17E, h0km, mb3.4/2, mb1 3.3/7, mb1mx3.2/60, mbtmp3.2/7, ML3.0/4, Error ellipse: s-maj=35.0km s-min=11.7km az=153.0*
*NNC **16** 14:51:01.9±0.6, 42.˚85N×78.˚10E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=5.8km s-min=1.7km az=174.0*
*SOME **16** 14:51:02.7, 42.˚87N×78.˚08E, h15km*
*KRNET **16** 14:51:02.5±0.1, 42.˚85N×78.˚10E, h21km, mb4.1*
*MOS **16** 14:51:03.2±0.9, 42.˚81N×78.˚18E, h17km, mb4.5/1, Error ellipse: s-maj=8.6km s-min=6.2km az=156.2*

ISC 16 14:51:03.0±1.0, **42.˚88N**±0.˚02×**78.˚06E**±0.˚01, **h7**km±7km, **n132**, σ1=**59**/218, **mb3.5**/3, **34C-12D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.30**	**251**	*i* Pg	**Pg**	**14 51 09.6**	**+0.6**
ANVS	**Anan'yevo**	**0.30**	**251**	⇑*i*P	**Pg**	**14 51 09.6**	**+0.6**
	baz=58						
ANVS				⇑*i*S	**Sg**	**14 51 14.5**	**+1.5**
	baz=58						
SATY	**Saty**	**0.31**	**55**	*e*P	**Pg**	**14 51 09.2**	**0.0**
	baz=48						
SATY				*e*S	**Sg**	**14 51 13.7**	**+0.3**
	baz=48						
SATY	**Saty**	**0.31**	**55**	*e*P	**Pg**	**14 51 09.2**	**0.0**
	374nm,0.4s						
SATY				*e*S	**Sg**	**14 51 13.7**	**+0.3**
	3µm,0.2s						
SATY	**Saty**	**0.31**	**55**	P	**Pg**	**14 51 09.2**	**0.0**
	380nm,0.2s						
SATY				S	**Sg**	**14 51 13.7**	**+0.3**
	3µm,0.2s						
ZHN	**Zhinishke**	**0.40**	**44**	*e*P	**Pg**	**14 51 10.9**	**+0.1**
	baz=38						
ZHN				*e*S	**Sg**	**14 51 16.6**	**+0.5**
	baz=38						
ZHN	**Zhinishke**	**0.40**	**44**	*e*P	**Pg**	**14 51 10.9**	**+0.1**
	325nm,0.2s						
ZHN				*e*S	**Sg**	**14 51 16.6**	**+0.5**
	9µm,0.2s						
ZHN	**Zhinishke**	**0.40**	**44**	P	**Pg**	**14 51 10.9**	**+0.1**
	325nm,0.2s						
ZHN				S	**Sg**	**14 51 16.6**	**+0.5**
	9µm,0.2s						
KURS	**Kuram**	**0.61**	**8**	*e*P	**Pg**	**14 51 15.1**	**+0.3**
	baz=5.0						
KURS				*e*S	**Sb**	**14 51 24.0**	**-1.0**
	baz=5.0						
KURS	**Kuram**	**0.61**	**8**	*e*P	**Pg**	**14 51 15.1**	**+0.3**
	208nm,0.3s						
KURS				*e*S	**Sb**	**14 51 24.0**	**-1.0**
	528nm,0.4s						
KURS	**Kuram**	**0.61**	**8**	P	**Pg**	**14 51 15.1**	**+0.3**
	208nm,0.3s						
KURS				S	**Sb**	**14 51 24.0**	**-1.0**
	528nm,0.4s						
KPKS	**Kokpek**	**0.74**	**38**	*i* PG	**Pg**	**14 51 16.9**	**-0.4**
KPKS	**Kokpek**	**0.74**	**38**	*e*P	**Pg**	**14 51 16.9**	**-0.4**
	baz=35						
KPKS				*e*S	**Sg**	**14 51 26.6**	**-0.5**
	baz=35						
KPKS	**Kokpek**	**0.74**	**38**	*e*P	**Pg**	**14 51 16.9**	**-0.4**
	293nm,0.1s						
KPKS				*e*S	**Sg**	**14 51 26.5**	**-0.5**
	2µm,0.4s						
UZB	**Uzynbulak**	**0.76**	**69**	*i* PG	**Pg**	**14 51 16.4**	**-1.1**
UZB	**Uzynbulak**	**0.76**	**69**	*e*P	**Pg**	**14 51 16.5**	**-1.1**
	baz=66						
UZB				*e*S	**Sg**	**14 51 26.2**	**-1.2**
	baz=66						
UZB	**Uzynbulak**	**0.76**	**69**	*e*P	**Pg**	**14 51 16.5**	**-1.1**
	238nm,0.3s						
UZB				*e*S	**Sg**	**14 51 26.2**	**-1.2**
	457nm,0.2s						
UZB	**Uzynbulak**	**0.76**	**69**	P	**Pg**	**14 51 16.5**	**-1.1**
	238nm,0.3s						
UZB				S	**Sg**	**14 51 26.2**	**-1.2**
	457nm,0.2s						
KOTS	**Kotyrbulak**	**0.78**	**297**	*e*P	**Pg**	**14 51 18.0**	**+0.1**
	baz=98						
KOTS				*e*S	**Sb**	**14 51 29.1**	**-0.6**
	baz=98						
KOTS	**Kotyrbulak**	**0.78**	**297**	*e*P	**Pg**	**14 51 18.0**	**+0.1**
	292nm,0.2s						
KOTS				*e*S	**Sb**	**14 51 29.1**	**-0.6**
	1µm,0.3s						
KOTS	**Kotyrbulak**	**0.78**	**297**	P	**Pg**	**14 51 18.0**	**+0.1**
	292nm,0.2s						
KOTS				S	**Sb**	**14 51 29.1**	**-0.6**
	1µm,0.3s						
MDOK	**Medeo**	**0.79**	**291**	PG	**Pg**	**14 51 17.9**	**-0.3**
MDOK				S	**Sg**	**14 51 29.2**	**+0.7**
MDOK	**Medeo**	**0.79**	**291**	*e*P	**Pg**	**14 51 18.1**	**-0.1**
	baz=92						
MDOK				*e*S	**Sg**	**14 51 29.1**	**+0.6**
	baz=92						
MDOK	**Medeo**	**0.79**	**291**	*e*P	**Pg**	**14 51 18.1**	**-0.1**
	115nm,0.1s						
MDOK				*e*S	**Sg**	**14 51 29.0**	**+0.6**
	717nm,0.5s						
MDOK	**Medeo**	**0.79**	**291**	⇑P	**Pg**	**14 51 18.0**	**-0.3**
	61nm,0.5s						
MDOK				⇓S	**Sg**	**14 51 29.2**	**+0.6**
	375nm,0.4s						
MDOK	**Medeo**	**0.79**	**291**	Pg	**Pg**	**14 51 18.1**	**-0.1**
	115nm,0.1s						
MDOK				Lg	Lg	14 51 29.0	
	717nm,0.5s						
TNSS	**Tian-Shan**	**0.83**	**281**	*e*P	**Pg**	**14 51 18.8**	**-0.2**
	baz=83						
TNSS				*e*S	**Sg**	**14 51 30.2**	**+0.4**
	baz=83						
TNSS	**Tian-Shan**	**0.83**	**281**	*e*P	**Pg**	**14 51 18.8**	**-0.2**
	65nm,0.1s						
TNSS				*e*S	**Sg**	**14 51 30.1**	**+0.4**
	403nm,0.3s						
TNSS	**Tian-Shan**	**0.83**	**281**	P	**Pg**	**14 51 18.8**	**-0.2**
	65nm,0.1s						
TNSS				S	**Sg**	**14 51 30.1**	**+0.4**
	403nm,0.3s						
KNDC	**Almaty**	**0.87**	**293**	PG	**Pb**	**14 51 19.7**	**-0.7**
KNDC				S	**Sg**	**14 51 32.1**	**+1.2**
KNDC	**Almaty**	**0.87**	**293**	⇑P	**Pb**	**14 51 19.8**	**-0.6**
	84nm,0.7s						
KNDC				⇑S	**Sg**	**14 51 32.1**	**+1.2**
	919nm,0.7s						
AAA	**Alma-Ata**	**0.90**	**292**	*e*P	**Pg**	**14 51 20.8**	**+0.5**
	baz=93						
AAA				*e*S	**Sn**	**14 51 33.5**	**-2.0**
	baz=93						
AAA	**Alma-Ata**	**0.90**	**292**	*e*P	**Pg**	**14 51 20.8**	**+0.5**
	127nm,0.1s						
AAA				*e*S	**Sn**	**14 51 33.5**	**-2.0**
	1µm,0.3s						
AAA	**Alma-Ata**	**0.90**	**292**	P	**Pg**	**14 51 20.8**	**+0.5**
	127nm,0.1s						
AAA				S	**Sn**	**14 51 33.5**	**-2.0**
	1µm,0.3s						
KDJ	**Kajisay**	**0.99**	**221**	*i* PG	**Pb**	**14 51 21.0**	**-1.6**
KDJ				*i* S	**Sb**	**14 51 33.8**	**-2.1**
KDJ	**Kajisay**	**0.99**	**221**	⇑*i*P	**Pb**	**14 51 21.0**	**-1.6**
	baz=23						
KDJ				⇑*i*S	**Sb**	**14 51 33.8**	**-2.1**
	baz=23						
SHLS	**Shalkode**	**1.07**	**74**	*i* PG	**Pg**	**14 51 27.3**	**+3.8**
SHLS	**Shalkode**	**1.07**	**74**	*e*P	**Pg**	**14 51 27.4**	**+3.9**
	baz=76						
SHLS				*e*S	**Sn**	**14 51 45.2**	**+5.5**
	baz=76						
SHLS	**Shalkode**	**1.07**	**74**	*e*P	**Pg**	**14 51 27.4**	**+3.9**
	79nm,0.4s						
SHLS				*e*S	**Sn**	**14 51 45.2**	**+5.5**
	217nm,0.4s						
SHLS	**Shalkode**	**1.07**	**74**	P	**Pg**	**14 51 27.4**	**+3.9**
	79nm,0.4s						
SHLS				S	**Sn**	**14 51 45.2**	**+5.5**
	217nm,0.4s						
PDGK	**Podgornoye**	**1.14**	**66**	*i* PG	**Pb**	**14 51 22.9**	**-2.2**
PDGK				pmax	pmax		
	comp=Z,23nm,0.3s						
PDGK	**Podgornoye**	**1.14**	**66**	P	**Pb**	**14 51 23.0**	**-2.1**
	comp=Z,30nm,0.3s						
PDGK				S	**Sb**	**14 51 37.4**	**-2.8**
	comp=Z,93nm,0.6s						
PDGK	**Podgornoye**	**1.14**	**66**	⇑P	**Pb**	**14 51 22.9**	**-2.2**
	comp=Z,23nm,0.3s						
PDGK				⇓S	**Sb**	**14 51 37.9**	**-2.3**
	comp=Z,127nm,0.5s						
MTBS	**Maitube**	**1.22**	**282**	*e*P	**Pn**	**14 51 25.7**	**-0.9**
	baz=83						
MTBS				*e*S	**Sn**	**14 51 42.0**	**-1.4**
	baz=83						
MTBS	**Maitube**	**1.22**	**282**	*e*P	**Pn**	**14 51 25.7**	**-0.9**
	comp=Z,52nm,0.1s						
MTBS				*e*S	**Sn**	**14 51 41.9**	**-1.4**
	comp=Z,365nm,0.3s						
MTBS	**Maitube**	**1.22**	**282**	P	**Pn**	**14 51 25.7**	**-0.9**
	comp=Z,52nm,0.1s						
MTBS				S	**Sn**	**14 51 41.9**	**-1.4**
	comp=Z,365nm,0.3s						
CHKK	**Chushkaly**	**1.25**	**322**	*e*P	**Pb**	**14 51 26.4**	**-0.5**
	baz=22						
CHKK				*e*S	**Sn**	**14 51 43.1**	**-0.9**
	baz=22						
CHKK	**Chushkaly**	**1.25**	**322**	*e*P	**Pb**	**14 51 26.4**	**-0.5**
	comp=Z,250nm,0.2s						
CHKK				*e*S	**Sn**	**14 51 43.1**	**-0.9**
	comp=Z,3µm,0.3s						
CHKK	**Chushkaly**	**1.25**	**322**	P	**Pb**	**14 51 26.4**	**-0.5**
	comp=Z,250nm,0.2s						
CHKK				S	**Sn**	**14 51 43.1**	**-0.9**
	comp=Z,3µm,0.3s						
BLB	**Baldybastay**	**1.25**	**14**	*e*P	**Pn**	**14 51 26.1**	**-1.0**
	comp=Z,1µm,0.1s						
BLB				*e*S	**Sn**	**14 51 42.6**	**-1.7**
	comp=Z,1µm,0.2s						
BLB	**Baldybastay**	**1.25**	**14**	P	**Pn**	**14 51 26.1**	**-1.0**
	comp=Z,1µm,0.1s						
BLB				S	**Sn**	**14 51 42.6**	**-1.7**
	comp=Z,1µm,0.2s						
KTBS	**Karatobe**	**1.30**	**310**	*e*P	**Pb**	**14 51 27.5**	**-0.3**
	baz=10.0						
KTBS				*e*S	**Sg**	**14 51 45.3**	**+0.4**
	baz=10.0						
KTBS	**Karatobe**	**1.30**	**310**	*e*P	**Pb**	**14 51 27.5**	**-0.3**
	comp=Z,92nm,0.2s						
KTBS				*e*S	**Sg**	**14 51 45.4**	**+0.4**
	comp=Z,782nm,0.3s						
KTBS	**Karatobe**	**1.30**	**310**	P	**Pb**	**14 51 27.5**	**-0.3**
	comp=Z,92nm,0.2s						
KTBS				S	**Sg**	**14 51 45.4**	**+0.4**
	comp=Z,782nm,0.3s						
ULHL	**Ulahol**	**1.48**	**245**	P	**Pn**	**14 51 29.3**	**-1.0**
	SNR=7.2			

comp=Z,112nm,0.3s
KRBS Karabastau 1.92 296 *e*P **Pb 14 51 37.8 -0.6**
baz=96
KRBS *e*S **Sb 14 52 03.3 +0.8**
baz=96
KRBS Karabastau 1.92 296 *e*P **Pb 14 51 37.8 -0.6**
comp=Z,46nm,0.2s
KRBS *e*S **Sb 14 52 03.4 +0.8**
comp=Z,1µm,0.3s
KRBS Karabastau 1.92 296 Pg **Pb 14 51 37.8 -0.6**
comp=Z,46nm,0.2s
KRBS Lg Lg 14 52 03.4
comp=Z,1µm,0.3s
DJR Jarkent 1.92 40 *e*P **Pb 14 51 37.5 -0.9**
comp=Z,36nm,0.2s
DJR *e*S **Sb 14 52 02.2 -0.4**
comp=Z,361nm,0.5s
DJR Jarkent 1.92 40 P **Pb 14 51 37.5 -0.9**
comp=Z,36nm,0.2s
DJR S **Sb 14 52 02.2 -0.4**
comp=Z,361nm,0.5s
TDK Taldygorghan 2.14 7 *e*P **Pb 14 51 41.1 -0.9**
comp=Z,229nm,0.3s
TDK *e*S **Sb 14 52 08.4 -0.4**
comp=Z,1µm,0.4s
TDK Taldygorghan 2.14 7 Pg **Pb 14 51 41.1 -0.9**
comp=Z,229nm,0.3s
TDK Lg Lg 14 52 08.4
comp=Z,1µm,0.4s
KBK Karagaybulak 2.30 265 P **Pb 14 51 43.7 -1.2**
SNR=125
KBK Karagaybulak 2.30 265 *i* PN **Pb 14 51 42.7 -2.2**
KBK *i* S **Sb 14 52 11.1 -2.5**
KBK Karagaybulak 2.30 265⇓ *i*P **Pb 14 51 42.7 -2.2**
baz=66
KBK ⇓*i*S **Sb 14 52 11.1 -2.5**
baz=66
CHMS Chumysh 2.43 274 P **Pb 14 51 45.3 -1.7**
SNR=50
CHMS Chumysh 2.43 274 *e*PN **Pb 14 51 47.4 +0.4**
CHMS Chumysh 2.43 274⇑ *i*P **Pb 14 51 44.6 -2.4**
baz=75
CHMS ⇑*i*S **Sb 14 52 14.5 -2.7**
baz=75
FRU1 Bishkek 2.52 270 *i* PN **Pn 14 51 45.7 +1.3**
FRU1 *i* S **Sb 14 52 17.0 -2.8**
FRU1 Bishkek 2.52 270⇑ *i*P **Pn 14 51 45.7 +1.3**
baz=71
FRU1 ⇑*i*S **Sb 14 52 17.0 -2.8**
baz=71
SGDS Sogindy 2.57 284 *i* PN **Pb 14 51 46.9 -2.6**
SGDS Sogindy 2.57 284 *e*P **Pb 14 51 49.3 -0.2**
comp=Z,17nm,0.2s
SGDS *e*S **Sb 14 52 22.9 +1.6**
comp=Z,133nm,0.2s
SGDS Sogindy 2.57 284 Pg **Pb 14 51 49.3 -0.2**
comp=Z,17nm,0.2s
SGDS Lg Lg 14 52 22.9
comp=Z,133nm,0.2s
KAPS Kapalarasan 2.58 21 *e*P **Pb 14 51 49.4 -0.2**
comp=Z,36nm,0.5s
KAPS *e*S **Sg 14 52 23.1 -2.7**
comp=Z,206nm,0.4s
KAPS Kapalarasan 2.58 21 Pg **Pb 14 51 49.4 -0.2**
comp=Z,36nm,0.5s
KAPS Lg Lg 14 52 23.1
comp=Z,206nm,0.4s
AAK Ala-Archa 2.63 266 Pn **Pb 14 51 48.5 -2.1**
comp=Z,12nm,0.3s,baz=96,slow=7.3,SNR=139
AAK Lg Lg 14 52 24.7
comp=Z,21nm,0.3s,baz=229,slow=22,SNR=26
AAK Ala-Archa 2.63 266*d i* PN **Pb 14 51 48.2 -2.4**
USP Ospenovka 2.63 280 P **Pb 14 51 48.1 -2.4**
SNR=70
USP Ospenovka 2.63 280 *e*PN **Pb 14 51 50.5 0.0**
USP Ospenovka 2.63 280⇓ *i*P **Pn 14 51 47.4 +1.4**
baz=80
USP ⇓*i*S **Sn 14 52 19.6 +1.4**
baz=80
UCH Uchtor 2.70 257 P **Pb 14 51 49.2 -2.7**
SNR=46
UCH Uchtor 2.70 257 *e*PN **Pb 14 51 51.5 -0.3**
UCH Uchtor 2.70 257⇑ *e*P **Pn 14 51 48.4 +1.2**
baz=58
UCH ⇑*i*S **Sn 14 52 21.1 +0.8**
baz=58
ARLS Aral 2.95 251 *i* PN **Pn 14 51 51.3 +0.9**
ARLS *i* S **Sn 14 52 26.4 +0.3**
ARLS Aral 2.95 251⇑ *i*P **Pn 14 51 51.3 +0.9**
baz=52
ARLS ⇑*i*S **Sn 14 52 26.4 +0.3**
baz=52
EKS2 Erkin-Say 3.16 267 P **Pb 14 51 55.7 -3.8**
SNR=13
EKS2 Erkin-Say 3.16 267 *i* PN **Pn 14 51 54.8 +1.6**
EKS2 *i* S **Sn 14 52 32.0 +0.8**
EKS2 Erkin-Say 3.16 267⇓ *i*P **Pn 14 51 54.8 +1.6**
baz=68
EKS2 ⇓*i*S **Sn 14 52 32.0 +0.8**
baz=68
AML Almayashu 3.31 258 P **Pb 14 51 58.4 -3.8**
SNR=10
AML Almayashu 3.31 258 *i* PN **Pn 14 51 56.6 +1.0**
AML *i* S **Sn 14 52 36.0 +0.6**
MRKS Merke 3.56 269 *e*P **Pb 14 52 08.0 +1.7**
comp=Z,18nm,0.3s
MRKS *e*S **Sg 14 52 54.5 -2.6**
comp=Z,47nm,0.4s
MRKS Merke 3.56 269 Pg **Pb 14 52 08.0 +1.7**
comp=Z,18nm,0.3s
MRKS Lg Lg 14 52 54.5
comp=Z,47nm,0.4s
BTLS Baital 3.61 308 *e*P **Pb 14 52 07.9 +0.7**
comp=Z,14nm,0.3s
BTLS *e*S **Sb 14 52 54.1 +2.9**
comp=Z,31nm,0.3s
BTLS Baital 3.61 308 Pg **Pb 14 52 07.9 +0.7**
comp=Z,14nm,0.3s
BTLS Lg Lg 14 52 54.1
comp=Z,31nm,0.3s
MAKZ Makanchi 4.82 34⇑ Pn **Pn 14 52 17.2 +1.3**
comp=Z,2.8nm,0.7s
MAKZ ⇑Lg Lg 14 53 34.5
comp=Z,18nm,0.9s
MK31 Makanchi Array 4.94 36 PN **Pn 14 52 18.5 +0.9**
MK31 Makanchi Array 4.94 36⇑ Pn **Pn 14 52 18.5 +0.9**
comp=Z,0.8nm,0.3s,baz=203,slow=14,SNR=79
MK31 ⇑Sn **Sn 14 53 12.8 -2.1**
comp=Z,2.8nm,0.5s
MK31 ⇑Lg Lg 14 53 36.6
comp=Z,8.4nm,0.6s,baz=207,slow=28,SNR=12
MKAR Makanchi Array 4.94 36 Pn **Pn 14 52 18.5 +0.9**
comp=Z,0.5nm,0.3s,baz=222,slow=17,SNR=44
MKAR Sn **Sn 14 53 10.8 -4.2**
comp=Z,1.3nm,0.3s,baz=224,slow=17,SNR=5.4
MKAR Lg Lg 14 53 30.3
comp=Z,2.8nm,0.3s,baz=220,slow=26,SNR=13
KK09 Karatay Array 5.55 275⇓ Pg Pg 14 52 44.9 -4.3
comp=Z,3.8nm,0.5s
KK09 ⇓Lg Lg 14 53 59.8
comp=Z,11nm,0.5s
IUG Iuzhnay 5.98 266 *e*P **Pg 14 52 55.3 -2.1**
comp=Z,93nm,0.4s
IUG *e*S **Sg 14 54 15.1 +0.3**
comp=Z,34nm,0.5s
BRLS Borolday 6.03 274 *e*P **Pg 14 52 57.4 -1.2**
comp=Z,1.6nm,0.7s
BRLS *e*S **Sg 14 54 18.7 +2.1**
comp=Z,11nm,0.5s
KURBB Kurchatov Arra 7.75 2 Pn **Pn 14 52 56.3 +0.1**
comp=Z,0.0nm,0.3s,baz=187,slow=12,SNR=3.0
KURBB Lg Lg 14 55 02.2
comp=Z,0.2nm,0.3s,baz=189,slow=29,SNR=4.2
KURBB Kurchatov Arra 7.75 2 P **Pn 14 52 59.5 +3.3**
KURBB Kurchatov Arra 7.75 2⇑ Pn **Pn 14 52 55.8 -0.4**
comp=Z,1.9nm,0.8s
KURBB ⇑Lg Lg 14 55 05.3
comp=Z,30nm,0.7s
KURK Kurchatov 7.85 3⇓ *e*P **Pn 14 53 00.9 +3.4**
KURK Kurchatov 7.85 3⇑ Lg Lg 14 55 08.6
comp=Z,32nm,1.2s
BVAR Borovoye Array 11.37 336 Pn **Pn 14 53 46.0 +0.2**
comp=Z,0.2nm,0.3s,baz=147,slow=14,SNR=2.4
BVAR Lg Lg 14 57 01.6
comp=Z,0.3nm,0.3s,baz=55,slow=42,SNR=3.4
BVAR Borovoye Array 11.37 336 P **Pn 14 53 46.0 +0.2**
BRVK Borovoye 11.43 336⇑ *e*P **Pn 14 53 49.7 +3.2**

ZALV Zalesovo Beam 11.95 20 Pn **Pn 14 53 51.8 -1.8**
baz=211,slow=15,SNR=1.8
ZALV Lg Lg 14 57 17.4
comp=Z,0.1nm,0.3s,baz=138,slow=38,SNR=1.9
YAK Yakutsk 35.60 39⇑ *e*P **P 14 58 01.3 +0.5**
YAK pmax pmax
comp=Z,3.0nm,0.6s
CRVS Cervenica-Dubn 39.06 299 *e*P **P 14 58 32.9 +2.6**
CRVS Cervenica-Dubn 39.06 299 *e*P **P 14 58 32.9 +2.6**
TORD Torodi Ar. Bea 71.21 271 P **P 15 02 19.9 -3.0**
comp=Z,0.3nm,0.7s,baz=62,slow=5.5,SNR=2.0
YKA Yellowknife Ar 74.48 6 P **P 15 02 42.2 +0.6**
comp=Z,0.3nm,0.7s,baz=347,slow=6.1,SNR=3.3

*IDC **16** 14:53:41.8±1.6, 12.°87N×87.°08W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/34, mbtmp3.5/6, ML3.5/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/44, Error ellipse: s-maj=73.5km s-min=17.2km az=53.0*
*INET **16** 14:53:42.7±0.5, 12.°09N×87.°90W, h15km±6km, MW3.9*
*SNET **16** 14:53:44.3±1.0, 12.°17N×87.°98W, h16km±4km, ML3.4*
*UCR **16** 14:53:44.1±3.0, 12.°10N×87.°86W, h35km±22km, MW3.6*
ISC 16 14:53:42.8±1.5, **12.°08N**±0.°05×**87.°84W**±0.°05, **h30**km±11km, **n71**, σ**1s31**/88, **mb3.5**/5, **1C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.94**	**17**	*e*P	**Pb**		**14 54 08.4**	**-0.1**
TEL3	**Telica 3**	**1.09**	**63**	*e*P	**Pn**		**14 54 02.5**	**+0.4**
CNGN	**Cerro Negro**	**1.19**	**69**	*e*P	**Pn**		**14 54 03.3**	**-0.2**
LCND	**La Caada**	**1.23**	**358**	*e*P	**Pn**		**14 54 04.3**	**+0.4**
LCND				*e*S	**Sb**		**14 54 20.6**	**-0.2**
LCND	**La Caada**	**1.23**	**358**	*e*P	**Pn**		**14 54 04.3**	**+0.4**
LCND				*e*S	**Sb**		**14 54 20.6**	**-0.2**
LCND				IAML			14 54 23.5	
	comp=Z,2µm,0.3s							
COPN	**Copaltepe**	**1.23**	**85**	*e*P	**Pn**		**14 54 04.6**	**+0.7**
JUCU	**Jucuarán**	**1.23**	**341**	*e*P	**Pn**		**14 54 04.0**	**-0.2**
JUCU				*e*S	**Sn**		**14 54 19.7**	**-0.1**
JUCU	**Jucuarán**	**1.23**	**341**	*e*P	**Pn**		**14 54 04.0**	**-0.2**
JUCU				*e*S	**Sn**		**14 54 19.7**	**-0.1**
JUCU				IAML			14 54 28.0	
	comp=Z,1µm,0.4s							
MOMN	**Momotombo**	**1.31**	**75**	*e*P	**Pn**		**14 54 05.8**	**+0.7**
MOMN				*e*S	**Sn**		**14 54 23.0**	**+1.3**
LCY	**Lacayo**	**1.41**	**342**	*e*P	**Pb**		**14 54 07.7**	**-0.8**
LCY	**Lacayo**	**1.41**	**342**	*e*P	**Pb**		**14 54 07.7**	**-0.8**
RANC	**El Ranchito**	**1.42**	**342**	*e*P	**Pn**		**14 54 07.7**	**+1.0**
RANC				*e*S	**Sn**		**14 54 25.1**	**+0.6**
RANC	**El Ranchito**	**1.42**	**342**	*e*P	**Pn**		**14 54 07.7**	**+1.0**
RANC				*e*S	**Sn**		**14 54 25.1**	**+0.6**
ALJI	**Alcalda de J**	**1.43**	**330**	*e*P	**Pn**		**14 54 07.6**	**+0.9**
ALJI	**Alcalda de J**	**1.43**	**330**	*e*P	**Pn**		**14 54 07.6**	**+0.9**
ALJI				IAML			14 54 29.2	
	comp=Z,1µm,0.3s							
PACA	**Pacayal**	**1.46**	**341**	*e*P	**Pn**		**14 54 08.1**	**+0.8**
PACA	**Pacayal**	**1.46**	**341**	*e*P	**Pn**		**14 54 08.1**	**+0.8**
APYN	**Apoyeque**	**1.47**	**84**	*e*P	**Pn**		**14 54 06.8**	**-0.4**
TISN	**Laguna Tiscapa**	**1.54**	**87**	*e*P	**Pn**		**14 54 09.0**	**+0.7**
COEB	**Comit de Eme**	**1.56**	**335**	*e*P	**Pn**		**14 54 09.3**	**+0.7**
COEB				*e*S	**Sn**		**14 54 29.5**	**+1.5**
COEB	**Comit de Eme**	**1.56**	**335**	*e*P	**Pn**		**14 54 09.3**	**+0.7**
COEB				*e*S	**Sn**		**14 54 29.5**	**+1.5**
COEB				IAML			14 54 36.5	
	comp=Z,941nm,0.4s							
HUEN		**1.65**	**81**	*e*P	**Pn**		**14 54 10.9**	**+1.1**
PQSS	**Presa 15 de Se**	**1.69**	**336**	*e*P	**Pn**		**14 54 11.4**	**+1.1**
PQSS				*e*S	**Sn**		**14 54 32.7**	**+1.7**
PQSS	**Presa 15 de Se**	**1.69**	**336**	*e*P	**Pn**		**14 54 11.4**	**+1.1**
PQSS				*e*S	**Sn**		**14 54 32.7**	**+1.7**
PQSS				IAML			14 54 36.4	
	comp=Z,178nm,0.2s							
TECO	**Alcaldia de Te**	**1.72**	**328**	*e*P	**Pn**		**14 54 11.3**	**+0.6**
TECO	**Alcaldia de Te**	**1.72**	**328**	*e*P	**Pn**		**14 54 11.3**	**+0.6**
UESV	**Universidad de**	**1.80**	**329**	*e*P	**Pn**		**14 54 12.9**	**+1.0**
UESV				*e*S	**Sn**		**14 54 34.5**	**+0.7**
UESV	**Universidad de**	**1.80**	**329**	*e*P	**Pn**		**14 54 12.9**	**+1.0**
UESV				*e*S	**Sn**		**14 54 34.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.83**	**332**	*e*P	**Pn**		**14 54 14.0**	**+1.7**
SCLA				*e*S	**Sn**		**14 54 35.9**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.83**	**332**	*e*P	**Pn**		**14 54 14.0**	**+1.7**
SCLA				*e*S	**Sn**		**14 54 35.9**	**+1.4**
COEG	**Centro de Oper**	**1.84**	**327**	*e*P	**Pn**		**14 54 13.0**	**+0.6**
COEG	**Centro de Oper**	**1.84**	**327**	*e*P	**Pn**		**14 54 13.0**	**+0.6**
LFRS	**El Faro**	**1.94**	**322**	*e*P	**Pn**		**14 54 14.3**	**+0.4**
LFRS	**El Faro**	**1.94**	**322**	*e*P	**Pn**		**14 54 14.3**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.04**	**16**	*e*P	**Pn**		**14 54 16.8**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.04**	**16**	*e*P	**Pn**		**14 54 16.8**	**+1.5**
MATN	**Matagalpa**	**2.05**	**65**	*e*P	**Pn**		**14 54 16.2**	**+0.8**
PMON	**Piamonte**	**2.17**	**319**	*e*P	**Pn**		**14 54 17.9**	**+0.9**
PMON	**Piamonte**	**2.17**	**319**	*e*P	**Pn**		**14 54 17.9**	**+0.9**
JAYA	**Jayaque - finc**	**2.22**	**315**	*e*P	**Pn**		**14 54 17.6**	**0.0**
JAYA				*e*S	**Sn**		**14 54 44.2**	**0.0**
JAYA	**Jayaque - finc**	**2.22**	**315**	*e*P	**Pn**		**14 54 17.6**	**0.0**
JAYA				*e*S	**Sn**		**14 54 44.2**	**0.0**
TACO	**Tacachico**	**2.39**	**322**	*e*P	**Pn**		**14 54 20.7**	**+0.8**
TACO	**Tacachico**	**2.39**	**322**	*e*P	**Pn**		**14 54 20.7**	**+0.8**
TACO				IAML			14 54 56.9	
	comp=Z,68nm,0.4s							
HZTE	**Horizontes, Gu**	**2.59**	**121**	*e*P	**Pn**		**14 54 23.7**	**+1.1**
NUBE	**Las Nubes**	**2.62**	**314**	*e*P	**Pn**		**14 54 23.5**	**+0.3**
NUBE	**Las Nubes**	**2.62**	**314**	*e*P	**Pn**		**14 54 23.5**	**+0.3**
NUBE				IAML			14 54 58.9	
	comp=Z,148nm,0.2s							
GBS3	**Finca Las Img**	**2.67**	**119**	*e*P	**Pn**		**14 54 25.3**	**+1.5**
LAPC	**Finca la Perla**	**2.70**	**119**	*e*P	**Pn**		**14 54 24.3**	**+0.1**
GB1A	**Borinquen Arri**	**2.70**	**117**	*e*P	**Pn**		**14 54 25.9**	**+1.6**
MTO3	**Montecristo**	**2.74**	**328**	*e*P	**Pn**		**14 54 26.1**	**+1.1**
MTO3	**Montecristo**	**2.74**	**328**	*e*P	**Pn**		**14 54 26.1**	**+1.1**
GPS2	**Hotel Rincn d**	**2.77**	**118**	*e*P	**Pn**		**14 54 26.9**	**+1.6**
GUAI	**GUAI**	**2.91**	**128**	*e*P	**Pn**		**14 54 27.8**	**+0.7**
COLC	**Colonia**	**2.94**	**118**	*e*P	**Pn**		**14 54 29.2**	**+1.6**
HORNC	**Hornillas**	**2.94**	**117**	*e*P	**Pn**		**14 54 29.3**	**+1.7**
CUI	**Cuipilapa**	**2.98**	**118**	*e*P	**Pn**		**14 54 29.4**	**+1.3**
ACAL	**Aguas Claras**	**3.10**	**117**	*e*P	**Pn**		**14 54 31.5**	**+1.6**
JTS	**Las Juntas de**	**3.34**	**122**	Pn	**Pn**		**14 54 34.7**	**+1.6**
	comp=Z,5.0nm,0.3s,baz=12,slow=15,SNR=9.4							
JTS				Lg	Lg		14 55 26.7	
	comp=Z,6.6nm,0.3s,baz=161,slow=23,SNR=1.7							
LAFE	**Finca La Fe, P**	**3.66**	**128**⇑	*e*P	**Pn**		**14 54 37.6**	**+0.3**
LAFE				*e*S	**Sn**		**14 55 16.3**	**-3.3**
LAFE	**Finca La Fe, P**	**3.66**	**128**	*e*P	**Pn**		**14 54 37.7**	**+0.3**
JACO	**JACO, Garabito**	**3.94**	**127**	*e*P	**Pn**		**14 54 43.8**	**+2.5**
LCR2	**La Lucha 2**	**4.42**	**121**	*e*P	**Pn**		**14 54 50.8**	**+2.6**
RIMA	**Rio Macho**	**4.53**	**120**	*e*P	**Pn**		**14 54 52.8**	**+3.2**
CDM	**Cerro de Muert**	**4.73**	**122**	*e*P	**Pn**		**14 54 55.2**	**+2.8**
PIRO	**Carate, Puerto**	**5.74**	**129**⇓	*e*P	**Pn**		**14 55 08.6**	**+2.5**
TXAR	**Lajitas Array**	**22.62**	**322**	P	**P**		**14 58 42.6**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=135,slow=10,SNR=23							
PDAR	**Pinedale Array**	**35.92**	**332**	P	**P**		**15 00 43.1**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=126,slow=9.2,SNR=2.5							
NEW	**Newport**	**43.55**	**332**	LR	LR		15 22 29.6	
	comp=Z,174nm,19.1s,baz=106,slow=40							
SCHQ	**Schefferville**	**45.74**	**17**	P	**P**		**15 01 57.6**	**-3.7**
	comp=Z,1.3nm,0.6s,baz=207,slow=4.5,SNR=1.9							
YKA	**Yellowknife Ar**	**53.87**	**345**	P	**P**		**15 03 00.8**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.9,SNR=4.1							
ILAR	**Eielson Array**	**66.20**	**336**	P	**P**		**15 04 28.2**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=124,slow=4.5,SNR=2.3							

*IDC **16** 14:59:37.8±6.4, 1.°55N×28.°85W, h0km, mb3.9/2, mb1 3.8/2, mb1mx3.4/40, mbtmp3.9/2, MS3.7/14, Ms1 3.7/14, ms1mx3.3/83, Error ellipse: s-maj=356.3km s-min=56.4km az=147.0*
ISC 16 14:59:34.9±1.0, **1.°0N**±0.°2×**29.°2W**±0.°1, **h10**km, **n33**, σ**2s52**/13, **MS3.8**/14, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.53**	**225**	*e*P	**Pn**		**15 01 50.5**	**-1.9**
NBPV	**Pedro Velho**	**9.56**	**220**	*e*P	**Pn**		**15 01 51.0**	**-1.7**
NBCL	**Cascavel-CE**	**10.47**	**240**	*e*P	**Pn**		**15 02 02.5**	**-2.7**
NBRF	**Rio Formoso -**	**11.29**	**212**	*e*P	**Pn**		**15 02 16.3**	**-0.1**
NBMO	**Morrinhos-CE**	**11.66**	**248**	*e*P	**Pn**		**15 02 18.9**	**-2.6**
NBPS	**Pedro II - PI**	**13.37**	**246**	*e*P	**Pn**		**15 02 42.3**	**-2.7**
NBLA	**Lagarto - SE**	**14.66**	**215**	*e*P	**Pn**		**15 03 02.4**	**-0.2**
H10N3	**ASCENSION HYDRI**	**7.07**	**121**	T	T		15 20 59.5	
	baz=300,slow=74,SNR=210							
H10N2	**ASCENSION HYDRI**	**7.08**	**121**	T	T		15 21 01.9	
	baz=300,slow=74,SNR=147							
H10N1	**ASCENSION HYDRI**	**7.09**	**121**	T	T		15 21 01.3	
	baz=300,slow=74,SNR=194							
H10S3	**ASCENSION HYDRI**	**7.52**	**125**	T	T		15 21 39.3	
	baz=162,slow=74,SNR=129							
H10S1	**ASCENSION HYDRI**	**7.53**	**125**	T	T		15 21 38.4	
	baz=300,slow=74,SNR=8.0							
GUA01	**Guaratinga, BA**	**20.37**	**211**	*e*P	Pn		15 04 14.4	+0.4
PEXB	**Peixe**	**23.02**	**235**	*e*P	**P**		**15 04 41.7**	**+1.4**
MDP	**Montagnes des**	**23.77**	**280**	LR	LR		15 11 53.6	
	comp=Z,101nm,19.8s,baz=70,slow=31							
DBIC	**Dimbokro**	**24.91**	**76**	P	**P**		**15 04 58.8**	**+0.4**
	3.8nm,0.8s,baz=280,slow=11,SNR=4.9							
BOAV	**Boa Vista**	**31.35**	**273**	*e*P	**P**		**15 05 59.8**	**+3.7**
TORD	**Torodi Ar. Bea**	**32.88**	**67**	P	**P**		**15 06 09.3**	**-0.2**
	0.8nm,0.8s,baz=251,slow=8.7,SNR=5.1							
PTLB	**Pontes e Lacer**	**33.81**	**240**	*e*P	**P**		**15 06 18.5**	**+0.9**
SIV	**San Ignacio**	**35.73**	**240**	LR	LR		15 19 54.9	
	comp=Z,164nm,18.2s,baz=87,slow=34							
CPUP	**Villa Florida**	**38.41**	**223**	LR	LR		15 22 18.1	
	comp=Z,311nm,19.1s,baz=38,slow=35							
MDT	**Midelt**	**39.20**	**34**	LR	LR		15 22 03.0	
	comp=Z,89nm,19.9s,baz=156,slow=35							
SJG	**San Juan**	**40.08**	**297**	LR	LR		15 20 29.6	
	comp=Z,62nm,21.8s,baz=126,slow=31							
LPAZ	**La Paz**	**42.10**	**244**	LR	LR		15 24 02.7	
	comp=Z,90nm,19.2s,baz=64,slow=34							
NNA	**Nana**	**49.05**	**253**	LR	LR		15 28 17.6	
	comp=Z,64nm,18.8s,baz=36,slow=35							
KEST	**Kesra**	**49.73**	**42**	LR	LR		15 29 25.5	
	comp=Z,99nm,21.4s,baz=198,slow=36							
VAE	**Valguarnera**	**54.09**	**43**	LR	LR		15 31 37.3	
	comp=Z,73nm,18.4s,baz=167,slow=36							
DAVOX	**Davos/Dischmat**	**56.91**	**31**	LR	LR		15 33 44.3	
	comp=Z,100nm,18.1s,baz=32,slow=36							
GERES	**GERESS Array B**	**60.21**	**31**	LR	LR		15 33 56.0	
	comp=Z,62nm,19.7s,baz=300,slow=35							
NOA	**NORSAR Array B**	**67.32**	**20**	LR	LR		15 37 17.7	
	comp=Z,23nm,18.6s,baz=40,slow=34							
BRTR	**Keskin Array B**	**68.71**	**47**	LR	LR		15 41 33.2	
	comp=Z,53nm,20.0s,baz=280,slow=37							
YKA	**Yellowknife Ar**	**87.00**	**332**	LR	LR		15 48 59.6	
	comp=Z,60nm,18.5s,baz=288,slow=34							
ASAR	**Alice Springs**	**152.13**	**145**	PKPbc	**PKPab**		**15 19 36.8**	**-4.3**
	0.5nm,1.1s,baz=197,slow=3.8,SNR=1.1							

*TAP **16** 15:03:01.4, 24.°71N×122.°31E, h96km, ML3.0, C*
*JMA **16** 15:03:01.3±0.1, 24.°71N×122.°29E, h96km±2km, M2.1*
ISC 16 15:03:02.1±1.4, **24.°69N**±0.°04×**122.°31E**±0.°02, **h92**km±8km, **n75**, σ**0s55**/139, **4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EGS		**0.38**	**294**	*e*P	**Pn**		**15 03 15.7**	**-0.5**
	baz=292							
EGS				*e*S	**Sn**		**15 03 26.9**	**+0.1**
	baz=292							
TWC	**Suao**	**0.43**	**259**	*i* P	**Pn**		**15 03 16.4**	**-0.2**
	baz=256							
TWC				*i* S	**Sn**		**15 03 26.9**	**-0.4**
	baz=256							
TWB1	**Santiao Chiao**	**0.43**	**317**⇑	*i*P	**Pn**		**15 03 16.5**	**-0.1**
	baz=316							
TWB1				*i* S	**Sn**		**15 03 27.3**	**-0.1**
	baz=316							
NTC	**Toucheng**	**0.47**	**291**	*e*P	**Pn**		**15 03 16.4**	**-0.4**
	baz=288							
NTC				*e*S	**Sn**		**15 03 27.8**	**0.0**
	baz=288							
TIPB	**Shuangxi**	**0.53**	**303**	*i* P	**Pn**		**15 03 17.2**	**-0.2**
	baz=300							
TIPB				*i* S	**Sn**		**15 03 28.4**	**-0.3**
	baz=300							
EWUT	**Wuta**	**0.55**	**244**	*i* P	**Pn**		**15 03 17.7**	**+0.3**
	baz=241							
EWUT				*e*S	**Sn**		**15 03 29.2**	**+0.4**
	baz=241							
NDS	**Dongshan**	**0.55**	**264**	*i* P	**Pn**		**15 03 17.8**	**+0.3**
	baz=262							
NDS				*i* S	**Sn**		**15 03 29.1**	**+0.2**
	baz=262							
SXI1	**Grass Mountain**	**0.57**	**315**⇑	P	**Pn**		**15 03 17.5**	**-0.3**
	baz=314							
SXI1				S	**Sn**		**15 03 28.8**	**-0.6**
	baz=314							
ENA	**Nanau**	**0.58**	**244**	*i* P	**Pn**		**15 03 17.9**	**+0.2**
	baz=241							
ENA				*i* S	**Sn**		**15 03 30.5**	**+1.1**
	baz=241							
TWE	**Neicheng**	**0.59**	**273**	*i* P	**Pn**		**15 03 17.8**	**0.0**
	baz=271							
TWE				*i* S	**Sn**		**15 03 29.9**	**+0.3**
	baz=271							
NWF	**Wu-fen Shan**	**0.62**	**308**⇑	*i*P	**Pn**		**15 03 18.0**	**-0.2**
	baz=307							
NWF				S	**Sn**		**15 03 30.1**	**0.0**
	baz=307							
WFSB	**Wu-fen Shan**	**0.62**	**308**	P	**Pn**		**15 03 17.9**	**-0.1**
	baz=307							
JYNG	**Yonagunijimaku**	**0.62**	**112**	P	**Pn**		**15 03 18.2**	**+0.1**
JYNG				S	**Sn**		**15 03 30.2**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.66**	**276**	P	**Pn**		**15 03 18.5**	**-0.1**
	baz=274							
FUSB				S	**Sn**		**15 03 31.8**	**+0.9**
	baz=274							
YOJ	**Yonaguni jima**	**0.67**	**109**	P	**Pn**		**15 03 18.6**	**0.0**
	baz=110							
YOJ				S	**Sn**		**15 03 31.7**	**+0.8**
	baz=110							
ENTT	**Nioudou**	**0.68**	**266**	*i* P	**Pn**		**15 03 19.0**	**+0.3**
	baz=264							
ENTT				S	**Sn**		**15 03 32.1**	**+1.0**
	baz=264							
TWA	**Mucha**	**0.72**	**294**	*i* P	**Pn**		**15 03 18.7**	**-0.4**
	baz=292							
TWA				S	**Sn**		**15 03 31.2**	**-0.5**
	baz=292							
LATG	**Datong**	**0.73**	**258**	P	**Pn**		**15 03 19.6**	**+0.3**
	baz=256							
LATG				S	**Sn**		**15 03 32.9**	**+0.8**
	baz=256							
NDT	**Datong Townshi**	**0.73**	**263**	*i* P	**Pn**		**15 03 19.9**	**+0.7**
	baz=261							
NDT				S	**Sn**		**15 03 33.3**	**+1.3**
	baz=261							
NWLT	**Wulai**	**0.74**	**277**	*e*P	**Pn**		**15 03 19.0**	**-0.3**

baz=252
NNS *i* S **Sn** **15 03 35.6 +0.6**
baz=252
TWD **Chiawan** **0.89 227** *i* P **Pn** **15 03 20.4 -0.4**
baz=225
TWD *i* S **Sn** **15 03 34.8 0.0**
baz=225
ETLH **Xiulin Townshi** **0.90 238** P **Pn** **15 03 20.8 -0.2**
baz=236
ETLH *e*S **Sn** **15 03 34.3 -0.7**
baz=236
TWS1 **Kuangyinshan** **0.91 297** *i* P **Pn** **15 03 20.6 -0.4**
baz=296
TWS1 S **Sn** **15 03 34.5 -0.6**
baz=296
NTST **Danshui** **0.92 301** *e*P **Pn** **15 03 20.5 -0.5**
baz=300
NTST *e*S **Sn** **15 03 34.8 -0.4**
baz=300
NCU **National Centr** **1.06 286** P **Pn** **15 03 22.6 -0.1**
baz=284
NCU S **Sn** **15 03 38.9 +0.8**
baz=284
NCUH **Zhongli** **1.06 285** *e*P **Pn** **15 03 22.6 -0.1**
baz=284
NCUH *e*S **Sn** **15 03 38.6 +0.5**
baz=284
FUSS **Fushou** **1.07 246** P **Pn** **15 03 23.1 +0.1**
baz=244
FUSS S **Sn** **15 03 38.9 +0.2**
baz=244
NFF **Wufeng Townshi** **1.09 267** P **Pn** **15 03 23.2 +0.1**
baz=266
NFF S **Sn** **15 03 38.6 -0.2**
baz=266
WHF **Hehuan Shan** **1.10 241** *i* P **Pn** **15 03 23.6 0.0**
baz=239
WHF *i* S **Sn** **15 03 39.3 -0.3**
baz=239
TWT **Tachien** **1.12 248** S **Sn** **15 03 40.3 +0.5**
baz=246
LIOB **Emei** **1.18 268** *i* P **Pn** **15 03 23.9 -0.2**
baz=267
LIOB *i* S **Sn** **15 03 40.6 -0.1**
baz=267
ESL **Shilin** **1.19 223** *i* P **Pn** **15 03 22.7 -1.4**
baz=221
ESL S **Sn** **15 03 39.6 -1.1**
baz=221
NSTT **Nanjuang** **1.20 268** P **Pn** **15 03 24.0 -0.3**
baz=266
NSTT *i* S **Sn** **15 03 40.6 -0.4**
baz=266
CHGB **Renai** **1.21 239** P **Pn** **15 03 24.9 +0.2**
baz=238
CHGB S **Sn** **15 03 41.3 -0.3**
baz=238
OWD **Renai** **1.27 235** P **Pn** **15 03 25.3 0.0**
baz=234
OWD *e*S **Sn** **15 03 42.3 -0.5**
baz=234
WUSB **Renai** **1.29 238** P **Pn** **15 03 25.8 +0.2**
baz=236
WUSB S **Sn** **15 03 43.1 -0.2**
baz=236
EGFH **Guangfu** **1.30 219** *e*P **Pn** **15 03 24.4 -1.2**
baz=218
EGFH S **Sn** **15 03 42.3 -0.8**
baz=218
WHP **Taichung City** **1.31 252** P **Pn** **15 03 26.3 +0.5**
baz=251
WHP S **Sn** **15 03 43.8 +0.2**
baz=251
IRIF **Iriomote-Funau** **1.34 105** P **Pn** **15 03 25.6 -0.3**
IRIF S **Sn** **15 03 43.9 0.0**
VWDT **VWDT** **1.42 229** P **Pn** **15 03 27.0 +0.1**
baz=228
VWDT S **Sn** **15 03 45.4 -0.3**
baz=228
WCS **Beigang Elemen** **1.43 244** *e*P **Pn** **15 03 27.6 +0.5**
baz=243
WCS *e*S **Sn** **15 03 46.1 +0.2**
baz=243
NSY **Sanyi** **1.44 259** *e*P **Pn** **15 03 27.5 +0.3**
baz=258
NSY *e*S **Sn** **15 03 46.7 +0.5**
baz=258
HGSD **Ruisui** **1.44 215** P **Pn** **15 03 26.7 -0.5**
baz=213
HGSD S **Sn** **15 03 46.1 -0.2**
baz=213
TWQ1 **Liyutan** **1.44 257** *e*S **Sn** **15 03 46.1 -0.3**
baz=255
EHY **Hungye** **1.49 218** P **Pn** **15 03 27.6 -0.3**
baz=216
HATJ **Hateruma jima** **1.50 115** P **Pn** **15 03 28.4 +0.5**
HATJ *e*S **Sn** **15 03 48.5 +1.0**
SMLT **Sun Moon Lake** **1.52 238** P **Pn** **15 03 28.8 +0.5**
baz=237
SMLT *e*S **Sn** **15 03 48.0 -0.2**
baz=237
SSLB **Suanglung** **1.53 234** *e*P **Pn** **15 03 29.2 +0.8**
baz=233
SSLB *e*S **Sn** **15 03 49.1 +0.7**
baz=233
WDJ **Dajia District** **1.56 258** *e*S **Sn** **15 03 49.1 +0.1**
baz=256
YULB **Yu-li** **1.59 216** P **Pn** **15 03 28.0 -1.2**
baz=215
JKRS **Kuro-shima** **1.61 106** P **Pn** **15 03 29.6 +0.3**
JKRS S **Sn** **15 03 49.9 -0.1**
WNT **Mingjian** **1.69 242** *e*S **Sn** **15 03 52.6 +0.7**
baz=240
JIJ **Ishigaki jima** **1.70 101** P **Pn** **15 03 30.1 -0.4**
JIJ S **Sn** **15 03 51.3 -0.7**
YUS **Yu-Shan** **1.73 226** *e*P **Pn** **15 03 31.0 -0.3**
baz=225
YUS *e*S **Sn** **15 03 53.0 -0.4**
baz=225
FULB **Fuli** **1.75 212** *e*P **Pn** **15 03 31.4 +0.1**
baz=211
FULB *e*S **Sn** **15 03 52.8 -0.6**
baz=211
ALS **Alishan** **1.81 230** P **Pn** **15 03 33.0 +0.8**
baz=228
ALS S **Sn** **15 03 56.5 +1.4**
baz=228
JISG **Ishigakijimahi** **1.82 93** P **Pn** **15 03 31.9 -0.1**
JISG S **Sn** **15 03 55.0 +0.2**
CHN5 **Tsauling** **1.85 234** *e*P **Pn** **15 03 33.7 +1.2**
baz=233
CHN5 *e*S **Sn** **15 03 57.0 +1.3**
baz=233
WRL **Guolierlin Hig** **1.93 246** *e*S **Sn** **15 03 56.3 -1.2**
baz=245
EDH **Donghe** **1.94 209** *e*P **Pn** **15 03 32.7 -1.0**
baz=208
WTK **Tuku** **2.02 241** *e*P **Pn** **15 03 34.1 -0.6**
baz=239
WTK *e*S **Sn** **15 03 59.0 -0.5**
baz=239
CHN4 **Tsaushan** **2.06 230** *e*P **Pn** **15 03 36.0 +0.7**
baz=229
CHN4 *e*S **Sn** **15 04 01.7 +1.2**
baz=229
JTJ **Tarama** **2.17 91** P **Pn** **15 03 36.7 0.0**
JTJ *e*S **Sn** **15 04 03.3 +0.2**
JIRB **Irabujima** **2.60 86** *e*S **Sn** **15 04 13.4 +0.1**

IDC 16 15:13:38.9±1.2, 8°.93S×158°.39E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/28, mbtmp3.5/4, Error ellipse: s-maj=39.3km s-min=20.4km az=12.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.61**	**108**	Pn	Pn	15 14 08.9	+0.3
	82nm,0.3s,baz=235,slow=4.2,SNR=25						
HNR				Sn	Sb	15 14 30.6	0.0
	420nm,0.3s,baz=142,slow=20,SNR=14						
WRA	**Warramunga Arr**	**25.70**	**242**	P	P	15 19 11.6	+0.5
	0.8nm,1.0s,baz=71,slow=8.2,SNR=2.4						
ASAR	**Alice Springs**	**27.63**	**235**	P	P	15 19 27.9	-0.5
	0.2nm,0.8s,baz=61,slow=9.9,SNR=2.0						
SONM	**Songino Array**	**72.79**	**326**	P	P	15 25 09.5	0.0
	1.0nm,0.7s,baz=134,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**87.08**	**318**	P	P	15 26 26.6	-0.1
	0.2nm,0.5s,baz=96,slow=6.2,SNR=4.1						

IDC 16 15:16:56.3±4.2, 22°.43N×10°.14W, h0km, mb3.5/1, mb1 3.3/2, mb1mx3.1/30, mbtmp3.3/2, ML2.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/68, Error ellipse: s-maj=130.9km s-min=49.8km az=59.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**14.56**	**127**	Pn	Pn	15 20 23.1	-0.6
	0.1nm,0.3s,baz=311,slow=13,SNR=1.9						
TORD				Sn	Sn	15 23 08.2	+2.3
	0.1nm,0.3s,baz=287,slow=27,SNR=1.6						
IDI	**Anoyia**	**33.07**	**59**	LR	LR	15 37 47.2	
	comp=Z,31nm,21.6s,baz=258,slow=38						
ROSC	**El Rosal**	**64.32**	**264**	LR	LR	15 54 60.0	
	comp=Z,36nm,19.4s,baz=230,slow=36						
MKAR	**Makanchi Array**	**75.60**	**45**	P	P	15 28 43.2	0.0
	0.2nm,0.5s,baz=301,slow=5.3,SNR=5.7						
ASAR	**Alice Springs**	**146.94**	**99**	PKPbc	PKPbc	15 36 40.8	-0.7
	0.4nm,0.7s,baz=262,slow=2.7,SNR=6.2						

AEIC 16 15:17:31±2.4, 52°N±1°×180°.0E±0°.4, h81km±10km, ML3.1, Error ellipse: s-maj=167.5km s-min=18.0km az=170.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIWB	**Kanaga Island**	**1.80**	**81**		Pn	15 18 01.0	+0.8
KIWB				Sn	Sn	15 18 25.0	+2.5
ADK	**Adak**	**2.09**	**81**	Pn	Pn	15 18 05.2	+1.1
ADK				Sn	Sn	15 18 31.5	+2.1
GSTR	**Great Sitkin T**	**2.50**	**78**	Pn	Pn	15 18 10.4	+0.8
NIKH	**Nikolski High**	**6.99**	**74**	Pn	Pn	15 19 13.6	+3.1

WEL 16 15:38:29.3±1.7, 36°S±21°×177°8E±1°9, h181km±17km, M3.2/13, ML3.7/25, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=144.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.53**	**185**	P	Pn	15 39 00.8	-0.7
MXZ				S	Sn	15 39 25.8	-0.9
WMGZ	**Waiomatatini S**	**1.78**	**181**	P	Pn	15 39 04.5	+0.5
WMGZ				S	Sn	15 39 33.2	+2.0
HAZ	**Te Kaha**	**1.80**	**197**	P	Pn	15 39 03.7	-0.5
PKGZ	**Pakihiroa**	**1.87**	**189**	P	Pn	15 39 05.2	+0.1
PKGZ				S	Sn	15 39 33.7	+0.7
RUGZ	**Raukumara Rang**	**2.02**	**198**	P	Pn	15 39 06.3	-0.5
PUZ	**Puketiti**	**2.04**	**184**	P	Pn	15 39 06.9	0.0
PUZ				S	Sn	15 39 35.1	-1.0
TWGZ	**Tauwhareparae**	**2.17**	**190**	P	Pn	15 39 08.9	+0.6
MWZ	**Matawai**	**2.41**	**198**	P	Pn	15 39 10.9	-0.1
TKGZ	**Te Karaka**	**2.45**	**191**	P	Pn	15 39 11.5	+0.2
CNGZ	**Carnagh Statio**	**2.45**	**185**	P	Pn	15 39 12.0	+0.6
URZ	**Urewera**	**2.47**	**206**	P	Pn	15 39 11.3	-0.3
RAGZ	**Rawiri**	**2.59**	**198**	P	Pn	15 39 13.7	+0.5
RIGZ	**Rimuhau**	**2.72**	**192**	P	Pn	15 39 14.7	+0.1
MUGZ	**Murupara**	**2.78**	**208**	P	Pn	15 39 15.5	+0.2
RTZ	**Ruatahuna**	**2.83**	**204**	P	Pn	15 39 15.6	-0.4
SNGZ	**Shannon Statio**	**2.88**	**198**	P	Pn	15 39 16.9	+0.4
PRGZ	**Paritu Road**	**2.92**	**189**	P	Pn	15 39 17.0	0.0
RAHZ	**Arahi**	**3.07**	**200**	P	Pn	15 39 18.9	0.0
MTHZ	**Maungataniwha**	**3.09**	**204**	P	Pn	15 39 18.6	-0.4
MHGZ	**Mahia Peninsul**	**3.14**	**188**	P	Pn	15 39 19.7	0.0
WHHZ	**Waihua**	**3.19**	**197**	P	Pn	15 39 20.8	+0.6
MRHZ	**Matea Rd**	**3.23**	**210**	P	Pn	15 39 20.7	-0.1
NMHZ	**Naumai**	**3.33**	**203**	P	Pn	15 39 22.2	+0.2
ARHZ	**Aropaoanui**	**3.42**	**199**	P	Pn	15 39 22.9	-0.2
BKZ	**Black Stump Fm**	**3.49**	**206**	P	Pn	15 39 23.6	-0.4
MCHZ	**McNeill Hill**	**3.68**	**202**	P	Pn	15 39 25.9	-0.4
KWHZ	**Kaweka Forest**	**3.75**	**205**	P	Pn	15 39 26.0	-1.3
NTVZ	**North Tongarir**	**3.77**	**215**	P	Pn	15 39 28.2	+0.5
TMVZ	**Te Maari**	**3.77**	**215**	P	Pn	15 39 28.0	+0.4
ETVZ	**East Tongariro**	**3.79**	**214**	P	Pn	15 39 28.1	+0.3
OTVZ	**Oturere**	**3.83**	**215**	P	Pn	15 39 28.7	+0.3
SNVZ	**South Ngauruho**	**3.86**	**215**	P	Pn	15 39 29.1	+0.4
BHHZ	**Black Hill Sta**	**3.94**	**208**	P	Pn	15 39 29.0	-0.6
KRHZ	**Kereru**	**3.96**	**204**	P	Pn	15 39 28.8	-1.1
MTVZ	**Mangateitei**	**4.10**	**214**	P	Pn	15 39 31.7	0.0
PXZ	**Pawanui**	**4.18**	**197**	P	Pn	15 39 31.1	-1.5
PNHZ	**Pukenui**	**4.26**	**204**	P	Pn	15 39 32.3	-1.4
WPHZ	**Waipukurau**	**4.33**	**201**	P	Pn	15 39 32.8	-1.7
PRHZ	**Porangahau**	**4.46**	**198**	P	Pn	15 39 34.8	-1.5
WAZ	**Wanganui**	**4.62**	**215**	P	Pn	15 39 35.3	-2.9
BFZ	**Birch Farm**	**4.95**	**200**	P	Pn	15 39 40.6	-2.0
MRZ	**Mangatainoka R**	**5.14**	**205**	P	Pn	15 39 42.6	-2.4
TIWZ	**Tintock**	**5.14**	**202**	P	Pn	15 39 43.0	-2.1
HOWZ	**Holdsworth Sta**	**5.37**	**205**	P	Pn	15 39 45.5	-2.6
TMWZ	**Te Maipa**	**5.45**	**201**	P	Pn	15 39 46.3	-2.7
KIW	**Kapiti Island**	**5.56**	**209**	P	Pn	15 39 48.1	-2.4
MTW	**Mount Morrison**	**5.61**	**203**	P	Pn	15 39 48.4	-2.8
CAW	**Cannon Point**	**5.72**	**207**	P	Pn	15 39 49.6	-2.9

*IDC **16** 15:42:19.1±0.7, 4°.56S×134°.01E, h0km, mb4.2/12, mb1 4.4/16, mb1mx4.2/29, mbtmp4.3/16, ML4.3/4, MS4.2/21, Ms1 4.2/21, ms1mx3.8/66, Error ellipse: s-maj=26.3km s-min=16.4km az=71.0*

*BJI **16** 15:42:20.3±0.0, 4°.58S×134°.11E, h21km, mb4.6/28, mB4.9/13, Ms4.2/3, Ms7 3.9/2*

*GCMT **16** 15:42:21.7±0.3, 4°.41S±0°.03×133°.95E±0°.02, h14km±1km, MW4.9/86, Moment Tensor Solution. s14,c18; s86,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.30±.17; $M_{\theta\theta}$0.40±.10; $M_{\phi\phi}$1.90±.12; $M_{r\theta}$1.05±.33; $M_{\theta\phi}$0.75±.06; $M_{\phi r}$-0.01±.22; Best double couple: M_o2.46100×10^{16} NP1:$\phi_{\theta s}$5.00000°, δ43.00000°, λ-119.00000°. NP2: $\phi_{\theta s}$222.00000°, δ53.00000°, λ-66.00000°. Principal axes: T 2.2460, Plg5.0000°, Azm295.0000°; N 0.4290, Plg19.0000°, Azm27.0000°; P -2.6750, Plg70.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **16** 15:42:21.2±0.2, 5°S±2°×13°4E±°, h10km, M4.6/31, mb4.9/31, mB5.2/12, MLv4.7/11, Mw(mB)4.5/12, MwMwp4.6/1, Mwp5.0/1*

*NEIC **16** 15:42:25.7±1.5, 4°.54S±0°.04×133°.93E±0°.09, h35km±7km, mb4.7/42, Error ellipse: s-maj=12.7km s-min=6.2km az=79.0*

ISC 16 15:42:22.6±0.4, 4°.59S±0°.05×133°.96E±0°.05, h21km, n132, σ1s70/117, mb4.6/35, MS4.2/20, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**3.53**	**40**	P	**Pn**	**15 43 15.1**	**-1.1**
BAKI	**Biak**	**4.00**	**33**	P	**Pn**	**15 43 22.9**	**+0.3**
BNDI	**Bandanaira**	**4.04**	**271**	P	**Pn**	**15 43 25.5**	**+2.3**
SAUI	**Saumlaki**	**4.29**	**218**	Pn	**Pn**	**15 43 28.1**	**+1.5**
SIJI	**Sorong**	**4.57**	**324**	Pn	**Pn**	**15 43 28.7**	**-1.8**
	5.1nm,0.3s,baz=222,slow=21,SNR=38						
SIJI				Sn	**Sn**	**15 44 18.3**	**-4.6**
	10nm,0.3s,baz=100,slow=19,SNR=5.6						
SIJI				LR	LR	15 45 59.1	
	comp=Z,5μm,18.2s,baz=178,slow=48						
SWI	**Sorong**	**4.57**	**324**	P	**Pn**	**15 43 30.7**	**+0.1**
MSAI	**Masohi**	**5.17**	**284**	P	**Pn**	**15 43 39.3**	**+0.6**
	0.2nm520nm48nm,0.7s						
SMPI	**Sarmi**	**5.40**	**62**	P	**Pn**	**15 43 42.5**	**+0.6**
	0.2nm34nm,1.1s						
AAI	**Ambon**	**5.82**	**279**	P	**Pn**	**15 43 48.1**	**+0.4**
	1.2nm3μm290nm,0.7s						
GENI	**Genyem**	**6.51**	**73**	P	**Pn**	**15 43 57.8**	**+0.6**
	0.6nm2μm2μm66nm,0.7s						
JAY	**Jayapura**	**7.04**	**73**	P	**Pn**	**15 44 03.8**	**-0.8**
	0.1nm12nm,0.9s						
LBMI	**Labuha**	**7.55**	**301**	P	**Pn**	**15 44 11.4**	**-0.1**
	0.5nm1μm150nm,0.8s						
KDU	**Kakadu**	**8.18**	**190**	P	**Pn**	**15 44 20.7**	**+0.5**
SANI	**Sanana**	**8.34**	**287**	P	**Pn**	**15 44 20.8**	**-1.6**
	785nm89nm,0.6s						
DRS	**Darwin Rock St**	**8.36**	**201**	P	**Pn**	**15 44 23.4**	**+0.8**
BATI	**Baumata**	**11.63**	**241**	Pn	**Pn**	**15 45 06.9**	**-0.6**
	4.2nm,0.3s,baz=153,slow=2.3,SNR=10						
BATI				Sn	**Sn**	**15 47 11.2**	**-5.7**
	1.6nm,0.3s,baz=258,slow=23,SNR=1.4						
BATI	**Baumata**	**11.63**	**241**	P	**Pn**	**15 45 07.2**	**-0.3**
	27nm,0.5s						
LUWI	**Luwuk**	**11.71**	**287**	Pn	**Pn**	**15 45 07.7**	**-0.9**
GTOI	**Gorontalo**	**12.10**	**295**	P	**Pn**	**15 45 16.6**	**+2.7**
	371nm25nm,1.0s						
KNRA	**Kununurra**	**12.15**	**204**	Pn	**Pn**	**15 45 13.4**	**-1.1**
APSI	**Ampana**	**12.82**	**286**	P	**Pn**	**15 45 24.0**	**+0.2**
	858nm67nm,1.1s						
COEN	**Coen**	**13.01**	**136**	Pn	**Pn**	**15 45 24.5**	**-1.9**
PMG	**Port Moresby**	**13.95**	**111**	Pn	**Pn**	**15 45 34.5**	**-4.6**
	0.3nm,0.3s,baz=118,slow=23,SNR=2.8						
PMG				LR	LR	15 52 16.3	
	comp=Z,2μm,19.7s,baz=323,slow=43						
PMG	**Port Moresby**	**13.95**	**111**	Pn	**Pn**	**15 45 38.8**	**-0.4**
PMG	**Port Moresby**	**13.95**	**111**	P	**P**	**15 45 46.4**	**-0.7**
	49nm,1.0s						
DAV	**Davao City (W)**	**14.28**	**324**	LR	LR	15 52 33.9	
	comp=Z,704nm,18.4s,baz=148,slow=43						
TOLI2	**Tolitoli**	**14.33**	**293**	Pn	**Pn**	**15 45 46.6**	**+2.2**
MPSI	**Mapaga**	**14.87**	**289**	P	**Pn**	**15 45 53.7**	**+1.9**
	499nm27nm,1.2s						
WB0	**Warramunga Arr**	**15.10**	**178**	Pn	**Pn**	**15 45 51.1**	**-3.7**
WB0				IAmb	IAmb	15 46 09.9	
	comp=Z,73nm,1.2s						
WRAB	**Tennant Creek**	**15.26**	**179**	Pn	**Pn**	**15 45 53.5**	**-3.4**
WRAB				IAmb	IAmb	15 46 11.1	
	comp=Z,55nm,1.2s						
WB2	**Warramunga Arr**	**15.27**	**179**	Pn	**Pn**	**15 45 54.9**	**-2.1**
WB2				IAmb	IAmb	15 46 10.0	
	comp=Z,36nm,0.8s						
WRA	**Warramunga Arr**	**15.27**	**179**	Pn	**Pn**	**15 45 53.3**	**-3.8**
	comp=Z,1.0nm,0.3s,baz=353,slow=13,SNR=19						
WRA				Sn	Sn	15 48 31.9	-14
	comp=Z,1.3nm,0.3s,baz=357,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**15.27**	**179**	Pn	**Pn**	**15 45 54.0**	**-3.1**
WR0	**Warramunga Arr**	**15.29**	**178**	Pn	**Pn**	**15 45 54.8**	**-2.6**
FITZ	**Fitzroy Crossi**	**15.70**	**211**	Pn	**Pn**	**15 45 56.9**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=341,slow=6.6,SNR=2.0						
FITZ				Sn	Sn	15 48 43.2	-13
	comp=Z,4.1nm,0.3s,baz=198,slow=17,SNR=13						
FITZ	**Fitzroy Crossi**	**15.70**	**211**	Pn	**Pn**	**15 45 59.4**	**-3.3**
QIS	**Mount Isa**	**16.80**	**161**	P	**P**	**15 46 18.2**	**-0.6**
MTSU	**Mount Surprise**	**16.85**	**144**	P	**P**	**15 46 19.7**	**+0.3**
MYLDM	**Lahad Datu**	**18.23**	**302**		**P**	**15 46 36.1**	**+1.5**
MYLDM				IAmb	IAmb	15 47 04.5	
	comp=Z,104nm,1.3s						
AS31	**Alice Springs**	**18.97**	**180**		**P**	**15 46 42.7**	**-0.1**
ASAR	**Alice Springs**	**18.97**	**180**	P	**P**	**15 46 42.0**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=5.4,slow=14,SNR=57						
ASAR				S	Sn	15 50 02.2	-13
	comp=Z,0.4nm,0.3s,baz=359,slow=27,SNR=5.8						
ASAR				LR	LR	15 54 49.2	
	comp=Z,481nm,19.2s,baz=10.0,slow=40						
ASAR	**Alice Springs**	**18.97**	**180**		**Pn**	**15 46 43.5**	**0.0**
CTA	**Charters Tower**	**19.52**	**143**	P	**Pn**	**15 46 49.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=329,slow=11,SNR=12						
CTA				LR	LR	15 55 10.6	
	comp=Z,1μm,20.6s,baz=324,slow=40						
CTA	**Charters Tower**	**19.52**	**143**	P	**Pn**	**15 46 52.3**	**+2.3**
KMMI	**Kalianget**	**20.04**	**262**	P	Pn	15 46 55.4	-0.8
	comp=Z,115nm,1.0s						
KKM	**Kota Kinabalu**	**20.62**	**301**	P	Pn	15 47 05.0	+1.8
WRKA	**Warakurna**	**21.05**	**194**	P	**P**	**15 47 06.2**	**+0.8**
GUMO	**Guam**	**21.06**	**31**	LR	LR	15 55 21.2	
	comp=Z,200nm,18.0s,baz=194,slow=37						
PSA00	**Pilbara Seismi**	**21.74**	**218**		**P**	**15 47 14.2**	**+1.4**
PSA00	**Pilbara Seismi**	**21.74**	**218**	P	**P**	**15 47 13.5**	**+0.8**
PSA00				IAmb	IAmb	15 47 24.0	
	comp=Z,30nm,0.8s						
PSA00	**Pilbara Seismi**	**21.74**	**218**	P	**P**	**15 47 13.4**	**+0.6**
SBUM	**Sibu**	**22.82**	**287**	P	**P**	**15 47 26.5**	**+2.1**
OOD	**Oodnadatta**	**23.14**	**176**	P	**P**	**15 47 29.3**	**+1.8**
INKA	**Innaminka**	**23.92**	**165**	P	**P**	**15 47 36.7**	**+1.5**
QLP	**Quilpie**	**23.98**	**157**	P	**P**	**15 47 37.1**	**+1.3**
	comp=Z,44nm,0.8s						
KSM	**Kuching**	**24.38**	**284**	P	**P**	**15 47 39.9**	**+0.2**
KSM				IAmb	IAmb	15 47 50.5	
	comp=Z,36nm,1.2s						
KSM	**Kuching**	**24.38**	**284**	P	**P**	**15 47 44.9**	**+5.3**
	comp=Z,32nm,1.2s						
MULG	**Mulgathing**	**25.56**	**180**	P	**P**	**15 47 51.8**	**+1.7**
RMQ	**Roma**	**25.98**	**148**	P	**P**	**15 47 55.8**	**+1.8**
LCRK	**Leigh Creek**	**26.04**	**172**	P	**P**	**15 47 56.3**	**+1.9**
HNR	**Honiara**	**26.23**	**102**	LR	LR	15 59 59.5	
	comp=Z,694nm,19.7s,baz=268,slow=40						
LEM	**Lembang**	**26.30**	**264**	LR	LR	16 00 22.6	
	comp=Z,411nm,20.1s,baz=118,slow=41						
FORT	**Forrest**	**26.64**	**191**	P	**P**	**15 48 02.1**	**+2.2**
STKA	**Stephens Creek**	**28.08**	**166**	P	**P**	**15 48 12.5**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=255,slow=4.1,SNR=3.5						
STKA				LR	LR	16 00 36.6	
	comp=Z,487nm,20.4s,baz=344,slow=39						
STKA	**Stephens Creek**	**28.08**	**166**	P	**P**	**15 48 14.5**	**+1.7**
BBOO	**Buckleboo**	**28.15**	**176**	P	**P**	**15 48 14.2**	**+0.7**
BBOO				IAmb	IAmb	15 48 21.2	
	comp=Z,15nm,0.9s						
BBOO	**Buckleboo**	**28.15**	**176**	P	**P**	**15 48 14.8**	**+1.4**
NAPP	**Napperby**	**28.72**	**173**	P	**P**	**15 48 20.5**	**+2.0**
JOW	**Kunigami**	**31.71**	**350**	LR	LR	15 59 43.4	
	comp=Z,755nm,21.5s,baz=174,slow=33						
RPSI	**Rantau Prapat**	**35.74**	**281**	P	**P**	**15 49 22.1**	**+1.8**
PSI	**Prapat**	**35.77**	**281**	P	**P**	**15 49 22.1**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=108,slow=8.7,SNR=3.6						
PSI				LR	LR	16 07 02.8	
	comp=Z,103nm,20.4s,baz=140,slow=42						
DZM	**Mont Dzumac**	**35.94**	**122**	*e*LR	LR	15 59 34.4	
	comp=Z,415nm,23.8s						
JNU	**Nakatsue**	**37.61**	**356**	P	**P**	**15 49 35.5**	**-0.5**
JNU				IAmb	IAmb	15 49 36.0	
	comp=Z,12nm,1.0s						
CM31	**Chiang Mai Arr**	**41.41**	**305**	P	**P**	**15 50 07.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.41**	**305**	P	**P**	**15 50 07.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=130,slow=7.0,SNR=9.9						
CMAR				LR	LR	16 10 20.1	
	comp=Z,63nm,19.2s,baz=110,slow=41						
CMAR	**Chiang Mai Arr**	**41.41**	**305**	P	**P**	**15 50 08.0**	**+0.1**
CHTO	**Chiang Mai**	**41.59**	**305**	P	**P**	**15 50 09.2**	**-0.2**
CHTO				IAmb	IAmb	15 50 27.2	
	comp=Z,11nm,1.4s						
KSRS	**Korea Array**	**42.20**	**353**	P	**P**	**15 50 14.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=82,slow=19,SNR=4.5						
KSRS				PcP	**PcP**	**15 52 08.9**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=186,slow=3.8,SNR=4.8						
KSRS				LR	LR	16 06 27.9	
	comp=Z,247nm,20.6s,baz=180,slow=34						
BJT	**Baijiatuao**	**47.31**	**341**	P	**P**	**15 50 54.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**48.59**	**358**	P	**P**	**15 51 04.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=157,slow=6.8,SNR=2.9						
USRK	**Ussuriysk Ar.**	**48.59**	**358**	P	**P**	**15 51 05.0**	**+0.4**
CN2	**Changchun**	**48.77**	**352**	*e*P	**P**	**15 51 05.9**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**49.13**	**356**	P	**P**	**15 51 09.2**	**+0.4**
MDJ	**Mudanjiang**	**49.13**	**356**	P	**P**	**15 51 09.4**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,20nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.7s						
SHL	**Shillong**	**50.64**	**308**	P	**P**	**15 51 20.0**	**-0.7**
RPZ	**Rata Peaks**	**50.86**	**146**	LR	LR	16 13 05.7	
	comp=Z,731nm,19.0s,baz=312,slow=36						
URZ

MK31	**Makanchi Array**	**68.46 325**	P	**P**	**15 53 23.1**	**-0.1**
MK31			IAmb	IAmb	15 53 24.4	
	comp=Z,3.2nm,0.7s					
MKAR	**Makanchi Array**	**68.46 325**	P	**P**	**15 53 23.6**	**+0.4**
	comp=Z,4.9nm,0.6s,baz=114,slow=7.9,SNR=113					
MKAR	**Makanchi Array**	**68.46 325**	P	**P**	**15 53 23.8**	**+0.5**
MAKZ	**Makanchi**	**68.65 324**	P	**P**	**15 53 24.9**	**+0.5**
KSH	**Kashi**	**68.99 315**	P	**P**	**15 53 29.1**	**+2.3**
KSH			pP	pwP	15 53 34.4	-0.9
KSH			sP	sP	15 53 36.3	+0.8
KSH			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KDJ	**Kajisay**	**69.32 318**	P	**P**	**15 53 29.8**	**+0.9**
KDJ			IAmb	IAmb	15 53 30.8	
	comp=Z,5.4nm,0.7s					
BOOM	**Boomskoye usch**	**70.30 318**	P	**P**	**15 53 36.0**	**+1.2**
BOOM			IAmb	IAmb	15 53 45.6	
	comp=Z,10nm,1.1s					
ZALV	**Zalesovo Beam**	**71.25 332**	P	**P**	**15 53 39.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=116,slow=6.8,SNR=6.2					
ZALV	**Zalesovo Beam**	**71.25 332**	P	**P**	**15 53 40.3**	**+0.2**
AAK	**Ala-Archa**	**71.33 318**	P	**P**	**15 53 42.0**	**+0.9**
AAK			IAmb	IAmb	15 53 45.8	
	comp=Z,6.7nm,1.1s					
DRK	**Karamyk**	**71.94 314**	P	**P**	**15 53 45.6**	**+0.6**
DRK			IAmb	IAmb	15 53 51.1	
	comp=Z,6.7nm,0.6s					
KBL	**Kabul**	**72.30 308**	P	**P**	**15 53 47.1**	**0.0**
KBL			IAmb	IAmb	15 53 54.1	
	comp=Z,3.9nm,0.8s					
KURK	**Kurchatov**	**72.59 327**	P	**P**	**15 53 48.7**	**+0.4**
KURK			IAmb	IAmb	15 54 13.4	
	comp=Z,6.5nm,1.1s					
GAR	**Garm**	**72.84 313**	P	**P**	**15 53 49.4**	**-0.7**
BTK	**Batken**	**72.86 314**	P	**P**	**15 53 50.4**	**+0.2**
BTK			IAmb	IAmb	15 53 56.0	
	comp=Z,16nm,1.4s					
CHGR	**Chuyangaron**	**73.56 312**	P	**P**	**15 53 54.7**	**+0.2**
KKAR	**Karatay Array**	**74.20 317**	P	**P**	**15 53 58.7**	**+0.7**
VNDA	**Vanda**	**74.39 174**	LR	LR	16 27 09.4	
	comp=Z,230nm,18.3s,baz=351,slow=36					
PPT2	**Papeete2**	**75.74 107**	*e*LR	LR	16 17 57.0	
	comp=Z,340nm,29.5s					
TBI	**Tubuai**	**75.88 113**	*e*LR	LR	16 18 09.6	
	comp=Z,240nm,23.5s					
TIXI	**Tiksi**	**76.16 358**	P	**P**	**15 54 08.5**	**-0.1**
BRVK	**Borovoye**	**78.26 326**	P	**P**	**15 54 21.4**	**+0.6**
BRVK			IAmb	IAmb	15 54 21.6	
	comp=Z,4.2nm,0.8s					
NRIK	**Noril'sk**	**80.23 345**	P	**P**	**15 54 30.4**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=141,slow=5.7,SNR=4.3					
NRIK			LR	LR	16 31 56.1	
	comp=Z,281nm,19.8s,baz=137,slow=37					
NRIK	**Noril'sk**	**80.23 345**	P	**P**	**15 54 31.2**	**0.0**
NRIK			IAmb	IAmb	15 54 36.4	
	comp=Z,5.4nm,0.9s					
GEYT	**Alibeck**	**81.71 309**	P	**P**	**15 54 38.8**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=70,slow=23,SNR=4.8					
GEYT	**Alibeck**	**81.71 309**	P	**P**	**15 54 39.9**	**0.0**
GYA0B	**ALIBECK ARRAY**	**81.71 309**	P	**P**	**15 54 39.2**	**-0.7**
GYA0B			IAmb	IAmb	15 54 47.6	
	comp=Z,9.2nm,0.9s					
ABKAR	**Akbulak array**	**83.11 321**	P	**P**	**15 54 46.4**	**-0.5**
ABKAR	**Akbulak array**	**83.11 321**	P	**P**	**15 54 46.8**	**-0.1**
ABKAR			IAmb	IAmb	15 54 51.6	
	comp=Z,4.1nm,0.9s					
TAOE	**Nuku Hiva Isla**	**85.26 98**	*e*LR	LR	16 22 28.6	
	comp=Z,248nm,24.3s					
K20K	**Telida**	**86.09 25**	P	**P**	**15 55 02.7**	**+1.0**
J20K	**Nowinta River**	**86.31 25**	P	**P**	**15 55 04.4**	**+1.7**
SYO	**Syowa Base**	**87.32 201** ⇑	*i*P	**P**	**15 55 08.8**	**+1.2**
MLY	**Manley**	**87.97 24**	P	**P**	**15 55 11.9**	**+1.1**
MLY			IAmb	IAmb	15 55 14.8	
	comp=Z,4.2nm,1.0s					
ILAR	**Eielson Array**	**89.51 25**	P	**P**	**15 55 16.3**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=282,slow=4.5,SNR=7.0					
SPITS	**Spitsbergen Ar**	**99.36 349**	LR	LR	16 43 00.9	
	comp=Z,76nm,21.8s,baz=198,slow=36					
TORD	**Torodi Ar. Bea**	**132.14 284**	PKP	**PKiKP**	**16 01 36.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=81,slow=2.3,SNR=2.1					
LPAZ	**La Paz**	**149.88 134**	PKPbc	**PKPbc**	**16 02 11.9**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=343,slow=1.5,SNR=2.4					

TUL **16** *15:45:59.3±0.4, 36°.86N±0°.01×98°.15W±0°.01, h8km±2km, ML2.9, mb_Lg2.2/9(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=140.0*

NEIC 16 15:45:59.8±0.3, 36°.86N±0°.01×98°.15W±0°.01, h6km±2km, Error ellipse: s-maj=2.0km s-min=1.1km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.83**	**235**	Pg	Pg	15 46 14.9	-0.8
U32A				Sg	Sg	15 46 26.4	-0.1
T35A	**Sooner Cattle**	**1.32**	**87**	Pg	Pn	15 46 23.6	-1.0
FNO	**Franklin**	**1.71**	**159**	Pn	Pn	15 46 29.7	-0.4
W35A	**Tecumseh**	**1.99**	**148**	Pn	Pn	15 46 34.2	+0.3
X34A	**Smith Ranch, M**	**2.27**	**173**	IAmb_Lg		15 47 14.2	
	comp=Z,9.1nm,0.8s						
HHAR	**Hobbs**	**3.44**	**98**	Pn	Pn	15 46 53.4	-0.5
AMTX	**Amarillo**	**3.48**	**237**	IAmb_Lg		15 47 49.4	
	comp=Z,7.7nm,0.8s						
S39A	**Bolivar**	**3.94**	**76**	IAmb_Lg		15 48 08.4	
	comp=Z,6.4nm,0.8s						
U40A	**Yellville**	**4.29**	**95**	IAmb_Lg		15 48 18.7	
	comp=Z,11nm,1.1s						

IDC 16 15:49:16.2±4.6, 7°.55S×123°.21E, h183km±52km, mb3.0/1, mb1 3.3/5, mb1mx2.9/32, mbtmp3.6/5, Error ellipse: s-maj=141.3km s-min=28.8km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.67**	**170**	P	Pn	15 50 02.5	+1.3
	5.4nm,0.3s,baz=90,slow=1.2,SNR=6.5						
BATI				S	Sn	15 50 36.2	0.0
	11nm,0.3s,baz=101,slow=11,SNR=9.0						
FITZ	**Fitzroy Crossi**	**10.75**	**167**	P	Pn	15 51 45.8	+0.3
	0.1nm,0.3s,baz=359,slow=14,SNR=1.5						
FITZ				S	Sn	15 53 32.0	-13
	0.1nm,0.3s,baz=275,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**16.38**	**140**	P	Pn	15 52 56.0	-0.1
	0.1nm,0.3s,baz=326,slow=14,SNR=1.2						
WRA				S	S	15 55 55.5	-1.5
	0.0nm,0.3s,baz=81,slow=18,SNR=1.7						
ASAR	**Alice Springs**	**19.03**	**149**	P	P	15 53 24.5	0.0
	0.1nm,0.3s,baz=320,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**65.17**	**330**	P	P	15 59 37.7	-0.1
	0.2nm,0.4s,baz=143,slow=6.7,SNR=7.6						

TUL **16** *16:02:17.3±0.7, 36°.92N±0°.02×97°.99W±0°.02, h5km±6km, ML3.3, mb_Lg3.0/57(NEIC), Error ellipse: s-maj=4.0km s-min=1.9km az=146.0*

NEIC 16 16:02:17.9±0.7, 36°.91N±0°.02×98°.00W±0°.02, h5km±2km, Error ellipse: s-maj=4.4km s-min=3.0km az=320.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.96**	**237**		Pg	16 02 35.7	-0.8
T35A	**Sooner Cattle**	**1.19**	**89**		Pg	16 02 39.6	-1.3
OKCFA	**Oklahoma City**	**1.56**	**163**		Pn	16 02 45.4	-0.9
OKCSW	**OKLAHOMA CITY**	**1.57**	**163**		Pn	16 02 45.7	-0.8
R32A	**Long Quarter,**	**1.61**	**340**		Pn	16 02 46.8	-0.3
FNO	**Franklin**	**1.72**	**163**		Pn	16 02 47.7	-0.8
W35A	**Tecumseh**	**1.98**	**152**		Pn	16 02 51.3	-0.8
TUL1	**Leonard**	**2.04**	**119**	Pn	Pn	16 02 52.1	-0.9
WMOK	**Wichita Mounta**	**2.26**	**197**	Pn	Pn	16 02 55.5	-0.5
WMOK				IAmb_Lg		16 03 30.8	
	comp=Z,39nm,0.8s						
X34A	**Smith Ranch, M**	**2.31**	**177**	IAmb_Lg		16 03 32.8	
	comp=Z,37nm,0.7s						
KSU1	**Kansas State U**	**2.45**	**26**	IAmb_Lg		16 03 37.5	
	comp=Z,74nm,0.7s						
X37A	**Clayton**	**3.15**	**137**	Pn	Pn	16 03 07.5	-0.8
X37A				IAmb_Lg		16 04 03.2	
	comp=Z,51nm,0.7s						
HHAR	**Hobbs**	**3.33**	**100**		Pn	16 03 10.6	-0.1
AMTX	**Amarillo**	**3.61**	**237**	IAmb_Lg		16 04 18.3	
	comp=Z,24nm,0.9s						
S39A	**Bolivar**	**3.81**	**77**	Pn	Pn	16 03 17.4	0.0
W39A	**Magazine**	**3.82**	**115**	Pn	Pn	16 03 17.9	+0.4
U40A	**Yellville**	**4.18**	**96**		Pn	16 03 21.9	-0.4
KSCO	**Kaye Shedlock'**	**4.21**	**301**	Pn	Pn	16 03 21.1	-1.9
Z38A	**Mt. Pleasant**	**4.40**	**145**	IAmb_Lg		16 04 42.4	
	comp=Z,30nm,0.7s						
P38A	**Dawn**	**4.44**	**51**	Pn	Pn	16 03 26.6	+0.7
BGNE	**Belgrade**	**4.49**	**359**	IAmb_Lg		16 04 46.1	
	comp=Z,31nm,0.8s						
MGMO	**Mountain Grove**	**4.59**	**85**	Pn	Pn	16 03 28.3	+0.3
MGMO				IAmb_Lg		16 04 46.0	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**4.76**	**71**	Pn	Pn	16 03 31.6	+1.3
FCAR	**Ozark Folk Cen**	**4.85**	**100**	IAmb_Lg		16 04 59.6	
	comp=Z,26nm,0.8s						
X40A	**Basin Creek Fa**	**4.85**	**118**	Pn	Pn	16 03 32.3	+0.7
WHAR	**Wooly Hollow**	**4.90**	**108**	Pn	Pn	16 03 30.9	-1.3
WHAR				IAmb_Lg		16 04 55.4	
	comp=Z,29nm,0.7s						
W41B	**Gary Mavity, V**	**4.97**	**109**	Pn	Pn	16 03 32.7	-0.5
W41B				IAmb_Lg		16 05 01.0	
	comp=Z,32nm,0.8s						
OGNE	**Ogallala**	**5.11**	**323**	Pn	Pn	16 03 35.6	+0.4
OGNE				IAmb_Lg		16 05 07.8	
	comp=Z,31nm,0.8s						
WLAR	**White Oak Lake**	**5.13**	**127**	IAmb_Lg		16 05 12.7	
	comp=Z,24nm,0.7s						
T25A	**Trinidad**	**5.13**	**274**	Pn	Pn	16 03 36.2	+0.5
L34A	**Svendsen Farm,**	**5.20**	**13**	Pn	Pn	16 03 35.9	-0.5
L34A				IAmb_Lg		16 04 59.8	
	comp=Z,30nm,0.8s						
237A	**Washetta, Mont**	**5.22**	**159**	IAmb_Lg		16 05 15.4	
	comp=Z,17nm,0.8s						
P40A	**Paris**	**5.37**	**59**	Pn	Pn	16 03 39.9	+1.2
N38A	**Joes South For**	**5.37**	**42**	Pn	Pn	16 03 38.8	0.0
CCM	**Cathedral Cave**	**5.49**	**76**	IAmb_Lg		16 05 18.7	
	comp=Z,21nm,0.9s						
LCAR	**Lake Charles**	**5.58**	**97**	IAmb_Lg		16 05 19.0	
	comp=Z,15nm,1.1s						
PBMO	**Poplar Bluff**	**6.07**	**89**	IAmb_Lg		16 05 45.9	
	comp=Z,24nm,0.9s						
FVM	**French Village**	**6.12**	**78**	IAmb_Lg		16 05 28.8	
	comp=Z,21nm,0.7s						
435B	**Jarrell**	**6.12**	**177**	IAmb_Lg		16 05 46.6	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**6.59**	**194**	IAmb_Lg		16 06 04.0	
	comp=Z,20nm,1.0s						
ISCO	**Idaho Springs**	**6.64**	**298**	Pn	Pn	16 03 56.6	+0.1
ISCO				IAmb_Lg		16 06 01.6	
	comp=Z,13nm,0.7s						
S44A	**Carbondale**	**7.02**	**81**	IAmb_Lg		16 06 03.7	
	comp=Z,19nm,0.9s						
SIUC	**Southern Illin**	**7.05**	**81**	IAmb_Lg		16 06 01.7	
	comp=Z,18nm,0.9s						
PHWY	**Pilot Hill**	**7.27**	**309**	IAmb_Lg		16 06 10.5	
	comp=Z,13nm,0.8s						
N23A	**Red Feather La**	**7.36**	**305**	Pn	Pn	16 04 06.3	0.0
N23A				IAmb_Lg		16 06 18.2	
	comp=Z,18nm,0.8s						
OXF	**Oxford**	**7.39**	**106**	Pn	Pn	16 04 05.5	-0.9
OXF				IAmb_Lg		16 06 24.3	
	comp=Z,20nm,0.8s						
OLIL	**Olney**	**8.05**	**74**	IAmb_Lg		16 06 39.6	
	comp=Z,19nm,1.0s						
K22A	**Casper**	**8.71**	**314**	IAmb_Lg		16 07 05.8	
	comp=Z,8.7nm,0.7s						

BJI **16** *16:04:40.4±0.0, 5°.69S×152°.08E, h66km, mb4.4/26, mB5.0/13, Ms4.6/5, Ms7 4.5/5*

NEIC **16** *16:04:43.9±1.4, 5°.24S±0°.05×151°.87E±0°.07, h45km±6km, mb4.8/38, Error ellipse: s-maj=11.1km s-min=4.5km az=123.0*

IDC **16** *16:04:44.2±1.8, 5°.28S×151°.91E, h59km±16km, mb4.1/21, mb1 4.4/23, mb1mx4.2/42, mbtmp4.5/23, MS3.9/37, Ms1 3.9/37, ms1mx3.8/54, Error ellipse: s-maj=15.7km s-min=11.7km az=111.0*

GCMT **16** *16:04:44.9±0.4, 5°.30S±0°.03×152°.15E±0°.03, h40km±1km, MW4.9/48, Moment Tensor Solution. s33,c38; s48,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.22; $M_{\theta\theta}$-2.02±.13; $M_{\phi\phi}$-0.76±.13; $M_{r\theta}$1.06±.12; $M_{\theta\phi}$-1.12±.08; $M_{\phi r}$1.00±.14; Best double couple: M_o3.09700×10^{16} NP1:ϕs245.00000°, δ32.00000°, λ100.00000°. NP2: ϕs54.00000°, δ59.00000°, λ84.00000°. Principal axes: T 3.1680, Plg75.0000°, Azm307.0000°; N -0.1370, Plg5.0000°, Azm57.0000°; P -3.0250, Plg14.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA **16** *16:04:44.8±0.4, 5°.5S×15°.2E±°, h56km±8km, M5.1/11, mB4.8/2, mb4.8/11, MLv5.3/3, Mw(mB)4.1/2*

ISC 16 16:04:45.8±0.3, 5°.25S±0°.05×151°.87E±0°.05, h70km, n152, σ1s18/138, mb4.7/44, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.09**	**15**		Pn	16 05 03.1	-2.3
RABL	**Rabaul**	**1.09**	**15**	P	Pn	16 05 03.5	-1.9
PMG	**Port Moresby**	**6.24**	**228**	P	Pn	16 06 15.1	-0.2
	15nm,0.3s,baz=48,slow=5.5,SNR=40						
PMG				S	Sn	16 07 24.4	-0.9
	67nm,0.3s,baz=172,slow=19,SNR=10						
PMG	**Port Moresby**	**6.24**	**228**	Pn	Pn	16 06 14.6	-0.7
PMG	**Port Moresby**	**6.24**	**228**	P	Pn	16 06 15.8	+0.4
PMG	**Port Moresby**	**6.24**	**228**	P	Pn	16 06 15.7	+0.4
HNR	**Honiara**	**9.02**	**118**	P	Pn	16 06 51.7	-1.6
	12nm,0.3s,baz=344,slow=1.7,SNR=8.3						
HNR	**Honiara**	**9.02**	**118**		Pn	16 06 51.4	-2.0
MMPI	**Merauke**	**11.85**	**254**	P	Pn	16 07 33.2	+1.3
GENI	**Genyem**	**11.97**	**282**	P	Pn	16 07 35.6	+2.0
COEN	**Coen**	**12.18**	**224**	Pn	Pn	16 07 35.4	-1.1
SMPI	**Sarmi**	**13.53**	**283**	P	P	16 07 58.7	-2.7
	29nm,1.2s						
CTA	**Charters Tower**	**15.73**	**200**	LR	LR	16 13 54.8	
	comp=Z,580nm,19.3s,baz=23,slow=35						
RK1H	**Rockhampton Ha**	**18.09**	**184**	P	Pn	16 08 53.8	+1.5
	12nm,1.1s						
SANVU	**Saraoutou**	**18.16**	**125**		P	16 08 52.5	-0.2
SANVU				IAmb	IAmb	16 09 03.5	
	comp=Z,61nm,0.8s						
SANVU	**Saraoutou**	**18.16**	**125**	P	Pn	16 08 54.9	+1.7
GUMO	**Guam**	**19.96**	**340**	P	P	16 09 12.6	+0.1
	comp=Z,143nm,0.9s,baz=190,slow=10,SNR=5.5						
GUMO				LR	LR	16 18 06.7	
	comp=Z,132nm,18.1s,baz=160,slow=40						
GUMO	**Guam**	**19.96**	**340**	Pn	Pn	16 09 13.9	-0.8
EIDS	**Eidsvold**	**20.02**	**182**		P	16 09 11.8	-1.2
EIDS				IAmb	IAmb	16 09 16.6	
	comp=Z,40nm,1.1s						
EIDS	**Eidsvold**	**20.02**	**182**	P	P	16 09 13.3	+0.2
KDU	**Kakadu**	**20.53**	**248**	P	P	16 09 18.7	+0.1
RMQ	**Roma**	**21.33**	**188**	P	P	16 09 28.7	+1.6
DZM	**Mont Dzumac**	**21.88**	**141**	P	P	16 09 32.4	-0.7
	comp=Z,13nm,0.8s,baz=336,slow=16,SNR=9.6						
DZM				LR	LR	16 17 00.4	
	comp=Z,654nm,21.0s,baz=304,slow=34						
DZM	**Mont Dzumac**	**21.88**	**141**	*e*P	P	16 09 32.2	-0.9
	comp=Z,52nm,1.1s						
DZM				*e*S	S	16 13 31.4	+0.2
	comp=Z,616nm,24.9s						
DZM				*e*LR	LR	16 14 50.3	
	comp=Z,2μm,25.2s						
DZM	**Mont Dzumac**	**21.88**	**141**	P	P	16 09 32.4	-0.7
DZM				IAmb	IAmb	16 09 33.5	
	comp=Z,19nm,0.9s						
YATNC	**Mamie plateau,**	**22.15**	**140**	P	P	16 09 39.5	+3.5
WB0	**Warramunga Arr**	**22.32**	**228**	P	P	16 09 36.8	-1.0
WB0				IAmb	IAmb	16 09 51.5	
	comp=Z,44nm,0.9s						
WR0	**Warramunga Arr**	**22.32**	**228**	P	P	16 09 37.0	-0.9
WR0				IAmb	IAmb	16 09 50.6	
	comp=Z,60nm,1.1s						
QLP	**Quilpie**	**22.44**	**198**	P	P	16 09 40.7	+1.7
WRAB	**Tennant Creek**	**22.45**	**228**	P	P	16 09 38.2	-1.0
WRAB				IAmb	IAmb	16 09 52.6	
	comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**22.45**	**228**	P	P	16 09 39.0	-0.2
WB2	**Warramunga Arr**	**22.45**	**228**	P	P	16 09 38.4	-0.9
WB2				IAmb	IAmb	16 09 52.8	
	comp=Z,40nm,0.8s						
WRA	**Warramunga Arr**	**22.46**	**228**	P	P	16 09 38.4	-1.0
	comp=Z,22nm,0.7s,baz=52,slow=9.8,SNR=54						
WRA				PcP	PcP	16 13 31.5	-0.1
	comp=Z,1.8nm,1.0s,baz=47,slow=2.2,SNR=2.9						
WRA				S	S	16 13 39.0	-2.5
	comp=Z,3.8nm,1.1s,baz=45,slow=18,SNR=4.5						
WRA				ScP	ScP	16 17 04.9	+1.7
	comp=Z,2.4nm,1.2s,baz=46,slow=2.7,SNR=4.3						
WRA				LR	LR	16 19 08.0	
	comp=Z,218nm,18.7s,baz=54,slow=38						
WRA	**Warramunga Arr**	**22.46**	**228**	P	P	16 09 37.4	-2.0
KNRA	**Kununurra**	**24.95**	**244**	P	P	16 10 02.2	-0.6
KNRA	**Kununurra**	**24.95**	**244**	P	P	16 10 02.7	-0.1
AS31	**Alice Springs**	**25.20**	**222**	P	P	16 10 04.6	-0.5
AS31				IAmb	IAmb	16 10 18.6	
	comp=Z,18nm,1.1s						
ASAR	**Alice Springs**	**25.20**	**222**	P	P	16 10 04.6	-0.5
	comp=Z,22nm,0.8s,baz=56,slow=9.2,SNR=172						
ASAR				PcP	PcP	16 13 37.0	-0.4
	comp=Z,0.9nm,0.8s,baz=60,slow=2.2,SNR=2.2						
ASAR				ScP	ScP	16 17 13.1	+2.4
	comp=Z,0.7nm,0.8s,baz=44,slow=4.1,SNR=4.8						
ASAR				LR	LR	16 19 26.5	
	comp=Z,241nm,22.0s,baz=82,slow=35						
CMSA	**Cobar Meteorol**	**26.79**	**192**	P	P	16 10 21.7	+2.4
LCRK	**Leigh Creek**	**28.18**	**206**	P	P	16 10 33.3	+1.6
STKA	**Stephens Creek**	**28.19**	**199**	P	P	16 10 31.1	-0.7
	comp=Z,2.4nm,0.8s,baz=312,slow=8.4,SNR=5.0						
STKA				LR	LR	16 21 58.1	
	comp=Z,268nm,18.4s,baz=16,slow=37						
STKA	**Stephens Creek**	**28.19**	**199**	P	P	16 10 31.6	-0.2
BATI	**Baumata**	**28.38**	**258**	P	P	16 10 34.0	+0.3
	comp=Z,49nm,0.7s,baz=98,slow=7.5,SNR=7.8						
BATI				LR	LR	16 24 18.0	
	comp=Z,525nm,20.1s,baz=103,slow=41						
FITZ	**Fitzroy Crossi**	**28.64**	**241**	P	P	16 10 35.0	-0.9
	comp=Z,9.4nm,0.3s,baz=60,slow=6.7,SNR=43						
FITZ				LR	LR	16 23 40.8	
	comp=Z,252nm,19.4s,baz=64,slow=40						
FITZ	**Fitzroy Crossi**	**28.64**	**241**	P	P	16 10 35.1	-0.8
DAV	**Davao City (W)**	**28.95**	**295**	LR	LR	16 21 48.7	
	comp=Z,329nm,18.5s,baz=95,slow=35						
WRKA	**Warakurna**	**29.98**	**227**	P	P	16 10 47.1	-0.8
MULG	**Mulgathing**	**30.04**	**212**	P	P	16 10 47.9	-0.3
HTT	**Hallett**	**30.53**	**202**	P	P	16 10 52.7	+0.1
BBOO	**Buckleboo**	**31.14**	**206**	P	P	16 10 57.4	-0.6
BBOO				IAmb	IAmb	16 11 08.8	
	comp=Z,20nm,1.4s						
KAPI	**Kappang**	**31.99**	**269**	LR	LR	16 28 48.3	
	comp=Z,76nm,18.1s,baz=83,slow=45						
ARPS	**Mount Arapiles**	**32.70**	**195**	P	P	16 11 12.3	+0.8
	comp=Z,52nm,1.0s						
FORT	**Forrest**	**33.87**	**219**	P	P	16 11 21.0	-0.8
PSA00	**Pilbara Seismi**	**35.01**	**239**	P	P	16 11 31.6	-0.3
PSA00				IAmb	IAmb	16 11 43.1	
	comp=Z,11nm,1.1s						
AFI	**Afiamalu**	**36.82**	**106**	LR	LR	16 24 44.5	
	comp=Z,329nm,18.0s,baz=292,slow=33						
JOW	**Kunigami**	**39.23**	**326**	LR	LR	16 25 29.8	
	comp=Z,252nm,19.8s,baz=119,slow=32						
JHJ	**Hachijo jima 2**	**39.84**	**344**	LR	LR	16 27 21.1	
	comp=Z,122nm,18.5s,baz=244,slow=34						
URZ	**Urewera**	**40.08**	**149**	LR	LR	16 26 05.3	
	comp=Z,247nm,20.7s,baz=359,slow=32						
GIRL	**Giralia**	**40.24**	**241**	P	P	16 12 16.7	+0.6
TUWZ	**Tuamarina**	**41.08**	**155**	P	P	16 12 22.9	+0.4
RPZ	**Rata Peaks**	**41.88**	**159**	LR	LR	16 27 56.5	
	comp=Z,458nm,20.0s,baz=324,slow=33						
MJAR	**Matsushiro Ar**	**43.49**	**344**	P	P	16 12 42.0	-0.3
	comp=Z,2.5nm,0.8s,baz=170,slow=7.0,SNR=4.8						
MJAR				LR	LR	16 29 07.8	
	comp=Z,149nm,20.1s,baz=174,slow=34						
MJAR	**Matsushiro Ar**	**43.49**	**344**	P	P	16 12 41.6	-0.7
LEM	**Lembang**	**44.03**	**266**	LR	LR	16 34 18.4	
	comp=Z,43nm,21.0s,baz=6.0,slow=40						
DLV	**T Lat**	**46.40**	**292**	P	P	16 13 06.5	+0.5
KSRS	**Korea Array**	**47.99**	**334**	P	P	16 13 17.6	0.0
	comp=Z,1.3nm,0.8s,baz=150,slow=7.7,SNR=5.9						
KSRS				LR	LR	16 32 20.4	
	comp=Z,69nm,20.9s,baz=155,slow=34						
RAR	**Rarotonga**	**49.45**	**113**	LR	LR	16 31 00.3	
	comp=Z,75nm,21.5s,baz=268,slow=32						
ASAJ	**Asahikawa**	**49.84**	**351**	LR	LR	16 30 57.2	
	comp=Z,28nm,21.1s,baz=140,slow=32						
USRK	**Ussuriysk Ar.**	**52.38**	**342**	P	P	16 13 52.3	+1.6
	comp=Z,2.5nm,0.8s,baz=145,slow=7.0,SNR=5.5						
USRK				LR	LR	16 32 15.9	
	comp=Z,95nm,20.4s,baz=154,slow=32						
USRK	**Ussuriysk Ar.**	**52.38**	**342**	P	P	16 13 52.6	+1.8
PSI	**Prapat**	**53.49**	**277**	LR	LR	16 42 44.8	
	comp=Z,75nm,19.6s,baz=120,slow=43						
ENH	**Enshi**	**53.79**	**314**	P	P	16 14 01.5	0.0
GSI	**Gunungsitoli**	**54.62**	**275**	P	P	16 14 06.5	-1.3
GSI				IAmb	IAmb	16 14 06.7	
	comp=Z,12nm,0.9s						
KLR	**Kul'dur**	**57.02**	**344**	P	P	16 14 25.2	+0.9
	comp=Z,2.0nm,0.8s,baz=182,slow=2.3,SNR=6.9

TIXI	**Tiksi**	**78.22**	**353**	P	**P**	**16 16 37.9**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=271,slow=23,SNR=2.9						
TIXI	**Tiksi**	**78.22**	**353**	P	**P**	**16 16 38.9**	**+1.6**
L19K	**White Mountain**	**78.51**	**23**	P	**P**	**16 16 40.0**	**+0.8**
L19K				IAmb	IAmb	16 17 00.7	
	comp=Z,10.0nm,1.1s						
CNPM	**China Poot**	**78.51**	**26**	P	**P**	**16 16 39.5**	**+0.3**
TTA	**Tatalina**	**78.52**	**22**	P	**P**	**16 16 40.1**	**+0.9**
M19K	**Big River Lodg**	**78.53**	**23**	P	**P**	**16 16 40.7**	**+1.4**
M19K				IAmb	IAmb	16 16 52.5	
	comp=Z,10.0nm,1.1s						
MK31	**Makanchi Array**	**80.06**	**319**	P	**P**	**16 16 47.7**	**-0.2**
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**16 16 47.2**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=101,slow=6.3,SNR=17						
MKAR				LR	LR	16 50 35.2	
	comp=Z,101nm,21.5s,baz=57,slow=34						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**16 16 47.6**	**-0.4**
MAKZ	**Makanchi**	**80.26**	**319**	P	**P**	**16 16 48.6**	**-0.5**
ZAA0	**Zalesovo Array**	**81.01**	**327**	P	**P**	**16 16 53.4**	**+0.6**
ZALV	**Zalesovo Beam**	**81.01**	**327**	P	**P**	**16 16 51.5**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=110,slow=6.5,SNR=12						
ZALV				LR	LR	16 53 25.7	
	comp=Z,75nm,19.7s,baz=98,slow=36						
ZALV	**Zalesovo Beam**	**81.01**	**327**	P	**P**	**16 16 53.4**	**+0.6**
KSH	**Kashi**	**82.52**	**311**	P	**P**	**16 17 02.9**	**+1.6**
KSH				sP	sP	16 17 29.4	+0.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**16 17 02.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=252,slow=4.6,SNR=18						
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	**16 17 01.8**	**-0.8**
AAK	**Ala-Archa**	**84.30**	**314**	LR	LR	16 55 08.3	
	comp=Z,136nm,20.7s,baz=70,slow=36						
QSPA	**South Pole Qui**	**84.72**	**180**	P	**P**	**16 17 12.7**	**+0.7**
MAW	**Mawson**	**84.81**	**203**	LR	LR	16 52 33.0	
	comp=Z,212nm,18.9s,baz=223,slow=34						
NRIK	**Noril'sk**	**86.08**	**341**	P	**P**	**16 17 16.7**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=103,slow=5.1,SNR=2.7						
NRIK	**Noril'sk**	**86.08**	**341**	P	**P**	**16 17 17.7**	**-0.8**
NRIK				IAmb	IAmb	16 17 23.1	
	comp=Z,4.9nm,1.1s						
EPYK	**Eagle Plains**	**87.43**	**22**	P	**P**	**16 17 26.1**	**+0.9**
EPYK				IAmb	IAmb	16 17 54.1	
	comp=Z,9.8nm,1.1s						
I07A	**Izee**	**92.62**	**46**	P	**P**	**16 17 50.8**	**+0.7**
SYO	**Syowa Base**	**92.94**	**200⇑**	*e*P	**P**	**16 17 50.6**	**-0.3**
SYO	**Syowa Base**	**92.94**	**200‖**	*e*PcP	**PcP**	**16 17 53.8**	**+2.3**
NVAR	**Mina Array Bea**	**93.08**	**52**	P	**P**	**16 17 52.9**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=258,slow=6.5,SNR=14						
NVAR	**Mina Array Bea**	**93.08**	**52**	P	**P**	**16 17 53.1**	**+0.6**
PFO	**Pinyon Flats O**	**94.25**	**57**	LR	LR	16 51 39.1	
	comp=Z,62nm,21.5s,baz=244,slow=30						
GEYT	**Alibeck**	**96.15**	**307**	LR	LR	17 02 27.1	
	comp=Z,77nm,21.5s,baz=76,slow=36						
ARU	**Arti**	**96.17**	**326**	LR	LR	17 00 54.7	
	comp=Z,200nm,22.0s,baz=71,slow=35						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**16 18 05.0**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=271,slow=4.8,SNR=7.4						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**16 18 06.4**	**+0.3**
AKTO	**Aktyubinsk**	**96.47**	**320**	LR	LR	17 01 45.9	
	comp=Z,103nm,20.4s,baz=44,slow=36						
PDAR	**Pinedale Array**	**99.83**	**48**	P	**Pdif**	**16 18 22.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=236,slow=1.6,SNR=7.9						
FINES	**FINESS Array B**	**111.07**	**335**	PKiKP	**PKiKP**	**16 23 11.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=122,slow=1.8,SNR=5.5						
FINES	**FINESS Array B**	**111.07**	**335**	PKiKP	**PKiKP**	**16 23 13.9**	**+2.9**
AKASG	**Malin Array Be**	**114.31**	**324**	PKiKP	PKPdf	16 23 16.4	-1.1
	comp=Z,0.4nm,0.3s,baz=51,slow=2.1,SNR=5.3						
AKASG	**Malin Array Be**	**114.31**	**324**	PKiKP	**PKiKP**	**16 23 20.1**	**+2.6**
NOA	**NORSAR Array B**	**117.01**	**340**	PKP	**PKPdf**	**16 23 20.7**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=54,slow=2.0,SNR=3.3						
VYHS	**Vyhne**	**121.33**	**325**	*e*PP	PP	16 25 01.7	-0.7
GERES	**GERESS Array B**	**123.94**	**328**	PKP	**PKPdf**	**16 23 34.9**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=90,slow=1.3,SNR=6.4						
GERES	**GERESS Array B**	**123.94**	**328**	PKPpre	PKPpre	16 23 31.5	
GERES				PKPdf	**PKPdf**	**16 23 35.9**	**-0.3**
LPAZ	**La Paz**	**135.01**	**119**	PKP	**PKPdf**	**16 23 57.8**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=21,slow=4.6,SNR=5.0						
LPAZ	**La Paz**	**135.01**	**119**		**PKPdf**	**16 23 58.5**	**-0.3**
MDT	**Midelt**	**144.88**	**324**	PKP	**PKPdf**	**16 24 15.2**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=194,slow=6.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.56**	**287**	PKP	**PKPdf**	**16 24 22.9**	**-0.8**
	comp=Z,12nm,1.1s,baz=269,slow=1.6,SNR=12						
TORD				PKPbc	**PKPbc**	**16 24 27.7**	**-0.6**
	comp=Z,25nm,0.9s,baz=75,slow=2.9,SNR=62						
BDFB	**Brasilia**	**151.39**	**137**	PKPbc	**PKPbc**	**16 24 31.8**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=170,slow=1.2,SNR=4.7						
BDFB	**Brasilia**	**151.39**	**137**		**PKPbc**	**16 24 31.5**	**-1.3**

*ISK **16** 16:09:35.4,35°.73N×29°.30E,h26km, ML2.7/8*
*DDA **16** 16:09:36.6±0.0,35°.93N×29°.39E,h60km±1km, ML2.7*
*NIC **16** 16:09:36.6±0.0,35°.79N×29°.31E,h38km±3km,MI3.5/3*
ISC 16 16:09:35.2±1.6,**35°.78N**±0°.04×**29°.32E**±0°.04,**h14**km±12km,
n34,σ1$14/42,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.43**	**29**	P	**Pn**	**16 09 46.3**	**-0.6**
KSL				S	**Sb**	**16 09 53.7**	**+2.8**
AKAS	**Kas**	**0.51**	**27**	PG	**Pn**	**16 09 47.8**	**-0.4**
AKAS				SG	**Sb**	**16 09 56.1**	**+2.7**
AKAS	**Kas**	**0.51**	**27**	P	**Pn**	**16 09 47.2**	**-1.0**
AKAS				S	**Sb**	**16 09 55.9**	**+2.5**
AKAS				*i* AML	AML	16 09 57.0	
	comp=E,960nm,0.3s						
AKAS				*i* AML	AML	16 09 57.0	
	comp=N,2μm,0.4s						
DEMR	**Demre-Antalya**	**0.66**	**46**	PG	**Pn**	**16 09 49.7**	**-0.4**
FETY	**Fethiye**	**0.88**	**347**	PG	**Pn**	**16 09 52.7**	**-0.5**
FETY				SG	**Sn**	**16 10 05.3**	**-0.5**
FETY	**Fethiye**	**0.88**	**347**	P	**Pb**	**16 09 52.1**	**-0.2**
FETY				S	**Sb**	**16 10 04.4**	**+0.5**
FETY				*i* AML	AML	16 10 09.0	
	comp=N,197nm,0.2s						
FETY				*i* AML	AML	16 10 10.0	
	comp=E,187nm,0.2s						
AKUM	**Antalya-Kumluc**	**0.99**	**56**	P	**Pn**	**16 09 54.3**	**-0.3**
ELL	**Elmali**	**1.08**	**26**	PN	**Pn**	**16 09 56.1**	**+0.1**
ELL				SN	**Sn**	**16 10 11.2**	**+0.3**
ELL	**Elmali**	**1.08**	**26**	P	**Pb**	**16 09 54.9**	**-0.9**
ELL				S	**Sn**	**16 10 09.8**	**-1.1**
CAME	**Cameli-Denizli**	**1.17**	**359**	PN	**Pn**	**16 09 57.3**	**+0.1**
DALY	**Dalyan (Mula)**	**1.17**	**333**	PN	**Pg**	**16 09 57.4**	**-0.4**
CAEL	**Denizli, Camel**	**1.34**	**360**	P	**Pg**	**16 10 02.4**	**+1.3**
GOLH	**Golhisar**	**1.47**	**7**	P	**Pn**	**16 10 00.8**	**-0.6**
KORT	**Korkueli**	**1.48**	**34**	PN	**Pb**	**16 10 01.6**	**-0.9**
YER	**Yerkesik**	**1.59**	**329**	PN	**Pn**	**16 10 03.2**	**+0.2**
DAT	**Datca**	**1.70**	**305**	P	**Pg**	**16 10 08.9**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.72**	**349**	P	**Pg**	**16 10 07.7**	**-0.6**
TAVA				S	**Sn**	**16 10 26.2**	**-0.3**
TAVA				*i* AML	AML	16 10 44.0	
	comp=N,34nm,0.4s						
BUCA	**Burdur, Bucak-**	**1.84**	**32**	P	**Pg**	**16 10 10.8**	**+0.2**
BDRM	**Kayabasi**	**1.99**	**311**	P	**Pg**	**16 10 14.5**	**+1.1**
BODT	**Bodrum**	**2.07**	**309**	PN	**Pn**	**16 10 09.7**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.17**	**38**	PN	**Pn**	**16 10 11.6**	**+0.6**
AYDN	**Tasoluk**	**2.21**	**329**	P	**Pn**	**16 10 09.8**	**-1.7**
PASA	**Karahalli, USA**	**2.57**	**3**	P	**Pb**	**16 10 19.6**	**-1.6**
AKMS	**Akamas**	**2.57**	**106**	P	**Pn**	**16 10 16.4**	**0.0**
AKMS				AML	AML	16 10 46.0	
	0.6nm,0.5s						
AKMS				AML	AML	16 10 46.6	
	0.5nm,0.9s						
SEDI	**Konya, Seydise**	**2.57**	**49**	P	**Pb**	**16 10 17.9**	**-3.3**
SEYD	**Seydisehir-KON**	**2.60**	**50**	PN	**Pn**	**16 10 17.5**	**+0.6**
ZKR	**Zakros**	**2.62**	**256**	S	**Sn**	**16 10 48.2**	**-0.4**
ALFC	**Alefka**	**2.75**	**102**	P	**Pn**	**16 10 18.9**	**+0.1**
ALFC				AML	AML	16 10 50.7	
	0.5nm,0.2s						
ALFC				AML	AML	16 10 51.6	
	0.3nm,0.3s						
OSC1	**CSNet OBS 1**	**2.78**	**144**	S	**Sn**	**16 10 52.8**	**+0.2**
NATA	**Nata**	**2.84**	**110**	P	**Pn**	**16 10 20.1**	**0.0**
SZAC	**Souni**	**3.08**	**108**	P	**Pn**	**16 10 23.7**	**+0.2**
SZAC				AML	AML	16 10 59.9	
	0.3nm,0.2s						
SZAC				AML	AML	16 11 01.0	
	0.4nm,0.3s						
ASGA	**Asgata**	**3.36**	**106**	P	**Pn**	**16 10 27.4**	**+0.1**
CSS	**Mathiatis**	**3.37**	**103**	P	**Pn**	**16 10 27.4**	**-0.1**
MVOU	**Mavrovouni**	**3.60**	**101**	P	**Pn**	**16 10 30.3**	**-0.3**

*BJI **16** 16:15:11.0±0.0,40°.87N×142°.31E,h79km,mb4.5/29,*
mB4.9/12,Ms3.9/3,Ms7 3.8/3
*JMA **16** 16:15:13.9±0.1,40°.97N×142°.01E,h56km±2km,M4.1*
JMA Felt III J1.
*NIED **16** 16:15:14.0,40°.97N×142°.01E,h56km,MW4.3,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
Mrr1.93; Mθθ0.04; Mϕϕ-1.97; Mrθ0.93; Mθϕ-0.47; Mϕr1.73;
Fault plane solution: M₀2.81000×10¹⁵ NP1:ϕs24.00000°,
δ67.00000°,λ,99.00000°. NP2:ϕs181.00000°,δ24.00000°,
λ,69.00000°.
*NEIC **16** 16:15:15.3±1.8,41°.02N±0°.06×141°.92E±0°.10,h59km±7km,*
mb4.5/43 Error ellipse: s-maj=11.4km s-min=7.8km
az=119.0
*IDC **16** 16:15:16.5±1.4,41°.04N×141°.95E,h82km±11km,mb3.9/23,*
mb1 4.0/29,mb1mx3.9/57,mbtmp4.2/29,MS3.2/4,
Ms1 3.2/4,ms1mx2.8/80,Error ellipse: s-maj=16.1km
s-min=8.5km az=121.0
ISC 16 16:15:14.8±0.8,**41°.01N**±0°.03×**141°.94E**±0°.05,**h63**km±6km,
n151,σ1$46/160,mb4.5/57,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.43**	**270**	P	**Pn**	**16 15 25.5**	**-0.8**
JARK				S	**Sn**	**16 15 33.7**	**-1.0**
JAHD	**Aomorihigashid**	**0.52**	**299**	P	**Pn**	**16 15 26.6**	**-0.6**
JAHD				*e*S	**Sn**	**16 15 36.0**	**-0.2**
JTM	**Tenmabayashi**	**0.70**	**252**	P	**Pn**	**16 15 28.4**	**-0.7**
JTM				S	**Sn**	**16 15 38.9**	**-0.8**
JANG	**Nango**	**0.71**	**207**	P	**Pn**	**16 15 27.9**	**-1.5**
JANG				S	**Sn**	**16 15 37.9**	**-2.2**
JOT	**Ohata**	**0.77**	**299**	P	**Pn**	**16 15 29.4**	**-0.6**
JOT				S	**Sn**	**16 15 40.7**	**-0.5**
JKB	**Kayabe**	**1.11**	**322**	P	**Pn**	**16 15 34.0**	**-0.3**
JKB				S	**Sn**	**16 15 48.6**	**-0.3**
JSR	**Shiriuchi**	**1.26**	**295**	P	**Pn**	**16 15 36.3**	**0.0**
JSR				S	**Sn**	**16 15 53.3**	**+0.9**
JAH	**Hinai**	**1.29**	**231**	P	**Pn**	**16 15 36.2**	**-0.5**
JAH				S	**Sn**	**16 15 53.3**	**+0.2**
ERM	**Erimo**	**1.36**	**42**	Pn	**Pn**	**16 15 37.9**	**+0.4**
JEM	**Erimo**	**1.36**	**42**	P	**Pn**	**16 15 37.7**	**+0.1**
JEM				*e*S	**Sn**	**16 15 55.6**	**+0.9**
JNBK	**Urakawa-nobuka**	**1.41**	**25**	P	**Pn**	**16 15 38.9**	**+0.7**
JNBK				S	**Sn**	**16 15 56.5**	**+0.6**
JIW	**Iwasaki**	**1.53**	**255**	P	**Pn**	**16 15 39.6**	**-0.3**
JNB	**Noboribetsu**	**1.60**	**335**	P	**Pn**	**16 15 40.4**	**-0.5**
JNB				S	**Sn**	**16 16 00.2**	**-0.4**
JIAM	**Iburiatsuma**	**1.61**	**359**	P	**Pn**	**16 15 41.9**	**+0.9**
JOM	**Ohasama**	**1.61**	**198**	P	**Pn**	**16 15 40.1**	**-1.0**
JOM				S	**Sn**	**16 15 59.4**	**-1.5**
JYM2	**Yakumo 2**	**1.61**	**314**	P	**Pn**	**16 15 41.2**	**+0.2**
JEW	**Eniwo**	**1.86**	**349**		**Pn**	**16 15 44.4**	**0.0**
ASAJ	**Asahikawa**	**3.14**	**9**	P	**Pn**	**16 16 02.5**	**+0.7**
	10.0nm,0.3s,baz=211,slow=9.4,SNR=78						
ASAJ				S	**Sn**	**16 16 41.0**	**+3.0**
	14nm,0.3s,baz=354,slow=28,SNR=9.0						
ASAJ				LR	LR	16 17 47.0	
	comp=Z,298nm,21.1s,baz=118,slow=48						
JKA	**Kamikawa-asahi**	**3.14**	**9**	Pn	**Pn**	**16 16 02.1**	**+0.3**
JMM	**Marumori**	**3.26**	**196**		**Pn**	**16 16 03.2**	**-0.3**
JSD	**Sado**	**4.11**	**225**	Pn	**Pn**	**16 16 15.1**	**0.0**
JYT	**Yasato**	**4.97**	**197**	Pn	**Pn**	**16 16 26.1**	**-0.7**
MJB9	**Matsu-Tunnel**	**5.33**	**214**		**Pn**	**16 16 34.0**	**+2.2**
MAJO	**Matsushiro**	**5.33**	**214**	Pn	**Pn**	**16 16 33.9**	**+2.1**
MJAR	**Matsushiro Arr**	**5.33**	**214**	P	**Pn**	**16 16 32.8**	**+1.0**
	0.4nm,0.3s,baz=21,slow=15,SNR=22						
MJAR				S	**Sn**	**16 17 36.5**	**+4.6**
	baz=184,slow=30,SNR=1.1						
MJAR				LR	LR	16 19 17.3	
	comp=Z,38nm,20.1s,baz=46,slow=45						
MJAR	**Matsushiro Arr**	**5.33**	**214**	Pn	**Pn**	**16 16 33.8**	**+2.0**
JGF	**Kuroka**	**6.49**	**215**	Pn	**Pn**	**16 16 48.9**	**+1.2**
INU	**Inuyama**	**6.85**	**216**	Pn	**Pn**	**16 16 54.7**	**+2.1**
USA0B	**Ussuriysk Arra**	**8.00**	**297**	Pn	**Pn**	**16 17 08.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.00**	**297**	P	**Pn**	**16 17 08.8**	**+0.6**
	baz=97,slow=22,SNR=44						
USRK				LR	LR	16 20 14.9	
	comp=Z,130nm,18.5s,baz=120,slow=37						
JHS	**Saijyo**	**9.19**	**232**	Pn	**Pn**	**16 17 27.6**	**+3.0**
MDJ	**Mudanjiang**	**9.76**	**296**	Pn	**Pn**	**16 17 35.9**	**+3.6**
MDJ	**Mudanjiang**	**9.76**	**296**	P	Pn	16 17 36.6	+4.3
MDJ				pmax	pmax		
	comp=Z,39nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.5s						
KLR	**Kul'dur**	**10.92**	**322**	P	**Pn**	**16 17 50.0**	**+2.0**
	0.2nm,0.3s,baz=136,slow=14,SNR=6.9						
KLR				LR	LR	16 22 11.3	
	comp=Z,130nm,18.5s,baz=151,slow=38						
KSRS	**Korea Array**	**11.44**	**256**	P	**Pn**	**16 17 57.6**	**+2.4**
	0.4nm,0.3s,baz=64,slow=14,SNR=13						
KSRS				S	**Sn**	**16 20 03.8**	**+2.6**
	0.1nm,0.3s,baz=33,slow=29,SNR=3.3						
KSRS				LR	LR	16 21 56.0	
	comp=Z,120nm,19.5s,baz=155,slow=35						
KS19	**Wonju Array Si**	**11.46**	**257**	Pn	**Pn**	**16 17 58.4**	**+2.8**
KSAR	**Wonju Array Be**	**11.47**	**256**	Pn	**Pn**	**16 17 58.6**	**+3.0**
JSU	**Suzuyama**	**13.25**	**228**	Pn	**Pn**	**16 18 19.3**	**-0.7**
HIA	**Hailar**	**17.66**	**305**	P	**P**	**16 19 16.9**	**+0.5**
MA2	**Magadan**	**19.39**	**14**	P	**P**	**16 19 33.7**	**-1.5**
	0.5nm,0.3s,baz=188,slow=7.1,SNR=1.9						
MA2	**Magadan**	**19.39**	**14**	P	**P**	**16 19 34.6**	**-0.6**
BJT	**Baijiatuau**	**19.60**	**276**	P	**P**	**16 19 38.5**	**+0.7**
TIA	**Tai'an**	**19.95**	**264**	*e*P	**P**	**16 19 39.8**	**-1.8**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**22.31**	**345**	P	**P**	**16 20 04.0**	**-2.8**
	9.3nm,0.5s,baz=125,slow=3.6,SNR=7.9						
YAK				S	**S**	**16 23 58.2**	**-10**
	2.4nm,0.3s,baz=49,slow=1.7,SNR=1.1						
YAK	**Yakutsk**	**22.31**	**345**	P	**P**	**16 20 03.9**	**-2.8**
SEY	**Seymchan**	**22.82**	**12**	P	**P**	**16 20 10.6**	**-1.5**
	4.5nm,0.9s,baz=199,slow=9.2,SNR=9.7						
ULN	**Ulaanbaatar**	**25.67**	**297**	P	**P**	**16 20 39.1**	**+0.4**
SONM	**Songino Array**	**26.12**	**297**	P	**P**	**16 20 41.8**	**-0.9**
	3.0nm,0.6s,baz=81,slow=8.6,SNR=13						
SONM	**Songino Array**	**26.12**	**297**	P	**P**	**16 20 44.1**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**30.04**	**127**	T	T	16 52 52.4	
	baz=320,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.05**	**127**	T	T	16 52 52.4	
	baz=320,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.06**	**127**	T	T	16 52 55.8	
	baz=320,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.87**	**129**	T	T	16 53 59.9	
	baz=322,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.87**	**129**	T	T	16 53 59.1	
	baz=322,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.89**	**129**	T	T	16 54 02.3	
	baz=322,slow=76						
TIXI	**Tiksi**	**31.40**	**352**	P	**P**	**16 21 27.7**	**-1.6**
	0.5nm,0.2s,baz=96,slow=20,SNR=8.1						
TIXI	**Tiksi**	**31.40**	**352**	P	**P**	**16 21 28.2**	**-1.1**
GTA	**Gaotai**	**31.99**	**281**	*e*P	**P**	**16 21 34.5**	**-0.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GOMU	**GeErMu**	**36.79**	**278**	P	**P**	**16 22 14.8**	**-2.0**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,98nm,4.5s						
ZAA0	**Zalesovo Array**	**39.64**	**309**	P	**P**	**16 22 40.4**	**+0.3**
ZAA0				IAmb	IAmb	16 22 40.7	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**39.64**	**309**	P	**P**	**16 22 40.1**	**+0.1**
	comp=Z,4.3nm,0.5s,baz=91,slow=8.3,SNR=22						
ZALV				PcP	**PcP**	**16 24 45.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=111,slow=3.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**39.64**	**309**	P	**P**	**16 22 40.5**	**+0.5**
NRIK	**Noril'sk**	**39.87**	**333**	P	**P**	**16 22 41.1**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=110,slow=8.0,SNR=7.4						
NRIK	**Noril'sk**	**39.87**	**333**	P	**P**	**16 22 41.8**	**+0.1**
NRIK				IAmb	IAmb	16 22 46.2	
	comp=Z,6.7nm,1.3s						
MK31	**Makanchi Array**	**42.47**	**299**	P	**P**	**16 23 03.5**	**+0.1**
MK31				IAmb	IAmb	16 23 06.3	
	comp=Z,7.0nm,1.2s						
MKAR	**Makanchi Array**	**42.47**	**299**	P	**P**	**16 23 03.3**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=85,slow=9.8,SNR=61						
MKAR				PcP	**PcP**	**16 24 55.1**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=72,slow=4.7,SNR=2.1						
MKAR	**Makanchi Array**	**42.47**	**299**	P	**P**	**16 23 03.5**	**+0.1**
MAKZ	**Makanchi**	**42.67**	**299**	P	**P**	**16 23 05.2**	**+0.1**
MAKZ				IAmb	IAmb	16 23 09.3	
	comp=Z,5.9nm,0.7s						
CHTO	**Chiang Mai**	**42.79**	**252**	P	**P**	**16 23 07.1**	**+0.8**
CHTO				IAmb	IAmb	16 23 07.9	
	comp=Z,5.0nm,0.8s						
J20K	**Nowinta River**	**42.83**	**35**	P	**P**	**16 23 07.5**	**+1.4**
J20K				IAmb	IAmb	16 23 32.1	
	comp=Z,8.7nm,0.9s						
K20K	**Telida**	**42.85**	**37**	P	**P**	**16 23 07.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**43.02**	**252**	P	**P**	**16 23 08.6**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=43,slow=7.3,SNR=24						
CMAR				PcP	**PcP**	**16 24 57.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=49,slow=2.7,SNR=1.4						
CMAR	**Chiang Mai Arr**	**43.02**	**252**	P	**P**	**16 23 08.7**	**+0.5**
IMAR	**Indian Mountain**	**43.05**	**33**	P	**P**	**16 23 08.8**	**+0.9**
H21K	**Melozitna Rive**	**43.43**	**33**	P	**P**	**16 23 11.9**	**+0.9**
PPLA	**Purkeypile**	**43.71**	**37**	P	**P**	**16 23 15.6**	**+2.2**
PPLA				IAmb	IAmb	16 23 35.8	
	comp=Z,16nm,1.4s						
CAST	**Castle Rocks**	**43.74**	**36**	P	**P**	**16 23 14.7**	**+1.2**
CAST				IAmb	IAmb	16 23 38.2	
	comp=Z,4.5nm,0.8s						
I21K	**Tanana**	**43.77**	**34**	P	**P**	**16 23 14.9**	**+1.3**
I21K				IAmb	IAmb	16 23 39.6	
	comp=Z,8.5nm,1.3s						
KURK	**Kurchatov**	**43.90**	**305**	P	**P**	**16 23 14.6**	**-0.2**
KURK				IAmb	IAmb	16 23 18.0	
	comp=Z,9.6nm,0.7s						
MDM	**Murphy Dome**	**45.36**	**34**	P	**P**	**16 23 27.8**	**+1.5**
MDM				IAmb	IAmb	16 23 50.1	
	comp=Z,3.8nm,1.0s						
WRH	**Wood River Hil**	**45.46**	**35**	P	**P**	**16 23 29.5**	**+2.5**
WRH				IAmb	IAmb	16 23 57.5	
	comp=Z,6.2nm,1.1s						
H24K	**Noodor Dome**	**45.46**	**33**	P	**P**	**16 23 29.0**	**+1.8**
H24K				IAmb	IAmb	16 23 53.4	
	comp=Z,7.1nm,1.1s						
ILAR	**Eielson Array**	**45.95**	**34**	P	**P**	**16 23 31.1**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=270,slow=6.3,SNR=12						
TAPN	**Taplejung**	**46.20**	**270**	*e*P	**P**	**16 23 34.9**	**+1.1**
FYU	**Fort Yukon**	**46.49**	**32**	P	**P**	**16 23 36.6**	**+1.4**
BMAR	**Burnt Mountain**	**46.68**	**31**	P	**P**	**16 23 37.9**	**+1.2**
ODAN	**Odare**	**46.70**	**270**	*e*P	**P**	**16 23 38.3**	**+0.7**
TARG	**Taragay, Kyrgy**	**47.11**	**293**	P	**P**	**16 23 43.4**	**+2.5**
TARG				IAmb	IAmb	16 23 45.9	
	comp=Z,7.3nm,0.8s						
JIRN	**Jiri**	**47.19**	**272**	*e*P	**P**	**16 23 41.9**	**+0.3**
	comp=Z,14nm,0.5s						
RAMN	**Ramite**	**47.25**	**271**	*e*P	**P**	**16 23 42.1**	**+0.2**
	comp=Z,16nm,0.4s						
GUN	**Gumba**	**47.29**	**272**	*e*P	**P**	**16 23 42.6**	**+0.2**
	comp=Z,121nm,0.8s						
SCRK	**Sand Creek**	**47.29**	**35**	P	**P**	**16 23 41.6**	**0.0**
SCRK				IAmb	IAmb	16 24 05.1	
	comp=Z,3.2nm,0.7s						
KDJ	**Kajisay**	**47.40**	**294**	P	**P**	**16 23 45.2**	**+2.4**
KDJ				IAmb	IAmb	16 23 47.6	
	comp=Z,5.0nm,0.8s						
KKN	**Kakani**	**47.80**	**273**	*e*P	**P**	**16 23 46.3**	**+0.1**
	comp=Z,42nm,0.7s						
PKI	**Pulchoki**	**47.82**	**272**	*e*P	**P**	**16 23 46.4**	**-0.1**
	comp=Z,18nm,0.5s						
PKIN	**Phulchoki**	**47.83**	**272

NEIC **16** *16:19:57.9±2.2, 4.°83S±0.°09×133.°7E±0.°1, h23km±4km, mb4.4/11, Error ellipse: s-maj=17.2km s-min=12.8km az=75.0*

ISC 16 16:19:58.1±0.6, **4.°88S**±0.°05×**133.°63E**±0.°07, **h25**km, **n48**, σ**2.°51**/48, **mb4.3**/10, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.73**	**275**	P	**Pn**	**16 20 58.2**	**+4.1**
BAKI	**Biak**	**4.42**	**34**	P	**Pn**	**16 20 59.4**	**-4.2**
SIJI	**Sorong**	**4.63**	**329**	Pn	**Pn**	**16 21 05.2**	**-1.3**
	2.0nm,0.3s,baz=228,slow=22,SNR=11						
SIJI				Sn	**Sn**	**16 21 51.6**	**-8.0**
	2.0nm,0.3s,baz=102,slow=12,SNR=4.2						
SIJI				LR	LR	16 23 24.0	
	comp=Z,401nm,21.3s,baz=160,slow=45						
SWI	**Sorong**	**4.64**	**329**	P	**Pn**	**16 21 05.8**	**-0.8**
MSAI	**Masohi**	**4.93**	**288**	P	**Pn**	**16 21 10.2**	**-0.5**
	0.1nm160nm14nm,0.8s						
AAI	**Ambon**	**5.55**	**282**	P	**Pn**	**16 21 21.5**	**+2.3**
	0.3nm932nm77nm,0.9s						
SMPI	**Sarmi**	**5.83**	**61**	P	Pn	16 21 17.5	-5.4
	0.1nm12nm,1.5s						
LBMI	**Labuha**	**7.43**	**304**	P	**Pn**	**16 21 45.7**	**+0.7**
	0.2nm41nm,0.8s						
KDU	**Kakadu**	**7.84**	**188**	P	**Pn**	**16 21 54.7**	**+4.1**
DRS	**Darwin Rock St**	**7.97**	**200**	P	Pn	16 21 57.4	+5.0
SANI	**Sanana**	**8.13**	**290**	P	**Pn**	**16 21 55.6**	**+1.0**
	17nm,0.5s						
SANI	**Sanana**	**8.13**	**290**	P	**Pn**	**16 21 55.3**	**+0.7**
BATI	**Baumata**	**11.21**	**241**	Pn	**Pn**	**16 22 35.5**	**-1.3**
	0.3nm,0.3s,baz=221,slow=16,SNR=1.4						
BATI				Sn	**Sn**	**16 24 42.3**	**+0.9**
	0.8nm,0.3s,baz=0.4,slow=23,SNR=2.0						
KNRA	**Kununurra**	**11.75**	**204**		**Pn**	**16 22 46.8**	**+2.6**
KNRA	**Kununurra**	**11.75**	**204**	P	**Pn**	**16 22 47.1**	**+2.9**
MMRI	**Maumere**	**11.91**	**251**	Pn	**Pn**	**16 22 45.6**	**-0.9**
COEN	**Coen**	**13.03**	**134**	Pn	**Pn**	**16 22 59.1**	**-2.7**
COEN	**Coen**	**13.03**	**134**	P	**Pn**	**16 23 01.5**	**-0.3**
PMG	**Port Moresby**	**14.15**	**109**	LR	LR	16 30 00.2	
	comp=Z,223nm,18.6s,baz=334,slow=42						
WB0	**Warramunga Arr**	**14.82**	**177**	Pn	**Pn**	**16 23 24.4**	**-1.7**
WRAB	**Tennant Creek**	**14.98**	**177**	Pn	**Pn**	**16 23 28.5**	**+0.2**
WRAB				IAmb	IAmb	16 23 39.0	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**14.98**	**177**	P	**Pn**	**16 23 29.2**	**+0.9**
	comp=Z,28nm,1.3s						
WB2	**Warramunga Arr**	**14.99**	**177**	Pn	**Pn**	**16 23 28.1**	**-0.4**
WB2				IAmb	IAmb	16 23 39.1	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**14.99**	**177**	Pn	**Pn**	**16 23 26.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=1.5,slow=13,SNR=15						
WRA				Sn	**Sn**	**16 26 09.1**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=0.6,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**14.99**	**177**	Pn	**Pn**	**16 23 28.3**	**-0.1**
WR0	**Warramunga Arr**	**15.02**	**177**	Pn	**Pn**	**16 23 28.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**15.29**	**210**	Pn	**Pn**	**16 23 30.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=26,slow=8.5,SNR=13						
FITZ				Sn	**Sn**	**16 26 15.4**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=302,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**15.29**	**210**	Pn	**Pn**	**16 23 31.5**	**-0.9**
FITZ				IAmb	IAmb	16 23 44.2	
	comp=Z,9.6nm,1.1s						
QIS	**Mount Isa**	**16.63**	**160**	P	**Pn**	**16 23 49.9**	**+0.2**
AS31	**Alice Springs**	**18.68**	**179**	P	**P**	**16 24 16.0**	**+1.4**
ASAR	**Alice Springs**	**18.68**	**179**	P	**P**	**16 24 15.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=357,slow=11,SNR=40						
ASAR				S	**Sn**	**16 27 38.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=0.5,slow=30,SNR=3.2						
ASAR	**Alice Springs**	**18.68**	**179**	P	**P**	**16 24 16.0**	**+1.4**
CTA	**Charters Tower**	**19.48**	**142**	P	**P**	**16 24 23.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=330,slow=11,SNR=5.4						
CTA				LR	LR	16 32 55.5	
	comp=Z,147nm,21.6s,baz=326,slow=40						
KMMI	**Kalianget**	**19.68**	**263**	P	**Pn**	**16 24 28.4**	**+1.4**
FORT	**Forrest**	**26.29**	**191**	P	**P**	**16 25 35.6**	**+3.9**
BBOO	**Buckleboo**	**27.88**	**176**	P	**P**	**16 25 48.0**	**+2.0**
BBOO				IAmb	IAmb	16 26 17.0	
	comp=Z,11nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.31**	**305**	P	**P**	**16 27 42.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=134,slow=7.7,SNR=2.4						
GTA	**Gaotai**	**53.99**	**328**	*eP*	P	16 29 31.3	+11
GTA				pP	pwP	16 29 35.3	+4.9
GTA				sP	sP	16 29 37.4	+7.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.5s						
AFI	**Afiamalu**	**54.49**	**104**	LR	LR	16 50 40.1	
	comp=Z,47nm,21.1s,baz=295,slow=34						
SONM	**Songino Array**	**57.69**	**339**	P	**P**	**16 29 48.7**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=133,slow=6.3,SNR=3.8						
PETK	**Petropavlovsk-**	**61.24**	**16**	P	**P**	**16 30 12.5**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=185,slow=5.4,SNR=2.5						
MK31	**Makanchi Array**	**68.52**	**325**	P	**P**	**16 30 58.2**	**-0.3**
MK31				IAmb	IAmb	16 31 04.3	
	comp=Z,3.2nm,1.4s						
MKAR	**Makanchi Array**	**68.52**	**325**	P	**P**	**16 30 58.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=120,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**68.52**	**325**	P	**P**	**16 30 57.4**	**-1.0**
MAKZ	**Makanchi**	**68.70**	**325**	P	**P**	**16 30 59.1**	**-0.5**
MAKZ				IAmb	IAmb	16 31 06.4	
	comp=Z,6.4nm,1.4s						
KKAR	**Karatay Array**	**74.19**	**317**	P	**P**	**16 31 32.7**	**-0.2**
TIXI	**Tiksi**	**76.45**	**358**	P	**P**	**16 31 45.4**	**+0.3**
TIXI				IAmb	IAmb	16 32 03.2	
	comp=Z,4.5nm,1.5s						
ILAR	**Eielson Array**	**89.91**	**25**	P	**P**	**16 32 57.4**	**+2.6**
	comp=Z,0.5nm,0.9s,baz=248,slow=4.9,SNR=3.2						

MAN **16** *16:26:08.0, 13.°51N×120.°60E, h71km, mb4.4, ML3.2, MS3.0*

IDC **16** *16:26:09.6±0.8, 13.°58N×120.°91E, h87km±11km, mb3.1/5, mb1 3.3/5, mb1mx2.9/56, mbtmp3.4/5, Error ellipse: s-maj=41.3km s-min=17.1km az=61.0*

ISC 16 16:26:09.5±0.8, **13.°51N**±0.°05×**120.°66E**±0.°09, **h83**km±7km, **n16**, σ**1.°15**/21, **mb3.6**/6, **7C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**92**	*eP*	**Pn**	**16 26 20.9**	**-1.1**
PGP				*i* S	**Sn**	**16 26 31.2**	**-0.1**
LUBP	**Lubang**	**0.46**	**299**	*eP*	**Pn**	**16 26 22.2**	**-1.0**
TGY	**Tagaytay City**	**0.65**	**24**	P	**Pn**	**16 26 25.4**	**+0.5**
	231nm,0.3s,baz=200,slow=7.2,SNR=14						
TGY				S	**Sn**	**16 26 37.2**	**+0.8**
	649nm,0.3s,baz=3.3,slow=19,SNR=23						
TGY	**Tagaytay City**	**0.65**	**24**	*eP*	**Pn**	**16 26 25.1**	**+0.2**
TGY				*i* S	**Sn**	**16 26 37.3**	**+1.0**
MACP	**Maragondon, Ca**	**0.75**	**4**	*eP*	**Pn**	**16 26 25.1**	**-0.8**
LQP	**Lukban**	**1.04**	**55**	*eP*	**Pn**	**16 26 29.9**	**+0.5**
LQP				*eS*	**Sn**	**16 26 44.4**	**+0.1**
PCPH	**Palayan**	**2.08**	**12**	*eP*	**Pn**	**16 26 42.1**	**-0.5**
PCPH				*eS*	**Sn**	**16 27 07.0**	**-0.7**
ENPP	**El Nido**	**2.59**	**208**	*eP*	**Pn**	**16 26 48.8**	**-0.6**
SMPP	**San Manuel, Pa**	**2.62**	**0**	*eP*	**Pn**	**16 26 48.6**	**-1.3**
PPR	**Puerto Princes**	**4.17**	**207**	*eP*	**Pn**	**16 27 10.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.44**	**286**	P	**P**	**16 30 54.8**	**+3.6**
	0.1nm,0.3s,baz=95,slow=8.2,SNR=4.2						
BATI	**Baumata**	**23.75**	**173**	P	**P**	**16 31 14.5**	**0.0**
	22nm,0.6s,baz=12,slow=19,SNR=5.2						
WRA	**Warramunga Arr**	**35.87**	**158**	P	**P**	**16 33 00.9**	**-0.7**
	0.3nm,0.5s,baz=331,slow=10,SNR=1.8						
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**16 33 03.9**	**-0.7**
	0.4nm,0.4s,baz=168,slow=7.8,SNR=2.7						
ASAR	**Alice Springs**	**39.15**	**161**	P	**P**	**16 33 28.6**	**-0.8**
	0.5nm,0.7s,baz=339,slow=7.3,SNR=9.0						
MKAR	**Makanchi Array**	**46.16**	**324**	P	**P**	**16 34 25.6**	**-0.3**
	0.7nm,0.6s,baz=136,slow=9.4,SNR=7.2						

IDC **16** *16:27:31.5±0.5, 35.°19N×3.°79W, h0km, mb4.1/30, mb1 4.2/35, mb1mx4.1/56, mbtmp4.1/35, ML3.9/5, MS3.9/51, Ms1 3.9/51, ms1mx3.8/91, Error ellipse: s-maj=15.0km s-min=10.0km az=109.0*

BJI **16** *16:27:32.0±0.0, 35.°30N×3.°80W, h10km, mb4.5/28, mB5.1/17, Ms5.0/4, Ms7 4.5/4*

IGIL **16** *16:27:33.9, 35.°29N×3.°71W, h1km, ML4.0*

SFS **16** *16:27:33.0, 35.°20N×3.°70W, ML4.2, ALHUCEMAS (MARRUECOS)*

CRAAG **16** *16:27:34.2, 35.°27N×3.°79W, Mb4.7*

GCMT **16** *16:27:34.4±0.4, 35.°14N±0.°03×3.°67W±0.°02, h23km±1km, MW4.8/85, Moment Tensor Solution. s8,c10; s85,c106; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.68±.21; Mθθ-0.64±.11; Mφφ2.32±.14; Mrθ0.67±.18; Mrφ0.09±.08; Mθφ0.01±.14; Best double couple: Mo2.16400×10¹⁶ NP1:φs338.00000°, δ50.00000°, λ-125.00000°. NP2: φs205.00000°, δ51.00000°, λ-56.00000°. Principal axes: T 2.3230, Plg0.0000°, Azm272.0000°; N -0.3180, Plg26.0000°, Azm2.0000°; P -2.0050, Plg64.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MED_RC **16** *16:27:34.0±0.4, 35.°27N×3.°79W, h13km±2km, MW4.7/20, Moment Tensor Solution.Mantle waves: s20,c32; Duration: 1s1 Moment tensor: Scale 10¹⁶Nm; Mrr-0.67±.16; Mθθ-0.66±.08; Mφφ1.33±.12; Mrθ0.93±.28; Mθφ0.13±.06; Mrφ0.51±.17; Best double couple: Mo1.57000×10¹⁶ NP1:φs220.00000°, δ73.00000°, λ-49.00000°. NP2:φs329.00000°, δ44.00000°, λ-154.00000°. Principal axes: T 1.5200, Plg17.0000°, Azm281.0000°; N 0.1100, Plg39.0000°, Azm25.0000°; P -1.6200, Plg46.0000°, Azm172.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

INMG **16** *16:27:34.2±2.4, 35.°28N×3.°76W, h0km, MD4.1, ML3.8 Error ellipse: s-maj=4.9km s-min=4.5km az=166.0*

MDD **16** *16:27:34.7±0.4, 35.°30N×3.°70W, h4km±2km, mb_Lg3.8/37, Error ellipse: s-maj=3.1km s-min=1.9km az=171.0*

NEIC **16** *16:27:34.4±2.1, 35.°25N±0.°05×3.°70W±0.°08, h10km±1km, mb4.7/79, Error ellipse: s-maj=10.9km s-min=8.8km az=117.0*

LDG **16** *16:27:35.3±0.3, 35.°23N×3.°65W, h10km, Ml3.6/11, Error ellipse: s-maj=5.5km s-min=2.9km az=173.0*

BGR **16** *16:27:37.2±0.0, 35.°25N×3.°05W, h10km, mb4.4, Ms3.4*

CNRM **16** *16:27:38.0, 35.°16N×4.°26W, h19km, ml5.0*

ISC 16 16:27:36.0±1.0, **35.°24N**±0.°03×**3.°66W**±0.°02, **h23**km±7km, **n414**, σ**2.°38**/442, **mb4.5**/67, **MS4.0**/50, **12C-16D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.53**	**262**	P	**Pb**	**16 27 44.7**	**-1.9**
PVLZ				S	**Sb**	**16 27 52.5**	**-1.2**
EMEL	**Melilla**	**0.58**	**84**	Pg	**Pb**	**16 27 45.0**	**-2.5**
EMEL				Sg	**Sb**	**16 27 54.2**	**-1.2**
EALB	**Alboran**	**0.86**	**36**	Pg	**Pb**	**16 27 49.8**	**-2.5**
EALB				Sg	**Sb**	**16 28 02.4**	**-1.1**
EALB				*i* Vmb_Lg		16 28 02.6	
SMIR	**Smir Dam**	**1.47**	**288**	P	**Pn**	**16 27 58.0**	**-3.0**
CEU	**Ceuta**	**1.54**	**296**	P	**Pn**	**16 27 57.4**	**-4.6**
CEU				S	**Sn**	**16 28 14.8**	**-6.4**
EMIJ	**Mijas**	**1.60**	**326**	Pn	**Pn**	**16 28 00.1**	**-2.7**
EMIJ				Pg	**Pb**	**16 28 01.7**	**-3.1**
EMIJ				Sn	**Sn**	**16 28 20.1**	**-2.7**
EMIJ				Sg	**Sb**	**16 28 23.2**	**-1.4**
EMIJ				*i* Vmb_Lg		16 28 27.0	
ELGU	**Los Guajares,**	**1.62**	**1**	Pn	**Pn**	**16 28 00.5**	**-2.8**
ELGU				Sn	**Sn**	**16 28 22.2**	**-1.2**
ELGU				Sg	**Sb**	**16 28 24.3**	**-1.0**
ELGU				*i* Vmb_Lg		16 28 26.5	
EMAL	**Malaga-Limoner**	**1.64**	**338**	P	**Pn**	**16 28 01.1**	**-2.3**
EMAL				S	Sn	16 28 15.1	-8.6
EBER	**Berja**	**1.77**	**21**	Pn	**Pn**	**16 28 02.5**	**-2.8**
EBER				Sn	**Sn**	**16 28 24.9**	**-2.3**
EBER				Sg	**Sb**	**16 28 28.5**	**-1.1**
EBER				*i* Vmb_Lg		16 28 34.3	
SICH	**Sidi Chahed**	**1.77**	**231**	S	Sn	16 28 06.0	-21
LCRM	**LCR**	**1.84**	**213**	P	**Pn**	**16 28 06.0**	**-0.3**
EGOR	**Sierra Gorda,**	**1.90**	**349**	Pn	**Pn**	**16 28 05.5**	**-1.6**
EGOR				*i* Vmb_Lg		16 28 34.7	
EJIF	**Jimena Fronter**	**1.90**	**310**	Pn	**Pn**	**16 28 04.9**	**-2.0**
CPS	**Cap Spartel**	**1.91**	**287**	P	**Pb**	**16 28 13.0**	**+2.8**
EQUE	**Quentar**	**1.97**	**5**	Pn	**Pn**	**16 28 06.4**	**-1.5**
EQUE				Sn	**Sn**	**16 28 33.0**	**+1.0**
EQUE				*i* Vmb_Lg		16 28 33.3	
ALJ	**Aljibe**	**2.06**	**309**	P	**Pb**	**16 28 12.1**	**-0.6**
ALJ				S	**Sb**	**16 28 43.3**	**+5.3**
ENIJ	**Nijar**	**2.09**	**34**	Pn	**Pn**	**16 28 08.2**	**-1.4**
ENIJ				*i* Vmb_Lg		16 28 38.9	
IFR	**Ifrane**	**2.10**	**216**	P	**Pn**	**16 28 08.8**	**-1.2**
IFR				S	**Sb**	**16 28 38.4**	**-1.0**
LIJA	**Lijar**	**2.18**	**320**	P	**Pn**	**16 28 12.9**	**-1.8**
LIJA				S	**Sb**	**16 28 45.8**	**+4.5**
CNIL	**Conil**	**2.25**	**301**	P	**Pb**	**16 28 13.8**	**-2.1**
CNIL				S	**Sb**	**16 28 42.4**	**-0.8**
OTSS	**Djebel Tessala**	**2.35**	**88**	P	**Pn**	**16 28 14.0**	**+0.8**
SFS	**San Fernando**	**2.40**	**301**	P	**Pn**	**16 28 13.2**	**-0.6**
SFS				S	**Sn**	**16 28 39.0**	**-3.5**
SFS	**San Fernando**	**2.40**	**301**	Pn	**Pn**	**16 28 14.0**	**+0.2**
ESPR	**Espera**	**2.41**	**313**	Pn	**Pn**	**16 28 13.6**	**-0.3**
ESPR				*i* Vmb_Lg		16 28 45.4	
CZD	**Col de Zad**	**2.48**	**208**	P	**Pn**	**16 28 15.0**	**-0.3**
MDT	**Midelt**	**2.55**	**198**	Pn	**Pn**	**16 28 14.7**	**-1.3**
	28nm,0.3s,baz=90,slow=21,SNR=134						
MDT				Pg	**Pb**	**16 28 20.8**	**-0.3**
	248nm,0.3s,baz=171,slow=6.9,SNR=188						
MDT				Lg	Lg	16 28 50.5	
	281nm,0.3s,baz=153,slow=21,SNR=4.8						
MDT	**Midelt**	**2.55**	**198**	P	**Pn**	**16 28 15.3**	**-0.6**
TDRA	**Tendrara**	**2.58**	**148**	P	**Pn**	**16 28 15.3**	**-1.2**
USTO	**Oran**	**2.59**	**78**	P	**Pn**	**16 28 13.0**	**-3.4**
EQES	**Quesada**	**2.60**	**10**	Pn	**Pn**	**16 28 16.6**	**-0.1**
EQES				Sn	**Sn**	**16 28 45.1**	**-2.5**
EQES				*i* Vmb_Lg		16 28 50.6	
EQES				Sg	**Sb**	**16 28 54.6**	**+1.1**
ODJA	**Bouhanifia**	**2.88**	**87**	P	**Pn**	**16 28 18.0**	**-2.4**
EADA	**Adamuz**	**3.01**	**346**	Pn	**Pn**	**16 28 21.5**	**-0.8**
EADA				Sn	**Sn**	**16 28 55.0**	**-2.6**
EADA				*i* Vmb_Lg		16 28 57.5	
ZHG	**ZHG**	**3.05**	**235**	P	**Pn**	**16 28 22.0**	**-0.9**
EZAR	**Zarzadilla de**	**3.07**	**31**	Pn	**Pn**	**16 28 22.0**	**-1.1**
EZAR				Sn	**Sn**	**16 28 59.5**	**+0.3**
ARNO	**Arenosillo**	**3.10**	**308**	P	**Pn**	**16 28 22.6**	**-0.8**
ARNO				S	**Sn**	**16 28 56.8**	**-2.9**
ECAB	**El Cabril**	**3.16**	**334**	Pn	**Pn**	**16 28 23.8**	**-0.6**
ECAB				Sn	**Sn**	**16 28 59.1**	**-2.2**
ECAB				*i* Vmb_Lg		16 29 05.0	
CART	**Cartagena**	**3.17**	**42**	P	**Pn**	**16 28 23.4**	**-1.1**
CART				S	**Sn**	**16 28 56.4**	**-5.2**
CART	**Cartagena**	**3.17**	**42**	Pn	**Pn**	**16 28 23.1**	**-1.3**
OJBR	**Djebel Berber**	**3.29**	**83**	P	**Pb**	**16 28 30.0**	**-3.7**
EMIN	**Mina Concepcio**	**3.50**	**317**	Pn	**Pn**	**16 28 27.3**	**-1.6**
EMIN				Sn	**Sn**	**16 29 06.0**	**-3.5**
EMIN				*i* Vmb_Lg		16 29 08.5	
OKGL	**Djebel Kef Gue**	**3.60**	**76**	P	**Pn**	**16 28 29.0**	**-1.3**
OJGS	**Djebel Guires**	**3.62**	**85**	P	**Pb**	**16 28 35.0**	**-4.3**
AVE	**Averroes**	**3.66**	**239**	P	**Pn**	**16 28 30.7**	**-0.6**
AVE				S	**Sb**	**16 29 22.0**	**-2.0**
AVE	**Averroes**	**3.66**	**239**	P	**Pn**	**16 28 30.9**	**-0.6**
GOLM	**Goulmima**	**3.69**	**197**	P	**Pn**	**16 28 33.0**	**+1.2**
ETOB	**Tobarra**	**3.79**	**26**	Pn	**Pn**	**16 28 33.4**	**+0.3**
ETOB				Sn	**Sn**	**16 29 14.2**	**-2.8**
ETOB				*i* Vmb_Lg		16 29 24.6	
EGRO	**El Granado**	**3.84**	**308**	Pn	**Pn**	**16 28 31.6**	**-2.0**
EGRO				*i* Vmb_Lg		16 29 12.5	
EGRO				Sn	**Sn**	**16 29 15.0**	**-3.0**
PVAQ	**Vaqueiros**	**3.92**	**305**	*e*Pn	**Pn**	**16 28 32.8**	**-1.9**
PVAQ				*e*Sn	**Sn**	**16 29 15.6**	**-4.4**
PVAQ				A	A	16 29 28.9	
	229nm,0.5s						
PVAQ	**Vaqueiros**	**3.92**	**305**		**Pn**	**16 28 32.9**	**-1.9**
PVAQ	**Vaqueiros**	**3.92**	**305**	P	**Pn**	**16 28 32.7**	**-2.1**
PBDV	**Barranco-do-Ve**	**3.98**	**301**	*e*Pn	**Pn**	**16 28 33.6**	**-2.1**
PBDV				*e*Sn	**Sn**	**16 29 18.1**	**-3.6**
PBDV				A	A	16 29 31.9	
	146nm,0.6s						
PBAR	**Barrancos**	**3.99**	**318**	*e*Pn	**Pn**	**16 28 34.2**	**-1.5**
PBAR				*e*Sn	**Sn**	**16 29 20.7**	**-1.0**
PBAR				A	A	16 29 36.7	
	130nm,0.6s						
PALBU	**Albufeira**	**4.14**	**298**	*e*Sn	**Sn**	**16 29 22.4**	**-3.1**
AFON	**Font Roja**	**4.23**	**35**	Pn	**Pn**	**16 28 41.2**	**+2.0**
AFON				Sn	**Sn**	**16 29 27.5**	**-0.4**
AFON				*i* Vmb_Lg		16 29 54.2	
PCVE	**Castro Verde**	**4.26**	**305**	*e*Pn	**Pn**	**16 28 37.6**	**-1.8**
PCVE				*e*Sn	**Sn**	**16 29 23.9**	**-4.4**
PCVE				A	A	16 29 38.3	
	136nm,0.6s						
PAB	**San Pablo**	**4.33**	**353**	Pn	**Pn**	**16 28 40.5**	**+0.1**
PAB	**San Pablo**	**4.33**	**353**	P	**Pn**	**16 28 43.6**	**+3.1**
PAB	**San Pablo**	**4.33**	**353**	P	**Pn**	**16 28 40.4**	**0.0**
PAB	**San Pablo**	**4.33**	**353**	Pn	**Pn**	**16 28 39.8**	**-0.7**
PAB				Sn	**Sn**	**16 29 27.1**	**-3.1**
PAB				*i* Vmb_Lg		16 29 35.8	
PAB				Sg	**Sb**	**16 29 46.8**	**+3.6**
PPOR	**Portimao**	**4.37**	**297**	*e*Sn	**Sn**	**16 29 30.1**	**-0.9**
PBEJ	**Beja**	**4.37**	**311**	*e*Pn	**Pn**	**16 28 39.9**	**-1.1**
PBEJ				*e*Sn	**Sn**	**16 29 28.6**	**-2.6**
PBEJ				A	A	16 29 40.6	
	87nm,0.4s						
EBEN2	**Beniarda presa**	**4.41**	**38**	Pn	**Pn**	**16 28 40.2**	**-1.4**
EBEN2				Sn	**Sn**	**16 29 29.5**	**-2.7**
EBEN2				*i* Vmb_Lg		16 29 44.4	
EBAD	**Badajoz**	**4.41**	**324**	Pn	**Pn**	**16 28 40.7**	**-0.8**
EBAD				Sn	**Sn**	**16 29 29.5**	**-2.7**
EBAD				*i* Vmb_Lg		16 29 31.5	
ESDC	**Sonseca Array**	**4.43**	**357**	Pn	**Pn**	**16 28 41.2**	**-0.6**
	4.6nm,0.3s,baz=177,slow=12,SNR=72						
ESDC				Sn	**Sn**	**16 29 35.6**	**+2.9**
	4.1nm,0.3s,baz=177,slow=20,SNR=5.6						
ESDC				Lg	Lg	16 29 50.4	
	5.9nm,0.3s,baz=174,slow=28,SNR=2.9						
ESDC	**Sonseca Array**	**4.43**	**357**		**Pn**	**16 28 41.6**	**-0.2**
ESDC	**Sonseca Array**	**4.43**	**357**	Pn	**Pn**	**16 28 41.8**	**0.0**
ESDC				Sn	**Sn**	**16 29 29.9**	**-2.8**
ESDC				*i* Vmb_Lg		16 29 38.9	
ESDC				Sg	**Sb**	**16 29 49.2**	**+3.2**
ESBB	**Sonseca Array**	**4.43**	**357**		**Pn**	**16 28 41.6**	**-0.3**
SRHM	**Skhour des Reh**	**4.48**	**233**	P	**Pn**	**16 28 42.0**	**-0.5**
MORF	**Marmelete**	**4.52**	**299**	*e*P	**Pn**	**16 28 40.8**	**-2.3**
MORF				*e*S	**Sn**	**16 29 29.7**	**-5.3**
MORF				IAML		16 29 40.2	
	comp=N,279nm,0.3s						
MORF	**Marmelete**	**4.52**	**299**	*e*Pn	**Pn**	**16 28 41.0**	**-2.1**
MORF				*e*Sn	**Sn**	**16 29 31.0**	**-4.0**
MORF				A	A	16 29 35.0	
	comp=N,90nm,0.3s						
PFVI	**Vila Bisbo**	**4.58**	**296**	*e*Pn	**Pn**	**16 28 42.4**	**-1.5**
PFVI				*e*Sn	**Sn**	**16 29 32.3**	**-4.0**
PFVI				A	A	16 29 46.8	
	comp=N,145nm,0.8s						
PFVI	**Vila Bisbo**	**4.58**	**296**	Pn	**Pn**	**16 28 42.2**	**-1.7**
PFVI	**Vila Bisbo**	**4.58**	**296**	P	**Pn**	**16 28 42.4**	**-1.5**
PFVI	**Vila Bisbo**	**4.58**	**296**	P	**Pn**	**16 28 47.3**	**+3.4**
PALJ	**Aljezur**	**4.64**	**298**	*e*Sn	**Sn**	**16 29 35.7**	**-1.9**
PTEO	**Sao Teotonio**	**4.68**	**301**	*e*Pn	**Pn**	**16 28 43.5**	**-1.7**
PTEO				*e*Sn	**Sn**	**16 29 36.3**	**-2.5**
PTEO				A	A	16 29 49.5	
	comp=N,148nm,0.7s						
TZRR	**Tazzarine**	**4.73**	**200**	P	**Pn**	**16 28 46.0**	**0.0**
EVO	**Evora**	**4.79**	**315**	P	**Pn**	**16 28 45.1**	**-1.6**
EVO				S	**Sn**	**16 29 36.0**	**-5.4**
EVO	**Evora**	**4.79**	**315**	*e*Pn	**Pn**	**16 28 45.3**	**-1.4**
EVO				*e*Sn	**Sn**	**16 29 37.5**	**-3.9**
EVO				A	A	16 29 57.5	
	comp=N,123nm,0.6s						
PESTR	**Estremoz**	**4.79**	**320**	*e*Pn	**Pn**	**16 28 46.0**	**-0.8**
PESTR				*e*Sn	**Sn**	**16 29 38.4**	**-3.1**
PESTR				A	A	16 29 49.8	
	comp=N,73nm,0.5s						
PESTR	**Estremoz**	**4.79**	**320**	Pn	**Pn**	**16 28 46.2**	**-0.5**
PESTR	**Estremoz**	**4.79**	**320**	P	**Pn**	**16 28 45.9**	**-0.8**
PESTR	**Estremoz**	**4.79**	**320**	P	**Pn**	**16 28 47.6**	**+0.9**
ECHE	**Chera**	**4.84**	**26**	Pn	**Pn**	**16 28 46.9**	**-0.5**
ECHE				Sn	**Sn**	**16 29 38.9**	**-3.9**
ECHE				*i* Vmb_Lg		16 29 52.1	
PNCL	**Nicolau / Gran**	**4.85**	**308**	*e*Pn	**Pn**	**16 28 45.5**	**-2.0**
PNCL				*e*Sn	**Sn**	**16 29 39.4**	**-3.4**
PNCL				A	A	16 29 57.8	
	comp=N,88nm,0.7s						
OUZM	**OUZ**	**5.04**	**212**	P	**Pn**	**16 28 51.0**	**+0.6**
UCM	**Universidad Co**

EORO *i* Vmb_Lg 16 31 47.2
ELAN Lanestosa 7.98 1 Pn **Pn 16 29 29.9 -0.6**
ELAN *i* Vmb_Lg 16 31 34.4
ECHI Chisagues Biel 8.00 21 Pn **Pn 16 29 33.6 +2.8**
ECHI *i* Vmb_Lg 16 31 33.8
ETSF Etsaut 8.02 17 *e*Pn **Pn 16 29 29.3 -1.8**
ETSF *e*Sg Sb 16 31 46.9 +18
comp=N,1.4nm,0.2s
SJPF Ste Jean 8.08 13 *e*Pn **Pn 16 29 30.4 -1.5**
SJPF Ste Jean 8.08 13 *e*P **Pn 16 29 35.3 +3.4**
SJPF *e*Sn **Sn 16 30 57.7 -4.9**
comp=N,4.0nm,0.3s
EARI Arriondas 8.13 352 Pn **Pn 16 29 33.0 +0.3**
EARI Sn **Sn 16 31 03.5 -0.4**
EARI *i* Vmb_Lg 16 31 47.8
EALK Alkurruntz 8.14 11 Pn **Pn 16 29 33.1 +0.4**
EALK Sn **Sn 16 31 04.8 +0.8**
EAGO Agolada(Pontev 8.29 337 Pn **Pn 16 29 34.7 -0.2**
EAGO Sn **Sn 16 31 01.4 -6.3**
EAGO *i* Vmb_Lg 16 32 32.6
EPF Esparros 8.37 21 *e*Pn **Pn 16 29 34.0 -1.9**
EPF *e*Sn **Sn 16 31 05.2 -4.6**
comp=N,0.9nm,0.2s
EPF *e*Sg Sb 16 31 58.3 +19
comp=N,35nm,0.8s
EMAZ Mazaricos 8.73 333 Pn **Pn 16 29 41.3 +0.6**
EMAZ *i* Vmb_Lg 16 32 18.8
MTLF Montolieu 9.28 28 *e*P **Pn 16 29 51.8 +3.5**
LFF La Frestale 10.25 18 *e*P **Pn 16 30 04.2 +2.6**
LASF Ste Croix 10.55 31 *e*Pn **Pn 16 30 04.3 -1.4**
LASF *e*Sn **Sn 16 31 58.9 -4.2**
comp=N,0.4nm,0.2s
CAF Calviac 10.62 23 *e*Pn **Pn 16 30 03.5 -3.1**
CAF Calviac 10.62 23 *e*P **Pn 16 30 08.7 +2.1**
KEST Kesra 10.62 84 Pn **Pn 16 30 05.9 -0.9**
comp=N,0.8nm,0.3s,baz=286,slow=4.6,SNR=7.4
KEST LR LR 16 34 54.5
comp=N,1µm,21.0s,baz=235,slow=41
PMPST Porto Santo, M 10.72 262 *e*P Pn 16 30 17.7 +10
PMPST *e*S **Sn 16 32 01.1 -6.2**
PMPS Porto Santo 10.72 262 *e*P Pn 16 30 14.8 +6.7
PMPS *e*S **Sn 16 32 03.4 -4.0**
RJF Les Rejaudoux 10.80 20 *e*Pn **Pn 16 30 08.8 -0.3**
RJF *e*Sn **Sn 16 32 03.0 -6.1**
comp=N,2.3nm,0.3s
VSL Villasalto 11.21 64 **Pn 16 30 13.3 -1.5**
LMR La Mourre 11.28 41 *e*Pn **Pn 16 30 14.1 -1.6**
LMR La Mourre 11.28 41 *e*P Pn 16 30 19.8 +4.1
LMR *e*Sn **Sn 16 32 14.5 -6.4**
comp=N,1.0nm,0.3s
PMAR Madeira 11.28 261 *e*P Pn 16 30 03.4 -13
PMAR *e*S **Sn 16 32 14.6 -6.8**
PMOZ Porto Moniz, M 11.49 262 *e*P **Pn 16 30 21.2 +2.5**
PMOZ *e*S **Sn 16 32 24.0 -2.3**
PMOZ Porto Moniz, M 11.49 262 Pn **Pn 16 30 19.5 +0.9**
VIVF Saint-Julien-l 11.52 31 *e*P Pn 16 30 24.4 +5.3
MFF Saint Martin d 11.65 12 *e*Pn **Pn 16 30 19.1 -1.7**
MFF Saint Martin d 11.65 12 *e*P **Pn 16 30 24.6 +3.8**
TCF Toulx Ste Croi 11.89 20 *e*P **Pn 16 30 26.7 +2.6**
SBF Sospel 12.13 41 *e*P **Pn 16 30 30.6 +3.2**
PGF Pioggiola 12.26 50 *e*P **Pn 16 30 30.6 +1.4**
PGF *e*Sn **Sn 16 32 37.3 -7.8**
comp=N,51nm,1.1s
QUIF Quistinic 12.67 2 *e*Pn **Pn 16 30 32.7 -1.9**
QUIF Quistinic 12.67 2 *e*P **Pn 16 30 38.4 +3.8**
QUIF *e*Sn **Sn 16 32 47.2 -7.7**
comp=N,4.9nm,0.5s
SMF Signal de Mont 12.72 24 *e*P Pn 16 30 40.1 +4.8
SSF Saint Saulge 12.97 22 *e*Pn **Pn 16 30 38.7 -0.1**
SGMF Saint Gilles 13.03 3 *e*Pn **Pn 16 30 37.0 -2.5**
SGMF Saint Gilles 13.03 3 *e*P **Pn 16 30 42.5 +3.0**
ROSF Rostrenen 13.09 1 *e*Pn **Pn 16 30 37.6 -2.7**
ROSF Rostrenen 13.09 1 *e*P **Pn 16 30 42.9 +2.6**
LOR Lormes 13.27 23 *e*P **Pn 16 30 46.2 +3.3**
baz=203
CABF La Chapelle 13.53 30 *e*Pn **Pn 16 30 44.6 -1.8**
LDF La Druitiere 13.60 10 *e*Pn **Pn 16 30 46.6 -0.7**
VAE Valguarnera 14.74 76 Pn **Pn 16 31 02.4 -0.6**
comp=N,1.3nm,0.3s,baz=304,slow=22,SNR=1.6
VAE LR LR 16 36 58.3
comp=N,586nm,20.0s,baz=310,slow=38
ECH Echery 15.25 29 Pn **Pn 16 31 11.6 +1.9**
DAVOX Davos/Dischmat 15.38 37 Pn **P 16 31 17.2 +1.1**
comp=N,0.1nm,0.3s,baz=335,slow=15,SNR=2.1
DAVOX LR LR 16 36 32.6
comp=N,140nm,20.6s,baz=252,slow=35
DAVA Damuels 15.73 36 *e*P **P 16 31 23.1 +3.1**
comp=N,8.5nm,0.8s
BFO Black Forest 15.81 31 **P 16 31 20.4 -0.4**
BFO Black Forest 15.81 31 *e*P **P 16 31 20.5 -0.2**
comp=N,30nm,1.3s,baz=218,slow=12
BFO *e*L L 16 38 08.1
comp=N,316nm,18.2s
FETA Feichten 15.97 38 *e*P **P 16 31 25.4 +2.8**
comp=N,34nm,2.3s
DOU Dourbes 16.02 20 *dx* x 16 31 23.6
WLF Walferdange 16.11 24 P **P 16 31 25.2 +1.2**
WLF Walferdange 16.11 24 *dx* x 16 31 28.2
RCHB Rochefort 16.25 21 *d*P **P 16 31 24.9 -0.7**
RCHB *dx* x 16 31 26.6
RETA Reutte 16.30 37 *e*P **P 16 31 26.7 +0.5**
comp=N,8.8nm,1.1s
SQTA Sankt Quirin 16.35 38 *e*P **P 16 31 27.6 +0.9**
comp=N,25nm,1.4s
MOTA Moosalm 16.38 38 *e*P **P 16 31 27.5 +0.4**
comp=N,22nm,2.1s
BGES Gesves 16.42 20 *d*Pn **P 16 31 26.3 -1.1**
BGES *dx* x 16 31 28.1
BCLA Clavier 16.51 21 *d*Pn **P 16 31 27.3 -1.1**
BCLA *dx* x 16 31 29.9
WTTA Wattenberg 16.59 39 *e*P **P 16 31 31.2 +1.6**
comp=N,45nm,1.4s
UCC Uccle 16.60 18 **P 16 31 28.4 -1.0**
WATA Walderalm 16.61 39 *e*P **P 16 31 30.1 +0.4**
comp=N,22nm,1.4s
BHOU Houvegnez 16.66 22 *dx* x 16 31 32.1
ABTA Abfaltersbach 16.73 42 *e*P **P 16 31 35.8 +4.8**
comp=N,34nm,1.5s
TIP Timpagrande 16.73 70 ⇓P **P 16 31 32.8 +1.8**
TIP Timpagrande 16.73 70 P **P 16 31 31.3 +0.3**
BSTI Sart Tilman 16.73 21 *dx* x 16 31 33.9
MEM Membach 16.89 22 *dx* x 16 31 36.0
BTNL Ternell 16.90 22 *dx* x 16 31 34.3
FUR Furstenfeldbru 17.02 36 *e*L L 16 41 22.8
comp=N,304nm,20.6s
TNS Taunus Mts 17.38 27 *e*L L 16 37 12.5
comp=N,283nm,21.9s
KBA Koelnbreinsper 17.39 42 *e*P **P 16 31 40.8 +2.5**
comp=N,12nm,1.4s
GRFO Grafenberg 18.09 32 P **P 16 31 47.8 +2.0**
GRA1 Grafenberg Arr 18.09 32 P **P 16 31 47.9 +2.0**
GRF Grafenberg Arr 18.09 32 *e*P **P 16 31 46.1 +0.2**
comp=N,53nm,1.8s,baz=218,slow=12
GRF *e*L L 16 38 02.3
comp=N,187nm,19.5s
SOKA Soboth 18.11 45 P **P 16 31 51.1 +4.8**
comp=N,16nm,1.3s
MOA Molln 18.35 41 *e*P **Pn 16 31 55.3 +6.5**
comp=N,9.4nm,1.3s
WET Wettzell 18.47 36 *e*L L 16 38 11.1
comp=N,87nm,18.1s
GEC2 GERESS Array S 18.68 38 P **Pn 16 31 54.3 +1.5**
GEC2 GERESS Array S 18.68 38 *e*L L 16 37 51.2
comp=N,326nm,22.0s
GERES GERESS Array B 18.68 38 P **Pn 16 31 53.9 +1.1**
comp=N,0.2nm,0.3s,baz=232,slow=8.0,SNR=15
GERES LR LR 16 38 02.2
comp=N,343nm,21.0s,baz=243,slow=34
GERES GERESS Array B 18.68 38 P **P 16 31 51.5 -1.0**
ARSA Arzberg 18.70 44 *e*P **Pn 16 31 55.1 +2.0**
comp=N,21nm,1.6s
KHC Kasperske Hory 18.80 37 *e*P **P 16 31 53.4 -0.3**
KHC *ex* x 16 32 21.0
KHC AMS AMS 16 40 20.0
comp=N,900nm,11.1s
KHC Kasperske Hory 18.80 37 P **Pn 16 31 54.2 -0.1**
MOX Moxa 18.97 31 *e*L L 16 38 02.0
comp=N,224nm,21.9s
CKRC Cesky Krumlov 18.97 39 *e*P **Pn 16 31 58.1 +1.8**
CKRC AMS AMS 16 40 40.0
comp=N,800nm,12.5s
VLO Vlora 19.00 67 P **Pn 16 31 56.8 +0.1**
NKC Novy Kostel 19.03 33 AMS AMS 16 40 30.0
comp=N,900nm,12.3s

PDG Podgorica 19.21 61 ⇑P **Pn 16 31 59.1 -0.1**
PDG Podgorica 19.21 61 P **P 16 31 58.4 +0.2**
CONA Conrad Observa 19.27 43 *e*P **Pn 16 32 06.6 +6.6**
comp=N,7.6nm,1.3s
SOP Sopron 19.53 44 P **Pn 16 32 07.8 +4.7**
KOVH Kovagotottos 19.68 50 PN **Pn 16 32 10.0 +5.1**
PRU Pruhonice 19.84 36 AMS AMS 16 41 00.0
comp=N,700nm,9.7s
EGYH Egyhazaskeszo 19.84 46 PN **Pn 16 32 11.2 +4.5**
MPLH Magyarpolny 19.84 47 PN **Pn 16 32 06.2 -0.5**
KBN Korca 19.99 67 P **P 16 32 07.0 +0.1**
KBN IAmb IAmb 16 32 17.7
comp=Z,29nm,1.0s
CLL Collm 20.05 32 P **P 16 32 07.0 -0.3**
CLL Collm 20.05 32 ⇓*i*P **P 16 32 08.1 +0.8**
comp=Z,27nm,1.5s
CLL *i* x x 16 32 15.7
comp=Z,24nm,1.3s
CLL *i* PP **PnPn 16 32 25.0 +1.4**
CLL *i* PPP PPP 16 32 32.8
CLL *e*S Sn 16 35 58.0 +4.1
CLL Lmax 16 41 00.0
CLL Collm 20.05 32 *e*L L 16 38 45.6
comp=Z,145nm,20.7s
OHR Ohrid 20.07 66 *i* P Pn 16 32 09.6 0.0
ESK Eskdalemuir 20.08 1 P Pn 16 32 09.5 0.0
ESK IAmb IAmb 16 32 17.9
comp=Z,25nm,1.0s
EKA Eskdalemuir Ar 20.09 1 P **P 16 32 08.3 +0.5**
comp=Z,7.8nm,0.7s,baz=175,slow=11,SNR=15
EKA LR LR 16 39 55.4
comp=Z,271nm,21.5s,baz=182,slow=37
BRG Berggiesshubel 20.16 34 *e*P Pn 16 32 09.9 -0.5
BRG Amp 16 32 19.9
comp=Z,41nm,1.9s
BRG Amp 16 41 01.0
comp=Z,0.8nm,15.0s
BRG Amp 16 41 03.0
comp=N,0.8nm,9.5s
BRG Amp 16 41 04.0
comp=E,0.6nm,12.8s
BRG Berggiesshubel 20.16 34 *e*P **P 16 32 09.3 +0.8**
comp=E,71nm,2.2s,baz=218,slow=12
DIVS Divibare 20.19 57 P Pn 16 32 11.3 +0.4
KRUC Moravsky 20.21 41 *e*P **P 16 32 09.4 +0.3**
PVCC Panska Ves 20.21 35 AMS AMS 16 40 50.0
comp=E,700nm,15.5s
CSKK Cskako 20.36 47 PN Pn 16 32 13.5 +0.6
FNA Florina 20.46 67 P **P 16 32 11.6 -0.3**
FNA IAmb IAmb 16 32 21.8
comp=Z,26nm,1.0s
VRAC Vranov 20.46 40 P **P 16 32 11.8 0.0**
comp=Z,5.7nm,0.8s,baz=228,slow=10.0,SNR=7.5
VRAC LR LR 16 40 12.3
comp=Z,195nm,18.6s,baz=245,slow=37
VRAC Vranov 20.46 40 *e*P **P 16 32 10.1 -1.7**
KOWA Kowa 20.66 181 P **P 16 32 13.0 -1.2**
SKO Skopje 20.69 64 *i* P **P 16 32 14.3 -0.1**
JAVC Velka Javorina 20.79 43 *e*P **P 16 32 15.4 0.0**
BUD Budapest 20.88 47 PN Pn 16 32 20.1 +1.2
UPC Upice 20.89 37 AMS AMS 16 41 10.0
comp=Z,800nm,8.5s
DPC Dobruska-Polom 20.95 38 *e*P **P 16 32 17.1 0.0**
DPC AMS AMS 16 41 50.0
comp=Z,600nm,9.9s
CHVC Chvalec 20.97 37 *e*P **P 16 32 12.2 -5.1**
KRLC Kraliky 21.01 39 *e*P **P 16 32 18.1 +0.3**
OSTC Ostas 21.02 37 *e*P **P 16 32 17.5 -0.4**
AGG Agios Georgios 21.04 72 P **P 16 32 19.1 +0.9**
AGG IAmb IAmb 16 32 43.3
comp=Z,51nm,1.2s
STIP Stip 21.20 65 *i* P **P 16 32 22.0 +2.2**
MORC Moravsky Berou 21.23 40 ⇓P **P 16 32 23.3 +3.1**
MORC Moravsky Berou 21.23 40 P **P 16 32 19.6 -0.6**
MORC Moravsky Berou 21.23 40 *e*P **P 16 32 19.4 -0.8**
KSP Ksiaz 21.25 37 *e*P **P 16 32 20.5 +0.2**
VYHS Vyhne 21.25 45 *e*P **P 16 32 20.9 +0.5**
OKC Ostrava-Krasne 21.59 41 AMS AMS 16 42 10.0
comp=Z,900nm,10.1s
LANS Liptovska Anna 21.95 44 *e*P **P 16 32 28.3 +0.4**
SIRR Siria 22.02 52 ⇑P **P 16 32 34.1 +5.4**
HERR Herculane 22.08 56 ⇓P **P 16 32 32.8 +3.6**
VTS Vitosha 22.12 62 ⇑P **P 16 32 34.4 +4.5**
VTS Vitosha 22.12 62 P **P 16 32 29.7 -0.2**
VTS IAmb IAmb 16 32 46.3
comp=Z,39nm,1.5s
KECS Kecovo 22.21 46 *e*P **P 16 32 31.8 +1.1**
TOA0 Torodi Ar. Sit 22.53 166 P **P 16 32 33.3 -0.9**
TOA0 IAmb IAmb 16 32 47.8
comp=Z,22nm,0.8s
TORD Torodi Ar. Bea 22.53 166 P **P 16 32 33.1 -1.2**
comp=Z,12nm,1.0s,baz=351,slow=9.2,SNR=42
NIE Niedzica 22.55 44 *e*P **P 16 32 39.0 +4.6**
OJC Ojcow 22.69 42 *e*P **P 16 32 28.8 -7.0**
CRVS Cervenica-Dubn 22.98 46 *e*P **P 16 32 39.2 +0.4**
LOT Lotru 23.16 56 ⇑P **P 16 32 43.5 +2.7**
IDI Anoyia 23.28 82 P **P 16 32 43.3 +1.2**
IDI LR LR 16 44 08.8
comp=Z,8.0nm,0.8s,baz=287,slow=23,SNR=2.1
comp=Z,135nm,20.1s,baz=266,slow=43
ARR Arges 23.72 56 ⇑P **P 16 32 48.8 +2.5**
VOIR 24.02 56 ⇑P **P 16 32 53.7 +4.6**
KWP Kalwaria Pacla 24.04 45 P **P 16 32 50.4 +1.3**
DOPR Dopca 24.39 55 ⇑P **P 16 32 57.9 +5.4**
MLR Muntele Rosu 24.65 56 ⇑P **P 16 32 59.5 +4.6**
MLR Muntele Rosu 24.65 56 P **P 16 32 55.1 +0.2**
comp=Z,3.7nm,1.1s,baz=267,slow=14,SNR=1.9
MLR LR LR 16 42 54.1
comp=Z,310nm,18.6s,baz=256,slow=37
MLR Muntele Rosu 24.65 56 P **P 16 32 54.9 0.0**
MLR IAmb IAmb 16 33 17.4
comp=Z,27nm,1.4s
OZUR 24.69 55 ⇑P **P 16 32 58.2 +3.0**
BUR08 Bucovina Ar. S 24.78 51 P **P 16 32 55.9 -0.1**
BUR08 IAmb IAmb 16 33 15.7
comp=Z,16nm,1.2s
BURAR Bucovina Array 24.78 51 ⇑P **P 16 32 56.4 +0.4**
BURAR Bucovina Array 24.78 51 P **P 16 32 55.2 -0.8**
COVR Voineasa-Covas 24.91 56 ⇑P **P 16 32 58.9 +1.8**
VRI Vrincioaia 25.27 56 ⇑P **P 16 33 04.1 +3.7**
SUW Suwalki 26.52 37 *e*P **P 16 33 08.8 -2.7**
SUW Suwalki 26.52 37 P **P 16 33 11.5 0.0**
SUW IAmb IAmb 16 33 22.8
comp=Z,33nm,1.0s
HFS Hagfors 27.33 19 P **P 16 33 18.6 -0.2**
comp=Z,0.8nm,0.7s,baz=186,slow=40,SNR=1.5
HFS LR LR 16 44 37.7
comp=Z,448nm,19.2s,baz=206,slow=37
NOA NORSAR Array B 27.52 16 P **P 16 33 20.8 +0.2**
comp=Z,0.3nm,0.6s,baz=208,slow=8.6,SNR=3.7
NOA LR LR 16 46 10.7
comp=Z,550nm,18.6s,baz=200,slow=41
AKASG Malin Array Be 28.30 47 P **P 16 33 24.5 -3.2**
comp=Z,0.2nm,0.3s,baz=248,slow=9.9,SNR=2.4
AKASG LR LR 16 45 23.4
comp=Z,173nm,18.3s,baz=267,slow=38
DBIC Dimbokro 28.46 182 P **P 16 33 28.0 -1.3**
comp=Z,7.0nm,0.9s,baz=11,slow=10,SNR=6.0
DBIC Dimbokro 28.46 182 P **P 16 33 27.4 -1.8**
DBIC IAmb IAmb 16 33 49.4
comp=Z,17nm,1.1s
TIC Toumodi 28.49 183 *e*P **P 16 33 28.9 -0.7**
KIC Kosan Boka 28.76 182 *e*P **P 16 33 31.3 -0.7**
comp=Z,22nm,1.1s
LIC Lamto 28.91 183 *e*P **P 16 33 32.5 -0.8**
comp=Z,58nm,1.1s
MNK Minsk 29.13 39 *i* P **P 16 33 34.4 -0.6**
comp=E,1.0nm,0.8s
MNK *i* P **P 16 33 34.4 -0.6**
comp=N,8.0nm,0.8s
MNK *i* P **P 16 33 34.4 -0.6**
comp=Z,3.0nm,0.8s,baz=242
MNK *i* PP **PnPn 16 34 26.9 -0.7**
MNK *i* S **S 16 38 27.6 +2.2**
MNK *i* SS **SnSn 16 39 53.5 +3.1**
MNK *i* LQ LQ 16 42 59.7
MNK *i* LR LR 16 45 13.0
MNK *i* LRM MLR 16 45 47.7
comp=Z,168nm,15.0s
MNK *i* LRM MLR 16 46 13.8
comp=N,319nm,15.6s
MNK *i* LRM MLR 16 46 16.2
comp=E,16nm,15.6s
BRTR Keskin Array B 29.79 70 LR LR 16 45 57.9
comp=E,75nm,18.2s,baz=247,slow=37

FINES FINESS Array B 32.30 26 P **P 16 34 01.1 -1.7**
comp=E,2.9nm,1.0s,baz=259,slow=0.7,SNR=1.8
FINES LR LR 16 45 52.7
comp=E,237nm,21.3s,baz=230,slow=34
EIL Elat 32.91 89 LR LR 16 49 30.7
comp=E,171nm,19.6s,baz=286,slow=40
OBN Obninsk 33.98 42 LR LR 16 49 06.8
comp=E,59nm,19.1s,baz=237,slow=38
JMIC Jan Mayen 35.90 357 LR LR 16 49 11.5
comp=E,130nm,18.7s,baz=172,slow=36
KBZ Khabaz 36.52 62 LR LR 16 51 55.3
comp=E,102nm,18.8s,baz=253,slow=40
KLMR Klimovskoe 37.52 33 *e*P **P 16 34 47.3 -0.5**
KLMR AMP 16 34 49.7
comp=Z,22nm,1.5s
ARCES ARCESS Array B 37.90 16 P **P 16 34 51.5 +0.6**
comp=Z,13nm,1.2s,baz=221,slow=6.8,SNR=1.7
BELG Belogornoye 39.85 48 P **P 16 35 06.7 -0.8**
comp=Z,4.1nm,0.6s,baz=60,slow=19,SNR=1.9
KIRV Kirov 41.68 39 P **P 16 35 22.1 -0.3**
comp=Z,4.4nm,0.7s,baz=295,slow=12,SNR=1.8
DAG Danmarks Havn 42.17 355 *i* P **P 16 35 26.0 -0.3**
AKTO Aktyubinsk 46.37 51 P **P 16 35 59.8 -0.4**
comp=Z,1.3nm,0.8s,baz=80,slow=22,SNR=4.6
ARU Arti 46.40 43 P **P 16 36 00.1 -0.3**
comp=Z,2.6nm,0.7s,baz=259,slow=5.9,SNR=10
ARU Arti 46.40 43 P **P 16 36 00.2 -0.2**
SCHQ Schefferville 46.98 315 P **P 16 36 03.6 -1.3**
comp=Z,1.1nm,0.6s,baz=73,slow=15,SNR=1.7
SCHQ Schefferville 46.98 315 P **P 16 36 04.4 -0.5**
SCHQ IAmb IAmb 16 36 05.5
comp=Z,11nm,1.5s
ABKAR Akbulak array 47.75 52 P **P 16 36 12.1 +1.1**
ABKAR IAmb IAmb 16 36 34.3
comp=Z,5.0nm,1.1s
MBAR Mbarara 47.98 130 LR LR 16 56 24.1
comp=Z,140nm,18.0s,baz=316,slow=36
LODK Lodwar 48.02 122 P **P 16 36 14.1 +0.5**
LODK IAmb IAmb 16 36 32.3
comp=Z,5.6nm,1.2s
ATD Arta Tunnel 48.23 108 LR LR 16 59 48.3
comp=Z,161nm,21.2s,baz=335,slow=40
D62A Allapoint, All 49.28 305 P **P 16 36 24.4 +1.5**
D62A IAmb IAmb 16 36 52.0
comp=Z,18nm,1.1s
RCBR Riachuelo 50.89 223 LR LR 16 56 18.5
comp=Z,318nm,18.5s,baz=178,slow=34
KMBO Kilima Mbogo 52.61 124 P **P 16 36 48.5 -0.1**
comp=Z,1.1nm,0.7s,baz=270,slow=14,SNR=1.7
KMBO Kilima Mbogo 52.61 124 P **P 16 36 49.0 +0.5**
BRVK Borovoye 53.51 46 P **P 16 36 55.1 +0.7**
BRVK IAmb IAmb 16 37 03.9
comp=Z,8.9nm,1.1s
BVAR Borovoye Array 53.58 46 P **P 16 36 55.1 +0.1**
comp=Z,1.1nm,0.8s,baz=279,slow=9.6,SNR=5.3
MDP Montagnes des 54.13 248 LR LR 16 56 36.5
comp=Z,255nm,19.7s,baz=78,slow=32
WSAR Wadi Sarin 54.87 85 LR LR 17 05 11.0
comp=Z,45nm,18.9s,baz=26,slow=41
KKAR Karatay Array 56.31 58 P **P 16 37 15.8 +0.9**
SADO Sadowa 56.67 304 LR LR 17 00 01.9
comp=Z,222nm,20.2s,baz=12,slow=34
RES Resolute Bay 56.69 341 LR LR 17 01 59.3
comp=Z,96nm,18.4s,baz=36,slow=36
CHGR Chuyangaron 56.86 63 P **P 16 37 20.6 +1.7**
CHGR IAmb IAmb 16 37 28.6
comp=Z,16nm,1.2s
SJG San Juan 57.51 270 LR LR 16 56 58.2
comp=Z,71nm,21.5s,baz=89,slow=31
GAR Garm 57.58 63 P **P 16 37 24.7 +0.6**
TSUM Tsumeb 57.78 156 LR LR 17 03 15.9
comp=Z,135nm,20.1s,baz=338,slow=37
KURK Kurchatov 59.12 47 P **P 16 37 35.5 +1.0**
KURK IAmb IAmb 16 37 43.3
comp=Z,12nm,0.9s
AAK Ala-Archa 59.23 57 P **P 16 37 37.3 +1.8**
AAK IAmb IAmb 16 37 42.6
comp=Z,6.0nm,1.3s
T57A Hurt 59.52 296 P **P 16 37 37.8 +0.4**
T57A IAmb IAmb 16 38 06.9
comp=Z,16nm,1.2s
FCC Fort Churchill 60.85 323 P **P 16 37 45.9 -0.2**
FCC IAmb IAmb 16 37 54.4
comp=Z,5.9nm,1.0s
KSH Kashi 61.45 60 P **P 16 37 50.3 -0.4**
KSH pP pP 16 37 53.9 -4.2
KSH pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 61.56 42 P **P 16 37 49.6 -1.5**
ZAA0 IAmb IAmb 16 37 59.8
comp=Z,5.9nm,0.8s
ZALV Zalesovo Beam 61.56 42 P **P 16 37 50.5 -0.6**
comp=Z,1.3nm,0.7s,baz=276,slow=7.3,SNR=3.9
ZALV Zalesovo Beam 61.56 42 P **P 16 37 49.3 -1.8**
MAKZ Makanchi 62.60 50 P **P 16 37 59.2 +1.0**
MAKZ IAmb IAmb 16 38 07.1
comp=Z,3.3nm,0.9s
MK31 Makanchi Array 62.80 50 P **P 16 38 00.5 +0.9**
MKAR Makanchi Array 62.80 50 P **P 16 37 59.3 -0.3**
comp=Z,2.5nm,1.0s,baz=286,slow=5.5,SNR=10
MKAR Makanchi Array 62.80 50 P **P 16 37 59.7 +0.1**
MATP Matopo 63.22 146 LR LR 17 04 15.8
comp=Z,136nm,19.4s,baz=336,slow=35
W50A Signal Mountai 64.72 296 P **P 16 38 12.7 +0.2**
W50A IAmb IAmb 16 38 14.3
comp=Z,14nm,1.4s
ULM Lac du Bonnet 65.15 315 P **P 16 38 12.7 -2.2**
comp=Z,2.1nm,0.7s,baz=68,slow=14,SNR=2.1
BDFB Brasilia 65.80 228 LR LR 17 06 11.8
comp=Z,92nm,18.6s,baz=284,slow=35
LBTB Lobatse 66.03 151 LR LR 17 06 48.9
comp=Z,204nm,18.4s,baz=330,slow=36
SDV Santo Domingo 66.14 264 LR LR 17 03 42.8
comp=Z,64nm,19.6s,baz=357,slow=33
SDV Santo Domingo 66.14 264 P **P 16 38 20.7 -1.3**
SDV IAmb IAmb 16 38 23.6
comp=Z,12nm,1.2s
PLAL Pickwick Lake 66.84 297 P **P 16 38 24.7 -1.3**
PLAL IAmb IAmb 16 38 37.5
comp=Z,7.0nm,0.8s
WMQ Urumqi 67.52 52 *e*P **P 16 38 34.6 +4.3**
WMQ sP sP 16 38 42.3 +1.7
WMQ pmax pmax
comp=Z,13nm,0.9s
YKA Yellowknife Ar 68.10 332 P **P 16 38 31.9 -1.6**
comp=Z,0.9nm,0.6s,baz=59,slow=6.3,SNR=7.6
YKA Yellowknife Ar 68.10 332 P **P 16 38 36.9 +3.3**
TIXI Tiksi 68.31 15 LR LR 17 14 10.5
comp=Z,175nm,18.5s,baz=356,slow=41
ECSD EROS Data Cent 68.58 309 P **P 16 38 35.6 -1.3**
ECSD IAmb IAmb 16 38 54.7
comp=Z,2.5nm,0.8s
BOSA Boshof 69.13 153 P **P 16 38 38.1 -2.4**
comp=Z,7.1nm,1.1s,baz=8.4,slow=6.1,SNR=4.2
BOSA LR LR 17 08 57.3
comp=Z,114nm,18.5s,baz=351,slow=36
BOSA Boshof 69.13 153 P **P 16 38 40.7 +0.3**
SJCC San Jacinto, C 69.28 268 P **P 16 38 42.1 +0.4**
S39A Bolivar 69.29 302 P **P 16 38 40.8 -0.6**
INK Inuvik 70.23 342 LR LR 17 10 07.6
comp=Z,61nm,19.1s,baz=34,slow=36
ZARC Zaragoza, Cauc 70.36 265 P **P 16 38 48.6 +0.2**
ZARC IAmb IAmb 16 38 57.7
comp=Z,10nm,1.2s
HHAR Hobbs 70.41 301 P **P 16 38 46.9 -1.5**
HHAR IAmb IAmb 16 38 48.2
comp=Z,13nm,1.3s
BGNE Belgrade 70.71 307 P **P 16 38 49.5 -0.6**
KSU1 Kansas State U 70.85 305 P **P 16 38 49.2 -1.7**
SUR Sutherland 71.08 158 LR LR 17 13 34.8
comp=Z,120nm,19.1s,baz=338,slow=39
T35A Sooner Cattle 71.88 303 P **P 16 38 56.9 -0.4**
R32A Long Quarter, 72.60 305 P **P 16 39 01.6 0.0**
Z38A Mt. Pleasant 72.68 299 P **P 16 39 01.5 -0.5**
U32A Winter Ranch, 73.87 303 P **P 16 39 09.1 0.0**
Z35A Perchaven, San 74.26 300 P **P 16 39 10.8 -0.5**
SIV San Ignacio 74.53 237 LR LR 17 10 17.1
comp=Z,102nm,18.4s,baz=90,slow=34
YAK Yakutsk 76.01 21 LR LR 17 17 58.3
comp=Z,147nm,18.6s,baz=283,slow=40
GOMU GeErMu 76.10 56 P P 16 39 27.0 +4.6
GOMU pP sP 16 39 31.3 -1.4
GOMU sP PcP 16 39 33.8 -0.8
GOMU pmax pmax
comp=Z,100nm,5.4s
ILAR Eielson Array 76.23 345 P **P 16 39 23.3 +1.2**

comp=Z,0.2nm,0.7s,baz=7.4,slow=5.7,SNR=2.5
SONM Songino Array 76.39 41 P **P** **16 39 23.0 -0.5**
SONM LR LR 17 13 51.2
comp=Z,1.9nm,1.0s,baz=310,slow=5.4,SNR=3.3
SONM Songino Array 76.39 41 P **P** **16 39 22.9 -0.6**
SONM IAmb IAmb 16 39 27.8
comp=Z,6.5nm,1.4s
JTS Las Juntas de 77.06 274 LR LR 17 06 13.9
comp=Z,48nm,20.0s,baz=358,slow=30
BW06 Boulder Array 77.08 313 P **P** **16 39 25.1 -2.6**
BW06 IAmb IAmb 16 39 36.9
comp=Z,5.5nm,1.2s
PD31 Pinedale Array 77.08 313 P **P** **16 39 24.9 -2.7**
PD31 IAmb IAmb 16 39 36.9
comp=Z,5.4nm,1.2s
PDAR Pinedale Array 77.08 313 P **P** **16 39 26.1 -1.6**
comp=Z,0.7nm,0.7s,baz=54,slow=7.7,SNR=5.5
PDAR Pinedale Array 77.08 313 P **P** **16 39 26.2 -1.4**
GTA Gaotai 77.56 50 *e*P **P** **16 39 33.9 +3.7**
GTA pP PcP 16 39 40.8 +0.3
GTA sP sP 16 39 44.9 +4.4
GTA pmax pmax
comp=Z,2.0nm,1.1s
RDMU Red Mountain 78.39 312 P **P** **16 39 34.1 -0.8**
RDMU IAmb IAmb 16 39 45.5
comp=Z,6.6nm,0.7s
HLID Hailey 79.42 316 P **P** **16 39 40.5 0.0**
CPUP Villa Florida 79.53 227 P **P** **16 39 39.8 -1.1**
comp=Z,1.6nm,0.5s,baz=58,slow=5.9,SNR=4.1
CPUP LR LR 17 15 15.8
comp=Z,167nm,18.3s,baz=81,slow=36
CPUP Villa Florida 79.53 227 P **P** **16 39 40.4 -0.5**
CPUP IAmb IAmb 16 39 41.5
comp=Z,11nm,1.2s
LPAZ La Paz 79.71 242 P **P** **16 39 41.7 -1.2**
comp=Z,0.8nm,0.7s,baz=42,slow=7.8,SNR=2.2
LPAZ LR LR 17 12 15.1
comp=Z,35nm,21.9s,baz=53,slow=34
LPAZ La Paz 79.71 242 P **P** **16 39 43.2 +0.4**
ANMO Albuquerque 79.71 305 LR LR 17 14 53.6
comp=Z,82nm,19.5s,baz=49,slow=36
SRU San Rafael Swe 79.85 311 P **P** **16 39 42.3 -0.7**
SRU IAmb IAmb 16 39 52.5
comp=Z,4.2nm,0.8s
BBB Bella Bella 80.35 329 LR LR 17 12 16.2
comp=Z,70nm,19.3s,baz=81,slow=33
TXAR Lajitas Array 81.03 299 P **P** **16 39 49.2 -0.1**
comp=Z,0.3nm,0.7s,baz=66,slow=5.7,SNR=3.5
TXAR Lajitas Array 81.03 299 P **P** **16 39 49.5 +0.2**
PALK Pallekele 81.26 87 LR LR 17 16 57.6
comp=Z,38nm,21.8s,baz=38,slow=36
MTPU Mount Pierson 81.53 311 P **P** **16 39 51.3 -0.9**
MTPU IAmb IAmb 16 40 06.3
comp=Z,3.8nm,0.9s
LZH Lanzhou 82.10 51 *e*P **P** **16 39 50.6 -4.4**
LZH sP PcP 16 39 57.6 -2.8
MA2 Magadan 83.18 13 LR LR 17 22 21.8
comp=Z,70nm,18.2s,baz=98,slow=40
R11A Troy Canyon, C 83.42 313 P **P** **16 40 00.8 -1.0**
R11A IAmb IAmb 16 40 02.7
comp=Z,5.7nm,1.4s
HHC Hu-ho-hao-te 83.70 44 *e*P **P** **16 40 02.4 -0.7**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
319A Douglas 83.73 304 P **P** **16 40 04.0 +0.5**
TUC Tucson 84.17 306 P **P** **16 40 05.5 -0.1**
TUC IAmb IAmb 16 40 17.1
comp=Z,4.7nm,0.9s
LVC Limon Verde 84.43 237 LR LR 17 18 46.7
comp=Z,55nm,18.1s,baz=310,slow=36
Y14A Wickenburg 84.61 308 P **P** **16 40 07.9 +0.1**
Y14A IAmb IAmb 16 40 18.7
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 84.98 314 P **P** **16 40 09.5 -0.3**
comp=Z,0.2nm,0.7s,baz=57,slow=3.3,SNR=1.1
PZH PanZhiHua 86.55 60 P **P** **16 40 21.4 +3.7**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,120nm,6.3s
PFO Pinyon Flats O 87.03 310 LR LR 17 19 20.7
comp=Z,62nm,18.4s,baz=47,slow=36
KLR Kulʾdur 87.04 27 LR LR 17 22 49.5
comp=Z,54nm,20.6s,baz=14,slow=38
LPIG La Paz 88.91 299 LR LR 17 20 02.9
comp=Z,80nm,18.9s,baz=21,slow=36
CMAR Chiang Mai Arr 89.36 68 P **P** **16 40 30.9 -0.1**
comp=Z,0.2nm,0.4s,baz=326,slow=4.7,SNR=1.9
PETK Petropavlovsk- 90.33 11 LR LR 17 26 56.2
comp=Z,74nm,18.8s,baz=84,slow=39
NJ2 Nanjing 94.03 46 *e*P **P** **16 40 51.1 -1.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ASAJ Asahikawa 95.26 24 LR LR 17 28 53.9
comp=Z,65nm,18.3s,baz=253,slow=39
PLCA Paso Flores 97.43 225 LR LR 17 24 53.1
comp=Z,115nm,19.3s,baz=65,slow=35
WRA Warramunga Arr 140.09 79 PKP **PKPdf** **16 47 00.8 -2.2**
comp=Z,0.3nm,0.8s,baz=319,slow=2.2,SNR=1.0
WRA Warramunga Arr 140.09 79 PKP **PKPdf** **16 47 02.4 -0.6**
ASAR Alice Springs 141.56 84 PKP **PKPdf** **16 47 03.8 -1.8**
comp=Z,0.3nm,0.7s,baz=296,slow=2.7,SNR=5.6
ASAR Alice Springs 141.56 84 PKPpre 16 47 00.6
STKA Stephens Creek 150.94 93 PKPbc **PKPbc** **16 47 26.1 -0.8**
comp=Z,6.2nm,1.0s,baz=358,slow=5.0,SNR=9.3
STKA Stephens Creek 150.94 93 **PKPbc** **16 47 26.5 -0.4**

*CNRM **16** 16:31:39.9,35.˚36N×3.˚64W, h20km, ml2.5*
*MDD **16** 16:31:41.2±0.6,35.˚37N×3.˚67W, h23km±6km, mb_Lg2.4/4, Error ellipse: s-maj=11.8km s-min=4.2km az=166.0*
ISC 16 16:31:40.0±1.2**,35.˚32N**±0.˚03×**3.˚64W**±0.˚03**, h19**km±3km**, n14,**σ0**s78/23, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.27**	**247**	P	**Pg**	**16 31 45.9**	**-0.2**
PALE				S	**Sg**	**16 31 50.2**	**-0.1**
GOG	**Mont Gurugu**	**0.53**	**100**	P	**Pg**	**16 31 50.8**	**0.0**
GOG				S	**Sb**	**16 31 58.9**	**+0.8**
EMEL	**Melilla**	**0.56**	**92**	Pg	**Pb**	**16 31 51.8**	**+0.7**
EMEL				Sg	**Sn**	**16 32 01.1**	**-0.7**
EALB	**Alboran**	**0.79**	**38**	Pg	**Pb**	**16 31 55.0**	**-0.2**
EALB				Sg	**Sg**	**16 32 06.1**	**0.0**
EALB				*i* Vmb_Lg		16 32 09.1	
AKLM	**AKL**	**0.83**	**193**	P	**Pb**	**16 31 55.5**	**-0.4**
TAF	**Taforalt**	**1.12**	**116**	P	**Pn**	**16 32 01.0**	**+0.1**
JBK	**JBK**	**1.32**	**138**	P	**Pn**	**16 32 03.0**	**-0.7**
JBK				S	**Sn**	**16 32 19.8**	**-1.0**
CHEFC	**Chefchaouen**	**1.41**	**262**	P	**Pb**	**16 32 05.8**	**-0.1**
ELGU	**Los Guajares,**	**1.54**	**0**	Pg	**Pb**	**16 32 08.1**	**0.0**
ELGU				Sg	**Sn**	**16 32 26.2**	**-0.1**
ELGU				*i* Vmb_Lg		16 32 31.3	
EMIJ	**Mijas**	**1.55**	**324**	Pg	**Pb**	**16 32 08.4**	**+0.3**
EMIJ				Sg	**Sn**	**16 32 26.6**	**+0.3**
EMIJ				*i* Vmb_Lg		16 32 32.9	
EBER	**Berja**	**1.69**	**21**	Pg	**Pb**	**16 32 10.5**	**-0.1**
EBER				Sg	**Sb**	**16 32 31.3**	**-0.2**
EBER				*i* Vmb_Lg		16 32 34.0	
LCRM	**LCR**	**1.92**	**212**	P	**Pb**	**16 32 14.8**	**+0.2**
MD31	**MD31**	**2.62**	**201**	P	**Pn**	**16 32 23.0**	**+1.6**
PVAQ	**Vaqueiros**	**3.89**	**303**	P	**Pn**	**16 32 39.6**	**+0.7**
PVAQ				S	**Sn**	**16 33 21.9**	**-2.2**

*IDC **16** 16:39:19.5±1.1,35.˚65N×3.˚71W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.3/49, mbtmp3.4/6, ML3.6/3, Error ellipse: s-maj=36.9km s-min=13.6km az=96.0*
*MDD **16** 16:39:21.3±0.4,35.˚67N×3.˚57W, h4km±2km, mb_Lg3.0/16, Error ellipse: s-maj=2.5km s-min=1.9km az=168.0*
*IGIL **16** 16:39:21.7,35.˚58N×3.˚56W, h11km, ML3.2*
*SFS **16** 16:39:22.0,35.˚58N×3.˚55W, h22km, ML3.2, ALBORAN SUR*
*CNRM **16** 16:39:22.6,35.˚67N×3.˚49W, h25km, ml3.4*
*LDG **16** 16:39:22.7±0.2,35.˚62N×3.˚52W, h10km, Ml2.5/1, Error ellipse: s-maj=4.4km s-min=2.9km az=168.0*
ISC 16 16:39:21.6±1.0**,35.˚68N**±0.˚02×**3.˚58W**±0.˚02**, h17**km±8km**, n66,**σ1s47/102**, mb3.7/3, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.51**	**59**	Pg	**Pg**	**16 39 32.0**	**+0.1**
EALB				Sg	**Sb**	**16 39 39.9**	**+0.6**
EMEL	**Melilla**	**0.63**	**126**	Pg	**Pg**	**16 39 33.7**	**-0.4**
EMEL				Sg	**Sg**	**16 39 42.1**	**-0.4**
GOG	**Mont Gurugu**	**0.66**	**134**	P	**Pb**	**16 39 35.0**	**+0.3**
GOG				S	**Sg**	**16 39 42.6**	**-0.8**
PVLZ	**Peæn de**	**0.78**	**230**	P	**Pb**	**16 39 36.9**	**+0.3**
PVLZ				S	**Sb**	**16 39 47.4**	**+0.5**
ELGU	**Los Guajares,**	**1.19**	**358**	Pg	**Pn**	**16 39 42.3**	**-1.3**
ELGU				Sg	**Sg**	**16 40 00.5**	**+0.3**
EMAL	**Malaga-Limoner**	**1.28**	**328**	P	**Pn**	**16 39 43.6**	**-1.2**
EMAL				S	**Sb**	**16 39 59.3**	**-2.2**
TAF	**Taforalt**	**1.28**	**132**	P	**Pn**	**16 39 44.6**	**-0.3**
EMIJ	**Mijas**	**1.31**	**313**	Pg	**Pn**	**16 39 43.8**	**-1.4**
EMIJ				Sg	**Sn**	**16 40 00.6**	**-1.7**
EBER	**Berja**	**1.34**	**24**	Pn	**Pn**	**16 39 44.6**	**-1.2**
EBER				Sn	**Sn**	**16 40 02.8**	**-0.4**
CEU	**Ceuta**	**1.48**	**279**	P	**Pn**	**16 39 45.8**	**-1.6**
CEU				S	**Sn**	**16 40 03.2**	**-3.1**
EGOR	**Sierra Gorda,**	**1.49**	**343**	Pn	**Pn**	**16 39 48.0**	**+0.2**
EGOR				Sn	**Sg**	**16 40 09.6**	**-0.3**
EQUE	**Quentar**	**1.53**	**4**	Pn	**Pn**	**16 39 48.3**	**0.0**
EQUE				Sn	**Sb**	**16 40 09.5**	**+0.8**
CHEFC	**Chefchaouen**	**1.55**	**249**	P	**Pn**	**16 39 49.5**	**+1.0**
JBK	**JBK**	**1.58**	**148**	P	**Pn**	**16 39 48.5**	**-0.5**
JBK				S	**Sn**	**16 40 07.3**	**-1.8**
ENIJ	**Nijar**	**1.70**	**40**	Pn	**Pn**	**16 39 49.0**	**-1.6**
ENIJ				Sn	**Sn**	**16 40 13.0**	**+1.1**
EJIF	**Jimena Fronter**	**1.71**	**297**	Pn	**Pn**	**16 39 51.3**	**+0.6**
EJIF				Sn	**Sb**	**16 40 13.6**	**-0.3**
SICH	**Sidi Chahed**	**2.12**	**223**	P	**Pb**	**16 39 59.4**	**-0.3**
EQES	**Quesada**	**2.16**	**11**	Pn	**Pn**	**16 39 58.8**	**+1.9**
EQES				Sn	**Sn**	**16 40 22.4**	**-1.0**
ESPR	**Espera**	**2.19**	**304**	Pn	**Pn**	**16 39 58.8**	**+1.5**
ESPR				Sn	**Sn**	**16 40 24.1**	**+0.1**
ESPR				*i* Vmb_Lg		16 40 32.6	
LCRM	**LCR**	**2.25**	**208**	P	**Pn**	**16 39 59.4**	**+1.2**
IFR	**Ifrane**	**2.51**	**211**	P	**Pn**	**16 40 02.3**	**+0.5**
IFR				S	**Sn**	**16 40 32.4**	**+0.4**
EADA	**Adamuz**	**2.61**	**342**	Pn	**Pn**	**16 40 03.6**	**+0.5**
EADA				Sn	**Sn**	**16 40 34.4**	**0.0**
EADA				*i* Vmb_Lg		16 40 42.0	
EZAR	**Zarzadilla de**	**2.66**	**34**	Pn	**Pn**	**16 40 03.3**	**-0.5**
EZAR				Sn	**Sn**	**16 40 33.9**	**-1.9**
ECAB	**El Cabril**	**2.81**	**329**	Pn	**Pn**	**16 40 06.5**	**+0.6**
ECAB				Sn	**Sn**	**16 40 39.2**	**-0.1**
ECAB				*i* Vmb_Lg		16 40 50.5	
CART	**Cartagena**	**2.81**	**47**	P	**Pn**	**16 40 05.8**	**-0.1**
CZD	**Col de Zad**	**2.90**	**205**	P	**Pn**	**16 40 08.8**	**+1.4**
TDRA	**Tendrara**	**2.93**	**154**	P	**Pn**	**16 40 08.6**	**+1.0**
MD31	**MD31**	**2.97**	**200**	P	**Pn**	**16 40 09.7**	**+1.6**
MDT	**Midelt**	**2.98**	**197**	Pn	**Pn**	**16 40 07.9**	**-0.3**
	1.2nm,0.3s,baz=163,slow=8.4,SNR=7.7						
MDT				Pg	**Pg**	**16 40 17.1**	**-1.6**
	2.9nm,0.3s,baz=124,slow=20,SNR=11						
MDT				Lg	Lg	16 40 51.6	
	6.1nm,0.3s,baz=47,slow=7.8,SNR=5.3						
MDT	**Midelt**	**2.98**	**197**	P	**Pn**	**16 40 09.5**	**+1.3**
EMIN	**Mina Concepcio**	**3.24**	**311**	Pn	**Pn**	**16 40 11.4**	**-0.3**
EMIN				Sn	**Sn**	**16 40 44.4**	**-0.5**
EMIN				*i* Vmb_Lg		16 40 51.4	
ZHG	**ZHG**	**3.37**	**230**	P	**Pn**	**16 40 14.6**	**+1.1**
ETOB	**Tobarra**	**3.38**	**28**	Pn	**Pn**	**16 40 14.4**	**+0.8**
ETOB				*i* Vmb_Lg		16 40 16.6	
ETOB				Sn	**Sn**	**16 40 52.4**	**-1.0**
EGRO	**El Granado**	**3.65**	**302**	Pn	**Pn**	**16 40 17.7**	**+0.4**
EGRO				Sn	**Sn**	**16 40 59.2**	**-0.7**
EGRO				*i* Vmb_Lg		16 41 00.6	
PVAQ	**Vaqueiros**	**3.75**	**299**	P	**Pn**	**16 40 19.5**	**+0.8**
PAB	**San Pablo**	**3.91**	**351**	P	**Pn**	**16 40 22.4**	**+1.5**
PAB	**San Pablo**	**3.91**	**351**	Pn	**Pn**	**16 40 21.9**	**+0.9**
PAB				Sn	**Sn**	**16 41 07.3**	**+0.8**
PAB				*i* Vmb_Lg		16 41 26.8	
ESDC	**Sonseca Array**	**4.00**	**356**	Pn	**Pn**	**16 40 23.7**	**+1.5**
	1.3nm,0.3s,baz=176,slow=12,SNR=38						
ESDC				Lg	Lg	16 41 25.8	
	1.5nm,0.3s,baz=180,slow=25,SNR=4.3						
ESDC	**Sonseca Array**	**4.00**	**356**	Pn	**Pn**	**16 40 23.7**	**+1.5**
ESDC				Sn	**Sn**	**16 41 10.8**	**+2.0**
ESDC				*i* Vmb_Lg		16 41 43.5	
EBEN2	**Beniarda presa**	**4.03**	**41**	Pn	**Pn**	**16 40 22.9**	**+0.3**
EBEN2				Sn	**Sn**	**16 41 08.1**	**-1.4**
EBAD	**Badajoz**	**4.12**	**319**	Pn	**Pn**	**16 40 24.0**	**+0.2**
EBAD				Sn	**Sn**	**16 41 09.0**	**-2.5**
EBAD				*i* Vmb_Lg		16 41 14.0	
MORF	**Marmelete**	**4.40**	**293**	*e*P	**Pn**	**16 40 27.2**	**-0.4**
MORF				*e*S	**Sn**	**16 41 15.2**	**-3.3**
MORF				IAML		16 41 23.9	
	comp=E,40nm,0.5s						
ECHE	**Chera**	**4.42**	**27**	Pn	**Pn**	**16 40 28.8**	**+0.8**
ECHE				Sn	**Sn**	**16 41 17.1**	**-2.0**
ECHE				*i* Vmb_Lg		16 42 03.5	
PFVI	**Vila Bisbo**	**4.47**	**290**	P	**Pn**	**16 40 29.3**	**+0.6**
PESTR	**Estremoz**	**4.51**	**316**	P	**Pn**	**16 40 28.7**	**-0.5**
EVO	**Evora**	**4.55**	**310**	P	**Pn**	**16 40 30.1**	**+0.5**
EVO				S	**Sn**	**16 41 21.1**	**-1.0**
EPLA	**Plasencia**	**4.80**	**336**	Pn	**Pn**	**16 40 33.8**	**+0.5**
EPLA				Sn	**Sn**	**16 41 26.7**	**-1.8**
EPLA				*i* Vmb_Lg		16 41 55.3	
GUD	**Guadarrama**	**4.98**	**355**	Pn	**Pn**	**16 40 35.6**	**-0.1**
GUD				Sn	**Sn**	**16 41 29.8**	**-3.1**
ETOR	**Torete**	**5.27**	**13**	Pn	**Pn**	**16 40 40.8**	**+1.1**
ETOR				Sn	**Sn**	**16 41 37.2**	**-2.9**
EMOS	**Mosqueruela**	**5.28**	**27**	Pn	**Pn**	**16 40 40.5**	**+0.6**
EMOS				Sn	**Sn**	**16 41 36.4**	**-4.1**
EMOS				*i* Vmb_Lg		16 44 34.1	
ERTA	**Horta de San J**	**6.10**	**29**	Pn	**Pn**	**16 40 42.0**	**+1.0**
ERTA				Sn	**Sn**	**16 41 56.6**	**-3.8**
ERTA				*i* Vmb_Lg		16 42 18.6	
ELOB	**Lobios**	**7.10**	**332**	Pn	**Pn**	**16 41 05.1**	**+0.3**
ELOB				Sn	**Sn**	**16 42 22.1**	**-3.0**
ETSF	**Etsaut**	**7.58**	**17**	*e*Pn	**Pn**	**16 41 11.9**	**+0.5**
ETSF	**Etsaut**	**7.58**	**17**	*e*P	**Pn**	**16 41 14.7**	**+3.3**
SJPF	**Ste Jean**	**7.64**	**13**	*e*Pn	**Pn**	**16 41 13.3**	**+1.1**
SJPF				*e*Sn	**Sn**	**16 42 35.4**	**-3.0**
	comp=E,0.3nm,0.2s						
EPF	**Esparros**	**7.94**	**21**	*e*Pn	**Pn**	**16 41 16.5**	**+0.2**
EPF	**Esparros**	**7.94**	**21**	*e*P	Pn	16 41 21.3	+5.0
LFF	**La Frestale**	**9.82**	**18**	*e*P	Pn	16 41 47.3	+5.3
RJF	**Les Rejaudoux**	**10.37**	**20**	*e*Pn	**Pn**	**16 41 49.3**	**-0.2**
SMRF	**Simiane la Rot**	**10.87**	**38**	*e*P	**Pn**	**16 41 59.9**	**+3.5**
LMR	**La Mourre**	**10.91**	**42**	*e*Pn	**Pn**	**16 41 57.1**	**+0.2**
PGF	**Pioggiola**	**11.93**	**51**	*e*P	**Pn**	**16 42 13.8**	**+2.8**
EKA	**Eskdalemuir Ar**	**19.66**	**1**	P	**Pn**	**16 43 51.2**	**+0.3**
	baz=168,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**22.93**	**167**	P	**P**	**16 44 25.5**	**+0.5**
	comp=E,0.8nm,0.8s,baz=358,slow=10.0,SNR=2.5						
MKAR	**Makanchi Array**	**62.47**	**51**	P	**P**	**16 49 44.8**	**+0.8**
	comp=E,0.8nm,0.8s,baz=292,slow=6.4,SNR=8.8						
YKA	**Yellowknife Ar**	**67.75**	**332**	P	**P**	**16 50 18.3**	**+0.4**
	comp=E,0.3nm,0.6s,baz=58,slow=6.6,SNR=6.1						

*ISN **16** 16:51:22.0±0.5,35.˚39N×44.˚74E, h15km±999km, ML3.0*
*TEH **16** 16:51:27.0,35.˚43N×45.˚17E, h18km, ML3.2*
ISC 16 16:51:24.9±1.5**,35.˚34N**±0.˚05×**44.˚9E**±0.˚1**, h10**km**, n10,**σ0s91/11**, Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKRK	**Kirkuk**	**0.47**	**277**	*e*Pg	Pg	16 51 28.6	-5.5
IKRK				*e*Sg	Sg	16 51 33.8	-6.6
IKRK				AML	AML	16 51 35.0	
	comp=N,1μm,0.4s						
IKRK				AML	AML	16 51 40.4	
	comp=E,1μm,0.5s						
IDHR	**Dehrash**	**1.37**	**117**	*e*Pg	**Pn**	**16 51 50.3**	**+0.1**
IDHR				*e*		16 52 14.8	
	comp=Z,7μm,0.3s						
MAHB	**Mahabad**	**1.56**	**24**	*e*Pg	**Pb**	**16 51 53.5**	**-0.4**
MAHB				*e*		16 52 20.0	
	comp=Z,2μm,0.4s						
KCHF	**Cheshme Sefid,**	**2.05**	**121**	*e*Pn	**Pn**	**16 52 00.6**	**+1.1**
KCHF				*e*		16 52 38.8	
	comp=Z,2μm,0.3s						
KER	**Kermanshah**	**2.06**	**117**	*e*Pn	**Pn**	**16 52 00.9**	**+1.3**
KER				*e*Sg	**Sg**	**16 52 29.9**	**-1.1**
KER				*e*		16 52 32.5	
	comp=Z,3μm,0.6s						
BHD	**Baghdad**	**2.11**	**192**	*e*Pn	Pn	16 51 59.0	-1.2
BHD				*e*Sn	**Sn**	**16 52 26.0**	**-0.5**
IBDR	**Badra**	**2.38**	**159**	*e*Pn	**Pn**	**16 52 04.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**16 52 34.0**	**+0.9**
IAZR	**Azarshahr**	**2.49**	**20**	*e*Pn	**Pn**	**16 52 06.4**	**+0.8**
IBST	**Bostanabad**	**2.84**	**33**	*e*Pn	**Pn**	**16 52 11.4**	**+0.9**
ISRB	**Sarab**	**3.32**	**41**	*e*Pn	**Pn**	**16 52 16.8**	**-0.3**

*TAP **16** 16:54:26.5,24.˚85N×122.˚44E, h27km, ML2.6, C*
*JMA **16** 16:54:26.5±0.1,24.˚86N×122.˚46E, h40km±3km, M2.2*
ISC 16 16:54:24.6±1.1**,24.˚85N**±0.˚05×**122.˚54E**±0.˚03**, h14**km±10km**, n48,**σ0s47/60**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.52**	**288**	P	**Pb**	**16 54 35.5**	**-0.1**
	baz=291						
TWB1				*i* S	**Sg**	**16 54 42.2**	**+0.3**
	baz=291						
JYNG	**Yonagunijimaku**	**0.54**	**137**	P	**Pn**	**16 54 38.5**	**+0.6**
JYNG				S	**Sn**	**16 54 46.8**	**0.0**
EGS		**0.55**	**270**	*e*P	**Pb**	**16 54 36.8**	**+0.8**
	baz=266						
YOJ	**Yonaguni jima**	**0.58**	**132**	P	**Pn**	**16 54 39.0**	**+0.7**
YOJ				S	**Sn**	**16 54 47.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.58**	**132**	*i* P	**Pn**	**16 54 39.1**	**+0.7**
	baz=117						
YOJ				*i* S	**Sn**	**16 54 47.8**	**+0.2**
	baz=117						
NTC	**Toucheng**	**0.65**	**270**	*e*P	**Pb**	**16 54 37.8**	**+0.2**
	baz=281						
SXI1	**Grass Mountain**	**0.65**	**292**	*e*P	**Pb**	**16 54 38.3**	**+0.5**
	baz=295						
SXI1				*e*S	**Sg**	**16 54 46.2**	**+0.3**
	baz=295						
TIPB	**Shuangxi**	**0.66**	**281**	*e*P	**Pb**	**16 54 37.9**	**0.0**
	baz=292						
TIPB				*e*S	**Sg**	**16 54 45.6**	**-0.6**
	baz=292						
TWC	**Suao**	**0.67**	**249**	*e*P	**Pg**	**16 54 37.5**	**-0.2**
	baz=246						
TWC				*e*S	**Sg**	**16 54 47.0**	**+0.5**
	baz=246						
NWF	**Wu-fen Shan**	**0.72**	**288**	P	**Pb**	**16 54 39.5**	**+0.6**
	baz=291						
NWF				*e*S	**Sg**	**16 54 48.0**	**-0.2**
	baz=291						
WFSB	**Wu-fen Shan**	**0.72**	**288**	*e*P	**Pb**	**16 54 39.5**	**+0.6**
	baz=291						
WFSB				*e*S	**Sg**	**16 54 47.6**	**-0.5**
	baz=291						
TNOU	**National Taiwa**	**0.76**	**293**	*e*P	**Pg**	**16 54 38.8**	**-0.4**
	baz=296						
TNOU				*e*S	**Sg**	**16 54 49.2**	**0.0**
	baz=296						
NDS	**Dongshan**	**0.78**	**254**	*e*P	**Pg**	**16 54 39.9**	**+0.2**
	baz=246						
EWUT	**Wuta**	**0.80**	**240**	P	**Pg**	**16 54 40.3**	**+0.1**
	baz=237						
TWE	**Neicheng**	**0.80**	**261**	*e*P	**Pg**	**16 54 39.9**	**-0.2**
	baz=260						
ENA	**Nanau**	**0.84**	**240**	*e*P	**Pg**	**16 54 40.8**	**0.0**
	baz=237						
FUSB	**Fushanzhiwuyua**	**0.87**	**264**	*e*P	**Pg**	**16 54 41.5**	**+0.1**
	baz=275						
ENTT	**Nioudou**	**0.91**	**257**	P	**Pg**	**16 54 42.3**	**+0.1**
	baz=265						
YM08	**YM08**	**0.93**	**291**	P	**Pb**	**16 54 42.5**	**+0.1**
	baz=293						
YM01	**YM01**	**0.93**	**289**	P	**Pb**	**16 54 42.6**	**+0.1**
	baz=291						
NWLT	**Wulai**	**0.94**	**266**	*e*P	**Pb**	**16 54 43.1**	**+0.4**
	baz=279						
TATO	**Taipei**	**0.96**	**278**	*e*P	**Pb**	**16 54 42.5**	**-0.5**
	baz=279						
NDT	**Datong Townshi**	**0.97**	**255**	*e*P	**Pb**	**16 54 43.3**	**+0.2**
	baz=249						
LATG	**Datong**	**0.97**	**251**	*e*P	**Pb**	**16 54 43.3**	**0.0**
	baz=250						
YHNB	**Yeheng**	**1.07**	**261**	*e*P	**Pb**	**16 54 44.9**	**-0.1**
	baz=272						
NSK	**Sanguang**	**1.09**	**261**	*e*P	**Pb**	**16 54 45.2**	**0.0**
	baz=272						
NACB	**Ninganchiao**	**1.09**	**232**	*e*P	**Pb**	**16 54 45.2**	**-0.1**
	baz=237						
NACB				*e*S	**Sb**	**16 54 58.3**	**-1.1**
	baz=237						
NNSB	**Datong**	**1.13**	**248**	*e*P	**Pb**	**16 54 46.0**	**0.0**
	baz=247						
NNS	**Nan Shan**	**1.14**	**249**	*e*P	**Pb**	**16 54 46.1**	**0.0**
	baz=248						
ETLH	**Xiulin Townshi**	**1.16**	**237**	*e*P	**Pb**	**16 54 46.4**	**0.0**
	baz=242						
ETLH				*e*S	**Sb**	**16 54 59.7**	**-1.6**
	baz=242						
IRIF	**Iriomote-Funau**	**1.20**	**115**	P	**Pg**	**16 54 47.9**	**+0.2**
NFF	**Wufeng Townshi**	**1.31**	**261**	*e*P	**Pn**	**16 54 49.0**	**+0.4**
	baz=261						
FUSS	**Fushou**	**1.32**	**243**	*e*P	**Pg**	**16 54 50.1**	**0.0**
	baz=242						
WHF	**Hehuan Shan**	**1.36**	**239**	*e*P	**Pb**	**16 54 50.4**	**+0.4**
	baz=238						
LIOB	**Emei**	**1.40**	**262**	*e*P	**Pg**	**16 54 51.9**	**+0.4**
	baz=263						
JKRS	**Kuro-shima**	**1.47**	**114**	P	**Pg**	**16 54 52.4**	**-0.5**
CHGB	**Renai**	**1.47**	**238**	*e*P	**Pb**	**16 54 52.6**	**+0.8**
	baz=223						
OWD	**Renai**	**1.53**	**235**	*e*P	**Pb**	**16 54 53.3**	**+0.5**
	baz=217						
JIJ	**Ishigaki jima**	**1.54**	**108**	P	**Pb**	**16 54 53.0**	**+0.2**
WUSB	**Renai**	**1.55**	**237**	*e*P	**Pb**	**16 54 53.9**	**+0.7**
	baz=221						
EGFH	**Guangfu**	**1.55**	**221**	*e*P	**Pb**	**16 54 53.0**	**-0.1**
	baz=204						
WHP	**Taichung City**	**1.56**	**249**	*e*P	**Pb**	**16 54 53.1**	**-0.2**
	baz=248						
JISG	**Ishigakijimahi**	**1.63**	**99**	P	**Pb**	**16 54 54.2**	**-0.2**
VWDT	**VWDT**	**1.68**	**230**	*e*

mb1 3.5/4, **mb1mx3.4**/29, **mbtmp3.3**/4, **ML3.6**/1, **MS2.9**/2, **Ms1 2.9**/2, **ms1mx2.5**/21, **Error ellipse: s-maj=126.7km s-min=32.7km az=95.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.68**	**138**	LR	LR	17 16 24.0	
	comp=Z,80nm,18.9s,baz=31,slow=48						
SIJI	**Sorong**	**11.07**	**284**	LR	LR	17 18 38.3	
	comp=Z,53nm,18.3s,baz=104,slow=45						
WRA	**Warramunga Arr**	**17.83**	**204**	P	Pn	17 14 28.6	+0.4
	0.2nm,0.3s,baz=25,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**21.38**	**201**	P	P	17 15 07.2	-0.7
	0.2nm,0.6s,baz=27,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**21.51**	**227**	P	P	17 15 09.8	+0.6
	2.0nm,1.0s,baz=35,slow=10.0,SNR=1.4						
MKAR	**Makanchi Array**	**72.54**	**322**	P	P	17 21 47.5	0.0
	0.2nm,0.7s,baz=121,slow=6.9,SNR=2.6						

MEX ***16*** *17:10:45.9±0.8, 14.˚16N×93.˚77W, h10km, MD4.0*
NEIC ***16*** *17:10:47.1±2.1, 14.˚40N±0.˚04×93.˚54W±0.˚03, h10km±2km, mb4.3/7, Md4.0/18(MEX), Error ellipse: s-maj=6.9km s-min=3.6km az=147.0*
IDC ***16*** *17:10:48.4±4.8, 14.˚88N×93.˚25W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/36, mbtmp3.7/7, Error ellipse: s-maj=155.2km s-min=26.3km az=33.0*

ISC 16 17:10:45.7±2.7, 14.˚37N±0.˚07×93.˚57W±0.˚06, h5km±15km, **n35, σ0s97/48, mb4.0**/9, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.37**	**14**		**Pn**	**17 11 10.7**	**-0.9**
PCIG					**Sg**	**17 11 30.5**	**+0.6**
PCIG		**1.37**	**14**	*e*P	**Pn**	**17 11 10.7**	**-0.9**
PCIG				*e*S	**Sg**	**17 11 30.5**	**+0.6**
THIG		**1.38**	**67**		**Pn**	**17 11 11.4**	**-0.2**
THIG					**Sg**	**17 11 30.3**	**+0.4**
THIG		**1.38**	**67**	*e*P	**Pn**	**17 11 11.4**	**-0.2**
THIG				*e*S	**Sg**	**17 11 30.3**	**+0.4**
PATR	**El Naranjo**	**1.49**	**60**	*e*P	**Pn**	**17 11 13.0**	**-0.5**
PATR				*e*S	**Sg**	**17 11 35.1**	**+1.3**
PAVE	**Pavencul**	**1.58**	**58**	*e*P	**Pn**	**17 11 14.3**	**-0.3**
PAVE				*e*S	**Sg**	**17 11 36.3**	**-0.3**
CHUJ	**Union Juarez**	**1.59**	**63**	*e*P	**Pn**	**17 11 14.6**	**-0.2**
CHUJ				*e*S	**Sg**	**17 11 36.7**	**-0.1**
RTAL	**Retalhuleu**	**1.82**	**85**	Pn	**Pn**	**17 11 17.5**	**-0.3**
HUEH	**Huehuetenango**	**2.21**	**64**	Pn	**Pn**	**17 11 22.2**	**-1.1**
CCIG	**Comitan**	**2.35**	**36**	Pn	**Pn**	**17 11 26.1**	**+0.8**
CCIG	**Comitan**	**2.35**	**36**		**Sb**	**17 11 57.4**	**-0.9**
CCIG	**Comitan**	**2.35**	**36**	*e*P	**Pn**	**17 11 25.8**	**+0.5**
CCIG				*e*S	**Sb**	**17 11 57.4**	**-0.9**
TGIG		**2.44**	**10**		**Pn**	**17 11 27.4**	**+1.1**
TGIG					**Sn**	**17 11 57.1**	**+0.5**
TGIG		**2.44**	**10**	*e*P	**Pn**	**17 11 27.4**	**+1.1**
TGIG				*e*S	**Sn**	**17 11 57.1**	**+0.5**
UXUV	**UXUV**	**2.99**	**349**	*e*P	**Pn**	**17 11 34.1**	**+0.4**
UXUV				*e*S	**Sn**	**17 12 10.6**	**+0.6**
CMIG	**Matias Romero**	**2.99**	**335**		**Pn**	**17 11 33.0**	**-0.8**
CMIG					**Sn**	**17 12 09.0**	**-1.1**
CMIG	**Matias Romero**	**2.99**	**335**	*e*P	**Pn**	**17 11 33.0**	**-0.8**
CMIG				*e*S	**Sn**	**17 12 09.0**	**-1.1**
MTO3	**Montecristo**	**4.08**	**89**	Pn	**Pn**	**17 11 49.5**	**+0.5**
ESQI	**Esquipulas**	**4.10**	**87**	Pn	**Pn**	**17 11 49.0**	**-0.3**
PETF	**Flores**	**4.38**	**54**	Pn	**Pn**	**17 11 50.0**	**-2.9**
TLIG	**Tlapa**	**5.76**	**304**	Pn	**Pn**	**17 12 11.5**	**-0.5**
342A	**Flagon Creek P**	**16.97**	**4**		**Pn**	**17 14 41.5**	**-2.5**
342A				IAmb	IAmb	17 14 47.6	
	comp=Z,36nm,0.7s						
TX32	**Lajitas Array**	**17.58**	**330**	Pn	**Pn**	**17 14 51.1**	**-0.7**
TXAR	**Lajitas Array**	**17.58**	**330**	P	**Pn**	**17 14 52.7**	**+0.9**
	baz=151,slow=11,SNR=3.9						
TX31	**Lajitas Ar. Si**	**17.58**	**330**	Pn	**Pn**	**17 14 51.0**	**-0.8**
TX31				IAmb	IAmb	17 15 05.3	
	comp=Z,14nm,1.1s						
MSTX	**Muleshoe**	**21.22**	**338**	P	**P**	**17 15 32.0**	**-0.7**
MSTX				IAmb	IAmb	17 15 46.7	
	comp=Z,10nm,1.1s						
121A	**Cookes Peak, D**	**22.25**	**327**	P	**P**	**17 15 44.4**	**+0.6**
121A				IAmb	IAmb	17 15 47.8	
	comp=Z,6.6nm,0.9s						
SDV	**Santo Domingo**	**23.11**	**101**	P	**P**	**17 15 54.5**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=358,slow=4.1,SNR=4.6						
PDAR	**Pinedale Array**	**31.47**	**337**	P	**P**	**17 17 09.3**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=138,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**32.44**	**322**	P	**P**	**17 17 19.2**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=134,slow=8.6,SNR=6.1						
YKA	**Yellowknife Ar**	**50.33**	**347**	P	**P**	**17 19 43.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=154,slow=7.3,SNR=27						
ILAR	**Eielson Array**	**61.91**	**337**	P	**P**	**17 21 06.6**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=156,slow=4.3,SNR=8.1						
TRF	**Thorofare Moun**	**62.66**	**335**	P	**P**	**17 21 11.5**	**+0.1**
K20K	**Telida**	**64.20**	**334**	P	**P**	**17 21 20.7**	**-0.6**
K20K				IAmb	IAmb	17 21 37.8	
	comp=Z,8.3nm,1.5s						
NOA	**NORSAR Array B**	**84.55**	**28**	P	**P**	**17 23 20.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=292,slow=4.7,SNR=4.9						

DJA ***16*** *17:21:38.5±4.9, 1.˚N±12˚×9.˚2E±4˚1, h10km, M4.4/7, mB4.9/5, mb4.4/7, MLv4.6/6, Mw(mB)4.2/5*
IDC ***16*** *17:21:47.1±3.1, 1.˚38N×93.˚75E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.3/56, mbtmp3.6/4, ML4.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/45, Error ellipse: s-maj=106.2km s-min=26.8km az=62.0*

ISC 16 17:21:42.7±3.1, 1.˚1N±0.˚1×92.˚2E±0.˚3, h35km, **n10**, **σ0s45/8, mb3.5/3, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.37**	**88**	P	**Pn**	**17 23 00.3**	**-0.2**
	0.2nm19nm,0.5s						
KCSI	**Kotacane, Aceh**	**6.04**	**67**	P	**Pn**	**17 23 10.4**	**+0.7**
	0.2nm95nm44nm,0.6s						
LHMI	**Lhok Sumawe**	**6.24**	**49**	P	**Pn**	**17 23 12.3**	**-0.1**
	0.4nm69nm,0.7s						
SISI	**Saibi**	**7.31**	**110**	P	**Pn**	**17 23 27.1**	**+0.1**
	0.1nm676nm16nm,0.6s						
MNSI	**Mandailing Nat**	**7.38**	**93**	P	**Pn**	**17 23 27.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.44**	**21**	P	**Pn**	**17 25 55.3**	**-0.4**
	1.0nm,0.3s,baz=217,slow=12,SNR=7.9						
BATI	**Baumata**	**33.27**	**111**	LR	LR	17 42 50.1	
	comp=Z,137nm,19.1s,baz=10.0,slow=40						
MKAR	**Makanchi Array**	**46.25**	**351**	P	P	17 30 14.9	+10
	0.7nm,0.8s,baz=170,slow=7.4,SNR=6.4						
WRA	**Warramunga Arr**	**46.30**	**119**	P	**P**	**17 30 05.4**	**-0.1**
	0.4nm,0.6s,baz=297,slow=8.5,SNR=6.1						
ASAR	**Alice Springs**	**47.42**	**124**	P	**P**	**17 30 14.7**	**+0.5**
	0.1nm,0.5s,baz=300,slow=7.9,SNR=5.9						

GUC ***16*** *17:22:19.4±0.7, 24.˚23S×68.˚75W, h115km±7km, ML3.8*
IDC ***16*** *17:22:21.2±5.7, 24.˚15S×68.˚62W, h108km±38km, mb3.5/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.6/3, Error ellipse: s-maj=81.2km s-min=55.2km az=52.0*

ISC 16 17:22:20.8±1.1, 24.˚20S±0.˚04×68.˚80W±0.˚10, h105km±10km, **n23, σ0s83/30, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.16**	**328**	*e*P	**Pn**	**17 22 43.4**	**-0.3**
PB15				*i* S	**Sn**	**17 23 01.4**	**+0.5**
GO02	**Mina Guanaco**	**1.20**	**217**	*i*P	**Pn**	**17 22 44.0**	**-0.2**
GO02				*i* S	**Sn**	**17 23 02.1**	**+0.3**
GO02				IAML		17 23 03.4	
	comp=E,3μm,0.5s						
PB14	**IPOC Station P**	**1.53**	**253**	*i*P	**Pn**	**17 22 47.7**	**-0.3**
PB14				*i* S	**Sn**	**17 23 09.0**	**+0.4**
PB14				IAML		17 23 15.4	
	comp=E,402nm,0.3s						
LVC	**Limon Verde**	**1.58**	**356**	P	**Pn**	**17 22 48.6**	**-0.2**
	comp=E,13nm,0.3s,baz=170,slow=11,SNR=40						
LVC				S	**Sn**	**17 23 09.9**	**-0.1**
	comp=E,81nm,0.3s,baz=189,slow=17,SNR=50						
LVC	**Limon Verde**	**1.58**	**356**	*e*P	**Pn**	**17 22 48.3**	**-0.5**
LVC				*e*S	**Sn**	**17 23 10.0**	**+0.1**
PB06	**IPOC Station P**	**1.65**	**334**	*e*P	**Pn**	**17 22 49.0**	**-0.4**
PB06				*i* S	**Sn**	**17 23 11.6**	**+0.6**
PB06				IAML		17 23 16.2	
	comp=E,820nm,0.1s						
PB10	**IPOC Station P**	**1.75**	**293**	*e*P	**Pn**	**17 22 50.4**	**-0.1**
PB10				*i* S	**Sn**	**17 23 14.1**	**+1.1**
PB10				IAML		17 23 20.4	
	comp=N,789nm,0.6s						
PB04	**IPOC Station P**	**2.23**	**326**	*e*P	**Pn**	**17 22 56.6**	**-0.2**
PB04				*e*S	**Sn**	**17 23 23.2**	**-1.1**
PB04				IAML		17 23 34.4	
	comp=N,525nm,0.4s						
PB09	**IPOC Station P**	**2.43**	**350**	*i* P	**Pn**	**17 22 59.8**	**+0.4**
PB09				*i* S	**Sn**	**17 23 29.6**	**+0.8**
PB09				IAML		17 23 37.3	
	comp=E,200nm,0.4s						
AC01	**Pan de Azucar**	**2.54**	**220**	*e*P	**Pn**	**17 22 59.5**	**-1.1**
AC01				IAML		17 23 40.5	
	comp=E,309nm,0.2s						
AC02	**Maricunga**	**2.64**	**186**	*e*P	**Pn**	**17 23 02.5**	**+0.1**
AC02				IAML		17 23 49.1	
	comp=E,179nm,0.3s						
PB07	**IPOC Station P**	**2.66**	**338**	*e*P	**Pn**	**17 23 01.9**	**-0.5**
PB07				IAML		17 23 44.1	
	comp=E,364nm,0.1s						
PB02	**IPOC Station P**	**3.04**	**340**	*e*P	**Pn**	**17 23 06.8**	**-0.6**
PB02				IAML		17 23 54.2	
	comp=E,473nm,0.2s						
PB01	**IPOC Station P**	**3.20**	**348**	*e*P	**Pn**	**17 23 08.8**	**-0.7**
PB01				*e*S	**Sn**	**17 23 47.3**	**+0.2**
PB01				IAML		17 23 57.2	
	comp=E,280nm,0.3s						
AC06	**Mina Casimiro**	**3.45**	**204**	IAML		17 24 10.3	
	comp=E,165nm,0.3s						
GO03	**Copiap**	**3.62**	**201**	*e*P	**Pn**	**17 23 13.3**	**-1.8**
GO03				*e*S	**Sn**	**17 23 57.3**	**+0.3**
GO03				IAML		17 24 08.2	
	comp=E,122nm,0.2s						
LPAZ	**La Paz**	**7.89**	**5**	P	**Pn**	**17 24 12.8**	**-0.7**
	comp=E,0.4nm,0.3s,baz=192,slow=11,SNR=5.7						
H03N1	**Juan Fernandez**	**12.78**	**222**	T	T	17 37 32.7	
	baz=43,slow=72,SNR=9.6						
H03N2	**Juan Fernandez**	**12.79**	**222**	T	T	17 37 26.4	
	baz=43,slow=72,SNR=3.9						
H03N3	**Juan Fernandez**	**12.79**	**222**	T	T	17 37 28.1	
	baz=43,slow=72,SNR=4.6						
TORD	**Torodi Ar. Bea**	**79.17**	**70**	P	**P**	**17 34 08.1**	**-1.0**
	comp=E,0.6nm,0.7s,baz=257,slow=5.9,SNR=3.6						
YKA	**Yellowknife Ar**	**93.75**	**341**	P	**P**	**17 35 25.1**	**-0.2**
	comp=E,0.1nm,0.4s,baz=139,slow=4.9,SNR=3.8						
MKAR	**Makanchi Array**	**147.71**	**38**	PKPbc	**PKPdf**	**17 41 52.7**	**+2.5**
	comp=E,0.4nm,0.7s,baz=320,slow=3.2,SNR=4.0						

JMA ***16*** *17:30:58.0±0.2, 23.˚00N×121.˚38E, h17km*
TAP ***16*** *17:31:01.5, 23.˚17N×121.˚36E, h17km, ML3.2, B*

ISC 16 17:31:01.0±0.9, 23.˚13N±0.˚02×121.˚43E±0.˚02, h24km±4km, **n112, σ0s84/152, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.06**	**243**	*i* P	**Pb**	**17 31 05.0**	**-0.2**
CHKT	baz=168			*i* S	**Sb**	**17 31 07.6**	**-0.5**
	baz=168						
FULB	**Fuli**	**0.14**	**300**	*i* P	**Pb**	**17 31 05.0**	**-0.9**
FULB	baz=298			*i* S	**Sb**	**17 31 08.1**	**-1.2**
	baz=298						
ECBN	**Changbin**	**0.19**	**7**	P	**Pb**	**17 31 06.4**	**0.0**
ECBN	baz=38			S	**Sb**	**17 31 10.1**	**0.0**
	baz=38						
EDH	**Donghe**	**0.19**	**216**	P	**Pb**	**17 31 06.5**	**+0.1**
EDH	baz=188			S	**Sb**	**17 31 10.3**	**+0.2**
	baz=188						
ECS	**Chishang**	**0.19**	**260**	*i* P	**Pb**	**17 31 06.5**	**0.0**
ECS	baz=240			S	**Sb**	**17 31 11.0**	**+0.8**
	baz=240						
EYUL	**Yuli**	**0.24**	**336**	P	**Pb**	**17 31 06.8**	**-0.3**
EYUL	baz=344			S	**Sb**	**17 31 11.2**	**0.0**
	baz=344						
TWF1	**Yuli**	**0.25**	**332**	P	**Pb**	**17 31 06.7**	**-0.6**
TWF1	baz=335			S	**Sb**	**17 31 10.6**	**-1.0**
	baz=335						
YULB	**Yu-li**	**0.29**	**336**	P	**Pb**	**17 31 07.2**	**-0.7**
YULB	baz=337			S	**Sb**	**17 31 11.5**	**-1.0**
	baz=337						
LONT	**Longtian**	**0.35**	**231**	P	**Pb**	**17 31 08.7**	**0.0**
LONT	baz=230			S	**Sb**	**17 31 14.4**	**+0.4**
	baz=230						
HGSD	**Ruisui**	**0.36**	**360**	P	**Pb**	**17 31 08.8**	**-0.1**
	baz=13						
ELDTW	**Lidau**	**0.38**	**279**	P	**Pb**	**17 31 08.1**	**-1.2**
	baz=274						
EHY	**Hungye**	**0.39**	**346**	P	**Pb**	**17 31 08.8**	**-0.6**
EHY	baz=341			S	**Sb**	**17 31 14.7**	**-0.4**
	baz=341						
TWGBT	**Beinan**	**0.44**	**226**	P	**Pb**	**17 31 10.0**	**-0.3**
TWGBT	baz=228			S	**Sb**	**17 31 16.6**	**0.0**
	baz=228						
TWG	**Pinlang**	**0.45**	**227**	P	**Pb**	**17 31 10.0**	**-0.3**
TWG	baz=228			S	**Sb**	**17 31 16.6**	**0.0**
	baz=228						
TTN	**Taitung**	**0.45**	**215**	P	**Pn**	**17 31 11.4**	**-0.6**
TTN	baz=205			S	**Sn**	**17 31 18.9**	**-0.4**
	baz=205						
LDUT	**Ludao**	**0.45**	**175**	P	**Pn**	**17 31 11.2**	**-0.9**
LDUT	baz=169			S	**Sn**	**17 31 18.9**	**-0.6**
	baz=169						
EGFH	**Guangfu**	**0.54**	**0**	P	**Pb**	**17 31 11.5**	**-0.4**
	baz=350						
YUS	**Yu-Shan**	**0.56**	**310**	P	**Pb**	**17 31 11.6**	**-1.0**
YUS	baz=304			S	**Sb**	**17 31 18.3**	**-2.2**
	baz=304						
STYH	**Taoyuan**	**0.60**	**274**	P	**Pb**	**17 31 12.0**	**-0.9**
STYH	baz=269			S	**Sb**	**17 31 19.2**	**-1.8**
	baz=269						
STYT	**Tauyuan**	**0.62**	**273**	P	**Pb**	**17 31 12.3**	**-0.9**
STYT	baz=268			S	**Sb**	**17 31 19.8**	**-1.7**
	baz=268						
VWDT	**VWDT**	**0.68**	**337**	P	**Pb**	**17 31 13.7**	**-0.4**
VWDT	baz=341			S	**Sb**	**17 31 22.1**	**-1.1**
	baz=341						
ESL	**Shilin**	**0.68**	**1**	P	**Pb**	**17 31 13.6**	**-0.8**
	baz=4.0						
ALS	**Alishan**	**0.69**	**304**	P	**Pb**	**17 31 13.9**	**-0.7**
ALS	baz=296			S	**Sb**	**17 31 22.7**	**-1.1**
	baz=296						
TPUB	**Ta-pu**	**0.75**	**283**	P	**Pb**	**17 31 15.3**	**-0.2**
TPUB	baz=287			S	**Sb**	**17 31 25.4**	**0.0**
	baz=287						
TEYL	**Yanliau Villag**	**0.75**	**12**	*e*P	**Pn**	**17 31 16.6**	**+0.4**
	baz=359						
WTP	**Ta-pu**	**0.76**	**279**	P	**Pb**	**17 31 15.3**	**-0.3**
WTP	baz=275			S	**Sb**	**17 31 25.5**	**0.0**
	baz=275						
SGST	**Jiashian**	**0.78**	**267**	P	**Pb**	**17 31 14.8**	**-1.1**
SGST	baz=258			S	**Sb**	**17 31 25.4**	**-0.6**
	baz=258						
SSLB	**Suanglung**	**0.79**	**327**	P	**Pb**	**17 31 15.2**	**-0.8**
	baz=327						
SSD	**Sandimen**	**0.82**	**243**	P	**Pb**	**17 31 15.8**	**-0.9**
	baz=234						
CHN1	**Nanshi**	**0.83**	**274**	P	**Pn**	**17 31 16.8**	**-0.4**
CHN1	baz=266			S	**Sn**	**17 31 28.2**	**-0.5**
	baz=266						
CHN5	**Tsauling**	**0.83**	**304**	P	**Pn**	**17 31 16.8**	**-0.5**
	baz=304						
TSMG	**Majia**	**0.83**	**240**	P	**Pb**	**17 31 16.3**	**-0.5**
	baz=237						
ETM	**Tongmen**	**0.84**	**4**	*e*P	**Pb**	**17 31 16.9**	**-0.1**
	baz=5.0						
OWD	**Renai**	**0.85**	**344**	P	**Pb**	**17 31 16.7**	**-0.6**
	baz=345						
TWK	**Hsinying**	**0.87**	**279**	P	**Pn**	**17 31 17.4**	**-0.5**
	baz=276						
TWK				S	**Sn**	**17 31 29.5**	**-0.4**
	baz=276						
SCST	**Cishan**	**0.89**	**255**	P	**Pb**	**17 31 18.3**	**+0.3**
	baz=252						
MASBT	**Mashibuluo**	**0.89**	**235**	P	**Pb**	**17 31 17.1**	**-0.8**
	baz=225						
SMLT	**Sun Moon Lake**	**0.89**	**327**	P	**Pb**	**17 31 17.4**	**-0.5**
	baz=328						
WUSB	**Renai**	**0.91**	**342**	P	**Pb**	**17 31 17.6**	**-0.6**
	baz=344						
WUSB				S	**Sb**	**17 31 28.9**	**-0.9**
	baz=344						
EAST	**Anshuo**	**0.91**	**216**	P	**Pb**	**17 31 17.1**	**-1.1**
	baz=215						
TAWH	**Dawu Township**	**0.93**	**212**	P	**Pb**	**17 31 17.4**	**-1.1**
	baz=220						
WJS	**Zhushan**	**0.94**	**317**	P	**Pn**	**17 31 19.3**	**+0.5**
	baz=317						
WJS				S	**Sn**	**17 31 32.1**	**+0.5**
	baz=317						
CHGB	**Renai**	**0.96**	**346**	P	**Pb**	**17 31 18.5**	**-0.6**
	baz=346						
TWD	**Chiawan**	**0.96**	**9**	P	**Pb**	**17 31 19.0**	**0.0**
	baz=356						
CHN2	**Minshiung**	**0.96**	**295**	P	**Pn**	**17 31 20.0**	**+1.0**
	baz=293						
CHN2				S	**Sn**	**17 31 33.0**	**+1.0**
	baz=293						
WGK	**Gukeng**	**0.97**	**305**	P	**Pn**	**17 31 19.7**	**+0.6**
	baz=304						
WGK				S	**Sn**	**17 31 32.8**	**+0.6**
	baz=304						
TWM1	**Shoushan**	**0.97**	**252**	*e*P	**Pn**	**17 31 20.6**	**+1.3**
	baz=250						
CHN3	**Shinhua**	**0.98**	**267**	*e*P	**Pn**	**17 31 20.4**	**+1.2**
	baz=266						
WPL	**Puli Township**	**0.98**	**334**	*e*P	**Pb**	**17 31 18.9**	**-0.4**
	baz=342						
WDLH	**Douliu**	**0.99**	**305**	*e*P	**Pn**	**17 31 20.1**	**+0.6**
	baz=303						
WDLH				*e*S	**Sn**	**17 31 33.7**	**+1.0**
	baz=303						
CHY	**Chiayi**	**0.99**	**292**	*e*P	**Pn**	**17 31 20.0**	**+0.5**
	baz=289						
CHY				*e*S	**Sn**	**17 31 33.4**	**+0.6**
	baz=289						
SHHT	**Tainan City**	**1.00**	**264**	*e*P	**Pn**	**17 31 20.7**	**+1.2**
	baz=260						
SHHT				*e*S	**Sn**	**17 31 36.4**	**+3.5**
	baz=260						
WNT	**Mingjian**	**1.01**	**318**	*e*P	**Pb**	**17 31 20.5**	**+0.6**
	baz=317						
WNT				*e*S	**Sn**	**17 31 34.2**	**+1.0**
	baz=317						
DPDB	**Guoxing**	**1.01**	**333**	P	**Pn**	**17 31 19.6**	**-0.3**
	baz=340						
SSPT	**Xinbi**	**1.02**	**231**	*e*P	**Pb**	**17 31 20.1**	**+0.1**
	baz=224						
WHF	**Hehuan Shan**	**1.02**	**352**	*e*P	**Pn**	**17 31 19.9**	**-0.4**
	baz=3.0						
WCS	**Beigang Elemen**	**1.04**	**333**	*e*P	**Pn**	**17 31 20.0**	**-0.2**
	baz=343						
NACB	**Ninganchiao**	**1.05**	**8**	*e*P	**Pn**	**17 31 20.3**	**0.0**
	baz=7.0						
SCZT	**Fangliau**	**1.06**	**225**	*e*P	**Pb**	**17 31 20.9**	**+0.2**
	baz=219						
ETLH	**Xiulin Townshi**	**1.08**	**3**	*e*P	**Pn**	**17 31 20.7**	**0.0**
	baz=1.0						
SLIU	**Shizi**	**1.08**	**213**	*e*P	**Pn**	**17 31 19.6**	**-1.0**
	baz=203						
ICHU	**Yijhu**	**1.08**	**283**	*e*P	**Pb**	**17 31 21.2**	**+0.2**
	baz=279						
ICHU				*e*S	**Sn**	**17 31 35.9**	**+1.0**
	baz=279						
LAY	**Lan-yu**	**1.09**	**174**	*e*P	**Pb**	**17 31 21.0**	**-0.2**
	baz=165						
WTK	**Tuku**	**1.10**	**301**	*e*P	**Pb**	**17 31 21.8**	**+0.4**
	baz=298						
WTK				*e*S	**Sn**	**17 31 36.5**	**+1.0**
	baz=298						
FUSS	**Fushou**	**1.13**	**352**	*e*P	**Pn**	**17 31 21.5**	**-0.1**
	baz=1.0						
WWF	**Wufeng**	**1.13**	**324**	*e*P	**Pb**	**17 31 22.4**	**+0.5**
	baz=322						
LYUB	**Lan-yu**	**1.13**	**173**	*e*P	**Pn**	**17 31 21.0**	**-0.4**
	baz=164						
CHN8	**Yiju**	**1.14**	**281**	*e*P	**Pb**	**17 31 22.5**	**+0.5**
	baz=281						
WSF	**Szhu**	**1.22**	**295**	*e*P	**Pb**	**17 31 23.5**	**+0.1**
	baz=292						
WSF				*e*S	**Sb**	**17 31 39.6**	**+0.9**
	baz=292						
TCU	**Taichung**	**1.23**	**326**	*e*P	**Pb**	**17 31 24.4**	**+0.9**
	baz=324						
WHP	**Taichung City**	**1.23**	**339**	*e*P	**Pb**	**17 31 24.3**	**+0.7**
	baz=344						
WRL	**Guolierlin Hig**	**1.23**	**309**	*e*P	**Pb**	**17 31 23.9**	**+0.2**
	baz=307						
WCHH	**Zhanghua**	**1.24**	**320**	*e*P	**Pb**	**17 31 24.1**	**+0.4**
	baz=318						
NNSB	**Datong**	**1.30**	**358**	*e*P	**Pn**	**17 31 23.7**	**0.0**
	baz=8.0						
NNS	**Nan Shan**	**1.31**	**358**	*e*P	**Pb**	**17 31 24.9**	**-0.1**
	baz=8.0						
TWKBT	**Hengchun**	**1.31**	**206**	*e*P	**Pb**	**17 31 25.9**	**+0.9**
	baz=199						
TWK1	**Hengchun**	**1.31**	**206**	*e*P	**Pb**	**17 31 26.4**	**+1.5**
	baz=199						
ENA	**Nanau**	**1.33**	**13**	*e*P	**Pn**	**17 31 24.5**	**+0.5**
	baz=359						
EWUT	**Wuta**	**1.35**	**14**	*e*P	**Pb**	**17 31 25.3**	**-0.4**
	baz=359						
TWQ1	**Liyutan**	**1.35**	**334**	*e*P	**Pb**	**17 31 26.5**	**+0.8**
	baz=331						
LATG	**Datong**	**1.40**	**4**	*e*P	**Pn**	**17 31 25.1**	**-0.2**
WDJ	**Dajia District**	**1.41**	**330**	*e*P	**Pb**	**17 31 27.4**	**+0.7**
	baz=327						
NSY	**Sanyi**	**1.42**	**335**	*e*P	**Pb**	**17 31 27.5**	**+0.6**
	baz=337						
NDT	**Datong Townshi**	**1.47**	**3**	*e*P	**Pb**	**17 31 27.1**	**-0.6**
	baz=13						
ENTT	**Nioudou**	**1.51**	**5**	*e*P	**Pb**	**17 31 27.6**	**-0.8**
	baz=1.0						
NMLH	**Miaoli**	**1.52**	**338**	*e*P	**Pb**	**17 31 28.6**	**+0.1**
	baz=333						
NDS	**Dongshan**	**1.52**	**10**	*e*P	**Pb**	**17 31 28.1**	**-0.4**
	baz=5.0						
NFF	**Wufeng Townshi**	**1.52**	**349**	*e*P	**Pb**	**17 31 28.9**	**+0.3**
	baz=354						
YHNB	**Yeheng**	**1.54**	**358**	*e*P	**Pb**	**17 31 28.1**	**-0.8**
	baz=7.0

HATJ	**Hateruma jima**	**2.37**	**67**	P	**Pn**	**17 31 38.2**	**-0.2**
HATJ				S	**Sn**	**17 32 06.8**	**0.0**
IRIF	**Iriomote-Funau**	**2.43**	**60**	P	**Pn**	**17 31 40.0**	**+0.8**
JKRS	**Kuro-shima**	**2.61**	**64**	P	**Pn**	**17 31 42.5**	**+0.7**
JIJ	**Ishigaki jima**	**2.78**	**63**	P	**Pn**	**17 31 44.6**	**+0.6**
JIJ				S	**Sn**	**17 32 17.7**	**+0.9**
JISG	**Ishigakijimahi**	**3.01**	**61**	P	**Pn**	**17 31 47.4**	**+0.1**
JISG				S	**Sn**	**17 32 21.4**	**-1.2**
JTJ	**Tarama**	**3.36**	**63**	P	**Pn**	**17 31 52.5**	**+0.5**
JTJ				S	**Sn**	**17 32 32.4**	**+1.3**

BJI ***16*** *17:32:18.1±0.0,2.˚47N×126.˚98E, h15km, mb4.6/42, mB4.9/20, Ms4.4/5, Ms7 4.1/5*
NEIC ***16*** *17:32:20.2±1.7, 2.˚23N±0.˚04×127.˚14E±0.˚09, h35km±1km, mb4.7/65, Error ellipse: s-maj=16.5km s-min=3.9km az=69.0*
DJA ***16*** *17:32:22.7±0.4, 2.˚1N±4'×12.˚7E±', h40km±10km, M4.4/17, mb4.8/13, mB4.9/9, MLv4.5/17, Mw(mB)4.2/9, MwMwp4.4/1, Mwp4.8/1*
IDC ***16*** *17:32:23.6±1.9, 2.˚08N×126.˚93E, h67km±17km, mb4.1/18, mb1 4.2/20, mb1mx4.0/39, mbtmp4.4/20, MS3.5/26, Ms1 3.5/26, ms1mx3.3/70, Error ellipse: s-maj=26.2km s-min=8.5km az=71.0*
MAN ***16*** *17:32:38.8, 3.˚51N×126.˚38E, h14km, mb5.2, ML4.2, MS4.3*
ISC 16 17:32:20.0±0.3,**2.˚17N**±0.˚04×**127.˚14E**±0.˚06,**h35km**,**n187,**
σ1**s75**/178,**mb4.7**/64,**MS3.6**/27,**3C-6D**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**171**	Pn	**Pn**	**17 32 45.5**	**+2.3**
TNTI	**Ternate**	**1.41**	**171**	P	**Pn**	**17 32 45.9**	**+2.7**
TNTI	**Ternate**	**1.41**	**171**	P	**Pn**	**17 32 46.1**	**+2.9**
SGSI	**Sangihe**	**2.21**	**313**	P	**Pn**	**17 32 55.2**	**+1.0**
LBMI	**Labuha**	**2.81**	**173**	P	**Pn**	**17 33 06.2**	**+3.6**
KMSI	**Cibinong**	**3.54**	**243**	P	**Pn**	**17 33 15.6**	**+3.1**
SANI	**Sanana**	**4.35**	**195**	P	**Pn**	**17 33 25.7**	**+2.0**
SANI	**Sanana**	**4.35**	**195**	P	**Pn**	**17 33 25.9**	**+2.2**
GTOI	**Gorontalo**	**4.40**	**250**	P	**Pn**	**17 33 28.3**	**+3.9**
GSPH	**General Santos**	**4.46**	**331**	*ePg*	**Pn**	**17 33 26.0**	**+0.7**
MATI	**Mati**	**4.82**	**349**	*ePg*	**Pn**	**17 33 32.8**	**+2.6**
SWI	**Sorong**	**5.10**	**126**	P	**Pn**	**17 33 38.5**	**+4.5**
	0.2nm856nm60nm,0.8s						
DAV	**Davao City (W)**	**5.11**	**342**	P	Pn	17 33 39.6	+5.5
	19nm,0.3s,baz=222,slow=14,SNR=1.5						
DAV				S	**Sn**	**17 34 37.3**	**+5.4**
	32nm,0.3s,baz=32,slow=18,SNR=1.3						
DAV	**Davao City (W)**	**5.11**	**342**	Pn	**Pn**	**17 33 35.4**	**+1.3**
SIJI	**Sorong**	**5.11**	**126**	P	**Pn**	**17 33 38.8**	**+4.6**
	6.5nm,0.3s,baz=262,slow=23,SNR=20						
KCP	**Kidapawan**	**5.22**	**337**	*eP*	**Pn**	**17 33 37.1**	**+1.3**
KCP				*eS*	Sn	17 34 21.2	-14
LUWI	**Luwuk**	**5.41**	**234**	Pn	**Pn**	**17 33 40.5**	**+2.2**
LUWI	**Luwuk**	**5.41**	**234**	P	**Pn**	**17 33 41.4**	**+3.1**
	0.7nm2µm111nm,0.7s						
MRSI	**Marisa**	**5.47**	**252**	P	**Pn**	**17 33 43.4**	**+4.4**
	0.9nm2µm241nm,0.7s						
MSAI	**Masohi**	**5.76**	**162**	P	**Pn**	**17 33 47.8**	**+4.7**
	0.1nm674nm16nm,1.1s						
AAI	**Ambon**	**5.91**	**170**	P	**Pn**	**17 33 48.3**	**+3.1**
	0.4nm1µm111nm,0.8s						
APSI	**Ampana**	**6.29**	**241**	P	**Pn**	**17 33 54.7**	**+4.4**
	0.4nm942nm87nm,1.0s						
TOLI2	**Tolitoli**	**6.45**	**261**	Pn	**Pn**	**17 33 53.9**	**+1.4**
TOLI2	**Tolitoli**	**6.45**	**261**	P	**Pn**	**17 33 54.5**	**+2.0**
PAGZ	**Pagadian**	**6.77**	**327**	*eP*	**Pn**	**17 33 58.1**	**+1.1**
MPSI	**Mapaga**	**7.47**	**256**	P	**Pn**	**17 34 08.6**	**+2.1**
	0.1nm1µm41nm,0.8s						
GLSP	**General Luna,**	**7.63**	**352**	*ePg*	**Pn**	**17 34 11.8**	**+3.0**
MYLDM	**Lahad Datu**	**9.13**	**289**	Pn	**Pn**	**17 34 33.2**	**+3.9**
KAPI	**Kappang**	**10.27**	**226**	P	**Pn**	**17 34 48.7**	**+3.7**
KKM	**Kota Kinabalu**	**11.56**	**290**	Pn	**Pn**	**17 35 04.1**	**+1.4**
KKM	**Kota Kinabalu**	**11.56**	**290**	P	**Pn**	**17 35 05.6**	**+2.9**
BATI	**Baumata**	**12.78**	**196**	P	**P**	**17 35 29.1**	**-0.8**
	1.3nm,0.3s,baz=253,slow=8.0,SNR=4.3						
LQP	**Lukban**	**13.09**	**335**	*eP*	**Pn**	**17 35 25.9**	**+2.0**
SBUM	**Sibu**	**14.91**	**271**	P	**P**	**17 35 54.9**	**+1.3**
DRS	**Darwin Rock St**	**14.98**	**166**	P	**Pn**	**17 35 49.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**16.72**	**231**	Pn	**Pn**	**17 36 08.7**	**-3.0**
JAGI				IAmb	IAmb	17 36 17.7	
	comp=Z,66nm,1.2s						
KSM	**Kuching**	**16.84**	**268**		**Pn**	**17 36 11.1**	**-2.1**
KNRA	**Kununurra**	**17.81**	**175**		**P**	**17 36 26.6**	**+0.9**
KNRA				IAmb	IAmb	17 36 30.7	
	comp=Z,54nm,1.1s						
PCJI	**Pacitan**	**18.96**	**237**	P	**Pn**	**17 36 41.3**	**+2.0**
	comp=Z,43nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.20**	**184**	P	**P**	**17 36 52.2**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=35,slow=7.1,SNR=6.0						
FITZ				LR	LR	17 44 22.0	
	comp=Z,72nm,21.9s,baz=2.0,slow=36						
FITZ	**Fitzroy Crossi**	**20.20**	**184**	P	**P**	**17 36 52.4**	**+0.5**
DLV	**T Lat**	**20.89**	**299**	P	**P**	**17 36 59.6**	**0.0**
TWG	**Pinlang**	**21.36**	**344**	P	**P**	**17 37 01.9**	**-2.5**
YULB	**Yu-li**	**21.84**	**345**	P	**P**	**17 37 06.6**	**-3.0**
YULB				IAmb	IAmb	17 37 07.8	
	comp=Z,21nm,0.8s						
TPUB	**Ta-pu**	**21.93**	**344**	P	**P**	**17 37 08.7**	**-1.9**
TPUB				IAmb	IAmb	17 37 09.9	
	comp=Z,42nm,0.8s						
TPUB	**Ta-pu**	**21.93**	**344**	P	**P**	**17 37 09.5**	**-1.1**
SSLB	**Suanglung**	**22.31**	**345**	P	**P**	**17 37 12.1**	**-2.6**
SSLB				IAmb	IAmb	17 37 14.7	
	comp=Z,32nm,0.8s						
SSLB	**Suanglung**	**22.31**	**345**	P	**P**	**17 37 14.7**	**0.0**
COEN	**Coen**	**22.57**	**136**	P	**P**	**17 37 17.1**	**-0.4**
WB0	**Warramunga Arr**	**22.93**	**162**	P	**P**	**17 37 21.1**	**-0.2**
PMG	**Port Moresby**	**23.02**	**120**	LR	LR	17 48 12.4	
	comp=Z,203nm,19.9s,baz=322,slow=41						
YHNB	**Yeheng**	**23.05**	**346**	P	**P**	**17 37 21.5**	**-1.0**
YHNB				IAmb	IAmb	17 37 29.5	
	comp=Z,26nm,0.8s						
YHNB	**Yeheng**	**23.05**	**346**	P	**P**	**17 37 22.3**	**-0.2**
WRAB	**Tennant Creek**	**23.08**	**162**	P	**P**	**17 37 22.6**	**-0.1**
WRAB				IAmb	IAmb	17 37 26.6	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**23.08**	**162**	P	**P**	**17 37 22.8**	**0.0**
WRA	**Warramunga Arr**	**23.08**	**163**	P	**P**	**17 37 22.7**	**-0.1**
	comp=Z,9.4nm,0.4s,baz=341,slow=11,SNR=113						
WRA				S	**S**	**17 41 30.6**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=332,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**23.08**	**163**	P	**P**	**17 37 21.3**	**-1.5**
WB2	**Warramunga Arr**	**23.09**	**162**	P	**P**	**17 37 22.5**	**-0.3**
WB2				IAmb	IAmb	17 37 26.7	
	comp=Z,23nm,0.7s						
WR0	**Warramunga Arr**	**23.16**	**162**	P	**P**	**17 37 23.4**	**-0.2**
WR0				IAmb	IAmb	17 37 36.8	
	comp=Z,21nm,1.0s						
MYKOM	**Kota Tinggi**	**23.28**	**269**	P	**P**	**17 37 25.3**	**+0.4**
QIZ	**Qiongzhong**	**23.82**	**316**	P	**P**	**17 37 28.9**	**-1.2**
QIZ				IAmb	IAmb	17 37 55.7	
	comp=Z,29nm,1.4s						
KASI	**Kota Agung**	**23.88**	**251**	P	**P**	**17 37 33.2**	**+2.6**
PSA00	**Pilbara Seismi**	**24.65**	**196**	P	**P**	**17 37 37.9**	**+0.3**
PSA00				IAmb	IAmb	17 37 39.1	
	comp=Z,19nm,1.1s						
PSA00	**Pilbara Seismi**	**24.65**	**196**	P	**P**	**17 37 38.2**	**+0.6**
PSA00				IAmb	IAmb	17 37 59.5	
	comp=Z,17nm,1.4s						
XMIS	**Christmas Isla**	**24.81**	**239**	P	**P**	**17 37 38.6**	**-0.5**
XMIS				IAmb	IAmb	17 38 03.5	
	comp=Z,33nm,1.0s						
MNAI	**Manna**	**25.02**	**255**	P	**P**	**17 37 40.8**	**-0.3**
UBPT	**Khong Chiam**	**25.03**	**303**	P	**P**	**17 37 39.5**	**-1.6**
QIS	**Mount Isa**	**25.68**	**152**	P	**P**	**17 37 47.9**	**+0.9**
AS31	**Alice Springs**	**26.51**	**166**	P	**P**	**17 37 53.9**	**-0.6**
ASAR	**Alice Springs**	**26.51**	**166**	P	**P**	**17 37 54.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=344,slow=7.7,SNR=76						
ASAR				PcP	**PcP**	**17 41 18.6**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=343,slow=2.2,SNR=8.8						
ASAR				S	**S**	**17 42 24.9**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=348,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**26.51**	**166**	P	**P**	**17 37 53.8**	**-0.7**
WRKA	**Warakurna**	**27.07**	**178**	P	**P**	**17 38 00.2**	**+0.7**
PSI	**Prapat**	**28.20**	**272**	LR	LR	17 51 37.2	
	comp=Z,51nm,19.4s,baz=94,slow=41						
CTA	**Charters Tower**	**29.00**	**141**	LR	LR	17 51 09.9	
	comp=Z,193nm,19.8s,baz=317,slow=39						
GSI	**Gunungsitoli**	**29.57**	**269**	P	**P**	**17 38 19.6**	**-2.3**
GSI				IAmb	IAmb	17 38 23.4	
	comp=Z,8.8nm,0.6s						
MEEK	**Meekatharra**	**29.80**	**195**	P	**P**	**17 38 24.3**	**+0.5**
NJ2	**Nanjing**	**30.73**	**346**	*eP*	**P**	**17 38 33.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OOD	**Oodnadatta**	**30.91**	**165**	P	**P**	**17 38 33.7**	**+0.2**
CM31	**Chiang Mai Arr**	**32.03**	**302**	P	**P**	**17 38 42.1**	**-1.5**
CM31				IAmb	IAmb	17 38 44.1	
	comp=Z,7.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.03**	**302**	P	**P**	**17 38 42.9**	**-0.7**
	comp=Z,5.9nm,0.9s,baz=118,slow=6.8,SNR=45						
CMAR				LR	LR	17 52 44.6	
	comp=Z,19nm,19.4s,baz=110,slow=38						
CMAR	**Chiang Mai Arr**	**32.03**	**302**	P	**P**	**17 38 41.8**	**-1.7**
CHTO	**Chiang Mai**	**32.19**	**303**	P	**P**	**17 38 43.3**	**-1.7**
CHTO				IAmb	IAmb	17 38 44.8	
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**32.19**	**303**	P	**P**	**17 38 44.6**	**-0.4**
INKA	**Innaminka**	**32.49**	**157**	P	**P**	**17 38 48.3**	**+0.8**
ENH	**Enshi**	**32.58**	**331**	P	**P**	**17 38 45.8**	**-2.4**
FORT	**Forrest**	**32.78**	**179**	P	**P**	**17 38 49.5**	**-0.4**
FORT	**Forrest**	**32.78**	**179**	P	**P**	**17 38 50.3**	**+0.4**
MORW	**Morawa**	**32.84**	**198**	P	**P**	**17 38 48.4**	**-2.1**
MORW				IAmb	IAmb	17 38 52.9	
	comp=Z,8.1nm,0.8s						
MORW	**Morawa**	**32.84**	**198**	P	**P**	**17 38 52.6**	**+2.1**
MULG	**Mulgathing**	**32.94**	**169**	P	**P**	**17 38 52.0**	**+0.6**
LCRK	**Leigh Creek**	**34.12**	**163**	P	**P**	**17 39 02.1**	**+0.5**
KSRS	**Korea Array**	**35.12**	**1**	P	**P**	**17 39 11.0**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=173,slow=9.6,SNR=10						
KSRS				LR	LR	17 55 55.0	
	comp=Z,27nm,20.2s,baz=180,slow=40						
TIA	**Tai'an**	**35.12**	**346**	*eP*	**P**	**17 39 06.8**	**-3.4**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MUN	**Mundaring**	**35.51**	**196**	P	**P**	**17 39 15.8**	**+2.2**
	comp=Z,47nm,2.5s						
MJAR	**Matsushiro Arr**	**35.70**	**15**	P	**P**	**17 39 15.9**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=198,slow=6.9,SNR=2.4						
MJAR				LR	LR	17 56 13.2	
	comp=Z,13nm,18.6s,baz=195,slow=40						
BBOO	**Buckleboo**	**35.80**	**167**	P	**P**	**17 39 15.6**	**-0.5**
BBOO	**Buckleboo**	**35.80**	**167**	P	**P**	**17 39 16.2**	**+0.1**
STKA	**Stephens Creek**	**36.54**	**159**	P	**P**	**17 39 23.0**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=328,slow=9.2,SNR=76						
STKA				LR	LR	17 56 30.4	
	comp=Z,91nm,20.1s,baz=6.2,slow=40						
STKA	**Stephens Creek**	**36.54**	**159**	P	**P**	**17 39 22.7**	**+0.3**
STKA	**Stephens Creek**	**36.54**	**159**	P	**P**	**17 39 23.1**	**+0.6**
HTT	**Hallett**	**37.12**	**164**	P	**P**	**17 39 28.5**	**+1.1**
JMM	**Marumori**	**37.67**	**18**	P	**P**	**17 39 32.2**	**+0.2**
JMM				IAmb	IAmb	17 39 53.5	
	comp=Z,15nm,0.8s						
CMSA	**Cobar Meteorol**	**37.88**	**154**	P	**P**	**17 39 34.5**	**+0.7**
TWOA	**Tennyson Woods**	**38.53**	**165**	P	**P**	**17 39 40.6**	**+1.4**
BJT	**Baijiatuan**	**38.97**	**347**	P	**P**	**17 39 42.6**	**-0.2**
BJI	**Beijing**	**38.99**	**347**	P	**P**	**17 39 43.5**	**+0.5**
BJI				pP	**pP**	**17 39 52.3**	**-0.2**
BJI				PP	**PP**	**17 41 13.3**	**+0.5**
BJI				PcP	**PcP**	**17 41 53.3**	**+0.4**
BJI				S	**S**	**17 45 42.4**	**+2.9**
BJI				pmax	pmax		
	comp=Z,34nm,0.8s						
BJI				pmax	pmax		
	comp=Z,58nm,3.9s						
ARMA	**Armidale**	**39.95**	**146**	P	**P**	**17 39 51.3**	**0.0**
ARMA				IAmb	IAmb	17 40 13.2	
	comp=Z,28nm,1.3s						
LZH	**Lanzhou**	**40.05**	**330**	*eP*	**P**	**17 39 50.5**	**-1.6**
LZH				pP	pP	17 40 01.8	+0.1
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
LZH				LR	LR		
	comp=Z,340nm,15.2s						
LZH				LR	LR		
	comp=Z,300nm,15.0s						
LZH				LR	LR		
	comp=Z,250nm,17.4s						
HHC	**Hu-ho-hao-te**	**41.00**	**342**	*eP*	**P**	**17 40 03.6**	**+3.8**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.5s						
ARPS	**Mount Arapiles**	**41.09**	**162**	P	**P**	**17 40 01.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**42.07**	**5**	P	**P**	**17 40 09.4**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=198,slow=8.7,SNR=4.7						
USRK				LR	LR	17 59 32.0	
	comp=Z,30nm,20.0s,baz=186,slow=39						
MDJ	**Mudanjiang**	**42.32**	**3**	P	**P**	**17 40 10.4**	**-0.1**
CAN	**Canberra**	**42.54**	**153**	P	**P**	**17 40 13.5**	**+1.0**
CAN				IAmb	IAmb	17 40 24.1	
	comp=Z,29nm,1.3s						
XLT	**XiLinHaoTe**	**42.70**	**348**	*eP*	**P**	**17 40 13.8**	**+0.1**
XLT				pmax	pmax		
	comp=Z,18nm,0.8s						
XLT				pmax	pmax		
	comp=Z,66nm,4.0s						
TOO	**Toolangi**	**43.05**	**159**	P	**P**	**17 40 18.1**	**+1.5**
TOO				IAmb	IAmb	17 40 32.6	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**43.05**	**159**	P	**P**	**17 40 18.4**	**+1.9**
LSA	**Lhasa**	**43.78**	**312**	P	**P**	**17 40 22.9**	**-0.2**
LSA				IAmb	IAmb	17 40 24.3	
	comp=Z,8.8nm,0.6s						
LSA	**Lhasa**	**43.78**	**312**	P	**P**	**17 40 23.3**	**+0.2**
ASAJ	**Asahikawa**	**43.96**	**16**	P	**P**	**17 40 26.3**	**+2.6**
	comp=Z,9.2nm,1.1s,baz=248,slow=11,SNR=1.3						
ASAJ				LR	LR	17 57 00.1	
	comp=Z,95nm,19.9s,baz=172,slow=34						
GTA	**Gaotai**	**44.64**	**330**	P	**P**	**17 40 29.0**	**-0.4**
GTA				pP	pwP	17 40 40.5	-1.5
GTA				sP	sP	17 40 45.0	+2.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU	**GeErMu**	**45.16**	**322**	P	**P**	**17 40 35.5**	**+1.6**
GOMU				pP	pP	17 40 39.0	-4.6
GOMU				sP	pwP	17 40 41.3	-5.3
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,87nm,4.6s						
TAPN	**Taplejung**	**45.27**	**307**	*eP*	**P**	**17 40 33.5**	**-1.4**
ODAN	**Odare**	**45.31**	**307**	*eP*	**P**	**17 40 33.7**	**-1.4**
	comp=Z,26nm,0.7s						
DZM	**Mont Dzumac**	**45.31**	**124**	LR	LR	18 00 42.7	
	comp=Z,102nm,18.2s,baz=284,slow=37						
RAMN	**Ramite**	**45.99**	**306**	*eP*	**P**	**17 40 39.6**	**-0.9**
	comp=Z,12nm,0.6s						
PALK	**Pallekele**	**46.54**	**278**	LR	LR	18 02 16.1	
	comp=Z,48nm,19.9s,baz=205,slow=39						
JIRN	**Jiri**	**46.62**	**307**	*eP*	**P**	**17 40 44.2**	**-1.4**
	comp=Z,17nm,0.6s						
YSS	**Yuzh-Sakhalins**	**46.63**	**15**	P	**P**	**17 40 42.9**	**-1.9**
YSS				IAmb	IAmb	17 41 08.2	
	comp=Z,11nm,1.1s						
GUN	**Gumba**	**46.98**	**307**	*eP*	**P**	**17 40 47.0**	**-1.4**
	comp=Z,33nm,0.6s						
KLR	**Kul'dur**	**47.05**	**4**	LR	LR	18 04 00.5	
	comp=Z,27nm,18.7s,baz=180,slow=40						
PKI	**Pulchoki**	**47.21**	**306**	*eP*	**P**	**17 40 48.4**	**-1.7**
PKIN	**Phulchoki**	**47.22**	**306**	*eP*	**P**	**17 40 48.4**	**-1.8**
	comp=Z,6.4nm,0.7s						
KKN	**Kakani**	**47.41**	**307**	*eP*	**P**	**17 40 49.9**	**-1.6**
DMN	**Daman**	**47.47**	**306**	*eP*	**P**	**17 40 50.8**	**-1.3**
GKN	**Gorkha**	**48.01**	**307**	*eP*	**P**	**17 40 54.3**	**-1.9**
	comp=Z,8.7nm,0.7s						
ULN	**Ulaanbaatar**	**48.72**	**342**	P	**P**	**17 41 01.5**	**+0.2**
KOLN	**Koldanda**	**48.75**	**306**	*eP*	**P**	**17 41 00.7**	**-1.2**
	comp=Z,23nm,0.7s						
DANN	**Dangsing**	**48.86**	**306**	*eP*	**P**	**17 41 01.4**	**-1.5**
	comp=Z,39nm,0.8s						
SONM	**Songino Array**	**48.90**	**342**	P	**P**	**17 41 03.2**	**+0.6**
	comp=Z,12nm,0.7s,baz=155,slow=10.0,SNR=19						
SONM				LR	LR	18 02 60.0	
	comp=Z,76nm,21.8s,baz=109,slow=38						
SONM	**Songino Array**	**48.90**	**342**	P	**P**	**17 41 02.7**	**+0.1**
SONM				IAmb	IAmb	17 41 04.1	
	comp=Z,9.0nm,0.8s						
PYUN	**Piuthan**	**49.38**	**306**	*eP*	**P**	**17 41 05.7**	**-1.0**
	comp=Z,20nm,0.8s						
WMQ	**Urumqi**	**54.23**	**325**	*eP*	**P**	**17 41 44.3**	**+1.8**
WMQ				pP	pP	17 41 52.1	-0.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MK31	**Makanchi Array**	**59.06**	**326**	P	**P**	**17 42 16.1**	**-0.7**
MKAR	**Makanchi Array**	**59.06**	**326**	P	**P**	**17 42 16.2**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=119,slow=8.1,SNR=32						
MKAR				LR	LR	18 09 15.5	
	comp=Z,55nm,18.2s,baz=104,slow=38						
MAKZ	**Makanchi**	**59.25**	**325**	P	**P**	**17 42 17.1**	**-0.9**
MAKZ				IAmb	IAmb	17 42 40.3	
	comp=Z,7.7nm,1.1s						
YAK	**Yakutsk**	**59.74**	**1**	LR	LR	18 13 23.7	
	comp=Z,24nm,18.7s,baz=196,slow=41						
YAK	**Yakutsk**	**59.74**	**1**	P	**P**	**17 42 21.0**	**-0.1**
KDJ	**Kajisay**	**59.78**	**319**	P	**P**	**17 42 21.6**	**-0.4**
KDJ				IAmb	IAmb	17 42 46.0	
	comp=Z,3.6nm,0.8s						
MA2	**Magadan**	**60.11**	**14**	LR	LR	18 06 50.4	
	comp=Z,36nm,20.9s,baz=114,slow=34						
LBZ	**Lake Benmore**	**60.17**	**146**	P	**P**	**17 42 24.2**	**-0.2**
LBZ				IAmb	IAmb	17 42 49.1	
	comp=Z,8.5nm,1.4s						
THZ	**Tophouse**	**60.23**	**142**	P	**P**	**17 42 25.3**	**+0.4**
RPZ	**Rata Peaks**	**60.26**	**145**	LR	LR	18 08 04.8	
	comp=Z,97nm,19.6s,baz=274,slow=36						
RPZ	**Rata Peaks**	**60.26**	**145**	P	**P**	**17 42 25.1**	**+0.1**
URZ	**Urewera**	**61.13**	**137**	LR	LR	18 10 02.0	
	comp=Z,90nm,18.1s,baz=356,slow=37						
BKZ	**Black Stump Fm**	**61.16**	**138**	P	**P**	**17 42 31.1**	**-0.2**
AAK	**Ala-Archa**	**61.78**	**318**	LR	LR	18 13 30.6	
	comp=Z,39nm,18.2s,baz=87,slow=40						
AAK	**Ala-Archa**	**61.78**	**318**	P	**P**	**17 42 35.0**	**-0.6**
ZAA0	**Zalesovo Array**	**62.16**	**333**	P	**P**	**17 42 36.5**	**-1.2**
ZAA0				IAmb	IAmb	17 42 37.8	
	comp=Z,5.7nm,0.8s						
ZALV	**Zalesovo Beam**	**62.16**	**333**	P	**P**	**17 42 37.1**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=114,slow=6.7,SNR=21						
ZALV	**Zalesovo Beam**	**62.16**	**333**	P	**P**	**17 42 36.5**	**-1.2**
AFI	**Afiamalu**	**62.60**	**107**	LR	LR	18 09 41.9	
	comp=Z,48nm,18.6s,baz=344,slow=36						
KURBB	**Kurchatov Arra**	**63.27**	**328**	P	**P**	**17 42 44.8**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=128,slow=6.2,SNR=43						
KURK	**Kurchatov**	**63.27**	**328**	P	**P**	**17 42 44.5**	**-0.6**
GAR	**Garm**	**63.28**	**313**	P	**P**	**17 42 44.2**	**-1.4**
GAR				IAmb	IAmb	17 42 45.5	
	comp=Z,8.4nm,0.8s						
KKAR	**Karatay Array**	**64.65**	**317**	P	**P**	**17 42 52.9**	**-1.5**
BRVK	**Borovoye**	**68.92**	**327**	P	**P**	**17 43 21.0**	**-0.4**
CASY	**Casey**	**69.33**	**187**	P	**P**	**17 43 24.0**	**+0.4**
TIXI	**Tiksi**	**69.39**	**1**	LR	LR	18 15 17.4	
	comp=Z,52nm,20.1s,baz=181,slow=37						
TIXI	**Tiksi**	**69.39**	**1**	P	**P**	**17 43 23.1**	**-0.7**
WSAR	**Wadi Sarin**	**69.42**	**294**	LR	LR	18 15 18.2	
	comp=Z,14nm,21.4s,baz=162,slow=37						
NRIK	**Noril'sk**	**72.03**	**346**	P	**P**	**17 43 40.1**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=131,slow=6.9,SNR=7.0						
NRIK				LR	LR	18 16 31.1	
	comp=Z,42nm,20.5s,baz=168,slow=37						
NRIK	**Noril'sk**	**72.03**	**346**	P	**P**	**17 43 39.7**	**-0.3**
NRIK				IAmb	IAmb	17 44 00.7	
	comp=Z,9.6nm,1.1s						
GEYT	**Alibeck**	**72.19**	**309**	P	**P**	**17 43 41.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=147,slow=8.1,SNR=2.4						
SOCY	**Socotra**	**73.08**	**282**	P	**P**	**17 43 45.0**	**-2.5**
ABKAR	**Akbulak array**	**73.61**	**321**	P	**P**	**17 43 49.2**	**-0.6**
ABKAR				IAmb	IAmb	17 43 50.5	
	comp=Z,9.9nm,0.7s						
AKTO	**Aktyubinsk**	**75.13**	**322**	LR	LR	18 18 33.6	
	comp=Z,44nm,21.1s,baz=88,slow=37						
ARU	**Arti**	**76.47**	**328**	P	**P**	**17 44 05.6**	**-0.6**
ARU				IAmb	IAmb	17 44 10.4	
	comp=Z,4.7nm,0.8s						
RAYN	**Ar Rayn**	**81.47**	**293**	P	**P**	**17 44 33.9**	**-0.5**
RAYN				IAmb	IAmb	17 44 35.4	
	comp=Z,7.3nm,0.8s						
VNDA	**Vanda**	**81.84**	**173**	P	**P**	**17 44 35.0**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=305,slow=5.6,SNR=17						
VNDA	**Vanda**	**81.84**	**173**	P	**P**

IRAM	**Rameshe**	**3.90**	**99**	*e*Pn		**Pn**	**17 33 22.1**	**+0.8**
IMHD	**Mahdasht**	**3.93**	**36**	*e*Pn		**Pn**	**17 33 23.4**	**+1.9**
IVRN	**Varamin**	**4.06**	**52**	*e*Pn		**Pn**	**17 33 24.9**	**+1.5**
IHSB	**Hasanabad**	**4.07**	**43**	*e*Pn		**Pn**	**17 33 24.8**	**+1.3**
IKRK	**Kirkuk**	**4.10**	**315**	*e*Pn		**Pn**	**17 33 25.0**	**+1.2**
IKRK				*e*Sn		**Sn**	**17 34 13.0**	**+1.5**
IKRK				AML	AML		17 34 43.6	
	comp=N,94nm,0.5s							
IKRK				AML	AML		17 34 50.2	
	comp=E,137nm,0.5s							
ISFB	**Sefidab**	**4.10**	**62**	*e*Pn		**Pn**	**17 33 25.1**	**+1.3**
NASN	**Na'in**	**4.19**	**85**	*e*Pn		**Pn**	**17 33 26.9**	**+1.6**
ZNJK	**Zanjan**	**4.20**	**9**	*e*Pn		**Pn**	**17 33 28.5**	**+3.1**
CHTH	**Charan**	**4.33**	**38**	*e*Pn		**Pn**	**17 33 29.6**	**+2.4**
QALM	**Alamut, Qazvin**	**4.53**	**30**	*e*Pn		**Pn**	**17 33 31.9**	**+1.9**
QALM				*e*			17 35 03.4	
	comp=Z,782nm,1.0s							
DAMV	**Damavand**	**4.61**	**47**	*e*Pn		**Pn**	**17 33 33.2**	**+2.1**
IDMV	**Damavand**	**4.62**	**48**	*e*Pn		**Pn**	**17 33 32.6**	**+1.4**
ANAR	**Anarak**	**4.99**	**81**	*e*Pn		**Pn**	**17 33 36.7**	**+0.5**
ILAS	**Lasjerd**	**5.11**	**55**	*e*Pn		**Pn**	**17 33 39.1**	**+1.1**
IFIR	**Firoozkooh**	**5.12**	**51**	*e*Pn		**Pn**	**17 33 39.4**	**+1.3**
IFIR				*e*			17 35 26.4	
	comp=Z,347nm,1.8s							
IPRN	**Peran**	**5.25**	**44**	*e*Pn		**Pn**	**17 33 42.1**	**+2.4**
ISRB	**Sarab**	**5.29**	**358**	*e*Pn		**Pn**	**17 33 42.7**	**+2.3**
ISHM	**Shahmirzad**	**5.57**	**52**	*e*Pn		**Pn**	**17 33 46.0**	**+1.7**
YZKH	**Yazd**	**5.70**	**89**	*e*Pn		**Pn**	**17 33 46.5**	**+0.7**
ISHB	**Shabestar**	**6.03**	**343**	*e*Pn		**Pn**	**17 33 52.3**	**+1.7**
GRMI	**Germi**	**6.28**	**0**	*e*Pn		**Pn**	**17 33 57.5**	**+3.7**
TPRV	**Parvadeh(Tabas**	**7.45**	**84**	*e*Pn		**Pn**	**17 34 10.9**	**+0.9**
TNSJ	**Nastanj**	**7.47**	**77**	*e*Pn		**Pn**	**17 34 11.9**	**+1.6**
SHRO	**Shahrood**	**7.59**	**61**	*e*Pn		**Pn**	**17 34 13.1**	**+1.3**
TKDS	**Koohdasht(Taba**	**7.86**	**80**	*e*Pn		**Pn**	**17 34 16.1**	**+0.6**
AKTO	**Aktyubinsk**	**19.42**	**20**	P		**P**	**17 36 47.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=4.3							
BELG	**Belogornoye**	**19.86**	**360**	P		**P**	**17 36 51.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=92,slow=1.3,SNR=4.1							
MLR	**Muntele Rosu**	**21.31**	**314**	P		**P**	**17 37 08.6**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=216,slow=10,SNR=6.3							
AKASG	**Malin Array Be**	**22.78**	**328**	P		**P**	**17 37 22.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=135,slow=9.6,SNR=5.2							
BVAR	**Borovoye Array**	**26.14**	**32**	P		**P**	**17 37 55.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=37,slow=10,SNR=5.4							
NACGM	**Naroch**	**26.86**	**333**	*ip*		**P**	**17 38 04.9**	**+3.3**
KURBB	**Kurchatov Arra**	**28.92**	**42**	P		**P**	**17 38 20.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=247,slow=9.3,SNR=4.3							
MKAR	**Makanchi Array**	**29.83**	**51**	P		**P**	**17 38 28.2**	**0.0**
	comp=Z,1.2nm,0.7s,baz=246,slow=7.7,SNR=14							
FINES	**FINESS Array B**	**32.20**	**340**	P		**P**	**17 38 47.6**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=146,slow=9.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**33.84**	**40**	P		**P**	**17 39 02.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=226,slow=7.2,SNR=4.5							
ESDC	**Sonseca Array**	**41.99**	**295**	P		**P**	**17 40 11.4**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=80,slow=7.6,SNR=5.4							
TORD	**Torodi Ar. Bea**	**46.30**	**256**	P		**P**	**17 40 45.3**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=52,slow=8.8,SNR=3.0							
CMAR	**Chiang Mai Arr**	**47.77**	**94**	P		**P**	**17 40 57.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=295,slow=8.8,SNR=1.4							
KSRS	**Korea Array**	**63.90**	**61**	P		**P**	**17 42 53.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=287,slow=6.1,SNR=2.2							
YKA	**Yellowknife Ar**	**84.27**	**352**	P		**P**	**17 44 51.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=22,slow=4.8,SNR=4.9							

ANF 16 17:36:52.5±0.3, 33.99N×117.16W, h17km±2km, ML2.2/8, ML1.8/4, Error ellipse: s-maj=3.0km s-min=1.7km az=99.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.34**	**36**	P	Pb	17 37 00.1	-0.2
	baz=218						
BBRC				S	Sg	17 37 05.1	+0.4
	baz=218						
MURC	**Murrieta**	**0.39**	**184**	P	Pb	17 37 00.9	0.0
	baz=2.1						
MURC				S	Sg	17 37 06.2	+0.3
	baz=2.1						
PFO	**Pinyon Flats O**	**0.69**	**122**	P	Pb	17 37 06.2	0.0
	baz=302,SNR=16						
PFO				S	Sb	17 37 15.5	-0.1
	baz=302						
BELC	**Belle Mtn. Jos**	**0.97**	**89**	P	Pn	17 37 11.5	+0.1
	baz=270,SNR=7.3						
HEC	**Hector,Ludlow**	**1.08**	**39**	S	Sg	17 37 28.2	+0.5
	baz=220						
EDW2	**Edwards Air Fo**	**1.13**	**323**	S	Sn	17 37 28.4	-0.3
	baz=143						

ANF 16 17:36:57.5±0.2, 33.18N×115.62W, h0km±3km, Error ellipse: s-maj=3.3km s-min=1.3km az=122.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.28**	**213**	P	Pg	17 37 03.1	+0.3
	baz=36,SNR=44						
SWSC				S	Sg	17 37 07.4	+0.9
	baz=36						
BC3	**Big Chuckawall**	**0.49**	**16**	P	Pg	17 37 07.0	+0.1
	baz=195,SNR=31						
BC3				S	Sg	17 37 13.9	+0.6
	baz=195						
IKP	**In-Ko-Pah, Jac**	**0.67**	**218**	P	Pg	17 37 10.0	-0.3
	baz=39,SNR=8.6						
IKP				S	Sg	17 37 19.1	0.0
	baz=39						
GLA	**Glamis**	**0.68**	**101**	P	Pg	17 37 09.8	-0.6
	baz=281,SNR=11						
GLA				S	Sg	17 37 19.5	+0.4
	baz=281						
MONP2	**Monument Peak**	**0.73**	**247**	P	Pg	17 37 11.2	-0.4
	baz=67,SNR=19						
MONP2				S	Sg	17 37 21.2	+0.1
	baz=67						
IRM	**Iron Mountain**	**1.05**	**22**	P	Pg	17 37 18.0	+0.4
	baz=201,SNR=52						
IRM				S	Sb	17 37 32.4	-0.5
	baz=201						
GMRC	**Granite Mounta**	**1.60**	**359**	P	Pb	17 37 27.7	-0.3
	baz=178,SNR=21						
GMRC				S	Sg	17 37 49.3	+0.4
	baz=178						
NEE2	**Needles Airpor**	**1.79**	**27**	S	Sg	17 37 54.6	-0.3
	baz=207						

*KRSC **16** 18:04:57.7±1.9, 48.37N×155.29E, h106km±38km, ML4.3*
*SKHL **16** 18:04:57.2±0.5, 48.90N×153.90E, h120km±9km, mb4.5/2, msha5.2/2*
*MOS **16** 18:04:57.0±1.5, 48.76N×153.74E, h125km, mb3.9/1, Error ellipse: s-maj=40.1km s-min=7.4km az=65.0*
*IDC **16** 18:05:00.1±2.7, 48.88N×153.68E, h136km±26km, mb2.9/5, mb1 3.2/7, mb1mx3.0/38, mbtmp3.4/7, Error ellipse: s-maj=39.0km s-min=19.0km az=135.0*

ISC 16 18:04:56.2±0.9, 48.5N±0.1×154.2E±0.2, h100km, n40, σ1s83/45, mb3.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**29**	PN	**Pn**	**18 05 36.4**	**+0.8**
SKR				S	**Sn**	**18 06 06.4**	**+0.6**
SKR	**Severo-Kuril's**	**2.52**	**29**	*e*P	**Pn**	**18 05 36.4**	**+0.8**
SKR				*e*S	**Sn**	**18 06 06.4**	**+0.6**
SKR	**Severo-Kuril's**	**2.52**	**29**	*e*P	**Pn**	**18 05 36.2**	**+0.6**
SKR				AMB	AMB	18 05 42.0	
	60nm,0.5s						
SKR				*e*S	**Sn**	**18 06 05.8**	**0.0**
SKR				A	A	18 06 09.5	
	80nm,0.4s						
SKR				A	A	18 06 09.5	
	140nm,0.4s						
PAU	**Pauzhetka**	**3.42**	**29**	PN	**Pn**	**18 05 48.8**	**+1.3**
PAU				S	**Sn**	**18 06 27.0**	**-0.2**
PAU	**Pauzhetka**	**3.42**	**29**	*e*P	**Pn**	**18 05 48.8**	**+1.3**
PAU				*e*S	**Sn**	**18 06 27.0**	**-0.2**
PAU	**Pauzhetka**	**3.42**	**29**	*e*P	**Pn**	**18 05 48.5**	**+1.0**
PAU				AMB	AMB	18 05 50.5	
	40nm,0.4s						
PAU				*e*S	**Sn**	**18 06 26.6**	**-0.6**
PAU				A	A	18 06 29.4	
	160nm,0.5s						
PAU				A	A	18 06 29.4	
	170nm,0.5s						
KDTR	**Khodutka, Kamc**	**4.16**	**36**	*e*S	**Sn**	**18 06 40.9**	**-4.0**
MTVR	**Mutnovka**	**4.74**	**31**	PN	**Pn**	**18 06 05.8**	**+0.4**
MTVR				S	**Sn**	**18 06 56.5**	**-2.7**
MTVR	**Mutnovka**	**4.74**	**31**	*e*P	**Pn**	**18 06 05.8**	**+0.4**
MTVR				*e*S	**Sn**	**18 06 56.5**	**-2.7**
GRL	**Gorelyy**	**4.76**	**30**	PN	**Pn**	**18 06 06.8**	**+1.1**
GRL				S	**Sn**	**18 06 58.5**	**-1.2**
GRL	**Gorelyy**	**4.76**	**30**	*e*P	**Pn**	**18 06 06.8**	**+1.1**
GRL				*e*S	**Sn**	**18 06 58.5**	**-1.2**
KRMR	**Karymshinskiy**	**5.01**	**29**	PN	**Pn**	**18 06 11.3**	**+2.3**
KRMR	**Karymshinskiy**	**5.01**	**29**	*e*P	**Pn**	**18 06 11.3**	**+2.3**
PETK	**Petropavlovsk-**	**5.13**	**25**	P	**Pn**	**18 06 11.4**	**+0.8**
	0.7nm,0.3s,baz=187,slow=11,SNR=10						
PET	**Petropavlovsk**	**5.35**	**30**	*e*P	**Pn**	**18 06 14.3**	**+0.8**
DALK	**Dalny**	**5.39**	**31**	PN	**Pn**	**18 06 13.8**	**-0.2**
DALK	**Dalny**	**5.39**	**31**	*e*P	**Pn**	**18 06 13.8**	**-0.2**
KOK	**Koryaka**	**5.57**	**29**	PN	**Pn**	**18 06 19.5**	**+2.9**
KOK	**Koryaka**	**5.57**	**29**	*e*P	**Pn**	**18 06 19.5**	**+2.9**
KOK	**Koryaka**	**5.57**	**29**	*e*P	**Pn**	**18 06 19.5**	**+2.9**
AVH	**Avacha**	**5.58**	**29**	PN	**Pn**	**18 06 18.1**	**+1.4**
AVH	**Avacha**	**5.58**	**29**	*e*P	**Pn**	**18 06 18.1**	**+1.4**
SMAR	**Somma**	**5.59**	**30**	PN	**Pn**	**18 06 18.8**	**+1.7**
SMAR	**Somma**	**5.59**	**30**	*e*P	**Pn**	**18 06 18.8**	**+1.7**
GNL	**Ganaly**	**5.72**	**23**	PN	**Pn**	**18 06 20.1**	**+1.4**
GNL	**Ganaly**	**5.72**	**23**	*e*P	**Pn**	**18 06 20.1**	**+1.4**
SHO	**Shikotan**	**6.88**	**230**	*e*Pn	**Pn**	**18 06 33.7**	**-0.7**
SHO				*e*S	**Sn**	**18 07 48.5**	**-2.7**
JKA	**Kamikawa-asahi**	**9.13**	**246**	*e*P	**Pn**	**18 07 08.3**	**+3.3**
ASAJ	**Asahikawa**	**9.13**	**246**	P	**Pn**	**18 07 08.3**	**+3.3**
	0.8nm,0.3s,baz=61,slow=13,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**30.49**	**156**	T	T	18 43 11.5	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**30.50**	**156**	T	T	18 43 11.5	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**30.50**	**156**	T	T	18 43 11.5	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**31.60**	**157**	T	T	18 44 32.3	
	baz=344,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**31.61**	**157**	T	T	18 44 29.4	
	baz=344,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**31.62**	**157**	T	T	18 44 30.6	
	baz=344,slow=76,SNR=9.9						
MKAR	**Makanchi Array**	**46.79**	**296**	P	**P**	**18 13 11.7**	**-3.8**
	0.1nm,0.7s,baz=54,slow=7.5,SNR=4.0						
YKA	**Yellowknife Ar**	**49.10**	**38**	P	**P**	**18 13 32.9**	**0.0**
	0.1nm,0.4s,baz=304,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**70.40**	**200**	P	**P**	**18 16 00.3**	**+1.0**
	0.4nm,0.9s,baz=18,slow=6.1,SNR=1.8						
ASAR	**Alice Springs**	**74.10**	**199**	P	**P**	**18 16 22.4**	**+1.1**
	0.3nm,0.8s,baz=14,slow=6.2,SNR=4.7						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**18 16 33.4**	**+0.8**
	0.4nm,0.6s,baz=304,slow=4.5,SNR=4.4						

*IDC **16** 18:12:50.2±0.6, 38.58S×47.90E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/29, mbtmp4.1/14, MS3.9/49, Ms1 3.9/49, ms1mx3.8/68, Error ellipse: s-maj=23.7km s-min=16.3km az=26.0*
*NEIC **16** 18:12:52.2±1.0, 38.68S±0.09×47.78E±0.2, h10km±1km, mb4.5/25, Error ellipse: s-maj=22.2km s-min=15.3km az=270.0*
*GCMT **16** 18:12:54.2±0.4, 38.59S±0.03×47.73E±0.06, h18km±1km, MW4.8/70, Moment Tensor Solution. s10,c11; s70,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.41±.23; $M_{\theta\theta}$2.01±.14; $M_{\phi\phi}$0.39±.13; $M_{r\theta}$0.09±.29; $M_{\phi\theta}$0.63±.10; $M_{\phi r}$0.55±.45; Best double couple: $M_0$2.37800×10^{16} NP1:φ=81.00000°, δ=43.00000°, λ=-75.00000°. NP2: φ=241.00000°, δ=49.00000°, λ=-104.00000°. Principal axes: T 2.2430, Plg3.0000°, Azm340.0000°; N 0.2680, Plg10.0000°, Azm250.0000°; P -2.5120, Plg79.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:12:51.6±0.5, 38.61S±0.08×47.9E±0.1, h10km, n93, σ1s90/49, mb4.4/23, MS4.0/50, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**16.68**	**356**	P	**P**	**18 16 47.8**	**-0.1**
VOI				IAmb	IAmb	18 16 50.6	
	comp=Z,47nm,1.5s						
ABPO	**Ambohimpanom**	**19.53**	**358**	P	**Pn**	**18 17 21.1**	**+0.3**
ABPO				IAmb	IAmb	18 17 23.8	
	comp=Z,33nm,1.4s						
OPO	**Ambohidratompo**	**19.98**	**358**	P	**Pn**	**18 17 26.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=168,slow=7.1,SNR=4.0						
OPO				LR	LR	18 23 30.7	
	comp=Z,249nm,21.9s,baz=356,slow=32						
BOSA	**Boshof**	**21.28**	**291**	P	**P**	**18 17 39.2**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=132,slow=10,SNR=2.1						
BOSA				LR	LR	18 24 47.7	
	comp=Z,214nm,18.0s,baz=140,slow=34						
BOSA	**Boshof**	**21.28**	**291**	P	**P**	**18 17 37.9**	**-0.5**
SUR	**Sutherland**	**22.86**	**277**	LR	LR	18 25 04.5	
	comp=Z,138nm,20.7s,baz=116,slow=32						
LBTB	**Lobatse**	**23.22**	**299**	P	**P**	**18 17 58.9**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=144,slow=8.1,SNR=2.5						
LBTB				LR	LR	18 25 45.8	
	comp=Z,238nm,19.4s,baz=126,slow=33						
LBTB	**Lobatse**	**23.22**	**299**	P	**P**	**18 17 57.8**	**-1.2**
MATP	**Matopo**	**24.67**	**312**	P	**P**	**18 18 12.7**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=126,slow=13,SNR=5.3						
MATP				LR	LR	18 26 22.4	
	comp=Z,427nm,21.2s,baz=144,slow=33						
LSZ	**Lusaka**	**29.01**	**318**	LR	LR	18 29 15.9	
	comp=Z,230nm,18.4s,baz=148,slow=34						
MAW	**Mawson**	**30.23**	**169**	LR	LR	18 28 07.4	
	comp=Z,397nm,20.7s,baz=315,slow=30						
TSUM	**Tsumeb**	**32.61**	**298**	LR	LR	18 31 49.2	
	comp=Z,214nm,18.1s,baz=142,slow=35						
H08S1	**Diego Garcia H**	**37.97**	**42**	T	T	19 00 30.4	
	baz=212,slow=75,SNR=6.9						
H08S2	**Diego Garcia H**	**37.98**	**42**	T	T	19 00 30.9	
	baz=212,slow=75,SNR=6.1						
H08S3	**Diego Garcia H**	**37.99**	**42**	T	T	19 00 32.0	
	baz=212,slow=75,SNR=9.7						
KMBO	**Kilima Mbogo**	**38.56**	**343**	LR	LR	18 34 14.3	
	comp=Z,152nm,21.2s,baz=96,slow=33						
MBAR	**Mbarara**	**40.97**	**333**	LR	LR	18 35 39.1	
	comp=Z,280nm,21.6s,baz=142,slow=33						
SNAA	**Sanae**	**41.72**	**202**	P	**P**	**18 20 40.2**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=70,slow=3.3,SNR=5.1						
SNAA				LR	LR	18 33 28.9	
	comp=Z,226nm,21.0s,baz=0.0,slow=30						
SNAA	**Sanae**	**41.72**	**202**	P	**P**	**18 20 40.2**	**-0.1**
SNAA				IAmb	IAmb	18 20 57.3	
	comp=Z,9.0nm,1.3s						
ATD	**Arta Tunnel**	**50.10**	**354**	LR	LR	18 41 31.5	
	comp=Z,151nm,18.8s,baz=160,slow=34						
BELA	**Belgrano 2**	**51.02**	**196**	P	**P**	**18 21 52.4**	**-0.9**
QSPA	**South Pole Qui**	**51.58**	**180**	P	**P**	**18 21 58.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=324,slow=4.6,SNR=2.4						
QSPA				LR	LR	18 41 46.0	
	comp=Z,403nm,19.6s,baz=253,slow=34						
QSPA	**South Pole Qui**	**51.58**	**180**	P	**P**	**18 21 58.3**	**+0.4**
QSPA				IAmb	IAmb	18 22 24.3	
	comp=Z,5.2nm,1.5s						
H01W2	**Cape Leeuwin H**	**52.16**	**108**	T	T	19 18 15.1	
	baz=245,slow=75,SNR=65						
H01W3	**Cape Leeuwin H**	**52.17**	**108**	T	T	19 18 16.9	
	baz=245,slow=75,SNR=64						
H01W1	**Cape Leeuwin H**	**52.18**	**108**	T	T	19 18 17.6	
	baz=245,slow=75,SNR=46						
PALK	**Pallekele**	**54.90**	**41**	LR	LR	18 39 44.1	
	comp=Z,115nm,21.9s,baz=310,slow=29						
VNDA	**Vanda**	**57.49**	**166**	LR	LR	18 44 52.5	
	comp=Z,214nm,19.5s,baz=229,slow=33						
VNDA	**Vanda**	**57.49**	**166**	P	**P**	**18 22 39.6**	**-0.8**
VNDA				IAmb	IAmb	18 22 47.6	
	comp=Z,2.7nm,1.1s						
LEM	**Lembang**	**62.25**	**76**	LR	LR	18 45 20.7	
	comp=Z,37nm,18.8s,baz=249,slow=31						
WSAR	**Wadi Sarin**	**62.34**	**11**	LR	LR	18 45 20.8	
	comp=Z,109nm,18.8s,baz=198,slow=31						
DBIC	**Dimbokro**	**66.46**	**300**	P	**P**	**18 23 42.8**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=214,slow=3.6,SNR=4.0						
DBIC				LR	LR	18 51 49.0	
	comp=Z,36nm,18.6s,baz=142,slow=35						
TORD	**Torodi Ar. Bea**	**67.18**	**310**	P	**P**	**18 23 45.6**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=126,slow=6.4,SNR=5.9						
EIL	**Elat**	**69.00**	**348**	LR	LR	18 53 27.1	
	comp=Z,45nm,18.2s,baz=154,slow=35						

BBOO	**Buckleboo**	**69.13**	**116**	P		**P**	**18 23 57.8**	**-0.4**
BBOO				IAmb	IAmb		18 24 22.9	
	comp=Z,12nm,1.4s							
FITZ	**Fitzroy Crossi**	**69.51**	**97**	LR		LR	18 50 01.7	
	comp=Z,35nm,18.7s,baz=226,slow=32							
MMAI	**Mount Meron Ar**	**72.20**	**349**	LR		LR	18 54 47.2	
	comp=Z,54nm,18.2s,baz=18,slow=35							
ASAR	**Alice Springs**	**72.66**	**107**	P		**P**	**18 24 20.2**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=227,slow=6.0,SNR=22							
ASAR				LR		LR	18 51 05.2	
	comp=Z,128nm,19.9s,baz=204,slow=32							
AS31	**Alice Springs**	**72.66**	**107**	P		**P**	**18 24 20.4**	**+0.6**
STKA	**Stephens Creek**	**73.53**	**118**	P		**P**	**18 24 25.2**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=206,slow=6.1,SNR=4.9							
STKA				LR		LR	18 49 44.6	
	comp=Z,113nm,20.4s,baz=206,slow=30							
STKA	**Stephens Creek**	**73.53**	**118**	IAmb		IAmb	18 24 26.6	
	comp=Z,1.7nm,1.2s							
CM31	**Chiang Mai Arr**	**74.22**	**50**	P		**P**	**18 24 29.4**	**+0.6**
CM31				IAmb		IAmb	18 24 31.6	
	comp=Z,3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**74.22**	**50**	P		**P**	**18 24 29.1**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=229,slow=6.9,SNR=19							
CMAR				LR		LR	18 52 05.8	
	comp=Z,37nm,20.3s,baz=220,slow=32							
WRA	**Warramunga Arr**	**75.14**	**104**	P		**P**	**18 24 35.0**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=230,slow=5.1,SNR=18							
WRA	**Warramunga Arr**	**75.14**	**104**	P		**P**	**18 24 35.0**	**+0.6**
WB2	**Warramunga Arr**	**75.15**	**104**	P		**P**	**18 24 35.3**	**+0.9**
WRAB	**Tennant Creek**	**75.16**	**104**	P		**P**	**18 24 34.4**	**0.0**
WR0	**Warramunga Arr**	**75.29**	**104**	P		**P**	**18 24 35.7**	**+0.5**
WR0				IAmb		IAmb	18 25 03.4	
	comp=Z,6.2nm,1.2s							
WB0	**Warramunga Arr**	**75.29**	**104**	P		**P**	**18 24 35.8**	**+0.6**
GNI	**Garni**	**78.44**	**358**	LR		LR	18 58 30.3	
	comp=Z,56nm,21.8s,baz=165,slow=35							
KARS	**Kars**	**78.98**	**356**	P		**P**	**18 24 54.9**	**-0.6**
LSA	**Lhasa**	**79.05**	**37**	P		**P**	**18 24 58.1**	**+1.6**
LSA				IAmb		IAmb	18 24 59.0	
	comp=Z,14nm,1.3s							
BRTR	**Keskin Array B**	**79.05**	**349**	LR		LR	19 00 06.4	
	comp=Z,58nm,18.5s,baz=142,slow=36							
CHGR	**Chuyangaron**	**79.34**	**17**	P		**P**	**18 24 58.6**	**+1.2**
CHGR				IAmb		IAmb	18 25 00.3	
	comp=Z,14nm,1.1s							
RCBR	**Riachuelo**	**81.55**	**269**	LR		LR	18 54 42.1	
	comp=Z,51nm,18.5s,baz=197,slow=31							
VAE	**Valguarnera**	**81.76**	**334**	LR		LR	19 02 46.0	
	comp=Z,194nm,18.4s,baz=154,slow=37							
KSH	**Kashi**	**81.91**	**22**	P		**P**	**18 25 09.8**	**-1.4**
KSH				pP		pwP	18 25 17.8	+0.2
KSH				PP		**PP**	**18 28 14.8**	**-4.4**
KSH				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KBZ	**Khabaz**	**82.09**	**356**	LR		LR	19 02 10.8	
	comp=Z,60nm,19.3s,baz=176,slow=36							
KEST	**Kesra**	**82.11**	**329**	LR		LR	19 02 21.2	
	comp=Z,138nm,18.7s,baz=168,slow=36							
PLCA	**Paso Flores**	**83.08**	**222**	LR		LR	18 54 34.4	
	comp=Z,31nm,21.2s,baz=166,slow=30							
RPZ	**Rata Peaks**	**83.27**	**142**	LR		LR	18 55 42.2	
	comp=Z,134nm,18.5s,baz=222,slow=31							
KKAR	**Karatay Array**	**83.89**	**16**	P		**P**	**18 25 22.3**	**+1.1**
CTA	**Charters Tower**	**83.97**	**111**	LR		LR	18 57 15.1	
	comp=Z,76nm,20.0s,baz=226,slow=32							
AAK	**Ala-Archa**	**84.41**	**19**	LR		LR	18 59 18.7	
	comp=Z,50nm,19.6s,baz=240,slow=33							
AAK	**Ala-Archa**	**84.41**	**19**	P		**P**	**18 25 25.4**	**+1.3**
AAK				IAmb		IAmb	18 25 26.8	
	comp=Z,5.2nm,1.3s							
CPUP	**Villa Florida**	**84.86**	**240**	P		**P**	**18 25 27.7**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=117,slow=4.5,SNR=3.5							
CPUP				LR		LR	18 57 03.9	
	comp=Z,56nm,18.9s,baz=168,slow=31							
MDT	**Midelt**	**86.19**	**318**	LR		LR	19 04 23.9	
	comp=Z,161nm,18.1s,baz=163,slow=36							
MAKZ	**Makanchi**	**90.34**	**23**	P		**P**	**18 25 52.8**	**+0.3**
MAKZ				IAmb		IAmb	18 26 04.3	
	comp=Z,3.9nm,1.3s							
URZ	**Urewera**	**90.39**	**142**	LR		LR	19 00 03.3	
	comp=Z,110nm,

ISC 16 19:01:31.7±0.4, 46°45N±0'.04 × 147°55E±0'.04, h280km±3km, h281km; pP-P, n783, σ1°38/849, mb4.5/253, 65C-47D, Fault plane solution: NP1: ϕ=151.04036°, δ=82.59752°, λ=32.79142°. NP2: ϕ=56.29548°, δ=57.51569°, λ=171.21449°. Principal axes: T Plg28.0906°, Azm18.6794°; N Plg56.4746°, Azm162.3494°; P Plg16.7779°, Azm279.4191°; Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.24**	**169**	*c*	*i*	PN	**Pn**	**19 02 09.8**	**-1.5**
KUR	comp=E,3μm,0.5s					pmax	pmax		
KUR	comp=N,434nm,0.3s					pmax	pmax		
KUR	comp=E,372nm,0.4s					pmax	pmax		
KUR	comp=Z,6μm,1.3s					pmax	pmax		
KUR	**Kuril'sk**	**1.24**	**169**		*i*	P	**Pn**	**19 02 09.8**	**-1.5**
KUR	comp=E,3μm,0.5s					AMB	AMB	19 02 10.4	
KUR	comp=Z,6μm,1.0s					AMB	AMB	19 02 10.8	
KUR					*e*	S	**S**	**19 02 40.3**	**-2.4**
KUR	comp=Z,480nm,0.5s					A	A	19 02 47.9	
KUR	comp=Z,470nm,0.5s					A	A	19 02 47.9	
SHO	**Shikotan**	**2.63**	**191**	⇑	*i*	PN	**Pn**	**19 02 20.3**	**-2.2**
SHO	comp=Z,583nm,0.4s					pmax	pmax		
SHO	comp=N,256nm,0.2s					pmax	pmax		
SHO	comp=E,158nm,0.2s					pmax	pmax		
SHO	**Shikotan**	**2.63**	**191**		*i*	P	**Pn**	**19 02 20.3**	**-2.2**
SHO	comp=E,580nm,0.4s					AMB	AMB	19 02 20.8	
SHO					*i*	S	**S**	**19 02 57.4**	**-5.5**
SHO	comp=E,1μm,0.4s					A	A	19 02 59.0	
SHO	comp=E,2μm,0.4s					A	A	19 02 59.0	
YUK	**Yuzh-Kuril'sk**	**2.69**	**207**	*c*	*i*	PN	**Pn**	**19 02 22.7**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**2.69**	**207**		*i*	P	**Pn**	**19 02 22.6**	**-0.5**
YUK	comp=E,500nm,0.5s					AMB	AMB	19 02 25.8	
YUK					*e*	S	**S**	**19 03 02.5**	**-1.5**
YUK	comp=E,1μm,0.6s					A	A	19 03 08.5	
YUK	comp=E,2μm,0.6s					A	A	19 03 08.5	
RUSJ	**Misakicho**	**2.85**	**215**	*e*	PN		**Pn**	**19 02 24.0**	**-0.7**
RUSJ					*e*	S	**S**	**19 03 05.6**	**-1.2**
JRA	**Rausu**	**3.04**	**215**		P		**Pn**	**19 02 26.3**	**-0.3**
JRA					*e*	S	**S**	**19 03 08.9**	**-1.4**
GLVR	**Golovnino**	**3.07**	**209**		PN		**Pn**	**19 02 26.0**	**-0.8**
GLVR					*e*	S	**S**	**19 03 08.4**	**-2.4**
GLVR	comp=E,360nm,0.2s					pmax	pmax		
GLVR	comp=N,1μm,0.3s					smax	smax		
GLVR	comp=E,987nm,0.3s					smax	smax		
GLVR	**Golovnino**	**3.07**	**209**	*e*	P		**Pn**	**19 02 26.0**	**-0.8**
GLVR	comp=E,360nm,0.2s					AMB	AMB	19 02 27.7	
GLVR					*e*	S	**S**	**19 03 08.4**	**-2.4**
GLVR	comp=E,1μm,0.3s					A	A	19 03 14.4	
GLVR	comp=E,990nm,0.3s					A	A	19 03 14.4	
YSS	**Yuzh-Sakhalins**	**3.33**	**280**	*d*	*i*	PN	**Pn**	**19 02 30.6**	**+1.1**
YSS	comp=Z,296nm,1.3s					pmax	pmax		
YSS	**Yuzh-Sakhalins**	**3.33**	**280**			Pn	**Pn**	**19 02 30.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**3.33**	**280**	*e*	P		**Pn**	**19 02 30.6**	**+1.1**
YSS	comp=Z,170nm,0.7s					AMB	AMB	19 02 31.5	
YSS					*i*	S	**S**	**19 03 16.0**	**+0.4**
YSS	comp=Z,30nm,0.8s					A	A	19 03 18.8	
YSS	comp=Z,80nm,0.8s					A	A	19 03 18.8	
YSS	comp=Z,2μm,6.0s					A	A	19 03 19.2	
NEM2	**Nemuro 2**	**3.34**	**203**		P		**Pn**	**19 02 27.4**	**-2.3**
NEM2					*e*	S	**S**	**19 03 10.3**	**-5.7**
NMR	**Nemuro--Hokkai**	**3.34**	**203**	⇑	*i*	PN	**Pn**	**19 02 27.4**	**-2.3**
NMR					*e*	S	**S**	**19 03 11.1**	**-4.9**
NMR	**Nemuro--Hokkai**	**3.34**	**203**		*e*	P	**Pn**	**19 02 27.5**	**-2.3**
NMR					*e*	S	**S**	**19 03 11.2**	**-4.8**
JTKR	**Abashiri--Toko**	**3.57**	**227**		P		**Pn**	**19 02 32.6**	**+0.4**
JTKR					*e*	S	**S**	**19 03 19.6**	**-0.8**
JSE	**Soyaes**	**3.78**	**249**		P		**Pn**	**19 02 35.7**	**+1.3**
AKK	**Akkeshi**	**3.94**	**210**		*i*	P	**Pn**	**19 02 34.3**	**-1.9**
AKK					*e*	S	**S**	**19 03 25.4**	**-2.4**
JAK	**Akkeshi**	**4.01**	**211**		P		**Pn**	**19 02 35.2**	**-1.8**
JAK					*e*	S	**S**	**19 03 23.8**	**-5.4**
JWK2	**Keihoku**	**4.10**	**256**		P		**Pn**	**19 02 40.2**	**+2.2**
JAR	**Ashorobuto**	**4.14**	**222**		P		**Pn**	**19 02 38.5**	**0.0**
JKA	**Kamikawa-asahi**	**4.20**	**238**		Pn		**Pn**	**19 02 40.0**	**+0.7**
JKA	**Kamikawa-asahi**	**4.20**	**238**	*e*	P		**Pn**	**19 02 39.9**	**+0.7**
ASAJ	**Asahikawa**	**4.20**	**238**		P		**Pn**	**19 02 39.9**	**+0.7**
ASAJ	comp=Z,38nm,0.3s,baz=76,slow=10,SNR=347					S	**S**	**19 03 33.8**	**+0.6**
JKK2	**Kamakawa 2**	**4.26**	**234**		P		**Pn**	**19 02 40.8**	**+0.9**
JKK2	comp=Z,3.1nm,0.3s,baz=72,slow=20,SNR=9.7				*e*	S	**S**	**19 03 34.4**	**0.0**
UGL	**Uglegorsk**	**4.53**	**307**	⇓	*i*	PN	**Pn**	**19 02 43.1**	**+0.2**
UGL					*e*	S	**S**	**19 03 35.6**	**-4.3**
UGL	comp=Z,222nm,0.7s					pmax	pmax		
UGL	comp=E,68nm,0.8s					smax	smax		
UGL	comp=N,34nm,0.8s					smax	smax		
UGL	**Uglegorsk**	**4.53**	**307**		*i*	P	**Pn**	**19 02 43.1**	**+0.2**
UGL	comp=N,170nm,0.6s					AMB	AMB	19 02 44.7	
UGL					*e*	S	**S**	**19 03 42.2**	**+2.3**
UGL	comp=N,40nm,0.7s					A	A	19 03 50.5	
UGL	comp=N,50nm,0.7s					A	A	19 03 50.5	
JRBN	**Rebuntou**	**4.64**	**260**		P		**Pn**	**19 02 45.0**	**+0.8**
JFR	**Furan**	**4.82**	**229**		P		**Pn**	**19 02 46.6**	**+0.2**
JFR					*e*	S	**S**	**19 03 44.0**	**-2.2**
JCH	**Churui**	**4.86**	**219**		P		**Pn**	**19 02 45.1**	**-1.8**
JCH					*e*	S	**S**	**19 03 40.5**	**-6.6**
JNBK	**Urakawa-nobuka**	**5.40**	**221**		P		**Pn**	**19 02 51.0**	**-2.3**
JNBK					*e*	S	**S**	**19 03 50.6**	**-8.2**
ERM	**Erimo**	**5.44**	**217**	⇑	*i*	PN	**Pn**	**19 02 53.3**	**-0.5**
ERM	**Erimo**	**5.44**	**217**			Pn	**Pn**	**19 02 52.5**	**-1.2**
TYV	**Tymovskoe**	**5.47**	**326**	*e*	PN		**Pn**	**19 02 54.3**	**+0.3**
TYV					*e*	S	**S**	**19 04 00.5**	**+0.4**
TYV	comp=Z,44nm,0.7s					pmax	pmax		
TYV	comp=Z,100nm,5.4s					pmax	pmax		
TYV	comp=N,15nm,1.3s					smax	smax		
TYV	comp=E,52nm,1.3s					smax	smax		
TYV	comp=N,500nm,4.4s					smax	smax		
TYV	comp=E,500nm,4.4s					smax	smax		
TYV	**Tymovskoe**	**5.47**	**326**	*e*	P		**Pn**	**19 02 54.3**	**+0.3**
TYV	comp=E,40nm,0.7s					AMB	AMB	19 02 54.8	
TYV	comp=E,100nm,5.0s					AMB	AMB	19 02 57.2	
TYV					*e*	S	**S**	**19 04 01.8**	**+1.7**
TYV	comp=E,10.0nm,0.7s					A	A	19 04 03.6	
TYV	comp=E,20nm,0.7s					A	A	19 04 03.6	
TYV	comp=E,500nm,4.0s					A	A	19 04 03.7	
TYV	comp=E,500nm,4.0s					A	A	19 04 03.7	
JEW	**Eniwo**	**5.65**	**232**	*e*	S		**S**	**19 04 01.3**	**-2.9**
JEW	**Eniwo**	**5.65**	**232**		Pn		**Pn**	**19 02 56.2**	**-0.1**
JKB	**Kayabe**	**6.54**	**228**		P		**Pn**	**19 03 05.2**	**-1.8**
JKB					*e*	S	**S**	**19 04 15.7**	**-8.1**
JOT	**Ohata**	**6.90**	**225**		P		**Pn**	**19 03 08.9**	**-2.7**
JOT					*e*	S	S	19 04 22.8	-9.3
SKR	**Severo-Kuril's**	**7.09**	**50**	*e*	PN		**Pn**	**19 03 13.6**	**-0.1**
SKR					*e*	S	**S**	**19 04 34.0**	**-2.0**
SKR	comp=Z,153nm,0.8s					pmax	pmax		
SKR	comp=N,74nm,0.8s					smax	smax		
SKR	comp=E,140nm,0.7s					smax	smax		
SKR	**Severo-Kuril's**	**7.09**	**50**	*e*	P		**Pn**	**19 03 13.6**	**-0.1**
SKR						AMB	AMB	19 03 15.1	
SKR	comp=E,180nm,0.7s								
SKR					*e*	S	**S**	**19 04 33.9**	**-2.0**
SKR	comp=E,80nm,0.6s					A	A	19 04 38.7	
SKR	comp=E,180nm,0.6s					A	A	19 04 38.7	
JOSM	**Okushiri--Mats**	**7.25**	**236**		P		**Pn**	**19 03 14.8**	**-1.1**
JTM	**Tennabayashi**	**7.36**	**222**		Pn		**Pn**	**19 03 13.9**	**-3.3**
OKH	**Okha**	**7.70**	**339**	*e*	P		**Pn**	**19 03 21.8**	**+0.6**
OKH						AMB	AMB	19 03 23.2	
OKH	comp=E,80nm,0.7s								
TEY	**Ternei**	**7.79**	**263**	*e*	PN		**Pn**	**19 03 18.3**	**-4.1**
TEY	**Ternei**	**7.79**	**263**	*e*	P		**Pn**	**19 03 22.6**	**+0.2**
TEY						AMB	AMB	19 03 27.2	
TEY	comp=E,20nm,0.8s								
PAU	**Pauzhetka**	**7.89**	**47**	*e*	P		**Pn**	**19 03 23.2**	**-0.5**
PAU						AMB	AMB	19 03 24.6	
PAU	comp=E,330nm,0.6s								
PAU					*e*	S	**S**	**19 04 50.2**	**-4.0**
PAU					*e*	A	A	19 04 53.6	
PAU	comp=E,160nm,0.4s								
PAU					*e*	A	A	19 04 53.6	
PAU	comp=E,110nm,0.4s								
NKL	**Nikolayevsk**	**8.04**	**329**	*e*	P		**Pn**	**19 03 25.8**	**+0.4**
NKL						AMB	AMB	19 03 26.8	
NKL	comp=E,310nm,0.6s								
GRNR	**Gornyy**	**8.54**	**304**	⇑	*i*	PN	**Pn**	**19 03 32.3**	**+0.6**
GRNR					*e*	S	**S**	**19 05 09.6**	**+0.6**
GRNR	comp=N,4.0nm,0.7s					pmax	pmax		
GRNR	comp=E,6.0nm,0.7s					pmax	pmax		
GRNR	comp=Z,8.0nm,0.8s					pmax	pmax		
GRNR	comp=N,1.0nm,0.8s					smax	smax		
GRNR	comp=E,130nm,16.0s					MLR	MLR		
GRNR	comp=N,80nm,12.0s					MLR	MLR		
GRNR	comp=Z,170nm,14.0s					MLR	MLR		
GRNR	**Gornyy**	**8.54**	**304**		*e*	P	**Pn**	**19 03 32.3**	**+0.6**
GRNR	comp=Z,80nm,0.8s					AMB	AMB	19 03 33.8	
JMK	**Ichinoseki**	**8.82**	**214**		*e*	S	**S**	**19 05 07.1**	**-8.5**
PEA0B	**Petropavlovsk-**	**9.35**	**41**		PN		**Pn**	**19 03 41.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**9.35**	**41**		Pn		**Pn**	**19 03 41.9**	**+0.2**
PETK	**Petropavlovsk-**	**9.35**	**41**		P		**Pn**	**19 03 41.6**	**-0.1**
PETK	comp=Z,2.5nm,0.3s,baz=214,slow=10.0,SNR=26 **Petropavlovsk-**	**9.35**	**41**				**Pn**	**19 03 41.1**	**-0.7**
PET	**Petropavlovsk**	**9.74**	**43**	⇑	*e*	PN	**Pn**	**19 03 46.1**	**-0.4**
PET	comp=Z,51nm,1.7s					pmax	pmax		
PET	**Petropavlovsk**	**9.74**	**43**			Pn	**Pn**	**19 03 46.2**	**-0.3**
PET	**Petropavlovsk**	**9.74**	**43**		*e*	P	**Pn**	**19 03 46.1**	**-0.4**
PET						AMB	AMB	19 03 49.1	
PET	comp=Z,20nm,0.6s								
PET					*e*	S	**S**	**19 05 31.9**	**-4.3**
JMM	**Marumori**	**9.93**	**213**				**Pn**	**19 03 47.9**	**-1.2**
JSD	**Sado**	**10.86**	**223**				**Pn**	**19 04 00.1**	**-0.4**
KLR	**Kul'dur**	**10.97**	**290**		P		**Pn**	**19 04 01.7**	**-0.2**
USA0B	comp=Z,0.4nm,0.3s,baz=104,slow=15,SNR=27 **Ussuriysk Arra**	**11.18**	**264**		PN		**Pn**	**19 04 04.8**	**+0.3**
USA0B	**Ussuriysk Arra**	**11.18**	**264**				**Pn**	**19 04 04.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**11.18**	**264**		P		**Pn**	**19 04 05.3**	**+0.8**
VLA	baz=72,slow=13,SNR=61 **Vladivostok**	**11.62**	**259**	*d*	*i*	PN	**Pn**	**19 04 09.7**	**-0.1**
VLA	**Vladivostok**	**11.62**	**259**		*e*	P	**Pn**	**19 04 09.7**	**-0.1**
MJB9	**Matsu-Tunnel**	**12.11**	**219**				**Pn**	**19 04 16.5**	**+0.5**
MAJO	**Matsushiro**	**12.12**	**219**	*c*	*i*	PN	**Pn**	**19 04 16.3**	**+0.2**
MAJO	**Matsushiro**	**12.12**	**219**				**Pn**	**19 04 16.6**	**+0.6**
MJAR	**Matsushiro Arr**	**12.12**	**218**		P		**Pn**	**19 04 16.8**	**+0.8**
MJAR	comp=Z,1.9nm,0.3s,baz=26,slow=11,SNR=54 **Matsushiro Arr**	**12.12**	**218**				**Pn**	**19 04 16.5**	**+0.4**
MSHR	**Mys Shultsa**	**12.32**	**258**	*c*	*e*	PN	**Pn**	**19 04 18.4**	**0.0**
MSHR	comp=Z,59nm,1.7s					pmax	pmax		
MDJ	**Mudanjiang**	**12.72**	**268**		Pn		**Pn**	**19 04 22.4**	**-1.0**
MDJ	**Mudanjiang**	**12.72**	**268**		P		**Pn**	**19 04 23.5**	**+0.2**
MDJ	comp=Z,130nm,1.0s					pmax	pmax		
MDJ	comp=Z,210nm,4.0s					pmax	pmax		
JGF	**Kuroka**	**13.28**	**219**		Pn		**Pn**	**19 04 29.1**	**-1.1**
MA2	**Magadan**	**13.29**	**7**	⇓	*e*	PN	**Pn**	**19 04 30.0**	**0.0**
MA2	comp=Z,130nm,1.7s					pmax	pmax		
MA2	**Magadan**	**13.29**	**7**				**Pn**	**19 04 28.8**	**-1.2**
MA2	**Magadan**	**13.29**	**7**	*e*	P		**Pn**	**19 04 30.0**	**0.0**
INU	**Inuyama**	**13.64**	**219**		Pn		**Pn**	**19 04 33.9**	**-0.6**
JHJ	**Hachijo jima 2**	**14.58**	**207**		S		**S**	**19 07 22.4**	**-3.4**
ZEA	comp=Z,4.4nm,0.3s,baz=38,slow=13,SNR=1.7 **Zeya**	**14.89**	**307**	*e*	P		**Pn**	**19 04 50.1**	**+0.8**
ZEA					*e*	S	**S**	**19 07 27.2**	**-4.6**
ZEA	comp=E,10.0nm,1.0s					pmax	pmax		
ZEA	comp=N,10.0nm,0.9s					pmax	pmax		
ZEA	comp=Z,20nm,0.9s					pmax	pmax		
ZEA	comp=E,10.0nm,2.0s					smax	smax		
ZEA	comp=N,10.0nm,1.1s					smax	smax		
ZEA	**Zeya**	**14.89**	**307**	*e*	P		**Pn**	**19 04 50.1**	**+0.8**
ZEA						AMB	AMB	19 04 50.8	
JHS	comp=N,20nm,0.9s **Saijyo**	**15.80**	**229**				**Pn**	**19 05 01.0**	**+0.8**
JMN	**Monobe**	**16.43**	**224**		P		**Pn**	**19 05 07.3**	**-0.3**
JMN						IAmb	IAmb	19 05 31.8	
SEY	comp=Z,17nm,1.1s **Seymchan**	**16.74**	**8**		P		**P**	**19 05 08.8**	**+0.2**
SEY	comp=Z,1.2nm,0.3s,baz=174,slow=9.6,SNR=43 **Seymchan**	**16.74**	**8**	⇓	*e*	P	**P**	**19 05 08.4**	**-0.1**
SEY	comp=Z,78nm,1.0s					pmax	pmax		
SEY	**Seymchan**	**16.74**	**8**		*e*	P	**P**	**19 05 08.4**	**-0.1**
KSRS	**Korea Array**	**17.11**	**245**		P		**Pn**	**19 05 14.7**	**-0.8**
KSRS	comp=Z,2.8nm,0.3s,baz=52,slow=11,SNR=51					PcP	**PcP**	**19 09 43.5**	**+2.0**
KS19	comp=Z,0.1nm,0.3s,baz=1.7,slow=1.3,SNR=8.5 **Wonju Array Si**	**17.11**	**246**		P		**P**	**19 05 13.5**	**+0.7**
KSAR	**Wonju Array Be**	**17.14**	**245**		P		**P**	**19 05 14.2**	**+1.1**
KSAR	**Wonju Array Be**	**17.14**	**245**		P		**P**	**19 05 14.2**	**+1.1**
INCN	**Inchon**	**17.91**	**247**		P		**P**	**19 05 22.7**	**+1.3**
INCN	comp=Z,69nm,1.2s					pmax	pmax		
INCN	**Inchon**	**17.91**	**247**		P		**P**	**19 05 22.7**	**+1.3**
TJN	**Taejon**	**18.13**	**243**		P		**P**	**19 05 25.1**	**+1.3**
TJN	comp=Z,207nm,0.8s					pmax	pmax		
TJN	**Taejon**	**18.13**	**243**		P		**P**	**19 05 25.1**	**+1.3**
JTU	**Tsushima**	**18.18**	**235**		P		**P**	**19 05 25.6**	**+1.2**
JTU	comp=Z,24nm,0.7s					IAmb	IAmb	19 05 31.5	
JNU	**Nakatsue**	**18.42**	**230**		P		**P**	**19 05 28.1**	**+1.1**
YAK	**Yakutsk**	**18.67**	**333**		P		**P**	**19 05 28.2**	**-1.0**
YAK	comp=Z,0.5nm,0.3s,baz=136,slow=1.7,SNR=59					S	**S**	**19 08 43.5**	**-2.9**
YAK	comp=Z,0.1nm,0.3s,baz=92,slow=23,SNR=7.7 **Yakutsk**	**18.67**	**333**	*d*	*i*	P	**P**	**19 05 28.6**	**-0.7**
YAK					*e*	S	**S**	**19 08 43.4**	**-3.1**
YAK	comp=Z,119nm,0.9s					pmax	pmax		
YAK	comp=E,20nm,1.1s					pmax	pmax		
YAK	comp=N,25nm,1.0s					pmax	pmax		
YAK	comp=N,89nm,1.7s					smax	smax		
YAK	comp=E,42nm,1.6s					smax	smax		
YAK	**Yakutsk**	**18.67**	**333**		*e*	P	**P**	**19 05 28.6**	**-0.7**
YAK	**Yakutsk**	**18.67**	**333**		*e*	P	**P**	**19 05 28.6**	**-0.7**
HIA	**Hailar**	**18.82**	**289**		P		**P**	**19 05 29.2**	**-2.0**
HIA	comp=Z,8.0nm,0.7s					pmax	pmax		
HIA	**Hailar**	**18.82**	**289**		P		**P**	**19 05 29.2**	**-2.0**
JSU	**Suzuyama**	**19.92**	**227**		P		**P**	**19 05 43.7**	**+0.8**
JSU	comp=Z,27nm,1.0s					IAmb	IAmb	19 05 46.6	
XLT	**XiLinHaoTe**	**22.25**	**275**	⇑	*i*	P	**P**	**19 06 06.1**	**+0.6**
XLT	comp=Z,47nm,0.7s					pmax	pmax		
XLT	comp=Z,100nm,5.6s					pmax	pmax		
BJI	**Beijing**	**23.63**	**266**		P		**P**	**19 06 20.1**	**+2.2**
BJI					sP		**sP**	**19 07 46.3**	**+4.0**
BJI					S		**S**	**19 10 15.6**	**+4.4**
BJI	**Beijing**	**23.63**	**266**		ScS		ScS	19 16 50.8	-0.9
BJI	comp=Z,25nm,0.8s					pmax	pmax		
BJI	comp=Z,82μm,6.4s					pmax	pmax		
BJT	**Baijiatuan**	**23.64**	**266**		P		**P**	**19 06 20.0**	**+2.0**
BJT	comp=Z,21nm,0.9s					pmax	pmax		
BJT	**Baijiatuan**	**23.64**	**266**		P		**P**	**19 06 20.0**	**+2.0**
BJT	comp=Z,21nm,0.9s					IAmb	IAmb	19 06 21.2	
BILL	**Bilibino**	**23.69**	**17**		*i*	P	**P**	**19 06 17.2**	**-1.0**
BILL	comp=Z,27nm,2.5s					pmax	pmax		
BILL	**Bilibino**	**23.69**	**17**		P		**P**	**19 06 19.5**	**+1.3**
BILL	**Bilibino**	**23.69**	**17**		*e*	P	**P**	**19 06 17.2**	**-1.0**
TIA	**Tai'an**	**24.89**	**257**		*e*	P	**P**	**19 06 28.8**	**-0.6**
TIA	comp=Z,6.0nm,1.0s					pmax	pmax		
NJ2	**Nanjing**	**26.29**	**247**		*e*	P	**P**	**19 06 42.3**	**+0.4**
NJ2	comp=Z,5.0nm,0.5s					pmax	pmax		
HHC	**Hu-ho-hao-te**	**26.47**	**271**		*e*	P	**P**	**19 06 44.0**	**+0.4**
HHC	comp=Z,33nm,0.8s					pmax	pmax		
HHC	comp=Z,130nm,3.9s					pmax	pmax		
TIXI	**Tiksi**	**26.78**	**347**		P		**P**	**19 06 44.1**	**-1.6**
TIXI	comp=Z,10nm,0.5s,baz=94,slow=23,SNR=95 **Tiksi**	**26.78**	**347**	*c*	*i*	P	**P**	**19 06 43.5**	**-2.2**
TIXI	comp=Z,13nm,0.8s					pmax	pmax		
TIXI	**Tiksi**	**26.78**	**347**			P	**P**	**19 06 43.6**	**-2.2**
TIXI	comp=Z,12nm,0.6s					IAmb	IAmb	19 06 44.8	
ULN	**Ulaanbaatar**	**27.35**	**288**	⇓	*e*	P	**P**	**19 06 49.9**	**-1.5**
ULN	comp=Z,10.0nm,1.3s					pmax	pmax		
ULN	**Ulaanbaatar**	**27.35**	**288**		P		**P**	**19 06 49.0**	**-2.3**
ULN	**Ulaanbaatar**	**27.35**	**288**		*e*	P	**P**	**19 06 49.9**	**-1.5**
SONM	**Songino Array**	**27.79**	**288**		P		**P**	**19 06 55.1**	**-0.1**
SONM	comp=Z,3.6nm,0.8s,baz=60,slow=10,SNR=5.3					ScP	**ScP**	**19 13 18.6**	**+1.6**
GAMB	comp=Z,1.0nm,0.3s,baz=69,slow=3.5,SNR=2.7 **Gambell**	**28.36**	**38**		P		**P**	**19 06 59.3**	**-0.5**
GAMB	**Gambell**	**28.36**	**38**		P		**P**	**19 06 59.9**	**+0.1**
TNA	baz=252,SNR=6.0 **Tin City**	**30.45**	**35**		P		**P**	**19 07 18.5**	**+0.2**
TNA	comp=Z,11nm,0.8s					IAmb	IAmb	19 07 19.5	
TNA	**Tin City**	**30.45**	**35**		P		**P**	**19 07 18.6**	**+0.4**
H11N2	baz=254,SNR=16 **WAKE ISLAND Hy**	**31.02**	**143**		T		T	19 39 19.2	
H11N1	baz=334,slow=75,SNR=36 **WAKE ISLAND Hy**	**31.04**	**143**		T		T	19 39 17.7	
H11N3	baz=334,slow=75,SNR=28 **WAKE ISLAND Hy**	**31.04**	**143**		T		T	19 39 20.3	
ANM	baz=334,slow=75,SNR=20 **Nome**	**31.25**	**38**		P		**P**	**19 07 25.8**	**+0.6**
ANM	comp=Z,8.0nm,0.7s					pmax	pmax		
ANM	**Nome**	**31.25**	**38**		P		**P**	**19 07 25.8**	**+0.6**
ANM	comp=Z,8.2nm,0.7s					IAmb	IAmb	19 07 28.4	
ANM	**Nome**	**31.25**	**38**		P		**P**	**19 07 26.0**	**+0.8**
TPUB	baz=258,SNR=14 **Ta-pu**	**31.68**	**232**		P		**P**	**19 07 30.3**	**+0.8**
TWG	**Pinlang**	**31.83**	**231**		P		**P**	**19 07 31.1**	**+0.4**
TWG	comp=Z,37nm,1.5s					IAmb	IAmb	19 07 52.6	
H11S1	**WAKE ISLAND Hy**	**32.04**	**144**		T		T	19 40 37.2	
H11S3	baz=336,slow=76,SNR=47 **WAKE ISLAND Hy**	**32.04**	**144**		T		T	19 40 37.8	
H11S2	baz=336,slow=76,SNR=30 **WAKE ISLAND Hy**	**32.05**	**144**		T		T	19 40 36.2	
TTA	baz=336,slow=76,SNR=44 **Tatalina**	**35.19**	**41**		P		**P**	**19 07 59.9**	**+0.7**
TTA	comp=Z,11nm,0.8s					pmax	pmax		
TTA	**Tatalina**	**35.19**	**41**		P		**P**	**19 07 59.9**	**+0.7**
TTA	comp=Z,11nm,0.8s					IAmb	IAmb	19 08 01.1	
TTA	**Tatalina**	**35.19**	**41**		P		**P**	**19 08 00.1**	**+0.8**
GTA	baz=270,SNR=9.3 **Gaotai**	**35.20**	**276**	⇓		P	**P**	**19 08 00.8**	**+1.1**
GTA						sP	PP	19 09 22.8	-3.3
GTA						PcP	**PcP**	**19 10 25.9**	**+2.1**
GTA						S	**S**	**19 13 11.0**	**-0.8**
GTA						ScS	**ScS**	**19 17 44.4**	**-2.8**
GTA	comp=Z,13nm,1.2s					pmax	pmax		
GTA	comp=Z,140nm,4.5s					pmax	pmax		
SVW2	**Sparrevohn**	**35.41**	**45**		P		**P**	**19 08 02.2**	**+1.2**
L19K	**White Mountain**	**35.73**	**43**		P		**P**	**19 08 04.9**	**+1.2**
L19K	**White Mountain**	**35.73**	**43**		P		**P**	**19 08 04.2**	**+0.5**
CHIR	baz=272 **Chirikof Islan**	**35.91**	**54**		P		**P**	**19 08 06.6**	**+1.2**
M19K	**Big River Lodg**	**35.95**	**43**		P		**P**	**19 08 07.0**	**+1.4**
N19K	**Bonanza Creek**	**35.96**	**45**		P		**P**	**19 08 07.9**	**+1.1**
J20K	**Nowinta River**	**36.04**	**39**		P		**P**	**19 08 07.3**	**+1.0**
J20K						IAmb	IAmb	19 08 08.3	
K20K	comp=Z,18nm,0.7s **Telida**	**36.07**	**41**		P		**P**	**19 08 07.5**	**+0.9**
IMAR	**Indian Mountai**	**36.28**	**36**		P		**P**	**19 08 08.5**	**+0.2**
H21K	**Melozitna Rive**	**36.65**	**37**		P		**P**	**19 08 11.6**	**+0.2**
H21K						IAmb	IAmb	19 08 12.8	
CHUM	comp=Z,11nm,0.7s **Lake Minchumin**	**36.85**	**40**		P		**P**	**19 08 14.7**	**+1.6**
PPLA	baz=272,SNR=7.2 **Purkeypile**	**36.94**	**41**		P		**P**	**19 08 15.3**	**+1.3**
PPLA						IAmb	IAmb	19 08 17.7	
PPLA	comp=Z,22nm,1.1s **Purkeypile**	**36.94**	**41**		P		**P**	**19 08 15.8**	**+1.7**
CAST	baz=273,SNR=6.8 **Castle Rocks**	**36.96**	**41**		P		**P**	**19 08 15.1**	**+1.0**
CAST						IAmb	IAmb	19 08 16.4	
CAST	comp=E,16nm,0.8s **Castle Rocks**	**36.96**	**41**		P		**P**	**19 08 15.6**	**+1.4**
OHAK	baz=272,SNR=16 **Old Harbor**	**36.97**	**51**		P		**P**	**19 08 14.6**	**+0.5**
OHAK						IAmb	IAmb	19 08 15.7	
OHAK	comp=Z,20nm,0.9s **Old Harbor**	**36.97**	**51**		P		**P**	**19 08 14.6**	**+0.5**
I21K	baz=280 **Tanana**	**36.99**	**38**		P		**P**	**19 08 14.9**

BPAW Bear Paw Mtn. 37.43 39 P P 19 08 19.0 +1.0
baz=272,SNR=6.4

KTH Kantishna Hill 37.48 40 P P 19 08 19.6 +1.1
KTH IAmb IAmb 19 08 20.8
comp=Z,26nm,0.9s

MLY Manley 37.51 38 P P 19 08 19.4 +0.7
MLY PcP 19 10 31.3 +1.1

MLY Manley 37.51 38 P P 19 08 19.6 +0.9
baz=271,SNR=9.9

CNPM China Poot 37.70 47 P P 19 08 20.8 +0.5
CNPM IAmb IAmb 19 08 25.3
comp=Z,34nm,1.4s

COLD Coldfoot 37.74 34 P P 19 08 20.7 +0.2

COLD Coldfoot 37.74 34 P P 19 08 20.7 +0.2
baz=269,SNR=7.4

TRF Thorofare Moun 37.77 40 P P 19 08 21.5 +0.4

TRF Thorofare Moun 37.77 40 P P 19 08 21.9 +0.9
baz=274

BRLK Bradley Lake 37.84 47 P P 19 08 21.9 +0.4
BRLK IAmb IAmb 19 08 24.3
comp=Z,12nm,0.8s

CUT Chulitna 37.85 42 P P 19 08 22.4 +0.9
CUT IAmb IAmb 19 08 22.8
comp=Z,16nm,0.9s

CUT Chulitna 37.85 42 P P 19 08 22.5 +0.9
baz=275

BRSE Bradley Lake S 37.92 47 P P 19 08 26.7 +4.5
baz=278

GYA Guiyang 37.93 253 ⇑P P 19 08 23.6 +0.8
GYA pmax pmax
comp=Z,7.0nm,1.0s

TOLK Toolik Lake Re 38.03 32 P P 19 08 22.7 -0.3

TOLK Toolik Lake Re 38.03 32 P P 19 08 23.1 +0.1
baz=268,SNR=9.2

BWN Browne 38.09 39 P P 19 08 24.9 +1.4

I23K Minto, Yukon-K 38.09 38 P P 19 08 24.1 +0.7
I23K IAmb IAmb 19 08 25.1
comp=Z,12nm,0.7s

I23K Minto, Yukon-K 38.09 38 P P 19 08 24.5 +1.0
baz=272,SNR=14

RC01 Rabbit Creek A 38.24 44 P P 19 08 25.3 +0.5
RC01 IAmb IAmb 19 08 26.6
comp=Z,14nm,1.1s

NEA2 Nenana 38.24 39 P P 19 08 25.2 +0.4
NEA2 IAmb IAmb 19 08 26.3
comp=Z,24nm,0.7s

NEA2 Nenana 38.24 39 P P 19 08 25.6 +0.8
baz=273,SNR=21

O22K Cooper Landing 38.32 45 P P 19 08 25.8 +0.4

MCK McKinley 38.35 40 P P 19 08 26.3 +0.6
MCK pmax pmax
comp=Z,13nm,0.8s

MCK McKinley 38.35 40 P P 19 08 26.3 +0.6
MCK IAmb IAmb 19 08 27.2
comp=Z,13nm,0.8s

MCK McKinley 38.35 40 P P 19 08 26.3 +0.6
baz=275,SNR=9.5

RND Reindeer 38.42 40 P P 19 08 26.6 +0.3
RND pmax pmax
comp=Z,14nm,0.9s

RND Reindeer 38.42 40 P P 19 08 26.6 +0.3
RND IAmb IAmb 19 08 27.4
comp=Z,14nm,0.9s

PMR Palmer 38.47 43 P P 19 08 28.1 +1.5
baz=277

SEW Seward 38.51 46 P P 19 08 27.7 +0.8

SEW Seward 38.51 46 P P 19 08 27.1 +0.2
baz=279

MDM Murphy Dome 38.58 38 P P 19 08 28.1 +0.6
MDM IAmb IAmb 19 08 30.1
comp=Z,13nm,0.7s

WRH Wood River Hil 38.67 39 P P 19 08 28.8 +0.5
WRH IAmb IAmb 19 08 30.4
comp=Z,15nm,0.7s

H24K Noodor Dome 38.68 36 P P 19 08 28.9 +0.4
H24K IAmb IAmb 19 08 30.4
comp=Z,12nm,0.8s

H24K PcP 19 10 35.2 +1.3

H24K Noodor Dome 38.68 36 P P 19 08 29.5 +1.0
baz=273,SNR=15

TCOL CIGO, UAF Yank 38.74 38 P P 19 08 29.5 +0.7

TCOL CIGO, UAF Yank 38.74 38 P P 19 08 29.9 +1.0
baz=274,SNR=9.0

COLA College 38.75 38*c i*P P 19 08 29.6 +0.7
COLA pmax pmax
comp=Z,37nm,0.8s

COLA College 38.75 38 P P 19 08 29.5 +0.7

CCB Clear Creek Bu 38.78 38 P P 19 08 29.2 +0.1
CCB IAmb IAmb 19 08 30.5
comp=Z,18nm,1.4s

KNK Knik Glacier 38.81 44 P P 19 08 29.9 +0.4
KNK IAmb IAmb 19 08 31.7
comp=Z,37nm,1.4s

KNK Knik Glacier 38.81 44 P P 19 08 30.2 +0.7
baz=278,SNR=8.8

SML Sawmill 38.82 43 P P 19 08 30.1 +0.5

SML Sawmill 38.82 43 P P 19 08 30.4 +0.7
baz=278,SNR=11

POKR Poker Plat Res 38.91 38 P P 19 08 30.9 +0.7
POKR IAmb IAmb 19 08 33.2
comp=Z,15nm,0.6s

POKR Poker Plat Res 38.91 38 P P 19 08 31.4 +1.1
baz=274,SNR=9.3

PWL Port Wells 38.95 44 P P 19 08 30.7 0.0
baz=279

WAT6 Susitna Watana 39.00 42 P P 19 08 31.2 0.0
baz=277

DHY Denali Highway 39.11 41 P P 19 08 32.5 +0.3
DHY IAmb IAmb 19 08 33.3
comp=Z,12nm,0.7s

DHY PcP 19 10 36.6 +1.2

DHY Denali Highway 39.11 41 P P 19 08 32.7 +0.5
baz=277,SNR=9.2

IL31 39.17 38 P P 19 08 32.6 +0.3
IL31 IAmb IAmb 19 08 34.0
comp=Z,19nm,0.8s

ILAR Eielson Array 39.17 38 P P 19 08 32.3 -0.1
comp=Z,14nm,0.7s,baz=271,slow=7.7,SNR=131
ILAR PcP PcP 19 10 34.7 -0.7
comp=Z,1.1nm,0.8s,baz=261,slow=2.4,SNR=4.9

ILAR Eielson Array 39.17 38 P P 19 08 32.1 -0.3

HDA Harding Lake 39.17 39 P P 19 08 32.3 -0.1
HDA IAmb IAmb 19 08 33.4
comp=Z,7.8nm,0.6s

HDA Harding Lake 39.17 39 P P 19 08 32.3 -0.1
baz=275,SNR=9.8

SCM Sheep Creek Mo 39.29 43 P P 19 08 34.2 +0.7
SCM pmax pmax
comp=Z,23nm,1.2s

SCM Sheep Creek Mo 39.29 43 P P 19 08 34.2 +0.7
SCM IAmb IAmb 19 08 36.4
comp=Z,22nm,1.2s

SCM Sheep Creek Mo 39.29 43 P P 19 08 34.2 +0.7
baz=278

ZAA0 Zalesovo Array 39.64 305 PcP 19 10 37.4 +0.3

ZALV Zalesovo Beam 39.64 305 P P 19 08 35.1 -1.3
comp=Z,0.9nm,0.5s,baz=61,slow=7.6,SNR=4.9
ZALV PcP PcP 19 10 37.7 +0.7
comp=Z,4.3nm,0.8s,baz=66,slow=3.6,SNR=15

ZALV Zalesovo Beam 39.64 305 *i* P P 19 08 35.0 -1.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s

ZALV Zalesovo Beam 39.64 305 P P 19 08 34.9 -1.4
ZALV PcP 19 10 37.6 +0.5

PRP Porcupine Dome 39.68 37 P P 19 08 37.5 +0.8
baz=275,SNR=11

FYU Fort Yukon 39.72 35 P P 19 08 37.5 +0.7
FYU IAmb IAmb 19 08 38.7
comp=Z,24nm,0.7s

M24K Tolsona, Glenn 39.79 42 P P 19 08 38.8 +1.2
M24K IAmb IAmb 19 09 00.3
comp=Z,24nm,1.2s

M24K Tolsona, Glenn 39.79 42 P P 19 08 38.9 +1.3
baz=279

J25K Salcha River, 39.83 38 P P 19 08 37.2 -0.7

J25K Salcha River, 39.83 38 P P 19 08 37.2 -0.7
baz=276,SNR=7.1

BMAR Burnt Mountain 39.91 34 P P 19 08 39.0 +0.5

PAX Paxson 39.99 41 P P 19 08 40.4 +1.1
PAX pmax pmax
comp=Z,3.0nm,0.6s

PAX Paxson 39.99 41 P P 19 08 40.4 +1.1

PAX Paxson 39.99 41 P P 19 08 40.5 +1.1
baz=278

KLU Klutina 40.00 43 P P 19 08 40.1 +0.7
KLU IAmb IAmb 19 08 41.8
comp=Z,13nm,0.8s

KLU Klutina 40.00 43 P P 19 08 40.5 +1.1
baz=280,SNR=6.0

RIDG Independent Ri 40.16 40 P P 19 08 40.1 -0.5
RIDG IAmb IAmb 19 08 42.1
comp=Z,11nm,0.7s

RIDG Independent Ri 40.16 40 P P 19 08 40.6 0.0
baz=278,SNR=8.1

HARP HAARP 40.22 42 P P 19 08 42.5 +1.5
baz=279,SNR=5.9

SCRK Sand Creek 40.51 39 P P 19 08 42.9 -0.6
SCRK IAmb IAmb 19 08 44.2
comp=Z,17nm,0.8s

SCRK Sand Creek 40.51 39 P P 19 08 43.4 -0.1
baz=278,SNR=26

DOT Dot Lake 40.52 40 P P 19 08 42.9 -0.6

N25K Chitina, Valde 40.61 43 P P 19 08 44.7 +0.4

N25K Chitina, Valde 40.61 43 P P 19 08 45.4 +1.1
baz=281

BMRM Bremner River 40.73 44 P P 19 08 46.0 +0.8

BMRM Bremner River 40.73 44 P P 19 08 46.5 +1.3
baz=281

MENT Mentasta 40.78 41 P P 19 08 46.8 +1.1
MENT IAmb IAmb 19 09 16.8
comp=Z,11nm,0.4s

RAGM Ragged Mountai 40.81 45 P P 19 08 48.6 +2.7

L26K Log Cabin Wild 40.94 41 P P 19 08 48.2 +1.3

L26K Log Cabin Wild 40.94 41 P P 19 08 48.5 +1.6
baz=280,SNR=8.7

GLB Gilahina Butte 41.01 43 P P 19 08 48.7 +1.2

PZH PanZhiHua 41.19 257 P P 19 08 50.0 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.5s

PZH pmax pmax
comp=Z,100nm,5.0s

VRDI Verde Repeater 41.22 43 P P 19 08 50.4 +1.0

MCARA McCarthy VSAT 41.39 43 P P 19 08 51.5 +1.0

MCARA McCarthy VSAT 41.39 43 P P 19 08 52.3 +1.8
baz=282

WMQ Urumqi 41.42 289 *e*P P 19 08 52.8 +1.7

KMI Kunming 41.43 255 ⇑P P 19 08 54.4 +2.8
KMI pmax pmax
comp=Z,16nm,0.5s

EGAK Eagle 41.60 38 P P 19 08 52.4 +0.2
EGAK IAmb IAmb 19 08 53.1
comp=Z,18nm,0.7s

EGAK Eagle 41.60 38 P P 19 08 52.4 +0.2
baz=280,SNR=22

L27K Beaver Creek, 41.61 40 P P 19 08 53.8 +1.4
L27K IAmb IAmb 19 08 54.9
comp=Z,39nm,1.2s

BCAR Beaver Creek A 41.63 40 P P 19 08 53.9 +1.4

WAX Waxell Ridge 41.68 44 P P 19 08 54.5 +1.5
WAX IAmb IAmb 19 08 55.4
comp=Z,16nm,0.8s

M27K Edge Creek, AK 41.73 41 P P 19 08 54.9 +1.5
M27K IAmb IAmb 19 08 56.0
comp=Z,27nm,0.9s

M27K Edge Creek, AK 41.73 41 P P 19 08 55.1 +1.7
baz=282,SNR=14

ISLE Juniper Island 41.89 44 P P 19 08 55.8 +1.1
ISLE IAmb IAmb 19 08 56.8
comp=Z,18nm,1.0s

BARN Barnard Glacie 42.11 43 P P 19 08 58.0 +1.4

BVCY Beaver Creek 42.18 41 P P 19 08 58.4 +1.5
baz=283,SNR=8.1

CTG Chitna Glacier 42.28 43 P P 19 08 59.4 +1.5
baz=284,SNR=6.6

CTGM Chitina Glacie 42.28 43 P P 19 08 59.1 +1.2
CTGM IAmb IAmb 19 09 00.3
comp=Z,27nm,1.2s

LOGN Logan Glacier 42.48 43 P P 19 09 00.2 +0.7

DAWY Dawson 42.49 39 P P 19 08 59.7 +0.3

DAWY Dawson 42.49 39 P P 19 08 59.7 +0.3
baz=282,SNR=8.1

TABL Table Mountain 42.50 44 P P 19 09 00.7 +1.0
TABL IAmb IAmb 19 09 26.8
comp=Z,28nm,1.2s

YUK3 Moose Creek 42.51 42 P P 19 09 01.0 +1.2
baz=284

I29M Ogilvie Camp, 42.69 37 P P 19 09 01.7 +0.8
I29M IAmb IAmb 19 09 02.6
comp=Z,22nm,0.8s

I29M Ogilvie Camp, 42.69 37 P P 19 09 01.7 +0.8
baz=282,SNR=20

J29M Klondike Camp 42.91 38 P P 19 09 04.7 +2.0
baz=283

EPYK Eagle Plains 43.13 35 P P 19 09 04.9 +0.5
EPYK IAmb IAmb 19 09 06.0
comp=Z,19nm,0.7s

EPYK Eagle Plains 43.13 35 P P 19 09 05.2 +0.8
baz=282,SNR=14

MK31 Makanchi Array 43.63 295 P P 19 09 08.3 -0.4
MK31 pmax pmax
comp=Z,1.0nm,0.5s

MK31 Makanchi Array 43.63 295 P P 19 09 08.3 -0.4

MKAR Makanchi Array 43.63 295 P P 19 09 07.8 -0.9
comp=Z,1.3nm,0.6s,baz=70,slow=7.4,SNR=10
MKAR PcP PcP 19 10 51.1 +0.6
comp=Z,2.2nm,0.6s,baz=64,slow=5.5,SNR=12
MKAR ScP ScP 19 14 15.1 +0.4
comp=Z,1.0nm,0.7s,baz=58,slow=3.8,SNR=7.9
MKAR S S 19 15 14.1 -2.4
comp=Z,0.2nm,0.6s,baz=68,slow=6.7,SNR=3.0

MKAR Makanchi Array 43.63 295 *ce*P P 19 09 08.6 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.6s

MKAR Makanchi Array 43.63 295 P P 19 09 08.4 -0.4

MKAR Makanchi Array 43.63 295 *e*P P 19 09 08.6 -0.1

YUK6 Outpost Mounta 43.69 43 P P 19 09 11.0 +1.7
baz=286

MAKZ Makanchi 43.82 295 P P 19 09 10.0 -0.2
MAKZ pmax pmax
comp=Z,2.0nm,0.7s

MAKZ Makanchi 43.82 295 P P 19 09 10.0 -0.2

INK Inuvik 43.94 32 P P 19 09 10.3 -0.5
comp=Z,6.2nm,0.5s,baz=294,slow=5.9,SNR=14

INK Inuvik 43.94 32 P P 19 09 10.5 -0.3
INK pmax pmax
comp=Z,7.0nm,0.6s

INK Inuvik 43.94 32 P P 19 09 10.5 -0.3

INK Inuvik 43.94 32 P P 19 09 10.8 0.0
baz=282,SNR=9.1

M30M Minto, Yukon 43.98 40 P P 19 09 12.7 +1.5

HYT Haines Junctio 44.13 43 P P 19 09 14.5 +1.9

HYT Haines Junctio 44.13 43 P P 19 09 14.9 +2.3
baz=287,SNR=26

N31M Braeburn, Yuko 44.74 42 P P 19 09 19.0 +1.8
N31M IAmb IAmb 19 09 22.0
comp=Z,12nm,0.8s

N31M Braeburn, Yuko 44.74 42 P P 19 09 19.4 +2.2
baz=288

M31M Drury Creek, Y 45.16 40 P P 19 09 21.9 +1.5

M31M Drury Creek, Y 45.16 40 P P 19 09 22.1 +1.6
baz=288,SNR=7.6

WHY Whitehorse 45.41 42 P P 19 09 24.2 +1.7

WHY Whitehorse 45.41 42 P P 19 09 24.4 +1.8
baz=289

FARO Faro, Yukon 45.61 40 P P 19 09 25.6 +1.5
baz=289,SNR=6.4

MMPY Sheldon Lake, 46.40 39 P P 19 09 32.0 +1.7
baz=290,SNR=5.1

LSA Lhasa 46.44 269 P P 19 09 33.0 +1.6
LSA pmax pmax
comp=Z,4.0nm,0.5s

LSA Lhasa 46.44 269 P P 19 09 33.0 +1.6

P33M Teslin, Yukon 46.52 43 P P 19 09 32.7 +1.5

P33M Teslin, Yukon 46.52 43 P P 19 09 33.1 +1.9
baz=291,SNR=8.1

UBPT Khong Chiam 46.80 243 P P 19 09 35.3 +1.5

C36M Paulatuk 46.97 29 P P 19 09 33.7 -0.7

C36M Paulatuk 46.97 29 P P 19 09 33.9 -0.5
baz=289,SNR=13

BRVK Borovoye 48.08 308 ⇓*e*P P 19 09 42.7 -0.4
BRVK pmax pmax
comp=Z,4.0nm,0.8s

BRVK Borovoye 48.08 308 P P 19 09 42.2 -0.9

BRVK Borovoye 48.08 308 *e*P P 19 09 42.7 -0.4

TGTN Hyland Airport 48.11 40 P P 19 09 45.0 +1.7
baz=293,SNR=9.1

CHTO Chiang Mai 48.34 252 P P 19 09 46.5 +0.9
CHTO pmax pmax
comp=Z,5.0nm,1.0s

CHTO Chiang Mai 48.34 252 P P 19 09 46.5 +0.9

DLBC Dease Lake 48.52 44 P P 19 09 48.1 +1.7
comp=Z,5.7nm,0.8s,baz=267,slow=3.9,SNR=12

DLBC Dease Lake 48.52 44 P P 19 09 48.7 +2.2

CMAR Chiang Mai Arr 48.60 252 P P 19 09 49.1 +1.6
comp=Z,1.6nm,0.8s,baz=32,slow=7.2,SNR=16
CMAR pP pP 19 10 47.5 +2.0
comp=Z,0.3nm,0.3s,baz=26,slow=5.0,SNR=2.2
CMAR PcP PcP 19 11 10.3 +1.9
comp=Z,1.1nm,0.5s,baz=11,slow=2.1,SNR=9.0
CMAR ScP ScP 19 14 38.1 +2.4
comp=Z,0.3nm,0.5s,baz=33,slow=3.2,SNR=4.3

KDJ Kajisay 49.03 292 P P 19 09 51.2 +0.5
KDJ pmax pmax
comp=Z,4.0nm,1.4s

KDJ Kajisay 49.03 292 P P 19 09 51.2 +0.5

DIB Dawson Inlet, 49.50 51 P P 19 09 55.3 +1.5
DIB IAmb IAmb 19 10 23.5
comp=Z,26nm,1.2s

BOOM Boomskoye usch 49.64 293 P P 19 09 56.2 +0.9
BOOM pmax pmax
comp=Z,6.0nm,1.0s

BOOM Boomskoye usch 49.64 293 P P 19 09 56.2 +0.9

EUNU Eureka 50.15 11 P P 19 09 57.5 -1.0

TAPN Taplejung 50.27 269 *e*P P 19 10 01.7 +1.4

GRNB Grenville Isla 50.55 50 P P 19 10 03.6 +1.9

HG4B Hotspring 50.60 52 P P 19 10 03.5 +1.4
HG4B IAmb IAmb 19 10 20.2
comp=Z,36nm,1.4s

ODAN Odare 50.80 269 *e*P P 19 10 06.2 +2.0
comp=Z,3.2nm,0.3s

JIRN Jiri 51.13 271 *e*P P 19 10 07.9 +1.1
comp=Z,11nm,0.2s

GUN Gumba 51.18 271 *e*P P 19 10 08.0 +0.8
comp=Z,7.1nm,0.3s

RAMN Ramite 51.29 270 *e*P P 19 10 08.9 +1.1
comp=Z,16nm,0.4s

KKN Kakani 51.67 272 *e*P P 19 10 11.2 +0.6
comp=Z,4.0nm,0.3s

PKI Pulchoki 51.72 271 *e*P P 19 10 11.8 +0.7
comp=Z,3.1nm,0.3s

PKIN Phulchoki 51.73 271 *e*P P 19 10 11.6 +0.5
comp=Z,3.0nm,0.3s

DMN Daman 51.91 272 *e*P P 19 10 13.7 +1.3
comp=Z,3.3nm,0.3s

GKN Gorkha 51.98 272 *e*P P 19 10 13.7 +0.8
comp=Z,10nm,0.3s

SPB2 Spitsbergen Ar 52.19 349 P P 19 10 12.6 -0.8

SPITS Spitsbergen Ar 52.19 349 P P 19 10 12.4 -1.0
SPITS pmax pmax
comp=Z,73nm,1.5s

RES Resolute Bay 52.30 17 P P 19 10 13.3 -0.9
comp=Z,20nm,0.7s,baz=318,slow=7.9,SNR=75
RES PcP PcP 19 11 22.2 +1.0
comp=Z,5.1nm,0.8s,baz=288,slow=4.8,SNR=7.6

RES Resolute Bay 52.30 17 P P 19 10 12.9 -1.4
RES pmax pmax
comp=Z,19nm,0.6s

RES Resolute Bay 52.30 17 P P 19 10 12.9 -1.4
RES IAmb IAmb 19 10 15.1
comp=Z,19nm,0.6s

BBB Bella Bella 52.32 51 P P 19 10 14.4 -0.3
comp=Z,13nm,0.9s,baz=222,slow=2.8,SNR=4.0

DANN Dangsing 52.38 273 *e*P P 19 10 17.2 +1.3
comp=Z,14nm,0.4s

ARU Arti 52.59 316 *ci*P P 19 10 15.4 -1.2
ARU 19 11 20.9
ARU S S 19 17 22.8 +1.6
ARU SS SS 19 20 57.9 -4.9
ARU pmax pmax
comp=Z,55nm,4.3s

ARU Arti 52.59 316 P P 19 10 15.2 -1.5
ARU IAmb IAmb 19 10 16.3
comp=Z,9.9nm,0.6s

ARU Arti 52.59 316 *e*P P 19 10 15.6 -1.0

KKAR Karatay Array 52.73 296 P P 19 10 17.4 -0.5

KKAR Karatay Array 52.73 296 P P 19 10 17.4 -0.5

KOLN Koldanda 52.85 273 *e*P P 19 10 20.0 +0.8
comp=Z,4.0nm,0.3s

PYUN Piuthan 53.06 274 *e*P P 19 10 21.4 +0.6
comp=Z,4.4nm,0.3s

HOLB Holberg 53.08 52 P P 19 10 21.6 +1.3

YKA Yellowknife Ar 53.41 35 P P 19 10 22.8 +0.2
comp=Z,8.2nm,0.7s,baz=302,slow=6.9,SNR=120
YKA PcP pwP 19 11 26.5 +0.5
comp=Z,2.1nm,0.8s,baz=308,slow=3.9,SNR=10

YKA Yellowknife Ar 53.41 35 P P 19 10 22.6 0.0
YKA pwP 19 11 26.2 +0.2

TULEG Thule 55.12 10 P P 19 10 32.9 -1.6

GAR Garm 55.12 292 P P 19 10 34.8 -0.5

LVZ Lovozero 55.46 335 P P 19 10 35.6 -1.6
LVZ pmax pmax
comp=Z,71nm,1.4s

LVZ Lovozero 55.46 335 P P 19 10 35.5 -1.6

PRGR Permogore 55.49 325 *e*P P 19 10 34.1 -3.2
PRGR pmax pmax
comp=Z,20nm,0.8s

ABKAR Akbulak array 55.62 308 P P 19 10 37.6 -0.8

ABKAR Akbulak array 55.62 308 P P 19 10 37.7 -0.8

CHGR Chuyangaron 56.05 292 P P 19 10 41.7 -0.2
CHGR IAmb IAmb 19 10 42.8
comp=Z,9.9nm,0.6s

LLLB Lillooet 56.47 50 P P 19 10 45.7 +1.2
LLLB IAmb IAmb 19 10 46.2
comp=Z,15nm,1.4s

ARCES ARCESS Array B 56.82 339 P P 19 10 45.1 -1.5
comp=Z,11nm,1.0s,baz=33,slow=7.4,SNR=7.6
ARCES PcP PcP 19 11 38.7 0.0
comp=Z,8.0nm,1.0s,baz=22,slow=6.8,SNR=5.2

ARCES ARCESS Array B 56.82 339 P P 19 10 45.7 -0.9
ARCES pmax pmax
comp=Z,6.0nm,0.9s

ARCES ARCESS Array B 56.82 339 P P 19 10 45.7 -0.9

NLWA Neilton Lookou 57.20 54 P P 19 10 51.0 +1.3
NLWA IAmb IAmb 19 10 52.4
comp=Z,7.6nm,0.8s

D03D Eldon 57.55 53 P P 19 10 54.1 +2.0
baz=305

KLMR Klimovskoe 58.31 327 *e*P P 19 10 55.3 -1.8
KLMR pmax pmax
comp=Z,13nm,0.8s

KLMR Klimovskoe 58.31 327 *e*P P 19 10 55.3 -1.8
KLMR AMP 19 10 56.8
comp=Z,13nm,0.8s

LTY Liberty 59.05 53 P P 19 11 03.5 +1.0
LTY IAmb IAmb 19 11 23.5
comp=Z,7.1nm,0.6s

B08A Colville Reser 59.12 51 P P 19 11 03.6 +0.7

EDM Edmonton 59.24 44 P P 19 11 04.2 +0.6
EDM pmax pmax
comp=Z,21nm,0.8s

EDM Edmonton 59.24 44 P P 19 11 04.2 +0.6

H04A Detroit Lake 59.73 56 P P 19 11 08.8 +1.6
H04A IAmb IAmb 19 11 09.9
comp=Z,22nm,1.1s

G05D Wamic, OR 59.89 55 P P 19 11 10.5 +2.3
baz=307

C09A Chrisman Ranch 60.03 51 P P 19 11 10.1 +1.1
C09A IAmb IAmb 19 11 10.7
comp=Z,6.7nm,0.6s

DBO Dodson Butte 60.06 58 P P 19 11 11.0 +1.5

D08A Wollman Farm, 60.13 52 P P 19 11 11.3 +1.6

I04A Tendick Farm, 60.14 57 P P 19 11 11.7 +1.8
baz=308

COEN Coen 60.26 185 P P 19 11 12.8 +2.0
COEN IAmb IAmb 19 11 41.3
comp=Z,21nm,1.5s

F07A Phinny Hill Vi 60.28 53 P P 19 11 12.5 +1.7

NEW Newport 60.36 50 P P 19 11 11.1 -0.2
comp=Z,5.4nm,0.9s,baz=316,slow=8.0,SNR=5.8

NEW Newport 60.36 50 P P 19 11 12.2 +0.9
NEW pmax pmax
comp=Z,6.0nm,1.0s

NEW Newport 60.36 50 P P 19 11 12.2 +0.9

NEW Newport 60.36 50 P P 19 11 12.6 +1.3
baz=308

HUMO Hull Mountain 60.54 58 P P 19 11 14.8 +2.2
HUMO IAmb IAmb 19 11 16.9
comp=Z,13nm,1.4s

J04D Umpqua Nationa 60.65 57 P P 19 11 15.9 +2.3
baz=308

E09A Wood Farm, Sta 60.88 52 P P 19 11 16.1 +1.3
E09A IAmb IAmb 19 11 17.3
comp=Z,18nm,1.3s

PINE Pine Mountain 60.99 56 P P 19 11 17.6 +1.7
PINE IAmb IAmb 19 11 19.0
comp=Z,13nm,0.8s

VALR Valaam 61.08 331 *de*P P 19 11 14.7 -1.1

VALR pmax pmax
comp=Z,28nm,0.9s
J05D Fort Rock, OR 61.13 56 P **P** **19 11 19.0 +2.2**
baz=308
L04D Klamath Falls 61.16 58 P **P** **19 11 18.1 +1.1**
L04D IAmb IAmb 19 11 19.8
comp=Z,21nm,0.8s
L04D Klamath Falls 61.16 58 P **P** **19 11 19.0 +2.1**
baz=308,SNR=5.1
G08A Pilot Rock 61.19 54 P **P** **19 11 18.2 +1.2**
YBH Yreka Blue Hor 61.22 59 P **P** **19 11 17.8 +0.6**
comp=Z,3.6nm,0.7s,baz=24,slow=6.8,SNR=6.1
YBH Yreka Blue Hor 61.22 59 P **P** **19 11 18.3 +1.0**
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 61.22 59 P **P** **19 11 18.3 +1.0**
WALA Waterton Lakes 61.54 48 P **P** **19 11 20.1 +0.8**
WALA IAmb IAmb 19 11 21.4
comp=Z,6.8nm,0.8s
I07A Izee 61.63 55 P **P** **19 11 21.1 +1.1**
K05A Summer Lake 61.67 57 P **P** **19 11 22.0 +1.6**
K05A IAmb IAmb 19 11 23.6
comp=Z,20nm,1.0s
N02D Trinity Center 61.69 59 P **P** **19 11 22.2 +1.8**
N02D IAmb IAmb 19 11 23.1
comp=Z,5.7nm,0.7s
N02D Trinity Center 61.69 59 P **P** **19 11 22.7 +2.3**
baz=309
M04C Macdoel 61.70 58 P **P** **19 11 22.6 +2.1**
baz=309
O02D Mt. Diablo Mer 62.14 60 P **P** **19 11 24.4 +1.0**
JTMT Jette 62.17 49 P **P** **19 11 24.9 +1.3**
BMO Blue Mountains 62.38 53 P **P** **19 11 26.0 +1.1**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 62.38 53 P **P** **19 11 26.0 +1.1**
MOD Modoc Plateau 62.53 57 P **P** **19 11 27.2 +1.2**
MOD IAmb IAmb 19 11 28.5
comp=Z,5.8nm,0.8s
FIA1 FINESS Array S 62.60 333 P **P** **19 11 24.6 -1.4**
FINES FINESS Array B 62.60 333 P **P** **19 11 24.4 -1.5**
comp=Z,18nm,0.7s,baz=45,slow=8.7,SNR=58
FINES PcP **PcP** **19 12 01.5 -0.6**
comp=Z,2.6nm,0.7s,baz=25,slow=2.9,SNR=3.7
FINES FINESS Array B 62.60 333 *i* P **P** **19 11 24.7 -1.2**
FINES pmax pmax
comp=Z,18nm,0.7s
O03E Paynes Creek 62.65 59 P **P** **19 11 27.6 +0.9**
O03E IAmb IAmb 19 11 28.9
comp=Z,12nm,1.1s
O03E Paynes Creek 62.65 59 P **P** **19 11 27.9 +1.1**
baz=309
J08A Circle Bar Ran 62.66 55 P **P** **19 11 28.3 +1.5**
J08A IAmb IAmb 19 11 29.7
comp=Z,6.3nm,0.7s
MSO Missoula 62.94 50 P **P** **19 11 29.7 +1.1**
MSO IAmb IAmb 19 11 30.9
comp=Z,16nm,1.1s
MSO Missoula 62.94 50 P **P** **19 11 29.9 +1.3**
baz=310,SNR=6.9
PLID Pearl Lake 62.94 52 P **P** **19 11 29.7 +0.9**
PLID IAmb IAmb 19 11 31.0
comp=Z,16nm,1.1s
SCO Scoresbysund 63.13 356 P **P** **19 11 28.5 -0.7**
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 63.13 356 P **P** **19 11 28.5 -0.7**
WVOR Wild Horse Val 63.15 56 P **P** **19 11 31.3 +1.2**
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 63.15 56 P **P** **19 11 31.3 +1.2**
WVOR IAmb IAmb 19 11 32.7
comp=Z,9.1nm,1.0s
ORV Oroville 63.30 60 P **P** **19 11 31.6 +0.7**
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 63.30 60 P **P** **19 11 31.6 +0.7**
OBN Obninsk 63.31 323 *i* P **P** **19 11 28.2 -2.5**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN Obninsk 63.31 323 *e*P **P** **19 11 29.8 -0.9**
FFC Flin Flon 63.37 37 P **P** **19 11 31.5 +0.4**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 63.37 37 P **P** **19 11 31.5 +0.4**
FFC IAmb IAmb 19 11 32.9
comp=Z,12nm,0.9s
GEYT Alibeck 63.40 298 P **P** **19 11 30.9 -0.8**
comp=Z,1.9nm,0.4s,baz=54,slow=5.7,SNR=3.8
GEYT Alibeck 63.40 298 IAmb IAmb 19 11 33.6
comp=Z,4.9nm,1.1s
FCC Fort Churchill 63.55 31 P **P** **19 11 32.0 -0.2**
FCC pmax pmax
comp=Z,13nm,0.6s
FCC Fort Churchill 63.55 31 P **P** **19 11 31.9 -0.2**
BEKR Beckworth 63.78 59 P **P** **19 11 35.3 +1.0**
BEKR IAmb IAmb 19 11 36.4
comp=Z,8.7nm,0.9s
KNRA Kununurra 64.12 200 P **P** **19 11 37.5 +1.2**
HRY Holter Researc 64.12 49 P **P** **19 11 37.2 +0.9**
LRM Limekiln Ridge 64.38 50 P **P** **19 11 39.1 +1.0**
RUBR Rubicon Trail 64.42 60 P **P** **19 11 39.7 +1.2**
RUBR IAmb IAmb 19 11 40.9
comp=Z,8.4nm,0.8s
EMB Emerald Bay 64.50 60 P **P** **19 11 40.1 +1.1**
EMB IAmb IAmb 19 11 41.4
comp=Z,9.1nm,0.7s
DLMT Dillon 64.60 50 P **P** **19 11 40.5 +1.0**
DLMT IAmb IAmb 19 11 42.0
comp=Z,8.7nm,0.8s
VSU Vasula 64.63 330‖ *e*P **P** **19 11 37.5 -1.6**
VSU pmax pmax
comp=Z,24nm,0.7s
VSU Vasula 64.63 330 *e*P **P** **19 11 38.1 -1.0**
PNTR Pine Nut 64.73 59 P **P** **19 11 41.3 +0.9**
PNTR IAmb IAmb 19 11 43.1
comp=Z,7.1nm,0.7s
HLID Hailey 64.80 53 P **P** **19 11 41.7 +0.9**
HLID Hailey 64.80 53 P **P** **19 11 42.5 +1.7**
baz=311,SNR=5.9
MCMT McKenzie Canyo 64.82 51 P **P** **19 11 41.1 +0.1**
BCYI Bear Canyon 64.86 52 P **P** **19 11 40.8 -0.4**
CMB Columbia Colle 64.94 61 P **P** **19 11 42.6 +1.0**
CMB pmax pmax
comp=Z,8.0nm,1.2s
CMB Columbia Colle 64.94 61 P **P** **19 11 42.6 +1.0**
CMB IAmb IAmb 19 11 44.0
comp=Z,7.7nm,1.1s
BOZ Bozeman (W) 64.96 50 P **P** **19 11 43.0 +1.2**
BOZ pmax pmax
comp=Z,12nm,0.6s
BOZ Bozeman (W) 64.96 50 P **P** **19 11 43.0 +1.2**
BOZ Bozeman (W) 64.96 50 P **P** **19 11 43.3 +1.6**
baz=312,SNR=16
YERR Yerington 65.01 59 P **P** **19 11 43.5 +1.2**
YERR IAmb IAmb 19 11 44.8
comp=Z,9.1nm,0.7s
BMN Battle Mountai 65.25 57 P **P** **19 11 45.0 +1.3**
BMN pmax pmax
comp=Z,8.0nm,0.8s
BMN Battle Mountai 65.25 57 P **P** **19 11 45.0 +1.3**
BMN IAmb IAmb 19 11 46.4
comp=Z,8.5nm,0.8s
QLMT Earthquake Lak 65.57 50 P **P** **19 11 46.8 +1.1**
KVN Kaiserville 65.64 58 P **P** **19 11 47.6 +1.3**
KVN pmax pmax
comp=Z,12nm,0.9s
KVN Kaiserville 65.64 58 P **P** **19 11 47.6 +1.3**
KVN IAmb IAmb 19 11 48.8
comp=Z,12nm,0.9s
RYN Ryan 65.67 59 P **P** **19 11 47.6 +1.2**
RYN IAmb IAmb 19 11 48.9
comp=Z,7.4nm,0.9s
YHH Holmes Hill 65.91 50 P **P** **19 11 49.2 +1.2**
YHH IAmb IAmb 19 11 50.5
comp=Z,7.6nm,0.9s
LHV Little Huntoon 65.92 59 P **P** **19 11 49.7 +1.9**
LHV IAmb IAmb 19 11 51.0
comp=Z,15nm,0.9s
YMR Madison River 65.93 50 P **P** **19 11 49.0 +0.9**
YMR IAmb IAmb 19 11 50.6
comp=Z,7.4nm,0.9s
NVAR Mina Array Bea 65.93 59 P **P** **19 11 49.8 +1.7**
comp=Z,5.8nm,0.7s,baz=290,slow=6.4,SNR=49
NVAR PcP **PcP** **19 12 18.6 +2.1**
comp=Z,0.5nm,0.5s,baz=325,slow=8.0,SNR=2.0
NVAR Mina Array Bea 65.93 59 P **P** **19 11 49.4 +1.2**
NV11 Mina Array Sit 66.01 59 P **P** **19 11 49.7 +1.1**
ELK Elko 66.19 55 P **P** **19 11 50.9 +1.1**
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 66.19 55 P **P** **19 11 50.9 +1.1**
H17A Grant Village 66.32 50 P **P** **19 11 53.9 +3.4**
baz=313,SNR=6.9
RLMT Red Lodge 66.51 49 P **P** **19 11 51.5 -0.1**
RLMT IAmb IAmb 19 11 55.0
comp=Z,15nm,1.4s
TPAW Teton Pass 66.73 51 P **P** **19 11 53.6 +0.4**
TPAW IAmb IAmb 19 11 55.4
comp=Z,13nm,1.1s
DGMT Dagmar 66.73 43 P **P** **19 11 53.5 +0.7**
DGMT Dagmar 66.73 43 P **P** **19 11 53.9 +1.1**
baz=315
TPH Tonopah 66.80 59 P **P** **19 11 54.6 +1.0**
TPH pmax pmax
comp=Z,35nm,0.8s
TPH Tonopah 66.80 59 P **P** **19 11 54.6 +1.0**
WB0 Warramunga Arr 66.97 193 P **P** **19 11 55.0 +0.6**
NC303 NORSAR Array S 66.99 339 P **P** **19 11 52.7 -1.4**
NC303 IAmb IAmb 19 11 54.7
comp=Z,7.2nm,0.9s
NC405 NORSAR Array S 67.00 338 P **P** **19 11 53.0 -1.2**
IDID Didziasalis 67.02 328 *e*P **P** **19 11 53.6 -0.8**
NC204 NORSAR Array S 67.10 339 P **P** **19 11 53.6 -1.2**
NC204 IAmb IAmb 19 12 13.8
comp=Z,23nm,1.4s
LCH Last Change Ra 67.11 60 P **P** **19 11 56.0 +0.5**
WR0 Warramunga Arr 67.14 193 P **P** **19 11 56.3 +0.8**
WR0 IAmb IAmb 19 12 03.2
comp=Z,25nm,1.4s
WRAB Tennant Creek 67.14 193 P **P** **19 11 56.3 +0.8**
WRAB pmax pmax
comp=Z,6.0nm,1.2s
WRAB Tennant Creek 67.14 193 P **P** **19 11 56.3 +0.8**
WB2 Warramunga Arr 67.15 193 P **P** **19 11 55.9 +0.3**
WB2 IAmb IAmb 19 12 10.8
comp=Z,7.3nm,1.2s
WRA Warramunga Arr 67.15 193 P **P** **19 11 56.5 +0.9**
comp=Z,3.0nm,0.7s,baz=10.0,slow=6.7,SNR=15
WRA PcP **PcP** **19 12 23.1 +1.8**
comp=Z,0.4nm,0.6s,baz=7.4,slow=5.7,SNR=1.8
WRA pP **pwP** **19 13 01.5 +0.5**
comp=Z,0.9nm,0.8s,baz=12,slow=6.8,SNR=3.0
WRA Warramunga Arr 67.15 193 P **P** **19 11 55.6 0.0**
NB201 NORSAR Array S 67.16 339 P **P** **19 11 54.0 -1.3**
IIGN Ignalina 67.19 328 *e*P **P** **19 11 54.4 -1.0**
NB2 NORSAR Subarra 67.19 339 P **P** **19 11 54.4 -1.0**
comp=Z,2.6nm,0.4s,baz=28,slow=6.5
NOA NORSAR Array B 67.19 339 P **P** **19 11 54.3 -1.1**
comp=Z,4.4nm,0.5s,baz=31,slow=6.7,SNR=72
NOA PcP **PcP** **19 12 20.6 -0.5**
comp=Z,1.2nm,0.7s,baz=30,slow=3.1,SNR=4.5
MNK Minsk 67.21 327 *i* P **P** **19 11 55.1 -0.5**
MNK *i* 19 12 20.9
MNK *i* *PP **pP** **19 12 58.2 +0.3**
MNK *i* *SP **sP** **19 13 28.6 +0.9**
MNK *i* 19 14 26.5
MNK *i* PPP PPP 19 16 07.7
MNK *i* S **S** **19 20 27.4 +0.6**
MNK *i* 19 21 24.6
MNK *i* SS **SS** **19 24 51.9 +0.9**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK Minsk 67.21 327 *i* P **P** **19 11 55.1 -0.5**
comp=E,2.0nm,0.9s
MNK *i* P **P** **19 11 55.1 -0.5**
comp=N,14nm,0.9s
MNK *i* P **P** **19 11 55.1 -0.5**
comp=Z,23nm,0.9s,baz=41
MNK *i* pP **pP** **19 12 58.2 +0.3**
MNK *i* sP **sP** **19 13 28.7 +0.9**
MNK *i* PP **PP** **19 14 26.6 -0.5**
MNK *i* PPP PPP 19 16 07.7
MNK *i* S **S** **19 20 27.4 +0.6**
MNK *i* sS **sS** **19 22 18.2 -0.1**
MNK *i* SS **SS** **19 24 52.0 +0.9**
MNK *i* SSS SSS 19 28 57.0
GOF Gofitskoye 67.23 312‖ *e*P **P** **19 11 56.5 +0.6**
GOF pmax pmax
comp=Z,44nm,0.6s
NBO00 NORSAR Array S 67.30 339 P **P** **19 11 54.8 -1.3**
NBO00 IAmb IAmb 19 12 15.9
comp=Z,8.2nm,1.0s
NACGM Naroch 67.32 327‖ *i*P **P** **19 11 55.7 -0.6**
NC602 NORSAR Array S 67.36 338 P **P** **19 11 55.0 -1.5**
NC602 IAmb IAmb 19 12 21.6
comp=Z,24nm,1.4s
GRAC Grapevine Rang 67.43 60 P **P** **19 11 59.5 +2.1**
baz=312,SNR=7.0
NAO01 NORSAR Array S 67.44 339 P **P** **19 11 55.6 -1.4**
R11A Troy Canyon, C 67.58 58 P **P** **19 11 59.6 +1.1**
R11A Troy Canyon, C 67.58 58 P **P** **19 11 59.9 +1.4**
baz=312,SNR=8.3
ISA Isabella, Lake 67.65 61 P **P** **19 11 59.5 +0.7**
baz=312
HWUT Hardware Ranch 67.67 53 P **P** **19 12 00.5 +1.5**
HWUT IAmb IAmb 19 12 01.2
comp=Z,6.8nm,0.6s
VIKU Vikbolandet 67.82 335 *e*P **P** **19 11 57.9 -1.4**
PABE Paberze 67.88 329 P **P** **19 11 59.0 -0.8**
PABE Paberze 67.88 329 *e*P **P** **19 11 58.9 -0.8**
DUG Dugway, Tooele 67.93 55 P **P** **19 12 02.3 +1.8**
DUG pmax pmax
comp=Z,12nm,0.8s
DUG Dugway, Tooele 67.93 55 P **P** **19 12 02.3 +1.8**
DUG IAmb IAmb 19 12 03.2
comp=Z,12nm,0.8s
DUG Dugway, Tooele 67.93 55 P **P** **19 12 02.2 +1.6**
baz=313,SNR=11
BW06 Boulder Array 67.97 51 P **P** **19 12 02.0 +1.2**
baz=314
PDAR Pinedale Array 67.97 51 P **P** **19 12 01.6 +0.8**
comp=Z,6.1nm,0.7s,baz=331,slow=1.0,SNR=12
PDAR Pinedale Array 67.97 51 P **P** **19 12 01.5 +0.6**
MPMC Manual Prospec 67.98 61 P **P** **19 12 02.3 +1.3**
baz=312,SNR=6.2
NCK Nalchik 68.02 310‖ *e*P **P** **19 12 01.5 +0.6**
NCK pmax pmax
comp=Z,12nm,0.8s
FURC Furnace Creek, 68.08 60 P **P** **19 12 03.3 +2.0**
baz=312,SNR=5.3
TPNV Topopah Spring 68.13 59 P **P** **19 12 02.8 +0.9**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 68.13 59 P **P** **19 12 02.8 +0.9**
TPNV Topopah Spring 68.13 59 P **P** **19 12 03.4 +1.6**
baz=313,SNR=8.5
KIV Kislovodsk 68.18 311 *e*P **P** **19 12 03.2 +1.2**
KIV pmax pmax
comp=Z,36nm,1.1s
KIV Kislovodsk 68.18 311 P **P** **19 12 01.9 -0.1**
KBZ Khabaz 68.23 311 P **P** **19 12 03.2 +1.1**
comp=Z,14nm,0.9s,baz=86,slow=4.5,SNR=23
LRMC Laurel Mtn Rad 68.25 61 P **P** **19 12 03.5 +0.9**
baz=312
GWY Greenwater Val 68.39 60 P **P** **19 12 04.5 +1.1**
GWY IAmb IAmb 19 12 05.7
comp=Z,8.6nm,0.7s
JLU Jordanelle 68.42 53 P **P** **19 12 04.7 +1.0**
QSM Queen of Sheba 68.42 60 P **P** **19 12 04.8 +1.3**
QSM IAmb IAmb 19 12 05.8
comp=Z,11nm,0.9s
PSUT Pine Spring 68.46 56 P **P** **19 12 04.9 +1.0**
PSUT IAmb IAmb 19 12 06.3
comp=Z,5.8nm,0.8s
EDW2 Edwards Air Fo 68.46 62 P **P** **19 12 05.2 +1.4**
baz=313,SNR=6.2
NLU North Lily Min 68.51 54 P **P** **19 12 05.4 +1.1**
NLU IAmb IAmb 19 12 06.7
comp=Z,9.1nm,0.9s
ONI Oni 68.72 310 P **P** **19 12 06.0 +0.7**
ONI pmax pmax
comp=Z,10.0nm,0.8s
ONI Oni 68.72 310 P **P** **19 12 06.0 +0.7**
ONI IAmb IAmb 19 12 07.4
comp=Z,10nm,0.8s
GSC Goldstone, Bar 68.90 61 P **P** **19 12 07.8 +1.2**
baz=313
SHPR Sheep Range 69.07 59 P **P** **19 12 07.8 +0.1**
SHPR IAmb IAmb 19 12 10.3
comp=Z,4.8nm,0.8s
ULM Lac du Bonnet 69.19 38 P **P** **19 12 07.2 -0.7**
comp=Z,1.6nm,0.4s,baz=310,slow=6.5,SNR=4.0
ULM Lac du Bonnet 69.19 38 IAmb IAmb 19 12 08.1
comp=Z,6.6nm,1.1s
MDND Maddock 69.32 42 P **P** **19 12 09.6 +0.8**
TUQ Turquoise Moun 69.34 60 P **P** **19 12 11.1 +1.8**
baz=313
CCUT Cedar City 69.41 57 P **P** **19 12 11.0 +1.2**
MSU Marysvale 69.44 56 P **P** **19 12 11.8 +1.8**
MSU Marysvale 69.44 56 P **P** **19 12 11.8 +1.8**
TMUT Trail Mountain 69.45 54 P **P** **19 12 11.4 +1.3**
TMUT IAmb IAmb 19 12 12.4
comp=Z,9.0nm,0.7s
RDMU Red Mountain 69.47 52 P **P** **19 12 11.3 +1.1**
SZCU Shurtz Canyon 69.54 57 P **P** **19 12 11.7 +1.1**
AKASG Malin Array Be 69.57 323 P **P** **19 12 09.3 -1.0**
comp=Z,3.7nm,0.4s,baz=36,slow=6.2,SNR=40
AKASG Malin Array Be 69.57 323 P **P** **19 12 09.5 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 69.57 323 P **P** **19 12 09.5 -0.7**
AKBB Malin Array Si 69.57 323 *de*P **P** **19 12 09.4 -0.8**
AKBB Malin Array Si 69.57 323 P **P** **19 12 09.1 -1.1**
AKBB IAmb IAmb 19 12 10.1
comp=Z,12nm,0.8s
P17A Butcher Ranch, 69.59 54 P **P** **19 12 11.8 +1.0**
P17A IAmb IAmb 19 12 13.3
comp=Z,19nm,1.2s
P18A Preston Nutter 69.75 54 P **P** **19 12 13.2 +1.2**
P18A IAmb IAmb 19 12 14.5
comp=Z,6.8nm,0.7s
MTPU Mount Pierson 69.76 56 P **P** **19 12 13.7 +1.6**
MTPU IAmb IAmb 19 12 15.0
comp=Z,8.4nm,0.7s
LCMT Little Creek M 69.85 57 P **P** **19 12 13.6 +1.2**
LCMT IAmb IAmb 19 12 15.1
comp=Z,7.5nm,0.8s
RSSD Black Hills 69.89 47 P **P** **19 12 13.4 +0.8**
baz=316
GMRC Granite Mounta 69.94 60 P **P** **19 12 14.2 +1.3**
baz=314
SRU San Rafael Swe 69.96 54 P **P** **19 12 14.2 +1.1**
SRU pmax pmax
comp=Z,19nm,0.7s
SRU San Rafael Swe 69.96 54 P **P** **19 12 14.2 +1.1**
KNB Kanab 70.09 57 P **P** **19 12 15.4 +1.5**
KNB pmax pmax
comp=Z,9.0nm,0.9s
KNB Kanab 70.09 57 P **P** **19 12 15.4 +1.5**
KNB IAmb IAmb 19 12 16.8
comp=Z,8.7nm,0.9s
IRM Iron Mountain 70.68 61 P **P** **19 12 18.9 +1.6**
baz=314,SNR=5.3
U15A North Rim 70.81 57 P **P** **19 12 19.6 +1.3**
U15A IAmb IAmb 19 12 21.2
comp=Z,12nm,0.8s
AS31 Alice Springs 70.87 193 P **P** **19 12 20.0 +1.7**
ASAR Alice Springs 70.87 193 P **P** **19 12 20.2 +1.9**
comp=Z,1.5nm,0.3s,baz=9.7,slow=6.0,SNR=70
ASAR pP **pP** **19 13 22.1 +0.6**
comp=Z,0.4nm,0.7s,baz=6.1,slow=6.1,SNR=2.1
ASAR Alice Springs 70.87 193 P **P** **19 12 19.9 +1.6**
PDMCI Parker Dam,Lak 71.18 60 P **P** **19 12 21.9 +1.7**
baz=314
PV23 Carpenter Ridg 71.26 54 P **P** **19 12 21.7 +0.7**
PV10 Paradox Valley 71.30 54 P **P** **19 12 22.3 +1.0**
BLYC Blythe 71.33 61 P **P** **19 12 22.3 +1.1**
BLYC IAmb IAmb 19 12 23.6
comp=Z,8.0nm,0.9s
PV11 David Mesa, Pa 71.45 54 P **P** **19 12 23.0 +1.0**
PV07 Paradox Valley 71.48 54 P **P** **19 12 22.2 0.0**
PV07 IAmb IAmb 19 12 24.3
comp=Z,10nm,1.0s
PV13 Radium Mtn., P 71.58 54 P **P** **19 12 23.6 +0.8**
PV15 Paradox Valley 71.64 54 P **P** **19 12 24.0 +0.8**
PV15 IAmb IAmb 19 12 25.8
comp=Z,11nm,0.8s
SMCO Snowmass 71.87 52 P **P** **19 12 25.6 +0.8**
SORM Soroca 71.91 322 ⇑P **P** **19 12 22.9 -1.4**
SORM Soroca 71.91 322 ⇑P **P** **19 12 22.9 -1.4**
WUAZ Wupatki 71.97 57 P **P** **19 12 26.5 +1.4**
WUAZ IAmb IAmb 19 12 28.0
comp=Z,6.2nm,0.9s
WUAZ Wupatki 71.97 57 P **P** **19 12 26.8 +1.6**
baz=315
Y14A Wickenburg 72.11 60 P **P** **19 12 27.0 +1.2**
Y14A IAmb IAmb 19 12 28.2
comp=Z,7.3nm,0.9s
ISCO Idaho Springs 72.16 51 P **P** **19 12 27.6 +1.2**
baz=316
MVCO Mesa Verde 72.43 54 P **P** **19 12 28.5 +0.6**
MVCO IAmb IAmb 19 12 30.1
comp=Z,15nm,1.0s
MVCO Mesa Verde 72.43 54 P **P** **19 12 29.3 +1.4**
baz=316
X16A Lo Mia Camp, P 72.70 58 P **P** **19 12 30.7 +1.2**
X16A IAmb IAmb 19 12 32.3
comp=Z,7.8nm,0.9s
Q24A Divide 73.02 51 P **P** **19 12 32.0 +0.6**
W18A Petrified Fore 73.20 57 P **P** **19 12 33.3 +0.9**
W18A IAmb IAmb 19 12 35.0
comp=Z,6.2nm,0.8s
W18A Petrified Fore 73.20 57 P **P** **19 12 34.0 +1.6**
baz=316
OGNE Ogallala 73.21 48 P **P** **19 12 32.6 +0.4**
BUR08 Bucovina Ar. S 73.61 323 P **P** **19 12 33.8 -0.7**
BUR08 IAmb IAmb 19 12 35.6
comp=Z,5.7nm,0.8s
BURAR Bucovina Array 73.63 323 ⇑P **P** **19 12 34.0 -0.5**
BURAR Bucovina Array 73.63 323 ⇑P **P** **19 12 34.0 -0.5**
BURAR Bucovina Array 73.63 323 P **P** **19 12 34.0 -0.5**
BURAR IAmb IAmb 19 12 36.0
comp=Z,5.3nm,0.7s
OJC Ojcow 73.63 328 *e*P **P** **19 12 34.6 +0.2**
SDCO Great Sand Dun 73.70 52 P **P** **19 12 36.2 +0.8**
SDCO Great Sand Dun 73.70 52 P **P** **19 12 36.6 +1.2**
baz=317
ECSD EROS Data Cent 73.78 43 P **P** **19 12 35.4 0.0**
ECSD IAmb IAmb 19 12 36.5
comp=Z,10nm,0.8s
ECSD EROS Data Cent 73.78 43 P **P** **19 12 35.7 +0.3**
baz=320,SNR=5.5
TESR Tescani 73.90 322 ⇑P **P** **19 12 35.2 -0.8**
MARD Mardin 73.91 307 P **P** **19 12 37.2 +0.8**
MARD IAmb IAmb 19 12 38.1
comp=Z,7.7nm,0.6s
CRVS Cervenica-Dubn 74.09 326 *e*P **P** **19 12 37.4 +0.4**
CRVS pmax pmax
comp=Z,8.0nm,1.0s
CRVS Cervenica-Dubn 74.09 326 *e*P **P** **19 12 37.4 +0.4**
NIE Niedzica 74.11 327 *e*P **P** **19 12 38.4 +1.2**
CFR Carcaliu 74.30 320 ⇓P **P** **19 12 38.4 +0.2**
CFR Carcaliu 74.30 320 ⇓P **P** **19 12 38.4 +0.2**
OZUR 74.60 322 ⇓P **P** **19 12 40.5 +0.4**
COVR Voineasa-Covas 74.62 322 ⇑P **P** **19 12 41.0 +0.9**
LANS Liptovska Anna 74.64 328 *e*P **P** **19 12 41.6 +1.4**
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 74.64 328 *e*P **P** **19 12 41.6 +1.4**
T25A Trinidad 74.74 52 P **P** **19 12 41.8 +0.6**
T25A IAmb IAmb 19 12 43.2
comp=Z,8.5nm,0.9s
T25A Trinidad 74.74 52 P **P** **19 12 42.2 +1.0**
baz=317
DPC Dobruska-Polom 74.76 330 *e*P **P** **19 12 40.0 -0.9**
DPC Dobruska-Polom 74.76 330 *e*P **P** **19 12 40.0 -0.9**
MORC Moravsky Berou 74.81 329 ⇑P **P** **19 12 38.3 -2.9**
MORC Moravsky Berou 74.81 329 ⇑P **P** **19 12 38.3 -2.9**
MORC Moravsky Berou 74.81 329 P **P** **19 12 40.4 -0.8**
MORC IAmb IAmb 19 12 42.8
comp=Z,6.9nm,0.9s
KRLC Kraliky 74.83 330 *e*P **P** **19 12 41.2 -0.1**
KRLC Kraliky 74.83 330 *e*P **P** **19 12 41.2 -0.1**
DOPR Dopca 74.87 322 ⇑P **P** **19 12 42.3 +0.7**
SCHQ Schefferville 74.98 20 P **P** **19 12 41.8 -0.3**
comp=Z,2.7nm,0.8s,baz=307,slow=4.5,SNR=5.8
MLR Muntele Rosu 75.01 322 P **P** **19 12 42.9 +0.4**
MLR pmax pmax
comp=Z,16nm,1.5s

MLR Muntele Rosu 75.01 322 P P 19 12 42.9 +0.4
MLR IAmb IAmb 19 12 43.7
comp=Z,16nm,1.5s
ISR Istrita 75.04 321 ⇓P P 19 12 43.6 +1.0
ISR Istrita 75.04 321 ⇓P P 19 12 43.6 +1.0
CLL Collm 75.05 332 *i* **P P 19 12 41.5 -0.9**
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 75.05 332 P P 19 12 40.8 -1.7
CLL IAmb IAmb 19 12 43.1
comp=Z,8.4nm,0.7s
CLL Collm 75.05 332 *i* **P P 19 12 41.5 -0.9**
comp=Z,9.0nm,0.6s
ANMO Albuquerque 75.20 55⇓ *eP* **P 19 12 45.6 +1.7**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 75.20 55 P P 19 12 45.1 +1.3
ANMO Albuquerque 75.20 55 P P 19 12 45.5 +1.6
baz=317
ICOR Ion Corvin 75.28 320 ⇓P P 19 12 44.9 +1.1
VOIR 75.43 322 ⇓P P 19 12 45.5 +0.6
VOIR 75.43 322 ⇓P P 19 12 45.5 +0.6
LENM Lemitar 75.47 56 P P 19 12 46.9 +1.5
PRU Pruhonice 75.67 331 *eP* **P 19 12 46.6 +0.6**
PRU Pruhonice 75.67 331 *eP* **P 19 12 46.6 +0.6**
BR131 Keskin Array S 75.89 313 P P 19 12 47.5 -0.1
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 75.89 313 P P 19 12 47.5 -0.1
BR131 IAmb IAmb 19 12 49.0
comp=Z,6.3nm,0.7s
BRTR Keskin Array B 75.89 313 P P 19 12 47.9 +0.2
comp=Z,3.0nm,0.7s,baz=104,slow=3.5,SNR=10
BRTR Keskin Array B 75.89 313 *i* **P P 19 12 48.0 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 75.89 313 P P 19 12 47.6 0.0
SMOL Smolenice 75.91 328 *eP* **P 19 12 48.8 +1.4**
SMOL Smolenice 75.91 328 *eP* **P 19 12 48.8 +1.4**
121A Cookes Peak, D 76.19 57 P P 19 12 51.7 +2.2
baz=317
COPA Copaceanca 76.40 321 ⇓P P 19 12 50.0 -0.2
GZR Gura Zlata 76.42 323 ⇑P P 19 12 49.8 -0.6
GZR Gura Zlata 76.42 323 ⇑P P 19 12 49.8 -0.6
BZS Buzias 76.71 324 ⇑P P 19 12 50.2 -1.7
BZS Buzias 76.71 324 ⇑P P 19 12 50.2 -1.7
KHC Kasperske Hory 76.73 331 *deP* **P 19 12 52.3 +0.2**
KHC pmax pmax
comp=Z,21nm,1.2s
KHC Kasperske Hory 76.73 331 *eP* **P 19 12 52.2 +0.2**
KHC Kasperske Hory 76.73 331 P P 19 12 51.7 -0.3
KHC IAmb IAmb 19 12 53.7
comp=Z,8.1nm,1.0s
CKRC Cesky Krumlov 76.75 330 *eP* **P 19 12 52.0 -0.1**
SCIA State Center 76.78 42 P P 19 12 53.2 +0.8
baz=322
GEC2 GERESS Array S 76.94 331 P P 19 12 52.1 -1.1
GERES GERESS Array B 76.94 331 P P 19 12 52.9 -0.4
comp=Z,0.7nm,0.4s,baz=30,slow=5.7,SNR=11
GERES GERESS Array B 76.94 331 P P 19 12 52.3 -1.0
GRA1 Grafenberg Arr 77.02 333 P P 19 12 53.1 -0.5
GRA1 IAmb IAmb 19 12 55.2
comp=Z,12nm,0.8s
GRF Grafenberg Arr 77.02 333 P P 19 12 53.1 -0.5
GRF pmax pmax
comp=Z,12nm,0.8s
GRFO Grafenberg 77.02 333 P P 19 12 53.1 -0.5
GRFO pmax pmax
comp=Z,13nm,0.9s
GRFO Grafenberg 77.02 333 P P 19 12 53.1 -0.5
GRFO IAmb IAmb 19 12 55.1
comp=Z,13nm,0.9s
MEM Membach 77.77 336 *dP* **P 19 12 57.9 +0.2**
AMTX Amarillo 77.89 52 P P 19 12 59.2 +0.5
AMTX IAmb IAmb 19 13 00.8
comp=Z,12nm,0.8s
AMTX Amarillo 77.89 52 P P 19 13 00.2 +1.5
baz=319
VLDQ Val d'Or 77.96 29 P P 19 12 57.3 -1.4
BCLA Clavier 78.13 336 *dP* **P 19 12 58.5 -1.1**
MNTX Cornudas Mount 78.19 56 P P 19 13 01.0 +0.7
MNTX IAmb IAmb 19 13 02.7
comp=Z,7.7nm,0.9s
MNTX Cornudas Mount 78.19 56 P P 19 13 01.7 +1.4
baz=318,SNR=11
P38A Dawn 78.42 44 P P 19 13 01.5 +0.1
VTS Vitosha 78.48 322 ⇓P P 19 13 02.7 +0.8
VTS Vitosha 78.48 322 ⇓P P 19 13 02.7 +0.8
VTS Vitosha 78.48 322 P P 19 13 02.3 +0.4
VTS IAmb IAmb 19 13 03.9
comp=Z,7.5nm,1.0s
KBA Koelnbreinsper 78.58 330 *eP* **P 19 13 02.5 +0.1**
comp=Z,6.9nm,0.7s
FORT Forrest 78.87 197 P P 19 13 05.5 +1.8
WATA Walderalm 78.96 331 *eP* **P 19 13 04.7 +0.3**
comp=Z,5.4nm,0.6s
WTTA Wattenberg 79.00 331 *eP* **P 19 13 04.9 +0.2**
comp=Z,3.8nm,0.4s
T35A Sooner Cattle 79.07 47 P P 19 13 05.1 0.0
MOTA Moosalm 79.11 331 *eP* **P 19 13 04.8 -0.5**
comp=Z,15nm,1.0s
SQTA Sankt Quirin 79.18 331 *eP* **P 19 13 05.1 -0.5**
comp=Z,12nm,1.1s
P40A Paris 79.20 43 P P 19 13 06.2 +0.5
WMOK Wichita Mounta 79.56 50 P P 19 13 08.1 +0.4
WMOK pmax pmax
comp=Z,4.0nm,0.7s
WMOK Wichita Mounta 79.56 50 P P 19 13 08.1 +0.4
WMOK Wichita Mounta 79.56 50 P P 19 13 08.4 +0.6
baz=320,SNR=5.5
ECH Echery 79.58 334 P P 19 13 06.1 -1.5
ECH pmax pmax
comp=Z,8.0nm,1.1s
ECH Echery 79.58 334 P P 19 13 06.1 -1.5
ECH IAmb IAmb 19 13 07.4
comp=Z,8.1nm,1.1s
CSS Mathiatis 79.67 310 P P 19 13 08.5 +0.1
S39A Bolivar 80.05 45 P P 19 13 09.9 -0.4
S39A IAmb IAmb 19 13 11.2
comp=Z,11nm,0.8s
R40A Maddies Statio 80.08 44 P P 19 13 10.3 -0.1
R40A IAmb IAmb 19 13 11.0
comp=Z,9.2nm,0.6s
TUL1 Leonard 80.21 47 P P 19 13 10.7 -0.5
TUE Stuetta 80.45 332 P P 19 13 12.5 0.0
TUE IAmb IAmb 19 13 15.5
comp=Z,6.4nm,1.0s
TRQ Mont Tremblant 80.57 28 P P 19 13 13.6 +0.6
TRQ IAmb IAmb 19 13 13.9
comp=Z,8.6nm,0.8s
LMQ La Malbaie 80.69 25 P P 19 13 13.2 -0.3
CCM Cathedral Cave 80.75 43 P P 19 13 14.0 0.0
CCM pmax pmax
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 80.75 43 P P 19 13 14.0 0.0
CCM IAmb IAmb 19 13 14.8
comp=Z,9.3nm,0.8s
CCM Cathedral Cave 80.75 43 P P 19 13 14.2 +0.3
baz=324
FNA Florina 80.78 322 P P 19 13 14.1 0.0
FNA pmax pmax
comp=Z,6.0nm,0.8s
FNA Florina 80.78 322 P P 19 13 14.1 0.0
FNA IAmb IAmb 19 13 14.4
comp=Z,5.5nm,0.8s
TX31 Lajitas Ar. Si 80.93 57 P P 19 13 15.9 +0.8
TX32 Lajitas Array 80.93 57 P P 19 13 16.0 +0.8
TX32 IAmb IAmb 19 13 17.5
comp=Z,11nm,0.9s
TXAR Lajitas Array 80.93 57 P P 19 13 16.3 +1.1
comp=Z,7.9nm,0.8s,baz=292,slow=3.8,SNR=78
TXAR Lajitas Array 80.93 57 P P 19 13 16.1 +0.9
RAYN Ar Rayn 81.12 295 P P 19 13 16.4 +0.2
RAYN pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 81.12 295 P P 19 13 16.4 +0.2
FVM French Village 81.20 43 P P 19 13 16.3 0.0
FVM pmax pmax
comp=Z,8.0nm,0.7s
FVM French Village 81.20 43 P P 19 13 16.2 0.0
FVM IAmb IAmb 19 13 17.1
comp=Z,7.6nm,0.7s
U40A Yellville 81.33 45 P P 19 13 17.0 -0.1
U40A Yellville 81.33 45 P P 19 13 17.4 +0.3
baz=323,SNR=14
P46A Rosedale 81.33 40 P P 19 13 17.1 +0.1
D62A Allapoint, All 81.48 24 P P 19 13 17.2 -0.4
D62A IAmb IAmb 19 13 18.6
comp=Z,6.5nm,0.9s
W39A Magazine 81.79 47 P P 19 13 19.9 +0.5
baz=323
S44A Carbondale 81.98 42 P P 19 13 20.2 -0.1
FCAR Ozark Folk Cen 82.06 45 P P 19 13 20.7 -0.1
BATG Bathurst New B 82.12 22 P P 19 13 21.1 +0.1
JCT Junction City 82.26 54 P P 19 13 22.8 +0.8
JCT pmax pmax
comp=Z,9.0nm,0.7s
JCT Junction City 82.26 54 P P 19 13 22.8 +0.8
JCT IAmb IAmb 19 13 24.5
comp=Z,8.6nm,0.7s
JCT Junction City 82.26 54 P P 19 13 22.9 +0.8
baz=320
N51A Ashland 82.30 36 P P 19 13 22.6 +0.6
NRCA Norcia 82.33 328 P P 19 13 22.1 -0.1
LCAR Lake Charles 82.39 44 P P 19 13 22.6 +0.1
WHAR Wooly Hollow 82.46 46 P P 19 13 23.2 +0.3
P49A Miami Univ. Ec 82.48 38 P P 19 13 22.9 -0.1
W41B Gary Mavity, V 82.57 46 P P 19 13 23.4 0.0
W41B IAmb IAmb 19 13 24.9
comp=Z,11nm,0.9s
W41B Gary Mavity, V 82.57 46 P P 19 13 23.9 +0.4
baz=323,SNR=5.7
F64A Sherman 82.79 24 P P 19 13 24.5 +0.1
M54A Oil Creek Stat 82.86 34 P P 19 13 25.0 +0.1
J59A Piesco 83.03 29 P P 19 13 25.0 -0.7
L56A Greenwood 83.11 32 P P 19 13 26.2 0.0
L56A IAmb IAmb 19 13 28.9
comp=Z,11nm,1.1s
H62A Milan 83.13 27 P P 19 13 26.8 +0.7
N54A Moraine State 83.21 34 P P 19 13 27.2 +0.6
M55A Ridgway 83.24 33 P P 19 13 27.4 +0.6
O53A New Philadelph 83.33 35 P P 19 13 27.8 +0.5
baz=329
ITM Ithomi 83.50 319 P P 19 13 27.2 -1.0
T47A Sharon Grove 83.54 41 P P 19 13 29.1 +0.7
O54A Avella 83.72 35 P P 19 13 29.9 +0.6
O54A IAmb IAmb 19 13 30.3
comp=Z,11nm,0.8s
LMN Caledonia Moun 83.77 22 P P 19 13 29.8 +0.3
I63A Otisfield 83.78 27 P P 19 13 30.5 +1.0
WVT Waverly 83.91 42 P P 19 13 30.6 +0.3
WVT pmax pmax
comp=Z,8.0nm,0.8s
WVT Waverly 83.91 42 P P 19 13 30.6 +0.3
WVT IAmb IAmb 19 13 31.7
comp=Z,8.4nm,0.8s
WVT Waverly 83.91 42 P P 19 13 31.0 +0.7
baz=326
M57A Sunshine Farm, 83.97 32 P P 19 13 30.8 +0.3
L59A Walton 83.97 30 P P 19 13 30.5 0.0
TIP Timpagrande 84.06 324 P P 19 13 31.4 +0.3
TIP IAmb IAmb 19 13 32.5
comp=Z,5.6nm,0.8s
KSPA Keystone Colle 84.27 31 P P 19 13 32.0 +0.1
KSPA IAmb IAmb 19 13 32.6
comp=Z,6.2nm,0.7s
SSPA Standing Stone 84.29 33 P P 19 13 32.1 0.0
SSPA IAmb IAmb 19 13 33.4
comp=Z,7.1nm,0.8s
SSPA Standing Stone 84.29 33 P P 19 13 32.5 +0.4
baz=331
O56A Blue Knob Stat 84.35 34 P P 19 13 32.6 +0.1
O56A IAmb IAmb 19 13 33.4
comp=Z,10nm,0.8s
O56A Blue Knob Stat 84.35 34 P P 19 13 33.0 +0.5
baz=330
OXF Oxford 84.48 44 P P 19 13 33.8 +0.7
OXF pmax pmax
comp=Z,17nm,0.7s
OXF Oxford 84.48 44 P P 19 13 33.8 +0.7
OXF Oxford 84.48 44 P P 19 13 33.9 +0.7
baz=325
T50A Nancy 84.53 40 P P 19 13 33.6 +0.2
U49A Red Boiling Sp 84.53 40 P P 19 13 33.9 +0.5
N58A Sunbury 84.55 32 P P 19 13 33.4 0.0
S51A Beattyville 84.55 38 P P 19 13 33.4 0.0
Q54A Coxs Mills 84.56 36 P P 19 13 34.3 +0.9
V48A Smith Brothers 84.70 42 P P 19 13 34.4 +0.2
V48A IAmb IAmb 19 13 35.5
comp=Z,9.4nm,0.7s
PLAL Pickwick Lake 84.73 43 P P 19 13 34.8 +0.4
PLAL IAmb IAmb 19 13 35.5
comp=Z,7.2nm,0.7s
N59A State Game Lan 84.83 31 P P 19 13 35.2 +0.4
N59A IAmb IAmb 19 13 35.6
comp=Z,7.4nm,0.8s
N59A State Game Lan 84.83 31 P P 19 13 35.4 +0.5
baz=332
TRNY Table Rock, Ra 85.17 30 P P 19 13 36.8 +0.3
TRNY IAmb IAmb 19 13 37.1
comp=Z,8.5nm,0.8s
R55A Marlinton 85.45 36 P P 19 13 38.5 +0.5
TZTN Tazewell 85.49 39 P P 19 13 38.3 +0.2
TZTN IAmb IAmb 19 13 39.2
comp=Z,7.3nm,0.6s
TZTN Tazewell 85.49 39 P P 19 13 38.9 +0.7
baz=328
SWET Sewanee 85.54 41 P P 19 13 38.5 +0.1
X48A Hartselle 85.65 42 P P 19 13 38.9 -0.1
X48A IAmb IAmb 19 13 39.8
comp=Z,7.2nm,0.7s
W50A Signal Mountai 85.83 41 P P 19 13 40.2 +0.3
W50A IAmb IAmb 19 13 41.1
comp=Z,7.2nm,0.7s
CPCT Cooper Cave 85.98 40 P P 19 13 40.8 +0.3
CPCT IAmb IAmb 19 13 42.3
comp=Z,8.1nm,0.8s
146A Union 86.18 45 P P 19 13 43.0 +1.4
U54A Nelsons Funny 86.25 38 P P 19 13 42.3 +0.4
U54A IAmb IAmb 19 13 43.2
comp=Z,16nm,1.1s
Y49A Blount Mountai 86.44 42 P P 19 13 42.7 -0.1
Y49A IAmb IAmb 19 13 43.5
comp=Z,6.5nm,0.6s
JSRW J. Sargeant Re 86.85 34 P P 19 13 44.6 0.0
BG3 Lake Jocassee 87.06 39 P P 19 13 46.6 +0.8
V58A Windy Hill, Pi 88.00 36 P P 19 13 50.6 +0.5
V58A IAmb IAmb 19 13 51.1
comp=Z,5.7nm,0.8s
HODGE Hodges 88.00 39 P P 19 13 50.8 +0.5
HODGE IAmb IAmb 19 13 51.5
comp=Z,7.0nm,0.9s
ESDC Sonseca Array 90.55 338 P P 19 14 00.6 -1.4
comp=Z,0.3nm,0.5s,baz=2.5,slow=4.5,SNR=4.4
TORD Torodi Ar. Bea 113.21 323 PKiKP PKiKP 19 19 35.6 -0.6
comp=Z,0.6nm,0.5s,baz=27,slow=1.8,SNR=4.7
DBIC Dimbokro 121.69 327 PKP PKPdf 19 19 51.7 -0.8
comp=Z,3.4nm,0.8s,baz=352,slow=1.8,SNR=5.2
MAW Mawson 130.00 210 PKP PKPdf 19 20 06.5 -0.2
comp=Z,22nm,0.9s,baz=335,slow=14,SNR=2.2
QSPA South Pole Qui 136.19 180 PKP PKiKP 19 20 20.2 0.0
comp=Z,0.9nm,0.5s,baz=59,slow=1.1,SNR=10
LPAZ La Paz 137.80 56 PKP PKPdf 19 20 23.7 +0.1
comp=Z,1.0nm,0.6s,baz=9.9,slow=5.2,SNR=4.3
SIV San Ignacio 141.40 48 PKP PKPdf 19 20 29.1 -0.3
comp=Z,1.7nm,0.7s,baz=275,slow=1.5,SNR=6.1
BDFB Brasilia 146.65 28 PKPbc PKPbc 19 20 41.6 +0.8
comp=Z,3.7nm,0.4s,baz=296,slow=0.6,SNR=8.5
CPUP Villa Florida 151.84 53 PKPbc PKPbc 19 20 52.6 -0.6
comp=Z,2.0nm,0.5s,baz=315,slow=2.9,SNR=4.5
PLCA Paso Flores 152.02 92 PKPbc PKiKP 19 20 54.5 +0.9
comp=Z,7.3nm,0.7s,baz=276,slow=1.9,SNR=25

IDC ***16*** *19:11:26.5±7.8, 27.°35N×128.°86E, h30km±55km, mb3.2/4, mb1 3.4/4, mb1mx3.2/35, mbtmp3.3/4, MS2.9/3, Ms1 2.9/3, ms1mx2.5/31 Error ellipse: s-maj=31.2km s-min=27.2km az=90.0*
JMA ***16*** *19:11:26.1±0.1, 27.°32N×128.°94E, h25km±2km, M3.5*
NIED ***16*** *19:11:26.2, 27.°32N×128.°95E, h25km, MW3.8, Moment Tensor Solution. s3 Moment tenscor: Scale 10¹⁴Nm; Mrr1.21; Mθθ0.18; Mϕϕ-1.39; Mrθ-1.90; Mθϕ1.03; Mϕr-4.17; Fault plane solution: M₀4.84000×10¹⁴ NP1: ϕs199.00000°, δ84.00000°, λ106.00000°. NP2: ϕs309.00000°, δ17.00000°, λ20.00000°.*
ISC 16 19:11:25.2±1.2, 27.°29N±0.°04×129.°00E±0.°05, h25km±10km, n21, σ0°72/24, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.39**	**281**	P	**Pb**	**19 11 33.6**	**0.0**
JOKE				*e*S	**Sb**	**19 11 38.9**	**-0.4**
JTK	**Tokunoshima**	**0.50**	**355**	P	**Pb**	**19 11 35.7**	**+0.3**
JTK				*e*S	**Sb**	**19 11 42.1**	**-0.2**
JYRO	**Yoronjima**	**0.55**	**242**	P	**Pb**	**19 11 36.5**	**+0.2**
JYRO				*e*S	**Sb**	**19 11 43.3**	**-0.6**
JOW	**Kunigami**	**0.79**	**235**	Pn	**Pb**	**19 11 40.8**	**+0.4**
	518nm,0.3s,baz=78,slow=12,SNR=69						
JOW				Sn	**Sb**	**19 11 50.5**	**-0.1**
	837nm,0.3s,baz=140,slow=28,SNR=19						
JOW	**Kunigami**	**0.79**	**235**	P	**Pb**	**19 11 40.7**	**+0.4**
JOW				S	**Sb**	**19 11 50.2**	**-0.4**
JIH	**Iheya**	**0.95**	**255**	P	**Pn**	**19 11 42.9**	**-0.1**
JIH				*e*S	**Sn**	**19 11 55.1**	**-0.7**
JAMN	**Amaminishikomi**	**0.96**	**9**	*e*S	**Sb**	**19 11 56.0**	**+0.4**
JNTH	**Nagotoyohara**	**1.16**	**229**	*e*S	**Sn**	**19 12 01.1**	**+0.2**
JAM	**Amami Oshima**	**1.24**	**26**	*e*S	**Sb**	**19 12 04.6**	**+1.0**
JAGN	**Aguni-jima**	**1.71**	**246**	*e*S	**Sn**	**19 12 14.9**	**+0.3**
JTAJ	**Takarajima**	**1.87**	**6**	*e*S	**Sn**	**19 12 17.7**	**-0.7**
JKDJ	**Kitadaitoujima**	**2.45**	**122**	*e*S	**Sn**	**19 12 32.2**	**-0.6**
JMZ	**Minamidaito 2**	**2.47**	**126**	*e*S	**Sn**	**19 12 32.0**	**-1.3**
KSRS	**Korea Array**	**10.18**	**355**	LR	LR	19 17 44.2	
	comp=Z,28nm,18.9s,baz=210,slow=37						
JHJ	**Hachijo jima 2**	**10.99**	**55**	Sn	**Sn**	**19 16 02.3**	**-0.7**
	3.5nm,0.3s,baz=236,slow=23,SNR=2.5						
GUMO	**Guam**	**20.14**	**129**	LR	LR	19 22 31.9	
	comp=Z,22nm,21.4s,baz=55,slow=33						
CMAR	**Chiang Mai Arr**	**28.99**	**259**	P	**P**	**19 17 23.8**	**+0.7**
	0.4nm,0.6s,baz=54,slow=7.8,SNR=5.2						
YAK	**Yakutsk**	**34.74**	**1**	LR	LR	19 33 13.0	
	comp=Z,54nm,19.3s,baz=106,slow=38						
MKAR	**Makanchi Array**	**41.35**	**311**	P	**P**	**19 19 07.8**	**-1.3**
	0.2nm,0.7s,baz=97,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**47.23**	**173**	P	**P**	**19 19 56.8**	**+0.5**
	0.5nm,0.7s,baz=353,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**50.88**	**174**	P	**P**	**19 20 25.7**	**+1.5**
	0.4nm,0.9s,baz=8.8,slow=15,SNR=7.0						

PRU 16 19:16:39.5±0.0, 50.°26N×18.°85E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.61**	**93**	*e*Pg	Pg	19 16 50.1	-1.1
OJC				*e*Sg	Sg	19 16 58.0	-1.1
MORC	**Moravsky Berou**	**0.97**	**241**	*e*PG	Pg	19 16 57.8	-0.3
MORC				*e*SG	Sg	19 17 10.8	+0.1
LANS	**Liptovska Anna**	**1.18**	**160**	*e*PG	Pg	19 17 01.5	-0.6
LANS				*e*SG	Sg	19 17 17.4	0.0
LANS				*e*LG	Lg	19 17 20.3	
NIE	**Niedzica**	**1.26**	**131**	*e*Pg	Pg	19 17 03.7	0.0
NIE				*e*Sg	Sb	19 17 21.1	+0.2
KRLC	**Kraliky**	**1.34**	**263**	*e*PG	Pg	19 17 04.0	-1.2
KRLC				*e*SG	Sg	19 17 22.4	-0.2
	comp=Z,5.4nm,0.6s						
KRLC	**Kraliky**	**1.34**	**263**	*e*	Sg	19 17 22.4	-0.2
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG	Pn	19 17 08.8	-0.6
DPC				*e*SG	Sg	19 17 32.3	+0.7
OSTC	**Ostas**	**1.71**	**281**	*e*SG	Sg	19 17 34.4	-0.1
VRAC	**Vranov**	**1.75**	**238**	*e*PN	Pn	19 17 10.9	-0.1
VRAC				*e*SG	Sb	19 17 34.6	-0.3
CHVC	**Chvalec**	**1.82**	**281**	*e*SG	Sg	19 17 38.7	+0.8
CKRC	**Cesky Krumlov**	**3.29**	**246**	*e*SG	Sg	19 18 24.0	-1.1
KHC	**Kasperske Hory**	**3.60**	**254**	*e*SG	Sg	19 18 33.3	-1.9

IDC ***16*** *19:21:58.4±4.8, 22.°09N×142.°81E, h280km±49km, mb3.1/12, mb1 3.3/13, mb1mx3.1/37, mbtmp3.7/13, Error ellipse: s-maj=26.5km s-min=14.1km az=91.0*
ISC 16 19:22:00.5±1.0, 22.°1N±0.°1×142.°7E±0.°2, h300km, n13, σ0°99/12, mb3.1/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**14.92**	**346**	P	**P**	**19 25 15.5**	**-1.2**
	0.1nm,0.3s,baz=157,slow=16,SNR=4.8						
KSRS	**Korea Array**	**19.95**	**323**	P	**P**	**19 26 09.9**	**-0.8**
	1.0nm,0.6s,baz=149,slow=8.7,SNR=6.8						
PETK	**Petropavlovsk-**	**33.01**	**17**	P	**P**	**19 28 09.1**	**+1.3**
	3.3nm,0.9s,baz=224,slow=8.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**41.14**	**273**	P	**P**	**19 29 17.3**	**+0.9**
	0.3nm,0.6s,baz=90,slow=6.6,SNR=3.3						
WRA	**Warramunga Arr**	**42.59**	**192**	P	**P**	**19 29 27.5**	**-0.4**
	0.7nm,0.7s,baz=7.1,slow=8.6,SNR=23						
ASAR	**Alice Springs**	**46.30**	**191**	P	**P**	**19 29 56.4**	**-0.6**
	0.2nm,0.7s,baz=14,slow=14,SNR=1.6						
ZALV	**Zalesovo Beam**	**53.64**	**322**	P	**P**	**19 30 50.7**	**-0.7**
	0.4nm,0.4s,baz=107,slow=9.8,SNR=2.2						
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**19 30 55.4**	**+0.3**
	0.3nm,0.5s,baz=96,slow=9.0,SNR=7.2						
ILAR	**Eielson Array**	**61.87**	**27**	P	**P**	**19 31 47.0**	**-1.2**
	0.5nm,0.9s,baz=280,slow=6.0,SNR=3.1						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**19 33 17.1**	**+0.8**
	0.1nm,0.4s,baz=296,slow=4.7,SNR=2.2						
ARCES	**ARCESS Array B**	**78.41**	**341**	P	**P**	**19 33 29.0**	**+1.0**
	1.9nm,0.7s,baz=78,slow=8.7,SNR=0.8						
FINES	**FINESS Array B**	**82.64**	**334**	P	**P**	**19 33 50.1**	**-0.3**
	0.9nm,0.4s,baz=65,slow=5.9,SNR=4						
TXAR	**Lajitas Array**	**98.15**	**54**	P	Pdif	19 35 01.8	-2.3
	0.3nm,1.0s,baz=282,slow=4.2,SNR=2.0						

GUC ***16*** *19:27:49.0±0.3, 24.°06S×67.°52W, h212km±4km, ML4.2*
IDC ***16*** *19:27:50.7±1.3, 23.°76S×67.°26W, h196km±13km, mb3.2/1, mb1 3.5/4, mb1mx3.2/30, mbtmp3.9/4, Error ellipse: s-maj=25.3km s-min=18.6km az=165.0*
ISC 16 19:27:49.1±0.8, 24.°04S±0.°06×67.°39W±0.°09, h192km±10km, n24, σ1°47/41, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.99**	**315**	P	**Pn**	**19 28 26.8**	**-0.5**
	13nm,0.3s,baz=158,slow=7.0,SNR=209						
LVC				S	**S**	**19 28 57.8**	**+0.8**
	43nm,0.3s,baz=1.4,slow=19,SNR=76						
LVC	**Limon Verde**	**1.99**	**315**	*e*P	**Pn**	**19 28 27.7**	**+0.4**
LVC				*i* S	**S**	**19 28 57.2**	**+0.3**
PB15	**IPOC Station P**	**2.08**	**293**	*e*P	**Pn**	**19 28 28.3**	**+0.2**
PB15				*i* S	**S**	**19 28 58.4**	**+0.2**
GO02	**Mina Guanaco**	**2.29**	**240**	*e*P	**Pn**	**19 28 28.4**	**-2.1**
GO02				*i* S	**S**	**19 28 59.4**	**-3.2**
GO02				IAML		19 29 00.5	
	comp=E,1μm,0.5s						
PB06	**IPOC Station P**	**2.40**	**303**	*e*P	**Pn**	**19 28 32.0**	**+0.4**
PB06				*i* S	**S**	**19 29 04.6**	**+0.1**
PB06				IAML		19 29 07.8	
	comp=N,599nm,0.3s						
PB09	**IPOC Station P**	**2.81**	**322**	*e*P	**Pn**	**19 28 37.0**	**+0.7**
PB09				*i* S	**S**	**19 29 13.3**	**+0.4**
PB09				IAML		19 29 17.1	
	comp=E,241nm,0.5s						
PB10	**IPOC Station P**	**2.94**	**280**	*e*P	**Pn**	**19 28 37.3**	**-0.3**
PB10				*i* S	**S**	**19 29 14.1**	**-1.4**
PB10				IAML		19 29 18.7	
	comp=E,240nm,0.4s						
PB04	**IPOC Station P**	**3.05**	**303**	*e*P	**Pn**	**19 28 39.5**	**+0.4**
PB04				*i* S	**S**	**19 29 17.4**	**-0.6**
PB04				IAML		19 29 19.5	
	comp=E,519nm,0.2s						
PB07	**IPOC Station P**	**3.25**	**315**	*e*P	**Pn**	**19 28 42.2**	**+0.6**
PB07				*i* S	**S**	**19 29 22.1**	**-0.5**
PB01	**IPOC Station P**	**3.56**	**327**	*e*P	**Pn**	**19 28 45.6**	**+0.4**
PB01				*i* S	**S**	**19 29 28.8**	**-0.3**
PB02	**IPOC Station P**	**3.56**	**319**	*e*P	**Pn**	**19 28 45.3**	**0.0**
PB02				*i* S	**S**	**19 29 28.0**	**-1.1**
PB08	**IPOC Station P**	**4.21**	**337**	*e*P	**Pn**	**19 28 54.9**	**+1.2**
PB08				*i* S	**S**	**19 29 45.0**	**+0.8**
TA01	**Diego Aracena**	**4.31**	**323**	*e*P	**Pn**	**19 28 54.9**	**+0.3**
TA01				*i* S	**S**	**19 29 44.8**	**-1.2**
HMBC	**Humberstone**	**4.40**	**328**	*e*P	**Pn**	**19 28 55.2**	**-0.6**
HMBC				*i* S	**S**	**19 29 47.6**	**-0.6**
PB11	**IPOC Station P**	**4.75**	**333**	*e*P	**Pn**	**19 29 00.5**	**+0.2**
PB11				*i* S	**S**	**19 29 55.1**	**-1.1**
LPAZ	**La Paz**	**7.74**	**355**	P	**Pn**	**19 29 41.0**	**+1.3**
	comp=E,0.9nm,0.3s,baz=160,slow=6.9,SNR=16						
LPAZ				S	**S**	**19 31 04.7**	**-2.6**
	comp=E,0.1nm,0.3s,baz=206,slow=15,SNR=1.3						
CPUP	**Villa Florida**	**9.40**	**106**	P	**Pn**	**19 30 01.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=283,slow=9.4,SNR=5.2						
SIV	**San Ignacio**	**9.97**	**38**	P	**Pn**	**19 30 05.1**	**-3.1**
	comp=E,0.9nm,0.3s,baz=209,slow=13,SNR=9.1						

SIV				S	**S**	**19 31 56.5**	**-3.0**
	comp=E,0.3nm,0.3s,baz=266,slow=21,SNR=1.9						
PLCA	**Paso Flores**	**16.86**	**188**	P	**Pn**	**19 31 38.7**	**+4.6**
	comp=E,0.3nm,0.3s,baz=357,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**19 39 20.4**	**-0.3**
	comp=E,0.4nm,0.5s,baz=263,slow=5.7,SNR=4.5						
ASAR	**Alice Springs**	**128.27**	**205**	PKP	**PKiKP**	**19 46 34.3**	**+0.2**
	comp=E,0.5nm,0.8s,baz=157,slow=1.4,SNR=5.8						
WRA	**Warramunga Arr**	**131.43**	**208**	PKP	**PKiKP**	**19 46 40.8**	**+0.3**
	comp=E,0.3nm,0.4s,baz=156,slow=1.6,SNR=8.3						
ZALV	**Zalesovo Beam**	**143.60**	**28**	PKP	**PKPdf**	**19 47 00.2**	**-0.5**
	comp=E,0.7nm,0.4s,baz=48,slow=2.2,SNR=3.6						
MKAR	**Makanchi Array**	**146.78**	**39**	PKPbc	**PKPab**	**19 47 08.3**	**-1.8**
	comp=E,1.1nm,0.6s,baz=294,slow=3.7,SNR=17						

NEIC ***16*** *19:37:57.8±1.6, 9.8S±0.2×151.96E±0.0, h10km±2km, mb4.0/8, Error ellipse: s-maj=29.2km s-min=14.0km az=348.0*

IDC ***16*** *19:37:58.9±1.0, 10.61S×152.37E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/32, mbtmp3.9/9, ML3.7/2, MS3.5/22, Ms1 3.5/22, ms1mx3.3/54, Error ellipse: s-maj=27.7km s-min=20.6km az=138.0*

ISC 16 19:37:56.7±0.9, 9.8S±0.1×151.99E±0.0, 08, h10km, n38, σ1§54/19, mb4.0/6, MS3.6/18, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.79**	**275**	Pn		**Pb**	**19 39 19.6**	**-1.1**
	0.4nm,0.3s,baz=323,slow=23,SNR=1.6							
PMG				Lg		Lg	19 40 46.6	
	1.6nm,0.3s,baz=104,slow=7.4,SNR=4.2							
PMG				LR		LR	19 41 15.4	
	comp=Z,226nm,20.0s,baz=144,slow=37							
PMG	**Port Moresby**	**4.79**	**275**			**Pn**	**19 39 08.5**	**-0.4**
HNR	**Honiara**	**7.85**	**88**	Pn		**Pn**	**19 39 51.5**	**+0.3**
COEN	**Coen**	**9.56**	**244**	Pn		**Pn**	**19 40 15.1**	**+0.6**
CTA	**Charters Tower**	**11.61**	**208**	Pn		**Pn**	**19 40 41.1**	**-1.5**
	0.5nm,0.3s,baz=42,slow=7.5,SNR=2.6							
CTA				Sn		Sn	19 42 39.0	-13
	0.4nm,0.3s,baz=343,slow=10,SNR=1.6							
CTA				LR		LR	19 44 46.6	
	comp=Z,321nm,19.1s,baz=78,slow=37							
DZM	**Mont Dzumac**	**18.45**	**133**	LR		LR	19 48 10.4	
	comp=Z,157nm,18.4s,baz=360,slow=35							
WR0	**Warramunga Arr**	**19.63**	**237**	P		**Pn**	**19 42 30.0**	**+3.0**
WB0	**Warramunga Arr**	**19.66**	**238**	P		**P**	**19 42 26.4**	**+0.5**
WB0				IAmb		IAmb	19 42 32.4	
	comp=Z,9.8nm,0.9s							
WRAB	**Tennant Creek**	**19.77**	**237**	P		**P**	**19 42 28.3**	**+1.1**
WRAB				IAmb		IAmb	19 42 55.9	
	comp=Z,20nm,1.4s							
WB2	**Warramunga Arr**	**19.77**	**237**	P		**P**	**19 42 28.9**	**+1.6**
WB2				IAmb		IAmb	19 42 55.4	
	comp=Z,7.7nm,1.1s							
WRA	**Warramunga Arr**	**19.79**	**237**	P		**Pn**	**19 42 31.6**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=13							
WRA				LR		LR	19 50 02.8	
	comp=Z,265nm,18.4s,baz=40,slow=37							
WRA	**Warramunga Arr**	**19.79**	**237**	P		**P**	**19 42 27.9**	**+0.5**
AS31	**Alice Springs**	**22.08**	**229**	P		**P**	**19 42 52.6**	**+0.4**
ASAR	**Alice Springs**	**22.09**	**229**	P		**P**	**19 42 53.3**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=61,slow=6.5,SNR=12							
ASAR				LR		LR	19 51 19.9	
	comp=Z,201nm,18.6s,baz=104,slow=37							
SIJI	**Sorong**	**22.45**	**292**	LR		LR	19 52 20.9	
	comp=Z,59nm,19.0s,baz=112,slow=37							
STKA	**Stephens Creek**	**23.97**	**202**	P		**P**	**19 43 08.6**	**-2.8**
	comp=Z,7.4nm,0.9s,baz=18,slow=10,SNR=12							
STKA				LR		LR	19 51 52.8	
	comp=Z,186nm,20.9s,baz=24,slow=36							
STKA	**Stephens Creek**	**23.97**	**202**			**P**	**19 43 11.6**	**+0.3**
STKA				IAmb		IAmb	19 43 13.0	
	comp=Z,2.1nm,1.1s							
GUMO	**Guam**	**24.31**	**343**	LR		LR	19 52 10.9	
	comp=Z,30nm,21.1s,baz=138,slow=34							
FITZ	**Fitzroy Crossi**	**26.84**	**249**	LR		LR	19 54 14.9	
	comp=Z,139nm,19.3s,baz=88,slow=36							
BATI	**Baumata**	**27.90**	**267**	LR		LR	19 56 31.3	
	comp=Z,155nm,18.7s,baz=118,slow=39							
KAPI	**Kappang**	**32.31**	**276**	LR		LR	19 57 44.1	
	comp=Z,32nm,20.8s,baz=156,slow=36							
URZ	**Urewera**	**36.20**	**146**	LR		LR	19 57 50.3	
	comp=Z,121nm,18.4s,baz=30,slow=34							
RPZ	**Rata Peaks**	**37.61**	**157**	LR		LR	19 58 36.5	
	comp=Z,144nm,20.0s,baz=335,slow=34							
LEM	**Lembang**	**43.98**	**270**	LR		LR	20 07 10.7	
	comp=Z,40nm,18.2s,baz=176,slow=40							
PSI	**Prapat**	**54.32**	**281**	LR		LR	20 13 59.6	
	comp=Z,72nm,18.5s,baz=166,slow=39							
KLR	**Kul'dur**	**61.44**	**345**	LR		LR	20 14 48.1	
	comp=Z,33nm,18.2s,baz=100,slow=36							
PETK	**Petropavlovsk-**	**62.87**	**4**	LR		LR	20 16 01.1	
	comp=Z,38nm,18.0s,baz=105,slow=36							
PALK	**Pallekele**	**73.01**	**281**	LR		LR	20 23 42.4	
	comp=Z,14nm,21.3s,baz=248,slow=37							
QSPA	**South Pole Qui**	**80.17**	**180**	P		**P**	**19 50 07.2**	**0.0**
MKAR	**Makanchi Array**	**83.59**	**320**	P		P	19 50 34.0	+8.6
	comp=Z,1.1nm,0.8s,baz=109,slow=6.6,SNR=9.7							
ZALV	**Zalesovo Beam**	**84.88**	**327**	P		P	19 50 39.1	+7.4
	comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=2.1							
ILAR	**Eielson Array**	**87.09**	**22**	P		P	19 50 48.5	+6.2
	comp=Z,0.6nm,0.7s,baz=246,slow=5.1,SNR=7.9							
ILAR				LR		LR	20 24 04.0	
	comp=Z,28nm,20.9s,baz=246,slow=32							
ILAR	**Eielson Array**	**87.09**	**22**	P		**P**	**19 50 42.8**	**+0.4**
NRIK	**Noril'sk**	**90.43**	**341**	LR		LR	20 31 30.5	
	comp=Z,36nm,18.3s,baz=262,slow=35							
YBH	**Yreka Blue Hor**	**92.98**	**48**	LR		LR	20 27 38.7	
	comp=Z,47nm,19.4s,baz=306,slow=32							
NVAR	**Mina Array Bea**	**95.79**	**52**	P		P	19 51 30.1	+6.3
	comp=Z,0.3nm,0.7s,baz=264,slow=6.3,SNR=2.2							
NEW	**Newport**	**97.83**	**42**	LR		LR	20 27 59.2	
	comp=Z,48nm,20.9s,baz=237,slow=31							
TORD	**Torodi Ar. Bea**	**150.72**	**279**	PKPbc		**PKPab**	**19 57 55.7**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=55,slow=1.7,SNR=6.2							
TORD				PKPab		**pPKPab**	**19 58 00.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=2.8,slow=0.6,SNR=4.7							

JMA 16 19:38:33.0±0.2, 24.10N×123.18E, h33km±3km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.39**	**337**	P		Pb	19 38 41.6	-0.4
YOJ				*e*S		Sb	19 38 47.5	-0.6
IRIF	**Iriomote-Funau**	**0.55**	**65**	P		Pb	19 38 44.0	-0.4
IRIF				S		Sb	19 38 52.1	-0.2
HATJ	**Hateruma jima**	**0.57**	**94**	*e*S		Sb	19 38 52.1	-0.7
JKRS	**Kuro-shima**	**0.77**	**80**	P		Pn	19 38 47.3	-0.2
JKRS				S		Sb	19 38 58.6	+0.4
JIJ	**Ishigaki jima**	**0.92**	**73**	P		Pn	19 38 49.7	+0.1
JIJ				S		Sn	19 39 01.4	-0.2
JISG	**Ishigakijimahi**	**1.14**	**65**	P		Pn	19 38 52.9	+0.3
JISG				S		Sb	19 39 08.4	-0.3

TAP 16 19:39:03.4, 24.44N×121.91E, h20km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
EWUT	**Wuta**	**0.12**	**274**	P		Pg	19 39 07.3	-0.2
	baz=274							
EWUT				S		Sg	19 39 10.3	0.0
	baz=274							
ENA	**Nanau**	**0.15**	**267**	P		Pg	19 39 07.6	-0.3
	baz=266							
ENA				S		Sg	19 39 10.9	-0.1
	baz=266							
TWC	**Suao**	**0.18**	**342**	P		Pg	19 39 08.1	-0.2
	baz=345							
TWC				S		Sg	19 39 11.6	0.0
	baz=345							
NDS	**Dongshan**	**0.26**	**318**	*e*P		Pb	19 39 09.2	-0.3
	baz=318							
NDS				*e*S		Sb	19 39 13.4	-0.1
	baz=318							
ILA	**Ilan**	**0.36**	**336**	*e*P		Pg	19 39 10.4	-0.7
	baz=336							
TWE	**Neicheng**	**0.36**	**322**	*e*S		Sg	19 39 16.3	0.0
	baz=323							
LATG	**Datong**	**0.36**	**286**	*e*P		Pg	19 39 11.0	-0.2
	baz=285							
LATG				*e*S		Sg	19 39 16.6	0.0
	baz=285							
ENTT	**Nioudou**	**0.37**	**303**	P		Pg	19 39 11.1	-0.2
	baz=303							
ENTT				S		Sg	19 39 16.6	-0.1
	baz=303							
NACB	**Ninganchiao**	**0.39**	**228**	*e*P		Pg	19 39 11.0	-0.6
	baz=227							
NACB				*e*S		Sg	19 39 17.2	0.0
	baz=227							
NDT	**Datong Townshi**	**0.40**	**295**	P		Pg	19 39 11.6	-0.2
	baz=294							
NDT				*e*S		Sg	19 39 17.3	-0.2
	baz=294							
FUSB	**Fushanzhiwuyua**	**0.43**	**318**	*e*P		Pg	19 39 12.3	-0.2
	baz=317							
FUSB				*e*S		Sg	19 39 18.3	-0.3
	baz=317							
NWLT	**Wulai**	**0.50**	**313**	*e*P		Pb	19 39 13.4	-0.3
	baz=312							
NWLT				*e*S		Sg	19 39 20.1	-0.4
	baz=312							
TIPB	**Shuangxi**	**0.54**	**352**	*e*P		Pb	19 39 14.1	-0.2
	baz=351							
TIPB				*e*S		Sb	19 39 21.2	-0.4
	baz=351							
YHNB	**Yeheng**	**0.54**	**296**	*e*P		Pb	19 39 14.0	-0.2
	baz=295							
YHNB				*e*S		Sb	19 39 21.3	-0.3
	baz=295							
NSK	**Sanguang**	**0.56**	**296**	*e*S		Sb	19 39 21.9	-0.2
	baz=295							

IDC ***16*** *19:39:34.0±1.2, 35.70N×3.82W, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.3/50, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=34.3km s-min=13.0km az=96.0*

SFS ***16*** *19:39:35.0, 35.50N×3.65W, h22km, ML3.2, ALBORAN SUR*

MDD ***16*** *19:39:35.4±0.3, 35.68N×3.67W, h0km, mb_Lg3.2/10, Error ellipse: s-maj=2.7km s-min=2.1km az=167.0*

LDG ***16*** *19:39:36.4±0.2, 35.56N×3.63W, h10km, Ml3.0/4, Error ellipse: s-maj=5.5km s-min=2.9km az=179.0*

IGIL ***16*** *19:39:36.1, 35.51N×3.66W, h16km*

CNRM ***16*** *19:39:36.4, 35.64N×3.54W, h26km, ml3.2*

ISC 16 19:39:34.7±1.6, 35.67N±0.02×3.64W±0.02, h12km±12km, n57, σ1§62/98, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.56**	**61**	Pg		**Pb**	**19 39 46.8**	**+0.4**
EALB				Sg		**Sb**	**19 39 55.2**	**+0.8**
EALB				*i* Vmb_Lg			19 39 56.9	
EMEL	**Melilla**	**0.67**	**123**	Pg		**Pb**	**19 39 48.2**	**0.0**
EMEL				Sg		**Sb**	**19 39 57.0**	**-0.4**
GOG	**Mont Gurugu**	**0.69**	**130**	P		**Pb**	**19 39 48.4**	**-0.2**
GOG				S		**Sg**	**19 39 57.0**	**-0.1**
PVLZ	**Peæn de**	**0.73**	**228**	P		**Pn**	**19 39 49.6**	**-1.2**
PVLZ				S		**Sn**	**19 40 00.5**	**-1.3**
ELGU	**Los Guajares,**	**1.20**	**1**	Pg		**Pn**	**19 39 56.0**	**-1.3**
ELGU				Sg		**Sb**	**19 40 12.0**	**-0.8**
EMAL	**Malaga-Limoner**	**1.27**	**330**	P		**Pn**	**19 39 57.2**	**-0.9**
EMAL				S		**Sb**	**19 40 12.8**	**-1.8**
EMIJ	**Mijas**	**1.28**	**315**	Pg		**Pn**	**19 39 57.2**	**-1.2**
EMIJ				Sg		**Sb**	**19 40 13.8**	**-1.4**
TAF	**Taforalt**	**1.32**	**130**	P		**Pn**	**19 39 58.1**	**-0.8**
TAF				S		**Sb**	**19 40 14.7**	**-1.4**
EBER	**Berja**	**1.37**	**26**	Pn		**Pn**	**19 39 58.5**	**-1.2**
EBER				Sn		**Sn**	**19 40 16.5**	**-1.4**
CEU	**Ceuta**	**1.43**	**280**	P		**Pn**	**19 39 59.0**	**-1.3**
CEU				S		**Sn**	**19 40 15.6**	**-3.4**
EGOR	**Sierra Gorda,**	**1.49**	**345**	Pn		**Pn**	**19 40 01.6**	**+0.2**
EGOR				Sn		**Sn**	**19 40 20.6**	**-0.2**
CHEFC	**Chefchaouen**	**1.50**	**249**	P		**Pb**	**19 40 02.0**	**-0.4**
CHEFC				S		**Sg**	**19 40 22.2**	**-0.6**
EQUE	**Quentar**	**1.54**	**6**	Pn		**Pn**	**19 40 02.2**	**+0.2**
EQUE				Sn		**Sn**	**19 40 22.1**	**+0.1**
JBK	**JBK**	**1.59**	**146**	P		**Pn**	**19 40 02.3**	**-0.6**
JBK				S		**Sn**	**19 40 20.9**	**-2.5**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pn		**Pb**	**19 40 04.4**	**-1.0**
EJIF				Sn		**Sn**	**19 40 24.6**	**-0.5**
ENIJ	**Nijar**	**1.74**	**41**	Pn		**Pn**	**19 40 03.4**	**-1.3**
ENIJ				Sn		**Sn**	**19 40 23.5**	**-3.3**
ENIJ				*i* Vmb_Lg			19 40 26.8	
ESPR	**Espera**	**2.15**	**304**	Pn		**Pb**	**19 40 12.6**	**-1.0**
ESPR				Sn		**Sn**	**19 40 37.3**	**+0.3**
EQES	**Quesada**	**2.18**	**12**	Pn		**Pb**	**19 40 12.9**	**-1.2**
EQES				Sn		**Sb**	**19 40 40.2**	**-0.9**
LCRM	**LCR**	**2.22**	**207**	P		**Pb**	**19 40 13.0**	**-1.7**
LCRM				S		**Sb**	**19 40 42.7**	**+0.5**
IFR	**Ifrane**	**2.47**	**210**	P		**Pn**	**19 40 15.7**	**+0.8**
IFR				S		**Sn**	**19 40 44.4**	**-0.6**
EADA	**Adamuz**	**2.61**	**344**	Pn		**Pn**	**19 40 17.4**	**+0.8**
EADA				Sn		**Sn**	**19 40 49.4**	**+1.3**
EADA				*i* Vmb_Lg			19 40 56.6	
EZAR	**Zarzadilla de**	**2.70**	**35**	Pn		**Pn**	**19 40 17.6**	**-0.4**
EZAR				Sn		**Sn**	**19 40 49.6**	**-1.1**
ECAB	**El Cabril**	**2.79**	**330**	Pn		**Pn**	**19 40 20.1**	**+0.9**
ECAB				Sn		**Sn**	**19 40 53.3**	**+0.5**
ECAB				*i* Vmb_Lg			19 41 00.4	
CZD	**Col de Zad**	**2.87**	**204**	P		**Pn**	**19 40 21.8**	**+1.3**
TDRA	**Tendrara**	**2.94**	**153**	P		**Pn**	**19 40 22.6**	**+1.3**
MD31	**MD31**	**2.94**	**199**	P		**Pn**	**19 40 22.6**	**+1.3**
MDT	**Midelt**	**2.96**	**196**	Pn		**Pn**	**19 40 21.8**	**+0.3**
	0.8nm,0.3s,baz=270,slow=6.1,SNR=26							
MDT				Sn		**Sn**	**19 40 58.2**	**+1.3**
	2.3nm,0.3s,baz=11,slow=16,SNR=2.4							
MDT				Lg		Lg	19 41 06.0	
	3.0nm,0.3s,baz=297,slow=15,SNR=4.4							
MDT	**Midelt**	**2.96**	**196**	P		**Pn**	**19 40 22.4**	**+0.9**
EMIN	**Mina Concepcio**	**3.21**	**312**	Pn		**Pn**	**19 40 25.2**	**+0.3**
EMIN				Sn		**Sn**	**19 41 02.1**	**-1.0**
ETOB	**Tobarra**	**3.41**	**29**	Pn		**Pn**	**19 40 29.6**	**+1.9**
ETOB				Sn		**Sn**	**19 41 09.1**	**+1.1**
EGRO	**El Granado**	**3.61**	**302**	Pn		**Pn**	**19 40 30.4**	**+0.1**
EGRO				Sn		**Sn**	**19 41 11.6**	**-1.2**
EGRO				*i* Vmb_Lg			19 41 14.1	
PVAQ	**Vaqueiros**	**3.71**	**299**	P		**Pn**	**19 40 32.0**	**+0.2**
PAB	**San Pablo**	**3.91**	**352**	P		**Pn**	**19 40 35.8**	**+1.2**
PAB	**San Pablo**	**3.91**	**352**	Pn		**Pn**	**19 40 36.0**	**+1.4**
PAB				Sn		**Sn**	**19 41 20.9**	**+0.4**
ESDC	**Sonseca Array**	**4.01**	**356**	Pn		**Pn**	**19 40 36.8**	**+0.9**
	0.9nm,0.3s,baz=180,slow=12,SNR=44							
ESDC				Sn		**Sn**	**19 41 24.6**	**+1.8**
	0.7nm,0.3s,baz=182,slow=22,SNR=5.0							
ESDC				Lg		Lg	19 41 38.2	
	1.3nm,0.3s,baz=176,slow=28,SNR=9.0							
ESDC	**Sonseca Array**	**4.01**	**356**	Pn		**Pn**	**19 40 37.2**	**+1.3**
ESDC				Sn		**Sn**	**19 41 21.7**	**-1.1**
EBAD	**Badajoz**	**4.09**	**320**	Pn		**Pn**	**19 40 37.5**	**+0.5**
EBAD				Sn		**Sn**	**19 41 23.7**	**-1.1**
MORF	**Marmelete**	**4.36**	**294**	*e*P		**Pn**	**19 40 40.8**	**+0.1**
ECHE	**Chera**	**4.46**	**28**	Pn		**Pn**	**19 40 43.4**	**+1.4**
EVO	**Evora**	**4.51**	**311**	P		**Pn**	**19 40 43.4**	**+0.6**
EVO				S		**Sn**	**19 41 34.1**	**-1.1**
UCM	**Universidad Co**	**4.64**	**4**	P		**Pn**	**19 40 44.7**	**+0.1**
UCM				S		**Sn**	**19 41 36.7**	**-1.7**
EPLA	**Plasencia**	**4.79**	**337**	Pn		**Pn**	**19 40 48.0**	**+1.3**
EPLA				Sn		**Sn**	**19 41 40.2**	**-2.0**
EPLA				*i* Vmb_Lg			19 44 23.2	
ETOR	**Torete**	**5.29**	**13**	Pn		**Pn**	**19 40 55.4**	**+1.9**
ETOR				Sn		**Sn**	**19 41 53.9**	**-0.6**
ELOB	**Lobios**	**7.09**	**332**	Pn		**Pn**	**19 41 19.6**	**+1.3**
ELOB				Sn		**Sn**	**19 42 35.5**	**-3.2**
ELAN	**Lanestosa**	**7.56**	**1**	Pn		**Pn**	**19 41 26.9**	**+2.3**
ELAN				*i* Vmb_Lg			19 47 14.1	
ETSF	**Etsaut**	**7.61**	**17**	*e*Pn		**Pn**	**19 41 27.5**	**+2.2**
ETSF				*e*Sn		**Sn**	**19 42 49.4**	**-2.0**
	0.3nm,0.3s							
SJPF	**Ste Jean**	**7.67**	**13**	*e*Pn		**Pn**	**19 41 26.8**	**+0.7**
SJPF				*e*Sn		**Sn**	**19 42 49.7**	**-3.2**
	2.3nm,0.6s							
EARI	**Arriondas**	**7.72**	**351**	Pn		**Pn**	**19 41 28.1**	**+1.2**
EARI				*i* Vmb_Lg			19 43 41.3	
EALK	**Alkurruntz**	**7.72**	**12**	Pn		**Pn**	**19 41 29.2**	**+2.3**
EALK				Sn		**Sn**	**19 42 51.9**	**-2.3**
EPF	**Esparros**	**7.97**	**22**	*e*Pn		**Pn**	**19 41 31.0**	**+0.7**
EPF				*e*Sn		**Sn**	**19 42 57.4**	**-3.0**
	0.3nm,0.2s							
LFF	**La Frestale**	**9.85**	**18**	*e*Pn		**Pn**	**19 41 56.6**	**+0.7**
TCF	**Toulx Ste Croi**	**11.49**	**21**	*e*Pn		**Pn**	**19 42 17.6**	**-0.9**
PGF	**Pioggiola**	**11.98**	**51**	*e*Pn		**Pn**	**19 42 26.0**	**+0.8**
PGF				*e*Sn		**Sn**	**19 44 31.0**	**-7.7**
	1.1nm,0.2s							
LDF	**La Druitiere**	**13.18**	**10**	*e*Pn		**Pn**	**19 42 40.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**22.93**	**167**	P		**P**	**19 44 42.3**	**+3.7**
	0.8nm,0.9s,baz=347,slow=9.7,SNR=5.0							
MKAR	**Makanchi Array**	**62.52**	**51**	P		**P**	**19 49 58.6**	**+0.5**
	0.2nm,0.6s,baz=298,slow=5.4,SNR=3.7							
YKA	**Yellowknife Ar**	**67.74**	**332**	P		**P**	**19 50 33.4**	**+1.8**
	0.2nm,0.4s,baz=61,slow=6.6,SNR=2.3							

IDC ***16*** *19:43:06.5±0.8, 35.74N×3.71W, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.7/51, mbtmp3.7/14, ML3.6/4, MS2.8/5, Ms1 2.8/5, ms1mx2.5/96, Error ellipse: s-maj=25.7km s-min=11.7km az=97.0*

MDD ***16*** *19:43:08.1±0.2, 35.67N×3.67W, h0km, mb_Lg3.6/34, Error ellipse: s-maj=2.4km s-min=1.7km az=160.0*

NEIC ***16*** *19:43:08.7±1.2, 35.7N±0.1×3.70W±0.0, h10km±1km, mb4.1/4, mb_Lg3.7(MDD), Error ellipse: s-maj=17.5km s-min=8.8km az=189.0*

IGIL ***16*** *19:43:08.2, 35.52N×3.64W, h10km, ML3.3*

CNRM ***16*** *19:43:09.0, 35.69N×3.56W, h29km, ml3.8*

CRAAG ***16*** *19:43:09.0, 35.52N×3.64W, Mb3.7*

SFS ***16*** *19:43:09.0, 35.50N×3.60W, h23km, ML3.7, ALBORAN SUR*

INMG ***16*** *19:43:09.3±1.6, 35.60N×3.63W, h20km±5km, ML3.3, Error ellipse: s-maj=4.3km s-min=2.4km az=150.0*

LDG ***16*** *19:43:09.1±0.2, 35.57N×3.63W, h10km, Ml2.9/4, Error ellipse: s-maj=5.2km s-min=3.1km az=168.0*

ISC 16 19:43:09.1±0.6, 35.66N±0.02×3.63W±0.02, h20km±5km, n156, σ1§60/227, mb4.0/12, MS2.6/3, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
EALB	**Alboran**	**0.56**	**60**	Pg		**Pb**	**19 43 20.0**	**-0.2**
EALB				Sg		**Sb**	**19 43 28.3**	**+0.5**
EALB				*i* Vmb_Lg			19 43 29.8	
EMEL	**Melilla**	**0.66**	**123**	Pg		**Pb**	**19 43 21.5**	**-0.3**
EMEL				Sg		**Sb**	**19 43 30.1**	**-0.5**
GOG	**Mont Gurugu**	**0.68**	**130**	P		**Pb**	**19 43 22.0**	**-0.3**
GOG				S		**Sb**	**19 43 31.1**	**-0.1**
PVLZ	**Peæn de**	**0.73**	**229**	P		**Pb**	**19 43 22.5**	**-0.6**
PVLZ				S		**Sb**	**19 43 33.3**	**+0.6**
ELGU	**Los Guajares,**	**1.21**	**0**	Pn		**Pn**	**19 43 29.4**	**-1.4**
ELGU				Sg		**Sb**	**19 43 45.0**	**-1.4**
ELGU				*i* Vmb_Lg			19 43 47.8	
EMAL	**Malaga-Limoner**	**1.28**	**330**	P		**Pn**	**19 43 30.2**	**-1.5**
EMAL				S		**Sn**	**19 43 44.8**	**-3.5**
EMIJ	**Mijas**	**1.29**	**315**	Pn		**Pn**	**19 43 29.9**	**-2.1**
EMIJ				Sn		**Sn**	**19 43 47.7**	**-1.8**
EMIJ				*i* Vmb_Lg			19 43 53.1	
TAF	**Taforalt**	**1.30**	**130**	P		**Pn**	**19 43 31.4**	**-0.8**
EBER	**Berja**	**1.37**	**26**	Pn		**Pn**	**19 43 32.0**	**-1.2**
EBER				Sn		**Sn**	**19 43 50.6**	**-0.3**
EBER				*i* Vmb_Lg			19 44 05.2	
CEU	**Ceuta**	**1.44**	**280**	P		**Pn**	**19 43 30.7**	**-3.2**
CEU				S		**Sn**	**19 43 45.2**	**-7.0**
EGOR	**Sierra Gorda,**	**1.50**	**345**	Pn		**Pn**	**19 43 34.6**	**-0.4**
EGOR				Sn		**Sb**	**19 43 55.0**	**+0.1**
EGOR				*i* Vmb_Lg			19 44 10.2	
CHEFC	**Chefchaouen**	**1.50**	**249**	P		**Pn**	**19 43 34.9**	**0.0**
EQUE	**Quentar**	**1.55**	**6**	Pn		**Pn**	**19 43 34.9**	**-0.7**
EQUE				Sn		**Sn**	**19 43 55.3**	**+0.2**
EQUE				*i* Vmb_Lg			19 44 04.7	
JBK	**JBK**	**1.58**	**146**	P		**Pn**	**19 43 35.7**	**-0.4**
JBK				S		**Sn**	**19 43 55.6**	**-0.6**
EJIF	**Jimena Fronter**	**1.69**	**298**	Pn		**Pn**	**19 43 36.7**	**-0.7**
EJIF				Sn		**Sb**	**19 43 59.4**	**-0.9**
ENIJ	**Nijar**	**1.74**	**41**	Pn		**Pn**	**19 43 36.7**	**-1.5**
ENIJ				Sn		**Sn**	**19 43 58.1**	**-1.7**
ENIJ				*i* Vmb_Lg			19 44 00.4	
CPS	**Cap Spartel**	**1.86**	**275**	P		**Pn**	**19 43 40.6**	**+0.9**
LIJA	**Lijar**	**1.90**	**311**	P		**Pn**	**19 43 41.0**	**+0.6**
LIJA				S		**Sb**	**19 44 09.0**	**+2.6**
SICH	**Sidi Chahed**	**2.08**	**222**	P		**Pn**	**19 43 43.2**	**+0.4**
SICH				S		Sn	19

PCVE				*e*Sn	**Sn**	19 44 54.8	-2.0
PCVE				A	A	19 45 07.4	
	42nm,0.4s						
GOLM	**Goulmima**	**4.10**	**196**	P	**Pn**	**19 44 12.6**	**+2.0**
EBAD	**Badajoz**	**4.10**	**320**	Pn	**Pn**	**19 44 10.6**	**-0.1**
EBAD				Pg	**Pb**	**19 44 20.2**	**-0.4**
EBAD				Sn	**Sn**	**19 44 56.8**	**-1.2**
EBAD				*i* Vmb_Lg		19 44 59.0	
EVIV	**Cofrentes, Val**	**4.12**	**28**	Pn	**Pn**	**19 44 11.5**	**+0.6**
EVIV				*i* Vmb_Lg		19 45 34.0	
PBEJ	**Beja**	**4.14**	**306**	*e*Pn	**Pn**	**19 44 10.6**	**-0.5**
PBEJ				*e*Sn	**Sn**	**19 44 57.4**	**-1.5**
PBEJ				A	A	19 45 02.1	
	15nm,0.3s						
MORF	**Marmelete**	**4.37**	**294**	*e*P	**Pn**	**19 44 13.2**	**-1.0**
MORF				*e*S	**Sn**	**19 45 01.1**	**-3.5**
MORF				IAML		19 45 10.4	
	comp=N,61nm,0.3s						
MORF	**Marmelete**	**4.37**	**294**	*e*Pn	**Pn**	**19 44 13.7**	**-0.6**
MORF				*e*Sn	**Sn**	**19 45 04.9**	**+0.3**
MORF				A	A	19 45 10.4	
	comp=N,22nm,0.2s						
PFVI	**Vila Bisbo**	**4.44**	**291**	*e*Pn	**Pn**	**19 44 15.3**	**0.0**
PFVI				*e*Sn	**Sn**	**19 45 02.1**	**-4.3**
PFVI				A	A	19 45 20.3	
	comp=N,25nm,0.7s						
PFVI	**Vila Bisbo**	**4.44**	**291**	Pn	**Pn**	**19 44 14.8**	**-0.5**
PFVI	**Vila Bisbo**	**4.44**	**291**	P	**Pn**	**19 44 16.0**	**+0.7**
ECHE	**Chera**	**4.46**	**27**	Pn	**Pn**	**19 44 16.2**	**+0.7**
ECHE				Sn	**Sn**	**19 45 05.7**	**-1.1**
ECHE				*i* Vmb_Lg		19 45 41.6	
PESTR	**Estremoz**	**4.50**	**317**	*e*Pn	**Pn**	**19 44 15.8**	**-0.2**
PESTR				*e*Sn	**Sn**	**19 45 06.7**	**-1.1**
PESTR				A	A	19 45 48.1	
	comp=N,29nm,0.7s						
PESTR	**Estremoz**	**4.50**	**317**		**Pn**	**19 44 15.4**	**-0.7**
PESTR	**Estremoz**	**4.50**	**317**	P	**Pn**	**19 44 15.9**	**-0.1**
PTEO	**Sao Teotonio**	**4.51**	**296**	*e*Pn	**Pn**	**19 44 16.2**	**0.0**
PTEO				*e*Sn	**Sn**	**19 45 06.3**	**-1.7**
PTEO				A	A	19 45 20.1	
	comp=N,31nm,0.8s						
EVO	**Evora**	**4.53**	**311**	P	**Pn**	**19 44 16.4**	**-0.1**
EVO				S	**Sn**	**19 45 05.4**	**-3.0**
EVO	**Evora**	**4.53**	**311**	*e*Pn	**Pn**	**19 44 16.3**	**-0.1**
EVO				*e*Sn	**Sn**	**19 45 07.1**	**-1.4**
EVO				A	A	19 45 12.8	
	comp=N,35nm,0.5s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**19 44 17.3**	**-0.5**
PNCL				*e*Sn	**Sn**	**19 45 08.9**	**-2.0**
PNCL				A	A	19 45 11.0	
	comp=N,19nm,0.3s						
UCM	**Universidad Co**	**4.65**	**4**	P	**Pn**	**19 44 18.8**	**+0.7**
UCM				S	**Sn**	**19 45 09.1**	**-2.4**
EPLA	**Plasencia**	**4.80**	**337**	Pn	**Pn**	**19 44 21.1**	**+0.8**
EPLA				Sn	**Sn**	**19 45 14.7**	**-0.6**
EPLA				*i* Vmb_Lg		19 45 43.6	
PMRV	**Marv??o**	**4.80**	**323**	*e*Pn	**Pn**	**19 44 20.2**	**-0.1**
PMRV				*e*Sn	**Sn**	**19 45 14.5**	**-0.8**
GUD	**Guadarrama**	**4.99**	**355**	Pn	**Pn**	**19 44 23.5**	**+0.5**
GUD				*i* Vmb_Lg		19 46 00.2	
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**19 44 22.6**	**-0.3**
PMTG				*e*Sn	**Sn**	**19 45 17.9**	**-2.2**
PMTG				A	A	19 45 53.3	
	comp=N,29nm,0.5s						
TZRR	**Tazzarine**	**5.13**	**199**	P	**Pn**	**19 44 26.0**	**+1.2**
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**19 44 25.7**	**+0.5**
PCBR				*e*Sn	**Sn**	**19 45 21.8**	**-2.4**
PCBR				A	A	19 45 24.5	
	comp=N,27nm,0.4s						
PACT	**Alcochete**	**5.18**	**308**	*e*Pn	**Pn**	**19 44 25.9**	**+0.5**
PACT				*e*Sn	**Sn**	**19 45 23.3**	**-1.3**
PACT				A	A	19 45 44.8	
	comp=N,50nm,0.4s						
ETOR	**Torete**	**5.30**	**13**	Pn	**Pn**	**19 44 27.9**	**+0.8**
ETOR				Sn	**Sn**	**19 45 25.6**	**-2.0**
ETOR				*i* Vmb_Lg		19 46 14.6	
EMOS	**Mosqueruela**	**5.32**	**27**	Pn	**Pn**	**19 44 27.4**	**-0.1**
EMOS				Sn	**Sn**	**19 45 25.6**	**-2.5**
EMOS				*i* Vmb_Lg		19 46 21.9	
PMST	**Lisbon--Monsan**	**5.39**	**306**	*e*Pn	**Pn**	**19 44 28.6**	**+0.3**
PMST				*e*Sn	**Sn**	**19 45 28.1**	**-1.7**
OUZM	**OUZ**	**5.42**	**210**	P	**Pn**	**19 44 29.7**	**+1.0**
PMAFR	**Mafra**	**5.58**	**308**	*e*Pn	**Pn**	**19 44 30.9**	**0.0**
PMAFR				*e*Sn	**Sn**	**19 45 32.1**	**-2.3**
PMAFR				A	A	19 45 45.4	
	comp=N,34nm,0.7s						
PSBE	**So Bento**	**5.62**	**315**	*e*Pn	**Pn**	**19 44 32.0**	**+0.5**
PSBE				*e*Sn	**Sn**	**19 45 33.2**	**-2.3**
PSBE				A	A	19 46 11.8	
	comp=N,22nm,0.5s						
MTE	**Manteigas**	**5.65**	**328**	*e*Pn	**Pn**	**19 44 32.5**	**+0.6**
MTE				*e*Sn	**Sn**	**19 45 34.8**	**-1.5**
MTE				A	A	19 46 18.8	
	comp=N,43nm,0.7s						
MTE	**Manteigas**	**5.65**	**328**		**Pn**	**19 44 31.9**	**0.0**
OUK	**Oukaimeden**	**5.68**	**220**	P	**Pn**	**19 44 32.0**	**-0.6**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**19 44 34.6**	**+0.2**
PCAS				*e*Sn	**Sn**	**19 45 39.4**	**-1.3**
PCAS				A	A	19 46 17.3	
	comp=N,26nm,0.6s						
COI	**Coimbra**	**5.91**	**322**	*e*Pn	**Pn**	**19 44 35.8**	**+0.4**
COI				*e*Sn	**Sn**	**19 45 40.9**	**-1.6**
COI	**Coimbra**	**5.91**	**322**		**Pn**	**19 44 34.9**	**-0.5**
PVIS	**Viseu**	**6.06**	**328**	*e*Pn	**Pn**	**19 44 38.2**	**+0.6**
PVIS				*e*Sn	**Sn**	**19 45 43.0**	**-3.4**
PVIS				A	A	19 45 53.3	
	comp=N,21nm,0.7s						
MVO	**Moncorvo**	**6.11**	**335**⇑	*e*Pn	**Pn**	**19 44 39.1**	**+0.9**
MVO				*e*Sn	**Sn**	**19 45 45.5**	**-2.0**
MVO				A	A	19 46 22.7	
	comp=N,40nm,0.6s						
ERTA	**Horta de San J**	**6.14**	**29**	Pn	**Pn**	**19 44 39.7**	**+1.1**
ERTA				Sn	**Sn**	**19 45 47.2**	**-1.0**
ERTA				*i* Vmb_Lg		19 46 50.8	
EAH	**EAH**	**6.38**	**233**	P	**Pn**	**19 44 41.1**	**-0.8**
PVRL	**Vila Real**	**6.46**	**331**	*e*Pn	**Pn**	**19 44 43.7**	**+0.7**
PVRL				*e*Sn	**Sn**	**19 45 54.8**	**-1.3**
PVRL				A	A	19 46 04.9	
	comp=N,23nm,0.4s						
TTIG	**Tnine Tigouga,**	**6.50**	**220**	P	**Pn**	**19 44 41.3**	**-2.5**
POLO	**Lamas de Olo**	**6.57**	**331**	*e*Pn	**Pn**	**19 44 45.2**	**+0.6**
POLO				*e*Sn	**Sn**	**19 45 54.9**	**-4.1**
POLO				A	A	19 46 43.7	
	comp=N,7.4nm,0.6s						
PBRG	**Braganca**	**6.60**	**339**	*e*Pn	**Pn**	**19 44 45.4**	**+0.5**
PBRG				*e*Sn	**Sn**	**19 45 57.5**	**-2.1**
PTO	**Porto**	**6.72**	**326**	*e*Pn	**Pn**	**19 44 46.9**	**+0.4**
PTO				*e*Sn	**Sn**	**19 45 58.2**	**-4.2**
EPOB	**Poblet**	**6.78**	**32**	Pn	**Pn**	**19 44 48.3**	**+0.9**
EPOB				Sn	**Sn**	**19 46 00.6**	**-3.3**
EPOB				*i* Vmb_Lg		19 49 24.0	
PCAB	**Cabril**	**6.95**	**332**	*e*Pn	**Pn**	**19 44 50.4**	**+0.7**
PCAB				*e*Sn	**Sn**	**19 46 06.4**	**-1.8**
ELOB	**Lobios**	**7.10**	**332**	Pn	**Pn**	**19 44 52.0**	**+0.2**
ELOB				Sn	**Sn**	**19 46 08.7**	**-3.2**
ELOB				*i* Vmb_Lg		19 46 58.7	
PGAV	**Gavieira, Arco**	**7.26**	**331**	*e*Pn	**Pn**	**19 44 54.8**	**+0.7**
PGAV				*e*Sn	**Sn**	**19 46 13.5**	**-2.5**
EORO	**Oroz-Betelu**	**7.44**	**13**	Pn	**Pn**	**19 44 57.2**	**+0.7**
EORO				*i* Vmb_Lg		19 47 37.9	
ELAN	**Lanestosa**	**7.56**	**1**	Pn	**Pn**	**19 44 58.9**	**+0.8**
ELAN				Sn	**Sn**	**19 46 18.4**	**-4.8**
ELAN				*i* Vmb_Lg		19 47 14.9	
EZAM	**Zamans**	**7.59**	**330**	Pn	**Pn**	**19 44 58.1**	**-0.4**
EZAM				*i* Vmb_Lg		19 50 22.6	
ETSF	**Etsaut**	**7.61**	**17**	*e*Pn	**Pn**	**19 44 58.9**	**+0.1**
ETSF				*e*Sg	Sb	19 47 12.4	+22
	comp=N,0.8nm,0.3s						
SJPF	**Ste Jean**	**7.67**	**13**	*e*Pn	**Pn**	**19 44 59.6**	**0.0**
SJPF				*e*Sn	**Sn**	**19 46 22.4**	**-3.5**
	comp=N,1.6nm,0.4s						
SJPF				*e*Sg	Sb	19 47 15.0	+23
	comp=N,1.2nm,0.3s						
EALK	**Alkurruntz**	**7.72**	**12**	Pn	**Pn**	**19 45 02.1**	**+1.7**
EALK				Sn	**Sn**	**19 46 23.9**	**-3.4**
EARI	**Arriondas**	**7.73**	**351**	Pn	**Pn**	**19 45 00.7**	**+0.2**
EARI				Sn	**Sn**	**19 46 23.4**	**-3.9**
EARI				*i* Vmb_Lg		19 50 48.4	
EAGO	**Agolada(Pontev**	**7.93**	**335**	Pn	**Pn**	**19 45 04.1**	**+1.0**
EAGO				*i* Vmb_Lg		19 48 19.6	
EPF	**Esparros**	**7.97**	**21**	*e*Pn	**Pn**	**19 45 03.7**	**-0.1**
EPF				*e*Sn	**Sn**	**19 46 29.8**	**-3.6**
	comp=N,2.0nm,0.6s						
EMAZ	**Mazaricos**	**8.37**	**332**	Pn	**Pn**	**19 45 09.3**	**0.0**
EMAZ				*i* Vmb_Lg		19 47 46.6	
MTLF	**Montolieu**	**8.90**	**29**	*e*Pn	**Pn**	**19 45 16.1**	**-0.3**
MTLF	**Montolieu**	**8.90**	**29**	*e*P	Pn	19 45 22.9	+6.5
TANT	**Tantan**	**9.69**	**224**	P	**Pn**	**19 45 26.4**	**-1.0**
LFF	**La Frestale**	**9.85**	**18**	*e*Pn	**Pn**	**19 45 29.9**	**+0.5**
LFF	**La Frestale**	**9.85**	**18**	*e*P	Pn	19 45 37.1	+7.7
LASF	**Ste Croix**	**10.18**	**32**	*e*Pn	**Pn**	**19 45 35.6**	**+1.6**
CAF	**Calviac**	**10.22**	**23**	*e*Pn	**Pn**	**19 45 35.3**	**+0.7**
KEST	**Kesra**	**10.55**	**86**	Pn	**Pn**	**19 45 40.7**	**+1.5**
	comp=N,0.1nm,0.3s,baz=300,slow=20,SNR=1.5						
SMRF	**Simiane la Rot**	**10.90**	**38**	*e*P	**Pn**	**19 45 47.0**	**+3.1**
VSL	**Villasalto**	**11.01**	**66**	Pn	**Pn**	**19 45 46.5**	**+1.1**
VIVF	**Saint-Julien-l**	**11.15**	**32**	*e*Pn	**Pn**	**19 45 47.0**	**-0.4**
MFF	**Saint Martin d**	**11.24**	**12**	*e*Pn	**Pn**	**19 45 48.3**	**-0.2**
MFF	**Saint Martin d**	**11.24**	**12**	*e*P	Pn	19 45 55.3	+6.8
ORIF	**Oris-en-Rattie**	**11.75**	**35**	*e*P	Pn	19 46 00.3	+4.8
PGF	**Pioggiola**	**11.97**	**51**	*e*Pn	**Pn**	**19 45 59.1**	**+0.5**
MBDF	**Montbardon**	**12.04**	**38**	*e*P	Pn	19 46 05.8	+6.2
QUIF	**Quistinic**	**12.25**	**1**	*e*Pn	**Pn**	**19 46 01.7**	**-0.6**
SGMF	**Saint Gilles**	**12.61**	**3**	*e*Pn	**Pn**	**19 46 07.1**	**-0.1**
ROSF	**Rostrenen**	**12.67**	**1**	*e*Pn	**Pn**	**19 46 07.5**	**-0.5**
LDF	**La Druitiere**	**13.18**	**10**	*e*Pn	**Pn**	**19 46 13.4**	**-1.6**
SAVF	**Savonnieres en**	**14.47**	**24**	*e*Pn	**Pn**	**19 46 33.5**	**+0.9**
EKA	**Eskdalemuir Ar**	**19.68**	**1**	P	**Pn**	**19 47 37.9**	**-0.2**
	baz=179,slow=11,SNR=5.7						
CLL	**Collm**	**19.68**	**32**	*e*P	**P**	**19 47 36.0**	**-0.7**
CLL				*e*pP	Pn	**19 47 39.0**	**+0.8**
VRAC	**Vranov**	**20.12**	**41**	LR	LR	19 54 45.8	
	comp=N,26nm,19.7s,baz=330,slow=35						
VYHS	**Vyhne**	**20.94**	**45**	*e*P	Pn	19 47 55.1	+2.0
CRVS	**Cervenica-Dubn**	**22.67**	**47**	*e*P	P	19 48 17.8	+8.8
TOA0	**Torodi Ar. Sit**	**22.92**	**167**	P	**P**	**19 48 13.8**	**+2.0**
TOA0				IAmb	IAmb	19 48 21.8	
	comp=Z,5.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**22.92**	**167**	P	**P**	**19 48 14.7**	**+2.8**
	comp=Z,5.4nm,0.9s,baz=347,slow=11,SNR=21						
HFS	**Hagfors**	**26.33**	**19**	P	**P**	**19 48 48.1**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=268,slow=4.3,SNR=1.9						
NOA	**NORSAR Array B**	**27.11**	**16**	P	**P**	**19 48 50.8**	**+0.4**
NOA				LR	LR	19 59 23.4	
	comp=Z,0.8nm,0.9s,baz=204,slow=8.8,SNR=2.9						
FINES	**FINESS Array B**	**31.91**	**27**	P	**P**	**19 49 32.9**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=268,slow=6.3,SNR=1.8						
ARCES	**ARCESS Array B**	**37.49**	**16**	P	**P**	**19 50 19.8**	**-1.1**
	comp=Z,5.5nm,1.0s,baz=211,slow=14,SNR=1.3						
KURK	**Kurchatov**	**58.81**	**47**	P	**P**	**19 53 06.8**	**+1.0**
MAKZ	**Makanchi**	**62.31**	**51**	P	**P**	**19 53 29.4**	**-0.4**
MAKZ				IAmb	IAmb	19 53 32.1	
	comp=Z,1.1nm,0.8s						
MK31	**Makanchi Array**	**62.51**	**51**	P	**P**	**19 53 31.5**	**+0.3**
MKAR	**Makanchi Array**	**62.51**	**51**	P	**P**	**19 53 31.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=289,slow=5.8,SNR=15						
MKAR	**Makanchi Array**	**62.51**	**51**	P	**P**	**19 53 31.3**	**+0.1**
YKA	**Yellowknife Ar**	**67.75**	**332**	P	**P**	**19 54 05.7**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=60,slow=6.4,SNR=22						
ILAR	**Eielson Array**	**75.83**	**345**	P	**P**	**19 54 51.9**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=84,slow=11,SNR=2.2						
PDAR	**Pinedale Array**	**76.82**	**313**	P	**P**	**19 54 59.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=51,slow=4.7,SNR=4.4						
PDAR	**Pinedale Array**	**76.82**	**313**	P	**P**	**19 54 59.7**	**0.0**
TXAR	**Lajitas Array**	**80.86**	**299**	P	**P**	**19 55 23.7**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=74,slow=7.0,SNR=1.9						
SHEM	**Shemya Is, Ala**	**91.95**	**1**	LR	LR	20 37 40.8	
	comp=Z,30nm,19.0s,baz=264,slow=36						

*IDC **16** 19:48:10.9±1.4, 17°.41N×93°.17W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/31, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=76.9km s-min=18.4km az=47.0*
*NEIC **16** 19:48:12.8±2.5, 17°.30N±0°.02×93°.43W±0°.02, h15km±1km, mb4.1/7, Md4.2/43(MEX), Error ellipse: s-maj=4.3km s-min=2.1km az=218.0*
*MEX **16** 19:48:13.1±0.8, 17°.42N×93°.20W, h10km±18km, MD4.2*
ISC 16 19:48:11.2±1.3, 17°.38N±0°.03×93°.26W±0°.03, h9km±9km, n51,σ1$68/78, mb3.9/7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.61**	**168**		**Pb**	**19 48 24.1**	**-0.1**
TGIG					**Sb**	**19 48 33.2**	**+0.2**
TGIG		**0.61**	**168**	*e*P	**Pb**	**19 48 24.1**	**-0.1**
TGIG				*e*S	**Sb**	**19 48 33.2**	**+0.2**
TGBT	**Tuxtla Gutierr**	**0.62**	**165**		**Pb**	**19 48 24.6**	**+0.3**
TGBT					**Sb**	**19 48 33.1**	**0.0**
TGBT	**Tuxtla Gutierr**	**0.62**	**165**	*e*P	**Pb**	**19 48 24.6**	**+0.3**
TGBT				*i* S	**Sb**	**19 48 33.1**	**0.0**
VHSA	**Villahermosa**	**0.67**	**27**	*i* P	**Pn**	**19 48 26.7**	**-0.3**
VHSA				*i* S	**Sn**	**19 48 38.1**	**+0.5**
UXUV	**UXUV**	**0.85**	**266**	*e*P	**Pg**	**19 48 26.7**	**-0.9**
UXUV				*i* S	**Sg**	**19 48 39.8**	**+1.1**
TUIG	**Tuzandepetl**	**1.29**	**301**		**Pn**	**19 48 34.0**	**-1.4**
TUIG					**Sb**	**19 48 50.1**	**-2.2**
TUIG	**Tuzandepetl**	**1.29**	**301**	*e*P	**Pn**	**19 48 34.0**	**-1.4**
TUIG				*i* S	**Sb**	**19 48 50.1**	**-2.2**
CARR	**Arriaga**	**1.29**	**209**	*e*P	**Pn**	**19 48 35.5**	**0.0**
CARR				*i* S	**Sb**	**19 48 51.7**	**-0.7**
CCIG	**Comitan**	**1.53**	**135**	Pn	**Pg**	**19 48 41.1**	**+0.5**
CCIG				Sn	**Sg**	**19 49 02.5**	**+2.0**
CMIG	**Matias Romero**	**1.58**	**260**		**Pn**	**19 48 39.0**	**-0.5**
CMIG					**Sn**	**19 48 58.4**	**-1.6**
CMIG	**Matias Romero**	**1.58**	**260**	*e*P	**Pn**	**19 48 39.0**	**-0.5**
CMIG				*e*S	**Sn**	**19 48 58.4**	**-1.6**
PCIG		**1.67**	**179**		**Pn**	**19 48 38.6**	**-2.0**
PCIG					**Sn**	**19 48 59.2**	**-3.0**
PCIG		**1.67**	**179**	*e*P	**Pn**	**19 48 38.6**	**-2.0**
PCIG				*e*S	**Sn**	**19 48 59.2**	**-3.0**
PAVE	**Pavencul**	**2.41**	**154**	*e*P	**Pb**	**19 48 52.8**	**-2.1**
PAVE				*e*S	**Sn**	**19 49 18.0**	**-2.9**
NEUV	**Arroyo Zacate**	**2.45**	**278**	*e*S	**Sn**	**19 49 21.4**	**-0.1**
PATR	**El Naranjo**	**2.46**	**156**	*e*P	**Pb**	**19 48 54.1**	**-1.6**
PATR				*e*S	**Sn**	**19 49 21.2**	**-0.9**
CHUJ	**Union Juarez**	**2.53**	**154**	*e*P	**Pb**	**19 48 54.9**	**-2.1**
CHUJ				*e*S	**Sn**	**19 49 19.8**	**-4.0**
THIG		**2.64**	**159**		**Pb**	**19 48 56.7**	**-2.0**
THIG					**Sb**	**19 49 30.0**	**-1.2**
THIG		**2.64**	**159**	*e*P	**Pb**	**19 48 56.7**	**-2.0**
THIG				*e*S	**Sb**	**19 49 30.0**	**-1.2**
HUEH	**Huehuetenango**	**2.66**	**140**	Pn	**Pn**	**19 48 55.1**	**+0.6**
HUIG	**Huatulco**	**3.17**	**240**		**Pn**	**19 49 01.6**	**+0.3**
HUIG					**Sn**	**19 49 40.3**	**+1.0**
HUIG	**Huatulco**	**3.17**	**240**	*e*P	**Pn**	**19 49 01.6**	**+0.3**
HUIG				*e*S	**Sn**	**19 49 40.3**	**+1.0**
RTAL	**Retalhuleu**	**3.21**	**152**	Pn	**Pb**	**19 49 05.3**	**-3.2**
PETF	**Flores**	**3.28**	**98**	Pn	**Pb**	**19 49 05.9**	**-3.7**
VHO	**Vista Hermosa**	**3.33**	**265**	*e*P	**Pn**	**19 49 04.7**	**+0.9**
VHO				*e*S	**Sn**	**19 49 44.0**	**+0.3**
TOIG	**Toxpalan**	**3.70**	**282**	*e*P	**Pn**	**19 49 09.3**	**+0.6**
TOIG				*e*S	**Sn**	**19 49 49.6**	**-2.9**
JAUV	**Jalcomulco**	**3.90**	**301**	*e*P	**Pn**	**19 49 11.2**	**-0.3**
JAUV				*e*S	**Sn**	**19 49 54.9**	**-2.6**
PEIG	**Puerto Escondi**	**3.97**	**250**	*e*P	**Pn**	**19 49 12.9**	**+0.5**
PEIG				*e*S	**Sn**	**19 50 00.4**	**+1.2**
YOIG	**Yosondua**	**4.13**	**263**	*e*P	**Pn**	**19 49 15.9**	**+1.0**
YOIG				*e*S	**Sn**	**19 50 05.0**	**+1.5**
TXIG	**Tlaxiaco**	**4.31**	**269**	*e*P	**Pn**	**19 49 18.2**	**+0.9**
TXIG				*e*S	**Sn**	**19 50 07.4**	**-0.5**
ESQI	**Esquipulas**	**4.70**	**126**	Pn	**Pn**	**19 49 23.1**	**+0.7**
PNIG	**Pinotepa**	**4.76**	**259**		**Pn**	**19 49 21.5**	**-1.8**
PNIG					**Sn**	**19 50 15.3**	**-3.4**
PNIG	**Pinotepa**	**4.76**	**259**	*e*P	**Pn**	**19 49 21.5**	**-1.8**
PNIG				*e*S	**Sn**	**19 50 15.3**	**-3.4**
MTO3	**Montecristo**	**4.78**	**128**	Pn	**Pn**	**19 49 23.9**	**+0.2**
TLIG	**Tlapa**	**5.07**	**273**	Pn	**Pn**	**19 49 25.5**	**-2.1**
833A	**Chaparral WMA,**	**12.27**	**334**		**Pn**	**19 51 07.2**	**+1.0**
TXAR	**Lajitas Array**	**15.25**	**323**	Pn	**P**	**19 51 51.5**	**-0.4**
	0.0nm,0.3s,baz=149,slow=14,SNR=2.2						
S39A	**Bolivar**	**20.23**	**360**	P	**P**	**19 52 46.5**	**-0.3**
S39A				IAmb	IAmb	19 52 53.1	
	comp=Z,6.1nm,0.8s						
ZARC	**Zaragoza, Cauc**	**20.46**	**116**	P	Pn	19 52 49.7	-1.8
S44A	**Carbondale**	**20.54**	**9**	P	Pn	19 52 50.8	-1.4
S44A				IAmb	IAmb	19 52 56.7	
	comp=Z,9.2nm,0.8s						
BNM	**Barren Site**	**20.55**	**327**	P	**P**	**19 52 51.1**	**+0.6**
X16A	**Lo Mia Camp, P**	**23.50**	**320**	P	**P**	**19 53 20.2**	**-1.5**
X16A				IAmb	IAmb	19 53 29.4	
	comp=Z,2.9nm,1.1s						
SDV	**Santo Domingo**	**23.57**	**108**	P	**P**	**19 53 24.6**	**+1.9**
	comp=Z,12nm,0.8s,baz=295,slow=5.0,SNR=15						
SDV	**Santo Domingo**	**23.57**	**108**	P	**P**	**19 53 25.0**	**+2.3**
SDV				IAmb	IAmb	19 53 27.7	
	comp=Z,11nm,0.8s						
NVAR	**Mina Array Bea**	**30.32**	**319**	P	**P**	**19 54 26.7**	**+3.3**
	comp=Z,1.5nm,0.9s,baz=128,slow=8.6,SNR=7.2						
LPAZ	**La Paz**	**41.62**	**142**	P	**P**	**19 56 01.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=305,slow=7.1,SNR=9.2						
LPAZ	**La Paz**	**41.62**	**142**	P	**P**	**19 56 01.5**	**+0.8**
LPAZ				IAmb	IAmb	19 56 02.6	
	comp=Z,2.2nm,0.7s						
YKA	**Yellowknife Ar**	**47.48**	**347**	P	**P**	**19 56 45.7**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=147,slow=8.1,SNR=3.2						
BDFB	**Brasilia**	**55.38**	**124**	P	**P**	**19 57 46.1**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=236,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**59.27**	**336**	P	**P**	**19 58 13.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=123,slow=14,SNR=1.9						

*KRNET **16** 20:57:40.9±0.1, 40°.87N×71°.20E, h16km, mb2.4*
*SOME **16** 20:57:44.6, 41°.08N×71°.15E, h0km*
*NNC **16** 20:57:46.0±5.5, 41°.06N×71°.29E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=43.7km s-min=17.9km az=9.0*
ISC 16 20:57:41.8±1.5, 40°.93N±0°.05×71°.10E±0°.04, h12km±13km, n18,σ1$62/28, 12C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.60**	**3**⇑	*i*P	**Pg**	**20 57 52.2**	**-1.3**
	baz=58						
TRKS				⇑*i*S	**Sb**	**20 58 00.7**	**-2.0**
	baz=58						
BTK	**Batken**	**0.90**	**194**⇓	*e*P	Pg	20 57 56.9	-2.3
	baz=0.0						
BTK				⇓*i*S	Sg	20 58 08.8	-2.2
	baz=0.0						
ARK	**Arkit**	**1.08**	**37**⇑	*i*P	**Pg**	**20 58 01.3**	**-1.3**
	baz=32						
ARK				⇑*i*S	**Sb**	**20 58 15.8**	**-0.7**
	baz=32						
OHH	**Osh**	**1.34**	**107**⇑	*i*P	Pn	20 58 04.1	-2.3
	baz=6.0						
OHH				⇑*i*S	**Sb**	**20 58 20.6**	**-3.4**
	baz=6.0						
IUG	**Iuzhnay**	**1.46**	**327**	*e*P	**Pb**	**20 58 10.3**	**+1.5**
	1μm,0.3s						
IUG				*e*S	**Sg**	**20 58 30.1**	**+1.4**
	119nm,0.3s						
IUG	**Iuzhnay**	**1.46**	**327**	P	**Pb**	**20 58 10.3**	**+1.5**
	1μm,0.3s						
IUG				S	**Sg**	**20 58 30.1**	**+1.4**
	119nm,0.3s						
DRK	**Karamyk**	**1.55**	**160**⇓	*i*P	Pn	20 58 07.9	-1.5
	baz=61						
DRK				⇓*i*S	**Sn**	**20 58 27.6**	**-1.9**
	baz=61						
DZA	**Taraz**	**1.96**	**5**	*e*P	**Pg**	**20 58 19.7**	**+0.2**
	15nm,0.3s						
DZA				*e*S	**Sg**	**20 58 45.9**	**+1.0**
	83nm,0.2s						
GAR	**Garm**	**2.02**	**198**⇑	*i*P	Pn	**20 58 16.4**	**+0.6**
	baz=0.0						
GAR				⇑*i*S	**Sn**	**20 58 41.8**	**+0.8**

KARS	**Kars**	**1.09**	252	PG	**Pb**	**21 02 31.2**	**-1.1**
KARS				SG	**Sg**	**21 02 47.9**	**+2.2**
IGDI	**IGDIR**	**1.13**	194	P	**Pb**	**21 02 31.6**	**-1.4**
IGDI				S	**Sb**	**21 02 46.5**	**-1.6**
IGDI				*i* AML	AML	21 02 49.0	
	comp=E,251nm,0.3s						
IGDI				*i* AML	AML	21 02 49.0	
	comp=N,221nm,0.4s						
HYR	**Heyderabad**	**1.29**	166	P	**Pb**	**21 02 35.7**	**+0.1**
	SNR=20						
HYR				S	**Sg**	**21 02 52.8**	**+0.7**
DDFL	**Dedoflistskaro**	**1.35**	69	P	**Pb**	**21 02 37.6**	**+0.8**
DDFL				S	**Sg**	**21 02 57.9**	**+3.6**
EPOS	**Posof**	**1.40**	293	P	**Pn**	**21 02 36.8**	**-0.4**
EPOS				S	**Sn**	**21 02 54.6**	**-1.6**
EPOS				*i* AML	AML	21 02 56.0	
	comp=E,99nm,0.3s						
EPOS				*i* AML	AML	21 02 58.0	
	comp=N,215nm,0.9s						
ABS	**Abastumani**	**1.45**	303	P	**Pn**	**21 02 37.8**	**-0.2**
ABS				S	**Sb**	**21 02 57.4**	**-0.1**
ABS	**Abastumani**	**1.45**	303	PG	**Pn**	**21 02 37.8**	**-0.2**
ABS				S	**Sb**	**21 02 57.4**	**-0.1**
GANJ	**Ganja**	**1.47**	102	PG	**Pn**	**21 02 36.9**	**-1.2**
GANJ	**Ganja**	**1.47**	102	P	**Pn**	**21 02 36.8**	**-1.3**
	SNR=76						
GANJ				S	**Sn**	**21 02 55.6**	**-2.1**
GUDG	**Gudauri**	**1.50**	1	P	**Pn**	**21 02 38.0**	**-0.7**
GUDG				S	**Sb**	**21 02 58.8**	**0.0**
GUDG	**Gudauri**	**1.50**	1	PG	**Pn**	**21 02 38.0**	**-0.7**
GUDG				S	**Sb**	**21 02 58.8**	**0.0**
KOTA	**Agri, Merkez-K**	**1.50**	219	P	**Pg**	**21 02 40.4**	**+0.9**
DYDN	**Diyadin**	**1.53**	202	P	**Pb**	**21 02 39.9**	**-0.1**
DYDN				S	**Sg**	**21 03 01.1**	**+1.1**
DYDN				*i* AML	AML	21 03 04.0	
	comp=E,145nm,0.6s						
TKB	**Tkibuli**	**1.75**	322	P	**Pn**	**21 02 42.7**	**+0.6**
TKB				S	**Sb**	**21 03 06.1**	**+0.1**
TKB	**Tkibuli**	**1.75**	322	PN	**Pn**	**21 02 42.7**	**+0.6**
TKB				S	**Sb**	**21 03 06.1**	**+0.1**
ZKTA	**Zakatala**	**1.78**	67	P	**Pn**	**21 02 42.6**	**+0.3**
	SNR=20						
ZKTA				S	**Sb**	**21 03 06.7**	**+0.1**
ONI	**Oni**	**1.78**	336	P	**Pn**	**21 02 42.8**	**+0.3**
ONI				S	**Sb**	**21 03 06.4**	**-0.4**
ONI	**Oni**	**1.78**	336	*e*PN	**Pn**	**21 02 43.0**	**+0.6**
ONI	**Oni**	**1.78**	336	*e*Pg	**Pn**	**21 02 43.0**	**+0.6**
ONI				*e*Sg	**Sb**	**21 03 06.5**	**-0.3**
SBZ	**Shahbuz**	**1.79**	151	P	**Pb**	**21 02 44.2**	**0.0**
	SNR=7.7						
SBZ				S	**Sg**	**21 03 08.1**	**-0.1**
EATA	**Eleskirt**	**1.85**	234	P	**Pb**	**21 02 44.8**	**-0.6**
EATA				S	**Sg**	**21 03 11.3**	**+1.0**
LACR	**Lac**	**1.86**	357	*e*PN	**Pn**	**21 02 44.7**	**+1.1**
LACR				pmax	pmax		
	comp=Z,119nm,0.3s						
LACR	**Lac**	**1.86**	357	*e*Pg	**Pn**	**21 02 44.7**	**+1.1**
LACR				*e*Sg	**Sb**	**21 03 09.9**	**+0.8**
ZEI	**Tsey**	**1.86**	348	*e*PN	**Pn**	**21 02 44.7**	**+1.0**
ZEI	**Tsey**	**1.86**	348	*e*Pg	**Pn**	**21 02 44.7**	**+1.0**
ZEI				*e*Sg	**Sb**	**21 03 09.6**	**+0.3**
CLDR	**Caldiran**	**1.87**	193	PN	**Pb**	**21 02 44.5**	**-1.1**
CLDR	**Caldiran**	**1.87**	193	P	**Pb**	**21 02 44.5**	**-1.1**
DAGI	**Agillar**	**1.91**	274	P	**Pb**	**21 02 46.0**	**-0.4**
DAGI				S	**Sb**	**21 03 11.0**	**+0.3**
NAX	**Nakhchivan**	**1.97**	155	PN	**Pb**	**21 02 47.3**	**+0.1**
NAX	**Nakhchivan**	**1.97**	155	P	**Pb**	**21 02 47.9**	**+0.6**
	SNR=11						
NAX				S	**Sg**	**21 03 14.8**	**+0.8**
MNGR	**Mingechevir, A**	**2.02**	95	PN	**Pb**	**21 02 47.7**	**-0.3**
MNGR	**Mingechevir, A**	**2.02**	95	P	**Pb**	**21 02 47.7**	**-0.3**
	SNR=8.0						
MNGR				S	**Sb**	**21 03 12.7**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.03**	342	*e*PN	**Pb**	**21 02 47.8**	**-0.6**
DIGR				pmax	pmax		
	comp=Z,6.0nm,0.1s						
DIGR	**Digorskoe uzhe**	**2.03**	342	*e*Pg	**Pb**	**21 02 47.9**	**-0.5**
DIGR				*e*Sg	**Sb**	**21 03 14.9**	**+0.7**
DDEM	**Demirkent**	**2.04**	269	P	**Pb**	**21 02 47.7**	**-0.7**
DBAD	**Bademkaya**	**2.08**	272	P	**Pb**	**21 02 47.4**	**-1.7**
DBAD				S	**Sg**	**21 03 16.2**	**-1.3**
DBAD				*i* AML	AML	21 03 21.0	
	comp=Z,36nm,0.6s						
VLKR	**Vladikavkaz**	**2.08**	5	*e*PN	**Pb**	**21 02 49.3**	**+0.1**
VLKR				*e*S	**Sg**	**21 03 18.7**	**+0.9**
VLKR	**Vladikavkaz**	**2.08**	5	*e*Pg	**Pb**	**21 02 49.3**	**+0.1**
VLKR				*e*Sg	**Sg**	**21 03 18.7**	**+0.9**
SEKA	**Sheki**	**2.10**	83	PN	**Pn**	**21 02 47.6**	**+0.8**
SEKA	**Sheki**	**2.10**	83	P	**Pn**	**21 02 47.4**	**+0.6**
	SNR=32						
SEKA				S	**Sb**	**21 03 16.4**	**+0.4**
KMGR	**Komgaron**	**2.11**	9	*e*PN	**Pb**	**21 02 49.9**	**+0.2**
KMGR				*e*S	**Sg**	**21 03 20.0**	**+1.4**
KMGR	**Komgaron**	**2.11**	9	*e*Pg	**Pb**	**21 02 49.9**	**+0.2**
KMGR				*e*Sg	**Sg**	**21 03 20.0**	**+1.4**
KORR	**Kora**	**2.13**	353	*i* PN	**Pb**	**21 02 50.4**	**+0.3**
KORR				*e*S	**Sb**	**21 03 18.2**	**+1.3**
KORR				pmax	pmax		
	comp=Z,34nm,0.6s						
KORR	**Kora**	**2.13**	353	*e*Pg	**Pb**	**21 02 50.4**	**+0.3**
KORR				*e*Sg	**Sb**	**21 03 19.3**	**+2.4**
BTLR	**Botlikh**	**2.16**	38⇓	*e*PN	**Pn**	**21 02 49.0**	**+1.4**
KOPR	**Koprukoy-ERZUR**	**2.20**	245	PN	**Pb**	**21 02 49.4**	**-1.9**
BRDA	**Brd**	**2.20**	108	P	**Pb**	**21 02 50.1**	**-1.1**
	SNR=21						
BRDA				S	**Sb**	**21 03 18.9**	**0.0**
AGDM	**Agdam**	**2.21**	112	P	**Pb**	**21 02 50.6**	**-0.7**
	SNR=64						
AGDM				S	**Sb**	**21 03 18.7**	**-0.3**
ARNR	**Ardon**	**2.21**	357	*e*PN	**Pb**	**21 02 51.3**	**-0.1**
ARNR				*e*S	**Sg**	**21 03 22.6**	**+0.7**
ARNR				pmax	pmax		
	comp=Z,45nm,0.4s						
ARNR				smax	smax		
	comp=E,43nm,0.4s						
ARNR	**Ardon**	**2.21**	357	*e*Pg	**Pb**	**21 02 51.6**	**+0.2**
ARNR				*e*Sg	**Sg**	**21 03 22.6**	**+0.7**
OZAP	**Van, Ozalp-Mer**	**2.33**	189	P	**Pb**	**21 02 53.3**	**-0.2**
LSNR	**Lesken**	**2.35**	349	*e*PN	**Pb**	**21 02 54.5**	**+0.7**
LSNR				*e*S	**Sg**	**21 03 26.4**	**0.0**
LSNR	**Lesken**	**2.35**	349	*e*Pg	**Pb**	**21 02 54.5**	**+0.7**
LSNR				*e*Sg	**Sg**	**21 03 26.4**	**0.0**
ORD	**Ordubad**	**2.36**	149	P	**Pb**	**21 02 54.4**	**+0.4**
	SNR=16						
ORD				S	**Sb**	**21 03 25.0**	**+1.4**
STDR	**Stavd-Durt**	**2.42**	354	*e*PN	**Pb**	**21 02 55.7**	**+0.9**
STDR				*e*S	**Sb**	**21 03 27.1**	**+2.1**
STDR	**Stavd-Durt**	**2.42**	354	*e*Pg	**Pb**	**21 02 55.7**	**+0.9**
STDR				*e*Sg	**Sb**	**21 03 27.1**	**+2.1**
GROC	**Groznyy**	**2.45**	24	*e*PN	**Pb**	**21 02 55.3**	**-0.1**
GROC				*e*		21 03 29.0	
GROC				pmax	pmax		
	comp=Z,33nm,0.5s						
GROC				smax	smax		
	comp=E,180nm,0.7s						
GROC				smax	smax		
	comp=N,77nm,0.6s						
GROC				smax	smax		
	comp=E,155nm,0.6s						
GROC				MLR	MLR		
	comp=Z,29nm,2.0s						
AKT	**Akhty**	**2.54**	77	*e*PN	**Pn**	**21 02 55.0**	**+2.1**
AKT				*e*S	**Sb**	**21 03 27.5**	**-1.0**
AKT				pmax	pmax		
	comp=Z,18nm,0.4s						
AKT				smax	smax		
	comp=E,103nm,0.3s						
ZRD	**Zardab**	**2.56**	105	P	**Pb**	**21 02 56.2**	**-1.1**
	SNR=3.7						
ZRD				S	**Sb**	**21 03 27.1**	**-2.2**
ERZM	**Erzurum**	**2.57**	247	P	**Pb**	**21 02 56.9**	**-0.8**
QBL	**Gabala**	**2.57**	89	P	**Pn**	**21 02 55.3**	**+1.9**
	SNR=9.0						
QBL				S	**Sb**	**21 03 27.0**	**-2.6**
NCK	**Nalchik**	**2.60**	346	*i* PN	**Pb**	**21 02 56.2**	**-1.8**
NEY	**Neytrino**	**2.61**	331⇑	*e*PN	**Pb**	**21 02 56.4**	**-1.9**
EJDE	**Erzurum, Palan**	**2.65**	246	PN	**Pn**	**21 02 55.9**	**+1.3**
EJDE	**Erzurum, Palan**	**2.65**	246	P	**Pb**	**21 02 56.2**	**-2.8**
QRD	**Qoradiz**	**2.67**	123	P	**Pb**	**21 02 57.4**	**-1.8**
	SNR=5.6						
QRD				S	**Sb**	**21 03 32.7**	**+0.4**
BLQ	**Beylaqan**	**2.69**	117	P	**Pb**	**21 02 58.1**	**-1.4**
	SNR=7.2						
BLQ				S	**Sb**	**21 03 33.0**	**+0.1**
KRIK	**Erzurum-spir**	**2.74**	258	P	**Pb**	**21 03 01.5**	**+0.9**
XNQ	**Khinaliq**	**2.81**	85	P	**Pn**	**21 02 58.7**	**+2.1**
	SNR=25						
XNQ				S	**Sb**	**21 03 33.7**	**-2.8**
IML	**Ismayilli**	**2.84**	92	P	**Pn**	**21 02 58.2**	**+1.1**
	SNR=7.8						
IML				S	**Sn**	**21 03 33.5**	**+1.7**
KDMR	**Kurdemir**	**2.91**	101	P	**Pb**	**21 03 01.0**	**-2.3**
KDMR				S	**Sb**	**21 03 38.3**	**-0.9**
QSAR	**Qusar**	**2.94**	78	P	**Sn**	**21 03 03.2**	**-0.5**
QSAR				S	**Sn**	**21 03 35.9**	**+1.8**
QUBA	**Quba, Azerbaij**	**3.09**	81	P	**Pb**	**21 03 05.0**	**-1.3**
QUBA				S	**Sn**	**21 03 40.1**	**+2.3**
PQL	**Pirkuli**	**3.15**	92	P	**Pb**	**21 03 04.7**	**-2.9**
	SNR=3.1						
PQL				S	**Sb**	**21 03 43.4**	**-3.0**
MUSM	**Mu-Merkez**	**3.18**	226	P	**Pn**	**21 03 02.5**	**+0.8**
KIV	**Kislovodsk**	**3.25**	337	*e*PN	**Pn**	**21 03 04.7**	**+2.0**
KIV				*e*S	**Sb**	**21 03 45.2**	**-4.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SIZA	**Siyzn**	**3.38**	87	P	**Pb**	**21 03 08.1**	**-3.2**
SIZA				S	**Sb**	**21 03 50.2**	**-2.6**
ATGJ	**Altiaghaj**	**3.41**	90	P	**Pn**	**21 03 08.2**	**+3.3**
GBS	**Qobustan**	**3.45**	96	P	**Pb**	**21 03 09.5**	**-3.0**
GBS				S	**Sn**	**21 03 48.2**	**+1.5**
GLBA	**Clilabad**	**3.49**	118	P	**Pb**	**21 03 11.0**	**-2.1**
GLBA				S	**Sb**	**21 03 54.5**	**-1.3**
YRD	**Yardimli**	**3.57**	124	P	**Pb**	**21 03 11.9**	**-2.7**
	SNR=9.4						
YRD				S	**Sb**	**21 03 59.4**	**+1.0**
LRK	**Lerik**	**3.80**	126	P	**Pb**	**21 03 15.3**	**-3.2**
	SNR=3.8						
LRK				S	**Sb**	**21 04 00.8**	**-4.1**
RPOR	**Krasnaya Polya**	**4.12**	313	*i* PN	**Pn**	**21 03 16.9**	**+2.3**

SNET ***16*** *21:23:01.6±1.1, 12.°56N×89.°89W, h13km±6km, ML3.3*
IDC ***16*** *21:23:01.2±2.1, 13.°14N×89.°24W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/32, mbtmp3.6/7, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/56, Error ellipse: s-maj=72.8km s-min=22.3km az=40.0*
ISC 16 21:22:60.0±1.0, 12.°52N±0.°06×89.°85W±0.°08, h10km, n24, σ1§18/27, mb3.6/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**1.09**	**28**	*e*P	**Pg**	**21 23 21.6**	**+0.6**
LALI				*e*S	**Sg**	**21 23 35.9**	**+0.7**
JAYA	**Jayaque - finc**	**1.19**	**19**	*e*P	**Pb**	**21 23 22.9**	**+0.1**
JAYA				*e*S	**Sb**	**21 23 37.9**	**-0.5**
JAYA				IAML		21 23 41.6	
	comp=Z,427nm,0.2s						
PMON	**Piamonte**	**1.29**	**24**	*e*P	**Pn**	**21 23 24.8**	**+0.5**
CEVE	**Cerro Verde**	**1.32**	**10**	*e*P	**Pn**	**21 23 24.5**	**-0.2**
CEVE				IAML		21 23 49.3	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.33**	**10**	*e*P	**Pn**	**21 23 25.3**	**+0.4**
LFRS	**El Faro**	**1.34**	**35**	*e*P	**Pn**	**21 23 25.2**	**+0.4**
SNJE	**San Jose**	**1.36**	**10**	*e*P	**Pn**	**21 23 26.1**	**+0.9**
NUBE	**Las Nubes**	**1.38**	**3**	*e*P	**Pn**	**21 23 25.2**	**-0.1**
NUBE				*e*S	**Sb**	**21 23 43.6**	**0.0**
NUBE				IAML		21 23 52.0	
	comp=Z,270nm,0.5s						
COEG	**Centro de Oper**	**1.44**	**41**	*e*P	**Pn**	**21 23 26.5**	**+0.2**
COEG				IAML		21 23 56.0	
	comp=Z,397nm,0.6s						
TECO	**Alcaldia de Te**	**1.45**	**46**	*e*P	**Pn**	**21 23 26.5**	**+0.2**
PAVA	**Las Pavas**	**1.48**	**37**	*e*P	**Pn**	**21 23 27.5**	**+0.7**
PAVA				IAML		21 23 57.0	
	comp=Z,376nm,0.5s						
TACO	**Tacachico**	**1.52**	**18**	*e*P	**Pn**	**21 23 27.9**	**+0.7**
TACO				*e*S	**Sb**	**21 23 48.5**	**+0.9**
MTO3	**Montecristo**	**1.93**	**14**	*e*P	**Pn**	**21 23 33.9**	**+0.9**
LCND	**La Caada**	**2.06**	**67**	*e*P	**Pn**	**21 23 36.1**	**+1.4**
JTS	**Las Juntas de**	**5.29**	**114**	Pn	**Pn**	**21 24 20.7**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=19,slow=21,SNR=4.6						
JTS				Sn	**Sn**	**21 25 18.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=31,slow=21,SNR=1.6						
TXAR	**Lajitas Array**	**21.09**	**325**	P	**P**	**21 27 46.9**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=150,slow=11,SNR=36						
TKL	**Tuckaleechee C**	**23.68**	**12**	LR	LR	21 38 37.5	
	comp=Z,42nm,18.8s,baz=160,slow=41						
SADO	**Sadowa**	**33.42**	**14**	LR	LR	21 42 08.8	
	comp=Z,49nm,18.9s,baz=12,slow=35						
PDAR	**Pinedale Array**	**34.64**	**334**	P	**P**	**21 29 50.5**	**+0.7**
	comp=Z,0.7nm,1.1s,baz=134,slow=6.4,SNR=2.1						
NVAR	**Mina Array Bea**	**36.13**	**321**	P	**P**	**21 30 05.0**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=143,slow=7.8,SNR=2.2						
SCHQ	**Schefferville**	**45.92**	**18**	P	**P**	**21 31 20.0**	**-2.7**
	comp=Z,2.2nm,0.7s,baz=229,slow=7.8,SNR=5.1						
YKA	**Yellowknife Ar**	**52.95**	**346**	P	**P**	**21 32 14.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=145,slow=7.6,SNR=7.9						
TORD	**Torodi Ar. Bea**	**88.68**	**77**	P	**P**	**21 35 52.8**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=291,slow=6.4,SNR=1.8						
CMAR	**Chiang Mai Arr**	**148.02**	**344**	PKPbc	**PKPbc**	**21 42 47.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=4.5,slow=3.7,SNR=5.5						

TUL ***16*** *21:29:46.7±0.5, 36.°30N±0.°01×96.°82W±0.°02, h6km±3km, ML2.9, mb_Lg2.4/11(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=67.0*
NEIC 16 21:29:47.4±0.4, 36.°30N±0.°01×96.°82W±0.°02, h3km±5km, Error ellipse: s-maj=2.2km s-min=1.2km az=59.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.66**	**22**		Pg	21 29 59.5	-0.6
TUL1	**Leonard**	**0.92**	**115**	Pg	Pg	21 30 04.1	-0.9
OKCFA	**Oklahoma City**	**1.02**	**210**		Pg	21 30 05.4	-1.6
FNO	**Franklin**	**1.14**	**205**	Pg	Pg	21 30 08.3	-1.0
W35A	**Tecumseh**	**1.15**	**182**		Pg	21 30 07.6	-1.8
U32A	**Winter Ranch,**	**1.76**	**273**	Pn	Pn	21 30 18.2	-0.6
X34A	**Smith Ranch, M**	**1.89**	**206**	Pn	Pn	21 30 20.5	+0.1
X37A	**Clayton**	**2.08**	**145**		Pn	21 30 22.0	-1.0
WMOK	**Wichita Mounta**	**2.23**	**226**		Pn	21 30 24.3	-1.0
R32A	**Long Quarter,**	**2.60**	**325**	IAmb_Lg		21 31 15.0	
	comp=Z,8.8nm,0.9s						
S39A	**Bolivar**	**3.12**	**63**		Pn	21 30 36.6	-0.9
S39A				IAmb_Lg		21 31 33.3	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**3.20**	**88**		Pn	21 30 38.2	-0.3
X40A	**Basin Creek Fa**	**3.72**	**118**	IAmb_Lg		21 31 46.1	
	comp=Z,8.7nm,0.7s						
WHAR	**Wooly Hollow**	**3.82**	**104**	Pn	Pn	21 30 47.1	+0.1
W41B	**Gary Mavity, V**	**3.88**	**105**	IAmb_Lg		21 31 55.6	
	comp=Z,11nm,0.9s						
P38A	**Dawn**	**4.21**	**37**	IAmb_Lg		21 32 03.7	
	comp=Z,8.6nm,0.9s						
CCM	**Cathedral Cave**	**4.78**	**67**	IAmb_Lg		21 32 19.3	
	comp=Z,9.0nm,1.1s						

IDC 16 21:38:30.7±4.7, 5.°57S×131.°87E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=310.3km s-min=33.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.49**	**171**	Pn	Pn	21 41 55.7	-1.5
	0.3nm,0.3s,baz=352,slow=13,SNR=22						
WRA				Sn	Sn	21 44 31.0	-7.8
	0.5nm,0.3s,baz=353,slow=24,SNR=9.2						
ASAR	**Alice Springs**	**18.10**	**174**	P	P	21 42 44.8	+0.5
	0.3nm,0.3s,baz=349,slow=13,SNR=13						
ASAR				S	Sn	21 45 57.1	-9.4
	0.1nm,0.3s,baz=354,slow=23,SNR=2.9						
MKAR	**Makanchi Array**	**68.08**	**326**	P	P	21 49 32.3	0.0
	0.3nm,0.9s,baz=144,slow=6.6,SNR=2.8						

RSNC ***16*** *21:51:06.9±1.2, 3.°97N×76.°37W, h112km±4km, ML3.5, Mw3.9*
IDC ***16*** *21:51:09.4±4.6, 3.°95N×75.°82W, h172km±41km, mb3.2/3, mb1 3.6/3, mb1mx3.0/29, mbtmp3.6/3, Error ellipse: s-maj=74.6km s-min=62.3km az=65.0*
ISC 16 21:51:06.3±1.0, 3.°96N±0.°03×76.°38W±0.°04, h111km±8km, n34, σ1§56/63, mb3.2/3, 7C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.04**	**51**⇓	*i*P	**Pn**	**21 51 22.2**	**+0.5**
YOTC				*e*S	**Sn**	**21 51 34.5**	**+1.2**
YOTC				*i*		21 51 37.8	
	comp=Z,966nm,0.2s						
PLMC	**San Jos del P**	**0.95**	**6**	*e*P	**Pn**	**21 51 27.8**	**+0.7**
PLMC				*e*S	**Sn**	**21 51 44.0**	**+1.2**
PLMC				*i*		21 51 46.3	
	comp=Z,1μm,0.2s						
ANIL	**Santa Ana**	**1.11**	**61**⇑	*e*P	**Pn**	**21 51 28.4**	**-0.6**
ANIL				*e*S	**Sn**	**21 51 45.5**	**-0.7**
ANIL				*i*		21 51 50.4	
	comp=Z,2μm,0.6s						
ORTC	**Ortega, Tolima**	**1.13**	**92**⇓	*i*P	**Pn**	**21 51 29.1**	**+0.2**
ORTC				*e*S	**Sn**	**21 51 46.6**	**+0.4**
ORTC				*i*		21 51 48.6	
	comp=Z,904nm,0.6s						
POPC	**Popayan, Colom**	**1.44**	**192**	*e*P	**Pn**	**21 51 32.9**	**+0.2**
POPC				*e*S	**Sn**	**21 51 52.6**	**-0.1**
POPC				*i*		21 51 53.9	
	comp=Z,652nm,0.3s						
BETC	**Betania**	**1.57**	**143**⇓	*i*P	**Pn**	**21 51 35.0**	**+0.8**
BETC				*e*S	**Sn**	**21 51 55.8**	**+0.5**
BETC				*i*		21 51 57.8	
	comp=Z,311nm,0.7s						
GUY2C	**Guyana, Caldas**	**1.61**	**39**	*e*P	**Pn**	**21 51 35.2**	**+0.1**
GUY2C				*e*S	**Sn**	**21 51 56.6**	**-0.3**
GUY2C				*i*		21 51 59.4	
	comp=Z,464nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.93**	**11**	*e*P	**Pn**	**21 51 38.9**	**+0.2**
CBOC				*e*S	**Sn**	**21 52 02.6**	**-0.7**
CBOC				*i*		21 52 15.5	
	comp=Z,182nm,0.5s						
GARC	**Garzon, Huila**	**1.97**	**153**⇓	*i*P	**Pn**	**21 51 39.6**	**+0.4**
GARC				*e*S	**Sn**	**21 52 04.5**	**+0.2**
GARC				*i*		21 52 08.1	
	comp=Z,317nm,0.3s						
GR1C	**Gorgona, Isla**	**2.02**	**242**⇑	*i*P	**Pn**	**21 51 39.5**	**-0.1**
GR1C				*e*S	**Sn**	**21 52 05.6**	**+0.6**
NORC	**Norcasia**	**2.19**	**43**⇑	*e*P	**Pn**	**21 51 41.7**	**-0.1**
NORC				*e*S	**Sn**	**21 52 08.4**	**-0.7**
NORC				*i*		21 52 14.8	
	comp=Z,96nm,0.5s						
ROSC	**El Rosal**	**2.23**	**67**	P	**Pn**	**21 51 44.1**	**+1.5**
	comp=Z,73nm,0.3s,baz=240,slow=15,SNR=45						
ROSC				S	**Sn**	**21 52 09.8**	**-0.6**
	comp=Z,71nm,0.3s,baz=221,slow=19,SNR=8.9						
ROSC	**El Rosal**	**2.23**	**67**⇑	*e*P	**Pn**	**21 51 44.2**	**+1.5**
ROSC				*e*S	**Sn**	**21 52 12.8**	**+2.3**
ROSC				*i*		21 52 15.8	
	comp=Z,163nm,0.4s						
HELC	**Santa Helena**	**2.38**	**21**⇑	*e*P	**Pn**	**21 51 44.7**	**+0.1**
HELC				*e*S	**Sn**	**21 52 14.1**	**+0.3**
HELC				*i*		21 52 20.5	
	comp=Z,170nm,0.5s						
CRUC	**La Cruz**	**2.44**	**194**	*e*P	**Pn**	**21 51 46.5**	**+1.1**
CRUC				*e*S	**Sn**	**21 52 16.0**	**+0.8**
CRUC				*i*		21 52 22.6	
	comp=Z,475nm,0.6s						
FLOC	**Florencia**	**2.47**	**163**⇓	*i*P	**Pn**	**21 51 46.0**	**+0.6**
FLOC				*e*S	**Sn**	**21 52 15.7**	**+0.3**
FLOC				*i*		21 52 17.4	
	comp=Z,93nm,0.3s						
VILC	**Villavicencio,**	**2.68**	**87**	*e*P	**Pn**	**21 51 49.6**	**+1.3**
VILC				*e*S	**Sn**	**21 52 22.3**	**+1.8**
CHIC	**Chingaza**	**2.72**	**76**⇑	*i*P	**Pn**	**21 51 49.9**	**+0.8**
CHIC				*e*S	**Sn**	**21 52 22.2**	**+0.3**
CHIC				*i*		21 52 27.9	
	comp=Z,110nm,0.4s						
SPBC	**San Pablo de B**	**2.85**	**54**	*e*P	**Pn**	**21 51 50.7**	**+0.3**
SPBC				*e*S	**Sn**	**21 52 24.7**	**+0.2**
GCUF	**Volcan Galeras**	**2.88**	**200**	*e*P	**Pn**	**21 51 51.8**	**+0.6**
GCUF				*e*S	**Sn**	**21 52 25.2**	**-0.5**
GCUF				*i*		21 52 27.6	
	comp=Z,264nm,0.7s						
DBBC	**Dabeiba**	**3.05**	**3**	*e*P	**Pn**	**21 51 56.8**	**+3.8**
DBBC				*e*S	**Sn**	**21 52 30.9**	**+1.8**
DBBC				*i*		21 52 38.4	
	comp=Z,273nm,0.6s						
MACC	**Macarena, Meta**	**3.10**	**125**	*e*P	**Pn**	**21 51 53.5**	**-0.2**
MACC				*i*		21 52 25.9	
	comp=Z,89nm,0.4s						
MACC				*e*S	**Sn**	**21 52 30.8**	**+0.5**
PTBC	**PUERTO BERRIO,**	**3.20**	**37**⇑	*i*P	**Pn**	**21 51 54.9**	**-0.2**
PTBC				*e*S	**Sn**	**21 52 30.9**	**-1.8**
PTBC				*i*		21 52 34.7	
	comp=Z,55nm,0.6s						
TULM	**Tulcn-Chalpat**	**3.51**	**204**	*e*P	**Pn**	**21 52 01.6**	**+2.0**
TULM				*e*S	**Sn**	**21 52 41.3**	**+0.6**
TULM				*i*		21 52

BUJA	**Bujumbura/Buru**	**3.42**	**192**	*i* P		**Pn**	**22 01 05.7**	**+1.1**

CNRM ***16*** *22:00:48.6,35˝.45N×3˝.90W,h0km,ml1.9*
MDD ***16*** *22:00:51.8±0.5,35˝.51N×3˝.80W,h6km±4km,mb_Lg2.1/9, Error ellipse: s-maj=4.8km s-min=2.8km az=166.0*
SFS ***16*** *22:00:51.0,35˝.50N×3˝.80W,h2km,ML2.5,ALBORAN SUR*

ISC 16 22:00:51.2±1.2,**35˝.45N**±0˝.03×**3˝.80W**±0˝.03,**h23**km±14km, **n23**,σ1°01/42,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOG	**Mont Gurugu**	**0.70**	**109**	P	**Pb**	**22 01 03.9**	**-0.8**
GOG				S	**Sb**	**22 01 13.9**	**-0.1**
EMEL	**Melilla**	**0.71**	**102**	Pg	**Pb**	**22 01 04.6**	**-0.3**
EMEL				Sg	**Sb**	**22 01 13.8**	**-0.4**
EALB	**Alboran**	**0.80**	**52**	Pg	**Pn**	**22 01 06.7**	**-0.3**
EALB				Sg	**Sn**	**22 01 17.7**	**-0.4**
EALB				*i* Vmb_Lg		22 01 18.8	
CHEFC	**Chefchaouen**	**1.30**	**255**	P	**Pb**	**22 01 15.7**	**+0.7**
TAF	**Taforalt**	**1.30**	**119**	P	**Pn**	**22 01 14.4**	**+0.4**
SMIR	**Smir Dam**	**1.31**	**281**	P	**Pn**	**22 01 13.0**	**-1.0**
SMIR				S	**Sn**	**22 01 28.8**	**-2.0**
EMIJ	**Mijas**	**1.36**	**325**	Pg	**Pb**	**22 01 15.7**	**-0.4**
EMIJ				Sg	**Sn**	**22 01 32.1**	**-0.1**
EMIJ				*i* Vmb_Lg		22 01 35.9	
EMAL	**Malaga-Limoner**	**1.41**	**339**	S	**Sb**	**22 01 35.5**	**+1.3**
ELGU	**Los Guajares,**	**1.42**	**6**	Pn	**Pn**	**22 01 15.9**	**+0.2**
ELGU				Sn	**Sn**	**22 01 33.4**	**-0.3**
ELGU				*i* Vmb_Lg		22 01 38.3	
JBK	**JBK**	**1.51**	**137**	P	**Pb**	**22 01 18.9**	**+0.3**
JBK				S	**Sn**	**22 01 35.6**	**-0.4**
EBER	**Berja**	**1.62**	**27**	Pn	**Pn**	**22 01 18.9**	**+0.4**
EBER				Sn	**Sn**	**22 01 38.6**	**-0.3**
EBER				*i* Vmb_Lg		22 01 53.4	
EGOR	**Sierra Gorda,**	**1.68**	**352**	Pn	**Pn**	**22 01 19.7**	**+0.5**
EGOR				Sn	**Sn**	**22 01 40.3**	**+0.2**
EGOR				*i* Vmb_Lg		22 01 51.8	
LCRM	**LCR**	**1.96**	**207**	P	**Pb**	**22 01 26.0**	**-0.3**
LCRM				S	**Sb**	**22 01 51.2**	**+0.8**
ENIJ	**Nijar**	**1.99**	**40**	Sn	**Sn**	**22 01 47.0**	**-0.8**
ENIJ				*i* Vmb_Lg		22 01 55.1	
IFR	**Ifrane**	**2.22**	**210**	P	**Pn**	**22 01 25.3**	**-1.4**
IFR				S	**Sn**	**22 01 53.7**	**+0.2**
EQES	**Quesada**	**2.42**	**14**	Pn	**Pn**	**22 01 30.0**	**+0.6**
EQES				Sn	**Sn**	**22 01 58.5**	**0.0**
EQES				*i* Vmb_Lg		22 02 06.0	
MD31	**MD31**	**2.69**	**197**	P	**Pn**	**22 01 36.1**	**+2.9**
MD31				S	**Sn**	**22 02 04.7**	**-0.5**
MDT	**Midelt**	**2.71**	**194**	P	**Pb**	**22 01 37.1**	**-2.0**
MDT				S	**Sn**	**22 02 07.1**	**+1.5**
ECAB	**El Cabril**	**2.92**	**334**	Pn	**Pn**	**22 01 37.3**	**+1.0**
ECAB				Sn	**Sn**	**22 02 10.4**	**-0.3**
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**22 01 47.2**	**+1.4**
EGRO				Sn	**Sn**	**22 02 27.4**	**-0.5**
ETOB	**Tobarra**	**3.67**	**29**	Pn	**Pn**	**22 01 47.2**	**+0.7**
ETOB				Sn	**Sn**	**22 02 28.9**	**-0.2**
PVAQ	**Vaqueiros**	**3.71**	**303**	P	**Pn**	**22 01 47.0**	**-0.1**
PVAQ				S	**Sn**	**22 02 27.7**	**-2.4**
EBAD	**Badajoz**	**4.18**	**323**	Pn	**Pn**	**22 01 54.6**	**+1.0**
EBAD				Sn	**Sn**	**22 02 41.2**	**-0.4**
EBAD				*i* Vmb_Lg		22 02 43.4	

IDC ***16*** *22:02:55.4±3.3,38˝.42N×141˝.53E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.1/30,mbtmp3.3/3,ML1.9/1,Error ellipse: s-maj=71.1km s-min=41.7km az=68.0*
JMA ***16*** *22:02:56.1±0.1,38˝.18N×141˝.97E,h32km±1km,M3.7*
JMA Felt I J1.

ISC 16 22:02:54.7±2.2,**38˝.15N**±0˝.05×**142˝.0E**±0˝.1,**h24**km±13km, **n18**,σ0°69/19,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.46**	**290**	P	**Pn**	**22 03 05.3**	**-0.5**
JIKH				S	**Sb**	**22 03 11.4**	**+0.6**
JIO	**Ouri**	**0.61**	**300**	P	**Pn**	**22 03 07.5**	**-0.2**
JIO				S	**Sn**	**22 03 15.4**	**-1.4**
JKMT	**Kesennumamotoy**	**0.79**	**327**	P	**Pn**	**22 03 10.2**	**0.0**
JKMT				S	**Sb**	**22 03 19.8**	**-0.1**
OFUJ	**Ofunato**	**0.97**	**344**	P	**Pb**	**22 03 12.5**	**-0.3**
OFUJ				S	**Sb**	**22 03 24.0**	**-1.1**
JMM	**Marumori**	**1.01**	**254**	P	**Pb**	**22 03 13.4**	**0.0**
JMM				S	**Sb**	**22 03 25.8**	**-0.5**
JMK	**Ichinoseki**	**1.02**	**322**	P	**Pn**	**22 03 13.8**	**+0.4**
JMK				S	**Sn**	**22 03 26.7**	**-0.2**
JOU	**Okura**	**1.09**	**282**	P	**Pb**	**22 03 15.3**	**+0.5**
JOU				S	**Sn**	**22 03 29.1**	**+0.4**
JFK	**Kawauchi**	**1.20**	**230**	P	**Pn**	**22 03 15.7**	**-0.2**
JFK				S	**Sn**	**22 03 30.4**	**-1.0**
JOM	**Ohasama**	**1.44**	**337**	P	**Pn**	**22 03 19.9**	**+0.7**
MJAR	**Matsushiro Arr**	**3.44**	**243**	Pn	**Pn**	**22 03 47.3**	**+0.6**
	0.1nm,0.3s,baz=53,slow=11,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	22 38 57.1	
	baz=316,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	22 39 01.0	
	baz=316,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.35**	**123**	T	T	22 39 01.7	
	baz=316,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**29.09**	**125**	T	T	22 39 58.7	
	baz=318,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.09**	**125**	T	T	22 39 58.6	
	baz=318,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**29.10**	**125**	T	T	22 39 53.1	
	baz=318,slow=76,SNR=15						
MKAR	**Makanchi Array**	**43.94**	**301**	P	**P**	**22 11 00.1**	**+0.6**
	0.2nm,0.7s,baz=88,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**58.23**	**189**	P	P	22 12 53.1	+6.1
	0.8nm,1.1s,baz=8.1,slow=7.2,SNR=2.2						

IDC ***16*** *22:21:44.5±7.3,51˝.27N×173˝.60W,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.3/63,mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=189.5km s-min=37.2km az=166.0*
NEIC ***16*** *22:21:48.9±2.0,51˝.62N±0˝.10×173˝.55W±0˝.09,h10km±2km, mb3.6/24,ML3.0(AEIC),Error ellipse: s-maj=16.6km s-min=8.7km az=173.0*
AEIC ***16*** *22:21:52.3±3.2,51˝.59N±0˝.07×173˝.45W±0˝.08,h2km±5km, Error ellipse: s-maj=10.0km s-min=6.5km az=195.0*

ISC 16 22:21:51.7±1.0,**51˝.6N**±0˝.1×**173˝.53W**±0˝.06,**h37**km,**n50**, σ0°63/43,**mb3.7**/3,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.75**	**327**		**Pn**	**22 22 25.5**	**-0.1**
KOFP	**Korovin Flat P**	**0.78**	**334**		**Pn**	**22 22 06.5**	**+0.4**
KOKL	**Mount Kliuchef**	**0.85**	**331**		**Pn**	**22 22 07.6**	**+0.4**
GSMY	**Great Sitkin M**	**1.63**	**288**		**Pn**	**22 22 18.0**	**+0.2**
GSTR	**Great Sitkin T**	**1.65**	**289**	Pn	**Pn**	**22 22 18.2**	**+0.1**
GSTD	**Great Sitkin T**	**1.69**	**287**		**Pn**	**22 22 18.8**	**+0.1**
ADK	**Adak**	**1.98**	**280**		**Pn**	**22 22 22.3**	**-0.3**
KIWB	**Kanaga Island**	**2.27**	**278**	Pn	**Pn**	**22 22 26.5**	**0.0**
TAFP	**Tanaga Falls P**	**2.79**	**278**		**Pn**	**22 22 34.3**	**+0.7**
TASE	**Tanaga Southea**	**2.81**	**277**		**Pn**	**22 22 34.9**	**+0.9**
NIKH	**Nikolski High**	**3.19**	**62**		**Pn**	**22 22 39.4**	**+0.1**
UNV	**Unalaska Valle**	**4.84**	**59**	Pn	**Pn**	**22 23 02.4**	**+0.6**
M19K	**Big River Lodg**	**14.67**	**38**		**P**	**22 25 20.3**	**-1.7**
BRLK	**Bradley Lake**	**15.11**	**48**	Pn	**Pn**	**22 25 22.8**	**+0.6**
J20K	**Nowinta River**	**16.20**	**31**	P	**P**	**22 25 37.9**	**-1.0**
J20K				IAmb	IAmb	22 25 56.1	
	comp=Z,4.8nm,1.4s						
CAST	**Castle Rocks**	**16.43**	**36**		**P**	**22 25 41.5**	**0.0**
KTH	**Katishna Hill**	**16.93**	**36**		**Pn**	**22 25 46.4**	**+0.9**
SML	**Sawmill**	**17.09**	**43**	Pn	**Pn**	**22 25 47.1**	**-0.3**
SML				IAmb	IAmb	22 25 59.2	
	comp=Z,4.9nm,1.0s						
TRF	**Thorofare Moun**	**17.11**	**37**		**P**	**22 25 49.0**	**-0.2**
TRF				IAmb	IAmb	22 25 57.2	
	comp=Z,5.2nm,1.3s						
BPAW	**Bear Paw Mtn.**	**17.23**	**35**		**P**	**22 25 51.0**	**+0.7**
H21K	**Melozitna Rive**	**17.63**	**29**		**P**	**22 25 55.0**	**+0.3**
MLY	**Manley**	**17.88**	**32**		**P**	**22 25 58.2**	**+0.7**
DHY	**Denali Highway**	**18.06**	**40**		**Pn**	**22 25 59.5**	**0.0**
DHY				IAmb	IAmb	22 26 27.5	
	comp=Z,6.2nm,1.4s						
I23K	**Minto, Yukon-K**	**18.41**	**33**	P	**Pn**	**22 26 03.7**	**+0.1**
I23K				IAmb	IAmb	22 26 31.6	
	comp=Z,5.5nm,1.4s						
CCB	**Clear Creek Bu**	**18.68**	**36**	P	**P**	**22 26 05.9**	**-0.4**
CCB				IAmb	IAmb	22 26 17.9	
	comp=Z,5.2nm,1.4s						
IL31		**19.08**	**36**	P	**P**	**22 26 09.9**	**-0.7**
IL31				IAmb	IAmb	22 26 11.7	
	comp=Z,8.5nm,1.5s						
ILAR	**Eielson Array**	**19.08**	**36**	P	**P**	**22 26 11.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=225,slow=9.1,SNR=22						
ILAR	**Eielson Array**	**19.08**	**36**	P	**P**	**22 26 10.7**	**0.0**
H24K	**Noodor Dome**	**19.32**	**33**	P	**P**	**22 26 13.0**	**-0.3**
H24K				IAmb	IAmb	22 26 15.5	
	comp=Z,4.4nm,1.4s						
RIDG	**Independent Ri**	**19.38**	**40**	P	**P**	**22 26 12.8**	**-1.2**
J25K	**Salcha River,**	**19.57**	**37**	P	**P**	**22 26 15.7**	**-0.4**
J25K				IAmb	IAmb	22 26 26.2	
	comp=Z,8.1nm,1.4s						
L26K	**Log Cabin Wild**	**19.71**	**43**	P	**P**	**22 26 18.3**	**+0.8**
L26K				IAmb	IAmb	22 26 41.1	
	comp=Z,9.5nm,1.5s						
SCRK	**Sand Creek**	**19.82**	**40**	P	**P**	**22 26 17.8**	**-1.1**
BCAR	**Beaver Creek A**	**20.39**	**43**	P	Pn	22 26 27.3	+0.1
BMAR	**Burnt Mountain**	**21.31**	**31**	P	**P**	**22 26 36.3**	**+1.5**
YKA	**Yellowknife Ar**	**32.69**	**47**	P	**P**	**22 28 20.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=276,slow=7.7,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**35.30**	**213**	T	T	23 06 39.9	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	23 06 36.5	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	23 06 41.6	
	baz=20						
H11S1	**WAKE ISLAND Hy**	**36.51**	**213**	T	T	23 08 08.0	
	baz=16,slow=74						
H11S2	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	23 08 04.0	
	baz=16,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	23 08 02.4	
	baz=16						
PDAR	**Pinedale Array**	**43.09**	**76**	P	**P**	**22 29 48.1**	**0.0**
FCC	**Fort Churchill**	**43.41**	**48**	P	**P**	**22 29 49.9**	**-0.2**
TULEG	**Thule**	**43.73**	**19**	P	**P**	**22 29 52.0**	**-0.5**
MK31	**Makanchi Array**	**62.43**	**311**	P	**P**	**22 32 10.3**	**-0.3**
MK31				IAmb	IAmb	22 32 36.3	
	comp=Z,0.7nm,1.2s						
MKAR	**Makanchi Array**	**62.43**	**311**	P	**P**	**22 32 10.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=47,slow=6.2,SNR=6.6						
MKAR	**Makanchi Array**	**62.43**	**311**	P	**P**	**22 32 10.4**	**-0.2**
MAKZ	**Makanchi**	**62.57**	**311**	P	**P**	**22 32 11.4**	**-0.1**
GAR	**Garm**	**74.01**	**313**	P	**P**	**22 33 23.9**	**+0.5**

IDC 16 22:37:29.6±2.6,**17˝.62S**×**177˝.70W**,**h0**km,**mb3.7**/3, **mb1 4.1/3,mb1mx3.5**/39,**mbtmp3.7**/3,**Error ellipse: s-maj=291.5km s-min=33.9km az=159.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.35**	**259**	P	P	22 45 49.8	-0.2
	0.3nm,0.5s,baz=95,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**45.52**	**254**	P	P	22 45 51.4	0.0
	1.9nm,0.7s,baz=88,slow=8.8,SNR=19						
TXAR	**Lajitas Array**	**85.27**	**57**	P	P	22 50 08.8	-0.1
	0.3nm,0.7s,baz=227,slow=5.0,SNR=3.8						

MAN ***16*** *22:46:34.6,15˝.16N×120˝.03E,h8km,mb5.4,ML4.4,MS4.7*
MAN INTENSITY IV - SAN FELIPE & IBA, ZAMBALES; INTENSITY III - MASINLOC, BOTOLAN & OLONGAPO CITY, ZAMBALES, CLARK PAMPANGA, TARLAC CITY, TARLAC; INTENSITY II - SANTA CRUZ, ZAMBALES & DINALUPIHAN, BATAAN; INTENSITY I - MAKATI CITY & QUEZON CITY.
NEIC ***16*** *22:46:34.5±1.4,15˝.15N±0˝.07×120˝.04E±0˝.09,h46km±7km, mb4.7/94,Error ellipse: s-maj=12.6km s-min=10.1km az=86.0*
IDC ***16*** *22:46:39.5±0.8,15˝.17N×120˝.14E,h96km±8km,mb4.1/36, mb1 4.2/37,mb1mx4.1/57,mbtmp4.4/37,MS3.4/22, Ms1 3.4/22,ms1mx3.2/89,Error ellipse: s-maj=15.4km s-min=8.9km az=72.0*

ISC 16 22:46:36.3±0.7,**15˝.17N**±0˝.04×**119˝.96E**±0˝.05,**h66**km±7km, **n250**,σ1°32/245,**mb4.6**/94,**13C-14D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**1.16**	**70**	⇑*eP*	**Pn**	**22 46 55.1**	**-1.5**
PCPH				*eS*	**Sn**	**22 47 10.8**	**-1.0**
MACP	**Maragondon, Ca**	**1.16**	**141**	⇓*eP*	**Pn**	**22 46 55.9**	**-0.8**
SMPP	**San Manuel, Pa**	**1.19**	**35**	⇑*eP*	**Pn**	**22 46 55.4**	**-1.7**
TGY	**Tagaytay City**	**1.42**	**138**	P	**Pn**	**22 47 01.1**	**+1.0**
	1μm,0.3s,baz=289,slow=3.9,SNR=63						
TGY				S	**Sn**	**22 47 21.7**	**+3.6**
	3μm,0.3s,baz=253,slow=18,SNR=12						
TGY	**Tagaytay City**	**1.42**	**138**	⇓*iP*	**Pn**	**22 47 01.1**	**+1.0**
TGY				*i* S	**Sn**	**22 47 23.0**	**+5.0**
LUBP	**Lubang**	**1.45**	**169**	⇓*eP*	**Pn**	**22 46 58.6**	**-1.9**
LQP	**Lukban**	**1.85**	**124**	⇓*iP*	**Pn**	**22 47 06.5**	**+0.5**
LQP				*i* S	**Sn**	**22 47 30.2**	**+1.6**
PGP	**Puerto Galera**	**1.92**	**150**	⇓*eP*	**Pn**	**22 47 06.3**	**-0.5**
PGP				*i* S	**Sn**	**22 47 31.2**	**+1.3**
GQP	**Guinayangan**	**2.71**	**117**	⇓*eP*	**Pn**	**22 47 18.2**	**+0.6**
GQP				*eS*	**Sn**	**22 47 50.8**	**+1.5**
SIPP	**Brgy, Tapao**	**2.78**	**10**	⇓*eP*	**Pn**	**22 47 20.9**	**+2.5**
SIPP				*eS*	Sn	22 48 01.4	+11
PVCP	**Virac**	**4.35**	**111**	⇓*eP*	**Pn**	**22 47 40.9**	**+1.0**
RCP	**Roxas**	**4.50**	**143**	⇑*eP*	**Pn**	**22 47 44.5**	**+2.6**
PPR	**Puerto Princes**	**5.50**	**193**	⇓*iP*	**Pn**	**22 47 54.2**	**-1.4**
TPUB	**Ta-pu**	**8.11**	**4**	Pn	**Pn**	**22 48 29.3**	**-2.1**
TPUB	**Ta-pu**	**8.11**	**4**	P	**Pn**	**22 48 32.9**	**+1.5**
SSLB	**Suanglung**	**8.62**	**6**		**Pn**	**22 48 35.4**	**-3.0**
SSLB	**Suanglung**	**8.62**	**6**	P	**Pn**	**22 48 40.3**	**+1.9**
HKPS	**Hong Kong Po S**	**8.96**	**323**	Pn	Pn	22 48 39.4	-3.6
KCP	**Kidapawan**	**9.54**	**148**	⇓*eP*	**Pn**	**22 48 55.8**	**+4.8**
YHNB	**Yeheng**	**9.54**	**8**	P	**Pn**	**22 48 53.9**	**+2.9**
YOJ	**Yonaguni jima**	**9.68**	**17**	Pn	**Pn**	**22 48 51.6**	**-1.1**
DAV	**Davao City (W)**	**9.75**	**145**	LR	LR	22 53 35.6	
	comp=Z,233nm,18.4s,baz=351,slow=43						
KKM	**Kota Kinabalu**	**9.79**	**202**	P	**Pn**	**22 48 51.5**	**-2.9**
	9.9nm,1.4s						
MYLDM	**Lahad Datu**	**10.03**	**188**	Pn	**Pn**	**22 48 59.8**	**+2.2**
QIZ	**Qiongzhou**	**10.41**	**293**	Pn	Pn	22 48 59.4	-3.4
QIZ	**Qiongzhong**	**10.41**	**293**	P	**Pn**	**22 49 01.3**	**-1.5**
QIZ				S	**Sn**	**22 50 58.4**	**+0.5**
QIZ				LR	LR		
	comp=N,220nm,8.8s						
QIZ				LR	LR		
	comp=E,230nm,18.0s						
QIZ				LR	LR		
	comp=Z,320nm,19.1s						
DLV	**T Lat**	**11.61**	**255**	Pn	**Pn**	**22 49 18.0**	**-1.4**
JOW	**Kunigami**	**13.95**	**32**	LR	LR	22 55 13.6	
	comp=Z,65nm,19.6s,baz=128,slow=37						
UBPT	**Khong Chiam**	**13.99**	**272**	Pn	**Pn**	**22 49 50.4**	**-1.1**
TOLI2	**Tolitoli**	**13.99**	**177**	Pn	**Pn**	**22 49 49.8**	**-1.7**
MRSI	**Marisa**	**14.73**	**172**	P	**Pn**	**22 50 01.9**	**+0.8**
	comp=Z,32nm,0.9s						
MPSI	**Mapaga**	**14.74**	**180**	P	**Pn**	**22 50 02.9**	**+1.7**
	comp=Z,828nmcomp=Z,8.8nm,0.9s						
GTOI	**Gorontalo**	**14.75**	**168**	P	**Pn**	**22 50 01.0**	**-0.4**
	comp=Z,13nm,0.9s						
SBUM	**Sibu**	**14.77**	**212**		**Pn**	**22 50 00.8**	**-0.8**
APSI	**Ampana**	**16.07**	**174**	P	**Pn**	**22 50 18.1**	**-0.1**
	comp=Z,606nmcomp=Z,34nm,0.5s						
LUWI	**Luwuk**	**16.35**	**170**		**Pn**	**22 50 21.1**	**-0.6**
LUWI				IAmb	IAmb	22 50 37.4	
	comp=Z,65nm,0.7s						
LUWI	**Luwuk**	**16.35**	**170**	P	**P**	**22 50 28.5**	**+5.0**
NJ2	**Nanjing**	**16.84**	**357**	*eP*	**Pn**	**22 50 27.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SANI	**Sanana**	**18.12**	**160**	P	**P**	**22 50 41.0**	**-2.1**
	comp=Z,26nm,0.8s						
SIJI	**Sorong**	**19.47**	**144**	P	**P**	**22 50 58.0**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=330,slow=20,SNR=4.3						
SIJI				LR	LR	22 58 31.3	
	comp=Z,59nm,21.1s,baz=174,slow=37						
KAPI	**Kappang**	**20.06**	**181**	P	Pn	22 51 05.7	-0.9
	comp=Z,26nm,0.9s,baz=341,slow=7.9,SNR=5.3						
KAPI				LR	LR	22 59 29.7	
	comp=Z,52nm,18.8s,baz=354,slow=38						
KAPI	**Kappang**	**20.06**	**181**	P	**P**	**22 51 03.2**	**-1.1**
BKSI	**Bulukumba**	**20.36**	**180**	P	Pn	22 51 09.1	-1.1
	comp=Z,27nm,1.5s						
CMAR	**Chiang Mai Arr**	**20.38**	**282**	P	Pn	22 51 10.9	+0.5
	comp=Z,2.3nm,0.3s,baz=100,slow=8.0,SNR=18						
CMAR				LR	LR	22 59 13.7	
	comp=Z,149nm,19.0s,baz=105,slow=37						
CMAR	**Chiang Mai Arr**	**20.38**	**282**	P	**P**	**22 51 05.5**	**-2.3**
PZH	**PanZhiHua**	**20.39**	**306**	P	**P**	**22 51 09.3**	**+1.3**
PZH				S	Sn	22 55 01.6	+1.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
PZH				LR	LR		
	comp=N,290nm,13.5s						
PZH				LR	LR		
	comp=E,270nm,13.1s						
PZH				LR	LR		
	comp=Z,290nm,15.2s						
JTU	**Tsushima**	**21.06**	**22**	P	**P**	**22 51 14.3**	**-0.7**
JTU				IAmb	IAmb	22 51 19.4	
	comp=Z,19nm,0.8s						
KULM	**Kulim**	**21.37**	**245**	P	**P**	**22 51 17.1**	**-1.4**
FAKI	**Fak Fak**	**21.70**	**145**	P	**P**	**22 51 21.1**	**-0.9**
FAKI				IAmb	IAmb	22 51 42.3	
	comp=Z,30nm,1.1s						
HNS	**HongShan**	**22.63**	**349**	⇑P	**P**	**22 51 32.4**	**+0.7**
KMMI	**Kalianget**	**22.86**	**195**	P	**P**	**22 51 36.2**	**+1.8**
	comp=Z,35nm,0.8s						
JHS	**Saijyo**	**23.01**	**29**	P	**P**	**22 51 35.3**	**-0.5**
KSRS	**Korea Array**	**23.29**	**16**	P	**P**	**22 51 37.8**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=198,slow=11,SNR=13						
SRBI	**Singaraja**	**23.58**	**192**	P	**P**	**22 51 43.8**	**+2.6**
	comp=Z,1μmcomp=Z,72nm,1.1s						
MMRI	**Maumere**	**23.76**	**174**	P	**P**	**22 51 43.3**	**+0.4**
MMRI				IAmb	IAmb	22 51 54.4	
	comp=Z,24nm,0.7s						
PLAI	**Plampang**	**23.94**	**185**	P	**P**	**22 51 45.8**	**+1.3**
	comp=Z,66nm,0.7s						
PSI	**Prapat**	**24.11**	**241**	LR	LR	23 00 19.8	
	comp=Z,85nm,20.4s,baz=66,slow=34						
JAGI	**Jajag, Banyuwa**	**24.18**	**194**	P	**P**	**22 51 47.3**	**+0.7**
JAGI				IAmb	IAmb	22 51 50.1	
	comp=Z,26nm,0.8s						
PWJI	**Pagerwojo**	**24.42**	**200**	P	**P**	**22 51 50.3**	**+1.5**
	comp=Z,5.3nm,0.9s						
UGM	**Wanagama**	**24.77**	**203**	P	**P**	**22 51 52.5**	**+0.4**
UGM	**Wanagama**	**24.77**	**203**	P	**P**	**22 51 53.2**	**+1.1**
KLSI		**24.84**	**219**	P	**P**	**22 51 54.9**	**+2.2**
	comp=Z,17nm,1.8s						
BJT	**Baijiatuau**	**24.98**	**353**	P	**P**	**22 51 52.4**	**-1.3**
LEM	**Lembang**	**25.05**	**210**	LR	LR	23 02 14.9	
	comp=Z,57nm,18.2s,baz=314,slow=37						
INU	**Inuyama**	**25.25**	**34**	P	**P**	**22 51 55.7**	**-0.6**
INU				IAmb	IAmb	22 51 58.0	
	comp=Z,14nm,0.7s						
LZH	**Lanzhou**	**25.33**	**328**	*eP*	**P**	**22 51 58.5**	**+1.4**
LZH				pP	pP	22 52 02.4	-10
LZH				sP	sP	22 52 04.5	-15
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				LR	LR		
	comp=N,260nm,12.8s						
LZH				LR	LR		
	comp=E,250nm,13.2s						
LZH				LR	LR		
	comp=Z,280nm,14.6s						
JHJ	**Hachijo jima 2**	**25.34**	**42**	LR	LR	23 01 16.1	
	comp=Z,26nm,19.8s,baz=266,slow=35						
BATI	**Baumata**	**25.48**	**172**	P	**P**	**22 51 58.1**	**-0.4**
	comp=Z,35nm,0.5s,baz=36,slow=1.7,SNR=8.7						
BATI				LR	LR	23 03 11.4	
	comp=Z,79nm,20.3s,baz=314,slow=39						
GSI	**Gunungsitoli**	**26.04**	**240**	P	**P**	**22 52 02.9**	**-0.7**
GSI				IAmb	IAmb	22 52 26.5	
	comp=Z,10nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.61**	**346**	*eP*	**P**	**22 52 10.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
MJAR	**Matsushiro Arr**	**26.79**	**34**	P	**P**	**22 52 08.9**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=218,slow=7.8,SNR=3.2						
MJAR	**Matsushiro Arr**	**26.79**	**34**	P	**P**	**22 52 10.6**	**+0.4**
SHL	**Shillong**	**28.23**	**296**	P	**P**	**22 52 22.5**	**-0.8**
SHL				IAmb	IAmb	22 52 47.5	
	comp=Z,7.4nm,0.6s						
GTA	**Gaotai**	**29.92**	**328**	*eP*	**P**	**22 52 39.0**	**+0.8**
GTA				pP	pP	22 52 48.8	-4.6
GTA				sP	sP	22 52 53.8	-7.1
GTA				pmax	pmax		
	comp=Z,2.0n

ZALV	Zalesovo Beam	47.43	332	P	P	22 55 04.6	+0.5
AAK	Ala-Archa	47.53	315	LR	LR	23 16 46.5	
	comp=Z,117nm,19.1s,baz=98,slow=38						
PEA0B	Petropavlovsk-	48.10	30	P	P	22 55 09.1	-0.2
PETK	Petropavlovsk-	48.10	30	P	P	22 55 07.8	-1.5
	comp=Z,7.5nm,0.8s,baz=212,slow=4.7,SNR=7.0						
PETK	Petropavlovsk-	48.10	30	P	P	22 55 08.2	-1.1
DRK	Karamyk	48.46	310	P	P	22 55 13.7	+1.0
DRK				IAmb	IAmb	22 55 28.6	
	comp=Z,5.8nm,0.8s						
KURK	Kurchatov	48.58	326	P	P	22 55 13.7	+0.7
KURK				IAmb	IAmb	22 55 14.8	
	comp=Z,9.0nm,1.1s						
BTK	Batken	49.34	310	P	P	22 55 19.6	+0.4
BTK				IAmb	IAmb	22 55 36.0	
	comp=Z,7.0nm,1.3s						
GAR	Garm	49.45	309	P	P	22 55 21.0	+0.9
GAR				IAmb	IAmb	22 55 36.0	
	comp=Z,13nm,1.1s						
KBL	Kabul	49.51	303	P	P	22 55 20.7	0.0
BBOO	Buckleboo	50.13	162	P	P	22 55 23.1	-2.0
BBOO				IAmb	IAmb	22 55 37.4	
	comp=Z,12nm,1.3s						
CHGR	Chuyangaron	50.24	308	P	P	22 55 26.1	+0.1
CHGR				IAmb	IAmb	22 55 40.7	
	comp=Z,13nm,1.0s						
EIDS	Eidsvold	50.43	143	P	P	22 55 25.9	-1.5
EIDS				IAmb	IAmb	22 55 32.8	
	comp=Z,18nm,1.4s						
KKAR	Karatay Array	50.45	314	P	P	22 55 28.1	+0.7
STKA	Stephens Creek	51.17	156	P	P	22 55 30.8	-2.1
	comp=Z,1.1nm,0.4s,baz=350,slow=9.1,SNR=3.4						
STKA	Stephens Creek	51.17	156	P	P	22 55 31.2	-1.7
BRVK	Borovoye	54.23	325	P	P	22 55 55.3	0.0
BRVK				IAmb	IAmb	22 55 57.3	
	comp=Z,6.0nm,1.1s						
ARMA	Armidale	54.63	146	P	P	22 55 58.1	-0.4
HRA	Herat	55.06	301	P	P	22 56 02.3	+0.5
TIXI	Tiksi	56.71	3	P	P	22 56 11.9	-0.8
TIXI				IAmb	IAmb	22 56 13.0	
	comp=Z,3.6nm,0.8s						
NRIK	Noril'sk	57.83	347	P	P	22 56 21.3	+0.7
	comp=Z,11nm,0.7s,baz=134,slow=7.1,SNR=27						
NRIK	Noril'sk	57.83	347	P	P	22 56 21.2	+0.5
GEYT	Alibeck	58.70	305	P	P	22 56 28.8	+1.4
	comp=Z,1.2nm,0.5s,baz=50,slow=12,SNR=3.7						
GEYT	Alibeck	58.70	305	P	P	22 56 28.2	+0.8
GEYT				IAmb	IAmb	22 56 30.5	
	comp=Z,6.9nm,1.1s						
GYA0B	ALIBECK ARRAY	58.70	305	P	P	22 56 28.3	+0.9
GYA0B				IAmb	IAmb	22 56 31.2	
	comp=Z,9.4nm,1.2s						
ABKAR	Akbulak array	59.16	319	P	P	22 56 30.8	+0.5
ABKAR				IAmb	IAmb	22 56 32.1	
	comp=Z,5.6nm,1.1s						
ABKAR	Akbulak array	59.16	319	P	P	22 56 30.6	+0.3
BILL	Bilibino	60.54	18	P	P	22 56 39.1	-0.3
BILL				IAmb	IAmb	22 56 45.0	
	comp=Z,3.5nm,0.8s						
AKTO	Aktyubinsk	60.64	320	P	P	22 56 41.1	+0.7
	comp=Z,1.6nm,0.4s,baz=101,slow=9.7,SNR=8.6						
AKTO				LR	LR	23 24 29.2	
	comp=Z,99nm,18.2s,baz=82,slow=37						
ARU	Arti	61.77	326	P	P	22 56 48.0	+0.1
	comp=Z,1.7nm,0.4s,baz=107,slow=6.4,SNR=16						
ARU				LR	LR	23 25 22.6	
	comp=Z,64nm,18.8s,baz=170,slow=38						
ARU	Arti	61.77	326	P	P	22 56 47.9	0.0
ARU				IAmb	IAmb	22 56 48.5	
	comp=Z,5.2nm,0.5s						
SOCY	Socotra	63.97	276	P	P	22 57 02.7	-0.6
SOCY				IAmb	IAmb	22 57 05.4	
	comp=Z,6.7nm,0.9s						
GAMB	Gambell	66.96	27	P	P	22 57 21.6	0.0
KIRV	Kirov	67.05	328	P	P	22 57 22.3	0.0
	comp=Z,10nm,0.5s,baz=161,slow=2.3,SNR=4.0						
BELG	Belogornoye	67.35	321	P	P	22 57 24.6	+0.3
	comp=Z,4.9nm,0.7s,baz=174,slow=16,SNR=5.9						
ANM	Nome	69.83	26	P	P	22 57 40.0	+0.4
RAYN	Ar Rayn	70.08	290	P	P	22 57 42.4	+0.4
RAYN				IAmb	IAmb	22 57 44.0	
	comp=Z,4.3nm,0.8s						
KBZ	Khabaz	70.38	311	P	P	22 57 44.4	+1.1
	comp=Z,1.2nm,0.7s,baz=45,slow=8.6,SNR=1.8						
KIV	Kislovodsk	70.52	312	P	P	22 57 45.4	+1.0
KIV				IAmb	IAmb	22 57 57.2	
	comp=Z,22nm,1.5s						
TTA	Tatalina	73.91	28	P	P	22 58 04.6	+0.5
L19K	White Mountain	74.47	29	P	P	22 58 07.9	+0.5
J20K	Nowinta River	74.69	27	P	P	22 58 09.6	+1.0
J20K				IAmb	IAmb	22 58 10.9	
	comp=Z,5.6nm,0.7s						
IMAR	Indian Mountai	74.76	25	P	P	22 58 09.4	+0.4
BKZ	Black Stump Fm	75.50	138	P	P	22 58 12.6	-1.1
I21K	Tanana	75.55	26	P	P	22 58 14.5	+1.0
CAST	Castle Rocks	75.65	28	P	P	22 58 14.8	+0.6
CAST				IAmb	IAmb	22 58 16.5	
	comp=Z,9.0nm,0.7s						
KDAK	Kodiak Island	75.96	33	P	P	22 58 15.4	-0.6
BPAW	Bear Paw Mtn.	76.07	27	P	P	22 58 16.9	+0.3
BPAW				IAmb	IAmb	22 58 18.8	
	comp=Z,5.6nm,0.8s						
MLY	Manley	76.08	26	P	P	22 58 16.9	+0.3
MLY				IAmb	IAmb	22 58 18.6	
	comp=Z,3.8nm,0.6s						
TRF	Thorofare Moun	76.45	28	P	P	22 58 18.9	-0.1
TRF				IAmb	IAmb	22 58 38.2	
	comp=Z,5.0nm,1.0s						
I23K	Minto, Yukon-K	76.65	26	P	P	22 58 20.2	+0.5
KEV	Kevo	76.91	339	P	P	22 58 21.0	-0.1
MCK	McKinley	77.02	27	P	P	22 58 21.8	-0.2
MCK				IAmb	IAmb	22 58 24.1	
	comp=Z,15nm,1.4s						
RND	Reindeer	77.10	27	P	P	22 58 21.9	-0.5
RND				IAmb	IAmb	22 58 22.3	
	comp=Z,4.4nm,0.8s						
ARA0	ARCESS Array S	77.46	339	*e*P	P	22 58 25.1	+0.8
ARCES	ARCESS Array B	77.46	339	P	P	22 58 24.8	+0.4
	comp=Z,4.2nm,0.5s,baz=77,slow=6.4,SNR=41						
ARCES	ARCESS Array B	77.46	339	P	P	22 58 24.7	+0.4
BR131	Keskin Array S	77.69	308	P	P	22 58 25.9	-0.3
BR131				IAmb	IAmb	22 58 27.2	
	comp=Z,4.8nm,1.1s						
BRTR	Keskin Array B	77.69	308	P	P	22 58 26.5	+0.2
	comp=Z,0.8nm,0.4s,baz=162,slow=3.5,SNR=6.8						
BRTR	Keskin Array B	77.69	308	P	P	22 58 26.2	0.0
PWL	Port Wells	77.72	30	P	P	22 58 25.6	-0.3
PWL				IAmb	IAmb	22 58 50.6	
	comp=Z,13nm,1.0s						
IL31		77.75	26	P	P	22 58 25.7	-0.2
ILAR	Eielson Array	77.75	26	P	P	22 58 24.7	-1.2
	comp=Z,0.5nm,0.6s,baz=323,slow=4.8,SNR=6.1						
ILAR	Eielson Array	77.75	26	P	P	22 58 26.2	+0.2
SPB2	Spitsbergen Ar	78.01	348	P	P	22 58 27.4	+0.3
SPA0	Spitsbergen Ar	78.01	348	*e*P	P	22 58 28.0	+0.8
SPITS	Spitsbergen Ar	78.01	348	P	P	22 58 28.0	+0.8
	comp=Z,6.2nm,0.7s,baz=45,slow=12,SNR=13						
BMAR	Burnt Mountain	78.20	23	P	P	22 58 29.1	+0.6
KTK1	Kautokeino	78.36	339	*e*P	P	22 58 29.5	+0.3
FIA1	FINESS Array S	78.66	331	P	P	22 58 31.4	+0.4
FIA1				IAmb	IAmb	22 58 34.7	
	comp=Z,5.7nm,1.1s						
FINES	FINESS Array B	78.66	331	P	P	22 58 31.4	+0.4
	comp=Z,4.3nm,0.5s,baz=56,slow=5.9,SNR=52						
CSS	Mathiatis	78.76	303	P	P	22 58 32.9	+0.7
RIDG	Independent Ri	78.81	27	P	P	22 58 31.2	-0.7
RIDG				IAmb	IAmb	22 58 32.5	
	comp=Z,7.8nm,1.1s						
AKASG	Malin Array Be	78.89	320	P	P	22 58 31.1	-1.3
	comp=Z,1.1nm,0.7s,baz=68,slow=4.9,SNR=5.5						
JETT	Jettan, Norway	79.21	339	*e*P	P	22 58 36.6	+2.7
N25K	Chitina, Valde	79.36	29	P	P	22 58 35.2	+0.3
MENT	Mentasta	79.47	28	P	P	22 58 35.4	-0.1
MENT				IAmb	IAmb	22 58 43.5	
	comp=Z,8.9nm,1.4s						
SORM	Soroca	79.93	317	⇓P	P	22 58 37.0	-1.1
EGAK	Eagle	80.15	25	P	P	22 58 39.5	+0.4
BCAR	Beaver Creek A	80.30	27	P	P	22 58 41.2	+1.2
CTGM	Chitina Glacie	81.04	29	P	P	22 58 44.6	+0.5
CTGM				IAmb	IAmb	22 58 48.1	
	comp=Z,7.4nm,0.7s						
ELL	Elmali	81.13	306	P	P	22 58 45.1	+0.1
NOR	Nord	81.14	354	*i* P	P	22 58 43.4	-0.7
TESR	Tescani	81.40	316	⇑P	P	22 58 45.6	-0.5
STEI	Steigen	81.49	338	*e*P	P	22 58 46.3	+0.2
VRI	Vrincioaia	81.49	315	⇓P	P	22 58 48.3	+1.7
PLOR	Plostina	81.55	315	⇓P	P	22 58 48.4	+1.5
FAUS	Fauske	81.65	338	*e*P	P	22 58 46.3	-0.7
COVR	Voineasa-Covas	81.85	315	⇑P	P	22 58 48.6	0.0
BURAR	Bucovina Array	82.10	317	⇓P	P	22 58 51.2	+1.3
BURAR	Bucovina Array	82.10	317	P	P	22 58 51.1	+1.2
BURAR				IAmb	IAmb	22 58 52.0	
	comp=Z,5.3nm,0.7s						
BUR08	Bucovina Ar. S	82.10	317	P	P	22 58 50.9	+1.0
BUR08				IAmb	IAmb	22 58 51.8	
	comp=Z,5.6nm,0.8s						
MLR	Muntele Rosu	82.11	315	⇑P	P	22 58 51.4	+1.3
MLR	Muntele Rosu	82.11	315	P	P	22 58 50.6	+0.5
	comp=Z,4.7nm,0.6s,baz=342,slow=20,SNR=8.8						
MLR				LR	LR	23 38 12.6	
	comp=Z,76nm,19.8s,baz=83,slow=38						
MLR	Muntele Rosu	82.11	315	P	P	22 58 50.5	+0.4
MLR				IAmb	IAmb	22 58 52.0	
	comp=Z,5.4nm,0.7s						
VOIR		82.74	315	⇑P	P	22 58 52.5	-0.7
HUMR	Humele	83.01	314	⇑P	P	22 58 53.6	-0.9
ARR	Arges	83.04	315	⇑P	P	22 58 55.4	+0.6
KWP	Kalwaria Pacla	83.21	319	*e*P	P	22 58 56.8	+1.3
KWP	Kalwaria Pacla	83.21	319	P	P	22 58 56.4	+0.9
KMBO	Kilima Mbogo	83.26	267	P	P	22 58 57.5	+0.8
	comp=Z,1.8nm,0.9s,baz=59,slow=4.3,SNR=5.7						
NSS	Namsos	83.94	336	*e*P	P	22 58 58.7	-0.2
DRGR		83.96	317	⇑P	P	22 59 00.2	+0.6
VTS	Vitosha	84.72	313	⇑P	P	22 59 02.2	-1.4
VTS	Vitosha	84.72	313	P	P	22 59 04.1	+0.5
VTS				IAmb	IAmb	22 59 05.0	
	comp=Z,3.7nm,0.5s						
NIE	Niedzica	84.77	320	*e*P	P	22 59 06.0	+2.5
OJC	Ojcow	84.85	321	*e*P	P	22 59 04.5	+0.7
OJC	Ojcow	84.85	321	P	P	22 59 04.7	+0.8
DAG	Danmarks Havn	85.05	351	*i* P	P	22 59 03.0	-1.3
LANS	Liptovska Anna	85.37	320	*e*P	P	22 59 08.0	+0.5
NC405	NORSAR Array S	85.38	332	P	P	22 59 06.4	+0.1
NB2	NORSAR Subarra	85.63	332	P	P	22 59 07.4	-0.2
	comp=Z,3.3nm,0.6s,baz=68,slow=5.1						
NB2	NORSAR Subarra	85.63	332	P	P	22 59 07.4	-0.2
	baz=68,slow=5.1						
NOA	NORSAR Array B	85.63	332	P	P	22 59 07.2	-0.4
	comp=Z,6.7nm,0.8s,baz=67,slow=4.9,SNR=32						
NOA				LR	LR	23 39 34.0	
	comp=Z,36nm,18.6s,baz=10.0,slow=37						
NC204	NORSAR Array S	85.74	333	*e*P	P	22 59 08.3	+0.1
NAO01	NORSAR Array S	85.86	332	*e*P	P	22 59 08.3	-0.3
OSL	Oslo	86.30	332	*e*P	P	22 59 11.2	+0.4
MORC	Moravsky Berou	86.37	321	⇑P	P	22 59 11.9	+0.5
MORC	Moravsky Berou	86.37	321	P	P	22 59 11.6	+0.2
MORC				IAmb	IAmb	22 59 12.9	
	comp=Z,3.6nm,0.6s						
MORC	Moravsky Berou	86.37	321	*e*P	P	22 59 12.4	+1.0
JAVC	Velka Javorina	86.59	320	*e*P	P	22 59 14.6	+2.0
KSP	Ksiaz	86.77	322	*e*P	P	22 59 14.2	+0.9
SKAR	Skarslia	87.08	333	*e*P	P	22 59 16.1	+1.4
VRAC	Vranov	87.11	320	P	P	22 59 15.4	+0.4
	comp=Z,4.1nm,0.4s,baz=164,slow=21,SNR=4.8						
JMIC	Jan Mayen	87.20	345	LR	LR	23 42 17.7	
	comp=Z,45nm,19.0s,baz=76,slow=38						
RES	Resolute Bay	87.70	9	LR	LR	23 41 42.1	
	comp=Z,25nm,20.4s,baz=170,slow=38						
RES	Resolute Bay	87.70	9	P	P	22 59 17.1	-0.2
CLL	Collm	88.53	323	*i* P	P	22 59 21.8	+0.1
CLL				*e*PP	PP	23 02 56.0	+5.8
SOKA	Soboth	89.01	318	*e*P	P	22 59 24.6	+0.4
	comp=Z,1.5nm,0.6s						
GEC2	GERESS Array S	89.05	321	P	P	22 59 24.4	0.0
GEC2				IAmb	IAmb	22 59 27.2	
	comp=Z,4.1nm,1.1s						
GERES	GERESS Array B	89.05	321	P	P	22 59 24.8	+0.5
	comp=Z,1.2nm,0.6s,baz=64,slow=6.1,SNR=9.8						
GERES	GERESS Array B	89.05	321	P	P	22 59 24.4	0.0
MOA	Molln	89.07	320	*e*P	P	22 59 25.6	+1.2
	comp=Z,3.4nm,0.5s						
KBA	Koelnbreinsper	89.94	319	*e*P	P	22 59 28.7	0.0
	comp=Z,1.7nm,0.5s						
ABTA	Abfaltersbach	90.59	319	*e*P	P	22 59 31.9	+0.3
	comp=Z,1.3nm,0.6s						
WTTA	Wattenberg	90.94	320	*e*P	P	22 59 33.7	+0.4
	comp=Z,4.8nm,0.6s						
WATA	Walderalm	90.95	320	*e*P	P	22 59 33.6	+0.3
	comp=Z,2.4nm,0.5s						
SQTA	Sankt Quirin	91.22	320	*e*P	P	22 59 34.9	+0.4
	comp=Z,3.6nm,0.5s						
MOTA	Moosalm	91.24	320	*e*P	P	22 59 35.1	+0.5
	comp=Z,4.8nm,0.8s						
FETA	Feichten	91.60	320	*e*P	P	22 59 36.9	+0.5
	comp=Z,4.1nm,0.9s						
YKA	Yellowknife Ar	91.69	22	P	P	22 59 36.6	+0.3
	comp=Z,2.0nm,0.5s,baz=308,slow=4.4,SNR=48						
DAVOX	Davos/Dischmat	92.23	320	P	P	22 59 39.8	+0.5
	comp=Z,3.7nm,0.8s,baz=104,slow=4.2,SNR=5.8						
TXAR	Lajitas Array	118.92	43	PKP	PKiKP	23 05 18.8	+0.6
	comp=Z,0.7nm,0.7s,baz=344,slow=1.8,SNR=4.9						
PLCA	Paso Flores	152.94	162	PKPbc	PKiKP	23 06 27.1	+0.4
	comp=Z,1.1nm,0.7s,baz=259,slow=16,SNR=3.1						
VSTU	Vaestervik	1.62	214	*e*P	Pn	22 48 25.4	-0.6
LNKU	Linkoeping	1.62	242	P	Pn	22 48 25.4	-0.7
LNKU	Linkoeping	1.62	242	P	Pn	22 48 25.4	-0.7
LNKU	Linkoeping	1.62	242	*e*P	Pn	22 48 25.4	-0.7
NRAU	Nora	1.72	290	P	Pn	22 48 27.3	-0.1
NRAU	Nora	1.72	290	P	Pn	22 48 27.3	-0.1
NRAU	Nora	1.72	290	*e*P	Pn	22 48 27.3	-0.1
ASKU	Askersund	1.75	268	P	Pn	22 48 27.7	-0.3
ASKU	Askersund	1.75	268	P	Pn	22 48 27.7	-0.3
ASKU	Askersund	1.75	268	*e*P	Pn	22 48 27.7	-0.3
HFS	Hagfors	2.56	298	Pn	Pn	22 48 39.5	+0.5
	0.8nm,0.3s,baz=118,slow=12,SNR=3.2						
HFS				Lg	Lg	22 49 12.1	
	2.3nm,0.3s,baz=118,slow=28,SNR=6.2						
SLIT	Slitere, Latvi	2.56	121	*e*P	Pn	22 48 41.3	+2.2
SLIT	Slitere, Latvi	2.56	121	*e*P	Pn	22 48 39.6	+0.5
SLIT				*e*SG	Sb	22 49 15.5	+0.4
RAF	Rauma	2.69	40	*e*P	Pn	22 48 41.6	+0.8
RAF				*e*S	Sn	22 49 15.4	+1.3
MTSE	Matsula	2.93	93	*e*P	Pn	22 48 44.3	+0.3
MTSE	Matsula	2.93	93	*e*P	Pn	22 48 44.5	+0.5
MTSE				*e*S	Sn	22 49 20.7	+0.9
BLEU	Blekinge	3.01	206	*i* P	Pn	22 48 44.7	-0.5
BLEU				*i* S	Sn	22 49 22.1	+0.3
BORU	Boraas	3.19	247	*i* P	Pn	22 48 48.7	+1.1
BORU				*i* S	Sn	22 49 28.3	+2.1
MEF	Metsahovi	3.37	66	*e*P	Pn	22 48 50.6	+0.5
MEF				*e*S	Sn	22 49 32.4	+1.7
MEF				MSG		22 49 46.5	
	comp=Z,5.2nm,0.2s						
DEL	Delary	3.45	224	*i* P	Pn	22 48 51.0	-0.2
DEL				*e*S	Sn	22 49 34.3	+1.5
DEL	Delary	3.45	224	*e*P	Pn	22 48 51.2	-0.1
FABU	Falkenberg	3.55	238	*i* P	Pn	22 48 52.6	0.0
FABU				*e*S	Sn	22 49 35.5	+0.3
TJOU	Tjoern	3.59	257	*i* P	Pn	22 48 53.5	+0.3
STRU	Stroemstad	3.63	273	*i* P	Pn	22 48 54.5	+0.8
STRU				*i* S	Sn	22 49 38.6	+1.4
ONAU	Onsala	3.70	247	*i* P	Pn	22 48 56.0	+1.3
NOA	NORSAR Array B	4.05	303	Pn	Pn	22 48 59.0	-0.6
	comp=Z,0.0nm,0.3s,baz=127,slow=11,SNR=22						
NOA				Pg	Pb	22 49 08.0	-0.6
	comp=Z,0.0nm,0.3s,baz=114,slow=12,SNR=3.1						
NOA				Lg	Lg	22 49 57.9	
	comp=Z,0.1nm,0.3s,baz=267,slow=18,SNR=8.2						
BSD	Bornholm Skovb	4.30	206	*i* S	Sn	22 49 50.5	-3.3
BSD				IAML		22 49 53.8	
	comp=Z,2.2nm,0.5s						
BSD	Bornholm Skovb	4.30	206	*e*S	Sn	22 49 53.2	-0.6
BSD				*e*SG	Sb	22 50 09.0	+3.8
VSU	Vasula	4.48	93	*e*P	Pn	22 49 05.2	-0.1
VSU				*e*S	Sn	22 49 59.0	+1.0
KEF	Keuruu	4.56	43	*e*P	Pn	22 49 07.9	+1.5
KEF				*e*S	Sn	22 50 00.5	+0.5
KEF				MSG		22 50 22.5	
	comp=Z,2.1nm,0.2s						
FINES	FINESS Array B	4.62	55	Pn	Pn	22 49 08.1	+0.8
	comp=Z,0.2nm,0.3s,baz=250,slow=12,SNR=12						
FINES				Pg	Pb	22 49 18.4	+0.3
	comp=Z,0.3nm,0.3s,baz=248,slow=14,SNR=5.2						
FINES				Sn	Sn	22 50 01.2	-0.3
	comp=Z,0.6nm,0.3s,baz=246,slow=18,SNR=9.9						
FINES				Lg	Lg	22 50 18.7	
	comp=Z,1.4nm,0.3s,baz=253,slow=22,SNR=10						
FIA1	FINESS Array S	4.62	55	*e*P	Pn	22 49 08.3	+1.0
FIA1				MSG		22 50 25.3	
	comp=Z,2.9nm,0.3s						
KAF	Kangasniemi	5.06	49	*e*P	Pn	22 49 14.1	+0.8
KAF				*e*S	Sn	22 50 11.4	-1.0
ARCES	ARCESS Array B	11.02	14	Pn	Pn	22 50 31.3	-3.6
	baz=196,slow=14,SNR=8.3						

UPP ***16*** *22:47:55.8±0.1, 59°.00N×18°.20E, h0km, ML2.8, Explosion*
HEL ***16*** *22:47:56.8±0.0, 59°.01N×18°.17E, h0km, ML2.1, ML2.8(UPP), Explosion*
HEL ***16*** *22:47:56.8, 59°.03N×18°.09E, h0km, ML2.1, Explosion*
DNK ***16*** *22:47:56.2±1.9, 59°.00N×18°.27E, h0km, ML2.3, Explosion*
IDC ***16*** *22:48:00.6±2.1, 59°.42N×18°.05E, h0km, mb1 3.6/2, mb1mx3.0/38, mbtmp3.5/2, ML1.9/4, Error ellipse: s-maj=29.8km s-min=6.2km az=178.0*

ISC 16 22:47:56.3±0.7, 59°.01N±0°.02×18°.21E±0°.02, h0km, n75, σ1 9°08/98, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	Nynaeshamn	0.11	265	P	Pg	22 47 58.1	-0.2
NYNU				S	Sg	22 47 59.5	-0.2
NYNU	Nynaeshamn	0.11	265	P	Pg	22 47 58.1	-0.2
NYNU				S	Sg	22 47 59.5	-0.2
NYNU	Nynaeshamn	0.11	265	*i* P	Pg	22 47 58.1	-0.2
NYNU				*i* S	Sg	22 47 59.5	-0.2
NRTU	Norrtaelje	0.70	18	P	Pg	22 48 09.3	-0.4
NRTU				S	Sg	22 48 18.6	-0.1
NRTU	Norrtaelje	0.70	18	P	Pg	22 48 09.3	-0.4
NRTU				S	Sg	22 48 18.6	-0.1
NRTU	Norrtaelje	0.70	18	*i* P	Pg	22 48 09.3	-0.4
NRTU				*i* S	Sg	22 48 18.6	-0.1
UPP	Uppsala	0.90	341	*e*P	Pg	22 48 12.8	-0.7
UPP	Uppsala	0.90	341	P	Pg	22 48 12.9	-0.6
UPP	Uppsala	0.90	341	*e*P	Pg	22 48 12.9	-0.6
VIKU	Vikbolandet	0.94	237	P	Pg	22 48 13.3	-1.0
VIKU	Vikbolandet	0.94	237	*e*P	Pg	22 48 14.0	-0.3
VIKU	Vikbolandet	0.94	237	P	Pg	22 48 13.3	-1.0
VIKU	Vikbolandet	0.94	237	*e*P	Pg	22 48 13.3	-1.0
ESKU	Eskilstuna	0.96	284	P	Pg	22 48 13.6	-1.2
ESKU	Eskilstuna	0.96	284	P	Pg	22 48 13.6	-1.2
ESKU	Eskilstuna	0.96	284	*e*P	Pg	22 48 13.6	-1.2
FIBU	Brunna	0.99	334	P	Pg	22 48 14.6	-0.7
FIBU	Brunna	0.99	334	P	Pg	22 48 14.6	-0.7
BACU	Backbrunna	1.01	327	P	Pg	22 48 14.9	-0.8
BACU	Backbrunna	1.01	327	P	Pg	22 48 14.9	-0.8
BACU	Backbrunna	1.01	327	*e*P	Pg	22 48 14.9	-0.8
FLYU	Flymyra	1.13	352	P	Pg	22 48 17.2	-0.8
FLYU	Flymyra	1.13	352	P	Pg	22 48 17.2	-0.8
FLYU	Flymyra	1.13	352	*e*P	Pg	22 48 17.2	-0.8
GRAU	Graesoe	1.33	7	P	Pg	22 48 20.9	-1.0
GRAU	Graesoe	1.33	7	P	Pg	22 48 20.9	-1.0
GRAU	Graesoe	1.33	7	*e*P	Pg	22 48 20.9	-1.0
OSTU	Oestervaala	1.34	336	P	Pg	22 48 20.8	-1.1
OSTU	Oestervaala	1.34	336	P	Pg	22 48 20.8	-1.1
OSTU	Oestervaala	1.34	336	*e*P	Pg	22 48 20.8	-1.1
GOTU	Gotland	1.35	172	P	Pg	22 48 20.2	-1.8
GOTU	Gotland	1.35	172	P	Pg	22 48 20.2	-1.8
GOTU	Gotland	1.35	172	*e*P	Pg	22 48 20.2	-1.8
FORU	Forsmark	1.38	359	P	Pg	22 48 21.6	-1.1
FORU	Forsmark	1.38	359	P	Pg	22 48 21.6	-1.1
FORU	Forsmark	1.38	359	*e*P	Pg	22 48 21.6	-1.1
AAL	Aland	1.48	37	*e*P	Pn	22 48 22.9	-1.2
AAL	Aland	1.48	37	P	Pn	22 48 23.3	-0.8
AAL	Aland	1.48	37	*e*P	Pn	22 48 23.3	-0.8
AAL				*e*S	Sg	22 48 43.2	-0.6
VSTU	Vaestervik	1.62	214	P	Pn	22 48 25.4	-0.6
VSTU	Vaestervik	1.62	214	P	Pn	22 48 25.4	-0.6

TUL ***16*** *23:01:08.3±0.6, 36°.83N±0°.03×98°.30W±0°.03, h5km±5km, ML3.0, mb_Lg2.7/47(NEIC), Error ellipse: s-maj=4.6km s-min=1.1km az=139.0*

NEIC 16 23:01:09.1±0.4, 36°.83N±0°.02×98°.30W±0°.02, h1km±6km, Error ellipse: s-maj=4.1km s-min=0.4km az=143.0, Oklahoma

| Code | Station

comp=Z,24nm,0.7s
CCM Cathedral Cave 5.74 76 Pn Pn 23 02 34.4 -1.0
CCM lAmb_Lg 23 04 19.0
comp=Z,13nm,0.7s
LCAR Lake Charles 5.81 95 Pn Pn 23 02 35.9 -0.5
Q24A Divide 5.82 294 lAmb_Lg 23 04 25.6
comp=Z,8.0nm,0.9s
435B Jarrell 6.06 174 lAmb_Lg 23 04 25.2
comp=Z,14nm,0.8s
N23A Red Feather La 7.22 307 lAmb_Lg 23 05 16.5
comp=Z,11nm,0.8s
RSSD Black Hills 8.49 331 lAmb_Lg 23 05 48.8
comp=Z,5.4nm,0.9s

*IDC **16** 23:10:43.4±0.9, 35°.68N×3°.59W, h0km, mb3.8/6, mb1 3.7/11, mb1mx3.6/57, mbtmp3.6/11, ML3.5/5, MS2.4/2, Ms1 2.5/2, ms1mx2.2/96, Error ellipse: s-maj=24.2km s-min=12.3km az=99.0*
*MDD **16** 23:10:45.4±0.4, 35°.67N×3°.63W, h2km±3km, mb_Lg3.6/34, Error ellipse: s-maj=2.8km s-min=1.8km az=157.0*
*NEIC **16** 23:10:45.3±0.9, 35°.7N±0°.1×3°.55W±0°.09, h10km±2km, mb4.2/9, Error ellipse: s-maj=17.1km s-min=12.0km az=171.0*
*INMG **16** 23:10:46.9±1.3, 35°.61N×3°.63W, h25km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.6km az=135.0*
*CNRM **16** 23:10:46.1, 35°.64N×3°.62W, h32km, ml3.7*
*SFS **16** 23:10:46.0, 35°.50N×3°.60W, h23km, ML3.7, ALBORAN SUR*
*LDG **16** 23:10:46.5±0.1, 35°.57N×3°.62W, h10km, Ml3.3/7, Error ellipse: s-maj=3.2km s-min=1.9km az=169.0*
*IGIL **16** 23:10:46.5, 35°.52N×3°.60W, h25km, ML3.5*
ISC 16 23:10:46.4±0.5, 35°.67N±0°.02×3°.61W±0°.02, h22km±3km, n156, σ1§97/235, mb4.1/11, 1C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PALE	**Palemas**	**0.53**	**211**	P	**Pb**	**23**	**10 56.6**	**-0.4**
EALB	**Alboran**	**0.54**	**60**	⇑Pg	**Pb**	**23**	**10 56.3**	**-0.9**
EALB				Sg	**Sb**	**23**	**11 04.6**	**+0.2**
EALB				*i* Vmb_Lg		23	11 05.4	
EMEL	**Melilla**	**0.65**	**125**	⇓Pg	**Pb**	**23**	**10 57.6**	**-1.5**
EMEL				Sg	**Sb**	**23**	**11 06.1**	**-1.6**
GOG	**Mont Gurugu**	**0.67**	**132**	P	**Pb**	**23**	**10 57.9**	**-1.6**
GOG				S	**Sb**	**23**	**11 06.8**	**-1.6**
PVLZ	**Peæn de**	**0.76**	**229**	P	**Pb**	**23**	**11 00.5**	**-0.3**
PVLZ				S	**Sb**	**23**	**11 09.0**	**-1.6**
AKLM	**AKL**	**1.18**	**190**	P	**Pn**	**23**	**11 07.5**	**-0.2**
AKLM				S	**Sb**	**23**	**11 19.3**	**-3.6**
ELGU	**Los Guajares,**	**1.20**	**359**	Pg	**Pn**	**23**	**11 06.0**	**-2.0**
ELGU				Sg	**Sb**	**23**	**11 21.2**	**-2.2**
ELGU				*i* Vmb_Lg		23	11 25.4	
EMAL	**Malaga-Limoner**	**1.28**	**329**	P	**Pn**	**23**	**11 07.3**	**-1.7**
EMAL				S	**Sn**	**23**	**11 22.2**	**-3.2**
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**23**	**11 07.6**	**-1.7**
TAF				S	**Sn**	**23**	**11 24.7**	**-1.3**
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**23**	**11 08.0**	**-1.3**
EMIJ	**Mijas**	**1.30**	**314**	Pn	**Pn**	**23**	**11 07.2**	**-2.0**
EMIJ				Pg	**Pn**	**23**	**11 07.3**	**-2.0**
EMIJ				Sn	**Sn**	**23**	**11 23.4**	**-2.7**
EMIJ				*i* Vmb_Lg		23	11 26.0	
EBER	**Berja**	**1.35**	**25**	Pg	**Pn**	**23**	**11 08.4**	**-1.8**
EBER				Pn	**Pb**	**23**	**11 08.5**	**-2.7**
EBER				Sn	**Sn**	**23**	**11 25.4**	**-2.2**
EBER				Sg	**Sb**	**23**	**11 26.9**	**-1.2**
EBER				*i* Vmb_Lg		23	11 28.6	
SMIR	**Smir Dam**	**1.45**	**271**	P	**Pn**	**23**	**11 07.9**	**-3.3**
SMIR	**Smir Dam**	**1.45**	**271**	P	**Pn**	**23**	**11 10.0**	**-1.3**
CEU	**Ceuta**	**1.46**	**280**	P	**Pn**	**23**	**11 08.7**	**-2.7**
CEU				S	**Sn**	**23**	**11 23.1**	**-6.6**
EGOR	**Sierra Gorda,**	**1.49**	**344**	Pn	**Pn**	**23**	**11 11.1**	**-0.9**
EGOR				Sn	**Sb**	**23**	**11 32.3**	**+0.2**
EGOR				*i* Vmb_Lg		23	11 36.1	
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pn**	**23**	**11 12.1**	**-0.3**
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pb**	**23**	**11 15.1**	**+1.0**
EQUE	**Quentar**	**1.54**	**5**	Pn	**Pn**	**23**	**11 12.2**	**-0.4**
EQUE				Sn	**Sn**	**23**	**11 31.5**	**-0.5**
EQUE				*i* Vmb_Lg		23	11 38.4	
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**23**	**11 12.1**	**-1.3**
JBK				S	**Sn**	**23**	**11 29.9**	**-3.3**
JBK	**JBK**	**1.58**	**147**	P	**Pb**	**23**	**11 16.0**	**+1.0**
EJIF	**Jimena Fronter**	**1.70**	**298**	Pn	**Pn**	**23**	**11 13.8**	**-1.0**
ENIJ	**Nijar**	**1.72**	**41**	Pn	**Pn**	**23**	**11 13.1**	**-2.0**
ENIJ				Sn	**Sn**	**23**	**11 34.5**	**-1.9**
ENIJ				*i* Vmb_Lg		23	11 50.6	
LIJA	**Lijar**	**1.91**	**311**	P	**Pn**	**23**	**11 18.8**	**+1.1**
LIJA				S	**Sn**	**23**	**11 38.0**	**-3.1**
SICH	**Sidi Chahed**	**2.10**	**222**	P	**Pb**	**23**	**11 25.0**	**+1.1**
EQES	**Quesada**	**2.17**	**11**	Pn	**Pn**	**23**	**11 22.6**	**+1.2**
EQES				Sn	**Sb**	**23**	**11 49.6**	**-2.0**
EQES				*i* Vmb_Lg		23	11 52.4	
ESPR	**Espera**	**2.18**	**304**	Pn	**Pn**	**23**	**11 22.3**	**+1.0**
ESPR				Sn	**Sb**	**23**	**11 49.7**	**-1.9**
ESPR				*i* Vmb_Lg		23	11 55.1	
LCRM	**LCR**	**2.23**	**208**	P	**Pn**	**23**	**11 22.5**	**+0.3**
LCRM	**LCR**	**2.23**	**208**	P	Pb	23	11 32.0	+5.9
IFR	**Ifrane**	**2.49**	**211**	P	**Pn**	**23**	**11 25.4**	**-0.4**
IFR				S	**Sn**	**23**	**11 53.7**	**-1.9**
TLOR	**Lorca, Murcia**	**2.51**	**37**	Sn	**Sn**	**23**	**11 55.5**	**-0.3**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**23**	**11 27.3**	**0.0**
EADA				Sn	**Sn**	**23**	**11 59.4**	**+1.0**
EADA				*i* Vmb_Lg		23	12 07.7	
EZAR	**Zarzadilla de**	**2.68**	**34**	Pn	**Pn**	**23**	**11 27.5**	**-0.9**
EZAR				Sn	**Sn**	**23**	**11 59.2**	**-1.1**
ECAB	**El Cabril**	**2.81**	**329**	Pn	**Pn**	**23**	**11 30.1**	**+0.1**
ECAB				Sn	**Sn**	**23**	**12 03.2**	**0.0**
ECAB				Sg	**Sb**	**23**	**12 10.5**	**+0.7**
ECAB				*i* Vmb_Lg		23	12 13.6	
CART	**Cartagena**	**2.84**	**47**	P	**Pn**	**23**	**11 29.5**	**-0.9**
CART				S	**Sn**	**23**	**11 57.7**	**-6.2**
CART	**Cartagena**	**2.84**	**47**	Pn	**Pn**	**23**	**11 29.5**	**-0.9**
CART	**Cartagena**	**2.84**	**47**	P	**Pn**	**23**	**11 29.1**	**-1.3**
CZR	**Col de Zad**	**2.89**	**205**	P	**Pn**	**23**	**11 32.0**	**+0.6**
TDRA	**Tendrara**	**2.93**	**153**	P	**Pn**	**23**	**11 32.0**	**+0.1**
TDRA				S	**Sn**	**23**	**12 05.1**	**-1.4**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**23**	**11 32.7**	**+0.6**
MDT	**Midelt**	**2.97**	**197**	Pn	**Pn**	**23**	**11 32.2**	**-0.1**
	1.4nm,0.3s,baz=139,slow=21,SNR=53							
MDT				Sn	**Sn**	**23**	**12 09.6**	**+2.3**
	4.7nm,0.3s,baz=126,slow=16,SNR=4.4							
MDT				Lg	Lg	23	12 17.2	
	12nm,0.3s,baz=257,slow=23,SNR=5.7							
MDT				LR	LR	23	12 42.2	
	comp=Z,60nm,21.7s,baz=58,slow=40							
MDT	**Midelt**	**2.97**	**197**	P	**Pn**	**23**	**11 32.8**	**+0.5**
MDT	**Midelt**	**2.97**	**197**	P	**Pb**	**23**	**11 37.4**	**-1.2**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**23**	**11 35.2**	**-0.6**
EMIN				Sn	**Sn**	**23**	**12 10.4**	**-3.3**
EMIN				*i* Vmb_Lg		23	12 13.4	
ETOB	**Tobarra**	**3.39**	**28**	Pn	**Pn**	**23**	**11 38.7**	**+0.6**
ETOB				Sn	**Sn**	**23**	**12 19.1**	**+1.3**
ETOB				*i* Vmb_Lg		23	12 42.3	
EGRO	**El Granado**	**3.63**	**302**	Pn	**Pn**	**23**	**11 40.7**	**-0.6**
EGRO				Sn	**Sn**	**23**	**12 22.2**	**-1.4**
EGRO				*i* Vmb_Lg		23	12 25.8	
PBAR	**Barrancos**	**3.72**	**313**	*e*Pn	**Pn**	**23**	**11 42.0**	**-0.5**
PBAR				*e*Sn	**Sn**	**23**	**12 23.8**	**-1.8**
PBAR				A	A	23	12 25.9	
	45nm,0.6s							
PVAQ	**Vaqueiros**	**3.74**	**299**	*e*Pn	**Pn**	**23**	**11 42.1**	**-0.7**
PVAQ				*e*Sn	**Sn**	**23**	**12 23.9**	**-2.2**
PVAQ				A	A	23	12 34.1	
	50nm,0.6s							
PVAQ	**Vaqueiros**	**3.74**	**299**		**Pn**	**23**	**11 42.1**	**-0.7**
PVAQ	**Vaqueiros**	**3.74**	**299**	P	**Pn**	**23**	**11 42.0**	**-0.7**
PBDV	**Barranco-do-Ve**	**3.82**	**295**	*e*Pn	**Pn**	**23**	**11 43.4**	**-0.6**
PBDV				*e*Sn	**Sn**	**23**	**12 26.4**	**-1.9**
PBDV				A	A	23	12 35.2	
	61nm,0.4s							
AFON	**Font Roja**	**3.86**	**38**	Pn	**Pn**	**23**	**11 45.1**	**+0.5**
AFON				Sn	**Sn**	**23**	**12 30.4**	**+1.0**
AFON				*i* Vmb_Lg		23	13 24.5	
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**23**	**11 46.0**	**+0.7**
PAB	**San Pablo**	**3.91**	**352**	P	**Pn**	**23**	**11 45.9**	**+0.6**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**23**	**11 45.6**	**+0.3**
PAB				Sn	**Sn**	**23**	**12 30.7**	**+0.1**
PAB				*i* Vmb_Lg		23	13 06.7	
AVE	**Averroes**	**3.94**	**234**	P	**Pn**	**23**	**11 46.7**	**+1.2**
AVE				S	**Sn**	**23**	**12 30.8**	**-0.3**
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**23**	**11 47.2**	**+0.7**
	2.9nm,0.3s,baz=177,slow=12,SNR=207							
ESDC				Sn	**Sn**	**23**	**12 31.6**	**-1.2**
	2.1nm,0.3s,baz=175,slow=23,SNR=7.4							
ESDC				Lg	Lg	23	12 50.0	
	4.3nm,0.3s,baz=169,slow=27,SNR=9.0							
ESDC				LR	LR	23	13 41.9	
	comp=Z,51nm,18.0s,baz=245,slow=45							
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**23**	**11 46.9**	**+0.4**
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**23**	**11 46.9**	**+0.4**
ESDC				Sn	**Sn**	**23**	**12 31.4**	**-1.5**
ESDC				*i* Vmb_Lg		23	12 50.9	
ESBB	**Sonseca Array**	**4.01**	**356**		**Pn**	**23**	**11 47.4**	**+0.9**
PCVE	**Castro Verde**	**4.07**	**300**	*e*Pn	**Pn**	**23**	**11 46.8**	**-0.5**
PCVE				*e*Sn	**Sn**	**23**	**12 32.7**	**-1.6**
PCVE				A	A	23	12 40.3	
	70nm,0.9s							
EVIV	**Cofrentes, Val**	**4.10**	**28**	Pn	**Pn**	**23**	**11 48.0**	**+0.2**
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**23**	**11 47.5**	**-0.4**
EBAD				Sn	**Sn**	**23**	**12 34.2**	**-1.1**
EBAD				*i* Vmb_Lg		23	12 37.0	
PBEJ	**Beja**	**4.15**	**306**	*e*Pn	**Pn**	**23**	**11 48.0**	**-0.4**
PBEJ				*e*Sn	**Sn**	**23**	**12 34.6**	**-1.7**
PBEJ				A	A	23	12 37.5	
	24nm,0.4s							
MORF	**Marmelete**	**4.38**	**293**	*e*P	**Pn**	**23**	**11 50.7**	**-1.0**
MORF				*e*S	**Sn**	**23**	**12 37.7**	**-4.4**
MORF				IAML		23	12 44.8	
	comp=N,85nm,0.5s							
MORF	**Marmelete**	**4.38**	**293**	*e*Pn	**Pn**	**23**	**11 51.3**	**-0.4**
MORF				*e*Sn	**Sn**	**23**	**12 40.1**	**-2.0**
MORF				A	A	23	12 45.0	
	comp=N,26nm,0.3s							
ECHE	**Chera**	**4.44**	**27**	Pn	**Pn**	**23**	**11 52.8**	**+0.3**
ECHE				*i* Vmb_Lg		23	13 28.2	
PFVI	**Vila Bisbo**	**4.46**	**291**	*e*Pn	**Pn**	**23**	**11 52.1**	**-0.6**
PFVI				*e*Sn	**Sn**	**23**	**12 41.5**	**-2.4**
PFVI				A	A	23	12 48.1	
	comp=N,45nm,0.6s							
PFVI	**Vila Bisbo**	**4.46**	**291**	Pn	**Pn**	**23**	**11 53.0**	**+0.3**
PFVI	**Vila Bisbo**	**4.46**	**291**	P	**Pn**	**23**	**11 53.1**	**+0.4**
PESTR	**Estremoz**	**4.50**	**316**	*e*Pn	**Pn**	**23**	**11 53.2**	**-0.1**
PESTR				*e*Sn	**Sn**	**23**	**12 43.6**	**-1.4**
PESTR				A	A	23	12 56.7	
	comp=N,29nm,0.6s							
PESTR	**Estremoz**	**4.50**	**316**	Pn	**Pn**	**23**	**11 53.7**	**+0.4**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**23**	**11 53.3**	**-0.1**
PESTR				S	**Sn**	**23**	**12 43.0**	**-2.1**
EVO	**Evora**	**4.54**	**310**	P	**Pn**	**23**	**11 53.4**	**-0.3**
EVO				S	**Sn**	**23**	**12 43.3**	**-2.5**
EVO	**Evora**	**4.54**	**310**	*e*Pn	**Pn**	**23**	**11 53.7**	**0.0**
EVO				*e*Sn	**Sn**	**23**	**12 43.3**	**-2.5**
EVO				A	A	23	12 50.8	
	comp=N,40nm,0.5s							
PNCL	**Nicolau / Gran**	**4.64**	**303**	*e*Pn	**Pn**	**23**	**11 54.6**	**-0.5**
PNCL				*e*Sn	**Sn**	**23**	**12 45.9**	**-2.4**
PNCL				A	A	23	12 55.0	
	comp=N,35nm,0.5s							
UCM	**Universidad Co**	**4.64**	**3**	P	**Pn**	**23**	**11 56.2**	**+1.0**
UCM				S	**Sn**	**23**	**12 53.4**	**+5.0**
EPLA	**Plasencia**	**4.80**	**337**	Pn	**Pn**	**23**	**11 58.0**	**+0.6**
EPLA				Sn	**Sn**	**23**	**12 51.3**	**-1.2**
EPLA				*i* Vmb_Lg		23	13 26.2	
PMRV	**Marv??o**	**4.81**	**322**	*e*Pn	**Pn**	**23**	**11 58.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**23**	**12 50.5**	**-2.1**
PMRV				A	A	23	13 03.6	
	comp=N,30nm,0.7s							
GUD	**Guadarrama**	**4.98**	**355**	Pn	**Pn**	**23**	**12 00.3**	**+0.3**
GUD				Sn	**Sn**	**23**	**12 56.1**	**-0.9**
GUD				*i* Vmb_Lg		23	13 34.0	
PMTG	**Montargil**	**5.00**	**314**	*e*Pn	**Pn**	**23**	**12 00.2**	**0.0**
PMTG				*e*Sn	**Sn**	**23**	**12 55.4**	**-1.9**
PMTG				A	A	23	13 28.0	
	comp=N,25nm,0.6s							
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**23**	**12 03.2**	**+0.7**
PCBR				*e*Sn	**Sn**	**23**	**12 58.2**	**-3.2**
PCBR				A	A	23	13 01.9	
	comp=N,39nm,0.6s							
PACT	**Alcochete**	**5.19**	**308**	*e*Pn	**Pn**	**23**	**12 03.3**	**+0.6**
PACT				*e*Sn	**Sn**	**23**	**13 01.0**	**-1.0**
PACT				A	A	23	13 18.0	
	comp=N,42nm,0.6s							
ETOR	**Torete**	**5.28**	**13**	Pn	**Pn**	**23**	**12 04.8**	**+0.7**
ETOR				Sn	**Sn**	**23**	**13 04.0**	**-0.3**
ETOR				*i* Vmb_Lg		23	13 57.4	
EMOS	**Mosqueruela**	**5.30**	**27**	Pn	**Pn**	**23**	**12 05.2**	**+0.8**
EMOS				Sn	**Sn**	**23**	**13 04.8**	**0.0**
EMOS				*i* Vmb_Lg		23	13 27.8	
PMST	**Lisbon--Monsan**	**5.40**	**306**	*e*Pn	**Pn**	**23**	**12 06.1**	**+0.4**
PMST				*e*Sn	**Sn**	**23**	**13 05.2**	**-2.0**
PMST				A	A	23	13 18.9	
	comp=N,29nm,0.6s							
ECOL	**Islas Columbre**	**5.42**	**38**	Pn	**Pn**	**23**	**12 06.0**	**+0.1**
PMAFR	**Mafra**	**5.59**	**308**	*e*Pn	**Pn**	**23**	**12 08.1**	**-0.1**
PMAFR				*e*Sn	**Sn**	**23**	**13 08.7**	**-3.0**
PMAFR				A	A	23	13 12.3	
	comp=N,50nm,0.6s							
PSBE	**So Bento**	**5.63**	**314**	*e*Pn	**Pn**	**23**	**12 09.2**	**+0.4**
PSBE				*e*Sn	**Sn**	**23**	**13 10.3**	**-2.5**
PSBE				A	A	23	13 50.8	
	comp=N,24nm,0.7s							
MTE	**Manteigas**	**5.65**	**328**	*e*Pn	**Pn**	**23**	**12 10.3**	**+1.1**
MTE				*e*Sn	**Sn**	**23**	**13 11.1**	**-2.3**
MTE				A	A	23	13 46.0	
	comp=N,57nm,0.6s							
MTE	**Manteigas**	**5.65**	**328**	Pn	**Pn**	**23**	**12 09.6**	**+0.4**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**23**	**12 12.2**	**+0.5**
PCAS				*e*Sn	**Sn**	**23**	**13 14.9**	**-3.1**
PCAS				A	A	23	13 51.0	
	comp=N,28nm,0.6s							
COI	**Coimbra**	**5.91**	**321**	*e*Pn	**Pn**	**23**	**12 14.2**	**+1.6**
COI				*e*Sn	**Sn**	**23**	**13 17.1**	**-2.6**
COI	**Coimbra**	**5.91**	**321**	Pn	**Pn**	**23**	**12 13.6**	**+1.0**
PVIS	**Viseu**	**6.06**	**327**	*e*Pn	**Pn**	**23**	**12 15.4**	**+0.6**
PVIS				*e*Sn	**Sn**	**23**	**13 20.1**	**-3.4**
PVIS				A	A	23	13 24.4	
	comp=N,30nm,0.5s							
MVO	**Moncorvo**	**6.11**	**335**	*e*Pn	**Pn**	**23**	**12 16.2**	**+0.8**
MVO				*e*Sn	**Sn**	**23**	**13 21.9**	**-2.7**
MVO				A	A	23	14 03.0	
	comp=N,32nm,0.5s							
ERTA	**Horta de San J**	**6.12**	**29**	Pn	**Pn**	**23**	**12 16.4**	**+0.9**
ERTA				*i* Vmb_Lg		23	15 15.9	
EAH	**EAH**	**6.40**	**233**	P	**Pn**	**23**	**12 19.0**	**-0.4**
EAH				S	**Sn**	**23**	**13 25.9**	**-5.8**
PVRL	**Vila Real**	**6.46**	**331**	*e*Pn	**Pn**	**23**	**12 20.8**	**+0.6**
PVRL				*e*Sn	**Sn**	**23**	**13 29.7**	**-3.5**
PVRL				A	A	23	13 37.7	
	comp=N,32nm,0.5s							
POLO	**Lamas de Olo**	**6.57**	**331**	*e*Pn	**Pn**	**23**	**12 22.9**	**+1.1**
POLO				*e*Sn	**Sn**	**23**	**13 32.3**	**-3.8**
POLO				A	A	23	13 38.9	
	comp=N,8.6nm,0.6s							
PBRG	**Braganca**	**6.60**	**339**	*e*Pn	**Pn**	**23**	**12 22.4**	**+0.3**
PBRG				*e*Sn	**Sn**	**23**	**13 35.3**	**-1.3**
EPOB	**Poblet**	**6.76**	**32**	Pn	**Pn**	**23**	**12 24.9**	**+0.6**
EPOB				*i* Vmb_Lg		23	16 33.6	
PCAB	**Cabril**	**6.95**	**332**	*e*Pn	**Pn**	**23**	**12 28.0**	**+1.1**
PCAB				*e*Sn	**Sn**	**23**	**13 42.2**	**-3.1**
ELOB	**Lobios**	**7.10**	**332**	Pn	**Pn**	**23**	**12 29.5**	**+0.5**
ELOB				Sn	**Sn**	**23**	**13 41.8**	**-7.2**
ELOB				*i* Vmb_Lg		23	14 04.9	
PGAV	**Gavieira, Arco**	**7.26**	**331**	*e*Pn	**Pn**	**23**	**12 32.4**	**+1.1**
PGAV				*e*Sn	**Sn**	**23**	**13 50.3**	**-2.8**
EORO	**Oroz-Betelu**	**7.43**	**13**	Pn	**Pn**	**23**	**12 35.3**	**+1.8**
EORO				*i* Vmb_Lg		23	15 08.8	
ELAN	**Lanestosa**	**7.55**	**1**	Pn	**Pn**	**23**	**12 36.1**	**+0.9**
ELAN				*i* Vmb_Lg		23	15 23.9	
ETSF	**Etsaut**	**7.59**	**17**	*e*Pn	**Pn**	**23**	**12 37.1**	**+1.3**
ETSF	**Etsaut**	**7.59**	**17**	*e*Pg	Pb	23	13 07.4	+10
ETSF				*e*Sn	**Sn**	**23**	**13 59.2**	**-2.0**
	comp=N,2.7nm,0.4s							
SJPF	**Ste Jean**	**7.66**	**13**	*e*Pn	**Pn**	**23**	**12 37.3**	**+0.7**
SJPF				*e*Sn	**Sn**	**23**	**14 00.7**	**-2.0**
	comp=N,0.1nm,0.1s							
EALK	**Alkurruntz**	**7.71**	**12**	Pn	**Pn**	**23**	**12 38.4**	**+1.0**
EALK				Sn	**Sn**	**23**	**14 00.0**	**-4.1**
EARI	**Arriondas**	**7.72**	**351**	Pn	**Pn**	**23**	**12 38.1**	**+0.5**
EARI				Sn	**Sn**	**23**	**14 00.0**	**-4.3**
EARI				*i* Vmb_Lg		23	15 58.7	
EAGO	**Agolada(Pontev**	**7.92**	**335**	Pn	**Pn**	**23**	**12 41.4**	**+1.1**
EAGO				Sn	**Sn**	**23**	**14 05.0**	**-4.3**
EAGO				*i* Vmb_Lg		23	15 07.8	
EPF	**Esparros**	**7.96**	**21**	*e*Pn	**Pn**	**23**	**12 41.4**	**+0.6**
EPF	**Esparros**	**7.96**	**21**	*e*P	Pn	23	12 46.0	+5.2
EPF				*e*Sn	**Sn**	**23**	**14 07.1**	**-3.1**
	comp=N,0.4nm,0.2s							
MTLF	**Montolieu**	**8.88**	**29**	*e*Pn	**Pn**	**23**	**12 53.6**	**+0.2**
MTLF	**Montolieu**	**8.88**	**29**	*e*P	Pn	23	12 59.9	+6.5
LFF	**La Frestale**	**9.83**	**18**	*e*Pn	**Pn**	**23**	**13 08.1**	**+1.7**
LASF	**Ste Croix**	**10.16**	**32**	*e*Pn	**Pn**	**23**	**13 10.5**	**-0.5**
CAF	**Calviac**	**10.20**	**23**	*e*P	Pn	23	13 18.3	+6.7
RJF	**Les Rejaudoux**	**10.38**	**20**	*e*P	Pn	23	13 20.4	+6.5
KEST	**Kesra**	**10.53**	**86**	Pn	**Pn**	**23**	**13 15.5**	**-0.6**
	comp=N,0.1nm,0.3s,baz=42,slow=12,SNR=2.1							
KEST				Sn	**Sn**	**23**	**15 13.6**	**0.0**
	comp=N,0.0nm,0.3s,baz=266,slow=12,SNR=1.5							
SMRF	**Simiane la Rot**	**10.88**	**38**	*e*Pn	**Pn**	**23**	**13 21.8**	**+0.9**
LMR	**La Mourre**	**10.93**	**43**	*e*Pn	**Pn**	**23**	**13 22.2**	**+0.8**
VSL	**Villasalto**	**10.99**	**66**	Pn	**Pn**	**23**	**13 21.6**	**-0.7**
MFF	**Saint Martin d**	**11.23**	**12**	*e*Pn	**Pn**	**23**	**13 25.0**	**-0.5**
MFF				*e*Sn	**Sn**	**23**	**15 22.9**	**-7.3**
	comp=N,1.1nm,0.5s							
SBF	**Sospel**	**11.79**	**43**	*e*Pn	**Pn**	**23**	**13 33.4**	**+0.2**
PGF	**Pioggiola**	**11.95**	**51**	*e*Pn	**Pn**	**23**	**13 36.6**	**+1.1**
PGF				*e*Sn	**Sn**	**23**	**15 41.8**	**-6.4**
	comp=N,1.0nm,0.3s							
QUIF	**Quistinic**	**12.24**	**1**	*e*Pn	**Pn**	**23**	**13 40.0**	**+0.7**
QUIF				*e*Sn	**Sn**	**23**	**15 48.6**	**-6.4**
	comp=N,7.8nm,0.8s							
SSF	**Saint Saulge**	**12.56**	**23**	*e*P	P	23	13 50.1	-5.1
SGMF	**Saint Gilles**	**12.60**	**3**	*e*Pn	**Pn**	**23**	**13 43.8**	**-0.4**
ROSF	**Rostrenen**	**12.66**	**1**	*e*Pn	**Pn**	**23**	**13 45.4**	**+0.3**
ROSF				*e*Sn	**Sn**	**23**	**15 59.5**	**-5.8**
	comp=N,4.1nm,0.5s							
LDF	**La Druitiere**	**13.17**	**10**	*e*P	**P**	**23**	**13 59.1**	**-2.8**
SFTF	**Sexfontaines**	**14.07**	**24**	*e*Pn	**Pn**	**23**	**14 04.7**	**+0.4**
HINF	**Hinteralfeld**	**14.41**	**29**	*e*P	**P**	**23**	**14 12.8**	**-3.0**
GERES	**GERESS Array B**	**18.31**	**39**	P	**Pn**	**23**	**14 58.3**	**-0.7**
	comp=N,0.1nm,0.3s,baz=243,slow=11,SNR=1.7							
ESK	**Eskdalemuir**	**19.65**	**1**	P	**P**	**23**	**15 12.2**	**-1.3**
EKA	**Eskdalemuir Ar**	**19.67**	**1**	P	**P**	**23**	**15 13.9**	**+0.2**
	baz=175,slow=11,SNR=5.0							
TOA0	**Torodi Ar. Sit**	**22.93**	**167**	P	**P**	**23**	**15 49.6**	**+0.5**
TOA0				lAmb	lAmb	23	15 58.6	
	comp=Z,8.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**22.93**	**167**	P	**P**	**23**	**15 50.1**	**+1.0**
	comp=Z,4.1nm,1.0s,baz=350,slow=9.3,SNR=11							
BUR08	**Bucovina Ar. S**	**24.47**	**52**	P	**P**	**23**	**16 04.2**	**+0.3**
BURAR	**Bucovina Array**	**24.48**	**52**	P	**P**	**23**	**16 04.1**	**+0.2**
HFS	**Hagfors**	**26.91**	**19**	P	**P**	**23**	**16 26.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=236,slow=10,SNR=1.7							
ARU	**Arti**	**46.06**	**43**	P	**P**	**23**	**19 07.7**	**-0.7**
ARU				lAmb	lAmb	23	19 08.2	
	comp=Z,2.0nm,0.8s							
ABKAR	**Akbulak array**	**47.45**	**53**	P	**P**	**23**	**19 19.2**	**-0.1**
ABKAR	**Akbulak array**	**47.45**	**53**	P	**P**	**23**

comp=Z,18nm,1.5s
M24K Tolsona, Glenn 18.15 44 P **Pn** **23 17 27.0 -0.2**
M24K IAmb IAmb 23 17 50.6
comp=Z,15nm,0.9s
NEA2 Nenana 18.21 35 P **P** **23 17 27.4 -0.4**
I23K Minto, Yukon-K 18.43 33 P **Pn** **23 17 30.9 +0.5**
I23K IAmb IAmb 23 17 36.5
comp=Z,10nm,0.7s
WRH Wood River Hil 18.49 36 P **P** **23 17 29.7 -1.2**
CCB Clear Creek Bu 18.69 36 P **P** **23 17 31.8 -1.3**
CCB IAmb IAmb 23 17 36.1
comp=Z,7.5nm,0.5s
MDM Murphy Dome 18.71 34 P **P** **23 17 32.7 -0.6**
HDA Harding Lake 18.88 37 P **P** **23 17 34.9 -0.4**
HDA IAmb IAmb 23 17 37.3
comp=Z,13nm,0.4s
POKR Poker Plat Res 19.08 35 P **P** **23 17 36.5 -0.8**
IL31 19.09 36 P **P** **23 17 36.2 -1.3**
IL31 IAmb IAmb 23 17 39.0
comp=Z,7.9nm,0.5s
ILAR Eielson Array 19.09 36 P **P** **23 17 36.4 -1.2**
comp=Z,1.9nm,0.3s,baz=228,slow=9.6,SNR=124
ILAR Eielson Array 19.09 36 P **P** **23 17 36.5 -1.0**
BILL Bilibino 19.27 337 P **P** **23 17 38.8 -0.5**
H24K Noodor Dome 19.34 32 P **P** **23 17 40.7 +0.5**
H24K IAmb IAmb 23 17 56.3
comp=Z,10nm,0.8s
COLD Coldfoot 19.49 27 **Pn** **23 17 43.4 +0.2**
MENT Mentasta 19.52 43 P **P** **23 17 42.9 +0.6**
J25K Salcha River, 19.58 37 P **P** **23 17 42.0 -0.9**
J25K IAmb IAmb 23 17 44.1
comp=Z,16nm,0.6s
DOT Dot Lake 19.66 41 P **P** **23 17 43.6 -0.2**
SCRK Sand Creek 19.83 40 P **P** **23 17 44.9 -0.8**
SCRK IAmb IAmb 23 17 49.5
comp=Z,8.5nm,0.6s
PRP Porcupine Dome 19.97 35 P **P** **23 17 48.0 +0.8**
PRP IAmb IAmb 23 17 51.9
comp=Z,6.2nm,0.7s
M27K Edge Creek, AK 20.12 45 P **P** **23 17 49.1 +0.2**
BCAR Beaver Creek A 20.39 43 P **P** **23 17 52.8 +1.0**
TOLK Toolik Lake Re 20.63 25 P **P** **23 17 54.1 -0.1**
TOLK IAmb IAmb 23 18 02.8
comp=Z,8.4nm,1.1s
FYU Fort Yukon 20.63 32 P **P** **23 17 55.4 +1.2**
FYU IAmb IAmb 23 18 00.2
comp=Z,8.2nm,0.6s
EGAK Eagle 21.28 39 P **P** **23 18 01.1 -0.1**
BMAR Burnt Mountain 21.33 31 P **P** **23 18 02.9 +1.2**
DAWY Dawson 21.74 42 P **P** **23 18 05.5 -0.6**
DAWY IAmb IAmb 23 18 10.3
comp=Z,3.9nm,0.6s
HYT Haines Junctio 21.80 51 P **P** **23 18 06.9 0.0**
HYT IAmb IAmb 23 18 11.3
comp=Z,4.9nm,0.7s
EPYK Eagle Plains 23.59 37 P **P** **23 18 25.1 -0.3**
EPYK IAmb IAmb 23 18 27.9
comp=Z,5.2nm,0.5s
P33M Teslin, Yukon 24.04 53 P **P** **23 18 29.8 +0.1**
P33M IAmb IAmb 23 18 40.3
comp=Z,5.2nm,1.0s
DIB Dawson Inlet, 24.84 70 P **P** **23 18 37.5 +0.6**
INK Inuvik 25.44 34 P **P** **23 18 41.1 -1.1**
comp=Z,2.0nm,0.5s,baz=230,slow=10,SNR=7.1
INK Inuvik 25.44 34 P **P** **23 18 42.1 -0.1**
INK IAmb IAmb 23 18 43.4
comp=Z,8.2nm,1.2s
DLBC Dease Lake 25.48 57 P **P** **23 18 43.6 +0.9**
comp=Z,3.2nm,0.5s,baz=224,slow=6.8,SNR=8.5
GRNB Grenville Isla 26.17 68 P **P** **23 18 50.3 +1.3**
GRNB IAmb IAmb 23 19 01.9
comp=Z,15nm,1.5s
A36M Sachs Harbour 29.35 28 P **P** **23 19 17.8 +0.6**
A36M IAmb IAmb 23 19 43.9
comp=Z,9.1nm,1.4s
YAK Yakutsk 31.82 312 LR LR 23 32 46.6
comp=Z,34nm,19.1s,baz=96,slow=37
YKA Yellowknife Ar 32.69 47 P **P** **23 19 47.0 +0.3**
comp=Z,1.1nm,0.5s,baz=275,slow=7.8,SNR=28
YKA PcP **PcP** **23 22 31.5 0.0**
comp=Z,0.2nm,0.4s,baz=285,slow=2.9,SNR=3.9
YKA Yellowknife Ar 32.69 47 P **P** **23 19 46.4 -0.2**
KLR Kul'dur 34.32 288 P **P** **23 20 00.1 -0.9**
comp=Z,1.7nm,0.5s,baz=61,slow=6.8,SNR=13
H11N2 WAKE ISLAND Hy 35.29 213 T T 23 58 07.7
baz=21,slow=75,SNR=7.5
H11N3 WAKE ISLAND Hy 35.30 213 T T 23 58 19.6
baz=21,slow=75,SNR=7.9
H11N1 WAKE ISLAND Hy 35.31 213 T T 23 58 20.4
baz=21,slow=75,SNR=6.8
NEW Newport 35.68 72 P **P** **23 20 12.2 -0.6**
comp=Z,1.7nm,0.4s,baz=294,slow=2.8,SNR=4.4
NEW Newport 35.68 72 P **P** **23 20 11.9 -0.9**
NEW IAmb IAmb 23 20 31.0
comp=Z,4.1nm,1.1s
EDM Edmonton 35.80 63 P **P** **23 20 15.1 +1.3**
H11S1 WAKE ISLAND Hy 36.49 213 T T 23 59 33.5
baz=20,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 36.51 213 T T 23 59 35.2
baz=20,slow=76,SNR=37
H11S3 WAKE ISLAND Hy 36.51 213 T T 23 59 35.9
baz=20,slow=76,SNR=18
USA0B Ussuriysk Arra 36.57 280 P **P** **23 20 18.5 -1.9**
USA0B IAmb IAmb 23 20 32.3
comp=Z,5.9nm,0.7s
USRK Ussuriysk Ar. 36.57 280 P **P** **23 20 18.2 -2.2**
MCMT McKenzie Canyo 39.94 75 P **P** **23 20 49.5 +0.5**
EGMT Eagleton 40.14 69 P **P** **23 20 50.4 0.0**
EGMT IAmb IAmb 23 21 08.9
comp=Z,12nm,0.8s
NVAR Mina Array Bea 40.22 87 P **P** **23 20 52.2 +0.8**
comp=Z,0.5nm,0.8s,baz=287,slow=9.3,SNR=3.7
NVAR Mina Array Bea 40.22 87 P **P** **23 20 52.5 +1.2**
FFC Flin Flon 41.31 56 P **P** **23 21 00.5 +0.6**
FFC IAmb IAmb 23 21 01.7
comp=Z,4.2nm,0.7s
KSRS Korea Array 42.96 275 P **P** **23 21 13.7 +0.1**
comp=Z,2.0nm,0.7s,baz=52,slow=7.5,SNR=8.7
KSAR Wonju Array Be 42.99 275 P **P** **23 21 12.8 -1.0**
PD31 Pinedale Array 43.06 76 P **P** **23 21 15.0 +0.4**
PDAR Pinedale Array 43.06 76 P **P** **23 21 14.8 +0.2**
comp=Z,1.4nm,0.5s,baz=314,slow=3.4,SNR=20
PDAR Pinedale Array 43.06 76 P **P** **23 21 14.4 -0.2**
FCC Fort Churchill 43.41 48 P **P** **23 21 17.2 +0.3**
FCC IAmb IAmb 23 21 18.3
comp=Z,4.4nm,0.6s
NRIK Noril'sk 45.93 331 P **P** **23 21 36.2 -0.7**
comp=Z,1.7nm,0.3s,baz=73,slow=8.7,SNR=6.2
NRIK Noril'sk 45.93 331 P **P** **23 21 36.8 0.0**
NRIK IAmb IAmb 23 21 37.7
comp=Z,3.5nm,0.8s
ULM Lac du Bonnet 46.77 59 P **P** **23 21 43.7 0.0**
comp=Z,3.1nm,0.4s,baz=298,slow=6.2,SNR=5.9
ULM Lac du Bonnet 46.77 59 P **P** **23 21 43.7 0.0**
ULN Ulaanbaatar 49.14 299 P **P** **23 22 02.3 0.0**
ULN IAmb IAmb 23 22 03.6
comp=Z,1.7nm,0.8s
SONM Songino Array 49.52 299 P **P** **23 22 05.1 0.0**
comp=Z,1.4nm,0.4s,baz=49,slow=8.1,SNR=6.1
SONM Songino Array 49.52 299 P **P** **23 22 05.5 +0.4**
SONM IAmb IAmb 23 22 15.7
comp=Z,3.0nm,1.2s
ECSD EROS Data Cent 50.14 67 P **P** **23 22 09.9 +0.2**
ECSD IAmb IAmb 23 22 10.4
comp=Z,8.7nm,1.4s
F36A Milaca 50.59 63 P **P** **23 22 13.3 +0.2**
F36A IAmb IAmb 23 22 33.6
comp=Z,8.9nm,1.2s
HHC Hu-ho-hao-te 50.82 289 *eP* **P** **23 22 13.9 -1.2**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,120nm,7.9s
E43A Lone Tree Farm 53.84 59 P **P** **23 22 37.6 +0.4**
TX32 Lajitas Array 55.32 85 P **P** **23 22 48.3 0.0**
TX32 IAmb IAmb 23 23 06.6
comp=Z,2.2nm,1.1s
TXAR Lajitas Array 55.32 85 P **P** **23 22 48.1 -0.2**
comp=Z,0.3nm,0.6s,baz=303,slow=7.2,SNR=5.3
TXAR Lajitas Array 55.32 85 P **P** **23 22 47.8 -0.6**
SCHQ Schefferville 57.76 41 P **P** **23 23 05.0 -0.1**
comp=Z,1.8nm,0.5s,baz=302,slow=7.0,SNR=9.6
SCHQ Schefferville 57.76 41 P **P** **23 23 05.6 +0.5**
SCHQ IAmb IAmb 23 23 09.8
comp=Z,8.3nm,1.3s

KEV Kevo 58.10 352 P **P** **23 23 08.2 +0.9**
ARCES ARCESS Array B 58.45 352 P **P** **23 23 09.4 -0.4**
comp=Z,2.0nm,0.7s,baz=14,slow=6.2,SNR=6.0
ARCES PcP **PcP** **23 23 59.5 -0.5**
comp=Z,2.4nm,0.6s,baz=11,slow=5.5,SNR=7.9
GTA Gaotai 58.57 295 *eP* **P** **23 23 11.3 +0.1**
GTA pP pP 23 23 15.8 -5.2
GTA sP sP 23 23 18.8 -7.3
GTA pmax pmax
comp=Z,4.0nm,0.7s
SADO Sadowa 59.03 56 P **P** **23 23 14.5 +0.3**
KURK Kurchatov 61.27 316 P **P** **23 23 29.7 +0.3**
KURK IAmb IAmb 23 23 30.4
comp=Z,3.3nm,0.7s
LONY Lake Ozonia 61.46 53 P **P** **23 23 30.5 -0.3**
WMQ Urumqi 62.01 306 *eP* **P** **23 23 36.1 +1.5**
MK31 Makanchi Array 62.49 311 P **P** **23 23 37.2 -0.5**
MK31 IAmb IAmb 23 23 37.9
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 62.49 311 P **P** **23 23 37.1 -0.7**
comp=Z,1.1nm,0.4s,baz=48,slow=6.2,SNR=42
MKAR Makanchi Array 62.49 311 P **P** **23 23 37.3 -0.4**
SSPA Standing Stone 62.59 59 P **P** **23 23 38.9 +0.4**
MAKZ Makanchi 62.63 312 P **P** **23 23 38.0 -0.7**
MAKZ IAmb IAmb 23 23 45.6
comp=Z,2.0nm,1.0s
ARU Arti 64.16 331 P **P** **23 23 48.3 -0.2**
FIA1 FINESS Array S 66.29 350 P **P** **23 24 01.4 -0.9**
FIA1 IAmb IAmb 23 24 16.2
comp=Z,5.6nm,1.1s
FINES FINESS Array B 66.29 350 P **P** **23 24 01.9 -0.4**
comp=Z,4.6nm,1.1s,baz=17,slow=6.0,SNR=8.4
PZH PanZhiHua 66.58 283 P **P** **23 24 06.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,5.3s
NC303 NORSAR Array S 67.52 357 P **P** **23 24 10.1 -0.1**
NB2 NORSAR Subarra 67.71 358 P **P** **23 24 10.9 -0.5**
comp=Z,0.9nm,0.7s,baz=4.1,slow=6.9
NOA NORSAR Array B 67.71 358 P **P** **23 24 11.3 0.0**
comp=Z,0.5nm,0.6s,baz=3.4,slow=7.5,SNR=4.6
KDJ Kajisay 68.41 311 P **P** **23 24 16.8 +0.5**
KDJ IAmb IAmb 23 24 23.2
comp=Z,4.4nm,1.1s
HFS Hagfors 68.53 356 P **P** **23 24 15.6 -0.8**
comp=Z,0.9nm,0.5s,baz=151,slow=3.4,SNR=7.3
BOOM Boomskoye usch 68.71 312 P **P** **23 24 18.8 +0.7**
AAK Ala-Archa 69.26 313 P **P** **23 24 22.1 +0.6**
ABKAR Akbulak array 69.75 326 P **P** **23 24 24.6 +0.3**
ABKAR IAmb IAmb 23 24 25.9
comp=Z,2.6nm,0.8s
ABKAR Akbulak array 69.75 326 P **P** **23 24 24.3 +0.1**
LSA Lhasa 70.49 293 P **P** **23 24 30.4 +0.8**
KKAR Karatay Array 70.67 316 P **P** **23 24 29.9 -0.1**
KSH Kashi 71.02 310 P **P** **23 24 36.3 +4.0**
KSH sP pP 23 24 43.8 +1.6
KSH PcP **PcP** **23 24 58.0 +5.5**
KSH pmax pmax
comp=Z,6.0nm,0.7s
PABE Paberze 72.35 350 P **P** **23 24 39.8 0.0**
BTK Batken 72.98 314 P **P** **23 24 44.3 +0.3**
BTK IAmb IAmb 23 24 45.5
comp=Z,5.9nm,1.1s
GAR Garm 74.07 313 P **P** **23 24 50.9 +0.5**
TAPN Taplejung 74.23 294 *eP* **P** **23 24 52.8 +1.0**
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 74.29 280 P **P** **23 24 52.2 +0.4**
comp=Z,1.0nm,0.4s,baz=28,slow=7.1,SNR=4.7
ODAN Odare 74.79 294 *eP* **P** **23 24 56.0 +1.0**
GUN Gumba 74.84 296 *eP* **P** **23 24 56.2 +0.8**
JIRN Jiri 74.86 295 *eP* **P** **23 24 56.6 +1.1**
comp=Z,33nm,0.6s
CHGR Chuyangaron 74.87 314 P **P** **23 24 55.1 0.0**
RAMN Ramite 75.17 295 *eP* **P** **23 24 57.9 +0.7**
KKN Kakani 75.27 296 *eP* **P** **23 24 58.8 +1.1**
PKI Pulchoki 75.37 296 *eP* **P** **23 24 58.8 +0.4**
PKIN Phulchoki 75.37 296 *eP* **P** **23 24 58.7 +0.4**
comp=Z,9.4nm,0.5s
GKN Gorkha 75.47 297 *eP* **P** **23 24 59.4 +0.7**
DMN Daman 75.51 296 *eP* **P** **23 25 00.1 +1.0**
DANN Dangsing 75.69 297 *eP* **P** **23 25 01.0 +0.8**
comp=Z,32nm,0.5s
KOLN Koldanda 76.23 297 *eP* **P** **23 25 03.5 +0.4**
PYUN Piuthan 76.31 298 *eP* **P** **23 25 04.1 +0.5**
comp=Z,24nm,0.8s
AKASG Malin Array Be 76.33 345 P **P** **23 25 02.5 -0.5**
comp=Z,1.7nm,0.4s,baz=16,slow=5.8,SNR=8.3
AKASG Malin Array Be 76.33 345 P **P** **23 25 02.1 -0.9**
AKASG IAmb IAmb 23 25 07.9
comp=Z,2.6nm,1.4s
AKBB Malin Array Si 76.33 345 P **P** **23 25 02.4 -0.6**
AKBB IAmb IAmb 23 25 09.8
comp=Z,7.3nm,1.3s
KWP Kalwaria Pacla 78.27 349 P **P** **23 25 13.7 -0.3**
KBL Kabul 78.30 312 P **P** **23 25 13.8 -0.8**
VRAC Vranov 79.17 353 P **P** **23 25 18.9 0.0**
comp=Z,2.0nm,0.6s,baz=304,slow=5.6,SNR=4.1
GERES GERESS Array B 79.81 355 P **P** **23 25 22.7 +0.1**
comp=Z,0.4nm,0.4s,baz=19,slow=6.2,SNR=5.4
BUR08 Bucovina Ar. S 79.91 347 P **P** **23 25 23.0 -0.1**
BUR08 IAmb IAmb 23 25 39.1
comp=Z,6.7nm,1.4s
BURAR Bucovina Array 79.94 347 P **P** **23 25 23.3 +0.1**
BURAR IAmb IAmb 23 25 24.1
comp=Z,1.3nm,0.7s
KBZ Khabaz 80.02 334 P **P** **23 25 24.4 +0.8**
comp=Z,3.1nm,0.9s,baz=169,slow=4.6,SNR=5.8
HRA Herat 81.49 316 P **P** **23 25 32.2 +0.3**
HRA IAmb IAmb 23 25 33.5
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 84.53 228 P **P** **23 25 46.2 -1.2**
comp=Z,0.6nm,0.7s,baz=34,slow=5.6,SNR=5.2
VTS Vitosha 85.11 348 P **P** **23 25 50.5 +0.1**
VTS IAmb IAmb 23 26 05.8
comp=Z,5.2nm,1.2s
BRTR Keskin Array B 86.08 339 P **P** **23 25 55.4 +0.2**
comp=Z,0.9nm,0.5s,baz=129,slow=1.4,SNR=4.7
BRTR Keskin Array B 86.08 339 P **P** **23 25 55.7 +0.5**
FNA Florina 87.15 349 P **P** **23 26 00.5 +0.2**
ASAR Alice Springs 87.94 227 P **P** **23 26 04.0 -0.1**
comp=Z,0.5nm,0.6s,baz=31,slow=3.8,SNR=4.2
BOSA Boshof 153.15 321 PKPbc **PKPbc** **23 33 12.1 +0.2**
comp=Z,1.0nm,0.4s,baz=18,slow=2.7,SNR=6.3
BOSA Boshof 153.15 321 **PKPbc** **23 33 11.0 -0.9**

*IDC **16** 23:37:36.4±4.1, 25.03S×177.14W, h91km±37km, mb3.6/7, mb1 4.0/9, mb1mx3.8/23, mbtmpa4.1/9, Error ellipse: s-maj=29.7km s-min=18.6km az=144.0*
*NEIC **16** 23:37:36.5±2.7, 25.08S±0.08×177.0W±0.2, h89km±10km, mb4.4/10, Error ellipse: s-maj=24.4km s-min=4.0km az=116.0*
ISC 16 23:37:36.9±0.6, 25.06S±0.08×177.1W±0.1, h100km, n26, σ1§18/29, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.24**	**190**	Pn	**Pn**	**23 38 38.9**	**-0.4**
RAO				Sn	**Sn**	**23 39 28.8**	**+1.1**
NIUE	**Niue**	**8.91**	**49**	Pn	**Pn**	**23 39 42.2**	**-0.6**
AFI	**Afiamalu**	**12.16**	**25**	P	**Pn**	**23 40 25.7**	**-1.2**
	2.1nm,0.3s,baz=257,slow=24,SNR=1.9						
AFI				S	Sn	23 42 28.9	-12
	3.3nm,0.3s,baz=187,slow=23,SNR=2.1						
URZ	**Urewera**	**14.05**	**199**	P	**Pn**	**23 40 51.1**	**-0.2**
	0.4nm,0.3s,baz=148,slow=23,SNR=1.2						
URZ				S	Sn	23 43 08.5	-18
	1.0nm,0.3s,baz=342,slow=18,SNR=2.2						
BFZ	**Birch Farm**	**16.55**	**198**	Pn	**Pn**	**23 41 19.6**	**-3.2**
BFZ				IAmb	IAmb	23 41 41.7	
	comp=Z,90nm,1.4s						
EIDS	**Eidsvold**	**28.78**	**263**	P	**P**	**23 43 26.5**	**+1.1**
EIDS				IAmb	IAmb	23 43 34.1	
	comp=Z,9.2nm,1.1s						
STKA	**Stephens Creek**	**36.79**	**250**	P	**P**	**23 44 36.3**	**+1.2**
	comp=Z,2.4nm,0.4s,baz=96,slow=12,SNR=11						
STKA	**Stephens Creek**	**36.79**	**250**	P	**P**	**23 44 35.0**	**-0.1**
STKA				IAmb	IAmb	23 44 58.7	
	comp=Z,1.8nm,1.4s						
BBOO	**Buckleboo**	**41.47**	**248**	P	**P**	**23 45 13.3**	**-0.7**
BBOO				IAmb	IAmb	23 45 14.9	
	comp=Z,6.5nm,0.8s						
AS31	**Alice Springs**	**44.48**	**261**	P	**P**	**23 45 39.6**	**+1.1**
ASAR	**Alice Springs**	**44.48**	**261**	P	**P**	**23 45 39.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=96,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**23 47 20.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=108,slow=3.0,SNR=4.1						
ASAR	**Alice Springs**	**44.48**	**261**	P	**P**	**23 45 38.8**	**+0.3**
WR0	**Warramunga Arr**	**44.80**	**266**	P	**P**	**23 45 41.0**	**0.0**
WR0				IAmb	IAmb	23 45 50.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.99**	**266**	P	**P**	**23 45 41.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=102,slow=8.4,SNR=19						
WRA				PcP	**PcP**	**23 47 21.0**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=106,slow=2.6,SNR=3.5						
WRA	**Warramunga Arr**	**44.99**	**266**	P	**P**	**23 45 41.6**	**-1.0**
SBA	**Scott Base**	**53.40**	**184**	P	**P**	**23 46 47.5**	**+1.8**
VNDA	**Vanda**	**53.47**	**186**	P	**P**	**23 46 47.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=11,slow=9.1,SNR=5.5						
VNDA	**Vanda**	**53.47**	**186**	P	**P**	**23 46 46.9**	**+0.7**
VNDA				IAmb	IAmb	23 47 01.9	
	comp=Z,5.3nm,1.4s						
CASY	**Casey**	**60.25**	**206**	P	**P**	**23 47 33.5**	**-0.7**
QSPA	**South Pole Qui**	**65.03**	**180**	P	**P**	**23 48 06.2**	**0.0**
BELA	**Belgrano 2**	**74.94**	**172**	P	**P**	**23 49 05.5**	**-1.0**
NVAR	**Mina Array Bea**	**88.31**	**42**	P	**P**	**23 49 55.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=220,slow=3.5,SNR=3.5						
TXAR	**Lajitas Array**	**88.81**	**57**	P	**P**	**23 50 21.5**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=224,slow=3.8,SNR=1.8						
PDAR	**Pinedale Array**	**91.70**	**43**	P	**P**	**23 50 34.9**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=4.5						
AKASG	**Malin Array Be**	**147.37**	**328**	PKPbc	**PKPbc**	**23 57 08.3**	**-0.4**
	comp=Z,0.2nm,0.2s,baz=44,slow=4.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**168.09**	**174**	PKPab	**PKPab**	**23 58 38.9**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=197,slow=3.5,SNR=4.0						

*IDC **17** 00:22:41.9±1.8, 12.97N×87.06W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/31, mbtmp3.4/4, ML2.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=150.7km s-min=17.7km az=54.0*
*SNET **17** 00:22:42.1±3.5, 12.12N×87.99W, h17km, ML3.7, ML3.6*
*INET **17** 00:22:42.5±0.4, 12.20N×88.07W, h19km±5km, MW3.4*
ISC 17 00:22:45.0±1.6, 12.18N±0.10×87.94W±0.06, h43km±19km, n21, σ1§06/25, mb3.5/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.88**	**25**	*eP*	**Pn**	**00 23 00.1**	**-0.9**
LCND	**La Caada**	**1.13**	**2**	*eP*	**Pn**	**00 23 03.7**	**-0.6**
LCND				*eS*	**Sn**	**00 23 21.0**	**+2.3**
LCND				IAML		00 23 24.7	
	comp=Z,2μm,0.4s						
TEL3	**Telica 3**	**1.14**	**70**	*eP*	**Pn**	**00 23 03.6**	**-0.9**
ALJI	**Alcalda de J**	**1.30**	**332**	*eS*	**Sn**	**00 23 22.1**	**-0.8**
COPN	**Copaltepe**	**1.32**	**90**	*eP*	**Pn**	**00 23 06.2**	**-0.6**
MOMN	**Momotombo**	**1.39**	**80**	*eP*	**Pn**	**00 23 07.2**	**-0.7**
COEB	**Comit de Eme**	**1.44**	**336**	*eS*	**Sn**	**00 23 26.6**	**+0.2**
COEB				IAML		00 23 30.4	
	comp=Z,521nm,0.4s						
SCLA	**Alcaldia de Sa**	**1.70**	**333**	*eP*	**Pn**	**00 23 11.7**	**-0.5**
SCLA				*eS*	**Sn**	**00 23 32.5**	**-0.3**
COEG	**Centro de Oper**	**1.70**	**327**	*eP*	**Pn**	**00 23 14.3**	**+2.0**
COEG				*eS*	**Sn**	**00 23 32.2**	**-1.0**
COEG				IAML		00 23 39.6	
	comp=Z,465nm,0.3s						
HUEN		**1.73**	**84**	*eP*	**Pn**	**00 23 12.4**	**-0.2**
HUEN				*eS*	**Sn**	**00 23 35.0**	**+1.5**
PAVA	**Las Pavas**	**1.81**	**328**	*eP*	**Pn**	**00 23 13.3**	**-0.5**
JAYA	**Jayaque - finc**	**2.08**	**315**	*eP*	**Pn**	**00 23 17.6**	**+0.1**
MATN	**Matagalpa**	**2.10**	**69**	*eP*	**Pn**	**00 23 17.2**	**-0.6**
TACO	**Tacachico**	**2.25**	**322**	*eP*	**Pn**	**00 23 19.3**	**-0.6**
TACO				*eS*	**Sn**	**00 23 47.2**	**+0.8**
CEVE	**Cerro Verde**	**2.32**	**315**	IAML		00 23 56.0	
	comp=Z,624nm,0.4s						
NUBE	**Las Nubes**	**2.48**	**314**	*eP*	**Pn**	**00 23 23.0**	**0.0**
NUBE				*eS*	**Sn**	**00 23 51.0**	**-1.3**
JTS	**Las Juntas de**	**3.48**	**122**	Pn	**Pn**	**00 23 36.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=308,slow=18,SNR=2.0						
JTS				Lg	Lg	00 24 28.6	
	comp=Z,1.5nm,0.3s,baz=12,slow=22,SNR=1.4						
TXAR	**Lajitas Array**	**22.49**	**322**	P	**P**	**00 27 42.3**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=138,slow=10,SNR=28						
MDP	**Montagnes des**	**35.57**	**98**	LR	LR	00 47 31.5	
	comp=Z,43nm,19.2s,baz=190,slow=43						
PDAR	**Pinedale Array**	**35.79**	**332**	P	**P**	**00 29 41.0**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=125,slow=9.3,SNR=4.2						
YKA	**Yellowknife Ar**	**53.75**	**345**	P	**P**	**00 32 01.3**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=130,slow=9.1,SNR=4.0						

IDC 17 00:25:18.0±2.0, 7.30S×125.23E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.1/28, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=316.7km s-min=32.7km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.36**	**146**	Pn	Pn	00 28 57.5	+1.2
	0.1nm,0.3s,baz=323,slow=12,SNR=12						
ASAR	**Alice Springs**	**18.28**	**154**	P	Pn	00 29 32.5	-0.8
	0.2nm,0.3s,baz=338,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**65.97**	**329**	P	P	00 36 06.2	0.0
	0.5nm,0.9s,baz=134,slow=8.2,SNR=2.4						

*AEIC **17** 00:58:05±2.9, 54.91N±0.07×160.02W±0.09, h45km±9km, Error ellipse: s-maj=10.5km s-min=7.4km az=177.0*
NEIC 17 00:58:06.4±1.2, 54.85N±0.07×160.18W±0.08, h26km±10km, mb3.5/3, ML3.4/14, ML3.4(AEIC), Error ellipse: s-maj=9.6km s-min=6.7km az=169.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.53**	**341**		Pb	00 58 17.2	+0.1
SDPT					Sb	00 58 24.5	+0.2
SDPT	**Sand Point**	**0.53**	**341**	IAML		00 58 24.9	
	comp=E,3μm,0.3s						
SDPT				IAML		00 58 25.0	
	comp=N,2μm,0.3s						
PVV	**Pavlof Volcano**	**1.06**	**300**		Pn	00 58 24.6	-1.0
PS4A	**Pavlof South-4**	**1.08**	**298**		Pn	00 58 25.0	-0.9
HAG	**Hague Volcano**	**1.10**	**296**		Pn	00 58 25.4	-0.8
PN6	**Pavlof North-6**	**1.17**	**302**		Pn	00 58 27.1	0.0
PN6					Sn	00 58 42.2	-0.1
BLHA	**Black Hill**	**1.38**	**309**		Pn	00 58 29.3	-0.7
BALA	**Baldy Mountain**	**1.54**	**284**		Pn	00 58 32.3	+0.1
BALA					Sb	00 58 53.4	+0.1
CHGN	**Chignik**	**1.76**	**34**		Pn	00 58 36.0	+0.7
CHGN				IAML		00 59 02.4	
	comp=E,549nm,0.1s						
FALS	**False Pass**	**1.87**	**271**		Pn	00 58 36.5	-0.2
FALS					Sn	00 59 00.2	+0.7
ISLZ	**Isanotski Laza**	**2.05**	**268**		Pn	00 58 38.9	-0.4
ISLZ					Sn	00 59 03.9	-0.1
SSLN	**Shishaldin Nor**	**2.21**	**270**		Pn	00 58 42.1	+0.7
SSLS	**Shishaldin Sou**	**2.22**	**268**		Pn	00 58 41.8	+0.2
WESE	**West Dahl East**	**2.59**	**263**		Pn	00 58 47.9	+1.2
CHIR	**Chirikof Islan**	**2.78**	**68**	Pn	Pn	00 58 49.6	+0.4
CHIR				IAML		01 00 21.5	
	comp=N,136nm,2.4s						
CHIR				IAML		01 00 26.8	
	comp=E,110nm,2.3s						
SII	**Sitkinak Islan**	**3.80**	**61**	Pn	Pn	00 59 03.2	0.0
SII				IAML		01 00 14.9	
	comp=N,96nm,2.6s						
UNV	**Unalaska Valle**	**3.84**	**257**	Pn	Pn	00 59 03.7	-0.1
OHAK	**Old Harbor**	**4.54**	**56**	Pn	Pn	00 59 12.8	-0.5
OHAK				IAML		01 00 53.3	
	comp=N,34nm,2.9s						
OHAK				IAML		01 01 04.3	
	comp=E,33nm,3.1s						
KDAK	**Kodiak Island**	**5.15**	**52**	Pn	Pn	00 59 21.1	-0.6
P18K	**Big Mountain,**	**5.29**	**29**	Pn	Pn	00 59 24.3	+0.5
P18K				IAML		01 00 34.0	
	comp=E,22nm,2.8s						
Q19K	**Cape Douglas,**	**5.43**	**39**	Pn	Pn	00 59 26.2	+0.5
SPIA	**Saint

L19K	**White Mountain**	**7.86**	**19**	Pn	Pn	00 59 59.1	+0.1
TTA	**Tatalina**	**8.38**	**13**	Pn	Pn	01 00 05.7	-0.5
PWL	**Port Wells**	**8.72**	**42**	Pn	Pn	01 00 10.5	-0.2
KNK	**Knik Glacier**	**9.03**	**39**	Pn	Pn	01 00 14.2	-0.8
K20K	**Telida**	**9.09**	**18**	Pn	Pn	01 00 15.3	-0.4
SCM	**Sheep Creek Mo**	**9.71**	**39**	Pn	Pn	01 00 23.7	-0.7
J20K	**Nowinta River**	**9.84**	**16**	Pn	Pn	01 00 26.0	0.0
TRF	**Thorofare Moun**	**9.99**	**26**	Pn	Pn	01 00 28.0	-0.3
KLU	**Klutina**	**10.03**	**43**	Pn	Pn	01 00 28.3	-0.5
ANM	**Nome**	**10.09**	**347**	Pn	Pn	01 00 28.5	-0.9
BMRM	**Bremner River**	**10.29**	**47**	Pn	Pn	01 00 30.9	-1.4
DHY	**Denali Highway**	**10.54**	**33**	Pn	Pn	01 00 35.1	-0.8
N25K	**Chitina, Valde**	**10.62**	**44**	Pn	Pn	01 00 36.4	-0.5
WAX	**Waxell Ridge**	**10.83**	**52**	Pn	Pn	01 00 39.7	0.0
GLB	**Gilahina Butte**	**10.86**	**46**	Pn	Pn	01 00 39.3	-0.8
I21K	**Tanana**	**11.13**	**18**	Pn	Pn	01 00 43.5	-0.2
TNA	**Tin City**	**11.40**	**344**	Pn	Pn	01 00 47.6	+0.2
H21K	**Melozitna Rive**	**11.43**	**16**	Pn	Pn	01 00 47.5	-0.3
IMAR	**Indian Mountai**	**11.60**	**13**	Pn	Pn	01 00 50.2	+0.1
RIDG	**Independent Ri**	**11.83**	**35**	Pn	Pn	01 00 54.4	+1.1
IL31		**11.95**	**28**	Pn	Pn	01 00 55.4	+0.5
J25K	**Salcha River,**	**12.27**	**31**	Pn	Pn	01 00 58.8	-0.6
BMAR	**Burnt Mountain**	**14.62**	**24**	Pn	Pn	01 01 31.5	+0.1
TOLK	**Toolik Lake Re**	**14.68**	**15**	Pn	Pn	01 01 32.5	+0.4
EPYK	**Eagle Plains**	**16.17**	**35**	Pn	Pn	01 01 52.5	+0.9
EPYK				IAmb	IAmb	01 01 55.5	
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**18.28**	**32**	P	P	01 02 15.8	-2.0
INK				IAmb	IAmb	01 02 28.3	
	comp=Z,2.4nm,1.3s						
C36M	**Paulatuk**	**21.79**	**34**	P	P	01 02 53.5	-2.5
C36M				IAmb	IAmb	01 03 16.5	
	comp=Z,5.5nm,1.5s						

VAO ***17*** *01:04:01.9±0.6, 16°.72S×69°.80W, h176km, mb3.9*
NEIC ***17*** *01:04:02.3±1.6, 16°.73S±0°.05×69°.63W±0°.09, h188km±7km, mb4.7/7, ML4.3(GUC), Error ellipse: s-maj=12.9km s-min=6.8km az=105.0*
IDC ***17*** *01:04:04.7±1.2, 16°.72S×69°.45W, h187km±11km, mb3.4/10, mb1 3.6/13, mb1mx3.5/38, mbtmp4.0/13, Error ellipse: s-maj=20.5km s-min=15.3km az=69.0*
GUC ***17*** *01:04:04.5±0.6, 16°.88S×69°.87W, h193km±3km, ML4.3*

ISC 17 01:04:01.9±0.6, **16°.75S**±0°.04×**69°.72W**±0°.05, **h177**km±6km, **n94**, σ1**°55**/112, **mb3.8**/11, **9C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.59**	**73**	P	**Pn**	**01 04 37.0**	**+1.9**
	206nm,0.3s,baz=299,slow=5.5,SNR=4379						
LPAZ				S	**Sn**	**01 05 01.3**	**+0.5**
	14nm,0.3s,baz=256,slow=17,SNR=1.6						
LPAZ	**La Paz**	**1.59**	**73**	Pn	**Pn**	**01 04 36.7**	**+1.6**
LPAZ				Sn	**Sn**	**01 05 00.8**	**0.0**
LPAZ	**La Paz**	**1.59**	**73**	*eP*	**Pn**	**01 04 36.8**	**+1.6**
PB16	**IPOC Station P**	**1.59**	**173**	Pn	**Pn**	**01 04 37.8**	**+2.6**
PB16				Sn	**Sn**	**01 05 03.9**	**+3.0**
PB16	**IPOC Station P**	**1.59**	**173**	⇑*iP*	**Pn**	**01 04 37.7**	**+2.6**
PB16				*i* S	**Sn**	**01 05 03.9**	**+3.0**
AP01	**Chacalluta**	**1.72**	**200**	Pn	**Pn**	**01 04 37.5**	**+1.7**
AP01	**Chacalluta**	**1.72**	**200**	*eP*	**Pn**	**01 04 37.2**	**+1.4**
AP01				*i* S	**Sn**	**01 05 02.6**	**+0.4**
AP01				IAML		01 05 05.2	
	comp=N,2μm,0.3s						
PB12	**IPOC Station P**	**1.94**	**197**	Pn	**Pn**	**01 04 39.3**	**+1.0**
PB12	**IPOC Station P**	**1.94**	**197**	⇑*iP*	**Pn**	**01 04 39.3**	**+1.0**
PB12				*i* S	**Sn**	**01 05 06.4**	**-0.2**
PB12				IAML		01 05 08.9	
	comp=E,869nm,0.3s						
GO01	**Chusmiza**	**2.95**	**170**		**Pn**	**01 04 52.5**	**+2.2**
GO01	**Chusmiza**	**2.95**	**170**	⇑*iP*	**Pn**	**01 04 52.5**	**+2.2**
GO01				*i* S	**Sn**	**01 05 29.0**	**+1.0**
GO01				IAML		01 05 33.0	
	comp=N,644nm,0.2s						
PB11	**IPOC Station P**	**3.00**	**179**	Pn	**Pn**	**01 04 52.0**	**+1.4**
PB11	**IPOC Station P**	**3.00**	**179**	⇑*iP*	**Pn**	**01 04 51.9**	**+1.3**
PB11				*i* S	**Sn**	**01 05 28.2**	**-0.3**
PB11				IAML		01 05 29.4	
	comp=N,736nm,0.4s						
PB08	**IPOC Station P**	**3.42**	**171**		**Pn**	**01 04 57.9**	**+1.9**
PB08	**IPOC Station P**	**3.42**	**171**	⇑*iP*	**Pn**	**01 04 57.8**	**+1.9**
PB08				*i* S	**Sn**	**01 05 38.4**	**+0.2**
HMBC	**Humberstone**	**3.51**	**183**	⇑*iP*	**Pn**	**01 04 57.5**	**+0.6**
HMBC				*i* S	**Sn**	**01 05 37.4**	**-2.6**
TA02	**Huaiquique**	**3.52**	**186**		**Pn**	**01 04 57.4**	**+0.4**
TA02	**Huaiquique**	**3.52**	**186**	*i* S	**Sn**	**01 05 38.1**	**-1.9**
TA01	**Diego Aracena**	**3.82**	**187**	Pn	**Pn**	**01 05 00.9**	**+0.3**
TA01	**Diego Aracena**	**3.82**	**187**	⇑*iP*	**Pn**	**01 05 00.8**	**+0.1**
TA01				*i* S	**Sn**	**01 05 44.2**	**-2.5**
PATCX	**Punta Patache**	**4.07**	**186**		**Pn**	**01 05 04.5**	**+0.6**
PATCX	**Punta Patache**	**4.07**	**186**	*eP*	**Pn**	**01 05 04.3**	**+0.3**
PATCX				*i* S	**Sn**	**01 05 49.7**	**-2.8**
PB01	**IPOC Station P**	**4.28**	**177**	Pn	**Pn**	**01 05 07.4**	**+0.8**
PB01	**IPOC Station P**	**4.28**	**177**	⇑*iP*	**Pn**	**01 05 07.3**	**+0.8**
PB01				*i* S	**Sn**	**01 05 54.2**	**-3.1**
PB02	**IPOC Station P**	**4.55**	**182**		**Pn**	**01 05 10.9**	**+0.7**
PB02	**IPOC Station P**	**4.55**	**182**	⇑*iP*	**Pn**	**01 05 10.8**	**+0.7**
PB02				*i* S	**Sn**	**01 06 00.8**	**-2.8**
PB07	**IPOC Station P**	**4.95**	**182**		**Pn**	**01 05 16.1**	**+0.7**
PB09	**IPOC Station P**	**5.04**	**175**		**Pn**	**01 05 17.6**	**+1.0**
PB04	**IPOC Station P**	**5.57**	**184**		**Pn**	**01 05 23.7**	**+0.3**
LVC	**Limon Verde**	**5.88**	**173**	P	**Pn**	**01 05 28.9**	**+1.2**
	comp=N,18nm,0.3s,baz=28,slow=9.6,SNR=315						
LVC				S	**Sn**	**01 06 32.2**	**-2.9**
	comp=N,48nm,0.3s,baz=0,0,slow=20,SNR=30						
LVC	**Limon Verde**	**5.88**	**173**	Pn	**Pn**	**01 05 28.7**	**+1.0**
LVC	**Limon Verde**	**5.88**	**173**	*eP*	**Pn**	**01 05 28.6**	**+0.9**
PB06	**IPOC Station P**	**5.93**	**179**		**Pn**	**01 05 28.2**	**+0.1**
PB15	**IPOC Station P**	**6.43**	**178**		**Pn**	**01 05 34.9**	**+0.1**
PB10	**IPOC Station P**	**6.78**	**187**		**Pn**	**01 05 38.6**	**-0.5**
ETMB	**Extrema**	**7.69**	**27**	*eP*	**Pn**	**01 05 51.1**	**-0.1**
PB14	**IPOC Station P**	**7.86**	**185**	Pn	**Pn**	**01 05 53.0**	**-0.8**
SIV	**San Ignacio**	**8.33**	**86**	P	**Pn**	**01 05 58.0**	**-1.7**
	comp=N,2.7nm,0.3s,baz=278,slow=9.9,SNR=30						
SIV				S	**Sn**	**01 07 29.0**	**-4.1**
	comp=N,0.7nm,0.3s,baz=156,slow=18,SNR=7.0						
NNA	**Nana**	**8.37**	**304**	P	**Pn**	**01 06 01.3**	**+1.0**
	comp=N,13nm,0.3s,baz=128,slow=12,SNR=21						
NNA				S	**Sn**	**01 07 28.9**	**-5.1**
	comp=N,8.7nm,0.3s,baz=142,slow=19,SNR=9.5						
NNA	**Nana**	**8.37**	**304**	Pn	**Pn**	**01 06 00.9**	**+0.7**
GO02	**Mina Guanaco**	**8.37**	**179**	Pn	**Pn**	**01 05 60.0**	**-0.5**
CZSB	**Cruzeiro do Su**	**9.43**	**342**	*eP*	**Pn**	**01 06 13.2**	**-0.9**
AC02	**Maricunga**	**10.05**	**177**	Pn	**Pn**	**01 06 22.8**	**+0.1**
AC06	**Mina Casimiro**	**10.57**	**183**	Pn	**Pn**	**01 06 28.1**	**-0.9**
LCO	**Las Campanas**	**12.24**	**184**	Pn	**Pn**	**01 06 49.6**	**-1.1**
PDRB	**Porto dos Gac**	**13.59**	**70**	*eP*	**P**	**01 07 08.8**	**-2.0**
AQDB	**Aquidauana**	**13.79**	**108**	P	**Pn**	**01 07 09.2**	**-1.1**
CLDB	**Colider**	**14.72**	**68**	*eP*	**P**	**01 07 23.9**	**+0.5**
CPUP	**Villa Florida**	**14.95**	**132**	P	**Pn**	**01 07 23.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=303,slow=14,SNR=3.6						
CPUP	**Villa Florida**	**14.95**	**132**	*eP*	**P**	**01 07 26.1**	**+0.4**
ARAG	**Araguaiana, MT**	**17.23**	**89**	*eP*	**Pn**	**01 07 52.6**	**+0.4**
ITQB	**Itaqui**	**17.59**	**139**	P	**P**	**01 07 54.2**	**-0.6**
ITQB				IAmb	IAmb	01 07 58.4	
	comp=Z,16nm,0.7s						
ITQB	**Itaqui**	**17.59**	**139**	*eP*	**Pn**	**01 07 56.4**	**0.0**
PCMB	**Pacaembu**	**18.09**	**108**	*eP*	**Pn**	**01 08 01.5**	**-0.8**
PTGB	**Pitanga**	**18.30**	**119**	*eP*	**Pn**	**01 08 03.8**	**-1.2**
ITTB	**Itaituba**	**18.43**	**50**	*eP*	**Pn**	**01 08 04.8**	**-1.6**
SNDB	**Serra Nova Dou**	**18.46**	**78**	*eP*	**Pn**	**01 08 05.4**	**-1.4**
OTAV	**Otavalo**	**18.95**	**332**	P	**P**	**01 08 08.3**	**-1.9**
OTAV				IAmb	IAmb	01 08 32.5	
	comp=Z,23nm,1.1s						
ITAB	**Concordia**	**19.34**	**126**	*eP*	**P**	**01 08 14.6**	**+0.8**
CPSB	**Cacapava Do Su**	**20.15**	**135**	*eP*	**P**	**01 08 22.9**	**+0.3**
BB19B	**Bebedouro**	**20.50**	**105**	*eP*	**P**	**01 08 27.0**	**+0.6**
IPMB	**Ipameri, GO**	**20.56**	**97**	*eP*	**P**	**01 08 27.3**	**+0.2**
BDFB	**Brasilia**	**20.87**	**90**	P	**P**	**01 08 29.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=338,slow=7.9,SNR=2.5						
BDFB	**Brasilia**	**20.87**	**90**	P	**P**	**01 08 29.0**	**-1.5**
BDFB				IAmb	IAmb	01 08 33.6	
	comp=Z,6.3nm,1.2s						
PLTB	**Pedras Altas**	**20.92**	**139**	*eP*	**P**	**01 08 30.7**	**-0.1**
TIJ01	**Guaruva-PR**	**21.11**	**117**	*eP*	**P**	**01 08 32.5**	**-0.5**
PEXB	**Peixe**	**21.24**	**80**	*eP*	**P**	**01 08 34.3**	**-0.1**
CNLB	**Canela**	**21.36**	**129**	*eP*	**P**	**01 08 36.7**	**+1.1**
TER01	**Tubaro-SC**	**22.29**	**125**	*eP*	**P**	**01 08 45.7**	**+0.9**
SMTB	**Santa Maria do**	**22.94**	**73**	*eP*	**P**	**01 08 52.3**	**+1.3**
MCPB	**Macapa, AP**	**23.83**	**49**	*eP*	**P**	**01 08 59.5**	**+0.5**
PLCA	**Paso Flores**	**23.91**	**182**	P	**P**	**01 09 02.6**	**+3.0**
	comp=Z,2.3nm,0.7s,baz=355,slow=10,SNR=8.1						
PLCA	**Paso Flores**	**23.91**	**182**	P	**P**	**01 08 59.0**	**-0.6**
BSCB	**Bom Sucesso**	**23.97**	**104**	*eP*	**P**	**01 08 60.0**	**-0.4**
JANB	**Januaria**	**24.49**	**90**	*eP*	**P**	**01 09 05.2**	**+0.1**
SDV	**Santo Domingo**	**25.49**	**358**	P	**P**	**01 09 16.5**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=207,slow=8.3,SNR=1.6						
Z51A	**Franklin**	**51.93**	**344**	P	**P**	**01 12 51.6**	**-1.1**
Z51A				IAmb	IAmb	01 12 54.2	
	comp=Z,18nm,0.3s						
S57A	**Dark Hollow, R**	**54.91**	**351**	P	**P**	**01 13 13.8**	**-0.5**
S57A				IAmb	IAmb	01 13 18.0	
	comp=Z,18nm,0.4s						
TXAR	**Lajitas Array**	**56.33**	**324**	P	**P**	**01 13 26.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=151,slow=8.0,SNR=4.6						
TXAR				PcP	**PcP**	**01 14 22.1**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=140,slow=5.7,SNR=2.0						
TXAR	**Lajitas Array**	**56.33**	**324**	P	**P**	**01 13 25.1**	**+0.4**
SADO	**Sadowa**	**61.82**	**352**	P	**P**	**01 14 03.9**	**+1.9**
	comp=Z,5.0nm,0.8s,baz=243,slow=2.3,SNR=1.7						
ANMO	**Albuquerque**	**62.13**	**326**	P	**P**	**01 14 07.2**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=78,slow=9.3,SNR=1.7						
PDAR	**Pinedale Array**	**69.64**	**330**	P	**P**	**01 14 54.1**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=127,slow=9.0,SNR=5.9						
NVAR	**Mina Array Bea**	**71.31**	**322**	P	**P**	**01 15 05.0**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=112,slow=6.9,SNR=4.7						
NVAR	**Mina Array Bea**	**71.31**	**322**	P	**P**	**01 15 02.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.54**	**72**	P	**P**	**01 15 33.0**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=275,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**76.54**	**72**	P	**P**	**01 15 31.1**	**-2.0**
YKA	**Yellowknife Ar**	**86.47**	**341**	P	**P**	**01 16 25.8**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=136,slow=5.0,SNR=35						
YKA	**Yellowknife Ar**	**86.47**	**341**	P	**P**	**01 16 23.4**	**-0.8**
WRA	**Warramunga Arr**	**136.55**	**214**	PKP	**PKiKP**	**01 23 05.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=141,slow=1.8,SNR=2.0						
ZALV	**Zalesovo Beam**	**137.93**	**22**	PKP	**PKiKP**	**01 23 07.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=302,slow=1.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**137.93**	**22**		**PKPdf**	**01 23 05.2**	**-0.1**
MKAR	**Makanchi Array**	**142.13**	**32**	PKP	**PKPdf**	**01 23 15.0**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=323,slow=0.7,SNR=2.1						
SONM	**Songino Array**	**148.84**	**5**	PKPbc	**PKiKP**	**01 23 31.2**	**+1.2**
	comp=Z,2.4nm,0.5s,baz=326,slow=2.6,SNR=8.1						

NEIC ***17*** *01:06:21.4±1.0, 3°.9S±0°.1×142°.3E±0°.2, h64km±6km, mb4.1/15, Error ellipse: s-maj=26.9km s-min=15.4km az=116.0*
IDC ***17*** *01:06:27.8±0.8, 4°.03S×142°.06E, h116km±7km, mb3.8/6, mb1 4.1/9, mb1mx3.7/29, mbtmp4.4/9, Error ellipse: s-maj=21.9km s-min=16.2km az=104.0*

ISC 17 01:06:26.8±0.7, **4°.11S**±0°.09×**142°.1E**±0°.1, **h109**km, **n30**, σ1°**28**/35, **mb3.9**/9, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.27**	**137**	P	Pn	01 08 14.3	+3.9
	1.5nm,0.3s,baz=300,slow=17,SNR=3.0						
COEN	**Coen**	**9.84**	**174**	Pn	**Pn**	**01 08 43.2**	**-2.2**
WB0	**Warramunga Arr**	**17.29**	**205**		**P**	**01 10 19.2**	**-2.1**
WB0				IAmb	IAmb	01 10 24.6	
	comp=Z,8.3nm,0.8s						
WR0	**Warramunga Arr**	**17.40**	**204**	P	**P**	**01 10 21.3**	**-1.3**
KNRA	**Kununurra**	**17.45**	**228**	P	**P**	**01 10 22.8**	**-0.3**
KNRA				IAmb	IAmb	01 10 26.1	
	comp=Z,25nm,1.0s						
WB2	**Warramunga Arr**	**17.46**	**205**	P	**P**	**01 10 22.5**	**-0.8**
WB2				IAmb	IAmb	01 10 26.8	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**01 10 22.4**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=22,slow=12,SNR=64						
WRA				S	Sn	01 13 30.1	-8.3
	comp=Z,0.1nm,0.3s,baz=23,slow=23,SNR=3.7						
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**01 10 21.9**	**-1.5**
BATI	**Baumata**	**19.27**	**251**	P	**Pn**	**01 10 45.0**	**-0.2**
	comp=Z,10nm,0.3s,baz=112,slow=0.7,SNR=7.7						
AS31	**Alice Springs**	**20.99**	**201**	P	**P**	**01 11 00.1**	**-1.6**
AS31				IAmb	IAmb	01 11 04.2	
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**21.00**	**201**	P	**P**	**01 11 01.7**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=30,slow=10,SNR=74						
ASAR				pP	**pP**	**01 11 25.4**	**+2.4**
	comp=Z,5.0nm,0.7s,baz=42,slow=11,SNR=5.8						
ASAR				S	**S**	**01 14 51.4**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=13,slow=30,SNR=4.1						
ASAR	**Alice Springs**	**21.00**	**201**	P	**P**	**01 11 01.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.29**	**228**	P	**P**	**01 11 04.0**	**-0.8**
	comp=Z,14nm,0.7s,baz=31,slow=13,SNR=30						
FITZ				S	**S**	**01 14 56.0**	**+0.7**
	comp=Z,5.0nm,0.6s,baz=56,slow=18,SNR=5.2						
FITZ	**Fitzroy Crossi**	**21.29**	**228**	P	**P**	**01 11 03.8**	**-1.0**
FITZ				IAmb	IAmb	01 11 07.4	
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**27.63**	**181**	P	**P**	**01 12 03.8**	**-0.4**
PSA00	**Pilbara Seismi**	**27.72**	**229**	P	**P**	**01 12 05.1**	**-0.1**
PSA00				IAmb	IAmb	01 12 06.1	
	comp=Z,3.0nm,0.9s						
BBOO	**Buckleboo**	**29.11**	**191**	P	**P**	**01 12 17.0**	**-0.4**
DZM	**Mont Dzumac**	**29.58**	**129**	P	**P**	**01 12 24.0**	**+2.2**
	comp=Z,4.0nm,0.7s,baz=290,slow=18,SNR=2.4						
FORT	**Forrest**	**29.95**	**205**	P	**P**	**01 12 23.3**	**+1.1**
MK31	**Makanchi Array**	**72.97**	**322**	P	**P**	**01 17 44.3**	**-0.4**
MKAR	**Makanchi Array**	**72.97**	**322**	P	**P**	**01 17 44.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=107,slow=8.7,SNR=4.6						
MKAR				pP	**pP**	**01 18 14.6**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=98,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**72.97**	**322**	P	**P**	**01 17 43.6**	**-1.1**
MAKZ	**Makanchi**	**73.17**	**322**	P	**P**	**01 17 44.8**	**-1.0**
MAKZ				IAmb	IAmb	01 17 46.6	
	comp=Z,1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**74.86**	**329**	P	**P**	**01 17 54.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=130,slow=5.8,SNR=1.8						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**01 18 52.1**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=257,slow=4.5,SNR=18						
ILAR				pP	**pP**	**01 19 22.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=255,slow=4.3,SNR=2.3						
ILAR				sP	**sP**	**01 19 33.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=259,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**01 18 51.8**	**-1.5**
QSPA	**South Pole Qui**	**85.84**	**180**	P	**P**	**01 18 54.5**	**+0.3**
QSPA				IAmb	IAmb	01 19 06.4	
	comp=Z,1.9nm,1.1s						
J25K	**Salcha River,**	**86.28**	**24**	P	**P**	**01 18 55.0**	**-1.2**
J25K				IAmb	IAmb	01 19 12.2	
	comp=Z,0.9nm,0.9s						
LPAZ	**La Paz**	**143.88**	**125**	PKP	**PKPdf**	**01 25 50.8**	**-0.4**
	comp=Z,3.8nm,0.5s,baz=304,slow=2.3,SNR=20						
DBIC	**Dimbokro**	**147.02**	**276**	PKPbc	**PKPab**	**01 25 58.4**	**-1.4**
	comp=Z,4.3nm,1.0s,baz=117,slow=2.2,SNR=2.6						

CNRM ***17*** *01:29:01.9, 35°.77N×3°.50W, h29km, ml2.0*
MDD ***17*** *01:29:02.3±0.5, 35°.68N×3°.72W, h2km±3km, mb_Lg2.1/14, Error ellipse: s-maj=3.2km s-min=2.7km az=179.0*
SFS ***17*** *01:29:02.0, 35°.65N×3°.75W, ML2.6, ALBORAN SUR*

ISC 17 01:29:01.8±1.1, **35°.67N**±0°.02×**3°.69W**±0°.03, **h16**km±10km, **n30**, σ1°**13**/54, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.59**	**63**	Pg	**Pb**	**01 29 14.9**	**+1.0**
EALB				Sg	**Sg**	**01 29 22.1**	**+0.6**
EALB				*i* Vmb_Lg		01 29 24.0	
EMEL	**Melilla**	**0.70**	**121**	Pg	**Pg**	**01 29 14.6**	**-0.8**
EMEL				Sg	**Sg**	**01 29 24.8**	**+0.1**
GOG	**Mont Gurugu**	**0.72**	**128**	P	**Pg**	**01 29 15.4**	**-0.4**
GOG				S	**Sg**	**01 29 25.0**	**-0.3**
AKLM	**AKL**	**1.16**	**187**	P	**Pb**	**01 29 24.2**	**+0.6**
AKLM				S	**Sg**	**01 29 40.1**	**+0.6**
ELGU	**Los Guajares,**	**1.20**	**2**	Pg	**Pn**	**01 29 23.1**	**-0.9**
ELGU				Sg	**Sn**	**01 29 40.0**	**0.0**
ELGU				*i* Vmb_Lg		01 29 42.7	
EMAL	**Malaga-Limoner**	**1.25**	**331**	P	**Pn**	**01 29 23.8**	**-0.7**
EMAL				S	**Sb**	**01 29 40.2**	**-0.6**
EMIJ	**Mijas**	**1.25**	**316**	Pg	**Pn**	**01 29 24.5**	**-0.2**
EMIJ				Sg	**Sb**	**01 29 40.7**	**-0.3**
EMIJ				*i* Vmb_Lg		01 29 42.4	
TAF	**Taforalt**	**1.34**	**129**	P	**Pn**	**01 29 24.6**	**-1.4**
TAF				S	**Sn**	**01 29 41.9**	**-1.6**
SMIR	**Smir Dam**	**1.38**	**271**	P	**Pn**	**01 29 24.3**	**-2.1**
EBER	**Berja**	**1.39**	**27**	Pn	**Pn**	**01 29 26.7**	**0.0**
EBER				Sn	**Sn**	**01 29 43.9**	**-0.9**
EBER				*i* Vmb_Lg		01 29 46.9	
CHEFC	**Chefchaouen**	**1.46**	**248**	P	**Pb**	**01 29 28.9**	**+0.2**
EGOR	**Sierra Gorda,**	**1.48**	**347**	Pn	**Pb**	**01 29 28.6**	**-0.4**
EGOR				Sn	**Sn**	**01 29 47.0**	**-0.1**
EGOR				*i* Vmb_Lg		01 29 51.4	
EQUE	**Quentar**	**1.55**	**7**	Pn	**Pb**	**01 29 30.1**	**0.0**
EQUE				Sn	**Sn**	**01 29 48.3**	**-0.3**
EQUE				*i* Vmb_Lg		01 29 58.5	
JBK	**JBK**	**1.62**	**145**	P	**Pn**	**01 29 28.9**	**-0.9**
JBK				S	**Sn**	**01 29 47.8**	**-2.6**
EJIF	**Jimena Fronter**	**1.64**	**299**	Pn	**Pb**	**01 29 31.3**	**-0.4**
EJIF				Sn	**Sn**	**01 29 50.0**	**-0.8**
EQES	**Quesada**	**2.19**	**13**	Pn	**Pb**	**01 29 40.5**	**-0.6**
EQES				Sn	**Sn**	**01 30 04.3**	**-0.1**
EQES				*i* Vmb_Lg		01 30 10.1	
LCRM	**LCR**	**2.20**	**206**	P	**Pn**	**01 29 39.5**	**+1.7**
IFR	**Ifrane**	**2.45**	**209**	P	**Pn**	**01 29 42.0**	**+0.7**
IFR				S	**Sn**	**01 30 11.4**	**+0.3**
EADA	**Adamuz**	**2.59**	**344**	Pn	**Pn**	**01 29 44.4**	**+1.2**
EADA				Sn	**Sn**	**01 30 13.8**	**-0.6**
EADA				*i* Vmb_Lg		01 30 23.4	
ECAB	**El Cabril**	**2.78**	**330**	Pn	**Pn**	**01 29 46.7**	**+1.1**
ECAB				Pg	**Pb**	**01 29 51.0**	**0.0**
ECAB				Sn	**Sn**	**01 30 18.9**	**0.0**
ECAB				*i* Vmb_Lg		01 30 29.3	
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**01 29 49.8**	**+2.0**
MDT	**Midelt**	**2.95**	**195**	P	**Pn**	**01 29 51.4**	**+3.3**
EMIN	**Mina Concepcio**	**3.19**	**312**	Pn	**Pn**	**01 29 51.3**	**+0.1**
EMIN				Sn	**Sn**	**01 30 27.9**	**-1.0**
EMIN				*i* Vmb_Lg		01 30 32.7	
ETOB	**Tobarra**	**3.43**	**29**	Pn	**Pn**	**01 29 56.9**	**+2.3**
ETOB				Sn	**Sn**	**01 30 35.7**	**+0.7**
EGRO	**El Granado**	**3.58**	**302**	Pn	**Pn**	**01 29 57.6**	**+1.0**
EGRO				Sn	**Sn**	**01 30 37.4**	**-1.1**
EGRO				*i* Vmb_Lg		01 30 42.4	
PVAQ	**Vaqueiros**	**3.68**	**299**	P	**Pn**	**01 29 59.6**	**+1.5**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**01 30 02.9**	**+1.6**
PAB				Sn	**Sn**	**01 30 46.4**	**-0.4**
ESDC	**Sonseca Array**	**4.01**	**357**	Pn	**Pn**	**01 30 03.3**	**+0.7**
ESDC				Sn	**Sn**	**01 30 49.2**	**-0.1**
EBAD	**Badajoz**	**4.07**	**320**	Pn	**Pn**	**01 30 04.2**	**+0.8**
EBAD				Sn	**Sn**	**01 30 50.6**	**-0.1**

LPAZ LR LR 01 40 19.6
comp=E,106nm,19.7s,baz=112,slow=34
LPAZ La Paz 3.11 20 Pn **Pn 01 39 23.9 +1.2**
LPAZ La Paz 3.11 20 *eP* **Pn 01 39 25.0 +2.3**
PB04 IPOC Station P 3.20 195 **Pn 01 39 23.2 -0.2**
PB04 IPOC Station P 3.20 195⇓ *eP* **Pn 01 39 23.7 +0.2**
LVC Limon Verde 3.38 175 P **Pn 01 39 27.2 +1.3**
comp=E,47nm,0.3s,baz=357,slow=8.5,SNR=189
LVC S **Sn 01 40 06.2 +0.7**
comp=E,45nm,0.3s,baz=53,slow=20,SNR=8.6
LVC Limon Verde 3.38 175 Pn **Pn 01 39 26.6 +0.7**
LVC Limon Verde 3.38 175 *eP* **Pn 01 39 27.0 +1.1**
LVC IAML 01 39 58.7
comp=Z,448nm,0.5s
LVC Limon Verde 3.38 175 *eS* Sn 01 39 52.0 -14
PB06 IPOC Station P 3.47 185 **Pn 01 39 26.4 -0.6**
PB06 IPOC Station P 3.47 185 *eP* **Pn 01 39 26.9 -0.1**
PB15 IPOC Station P 3.96 183 **Pn 01 39 33.3 -0.3**
PB10 IPOC Station P 4.43 196 Pn **Pn 01 39 38.3 -1.5**
PB10 IPOC Station P 4.43 196 *eP* **Pn 01 39 39.0 -0.8**
PB10 *eP* **Pn 01 39 39.0 -0.8**
PB10 *eS* **Sn 01 40 29.6 -0.8**
PB10 IAML 01 40 50.0
comp=Z,78nm,0.8s
YJA Yavi 4.56 131 *eP* **Pn 01 39 39.5 -2.4**
YJA *eS* Sn 01 40 46.7 +13
HJA Humahuaca 5.33 139 *eP* **Pn 01 39 53.0 +0.7**
HJA *eS* **Sn 01 40 59.9 +7.2**
PB14 IPOC Station P 5.48 191 Pn **Pn 01 39 52.3 -1.8**
PB14 IPOC Station P 5.48 191 *eP* **Pn 01 39 53.0 -1.1**
PB14 *eS* **Sn 01 40 53.3 -2.8**
PB14 IAML 01 41 20.2
comp=Z,110nm,0.9s
GO02 Mina Guanaco 5.91 183 Pn **Pn 01 39 59.1 -1.0**
GO02 Mina Guanaco 5.91 183 *eP* **Pn 01 39 59.1 -1.0**
AC01 Pan de Azucar 7.00 190 Pn **Pn 01 40 11.7 -2.8**
FSA Cafayete 7.48 157 *eP* **Pn 01 40 21.0 -0.2**
AC02 Maricunga 7.57 179 Pn **Pn 01 40 21.7 -1.0**
AC02 Maricunga 7.57 179 *eP* **Pn 01 40 21.7 -1.0**
AC02 *eS* **Sn 01 41 50.4 +3.3**
AC06 Mina Casimiro 8.15 187 Pn **Pn 01 40 26.5 -3.7**
GO03 Copiap 8.37 186 Pn **Pn 01 40 29.8 -3.4**
GO03 Copiap 8.37 186 *eP* **Pn 01 40 30.8 -2.4**
SIV San Ignacio 8.43 69 P **Pn 01 40 31.9 -2.1**
comp=Z,3.3nm,0.3s,baz=254,slow=10,SNR=58
SIV S **Sn 01 42 01.5 -6.0**
comp=Z,0.3nm,0.3s,baz=352,slow=19,SNR=1.1
ETMB Extrema 9.81 18 *eP* **Pn 01 40 51.1 -1.5**
LCO Las Campanas 9.83 188 Pn Pn 01 40 48.2 -4.9
NNA Nana 10.27 313 P **Pn 01 41 00.2 +1.3**
comp=Z,1.2nm,0.3s,baz=174,slow=12,SNR=1.7
NNA Nana 10.27 313 **Pn 01 40 56.8 -2.1**
ACLC CERRO LA CRUZ 10.36 169 *eP* **Pn 01 40 58.0 -2.2**
VILB Vilhena 10.70 56 *eP* **Pn 01 41 02.5 -2.2**
AROD Rodeo 10.89 181 *eP* Pn 01 41 01.0 -6.6
ACCO Cerro Coronel 11.31 179 *eP* **Pn 01 41 11.1 -2.1**
CO03 El Pedregal 11.63 186 Pn 01 41 12.2 -5.0
CPUP Villa Florida 13.06 125 P **Pn 01 41 35.9 0.0**
comp=Z,0.2nm,0.3s,baz=284,slow=18,SNR=1.9
SALV Santo Antonio 13.34 78 *eP* **Pn 01 41 38.3 -1.3**
VA03 San Esteban 13.53 185 **Pn 01 41 41.8 -0.3**
MT02 Curacav 14.07 187 P **Pn 01 41 48.6 -0.4**
PDRB Porto dos Gac 14.24 60 *eP* **Pn 01 41 49.8 -1.5**
MT03 Universidad Ad 14.25 184 P **Pn 01 41 51.2 -0.2**
LMEL Las Melosas 14.58 183 P **Pn 01 41 53.8 -1.9**
MT01 Popeta 14.68 187 P **Pn 01 41 54.8 -2.1**
TBTG Tabatinga, AM 14.97 357 *eP* **Pn 01 42 01.7 -1.2**
CLDB Colider 15.41 59 *eP* **Pn 01 42 05.1 -0.9**
BO02 Sierra Bellavi 15.56 185 P **Pn 01 42 07.5 -0.5**
BO02 IAmb IAmb 01 42 16.6
comp=Z,34nm,1.5s
PTGB Pitanga 16.84 112 *eP* **P 01 42 25.6 +1.5**
ARAG Araguaiana, MT 16.99 81 *eP* **P 01 42 26.0 +0.2**
PCMB Pacaembu 17.02 101 *eP* **P 01 42 26.1 +0.1**
ITAB Concordia 17.61 120 *eP* **Pn 01 42 34.6 +1.5**
MACA Manacapuru-AM 18.03 29 *eP* **P 01 42 36.6 -0.6**
CPSB Cacapava Do Su 18.13 131 *eP* **Pn 01 42 39.8 +0.5**
NPGB Novo Progresso 18.13 50 *eP* **P 01 42 37.1 -1.2**
SNDB Serra Nova Dou 18.72 70 *eP* **P 01 42 44.4 -0.4**
FRTB Fartura 18.79 106 *eP* **P 01 42 45.6 +0.1**
PLTB Pedras Altas 18.81 135 *eP* **Pn 01 42 47.7 +0.3**
BB19B Bebedouro 19.53 99 *eP* **P 01 42 52.9 -0.7**
ITTB Itaituba 19.80 43 *eP* **P 01 42 55.2 -1.2**
IPMB Ipameri, GO 19.97 90 *eP* **P 01 42 57.6 -0.8**
BDFB Brasilia 20.56 83 P **P 01 43 06.1 +1.3**
comp=Z,3.3nm,0.5s,baz=266,slow=12,SNR=6.3
BDFB Brasilia 20.56 83 P **P 01 43 04.2 -0.7**
BDFB IAmb IAmb 01 43 07.7
comp=Z,13nm,1.4s
OTAV Otavalo 21.35 334 *eP* **P 01 43 15.6 +1.9**
PEXB Peixe 21.36 74 *eP* **P 01 43 11.9 -1.3**
PLCA Paso Flores 21.46 183 P **P 01 43 17.9 +3.7**
comp=Z,1.1nm,0.6s,baz=1.7,slow=16,SNR=3.1
PLCA Paso Flores 21.46 183 P **P 01 43 13.4 -0.8**
BSCB Bom Sucesso 23.04 99 *eP* **P 01 43 30.6 +0.1**
BOAV Boa Vista 23.14 23 *eP* **P 01 43 31.6 +0.2**
SMTB Santa Maria do 23.37 67 *eP* **P 01 43 33.7 +0.1**
JANB Januaria 24.17 84 *eP* **P 01 43 39.5 -1.4**
DIAM Diamantina, MG 24.22 92 *eP* **P 01 43 41.4 -0.1**
SDBA SAO DESIDERIO 24.36 77 *eP* **P 01 43 41.9 -0.7**
MCPB Macapa, AP 25.21 44 *eP* **P 01 43 49.4 -0.9**
ZARC Zaragoza, Cauc 27.12 348 P **P 01 44 07.0 -0.5**
ZARC IAmb IAmb 01 44 12.5
comp=Z,3.8nm,0.4s
RIB01 Linhares ES 27.22 95 *eP* **P 01 44 08.2 -0.2**
NAN01 Guarapari, ES 27.63 92 *eP* **P 01 44 11.6 -0.4**
SDV Santo Domingo 27.97 357 P **P 01 44 15.2 0.0**
comp=Z,1.3nm,0.4s,baz=244,slow=22,SNR=1.8
SDV Santo Domingo 27.97 357 *eP* **P 01 44 15.0 -0.2**
GDU01 Guandu, BA 28.95 84 *eP* **P 01 44 23.3 -0.5**
NBPN Ponto Novo - B 29.22 78 *eP* **P 01 44 25.9 -0.3**
SJCC San Jacinto, C 29.53 348 P **P 01 44 29.3 +0.4**
NBLA Lagarto - SE 31.41 79 *eP* **P 01 44 44.5 -1.0**
NBMA Muriti-CE 31.85 72 *eP* **P 01 44 49.3 -0.1**
NBAN Anadia - AL 33.25 78 *eP* **P 01 45 01.2 -0.4**
TXAR Lajitas Array 58.60 325 P **P 01 48 20.0 -0.3**
comp=Z,0.5nm,0.8s,baz=138,slow=7.8,SNR=5.5
TXAR Lajitas Array 58.60 325 P **P 01 48 19.0 -1.2**
DBIC Dimbokro 68.41 74 P **P 01 49 23.8 -1.2**
comp=Z,4.9nm,0.8s,baz=228,slow=7.4,SNR=5.1
DBIC Dimbokro 68.41 74 P **P 01 49 23.9 -1.1**
QSPA South Pole Qui 70.95 180 P **P 01 49 41.3 +1.4**
QSPA IAmb IAmb 01 49 42.7
comp=Z,4.3nm,1.2s
PDAR Pinedale Array 72.00 330 P **P 01 49 46.6 0.0**
comp=Z,0.4nm,0.7s,baz=101,slow=7.7,SNR=3.7
ULM Lac du Bonnet 73.07 342 P **P 01 49 52.1 -0.3**
comp=Z,2.7nm,0.6s,baz=177,slow=4.2,SNR=3.3
ULM Lac du Bonnet 73.07 342 P **P 01 49 52.3 -0.2**
ULM IAmb IAmb 01 49 58.0
comp=Z,11nm,1.5s
NVAR Mina Array Bea 73.53 322 P **P 01 49 56.2 +0.5**
comp=Z,0.6nm,0.8s,baz=138,slow=5.5,SNR=4.2
SCHQ Schefferville 73.79 1 P **P 01 49 56.4 -0.3**
comp=Z,3.5nm,1.0s,baz=149,slow=5.9,SNR=3.5
TORD Torodi Ar. Bea 76.90 71 P **P 01 50 14.1 -1.2**
comp=Z,0.7nm,0.5s,baz=254,slow=5.7,SNR=18
TORD pP **pP 01 50 45.2 +0.5**
comp=Z,1.0nm,0.7s,baz=257,slow=6.2,SNR=3.2
ESDC Sonseca Array 84.45 45 P **P 01 50 55.9 +0.8**
comp=Z,0.8nm,1.0s,baz=232,slow=6.3,SNR=4.0
ESDC Sonseca Array 84.45 45 P **P 01 50 54.6 -0.5**
BOSA Boshof 84.79 118 P **P 01 50 57.5 +0.2**
comp=Z,4.2nm,1.1s,baz=194,slow=4.2,SNR=1.7
YKA Yellowknife Ar 88.95 341 P **P 01 51 16.9 +0.6**
comp=Z,5.4nm,0.8s,baz=135,slow=4.7,SNR=86
YKA pP **pP 01 51 46.6 +0.3**
comp=Z,0.7nm,0.5s,baz=134,slow=4.8,SNR=3.5
YKA Yellowknife Ar 88.95 341 P **P 01 51 16.5 +0.1**
DAVOX Davos/Dischmat 96.62 43 LR LR 02 36 03.5
comp=Z,29nm,18.1s,baz=272,slow=36
ASAR Alice Springs 131.75 209 PKP **PKPdf 01 57 35.7 +0.2**
comp=Z,0.4nm,0.5s,baz=115,slow=2.0,SNR=5.5
WRA Warramunga Arr 134.72 212 PKhKP PKPpre 01 57 36.3
comp=Z,0.5nm,1.0s,baz=137,slow=1.0,SNR=1.9
WRA PKP **PKPdf 01 57 41.5 +0.4**
comp=Z,0.8nm,0.8s,baz=142,slow=1.6,SNR=7.2
ZALV Zalesovo Beam 140.03 24 PKhKP PKPpre 01 57 46.6
comp=Z,1.2nm,0.5s,baz=321,slow=3.7,SNR=2.9
ZALV PKP **PKPdf 01 57 50.1 +0.3**
comp=Z,1.6nm,0.5s,baz=309,slow=2.0,SNR=8.3
MKAR Makanchi Array 143.96 34 PKP PKPab 01 57 54.9 +0.3
comp=Z,0.5nm,0.5s,baz=323,slow=2.5,SNR=6.7

USRK Ussuriysk Ar. 149.42 329 PKPbc **PKiKP 01 58 11.8 -0.1**
comp=Z,1.6nm,0.6s,baz=48,slow=2.1,SNR=3.5
USRK Ussuriysk Ar. 149.42 329 **PKPbc 01 58 10.9 0.0**
MJAR Matsushiro Arr 150.38 311 PKPbc **PKPbc 01 58 13.3 -0.1**
comp=Z,1.6nm,0.5s,baz=68,slow=1.3,SNR=6.6
SONM Songino Array 151.25 6 PKPbc **PKiKP 01 58 16.2 +0.4**
comp=Z,5.1nm,0.8s,baz=303,slow=1.7,SNR=12

IDC 17 02:10:45.9±4.6, 37.°05N×78.°24E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.0/44, mbtmp3.3/4, ML2.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/44, Error ellipse: s-maj=74.1km s-min=50.3km az=44.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.28**	**334**	Pn	Pn	02 12 23.6	+3.7
	0.2nm,0.3s,baz=170,slow=11,SNR=5.1						
AAK				Pg	Pb	02 12 39.9	+3.8
	0.3nm,0.3s,baz=171,slow=7.9,SNR=6.5						
AAK				Lg	Lg	02 13 56.7	
	0.2nm,0.3s,baz=146,slow=3.6,SNR=5.2						
MKAR	**Makanchi Array**	**10.19**	**16**	Pn	Pn	02 13 15.5	+2.1
	0.2nm,0.3s,baz=200,slow=14,SNR=19						
ZALV	**Zalesovo Beam**	**17.50**	**13**	P	Pn	02 14 50.5	-0.7
	0.1nm,0.3s,baz=199,slow=13,SNR=2.3						
VRAC	**Vranov**	**45.39**	**306**	LR	LR	02 39 51.3	
	comp=Z,41nm,18.1s,baz=76,slow=38						
YKA	**Yellowknife Ar**	**80.26**	**6**	P	P	02 22 58.2	+0.1
	0.2nm,0.8s,baz=342,slow=5.2,SNR=2.7						

IDC 17 02:13:19.8±1.6, 37.°30N×78.°30E, h0km, mb3.7/11, mb1 3.8/18, mb1mx3.6/48, mbtmp3.8/18, ML3.6/6, MS3.4/13, Ms1 3.4/13, ms1mx3.0/89, Error ellipse: s-maj=27.3km s-min=20.3km az=147.0
BJI 17 02:13:23.7±0.0, 37.°47N×78.°08E, h16km, mb3.8/5, mB4.5/4, ML4.2/5, Ms3.8/4, Ms7 3.7/4
NEIC 17 02:13:24.8±2.1, 37.°33N±0.°09×78.°5E±0.°1, h42km±10km, mb3.9/7, ML4.2(BJI), Error ellipse: s-maj=14.9km s-min=9.3km az=136.0
SOME 17 02:13:24.8, 37.°73N×78.°17E, h5km
NNC 17 02:13:27.9±1.4, 37.°77N×78.°19E, h13km±5km, mb4.8, mpv4.5, Error ellipse: s-maj=11.1km s-min=7.1km az=123.0
ISC 17 02:13:23.8±0.5, 37.°44N±0.°03×78.°31E±0.°05, h10km, n95, σ2s90/102, mb3.8/13, MS3.4/11, 8C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**4.31**	**355**	Pn	**Pn**	**02 14 29.3**	**-0.5**
TARG				Sn	**Sn**	**02 15 22.2**	**+2.0**
KDJ	**Kajisay**	**4.77**	**350**	Pn	**Pn**	**02 14 36.5**	**+0.6**
BOOM	**Boomskoye usch**	**5.37**	**341**	Pn	**Pn**	**02 14 45.5**	**+1.4**
DHRM	**DHARAMSHALA**	**5.43**	**198**	*ex*	**Pn**	**02 14 48.7**	**+3.7**
DHRM				*ex*	**Sb**	**02 16 02.5**	**-1.7**
DHRM				*i* x	**Sg**	**02 16 25.3**	**+7.0**
DHRM				IAML		02 16 33.1	
	comp=E,61nm,1.6s						
DHRM				IAML		02 16 33.3	
	comp=N,126nm,2.0s						
DHRM				IAMs_20	IAMs_20	02 16 52.4	
	comp=Z,2μm,8.4s						
JMU	**Jammu**	**5.48**	**212**	*i* x	**Sg**	**02 16 17.7**	**-1.9**
DRK	**Karamyk**	**5.50**	**294**	Pn	**Pn**	**02 14 46.2**	**+0.1**
DRK					**Sn**	**02 15 50.9**	**+1.3**
CHCP	**Chirah Chowk**	**5.58**	**229**	P	**Pn**	**02 14 48.8**	**+1.9**
SATY	**Saty**	**5.62**	**1**	*eP*	**Pb**	**02 15 05.2**	**+3.2**
SATY	comp=Z,67nm,0.6s			*eS*	**Sb**	**02 16 17.1**	**+7.6**
	comp=Z,100nm,0.8s						
SATY	**Saty**	**5.62**	**1**	Pg	**Pb**	**02 15 04.6**	**+2.6**
SATY	comp=Z,67nm,0.6s			Lg	Lg	02 16 17.1	
	comp=Z,100nm,0.8s						
TNSS	**Tian-Shan**	**5.69**	**350**	*eP*	**Pb**	**02 15 06.0**	**+2.5**
TNSS	comp=Z,47nm,0.3s			*eS*	**Sb**	**02 16 18.4**	**+6.6**
	comp=Z,76nm,1.0s						
TNSS	**Tian-Shan**	**5.69**	**350**	Pg	**Pb**	**02 15 05.1**	**+1.6**
TNSS	comp=Z,47nm,0.3s			Lg	Lg	02 16 18.4	
	comp=Z,76nm,1.0s						
ZHN	**Zhinishke**	**5.73**	**1**	*eP*	**Pb**	**02 15 07.5**	**+3.7**
ZHN	comp=Z,16nm,0.2s			*eS*	Sg	02 16 21.2	-6.4
	comp=Z,110nm,0.5s						
ZHN	**Zhinishke**	**5.73**	**1**	Pg	**Pb**	**02 15 06.5**	**+2.6**
ZHN	comp=Z,16nm,0.2s			Lg	Lg	02 16 21.1	
	comp=Z,110nm,0.5s						
UZB	**Uzynbulak**	**5.73**	**5**	*eP*	**Pb**	**02 15 07.1**	**+3.1**
UZB	comp=Z,46nm,0.4s			*eS*	**Sb**	**02 16 20.5**	**+7.7**
	comp=Z,56nm,0.7s						
UZB	**Uzynbulak**	**5.73**	**5**	Pg	**Pb**	**02 15 06.4**	**+2.4**
UZB	comp=Z,46nm,0.4s			Lg	Lg	02 16 20.6	
	comp=Z,56nm,0.7s						
SHLS	**Shalkode**	**5.78**	**8**	*eP*	Pb	02 15 10.2	+5.4
SHLS	comp=Z,44nm,0.4s			*eS*	**Sg**	**02 16 26.4**	**-3.1**
	comp=Z,113nm,0.4s						
SHLS	**Shalkode**	**5.78**	**8**	Pg	Pb	02 15 10.2	+5.4
SHLS	comp=Z,44nm,0.4s			Lg	Lg	02 16 26.4	
	comp=Z,113nm,0.4s						
MDOK	**Medeo**	**5.80**	**351**	*eP*	**Pb**	**02 15 06.8**	**+1.7**
MDOK	comp=Z,34nm,0.4s			*eS*	**Sb**	**02 16 20.2**	**+5.4**
	comp=Z,162nm,0.5s						
MDOK	**Medeo**	**5.80**	**351**	⇓Pg	**Pb**	**02 15 07.3**	**+2.1**
MDOK	comp=Z,55nm,0.6s			⇑Lg	Lg	02 16 22.3	
	comp=Z,222nm,0.7s						
MDOK	**Medeo**	**5.80**	**351**	Pg	**Pb**	**02 15 05.8**	**+0.6**
MDOK	comp=Z,34nm,0.4s			Lg	Lg	02 16 19.6	
	comp=Z,162nm,0.5s						
TKM2	**Tokmak 2**	**5.86**	**340**	⇓Pn	**Pn**	**02 14 51.2**	**+0.3**
TKM2	comp=Z,7.9nm,0.7s			⇑Pg	**Pb**	**02 15 07.6**	**+1.4**
	comp=Z,76nm,1.4s						
TKM2				⇓Lg	Lg	02 16 22.4	
	comp=Z,155nm,1.1s						
KNDC	**Almaty**	**5.87**	**350**	⇓Pg	**Pb**	**02 15 09.6**	**+3.4**
KNDC	comp=Z,146nm,0.8s			⇑Lg	Lg	02 16 23.5	
	comp=Z,598nm,0.8s						
MTBS	**Maitube**	**5.87**	**346**	*eP*	**Pb**	**02 15 08.6**	**+2.3**
MTBS	comp=Z,18nm,0.4s			*eS*	**Sb**	**02 16 23.5**	**+6.9**
	comp=Z,92nm,0.7s						
MTBS	**Maitube**	**5.87**	**346**	Pg	**Pb**	**02 15 08.6**	**+2.3**
MTBS	comp=Z,18nm,0.4s			Lg	Lg	02 16 23.5	
	comp=Z,92nm,0.7s						
AAK	**Ala-Archa**	**5.96**	**332**	Pn	**Pn**	**02 14 53.5**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=146,slow=8.2,SNR=8.0						
AAK				Pg	**Pb**	**02 15 08.6**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=212,slow=22,SNR=7.5						
AAK				Lg	Lg	02 16 24.7	
	comp=Z,3.9nm,0.3s,baz=200,slow=19,SNR=5.1						
AAK				LR	LR	02 17 34.9	
	comp=Z,308nm,18.1s,baz=148,slow=42						
AAK	**Ala-Archa**	**5.96**	**332**		**Pn**	**02 14 52.6**	**+0.3**
KPKS	**Kokpek**	**6.03**	**3**	*eP*	**Pb**	**02 15 10.7**	**+1.7**
KPKS	comp=Z,51nm,0.4s			*eS*	**Sb**	**02 16 26.9**	**+5.6**
	comp=Z,140nm,0.4s						
FRU1	**Bishkek**	**6.06**	**333**	Pn	**Pn**	**02 14 53.9**	**+0.3**
DGS	**Degeres**	**6.12**	**342**	*eP*	**Pb**	**02 15 14.0**	**+3.5**
DGS	comp=Z,39nm,0.5s			*eS*	Sg	02 16 32.7	-7.4
	comp=Z,91nm,0.9s						
DGS	**Degeres**	**6.12**	**342**	Pg	**Pb**	**02 15 13.3**	**+2.8**
DGS	comp=Z,39nm,0.5s			Lg	Lg	02 16 32.9	
	comp=Z,91nm,0.9s						
CEP	**Cherat**	**6.34**	**237**	P	**Pn**	**02 14 57.3**	**-0.2**
SMLA	**Simla**	**6.36**	**189**	*ex*	**Pn**	**02 15 00.4**	**+2.8**
SMLA				*ex*	**Sn**	**02 16 12.4**	**+2.0**
SMLA				IAML		02 16 54.0	
	comp=E,30nm,1.2s						
SMLA				IAML		02 16 58.3	
	comp=N,34nm,1.6s						
KTBS	**Karatobe**	**6.39**	**349**	*eP*	**Pb**	**02 15 19.1**	**+4.0**
	comp=N,12nm,0.7s						
KTBS				*eS*	Sg	02 16 41.4	-7.5
	comp=N,80nm,0.5s						
KTBS	**Karatobe**	**6.39**	**349**	Pg	**Pb**	**02 15 18.2**	**+3.0**
	comp=N,12nm,0.7s						
KTBS				Lg	Lg	02 16 41.1	
	comp=N,80nm,0.5s						
GAR	**Garm**	**6.49**	**286**	Pn	**Pn**	**02 15 00.7**	**+1.2**
KRBS	**Karabastau**	**6.57**	**343**	*eP*	**Pb**	**02 15 20.8**	**+2.6**
	comp=N,30nm,0.6s						
KRBS				*eS*	**Sb**	**02 16 44.5**	**+7.8**
	comp=N,50nm,0.4s						
KRBS	**Karabastau**	**6.57**	**343**	Pg	**Pb**	**02 15 19.7**	**+1.5**
	comp=N,30nm,0.6s						
KRBS				Lg	Lg	02 16 44.4	
	comp=N,50nm,0.4s						
SGDS	**Sogindy**	**6.63**	**336**	*eP*	**Pb**	**02 15 20.2**	**+1.0**
	comp=N,22nm,0.5s						
SGDS				*eS*	**Sb**	**02 16 43.8**	**+5.2**
	comp=N,28nm,0.6s						
SGDS	**Sogindy**	**6.63**	**336**	Pg	**Pb**	**02 15 21.4**	**+2.1**
	comp=N,22nm,0.5s						
SGDS				Lg	Lg	02 16 48.9	
	comp=N,28nm,0.6s						
THW	**Thamme Wali**	**7.10**	**231**	P	**Pn**	**02 15 08.1**	**+0.3**
CHGR	**Chuyangaron**	**7.33**	**282**		**Pn**	**02 15 12.1**	**+1.1**
TAS	**Tashkent**	**7.99**	**302**	Pn	**Pn**	**02 15 20.6**	**+0.6**
PTH	**Pithoragarh**	**8.02**	**168**	*ex*	**Sn**	**02 16 50.7**	**-0.9**
KBL	**Kabul**	**8.05**	**252**		**Pn**	**02 15 19.9**	**-1.1**
KK02	**Karatay Array**	**8.22**	**316**	⇓Pg	Pb	02 15 53.3	+7.1
	comp=N,8.1nm,0.7s						
KK02				⇑Lg	Lg	02 17 39.5	
	comp=N,22nm,0.7s						
KUDL	**Kundal**	**9.39**	**190**	*i* x	**Pn**	**02 15 39.5**	**+0.3**
KUDL				*ex*	**Pn**	**02 15 40.2**	**+1.0**
WMQ	**Urumqi**	**9.56**	**45**	*eP*	**Pn**	**02 15 43.0**	**+1.4**
WMQ				S	**Sn**	**02 17 30.0**	**+0.9**
WMQ				smax	smax		
	comp=N,44nm,0.7s						
WMQ				smax	smax		
	comp=N,36nm,0.9s						
WMQ				LR	LR		
	comp=N,350nm,14.7s						
WMQ				LR	LR		
	comp=N,360nm,10.7s						
WMQ				LR	LR		
	comp=N,170nm,19.5s						
MAKZ	**Makanchi**	**9.75**	**15**	Pn	**Pn**	**02 15 43.9**	**-0.2**
MAKZ	**Makanchi**	**9.75**	**15**	⇓Pn	**Pn**	**02 15 44.3**	**+0.2**
	comp=N,29nm,1.2s						
MAKZ				⇓Sn	**Sn**	**02 17 29.8**	**-3.9**
	comp=N,11nm,1.1s						
MK31	**Makanchi Array**	**9.80**	**16**	Pn	**Pn**	**02 15 44.7**	**-0.2**
MK31	**Makanchi Array**	**9.80**	**16**	⇑Pn	**Pn**	**02 15 44.6**	**-0.2**
	comp=N,11nm,0.6s,baz=201,slow=11,SNR=55						
MK31				⇓Sn	**Sn**	**02 17 32.2**	**-2.8**
	comp=N,15nm,0.8s,baz=199,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**9.80**	**16**	Pn	**Pn**	**02 15 45.3**	**+0.4**
	comp=N,1.7nm,0.3s,baz=201,slow=13,SNR=47						
MKAR				Sn	**Sn**	**02 17 30.7**	**-4.3**
	comp=N,1.4nm,0.3s,baz=202,slow=23,SNR=3.8						
MKAR	**Makanchi Array**	**9.80**	**16**	Pn	**Pn**	**02 15 44.0**	**-0.8**
AJM	**Ajmer**	**11.36**	**197**	*ex*	Pn	02 16 12.5	+6.3
AJM				*i* x	x	02 20 23.2	
ALBI	**Allahabad**	**12.45**	**165**	*ex*	**Pn**	**02 16 24.8**	**+3.7**
ALBI				*i* x	x	02 21 18.0	
KURBB	**Kurchatov Arra**	**13.18**	**1**	Pn	**Pn**	**02 16 29.9**	**-1.1**
	comp=N,0.0nm,0.3s,baz=189,slow=12,SNR=5.8						
KURBB				Lg	Lg	02 20 22.5	
	comp=N,0.0nm,0.3s,baz=190,slow=26,SNR=3.3						
KURK	**Kurchatov**	**13.28**	**1**		**Pn**	**02 16 30.7**	**-1.5**
GEYT	**Alibeck**	**16.00**	**278**	Pn	**Pn**	**02 17 06.9**	**-2.1**
	comp=N,0.9nm,0.3s,baz=134,slow=6.4,SNR=13						
GEYT				Sn	Sn	02 19 50.1	-16
	comp=N,0.2nm,0.3s,baz=44,slow=50,SNR=1.6						
GEYT				LR	LR	02 25 05.5	
	comp=N,151nm,18.5s,baz=116,slow=44						
GEYT	**Alibeck**	**16.00**	**278**	Pn	**Pn**	**02 17 08.8**	**-0.1**
GEYT				IAmb	IAmb	02 17 11.2	
	comp=Z,9.2nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**16.00**	**278**	P	**Pn**	**02 17 09.1**	**+0.1**
GYA0B				IAmb	IAmb	02 17 11.2	
	comp=Z,12nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**16.00**	**278**	⇑P	**Pn**	**02 17 10.2**	**+1.2**
BVAR	**Borovoye Array**	**16.54**	**343**	Pn	**Pn**	**02 17 13.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=81,slow=18,SNR=2.7						
BVAR				Lg	Lg	02 22 06.1	
	comp=Z,0.2nm,0.3s,baz=113,slow=23,SNR=3.8						
BRVK	**Borovoye**	**16.60**	**343**	Pn	**Pn**	**02 17 13.7**	**-2.7**
BRVK	**Borovoye**	**16.60**	**343**	⇑P	**Pn**	**02 17 12.4**	**-4.0**
	comp=Z,32nm,1.3s						
GTA	**Gaotai**	**16.96**	**77**	*eP*	**P**	**02 17 26.3**	**+3.0**
GTA				pP	sP	02 17 30.0	+2.0
GTA				sP	pP	02 17 32.3	+5.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,31nm,5.1s						
GTA				LR	LR		
	comp=Z,160nm,14.5s						
GTA				LR	LR		
	comp=Z,180nm,12.0s						
GTA				LR	LR		
	comp=Z,220nm,12.4s						
ZAA0	**Zalesovo Array**	**17.11**	**13**	Pn	**Pn**	**02 17 19.4**	**-3.5**
ZAA0				IAmb	IAmb	02 17 34.3	
	comp=Z,5.5nm,0.8s						
ZALV	**Zalesovo Beam**	**17.11**	**13**	P	**Pn**	**02 17 20.2**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=204,slow=9.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**17.11**	**13**	P	**Pn**	**02 17 20.5**	**-2.4**
AB31	**Akbulak array**	**17.78**	**317**	P	**Pn**	**02 17 33.2**	**+1.9**
	comp=Z,3.8nm,1.2s,baz=122,slow=13,SNR=15						
ABKAR	**Akbulak array**	**17.78**	**317**	P	**Pn**	**02 17 28.2**	**-3.1**
AKTO	**Aktyubinsk**	**19.48**	**318**	P	**P**	**02 17 48.7**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=97,slow=16,SNR=4.1						
AKTO	**Aktyubinsk**	**19.48**	**318**	⇑P	**P**	**02 17 51.1**	**+0.4**
	comp=Z,3.4nm,0.8s						
SONM	**Songino Array**	**23.01**	**54**	P	**P**	**02 18 28.0**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=234,slow=9.0,SNR=6.4						
SONM				LR	LR	02 29 05.6	
	comp=Z,

TORD	**Torodi Ar. Bea**	**71.56**	**273**	P		P	02 24 42.1	-3.3
	comp=Z,0.5nm,0.6s,baz=39,slow=5.3,SNR=5.4							
ILAR	**Eielson Array**	**72.15**	**19**	P		**P**	**02 24 45.0**	**-3.2**
	comp=Z,0.2nm,0.6s,baz=323,slow=4.8,SNR=2.3							
YKA	**Yellowknife Ar**	**79.87**	**6**	P		**P**	**02 25 30.8**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=347,slow=5.2,SNR=3.7							

*IDC **17** 02:20:25.0±1.2,6°.75N×72°.88W,h168km±11km,mb3.1/4, mb1 3.6/6,mb1mx3.3/30,mbtmp3.8/6,MS2.1/1,Ms1 2.1/1, ms1mx2.0/18,Error ellipse: s-maj=25.2km s-min=14.2km az=132.0*

*NEIC **17** 02:20:25.0±1.3,6°.81N±0°.06×73°.13W±0°.08,h154km±6km, mb4.4/6,Mwr4.0(RSNC),Error ellipse: s-maj=12.8km s-min=8.4km az=116.0*

*RSNC **17** 02:20:25.6±0.9,6°.81N×73°.17W,h150km±4km,ML3.9, Mw4.0,Fault plane solution: NP1:φs116.00000°, δ82.00000°,λ-130.00000°.*

ISC 17 02:20:24.1±0.7,6°.83N±0°.03×73°.13W±0°.03,h157km±6km, n66,σ1°45/104,mb4.1/8,8C-8D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
BARC	**Barichara**	**0.24**	**193**	⇓*i*P		**Pn**	**02 20 46.0**	**+0.3**
BARC				*e*S		**Sn**	**02 21 01.2**	**-0.9**
BARC				*i*			02 21 02.6	
	comp=Z,2μm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑*i*P		**Pn**	**02 20 48.8**	**+1.1**
PAMC				*e*S		**Sn**	**02 21 05.9**	**+0.2**
PAMC				*i*			02 21 09.3	
	comp=Z,847nm,0.5s							
RUSC	**La Rusia**	**0.93**	**177**	⇓*i*P		**Pn**	**02 20 49.9**	**+0.3**
RUSC				*e*S		**Sn**	**02 21 08.1**	**-0.9**
RUSC				*i*			02 21 10.1	
	comp=Z,1μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P		**Pn**	**02 20 52.5**	**-0.2**
PTBC				*e*S		**Sn**	**02 21 13.1**	**-1.6**
PTBC				*i*			02 21 20.2	
	comp=Z,694nm,0.4s							
TAMC	**Tame, Arauca**	**1.38**	**106**	⇑*i*P		**Pn**	**02 20 54.4**	**+1.3**
TAMC				*i*			02 21 15.3	
	comp=Z,428nm,0.5s							
TAMC				*e*S		**Sn**	**02 21 15.8**	**+0.6**
OCAC	**Ocana**	**1.41**	**352**			**Pn**	**02 20 53.9**	**+0.4**
OCAC					Sn	**Sn**	**02 21 16.6**	**+0.4**
OCAC	**Ocana**	**1.41**	**352**	⇑*i*P		**Pn**	**02 20 54.0**	**+0.5**
OCAC				*e*S		**Sn**	**02 21 16.8**	**+0.7**
OCAC				*i*			02 21 24.5	
	comp=Z,2μm,0.2s							
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P		**Pn**	**02 20 54.9**	**+0.6**
SPBC				*e*S		**Sn**	**02 21 16.7**	**-0.8**
SPBC				*i*			02 21 21.9	
	comp=Z,1μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**			**Pn**	**02 20 57.9**	**+0.1**
NORC	**Norcasia**	**2.14**	**234**	*e*P		**Pn**	**02 21 01.7**	**+0.4**
NORC				*e*S		**Sn**	**02 21 29.4**	**-0.6**
NORC				*i*			02 21 36.9	
	comp=Z,459nm,0.2s							
CHIC	**Chingaza**	**2.27**	**195**	⇓*i*P		**Pn**	**02 21 03.7**	**+0.5**
CHIC				*e*S		**Sn**	**02 21 33.3**	**0.0**
CHIC				*i*			02 21 37.0	
	comp=Z,491nm,0.7s							
ROSC	**El Rosal**	**2.30**	**211**	P		**Pn**	**02 21 05.7**	**+2.1**
	comp=Z,133nm,0.3s,baz=41,slow=20,SNR=182							
ROSC				S		**Sn**	**02 21 32.7**	**-1.4**
	comp=Z,84nm,0.3s,baz=93,slow=18,SNR=7.3							
ROSC	**El Rosal**	**2.30**	**211**	Pn		**Pn**	**02 21 05.0**	**+1.4**
ROSC				Sn		**Sn**	**02 21 33.9**	**-0.2**
ROSC	**El Rosal**	**2.30**	**211**	⇓*i*P		**Pn**	**02 21 05.7**	**+2.1**
ROSC				*e*S		**Sn**	**02 21 33.5**	**-0.6**
ROSC				*i*			02 21 40.7	
	comp=Z,2μm,0.4s							
HELC	**Santa Helena**	**2.47**	**255**	*e*P		**Pn**	**02 21 06.3**	**+0.8**
HELC				*e*S		**Sn**	**02 21 37.1**	**-0.3**
HELC				*i*			02 21 46.2	
	comp=Z,319nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P		**Pn**	**02 21 05.6**	**-0.6**
UREC				*e*S		**Sn**	**02 21 36.6**	**-2.3**
UREC				*i*			02 21 47.4	
	comp=Z,399nm,0.2s							
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P		**Pn**	**02 21 10.5**	**+2.2**
LL1C				*e*S		**Sn**	**02 21 45.3**	**+2.6**
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P		**Pn**	**02 21 09.9**	**+0.9**
GUY2C				*e*S		**Sn**	**02 21 43.4**	**-0.1**
GUY2C				*i*			02 21 52.2	
	comp=Z,560nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*i*P		**Pn**	**02 21 09.2**	**-0.1**
PTGC				*e*S		**Sn**	**02 21 42.1**	**-2.0**
PTGC				*i*			02 21 44.7	
	comp=Z,181nm,0.4s							
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P		**Pn**	**02 21 10.5**	**+0.1**
LL6C				*e*S		**Sn**	**02 21 46.0**	**-0.4**
LL6C				*i*			02 21 59.9	
	comp=Z,182nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.02**	**252**	⇑*e*P		**Pn**	**02 21 13.4**	**+1.2**
CBOC				*e*S		**Sn**	**02 21 48.4**	**-1.0**
CBOC				*i*			02 22 01.0	
	comp=Z,114nm,0.5s							
DBBC	**Dabeiba**	**3.06**	**274**	⇑*e*P		**Pn**	**02 21 13.3**	**+0.7**
DBBC				*e*S		**Sn**	**02 21 48.7**	**-1.5**
DBBC				*i*			02 21 53.6	
	comp=Z,1μm,0.5s							
MOTC	**Monteria, Cord**	**3.17**	**308**	⇓*e*P		**Pn**	**02 21 12.9**	**-1.0**
MOTC				*e*S		**Sn**	**02 21 51.0**	**-1.6**
MOTC				*i*			02 22 06.9	
	comp=Z,306nm,0.5s							
SDV	**Santo Domingo**	**3.21**	**50**	P		**Pn**	**02 21 15.3**	**+0.8**
	comp=Z,110nm,0.3s,baz=216,slow=9.8,SNR=1043							
SDV				S		**Sn**	**02 21 52.6**	**-1.0**
	comp=Z,20nm,0.3s,baz=260,slow=21,SNR=8.2							
SDV				LR		LR	02 22 22.0	
	comp=Z,32nm,18.5s,baz=205,slow=38							
SDV	**Santo Domingo**	**3.21**	**50**	*i* P		**Pn**	**02 21 15.4**	**+0.8**
SDV				*e*S		**Sn**	**02 21 51.3**	**-2.4**
ANIL	**Santa Ana**	**3.24**	**224**	*e*P		**Pn**	**02 21 16.0**	**+0.9**
ANIL				*e*S		**Sn**	**02 21 55.7**	**+1.0**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*P		**Pn**	**02 21 20.2**	**+0.9**
ORTC				*e*S		**Sn**	**02 22 01.7**	**-0.4**
ORTC				*i*			02 22 07.4	
	comp=Z,253nm,0.2s							
ELOV	**Elorza**	**3.62**	**87**	⇑*i*P		**Pn**	**02 21 20.1**	**+0.5**
ELOV				*e*S		**Sn**	**02 22 01.6**	**-1.3**
SJCC	**San Jacinto, C**	**3.66**	**326**			**Pn**	**02 21 19.7**	**-0.5**
SJCC	**San Jacinto, C**	**3.66**	**326**	⇓*e*P		**Pn**	**02 21 19.6**	**-0.7**
SJCC				*e*S		**Sn**	**02 22 01.0**	**-2.9**
SJCC				*i*			02 22 20.5	
	comp=Z,131nm,0.7s							
PLMC	**San Jos del P**	**3.67**	**239**	⇑*e*P		**Pn**	**02 21 21.3**	**+0.9**
PLMC				*e*S		**Sn**	**02 22 03.0**	**-1.2**
PLMC				*i*			02 22 11.4	
	comp=Z,93nm,0.3s							
LCBC	**Los crdobas,**	**3.79**	**302**	*e*P		**Pn**	**02 21 22.2**	**+0.3**
LCBC				*e*S		**Sn**	**02 22 05.5**	**-1.2**
LCBC				*i*			02 22 10.8	
	comp=Z,133nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	⇑*e*P		**Pn**	**02 21 26.1**	**-0.8**
CRJC				*e*S		**Sn**	**02 22 13.2**	**-2.6**
CRJC				*i*			02 22 21.3	
	comp=Z,219nm,0.3s							
GUVC	**San Jose del G**	**4.29**	**173**	*e*P		**Pn**	**02 21 27.8**	**-0.5**
GUVC				*e*S		**Sn**	**02 22 17.1**	**-1.3**
GUVC				*i*			02 22 23.7	
	comp=Z,224nm,0.2s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P		**Pn**	**02 21 30.6**	**+0.3**
SMRC				*e*S		**Sn**	**02 22 19.3**	**-2.7**
SMRC				*i*			02 22 21.5	
	comp=Z,92nm,0.4s							
MACC	**Macarena, Meta**	**4.71**	**189**	⇓*e*P		**Pn**	**02 21 32.8**	**-1.0**
MACC				*e*S		**Sn**	**02 22 24.2**	**-4.1**
MACC				*i*			02 22 30.3	
	comp=Z,168nm,0.8s							
BETC	**Betania**	**4.72**	**209**	*e*P		**Pn**	**02 21 34.1**	**+0.1**
BETC				*e*S		Sn	02 22 17.4	-11
BETC				*i*			02 22 38.2	
	comp=Z,74nm,0.5s							
DABV	**Dabajuro**	**4.75**	**31**	*e*P		**Pn**	**02 21 34.8**	**+0.4**
DABV				*e*S		**Sn**	**02 22 25.2**	**-4.1**
URIC	**Uribia, Colomb**	**4.97**	**13**			**Pn**	**02 21 36.4**	**-0.8**
GARC	**Garzon, Huila**	**5.18**	**207**	*e*P		**Pn**	**02 21 40.0**	**-0.3**
GARC				*e*S		**Sn**	**02 22 36.8**	**-3.0**
GARC				*i*			02 22 42.6	
	comp=Z,129nm,0.5s							
POPC	**Popayan, Colom**	**5.54**	**220**	*e*P		**Pn**	**02 21 45.1**	**+0.1**
POPC				*e*S		**Sn**	**02 22 42.3**	**-5.9**
FLOC	**Florencia**	**5.79**	**206**	*e*P		**Pn**	**02 21 48.4**	**+0.2**
FLOC				*e*S		**Sn**	**02 22 53.1**	**-0.8**
FLOC				*i*			02 23 00.0	
	comp=Z,33nm,0.4s							
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn		**Pn**	**02 22 04.1**	**-0.6**
BIRV	**Birongo**	**7.69**	**61**	Pn		**Pn**	**02 22 11.8**	**-1.6**
OTAV	**Otavalo**	**8.43**	**219**			**Pn**	**02 22 23.4**	**-0.3**
DRK0	**Durika**	**10.31**	**284**	Pn		**Pn**	**02 22 48.7**	**+0.4**
MTDJ	**Mount Denham**	**12.12**	**340**			**Pn**	**02 23 14.1**	**+2.3**
CBYP	**Canovanas**	**13.40**	**31**	Pn		**Pn**	**02 23 27.5**	**-0.8**
MTP	**Monte Pirata**	**13.42**	**33**	Pn		**Pn**	**02 23 27.7**	**-0.7**
CDVI	**St. Croix**	**13.58**	**36**	Pn		**Pn**	**02 23 31.6**	**+1.1**
BBGH	**Gun Hill**	**14.76**	**64**	Pn		**Pn**	**02 23 45.9**	**+0.6**
Y49A	**Blount Mountai**	**29.57**	**337**	P		**P**	**02 26 16.3**	**+2.1**
Y49A				IAmb		IAmb	02 26 45.2	
	comp=Z,12nm,1.4s							
V48A	**Smith Brothers**	**31.40**	**338**	P		**P**	**02 26 32.2**	**+1.9**
V48A				IAmb		IAmb	02 26 33.6	
	comp=Z,4.6nm,0.9s							
U40A	**Yellville**	**34.49**	**331**	P		**P**	**02 26 58.1**	**+1.0**
U40A				IAmb		IAmb	02 26 59.5	
	comp=Z,4.1nm,0.6s							
CCM	**Cathedral Cave**	**35.16**	**335**	P		**P**	**02 27 03.5**	**+0.7**
CCM				IAmb		IAmb	02 27 05.0	
	comp=Z,5.9nm,0.7s							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**02 27 15.7**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=129,slow=9.4,SNR=8.5							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**02 27 14.9**	**+0.7**
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**02 28 49.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=127,slow=9.7,SNR=4.5							
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**02 28 48.2**	**+0.2**
CTU	**Camp Tracy**	**48.19**	**320**	P		**P**	**02 28 48.7**	**-0.3**
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**02 30 36.4**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=132,slow=6.7,SNR=29							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**02 30 36.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**73.74**	**78**	P		**P**	**02 31 39.3**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=264,slow=4.3,SNR=1.8							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPbc**	**02 39 54.5**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=9.8							
ASAR	**Alice Springs**	**149.11**	**234**	PKPdf		**PKPdf**	**02 39 49.6**	**-0.9**
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc		**PKPbc**	**02 39 57.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=107,slow=2.6,SNR=13							

*IDC **17** 02:23:38.4±1.0,49°.71S×125°.59E,h0km,mb4.4/6, mb1 4.6/6,mb1mx4.2/31,mbtmp4.4/6,MS3.8/21, Ms1 3.7/21,ms1mx3.5/51,Error ellipse: s-maj=49.6km s-min=18.2km az=94.0*

*NEIC **17** 02:23:39.1±0.5,49°.79S±0°.10×125°.7E±0°.2,h10km±1km, mb4.6/12,Error ellipse: s-maj=23.1km s-min=15.5km az=113.0*

ISC 17 02:23:39.1±0.7,49°.74S±0°.08×125°.4E±0°.2,h10km,n49, σ1°08/29,mb4.7/12,MS3.8/21,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
H01W1	**Cape Leeuwin H**	**16.98**	**327**	T		T	02 44 60.0	
	baz=159,slow=79,SNR=75							
H01W2	**Cape Leeuwin H**	**16.98**	**327**	T		T	02 44 56.3	
	baz=159,slow=79,SNR=87							
H01W3	**Cape Leeuwin H**	**17.00**	**327**	T		T	02 45 01.4	
	baz=159,slow=79,SNR=72							
NWAO	**Narrogin (SRO)**	**17.86**	**337**	Pn		**Pn**	**02 27 47.1**	**-0.5**
NWAO				IAmb		IAmb	02 27 51.2	
	comp=Z,25nm,0.9s							
BBOO	**Buckleboo**	**18.67**	**29**	P		**P**	**02 27 56.0**	**-1.2**
BBOO	**Buckleboo**	**18.67**	**29**	P		**Pn**	**02 27 58.7**	**+1.1**
	comp=Z,25nm,0.9s							
WHYH	**Whyalla**	**18.98**	**33**	P		**Pn**	**02 28 02.6**	**+1.4**
	comp=Z,19nm,1.1s							
FORT	**Forrest**	**19.04**	**7**	P		**P**	**02 28 01.2**	**-0.1**
FORT				IAmb		IAmb	02 28 04.3	
	comp=Z,53nm,0.9s							
FORT	**Forrest**	**19.04**	**7**	P		**Pn**	**02 28 02.4**	**+0.4**
	comp=Z,62nm,1.0s							
NAPP	**Napperby**	**19.05**	**34**	P		**Pn**	**02 28 03.4**	**+1.3**
	comp=Z,24nm,0.8s							
MULG	**Mulgathing**	**20.50**	**22**	P		**P**	**02 28 17.8**	**+0.6**
	comp=Z,24nm,1.2s							
LCRK	**Leigh Creek**	**21.55**	**31**	P		**P**	**02 28 30.2**	**+1.6**
	comp=Z,118nm,1.1s							
STKA	**Stephens Creek**	**21.56**	**40**	P		**P**	**02 28 28.9**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=178,slow=10,SNR=8.2							
STKA				LR		LR	02 35 21.4	
	comp=Z,233nm,20.2s,baz=204,slow=33							
STKA	**Stephens Creek**	**21.56**	**40**	P		**P**	**02 28 26.9**	**-1.7**
MORW	**Morawa**	**21.84**	**337**	P		**P**	**02 28 32.3**	**+0.6**
MORW				IAmb		IAmb	02 28 37.8	
	comp=Z,30nm,0.9s							
OOD	**Oodnadatta**	**23.28**	**24**	P		**P**	**02 28 47.7**	**+0.8**
	comp=Z,44nm,1.8s							
CMSA	**Cobar Meteorol**	**23.69**	**47**	P		P	02 28 59.6	+8.7
	comp=Z,16nm,1.1s							
INKA	**Innaminka**	**24.91**	**34**	P		**P**	**02 29 05.1**	**+2.9**
	comp=Z,58nm,1.6s							
ASAR	**Alice Springs**	**26.86**	**17**	P		**P**	**02 29 19.9**	**0.0**
	comp=Z,11nm,0.8s,baz=191,slow=9.2,SNR=42							
ASAR				LR		LR	02 38 51.1	
	comp=Z,226nm,21.1s,baz=166,slow=34							
ASAR	**Alice Springs**	**26.86**	**17**	P		**P**	**02 29 19.2**	**-0.7**
AS31	**Alice Springs**	**26.86**	**17**	P		**P**	**02 29 19.2**	**-0.8**
WRA	**Warramunga Arr**	**30.57**	**17**	P		**P**	**02 29 52.8**	**-0.1**
	comp=Z,3.1nm,1.0s,baz=194,slow=8.0,SNR=11							
WRA				LR		LR	02 41 34.7	
	comp=Z,256nm,18.4s,baz=202,slow=35							
WB2	**Warramunga Arr**	**30.57**	**17**	P		**P**	**02 29 52.2**	**-0.8**
WR0	**Warramunga Arr**	**30.59**	**17**	P		**P**	**02 29 52.9**	**-0.2**
WB0	**Warramunga Arr**	**30.75**	**17**	P		**P**	**02 29 54.0**	**-0.5**
VNDA	**Vanda**	**31.10**	**166**	P		**P**	**02 29 58.1**	**+1.0**
	comp=Z,5.6nm,0.8s,baz=308,slow=9.8,SNR=18							
VNDA				LR		LR	02 41 46.0	
	comp=Z,202nm,18.2s,baz=303,slow=35							
VNDA	**Vanda**	**31.10**	**166**	P		**P**	**02 29 55.6**	**-1.5**
VNDA				IAmb		IAmb	02 30 05.5	
	comp=Z,12nm,0.8s							
RPZ	**Rata Peaks**	**31.47**	**97**	LR		LR	02 39 53.4	
	comp=Z,87nm,21.5s,baz=196,slow=31							
FITZ	**Fitzroy Crossi**	**31.56**	**0**	LR		LR	02 41 36.0	
	comp=Z,205nm,21.0s,baz=177,slow=34							
CTA	**Charters Tower**	**33.92**	**37**	LR		LR	02 43 52.3	
	comp=Z,170nm,18.9s,baz=254,slow=36							
BATI	**Baumata**	**39.43**	**357**	LR		LR	02 46 37.4	
	comp=Z,22nm,21.2s,baz=245,slow=35							
QSPA	**South Pole Qui**	**40.39**	**180**	P		**P**	**02 31 17.5**	**+0.6**
	comp=Z,4.8nm,1.1s,baz=342,slow=2.0,SNR=7.8							
QSPA				LR		LR	02 47 03.5	
	comp=Z,253nm,18.6s,baz=274,slow=35							
QSPA	**South Pole Qui**	**40.39**	**180**	P		**P**	**02 31 16.7**	**-0.3**
QSPA				IAmb		IAmb	02 31 25.1	
	comp=Z,15nm,1.3s							
PMG	**Port Moresby**	**44.09**	**32**	LR		LR	02 48 46.3	
	comp=Z,74nm,20.6s,baz=203,slow=34							
BELA	**Belgrano 2**	**52.06**	**185**	P		**P**	**02 32 48.3**	**-0.1**
BELA				IAmb		IAmb	02 32 55.8	
	comp=Z,9.9nm,1.0s							
SNAA	**Sanae**	**53.51**	**198**	LR		LR	02 54 19.0	
	comp=Z,289nm,20.0s,baz=122,slow=34							
AFI	**Afiamalu**	**61.99**	**78**	LR		LR	02 56 56.8	
	comp=Z,48nm,18.1s,baz=3.0,slow=32							
GUMO	**Guam**	**65.34**	**21**	LR		LR	03 02 50.9	
	comp=Z,23nm,19.0s,baz=166,slow=36							
PALK	**Palmyra**	**68.79**	**312**	LR		LR	03 03 00.5	
	comp=Z,22nm,18.8s,baz=261,slow=34							
CMAR	**Chiang Mai Arr**	**71.83**	**334**	P		**P**	**02 35 03.2**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=186,slow=5.5,SNR=11							
CMAR	**Chiang Mai Arr**	**71.83**	**334**	P		**P**	**02 35 02.4**	**+0.5**
SUR	**Sutherland**	**74.51**	**238**	LR		LR	03 01 29.5	
	comp=Z,59nm,18.2s,baz=172,slow=30							
BOSA	**Boshof**	**74.82**	**244**	LR		LR	03 01 18.8	
	comp=Z,68nm,19.4s,baz=107,slow=30							
MATP	**Matopo**	**79.00**	**252**	LR		LR	03 04 33.6	
	comp=Z,67nm,20.4s,baz=158,slow=31							
LSZ	**Lusaka**	**83.08**	**255**	LR		LR	03 05 13.4	
	comp=Z,57nm,19.7s,baz=176,slow=30							
KSRS	**Korea Array**	**86.84**	**2**	LR		LR	03 13 30.8	
	comp=Z,12nm,21.7s,baz=325,slow=34							
MBAR	**Mbarara**	**92.58**	**266**	LR		LR	03 11 08.7	
	comp=Z,51nm,18.6s,baz=173,slow=31							
KLR	**Kul'dur**	**98.73**	**4**	LR		LR	03 20 45.2	
	comp=Z,19nm,20.1s,baz=84,slow=35							
YKA	**Yellowknife Ar**	**145.53**	**45**	PKPbc		**PKPdf**	**02 43 16.0**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=262,slow=3.0,SNR=16							

*NNC **17** 02:25:34.9±1.6,37°.66N×77°.81E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=16.8km s-min=10.7km az=83.0*

SOME 17 02:25:32.6,37°.67N×77°.88E,h10km,2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
SATY	**Saty**	**5.40**	**4**	*e*P		Pg	02 27 14.9	-1.1
SATY	4.1nm,0.6s			*e*S		Sg	02 28 28.4	+2.4
	9.9nm,0.5s							
SATY	**Saty**	**5.40**	**4**	Pg		Pg	02 27 14.9	-1.1
SATY	4.1nm,0.6s			Lg		Lg	02 28 28.3	
	9.9nm,0.5s							
TNSS	**Tian-Shan**	**5.41**	**353**	*e*P		Pg	02 27 14.0	-2.3
TNSS	3.4nm,0.4s			*e*S		Sg	02 28 27.0	+0.6
	4.2nm,0.4s							
TNSS	**Tian-Shan**	**5.41**	**353**	Pg		Pg	02 27 14.0	-2.3
TNSS	3.4nm,0.4s			Lg		Lg	02 28 27.0	
	4.2nm,0.4s							
MDOK	**Medeo**	**5.53**	**354**	*e*P		Pg	02 27 16.7	-1.7
MDOK	1.2nm,0.2s			*e*S		Sg	02 28 31.4	+1.4
	9.1nm,0.2s							
MDOK	**Medeo**	**5.53**	**354**	Pg		Pg	02 27 15.4	-3.0
MDOK	6.4nm,1.0s			Lg		Lg	02 28 31.1	
	11nm,0.6s							
MDOK	**Medeo**	**5.53**	**354**	Pg		Pg	02 27 16.7	-1.7
MDOK	1.2nm,0.2s			Lg		Lg	02 28 31.4	
	9.1nm,0.2s							
TKM2	**Tokmak 2**	**5.53**	**342**	⇓Pg		Pg	02 27 14.7	-3.8
TKM2	1.7nm,0.6s			⇓Lg		Lg	02 28 31.1	
	8.1nm,1.1s							
UZB	**Uzynbulak**	**5.54**	**9**	*e*P		Pg	02 27 14.8	-3.9
UZB	4.7nm,0.3s			*e*S		Sg	02 28 28.3	-2.2
	4.8nm,0.5s							
UZB	**Uzynbulak**	**5.54**	**9**	Pg		Pg	02 27 14.8	-3.9
UZB	4.7nm,0.3s			Lg		Lg	02 28 28.3	
	4.8nm,0.5s							
MTBS	**Maitube**	**5.57**	**349**	*e*P		Pg	02 27 16.5	-2.7
MTBS	1.6nm,0.1s			*e*S		Sg	02 28 31.1	-0.3
	5.0nm,0.5s							
MTBS	**Maitube**	**5.57**	**349**	Pg		Pg	02 27 16.5	-2.7
MTBS	1.6nm,0.1s			Lg		Lg	02 28 31.1	
	5.0nm,0.5s							
KOTS	**Kotyrbulak**	**5.59**	**354**	*e*P		Pg	02 27 18.4	-1.3
KOTS	3.1nm,0.4s			*e*S		Sg	02 28 34.4	+2.3
	12nm,0.3s							
KOTS	**Kotyrbulak**	**5.59**	**354**	Pg		Pg	02 27 18.4	-1.3
KOTS	3.1nm,0.4s			Lg		Lg	02 28 34.4	
	12nm,0.3s							
SHLS	**Shalkode**	**5.62**	**12**	*e*P		Pg	02 27 18.8	-1.3
SHLS	2.6nm,0.2s			*e*S		Sg	02 28 35.0	+2.1
	12nm,0.6s							
SHLS	**Shalkode**	**5.62**	**12**	Pg		Pg	02 27 18.8	-1.3
SHLS	2.6nm,0.2s			Lg		Lg	02 28 35.0	
	12nm,0.6s							
DGS	**Degeres**	**5.80**	**345**	*e*P		Pg	02 27 19.8	-3.8
DGS	1.8nm,0.3s			*e*S		Sg	02 28 36.8	-1.9
	4.5nm,0.6s							
DGS	**Degeres**	**5.80**	**345**	Pg		Pg	02 27 19.8	-3.8
DGS	1.8nm,0.3s			Lg		Lg	02 28 36.8	
	4.5nm,0.6s							
KPKS	**Kokpek**	**5.83**	**6**	*e*P		Pg	02 27 21.3	-2.8
KPKS	3.4nm,0.3s			*e*S		Sg	02 28 39.4	-0.2
	9.5nm,0.4s							
KTBS	**Karatobe**	**6.11**	**352**	*e*P		Pg	02 27 26.8	-2.7
KTBS	1.2nm,0.3s			*e*S		Sg	02 28 49.0	+0.4
	5.8nm,0.3s							
KTBS	**Karatobe**	**6.11**	**352**	Pg		Pg	02 27 26.8	-2.7
KTBS	1.2nm,0.3s			Lg		Lg	02 28 49.0	
	5.8nm,0.3s							
KRBS	**Karabastau**	**6.25**	**345**	*e*P		Pg	02 27 30.1	-2.2
KRBS	1.1nm,0.3s			*e*S		Sg	02 28 54.3	+1.0
	3.7nm,0.6s							
BLB	**Baldybastay**	**6.44**	**4**	*e*P		Pg	02 27 33.5	-2.4
BLB	4.6nm,0.3s			*e*S		Sg	02 29 00.3	+1.0
	4.5nm,0.4s							
BLB	**Baldybastay**	**6.44**	**4**	Pg	

YUK				*e*S		**Sn**	**02 50 29.2 +0.1**
YUK				A		A	02 50 31.4
	680nm,0.4s						
YUK				A		A	02 50 31.4
	450nm,0.4s						
JMP	**Maruseppu**	**1.63**	**316**	P		**Pn**	**02 50 14.9 +0.1**
JMP				*e*S		**Sn**	**02 50 34.8 -0.4**
JNBK	**Urakawa-nobuka**	**1.70**	**252**	P		**Pn**	**02 50 15.3 -0.3**
SHO	**Shikotan**	**1.73**	**53**	*e*P		**Pn**	**02 50 16.0 +0.1**
SHO				AMB		AMB	02 50 16.8
	30nm,0.2s						
SHO				*e*S		**Sn**	**02 50 36.0 -1.3**
SHO				A		A	02 50 38.1
	110nm,0.2s						
SHO				A		A	02 50 38.1
	150nm,0.2s						
KUR	**Kuril'sk**	**3.20**	**41**	*e*P		**Pn**	**02 50 36.7 +1.0**
KUR				AMB		AMB	02 50 40.2
	10.0nm,0.4s						

NEIC ***17*** *03:34:18.9±0.4, 36°.82N±0°.02×98°.28W±0°.02, h5km±5km, Error ellipse: s-maj=3.3km s-min=1.5km az=127.0*
TUL ***17*** *03:34:18.2±0.4, 36°.83N±0°.03×98°.28W±0°.02, h5km±5km, ML3.6, mb_Lg3.3/95(NEIC), Error ellipse: s-maj=4.1km s-min=1.3km az=147.0*
IDC ***17*** *03:34:19.8±2.1, 36°.96N×98°.66W, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.3/35, mbtmp3.0/4, ML3.8/3, MS2.9/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=28.3km s-min=14.6km az=87.0*
ANF ***17*** *03:34:20.9±0.8, 36°.82N×98°.25W, h21km±8km, ML4.3/14, Error ellipse: s-maj=5.0km s-min=3.5km az=27.0*

ISC 17 03:34:18.3±0.7,**36°.83N**±0°.03×**98°.29W**±0°.03,**h10**km,**n91**, σ1**9**15/68,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.73**	**232**		**Pg**	**03 34 32.4**	**+0.1**
T35A	**Sooner Cattle**	**1.43**	**86**		**Pn**	**03 34 44.5**	**+0.2**
OK009	**Oakdale Elemen**	**1.43**	**150**		**Pn**	**03 34 44.5**	**+0.3**
OKCFA	**Oklahoma City**	**1.56**	**154**		**Pn**	**03 34 46.5**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**1.58**	**154**	Pg	**Pn**	**03 34 47.0**	**+0.7**
R32A	**Long Quarter,**	**1.63**	**348**		**Pb**	**03 34 48.3**	**-0.1**
FNO	**Franklin**	**1.72**	**155**		**Pn**	**03 34 49.0**	**+0.7**
W35A	**Tecumseh**	**2.02**	**145**		**Pn**	**03 34 53.1**	**+0.7**
WMOK	**Wichita Mounta**	**2.12**	**191**	Pn	**Pn**	**03 34 54.9**	**+1.1**
WMOK	**Wichita Mounta**	**2.12**	**191**	P	**Pn**	**03 34 54.9**	**+1.1**
	baz=11						
WMOK				S	**Sb**	**03 35 23.6**	**+0.4**
	baz=11						
TUL1	**Leonard**	**2.21**	**114**	Pn	**Pn**	**03 34 55.2**	**+0.2**
TUL1	**Leonard**	**2.21**	**114**	P	**Pn**	**03 34 57.3**	**+2.3**
	baz=295						
TUL1				Sb	**Sb**	**03 35 27.3**	**+1.5**
	baz=295						
X34A	**Smith Ranch, M**	**2.25**	**170**	Pn	**Pn**	**03 34 56.0**	**+0.4**
CBKS	**Cedar Bluff**	**2.29**	**330**		**Pn**	**03 34 57.3**	**+1.1**
CBKS				lAmb_Lg		03 35 32.9	
	comp=Z,110nm,0.7s						
CBKS	**Cedar Bluff**	**2.29**	**330**	P	**Pn**	**03 34 57.7**	**+1.5**
	baz=150						
CBKS				S	**Sb**	**03 35 27.3**	**-0.9**
	baz=150						
KSU1	**Kansas State U**	**2.63**	**30**	Pn	**Pn**	**03 35 01.2**	**+0.4**
X37A	**Clayton**	**3.26**	**132**	Pn	**Pn**	**03 35 09.7**	**+0.3**
X37A				lAmb_Lg		03 36 02.5	
	comp=Z,85nm,1.0s						
AMTX	**Amarillo**	**3.37**	**236**	Pn	**Pn**	**03 35 11.4**	**+0.3**
AMTX				lAmb_Lg		03 36 13.0	
	comp=Z,84nm,0.9s						
AMTX	**Amarillo**	**3.37**	**236**	Pb	**Pb**	**03 35 19.2**	**+1.1**
	baz=54						
AMTX				Sb	**Sg**	**03 36 04.5**	**-2.0**
	baz=54						
HHAR	**Hobbs**	**3.54**	**98**	Pn	**Pn**	**03 35 13.6**	**+0.3**
HHAR				lAmb_Lg		03 36 18.1	
	comp=Z,78nm,0.8s						
Z35A	**Perchaven, San**	**3.59**	**166**		**Pn**	**03 35 14.1**	**+0.1**
Z35A				lAmb_Lg		03 36 20.9	
	comp=Z,73nm,1.0s						
N33A	**J Bar K, Exete**	**3.96**	**9**		**Pn**	**03 35 19.2**	**+0.1**
N33A				lAmb_Lg		03 36 29.9	
	comp=Z,56nm,0.8s						
W39A	**Magazine**	**4.00**	**113**		**Pn**	**03 35 20.5**	**+1.0**
W39A	**Magazine**	**4.00**	**113**	P	**Pn**	**03 35 20.9**	**+1.4**
	baz=296						
W39A				Sb	**Sg**	**03 36 23.6**	**-3.0**
	baz=296						
S39A	**Bolivar**	**4.05**	**76**	Pn	**Pn**	**03 35 20.8**	**+0.4**
KSCO	**Kaye Shedlock'**	**4.07**	**304**	Pn	**Pn**	**03 35 21.2**	**+0.5**
KSCO				lAmb_Lg		03 36 33.7	
	comp=Z,69nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.07**	**304**	S	**Sn**	**03 36 09.5**	**+1.1**
	baz=121						
ABTX	**Abilene, Hawle**	**4.34**	**195**	Pn	**Pn**	**03 35 24.6**	**+0.3**
U40A	**Yellville**	**4.40**	**95**		**Pn**	**03 35 25.6**	**+0.5**
U40A				lAmb_Lg		03 36 36.4	
	comp=Z,64nm,0.7s						
U40A	**Yellville**	**4.40**	**95**	P	**Pn**	**03 35 25.8**	**+0.7**
	baz=278						
U40A				S	**Sn**	**03 36 16.4**	**+0.1**
	baz=278						
MIAR	**Mount Ida**	**4.46**	**119**		**Pn**	**03 35 25.9**	**0.0**
MIAR				lAmb_Lg		03 36 38.6	
	comp=Z,59nm,0.8s						
MIAR	**Mount Ida**	**4.46**	**119**	P	**Pn**	**03 35 27.3**	**+1.4**
	baz=302						
Z38A	**Mt. Pleasant**	**4.47**	**142**	Pn	**Pn**	**03 35 26.5**	**+0.4**
Z38A				lAmb_Lg		03 36 44.0	
	comp=Z,64nm,0.8s						
N35A	**Tabor**	**4.53**	**26**	Pn	**Pn**	**03 35 27.1**	**+0.3**
BGNE	**Belgrade**	**4.58**	**1**	Pn	**Pn**	**03 35 28.0**	**+0.5**
BGNE	**Belgrade**	**4.58**	**1**	P	**Pn**	**03 35 28.8**	**+1.2**
	baz=181						
MSTX	**Muleshoe**	**4.64**	**233**	Pn	**Pn**	**03 35 28.9**	**+0.4**
MSTX				lAmb_Lg		03 36 49.4	
	comp=Z,50nm,0.9s						
MSTX	**Muleshoe**	**4.64**	**233**	Sb	**Sg**	**03 36 42.8**	**-4.5**
	baz=51						
P38A	**Dawn**	**4.67**	**52**	Pn	**Pn**	**03 35 29.9**	**+1.1**
P38A				lAmb_Lg		03 36 50.1	
	comp=Z,50nm,0.8s						
MGMO	**Mount Grove**	**4.83**	**84**		**Pn**	**03 35 32.0**	**+1.0**
MGMO				lAmb_Lg		03 36 53.3	
	comp=Z,44nm,0.7s						
WHTX	**Lake Whitney,**	**4.87**	**172**		**Pn**	**03 35 32.3**	**+0.7**
WHTX	**Lake Whitney,**	**4.87**	**172**	P	**Pn**	**03 35 32.3**	**+0.7**
	baz=352						
T25A	**Trinidad**	**4.91**	**275**	Pn	**Pn**	**03 35 33.1**	**+0.7**
R40A	**Maddies Statio**	**5.00**	**71**		**Pn**	**03 35 33.9**	**+0.6**
X40A	**Basin Creek Fa**	**5.01**	**116**		**Pn**	**03 35 34.4**	**+0.9**
X40A				lAmb_Lg		03 36 59.1	
	comp=Z,35nm,0.7s						
X40A	**Basin Creek Fa**	**5.01**	**116**	P	**Pn**	**03 35 35.0**	**+1.5**
	baz=299						
OGNE	**Ogallala**	**5.04**	**326**	Pn	**Pn**	**03 35 35.7**	**+1.7**
OGNE				lAmb_Lg		03 36 59.6	
	comp=Z,76nm,0.7s						
OGNE	**Ogallala**	**5.04**	**326**	P	**Pn**	**03 35 36.4**	**+2.3**
	baz=144						
FCAR	**Ozark Folk Cen**	**5.06**	**99**		**Pn**	**03 35 34.9**	**+0.7**
FCAR				lAmb_Lg		03 36 58.6	
	comp=Z,38nm,0.7s						
WHAR	**Wooly Hollow**	**5.09**	**106**	lAmb_Lg		03 37 08.1	
	comp=Z,70nm,1.1s						
W41B	**Gary Mavity, V**	**5.17**	**107**		**Pn**	**03 35 35.7**	**+0.1**
W41B				lAmb_Lg		03 37 06.6	
	comp=Z,45nm,0.7s						
W41B	**Gary Mavity, V**	**5.17**	**107**	P	**Pn**	**03 35 36.3**	**+0.7**
	baz=290						
237A	**Washetta, Mont**	**5.23**	**156**		**Pn**	**03 35 36.4**	**-0.1**
237A				lAmb_Lg		03 37 14.4	
	comp=Z,61nm,0.9s						
WLAR	**White Oak Lake**	**5.26**	**125**	Pn	**Pn**	**03 35 37.4**	**+0.4**
WLAR				lAmb_Lg		03 37 19.6	
	comp=Z,54nm,0.9s						
N38A	**Joes South For**	**5.59**	**43**		**Pn**	**03 35 41.6**	**+0.1**
P40A	**Paris**	**5.61**	**59**	lAmb_Lg		03 37 19.3	
	comp=Z,68nm,0.9s						
CCM	**Cathedral Cave**	**5.74**	**76**	lAmb_Lg		03 37 25.5	
	comp=Z,35nm,0.9s						
Z41A	**Richland Creek**	**5.74**	**127**	lAmb_Lg		03 37 35.4	
	comp=Z,44nm,0.8s						
Z41A	**Richland Creek**	**5.74**	**127**	S	**Sn**	**03 36 47.9**	**-1.4**
	baz=310						
LCAR	**Lake Charles**	**5.80**	**95**	lAmb_Lg		03 37 24.9	
	comp=Z,43nm,0.7s						
Q24A	**Divide**	**5.83**	**294**	lAmb_Lg		03 37 31.5	
	comp=Z,32nm,0.8s						
435B	**Jarrell**	**6.06**	**174**	lAmb_Lg		03 37 43.2	
	comp=Z,52nm,0.8s						
CCAR	**Cane Creek**	**6.06**	**117**	lAmb_Lg		03 37 43.2	
	comp=Z,53nm,0.9s						
HBAR	**Harrisburg**	**6.30**	**99**	lAmb_Lg		03 37 46.9	
	comp=Z,62nm,0.8s						
PBMO	**Poplar Bluff**	**6.30**	**88**	lAmb_Lg		03 37 38.8	
	comp=Z,48nm,0.7s						
FVM	**French Village**	**6.36**	**77**	lAmb_Lg		03 37 40.0	
	comp=Z,38nm,0.8s						
SCIA	**State Center**	**6.42**	**36**	lAmb_Lg		03 37 53.0	
	comp=Z,58nm,0.7s						
SLM	**Saint Louis**	**6.63**	**72**	lAmb_Lg		03 37 51.7	
	comp=Z,40nm,0.8s						
ANMO	**Albuquerque**	**6.89**	**257**	Pn	**Pn**	**03 35 57.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=73,slow=15,SNR=2.8						
ANMO				Pg	**Pb**	**03 36 19.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=73,slow=19,SNR=2.9						
ANMO				Lg	Lg	03 37 51.5	
	comp=Z,0.9nm,0.3s,baz=133,slow=16,SNR=2.6						
N41A	**Harden Midland**	**6.98**	**54**	lAmb_Lg		03 38 04.4	
	comp=Z,42nm,0.8s						
143A	**Socs Landing,**	**7.00**	**124**	lAmb_Lg		03 38 12.6	
	comp=Z,39nm,1.0s						
ECSD	**EROS Data Cent**	**7.02**	**10**	Pn	**Pn**	**03 36 00.6**	**-0.5**
N23A	**Red Feather La**	**7.22**	**307**	lAmb_Lg		03 38 11.9	
	comp=Z,43nm,0.8s						
S44A	**Carbondale**	**7.25**	**80**	lAmb_Lg		03 38 16.6	
	comp=Z,35nm,0.8s						
SIUC	**Southern Illin**	**7.29**	**80**	lAmb_Lg		03 38 12.3	
	comp=Z,44nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.56**	**251**	lAmb_Lg		03 38 34.5	
	comp=Z,37nm,0.9s						
OXF	**Oxford**	**7.58**	**105**	lAmb_Lg		03 38 23.1	
	comp=Z,31nm,1.1s						
Q44A	**Meyer Farm, Va**	**7.62**	**71**	lAmb_Lg		03 38 29.2	
	comp=Z,39nm,0.9s						
SUSD	**Miller**	**7.62**	**356**	lAmb_Lg		03 38 25.4	
	comp=Z,42nm,1.1s						
Y45A	**Yeager Farm, C**	**7.73**	**110**	lAmb_Lg		03 38 45.1	
	comp=Z,20nm,0.8s						
MNTX	**Cornudas Mount**	**7.79**	**231**	Pn	**Pn**	**03 36 12.0**	**+0.4**
O44A	**Mansfield**	**8.38**	**64**	lAmb_Lg		03 38 54.0	
	comp=Z,38nm,0.9s						
L42A	**Oliver, Polo**	**8.44**	**50**	lAmb_Lg		03 38 54.3	
	comp=Z,41nm,1.1s						
RSSD	**Black Hills**	**8.50**	**331**	lAmb_Lg		03 39 01.6	
	comp=Z,22nm,0.9s						
K22A	**Casper**	**8.61**	**315**	lAmb_Lg		03 39 06.6	
	comp=Z,25nm,0.8s						
TXAR	**Lajitas Array**	**8.73**	**213**	Pn	**Pn**	**03 36 24.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=33,slow=11,SNR=22						
TXAR				Lg	Lg	03 38 50.4	
	comp=Z,0.8nm,0.3s,baz=33,slow=30,SNR=3.5						
E28A	**Huff**	**9.90**	**350**	lAmb_Lg		03 39 50.7	
	comp=Z,24nm,0.9s						
PDAR	**Pinedale Array**	**10.50**	**308**	Pn	**Pn**	**03 36 49.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=3.8						
PDAR				Pg		03 37 22.9	
	comp=Z,0.2nm,0.3s,baz=122,slow=18,SNR=3.8						
PDAR				Lg	Lg	03 39 36.1	
	comp=Z,0.2nm,0.3s,baz=121,slow=32,SNR=2.9						
TKL	**Tuckaleechee C**	**11.78**	**91**	Lg	Lg	03 40 25.8	
	comp=Z,0.4nm,0.3s,baz=6.4,slow=16,SNR=2.8						
ULM	**Lac du Bonnet**	**13.53**	**7**	LR	LR	03 43 11.9	
	comp=Z,52nm,19.2s,baz=228,slow=40						
YKA	**Yellowknife Ar**	**27.61**	**344**	P	**P**	**03 40 07.0**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=147,slow=8.7,SNR=3.1						

TUL ***17*** *03:50:53.2±0.7, 36°.83N±0°.02×98°.29W±0°.02, h5km±7km, ML2.6, mb_Lg2.2/13(NEIC), Error ellipse: s-maj=3.4km s-min=1.7km az=133.0*

NEIC 17 03:50:53.5±0.5,**36°.826N**±0°.010×**98°.28W**±0°.01,**h7**km±6km, **Error ellipse: s-maj=1.7km s-min=1.4km az=57.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.42**	**86**	Pn	Pn	03 51 19.7	0.0
R32A	**Long Quarter,**	**1.63**	**348**	Pn	Pn	03 51 22.4	-0.2
FNO	**Franklin**	**1.72**	**155**	Pn	Pn	03 51 24.0	+0.2
W35A	**Tecumseh**	**2.02**	**145**	Pn	Pn	03 51 27.8	-0.1
TUL1	**Leonard**	**2.21**	**114**	Pn	Pn	03 51 30.6	+0.2
TUL1				lAmb_Lg		03 52 03.4	
	comp=Z,9.7nm,0.8s						
AMTX	**Amarillo**	**3.38**	**236**	lAmb_Lg		03 52 44.2	
	comp=Z,8.2nm,0.7s						
HHAR	**Hobbs**	**3.54**	**98**	Pn	Pn	03 51 49.2	+0.4
W39A	**Magazine**	**3.99**	**113**	lAmb_Lg		03 53 01.3	
	comp=Z,6.4nm,0.7s						
S39A	**Bolivar**	**4.05**	**76**	Pn	Pn	03 51 56.3	+0.5
KSCO	**Kaye Shedlock'**	**4.07**	**304**	lAmb_Lg		03 53 10.4	
	comp=Z,6.4nm,0.7s						
U40A	**Yellville**	**4.39**	**95**	lAmb_Lg		03 53 14.4	
	comp=Z,4.6nm,0.7s						
T25A	**Trinidad**	**4.92**	**275**	Pn	Pn	03 52 07.8	-0.2
T25A				lAmb_Lg		03 53 31.0	
	comp=Z,6.3nm,0.8s						

IDC ***17*** *03:59:34.7±1.7, 6°.36S×153°.01E, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/52, mbtmp3.8/7, ML3.2/2, Error ellipse: s-maj=52.4km s-min=22.0km az=118.0*
NEIC ***17*** *03:59:34.2±1.3, 6°.2S±0°.1×153°.1E±0°.1, h10km±5km, mb4.4/6, Error ellipse: s-maj=20.3km s-min=8.7km az=225.0*

ISC 17 03:59:39.1±0.9,**6°.30S**±0°.08×**152°.9E**±0°.1,**h31**km,**n17**, σ1**9**25/18,**mb3.8/9,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.17**	**336**	Pn	**Pn**	**04 00 13.5**	**+0.4**
	18nm,0.3s,baz=54,slow=22,SNR=1.9						
KRVT				Sn	**Sn**	**04 00 36.5**	**-2.5**
	11nm,0.3s,baz=34,slow=23,SNR=20						
PMG	**Port Moresby**	**6.49**	**241**	Pn	**Pn**	**04 01 12.9**	**+0.5**
	17nm,0.3s,baz=47,slow=5.4,SNR=13						
PMG	**Port Moresby**	**6.49**	**241**		**Pn**	**04 01 13.1**	**+0.6**
WR0	**Warramunga Arr**	**22.43**	**231**	P	**P**	**04 04 36.7**	**+1.2**
WB0	**Warramunga Arr**	**22.43**	**232**	P	**P**	**04 04 34.1**	**-1.4**
WB0				lAmb	lAmb	04 04 46.1	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**22.56**	**231**	P	**P**	**04 04 37.2**	**+0.2**
WB2				lAmb	lAmb	04 04 49.3	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**22.57**	**231**	P	**P**	**04 04 36.7**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=56,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**25.15**	**225**	P	**P**	**04 05 02.4**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=58,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**25.15**	**225**	P	**P**	**04 05 01.2**	**-0.6**
KNRA	**Kununurra**	**25.45**	**247**	P	**P**	**04 05 03.5**	**-1.0**
KNRA				lAmb	lAmb	04 05 04.9	
	comp=Z,31nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.07**	**244**	P	**P**	**04 05 36.1**	**-0.9**
FITZ				lAmb	lAmb	04 05 57.8	
	comp=Z,9.4nm,1.4s						
MQZ	**McQueen's Vall**	**41.10**	**158**	P	**P**	**04 07 17.9**	**-2.2**
SONM	**Songino Array**	**67.65**	**328**	P	**P**	**04 10 35.1**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=123,slow=5.3,SNR=3.0						
MKAR	**Makanchi Array**	**81.53**	**319**	P	**P**	**04 11 53.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=89,slow=7.5,SNR=3.0						
ILAR	**Eison Array**	**83.50**	**22**	P	**P**	**04 12 04.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=243,slow=5.0,SNR=9.7						
146A	**Union**	**116.91**	**57**		**PKiKP**	**04 18 22.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**150.85**	**286**	PKPbc	**PKiKP**	**04 19 30.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=60,slow=3.3,SNR=2.9						

TUL ***17*** *04:00:42.3±0.7, 36°.83N±0°.03×98°.28W±0°.04, h6km±7km, ML3.1, mb_Lg2.9/65(NEIC), Error ellipse: s-maj=5.9km s-min=0.8km az=136.0*
NEIC ***17*** *04:00:42.8±1.0, 36°.81N±0°.02×98°.27W±0°.03, h10km±6km, Error ellipse: s-maj=5.2km s-min=0.9km az=128.0*
IDC ***17*** *04:00:44.7±1.8, 36°.78N×98°.37W, h0km, mb1 3.3/3, mb1mx3.1/54, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=27.1km s-min=12.5km az=108.0*

ISC 17 04:00:41.7±0.9,**36°.87N**±0°.04×**98°.26W**±0°.04,**h10**km,**n58**, σ1**9**70/38,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.77**	**231**	Pg	**Pg**	**04 00 56.5**	**-0.1**
T35A	**Sooner Cattle**	**1.40**	**88**	Pn	**Pg**	**04 01 08.7**	**+0.2**
OKCFA	**Oklahoma City**	**1.59**	**156**		**Pb**	**04 01 10.8**	**-0.4**
R32A	**Long Quarter,**	**1.59**	**347**	Pn	**Pg**	**04 01 12.3**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.60**	**155**		**Pb**	**04 01 10.8**	**-0.6**
FNO	**Franklin**	**1.75**	**156**		**Pb**	**04 01 13.6**	**-0.3**
W35A	**Tecumseh**	**2.05**	**146**		**Pn**	**04 01 17.2**	**+1.0**
W35A				lAmb_Lg		04 01 49.8	
	comp=Z,73nm,0.8s						
WMOK	**Wichita Mounta**	**2.17**	**191**		**Pn**	**04 01 18.9**	**+1.0**
TUL1	**Leonard**	**2.21**	**115**		**Pn**	**04 01 19.7**	**+1.3**
CBKS	**Cedar Bluff**	**2.27**	**329**		**Pn**	**04 01 20.9**	**+1.7**
CBKS				lAmb_Lg		04 02 00.9	
	comp=Z,66nm,0.8s						
X34A	**Smith Ranch, M**	**2.29**	**171**		**Pn**	**04 01 20.9**	**+1.4**
KSU1	**Kansas State U**	**2.58**	**30**	Pn	**Pn**	**04 01 25.1**	**+1.6**
X37A	**Clayton**	**3.27**	**133**		**Pn**	**04 01 34.6**	**+1.7**
X37A				lAmb_Lg		04 02 31.8	
	comp=Z,37nm,0.9s						
AMTX	**Amarillo**	**3.42**	**236**	Pn	**Pn**	**04 01 35.5**	**+0.5**
HHAR	**Hobbs**	**3.52**	**98**		**Pn**	**04 01 37.7**	**+1.2**
HHAR				lAmb_Lg		04 02 41.8	
	comp=Z,35nm,0.9s						
Z35A	**Perchaven, San**	**3.63**	**167**		**Pn**	**04 01 38.7**	**+0.8**
W39A	**Magazine**	**3.99**	**113**	Pn	**Pn**	**04 01 45.0**	**+2.2**
W39A				lAmb_Lg		04 02 54.9	
	comp=Z,37nm,0.9s						
S39A	**Bolivar**	**4.02**	**77**	Pn	**Pn**	**04 01 44.8**	**+1.5**
S39A				lAmb_Lg		04 02 51.4	
	comp=Z,21nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.06**	**303**	Pn	**Pn**	**04 01 46.2**	**+2.2**
KSCO				lAmb_Lg		04 02 57.1	
	comp=Z,21nm,0.7s						
U40A	**Yellville**	**4.38**	**95**		**Pn**	**04 01 49.5**	**+1.3**
U40A				lAmb_Lg		04 03 01.1	
	comp=Z,28nm,0.7s						
MIAR	**Mount Ida**	**4.46**	**120**	Pn	**Pn**	**04 01 50.6**	**+1.3**
MIAR				lAmb_Lg		04 03 02.7	
	comp=Z,25nm,0.8s						
N35A	**Tabor**	**4.48**	**26**	Pn	**Pn**	**04 01 53.2**	**+3.6**
Z38A	**Mt. Pleasant**	**4.49**	**142**	Pn	**Pn**	**04 01 50.9**	**+1.1**
Z38A				lAmb_Lg		04 03 11.5	
	comp=Z,25nm,0.7s						
BGNE	**Belgrade**	**4.53**	**1**	Pn	**Pn**	**04 01 51.7**	**+1.3**
MSTX	**Muleshoe**	**4.69**	**233**	Pn	**Pn**	**04 01 52.7**	**+0.1**
MSTX				lAmb_Lg		04 03 13.0	
	comp=Z,19nm,1.0s						
MGMO	**Mount Grove**	**4.80**	**85**		**Pn**	**04 01 56.3**	**+2.3**
MGMO				lAmb_Lg		04 03 22.6	
	comp=Z,19nm,0.8s						
WHTX	**Lake Whitney,**	**4.91**	**172**	Pn	**Pn**	**04 01 56.3**	**+0.8**
T25A	**Trinidad**	**4.93**	**275**	Pn	**Pn**	**04 01 56.9**	**+0.9**
R40A	**Maddies Statio**	**4.96**	**72**	Pn	**Pn**	**04 01 58.1**	**+1.9**
X40A	**Basin Creek Fa**	**5.01**	**117**		**Pn**	**04 01 58.5**	**+1.5**
X40A				lAmb_Lg		04 03 29.0	
	comp=Z,16nm,0.9s						
OGNE	**Ogallala**	**5.02**	**325**	lAmb_Lg		04 03 31.6	
	comp=Z,24nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.04**	**99**	lAmb_Lg		04 03 25.4	
	comp=Z,17nm,0.7s						
WHAR	**Wooly Hollow**	**5.08**	**106**	lAmb_Lg		04 03 32.3	
	comp=Z,28nm,1.1s						
W41B	**Gary Mavity, V**	**5.16**	**107**	lAmb_Lg		04 03 22.0	
	comp=Z,18nm,0.8s						
237A	**Washetta, Mont**	**5.26**	**157**		**Pn**	**04 02 00.5**	**+0.2**
237A				lAmb_Lg		04 03 38.6	
	comp=Z,28nm,1.1s						
WLAR	**White Oak Lake**	**5.27**	**126**	lAmb_Lg		04 03 33.7	
	comp=Z,27nm,1.1s						
N38A	**Joes South For**	**5.54**	**43**	Pn	**Pn**	**04 02 05.3**	**+1.1**
P40A	**Paris**	**5.56**	**60**	lAmb_Lg		04 03 45.3	
	comp=Z,20nm,0.8s						
Z41A	**Richland Creek**	**5.74**	**127**	lAmb_Lg		04 03 48.7	
	comp=Z,17nm,0.7s						
LCAR	**Lake Charles**	**5.78**	**96**	lAmb_Lg		04 03 48.9	
	comp=Z,17nm,0.7s						
CCAR	**Cane Creek**	**6.06**	**117**	lAmb_Lg		04 04 04.7	
	comp=Z,20nm,0.9s						
435B	**Jarrell**	**6.10**	**175**	lAmb_Lg		04 04 10.5	
	comp=Z,19nm,0.7s						
PBMO	**Poplar Bluff**	**6.28**	**88**	lAmb_Lg		04 04 10.6	
	comp=Z,20nm,0.7s						
FVM	**French Village**	**6.33**	**78**	lAmb_Lg		04 04 14.0	
	comp=Z,14nm,0.8s						
ANMO	**Albuquerque**	**6.93**	**256**	Pn	**Pn**	**04 02 27.1**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=3.3						
ANMO				Lg	Lg	04 04 18.2	
	comp=Z,0.4nm,0.3s,baz=343,slow=19,SNR=3.2						
ANMO	**Albuquerque**	**6.93**	**256**		**Pn**	**04 02 24.6**	**+1.2**
PHWY	**Pilot Hill**	**7.14**	**311**	lAmb_Lg		04 04 28.3	
	comp=Z,12nm,1.0s						
S44A	**Carbondale**	**7.22**	**81**	lAmb_Lg		04 04 39.2	
	comp=Z,13nm,0.9s						
SIUC	**Southern Illin**	**7

comp=Z,15nm,18.9s,baz=5.0,slow=38
MKAR Makanchi Array 47.56 346 P **P** **04 12 28.4 -0.1**
0.5nm,0.5s,baz=157,slow=8.1,SNR=9.0
ZALV Zalesovo Beam 53.87 351 P **P** **04 13 17.1 +1.1**
0.9nm,0.3s,baz=152,slow=6.5,SNR=3.1

IDC ***17*** *04:10:35.3±1.7, 4.°65S×134.°04E, h0km, mb3.7/1, mb1 4.0/5, mb1mx3.5/39, mbtmp3.9/5, ML3.5/4, MS3.2/7, Ms1 3.3/7, ms1mx2.9/63, Error ellipse: s-maj=69.6km s-min=25.3km az=72.0*
NEIC ***17*** *04:10:38.7±1.6, 4.°71S±0.°09×133.°8E±0.°1, h24km±8km, mb4.1/8, Error ellipse: s-maj=14.4km s-min=12.2km az=100.0*
ISC 17 04:10:38.1±0.9, 4.°90S±0.°07×133.°8E±0.°1, h28km, n23, σ2.°39/21, mb4.0/3, MS3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.50**	**322**	Pn	**Pn**	**04 11 14.5**	**-2.5**
SIJI	**Sorong**	**4.73**	**328**	LR	LR	04 14 13.6	
	comp=Z,375nm,18.1s,baz=202,slow=47						
KNRA	**Kununurra**	**11.80**	**204**	Pn	**Pn**	**04 13 26.5**	**+1.8**
PMG	**Port Moresby**	**13.99**	**109**	LR	LR	04 20 19.9	
	comp=Z,84nm,21.2s,baz=294,slow=42						
WRA	**Warramunga Arr**	**14.97**	**178**	Pn	**Pn**	**04 14 09.4**	**+1.5**
	0.1nm,0.3s,baz=357,slow=13,SNR=7.2						
WRA				Sn	**Sn**	**04 16 49.6**	**-3.3**
	0.1nm,0.3s,baz=358,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**14.97**	**178**	Pn	**Pn**	**04 14 09.6**	**+1.7**
WB2	**Warramunga Arr**	**14.97**	**178**	Pn	**P**	**04 14 11.4**	**-1.7**
WB2				IAmb	IAmb	04 14 34.0	
	comp=Z,23nm,1.5s						
WR0	**Warramunga Arr**	**14.99**	**177**	Pn	**P**	**04 14 11.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**15.36**	**211**	Pn	**P**	**04 14 17.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=1.5						
FITZ				Sn	**Sn**	**04 17 03.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=128,slow=15,SNR=2.2						
FITZ				LR	LR	04 20 47.8	
	comp=Z,54nm,20.4s,baz=18,slow=39						
FITZ	**Fitzroy Crossi**	**15.36**	**211**		**P**	**04 14 15.4**	**-2.0**
FITZ				IAmb	IAmb	04 14 44.2	
	comp=Z,17nm,1.4s						
ASAR	**Alice Springs**	**18.66**	**180**	P	**Pn**	**04 14 58.6**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=4.0,slow=10,SNR=32						
ASAR				S	**Sn**	**04 18 16.4**	**-6.2**
	comp=Z,0.0nm,0.3s,baz=358,slow=29,SNR=3.1						
ASAR	**Alice Springs**	**18.66**	**180**	P	**Pn**	**04 14 56.8**	**+2.3**
CTA	**Charters Tower**	**19.36**	**142**	P	**Pn**	**04 15 03.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=335,slow=17,SNR=2.7						
CTA				LR	LR	04 23 24.5	
	comp=Z,102nm,19.4s,baz=332,slow=40						
BBOO	**Buckleboo**	**27.85**	**176**	P	**P**	**04 16 26.5**	**+1.1**
ARMA	**Armidale**	**30.45**	**149**	P	**P**	**04 16 49.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**41.46**	**305**	LR	LR	04 38 05.7	
	comp=Z,12nm,19.6s,baz=190,slow=40						
MK31	**Makanchi Array**	**68.62**	**325**	P	**P**	**04 21 38.8**	**0.0**
MK31				IAmb	IAmb	04 22 02.7	
	comp=Z,2.0nm,1.4s						
MKAR	**Makanchi Array**	**68.62**	**325**	P	**P**	**04 21 40.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=109,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**68.62**	**325**	P	**P**	**04 21 38.5**	**-0.2**
MAKZ	**Makanchi**	**68.81**	**325**	P	**P**	**04 21 39.4**	**-0.6**
MAKZ				IAmb	IAmb	04 21 53.2	
	comp=Z,2.7nm,1.4s						
ABKAR	**Akbulak array**	**83.25**	**321**	P	**P**	**04 23 02.7**	**+0.6**
OPO	**Ambohidratompo**	**85.26**	**252**	LR	LR	04 59 33.0	
	comp=Z,29nm,18.2s,baz=25,slow=34						
GNI	**Garni**	**92.40**	**310**	LR	LR	05 13 35.5	
	comp=Z,20nm,18.4s,baz=47,slow=41						

MAN 17 04:22:23.7, 16.°40N×119.°96E, h27km, mb4.0, ML2.8, MS2.4, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.05**	**254**	↑*e*P		Pb	04 22 29.2	+0.8
SMPP	**San Manuel, Pa**	**0.73**	**109**	↑*e*P		Pn	04 22 38.5	+0.2
SAMP	**Sagada Mountai**	**1.13**	**53**	↑*e*P		Pn	04 22 43.8	0.0
JAP	**San Jose, Anti**	**5.94**	**161**	↓*e*P		Pn	04 23 37.5	-12

CNRM ***17*** *04:26:56.5, 35.°38N×3.°68W, h0km, ml2.5*
MDD ***17*** *04:26:58.6±0.4, 35.°38N×3.°73W, h20km, mb_Lg1.9/6, Error ellipse: s-maj=4.3km s-min=3.1km az=107.0*
ISC 17 04:26:57.3±1.6, 35.°32N±0.°03×3.°66W±0.°04, h14km±13km, n13, σ1.°08/24, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**0.58**	**92**	Pg	**Pb**	**04 27 09.4**	**+0.2**
EMEL				Sg	**Sb**	**04 27 17.9**	**+0.6**
EALB	**Alboran**	**0.80**	**39**	Pg	**Pb**	**04 27 13.2**	**+0.1**
EALB				Sg	**Sn**	**04 27 24.7**	**-1.3**
EALB				*i* Vmb_Lg		04 27 27.4	
TAF	**Taforalt**	**1.14**	**116**	P	**Pb**	**04 27 18.7**	**-0.3**
JBK	**JBK**	**1.33**	**137**	P	**Pn**	**04 27 21.7**	**-0.1**
EMIJ	**Mijas**	**1.54**	**324**	Pg	**Pg**	**04 27 26.6**	**-0.3**
EMIJ				Sg	**Sn**	**04 27 43.2**	**-1.0**
EMIJ				*i* Vmb_Lg		04 27 49.6	
ELGU	**Los Guajares,**	**1.54**	**1**	Pg	**Pn**	**04 27 25.0**	**+0.4**
ELGU				Sg	**Sn**	**04 27 43.9**	**-0.6**
ELGU				*i* Vmb_Lg		04 27 49.1	
EBER	**Berja**	**1.69**	**21**	Pg	**Pg**	**04 27 30.1**	**+0.2**
EBER				Sg	**Sb**	**04 27 49.7**	**0.0**
EBER				*i* Vmb_Lg		04 27 52.4	
EGOR	**Sierra Gorda,**	**1.82**	**349**	Pg	**Pb**	**04 27 30.8**	**+0.2**
EGOR				Sg	**Sn**	**04 27 50.8**	**-0.7**
LCRM	**LCR**	**1.91**	**212**	P	**Pb**	**04 27 31.6**	**-0.4**
EQES	**Quesada**	**2.52**	**11**	Pn	**Pn**	**04 27 38.7**	**+0.6**
EQES				Pg	**Pb**	**04 27 43.1**	**+0.6**
EQES				Sg	**Sb**	**04 28 11.8**	**-1.7**
EQES				*i* Vmb_Lg		04 28 16.1	
MD31	**MD31**	**2.61**	**201**	P	**Pb**	**04 27 43.2**	**-0.8**
MD31				S	**Sn**	**04 28 13.7**	**+2.9**
MDT	**Midelt**	**2.62**	**198**	P	**Pb**	**04 27 43.6**	**-0.6**
MDT				S	**Sb**	**04 28 14.8**	**-1.4**
PVAQ	**Vaqueiros**	**3.88**	**304**	P	**Pn**	**04 27 58.6**	**+2.0**
PVAQ				S	**Sn**	**04 28 41.3**	**-0.6**

TIR ***17*** *04:39:45.1, 40.°15N×20.°75E, h4km, Md3.1, Ml3.1*
THE ***17*** *04:39:46.1, 40.°18N×20.°66E, h5km±13km, ML2.7/9, Error ellipse: s-maj=13.9km s-min=0.4km az=8.0*
ATH ***17*** *04:39:46.0, 40.°19N×20.°65E, h12km±5km, ML2.8/4, Error ellipse: s-maj=5.6km s-min=1.1km az=38.0*
BEO ***17*** *04:39:48.8±0.8, 40.°18N×20.°81E, h16km±4km, ML2.6/9*
ISC 17 04:39:46.5±0.9, 40.°16N±0.°02×20.°72E±0.°02, h5km±8km, n56, σ0.°94/90, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.09**	**263**	P	**Pg**	**04 39 48.1**	**-0.3**
	baz=269						
LSK				S	**Sg**	**04 39 49.7**	**-0.1**
	baz=269						
LSK				AMP			
	comp=N,217nm,0.2s,baz=269						
NEST	**Nestorio**	**0.36**	**45**	P	**Pg**	**04 39 53.7**	**+0.3**
NEST				S	**Sg**	**04 39 59.0**	**+0.8**
NEST				AML	AML	04 40 00.7	
	comp=E,4452μm,0.3s						
NEST				AML	AML	04 40 00.9	
	comp=N,6168μm,0.4s						
NEST	**Nestorio**	**0.36**	**45**	P	**Pg**	**04 39 53.7**	**+0.3**
NEST				S	**Sg**	**04 39 59.0**	**+0.8**
	comp=N,2μm,0.5s						
KBN	**Korca**	**0.46**	**6**	P	**Pg**	**04 39 54.7**	**-0.7**
KBN				S	**Sg**	**04 40 01.6**	**+0.1**
	comp=N,1μm,0.5s						
KBN	**Korca**	**0.46**	**6**	P	**Pg**	**04 39 54.7**	**-0.7**
	baz=3.0						
KBN				S	**Sg**	**04 40 02.1**	**+0.6**
	baz=3.0						
KBN				AMP			
	comp=N,5.9nm,0.5s,baz=3.0						
JAN	**Janina**	**0.52**	**169**	P	**Pg**	**04 39 55.9**	**-0.5**
JAN				S	**Sg**	**04 40 03.8**	**+0.8**
JAN	**Janina**	**0.52**	**169**	P	**Pg**	**04 39 55.9**	**-0.5**
JAN				S	**Sg**	**04 40 03.8**	**+0.8**
	comp=N,2μm,0.4s						
KPRO	**Kipourio**	**0.54**	**112**	P	**Pg**	**04 39 57.0**	**+0.2**
KPRO				S	**Sb**	**04 40 06.4**	**0.0**
KPRO				AML	AML	04 40 11.2	
	comp=E,1271μm,0.5s						
KPRO				AML	AML	04 40 11.2	
	comp=N,916μm,0.4s						
KPRO	**Kipourio**	**0.54**	**112**	P	**Pg**	**04 39 57.0**	**+0.2**
KPRO				S	**Sb**	**04 40 06.4**	**0.0**
	comp=N,658nm,0.4s						
SRN	**Sarande**	**0.62**	**243**	P	**Pg**	**04 39 57.4**	**-0.9**
SRN				S	**Sg**	**04 40 06.0**	**-0.4**
	comp=N,348nm,0.4s						
SRN	**Sarande**	**0.62**	**243**	P	**Pg**	**04 39 57.5**	**-0.9**
	baz=245						
SRN				S	**Sg**	**04 40 07.8**	**+1.4**
	baz=245						
SRN				AMP			
	comp=E,0.9nm,0.4s,baz=245						
IGT	**Igoumenitsa**	**0.69**	**205**	P	**Pg**	**04 39 59.5**	**-0.3**
IGT				S	**Sg**	**04 40 09.3**	**+0.5**
IGT				AML	AML	04 40 13.4	
	comp=E,1803μm,0.6s						
IGT				AML	AML	04 40 13.4	
	comp=N,1085μm,0.4s						
IGT	**Igoumenitsa**	**0.69**	**205**	P	**Pg**	**04 39 59.5**	**-0.3**
IGT				S	**Sg**	**04 40 09.3**	**+0.5**
	comp=N,725nm,0.5s						
IGT	**Igoumenitsa**	**0.69**	**205**	P	**Pg**	**04 39 59.6**	**-0.3**
	baz=208						
IGT				S	**Sg**	**04 40 09.8**	**+1.0**
	baz=208						
KASA	**Kassiopi**	**0.73**	**236**	P	**Pg**	**04 39 59.9**	**-0.6**
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**04 40 01.1**	**-0.8**
FNA				S	**Sg**	**04 40 12.0**	**-0.2**
FNA				AML	AML	04 40 15.7	
	comp=N,2483μm,0.6s						
FNA				AML	AML	04 40 16.5	
	comp=E,2401μm,0.5s						
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**04 40 01.1**	**-0.8**
FNA				S	**Sb**	**04 40 13.0**	**-1.0**
	comp=E,1μm,0.5s						
FNA	**Florina**	**0.80**	**39**	P	**Pg**	**04 40 01.0**	**-0.8**
	baz=37						
FNA				S	**Sb**	**04 40 13.1**	**-1.0**
	baz=37						
KZN	**Kozani**	**0.82**	**79**	P	**Pb**	**04 40 02.7**	**-0.5**
KZN	**Kozani**	**0.82**	**79**	P	**Pb**	**04 40 02.7**	**-0.5**
KZN				S	**Sb**	**04 40 14.9**	**+0.3**
	comp=E,472nm,0.4s						
KEK	**Kerkira**	**0.84**	**238**	P	**Pg**	**04 40 01.4**	**-1.1**
KEK	**Kerkira**	**0.84**	**238**	P	**Pg**	**04 40 01.4**	**-1.1**
OHR	**Ohrid**	**0.95**	**4**	*e*Pg	**Pb**	**04 40 04.9**	**-0.6**
OHR				*e*Sg	**Sb**	**04 40 19.2**	**+0.8**
OHR	**Ohrid**	**0.95**	**4**	*i* Pn	**Pb**	**04 40 05.1**	**-0.3**
OHR				*i* Sn	**Sn**	**04 40 20.8**	**+0.2**
VLO	**Vlora**	**0.98**	**289**	P	**Pg**	**04 40 05.6**	**+0.2**
	baz=289						
VLO				S	**Sb**	**04 40 20.9**	**+1.7**
	baz=289						
THL	**Klokotos Trika**	**1.16**	**120**	P	**Pg**	**04 40 08.4**	**-0.3**
THL	**Klokotos Trika**	**1.16**	**120**	P	**Pg**	**04 40 08.4**	**-0.3**
THL				S	**Sn**	**04 40 26.9**	**+1.3**
	comp=E,115nm,0.4s						
TIR	**Tirane**	**1.35**	**332**	*e*Pg	**Pb**	**04 40 12.9**	**+0.6**
TIR				*e*Sg	**Sn**	**04 40 32.6**	**+2.3**
TIR	**Tirane**	**1.35**	**332**	P	**Pn**	**04 40 12.3**	**+0.3**
	baz=331						
TIR				S	**Sn**	**04 40 32.2**	**+1.9**
	baz=331						
TIR				AMP			
	comp=N,0.4nm,0.8s,baz=331						
PHP	**Peshkopia**	**1.54**	**352**	P	**Pn**	**04 40 14.8**	**+0.2**
	baz=352						
PHP				S	**Sg**	**04 40 38.2**	**+2.4**
	baz=352						
PHP				AMP			
	comp=N,1.1nm,1.1s,baz=352						
SKO	**Skopje**	**1.89**	**17**	*i* Pn	**Pb**	**04 40 20.5**	**-0.9**
SKO				*i* Sn	**Sg**	**04 40 48.2**	**+1.0**
STIP	**Stip**	**1.89**	**36**	*i* Pn	**Pg**	**04 40 22.3**	**-0.4**
BCI	**Bajram Curri**	**2.26**	**348**	P	**Pb**	**04 40 27.6**	**-0.1**
	baz=348						
BCI				S	**Sg**	**04 40 58.6**	**-0.3**
	baz=348						
BCI				AMP			
	comp=N,0.8nm,1.0s,baz=348						
PDG	**Podgorica**	**2.52**	**335**	*e*Pn	**Pn**	**04 40 28.9**	**+0.9**
PDG				*e*Sn	**Sn**	**04 40 59.6**	**+0.5**
PRVS	**Prvonek**	**2.56**	**23**	*e*Pn	**Pn**	**04 40 28.7**	**+0.1**
PRVS				*e*Sn	**Sn**	**04 40 59.6**	**-0.5**
BOSS	**Bosilegrad**	**2.68**	**29**	*e*Pn	**Pn**	**04 40 30.8**	**+0.5**
BOSS				*e*Sn	**Sn**	**04 41 02.5**	**-0.7**
BARS	**Barje**	**2.78**	**17**	*e*Pn	**Pn**	**04 40 31.7**	**+0.1**
BARS				*e*Sn	**Sn**	**04 41 05.0**	**-0.5**
SELS	**Selova**	**3.07**	**5**	*e*Pn	**Pn**	**04 40 36.4**	**+0.7**
VTS	**Vitosha**	**3.10**	**37**	*e*Pn	**Pn**	**04 40 36.5**	**+0.3**
VTS				*e*Sn	**Sn**	**04 41 10.3**	**-3.4**
SJES	**Sjenica**	**3.15**	**350**	*e*Pn	**Pn**	**04 40 38.0**	**+1.2**
SJES				*e*Sn	**Sn**	**04 41 15.2**	**+0.4**
DBRK	**Dubrovnik**	**3.17**	**323**	*e*Pn	**Pn**	**04 40 36.6**	**-0.3**
ZAPS	**Zavoj**	**3.42**	**24**	*e*Pn	**Pn**	**04 40 42.0**	**+1.5**
IVAS	**Ivanjica**	**3.44**	**353**	*e*Pn	**Pn**	**04 40 41.1**	**+0.4**
STON	**Ston**	**3.53**	**321**	*e*Pn	**Pn**	**04 40 41.1**	**-0.8**
GRUS	**Gruza**	**3.72**	**360**	*e*Pn	**Pn**	**04 40 46.3**	**+1.7**
BBLS	**Lazići**	**3.83**	**346**	*e*Pn	**Pn**	**04 40 48.3**	**+2.2**
LSTV	**Lastovo**	**3.88**	**313**	*e*Pn	**Pn**	**04 40 45.9**	**-0.9**
DIVS	**Divibare**	**3.97**	**352**	*e*Pn	**Pn**	**04 40 48.4**	**+0.3**
DIVS				*e*Sn	**Sn**	**04 41 33.2**	**-1.9**
RICI	**Ricice**	**4.27**	**322**	*e*Pn	**Pn**	**04 40 51.5**	**-0.7**
HVAR	**Hvar**	**4.39**	**315**	*e*Pn	**Pn**	**04 40 52.7**	**-1.1**
KIJV	**Kijevo**	**5.00**	**322**	*e*Pn	**Pn**	**04 41 02.0**	**-0.2**
ZIRJ	**Zirje**	**5.15**	**314**	*e*Pn	**Pn**	**04 41 02.9**	**-1.3**
MORI	**Morici**	**5.26**	**316**	*e*Pn	**Pn**	**04 41 05.3**	**-0.3**
DUGI	**Dugi Otok**	**5.69**	**314**	*e*Pn	**Pn**	**04 41 11.1**	**-0.5**
UDBI	**Udbina**	**5.70**	**322**	*e*Pn	**Pn**	**04 41 11.9**	**+0.1**
NVLJ	**Novalja**	**6.17**	**317**	*e*Pn	**Pn**	**04 41 17.2**	**-1.0**

IDC ***17*** *04:53:55.9±2.4, 52.°04N×178.°31E, h119km±20km, mb3.0/8, mb1 3.4/10, mb1mx3.3/48, mbtmp3.5/10, Error ellipse: s-maj=36.8km s-min=14.3km az=169.0*
NEIC ***17*** *04:53:56.3±1.4, 52.°1N±0.°1×178.°32E±0.°10, h119km±6km, mb4.0/5, Error ellipse: s-maj=21.0km s-min=8.5km az=185.0*
ISC 17 04:53:55.4±0.9, 52.°1N±0.°2×178.°33E±0.°05, h113km, n23, σ0.°81/26, mb3.4/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.68**	**286**	P	**Pn**	**04 54 37.9**	**+0.7**
	13nm,0.3s,baz=143,slow=2.4,SNR=7.1						
SHEM				S	**Sn**	**04 55 10.6**	**+1.4**
	33nm,0.3s,baz=260,slow=18,SNR=9.6						
SMY	**Shemya**	**2.68**	**286**	Pn	**Pn**	**04 54 37.6**	**+0.5**
SMY				Sn	**Sn**	**04 55 10.4**	**+1.1**
ADK	**Adak**	**3.09**	**91**	Pn	**Pn**	**04 54 43.5**	**+0.9**
ADK				Sn	**Sn**	**04 55 20.2**	**+1.2**
UNV	**Unalaska Valle**	**9.34**	**73**	Pn	**Pn**	**04 56 06.4**	**-0.4**
KDAK	**Kodiak Island**	**17.59**	**60**	P	**P**	**04 57 50.8**	**-1.7**
	1.2nm,0.3s,baz=302,slow=7.5,SNR=26						
KDAK	**Kodiak Island**	**17.59**	**60**	P	**P**	**04 57 52.1**	**-0.4**
KDAK				IAmb	IAmb	04 58 00.1	
	comp=Z,38nm,1.5s						
J20K	**Nowinta River**	**18.75**	**39**	P	**Pn**	**04 58 06.9**	**0.0**
J20K				IAmb	IAmb	04 58 09.9	
	comp=Z,4.8nm,0.9s						
KNK	**Knik Glacier**	**20.27**	**50**	P	**P**	**04 58 22.1**	**+0.4**
ILAR	**Eielson Array**	**21.88**	**41**	P	**P**	**04 58 38.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=245,slow=8.5,SNR=9.0						
YKA	**Yellowknife Ar**	**36.07**	**47**	P	**P**	**05 00 46.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=282,slow=8.3,SNR=11						
YKA	**Yellowknife Ar**	**36.07**	**47**	P	**P**	**05 00 46.4**	**+0.8**
SONM	**Songino Array**	**44.74**	**295**	P	**P**	**05 01 57.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=58,slow=6.6,SNR=2.6						
SONM	**Songino Array**	**44.74**	**295**	P	**P**	**05 01 57.6**	**+0.3**
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**05 02 01.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=309,slow=5.7,SNR=2.1						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**05 02 21.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=323,slow=5.8,SNR=2.5						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**05 02 20.3**	**-1.1**
MKAR	**Makanchi Array**	**58.21**	**306**	P	**P**	**05 03 36.**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=45,slow=7.4,SNR=6.3						
MKAR	**Makanchi Array**	**58.21**	**306**	P	**P**	**05 03 36.5**	**-0.9**
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**05 03 51.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=314,slow=6.4,SNR=4.8						
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**05 03 52.3**	**+0.1**
WRA	**Warramunga Arr**	**81.29**	**221**	P	**P**	**05 05 58.4**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=31,slow=6.1,SNR=5.1						
BOSA	**Boshof**	**149.18**	**309**	PKPbc	**PKPbc**	**05 13 30.1**	**-0.3**
	comp=Z,3.5nm,1.0s,baz=52,slow=2.4,SNR=5.7						
BOSA	**Boshof**	**149.18**	**309**		**PKPbc**	**05 13 30.5**	**+0.1**

KRNET ***17*** *04:55:57.7±0.1, 41.°09N×69.°90E, h12km, mb2.5*
ISC 17 04:55:58.1±1.2, 41.°07N±0.°04×69.°91E±0.°05, h12km±15km, n7, σ1.°9331/14, 8C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.53**	**299**	⇑*i*P	**Pg**	**04 56 07.8**	**-0.6**
	baz=98						
TAS				⇑*i*S	**Sg**	**04 56 15.1**	**-0.3**
	baz=98						
TRKS	**Terek-Say**	**1.04**	**63**	⇓*i*P	**Pb**	**04 56 17.7**	**-0.4**
	baz=69						
TRKS				⇓*e*S	**Sn**	**04 56 32.0**	**-1.2**
	baz=69						
BTK	**Batken**	**1.23**	**145**	⇓*i*P	**Pb**	**04 56 21.3**	**+0.1**
	baz=46						
BTK				⇓*i*S	**Sg**	**04 56 39.1**	**+1.6**
	baz=46						
ARK	**Arkit**	**1.71**	**64**	⇑*i*P	**Pg**	**04 56 29.8**	**-1.1**
	baz=65						
ARK				⇑*i*S	**Sg**	**04 56 53.1**	**0.0**
	baz=65						
KK02	**Karatay Array**	**2.08**	**12**	⇓P	**Pg**	**04 56 37.6**	**-0.4**
	3.1nm,0.5s,baz=199,slow=16						
KK02				⇓S	**Sg**	**04 57 07.8**	**+2.8**
	5.0nm,0.5s,baz=197,slow=27						
DRK	**Karamyk**	**2.15**	**137**	⇑*i*P	**Pb**	**04 56 37.6**	**+0.5**
	baz=37						
DRK				⇑*i*S	**Sg**	**04 57 06.4**	**-0.7**
	baz=37						
OHH	**Osh**	**2.25**	**103**	⇑*i*P	**Pb**	**04 56 38.3**	**-0.4**
	baz=4.0						
OHH				⇑*i*S	**Sb**	**04 57 08.3**	**+1.7**
	baz=4.0						

IDC ***17*** *05:01:30.4±1.3, 8.°30S×158.°72E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/29, mbtmp3.9/6, Error ellipse: s-maj=31.7km s-min=21.0km az=44.0*
ISC 17 05:01:31.8±1.1, 8.°3S±0.°2×158.°8E±0.°2, h10km, n7, σ1.°38/8, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.64**	**135**	Pn	**Pn**	**05 02 00.0**	**-0.7**
	62nm,0.3s,baz=189,slow=5.9,SNR=4.1						
HNR				Sn	**Sg**	**05 02 25.1**	**+0.6**
	52nm,0.3s,baz=192,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**26.34**	**241**	P	**P**	**05 07 07.3**	**-1.0**
	1.6nm,0.6s,baz=67,slow=9.3,SNR=18						
ASAR	**Alice Springs**	**28.32**	**234**	P	**P**	**05 07 24.4**	**-1.6**
	0.8nm,0.5s,baz=64,slow=9.4,SNR=14						
STKA	**Stephens Creek**	**28.41**	**212**	P	**P**	**05 07 27.9**	**+1.2**
	1.5nm,0.5s,baz=35,slow=13,SNR=1.9						
CMAR	**Chiang Mai Arr**	**64.71**	**295**	P	**P**	**05 12 12.5**	**+1.8**
	0.4nm,0.3s,baz=117,slow=5.0,SNR=4.6						
SONM	**Songino Array**	**72.45**	**326**	P	**P**	**05 12 58.4**	**-0.3**
	0.4nm,0.6s,baz=123,slow=7.1,SNR=2.4						
MKAR	**Makanchi Array**	**86.84**	**318**	P	**P**	**05 14 16.2**	**-0.6**
	0.5nm,0.8s,baz=104,slow=6.4,SNR=4.5						

IDC ***17*** *05:16:06.6±13.0, 19.°37N×146.°02E, h140km±122km, mb3.3/11, mb1 3.5/11, mb1mx3.4/42, mbtmp3.7/11, MS2.8/1, Ms1 2.8/1, ms1mx2.2/35, Error ellipse: s-maj=36.5km s-min=16.6km az=81.0*
NEIC ***17*** *05:16:11.5±0.8, 19.°4N±0.°1×145.°8E±0.°2, h177km±11km, mb4.2/7, Error ellipse: s-maj=25.9km s-min=13.1km az=114.0*
ISC 17 05:16:12.6±0.8, 19.°31N±0.°09×145.°8E±0.°2, h200km, n26, σ0.°86/23, mb3.7/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.76**	**189**	Pn	**Pn**	**05 17 35.9**	**-1.0**
JHJ2	**Mitsune**	**14.76**	**340**		**P**	**05 19 32.2**	**-0.6**
JMZ	**Minamidaito 2**	**14.95**	**298**		**P**	**05 19 33.9**	**-1.2**
H11S3	**WAKE ISLAND Hy**	**19.76**	**89**	T	T	05 41 32.7	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**19.77**	**89**	T	T	05 41 32.0	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.78**	**89**	T	T	05 41 21.5	
	baz=275						
KSRS	**Korea Array**	**23.90**	**323**	P	**P**	**05 21 08.4**	**+0.4**
	1.1nm,0.6s,baz=153,slow=9.4,SNR=6.3						
WB0	**Warramunga Arr**	**40.42**	**197**	P	**P**	**05 23 32.3**	**+0.7**
WR0	**Warramunga Arr**	**40.56**	**196**	P	**P**	**05 23 33.0**	**+0.3**
WR0				IAmb	IAmb	05 23 52.6	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**40.59**	**197**	P	**P**	**05 23 33.8**	**+0.8**
WRAB				IAmb	IAmb	05 23 52.2	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**40.60**	**197**	P	**P**	**05 23

mb4.7/101, Error ellipse: s-maj=18.3km s-min=10.6km az=78.0

ISC 17 05:36:41.6±0.4, **4°92**S±0.05×**145°51**E±0.07, **h150**km, **n234**, σ0=**83**/206, **mb4.6**/77, **4C-1D**, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**160**	P	**Pn**	**05 37 50.7**	**-1.1**
	23nm,0.3s,baz=339,slow=8.6,SNR=20						
PMG				S	**Sn**	**05 38 43.2**	**-3.3**
	37nm,0.3s,baz=133,slow=22,SNR=14						
PMG	**Port Moresby**	**4.75**	**160**	P	**Pn**	**05 37 50.7**	**-1.1**
GENI	**Genyem**	**5.81**	**293**	P	**Pn**	**05 38 04.6**	**-1.2**
	0.6nm2µm143nm,0.9s						
GENI	**Genyem**	**5.81**	**293**	P	**Pn**	**05 38 05.9**	**+0.1**
SMPI	**Sarmi**	**7.38**	**293**	P	**Pn**	**05 38 25.3**	**-1.5**
	1.2nm15µm27nm,1.0s						
COEN	**Coen**	**9.27**	**194**	Pn	**Pn**	**05 38 51.6**	**-0.4**
SIJI	**Sorong**	**14.78**	**285**	P	**P**	**05 40 05.7**	**+0.2**
	1.7nm,0.3s,baz=50,slow=8.4,SNR=4.4						
KDU	**Kakadu**	**15.01**	**238**	P	**Pn**	**05 40 07.6**	**+1.4**
MTN	**Manton Dam**	**16.23**	**240**		**Pn**	**05 40 21.5**	**+0.2**
MTN	**Manton Dam**	**16.23**	**240**	P	**Pn**	**05 40 21.4**	**+0.2**
WB0	**Warramunga Arr**	**18.30**	**215**	P	**P**	**05 40 44.8**	**+0.5**
WB0				IAmb	IAmb	05 40 51.1	
	comp=Z,25nm,0.9s						
WR0	**Warramunga Arr**	**18.37**	**215**	P	**P**	**05 40 45.8**	**+0.8**
WR0				IAmb	IAmb	05 40 52.2	
	comp=Z,43nm,1.0s						
WRAB	**Tennant Creek**	**18.46**	**215**	P	**P**	**05 40 46.7**	**+0.7**
WRAB	**Tennant Creek**	**18.46**	**215**	P	**P**	**05 40 46.7**	**+0.7**
WB2	**Warramunga Arr**	**18.46**	**215**	P	**P**	**05 40 46.7**	**+0.7**
WRA	**Warramunga Arr**	**18.47**	**215**	P	**P**	**05 40 46.8**	**+0.6**
	comp=Z,6.2nm,0.3s,baz=39,slow=11,SNR=276						
WRA				S	**S**	**05 44 10.4**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=32,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**18.47**	**215**	P	**P**	**05 40 46.4**	**+0.2**
KNRA	**Kununurra**	**19.62**	**236**	P	**P**	**05 40 58.0**	**-0.5**
KNRA				IAmb	IAmb	05 40 59.0	
	comp=Z,26nm,0.7s						
KNRA	**Kununurra**	**19.62**	**236**	P	**P**	**05 40 58.5**	**-0.1**
EIDS	**Eidsvold**	**21.02**	**166**	P	**P**	**05 41 14.8**	**+1.2**
QLP	**Quilpie**	**21.57**	**183**	P	**P**	**05 41 20.9**	**+1.4**
RMQ	**Roma**	**21.67**	**172**	P	**P**	**05 41 22.3**	**+1.8**
AS31	**Alice Springs**	**21.73**	**210**	P	**P**	**05 41 21.9**	**+0.7**
ASAR	**Alice Springs**	**21.74**	**210**	P	**P**	**05 41 21.7**	**+0.4**
	comp=Z,12nm,0.6s,baz=45,slow=7.2,SNR=94						
ASAR				S	**S**	**05 45 09.7**	**-2.4**
	comp=Z,4.7nm,1.1s,baz=33,slow=19,SNR=7.9						
GTOI	**Gorontalo**	**23.14**	**283**	P	**P**	**05 41 35.5**	**+0.7**
	comp=Z,9.6nm,0.7s						
INKA	**Innaminka**	**23.14**	**191**	P	**P**	**05 41 36.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.42**	**234**	P	**P**	**05 41 37.2**	**-0.2**
	comp=Z,52nm,0.5s,baz=46,slow=9.0,SNR=254						
OOD	**Oodnadatta**	**24.59**	**201**	P	**P**	**05 41 48.8**	**+0.9**
WRKA	**Warakurna**	**25.95**	**218**	P	**P**	**05 42 00.8**	**+0.5**
ARMA	**Armidale**	**26.01**	**168**	P	**P**	**05 42 02.7**	**+1.8**
ARMA				IAmb	IAmb	05 42 03.0	
	comp=Z,12nm,0.9s						
LCRK	**Leigh Creek**	**26.31**	**194**	P	**P**	**05 42 04.2**	**+0.8**
DZM	**Mont Dzumac**	**26.49**	**132**	LR	LR	05 50 26.2	
	comp=Z,62nm,19.0s,baz=26,slow=31						
STKA	**Stephens Creek**	**27.07**	**187**	P	**P**	**05 42 09.8**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=9.0,slow=8.9,SNR=10.0						
STKA	**Stephens Creek**	**27.07**	**187**	P	**P**	**05 42 10.8**	**+0.6**
MULG	**Mulgathing**	**27.44**	**202**	P	**P**	**05 42 13.9**	**+0.4**
NAPP	**Napperby**	**28.94**	**193**	P	**P**	**05 42 27.5**	**+0.7**
BBOO	**Buckleboo**	**29.12**	**197**	P	**P**	**05 42 28.8**	**+0.4**
BBOO	**Buckleboo**	**29.12**	**197**	P	**P**	**05 42 28.8**	**+0.4**
PSA00	**Pilbara Seismi**	**29.88**	**234**	P	**P**	**05 42 35.0**	**-0.2**
PSA00				IAmb	IAmb	05 42 43.2	
	comp=Z,30nm,1.4s						
CAN	**Canberra**	**30.42**	**174**	P	**P**	**05 42 41.0**	**+1.1**
CAN				IAmb	IAmb	05 42 57.2	
	comp=Z,16nm,1.3s						
FORT	**Forrest**	**30.52**	**211**	P	**P**	**05 42 41.2**	**+0.4**
FORT	**Forrest**	**30.52**	**211**	P	**P**	**05 42 41.2**	**+0.4**
TOO	**Toolangi**	**32.50**	**180**	P	**P**	**05 42 59.1**	**+1.0**
TOO				IAmb	IAmb	05 43 01.1	
	comp=Z,16nm,1.1s						
MEEK	**Meekatharra**	**33.55**	**227**	P	**P**	**05 43 07.4**	**0.0**
PBKI	**Pangkalan Bun**	**33.83**	**272**	P	**P**	**05 43 06.8**	**-3.1**
GIRL	**Giralia**	**34.98**	**237**	P	**P**	**05 43 20.2**	**+0.5**
YULB	**Yu-li**	**36.74**	**321**	P	**P**	**05 43 34.3**	**-0.5**
YULB				IAmb	IAmb	05 43 52.8	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**36.81**	**226**	P	**P**	**05 43 35.4**	**+0.1**
MORW				IAmb	IAmb	05 43 36.5	
	comp=Z,26nm,1.1s						
TAU	**Tasmania Unive**	**37.87**	**178**	P	**P**	**05 43 44.4**	**+0.5**
JMN	**Monobe**	**39.98**	**345**	P	**P**	**05 44 01.7**	**0.0**
JMN				IAmb	IAmb	05 44 04.8	
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**41.81**	**351**	P	**P**	**05 44 14.6**	**-1.9**
	comp=Z,2.7nm,0.6s,baz=171,slow=8.7,SNR=5.6						
TUWZ	**Tuamarina**	**44.36**	**149**	P	**P**	**05 44 37.8**	**+0.8**
NJ2	**Nanjing**	**44.67**	**327**	*e*P	**P**	**05 44 41.8**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
RPZ	**Rata Peaks**	**44.73**	**154**	P	**P**	**05 44 40.3**	**+0.4**
	comp=Z,7.6nm,0.5s,baz=288,slow=3.6,SNR=6.4						
RPZ	**Rata Peaks**	**44.73**	**154**	P	**P**	**05 44 41.3**	**+1.4**
RPZ				IAmb	IAmb	05 44 41.9	
	comp=Z,15nm,0.7s						
KSRS	**Korea Array**	**45.23**	**340**	P	**P**	**05 44 44.0**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=154,slow=9.2,SNR=9.6						
KSRS				LR	LR	06 00 59.6	
	comp=Z,14nm,21.3s,baz=315,slow=32						
JTM	**Tenmabayashi**	**45.67**	**355**	P	**P**	**05 44 47.4**	**+0.2**
JTM				IAmb	IAmb	05 44 48.1	
	comp=Z,22nm,0.7s						
KULM	**Kulim**	**45.93**	**282**	P	**P**	**05 44 49.4**	**-0.4**
JEW	**Eniwo**	**47.68**	**356**	P	**P**	**05 45 02.9**	**0.0**
GYA	**Guiyang**	**48.86**	**312**	⇑P	**P**	**05 45 12.5**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**50.39**	**347**	P	**P**	**05 45 23.3**	**-0.1**
USA0B				IAmb	IAmb	05 45 24.4	
	comp=Z,7.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.39**	**347**	P	**P**	**05 45 23.6**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=178,slow=6.9,SNR=16						
USRK	**Ussuriysk Ar.**	**50.39**	**347**	P	**P**	**05 45 23.9**	**+0.4**
HNS	**HongShan**	**50.95**	**328**	⇓P	**P**	**05 45 27.3**	**-0.5**
HNS				pmax	pmax		
	comp=Z,15nm,0.8s						
MDJ	**Mudanjiang**	**51.34**	**345**	P	**P**	**05 45 30.6**	**0.0**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.3s						
CMAR	**Chiang Mai Arr**	**51.43**	**298**	P	**P**	**05 45 32.4**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=122,slow=6.3,SNR=11						
XAN	**Xi'an**	**51.91**	**321**	P	**P**	**05 45 34.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,21nm,1.3s						
PZH	**PanZhiHua**	**52.63**	**309**	P	**P**	**05 45 44.3**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
BNX	**BinXian**	**52.96**	**344**	⇑P	**P**	**05 45 42.1**	**-0.4**
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
BNX				pmax	pmax		
	comp=Z,200nm,4.4s						
HHC	**Hu-ho-hao-te**	**55.14**	**329**	*e*P	**P**	**05 46 00.0**	**+1.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
LZH	**Lanzhou**	**56.43**	**320**	*e*P	**P**	**05 46 08.9**	**+1.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
PETK	**Petropavlovsk-**	**58.72**	**9**	P	**P**	**05 46 23.1**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=172,slow=6.8,SNR=4.9						
PETK	**Petropavlovsk-**	**58.72**	**9**	P	**P**	**05 46 23.2**	**-0.2**
GTA	**Gaotai**	**60.97**	**321**	⇑P	**P**	**05 46 40.0**	**+0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	**Ulaanbaatar**	**62.46**	**332**	P	**P**	**05 46 49.1**	**0.0**
GOMU	**GeErMu**	**62.58**	**315**	P	**P**	**05 46 48.3**	**-2.1**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,42nm,4.3s						
SONM	**Songino Array**	**62.75**	**331**	P	**P**	**05 46 51.1**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=152,slow=6.5,SNR=9.5						
SONM	**Songino Array**	**62.75**	**331**	P	**P**	**05 46 50.8**	**-0.1**
MA2	**Magadan**	**64.43**	**3**	P	**P**	**05 47 01.7**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=46,slow=22,SNR=2.2						
MA2	**Magadan**	**64.43**	**3**	IAmb	IAmb	05 47 16.1	
	comp=Z,8.8nm,1.1s						
CASY	**Casey**	**65.91**	**195**	P	**P**	**05 47 11.2**	**+0.1**
SEY	**Seymchan**	**67.87**	**3**	P	**P**	**05 47 23.5**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=178,slow=6.8						
WMQ	**Urumqi**	**71.01**	**320**	*e*P	**P**	**05 47 45.1**	**+1.9**
VNDA	**Vanda**	**73.07**	**176**	P	**P**	**05 47 54.8**	**0.0**
	comp=Z,0.9nm,0.5s,baz=337,slow=7.2,SNR=11						
VNDA	**Vanda**	**73.07**	**176**	P	**P**	**05 47 55.3**	**+0.4**
BILL	**Bilibino**	**74.25**	**8**	P	**P**	**05 48 01.7**	**-0.1**
SDPT	**Sand Point**	**74.67**	**29**	P	**P**	**05 48 05.3**	**+0.9**
SDPT	**Sand Point**	**74.67**	**29**	P	**P**	**05 48 04.5**	**+0.1**
	baz=237						
GAMB	**Gambell**	**75.61**	**18**	P	**P**	**05 48 10.4**	**+0.8**
	baz=224						
MK31	**Makanchi Array**	**75.72**	**321**	P	**P**	**05 48 10.5**	**-0.2**
MKAR	**Makanchi Array**	**75.72**	**321**	P	**P**	**05 48 10.6**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=104,slow=7.0,SNR=41						
MKAR	**Makanchi Array**	**75.72**	**321**	P	**P**	**05 48 10.8**	**0.0**
MAKZ	**Makanchi**	**75.93**	**321**	P	**P**	**05 48 12.0**	**+0.1**
CHGN	**Chignik**	**76.16**	**28**	P	**P**	**05 48 13.4**	**+0.5**
CHGN				IAmb	IAmb	05 48 13.9	
	comp=Z,15nm,0.8s						
CHGN	**Chignik**	**76.16**	**28**	P	**P**	**05 48 13.5**	**+0.5**
	baz=238						
TIXI	**Tiksi**	**77.20**	**355**	P	**P**	**05 48 17.6**	**-0.9**
ZAA0	**Zalesovo Array**	**77.31**	**328**	P	**P**	**05 48 18.5**	**-1.0**
ZAA0				IAmb	IAmb	05 48 19.1	
	comp=Z,5.6nm,0.6s						
ZALV	**Zalesovo Beam**	**77.31**	**328**	P	**P**	**05 48 18.3**	**-1.1**
	comp=Z,5.3nm,0.6s,baz=112,slow=5.6,SNR=22						
ZALV	**Zalesovo Beam**	**77.31**	**328**	P	**P**	**05 48 18.8**	**-0.7**
KDJ	**Kajisay**	**77.48**	**315**	P	**P**	**05 48 21.6**	**+0.7**
KDJ				IAmb	IAmb	05 48 22.0	
	comp=Z,8.2nm,0.9s						
KSH	**Kashi**	**77.55**	**312**	P	**P**	**05 48 22.4**	**+1.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TNA	**Tin City**	**78.03**	**18**	P	**P**	**05 48 23.7**	**+0.5**
TNA	**Tin City**	**78.03**	**18**	P	**P**	**05 48 23.6**	**+0.5**
	baz=228,SNR=5.1						
ANM	**Nome**	**78.19**	**19**	P	**P**	**05 48 25.2**	**+1.2**
ANM	**Nome**	**78.19**	**19**	P	**P**	**05 48 24.5**	**+0.4**
	baz=230,SNR=5.5						
SII	**Sitkinak Islan**	**78.33**	**29**	P	**P**	**05 48 25.7**	**+0.6**
	baz=242						
BOOM	**Boomskoye usch**	**78.47**	**315**	P	**P**	**05 48 26.7**	**+0.4**
BOOM				IAmb	IAmb	05 48 27.2	
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**78.84**	**315**	P	**P**	**05 48 28.3**	**-0.1**
	SNR=7.3						
OHAK	**Old Harbor**	**79.07**	**29**	P	**P**	**05 48 29.6**	**+0.6**
	baz=243						
UCH	**Uchtor**	**79.40**	**314**	P	**P**	**05 48 32.5**	**+0.7**
	SNR=7.1						
KURK	**Kurchatov**	**79.46**	**324**	P	**P**	**05 48 31.1**	**-0.2**
AAK	**Aak Archa**	**79.53**	**315**	P	**P**	**05 48 31.7**	**-0.4**
KDAK	**Kodiak Island**	**79.67**	**29**	P	**P**	**05 48 33.2**	**+1.0**
Q19K	**Cape Douglas,**	**79.70**	**27**	P	**P**	**05 48 32.8**	**+0.3**
	baz=242						
USP	**Ospenovka**	**79.71**	**315**	P	**P**	**05 48 32.9**	**-0.1**
	SNR=7.3						
SVW2	**Sparrevohn**	**79.89**	**25**	IAmb	IAmb	05 48 35.5	
	comp=Z,15nm,0.9s						
AML	**Almayashu**	**79.96**	**314**	P	**P**	**05 48 35.1**	**+0.4**
	SNR=6.5						
EKS2	**Erkin-Say**	**80.04**	**315**	P	**P**	**05 48 35.3**	**+0.5**
	SNR=5.2						
TTA	**Tatalina**	**80.65**	**23**	P	**P**	**05 48 38.1**	**+0.6**
	baz=239,SNR=5.1						
L19K	**White Mountain**	**80.73**	**24**	P	**P**	**05 48 38.9**	**+0.9**
L19K				IAmb	IAmb	05 48 39.7	
	comp=Z,12nm,0.8s						
L19K	**White Mountain**	**80.73**	**24**	P	**P**	**05 48 38.5**	**+0.5**
	baz=241						
M19K	**Big River Lodg**	**80.79**	**25**	IAmb	IAmb	05 48 40.2	
	comp=Z,7.1nm,0.7s						
M19K	**Big River Lodg**	**80.79**	**25**	P	**P**	**05 48 38.9**	**+0.6**
	baz=241						
CNPM	**China Poot**	**81.07**	**27**	IAmb	IAmb	05 48 41.2	
	comp=Z,20nm,0.9s						
RDOG	**Red Dog Mine**	**81.16**	**17**	IAmb	IAmb	05 48 41.6	
	comp=Z,16nm,0.8s						
RDOG	**Red Dog Mine**	**81.16**	**17**	P	**P**	**05 48 40.7**	**+0.6**
	baz=232						
GCSA	**Gale City Sc**	**81.26**	**22**	P	**P**	**05 48 41.2**	**+0.6**
	baz=238,SNR=17						
L20K	**Farewell, AK**	**81.28**	**24**	P	**P**	**05 48 41.7**	**+0.8**
	baz=241						
BRSE	**Bradley Lake S**	**81.39**	**27**	P	**P**	**05 48 41.3**	**-0.1**
	baz=245						
K20K	**Telida**	**81.62**	**23**	IAmb	IAmb	05 48 44.4	
	comp=Z,10nm,0.7s						
K20K	**Telida**	**81.62**	**23**	P	**P**	**05 48 43.4**	**+0.7**
	baz=241,SNR=8.8						
J20K	**Nowinta River**	**81.99**	**23**	IAmb	IAmb	05 48 46.3	
	comp=Z,12nm,0.9s						
J20K	**Nowinta River**	**81.99**	**23**	P	**P**	**05 48 45.5**	**+1.0**
	baz=241,SNR=8.7						
SEW	**Seward**	**82.13**	**27**	P	**P**	**05 48 45.2**	**-0.1**
	baz=246						
PPLA	**Purkeypile**	**82.16**	**24**	P	**P**	**05 48 45.4**	**-0.2**
	baz=243						
RC01	**Rabbit Creek A**	**82.42**	**26**	IAmb	IAmb	05 48 47.2	
	comp=Z,13nm,0.6s						
RC01	**Rabbit Creek A**	**82.42**	**26**	P	**P**	**05 48 46.5**	**-0.2**
	baz=245						
CAST	**Castle Rocks**	**82.44**	**24**	IAmb	IAmb	05 48 47.5	
	comp=Z,8.8nm,1.0s						
CAST	**Castle Rocks**	**82.44**	**24**	P	**P**	**05 48 46.6**	**-0.3**
	baz=243,SNR=8.2						
KKAR	**Karatay Array**	**82.48**	**314**	P	**P**	**05 48 47.0**	**-0.5**
M22K	**Willow**	**82.53**	**26**	P	**P**	**05 48 47.2**	**-0.1**
CHUM	**Lake Minchumin**	**82.56**	**23**	P	**P**	**05 48 48.0**	**+0.6**
	baz=243,SNR=29						
CUT	**Chulitna**	**82.74**	**25**	P	**P**	**05 48 47.5**	**-0.9**
	baz=245						
PMR	**Palmer**	**82.89**	**26**	IAmb	IAmb	05 48 49.5	
	comp=Z,6.2nm,0.7s						
PMR	**Palmer**	**82.89**	**26**	P	**P**	**05 48 48.8**	**-0.4**
	baz=246						
PWL	**Port Wells**	**82.95**	**27**	P	**P**	**05 48 49.4**	**-0.1**
	baz=247						
KTH	**Kantishna Hill**	**82.97**	**24**	IAmb	IAmb	05 48 49.8	
	comp=Z,15nm,1.0s						
KNK	**Knik Glacier**	**83.11**	**26**	P	**P**	**05 48 50.2**	**-0.2**
	baz=246						
TRF	**Thorofare Moun**	**83.18**	**24**	IAmb	IAmb	05 48 52.7	
	comp=Z,8.5nm,0.9s						
TRF	**Thorofare Moun**	**83.18**	**24**	P	**P**	**05 48 49.8**	**-1.1**
	baz=245,SNR=6.7						
BPAW	**Bear Paw Mtn.**	**83.19**	**23**	P	**P**	**05 48 50.3**	**-0.4**
	baz=244						
H21K	**Melozitna Rive**	**83.20**	**22**	IAmb	IAmb	05 48 52.2	
	comp=Z,10nm,1.2s						
H21K	**Melozitna Rive**	**83.20**	**22**	P	**P**	**05 48 51.2**	**+0.4**
	baz=242						
I21K	**Tanana**	**83.29**	**22**	IAmb	IAmb	05 48 52.9	
	comp=Z,8.9nm,0.9s						
I21K	**Tanana**	**83.29**	**22**	P	**P**	**05 48 51.6**	**+0.4**
	baz=243						
SML	**Sawmill**	**83.32**	**26**	P	**P**	**05 48 51.5**	**0.0**
	baz=247						
MLY	**Manley**	**83.69**	**23**	P	**P**	**05 48 53.4**	**+0.1**
	baz=244,SNR=18						
SCM	**Sheep Creek Mo**	**83.77**	**26**	P	**P**	**05 48 53.8**	**0.0**
	baz=248						
NRIK	**Nori'sk**	**83.80**	**342**	P	**P**	**05 48 53.1**	**-0.6**
	comp=Z,13nm,0.7s,baz=122,slow=3.8,SNR=20						
MCK	**McKinley**	**83.85**	**24**	IAmb	IAmb	05 48 54.2	
	comp=Z,16nm,0.9s						
MCK	**McKinley**	**83.85**	**24**	P	**P**	**05 48 53.2**	**-0.9**
	baz=246,SNR=10						
WAT6	**Susitna Watana**	**83.89**	**25**	P	**P**	**05 48 53.9**	**-0.6**
	baz=247						
EYAK	**Cordova Ski Ar**	**84.01**	**28**	P	**P**	**05 48 54.8**	**-0.1**
	baz=249						
NEA2	**Nenana**	**84.15**	**23**	IAmb	IAmb	05 48 55.7	
	comp=Z,8.6nm,0.6s						
NEA2	**Nenana**	**84.15**	**23**	P	**P**	**05 48 54.7**	**-0.9**
	baz=246,SNR=8.8						
DIV	**Divide**	**84.20**	**27**	IAmb	IAmb	05 48 57.1	
	comp=Z,15nm,0.8s						
DHY	**Denali Highway**	**84.23**	**25**	P	**P**	**05 48 56.1**	**-0.2**
	baz=247,SNR=12						
KLU	**Klutina**	**84.27**	**27**	IAmb	IAmb	05 48 58.5	
	comp=Z,11nm,1.1s						
KLU	**Klutina**	**84.27**	**27**	P	**P**	**05 48 56.5**	**+0.2**
	baz=249						
I23K	**Minto, Yukon-K**	**84.27**	**23**	IAmb	IAmb	05 48 56.7	
	comp=Z,5.0nm,0.5s						
I23K	**Minto, Yukon-K**	**84.27**	**23**	P	**P**	**05 48 56.4**	**+0.3**
	baz=245						
M24K	**Tolsona, Glenn**	**84.38**	**26**	P	**P**	**05 48 57.2**	**+0.4**
	baz=248						
KAIM	**Kayak Island**	**84.41**	**28**	P	**P**	**05 48 57.0**	**0.0**
	baz=250						
WRH	**Wood River Hil**	**84.49**	**24**	IAmb	IAmb	05 48 57.2	
	comp=Z,14nm,0.9s						
BMRM	**Bremner River**	**84.68**	**27**	P	**P**	**05 48 58.5**	**+0.1**
	baz=250						
TCOL	**CIGO, UAF Yank**	**84.74**	**23**	P	**P**	**05 48 57.8**	**-0.7**
	baz=247						
COLA	**College**	**84.74**	**23**	P	**P**	**05 48 57.8**	**-0.7**
COLA	**College**	**84.74**	**23**	P	**P**	**05 48 58.2**	**-0.3**
	baz=247						
A21K	**Barrow**	**84.83**	**16**	P	**P**	**05 48 58.7**	**-0.2**
	baz=238						
COLD	**Coldfoot**	**84.85**	**21**	P	**P**	**05 48 59.9**	**+0.9**
	baz=244						
N25K	**Chitina, Valde**	**84.90**	**27**	P	**P**	**05 48 59.8**	**+0.3**
	baz=250						
HDA	**Harding Lake**	**84.92**	**24**	IAmb	IAmb	05 48 59.5	
	comp=Z,7.0nm,0.7s						
HDA	**Harding Lake**	**84.92**	**24**	P	**P**	**05 48 58.4**	**-1.1**
	baz=248,SNR=6.0						
PAX	**Paxson**	**85.00**	**25**	P	**P**	**05 48 59.5**	**-0.5**
	baz=249						
POKR	**Poker Plat Res**	**85.00**	**23**	P	**P**	**05 48 59.3**	**-0.6**
	baz=247						
QSPA	**South Pole Qui**	**85.04**	**180**	P	**P**	**05 48 59.2**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=23,slow=11,SNR=7.2						
QSPA	**South Pole Qui**	**85.04**	**180**	P	**P**	**05 48 59.7**	**-0.5**
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**05 48 58.8**	**-1.5**
	comp=Z,13nm,0.7s,baz=250,slow=5.3,SNR=128						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**05 48 59.4**	**-0.9**
BRVK	**Borovoye**	**85.10**	**324**	P	**P**	**05 49 00.4**	**-0.2**
H24K	**Noodor Dome**	**85.12**	**22**	P	**P**	**05 49 00.3**	**-0.2**
	baz=247						
GLB	**Gilahina Butte**	**85.20**	**27**	P	**P**	**05 49 01.4**	**+0.4**
GLB				IAmb	IAmb	05 49 02.0	
	comp=Z,7.7nm,0.7s						
RIDG	**Independent Ri**	**85.54**	**25**	IAmb	IAmb	05 49 03.3	
	comp=Z,18nm,1.2s						
RIDG	**Independent Ri**	**85.54**	**25**	P	**P**	**05 49 02.1**	**-0.5**
	baz=250,SNR=5.6						
J25K	**Salcha River,**	**85.63**	**24**	P	**P**	**05 49 02.6**	**-0.5**
	baz=249,SNR=21						
TOLK	**Toolik Lake Re**	**85.67**	**19**	IAmb	IAmb	05 49 04.8	
	comp=Z,7.1nm,0.9s						
TOLK	**Toolik Lake Re**	**85.67**	**19**	P	**P**	**05 49 02.4**	**-0.7**
	baz=245						
MENT	**Mentasta**	**85.74**	**26**	IAmb	IAmb	05 49 04.7	
	comp=Z,7.0nm,0.8s						
DOT	**Dot Lake**	**85.83**	**25**	IAmb	IAmb	05 49 04.9	
	comp=Z,9.2nm,0.7s						
L26K	**Log Cabin Wild**	**85.93**	**26**	P	**P**	**05 49 04.5**	**0.0**
	baz=251,SNR=5.1						
SCRK	**Sand Creek**	**85.97**	**25**	P	**P**	**05 49 04.8**	**-0.1**
	baz=250						
CTG	**Chitna Glacier**	**86.19**	**28**	P	**P**	**05 49 05.3**	**-0.7**
	baz=253						
J26L	**Joseph Creek**	**86.33**	**24**	P	**P**	**05 49 06.4**	**-0.1**
	baz=251						
M27K	**Edge Creek, AK**	**86.36**	**26**	IAmb	IAmb	05 49 08.7	
	comp=Z,13nm,0.8s						
M27K	**Edge Creek, AK**	**86.36**	**26**	P	**P**	**05 49 07.0**	**+0.2**
	baz=252						
L27K	**Beaver Creek,**	**86.60**	**26**	IAmb	IAmb	05 49 09.2	
	comp=Z,7.5nm,1.1s						
L27K	**Beaver Creek,**	**86.60**	**26**	P	**P**	**05 49 08.1**	**+0.3**
	baz=252,SNR=6.6						
BCAR	**Beaver Creek A**	**86.62**	**26**	P	**P**	**05 49 08.7**	**+0.8**
PNL	**Peninsula**	**86.75**	**29**	P	**P**	**05 49 07.9**	**-0.7**
	baz=255						
YUK3	**Moose Creek**	**86.83**	**27**	P	**P**	**05 49 09.3**	**+0.1**
	baz=254,SNR=5.1						
BVCY	**Beaver Creek**	**86.83**	**27**	P	**P**	**05 49 09.5**	**+0.6**
	baz=253						
BMAR	**Burnt Mountain**	**86.93**	**21**	P	**P**	**05 49 10.6**	**+1.2**
EGAK	**Eagle**	**87.40**	**24**	IAmb	IAmb	05 49 12.6	
	comp=Z,6

ELL				S	**Sn**	**06 03 00.5**	**+1.9**	
KORT	**Korkueli**	**1.03**	**338**	PG	**Pn**	**06 02 44.7**	**-0.2**	
KORT	**Korkueli**	**1.03**	**338**	P	**Pb**	**06 02 45.7**	**+0.8**	
KORT				S	**Sn**	**06 03 01.9**	**+3.2**	
KORT				*i* AML	AML	06 03 14.0		
	comp=E,95nm,0.7s							
GAZI	**Gazipasa**	**1.21**	**81**	PN	**Pn**	**06 02 46.5**	**-0.8**	
GAZI				SN	**Sb**	**06 03 04.1**	**+1.0**	
GAZI	**Gazipasa**	**1.21**	**81**	P	**Pn**	**06 02 46.2**	**-1.1**	
GAZI				S	**Sn**	**06 03 02.6**	**-0.4**	
GAZI				*i* AML	AML	06 03 05.0		
	comp=N,353nm,0.3s							
GAZI				*i* AML	AML	06 03 05.0		
	comp=E,317nm,0.6s							
BUCA	**Burdur, Bucak-**	**1.30**	**350**	P	**Pb**	**06 02 51.1**	**+1.6**	
BCK	**Bucak**	**1.43**	**352**	PN	**Pn**	**06 02 50.1**	**-0.2**	
SUTC	**Sutluce-Ispart**	**1.43**	**5**	PN	**Pn**	**06 02 50.3**	**-0.2**	
CAME	**Cameli-Denizli**	**1.53**	**306**	PN	**Pn**	**06 02 51.6**	**-0.2**	
FETY	**Fethiye**	**1.53**	**293**	PN	**Pn**	**06 02 51.8**	**0.0**	
FETY	**Fethiye**	**1.53**	**293**	P	**Pn**	**06 02 50.7**	**-1.1**	
GOLH	**Golhisar**	**1.57**	**320**	P	**Pb**	**06 02 53.6**	**-0.5**	
GOLH				S	**Sb**	**06 03 16.0**	**+2.5**	
GOLH				*i* AML	AML	06 03 29.0		
	comp=E,70nm,1.9s							
SEYD	**Seydisehir-KON**	**1.58**	**30**	PN	**Pn**	**06 02 52.7**	**+0.3**	
SEDI	**Konya, Seydise**	**1.58**	**27**	P	**Pn**	**06 02 53.3**	**+0.7**	
SEDI				S	**Sn**	**06 03 12.9**	**+0.5**	
SEDI				*i* AML	AML	06 03 18.0		
	comp=E,52nm,0.4s							
SEDI				*i* AML	AML	06 03 18.0		
	comp=N,50nm,0.5s							
AKMS	**Akamas**	**1.60**	**130**	P	**Pn**	**06 02 51.7**	**-0.9**	
AKMS				AML	AML	06 03 21.1		
	0.9nm,0.4s							
AKMS				AML	AML	06 03 31.9		
	0.7nm,0.9s							
HDMB	**Hadim**	**1.61**	**55**	PN	**Pn**	**06 02 53.1**	**+0.1**	
CAEL	**Denizli, Camel**	**1.63**	**312**	P	**Pb**	**06 02 55.5**	**+0.4**	
ALFC	**Alefka**	**1.69**	**121**	P	**Pn**	**06 02 53.1**	**-0.8**	
ALFC				S	**Sn**	**06 03 15.5**	**+0.7**	
ALFC				AML	AML	06 03 23.4		
	0.6nm,0.4s							
ALFC				AML	AML	06 03 23.4		
	0.6nm,0.4s							
ALFC				AML	AML	06 03 26.8		
	0.6nm,0.4s							
ALFC				AML	AML	06 03 26.8		
	0.6nm,0.4s							
ERMK	**Ermenek**	**1.78**	**70**	P	**Pb**	**06 02 56.4**	**-1.3**	
ERMK				S	**Sb**	**06 03 18.7**	**-0.9**	
ERMK				*i* AML	AML	06 03 31.0		
	comp=E,55nm,0.4s							
TEKE	**Tekeli-Mersin**	**1.85**	**86**	PN	**Pn**	**06 02 56.8**	**+0.8**	
AKDN	**Akdeniz- Kıbrı**	**1.89**	**113**	PN	**Pn**	**06 02 57.6**	**+1.0**	
DALY	**Dalyan (Mula)**	**1.92**	**294**	PN	**Pn**	**06 02 57.3**	**+0.3**	
BAGO	**Egridir - ISPA**	**1.94**	**359**	P	**Pn**	**06 02 57.3**	**-0.1**	
BERE	**Bereket-Mersin**	**1.95**	**80**	PN	**Pn**	**06 02 58.1**	**+0.5**	
KKBE	**Karaman, Kazim**	**2.06**	**55**	P	**Pn**	**06 03 00.5**	**+1.5**	
TAVA	**DENIZLI_Tavas**	**2.10**	**313**	P	**Pn**	**06 03 00.4**	**+0.8**	
KMER	**Konya-Meram**	**2.11**	**35**	P	**Pn**	**06 02 60.0**	**+0.2**	
TEVE	**Tevekalti-Mers**	**2.14**	**75**	PN	**Pn**	**06 03 02.5**	**+0.3**	
DOGA	**KONYA_Doganhis**	**2.16**	**18**	P	**Pb**	**06 03 02.6**	**-1.6**	
DOGA				S	**Sn**	**06 03 24.2**	**-2.4**	
DOGA				*i* AML	AML	06 03 30.0		
	comp=N,34nm,1.0s							
DOGA				*i* AML	AML	06 03 31.0		
	comp=E,27nm,0.6s							
AKK1	**Akkuyu-Mersin**	**2.19**	**87**	PN	**Pn**	**06 03 01.7**	**+1.0**	
GULN	**MERSIN_Gulnar**	**2.19**	**86**	P	**Pn**	**06 03 02.3**	**+1.5**	
GULN				S	**Sn**	**06 03 29.0**	**+1.7**	
GULN				*i* AML	AML	06 03 33.0		
	comp=E,29nm,0.6s							
GULN				*i* AML	AML	06 03 36.0		
	comp=N,30nm,0.6s							
TURN	**Turunc**	**2.21**	**290**	PN	**Pn**	**06 03 00.9**	**-0.2**	
TURN	**Turunc**	**2.21**	**290**	P	**Pn**	**06 02 59.6**	**-1.4**	
TURN				S	**Sn**	**06 03 26.7**	**-1.1**	
YVAC	**Isparta, Yalva**	**2.24**	**8**	P	**Pn**	**06 03 00.3**	**-1.3**	
YVAC				S	**Sn**	**06 03 28.3**	**-0.4**	
KONT	**Konya--Tatoy**	**2.25**	**32**	PN	**Pn**	**06 03 02.4**	**+0.7**	
KONT	**Konya--Tatoy**	**2.25**	**32**	P	**Pn**	**06 03 02.8**	**+1.1**	
KONT				S	**Sb**	**06 03 31.0**	**-2.1**	
KZIL	**AFYON_Kizioren**	**2.27**	**346**	P	**Pn**	**06 03 01.6**	**-0.4**	
TISA	**Tisan-Mersin**	**2.30**	**86**	PN	**Pn**	**06 03 03.2**	**+0.9**	
CSS	**Mathiatis**	**2.30**	**117**	PN	**Pn**	**06 03 02.9**	**+0.6**	
CSS	**Mathiatis**	**2.30**	**117**	S	**Sn**	**06 03 30.9**	**+0.9**	
IKL	**Isikli**	**2.31**	**84**	PN	**Pn**	**06 03 03.3**	**+0.9**	
LFK	**Lefkose**	**2.32**	**108**	PN	**Pn**	**06 03 03.5**	**+0.8**	
YER	**Yerkesik**	**2.33**	**299**	PN	**Pn**	**06 03 02.5**	**-0.2**	
KARG	**Kargicak-Mersi**	**2.33**	**85**	PN	**Pn**	**06 03 03.7**	**+1.0**	
ASGA	**Asgata**	**2.34**	**122**	P	**Pn**	**06 03 03.1**	**+0.3**	
LADK	**Ladik-KONYA**	**2.47**	**29**	PN	**Pn**	**06 03 05.4**	**+0.7**	
MVOU	**Mavrovouni**	**2.50**	**113**	P	**Pn**	**06 03 04.3**	**-0.7**	
PASA	**Karahalli, USA**	**2.54**	**335**	P	**Pn**	**06 03 04.5**	**-1.1**	
PASA				S	**Sn**	**06 03 34.1**	**-1.7**	
OSC1	**CSNet OBS 1**	**2.57**	**172**	S	**Sn**	**06 03 36.9**	**+0.4**	
KDHN	**Kadinhani**	**2.67**	**22**	P	**Pn**	**06 03 09.1**	**+1.6**	
KDHN				S	**Sn**	**06 03 38.6**	**-0.6**	
DAT	**Datca**	**2.72**	**285**	PN	**Pn**	**06 03 08.6**	**+0.5**	
DAT	**Datca**	**2.72**	**285**	P	**Pn**	**06 03 07.0**	**-1.1**	
KIZT	**Kizilcal**	**2.95**	**16**	PN	**Pn**	**06 03 12.3**	**+1.0**	
BODT	**Bodrum**	**3.02**	**291**	PN	**Pn**	**06 03 12.3**	**+0.2**	
KARP	**Karpathos**	**3.03**	**262**	PN	**Pn**	**06 03 12.7**	**+0.4**	
KARP	**Karpathos**	**3.03**	**262**	P	**Pn**	**06 03 12.7**	**+0.4**	
USAK	**Uak-Merkez**	**3.03**	**332**	P	**Pn**	**06 03 08.3**	**-4.1**	
OSC2	**CSNet OBS 4**	**3.19**	**158**	S	**Sn**	**06 03 51.7**	**-0.1**	
TVSB	**Tavsanli**	**3.57**	**343**	PN	**Pn**	**06 03 20.9**	**+1.1**	

*IDC **17** 06:07:51.2±1.6, 35.64N×3.57W, h0km, mb3.1/2, mb1 3.2/4, mb1mx3.1/49, mbtmp3.0/4, ML2.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/30, Error ellipse: s-maj=45.3km s-min=13.6km az=94.0*
*SFS **17** 06:07:52.0, 35.70N×3.75W, ML3.0, ALBORAN SUR*
*MDD **17** 06:07:52.8±0.5, 35.70N×3.67W, h0km±3km, mb_Lg2.6/7, Error ellipse: s-maj=3.0km s-min=2.2km az=168.0*
*LDG **17** 06:07:54.1±0.5, 35.68N×3.50W, h10km, Ml2.7/5, Error ellipse: s-maj=11.0km s-min=4.4km az=168.0*
*IGIL **17** 06:07:54.4, 35.71N×3.75W, h2km*
*CNRM **17** 06:07:54.2, 35.65N×3.56W, h26km, ml3.1*

ISC 17 06:07:52.1±1.1, 35.71N±0.02×3.63W±0.02, h8km±9km, n60, σ1.9s76/85, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.53**	**65**	Pg		**Pg**	**06 08 04.4**	**+2.0**
EALB				Sg		**Sb**	**06 08 12.8**	**+1.2**
EMEL	**Melilla**	**0.68**	**127**	Pg		**Pg**	**06 08 05.8**	**+0.5**
EMEL				Sg		**Sg**	**06 08 14.7**	**+0.5**
EMEL				*i* Vmb_Lg			06 08 15.2	
PVLZ	**Peæn de**	**0.77**	**226**	P		**Pg**	**06 08 08.4**	**+1.5**
PVLZ				S		**Sg**	**06 08 18.6**	**+1.6**
ELGU	**Los Guajares,**	**1.15**	**0**	Pg		**Pg**	**06 08 13.7**	**-0.6**
ELGU				Sg		**Sg**	**06 08 29.3**	**0.0**
AKLM	**AKL**	**1.22**	**189**	P		**Pg**	**06 08 15.3**	**-0.1**
AKLM				S		**Sg**	**06 08 28.8**	**-2.4**
EMAL	**Malaga-Limoner**	**1.23**	**328**	P		**Pg**	**06 08 14.8**	**-1.0**
EMAL				S		**Sg**	**06 08 30.8**	**-1.0**
EMIJ	**Mijas**	**1.26**	**313**	Pg		**Pg**	**06 08 14.9**	**-1.4**
EMIJ				Sg		**Sg**	**06 08 30.8**	**-1.9**
EBER	**Berja**	**1.32**	**26**	Pn		**Pg**	**06 08 16.3**	**-1.3**
EBER				Sn		**Sg**	**06 08 33.8**	**-1.0**
TAF	**Taforalt**	**1.34**	**132**	P		**Pg**	**06 08 16.3**	**-1.5**
CEU	**Ceuta**	**1.43**	**278**	P		Pn	06 08 16.3	-2.0
CEU				S		Sb	06 08 31.5	-5.9
EGOR	**Sierra Gorda,**	**1.45**	**345**	Pn		**Pn**	**06 08 18.2**	**-0.6**
EGOR				Sn		**Sg**	**06 08 36.8**	**-2.0**
EQUE	**Quentar**	**1.50**	**6**	Pn		**Pn**	**06 08 20.5**	**+1.0**
CHEFC	**Chefchaouen**	**1.52**	**247**	P		**Pn**	**06 08 20.1**	**+0.3**
CHEFC				S		**Sn**	**06 08 38.0**	**-1.9**
JBK	**JBK**	**1.63**	**147**	P		**Pn**	**06 08 19.6**	**-1.7**
JBK				S		**Sn**	**06 08 37.7**	**-4.8**
EJIF	**Jimena Fronter**	**1.66**	**297**	Pn		**Pn**	**06 08 21.4**	**-0.3**
EJIF				Sn		**Sn**	**06 08 41.1**	**-2.1**
ENIJ	**Nijar**	**1.70**	**42**	Pn		**Pn**	**06 08 22.2**	**0.0**
ENIJ				Sn		**Sn**	**06 08 41.1**	**-3.0**
SICH	**Sidi Chahed**	**2.12**	**221**	P		**Pn**	**06 08 30.9**	**+3.0**
EQES	**Quesada**	**2.13**	**12**	Pn		**Pn**	**06 08 31.0**	**+2.8**
EQES				Sn		**Sn**	**06 08 57.3**	**+2.4**
ESPR	**Espera**	**2.14**	**303**	Pn		**Pn**	**06 08 29.1**	**+1.0**
ESPR				Sn		**Sn**	**06 08 56.4**	**+1.5**
ESPR				*i* Vmb_Lg			06 09 04.8	
LCRM	**LCR**	**2.26**	**207**	P		**Pn**	**06 08 31.9**	**+1.9**
LCRM				S		**Sn**	**06 09 00.6**	**+2.5**
IFR	**Ifrane**	**2.52**	**210**	P		**Pn**	**06 08 32.9**	**-0.6**
IFR				S		**Sn**	**06 09 02.3**	**-2.2**
EADA	**Adamuz**	**2.57**	**343**	Pn		**Pn**	**06 08 35.4**	**+1.3**
EADA				Sn		**Sn**	**06 09 06.4**	**+0.9**
EZAR	**Zarzadilla de**	**2.66**	**35**	Pn		**Pn**	**06 08 34.4**	**-0.9**
EZAR				Sn		**Sn**	**06 09 08.1**	**+0.3**
ECAB	**El Cabril**	**2.76**	**329**	Pn		**Pn**	**06 08 37.6**	**+0.8**
ECAB				Sn		**Sn**	**06 09 10.8**	**+0.5**
ECAB				*i* Vmb_Lg			06 09 19.9	
CZD	**Col de Zad**	**2.92**	**204**	P		**Pn**	**06 08 39.6**	**+0.5**
CZD				S		**Sn**	**06 09 13.1**	**-1.4**
TDRA	**Tendrara**	**2.98**	**153**	P		**Pn**	**06 08 40.3**	**+0.5**
MD31	**MD31**	**2.99**	**199**	P		**Pn**	**06 08 38.2**	**-1.7**
MDT	**Midelt**	**3.00**	**196**	Pn		Pn	06 08 38.0	-2.1
	0.6nm,0.3s,baz=179,slow=8.0,SNR=12							
MDT				Sn		**Sn**	**06 09 15.8**	**-0.5**
	1.5nm,0.3s,baz=101,slow=19,SNR=2.4							
MDT				Lg		Lg	06 09 22.9	
	1.6nm,0.3s,baz=282,slow=20,SNR=2.3							
MDT	**Midelt**	**3.00**	**196**	P		**Pn**	**06 08 39.4**	**-0.7**
EMIN	**Mina Concepcio**	**3.19**	**311**	Pn		**Pn**	**06 08 42.9**	**+0.3**
EMIN				Sn		**Sn**	**06 09 18.8**	**-2.1**
ETOB	**Tobarra**	**3.37**	**29**	Pn		**Pn**	**06 08 47.2**	**+2.1**
ETOB				Sn		**Sn**	**06 09 27.1**	**+1.8**
EGRO	**El Granado**	**3.60**	**302**	Pn		**Pn**	**06 08 48.5**	**+0.3**
EGRO				Sn		**Sn**	**06 09 29.4**	**-1.4**
PVAQ	**Vaqueiros**	**3.70**	**298**	P		**Pn**	**06 08 49.8**	**+0.2**
PAB	**San Pablo**	**3.87**	**352**	Pn		**Pn**	**06 08 52.5**	**+0.4**
PAB				Sn		**Sn**	**06 09 36.6**	**-1.1**
PAB				*i* Vmb_Lg			06 09 57.1	
ESDC	**Sonseca Array**	**3.96**	**356**	Pn		**Pn**	**06 08 54.5**	**+1.1**
	0.6nm,0.3s,baz=179,slow=12,SNR=33							
ESDC				Sn		**Sn**	**06 09 41.0**	**+1.0**
	0.4nm,0.3s,baz=173,slow=17,SNR=4.2							
ESDC				Lg		Lg	06 09 58.5	
	0.9nm,0.3s,baz=169,slow=26,SNR=4.8							
EBAD	**Badajoz**	**4.07**	**319**	Pn		**Pn**	**06 08 54.5**	**-0.2**
EBAD				Sn		**Sn**	**06 09 38.6**	**-3.8**
EBAD				*i* Vmb_Lg			06 09 45.7	
FIGM	**Figuig**	**4.08**	**150**	P		**Pn**	**06 08 53.8**	**-1.1**
MORF	**Marmelete**	**4.35**	**293**	*e*P		**Pn**	**06 08 58.4**	**-0.2**
PFVI	**Vila Bisbo**	**4.43**	**290**	P		**Pn**	**06 09 00.6**	**+1.0**
PESTR	**Estremoz**	**4.46**	**316**	P		**Pn**	**06 09 00.9**	**+0.8**
EVO	**Evora**	**4.50**	**310**	P		**Pn**	**06 09 01.0**	**+0.5**
EVO				S		**Sn**	**06 09 50.7**	**-2.3**
EPLA	**Plasencia**	**4.76**	**337**	Pn		**Pn**	**06 09 05.5**	**+1.3**
EPLA				Sn		**Sn**	**06 09 58.0**	**-1.6**
ETOR	**Torete**	**5.25**	**13**	Pn		**Pn**	**06 09 12.3**	**+1.4**
ETOR				Sn		**Sn**	**06 10 13.3**	**+1.6**
ETOR				*i* Vmb_Lg			06 10 39.7	
OUK	**Oukaimeden**	**5.72**	**219**	P		**Pn**	**06 09 18.3**	**+0.6**
ETSF	**Etsaut**	**7.56**	**17**	*e*Pn		**Pn**	**06 09 42.2**	**-0.5**
ETSF	**Etsaut**	**7.56**	**17**	*e*P		**Pn**	**06 09 46.5**	**+3.8**
ETSF				*e*Sn		Sn	06 11 02.6	-6.0
	0.3nm,0.3s							
SJPF	**Ste Jean**	**7.62**	**13**	*e*Pn		**Pn**	**06 09 43.3**	**-0.2**
SJPF	**Ste Jean**	**7.62**	**13**	*e*P		**Pn**	**06 09 48.1**	**+4.6**
SJPF				*e*Sn		**Sn**	**06 11 05.2**	**-4.8**
	0.1nm,0.2s							
EARI	**Arriondas**	**7.68**	**351**	Pn		**Pn**	**06 09 45.1**	**+0.8**
EPF	**Esparros**	**7.93**	**22**	*e*Pn		**Pn**	**06 09 45.8**	**-1.9**
EPF				*e*Sn		Sn	06 11 11.6	-6.0
	0.6nm,0.2s							
MTLF	**Montolieu**	**8.85**	**29**	*e*Pn		**Pn**	**06 09 58.8**	**-1.6**
MTLF				*e*Sn		Sn	06 11 34.2	-6.1
	0.5nm,0.2s							
LFF	**La Frestale**	**9.80**	**19**	*e*Pn		**Pn**	**06 10 12.3**	**-1.0**
LASF	**Ste Croix**	**10.14**	**32**	*e*Pn		Pn	06 10 15.4	-2.6
LASF				*e*Sn		Sn	06 12 01.0	-11
	1.4nm,0.5s							
CAF	**Calviac**	**10.17**	**24**	*e*Pn		**Pn**	**06 10 17.7**	**-0.8**
SMRF	**Simiane la Rot**	**10.86**	**38**	*e*Pn		Pn	06 10 25.0	-2.9
LMR	**La Mourre**	**10.91**	**43**	*e*Pn		Pn	06 10 23.9	-4.6
ORIF	**Oris-en-Rattie**	**11.71**	**35**	*e*Pn		Pn	06 10 36.9	-2.6
ORIF				*e*Sn		Sn	06 12 40.2	-10
EKA	**Eskdalemuir Ar**	**19.63**	**1**	LR		LR	06 20 19.4	
	comp=Z,69nm,18.1s,baz=268,slow=38							
TORD	**Torodi Ar. Bea**	**22.97**	**167**	P		**P**	**06 12 58.5**	**+1.3**
	0.7nm,0.9s,baz=354,slow=12,SNR=2.9							
YKA	**Yellowknife Ar**	**67.70**	**332**	P		**P**	**06 18 50.8**	**+1.2**
	0.1nm,0.6s,baz=62,slow=6.3,SNR=2.5							

*SKO **17** 06:13:50.4, 41.21N×23.13E, h15km*
*SOF **17** 06:13:51.0, 41.25N×23.12E, h20km, MD2.7*
*THE **17** 06:13:51.6, 41.17N×23.14E, h5km±3km, ML2.3/10, Error ellipse: s-maj=3.8km s-min=0.5km az=303.0*
*ATH **17** 06:13:51.5, 41.17N×23.13E, h11km±2km, ML2.3/11, Error ellipse: s-maj=2.3km s-min=0.8km az=298.0*
*BEO **17** 06:13:52.7±0.8, 41.22N×23.12E, h0km, ML2.5/7*

ISC 17 06:13:50.9±0.8, 41.20N±0.02×23.11E±0.02, h17km±5km, n48, σ0.9s90/85, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.16**	**257**	P		**Pg**	**06 13 55.3**	**+0.1**
KNT				S		**Sg**	**06 13 57.8**	**-0.3**
KNT	**Kendrikon**	**0.16**	**257**	P		**Pg**	**06 13 55.3**	**+0.1**
KNT				S		**Sg**	**06 13 57.8**	**-0.3**
	2µm,0.1s							
KNT	**Kendrikon**	**0.16**	**257**	*i* Pg		**Pg**	**06 13 55.3**	**+0.1**
KNT				*i* Sg		**Sg**	**06 13 57.9**	**-0.3**
SRS	**Serrai**	**0.38**	**102**	P		**Pg**	**06 13 58.4**	**-0.3**
SRS				S		**Sg**	**06 14 03.2**	**-0.9**
SRS				AML	AML	06 14 04.0		
	comp=N,719µm,0.1s							
SRS				AML	AML	06 14 04.4		
	comp=E,716µm,0.2s							
SRS	**Serrai**	**0.38**	**102**	P		**Pg**	**06 13 58.4**	**-0.3**
SRS				S		**Sg**	**06 14 03.2**	**-0.9**
	comp=E,362nm,0.2s							
SRS	**Serrai**	**0.38**	**102**	*i* Pg		**Pg**	**06 13 58.5**	**-0.3**
SRS				*i* Sg		**Sg**	**06 14 03.7**	**-0.3**
SOH	**Sokhos**	**0.42**	**153**	P		**Pg**	**06 13 59.5**	**0.0**
SOH				S		**Sg**	**06 14 04.8**	**-0.5**
SOH				AML	AML	06 14 06.5		
	comp=E,1659µm,0.2s							
SOH				AML	AML	06 14 06.6		
	comp=N,2852µm,0.3s							
SOH	**Sokhos**	**0.42**	**153**	P		**Pg**	**06 13 59.5**	**0.0**
SOH				S		**Sg**	**06 14 04.8**	**-0.5**
	comp=N,755nm,0.2s							
SOH	**Sokhos**	**0.42**	**153**	*i* Pg		**Pg**	**06 13 59.6**	**0.0**
SOH				*i* Sg		**Sg**	**06 14 05.1**	**-0.2**
THE	**Thessaloniki**	**0.57**	**191**	P		**Pg**	**06 14 02.4**	**+0.1**
THE				S		**Sg**	**06 14 09.3**	**-0.7**
THE				AML	AML	06 14 10.7		
	comp=E,940µm,0.1s							
THE				AML	AML	06 14 11.2		
	comp=N,975µm,0.2s							
THE	**Thessaloniki**	**0.57**	**191**	P		**Pg**	**06 14 02.4**	**+0.1**
THE				S		**Sg**	**06 14 09.3**	**-0.7**
THE	**Thessaloniki**	**0.57**	**191**	*i* Pg		**Pg**	**06 14 02.5**	**+0.2**
THE				*i* Sg		**Sg**	**06 14 10.1**	**+0.1**
GRG	**Griva**	**0.58**	**246**	P		**Pg**	**06 14 02.6**	**+0.1**
GRG				S		**Sg**	**06 14 10.4**	**+0.1**
GRG				AML	AML	06 14 11.2		
	comp=N,820µm,0.4s							
GRG				AML	AML	06 14 11.5		
	comp=E,740µm,0.3s							
GRG	**Griva**	**0.58**	**246**	P		**Pg**	**06 14 02.6**	**+0.1**
GRG				S		**Sg**	**06 14 11.1**	**+0.7**
	comp=E,385nm,0.3s							
GRG	**Griva**	**0.58**	**246**	*i* Pg		**Pg**	**06 14 02.7**	**+0.1**
GRG				*i* Sg		**Sb**	**06 14 11.3**	**+0.6**
NVR	**Nevrokopi**	**0.59**	**75**	P		**Pg**	**06 14 02.5**	**-0.1**
NVR				S		**Sg**	**06 14 10.5**	**0.0**
NVR				AML	AML	06 14 13.1		
	comp=N,257µm,0.2s							
NVR				AML	AML	06 14 15.8		
	comp=E,304µm,0.2s							
NVR	**Nevrokopi**	**0.59**	**75**	P		**Pg**	**06 14 02.5**	**-0.1**
NVR				S		**Sg**	**06 14 10.5**	**0.0**
	comp=E,135nm,0.1s							
HORT	**Hortiatis**	**0.60**	**180**	P		**Pg**	**06 14 03.0**	**+0.2**
HORT				S		**Sg**	**06 14 10.2**	**-0.6**
HORT				AML	AML	06 14 11.3		
	comp=N,1440µm,0.4s							
HORT				AML	AML	06 14 11.5		
	comp=E,1311µm,0.2s							
HORT	**Hortiatis**	**0.60**	**180**	P		**Pg**	**06 14 03.0**	**+0.2**
HORT				S		**Sg**	**06 14 10.2**	**-0.6**
	comp=E,692nm,0.3s							
MMB	**Musomiste**	**0.61**	**50**	*i* Pg		**Pg**	**06 14 02.6**	**-0.4**
KKB	**Krupnik**	**0.67**	**359**	*i* Pg		**Pg**	**06 14 03.6**	**-0.5**
KOKK	**Kokkinochori,**	**0.78**	**119**	P		**Pg**	**06 14 06.0**	**-0.1**
KOKK				S		**Sg**	**06 14 15.6**	**-0.8**
KOKK				AML	AML	06 14 18.7		
	comp=N,556µm,0.2s							
KOKK				AML	AML	06 14 19.4		
	comp=E,338µm,0.3s							
KOKK	**Kokkinochori,**	**0.78**	**119**	P		**Pg**	**06 14 06.0**	**-0.1**
KOKK				S		**Sg**	**06 14 15.6**	**-0.8**
	comp=E,225nm,0.2s							
STIP	**Stip**	**0.85**	**306**	*i* Pg		**Pg**	**06 14 05.2**	**-2.3**
STIP				*i* Sg		**Sg**	**06 14 15.7**	**-3.1**
STIP				*e*Lg		Lg	06 14 17.1	
	comp=N,64nm,0.2s							
PLG	**Polygyros**	**0.86**	**162**	P		**Pg**	**06 14 07.0**	**-0.7**
PLG				S		**Sg**	**06 14 18.3**	**-0.8**
PLG				AML	AML	06 14 19.4		
	comp=E,592µm,0.3s							
PLG				AML	AML	06 14 20.9		
	comp=N,446µm,0.3s							
PLG	**Polygyros**	**0.86**	**162**	P		**Pg**	**06 14 07.0**	**-0.7**
PLG				S		**Sg**	**06 14 19.2**	**+0.1**
	comp=N,262nm,0.2s							
KAVA	**Kavala**	**1.08**	**100**	P		**Pb**	**06 14 11.4**	**+0.3**
KAVA				S		**Sb**	**06 14 25.4**	**+0.4**
KAVA				AML	AML	06 14 28.7		
	comp=E,178µm,0.2s							
KAVA				AML	AML	06 14 30.1		
	comp=N,211µm,0.3s							
KAVA	**Kavala**	**1.08**	**100**	P		**Pb**	**06 14 11.4**	**+0.3**
KAVA				S		**Sg**	**06 14 26.3**	**+0.2**
	comp=N,78nm,0.2s							
OUR	**Ouranopolis**	**1.09**	**142**	P		**Pb**	**06 14 11.6**	**+0.3**
OUR				S		**Sb**	**06 14 25.8**	**+0.6**
OUR				AML	AML	06 14 29.1		
	comp=N,694µm,0.2s							
OUR				AML	AML	06 14 30.4		
	comp=E,607µm,0.3s							
OUR	**Ouranopolis**	**1.09**	**142**	P		**Pb**	**06 14 11.6**	**+0.3**
OUR				S		**Sb**	**06 14 25.8**	**+0.6**
	comp=E,322nm,0.3s							
LIT	**Litokhoron**	**1.19**	**203**	*i* Pg		**Pn**	**06 14 13.4**	**+0.6**
RZN	**Rozhen**	**1.31**	**67**	*e*P		**Pb**	**06 14 15.6**	**+0.5**
PAIG	**Paliouri**	**1.34**	**161**	P		**Pn**	**06 14 15.1**	**+0.3**
PAIG	**Paliouri**	**1.34**	**161**	P		**Pn**	**06 14 15.2**	**+0.3**
THAS	**Thassos island**	**1.36**	**115**	P		**Pn**	**06 14 15.9**	**+0.8**
THAS				AML	AML	06 14 35.6		
	comp=E,288µm,0.3s							
THAS				AML	AML	06 14 38.5		
	comp=N,191µm,0.2s							
THAS	**Thassos island**	**1.36**	**115**	P		**Pn**	**06 14 15.9**	**+0.8**
FNA	**Florina**	**1.37**	**253**	*i* Pg		**Pb**	**06 14 17.1**	**+1.0**
FNA				*i* Sg		**Sg**	**06 14 35.9**	**+0.6**
BOSS	**Bosilegrad**	**1.38**	**340**	*e*Pg		**Pn**	**06 14 16.6**	**+1.2**
BOSS				*e*Sg		**Sb**	**06 14 35.1**	**+1.5**
VTS	**Vitosha**	**1.42**	**4**	*e*Pg		**Pb**	**06 14 17.7**	**+0.6**
VTS				*e*Sg		**Sb**	**06 14 36.4**	**+1.5**
VTS	**Vitosha**	**1.42**	**4**	*i* Pg		**Pb**	**06 14 17.5**	**+0.4**
VTS				*i* Sg		**Sg**	**06 14 36.7**	**-0.3**
VTS	**Vitosha**	**1.42**	**4**	*i* Pg		**Pb**	**06 14 17.7**	**+0.6**
PLD	**Plovdiv**	**1.50**	**52**	*e*Pg		**Pb**	**06 14 18.7**	**+0.4**
PLD				*e*Sg		**Sg**	**06 14 40.6**	**+1.2**
PRVS	**Prvonek**

IDC ***17*** *06:39:06.9±2.1,8°32′S×120°13′E,h0km,mb3.3/2, mb1 3.7/5,mb1mx3.3/37,mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=109.8km s-min=23.2km az=62.0*
DJA ***17*** *06:39:09.5±0.8,8°S±3′×12°1E±°,h11km±6km,M3.6/7, MLv3.6/7*
ISC 17 06:39:09.2±1.0,8°01′S±0′05×120°72′E±0′06,h10km,n12, σ0§94/14,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.63**	**113**	P	**Pn**	**06 39 38.5**	**+0.6**
MMRI				S	**Sn**	**06 40 00.1**	**+1.1**
BSSI	**Bau Bau, Buton**	**1.87**	**353**	P	**Pn**	**06 39 40.6**	**-0.6**
WBSI	**Waikabubak, Su**	**2.08**	**219**	P	**Pn**	**06 39 44.4**	**+0.2**
WBSI				S	**Sn**	**06 40 11.4**	**+1.1**
BASI	**Baing, Sumba**	**2.20**	**184**	P	**Pn**	**06 39 45.8**	**0.0**
BKSI	**Bulukumba**	**2.73**	**348**	P	**Pn**	**06 39 53.0**	**-0.1**
PLAI	**Plampang**	**3.02**	**254**	P	**Pn**	**06 39 57.4**	**+0.3**
KAPI	**Kappang** 3.1nm,0.3s,baz=195,slow=8.3,SNR=11	**3.13**	**342**	Pn	**Pn**	**06 40 00.3**	**+1.8**
KAPI				Sn	**Sn**	**06 40 37.1**	**+1.2**
	2.0nm,0.3s,baz=188,slow=19,SNR=2.3						
BNSI	**Bone**	**3.64**	**350**	P	**Pn**	**06 40 05.4**	**-0.1**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=323,slow=13,SNR=3.1	**11.11**	**155**	Pn	**Pn**	**06 41 47.4**	**-0.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=306,slow=13,SNR=5.0	**17.74**	**133**	P	**Pn**	**06 43 16.4**	**-0.1**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=316,slow=8.9,SNR=2.6	**20.06**	**142**	P	Pn	06 43 44.5	0.0
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=142,slow=6.3,SNR=1.3	**64.37**	**332**	P	**P**	**06 49 44.4**	**-0.9**

IDC ***17*** *06:43:58.9±1.7,7°07′S×122°10′E,h0km,mb3.2/2, mb1 3.5/4,mb1mx3.1/40,mbtmp3.3/4,ML3.2/2,MS2.2/1, Ms1 2.2/1,ms1mx2.0/20,Error ellipse: s-maj=142.9km s-min=22.9km az=49.0*
DJA ***17*** *06:43:59.6±1.0,8°S±3′×12°1E±°,h14km±9km,M3.5/8, MLv3.5/8*
ISC 17 06:43:58.9±1.0,8°05′S±0′05×120°71′E±0′07,h10km,n12, σ1§12/14,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.63**	**111**	P	**Pn**	**06 44 28.5**	**+0.8**
MMRI				S	**Sn**	**06 44 49.3**	**+0.6**
BSSI	**Bau Bau, Buton**	**1.90**	**354**	P	**Pn**	**06 44 30.7**	**-0.8**
WBSI	**Waikabubak, Su**	**2.05**	**219**	P	**Pn**	**06 44 33.9**	**+0.4**
BASI	**Baing, Sumba**	**2.16**	**183**	P	**Pn**	**06 44 35.4**	**+0.4**
BKSI	**Bulukumba**	**2.77**	**348**	P	**Pn**	**06 44 43.1**	**-0.3**
PLAI	**Plampang**	**3.00**	**255**	P	**Pn**	**06 44 46.8**	**+0.2**
KAPI	**Kappang** 3.2nm,0.3s,baz=185,slow=9.2,SNR=8.2	**3.16**	**342**	Pn	**Pn**	**06 44 50.1**	**+1.3**
KAPI				Sn	**Sn**	**06 45 27.2**	**+0.7**
	3.1nm,0.3s,baz=195,slow=20,SNR=2.2						
KAPI				LR	LR	06 46 02.5	
	comp=Z,40nm,19.4s,baz=127,slow=40						
BNSI	**Bone**	**3.67**	**351**	P	**Pn**	**06 44 56.0**	**+0.2**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=338,slow=19,SNR=1.9	**11.09**	**155**	Sn	**Sn**	**06 48 40.5**	**-1.3**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=306,slow=12,SNR=3.3	**17.73**	**133**	P	**Pn**	**06 48 03.8**	**-2.3**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=323,slow=12,SNR=3.7	**20.03**	**142**	P	**P**	**06 48 33.8**	**+1.5**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=141,slow=8.5,SNR=2.4	**64.40**	**332**	P	**P**	**06 54 35.4**	**+0.1**

DJA ***17*** *07:03:25.7±1.0,8°S±3′×12°1E±°,h12km±9km,M3.9/10, MLv3.9/10*
IDC ***17*** *07:03:26.4±1.9,7°70′S×121°49′E,h0km,mb3.5/1, mb1 3.7/5,mb1mx3.4/36,mbtmp3.6/5,ML3.3/4,Error ellipse: s-maj=132.2km s-min=22.8km az=60.0*
ISC 17 07:03:26.0±0.9,8°05′S±0′04×120°74′E±0′06,h10km,n13, σ1§07/17,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.59**	**111**	P	**Pn**	**07 03 53.7**	**-0.6**
MMRI				S	**Sn**	**07 04 14.4**	**-0.5**
BSSI	**Bau Bau, Buton**	**1.91**	**353**	P	**Pn**	**07 03 57.5**	**-1.2**
WBSI	**Waikabubak, Su**	**2.07**	**220**	P	**Pn**	**07 04 00.2**	**-0.7**
WBSI				S	**Sb**	**07 04 28.8**	**-0.7**
BASI	**Baing, Sumba**	**2.16**	**184**	P	**Pn**	**07 04 01.4**	**-0.7**
BKSI	**Bulukumba**	**2.78**	**347**	P	**Pn**	**07 04 09.9**	**-0.7**
PLAI	**Plampang**	**3.03**	**255**	P	**Pn**	**07 04 13.7**	**-0.4**
BBSI	**Bau Bau**	**3.13**	**36**	P	**Pn**	**07 04 15.2**	**-0.3**
KAPI	**Kappang** 6.5nm,0.3s,baz=146,slow=11,SNR=24	**3.17**	**342**	Pn	**Pn**	**07 04 17.4**	**+1.3**
KAPI				Sn	**Sn**	**07 04 52.8**	**-1.2**
	4.7nm,0.3s,baz=130,slow=12,SNR=4.0						
BNSI	**Bone**	**3.68**	**350**	P	**Pn**	**07 04 22.9**	**-0.1**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=333,slow=14,SNR=1.4	**11.07**	**155**	Pn	**Pn**	**07 06 06.5**	**+2.0**
FITZ				Sn	**Sn**	**07 08 08.6**	**+0.3**
	0.1nm,0.3s,baz=227,slow=19,SNR=1.8						
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=311,slow=12,SNR=4.1	**17.70**	**133**	P	**Pn**	**07 07 30.8**	**-2.0**
WRA				S	Sn	07 10 38.9	-11
	0.0nm,0.3s,baz=302,slow=25,SNR=2.2						
ASAR	**Alice Springs** 0.1nm,0.3s,baz=321,slow=11,SNR=3.8	**20.01**	**142**	P	**P**	**07 07 59.2**	**+0.1**
SONM	**Songino Array** 0.3nm,0.4s,baz=153,slow=8.8,SNR=2.2	**57.07**	**349**	P	**P**	**07 13 13.4**	**+0.8**

NNC ***17*** *07:26:30.9±1.6,54°30′N×86°90′E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=18.0km s-min=8.6km az=179.0, Suspected Mining explosion.*
IDC ***17*** *07:26:31.2±2.9,54°36′N×86°95′E,h0km,mb1 3.1/2, mb1mx3.0/37,mbtmp3.1/2,ML2.5/2,Error ellipse: s-maj=25.2km s-min=16.2km az=62.0*
ISC 17 07:26:31.4±4.0,54°4′N±0′2×86°8′E±0′2,h0km,n8,σ1§34/9, 5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=70,slow=342,SNR=8.9	**1.22**	**250**	*i*		07 35 24.2	
ZAA0	**Zalesovo Array** 0.8nm,0.5s	**1.22**	**250**	⇑P	**Pb**	**07 26 54.6**	**-0.7**
ZAA0				⇑S	**Sb**	**07 27 12.5**	**+0.9**
	12nm,1.1s						
ZALV	**Zalesovo Beam** 1.5nm,0.3s,baz=69,slow=16,SNR=17	**1.22**	**250**	Pg	**Pn**	**07 26 54.8**	**-0.9**
ZALV				Lg	Lg	07 27 13.2	
	1.7nm,0.3s,baz=75,slow=26,SNR=8.6						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=14,SNR=12	**6.28**	**236**	Pn	**Pn**	**07 28 07.2**	**+2.0**
KURBB				Lg	Lg	07 29 53.8	
	0.0nm,0.3s,baz=45,slow=27,SNR=5.4						
KURBB	**Kurchatov Arra** 1.5nm,0.4s	**6.28**	**236**	⇓Pn	**Pn**	**07 28 06.2**	**+1.0**
KURBB				⇓Lg	Lg	07 29 52.6	
	8.4nm,0.9s						
MK31	**Makanchi Array** 1.7nm,1.1s,baz=30,slow=13,SNR=7.8	**8.11**	**202**	⇑Pn	**Pn**	**07 28 30.6**	**+0.2**
MK31				⇑Sn	**Sn**	**07 30 01.3**	**-1.5**
	0.5nm,0.6s						
MK31				⇑Lg	Lg	07 30 46.4	
	4.6nm,1.0s,baz=26,slow=28,SNR=6.1						
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=23,slow=14,SNR=5.8	**8.11**	**202**	Pn	**Pn**	**07 28 31.5**	**+1.1**
MKAR				Sn	**Sn**	**07 30 02.3**	**-0.5**
	0.1nm,0.3s,baz=21,slow=29,SNR=2.7						
MKAR				Lg	Lg	07 30 47.6	
	0.1nm,0.3s,baz=27,slow=30,SNR=7.7						
MAKZ	**Makanchi** 7.5nm,1.3s	**8.17**	**204**	⇓Lg	Lg	07 30 50.7	

NNC ***17*** *07:46:24.8±1.4,54°23′N×86°69′E,h0km,mb3.1,mpv3.1, Error ellipse: s-maj=14.9km s-min=7.6km az=4.0, Suspected Mining explosion.*
IDC ***17*** *07:46:28.5±2.4,54°08′N×86°54′E,h0km,mb1 3.8/2, mb1mx3.2/37,mbtmp3.8/2,ML3.2/2,Error ellipse: s-maj=19.4km s-min=12.1km az=59.0*
ISC 17 07:46:28.1±4.3,54°1′N±0′2×86°5′E±0′2,h0km,n7,σ1§11/10, 1C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=80,slow=344,SNR=4.1	**0.99**	**260**	*i*		07 53 56.3	
ZAA0	**Zalesovo Array** 0.6nm,0.2s	**0.99**	**260**	⇓P	**Pg**	**07 46 46.3**	**-0.8**
ZAA0				⇓S	**Sb**	**07 47 02.3**	**+0.5**
	3.9nm,0.8s						
ZALV	**Zalesovo Beam** 3.8nm,0.3s,baz=85,slow=18,SNR=31	**0.99**	**260**	Pg	**Pg**	**07 46 46.5**	**-0.6**
ZALV				Lg	Lg	07 47 03.0	
	3.7nm,0.3s,baz=83,slow=26,SNR=8.4						
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=56,slow=14,SNR=39	**6.00**	**237**	Pn	**Pn**	**07 47 59.7**	**+1.7**
KURBB				Sn	**Sn**	**07 49 06.3**	**-1.0**
	baz=328,slow=25,SNR=0.8						
KURBB				Lg	Lg	07 49 39.1	
	0.1nm,0.3s,baz=59,slow=30,SNR=4.4						
KURBB	**Kurchatov Arra** 9.3nm,0.6s	**6.00**	**237**	⇓Pn	**Pn**	**07 47 58.3**	**+0.3**
KURBB				⇑Lg	Lg	07 49 40.7	
	11nm,0.7s						
MK31	**Makanchi Array** 0.2nm,0.1s,baz=54,slow=6.6,SNR=89	**7.81**	**202**	⇓Pn	**Pn**	**07 48 21.8**	**-1.1**
MK31				Sn	**Sn**	**07 49 53.1**	**+1.1**
	1.0nm,0.6s,baz=23,slow=26,SNR=8.0						
MK31				⇓Lg	Lg	07 50 38.4	
	2.5nm,0.7s,baz=26,slow=30,SNR=4.2						
MKAR	**Makanchi Array** 0.6nm,0.3s,baz=24,slow=13,SNR=86	**7.81**	**202**	Pn	**Pn**	**07 48 23.8**	**+0.8**
MKAR				Sn	**Sn**	**07 49 51.6**	**-0.4**
	0.3nm,0.3s,baz=22,slow=26,SNR=9.8						
MKAR				Lg	Lg	07 50 34.1	
	0.0nm,0.3s,baz=21,slow=30,SNR=3.3						

NNC ***17*** *08:00:21.5±1.5,54°41′N×86°21′E,h0km,mb3.3,mpv2.5, Error ellipse: s-maj=37.6km s-min=8.1km az=155.0, Suspected Mining explosion.*
IDC ***17*** *08:00:22.2±2.4,54°19′N×86°38′E,h0km,mb1 3.0/2, mb1mx2.9/43,mbtmp3.0/2,ML2.7/2,Error ellipse: s-maj=19.2km s-min=11.2km az=61.0*
ISC 17 08:00:24.9±4.7,54°2′N±0′2×86°1′E±0′2,h0km,n7,σ0§56/8, 4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=72,slow=343,SNR=7.9	**0.78**	**256**	*i*		08 07 31.9	
ZAA0	**Zalesovo Array** 0.4nm,0.3s	**0.78**	**256**	⇑P	**Pg**	**08 00 39.4**	**-0.4**
ZAA0				⇓S	**Sb**	**08 00 52.7**	**+0.2**
	4.5nm,1.1s						
ZALV	**Zalesovo Beam** 3.6nm,0.3s,baz=75,slow=17,SNR=28	**0.78**	**256**	Pg	**Pg**	**08 00 39.1**	**-0.7**
ZALV				Lg	Lg	08 00 54.4	
	5.1nm,0.3s,baz=77,slow=30,SNR=24						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=14,SNR=8.2	**5.82**	**236**	Pn	**Pn**	**08 01 52.9**	**+0.5**
KURBB				Lg	Lg	08 03 31.1	
	0.0nm,0.3s,baz=49,slow=27,SNR=4.1						
KURBB	**Kurchatov Arra** 1.0nm,0.4s	**5.82**	**236**	⇑Pn	**Pn**	**08 01 53.1**	**+0.7**
KURBB				⇑Lg	Lg	08 03 32.5	
	4.4nm,0.7s						
MK31	**Makanchi Array** 0.2nm,0.6s,baz=26,slow=12,SNR=14	**7.75**	**200**	⇓Pn	**Pn**	**08 02 19.4**	**+0.4**
MK31				⇑Lg	Lg	08 04 34.3	
	1.2nm,0.9s,baz=33,slow=31,SNR=3.6						
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=14,SNR=11	**7.75**	**200**	Pn	**Pn**	**08 02 18.7**	**-0.2**
MKAR				Sn	**Sn**	**08 03 47.4**	**0.0**
	0.1nm,0.3s,baz=15,slow=24,SNR=3.0						
MKAR				Lg	Lg	08 04 27.2	
	0.0nm,0.3s,baz=21,slow=29,SNR=6.9						

NNC ***17*** *08:07:05.5±0.4,37°23′N×57°16′E,h0km,mb3.8,Error ellipse: s-maj=7.0km s-min=2.3km az=143.0*
TEH ***17*** *08:07:06.4,36°99′N×58°53′E,h8km,ML3.4*
ISC 17 08:07:06.4±0.8,37°03′N±0′04×58°57′E±0′04,h10km,n16, σ1§75/22,4C-2D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IAKL	**Akhelmad**	**0.45**	**160**	*e*Pg	**Pb**	**08 07 15.7**	**-0.9**
IAKL				*e*Sg	**Sb**	**08 07 21.8**	**-1.7**
IAKL				*e*		08 07 24.7	
	comp=Z,58μm,0.3s						
ISFR	**Sfrayin**	**0.45**	**273**	*e*Pg	**Pg**	**08 07 15.0**	**-0.3**
ISFR				*e*		08 07 15.3	
	comp=Z,2μm,0.2s						
ISFR				*e*Sg	**Sb**	**08 07 21.9**	**-1.7**
IKRD	**Kardeh**	**0.80**	**108**	*e*Pg	**Pn**	**08 07 23.5**	**-0.5**
IKRD				*e*		08 07 38.5	
	comp=Z,41μm,0.4s						
GYA0B	**ALIBECK ARRAY**	**0.97**	**338**	⇑P	**Pg**	**08 07 25.3**	**+0.3**
GYA0B				⇓S	**Sb**	**08 07 39.7**	**+1.6**
SBZV	**Sabzevar**	**1.00**	**230**	*e*Pg	**Pg**	**08 07 24.7**	**-0.9**
IMOG	**Moghan**	**1.11**	**146**	*e*Pg	**Pg**	**08 07 27.1**	**-0.6**
IMOG				*e*		08 07 47.1	
	comp=Z,22μm,0.2s						
IMYA	**Miami**	**1.41**	**119**	*e*Pg	**Pb**	**08 07 33.0**	**+0.1**
IMYA				*e*Sg	**Sg**	**08 07 54.1**	**+2.3**
JRKH	**Jarkhoshk**	**1.82**	**127**	*e*Pn	**Pb**	**08 07 39.9**	**0.0**
TBJM	**Torbat-e-JAM**	**2.26**	**140**	*e*Pn	**Pb**	**08 07 46.7**	**-0.7**
TNSJ	**Nastanj**	**3.45**	**208**	*e*Pn	**Pn**	**08 08 02.0**	**+1.7**
TNSJ				*e*		08 09 07.5	
	comp=Z,1μm,0.7s						
TKDS	**Koohdasht(Taba**	**3.61**	**200**	*e*Pn	**Pn**	**08 08 04.8**	**+2.4**
TKDS				*e*		08 09 16.1	
	comp=Z,417nm,0.9s						
AFRZ	**Afriz**	**3.62**	**174**	*e*Pn	**Pn**	**08 08 05.8**	**+3.2**
IMON	**Monand**	**3.93**	**166**	*e*Pn	**Pn**	**08 08 09.4**	**+2.4**
TPRV	**Parvadeh(Tabas**	**4.28**	**202**	*e*Pn	**Pn**	**08 08 13.8**	**+2.1**
TPRV				*e*		08 09 42.1	
	comp=Z,298nm,0.7s						
AB31	**Akbulak array**	**12.26**	**4**	⇑Pn	**Pn**	**08 10 00.7**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=196,slow=14,SNR=3.7						
AB31				⇑Sn	**Sn**	**08 12 18.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=262,slow=8.6,SNR=3.7						
AKTO	**Aktyubinsk**	**13.41**	**358**	⇓Pn	**Pn**	**08 10 14.3**	**-2.3**
	comp=Z,4.3nm,1.2s						
AKTO				⇑Sn	**Sn**	**08 12 43.1**	**-2.5**
	comp=Z,3.8nm,1.1s						

TRN ***17*** *08:09:24.0,12°39N×60°20W,h102km,MD3.5*
ISC 17 08:09:25.4±1.5,12°46N±0′06×60°24W±0′07,h10km,n14, σ1§36/21,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCHC	**Barbados, Cave**	**0.90**	**41**	*e*P	**Pn**	**08 09 45.9**	**+1.7**
BBGH	**Gun Hill**	**0.95**	**44**	*e*P	**Pn**	**08 09 44.6**	**-0.3**
GCMP	**Grenada, Carri**	**1.16**	**272**	*e*P	**Pg**	**08 09 47.4**	**-0.3**
GCMP				*e*S	**Sn**	**08 10 05.3**	**+1.7**
SVOC	**Richmond Hill,**	**1.18**	**306**	*e*S	**Sn**	**08 10 06.5**	**+2.4**
SVB	**Belmont**	**1.27**	**310**	*e*P	**Pg**	**08 09 50.5**	**+0.6**
SVB				*e*S	**Sg**	**08 10 08.8**	**+2.3**
SVV	**Soufriere Volc**	**1.28**	**312**	*e*P	**Pg**	**08 09 50.0**	**0.0**
GRHS	**Sauteurs**	**1.39**	**261**	*e*P	**Pb**	**08 09 50.6**	**-0.8**
GRGR	**Grenville**	**1.42**	**257**	*e*P	**Pb**	**08 09 51.3**	**-0.6**
GRGR				*e*S	**Sg**	**08 10 10.9**	**-0.2**
MCLT	**Moule a Chique**	**1.42**	**331**	*e*P	**Pg**	**08 09 53.9**	**+1.2**
MCLT				*e*S	**Sg**	**08 10 12.3**	**+1.1**
GRFF	**Grenada Fort F**	**1.52**	**255**	*e*S	**Sb**	**08 10 12.6**	**-0.4**
SLBI	**Saint Lucia, B**	**1.71**	**335**	*e*P	**Pn**	**08 09 54.8**	**-0.5**
SLBI				*e*S	**Sn**	**08 10 17.3**	**0.0**
MPOM	**Morne Pois Mar**	**2.06**	**343**	*e*P	**Pn**	**08 09 59.0**	**-1.2**
MPOM				*e*S	**Sn**	**08 10 26.4**	**+0.4**
BIM	**Bigot**	**2.20**	**339**	*e*P	**Pn**	**08 10 01.7**	**-0.4**
BIM				*e*S	**Sn**	**08 10 26.9**	**-2.5**
FDF	**Fort de France**	**2.43**	**339**	*e*	**Pb**	**08 10 07.3**	**-2.0**

IDC 17 08:22:42.0±8.8,3°35N×123°51E,h549km±124km,mb2.6/4, mb1 2.7/4,mb1mx2.4/37,mbtmp3.6/4,Error ellipse: s-maj=241.5km s-min=30.1km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=336,slow=9.7,SNR=12	**25.48**	**156**	P	P	08 27 27.1	0.0
ASAR	**Alice Springs** 0.2nm,0.5s,baz=334,slow=8.4,SNR=4.1	**28.70**	**160**	P	P	08 27 55.1	-0.3
MKAR	**Makanchi Array**	**56.07**	**327**	P	P	08 31 29.1	-0.1
	0.4nm,0.4s,baz=129,slow=8.1,SNR=11						
MKAR				PcP	PcP	08 32 19.1	-0.3
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.1						
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=126,slow=7.3,SNR=1.6	**59.50**	**335**	P	P	08 31 52.3	0.0

IDC ***17*** *08:32:17.9±2.0,4°38′S×153°42′E,h116km±13km,mb3.3/5, mb1 3.6/7,mb1mx3.3/37,mbtmp3.9/7,Error ellipse: s-maj=24.8km s-min=23.4km az=42.0*
ISC 17 08:32:16.8±1.2,4°4′S±0′1×153°47′E±0′10,h100km,n9, σ1§30/11,mb3.6/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** 5.8nm,0.3s,baz=34,slow=22,SNR=1.4	**1.44**	**273**	P	**Pn**	**08 32 43.9**	**+1.6**
KRVT				S	**Sn**	**08 33 03.3**	**+1.6**
	18nm,0.3s,baz=250,slow=23,SNR=1.7						
PMG	**Port Moresby** 1.5nm,0.3s,baz=39,slow=14,SNR=2.4	**8.00**	**231**	P	**Pn**	**08 34 10.6**	**+0.2**
PMG				S	**Sn**	**08 35 39.9**	**+0.6**
	0.1nm,0.3s,baz=148,slow=18,SNR=2.0						
HNR	**Honiara** 11nm,0.3s,baz=260,slow=17,SNR=2.5	**8.15**	**128**	P	**Pn**	**08 34 14.1**	**+1.7**
WRA	**Warramunga Arr** 1.6nm,0.5s,baz=53,slow=9.8,SNR=16	**24.21**	**229**	P	**P**	**08 37 24.4**	**0.0**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=57,slow=9.1,SNR=5.0	**26.90**	**223**	P	**P**	**08 37 48.0**	**-0.7**
STKA	**Stephens Creek** 0.8nm,0.5s,baz=354,slow=10,SNR=3.4	**29.53**	**201**	P	**P**	**08 38 11.2**	**-0.7**
FITZ	**Fitzroy Crossi** 2.4nm,0.8s,baz=66,slow=10.0,SNR=2.3	**30.44**	**241**	P	**P**	**08 38 19.1**	**-1.0**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=124,slow=7.2,SNR=2.1	**80.46**	**319**	P	**P**	**08 44 17.0**	**-0.8**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=73,slow=3.4,SNR=4.0	**150.81**	**289**	PKPbc	**PKPbc**	**08 51 57.1**	**-1.6**

KRNET ***17*** *08:36:45.0±0.1,41°05′N×69°84′E,h15km,mb2.5*
ISC 17 08:36:44.7±1.4,41°04′N±0′05×69°86′E±0′05,h3km±20km, n7,σ0§61/13,12C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent** baz=5.0	**0.52**	**304**	⇑*i*P	**Pg**	**08 36 54.6**	**0.0**
TAS				⇑*i*S	**Sg**	**08 37 01.6**	**+0.4**
	baz=5.0						
TRKS	**Terek-Say** baz=67	**1.08**	**63**	⇓*i*P	**Pg**	**08 37 05.6**	**+0.2**
TRKS				⇓*i*S	**Sb**	**08 37 21.0**	**+0.4**
	baz=67						
BTK	**Batken** baz=43	**1.22**	**143**	⇑*i*P	**Pg**	**08 37 08.1**	**0.0**
BTK				⇑*e*S	**Sb**	**08 37 25.3**	**+0.7**
	baz=43						
ARK	**Arkit** baz=64	**1.75**	**64**	⇑*i*P	**Pb**	**08 37 17.7**	**+0.2**
ARK				⇑*i*S	**Sg**	**08 37 41.3**	**+0.4**
	baz=64						
KK02	**Karatay Array** 3.2nm,0.5s,baz=199,slow=15	**2.12**	**13**	⇑Pg	**Pg**	**08 37 24.7**	**-0.5**
KK02				⇑Lg	Lg	08 37 55.2	
	6.3nm,0.5s,baz=197,slow=28						
DRK	**Karamyk** baz=35	**2.15**	**136**	⇑*e*P	**Pb**	**08 37 23.9**	**-0.5**
DRK				⇑*e*S	**Sb**	**08 37 52.3**	**+0.7**
	baz=35						
OHH	**Osh** baz=2.0	**2.28**	**102**	⇑*i*P	**Pb**	**08 37 25.3**	**-1.1**
OHH				⇑*i*S	**Sb**	**08 37 54.8**	**-0.2**
	baz=2.0						

NOU ***17*** *08:44:59.5,38°30S×175°74E,h236km,MLv3.6/5,North Island, New Zealand*
WEL ***17*** *08:45:06.2±0.6,38°S±5°×17°6E±°,h175km±5km,M2.9/54, ML2.5/29,MLv2.9/54,Error ellipse: s-maj=0.0km s-min=0.0km az=168.2*
ISC 17 08:45:01.1±1.9,38°47′S±0′07×175°76′E±0′06, h215km±10km,n153,σ1§49/161,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUTZ	**Kaahu Road**	**0.06**	**115**	P	**Pn**	**08 45 30.2**	**+1.1**
TLZ	**Tolley Road**	**0.22**	**308**	P	**Pn**	**08 45 30.4**	**+1.1**
WATZ	**Wairara**	**0.24**	**184**	P	**Pn**	**08 45 30.6**	**+1.3**
WHTZ	**Whakaora**	**0.26**	**142**	P	**Pn**	**08 45 30.7**	**+1.4**
GRRZ	**Galatos Road**	**0.30**	**68**	P	**Pn**	**08 45 30.5**	**+1.0**
WPRZ	**Whakapapatarin**	**0.32**	**100**	P	**Pn**	**08 45 30.4**	**+0.9**
RATZ	**Rangitukua**	**0.40**	**178**	P	**Pn**	**08 45 30.7**	**+1.1**
HSRZ	**Hossack Road**	**0.41**	**68**	P	**Pn**	**08 45 30.7**	**+1.0**
HRRZ	**Handcock Road**	**0.42**	**80**	P	**Pn**	**08 45 30.7**	**+1.0**
ALRZ	**Allen Road**	**0.47**	**102**	P	**Pn**	**08 45 30.8**	**+1.0**
HATZ	**Hinemaiaia**	**0.50**	**148**	P	**Pn**	**08 45 30.9**	**+0.9**
HATZ				S	**S**	**08 45 49.8**	**-2.8**
PRRZ	**Plateau Road**	**0.50**	**94**	P	**Pn**	**08 45 30.6**	**+0.6**
KATZ	**Kakaramea**	**0.51**	**185**	P	**Pn**	**08 45 31.3**	**+1.2**
RITZ	**Rihia Road**	**0.52**	**171**	P	**Pn**	**08 45 31.5**	**+1.5**
RRRZ	**Republican Roa**	**0.61**	**78**	P	**Pn**	**08 45 31.2**	**+0.8**
RRRZ				S	**S**	**08 45 51.5**	**-1.6**
KRVZ	**Karewarewa**	**0.64**	**188**	P	**Pn**	**08 45 31.9**	**+1.4**
MRHZ	**Matea Rd**	**0.64**	**126**	P	**Pn**	**08 45 31.4**	**+0.9**
MRHZ				S	**S**	**08 45 50.8**	**-2.7**
NTVZ	**North Tongarir**	**0.64**	**186**	P	**Pn**	**08 45 32.0**	**+1.4**
TMVZ	**Te Maari**	**0.65**	**184**	P	**Pn**	**08 45 32.0**	**+1.3**
TWVZ	**Taurewa**	**0.65**	**202**	P	**Pn**	**08 45 31.9**	**+1.3**
WTVZ	**West Tongariro**	**0.66**	**191**	P	**Pn**	**08 45 32.1**	**+1.4**
ETVZ	**East Tongariro**	**0.67**	**183**	P	**Pn**	**08 45 32.1**	**+1.4**
NNVZ

RUGZ	Raukumara Rang	1.59	72	P	Pn	08 45 37.1	+0.1
KNZ	Kokohu	1.60	111	P	Pn	08 45 38.8	+1.9
TSZ	Takapari Road	1.60	174	P	Pn	08 45 38.9	+1.9
TKGZ	Te Karaka	1.64	90	P	Pn	08 45 39.0	+1.7
ETAZ	East Tamaki Re	1.65	336	P	Pn	08 45 38.8	+1.4
AWAZ	Awhitu Peninsu	1.65	327	P	Pn	08 45 39.2	+1.7
NBEZ	Newall Road No	1.68	241	P	Pn	08 45 40.0	+2.4
WPHZ	Waipukurau	1.68	162	P	Pn	08 45 39.7	+2.0
KUZ	Kuaotunu	1.72	359	P	Pn	08 45 39.2	+1.1
PRGZ	Paritu Road	1.73	106	P	Pn	08 45 39.9	+1.7
WIAZ	Waiheke Island	1.74	343	P	Pn	08 45 39.7	+1.4
NMEZ	Namu Road	1.75	237	P	Pn	08 45 40.6	+2.3
HAZ	Te Kaha	1.75	67	P	Pn	08 45 38.5	+0.2
OHWZ	Ohakea	1.77	191	P	Pn	08 45 40.9	+2.4
TWGZ	Tauwhareparae	1.77	81	P	Pn	08 45 40.3	+1.7
PXZ	Pawanui	1.78	152	P	Pn	08 45 40.6	+2.0
WTAZ	Waiatarua	1.79	328	P	Pn	08 45 40.8	+2.0
MHGZ	Mahia Peninsul	1.81	113	P	Pn	08 45 41.1	+2.2
MBAZ	Motutapu North	1.83	338	P	Pn	08 45 40.5	+1.4
DVHZ	Dannevirke	1.86	170	P	Pn	08 45 41.0	+1.7
PKGZ	Pakihiroa	1.92	73	P	Pn	08 45 39.7	-0.3
PRHZ	Porangahau	1.92	160	P	Pn	08 45 41.9	+1.9
CNGZ	Carnagh Statio	1.92	91	P	Pn	08 45 42.1	+2.1
POWZ	Post Office Ro	1.92	180	P	Pn	08 45 41.6	+1.7
PUZ	Puketiti	2.01	79	P	Pn	08 45 42.0	+1.1
ANWZ	Angora Road	2.07	165	P	Pn	08 45 43.4	+2.0
PRWZ	Pori Road	2.09	176	P	Pn	08 45 43.5	+1.9
WMGZ	Waiomatatini S	2.19	74	P	Pn	08 45 43.8	+1.2
MRZ	Mangatainoka R	2.20	184	P	Pn	08 45 44.2	+1.5
GRZ	Great Barrier	2.22	354	P	Pn	08 45 44.6	+1.6
BFZ	Birch Farm	2.25	170	P	Pn	08 45 44.8	+1.6
BFZ	Birch Farm	2.25	170	P	Pn	08 45 45.0	+1.8
TIWZ	Tintock	2.31	178	P	Pn	08 45 45.5	+1.6
OGWZ	Otaki Gorge	2.39	191	P	Pn	08 45 46.5	+1.8
HOWZ	Holdsworth Sta	2.44	184	P	Pn	08 45 46.6	+1.4
CPWZ	Castlepoint	2.47	172	P	Pn	08 45 47.5	+2.1
KIW	Kapiti Island	2.48	195	P	Pn	08 45 47.1	+1.4
TMWZ	Te Maipa	2.64	178	P	Pn	08 45 48.6	+1.2
CAW	Cannon Point	2.69	191	P	Pn	08 45 49.5	+1.5
MTW	Mount Morrison	2.70	184	P	Pn	08 45 49.2	+1.1
DUWZ	D'Urville Isla	2.73	211	P	Pn	08 45 49.6	+1.2
WEL	Wellington	2.92	195	P	Pn	08 45 51.9	+1.4
PAWZ	Paruwai Farm	2.92	185	P	Pn	08 45 51.7	+1.1
TRWZ	Traveller	2.93	181	P	Pn	08 45 51.9	+1.3
TCW	Tory Channel	2.97	202	P	Pn	08 45 52.5	+1.5
MSWZ	Moikau Station	2.97	187	P	Pn	08 45 52.2	+1.1
BHW	Baring Head	3.02	193	P	Pn	08 45 52.8	+1.2
PLWZ	Palliser	3.12	187	P	Pn	08 45 53.9	+0.9
TUWZ	Tuamarina	3.27	205	P	Pn	08 45 55.6	+1.0
NNZ	Nelson	3.30	213	P	Pn	08 45 55.9	+0.9
TKNZ	Takaka Hill	3.35	219	P	Pn	08 45 55.9	+0.3
QRZ	Quartz Range	3.43	226	P	Pn	08 45 56.8	+0.3
QRZ	Quartz Range	3.43	226	P	Pn	08 45 57.2	+0.7
CMWZ	Cape Campbell	3.49	199	P	Pn	08 45 59.3	+2.2
BSWZ	Blackbirch Sta	3.55	203	P	Pn	08 45 59.3	+1.4
MRNZ	Matariki Terra	3.73	217	P	Pn	08 46 00.3	+0.3
THZ	Tophouse	3.95	213	P	Pn	08 46 03.5	+0.7
KHZ	Kahutara	4.29	203	P	Pn	08 46 08.4	+1.5
DSZ	Denniston Nort	4.46	222	P	Pn	08 46 09.1	0.0
GVZ	Greta Valley S	4.95	204	P	Pn	08 46 16.3	+1.2
LTZ	Lake Taylor	5.06	210	P	Pn	08 46 16.5	-0.1
AMCZ	Amberley	5.26	206	P	Pn	08 46 19.9	+0.8
INZ	Inchbonnie	5.37	216	P	Pn	08 46 20.4	-0.1
OXZ	Oxford	5.61	209	P	Pn	08 46 23.1	-0.5
OKCZ	Okains Bay	5.63	200	P	Pn	08 46 24.6	+0.8
MQZ	McQueen's Vall	5.74	203	P	Pn	08 46 25.0	-0.1
AKCZ	Akaroa Harbour	5.81	201	P	Pn	08 46 26.8	+0.7
RACZ	Rakaia	5.92	206	P	Pn	08 46 27.7	+0.2
WVZ	Waitaha Valley	5.98	218	P	Pn	08 46 29.0	+0.9
WACZ	Wakanui South	6.22	207	P	Pn	08 46 31.2	0.0
RPZ	Rata Peaks	6.33	213	P	Pn	08 46 33.1	+0.3
GCSZ	Gaunt Creek Bo	6.36	219	P	Pn	08 46 33.8	+0.8
ARCZ	Arundel	6.47	211	P	Pn	08 46 35.1	+0.6
FOZ	Fox Glacier	6.77	220	P	Pn	08 46 39.0	+0.7
TMZ	Timaru	6.91	210	P	Pn	08 46 40.5	+0.4
LBZ	Lake Benmore	7.25	214	P	Pn	08 46 44.9	+0.4
ODZ	Otahua Downs	7.60	209	P	Pn	08 46 50.2	+1.1
JCZ	Jackson Bay	7.68	221	P	Pn	08 46 50.7	+0.5
WKZ	Wanaka	8.11	216	P	Pn	08 46 56.0	+0.3
EAZ	Earnscleugh	8.30	213	P	Pn	08 46 58.3	+0.2
TUZ	Tuapeka	8.75	209	P	Pn	08 47 05.6	+1.7
WHZ	Wether Hill Ro	9.41	215	P	Pn	08 47 12.9	+0.5
SYZ	Scrubby Hill	9.43	209	P	Pn	08 47 14.7	+2.1

*IDC **17** 08:46:02.1±1.8,5.°48N×74.°57W,h31km±14km,mb3.5/11, mb1 3.8/13,mb1mx3.7/28,mbtmp3.7/13,ML2.6/1,MS3.3/10, Ms1 3.4/10,ms1mx3.1/43,Error ellipse: s-maj=23.6km s-min=15.8km az=68.0*

*RSNC **17** 08:46:02.3±1.2,5.°52N×74.°45W,h4km±3km,ML3.9,Mw4.1, Fault plane solution: NP1:φs±25.00000°,δ90.00000°, λ2.00000°.*

*NEIC **17** 08:46:03.2±2.3,5.°46N±0.°06×74.°46W±0.°06,h44km±20km, mb4.0/4,Error ellipse: s-maj=11.9km s-min=3.9km az=48.0*

*VAO **17** 08:46:03.4±0.4,5.°44N×74.°25W,h10km,mb4.4*

ISC 17 08:45:59.7±1.1,**5.°48N**±0.°02×**74.°45W**±0.°02,**h7**km±8km,**n85,** σ1§**90**/116,**mb3.5**/11,**MS3.4**/5,**7C-9D,Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.42**	**65**	⇓*iP*		**Pb**		**08 46 09.6**	**+0.1**
SPBC				*eS*		**Sb**		**08 46 15.3**	**-0.7**
SPBC				*i*				08 46 17.0	
	comp=Z,9μm,0.4s								
NORC	**Norcasia**	**0.42**	**282**	⇓*iP*		**Pb**		**08 46 10.2**	**+0.7**
NORC				*eS*		**Sb**		**08 46 16.4**	**+0.2**
ROSC	**El Rosal**	**0.65**	**168**	Pg		**Pn**		**08 46 15.4**	**-0.2**
	comp=Z,2μm,0.3s,baz=187,slow=1.9,SNR=752								
ROSC				Lg		Lg		08 46 26.0	
	comp=Z,2μm,0.3s,baz=69,slow=23,SNR=18								
ROSC	**El Rosal**	**0.65**	**168**			**Pn**		**08 46 15.3**	**-0.4**
ROSC	**El Rosal**	**0.65**	**168**	⇑*iP*		**Pn**		**08 46 15.4**	**-0.2**
ROSC				*eS*		**Sb**		**08 46 25.0**	**+2.1**
ROSC				*i*				08 46 26.9	
	comp=Z,6μm,0.5s								
GUY2C	**Guyana, Caldas**	**0.94**	**255**	⇓*iP*		**Pn**		**08 46 20.2**	**+0.4**
GUY2C				*eS*		**Sb**		**08 46 32.8**	**+1.2**
GUY2C				*i*				08 46 38.7	
	comp=Z,7μm,0.6s								
PTBC	**PUERTO BERRIO,**	**1.05**	**360**	⇑*iP*		**Pg**		**08 46 19.7**	**-0.3**
PTBC				*eS*		**Sg**		**08 46 33.5**	**-0.3**
CHIC	**Chingaza**	**1.11**	**140**	⇓*iP*		**Pn**		**08 46 23.5**	**+1.5**
CHIC				*eS*		**Sb**		**08 46 37.7**	**+1.5**
CHIC				*i*				08 46 42.4	
	comp=Z,2μm,0.4s								
HELC	**Santa Helena**	**1.28**	**304**	⇓*iP*		**Pg**		**08 46 24.3**	**-0.2**
HELC				*eS*		**Sg**		**08 46 41.0**	**-0.2**
HELC				*i*				08 46 43.2	
	comp=Z,2μm,0.5s								
ANIL	**Santa Ana**	**1.36**	**224**	⇑*iP*		**Pn**		**08 46 25.9**	**+0.5**
ANIL				*eS*		**Sn**		**08 46 44.8**	**+0.9**
ANIL				*i*				08 46 48.5	
	comp=Z,4μm,0.3s								
RUSC	**La Rusia**	**1.42**	**73**	*eP*		**Pn**		**08 46 27.1**	**+0.7**
RUSC				*eS*		**Sg**		**08 46 46.1**	**+0.5**
RUSC				*i*				08 46 49.8	
	comp=Z,596nm,0.4s								
CBOC	**Ciudad Bolivar**	**1.60**	**284**	⇓*iP*		**Pg**		**08 46 30.4**	**0.0**
CBOC				*eS*		**Sg**		**08 46 51.5**	**+0.3**
CBOC				*i*				08 46 58.2	
	comp=Z,927nm,0.5s								
BARC	**Barichara**	**1.68**	**49**	⇑*eP*		**Pb**		**08 46 31.1**	**0.0**
BARC				*eS*		**Sb**		**08 46 53.2**	**+0.7**
BARC				*i*				08 46 58.0	
	comp=Z,2μm,0.6s								
ORTC	**Ortega, Tolima**	**1.75**	**207**	⇑*iP*		**Pb**		**08 46 32.2**	**0.0**
ORTC				*eS*		**Sg**		**08 46 55.4**	**-0.6**
ORTC				*eS*		**Sb**		**08 46 56.1**	**+1.8**
ORTC				*i*				08 46 60.0	
	comp=Z,2μm,0.4s								
PLMC	**San Jos del P**	**1.91**	**253**	⇓*eP*		**Pg**		**08 46 35.8**	**-0.6**
PLMC				*eS*		**Sb**		**08 46 59.5**	**+0.4**
PLMC				*i*				08 47 10.0	
	comp=Z,554nm,0.5s								
ZARC	**Zaragoza, Cauc**	**2.04**	**349**	Pn		**Pn**		**08 46 34.8**	**+0.3**
ZARC	**Zaragoza, Cauc**	**2.04**	**349**	*eP*		**Pn**		**08 46 35.4**	**+0.9**
ZARC				*eS*		**Sn**		**08 47 00.1**	**-0.1**
ZARC				*i*				08 47 03.0	
	comp=Z,2μm,0.6s								
YOTC	**Yotoco, Valle**	**2.40**	**232**	⇑*iP*		**Pb**		**08 46 41.8**	**-1.5**
YOTC				*eS*		**Sb**		**08 47 13.2**	**0.0**
YOTC				*i*				08 47 16.8	
	comp=Z,252nm,0.7s								
UREC	**San Jos de Ur**	**2.50**	**335**	⇓*iP*		**Pn**		**08 46 42.8**	**+1.9**
UREC				*eS*		**Sn**		**08 47 14.1**	**+2.4**
UREC				*i*				08 47 21.6	
	comp=Z,842nm,0.5s								
PAMC	**Pamplona, Colo**	**2.54**	**43**	*eP*		**Pn**		**08 46 43.0**	**+1.2**
PAMC				*eS*		**Sb**		**08 47 17.2**	**-0.4**
PAMC				*i*				08 47 28.2	
	comp=Z,733nm,0.5s								
PTGC	**Puerto Gaitan,**	**2.64**	**119**	*eP*		**Pb**		**08 46 45.8**	**-1.5**
PTGC				*eS*		**Sb**		**08 47 19.6**	**-0.3**
PTGC				*i*				08 47 25.8	
	comp=Z,445nm,0.5s								
TAMC	**Tame, Arauca**	**2.81**	**70**	*eP*		**Pb**		**08 46 49.3**	**-1.0**
TAMC				*eS*		**Sn**		**08 47 22.5**	**+3.2**
TAMC				*i*				08 47 39.3	
	comp=Z,276nm,0.5s								
BETC	**Betania**	**2.95**	**200**	*eP*		**Pn**		**08 46 48.0**	**+1.0**
BETC				*eS*		**Sb**		**08 47 27.6**	**-1.4**
BETC				*i*				08 47 39.4	
	comp=Z,526nm,0.5s								
OCAC	**Ocana**	**2.96**	**22**			**Pn**		**08 46 47.0**	**-0.4**
OCAC	**Ocana**	**2.96**	**22**	*eP*		**Pn**		**08 46 47.6**	**+0.3**
OCAC				*eS*		**Sn**		**08 47 25.5**	**+2.3**
SOLC	**Bahia Solano**	**3.03**	**284**	*eP*		**Pn**		**08 46 51.1**	**+3.0**
SOLC				*eS*		**Sn**		**08 47 25.1**	**+0.3**
MACC	**Macarena, Meta**	**3.37**	**170**	⇑*eP*		**Pn**		**08 46 53.2**	**+0.5**
MACC				*eS*		**Sb**		**08 47 44.6**	**+3.7**
MACC				*i*				08 47 53.1	
	comp=Z,436nm,0.5s								
GARC	**Garzon, Huila**	**3.43**	**198**	*eP*		**Pn**		**08 46 54.8**	**+1.0**
GARC				*eS*		**Sn**		**08 47 39.4**	**+4.5**
GARC				*i*				08 47 53.8	
	comp=Z,598nm,0.3s								
GUVC	**San Jose del G**	**3.44**	**148**	*eP*		**Pn**		**08 46 57.6**	**+4.0**
GUVC				*eS*		**Sn**		**08 47 38.2**	**+3.6**
GUVC				*i*				08 47 58.6	
	comp=Z,344nm,0.5s								
MOTC	**Monteria, Cord**	**3.49**	**340**	⇓*eP*		**Pn**		**08 46 55.7**	**+1.2**
MOTC				*eS*		**Sn**		**08 47 39.0**	**+2.9**
MOTC				*i*				08 47 55.1	
	comp=Z,474nm,0.6s								
POPC	**Popayan, Colom**	**3.67**	**217**	*eP*		**Pn**		**08 47 00.6**	**+3.5**
POPC				*eS*		**Sn**		**08 47 44.0**	**+3.4**
POPC				*i*				08 47 59.5	
	comp=Z,69nm,0.8s								
PTAC	**Punta Ardita,**	**3.73**	**297**	*eP*		**Pn**		**08 47 00.0**	**+2.3**
FLOC	**Florencia**	**4.05**	**197**	*eP*		**Pn**		**08 47 04.0**	**+1.8**
FLOC				*eS*		**Sb**		**08 47 57.1**	**-3.6**
FLOC				*i*				08 48 11.5	
	comp=Z,292nm,0.4s								
LL1C	**La Loma 1 Cana**	**4.13**	**12**	*eP*		**Pn**		**08 47 06.7**	**+3.4**
LL1C				*eS*		**Sb**		**08 48 02.7**	**-0.3**
LL6C	**La Loma 6 Bece**	**4.39**	**15**	*eP*		**Pn**		**08 47 09.6**	**+2.8**
LL6C				*eS*		**Sn**		**08 48 00.6**	**+2.3**
LL6C				*i*				08 48 26.3	
	comp=Z,176nm,0.5s								
SJCC	**San Jacinto, C**	**4.45**	**351**	Pn		**Pn**		**08 47 08.3**	**+0.6**
SJCC	**San Jacinto, C**	**4.45**	**351**	*eP*		**Pn**		**08 47 08.4**	**+0.7**
SJCC				*eS*		**Sn**		**08 48 00.5**	**+0.7**
SJCC				*i*				08 48 28.9	
	comp=Z,164nm,0.6s								
SOCV	**Socops**	**4.53**	**52**	*eP*		**Pn**		**08 47 09.3**	**+0.6**
CRUC	**La Cruz**	**4.62**	**213**	*eP*		**Pn**		**08 47 14.5**	**+4.2**
CRUC				*eS*		**Sb**		**08 48 17.0**	**-0.3**
CRUC				*i*				08 48 42.3	
	comp=Z,40nm,0.7s								
SDV	**Santo Domingo**	**5.08**	**48**	Pn		**Pn**		**08 47 17.9**	**+1.4**
	comp=Z,1.9nm,0.3s,baz=146,slow=2.7,SNR=30								
SDV				Sn		**Sn**		**08 48 16.4**	**+0.9**
	comp=Z,8.2nm,0.3s,baz=14,slow=4.9,SNR=1.6								
SDV				LR		LR		08 49 29.3	
	comp=Z,130nm,21.4s,baz=226,slow=40								
SDV	**Santo Domingo**	**5.08**	**48**	*eP*		**Pn**		**08 47 18.8**	**+2.3**
SDV				*eS*		**Sn**		**08 47 18.2**	**+1.6**
SDV				*i*				08 48 25.4	
	comp=Z,106nm,0.5s								
SDV	**Santo Domingo**	**5.08**	**48**	*eP*		**Pn**		**08 47 18.4**	**+1.9**
GCUF	**Volcan Galeras**	**5.12**	**214**	*eP*		**Pn**		**08 47 21.8**	**+4.5**
PTLC	**Puerto Leguiza**	**5.28**	**184**	*eP*		Pn		08 47 25.7	+6.6
PTLC				*eS*		**Sg**		**08 48 49.2**	**-0.4**
PTLC				*i*				08 48 59.5	
	comp=Z,159nm,0.6s								
SMRC	**Santa Marta, M**	**5.65**	**2**	*eP*		Pn		08 47 29.6	+5.3
SMRC				*eS*		**Sn**		**08 48 36.3**	**+6.8**
SMRC				*i*				08 48 54.2	
	comp=Z,50nm,0.5s								
CRJC	**Cerrejon, Guaj**	**5.72**	**16**	*eP*		**Pn**		**08 47 26.7**	**+1.4**
CRJC				*eS*		**Sn**		**08 48 33.5**	**+2.3**
CRJC				*i*				08 48 56.7	
	comp=Z,132nm,0.5s								
BCIP	**Isla Barro Col**	**6.48**	**305**	Pn		**Pn**		**08 47 35.9**	**+0.4**
OTAV	**Otavalo**	**6.56**	**218**	Pn		**Pn**		**08 47 40.2**	**+3.2**
OTAV	**Otavalo**	**6.56**	**218**	*eP*		**Pn**		**08 47 41.4**	**+4.3**
DABV	**Dabajuro**	**6.60**	**35**	*eP*		**Pn**		**08 47 39.2**	**+2.1**
DABV				*eS*		**Sn**		**08 48 52.0**	**-0.6**
URIC	**Uribia, Colomb**	**6.64**	**21**			**Pn**		**08 47 39.1**	**+1.2**
BIRV	**Birongo**	**9.50**	**58**	Pn		**Pn**		**08 48 17.3**	**+0.2**
JTS	**Las Juntas de**	**11.45**	**295**	LR		LR		08 53 13.1	
	comp=Z,103nm,19.9s,baz=170,slow=38								
MTDJ	**Mount Denham**	**13.02**	**347**	Pn		**Pn**		**08 49 05.2**	**-0.2**
ATAH	**Atahualpa**	**13.13**	**197**	Pn		**Pn**		**08 49 07.2**	**+0.1**
	baz=343,slow=11,SNR=1.6								
ATAH				LR		LR		08 54 41.3	
	comp=Z,91nm,19.9s,baz=11,slow=40								
SDDR	**Presa de Saban**	**13.77**	**13**	Pn		**Pn**		**08 49 16.1**	**+0.5**
DR12	**Loma Pena Alta**	**14.12**	**20**	Pn		**Pn**		**08 49 22.4**	**+2.0**
BOAV	**Boa Vista**	**14.23**	**102**	*eP*		**Pn**		**08 49 21.2**	**-0.6**
CELP	**Cerrillos**	**14.69**	**31**	Pn		**Pn**		**08 49 27.7**	**-0.4**
SJG	**San Juan**	**14.95**	**32**	LR		LR		08 55 30.7	
	comp=Z,95nm,19.9s,baz=253,slow=38								
MACA	**Manacapuru-AM**	**16.21**	**122**	*eP*		**Pn**		**08 49 49.3**	**+1.2**
NNA	**Nana**	**17.51**	**188**	LR		LR		08 58 34.6	
	comp=Z,149nm,20.1s,baz=6.0,slow=43								
ITTB	**Itaituba**	**21.10**	**117**	*eP*		**P**		**08 50 46.6**	**+1.6**
MALB	**Monte Alegre**	**21.44**	**109**	*eP*		**P**		**08 50 50.6**	**+1.9**
LPAZ	**La Paz**	**22.51**	**164**	P		**P**		**08 51 00.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=286,slow=25,SNR=2.0								
LPAZ				LR		LR		09 00 33.6	
	comp=Z,188nm,19.4s,baz=317,slow=39								
LPAZ	**La Paz**	**22.51**	**164**	P		**P**		**08 50 59.7**	**-1.1**
LPAZ				IAmb		IAmb		08 51 20.7	
	comp=Z,6.9nm,1.1s								
LPAZ	**La Paz**	**22.51**	**164**	*eP*		**P**		**08 51 03.2**	**+2.4**
NPGB	**Novo Progresso**	**22.75**	**123**	*eP*		**P**		**08 51 03.8**	**+1.0**
SIV	**San Ignacio**	**25.11**	**148**	P		**P**		**08 51 24.7**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=321,slow=9.2,SNR=16								
SIV				LR		LR		09 01 11.1	
	comp=Z,103nm,19.2s,baz=318,slow=36								
PB11	**IPOC Station P**	**25.52**	**169**	P		**P**		**08 51 27.9**	**-1.3**
PTLB	**Pontes e Lacer**	**25.74**	**144**	*eP*		**P**		**08 51 31.3**	**+0.2**
LVC	**Limon Verde**	**28.44**	**169**	LR		LR		09 04 13.4	
	comp=Z,87nm,20.8s,baz=324,slow=38								
BDFB	**Brasilia**	**33.55**	**129**	P		**P**		**08 52 40.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=216,slow=22,SNR=1.5								
CPUP	**Villa Florida**	**35.71**	**153**	LR		LR		09 08 40.5	
	comp=Z,83nm,21.5s,baz=344,slow=38								
TXAR	**Lajitas Array**	**36.40**	**314**	P		**P**		**08 53 03.8**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=137,slow=9.6,SNR=4.2								
ANMO	**Albuquerque**	**41.62**	**319**	LR		LR		09 15 00.5	
	comp=Z,38nm,18.9s,baz=82,slow=42								
PDAR	**Pinedale Array**	**48.40**	**326**	P		**P**		**08 54 40.1**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=125,slow=10,SNR=3.7								
SCHQ	**Schefferville**	**49.59**	**6**	P		**P**		**08 54 49.8**	**-1.7**
	comp=Z,3.3nm,1.1s,baz=198,slow=7.1,SNR=2.2								
NVAR	**Mina Array Bea**	**51.50**	**316**	P		**P**		**08 55 05.5**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=114,slow=7.3,SNR=4.5								
YKA	**Yellowknife Ar**	**64.07**	**341**	P		**P**		**08 56 32.5**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=133,slow=6.7,SNR=24								
TORD	**Torodi Ar. Bea**	**75.31**	**78**	P		**P**		**08 57 45.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=280,slow=6.1,SNR=1.9								
ILAR	**Eielson Array**	**77.62**	**335**	P		**P**		**08 57 54.4**	**-2.1**
	comp=Z,0.2nm,0.8s,baz=111,slow=4.2,SNR=2.2								
GERES	**GERESS Array B**	**84.70**	**42**	P		**P**		**08 58 32.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=55,slow=49,SNR=1.9								
ASAR	**Alice Springs**	**147.25**	**234**	PKPbc		**PKPdf**		**09 05 42.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=122,slow=4.0,SNR=6.6								
WRA	**Warramunga Arr**	**148.53**	**240**	PKPbc		**PKPdf**		**09 05 46.1**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=107,slow=2.9,SNR=13								

*NNC **17** 08:46:57.5±1.9,53.°94N×86.°68E,h0km,mb2.6,mpv4.0, Error ellipse: s-maj=17.8km s-min=9.0km az=23.0, Suspected Mining explosion.*

*IDC **17** 08:46:59.0±2.4,53.°97N×86.°59E,h0km,mb1 3.1/2, mb1mx2.9/44,mbtmp3.1/2,ML2.7/2,Error ellipse: s-maj=19.4km s-min=12.0km az=62.0*

ISC 17 08:46:59.6±4.0,**53.°9N**±0.°2×**86.°6E**±0.°2,**h0**km,**n9,**σ1§**30**/11, **4C-5D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**272**	*i*				08 54 37.1	
	baz=86,slow=344,SNR=7.0								
ZAA0	**Zalesovo Array**	**1.02**	**272**	⇓P		**Pg**		**08 47 18.0**	**-1.2**
	0.5nm,0.6s								
ZAA0				⇓S		**Sb**		**08 47 33.7**	**-0.4**
	6.8nm,0.8s								
ZALV	**Zalesovo Beam**	**1.02**	**272**	Pg		**Pg**		**08 47 18.3**	**-0.9**
	0.6nm,0.3s,baz=88,slow=17,SNR=12								
ZALV				Lg		Lg		08 47 32.6	
	3.1nm,0.3s,baz=87,slow=28,SNR=16								
ZALV				Rg		Rg		08 47 38.9	
	10nm,0.6s,baz=97,slow=26,SNR=6.2								
KURK	**Kurchatov**	**5.83**	**240**	⇑Lg		Lg		08 50 03.5	
	12nm,1.0s								
KURBB	**Kurchatov Arra**	**5.93**	**239**	Pn		**Pn**		**08 48 29.9**	**+1.3**
	0.1nm,0.3s,baz=57,slow=14,SNR=12								
KURBB				Sn		**Sn**		**08 49 38.2**	**+1.1**
	0.0nm,0.3s,baz=192,slow=12,SNR=1.1								
KURBB				Lg		Lg		08 50 07.8	
	0.0nm,0.3s,baz=60,slow=34,SNR=5.0								
KURBB	**Kurchatov Arra**	**5.93**	**239**	⇑Pn		**Pn**		**08 48 29.2**	**+0.6**
	4.8nm,1.0s								
KURBB				⇑Sn		**Sn**		**08 49 38.5**	**+1.3**
	3.4nm,0.7s								
KURBB				⇓Lg		Lg		08 50 07.6	
	13nm,0.8s								
MK31	**Makanchi Array**	**7.64**	**203**	⇓Pn		**Pn**		**08 48 53.0**	**+0.9**
	321nm,0.1s,baz=27,slow=14,SNR=9.7								
MK31				⇑Sn		**Sn**		**08 50 17.4**	**-1.9**
	0.6nm,0.7s,baz=23,slow=28,SNR=3.5								
MK31				⇓Lg		Lg		08 50 59.2	
	3.8nm,0.9s,baz=22,slow=28,SNR=6.3								
MKAR	**Makanchi Array**	**7.64**	**203**	Pn		**Pn**		**08 48 53.2**	**+1.1**
	0.2nm,0.3s,baz=24,slow=14,SNR=10								
MKAR				Sn		**Sn**		**08 50 18.8**	**-0.5**
	0.1nm,0.3s,baz=24,slow=27,SNR=3.6								
MKAR				Lg		Lg		08 51 01.5	
	0.1nm,0.3s,baz=24,slow=32,SNR=10								
AAK	**Ala-Archa**	**13.83**	**220**	Lg		Lg		08 54 24.6	
	0.2nm,0.3s,baz=261,slow=7.3,SNR=1.6								

**IDC 17 08:50:56.9

JOW	**Kunigami**	**3.61**	**218**	P		**Pn**	**08 56 06.8**	**-0.2**
	7.2nm,0.3s,baz=92,slow=20,SNR=20							
JOW				S		**Sn**	**08 56 48.1**	**-0.3**
	12nm,0.3s,baz=204,slow=28,SNR=8.6							
JOW	**Kunigami**	**3.61**	**218**	P		**Pn**	**08 56 07.3**	**+0.3**
JOW				*e*S		**Sn**	**08 56 48.5**	**+0.1**
JIH	**Iheya**	**3.63**	**223**	P		**Pn**	**08 56 08.0**	**+0.8**
JIH				*e*S		**Sn**	**08 56 49.8**	**+1.1**
JKDJ	**Kitadaitoujima**	**3.79**	**172**	P		**Pn**	**08 56 09.0**	**-0.4**
JKDJ				*e*S		**Sn**	**08 56 49.8**	**-3.0**
JMZ	**Minamidaito 2**	**3.92**	**174**	*e*S		**Sn**	**08 56 52.1**	**-3.7**
JNTH	**Nagotoyohara**	**4.00**	**218**	P		**Pn**	**08 56 12.2**	**0.0**
JNTH				*e*S		**Sn**	**08 56 57.0**	**-0.8**
JMN	**Monobe**	**4.80**	**33**	Pn		**Pn**	**08 56 23.2**	**-0.1**
JHS	**Saijyo**	**5.63**	**20**	Pn		**Pn**	**08 56 34.8**	**+0.1**
INU	**Inuyama**	**7.71**	**42**			**Pn**	**08 57 04.4**	**+1.2**
KSAR	**Wonju Array Be**	**8.06**	**344**	Pn		**Pn**	**08 57 07.5**	**-0.4**
KSRS	**Korea Array**	**8.06**	**344**	P		**Pn**	**08 57 09.2**	**+1.3**
	0.4nm,0.3s,baz=159,slow=14,SNR=8.1							
KSRS				LR		LR	09 00 30.3	
	comp=Z,164nm,18.6s,baz=170,slow=40							
JGF	**Kuroka**	**8.09**	**42**	Pn		**Pn**	**08 57 09.4**	**+1.0**
KS19	**Wonju Array Si**	**8.12**	**344**	Pn		**Pn**	**08 57 08.6**	**-0.1**
JHJ	**Hachijo jima 2**	**8.43**	**64**	LR		LR	09 00 19.9	
	comp=Z,49nm,21.6s,baz=294,slow=35							
MJAR	**Matsushiro Arr**	**9.24**	**41**	P		**Pn**	**08 57 25.1**	**+1.0**
	0.1nm,0.3s,baz=133,slow=11,SNR=2.2							
MJAR				LR		LR	09 01 12.0	
	comp=Z,73nm,21.7s,baz=256,slow=38							
USRK	**Ussuriysk Ar.**	**14.48**	**4**	P		**Pn**	**08 58 38.2**	**+2.6**
	baz=183,slow=9.8,SNR=2.7							
MDJ	**Mudanjiang**	**14.89**	**357**	Pn		**Pn**	**08 58 41.0**	**-0.1**
ASAJ	**Asahikawa**	**17.18**	**30**	P		**P**	**08 59 12.5**	**+1.2**
	0.4nm,0.3s,baz=225,slow=3.3,SNR=4.5							
ASAJ				LR		LR	09 05 50.0	
	comp=Z,103nm,19.9s,baz=328,slow=37							
JKA	**Kamikawa-asahi**	**17.18**	**30**	P		**P**	**08 59 12.5**	**+1.2**
JKA	**Kamikawa-asahi**	**17.18**	**30**	IAmb		IAmb	08 59 19.8	
	comp=Z,6.2nm,0.8s							
KLR	**Kul'dur**	**19.49**	**2**	P		**P**	**08 59 36.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=193,slow=7.6,SNR=28							
ULN	**Ulaanbaatar**	**25.70**	**321**	P		**P**	**09 00 39.0**	**-0.6**
SONM	**Songino Array**	**26.04**	**321**	P		**P**	**09 00 41.4**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=136,slow=10,SNR=11							
SONM				LR		LR	09 12 10.7	
	comp=Z,98nm,21.6s,baz=94,slow=39							
SONM	**Songino Array**	**26.04**	**321**	P		**P**	**09 00 42.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.02**	**256**	LR		LR	09 15 27.3	
	comp=Z,40nm,18.1s,baz=50,slow=39							
SEY	**Seymchan**	**36.04**	**17**	P		**P**	**09 02 11.0**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=217,slow=5.9,SNR=9.2							
IPM	**Ipoh**	**37.68**	**234**	P		**P**	**09 02 25.0**	**+0.1**
IPM				IAmb		IAmb	09 02 35.3	
	comp=Z,9.2nm,0.9s							
ZALV	**Zalesovo Beam**	**40.92**	**320**	P		**P**	**09 02 50.7**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=110,slow=9.6,SNR=4.2							
ZALV				PcP		**PcP**	**09 04 49.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=154,slow=4.6,SNR=2.0							
ZALV	**Zalesovo Beam**	**40.92**	**320**	P		**P**	**09 02 50.1**	**-1.3**
MK31	**Makanchi Array**	**40.99**	**308**	P		**P**	**09 02 51.3**	**-0.8**
MKAR	**Makanchi Array**	**40.99**	**308**	P		**P**	**09 02 52.0**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=90,slow=10,SNR=26							
MKAR				PcP		**PcP**	**09 04 50.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=62,slow=3.4,SNR=4.0							
MKAR	**Makanchi Array**	**40.99**	**308**	P		**P**	**09 02 51.3**	**-0.8**
TIXI	**Tiksi**	**41.99**	**359**	P		**P**	**09 02 59.9**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=270,slow=23,SNR=4.7							
PMG	**Port Moresby**	**41.99**	**155**	LR		LR	09 20 34.3	
	comp=Z,20nm,18.5s,baz=248,slow=36							
MNAI	**Manna**	**43.11**	**223**	P		**P**	**09 03 09.0**	**-0.7**
KURK	**Kurchatov**	**43.92**	**314**	P		**P**	**09 03 15.1**	**-0.7**
KURK				IAmb		IAmb	09 03 16.3	
	comp=Z,8.2nm,0.6s							
KURBB	**Kurchatov Arra**	**43.96**	**314**	P		**P**	**09 03 15.8**	**-0.3**
	comp=Z,3.9nm,0.4s,baz=94,slow=8.4,SNR=35							
AAK	**Ala-Archa**	**46.40**	**302**	P		**P**	**09 03 36.1**	**+0.2**
NRIK	**Noril'sk**	**46.66**	**340**	LR		LR	09 25 00.5	
	comp=Z,30nm,18.6s,baz=126,slow=38							
BVAR	**Borovoye Array**	**49.23**	**316**	P		**P**	**09 03 57.1**	**-0.3**
	comp=Z,6.0nm,0.5s,baz=132,slow=40,SNR=20							
KKAR	**Karatay Array**	**49.29**	**303**	P		**P**	**09 03 58.2**	**+0.1**
BRVK	**Borovoye**	**49.29**	**316**	P		**P**	**09 03 57.5**	**-0.3**
WRA	**Warramunga Arr**	**49.50**	**176**	P		**P**	**09 04 00.4**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=354,slow=8.1,SNR=4.0							
ASAR	**Alice Springs**	**53.17**	**176**	P		**P**	**09 04 27.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=7.2,slow=14,SNR=6.2							
ABKAR	**Akbulak array**	**55.94**	**312**	P		**P**	**09 04 46.5**	**-0.5**
ABKAR				IAmb		IAmb	09 04 47.4	
	comp=Z,1.9nm,0.6s							
ABKAR	**Akbulak array**	**55.94**	**312**	P		**P**	**09 04 46.6**	**-0.4**
ARU	**Arti**	**56.08**	**320**	P		**P**	**09 04 46.3**	**-1.6**
	comp=Z,2.7nm,0.2s,baz=12,slow=3.2,SNR=6.2							
ARU	**Arti**	**56.08**	**320**	IAmb		IAmb	09 04 48.5	
	comp=Z,12nm,1.0s							
AKTO	**Aktyubinsk**	**57.01**	**313**	P		**P**	**09 04 53.0**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=72,slow=11,SNR=5.1							
AKTO				LR		LR	09 30 55.4	
	comp=Z,71nm,19.8s,baz=55,slow=38							
NEA2	**Nenana**	**59.40**	**30**	P		**P**	**09 05 12.5**	**+1.3**
RND	**Reindeer**	**59.62**	**31**	P		**P**	**09 05 13.4**	**+0.6**
RND				IAmb		IAmb	09 05 14.3	
	comp=Z,5.5nm,1.0s							
MDM	**Murphy Dome**	**59.72**	**29**	P		**P**	**09 05 15.0**	**+1.6**
WRH	**Wood River Hil**	**59.84**	**30**	P		**P**	**09 05 16.0**	**+1.9**
WRH				IAmb		IAmb	09 05 17.7	
	comp=Z,6.9nm,1.4s							
ILAR	**Eielson Array**	**60.31**	**29**	P		**P**	**09 05 17.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=268,slow=5.8,SNR=11							
HDA	**Harding Lake**	**60.33**	**30**	P		**P**	**09 05 18.2**	**+0.6**
HDA				IAmb		IAmb	09 05 29.4	
	comp=Z,7.3nm,1.4s							
PRP	**Porcupine Dome**	**60.79**	**28**	P		**P**	**09 05 22.2**	**+1.4**
PRP				IAmb		IAmb	09 05 24.4	
	comp=Z,2.6nm,0.7s							
BMAR	**Burnt Mountain**	**60.91**	**26**	P		**P**	**09 05 23.9**	**+2.4**
SCRK	**Sand Creek**	**61.68**	**30**	P		**P**	**09 05 27.3**	**+0.4**
SCRK				IAmb		IAmb	09 05 38.6	
	comp=Z,2.9nm,1.1s							
L27K	**Beaver Creek,**	**62.81**	**31**	P		**P**	**09 05 35.8**	**+1.4**
L27K				IAmb		IAmb	09 05 51.2	
	comp=Z,1.6nm,1.1s							
INK	**Inuvik**	**64.81**	**24**	P		**P**	**09 05 48.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=244,slow=8.9,SNR=4.7							
INK	**Inuvik**	**64.81**	**24**	IAmb		IAmb	09 05 49.0	
	comp=Z,3.4nm,1.2s							
A36M	**Sachs Harbour**	**66.21**	**19**	P		**P**	**09 05 57.1**	**+0.8**
A36M				IAmb		IAmb	09 05 58.2	
	comp=Z,3.3nm,0.8s							
KBZ	**Khabaz**	**68.68**	**309**	P		**P**	**09 06 11.4**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=111,slow=1.9,SNR=3.6							
FINES	**FINESS Array B**	**70.92**	**331**	P		**P**	**09 06 24.8**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=65,slow=6.0,SNR=9.5							
FINES				LR		LR	09 42 59.9	
	comp=Z,46nm,18.7s,baz=58,slow=40							
AKASG	**Malin Array Be**	**74.32**	**320**	P		**P**	**09 06 45.0**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=58,slow=6.2,SNR=4.5							
AKASG				LR		LR	09 42 35.1	
	comp=Z,56nm,18.5s,baz=73,slow=38							
YKA	**Yellowknife Ar**	**74.42**	**26**	P		**P**	**09 06 47.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=300,slow=5.6,SNR=16							
BRTR	**Keskin Array B**	**76.64**	**308**	P		**P**	**09 06 59.8**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=134,slow=3.6,SNR=4.9							
NOA	**NORSAR Array B**	**77.15**	**334**	P		**P**	**09 07 00.6**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=51,slow=5.6,SNR=2.3							
NVAR	**Mina Array Bea**	**86.50**	**47**	P		**P**	**09 07 52.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=56,slow=29,SNR=4.4							

NNC 17 08:59:12.9±10.0, 54°37N×86°31E, h0km, mb3.6, mpv2.9, 3C-2D, Error ellipse: s-maj=242.7km s-min=63.7km az=161.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.98**	**245**	⇓P	Pg	08 59 29.7	-1.9
	0.4nm,0.3s						
ZAA0				⇑S	Sg	08 59 42.7	-1.5
	1.6nm,0.3s						
KURK	**Kurchatov**	**5.95**	**235**	⇑Pn	Pn	09 00 43.4	+1.2
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**6.06**	**235**	⇑Pn	Pn	09 00 44.8	+1.2
	1.6nm,0.4s						
KURBB				⇓Lg	Lg	09 02 25.3	
	3.5nm,0.7s						
MK31	**Makanchi Array**	**8.01**	**200**	Pn	Pn	09 01 12.2	+1.7
	0.6nm,0.4s,baz=24,slow=14,SNR=25						

IDC 17 09:05:43.6±3.5, 53°45N×87°62E, h0km, mb1 2.6/2, mb1mx2.6/37, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=36.2km s-min=17.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**288**	*i*		09 16 50.0	
	baz=105,slow=324,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.74**	**288**	Pn	Pn	09 06 15.0	-0.1
	0.5nm,0.3s,baz=109,slow=14,SNR=10						
ZALV				Lg	Lg	09 06 38.3	
	0.6nm,0.3s,baz=116,slow=27,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.28**	**247**	Pn	Pn	09 07 18.4	+1.0
	0.0nm,0.3s,baz=62,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	09 07 35.1	+1.0
	0.1nm,0.3s,baz=32,slow=14,SNR=6.4						

IDC 17 09:23:00.1±2.3, 5°17S×128°40E, h355km±30km, mb3.0/1, mb1 2.9/5, mb1mx2.7/38, mbtmp3.6/5, Error ellipse: s-maj=48.5km s-min=14.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.14**	**34**	P	Pn	09 24 22.1	+0.5
	1.5nm,0.3s,baz=8.4,slow=21,SNR=8.9						
SIJI				S	S	09 25 27.6	+0.2
	1.3nm,0.3s,baz=310,slow=24,SNR=2.2						
FITZ	**Fitzroy Crossi**	**13.13**	**192**	P	Pn	09 25 55.3	+0.1
	0.1nm,0.3s,baz=12,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**15.78**	**159**	P	P	09 26 23.1	0.0
	0.5nm,0.3s,baz=337,slow=12,SNR=14						
WRA				S	S	09 29 07.1	-4.4
	0.1nm,0.3s,baz=323,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**19.14**	**164**	P	P	09 26 59.0	-0.1
	0.1nm,0.3s,baz=345,slow=11,SNR=6.0						
ASAR				S	S	09 30 16.8	+0.2
	0.1nm,0.3s,baz=349,slow=22,SNR=6.5						
MKAR	**Makanchi Array**	**65.83**	**327**	P	P	09 33 08.3	-0.2
	0.3nm,0.4s,baz=113,slow=7.8,SNR=5.3						

IDC 17 09:28:07.9±2.0, 28°38N×140°42E, h483km±27km, mb2.6/5, mb1 2.9/6, mb1mx2.7/39, mbtmp3.6/6, Error ellipse: s-maj=40.5km s-min=16.8km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**4.76**	**354**	P	P	09 29 31.4	-0.3
	5.6nm,0.3s,baz=351,slow=23,SNR=6.6						
JHJ				S	S	09 30 35.2	-4.9
	6.6nm,0.3s,baz=71,slow=17,SNR=2.0						
SONM	**Songino Array**	**32.71**	**316**	P	P	09 34 00.7	+1.2
	0.2nm,0.4s,baz=127,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**48.39**	**188**	P	P	09 36 05.0	-0.2
	0.9nm,0.4s,baz=4.2,slow=7.6,SNR=30						
MKAR	**Makanchi Array**	**48.46**	**309**	P	P	09 36 04.6	-0.8
	0.2nm,0.3s,baz=88,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**52.12**	**188**	P	P	09 36 32.5	0.0
	0.7nm,0.3s,baz=4.0,slow=6.2,SNR=32						
YKA	**Yellowknife Ar**	**71.76**	**28**	P	P	09 38 40.1	-0.1
	0.1nm,0.4s,baz=303,slow=6.1,SNR=1.5						

IDC 17 09:48:47.6±5.6, 17°56S×177°88W, h407km±31km, mb2.9/4, mb1 3.1/5, mb1mx2.9/24, mbtmp3.6/5, Error ellipse: s-maj=136.3km s-min=33.9km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.88**	**267**	P	P	09 49 59.2	+0.2
	0.5nm,0.3s,baz=59,slow=18,SNR=2.3						
STKA	**Stephens Creek**	**39.24**	**241**	P	P	09 55 38.6	-0.4
	0.6nm,0.3s,baz=72,slow=9.6,SNR=5.7						
WRA	**Warramunga Arr**	**45.19**	**259**	P	P	09 56 26.5	-0.1
	0.3nm,0.4s,baz=92,slow=8.3,SNR=16						
ASAR	**Alice Springs**	**45.37**	**254**	P	P	09 56 27.9	0.0
	1.1nm,0.4s,baz=87,slow=8.4,SNR=14						
ILAR	**Eielson Array**	**85.44**	**13**	P	P	10 00 40.2	-0.1
	0.2nm,0.6s,baz=224,slow=5.0,SNR=1.7						

ISC 17 10:04:23.7±1.1, 48°42N±0°04×17°23E±0°04, h5km±12km, n9, σ0°73/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMOL	**Smolenice**	**0.16**	**56**	*e*PG	**Pg**	**10 04 26.8**	**-0.1**
SMOL				*e*SG	**Sg**	**10 04 30.0**	**+0.9**
SMOL				*e*LG	Lg	10 04 34.4	
ZST	**Bratislava**	**0.24**	**200**	*e*PG	**Pg**	**10 04 28.0**	**-0.4**
ZST				*e*SG	**Sg**	**10 04 32.2**	**+0.6**
ZST				*e*LG	Lg	10 04 35.7	
JAVC	**Velka Javorina**	**0.53**	**34**	*e*PG	**Pg**	**10 04 34.0**	**+0.2**
JAVC				*e*SG	**Sg**	**10 04 40.0**	**-0.7**
KOLL	**Kolacno**	**0.80**	**78**	*e*PG	**Pb**	**10 04 39.8**	**-0.2**
KRUC	**Moravsky**	**0.84**	**320**	*e*PG	**Pg**	**10 04 39.7**	**-0.2**
VRAC	**Vranov**	**0.98**	**335**	*e*PG	**Pb**	**10 04 42.9**	**-0.3**
VYHS	**Vyhne**	**1.07**	**86**	*e*PG	**Pg**	**10 04 43.0**	**-1.3**
VYHS				*e*SG	**Sb**	**10 04 59.9**	**+0.8**
MORC	**Moravsky Berou**	**1.37**	**9**	*e*PG	**Pn**	**10 04 49.3**	**-0.3**
LANS	**Liptovska Anna**	**1.65**	**63**	*e*PG	**Pn**	**10 04 54.0**	**+0.6**

*TUL **17** 10:15:12.7±0.4, 36°833N±0°010×98°29W±0°01, h5km±6km, ML2.5, mb_Lg2.4/27(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=122.0*

NEIC 17 10:15:13.1±0.5, 36°831N±0°010×98°28W±0°02, h7km±5km, Error ellipse: s-maj=2.1km s-min=1.2km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.74**	**232**	Pg	Pg	10 15 26.7	-0.6
T35A	**Sooner Cattle**	**1.42**	**86**		Pb	10 15 39.8	-0.2
OKCFA	**Oklahoma City**	**1.56**	**154**	IAmb_Lg		10 16 04.4	
	comp=Z,20nm,0.9s						
R32A	**Long Quarter,**	**1.62**	**348**	Pn	Pn	10 15 42.8	+0.5
R32A				IAmb_Lg		10 16 06.2	
	comp=Z,21nm,0.8s						
W35A	**Tecumseh**	**2.02**	**145**		Pn	10 15 48.8	+1.1
W35A				IAmb_Lg		10 16 18.2	
	comp=Z,17nm,0.8s						
TUL1	**Leonard**	**2.21**	**114**	Pn	Pb	10 15 52.1	-1.3
TUL1				IAmb_Lg		10 16 24.2	
	comp=Z,30nm,1.0s						
X34A	**Smith Ranch, M**	**2.25**	**171**	Pn	Pb	10 15 52.6	-1.6
CBKS	**Cedar Bluff**	**2.29**	**330**	Pn	Pb	10 15 53.8	-1.1
CBKS				IAmb_Lg		10 16 26.4	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**2.62**	**30**	IAmb_Lg		10 16 40.2	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.38**	**236**	IAmb_Lg		10 17 00.6	
	comp=Z,10nm,0.9s						
HHAR	**Hobbs**	**3.54**	**98**	Pn	Pn	10 16 09.1	+0.5
W39A	**Magazine**	**3.99**	**113**	IAmb_Lg		10 17 21.6	
	comp=Z,8.9nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.07**	**304**	IAmb_Lg		10 17 18.6	
	comp=Z,6.5nm,0.8s						
U40A	**Yellville**	**4.39**	**95**	IAmb_Lg		10 17 37.6	
	comp=Z,9.3nm,1.1s						
T25A	**Trinidad**	**4.92**	**275**	IAmb_Lg		10 17 50.9	
	comp=Z,10.0nm,0.8s						
R40A	**Maddies Statio**	**4.99**	**71**	IAmb_Lg		10 17 55.0	
	comp=Z,5.3nm,0.9s						
L34A	**Svendsen Farm,**	**5.34**	**15**	IAmb_Lg		10 18 10.8	
	comp=Z,11nm,0.7s						
N38A	**Joes South For**	**5.58**	**43**	IAmb_Lg		10 18 21.3	
	comp=Z,10.0nm,0.7s						
JCT	**Junction City**	**6.46**	**192**	IAmb_Lg		10 18 47.6	
	comp=Z,8.1nm,0.9s						

MAN 17 10:52:15.0, 9°30N×125°88E, h7km, mb4.4, ML3.3, MS3.1, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.42**	**219**	⇓*i*P	Pg	10 52 23.6	+0.5
GLSP	**General Luna,**	**0.54**	**26**	⇑*e*P	Pg	10 52 25.6	+0.1
SCPH	**Surigao**	**0.62**	**321**	⇓*e*P	Pg	10 52 27.4	+0.5
SCPH				*e*S	Sb	10 52 37.6	+0.5
BIPH	**Bislig**	**1.20**	**157**	⇑*i*P	Pg	10 52 35.5	-2.6
BIPH				*i* S	Sg	10 52 50.8	-2.9
MSLP	**Maasin**	**1.31**	**310**	⇓*i*P	Pn	10 52 39.3	-0.4
TBP	**Tagbilaran**	**2.03**	**281**	*e*P	Pn	10 52 49.4	-0.3
TBP				*i* S	Sn	10 53 15.7	+0.3
BESP	**Borongan**	**2.33**	**349**	⇑*e*P	Pn	10 52 54.7	+0.9
KCP	**Kidapawan**	**2.41**	**199**	⇓*e*P	Pn	10 52 55.9	+1.0

IDC 17 11:03:10.8±1.9, 15°71N×121°94E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.3/59, mbtmp3.8/3, Error ellipse: s-maj=308.6km s-min=27.9km az=67.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.47**	**161**	P	P	11 10 25.7	-0.6
	0.2nm,0.3s,baz=341,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**40.84**	**163**	P	P	11 10 55.0	+0.5
	0.4nm,0.5s,baz=339,slow=6.4,SNR=5.3						
FINES	**FINESS Array B**	**79.12**	**331**	P	P	11 15 17.2	+0.1
	3.8nm,1.0s,baz=96,slow=5.9,SNR=7.0						

*IDC **17** 11:07:35.5±1.9, 37°43N×77°74E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/61, mbtmp3.4/6, ML3.0/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/54, Error ellipse: s-maj=31.6km s-min=24.4km az=61.0*

*NNC **17** 11:07:42.2±3.5, 37°86N×78°46E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=29.3km s-min=26.8km az=89.0*

ISC 17 11:07:41.7±2.2, 37°7N±0°1×78°27E±0°09, h10km, n15, σ1°95/20, mb3.2/3, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.41**	**350**	Pg	**Pb**	**11 09 19.5**	**+3.0**
	5.1nm,0.3s						
TNSS				Lg	Lg	11 10 34.3	
	5.2nm,0.5s						
UZB	**Uzynbulak**	**5.46**	**6**	Pg	Pb	11 09 13.8	-3.3
	4.0nm,0.3s						
UZB				Lg	Lg	11 10 24.2	
	6.3nm,0.7s						
MDOK	**Medeo**	**5.52**	**351**	⇓Pg	**Pb**	**11 09 20.9**	**+2.7**
	7.5nm,0.7s						
MDOK				⇓Lg	Lg	11 10 32.2	
	27nm,1.0s						
MDOK	**Medeo**	**5.52**	**351**	Pg	**Pb**	**11 09 21.3**	**+3.0**
	4.0nm,0.6s						
MDOK				Lg	Lg	11 10 37.5	
	16nm,0.7s						
TKM2	**Tokmak 2**	**5.59**	**339**	⇑Pn	**Pn**	**11 09 06.1**	**+1.0**
	1.6nm,0.7s						
TKM2				⇓Pg	**Pb**	**11 09 21.2**	**+1.7**
	6.8nm,1.1s						
TKM2				⇓Lg	Lg	11 10 35.7	
	15nm,1.0s						
KST	**Kastek**	**5.61**	**342**	Pg	**Pg**	**11 09 26.1**	**-2.9**
	2.9nm,0.3s						
KST				Lg	Lg	11 10 45.3	
	9.1nm,1.0s						
PDGK	**Podgornoye**	**5.68**	**9**	⇓Pn	**Pn**	**11 09 06.9**	**+0.5**
	2.0nm,0.5s						
PDGK				⇑Pg	**Pb**	**11 09 23.7**	**+2.6**
	3.8nm,0.6s						
PDGK				⇑Lg	Lg	11 10 38.3	
	9.6nm,0.5s						
AAK	**Ala-Archa**	**5.70**	**331**	Pn	**Pn**	**11 09 06.3**	**-0.3**
	0.2nm,0.3s,baz=159,slow=8.6,SNR=2.6						
AAK				Pg	**Pb**	**11 09 21.6**	**+0.2**
	0.9nm,0.3s,baz=158,slow=11,SNR=8.7						
AAK				Sn	**Sn**	**11 10 13.1**	**+0.9**
	0.9nm,0.3s,baz=174,slow=17,SNR=2.0						
AAK				Lg	Lg	11 10 38.6	
	1.1nm,0.3s,baz=9.2,slow=22,SNR=5.3						
AAK				LR	LR	11 11 11.7	
	comp=Z,26nm,18.8s,baz=112,slow=37						
AAK	**Ala-Archa**	**5.70**	**331**	⇑Pn	**Pn**	**11 09 07.1**	**+0.5**
	1.6nm,0.8s						
AAK				⇑Pg	**Pb**	**11 09 22.5**	**+1.2**
	3.3nm,0.6s						
AAK				⇓Lg	Lg	11 10 38.6	
	19nm,1.0s						
MK31	**Makanchi Array**	**9.55**	**17**	⇑Pn	**Pn**	**11 09 59.0**	**-0.2**
	0.4nm,0.3s,baz=200,slow=13,SNR=29						
MK31				⇓Sn	**Sn**	**11 11 45.9**	**-0.6**
	1.4nm,0.7s,baz=160,slow=41,SNR=5.0						
MKAR	**Makanchi Array**	**9.55**	**17**	Pn	**Pn**	**11 09 59.0**	**-0.2**
	0.3nm,0.3s,baz=200,slow=13,SNR=20						
MKAR				Sn	**Sn**	**11 11 43.1**	**-3.4**
	0.1nm,0.3s,baz=207,slow=15,SNR=1.5						
ZALV	**Zalesovo Beam**	**16.85**	**13**	P	**Pn**	**11 11 38.8**	**+1.3**
	0.2nm,0.

NVAR	Mina Array Bea	86.78	51	P	P	11 38 20.1	+0.1	
	comp=Z,1.4nm,0.7s,baz=267,slow=6.2,SNR=13							
ELK	Elko	88.42	48	P	P	11 38 28.6	+0.8	
	comp=Z,2.1nm,0.7s,baz=269,slow=6.2,SNR=5.6							
PDAR	Pinedale Array	91.79	45	P	P	11 38 43.6	+0.2	
	comp=Z,0.2nm,0.5s,baz=233,slow=4.4,SNR=2.1							

CNRM 17 11:31:46.0,36°23N×10°55W,h37km,ml4.3,
Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHG	ZHG	4.25	130	P	Pn	11 32 49.0	+0.8
SRHM	Skhour des Reh	4.34	149	P	Pn	11 32 52.0	+2.5
SICH	Sidi Chahed	4.79	115	P	Pn	11 32 50.0	-5.5
MDT	Midelt	5.97	123	P	Pn	11 33 11.8	-0.1
TZRR	Tazzarine	6.84	141	P	Pn	11 33 23.0	-0.9

IDC 17 11:37:57.0±0.6, 17°.36N×94°.64W, h139km±4km, mb4.0/19, mb1 4.2/21, mb1mx4.1/40, mbtmp4.4/21, MS3.2/3, Ms1 3.2/3, ms1mx2.7/68, Error ellipse: s-maj=18.7km s-min=9.3km az=53.0
NEIC 17 11:37:56.6±2.9, 17°.26N±0°.06×94°.94W±0°.05, h128km±5km, Error ellipse: s-maj=8.5km s-min=6.9km az=196.0
MEX 17 11:37:57.2±2.4, 17°.32N×94°.96W, h130km±14km, MD5.1
GCG 17 11:38:01.6±2.8, 17°.26N×94°.41W, h123km, MD4.9
ISC 17 11:37:56.3±0.4, 17°.23N±0°.03×94°.97W±0°.03, h138km±3km, h138km:pP-P, n536, σ2s00/470, mb4.7/126, 38C-16D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	0.16	149		Pn	11 38 14.1	-1.0
CMIG					Sn	11 38 26.9	-2.4
CMIG	Matias Romero	0.16	149	⇓ *i*	P Pn	11 38 14.1	-1.0
CMIG					*e* S Sn	11 38 26.9	-2.4
UXUV	UXUV	0.79	83	⇓ *i*	P Pn	11 38 17.3	-0.9
UXUV					*e* S Sn	11 38 31.9	-2.9
MIHL	Minatitlan	0.86	28	*e*	P Pn	11 38 17.5	-1.2
MIHL					*i* S Sn	11 38 31.8	-4.0
NEUV	Arroyo Zacate	0.93	301	*e*	P Pn	11 38 17.9	-1.5
NEUV					*e* S Sn	11 38 33.9	-3.0
TUIG	Tuzandepetl	0.96	33		Pn	11 38 18.4	-1.2
TUIG					Sn	11 38 33.6	-3.7
TUIG	Tuzandepetl	0.96	33	⇓ *e*	P Pn	11 38 18.4	-1.2
TUIG					*i* S Sn	11 38 33.6	-3.7
CARR	Arriaga	1.40	134	⇓ *e*	P Pn	11 38 23.8	-0.2
CARR					*i* S Sn	11 38 43.4	-1.6
VHO	Vista Hermosa	1.69	265	⇑ *e*	P Pn	11 38 27.5	+0.1
VHO					*e* S Sn	11 38 51.0	-0.1
HUIG	Huatulco	1.82	217		Pn	11 38 26.7	-1.9
HUIG					Sn	11 38 51.6	-1.7
HUIG	Huatulco	1.82	217	*i* P	Pn	11 38 26.7	-1.9
HUIG					*e* S Sn	11 38 51.6	-1.7
TOIG	Toxpalan	2.18	294	⇓ *e*	P Pn	11 38 32.9	-0.1
TOIG					*e* S Sn	11 38 58.9	-2.2
PCIG		2.26	132		Pn	11 38 34.0	+0.1
PCIG					Sn	11 39 01.4	-1.4
PCIG		2.26	132	⇓ *i*	P Pn	11 38 34.0	+0.1
PCIG					*e* S Sn	11 39 01.4	-1.4
PEIG	Puerto Escondi	2.42	240	⇑ *e*	P Pn	11 38 33.6	-2.3
PEIG					*e* S Sn	11 39 04.0	-2.4
TPIG	Tehuac#an	2.57	298		Pn	11 38 38.1	+0.1
TPIG					Sn	11 39 08.1	-1.9
TPIG	Tehuac#an	2.57	298	⇓ *e*	P Pn	11 38 38.1	+0.1
TPIG					*e* S Sn	11 39 08.1	-1.9
TXIG	Tlaxiaco	2.68	271	⇑ *i*	P Pn	11 38 39.3	-0.1
TXIG					*e* S Sn	11 39 08.3	-4.2
JAUV	Jalcomulco	2.75	321	⇓ *i*	P Pn	11 38 38.1	-2.0
JAUV					*e* S Sn	11 39 09.2	-4.6
HLIG	Huajuapan de L	2.77	283	⇑ *i*	P Pn	11 38 40.6	+0.1
HLIG					*e* S Sn	11 39 11.1	-3.5
CCIG	Comitan	2.87	109		Pn	11 38 41.7	-0.1
CCIG	Comitan	2.87	109		Sn	11 39 11.6	-5.1
CCIG	Comitan	2.87	109	⇑ *i*	P Pn	11 38 41.7	-0.1
CCIG					*i* S Sn	11 39 11.6	-5.1
FTIG	Fresnillo de T	3.09	283	⇑ *i*	P Pn	11 38 44.9	+0.4
FTIG					*e* S Sn	11 39 18.8	-3.0
PNIG	Pinotepa	3.14	255		Pn	11 38 43.0	-2.0
PNIG					Sn	11 39 17.7	-5.0
PNIG	Pinotepa	3.14	255	⇑ *i*	P Pn	11 38 43.0	-2.0
PNIG					*e* S Sn	11 39 17.7	-5.0
PAVE	Pavencul	3.36	127	⇑ *e*	P Pn	11 38 48.5	+0.4
PAVE					*i* S Sn	11 39 26.5	-1.6
PATR	El Naranjo	3.36	128	⇓ *e*	P Pn	11 38 48.1	-0.1
PATR					*i* S Sn	11 39 28.4	+0.2
TLIG	Tlapa	3.45	276		Sn	11 39 24.9	-5.2
TLIG	Tlapa	3.45	276		Pn	11 38 49.3	+0.1
TLIG	Tlapa	3.45	276	⇑ *i*	P Pn	11 38 49.3	+0.1
TLIG					*e* S Sn	11 39 24.9	-5.2
CHUJ	Union Juarez	3.47	127	⇓ *e*	P Pn	11 38 50.8	+1.2
CHUJ					*i* S Sn	11 39 20.1	-11
THIG		3.47	131		Pn	11 38 48.8	-0.6
THIG					Sn	11 39 20.3	-10
THIG		3.47	131	⇑ *e*	P Pn	11 38 48.8	-0.6
THIG					*e* S Sn	11 39 20.3	-10
HUEH	Huehuetenango	3.83	119		Pn	11 38 54.1	-0.2
CXUV	Coxquihui	3.84	320	⇓ *e*	P Pn	11 38 53.4	-0.9
PPM	Popocatepetl	3.93	298	⇑ *e*	P Pn	11 38 57.6	+1.8
PPM					*i* S Sn	11 39 36.7	-5.2
SCIG	Sabancuy	3.99	64		Pn	11 38 54.0	-2.1
SCIG					Sn	11 39 37.0	-5.6
SCIG	Sabancuy	3.99	64	⇑ *e*	P Pn	11 38 54.0	-2.1
SCIG					*i* S Sn	11 39 37.0	-5.6
CRIG	Cruz Grande	4.01	264		Pn	11 38 54.8	-1.7
CRIG					Sn	11 39 36.5	-6.6
CRIG	Cruz Grande	4.01	264	⇑ *i*	P Pn	11 38 54.8	-1.7
CRIG					*e* S Sn	11 39 36.5	-6.6
RTAL	Retalhuleu	4.14	130		Pn	11 38 59.3	+1.1
YAIG	Yautepec	4.22	293		Pn	11 39 00.5	+1.1
YAIG					Sn	11 39 40.6	-7.8
YAIG	Yautepec	4.22	293	⇑ *e*	P Pn	11 39 00.5	+1.1
YAIG					*e* S Sn	11 39 40.6	-7.8
THVM	De Xico	4.33	299	⇓ *i*	P Pn	11 39 02.7	+1.8
VTVM	Tizayuca	4.41	306		Pn	11 39 03.4	+1.4
VTVM	Tizayuca	4.41	306	⇑ *e*	P Pn	11 39 03.4	+1.4
TLVM	San Miguel Top	4.44	297	⇑ *i*	P Pn	11 39 04.1	+1.6
PLIG	Platanillo	4.47	286		Pn	11 39 03.5	+0.9
PLIG					Sn	11 39 48.0	-6.2
PLIG	Platanillo	4.47	286	⇑ *i*	P Pn	11 39 03.5	+0.9
PLIG					*e* S Sn	11 39 48.0	-6.2
DAIG	Los Arroyos	4.48	268		Pn	11 39 01.6	-1.1
DAIG					Sn	11 39 49.4	-4.9
DAIG	Los Arroyos	4.48	268	⇑ *i*	P Pn	11 39 01.6	-1.1
DAIG					*e* S Sn	11 39 49.4	-4.9
MEIG	Mezcala	4.49	280		Pn	11 39 03.3	+0.5
MEIG					Sn	11 39 47.5	-7.1
MEIG	Mezcala	4.49	280	⇑ *e*	P Pn	11 39 03.5	+0.5
MEIG					*e* S Sn	11 39 47.5	-7.1
GMVM	Gustavo A Made	4.53	300	⇑ *e*	P Pn	11 39 05.3	+1.7
PTVM	Pico Tres Padr	4.58	302		Pn	11 39 05.1	+0.8
PTVM	Pico Tres Padr	4.58	302	⇑ *e*	P Pn	11 39 05.1	+0.8
AOVM	Tlapan	4.61	297	⇑ *e*	P Pn	11 39 06.2	+1.4
MAVM	Malinalco, Edo	4.64	292		Pn	11 39 06.4	+1.5
MAVM	Malinalco, Edo	4.64	292	⇑ *i*	P Pn	11 39 06.4	+1.5
INVM	La Marquesa	4.67	297	⇑ *e*	P Pn	11 39 06.7	+1.2
ZUVM	ZUMPANGO	4.68	304		Pn	11 39 07.2	+1.7
ZUVM	ZUMPANGO	4.68	304	⇑ *i*	P Pn	11 39 07.2	+1.7
AZVM	Cuida Lopez Ma	4.72	300		Pn	11 39 07.8	+1.7
AZVM	Cuida Lopez Ma	4.72	300	⇑ *i*	P Pn	11 39 07.8	+1.7
FUG	Fuego 3	4.84	124	*e*	P Pn	11 39 07.2	-0.4
FUG					*e* S Sn	11 39 59.1	-3.9
PETF	Flores	4.89	93		Pn	11 39 06.5	-1.6
DEIG	Demacu	4.92	309	⇓ *e*	P Pn	11 39 10.1	+1.4
DEIG					*i* S Sn	11 39 58.9	-6.1
TOVM	TOLUCA	4.92	295		Pn	11 39 10.3	+1.5
TOVM	TOLUCA	4.92	295	⇑ *e*	P Pn	11 39 10.3	+1.5
CAIG	El Cayaco	5.07	269		Pn	11 39 09.4	-1.1
CAIG					Sn	11 39 58.7	-10
CAIG	El Cayaco	5.07	269	⇑ *i*	P Pn	11 39 09.4	-1.1
CAIG					*i* S Sn	11 39 58.7	-10
NBG	Las Nubes	5.16	120	*e*	P Pn	11 39 13.9	+1.9
NBG					*e* S Sn	11 39 54.1	-17
ARIG	Puente Sto Nin	5.23	282		Pn	11 39 13.9	+1.2
ARIG					Sn	11 40 06.9	-5.3
ARIG	Puente Sto Nin	5.23	282	⇑ *i*	P Pn	11 39 13.9	+1.2
ARIG					*e* S Sn	11 40 06.9	-5.3
MRL	Marmol	5.51	112	*e*	P Pn	11 39 15.8	-0.7
MRL					*e* S Sn	11 40 13.7	-5.5
ESQI	Esquipulas	6.03	115		Pn	11 39 24.0	+0.5
MTO3	Montecristo	6.09	117		Pn	11 39 23.1	-1.2
MYIG	Mrida	6.18	52		Pn	11 39 23.1	-2.2
MYIG	Mrida	6.18	52	⇑ *i*	P Pn	11 39 23.1	-2.2
ZIIG	Zihuatanejo	6.21	274		Pn	11 39 25.9	+0.1
ZIIG					Sn	11 40 29.8	-5.9
ZIIG	Zihuatanejo	6.21	274	⇑ *e*	P Pn	11 39 25.9	+0.1
ZIIG					*e* S Sn	11 40 29.8	-5.9
JRQG	Juriquilla Cam	6.23	305		Pn	11 39 28.9	+2.6
JRQG	Juriquilla Cam	6.23	305	⇓ *e*	P Pn	11 39 28.9	+2.6
MOIG	Morelia	6.39	293		Pn	11 39 31.2	+2.8
MOIG	Morelia	6.39	293	⇓ *e*	P Pn	11 39 30.4	+2.0
GTIG	Gomez Farias	7.02	327	⇓ *e*	P Pn	11 39 36.1	-0.6
JUBC	Volcan de Coli	8.48	287	⇑ *i*	P Pn	11 39 58.9	+2.4
JUBC					*i* S Sn	11 41 24.7	-6.1
EZ5V		8.50	287		Pn	11 39 59.3	+2.5
EZ5V		8.50	287	⇑ *i*	P Pn	11 39 59.3	+2.5
INCO	Volcan de Coli	8.51	287	⇑ *i*	P Pn	11 39 59.6	+2.6
INCO					*i* S Sn	11 41 32.3	+0.5
MNGA	Volcan de Coli	8.51	286	⇑ *i*	P Pn	11 39 59.6	+2.7
MNGA					*i* S Sn	11 41 31.0	-0.6
COIG	Colima	8.51	285	⇑ *i*	P Pn	11 39 58.9	+2.1
COIG					*i* S Sn	11 41 22.3	-9.1
CDAR	Ciudad de Arme	8.77	283	⇓ *i*	P Pn	11 40 02.3	+2.3
CDAR					*i* S Sn	11 41 29.0	-8.4
R15V		8.78	284		Pn	11 40 02.2	+1.8
R15V		8.78	284	⇓ *e*	P Pn	11 40 02.2	+1.8
R15V					*i* S Sn	11 41 36.1	-1.8
ZAIG	Zacatecas	9.02	309		Pn Pn	11 40 05.3	+1.6
HZTE	Horizontes, Gu	11.16	124		Pn Pn	11 40 33.5	+1.4
ORTG	Ortega, Santa	11.48	125		Pn	11 40 37.0	+0.7
833A	Chaparral WMA,	11.77	341	P	Pn	11 40 40.7	+0.8
	baz=158						
JTS	Las Juntas de	11.92	124	P	Pn	11 40 41.6	-0.5
	3.4nm,0.3s,baz=297,slow=14,SNR=7.6						
JTS					S Sn	11 42 50.4	-3.2
	1.0nm,0.3s,baz=83,slow=23,SNR=2.1						
JTS	Las Juntas de	11.92	124		Pn	11 40 42.6	+0.6
SOR	Soroa	12.53	62		Pn	11 40 46.8	-3.0
RIMA	Rio Macho	13.09	123		Pn	11 40 58.0	+0.5
PEZE	Perez Zeledon,	13.47	124		Pn	11 41 03.2	+1.1
441A	DeRidder	13.56	7		Pn	11 41 03.9	+0.9
435B	Jarrell	13.70	350		Pn	11 41 07.2	+2.2
435B	Jarrell	13.70	350	P	Pn	11 41 04.7	-0.3
	baz=169						
SRBA	San Rafael, Bu	13.81	124	P	Pn	11 41 07.0	+0.5
JCT	Junction City	13.91	342	Pn	Pn	11 41 08.3	+0.7
JCT	Junction City	13.91	342	P	Pn	11 41 07.7	+0.1
	baz=160,SNR=9.4						
342A	Flagon Creek P	14.29	9		Pn	11 41 13.9	+1.6
TXAR	Lajitas Array	14.45	328	P	Pn	11 41 16.2	+1.6
	1.6nm,0.3s,baz=148,slow=14,SNR=47						
TXAR	Lajitas Array	14.45	328	Pn	Pn	11 41 15.6	+1.0
TX31	Lajitas Ar. Si	14.45	328		Pn	11 41 16.3	+1.8
NATX	Nacogdoches	14.47	1	P	Pn	11 41 13.6	-1.1
	baz=180,SNR=5.8						
CBCY	The Bluff, Cay	14.64	78	Pn	Pn	11 41 16.2	-0.7
344A	Westbrook Farm	14.68	14	P	Pn	11 41 18.8	+1.6
WHTX	Lake Whitney,	14.87	352	P	Pn	11 41 18.9	-0.7
	baz=170,SNR=9.1						
346A	Big Creek Wild	14.96	19	P	Pn	11 41 22.4	+1.7
VBMS	Vicksburg	15.46	14	P	Pn	11 41 25.1	-1.8
	baz=196						
BRAL	Brewton	15.64	26	P	Pn	11 41 27.5	-1.7
	baz=209,SNR=7.7						
061Z	Chhoppi	15.64	54	Pn	Pn	11 41 28.2	-1.0
143A	Socs Landing,	15.74	11		Pn	11 41 29.0	-1.5
ABTX	Abilene, Hawle	15.90	345		P	11 41 33.8	+0.4
ABTX					IAmb IAmb	11 41 36.4	
	comp=Z,34nm,0.9s						
ABTX	Abilene, Hawle	15.90	345	P	Pn	11 41 32.4	-0.1
	baz=163,SNR=16						
Z38A	Mt. Pleasant	15.96	360	P	P	11 41 34.8	+0.8
Z41A	Richland Creek	16.08	7	P	Pn	11 41 33.8	-0.8
	baz=187,SNR=16						
Z35A	Perchaven, San	16.17	353	IAmb	IAmb	11 41 57.3	
	comp=Z,34nm,0.7s						
146A	Union	16.25	18	P	Pn	11 41 37.6	+1.0
WLAR	White Oak Lake	16.48	5	P	Pn	11 41 39.4	-0.1
DWPF	Disney Wildern	16.52	47	P	Pn	11 41 37.9	-2.0
	baz=232						
656A	Willston	16.61	41	IAmb	IAmb	11 41 55.4	
	comp=Z,36nm,0.8s						
250A	Grady	16.67	27	P	P	11 41 41.8	0.0
Z47A	Carrollton	17.07	20	P	P	11 41 45.4	-0.9
MNTX	Cornudas Mount	17.23	329	P	P	11 41 48.3	+0.3
MNTX	Cornudas Mount	17.23	329	P	P	11 41 48.1	+0.1
	baz=144,SNR=11						
X37A	Clayton	17.30	359	P	P	11 41 49.2	+0.6
X37A					IAmb IAmb	11 42 00.5	
	comp=Z,39nm,0.6s						
X40A	Basin Creek Fa	17.30	6	IAmb	IAmb	11 41 56.6	
	comp=Z,22nm,0.7s						
X40A	Basin Creek Fa	17.30	6	P	P	11 41 48.0	-0.7
	baz=186,SNR=6.2						
LRAL	Lakeview Retre	17.30	23	P	P	11 41 47.9	-0.9
LRAL	Lakeview Retre	17.30	23	P	P	11 41 47.8	-0.9
	baz=206,SNR=43						
X34A	Smith Ranch, M	17.49	352		Pn	11 41 52.1	+0.3
TIGA	Tifton	17.52	34	P	P	11 41 49.8	-1.4
	baz=218,SNR=8.1						
WMOK	Wichita Mounta	17.77	350	P	P	11 41 54.5	+0.6
WMOK					IAmb IAmb	11 42 10.0	
	comp=Z,26nm,0.8s						
WMOK	Wichita Mounta	17.77	350	P	P	11 41 53.8	-0.1
	baz=167,SNR=7.2						
OXF	Oxford	17.92	15	P	P	11 41 54.3	-1.2
	baz=197,SNR=5.8						
W39A	Magazine	17.93	3	P	P	11 41 55.5	-0.1
	baz=183,SNR=22						
W35A	Tecumseh	17.93	355		P	11 41 56.0	+0.3
W35A					IAmb IAmb	11 42 09.9	
	comp=Z,44nm,0.6s						
W41B	Gary Mavity, V	18.04	7	IAmb	IAmb	11 42 07.1	
	comp=Z,39nm,0.7s						
W41B	Gary Mavity, V	18.04	7	P	P	11 41 56.4	-0.4
	baz=188,SNR=16						
MSTX	Muleshoe	18.08	339	IAmb	IAmb	11 42 00.5	
	comp=Z,31nm,0.8s						
MSTX	Muleshoe	18.08	339	P	P	11 41 57.2	-0.2
	baz=155,SNR=16						
FNO	Franklin	18.09	354		P	11 41 58.5	+1.1
WHAR	Wooly Hollow	18.15	7	P	P	11 41 58.1	+0.1
WHAR					IAmb IAmb	11 42 08.7	
	comp=Z,53nm,0.9s						
Y49A	Blount Mountai	18.26	23	IAmb	IAmb	11 42 16.7	
	comp=Z,24nm,0.8s						
255A	Hazlehurst	18.50	35	P	P	11 42 00.3	-1.6
X48A	Hartselle	18.56	21	IAmb	IAmb	11 42 04.2	
	comp=Z,21nm,0.9s						
AMTX	Amarillo	18.58	342	P	P	11 42 03.5	+0.7
AMTX					IAmb IAmb	11 42 07.0	
	comp=Z,79nm,1.2s						
AMTX	Amarillo	18.58	342	P	P	11 42 03.1	+0.2
	baz=159						
TUL1	Leonard	18.62	358	IAmb	IAmb	11 42 29.0	
	comp=Z,37nm,0.8s						
TUL1	Leonard	18.62	358	P	P	11 42 02.8	-0.4
	baz=177,SNR=6.3						
PLAL	Pickwick Lake	18.72	18	IAmb	IAmb	11 42 14.4	
	comp=Z,22nm,0.8s						
FCAR	Ozark Folk Cen	18.76	7	P	P	11 42 04.5	-0.2
FCAR					IAmb IAmb	11 42 05.4	
	comp=Z,40nm,0.8s						
HHAR	Hobbs	19.00	3	P	P	11 42 06.7	-0.7
HHAR					IAmb IAmb	11 42 10.3	
	comp=Z,32nm,0.7s						
LCAR	Lake Charles	19.07	9	IAmb	IAmb	11 42 08.2	
	comp=Z,44nm,0.9s						
121A	Cookes Peak, D	19.14	325	IAmb	IAmb	11 42 12.4	
	comp=Z,26nm,0.9s						
121A	Cookes Peak, D	19.14	325	P	P	11 42 09.8	+0.7
	baz=139,SNR=28						
U40A	Yellville	19.15	5	P	P	11 42 08.7	-0.2
	baz=186,SNR=68						
GOGA	Godfrey	19.15	31	P	P	11 42 07.4	-1.5
	baz=215,SNR=12						
FPAL	Fort Paine	19.17	24	IAmb	IAmb	11 42 30.7	
	comp=Z,24nm,0.6s						
319A	Douglas	19.17	320	P	Pn	11 42 11.5	-0.2
319A					IAmb IAmb	11 42 12.7	
	comp=Z,35nm,1.0s						
U32A	Winter Ranch,	19.41	350	IAmb	IAmb	11 42 18.6	
	comp=Z,38nm,0.8s						
X51A	Calhoun	19.49	26	IAmb	IAmb	11 42 15.2	
	comp=Z,33nm,0.6s						
V48A	Smith Brothers	19.81	20	IAmb	IAmb	11 42 27.9	
	comp=Z,45nm,1.4s						
WVT	Waverly	19.86	17	P	P	11 42 15.0	-1.6
WVT				IAmb	IAmb	11 42 18.6	
	comp=Z,21nm,0.6s						
WVT	Waverly	19.86	17	P	P	11 42 15.1	-1.6
	baz=200						
PBMO	Poplar Bluff	19.89	11	P	P	11 42 16.2	-0.7
MGMO	Mountain Grove	19.99	6	P	P	11 42 18.1	0.0
CLTN	Cedars of Leba	20.29	21	P	P	11 42 19.2	-2.1
CLTN				IAmb	IAmb	11 42 20.0	
	comp=Z,22nm,0.7s						
W52A	Murphy	20.34	27	IAmb	IAmb	11 42 21.1	
	comp=Z,40nm,0.8s						
CPCT	Cooper Cave	20.39	25	IAmb	IAmb	11 42 36.5	
	comp=Z,25nm,0.8s						
HODGE	Hodges	20.41	32	IAmb	IAmb	11 42 22.2	
	comp=Z,23nm,0.6s						
ANMO	Albuquerque	20.41	332	P	P	11 42 24.1	+1.3
	comp=Z,7.3nm,0.6s,baz=144,slow=12,SNR=30						
ANMO	Albuquerque	20.41	332	P	P	11 42 23.3	+0.5
ANMO	Albuquerque	20.41	332	P	P	11 42 24.1	+1.3
	baz=146						
S39A	Bolivar	20.44	4	IAmb	IAmb	11 42 24.8	
	comp=Z,23nm,0.8s						
BG3	Lake Jocassee	20.70	29	P	P	11 42 24.7	-1.0
TUC	Tucson	20.74	319	P	P	11 42 27.6	+1.5
TUC				IAmb	IAmb	11 42 31.6	
	comp=Z,21nm,0.9s						
TUC	Tucson	20.74	319	P	P	11 42 26.9	+0.7
	baz=132						
V51A	Loudon	20.77	25	IAmb	IAmb	11 42 41.3	
	comp=Z,30nm,0.6s						
TKL	Tuckaleechee C	20.88	26	P	P	11 42 25.9	-1.7
	comp=Z,48nm,0.8s,baz=198,slow=11,SNR=18						
JSC	Jenkinsville	20.96	33	IAmb	IAmb	11 42 28.7	
	comp=Z,21nm,0.6s						
S44A	Carbondale	21.00	13	P	P	11 42 27.4	-1.3
S44A				IAmb	IAmb	11 42 29.1	
	comp=Z,32nm,0.8s						
CCM	Cathedral Cave	21.01	8	P	P	11 42 27.2	-1.7
CCM	Cathedral Cave	21.01	8	P	P	11 42 27.8	-1.1
	baz=190						
SIUC	Southern Illin	21.03	13	IAmb	IAmb	11 42 29.3	
	comp=Z,31nm,0.8s						
PAULI	Pauline	21.10	31	IAmb	IAmb	11 42 30.3	
	comp=Z,24nm,0.6s						
V52A	Sevierville	21.12	26	IAmb	IAmb	11 42 47.2	
	comp=Z,20nm,0.8s						
R40A	Maddies Statio	21.12	6	IAmb	IAmb	11 42 32.4	
	comp=Z,25nm,0.6s						
V53A	Saluda	21.31	28	IAmb	IAmb	11 42 32.3	
	comp=Z,29nm,0.7s						
R32A	Long Quarter,	21.37	352	IAmb	IAmb	11 42 39.4	
	comp=Z,18nm,0.9s						
T25A	Trinidad	21.51	339	IAmb	IAmb	11 42 39.8	
	comp=Z,40nm,1.4s						
T25A	Trinidad	21.51	339	P	P	11 42 34.4	-0.2
	baz=154,SNR=18						
KMSC	Kings Mountain	21.59	32	IAmb	IAmb	11 42 34.3	
	comp=Z,30nm,0.9s						
KMSC	Kings Mountain	21.59	32	P	P	11 42 33.2	-2.0
	baz=217,SNR=12						
T50A	Nancy	21.65	22	IAmb	IAmb	11 42 53.9	
	comp=Z,20nm,0.8s						
BIRD	Birdtown, Kers	21.66	34	IAmb	IAmb	11 42 54.1	
	comp=Z,14nm,0.7s						
TZTN	Tazewell	21.73	26	IAmb	IAmb	11 42 59.8	
	comp=Z,27nm,0.8s						
TZTN	Tazewell	21.73	26	P	P	11 42 34.3	-2.4
	baz=210						
214A	Organ Pipe Nat	21.82	316	P	P	11 42 38.8	+1.1
	baz=128,SNR=9.0						
X18A	Snowflake	21.83	325	IAmb	IAmb	11 42 41.8	
	comp=Z,27nm,0.9s						
KSU1	Kansas State U	21.84	357	P	P	11 42 36.7	-1.1
	baz=175						
CBKS	Cedar Bluff	21.91	350	P	P	11 42 38.6	0.0
CBKS				IAmb	IAmb	11 42 41.7	
	comp=Z,26nm,0.9s						
CBKS					pP	11 43 06.8	+3.2
CBKS	Cedar Bluff	21.91	350	P	P	11 42 38.0	-0.5
	baz=167,SNR=7.7						
W18A	Petrified Fore	22.16	326	P	P	11 42 43.1	+1.9
	baz=139						
Q44A	Meyer Farm, Va	22.21	12	IAmb	IAmb	11 42 40.7	
	comp=Z,40nm,0.8s						
OLIL	Olney	22.25	14	IAmb	IAmb	11 42 41.1	
	comp=Z,31nm,0.8s			

comp=Z,34nm,1.0s
OGNE Ogallala 24.41 347 P **P** 11 43 02.6 +0.5
baz=163
SWSC Sam W. Stewart 24.44 314 P **P** 11 43 03.9 +1.7
baz=124,SNR=5.7
RMX La Rumorosa 24.44 313 IAmb IAmb 11 43 05.4
comp=Z,15nm,1.0s
O48B Farmland 24.47 18 P **P** 11 43 00.3 -2.2
baz=203,SNR=22
P51A Williamsport 24.48 23 pP 11 43 31.1 0.0
IKP In-Ko-Pah, Jac 24.49 313 P **P** 11 43 04.3 +1.5
baz=123,SNR=9.0
W13A Hualapai Mount 24.52 320 pP pP 11 43 34.2 +2.2
BC3 Big Chuckawall 24.62 316 P **P** 11 43 05.6 +1.6
baz=126,SNR=19
SCIA State Center 24.64 3 P **P** 11 43 04.0 0.0
baz=184
L34A Svendsen Farm, 24.69 357 IAmb IAmb 11 43 07.0
comp=Z,25nm,0.9s
R55A Marlinton 24.69 29 IAmb IAmb 11 43 05.6
comp=Z,24nm,0.8s
IRM Iron Mountain 24.72 317 P **P** 11 43 06.3 +1.5
baz=128
S57A Dark Hollow, R 24.83 31 pP 11 43 34.1 -0.7
MONP2 Monument Peak 24.84 313 P **P** 11 43 07.5 +1.3
baz=123,SNR=8.0
N47A Urbana 24.89 17 IAmb IAmb 11 43 06.3
comp=Z,34nm,0.8s
Q54A Coxs Mills 24.94 27 IAmb IAmb 11 43 07.5
comp=Z,26nm,1.1s
L40A Anamosa 24.96 7 IAmb IAmb 11 43 08.6
comp=Z,20nm,0.6s
P52A Corning 24.96 24 IAmb IAmb 11 43 07.7
comp=Z,32nm,0.8s
P52A pP 11 43 37.1 +1.1
P52A Corning 24.96 24 P **P** 11 43 04.6 -2.3
baz=210
SDV Santo Domingo 25.09 106 P **P** 11 43 07.6 -1.0
comp=Z,7.1nm,0.7s,baz=326,slow=3.4,SNR=10
SDV Santo Domingo 25.09 106 P **P** 11 43 08.0 -0.6
L42A Oliver, Polo 25.11 9 IAmb IAmb 11 43 10.4
comp=Z,46nm,1.1s
P53A Whipple 25.13 25 IAmb IAmb 11 43 10.0
comp=Z,19nm,0.7s
ACSO Alum Creek Sta 25.17 22 IAmb IAmb 11 43 09.6
comp=Z,17nm,0.7s
ACSO Alum Creek Sta 25.17 22 P **P** 11 43 07.0 -1.8
baz=206
BELC Belle Mtn. Jos 25.19 316 P **P** 11 43 11.1 +1.9
baz=126,SNR=7.3
KNB Kanab 25.24 325 IAmb IAmb 11 43 12.6
comp=Z,11nm,0.8s
TPFO Pinon Flats 25.27 314 P **P** 11 43 11.9 +2.0
baz=124,SNR=6.3
PFO Pinyon Flats O 25.27 314 P **P** 11 43 12.2 +2.2
comp=Z,6.8nm,1.0s,baz=126,slow=8.2,SNR=13
PFO Pinyon Flats O 25.27 314 P **P** 11 43 12.6 +2.6
PFO Pinyon Flats O 25.27 314 P **P** 11 43 12.3 +2.2
baz=124,SNR=6.4
109C Camp Elliot, M 25.32 312 P **P** 11 43 12.1 +1.8
baz=122
N49A Columbus Grove 25.38 19 IAmb IAmb 11 43 11.7
comp=Z,21nm,0.7s
K38A Parkersburg 25.41 4 IAmb IAmb 11 43 13.9
comp=Z,29nm,0.7s
N23A Red Feather La 25.42 340 P **P** 11 43 12.0 +0.6
baz=154
GMRC Granite Mounta 25.44 317 P **P** 11 43 12.7 +1.2
baz=128,SNR=6.8
LCMT Little Creek M 25.47 324 pP 11 43 41.4 +0.4
O52A Adamsville 25.49 24 IAmb IAmb 11 43 10.6
comp=Z,24nm,1.0s
K31A O'Neill 25.52 354 IAmb IAmb 11 43 21.8
comp=Z,22nm,0.8s
O20A White River Ci 25.56 336 P **P** 11 43 13.8 +1.2
baz=149
L44A Lake County Fo 25.59 12 P **P** 11 43 12.8 +0.2
baz=195
MTPU Mount Pierson 25.66 327 IAmb IAmb 11 43 19.6
comp=Z,10nm,0.8s
MURC Murrieta 25.77 313 P **P** 11 43 15.9 +1.5
baz=123,SNR=5.6
O53A New Philadelph 25.85 25 P **P** 11 43 14.0 -0.9
baz=211
HEC Hector,Ludlow 25.91 317 P **P** 11 43 16.9 +1.2
baz=127
JFWS Jewell Farm 25.92 8 P **P** 11 43 14.8 -0.8
baz=190,SNR=8.6
MCWV Mont Chateau 25.93 27 P **P** 11 43 15.7 0.0
baz=214
BBRC Big Bear Solar 25.96 315 P **P** 11 43 18.0 +1.6
baz=125
TUQ Turquoise Moun 26.01 318 P **P** 11 43 18.2 +1.5
baz=128,SNR=5.5
SHPR Sheep Range 26.23 321 P **P** 11 43 20.5 +1.9
SHPR pP 11 43 48.8 +1.0
L48A N Adams 26.24 18 IAmb IAmb 11 43 17.1
comp=Z,15nm,0.7s
BFSC Mount Baldy Ra 26.45 314 P **P** 11 43 22.1 +1.4
baz=124,SNR=5.7
ECSD EROS Data Cent 26.46 357 P **P** 11 43 20.8 +0.4
baz=176
GSC Goldstone, Bar 26.50 317 P **P** 11 43 22.4 +1.4
baz=127
CIS Catalina Islan 26.53 312 P **P** 11 43 22.5 +1.4
baz=121
RWWY Rawlins 26.55 339 IAmb IAmb 11 43 23.8
comp=Z,9.9nm,0.9s
QSM Queen of Sheba 26.94 318 pP pP 11 43 57.0 +2.9
N54A Moraine State 26.95 26 P **P** 11 43 24.3 -0.5
baz=213
EDW2 Edwards Air Fo 27.04 315 P **P** 11 43 27.3 +1.4
baz=124
M53A WI Miller and 27.08 24 P **P** 11 43 24.0 -2.0
baz=211
LRMC Laurel Mtn Rad 27.18 316 P **P** 11 43 28.5 +1.3
baz=126
TPNV Topopah Spring 27.18 320 P **P** 11 43 28.9 +1.8
baz=130,SNR=5.4
K22A Casper 27.19 341 P **P** 11 43 27.8 +0.6
baz=155
FURC Furnace Creek, 27.25 319 P **P** 11 43 29.2 +1.7
baz=128
MPMC Manual Prospec 27.40 318 P **P** 11 43 29.9 +0.7
baz=127,SNR=7.1
M54A Oil Creek Stat 27.54 25 P **P** 11 43 29.2 -1.0
baz=213
SSPA Standing Stone 27.60 29 P **P** 11 43 30.3 -0.3
baz=217
DUG Dugway, Tooele 27.62 330 P **P** 11 43 31.4 +0.4
baz=140
R11A Troy Canyon, C 27.73 323 P **P** 11 43 33.4 +1.3
baz=133
ARVC Arvin 27.75 315 P **P** 11 43 34.6 +2.6
baz=124
ISA Isabella, Lake 27.81 316 P **P** 11 43 35.1 +2.5
baz=125
SPMN Marine on St. 27.97 3 IAmb IAmb 11 43 33.8
comp=Z,14nm,0.5s
SPMN Marine on St. 27.97 3 P **P** 11 43 32.7 -1.2
baz=184,SNR=6.6
CWC Cottonwood Cre 28.01 318 P **P** 11 43 36.9 +2.3
baz=127
VES Vestal, Richgr 28.32 316 P **P** 11 43 38.8 +1.8
baz=124,SNR=6.7
BW06 Boulder Array 28.33 337 P **P** 11 43 38.4 +1.0
baz=149
PDAR Pinedale Array 28.33 337 P **P** 11 43 38.0 +0.6
comp=Z,1.0nm,0.6s,baz=149,slow=8.5,SNR=14
PDAR pP **pP** 11 44 07.5 +0.7
comp=Z,0.8nm,0.8s,baz=144,slow=13,SNR=2.6
PDAR PcP **PcP** 11 46 46.7 -0.1
comp=Z,0.4nm,0.6s,baz=178,slow=3.4,SNR=2.7
TIN Tinemaha, Big 28.48 318 P **P** 11 43 40.5 +1.9
baz=127
TPH Tonopah 28.50 321 IAmb IAmb 11 43 42.0
comp=Z,26nm,1.2s
SMMC Simmler 28.65 314 P **P** 11 43 42.2 +2.1
baz=122
N59A State Game Lan 28.83 31 P **P** 11 43 39.7 -1.9
baz=220
HVU Hansel Valley 28.84 332 IAmb IAmb 11 43 44.5
comp=Z,8.5nm,0.9s
GLMI Grayling 28.86 15 P **P** 11 43 40.9 -0.8
baz=200
ELK Elko 29.25 327 P **P** 11 43 46.6 +1.1
comp=Z,5.7nm,0.8s,baz=140,slow=6.2,SNR=19
ELK PcP **PcP** 11 46 48.7 -0.5
comp=Z,1.8nm,0.8s,baz=135,slow=14,SNR=4.4
REDW Red Top Meadow 29.33 336 IAmb IAmb 11 43 48.4
comp=Z,21nm,1.4s
NVAR Mina Array Bea 29.38 321 P **P** 11 43 49.0 +2.3
comp=Z,9.6nm,0.7s,baz=133,slow=9.2,SNR=93
NVAR pP **pP** 11 44 19.1 +2.8
comp=Z,3.2nm,0.7s,baz=135,slow=9.6,SNR=5.0
NVAR sP **sP** 11 44 33.2 +1.0
comp=Z,2.5nm,0.7s,baz=141,slow=8.9,SNR=3.5
NVAR PcP **PcP** 11 46 51.2 +1.6
comp=Z,1.0nm,0.6s,baz=135,slow=2.7,SNR=5.3
NVAR pPcP 11 47 26.3
comp=Z,0.9nm,0.9s,baz=122,slow=3.3,SNR=3.7
NVAR Mina Array Bea 29.38 321 pP 11 44 18.4 +2.2
LHV Little Huntoon 29.39 320 IAmb IAmb 11 43 50.5
comp=Z,8.9nm,0.6s
KVN Kaiserville 29.66 322 IAmb IAmb 11 43 53.3
comp=Z,9.7nm,1.2s
PAL Palisades 29.84 33 P **P** 11 43 47.9 -2.7
baz=223
RLMT Red Lodge 30.29 340 P **P** 11 43 55.5 +0.8
baz=152,SNR=5.8
YERR Yerington 30.30 321 IAmb IAmb 11 43 57.7
comp=Z,7.2nm,0.6s
SADO Sadowa 30.51 22 LR LR 11 57 24.7
comp=Z,41nm,19.5s,baz=345,slow=39
PNTR Pint Nut 30.58 320 IAmb IAmb 11 44 00.8
comp=Z,7.1nm,0.8s
MDND Maddock 30.77 354 P **P** 11 43 58.5 -0.1
baz=171
EMB Emerald Bay 30.82 320 IAmb IAmb 11 44 02.8
comp=Z,9.4nm,0.8s
LAO LASA Array 30.82 345 P **P** 11 43 59.1 -0.1
baz=158
MPK Martis Peak 30.97 320 IAmb IAmb 11 44 04.6
comp=Z,13nm,1.0s
HLID Hailey 30.99 332 P **P** 11 44 01.5 +0.6
baz=142,SNR=9.1
AGMN Agassiz Nation 31.00 359 IAmb IAmb 11 44 00.6
comp=Z,12nm,0.7s
AGMN Agassiz Nation 31.00 359 P **P** 11 43 59.5 -1.1
baz=178,SNR=9.0
BOZ Bozeman (W) 31.52 337 P **P** 11 44 06.5 +1.0
baz=148
DGMT Dagman 32.06 348 P **P** 11 44 10.0 +0.1
baz=163
WVOR Wild Horse Val 32.23 326 IAmb IAmb 11 44 15.0
comp=Z,12nm,1.1s
LONY Lake Ozonia 32.24 28 P **P** 11 44 08.9 -2.7
baz=218
O03E Paynes Creek 32.66 320 P **P** 11 44 16.3 +0.9
baz=127
PLID Pearl Lake 32.90 332 IAmb IAmb 11 44 19.5
comp=Z,7.6nm,0.8s
ULM Lac du Bonnet 32.95 359 P **P** 11 44 16.1 -1.5
comp=Z,5.1nm,0.5s,baz=165,slow=9.5,SNR=8.5
ULM Lac du Bonnet 32.95 359 IAmb IAmb 11 44 17.9
comp=Z,5.8nm,0.5s
EGMT Eagleton 33.02 342 IAmb IAmb 11 44 20.3
comp=Z,20nm,1.3s
EGMT Eagleton 33.02 342 P **P** 11 44 19.3 +0.9
baz=153,SNR=5.3
LBNH Lisbon 33.20 31 P **P** 11 44 18.3 -1.6
baz=223
O02D Mt. Diablo Mer 33.20 319 P **P** 11 44 21.1 +1.0
baz=125
MSO Missoula 33.43 336 P **P** 11 44 22.9 +0.9
baz=145
M04C Macdoel 33.59 322 IAmb IAmb 11 44 26.4
comp=Z,6.9nm,0.9s
M04C Macdoel 33.59 322 P **P** 11 44 24.8 +1.2
baz=128
K04D Chiloquin, OR 34.08 324 P **P** 11 44 28.6 +0.9
baz=130
F10A Beach Ranch, E 34.13 332 IAmb IAmb 11 44 29.7
comp=Z,15nm,0.8s
L04D Klamath Falls 34.14 323 P **P** 11 44 29.2 +1.0
baz=128
J04D Umpqua Nationa 34.67 324 P **P** 11 44 33.4 +0.5
baz=130
I04A Tendick Farm, 35.20 325 P **P** 11 44 37.9 +0.7
baz=130
G05D Wamic, OR 35.57 327 P **P** 11 44 42.0 +1.6
baz=133
H04A Detroit Lake 35.66 326 IAmb IAmb 11 44 43.8
comp=Z,10.0nm,0.7s
I03D Drain, OR 35.66 324 P **P** 11 44 42.9 +1.8
baz=128
J01E Myrtle Point 35.66 323 P **P** 11 44 42.5 +1.4
baz=127
HOOD Mint Hood Mea 35.80 327 IAmb IAmb 11 44 46.0
comp=Z,17nm,0.8s
H04D Lebanon 35.85 325 P **P** 11 44 42.9 +0.2
baz=130
NEW Newport 35.86 335 LR LR 12 03 00.7
comp=Z,27nm,19.7s,baz=5.5,slow=42
NEW Newport 35.86 335 P **P** 11 44 43.0 +0.2
baz=142,SNR=5.5
C09A Chrisman Ranch 35.99 333 IAmb IAmb 11 44 46.3
comp=Z,3.3nm,0.6s
F05D White Salmon 36.09 328 IAmb IAmb 11 44 47.7
comp=Z,10nm,0.8s
F05D White Salmon 36.09 328 P **P** 11 44 46.2 +1.5
baz=133
I02E Swisshome, OR 36.20 324 P **P** 11 44 47.6 +1.9
baz=128
G03D McMinnville, O 36.58 326 P **P** 11 44 50.3 +1.4
baz=130
LTY Liberty 36.67 330 IAmb IAmb 11 44 51.3
comp=Z,6.8nm,0.7s
FFC Flin Flon 37.81 353 P **P** 11 44 59.2 0.0
FFC IAmb IAmb 11 44 59.6
comp=Z,6.8nm,0.5s
D03D Eldon 38.04 329 P **P** 11 45 01.7 +0.5
baz=133
B05A Bryant 38.06 330 P **P** 11 45 01.5 +0.1
baz=135
EDM Edmonton 38.69 342 IAmb IAmb 11 45 08.6
comp=Z,12nm,0.9s
EDM pP pP 11 45 38.1 +1.1
LLLB Lillooet 39.66 333 IAmb IAmb 11 45 16.1
comp=Z,7.7nm,0.9s
SCHQ Schefferville 43.31 23 P **P** 11 45 41.7 -2.6
comp=Z,3.4nm,0.7s,baz=220,slow=9.8,SNR=12
SCHQ pP **pP** 11 46 13.8 -1.5
comp=Z,3.3nm,0.8s,baz=240,slow=10,SNR=2.8
SCHQ Schefferville 43.31 23 IAmb IAmb 11 45 42.8
comp=Z,4.8nm,0.8s
RPN Rapa Nui 46.24 198 LR LR 12 01 01.0
comp=Z,42nm,18.9s,baz=52,slow=30
SIV San Ignacio 46.97 133 P **P** 11 46 12.9 -0.8
comp=Z,6.1nm,0.5s,baz=315,slow=7.7,SNR=27
YKA Yellowknife Ar 47.26 348 P **P** 11 46 15.2 -0.2
comp=Z,7.5nm,0.7s,baz=153,slow=7.3,SNR=96
YKA pP **pP** 11 46 47.0 +0.2
comp=Z,2.7nm,0.6s,baz=152,slow=7.6,SNR=6.5
YKA PcP **PcP** 11 47 43.4 -0.8
comp=Z,0.8nm,0.8s,baz=153,slow=3.6,SNR=4.7
YKA Yellowknife Ar 47.26 348 pP pP 11 46 46.3 -0.5
CRAG Craig 47.94 332 P **P** 11 46 22.1 +1.4
baz=127
DLBC Dease Lake 48.56 336 IAmb IAmb 11 46 29.0
comp=Z,13nm,0.8s
TGTN Hyland Airport 50.12 340 P **P** 11 46 38.1 +0.8
baz=137,SNR=6.6
P33M Teslin, Yukon 50.81 337 P **P** 11 46 44.5 +2.0
P33M Teslin, Yukon 50.81 337 P **P** 11 46 43.3 +0.8
baz=131
LCO Las Campanas 51.60 153 P **P** 11 46 51.3 +2.3
WHY Whitehorse 51.89 336 P **P** 11 46 52.2 +1.7
baz=129
MMPY Sheldon Lake, 51.89 340 P **P** 11 46 52.4 +1.9
baz=134,SNR=10
FARO Faro, Yukon 52.34 338 P **P** 11 46 55.0 +1.2
baz=131
M31M Drury Creek, Y 52.69 338 P **P** 11 46 57.9 +1.5
baz=130
N31M Braeburn, Yuko 52.75 337 IAmb IAmb 11 46 58.9
comp=Z,8.6nm,0.8s
N31M Braeburn, Yuko 52.75 337 P **P** 11 46 58.3 +1.5
baz=128
HYT Haines Junctio 53.01 335 P **P** 11 46 58.5 -0.3
baz=126
YUK4 Talbot Arm 53.77 336 P **P** 11 47 03.6 -0.9
baz=125
M30M Minto, Yukon 53.80 338 IAmb IAmb 11 47 07.0
comp=Z,16nm,1.5s
M30M Minto, Yukon 53.80 338 P **P** 11 47 05.7 +1.2
baz=128
CTG Chitna Glacier 54.65 334 P **P** 11 47 11.8 +1.1
baz=122
YUK3 Moose Creek 54.73 335 P **P** 11 47 12.4 +1.0
baz=123
C36M Paulatuk 55.15 348 P **P** 11 47 13.9 -0.1
baz=145
BVCY Beaver Creek 55.24 336 P **P** 11 47 16.1 +1.2
baz=123
MCARA McCarthy VSAT 55.56 334 P **P** 11 47 18.2 +1.0
baz=120
M27K Edge Creek, AK 55.61 336 P **P** 11 47 18.6 +0.9
baz=122
DAWY Dawson 55.63 338 IAmb IAmb 11 47 19.0
comp=Z,4.3nm,0.8s
DAWY Dawson 55.63 338 P **P** 11 47 18.0 +0.4
baz=125
GLB Gilahina Butte 55.92 334 IAmb IAmb 11 47 22.6
comp=Z,6.8nm,0.8s
L27K Beaver Creek, 55.97 336 IAmb IAmb 11 47 22.6
comp=Z,14nm,1.3s
L27K Beaver Creek, 55.97 336 P **P** 11 47 21.4 +1.3
baz=122
BMRM Bremner River 56.02 333 P **P** 11 47 22.2 +1.7
baz=118
EPYK Eagle Plains 56.17 341 IAmb IAmb 11 47 24.9
comp=Z,12nm,1.4s
EPYK Eagle Plains 56.17 341 P **P** 11 47 21.8 +0.4
baz=130
EYAK Cordova Ski Ar 56.32 333 P **P** 11 47 24.0 +1.5
baz=117
N25K Chitina, Valde 56.33 334 IAmb IAmb 11 47 25.8
comp=Z,10.0nm,0.8s
N25K Chitina, Valde 56.33 334 P **P** 11 47 24.5 +1.8
baz=119
L26K Log Cabin Wild 56.53 336 P **P** 11 47 25.4 +1.3
baz=121
INK Inuvik 56.56 344 P **P** 11 47 24.4 +0.4
INK IAmb IAmb 11 47 25.4
comp=Z,11nm,0.8s
INK pP **pP** 11 47 57.6 +1.1
INK Inuvik 56.56 344 P **P** 11 47 24.4 +0.4
baz=134,SNR=13
EGAK Eagle 56.67 338 IAmb IAmb 11 47 26.1
comp=Z,4.0nm,0.8s
EGAK Eagle 56.67 338 P **P** 11 47 25.6 +0.7
baz=124
CPUP Villa Florida 56.68 139 P **P** 11 47 25.2 -0.3
comp=Z,2.0nm,0.7s,baz=333,slow=7.4,SNR=4.4
KLU Klutina 56.83 334 P **P** 11 47 27.9 +1.7
baz=117
HARP HAARP 56.94 335 P **P** 11 47 28.7 +1.7
baz=119
M24K Tolsona, Glenn 57.22 334 P **P** 11 47 31.1 +2.1
baz=117
SCRK Sand Creek 57.27 337 P **P** 11 47 30.7 +1.3
baz=121
PAX Paxson 57.35 335 P **P** 11 47 30.9 +1.0
PAX IAmb IAmb 11 47 31.9
comp=Z,6.2nm,0.8s
PAX Paxson 57.35 335 P **P** 11 47 30.7 +0.9
baz=119
J26L Joseph Creek 57.39 337 P **P** 11 47 31.4 +1.2
baz=122
RIDG Independent Ri 57.48 336 P **P** 11 47 31.8 +1.1
baz=120,SNR=6.1
A36M Sachs Harbour 57.55 349 IAmb IAmb 11 47 31.6
comp=Z,5.8nm,0.8s
A36M Sachs Harbour 57.55 349 P **P** 11 47 29.8 -1.2
baz=145,SNR=11
SCM Sheep Creek Mo 57.59 334 P **P** 11 47 32.3 +0.8
baz=116
SEW Seward 57.80 331 P **P** 11 47 33.7 +0.8
baz=113
WAT6 Susitna Watana 58.09 334 P **P** 11 47 36.0 +0.9
baz=116,SNR=6.5
J25K Salcha River, 58.12 337 P **P** 11 47 36.0 +0.9
baz=120
PMR Palmer 58.26 333 P **P** 11 47 36.8 +0.8
baz=114
BRSE Bradley Lake S 58.26 331 P **P** 11 47 36.4 +0.2
baz=112
RC01 Rabbit Creek A 58.32 332 P **P** 11 47 37.4 +0.9
baz=113
HDA Harding Lake 58.61 336 IAmb IAmb 11 47 39.7
comp=Z,5.4nm,0.7s
HDA Harding Lake 58.61 336 P **P** 11 47 38.9 +0.3
baz=118,SNR=5.8
PRP Porcupine Dome 58.63 338 P **P** 11 47 39.4 +0.6
baz=120
HOM Homer 58.66 330 P **P** 11 47 40.1 +1.2
baz=110
IL31 58.76 337 IAmb IAmb 11 47 41.3
comp=Z,5.2nm,0.8s
ILAR Eielson Array 58.76 337 P **P** 11 47 40.1 +0.6
comp=Z,3.1nm,0.7s,baz=152,slow=4.5,SNR=60
ILAR pP **pP** 11 48 12.9 +0.6
comp=Z,1.5nm,0.5s,baz=143,slow=5.2,SNR=4.8
ILAR sP **sP** 11 48 28.4 +1.0
comp=Z,1.0nm,0.6s,baz=126,slow=2.4,SNR=3.6
RND Reindeer 58.91 335 pP 11 48 15.4 +1.9
CUT Chulitna 59.08 333 P **P** 11 47 43.0 +1.2
baz=114
MCK McKinley 59.09 335 P **P** 11 47 42.4 +0.5
baz=116
POKR Poker Plat Res 59.13 337 P **P** 11 47 42.9 +0.8
baz=118
COLA College 59.18 337 P **P** 11 47 42.8 +0.5
baz=117
TCOL CIGO, UAF Yank 59.18 337 P **P** 11 47 42.7 +0.3
baz=117
BMAR Burnt Mountain 59.30 340 pP pP 11 48 16.9 +0.9
MDM Murphy Dome 59.36 337 IAmb IAmb 11 47 44.8
comp=Z,3.3nm,0.6s
Q19K Cape Douglas, 59.38 329 P **P** 11 47 45.7 +1.7
baz=108
SPCR Spurr Chakacha 59.47 332 P **P** 11 47 45.3 +0.7
baz=111
TRF Thorofare Moun 59.52 335 P **P** 11 47 46.1 +1.1
baz=114,SNR=11
NEA2 Nenana 59.52 336 P **P** 11 47 45.2 +0.4
baz=116
H24K Noodor Dome 59.64 338 IAmb IAmb 11 47 46.9
comp=Z,6.1nm,0.7s
H24K pP 11 48 19.6 +1.2
H24K Noodor Dome 59.64 338 P **P** 11 47 46.7 +1.1
baz=118
KTH Kantishna Hill 59.82 335 IAmb IAmb 11 47 48.5
comp=Z,13nm,1.0s
I23K Minto, Yukon-K 59.87 337 P **P** 11 47 48.0 +0.9
baz=116,SNR=12
BPAW Bear Paw Mtn. 60.06 335 IAmb IAmb 11 47 49.6
comp=Z,6.2nm,0.7s
BPAW Bear Paw Mtn. 60.06 335 P **P** 11 47 48.9 +0.4
baz=114,SNR=7.6
PPLA Purkeypile 60.09 334 P **P** 11 47 49.0 +0.1
baz=112
O19K Port Alsworth 60.11 330 P **P** 11 47 49.7 +0.9
baz=108
CAST Castle Rocks 60.24 334 IAmb IAmb 11 47 50.9
comp=Z,6.3nm,0.8s
CAST Castle Rocks 60.24 334 P **P** 11 47 49.9 +0.1
baz=112,SNR=5.9
MLY Manley 60.35 336 IAmb IAmb 11 47 52.1
comp=Z,9.7nm,0.7s
MLY Manley 60.35 336 P **P** 11 47 51.2 +0.7
baz=114,SNR=11
N19K Bonanza Creek 60.38 331 P **P** 11 47 51.7 +0.8
baz=108
L20K Farewell, AK 60.67 333 P **P** 11 47 53.2 +0.5
baz=110
M19K Big River Lodg 60.70 332 IAmb IAmb 11 47 54.4
comp=Z,8.2nm,0.7s
M19K Big River Lodg 60.70 332 P **P** 11 47 53.4 +0.5
baz=109
I21K Tanana 60.89 336 P **P** 11 47 54.5 +0.4
baz=113
L19K White Mountain 60.99 332 P **P** 11 47 55.5 +0.6
baz=109
K20K Telida 61.05 334 IAmb IAmb 11 47 56.2
comp=Z,7.3nm,0.7s
K20K Telida 61.05 334 P **P** 11 47 55.9 +0.6
baz=110
COLD Coldfoot 61.10 339 P **P** 11 47 56.3 +0.9
COLD IAmb IAmb 11 47 58.8
comp=Z,5.9nm,1.2s
COLD Coldfoot 61.10 339 P **P** 11 47 56.4 +0.9
baz=116

CHGN	**Chignik**	**61.15**	**325**	P		**P**		**11 47 56.8**	**+0.9**
	baz=102								
J20K	**Nowinta River**	**61.38**	**335**	IAmb		IAmb		11 47 58.7	
	comp=Z,7.0nm,0.8s								
J20K	**Nowinta River**	**61.38**	**335**	P		**P**		**11 47 57.8**	**+0.4**
	baz=111								
H21K	**Melozitna Rive**	**61.40**	**336**	P		**P**		**11 47 57.6**	**+0.1**
	baz=113								
TOLK	**Toolik Lake Re**	**61.53**	**340**	IAmb		IAmb		11 47 59.8	
	comp=Z,6.7nm,0.6s								
TOLK	**Toolik Lake Re**	**61.53**	**340**	P		**P**		**11 47 59.2**	**+0.7**
	baz=117,SNR=7.3								
TTA	**Tatalina**	**61.74**	**333**	P		**P**		**11 48 00.1**	**+0.2**
TTA				IAmb		IAmb		11 48 01.0	
	comp=Z,5.6nm,0.8s								
TTA	**Tatalina**	**61.74**	**333**	P		**P**		**11 48 00.8**	**+0.8**
	baz=108								
PLCA	**Paso Flores**	**61.97**	**159**	P		**P**		**11 48 03.0**	**+1.3**
	comp=Z,6.1nm,0.9s,baz=204,slow=13,SNR=2.9								
PLCA				pP		**pP**		**11 48 34.6**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=311,slow=11,SNR=2.2								
PLTB	**Pedras Altas**	**62.82**	**141**	P		**P**		**11 48 08.0**	**+0.5**
PLTB				IAmb		IAmb		11 48 08.6	
	comp=Z,10nm,1.0s								
EUNU	**Eureka**	**62.99**	**2**	P		**P**		**11 48 08.5**	**+0.6**
EUNU				IAmb		IAmb		11 48 09.1	
	comp=Z,5.1nm,0.8s								
FALS	**False Pass**	**63.70**	**323**	P		**P**		**11 48 13.6**	**+0.7**
	baz=97								
A21K	**Barrow**	**64.86**	**342**	P		**P**		**11 48 20.9**	**+0.7**
	baz=112								
UNV	**Unalaska Valle**	**65.39**	**322**	P		**P**		**11 48 24.9**	**+1.0**
	baz=94								
RDOG	**Red Dog Mine**	**65.94**	**338**	P		**P**		**11 48 28.5**	**+1.2**
	baz=104								
ANM	**Nome**	**66.18**	**334**	P		**P**		**11 48 29.4**	**+0.6**
	baz=100								
TNA	**Tin City**	**67.41**	**334**	P		**P**		**11 48 37.3**	**+0.8**
	baz=98								
SPIA	**Saint Paul Isl**	**67.72**	**325**	P		**P**		**11 48 39.6**	**+0.9**
	baz=92								
GAMB	**Gambell**	**68.83**	**332**	P		**P**		**11 48 46.5**	**+1.0**
	baz=94								
BILL	**Bilibino**	**77.41**	**338**	P		**P**		**11 49 36.8**	**+1.0**
BILL				IAmb		IAmb		11 49 37.8	
	comp=Z,8.6nm,0.9s								
ESDC	**Sonseca Array**	**79.97**	**52**	P		**P**		**11 49 49.5**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=292,slow=6.6,SNR=11								
ESDC	**Sonseca Array**	**79.97**	**52**	P		**P**		**11 49 51.3**	**+0.8**
NB2	**NORSAR Subarra**	**82.67**	**28**	P		**P**		**11 50 04.8**	**+0.5**
	comp=Z,3.2nm,1.1s,baz=294,slow=5.3								
NOA	**NORSAR Array B**	**82.67**	**28**	P		**P**		**11 50 03.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=296,slow=5.3,SNR=4.2								
NOA				pP		**pP**		**11 50 38.4**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=294,slow=5.3,SNR=3.0								
ARCES	**ARCESS Array B**	**83.97**	**18**	P		**P**		**11 50 10.8**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=308,slow=2.9,SNR=6.3								
ARCES				pP		**pP**		**11 50 46.5**	**+1.0**
	comp=Z,9.9nm,1.0s,baz=336,slow=2.7,SNR=2.5								
TIXI	**Tiksi**	**86.51**	**347**	P		**P**		**11 50 23.0**	**-0.3**
KOWA	**Kowa**	**86.68**	**76**	P		**P**		**11 50 25.7**	**+0.5**
KOWA				IAmb		IAmb		11 50 27.1	
	comp=Z,8.9nm,0.8s								
DBIC	**Dimbokro**	**88.16**	**84**	P		**P**		**11 50 31.4**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=284,slow=5.4,SNR=2.2								
TORD	**Torodi Ar. Bea**	**92.38**	**76**	P		**P**		**11 50 51.2**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=270,slow=2.9,SNR=2.8								
BOSA	**Boshof**	**124.28**	**113**	PKP		**PKPdf**		**11 56 38.9**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=344,slow=2.2,SNR=4.1								
STKA	**Stephens Creek**	**127.06**	**243**	PKP		**PKPdf**		**11 56 44.8**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=118,slow=1.4,SNR=5.4								
WRA	**Warramunga Arr**	**133.31**	**259**	PKP		**PKPdf**		**11 56 56.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=81,slow=2.2,SNR=9.6								
WRA				pPKP		**pPKPdf**		**11 57 33.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=70,slow=1.4,SNR=2.9								
PZH	**PanZhiHua**	**133.60**	**339**	PKP		**PKPdf**		**11 56 57.3**	**-0.1**
ASAR	**Alice Springs**	**133.94**	**254**	PKhKP		PKPpre		11 56 45.8	
	comp=Z,0.5nm,0.9s,baz=91,slow=1.9,SNR=2.4								
ASAR				PKP		**PKPdf**		**11 56 58.6**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=107,slow=2.0,SNR=4.2								
CMAR	**Chiang Mai Arr**	**141.99**	**338**	PKhKP		PKPpre		11 57 08.0	
	comp=Z,0.6nm,0.3s,baz=321,slow=2.4,SNR=5.1								
HYBB	**Hyderabad (bro**	**144.99**	**11**	*e*PKPbc		PKPbc		11 57 17.0	-0.7

IDC 17 12:00:47.4±4.1, 20.30N×143.02E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/58, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=119.6km s-min=78.5km az=67.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.72**	**346**	Pn	Pn	12 04 42.7	-0.3
	0.1nm,0.3s,baz=170,slow=10,SNR=2.8						
KSRS	**Korea Array**	**21.55**	**326**	P	P	12 05 39.2	+0.8
	0.7nm,0.5s,baz=148,slow=8.9,SNR=5.5						
SONM	**Songino Array**	**40.32**	**322**	P	P	12 08 26.3	-0.3
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**55.21**	**322**	P	P	12 10 20.4	-1.5
	0.8nm,0.4s,baz=79,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**55.53**	**313**	P	P	12 10 25.0	+0.6
	0.5nm,0.5s,baz=86,slow=9.0,SNR=9.2						
KURBB	**Kurchatov Arra**	**58.44**	**318**	P	P	12 10 44.6	-0.3
	1.3nm,0.5s,baz=94,slow=7.7,SNR=11						
BVAR	**Borovoye Array**	**63.63**	**320**	P	P	12 11 20.4	+0.2
	1.1nm,0.5s,baz=216,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	**84.36**	**335**	P	P	12 13 21.6	+0.4
	1.0nm,0.4s,baz=73,slow=4.5,SNR=13						

*KRNET **17** 12:04:56.8±0.1,41.19N×70.13E,h11km,mb2.5*
*SOME **17** 12:04:56.6,43.60N×69.45E*
*NNC **17** 12:05:01.6±1.5,43.82N×69.72E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=11.6km s-min=6.5km az=62.0, Suspected Mining explosion.*

ISC 17 12:04:51.5±1.6, 41.40N±0.06×69.80E±0.09, h0km, n11, σt1s92/16, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**1.01**	**82**	⇑*i*P	**Pn**	**12 05 13.0**	**-0.1**
	baz=70						
TRKS				⇑*i*S	**Sb**	**12 05 24.7**	**-1.3**
	baz=70						
BTK	**Batken**	**1.55**	**150**	⇑*i*P	**Pn**	**12 05 20.5**	**+0.1**
	baz=55						
BTK				⇑*i*S	**Sg**	**12 05 38.0**	**-3.2**
	baz=55						
ARK	**Arkit**	**1.67**	**76**	⇑*i*P	**Pg**	**12 05 25.4**	**+1.9**
	baz=65						
ARK				⇑*i*S	**Sg**	**12 05 46.3**	**+1.2**
	baz=65						
OHH	**Osh**	**2.42**	**110**	⇑*i*P	**Pb**	**12 05 35.6**	**-0.4**
	baz=7.0						
OHH				⇑*i*S	**Sn**	**12 06 03.8**	**+1.0**
	baz=7.0						
DRK	**Karamyk**	**2.45**	**141**	⇓*i*P	**Pb**	**12 05 35.9**	**-0.7**
	baz=43						
DRK				⇓*i*S	**Sn**	**12 06 04.7**	**+0.9**
	baz=43						
MRKS	**Merke**	**2.88**	**61**	Pg	Pg	12 05 52.1	+5.4
	4.2nm,0.4s						
MRKS				Lg	Lg	12 06 30.4	
	6.0nm,0.4s						
UCH	**Uchtor**	**3.62**	**75**	⇓*i*P	**Pb**	**12 05 54.2**	**-2.4**
	baz=71						
UCH				⇓*e*S	**Sn**	**12 06 36.1**	**+3.3**
	baz=71						
BTLS	**Baital**	**4.78**	**39**	Pg	**Pn**	**12 06 02.1**	**-2.7**
	0.9nm,0.3s						
BTLS				Lg	Lg	12 06 47.5	
	1.8nm,0.5s						
DGS	**Degeres**	**4.79**	**65**	Pg	**Pg**	**12 06 21.9**	**-1.4**
	1.7nm,0.2s						
DGS				Lg	Lg	12 07 21.4	
	2.5nm,0.5s						
KST	**Kastek**	**4.86**	**68**	Pg	**Pg**	**12 06 26.3**	**+1.7**
	1.5nm,0.3s						
KST				Lg	Lg	12 07 29.2	
	5.2nm,0.7s						
BRZS	**Berezniki**	**8.81**	**12**	Pg	**Pn**	**12 07 00.5**	**+0.4**
	1.5nm,0.1s						
BRZS				Lg	Lg	12 08 27.3	
	8.9nm,0.1s						

IDC 17 12:29:22.7±3.0, 7.53S×116.73E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/36, mbtmp3.3/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/20, Error ellipse: s-maj=181.5km s-min=23.9km az=54.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.63**	**141**	LR	LR	12 39 00.7	
	comp=Z,39nm,18.1s,baz=194,slow=42						
WRA	**Warramunga Arr**	**21.06**	**128**	P	P	12 34 08.8	+0.1
	0.2nm,0.5s,baz=300,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.00**	**136**	P	P	12 34 29.2	-0.1
	0.5nm,0.5s,baz=313,slow=9.2,SNR=11						
SONM	**Songino Array**	**55.87**	**352**	P	P	12 39 02.1	-0.1
	0.3nm,0.5s,baz=163,slow=7.0,SNR=2.3						
MKAR	**Makanchi Array**	**62.14**	**334**	P	P	12 39 45.8	+0.1
	0.4nm,0.9s,baz=126,slow=7.3,SNR=3.5						

*IDC **17** 12:37:40.2±1.6, 35.38N×23.73E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.3/38, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=47.2km s-min=26.1km az=142.0*
*THE **17** 12:37:43.9, 35.38N×23.57E, h8km±2km, ML3.4/8, Error ellipse: s-maj=2.9km s-min=0.6km az=136.0*
*ATH **17** 12:37:43.7, 35.36N×23.57E, h13km±1km, ML3.4/7, Error ellipse: s-maj=2.1km s-min=0.8km az=56.0*
*ISK **17** 12:37:44.3, 35.37N×23.64E, h8km, ML3.6/12*

ISC 17 12:37:43.7±0.8, 35.38N±0.02×23.58E±0.03, h14km±5km, n44, σt1s61/64, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.17**	**148**	P	**Pg**	**12 37 47.4**	**-0.3**
KNDR				S	**Sg**	**12 37 50.1**	**-0.3**
	13μm,0.3s						
KNDR	**Palaiochora Ch**	**0.17**	**148**	PG	**Pg**	**12 37 47.4**	**-0.3**
KNDR				SG	**Sg**	**12 37 50.2**	**-0.2**
RODP	**Rodopos**	**0.23**	**39**	P	**Pg**	**12 37 49.2**	**+0.5**
RODP				S	**Sg**	**12 37 53.3**	**+1.1**
	10μm,0.4s						
RODP	**Rodopos**	**0.23**	**39**	PG	**Pg**	**12 37 49.3**	**+0.5**
RODP				SG	**Sg**	**12 37 52.8**	**+0.6**
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pb**	**12 37 50.7**	**-0.8**
IMMV				S	**Sb**	**12 37 56.1**	**-0.8**
IMMV				AML	AML	12 38 01.0	
	comp=E,21246μm,0.3s						
IMMV				AML	AML	12 38 01.7	
	comp=N,23112μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	P	**Pb**	**12 37 50.5**	**-1.0**
IMMV				S	**Sb**	**12 37 55.9**	**-0.9**
	comp=N,11μm,0.3s						
IMMV	**Iera Moni Meta**	**0.34**	**76**	PG	**Pb**	**12 37 50.6**	**-1.0**
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**12 37 53.5**	**-0.2**
VAM				S	**Sb**	**12 38 01.0**	**-0.7**
VAM				AML	AML	12 38 04.0	
	comp=N,23097μm,0.2s						
VAM				AML	AML	12 38 05.1	
	comp=E,14098μm,0.2s						
VAM	**Vamos**	**0.51**	**87**	P	**Pg**	**12 37 53.5**	**-0.2**
VAM				S	**Sb**	**12 38 01.2**	**-0.5**
	comp=E,9μm,0.2s						
ANKY	**Antikythira Is**	**0.54**	**335**	P	**Pg**	**12 37 54.3**	**+0.1**
ANKY				S	**Sg**	**12 38 01.6**	**+0.2**
ANKY				AML	AML	12 38 04.2	
	comp=N,10654μm,0.4s						
ANKY				AML	AML	12 38 08.8	
	comp=E,6438μm,0.6s						
ANKY	**Antikythira Is**	**0.54**	**335**	P	**Pg**	**12 37 54.3**	**+0.1**
ANKY				S	**Sg**	**12 38 01.6**	**+0.2**
GVDS	**Gavdos**	**0.68**	**142**	P	**Pg**	**12 37 56.5**	**-0.4**
GVDS				S	**Sb**	**12 38 06.7**	**+0.1**
	comp=E,13μm,0.2s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pg**	**12 37 56.7**	**-0.3**
GVD				S	**Sg**	**12 38 05.7**	**-0.2**
GVD				AML	AML	12 38 10.1	
	comp=N,22183μm,0.4s						
GVD				AML	AML	12 38 10.5	
	comp=E,18129μm,0.3s						
GVD	**Gavdhos**	**0.68**	**142**	P	**Pg**	**12 37 56.8**	**-0.1**
GVD	**Gavdhos**	**0.68**	**142**	PG	**Pb**	**12 37 57.4**	**0.0**
GVD				SG	**Sb**	**12 38 06.7**	**0.0**
PRNS	**Prines Rethymn**	**0.76**	**91**	P	**Pg**	**12 37 56.8**	**-1.5**
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**12 38 02.1**	**-0.3**
KTHA				S	**Sg**	**12 38 14.9**	**-0.2**
KTHA				AML	AML	12 38 18.0	
	comp=N,2483μm,0.3s						
KTHA				AML	AML	12 38 18.5	
	comp=E,4499μm,0.5s						
KTHA	**Kythira Island**	**0.97**	**335**	P	**Pg**	**12 38 02.0**	**-0.4**
KTHA				S	**Sg**	**12 38 14.9**	**-0.2**
	comp=E,2μm,0.4s						
KTHR	**Kythira**	**1.00**	**332**	P	**Pg**	**12 38 02.2**	**-0.7**
KTHR				S	**Sg**	**12 38 16.3**	**+0.4**
	comp=E,2μm,0.3s						
SIVA	**Sivas**	**1.07**	**109**	P	**Pg**	**12 38 03.7**	**-0.7**
SIVA				S	**Sb**	**12 38 17.8**	**-0.1**
IDI	**Anoyia**	**1.08**	**94**	P	**Pg**	**12 38 03.6**	**-0.8**
IDI				AML	AML	12 38 23.6	
	comp=E,1659μm,0.2s						
IDI				AML	AML	12 38 28.9	
	comp=N,2265μm,0.4s						
IDI	**Anoyia**	**1.08**	**94**	P	**Pg**	**12 38 03.6**	**-0.8**
IDI				S	**Sn**	**12 38 20.3**	**+1.1**
	comp=N,945nm,0.4s						
IDI	**Anoyia**	**1.08**	**94**	PG	**Pb**	**12 38 04.2**	**+0.1**
IACM	**Heraklion**	**1.22**	**93**	P	**Pg**	**12 38 06.2**	**-1.0**
KSTL	**Kastelli Herak**	**1.22**	**93**	P	Pn	12 38 11.7	+5.3
KSTL				S	**Sn**	**12 38 31.7**	**+9.0**
HRKL	**Herakleio**	**1.25**	**93**	PN	**Pn**	**12 38 07.5**	**+0.8**
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**12 38 10.1**	**+0.8**
VLI				AML	AML	12 38 37.6	
	comp=N,880μm,0.7s						
VLI				AML	AML	12 38 39.1	
	comp=E,822μm,0.4s						
VLI	**Veliai**	**1.43**	**339**	P	**Pn**	**12 38 10.3**	**+1.0**
VLI				S	**Sn**	**12 38 29.6**	**+1.6**
MHLO	**Agia Marina, M**	**1.47**	**27**	P	**Pn**	**12 38 10.4**	**+0.6**
MHLO				S	**Sg**	**12 38 30.7**	**-0.3**
ZKR	**Zakros**	**2.18**	**96**	P	**Pb**	**12 38 22.1**	**-0.7**
ZKR	**Zakros**	**2.18**	**96**	PN	**Pb**	**12 38 21.3**	**-1.6**
ITM	**Ithomi**	**2.24**	**324**	P	**Pn**	**12 38 23.4**	**+3.0**
ITM	**Ithomi**	**2.24**	**324**	PN	**Pn**	**12 38 23.3**	**+3.0**
APE	**Apeiranthos**	**2.31**	**43**	PN	**Pb**	**12 38 23.6**	**-1.6**
KARP	**Karpathos**	**2.93**	**86**	PN	**Pn**	**12 38 31.8**	**+1.9**
KOSK	**Kos Island**	**3.08**	**63**	PN	**Pn**	**12 38 33.9**	**+2.0**
BODT	**Bodrum**	**3.45**	**60**	PN	**Pn**	**12 38 38.7**	**+1.6**
DAT	**Datca**	**3.51**	**66**	PN	**Pn**	**12 38 39.7**	**+1.7**
CHOS	**Chios island**	**3.60**	**33**	PN	**Pn**	**12 38 41.5**	**+2.4**
BRTR	**Keskin Array B**	**9.09**	**59**	Pn	**Pn**	**12 39 52.5**	**-2.1**
	comp=E,0.1nm,0.3s,baz=243,slow=14,SNR=2.2						
BRTR				Lg	Lg	12 42 16.6	
	comp=E,0.3nm,0.3s,baz=252,slow=26,SNR=4.5						
GERES	**GERESS Array B**	**15.30**	**335**	Pn	**Pn**	**12 41 19.0**	**-0.3**
	baz=145,slow=11,SNR=1.4						
TORD	**Torodi Ar. Bea**	**29.66**	**227**	P	**P**	**12 43 48.4**	**-0.6**
	comp=E,0.6nm,0.6s,baz=34,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**44.73**	**57**	P	**P**	**12 45 54.6**	**-1.9**
	comp=E,0.3nm,0.4s,baz=276,slow=7.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**45.79**	**46**	P	**P**	**12 46 02.5**	**-2.2**
	comp=E,0.3nm,0.3s,baz=260,slow=7.2,SNR=2.1						

*SKHL **17** 12:51:48.5±0.2, 42.10N×144.80E, h46km±3km, mb4.8/4*
*MOS **17** 12:51:48.3±0.9, 42.23N×144.69E, h46km, mb4.5/4, Error ellipse: s-maj=11.7km s-min=7.0km az=77.3*
*JMA **17** 12:51:49.4, 42.39N×144.61E, h26km±1km, M3.8*
*NIED **17** 12:51:49.5, 42.39N×144.61E, h26km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr4.63; Mθθ-0.18; Mφφ-4.45; Mrθ-0.02; Mθφ-1.09; Mφr4.23; Fault plane solution: M0 6.30000×10^14 NP1:δs4.00000°, δ66.00000°, λ82.00000°. NP2:δs203.00000°, δ25.00000°, λ107.00000°.*
*IDC **17** 12:51:52.2±2.6, 42.29N×144.58E, h59km±22km, mb3.3/13, mb1 3.6/17, mb1mx3.4/55, mbtmp3.6/17, ML3.0/4, MS2.8/3, Ms1 2.8/3, ms1mx2.5/36 Error ellipse: s-maj=19.6km s-min=16.0km az=126.0*

ISC 17 12:51:48.6±1.8, 42.28N±0.06×144.70E±0.05, h28km±12km, n64, σt1s29/70, mb3.6/15, 6C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.72**	**360**	⇑P	**Pn**	**12 52 01.5**	**-1.4**
JAK				*e*S	**Sb**	**12 52 10.5**	**-1.5**
AKK	**Akkeshi**	**0.74**	**8**	*e*P	**Pn**	**12 52 02.2**	**-1.1**
JKHN	**Kushirohamanak**	**0.87**	**23**	P	**Pn**	**12 52 04.7**	**-0.3**
JOB	**Onbets**	**0.89**	**315**	⇑P	**Pn**	**12 52 04.2**	**-1.1**
JTHR	**Tokachihiroo**	**1.04**	**271**	⇑P	**Pn**	**12 52 07.2**	**-0.1**
JCH	**Churui**	**1.04**	**289**	⇑P	**Pn**	**12 52 06.9**	**-0.5**
JCH				*e*S	**Sn**	**12 52 19.8**	**-1.2**
JEM	**Erimo**	**1.18**	**258**	P	**Pn**	**12 52 09.8**	**+0.6**
ERM	**Erimo**	**1.18**	**258**	*i* PN	**Pn**	**12 52 09.5**	**+0.3**
JAR	**Ashorobuto**	**1.23**	**326**	⇑P	**Pn**	**12 52 08.5**	**-1.4**
JNK	**Nakash**	**1.30**	**1**	⇑P	**Pn**	**12 52 09.5**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.33**	**34**	*e*PN	**Pn**	**12 52 10.7**	**-0.6**
NMR				*e*S	**Sn**	**12 52 28.7**	**+0.7**
NMR	**Nemuro--Hokkai**	**1.33**	**34**	*e*P	**Pn**	**12 52 11.0**	**-0.3**
NMR				*e*S	**Sn**	**12 52 27.6**	**-0.4**
NEM2	**Nemuro 2**	**1.33**	**35**	P	**Pn**	**12 52 11.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.44**	**271**	P	**Pn**	**12 52 12.3**	**-0.6**
GLVR	**Golovnino**	**1.58**	**22**	*e*PN	**Pn**	**12 52 15.0**	**+0.3**
GLVR				*e*S	**Sb**	**12 52 36.4**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,429nm,0.3s						
GLVR				pmax	pmax		
	comp=N,196nm,0.2s						
GLVR				pmax	pmax		
	comp=E,166nm,0.1s						
GLVR				smax	smax		
	comp=E,833nm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR	**Golovnino**	**1.58**	**22**	*e*P	**Pn**	**12 52 15.0**	**+0.3**
GLVR				AMB	AMB	12 52 17.6	
	comp=N,430nm,0.3s						
GLVR				*e*S	**Sb**	**12 52 36.4**	**-0.2**
GLVR				A	A	12 52 39.0	
	comp=N,3μm,0.5s						
GLVR				A	A	12 52 39.0	
	comp=N,830nm,0.5s						
RUSJ	**Misakicho**	**1.87**	**12**	*e*PN	**Pn**	**12 52 19.5**	**+0.8**
RUSJ				*e*S	**Sn**	**12 52 42.1**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.95**	**25**	*e*PN	**Pn**	**12 52 20.2**	**+0.4**
YUK				*e*S	**Sn**	**12 52 44.4**	**+1.0**
YUK				pmax	pmax		
	comp=N,115nm,0.2s						
YUK				pmax	pmax		
	comp=Z,366nm,0.2s						
YUK				pmax	pmax		
	comp=E,127nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.95**	**25**	*e*P	**Pn**	**12 52 20.3**	**+0.4**
YUK				AMB	AMB	12 52 21.9	
	comp=E,230nm,0.4s						
YUK				*e*S	**Sn**	**12 52 44.1**	**+0.7**
YUK				A	A	12 52 46.6	
	comp=E,1μm,0.5s						
YUK				A	A	12 52 46.6	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**2.23**	**44**	*e*PN	**Pn**	**12 52 24.3**	**+0.7**
SHO				*e*S	**Sn**	**12 52 50.4**	**+0.2**
SHO				pmax	pmax		
	comp=Z,85nm,0.2s						
SHO				pmax	pmax		
	comp=N,25nm,0.3s						
SHO				pmax	pmax		
	comp=E,33nm,0.2s						
SHO				smax	smax		
	comp=N,538nm,0.4s						
SHO				smax	smax		
	comp=E,341nm,0.4s						
SHO	**Shikotan**	**2.23**	**44**	*e*P	**Pn**	**12 52 24.3**	**+0.7**
SHO				AMB	AMB	12 52 27.0	
	comp=E,90nm,0.3s						
SHO				*e*S	**Sn**	**12 52 50.0**	**-0.2**
SHO				A	A	12 52 53.4	
	comp=E,540nm,0.4s						
SHO				A	A	12 52 53.4	
	comp=E,340nm,0.4s						
JKA	**Kamikawa-asahi**	**2.39**	**321**	*e*P	**Pn**	**12 52 26.6**	**+0.7**
ASAJ	**Asahikawa**	**2.39**	**321**	P	**Pn**	**12 52 26.6**	**+0.7**
	comp=E,8.5nm,0.3s,baz=145,slow=20,SNR=81						
ASAJ				S	**Sn**	**12 52 56.7**	**+2.3**
	comp=E,25nm,0.3s,baz=101,slow=27,SNR=3.9						
ASAJ				LR	LR	12 53 30.7	
	comp=E,108nm,21.3s,baz=162,slow=42						
KUR	**Kuril'sk**	**3.74**	**37**	*e*PN	**Pn**	**12 52 44.8**	**+0.4**
KUR				*e*S	**Sn**	**12 53 26.7**	**-0.8**
KUR				pmax	pmax		
	comp=Z,102nm,0.5s						
KUR				pmax	pmax		
	comp=N,27nm,0.3s						
KUR				pmax	pmax		
	comp=E,34nm,0.3s						
KUR				smax	smax		
	comp=N,87nm,0.4s						
KUR				smax	smax		
	comp=E,129nm,0.4s						
KUR	**Kuril'sk**	**3.74**	**37**	*e*P	**Pn**	**12 52 44.8**	**+0.4**
KUR				AMB	AMB	12 52 47.0	
	comp=E,100nm,0.5s						
KUR				*e*S	**Sn**	**12 53 27.2**	**-0.3**
KUR				A	A	12 53 33.3	
	comp=E,90nm,0.4s						
KUR				A	A	12 53 33.3	
	comp=E,130nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.88**	**344**	*e*PN	**Pn**	**12 53 02.7**	**+2.7**
YSS	**Yuzh-Sakhalins**	**4.88**	**344**	*e*P	**Pn**	**12 53 02.5**	**+2.5**
YSS				AMB	AMB	12 53 03.2	
	comp=E,10.0nm,0.4s						
MAJO	**Matsushiro**	**7.62**	**223**	*i* PN	**Pn**	**12 53 37.7**	**-0.1**
MJAR	**Matsushiro Arr**	**7.62**	**223**	P	**Pn**	**12 53 39.1**	**+1.3**
	comp=E,0.1nm,0.3s,baz=24,sl

	comp=Z,0.3nm,0.9s,baz=8.1,slow=6.6,SNR=1.2							
FINES	**FINESS Array B**	**65.35**	**332**	P		**P**	**13 02 27.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=52,slow=6.6,SNR=8.8							
FINES	**FINESS Array B**	**65.35**	**332**	*i* P		**P**	**13 02 27.8**	**-0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**69.89**	**56**	P		**P**	**13 02 56.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=302,slow=5.2,SNR=1.8							
PDAR	**Pinedale Array**	**72.23**	**48**	P		**P**	**13 03 12.0**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=2.7,slow=2.0,SNR=5.6							
TXAR	**Lajitas Array**	**84.96**	**55**	P		**P**	**13 04 21.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=317,slow=3.8,SNR=2.2							
H03N2	**Juan Fernandez**	**144.76**	**90**	T		T	15 53 13.9	
	baz=301,slow=76,SNR=5.5							
H03N3	**Juan Fernandez**	**144.78**	**90**	T		T	15 53 09.6	
	baz=301,slow=76,SNR=5.8							
H03N1	**Juan Fernandez**	**144.78**	**90**	T		T	15 53 08.5	
	baz=301,slow=76,SNR=8.3							

IDC ***17*** *13:03:01.6±0.5,6˚.54S×104˚.35E,h0km,mb4.5/23, mb1 4.6/24,mb1mx4.3/55,mbtmp4.5/24,ML4.3/1,MS3.4/18, Ms1 3.4/18,ms1mx3.2/78,Error ellipse: s-maj=16.9km s-min=11.6km azr=42.0*

BJI ***17*** *13:07:07.0±0.0,6˚.70S×104˚.20E,h60km,mb4.6/37, mB5.0/23,Ms4.2/7,Ms7 3.8/6*

NEIC ***17*** *13:07:08.3±2.4,6˚.68S±0˚.07×104˚.22E±0˚.06,h51km±6km, mb4.9/44,Error ellipse: s-maj=12.5km s-min=2.5km azr=221.0*

DJA ***17*** *13:03:09.5±0.3,7˚S±2˚×10˚4E± ˚,h59km±3km,M5.0/43, mb5.3/43,mB5.5/27,MLv5.2/30,Mw(mB)5.0/27*

ISC 17 13:03:07.6±0.4, 6.75S±0.05×104.24E±0.05, h48km, n199, σ2s 03/197, mb4.7/57, MS3.5/20, 1C-1D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.24**	**12**	P	**Pn**	**13 03 30.6**	**+2.0**
KASI				S	**Sn**	**13 03 45.5**	**+1.3**
CGJI	**Cibinong**	**1.45**	**85**	P	**Pn**	**13 03 33.3**	**+1.9**
CGJI				S	**Sn**	**13 03 49.3**	**-0.1**
BLSI	**Bandar Lampung**	**1.70**	**36**	P	**Pn**	**13 03 36.6**	**+1.8**
BLSI				S	**Sn**	**13 03 56.1**	**+0.7**
LWLI	**Liwa**	**1.73**	**354**	P	**Pn**	**13 03 37.6**	**+2.3**
LWLI				S	**Sn**	**13 03 58.6**	**+2.4**
KLI	**Kotabumi**	**1.97**	**18**	P	**Pn**	**13 03 40.7**	**+2.1**
KLSI		**2.10**	**14**	P	**Pn**	**13 03 42.3**	**+1.9**
MDSI	**Maura Dua**	**2.25**	**359**	P	**Pn**	**13 03 44.3**	**+2.0**
SKJI	**Sukabumi**	**2.32**	**96**	P	**Pn**	**13 03 45.5**	**+2.2**
TNG	**Tangerang**	**2.46**	**77**	P	**Pn**	**13 03 46.9**	**+1.6**
TNG				P	**Pn**	**13 03 48.2**	**+2.9**
DBJI	**Dramaga**	**2.50**	**86**	P	**Pn**	**13 03 48.1**	**+2.2**
CBJI	**Citeko**	**2.62**	**83**	P	**Pn**	**13 03 51.1**	**+3.7**
MNAI	**Manna**	**2.69**	**332**		**Pn**	**13 03 50.7**	**+2.2**
MNAI	**Manna**	**2.69**	**332**	P	**Pn**	**13 03 50.9**	**+2.4**
CNJI	**Cibinong**	**2.93**	**101**	P	**Pn**	**13 03 53.1**	**+1.5**
LEM	**Lembang**	**3.36**	**92**	Pn	**Pn**	**13 04 00.6**	**+2.8**
	446nm,0.3s,baz=328,slow=4.0,SNR=130						
LEM				Sn	**Sn**	**13 04 37.0**	**+0.5**
	93nm,0.3s,baz=198,slow=17,SNR=3.6						
LEM				LR	LR	13 05 07.5	
	comp=Z,435nm,18.7s,baz=222,slow=39						
LEM	**Lembang**	**3.36**	**92**	P	**Pn**	**13 04 00.9**	**+3.2**
KSI	**Kapahiang**	**3.48**	**332**	P	**Pn**	**13 04 01.7**	**+2.3**
PMBI	**Palembang**	**3.83**	**8**	P	**Pn**	**13 04 06.5**	**+2.4**
XMIS	**Christmas Isla**	**3.96**	**159**	Pn	**Pn**	**13 04 05.4**	**-0.6**
JCJI	**Jatiwangi**	**4.02**	**87**	P	**Pn**	**13 04 09.4**	**+2.8**
MASI	**Maura Aman, Be**	**4.10**	**331**	P	**Pn**	**13 04 10.3**	**+2.5**
CMJI	**Cimerak**	**4.30**	**104**	P	**Pn**	**13 04 12.3**	**+1.7**
KPJI	**Karang Pucung**	**4.70**	**97**	P	**Pn**	**13 04 19.1**	**+3.1**
KPJI				S	**Pn**	**13 04 19.2**	**+3.2**
PPBI	**Pangkal Pinang**	**4.93**	**23**	P	**Pn**	**13 04 21.3**	**+2.1**
KRJI	**Kerinci**	**5.39**	**329**	P	**Pn**	**13 04 27.9**	**+2.3**
	2.0nm7µm529nm,0.9s						
PPSI	**Pulau Pagai**	**5.78**	**313**	P	**Pn**	**13 04 32.1**	**+1.3**
	2.5nm10µm316nm,0.6s						
YOGI	**Yogyakarta**	**6.10**	**100**	P	**Pn**	**13 04 38.0**	**+2.7**
	1.7nm5µm485nm,0.7s						
SMRI	**Semarang**	**6.17**	**93**		**Pn**	**13 04 39.3**	**+3.1**
SMRI	**Semarang**	**6.17**	**93**	P	**Pn**	**13 04 39.9**	**+3.7**
	1.3nm379nm,0.6s						
DSRI	**Dabo**	**6.24**	**3**	P	**Pn**	**13 04 39.2**	**+2.1**
	0.2nm34nm,0.6s						
UGM	**Wanagama**	**6.34**	**101**	Pn	**Pn**	**13 04 40.6**	**+2.0**
UGM	**Wanagama**	**6.34**	**101**	P	**Pn**	**13 04 41.0**	**+2.4**
	6.3nm23µm1µm,0.5s						
UWJI	**Ujung Watu**	**6.68**	**88**	P	**Pn**	**13 04 45.9**	**+2.7**
	0.9nm3µm247nm,0.8s						
PCJI	**Pacitan**	**7.03**	**102**	P	**Pn**	**13 04 50.3**	**+2.3**
	3.4nm13µm1µm,0.7s						
SISI	**Saibi**	**7.44**	**316**	P	**Pn**	**13 04 54.6**	**+1.0**
	0.5nm1µm51nm,0.6s						
TBJI	**Tambak Boyo**	**7.56**	**91**	P	**Pn**	**13 04 58.7**	**+3.4**
	0.7nm158nm,0.6s						
PWJI	**Pagerwojo**	**7.61**	**100**	P	**Pn**	**13 04 58.4**	**+2.4**
	3.9nm10µm1µm,0.7s						
GRJI	**Gresik**	**8.19**	**92**	P	**Pn**	**13 05 06.6**	**+2.7**
	13µm1µm,0.7s						
PBKI	**Pangkalan Bun**	**8.43**	**62**	P	**Pn**	**13 05 11.6**	**+4.4**
	0.5nm82nm,0.6s						
GMJI	**Gumukmas**	**9.26**	**100**	P	**Pn**	**13 05 19.1**	**+0.6**
	3µm97nm,0.9s						
BLJI	**Banyuglugur**	**9.34**	**97**	P	**Pn**	**13 05 22.1**	**+2.4**
	3µm179nm,0.5s						
STKI	**Sintang**	**9.90**	**47**	P	**Pn**	**13 05 30.1**	**+2.7**
ABJI	**Asem Bagus**	**9.97**	**97**	P	**Pn**	**13 05 31.3**	**+2.9**
	7µm740nm,0.8s						
JAGI	**Jajag, Banyuwa**	**9.98**	**101**	Pn	**Pn**	**13 05 28.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**9.98**	**101**	P	**Pn**	**13 05 30.1**	**+1.7**
	6µm249nm,1.0s						
GSI	**Gunungsitoli**	**10.40**	**320**	Pn	**Pn**	**13 05 33.0**	**-1.2**
GSI	**Gunungsitoli**	**10.40**	**320**	P	**Pn**	**13 05 34.6**	**+0.4**
	37nm,0.4s						
SRBI	**Singaraja**	**10.97**	**98**	P	**Pn**	**13 05 43.9**	**+1.9**
	3µm265nm,0.6s						
IGBI	**Denpasar**	**11.00**	**101**	P	**Pn**	**13 05 42.8**	**+0.3**
	4µm123nm,0.5s						
DNP	**Denpasar**	**11.04**	**101**	P	**Pn**	**13 05 44.8**	**+1.8**
BBKI	**Banjar Baru**	**11.05**	**73**	P	**Pn**	**13 05 45.9**	**+2.7**
	17nm,0.7s						
MTKI	**Muara Teweh, K**	**12.10**	**62**	P	**Pn**	**13 06 00.3**	**+2.9**
PLAI	**Plampang**	**13.57**	**100**	P	**Pn**	**13 06 15.5**	**-2.1**
	3µm290nm,0.7s						
WBSI	**Waikabubak, Su**	**15.27**	**102**	P	**Pn**	**13 06 34.7**	**-5.6**
	87nm,0.8s						
KAPI	**Kappang**	**15.53**	**84**	Pn	**Pn**	**13 06 40.5**	**-3.0**
	1.3nm,0.3s,baz=262,slow=13,SNR=3.6						
KAPI				LR	LR	13 13 21.3	
	comp=Z,92nm,21.6s,baz=256,slow=40						
SPSI	**Sidrap Palu**	**15.71**	**81**	P	**Pn**	**13 06 46.1**	**+0.3**
	30nm,0.9s						
BKSI	**Bukukumba**	**15.86**	**86**	P	**Pn**	**13 06 48.0**	**+0.2**
	650nm74nm,1.0s						
TTSI	**Tana Toraja**	**15.95**	**77**	P	**P**	**13 06 50.5**	**-1.3**
	944nm63nm,0.9s						
BNSI	**Bone**	**15.97**	**82**	P	**P**	**13 06 51.0**	**-1.0**
	1µm110nm,1.1s						
MPSI	**Mapaga**	**17.14**	**66**	P	**P**	**13 07 05.0**	**0.0**
	1µm80nm,1.0s						
KKM	**Kota Kinabalu**	**17.45**	**44**	P	**Pn**	**13 07 07.5**	**-0.2**
MMRI	**Maumere**	**17.94**	**97**	P	**Pn**	**13 07 11.3**	**-2.4**
MMRI	**Maumere**	**17.94**	**97**	P	**P**	**13 07 14.6**	**+0.8**
	4µm341nm,0.8s						
TOLI2	**Tolitoli**	**18.27**	**65**		**Pn**	**13 07 17.9**	**+0.2**
TOLI2				IAmb	IAmb	13 07 22.6	
	comp=Z,54nm,0.8s						
APSI	**Ampana**	**18.31**	**72**	P	**Pn**	**13 07 19.8**	**+1.6**
	comp=Z,2µmcomp=Z,229nm,1.1s						
GIRL	**Giralia**	**18.51**	**150**	P	**Pn**	**13 07 20.9**	**+0.2**
GIRL				IAmb	IAmb	13 07 39.5	
	comp=Z,182nm,1.2s						
MYLDM	**Lahad Datu**	**18.52**	**51**		**Pn**	**13 07 22.5**	**+1.7**
MYLDM				IAmb	IAmb	13 07 24.0	
	comp=Z,76nm,0.7s						
MRSI	**Marisa**	**19.07**	**69**	P	**P**	**13 07 26.0**	**-0.2**
	comp=Z,1µmcomp=Z,135nm,0.8s						
LUWI	**Luwuk**	**19.34**	**74**	P	**Pn**	**13 07 31.1**	**+0.5**
	comp=Z,4µmcomp=Z,180nm,1.0s						
GTOI	**Gorontalo**	**20.12**	**69**	P	**P**	**13 07 37.6**	**-0.1**
	comp=Z,330nmcomp=Z,33nm,0.6s						
PSA00	**Pilbara Seismi**	**21.09**	**136**	P	**P**	**13 07 47.1**	**-1.1**
PSA00	**Pilbara Seismi**	**21.09**	**136**	P	**P**	**13 07 48.8**	**+0.6**
PSA00				IAmb	IAmb	13 08 14.4	
	comp=Z,29nm,1.2s						
UBPT	**Khong Chiam**	**21.92**	**3**	P	**P**	**13 07 54.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**23.72**	**120**	P	**P**	**13 08 15.2**	**-0.2**
	comp=Z,7.2nm,0.7s,baz=286,slow=6.3,SNR=15						
FITZ				S	**S**	**13 12 30.2**	**+2.8**
	comp=Z,1.8nm,0.7s,baz=256,slow=20,SNR=1.3						
FITZ				LR	LR	13 18 13.1	
	comp=Z,60nm,20.1s,baz=282,slow=38						
FITZ	**Fitzroy Crossi**	**23.72**	**120**	P	**P**	**13 08 16.1**	**+0.7**
	baz=23,SNR=9.6						
FITZ				S	**S**	**13 12 36.1**	**+8.7**
	baz=23						
FITZ	**Fitzroy Crossi**	**23.72**	**120**	P	**P**	**13 08 16.3**	**+0.9**
FITZ				IAmb	IAmb	13 08 17.6	
	comp=Z,20nm,1.2s						
LBMI	**Labuha**	**23.99**	**76**	P	**P**	**13 08 17.1**	**-0.9**
	comp=Z,33nm,1.0s						
CMAR	**Chiang Mai Arr**	**25.58**	**348**	P	**P**	**13 08 31.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=183,slow=8.3,SNR=8.5						
KNRA	**Kununurra**	**25.62**	**112**	P	**P**	**13 08 32.6**	**-0.1**
	baz=25,SNR=25						
KNRA	**Kununurra**	**25.62**	**112**	P	**P**	**13 08 32.6**	**-0.1**
QIZ	**Qiongzhong**	**26.20**	**12**	P	**P**	**13 08 37.8**	**-0.2**
QIZ				S	**S**	**13 13 07.3**	**+0.4**
QIZ				LR	LR		
	comp=Z,170nm,15.7s						
QIZ				LR	LR		
	comp=Z,130nm,21.1s						
TGY	**Tagaytay City**	**26.53**	**39**	P	**P**	**13 08 38.9**	**-2.2**
	comp=Z,123nm,0.4s,baz=30,slow=16,SNR=3.7						
MTN	**Manton Dam**	**27.17**	**105**	P	**P**	**13 08 47.7**	**+0.9**
	baz=27,SNR=14						
MTN	**Manton Dam**	**27.17**	**105**	P	**P**	**13 08 45.8**	**-1.1**
PALK	**Pallekele**	**27.30**	**300**	LR	LR	13 19 04.3	
	comp=Z,64nm,18.6s,baz=236,slow=35						
SIJI	**Sorong**	**27.58**	**79**	P	**P**	**13 08 47.8**	**-2.8**
	comp=Z,12nm,0.6s,baz=278,slow=20,SNR=5.7						
SIJI				LR	LR	13 19 55.0	
	comp=Z,20nm,20.3s,baz=144,slow=37						
KDU	**Kakadu**	**28.43**	**104**	P	**P**	**13 08 57.0**	**-1.2**
	baz=28,SNR=32						
WRKA	**Warakurna**	**29.34**	**131**	P	**P**	**13 09 06.8**	**+0.7**
	baz=29,SNR=3.7						
H01W3	**Cape Leeuwin H**	**29.45**	**163**	T	T	13 40 43.7	
	baz=342,slow=76,SNR=44						
H01W2	**Cape Leeuwin H**	**29.46**	**163**	T	T	13 40 43.8	
	baz=342,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**29.46**	**163**	T	T	13 40 37.0	
	baz=342,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**31.50**	**266**	T	T	13 43 18.7	
	baz=89,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**31.51**	**266**	T	T	13 43 18.7	
	baz=89,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**31.52**	**266**	T	T	13 43 20.9	
	baz=89,slow=76,SNR=9.9						
WB0	**Warramunga Arr**	**32.01**	**117**	P	**P**	**13 09 30.3**	**+0.6**
WB0				IAmb	IAmb	13 09 31.0	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**32.02**	**117**	P	**P**	**13 09 29.9**	**+0.1**
	comp=Z,6.1nm,0.5s,baz=291,slow=7.3,SNR=150						
WRA				PP	PnPn	13 10 20.5	-16
	comp=Z,4.4nm,0.6s,baz=286,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**32.02**	**117**	P	**P**	**13 09 30.1**	**+0.3**
WRAB	**Tennant Creek**	**32.02**	**117**	P	**P**	**13 09 30.4**	**+0.6**
WRAB				IAmb	IAmb	13 09 31.3	
	comp=Z,20nm,0.7s						
WB2	**Warramunga Arr**	**32.03**	**117**	P	**P**	**13 09 30.4**	**+0.5**
WB2				IAmb	IAmb	13 09 31.3	
	comp=Z,20nm,0.6s						
WR0	**Warramunga Arr**	**32.20**	**117**	P	**P**	**13 09 32.2**	**+0.8**
FORT	**Forrest**	**32.72**	**140**	P	**P**	**13 09 34.8**	**-1.0**
FORT				IAmb	IAmb	13 09 41.6	
	comp=Z,46nm,1.4s						
AS31	**Alice Springs**	**33.09**	**124**	P	**P**	**13 09 39.5**	**+0.3**
AS31				IAmb	IAmb	13 09 52.1	
	comp=Z,5.0nm,0.4s						
ASAR	**Alice Springs**	**33.09**	**124**	P	**P**	**13 09 39.6**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=307,slow=8.8,SNR=78						
ASAR				PP	**PnPn**	**13 10 42.5**	**-7.5**
	comp=Z,2.5nm,0.6s,baz=313,slow=14,SNR=7.1						
ASAR				LR	LR	13 23 17.9	
	comp=Z,78nm,20.9s,baz=312,slow=37						
ASAR	**Alice Springs**	**33.09**	**124**	P	**P**	**13 09 40.5**	**+1.3**
PZH	**PanZhiHua**	**33.14**	**356**	P	**P**	**13 09 41.9**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,50nm,4.5s						
TWG	**Pinlang**	**33.69**	**29**	P	**P**	**13 09 42.7**	**-1.6**
TWG				IAmb	IAmb	13 09 46.4	
	comp=Z,28nm,1.4s						
TPUB	**Ta-pu**	**33.89**	**28**	P	**P**	**13 09 44.7**	**-1.3**
NACB	**Ninganchiao**	**35.09**	**28**	P	**P**	**13 09 53.5**	**-2.9**
NACB				IAmb	IAmb	13 10 14.9	
	comp=Z,17nm,0.9s						
YHNB	**Yeheng**	**35.41**	**28**	P	**P**	**13 09 58.9**	**-0.4**
YHNB				IAmb	IAmb	13 10 20.7	
	comp=Z,33nm,1.5s						
YOJ	**Yonaguni jima**	**36.02**	**30**	P	**P**	**13 10 02.1**	**-2.2**
QIS	**Mount Isa**	**36.90**	**115**	P	**P**	**13 10 12.8**	**+0.8**
	baz=36,SNR=12						
TAPN	**Taplejung**	**37.48**	**335**	*e*P	**P**	**13 10 18.2**	**+1.1**
JIRN	**Jiri**	**38.40**	**334**	*e*P	**P**	**13 10 25.4**	**+0.4**
	comp=Z,9.9nm,0.5s						
GUN	**Gumba**	**38.75**	**334**	*e*P	**P**	**13 10 29.2**	**+1.3**
COEN	**Coen**	**38.93**	**104**	P	**P**	**13 10 28.5**	**-0.6**
COEN				IAmb	IAmb	13 10 29.3	
	comp=Z,20nm,0.7s						
BBOO	**Buckleboo**	**39.32**	**136**	P	**P**	**13 10 32.5**	**+0.2**
BBOO				IAmb	IAmb	13 10 52.7	
	comp=Z,19nm,1.3s						
KOLN	**Koldanda**	**39.69**	**331**	*e*P	**P**	**13 10 37.7**	**+2.1**
	comp=Z,8.0nm,0.5s						
DANN	**Dangsing**	**40.10**	**331**	*e*P	**P**	**13 10 39.6**	**+0.5**
	comp=Z,11nm,0.5s						
PYUN	**Piuthan**	**40.26**	**330**	*e*P	**P**	**13 10 41.9**	**+1.6**
	comp=Z,8.3nm,0.4s						
MTSU	**Mount Surprise**	**40.65**	**110**	P	**P**	**13 10 44.4**	**+1.0**
	baz=40,SNR=21						
XAN	**Xi'an**	**40.80**	**6**	P	**P**	**13 10 43.8**	**-0.7**
XAN				S	**S**	**13 16 57.5**	**+5.3**
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN				LR	LR		
	comp=Z,160nm,15.7s						
XAN				LR	LR		
	comp=Z,160nm,5.1s						
NJ2	**Nanjing**	**41.02**	**19**	*e*P	**P**	**13 10 47.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HTT	**Hallett**	**41.67**	**134**	P	**P**	**13 10 53.8**	**+2.1**
	baz=41,SNR=3.6						
PMG	**Port Moresby**	**42.56**	**97**	P	**P**	**13 10 58.9**	**-0.3**
	comp=Z,41nm,0.8s,baz=271,slow=6.6,SNR=12						
PMG	**Port Moresby**	**42.56**	**97**	P	**P**	**13 10 57.8**	**-1.4**
CTA	**Charters Tower**	**42.83**	**112**	P	**P**	**13 11 01.9**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=278,slow=12,SNR=7.4						
CTA				LR	LR	13 29 34.6	
	comp=Z,51nm,21.8s,baz=267,slow=37						
QLP	**Quilpie**	**42.84**	**122**	P	**P**	**13 11 03.4**	**+2.1**
	baz=42,SNR=24						
STKA	**Stephens Creek**	**42.87**	**131**	P	**P**	**13 11 02.8**	**+1.4**
	comp=Z,12nm,0.8s,baz=301,slow=8.8,SNR=22						
STKA				LR	LR	13 30 50.3	
	comp=Z,41nm,18.6s,baz=272,slow=39						
STKA	**Stephens Creek**	**42.87**	**131**	P	**P**	**13 11 03.3**	**+1.9**
	baz=42,SNR=17						
STKA	**Stephens Creek**	**42.87**	**131**	P	**P**	**13 11 03.0**	**+1.6**
GOMU	**GeErMu**	**43.62**	**349**	P	**P**	**13 11 09.0**	**+1.2**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,90nm,5.0s						
CMSA	**Cobar Meteorol**	**45.87**	**128**	P	**P**	**13 11 27.5**	**+2.1**
	baz=45,SNR=24						
GTA	**Gaotai**	**46.11**	**355**	*e*P	**P**	**13 11 27.9**	**+0.7**
GTA				sP	sP	13 11 50.1	+5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,74nm,6.6s						
GTA				LR	LR		
	comp=Z,81nm,16.4s						
GTA				LR	LR		
	comp=Z,120nm,14.5s						
GTA				LR	LR		
	comp=Z,79nm,15.6s						
RMQ	**Roma**	**46.65**	**120**	P	**P**	**13 11 34.0**	**+2.3**
	baz=46,SNR=7.1						
JNU	**Nakatsue**	**47.04**	**31**	P	**P**	**13 11 33.3**	**-1.3**
JNU				IAmb	IAmb	13 11 34.7	
	comp=Z,21nm,1.1s						
HHC	**Hu-ho-hao-te**	**47.84**	**8**	*e*P	**P**	**13 11 42.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,90nm,4.8s						
BJI	**Beijing**	**47.84**	**12**	P	**P**	**13 11 40.3**	**-0.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EIDS	**Eidsvold**	**48.37**	**118**	P	**P**	**13 11 46.4**	**+1.4**
	baz=48,SNR=3.6						
EIDS	**Eidsvold**	**48.37**	**118**	P	**P**	**13 11 44.5**	**-0.6**
EIDS				IAmb	IAmb	13 12 07.8	
	comp=Z,12nm,1.1s						
JMN	**Monobe**	**49.09**	**33**	P	**P**	**13 11 48.4**	**-2.0**
JMN				IAmb	IAmb	13 11 50.2	
	comp=Z,22nm,1.2s						
KSRS	**Korea Array**	**49.22**	**25**	P	**P**	**13 11 50.5**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=226,slow=7.6,SNR=20						
JHS	**Saijyo**	**49.66**	**31**	P	**P**	**13 11 53.5**	**-1.3**
CAN	**Canberra**	**49.92**	**131**	P	**P**	**13 11 57.5**	**+0.7**
ARMA	**Armidale**	**50.24**	**124**	P	**P**	**13 12 02.1**	**+2.7**
	baz=50,SNR=5.0						
WMQ	**Urumqi**	**52.51**	**345**	*e*P	**P**	**13 12 17.1**	**+1.1**
KSH	**Kashi**	**52.94**	**333**	P	**P**	**13 12 18.0**	**-1.3**
KSH				pP	pwP	13 12 35.5	+0.9
KSH				sP	sP	13 12 40.8	+3.6
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJAR	**Matsushiro Arr**	**53.55**	**34**	P	**P**	**13 12 20.7**	**-3.1**
	comp=Z,2.6nm,0.6s,baz=207,slow=6.1,SNR=5.8						
MJAR	**Matsushiro Arr**	**53.55**	**34**	P	**P**	**13 12 20.6**	**-3.1**
WSAR	**Wadi Sarin**	**53.61**	**305**	LR	LR	13 34 19.7	
	comp=Z,45nm,19.0s,baz=150,slow=35						
CN2	**Changchun**	**53.85**	**19**	*e*P	**P**	**13 12 22.3**	**-3.5**
CN2				*e*PP	**PP**	**13 14 26.1**	**-1.3**
CN2				*e*S	**S**	**13 19 50.8**	**-6.5**
CN2				*es*S	sS	13 20 23.6	+4.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,120nm,9.0s						
CN2				LR	LR		
	comp=Z,100nm,9.0s						
CN2				LR	LR		
	comp=Z,90nm,11.0s						
SONM	**Songino Array**	**54.38**	**2**	P	**P**	**13 12 29.5**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=176,slow=9.1,SNR=30						
SONM	**Songino Array**	**54.38**	**2**	P	**P**	**13 12 29.1**	**-0.6**
JSD	**Sado**	**54.66**	**33**	P	**P**	**13 12 29.4**	**-2.4**
JSD				IAmb	IAmb	13 12 30.0	
	comp=Z,17nm,0.8s						
GAR	**Garm**	**55.32**	**328**	P	**P**	**13 12 34.0**	**-2.6**
GAR				IAmb	IAmb	13 12 59.6	
	comp=Z,7.8nm,0.5s						
MDJ	**Mudanjiang**	**55.99**	**22**	P	**P**	**13 12 40.0**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.2s						
AAK	**Ala-Archa**	**56.11**	**334**	LR	LR	13 39 59.9	
	comp=Z,23nm,19.2s,baz=157,slow=40						
BNX	**BinXian**	**56.21**	**19**	⇓P	**P**	**13 12 42.4**	**-0.4**
BNX				pmax	pmax		
	comp=Z,29nm,0.9s						
BNX				pmax	pmax		
	comp=Z,280nm,4.6s						
USA0B	**Ussuriysk Arra**	**56.56**	**24**	P	**P**	**13 12 44.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**56.56**	**24**	P	**P**	**13 12 44.3**	**-1.0**
	comp=Z,16nm,0.7s,baz=202,slow=4.5,SNR=23						
MK31	**Makanchi Array**	**56.76**	**342**	P	**P**	**13 12 46.1**	**-0.6**
MKAR	**Makanchi Array**	**56.76**	**342**	P	**P**	**13 12 46.6**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=157,slow=8.0,SNR=21						
MKAR	**Makanchi Array**	**56.76**	**342**	P	**P**	**13 12 46.2**	**-0.5**
JTM	**Tenmabayashi**	**58.15**	**32**	P	**P**	**13 12 53.2**	**-3.3**
DZM	**Mont Dzumac**	**61.76**	**111**	LR	LR	13 42 21.8	
	comp=Z,49nm,18.1s,baz=276,slow=38						
GEYT	**Alibeck**	**61.77**	**320**	P	**P**	**13 13 21.8**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=179,slow=5.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.64**	**347**	P	**P**	**13 13 26.3**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=150,slow=5.1,SNR=5.6						
BRVK	**Borovoye**	**66.16**	**338**	P	**P**	**13 13 48.9**	**-1.1**
ABKAR	**Akbulak array**	**67.81**	**330**	P	**P**	**13 14 00.5**	**0.0**
RPZ	**Rata Peaks**	**68.66**	**134**	LR	LR	13 43 00.1	
	comp=Z,57nm,20.9s,baz=239,sl

GSI				S		**Sb**	**14 01 11.1**	**-2.5**	
MNSI	**Mandailing Nat**	**2.18**	**91**	P		**Pn**	**14 01 32.0**	**+0.9**	
MNSI				S		**Sn**	**14 01 57.1**	**-0.2**	
PSI	**Prapat**	**2.47**	**38**	Pn		**Pn**	**14 01 34.2**	**-1.0**	
	10nm,0.3s,baz=258,slow=6.6,SNR=16								
PSI				Sn		**Sb**	**14 02 11.2**	**+0.8**	
	25nm,0.3s,baz=273,slow=1.8,SNR=6.6								
KCSI	**Kotacane, Aceh**	**2.68**	**8**	P		**Pn**	**14 01 37.8**	**-0.2**	
SISI	**Saibi**	**2.74**	**142**	P		**Pb**	**14 01 40.7**	**-4.2**	
TSI	**Tuntungan**	**2.88**	**24**	P		**Pn**	**14 01 40.9**	**+0.1**	
BKNI	**Bangkinang**	**3.68**	**98**	Pn		**Pn**	**14 01 53.7**	**+2.0**	
BKNI	**Bangkinang**	**3.68**	**98**	P		**Pn**	**14 01 52.1**	**+0.4**	
PPSI	**Pulau Pagai**	**4.44**	**144**	P		**Pn**	**14 02 04.1**	**+2.0**	
BSI	**Banda Aceh**	**5.07**	**336**	P		**Pn**	**14 02 12.0**	**+1.1**	
	270nm,0.4s								
IPM	**Ipoh**	**5.12**	**45**	Pn		**Pn**	**14 02 12.2**	**+0.7**	
KULM	**Kulim**	**5.48**	**36**			**Pn**	**14 02 15.9**	**-0.6**	
MASI	**Maura Aman, Be**	**6.25**	**129**	P		**Pn**	**14 02 29.2**	**+2.0**	
	0.8nm114nm,0.5s								
MYKOM	**Kota Tinggi**	**6.52**	**82**			**Pn**	**14 02 31.5**	**+0.8**	
MNAI	**Manna**	**7.59**	**133**	P		**Pn**	**14 02 45.9**	**+0.4**	
	1.5nm299nm,0.8s								
MDSI	**Maura Dua**	**8.60**	**128**	P		**Pn**	**14 03 01.2**	**+1.9**	
	21nm,0.8s								
KLSI		**9.16**	**127**	P		**Pn**	**14 03 09.3**	**+2.3**	
	12nm,0.7s								
STKI	**Sintang**	**14.10**	**93**	P		**P**	**14 04 24.6**	**+2.5**	
UBPT	**Khong Chiam**	**16.41**	**29**			**Pn**	**14 04 43.1**	**-2.0**	
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P		**P**	**14 04 58.1**	**-2.4**	
	0.4nm,0.3s,baz=195,slow=12,SNR=12								
CMAR				LR		LR	14 12 13.5		
	comp=Z,96nm,18.7s,baz=195,slow=39								
PALK	**Pallekele**	**17.83**	**291**	LR		LR	14 11 21.9		
	comp=Z,296nm,18.7s,baz=219,slow=35								
MYLDM	**Lahad Datu**	**21.50**	**78**	P		**P**	**14 05 43.2**	**-0.4**	
MYLDM				IAmb		IAmb	14 06 29.0		
	comp=Z,25nm,1.0s								
QIZ	**Qiongzhong**	**21.81**	**33**	P		**P**	**14 05 47.4**	**+0.6**	
QIZ				S		**S**	**14 09 48.1**	**+1.4**	
QIZ				LR		LR			
	comp=N,180nm,3.7s								
QIZ				LR		LR			
	comp=E,190nm,3.2s								
QIZ				LR		LR			
	comp=Z,180nm,12.2s								
KAPI	**Kappang**	**23.08**	**105**	LR		LR	14 15 54.4		
	comp=Z,146nm,19.1s,baz=272,slow=39								
MRSI	**Marisa**	**24.55**	**91**	P		P	14 06 23.7	+9.4	
KOHI	**KOHIMA**	**24.93**	**353**	*eP*		**P**	**14 06 20.2**	**+2.4**	
PZH	**PanZhiHua**	**25.85**	**9**	P		**P**	**14 06 27.5**	**+1.4**	
PZH				S		**S**	**14 11 00.6**	**+6.2**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,50nm,5.5s								
PZH				LR		LR			
	comp=N,590nm,15.1s								
PZH				LR		LR			
	comp=E,480nm,17.1s								
PZH				LR		LR			
	comp=Z,560nm,14.7s								
H08S2	**Diego Garcia H**	**26.23**	**251**	T		T	14 33 32.0		
	baz=72,slow=76,SNR=977								
H08S3	**Diego Garcia H**	**26.23**	**251**	T		T	14 33 33.6		
	baz=72,slow=76,SNR=1591								
H08S1	**Diego Garcia H**	**26.25**	**251**	T		T	14 33 35.3		
	baz=72,slow=76,SNR=796								
GYA	**Guiyang**	**26.98**	**19**	P		**P**	**14 06 38.9**	**+2.5**	
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				LR		LR			
	comp=Z,290nm,12.4s								
FITZ	**Fitzroy Crossi**	**33.56**	**125**	P		**P**	**14 07 36.1**	**+1.6**	
XAN	**Xi'an**	**34.74**	**17**	P		**P**	**14 07 43.3**	**-1.3**	
XAN				pP		pP	14 07 50.3	-2.4	
XAN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MTN	**Manton Dam**	**36.12**	**113**	P		**P**	**14 07 57.8**	**+1.1**	
NJ2	**Nanjing**	**37.06**	**31**	*eP*		P	14 08 08.4	+3.9	
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
GTA	**Gaotai**	**38.45**	**3**	*eP*		**P**	**14 08 16.3**	**+0.1**	
GTA				pP		sP	14 08 28.3	+0.7	
GTA				sP		pP	14 08 32.0	+7.7	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,57nm,6.0s								
GTA				LR		LR			
	comp=N,110nm,14.9s								
GTA				LR		LR			
	comp=E,95nm,16.4s								
GTA				LR		LR			
	comp=Z,110nm,15.6s								
H01W3	**Cape Leeuwin H**	**38.84**	**158**	T		T	14 49 41.3		
	baz=333,slow=76,SNR=55								
H01W2	**Cape Leeuwin H**	**38.86**	**158**	T		T	14 49 42.2		
	baz=333,slow=76,SNR=49								
H01W1	**Cape Leeuwin H**	**38.86**	**158**	T		T	14 49 42.4		
	baz=333,slow=76,SNR=51								
WB0	**Warramunga Arr**	**41.65**	**121**	P		**P**	**14 08 44.2**	**+1.2**	
WB0				IAmb		IAmb	14 10 14.1		
	comp=Z,29nm,1.8s								
WRA	**Warramunga Arr**	**41.68**	**122**	P		**P**	**14 08 43.5**	**+0.2**	
	comp=Z,0.7nm,0.4s,baz=308,slow=8.9,SNR=28								
WRA	**Warramunga Arr**	**41.68**	**122**	P		**P**	**14 08 44.0**	**+0.8**	
WRAB	**Tennant Creek**	**41.69**	**122**	P		**P**	**14 08 43.5**	**+0.2**	
WRAB				IAmb		IAmb	14 09 19.7		
	comp=Z,26nm,1.4s								
WB2	**Warramunga Arr**	**41.69**	**122**	P		**P**	**14 08 44.1**	**+0.8**	
WB2				IAmb		IAmb	14 09 26.7		
	comp=Z,27nm,1.7s								
HHC	**Hu-ho-hao-te**	**41.84**	**16**	*eP*		**P**	**14 08 46.0**	**+1.6**	
HHC				S		**S**	**14 15 06.0**	**+5.3**	
HHC				pmax		pmax			
	comp=Z,11nm,1.1s								
HHC				pmax		pmax			
	comp=Z,140nm,6.1s								
HHC				LR		LR			
	comp=N,240nm,15.3s								
HHC				LR		LR			
	comp=E,110nm,14.5s								
HHC				LR		LR			
	comp=Z,280nm,15.3s								
WR0	**Warramunga Arr**	**41.86**	**122**	P		**P**	**14 08 45.8**	**+1.0**	
WR0				IAmb		IAmb	14 08 53.2		
	comp=Z,14nm,1.1s								
BJI	**Beijing**	**42.59**	**21**	P		**P**	**14 08 51.3**	**+1.0**	
BJI				pP		**sP**	**14 08 58.1**	**-3.6**	
BJI				pmax		pmax			
	comp=Z,6.0nm,0.6s								
ASAR	**Alice Springs**	**43.03**	**127**	P		**P**	**14 08 54.4**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=302,slow=7.8,SNR=16								
ASAR	**Alice Springs**	**43.03**	**127**	P		**P**	**14 08 54.8**	**+0.6**	
AS31	**Alice Springs**	**43.03**	**127**	P		**P**	**14 08 55.3**	**+1.1**	
KSH	**Kashi**	**43.17**	**336**	P		P	14 09 09.1	+14	
KSH				pmax		pmax			
	comp=Z,3.0nm,0.6s								
WMQ	**Urumqi**	**43.66**	**350**	*eP*		P	14 09 01.5	+2.5	
WMQ				sP		sP	14 09 13.4	+3.0	
WMQ				pmax		pmax			
	comp=Z,14nm,0.7s								
KSRS	**Korea Array**	**46.03**	**34**	P		**P**	**14 09 17.1**	**-0.8**	
	comp=Z,3.8nm,0.9s,baz=225,slow=8.6,SNR=13								
KSRS				LR		LR	14 29 34.9		
	comp=Z,46nm,19.3s,baz=200,slow=38								
AAK	**Ala-Archa**	**46.40**	**337**	LR		LR	14 30 41.5		
	comp=Z,83nm,19.1s,baz=182,slow=39								
SONM	**Songino Array**	**47.45**	**8**	P		**P**	**14 09 28.9**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=186,slow=8.1,SNR=2.8								
MK31	**Makanchi Array**	**47.63**	**346**	P		**P**	**14 09 30.9**	**+0.5**	
MK31				IAmb		IAmb	14 09 43.2		
	comp=Z,2.8nm,0.8s								
MKAR	**Makanchi Array**	**47.63**	**346**	P		**P**	**14 09 30.4**	**0.0**	
	comp=Z,1.5nm,0.6s,baz=158,slow=8.1,SNR=26								
MKAR	**Makanchi Array**	**47.63**	**346**	P		**P**	**14 09 30.7**	**+0.4**	
MAKZ	**Makanchi**	**47.72**	**346**	P		**P**	**14 09 31.6**	**+0.6**	
MAKZ				IAmb		IAmb	14 09 55.3		
	comp=Z,4.1nm,1.0s								
CN2	**Changchun**	**49.53**	**27**	*eP*		**P**	**14 09 43.3**	**-1.7**	
CN2				*ep*		sP	14 09 53.0	-3.4	
CN2				*eS*		**S**	**14 16 47.8**	**-3.3**	
CN2				*es*		sS	14 17 04.5	-0.3	
CN2	**Changchun**	**49.53**	**27**	*eS*		SS	14 20 16.4	-7.1	
CN2				LR		LR			
	comp=N,260nm,11.0s								
CN2				LR		LR			
	comp=E,120nm,11.0s								
CN2				LR		LR			
	comp=Z,200nm,12.0s								
MJAR	**Matsushiro Arr**	**51.82**	**42**	P		**P**	**14 10 01.6**	**-0.9**	
	comp=Z,1.3nm,0.7s,baz=221,slow=6.1,SNR=2.8								
MJAR				LR		LR	14 32 37.5		
	comp=Z,46nm,20.4s,baz=202,slow=37								
KURK	**Kurchatov**	**52.18**	**345**	P		**P**	**14 10 05.2**	**+0.4**	
USRK	**Ussuriysk Ar.**	**52.97**	**31**	LR		LR	14 34 17.3		
	comp=Z,79nm,18.8s,baz=214,slow=38								
STKA	**Stephens Creek**	**52.98**	**132**	P		**P**	**14 10 10.0**	**-1.0**	
	comp=Z,2.3nm,0.8s,baz=304,slow=10.0,SNR=1.3								
STKA				LR		LR	14 35 32.6		
	comp=Z,51nm,19.8s,baz=328,slow=39								
ZAA0	**Zalesovo Array**	**53.94**	**351**	P		**P**	**14 10 18.1**	**+0.5**	
ZAA0				IAmb		IAmb	14 10 30.0		
	comp=Z,5.3nm,0.5s								
ZALV	**Zalesovo Beam**	**53.94**	**351**	P		**P**	**14 10 17.6**	**-0.1**	
	comp=Z,3.1nm,0.3s,baz=165,slow=7.5,SNR=12								
ZALV				LR		LR	14 35 32.2		
	comp=Z,36nm,18.3s,baz=230,slow=39								
ZALV	**Zalesovo Beam**	**53.94**	**351**	P		**P**	**14 10 17.9**	**+0.2**	
KLR	**Kul'dur**	**56.48**	**26**	P		**P**	**14 10 36.1**	**-0.1**	
	comp=Z,3.9nm,1.0s,baz=268,slow=7.7								
ABKAR	**Akbulak array**	**57.92**	**332**	P		**P**	**14 10 46.4**	**+0.1**	
ASAJ	**Asahikawa**	**58.83**	**37**	LR		LR	14 37 34.1		
	comp=Z,66nm,18.5s,baz=59,slow=38								
KBZ	**Khabaz**	**64.47**	**319**	P		**P**	**14 11 30.9**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=78,slow=3.5,SNR=2.1								
YAK	**Yakutsk**	**65.70**	**16**	LR		LR	14 41 41.8		
	comp=Z,73nm,21.2s,baz=270,slow=37								
EIL	**Elat**	**65.81**	**302**	LR		LR	14 40 46.2		
	comp=Z,86nm,18.1s,baz=284,slow=36								
BRTR	**Keskin Array B**	**69.49**	**312**	P		**P**	**14 12 01.9**	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=160,slow=3.9,SNR=5.5								
LSZ	**Lusaka**	**70.20**	**254**	LR		LR	14 40 52.1		
	comp=Z,104nm,18.1s,baz=142,slow=34								
MA2	**Magadan**	**71.56**	**26**	P		**P**	**14 12 15.4**	**+0.3**	
	comp=Z,0.7nm,0.3s,baz=311,slow=23,SNR=1.7								
MA2				LR		LR	14 44 59.4		
	comp=Z,49nm,20.6s,baz=108,slow=37								
TIXI	**Tiksi**	**73.50**	**10**	LR		LR	14 48 04.1		
	comp=Z,68nm,18.0s,baz=210,slow=39								
SEY	**Seymchan**	**74.01**	**23**	P		**P**	**14 12 29.9**	**+0.3**	
	comp=Z,1.0nm,0.8s,baz=223,slow=5.6,SNR=4.8								
BOSA	**Boshof**	**74.77**	**240**	P		**P**	**14 12 36.5**	**+1.6**	
	comp=Z,2.7nm,0.8s,baz=90,slow=8.1,SNR=2.7								
AKASG	**Malin Array Be**	**75.66**	**322**	P		**P**	**14 12 38.7**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=84,slow=5.2,SNR=6.5								
SUR	**Sutherland**	**79.14**	**237**	LR		LR	14 45 00.9		
	comp=Z,86nm,19.0s,baz=164,slow=33								
FINES	**FINESS Array B**	**80.40**	**333**	P		**P**	**14 13 05.7**	**+0.2**	
	comp=Z,4.1nm,1.0s,baz=111,slow=7.6,SNR=2.3								
ARCES	**ARCESS Array B**	**82.93**	**340**	P		**P**	**14 13 19.7**	**+1.0**	
	comp=Z,13nm,1.2s,baz=107,slow=3.1,SNR=2.3								
GERES	**GERESS Array B**	**85.21**	**319**	P		**P**	**14 13 31.3**	**+0.5**	
	comp=Z,1.5nm,1.0s,baz=82,slow=9.6,SNR=7.4								
SPITS	**Spitsbergen Ar**	**87.33**	**348**	LR		LR	14 59 41.0		
	comp=Z,62nm,18.3s,baz=158,slow=40								
NOA	**NORSAR Array B**	**87.41**	**331**	LR		LR	14 54 38.3		
	comp=Z,19nm,18.6s,baz=200,slow=37								
KEST	**Kesra**	**87.93**	**306**	P		P	14 13 46.5	+2.0	
	comp=Z,2.3nm,0.7s,baz=11,slow=4.9,SNR=3.6								
TXAR	**Lajitas Array**	**143.86**	**32**	PKP		**PKiKP**	**14 20 32.0**	**-1.8**	
	comp=Z,0.3nm,0.7s,baz=310,slow=2.8,SNR=2.0								
CPUP	**Villa Florida**	**144.88**	**222**	PKP		**PKiKP**	**14 20 32.6**	**-3.1**	
	comp=Z,8.0nm,1.0s,baz=119,slow=4.3,SNR=9.5								

*KRSC **17** 14:12:27.9±2.1, 48.83N×156.38E, h16km±26km, ML4.1*
*IDC **17** 14:12:32.0±2.9, 49.08N×154.78E, h99km±27km, mb3.3/5, mb1 3.5/7, mb1mx3.1/41, mbtmp3.7/7, Error ellipse: s-maj=39.2km s-min=24.8km az=113.0*

ISC 17 14:12:26.7±1.2, 48.8N±0.1×154.9E±0.2, h50km, n22, σ1s83/24, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.04**	**22**	*eP*		**Pn**	**14 12 59.6**	**+1.0**
SKR				*eS*		**Sn**	**14 13 22.0**	**-0.9**
PAU	**Pauzhetka**	**2.94**	**24**	*eS*		**Sn**	**14 13 44.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**3.64**	**33**	*eP*		**Pn**	**14 13 20.9**	**+0.5**
MTVR	**Mutnovka**	**4.24**	**28**	*eP*		**Pn**	**14 13 30.1**	**+1.3**
MTVR				*eS*		**Sn**	**14 14 17.0**	**-0.1**
GRL	**Gorelyy**	**4.26**	**27**	*eP*		**Pn**	**14 13 31.6**	**+2.4**
RUS	**Russkaya**	**4.30**	**31**	*eP*		**Pn**	**14 13 29.0**	**-0.6**
RUS				*eS*		**Sn**	**14 14 16.6**	**-1.9**
KRMR	**Karymshinskiy**	**4.53**	**26**	*eP*		**Pn**	**14 13 35.1**	**+2.5**
PETK	**Petropavlovsk-**	**4.66**	**21**	P		**Pn**	**14 13 36.7**	**+2.2**
	0.9nm,0.3s,baz=100,slow=24,SNR=18							
DALK	**Dalny**	**4.89**	**29**	*eP*		**Pn**	**14 13 39.2**	**+1.6**
UGLR	**Uglovaya**	**5.06**	**28**	*eP*		**Pn**	**14 13 42.1**	**+2.0**
KOK	**Koryaka**	**5.08**	**26**	*eP*		**Pn**	**14 13 43.0**	**+2.7**
AVH	**Avacha**	**5.08**	**27**	*eP*		**Pn**	**14 13 43.4**	**+3.0**
SMAR	**Somma**	**5.10**	**27**	*eP*		**Pn**	**14 13 43.0**	**+2.3**
SDLR	**Sedlovina**	**5.14**	**28**	*eP*		**Pn**	**14 13 42.6**	**+1.4**
GNL	**Ganaly**	**5.26**	**20**	*eP*		**Pn**	**14 13 45.5**	**+2.7**
SPN	**Mys Shipunski**	**5.39**	**35**	*eP*		**Pn**	**14 13 43.9**	**-0.5**
ASAJ	**Asahikawa**	**9.69**	**246**	P		Pn	14 14 49.6	+6.2
	1.5nm,0.3s,baz=65,slow=14,SNR=22							
MKAR	**Makanchi Array**	**47.08**	**296**	P		**P**	**14 20 51.6**	**-1.8**
	0.2nm,0.5s,baz=71,slow=9.3,SNR=2.6							
CMAR	**Chiang Mai Arr**	**54.02**	**256**	P		**P**	**14 21 45.9**	**-0.1**
	0.9nm,0.7s,baz=34,slow=7.1,SNR=7.5							
FINES	**FINESS Array B**	**62.69**	**335**	P		**P**	**14 22 44.4**	**-1.3**
	2.8nm,0.9s,baz=46,slow=6.0,SNR=2.2							
WRA	**Warramunga Arr**	**70.85**	**200**	P		**P**	**14 23 38.6**	**+0.5**
	0.7nm,1.1s,baz=16,slow=6.2,SNR=1.9							
ASAR	**Alice Springs**	**74.54**	**200**	P		**P**	**14 24 01.9**	**+1.8**
	0.5nm,0.9s,baz=13,slow=5.4,SNR=4.4							

TEH 17 14:25:58.7, 29.68N×51.51E, h8km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAZ1	**Kazerun**	**0.13**	**117**	*eP*	g	Pg	14 26 01.0	-0.6
KAZ1				*eS*	g	Sg	14 26 04.7	+1.1
SHI	**Shiraz**	**0.88**	**93**	*eP*	g	Pg	14 26 15.2	-0.4
SHI				*eS*	g	Sn	14 26 29.7	-0.8
KLNJ	**Kolanjah**	**1.32**	**3**	*eP*	g	Pn	14 26 23.0	-0.8
KLNJ				*e*			14 26 51.5	
	comp=Z,11μm,0.7s							
ABEH	**Behbahan**	**1.42**	**310**	*eP*	g	Pg	14 26 26.2	+0.2
ABEH				*eS*	g	Sg	14 26 47.5	+3.1
QIR1	**Qir**	**1.80**	**131**	*eP*	n	Pb	14 26 31.5	-0.5
QIR1				*e*			14 27 22.4	
	comp=Z,11μm,0.5s							
JHRM	**Jahrom**	**2.16**	**122**	*eP*	n	Pb	14 26 37.1	-1.0
IBRJ	**Brojen**	**2.23**	**355**	*eP*	n	Pb	14 26 38.5	-0.9
IBRJ				*e*			14 27 17.8	
	comp=N,2μm,0.7s							
IRAM	**Ramesheh**	**2.25**	**19**	*eP*	n	Pb	14 26 38.3	-1.4
IRAM				*e*			14 27 18.7	
	comp=Z,2μm,0.4s							
SHK1	**Shahrekord**	**2.69**	**349**	*eP*	n	Pb	14 26 45.2	-2.0
AMIS	**Naft Sefid**	**2.75**	**316**	*eP*	n	Pn	14 26 44.6	+1.4
AMIS				*e*			14 27 49.1	
	comp=Z,2μm,0.7s							
IPIR	**Pirpir**	**3.04**	**350**	*eP*	n	Pn	14 26 49.2	+1.8
IPIR				*e*			14 27 54.2	
	comp=Z,783nm,0.8s							
IZEF	**Zefreh**	**3.28**	**12**	*eP*	n	Pn	14 26 52.9	+2.3
ANAR	**Anarak**	**3.98**	**28**	*eP*	n	Pn	14 27 01.9	+1.8
KRSH	**Karshahi**	**4.31**	**7**	*eP*	n	Pn	14 27 06.6	+1.9
KHGB	**Koh Gabri**	**4.36**	**80**	*eP*	n	Pn	14 27 08.1	+2.6
ISFB	**Sefidab**	**4.70**	**7**	*eP*	n	Pn	14 27 11.6	+1.6
IDOB	**Doab**	**4.98**	**326**	*eP*	n	Pn	14 27 14.9	+0.9
IQOM	**Qom**	**5.16**	**356**	*eP*	n	Pn	14 27 17.9	+1.4
IVRN	**Varamin**	**5.30**	**2**	*eP*	n	Pn	14 27 20.1	+1.9
TPRV	**Parvadeh(Tabas**	**5.54**	**52**	*eP*	n	Pn	14 27 23.8	+2.2
TNSJ	**Nastanj**	**6.08**	**44**	*eP*	n	Pn	14 27 31.3	+2.2

*IDC **17** 14:26:34.9±1.4, 4.25N×124.30E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/34, mbtmp4.0/5, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/78, Error ellipse: s-maj=52.5km s-min=20.9km az=84.0*
*MAN **17** 14:26:39.3, 5.09N×125.11E, h189km, mb5.4, ML4.3, MS4.5*

ISC 17 14:26:35.8±1.0, 4.52N±0.07×124.9E±0.1, h10km, n11, σ0s96/10, mb3.7/4, 2C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.56**	**3**	*eP*		Pg	14 27 10.2	+4.6
KCP	**Kidapawan**	**2.48**	**5**	*iP*		**Pn**	**14 27 15.7**	**-0.6**
KCP				*i*	S	**Sn**	**14 27 45.5**	**-1.2**
DAV	**Davao City (W)**	**2.62**	**15**	Pn		**Pg**	**14 27 26.3**	**+0.2**
	57nm,0.3s,baz=123,slow=13,SNR=3.7							
DAV					Sn	**Sg**	**14 28 01.9**	**+1.7**
	132nm,0.3s,baz=74,slow=21,SNR=6.6							
CTBH	**Cotabato--PC H**	**2.75**	**347**	*iP*		Pg	14 27 33.9	+5.3
MATI	**Mati**	**2.77**	**30**	*eP*		**Pn**	**14 27 19.5**	**-0.8**
PAGZ	**Pagadian**	**3.62**	**336**	*iP*		**Pn**	**14 27 32.1**	**+0.1**
LEM	**Lembang**	**20.59**	**237**	LR		LR	14 38 59.4	
	comp=Z,46nm,21.2s,baz=198,slow=37							
WRA	**Warramunga Arr**	**26.03**	**159**	P		**P**	**14 32 09.2**	**-0.2**
	4.5nm,0.9s,baz=338,slow=10,SNR=15							
ASAR	**Alice Springs**	**29.37**	**163**	P		**P**	**14 32 39.1**	**-0.2**
	0.9nm,0.8s,baz=339,slow=6.9,SNR=7.9							
STKA	**Stephens Creek**	**39.54**	**157**	P		**P**	**14 34 07.9**	**+0.8**
	2.4nm,0.9s,baz=355,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**55.86**	**326**	P		**P**	**14 36 13.2**	**-0.5**
	0.5nm,0.9s,baz=128,slow=7.1,SNR=1.8							

IDC 17 14:36:40.9±2.6, 58.16S×147.03W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/21, mbtmp3.9/2, MS3.7/12, Ms1 3.6/12, ms1mx3.4/45, Error ellipse: s-maj=516.4km s-min=46.9km az=4.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URZ	**Urewera**	**30.56**	**295**	LR		LR	14 52 38.9	
	comp=Z,87nm,18.8s,baz=196,slow=31							
QSPA	**South Pole Qui**	**31.99**	**180**	LR		LR	14 53 25.3	
	comp=Z,136nm,18.1s,baz=303,slow=31							
PMSA	**Palmer Station**	**37.45**	**136**	LR		LR	14 55 03.3	
	comp=Z,187nm,18.9s,baz=156,slow=29							
RAR	**Rarotonga**	**38.05**	**340**	LR		LR	14 55 30.2	
	comp=Z,121nm,19.9s,baz=126,slow=30							
PPT	**Papeete**	**40.57**	**356**	LR		LR	14 56 36.1	
	comp=Z,38nm,18.3s,baz=210,slow=30							
MSVF	**Nonsavu**	**47.86**	**313**	LR		LR	15 00 48.1	
	comp=Z,41nm,21.0s,baz=140,slow=30							
AFI	**Afiamalu**	**47.93**	**327**	LR		LR	15 03 08.8	
	comp=Z,65nm,18.1s,baz=128,slow=33							
DZM	**Mont Dzumac**	**49.07**	**297**	LR		LR	15 02 35.2	
	comp=Z,107nm,18.3s,baz=26,slow=32							
H03S2	**Juan Fernandez**	**50.62**	**92**	T		T	15 40 19.8	
	baz=217							
H03S1	**Juan Fernandez**	**50.62**	**92**	T		T	15 40 23.3	
	baz=217							
H03S3	**Juan Fernandez**	**50.63**	**92**	T		T	15 40 19.7	
	baz=217							
H03N3	**Juan Fernandez**	**50.91**	**92**	T		T	15 40 46.2	
	baz=221,slow=72,SNR=28							
H03N2	**Juan Fernandez**	**50.92**	**92**	T		T	15 40 37.9	
	baz=221,slow=72,SNR=29							
H03N1	**Juan Fernandez**	**50.93**	**92**	T		T	15 40 39.7	
	baz=221,slow=72,SNR=29							
STKA	**Stephens Creek**	**53.87**	**267**	LR		LR	15 05 52.5	
	comp=Z,29nm,18.3s,baz=200,slow=32							
ASAR	**Alice Springs**	**64.49**	**266**	P		P	14 47 19.4	+0.1
	1.4nm,1.1s,baz=140,slow=5.9,SNR=5.3							
WRA	**Warramunga Arr**	**67.31**	**269**	P		P	14 47 37.0	-0.4
	1.3nm,1.1s,baz=144,slow=5.8,SNR=3.9							
FITZ	**Fitzroy Crossi**	**73.42**	**262**	LR		LR	15 16 32.2	
	comp=Z,39nm,19.8s,baz=180,slow=33							
SUR	**Sutherland**	**89.23**	**170**	LR		LR	15 26 59.3	
	comp=Z,33nm,18.0s,baz=164,slow=34							
LBTB	**Lobatse**	**96.92**	**173**	LR		LR	15 33 26.1	
	comp=Z,52nm,18.1s,baz=184,slow=35							
MKAR	**Makanchi Array**	**148.59**	**271**	PKPbc		PKPbc	14 56 28.6

WRA	**Warramunga Arr**	**30.12**	**115**	P	**P**	**15 08 32.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=288,slow=10,SNR=4.8						
WRA				PcP	**PcP**	**15 11 34.5**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=296,slow=2.4,SNR=2.9						
WRAB	**Tennant Creek**	**30.12**	**115**	P	**P**	**15 08 32.5**	**+1.3**
WRAB				IAmb	IAmb	15 08 50.8	
	comp=Z,18nm,1.6s						
WB2	**Warramunga Arr**	**30.13**	**115**	P	**P**	**15 08 31.0**	**-0.2**
WB2				IAmb	IAmb	15 08 38.1	
	comp=Z,27nm,1.7s						
WR0	**Warramunga Arr**	**30.30**	**115**	P	**P**	**15 08 33.2**	**+0.4**
ASAR	**Alice Springs**	**31.09**	**122**	P	**P**	**15 08 40.7**	**+1.0**
	comp=Z,0.8nm,1.2s,baz=293,slow=8.1,SNR=6.6						
ASAR				PcP	**PcP**	**15 11 37.0**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=292,slow=3.0,SNR=2.6						
JHS	**Saijyo**	**50.49**	**30**	P	**P**	**15 11 19.4**	**+0.2**
SONM	**Songino Array**	**56.06**	**1**	P	**P**	**15 12 01.4**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=187,slow=9.5,SNR=4.5						
MK31	**Makanchi Array**	**58.78**	**342**	P	**P**	**15 12 20.1**	**+0.9**
MKAR	**Makanchi Array**	**58.78**	**342**	P	**P**	**15 12 20.4**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=144,slow=8.0,SNR=17						
MKAR	**Makanchi Array**	**58.78**	**342**	P	**P**	**15 12 19.7**	**+0.6**
ZALV	**Zalesovo Beam**	**64.60**	**347**	P	**P**	**15 12 58.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=200,slow=11,SNR=5.1						
ZALV	**Zalesovo Beam**	**64.60**	**347**	P	**P**	**15 12 58.1**	**0.0**
ATD	**Arta Tunnel**	**65.42**	**287**	LR	LR	15 36 25.4	
	comp=Z,41nm,20.5s,baz=108,slow=31						
BRVK	**Borovoye**	**68.22**	**338**	P	**P**	**15 13 21.8**	**+0.4**
BRVK				IAmb	IAmb	15 13 56.9	
	comp=Z,11nm,1.8s						
ABKAR	**Akbulak array**	**69.93**	**330**	P	**P**	**15 13 33.2**	**+1.2**
ABKAR				IAmb	IAmb	15 13 34.2	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**69.93**	**330**	P	**P**	**15 13 33.3**	**+1.3**
BKZ	**Black Stump Fm**	**69.95**	**129**	P	**P**	**15 13 31.7**	**-0.9**
MSVF	**Nonsavu**	**70.89**	**106**	P	**P**	**15 13 37.7**	**-1.0**
SYO	**Syowa Base**	**73.63**	**200**	⇓*e*P	**P**	**15 13 54.4**	**+0.4**
QSPA	**South Pole Qui**	**81.53**	**180**	P	**P**	**15 14 37.9**	**-0.4**
QSPA				IAmb	IAmb	15 15 16.2	
	comp=Z,18nm,1.8s						
BRTR	**Keskin Array B**	**81.72**	**312**	P	**P**	**15 14 41.2**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=90,slow=6.2,SNR=4.7						
TXAR	**Lajitas Array**	**145.63**	**49**	PKPbc	**PKPab**	**15 22 02.4**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=294,slow=3.0,SNR=5.5						

*NEIC **17** 15:30:41.5±2.4,6.°07S±0.°09×128.°76E±0.°10,h283km±10km, mb4.4/15, Error ellipse: s-maj=14.8km s-min=11.3km az=55.0*
*IDC **17** 15:30:41.2±1.9,5.°96S×128.°63E,h298km±19km, mb3.3/4, mb1 3.6/9, mb1mx3.1/39, mbtmp4.3/9, Error ellipse: s-maj=29.0km s-min=14.2km az=68.0*
ISC 17 15:30:41.7±0.5, 6.11S±0.°05×128.79E±0.°06, h300km, n59, σ2§03/67, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**1.93**	**35**	P		**Pn**	**15 31 27.9**	**-0.1**
SAUI	**Saumlaki**	**3.11**	**127**	Pn		**Pn**	**15 31 36.1**	**-2.4**
SAUI				Sn		**S**	**15 32 20.3**	**-3.8**
SANI	**Sanana**	**4.91**	**325**	P		**Pn**	**15 31 56.3**	**-1.9**
SIJI	**Sorong**	**5.76**	**25**	P		**Pn**	**15 32 05.6**	**-2.7**
	6.1nm,0.3s,baz=91,slow=24,SNR=47							
SIJI				S		**S**	**15 33 09.7**	**-8.3**
	9.3nm,0.3s,baz=262,slow=23,SNR=18							
MMRI	**Maumere**	**6.97**	**248**	Pn		**Pn**	**15 32 21.3**	**-1.4**
TNTI	**Ternate**	**6.98**	**348**	Pn		**Pn**	**15 32 20.9**	**-2.1**
MTN	**Manton Dam**	**7.08**	**161**	Pn		**Pn**	**15 32 24.5**	**+0.4**
MTN				Sn		**S**	**15 33 42.5**	**-4.4**
MTN	**Manton Dam**	**7.08**	**161**	P		**Pn**	**15 32 24.5**	**+0.4**
KDU	**Kakadu**	**7.48**	**151**	P		**Pn**	**15 32 29.7**	**+0.7**
LUWI	**Luwuk**	**7.83**	**310**	Pn		**Pn**	**15 32 34.2**	**+0.8**
KNRA	**Kununurra**	**9.51**	**180**	Pn		**Pn**	**15 32 54.3**	**+0.4**
KNRA				Sn		**S**	**15 34 39.5**	**-2.1**
KNRA	**Kununurra**	**9.51**	**180**	P		**Pn**	**15 32 54.4**	**+0.5**
TOLI2	**Tolitoli**	**10.74**	**312**	Pn		**Pn**	**15 33 08.6**	**-0.5**
TOLI2	**Tolitoli**	**10.74**	**312**	P		**Pn**	**15 33 08.5**	**-0.5**
PLAI	**Plampang**	**11.25**	**255**	P		**Pn**	**15 33 14.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.31**	**194**	P		**Pn**	**15 33 27.4**	**-0.7**
	2.1nm,0.3s,baz=20,slow=9.6,SNR=61							
FITZ				S		**S**	**15 35 41.6**	**-3.3**
	0.5nm,0.3s,baz=312,slow=23,SNR=2.2							
FITZ	**Fitzroy Crossi**	**12.31**	**194**	P		**Pn**	**15 33 27.2**	**-0.9**
FITZ				Sn		**S**	**15 35 41.3**	**-3.6**
WB0	**Warramunga Arr**	**14.63**	**159**	P		**Pn**	**15 33 56.0**	**+0.2**
WRAB	**Tennant Creek**	**14.77**	**159**	P		**Pn**	**15 33 57.6**	**+0.2**
WRAB	**Tennant Creek**	**14.77**	**159**	P		**Pn**	**15 33 57.7**	**+0.2**
WRA	**Warramunga Arr**	**14.77**	**159**	P		**Pn**	**15 33 57.5**	**0.0**
	1.8nm,0.3s,baz=341,slow=12,SNR=105							
WRA				S		**S**	**15 36 36.4**	**-1.6**
	0.8nm,0.3s,baz=346,slow=21,SNR=6.9							
WRA	**Warramunga Arr**	**14.77**	**159**	P		**P**	**15 33 56.2**	**-0.2**
WB2	**Warramunga Arr**	**14.78**	**159**	P		**Pn**	**15 33 57.6**	**0.0**
WR0	**Warramunga Arr**	**14.86**	**158**	P		**Pn**	**15 33 58.5**	**0.0**
COEN	**Coen**	**16.16**	**120**	P		**P**	**15 34 12.9**	**+1.3**
COEN	**Coen**	**16.16**	**120**	P		**Pn**	**15 34 13.1**	**-0.8**
KKM	**Kota Kinabalu**	**17.41**	**314**	P		**P**	**15 34 22.1**	**-3.3**
KKM				IAmb		IAmb	15 34 50.7	
	comp=Z,37nm,1.5s							
PSA00	**Pilbara Seismi**	**17.64**	**209**	P		**P**	**15 34 27.3**	**-0.3**
PSA00				IAmb		IAmb	15 34 28.9	
	comp=Z,22nm,1.2s							
PSA00	**Pilbara Seismi**	**17.64**	**209**	P		**P**	**15 34 26.7**	**-1.0**
PSA00				IAmb		IAmb	15 34 28.8	
	comp=Z,5.8nm,1.2s							
PSA00	**Pilbara Seismi**	**17.64**	**209**	P		**P**	**15 34 28.0**	**+0.3**
QIS	**Mount Isa**	**17.79**	**145**	P		**P**	**15 34 30.6**	**+1.3**
AS31	**Alice Springs**	**18.14**	**165**	P		**P**	**15 34 34.4**	**+1.4**
AS31				IAmb		IAmb	15 34 35.3	
	comp=Z,8.1nm,0.3s							
ASAR	**Alice Springs**	**18.14**	**165**	P		**P**	**15 34 35.0**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=345,slow=12,SNR=282							
ASAR				S		**S**	**15 37 43.9**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=346,slow=21,SNR=43							
ASAR				ScP		**ScP**	**15 41 56.2**	**-2.1**
	baz=338,slow=2.3,SNR=6.2							
ASAR	**Alice Springs**	**18.14**	**165**	P		**P**	**15 34 34.1**	**+1.1**
PMG	**Port Moresby**	**18.49**	**101**	P		**P**	**15 34 39.6**	**+2.9**
	comp=Z,1.2nm,0.3s,baz=305,slow=12,SNR=5.6							
PMG	**Port Moresby**	**18.49**	**101**	P		**P**	**15 34 39.7**	**+2.9**
PMG				IAmb		IAmb	15 34 40.9	
	comp=Z,10nm,0.7s							
WRKA	**Warakurna**	**18.83**	**181**	P		**P**	**15 34 41.5**	**+1.1**
MTSU	**Mount Surprise**	**19.30**	**130**	P		**P**	**15 34 46.6**	**+1.2**
CTA	**Charters Tower**	**21.93**	**131**	P		**P**	**15 35 13.1**	**+1.8**
	comp=Z,7.1nm,0.9s,baz=309,slow=13,SNR=5.2							
OOD	**Oodnadatta**	**22.54**	**164**	P		**P**	**15 35 17.5**	**+0.8**
LCRK	**Leigh Creek**	**25.78**	**161**	P		**P**	**15 35 46.8**	**+0.9**
BBOO	**Buckleboo**	**27.42**	**167**	P		**P**	**15 36 00.2**	**-0.2**
STKA	**Stephens Creek**	**28.30**	**157**	P		**P**	**15 36 08.9**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=328,slow=10,SNR=6.5							
STKA	**Stephens Creek**	**28.30**	**157**	P		**P**	**15 36 08.8**	**+0.6**
CAN	**Canberra**	**34.52**	**150**	P		**P**	**15 37 02.7**	**+0.3**
JHJ2	**Mitsune**	**40.38**	**14**	P		**P**	**15 37 52.3**	**+1.1**
PZH	**PanZhiHua**	**41.69**	**322**	P		**P**	**15 38 05.3**	**+3.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.8s							
KSAR	**Wonju Array Be**	**43.33**	**359**	P		**P**	**15 38 16.0**	**+1.1**
KS19	**Wonju Array Si**	**43.39**	**359**	P		**P**	**15 38 17.2**	**+1.9**
KS19				IAmb		IAmb	15 38 19.4	
	comp=Z,7.5nm,0.8s							
LZH	**Lanzhou**	**48.06**	**333**	*e*P		**P**	**15 38 55.5**	**+3.6**
LZH				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**49.33**	**343**	*e*P		P	15 39 05.8	+4.5
HHC				pmax		pmax		
	comp=Z,18nm,1.0s							
HHC				pmax		pmax		
	comp=Z,91nm,4.5s							
WHZ	**Wether Hill Ro**	**52.11**	**146**	P		**P**	**15 39 21.5**	**-0.2**
WHZ				IAmb		IAmb	15 39 46.7	
	comp=Z,25nm,1.3s							
MCQ	**Macquarie Isla**	**54.03**	**159**	P		**P**	**15 39 37.8**	**+2.3**
BKZ	**Black Stump Fm**	**54.07**	**135**	P		**P**	**15 39 36.5**	**+0.3**
BKZ				IAmb		IAmb	15 39 40.7	
	comp=Z,22nm,1.5s							
WMQ	**Urumqi**	**62.00**	**327**	*e*P		**P**	**15 40 33.6**	**+2.9**
MK31	**Makanchi Array**	**66.83**	**327**	P		**P**	**15 41 00.6**	**-1.2**
MKAR	**Makanchi Array**	**66.83**	**327**	P		**P**	**15 41 00.3**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=121,slow=8.3,SNR=9.3							
KURBB	**Kurchatov Arra**	**71.13**	**329**	P		**P**	**15 41 26.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=120,slow=5.8,SNR=1.9							
LPAZ	**La Paz**	**152.15**	**143**	PKPbc		**PKPbc**	**15 50 03.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=260,slow=1.5,SNR=2.7							

*NOU **17** 15:53:27.8, 33.°61S×179.°34E, h506km, MLv5.1/9, South of Kermadec Islands*
*NEIC **17** 15:53:30.1±2.4, 33.°7S±0.°1×178.°7E±0.°2, h484km±8km, mb4.4/21, Error ellipse: s-maj=21.9km s-min=16.0km az=92.0*
*IDC **17** 15:53:31.4±2.5, 33.°95S×178.°76E, h503km±28km, mb3.3/3, mb1 3.4/6, mb1mx3.1/35, mbtmp4.3/6, Error ellipse: s-maj=43.0km s-min=28.5km az=11.0*
*WEL **17** 15:53:32.3±0.5, 34.°5S×17.°9E±1.°0, h456km±8km, M4.1/58, mB4.8/30, ML4.6/12, MLv4.7/58, Mw(mB)4.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8*
ISC 17 15:53:30.5±0.6, 33.84S±0.°06×178.63E±0.°08, h500km, n157, σ2§36/192, mb4.2/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GRZ	**Great Barrier**	**3.54**	**226**	P		**P**	**15 54 48.5**	**+3.3**
MXZ	**Matakaoa Point**	**3.72**	**184**	P		**P**	**15 54 47.3**	**+0.7**
MXZ				S		**S**	**15 55 46.1**	**-2.6**
MXZ	**Matakaoa Point**	**3.72**	**184**	P		**P**	**15 54 47.7**	**+1.2**
MXZ				S		**S**	**15 55 48.0**	**-0.7**
KUZ	**Kuaotunu**	**3.75**	**219**	P		**P**	**15 54 50.2**	**+3.4**
HAZ	**Te Kaha**	**3.97**	**190**	P		**P**	**15 54 49.4**	**+1.0**
HAZ				S		**S**	**15 55 50.6**	**-1.6**
WMGZ	**Waiomatatini S**	**3.98**	**182**	P		**P**	**15 54 50.5**	**+2.0**
WMGZ				S		**S**	**15 55 51.9**	**-0.4**
PKGZ	**Pakihiroa**	**4.07**	**186**	P		**P**	**15 54 50.7**	**+1.3**
PKGZ				S		**S**	**15 55 53.2**	**-0.6**
WCZ	**Waipu Caves**	**4.10**	**238**	P		**P**	**15 54 53.2**	**+3.6**
WIAZ	**Waiheke Island**	**4.11**	**223**	P		**P**	**15 54 53.6**	**+4.0**
ABAZ	**Army Bay**	**4.15**	**227**	P		**P**	**15 54 54.4**	**+4.4**
RUGZ	**Raukumara Rang**	**4.19**	**190**	P		**P**	**15 54 51.1**	**+0.7**
RUGZ				S		**S**	**15 55 52.1**	**-3.7**
MBAZ	**Motutapu North**	**4.23**	**225**	P		**P**	**15 54 55.1**	**+4.5**
PUZ	**Puketiti**	**4.23**	**184**	P		**P**	**15 54 52.2**	**+1.5**
PUZ				S		**S**	**15 55 56.1**	**-0.2**
MKAZ	**Moumakai**	**4.32**	**220**	P		**P**	**15 54 55.3**	**+3.9**
OPRZ	**Ohinepanea**	**4.34**	**202**	P		**P**	**15 54 53.5**	**+2.0**
OUZ	**Omahuta**	**4.38**	**250**	P		**P**	**15 54 55.2**	**+3.3**
EPAZ	**Eden Park BICE**	**4.39**	**225**	P		**P**	**15 54 55.8**	**+3.9**
RVAZ	**Riverhead Bore**	**4.42**	**227**	P		**P**	**15 54 56.6**	**+4.4**
MARZ	**Manawahe**	**4.43**	**200**	P		**P**	**15 54 54.6**	**+2.2**
MARZ				S		**S**	**15 55 59.8**	**+0.5**
EDRZ	**Edgecumbe**	**4.53**	**199**	P		**P**	**15 54 56.0**	**+2.8**
MWZ	**Matawai**	**4.57**	**191**	P		**P**	**15 54 55.0**	**+1.4**
MWZ				S		**S**	**15 56 00.2**	**-1.4**
AWAZ	**Awhitu Peninsu**	**4.58**	**224**	P		**P**	**15 54 57.5**	**+3.9**
URZ	**Urewera**	**4.58**	**195**	P		**P**	**15 54 53.7**	**+0.2**
	52nm,0.3s,baz=270,slow=4.3,SNR=144							
URZ				S		**S**	**15 55 58.1**	**-3.5**
	8.8nm,0.3s,baz=13,slow=23,SNR=11							
URZ	**Urewera**	**4.58**	**195**	P		**P**	**15 54 53.9**	**+0.4**
URZ				S		**S**	**15 55 57.6**	**-3.9**
URZ	**Urewera**	**4.58**	**195**	P		**P**	**15 54 54.2**	**+0.6**
URZ				S		**S**	**15 55 59.2**	**-2.4**
URZ	**Urewera**	**4.58**	**195**	P		**P**	**15 54 54.2**	**+0.6**
KARZ	**Kaharoa**	**4.60**	**204**	P		**P**	**15 54 56.2**	**+2.5**
TKGZ	**Te Karaka**	**4.63**	**188**	P		**P**	**15 54 56.3**	**+2.2**
TKGZ				S		**S**	**15 56 03.2**	**+0.8**
MKRZ	**Makatiti**	**4.63**	**202**	P		**P**	**15 54 58.8**	**+4.6**
OMRZ	**Omania**	**4.63**	**203**	P		**P**	**15 54 57.8**	**+3.6**
TOZ	**Tahuroa Road**	**4.64**	**212**	P		**P**	**15 54 58.0**	**+3.9**
CNGZ	**Carnagh Statio**	**4.65**	**184**	P		**P**	**15 54 56.9**	**+2.7**
CNGZ				S		**S**	**15 56 06.3**	**+3.7**
NGRZ	**Ngongotaha**	**4.69**	**204**	P		**P**	**15 54 59.1**	**+4.4**
TARZ	**Mount Tarawera**	**4.71**	**201**	P		**P**	**15 54 58.5**	**+3.6**
RAGZ	**Rawiri**	**4.75**	**192**	P		**P**	**15 54 56.6**	**+1.5**
RAGZ				S		**S**	**15 56 03.6**	**-0.8**
UTU	**Utuhina**	**4.76**	**204**	P		**P**	**15 54 59.8**	**+4.6**
HLRZ	**Highlands Stat**	**4.78**	**202**	P		**P**	**15 54 59.2**	**+3.9**
RRRZ	**Republican Roa**	**4.81**	**200**	P		**P**	**15 54 58.6**	**+3.0**
HSRZ	**Hossack Road**	**4.86**	**203**	P		**P**	**15 54 59.9**	**+3.8**
MUGZ	**Murupara**	**4.87**	**197**	P		**P**	**15 54 56.7**	**+0.6**
MUGZ				S		**S**	**15 56 04.6**	**-1.6**
RIGZ	**Rimuhau**	**4.91**	**188**	P		**P**	**15 54 58.4**	**+1.9**
RIGZ				S		**S**	**15 56 07.7**	**+0.8**
HRRZ	**Handcock Road**	**4.92**	**202**	P		**P**	**15 55 00.2**	**+3.5**
PRRZ	**Plateau Road**	**4.99**	**201**	P		**P**	**15 55 00.1**	**+2.9**
SNGZ	**Shannon Statio**	**5.04**	**192**	P		**P**	**15 54 58.9**	**+1.2**
SNGZ				S		**S**	**15 56 09.9**	**+0.8**
ALRZ	**Allen Road**	**5.06**	**201**	P		**P**	**15 55 01.1**	**+3.3**
WPRZ	**Whakapapataran**	**5.08**	**202**	P		**P**	**15 55 01.5**	**+3.4**
PRGZ	**Paritu Road**	**5.11**	**187**	P		**P**	**15 55 01.5**	**+3.2**
PRGZ				S		**S**	**15 56 11.6**	**+1.4**
TLZ	**Tolley Road**	**5.13**	**208**	P		**P**	**15 55 01.4**	**+2.8**
KUTZ	**Kaahu Road**	**5.17**	**205**	P		**P**	**15 55 02.6**	**+3.7**
MTHZ	**Maungataniwha**	**5.21**	**196**	P		**P**	**15 55 00.3**	**+1.1**
MTHZ				S		**S**	**15 56 12.4**	**+0.5**
RAHZ	**Arahi**	**5.22**	**193**	P		**P**	**15 55 00.5**	**+1.2**
RAHZ				S		**S**	**15 56 11.7**	**-0.3**
KNZ	**Kokohu**	**5.23**	**188**	P		**P**	**15 55 01.2**	**+1.9**
KNZ				S		**S**	**15 56 13.1**	**+1.0**
WHTZ	**Whakaora**	**5.28**	**203**	P		**P**	**15 55 03.5**	**+3.6**
MRHZ	**Matea Rd**	**5.29**	**199**	P		**P**	**15 55 01.2**	**+1.1**
MRHZ				S		**S**	**15 56 12.2**	**-1.2**
MHGZ	**Mahia Peninsul**	**5.33**	**186**	P		**P**	**15 55 02.7**	**+2.4**
MHGZ				S		**S**	**15 56 15.5**	**+1.6**
WHHZ	**Waihua**	**5.35**	**192**	P		**P**	**15 55 02.3**	**+1.8**
WHHZ				S		**S**	**15 56 14.4**	**+0.3**
WATZ	**Wairara**	**5.39**	**205**	P		**P**	**15 55 04.1**	**+3.1**
GLKZ	**Green Lake**	**5.43**	**34**	P		**P**	**15 54 56.9**	**-4.6**
GLKZ				S		**S**	**15 56 04.3**	**-11**
HATZ	**Hinemaiaia**	**5.44**	**201**	P		**P**	**15 55 03.6**	**+2.2**
NMHZ	**Naumai**	**5.45**	**195**	P		**P**	**15 55 03.2**	**+1.7**
NMHZ				S		**S**	**15 56 17.9**	**+1.9**
RATZ	**Rangitukua**	**5.52**	**204**	P		**P**	**15 55 04.5**	**+2.3**
ARHZ	**Aropaoanui**	**5.57**	**193**	P		**P**	**15 55 04.3**	**+1.8**
HIZ	**Hauiti**	**5.57**	**212**	P		**P**	**15 55 03.4**	**+0.8**
HIZ	**Hauiti**	**5.57**	**212**	P		**P**	**15 55 07.4**	**+4.8**
HIZ	**Hauiti**	**5.57**	**212**	P		**P**	**15 55 05.9**	**+3.3**
BKZ	**Black Stump Fm**	**5.59**	**197**	P		**P**	**15 55 02.9**	**+0.2**
BKZ	**Black Stump Fm**	**5.59**	**197**	P		**P**	**15 55 03.0**	**+0.2**
BKZ	**Black Stump Fm**	**5.59**	**197**	P		**P**	**15 55 03.9**	**+1.1**
RITZ	**Rihia Road**	**5.59**	**203**	P		**P**	**15 55 05.4**	**+2.6**
KATZ	**Kakaramea**	**5.64**	**204**	P		**P**	**15 55 07.0**	**+3.6**
NTVZ	**North Tongarir**	**5.76**	**204**	P		**P**	**15 55 06.8**	**+2.2**
TMVZ	**Te Maari**	**5.77**	**203**	P		**P**	**15 55 05.6**	**+1.0**
KRVZ	**Karewarewa**	**5.77**	**204**	P		**P**	**15 55 07.3**	**+2.7**
ETVZ	**East Tongariro**	**5.79**	**203**	P		**P**	**15 55 05.7**	**+1.0**
MCHZ	**McNeill Hill**	**5.81**	**195**	P		**P**	**15 55 05.8**	**+1.0**
WTVZ	**West Tongariro**	**5.81**	**204**	P		**P**	**15 55 05.8**	**+0.9**
NNVZ	**North Ngauruho**	**5.81**	**204**	P		**P**	**15 55 07.5**	**+2.5**
TWVZ	**Taurewa**	**5.82**	**205**	P		**P**	**15 55 07.7**	**+2.7**
OTVZ	**Oturere**	**5.83**	**203**	P		**P**	**15 55 05.9**	**+0.8**
KWHZ	**Kaweka Forest**	**5.85**	**197**	P		**P**	**15 55 05.7**	**+0.5**
SNVZ	**South Ngauruho**	**5.85**	**203**	P		**P**	**15 55 06.6**	**+1.1**
NGZ	**Ngauruhoe**	**5.86**	**204**	P		**P**	**15 55 07.1**	**+1.7**
TUVZ	**Tukino**	**5.92**	**203**	P		**P**	**15 55 07.6**	**+1.5**
CKHZ	**Cape Kidnapper**	**5.94**	**192**	P		**P**	**15 55 08.7**	**+2.7**
FWVZ	**Far West T-bar**	**5.95**	**204**	P		**P**	**15 55 07.4**	**+1.0**
WHVZ	**Whangaehu Hut**	**5.96**	**203**	P		**P**	**15 55 08.2**	**+1.7**
TRVZ	**Turoa**	**5.99**	**204**	P		**P**	**15 55 07.7**	**+0.9**
WNVZ	**Wahianoa**	**6.00**	**203**	P		**P**	**15 55 07.1**	**+0.3**
BHHZ	**Black Hill Sta**	**6.00**	**199**	P		**P**	**15 55 06.8**	**0.0**
MOVZ	**Moawhango**	**6.02**	**202**	P		**P**	**15 55 07.9**	**+1.0**
KRHZ	**Kereru**	**6.07**	**197**	P		**P**	**15 55 07.6**	**+0.2**
MTVZ	**Mangateitei**	**6.09**	**204**	P		**P**	**15 55 10.1**	**+2.5**
KAHZ	**Kahuranaki**	**6.11**	**193**	P		**P**	**15 55 09.4**	**+1.7**
PNHZ	**Pukenui**	**6.37**	**197**	P		**P**	**15 55 10.9**	**+0.6**
WAZ	**Wanganui**	**6.59**	**205**	P		**P**	**15 55 14.5**	**+2.1**
BFZ	**Birch Farm**	**7.09**	**195**	P		**P**	**15 55 17.7**	**+0.3**
BFZ				S		**S**	**15 56 42.9**	**-2.2**
BFZ	**Birch Farm**	**7.09**	**195**	P		**P**	**15 55 19.5**	**+2.1**
MSWZ	**Moikau Station**	**8.02**	**199**	P		**P**	**15 55 27.6**	**+0.6**
MSWZ				S		**S**	**15 56 56.5**	**-6.1**
SNZO	**South Karori**	**8.08**	**202**	P		**P**	**15 55 28.4**	**+0.9**
SNZO	**South Karori**	**8.08**	**202**	P		**P**	**15 55 29.2**	**+1.7**
BHW	**Baring Head**	**8.12**	**200**	P		**P**	**15 55 28.1**	**+0.2**
PLWZ	**Palliser**	**8.17**	**198**	P		**P**	**15 55 29.2**	**+0.8**
TUWZ	**Tuamarina**	**8.44**	**205**	P		**P**	**15 55 31.9**	**+0.7**
TUWZ				S		**S**	**15 57 04.1**	**-6.4**
NNZ	**Nelson**	**8.46**	**208**	P		**P**	**15 55 31.5**	**0.0**
QRZ	**Quartz Range**	**8.50**	**213**	P		**P**	**15 55 32.2**	**+0.3**
QRZ	**Quartz Range**	**8.50**	**213**	P		**P**	**15 55 33.8**	**+1.9**
CMWZ	**Cape Campbell**	**8.63**	**203**	P		**P**	**15 55 34.9**	**+1.6**
CMWZ						**S**	**15 57 09.0**	**-5.2**
BSWZ	**Blackbirch Sta**	**8.71**	**204**	P		**P**	**15 55 31.5**	**-2.7**
BSWZ						**S**	**15 57 10.1**	**-5.7**
THZ	**Tophouse**	**9.11**	**208**	P		**P**	**15 55 37.5**	**-0.9**
THZ						S	15 57 14.3	-9.2
KHZ	**Kahutara**	**9.45**	**204**	P		**P**	**15 55 42.9**	**+1.0**
KHZ						S	15 57 21.3	-8.6
KHZ	**Kahutara**	**9.45**	**204**	P		**P**	**15 55 44.5**	**+2.7**
LTZ	**Lake Taylor**	**10.23**	**207**	P		**P**	**15 55 49.2**	**-0.9**
OXZ	**Oxford**	**10.78**	**207**	P		**P**	**15 55 56.3**	**+0.4**
OXZ						**S**	**15 57 52.0**	**-3.7**
MQZ	**McQueen's Vall**	**10.90**	**204**	P		**P**	**15 55 55.8**	**-1.3**
RPZ	**Rata Peaks**	**11.49**	**209**	P		**P**	**15 56 04.5**	**+1.0**
	0.6nm,0.3s,baz=354,slow=13,SNR=1.9							
RPZ				S		**S**	**15 58 07.5**	**-2.0**
	0.6nm,0.3s,baz=81,slow=16,SNR=1.4							
RPZ	**Rata Peaks**	**11.49**	**209**	P		**P**	**15 56 01.3**	**-2.1**
RPZ	**Rata Peaks**	**11.49**	**209**	P		**P**	**15 56 05.8**	**+2.3**
FOZ	**Fox Glacier**	**11.87**	**213**	P		**P**	**15 56 05.4**	**-2.0**
LBZ	**Lake Benmore**	**12.40**	**209**	P		**P**	**15 56 11.0**	**-2.1**
ODZ	**Otahua Downs**	**12.77**	**206**	P		**P**	**15 56 14.8**	**-2.1**
WKZ	**Wanaka**	**13.24**	**211**	P		**P**	**15 56 19.9**	**-2.1**
MLZ	**Mavora Lakes**	**14.06**	**212**	P		**P**	**15 56 28.2**	**-2.4**
WHZ	**Wether Hill Ro**	**14.55**	**211**	P		**P**	**15 56 34.7**	**-1.0**
DCZ	**Deep Cove**	**14.57**	**214**	P		**P**	**15 56 32.5**	**-3.5**
OUENC	**Ouen Island, N**	**15.40**	**315**	P		**P**	**15 56 47.5**	**+2.5**
DZM	**Mont Dzumac**	**15.90**	**314**	P		**P**	**15 56 53.0**	**+2.7**
	0.4nm,0.3s,baz=182,slow=9.4,SNR=5.7							
DZM	**Mont Dzumac**	**15.90**	**314**	P		**P**	**15 56 48.5**	**-1.8**
MSVF	**Nonsavu**	**16.05**	**358**	P		**P**	**15 56 50.6**	**-1.2**
MSVF				IAmb		IAmb	15 56 56.5	
	comp=Z,17nm,1.4s							
KOUNC	**Koumac, New Ca**	**18.36**	**313**	P		**P**	**15 57 14.7**	**+0.4**
KOUNC				IAmb		IAmb	15 57 17

JAKH					IAML			16 11 20.0	
	comp=Z,875nm,1.3s								
LGNH	**Logne**	**1.03**	**287**	*eP*		**Pb**		**16 10 57.5**	**-1.2**
LGNH				*eS*		**Sg**		**16 11 14.1**	**+1.8**
LGNH	**Logne**	**1.03**	**287**	⇑*iP*		**Pb**		**16 10 57.5**	**-1.2**
LGNH				*eS*		**Sn**		**16 11 15.5**	**+2.0**
LGNH					IAML			16 11 29.4	
	comp=Z,808nm,0.9s								
BANI	**BANI**	**1.16**	**81**	⇓*iP*		**Pn**		**16 10 59.0**	**-2.0**
LODA1	**ITESIL, Dajabo**	**1.34**	**354**	*iP*		**Pn**		**16 11 02.6**	**-0.7**
LODA1				*eS*		**Sn**		**16 11 20.2**	**-0.8**
LODA1					IAML			16 11 23.5	
	comp=Z,1μm,0.3s								
SC01	**Santiago de lo**	**1.45**	**33**	⇓*iP*		**Pn**		**16 11 04.1**	**-0.7**
SC01				*eS*		**Sn**		**16 11 24.8**	**+1.0**
SC01					IAML			16 11 35.8	
	comp=Z,864nm,0.6s								
SDD	**Santo Domingo**	**1.59**	**81**	⇑*iP*		**Pn**		**16 11 06.2**	**-0.5**
SDD				*eS*		**Sn**		**16 11 28.3**	**+1.1**
SDD					IAML			16 11 31.6	
	comp=Z,107nm,0.7s								
LOPP1	**Punta Rusia, P**	**1.68**	**12**	*iP*		**Pn**		**16 11 08.8**	**+0.9**
LOPP1				*eS*		**Sb**		**16 11 32.6**	**+2.0**
LOPP1					IAML			16 11 41.7	
	comp=Z,2μm,5.6s								
PCDR	**Punta Cana, DR**	**3.04**	**84**	*iP*		**Pn**		**16 11 29.1**	**+2.5**
PCDR					IAML			16 12 23.1	
	comp=Z,210nm,0.8s								
MASC	**Masc**	**3.19**	**308**	*eP*		**Pn**		**16 11 28.3**	**-0.5**
MASC				*eS*		**Sn**		**16 12 06.2**	**-0.5**
GRTK	**Grand Turk**	**3.31**	**7**	*eP*		**Pn**		**16 11 30.9**	**+0.5**
GRTK				*eS*		**Sn**		**16 12 10.4**	**+0.7**
GRTK	**Grand Turk**	**3.31**	**7**	*iP*		**Pn**		**16 11 31.0**	**+0.5**
GRTK				*eS*		**Sn**		**16 12 10.8**	**+1.0**
GTBY	**Guantanamo Bay**	**3.77**	**298**	*eP*		**Pn**		**16 11 36.1**	**-0.6**
GTBY				*eS*		**Sn**		**16 12 23.9**	**+2.9**
GTBY	**Guantanamo Bay**	**3.77**	**298**	*iP*		**Pn**		**16 11 36.2**	**-0.5**
MOAC	**Moa**	**4.03**	**308**	*eP*		**Pn**		**16 11 40.1**	**-0.2**
MOAC				*eP*		**Sn**		**16 12 29.6**	**+2.2**
AGPR	**Aguadilla, PR**	**4.24**	**86**	*iP*		**Pn**		**16 11 47.5**	**+4.4**
CRPR	**Cabo Rojo, PR**	**4.24**	**92**	*iP*		**Pn**		**16 11 43.1**	**-0.1**
RCC	**Rio Carpintero**	**4.29**	**295**	*eP*		**Pn**		**16 11 43.0**	**-0.9**
RCC				*eS*		**Sn**		**16 12 34.9**	**+0.9**
SJG	**San Juan**	**5.15**	**90**	Pn		**Pn**		**16 11 58.3**	**+2.6**
	comp=Z,3.5nm,0.3s,baz=262,slow=7.2,SNR=3.7								
SJG				Sn		**Sn**		**16 13 00.7**	**+5.6**
	comp=Z,1.8nm,0.3s,baz=343,slow=22,SNR=1.4								
LMGC	**Las Mercedes**	**5.47**	**291**	*eP*		**Pn**		**16 11 58.2**	**-1.8**
LMGC				*eS*		**Sn**		**16 13 01.5**	**-1.4**
MTDJ	**Mount Denham**	**5.67**	**271**	*eP*		**Pn**		**16 12 01.8**	**-1.2**
SDV	**Santo Domingo**	**9.31**	**174**	Pn		**Pn**		**16 12 54.1**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=319,slow=9.4,SNR=6.8								
SDV				Sn		**Sn**		**16 14 35.4**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=3.2,slow=18,SNR=3.2								
SDV				LR		LR		16 16 30.5	
	comp=Z,80nm,19.9s,baz=60,slow=38								
SDV	**Santo Domingo**	**9.31**	**174**	*eP*		**Pn**		**16 12 55.5**	**+2.5**
SDV				*eS*		**Sn**		**16 14 33.3**	**-4.5**
SOCV	**Socops**	**9.89**	**176**	*eP*		**Pn**		**16 13 01.2**	**+0.3**
SOCV				*eS*		**Sn**		**16 14 46.6**	**-5.2**
PTBC	**PUERTO BERRIO,**	**11.93**	**194**	*eP*		**Pn**		**16 13 28.9**	**+0.1**
PTBC				*eS*		**Sn**		**16 15 39.1**	**-2.9**
RUSC	**La Rusia**	**12.33**	**187**	*eP*		**Pn**		**16 13 33.5**	**-1.2**
RUSC				*eS*		**Sn**		**16 15 49.5**	**-2.9**
CBOC	**Ciudad Bolivar**	**13.01**	**200**	*eP*		**Pn**		**16 13 46.1**	**+2.3**
GUY2C	**Guyana, Caldas**	**13.43**	**197**	*eP*		**Pn**		**16 13 50.8**	**+1.1**
TXAR	**Lajitas Array**	**31.30**	**297**	P		**P**		**16 16 59.2**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=96,slow=9.2,SNR=2.1								
PDAR	**Pinedale Array**	**40.38**	**316**	P		**P**		**16 18 17.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=118,slow=9.3,SNR=2.0								
YKA	**Yellowknife Ar**	**53.30**	**337**	P		**P**		**16 19 57.6**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=162,slow=6.5,SNR=3.7								
ESDC	**Sonseca Array**	**61.51**	**54**	P		**P**		**16 20 56.7**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=279,slow=7.8,SNR=4.4								
ILAR	**Eielson Array**	**67.43**	**333**	P		**P**		**16 21 32.6**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=78,slow=5.8,SNR=2.5								
TORD	**Torodi Ar. Bea**	**70.31**	**82**	P		**P**		**16 21 54.7**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=204,slow=3.2,SNR=1.1								
NOA	**NORSAR Array B**	**70.77**	**31**	P		**P**		**16 21 55.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=243,slow=14,SNR=1.3								
ASAR	**Alice Springs**	**155.62**	**253**	PKPab		**PKPab**		**16 30 59.3**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=106,slow=4.1,SNR=4.2								

JMA ***17*** *16:15:52.8±0.1, 24.07N×122.27E, h39km±4km, M3.8*
TAP ***17*** *16:15:53.2, 24.15N×122.30E, h48km, ML4.1, C*
IDC ***17*** *16:15:54.2±4.9, 24.23N×122.41E, h61km±46km, mb3.3/6, mb1 3.5/8, mb1mx3.2/47, mbtmp3.7/8, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/40, Error ellipse: s-maj=33.0km s-min=23.7km az=48.0*

ISC 17 16:15:52.9±0.8, 24.12N±0.02×122.31E±0.02, h45km±9km, n188, σ1§61/352, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
EHP	**Heping Village**	**0.56**	**290**	*eP*	**Pn**	**16 16 05.2**	**+0.7**
	baz=288						
EHP				*eS*	**Sn**	**16 16 14.3**	**+1.5**
	baz=288						
EWUT	**Wuta**	**0.58**	**303**	P	**Pn**	**16 16 05.2**	**+0.3**
	baz=307						
EWUT				S	**Sn**	**16 16 13.8**	**+0.3**
	baz=307						
ENA	**Nanau**	**0.60**	**300**	*i* P	**Pn**	**16 16 05.6**	**+0.4**
	baz=306						
ENA				*i* S	**Sn**	**16 16 14.7**	**+0.7**
	baz=306						
ETL	**Fush Village**	**0.63**	**273**	P	**Pn**	**16 16 05.6**	**0.0**
	baz=261						
ETL				S	**Sn**	**16 16 15.4**	**+0.7**
	baz=261						
TWC	**Suao**	**0.64**	**319**	*i* P	**Pn**	**16 16 05.7**	**+0.1**
	baz=319						
TWC				*i* S	**Sn**	**16 16 14.3**	**-0.5**
	baz=319						
TWD	**Chiawan**	**0.66**	**266**	P	**Pn**	**16 16 05.9**	**0.0**
	baz=256						
TWD				S	**Sn**	**16 16 15.0**	**-0.2**
	baz=256						
NACB	**Ninganchiao**	**0.66**	**275**	P	**Pn**	**16 16 05.8**	**0.0**
	baz=262						
NACB				S	**Sn**	**16 16 15.4**	**+0.2**
	baz=262						
JYNG	**Yonagunijimaku**	**0.66**	**60**	P	**Pn**	**16 16 06.6**	**+0.7**
JYNG				S	**Sn**	**16 16 16.5**	**+1.2**
HWA	**Hwalien**	**0.67**	**258**	P	**Pn**	**16 16 06.4**	**+0.5**
	baz=254						
HWA				S	**Sn**	**16 16 16.4**	**+1.1**
	baz=254						
TEYL	**Yanliau Villag**	**0.70**	**249**	P	**Pn**	**16 16 06.5**	**+0.1**
	baz=241						
TEYL				S	**Sn**	**16 16 17.0**	**+0.7**
	baz=241						
YOJ	**Yonaguni jima**	**0.72**	**62**	P	**Pn**	**16 16 07.4**	**+0.7**
YOJ				S	**Sn**	**16 16 17.2**	**+0.6**
YOJ	**Yonaguni jima**	**0.72**	**62**	P	**Pn**	**16 16 07.7**	**+1.0**
	baz=64						
YOJ				S	**Sn**	**16 16 18.1**	**+1.5**
	baz=64						
YOJ	**Yonaguni jima**	**0.72**	**62**	P	**Pn**	**16 16 07.6**	**+1.0**
NDS	**Dongshan**	**0.75**	**313**	P	**Pn**	**16 16 07.7**	**+0.6**
	baz=312						
NDS				S	**Sn**	**16 16 17.7**	**+0.4**
	baz=312						
ETLH	**Xiulin Townshi**	**0.77**	**276**	P	**Pn**	**16 16 07.4**	**0.0**
	baz=274						
ETLH				S	**Sn**	**16 16 17.9**	**0.0**
	baz=274						
ETM	**Tongmen**	**0.77**	**258**	P	**Pn**	**16 16 07.2**	**-0.2**
	baz=252						
ETM				S	**Sn**	**16 16 18.2**	**+0.4**
	baz=252						
EGS		**0.80**	**334**	P	**Pn**	**16 16 08.6**	**+0.9**
	baz=329						
EGS				S	**Sn**	**16 16 19.0**	**+0.4**
	baz=329						
TEGC	**Jichi Village**	**0.82**	**240**	P	**Pn**	**16 16 08.2**	**+0.2**
	baz=232						
TEGC				S	**Sn**	**16 16 19.7**	**+0.7**
	baz=232						
ILA	**Ilan**	**0.82**	**321**	P	**Pn**	**16 16 09.1**	**+1.1**
	baz=317						
ILA				S	**Sn**	**16 16 20.9**	**+1.8**
	baz=317						
LATG	**Datong**	**0.83**	**300**	P	**Pn**	**16 16 08.6**	**+0.4**
	baz=299						
LATG				S	**Sn**	**16 16 20.1**	**+0.7**
	baz=299						
TWE	**Neicheng**	**0.84**	**315**	P	**Pn**	**16 16 09.1**	**+0.8**
	baz=315						
TWE				S	**Sn**	**16 16 20.4**	**+0.9**
	baz=315						
NTC	**Toucheng**	**0.85**	**329**	P	**Pn**	**16 16 09.0**	**+0.6**
	baz=335						
NTC				S	**Sn**	**16 16 20.3**	**+0.4**
	baz=335						
ENTT	**Nioudou**	**0.85**	**307**	P	**Pn**	**16 16 09.2**	**+0.7**
	baz=298						
ENTT				S	**Sn**	**16 16 20.2**	**+0.3**
	baz=298						
ESL	**Shilin**	**0.86**	**249**	P	**Pn**	**16 16 08.3**	**-0.3**
	baz=240						
ESL				S	**Sn**	**16 16 20.3**	**+0.2**
	baz=240						
NDT	**Datong Townshi**	**0.87**	**303**	P	**Pn**	**16 16 09.3**	**+0.5**
	baz=295						
NDT				S	**Sn**	**16 16 21.1**	**+0.7**
	baz=295						
NNSB	**Datong**	**0.90**	**290**	P	**Pn**	**16 16 09.6**	**+0.3**
	baz=288						
NNSB				S	**Sn**	**16 16 21.5**	**+0.2**
	baz=288						
NNS	**Nan Shan**	**0.92**	**290**	P	**Pn**	**16 16 09.7**	**+0.3**
	baz=289						
NNS				*i* S	**Sn**	**16 16 22.1**	**+0.5**
	baz=289						
FUSB	**Fushanzhiwuyua**	**0.92**	**314**	P	**Pn**	**16 16 10.2**	**+0.8**
	baz=304						
FUSB				S	**Sn**	**16 16 22.2**	**+0.7**
	baz=304						
EGFH	**Guangfu**	**0.93**	**241**	*i* P	**Pn**	**16 16 09.4**	**-0.1**
	baz=239						
EGFH				*i* S	**Sn**	**16 16 21.6**	**-0.1**
	baz=239						
TWB1	**Santiao Chiao**	**0.93**	**341**	*i* P	**Pn**	**16 16 09.6**	**+0.1**
	baz=342						
TWB1				*e*S	**Sn**	**16 16 21.5**	**-0.2**
	baz=342						
TIPB	**Shuangxi**	**0.95**	**332**	P	**Pn**	**16 16 10.3**	**+0.4**
	baz=343						
TIPB				*i* S	**Sn**	**16 16 22.5**	**+0.1**
	baz=343						
WHF	**Hehuan Shan**	**0.96**	**272**	*i* P	**Pn**	**16 16 10.3**	**0.0**
	baz=260						
WHF				*i* S	**Sn**	**16 16 23.0**	**-0.1**
	baz=260						
FUSS	**Fushou**	**0.99**	**277**	P	**Pn**	**16 16 10.9**	**+0.4**
	baz=267						
FUSS				S	**Sn**	**16 16 23.9**	**+0.5**
	baz=267						
NWLT	**Wulai**	**0.99**	**312**	P	**Pn**	**16 16 11.1**	**+0.7**
	baz=300						
NWLT				S	**Sn**	**16 16 23.9**	**+0.7**
	baz=300						
YHNB	**Yeheng**	**1.01**	**303**	P	**Pn**	**16 16 11.4**	**+0.7**
	baz=301						
YHNB				S	**Sn**	**16 16 24.0**	**+0.1**
	baz=301						
YHNB	**Yeheng**	**1.01**	**303**	P	**Pn**	**16 16 11.4**	**+0.7**
HGSD	**Ruisui**	**1.03**	**233**	P	**Pn**	**16 16 10.7**	**-0.2**
	baz=225						
NSK	**Sanguang**	**1.03**	**302**	P	**Pn**	**16 16 11.7**	**+0.7**
	baz=301						
NSK				S	**Sn**	**16 16 24.6**	**+0.3**
	baz=301						
CHGB	**Renai**	**1.04**	**267**	P	**Pn**	**16 16 11.7**	**+0.4**
	baz=256						
CHGB				S	**Sn**	**16 16 25.5**	**+0.6**
	baz=256						
SXI1	**Grass Mountain**	**1.05**	**338**	P	**Pn**	**16 16 11.5**	**+0.3**
	baz=338						
SXI1				S	**Sn**	**16 16 25.2**	**+0.5**
	baz=338						
TWT	**Tachien**	**1.05**	**277**	P	**Pn**	**16 16 12.2**	**+0.9**
	baz=266						
TWT				S	**Sn**	**16 16 25.4**	**+0.6**
	baz=266						
OWD	**Renai**	**1.05**	**261**	P	**Pn**	**16 16 11.8**	**+0.4**
	baz=259						
OWD				S	**Sn**	**16 16 24.4**	**-0.6**
	baz=259						
NWF	**Wu-fen Shan**	**1.06**	**333**	*i* P	**Pn**	**16 16 11.8**	**+0.4**
	baz=344						
NWF				S	**Sn**	**16 16 25.0**	**-0.1**
	baz=344						
WFSB	**Wu-fen Shan**	**1.06**	**333**	P	**Pn**	**16 16 11.9**	**+0.6**
	baz=344						
WFSB				S	**Sn**	**16 16 25.6**	**+0.6**
	baz=344						
TWA	**Mucha**	**1.08**	**322**	P	**Pn**	**16 16 12.8**	**+1.1**
	baz=334						
TWA				S	**Sn**	**16 16 26.5**	**+1.0**
	baz=334						
EHY	**Hungye**	**1.10**	**236**	P	**Pn**	**16 16 11.7**	**-0.1**
	baz=234						
EHY				S	**Sn**	**16 16 25.9**	**+0.1**
	baz=234						
WUSB	**Renai**	**1.10**	**263**	P	**Pn**	**16 16 12.4**	**+0.4**
	baz=261						
WUSB				S	**Sn**	**16 16 26.6**	**+0.5**
	baz=261						
NHDH	**Xindian Distri**	**1.10**	**319**	P	**Pn**	**16 16 13.2**	**+1.4**
	baz=330						
NHDH				S	**Sn**	**16 16 26.6**	**+0.7**
	baz=330						
ECBN	**Changbin**	**1.13**	**225**	P	**Pn**	**16 16 12.2**	**0.0**
	baz=213						
ECBN				S	**Sn**	**16 16 26.1**	**-0.4**
	baz=213						
TATO	**Taipei**	**1.13**	**319**	P	**Pn**	**16 16 13.3**	**+1.0**
	baz=318						
TATO				S	**Sn**	**16 16 28.2**	**+1.5**
	baz=318						
TNOU	**National Taiwa**	**1.14**	**334**	P	**Pn**	**16 16 12.5**	**+0.2**
	baz=344						
TNOU				S	**Sn**	**16 16 26.0**	**-0.7**
	baz=344						
VWDT	**VWDT**	**1.14**	**251**	P	**Pn**	**16 16 13.1**	**+0.8**
	baz=249						
VWDT				S	**Sn**	**16 16 27.0**	**+0.3**
	baz=249						
NHY	**Taipei**	**1.14**	**324**	P	**Pn**	**16 16 13.9**	**+1.6**
	baz=335						
NHY				S	**Sn**	**16 16 27.9**	**+1.1**
	baz=335						
TAP	**Taipei**	**1.17**	**321**	P	**Pn**	**16 16 13.7**	**+0.9**
	baz=321						
TAP				S	**Sn**	**16 16 28.1**	**+0.4**
	baz=321						
BACT	**New Taipei Cit**	**1.18**	**318**	P	**Pn**	**16 16 14.0**	**+1.1**
	baz=317						
YULB	**Yu-li**	**1.18**	**232**	P	**Pn**	**16 16 12.9**	**0.0**
	baz=242						
YULB				S	**Sn**	**16 16 27.3**	**-0.6**
	baz=242						
EYUL	**Yuli**	**1.20**	**230**	P	**Pn**	**16 16 13.5**	**+0.4**
	baz=241						
EYUL				S	**Sn**	**16 16 28.8**	**+0.6**
	baz=241						
NFF	**Wufeng Townshi**	**1.20**	**295**	P	**Pn**	**16 16 14.4**	**+1.1**
	baz=294						
NFF				S	**Sn**	**16 16 29.3**	**+0.8**
	baz=294						
TWF1	**Yuli**	**1.21**	**231**	P	**Pn**	**16 16 13.4**	**+0.1**
	baz=241						
TWF1				S	**Sn**	**16 16 28.6**	**0.0**
	baz=241						
YM01	**YM01**	**1.22**	**327**	P	**Pn**	**16 16 13.9**	**+0.3**
	baz=338						
YM01				S	**Sn**	**16 16 28.8**	**-0.2**
	baz=338						
WPL	**Puli Township**	**1.25**	**265**	P	**Pn**	**16 16 14.8**	**+0.9**
	baz=257						
WPL				S	**Sn**	**16 16 29.8**	**+0.4**
	baz=257						
YM08	**YM08**	**1.25**	**328**	P	**Pn**	**16 16 13.8**	**-0.1**
	baz=339						
YM08				S	**Sn**	**16 16 28.7**	**-0.8**
	baz=339						
WHP	**Taichung City**	**1.26**	**277**	P	**Pn**	**16 16 15.3**	**+1.2**
	baz=267						
WHP				S	**Sn**	**16 16 30.8**	**+0.9**
	baz=267						
TWS1	**Kuangyinshan**	**1.27**	**320**	P	**Pn**	**16 16 15.1**	**+1.0**
	baz=332						
TWS1				S	**Sn**	**16 16 31.1**	**+1.0**
	baz=332						
DPDB	**Guoxing**	**1.27**	**266**	P	**Pn**	**16 16 15.2**	**+1.0**
	baz=260						
DPDB				S	**Sn**	**16 16 31.5**	**+1.3**
	baz=260						
NTY	**Taoyuan**	**1.27**	**314**	P	**Pn**	**16 16 15.3**	**+1.1**
	baz=313						
NTY				S	**Sn**	**16 16 31.9**	**+1.8**
	baz=313						
NJD	**Zhudong**	**1.27**	**299**	P	**Pn**	**16 16 15.9**	**+1.7**
	baz=298						
NJD				S	**Sn**	**16 16 32.4**	**+2.2**
	baz=298						
ANP	**Anpu**	**1.28**	**326**	P	**Pn**	**16 16 15.4**	**+1.0**
	baz=338						
ANP				S	**Sn**	**16 16 31.2**	**+0.7**
	baz=338						
WCS	**Beigang Elemen**	**1.28**	**267**	P	**Pn**	**16 16 15.3**	**+1.0**
	baz=261						
WCS				S	**Sn**	**16 16 31.2**	**+0.8**
	baz=261						
SSLB	**Suanglung**	**1.29**	**255**	P	**Pn**	**16 16 14.9**	**+0.5**
	baz=260						
SSLB				S	**Sn**	**16 16 30.9**	**+0.3**
	baz=260						
SSLB	**Suanglung**	**1.29**	**255**	P	**Pn**	**16 16 15.2**	**+0.8**
LIOB	**Emei**	**1.29**	**294**	P	**Pn**	**16 16 16.1**	**+1.6**
	baz=293						
LIOB				S	**Sn**	**16 16 32.8**	**+2.1**
	baz=293						
NSTT	**Nanjuang**	**1.30**	**293**	P	**Pn**	**16 16 16.1**	**+1.5**
	baz=292						
NSTT				S	**Sn**	**16 16 32.5**	**+1.7**
	baz=292						
NTST	**Danshui**	**1.30**	**323**	P	**Pn**	**16 16 15.3**	**+0.7**
	baz=334						
NTST				S	**Sn**	**16 16 31.5**	**+0.6**
	baz=334						
IRIF	**Iriomote-Funau**	**1.31**	**80**	P	**Pn**	**16 16 15.5**	**+0.8**
IRIF				S	**Sn**	**16 16 32.2**	**+1.2**
FULB	**Fuli**	**1.31**	**226**	P	**Pn**	**16 16 14.6**	**-0.2**
	baz=214						
FULB				S	**Sn**	**16 16 31.3**	**+0.2**
	baz=214						
SMLT	**Sun Moon Lake**	**1.32**	**260**	P	**Pn**	**16 16 16.0**	**+1.1**
	baz=258						
SMLT				S	**Sn**	**16 16 32.0**	**+0.7**
	baz=258						
TWY	**Chenhua**	**1.32**	**331**	*eP*	**Pn**	**16 16 16.6**	**+1.8**
	baz=341						
TWY				S	**Sn**	**16 16 31.7**	**+0.4**
	baz=341						
CHKT	**Chengkung**	**1.34**	**221**	P	**Pn**	**16 16 14.5**	**-0.6**
	baz=212						
CHKT				S	**Sn**	**16 16 29.8**	**-1.9**
	baz=212						
HSN1	**Hsinchu**	**1.35**	**299**	P	**Pn**	**16 16 16.7**	**+1.5**
	baz=298						
HSN1				S	**Sn**	**16 16 33.5**	**+1.5**
	baz=298						
TYC	**Yuchr**	**1.35**	**261**	P	**Pn**	**16 16 16.4**	**+1.1**
	baz=259						
TYC				S	**Sn**	**16 16 32.6**	**+0.6**
	baz=259						
HATJ	**Hateruma jima**	**1.36**	**92**	P	**Pn**	**16 16 16.7**	**+1.3**
HATJ				*e*S	**Sn**	**16 16 34.3**	**+2.0**
SBCB	**Hsinchu**	**1.38**	**299**	P	**Pn**	**16 16 17.2**	**+1.5**
	baz=298						
SBCB				S	**Sn**	**16 16 34.0**	**+1.2**
	baz=298						
YUS	**Yu-Shan**	**1.40**	**243**	P	**Pn**	**16 16 17.2**	**+0.9**
	baz=232						
YUS				S	**Sn**	**16 16 33.6**	**-0.3**
	baz=232						
HSN	**Hsinchu**	**1.40**	**299**	P	**Pn**	**16 16 16.6**	**+0.6**
	baz=299						
TWQ1	**Liyutan**	**1.43**	**279**	P	**Pn**	**16 16 18.1**	**+1.8**
	baz=278						
TWQ1				S	**Sn**	**16 16 36.1**	**+2.2**
	baz=278						
NJN	**Zhunan**	**1.43**	**293**	P	**Pn**	**16 16 17.9**	**+1.5**
	baz=292						
NJN				S	**Sn**	**16 16 35.5**	**+1.6**
	baz=292						
ECS	**Chishang**	**1.43**	**225**	P	**Pn**	**16 16 16.8**	**+0.4**
	baz=216						
ECS				S	**Sn**	**16 16 34.8**	**+0.8**
	baz=216						
NSY	**Sanyi**	**1.45**	**282**	*i* P	**Pn**	**16 16 18.4**	**+1.8**
	baz=280						
NSY				*e*S	**Sn**	**16 16 37.4**	**+3.0**
	baz=280						
NMLH	**Miaoli**	**1.45**	**287**	P	**Pn**	**16 16 18.2**	**+1.6**
	baz=285						
NMLH				S	**Sn**	**16 16 36.8**	**+2.3**
	baz=285						
NHW	**Xinwu Township**	**1.45**	**308**	P	**Pn**	**16 16 17.6**	**+1.0**
	baz=306						
NHW				S	**Sn**	**16 16 35.8**	**+1.3**
	baz=306						
EDH	**Donghe**	**1.47**	**219**	P	**Pn**	**16 16 16.5**	**-0.4**
	baz=211						
EDH				S	**Sn**	**16 16 33.3**	**-1.7**
	baz=211						
WWF	**Wufeng**	**1.48**	**267**	P	**Pn**	**16 16 19.3**	**+2.3**
	baz=265						
WWF				S	**Sn**	**16 16 39.1**	**+3.9**
	baz=265						
WJS	**Zhushan**	**1.48**	**259**	P	**Pn**	**16 16 19.1**	**+2.0**
	baz=257						
WJS				S	**Sn**	**16 16 38.1**	**+2.9**
	baz=257						
TCU	**Taichung**	**1.50**	**271**	P	**Pn**	**16 16 19.1**	**+1.9**
	baz=269						
TCU				S	**Sn**	**16 16 38.7**	**+3.1**
	baz=269						
ELDTW	**Lidau**	**1.51**	**232**	P	**Pn**	**16 16 17.5**	**-0.1**
	baz=222						
ELDTW				S	**Sn**	**16 16 35.5**	**-0.6**
	baz=222						
WNT1	**Nantou City**	**1.51**	**262**	P	**Pn**	**16 16 19.9**	**+2.4**
	baz=260						
WNT1				S	**Sn**	**16 16 39.0**	**+3.1**
	baz=260						
ALS	**Alishan**	**1.51**	**246**	P	**Pn**	**16 16 19.0**	**+1.3**
	baz=244						
ALS				S	**Sn**	**16 16 36.9**	**+0.5**
	baz=244						
WNT	**Mingjian**	**1.51**	**261**	P	**Pn**	**16 16 19.5**	**+2.1**
	baz=259						
WNT				S	**Sn**	**16 16 38.7**	**+2.7**
	baz=259						
PCYT	**Pengchaiyu**	**1.52**	**352**	P	**Pn**	**16 16 17.9**	**+0.4**
	baz=341						
PCYT				S	**Sn**	**16 16 37.0**	**+0.9**
	baz=341						
WDJ	**Dajia District**	**1.54**	**279**	P	**Pn**	**16 16 19.4**	**+1.5**
	baz=277						
WDJ				S	**Sn**	**16 16 39.1**	**+2.3**
	baz=277						
JKRS	**Kuro-shima**	**1.55**	**85**	P	**Pn**	**16 16 19.4**	**+1.4**
JKRS				S	**Sn**	**16 16 39.2**	**+2.3**
CHN5	**Tsauling**	**1.59**	**251**	P	**Pn**	**16 16 20.3**	**+1.7**
	baz=249						
CHN5				S	**Sn**	**16 16 40.1**	**+2.2**
	baz=249						
WYL	**Yuanlin Townsh**	**1.59**	**265**	P	**Pn**	**16 16 20.6**	**+2.0**
	baz=263						
WYL				*e*S	**Sn**	**16 16 41.8**	**+3.8**
	baz=263						
WCHH	**Zhanghua**	**1.60**	**269**	P	**Pn**

baz=253
WDLH Douliu 1.68 255 P **Pn** **16 16 21.5 +1.7**
baz=253
WDLH *e*S **Sn** **16 16 40.8 +0.6**
baz=253
JIJ Ishigaki jima 1.69 81 P **Pn** **16 16 20.5 +0.7**
JIJ S **Sn** **16 16 40.5 +0.2**
STYH Taoyuan 1.70 236 P **Pn** **16 16 21.3 +1.3**
baz=235
STYH S **Sn** **16 16 41.5 +0.9**
baz=235
STYT Tauyuan 1.72 237 P **Pn** **16 16 21.8 +1.4**
baz=235
STYT S **Sn** **16 16 42.2 +1.0**
baz=235
TWGBT Beinan 1.72 221 P **Pn** **16 16 20.0 -0.4**
baz=228
TWGBT S **Sn** **16 16 40.8 -0.5**
baz=228
TWG Pinlang 1.73 222 P **Pn** **16 16 20.0 -0.4**
baz=228
TWG S **Sn** **16 16 40.9 -0.4**
baz=228
TTN Taitung 1.73 218 P **Pn** **16 16 21.6 +1.1**
baz=210
TTN S **Sn** **16 16 42.5 +1.1**
baz=210
TPUB Ta-pu 1.75 242 P **Pn** **16 16 22.8 +2.0**
baz=241
TPUB S **Sn** **16 16 44.4 +2.5**
baz=241
TPUB Ta-pu 1.75 242 P **Pn** **16 16 22.9 +2.2**
CHN4 Tsaushan 1.75 244 P **Pn** **16 16 23.2 +2.4**
baz=242
CHN4 *e*S **Sn** **16 16 45.5 +3.5**
baz=242
WRL Guolierlin Hig 1.79 263 P **Pn** **16 16 22.8 +1.5**
baz=261
WRL S **Sn** **16 16 44.5 +1.8**
baz=261
WTP Ta-pu 1.79 241 P **Pn** **16 16 23.4 +2.1**
baz=239
WTP S **Sn** **16 16 45.9 +3.1**
baz=239
WTK Tuku 1.81 257 P **Pn** **16 16 23.7 +2.1**
baz=245
WTK S **Sn** **16 16 45.5 +2.1**
baz=245
CHY Chiayi 1.84 251 P **Pn** **16 16 24.0 +2.0**
baz=248
CHY S **Sn** **16 16 46.5 +2.5**
baz=248
JISG Ishigakijimahi 1.88 75 P **Pn** **16 16 23.0 +0.5**
JISG *e*S **Sn** **16 16 44.9 -0.1**
WTCT Ta-ch'eng 1.88 263 P **Pn** **16 16 24.6 +2.2**
baz=272
WTCT *e*S **Sn** **16 16 45.0 0.0**
baz=272
TWK Hsinying 1.88 243 P **Pn** **16 16 24.9 +2.4**
baz=241
TWK S **Sn** **16 16 47.7 +2.6**
baz=241
CHN1 Nanshi 1.89 241 P **Pn** **16 16 24.8 +2.2**
baz=239
CHN1 S **Sn** **16 16 47.2 +2.0**
baz=239
SGST Jiashian 1.90 237 P **Pn** **16 16 24.1 +1.3**
baz=235
SGST S **Sn** **16 16 47.7 +2.2**
baz=235
ECL Taimali 1.97 220 P **Pn** **16 16 23.3 -0.4**
baz=226
ECL S **Sn** **16 16 46.3 -0.9**
baz=226
WSF Szhu 1.98 256 P **Pn** **16 16 25.8 +2.0**
baz=267
WSF S **Sn** **16 16 50.5 +3.1**
baz=267
ICHU Yijhu 2.01 248 P **Pn** **16 16 26.2 +1.9**
baz=246
ICHU S **Sn** **16 16 50.5 +2.2**
baz=246
SSD Sandimen 2.07 229 P **Pn** **16 16 26.3 +1.2**
baz=223
SSD S **Sn** **16 16 51.3 +1.7**
baz=223
CHN3 Shinhua 2.07 240 *e*P **Pn** **16 16 28.8 +3.6**
baz=238
CHN3 S **Sn** **16 16 54.1 +4.4**
baz=238
SCST Cishan 2.08 234 *e*P **Pn** **16 16 28.3 +3.1**
baz=244
SCST *e*S **Sn** **16 16 53.9 +4.0**
baz=244
CHN8 Yiju 2.08 249 P **Pn** **16 16 27.7 +2.5**
baz=246
CHN8 S **Sn** **16 16 52.3 +2.5**
baz=246
TSMG Majia 2.08 228 *e*S **Sn** **16 16 53.5 +3.4**
baz=223
SHHT Tainan City 2.11 239 P **Pn** **16 16 27.9 +2.2**
baz=250
SHHT S **Sn** **16 16 55.0 +4.2**
baz=250
MASBT Mashibuluo 2.16 226 P **Pn** **16 16 27.4 +1.0**
baz=222
MASBT S **Sn** **16 16 53.9 +2.1**
baz=222
SCLT Jiali 2.16 245 P **Pn** **16 16 27.4 +1.1**
baz=242
SCLT *e*S **Sn** **16 16 55.4 +3.4**
baz=242
TWM1 Shoushan 2.17 234 *e*P **Pn** **16 16 30.4 +3.9**
baz=243
TWM1 *e*S **Sn** **16 16 58.5 +6.4**
baz=243
SGLT Jiouru 2.18 231 *e*P **Pn** **16 16 27.7 +1.1**
baz=220
SGLT *e*S **Sn** **16 16 57.9 +5.6**
baz=220
TAW Tawu 2.19 217 P **Pn** **16 16 26.6 -0.2**
baz=215
TAW S **Sn** **16 16 51.0 -1.6**
baz=215
LAY Lan-yu 2.19 199 P **Pn** **16 16 26.1 -0.7**
baz=198
LAY *e*S **Sn** **16 16 51.0 -1.7**
baz=198
EAST Anshuo 2.19 218 P **Pn** **16 16 26.9 0.0**
baz=217
EAST S **Sn** **16 16 52.5 -0.4**
baz=217
TSPT Pingtung City 2.21 230 *e*P Pn 16 16 31.3 +4.3
baz=228
TSPT *e*S **Sn** **16 16 58.4 +5.3**
baz=228
TAWH Dawu Township 2.21 217 P **Pn** **16 16 26.9 -0.1**
baz=215
TAWH *e*S **Sn** **16 16 52.2 -0.9**
baz=215
LYUB Lan-yu 2.22 198 P **Pn** **16 16 25.9 -1.3**
baz=202
LYUB *e*S **Sn** **16 16 50.1 -3.2**
baz=202
JTJ Tarama 2.24 76 P **Pn** **16 16 28.9 +1.5**
JTJ S **Sn** **16 16 55.7 +1.9**
SSPT Xinbi 2.29 225 *i* P **Pn** **16 16 30.4 +2.3**
baz=219
SSPT *e*S **Sn** **16 16 58.8 +3.7**
baz=219
SCZT Fangliau 2.34 222 P **Pn** **16 16 30.8 +2.0**
baz=218
SCZT *e*S **Sn** **16 16 59.5 +3.2**
baz=218
SLIU Shizi 2.35 217 S **Sn** **16 16 56.4 -0.3**
baz=215
SMST Manzhou Townsh 2.50 213 P **Pn** **16 16 31.3 +0.3**
baz=212
SMST S **Sn** **16 17 00.1 -0.1**
baz=212
WLCH Liuqiu 2.51 226 P **Pn** **16 16 35.2 +4.1**
baz=224
WLCH S **Sn** **16 17 06.2 +5.7**
baz=224
TWP Hsiaoliuchiu 2.52 226 P **Pn** **16 16 35.1 +3.8**
baz=225
HEN Hengchun 2.56 215 P **Pn** **16 16 32.8 +1.0**
baz=207
HEN S **Sn** **16 17 01.9 +0.2**
baz=207
TSEB Hengchuen, Pin 2.57 211 P **Pn** **16 16 33.1 +1.2**
baz=210
TSEB *e*S **Sn** **16 17 02.5 +0.5**
baz=210
TWKBT Hengchun 2.58 213 P **Pn** **16 16 33.0 +0.9**
baz=212
TWKBT S **Sn** **16 17 02.0 -0.1**
baz=212
TWK1 Hengchun 2.58 213 *i* P **Pn** **16 16 32.4 +0.3**
baz=212
TWK1 S **Sn** **16 17 02.6 +0.4**
baz=212
WDGT Dungji 2.58 251 *i* P **Pn** **16 16 33.3 +1.2**
baz=249
WDGT *e*S **Sn** **16 17 02.4 +0.1**
baz=249
PHUB P'eng-hu 2.58 257 *e*P **Pn** **16 16 32.6 +0.4**
baz=268
PHUB *e*S **Sn** **16 17 02.9 +0.6**
baz=268
PNG Penghu 2.59 258 P **Pn** **16 16 32.6 +0.4**
baz=256
PNG S **Sn** **16 17 02.9 +0.5**
baz=256
JIRB Irabujima 2.70 74 P **Pn** **16 16 35.0 +1.3**
JIRB *e*S **Sn** **16 17 06.3 +1.1**
VWUC VWUC 2.75 289 *e*P **Pn** **16 16 34.2 -0.2**
baz=287
JIKM Ikemajima 2.79 73 P **Pn** **16 16 36.6 +1.6**
JIKM *e*S **Sn** **16 17 09.1 +1.7**
VCHM Qimei 2.80 252 *e*P **Pn** **16 16 36.0 +0.8**
baz=249
VCHM *e*S **Sn** **16 17 08.2 +0.5**
baz=249
JMJ Miyako jima 2 2.80 75 P **Pn** **16 16 37.0 +1.8**
baz=77
JMJ S **Sn** **16 17 09.2 +1.4**
baz=77
JMJ Miyako jima 2 2.80 75 P **Pn** **16 16 36.1 +1.0**
JMJ2 Miyako jima3 2.81 77 P **Pn** **16 16 37.1 +1.8**
JMJ2 *e*S **Sn** **16 17 09.7 +1.7**
JOGS Gusukube 2.89 77 P **Pn** **16 16 38.2 +1.8**
JOGS *e*S **Sn** **16 17 12.2 +2.3**
MATB Ma-tsu 2.95 314 *e*P **Pn** **16 16 36.7 -0.5**
baz=312
MATB *e*S **Sn** **16 17 09.4 -1.9**
baz=312
LYJJ Jianjiangzhen 3.34 317 *e*P **Pn** **16 16 41.6 -1.0**
baz=316
LYJJ *e*S **Sn** **16 17 19.8 -1.3**
baz=316
XPSS Dashiqiu 3.39 326 *e*P **Pn** **16 16 43.4 +0.1**
baz=334
XPSS *e*S **Sn** **16 17 20.4 -1.8**
baz=334
KNM Kinmen 3.55 276 *e*P **Pn** **16 16 46.7 +1.2**
baz=263
KNM *e*S **Sn** **16 17 27.0 +0.8**
baz=263
MHZQ Yeshan 3.57 304 *e*P **Pn** **16 16 45.0 -0.7**
baz=302
KNMB Chin-men Tao 3.60 276 *e*P **Pn** **16 16 46.0 -0.1**
baz=264
AXDP Jialang 4.03 282 *e*P **Pn** **16 16 52.4 +0.3**
baz=270
AXDP *e*S **Sn** **16 17 37.0 -1.1**
baz=270
ZPLA Ao Xicun 4.18 268 *e*P **Pn** **16 16 53.9 -0.2**
baz=266
ZPLA *e*S **Sn** **16 17 38.7 -2.9**
baz=266
SXFK Yanhouchang 4.80 299 *e*P **Pn** **16 17 02.3 -0.3**
baz=295
SXFK *e*S **Sn** **16 17 54.1 -2.8**
baz=295
JOW Kunigami 6.02 62 P **Pn** **16 17 18.9 -0.6**
5.3nm,0.3s,baz=156,slow=13,SNR=7.8
JOW S **Sn** **16 18 25.6 -1.6**
2.8nm,0.3s,baz=115,slow=20,SNR=1.3
JOW LR LR 16 19 37.5
comp=Z,179nm,20.7s,baz=216,slow=38
JOW Kunigami 6.02 62 *e*S **Sn** **16 18 25.1 -2.1**
baz=66
JOW Kunigami 6.02 62 P **Pn** **16 17 19.0 -0.4**
VDOS Pratas Island 6.19 238 P **Pn** **16 17 22.8 +1.1**
baz=236
VDOS *e*S **Sn** **16 18 28.0 -3.1**
baz=236
KSRS Korea Array 14.13 19 P **Pn** **16 19 11.1 +0.8**
0.2nm,0.3s,baz=195,slow=12,SNR=8.2
USRK Ussuriysk Ar. 21.54 19 P **P** **16 20 36.7 -1.4**
0.9nm,0.6s,baz=185,slow=9.0,SNR=4.0
SONM Songino Array 26.84 336 P **P** **16 21 28.3 -0.8**
1.6nm,0.7s,baz=149,slow=10,SNR=16
MKAR Makanchi Array 39.10 316 P **P** **16 23 15.4 -0.4**
0.2nm,0.4s,baz=101,slow=9.1,SNR=9.0
ZALV Zalesovo Beam 40.86 327 P **P** **16 23 29.1 -1.0**
0.8nm,0.7s,baz=122,slow=11,SNR=2.1
WRA Warramunga Arr 45.34 164 P **P** **16 24 06.9 +0.2**
0.4nm,0.9s,baz=348,slow=8.8,SNR=1.7
YKA Yellowknife Ar 82.62 23 P **P** **16 28 10.2 -0.9**
0.7nm,0.7s,baz=315,slow=4.8,SNR=12

*NEIC **17** 16:24:10.3±2.6, 27.°59N×0.°04×141.°9E±0.°1, h36km±6km, mb4.9/25, Error ellipse: s-maj=18.2km s-min=4.1km az=76.0*
*IDC **17** 16:24:11.6±2.5, 27.°57N×141.°91E, h52km±22km, mb3.5/13, mb1 3.8/16, mb1mx3.5/49, mbtmp3.8/16, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/62, Error ellipse: s-maj=27.8km s-min=13.7km az=93.0*
*JMA **17** 16:24:12.1±0.1, 27.°55N×142.°34E, h38km, M4.1*
JMA Felt I J1.

ISC 17 16:24:10.1±0.5, 27.°58N±0.°05×141.°9E±0.°1, h39km, n64, σ1°26/62, mb4.5/23, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.55**	**152**	P		**Pn**	**16 24 22.3**	**+0.8**
CBIJ				*e*S		**Sn**	**16 24 29.6**	**+0.1**
JCJ	**Chichijima**	**0.55**	**152**			**Pn**	**16 24 22.3**	**+0.7**
JCJ					Sn	**Sn**	**16 24 29.2**	**-0.3**
JHH2	**Haha-jima-NKT2**	**0.98**	**165**	P		**Pn**	**16 24 28.8**	**+1.5**
JHH2				*e*S		**Sn**	**16 24 41.3**	**+1.3**
JHJ2	**Mitsune**	**5.79**	**342**	Pn		**Pn**	**16 25 34.9**	**+1.4**
JHJ	**Hachijo jima 2**	**5.81**	**342**	P		**Pn**	**16 25 36.1**	**+2.4**
	2.0nm,0.3s,baz=143,slow=15,SNR=1.7							
BSO1	**Boso 1**	**7.09**	**354**	P		**Pn**	**16 25 52.1**	**+1.3**
BSO1				*e*S		**Sn**	**16 27 11.0**	**+1.2**
BSO3	**Boso 3**	**7.29**	**351**	P		**Pn**	**16 25 54.4**	**+0.6**
BSO4	**Boso 4**	**7.50**	**350**	P		**Pn**	**16 26 00.3**	**+3.5**
JHU	**Hanno**	**8.54**	**346**	P		**Pn**	**16 26 12.2**	**+1.1**
JYT	**Yasato**	**8.74**	**351**			**Pn**	**16 26 11.8**	**-2.1**
MJAR	**Matsushiro Arr**	**9.46**	**342**	P		**Pn**	**16 26 24.6**	**+0.8**
	0.1nm,0.3s,baz=158,slow=11,SNR=6.8							
MAJO	**Matsushiro**	**9.46**	**342**	Pn		**Pn**	**16 26 24.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**9.47**	**342**	Pn		**Pn**	**16 26 24.4**	**+0.5**
JMM	**Marumori**	**10.30**	**355**			**Pn**	**16 26 33.2**	**-2.0**
JMM						Sn	16 28 21.3	-8.0
JSD	**Sado**	**10.86**	**345**	Pn		**Pn**	**16 26 41.9**	**-1.0**
JKA	**Kamikawa-asahi**	**16.51**	**2**	P		**Pn**	**16 27 57.9**	**-0.7**
JKA	**Kamikawa-asahi**	**16.51**	**2**	IAmb		IAmb	16 28 01.0	
	comp=Z,57nm,1.8s							
ASAJ	**Asahikawa**	**16.51**	**2**	P		**Pn**	**16 27 57.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=239,slow=14,SNR=5.2							
ASAJ				LR		LR	16 39 22.7	
	comp=Z,20nm,18.7s,baz=164,slow=55							
KLR	**Kul'dur**	**22.99**	**343**	P		**P**	**16 29 13.6**	**+2.4**
	comp=Z,1.4nm,0.5s,baz=160,slow=9.0,SNR=8.2							
H11N2	**WAKE ISLAND Hy 24.17**	**103**		T		T	16 54 13.9	
	baz=294,slow=75,SNR=43							
H11N1	**WAKE ISLAND Hy 24.17**	**104**		T		T	16 54 14.9	
	baz=294,slow=75,SNR=25							
H11N3	**WAKE ISLAND Hy 24.18**	**103**		T		T	16 54 12.0	
	baz=294,slow=75,SNR=36							
H11S3	**WAKE ISLAND Hy 24.50**	**106**		T		T	16 54 42.5	
	baz=297,slow=75,SNR=139							
H11S1	**WAKE ISLAND Hy 24.51**	**106**		T		T	16 54 43.3	
	baz=297,slow=75,SNR=51							
H11S2	**WAKE ISLAND Hy 24.52**	**106**		T		T	16 54 41.5	
	baz=297,slow=75,SNR=66							
SONM	**Songino Array**	**34.19**	**316**	ScP		**ScP**	**16 37 08.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=141,slow=4.8,SNR=1.8							
SHEM	**Shemya Is, Ala**	**34.68**	**35**	LR		LR	16 45 09.7	
	comp=Z,500nm,18.4s,baz=134,slow=36							
CMAR	**Chiang Mai Arr**	**40.39**	**266**	P		**P**	**16 31 45.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=73,slow=5.3,SNR=5.2							
COEN	**Coen**	**41.31**	**178**	P		**P**	**16 31 53.0**	**+0.9**
MTN	**Manton Dam**	**41.52**	**196**	P		**P**	**16 31 54.5**	**+0.8**
MTN				IAmb		IAmb	16 32 46.8	
	comp=Z,41nm,1.4s							
MYKOM	**Kota Tinggi**	**44.52**	**241**	P		**P**	**16 32 17.7**	**-0.4**
MYKOM				IAmb		IAmb	16 32 23.5	
	comp=Z,16nm,0.7s							
TIXI	**Tiksi**	**44.70**	**354**	P		**P**	**16 32 17.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**44.79**	**221**	P		**P**	**16 32 19.2**	**-1.0**
WB0	**Warramunga Arr**	**47.63**	**190**	P		**P**	**16 32 42.8**	**+0.3**
WR0	**Warramunga Arr**	**47.80**	**189**	P		**P**	**16 32 42.8**	**-1.0**
WR0				IAmb		IAmb	16 33 14.6	
	comp=Z,13nm,1.3s							
WRAB	**Tennant Creek**	**47.80**	**190**	P		**P**	**16 32 43.6**	**-0.1**
WRAB				IAmb		IAmb	16 34 33.7	
	comp=Z,33nm,1.8s							
WB2	**Warramunga Arr**	**47.81**	**190**	P		**P**	**16 32 43.1**	**-0.8**
WRA	**Warramunga Arr**	**47.81**	**190**	P		**P**	**16 32 44.3**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=11,slow=8.6,SNR=22							
WRA				PcP		**PcP**	**16 34 13.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=9.2,slow=3.2,SNR=1.2							
WRA	**Warramunga Arr**	**47.81**	**190**	P		**P**	**16 32 41.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**48.06**	**201**	P		**P**	**16 32 45.0**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=57,slow=9.0,SNR=1.8							
FITZ	**Fitzroy Crossi**	**48.06**	**201**	IAmb		IAmb	16 32 56.5	
	comp=Z,39nm,1.9s							
GSI	**Gunungsitoli**	**49.81**	**246**	P		**P**	**16 32 58.9**	**-0.5**
GSI				IAmb		IAmb	16 34 32.5	
	comp=Z,9.2nm,0.9s							
MKAR	**Makanchi Array**	**49.97**	**309**	P		**P**	**16 32 59.4**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=107,slow=5.0,SNR=1.8							
MKAR				PcP		**PcP**	**16 34 19.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=73,slow=8.1,SNR=2.4							
MKAR				ScP		**ScP**	**16 38 11.4**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=103,slow=3.9,SNR=2.0							
ASAR	**Alice Springs**	**51.53**	**189**	P		**P**	**16 33 11.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=5.7,slow=5.7,SNR=19							
ASAR				PcP		**PcP**	**16 34 27.0**	**+1.1**
	comp=Z,0.5nm,1.1s,baz=35,slow=3.4,SNR=3.3							
ASAR	**Alice Springs**	**51.53**	**189**	P		**P**	**16 33 11.8**	**-0.4**
J20K	**Nowinta River**	**54.22**	**29**	P		**P**	**16 33 33.7**	**+2.1**
J20K				IAmb		IAmb	16 34 17.0	
	comp=Z,20nm,1.9s							
IMAR	**Indian Mountai**	**54.73**	**27**	P		**P**	**16 33 36.3**	**+1.1**
PPLA	**Purkeypile**	**54.88**	**31**	P		**P**	16 33 32.1	-4.4
CNPM	**China Poot**	**54.97**	**35**	P		**P**	**16 33 37.0**	**-0.1**
BRLK	**Bradley Lake**	**55.17**	**35**	P		**P**	**16 33 38.3**	**-0.2**
BRLK				IAmb		IAmb	16 34 20.5	
	comp=Z,32nm,1.4s							
MLY	**Manley**	**55.80**	**28**	P		**P**	**16 33 45.3**	**+2.3**
MDM	**Murphy Dome**	**56.85**	**29**	P		**P**	**16 33 52.4**	**+1.9**
SCM	**Sheep Creek Mo**	**57.04**	**32**	P		**P**	**16 33 53.0**	**+1.1**
SCM				IAmb		IAmb	16 33 55.6	
	comp=Z,12nm,1.0s							
H24K	**Noodor Dome**	**57.09**	**27**	P		**P**	**16 33 53.7**	**+1.6**
H24K				IAmb		IAmb	16 34 25.8	
	comp=Z,18nm,1.8s							
ILAR	**Eielson Array**	**57.41**	**29**	P		**P**	**16 33 54.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=265,slow=6.4,SNR=6.6							
BMAR	**Burnt Mountain**	**58.53**	**26**	P		**P**	**16 34 04.0**	**+1.8**
SCRK	**Sand Creek**	**58.63**	**30**	P		**P**	**16 34 03.9**	**+0.7**
SCRK				IAmb		IAmb	16 34 19.8	
	comp=Z,19nm,1.9s							
STKA	**Stephens Creek**	**59.13**	**180**	P		**P**	**16 34 06.1**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=6.3,slow=9.2,SNR=3.4							
YKA	**Yellowknife Ar**	**71.84**	**28**	P		**P**	**16 35 28.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=292,slow=6.0,SNR=5.6							
FINES	**FINESS Array B**	**77.40**	**334**	P		**P**	**16 36 01.2**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=66,slow=5.2,SNR=11							
NOA	**NORSAR Array B**	**83.06**	**339**	P		**P**	**16 36 30.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=46,slow=5.0,SNR=4.1							
PDAR	**Pinedale Array**	**84.05**	**45**	P		**P**	**16 36 37.5**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=316,slow=3.8,SNR=1.9							
GERES	**GERESS Array B**	**90.96**	**329**	P		**P**	**16 37 08.8**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=28,slow=8.9,SNR=2.3							
TORD	**Torodi Ar. Bea**	**124.07**	**311**	PKP		**PKPdf**	**16 43 03.4**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=3.4,slow=4.9,SNR=1.5							

IDC 17 16:26:22.7±3.3, 48.°96S×125.°17E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/34, Error ellipse: s-maj=83.7km s-min=73.9km az=131.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.24**	**326**	T		T	16 46 55.1	
	baz=159,slow=79,SNR=9.3							
H01W2	**Cape Leeuwin H**	**16.25**	**326**	T		T	16 46 46.5	
	baz=159,slow=79,SNR=9.5							
H01W3	**Cape Leeuwin H**	**16.26**	**326**	T		T	16 46 49.1	
	baz=159,slow=79,SNR=9.1							
STKA	**Stephens Creek**	**21.07**	**42**	LR		LR	16 37 46.1	
	comp=Z,56nm,21.0s,baz=204,slow=32							
ASAR	**Alice Springs**	**26.16**	**18**	P		P	16 31 58.8	0.0
	0.6nm,0.8s,baz=200,slow=9.0,SNR=14							
ASAR				LR		LR	16 41 19.7	
	comp=Z,114nm,20.3s,baz=166,slow=34							
WRA	**Warramunga Arr**	**29.87**	**18**	LR		LR	16 43 35.9	
	comp=Z,125nm,20.2s,baz=226,slow=35							
VNDA	**Vanda**	**31.90**	**166**	LR		LR	16 43 46.8	
	comp=Z,121nm,18.2s,baz=224,slow=33							
CTA	**Charters Tower**	**33.40**	**38**	LR		LR	16 46 27.2	
	comp=Z,54nm,18.4s,baz=188,slow=36							
CMAR	**Chiang Mai Arr**	**71.06**	**334**	P		P	16 37 42.6	+0.1
	0.3nm,0.5s,baz=195,slow=5.6,SNR=4.1							
YKA	**Yellowknife Ar**	**145.09**	**45**	PKPbc		PKPbc	16 45 59.4	-0.9
	0.4nm,0.7s,baz=269,slow=3.6,SNR=8.7							

IDC 17 16:29:09.2±2.2, 0.°89N×111.°21E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.2/39, mbtmp3.6/4, Error ellipse: s-maj=211.8km s-min=24.2km az=56.0, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.21**	**326**	P		P	16 33 57.5	+0.7
	1.2nm,0.7s,baz=163,slow=8.8,SNR=15							
ASAR	**Alice Springs**	**32.89**	**139**	P		P	16 35 45.5	+0.1
	0.5nm,0.5s,baz=317,slow=8.6,SNR=12							
MKAR	**Makanchi Array**	**52.23**	**335**	P		P	16 38 21.8	-0.3
	0.2nm,0.6s,baz=133,slow=9.2,SNR=3.2							
ZALV	**Zalesovo Beam**	**57.19**	**342**	P		P	16 38 57.4	-0.5
	1.5nm,0.7s,baz=138,slow=6.2,SNR=5.3							

*IDC **17** 16:45:04.9±1.2, 3.°71N×63.°95E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.6/76, mbtmp4.0/7, MS3.3/8, Ms1 3.3/8, ms1mx3.0/76, Error ellipse: s-maj=38.2km s-min=24.9km az=47.0*

ISC 17 16:45:08.2±1.4, 3.°7N±0.°3×63.°9E±0.°2, h23km, n15, σ0°92/8, mb3.9/7, MS3.3/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PALK	**Pallekele**	**17.13**	**77**	LR		LR	16 53 56.1	
	comp=Z,102nm,21.2s,baz=9.2,slow=31							
WSAR	**Wadi Sarin**	**20.08**	**346**	LR		LR	16 56 01.8	
	comp=Z,91nm,18.1s,baz=160,slow=33							
ATD	**Arta Tunnel**	**22.22**	**292**	P		**P**	**16 50 03.5**	**0.0**
	13nm,0.3s,baz=111,slow=7.2,SNR=5.7							
MBAR	**Mbarara**	**33.38**	**263**	LR		LR	17 04 23.6	
	comp=Z,47nm,18.1s,baz=130,slow=35							
PSI	**Prapat**	**35.02**	**90**	LR		LR	17 04 05.6	
	comp=Z,48nm,18.9s,baz=229,slow=33							
CMAR	**Chiang Mai Arr**	**37.31**	**64**	LR		LR	17 07 04.7	
	comp=Z,24nm,19.7s,baz=205,slow=35							
AAK	**Ala-Archa**	**39.92**	**12**	LR		LR	17 09 39.3	
	comp=Z,39nm,18.2s,baz=221,slow=37							
MKAR	**Makanchi Array**	**45.81**	**18**	P		**P**	**16 53 28.6**	**+0.2**
	0.8nm,0.7s,baz=198,slow=8.8,SNR=1.8							
LBTB	**Lobatse**	**46.84**	**230**	LR		LR	17 11 10.9	
	comp=Z,54nm,18.6s,baz=90,slow=33							
KURBB	**Kurchatov Arra**	**48.37**	**12**	P		**P**	**16 53 48.2**	**0.0**
	0.3nm,0.5s,baz=209,slow=7.4,SNR=2.3							
ZALV	**Zalesovo Beam**	**52.95**	**15**	P		**P**	**16 54 20.8**	**-1.9**
	1.1nm,0.3s,baz=210,slow=8.3,SNR=5.0							
ZALV				LR		LR	17 16 40.6	
	comp=Z,34nm,19.1s,baz=222,slow=36							
SONM	**Songino Array**	**57.13**	**33**	P		**P**	**16 54 53.9**	**+0.7**
	0.7nm,0.8s,baz=220,slow=7.5,SNR=4.1							

WRA	**Warramunga Arr**	**73.02**	**112**	P	**P**	**16 56 36.8**	**0.0**
	2.0nm,0.9s,baz=292,slow=5.2,SNR=7.2						
ASAR	**Alice Springs**	**73.33**	**116**	P	**P**	**16 56 38.5**	**-0.2**
	1.1nm,0.8s,baz=293,slow=5.7,SNR=12						
TXAR	**Lajitas Array**	**145.05**	**341**	PKPbc	**PKPdf**	**17 04 45.1**	**+0.5**
	1.2nm,0.7s,baz=53,slow=3.3,SNR=14						

NEIC ***17*** *16:46:42.4±2.4, 18°.07S±0°.06×168°.5E±0°.1, h79km±11km, mb4.3/8, Error ellipse: s-maj=16.9km s-min=8.3km az=85.0*

NOU ***17*** *16:46:43.9, 18°.07S×168°.55E, h84km, MLv4.3/17, Vanuatu Islands*

IDC ***17*** *16:46:46.4±8.2, 18°.11S×167°.96E, h90km±103km, mb3.5/4, mb1 3.8/5, mb1mx3.4/41, mbtmp3.9/5, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/33, Error ellipse: s-maj=137.0km s-min=57.6km az=122.0*

ISC 17 16:46:43.1±1.0, 18°.12S±0°.04×168°.5E±0°.1, h100km, n33, σ1§77/41, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**0.33**	**348**	P	**Pn**	**16 46 58.2**	**+0.4**
DVP	**Devils Point**	**0.49**	**323**	P	**Pn**	**16 46 59.4**	**+0.6**
LIFNC	**LIFOU**	**2.90**	**204**	Pn	**Pn**	**16 47 26.0**	**-1.6**
LIFNC				Sn	**Sn**	**16 47 57.4**	**-4.3**
SANVU	**Saraoutou**	**2.93**	**335**		**Pn**	**16 47 26.6**	**-1.3**
SANVU				Sn	**Sn**	**16 48 00.0**	**-2.4**
SANVU	**Saraoutou**	**2.93**	**335**	P	**Pn**	**16 47 27.3**	**-0.6**
MARNC	**Mare, Loyalty**	**3.38**	**187**	Pn	**Pn**	**16 47 33.2**	**-0.7**
MARNC				Sn	**Sn**	**16 48 08.8**	**-4.4**
MARNC	**Mare, Loyalty**	**3.38**	**187**	P	**Pn**	**16 47 33.4**	**-0.5**
YATNC	**Mamie plateau,**	**4.20**	**201**	P	**Pn**	**16 47 46.0**	**+0.9**
DZM	**Mont Dzumac**	**4.38**	**206**	P	**Pn**	**16 47 48.0**	**+0.4**
	4.4nm,0.3s,baz=44,slow=18,SNR=143						
DZM				S	**Sn**	**16 48 36.4**	**-1.2**
	6.9nm,0.3s,baz=319,slow=19,SNR=24						
DZM	**Mont Dzumac**	**4.38**	**206**		**Pn**	**16 47 48.5**	**+1.0**
DZM				Sn	**Sn**	**16 48 36.2**	**-1.3**
DZM	**Mont Dzumac**	**4.38**	**206**	P	**Pn**	**16 47 49.1**	**+1.5**
NOUC	**Port Laguerre**	**4.47**	**207**	P	**Pn**	**16 47 50.2**	**+1.6**
OUENC	**Ouen Island, N**	**4.55**	**200**		**Pn**	**16 47 51.3**	**+1.5**
OUENC				Sn	**Sn**	**16 48 39.0**	**-2.6**
OUENC	**Ouen Island, N**	**4.55**	**200**	P	**Pn**	**16 47 51.7**	**+1.9**
PINNC	**Pines Island,**	**4.58**	**192**		**Pn**	**16 47 49.4**	**-0.7**
PINNC				Sn	**Sn**	**16 48 40.2**	**-2.1**
PINNC	**Pines Island,**	**4.58**	**192**	P	**Pn**	**16 47 51.3**	**+1.2**
ONTNC	**Ouen Toro**	**4.59**	**204**		**Pn**	**16 47 51.2**	**+1.0**
ONTNC				Sn	**Sn**	**16 48 40.3**	**-2.2**
ONTNC	**Ouen Toro**	**4.59**	**204**	P	**Pn**	**16 47 52.0**	**+1.7**
KOUNC	**Koumac, New Ca**	**4.66**	**238**	Pn	**Pn**	**16 47 52.4**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.66**	**238**	P	**Pn**	**16 47 53.5**	**+2.4**
ARMA	**Armidale**	**19.63**	**228**	P	**P**	**16 51 01.7**	**-2.2**
ARMA				IAmb	IAmb	16 51 22.9	
	comp=Z,17nm,1.3s						
RABL	**Rabaul**	**21.14**	**309**	P	**P**	**16 51 19.9**	**-0.4**
NNZ	**Nelson**	**23.40**	**171**	P	**P**	**16 51 44.6**	**+1.5**
WR0	**Warramunga Arr**	**32.12**	**261**	P	**P**	**16 53 01.5**	**+0.3**
WR0				IAmb	IAmb	16 53 13.3	
	comp=Z,8.8nm,1.4s						
WB0	**Warramunga Arr**	**32.27**	**262**	P	**P**	**16 53 02.3**	**-0.2**
WB0				IAmb	IAmb	16 53 21.8	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**32.31**	**261**	P	**P**	**16 53 01.4**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=96,slow=8.8,SNR=1.5						
WRA				LR	LR	17 04 27.8	
	comp=Z,56nm,18.2s,baz=214,slow=33						
AS31	**Alice Springs**	**32.73**	**254**	P	**P**	**16 53 05.9**	**-0.7**
ASAR	**Alice Springs**	**32.73**	**254**	P	**P**	**16 53 07.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=78,slow=8.7,SNR=23						
ASAR	**Alice Springs**	**32.73**	**254**	P	**P**	**16 53 05.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.66**	**263**	P	**P**	**16 54 14.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=104,slow=9.6,SNR=2.7						
QSPA	**South Pole Qui**	**71.93**	**180**	P	**P**	**16 57 58.5**	**+3.0**
QSPA				IAmb	IAmb	16 58 17.6	
	comp=Z,3.3nm,1.2s						
CMAR	**Chiang Mai Arr**	**77.40**	**294**	P	**P**	**16 58 29.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=118,slow=5.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	**77.40**	**294**	P	**P**	**16 58 28.2**	**+0.5**

NDI ***17*** *16:46:55.4±2.3, 34°.78N×78°.46E, h33km, ML4.1, mb4.1(NEIC)*

IDC ***17*** *16:46:57.5±0.7, 34°.06N×78°.19E, h0km, mb3.9/25, mb1 4.0/30, mb1mx3.9/78, mbtmp3.9/30, ML3.5/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/89, Error ellipse: s-maj=15.1km s-min=13.2km az=31.0*

BJI ***17*** *16:46:58.8±0.0, 34°.10N×78°.07E, h19km, mb4.1/17, mB4.3/11, ML3.8/3, Ms4.0/5, Ms7 3.6/6*

NEIC ***17*** *16:47:01.8±2.6, 34°.04N±0°.09×78°.1E±0°.1, h32km±5km, mb4.1/23, Error ellipse: s-maj=13.4km s-min=12.0km az=161.0*

NNC ***17*** *16:47:04.4±6.2, 34°.09N×78°.08E, h50km±48km, mb4.0, Error ellipse: s-maj=55.0km s-min=46.3km az=174.0*

ISC 17 16:47:03.0±0.4, 34°.20N±0°.04×78°.16E±0°.05, h35km, n109, σ1§93/115, mb3.9/30, 6C-2D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**2.49**	**219**	*e*P	**Pn**	**16 47 42.3**	**+1.0**
DHRM				*e*S	**Sn**	**16 48 16.2**	**+5.6**
DHRM				IAML		16 48 22.5	
	comp=N,2μm,0.6s						
DHRM				IAML		16 48 23.3	
	comp=E,2μm,0.6s						
THN	**Thein Dam**	**2.70**	**230**	*e*PN	**Pn**	**16 47 43.5**	**-0.4**
THN				*e*P	**Pn**	**16 47 44.0**	**+0.1**
THN				*i* x	x	16 47 48.9	
THN				*e*SN	**Sn**	**16 48 20.0**	**+4.7**
THN				*e*S	**Sn**	**16 48 20.5**	**+5.2**
JMU	**Jammu**	**3.10**	**242**	*e*P	**Pn**	**16 47 50.7**	**+1.3**
JMU				*ex*	x	16 48 36.4	
SMLA	**Simla**	**3.18**	**196**	*e*P	**Pn**	**16 47 53.9**	**+3.4**
SMLA				*i* x	x	16 47 55.5	
SMLA				*e*S	**Sn**	**16 48 34.1**	**+7.0**
SMLA				IAML		16 48 37.0	
	comp=E,460nm,1.3s						
SMLA				IAML		16 48 46.5	
	comp=N,411nm,0.4s						
CHCP	**Chirah Chowk**	**4.10**	**264**	P	**Pn**	**16 48 03.4**	**+0.1**
CEP	**Cherat**	**5.20**	**268**	P	**Pn**	**16 48 17.0**	**-1.5**
CEP				S	**Sn**	**16 49 19.0**	**+1.6**
THW	**Thamme Wali**	**5.54**	**257**	P	**Pn**	**16 48 20.8**	**-2.2**
NDI	**New Delhi**	**5.56**	**189**	*e*P	**Pn**	**16 48 20.0**	**-3.3**
NDI				*e*S	Sn	16 49 55.0	+29
KSH	**Kashi**	**5.59**	**342**	Pn	**Pn**	**16 48 25.4**	**+1.7**
KSH				Sn	**Sn**	**16 49 29.3**	**+2.5**
KSH				pmax	pmax		
	comp=Z,22nm,0.6s						
KSH				smax	smax		
	comp=N,160nm,1.1s						
KSH				smax	smax		
	comp=E,180nm,0.8s						
DRK	**Karamyk**	**7.33**	**318**		**Pn**	**16 48 48.0**	**+0.2**
PYUN	**Piuthan**	**7.36**	**144**	*e*P	**Pn**	**16 48 48.0**	**-0.2**
	comp=E,20nm,0.4s						
KBL	**Kabul**	**7.54**	**275**	Pn	**Pn**	**16 48 49.0**	**-1.7**
DANN	**Dangsing**	**7.55**	**139**	*e*P	**Pn**	**16 48 50.3**	**-0.6**
	comp=E,9.6nm,0.4s						
GAR	**Garm**	**7.92**	**309**	Pn	**Pn**	**16 48 54.5**	**-1.2**
KDJ	**Kajisay**	**7.95**	**355**	Pn	**Pn**	**16 48 59.1**	**+2.8**
AJM	**Ajmer**	**8.27**	**202**	*e*P	**Pn**	**16 49 00.7**	**+0.1**
AJM				*ex*	x	16 50 27.6	
BTK	**Batken**	**8.28**	**317**	Pn	**Pn**	**16 48 59.6**	**-1.0**
GKN	**Gorkha**	**8.31**	**136**	*e*P	**Pn**	**16 49 00.8**	**-0.3**
	comp=E,12nm,0.4s						
CHGR	**Chuyangaron**	**8.51**	**304**		**Pn**	**16 49 01.4**	**-2.4**
KKN	**Kakani**	**8.84**	**134**	*e*P	**Pn**	**16 49 07.4**	**-1.1**
	comp=E,10.0nm,0.4s						
AAK	**Ala-Archa**	**8.90**	**342**	Pn	**Pn**	**16 49 12.5**	**+3.3**
	comp=E,0.8nm,0.3s,baz=167,slow=7.2,SNR=16						
AAK				Lg	Lg	16 51 42.5	
	comp=E,0.3nm,0.3s,baz=16,slow=14,SNR=3.3						
AAK	**Ala-Archa**	**8.90**	**342**	Pn	**Pn**	**16 49 11.6**	**+2.4**
TKM2	**Tokmak 2**	**8.93**	**348**	⇑P	Pn	16 49 15.2	+5.4
	comp=E,4.4nm,1.0s						
MDOK	**Medeo**	**8.99**	**355**	P	**Pn**	**16 49 15.2**	**+4.7**
	comp=E,4.5nm,0.6s						
FRU1	**Bishkek**	**9.03**	**343**	Pn	**Pn**	**16 49 13.3**	**+2.4**
PKIN	**Phulchoki**	**9.07**	**135**	*e*P	**Pn**	**16 49 10.8**	**-0.9**
	comp=E,11nm,0.4s						
PKI	**Pulchoki**	**9.08**	**135**	*e*P	**Pn**	**16 49 11.4**	**-0.5**
GUN	**Gumba**	**9.12**	**131**	*e*P	**Pn**	**16 49 11.7**	**-0.7**
	comp=E,12nm,0.4s						
PDGK	**Podgornoye**	**9.17**	**6**	⇑P	**Pn**	**16 49 15.9**	**+2.9**
	comp=E,13nm,0.8s						
PDGK				⇓S	**Sn**	**16 51 00.2**	**+5.2**
	comp=E,20nm,0.9s						
JIRN	**Jiri**	**9.49**	**131**	*e*P	**Pn**	**16 49 16.3**	**-1.2**
	comp=E,34nm,0.5s						
RAMN	**Ramite**	**10.25**	**133**	*e*P	**Pn**	**16 49 26.0**	**-1.9**
	comp=E,14nm,0.4s						
TAPN	**Taplejung**	**10.68**	**127**	*e*P	**Pn**	**16 49 32.7**	**-1.1**
	comp=E,7.2nm,0.4s						
KK02	**Karatay Array**	**10.71**	**328**	⇑P	**Pn**	**16 49 34.0**	**+0.2**
	comp=E,3.1nm,0.5s						
KK02				⇑S	**Sn**	**16 51 34.1**	**+1.7**
	comp=E,8.2nm,0.7s						
KKAR	**Karatay Array**	**10.71**	**328**	Pn	**Pn**	**16 49 34.0**	**+0.2**
JBP	**Jabalpur**	**11.11**	**171**	*e*P	**Pn**	**16 49 37.5**	**-2.0**
JBP				*ex*	x	16 51 47.0	
WMQ	**Urumqi**	**12.13**	**35**	*e*P	**Pn**	**16 49 57.8**	**+4.5**
WMQ				LR	LR		
	comp=E,320nm,10.5s						
WMQ				LR	LR		
	comp=E,400nm,10.5s						
WMQ				LR	LR		
	comp=E,99nm,15.5s						
MAKZ	**Makanchi**	**12.92**	**12**	Pn	**Pn**	**16 50 04.4**	**+0.3**
MAKZ	**Makanchi**	**12.92**	**12**	⇓P	**Pn**	**16 50 04.2**	**+0.1**
	comp=E,5.0nm,0.8s						
MK31	**Makanchi Array**	**12.96**	**13**	Pn	**Pn**	**16 50 04.4**	**-0.2**
MK31	**Makanchi Array**	**12.96**	**13**	P	**Pn**	**16 50 04.8**	**+0.2**
	comp=E,1.2nm,0.5s,baz=190,slow=12,SNR=51						
MKAR	**Makanchi Array**	**12.96**	**13**	Pn	**Pn**	**16 50 05.1**	**+0.5**
	comp=E,0.6nm,0.3s,baz=193,slow=12,SNR=30						
MKAR				Sn	**Sn**	**16 52 28.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=187,slow=26,SNR=2.6						
MKAR	**Makanchi Array**	**12.96**	**13**	Pn	**Pn**	**16 50 04.6**	**-0.1**
HRA	**Herat**	**13.16**	**275**	Pn	Pn	16 50 02.8	-4.8
KURBB	**Kurchatov Arra**	**16.41**	**1**	Pn	**Pn**	**16 50 48.3**	**-2.2**
	comp=E,0.0nm,0.3s,baz=186,slow=12,SNR=8.6						
KURK	**Kurchatov**	**16.51**	**1**	Pn	**Pn**	**16 50 51.7**	**0.0**
GEYT	**Alibeck**	**16.62**	**289**	Pn	**Pn**	**16 50 53.2**	**-0.1**
	comp=E,0.4nm,0.3s,baz=112,slow=14,SNR=1.8						
GEYT	**Alibeck**	**16.62**	**289**	IAmb	IAmb	16 50 57.9	
	comp=Z,4.5nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**16.62**	**289**	Pn	**Pn**	**16 50 49.9**	**-3.4**
GYA0B				IAmb	IAmb	16 50 58.6	
	comp=Z,8.6nm,1.1s						
BVAR	**Borovoye Array**	**19.62**	**346**	P	**Pn**	**16 51 30.0**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=76,slow=18,SNR=30						
BRVK	**Borovoye**	**19.67**	**346**	P	**P**	**16 51 28.4**	**-0.5**
BRVK				IAmb	IAmb	16 51 31.1	
	comp=Z,5.7nm,0.7s						
BRVK	**Borovoye**	**19.67**	**346**	⇑P	**Pn**	**16 51 30.2**	**-0.2**
	comp=Z,4.9nm,0.6s						
AB31	**Akbulak array**	**20.20**	**324**	P	**P**	**16 51 35.5**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=128,slow=11,SNR=53						
ABKAR	**Akbulak array**	**20.20**	**324**	P	**P**	**16 51 34.2**	**-0.3**
ABKAR				IAmb	IAmb	16 51 50.3	
	comp=Z,3.5nm,0.8s						
ABKAR	**Akbulak array**	**20.20**	**324**	P	**P**	**16 51 33.4**	**-1.2**
WSAR	**Wadi Sarin**	**20.27**	**243**	P	**P**	**16 51 35.9**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=92,slow=9.9,SNR=5.2						
ZAA0	**Zalesovo Array**	**20.30**	**11**	P	**P**	**16 51 33.4**	**-2.2**
ZAA0				IAmb	IAmb	16 51 41.7	
	comp=Z,3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**20.30**	**11**	P	**P**	**16 51 36.4**	**+0.8**
	comp=Z,7.7nm,0.6s,baz=208,slow=12,SNR=10.0						
ZALV	**Zalesovo Beam**	**20.30**	**11**	P	**P**	**16 51 35.8**	**+0.2**
PZH	**PanZhiHua**	**21.72**	**104**	P	**P**	**16 51 51.1**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,60nm,4.8s						
AKTO	**Aktyubinsk**	**21.91**	**324**	P	**P**	**16 51 53.4**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=116,slow=11,SNR=18						
AKTO				LR	LR	17 01 17.9	
	comp=Z,40nm,18.2s,baz=221,slow=39						
AKTO	**Aktyubinsk**	**21.91**	**324**	⇑P	**P**	**16 51 53.5**	**+0.5**
	comp=Z,6.1nm,0.7s						
CHTO	**Chiang Mai**	**24.03**	**124**	P	**P**	**16 52 12.2**	**-2.6**
CHTO				IAmb	IAmb	16 52 22.7	
	comp=Z,4.5nm,1.0s						
CM31	**Chiang Mai Arr**	**24.27**	**125**	P	**P**	**16 52 13.2**	**-3.9**
CM31				IAmb	IAmb	16 52 22.2	
	comp=Z,6.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.27**	**125**	P	**P**	**16 52 15.3**	**-1.7**
	comp=Z,7.7nm,0.7s,baz=311,slow=10.0,SNR=18						
CMAR	**Chiang Mai Arr**	**24.27**	**125**	P	**P**	**16 52 14.3**	**-2.8**
SONM	**Songino Array**	**25.12**	**49**	P	**P**	**16 52 25.9**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=244,slow=9.6,SNR=12						
SONM	**Songino Array**	**25.12**	**49**	P	**P**	**16 52 26.2**	**+1.5**
ULN	**Ulaanbaatar**	**25.54**	**49**	P	**P**	**16 52 29.5**	**+1.0**
ULN				IAmb	IAmb	16 52 33.3	
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**25.97**	**335**	P	**P**	**16 52 33.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=95,slow=21,SNR=1.7						
ARU	**Arti**	**25.97**	**335**	IAmb	IAmb	16 52 46.6	
	comp=Z,11nm,1.4s						
HHC	**Hu-ho-hao-te**	**27.20**	**66**	*e*P	**P**	**16 52 43.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,69nm,7.4s						
NRIK	**Noril'sk**	**35.58**	**6**	P	**P**	**16 53 56.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=214,slow=10,SNR=1.8						
BRTR	**Keskin Array B**	**35.71**	**292**	P	**P**	**16 53 58.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=110,slow=8.1,SNR=4.2						
BRTR				LR	LR	17 12 49.7	
	comp=Z,54nm,19.6s,baz=73,slow=43						
BRTR	**Keskin Array B**	**35.71**	**292**	P	**P**	**16 53 56.0**	**-2.4**
AKASG	**Malin Array Be**	**38.92**	**310**	P	**P**	**16 54 25.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=77,slow=7.9,SNR=4.7						
ELL	**Elmali**	**39.05**	**288**	P	**P**	**16 54 26.2**	**-0.5**
BURAR	**Bucovina Array**	**41.41**	**305**	P	**P**	**16 54 44.6**	**-1.5**
KLR	**Kul'dur**	**41.84**	**52**	P	**P**	**16 54 50.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=268,slow=11,SNR=5.8						
USRK	**Ussuriysk Ar.**	**42.22**	**60**	P	**P**	**16 54 52.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=255,slow=7.4,SNR=1.4						
FIA1	**FINESS Array S**	**42.66**	**326**	P	**P**	**16 54 56.4**	**+0.6**
FINES	**FINESS Array B**	**42.66**	**326**	P	**P**	**16 54 56.6**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=110,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**42.66**	**326**	P	**P**	**16 54 56.1**	**+0.3**
IDI	**Anoyia**	**43.34**	**287**	P	**P**	**16 55 01.5**	**-0.3**
	comp=Z,15nm,1.1s,baz=69,slow=11,SNR=2.1						
IDI	**Anoyia**	**43.34**	**287**	P	**P**	**16 55 01.9**	**0.0**
ARCES	**ARCESS Array B**	**45.52**	**337**	P	**P**	**16 55 20.8**	**+2.0**
	comp=Z,5.5nm,1.0s,baz=98,slow=4.3,SNR=4.6						
ARCES	**ARCESS Array B**	**45.52**	**337**	P	**P**	**16 55 18.9**	**+0.2**
HFS	**Hagfors**	**48.45**	**323**	P	**P**	**16 55 43.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=143,slow=12,SNR=2.5						
CLL	**Collm**	**49.15**	**311**	*e*P	**P**	**16 55 47.0**	**-0.1**
CLL				*ep*P	**pP**	**16 55 56.0**	**-3.1**
NB2	**NORSAR Subarra**	**49.70**	**324**	P	**P**	**16 55 51.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**49.70**	**324**	P	**P**	**16 55 51.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=101,slow=7.3,SNR=2.6						
SEY	**Seymchan**	**53.09**	**33**	P	**P**	**16 56 17.1**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=265,slow=16,SNR=6.6						
KEST	**Kesra**	**55.32**	**293**	P	**P**	**16 56 34.0**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=349,slow=7.5,SNR=5.2						
KEST	**Kesra**	**55.32**	**293**	P	**P**	**16 56 33.0**	**-0.3**
KEST				IAmb	IAmb	16 56 35.4	
	comp=Z,4.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**57.95**	**318**	P	**P**	**16 56 51.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.5,SNR=1.9						
TOLK	**Toolik Lake Re**	**71.56**	**17**	P	**P**	**16 58 20.9**	**+0.8**
TOLK				IAmb	IAmb	16 58 45.2	
	comp=Z,8.9nm,1.6s						
TORD	**Torodi Ar. Bea**	**71.61**	**274**	P	**P**	**16 58 20.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=18,slow=5.2,SNR=3.0						
IMAR	**Indian Mountai**	**72.47**	**20**	P	**P**	**16 58 26.4**	**+0.8**
BMAR	**Burnt Mountain**	**73.67**	**16**	P	**P**	**16 58 34.2**	**+1.5**
ILAR	**Eielson Array**	**75.25**	**18**	P	**P**	**16 58 42.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=305,slow=6.4,SNR=4.6						
ILAR	**Eielson Array**	**75.25**	**18**	P	**P**	**16 58 41.8**	**-0.1**
WRA	**Warramunga Arr**	**75.86**	**126**	P	**P**	**16 58 45.0**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=315,slow=7.0,SNR=3.2						
WRA	**Warramunga Arr**	**75.86**	**126**	IAmb	IAmb	16 58 48.8	
	comp=Z,0.5nm,1.6s						
WB2	**Warramunga Arr**	**75.87**	**126**	P	**P**	**16 58 44.2**	**-1.8**
WR0	**Warramunga Arr**	**76.01**	**126**	P	**P**	**16 58 45.0**	**-1.8**
RIDG	**Independent Ri**	**76.62**	**18**	P	**P**	**16 58 49.3**	**-0.5**
RIDG				IAmb	IAmb	16 58 57.5	
	comp=Z,7.6nm,1.2s						
LBTB	**Lobatse**	**77.18**	**228**	P	**P**	**16 58 53.5**	**0.0**
	comp=Z,3.4nm,1.1s,baz=74,slow=4.2,SNR=2.2						
ASAR	**Alice Springs**	**78.21**	**129**	P	**P**	**16 58 57.9**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=315,slow=7.0,SNR=2.1						
YKA	**Yellowknife Ar**	**83.09**	**6**	P	**P**	**16 59 23.6**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=345,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**83.09**	**6**	P	**P**	**16 59 24.8**	**0.0**

BJI ***17*** *16:53:45.4±0.0, 51°.45N×123°.01E, h10km, mb3.8/7, mB4.5/8, ML4.4/6, Ms4.0/7, Ms7 3.6/6*

IDC ***17*** *16:53:45.4±0.9, 51°.37N×122°.78E, h0km, mb3.3/7, mb1 3.6/12, mb1mx3.4/67, mbtmp3.4/12, ML3.1/5, Error ellipse: s-maj=18.9km s-min=13.9km az=23.0*

SKHL ***17*** *16:53:48.1±1.0, 51°.46N×122°.80E, h15km±5km, mb4.6/4*

ISC 17 16:53:47.1±0.6, 51°.42N±0°.05×122°.87E±0°.04, h10km, n24, σ1§99/34, mb3.4/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**3.49**	**331**	*e*Pn	**Pn**	**16 54 42.2**	**+0.8**
TUP				*e*rx	rx	16 54 46.2	
TUP				*e*Pg	**Pb**	**16 54 50.7**	**+1.7**
TUP				AMB	AMB	16 54 58.7	
	287nm,0.7s						
TUP				*e*Sn	**Sn**	**16 55 23.2**	**+0.4**
TUP				*e*Sg	**Sg**	**16 55 35.6**	**-3.5**
TUP				A	A	16 55 40.9	
	934nm,0.7s						
ZEA	**Zeya**	**3.54**	**47**	*e*Pn	**Pn**	**16 54 43.0**	**+0.9**
ZEA				*e*rx	rx	16 54 50.8	
ZEA				*e*Pg	**Pb**	**16 54 52.9**	**+3.1**
ZEA				AMB	AMB	16 54 53.7	
	60nm,0.6s						
ZEA				*e*Sg	**Sg**	**16 55 40.2**	**-0.6**
ZEA				A	A	16 55 43.1	
	300nm,0.6s						
KROS	**Kirovskiy**	**3.91**	**38**	*e*Pn	**Pn**	**16 54 47.8**	**+0.6**
KROS				*e*Pg	**Pb**	**16 54 59.4**	**+3.3**
KROS				AMB	AMB	16 55 01.4	
	160nm,0.6s						
KROS				*e*Sg	**Sg**	**16 55 50.4**	**-2.2**
KROS				A	A	16 55 53.0	
	670nm,0.5s						
KROS				A	A	16 55 53.0	
	600nm,0.5s						
KLR	**Kul'dur**	**6.10**	**108**	Pn	**Pn**	**16 55 16.9**	**-0.3**
	2.8nm,0.3s,baz=304,slow=16,SNR=46						
KLR				Sn	**Sn**	**16 56 25.3**	**-1.6**
	3.4nm,0.3s,baz=223,slow=10,SNR=6.4						
KLR				Lg	Lg	16 56 59.6	
	36nm,0.3s,baz=205,slow=21,SNR=12						
EKMR	**Ekimchan**	**6.41**	**71**	*e*Pn	**Pn**	**16 55 21.8**	**+0.3**
EKMR				*e*Sn	**Sn**	**16 56 35.0**	**+0.3**
EKMR				*e*Sg	**Sg**	**16 57 10.1**	**-2.6**
EKMR				A	A	16 57 14.4	
	86nm,1.0s						
MDJ	**Mudanjiang**	**8.16**	**144**	P	**Pn**	**16 55 49.5**	**+4.0**
MDJ				smax	smax		
	comp=N,97nm,0.6s						
MDJ				smax	smax		
	comp=E,110nm,0.8s						
GRNR	**Gornyy**	**8.56**	**89**	*e*Sg	**Sg**	**16 58 16.1**	**-5.5**
GRNR				A	A	16 58 21.2	
	58nm,1.2s						
USRK	**Ussuriysk Ar.**	**9.47**	**136**	Pn	**Pn**	**16 56 02.8**	**-0.7**
	baz=322,slow=14,SNR=5.6						
USRK				Sn	**Sn**	**16 57 51.3**	**+1.3**
	baz=340,slow=22,SNR=1.8						
USRK				Lg	Lg	16 58 47.7	
	baz=330,slow=31,SNR=8.9						
GRTR	**Gornotajezhnoj**	**9.94**	**137**	*e*Sg	Sg	16 59 02.3	
GRTR				A	A	16 59 07.2	
	37nm,1.0s						
SONM	**Songino Array**	**11.27**	**258**	Pn	**Pn**	**16 56

GOG				S		Sb	16 54 12.7	+0.1
PVLZ	**Peæn de**	**0.71**	**229**	P		**Pg**	**16 54 04.2**	**+0.1**
PVLZ				S		**Sn**	**16 54 15.3**	**-0.5**
ELGU	**Los Guajares,**	**1.22**	**1**	Pg		**Pn**	**16 54 11.0**	**-1.5**
ELGU				Sg		**Sb**	**16 54 26.9**	**-1.4**
EMAL	**Malaga-Limoner**	**1.28**	**331**	P		**Pn**	**16 54 12.2**	**-1.1**
EMAL				S		**Sb**	**16 54 27.9**	**-2.2**
EMIJ	**Mijas**	**1.30**	**316**	Pg		**Pn**	**16 54 12.6**	**-0.9**
EMIJ				Sg		**Sb**	**16 54 28.7**	**-1.7**
TAF	**Taforalt**	**1.30**	**129**	P		**Pn**	**16 54 12.6**	**-1.0**
TAF	**Taforalt**	**1.30**	**129**	P		**Pn**	**16 54 12.7**	**-0.9**
TAF				S		**Sn**	**16 54 31.1**	**+0.5**
EBER	**Berja**	**1.39**	**26**	Pn		**Pn**	**16 54 13.4**	**-1.5**
EBER				Sn		**Sn**	**16 54 32.3**	**-0.7**
EBER				*i* Vmb_Lg			16 54 38.2	
SMIR	**Smir Dam**	**1.41**	**272**	P		**Pn**	**16 54 13.3**	**-1.7**
SMIR	**Smir Dam**	**1.41**	**272**	P		**Pn**	**16 54 13.3**	**-1.7**
SMIR				S		**Sn**	**16 54 33.2**	**0.0**
CEU	**Ceuta**	**1.43**	**281**	P		**Pn**	**16 54 13.3**	**-1.9**
CEU				S		**Sn**	**16 54 30.6**	**-2.9**
CHEFC	**Chefchaouen**	**1.48**	**249**	P		**Pn**	**16 54 17.0**	**+0.9**
CHEFC	**Chefchaouen**	**1.48**	**249**	P		**Pn**	**16 54 17.0**	**+0.9**
CHEFC				S		**Sg**	**16 54 39.5**	**+1.4**
EGOR	**Sierra Gorda,**	**1.51**	**346**	Pn		**Pn**	**16 54 16.4**	**-0.1**
EGOR				Sn		**Sg**	**16 54 38.4**	**-0.6**
EGOR				*i* Vmb_Lg			16 54 39.5	
EQUE	**Quentar**	**1.57**	**6**	Pn		**Pn**	**16 54 17.6**	**+0.3**
EQUE				Sn		**Sn**	**16 54 37.2**	**0.0**
JBK	**JBK**	**1.58**	**146**	P		**Pn**	**16 54 16.4**	**-1.0**
JBK	**JBK**	**1.58**	**146**	P		**Pb**	**16 54 19.0**	**+0.1**
JBK	**JBK**	**1.58**	**146**	P		**Pn**	**16 54 16.4**	**-1.0**
JBK				S		**Sn**	**16 54 36.7**	**-0.8**
EJIF	**Jimena Fronter**	**1.68**	**299**	Pn		**Pn**	**16 54 19.2**	**+0.5**
EJIF				Sn		**Sn**	**16 54 40.5**	**+0.6**
ENIJ	**Nijar**	**1.76**	**41**	Pn		**Pn**	**16 54 19.9**	**+0.1**
ENIJ				Sn		**Sn**	**16 54 40.5**	**-1.4**
ENIJ				*i* Vmb_Lg			16 54 59.8	
CPS	**Cap Spartel**	**1.85**	**275**	P		**Pg**	**16 54 24.8**	**-0.8**
CPS				S		**Sg**	**16 54 48.5**	**-1.1**
LIJA	**Lijar**	**1.90**	**312**	P		**Pb**	**16 54 24.0**	**-0.4**
LIJA				S		**Sg**	**16 54 59.0**	**+7.7**
SICH	**Sidi Chahed**	**2.06**	**222**	P		**Pn**	**16 54 25.1**	**+1.2**
SICH				S		**Sg**	**16 54 57.2**	**+0.8**
ESPR	**Espera**	**2.17**	**305**	Pn		**Pn**	**16 54 27.2**	**+1.8**
ESPR				Sn		**Sn**	**16 54 53.5**	**+1.7**
ESPR				*i* Vmb_Lg			16 55 06.8	
LCRM	**LCR**	**2.19**	**207**	P		**Pg**	**16 54 32.0**	**-0.3**
LCRM	**LCR**	**2.19**	**207**	P		**Pg**	**16 54 35.0**	**+2.8**
LCRM	**LCR**	**2.19**	**207**	P		**Pg**	**16 54 32.0**	**-0.3**
LCRM				S		**Sg**	**16 55 00.3**	**-0.4**
EQES	**Quesada**	**2.21**	**12**	Pn		**Pb**	**16 54 27.7**	**-1.9**
EQES				Sn		**Sn**	**16 54 54.5**	**+1.6**
IFR	**Ifrane**	**2.45**	**210**	P		**Pn**	**16 54 28.0**	**-1.4**
IFR				S		**Sn**	**16 54 55.6**	**-3.4**
EADA	**Adamuz**	**2.63**	**344**	Pn		**Pn**	**16 54 32.2**	**+0.4**
EADA				Sn		**Sb**	**16 55 07.1**	**-1.6**
EADA				*i* Vmb_Lg			16 55 18.3	
EZAR	**Zarzadilla de**	**2.72**	**35**	Pn		**Pn**	**16 54 33.5**	**+0.4**
EZAR				Sn		**Sn**	**16 55 07.7**	**+2.0**
ECAB	**El Cabril**	**2.81**	**330**	Pn		**Pn**	**16 54 35.3**	**+1.0**
ECAB				Sn		**Sn**	**16 55 10.2**	**+2.4**
ECAB				*i* Vmb_Lg			16 55 19.8	
CZD	**Col de Zad**	**2.85**	**204**	P		**Pn**	**16 54 37.0**	**+2.0**
CZD	**Col de Zad**	**2.85**	**204**	P		**Pn**	**16 54 37.0**	**+2.0**
CZD				S		**Sb**	**16 55 14.0**	**-1.3**
MD31	**MD31**	**2.92**	**199**	P		**Pn**	**16 54 37.9**	**+2.1**
MD31				S		**Sb**	**16 55 15.3**	**-2.2**
TDRA	**Tendrara**	**2.92**	**152**	P		**Pn**	**16 54 37.6**	**+1.7**
TDRA				S		**Sn**	**16 55 11.9**	**+1.2**
MDT	**Midelt**	**2.93**	**196**	Pn		**Pn**	**16 54 37.4**	**+1.4**
	1.4nm,0.3s,baz=283,slow=19,SNR=18							
MDT				Pg		**Pg**	**16 54 45.7**	**-0.6**
	5.8nm,0.3s,baz=342,slow=20,SNR=16							
MDT				Lg		Lg	16 55 25.1	
	5.1nm,0.3s,baz=76,slow=22,SNR=8.7							
MDT	**Midelt**	**2.93**	**196**	P		**Pn**	**16 54 37.8**	**+1.8**
MDT	**Midelt**	**2.93**	**196**	P		**Pn**	**16 54 37.8**	**+1.8**
MDT				S		**Sb**	**16 55 15.3**	**-2.2**
EMIN	**Mina Concepcio**	**3.23**	**312**	Pn		**Pn**	**16 54 40.2**	**+0.3**
EMIN				Sn		**Sn**	**16 55 17.2**	**-0.8**
EMIN				*i* Vmb_Lg			16 55 23.1	
ZHG	**ZHG**	**3.30**	**229**	P		**Pn**	**16 54 42.0**	**+0.9**
ZHG	**ZHG**	**3.30**	**229**	P		**Pn**	**16 54 42.0**	**+0.9**
ETOB	**Tobarra**	**3.43**	**29**	Pn		**Pn**	**16 54 44.5**	**+1.7**
ETOB				Sn		**Sn**	**16 55 23.9**	**+0.7**
ETOB				*i* Vmb_Lg			16 56 03.5	
EGRO	**El Granado**	**3.62**	**303**	Pn		**Pn**	**16 54 45.9**	**+0.5**
EGRO				Sn		**Sn**	**16 55 26.9**	**-0.7**
PBAR	**Barrancos**	**3.71**	**314**	*e*Pn		**Pn**	**16 54 47.1**	**+0.5**
PBAR				*e*Sn		**Sn**	**16 55 29.4**	**-0.6**
PBAR				A		A	16 55 43.0	
	23nm,0.5s							
PVAQ	**Vaqueiros**	**3.72**	**299**	*e*Pn		**Pn**	**16 54 46.8**	**+0.1**
PVAQ				*e*Sn		**Sn**	**16 55 28.7**	**-1.5**
PVAQ				A		A	16 55 32.0	
	23nm,0.6s							
PVAQ	**Vaqueiros**	**3.72**	**299**	P		**Pn**	**16 54 47.1**	**+0.4**
PVAQ	**Vaqueiros**	**3.72**	**299**	P		**Pn**	**16 54 47.1**	**+0.4**
PVAQ				S		**Sn**	**16 55 30.5**	**+0.4**
PBDV	**Barranco-do-Ve**	**3.81**	**296**	*e*Pn		**Pn**	**16 54 48.2**	**+0.2**
PBDV				*e*Sn		**Sn**	**16 55 30.9**	**-1.4**
PBDV				A		A	16 55 39.0	
	30nm,0.5s							
PAB	**San Pablo**	**3.94**	**352**	P		**Pn**	**16 54 51.7**	**+1.9**
PAB	**San Pablo**	**3.94**	**352**	Pn		**Pn**	**16 54 50.7**	**+0.9**
PAB				Sn		**Sn**	**16 55 37.5**	**+1.9**
PAB				*i* Vmb_Lg			16 56 15.2	
FIGM	**Figuig**	**4.02**	**150**	P		**Pn**	**16 54 54.1**	**+3.1**
FIGM				S		**Sn**	**16 55 38.9**	**+1.1**
ESDC	**Sonseca Array**	**4.03**	**357**	Pn		**Pn**	**16 54 52.1**	**+1.0**
	0.6nm,0.3s,baz=178,slow=12,SNR=25							
ESDC				Sn		**Sn**	**16 55 38.5**	**+0.6**
	0.7nm,0.3s,baz=174,slow=16,SNR=5.5							
ESDC				Lg		Lg	16 55 56.0	
	1.3nm,0.3s,baz=178,slow=26,SNR=12							
ESDC				LR		LR	16 56 14.2	
	comp=Z,104nm,21.7s,baz=201,slow=37							
ESDC	**Sonseca Array**	**4.03**	**357**	Pn		**Pn**	**16 54 52.1**	**+1.0**
ESDC				Sn		**Sn**	**16 55 38.5**	**+0.6**
ESDC				Sg		**Sg**	**16 55 55.1**	**-4.5**
ESDC				*i* Vmb_Lg			16 56 31.7	
PCVE	**Castro Verde**	**4.05**	**301**	*e*Pn		**Pn**	**16 54 51.5**	**+0.2**
PCVE				*e*Sn		**Sn**	**16 55 37.4**	**-1.0**
PCVE				A		A	16 55 40.1	
	26nm,0.7s							
EBAD	**Badajoz**	**4.11**	**320**	Pn		**Pn**	**16 54 52.5**	**+0.5**
EBAD				Sn		**Sn**	**16 55 39.3**	**-0.5**
EBAD				*i* Vmb_Lg			16 55 41.1	
PBEJ	**Beja**	**4.14**	**306**	*e*Pn		**Pn**	**16 54 53.4**	**+0.9**
PBEJ				*e*Sn		**Sn**	**16 55 39.6**	**-0.9**
PBEJ				A		A	16 55 49.5	
	18nm,0.4s							
EVIV	**Cofrentes, Val**	**4.14**	**28**	Pn		**Pn**	**16 54 52.6**	**+0.1**
MORF	**Marmelete**	**4.36**	**294**	*e*P		**Pn**	**16 54 55.7**	**+0.1**
MORF				*e*S		**Sn**	**16 55 43.3**	**-2.7**
MORF				IAML			16 55 50.6	
	comp=N,24nm,0.3s							
MORF	**Marmelete**	**4.36**	**294**	*e*Pn		**Pn**	**16 54 56.2**	**+0.6**
MORF				*e*Sn		**Sn**	**16 55 44.5**	**-1.6**
MORF				A		A	16 56 03.0	
	comp=N,21nm,0.6s							
PFVI	**Vila Bisbo**	**4.44**	**291**	*e*Pn		**Pn**	**16 54 58.2**	**+1.6**
PFVI				*e*Sn		**Sn**	**16 55 47.0**	**-0.8**
PFVI				A		A	16 56 02.8	
	comp=N,19nm,0.5s							
PFVI	**Vila Bisbo**	**4.44**	**291**	P		**Pn**	**16 55 00.3**	**+3.8**
PFVI				S		**Sn**	**16 55 51.1**	**+3.3**
ECHE	**Chera**	**4.48**	**28**	Pn		**Pn**	**16 54 57.9**	**+0.8**
ECHE				Sn		**Sn**	**16 55 48.4**	**-0.5**
ECHE				*i* Vmb_Lg			16 56 51.5	
PESTR	**Estremoz**	**4.50**	**317**	*e*Pn		**Pn**	**16 54 58.5**	**+1.0**
PESTR				*e*Sn		**Sn**	**16 55 48.1**	**-1.3**
PESTR				A		A	16 56 13.6	
	comp=N,20nm,0.5s							
PESTR	**Estremoz**	**4.50**	**317**	P		**Pn**	**16 54 58.5**	**+1.0**
PESTR				S		**Sn**	**16 55 49.5**	**+0.1**
PTEO	**Sao Teotonio**	**4.51**	**296**	*e*Sn		**Sn**	**16 55 51.8**	**+2.3**
PTEO				A		A	16 56 01.1	
	comp=N,28nm,0.5s							
EVO	**Evora**	**4.53**	**311**	P		**Pn**	**16 54 58.5**	**+0.7**
EVO				S		**Sn**	**16 55 47.4**	**-2.7**
EVO	**Evora**	**4.53**	**311**	*e*Pn		**Pn**	**16 54 58.8**	**+1.0**
EVO				*e*Sn		**Sn**	**16 55 49.0**	**-1.1**
PNCL	**Nicolau / Gran**	**4.63**	**304**	*e*Pn		**Pn**	**16 54 59.8**	**+0.6**
PNCL				*e*Sn		**Sn**	**16 55 50.7**	**-1.8**
PNCL				A		A	16 55 56.3	
	comp=N,16nm,0.7s							
UCM	**Universidad Co**	**4.67**	**4**	P		**Pn**	**16 55 02.9**	**+3.1**
UCM				S		**Sn**	**16 55 59.0**	**+5.4**
PMRV	**Marv??o**	**4.81**	**323**	*e*Pn		**Pn**	**16 55 03.0**	**+1.3**
PMRV				*e*Sn		**Sn**	**16 55 56.1**	**-1.0**
PMRV				A		A	16 56 13.4	
	comp=N,20nm,0.5s							
EPLA	**Plasencia**	**4.82**	**337**	Pn		**Pn**	**16 55 03.1**	**+1.3**
EPLA				Sn		**Sn**	**16 55 57.1**	**-0.1**
EPLA				*i* Vmb_Lg			16 56 31.1	
PMTG	**Montargil**	**5.00**	**315**	*e*Pn		**Pn**	**16 55 05.5**	**+1.2**
PMTG				*e*Sn		**Sn**	**16 56 00.2**	**-1.5**
PMTG				A		A	16 56 20.4	
	comp=N,14nm,0.5s							
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn		**Pn**	**16 55 08.7**	**+2.0**
PCBR				*e*Sn		**Sn**	**16 56 04.1**	**-1.9**
PCBR				A		A	16 56 11.2	
	comp=N,15nm,0.2s							
PACT	**Alcochete**	**5.18**	**309**	*e*Pn		**Pn**	**16 55 08.5**	**+1.7**
PACT				*e*Sn		**Sn**	**16 56 06.1**	**-0.1**
ETOR	**Torete**	**5.32**	**13**	Pn		**Pn**	**16 55 09.5**	**+0.8**
ETOR				*i* Vmb_Lg			16 56 56.5	
EMOS	**Mosqueruela**	**5.34**	**27**	Pn		**Pn**	**16 55 11.1**	**+1.9**
EMOS				*i* Vmb_Lg			16 56 26.6	
PMAFR	**Mafra**	**5.58**	**308**	*e*Pn		**Pn**	**16 55 14.8**	**+2.5**
PMAFR				*e*Sn		**Sn**	**16 56 14.4**	**-1.6**
PMAFR				A		A	16 56 18.9	
	comp=N,24nm,0.6s							
PSBE	**So Bento**	**5.63**	**315**	*e*Pn		**Pn**	**16 55 17.2**	**+4.2**
PSBE				*e*Sn		**Sn**	**16 56 14.8**	**-2.4**
OUK	**Oukaimeden**	**5.66**	**220**	P		**Pn**	**16 55 15.9**	**+2.2**
OUK				S		**Sn**	**16 56 21.0**	**+2.5**
MTE	**Manteigas**	**5.66**	**328**	*e*Pn		**Pn**	**16 55 15.2**	**+1.8**
MTE				*e*Sn		**Sn**	**16 56 17.4**	**-0.6**
MTE				A		A	16 56 52.4	
	comp=N,24nm,0.2s							
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn		**Pn**	**16 55 16.9**	**+1.0**
PCAS				*e*Sn		**Sn**	**16 56 19.8**	**-2.6**
PCAS				A		A	16 57 03.7	
	comp=N,17nm,1.4s							
PVIS	**Viseu**	**6.07**	**328**	*e*Pn		**Pn**	**16 55 20.5**	**+1.4**
PVIS				*e*Sn		**Sn**	**16 56 25.9**	**-2.2**
PVIS				A		A	16 56 33.4	
	comp=N,11nm,0.7s							
MVO	**Moncorvo**	**6.12**	**335**	*e*Pn		**Pn**	**16 55 21.6**	**+1.8**
MVO				*e*Sn		**Sn**	**16 56 27.1**	**-2.3**
MVO				A		A	16 57 10.0	
	comp=N,15nm,0.2s							
ERTA	**Horta de San J**	**6.16**	**29**	Pn		**Pn**	**16 55 21.4**	**+1.2**
ERTA				*i* Vmb_Lg			16 59 17.3	
PVRL	**Vila Real**	**6.47**	**332**	*e*Pn		**Pn**	**16 55 26.4**	**+1.9**
PVRL				*e*Sn		**Sn**	**16 56 35.3**	**-2.6**
PVRL				A		A	16 56 42.4	
	comp=N,21nm,0.6s							
POLO	**Lamas de Olo**	**6.58**	**332**	*e*Pn		**Pn**	**16 55 28.0**	**+1.9**
POLO				*e*Sn		**Sn**	**16 56 37.8**	**-3.0**
PBRG	**Braganca**	**6.61**	**339**	*e*Pn		**Pn**	**16 55 28.1**	**+1.6**
PBRG				*e*Sn		**Sn**	**16 56 40.0**	**-1.5**
PCAB	**Cabril**	**6.96**	**332**	*e*Sn		**Sn**	**16 56 47.9**	**-2.1**
ELOB	**Lobios**	**7.11**	**332**	Pn		**Pn**	**16 55 35.6**	**+2.2**
ELOB				Sn		**Sn**	**16 56 52.5**	**-1.2**
PGAV	**Gavieira, Arco**	**7.27**	**332**	*e*Pn		**Pn**	**16 55 37.6**	**+2.0**
PGAV				*e*Sn		**Sn**	**16 56 55.2**	**-2.6**
ELAN	**Lanestosa**	**7.58**	**1**	Pn		**Pn**	**16 55 41.6**	**+1.8**
ELAN				*i* Vmb_Lg			17 00 07.4	
EARI	**Arriondas**	**7.74**	**351**	Pn		**Pn**	**16 55 43.8**	**+1.8**
EKA	**Eskdalemuir Ar**	**19.70**	**1**	P		**Pn**	**16 58 19.6**	**-0.1**
	baz=180,slow=12,SNR=2.8							
TORD	**Torodi Ar. Bea**	**22.91**	**167**	P		**P**	**16 58 55.1**	**+1.9**
	comp=N,0.8nm,0.7s,baz=346,slow=12,SNR=2.3							
NOA	**NORSAR Array B**	**27.13**	**16**	LR		LR	17 11 56.7	
	comp=N,34nm,18.9s,baz=200,slow=40							
KURBB	**Kurchatov Arra**	**58.81**	**48**	P		**P**	**17 03 47.5**	**+0.2**
	comp=N,0.4nm,0.8s,baz=292,slow=7.6,SNR=5.9							
MKAR	**Makanchi Array**	**62.54**	**51**	P		**P**	**17 04 13.4**	**+0.6**
	comp=N,0.5nm,0.7s,baz=296,slow=5.5,SNR=6.7							
YKA	**Yellowknife Ar**	**67.76**	**332**	P		**P**	**17 04 46.5**	**+0.1**
	comp=N,1.0nm,0.7s,baz=62,slow=6.4,SNR=10							
PALK	**Pallekele**	**81.22**	**87**	LR		LR	17 43 56.3	
	comp=N,60nm,18.8s,baz=134,slow=37							

*SOME **17** 17:12:00.1,41.˝73N×75.˝15E,h5km*
*NNC **17** 17:12:01.9±0.7,41.˝77N×75.˝18E,h0km,mb2.9,mpv2.9,*
Error ellipse: s-maj=4.7km s-min=3.2km az=156.0
ISC 17 17:12:00.9±1.9,41.˝75N±0.˝08×75.˝17E±0.˝03,h1km±12km,
n32,σ0s63/52,1C-1D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.92**	**350**	P	**Pg**	**17 12 18.5**	**0.0**
	SNR=5.3						
ULHL	**Ulahol**	**0.94**	**58**	P	**Pg**	**17 12 18.9**	**0.0**
	SNR=6.1						
TKM2	**Tokmak 2**	**1.21**	**15**	P	**Pg**	**17 12 24.0**	**0.0**
	SNR=20						
TKM2	**Tokmak 2**	**1.21**	**15**	⇓P	**Pg**	**17 12 23.9**	**-0.2**
	0.5nm,0.2s						
TKM2				⇑S	**Sb**	**17 12 41.0**	**0.0**
	1.0nm,0.1s						
EKS2	**Erkin-Say**	**1.38**	**312**	P	Pn	17 12 21.3	-6.1
	SNR=5.3						
KST	**Kastek**	**1.42**	**24**	*e*P	**Pn**	**17 12 27.5**	**-0.4**
	0.9nm,0.1s						
KST				*e*S	**Sn**	**17 12 47.3**	**-0.1**
	9.1nm,0.2s						
KST	**Kastek**	**1.42**	**24**	P	**Pn**	**17 12 27.5**	**-0.4**
	0.9nm,0.1s						
KST				S	**Sn**	**17 12 47.3**	**-0.1**
	9.1nm,0.2s						
DGS	**Degeres**	**1.56**	**16**	*e*P	**Pb**	**17 12 30.2**	**-0.3**
	3.8nm,0.1s						
DGS				*e*S	**Sg**	**17 12 51.6**	**+0.8**
	4.8nm,0.2s						
DGS	**Degeres**	**1.56**	**16**	P	**Pb**	**17 12 30.2**	**-0.3**
	3.8nm,0.1s						
DGS				S	**Sg**	**17 12 51.6**	**+0.8**
	4.8nm,0.2s						
USP	**Ospenovka**	**1.59**	**342**	P	**Pn**	**17 12 30.4**	**+0.1**
	SNR=10						
MTBS	**Maitube**	**1.66**	**34**	*e*P	**Pb**	**17 12 32.3**	**-0.1**
	3.2nm,0.2s						
MTBS				*e*S	**Sg**	**17 12 55.2**	**+0.9**
	6.3nm,0.2s						
MTBS	**Maitube**	**1.66**	**34**	P	**Pb**	**17 12 32.3**	**-0.1**
	3.2nm,0.2s						
MTBS				S	**Sg**	**17 12 55.2**	**+0.9**
	6.3nm,0.2s						
SGDS	**Sogindy**	**1.75**	**347**	*e*P	**Pb**	**17 12 33.2**	**-0.6**
	2.9nm,0.1s						
SGDS				*e*S	**Sg**	**17 12 57.3**	**+0.4**
	2.2nm,0.1s						
SGDS	**Sogindy**	**1.75**	**347**	P	**Pb**	**17 12 33.2**	**-0.6**
	2.9nm,0.1s						
SGDS				S	**Sg**	**17 12 57.3**	**+0.4**
	2.2nm,0.1s						
MRKS	**Merke**	**1.75**	**305**	*e*P	**Pb**	**17 12 33.5**	**-0.4**
	2.3nm,0.5s						
MRKS				*e*S	**Sg**	**17 12 57.6**	**+0.5**
	1.6nm,0.2s						
MRKS	**Merke**	**1.75**	**305**	P	**Pb**	**17 12 33.5**	**-0.4**
	2.3nm,0.5s						
MRKS				S	**Sg**	**17 12 57.6**	**+0.5**
	1.6nm,0.2s						
TNSS	**Tian-Shan**	**1.84**	**45**	*e*P	**Pb**	**17 12 35.2**	**-0.4**
	3.2nm,0.2s						
TNSS				*e*S	**Sg**	**17 13 00.4**	**+0.5**
	4.8nm,0.2s						
TNSS	**Tian-Shan**	**1.84**	**45**	P	**Pb**	**17 12 35.2**	**-0.4**
	3.2nm,0.2s						
TNSS				S	**Sg**	**17 13 00.4**	**+0.5**
	4.8nm,0.2s						
KRBS	**Karabastau**	**1.98**	**11**	*e*P	**Pb**	**17 12 37.5**	**-0.2**
	3.4nm,0.3s						
KRBS				*e*S	**Sg**	**17 13 04.6**	**+0.2**
	3.5nm,0.2s						
KRBS	**Karabastau**	**1.98**	**11**	Pg	**Pb**	**17 12 37.5**	**-0.2**
	3.4nm,0.3s						
KRBS				Lg	Lg	17 13 04.6	
	3.5nm,0.2s						
MDOK	**Medeo**	**1.98**	**44**	*e*P	**Pb**	**17 12 37.7**	**-0.1**
	1.8nm,0.5s						
MDOK				*e*S	**Sg**	**17 13 04.6**	**+0.1**
	6.2nm,0.5s						
MDOK	**Medeo**	**1.98**	**44**	Pg	**Pb**	**17 12 37.7**	**-0.1**
	1.8nm,0.5s						
MDOK				Lg	Lg	17 13 04.6	
	6.2nm,0.5s						
KOTS	**Kotyrbulak**	**2.06**	**43**	*e*P	**Pb**	**17 12 39.3**	**+0.1**
	3.7nm,0.3s						
KOTS				*e*S	**Sg**	**17 13 07.3**	**+0.2**
	11nm,0.5s						
KOTS	**Kotyrbulak**	**2.06**	**43**	Pg	**Pb**	**17 12 39.3**	**+0.1**
	3.7nm,0.3s						
KOTS				Lg	Lg	17 13 07.3	
	11nm,0.5s						
KTBS	**Karatobe**	**2.25**	**29**	*e*P	**Pb**	**17 12 42.1**	**-0.4**
	2.0nm,0.3s						
KTBS				*e*S	**Sg**	**17 13 12.4**	**-0.9**
	14nm,0.2s						
KTBS	**Karatobe**	**2.25**	**29**	Pg	**Pb**	**17 12 42.1**	**-0.4**
	2.0nm,0.3s						
KTBS				Lg	Lg	17 13 12.4	
	14nm,0.2s						
KUU	**Kurty**	**2.31**	**22**	*e*P	**Pb**	**17 12 43.4**	**+0.1**
	1.2nm,0.1s						
KUU				*e*S	**Sg**	**17 13 14.9**	**-0.1**
	6.9nm,0.4s						
KUU	**Kurty**	**2.31**	**22**	Pg	**Pb**	**17 12 43.4**	**+0.1**
	1.2nm,0.1s						
KUU				Lg	Lg	17 13 14.9	
	6.9nm,0.4s						
CHKK	**Chushkaly**	**2.49**	**32**	*e*P	**Pb**	**17 12 46.5**	**0.0**
	1.5nm,0.2s						
CHKK				*e*S	**Sg**	**17 13 19.9**	**-1.0**
	9.1nm,0.4s						
CHKK	**Chushkaly**	**2.49**	**32**	Pg	**Pb**	**17 12 46.4**	**0.0**
	1.5nm,0.2s						
CHKK				Lg	Lg	17 13 19.9	
	9.1nm,0.4s						
UZB	**Uzynbulak**	**3.17**	**63**	*e*P	**Pb**	**17 12 57.9**	**-0.3**
	2.4nm,0.2s						
UZB				*e*S	**Sb**	**17 13 39.2**	**+1.7**
	1.1nm,0.3s						
BLB	**Baldybastay**	**3.38**	**45**	*e*P	**Pb**	**17 13 02.3**	**+0.7**
	1.3nm,0.2s						
BLB				*e*S	**Sg**	**17 13 46.6**	**-2.7**
	4.0nm,0.3s						

*IDC **17** 17:14:33.2±1.2,29.˝44N×101.˝91E,h0km,mb3.3/5,*
mb1 3.5/6,mb1mx3.2/62,mbtmp3.4/6,ML2.9/1,Error
ellipse: s-maj=43.0km s-min=20.9km az=62.0
ISC 17 17:14:34.7±1.4,29.5N±0.˝2×102.0E±0.˝2,h10km,n6,
σ0s85/6,mb3.2/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.66**	**9**	P	**Pn**	**17 18 53.6**	**+0.4**
	0.0nm,0.3s,baz=197,slow=12,SNR=4.8						
KSRS	**Korea Array**	**23.03**	**63**	P	**P**	**17 19 39.8**	**-0.2**
	0.8nm,1.0s,baz=259,slow=25,SNR=2.4						
MKAR	**Makanchi Array**	**23.11**	**324**	P	**P**	**17 19 41.4**	**+0.6**
	0.3nm,0.8s,baz=123,slow=10,SNR=3.5						
KURBB	**Kurchatov Arra**	**27.51**	**327**	P	**P**	**17 20 20.1**	**-1.2**
	0.3nm,0.7s,baz=142,slow=8.4,SNR=1.7						
WRA	**Warramunga Arr**	**58.20**	**144**	P	**P**	**17 24 29.1**	**-0.2**
	1.7nm,0.5s,baz=334,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**61.10**	**146**	P	**P**	**17 24 49.7**	**+0.5**
	0.2nm,0.5s,baz=330,slow=6.8,SNR=7.7						

*IDC **17** 17:19:51.0±0.4,29.˝59N×101.˝96E,h0km,mb4.3/36,*
mb1 4.3/37,mb1mx4.2/56,mbtmp4.3/37,ML3.9/1,MS3.8/37,
Ms1 3.7/37,ms1mx3.5/90,Error ellipse: s-maj=13.9km
s-min=9.2km az=53.0
*MOS **17** 17:19:51.5±1.0,29.˝55N×102.˝01E,h13km,mb4.7/18,Error*
ellipse: s-maj=7.0km s-min=5.4km az=95.5
*BJI **17** 17:19:53.7±0.0,29.˝60N×102.˝00E,h14km,mb4.4/41,*
mB4.8/25,ML4.1/22,Ms4.2/53,Ms7 4.1/49
*NEIC **17** 17:19:54.0±2.2,29.˝65N±0.˝07×102.˝09E±0.˝07,h10km±1km,*
mb4.6/58,Error ellipse: s-maj=12.5km s-min=10.6km
az=170.0
ISC 17 17:19:53.4±0.3,29.˝62N±0.˝03×102.˝00E±0.˝03,h10km,n245,
σ2s03/259,mb4.6/88,MS3.8/45,17C-3D,Sichuan

| Code | Station Name | Δ°

LSA Lhasa 9.44 273 P **Pn** **17 22 12.9 +3.0**
LSA S Sn 17 23 33.6 -23
LSA LR LR
comp=N,540nm,5.0s
LSA LR LR
comp=E,230nm,4.3s
LSA Lhasa 9.44 273 P **Pn** **17 22 13.3 +3.4**
LSA LR LR
comp=E,430nm,5.6s
LSA LR LR
comp=E,590nm,8.6s
SHL Shillong 9.84 248 P **Pn** **17 22 15.5 +0.4**
SHL Shillong 9.84 248 Pn **Pn** **17 22 15.5 +0.4**
GTA Gaotai 9.94 350 *e*P **Pn** **17 22 20.8 +4.4**
GTA pmax pmax
comp=E,9.0nm,1.2s
GTA pmax pmax
comp=E,27nm,4.7s
GTA LR LR
comp=E,600nm,11.6s
GTA LR LR
comp=E,430nm,8.7s
LYN LuoYang 10.15 58 ⇑P **Pn** **17 22 15.4 -3.9**
LYN PP **PnPn** **17 22 24.3 -2.6**
LYN S **Sn** **17 24 08.0 -5.2**
LYN SS **SnSn** **17 24 23.5 -1.5**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,130nm,5.9s
LYN LR LR
comp=N,2μm,10.0s
LYN LR LR
comp=E,1μm,10.4s
LYN LR LR
comp=Z,2μm,16.9s
WHN Wuhan 10.74 82 ⇑P **Pn** **17 22 26.5 -0.8**
WHN LR LR
comp=Z,3μm,14.9s
CHTO Chiang Mai 11.11 195 P **Pn** **17 22 33.7 +1.3**
CHTO Chiang Mai 11.11 195 Pn **Pn** **17 22 33.7 +1.3**
CHTO Chiang Mai 11.11 195 P **Pn** **17 22 36.1 +3.7**
CM31 Chiang Mai Arr 11.45 195 Pn **Pn** **17 22 39.3 +2.2**
CMAR Chiang Mai Arr 11.45 195 Pn **Pn** **17 22 39.1 +2.0**
comp=Z,0.1nm,0.3s,baz=7.3,slow=13,SNR=23
CMAR Pg 17 23 23.9
comp=Z,0.2nm,0.3s,baz=6.6,slow=15,SNR=2.3
CMAR Lg Lg 17 25 53.5
comp=Z,0.3nm,0.3s,baz=26,slow=25,SNR=1.6
CMAR Chiang Mai Arr 11.45 195 P **Pn** **17 22 37.1 0.0**
CMAR Chiang Mai Arr 11.45 195 **Pn** **17 22 37.1 0.0**
GZH Guangzhou 12.07 120 P **Pn** **17 22 42.1 -3.5**
QIZ Qiongzhong 12.73 144 P **Pn** **17 22 54.3 -0.3**
QIZ S **Sn** **17 25 17.3 +0.8**
QIZ LR LR
comp=Z,910nm,8.0s
QIZ LR LR
comp=Z,600nm,8.8s
QIZ LR LR
comp=Z,980nm,7.6s
TAPN Taplejung 12.77 263 *e*P **Pn** **17 22 55.8 +0.4**
BTO Baotou 12.77 29 *e*P **Pn** **17 22 53.3 -1.9**
BTO S **Sn** **17 25 17.6 +0.1**
BTO LR LR
comp=Z,2μm,11.2s
HNS HongShan 13.13 50 ⇑Pn **P** **17 23 12.3 +2.1**
HNS Sn **S** **17 25 47.4 -3.9**
HNS LR LR
comp=N,760nm,14.1s
HNS LR LR
comp=E,850nm,16.3s
HNS LR LR
comp=E,1μm,16.7s
ODAN Odare 13.17 261 *e*P **Pn** **17 23 00.7 -0.1**
comp=Z,21nm,0.6s
HHC Hu-ho-hao-te 13.65 32 *e*P **Pn** **17 23 08.0 +0.8**
HHC PP P 17 23 23.1 +6.9
HHC S **Sn** **17 25 37.0 -2.0**
HHC SS **S** **17 26 00.6 -1.5**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.8s
HHC LR LR
comp=Z,530nm,7.7s
HHC LR LR
comp=Z,920nm,14.5s
RAMN Ramite 13.82 263 *e*P **Pn** **17 23 09.5 -0.3**
comp=Z,8.9nm,0.6s
JIRN Jiri 14.02 266 *e*P **Pn** **17 23 12.5 0.0**
GUN Gumba 14.24 267 *e*P **Pn** **17 23 16.1 +0.6**
comp=Z,50nm,0.9s
TIA Tai'an 14.30 59 P **Pn** **17 23 13.0 -3.0**
TIA S **Sn** **17 26 00.0 +5.3**
TIA pmax pmax
comp=Z,3.0nm,0.4s
TIA pmax pmax
comp=Z,92nm,4.3s
TIA LR LR
comp=Z,940nm,13.5s
TIA LR LR
comp=Z,1μm,16.4s
UBPT Khong Chiam 14.62 167 **Pn** **17 23 23.1 +2.6**
NJ2 Nanjing 14.69 76 *e*P **Pn** **17 23 20.6 -0.7**
NJ2 pP **P** **17 23 24.8 -2.7**
NJ2 S **Sn** **17 26 06.3 +2.2**
NJ2 pmax pmax
comp=Z,13nm,1.0s
NJ2 pmax pmax
comp=Z,140nm,3.7s
NJ2 LR LR
comp=Z,620nm,10.4s
NJ2 LR LR
comp=Z,810nm,11.8s
PKI Pulchoki 14.71 266 *e*P **Pn** **17 23 21.4 -0.6**
comp=Z,31nm,0.7s
PKIN Phulchoki 14.72 266 *e*P **Pn** **17 23 21.9 -0.2**
comp=Z,38nm,0.7s
KKN Kakani 14.78 267 *e*P **Pn** **17 23 22.9 0.0**
comp=Z,61nm,0.9s
GKN Gorkha 15.30 268 *e*P **Pn** **17 23 29.3 -0.5**
QZH Quanzhou 15.47 104 *e*P **P** **17 23 39.9 +3.6**
QZH LR LR
comp=N,2μm,11.4s
QZH LR LR
comp=E,700nm,10.4s
QZH LR LR
comp=Z,570nm,7.1s
BJT Baijiatuau 15.57 44 P **Pn** **17 23 30.7 -2.3**
BJT pmax pmax
comp=Z,11nm,1.0s
BJT Baijiatuau 15.57 44 Pn **Pn** **17 23 30.7 -2.3**
BJI Beijing 15.59 44 P **Pn** **17 23 32.5 -0.8**
BJI LR LR
comp=Z,210nm,10.4s
BJI LR LR
comp=Z,310nm,10.7s
BJI LR LR
comp=Z,470nm,16.2s
DANN Dangsing 16.01 270 *e*P **Pn** **17 23 38.4 -0.7**
comp=Z,58nm,0.7s
KOLN Koldanda 16.25 268 *e*P **Pn** **17 23 40.5 -1.6**
comp=Z,26nm,0.7s
SSE Sheshan 16.63 80 P **Pn** **17 23 47.1 +0.4**
SSE S **Sn** **17 26 52.9 +1.4**
SSE pmax pmax
comp=Z,12nm,1.1s
SSE pmax pmax
comp=Z,53nm,3.5s
SSE LR LR
comp=Z,160nm,13.9s
SSE LR LR
comp=Z,500nm,13.3s
PYUN Piuthan 16.72 269 *e*P **Pn** **17 23 46.6 -1.5**
comp=Z,32nm,0.7s
SSLB Suanglung 17.90 104 P **Pn** **17 24 01.4 -1.3**
SSLB Suanglung 17.90 104 P **P** **17 24 07.3 +4.1**
XLT XiLinHaoTe 18.14 34 *e*P **Pn** **17 24 06.1 +0.5**
XLT sP sP 17 24 12.8 +1.5
XLT PP **PnPn** **17 24 22.8 +6.1**
XLT sS S 17 27 36.4 +2.7
XLT pmax pmax
comp=Z,12nm,1.5s
XLT pmax pmax
comp=Z,180nm,5.3s
XLT LR LR
comp=Z,360nm,11.6s
XLT LR LR
comp=Z,540nm,14.0s
WMQ Urumqi 18.19 325 *e*P **P** **17 24 08.6 +2.2**
WMQ S **Sn** **17 27 26.9 -2.4**
WMQ pmax pmax
comp=Z,17nm,1.9s
WMQ LR LR
comp=Z,460nm,17.9s
WMQ LR LR
comp=Z,160nm,12.1s
SONM Songino Array 18.51 9 P **P** **17 24 10.3 +0.4**
comp=Z,0.4nm,0.3s,baz=192,slow=8.7,SNR=62
SONM LR LR 17 31 58.9
comp=Z,1μm,20.5s,baz=190,slow=39
SONM Songino Array 18.51 9 P **Pn** **17 24 10.6 +0.6**
SONM pmax pmax
comp=Z,40nm,1.3s
SONM Songino Array 18.51 9 **Pn** **17 24 10.6 +0.6**
SONM IAmb IAmb 17 24 14.7
comp=Z,41nm,1.3s
DLV T Lat 18.59 160 P **Pn** **17 24 12.6 +1.3**
ULN Ulaanbaatar 18.64 11 *ce*P **P** **17 24 11.9 +0.6**
ULN pmax pmax
comp=Z,19nm,1.3s
ULN Ulaanbaatar 18.64 11 Pn **Pn** **17 24 12.3 +0.7**
ZAK Zakamensk 20.76 2 *e*P **P** **17 24 35.9 +1.4**
ZAK pmax pmax
comp=Z,26nm,1.2s
SRIT Nakonsritamara 21.03 187 P **P** **17 24 38.3 +0.8**
SRIT IAmb IAmb 17 24 44.2
comp=Z,15nm,0.8s
INCN Inchon 21.94 63 P **P** **17 24 47.1 -0.1**
INCN pmax pmax
comp=Z,52nm,1.4s
INCN Inchon 21.94 63 P **P** **17 24 47.1 -0.1**
INCN IAmb IAmb 17 24 52.1
comp=Z,52nm,1.4s
INCN Inchon 21.94 63 P **P** **17 24 50.9 +3.7**
MOY Mondy 22.04 358 *e*P **P** **17 24 51.4 +3.2**
MOY pmax pmax
comp=Z,43nm,2.1s
TJN Taejon 22.28 66 ⇑P **P** **17 24 51.1 +0.3**
TJN Taejon 22.28 66 P **P** **17 24 51.0 +0.1**
IRK Irkutsk 22.67 4 *e*P **P** **17 24 56.6 +1.8**
IRK pmax pmax
comp=Z,46nm,2.3s
KS19 Wonju Array Si 22.90 63 P **P** **17 24 56.5 -0.8**
KS19 IAmb IAmb 17 25 01.4
comp=Z,26nm,1.1s
KSAR Wonju Array Be 22.90 63 P **P** **17 24 56.3 -1.1**
KSAR Wonju Array Be 22.90 63 P **P** **17 24 56.3 -1.1**
KSRS Korea Array 22.93 63 P **P** **17 24 56.6 -1.1**
comp=Z,21nm,1.0s,baz=252,slow=9.3,SNR=42
KSRS LR LR 17 35 02.2
comp=Z,438nm,18.1s,baz=255,slow=40
MK31 Makanchi Array 23.00 324 P **P** **17 24 59.3 +0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 23.00 324 P **P** **17 24 59.3 +0.9**
MKAR Makanchi Array 23.00 324 P **P** **17 24 58.1 -0.3**
comp=Z,4.6nm,1.0s,baz=130,slow=11,SNR=27
MKAR LR LR 17 33 55.1
comp=Z,82nm,18.1s,baz=122,slow=37
MKAR Makanchi Array 23.00 324 P **P** **17 24 58.7 +0.3**
MKAR Makanchi Array 23.00 324 P **P** **17 24 58.7 +0.3**
MAKZ Makanchi 23.17 323 P **P** **17 25 01.1 +1.0**
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ Makanchi 23.17 323 P **P** **17 25 01.1 +1.0**
JOW Kunigami 23.30 90 P **P** **17 25 02.5 +0.9**
comp=Z,15nm,0.5s,baz=265,slow=12,SNR=1.9
JOW LR LR 17 35 35.6
comp=Z,177nm,18.1s,baz=136,slow=40
CN2 Changchun 23.43 46 *e*P **P** **17 25 01.8 -0.9**
CN2 pP sP 17 25 13.5 +5.2
CN2 PP **PnPn** **17 25 34.6 +5.6**
CN2 S **S** **17 29 08.3 -7.7**
CN2 sS sS 17 29 27.3 +5.1
CN2 SS **SnSn** **17 29 57.3 +6.0**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=Z,290nm,13.0s
CN2 LR LR
comp=Z,470nm,15.0s
KSH Kashi 23.52 302 P **P** **17 25 05.6 +1.7**
KSH pP sP 17 25 10.0 +0.1
KSH sP pP 17 25 13.8 +5.7
KSH LR LR
comp=Z,150nm,13.1s
KSH LR LR
comp=Z,330nm,14.1s
KDJ Kajisay 23.58 309 P **P** **17 25 03.9 -0.5**
KDJ pmax pmax
comp=Z,16nm,1.0s
KDJ Kajisay 23.58 309 P **P** **17 25 03.9 -0.5**
KDJ IAmb IAmb 17 25 15.5
comp=Z,16nm,0.9s
HIA Hailar 23.83 30 P **P** **17 25 05.0 -1.6**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA Hailar 23.83 30 P **P** **17 25 05.0 -1.6**
HIA IAmb IAmb 17 25 09.7
comp=Z,46nm,1.5s
KULM Kulim 24.23 183 P **P** **17 25 10.4 -0.2**
KULM IAmb IAmb 17 25 13.3
comp=Z,12nm,0.9s
JNU Nakatsue 24.87 75 P **P** **17 25 16.6 +0.2**
JNU IAmb IAmb 17 25 20.6
comp=Z,17nm,1.0s
IPM Ipoh 25.02 182 P **P** **17 25 16.0 -1.7**
IPM IAmb IAmb 17 25 20.4
comp=Z,11nm,0.8s
IPM Ipoh 25.02 182 P **P** **17 25 18.6 +0.9**
BNX BinXian 25.60 44 ⇑P **P** **17 25 23.9 +1.1**
BNX pmax pmax
comp=Z,460nm,7.1s
AAK Ala-Archa 25.61 308 P **P** **17 25 23.5 +0.4**
comp=Z,2.9nm,0.9s,baz=111,slow=4.9,SNR=7.5
AAK LR LR 17 36 14.9
comp=Z,107nm,19.3s,baz=148,slow=38
AAK Ala-Archa 25.61 308 *ce*P **P** **17 25 23.3 +0.2**
AAK pmax pmax
comp=Z,5.0nm,1.3s
AAK Ala-Archa 25.61 308 P **P** **17 25 24.9 +1.8**
TSI Tuntungan 26.18 188 P **P** **17 25 28.6 +0.4**
comp=Z,81nm,0.7s
MDJ Mudanjiang 26.45 48 P **P** **17 25 29.9 -0.7**
MDJ IAmb IAmb 17 25 35.3
comp=Z,25nm,1.3s
MDJ Mudanjiang 26.45 48 P **P** **17 25 33.3 +2.8**
MDJ pP sP 17 25 36.0 -0.2
MDJ sP pP 17 25 37.9 +3.4
MDJ pmax pmax
comp=Z,15nm,1.4s
MDJ pmax pmax
comp=Z,170nm,5.0s
MDJ LR LR
comp=Z,310nm,16.4s
MDJ Mudanjiang 26.45 48 P **P** **17 25 34.3 +3.8**
DRK Karamyk 26.64 300 P **P** **17 25 33.3 +0.7**
DRK IAmb IAmb 17 25 53.1
comp=Z,31nm,1.4s
PSI Prapat 26.83 187 P **P** **17 25 34.2 0.0**
comp=Z,3.5nm,0.7s,baz=7.5,slow=12,SNR=5.2
RPSI Rantau Prapat 26.93 187 P **P** **17 25 34.2 -0.8**
KKM Kota Kinabalu 27.01 147 P **P** **17 25 35.6 -0.3**
KKM IAmb IAmb 17 25 36.9
comp=Z,28nm,1.0s
ZAA0 Zalesovo Array 27.33 338 P **P** **17 25 36.6 -1.7**
ZALV Zalesovo Beam 27.33 338 P **P** **17 25 37.9 -0.4**
comp=Z,3.3nm,0.8s,baz=145,slow=10,SNR=8.6
ZALV LR LR 17 36 56.6
comp=Z,66nm,19.4s,baz=325,slow=38
ZALV Zalesovo Beam 27.33 338 P **P** **17 25 37.5 -0.8**
KURBB Kurchatov Arra 27.40 327 P **P** **17 25 38.8 -0.2**
comp=Z,2.1nm,0.6s,baz=132,slow=9.8,SNR=26
KURBB PcP **PcP** **17 28 55.9 -1.8**
comp=Z,0.4nm,0.8s,baz=129,slow=2.1,SNR=2.1
KURBB LR LR 17 36 03.0
comp=Z,122nm,20.3s,baz=99,slow=36
KURK Kurchatov 27.42 327 *ce*P **P** **17 25 39.7 +0.6**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 27.42 327 P **P** **17 25 39.0 -0.1**
KURK Kurchatov 27.42 327 **PcP** **17 28 55.9 -1.8**
BTK Batken 27.50 301 P **P** **17 25 38.9 -1.3**
BTK pmax pmax
comp=Z,5.0nm,0.7s
BTK Batken 27.50 301 P **P** **17 25 38.9 -1.3**
BTK IAmb IAmb 17 25 48.5
comp=Z,5.0nm,0.7s
USRK Ussuriysk Ar. 27.87 50 P **P** **17 25 43.0 -0.2**
comp=Z,2.9nm,0.7s,baz=260,slow=5.7,SNR=2.4
USRK LR LR 17 37 08.1
comp=Z,225nm,18.4s,baz=224,slow=37
KBL Kabul 28.27 289 P **P** **17 25 47.8 +0.6**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 28.27 289 P **P** **17 25 47.8 +0.6**
KBL IAmb IAmb 17 25 52.4
comp=Z,12nm,0.8s
GSI Gunungsitoli 28.47 189 P **P** **17 25 47.7 -1.1**
GSI IAmb IAmb 17 25 55.9
comp=Z,8.4nm,0.7s
KKAR Karatay Array 28.52 307 P **P** **17 25 50.5 +1.3**
KKAR Karatay Array 28.52 307 P **P** **17 25 50.5 +1.3**
SBUM Sibu 28.71 158 P **P** **17 25 51.1 +0.1**
SBUM IAmb IAmb 17 25 52.6
comp=Z,9.0nm,0.8s
MYLDM Lahad Datu 28.88 144 P **P** **17 25 53.1 +0.6**
KLR Kul'dur 29.90 41 P **P** **17 26 00.5 -0.8**
comp=Z,7.0nm,1.0s,baz=249,slow=8.4,SNR=14
KLR LR LR 17 39 01.1
comp=Z,221nm,18.8s,baz=231,slow=38
PALK Pallekele 29.92 226 P **P** **17 26 00.4 -1.4**
comp=Z,5.9nm,0.9s,baz=120,slow=8.1,SNR=4.2
MJAR Matsushiro Arr 30.99 68 P **P** **17 26 10.5 -0.6**
comp=Z,0.8nm,0.5s,baz=191,slow=0.7,SNR=2.6
MJAR PcP **PcP** **17 29 08.3 +1.2**
comp=Z,1.3nm,0.8s,baz=318,slow=1.6,SNR=2.8
MJAR LR LR 17 39 34.2
comp=Z,280nm,18.4s,baz=289,slow=38
DAV Davao City (W) 31.55 131 LR LR 17 39 51.6
comp=Z,5.9nm,19.0s,baz=334,slow=38
JHJ Hachijo jima 2 32.34 74 LR LR 17 40 46.7
comp=Z,85nm,21.3s,baz=260,slow=39
MTKI Muara Teweh, K 32.79 156 P **P** **17 26 27.5 +0.5**
comp=Z,1μmcomp=Z,22nm,0.7s
BRVK Borovoye 32.95 324 *ce*P **P** **17 26 27.6 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
GRNR Gornyy 33.29 41 ⇑*i*P **P** **17 26 31.6 +0.5**
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR MLR MLR
comp=E,190nm,14.0s
GRNR MLR MLR
comp=N,120nm,17.0s
GRNR MLR MLR
comp=Z,200nm,15.0s
TOLI2 Tolitoli 33.52 144 P **P** **17 26 33.2 -0.2**
TOLI2 Tolitoli 33.52 144 P **P** **17 26 33.6 +0.2**
ASAJ Asahikawa 35.19 54 LR LR 17 41 07.4
comp=Z,94nm,21.9s,baz=279,slow=38
KMSI Cibinong 35.68 140 P **P** **17 26 52.9 +0.9**
comp=Z,648nmcomp=Z,66nm,1.2s
YSS Yuzh-Sakhalins 35.90 50 *ce*P **P** **17 26 54.2 +0.5**
YSS pmax pmax
comp=Z,16nm,1.3s
YSS Yuzh-Sakhalins 35.90 50 P **P** **17 26 51.3 -2.4**
YSS IAmb IAmb 17 26 57.4
comp=Z,16nm,1.1s
YSS Yuzh-Sakhalins 35.90 50 P **P** **17 26 55.4 +1.7**
LEM Lembang 36.63 171 P **P** **17 27 00.2 -0.1**
comp=Z,15nm,0.8s,baz=24,slow=18,SNR=2.1
TTSI Tana Toraja 36.69 149 P **P** **17 27 01.3 +0.6**
comp=Z,34nm,0.9s
TYV Tymovskoe 36.97 43 *e*P **P** **17 27 04.6 +1.9**
TYV *e*S **S** **17 32 54.2 +6.3**
TYV pmax pmax
comp=Z,9.0nm,1.2s
TYV pmax pmax
comp=Z,300nm,5.2s
TYV smax smax
comp=N,300nm,5.8s
TYV smax smax
comp=E,200nm,5.8s
GEYT Alibeck 37.13 295 P **P** **17 27 04.2 -0.1**
comp=E,12nm,0.8s,baz=120,slow=8.9,SNR=14
GEYT LR LR 17 46 01.5
comp=E,142nm,18.2s,baz=122,slow=42
GEYT Alibeck 37.13 295 P **P** **17 27 05.4 +1.1**
GEYT IAmb IAmb 17 27 08.7
comp=Z,13nm,0.8s
GYA0B ALIBECK ARRAY 37.13 295 P **P** **17 27 05.7 +1.3**
GYA0B IAmb IAmb 17 27 08.6
comp=Z,16nm,0.8s
YAK Yakutsk 37.14 21 LR LR 17 44 09.8
comp=Z,87nm,20.5s,baz=262,slow=39
YAK Yakutsk 37.14 21 *ce*P **P** **17 27 04.9 +0.8**
YAK pmax pmax
comp=Z,12nm,1.7s
KPJI Karang Pucung 37.34 169 P **P** **17 27 07.3 +1.1**
comp=Z,40nm,1.0s
SPSI Sidrap Palu 37.49 150 P **P** **17 27 07.3 -0.2**
comp=Z,37nm,1.0s
KAPI Kappang 38.42 151 P **P** **17 27 13.1 -2.2**
comp=Z,12nm,0.8s,baz=270,slow=2.0,SNR=4.1
KAPI Kappang 38.42 151 IAmb IAmb 17 27 39.6
comp=Z,38nm,1.4s
AKTO Aktyubinsk 38.86 315 P **P** **17 27 17.4 -1.4**
comp=Z,0.3nm,0.3s,baz=84,slow=9.2,SNR=1.6
WSAR Wadi Sarin 39.18 271 LR LR 17 44 12.9
comp=Z,56nm,20.0s,baz=116,slow=37
ARU Arti 40.53 324 P **P** **17 27 31.9 -0.6**
comp=Z,1.2nm,0.6s,baz=169,slow=7.0,SNR=6.4
ARU Arti 40.53 324 *c i*P **P** **17 27 32.5 0.0**
ARU S **S** **17 33 43.3 +1.9**
ARU SS **SS** **17 36 38.5 -2.3**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU Arti 40.53 324 P **P** **17 27 32.7 +0.2**
NRIK Noril'sk 40.63 352 P **P** **17 27 32.7 -0.5**
comp=Z,2.9nm,0.6s,baz=155,slow=4.4,SNR=7.6
NRIK LR LR 17 45 08.8
comp=Z,152nm,21.2s,baz=169,slow=37
NRIK Noril'sk 40.63 352 P **P** **17 27 32.8 -0.4**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 40.63 352 P **P** **17 27 32.8 -0.4**
NRIK IAmb IAmb 17 27 45.1
comp=Z,8.3nm,1.1s
SIJI Sorong 41.23 132 LR LR 17 44 53.7
comp=Z,35nm,19.2s,baz=152,slow=36
AAI Ambon 41.55 138 P **P** **17 27 41.5 +0.1**
comp=Z,4μmcomp=Z,44nm,1.0s
GUMO Guam 42.67 103 LR LR 17 46 27.7
comp=Z,25nm,19.4s,baz=330,slow=37
MA2 Magadan 44.33 33 LR LR 17 48 27.2
comp=Z,129nm,18.2s,baz=242,slow=39
MA2 Magadan 44.33 33 *ce*P **P** **17 28 03.9 +0.5**
MA2 pmax pmax
comp=Z,26nm,2.5s
MA2 Magadan 44.33 33 P **P** **17 28 04.3 +0.8**
MA2 IAmb IAmb 17 28 05.7
comp=Z,8.4nm,0.9s
MA2 Magadan 44.33 33 P **P** **17 28 05.1 +1.7**
TIXI Tiksi 44.57 12 LR LR 17 47 52.0
comp=Z,367nm,19.8s,baz=183,slow=38
TIXI Tiksi 44.57 12 *ce*P **P** **17 28 04.7 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 44.57 12 P **P** **17 28 04.5 -0.7**
MAK Makhachkala 45.16 303 *e*P P 17 28 03.7 -6.6
MAK *e*S **S** **17 34 41.3 -8.5**
MAK *e*SS **ScS** **17 38 06.7 -0.7**
MAK pmax pmax
comp=Z,216nm,1.4s
MAK MLR MLR
comp=Z,325nm,14.0s
KIRV Kirov 45.89 325 P **P** **17 28 14.7 -1.1**
comp=Z,6.6nm,0.5s,baz=156,slow=20,SNR=2.7
SEY Seymchan 46.27 29 LR LR 17 49 19.5
comp=Z,245nm,20.4s,baz=208,slow=38
PETK Petropavlovsk- 46.52 43 P **P** **17 28 20.9 -0.1**
comp=Z,6.0nm,0.9s,baz=234,slow=12,SNR=3.7
GNI Garni 47.41 299 LR LR 17 50 38.6
comp=Z,32nm,19.3s,baz=98,slow=39
GNI Garni 47.41 299 *i* P **P** **17 28 27.2 -1.0**

GNI pmax pmax
comp=Z,17nm,1.5s
ZEI Tsey 47.81 302 *e*P **P 17 28 32.8 +1.4**
ZEI pmax pmax
comp=Z,8.0nm,1.4s
KBZ Khabaz 48.48 304 LR LR 17 52 07.3
comp=Z,57nm,19.4s,baz=116,slow=40
KIV Kislovodsk 48.62 304 *e*P **P 17 28 37.4 -0.1**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,38nm,16.0s
KIV Kislovodsk 48.62 304 P **P 17 28 39.6 +2.2**
KIV IAmb IAmb 17 28 54.2
comp=Z,12nm,1.0s
GURO Guroymak-BITLI 49.69 297 P **P 17 28 47.5 +1.7**
GURO IAmb IAmb 17 28 49.9
comp=Z,4.9nm,0.8s
RAYN Ar Rayn 50.48 277 P **P 17 28 52.5 +0.6**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 50.48 277 P **P 17 28 52.5 +0.6**
RAYN IAmb IAmb 17 28 57.3
comp=Z,5.3nm,0.9s
VSLR Vesyoloye 50.58 304 *i* P **P 17 28 53.5 +1.2**
SOC Sochi 50.79 304 *e*P **P 17 28 51.4 -2.5**
SOC *e* 17 30 49.8
SOC *e*PPP PPP 17 31 44.2
SOC *e*S **S 17 36 09.4 -0.3**
SOC *e*SS **SS 17 39 42.2 -1.8**
SOC MLR MLR
comp=Z,87nm,16.0s
KLMR Klimovskoe 51.27 326 *e*P **P 17 28 54.1 -3.1**
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 51.27 326 *e*P **P 17 28 54.1 -3.1**
KLMR AMP 17 29 05.0
comp=Z,25nm,1.4s
KNRA Kununurra 51.91 147 P **P 17 29 01.5 -1.0**
KNRA Kununurra 51.91 147 P **P 17 29 02.1 -0.4**
ANN Anapa 52.30 306 *e*P P 17 28 57.7 -7.4
ANN pmax pmax
comp=Z,88nm,1.2s
OBN Obninsk 52.38 319⇑ *e*P **P 17 29 05.8 +0.3**
OBN *e**PP **pP 17 29 08.4 -1.8**
OBN *e**SP **sP 17 29 12.1 +0.1**
OBN 17 30 16.0
OBN *e*PPP PPP 17 32 06.5
OBN *e*S **S 17 36 34.6 +3.5**
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,83nm,17.0s
FITZ Fitzroy Crossi 52.63 151 P **P 17 29 06.2 -1.6**
comp=Z,5.5nm,0.8s,baz=359,slow=4.4,SNR=8.9
BILL Bilibino 53.29 25⇓ *e*P **P 17 29 13.1 +1.0**
BILL *PP **pP 17 29 15.0 -1.3**
BILL *SP **sP 17 29 19.0 +1.2**
BILL 17 30 26.0
BILL pmax pmax
comp=Z,14nm,2.8s
BILL MLR MLR
comp=Z,66nm,15.0s
PSA00 Pilbara Seismi 53.72 159 P **P 17 29 15.2 -0.6**
PSA00 Pilbara Seismi 53.72 159 P **P 17 29 15.2 -0.6**
PSA00 IAmb IAmb 17 29 15.5
comp=Z,5.9nm,1.1s
BRTR Keskin Array B 55.90 300 P **P 17 29 29.9 -1.8**
comp=Z,1.4nm,0.8s,baz=101,slow=5.5,SNR=6.8
BRTR Keskin Array B 55.90 300 P **P 17 29 31.4 -0.3**
BRTR Keskin Array B 55.90 300 P **P 17 29 31.4 -0.3**
MMAI Mount Meron Ar 56.13 292 LR LR 17 57 43.5
comp=Z,51nm,18.1s,baz=31,slow=40
AKASG Malin Array Be 57.08 314 P **P 17 29 38.5 -1.2**
comp=Z,2.6nm,0.7s,baz=68,slow=6.7,SNR=7.9
ATD Arta Tunnel 57.64 265 LR LR 17 53 32.8
comp=Z,36nm,19.4s,baz=114,slow=35
FINES FINESS Array B 57.79 327 P **P 17 29 43.6 -1.0**
comp=Z,5.2nm,1.0s,baz=58,slow=7.2,SNR=4.2
ARCES ARCESS Array B 57.87 336 P **P 17 29 44.6 -0.5**
comp=Z,12nm,1.2s,baz=94,slow=6.7,SNR=1.7
WB0 Warramunga Arr 58.19 144 P **P 17 29 46.8 -1.0**
PMG Port Moresby 58.27 125 P **P 17 29 48.1 -0.4**
comp=Z,18nm,0.9s,baz=8.0,slow=8.3,SNR=4.2
WRAB Tennant Creek 58.30 144*d* *i*P **P 17 29 48.1 -0.6**
WRAB pmax pmax
comp=Z,54nm,0.9s
WRAB Tennant Creek 58.30 144 P **P 17 29 47.6 -1.1**
WRAB Tennant Creek 58.30 144 P **P 17 29 48.6 -0.1**
WRA Warramunga Arr 58.30 144 P **P 17 29 47.7 -0.9**
comp=Z,50nm,0.8s,baz=333,slow=7.7,SNR=238
WRA Warramunga Arr 58.30 144 P **P 17 29 47.1 -1.6**
WB2 Warramunga Arr 58.31 144 P **P 17 29 48.0 -0.7**
WR0 Warramunga Arr 58.42 144 P **P 17 29 48.8 -0.7**
WRKA Warakurna 59.92 152 P **P 17 29 59.8 0.0**
SPITS Spitsbergen Ar 60.34 346 LR LR 17 59 18.5
comp=Z,98nm,19.4s,baz=212,slow=39
AS31 Alice Springs 61.22 146 P **P 17 30 08.1 -0.6**
AS31 IAmb IAmb 17 30 09.1
comp=Z,2.4nm,0.7s
ASAR Alice Springs 61.22 146 P **P 17 30 08.2 -0.5**
comp=Z,7.3nm,0.7s,baz=331,slow=7.0,SNR=67
ASAR Alice Springs 61.22 146 P **P 17 30 08.1 -0.6**
QIS Mount Isa 61.65 139 P **P 17 30 11.2 -0.5**
HFS Hagfors 63.99 326 P **P 17 30 24.7 -2.1**
comp=Z,2.4nm,0.9s,baz=111,slow=7.9,SNR=2.5
NB2 NORSAR Subarra 64.93 328 P **P 17 30 31.5 -1.5**
comp=Z,3.4nm,1.0s,baz=74,slow=6.9
NOA NORSAR Array B 64.93 328 P **P 17 30 31.4 -1.6**
comp=Z,2.1nm,0.9s,baz=74,slow=6.6,SNR=5.0
FORT Forrest 64.98 155 P **P 17 30 33.9 +0.4**
CTA Charters Tower 65.27 134 P **P 17 30 34.5 -1.2**
comp=Z,6.1nm,0.7s,baz=304,slow=10,SNR=6.0
GERES GERESS Array B 67.28 314 P **P 17 30 47.5 -0.9**
comp=Z,0.3nm,0.6s,baz=43,slow=14,SNR=2.8
GERES LR LR 18 02 49.7
comp=Z,84nm,18.3s,baz=70,slow=38
JMIC Jan Mayen 68.62 341 LR LR 18 03 45.7
comp=Z,43nm,18.7s,baz=72,slow=38
KMBO Kilima Mbogo 68.79 256 P **P 17 30 57.8 -0.7**
comp=Z,1.6nm,0.7s,baz=42,slow=14,SNR=1.6
QLP Quilpie 68.99 140 P **P 17 30 59.8 +0.6**
BPAW Bear Paw Mtn. 70.74 26 P **P 17 31 10.9 +1.4**
BPAW IAmb IAmb 17 31 39.4
comp=Z,12nm,1.4s
OPO Ambohidratompo 71.31 235 LR LR 18 01 53.3
comp=Z,39nm,18.3s,baz=215,slow=35
BMAR Burnt Mountain 71.34 22 P **P 17 31 13.8 +0.6**
RMQ Roma 71.55 137 P **P 17 31 15.8 +1.0**
STKA Stephens Creek 71.79 145 P **P 17 31 15.5 -0.7**
comp=Z,5.3nm,1.0s,baz=324,slow=7.6,SNR=5.1
STKA Stephens Creek 71.79 145 P **P 17 31 16.0 -0.2**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 71.79 145 P **P 17 31 16.0 -0.2**
ILAR Eielson Array 71.95 25 P **P 17 31 15.7 -1.1**
comp=Z,0.8nm,1.1s,baz=284,slow=14,SNR=4.0
EIDS Eidsvold 72.16 134 P **P 17 31 18.1 -0.4**
A36M Sachs Harbour 73.54 14 P **P 17 31 26.7 +0.7**
A36M IAmb IAmb 17 31 30.5
comp=Z,4.7nm,1.1s
CMSA Cobar Meteorol 73.64 142 P **P 17 31 27.9 +0.7**
INK Inuvik 74.15 19 LR LR 18 06 57.0
comp=Z,90nm,21.6s,baz=330,slow=38
RES Resolute Bay 75.37 5 P **P 17 31 36.0 -0.7**
comp=Z,1.4nm,1.0s,baz=29,slow=3.9,SNR=3.7
RES LR LR 18 06 00.6
comp=Z,51nm,20.3s,baz=60,slow=37
RES Resolute Bay 75.37 5 P **P 17 31 36.0 -0.7**
RES Resolute Bay 75.37 5 IAmb IAmb 17 31 39.5
comp=Z,2.7nm,1.2s
SFJD Kangerlussuaq 81.48 349 LR LR 18 10 04.9
comp=Z,108nm,21.3s,baz=28,slow=37
DLBC Dease Lake 82.16 25 LR LR 18 14 31.8
comp=Z,113nm,18.6s,baz=292,slow=40
YKA Yellowknife Ar 83.63 16 P **P 17 32 20.5 -1.3**
comp=Z,0.5nm,0.7s,baz=328,slow=4.8,SNR=8.5
YKA LR LR 18 12 39.3
comp=Z,53nm,19.4s,baz=291,slow=38
MSVF Nonsavu 87.07 112 *i* P **P 17 32 41.0 +1.2**
MSVF pmax pmax
comp=Z,8.0nm,1.4s
TORD Torodi Ar. Bea 92.33 286 P **P 17 33 03.5 -1.0**
comp=Z,0.9nm,0.9s,baz=42,slow=3.9,SNR=3.9
TORD Torodi Ar. Bea 92.33 286 IAmb IAmb 17 33 13.2
comp=Z,2.4nm,1.2s
NEW Newport 94.91 25 LR LR 18 21 17.8
comp=Z,88nm,18.8s,baz=334,slow=39
ULM Lac du Bonnet 98.92 12 LR LR 18 22 03.9
comp=Z,60nm,18.6s,baz=316,slow=38
TXAR Lajitas Array 116.47 25 PKP **PKPdf 17 38 37.3 -0.8**
comp=Z,0.1nm,0.5s,baz=264,slow=1.8,SNR=2.4

IDC 17 17:22:18.4±2.8,**5°.19S**×**129°.51E**,**h211**km±41km,**mb2.7**/1,
mb1 3.2/5,**mb1mx2.8**/37,**mbtmpg3.7**/5,**Error ellipse:**
s-maj=69.7km s-min=16.8km az=86.0,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.64**	**22**	P	Pn	17 23 30.5	+2.0
	baz=210,slow=20						
SIJI				S	S	17 24 23.4	-0.2
	4.2nm,0.3s,baz=233,slow=20,SNR=21						
FITZ	**Fitzroy Crossi**	**13.38**	**196**	P	Pn	17 25 19.5	-0.7
	0.1nm,0.3s,baz=14,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**15.40**	**163**	P	P	17 25 43.8	-1.3
	0.3nm,0.3s,baz=345,slow=12,SNR=17						
ASAR	**Alice Springs**	**18.85**	**167**	P	P	17 26 23.4	+0.6
	0.6nm,0.3s,baz=344,slow=9.7,SNR=29						
MKAR	**Makanchi Array**	**66.45**	**327**	P	P	17 32 44.9	-0.1
	0.3nm,0.9s,baz=122,slow=7.0,SNR=1.8						

FUNV ***17*** *17:23:51.2,9°.23N×70°.35W,h5km,MW3.6*
ISC 17 17:23:49.5±1.2,**9°.26N**±0°.02×**70°.30W**±0°.02,**h2**km±10km,
n27,**σ1§21**/52,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.49**	**222**	*i* P	**Pg**	**17 23 59.0**	**0.0**
SDV				*e*S	**Sg**	**17 24 05.8**	**+0.4**
SANV	**Sanarito**	**0.79**	**72**	*e*P	**Pb**	**17 24 06.1**	**0.0**
SANV				*e*S	**Sb**	**17 24 17.3**	**-0.1**
CURV	**Curarigua**	**0.82**	**24**	*e*P	**Pn**	**17 24 07.8**	**-0.5**
CURV				*e*S	**Sn**	**17 24 19.9**	**-1.1**
SOCV	**Socops**	**1.11**	**210**	*e*P	**Pg**	**17 24 09.8**	**-1.1**
SOCV				*e*S	**Sg**	**17 24 25.7**	**+0.4**
SOCV	**Socops**	**1.11**	**210**	*e*P	**Pg**	**17 24 10.1**	**-0.8**
SOCV				*e*S	**Sg**	**17 24 25.5**	**+0.3**
SIQV	**Siquisique**	**1.47**	**19**	*e*P	**Pb**	**17 24 17.7**	**+0.2**
SIQV				*e*S	**Sg**	**17 24 39.0**	**+2.3**
DABV	**Dabajuro**	**1.69**	**349**	*e*P	**Pb**	**17 24 21.3**	**0.0**
DABV				*e*S	**Sg**	**17 24 43.8**	**0.0**
DABV	**Dabajuro**	**1.69**	**349**	*e*P	**Pb**	**17 24 21.5**	**+0.2**
DABV				*e*S	**Sg**	**17 24 43.8**	**0.0**
MAPV	**Macapo**	**1.91**	**72**	*e*P	**Pb**	**17 24 25.4**	**+0.3**
MAPV				*e*S	**Sb**	**17 24 49.5**	**+0.1**
ELOV	**Elorza**	**2.38**	**160**	*e*P	**Pn**	**17 24 30.4**	**+0.7**
ELOV				*e*S	**Sn**	**17 25 01.6**	**+2.1**
ELOV	**Elorza**	**2.38**	**160**	*e*P	**Pn**	**17 24 30.5**	**+0.9**
ELOV				*e*S	**Sn**	**17 24 59.8**	**+0.3**
CAPV	**Capacho**	**2.42**	**235**	*e*P	**Pn**	**17 24 31.9**	**+1.5**
CAPV				*e*S	**Sn**	**17 24 59.3**	**-1.5**
TURV	**Turiamo**	**2.70**	**64**	*e*P	**Pn**	**17 24 35.6**	**+1.6**
TURV				*e*S	**Sn**	**17 25 07.9**	**+0.7**
BENV	**Beln**	**2.76**	**75**	*e*P	**Pn**	**17 24 36.3**	**+1.5**
BENV				*e*S	**Sn**	**17 25 09.1**	**+0.3**
LL6C	**La Loma 6 Bece**	**2.97**	**279**	*e*P	**Pn**	**17 24 37.3**	**-0.3**
LL6C				*e*S	**Sb**	**17 25 19.4**	**-0.4**
PAMC	**Pamplona, Colo**	**3.04**	**231**	*e*P	**Pn**	**17 24 39.8**	**+0.7**
PAMC				*e*S	**Sb**	**17 25 20.1**	**-2.4**
CRJC	**Cerrejon, Guaj**	**3.08**	**305**	*e*P	**Pn**	**17 24 38.5**	**-0.8**
CRJC				*e*S	**Sn**	**17 25 16.8**	**-0.1**
OCAC	**Ocana**	**3.15**	**251**	*e*P	**Pn**	**17 24 47.1**	**+0.8**
OCAC				*e*S	**Sb**	**17 25 27.1**	**+1.9**
TAMC	**Tame, Arauca**	**3.17**	**208**	*e*P	**Pn**	**17 24 43.0**	**+2.6**
TAMC				*e*S	**Sg**	**17 25 30.1**	**-1.3**
CARV	**Caracas**	**3.55**	**69**	*e*P	**Pn**	**17 24 46.1**	**+0.4**
BARC	**Barichara**	**3.89**	**227**	*e*P	**Pn**	**17 24 52.0**	**+1.4**
BARC				*e*S	**Sn**	**17 25 39.3**	**+2.3**
CACV	**CAICARA DEL OR**	**4.08**	**114**	*e*P	**Pb**	**17 25 00.5**	**-1.7**
CACV				*e*S	**Sb**	**17 25 51.9**	**-0.2**
BIRV	**Birongo**	**4.15**	**73**	*e*P	**Pn**	**17 24 55.0**	**+1.0**
BIRV				*e*S	**Sn**	**17 25 41.5**	**-1.7**
RUSC	**La Rusia**	**4.33**	**220**	*e*P	**Pn**	**17 24 58.1**	**+1.2**
PAYV	**Puerto Ayacuch**	**4.63**	**145**	*e*P	**Pn**	**17 25 00.5**	**0.0**
PAYV				*e*S	**Sn**	**17 25 52.0**	**-2.9**
ZARC	**Zaragoza, Cauc**	**4.84**	**249**	*e*P	**Pn**	**17 25 03.6**	**+0.2**
ZARC				*e*S	**Sn**	**17 25 58.8**	**-1.2**
CHIC	**Chingaza**	**5.72**	**217**	*e*P	**Pn**	**17 25 16.9**	**+1.0**
CHIC				*e*S	**Sn**	**17 26 22.0**	**-0.4**

CNRM ***17*** *17:41:43.9,35°.72N×3°.53W,h22km,ml2.6*
MDD ***17*** *17:41:44.2±0.3,35°.65N×3°.63W,h12km,mb_Lg2.7/18,*
Error ellipse: s-maj=2.7km s-min=2.2km az=168.0
SFS ***17*** *17:41:45.0,35°.61N×3°.62W,h21km,ML2.8,ALBORAN SUR*
ISC 17 17:41:41.6±1.2,**35°.71N**±0°.02×**3°.62W**±0°.02,**h0**km±10km,
n34,**σ1§33**/71,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.53**	**64**	Pg	**Pn**	**17 41 55.2**	**-1.2**
EALB				Sg	**Sb**	**17 42 03.6**	**+1.7**
EALB				*i* Vmb_Lg		17 42 04.5	
EMEL	**Melilla**	**0.68**	**127**	Pg	**Pb**	**17 41 56.1**	**-0.1**
EMEL				Sg	**Sg**	**17 42 04.9**	**+1.6**
GOG	**Mont Gurugu**	**0.70**	**133**	P	**Pb**	**17 41 56.6**	**-0.1**
GOG				S	**Sb**	**17 42 06.3**	**-0.7**
PVLZ	**Peæn de**	**0.77**	**226**	P	**Pb**	**17 41 59.0**	**+1.2**
PVLZ				S	**Sb**	**17 42 09.6**	**+0.8**
ELGU	**Los Guajares,**	**1.16**	**360**	Pg	**Pb**	**17 42 04.9**	**+0.3**
ELGU				Sg	**Sb**	**17 42 20.6**	**+0.5**
ELGU				*i* Vmb_Lg		17 42 26.0	
EMAL	**Malaga-Limoner**	**1.24**	**328**	P	**Pb**	**17 42 06.0**	**+0.1**
EMAL				S	**Sg**	**17 42 19.5**	**-1.9**
EMIJ	**Mijas**	**1.27**	**313**	Pg	**Pg**	**17 42 06.2**	**+0.3**
EMIJ				Sg	**Sg**	**17 42 22.8**	**+0.5**
EMIJ				*i* Vmb_Lg		17 42 23.5	
EBER	**Berja**	**1.33**	**26**	Pn	**Pg**	**17 42 07.1**	**0.0**
EBER				Sn	**Sn**	**17 42 26.1**	**+0.1**
EBER				*i* Vmb_Lg		17 42 27.5	
TAF	**Taforalt**	**1.33**	**132**	P	**Pg**	**17 42 07.0**	**0.0**
TAF				S	**Sg**	**17 42 23.7**	**-0.6**
SMIR	**Smir Dam**	**1.43**	**270**	P	**Pn**	**17 42 08.5**	**-0.3**
SMIR				S	**Sg**	**17 42 28.5**	**+0.9**
CEU	**Ceuta**	**1.44**	**278**	P	**Pn**	**17 42 07.0**	**-1.8**
CEU				S	**Sg**	**17 42 24.3**	**-3.5**
EGOR	**Sierra Gorda,**	**1.46**	**344**	Pn	**Pb**	**17 42 10.6**	**+0.9**
EGOR				Sn	**Sn**	**17 42 29.6**	**+0.5**
EGOR				*i* Vmb_Lg		17 42 33.5	
EQUE	**Quentar**	**1.50**	**6**	Pn	**Pg**	**17 42 10.8**	**+0.4**
EQUE				Sn	**Sg**	**17 42 29.5**	**-0.4**
EQUE				*i* Vmb_Lg		17 42 35.7	
CHEFC	**Chefchaouen**	**1.53**	**247**	P	**Pn**	**17 42 10.7**	**+0.6**
CHEFC				S	**Sn**	**17 42 30.7**	**0.0**
JBK	**JBK**	**1.62**	**147**	P	**Pn**	**17 42 10.0**	**-1.5**
JBK				S	**Sn**	**17 42 30.0**	**-3.2**
EJIF	**Jimena Fronter**	**1.67**	**297**	Pn	**Pb**	**17 42 13.6**	**+0.4**
EJIF				Sn	**Sn**	**17 42 33.5**	**-0.7**
ENIJ	**Nijar**	**1.70**	**42**	Pn	**Pn**	**17 42 13.0**	**+0.5**
ENIJ				Sn	**Sn**	**17 42 34.1**	**-0.9**
ENIJ				*i* Vmb_Lg		17 42 50.5	
EQES	**Quesada**	**2.14**	**12**	Pn	**Pb**	**17 42 21.5**	**+0.2**
EQES				Sn	**Sn**	**17 42 45.2**	**-0.7**
EQES				*i* Vmb_Lg		17 42 50.6	
ESPR	**Espera**	**2.15**	**303**	Pn	**Pn**	**17 42 20.0**	**+1.4**
ESPR				Sn	**Sn**	**17 42 44.5**	**-1.4**
ESPR				*i* Vmb_Lg		17 42 59.6	
LCRM	**LCR**	**2.26**	**207**	P	**Pn**	**17 42 22.2**	**+1.9**
LCRM				S	**Sg**	**17 42 54.8**	**+0.7**
IFR	**Ifrane**	**2.51**	**210**	P	**Pn**	**17 42 24.1**	**+0.3**
IFR				S	**Sn**	**17 42 50.5**	**-4.7**
EADA	**Adamuz**	**2.57**	**343**	Pn	**Pn**	**17 42 25.0**	**+0.5**
EADA				Sn	**Sn**	**17 42 56.2**	**-0.3**
EADA				*i* Vmb_Lg		17 43 06.5	
EZAR	**Zarzadilla de**	**2.66**	**35**	Pn	**Pn**	**17 42 26.0**	**+0.2**
EZAR				Sn	**Sn**	**17 42 58.4**	**-0.4**
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pn**	**17 42 28.2**	**+1.0**
ECAB				Sn	**Sn**	**17 43 01.2**	**-0.2**
ECAB				*i* Vmb_Lg		17 43 13.6	
TDRA	**Tendrara**	**2.97**	**153**	P	**Pn**	**17 42 30.7**	**+0.7**
TDRA				S	**Sn**	**17 43 07.0**	**+0.6**
MD31	**MD31**	**2.98**	**199**	P	**Pn**	**17 42 31.1**	**+0.9**
MD31				S	**Sn**	**17 43 06.7**	**0.0**
MDT	**Midelt**	**3.00**	**196**	P	**Pn**	**17 42 31.5**	**+1.1**
MDT				S	**Sn**	**17 43 07.8**	**+0.7**
EMIN	**Mina Concepcio**	**3.20**	**311**	Pn	**Pn**	**17 42 33.9**	**+0.8**
EMIN				Sn	**Sn**	**17 43 10.7**	**-1.2**
EMIN				*i* Vmb_Lg		17 43 13.0	
ETOB	**Tobarra**	**3.37**	**29**	Pn	**Pn**	**17 42 37.7**	**+2.2**
ETOB				Sn	**Sn**	**17 43 15.0**	**-1.2**
ETOB				*i* Vmb_Lg		17 43 33.2	
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**17 42 39.1**	**+0.5**
EGRO				Sn	**Sn**	**17 43 20.5**	**-1.4**
EGRO				*i* Vmb_Lg		17 43 24.1	
PVAQ	**Vaqueiros**	**3.71**	**298**	P	**Pn**	**17 42 42.6**	**+2.5**
PVAQ				S	**Sn**	**17 43 25.6**	**+1.1**
PAB	**San Pablo**	**3.88**	**352**	Pn	**Pn**	**17 42 44.0**	**+1.5**
PAB				Sn	**Sn**	**17 43 28.3**	**-0.5**
PAB				Sg	**Sg**	**17 43 45.3**	**-0.8**
PAB				*i* Vmb_Lg		17 43 48.1	
ESDC	**Sonseca Array**	**3.97**	**356**	Pn	**Pn**	**17 42 44.9**	**+1.2**
ESDC				Sn	**Sn**	**17 43 28.8**	**-2.2**
ESDC				Sg	**Sg**	**17 43 48.2**	**-0.9**
EBAD	**Badajoz**	**4.07**	**319**	Pn	**Pn**	**17 42 45.7**	**+0.6**
EBAD				Pg	**Pg**	**17 42 57.7**	**-2.0**
EBAD				Sn	**Sn**	**17 43 31.5**	**-2.0**
EBAD				*i* Vmb_Lg		17 43 34.8	

IDC ***17*** *17:45:52.8±2.6,3°.15N×128°.80E,h240km±29km,mb3.0/8,*
mb1 3.2/9,mb1mx3.1/31,mbtmp3.6/9,Error ellipse:
s-maj=37.5km s-min=14.5km az=65.0
ISC 17 17:45:53.4±0.8,**3°.1N**±0°.1×**128°.8E**±0°.2,**h250**km,**n9**,
σ1§32/9,**mb3.3**/8,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.65**	**147**	P	**Pn**	**17 47 04.9**	**-0.1**
	2.0nm,0.3s,baz=323,slow=15,SNR=10						
FITZ	**Fitzroy Crossi**	**21.27**	**188**	P	**P**	**17 50 19.8**	**-0.9**
	1.7nm,0.8s,baz=17,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**23.53**	**167**	P	**P**	**17 50 43.5**	**+2.1**
	0.4nm,0.4s,baz=344,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**27.05**	**170**	P	**P**	**17 51 14.2**	**+1.1**
	0.5nm,0.7s,baz=356,slow=8.1,SNR=7.9						
CTA	**Charters Tower**	**28.72**	**144**	P	**P**	**17 51 27.1**	**-0.9**
	3.7nm,0.7s,baz=256,slow=8.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**32.95**	**300**	P	**P**	**17 52 05.5**	**+0.4**
	0.5nm,0.7s,baz=124,slow=7.4,SNR=6.9						
SONM	**Songino Array**	**48.58**	**340**	P	**P**	**17 54 10.4**	**-1.5**
	0.2nm,0.8s,baz=149,slow=3.4,SNR=2.1						
MKAR	**Makanchi Array**	**59.25**	**325**	P	**P**	**17 55 29.4**	**+0.6**
	0.5nm,0.5s,baz=114,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**17 58 00.2**	**+0.6**
	0.4nm,0.9s,baz=184,slow=6.0,SNR=2.1						

ISK ***17*** *18:25:34.9,33°.28N×2°.77E,h15km,ML3.8/13*
IDC ***17*** *18:25:36.6±1.1,33°.49N×27°.59E,h0km,mb3.9/15,*
mb1 4.0/24,mb1mx3.8/62,mbtmp3.9/24,ML3.8/9,Error
ellipse: s-maj=22.6km s-min=14.0km az=179.0
NIC ***17*** *18:25:39.3±0.0,33°.46N×27°.69E,h20km±2km,Ml4.0/6*
THE ***17*** *18:25:40.7,33°.35N×27°.70E,h61km±7km,ML3.2/4,Error*
ellipse: s-maj=7.9km s-min=1.7km az=298.0
HLW ***17*** *18:25:42.4,33°.34N×27°.64E,h31km±4km,Md3.7,Ml3.7*
GII ***17*** *18:25:45.3±0.0,33°.29N×28°.37E,h1km,MD3.1/4,Mm3.3/2*
ISC 17 18:25:40.6±3.4,**33°.40N**±0°.04×**27°.69E**±0°.04,**h32**km±27km,
n110,**σ1§56**/137,**mb3.8**/15,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**2.11**	**325**	P	**Pn**	**18 26 12.7**	**-1.0**
ZKR				S	**Sn**	**18 26 38.8**	**0.0**
	370nm,0.6s						
ZKR	**Zakros**	**2.11**	**325**	PN	**Pn**	**18 26 12.6**	**-1.1**
ZKR				SN	**Sn**	**18 26 39.8**	**+1.0**
ZKR	**Zakros**	**2.11**	**325**	P	**Pn**	**18 26 12.5**	**-1.1**
ZKR				AML	AML	18 26 39.0	
	0.4nm,0.6s						
ZKR				AML	AML	18 26 39.0	
	0.4nm,0.6s						
ZKR				S	**Sn**	**18 26 39.0**	**+0.3**
ZKR				AML	AML	18 26 41.0	
	0.9nm,0.6s						
ZKR				AML	AML	18 26 41.0	
	0.9nm,0.6s						
KARP	**Karpathos**	**2.19**	**349**	P	**Pn**	**18 26 14.4**	**-0.5**
KARP				S	**Sn**	**18 26 41.0**	**+0.1**
	702nm,0.4s						
KARP	**Karpathos**	**2.19**	**349**	PN	**Pn**	**18 26 13.8**	**-1.1**
KARP				SN	**Sn**	**18 26 41.9**	**+1.0**
KARP	**Karpathos**	**2.19**	**349**	P	**Pn**	**18 26 14.0**	**-0.8**
KARP				S	**Sn**	**18 26 40.5**	**-0.4**
KARP				AML	AML	18 26 43.8	
	1.6nm,0.4s						
KARP				AML	AML	18 26 43.8	
	1.6nm,0.4s						
KARP				AML	AML	18 26 45.7	
	1.2nm,0.4s						
KARP				AML	AML	18 26 45.7	
	1.2nm,0.4s						
FRMA	**Ierapetra Chan**	**2.29**	**315**	P	**Pn**	**18 26 14.6**	**-1.6**
FRMA				S	**Sn**	**18 26 42.0**	**-1.3**
	172nm,0.8s						
SLUM	**Salum**	**2.83**	**229**	P	**Pn**	**18 26 24.1**	**+0.5**
	baz=229						
SLUM				S	**Sn**	**18 26 54.5**	**-2.1**
	baz=229						
HRKL	**Herakleio**	**2.87**	**312**	P	**Pn**	**18 26 24.1**	**-0.1**
HRKL	**Herakleio**	**2.87**	**312**	PN	**Pn**	**18 26 23.5**	**-0.7**
HRKL				SN	**Sn**	**18 26 58.7**	**+1.1**
KSTL	**Kastelli Herak**	**2.89**	**312**	P	Pn	18 26 21.0	-3.4
KSTL				S	**Sn**	**18 26 51.9**	**-6.1**
	95nm,0.5s						
IDI	**Anoyia**	**2.99**	**310**	Pn	**Pn**	**18 26 24.9**	**-1.0**
	14nm,0.3s,baz=126,slow=13,SNR=105						
IDI				Sn	**Sn**	**18 26 58.9**	**-1.8**
	28nm,0.3s,baz=315,slow=17,SNR=14						
IDI	**Anoyia**	**2.99**	**310**	P	**Pn**	**18 26 25.1**	**-0.8**
IDI	**Anoyia**	**2.99**	**310**	PN	**Pn**	**18 26 25.1**	**-0.8**
OSC1	**CSNet OBS 1**	**3.00**	**87**	P	**Pn**	**18 26 25.9**	**0.0**
OSC1				S	**Sn**	**18 27 01.9**	**+1.2**
KSL	**Kastellorizon**	**3.16**	**29**	P	**Pn**	**18 26 27.6**	**-0.5**
KSL	**Kastellorizon**	**3.16**	**29**	P	**Pn**	**18 26 26.6**	**-1.5**
KSL				S	**Sn**	**18 27 05.1**	**+0.4**
AKAS	**Kas**	**3.24**	**29**	PN	**Pn**	**18 26 28.4**	**-0.9**
AKAS				SN	**Sn**	**18 27 06.2**	**-0.6**
PRNS	**Prines Rethymn**	**3.29**	**308**	P	**Pn**	**18 26 30.1**	**+0.2**
GVD	**Gavdhos**	**3.32**	**297**	P	**Pn**	**18 26 29.4**	**-0.9**
GVD	**Gavdhos**	**3.32**	**297**	PN	**Pn**	**18 26 29.3**	**-1

SWA2		**4.56**	**205**	P	**Pn**	**18 26 48.2**	**+0.8**
	baz=206							
SWA2				S	**Sn**	**18 27 36.4**	**-2.9**
	baz=206							
KTHR	**Kythira**	**4.80**	**308**	P	**Pn**	**18 26 49.3**	**-1.4**
ASGA	**Asgata**	**4.81**	**72**	P	**Pn**	**18 26 51.3**	**+0.5**
ASGA				AML	AML	18 27 45.6		
	0.5nm,0.4s							
CSS	**Mathiatis**	**4.93**	**70**	P	**Pn**	**18 26 52.5**	**+0.1**
GLL	**Jalalah**	**5.12**	**137**	P	**Pn**	**18 26 55.5**	**+0.3**
	baz=136							
MVOU	**Mavrovouni**	**5.18**	**70**	P	**Pn**	**18 26 56.5**	**+0.6**
SUZ	**Suez**	**5.64**	**128**	P	**Pn**	**18 27 04.7**	**+2.5**
	baz=126							
NBNS	**Bani Suef**	**5.67**	**146**	P	**Pn**	**18 27 04.4**	**+1.7**
	baz=145							
OFRI	**`Ofer**	**6.17**	**95**	Pn	**Pn**	**18 27 10.3**	**+0.7**
OFRI				Sn	**Sn**	**18 28 14.9**	**-4.2**
HFRF	**Wahat Farafira**	**6.25**	**175**	P	**Pn**	**18 27 11.8**	**+1.2**
	baz=174							
SLTI	**Sal'it**	**6.29**	**99**	Pn	**Pn**	**18 27 12.1**	**+0.9**
SLTI				Sn	**Sn**	**18 28 18.6**	**-3.4**
TAMRE	**El Minia**	**6.34**	**153**	P	**Pn**	**18 27 13.0**	**+1.2**
	baz=152							
MMC7	**Mount Meron ar**	**6.46**	**91**	Pn	**Pn**	**18 27 14.1**	**+0.5**
MMA0B	**Mount Meron ar**	**6.47**	**91**	Pn	**Pn**	**18 27 14.5**	**+0.7**
MMA0B				Sn	**Sn**	**18 28 24.2**	**-2.3**
MMAI	**Mount Meron Ar**	**6.47**	**91**	Pn	**Pn**	**18 27 13.8**	**+0.1**
	3.1nm,0.3s,baz=116,slow=21,SNR=8.3							
MMAI				Sn	**Sn**	**18 28 24.8**	**-1.7**
	9.0nm,0.3s,baz=162,slow=14,SNR=10							
YTIR	**Yattir**	**6.60**	**106**	Pn	**Pn**	**18 27 16.6**	**+1.1**
YTIR				Sn	**Sn**	**18 28 26.4**	**-3.2**
HMDT	**Nahal Hemdat**	**6.69**	**98**	Pn	**Pn**	**18 27 17.2**	**+0.5**
HMDT				Sn	**Sn**	**18 28 28.2**	**-3.6**
DSI	**Dead Sea**	**6.75**	**104**	Pn	**Pn**	**18 27 18.3**	**+0.9**
DSI				Sn	**Sn**	**18 28 30.5**	**-2.6**
KSHT	**Keshet**	**6.82**	**91**	Pn	**Pn**	**18 27 19.4**	**+0.9**
KRMI	**Paran Flat**	**6.82**	**117**	Pn	**Pn**	**18 27 19.7**	**+1.2**
PRNI	**Paran**	**6.92**	**114**	Pn	**Pn**	**18 27 20.6**	**+0.8**
PRNI				Sn	**Sn**	**18 28 34.7**	**-2.8**
GHAJ	**Ghor Haditha**	**6.98**	**105**	Pn	**Pn**	**18 27 21.4**	**+0.8**
HRFI	**Mount Harif**	**7.09**	**116**	Pn	**Pn**	**18 27 23.3**	**+1.0**
HRFI				Sn	**Sn**	**18 28 39.4**	**-2.4**
MBRI	**Mt Berech**	**7.13**	**118**	Pn	**Pn**	**18 27 24.3**	**+1.5**
MBRI				Sn	**Sn**	**18 28 40.5**	**-2.2**
EIL	**Elat**	**7.22**	**119**	Pn	**Pn**	**18 27 25.3**	**+1.3**
	0.6nm,0.3s,baz=226,slow=5.1,SNR=4.0							
EIL				Sn	**Sn**	**18 28 41.7**	**-3.2**
	2.3nm,0.3s,baz=171,slow=4.4,SNR=7.9							
EIL	**Elat**	**7.22**	**119**	Pn	**Pn**	**18 27 24.9**	**+0.9**
EIL				Sn	**Sn**	**18 28 41.4**	**-3.5**
ASF	**Jabal al Asfar**	**7.84**	**96**	Sn	**Sn**	**18 28 59.2**	**-1.1**
	0.7nm,0.3s,baz=63,slow=14,SNR=1.8							
BRTR	**Keskin Array B**	**7.92**	**35**	Pn	**Pn**	**18 27 34.4**	**+0.7**
	0.8nm,0.3s,baz=203,slow=15,SNR=44							
BRTR				Sn	**Sn**	**18 28 58.3**	**-3.9**
	0.4nm,0.3s,baz=209,slow=26,SNR=5.3							
STIP	**Stip**	**9.36**	**334**	*i* Pn	Pn	18 27 59.5	+6.2	
VAE	**Valguarnera**	**11.57**	**294**	Pn	**Pn**	**18 28 23.4**	**-0.2**
	0.7nm,0.3s,baz=104,slow=17,SNR=1.5							
VAE				Sn	Sn	18 30 24.2	-7.5	
	2.3nm,0.3s,baz=20,slow=12,SNR=2.4							
KIJV	**Kijevo**	**13.77**	**324**	*i* P	Pn	18 28 47.5	-6.0	
KBZ	**Khabaz**	**15.72**	**45**	Pn	**P**	**18 29 24.2**	**+0.9**
	0.1nm,0.3s,baz=240,slow=14,SNR=1.6							
CRVS	**Cervenica-Dubn**	**16.18**	**345**	*e*P	**P**	**18 29 28.6**	**+0.2**
SOKA	**Soboth**	**16.40**	**328**	*e*Pn	**Pn**	**18 29 30.0**	**+1.6**
	1.5nm,0.6s							
VYHS	**Vyhne**	**16.48**	**339**	*e*P	**P**	**18 29 32.9**	**+1.2**
AKASG	**Malin Array Be**	**17.33**	**3**	P	**Pn**	**18 29 37.4**	**-2.5**
	2.4nm,0.3s,baz=194,slow=12,SNR=19							
ABTA	**Abfaltersbach**	**17.64**	**324**	*i* Pn	**Pn**	**18 29 44.4**	**+0.5**
	1.8nm,0.5s							
CKRC	**Cesky Krumlov**	**18.37**	**331**	*e*P	**P**	**18 29 52.5**	**-0.1**
WTTA	**Wattenberg**	**18.43**	**323**	*e*Pn	**Pn**	**18 29 54.7**	**+1.0**
	2.5nm,0.4s							
WATA	**Walderalm**	**18.51**	**324**	*e*Pn	**Pn**	**18 29 59.8**	**+5.1**
	3.8nm,0.6s							
KRLC	**Kraliky**	**18.51**	**337**	*e*P	**P**	**18 29 52.6**	**-1.6**
GERES	**GERESS Array B**	**18.64**	**330**	P	**P**	**18 29 55.1**	**-0.6**
	0.2nm,0.3s,baz=140,slow=10,SNR=11							
FETA	**Feichten**	**18.73**	**322**	*i* Pn	**Pn**	**18 29 58.4**	**+1.1**
	1.9nm,0.6s							
DPC	**Dobruska-Polom**	**18.90**	**337**	*e*P	**P**	**18 29 56.1**	**-2.3**
KHC	**Kasperske Hory**	**18.91**	**330**	*e*P	**P**	**18 29 58.0**	**-0.6**
DAVOX	**Davos/Dischmat**	**19.03**	**320**	P	**P**	**18 30 00.3**	**+0.2**
	0.3nm,0.3s,baz=108,slow=13,SNR=4.0							
OSTC	**Ostas**	**19.11**	**337**	*e*P	**P**	**18 30 00.5**	**-0.2**
UPC	**Upice**	**19.14**	**337**	*e*P	**Pn**	**18 30 04.5**	**+2.5**
CHVC	**Chvalec**	**19.19**	**337**	*e*P	**P**	**18 30 00.8**	**-0.8**
PRU	**Pruhonice**	**19.22**	**334**	*e*P	**P**	**18 29 59.8**	**-2.1**
DAVA	**Damuels**	**19.35**	**321**	*e*Pn	**Pn**	**18 30 05.2**	**+0.5**
	2.6nm,0.4s							
NKC	**Novy Kostel**	**20.23**	**331**	*e*P	**P**	**18 30 11.7**	**-1.3**
BELG	**Belogornoye**	**23.81**	**31**	P	**P**	**18 30 50.7**	**+0.3**
	5.5nm,0.5s,baz=188,slow=7.1,SNR=8.2							
ESDC	**Sonseca Array**	**26.11**	**293**	P	**P**	**18 31 10.9**	**-0.7**
	1.3nm,0.8s,baz=82,slow=9.9,SNR=6.8							
MDT	**Midelt**	**27.01**	**278**	P	**P**	**18 31 19.8**	**0.0**
	0.7nm,0.6s,baz=78,slow=9.3,SNR=3.9							
FINES	**FINESS Array B**	**28.08**	**358**	P	**P**	**18 31 28.3**	**-0.7**
	1.4nm,0.5s,baz=163,slow=12,SNR=8.6							
HFS	**Hagfors**	**28.29**	**345**	P	**P**	**18 31 30.7**	**-0.2**
	3.9nm,0.8s,baz=159,slow=9.3,SNR=3.3							
NOA	**NORSAR Array B**	**29.66**	**344**	P	**P**	**18 31 42.6**	**-0.4**
	0.2nm,0.6s,baz=146,slow=10,SNR=2.4							
TORD	**Torodi Ar. Bea**	**31.10**	**236**	P	**P**	**18 31 56.4**	**+0.2**
	0.2nm,0.3s,baz=59,slow=8.4,SNR=2.8							
ARCES	**ARCESS Array B**	**36.21**	**359**	P	**P**	**18 32 39.0**	**-1.1**
	5.3nm,1.0s,baz=167,slow=8.2,SNR=1.8							
MKAR	**Makanchi Array**	**43.02**	**55**	P	**P**	**18 33 38.3**	**+1.2**
	0.7nm,0.6s,baz=273,slow=6.1,SNR=12							
ZALV	**Zalesovo Beam**	**44.74**	**45**	P	**P**	**18 33 51.4**	**+0.7**
	0.9nm,0.6s,baz=268,slow=9.9,SNR=4.2							
SONM	**Songino Array**	**58.98**	**50**	P	**P**	**18 35 38.8**	**+1.6**
	0.5nm,0.6s,baz=298,slow=8.2,SNR=5.9							
TIXI	**Tiksi**	**62.08**	**21**	P	**P**	**18 35 58.2**	**+0.5**
	0.8nm,0.3s,baz=317,slow=6.5,SNR=6.5							
SCHQ	**Schefferville**	**65.88**	**321**	P	**P**	**18 36 22.8**	**-0.2**
	1.9nm,0.4s,baz=64,slow=7.6,SNR=9.1							
YKA	**Yellowknife Ar**	**79.75**	**343**	P	**P**	**18 37 45.3**	**+0.2**
	0.3nm,0.5s,baz=31,slow=5.3,SNR=6.4							
ILAR	**Eielson Array**	**82.06**	**358**	P	**P**	**18 37 58.0**	**+0.6**
	0.2nm,0.6s,baz=334,slow=4.6,SNR=4.5							

*TIR **17** 18:27:42.9, 39˚.72N×20˚.40E, h10km±1km, Md2.6, Ml2.4*
*THE **17** 18:27:44.0, 39˚.71N×20˚.47E, h5km±2km, ML2.3/7, Error ellipse: s-maj=2.8km s-min=0.7km az=185.0*

ISC 17 18:27:44.1±0.9, 39˚.69N±0˚.03×20˚.46E±0˚.03, h12km±8km, n14, σ1°43/28, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.18**	**213**	P	**Pg**	**18 27 47.8**	**-0.3**
IGT				S	**Sg**	**18 27 51.9**	**+1.0**
	3µm,0.2s						
IGT	**Igoumenitsa**	**0.18**	**213**	P	**Pg**	**18 27 47.9**	**-0.2**
	baz=196						
IGT				S	**Sg**	**18 27 51.7**	**+0.8**
	baz=196						
JAN	**Janina**	**0.30**	**96**	P	**Pg**	**18 27 48.8**	**-1.5**
JAN				S	**Sg**	**18 27 54.4**	**0.0**
	2µm,0.4s						
SRN	**Sarande**	**0.40**	**299**	P	**Pg**	**18 27 51.5**	**-0.6**
SRN				S	**Sb**	**18 27 57.2**	**-2.1**
	295nm,0.5s						
SRN	**Sarande**	**0.40**	**299**	P	**Pg**	**18 27 50.6**	**-1.5**
	baz=299						
SRN				S	**Sb**	**18 27 57.7**	**-1.6**
	baz=299						
SRN				AMP			
	comp=N,1.4nm,0.3s,baz=299						
LSK	**Leskovik**	**0.47**	**13**	P	**Pg**	**18 27 52.5**	**-1.0**
	baz=19						
LSK				S	**Sb**	**18 27 59.7**	**-1.8**
	baz=19						
LSK				AMP			
	comp=E,2.9nm,0.7s,baz=19						
KEK	**Kerkira**	**0.51**	**273**	P	**Pg**	**18 27 53.1**	**-1.0**
KEK				S	**Sb**	**18 28 01.9**	**-0.5**
	comp=E,395nm,0.4s						
KPRO	**Kipourio**	**0.74**	**69**	P	**Pg**	**18 27 57.3**	**-1.2**
KPRO				S	**Sb**	**18 28 09.0**	**-0.3**
	comp=E,570nm,0.5s						
NEST	**Nestorio**	**0.86**	**32**	P	**Pg**	**18 27 59.2**	**-1.4**
NEST				S	**Sb**	**18 28 12.8**	**+0.3**
	comp=E,110nm,0.4s						
LKD2	**Lefkada island**	**0.91**	**170**	P	**Pn**	**18 28 03.3**	**+0.5**
	baz=167						
LKD2				S	**Sn**	**18 28 16.9**	**+1.0**
	baz=167						
KBN	**Korca**	**0.97**	**15**	P	**Pg**	**18 28 01.3**	**-1.5**
	baz=18						
KBN				S	**Sb**	**18 28 15.8**	**+0.1**
	baz=18						
KBN				AMP			
	comp=N,0.4nm,0.5s,baz=18						
FNA	**Florina**	**1.30**	**32**	P	**Pn**	**18 28 07.5**	**-0.7**
FNA				S	**Sn**	**18 28 26.4**	**+0.8**
	comp=N,132nm,0.4s						
FNA	**Florina**	**1.30**	**32**	P	**Pn**	**18 28 07.8**	**-0.4**
	baz=35						
FNA				S	**Sn**	**18 28 26.1**	**+0.5**
	baz=35						
OHR	**Ohrid**	**1.45**	**10**	*i* Pn	**Pg**	**18 28 12.9**	**+1.0**
OHR				*i* Sn	**Sg**	**18 28 35.2**	**+4.5**

*IDC **17** 18:31:18.1±9.6, 15˚.29N×60˚.40W, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.6/40, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=197.0km s-min=48.1km az=124.0*
*TRN **17** 18:31:24.4, 15˚.01N×60˚.60W, h52km, MD3.6*

ISC 17 18:31:25.4±1.3, 15˚.01N±0˚.03×60˚.55W±0˚.10, h56km±9km, n53, σ0°52/74, mb3.6/4, 11D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAM	**Ilet Lapin Mar**	**0.39**	**233**	↓*i*P	**Pn**	**18 31 36.0**	**+0.2**
ILAM				*e*S	**Sn**	**18 31 43.5**	**+0.1**
MVM	**Montagne Vaucl**	**0.56**	**216**	↓*e*P	**Pn**	**18 31 37.8**	**+0.1**
LPMF	**Morne Lapointe**	**0.59**	**223**	*e*P	**Pn**	**18 31 37.8**	**-0.3**
BAMF	**Morne Balai**	**0.61**	**252**	↓*e*P	**Pn**	**18 31 38.4**	**+0.1**
SVN	**Savane Anatole**	**0.62**	**254**	↓*e*P	**Pn**	**18 31 38.4**	**0.0**
CXM	**Morne La Croix**	**0.63**	**252**	↓*e*P	**Pn**	**18 31 38.8**	**+0.1**
GBMF	**Grand Be**	**0.63**	**250**	*e*P	**Pn**	**18 31 38.3**	**-0.1**
ZAM	**Aeronautique**	**0.63**	**227**	*e*P	**Pn**	**18 31 38.3**	**-0.3**
MPOM	**Morne Pois Mar**	**0.64**	**208**	↓*i*P	**Pn**	**18 31 38.6**	**0.0**
MPOM				*e*S	**Sn**	**18 31 48.0**	**-0.2**
FDF	**Fort de France**	**0.64**	**245**	↓*i*P	**Pn**	**18 31 38.7**	**0.0**
FDF				*e*S	**Sn**	**18 31 44.1**	**-0.3**
H05S1	**Guadeloupe/Mar**	**0.64**	**205**	Pg	**Pn**	**18 31 38.9**	**+0.2**
H05S1				Lg	Lg	18 31 47.7		
PML	**Morne Lenard**	**0.65**	**250**	*e*P	**Pn**	**18 31 38.9**	**0.0**
PCM	**Pelee Case Pet**	**0.67**	**253**	*e*P	**Pn**	**18 31 38.9**	**0.0**
PCM	**Pelee Case Pet**	**0.67**	**253**	↓*e*P	**Pn**	**18 31 39.0**	**0.0**
TRMF	**Trois Ilets**	**0.67**	**226**	↓*e*P	**Pn**	**18 31 38.9**	**-0.2**
BIM	**Bigot**	**0.70**	**226**	↓*i*P	**Pn**	**18 31 39.6**	**+0.2**
BIM				*e*S	**Sn**	**18 31 49.7**	**0.0**
DLPL	**La Plaine**	**0.74**	**296**	*e*P	**Pn**	**18 31 40.0**	**0.0**
DLPL				*e*S	**Sn**	**18 31 50.7**	**+0.1**
MDN	**Morne-Daniel**	**0.87**	**291**	*e*P	**Pn**	**18 31 41.8**	**+0.3**
MDN				*e*S	**Sn**	**18 31 54.5**	**+1.1**
DSLB	**Salisbury**	**0.94**	**297**	↓*i*P	**Pn**	**18 31 42.7**	**+0.2**
DSLB				*e*S	**Sn**	**18 31 55.4**	**+0.2**
MDVC	**Dominica, Viel**	**1.02**	**306**	*e*P	**Pn**	**18 31 43.1**	**-0.4**
MDVC				*e*S	**Sn**	**18 31 56.4**	**-0.5**
SLBI	**Saint Lucia, B**	**1.06**	**203**	*e*P	**Pn**	**18 31 43.8**	**-0.3**
SLBI				*e*S	**Sn**	**18 31 57.8**	**-0.2**
SLCP	**Castries, St.**	**1.08**	**203**	*e*P	**Pn**	**18 31 44.3**	**-0.1**
SLCP				*e*S	**Sn**	**18 31 58.3**	**-0.1**
MAGL	**Barre de l'ile**	**1.17**	**323**	*e*P	**Pn**	**18 31 45.2**	**-0.3**
MAGL				*e*S	**Sn**	**18 32 01.1**	**+0.5**
TDBA	**Terre de Bas,**	**1.34**	**309**	*e*P	**Pn**	**18 31 47.8**	**0.0**
TDBA				*e*S	**Sn**	**18 32 05.1**	**+0.5**
MCLT	**Moule a Chique**	**1.35**	**196**	*e*P	**Pn**	**18 31 47.6**	**-0.4**
MCLT				*e*S	**Sn**	**18 32 05.3**	**+0.5**
TBG	**Guadaloupe-3**	**1.35**	**309**	*e*P	**Pn**	**18 31 47.9**	**-0.1**
H05N1	**Guadeloupe/Mar**	**1.39**	**340**	Pg	**Pn**	**18 31 49.5**	**+1.0**
H05N1				Lg	Lg	18 32 04.7	
	SNR=440						
CBE	**Ff, Capester**	**1.46**	**316**	*e*P	**Pn**	**18 31 49.8**	**+0.3**
CBE				*e*S	**Sn**	**18 32 07.4**	**-0.2**
ABD	**La Joyeuse, An**	**1.71**	**328**	*e*P	**Pn**	**18 31 53.1**	**+0.2**
ABD				*e*S	**Sn**	**18 32 13.9**	**+0.2**
SVB	**Belmont**	**1.86**	**202**	*e*P	**Pn**	**18 31 55.7**	**+0.8**
SVB				*e*S	**Sn**	**18 32 17.0**	**-0.3**
SVOC	**Richmond Hill,**	**1.96**	**199**	*e*P	**Pn**	**18 31 56.8**	**+0.6**
SVOC				*e*S	**Sn**	**18 32 20.1**	**+0.5**
ANBD	**Bethesda, Anti**	**2.34**	**330**	*e*P	**Pn**	**18 32 02.2**	**+0.8**
ANBD				*e*S	**Sn**	**18 32 29.4**	**+0.5**
GCMP	**Grenada, Carri**	**2.65**	**199**	*e*P	**Pn**	**18 32 06.2**	**+0.5**
GCMP				*e*S	**Sn**	**18 32 37.3**	**+0.7**
NVDO	**Nevis, Disaste**	**2.89**	**317**	*e*S	**Sn**	**18 32 42.6**	**+0.1**
ANWB	**Willy Bob**	**2.90**	**336**	*e*P	**Pn**	**18 32 08.9**	**-0.2**
ANWB				*e*S	**Sn**	**18 32 41.9**	**-0.8**
GRHS	**Sauteurs**	**2.96**	**201**	*e*P	**Pn**	**18 32 11.4**	**+1.4**
GRHS				*e*S	**Sn**	**18 32 44.1**	**-0.3**
GRGR	**Grenville**	**3.05**	**201**	*e*P	**Pn**	**18 32 11.9**	**+0.7**
GRGR				*e*S	**Sn**	**18 32 47.4**	**+0.8**
SKOC	**St. Kitts, UWI**	**3.09**	**318**	*e*P	**Pn**	**18 32 12.4**	**+0.7**
SKOC				*e*S	**Sn**	**18 32 47.7**	**+0.3**
SKI	**Saint Kitts**	**3.12**	**318**	*e*P	**Pn**	**18 32 12.5**	**+0.4**
SKI				*e*S	**Sn**	**18 32 47.8**	**-0.5**
GRFF	**Grenada Fort F**	**3.16**	**202**	*e*P	**Pn**	**18 32 12.3**	**-0.4**
GRFF				*e*S	**Sn**	**18 32 48.6**	**-0.7**
TOSP	**Speyside**	**3.69**	**180**	*e*P	**Pn**	**18 32 21.1**	**+1.2**
TOSP				*e*S	**Sn**	**18 33 02.0**	**-0.1**
TRN	**Trinidad (W)**	**4.41**	**191**	*e*S	**Sn**	**18 33 20.2**	**+0.2**
AOPR	**Arecibo Observ**	**6.81**	**300**	*e*Pn	**Pn**	**18 33 04.2**	**+1.6**
SDV	**Santo Domingo**	**11.59**	**239**	Pn	**Pn**	**18 34 09.0**	**+0.7**
	1.2nm,0.3s,baz=64,slow=11,SNR=6.3						
TXAR	**Lajitas Array**	**42.15**	**297**	P	**P**	**18 39 12.6**	**-0.2**
	0.1nm,0.5s,baz=97,slow=6.5,SNR=2.0						
PDAR	**Pinedale Array**	**50.14**	**314**	P	**P**	**18 40 14.8**	**-0.7**
	0.7nm,0.7s,baz=112,slow=9.2,SNR=7.1						
H10N3	**ASCENSION HYDR**	**50.98**	**113**	T	T	19 35 34.8		
	baz=296,slow=75,SNR=100						
H10N2	**ASCENSION HYDR**	**50.99**	**113**	T	T	19 35 35.3		
	baz=296,slow=75,SNR=92						
H10N1	**ASCENSION HYDR**	**51.00**	**113**	T	T	19 35 36.4		
	baz=296,slow=75,SNR=122						
H10S3	**ASCENSION HYDR**	**51.34**	**115**	T	T	19 36 01.4		
	baz=285,slow=74,SNR=30						
H10S2	**ASCENSION HYDR**	**51.36**	**115**	T	T	19 35 59.2		
	baz=295,slow=74,SNR=13						
NVAR	**Mina Array Bea**	**55.65**	**306**	P	**P**	**18 40 56.0**	**-0.2**
	0.1nm,0.3s,baz=128,slow=4.7,SNR=3.7						
YKA	**Yellowknife Ar**	**60.57**	**334**	P	**P**	**18 41 29.1**	**-0.8**
	0.4nm,0.4s,baz=106,slow=7.4,SNR=5.1						

HLW 17 18:35:07.5, 27˚.49N×22˚.76E, h11km±17km, Md3.7, Ml4.0, Libya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWA2		**2.95**	**53**	P	Pn	18 35 53.9	-0.3
	baz=53						
SWA2				S	Sn	18 36 27.5	-2.1
	baz=53						
SLUM	**Salum**	**4.52**	**28**	P	Pn	18 36 12.9	-3.0
	baz=27						
HFRF	**Wahat Farafira**	**4.95**	**93**	P	Pn	18 36 21.9	+0.1
	baz=92						
RYAN	**Fayoum**	**6.81**	**75**	P	Pn	18 36 47.3	-0.2
	baz=74						

*MDD **17** 18:43:01.4±0.4, 35˚.69N×3˚.67W, h0km±3km, mb_Lg2.4/14, Error ellipse: s-maj=3.6km s-min=2.5km az=175.0*
*CNRM **17** 18:43:01.5, 35˚.74N×3˚.58W, h23km, ml2.5*
*SFS **17** 18:43:02.0, 35˚.53N×3˚.62W, h24km, ML2.5, ALBORAN SUR*

ISC 17 18:43:00.8±1.3, 35˚.66N±0˚.02×3˚.66W±0˚.02, h15km±10km, n30, σ1°14/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.58**	**61**	Pg	**Pb**	**18 43 12.6**	**0.0**
EALB				Sg	**Sb**	**18 43 20.6**	**-0.1**
EALB				*i* Vmb_Lg		18 43 22.8	
EMEL	**Melilla**	**0.68**	**122**	Pg	**Pb**	**18 43 13.9**	**-0.3**
EMEL				Sg	**Sb**	**18 43 22.9**	**-0.6**
GOG	**Mont Gurugu**	**0.69**	**129**	P	**Pb**	**18 43 14.3**	**-0.3**
GOG				S	**Sb**	**18 43 24.7**	**+0.6**
PVLZ	**Peæn de**	**0.72**	**227**	P	**Pg**	**18 43 14.8**	**+0.1**
PVLZ				S	**Sn**	**18 43 26.8**	**-0.3**
ELGU	**Los Guajares,**	**1.21**	**1**	Pg	**Pn**	**18 43 22.4**	**-0.8**
ELGU				Sg	**Sn**	**18 43 39.7**	**+0.3**
ELGU				*i* Vmb_Lg		18 43 41.7	
EMAL	**Malaga-Limoner**	**1.27**	**331**	P	**Pn**	**18 43 23.7**	**-0.3**
EMAL				S	**Sb**	**18 43 39.1**	**-1.4**
EMIJ	**Mijas**	**1.28**	**315**	Pg	**Pn**	**18 43 23.6**	**-0.5**
EMIJ				Sg	**Sb**	**18 43 40.1**	**-0.7**
EMIJ				*i* Vmb_Lg		18 43 41.4	
TAF	**Taforalt**	**1.32**	**129**	P	**Pn**	**18 43 24.7**	**-0.1**
TAF				S	**Sg**	**18 43 44.4**	**+0.9**
EBER	**Berja**	**1.38**	**26**	Pn	**Pn**	**18 43 25.0**	**-0.8**
EBER				Sn	**Sn**	**18 43 44.0**	**+0.1**
EBER				*i* Vmb_Lg		18 43 45.0	
SMIR	**Smir Dam**	**1.40**	**271**	P	**Pn**	**18 43 25.6**	**-0.3**
SMIR				S	**Sn**	**18 43 44.4**	**+0.2**
CEU	**Ceuta**	**1.42**	**280**	P	**Pn**	**18 43 24.6**	**-1.4**
CEU				S	**Sn**	**18 43 42.1**	**-2.3**
CHEFC	**Chefchaouen**	**1.48**	**249**	P	**Pb**	**18 43 28.6**	**+0.5**
CHEFC				S	**Sb**	**18 43 47.1**	**+0.3**
EGOR	**Sierra Gorda,**	**1.49**	**346**	Pn	**Pn**	**18 43 27.9**	**+0.6**
EGOR				Sn	**Sn**	**18 43 46.7**	**+0.1**
EGOR				*i* Vmb_Lg		18 43 50.8	
EQUE	**Quentar**	**1.55**	**6**	Pn	**Pb**	**18 43 29.1**	**-0.2**
EQUE				Sn	**Sb**	**18 43 48.7**	**-0.2**
EQUE				*i* Vmb_Lg		18 43 57.5	
JBK	**JBK**	**1.60**	**146**	P	**Pn**	**18 43 28.3**	**-0.4**
JBK				S	**Sn**	**18 43 47.7**	**-1.5**
EJIF	**Jimena Fronter**	**1.67**	**299**	Pn	**Pn**	**18 43 30.5**	**+1.0**
EJIF				Sn	**Sn**	**18 43 50.4**	**-0.3**
ESPR	**Espera**	**2.15**	**305**	Pn	**Pn**	**18 43 36.1**	**0.0**
ESPR				Sn	**Sn**	**18 44 02.0**	**-0.4**
ESPR				Sg	**Sb**	**18 44 08.1**	**+2.3**
ESPR				*i* Vmb_Lg		18 44 09.1	
EQES	**Quesada**	**2.19**	**12**	Pn	**Pb**	**18 43 39.1**	**-1.1**
EQES				Sn	**Sn**	**18 44 03.6**	**-0.1**
EQES				*i* Vmb_Lg		18 44 08.0	
LCRM	**LCR**	**2.20**	**207**	P	**Pb**	**18 43 39.8**	**-0.6**
LCRM				S	**Sg**	**18 44 10.1**	**-1.5**
EADA	**Adamuz**	**2.61**	**344**	Pn	**Pn**	**18 43 44.0**	**+1.5**
EADA				Sn	**Sn**	**18 44 14.5**	**+0.5**
EADA				*i* Vmb_Lg		18 44 23.9	
ECAB	**El Cabril**	**2.79**	**330**	Pn	**Pn**	**18 43 46.1**	**+1.1**
ECAB				Sn	**Sn**	**18 44 18.2**	**-0.3**
ECAB				*i* Vmb_Lg		18 44 31.3	
CZD	**Col de Zad**	**2.86**	**204**	P	**Pn**	**18 43 48.3**	**+2.1**
CZD				S	**Sn**	**18 44 22.0**	**+1.5**
MD31	**MD31**	**2.93**	**198**	P	**Pn**	**18 43 49.2**	**+2.3**
MD31				S	**Sb**	**18 44 25.3**	**-3.2**
TDRA	**Tendrara**	**2.94**	**152**	P	**Pn**	**18 43 48.6**	**+1.4**
TDRA				S	**Sn**	**18 44 22.0**	**-0.4**
MDT	**Midelt**	**2.94**	**196**	P	**Pn**	**18 43 49.8**	**+2.7**
MDT				S	**Sb**	**18 44 27.1**	**-1.8**
EMIN	**Mina Concepcio**	**3.21**	**312**	Pn	**Pn**	**18 43 51.5**	**+0.8**
EMIN				Sn	**Sn**	**18 44 28.5**	**-0.2**
EMIN				*i* Vmb_Lg		18 44 29.7	
ETOB	**Tobarra**	**3.42**	**29**	Pn	**Pn**	**18 43 55.3**	**+1.6**
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**18 43 57.1**	**+1.0**
EGRO				Sn	**Sn**	**18 44 38.3**	**0.0**
EGRO				*i* Vmb_Lg		18 44 40.0	
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**18 43 58.9

comp=E,437nm,0.3s
KDAK IAML 18 47 56.6
comp=E,314nm,0.3s
PMR Palmer 2.40 50 Pn 18 47 27.4 +0.1
PMR IAML 18 47 56.5
comp=E,140nm,0.5s
PMR IAML 18 47 57.3
comp=N,162nm,0.4s
L20K Farewell, AK 2.40 350 Pn 18 47 28.2 +0.7
L20K Farewell, AK 2.40 350 P **Pn 18 47 28.0 +0.6**
baz=170
PWL Port Wells 2.42 70 Pn 18 47 26.9 -0.9
PWL Port Wells 2.42 70 IAML 18 47 57.0
comp=E,352nm,0.5s
PWL IAML 18 47 57.0
comp=N,372nm,0.4s
PWL Port Wells 2.42 70 P **Pn 18 47 26.7 -1.1**
baz=255
KNK Knik Glacier 2.58 58 Pn 18 47 28.9 -0.8
KNK Knik Glacier 2.58 58 IAML 18 48 01.3
comp=E,271nm,0.3s
KNK IAML 18 48 01.5
comp=N,294nm,0.4s
KNK Knik Glacier 2.58 58 P **Pn 18 47 28.8 -0.8**
baz=242
GHO Glory Hole Cre 2.59 49 Pn 18 47 29.1 -0.7
GHO IAML 18 48 01.1
comp=N,331nm,0.4s
GHO IAML 18 48 01.0
comp=E,260nm,0.7s
CUT Chulitna 2.64 29 Pn **Pn 18 47 30.3 -0.1**
PPLA Purkeypile 2.81 8 Pn 18 47 33.6 +0.9
PPLA Purkeypile 2.81 8 P **Pn 18 47 33.6 +0.9**
baz=189
SML Sawmill 2.83 51 Pn 18 47 32.1 -0.8
SML Sawmill 2.83 51 IAML 18 48 09.3
comp=N,175nm,0.7s
SML IAML 18 48 14.5
comp=E,138nm,0.6s
SML Sawmill 2.83 51 P **Pn 18 47 32.7 -0.3**
baz=236
OHAK Old Harbor 2.92 183 Pn 18 47 32.7 -1.3
OHAK IAML 18 48 08.7
comp=E,55nm,0.5s
OHAK Old Harbor 2.92 183 P **Pn 18 47 32.9 -1.1**
baz=2.6
TT01 Tatalina 3.14 334 Pn 18 47 36.9 0.0
TTA Tatalina 3.16 334 Pn 18 47 37.0 -0.1
TTA Tatalina 3.16 334 P **Pn 18 47 37.0 -0.1**
baz=152
SCM Sheep Creek Mo 3.25 56 Pn 18 47 37.9 -0.5
SCM Sheep Creek Mo 3.25 56 IAML 18 48 17.0
comp=E,154nm,0.6s
SCM IAML 18 48 19.9
comp=N,123nm,0.6s
SCM Sheep Creek Mo 3.25 56 P **Pn 18 47 38.5 +0.1**
baz=241
K20K Telida 3.28 352 Pn 18 47 39.1 +0.4
JPK Jack Peak 3.29 71 Pn 18 47 38.0 -0.8
CAST Castle Rocks 3.33 7 Pn **Pn 18 47 39.3 0.0**
Q23K Middleton Isla 3.44 99 Pn **Pn 18 47 41.2 +0.6**
Q23K IAML 18 48 25.5
comp=N,125nm,2.4s
MID Middleton Isla 3.44 99 Pn **Pn 18 47 41.2 +0.5**
MID IAML 18 48 25.5
comp=N,126nm,2.4s
WAT6 Susitna Watana 3.53 44 Pn 18 47 41.5 -0.6
WAT6 Susitna Watana 3.53 44 P **Pn 18 47 41.5 -0.6**
baz=228
TRF Thorofare Moun 3.58 20 Pn 18 47 42.5 -0.1
TRF Thorofare Moun 3.58 20 IAML 18 48 26.9
comp=N,112nm,0.6s
TRF IAML 18 48 27.2
comp=E,67nm,0.4s
TRF Thorofare Moun 3.58 20 P **Pn 18 47 42.5 -0.1**
baz=203
KTH Kantishna Hill 3.58 15 Pn 18 47 42.4 -0.2
KTH Kantishna Hill 3.58 15 IAML 18 48 25.0
comp=N,44nm,0.9s
KTH IAML 18 48 27.3
comp=E,33nm,0.6s
EYAK Cordova Ski Ar 3.63 80 Pn 18 47 43.0 -0.2
EYAK Cordova Ski Ar 3.63 80 P **Pn 18 47 43.5 +0.3**
baz=267
DIV Divide 3.70 71 Pn 18 47 43.5 -0.7
KLU Klutina 3.73 65 Pn 18 47 43.9 -0.7
KLU Klutina 3.73 65 P **Pn 18 47 43.8 -0.7**
baz=252
CHUM Lake Minchumin 3.79 5 Pn 18 47 45.4 +0.2
CHUM Lake Minchumin 3.79 5 P **Pn 18 47 45.4 +0.2**
baz=185
RND Reindeer 3.84 29 Pn 18 47 45.6 -0.3
RND Reindeer 3.84 29 IAML 18 48 29.5
comp=E,34nm,0.7s
M24K Tolsona, Glenn 3.86 56 Pn 18 47 46.6 +0.3
M24K Tolsona, Glenn 3.86 56 IAML 18 48 46.4
comp=E,137nm,0.6s
M24K Tolsona, Glenn 3.86 56 P **Pn 18 47 46.6 +0.3**
baz=242
DHY Denali Highway 4.00 40 Pn 18 47 48.0 -0.2
DHY Denali Highway 4.00 40 IAML 18 48 35.9
comp=N,84nm,0.3s
DHY IAML 18 48 36.7
comp=E,72nm,0.5s
DHY Denali Highway 4.00 40 P **Pn 18 47 47.9 -0.2**
baz=225
MCK McKinley 4.10 26 Pn 18 47 49.3 0.0
MCK McKinley 4.10 26 IAML 18 48 36.7
comp=N,32nm,0.5s
MCK IAML 18 48 41.8
comp=E,29nm,0.6s
MCK McKinley 4.10 26 P **Pn 18 47 49.7 +0.3**
baz=210
BPAW Bear Paw Mtn. 4.10 12 Pn 18 47 48.7 -0.7
BPAW Bear Paw Mtn. 4.10 12 P **Pn 18 47 49.3 0.0**
baz=194
J20K Nowinta River 4.10 353 Pn 18 47 50.0 +0.7
RAGM Ragged Mountai 4.16 83 Pn 18 47 50.3 +0.1
BMRM Bremner River 4.23 75 Pn 18 47 50.3 -0.9
BMRM Bremner River 4.23 75 IAML 18 48 39.6
comp=N,77nm,0.3s
BMRM IAML 18 48 41.6
comp=E,62nm,0.5s
BMRM Bremner River 4.23 75 P **Pn 18 47 51.5 +0.3**
baz=262
KAIM Kayak Island 4.31 89 Pn **Pn 18 47 52.8 +0.7**
HMT Hamilton 4.36 83 Pn **Pn 18 47 53.1 +0.2**
HMT IAML 18 48 45.7
comp=N,78nm,0.4s
N25K Chitina, Valde 4.37 67 Pn 18 47 52.6 -0.4
N25K Chitina, Valde 4.37 67 IAML 18 48 44.3
comp=N,94nm,0.4s
N25K IAML 18 48 45.7
comp=E,91nm,0.5s
N25K Chitina, Valde 4.37 67 P **Pn 18 47 53.8 +0.7**
baz=254
BWN Browne 4.39 21 Pn 18 47 53.8 +0.7
BWN Browne 4.39 21 IAML 18 49 02.3
comp=E,43nm,2.0s
BWN IAML 18 49 47.9
comp=N,37nm,3.9s
PAX Paxson 4.59 48 Pn 18 47 56.2 +0.2
PAX Paxson 4.59 48 P **Pn 18 47 56.2 +0.2**
baz=235
BERG Berg Lake 4.64 83 Pn **Pn 18 47 56.6 0.0**
BERG IAML 18 50 18.6
comp=N,67nm,2.3s
GLB Gilahina Butte 4.69 70 Pn 18 47 57.0 -0.3
GLB Gilahina Butte 4.69 70 IAML 18 48 52.1
comp=E,62nm,0.4s
CHGN Chignik 4.78 219 Pn **Pn 18 47 58.5 +0.1**
CHGN IAML 18 48 54.3
comp=N,64nm,0.5s
VRDI Verde Repeater 4.82 73 Pn 18 47 58.5 -0.6
VRDI Verde Repeater 4.82 73 IAML 18 48 54.5
comp=N,52nm,0.5s
VRDI IAML 18 48 55.3
comp=E,32nm,0.4s
NEA2 Nenana 4.84 21 Pn 18 47 58.9 -0.3
NEA2 IAML 18 48 55.4
comp=N,16nm,4.2s
NEA2 IAML 18 49 29.5
comp=E,14nm,3.9s
KHIT Khitrov Hills 4.87 82 Pn 18 47 59.1 -0.5
WRH Wood River Hil 4.93 26 Pn 18 47 59.9 -0.4
MLY Manley 5.03 11 Pn 18 48 01.0 -0.8
MLY Manley 5.03 11 P **Pn 18 48 01.5 -0.3**
baz=193
MCARA McCarthy VSAT 5.05 71 Pn 18 48 02.9 +0.8
MCARA McCarthy VSAT 5.05 71 P **Pn 18 48 02.8 +0.8**
baz=260
WAX Waxell Ridge 5.06 82 Pn **Pn 18 48 02.2 0.0**
WAX IAML 18 49 01.8
comp=E,45nm,0.5s
TGL Tana Glacier 5.08 78 Pn **Pn 18 48 02.6 +0.2**
TGL IAML 18 48 58.1
comp=E,32nm,0.4s
TGL IAML 18 49 06.5
comp=N,33nm,0.4s
SNH Sunshine Point 5.08 85 Pn **Pn 18 48 03.7 +1.3**
I21K Tanana 5.09 5 Pn 18 48 02.7 +0.1
I21K Tanana 5.09 5 IAML 18 48 52.3
comp=N,15nm,4.3s
I21K IAML 18 48 52.9
comp=E,13nm,3.9s
CCB Clear Creek Bu 5.14 26 Pn 18 48 02.8 -0.3
CCB Clear Creek Bu 5.14 26 IAML 18 48 59.7
comp=E,14nm,0.5s
CCB IAML 18 49 36.7
comp=N,10nm,4.2s
HDA Harding Lake 5.14 31 Pn 18 48 02.9 -0.3
HDA Harding Lake 5.14 31 IAML 18 49 00.3
comp=E,33nm,0.4s
HDA IAML 18 49 00.9
comp=N,46nm,0.3s
HDA Harding Lake 5.14 31 P **Pn 18 48 02.9 -0.3**
baz=216
MENT Mentasta 5.26 54 Pn **Pn 18 48 05.3 +0.5**
MENT IAML 18 49 23.9
comp=N,35nm,0.6s
RIDG Independent Ri 5.29 43 Pn 18 48 05.7 +0.5
RIDG Independent Ri 5.29 43 IAML 18 49 07.6
comp=N,46nm,0.7s
RIDG Independent Ri 5.29 43 P **Pn 18 48 05.6 +0.5**
baz=231
PTPK Patty Peak 5.29 74 Pn 18 48 05.6 +0.2
I23K Minto, Yukon-K 5.31 17 Pn 18 48 05.0 -0.4
I23K Minto, Yukon-K 5.31 17 IAML 18 48 60.0
comp=N,13nm,3.8s
I23K IAML 18 50 42.7
comp=E,10nm,3.8s
I23K Minto, Yukon-K 5.31 17 P **Pn 18 48 05.5 +0.1**
baz=200
ISLE Juniper Island 5.32 80 Pn 18 48 06.0 +0.4
ISLE Juniper Island 5.32 80 IAML 18 49 12.6
comp=E,31nm,1.7s
ISLE IAML 18 49 29.8
comp=N,42nm,1.9s
KIAG Kiagna River 5.32 77 Pn 18 48 05.5 -0.2
TCOL CIGO, UAF Yank 5.33 24 Pn 18 48 05.5 -0.1
TCOL CIGO, UAF Yank 5.33 24 P **Pn 18 48 05.5 -0.1**
baz=209
COLA College 5.33 24 Pn 18 48 05.4 -0.2
MDM Murphy Dome 5.33 22 Pn 18 48 05.5 -0.2
MDM Murphy Dome 5.33 22 IAML 18 48 59.4
comp=N,14nm,3.6s
BALM Baldy 5.33 76 Pn 18 48 06.0 +0.2
BAGL Bagley Icefiel 5.44 81 Pn 18 48 08.1 +1.0
IL31 5.46 29 Pn 18 48 06.8 -0.6
ILAR Eielson Array 5.46 29 Pn **Pn 18 48 07.0 -0.4**
DOT Dot Lake 5.51 46 Pn **Pn 18 48 07.8 -0.4**
H21K Melozitna Rive 5.55 1 Pn 18 48 08.8 +0.2
GRNC Granite Creek 5.61 79 Pn 18 48 10.4 +0.9
POKR Poker Plat Res 5.63 25 Pn **Pn 18 48 09.8 +0.1**
POKR Poker Plat Res 5.63 25 P **Pn 18 48 09.8 +0.1**
baz=210
BARN Barnard Glacie 5.67 76 Pn 18 48 11.5 +1.1
J25K Salcha River, 5.73 35 Pn 18 48 11.1 0.0
SCRK Sand Creek 5.73 44 Pn 18 48 10.6 -0.6
SCRK Sand Creek 5.73 44 P **Pn 18 48 10.6 -0.6**
baz=232
CTG Chitna Glacier 5.82 77 P **Pn 18 48 13.5 +1.2**
baz=267
M27K Edge Creek, AK 5.82 63 Pn **Pn 18 48 12.7 +0.3**
CTGM Chitina Glacie 5.82 77 Pn 18 48 13.4 +1.0
IM03 5.89 357 Pn 18 48 13.5 +0.4
IMAR Indian Mountai 5.89 357 Pn **Pn 18 48 13.5 +0.3**
TABL Table Mountain 5.91 82 Pn 18 48 14.6 +0.9
LOGN Logan Glacier 5.98 78 Pn 18 48 15.5 +1.0
L27K Beaver Creek, 6.09 56 Pn **Pn 18 48 16.4 +0.4**
BCAR Beaver Creek A 6.11 56 Pn **Pn 18 48 16.9 +0.7**
YUK2 White River 6.15 69 Pn 18 48 17.9 +1.1
H24K Noodor Dome 6.19 20 Pn 18 48 16.9 -0.3
YUK3 Moose Creek 6.33 69 Pn 18 48 20.5 +1.2
YUK3 Moose Creek 6.33 69 P **Pn 18 48 20.5 +1.2**
baz=261
PCA Pinnacle 6.37 85 Pn **Pn 18 48 20.8 +1.0**
PRP Porcupine Dome 6.40 29 Pn **Pn 18 48 20.1 0.0**
PNL Peninsula 6.86 88 Pn 18 48 26.4 +0.2
EGAK Eagle 7.20 45 Pn 18 48 30.4 -0.4
COLD Coldfoot 7.24 9 Pn 18 48 31.5 +0.3
COLD Coldfoot 7.24 9 P **Pn 18 48 31.5 +0.3**
baz=191
FYU Fort Yukon 7.34 25 Pn **Pn 18 48 32.2 -0.3**
HYT Haines Junctio 7.69 78 Pn **Pn 18 48 37.6 +0.2**
BMAR Burnt Mountain 8.22 23 Pn **Pn 18 48 44.0 -0.3**
TOLK Toolik Lake Re 8.68 8 Pn **Pn 18 48 51.5 +1.0**
WHY Whitehorse 8.98 79 Pn **Pn 18 48 55.5 +0.8**
BESE Bessie Mountai 9.39 92 Pn **Pn 18 49 02.9 +2.7**
CRAG Craig 11.57 105 Pn **Pn 18 49 30.8 +1.8**
DLBC Dease Lake 11.85 88 Pn **Pn 18 49 34.0 +1.2**

IDC ***17*** *18:54:08.2±2.6, 7°.21S×129°.06E, h150km±31km, mb3.3/4, mb1 3.7/8, mb1mx3.3/44, mbtmp4.1/8, Error ellipse: s-maj=33.9km s-min=15.8km az=70.0*
DJA ***17*** *18:54:09.9±0.2, 7°.5S×12°.9E±°, h196km±7km, M4.4/12, mB4.8/6, mb4.5/12, MLv4.7/10, Mw(mB)4.1/6*
NEIC ***17*** *18:54:10.6±1.3, 7°.17S±0°.10×129°.1E±0°.1, h168km±9km, mb4.7/11, Error ellipse: s-maj=17.7km s-min=12.4km az=62.0*
ISC 17 18:54:08.6±0.6,**7°.23S**±0°.05×**129°.02E**±0°.06,**h156**km,**n44,**
σ**2s25/48, mb4.4/8, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.38**	**109**	Pn	**Pn**	**18 54 50.6**	**+2.0**
SAUI	**Saumlaki**	**2.38**	**109**	P	**Pn**	**18 54 50.5**	**+2.0**
SAUI				S	**Sn**	**18 55 22.5**	**+3.1**
AAI	**Ambon**	**3.61**	**347**	P	**Pn**	**18 55 07.9**	**+3.9**
MTN	**Manton Dam**	**5.96**	**160**	Pn	**Pn**	**18 55 35.9**	**+1.1**
MTN	**Manton Dam**	**5.96**	**160**	P	**Pn**	**18 55 36.0**	**+1.1**
SIJI	**Sorong**	**6.70**	**20**	P	**Pn**	**18 55 44.2**	**-0.6**
	1.3nm,0.3s,baz=240,slow=23,SNR=42						
SIJI				S	**Sn**	**18 56 54.7**	**-5.4**
	6.2nm,0.3s,baz=237,slow=23,SNR=14						
SWI	**Sorong**	**6.70**	**20**	P	**Pn**	**18 55 45.1**	**+0.3**
	0.5nm972nm26nm,1.0s						
LBMI	**Labuha**	**6.72**	**347**	P	**Pn**	**18 55 48.3**	**+3.3**
	0.1nm37nm,0.7s						
MMRI	**Maumere**	**6.87**	**258**	Pn	**Pn**	**18 55 50.5**	**+3.5**
MMRI	**Maumere**	**6.87**	**258**	P	**Pn**	**18 55 51.5**	**+4.6**
	0.2nm41nm,0.8s						
KNRA	**Kununurra**	**8.40**	**182**		**Pn**	**18 56 08.0**	**+0.6**
KNRA	**Kununurra**	**8.40**	**182**	P	**Pn**	**18 56 08.3**	**+0.9**
BASI	**Baing, Sumba**	**8.86**	**250**	P	**Pn**	**18 56 16.5**	**+3.0**
	85nm,0.8s						
WBSI	**Waikabubak, Su**	**9.83**	**255**	P	**Pn**	**18 56 27.6**	**+1.3**
	62nm,0.9s						
PLAI	**Plampang**	**11.25**	**261**	P	**Pn**	**18 56 44.6**	**-0.4**
	924nm48nm,0.6s						
PLAI	**Plampang**	**11.25**	**261**	P	**Pn**	**18 56 45.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.30**	**197**	P	**Pn**	**18 56 45.5**	**-0.1**
	0.6nm,0.3s,baz=16,slow=14,SNR=18						
FITZ				S	**Sn**	**18 58 44.3**	**-6.4**
	1.7nm,0.3s,baz=305,slow=22,SNR=8.2						
WB0	**Warramunga Arr**	**13.51**	**158**	P	**Pn**	**18 57 11.8**	**-2.4**
WRAB	**Tennant Creek**	**13.65**	**158**	Pn	**Pn**	**18 57 13.5**	**-2.4**
WRA	**Warramunga Arr**	**13.65**	**158**	P	**Pn**	**18 57 14.5**	**-1.5**
	1.2nm,0.3s,baz=338,slow=12,SNR=58						
WRA				S	Sn	18 59 37.4	-10
	2.0nm,0.3s,baz=331,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**13.65**	**158**	P	**Pn**	**18 57 12.3**	**-3.7**
WB2	**Warramunga Arr**	**13.66**	**158**	P	**Pn**	**18 57 13.5**	**-2.6**
WR0	**Warramunga Arr**	**13.74**	**158**	Pn	**Pn**	**18 57 14.4**	**-2.7**
JAGI	**Jajag, Banyuwa**	**14.78**	**264**	Pn	**Pn**	**18 57 28.7**	**-1.5**
COEN	**Coen**	**15.43**	**117**	P	**Pn**	**18 57 37.9**	**-0.3**
COEN				IAmb	IAmb	18 57 46.4	
	comp=Z,62nm,1.4s						
QIS	**Mount Isa**	**16.75**	**143**	P	**Pn**	**18 57 54.8**	**+0.5**
PSA00	**Pilbara Seismi**	**16.79**	**211**	P	**P**	**18 57 54.0**	**-0.3**
PSA00				IAmb	IAmb	18 58 00.1	
	comp=Z,9.9nm,0.8s						
AS31	**Alice Springs**	**17.01**	**165**	P	**Pn**	**18 57 57.9**	**+0.5**
AS31				IAmb	IAmb	18 57 59.2	
	comp=Z,20nm,0.5s						
ASAR	**Alice Springs**	**17.01**	**165**	P	**Pn**	**18 57 57.9**	**+0.5**
	comp=Z,7.1nm,0.3s,baz=339,slow=9.4,SNR=1025						
ASAR				S	**Sn**	**19 01 02.4**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=338,slow=23,SNR=5.8						
WRKA	**Warakurna**	**17.73**	**182**	P	**Pn**	**18 58 06.3**	**+0.4**
UGM	**Wanagama**	**18.35**	**267**	P	**P**	**18 58 12.1**	**+0.7**
SBUM	**Sibu**	**19.33**	**299**	P	**P**	**18 58 22.9**	**+0.8**
CTA	**Charters Tower**	**21.04**	**129**	P	**P**	**18 58 40.3**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=270,slow=11,SNR=1.3						
OOD	**Oodnadatta**	**21.41**	**164**	P	**P**	**18 58 44.6**	**+0.4**
INKA	**Innaminka**	**23.23**	**153**	P	**P**	**18 59 02.8**	**+0.8**
FORT	**Forrest**	**23.45**	**182**	P	**P**	**18 59 04.6**	**+0.7**
QLP	**Quilpie**	**24.08**	**145**	P	**P**	**18 59 10.3**	**+0.5**
BBOO	**Buckleboo**	**26.28**	**167**	P	**P**	**18 59 29.6**	**0.0**
BBOO				IAmb	IAmb	18 59 56.1	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**27.19**	**156**	P	**P**	**18 59 37.8**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=350,slow=7.9,SNR=8.0						
ARMA	**Armidale**	**31.33**	**140**	P	**P**	**19 00 15.2**	**+0.7**
ARMA				IAmb	IAmb	19 00 41.0	
	comp=Z,13nm,1.2s						
CAN	**Canberra**	**33.44**	**150**	P	**P**	**19 00 33.8**	**+1.0**
CAN				IAmb	IAmb	19 00 45.6	
	comp=Z,30nm,1.5s						
TOO	**Toolangi**	**33.71**	**156**	P	**P**	**19 00 36.7**	**+1.6**
TOO				IAmb	IAmb	19 00 48.4	
	comp=Z,18nm,1.3s						
CMAR	**Chiang Mai Arr**	**39.14**	**311**	P	**P**	**19 01 21.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=140,slow=7.0,SNR=5.6						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**19 04 50.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=116,slow=8.6,SNR=2.3						

BJI ***17*** *18:59:20.1±0.0, 39°.38N×142°.29E, h56km, mb4.6/53, mB4.7/32, Ms3.9/16, Ms7 3.7/14*
IDC ***17*** *18:59:21.5±1.8, 39°.39N×142°.31E, h49km±16km, mb4.2/31, mb1 4.4/35, mb1mx4.3/48, mbtmp4.5/35, ML4.1/4, MS3.5/34, Ms1 3.5/34, ms1mx3.3/91, Error ellipse: s-maj=13.1km s-min=11.1km az=120.0*
JMA ***17*** *18:59:21.4, 39°.44N×142°.38E, h49km±1km, M4.6*
JMA Felt III J1.
NIED ***17*** *18:59:21.5, 39°.44N×142°.38E, h49km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.25; Mθθ-1.85; Mφφ-2.40; Mrθ0.27; Mrφ-1.01; Mθφ-2.80; Fault plane solution: M₀4.56000×10¹⁵ NP1: φs195.00000°, δ63.00000°, λ76.00000°. NP2:φs43.00000°, δ30.00000°, λ115.00000°.*
NEIC ***17*** *18:59:22.6±1.4, 39°.47N±0°.05×142°.2E±0°.1, h51km±6km, mb4.7/240 Error ellipse: s-maj=11.6km s-min=7.5km az=108.0*
ISC 17 18:59:21.2±0.8,**39°.44N**±0°.03×**142°.34E**±0°.05,**h46**km±7km,
n584,σ1§**10/575, mb4.7**/172,**MS3.5**/34,**7C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.43**	**289**	⇑P	**Pn**	**18 59 32.1**	**+0.7**
MIYJ				S	**Sn**	**18 59 39.6**	**+1.0**
JTH	**Tanohata**	**0.62**	**324**	⇓P	**Pn**	**18 59 34.4**	**+0.6**
JTH				S	**Sn**	**18 59 43.8**	**+0.9**
OFUJ	**Ofunato**	**0.63**	**236**	⇑P	**Pn**	**18 59 34.6**	**+0.7**
OFUJ				S	**Sn**	**18 59 43.9**	**+0.9**
JOM	**Ohasama**	**0.81**	**273**	⇓P	**Pn**	**18 59 37.2**	**+0.9**
JKMT	**Kesennumamotoy**	**0.92**	**228**	⇑P	**Pn**	**18 59 38.4**	**+0.7**
JKMT				S	**Sn**	**18 59 50.6**	**+0.8**
JKZ	**Kuzumaki**	**0.95**	**305**	⇓P	**Pn**	**18 59 39.2**	**+0.9**
JKZ				S	**Sn**	**18 59 51.8**	**+1.0**
JMK	**Ichinoseki**	**1.00**	**241**	⇓P	**Pn**	**18 59 39.6**	**+0.8**
JMK				S	**Sn**	**18 59 52.9**	**+1.2**
JANG	**Nango**	**1.13**	**326**	⇓P	**Pn**	**18 59 41.0**	**+0.3**
JANG				S	**Sn**	**18 59 55.4**	**+0.3**
JIO	**Ouri**	**1.25**	**219**	P	**Pn**	**18 59 42.8**	**+0.6**
JIO				S	**Sn**	**18 59 58.4**	**+0.5**
JRG	**Rokugo**	**1.32**	**269**	⇓P	**Pn**	**18 59 44.3**	**+1.0**
JAH	**Hinai**	**1.51**	**300**	⇓P	**Pn**	**18 59 46.9**	**+1.0**
JTM	**Tenmabayashi**	**1.67**	**325**	Pn	**Pn**	**18 59 48.5**	**+0.5**
JMM	**Marumori**	**1.98**	**218**		**Pn**	**18 59 52.0**	**-0.2**
ERM	**Erimo**	**2.65**	**13**	Pn	**Pn**	**19 00 01.4**	**0.0**
ERM	**Erimo**	**2.65**	**13**	P	**Pn**	**19 00 02.1**	**+0.7**
JEW	**Eniwo**	**3.47**	**349**	Pn	**Pn**	**19 00 13.1**	**+0.4**
JSD	**Sado**	**3.48**	**248**	Pn	**Pn**	**19 00 14.1**	**+1.3**
JYT	**Yasato**	**3.63**	**209**	Pn	**Pn**	**19 00 14.6**	**-0.2**
MJAR	**Matsushiro Arr**	**4.36**	**230**	P	**Pn**	**19 00 27.3**	**+2.4**
	7.0nm,0.3s,baz=30,slow=12,SNR=264						
MJAR	**Matsushiro Arr**	**4.36**	**230**		**Pn**	**19 00 27.5**	**+2.6**
MJB9	**Matsu-Tunnel**	**4.36**	**230**	Pn	**Pn**	**19 00 27.5**	**+2.5**
MAJO	**Matsushiro**	**4.36**	**230**	Pn	**Pn**	**19 00 27.5**	**+2.5**
MAJO	**Matsushiro**	**4.36**	**230**	P	**Pn**	**19 00 27.9**	**+3.0**
ASAJ	**Asahikawa**	**4.68**	**2**	P	**Pn**	**19 00 29.8**	**+0.5**
	16nm,0.3s,baz=196,slow=13,SNR=137						
ASAJ				S	**Sn**	**19 01 21.7**	**-0.6**
	7.6nm,0.3s,baz=96,slow=23,SNR=4.2						
JKA	**Kamikawa-asahi**	**4.68**	**2**	Pn	**Pn**	**19 00 29.5**	**+0.2**
JKA	**Kamikawa-asahi**	**4.68**	**2**		**Sn**	**19 01 21.7**	**-0.6**
JGF	**Kuroka**	**5.51**	**228**	Pn	**Pn**	**19 00 43.2**	**+2.5**
INU	**Inuyama**	**5.88**	**228**	Pn	**Pn**	**19 00 47.5**	**+1.7**
INU	**Inuyama**	**5.88**	**228**	P	**Pn**	**19 00 49.1**	**+3.3**
	194nm,0.8s						
JHJ2	**Mitsune**	**6.63**	**199**	Pn	**Pn**	**19 00 54.5**	**-1.6**
JHJ2	**Mitsune**	**6.63**	**199**	P	**Pn**	**19 00 54.8**	**-1.3**
	215nm,0.8s						
JHJ	**Hachijo jima 2**	**6.63**	**199**	P	**Pn**	**19 00 54.8**	**-1.3**
	44nm,0.3s,baz=329,slow=19,SNR=27						
JHJ				S	**Sn**	**19 02 05.3**	**-5.1**
	80nm,0.3s,baz=84,slow=22,SNR=6.9						
JHJ				LR	LR	19 02 55.6	
	comp=Z,106nm,20.6s,baz=52,slow=32						
YSS	**Yuzh-Sakhalins**	**7.52**	**2**	Pn	**Pn**	**19 01 07.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.52**	**2**	P	**Pn**	**19 01 11.5**	**+3.3**
	44nm,0.9s						
JHS	**Saijyo**	**8.59**	**242**	Pn	**Pn**	**19 01 25.7**	**+2.8**
JMN	**Monobe**	**8.87**	**233**		**Pn**	**19 01 27.7**	**+0.8**
USA0B	**Ussuriysk Arra**	**9.08**	**305**		**Pn**	**19 01 30.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.08**	**305**	P	**Pn**	**19 01 31.6**	**+2.1**
	baz=117,slow=14,SNR=17						
USRK				LR	LR	19 04 58.4	
	comp=Z,290nm,18.8s,baz=113,slow=37						
USRK	**Ussuriysk Ar.**	**9.08**	**305**	Pn	**Pn**	**19 01 31.8**	**+2.2**
MDJ	**Mudanjiang**	**10.80**	**303**	Pn	**Pn**	**19 01 54.7**	**+1.5**
MDJ	**Mudanjiang**	**10.80**	**303**	P	**Pn**	**19 01 53.6**	**+0.5**
MDJ				pP		19 02 00.3	
MDJ				sP		19 02 09.1	
MDJ				S	**Sn**	**19 03 52.3**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.5s						
MDJ				LR	LR		
	comp=N,220nm,11.4s						
MDJ				LR	LR		
	comp=E,310nm,18.6s						
JNU	**Nakatsue**	**11.19**	**239**	Pn	**Pn**	**19 01 58.2**	**-0.4**
JNU	**Nakatsue**	**11.19**	**239**	P	**Pn**	**19 02 02.1**	**+3.6**
	15nm,0.9s						
JTU	**Tsushima**	**11.45**	**249**	Pn	**Pn**	**19 02 01.1**	**-1.0**
KSRS	**Korea Array**	**11.48**	**265**	P	**Pn**	**19 02 07.0**	**+4.6**
	2.0nm,0.3s,baz=78,slow=14,SNR=33						
KSRS				LR	LR	19 06 09.9	
	comp=Z,165nm,19.4s,baz=80,slow=36						
KS19	**Wonju Array Si**	**11.51**	**265**		**Pn**	**19 02 05.4**	**+2.5**
KSAR	**Wonju Array Be**	**11.51**	**265**	Pn	**Pn**	**19 02 05.9**	**+3.0**
TJN	**Taejon**	**12.22**	**260**	Pn	**Pn**	**19 02 14.4**	**+1.9**
TJN	**Taejon**	**12.22**	**260**	P	P	19 02 18.3	-5.6
	125nm,0.8s						
JCJ	**Chichijima**	**12.31**	**181**	Pn	**Pn**	**19 02 12.2**	**-1.7**
KLR	**Kul'dur**	**12.37**	**326**	P	**Pn**	**19 02 15.7**	**+1.1**
	0.4nm,0.3s,baz=140,slow=13,SNR=14						
KLR				LR	LR	19 07 06.6	
	comp=Z,154nm,18.2s,baz=182,slow=38						
BNX	**BinXian**	**12.67**	**305**	⇑P	**P**	**19 02 24.5**	**-4.4**
BNX				pmax	pmax		
	comp=Z,20nm,0.9s						
BNX				pmax	pmax		
	comp=Z,260nm,5.9s						
PETK	**Petropavlovsk-**	**17.26**	**33**	P	**Pn**	**19 03 15.4**	**-3.3**

0.2nm,0.3s,baz=216,slow=7.1,SNR=1.7
PETK LR LR 19 10 55.1
comp=Z,82nm,19.1s,baz=208,slow=40
HIA Hailar 18.85 309 P P 19 03 34.2 -3.1
BJI Beijing 20.11 280 P P 19 03 48.8 -2.3
BJI pmax pmax
comp=Z,14nm,0.8s
BJT Baijiatuau 20.12 280 P P 19 03 49.9 -1.3
TIA Tai'an 20.16 269 P P 19 03 50.6 -1.1
TIA pmax pmax
comp=Z,9.0nm,0.7s
NJ2 Nanjing 20.40 256 *eP* **P 19 03 53.3 -1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MA2 Magadan 20.86 12 P **P 19 03 59.1 +0.1**
18nm,0.7s,baz=192,slow=9.1,SNR=30
MA2 LR LR 19 11 25.8
comp=Z,113nm,20.1s,baz=155,slow=35
MA2 Magadan 20.86 12 P **P 19 03 58.5 -0.5**
MA2 IAmb IAmb 19 04 02.4
comp=Z,18nm,0.6s
HNS HongShan 21.72 273 ⇓P **P 19 04 08.1 -0.3**
HHC Hu-ho-hao-te 23.52 283 *eP* **P 19 04 27.6 +0.4**
HHC pmax pmax
comp=Z,25nm,1.2s
HHC pmax pmax
comp=Z,86nm,5.5s
HHC LR LR
comp=Z,240nm,14.7s
HHC LR LR
comp=Z,170nm,18.6s
SSLB Suanglung 23.89 236 P **P 19 04 27.8 -2.9**
SSLB IAmb IAmb 19 04 51.3
comp=Z,29nm,1.4s
YAK Yakutsk 23.91 345 P **P 19 04 29.3 -1.1**
comp=Z,12nm,0.4s,baz=345,slow=5.2,SNR=8.5
YAK Yakutsk 23.91 345 P **P 19 04 28.1 -2.3**
YULB Yu-li 23.96 234 P **P 19 04 33.2 +1.9**
LYN LuoYang 24.29 268 ⇑P **P 19 04 34.8 +0.5**
LYN S **S 19 08 53.9 +3.8**
LYN pmax pmax
comp=Z,20nm,0.6s
LYN LR LR
comp=Z,100nm,10.2s
LYN LR LR
comp=Z,180nm,9.9s
LYN LR LR
comp=Z,130nm,11.0s
SEY Seymchan 24.30 11 P **P 19 04 34.5 +0.6**
comp=Z,21nm,0.9s,baz=203,slow=7.2,SNR=46
TPUB Ta-pu 24.45 235 P **P 19 04 35.0 -0.7**
TPUB IAmb IAmb 19 04 51.9
comp=Z,20nm,0.7s
TPUB Ta-pu 24.45 235 P **P 19 04 38.5 +2.7**
comp=Z,24nm,0.8s
WHN Wuhan 24.51 257 ⇓P **P 19 04 36.3 0.0**
WHN S **S 19 08 52.0 -1.6**
WHN LR LR
comp=Z,320nm,18.1s
TWG Pinlang 24.52 234 P **P 19 04 35.5 -0.9**
TWG IAmb IAmb 19 04 56.6
comp=Z,21nm,0.8s
GUMO Guam 25.84 174 LR LR 19 14 11.9
comp=Z,28nm,21.6s,baz=5.5,slow=34
ULN Ulaanbaatar 26.70 300 P **P 19 04 54.5 -1.7**
SONM Songino Array 27.14 300 P **P 19 05 00.2 +0.1**
comp=Z,2.9nm,0.5s,baz=102,slow=9.3,SNR=23
SONM PcP **PcP 19 08 19.6 0.0**
comp=Z,0.6nm,0.6s,baz=148,slow=3.0,SNR=3.0
SONM LR LR 19 16 10.9
comp=Z,96nm,19.8s,baz=94,slow=37
SONM Songino Array 27.14 300 P **P 19 05 00.1 0.0**
XAN Xi'an 27.22 269 P P 19 04 53.6 -7.2
XAN pP pP 19 05 01.1 -12
XAN pmax pmax
comp=Z,4.0nm,0.6s
ENH Enshi 28.34 261 **P 19 05 09.3 -1.6**
ENH IAmb IAmb 19 05 18.4
comp=Z,18nm,1.0s
H11N2 WAKE ISLAND Hy 28.85 126 T T 19 35 46.6
baz=318,slow=76,SNR=1956
H11N1 WAKE ISLAND Hy 28.86 126 T T 19 35 43.2
baz=318,slow=76,SNR=3421
H11N3 WAKE ISLAND Hy 28.87 126 T T 19 35 48.1
baz=318,slow=76,SNR=2724
H11S1 WAKE ISLAND Hy 29.65 128 T T 19 36 41.3
baz=319,slow=76,SNR=373
H11S3 WAKE ISLAND Hy 29.65 128 T T 19 36 48.3
baz=319,slow=76,SNR=354
H11S2 WAKE ISLAND Hy 29.66 128 T T 19 36 53.8
baz=319,slow=76,SNR=286
LZH Lanzhou 30.46 276 *eP* P 19 05 34.4 +4.6
LZH pP pP 19 05 40.8 -1.1
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=Z,160nm,13.3s
LZH LR LR
comp=Z,150nm,15.4s
LZH LR LR
comp=Z,190nm,18.7s
BILL Bilibino 31.52 17 P **P 19 05 38.0 -0.5**
GYA Guiyang 32.40 257 ⇑*iP* **P 19 05 46.3 -0.6**
GYA pmax pmax
comp=Z,21nm,0.9s
GTA Gaotai 32.63 284 *eP* **P 19 05 49.4 +0.7**
GTA PcP **PcP 19 08 34.5 +0.6**
GTA PcS **PcS 19 12 18.3 -0.9**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,62nm,5.6s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,180nm,16.4s
GTA LR LR
comp=Z,200nm,16.7s
TIXI Tiksi 33.00 352 P **P 19 05 50.8 -0.6**
comp=Z,2.5nm,0.6s,baz=267,slow=21,SNR=8.0
TIXI LR LR 19 20 00.8
comp=Z,46nm,18.7s,baz=186,slow=38
TIXI Tiksi 33.00 352 P **P 19 05 53.1 +1.7**
DAV Davao City (W) 35.58 209 LR LR 19 20 10.6
comp=Z,26nm,19.1s,baz=314,slow=35
NIKH Nikolski High 35.68 51 P **P 19 06 15.7 +0.9**
baz=268
KMI Kunming 36.10 259 ⇑P **P 19 06 19.1 +0.1**
KMI pP pP 19 06 33.3 +2.1
KMI pmax pmax
comp=Z,9.0nm,0.9s
PZH PanZhiHua 36.13 262 P **P 19 06 18.8 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,5.2s
GAMB Gambell 36.29 33 P **P 19 06 21.1 +1.2**
baz=250
UNV Unalaska Valle 37.11 50 P **P 19 06 28.6 +1.6**
baz=269
GOMU GeErMu 37.35 280 P **P 19 06 28.6 -1.1**
GOMU pmax pmax
comp=Z,10.0nm,0.7s
TNA Tin City 38.41 31 P **P 19 06 39.3 +1.5**
TNA IAmb IAmb 19 06 40.3
comp=Z,13nm,0.8s
TNA Tin City 38.41 31 P **P 19 06 39.1 +1.3**
baz=252,SNR=12
ANM Nome 39.18 33 P **P 19 06 45.8 +1.5**
ANM IAmb IAmb 19 06 47.3
comp=Z,17nm,1.1s
ANM Nome 39.18 33 P **P 19 06 45.6 +1.4**
baz=256,SNR=14
WMQ Urumqi 40.46 295 *eP* **P 19 06 56.0 +0.7**
WMQ pP pP 19 07 08.5 +0.8
WMQ pmax pmax
comp=Z,35nm,0.9s
ZAA0 Zalesovo Array 40.88 310 P **P 19 06 57.5 -1.0**
ZAA0 IAmb IAmb 19 07 01.9
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 40.88 310 P **P 19 06 58.5 0.0**
comp=Z,11nm,0.4s,baz=93,slow=8.6,SNR=35
ZALV PcP **PcP 19 08 58.4 0.0**
comp=Z,1.8nm,0.4s,baz=106,slow=3.7,SNR=3.6
ZALV Zalesovo Beam 40.88 310 P **P 19 06 58.2 -0.3**
RDOG Red Dog Mine 41.04 28 P **P 19 06 59.8 +0.1**
RDOG Red Dog Mine 41.04 28 P **P 19 07 00.0 +0.4**
baz=254
NRIK Noril'sk 41.41 334 P **P 19 07 03.3 +0.6**
comp=Z,1.5nm,0.3s,baz=118,slow=1.1,SNR=4.2
NRIK LR LR 19 25 20.3
comp=Z,106nm,19.7s,baz=110,slow=38
NRIK Noril'sk 41.41 334 P **P 19 07 03.6 +0.9**
CHGN Chignik 41.75 46 P **P 19 07 06.2 +0.6**
baz=272
CHTO Chiang Mai 42.62 254 P **P 19 07 12.9 -0.3**
CHTO IAmb IAmb 19 07 23.0
comp=Z,9.3nm,0.7s
LSA Lhasa 42.77 273 P **P 19 07 13.4 -1.4**
CM31 Chiang Mai Arr 42.84 254 P **P 19 07 14.1 -0.9**
CMAR Chiang Mai Arr 42.84 254 P **P 19 07 15.4 +0.4**
comp=Z,0.9nm,0.6s,baz=47,slow=5.9,SNR=10
CMAR ScP **ScP 19 12 52.0 -0.6**
comp=Z,0.5nm,0.3s,baz=22,slow=4.3,SNR=5.3
CMAR LR LR 19 24 41.7
comp=Z,30nm,20.3s,baz=45,slow=36
CMAR Chiang Mai Arr 42.84 254 P **P 19 07 12.7 -2.2**
TTA Tatalina 43.04 36 P **P 19 07 16.7 +0.6**
baz=267
SVW2 Sparrevohn 43.18 39 P **P 19 07 17.2 0.0**
SVW2 IAmb IAmb 19 07 19.6
comp=Z,12nm,0.8s
CHIR Chirikof Islan 43.35 47 P **P 19 07 19.1 +0.6**
baz=275
P18K Big Mountain, 43.37 41 P **P 19 07 19.5 +0.8**
baz=271
MK31 Makanchi Array 43.51 300 P **P 19 07 19.7 -0.3**
MKAR Makanchi Array 43.51 300 P **P 19 07 19.9 -0.2**
comp=Z,7.1nm,0.8s,baz=85,slow=11,SNR=38
MKAR LR LR 19 26 09.5
comp=Z,84nm,19.3s,baz=54,slow=37
L19K White Mountain 43.55 37 P **P 19 07 21.2 +1.0**
L19K White Mountain 43.55 37 P **P 19 07 21.4 +1.2**
baz=269
MAKZ Makanchi 43.71 300 P **P 19 07 21.4 -0.3**
MAKZ IAmb IAmb 19 07 26.4
comp=Z,8.2nm,0.8s
N19K Bonanza Creek 43.72 39 P **P 19 07 22.2 +0.5**
baz=271
M19K Big River Lodg 43.76 38 P **P 19 07 23.4 +1.5**
baz=270
O19K Port Alsworth 43.81 40 P **P 19 07 23.4 +1.2**
O19K IAmb IAmb 19 07 24.8
comp=Z,15nm,1.1s
O19K Port Alsworth 43.81 40 P **P 19 07 23.5 +1.4**
baz=271
J20K Nowinta River 43.94 34 P **P 19 07 24.4 +1.2**
J20K IAmb IAmb 19 07 25.8
comp=Z,16nm,1.3s
J20K Nowinta River 43.94 34 P **P 19 07 24.8 +1.5**
baz=267
K20K Telida 43.94 36 P **P 19 07 24.5 +1.2**
K20K Telida 43.94 36 P **P 19 07 24.7 +1.4**
baz=268
L20K Farewell, AK 44.01 37 P **P 19 07 25.2 +1.4**
baz=269
SHL Shillong 44.20 267 P **P 19 07 25.4 -0.7**
SHL IAmb IAmb 19 07 34.8
comp=Z,6.4nm,0.6s
IMAR Indian Mountai 44.22 32 P **P 19 07 26.2 +0.8**
OHAK Old Harbor 44.51 44 P **P 19 07 29.2 +1.3**
baz=275
RSO Redoubt South 44.58 40 P **P 19 07 30.1 +1.5**
H21K Melozitna Rive 44.59 32 P **P 19 07 30.0 +1.5**
H21K IAmb IAmb 19 07 30.8
comp=Z,13nm,1.2s
H21K Melozitna Rive 44.59 32 P **P 19 07 29.4 +1.0**
baz=267,SNR=5.2
O20K Slope Mountain 44.66 40 P **P 19 07 29.4 +0.3**
baz=273
CHUM Lake Minchumin 44.74 35 P **P 19 07 31.0 +1.4**
baz=269
PPLA Purkeypile 44.79 36 P **P 19 07 31.7 +1.5**
PPLA IAmb IAmb 19 07 53.3
comp=Z,16nm,1.2s
PPLA Purkeypile 44.79 36 P **P 19 07 31.2 +1.0**
baz=270
SPCR Spurr Chakacha 44.82 39 P **P 19 07 31.7 +1.3**
baz=272
CAST Castle Rocks 44.84 36 P **P 19 07 32.1 +1.6**
CAST Castle Rocks 44.84 36 P **P 19 07 31.9 +1.5**
baz=270,SNR=5.6
KDAK Kodiak Island 44.84 44 P **P 19 07 30.8 +0.4**
comp=Z,20nm,0.9s,baz=276,slow=7.2,SNR=6.0
KDAK Kodiak Island 44.84 44 P **P 19 07 31.9 +1.4**
baz=275
I21K Tanana 44.91 33 P **P 19 07 32.5 +1.5**
baz=268
KURK Kurchatov 45.06 306 P **P 19 07 31.7 -0.6**
KURBB Kurchatov Arra 45.14 306 P **P 19 07 32.7 -0.3**
comp=Z,16nm,0.4s,baz=81,slow=8.3,SNR=59
KURBB LR LR 19 27 13.3
comp=Z,59nm,18.9s,baz=348,slow=37
HOM Homer 45.18 41 P **P 19 07 35.0 +1.9**
baz=274
BPAW Bear Paw Mtn. 45.33 35 P **P 19 07 35.8 +1.5**
baz=270
KTH Kantishna Hill 45.36 35 P **P 19 07 35.9 +1.3**
KTH IAmb IAmb 19 07 37.2
comp=Z,15nm,1.0s
MLY Manley 45.44 33 P **P 19 07 36.8 +1.6**
MLY IAmb IAmb 19 07 37.8
comp=Z,18nm,1.4s
MLY Manley 45.44 33 P **P 19 07 36.6 +1.3**
baz=270,SNR=7.9
BRSE Bradley Lake S 45.63 41 P **P 19 07 38.1 +1.3**
baz=275
TRF Thorofare Moun 45.65 35 P **P 19 07 38.2 +1.2**
baz=272
COLD Coldfoot 45.71 30 P **P 19 07 38.0 +0.8**
baz=268
M22K Willow 45.79 38 P **P 19 07 39.0 +1.0**
baz=273
BWN Browne 45.99 34 P **P 19 07 41.6 +2.1**
TOLK Toolik Lake Re 46.01 28 P **P 19 07 40.8 +1.2**
TOLK IAmb IAmb 19 07 42.0
comp=Z,8.5nm,0.9s
TOLK Toolik Lake Re 46.01 28 P **P 19 07 40.4 +0.7**
baz=267,SNR=7.1
I23K Minto, Yukon-K 46.02 33 P **P 19 07 40.8 +1.1**
I23K Minto, Yukon-K 46.02 33 P **P 19 07 40.8 +1.1**
baz=271
RC01 Rabbit Creek A 46.02 39 P **P 19 07 40.6 +0.8**
baz=274
NEA2 Nenana 46.15 34 P **P 19 07 41.9 +1.1**
NEA2 IAmb IAmb 19 07 42.6
comp=Z,6.5nm,0.7s
NEA2 Nenana 46.15 34 P **P 19 07 41.7 +0.9**
baz=272,SNR=5.8
MCK McKinley 46.24 35 P **P 19 07 41.8 +0.2**
MCK IAmb IAmb 19 07 43.2
comp=Z,9.5nm,1.0s
MCK McKinley 46.24 35 P **P 19 07 42.1 +0.5**
baz=272
SEW Seward 46.24 40 P **P 19 07 42.4 +0.8**
baz=276
PMR Palmer 46.27 38 P **P 19 07 41.8 0.0**
PMR Palmer 46.27 38 P **P 19 07 41.9 +0.2**
baz=274,SNR=5.1
RND Reindeer 46.29 35 P **P 19 07 42.0 0.0**
MDM Murphy Dome 46.50 33 P **P 19 07 44.7 +1.1**
TAPN Taplejung 46.54 272 *eP* **P 19 07 44.6 -0.1**
WRH Wood River Hil 46.58 34 P **P 19 07 44.7 +0.6**
KNK Knik Glacier 46.61 38 P **P 19 07 44.9 +0.5**
KNK Knik Glacier 46.61 38 P **P 19 07 44.5 0.0**
baz=275
H24K Noodor Dome 46.63 32 P **P 19 07 45.8 +1.2**
H24K IAmb IAmb 19 07 47.4
comp=Z,14nm,1.3s
H24K Noodor Dome 46.63 32 P **P 19 07 45.9 +1.4**
baz=271
SML Sawmill 46.64 38 P **P 19 07 44.7 0.0**
baz=275
TCOL CIGO, UAF Yank 46.66 33 P **P 19 07 44.6 -0.2**
TCOL IAmb IAmb 19 07 53.6
comp=Z,7.4nm,0.7s
TCOL CIGO, UAF Yank 46.66 33 P **P 19 07 44.9 +0.1**
baz=272
COLA College 46.67 33 P **P 19 07 43.9 -0.9**
COLA IAmb IAmb 19 07 50.4
comp=Z,7.6nm,0.8s
COLA College 46.67 33 P **P 19 07 44.9 +0.1**
baz=272
PWL Port Wells 46.72 39 P **P 19 07 45.5 +0.2**
baz=276
POKR Poker Plat Res 46.84 33 P **P 19 07 47.1 +1.0**
POKR Poker Plat Res 46.84 33 P **P 19 07 46.5 +0.4**
baz=272,SNR=14
WAT6 Susitna Watana 46.85 37 P **P 19 07 46.5 0.0**
baz=275
DHY Denali Highway 46.98 36 P **P 19 07 48.0 +0.5**
DHY IAmb IAmb 19 07 49.1
comp=Z,13nm,1.2s
DHY Denali Highway 46.98 36 P **P 19 07 47.5 0.0**
baz=274,SNR=5.7
ODAN Odare 47.03 272 *eP* **P 19 07 49.0 +0.5**
comp=Z,14nm,0.5s
HDA Harding Lake 47.08 34 P **P 19 07 48.0 -0.1**
HDA IAmb IAmb 19 07 49.3
comp=Z,9.1nm,0.9s
HDA Harding Lake 47.08 34 P **P 19 07 48.1 0.0**
baz=274,SNR=6.0
IL31 47.08 34 P **P 19 07 48.7 +0.7**
IL31 IAmb IAmb 19 07 49.5
comp=Z,11nm,0.9s
ILAR Eielson Array 47.08 34 P **P 19 07 48.5 +0.4**
comp=Z,5.8nm,0.7s,baz=266,slow=6.0,SNR=69
SCM Sheep Creek Mo 47.11 38 P **P 19 07 49.4 +1.0**
SCM Sheep Creek Mo 47.11 38 P **P 19 07 48.4 -0.1**
baz=276
MTKI Muara Teweh, K 47.40 219 P **P 19 07 54.4 +3.3**
comp=Z,749nmcomp=Z,11nm,0.5s
RAMN Ramite 47.60 272 *eP* **P 19 07 53.1 +0.2**
comp=Z,24nm,0.4s
PRP Porcupine Dome 47.61 32 P **P 19 07 51.8 -0.5**
PRP IAmb IAmb 19 07 54.6
comp=Z,10nm,0.9s
PRP Porcupine Dome 47.61 32 P **P 19 07 52.6 +0.2**
baz=274
M24K Tolsona, Glenn 47.62 37 P **P 19 07 53.1 +0.8**
baz=276
FYU Fort Yukon 47.67 31 P **P 19 07 54.2 +1.6**
GUN Gumba 47.68 274 *eP* **P 19 07 53.7 0.0**
comp=Z,42nm,0.5s
KLU Klutina 47.81 38 P **P 19 07 54.5 +0.5**
KLU Klutina 47.81 38 P **P 19 07 54.4 +0.5**
baz=277,SNR=5.9
PAX Paxson 47.86 36 P **P 19 07 54.5 +0.3**
baz=276
BMAR Burnt Mountain 47.88 30 P **P 19 07 56.3 +2.0**
Q23K Middleton Isla 47.88 41 P **P 19 07 55.0 +0.7**
baz=279
DIV Divide 47.93 38 P **P 19 07 54.8 0.0**
EYAK Cordova Ski Ar 48.02 39 P **P 19 07 55.6 +0.3**
EYAK Cordova Ski Ar 48.02 39 P **P 19 07 56.0 +0.6**
baz=278
RIDG Independent Ri 48.05 35 P **P 19 07 55.4 -0.3**
RIDG IAmb IAmb 19 07 56.9
comp=Z,5.1nm,0.8s
RIDG Independent Ri 48.05 35 P **P 19 07 56.1 +0.4**
baz=276
HARP HAARP 48.06 37 P **P 19 07 56.5 +0.8**
baz=277
KKN Kakani 48.20 274 *eP* **P 19 07 57.8 +0.3**
comp=Z,30nm,0.6s
PKI Pulchoki 48.21 274 *eP* **P 19 07 57.3 -0.4**
comp=Z,10nm,0.5s
PKIN Phulchoki 48.22 274 *eP* **P 19 07 57.5 -0.2**
comp=Z,7.9nm,0.4s
SCRK Sand Creek 48.41 34 P **P 19 07 58.5 0.0**
SCRK IAmb IAmb 19 07 59.9
comp=Z,12nm,0.9s
SCRK Sand Creek 48.41 34 P **P 19 07 58.8 +0.3**
baz=276,SNR=9.0
N25K Chitina, Valde 48.43 38 P **P 19 07 59.0 +0.4**
baz=278
BMRM Bremner River 48.52 39 P **P 19 08 00.7 +1.4**
BMRM Bremner River 48.52 39 P **P 19 08 00.4 +1.1**
baz=279
J26L Joseph Creek 48.53 34 P **P 19 07 59.7 +0.2**
baz=276,SNR=5.8
GKN Gorkha 48.60 275 *eP* **P 19 08 00.4 -0.1**
comp=Z,14nm,0.3s
MENT Mentasta 48.65 36 P **P 19 08 01.8 +1.5**
MENT IAmb IAmb 19 08 02.9
comp=Z,11nm,1.0s
KAIM Kayak Island 48.77 40 P **P 19 08 01.9 +0.7**
baz=280
L26K Log Cabin Wild 48.81 36 P **P 19 08 03.2 +1.7**
L26K Log Cabin Wild 48.81 36 P **P 19 08 02.3 +0.8**
baz=278
GLB Gilahina Butte 48.83 38 P **P 19 08 03.1 +1.4**
VRDI Verde Repeater 49.03 38 P **P 19 08 04.1 +0.7**
VRDI IAmb IAmb 19 08 05.2
comp=Z,8.4nm,0.8s
DANN Dangsing 49.10 276 *eP* **P 19 08 04.9 +0.3**
comp=Z,89nm,0.6s
MCARA McCarthy VSAT 49.21 38 P **P 19 08 05.9 +1.3**
MCARA McCarthy VSAT 49.21 38 P **P 19 08 05.8 +1.3**
baz=280,SNR=5.4
WAX Waxell Ridge 49.45 39 P **P 19 08 07.5 +1.0**
L27K Beaver Creek, 49.49 36 P **P 19 08 08.2 +1.5**
L27K IAmb IAmb 19 08 09.4
comp=Z,11nm,0.9s
L27K Beaver Creek, 49.49 36 P **P 19 08 08.2 +1.5**
baz=279
BCAR Beaver Creek A 49.51 35 P **P 19 08 08.2 +1.3**
KOLN Koldanda 49.51 275 *eP* **P 19 08 07.6 +0.1**
EGAK Eagle 49.53 33 P **P 19 08 07.3 +0.5**
baz=278
BRVK Borovoye 49.58 311 P **P 19 08 07.4 -0.1**
BRVK IAmb IAmb 19 08 10.7
comp=Z,7.4nm,0.9s
M27K Edge Creek, AK 49.58 36 P **P 19 08 09.0 +1.5**
M27K IAmb IAmb 19 08 10.1
comp=Z,9.6nm,0.8s
M27K Edge Creek, AK 49.58 36 P **P 19 08 08.6 +1.1**
baz=280,SNR=5.2
PYUN Piuthan 49.82 276 *eP* **P 19 08 10.0 +0.1**
AAK Ala-Archa 50.02 297 P **P 19 08 11.2 0.0**
comp=Z,1.7nm,0.4s,baz=92,slow=5.4,SNR=13
AAK LR LR 19 31 15.2
comp=Z,49nm,18.3s,baz=100,slow=38
AAK Ala-Archa 50.02 297 P **P 19 08 11.1 -0.2**
BVCY Beaver Creek 50.04 36 P **P 19 08 11.7 +0.8**
baz=280,SNR=6.7
CTG Chitna Glacier 50.09 38 P **P 19 08 12.5 +1.2**
baz=281
CTGM Chitina Glacier 50.09 38 P **P 19 08 13.2 +1.8**
KSH Kashi 50.13 293 P P 19 08 16.8 +4.8
KSH pP pP 19 08 28.3 +3.7
KSH pmax pmax
comp=Z,4.0nm,0.7s
YUK3 Moose Creek 50.34 37 P **P 19 08 14.0 +0.6**
baz=281,SNR=6.5
DAWY Dawson 50.40 34 P **P 19 08 14.1 +0.5**
DAWY Dawson 50.40 34 P **P 19 08 14.3 +0.7**
baz=280
I29M Ogilvie Camp, 50.63 32 P **P 19 08 16.1 +0.9**
I29M Ogilvie Camp, 50.63 32 P **P 19 08 16.4 +1.1**
baz=280,SNR=17
EPYK Eagle Plains 51.09 31 P **P 19 08 19.9 +1.1**
EPYK Eagle Plains 51.09 31 P **P 19 08 19.5 +0.8**
baz=281,SNR=18
YUK4 Talbot Arm 51.28 37 P **P 19 08 21.4 +0.9**
baz=283,SNR=5.7
YUK6 Outpost Mounta 51.51 38 P **P 19 08 23.4 +1.2**
baz=284
M30M Minto, Yukon 51.85 36 P **P 19 08 26.1 +1.6**
M30M IAmb IAmb 19 08 27.4
comp=Z,10nm,0.9s
M30M Minto, Yukon 51.85 36 P **P 19 08 26.1 +1.6**
baz=284,SNR=9.0
INK Inuvik 51.92 28 P **P 19 08 26.0 +1.2**
comp=Z,5.4nm,0.5s,baz=293,slow=6.4,SNR=19
INK LR LR 19 32 28.8
comp=Z,54nm,18.4s,baz=206,slow=38
INK Inuvik 51.92 28 P **P 19 08 25.8 +1.0**
INK IAmb IAmb 19 08 26.9
comp=Z,14nm,1.1s
INK Inuvik 51.92 28 P **P 19 08 25.8 +1.0**
baz=282,SNR=8.9
HYT Haines Junctio 51.95 38 P **P 19 08 27.5 +2.1**
HYT Haines Junctio 51.95 38 P **P 19 08 27.1 +1.8**
baz=284,SNR=23
KKAR Karatay Array 52.58 299 P **P 19 08 29.6 -0.6**
N31M Braeburn, Yuko 52.59 37 P **P 19 08 31.5 +1.6**
N31M Braeburn, Yuko 52.59 37 P **P 19 08 32.0 +2.1**

baz=285,SNR=10
M31M Drury Creek, Y 53.03 36 P P 19 08 34.5 +1.3
M31M IAmb IAmb 19 08 35.7
comp=Z,10.0nm,0.8s
M31M Drury Creek, Y 53.03 36 P P 19 08 34.5 +1.3
baz=286,SNR=8.9
DRK Karamyk 53.11 294 P P 19 08 34.3 -0.2
DRK IAmb IAmb 19 08 38.0
comp=Z,5.0nm,0.7s
WHY Whitehorse 53.23 38 P P 19 08 36.4 +1.6
WHY IAmb IAmb 19 08 37.5
comp=Z,9.3nm,0.8s
WHY Whitehorse 53.23 38 P P 19 08 36.1 +1.3
baz=287,SNR=9.0
FARO Faro, Yukon 53.49 35 P P 19 08 37.7 +1.1
baz=287,SNR=11
PSI Prapat 53.66 238 LR LR 19 32 55.1
comp=Z,50nm,18.2s,baz=25,slow=38
A36M Sachs Harbour 53.76 23 P P 19 08 39.0 +0.7
A36M Sachs Harbour 53.76 23 P P 19 08 40.1 +1.8
baz=286,SNR=5.0
MMPY Sheldon Lake, 54.30 35 P P 19 08 43.9 +1.4
baz=288
P33M Teslin, Yukon 54.34 38 P P 19 08 44.4 +1.5
P33M Teslin, Yukon 54.34 38 P P 19 08 44.6 +1.7
baz=288,SNR=12
GAR Garm 54.36 294 P P 19 08 43.0 -0.3
C36M Paulatuk 54.95 26 P P 19 08 47.5 +0.5
C36M IAmb IAmb 19 08 48.8
comp=Z,11nm,0.8s
C36M Paulatuk 54.95 26 P P 19 08 47.7 +0.7
baz=289,SNR=14
ARU Arti 55.06 318 LR LR 19 33 50.0
comp=Z,74nm,18.6s,baz=190,slow=38
ARU Arti 55.06 318 P P 19 08 47.7 -0.3
CHGR Chuyangaron 55.32 294 P P 19 08 50.0 -0.3
CRAG Craig 55.80 43 P P 19 08 53.7 +0.4
baz=291
WRAK Wrangell Islan 55.86 42 P P 19 08 54.9 +1.1
baz=291
TGTN Hyland Airport 55.99 35 P P 19 08 55.7 +0.9
baz=291,SNR=8.9
DLBC Dease Lake 56.30 39 P P 19 08 58.6 +1.6
DLBC IAmb IAmb 19 08 59.6
comp=Z,6.3nm,0.9s
LWLI Liwa 56.59 228 P P 19 09 02.8 +3.2
comp=Z,4μmcomp=Z,144nm,0.5s
ABKAR Akbulak array 56.97 309 P P 19 09 01.5 -0.3
ABKAR Akbulak array 56.97 309 P P 19 09 01.4 -0.4
ABKAR IAmb IAmb 19 09 04.7
comp=Z,7.9nm,0.6s
KBL Kabul 57.26 290 P P 19 09 03.3 -1.1
KBL IAmb IAmb 19 09 08.2
comp=Z,9.8nm,0.8s
EUNU Eureka 57.71 9 P P 19 09 06.6 -0.1
EUNU IAmb IAmb 19 09 10.3
comp=Z,5.3nm,0.7s
NOR Nord 58.70 356 *i* P P 19 09 11.3 -2.2
NOR IAmb IAmb 19 09 13.3
comp=Z,2.1nm,0.7s
CTA Charters Tower 59.32 176 LR LR 19 32 43.7
comp=Z,23nm,22.0s,baz=24,slow=34
WB0 Warramunga Arr 59.36 189 P P 19 09 17.8 -0.9
WRAB Tennant Creek 59.53 189 P P 19 09 18.8 -1.1
WRAB IAmb IAmb 19 09 46.0
comp=Z,8.3nm,1.1s
WR0 Warramunga Arr 59.53 189 P P 19 09 19.0 -0.9
WR0 IAmb IAmb 19 09 22.9
comp=Z,8.0nm,1.1s
WB2 Warramunga Arr 59.54 189 P P 19 09 18.5 -1.5
WB2 IAmb IAmb 19 09 29.3
comp=Z,13nm,1.3s
WRA Warramunga Arr 59.54 189 P P 19 09 18.9 -1.0
comp=Z,3.5nm,0.5s,baz=5.9,slow=7.0,SNR=48
WRA Warramunga Arr 59.54 189 P P 19 09 18.8 -1.2
BBB Bella Bella 59.85 45 LR LR 19 38 06.1
comp=Z,35nm,18.1s,baz=260,slow=39
RES Resolute Bay 60.10 15 P P 19 09 22.8 -0.3
RES IAmb IAmb 19 09 24.0
comp=Z,8.7nm,0.9s
YKA Yellowknife Ar 61.37 31 P P 19 09 32.2 +0.2
comp=Z,1.8nm,0.6s,baz=300,slow=6.3,SNR=21
YKA Yellowknife Ar 61.37 31 P P 19 09 31.8 -0.2
ARCES ARCESS Array B 62.01 339 P P 19 09 37.0 +0.8
comp=Z,4.0nm,0.9s,baz=11,slow=4.6,SNR=3.7
ARCES LR LR 19 39 11.1
comp=Z,79nm,18.6s,baz=322,slow=38
ARCES ARCESS Array B 62.01 339 IAmb IAmb 19 09 58.6
comp=Z,14nm,1.4s
BELG Belogornoye 62.55 317 LR LR 19 37 35.3
comp=Z,40nm,20.2s,baz=26,slow=37
TULEG Thule 62.63 8 *i* P P 19 09 39.0 -1.2
TULEG IAmb IAmb 19 09 39.9
comp=Z,8.2nm,0.6s
TULEG Thule 62.63 8 P P 19 09 39.8 -0.4
AS31 Alice Springs 63.27 189 P P 19 09 44.6 -0.5
ASAR Alice Springs 63.27 189 P P 19 09 44.6 -0.5
comp=Z,2.3nm,0.6s,baz=0.9,slow=6.2,SNR=24
ASAR Alice Springs 63.27 189 P P 19 09 44.2 -0.9
DAG Danmarks Havn 63.45 355 *i* P P 19 09 44.0 -1.6
DAG IAmb IAmb 19 09 45.3
comp=Z,3.1nm,0.7s
D03D Eldon 64.95 48 P P 19 09 56.8 +0.8
baz=302
B05A Bryant 65.13 47 P P 19 09 57.8 +0.7
baz=302
D04E Lakebay 65.32 48 P P 19 09 59.5 +1.2
baz=302
E04D Cinebar 65.77 49 P P 19 10 02.6 +1.3
E04D Cinebar 65.77 49 P P 19 10 02.1 +0.8
baz=302
LTY Liberty 66.48 48 P P 19 10 06.5 +0.6
LTY IAmb IAmb 19 10 07.7
comp=Z,18nm,1.4s
B08A Colville Reser 66.63 46 P P 19 10 07.6 +0.8
B08A IAmb IAmb 19 10 08.7
comp=Z,14nm,1.4s
J01E Myrtle Point 66.77 53 P P 19 10 08.7 +0.9
baz=303
I03D Drain, OR 66.84 52 P P 19 10 09.4 +1.3
baz=303
HOOD Mount Hood Mea 66.97 50 P P 19 10 10.3 +1.1
H04A Detroit Lake 67.00 50 P P 19 10 10.1 +0.8
EDM Edmonton 67.02 39 P P 19 10 09.4 +0.2
FINES FINESS Array B 67.03 332 P P 19 10 08.8 -0.3
comp=Z,4.4nm,0.6s,baz=32,slow=9.0,SNR=20
FINES FINESS Array B 67.03 332 P P 19 10 09.3 +0.3
K02D Willamette Mer 67.19 53 P P 19 10 11.3 +0.8
baz=303
G05D Wamic, OR 67.21 50 P P 19 10 11.5 +0.9
baz=304
E07A Sunnyside 67.33 48 P P 19 10 11.9 +0.6
E07A IAmb IAmb 19 10 13.6
comp=Z,8.5nm,0.8s
I04A Tendick Farm, 67.35 51 P P 19 10 12.5 +1.0
baz=304
L02E Cave Junction 67.52 53 P P 19 10 13.8 +1.2
baz=304
C09A Chrisman Ranch 67.53 46 P P 19 10 13.2 +0.7
C09A IAmb IAmb 19 10 13.9
comp=Z,8.7nm,0.8s
D08A Wollman Farm, 67.59 47 P P 19 10 13.3 +0.4
D08A IAmb IAmb 19 10 14.2
comp=Z,6.1nm,0.6s
HAWA Hanford 67.61 48 P P 19 10 13.1 +0.1
HAWA IAmb IAmb 19 10 14.7
comp=Z,5.5nm,0.9s
F07A Phinny Hill Vi 67.66 48 P P 19 10 13.9 +0.5
I05D Terrebonne, OR 67.70 50 P P 19 10 14.5 +0.8
baz=304
J04D Umpqua Nationa 67.84 52 P P 19 10 15.8 +1.0
J04D Umpqua Nationa 67.84 52 P P 19 10 15.8 +1.0
baz=304
NEW Newport 67.91 45 LR LR 19 42 51.2
comp=Z,26nm,18.4s,baz=74,slow=38
NEW Newport 67.91 45 P P 19 10 15.4 +0.5
NEW IAmb IAmb 19 10 16.7
comp=Z,6.1nm,0.9s
NEW Newport 67.91 45 P P 19 10 15.6 +0.7
baz=305
AFI Afiamalu 68.14 131 LR LR 19 34 44.1
comp=Z,34nm,21.1s,baz=273,slow=31
PINE Pine Mountain 68.24 51 P P 19 10 18.6 +1.3
L04D Klamath Falls 68.29 53 P P 19 10 18.8 +1.2
L04D Klamath Falls 68.29 53 P P 19 10 18.3 +0.7
baz=304

YBH Yreka Blue Hor 68.31 53 P P 19 10 19.0 +1.4
YBH IAmb IAmb 19 10 19.5
comp=Z,6.5nm,1.1s
E09A Wood Farm, Sta 68.33 47 P P 19 10 18.6 +1.1
E09A IAmb IAmb 19 10 19.7
comp=Z,11nm,1.1s
J05D Fort Rock, OR 68.35 51 P P 19 10 19.0 +1.1
baz=304,SNR=5.6
M02C Callahan 68.41 54 P P 19 10 19.5 +1.3
baz=304
N02D Trinity Center 68.74 54 P P 19 10 21.4 +1.1
N02D IAmb IAmb 19 10 22.4
comp=Z,6.7nm,0.8s
N02D Trinity Center 68.74 54 P P 19 10 21.7 +1.4
baz=304
M04C Macdoel 68.82 53 P P 19 10 21.2 +0.3
M04C IAmb IAmb 19 10 23.4
comp=Z,17nm,1.2s
M04C Macdoel 68.82 53 P P 19 10 21.1 +0.3
baz=304
K05A Summer Lake 68.87 52 P P 19 10 22.4 +1.1
O02D Mt. Diablo Mer 69.13 55 P P 19 10 24.1 +1.3
O02D IAmb IAmb 19 10 25.4
comp=Z,6.6nm,0.9s
O02D Mt. Diablo Mer 69.13 55 P P 19 10 23.3 +0.6
baz=304
WALA Waterton Lakes 69.18 43 P P 19 10 22.1 -0.8
O03E Paynes Creek 69.69 54 P P 19 10 25.8 -0.4
O03E IAmb IAmb 19 10 27.8
comp=Z,15nm,1.1s
O03E Paynes Creek 69.69 54 P P 19 10 26.8 +0.6
baz=305,SNR=5.1
MOD Modoc Plateau 69.70 52 P P 19 10 26.5 +0.2
MTSE Matsula 69.72 331 *e*P P 19 10 26.2 +0.3
JTMT Jette 69.76 44 P P 19 10 27.4 +0.8
JTMT IAmb IAmb 19 10 28.6
comp=Z,13nm,1.0s
BMO Blue Mountains 69.78 48 P P 19 10 27.1 +0.5
KIV Kislovodsk 69.89 311 P P 19 10 28.2 +0.8
KBZ Khabaz 69.90 310 P P 19 10 28.1 +0.8
comp=Z,7.5nm,1.0s,baz=14,slow=2.4,SNR=6.7
J08A Circle Bar Ran 69.96 50 P P 19 10 29.0 +1.1
J08A IAmb IAmb 19 10 30.2
comp=Z,7.0nm,1.0s
ORV Oroville 70.30 55 P P 19 10 29.8 -0.1
PLID Pearl Lake 70.39 47 P P 19 10 30.2 -0.4
WVOR Wild Horse Val 70.40 51 P P 19 10 31.2 +0.7
MSO Missoula 70.50 45 P P 19 10 31.3 +0.2
baz=307
BEKR Beckworth 70.84 54 P P 19 10 33.8 +0.4
BEKR IAmb IAmb 19 10 35.1
comp=Z,9.5nm,0.9s
IDID Didziasalis 70.86 327 *e*P P 19 10 33.1 +0.1
ISAL Salakas 70.95 327 *e*P P 19 10 33.8 +0.3
STKA Stephens Creek 70.95 181 P P 19 10 33.7 +0.1
comp=Z,1.6nm,0.7s,baz=324,slow=4.5,SNR=3.8
STKA LR LR 19 43 36.5
comp=Z,24nm,20.2s,baz=13,slow=37
IIGN Ignalina 71.06 327 *e*P P 19 10 34.3 +0.1
NACGM Naroch 71.12 327 *i* P P 19 10 34.9 +0.4
FFC Flin Flon 71.30 34 P P 19 10 35.8 +0.2
FFC IAmb IAmb 19 10 36.9
comp=Z,9.4nm,0.8s
MPK Martis Peak 71.38 54 P P 19 10 37.1 +0.4
MPK IAmb IAmb 19 10 38.8
comp=Z,16nm,1.0s
RUBR Rubicon Trail 71.44 55 P P 19 10 37.6 +0.5
MFID Camas Ranch 71.48 49 P P 19 10 36.6 -0.5
EMB Emerald Bay 71.52 55 P P 19 10 38.4 +0.9
EMB IAmb IAmb 19 10 39.5
comp=Z,10.0nm,0.8s
FCC Fort Churchill 71.53 27 P P 19 10 37.0 +0.1
FCC IAmb IAmb 19 10 38.0
comp=Z,14nm,1.3s
PAHR Pah Rah Range 71.54 54 P P 19 10 38.0 +0.4
PAHR IAmb IAmb 19 10 39.5
comp=Z,8.3nm,0.9s
HRY Holter Researc 71.72 44 P P 19 10 39.1 +0.6
PNTR Pine Nut 71.77 54 P P 19 10 40.2 +1.1
PNTR IAmb IAmb 19 10 41.2
comp=Z,9.0nm,0.8s
ICESG Greenland Ices 71.78 1 *i* P P 19 10 37.6 -1.1
ICESG IAmb IAmb 19 10 39.1
comp=Z,7.7nm,0.5s
CMB Columbia Colle 71.89 55 P P 19 10 40.0 +0.4
CMB IAmb IAmb 19 10 41.5
comp=Z,8.7nm,1.1s
LRM Limekiln Ridge 71.93 45 P P 19 10 39.8 -0.1
YERR Yerington 72.06 54 P P 19 10 41.1 +0.4
YERR IAmb IAmb 19 10 42.8
comp=Z,11nm,0.9s
DLMT Dillon 72.13 46 P P 19 10 41.9 +0.8
DLMT IAmb IAmb 19 10 42.9
comp=Z,7.6nm,0.7s
HLID Hailey 72.21 48 P P 19 10 42.2 +0.6
HLID Hailey 72.21 48 P P 19 10 42.6 +1.0
baz=308,SNR=5.1
NB2 NORSAR Subarra 72.26 337 P P 19 10 41.0 -0.3
comp=Z,2.4nm,0.6s,baz=32,slow=6.9
NOA NORSAR Array B 72.26 337 P P 19 10 41.0 -0.3
comp=Z,2.0nm,0.7s,baz=38,slow=6.0,SNR=7.9
NOA LR LR 19 46 19.2
comp=Z,23nm,19.0s,baz=355,slow=39
BMN Battle Mountai 72.44 52 P P 19 10 44.1 +1.1
BMN IAmb IAmb 19 10 45.3
comp=Z,9.0nm,1.2s
VIKU Vikbolandet 72.45 333 *e*P P 19 10 42.2 -0.3
BOZ Bozeman (W) 72.52 45 P P 19 10 44.0 +0.7
BOZ IAmb IAmb 19 10 44.7
comp=Z,8.2nm,0.6s
BOZ Bozeman (W) 72.52 45 P P 19 10 44.1 +0.7
baz=309,SNR=19
RYN Ryan 72.72 54 P P 19 10 45.2 +0.5
KVN Kaiserville 72.73 54 P P 19 10 45.8 +1.1
KVN IAmb IAmb 19 10 46.9
comp=Z,11nm,1.0s
AKASG Malin Array Be 72.85 322 P P 19 10 44.5 -0.4
comp=Z,3.1nm,0.4s,baz=44,slow=6.3,SNR=20
AKASG LR LR 19 47 33.5
comp=Z,22nm,19.5s,baz=62,slow=40
AKASG Malin Array Be 72.85 322 P P 19 10 44.6 -0.4
AKBB Malin Array Si 72.85 322 P P 19 10 44.5 -0.5
AKBB IAmb IAmb 19 10 47.9
comp=Z,6.1nm,0.8s
LHV Little Huntoon 72.96 54 P P 19 10 47.1 +1.3
NVAR Mina Array Bea 72.98 54 P P 19 10 47.3 +1.0
comp=Z,5.3nm,0.8s,baz=287,slow=6.0,SNR=38
NVAR Mina Array Bea 72.98 54 P P 19 10 47.0 +0.7
OMMB Old Mammoth Mi 73.03 55 P P 19 10 47.8 +1.1
NV11 Mina Array Sit 73.07 54 P P 19 10 47.5 +0.8
MLAC Mammoth, Mammo 73.12 55 P P 19 10 48.2 +1.0
baz=307
ELK Elko 73.45 51 LR LR 19 42 03.1
comp=Z,9.9nm,20.0s,baz=268,slow=35
ELK Elko 73.45 51 P P 19 10 50.0 +0.9
YHH Holmes Hill 73.46 45 P P 19 10 49.9 +0.8
GURO Guroymak-BITLI 73.50 306 P P 19 10 49.6 +0.3
YFT Old Faithful 73.68 46 P P 19 10 52.8 +2.5
H17A Grant Village 73.86 46 P P 19 10 53.9 +2.5
H17A IAmb IAmb 19 10 55.0
comp=Z,8.7nm,0.9s
H17A Grant Village 73.86 46 P P 19 10 53.1 +1.7
baz=310,SNR=7.5
TPH Tonopah 73.87 54 P P 19 10 52.5 +1.0
LCH Last Change Ra 74.12 55 P P 19 10 54.1 +1.2
MOOW Moose Ponds 74.18 46 P P 19 10 54.5 +1.3
TPAW Teton Pass 74.23 46 P P 19 10 54.0 +0.4
CWC Cottonwood Cre 74.32 56 P P 19 10 54.4 +0.3
baz=308
GRAC Grapevine Rang 74.44 55 P P 19 10 56.0 +1.3
GRAC IAmb IAmb 19 10 56.8
comp=Z,11nm,0.9s
GRAC Grapevine Rang 74.44 55 P P 19 10 55.4 +0.8
baz=308
DGMT Dagmar 74.51 39 P P 19 10 56.1 +1.3
baz=313
R11A Troy Canyon, C 74.72 53 P P 19 10 57.2 +0.8
R11A Troy Canyon, C 74.72 53 P P 19 10 57.3 +0.9
baz=308,SNR=11
MPMC Manual Prospec 74.93 56 P P 19 10 58.5 +0.8
baz=308,SNR=5.9
S11A Rachel 75.05 54 P P 19 10 59.3 +0.9
S11A IAmb IAmb 19 11 00.5
comp=Z,13nm,0.8s
HWUT Hardware Ranch 75.08 48 P P 19 10 59.4 +1.0

HWUT IAmb IAmb 19 11 00.7
comp=Z,14nm,1.3s
FURC Furnace Creek, 75.08 55 P P 19 10 59.3 +1.1
baz=308
LRMC Laurel Mtn Rad 75.16 56 P P 19 10 59.3 +0.3
baz=308
TPNV Topopah Spring 75.17 54 P P 19 10 59.6 +0.6
TPNV Topopah Spring 75.17 54 P P 19 10 59.5 +0.5
baz=308,SNR=9.0
DUG Dugway, Tooele 75.24 50 P P 19 10 59.4 +0.1
DUG IAmb IAmb 19 11 01.6
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 75.24 50 P P 19 11 00.3 +1.0
baz=310
SNCC San Nicolas Is 75.32 59 P P 19 11 00.3 +0.6
baz=308
EDW2 Edwards Air Fo 75.33 57 P P 19 11 00.4 +0.6
baz=308
GWY Greenwater Val 75.38 55 P P 19 11 00.8 +0.6
GWY IAmb IAmb 19 11 01.9
comp=Z,7.0nm,0.8s
QSM Queen of Sheba 75.39 55 P P 19 11 01.0 +0.9
QSM IAmb IAmb 19 11 01.9
comp=Z,11nm,0.8s
BW06 Boulder Array 75.47 46 P P 19 11 01.0 +0.3
BW06 Boulder Array 75.47 46 P P 19 11 00.8 0.0
baz=311,SNR=6.8
PD31 Pinedale Array 75.47 46 P P 19 11 01.0 +0.3
PDAR Pinedale Array 75.47 46 P P 19 11 01.1 +0.4
comp=Z,3.6nm,0.7s,baz=264,slow=1.3,SNR=38
PDAR LR LR 19 48 17.1
comp=Z,21nm,18.2s,baz=70,slow=39
PDAR Pinedale Array 75.47 46 P P 19 11 00.7 0.0
PRN Pahroc Range 75.64 53 P P 19 11 02.9 +1.2
PRN IAmb IAmb 19 11 03.9
comp=Z,7.6nm,1.0s
PSUT Pine Spring 75.66 52 P P 19 11 02.8 +0.9
PSUT IAmb IAmb 19 11 03.9
comp=Z,7.5nm,1.0s
JLU Jordanelle 75.78 49 P P 19 11 03.5 +0.9
NLU North Lily Min 75.83 50 P P 19 11 03.6 +0.8
GSC Goldstone, Bar 75.83 56 P P 19 11 03.0 +0.3
GSC Goldstone, Bar 75.83 56 P P 19 11 02.9 +0.1
baz=308
BFSC Mount Baldy Ra 75.94 57 P P 19 11 03.5 +0.1
baz=308
CIS Catalina Islan 75.96 58 P P 19 11 03.9 +0.5
baz=308
MPU Maple Canyon 76.05 50 P P 19 11 04.9 +0.8
MPU IAmb IAmb 19 11 06.1
comp=Z,9.6nm,1.1s
SHPR Sheep Range 76.13 54 P P 19 11 05.6 +1.1
SHPR IAmb IAmb 19 11 06.8
comp=Z,6.5nm,0.8s
TUQ Turquoise Moun 76.32 55 P P 19 11 06.2 +0.7
baz=309
HEC Hector,Ludlow 76.43 56 P P 19 11 06.6 +0.5
baz=309
CCUT Cedar City 76.59 52 P P 19 11 08.4 +1.3
CCUT IAmb IAmb 19 11 09.4
comp=Z,7.0nm,0.9s
MSU Marysvale 76.69 51 P P 19 11 09.0 +1.3
SZCU Shurtz Canyon 76.73 52 P P 19 11 08.7 +0.7
SZCU IAmb IAmb 19 11 09.9
comp=Z,6.2nm,1.0s
BUR08 Bucovina Ar. S 76.87 322 P P 19 11 08.4 0.0
BURAR Bucovina Array 76.88 322 P P 19 11 08.6 +0.1
GMRC Granite Mounta 76.89 56 P P 19 11 09.6 +0.8
baz=309,SNR=6.2
RDMU Red Mountain 76.90 48 P P 19 11 09.8 +0.9
P17A Butcher Ranch, 76.93 49 P P 19 11 09.7 +0.7
P17A IAmb IAmb 19 11 11.1
comp=Z,12nm,0.9s
MTPU Mount Pierson 76.99 51 P P 19 11 10.6 +1.0
MTPU IAmb IAmb 19 11 12.2
comp=Z,6.1nm,0.8s
LCMT Little Creek M 77.00 53 P P 19 11 10.5 +1.1
LCMT IAmb IAmb 19 11 11.7
comp=Z,10nm,0.9s
Q16A Castle Valley 77.03 50 P P 19 11 10.5 +0.9
Q16A IAmb IAmb 19 11 13.3
comp=Z,5.4nm,0.9s
ULM Lac du Bonnet 77.10 34 P P 19 11 09.3 -0.2
comp=Z,5.0nm,0.8s,baz=298,slow=5.9,SNR=6.3
ULM Lac du Bonnet 77.10 34 P P 19 11 07.9 -1.7
ULM IAmb IAmb 19 11 10.2
comp=Z,6.3nm,0.9s
PFO Pinyon Flats O 77.11 57 P P 19 11 10.4 +0.3
baz=309
TPFO Pinon Flats 77.12 57 P P 19 11 10.1 0.0
baz=309
P18A Preston Nutter 77.12 49 P P 19 11 10.8 +0.5
P18A IAmb IAmb 19 11 13.0
comp=Z,5.6nm,0.9s
BELC Belle Mtn. Jos 77.17 57 P P 19 11 10.6 +0.2
baz=309
K22A Casper 77.23 45 P P 19 11 11.1 +0.5
K22A IAmb IAmb 19 11 12.0
comp=Z,17nm,1.3s
K22A Casper 77.23 45 P P 19 11 10.8 +0.2
baz=312
KNB Kanab 77.26 52 P P 19 11 11.8 +0.9
KNB IAmb IAmb 19 11 13.4
comp=Z,9.1nm,1.0s
SRU San Rafael Swe 77.29 50 P P 19 11 11.6 +0.5
RWWY Rawlins 77.49 46 P P 19 11 11.2 -1.0
RWWY IAmb IAmb 19 11 12.6
comp=Z,7.5nm,0.8s
RSSD Black Hills 77.56 43 P P 19 11 12.4 -0.1
RSSD Black Hills 77.56 43 P P 19 11 12.7 +0.2
baz=314
MONP2 Monument Peak 77.58 58 P P 19 11 13.8 +0.9
baz=309
IRM Iron Mountain 77.62 56 P P 19 11 13.1 +0.4
baz=310
BC3 Big Chuckawall 77.73 57 P P 19 11 14.2 +0.7
baz=309
BRTR Keskin Array B 77.81 312 P P 19 11 13.8 0.0
comp=Z,1.3nm,0.6s,baz=118,slow=3.2,SNR=12
W13A Hualapai Mount 77.82 55 P P 19 11 14.1 0.0
IKP In-Ko-Pah, Jac 77.94 58 P P 19 11 15.4 +0.8
baz=309
O20A White River Ci 77.95 48 P P 19 11 14.4 -0.3
O20A IAmb IAmb 19 11 16.1
comp=Z,6.5nm,0.9s
O20A White River Ci 77.95 48 P P 19 11 14.9 +0.2
baz=312
SWSC Sam W. Stewart 77.96 57 P P 19 11 15.6 +1.0
baz=309
U15A North Rim 77.96 53 P P 19 11 15.7 +0.8
U15A IAmb IAmb 19 11 17.4
comp=Z,11nm,1.0s
MLR Muntele Rosu 78.02 320 LR LR 19 47 25.8
comp=Z,63nm,20.7s,baz=30,slow=37
PDMCI Parker Dam,Lak 78.17 55 P P 19 11 16.6 +0.9
baz=310
BLYC Blythe 78.27 56 P P 19 11 16.7 +0.4
BLYC IAmb IAmb 19 11 18.1
comp=Z,8.5nm,0.8s
GLA Glamis 78.52 57 P P 19 11 18.7 +0.9
baz=310
AGMN Agassiz Nation 78.55 35 P P 19 11 17.5 -0.2
baz=318
N23A Red Feather La 78.73 46 P P 19 11 19.7 +0.6
N23A IAmb IAmb 19 11 21.9
comp=Z,10nm,1.1s
N23A Red Feather La 78.73 46 P P 19 11 20.0 +0.9
baz=313,SNR=6.7
CHVC Chvalec 78.74 328 *e*P P 19 11 19.6 +1.0
PV11 David Mesa, Pa 78.80 49 P P 19 11 20.1 +0.6
PV11 IAmb IAmb 19 11 21.4
comp=Z,11nm,0.7s
DPC Dobruska-Polom 78.81 328 *e*P P 19 11 19.1 0.0
KRLC Kraliky 78.83 328 *e*P P 19 11 19.5 +0.3
PV13 Radium Mtn., P 78.92 49 P P 19 11 21.0 +0.9
PV13 IAmb IAmb 19 11 22.2
comp=Z,14nm,0.9s
WUAZ Wupatki 79.12 53 P P 19 11 22.1 +0.9
WUAZ IAmb IAmb 19 11 23.4
comp=Z,8.9nm,0.9s
WUAZ Wupatki 79.12 53 P P 19 11 22.4 +1.2
baz=311,SNR=6.4
Y14A Wickenburg 79.12 55 P P 19 11 21.8 +0.7
Y14A IAmb IAmb 19 11 22.4
comp=Z,4.3nm,0.6s
CLL Collm 79.38 330 P P 19 11 21.6 -0.5

CLL	**Collm**	**79.38**	**330**	*i* P		**P**	**19 11 21.7**	**-0.4**
	comp=Z,4.0nm,0.8s								
ISCO	**Idaho Springs**	**79.66**	**47**	P		**P**	**19 11 25.1**	**+0.8**
ISCO	**Idaho Springs**	**79.66**	**47**	P		**P**	**19 11 24.9**	**+0.6**
	baz=313								
MVCO	**Mesa Verde**	**79.74**	**50**	P		**P**	**19 11 25.5**	**+0.8**
MVCO				IAmb		IAmb	19 11 26.5		
	comp=Z,7.0nm,0.8s								
MVCO	**Mesa Verde**	**79.74**	**50**	P		**P**	**19 11 25.7**	**+1.0**
	baz=312								
X16A	**Lo Mia Camp, P**	**79.80**	**54**	P		**P**	**19 11 26.0**	**+1.1**
X16A				IAmb		IAmb	19 11 27.2		
	comp=Z,7.0nm,0.9s								
PRU	**Pruhonice**	**79.81**	**329**	*e*P		**P**	**19 11 25.1**	**+0.6**
Q24A	**Divide**	**80.50**	**47**	P		**P**	**19 11 29.4**	**+0.6**
	baz=314								
214A	**Organ Pipe Nat**	**80.53**	**56**	P		**P**	**19 11 29.6**	**+0.9**
	baz=311								
CKRC	**Cesky Krumlov**	**80.83**	**328**	*e*P		**P**	**19 11 30.1**	**+0.1**
KHC	**Kasperske Hory**	**80.88**	**329**	*e*P		**P**	**19 11 30.3**	**0.0**
KHC	**Kasperske Hory**	**80.88**	**329**	P		**P**	**19 11 30.7**	**+0.5**
GERES	**GERESS Array B**	**81.05**	**329**	P		**P**	**19 11 31.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=37,slow=7.0,SNR=5.7								
SDCO	**Great Sand Dun**	**81.13**	**48**	P		**P**	**19 11 32.7**	**+0.5**
	baz=314								
VTS	**Vitosha**	**81.45**	**319**	P		**P**	**19 11 33.8**	**+0.2**
ECSD	**EROS Data Cent**	**81.58**	**39**	P		**P**	**19 11 34.5**	**+0.4**
	baz=318								
TUC	**Tucson**	**81.59**	**55**	P		**P**	**19 11 34.7**	**+0.2**
TUC	**Tucson**	**81.59**	**55**	P		**P**	**19 11 35.0**	**+0.6**
	baz=312								
T25A	**Trinidad**	**82.18**	**48**	P		**P**	**19 11 37.9**	**+0.3**
T25A				IAmb		IAmb	19 11 39.3		
	comp=Z,8.9nm,0.8s								
T25A	**Trinidad**	**82.18**	**48**	P		**P**	**19 11 38.3**	**+0.7**
	baz=314,SNR=5.4								
SOKA	**Soboth**	**82.21**	**326**	*e*P		**P**	**19 11 37.7**	**+0.3**
	comp=Z,1.7nm,0.5s								
ANMO	**Albuquerque**	**82.49**	**51**	LR		LR	19 49 19.3		
	comp=Z,16nm,19.1s,baz=210,slow=36								
ANMO	**Albuquerque**	**82.49**	**51**	P		**P**	**19 11 39.7**	**+0.4**
ANMO				IAmb		IAmb	19 11 41.5		
	comp=Z,6.6nm,1.1s								
ANMO	**Albuquerque**	**82.49**	**51**	P		**P**	**19 11 40.0**	**+0.8**
	baz=314								
OBKA	**Obir**	**82.55**	**327**	*i* P		**P**	**19 11 39.7**	**+0.6**
	comp=Z,1.5nm,0.6s								
LENM	**Lemitar**	**82.71**	**51**	P		**P**	**19 11 41.0**	**+0.6**
SCHQ	**Schefferville**	**82.83**	**17**	P		**P**	**19 11 40.5**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=308,slow=6.6,SNR=3.8								
SCHQ	**Schefferville**	**82.83**	**17**	IAmb		IAmb	19 11 41.4		
	comp=Z,6.0nm,1.1s								
BNM	**Barren Site**	**82.93**	**51**	P		**P**	**19 11 42.2**	**+0.6**
319A	**Douglas**	**83.17**	**55**	P		**P**	**19 11 42.1**	**-0.6**
319A				IAmb		IAmb	19 11 44.5		
	comp=Z,9.4nm,0.9s								
ABTA	**Abfaltersbach**	**83.21**	**328**	*i* P		**P**	**19 11 42.4**	**-0.2**
	comp=Z,1.5nm,0.7s								
121A	**Cookes Peak, D**	**83.33**	**53**	P		**P**	**19 11 44.3**	**+0.7**
121A				IAmb		IAmb	19 11 45.8		
	comp=Z,11nm,1.1s								
121A	**Cookes Peak, D**	**83.33**	**53**	P		**P**	**19 11 44.7**	**+1.1**
	baz=313,SNR=5.6								
FETA	**Feichten**	**83.71**	**329**	*i* P		**P**	**19 11 45.2**	**-0.1**
	comp=Z,1.5nm,0.6s								
DAVOX	**Davos/Dischmat**	**84.24**	**329**	LR		LR	19 51 45.2		
	comp=Z,59nm,20.2s,baz=264,slow=37								
PPT	**Papeete**	**85.07**	**117**	LR		LR	19 40 39.6		
	comp=Z,47nm,21.4s,baz=346,slow=29								
JFWS	**Jewell Farm**	**85.20**	**36**	P		**P**	**19 11 53.4**	**+0.7**
	baz=322								
AMTX	**Amarillo**	**85.33**	**48**	P		**P**	**19 11 54.6**	**+1.0**
AMTX				IAmb		IAmb	19 11 55.3		
	comp=Z,8.4nm,0.8s								
AMTX	**Amarillo**	**85.33**	**48**	P		**P**	**19 11 54.3**	**+0.7**
	baz=316								
MSTX	**Muleshoe**	**85.35**	**49**	P		**P**	**19 11 54.9**	**+1.1**
	baz=315								
MNTX	**Cornudas Mount**	**85.38**	**52**	P		**P**	**19 11 53.7**	**-0.1**
MNTX	**Cornudas Mount**	**85.38**	**52**	P		**P**	**19 11 54.7**	**+0.9**
	baz=314								
VLDQ	**Val d'Or**	**85.94**	**25**	P		**P**	**19 11 54.8**	**-1.4**
P40A	**Paris**	**87.00**	**39**	P		**P**	**19 12 02.3**	**+0.7**
WMOK	**Wichita Mounta**	**87.08**	**46**	P		**P**	**19 12 02.4**	**+0.3**
	baz=317								
S39A	**Bolivar**	**87.78**	**41**	P		**P**	**19 12 04.4**	**-1.0**
S39A				IAmb		IAmb	19 12 05.7		
	comp=Z,6.1nm,0.8s								
R40A	**Maddies Statio**	**87.85**	**40**	P		**P**	**19 12 05.0**	**-0.7**
TX31	**Lajitas Ar. Si**	**88.08**	**53**	P		**P**	**19 12 07.3**	**+0.2**
TX32	**Lajitas Array**	**88.08**	**53**	P		**P**	**19 12 06.9**	**-0.2**
TXAR	**Lajitas Array**	**88.08**	**53**	P		**P**	**19 12 07.5**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=298,slow=3.6,SNR=23								
TXAR	**Lajitas Array**	**88.08**	**53**	P		**P**	**19 12 06.9**	**-0.2**
CCM	**Cathedral Cave**	**88.54**	**39**	P		**P**	**19 12 09.1**	**+0.1**
CCM	**Cathedral Cave**	**88.54**	**39**	P		**P**	**19 12 08.8**	**-0.2**
	baz=322								
U40A	**Yellville**	**89.05**	**42**	P		**P**	**19 12 11.2**	**-0.2**
U40A	**Yellville**	**89.05**	**42**	P		**P**	**19 12 11.4**	**0.0**
	baz=321								
JCT	**Junction City**	**89.60**	**50**	P		**P**	**19 12 13.7**	**-0.5**
JCT	**Junction City**	**89.60**	**50**	P		**P**	**19 12 14.3**	**+0.1**
	baz=317								
O48B	**Farmland**	**89.61**	**34**	P		**P**	**19 12 13.9**	**-0.1**
	baz=325								
MIAR	**Mount Ida**	**90.06**	**43**	P		**P**	**19 12 16.4**	**+0.2**
	baz=320								
WHAR	**Wooly Hollow**	**90.16**	**42**	P		**P**	**19 12 17.0**	**+0.3**
W41B	**Gary Mavity, V**	**90.28**	**42**	P		**P**	**19 12 17.3**	**+0.1**
	baz=321								
X40A	**Basin Creek Fa**	**90.50**	**43**	P		**P**	**19 12 18.3**	**+0.1**
	baz=321								
PKME	**Peaks-Kenny Pk**	**91.02**	**22**	P		**P**	**19 12 20.1**	**-0.3**
	baz=336								
LBNH	**Lisbon**	**91.15**	**24**	P		**P**	**19 12 20.8**	**-0.3**
	baz=334								
WVT	**Waverly**	**91.73**	**38**	P		**P**	**19 12 23.6**	**-0.3**
	baz=324								
ESDC	**Sonseca Array**	**95.45**	**335**	P		**P**	**19 12 40.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=17,slow=3.5,SNR=4.1								
ESDC				LR		LR	20 03 57.6		
	comp=Z,117nm,19.3s,baz=204,slow=41								
TORD	**Torodi Ar. Bea**	**116.13**	**317**	PKP		**PKPdf**	**19 17 58.9**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=12,slow=2.7,SNR=2.5								
SNAA	**Sanae**	**143.25**	**198**	PKPdf		PKPab	19 18 44.5	-0.6	
LPAZ	**La Paz**	**144.82**	**58**	PKP		**PKPab**	**19 18 52.9**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=18,slow=6.2,SNR=10								
VNA2	**Neumayer--Watz**	**144.82**	**197**	PKPdf		**PKPab**	**19 18 50.2**	**-0.7**
	baz=135,slow=7.0								
VNA3	**Neumayer Olymp**	**145.07**	**195**	PKPdf		**PKPab**	**19 18 51.6**	**-0.3**

*NOU **17** 19:05:09.5,20.92S×168.81E,h0km,MLv4.0/13,Loyalty Islands*

ISC 17 19:05:10.9±2.1,21.00S±0.08×168.8E±0.1,h25km,n12, σ1§89/13,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.85**	**235**	P	**Pn**	**19 05 27.8**	**+0.5**
LIFNC	**LIFOU**	**1.46**	**279**	P	**Pn**	**19 05 34.6**	**-1.0**
PINNC	**Pines Island,**	**2.03**	**217**	P	**Pn**	**19 05 44.1**	**+0.6**
YATNC	**Mamie plateau,**	**2.05**	**239**	P	**Pn**	**19 05 45.2**	**+1.4**
OUENC	**Ouen Island, N**	**2.29**	**232**	P	**Pb**	**19 05 49.8**	**-1.7**
DZM	**Mont Dzumac**	**2.42**	**243**	*e*Pn	**Pn**	**19 05 51.0**	**+2.0**
DZM	81nm,0.8s			*e*Sn	**Sb**	**19 06 25.3**	**+2.0**
	191nm,0.6s						
DZM	**Mont Dzumac**	**2.42**	**243**	P	**Pb**	**19 05 51.5**	**-2.4**
ONTNC	**Ouen Toro**	**2.52**	**239**	P	**Pb**	**19 05 54.3**	**-1.3**
NOUC	**Port Laguerre**	**2.55**	**244**	P	**Pb**	**19 05 53.5**	**-2.5**
RTV	**Rentapao**	**3.21**	**354**	P	**Pn**	**19 06 01.0**	**+1.2**
DVP	**Devils Point**	**3.31**	**350**	P	**Pn**	**19 06 01.8**	**+0.7**
KOUNC	**Koumac, New Ca**	**4.23**	**275**	P	**Pn**	**19 06 16.2**	**+2.4**

NNC 17 19:06:33.1±2.9,38.85N×78.70E,h0km,mb3.8,mpv3.4, 2D,Error ellipse: s-maj=25.8km s-min=18.2km az=80.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**4.30**	**3**	Pg	Pg	19 07 52.7	-2.8
	4.5nm,0.3s						
UZB				Lg	Lg	19 08 52.4	
	5.6nm,0.6s						
TNSS	**Tian-Shan**	**4.39**	**343**	Pg	Pb	19 07 53.6	+2.3
	1.7nm,0.3s						
TNSS				Lg	Lg	19 08 54.1	
	3.2nm,0.4s						
MDOK	**Medeo**	**4.49**	**344**	⇓Pg	Pg	19 07 56.2	-2.8
	5.0nm,0.6s						
MDOK				Lg	Lg	19 08 53.6	
	6.8nm,0.6s						
PDGK	**Podgornoye**	**4.51**	**7**	⇓Lg	Lg	19 08 53.1	
	8.2nm,0.8s						
KOTS	**Kotyrbulak**	**4.54**	**345**	Pg	Pb	19 07 55.8	+2.0
	2.2nm,0.5s						
KOTS				Lg	Lg	19 08 58.4	
	17nm,0.7s						
KST	**Kastek**	**4.67**	**335**	Pg	Pb	19 07 58.2	+2.2
	3.5nm,0.5s						
KST				Lg	Lg	19 09 02.6	
	6.0nm,0.6s						
DGS	**Degeres**	**4.91**	**334**	Pg	Pb	19 08 03.0	+2.9
	3.9nm,0.5s						
DGS				Lg	Lg	19 09 10.8	
	5.3nm,0.4s						
KTBS	**Karatobe**	**5.09**	**343**	Pg	Pb	19 08 04.0	+1.0
	2.5nm,0.9s						
KTBS				Lg	Lg	19 09 12.5	
	9.4nm,0.4s						
KRBS	**Karabastau**	**5.35**	**336**	Pg	Pb	19 08 10.8	+3.3
	2.6nm,0.3s						
KRBS				Lg	Lg	19 09 23.7	
	2.4nm,0.4s						

KRNET 17 19:07:27.4±0.1,40.47N×78.27E,mb2.8,6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.85**	**334**	⇑*e*P	Pn	19 08 00.7	+0.1
	baz=34						
KDJ				⇑*i*S	Sn	19 08 25.2	+0.3
	baz=34						
ULHL	**Ulahol**	**2.34**	**320**	⇓*i*P	Pn	19 08 08.3	+0.9
	baz=20						
ULHL				⇓*i*S	Sn	19 08 37.4	+0.4
	baz=20						
ANVS	**Anan'yevo**	**2.36**	**349**	⇑*i*P	Pn	19 08 08.0	+0.4
	baz=49						
ANVS				⇑*i*S	Sn	19 08 37.9	+0.6
	baz=49						
BOOM	**Boomskoye usch**	**2.67**	**320**	⇓*e*P	Pn	19 08 12.0	+0.1
	baz=20						
BOOM				⇓*e*S	Sn	19 08 44.9	-0.2
	baz=20						
TKM2	**Tokmak 2**	**3.16**	**322**	⇓*i*P	Pn	19 08 19.7	+1.0
	baz=22						
TKM2				⇓*i*S	Sn	19 08 57.1	-0.1
	baz=22						
ARLS	**Aral**	**3.29**	**296**	⇑*e*P	Pn	19 08 20.6	+0.2
	baz=96						
ARLS				⇑*i*S	Sn	19 08 59.8	-0.5
	baz=96						

*IDC **17** 19:16:07.4±1.6,2.86S×126.48E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.5/32,mbtmp3.6/4,ML3.7/2,Error ellipse: s-maj=44.1km s-min=25.9km az=67.0*

*DJA **17** 19:16:10.0±0.3,3.3S×12.6E±.,h10km,M3.7/11,mb4.4/4, mB4.4/2,MLv3.3/11,Mw(mB)3.6/2*

ISC 17 19:16:09.1±0.9,2.69S±0.07×126.47E±0.06,h10km,n12, σ1§44/16,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.79**	**323**	P	**Pb**	**19 16 25.0**	**0.0**
SANI				S	**Sb**	**19 16 35.4**	**-0.4**
AAI	**Ambon**	**1.99**	**120**	P	**Pn**	**19 16 43.5**	**+0.6**
AAI				S	**Sn**	**19 17 10.1**	**+2.2**
LBMI	**Labuha**	**2.28**	**27**	P	**Pn**	**19 16 47.7**	**+0.8**
LBMI				S	**Sn**	**19 17 15.6**	**+0.6**
MSAI	**Masohi**	**2.54**	**105**	P	**Pn**	**19 16 51.7**	**+1.2**
LUWI	**Luwuk**	**4.04**	**294**	P	**Pn**	**19 17 11.6**	**+0.5**
SWI	**Sorong**	**5.12**	**69**	P	**Pn**	**19 17 26.6**	**+0.7**
	0.1nm24nm,0.5s						
SIJI	**Sorong**	**5.12**	**69**	Pn	**Pn**	**19 17 26.5**	**+0.5**
	8.2nm,0.3s,baz=253,slow=23,SNR=32						
SIJI				Sn	**Sn**	**19 18 23.0**	**-2.3**
	1.3nm,0.3s,baz=163,slow=23,SNR=6.6						
APSI	**Ampana**	**5.13**	**290**	P	**Pn**	**19 17 27.1**	**+1.0**
	0.1nm304nm19nm,0.6s						
MRSI	**Marisa**	**5.51**	**305**	P	**Pn**	**19 17 32.0**	**+0.7**
	0.1nm22nm,1.1s						
WRA	**Warramunga Arr**	**18.80**	**156**	P	**P**	**19 20 26.7**	**-2.2**
	0.1nm,0.3s,baz=336,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**22.07**	**162**	P	**P**	**19 21 02.0**	**-2.4**
	0.7nm,0.5s,baz=342,slow=11,SNR=13						
MKAR	**Makanchi Array**	**62.72**	**327**	P	**P**	**19 26 35.4**	**+1.0**
	0.4nm,0.7s,baz=120,slow=7.2,SNR=5.4						

*BJI **17** 19:50:36.7±0.0,24.07N×125.65E,h15km,mb4.4/58, mB4.6/39,ML4.0/1,Ms4.3/55,Ms7 4.2/49*

*IDC **17** 19:50:40.3±0.6,24.35N×125.22E,h0km,mb4.3/29, mb1 4.4/30,mb1mx4.3/49,mbtmp4.3/30,ML3.4/1,MS3.9/53, Ms1 3.9/53,ms1mx3.7/86,Error ellipse: s-maj=15.2km s-min=13.7km az=93.0*

*NEIC **17** 19:50:44.7±1.7,24.33N±0.08×125.25E±0.07,h28km±5km, mb4.8/97,Error ellipse: s-maj=13.4km s-min=8.1km az=149.0*

*JMA **17** 19:50:44.1±0.2,24.29N×125.25E,h46km±5km,M4.7*

JMA Felt I J1.

*NIED **17** 19:50:44.1,24.29N×125.25E,h46km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.57; Mθθ-7.03; Mϕϕ1.47; Mrθ6.82; Mθϕ-3.45; Mϕr-0.68; Fault plane solution: M₀9.91000×10¹⁵ NP1:φ₁91.00000°, δ69.00000°,λ111.00000° NP2:φ₂224.00000°,δ29.00000°, λ46.00000°.*

ISC 17 19:50:43.8±0.6,24.38N±0.04×125.20E±0.04,h22km±5km, n255,σ1§40/235,mb4.7/91,MS3.9/59,7C-2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyako jima3**	**0.38**	**18**	P	**Pn**	**19 50 54.4**	**+0.4**
JMJ2				S	**Sn**	**19 51 02.2**	**+1.6**
JOGS	**Gusukube**	**0.42**	**26**	P	**Pn**	**19 50 55.0**	**+0.4**
JOGS				S	**Sn**	**19 51 03.5**	**+1.8**
JMJ	**Miyako jima 2**	**0.44**	**11**	P	**Pn**	**19 50 54.6**	**-0.2**
JIRB	**Irabujima**	**0.45**	**357**	P	**Pn**	**19 50 55.3**	**+0.4**
JIRB				S	**Sn**	**19 51 04.3**	**+2.0**
JTJ	**Tarama**	**0.53**	**300**	P	**Pn**	**19 50 56.3**	**+0.3**
JTJ				S	**Sn**	**19 51 05.4**	**+1.2**
JIKM	**Ikemajima**	**0.55**	**4**	P	**Pn**	**19 50 56.9**	**+0.7**
JIKM				S	**Sn**	**19 51 05.9**	**+1.2**
JISG	**Ishigakijimahi**	**0.84**	**285**	P	**Pn**	**19 51 00.5**	**+0.2**
JIJ	**Ishigaki jima**	**0.97**	**269**	P	**Pn**	**19 51 02.3**	**+0.3**
JKRS	**Kuro-shima**	**1.10**	**263**	P	**Pb**	**19 51 04.7**	**+0.7**
HATJ	**Hateruma jima**	**1.31**	**256**	P	**Pn**	**19 51 07.1**	**+0.3**
HATJ				*e*S	**Sn**	**19 51 23.5**	**-0.2**
IRIF	**Iriomote-Funau**	**1.34**	**268**	P	**Pb**	**19 51 07.9**	**-0.3**
YOJ	**Yonaguni jima**	**2.00**	**273**		**Pn**	**19 51 17.1**	**+0.9**
YOJ	**Yonaguni jima**	**2.00**	**273**	P	**Pb**	**19 51 19.0**	**-0.4**
NACB	**Ninganchiao**	**3.30**	**267**		**Pn**	**19 51 33.9**	**-0.2**
TATO	**Taipei**	**3.43**	**281**		**Pn**	**19 51 35.1**	**-0.9**
YHNB	**Yeheng**	**3.50**	**276**		**Pn**	**19 51 37.1**	**+0.2**
YHNB	**Yeheng**	**3.50**	**276**	P	**Pn**	**19 51 39.2**	**+2.3**
JOW	**Kunigami**	**3.70**	**48**	Pn	**Pn**	**19 51 39.6**	**0.0**
	6.2nm,0.3s,baz=132,slow=22,SNR=12						
JOW				Sn	**Sn**	**19 52 25.9**	**+3.4**
	12nm,0.3s,baz=239,slow=18,SNR=1.5						
JOW	**Kunigami**	**3.70**	**48**	Pn	**Pn**	**19 51 38.5**	**-1.1**
JOW	**Kunigami**	**3.70**	**48**	P	**Pn**	**19 51 39.9**	**+0.3**
YULB	**Yu-li**	**3.71**	**255**	Pn	**Pn**	**19 51 38.0**	**-1.8**
SSLB	**Suanglung**	**3.93**	**262**	Pn	**Pn**	**19 51 42.2**	**-0.6**
SSLB	**Suanglung**	**3.93**	**262**	P	**Pn**	**19 51 43.6**	**+0.8**
TWG	**Pinlang**	**4.09**	**249**		**Pn**	**19 51 43.2**	**-1.9**
TPUB	**Ta-pu**	**4.32**	**257**		**Pn**	**19 51 48.7**	**+0.4**
TPUB	**Ta-pu**	**4.32**	**257**	P	**Pn**	**19 51 49.4**	**+1.2**
QZH	**Quanzhou**	**6.04**	**277**	*e*Pn	**Pn**	**19 52 12.0**	**+0.2**
QZH	comp=N,490nm,13.3s			LR	LR		
QZH	comp=E,600nm,11.4s			LR	LR		
QZH	comp=Z,720nm,12.6s			LR	LR		
KNMB	**Chin-men Tao**	**6.21**	**272**	Pn	**Pn**	**19 52 14.9**	**+0.7**
SSE	**Sheshan**	**7.58**	**333**	P	**Pn**	**19 52 33.6**	**+0.7**
SSE				S	**Sn**	**19 54 01.9**	**+3.7**
SSE				pmax	pmax		
	comp=Z,19nm,0.7s						
SSE				pmax	pmax		
	comp=Z,73nm,4.1s						
SSE				LR	LR		
	comp=N,490nm,18.2s						
SSE				LR	LR		
	comp=E,410nm,18.1s						
SMPP	**San Manuel, Pa**	**9.22**	**208**	⇓*i*P	**Pn**	**19 52 53.9**	**-1.6**
NJ2	**Nanjing**	**9.47**	**325**	*e*P	**Pn**	**19 53 00.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,200nm,3.7s						
NJ2				LR	LR		
	comp=N,1μm,17.1s						
NJ2				LR	LR		
	comp=E,1μm,14.7s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
JNU	**Nakatsue**	**10.03**	**28**	Pn	**Pn**	**19 53 06.6**	**0.0**
JNU	**Nakatsue**	**10.03**	**28**	P	**Pn**	**19 53 07.5**	**+0.9**
LQP	**Lukban**	**10.78**	**199**	⇑*e*P	**Pn**	**19 53 15.9**	**-1.2**
KSAR	**Wonju Array Be**	**13.22**	**9**	Pn	**Pn**	**19 53 51.6**	**+1.4**
KSRS	**Korea Array**	**13.24**	**9**	Pn	**Pn**	**19 53 53.0**	**+2.6**
	0.1nm,0.3s,baz=185,slow=13,SNR=9.5						
KSRS				LR	LR	19 59 28.0	
	comp=Z,550nm,18.8s,baz=190,slow=40						
INU	**Inuyama**	**14.97**	**40**	P	**P**	**19 54 20.0**	**+0.6**
LYN	**LuoYang**	**15.01**	**315**	⇑P	**P**	**19 54 22.0**	**+2.1**
LYN				sP	sP	19 54 30.9	+2.3
LYN				S	**S**	**19 57 16.4**	**-1.2**
LYN				pmax	pmax		
	comp=Z,210nm,4.5s						
LYN				LR	LR		
	comp=N,820nm,17.1s						
LYN				LR	LR		
	comp=E,400nm,15.1s						
LYN				LR	LR		
	comp=Z,790nm,16.5s						
ENH	**Enshi**	**15.14**	**296**	P	**P**	**19 54 21.7**	**+0.3**
QIZ	**Qiongzhong**	**15.23**	**253**	P	**Pn**	**19 54 17.8**	**+0.2**
QIZ				S	**Sn**	**19 57 07.5**	**+1.8**
QIZ				LR	LR		
	comp=N,490nm,20.8s						
QIZ				LR	LR		
	comp=E,290nm,22.0s						
JGF	**Kuroka**	**15.35**	**40**	P	**P**	**19 54 22.9**	**-0.7**
JHJ	**Hachijo jima 2**	**15.46**	**52**	LR	LR	19 59 54.5	
	comp=Z,288nm,20.3s,baz=256,slow=36						
HNS	**HongShan**	**15.78**	**328**	⇓P	**P**	**19 54 28.6**	**+0.2**
HNS				S	**Sn**	**19 57 19.8**	**+0.9**
HNS				pmax	pmax		
	comp=Z,16nm,1.1s						
HNS				LR	LR		
	comp=N,640nm,15.2s						
HNS				LR	LR		
	comp=E,880nm,15.2s						
HNS				LR	LR		
	comp=Z,870nm,16.7s						
MAJO	**Matsushiro**	**16.49**	**40**	P	**P**	**19 54 37.5**	**+1.1**
MJAR	**Matsushiro Arr**	**16.49**	**40**	Pn	**P**	**19 54 38.0**	**+1.7**
	0.2nm,0.3s,baz=233,slow=11,SNR=37						
MJAR	**Matsushiro Arr**	**16.49**	**40**	P	**P**	**19 54 36.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**16.49**	**40**	P	**P**	**19 54 37.0**	**+0.7**
XAN	**Xi'an**	**17.15**	**308**	P	**P**	**19 54 44.8**	**+1.2**
XAN				pP	sP	19 54 51.9	-0.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**17.15**	**308**	P	**P**	**19 54 44.9**	**+1.3**
XAN				S	**S**	**19 57 59.3**	**-2.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				LR	LR		
	comp=Z,420nm,14.2s						
XAN				LR	LR		
	comp=Z,870nm,15.4s						
XAN				LR	LR		
	comp=Z,940nm,13.1s						
TIY	**Taiyuan**	**17.19**	**324**	*e*P	**P**	**19 54 47.6**	**+3.5**
TIY				pmax	pmax		
	comp=Z,320nm,5.5s						
TIY				LR	LR		
	comp=Z,750nm,16.2s						
TIY				LR	LR		
	comp=Z,190nm,11.8s						
TIY				LR	LR		
	comp=Z,630nm,16.2s						
DAV	**Davao City (W)**	**17.21**	**179**	LR	LR	20 02 36.1	
	comp=Z,316nm,18.4s,baz=347,slow=42						
BJT	**Baijiatuan**	**17.35**	**336**	Pn	**Pn**	**19 54 43.7**	**-0.9**
BJI	**Beijing**	**17.37**	**336**	P	**P**	**19 54 47.4**	**+1.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,250nm,9.1s						
BJI				LR	LR		
	comp=Z,610nm,14.2s						
BJI				LR	LR		
	comp=Z,390nm,13.5s						
SNY	**Shenyang**	**17.45**	**356**	⇑P	**P**	**19 54 47.5**	**+0.6**
SNY				pmax	pmax		
	comp=Z,32nm,0.9s						
SNY				pmax	pmax		
	comp=Z,200nm,7.1s						
SNY				LR	LR		
	comp=Z,690nm,17.1s						
SNY				LR	LR		
	comp=Z,560nm,13.9s						
SNY				LR	LR		
	comp=Z,1μm,16.1s						
JYT	**Yasato**	**17.50**	**44**	Pn	**Pn**	**19 54 45.4**	**-0.9**
JMM	**Marumori**	**18.91**	**41**	P	**P**	**19 55 02.0**	**-0.9**
JMM				IAmb	IAmb	19 55 13.6	
	comp=Z,60nm,1.4s						
CN2	**Changchun**	**19.38**	**1**	*e*P	**P**	**19 55 05.3**	**-2.7**
CN2				PP	**PnPn**	**19 55 22.9**	**+0.3**
CN2				S	**Sn**	**19 58

XLT LR LR
comp=Z,370nm,12.8s
XLT LR LR
comp=Z,800nm,14.1s
JTM Tenmabayashi 21.07 35 P **P** **19 55 25.9 -0.6**
JTM IAmb IAmb 19 55 41.0
comp=Z,58nm,1.0s
PZH PanZhiHua 21.29 281 ⇑P **P** **19 55 30.4 +1.3**
PZH S **S** **19 59 26.6 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,3.7s
PZH LR LR
comp=Z,580nm,20.4s
PZH LR LR
comp=Z,750nm,21.6s
PZH LR LR
comp=Z,890nm,23.3s
BNX BinXian 21.39 4 ⇑P **P** **19 55 28.3 -1.5**
BNX pmax pmax
comp=Z,7.0nm,0.6s
BNX pmax pmax
comp=Z,200nm,3.6s
GUMO Guam 21.44 116 LR LR 20 01 58.2
comp=Z,168nm,20.6s,baz=290,slow=32
LZH Lanzhou 21.78 307 *eP* **P** **19 55 35.8 +1.4**
LZH sP sP 19 55 42.1 -1.1
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.1s
LZH LR LR
comp=Z,440nm,14.6s
LZH LR LR
comp=Z,630nm,14.6s
LZH LR LR
comp=Z,870nm,15.5s
ERM Erimo 23.05 36 P **P** **19 55 46.3 -1.3**
ERM IAmb IAmb 19 56 06.0
comp=Z,36nm,0.8s
TNTI Ternate 23.56 175 P **P** **19 55 50.0 -2.8**
TNTI Ternate 23.56 175 P **P** **19 55 57.1 +4.2**
comp=Z,784nmcomp=Z,48nm,1.5s
GTOI Gorontalo 23.70 185 P **P** **19 55 57.5 +3.3**
MRSI Marisa 23.97 188 P **P** **19 55 58.6 +1.9**
ASAJ Asahikawa 24.29 32 P **P** **19 56 00.7 +1.1**
comp=Z,4.3nm,0.7s,baz=195,slow=14,SNR=6.4
ASAJ LR LR 20 06 16.9
comp=Z,425nm,19.9s,baz=344,slow=38
JKA Kamikawa-asahi 24.29 32 P **P** **19 56 00.7 +1.1**
JKA Kamikawa-asahi 24.29 32 IAmb IAmb 19 56 10.3
comp=Z,25nm,1.1s
LBMI Labuha 24.97 175 P **P** **19 56 09.9 +4.0**
comp=Z,24nm,0.9s
CHTO Chiang Mai 25.02 262 P **P** **19 56 05.8 -0.5**
CMAR Chiang Mai Arr 25.12 262 P **P** **19 56 08.2 +0.9**
comp=Z,1.3nm,0.8s,baz=59,slow=7.9,SNR=13
CMAR LR LR 20 06 51.5
comp=Z,125nm,20.1s,baz=70,slow=38
CMAR Chiang Mai Arr 25.12 262 P **P** **19 56 07.9 +0.6**
HIA Hailar 25.21 352 P **P** **19 56 08.3 +0.5**
HIA IAmb IAmb 19 56 17.5
comp=Z,17nm,1.2s
KLR Kul'dur 25.33 10 P **P** **19 56 07.8 -1.1**
comp=Z,1.9nm,0.9s,baz=226,slow=7.6,SNR=6.2
KLR LR LR 20 06 14.1
comp=Z,205nm,20.3s,baz=182,slow=37
APSI Ampana 25.37 188 P **P** **19 56 13.8 +4.3**
comp=Z,485nmcomp=Z,41nm,1.3s
SIJI Sorong 25.78 166 LR LR 20 05 09.2
comp=Z,206nm,19.6s,baz=354,slow=34
GTA Gaotai 26.14 311 ⇑P **P** **19 56 15.8 -0.7**
GTA pP sP 19 56 23.8 -1.8
GTA sP pP 19 56 27.9 +5.2
GTA S **S** **20 00 46.9 -0.2**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,98nm,6.8s
GTA LR LR
comp=Z,210nm,14.5s
GTA LR LR
comp=Z,320nm,14.2s
GTA LR LR
comp=Z,410nm,15.3s
SANI Sanana 26.28 178 P **P** **19 56 22.7 +4.9**
comp=Z,55nm,1.0s
ULN Ulaanbaatar 27.51 333 P **P** **19 56 28.5 -0.3**
SONM Songino Array 27.76 332 P **P** **19 56 30.4 -0.6**
comp=Z,0.8nm,0.3s,baz=150,slow=11,SNR=17
SONM PcP **PcP** **19 59 47.8 +0.6**
comp=Z,0.6nm,0.9s,baz=127,slow=4.3,SNR=3.2
SONM LR LR 20 09 06.1
comp=Z,486nm,20.0s,baz=129,slow=40
SONM Songino Array 27.76 332 P **P** **19 56 30.3 -0.7**
GOMU GeErMu 28.64 301 P **P** **19 56 40.0 +0.7**
GOMU pP pP 19 56 45.1 -0.5
GOMU sP sP 19 56 47.3 -0.9
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU pmax pmax
comp=Z,56nm,4.5s
GOMU LR LR
comp=Z,210nm,17.7s
GOMU LR LR
comp=Z,160nm,15.4s
GOMU LR LR
comp=Z,180nm,18.2s
KAPI Kappang 29.69 191 LR LR 20 08 23.5
comp=Z,138nm,21.6s,baz=16,slow=36
SHL Shillong 30.18 279 P **P** **19 56 52.6 -0.2**
SHL IAmb IAmb 19 57 03.9
comp=Z,14nm,0.9s
LSA Lhasa 30.72 288 P **P** **19 56 57.9 0.0**
PSI Prapat 33.22 234 LR LR 20 09 41.4
comp=Z,63nm,21.4s,baz=58,slow=34
TAPN Taplejung 33.79 283 *eP* **P** **19 57 25.6 +1.0**
comp=Z,24nm,0.8s
ODAN Odare 34.10 282 *eP* **P** **19 57 28.3 +1.0**
comp=Z,78nm,1.1s
RAMN Ramite 34.80 283 *eP* **P** **19 57 34.5 +1.1**
comp=Z,6.0nm,0.5s
JIRN Jiri 35.11 284 *eP* **P** **19 57 37.1 +0.9**
comp=Z,40nm,1.0s
GUN Gumba 35.37 284 *eP* **P** **19 57 39.2 +0.8**
LEM Lembang 35.44 211 LR LR 20 13 06.4
comp=Z,64nm,18.3s,baz=5.5,slow=38
PKI Pulchoki 35.81 284 *eP* **P** **19 57 42.4 +0.2**
PKIN Phulchoki 35.82 284 *eP* **P** **19 57 42.3 +0.1**
KKN Kakani 35.91 284 *eP* **P** **19 57 43.3 +0.4**
comp=Z,36nm,0.9s
DMN Daman 36.08 284 *eP* **P** **19 57 44.8 +0.4**
WMQ Urumqi 36.22 312 *eP* **P** **19 57 45.4 +0.3**
WMQ pP sP 19 57 54.8 +0.7
WMQ pmax pmax
comp=Z,10.0nm,1.3s
WMQ LR LR
comp=Z,180nm,13.5s
WMQ LR LR
comp=Z,240nm,16.5s
WMQ LR LR
comp=Z,210nm,21.7s
GKN Gorkha 36.46 285 *eP* **P** **19 57 47.8 +0.3**
DANN Dangsing 37.21 285 *eP* **P** **19 57 54.8 +0.7**
comp=Z,46nm,0.8s
KOLN Koldanda 37.40 284 *eP* **P** **19 57 56.1 +0.6**
comp=Z,50nm,1.0s
PETK Petropavlovsk- 37.71 32 LR LR 20 14 03.8
comp=Z,181nm,19.7s,baz=228,slow=37
YAK Yakutsk 37.76 3 LR LR 20 14 17.8
comp=Z,128nm,19.0s,baz=255,slow=38
PYUN Piuthan 37.91 285 *eP* **P** **19 58 00.7 +0.8**
comp=Z,56nm,0.9s
H11N1 WAKE ISLAND Hy 38.81 88 T T 20 39 25.1
baz=284,slow=74,SNR=4.7
H11N2 WAKE ISLAND Hy 38.82 88 T T 20 39 21.7
baz=284,slow=74,SNR=4.8
H11N3 WAKE ISLAND Hy 38.83 88 T T 20 39 24.3
baz=284,slow=74,SNR=5.0
MA2 Magadan 39.47 20 P **P** **19 58 12.5 +0.2**
comp=Z,3.5nm,0.7s,baz=220,slow=9.5,SNR=8.1
MA2 LR LR 20 15 10.7
comp=Z,144nm,19.3s,baz=238,slow=37
MA2 Magadan 39.47 20 P **P** **19 58 12.1 -0.1**
PMG Port Moresby 39.84 145 LR LR 20 13 32.2
comp=Z,92nm,18.4s,baz=294,slow=34

MK31 Makanchi Array 40.79 314 P **P** **19 58 23.1 -0.4**
MK31 IAmb IAmb 19 58 24.9
comp=Z,7.4nm,0.7s
MKAR Makanchi Array 40.79 314 P **P** **19 58 23.4 -0.1**
comp=Z,7.8nm,0.5s,baz=100,slow=10,SNR=173
MKAR LR LR 20 16 43.8
comp=Z,211nm,20.0s,baz=98,slow=38
MKAR Makanchi Array 40.79 314 P **P** **19 58 22.7 -0.8**
MAKZ Makanchi 41.00 314 P **P** **19 58 25.0 -0.2**
MAKZ IAmb IAmb 19 58 26.7
comp=Z,13nm,0.7s
ZAA0 Zalesovo Array 42.13 325 P **P** **19 58 32.8 -1.5**
ZAA0 IAmb IAmb 19 58 43.5
comp=Z,14nm,1.2s
ZALV Zalesovo Beam 42.13 325 P **P** **19 58 33.5 -0.8**
comp=Z,4.8nm,0.5s,baz=108,slow=7.6,SNR=18
ZALV Zalesovo Beam 42.13 325 P **P** **19 58 32.9 -1.4**
FITZ Fitzroy Crossi 42.22 179 LR LR 20 18 47.5
comp=Z,31nm,20.0s,baz=344,slow=40
SEY Seymchan 42.60 18 P **P** **19 58 38.4 +0.4**
comp=Z,2.9nm,0.9s,baz=211,slow=4.7,SNR=11
SEY LR LR 20 17 35.5
comp=Z,117nm,18.9s,baz=42,slow=38
TARG Taragay, Kyrgy 42.76 306 P **P** **19 58 41.0 +0.9**
KDJ Kajisay 43.28 306 P **P** **19 58 44.5 +0.4**
KDJ IAmb IAmb 19 58 55.5
comp=Z,18nm,1.2s
KSH Kashi 43.88 302 P **P** **19 58 52.5 +3.6**
KSH sP sP 19 59 01.6 +3.7
KSH PP **PcP** **20 00 41.4 +6.5**
KSH pmax pmax
comp=Z,13nm,1.1s
KSH LR LR
comp=Z,210nm,10.7s
KSH LR LR
comp=Z,190nm,11.3s
KSH LR LR
comp=Z,260nm,14.4s
KURK Kurchatov 44.33 319 P **P** **19 58 51.4 -0.8**
KURK IAmb IAmb 19 59 02.1
comp=Z,21nm,1.1s
KURBB Kurchatov Arra 44.36 318 P **P** **19 58 52.4 +0.1**
comp=Z,4.0nm,0.5s,baz=107,slow=7.7,SNR=22
KURBB LR LR 20 18 58.7
comp=Z,97nm,21.0s,baz=27,slow=38
WB0 Warramunga Arr 44.78 168 P **P** **19 58 54.4 -1.6**
WB0 IAmb IAmb 19 59 02.5
comp=Z,15nm,1.0s
WRAB Tennant Creek 44.94 168 P **P** **19 58 56.0 -1.2**
WRAB IAmb IAmb 19 59 03.8
comp=Z,15nm,0.9s
WRA Warramunga Arr 44.94 168 P **P** **19 58 55.8 -1.6**
comp=Z,2.8nm,0.6s,baz=348,slow=8.8,SNR=34
WRA LR LR 20 16 53.9
comp=Z,86nm,19.6s,baz=191,slow=35
WRA Warramunga Arr 44.94 168 P **P** **19 58 55.1 -2.2**
WB2 Warramunga Arr 44.95 168 P **P** **19 58 56.0 -1.4**
WB2 IAmb IAmb 19 59 03.9
comp=Z,13nm,0.9s
WR0 Warramunga Arr 45.00 168 P **P** **19 58 56.8 -0.9**
WR0 IAmb IAmb 19 59 04.3
comp=Z,11nm,0.8s
FRU1 Bishkek 45.24 307 P **P** **19 58 59.6 -0.1**
FRU1 IAmb IAmb 19 59 01.7
comp=Z,6.8nm,0.6s
AAK Ala-Archa 45.32 307 P **P** **19 59 01.1 +0.7**
comp=Z,2.2nm,0.5s,baz=136,slow=6.3,SNR=14
AAK LR LR 20 18 40.2
comp=Z,84nm,19.8s,baz=98,slow=37
AAK Ala-Archa 45.32 307 P **P** **19 59 00.9 +0.5**
PALK Pallekele 45.83 256 LR LR 20 19 52.5
comp=Z,75nm,18.5s,baz=172,slow=38
DRK Karamyk 47.10 302 P **P** **19 59 14.9 +0.3**
DRK IAmb IAmb 19 59 17.0
comp=Z,16nm,1.1s
TIXI Tiksi 47.35 2 P **P** **19 59 13.9 -1.7**
comp=Z,1.6nm,0.6s,baz=95,slow=24,SNR=10
TIXI LR LR 20 20 52.3
comp=Z,238nm,18.5s,baz=181,slow=38
TIXI Tiksi 47.35 2 P **P** **19 59 14.1 -1.5**
TIXI IAmb IAmb 19 59 16.3
comp=Z,9.9nm,1.5s
BTK Batken 47.88 303 P **P** **19 59 18.9 -1.5**
GAR Garm 48.24 301 P **P** **19 59 22.6 -0.6**
KKAR Karatay Array 48.28 307 P **P** **19 59 22.7 -0.7**
AS31 Alice Springs 48.50 169 P **P** **19 59 23.9 -1.2**
ASAR Alice Springs 48.50 169 P **P** **19 59 24.2 -0.9**
comp=Z,1.7nm,0.5s,baz=354,slow=7.6,SNR=29
ASAR LR LR 20 20 51.7
comp=Z,54nm,19.0s,baz=334,slow=37
CTA Charters Tower 48.72 153 LR LR 20 19 44.5
comp=Z,140nm,19.7s,baz=344,slow=36
CHGR Chuyangaron 49.15 301 P **P** **19 59 29.4 -0.7**
KBL Kabul 49.39 295 P **P** **19 59 32.1 -0.1**
BRVK Borovoye 49.94 320 P **P** **19 59 36.2 +0.3**
BRVK IAmb IAmb 19 59 45.7
comp=Z,14nm,1.4s
NRIK Noril'sk 50.21 344 P **P** **19 59 36.6 -1.0**
comp=Z,4.9nm,0.8s,baz=152,slow=5.7,SNR=5.1
NRIK LR LR 20 23 14.7
comp=Z,239nm,20.0s,baz=148,slow=39
NRIK Noril'sk 50.21 344 P **P** **19 59 35.8 -1.8**
NRIK IAmb IAmb 19 59 37.6
comp=Z,7.4nm,1.0s
BILL Bilibino 50.29 19 P **P** **19 59 38.7 +0.4**
BILL IAmb IAmb 19 59 39.5
comp=Z,10.0nm,1.1s
ABKAR Akbulak array 55.94 314 P **P** **20 00 20.1 -0.1**
ABKAR Akbulak array 55.94 314 P **P** **20 00 20.3 +0.2**
ABKAR IAmb IAmb 20 00 21.5
comp=Z,21nm,0.7s
ARU Arti 57.17 323 P **P** **20 00 27.5 -1.3**
GEYT Alibeck 57.86 301 P **P** **20 00 35.5 +1.4**
comp=Z,8.3nm,0.9s,baz=256,slow=1.2,SNR=11
GEYT LR LR 20 29 42.6
comp=Z,82nm,18.4s,baz=135,slow=40
GEYT Alibeck 57.86 301 P **P** **20 00 35.2 +1.2**
GEYT IAmb IAmb 20 00 36.5
comp=Z,8.4nm,0.8s
GYA0B ALIBECK ARRAY 57.86 301 P **P** **20 00 35.1 +1.1**
GYA0B IAmb IAmb 20 00 48.3
comp=Z,11nm,0.8s
STKA Stephens Creek 58.09 164 P **P** **20 00 35.7 +0.2**
comp=Z,2.1nm,0.7s,baz=287,slow=9.3,SNR=3.5
STKA LR LR 20 27 54.8
comp=Z,36nm,18.1s,baz=15,slow=38
TNA Tin City 58.52 27 P **P** **20 00 39.5 +1.4**
TNA IAmb IAmb 20 00 50.8
comp=Z,8.7nm,1.1s
ANM Nome 59.43 28 P **P** **20 00 43.0 -1.5**
DZM Mont Dzumac 61.14 136 LR LR 20 23 13.2
comp=Z,80nm,21.3s,baz=131,slow=32
KIRV Kirov 62.16 325 LR LR 20 30 27.2
comp=Z,324nm,18.2s,baz=85,slow=38
BELG Belogornoye 63.60 318 P **P** **20 01 12.9 +0.1**
comp=Z,23nm,0.6s,baz=270,slow=0.6,SNR=23
J20K Nowinta River 64.29 29 P **P** **20 01 18.3 +1.1**
J20K IAmb IAmb 20 01 21.9
comp=Z,5.7nm,0.6s
IMAR Indian Mountai 64.37 27 P **P** **20 01 17.7 +0.1**
H21K Melozitna Rive 64.77 27 P **P** **20 01 21.1 +0.7**
I21K Tanana 65.15 27 P **P** **20 01 24.1 +1.3**
CAST Castle Rocks 65.25 29 P **P** **20 01 24.3 +0.8**
CAST IAmb IAmb 20 01 36.5
comp=Z,5.8nm,1.0s
BPAW Bear Paw Mtn. 65.67 29 P **P** **20 01 26.9 +0.7**
BPAW IAmb IAmb 20 01 30.7
comp=Z,4.1nm,0.6s
MLY Manley 65.69 28 P **P** **20 01 26.7 +0.4**
TOLK Toolik Lake Re 65.81 24 P **P** **20 01 28.1 +1.0**
I23K Minto, Yukon-K 66.25 27 P **P** **20 01 30.6 +0.7**
I23K IAmb IAmb 20 01 48.3
comp=Z,13nm,1.4s
BWN Browne 66.33 28 P **P** **20 01 31.8 +1.4**
MSVF Nonsavu 66.38 124 LR LR 20 29 50.0
comp=Z,69nm,18.4s,baz=318,slow=35
NEA2 Nenana 66.45 28 P **P** **20 01 31.7 +0.6**
RND Reindeer 66.70 29 P **P** **20 01 32.8 -0.1**
MDM Murphy Dome 66.75 28 P **P** **20 01 33.0 -0.2**
H24K Noodor Dome 66.78 27 P **P** **20 01 34.4 +1.1**
H24K IAmb IAmb 20 01 42.0
comp=Z,5.8nm,0.8s
KLMR Klimovskoe 66.95 328 *eP* **P** **20 01 32.8 -1.6**
KLMR AMP 20 01 36.1
KLMR *e*PP **PP** **20 04 02.0 +0.3**

ILAR Eielson Array 67.35 28 P **P** **20 01 37.8 +0.9**
comp=Z,0.8nm,0.7s,baz=230,slow=5.5,SNR=18
ILAR Eielson Array 67.35 28 P **P** **20 01 35.0 -1.9**
HDA Harding Lake 67.38 28 P **P** **20 01 36.4 -0.7**
HDA IAmb IAmb 20 01 54.7
comp=Z,8.7nm,1.1s
GNI Garni 67.70 305 LR LR 20 34 56.2
comp=Z,46nm,19.7s,baz=64,slow=39
BMAR Burnt Mountain 67.83 25 P **P** **20 01 40.5 +0.5**
KBZ Khabaz 68.21 309 P **P** **20 01 43.6 +1.0**
comp=Z,5.3nm,0.9s,baz=147,slow=1.8,SNR=6.2
KBZ LR LR 20 36 19.3
comp=Z,146nm,18.3s,baz=50,slow=40
PAX Paxson 68.28 29 P **P** **20 01 42.3 -0.6**
PAX IAmb IAmb 20 02 03.5
comp=Z,4.1nm,1.0s
KIV Kislovodsk 68.30 310 P **P** **20 01 43.4 0.0**
SCRK Sand Creek 68.74 28 P **P** **20 01 46.0 +0.2**
DOT Dot Lake 68.77 29 P **P** **20 01 44.6 -1.3**
DOT IAmb IAmb 20 01 49.5
comp=Z,6.9nm,1.0s
OBN Obninsk 69.61 322 LR LR 20 35 55.5
comp=Z,34nm,18.8s,baz=7.0,slow=39
OBN Obninsk 69.61 322 P **P** **20 01 50.7 -0.4**
EGAK Eagle 69.75 27 P **P** **20 01 51.0 -0.9**
EGAK IAmb IAmb 20 02 06.8
comp=Z,4.2nm,0.8s
L27K Beaver Creek, 69.89 29 P **P** **20 01 53.5 +0.7**
L27K IAmb IAmb 20 02 07.8
comp=Z,12nm,1.5s
SPITS Spitsbergen Ar 70.07 348 LR LR 20 38 55.4
comp=Z,94nm,18.4s,baz=244,slow=41
DAWY Dawson 70.68 28 P **P** **20 01 58.3 +0.6**
DAWY IAmb IAmb 20 02 02.4
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 70.72 338 P **P** **20 01 58.0 +0.2**
comp=Z,5.8nm,0.9s,baz=64,slow=8.2,SNR=4.2
ARCES LR LR 20 37 41.8
comp=Z,154nm,19.4s,baz=226,slow=40
I29M Ogilvie Camp, 70.77 26 P **P** **20 01 58.5 +0.4**
I29M IAmb IAmb 20 02 02.4
comp=Z,10nm,1.3s
EPYK Eagle Plains 71.10 25 P **P** **20 02 01.2 +1.1**
EPYK IAmb IAmb 20 02 13.6
comp=Z,14nm,1.1s
INK Inuvik 71.65 23 P **P** **20 02 04.1 +0.8**
comp=Z,3.2nm,0.7s,baz=279,slow=6.0,SNR=6.6
INK LR LR 20 35 26.9
comp=Z,79nm,20.8s,baz=294,slow=38
INK Inuvik 71.65 23 P **P** **20 02 03.3 0.0**
INK IAmb IAmb 20 02 16.6
comp=Z,11nm,1.1s
M30M Minto, Yukon 72.24 29 P **P** **20 02 07.0 -0.1**
M30M IAmb IAmb 20 02 22.8
comp=Z,11nm,1.4s
NOR Nord 72.51 355 *i* P P 20 01 54.3 -14
NOR IAmb IAmb 20 02 08.3
comp=Z,1.9nm,0.7s
FIA1 FINESS Array S 73.11 330 P **P** **20 02 12.6 +0.4**
FIA1 IAmb IAmb 20 02 13.5
comp=Z,11nm,0.8s
FINES FINESS Array B 73.11 330 P **P** **20 02 12.6 +0.4**
comp=Z,7.4nm,0.6s,baz=63,slow=6.2,SNR=37
FINES LR LR 20 37 50.6
comp=Z,300nm,18.2s,baz=61,slow=39
FINES FINESS Array B 73.11 330 P **P** **20 02 12.2 0.0**
M31M Drury Creek, Y 73.42 29 P **P** **20 02 14.5 +0.4**
C36M Paulatuk 74.38 20 P **P** **20 02 19.3 -0.2**
C36M IAmb IAmb 20 02 32.1
comp=Z,11nm,1.0s
EUNU Eureka 74.38 5 P **P** **20 02 19.8 +0.3**
EUNU IAmb IAmb 20 02 29.6
comp=Z,8.7nm,1.4s
IDID Didziasalis 74.93 324 *eP* **P** **20 02 23.6 +0.6**
NACGM Naroch 75.05 324 *i* P **P** **20 02 26.3 +2.6**
AKASG Malin Array Be 75.14 319 P **P** **20 02 24.4 +0.1**
comp=Z,1.3nm,0.5s,baz=57,slow=6.5,SNR=10
AKASG LR LR 20 37 51.4
comp=Z,46nm,18.4s,baz=83,slow=38
AKASG Malin Array Be 75.14 319 P **P** **20 02 24.4 +0.1**
AKBB Malin Array Si 75.14 319 P **P** **20 02 24.4 +0.1**
AKBB IAmb IAmb 20 02 25.8
comp=Z,8.7nm,1.3s
ISAL Salakas 75.16 325 *eP* **P** **20 02 24.6 +0.4**
IIGN Ignalina 75.19 324 *eP* **P** **20 02 24.8 +0.4**
BR131 Keskin Array S 75.99 307 P **P** **20 02 29.3 -0.3**
BR131 IAmb IAmb 20 02 47.0
comp=Z,8.3nm,1.0s
BRTR Keskin Array B 75.99 307 P **P** **20 02 29.9 +0.3**
comp=Z,2.0nm,0.9s,baz=84,slow=6.9,SNR=8.3
BRTR LR LR 20 40 18.6
comp=Z,87nm,18.8s,baz=64,slow=39
BRTR Keskin Array B 75.99 307 P **P** **20 02 29.2 -0.3**
PABE Paberze 76.32 325 P **P** **20 02 31.8 +0.9**
PABE Paberze 76.32 325 *eP* **P** **20 02 31.1 +0.2**
DAG Danmarks Havn 76.71 352 *i* P **P** **20 02 30.2 -1.9**
DAG IAmb IAmb 20 02 32.6
comp=Z,2.3nm,0.9s
UPP Uppsala 77.56 330 *eP* **P** **20 02 37.3 -0.5**
RES Resolute Bay 77.86 10 P **P** **20 02 39.5 +0.3**
comp=Z,1.6nm,0.8s,baz=324,slow=3.7,SNR=4.4
RES Resolute Bay 77.86 10 P **P** **20 02 39.6 +0.4**
VIKU Vikbolandet 78.61 329 *eP* **P** **20 02 43.6 -0.1**
BURAR Bucovina Array 78.74 317 P **P** **20 02 44.0 -0.8**
DBG Daneborg 79.01 351 *i* P **P** **20 02 45.2 -0.4**
DBG IAmb IAmb 20 02 56.1
comp=Z,2.0nm,0.8s
URZ Urewera 79.06 141 LR LR 20 32 43.7
comp=Z,50nm,21.6s,baz=212,slow=32
MLR Muntele Rosu 79.13 315 LR LR 20 41 15.4
comp=Z,169nm,18.4s,baz=80,slow=38
HFS Hagfors 79.16 332 LR LR 20 42 17.1
comp=Z,158nm,18.8s,baz=43,slow=39
NC405 NORSAR Array S 79.49 333 P **P** **20 02 48.1 -0.4**
JMIC Jan Mayen 79.56 346 LR LR 20 42 19.8
comp=Z,74nm,19.3s,baz=43,slow=39
NB2 NORSAR Subarra 79.74 333 P **P** **20 02 49.9 0.0**
comp=Z,9.8nm,1.2s,baz=54,slow=6.2
NOA NORSAR Array B 79.74 333 P **P** **20 02 49.9 0.0**
comp=Z,3.8nm,0.8s,baz=55,slow=5.5,SNR=12
RPZ Rata Peaks 79.75 148 LR LR 20 37 19.3
comp=Z,60nm,19.9s,baz=276,slow=35
NC204 NORSAR Array S 79.80 333 P **P** **20 02 49.4 -0.8**
YKA Yellowknife Ar 81.34 24 P **P** **20 02 58.9 +0.6**
comp=Z,2.9nm,0.9s,baz=304,slow=5.1,SNR=32
YKA Yellowknife Ar 81.34 24 P **P** **20 02 58.3 -0.1**
VTS Vitosha 82.11 313 P **P** **20 03 02.8 -0.2**
VTS IAmb IAmb 20 03 14.9
comp=Z,7.8nm,0.8s
VRAC Vranov 83.11 321 LR LR 20 43 12.9
comp=Z,115nm,18.7s,baz=51,slow=38
GERES GERESS Array B 84.99 322 P **P** **20 03 18.0 +0.4**
comp=Z,0.9nm,0.7s,baz=57,slow=4.9,SNR=9.8
GERES GERESS Array B 84.99 322 P **P** **20 03 17.8 +0.2**
BORG Borgarnes 87.45 346 LR LR 20 45 36.2
comp=Z,58nm,20.2s,baz=36,slow=38
YBH Yreka Blue Hor 89.11 44 LR LR 20 40 05.2
comp=Z,21nm,19.9s,baz=335,slow=33
EKA Eskdalemuir Ar 89.23 333 LR LR 20 46 38.9
comp=Z,187nm,18.9s,baz=32,slow=38
WALA Waterton Lakes 89.93 34 P **P** **20 03 41.5 0.0**
FFC Flin Flon 91.44 25 P **P** **20 03 48.1 -0.2**
FFC IAmb IAmb 20 04 02.8
comp=Z,5.5nm,1.0s
FRB Frobisher Bay 91.51 6 LR LR 20 47 10.1
comp=Z,80nm,19.2s,baz=13,slow=37
NVAR Mina Array Bea 93.75 45 P **P** **20 03 59.2 -0.3**
comp=Z,0.9nm,0.8s,baz=299,slow=5.3,SNR=5.2
ULM Lac du Bonnet 97.27 25 LR LR 20 52 53.5
comp=Z,65nm,18.1s,baz=102,slow=38

IDC ***17*** *19:56:26.9±1.6, 9.38N×84.53W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/30, mbtmp3.6/5, Error ellipse: s-maj=51.9km s-min=13.9km az=56.0*
INET ***17*** *19:56:26.6±1.1, 9.05N×84.22W, h15km±10km, MW4.0*
UCR ***17*** *19:56:29.1±1.2, 9.38N×84.65W, h5km, MW4.1, mb3.7(NEIC)*
NEIC ***17*** *19:56:29.9±1.9, 9.43N±0.05×84.59W±0.02, h24km±8km, Error ellipse: s-maj=6.7km s-min=3.0km az=178.0*
ISC 17 19:56:27.9±1.3, 9.33N±0.04×84.63W±0.03, h9km±9km, n84, σ0.88/89, mb3.6/7, 2C-1D, Costa Rica

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

JACO	**JACO, Garabito**	**0.33**	**355**	Pg	**Pb**	**19 56 35.6**	**-0.5**
JACO				Sg	**Sg**	**19 56 40.0**	**+1.0**
JACO	**JACO, Garabito**	**0.33**	**355**	*eP*	**Pb**	**19 56 35.6**	**-0.5**
JACO				*eS*	**Sg**	**19 56 40.3**	**+1.2**
LAFE	**Finca La Fe, P**	**0.55**	**330**	*eP*	**Pb**	**19 56 39.8**	**+0.1**
LAFE				*eS*	**Sb**	**19 56 47.7**	**-0.1**
CAO2	**Cobano, Puntar**	**0.59**	**307**	Pg	**Pb**	**19 56 40.2**	**-0.2**
CAO2				Sg	**Sb**	**19 56 48.5**	**-0.4**
CAO2	**Cobano, Puntar**	**0.59**	**307**	*eP*	**Pb**	**19 56 40.5**	**+0.1**
LCR2	**La Lucha 2**	**0.74**	**56**	*eP*	**Pb**	**19 56 43.0**	**-0.1**
EDDO	**Dominical**	**0.76**	**96**	*eP*	**Pn**	**19 56 44.3**	**-0.4**
SRA1	**San Ramn**	**0.77**	**11**	*eP*	**Pg**	**19 56 42.7**	**0.0**
SJS	**Escuela Geolog**	**0.83**	**43**	*eP*	**Pb**	**19 56 44.4**	**-0.3**
HDC	**Heredia**	**0.84**	**37**		**Pg**	**19 56 44.1**	**0.0**
HDC				Sg	**Sg**	**19 56 52.9**	**-2.3**
HDC	**Heredia**	**0.84**	**37**	*eP*	**Pb**	**19 56 44.5**	**-0.2**
HDC3	**Heredia 3**	**0.84**	**37**	*eP*	**Pb**	**19 56 44.5**	**-0.3**
OCM	**Ochomogo**	**0.87**	**49**	*eP*	**Pb**	**19 56 44.8**	**-0.5**
RIMA	**Rio Macho**	**0.87**	**60**		**Pb**	**19 56 45.1**	**-0.2**
RIMA	**Rio Macho**	**0.87**	**60**	*eP*	**Pb**	**19 56 45.2**	**-0.1**
CDM	**Cerro de Muert**	**0.88**	**75**	*eP*	**Pn**	**19 56 46.1**	**-0.8**
PEZE	**Perez Zeledon,**	**0.94**	**87**		**Pn**	**19 56 46.9**	**-0.5**
PEZE	**Perez Zeledon,**	**0.94**	**87**	*eP*	**Pn**	**19 56 46.9**	**-0.5**
CRPO	**Crater poas**	**0.95**	**25**	*eP*	**Pg**	**19 56 46.2**	**0.0**
JTS	**Las Juntas de**	**1.01**	**342**	LR	LR	19 56 44.1	
	comp=Z,43nm,21.8s,baz=212,slow=17						
JTS				Pg	**Pb**	**19 56 46.5**	**-1.1**
	251nm,0.3s,baz=180,slow=16,SNR=1279						
JTS				Lg	Lg	19 56 59.9	
	400nm,0.3s,baz=48,slow=22,SNR=14						
JTS	**Las Juntas de**	**1.01**	**342**	*eP*	**Pb**	**19 56 46.4**	**-1.1**
RAFA	**San Farael, Vo**	**1.02**	**52**	*eP*	**Pn**	**19 56 49.5**	**+0.8**
VTRT	**Volcan Turrial**	**1.06**	**51**	*eP*	**Pg**	**19 56 48.5**	**+0.1**
CVTR	**Volcan Turrial**	**1.10**	**51**		**Pb**	**19 56 48.7**	**-0.7**
CVTR	**Volcan Turrial**	**1.10**	**51**	*eP*	**Pn**	**19 56 49.4**	**-0.4**
ARE1	**Arenal 1**	**1.13**	**355**	*eP*	**Pb**	**19 56 49.2**	**-0.4**
DUNO	**Dulce Nombre,**	**1.13**	**311**	Pn	**Pb**	**19 56 48.7**	**-1.0**
DUNO	**Dulce Nombre,**	**1.13**	**311**	*eP*	**Pg**	**19 56 49.6**	**-0.1**
CEDE	**Laguna Cedeo**	**1.15**	**356**	*eP*	**Pb**	**19 56 49.7**	**-0.4**
RIFO	**Rio Frio, Sara**	**1.20**	**35**	*eP*	**Pb**	**19 56 50.7**	**-0.2**
EDPN	**Palmar Norte**	**1.21**	**107**	*eP*	**Pg**	**19 56 51.8**	**+0.6**
PLVR	**Palo Verde**	**1.24**	**325**	*eP*	**Pn**	**19 56 50.5**	**-1.0**
SRBA	**San Rafael, Bu**	**1.26**	**94**	*eP*	**Pg**	**19 56 52.3**	**+0.3**
RIOS	**Rincon, Osa**	**1.27**	**119**	Pn	**Pg**	**19 56 52.3**	**+0.1**
GUAI	**GUAI**	**1.28**	**317**	⇑*iP*	**Pb**	**19 56 51.0**	**-0.9**
SAJU	**San Juanillo,**	**1.29**	**305**	*eP*	**Pn**	**19 56 50.7**	**-1.5**
ORTG	**Ortega, Santa**	**1.31**	**322**		**Pn**	**19 56 51.6**	**-0.9**
ORTG	**Ortega, Santa**	**1.31**	**322**	*eP*	**Pn**	**19 56 51.3**	**-1.2**
EDBA	**Buenos Aires**	**1.35**	**97**	*eP*	**Pg**	**19 56 56.1**	**+2.3**
ACAL	**Aguas Claras**	**1.36**	**343**	⇓*iP*	**Pn**	**19 56 52.9**	**-0.2**
DRK0	**Durika**	**1.37**	**93**	*eP*	**Pg**	**19 56 54.3**	**+0.1**
COVE	**Coope Vega, Sa**	**1.40**	**9**	Pn	**Pn**	**19 56 53.1**	**-0.6**
COVE	**Coope Vega, Sa**	**1.40**	**9**	*eP*	**Pn**	**19 56 53.2**	**-0.4**
PTEN	**Parque Tenorio**	**1.42**	**346**	*iP*	**Pb**	**19 56 54.0**	**-0.7**
CUI	**Cuipilapa**	**1.42**	**338**	*iP*	**Pb**	**19 56 53.9**	**-0.8**
COLC	**Colonia**	**1.44**	**337**	*eP*	**Pn**	**19 56 54.1**	**-0.2**
BATAN	**Batan**	**1.45**	**58**	*eP*	**Pg**	**19 56 55.6**	**-0.2**
HORNC	**Hornillas**	**1.48**	**339**	*iP*	**Pn**	**19 56 54.6**	**-0.2**
GUAB	**Guayabo de Bag**	**1.49**	**337**	*eP*	**Pb**	**19 56 55.2**	**-0.7**
LIM1	**Limonal**	**1.49**	**336**	*iP*	**Pb**	**19 56 55.2**	**-0.6**
POTG	**Potrero Grande**	**1.52**	**100**	*eP*	**Pg**	**19 56 56.1**	**-0.9**
VMAR	**Armenia, Volca**	**1.55**	**342**	*eP*	**Pb**	**19 56 56.1**	**-0.8**
GPS2	**Hotel Rincn d**	**1.58**	**333**	*iP*	**Pb**	**19 56 56.8**	**-0.7**
VRLE	**La Escondida,**	**1.62**	**333**	*eP*	**Pn**	**19 56 56.6**	**-0.2**
LAPC	**Finca la Perla**	**1.64**	**331**	⇑*iP*	**Pn**	**19 56 56.7**	**-0.2**
BUEV	**Buena Vista**	**1.65**	**332**	*eP*	**Pb**	**19 56 57.7**	**-0.9**
GBS3	**Finca Las Img**	**1.66**	**331**	*iP*	**Pn**	**19 56 57.1**	**-0.1**
HZTE	**Horizontes, Gu**	**1.67**	**325**	Pn	**Pn**	**19 56 57.4**	**0.0**
HZTE	**Horizontes, Gu**	**1.67**	**325**	*eP*	**Pn**	**19 56 57.5**	**0.0**
BUAI	**Buenos Aires**	**1.69**	**336**	*iP*	**Pb**	**19 56 58.1**	**-1.1**
CDITO	**Canoas**	**1.89**	**113**	Pn	**Pb**	**19 57 01.3**	**-1.3**
BRU2	**Volcan**	**1.99**	**105**	Pn	**Pn**	**19 57 01.9**	**+0.1**
BRU2	**Volcan**	**1.99**	**105**	*eP*	**Pb**	**19 57 04.1**	**-0.2**
ACON	**Acoyapa**	**2.68**	**348**	Pn	**Pn**	**19 57 11.4**	**+0.3**
ACON	**Acoyapa**	**2.68**	**348**	*eP*	**Pn**	**19 57 11.5**	**+0.3**
ACON	**Acoyapa**	**2.68**	**348**	*eP*	**Pn**	**19 57 11.5**	**+0.3**
ESPN	**Las Esperanzas**	**2.87**	**6**	Pn	**Pn**	**19 57 14.0**	**+0.2**
ESPN	**Las Esperanzas**	**2.87**	**6**	*eP*	**Pn**	**19 57 14.4**	**+0.5**
ESPN	**Las Esperanzas**	**2.87**	**6**	*eP*	**Pn**	**19 57 14.3**	**+0.5**
BOAB	**BOACO BROADBAN**	**2.27**	**342**		**Pn**	**19 57 18.9**	**-0.3**
COPN	**Copaltepe**	**3.43**	**326**	*eP*	**Pn**	**19 57 24.5**	**+3.0**
CNGN	**Cerro Negro**	**3.75**	**327**	*eP*	**Pn**	**19 57 29.0**	**+3.0**
MATN	**Matagalpa**	**3.80**	**341**	Pn	**Pn**	**19 57 26.6**	**-0.2**
CRIN	**San Cristobal**	**4.11**	**325**	Pn	**Pn**	**19 57 30.2**	**-0.8**
CRIN	**San Cristobal**	**4.11**	**325**	*eP*	**Pn**	**19 57 34.0**	**+3.0**
BCIP	**Isla Barro Col**	**4.73**	**92**	Pn	**Pn**	**19 57 39.7**	**+0.2**
TX31	**Lajitas Ar. Si**	**26.73**	**321**	P	**P**	**20 02 07.5**	**-0.5**
TX31				IAmb	IAmb	20 02 17.6	
	comp=Z,3.4nm,0.9s						
TX32	**Lajitas Array**	**26.73**	**321**	P	**P**	**20 02 08.1**	**+0.1**
TX32				IAmb	IAmb	20 02 17.5	
	comp=Z,1.2nm,0.9s						
TXAR	**Lajitas Array**	**26.73**	**321**	P	**P**	**20 02 08.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=142,slow=10,SNR=10.0						
TXAR	**Lajitas Array**	**26.73**	**321**	P	**P**	**20 02 07.4**	**-0.6**
NVAR	**Mina Array Bea**	**41.86**	**319**	P	**P**	**20 04 19.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=133,slow=7.6,SNR=7.5						
YKA	**Yellowknife Ar**	**57.35**	**344**	P	**P**	**20 06 16.3**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=135,slow=7.4,SNR=2.1						
ESDC	**Sonseca Array**	**76.94**	**51**	P	**P**	**20 08 21.1**	**0.0**
	comp=Z,0.5nm,0.5s,baz=284,slow=5.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**84.37**	**78**	P	**P**	**20 09 01.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=278,slow=4.1,SNR=2.2						

IDC 17 20:33:38.0±3.1, 4°.10S×135°.42E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=124.5km s-min=17.9km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.78**	**184**	Pn	Pn	20 37 20.2	-1.5
	0.1nm,0.3s,baz=4.0,slow=13,SNR=7.4						
WRA				Sn	Sn	20 40 08.6	-8.9
	0.1nm,0.3s,baz=2.8,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**19.50**	**184**	P	Pn	20 38 08.6	+0.5
	0.3nm,0.3s,baz=7.5,slow=10,SNR=16						
ASAR				S	Sn	20 41 48.0	+0.3
	0.0nm,0.3s,baz=0.0,slow=22,SNR=2.3						
MKAR	**Makanchi Array**	**68.93**	**324**	P	P	20 44 44.8	-0.2
	0.2nm,0.5s,baz=117,slow=7.5,SNR=5.4						

NNC 17 20:48:18.1±11.0, 36°.64N×71°.44E, h166km±149km, mb2.9, mpv3.7, Error ellipse: s-maj=149.8km s-min=45.2km az=44.0

ISC 17 20:48:09.3±1.6, 36°.1N±0°.1×71°.3E±0°.2, h100km, n15, σ2s07/17, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.98**	**20**	⇑P	**Pn**	**20 49 51.6**	**+2.7**
	2.5nm,0.8s						
KK02	**Karatay Array**	**7.01**	**355**	⇓P	**Pn**	**20 49 51.3**	**+2.1**
	12nm,0.5s						
KK02				⇓S	**Sn**	**20 51 06.2**	**-1.1**
	4.6nm,0.5s						
TKM2	**Tokmak 2**	**7.58**	**25**	⇓P	**Pn**	**20 49 57.5**	**+0.3**
	1.6nm,0.7s						
PYUN	**Piuthan**	**12.74**	**126**	*eP*	**Pn**	**20 51 06.0**	**-1.0**
	3.7nm,0.2s						
DANN	**Dangsing**	**13.10**	**123**	*eP*	**Pn**	**20 51 10.6**	**-1.1**
	6.1nm,0.3s						
KOLN	**Koldanda**	**13.37**	**125**	*eP*	**Pn**	**20 51 14.7**	**-0.5**
GKN	**Gorkha**	**13.92**	**122**	*eP*	**Pn**	**20 51 21.5**	**-0.8**
	5.0nm,0.2s						
DMN	**Daman**	**14.49**	**122**	*eP*	**Pn**	**20 51 28.8**	**-0.9**
PKIN	**Phulchoki**	**14.71**	**121**	*eP*	**Pn**	**20 51 31.8**	**-0.7**
	3.5nm,0.3s						
PKI	**Pulchoki**	**14.72**	**121**	*eP*	**Pn**	**20 51 31.7**	**-1.1**
	3.6nm,0.3s						
GUN	**Gumba**	**14.84**	**119**	*eP*	**Pn**	**20 51 33.0**	**-1.3**
JIRN	**Jiri**	**15.21**	**119**	*eP*	**Pn**	**20 51 37.9**	**-1.1**
	7.8nm,0.3s						
AB31	**Akbulak array**	**15.53**	**331**	P	**Pn**	**20 51 43.3**	**+0.9**
	0.5nm,0.3s,baz=143,slow=13,SNR=50						
AB31				⇑S	**Sn**	**20 54 28.1**	**-5.7**
	0.6nm,0.5s,baz=160,slow=23,SNR=6.2						
TAPN	**Taplejung**	**16.48**	**117**	*eP*	**Pn**	**20 51 54.0**	**-0.8**
	3.4nm,0.3s						
AKTO	**Aktyubinsk**	**17.22**	**330**	⇓P	**P**	**20 52 05.4**	**+2.0**
	2.7nm,0.9s						

IDC 17 21:18:58.7±1.0, 22°.91N×125°.26E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/45, mbtmp3.5/9, ML3.3/2, MS3.2/5, Ms1 3.2/5, ms1mx2.7/56, Error ellipse: s-maj=29.3km s-min=20.6km az=81.0
JMA 17 21:19:02.4±0.2, 23°.07N×125°.08E, h50km, M3.8
NIED 17 21:19:02.4, 23°.07N×125°.08E, h50km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr-0.69; Mθθ0.92; Mφφ-0.23; Mrθ0.78; Mθφ0.16; Mφr-0.45; Fault plane solution: M0 1.23000×10^15 NP1: φs290.00000°, δ71.00000°, λ-65.00000°. NP2: φs55.00000°, δ31.00000°, λ-141.00000°.

ISC 17 21:19:02.1±0.8, 23°.04N±0°.06×125°.14E±0°.05, h24km, n31, σ1s56/42, mb3.4/7, MS3.4/3, 1C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**1.58**	**319**	P	**Pn**	**21 19 28.1**	**-0.6**
JKRS				S	**Sn**	**21 19 46.4**	**-2.0**
HATJ	**Hateruma jima**	**1.59**	**310**	P	**Pn**	**21 19 27.7**	**-1.1**
HATJ				S	**Sn**	**21 19 45.8**	**-2.8**
JIJ	**Ishigaki jima**	**1.61**	**325**	P	**Pn**	**21 19 28.1**	**-0.9**
JIJ				S	**Sn**	**21 19 47.0**	**-2.0**
JTJ	**Tarama**	**1.65**	**346**	P	**Pn**	**21 19 29.2**	**-0.3**
JTJ				S	**Sn**	**21 19 49.4**	**-0.6**
JMJ2	**Miyako jima3**	**1.71**	**6**	P	**Pn**	**21 19 30.0**	**-0.3**
JMJ2				*eS*	**Sn**	**21 19 50.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.72**	**334**	P	**Pn**	**21 19 29.9**	**-0.7**
JISG				S	**Sn**	**21 19 50.2**	**-1.6**
JOGS	**Gusukube**	**1.73**	**8**	P	**Pn**	**21 19 30.5**	**-0.2**
JOGS				*eS*	**Sn**	**21 19 51.8**	**-0.3**
JIRB	**Irabujima**	**1.78**	**1**	P	**Pn**	**21 19 30.9**	**-0.5**
JIRB				S	**Sn**	**21 19 52.1**	**-1.2**
IRIF	**Iriomote-Funau**	**1.83**	**315**	P	**Pn**	**21 19 31.6**	**-0.5**
IRIF				*eS*	**Sn**	**21 19 52.9**	**-1.6**
JIKM	**Ikemajima**	**1.88**	**3**	P	**Pn**	**21 19 32.6**	**-0.2**
JIKM				S	**Sn**	**21 19 54.8**	**-0.9**
YOJ	**Yonaguni jima**	**2.42**	**306**	P	**Pn**	**21 19 39.9**	**-0.2**
YOJ				S	**Sn**	**21 20 06.4**	**-2.5**
JYNG	**Yonagunijimaku**	**2.46**	**305**	P	**Pn**	**21 19 40.4**	**-0.3**
JYNG				S	**Sn**	**21 20 07.2**	**-2.8**
JKE	**Kume jima 2**	**3.60**	**24**	P	**Pn**	**21 19 55.5**	**-0.9**
JKE				S	**Sn**	**21 20 35.1**	**-3.1**
JJT3	**Tamagusuku3**	**3.92**	**37**	P	**Pn**	**21 20 00.7**	**-0.1**
JJT3				S	**Sn**	**21 20 43.9**	**-2.1**
JAGN	**Aguni-jima**	**4.02**	**28**	P	**Pn**	**21 20 02.0**	**-0.1**
JAGN				*eS*	**Sn**	**21 20 46.8**	**-1.7**
JOW	**Kunigami**	**4.73**	**36**	Pn	**Pn**	**21 20 11.4**	**-0.6**
	3.9nm,0.3s,baz=195,slow=30,SNR=13						
JOW				Sn	**Sn**	**21 21 01.6**	**-4.5**
	3.4nm,0.3s,baz=107,slow=28,SNR=6.4						
SMPP	**San Manuel, Pa**	**8.04**	**212**	⇓*eP*	**Pn**	**21 20 56.5**	**-0.9**
LQP	**Lukban**	**9.51**	**202**	⇓*eP*	**Pn**	**21 21 17.4**	**-0.4**
KSRS	**Korea Array**	**14.57**	**9**	LR	LR	21 27 59.5	
	comp=Z,26nm,21.8s,baz=170,slow=37						
DAV	**Davao City (W)**	**15.88**	**178**	LR	LR	21 28 31.4	
	comp=Z,43nm,21.9s,baz=11,slow=36						
MJAR	**Matsushiro Arr**	**17.57**	**37**	P	**P**	**21 23 07.5**	**+1.2**
	0.0nm,0.3s,baz=221,slow=9.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**24.91**	**264**	P	**P**	**21 24 25.1**	**+1.7**
	0.4nm,0.8s,baz=89,slow=6.4,SNR=1.6						
KLR	**Kul'dur**	**26.66**	**10**	LR	LR	21 34 04.9	
	comp=Z,42nm,20.6s,baz=41,slow=34						
SONM	**Songino Array**	**28.93**	**333**	P	**P**	**21 25 01.0**	**+1.5**
	0.2nm,0.6s,baz=152,slow=9.5,SNR=2.3						
MKAR	**Makanchi Array**	**41.69**	**315**	P	**P**	**21 26 50.4**	**+1.4**
	0.4nm,0.5s,baz=94,slow=8.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**43.20**	**326**	P	**P**	**21 27 01.9**	**+0.9**
	1.0nm,0.5s,baz=125,slow=7.7,SNR=2.0						
WRA	**Warramunga Arr**	**43.65**	**167**	P	**P**	**21 27 04.3**	**-0.7**
	0.8nm,0.8s,baz=347,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**47.20**	**169**	P	**P**	**21 27 31.5**	**-1.6**
	0.3nm,0.7s,baz=353,slow=7.7,SNR=4.1						
FINES	**FINESS Array B**	**74.25**	**330**	LR	LR	22 08 12.0	
	comp=Z,70nm,18.2s,baz=228,slow=40						
NOA	**NORSAR Array B**	**80.91**	**333**	LR	LR	22 10 52.3	
	comp=Z,18nm,19.0s,baz=5.0,slow=38						
YKA	**Yellowknife Ar**	**82.58**	**24**	P	**P**	**21 31 23.9**	**+1.0**
	0.2nm,0.6s,baz=303,slow=5.6,SNR=3.9						

IDC 17 21:20:30.1±8.9, 1°.65S×100°.03E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, Error ellipse: s-maj=192.7km s-min=142.3km az=122.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.01**	**357**	P	P	21 25 04.6	-0.1
	0.3nm,0.3s,baz=188,slow=11,SNR=4.2						
SONM	**Songino Array**	**49.60**	**6**	P	P	21 29 23.2	-0.1
	0.2nm,0.5s,baz=174,slow=5.8,SNR=2.1						
MKAR	**Makanchi Array**	**50.70**	**344**	P	P	21 29 31.6	0.0
	0.9nm,0.4s,baz=151,slow=8.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**56.84**	**349**	P	P	21 30 16.2	-0.1
	0.9nm,0.3s,baz=148,slow=7.0,SNR=6.8						

ISK 17 21:35:36.9, 36°.74N×31°.36E, h98km±2km, ML2.4/19
DDA 17 21:35:37.7±0.0, 36°.76N×31°.45E, h89km, ML2.3
NIC 17 21:35:37.3±0.0, 36°.39N×31°.35E, h108km±2km, Ml2.8/2

ISC 17 21:35:36.1±1.4, 36°.68N±0°.03×31°.40E±0°.03, h108km±9km, n51, σ1s40/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEPZ	**Antalya-Kepez**	**0.27**	**36**	P	**Pn**	**21 35 51.0**	**-0.5**
KEPZ				*i* AML	AML	21 36 01.0	
	comp=N,97nm,0.6s						
KEPZ				S	**Sn**	**21 36 01.1**	**-2.1**
KEPZ				*i* AML	AML	21 36 02.0	
	comp=E,66nm,0.6s						
SEYD	**Seydisehir-KON**	**0.80**	**25**	PG	**Pn**	**21 35 55.5**	**+0.2**
SEDI	**Konya, Seydise**	**0.82**	**20**	P	**Pn**	**21 35 55.5**	**+0.1**
SEDI				S	**Sn**	**21 36 08.7**	**-1.4**
SEDI				*i* AML	AML	21 36 09.0	
	comp=E,45nm,0.3s						
GAZI	**Gazipasa**	**0.86**	**121**	PG	**Pn**	**21 35 56.8**	**+1.1**
GAZI				SG	**Sn**	**21 36 11.8**	**+1.3**
GAZI	**Gazipasa**	**0.86**	**121**	P	**Pn**	**21 35 56.6**	**+0.8**
GAZI				S	**Sn**	**21 36 11.1**	**+0.7**
GAZI				*i* AML	AML	21 36 12.0	
	comp=E,145nm,0.3s						
GAZI				*i* AML	AML	21 36 12.0	
	comp=N,92nm,0.4s						
SUTC	**Sutluce-Ispart**	**0.86**	**338**	PG	**Pn**	**21 35 55.7**	**-0.2**
KORT	**Korkueli**	**0.90**	**291**	P	**Pn**	**21 35 57.5**	**+1.2**
HDMB	**Hadim**	**0.91**	**72**	PG	**Pn**	**21 35 57.3**	**+0.8**
HDMB				SG	**Sn**	**21 36 12.0**	**+0.2**
AKUM	**Antalya-Kumluc**	**0.93**	**248**	P	**Pn**	**21 35 57.0**	**+0.7**
AKUM				*i* AML	AML	21 36 18.0	
	comp=E,61nm,1.0s						
AKUM				*i* AML	AML	21 36 19.0	
	comp=N,53nm,0.6s						
BUCA	**Burdur, Bucak-**	**0.94**	**314**	P	**Pn**	**21 35 56.8**	**+0.3**
ELL	**Elmali**	**1.20**	**274**	PN	**Pn**	**21 36 00.1**	**+0.7**
ELL	**Elmali**	**1.20**	**274**	P	**Pn**	**21 36 01.0**	**+1.6**
ELL				S	**Sn**	**21 36 19.6**	**+2.6**
ERMK	**Ermenek**	**1.21**	**91**	P	**Pn**	**21 36 01.2**	**+1.5**
ERMK				*i* AML	AML	21 36 19.0	
	comp=E,63nm,0.4s						
ERMK				*i* AML	AML	21 36 20.0	
	comp=N,56nm,0.4s						
KMER	**Konya-Meram**	**1.33**	**35**	P	**Pn**	**21 36 01.1**	**+0.2**
KMER				S	**Sn**	**21 36 18.7**	**-1.1**
KKBE	**Karaman, Kazim**	**1.34**	**66**	P	**Pn**	**21 36 01.7**	**+0.6**
KKBE				S	**Sn**	**21 36 19.2**	**-0.7**
BAGO	**Egridir - ISPA**	**1.40**	**340**	P	**Pn**	**21 36 02.2**	**+0.5**
DOGA	**KONYA_Doganhis**	**1.44**	**8**	P	**Pn**	**21 36 02.4**	**+0.1**
DOGA				S	**Sn**	**21 36 18.5**	**-3.5**
BRDR	**BURDUR-Merkez**	**1.48**	**314**	P	**Pn**	**21 36 02.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.48**	**31**	PN	**Pn**	**21 36 03.1**	**+0.5**
KONT	**Konya--Tatoy**	**1.48**	**31**	P	**Pn**	**21 36 03.0**	**+0.5**
KONT				S	**Sn**	**21 36 21.3**	**-1.3**
TEKE	**Tekeli-Mersin**	**1.48**	**111**	PN	**Pn**	**21 36 04.7**	**+2.2**
BERE	**Bereket-Mersin**	**1.50**	**102**	PN	**Pn**	**21 36 04.9**	**+1.9**
AKAS	**Kas**	**1.52**	**253**	PN	**Pn**	**21 36 03.7**	**+0.6**
AKAS	**Kas**	**1.52**	**253**	P	**Pn**	**21 36 03.8**	**+0.6**
AKAS				S	**Sn**	**21 36 22.4**	**-1.2**
AKAS				*i* AML	AML	21 36 30.0	
	comp=E,27nm,0.7s						
AKAS				*i* AML	AML	21 36 32.0	
	comp=N,40nm,0.3s						
KSL	**Kastellorizon**	**1.56**	**251**	P	**Pn**	**21 36 04.0**	**+0.6**
KSL				S	**Sn**	**21 36 24.1**	**-0.2**
KRMN	**Karaman**	**1.57**	**71**	PN	**Pn**	**21 36 05.1**	**+1.4**
GOLH	**Golhisar**	**1.58**	**291**	P	**Pn**	**21 36 06.0**	**+2.2**
GOLH				S	**Sn**	**21 36 26.9**	**+2.1**
YVAC	**Isparta, Yalva**	**1.59**	**355**	P	**Pn**	**21 36 04.1**	**0.0**
BASM	**Basmaki-Afyon**	**1.64**	**319**	PN	**Pn**	**21 36 05.1**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.66**	**98**	PN	**Pn**	**21 36 06.9**	**+2.1**
LADK	**Ladik-KONYA**	**1.70**	**26**	PN	**Pn**	**21 36 05.7**	**+0.4**
CAME	**Cameli-Denizli**	**1.71**	**280**	PN	**Pn**	**21 36 06.7**	**+1.3**
GULN	**MERSIN_Gulnar**	**1.79**	**105**	P	**Pn**	**21 36 08.2**	**+1.8**
GULN				S	**Sn**	**21 36 29.7**	**+0.2**
ALFC	**Alefka**	**1.80**	**147**	P	**Pn**	**21 36 06.0**	**-0.6**
ALFC				S	**Sn**	**21 36 28.0**	**-1.7**
ALFC				AML	AML	21 36 29.8	
	0.2nm,0.2s						
ALFC				AML	AML	21 36 29.8	
	0.2nm,0.2s						
ALFC				AML	AML	21 36 32.8	
	0.3nm,0.3s						
ALFC				AML	AML	21 36 32.8	
	0.3nm,0.3s						
AKKU	**Akkuyu-Mersin**	**1.81**	**106**	PN	**Pn**	**21 36 08.5**	**+1.9**
AKKU				SN	**Sn**	**21 36 30.9**	**+1.1**
AKMS	**Akamas**	**1.82**	**155**	P	**Pn**	**21 36 06.3**	**-0.5**
AKMS				S	**Sn**	**21 36 27.1**	**-3.1**
AKMS				AML	AML	21 36 30.3	
	0.3nm,1.2s						
AKMS				AML	AML	21 36 30.3	
	0.3nm,1.2s						
AKMS				AML	AML	21 36 34.9	
	0.2nm,0.3s						
AKMS				AML	AML	21 36 34.9	
	0.2nm,0.3s						
FETY	**Fethiye**	**1.87**	**269**	PN	**Pn**	**21 36 08.3**	**+1.0**
FETY	**Fethiye**	**1.87**	**269**	P	**Pn**	**21 36 08.4**	**+1.0**
FETY				S	**Sn**	**21 36 30.5**	**-0.6**
FETY				*i* AML	AML	21 36 44.0	
	comp=N,21nm,1.6s						
KEBE	**Keben-Mersin**	**1.87**	**96**	PN	**Pn**	**21 36 09.7**	**+2.2**
KEBE				SN	**Sn**	**21 36 33.7**	**+2.3**
IKL	**Isikli**	**1.89**	**103**	PN	**Pn**	**21 36 09.6**	**+2.0**
KDHN	**Kadinhani**	**1.92**	**17**	P	**Pn**	**21 36 07.6**	**-0.5**
KDHN				S	**Sn**	**21 36 30.9**	**-1.7**
ALIN	**Konya, Altinte**	**2.00**	**36**	P	**Pn**	**21 36 09.7**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.14**	**292**	P	**Pn**	**21 36 11.2**	**+0.3**
DALY	**Dalyan (Mula)**	**2.21**	**274**	PN	**Pn**	**21 36 12.4**	**+0.7**
SZAC	**Sozni**	**2.27**	**147**	S	**Sn**	**21 36 38.3**	**-2.0**
KERG	**Konya-Eregli**	**2.30**	**71**	P	**Pn**	**21 36 13.6**	**+0.6**
KERG				S	**Sn**	**21 36 40.8**	**-0.4**
KER

JTSN				eS		Sb	22 43 07.4	-0.6
JHHC	**Hyugahichiya**	**1.59**	**311**	⇑P		Pn	22 42 47.6	+0.3
JHHC				S		Sn	22 43 07.4	-0.2
JTZ	**Takazaki**	**1.75**	**287**	⇑P		Pn	22 42 49.8	+0.4
JTZ				eS		Sb	22 43 12.7	-0.5
JNA	**Nagahama**	**2.21**	**348**	P		Pn	22 42 56.6	+0.8
JMN	**Monobe**	**2.43**	**17**	P		Pn	22 42 58.9	0.0
JMN				S		Sn	22 43 25.6	-2.8
JAI	**Aioi**	**2.67**	**26**	P		Pn	22 43 02.0	-0.1
JAI				S		Sn	22 43 30.2	-4.0
JSJ	**Shimokoshiki**	**2.86**	**277**	P		Pn	22 43 04.2	-0.5
JSJ				eS		Sn	22 43 37.5	-1.4
JNN	**Nakanoshima**	**3.14**	**241**	P		Pn	22 43 08.1	-0.5
JNN				eS		Sn	22 43 44.2	-1.7
JTNC	**Tanabenakahech**	**3.25**	**41**	P		Pn	22 43 10.1	+0.1
JHT	**Toyohira**	**3.30**	**351**	P		Pn	22 43 12.0	+1.2
JHT				S		Sn	22 43 49.6	-0.3
JHS	**Saijyo**	**3.60**	**1**	P		Pn	22 43 16.0	+1.1
JHS				S		Sn	22 43 57.5	+0.4
JGT2	**ShimaneMisato**	**3.69**	**353**	P		Pn	22 43 16.9	+0.8
JHJ	**Hachijo jima 2**	**5.96**	**71**	Pn		Pn	22 43 47.5	+0.2
	12nm,0.3s,baz=9.6,slow=15,SNR=6.2							
JHJ					LR	LR	22 45 38.7	
	comp=Z,56nm,20.6s,baz=191,slow=33							
MJAR	**Matsushiro Arr**	**6.69**	**38**	Pn		Pn	22 43 57.9	+0.6
	0.1nm,0.3s,baz=236,slow=14,SNR=4.2							
KLR	**Kul'dur**	**17.85**	**357**	P		P	22 46 29.1	+1.2
	0.1nm,0.3s,baz=141,slow=9.2,SNR=3.8							
SONM	**Songino Array**	**26.11**	**317**	P		P	22 47 52.2	-0.7
	0.3nm,0.6s,baz=125,slow=12,SNR=2.3							
CMAR	**Chiang Mai Arr**	**33.36**	**255**	LR		LR	23 02 38.8	
	comp=Z,15nm,19.6s,baz=215,slow=37							
MKAR	**Makanchi Array**	**41.56**	**307**	P		P	22 50 07.7	+1.1
	0.4nm,0.7s,baz=94,slow=9.7,SNR=5.9							
WRA	**Warramunga Arr**	**51.05**	**178**	P		P	22 51 21.3	-0.1
	0.6nm,0.8s,baz=352,slow=8.1,SNR=3.0							
ASAR	**Alice Springs**	**54.75**	**179**	P		P	22 51 48.9	+0.2
	0.5nm,0.8s,baz=10.0,slow=13,SNR=4.4							
YKA	**Yellowknife Ar**	**72.05**	**27**	P		P	22 53 43.7	+1.0
	0.2nm,0.5s,baz=302,slow=4.8,SNR=3.8							
NB2	**NORSAR Subarra**	**76.51**	**335**	P		P	22 54 08.1	-0.7
	comp=Z,2.1nm,0.8s,baz=48,slow=5.9							
NOA	**NORSAR Array B**	**76.51**	**335**	P		P	22 54 08.6	-0.2
	comp=Z,0.9nm,0.7s,baz=50,slow=5.8,SNR=5.3							
BRTR	**Keskin Array B**	**77.17**	**309**	P		P	22 54 13.3	+0.2
	comp=Z,1.3nm,1.0s,baz=83,slow=3.9,SNR=4.5							
NVAR	**Mina Array Bea**	**83.91**	**48**	P		P	22 54 50.3	+0.9
	comp=Z,0.2nm,0.4s,baz=325,slow=4.6,SNR=2.1							

IDC ***17*** *22:58:09.5±5.9,48.˚70N×153.˚23E,h213km±44km, mb3.2/12,mb1 3.3/14,mb1mx3.1/47,mbtmp3.7/14,MS3.1/1, Ms1 3.1/1,ms1mx2.4/32,Error ellipse: s-maj=62.6km s-min=15.3km az=165.0*

ISC 17 22:58:02.0±2.1,**48.˚5N**±0.˚3×**153.˚4E**±0.˚2,**h150**km,**n26,** σ1°**09**/21,**mb3.7**/16,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**14.29**	**281**	P	**P**	**23 01 22.1**	**+2.0**
	0.1nm,0.3s,baz=72,slow=13,SNR=4.5						
SEY	**Seymchan**	**14.48**	**358**	P	**P**	**23 01 22.7**	**+0.6**
	2.1nm,0.3s,baz=102,slow=14,SNR=39						
H11N2	**WAKE ISLAND Hy**	**30.69**	**155**	T	T	23 36 14.9	
	baz=342,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**30.71**	**155**	T	T	23 36 18.8	
	baz=342,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**30.71**	**155**	T	T	23 36 07.5	
	baz=342,slow=76,SNR=19						
SONM	**Songino Array**	**30.99**	**287**	P	**P**	**23 04 05.1**	**0.0**
	0.2nm,0.4s,baz=67,slow=9.9,SNR=2.1						
SONM				LR	LR	23 16 45.3	
	comp=Z,34nm,18.3s,baz=38,slow=36						
H11S1	**WAKE ISLAND Hy**	**31.80**	**156**	T	T	23 37 35.3	
	baz=344,slow=76,SNR=73						
H11S3	**WAKE ISLAND Hy**	**31.81**	**156**	T	T	23 37 35.2	
	baz=344,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**31.82**	**156**	T	T	23 37 36.7	
	baz=344,slow=76,SNR=58						
ILAR	**Eielson Array**	**35.05**	**40**	P	**P**	**23 04 40.1**	**+0.1**
	0.4nm,0.5s,baz=260,slow=5.3,SNR=6.1						
MKAR	**Makanchi Array**	**46.35**	**296**	P	**P**	**23 06 11.8**	**-0.9**
	0.5nm,0.8s,baz=64,slow=7.3,SNR=7.2						
MKAR				PcP	**PcP**	**23 07 45.2**	**0.0**
	0.2nm,0.5s,baz=48,slow=4.0,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.68**	**302**	P	**P**	**23 06 14.1**	**-1.2**
	1.7nm,0.5s,baz=68,slow=8.0,SNR=13						
RES	**Resolute Bay**	**49.11**	**19**	P	**P**	**23 06 34.2**	**+0.7**
	0.6nm,0.5s,baz=324,slow=6.0,SNR=8.0						
YKA	**Yellowknife Ar**	**49.40**	**38**	P	**P**	**23 06 36.3**	**+0.4**
	0.5nm,0.6s,baz=298,slow=7.5,SNR=6.7						
BVAR	**Borovoye Array**	**49.92**	**308**	P	**P**	**23 06 39.6**	**-0.5**
	0.5nm,0.3s,baz=18,slow=4.2,SNR=6.5						
FINES	**FINESS Array B**	**62.55**	**335**	P	**P**	**23 08 08.3**	**-1.0**
	1.8nm,0.4s,baz=39,slow=7.5,SNR=28						
NB2	**NORSAR Subarra**	**66.64**	**341**	P	**P**	**23 08 35.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**66.64**	**341**	P	**P**	**23 08 35.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.6,SNR=7.6						
AKASG	**Malin Array Be**	**70.21**	**326**	P	**P**	**23 08 57.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=34,slow=5.6,SNR=3.7						
SCHQ	**Schefferville**	**71.61**	**23**	P	**P**	**23 09 06.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=307,slow=5.6,SNR=5.7						
KHC	**Kasperske Hory**	**76.75**	**334**	eP	**P**	**23 09 33.5**	**-3.0**
GERES	**GERESS Array B**	**76.97**	**334**	P	**P**	**23 09 37.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=37,slow=6.9,SNR=7.0						
WTTA	**Wattenberg**	**79.00**	**335**	eP	**P**	**23 09 50.1**	**+0.9**
	comp=Z,2.3nm,0.4s						
RETA	**Reutte**	**79.04**	**335**	eP	**P**	**23 09 50.1**	**+0.8**
	comp=Z,0.9nm,0.4s						
MOTA	**Moosalm**	**79.08**	**335**	eP	**P**	**23 09 50.1**	**+0.6**
	comp=Z,2.1nm,0.6s						
SQTA	**Sankt Quirin**	**79.16**	**335**	eP	**P**	**23 09 50.5**	**+0.5**
	comp=Z,1.4nm,0.5s						

RSNC ***17*** *22:59:14.5±1.0,6.˚84N×73.˚15W,h148km±4km,ML3.1, Mw3.6*

IDC ***17*** *22:59:15.4±3.7,5.˚07N×73.˚19W,h273km±32km,mb2.6/2, mb1 3.1/2,mb1mx2.7/27,mbtmp3.3/2,Error ellipse: s-maj=130.1km s-min=79.8km az=31.0*

ISC 17 22:59:13.4±0.9,**6.˚86N**±0.˚03×**73.˚12W**±0.˚03,**h154**km±7km, **n33,** σ1°**29**/64,**1C-3D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**193**	⇓*i*P	**Pn**	**22 59 34.6**	**-0.1**
BARC				eS	**Sn**	**22 59 49.5**	**-1.4**
BARC				*i*		22 59 50.8	
	comp=Z,454nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**41**	⇑e*i*P	**Pn**	**22 59 37.5**	**+0.9**
PAMC				eS	**Sn**	**22 59 54.5**	**+0.3**
PAMC				*i*		22 59 56.7	
	comp=Z,437nm,0.5s						
RUSC	**La Rusia**	**0.96**	**178**	⇓e*i*P	**Pn**	**22 59 38.5**	**-0.3**
RUSC				eS	**Sn**	**22 59 57.5**	**-0.7**
RUSC				*i*		22 59 58.4	
	comp=Z,98nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	e*i*P	**Pn**	**22 59 41.2**	**-0.7**
PTBC				eS	**Sn**	**23 00 02.5**	**-1.2**
PTBC				*i*		23 00 09.6	
	comp=Z,188nm,0.4s						
TAMC	**Tame, Arauca**	**1.39**	**107**	⇓*i*P	**Pn**	**22 59 43.1**	**+0.9**
TAMC				eS	**Sn**	**23 00 04.7**	**+0.5**
OCAC	**Ocana**	**1.39**	**352**	e*i*P	**Pn**	**22 59 42.6**	**+0.3**
OCAC				eS	**Sn**	**23 00 05.0**	**+0.5**
OCAC				*i*		23 00 10.1	
	comp=Z,215nm,0.3s						
SPBC	**San Pablo de B**	**1.52**	**218**	e*i*P	**Pn**	**22 59 43.6**	**-0.1**
SPBC				eS	**Sn**	**23 00 05.8**	**-1.0**
SPBC				*i*		23 00 13.5	
	comp=Z,149nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	e*i*P	**Pn**	**22 59 47.5**	**+0.5**
ZARC				eS	**Sn**	**23 00 12.2**	**-0.4**
ZARC				*i*		23 00 18.6	
	comp=Z,197nm,0.3s						
NORC	**Norcasia**	**2.16**	**234**	e*i*P	**Pn**	**22 59 50.8**	**+0.1**
NORC				eS	**Sn**	**23 00 19.3**	**-0.2**
NORC				*i*		23 00 24.5	
	comp=Z,73nm,0.2s						
CHIC	**Chingaza**	**2.29**	**195**	e*i*P	**Pn**	**22 59 52.8**	**+0.1**
CHIC				eS	**Sn**	**23 00 22.0**	**-0.9**
CHIC				*i*		23 00 25.7	
	comp=Z,88nm,0.4s						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**22 59 54.6**	**+1.5**
	comp=Z,12nm,0.3s,baz=83,slow=19,SNR=35						
ROSC				S	**Sn**	**23 00 24.9**	**+1.3**
	comp=Z,50nm,0.3s,baz=39,slow=21,SNR=16						
ROSC	**El Rosal**	**2.33**	**211**	e*P*	**Pn**	**22 59 54.4**	**+1.3**
ROSC				eS	**Sn**	**23 00 22.6**	**-1.0**
ROSC				*i*		23 00 30.8	
	comp=Z,134nm,0.3s						
HELC	**Santa Helena**	**2.48**	**255**	e*P*	**Pn**	**22 59 56.4**	**+1.5**
HELC				eS	**Sn**	**23 00 27.0**	**+0.2**
HELC				*i*		23 00 34.9	
	comp=Z,47nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**291**	e*P*	**Pn**	**22 59 54.3**	**-1.1**
UREC				eS	**Sn**	**23 00 25.9**	**-1.9**
UREC				*i*		23 00 36.2	
	comp=Z,99nm,0.3s						
SOCV	**Socops**	**2.66**	**58**	e*P*	**Pn**	**22 59 56.8**	**+0.1**
SOCV				eS	**Sn**	**23 00 28.9**	**-1.2**
LL1C	**La Loma 1 Cana**	**2.70**	**351**	e*P*	**Pn**	**22 59 59.4**	**+2.1**
LL1C				eS	**Sn**	**23 00 34.2**	**+3.0**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	e*P*	**Pn**	**22 59 59.1**	**+0.7**
GUY2C				eS	**Sn**	**23 00 35.9**	**+2.8**
GUY2C				*i*		23 00 38.5	
	comp=Z,36nm,0.4s						
VILC	**Villavicencio,**	**2.79**	**192**	e*P*	**Pn**	**22 59 58.2**	**-0.2**
VILC				eS	**Sn**	**23 00 32.6**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	e*P*	**Pn**	**22 59 57.7**	**-1.0**
PTGC				eS	**Sn**	**23 00 31.0**	**-2.7**
PTGC				*i*		23 00 33.8	
	comp=Z,105nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.87**	**357**	e*P*	**Pn**	**22 59 59.1**	**-0.1**
LL6C				eS	**Sn**	**23 00 34.5**	**-0.3**
LL6C				*i*		23 00 41.6	
	comp=Z,41nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.04**	**251**	e*P*	**Pn**	**23 00 03.3**	**+1.7**
CBOC				eS	**Sn**	**23 00 39.4**	**+0.5**
DBBC	**Dabeiba**	**3.07**	**273**	e*P*	**Pn**	**23 00 02.1**	**+0.2**
DBBC				eS	**Sn**	**23 00 37.5**	**-1.9**
DBBC				*i*		23 00 43.9	
	comp=Z,118nm,0.3s						
MOTC	**Monteria, Cord**	**3.16**	**307**	e*P*	**Pn**	**23 00 01.7**	**-1.3**
MOTC				eS	**Sn**	**23 00 40.3**	**-1.1**
MOTC				*i*		23 00 57.1	
	comp=Z,30nm,0.5s						
SDV	**Santo Domingo**	**3.19**	**51**	e*P*	**Pn**	**23 00 04.2**	**+0.7**
SDV				eS	**Sn**	**23 00 41.5**	**-0.8**
SDV				*i*		23 00 45.6	
	comp=Z,17nm,0.5s						
ANIL	**Santa Ana**	**3.27**	**224**	e*P*	**Pn**	**23 00 05.8**	**+1.2**
ANIL				eS	**Sn**	**23 00 45.3**	**+1.0**
ANIL				*i*		23 00 54.5	
	comp=Z,146nm,0.4s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	e*P*	**Pn**	**23 00 09.3**	**+0.5**
ORTC				eS	**Sn**	**23 00 51.6**	**-0.3**
ORTC				*i*		23 00 56.0	
	comp=Z,40nm,0.3s						
CVALL	**Valledupar, Ce**	**3.63**	**358**	e*P*	**Pn**	**23 00 08.7**	**-0.3**
CVALL				eS	**Sn**	**23 00 50.7**	**-1.7**
SJCC	**San Jacinto, C**	**3.64**	**326**	e*P*	**Pn**	**23 00 08.9**	**-0.4**
SJCC				eS	**Sn**	**23 00 49.9**	**-2.7**
SJCC				*i*		23 00 57.7	
	comp=Z,24nm,0.4s						
PLMC	**San Jos del P**	**3.69**	**239**	e*P*	**Pn**	**23 00 10.2**	**+0.2**
PLMC				eS	**Sn**	**23 00 51.4**	**-2.3**
PLMC				*i*		23 00 60.0	
	comp=Z,13nm,0.5s						
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	e*P*	**Pn**	**23 00 15.0**	**-0.8**
CRJC				eS	**Sn**	**23 01 02.4**	**-1.9**
CRJC				*i*		23 01 05.3	
	comp=Z,32nm,0.5s						
GARC	**Garzon, Huila**	**5.21**	**207**	e*P*	**Pn**	**23 00 28.6**	**-1.3**
GARC				eS	**Sn**	**23 01 26.8**	**-2.8**
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**23 06 04.6**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=122,slow=8.6,SNR=2.3						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**23 09 25.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=132,slow=6.5,SNR=6.4						

IDC ***17*** *23:00:34.1±0.8,26.˚92S×176.˚48W,h0km,mb4.3/10, mb1 4.5/12,mb1mx4.3/40,mbtmp4.3/12,ML4.6/2,MS3.9/27, Ms1 3.9/27,ms1mx3.7/59,Error ellipse: s-maj=29.5km s-min=18.2km az=129.0*

NEIC ***17*** *23:00:38.9±2.2,27.˚14S±0.˚07×176.˚4W±0.˚1,h34km±5km, mb4.6/35,Error ellipse: s-maj=15.9km s-min=4.0km az=127.0*

ISC 17 23:00:39.0±0.5,**27.˚08S**±0.˚06×**176.˚40W**±0.˚09,**h35**km,**n93,** σ1°**48**/72,**mb4.6**/26,**MS4.0**/26,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.54**	**211**	Pn	**Pn**	**23 01 20.2**	**+2.5**
	285nm,0.3s,baz=267,slow=22,SNR=9.3						
RAO				Sn	**Sn**	**23 01 53.2**	**+5.7**
	1µm,0.3s,baz=64,slow=21,SNR=14						
RAO	**Raoul Island**	**2.54**	**211**		**Pn**	**23 01 18.9**	**+1.2**
NIUE	**Niue**	**9.95**	**38**	Pn	**Pn**	**23 02 59.4**	**-0.2**
MSVF	**Nonsavu**	**10.62**	**330**	LR	LR	23 06 50.3	
	comp=Z,856nm,18.1s,baz=129,slow=36						
MSVF	**Nonsavu**	**10.62**	**330**	Pn	**Pn**	**23 03 08.8**	**0.0**
URZ	**Urewera**	**12.41**	**204**	Pn	**Pn**	**23 03 34.1**	**+1.0**
	1.1nm,0.3s,baz=164,slow=3.4,SNR=5.6						
URZ				Sn	**Sn**	**23 05 45.2**	**-4.8**
	5.1nm,0.3s,baz=138,slow=22,SNR=19						
URZ				LR	LR	23 08 22.1	
	comp=Z,507nm,18.2s,baz=24,slow=37						
BFZ	**Birch Farm**	**14.87**	**202**	Pn	Pn	23 04 01.6	-5.0
MARNC	**Mare, Loyalty**	**15.24**	**288**	Pn	**Pn**	**23 04 11.1**	**-0.6**
PINNC	**Pines Island,**	**15.32**	**283**	Pn	**Pn**	**23 04 13.1**	**+0.4**
PINNC				IAmb	IAmb	23 04 24.5	
	comp=Z,42nm,1.1s						
MSWZ	**Moikau Station**	**15.86**	**204**	Pn	**Pn**	**23 04 19.4**	**-0.3**
PLWZ	**Palliser**	**16.00**	**203**	Pn	**Pn**	**23 04 20.8**	**-0.5**
RAR	**Rarotonga**	**16.26**	**73**	LR	LR	23 09 09.8	
	comp=Z,266nm,18.7s,baz=268,slow=32						
TUWZ	**Tuamarina**	**16.37**	**207**	Pn	**Pn**	**23 04 23.9**	**-2.1**
DZM	**Mont Dzumac**	**16.38**	**284**	LR	LR	23 09 40.9	
	comp=Z,768nm,19.3s,baz=121,slow=34						
DZM	**Mont Dzumac**	**16.38**	**284**	ePn	**P**	**23 04 31.9**	**+3.0**
	comp=Z,55nm,0.8s						
DZM				eLR	LR	23 08 24.6	
	comp=Z,1µm,23.9s						
DZM	**Mont Dzumac**	**16.38**	**284**		**P**	**23 04 29.9**	**+1.0**
DZM				IAmb	IAmb	23 04 44.6	
	comp=Z,24nm,0.8s						
NNZ	**Nelson**	**16.42**	**208**	Pn	**Pn**	**23 04 26.4**	**-0.3**
QRZ	**Quartz Range**	**16.48**	**211**	Pn	**Pn**	**23 04 27.1**	**-0.3**
BSWZ	**Blackbirch Sta**	**16.64**	**206**		**Pn**	**23 04 29.3**	**-0.1**
THZ	**Tophouse**	**17.07**	**208**	Pn	**Pn**	**23 04 34.0**	**-1.0**
KHZ	**Kahutara**	**17.36**	**206**	Pn	**Pn**	**23 04 35.2**	**-3.3**
KHZ				IAmb	IAmb	23 04 44.6	
	comp=Z,24nm,0.9s						
LTZ	**Lake Taylor**	**18.18**	**208**	P	**P**	**23 04 46.6**	**-2.1**
ODZ	**Otahua Downs**	**20.71**	**207**	P	**P**	**23 05 16.7**	**+0.5**
WKZ	**Wanaka**	**21.22**	**210**	P	**P**	**23 05 21.0**	**-0.8**
WKZ				IAmb	IAmb	23 05 21.9	
	comp=Z,16nm,1.1s						
TBI	**Tubuai**	**24.64**	**87**	eLR	LR	23 11 48.8	
	comp=Z,460nm,28.5s						
PPT2	**Papeete2**	**26.50**	**75**	eLQ	LQ	23 11 16.1	
	comp=Z,402nm,24.8s						
PPT2				eLR	LR	23 12 34.9	
	comp=Z,515nm,27.2s						
PPT	**Papeete**	**26.51**	**75**	LR	LR	23 13 42.1	
	comp=Z,151nm,20.5s,baz=224,slow=30						
EIDS	**Eidsvold**	**29.18**	**266**	P	**P**	**23 06 37.7**	**+0.5**
EIDS				IAmb	IAmb	23 06 40.4	
	comp=Z,8.8nm,1.1s						
TOO	**Toolangi**	**33.65**	**242**	P	**P**	**23 07 14.5**	**-2.0**
TOO				IAmb	IAmb	23 07 24.6	
	comp=Z,8.1nm,0.9s						
CTA	**Charters Tower**	**34.83**	**273**	LR	LR	23 20 38.8	
	comp=Z,450nm,18.4s,baz=90,slow=35						
STKA	**Stephens Creek**	**36.71**	**252**	P	**P**	**23 07 43.7**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=106,slow=22,SNR=3.2						
STKA				LR	LR	23 21 42.1	
	comp=Z,368nm,18.3s,baz=45,slow=35						
STKA	**Stephens Creek**	**36.71**	**252**	P	**P**	**23 07 42.8**	**0.0**
PMG	**Port Moresby**	**38.62**	**290**	LR	LR	23 22 07.8	
	comp=Z,230nm,19.2s,baz=106,slow=34						
TAOE	**Nuku Hiva Isla**	**38.76**	**69**	eLR	LR	23 18 11.8	
	comp=Z,387nm,28.8s						
COEN	**Coen**	**39.87**	**281**	P	**P**	**23 08 10.8**	**+1.2**
COEN				IAmb	IAmb	23 08 12.0	
	comp=Z,16nm,1.0s						
BBOO	**Buckleboo**	**41.31**	**250**	P	**P**	**23 08 20.5**	**-0.9**
BBOO				IAmb	IAmb	23 08 21.8	
	comp=Z,14nm,0.9s						
AS31	**Alice Springs**	**44.80**	**263**	P	**P**	**23 08 49.7**	**0.0**
ASAR	**Alice Springs**	**44.80**	**263**	P	**P**	**23 08 48.9**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=108,slow=8.0,SNR=18						
ASAR				LR	LR	23 26 41.8	
	comp=Z,224nm,18.5s,baz=138,slow=35						
WR0	**Warramunga Arr**	**45.31**	**268**	P	**P**	**23 08 52.9**	**-0.9**
WR0				IAmb	IAmb	23 08 55.7	
	comp=Z,8.1nm,0.8s						
WB2	**Warramunga Arr**	**45.48**	**268**	P	**P**	**23 08 54.3**	**-0.8**
WB2				IAmb	IAmb	23 08 56.6	
	comp=Z,8.7nm,0.8s						
WRAB	**Tennant Creek**	**45.49**	**268**	P	**P**	**23 08 55.1**	**-0.1**
WRAB				IAmb	IAmb	23 09 10.5	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**23 08 54.0**	**-1.3**
	comp=Z,7.7nm,0.7s,baz=108,slow=7.5,SNR=29						
WRA				LR	LR	23 26 16.9	
	comp=Z,178nm,21.8s,baz=110,slow=34						
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**23 08 54.3**	**-1.0**
WB0	**Warramunga Arr**	**45.50**	**268**	P	**P**	**23 08 54.6**	**-0.7**
WB0				IAmb	IAmb	23 08 56.7	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**48.33**	**252**	P	**P**	**23 09 15.8**	**-1.5**
KNRA	**Kununurra**	**51.96**	**271**	P	**P**	**23 09 45.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**53.86**	**267**	LR	LR	23 31 13.4	
	comp=Z,119nm,19.5s,baz=122,slow=34						
FITZ	**Fitzroy Crossi**	**53.86**	**267**	P	**P**	**23 09 58.1**	**-0.8**
FITZ				IAmb	IAmb	23 10 01.6	
	comp=Z,6.6nm,1.0s						
FAKI	**Fak Fak**	**54.62**	**287**	P	**P**	**23 10 03.0**	**-1.5**
SIJI	**Sorong**	**56.52**	**288**	LR	LR	23 34 48.3	
	comp=Z,117nm,18.9s,baz=43,slow=36						
PSA00	**Pilbara Seismi**	**57.82**	**261**	P	**P**	**23 10 25.6**	**-1.7**
MORW	**Morawa**	**58.88**	**251**	P	**P**	**23 10 33.0**	**-1.7**
RPN	**Rapa Nui**	**59.00**	**107**	LR	LR	23 31 40.6	
	comp=Z,60nm,18.8s,baz=142,slow=32						
QSPA	**South Pole Qui**	**63.02**	**180**	LR	LR	23 35 34.2	
	comp=Z,118nm,19.3s,baz=30,slow=33						
QSPA	**South Pole Qui**	**63.02**	**180**	P	**P**	**23 11 03.9**	**+1.6**
KAPI	**Kappang**	**64.48**	**278**	LR	LR	23 39 50.5	
	comp=Z,56nm,18.8s,baz=142,slow=37						
LEM	**Lembang**	**74.46**	**270**	P	**P**	**23 12 14.4**	**0.0**
	comp=Z,28nm,0.7s,baz=91,slow=9.1,SNR=6.1						
LEM				LR	LR	23 45 04.6	
	comp=Z,175nm,19.9s,baz=152,slow=36						
JGF	**Kuroka**	**76.11**	**323**	P	**P**	**23 12 23.2**	**0.0**
JGF				IAmb	IAmb	23 12 28.9	
	comp=Z,9.5nm,1.0s						
MJAR	**Matsushiro Arr**	**76.36**	**324**	P	**P**	**23 12 23.9**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=163,slow=5.4,SNR=13						
MJAR	**Matsushiro Arr**	**76.36**	**324**	P	**P**	**23 12 23.4**	**-1.2**
MJAR				IAmb	IAmb	23 12 25.2	
	comp=Z,5.4nm,0.9s						
MAJO	**Matsushiro**	**76.36**	**324**	P	**P**	**23 12 24.0**	**-0.6**
MJB9	**Matsu-Tunnel**	**76.37**	**324**	P	**P**	**23 12 23.6**	**-1.0**
MJB9				IAmb	IAmb	23 12 25.4	
	comp=Z,12nm,1.0s						
JHS	**Saijyo**	**78.04**	**320**	P	**P**	**23 12 33.9**	**-0.2**
LPIG	**La Paz**	**81.59**	**58**	LR	LR	23 40 46.4	
	comp=Z,35nm,19.8s,baz=220,slow=30						
KSRS	**Korea Array**	**82.77**	**319**	P	**P**	**23 13 00.4**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=135,slow=6.4,SNR=12						
KSAR	**Wonju Array Be**	**82.78**	**318**	P	**P**	**23 12 59.0**	**-0.4**
PLCA	**Paso Flores**	**83.73**	**133**	LR	LR	23 44 02.3	
	comp=Z,45nm,18.7s,baz=226,slow=31						
ORV	**Oroville**	**83.74**	**40**	P	**P**	**23 13 03.6**	**-0.7**
ORV				IAmb	IAmb	23 13 20.1	
	comp=Z,1.9nm,0.9s						
WDC	**Whiskeytown Da**	**83.86**	**38**	P	**P**	**23 13 04.4**	**-0.5**
WDC				IAmb	IAmb	23 13 05.7	
	comp=Z,2.8nm,0.9s						
L02E	**Cave Junction**	**84.38**	**37**	P	**P**	**23 13 08.7**	**+1.1**
L02E				IAmb	IAmb	23 13 18.5	
	comp=Z,5

BTLR				*e*Sg	Sg	23 02 52.5	+1.6
GROC	**Groznyy**	**1.88**	**289**	*e*Pg	Pb	23 02 35.6	-0.9
GROC				*e*Sg	Sb	23 03 00.5	+0.9
LACR	**Lac**	**2.91**	**275**	*e*Pn	Pb	23 02 51.5	-2.5
LACR				*e*Sn	Sb	23 03 28.4	-0.8
ZEI	**Tsey**	**3.20**	**274**	*e*Pn	Pn	23 02 55.2	+3.1
ZEI				*e*Sn	Sb	23 03 34.6	-3.1
LSNR	**Lesken**	**3.30**	**283**	*e*Pn	Pb	23 02 57.3	-3.4
LSNR				*e*Sn	Sn	23 03 35.8	+3.7
DIGR	**Digorskoe uzhe**	**3.44**	**276**	*e*Pn	Pn	23 02 57.2	+1.8
DIGR				*e*Sn	Sn	23 03 36.8	+1.1
PYA1	**Pyatigorsk**	**4.01**	**293**	*e*Pn	Pn	23 03 05.6	+2.4
PYA1				*e*Sn	Sn	23 03 49.1	-0.5
SHA1	**Shidzhatmaz**	**4.23**	**287**	*e*Pn	Pn	23 03 09.1	+2.8
SHA1				*e*Sn	Sn	23 03 56.5	+1.3
KIV	**Kislovodsk**	**4.26**	**290**	*e*Pn	Pn	23 03 07.2	+0.5
KIV				*e*Sn	Sn	23 03 58.6	+2.8

IDC ***17*** *23:13:16.8±2.2,40˚.63N× 108˚.82W,h0km,mb2.4/1, mb1 3.0/5,mb1mx3.0/44,mbtmp2.7/5,ML3.2/4,MS2.7/1, Ms1 2.7/1,ms1mx2.3/8,Error ellipse: s-maj=30.3km s-min=12.8km az=106.0*

NEIC ***17*** *23:13:22.3±2.4,40˚.63N±0˚.03× 109˚.48W±0˚.05,h0km±2km, ML3.0/124, Error ellipse: s-maj=6.4km s-min=5.7km az=87.0*

ISC 17 23:13:22.1±0.8,**40˚.67N**±0˚.03×**109˚.47W**±0˚.03,**h0**km,**n77,** σ1§**27**/80,**Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDMU	**Red Mountain**	**0.12**	**218**	Pg	**Pg**	**23 13 22.6**	**-1.8**
RDMU				IAML		23 13 26.2	
	comp=N,8μm,0.6s						
O20A	**White River Ci**	**1.08**	**119**	Pg	**Pg**	**23 13 40.9**	**-1.9**
O20A				IAML		23 14 06.8	
	comp=E,323nm,0.6s						
O20A				IAML		23 14 08.7	
	comp=N,386nm,0.6s						
P18A	**Preston Nutter**	**1.20**	**210**		**Pg**	**23 13 42.8**	**-2.2**
JLU	**Jordanelle**	**1.51**	**268**	Pn	**Pn**	**23 13 49.1**	**-1.5**
JLU				IAML		23 14 15.0	
	comp=E,112nm,0.6s						
JLU				IAML		23 14 25.8	
	comp=N,162nm,0.7s						
P17A	**Butcher Ranch,**	**1.54**	**220**	Pn	**Pn**	**23 13 48.8**	**-2.2**
P17A				IAML		23 14 15.0	
	comp=E,130nm,0.4s						
P17A				IAML		23 14 20.4	
	comp=N,109nm,0.3s						
CTU	**Camp Tracy**	**1.73**	**272**		**Pn**	**23 13 52.6**	**-1.1**
SRU	**San Rafael Swe**	**1.75**	**208**		**Pn**	**23 13 52.3**	**-1.7**
SRU				IAML		23 14 25.8	
	comp=E,194nm,0.6s						
SRU				IAML		23 14 34.0	
	comp=N,239nm,0.4s						
MPU	**Maple Canyon**	**1.77**	**249**		**Pn**	**23 13 52.9**	**-1.4**
MPU				IAML		23 14 34.2	
	comp=N,93nm,0.7s						
HWUT	**Hardware Ranch**	**1.84**	**301**		**Pn**	**23 13 54.2**	**-1.0**
HWUT				IAML		23 14 28.2	
	comp=N,124nm,0.7s						
HWUT				IAML		23 14 33.2	
	comp=N,155nm,0.6s						
TMUT	**Trail Mountain**	**1.91**	**225**		**Pn**	**23 13 55.4**	**-0.8**
TMUT				IAML		23 14 25.8	
	comp=E,180nm,0.5s						
TMUT				IAML		23 14 39.3	
	comp=N,220nm,0.7s						
RWWY	**Rawlins**	**1.99**	**58**		**Pn**	**23 13 56.5**	**-0.9**
RWWY				IAML		23 14 32.0	
	comp=N,173nm,0.8s						
RWWY				IAML		23 14 43.8	
	comp=N,210nm,0.6s						
BW06	**Boulder Array**	**2.10**	**358**		**Pn**	**23 13 57.6**	**-1.2**
BW06				IAML		23 14 32.2	
	comp=N,84nm,0.6s						
BW06				IAML		23 14 40.1	
	comp=N,69nm,0.6s						
PD31	**Pinedale Array**	**2.10**	**358**		**Pn**	**23 13 57.3**	**-1.5**
PDAR	**Pinedale Array**	**2.10**	**358**	Pn	**Pn**	**23 13 57.3**	**-1.5**
	comp=N,6.9nm,0.3s,baz=170,slow=13,SNR=96						
PDAR				Pg	**Pb**	**23 13 59.6**	**-1.7**
	comp=N,9.8nm,0.3s,baz=172,slow=15,SNR=72						
PDAR				Sn	**Sb**	**23 14 28.2**	**+0.2**
	comp=N,21nm,0.3s,baz=150,slow=22,SNR=13						
NLU	**North Lily Min**	**2.11**	**251**		**Pn**	**23 13 58.6**	**-0.4**
Q16A	**Castle Valley**	**2.18**	**217**		**Pn**	**23 13 59.7**	**-0.2**
Q16A				IAML		23 14 39.9	
	comp=N,121nm,0.7s						
Q16A				IAML		23 14 42.2	
	comp=E,141nm,0.5s						
PV23	**Carpenter Ridg**	**2.24**	**171**		**Pn**	**23 14 00.3**	**-0.4**
PV10	**Paradox Valley**	**2.31**	**172**		**Pn**	**23 14 01.5**	**-0.2**
PV07	**Paradox Valley**	**2.31**	**164**		**Pn**	**23 14 01.0**	**-0.8**
PV07				IAML		23 14 48.3	
	comp=N,132nm,0.7s						
PV07				IAML		23 14 48.0	
	comp=E,125nm,0.7s						
PV11	**David Mesa, Pa**	**2.41**	**169**		**Pn**	**23 14 02.7**	**-0.3**
AHID	**Auburn Hatcher**	**2.43**	**330**		**Pn**	**23 14 04.2**	**+1.0**
SMCO	**Snowmass**	**2.43**	**127**		**Pn**	**23 14 04.5**	**+1.0**
PV15	**Paradox Valley**	**2.44**	**161**		**Pn**	**23 14 03.4**	**-0.1**
PV13	**Radium Mtn., P**	**2.55**	**168**		**Pn**	**23 14 04.2**	**-0.8**
DUG	**Dugway, Tooele**	**2.59**	**261**		**Pn**	**23 14 06.2**	**+0.7**
N23A	**Red Feather La**	**2.69**	**84**		**Pn**	**23 14 08.0**	**+1.1**
BGU	**Big Grassy Mou**	**2.71**	**277**	Pn	**Pn**	**23 14 06.9**	**-0.2**
HVU	**Hansel Valley**	**2.73**	**295**		**Pn**	**23 14 08.2**	**+0.8**
HVU				IAML		23 14 50.8	
	comp=E,83nm,0.4s						
HVU				IAML		23 14 57.5	
	comp=N,99nm,0.4s						
ECR	**Eagle Creek**	**2.78**	**330**		**Pn**	**23 14 09.3**	**+1.2**
REDW	**Red Top Meadow**	**2.88**	**340**		**Pn**	**23 14 10.3**	**+0.7**
SNOW	**Snow King Moun**	**2.95**	**342**		**Pn**	**23 14 12.6**	**+2.1**
SNOW				IAML		23 15 12.2	
	comp=N,87nm,0.6s						
K22A	**Casper**	**2.97**	**47**		**Pn**	**23 14 10.9**	**+0.3**
MSU	**Marysvale**	**3.00**	**225**		**Pn**	**23 14 12.6**	**+1.4**
TPAW	**Teton Pass**	**3.03**	**339**		**Pn**	**23 14 11.6**	**0.0**
TPAW				IAML		23 15 06.1	
	comp=N,63nm,0.6s						
LOHW	**Long Hollow**	**3.06**	**344**		**Pn**	**23 14 12.1**	**+0.1**
LOHW				IAML		23 14 59.3	
	comp=N,61nm,0.4s						
LOHW				IAML		23 15 07.5	
	comp=N,57nm,0.5s						
ISCO	**Idaho Springs**	**3.08**	**105**		**Pn**	**23 14 12.9**	**+0.6**
ISCO				IAML		23 15 03.7	
	comp=N,36nm,0.6s						
ISCO				IAML		23 15 11.4	
	comp=N,23nm,0.9s						
TCRU	**Three Creeks R**	**3.08**	**229**		**Pn**	**23 14 13.3**	**+1.0**
TCRU				IAML		23 15 08.8	
	comp=E,31nm,0.5s						
TCRU				IAML		23 15 09.7	
	comp=N,24nm,0.7s						
PHWY	**Pilot Hill**	**3.10**	**77**		**Pn**	**23 14 13.3**	**+0.6**
PHWY				IAML		23 15 08.4	
	comp=N,38nm,0.5s						
PHWY				IAML		23 15 08.8	
	comp=N,30nm,0.5s						
MOOW	**Moose Ponds**	**3.22**	**343**		**Pn**	**23 14 13.9**	**-0.3**
MTPU	**Mount Pierson**	**3.36**	**220**		**Pn**	**23 14 16.1**	**-0.1**
MTPU				IAML		23 15 16.7	
	comp=E,25nm,0.6s						
FLWY	**Flagg Ranch**	**3.53**	**345**		**Pn**	**23 14 18.8**	**+0.3**
FLWY				IAML		23 15 38.0	
	comp=E,27nm,0.9s						
FLWY				IAML		23 15 38.1	
	comp=E,23nm,1.5s						
MVCO	**Mesa Verde**	**3.53**	**167**		**Pn**	**23 14 18.1**	**-0.4**
S22A	**4UR Ranch, Cre**	**3.57**	**144**		**Pn**	**23 14 18.6**	**-0.4**
S22A				IAML		23 15 23.4	
	comp=N,17nm,0.5s						
YPP	**Pitchstone Pla**	**3.73**	**345**	Pg	**Pg**	**23 14 32.2**	**-1.6**
Q24A	**Divide**	**3.74**	**116**		**Pn**	**23 14 19.9**	**-1.5**
Q24A				IAML		23 15 28.4	
	comp=E,16nm,0.4s						
Q24A				IAML		23 15 29.8	
	comp=N,18nm,0.5s						
H17A	**Grant Village**	**3.81**	**348**		**Pn**	**23 14 21.9**	**-0.5**
H17A				IAML		23 15 42.6	
	comp=N,13nm,0.6s						
H17A				IAML		23 15 45.9	
	comp=E,15nm,0.7s						
PKCU	**Pink Cliffs**	**3.90**	**215**		**Pn**	**23 14 23.1**	**-0.6**
YFT	**Old Faithful**	**3.92**	**346**		**Pn**	**23 14 23.5**	**-0.3**
YFT				IAML		23 14 50.7	
	comp=N,22nm,0.7s						
YFT				IAML		23 14 55.0	
	comp=E,12nm,0.7s						
LKWY	**Lake**	**3.96**	**350**		**Pg**	**23 14 37.6**	**-0.3**
LKWY				IAML		23 14 52.1	
	comp=E,39nm,0.5s						
LKWY				IAML		23 14 55.2	
	comp=E,25nm,0.5s						
PSUT	**Pine Spring**	**4.00**	**239**		**Pn**	**23 14 24.4**	**-0.5**
YMP	**Mirror Lake Pl**	**4.10**	**353**		**Pn**	**23 14 26.2**	**-0.2**
YMP				IAML		23 15 01.7	
	comp=N,17nm,0.6s						
YMP				IAML		23 15 58.5	
	comp=E,17nm,1.2s						
YMR	**Madison River**	**4.15**	**345**	Pg	**Pb**	**23 14 36.7**	**+0.6**
YMR				IAML		23 15 43.4	
	comp=E,14nm,1.3s						
YMR				IAML		23 15 47.9	
	comp=N,19nm,1.0s						
YHH	**Holmes Hill**	**4.24**	**347**	Pn	**Pn**	**23 14 28.6**	**+0.2**
SDCO	**Great Sand Dun**	**4.24**	**132**	Pn	**Pn**	**23 14 27.5**	**-0.8**
SDCO					**Pg**	**23 14 41.4**	**-2.1**
CCUT	**Cedar City**	**4.34**	**225**	Pn	**Pn**	**23 14 28.9**	**-0.7**
CCUT				Pg	**Pb**	**23 14 41.8**	**+2.4**
ELK	**Elko**	**4.38**	**273**	Pn	**Pn**	**23 14 33.2**	**+3.0**
	comp=N,0.2nm,0.3s,baz=86,slow=13,SNR=2.0						
KNB	**Kanab**	**4.49**	**217**	Pn	**Pn**	**23 14 32.0**	**+0.5**
KNB				IAML		23 15 58.9	
	comp=E,12nm,0.6s						
KNB				IAML		23 16 02.1	
	comp=N,13nm,0.8s						
BCYI	**Bear Canyon**	**4.66**	**323**	Pn	**Pn**	**23 14 34.6**	**+0.6**
HLID	**Hailey**	**4.68**	**310**		**Pn**	**23 14 34.4**	**+0.2**
HLID				IAML		23 15 56.8	
	comp=N,7.2nm,4.1s						
LCMT	**Little Creek M**	**4.69**	**220**	IAML		23 16 10.4	
	comp=E,8.5nm,4.4s						
U15A	**North Rim**	**4.77**	**208**		**Pn**	**23 14 35.0**	**-0.5**
MCMT	**McKenzie Canyo**	**4.84**	**330**		**Pn**	**23 14 38.0**	**+1.5**
BOZ	**Bozeman (W)**	**5.17**	**343**	Pn	**Pn**	**23 14 41.8**	**+0.9**
BOZ				IAML		23 16 28.6	
	comp=E,5.6nm,3.3s						
BOZ				IAML		23 16 37.1	
	comp=E,6.2nm,4.5s						
DLMT	**Dillon**	**5.22**	**335**	Pn	**Pn**	**23 14 43.0**	**+1.3**
DLMT				Pg	**Pg**	**23 15 01.8**	**-0.4**
DLMT				IAML		23 17 15.9	
	comp=E,11nm,4.3s						
DLMT				IAML		23 17 45.2	
	comp=E,11nm,4.8s						
R11A	**Troy Canyon, C**	**5.26**	**246**	Pn	**Pn**	**23 14 43.3**	**+1.1**
T25A	**Trinidad**	**5.29**	**130**	Pg	**Pb**	**23 14 58.8**	**+3.2**
T25A				IAML		23 15 58.2	
	comp=N,11nm,4.8s						
T25A				IAML		23 16 27.4	
	comp=E,7.8nm,0.7s						
RSSD	**Black Hills**	**5.30**	**48**		**Pn**	**23 14 42.3**	**-0.5**
RSSD				IAML		23 16 29.8	
	comp=E,14nm,0.9s						
WUAZ	**Wupatki**	**5.36**	**197**	Pn	**Pn**	**23 14 43.6**	**+0.1**
MFID	**Camas Ranch**	**5.47**	**302**	Pn	**Pn**	**23 14 46.3**	**+1.2**
W18A	**Petrified Fore**	**5.54**	**182**	Pn	**Pn**	**23 14 45.9**	**-0.2**
SHPR	**Sheep Range**	**6.09**	**229**	Pn	**Pn**	**23 14 55.5**	**+1.9**
X18A	**Snowflake**	**6.14**	**184**		**Pn**	**23 14 53.5**	**-0.7**
ANMO	**Albuquerque**	**6.19**	**156**	Pn	Pn	23 14 46.9	-8.1
	comp=E,0.1nm,0.3s,baz=342,slow=13,SNR=1.4						
ANMO				LR	LR	23 17 17.8	
	comp=E,67nm,20.5s,baz=288,slow=40						
TPNV	**Topopah Spring**	**6.46**	**237**	Pn	**Pn**	**23 14 58.5**	**-0.2**
KVN	**Kaiserville**	**6.83**	**259**	Pn	**Pn**	**23 15 05.6**	**+1.8**
NVAR	**Mina Array Bea**	**7.18**	**255**	Pn	**Pn**	**23 15 11.8**	**+3.2**
	comp=E,0.2nm,0.3s,baz=71,slow=12,SNR=4.2						
YKA	**Yellowknife Ar**	**22.08**	**354**	P	**P**	**23 18 15.5**	**-2.9**
	comp=E,0.1nm,0.6s,baz=166,slow=11,SNR=1.9						

CNRM ***17*** *23:24:38.1,36˚.19N× 10˚.52W,h14km,ml3.6*

MDD ***17*** *23:24:43.6±0.8,36˚.07N× 10˚.41W,h26km±16km, mb_Lg2.9/14,Error ellipse: s-maj=14.6km s-min=4.9km az=49.0*

INMG ***17*** *23:24:44.6±1.2,36˚.00N× 10˚.36W,h31km±10km,ML2.6, Error ellipse: s-maj=7.1km s-min=3.3km az=68.0*

IGIL ***17*** *23:24:44.8,36˚.00N× 10˚.31W,h29km,ML2.6*

ISC 17 23:24:42.8±2.1,**36˚.09N**±0˚.07×**10˚.37W**±0˚.09,**h35**km,**n50,** σ1§**51**/92,**3C-3D,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.62**	**49**	⇓*i*Pn	**Pn**	**23 25 10.3**	**+1.5**
PFVI				*e*Sn	**Sn**	**23 25 29.1**	**+0.6**
PFVI				A	A	23 25 30.4	
	28nm,0.1s						
MORF	**Marmelete**	**1.84**	**48**	*e*P	**Pn**	**23 25 13.4**	**+1.6**
MORF				*e*S	**Sn**	**23 25 34.5**	**+0.5**
MORF				IAML		23 25 36.5	
	comp=N,47nm,0.1s						
MORF	**Marmelete**	**1.84**	**48**	⇓*i*Pn	**Pn**	**23 25 13.5**	**+1.6**
MORF				*e*Sn	**Sn**	**23 25 34.7**	**+0.8**
MORF				A	A	23 25 39.4	
	comp=N,37nm,0.1s						
PTEO	**Sao Teotonio**	**1.96**	**42**	*e*Pn	**Pn**	**23 25 15.1**	**+1.6**
PTEO				*e*Sn	**Sn**	**23 25 38.0**	**+1.1**
PTEO				A	A	23 25 39.6	
	comp=N,19nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.27**	**59**	⇑*e*Pn	**Pn**	**23 25 19.4**	**+1.6**
PBDV				*e*Sn	**Sn**	**23 25 44.6**	**0.0**
PBDV				A	A	23 25 46.8	
	comp=N,13nm,0.1s						
PCVE	**Castro Verde**	**2.42**	**50**	⇑*e*Pn	**Pn**	**23 25 21.6**	**+1.8**
PCVE				*e*Sn	**Sn**	**23 25 49.2**	**+1.0**
PCVE				A	A	23 25 52.0	
	comp=N,13nm,0.2s						
PNCL	**Nicolau / Gran**	**2.50**	**35**	*e*Pn	**Pn**	**23 25 22.3**	**+1.4**
PNCL				*e*Sn	**Sn**	**23 25 50.8**	**+0.7**
PNCL				A	A	23 25 54.0	
	comp=N,15nm,0.1s						
PVAQ	**Vaqueiros**	**2.50**	**58**	⇓*e*Pn	**Pn**	**23 25 22.4**	**+1.5**
PVAQ				*e*Sn	**Sn**	**23 25 50.1**	**-0.1**
PVAQ				A	A	23 25 53.0	
	comp=N,19nm,0.3s						
EGRO	**El Granado**	**2.73**	**57**	Pn	**Pn**	**23 25 25.6**	**+1.6**
EGRO				Sn	**Sn**	**23 25 55.9**	**+0.1**
EGRO				*i* Vmb_Lg		23 25 56.9	
PBEJ	**Beja**	**2.78**	**45**	⇑*e*Pn	**Pn**	**23 25 26.1**	**+1.3**
PBEJ				*e*Sn	**Sn**	**23 25 57.3**	**+0.1**
PBEJ				A	A	23 25 59.6	
	comp=N,13nm,0.2s						
PMST	**Lisbon--Monsan**	**2.81**	**19**	*e*Pn	**Pn**	**23 25 26.8**	**+1.6**
PMST				*e*Sn	**Sn**	**23 25 58.6**	**+0.8**
PACT	**Alcochete**	**2.94**	**24**	*e*Pn	**Pn**	**23 25 28.9**	**+1.9**
PACT				*e*Sn	**Sn**	**23 26 02.2**	**+1.2**
PACT				A	A	23 26 06.0	
	comp=N,21nm,0.8s						
PMAFR	**Mafra**	**2.99**	**16**	*e*Pn	**Pn**	**23 25 28.8**	**+1.1**
PMAFR				*e*Sn	**Sn**	**23 26 03.0**	**+0.7**
PMAFR				A	A	23 26 07.5	
	comp=N,23nm,0.2s						
EVO	**Evora**	**3.08**	**37**	P	**Pn**	**23 25 30.1**	**+1.2**
EVO				S	**Sn**	**23 26 04.1**	**-0.4**
EVO	**Evora**	**3.08**	**37**	*e*Pn	**Pn**	**23 25 30.1**	**+1.2**
EVO				*e*Sn	**Sn**	**23 26 04.4**	**0.0**
EVO				A	A	23 26 05.4	
	comp=N,39nm,0.1s						
PBAR	**Barrancos**	**3.38**	**51**	*e*Pn	**Pn**	**23 25 34.4**	**+1.4**
PBAR				*e*Sn	**Sn**	**23 26 11.8**	**0.0**
PBAR				A	A	23 26 13.4	
	comp=N,7.1nm,0.3s						
EMIN	**Mina Concepcio**	**3.40**	**59**	Pn	**Pn**	**23 25 34.2**	**+0.9**
EMIN				Sn	**Sn**	**23 26 12.0**	**-0.4**
EMIN				*i* Vmb_Lg		23 26 15.0	
PMTG	**Montargil**	**3.43**	**29**	*e*Pn	**Pn**	**23 25 34.9**	**+1.2**
PMTG				*e*Sn	**Sn**	**23 26 12.6**	**-0.5**
PMTG				A	A	23 26 13.8	
	comp=N,13nm,0.1s						
PESTR	**Estremoz**	**3.54**	**38**	*e*Pn	**Pn**	**23 25 36.8**	**+1.5**
PESTR				*e*Sn	**Sn**	**23 26 15.7**	**-0.3**
PESTR				A	A	23 26 17.6	
	comp=N,5.2nm,0.3s						
PESTR	**Estremoz**	**3.54**	**38**	S	**Sn**	**23 26 15.4**	**-0.7**
PSBE	**So Bento**	**3.64**	**19**	*e*Pn	**Pn**	**23 25 38.1**	**+1.5**
PSBE				*e*Sn	**Sn**	**23 26 19.1**	**+0.7**
PSBE				A	A	23 26 23.9	
	comp=N,8.4nm,0.4s						
AVE	**Averroes**	**3.69**	**138**	P	**Pn**	**23 25 37.5**	**+0.1**
ESPR	**Espera**	**3.72**	**77**	Pn	**Pn**	**23 25 38.7**	**+1.0**
ESPR				Sn	**Sn**	**23 26 18.7**	**-1.4**
ESPR				*i* Vmb_Lg		23 26 21.6	
EBAD	**Badajoz**	**3.77**	**44**	Pn	**Pn**	**23 25 39.6**	**+1.2**
EBAD				Sn	**Sn**	**23 26 21.2**	**-0.3**
EBAD				*i* Vmb_Lg		23 26 22.7	
PMRV	**Marv??o**	**4.08**	**34**	*e*Pn	**Pn**	**23 25 44.1**	**+1.4**
PMRV				*e*Sn	**Sn**	**23 26 28.0**	**-1.3**
PMRV				A	A	23 26 29.7	
	comp=N,7.3nm,0.2s						
PCAS	**Casmilo, Conde**	**4.22**	**20**	*e*Pn	**Pn**	**23 25 46.1**	**+1.5**
PCAS				*e*Sn	**Sn**	**23 26 32.4**	**-0.3**
PCAS				A	A	23 26 36.6	
	comp=N,3.7nm,0.3s						
PCBR	**Castelo Branco**	**4.39**	**30**	*e*Pn	**Pn**	**23 25 48.3**	**+1.4**
PCBR				*e*Sn	**Sn**	**23 26 35.3**	**-1.4**
PCBR				A	A	23 26 39.0	
	comp=N,3.1nm,0.4s						
ECAB	**El Cabril**	**4.42**	**62**	Pn	**Pn**	**23 25 48.6**	**+1.2**
ECAB				Sn	**Sn**	**23 26 35.1**	**-2.6**
ECAB				*i* Vmb_Lg		23 26 38.5	
EAH	**EAH**	**4.47**	**171**	P	**Pn**	**23 25 47.0**	**-1.1**
EMIJ	**Mijas**	**4.54**	**82**	Sn	**Sn**	**23 26 40.2**	**-0.4**
MTE	**Manteigas**	**4.84**	**26**	*e*Pn	**Pn**	**23 25 54.2**	**+1.0**
MTE				*e*Sn	**Sn**	**23 26 47.3**	**-0.8**
MTE				A	A	23 26 49.8	
	comp=N,5.1nm,0.3s						
PVIS	**Viseu**	**5.01**	**22**	*e*Pn	**Pn**	**23 25 56.8**	**+1.3**
PVIS				*e*Sn	**Sn**	**23 26 51.5**	**-0.7**
PVIS				A	A	23 26 54.8	
	comp=N,4.5nm,0.3s						
EADA	**Adamuz**	**5.07**	**64**	Pn	**Pn**	**23 25 57.7**	**+1.4**
EADA				Sn	**Sn**	**23 26 50.8**	**-2.8**
EADA				*i* Vmb_Lg		23 26 55.2	
LCRM	**LCR**	**5.12**	**116**	P	**Pn**	**23 25 56.2**	**-0.9**
EGOR	**Sierra Gorda,**	**5.13**	**77**	Pn	**Pn**	**23 25 59.3**	**+2.0**
EGOR				Sn	**Sn**	**23 26 55.0**	**-0.4**
EGOR				*i* Vmb_Lg		23 27 00.8	
EPLA	**Plasencia**	**5.21**	**39**	Pn	**Pn**	**23 25 59.5**	**+1.2**
EPLA				Sn	**Sn**	**23 26 55.1**	**-2.1**
EPLA				*i* Vmb_Lg		23 26 58.0	
OUK	**Oukaimeden**	**5.29**	**156**	P	**Pn**	**23 25 59.0**	**-0.7**
PVRL	**Vila Real**	**5.58**	**21**	*e*Pn	**Pn**	**23 26 04.8**	**+1.5**
PVRL				*e*Sn	**Sn**	**23 27 04.0**	**-2.2**
POLO	**Lamas de Olo**	**5.65**	**20**	*e*Pn	**Pn**	**23 26 05.5**	**+1.2**
POLO				*e*Sn	**Sn**	**23 27 06.3**	**-1.6**
MVO	**Moncorvo**	**5.70**	**26**	*e*Pn	**Pn**	**23 26 05.7**	**+0.7**
MVO				*e*Sn	**Sn**	**23 27 06.8**	**-2.5**
MVO				A	A	23 27 10.9	
	comp=N,3.8nm,0.8s						
MDT	**Midelt**	**5.77**	**123**	P	**Pn**	**23 26 05.3**	**-0.7**
PAB	**San Pablo**	**5.88**	**52**	Pn	**Pn**	**23 26 08.4**	**+0.9**
PAB				Sn	**Sn**	**23 27 10.9**	**-2.8**
PAB				*i* Vmb_Lg		23 27 13.8	
PCAB	**Cabril**	**5.90**	**17**	*e*Pn	**Pn**	**23 26 09.0**	**+1.3**
ELOB	**Lobios**	**6.04**	**17**	Pn	**Pn**	**23 26 10.4**	**+0.7**
ELOB				Sn	**Sn**	**23 27 15.0**	**-2.7**
ELOB				*i* Vmb_Lg		23 27 18.2	
EQES	**Quesada**	**6.09**	**72**	Pn	**Pn**	**23 26 12.1**	**+1.8**
EQES				Sn	**Sn**	**23 27 16.9**	**-1.9**
EQES				*i* Vmb_Lg		23 27 20.3	
PGAV	**Gavieira, Arco**	**6.09**	**15**	*e*Pn	**Pn**	**23 26 11.6**	**+1.2**
PGAV				*e*Sn	**Sn**	**23 27 17.5**	**-1.4**
PGAV				A	A	23 27 25.1	
	comp=N,2.2nm,0.7s						
PBRG	**Braganca**	**6.37**	**25**	*e*Pn	**Pn**	**23 26 15.7**	**+1.6**
PBRG				*e*Sn	**Sn**	**23 27 22.7**	**-2.9**
PBRG				A	A	23 27 28.3	
	comp=N,1.9nm,0.5s						
EAGO	**Agolada(Pontev**	**6.93**	**14**	Pn	**Pn**	**23 26 22.2**	**+0.3**
EAGO				Sn	**Sn**	**23 27 36.7**	**-2.8**
EAGO				*i* Vmb_Lg		23 27 39.3	
EMAZ	**Mazaricos**	**6.94**	**8**	Pn	**Pn**	**23 26 22.1**	**+0.2**
EMAZ				Sn	**Sn**	**23 27 34.7**	**-4.8**
EMAZ				*i* Vmb_Lg		23 27 39.6	
ETOR	**Torete**	**8.05**	**52**	Pn	**Pn**	**23 26 38.3**	**+1.0**
ETOR				Sn	**Sn**	**23 28 03.3**	**-3.8**
ETOR				*i* Vmb_Lg		23 28 08.5	

IDC ***17*** *23:28:59.1±0.9, 10˚.93S× 162˚.85E,h0km,mb4.1/8, mb1 4.4/9,mb1mx4.1/38,mbtmp4.1/9,ML3.6/1,MS3.6/20, Ms1 3.6/20,ms1mx3.3/60,Error ellipse: s-maj=31.3km s-min=23.2km az=113.0*

NEIC ***17*** *23:29:04.1±1.0, 11˚.1S±0˚.1× 163˚.03E±0˚.08,h34km±6km, mb4.5/18, Error ellipse: s-maj=19.3km s-min=1.2km az=217.0*

ISC 17 23:29:03.9±0.5,**11˚.08S**±0˚.08×**163˚.03E**±0˚.09,**h34**km,**n51,** σ1§**01**/37,**mb4.4**/17,**MS3.5**/16,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.45**	**298**	Pn	**Pn**	**23 29 55.4**	**+0.1**
HNR				Sn	**Sn**	**23 30 34.7**	**-0.3**
SANVU	**Saraoutou**	**5.94**	**137**	Pn	**Pn**	**23 30 29.5**	**0.0**
SANVU				Sn	**Sn**	**23 31 36.1**	**-0.3**
LIFNC	**LIFOU**	**10.45**	**158**	Pn	**Pn**	**23 31 28.9**	**-2.5**
DZM	**Mont Dzumac**	**11.40**	**164**	Pn	**Pn**	**23 31 46.4**	**+1.9**

VNDA					LR	LR	00 03 12.5		
	comp=Z,75nm,20.0s,baz=255,slow=31								
VNDA	**Vanda**	**66.43**	**180**		P	**P**	**23 39 49.8**	**+0.5**	
MA2	**Magadan**	**71.11**	**353**		LR	LR	00 09 09.5		
	comp=Z,19nm,19.1s,baz=124,slow=34								
SEY	**Seymchan**	**74.25**	**355**		LR	LR	00 09 17.4		
	comp=Z,44nm,20.7s,baz=52,slow=33								
ULN	**Ulaanbaatar**	**76.79**	**325**		P	**P**	**23 40 52.8**	**+0.6**	
ULN					IAmb	IAmb	23 40 54.3		
	comp=Z,6.1nm,1.1s								
SONM	**Songino Array**	**77.14**	**325**		P	**P**	**23 40 54.1**	**-0.1**	
	comp=Z,1.7nm,0.8s,baz=134,slow=4.4,SNR=11								
SONM	**Songino Array**	**77.14**	**325**		P	**P**	**23 40 54.7**	**+0.5**	
SONM					IAmb	IAmb	23 40 56.1		
	comp=Z,3.2nm,1.0s								
KDAK	**Kodiak Island**	**77.61**	**23**		LR	LR	00 12 35.4		
	comp=Z,79nm,19.3s,baz=251,slow=34								
QSPA	**South Pole Qui**	**78.92**	**180**		P	**P**	**23 41 04.6**	**+0.8**	
QSPA					IAmb	IAmb	23 41 22.4		
	comp=Z,4.8nm,1.1s								
BILL	**Bilibino**	**78.95**	**1**		P	**P**	**23 41 03.4**	**-0.3**	
BILL					IAmb	IAmb	23 41 05.4		
	comp=Z,5.7nm,0.9s								
N19K	**Bonanza Creek**	**79.14**	**20**		P	**P**	**23 41 05.0**	**0.0**	
N19K					IAmb	IAmb	23 41 06.5		
	comp=Z,5.4nm,1.0s								
KLU	**Klutina**	**82.62**	**22**		P	**P**	**23 41 24.2**	**+0.7**	
KLU					IAmb	IAmb	23 41 43.7		
	comp=Z,4.4nm,1.2s								
DHY	**Denali Highway**	**83.13**	**20**		P	**P**	**23 41 24.4**	**-1.8**	
DHY					IAmb	IAmb	23 41 27.1		
	comp=Z,7.0nm,1.0s								
ILAR	**Eielson Array**	**84.41**	**19**		P	**P**	**23 41 32.7**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=237,slow=5.0,SNR=1.1								
NVAR	**Mina Array Bea**	**88.09**	**50**		P	**P**	**23 41 52.5**	**+1.0**	
	comp=Z,0.7nm,0.8s,baz=239,slow=8.1,SNR=4.5								
MK31	**Makanchi Array**	**91.73**	**317**		P	**P**	**23 42 07.7**	**-0.4**	
MK31					IAmb	IAmb	23 42 09.2		
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**91.73**	**317**		P	**P**	**23 42 07.6**	**-0.5**	
	comp=Z,2.2nm,0.7s,baz=98,slow=5.5,SNR=27								
MKAR	**Makanchi Array**	**91.73**	**317**		P	**P**	**23 42 07.8**	**-0.3**	
MAKZ	**Makanchi**	**91.95**	**317**		P	**P**	**23 42 09.1**	**0.0**	
MAKZ					IAmb	IAmb	23 42 10.7		
	comp=Z,2.3nm,0.9s								
A36M	**Sachs Harbour**	**94.92**	**17**		P	**P**	**23 42 22.1**	**0.0**	
YKA	**Yellowknife Ar**	**96.23**	**28**		P	**P**	**23 42 27.3**	**-1.0**	
	comp=Z,0.5nm,0.8s,baz=253,slow=4.8,SNR=5.5								

NEIC ***17*** *23:38:16.9±1.3, 15°.7S±0°.1×68°.8W±0°.2, h176km±3km, mb4.2/3, Error ellipse: s-maj=25.6km s-min=16.6km az=128.0*

IDC ***17*** *23:38:17.0±1.6, 15°.99S×68°.58W, h178km±15km, mb3.5/3, mb1 3.5/3, mb1mx3.1/23, mbtmp4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/31, Error ellipse: s-maj=95.9km s-min=46.4km az=18.0*

ISC 17 23:38:14.4±0.9, 15°.5S±0°.1×68°.9W±0°.2, h150km, n16, σ1s92/14, mb4.0/4, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.05**	**135**	P	**Pn**	**23 38 42.9**	**+2.6**
	39nm,0.3s,baz=304,slow=4.3,SNR=761						
GO01	**Chusmiza**	**4.12**	**184**	Pn	**Pn**	**23 39 16.8**	**+0.1**
PB11	**IPOC Station P**	**4.26**	**190**	Pn	**Pn**	**23 39 16.6**	**-1.6**
PB08	**IPOC Station P**	**4.58**	**183**		**Pn**	**23 39 25.2**	**+2.5**
TA02	**Huaiquique**	**4.85**	**194**		**Pn**	**23 39 26.5**	**+0.7**
TA01	**Diego Aracena**	**5.14**	**193**	Pn	**Pn**	**23 39 30.4**	**+0.7**
PATCX	**Punta Patache**	**5.38**	**193**		**Pn**	**23 39 35.3**	**+2.4**
NNA	**Nana**	**8.48**	**294**	LR	LR	23 44 12.4	
	comp=Z,65nm,21.5s,baz=226,slow=40						
CVTR	**Volcan Turrial**	**29.35**	**329**		pP	23 44 45.2	+8.2
SVB	**Belmont**	**29.61**	**15**		**PcP**	**23 47 04.7**	**-2.1**
GGN	**Saint George**	**60.40**	**2**	P	**P**	**23 48 08.5**	**+0.8**
GGN				IAmb	IAmb	23 48 20.6	
	comp=Z,17nm,1.1s						
DBIC	**Dimbokro**	**67.15**	**76**	P	**P**	**23 48 51.1**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=255,slow=5.9,SNR=2.0						
DBIC	**Dimbokro**	**67.15**	**76**	P	**P**	**23 48 51.1**	**-1.5**
DBIC				IAmb	IAmb	23 49 01.2	
	comp=Z,4.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**75.42**	**72**	P	**P**	**23 49 40.8**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=252,slow=5.1,SNR=19						
TORD	**Torodi Ar. Bea**	**75.42**	**72**	P	**P**	**23 49 40.7**	**-1.5**
TORD				IAmb	IAmb	23 49 41.3	
	comp=Z,1.4nm,0.7s						
YKA	**Yellowknife Ar**	**85.60**	**341**	P	**P**	**23 50 37.4**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=134,slow=5.0,SNR=2.4						

DDA ***17*** *23:38:32.0±0.0, 35°.77N×27°.01E, h5km±2km, ML2.5*
ATH ***17*** *23:38:33.6, 35°.84N×27°.17E, h27km±3km, ML2.6/2, Error ellipse: s-maj=6.0km s-min=1.3km az=107.0*
ISK ***17*** *23:38:33.8, 35°.84N×27°.08E, h17km, ML2.6/10*
THE ***17*** *23:38:35.2, 35°.84N×27°.13E, h11km±3km, ML2.4/3, Error ellipse: s-maj=5.0km s-min=1.0km az=144.0*

ISC 17 23:38:34.2±1.2, 35°.86N±0°.02×27°.12E±0°.03, h16km±10km, n34, σ0s73/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.31**	**173**	P	**Pb**	**23 38 40.9**	**-0.4**
KARP				S	**Sb**	**23 38 45.5**	**-0.7**
KARP				AML	AML	23 38 46.0	
	comp=E,6403μm,0.2s						
KARP				AML	AML	23 38 46.7	
	comp=N,4979μm,0.1s						
KARP	**Karpathos**	**0.31**	**173**	P	**Pb**	**23 38 40.9**	**-0.4**
KARP				S	**Sb**	**23 38 45.7**	**-0.5**
	comp=N,3μm,0.1s						
KARP	**Karpathos**	**0.31**	**173**	PG	**Pb**	**23 38 40.7**	**-0.7**
KARP				SG	**Sb**	**23 38 45.7**	**-0.5**
KOSK	**Kos Island**	**0.90**	**353**	P	**Pn**	**23 38 52.0**	**-0.2**
KOSK	**Kos Island**	**0.90**	**353**	PG	**Pg**	**23 38 51.6**	**-0.1**
KOSK				SG	**Sn**	**23 39 05.2**	**+0.4**
ZKR	**Zakros**	**1.04**	**225**	P	**Pg**	**23 38 54.6**	**+0.3**
ZKR				S	**Sn**	**23 39 08.7**	**+0.5**
ZKR				AML	AML	23 39 13.5	
	comp=E,443μm,0.4s						
ZKR				AML	AML	23 39 15.7	
	comp=N,194μm,0.5s						
ZKR	**Zakros**	**1.04**	**225**	P	**Pg**	**23 38 54.9**	**+0.6**
ZKR				S	**Sn**	**23 39 08.8**	**+0.5**
	comp=N,140nm,0.3s						
BODT	**Bodrum**	**1.21**	**7**	PN	**Pn**	**23 38 56.2**	**-0.3**
BODT				SN	**Sg**	**23 39 13.7**	**+0.2**
BDRM	**Kayabasi**	**1.23**	**12**	P	**Pn**	**23 38 55.9**	**-0.9**
FRMA	**Ierapetra Chan**	**1.41**	**234**	P	**Pb**	**23 38 59.6**	**-0.4**
THR6	**Thira Island,**	**1.48**	**290**	P	**Pb**	**23 39 01.2**	**0.0**
THR2	**Thira island,**	**1.48**	**294**	P	**Pb**	**23 39 01.4**	**+0.1**
THR3	**Thira Island,**	**1.49**	**292**	P	**Pb**	**23 39 01.1**	**-0.4**
SNT5	**Nea Kammeni, S**	**1.50**	**292**	P	**Pb**	**23 39 01.3**	**-0.3**
MLSB	**Milas**	**1.53**	**20**	PN	**Pb**	**23 39 01.7**	**-0.5**
MLSB				SN	**Sb**	**23 39 21.6**	**+0.2**
DALY	**Dalyan (Mula)**	**1.57**	**52**	PN	**Pb**	**23 39 02.3**	**-0.5**
DALY				SN	**Sb**	**23 39 22.7**	**+0.3**
YER	**Yerkesik**	**1.58**	**36**	P	**Pn**	**23 39 01.8**	**+0.2**
YER				S	**Sn**	**23 39 21.9**	**+0.1**
YER	**Yerkesik**	**1.58**	**36**	PN	**Pn**	**23 39 01.8**	**+0.2**
KSTL	**Kastelli Herak**	**1.76**	**252**	P	**Pn**	**23 39 03.0**	**-0.9**
APE	**Apeiranthos**	**1.76**	**314**	P	**Pn**	**23 39 04.3**	**+0.3**
FETY	**Fethiye**	**1.77**	**63**	P	**Pb**	**23 39 05.0**	**-1.3**
FETY				S	**Sb**	**23 39 27.3**	**-0.9**
FETY	**Fethiye**	**1.77**	**63**	PN	**Pb**	**23 39 04.9**	**-1.3**
FETY	**Fethiye**	**1.77**	**63**	P	**Pn**	**23 39 04.4**	**+0.3**
FETY				S	**Sn**	**23 39 26.4**	**+0.1**
FETY				*i* AML	AML	23 39 33.0	
	comp=N,39nm,1.0s						
FETY				*i* AML	AML	23 39 33.0	
	comp=N,46nm,0.6s						
IDI	**Anoyia**	**1.90**	**253**	P	**Pn**	**23 39 06.7**	**+0.7**
IDI	**Anoyia**	**1.90**	**253**	P	**Pn**	**23 39 06.5**	**+0.5**
IDI				S	**Sn**	**23 39 29.4**	**-0.2**
	comp=N,45nm,0.5s						
AYDN	**Tasoluk**	**1.90**	**19**	P	**Pn**	**23 39 05.9**	**0.0**
AYDN				S	**Sb**	**23 39 32.7**	**+0.6**
AKAS	**Kas**	**2.05**	**79**	PN	**Pn**	**23 39 08.7**	**+0.6**
AKAS	**Kas**	**2.05**	**79**	P	**Pn**	**23 39 08.7**	**+0.6**
AKAS				S	**Sn**	**23 39 33.6**	**+0.2**
AKAS				*i* AML	AML	23 39 44.0	
	comp=N,26nm,0.9s						
AKAS				*i* AML	AML	23 39 48.0	
	comp=N,33nm,0.5s						
TMBK	**Timbaki Herakl**	**2.07**	**248**	P	**Pb**	**23 39 10.1**	**-1.3**
TAVA	**DENIZLI_Tavas**	**2.16**	**41**	P	**Pn**	**23 39 10.7**	**+1.1**
TAVA				S	**Sb**	**23 39 38.3**	**-1.3**
TAVA				*i* AML	AML	23 39 43.0	
	comp=N,30nm,0.4s						
CAEL	**Denizli, Camel**	**2.18**	**54**	P	**Pb**	**23 39 12.2**	**-1.1**
CAEL				S	**Sb**	**23 39 39.8**	**-0.3**
CAEL				*i* AML	AML	23 39 49.0	
	comp=N,62nm,0.6s						
CAEL				*i* AML	AML	23 39 53.0	
	comp=N,48nm,0.8s						
GOLH	**Golhisar**	**2.40**	**54**	P	**Pn**	**23 39 14.4**	**+1.5**
GOLH				S	**Sb**	**23 39 47.1**	**+0.6**
GOLH				*i* AML	AML	23 39 54.0	
	comp=N,36nm,0.4s						
GOLH				*i* AML	AML	23 39 59.0	
	comp=N,22nm,0.4s						
ELL	**Elmali**	**2.42**	**68**	PN	**Pn**	**23 39 14.5**	**+1.3**
KORT	**Korkueli**	**2.85**	**65**	PN	**Pn**	**23 39 20.9**	**+1.9**

IDC ***17*** *23:46:37.7±14.0, 36°.71N×71°.94E, h177km±75km, mb2.7/1, mb1 2.9/6, mb1mx2.7/40, mbtmp3.5/6, Error ellipse: s-maj=148.1km s-min=92.2km az=175.0*

NEIC ***17*** *23:46:42.2±1.3, 37°.12N±0°.06×71°.8E±0°.1, h194km±6km, mb4.1/3, Error ellipse: s-maj=17.0km s-min=6.6km az=115.0*

NNC ***17*** *23:46:46.7±3.2, 37°.54N×71°.84E, h196km±54km, mb2.3, mpv3.3, Error ellipse: s-maj=39.6km s-min=16.5km az=27.0*

ISC 17 23:46:40.9±0.7, 37°.08N±0°.06×71°.97E±0°.07, h200km, n31, σ2s03/38, mb3.8/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.32**	**326**	Pn	**Pn**	**23 47 22.6**	**-0.2**
DRK	**Karamyk**	**2.40**	**357**		**Pn**	**23 47 24.4**	**+0.5**
CHGR	**Chuyangaron**	**2.72**	**306**	Pn	**Pn**	**23 47 27.1**	**-0.3**
BTK	**Batken**	**3.11**	**343**	Pn	**Pn**	**23 47 32.7**	**+0.9**
KBL	**Kabul**	**3.48**	**224**	Pn	**Pn**	**23 47 37.2**	**+0.7**
JMU	**Jammu**	**4.98**	**150**	*e*P	**Pn**	**23 47 55.9**	**+0.9**
JMU				*e*S	**Sn**	**23 48 51.2**	**-2.2**
THN	**Thein Dam**	**5.57**	**145**	*e*S	**Sn**	**23 49 05.4**	**-1.7**
AAK	**Ala-Archa**	**5.88**	**19**	P	**Pn**	**23 48 07.6**	**+0.9**
	0.9nm,0.3s,baz=196,slow=7.8,SNR=15						
AAK				S	**Sn**	**23 49 12.3**	**-2.3**
	1.5nm,0.3s,baz=340,slow=22,SNR=20						
AAK	**Ala-Archa**	**5.88**	**19**	⇑P	**Pn**	**23 48 07.6**	**+0.9**
	1.8nm,0.5s						
AAK				⇓S	**Sn**	**23 49 11.9**	**-2.6**
	9.0nm,0.7s						
DHRM	**DHARAMSHALA**	**6.00**	**142**	*e*P	**Pn**	**23 48 09.1**	**+0.8**
DHRM				*e*S	**Sn**	**23 49 15.1**	**-2.4**
DHRM				IAML		23 49 17.1	
	comp=E,86nm,0.7s						
DHRM				IAML		23 49 17.4	
	comp=N,115nm,0.9s						
KK02	**Karatay Array**	**6.12**	**350**	⇓P	**Pn**	**23 48 09.4**	**-0.1**
	comp=N,2.0nm,0.3s						
KK02				⇑S	**Sn**	**23 49 14.8**	**-5.1**
	comp=N,8.5nm,0.5s						
KKAR	**Karatay Array**	**6.12**	**350**	Pn	**Pn**	**23 48 09.7**	**+0.1**
BOOM	**Boomskoye usch**	**6.21**	**28**	Pn	**Pn**	**23 48 11.6**	**+0.7**
KDJ	**Kajisay**	**6.45**	**37**	Pn	**Pn**	**23 48 14.8**	**+0.7**
TKM2	**Tokmak 2**	**6.46**	**24**	⇑P	**Pn**	**23 48 14.6**	**+0.3**
	comp=N,0.7nm,0.5s						
MDOK	**Medeo**	**7.21**	**31**	P	**Pn**	**23 48 24.9**	**+1.0**
	comp=N,2.2nm,0.5s						
SMLA	**Simla**	**7.34**	**143**	*e*P	**Pn**	**23 48 25.7**	**+0.2**
SMLA				*e*S	**Sn**	**23 49 44.0**	**-4.6**
SMLA				IAML		23 49 49.5	
	comp=N,19nm,0.0s						
SMLA				IAML		23 49 49.6	
	comp=E,25nm,0.5s						
MAKZ	**Makanchi**	**12.24**	**34**	Pn	**Pn**	**23 49 28.6**	**-0.1**
MK31	**Makanchi Array**	**12.37**	**35**	Pn	**Pn**	**23 49 32.5**	**+2.2**
MKAR	**Makanchi Array**	**12.37**	**35**	P	**Pn**	**23 49 32.6**	**+2.3**
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**12.37**	**35**	Pn	**Pn**	**23 49 32.7**	**+2.4**
KURBB	**Kurchatov Arra**	**14.33**	**17**	P	**P**	**23 49 57.5**	**+1.4**
	comp=E,0.1nm,0.3s,baz=205,slow=11,SNR=7.0						
AB31	**Akbulak array**	**14.98**	**328**	⇑P	**P**	**23 50 04.6**	**+1.3**
	comp=E,0.3nm,0.5s,baz=143,slow=13,SNR=14						
AB31				S	**S**	**23 52 43.4**	**-5.4**
	comp=E,0.4nm,0.3s,baz=153,slow=25,SNR=4.4						
ABKAR	**Akbulak array**	**14.98**	**328**	P	**P**	**23 50 04.8**	**+1.5**
ABKAR	**Akbulak array**	**14.98**	**328**		**P**	**23 50 05.0**	**+1.7**
BVAR	**Bovoye Array**	**15.98**	**357**	P	**Pn**	**23 50 16.7**	**+2.0**
	comp=E,0.2nm,0.3s,baz=191,slow=13,SNR=3.0						
ZAA0	**Zalesovo Array**	**19.07**	**24**	P	**P**	**23 50 49.7**	**+1.7**
ZAA0				IAmb	IAmb	23 50 50.7	
	comp=Z,3.4nm,0.5s						
ZALV	**Zalesovo Beam**	**19.07**	**24**	P	**P**	**23 50 49.5**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=208,slow=10,SNR=18						
OSSC	**Osservatorio P**	**45.86**	**298**	P	**P**	**23 54 42.7**	**-0.3**
OSSC				IAmb	IAmb	23 54 44.1	
	comp=Z,10nm,1.2s						
BNI	**Bardonecchia**	**48.66**	**301**	P	**P**	**23 55 05.0**	**+0.2**
BNI				IAmb	IAmb	23 55 09.8	
	comp=Z,4.8nm,1.1s						
YKA	**Yellowknife Ar**	**80.63**	**3**	P	**P**	**23 58 32.2**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=352,slow=5.4,SNR=4.2						

KRNET ***17*** *23:54:53.5±0.1, 40°.28N×74°.87E, h15km, mb3.4*
SOME ***17*** *23:54:58.8, 40°.58N×74°.65E, h0km*
NNC ***17*** *23:55:01.0±0.9, 40°.53N×74°.71E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=7.5km s-min=5.1km az=158.0*

ISC 17 23:54:55.0±1.4, 40°.35N±0°.04×74°.78E±0°.03, h5km±14km, n66, σ1s43/102, 29C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.54**	**277**	⇑*i*P	**Pb**	**23 55 23.7**	**-0.2**
	baz=79						
OHH				⇑*i*S	**Sg**	**23 55 46.1**	**+1.8**
	baz=79						
ARLS	**Aral**	**1.55**	**347**	⇓*i*P	**Pb**	**23 55 24.1**	**-0.1**
	baz=46						
ARLS				⇓*i*S	**Sg**	**23 55 46.6**	**+1.9**
	baz=46						
UCH	**Uchtor**	**1.89**	**354**	P	**Pg**	**23 55 31.8**	**+0.7**
	SNR=92						
UCH	**Uchtor**	**1.89**	**354**	⇑*i*P	**Pb**	**23 55 30.2**	**0.0**
	baz=52						
UCH				⇑*i*S	**Sg**	**23 55 56.9**	**+1.3**
	baz=52						
AML	**Almayashu**	**1.96**	**336**	P	**Pg**	**23 55 32.4**	**-0.1**
	SNR=41						
ULHL	**Ulahol**	**2.19**	**30**	P	**Pg**	**23 55 38.7**	**+1.8**
	SNR=66						
ULHL	**Ulahol**	**2.19**	**30**	⇑*i*P	**Pb**	**23 55 33.8**	**-1.4**
	baz=27						
ULHL				⇑*i*S	**Sg**	**23 56 03.2**	**-2.1**
	baz=27						
AAK	**Ala-Archa**	**2.29**	**355**	P	**Pg**	**23 55 39.4**	**+0.4**
	SNR=76						
AAK	**Ala-Archa**	**2.29**	**355**	⇑*i*P	**Pb**	**23 55 35.8**	**-1.2**
	baz=53						
AAK				⇑*i*S	**Sb**	**23 56 06.6**	**+0.9**
	baz=53						
AAK	**Ala-Archa**	**2.29**	**355**	⇓Pn	**Pg**	**23 55 38.3**	**-0.6**
	18nm,0.5s						
AAK				⇓Lg	Lg	23 56 09.2	
	14nm,0.4s						
KBK	**Karagaybulak**	**2.31**	**3**	P	**Pg**	**23 55 40.1**	**+0.9**
	SNR=77						
KBK	**Karagaybulak**	**2.31**	**3**	⇑*i*P	**Pb**	**23 55 36.0**	**-1.2**
	baz=1.0						
KBK				⇑*i*S	**Sb**	**23 56 06.9**	**+0.9**
	baz=1.0						
BOOM	**Boomskoye usch**	**2.31**	**22**	⇓*i*P	**Pb**	**23 55 35.5**	**-1.7**
	baz=20						
BOOM				⇓*i*S	**Sb**	**23 56 06.1**	**0.0**
	baz=20						
EKS2	**Erkin-Say**	**2.43**	**342**	P	**Pg**	**23 55 41.6**	**+0.1**
	SNR=18						
EKS2	**Erkin-Say**	**2.43**	**342**	⇓*e*P	**Pb**	**23 55 37.9**	**-1.3**
	baz=41						
EKS2				⇓*e*S	**Sb**	**23 56 10.2**	**+0.7**
	baz=41						
DRK	**Karamyk**	**2.45**	**250**	⇑*e*P	**Pb**	**23 55 37.3**	**-2.4**
	baz=52						
DRK				⇑*i*S	**Sb**	**23 56 10.2**	**-0.2**
	baz=52						
FRU1	**Bishkek**	**2.46**	**357**	⇑*i*P	**Pb**	**23 55 38.6**	**-1.1**
	baz=56						
FRU1				⇑*i*S	**Sb**	**23 56 11.4**	**+1.1**
	baz=56						
KDJ	**Kajisay**	**2.53**	**45**	⇑*i*P	**Pb**	**23 55 38.3**	**-2.8**
	baz=43						
KDJ				⇑*i*S	**Sb**	**23 56 11.1**	**-1.5**
	baz=43						
ARK	**Arkit**	**2.58**	**305**	⇑*i*P	**Pb**	**23 55 39.9**	**-1.8**
	baz=6.0						
ARK				⇑*i*S	**Sb**	**23 56 13.8**	**+0.1**
	baz=6.0						
TKM2	**Tokmak 2**	**2.64**	**13**	P	**Pg**	**23 55 44.3**	**-1.2**
	SNR=56						
TKM2	**Tokmak 2**	**2.64**	**13**	⇑*e*P	**Pb**	**23 55 40.6**	**-2.2**
	baz=11						
TKM2				⇑*e*S	**Sb**	**23 56 14.4**	**-1.2**
	baz=11						
TKM2	**Tokmak 2**	**2.64**	**13**	⇑Pn	**Pg**	**23 55 43.8**	**-1.8**
	8.1nm,0.3s						
TKM2				⇓Lg	Lg	23 56 21.8	
	28nm,0.7s						
CHMS	**Chumysh**	**2.65**	**359**	P	**Pg**	**23 55 46.4**	**+0.8**
	SNR=28						
CHMS	**Chumysh**	**2.65**	**359**	⇓*i*P	**Pb**	**23 55 40.6**	**-2.3**
	baz=58						
CHMS				⇓*e*S	**Sb**	**23 56 15.0**	**-0.6**
	baz=58						
MRKS	**Merke**	**2.66**	**334**	*e*P	**Pg**	**23 55 46.9**	**+0.9**
	5.6nm,0.4s						
MRKS				*e*S	**Sg**	**23 56 21.3**	**+0.8**
	37nm,0.3s						
MRKS	**Merke**	**2.66**	**334**	Pg	**Pg**	**23 55 46.9**	**+0.9**
	20nm,0.5s						
MRKS				Lg	Lg	23 56 21.3	
	37nm,0.3s						
KST	**Kastek**	**2.83**	**18**	*e*P	**Pg**	**23 55 49.3**	**+0.1**
	18nm,0.4s						
KST				*e*S	**Sg**	**23 56 25.3**	**-0.6**
	55nm,0.4s						
KST	**Kastek**	**2.83**	**18**	Pg	**Pg**	**23 55 49.3**	**+0.1**
	18nm,0.4s						
KST				Lg	Lg	23 56 25.3	
	55nm,0.4s						
USP	**Ospenovka**	**2.92**	**356**	P	**Pg**	**23 55 50.7**	**-0.2**
	SNR=24						
USP	**Ospenovka**	**2.92**	**356**	⇑*i*P	**Pb**	**23 55 44.4**	**-3.2**
	baz=55						
USP				⇑*i*S	**Sb**	**23 56 21.8**	**-1.8**
	baz=55						
DGS	**Degeres**	**2.98**	**14**	*e*P	**Pg**	**23 55 51.2**	**-0.9**
	32nm,0.4s						
DGS				*e*S	**Sg**	**23 56 28.4**	**-2.3**
	30nm,0.4s						
DGS	**Degeres**	**2.98**	**14**	Pg	**Pg**	**23 55 51.2**	**-0.9**
	32nm,0.4s						
DGS				Lg	Lg	23 56 28.4	
	30nm,0.4s						
MTBS	**Maitube**	**3.04**	**23**	*e*P	**Pg**	**23 55 53.8**	**+0.6**
	6.0nm,0.3s						
MTBS				*e*S	**Sg**	**23 56 33.2**	**+0.7**
	34nm,0.3s						
MTBS	**Maitube**	**3.04**	**23**	Pg	**Pg**	**23 55 53.8**	**+0.6**
	6.0nm,0.3s						
MTBS				Lg	Lg	23 56 33.2	
	34nm,0.3s						
BTK	**Batken**	**3.05**	**266**	⇓*i*P	**Pb**	**23 55 45.9**	**-3.9**
	baz=67						
BTK				⇓*i*S	**Sb**	**23 56 24.5**	**-2.9**
	baz=67						
SGDS	**Sogindy**	**3.10**	**358**	*e*P	**Pg**	**23 55 53.7**	**-0.7**
	4.9nm,0.5s						
SGDS				*e*S	**Sg**	**23 56 33.3**	**-1.2**
	10nm,0.5s						
SGDS	**Sogindy**	**3.10**	**358**	Pg	**Pg**	**23 55 53.7**	**-0.7**
	4.9nm,0.5s						
SGDS				Lg	Lg	23 56 33.3	
	10nm,0.5s						
TNSS	**Tian-Shan**	**3.13**	**30**	*e*P	**Pg**	**23 55 55.9**	**+0.9**
	15nm,0.3s						
TNSS				*e*S	**Sg**	**23 56 37.1**	**+1.4**
	22nm,0.6s						
TNSS	**Tian-Shan**	**3.13**	**30**	Pg	**Pg**	**23 55 55.9**	**+0.9**
	15nm,0.3s						
TNSS				Lg	Lg	23 56 37.1	
	22nm,0.6s						
MDOK	**Medeo**	**3.28**	**30**	*e*P	**Pg**	**23 55 58.4**	**+0.6**
	19nm,0.5s						
MDOK				*e*S	**Sg**	**23 56 41.2**	**+0.8**
	28nm,0.9s						
MDOK	**Medeo**	**3.28**	**30**	⇑Pg	**Pg**	**23 55 58.2**	**+0.4**
	14nm,0.6s						
MDOK				⇓Lg	Lg	23 56 42.9	
	41nm,1.0s						
MDOK	**Medeo**	**3.28**	**30**	Pg	**Pg**	**23 55 58.4**	**+0.6**
	19nm,0.5s						
MDOK				Lg	Lg	23 56 41.2	
	28nm,0.9s						
KNDC	**Almaty**	**3.30**	**29**	⇑Pg	**Pg**	**23 55 59.6**	**+1.5**
	46nm,0.7s						
KNDC				⇑Lg	Lg	23 56 43.0	
	94nm,0.6s						
KOTS	**Kotyrbulak**	**3.37**	**30**	*e*P	**Pg**	**23 56 00.2**	**+0.8**
	27nm,0.4s						
KOTS				*e*S	**Sg**	**23 56 44.3**	**+1.2**
	75nm,0.8s						
KOTS	**Kotyrbulak**	**3.37**	**30**	Pg	**Pg**	**23 56 00.2**	**+0.8**
	27nm,0.4s						
KOTS				Lg	Lg	23 56 44.3	
	75nm,

KK02 ⇑Pg **Pg** **23 56 14.8 -0.9**
2.0nm,0.4s
KK02 ⇑Lg Lg 23 57 08.9
3.3nm,0.5s,baz=126,slow=28
UZB Uzynbulak 4.22 47 *e*P **Pg** **23 56 16.6 +0.7**
3.5nm,0.3s
UZB *e*S **Sg** **23 57 11.9 +1.2**
11nm,0.5s
KPKS Kokpek 4.26 42 *e*P **Pg** **23 56 17.2 +0.6**
3.4nm,0.2s
KPKS *e*S **Sg** **23 57 13.0 +1.2**
22nm,0.6s
SHLS Shalkode 4.48 50 *e*P Pg 23 56 26.9 +6.1
1.4nm,0.2s
SHLS *e*S Sg 23 57 29.6 +11
9.3nm,0.7s
PDGK Podgornoye 4.61 48 Pg **Pg** **23 56 23.7 +0.5**
3.7nm,0.8s
PDGK ⇓Lg Lg 23 57 25.4
10nm,0.7s
BTLS Baital 4.72 354 *e*P **Pg** **23 56 22.7 -2.6**
1.1nm,0.6s
BTLS *e*S **Sg** **23 57 23.4 -3.1**
4.2nm,0.7s
BTLS Baital 4.72 354 Pg **Pg** **23 56 22.7 -2.6**
1.1nm,0.6s
BTLS Lg Lg 23 57 23.4
4.2nm,0.7s
DJR Jarkent 5.44 41 *e*P **Pg** **23 56 39.1 -0.1**
0.7nm,0.1s
DJR *e*S **Sg** **23 57 50.3 +0.8**
4.9nm,0.5s

BGR ***18*** *00:16:55.7±0.0,22.˝83S×173.˚04E, h33km*
BJI ***18*** *00:17:06.0±0.0,21.˝59S×171.˚30E, h74km, mb5.1/57, mB5.1/34, Ms5.3/24, Ms7 5.1/22*
NEIC ***18*** *00:17:07.9±1.6,22.˝33S±0.˝07×171.˚41E±0.˚07, h89km±3km, mb5.2/265, Error ellipse: s-maj=10.2km s-min=9.1km az=148.0*
MOS ***18*** *00:17:09.1±1.3,22.˝14S×171.˚34E, h114km, mb5.3/27, Error ellipse: s-maj=9.2km s-min=8.4km az=102.5*
GCMT ***18*** *00:17:09.9±0.2,22.˝36S±0.˝02×171.˚41E±0.˚02, h107km±2km, MW5.2/102, Moment Tensor Solution. s72,c92; s102,c138; Duration: 1s0 Moment tensor: Scale 1016 Nm; Mrr4.33±.23; Mθθ-3.99±.34; Mφφ-0.34±.31; Mrθ4.37±.19; Mφφ4.95±.24; Mrφ2.32±.18; Best double couple: Mo8.13900×1016 NP1:φs338.00000°, δ47.00000°, λ148.00000°. NP2:φs91.00000°, δ67.00000°, λ48.00000°. Principal axes: T 8.3500, Plg50.0000°, Azm315.0000°; N -0.4270, Plg38.0000°, Azm110.0000°; P -7.9270, Plg12.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***18*** *00:17:10.1,22.˝29S×171.˚34E, h108km, mb5.4/60, Southeast of Loyalty Islands*
IDC ***18*** *00:17:10.5±1.6,22.˝27S×171.˚34E, h121km±14km, mb4.7/27, mb1 4.8/32, mb1mx4.6/44, mbtmp5.1/32, MS4.3/4, Ms1 4.3/4, ms1mx3.6/52, Error ellipse: s-maj=11.2km s-min=9.1km az=156.0*
ISC 18 00:17:07.7±0.2,22°30S±0.˚04×171°39E±0.˚04, h98km, n941, σ1§31/857, mb5.2/217, 106C-59D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.23**	**284**			**Pn**	**00 17 56.1**	**-0.4**
MARNC				Sn		**Sn**	**00 18 33.8**	**-0.3**
PINNC	**Pines Island,**	**3.66**	**264**			**Pn**	**00 18 02.4**	**0.0**
PINNC				Sn		**Sn**	**00 18 45.3**	**+0.7**
PINNC	**Pines Island,**	**3.66**	**264**	P		**Pn**	**00 18 02.9**	**+0.6**
LIFNC	**LIFOU**	**4.15**	**291**	Pn		**Pn**	**00 18 07.4**	**-1.6**
OUENC	**Ouen Island, N**	**4.21**	**268**	Pn		**Pn**	**00 18 09.8**	**0.0**
OUENC				Sn		**Sn**	**00 18 57.1**	**-0.9**
OUENC	**Ouen Island, N**	**4.21**	**268**	P		**Pn**	**00 18 10.2**	**+0.4**
ONTNC	**Ouen Toro**	**4.57**	**269**	Pn		**Pn**	**00 18 14.5**	**-0.1**
ONTNC				Sn		**Sn**	**00 19 06.5**	**-0.2**
ONTNC	**Ouen Toro**	**4.57**	**269**	P		**Pn**	**00 18 15.6**	**+0.9**
DZM	**Mont Dzumac**	**4.59**	**272**	P		**Pn**	**00 18 15.6**	**+0.6**
	157nm,0.3s,baz=306,slow=23,SNR=1650							
DZM				S		**Sn**	**00 19 05.6**	**-1.7**
	542nm,0.3s,baz=62,slow=23,SNR=8.3							
DZM				LR		LR	00 19 12.8	
	comp=Z,447nm,20.5s,baz=46,slow=27							
DZM	**Mont Dzumac**	**4.59**	**272**	*e*Pn		**Pn**	**00 18 15.7**	**+0.7**
	475nm,0.7s							
DZM				*e*Sn		**Sn**	**00 19 05.4**	**-1.9**
	6μm,0.8s							
DZM	**Mont Dzumac**	**4.59**	**272**	Pn		**Pn**	**00 18 15.4**	**+0.4**
DZM	**Mont Dzumac**	**4.59**	**272**	P		**Pn**	**00 18 15.8**	**+0.7**
RTV	**Rentapao**	**5.28**	**328**	P		**Pn**	**00 18 27.6**	**+3.3**
DVP	**Devils Point**	**5.46**	**326**	P		**Pn**	**00 18 28.5**	**+1.8**
KOUNC	**Koumac, New Ca**	**6.84**	**283**	Pn		**Pn**	**00 18 46.6**	**+1.1**
NFK	**Norfolk Island**	**7.40**	**204**	P		**Pn**	**00 18 53.6**	**+0.5**
	baz=7.8,SNR=133							
NFK				S		**Sn**	**00 20 11.5**	**-4.0**
	baz=7.8							
NFK	**Norfolk Island**	**7.40**	**204**	P		**Pn**	**00 18 53.9**	**+0.8**
MSVF	**Nonsavu**	**7.73**	**55**	P		**Pn**	**00 19 00.7**	**+3.0**
	8.7nm,0.3s,baz=224,slow=9.2,SNR=133							
MSVF	**Nonsavu**	**7.73**	**55**	*d*P		**Pn**	**00 18 59.4**	**+1.7**
MSVF	**Nonsavu**	**7.73**	**55**	Pn		**Pn**	**00 19 00.1**	**+2.3**
MSVF	**Nonsavu**	**7.73**	**55**	P		**Pn**	**00 19 00.9**	**+3.2**
SANVU	**Saraoutou**	**7.88**	**329**	Pn		**Pn**	**00 19 00.1**	**+0.3**
OUZ	**Omahuta**	**13.02**	**172**	Pn		**Pn**	**00 20 09.7**	**+0.8**
OUZ	**Omahuta**	**13.02**	**172**	P		**Pn**	**00 20 10.9**	**+2.0**
LHI	**Lord Howe Isla**	**14.32**	**228**	P		**Pn**	**00 20 27.7**	**+1.8**
	baz=15							
LHI	**Lord Howe Isla**	**14.32**	**228**	Pn		**Pn**	**00 20 27.4**	**+1.5**
FUNA	**Funafuti**	**15.62**	**30**	Pn		**Pn**	**00 20 42.2**	**-0.2**
MXZ	**Matakaoa Point**	**16.34**	**160**	Pn		**Pn**	**00 20 48.8**	**-2.4**
HIZ	**Hauiti**	**16.43**	**170**	Pn		**Pn**	**00 20 51.9**	**-0.5**
HIZ				IAmb		IAmb	00 20 58.3	
	comp=Z,259nm,1.7s							
URZ	**Urewera**	**16.65**	**164**	P		**P**	**00 20 57.4**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=0.0,slow=5.5,SNR=42							
URZ				LR		LR	00 26 07.4	
	comp=Z,374nm,18.0s,baz=354,slow=32							
URZ	**Urewera**	**16.65**	**164**	P		**P**	**00 20 57.0**	**+1.2**
URZ				IAmb		IAmb	00 20 58.8	
	comp=Z,136nm,1.0s							
URZ	**Urewera**	**16.65**	**164**	P		**P**	**00 20 57.6**	**+1.8**
HNR	**Honiara**	**16.86**	**318**	P		**P**	**00 20 58.4**	**0.0**
	comp=Z,17nm,0.3s,baz=343,slow=5.9,SNR=5.0							
HNR	**Honiara**	**16.86**	**318**	P		**P**	**00 20 58.4**	**0.0**
NNVZ	**North Ngauruho**	**17.16**	**169**	P		**P**	**00 21 04.5**	**+2.9**
TMVZ	**Te Maari**	**17.16**	**169**	P		**P**	**00 21 04.1**	**+2.5**
ETVZ	**East Tongariro**	**17.18**	**169**	P		**P**	**00 21 06.7**	**+4.9**
OTVZ	**Oturere**	**17.20**	**169**	P		**P**	**00 21 04.6**	**+2.6**
RAHZ	**Arahi**	**17.27**	**165**	P		**P**	**00 21 05.3**	**+2.7**
TRVZ	**Turoa**	**17.31**	**169**	P		**Pn**	**00 21 06.2**	**+2.8**
WNVZ	**Wahianoa**	**17.35**	**169**	P		**Pn**	**00 21 06.4**	**+2.6**
BKZ	**Black Stump Fm**	**17.37**	**167**	P		**Pn**	**00 21 04.4**	**+0.5**
BKZ				IAmb		IAmb	00 21 07.6	
	comp=Z,115nm,1.0s							
BKZ	**Black Stump Fm**	**17.37**	**167**	P		**Pn**	**00 21 04.2**	**+0.3**
BKZ	**Black Stump Fm**	**17.37**	**167**	P		**Pn**	**00 21 06.1**	**+2.2**
BHHZ	**Black Hill Sta**	**17.59**	**168**	P		**Pn**	**00 21 08.3**	**+1.7**
KWHZ	**Kaweka Forest**	**17.60**	**167**	P		**Pn**	**00 21 08.7**	**+1.9**
AFI	**Afiamalu**	**18.03**	**65**	P		**Pn**	**00 21 12.5**	**+0.4**
	comp=Z,5.4nm,0.3s,baz=65,slow=8.3,SNR=4.4							
AFI				LR		LR	00 26 34.1	
	comp=Z,533nm,19.4s,baz=259,slow=31							
AFI	**Afiamalu**	**18.03**	**65**	P		**P**	**00 21 10.1**	**-1.2**
QRZ	**Quartz Range**	**18.50**	**177**			**Pn**	**00 21 17.7**	**+0.3**
QRZ				IAmb		IAmb	00 21 20.9	
	comp=Z,188nm,1.3s							
QRZ	**Quartz Range**	**18.50**	**177**	P		**Pn**	**00 21 18.1**	**+0.7**
BFZ	**Birch Farm**	**18.78**	**168**	P		**P**	**00 21 19.9**	**+0.6**
BFZ	**Birch Farm**	**18.78**	**168**	P		**P**	**00 21 19.8**	**+0.6**
EIDS	**Eidsvold**	**18.83**	**257**	P		**Pn**	**00 21 23.3**	**+1.7**
	baz=19,SNR=21							
EIDS	**Eidsvold**	**18.83**	**257**	P		**Pn**	**00 21 21.1**	**-0.5**
EIDS				IAmb		IAmb	00 21 27.1	
	comp=Z,127nm,1.1s							
EIDS	**Eidsvold**	**18.83**	**257**	P		**Pn**	**00 21 22.9**	**+1.4**
NNZ	**Nelson**	**18.93**	**175**	P		**Pn**	**00 21 22.5**	**-0.1**
SNZO	**South Karori**	**19.16**	**172**	P		**P**	**00 21 23.8**	**+0.5**
SNZO				IAmb		IAmb	00 21 28.3	
	comp=Z,112nm,0.8s							
SNZO	**South Karori**	**19.16**	**172**	P		**Pn**	**00 21 24.8**	**-0.4**
TUWZ	**Tuamarina**	**19.19**	**174**	P		**P**	**00 21 24.3**	**+0.6**
BHW	**Baring Head**	**19.28**	**172**	P		**P**	**00 21 24.9**	**+0.3**
RK1H	**Rockhampton Ha**	**19.29**	**263**	P		**Pn**	**00 21 27.3**	**+0.3**
MSWZ	**Moikau Station**	**19.33**	**171**	P		**P**	**00 21 25.5**	**+0.2**
THZ	**Tophouse**	**19.45**	**177**	P		**Pn**	**00 21 28.4**	**-0.3**
ARMA	**Armidale**	**19.45**	**241**	P		**Pn**	**00 21 30.3**	**+1.4**
	baz=20,SNR=17							
ARMA	**Armidale**	**19.45**	**241**			**Pn**	**00 21 28.7**	**-0.2**
ARMA					IAmb	IAmb	00 21 34.6	
	comp=Z,191nm,1.2s							
ARMA	**Armidale**	**19.45**	**241**	P		**Pn**	**00 21 29.8**	**+0.9**
BSWZ	**Blackbirch Sta**	**19.47**	**174**	P		**P**	**00 21 27.9**	**+1.2**
PLWZ	**Palliser**	**19.49**	**171**	P		**P**	**00 21 26.8**	**-0.2**
CMWZ	**Cape Campbell**	**19.54**	**174**	P		**P**	**00 21 28.4**	**+0.9**
KHZ	**Kahutara**	**20.14**	**175**	P		**P**	**00 21 34.4**	**+0.4**
KHZ					IAmb	IAmb	00 21 36.5	
	comp=Z,118nm,0.9s							
KHZ	**Kahutara**	**20.14**	**175**	P		**P**	**00 21 34.3**	**+0.4**
LTZ	**Lake Taylor**	**20.44**	**178**	P		**P**	**00 21 38.4**	**+1.2**
MGCD	**Mangrove Creek**	**20.95**	**234**	P		Pn	00 21 46.3	+0.1
	baz=21,SNR=7.9							
MGCD	**Mangrove Creek**	**20.95**	**234**	P		Pn	00 21 46.0	-0.2
OXZ	**Oxford**	**20.98**	**179**	P		**P**	**00 21 43.2**	**+0.3**
OXZ					IAmb	IAmb	00 21 44.9	
	comp=Z,95nm,0.8s							
RMQ	**Roma**	**21.02**	**254**	P		**P**	**00 21 46.8**	**+3.1**
	baz=21,SNR=17							
RMQ	**Roma**	**21.02**	**254**	P		**P**	**00 21 46.7**	**+3.1**
FOZ	**Fox Glacier**	**21.21**	**183**	P		**P**	**00 21 45.9**	**+0.4**
FOZ					IAmb	IAmb	00 21 50.9	
	comp=Z,213nm,1.2s							
RPZ	**Rata Peaks**	**21.36**	**181**	P		**P**	**00 21 48.5**	**+1.5**
	comp=Z,77nm,0.9s,baz=272,slow=21,SNR=20							
RPZ					LR	LR	00 28 48.0	
	comp=Z,482nm,21.2s,baz=7.0,slow=33							
RPZ	**Rata Peaks**	**21.36**	**181**	P		**P**	**00 21 47.8**	**+0.7**
RPZ					IAmb	IAmb	00 21 49.2	
	comp=Z,102nm,0.9s							
MQZ	**McQueen's Vall**	**21.37**	**177**	P		**P**	**00 21 47.5**	**+0.3**
LBZ	**Lake Benmore**	**22.05**	**182**	P		**P**	**00 21 54.8**	**+0.4**
WKZ	**Wanaka**	**22.55**	**184**	P		**P**	**00 21 59.9**	**+0.2**
WKZ					IAmb	IAmb	00 22 26.4	
	comp=Z,125nm,1.2s							
ODZ	**Otahua Downs**	**22.69**	**181**	P		**P**	**00 22 01.4**	**+0.3**
MLZ	**Mavora Lakes**	**23.16**	**186**	P		**P**	**00 22 05.1**	**-0.6**
CNB	**Canberra Magne**	**23.19**	**231**	P		**P**	**00 22 08.8**	**+2.7**
	baz=24,SNR=24							
CNB	**Canberra Magne**	**23.19**	**231**	P		**P**	**00 22 09.0**	**+2.9**
DCZ	**Deep Cove**	**23.37**	**188**	P		**P**	**00 22 08.2**	**+0.7**
CAN	**Canberra**	**23.46**	**232**	P		**P**	**00 22 10.0**	**+1.5**
CAN					pmax	pmax		
	comp=Z,56nm,1.0s							
CAN	**Canberra**	**23.46**	**232**	P		**P**	**00 22 10.0**	**+1.5**
CTA	**Charters Tower**	**23.54**	**271**	P		**P**	**00 22 10.7**	**+1.3**
	comp=Z,26nm,0.7s,baz=92,slow=9.7,SNR=30							
CTA	**Charters Tower**	**23.54**	**271**	P		**P**	**00 22 10.8**	**+1.4**
	comp=Z,51nm,0.8s							
TARA	**Tarawa**	**23.56**	**4**	P		**P**	**00 22 08.8**	**-0.7**
WHZ	**Wether Hill Ro**	**23.70**	**186**	P		**P**	**00 22 11.4**	**+0.9**
WHZ					IAmb	IAmb	00 22 14.0	
	comp=Z,103nm,1.3s							
MILA	**Mila**	**24.20**	**228**	P		**P**	**00 22 17.2**	**+2.1**
	baz=25,SNR=6.2							
CMSA	**Cobar Meteorol**	**24.65**	**243**	P		**P**	**00 22 20.7**	**+1.5**
	baz=25,SNR=59							
CMSA	**Cobar Meteorol**	**24.65**	**243**	P		**P**	**00 22 20.7**	**+1.5**
QLP	**Quilpie**	**25.07**	**255**	P		**P**	**00 22 24.1**	**+0.9**
	baz=25,SNR=14							
QLP	**Quilpie**	**25.07**	**255**	P		**P**	**00 22 26.0**	**+2.8**
KNTN	**Kanton**	**25.41**	**43**	P		**P**	**00 22 25.9**	**-0.4**
KNTN					IAmb	IAmb	00 22 27.0	
	comp=Z,82nm,0.8s							
MTSU	**Mount Surprise**	**25.73**	**274**	P		**P**	**00 22 30.6**	**+1.3**
	baz=26,SNR=178							
PMG	**Port Moresby**	**26.55**	**295**	P		**P**	**00 22 36.3**	**-0.3**
	comp=Z,61nm,0.7s,baz=120,slow=5.0,SNR=12							
PMG	**Port Moresby**	**26.55**	**295**	*i* P		**P**	**00 22 35.3**	**-1.3**
PMG					pmax	pmax		
	comp=Z,45nm,0.8s							
PMG	**Port Moresby**	**26.55**	**295**	P		**P**	**00 22 36.8**	**+0.2**
PMG					IAmb	IAmb	00 22 37.8	
	comp=Z,60nm,0.8s							
RAR	**Rarotonga**	**26.79**	**93**	LR		LR	00 34 09.4	
	comp=Z,48nm,18.1s,baz=276,slow=38							
TOO	**Toolangi**	**27.00**	**230**	P		**P**	**00 22 43.4**	**+2.8**
	baz=27,SNR=5.2							
TOO	**Toolangi**	**27.00**	**230**	P		**P**	**00 22 43.3**	**+2.8**
GLAD	**Gladstone**	**27.12**	**221**	P		**P**	**00 22 43.4**	**+1.9**
COEN	**Coen**	**28.03**	**282**	P		**P**	**00 22 50.8**	**+0.8**
COEN					IAmb	IAmb	00 22 52.3	
	comp=Z,87nm,1.2s							
COEN	**Coen**	**28.03**	**282**	P		**P**	**00 22 51.2**	**+1.3**
STKA	**Stephens Creek**	**28.11**	**244**	P		**P**	**00 22 51.1**	**+0.6**
	comp=Z,9.9nm,0.6s,baz=92,slow=11,SNR=16							
STKA					PcP	**PcP**	**00 26 03.2**	**+0.7**
	comp=Z,13nm,1.0s,baz=126,slow=3.0,SNR=4.4							
STKA	**Stephens Creek**	**28.11**	**244**	P		**P**	**00 22 51.9**	**+1.4**
	baz=28,SNR=9.7							
STKA	**Stephens Creek**	**28.11**	**244**	P		**P**	**00 22 51.1**	**+0.6**
STKA	**Stephens Creek**	**28.11**	**244**	P		**P**	**00 22 51.8**	**+1.3**
QIS	**Mount Isa**	**29.61**	**267**	P		**P**	**00 23 04.6**	**+0.7**
	baz=30,SNR=6.1							
QIS	**Mount Isa**	**29.61**	**267**	P		**P**	**00 23 04.7**	**+0.8**
HTT	**Hallett**	**30.65**	**242**	P		**P**	**00 23 14.3**	**+1.3**
	baz=31,SNR=7.4							
HTT	**Hallett**	**30.65**	**242**	P		**P**	**00 23 14.0**	**+1.0**
LCRK	**Leigh Creek**	**30.73**	**248**	P		**P**	**00 23 14.6**	**+1.0**
OOD	**Oodnadatta**	**32.73**	**253**	P		**P**	**00 23 32.9**	**+1.7**
BBOO	**Buckleboo**	**32.89**	**244**	P		**P**	**00 23 33.5**	**+0.9**
	baz=33,SNR=5.7							
BBOO	**Buckleboo**	**32.89**	**244**	P		**P**	**00 23 33.2**	**+0.6**
BBOO					IAmb	IAmb	00 23 34.3	
	comp=Z,51nm,1.1s							
BBOO	**Buckleboo**	**32.89**	**244**	P		**P**	**00 23 33.3**	**+0.6**
MULG	**Mulgathing**	**34.28**	**249**	P		**P**	**00 23 45.5**	**+0.8**
WR0	**Warramunga Arr**	**34.40**	**267**	IAmb		IAmb	00 23 47.4	
	comp=Z,50nm,1.4s							
AS31	**Alice Springs**	**34.48**	**260**	IAmb		IAmb	00 23 47.7	
	comp=Z,23nm,0.8s							
ASAR	**Alice Springs**	**34.48**	**260**	P		**P**	**00 23 46.5**	**-0.1**
	comp=Z,56nm,0.7s,baz=84,slow=9.2,SNR=447							
ASAR					PcP	**PcP**	**00 26 19.8**	**0.0**
	comp=Z,4.1nm,0.6s,baz=110,slow=3.0,SNR=5.8							
ASAR					S	**S**	**00 29 07.2**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=91,slow=15,SNR=5.3							
ASAR					ScP	**ScP**	**00 29 58.9**	**+2.7**
	comp=Z,1.3nm,0.7s,baz=98,slow=4.1,SNR=5.7							
ASAR	**Alice Springs**	**34.48**	**260**	P		**P**	**00 23 46.3**	**-0.2**
ASPA	**Alice Springs**	**34.48**	**260**	P		**P**	**00 23 46.7**	**+0.2**
	baz=35							
WB0	**Warramunga Arr**	**34.57**	**267**	IAmb		IAmb	00 23 48.7	
	comp=Z,7nm,0.7s							
WB2	**Warramunga Arr**	**34.58**	**267**	IAmb		IAmb	00 23 47.8	
	comp=Z,79nm,1.8s							
WRAB	**Tennant Creek**	**34.58**	**267**	*i* P		**P**	**00 23 45.3**	**-2.1**
WRAB					pmax	pmax		
	comp=Z,45nm,1.8s							
WRAB	**Tennant Creek**	**34.58**	**267**	P		**P**	**00 23 46.5**	**-1.0**
WRAB	**Tennant Creek**	**34.58**	**267**	P		**P**	**00 23 46.4**	**-1.0**
WRA	**Warramunga Arr**	**34.59**	**267**	P		**P**	**00 23 46.6**	**-0.9**
	comp=Z,7.0nm,0.4s,baz=96,slow=8.5,SNR=137							
WRA					PcP	**PcP**	**00 26 19.9**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=102,slow=2.8,SNR=5.9							
WRA					S	**S**	**00 29 06.7**	**-3.1**
	comp=Z,2.5nm,1.0s,baz=96,slow=13,SNR=5.8							
WRA					PKiKP	**PKiKP**	**00 33 41.7**	**-1.3**
	comp=Z,0.7nm,1.0s,baz=48,slow=0.8,SNR=4.5							
JAY	**Jayapura**	**35.70**	**299**	P		**P**	**00 23 57.6**	**+0.5**
	comp=Z,559nmcomp=Z,68nm,1.0s							
GENI	**Genyem**	**36.09**	**298**	P		**P**	**00 24 00.8**	**+0.5**
	comp=Z,2μmcomp=Z,150nm,1.1s							
PPT2	**Papeete2**	**36.92**	**90**	*e*LQ		LQ	00 32 27.9	
	comp=Z,1μm,28.0s							
PPT2				*e*LR		LR	00 34 10.9	
	comp=Z,502nm,27.8s,baz=264							
SMPI	**Sarmi**	**37.62**	**298**	P		**P**	**00 24 13.4**	**0.0**
	comp=Z,24nm,1.3s							
KDU	**Kakadu**	**38.23**	**278**	P		**P**	**00 24 18.2**	**-0.2**
	baz=38,SNR=12							
MTN	**Manton Dam**	**39.41**	**277**	P		**P**	**00 24 28.3**	**-0.1**
	baz=40,SNR=12							
MTN	**Manton Dam**	**39.41**	**277**	P		**P**	**00 24 27.9**	**-0.4**
WRKA	**Warakurna**	**39.45**	**257**	P		**P**	**00 24 28.7**	**+0.1**
	baz=40,SNR=66							
WRKA	**Warakurna**	**39.45**	**257**	P		**P**	**00 24 28.9**	**+0.3**
FORT	**Forrest**	**39.48**	**248**	P		**P**	**00 24 29.1**	**+0.4**
	baz=40,SNR=17							
FORT	**Forrest**	**39.48**	**248**	P		**P**	**00 24 29.2**	**+0.5**
FORT	**Forrest**	**39.48**	**248**	P		**P**	**00 24 29.0**	**+0.3**
KNRA	**Kununurra**	**40.74**	**272**	P		**P**	**00 24 39.0**	**-0.3**
	baz=41,SNR=12							
KNRA	**Kununurra**	**40.74**	**272**	P		**P**	**00 24 39.1**	**-0.3**
KNRA	**Kununurra**	**40.74**	**272**	P		**P**	**00 24 39.0**	**-0.3**
FAKI	**Fak Fak**	**42.57**	**291**	P		**P**	**00 24 54.0**	**-0.4**
FAKI	**Fak Fak**	**42.57**	**291**	P		**P**	**00 24 53.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.02**	**267**	P		**P**	**00 24 58.4**	**+0.6**
	comp=Z,77nm,0.7s,baz=116,slow=6.6,SNR=126							
FITZ	**Fitzroy Crossi**	**43.02**	**267**	P		**P**	**00 24 58.6**	**+0.7**
	baz=43,SNR=58							
FITZ	**Fitzroy Crossi**	**43.02**	**267**	P		**P**	**00 24 58.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**43.02**	**267**	P		**P**	**00 24 58.6**	**+0.7**
SWI	**Sorong**	**44.47**	**293**	P		**P**	**00 25 09.6**	**+0.1**
	comp=Z,1μmcomp=Z,134nm,0.8s							
PSA00	**Pilbara Seismi**	**47.62**	**261**	P		**P**	**00 25 34.2**	**-0.1**
PSA00	**Pilbara Seismi**	**47.62**	**261**	IAmb		IAmb	00 25 35.5	
	comp=Z,39nm,1.2s							
PSA00	**Pilbara Seismi**	**47.62**	**261**	P		**P**	**00 25 34.5**	**+0.3**
LBMI	**Labuha**	**47.81**	**291**	P		**P**	**00 25 37.0**	**+1.2**
	comp=Z,42nm,1.0s							
MEEK	**Meekatharra**	**47.96**	**254**	P		**P**	**00 25 36.7**	**-0.1**
	baz=48,SNR=33							
MEEK	**Meekatharra**	**47.96**	**254**	P		**P**	**00 25 36.9**	**+0.1**
KLBR	**Kellerberrin**	**48.30**	**247**	P		**P**	**00 25 39.3**	**0.0**
	baz=49,SNR=23							
KLBR	**Kellerberrin**	**48.30**	**247**	P		**P**	**00 25 39.3**	**0.0**
TAOE	**Nuku Hiva Isla**	**48.35**	**82**	*e*LR		LR	00 39 28.0	
	comp=Z,260nm,27.7s							
SANI	**Sanana**	**48.45**	**288**	P		**P**	**00 25 41.1**	**+0.4**
	comp=Z,1μmcomp=Z,140nm,1.0s							
SANI	**Sanana**	**48.45**	**288**	P		**P**	**00 25 41.3**	**+0.6**
MMRI	**Maumere**	**49.07**	**278**	P		**P**	**00 25 45.6**	**+0.2**
	comp=Z,4μmcomp=Z,155nm,0.7s							
BLDU	**Ballidu**	**49.25**	**248**	P		**P**	**00 25 46.3**	**-0.3**
	baz=50,SNR=23							
BLDU	**Ballidu**	**49.25**	**248**	P		**P**	**00 25 46.4**	**-0.3**
MORW	**Morawa**	**49.96**	**250**	P		**P**	**00 25 52.0**	**0.0**
	baz=50,SNR=14							
MORW	**Morawa**	**49.96**	**250**	P		**P**	**00 25 52.2**	**+0.1**
MORW	**Morawa**	**49.96**	**250**	P		**P**	**00 25 52.2**	**+0.1**
BASI	**Baing, Sumba**	**50.02**	**275**	P		**P**	**00 25 54.1**	**+1.4**
	comp=Z,2μmcomp=Z,252nm,0.9s							
WBSI	**Waikabubak, Su**	**51.32**	**276**	P		**P**	**00 26 02.8**	**+0.3**
	comp=Z,1μmcomp=Z,132nm,1.0s							
LUWI	**Luwuk**	**51.76**	**287**	P		**P**	**00 26 06.5**	**+0.8**
BKSI	**Bulukumba**	**52.29**	**281**	P		**P**	**00 26 09.4**	**-0.2**
	comp=Z,769nmcomp=Z,94nm,0.8s							
GTOI	**Gorontalo**	**52.35**	**289**	P		**P**	**00 26 11.6**	**+1.6**
	comp=Z,502nmcomp=Z,59nm,0.7s							
GIRL	**Giralia**	**52.53**	**258**	P		**P**	**00 26 12.8**	**+1.5**
	baz=53,SNR=4.2							
GIRL	**Giralia**	**52.53**	**258**	P		**P**	**00 26 12.6**	**+1.3**
BNSI	**Bone**	**52.68**	**282**	P		**P**	**00 26 13.0**	**+0.5**
	comp=Z,783nmcomp=Z,62nm,1.3s							
KAPI	**Kappang**	**52.75**	**281**	*c i* P		**P**	**00 26 10.5**	**-2.5**
KAPI					pmax	pmax		
	comp=Z,57nm,1.0s							
KAPI	**Kappang**	**52.75**	**281**	P		**P**	**00 26 13.4**	**+0.4**
APSI	**Ampana**	**52.82**	**287**	P		**P**	**00 26 14.8**	**+1.3**
	comp=Z,587nmcomp=Z,52nm,0.8s							
POHA	**Pohakuloa**	**52.83**	**40**	P		**P**	**00 26 14.5**	**+0.8**
MHA	**Mahukona**	**52.95**	**39**	P		**P**	**00 26 14.9**	**+0.7**
MHA	**Mahukona**	**52.95**	**39**	P		**P**	**00 26 14.9**	**+0.7**
PLAI	**Plampang**	**53.10**	**276**	P		**P**	**00 26 16.1**	**+0.5**
	comp=Z,1μmcomp=Z,106nm,0.9s							
PLAI	**Plampang**	**53.10**	**276**	P		**P**	**00 26 16.0**	**+0.5**
SPSI	**Sidrap

	comp=Z,52nm,1.1s										
TPUB	**Ta-pu**	**67.03**	**309**		IAmb	IAmb	00 27 50.3				
	comp=Z,34nm,0.9s										
SSLB	**Suanglung**	**67.11**	**310**		IAmb	IAmb	00 27 50.7				
	comp=Z,27nm,0.9s										
LWLI	**Liwa**	**67.15**	**274**		P	**P**	**00 27 51.4**	**-0.4**			
	comp=Z,186nm,0.7s										
YHNB	**Yeheng**	**67.37**	**311**		IAmb	IAmb	00 27 54.5				
	comp=Z,46nm,1.1s										
JHS	**Saijyo**	**67.58**	**327**		IAmb	IAmb	00 27 55.2				
	comp=Z,27nm,0.9s										
JSD	**Sado**	**67.61**	**332**		P	**P**	**00 27 53.6**	**-0.4**			
QSPA	**South Pole Qui**	**67.77**	**180**		P	**P**	**00 27 55.1**	**+0.2**			
	comp=Z,26nm,0.7s,baz=11,slow=1.1,SNR=120										
QSPA	**South Pole Qui**	**67.77**	**180**		P	**P**	**00 27 55.1**	**+0.2**			
QSPA					IAmb	IAmb	00 27 56.1				
	comp=Z,35nm,0.9s										
MNAI	**Manna**	**68.41**	**274**		P	**P**	**00 27 59.1**	**-0.5**			
	comp=Z,328nm,1.4s										
DSRI	**Dabo**	**68.42**	**279**		P	**P**	**00 28 00.3**	**+0.7**			
	comp=Z,35nm,1.1s										
JTM	**Tenmabayashi**	**68.81**	**336**		IAmb	IAmb	00 28 03.2				
	comp=Z,45nm,1.1s										
MASI	**Maura Aman, Be**	**69.54**	**275**		P	**P**	**00 28 06.3**	**-0.3**			
	comp=Z,12µmcomp=Z,197nm,1.0s										
DLV	**T Lat**	**70.42**	**292**		P	**P**	**00 28 13.0**	**+1.0**			
DLV					IAmb	IAmb	00 28 14.4				
	comp=Z,40nm,1.1s										
TJN	**Taejon**	**71.67**	**324**		P	**P**	**00 28 18.8**	**-0.1**			
TJN					pmax	pmax					
	comp=Z,128nm,1.0s										
TJN	**Taejon**	**71.67**	**324**		P	**P**	**00 28 18.8**	**-0.1**			
KSRS	**Korea Array**	**72.16**	**325**		P	**P**	**00 28 22.1**	**+0.3**			
	comp=Z,9.2nm,0.9s,baz=147,slow=6.2,SNR=28										
KSRS					PP	**PP**	**00 31 00.9**	**-2.7**			
	comp=Z,1.3nm,0.5s,baz=146,slow=9.6,SNR=4.0										
KS19	**Wonju Array Si**	**72.22**	**325**		P	**P**	**00 28 22.4**	**+0.1**			
INCN	**Inchon**	**72.87**	**324**		P	**P**	**00 28 26.6**	**+0.5**			
INCN					pmax	pmax					
	comp=Z,72nm,1.2s										
INCN	**Inchon**	**72.87**	**324**		P	**P**	**00 28 26.6**	**+0.5**			
MNSI	**Mandailing Nat**	**73.51**	**278**		P	**P**	**00 28 29.6**	**-0.8**			
	comp=Z,1µmcomp=Z,75nm,0.8s										
YSS	**Yuzh-Sakhalins**	**73.62**	**340**	*i*	P	**P**	**00 28 29.8**	**-0.4**			
YSS					pmax	pmax					
	comp=Z,45nm,0.9s										
YSS	**Yuzh-Sakhalins**	**73.62**	**340**		P	**P**	**00 28 31.4**	**+1.2**			
YSS					IAmb	IAmb	00 28 32.4				
	comp=Z,58nm,1.0s										
IPM	**Ipoh**	**73.68**	**282**		P	**P**	**00 28 31.9**	**+0.5**			
NJ2	**Nanjing**	**73.80**	**315**	*e*	P	**P**	**00 28 31.5**	**-0.1**			
NJ2					pmax	pmax					
	comp=Z,27nm,0.9s										
KULM	**Kulim**	**74.36**	**283**		P	**P**	**00 28 35.2**	**-0.1**			
KULM					IAmb	IAmb	00 28 36.2				
	comp=Z,34nm,0.7s										
UBPT	**Khong Chiam**	**74.58**	**294**		P	**P**	**00 28 36.9**	**+0.4**			
SMY	**Shemya**	**74.75**	**2**		P	**P**	**00 28 38.8**	**+2.2**			
SMY					pmax	pmax					
	comp=Z,765nm,1.7s										
SMY	**Shemya**	**74.75**	**2**		P	**P**	**00 28 38.8**	**+2.2**			
USA0B	**Ussuriysk Arra**	**75.37**	**332**		IAmb	IAmb	00 28 41.9				
	comp=Z,33nm,0.9s										
USRK	**Ussuriysk Ar.**	**75.37**	**332**		P	**P**	**00 28 40.6**	**+0.2**			
	comp=Z,20nm,0.8s,baz=151,slow=3.4,SNR=17										
GSI	**Gunungsitoli**	**75.55**	**277**		P	**P**	**00 28 42.7**	**+0.4**			
GSI	**Gunungsitoli**	**75.55**	**277**		P	**P**	**00 28 43.1**	**+0.8**			
	comp=Z,4µmcomp=Z,90nm,0.9s										
GSI	**Gunungsitoli**	**75.55**	**277**		P	**P**	**00 28 43.0**	**+0.8**			
WHN	**Wuhan**	**75.88**	**312**	⇓	P	**P**	**00 28 43.9**	**+0.2**			
WHN					pmax	pmax					
	comp=Z,53nm,1.1s										
PETK	**Petropavlovsk-**	**76.03**	**352**		P	**P**	**00 28 43.8**	**-0.2**			
	comp=Z,14nm,0.8s,baz=187,slow=11,SNR=9.8										
SRIT	**Nakonsritamara**	**76.69**	**285**		P	**P**	**00 28 49.2**	**+0.6**			
MDJ	**Mudanjiang**	**76.76**	**331**		IAmb	IAmb	00 28 49.7				
	comp=Z,29nm,0.9s										
MDJ	**Mudanjiang**	**76.76**	**331**		P	**P**	**00 28 48.8**	**+0.5**			
MDJ					pmax	pmax					
	comp=Z,38nm,0.9s										
MDJ					pmax	pmax					
	comp=Z,220nm,3.5s										
MDJ					LR	LR					
	comp=Z,830nm,13.1s										
MDJ					LR	LR					
	comp=Z,1µm,24.1s										
MDJ					LR	LR					
	comp=Z,890nm,20.0s										
NIKH	**Nikolski High**	**76.90**	**12**		P	**P**	**00 28 48.8**	**-0.1**			
NIKH	**Nikolski High**	**76.90**	**12**		P	**P**	**00 28 48.9**	**-0.1**			
	baz=199										
TYV	**Tymovskoe**	**77.13**	**342**	*e*	P	**P**	**00 28 51.7**	**+1.5**			
TYV					pmax	pmax					
	comp=Z,18nm,0.9s										
TYV					pmax	pmax					
	comp=Z,200nm,7.2s										
TIA	**Tai'an**	**77.56**	**318**	⇑	P	**P**	**00 28 53.0**	**0.0**			
TIA					pmax	pmax					
	comp=Z,33nm,1.1s										
LHMI	**Lhok Sumawe**	**77.69**	**281**		P	**P**	**00 28 54.5**	**+0.3**			
CN2	**Changchun**	**78.11**	**328**	*e*	P	**P**	**00 28 54.6**	**-1.3**			
CN2					PP	**PP**	**00 31 55.8**	**+1.9**			
CN2					SS	SS	00 43 44.5	-1.9			
CN2					pmax	pmax					
	comp=Z,80nm,0.9s										
CN2					LR	LR					
	comp=Z,860nm,30.0s										
CN2					LR	LR					
	comp=Z,870nm,30.0s										
CN2					LR	LR					
	comp=Z,1µm,30.0s										
BNX	**BinXian**	**78.62**	**330**	⇓	P	**P**	**00 28 58.3**	**-0.3**			
BNX					pmax	pmax					
	comp=Z,100nm,0.9s										
BNX					pmax	pmax					
	comp=Z,160nm,4.2s										
BELA	**Belgrano 2**	**78.88**	**175**		P	**P**	**00 28 58.6**	**-1.1**			
GRNR	**Gornyy**	**79.02**	**338**	⇓	*i* P	**P**	**00 29 02.1**	**+1.4**			
GRNR					pmax	pmax					
	comp=Z,20nm,1.1s										
ENH	**Enshi**	**79.16**	**309**		IAmb	IAmb	00 29 02.8				
	comp=Z,33nm,0.6s										
GYA	**Guiyang**	**79.21**	**304**	⇑	*i* P	**P**	**00 29 02.4**	**-0.1**			
GYA					pP	pP	00 29 24.6	-2.4			
GYA					pmax	pmax					
	comp=Z,27nm,1.1s										
KLR	**Kul'dur**	**79.48**	**335**		P	**P**	**00 29 03.9**	**+0.7**			
	comp=Z,2.7nm,0.5s,baz=124,slow=11,SNR=9.1										
LYN	**LuoYang**	**79.54**	**314**	⇑	P	**P**	**00 29 04.1**	**+0.2**			
LYN					pmax	pmax					
	comp=Z,20nm,1.0s										
HNS	**HongShan**	**79.81**	**317**	⇑	P	**P**	**00 29 05.8**	**+0.5**			
HNS					pmax	pmax					
	comp=Z,27nm,1.4s										
BJT	**Baijiatuau**	**80.56**	**320**		P	**P**	**00 29 09.5**	**+0.2**			
BJT					pmax	pmax					
	comp=Z,22nm,1.1s										
BJT	**Baijiatuau**	**80.56**	**320**		P	**P**	**00 29 09.5**	**+0.2**			
BJI	**Beijing**	**80.57**	**320**		P	**P**	**00 29 09.6**	**+0.3**			
BJI					pmax	pmax					
	comp=Z,19nm,1.1s										
BJI					LR	LR					
	comp=Z,660nm,17.8s										
BJI					LR	LR					
	comp=Z,410nm,20.3s										
BJI					LR	LR					
	comp=Z,1µm,23.7s										
TIY	**Taiyuan**	**81.44**	**317**		P	**P**	**00 29 15.0**	**+0.9**			
TIY					S	**S**	**00 39 17.6**	**0.0**			
TIY					LR	LR					
	comp=Z,460nm,18.6s										
TIY					LR	LR					
	comp=Z,690nm,17.9s										
TIY					LR	LR					
	comp=Z,910nm,19.9s										
CM31	**Chiang Mai Arr**	**81.58**	**294**		P	**P**	**00 29 16.7**	**+1.5**			
CM31					IAmb	IAmb	00 29 18.0				
	comp=Z,51nm,1.4s										
CMAR	**Chiang Mai Arr**	**81.58**	**294**		P	**P**	**00 29 16.7**	**+1.5**			
	comp=Z,10nm,0.6s,baz=137,slow=3.9,SNR=58										
KMI	**Kunming**	**81.59**	**301**	⇑	P	**P**	**00 29 16.6**	**+1.2**			
KMI					pmax	pmax					
	comp=Z,26nm,1.2s										
XAN	**Xi'an**	**81.65**	**312**		P	**P**	**00 29 15.4**	**+0.1**			
XAN					pmax	pmax					
	comp=Z,29nm,0.9s										

CHTO	**Chiang Mai**	**81.74**	**294**		P	**P**	**00 29 17.3**	**+1.2**			
CHTO					pmax	pmax					
	comp=Z,58nm,1.4s										
CHTO	**Chiang Mai**	**81.74**	**294**		P	**P**	**00 29 17.3**	**+1.2**			
CHTO					IAmb	IAmb	00 29 18.6				
	comp=Z,58nm,1.4s										
SYO	**Syowa Base**	**82.56**	**196**	⇓	*i* P	**P**	**00 29 19.0**	**-0.4**			
PZH	**PanZhiHua**	**83.04**	**302**		P	**P**	**00 29 21.6**	**-1.2**			
PZH					pmax	pmax					
	comp=Z,10.0nm,0.6s										
PZH					pmax	pmax					
	comp=Z,140nm,5.8s										
XLT	**XiLinHaoTe**	**83.09**	**323**	⇑	*i* P	**P**	**00 29 22.6**	**0.0**			
XLT					pP	pP	00 29 47.1	-0.2			
XLT					S	**S**	**00 39 28.6**	**-5.7**			
XLT					pmax	pmax					
	comp=Z,45nm,0.9s										
XLT					pmax	pmax					
	comp=Z,150nm,3.9s										
XLT					LR	LR					
	comp=Z,140nm,22.2s										
XLT					LR	LR					
	comp=Z,770nm,19.3s										
XLT					LR	LR					
	comp=Z,930nm,24.3s										
MA2	**Magadan**	**83.32**	**350**	*i*	P	**P**	**00 29 21.9**	**-1.4**			
MA2					pmax	pmax					
	comp=Z,5.0nm,0.9s										
CD2	**Chengdu**	**83.68**	**307**		P	**P**	**00 29 27.3**	**+1.4**			
CD2					pmax	pmax					
	comp=Z,10.0nm,0.5s										
HHC	**Hu-ho-hao-te**	**83.84**	**319**	*e*	P	**P**	**00 29 28.6**	**+2.0**			
HHC					PP	**PP**	**00 32 45.3**	**+3.8**			
HHC					S	**S**	**00 39 43.3**	**+1.3**			
HHC					pmax	pmax					
	comp=Z,19nm,1.3s										
HHC					pmax	pmax					
	comp=Z,140nm,7.9s										
HHC					LR	LR					
	comp=Z,560nm,15.6s										
HHC					LR	LR					
	comp=Z,560nm,19.6s										
HHC					LR	LR					
	comp=Z,1µm,18.2s										
PBA	**Port Blair**	**84.10**	**285**		P	**P**	**00 29 28.6**	**+0.3**			
PBA					IAmb	IAmb	00 29 29.5				
	comp=Z,23nm,0.8s										
OHAK	**Old Harbor**	**84.58**	**18**		P	**P**	**00 29 30.3**	**+0.6**			
	baz=212										
BTO	**Baotou**	**84.65**	**318**	*e*	P	**P**	**00 29 31.8**	**+1.2**			
BTO					S	**S**	**00 39 49.9**	**-0.2**			
BTO					LR	LR					
	comp=Z,3µm,17.5s										
BTO					LR	LR					
	comp=Z,1µm,17.4s										
ZEA	**Zeya**	**84.76**	**335**	*e*	P	**P**	**00 29 30.9**	**+0.2**			
ZEA					pmax	pmax					
	comp=N,10.0nm,0.8s										
ZEA					pmax	pmax					
	comp=Z,20nm,1.4s										
TROLL	**Troll, Antarti**	**85.63**	**183**		P	**P**	**00 29 34.4**	**-0.8**			
P18K	**Bg Mountain,**	**85.90**	**16**		IAmb	IAmb	00 29 37.5				
	comp=Z,27nm,0.8s										
P18K	**Big Mountain,**	**85.90**	**16**		P	**P**	**00 29 36.5**	**+0.2**			
	baz=211										
SNAA	**Sanae**	**86.19**	**182**		P	**P**	**00 29 36.7**	**-1.2**			
SNAA	**Sanae**	**86.19**	**182**	*i*	P	**P**	**00 29 35.1**	**-2.8**			
SNAA					pmax	pmax					
	comp=Z,25nm,1.0s										
SNAA	**Sanae**	**86.19**	**182**		P	**P**	**00 29 36.8**	**-1.1**			
SNAA					IAmb	IAmb	00 29 37.8				
	comp=Z,27nm,0.9s										
LZH	**Lanzhou**	**86.26**	**311**	⇑	P	**P**	**00 29 39.8**	**+1.0**			
LZH					pP	pP	00 30 04.4	+0.7			
LZH					pmax	pmax					
	comp=Z,33nm,1.1s										
LZH					pmax	pmax					
	comp=Z,150nm,5.6s										
SEY	**Seymchan**	**86.27**	**351**		P	**P**	**00 29 37.4**	**-0.6**			
	comp=Z,13nm,0.3s,baz=152,slow=4.8,SNR=9.9										
SEY	**Seymchan**	**86.27**	**351**	*i*	P	**P**	**00 29 36.6**	**-1.4**			
SEY					pmax	pmax					
	comp=Z,11nm,0.9s										
SAO	**San Andreas Ge**	**86.34**	**48**		P	**P**	**00 29 39.3**	**+0.3**			
SAO					pmax	pmax					
	comp=Z,23nm,1.0s										
SAO	**San Andreas Ge**	**86.34**	**48**		P	**P**	**00 29 39.3**	**+0.3**			
SAO					IAmb	IAmb	00 29 40.8				
	comp=Z,23nm,1.0s										
SBC	**Santa Barbara**	**86.38**	**51**		P	**P**	**00 29 40.0**	**+0.8**			
	baz=240										
HOPS	**Hopland Field**	**86.42**	**45**		IAmb	IAmb	00 29 41.2				
	comp=Z,27nm,1.0s										
KCPM	**Cahto Peak**	**86.46**	**44**		P	**P**	**00 29 40.8**	**+1.2**			
SCI2	**San Clemente I**	**86.50**	**52**		P	**P**	**00 29 40.3**	**+0.4**			
	baz=241										
GDXM	**Geysers**	**86.50**	**46**		P	**P**	**00 29 40.9**	**+1.1**			
PMPB	**Monarch Peak**	**86.50**	**49**		P	**P**	**00 29 40.4**	**+0.5**			
PMPB					IAmb	IAmb	00 29 41.9				
	comp=Z,31nm,0.9s										
BBGB	**Big Mountain B**	**86.53**	**48**		P	**P**	**00 29 40.6**	**+0.6**			
SMMC	**Simmler**	**86.61**	**50**		P	**P**	**00 29 41.4**	**+1.0**			
	baz=240										
PAGB	**Antelope Grade**	**86.64**	**49**		P	**P**	**00 29 41.0**	**+0.5**			
PAGB					IAmb	IAmb	00 29 41.9				
	comp=Z,18nm,0.9s										
KMRM	**Mail Ridge**	**86.67**	**44**		P	**P**	**00 29 41.2**	**+0.6**			
VNA3	**Neumayer Olymp**	**86.71**	**180**		P	**P**	**00 29 39.0**	**-1.4**			
CIS	**Catalina Islan**	**86.80**	**52**		P	**P**	**00 29 41.3**	**-0.1**			
	baz=241										
GAMB	**Gambell**	**86.81**	**7**		P	**P**	**00 29 41.5**	**+0.9**			
GAMB	**Gambell**	**86.81**	**7**		P	**P**	**00 29 40.9**	**+0.3**			
	baz=196										
O19K	**Port Alsworth**	**86.82**	**16**		IAmb	IAmb	00 29 41.3				
	comp=Z,21nm,1.1s										
BCW	**Bitter Crk WRg**	**86.84**	**50**		P	**P**	**00 29 42.2**	**+0.6**			
BCW					IAmb	IAmb	00 29 43.6				
	comp=Z,34nm,0.9s										
KHMM	**Horse Mountain**	**87.01**	**43**		P	**P**	**00 29 42.9**	**+0.5**			
KHMM					IAmb	IAmb	00 29 44.5				
	comp=Z,31nm,0.9s										
VNA2	**Neumayer--Watz**	**87.03**	**180**		P	**P**	**00 29 40.8**	**-1.1**			
	baz=180,slow=5.0										
O02D	**Mt. Diablo Mer**	**87.24**	**44**		P	**P**	**00 29 44.5**	**+1.1**			
	baz=238										
VNA1	**Neumayer--Stat**	**87.31**	**180**		P	**P**	**00 29 41.9**	**-1.3**			
ARVC	**Arvin**	**87.35**	**50**		P	**P**	**00 29 44.5**	**+0.6**			
	baz=240										
BRSE	**Bradley Lake S**	**87.42**	**18**		P	**P**	**00 29 44.5**	**+0.7**			
	baz=215										
WDC	**Whiskeytown Da**	**87.61**	**44**		IAmb	IAmb	00 29 46.9				
	comp=Z,31nm,1.2s										
ELS	**Elsinore Mount**	**87.64**	**52**		P	**P**	**00 29 45.1**	**-0.4**			
N02D	**Trinity Center**	**87.72**	**44**		P	**P**	**00 29 46.6**	**+0.9**			
N02D					IAmb	IAmb	00 29 48.0				
	comp=Z,37nm,1.1s										
N02D	**Trinity Center**	**87.72**	**44**		P	**P**	**00 29 46.7**	**+1.1**			
	baz=238,SNR=15										
CMB	**Columbia Colle**	**87.72**	**47**		IAmb	IAmb	00 29 47.1				
	comp=Z,21nm,1.1s										
ORV	**Oroville**	**87.75**	**45**		IAmb	IAmb	00 29 47.2				
	comp=Z,17nm,1.0s										
BFSC	**Mount Baldy Ra**	**87.76**	**52**		P	**P**	**00 29 46.3**	**+0.2**			
	baz=241										
L02E	**Cave Junction**	**87.78**	**42**		P	**P**	**00 29 46.6**	**+0.8**			
L02E	**Cave Junction**	**87.78**	**42**		P	**P**	**00 29 46.8**	**+1.0**			
	baz=237										
MURC	**Murrieta**	**87.79**	**52**		P	**P**	**00 29 46.3**	**+0.2**			
	baz=241										
EDW2	**Edwards Air Fo**	**87.83**	**51**		P	**P**	**00 29 46.6**	**+0.3**			
	baz=241,SNR=8.8										
M02C	**Callahan**	**87.84**	**43**		P	**P**	**00 29 47.3**	**+1.1**			
M02C					IAmb	IAmb	00 29 48.5				
	comp=Z,30nm,1.0s										
M02C	**Callahan**	**87.84**	**43**		P	**P**	**00 29 47.5**	**+1.3**			
	baz=238,SNR=16										
ISA	**Isabella, Lake**	**87.86**	**50**		IAmb	IAmb	00 29 48.1				
	comp=Z,33nm,0.9s										
ISA	**Isabella, Lake**	**87.86**	**50**		P	**P**	**00 29 47.0**	**+0.5**			
	baz=240,SNR=20										
O03E	**Paynes Creek**	**87.94**	**45**		P	**P**	**00 29 47.0**	**+0.3**			
	baz=238,SNR=14										
MONP2	**Monument Peak**	**88.03**	**53**		P	**P**	**00 29 47.9**	**+0.4**			
	baz=242,SNR=9.2										
K02D	**Willamette Mer**	**88.04**	**42**		P	**P**	**00 29 47.6**	**+0.5**			
	baz=237,SNR=5.4										

YBH	**Yreka Blue Hor**	**88.12**	**43**		P	**P**	**00 29 48.5**	**+1.0**			
	comp=Z,12nm,0.8s,baz=187,slow=1.4,SNR=27										
YBH	**Yreka Blue Hor**	**88.12**	**43**		IAmb	IAmb	00 29 49.4				
	comp=Z,18nm,0.9s										
J01E	**Myrtle Point**	**88.13**	**41**		P	**P**	**00 29 48.0**	**+0.6**			
	baz=237										
IKP	**In-Ko-Pah, Jac**	**88.14**	**54**		P	**P**	**00 29 48.6**	**+0.7**			
	baz=242										
M19K	**Big River Lodg**	**88.27**	**15**		P	**P**	**00 29 49.3**	**+1.6**			
	baz=211										
PFO	**Pinyon Flats O**	**88.34**	**53**		P	**P**	**00 29 48.9**	**+0.1**			
	comp=Z,2.5nm,0.7s,baz=259,slow=3.4,SNR=3.8										
PFO	**Pinyon Flats O**	**88.34**	**53**		P	**P**	**00 29 49.4**	**+0.6**			
PFO					pmax	pmax					
	comp=Z,14nm,1.5s										
PFO	**Pinyon Flats O**	**88.34**	**53**		P	**P**	**00 29 49.4**	**+0.6**			
PFO	**Pinyon Flats O**	**88.34**	**53**		P	**P**	**00 29 49.1**	**+0.3**			
	baz=242										
TPFO	**Pinon Flats**	**88.34**	**53**		P	**P**	**00 29 49.1**	**+0.3**			
	baz=242										
EMB	**Emerald Bay**	**88.39**	**47**		IAmb	IAmb	00 29 50.6				
	comp=Z,36nm,1.4s										
RUBR	**Rubicon Trail**	**88.39**	**46**		P	**P**	**00 29 49.8**	**+0.7**			
RUBR					IAmb	IAmb	00 29 50.7				
	comp=Z,23nm,1.1s										
L19K	**White Mountain**	**88.39**	**15**		IAmb	IAmb	00 29 51.1				
	comp=Z,14nm,0.9s										
L19K	**White Mountain**	**88.39**	**15**		P	**P**	**00 29 48.2**	**-0.1**			
	baz=211										
HUMO	**Hull Mountain**	**88.43**	**42**		IAmb	IAmb	00 29 51.0				
	comp=Z,20nm,0.9s										
ANM	**Nome**	**88.44**	**10**		P	**P**	**00 29 49.4**	**+1.0**			
	baz=201										
OMMB	**Old Mammoth Mi**	**88.45**	**48**		IAmb	IAmb	00 29 51.2				
	comp=Z,21nm,1.3s										
SWSC	**Sam W. Stewart**	**88.51**	**53**		P	**P**	**00 29 49.8**	**+0.3**			
	baz=242										
CWC	**Cottonwood Cre**	**88.52**	**50**		P	**P**	**00 29 49.7**	**0.0**			
	baz=241										
RRX	**Edison Barstow**	**88.54**	**51**		P	**P**	**00 29 49.8**	**+0.1**			
	baz=241										
MLAC	**Mammoth, Mammo**	**88.58**	**48**		P	**P**	**00 29 50.3**	**+0.3**			
	baz=240										
L04D	**Klamath Falls**	**88.63**	**43**		IAmb	IAmb	00 29 51.5				
	comp=Z,29nm,0.9s										
L04D	**Klamath Falls**	**88.63**	**43**		P	**P**	**00 29 50.1**	**+0.1**			
	baz=238,SNR=9.6										
BEKR	**Beckworth**	**88.67**	**46**		IAmb	IAmb	00 29 51.7				
	comp=Z,26nm,1.2s										
I02E	**Swisshome, OR**	**88.69**	**41**		P	**P**	**00 29 51.0**	**+0.9**			
	baz=237										
M04C	**Macdoel**	**88.70**	**43**		IAmb	IAmb	00 29 52.0				
	comp=Z,26nm,1.1s										
M04C	**Macdoel**	**88.70**	**43**		P	**P**	**00 29 50.9**	**+0.6**			
	baz=238,SNR=9.0										
TIN	**Tinemaha, Big**	**88.71**	**49**		P	**P**	**00 29 50.9**	**+0.4**			
	baz=241,SNR=7.6										
MPMC	**Manual Prospec**	**88.75**	**50**		P	**P**	**00 29 51.0**	**+0.2**			
	baz=241,SNR=18										
I03D	**Drain, OR**	**88.77**	**41**		P	**P**	**00 29 50.6**	**+0.2**			
	baz=237										
PNTR	**Pine Nut**	**88.78**	**47**		P	**P**	**00 29 51.9**	**+1.0**			
RC01	**Rabbit Creek A**	**88.82**	**18**		P	**P**	**00 29 51.2**	**+0.9**			
	baz=216										
BELC	**Belle Mtn. Jos**	**88.86**	**52**		P	**P**	**00 29 51.8**	**+0.5**			
	baz=242,SNR=17										
GSC	**Goldstone, Bar**	**88.88**	**51**		P	**P**	**00 29 51.6**	**+0.3**			
	baz=242,SNR=7.5										
YERR	**Yerington**	**88.97**	**47**		IAmb	IAmb	00 29 53.3				
	comp=Z,25nm,1.1s										
HEC	**Hector,Ludlow**	**89.00**	**52**		P	**P**	**00 29 52.1**	**+0.3**			
	baz=242,SNR=17										
TNA	**Tin City**	**89.00**	**8**		P	**P**	**00 29 52.2**	**+1.2**			
TNA	**Tin City**	**89.00**	**8**		P	**P**	**00 29 52.8**	**+1.8**			
	baz=199										
PWL	**Port Wells**	**89.03**	**18**		P	**P**	**00 29 51.6**	**+0.3**			
	baz=217										
BC3	**Big Chuckawall**	**89.10**	**53**		P	**P**	**00 29 53.1**	**+0.7**			
	baz=242,SNR=7.8										
LHV	**Little Huntoon**	**89.11**	**48**		IAmb	IAmb	00 29 54.1				
	comp

F04A	**Amboy**	**90.53**	**40**	IAmb	IAmb	00 29 59.8			
	comp=Z,20nm,1.0s								
WAT6	**Susitna Watana**	**90.58**	**18**	P	**P**	**00 29 58.4**	**-0.3**		
	baz=217								
TRF	**Thorofare Moun**	**90.60**	**16**	IAmb	IAmb	00 29 59.7			
	comp=Z,15nm,1.3s								
SHPR	**Sheep Range**	**90.62**	**51**	P	**P**	**00 30 00.1**	**+0.6**		
SHPR				IAmb	IAmb	00 30 01.2			
	comp=Z,12nm,1.1s								
TGL	**Tana Glacier**	**90.66**	**21**	IAmb	IAmb	00 29 59.5			
	comp=Z,19nm,1.0s								
HOOD	**Mount Hood Mea**	**90.67**	**40**	IAmb	IAmb	00 30 24.6			
	comp=Z,20nm,1.1s								
GTA	**Gaotai**	**90.68**	**313**	⇑P	**P**	**00 30 00.0**	**+0.3**		
GTA				pP	pP	00 30 22.4	-2.3		
GTA				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,110nm,5.1s								
GTA				LR	LR				
	comp=Z,430nm,21.1s								
GTA				LR	LR				
	comp=Z,320nm,21.4s								
GTA				LR	LR				
	comp=Z,640nm,20.7s								
ISLE	**Juniper Island**	**90.71**	**21**	IAmb	IAmb	00 29 59.8			
	comp=Z,18nm,0.9s								
S11A	**Rachel**	**90.73**	**49**	P	**P**	**00 29 59.9**	**-0.1**		
S11A				IAmb	IAmb	00 30 01.3			
	comp=Z,18nm,0.9s								
N25K	**Chitina, Valde**	**90.75**	**19**	IAmb	IAmb	00 29 59.5			
	comp=Z,12nm,1.0s								
N25K	**Chitina, Valde**	**90.75**	**19**	P	**P**	**00 29 58.8**	**-0.6**		
	baz=220								
G05D	**Wamic, OR**	**90.83**	**41**	P	**P**	**00 29 60.0**	**-0.1**		
	baz=239								
GLB	**Gilahina Butte**	**90.86**	**20**	IAmb	IAmb	00 29 59.8			
	comp=Z,17nm,1.1s								
SONM	**Songino Array**	**90.86**	**322**	P	**P**	**00 30 00.3**	**0.0**		
	comp=Z,24nm,1.0s,baz=139,slow=4.2,SNR=95								
W13A	**Hualapai Mount**	**90.91**	**52**	P	**P**	**00 30 01.2**	**+0.3**		
BBB	**Bella Bella**	**90.94**	**32**	P	**P**	**00 30 00.7**	**+0.4**		
	comp=Z,5.8nm,0.8s,baz=207,slow=4.8,SNR=3.0								
BPAW	**Bear Paw Mtn.**	**90.96**	**16**	P	**P**	**00 29 59.0**	**-1.2**		
	baz=214								
GRNC	**Granite Creek**	**91.00**	**21**	IAmb	IAmb	00 30 01.7			
	comp=Z,20nm,1.0s								
D03D	**Eldon**	**91.00**	**38**	P	**P**	**00 30 01.3**	**+0.6**		
	baz=237								
MCARA	**McCarthy VSAT**	**91.07**	**20**	P	**P**	**00 29 58.9**	**-1.8**		
	baz=221								
WVOR	**Wild Horse Val**	**91.08**	**44**	IAmb	IAmb	00 30 02.9			
	comp=Z,16nm,1.0s								
DHY	**Denali Highway**	**91.08**	**17**	P	**P**	**00 29 59.3**	**-1.7**		
	baz=218								
R11A	**Troy Canyon, C**	**91.17**	**49**	P	**P**	**00 30 02.1**	**0.0**		
	baz=242,SNR=15								
MCK	**McKinley**	**91.19**	**17**	P	**P**	**00 30 03.1**	**+1.9**		
	baz=216								
COYC	**Coyhaique**	**91.26**	**141**	P	**P**	**00 30 03.1**	**+0.9**		
BARN	**Barnard Glacie**	**91.27**	**21**	IAmb	IAmb	00 30 02.3			
	comp=Z,20nm,1.0s								
CTG	**Chitna Glacier**	**91.31**	**21**	P	**P**	**00 30 01.0**	**-1.0**		
	baz=223								
CTGM	**Chitina Glacie**	**91.31**	**21**	IAmb	IAmb	00 30 02.8			
	comp=Z,14nm,0.8s								
I07A	**Izee**	**91.35**	**42**	P	**P**	**00 30 02.6**	**0.0**		
I07A				IAmb	IAmb	00 30 04.1			
	comp=Z,13nm,0.9s								
PAX	**Paxson**	**91.54**	**18**	P	**P**	**00 30 01.6**	**-1.4**		
	baz=219								
I21K	**Tanana**	**91.62**	**15**	P	**P**	**00 30 02.6**	**-0.6**		
	baz=214								
J08A	**Circle Bar Ran**	**91.64**	**43**	P	**P**	**00 30 03.7**	**-0.3**		
J08A				IAmb	IAmb	00 30 05.3			
	comp=Z,14nm,1.0s								
MLY	**Manley**	**91.79**	**15**	P	**P**	**00 30 03.3**	**-0.8**		
	baz=215								
H21K	**Melozitna Rive**	**91.83**	**14**	P	**P**	**00 30 03.0**	**-1.2**		
	baz=213								
NEA2	**Nenana**	**91.85**	**16**	P	**P**	**00 30 05.5**	**+1.2**		
	baz=216								
WRH	**Wood River Hil**	**92.00**	**16**	P	**P**	**00 30 04.0**	**-1.0**		
WRH				IAmb	IAmb	00 30 04.3			
	comp=Z,17nm,1.4s								
TUC	**Tucson**	**92.02**	**56**	P	**P**	**00 30 06.2**	**+0.2**		
TUC				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TUC	**Tucson**	**92.02**	**56**	P	**P**	**00 30 06.2**	**+0.2**		
TUC	**Tucson**	**92.02**	**56**	P	**P**	**00 30 06.3**	**+0.2**		
	baz=245								
RDOG	**Red Dog Mine**	**92.06**	**9**	P	**P**	**00 30 04.9**	**-0.3**		
	baz=204								
M27K	**Edge Creek, AK**	**92.16**	**20**	IAmb	IAmb	00 30 06.8			
	comp=Z,8.4nm,0.9s								
M27K	**Edge Creek, AK**	**92.16**	**20**	P	**P**	**00 30 05.3**	**-0.7**		
	baz=222								
YUK3	**Moose Creek**	**92.19**	**21**	P	**P**	**00 30 05.4**	**-0.8**		
	baz=224								
L26K	**Log Cabin Wild**	**92.21**	**19**	P	**P**	**00 30 05.2**	**-0.8**		
	baz=221								
LCMT	**Little Creek M**	**92.22**	**51**	P	**P**	**00 30 07.3**	**+0.4**		
LCMT				IAmb	IAmb	00 30 08.4			
	comp=Z,14nm,0.9s								
HDA	**Harding Lake**	**92.25**	**17**	P	**P**	**00 30 04.5**	**-1.7**		
	baz=218								
G08A	**Pilot Rock**	**92.28**	**41**	P	**P**	**00 30 06.5**	**-0.4**		
G08A				IAmb	IAmb	00 30 08.0			
	comp=Z,8.1nm,0.8s								
RIDG	**Independent Ri**	**92.31**	**18**	IAmb	IAmb	00 30 06.4			
	comp=Z,16nm,1.0s								
RIDG	**Independent Ri**	**92.31**	**18**	P	**P**	**00 30 04.9**	**-1.6**		
	baz=220								
MDM	**Murphy Dome**	**92.36**	**16**	IAmb	IAmb	00 30 05.7			
	comp=Z,10nm,1.0s								
E07A	**Sunnyside**	**92.38**	**40**	IAmb	IAmb	00 30 08.4			
	comp=Z,9.1nm,0.9s								
CCUT	**Cedar City**	**92.38**	**50**	IAmb	IAmb	00 30 09.5			
	comp=Z,10nm,1.0s								
TCOL	**CIGO, UAF Yank**	**92.38**	**16**	IAmb	IAmb	00 30 06.4			
	comp=Z,14nm,0.9s								
TCOL	**CIGO, UAF Yank**	**92.38**	**16**	P	**P**	**00 30 04.7**	**-2.1**		
	baz=217								
COLA	**College**	**92.39**	**16**	*ce*P	**P**	**00 30 05.5**	**-1.2**		
COLA				pmax	pmax				
	comp=Z,15nm,1.0s								
COLA	**College**	**92.39**	**16**	P	**P**	**00 30 05.7**	**-1.0**		
COLA				IAmb	IAmb	00 30 06.4			
	comp=Z,15nm,0.9s								
COLA	**College**	**92.39**	**16**	P	**P**	**00 30 04.8**	**-1.9**		
	baz=217								
X16A	**Lo Mia Camp, P**	**92.42**	**54**	P	**P**	**00 30 08.0**	**0.0**		
X16A				IAmb	IAmb	00 30 10.2			
	comp=Z,13nm,0.9s								
PSUT	**Pine Spring**	**92.47**	**49**	P	**P**	**00 30 07.6**	**-0.4**		
DOT	**Dot Lake**	**92.47**	**18**	IAmb	IAmb	00 30 07.5			
	comp=Z,9.4nm,1.0s								
HAWA	**Hanford**	**92.49**	**40**	P	**P**	**00 30 07.9**	**+0.2**		
HAWA				IAmb	IAmb	00 30 08.9			
	comp=Z,11nm,0.9s								
ELK	**Elko**	**92.52**	**47**	P	**P**	**00 30 06.8**	**-1.4**		
	comp=Z,1.3nm,0.3s,baz=270,slow=15,SNR=16								
ELK	**Elko**	**92.52**	**47**	P	**P**	**00 30 07.6**	**-0.7**		
ELK				pmax	pmax				
	comp=Z,7.0nm,0.2s								
ELK	**Elko**	**92.52**	**47**	P	**P**	**00 30 07.6**	**-0.7**		
HYT	**Haines Junctio**	**92.52**	**22**	P	**P**	**00 30 06.8**	**-0.8**		
	baz=226								
BVCY	**Beaver Creek**	**92.52**	**20**	P	**P**	**00 30 06.7**	**-0.8**		
	baz=223								
KNB	**Kanab**	**92.53**	**51**	P	**P**	**00 30 08.1**	**-0.3**		
KNB				pmax	pmax				
	comp=Z,14nm,0.9s								
KNB	**Kanab**	**92.53**	**51**	P	**P**	**00 30 08.1**	**-0.3**		
KNB				IAmb	IAmb	00 30 10.1			
	comp=Z,14nm,0.9s								
IL31		**92.56**	**17**	IAmb	IAmb	00 30 06.6			
	comp=Z,7.6nm,0.9s								
ILAR	**Eielson Array**	**92.56**	**17**	P	**P**	**00 30 05.7**	**-1.9**		
	comp=Z,5.5nm,0.9s,baz=235,slow=5.9,SNR=33								
SZCU	**Shurtz Canyon**	**92.59**	**50**	P	**P**	**00 30 09.2**	**+0.5**		
SZCU				IAmb	IAmb	00 30 10.4			
	comp=Z,10nm,1.1s								
POKR	**Poker Plat Res**	**92.69**	**16**	P	**P**	**00 30 06.1**	**-2.1**		
	baz=218								
L27K	**Beaver Creek,**	**92.70**	**19**	P	**P**	**00 30 07.2**	**-1.1**		
	baz=222								

LL02	**Futaleuf**	**92.73**	**139**	P	**P**	**00 30 08.9**	**-0.2**		
SCRK	**Sand Creek**	**92.74**	**18**	P	**P**	**00 30 07.5**	**-1.1**		
	baz=221								
GOMU	**GeErMu**	**92.75**	**308**	P	**P**	**00 30 08.6**	**-1.0**		
GOMU				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GOMU				pmax	pmax				
	comp=Z,43nm,5.7s								
GOMU				LR	LR				
	comp=Z,480nm,20.0s								
GOMU				LR	LR				
	comp=Z,540nm,21.6s								
GOMU				LR	LR				
	comp=Z,790nm,20.9s								
319A	**Douglas**	**92.80**	**57**	IAmb	IAmb	00 30 11.3			
	comp=Z,12nm,1.0s								
J25K	**Salcha River,**	**92.84**	**17**	P	**P**	**00 30 07.4**	**-1.6**		
	baz=219								
WUAZ	**Wupatki**	**92.94**	**53**	P	**P**	**00 30 10.3**	**+0.1**		
WUAZ				IAmb	IAmb	00 30 11.9			
	comp=Z,9.8nm,0.9s								
WUAZ	**Wupatki**	**92.94**	**53**	P	**P**	**00 30 10.5**	**+0.3**		
	baz=245								
PKCU	**Pink Cliffs**	**93.08**	**51**	P	**P**	**00 30 11.9**	**+0.8**		
PKCU				IAmb	IAmb	00 30 13.4			
	comp=Z,16nm,0.9s								
D08A	**Wollman Farm,**	**93.18**	**40**	P	**P**	**00 30 11.2**	**+0.3**		
D08A				IAmb	IAmb	00 30 11.9			
	comp=Z,8.8nm,1.0s								
J26L	**Joseph Creek**	**93.26**	**18**	P	**P**	**00 30 10.3**	**-0.6**		
	baz=221								
PALK	**Pallekele**	**93.36**	**276**	P	**P**	**00 30 12.8**	**+0.3**		
PALK				pmax	pmax				
	comp=Z,12nm,1.0s								
PALK	**Pallekele**	**93.36**	**276**	P	**P**	**00 30 12.8**	**+0.3**		
PALK				IAmb	IAmb	00 30 14.4			
	comp=Z,12nm,0.9s								
PRP	**Porcupine Dome**	**93.50**	**17**	IAmb	IAmb	00 30 32.4			
	comp=Z,17nm,1.7s								
PRP	**Porcupine Dome**	**93.50**	**17**	P	**P**	**00 30 10.6**	**-1.4**		
	baz=219								
F10A	**Beach Ranch, E**	**93.68**	**41**	IAmb	IAmb	00 30 14.1			
	comp=Z,7.5nm,0.9s								
COLD	**Coldfoot**	**93.73**	**14**	IAmb	IAmb	00 30 14.1			
	comp=Z,7.0nm,0.9s								
COLD	**Coldfoot**	**93.73**	**14**	P	**P**	**00 30 12.5**	**-0.4**		
	baz=215								
ZAK	**Zakamensk**	**93.94**	**323**	*e*P	**P**	**00 30 14.1**	**-0.3**		
ZAK				pmax	pmax				
	comp=Z,27nm,1.3s								
M30M	**Minto, Yukon**	**93.97**	**21**	P	**P**	**00 30 14.3**	**+0.1**		
	baz=227								
EGAK	**Eagle**	**94.16**	**18**	IAmb	IAmb	00 30 14.9			
	comp=Z,10nm,0.9s								
EGAK	**Eagle**	**94.16**	**18**	P	**P**	**00 30 13.9**	**-1.0**		
	baz=223								
DAWY	**Dawson**	**94.18**	**20**	P	**P**	**00 30 13.7**	**-1.4**		
	baz=225								
HLID	**Hailey**	**94.34**	**45**	P	**P**	**00 30 16.8**	**+0.3**		
	baz=243								
121A	**Cookes Peak, D**	**94.42**	**57**	P	**P**	**00 30 17.4**	**+0.2**		
	baz=246								
HVU	**Hansel Valley**	**94.64**	**47**	P	**P**	**00 30 18.2**	**+0.3**		
HVU				pmax	pmax				
	comp=Z,7.0nm,1.0s								
HVU	**Hansel Valley**	**94.64**	**47**	P	**P**	**00 30 18.2**	**+0.3**		
PLCA	**Paso Flores**	**94.92**	**138**	P	**P**	**00 30 19.1**	**-0.2**		
	comp=Z,6.8nm,0.9s,baz=229,slow=6.2,SNR=6.9								
TOLK	**Tonalik Lake Re**	**95.02**	**13**	P	**P**	**00 30 18.1**	**-0.8**		
	baz=216								
MOY	**Mondy**	**95.84**	**324**	*e*P	**P**	**00 30 22.4**	**-0.7**		
MNTX	**Cornudas Mount**	**95.98**	**58**	P	**P**	**00 30 23.8**	**-0.3**		
	baz=248								
ANMO	**Albuquerque**	**96.39**	**55**	*ce*P	**P**	**00 30 26.5**	**+0.4**		
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ANMO	**Albuquerque**	**96.39**	**55**	P	**P**	**00 30 26.1**	**0.0**		
ANMO	**Albuquerque**	**96.39**	**55**	P	**P**	**00 30 25.4**	**-0.7**		
	baz=247								
TX31	**Lajitas Ar. Si**	**96.46**	**61**	P	**P**	**00 30 25.9**	**-0.6**		
TX31				IAmb	IAmb	00 30 54.7			
	comp=Z,17nm,1.6s								
TX32	**Lajitas Array**	**96.46**	**61**	P	**P**	**00 30 26.4**	**0.0**		
TXAR	**Lajitas Array**	**96.46**	**61**	P	**P**	**00 30 26.7**	**+0.3**		
	comp=Z,0.8nm,0.8s,baz=226,slow=5.5,SNR=12								
TXAR				PKKPbc	**PKKPbc**	**00 47 11.9**	**+0.8**		
	comp=Z,0.6nm,0.5s,baz=111,slow=3.9,SNR=9.8								
TPAW	**Teton Pass**	**96.58**	**46**	P	**P**	**00 30 28.1**	**+1.3**		
EPYK	**Eagle Plains**	**96.60**	**19**	P	**P**	**00 30 25.4**	**-0.7**		
	baz=227								
S22A	**4UR Ranch, Cre**	**97.18**	**52**	P	**P**	**00 30 29.8**	**0.0**		
	baz=247								
PD31	**Pinedale Array**	**97.22**	**47**	P	Pdif	00 30 30.2	+0.4		
PDAR	**Pinedale Array**	**97.22**	**47**	P	Pdif	00 30 31.1	+1.3		
	comp=Z,1.6nm,0.9s,baz=209,slow=3.8,SNR=11								
TIXI	**Tiksi**	**98.14**	**348**	*i* P	**P**	**00 30 30.1**	**-2.8**		
TIXI				pmax	pmax				
	comp=Z,8.0nm,2.5s								
SDCO	**Great Sand Dun**	**98.16**	**53**	P	**P**	**00 30 33.7**	**-0.4**		
	baz=248								
INK	**Inuvik**	**98.81**	**18**	P	Pdif	00 30 36.7	+0.8		
	comp=Z,0.7nm,0.5s,baz=310,slow=29,SNR=6.5								
WMQ	**Urumqi**	**100.76**	**313**	*e*P	**Pdif**	**00 30 47.4**	**+2.1**		
WMQ				LR	LR				
	comp=Z,500nm,17.9s								
WMQ				LR	LR				
	comp=Z,320nm,19.3s								
WMQ				LR	LR				
	comp=Z,460nm,18.1s								
YKA	**Yellowknife Ar**	**102.45**	**27**	P	**Pdif**	**00 30 52.4**	**+0.1**		
	comp=Z,0.4nm,0.7s,baz=250,slow=4.5,SNR=6.1								
A36M	**Sachs Harbour**	**103.26**	**17**	P	**Pdif**	**00 30 56.4**	**+0.7**		
	baz=238								
MKAR	**Makanchi Array**	**105.32**	**315**	Pdiff	**Pdif**	**00 31 06.2**	**+0.8**		
	comp=Z,1.7nm,0.8s,baz=94,slow=6.7,SNR=18								
MKAR				PKiKP	**PKiKP**	**00 35 17.2**	**-1.8**		
	comp=Z,0.4nm,0.6s,baz=216,slow=1.4,SNR=5.2								
ZALV	**Zalesovo Beam**	**105.76**	**322**	Pdiff	**Pdif**	**00 31 06.2**	**-1.0**		
	comp=Z,17nm,0.8s,baz=117,slow=5.2,SNR=6.7								
KURK	**Kurchatov**	**108.64**	**318**	P	**Pdif**	**00 31 21.4**	**+1.3**		
KURK	**Kurchatov**	**108.64**	**318**		**Pdif**	**00 31 21.4**	**+1.3**		
KURBB	**Kurchatov Arra**	**108.68**	**318**	Pdiff	**Pdif**	**00 31 21.4**	**+1.2**		
	comp=Z,0.8nm,1.0s,baz=87,slow=4.0,SNR=5.9								
KURBB				PKiKP	**PKiKP**	**00 35 23.6**	**-1.4**		
	comp=Z,1.4nm,0.7s,baz=107,slow=1.9,SNR=11								
AAK	**Ala-Archa**	**109.68**	**309**	PKiKP	**PKiKP**	**00 35 26.4**	**-1.0**		
	comp=Z,0.8nm,0.6s,baz=210,slow=11,SNR=5.0								
BVAR	**Borovoye Array**	**114.05**	**320**	PKiKP	PKPdf	00 35 34.2	-0.9		
	comp=Z,1.1nm,0.5s,baz=141,slow=33,SNR=9.6								
SOCY	**Socotra**	**119.73**	**272**	PKPdf	**PKPdf**	**00 35 47.1**	**-0.2**		
BOSA	**Boshof**	**119.76**	**214**	PKP	**PKiKP**	**00 35 47.3**	**0.0**		
	comp=Z,4.3nm,0.6s,baz=152,slow=2.0,SNR=31								
ARU	**Arti**	**120.89**	**323**	*i* PKiKP	**PKPdf**	**00 35 46.9**	**-1.2**		
ARU						00 37 14.7			
ARU						00 42 49.2			
ARU	**Arti**	**120.89**	**323**	PKPdf	**PKPdf**	**00 35 47.0**	**-1.2**		
GEYT	**Alibeck**	**121.35**	**302**	PKP	**PKPdf**	**00 35 49.5**	**-0.3**		
	comp=Z,8.0nm,0.8s,baz=39,slow=12,SNR=8.8								
FRB	**Frobisher Bay**	**122.97**	**27**	PKP	**PKPdf**	**00 35 49.8**	**-2.1**		
	comp=Z,3.7nm,1.0s,baz=342,slow=3.3,SNR=4.6								
HSPB	**Hornsund (broa**	**123.97**	**354**	*e*PKP	**PKiKP**	**00 35 54.1**	**+0.3**		
LSZ	**Lusaka**	**128.09**	**227**	PKiKP	**PKiKP**	**00 36 03.9**	**-0.1**		
LSZ	**Lusaka**	**128.09**	**227**		**PKiKP**	**00 36 03.9**	**-0.1**		
KIBK	**Kibwezi**	**128.31**	**248**	PKPdf	**PKiKP**	**00 36 04.4**	**-0.1**		
ARCES	**ARCESS Array B**	**128.52**	**345**	PKP	**PKPdf**	**00 36 00.9**	**-1.5**		
	comp=Z,1.1nm,0.5s,baz=28,slow=2.9,SNR=7.8								
ARCES	**ARCESS Array B**	**128.52**	**345**	PKiKP	**PKPdf**	**00 36 01.0**	**-1.5**		
KLMR	**Klimovskoe**	**129.17**	**332**	*e*PKiKP	**PKPdf**	**00 36 02.4**	**-1.4**		
KLMR				pmax	pmax				
	comp=Z,28nm,1.5s								
KLMR	**Klimovskoe**	**129.17**	**332**	*e*PKPdf	**PKPdf**	**00 36 02.5**	**-1.4**		
KLMR				AMP		00 36 04.1			
	comp=Z,28nm,1.5s								
KMBO	**Kilima Mbogo**	**129.60**	**249**	PKP	**PKiKP**	**00 36 07.2**	**-0.1**		
	comp=Z,4.1nm,0.8s,baz=62,slow=4.6,SNR=13								
KMBO	**Kilima Mbogo**	**129.60**	**249**	PKiKP	**PKPdf**	**00 36 06.6**	**+0.1**		
KMBO	**Kilima Mbogo**	**129.60**	**249**	PKPdf	**PKPdf**	**00 36 06.6**	**+0.1**		
RAYN	**Ar Rayn**	**130.39**	**282**	⇓PKiKP	**PKPdf**	**00 36 06.3**	**-1.2**		
RAYN	**Ar Rayn**	**130.39**	**282**	PKPdf	**PKiKP**	**00 36 08.1**	**-0.2**		
TSUM	**Tsumeb**	**131.45**	**214**	PKPdf	**PKPdf**	**00 36 09.9**	**+0.2**		
VRH	**Novokhopyorsk**	**131.70**	**320**	*e*PKiKP	**PKPdf**	**00 36 07.7**	**-1.3**		
VRH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KBZ	**Khabaz**	**132.67**	**309**	PKP	**PKPdf**	**00 36 11.1**	**0.0**		
	comp=Z,2.7nm,0.8s,baz=195,slow=1.0,SNR=4.1								
KIV	**Kislovodsk**	**132.78**	**310**	*i* PKiKP	**PKPdf**	**00 36 10.3**	**-1.1**		

KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,234nm,23.0s								
LPSR	**Galich'ya Gora**	**132.87**	**322**	*e*PKiKP	**PKPdf**	**00 36 10.1**	**-1.0**		
LPSR				pmax	pmax				
	comp=Z,7.0nm,0.6s								
VORR	**Voronezh**	**133.04**	**321**	*e*PKiKP	**PKPdf**	**00 36 11.1**	**-0.4**		
VORR				pmax	pmax				
	comp=Z,20nm,0.5s								
OBN	**Obninsk**	**133.15**	**326**	*e*PKiKP	**PKPdf**	**00 36 10.5**	**-1.1**		
OBN				*e*PPP	PPP	00 41 31.0			
OBN				pmax	pmax				
	comp=Z,2.0nm,0.8s								
VORD	**Divnogorie**	**133.23**	**320**	*e*PKiKP	**PKPdf**	**00 36 10.5**	**-1.4**		
VORD				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FINES	**FINESS Array B**	**134.17**	**338**	PKhKP	PKPpre	00 36 06.2			
	comp=Z,1.6nm,0.6s,baz=113,slow=2.5,SNR=12								
SOC	**Sochi**	**134.96**	**310**	*i* PKiKP	**PKPdf**	**00 36 13.9**	**-1.5**		
SOC				*e*		00 38 46.8			
SOC				*e*PS	**PS**	**00 49 04.4**	**-10**		
SOC				*e*SS	SS	00 56 27.1	-10		
AKASG	**Malin Array Be**	**139.14**	**323**	PKhKP	PKPpre	00 36 15.2			
	comp=Z,1.1nm,0.5s,baz=66,slow=2.8,SNR=5.2								
AKASG	**Malin Array Be**	**139.14**	**323**	PKiKP	**PKPdf**	**00 36 21.8**	**-1.1**		
AKASG	**Malin Array Be**	**139.14**	**323**	PKPdf	**PKPdf**	**00 36 21.8**	**-1.1**		
BRTR	**Keskin Array B**	**140.25**	**306**	PKhKP	PKPpre	00 36 21.6			
	comp=Z,2.0nm,0.6s,baz=133,slow=5.6,SNR=7.3								
SORM	**Soroca**	**140.88**	**320**	⇓P	**PKPdf**	**00 36 18.5**	**-7.6**		
SORM	**Soroca**	**140.88**	**320**	⇓PKHKP	**PKPdf**	**00 36 18.5**	**-7.6**		
LEOM	**Leova**	**141.70**	**318**	⇓P	**PKPdf**	**00 36 21.4**	**-6.2**		
LEOM	**Leova**	**141.70**	**318**	⇓PKHKP	**PKPdf**	**00 36 21.4**	**-6.2**		
TLCR		**141.89**	**316**	⇑P	**PKiKP**	**00 36 31.1**	**+0.2**		
TLCR		**141.89**	**316**	⇑PKiKP	**PKiKP**	**00 36 31.1**	**+0.2**		
VASR	**Vaslui**	**141.91**	**318**	⇑P	**PKPdf**	**00 36 23.0**	**-5.0**		
VLDR	**Vladesti**	**142.08**	**317**	⇑P	**PKPdf**	**00 36 23.4**	**-4.9**		
SCTR	**Scanteiesti**	**142.21**	**317**	⇑P	**PKPdf**	**00 36 25.1**	**-3.5**		
CFR	**Carcaliu**	**142.33**	**316**	⇑P	**PKiKP**	**00 36 31.4**	**-0.4**		
CFR	**Carcaliu**	**142.33**	**316**	⇑PKiKP	**PKiKP**	**00 36 31.4**	**-0.4**		
SLCR	**Slobozia Conac**	**142.39**	**317**	⇑P	**PKPdf**	**00 36 25.4**	**-3.5**		
GHRR		**142.41**	**318**	⇑P	**PKPdf**	**00 36 26.0**	**-2.9**		
LVV	**L'vov**	**142.43**	**325**	*e*PKHKP	**PKPdf**	**00 36 24.4**	**-4.5**		
PANC	**Panciu**	**142.66**	**318**	⇑P	**PKPdf**	**00 36 25.8**	**-3.6**		
TLBR	**Topalu**	**142.66**	**315**	⇑P	**PKPdf**	**00 36 25.7**	**-3.7**		
TESR	**Tescani**	**142.67**	**319**	⇑P	**PKPdf**	**00 36 25.4**	**-4.0**		
HARR	**Harsova**	**142.67**	**316**	⇓P	**PKPdf**	**00 36 25.6**	**-3.8**		
HARR	**Harsova**	**142.67**	**316**	⇓PKiKP	**PKPdf**	**00 36 25.6**	**-3.8**		
ODBI	**Odobesti**	**142.76**	**318**	⇑P	**PKPdf**	**00 36 26.8**	**-2.8**		
BEL	**Belsk**	**142.80**	**330**	*e*PKP	**PKPdf**	**00 36 26.5**	**-2.9**		
VRI	**Vrincioaia**	**142.92**	**318**	⇓P	**PKPdf**	**00 36 25.6**	**-4.3**		
VRI	**Vrincioaia**	**142.92**	**318**	⇓PKHKP	**PKPdf**	**00 36 25.6**	**-4.3**		
BURAR	**Bucovina Array**	**142.97**	**321**	⇓P	**PKPdf**	**00 36 27.9**	**-2.1**		
BURAR	**Bucovina Array**	**142.97**	**321**	⇓PKiKP	**PKPdf**	**00 36 27.9**	**-2.1**		
PLOR	**Plostina**	**142.97**	**318**	⇑P	**PKPdf**	**00 36 26.3**	**-3.7**		
PLOR	**Plostina**	**142.97**	**318**	⇑PKiKP	**PKPdf**	**00 36 26.3**	**-3.7**		
AMRR	**

RZN	Rozhen	146.06 313	*e*P	PKPbc	00 36 36.3	-0.4	
PGB	Panagyurishte	146.06 314	*e*P	PKPbc	00 36 36.4	-0.1	
ESY	Stoneypath	146.13 354⇑	*e*P	PKPdf	00 36 34.6	-0.5	
BZS	Buzias	146.14 321	⇑P	PKPdf	00 36 36.0	+0.6	
BZS	Buzias	146.14 321	⇑PKP2	PKPdf	00 36 36.0	+0.6	
KARP	Karpathos	146.22 301		PKPbc	00 36 37.0	-0.2	
JAVC	Velka Javorina	146.27 328	*e*PKP	PKPab	00 36 37.8	-0.1	
TIM	Timisoara	146.30 321	⇓P	PKPbc	00 36 37.4	+0.4	
TIM	Timisoara	146.30 321	⇓PKP2	PKPbc	00 36 37.4	+0.4	
EBL	Broad Law	146.32 354⇑	*e*P	PKPdf	00 36 35.4	-0.1	
FLTG	Flechtingen baz=35,slow=2.6	146.35 338	*e*PKPbc	PKPdf	00 36 36.1	+0.5	
PGBU	Glenifferbraes	146.39 356⇑	*e*P	PKPdf	00 36 35.0	-0.5	
LIA	Limnos Island	146.42 309	P	PKPdf	00 36 36.2	+0.1	
VRAC	Vranov	146.48 330	*e*PKP	PKPbc	00 36 37.2	-0.3	
BRG	Berggiesshubel	146.49 334⇑	*i*PKP	PKPbc	00 36 37.1	-0.3	
BRG	comp=Z,38nm,1.1s		Amp		00 36 38.9		
BRG			*ex*	x	00 37 00.7		
BRG	comp=Z,6.1nm,0.9s		Amp		00 37 01.9		
BRG			*ex*	x	00 37 15.9		
BRG	comp=Z,13nm,1.2s		Amp		00 37 20.6		
BRG			*ex*	x	00 37 38.1		
BRG	comp=Z,13nm,1.3s		Amp		00 37 40.4		
BRG	Berggiesshubel	146.49 334⇑	*i*PKP2	PKPbc	00 36 37.1	-0.3	
BRG	comp=Z,38nm,1.1s		pmax	pmax			
BRG	Berggiesshubel baz=35,slow=2.6	146.49 334	*e*PKPbc	PKPbc	00 36 36.8	-0.6	
PVCC	Panska Ves	146.49 333	*e*PKP2	PKPbc	00 36 37.1	-0.3	
PVCC	Panska Ves	146.49 333	*e*PKP	PKPbc	00 36 37.1	-0.3	
CLL	Collm	146.53 335⇑	*i*PKP2	PKPdf	00 36 36.6	+0.7	
CLL	comp=Z,30nm,1.2s		pmax	pmax			
CLL	Collm	146.53 335⇑	*i*PKPbc	PKPbc	00 36 36.6	+0.7	
CLL	comp=Z,30nm,1.2s		*es*PKiKP	sPKPab	00 37 15.0	+0.7	
CLL	Collm baz=35,slow=2.6	146.53 335	*e*PKPbc	PKPdf	00 36 36.6	+0.7	
MDVR	Moldovita	146.53 319	⇓P	PKPbc	00 36 37.3	-0.5	
BANR	Banloc	146.55 321	⇓P	PKPbc	00 36 38.1	+0.4	
NRDL	Niedersach Rie baz=35,slow=2.6	146.60 339	*e*PKPbc	PKPbc	00 36 37.1	-0.5	
SMOL	Smolenice	146.63 328	*e*PKP2	PKPbc	00 36 38.2	+0.3	
SMOL	Smolenice	146.63 328	*e*PKP	PKPbc	00 36 38.2	+0.3	
RETH	Rethem/Aller, baz=35,slow=2.6	146.63 340	*e*PKPbc	PKPbc	00 36 37.0	-0.7	
VTS	Vitosha	146.64 315	⇑P	PKPbc	00 36 38.2	-0.2	
VTS	Vitosha	146.64 315	⇑PKP2	PKPbc	00 36 38.2	-0.2	
VTS	Vitosha	146.64 315	PKPdf	PKPbc	00 36 37.8	-0.6	
VTS	Vitosha	146.64 315	*e*P	PKPbc	00 36 38.0	-0.3	
SRO	Srobarova	146.64 326	*e*PKP2	PKPbc	00 36 38.0	+0.1	
SRO	Srobarova	146.64 326	*e*PKP	PKPbc	00 36 38.0	+0.1	
FBE	Freiberg baz=35,slow=2.6	146.69 334	*e*PKPbc	PKPbc	00 36 37.6	-0.4	
ASSE	Asse, Remlinge baz=35,slow=2.6	146.71 338	*e*PKPbc	PKPbc	00 36 37.4	-0.5	
KRUC	Moravsky	146.75 330	*e*PKP	PKPbc	00 36 37.8	-0.4	
MMB	Musomiste	146.77 313	*e*P	PKPbc	00 36 37.9	-0.7	
NVR	Nevrokopi	146.78 312	P	PKPdf	00 36 36.4	-0.3	
ESK	Eskdalemuir	146.78 354⇑	*e*P	PKPdf	00 36 36.5	+0.3	
ESK	Eskdalemuir	146.78 354	PKP2	PKPdf	00 36 36.9	+0.7	
ESK	Eskdalemuir	146.78 354	PKPdf	PKPdf	00 36 36.9	+0.7	
KOKK	Kokkinochori,	146.90 311	P	PKPdf	00 36 37.2	+0.3	
PRU	Pruhonice	146.91 332	*e*PKP2	PKPbc	00 36 38.2	-0.4	
PRU	Pruhonice	146.91 332	*e*PKP	PKPbc	00 36 38.2	-0.4	
TREC	Trest	147.00 331	*e*PKP2	PKPbc	00 36 38.6	-0.4	
TREC	Trest	147.00 331	*e*PKP	PKPbc	00 36 38.6	-0.4	
ZST	Bratislava	147.00 328	*e*PKP2	PKPbc	00 36 38.7	-0.3	
ZST	Bratislava	147.00 328	*e*PKP	PKPbc	00 36 38.7	-0.3	
CLZ	Clausthal baz=35,slow=2.6	147.06 338	*e*PKPbc	PKPbc	00 36 38.6	-0.5	
SRS	Serrai	147.06 312	P	PKPdf	00 36 37.2	0.0	
NEWG	New Galloway	147.06 355⇑	*e*P	PKPdf	00 36 37.1	+0.4	
NEWG	comp=Z,21nm,1.1s		IAmb	IAmb	00 36 38.0		
NEUB	Neuenburg baz=35,slow=2.6	147.07 336	*e*PKPbc	PKPbc	00 36 38.4	-0.6	
KKB	Krupnik	147.08 314	*e*P	PKPbc	00 36 38.8	-0.6	
APE	Apeiranthos	147.09 304	⇑P	PKPbc	00 36 39.1	-0.6	
APE	Apeiranthos	147.09 304	⇑PKP2	PKPbc	00 36 39.1	-0.6	
EDMD	Edmundbyers	147.13 353⇑	*e*P	PKPdf	00 36 37.6	+0.8	
EDMD	comp=Z,23nm,0.9s		IAmb	IAmb	00 36 38.3		
GAL1	Galloway	147.35 356⇑	*e*P	PKPdf	00 36 38.2	+1.1	
GAL1	comp=Z,34nm,1.1s		IAmb	IAmb	00 36 39.0		
PBCC	Pribram	147.37 332	*e*PKP	PKPbc	00 36 39.4	-0.6	
TANN	Tannenbergstha baz=35,slow=2.6	147.44 335	*e*PKPbc	PKPbc	00 36 39.6	-0.6	
GTTG	Gottingen baz=35,slow=2.6	147.44 338	*e*PKPbc	PKPbc	00 36 39.6	-0.4	
FRGS	Fruska Gora	147.45 321	⇓P	PKPdf	00 36 38.8	+1.1	
FRGS	Fruska Gora	147.45 321	⇑P	PKPdf	00 36 38.7	+1.0	
WERD	Werda baz=35,slow=2.6	147.48 335	*e*PKPbc	PKPbc	00 36 39.8	-0.4	
MORH	Mrgy, Hungar	147.48 324	⇑P	PKPbc	00 36 39.8	-0.5	
IBBN	Ibbenburen baz=35,slow=2.6	147.50 341	*e*PKPbc	PKPbc	00 36 39.4	-0.7	
PLN	Plauen baz=35,slow=2.6	147.51 335	*e*PKPbc	PKPbc	00 36 39.8	-0.5	
KNT	Kendrikon	147.52 313	P	PKPdf	00 36 38.2	+0.3	
GUNZ	Gunzen baz=35,slow=2.6	147.53 335	*e*PKPbc	PKPbc	00 36 40.0	-0.4	
WERN	Wernitzgruen baz=35,slow=2.6	147.58 335	*e*PKPbc	PKPbc	00 36 40.1	-0.4	
MOX	Moxa baz=35,slow=2.6	147.59 336	*e*PKPbc	PKPbc	00 36 39.6	-0.9	
NKC	Novy Kostel	147.59 335	*e*PKP2	PKPbc	00 36 39.9	-0.7	
NKC	Novy Kostel	147.59 335	*e*PKP	PKPbc	00 36 39.9	-0.7	
STIP	Stip	147.76 314	*i*P	PKPdf	00 36 39.4	+1.1	
CONA	Conrad Observa comp=Z,25nm,0.9s,SNR=13	147.79 328	*i*P	PKPbc	00 36 41.1	-0.2	
CKRC	Cesky Krumlov	147.88 331	*e*PKP	PKPdf	00 36 38.1	-0.2	
CKRC			*ex*	x	00 36 40.9		
MANZ	Manzenberg baz=35,slow=2.6	147.92 335	*e*PKPbc	PKPbc	00 36 41.0	-0.5	
DIVS	Divibare	147.94 319	PKPbc	PKPbc	00 36 41.9	+0.1	
DIVS	Divibare	147.94 319⇑	*i*P	PKPbc	00 36 41.3	-0.5	
IOMK	Kirk Michael	147.94 356	*e*P	PKPdf	00 36 39.7	+1.6	
HPK	Haverah Park	147.95 352	*e*P	PKPbc	00 36 39.9	-1.4	
TEKS	Tekeris	147.96 321	*e*P	PKPdf	00 36 37.8	-0.8	
KHC	Kasperske Hory	147.97 332	*e*PKP2	PKPbc	00 36 41.2	-0.4	
KHC	Kasperske Hory	147.97 332	*e*PKP	PKPbc	00 36 41.2	-0.4	
KHC			*ex*	x	00 36 50.5		
PTL	Penteli	148.04 307	P	PKPdf	00 36 39.9	+1.0	
UBBA	Unterbreizbach baz=35,slow=2.6	148.04 338	*e*PKPbc	PKPbc	00 36 40.8	-0.8	
ROTZ	Rotzenmuhle baz=35,slow=2.6	148.05 334	*e*PKPbc	PKPbc	00 36 41.2	-0.6	
WIM	Isle of Man	148.06 356⇑	*e*P	PKPbc	00 36 40.2	-1.4	
IDI	Anoyia	148.08 301	⇓P	PKPbc	00 36 42.0	-0.4	
SKO	Skopje	148.12 315	*i*P	PKPbc	00 36 42.0	-0.2	
GEC2	GERESS Array S baz=35,slow=2.6	148.13 332	*e*PKPbc	PKPbc	00 36 41.4	-0.8	
GERES	GERESS Array B comp=Z,18nm,0.9s,baz=45,slow=4.0,SNR=94	148.13 332	PKPbc	PKPbc	00 36 41.5	-0.6	
VLY	Voula,Athens	148.16 306	P	PKPbc	00 36 40.9	-1.5	
KASTN	Kahler Asten baz=35,slow=2.6	148.25 340	*e*PKPbc	PKPbc	00 36 41.6	-0.7	
WET	Wettzell baz=35,slow=2.6	148.26 333	*e*PKPbc	PKPbc	00 36 41.9	-0.5	
ILTH	Belurgan, Co L	148.27 357	*e*P	PKPdf	00 36 40.4	+1.7	
BEHE	Becsehely	148.31 326⇑	*i*P	PKPbc	00 36 41.8	-0.8	
BBLS	Lazići	148.42 320⇑	*i*P	PKPbc	00 36 42.9	-0.1	
ARSA	Arzberg comp=Z,7.2nm,0.8s	148.43 328	*e*P	PKPbc	00 36 43.0	+0.2	
GRFO	Grafenberg	148.50 335	PKP2	PKPbc	00 36 43.0	0.0	
GRFO	Grafenberg	148.50 335		PKPbc	00 36 43.0	0.0	
LBWR	Ladybower, Pea	148.51 352	*e*P	PKPbc	00 36 41.4	-1.4	
LBWR	comp=Z,34nm,1.1s		IAmb	IAmb	00 36 42.4		
KOGS	Kog	148.60 326	*i*PKPbc	PKPbc	00 36 42.4	-0.9	
MOA	Molln comp=Z,14nm,1.1s,SNR=7.8	148.60 330	*i*P	PKPbc	00 36 42.6	-0.7	
KALN	Kalnik	148.71 325	*i*P	PKPbc	00 36 42.8	-0.9	
FNA	Florina	148.72 313	P	PKPbc	00 36 42.8	-1.1	
WME	Myndd Eilian	148.78 355⇑	*e*P	PKPbc	00 36 42.0	-1.4	
WPS	Cemaes, Angles	148.79 355⇑	*e*P	PKPbc	00 36 41.9	-1.6	
WPS			IAmb	IAmb	00 36 42.8		
	comp=Z,23nm,1.1s						
STNC	Stoke	148.87 353⇑	*e*P	PKPbc	00 36 42.9	-0.9	
STNC	comp=Z,35nm,1.0s		IAmb	IAmb	00 36 43.7		
MOSL	Moslavina	148.88 324	*i*P	PKPbc	00 36 43.4	-0.6	
LOBO	Lobor	148.89 326	*i*P	PKPbc	00 36 42.5	-1.6	
WLF1	Llynfaes	148.89 355⇑	*e*P	PKPbc	00 36 41.9	-1.8	
WLF1	comp=Z,38nm,0.8s		IAmb	IAmb	00 36 44.5		
IGLA	Glengowla, Co	148.93 1	*e*P	PKPbc	00 36 42.0	-1.9	
YRC	Rhoscolyn	148.95 355⇑	*e*P	PKPbc	00 36 42.0	-1.9	
OHR	Ohrid	148.95 314	*i*P	PKPbc	00 36 44.3	-0.1	
BIOA	Bad Ischl, Aus comp=Z,19nm,1.2s	149.01 330	*e*P	PKPbc	00 36 43.4	-1.0	
SOKA	Soboth comp=Z,40nm,1.2s,SNR=14	149.06 328	*i*P	PKPbc	00 36 43.6	-1.0	
TNS	Taunus Mts baz=35,slow=2.6	149.08 338	*e*PKPbc	PKPbc	00 36 43.9	-0.6	
UPM	Unac-Piva	149.09 319⇑	*i*P	PKPbc	00 36 43.6	-1.3	
CWF	Charnwood Fore	149.10 351	*e*P	PKPbc	00 36 42.9	-1.4	
PTJ	Puntijarka	149.11 326	*i*P	PKPbc	00 36 44.1	-0.6	
ZAG	Zagreb	149.15 325	*i*P	PKPbc	00 36 44.3	-0.4	
FOEL	Foel Wylfa	149.18 354⇑	*e*P	PKPbc	00 36 43.3	-1.2	
FOEL	comp=Z,27nm,0.8s		IAmb	IAmb	00 36 43.8		
BLY	Banja Luka	149.19 323⇑	*i*P	PKPbc	00 36 44.4	-0.4	
EVR	Evrytania	149.21 310	P	PKPbc	00 36 44.6	-0.6	
AHRW	Bad Neuenahr-A baz=35,slow=2.6	149.25 340	*e*PKPbc	PKPbc	00 36 44.2	-0.6	
PDG	Podgorica	149.29 317	⇑P	PKPbc	00 36 44.1	-1.0	
PDG	Podgorica	149.29 317	⇑*i*P	PKPbc	00 36 44.3	-0.8	
KLV	Kalavryta, Ach	149.30 308	P	PKPbc	00 36 44.6	-0.8	
PRIJ	Prijedor	149.31 324	⇑*i*P	PKPbc	00 36 44.8	-0.3	
ELMS	Elmsett, Ipswi	149.35 348	*e*P	PKPbc	00 36 43.9	-1.1	
RJOB	Jochberg comp=Z,40nm,1.2s,SNR=22	149.36 331	*e*PKPbc	PKPbc	00 36 44.2	-1.0	
OBKA	Obir comp=Z,17nm,1.0s,SNR=5.6	149.42 328	*i*P	PKPbc	00 36 44.1	-1.4	
CRES	Cresnjev	149.43 326⇑	*i*P	PKPbc	00 36 44.7	-0.7	
MGRS	Mrkonjic Grad	149.45 322	*e*P	PKPbc	00 36 45.0	-0.5	
TIR	Tirane	149.46 315	⇓P	PKPbc	00 36 45.2	-0.3	
TIR	Tirane	149.46 315	⇓PKP2	PKPbc	00 36 45.3	-0.3	
DRME	Dracevica, Mon	149.46 317	⇑*i*P	PKPbc	00 36 44.9	-0.7	
BRY	Bratogost	149.48 319	*e*P	PKPbc	00 36 44.8	-1.0	
BTNL	Ternell	149.50 341	*d*PKPbc	PKPbc	00 36 44.1	-1.4	
MEM	Membach	149.51 342	*d*PKPbc	PKPbc	00 36 44.9	-0.6	
OZLJ	Ozalj	149.56 326	*i*P	PKPbc	00 36 45.5	-0.2	
KBA	Koelnbreinsper comp=Z,40nm,1.2s,SNR=22	149.59 330	*i*P	PKPbc	00 36 44.4	-1.6	
VNDS	Vrh nad Dolski	149.63 327	*i*PKPbc	PKPbc	00 36 45.1	-0.8	
BSTI	Sart Tilman	149.66 342	*d*PKPbc	PKPbc	00 36 45.4	-0.4	
BSTI			*d*PKPab	PKPab	00 36 51.1	-0.1	
FUR	Furstenfeldbru baz=35,slow=2.6	149.69 333	*e*PKPbc	PKPbc	00 36 45.2	-0.8	
TREB	Trebinje	149.70 319	*e*P	PKPbc	00 36 44.9	-1.3	
BHOU	Houvegnez	149.74 341	*d*PKPbc	PKPbc	00 36 45.7	-0.3	
BHOU			*d*PKPab	PKPab	00 36 51.5	-0.1	
HCY	Herceg Novi	149.76 318⇑	*i*P	PKPbc	00 36 45.1	-1.2	
LJU	Ljubljana	149.76 327⇑	*i*P	PKPbc	00 36 45.6	-0.6	
LJU	Ljubljana	149.76 327	*i*PKPbc	PKPbc	00 36 45.7	-0.6	
MYKA	Terra Mystica comp=Z,27nm,1.1s,SNR=7.0	149.78 329	*i*P	PKPbc	00 36 44.8	-1.5	
DBRK	Dubrovnik	149.85 319	*i*P	PKPbc	00 36 44.9	-1.6	
BCLA	Clavier	149.89 342	*d*PKP	PKPbc	00 36 45.2	-1.1	
BCLA			*d*PKPab	PKPab	00 36 51.2	-0.9	
PLIT	Plitvice	149.97 324	*i*P	PKPbc	00 36 45.3	-1.5	
RICI	Ricice	149.98 321	*i*P	PKPbc	00 36 45.6	-1.3	
BGES	Gesves	149.98 342	*d*PKPdf	PKPdf	00 36 41.2	-0.3	
STON	Ston	150.00 319	*i*P	PKPbc	00 36 45.5	-1.4	
CEY	Cerknica	150.02 327⇑	*i*P	PKPbc	00 36 46.0	-0.9	
STU	Stuttgart baz=35,slow=2.6	150.03 336	*e*PKPbc	PKPbc	00 36 46.0	-0.8	
MCH1	Michaelchurch comp=Z,25nm,1.0s	150.04 353⇑	*e*P	PKPbc	00 36 45.2	-1.4	
MCH1			IAmb	IAmb	00 36 45.5		
VOJS	Vojsko	150.09 328	*i*PKPbc	PKPbc	00 36 45.9	-1.2	
KIJV	Kijevo	150.09 322	*i*P	PKPbc	00 36 46.0	-1.1	
UDBI	Udbina	150.12 324	*i*P	PKPbc	00 36 46.0	-1.2	
BMRD	Maredsous	150.14 343	*d*PKPbc	PKPbc	00 36 46.2	-0.8	
RCHB	Rochefort	150.15 342	*d*PKPbc	PKPbc	00 36 45.9	-1.0	
STRD	Stroud	150.16 352	*e*P	PKPab	00 36 51.7	-1.5	
STRD	comp=Z,32nm,0.9s		IAmb	IAmb	00 36 53.2		
MAKA	Makarska	150.17 321	*i*P	PKPbc	00 36 45.9	-1.3	
MONM	Monmouth	150.17 353	*e*P	PKPbc	00 36 45.5	-1.5	
MONM	comp=Z,22nm,0.9s		IAmb	IAmb	00 36 46.4		
WATA	Walderalm comp=Z,32nm,1.1s,SNR=11	150.20 332	*i*P	PKPbc	00 36 46.8	-0.7	
ABTA	Abfaltersbach comp=Z,34nm,0.9s,SNR=15	150.22 330	*i*P	PKPbc	00 36 46.1	-1.3	
WTTA	Wattenberg comp=Z,48nm,1.0s,SNR=18	150.23 332	*i*P	PKPbc	00 36 46.5	-1.0	
WLF	Walferdange baz=35,slow=2.6	150.31 340	*e*PKPbc	PKPbc	00 36 47.1	-0.3	
WLF	Walferdange	150.31 340	*d*PKPbc	PKPbc	00 36 47.3	0.0	
WLF			*d*PKPab	PKPab	00 36 53.2	-0.7	
SKDS	Skadanscina	150.36 327⇑	*i*P	PKPbc	00 36 46.5	-1.2	
SWN1	Swindon	150.36 351⇑	*e*P	PKPbc	00 36 46.1	-1.3	
SWN1	comp=Z,55nm,0.8s		IAmb	IAmb	00 36 47.2		
DOU	Dourbes	150.38 343	*d*PKP	PKPbc	00 36 46.1	-1.4	
MOTA	Moosalm comp=Z,41nm,1.1s,SNR=19	150.40 332	*i*P	PKPbc	00 36 46.7	-1.2	
RETA	Reutte comp=Z,15nm,1.1s,SNR=6.4	150.44 333	*i*P	PKPbc	00 36 47.2	-0.7	
SQTA	Sankt Quirin comp=Z,42nm,1.1s,SNR=10	150.45 332	*i*P	PKPbc	00 36 47.1	-0.9	
LSTV	Lastovo	150.55 320	*i*P	PKPbc	00 36 46.8	-1.4	
UBR	Ueberruh baz=35,slow=2.6	150.55 334	*e*PKPbc	PKPbc	00 36 47.0	-1.2	
HVAR	Hvar	150.57 321	*i*P	PKPbc	00 36 46.9	-1.3	
MORI	Morici	150.57 323	*i*P	PKPbc	00 36 47.3	-0.9	
NVLJ	Novalja	150.58 325	*i*P	PKPbc	00 36 46.9	-1.3	
SMRN	Sveta Marina	150.64 326	*i*P	PKPbc	00 36 47.1	-1.2	
VIRC	Vir	150.66 324	*i*P	PKPbc	00 36 47.5	-0.9	
BFO	Black Forest	150.71 337	PKIKP	PKPbc	00 36 47.3	-1.2	
BFO	Black Forest	150.71 337		PKPbc	00 36 47.3	-1.2	
BFO	Black Forest baz=35,slow=2.6	150.71 337	*e*PKPbc	PKPbc	00 36 47.2	-1.2	
ZIRJ	Zirje	150.74 322	*i*P	PKPbc	00 36 46.2	-2.4	
FETA	Feichten comp=Z,34nm,1.0s,SNR=14	150.81 332	*i*P	PKPbc	00 36 47.9	-1.0	
DAVA	Damuels comp=Z,15nm,1.2s,SNR=5.9	150.96 334	*i*P	PKPbc	00 36 48.5	-0.7	
TUE	Stuetta	151.83 333	PKPab	PKPab	00 37 01.2	+0.6	
SGRT	San Giovanni R	151.83 319	PKPbc	PKPbc	00 36 50.5	-0.9	
NRCA	Norcia	152.68 324	PKPab	PKPab	00 37 05.0	+0.8	
MURB	Monte Urbino	152.71 325	PKPab	PKPab	00 37 05.7	+1.4	
ZCCA	Zocca	152.72 328	PKPdf	PKPdf	00 36 45.5	-0.5	
AQU	L'Aquila	152.83 323	*e*P	PKPab	00 37 05.8	+1.0	
PAOL	Paolisi	152.98 319	PKPbc	PKPbc	00 36 52.7	-1.1	
KEST	Kesra comp=Z,8.8nm,0.9s,baz=3.6,slow=1.3,SNR=7.5	159.41 314	PKPab	PKPab	00 37 33.8	+0.5	
ESDC	Sonseca Array comp=Z,2.5nm,1.0s,baz=5.3,slow=3.5,SNR=12	162.23 348	PKPab	PKPab	00 37 43.5	-1.8	
ESDC	Sonseca Array	162.23 348	PKPdf	PKPdf	00 36 59.8	+1.8	
DBIC	Dimbokro comp=Z,3.9nm,0.9s,baz=96,slow=4.5,SNR=3.6	164.04 194	PKP	PKPdf	00 36 59.2	-1.2	
DBIC			PKPab	PKPab	00 37 53.6	-0.2	
TOA0	Torodi Ar. Sit	166.62 229	PKPab	PKPab	00 38 05.5	+0.2	
TORD	Torodi Ar. Bea comp=Z,5.9nm,0.9s,baz=106,slow=1.9,SNR=24	166.62 229	PKP	PKPdf	00 37 01.6	-0.9	
TORD			PKPab	PKPab	00 38 05.0	-0.2	
KOWA	Kowa comp=Z,12nm,1.0s,baz=125,slow=3.9,SNR=20	171.10 210	PKPab	PKPab	00 38 25.3	+0.3	

MOS ***18*** *00:31:23.9±1.2, 4.°48S×152.°99E, h35km, mb5.6/40, MS4.9/8, Error ellipse: s-maj=8.0km s-min=5.1km az=112.3*

IDC ***18*** *00:31:24.5±1.5, 4.°65S×152.°96E, h32km±9km, mb5.0/31, mb1 5.0/32, mb1mx4.8/43, mbtmp5.2/32, ML5.8/1, MS4.8/48, Ms1 4.8/48, ms1mx4.7/59, Error ellipse: s-maj=12.1km s-min=9.0km az=80.0*

BJI ***18*** *00:31:24.6±0.0, 4.°37S×153.°40E, h53km, mb5.2/76, mB5.1/55, Ms5.1/80, Ms7 4.9/73*

NEIC ***18*** *00:31:25.9±2.3, 4.°55S±0.°07×153.°10E±0.°04, h35km±3km, mb5.3/258, Ms_20 5.2/289, Mwb5.5/28, Mww5.6, Error ellipse: s-maj=9.9km s-min=5.1km az=185.0*

GCMT ***18*** *00:31:27.9±0.1, 4.°68S±0.°01×153.°04E±0.°01, h45km, MW5.6/155, Moment Tensor Solution. s129,c215; s155,c293; Duration: 1s6 Moment tensor: Scale 1017 Nm; Mrr0.36±.04; Mθθ2.63±.04; Mφφ-2.99±.04; Mrθ0.39±.04; Mθφ-1.17±.03; Mφr-1.53±.05; Best double couple: M0.39400×1017 NP1:φs58.00000°,δ64.00000°, λ-177.00000°. NP2:φs327.00000°,δ88.00000°, λ-26.00000°. Principal axes: T 3.0590, Plg16.0000°, Azm15.0000°; N 0.6720, Plg64.0000°, Azm142.0000°; P -3.7280, Plg19.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***18*** *00:31:27.3, 4.°58S×153.°03E, h34km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.72; Mθθ-1.87; Mrθ0.58; Mθφ-0.29; Mφr-0.86; Fault plane solution: M02.10000×1017 NP1:φs140.40000°, δ89.33000°, λ29.62000°. NP2:φs50.02000°, δ60.38000°, λ179.23000°. Principal axes: T 1.9939, Plg21.0000°, Azm9.0000°; N 0.1966, Plg60.0000°, Azm142.0000°; P -2.1905, Plg20.0000°, Azm271.0000°;*

DJA ***18*** *00:31:28.4±0.4, 5.°S±3.°×15.°3E±.°, h66km±3km, M5.5/77, mb5.5/77, mB5.9/50, MLv6.2/3, Mw(mB)5.4/50, MwMwp5.3/12, Mwp5.5/12*

NEIC ***18*** *00:31:31, 4.°56S×152.°95E, h50km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 1017Nm; Mrr-0.08; Mθθ3.44; Mφφ-3.37; Mrθ-0.16; Mθφ-0.69; Mφr-0.57; Fault plane solution: M03.52000×1017 NP1: φs320.00000°,δ82.00000°,λ-5.00000°. NP2:φs51.00000°, δ84.00000°,λ-172.00000°. Principal axes: T 3.5138, Plg2.0000°, Azm186.0000°; N 0.0196, Plg80.0000°, Azm86.0000°; P -3.5334, Plg10.0000°, Azm276.0000°;*

ISC 18 00:31:26.4±0.3, 4.°63S±0.°03×153.°07E±0.°04, h50km±2km, h50km:pP-P,n1111,σ1939/1043,mb5.3/250,MS5.2/209, 71C-88D,Fault plane solution: NP1:φs119.98944°, δ83.93822°,λ-14.24280°. **NP2:**φs211.52489°,δ75.83850°, λ-173.74748°. **Principal axes:** T Plg5.6428°, Azm166.4614°; N Plg74.5455°, Azm277.4010°; P Plg14.3396°, Azm75.0141°; **New Ireland region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.00 296	Pn	Pn	00 31 43.5	-0.7
RABL	Rabaul	1.00 296	P	Pn	00 31 44.7	+0.5
KRVT	Keravat (AS076	1.09 287	Pn	Pn	00 31 45.7	+0.4
MANU	Manus Island	6.24 294	Pn	Pn	00 32 56.3	+0.3
PMG	Port Moresby	7.54 231	Pn	Pn	00 33 14.1	+0.3
PMG	26nm,0.3s,baz=71,slow=6.6,SNR=37		Sn	Sn	00 34 38.7	+0.7
PMG	78nm,0.3s,baz=358,slow=20,SNR=12 Port Moresby	7.54 231	*ce*P	Pn	00 33 14.9	+1.1
PMG	comp=Z,511nm,1.0s		pmax	pmax		
PMG	Port Moresby	7.54 231	Pn	Pn	00 33 14.5	+0.7
PMG	Port Moresby	7.54 231	P	Pn	00 33 16.3	+2.5
PMG	Port Moresby	7.54 231	P	Pn	00 33 14.0	+0.2
HNR	Honiara	8.33 125	Pn	Pn	00 33 24.7	+0.1
HNR	comp=Z,104nm,0.3s,baz=218,slow=4.9,SNR=7.7 Honiara	8.33 125		Pn	00 33 24.6	-0.1
HNR	Honiara	8.33 125	P	Pn	00 33 26.1	+1.5
JAY	Jayapura	12.52 279	P	Pn	00 34 24.4	+2.4
PATS	comp=Z,4µmcomp=Z,96nm,1.0s Pohnpei	12.54 25	P	Pn	00 34 20.2	-2.1
PATS	baz=13,SNR=5.0 Pohnpei	12.54 25		Pn	00 34 19.2	-3.0
PATS	Pohnpei	12.54 25	P	Pn	00 34 23.9	+1.7
GENI	Genyem	13.03 279	P	Pn	00 34 32.2	+3.2
GENI	comp=Z,9µmcomp=Z,14µmcomp=Z,447nm,1.9s Genyem	13.03 279	P	Pn	00 34 31.3	+2.3
COEN	Coen	13.45 226	Pn	Pn	00 34 35.4	+0.6
COEN	Coen	13.45 226	P	Pn	00 34 36.8	+2.1
SMPI	Sarmi comp=Z,5µmcomp=Z,6µmcomp=Z,198nm,0.7s	14.57 280	P	P	00 34 52.5	-2.6
MTSU	Mount Surprise baz=16,SNR=25	15.91 212	P	P	00 35 09.9	-0.2
CTA	Charters Tower comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=13	16.73 203	Pn	P	00 35 19.3	+0.2
CTA			LR	LR	00 41 02.4	
CTAO	comp=Z,5µm,21.8s,baz=24,slow=35 Charters Tower	16.73 203	P	P	00 35 19.1	0.0
CTAO			pP	pP	00 35 26.6	-3.5
SANVU	Saraoutou	17.57 129	P	P	00 35 29.9	+1.6

comp=Z,116nm,0.9s
PINNC **Pines Island,** 22.65 143 P **P** 00 36 24.0 +0.5
MTN **Manton Dam** 23.14 248 P **P** 00 36 27.2 -1.5
baz=23,SNR=32
MTN **Manton Dam** 23.14 248 P **P** 00 36 27.5 -1.2
MTN **Manton Dam** 23.14 248 P **P** 00 36 28.4 -0.3
QLP **Quilpie** 23.40 200 P **P** 00 36 31.2 +0.1
WB0 **Warramunga Arr** 23.61 229 P **P** 00 36 32.1 -1.0
WR0 **Warramunga Arr** 23.61 228 P **P** 00 36 32.0 -1.1
WRAB **Tennant Creek** 23.74 229 *ce*P **P** 00 36 32.9 -1.4
WRAB pmax pmax
comp=Z,532nm,1.7s
WRAB **Tennant Creek** 23.74 229 P **P** 00 36 33.7 -0.6
WRAB **Tennant Creek** 23.74 229 P **P** 00 36 34.4 +0.1
WRAB **Tennant Creek** 23.74 229 P **P** 00 36 33.8 -0.6
WRAB pP **pP** 00 36 44.5 -1.8
WB2 **Warramunga Arr** 23.74 229 P **P** 00 36 33.7 -0.7
baz=24
WB2 **Warramunga Arr** 23.74 229 P **P** 00 36 33.8 -0.5
WRA **Warramunga Arr** 23.75 229 P **P** 00 36 33.4 -1.1
comp=Z,135nm,0.8s,baz=54,slow=10,SNR=171
WRA S **S** 00 40 44.9 -1.6
comp=Z,2.6nm,0.7s,baz=53,slow=15,SNR=5.4
WRA ScP **ScP** 00 43 53.8 +2.0
comp=Z,9.5nm,0.8s,baz=53,slow=3.2,SNR=8.0
WRA LR LR 00 45 55.7
comp=Z,4μm,20.9s,baz=54,slow=37
WRA **Warramunga Arr** 23.75 229 P **P** 00 36 33.5 -1.0
AAI **Ambon** 24.82 271 P **P** 00 36 42.9 -1.4
comp=Z,2μmcomp=Z,101nm,0.6s
ARMA **Armidale** 25.68 183 P **P** 00 36 54.0 +2.0
baz=26,SNR=9.9
ARMA **Armidale** 25.68 183 P **P** 00 36 53.2 +1.2
ARMA IAmb IAmb 00 37 29.2
comp=Z,95nm,1.2s
ARMA **Armidale** 25.68 183 P **P** 00 36 53.3 +1.2
INKA **Innaminka** 25.80 206 P **P** 00 36 53.5 +0.5
LBMI **Labuha** 25.84 278 P **P** 00 36 54.8 +1.3
comp=Z,4μmcomp=Z,281nm,0.8s
TNTI **Ternate** 26.23 281 P **P** 00 36 57.5 +0.4
TNTI IAmb IAmb 00 37 35.3
comp=Z,93nm,0.9s
TNTI **Ternate** 26.23 281 P **P** 00 36 57.4 +0.4
comp=Z,2μmcomp=Z,97nm,0.8s
TNTI **Ternate** 26.23 281 P **P** 00 36 57.3 +0.3
FUNA **Funafuti** 26.24 100 P **P** 00 36 57.7 +0.6
FUNA **Funafuti** 26.24 100 P **P** 00 36 58.3 +1.2
KNRA **Kununurra** 26.28 244 P **P** 00 36 57.1 -0.3
baz=26,SNR=81
KNRA **Kununurra** 26.28 244 P **P** 00 36 57.2 -0.3
KNRA **Kununurra** 26.28 244 P **P** 00 36 57.0 -0.5
ASAR **Alice Springs** 26.45 223 P **P** 00 36 58.5 -0.5
comp=Z,15nm,0.5s,baz=56,slow=8.8,SNR=43
ASAR ScP **ScP** 00 44 01.4 +2.0
comp=Z,5.0nm,0.9s,baz=46,slow=3.5,SNR=6.6
ASAR LR LR 00 48 07.1
comp=Z,3μm,18.2s,baz=53,slow=38
ASAR **Alice Springs** 26.45 223 P **P** 00 36 58.8 -0.2
ASAR **Alice Springs** 26.45 223 P **P** 00 36 58.8 -0.2
ASAR ScP **ScP** 00 44 01.9 +2.6
ASPA **Alice Springs** 26.45 223 P **P** 00 36 59.2 +0.2
baz=26
H11S3 **WAKE ISLAND Hy** 26.62 30 T T 01 04 45.2
baz=211,slow=76,SNR=389
H11S2 **WAKE ISLAND Hy** 26.62 30 T T 01 04 51.6
baz=211,slow=76,SNR=648
H11S1 **WAKE ISLAND Hy** 26.63 30 T T 01 04 35.8
baz=211,slow=76,SNR=439
SANI **Sanana** 27.15 275 P **P** 00 37 04.9 -0.4
comp=Z,2μmcomp=Z,2μmcomp=Z,115nm,0.8s
SANI **Sanana** 27.15 275 P **P** 00 37 04.9 -0.4
CMSA **Cobar Meteorol** 27.65 194 P **P** 00 37 10.1 +0.6
baz=28,SNR=8.7
CMSA **Cobar Meteorol** 27.65 194 P **P** 00 37 11.3 +1.8
MSVF **Nonsavu** 27.70 120 P **P** 00 37 11.4 +1.1
comp=Z,5.2nm,0.8s,baz=285,slow=21,SNR=5.0
MSVF ScP **ScP** 00 44 06.6 +3.3
comp=Z,5.0nm,0.8s,baz=175,slow=5.8,SNR=6.0
MSVF LR LR 00 48 04.1
comp=Z,3μm,19.0s,baz=295,slow=36
MSVF **Nonsavu** 27.70 120 ScP **ScP** 00 44 07.3 +4.0
MSVF IAMs_20 IAMs_20 00 46 58.0
comp=Z,5μm,22.0s
MSVF **Nonsavu** 27.70 120 P **P** 00 37 10.7 +0.4
H11N1 **WAKE ISLAND Hy** 27.75 29 T T 01 06 33.2
baz=316,slow=74,SNR=116
H11N3 **WAKE ISLAND Hy** 27.77 29 T T 01 06 33.2
baz=197,slow=74,SNR=54
H11N2 **WAKE ISLAND Hy** 27.77 29 T T 01 06 47.7
SNR=66
OOD **Oodnadatta** 28.36 214 P **P** 00 37 15.9 -0.1
STKA **Stephens Creek** 29.16 200 P **P** 00 37 21.8 -1.2
comp=Z,7.6nm,0.7s,baz=20,slow=11,SNR=13
STKA ScP **ScP** 00 44 12.0 +4.6
comp=Z,17nm,1.2s,baz=327,slow=10.0,SNR=5.2
STKA LR LR 00 49 04.1
comp=Z,3μm,20.2s,baz=17,slow=36
STKA **Stephens Creek** 29.16 200 P **P** 00 37 22.9 -0.1
baz=29,SNR=3.9
STKA **Stephens Creek** 29.16 200 P **P** 00 37 23.1 +0.1
STKA **ScP** 00 44 14.7 +7.2
STKA **Stephens Creek** 29.16 200 P **P** 00 37 22.1 -0.9
LCRK **Leigh Creek** 29.25 207 P **P** 00 37 24.3 +0.5
KMSI **Cibinong** 29.51 279 P **P** 00 37 28.0 +1.6
comp=Z,322nm,0.7s
FITZ **Fitzroy Crossi** 29.97 241 P **P** 00 37 29.4 -1.0
comp=Z,100nm,0.8s,baz=56,slow=7.7,SNR=202
FITZ ScP **ScP** 00 44 14.7 +4.4
comp=Z,14nm,0.8s,baz=185,slow=5.7,SNR=4.4
FITZ LR LR 00 50 47.8
comp=Z,7μm,19.2s,baz=68,slow=39
FITZ **Fitzroy Crossi** 29.97 241 P **P** 00 37 29.6 -0.8
baz=30,SNR=16
FITZ **Fitzroy Crossi** 29.97 241 P **P** 00 37 29.3 -1.0
LUWI **Luwuk** 30.46 276 P **P** 00 37 35.4 +0.6
comp=Z,4μmcomp=Z,193nm,0.9s
LUWI **Luwuk** 30.46 276 P **P** 00 37 35.2 +0.4
CAN **Canberra** 30.77 187 P **P** 00 37 37.7 +0.4
CAN pmax pmax
comp=Z,109nm,1.6s
CAN MLR MLR
comp=Z,3μm,20.0s
CAN **Canberra** 30.77 187 P **P** 00 37 37.7 +0.4
CAN IAmb IAmb 00 37 40.5
comp=Z,109nm,1.6s
MULG **Mulgathing** 31.19 213 P **P** 00 37 41.0 0.0
WRKA **Warakurna** 31.27 227 P **P** 00 37 40.7 -1.1
baz=31,SNR=83
WRKA **Warakurna** 31.27 227 P **P** 00 37 41.1 -0.7
MRSI **Marisa** 31.51 278 P **P** 00 37 43.4 -0.6
comp=Z,50nm,0.7s
HTT **Hallett** 31.54 203 P **P** 00 37 44.1 0.0
baz=32,SNR=11
HTT **Hallett** 31.54 203 P **P** 00 37 45.2 +1.1
APSI **Ampana** 31.59 276 P **P** 00 37 45.2 +0.5
comp=Z,1μmcomp=Z,118nm,0.7s
BSSI **Bau Bau, Buton** 32.46 266 P **P** 00 37 52.1 -0.3
comp=Z,873nmcomp=Z,62nm,1.1s
TOLI2 **Tolitoli** 32.76 279 IAmb IAmb 00 37 57.7
comp=Z,43nm,0.8s
TOLI2 **Tolitoli** 32.76 279 P **P** 00 37 54.1 -0.9
BKSI **Bulukumba** 32.83 267 P **P** 00 37 54.1 -1.5
comp=Z,34nm,1.0s
BNSI **Bone** 32.86 269 P **P** 00 37 55.4 -0.4
comp=Z,644nmcomp=Z,83nm,1.1s
KAPI **Kappang** 33.20 268 P **P** 00 37 58.1 -0.8
comp=Z,37nm,0.8s,baz=120,slow=4.8,SNR=17
KAPI LR LR 00 53 34.6
comp=Z,1μm,21.2s,baz=88,slow=40
KAPI **Kappang** 33.20 268 P **P** 00 37 58.0 -0.8
KAPI IAmb IAmb 00 37 59.2
comp=Z,58nm,1.0s
KAPI **Kappang** 33.20 268 P **P** 00 37 58.5 -0.3
KAPI **Kappang** 33.20 268 P **P** 00 37 56.8 -2.0
SPSI **Sidrap Palu** 33.21 270 P **P** 00 37 56.9 -2.0
comp=Z,630nmcomp=Z,63nm,0.9s
TTSI **Tana Toraja** 33.21 272 P **P** 00 37 58.8 -0.1
comp=Z,1μmcomp=Z,36nm,1.1s
MPSI **Mapaga** 33.50 278 P **P** 00 38 00.4 -1.1
comp=Z,850nmcomp=Z,117nm,0.8s
ARPS **Mount Arapiles** 33.60 196 P **P** 00 38 03.9 +1.8
WBSI **Waikabubak, Su** 33.77 260 P **P** 00 38 03.2 -0.6
comp=Z,2μmcomp=Z,126nm,0.7s
FORT **Forrest** 35.08 219 P **P** 00 38 14.6 -0.4
baz=35,SNR=20
FORT **Forrest** 35.08 219 P **P** 00 38 14.6 -0.4

PLAI **Plampang** 35.28 261 P **P** 00 38 14.2 -2.7
AFI **Afiamalu** 35.85 107 LR LR 00 51 01.3
comp=Z,2μm,19.9s,baz=284,slow=33
MYLDM **Lahad Datu** 35.87 285 P **P** 00 38 22.8 +0.8
MBWA **Marble Bar** 36.28 240 P **P** 00 38 23.6 -1.8
PSA00 **Pilbara Seismi** 36.34 239 P **P** 00 38 25.0 -0.9
PSA00 **Pilbara Seismi** 36.34 239 IAmb IAmb 00 38 26.0
comp=Z,57nm,1.2s
PSA00 **Pilbara Seismi** 36.34 239 P **P** 00 38 25.0 -0.9
BBKI **Banjar Baru** 38.14 270 P **P** 00 38 41.4 +0.1
comp=Z,21μmcomp=Z,54nm,1.0s
MTKI **Muara Teweh, K** 38.29 274 P **P** 00 38 42.3 -0.2
KKM **Kota Kinabalu** 38.29 286 P **P** 00 38 42.1 -0.5
KKM IAmb IAmb 00 38 44.3
comp=Z,80nm,1.0s
KKM **Kota Kinabalu** 38.29 286 P **P** 00 38 42.7 +0.1
JAGI **Jajag, Banyuwa** 38.83 262 P **P** 00 38 43.3 -3.8
JAGI IAmb IAmb 00 38 50.7
comp=Z,55nm,0.9s
JAGI **Jajag, Banyuwa** 38.83 262 P **P** 00 38 43.1 -4.0
comp=Z,67nm,0.9s
JAGI **Jajag, Banyuwa** 38.83 262 P **P** 00 38 45.0 -2.1
JOW **Kunigami** 39.42 324 P **P** 00 38 52.5 +0.8
comp=Z,96nm,0.7s,baz=154,slow=7.5,SNR=11
JOW **Kunigami** 39.42 324 P **P** 00 38 52.5 +0.8
JOW **Kunigami** 39.42 324 P **P** 00 38 53.0 +1.3
MEEK **Meekatharra** 39.51 233 P **P** 00 38 52.1 -0.5
baz=40,SNR=90
MEEK **Meekatharra** 39.51 233 P **P** 00 38 52.2 -0.4
JHJ2 **Mitsune** 39.59 342 P **P** 00 38 52.5 -0.5
URZ **Urewera** 40.00 150 P **P** 00 38 56.9 +0.5
comp=Z,8.1nm,0.3s,baz=32,slow=4.5,SNR=7.5
URZ **Urewera** 40.00 150 P **P** 00 38 57.5 +1.2
URZ IAmb IAmb 00 39 20.7
comp=Z,85nm,1.2s
OTVZ **Oturere** 40.01 152 P **P** 00 38 58.1 +1.4
SNVZ **South Ngauruho** 40.02 152 P **P** 00 38 59.4 +2.6
QRZ **Quartz Range** 40.05 157 P **P** 00 38 58.7 +1.9
QRZ IAmb IAmb 00 39 34.3
comp=Z,108nm,1.2s
QRZ **Quartz Range** 40.05 157 P **P** 00 38 57.9 +1.1
MXZ **Matakaoa Point** 40.08 148 P **P** 00 38 59.0 +2.0
MXZ IAmb IAmb 00 39 12.6
comp=Z,74nm,1.2s
BKZ **Black Stump Fm** 40.41 152 IAMs_20 IAMs_20 00 55 40.9
comp=Z,3μm,18.0s
BKZ **Black Stump Fm** 40.41 152 P **P** 00 39 00.6 +0.7
BHHZ **Black Hill Sta** 40.46 152 P **P** 00 39 00.0 -0.3
DSZ **Denniston Nort** 40.57 158 P **P** 00 39 03.8 +2.6
DUWZ **D'Urville Isla** 40.59 155 P **P** 00 39 04.4 +3.1
MRNZ **Matariki Terra** 40.63 157 P **P** 00 39 03.7 +2.0
NNZ **Nelson** 40.72 156 P **P** 00 39 01.9 -0.4
NNZ IAmb IAmb 00 39 04.8
comp=Z,77nm,1.1s
NNZ **Nelson** 40.72 156 P **P** 00 39 03.5 +1.2
PNHZ **Pukenui** 40.86 152 P **P** 00 39 04.2 +0.6
TSZ **Takapari Road** 40.87 153 P **P** 00 39 03.2 -0.4
THZ **Tophouse** 41.00 157 P **P** 00 39 05.4 +0.7
THZ IAmb IAmb 00 39 24.5
comp=Z,100nm,1.0s
THZ **Tophouse** 41.00 157 P **P** 00 39 06.6 +1.8
TCW **Tory Channel** 41.08 155 P **P** 00 39 06.2 +0.9
KAHZ **Kahuranaki** 41.08 152 P **P** 00 39 07.4 +2.0
TUWZ **Tuamarina** 41.13 156 P **P** 00 39 05.1 -0.6
YOJ **Yonaguni jima** 41.13 316 P **P** 00 39 05.9 0.0
YOJ pmax pmax
comp=Z,121nm,1.0s
YOJ **Yonaguni jima** 41.13 316 P **P** 00 39 05.9 0.0
OGWZ **Otaki Gorge** 41.13 154 P **P** 00 39 05.8 0.0
PWJI **Pagerwojo** 41.13 263 P **P** 00 39 03.1 -3.0
comp=Z,66nm,1.0s
SNZO **South Karori** 41.34 155 P **P** 00 39 07.9 +0.4
SNZO **South Karori** 41.34 155 P **P** 00 39 07.8 +0.4
PRHZ **Porangahau** 41.34 152 P **P** 00 39 10.0 +2.5
HOWZ **Holdsworth Sta** 41.35 154 P **P** 00 39 07.1 -0.5
PBKI **Pangkalan Bun** 41.35 271 P **P** 00 39 08.9 +0.9
comp=Z,20μmcomp=Z,525nm,0.9s
SBUM **Sibu** 41.41 279 P **P** 00 39 08.7 +0.3
FOZ **Fox Glacier** 41.47 162 P **P** 00 39 10.2 +1.7
FOZ IAmb IAmb 00 39 41.2
comp=Z,76nm,1.0s
FOZ IAMs_20 IAMs_20 00 53 19.2
comp=Z,4μm,21.0s
TWG **Pinlang** 41.49 312 P **P** 00 39 09.3 +0.4
BHW **Baring Head** 41.49 155 P **P** 00 39 08.7 0.0
BFZ **Birch Farm** 41.50 153 P **P** 00 39 09.0 +0.2
BFZ IAmb IAmb 00 39 39.2
comp=Z,45nm,0.8s
BFZ IAMs_20 IAMs_20 00 57 11.8
comp=Z,2μm,18.0s
BFZ **Birch Farm** 41.50 153 P **P** 00 39 08.0 -0.7
CMWZ **Cape Campbell** 41.51 156 P **P** 00 39 08.5 -0.3
GIRL **Giralia** 41.58 241 P **P** 00 39 09.8 +0.1
baz=42,SNR=16
GIRL **Giralia** 41.58 241 P **P** 00 39 10.0 +0.4
LTZ **Lake Taylor** 41.64 159 P **P** 00 39 10.3 +0.4
LTZ IAmb IAmb 00 39 12.2
comp=Z,71nm,0.9s
LTZ IAMs_20 IAMs_20 00 54 41.7
comp=Z,3μm,21.0s
MSWZ **Moikau Station** 41.66 155 P **P** 00 39 09.9 -0.2
YULB **Yu-li** 41.67 313 IAmb IAmb 00 39 12.7
comp=Z,54nm,0.8s
PCJI **Pacitan** 41.76 263 P **P** 00 39 10.0 -1.3
comp=Z,2μmcomp=Z,193nm,0.8s
KHZ **Kahutara** 41.80 157 P **P** 00 39 11.3 +0.1
KHZ IAmb IAmb 00 39 12.4
comp=Z,103nm,1.1s
KHZ **Kahutara** 41.80 157 P **P** 00 39 12.2 +1.0
STKI **Sintang** 41.80 275 P **P** 00 39 12.3 +0.6
NACB **Ninganchiao** 41.94 314 P **P** 00 39 12.4 -0.2
NACB IAmb IAmb 00 39 14.4
comp=Z,61nm,0.9s
OXZ **Oxford** 42.03 159 IAmb IAmb 00 39 26.1
comp=Z,68nm,1.1s
RPZ **Rata Peaks** 42.04 160 P **P** 00 39 14.3 +1.2
comp=Z,50nm,0.6s,baz=313,slow=3.3,SNR=16
RPZ LR LR 00 55 24.1
comp=Z,2μm,19.9s,baz=328,slow=34
RPZ **Rata Peaks** 42.04 160 P **P** 00 39 14.4 +1.2
RPZ IAMs_20 IAMs_20 00 54 53.1
comp=Z,3μm,20.0s
TPUB **Ta-pu** 42.11 313 P **P** 00 39 13.0 -0.9
TPUB IAmb IAmb 00 39 15.3
comp=Z,40nm,0.7s
TPUB **Ta-pu** 42.11 313 P **P** 00 39 13.7 -0.3
SSLB **Suanglung** 42.16 313 IAmb IAmb 00 39 39.9
comp=Z,34nm,0.7s
SSLB **Suanglung** 42.16 313 P **P** 00 39 14.6 +0.1
JMN **Monobe** 42.25 336 P **P** 00 39 16.1 +1.0
JMN IAmb IAmb 00 39 35.9
comp=Z,54nm,1.3s
LBZ **Lake Benmore** 42.36 162 P **P** 00 39 16.4 +0.6
LBZ IAmb IAmb 00 39 35.2
comp=Z,43nm,0.8s
LBZ IAMs_20 IAMs_20 00 53 57.6
comp=Z,4μm,21.0s
JYT **Yasato** 42.40 345 IAmb IAmb 00 39 17.6
comp=Z,34nm,0.7s
UGM **Wanagama** 42.40 263 P **P** 00 39 16.3 -0.2
UGM IAmb IAmb 00 39 46.3
comp=Z,62nm,0.9s
WKZ **Wanaka** 42.41 163 P **P** 00 39 17.4 +1.3
WKZ IAmb IAmb 00 39 43.2
comp=Z,132nm,1.3s
WKZ IAMs_20 IAMs_20 00 57 23.9
comp=Z,3μm,22.0s
YHNB **Yeheng** 42.41 315 P **P** 00 39 16.8 +0.3
YHNB IAmb IAmb 00 39 20.4
comp=Z,87nm,0.9s
YHNB **Yeheng** 42.41 315 P **P** 00 39 17.2 +0.7
SMRI **Semarang** 42.46 265 IAmb IAmb 00 39 19.3
comp=Z,58nm,0.8s
SMRI **Semarang** 42.46 265 P **P** 00 39 16.1 -0.9
comp=Z,96nm,0.9s
SMRI **Semarang** 42.46 265 P **P** 00 39 16.2 -0.8
DCZ **Deep Cove** 42.49 165 P **P** 00 39 17.9 +1.2
DCZ IAmb IAmb 00 39 20.1
comp=Z,77nm,1.1s
TATO **Taipei** 42.52 315 P **P** 00 39 16.9 -0.4
INU **Inuyama** 42.53 340 P **P** 00 39 17.1 -0.2
INU **Inuyama** 42.53 340 P **P** 00 39 18.1 +0.9
MQZ **McQueen's Vall** 42.58 159 IAmb IAmb 00 39 33.3
comp=Z,59nm,1.0s

KLBR **Kellerberrin** 42.61 227 P **P** 00 39 16.7 -1.3
baz=43,SNR=25
KLBR **Kellerberrin** 42.61 227 P **P** 00 39 17.8 -0.2
MLZ **Mavora Lakes** 42.65 164 P **P** 00 39 19.2 +1.1
MORW **Morawa** 42.66 231 P **P** 00 39 17.5 -0.9
baz=43,SNR=39
MORW **Morawa** 42.66 231 P **P** 00 39 18.0 -0.4
MORW IAmb IAmb 00 39 21.4
comp=Z,59nm,0.7s
MORW **Morawa** 42.66 231 P **P** 00 39 18.3 -0.1
BLDU **Ballidu** 42.89 229 P **P** 00 39 19.9 -0.3
baz=43,SNR=22
BLDU **Ballidu** 42.89 229 P **P** 00 39 19.0 -1.2
PYZ **Puysegur Point** 43.03 166 P **P** 00 39 22.4 +1.3
PYZ IAmb IAmb 00 39 24.8
comp=Z,97nm,1.0s
JNU **Nakatsue** 43.04 332 IAmb IAmb 00 39 41.5
comp=Z,89nm,0.9s
JNU **Nakatsue** 43.04 332 P **P** 00 39 21.7 +0.3
ODZ **Otahua Downs** 43.09 162 IAMs_20 IAMs_20 00 57 12.1
comp=Z,3μm,18.0s
WHZ **Wether Hill Ro** 43.09 165 P **P** 00 39 22.4 +0.7
WHZ IAmb IAmb 00 39 23.8
comp=Z,51nm,0.8s
KSM **Kuching** 43.15 277 IAmb IAmb 00 39 24.2
comp=Z,63nm,0.9s
KSM **Kuching** 43.15 277 P **P** 00 39 22.4 -0.2
MJAR **Matsushiro Arr** 43.25 342 P **P** 00 39 21.6 -1.4
comp=Z,7.4nm,0.7s,baz=169,slow=6.7,SNR=14
MJAR PcP **PcP** 00 41 11.2 -0.4
comp=Z,13nm,0.8s,baz=178,slow=3.3,SNR=7.9
MJAR LR LR 00 56 01.3
comp=Z,788nm,21.1s,baz=172,slow=34
MAJO **Matsushiro** 43.26 342 P **P** 00 39 21.8 -1.3
MAJO pmax pmax
comp=Z,19nm,0.9s
MAJO **Matsushiro** 43.26 342 P **P** 00 39 21.8 -1.3
MAJO **Matsushiro** 43.26 342 P **P** 00 39 22.1 -1.0
MUN **Mundaring** 43.94 227 P **P** 00 39 28.4 -0.3
baz=44,SNR=12
MUN **Mundaring** 43.94 227 P **P** 00 39 28.0 -0.7
KPJI **Karang Pucung** 43.96 264 P **P** 00 39 28.3 -0.8
comp=Z,117nm,0.8s
KNMB **Chin-men Tao** 44.44 312 P **P** 00 39 32.9 +0.1
KNMB IAmb IAmb 00 39 48.5
comp=Z,65nm,1.0s
CMJI **Cimerak** 44.45 264 P **P** 00 39 31.1 -1.9
comp=Z,870nmcomp=Z,120nm,0.8s
QZH **Quanzhou** 44.58 313 ⇑*i*P **P** 00 39 34.4 +0.6
QZH pP **pP** 00 39 48.8 +1.3
QZH ScP **ScP** 00 45 05.1 +0.6
QZH S **S** 00 46 03.3 -3.1
QZH sS **sS** 00 46 31.6 +2.9
QZH SS **ScS** 00 49 22.3 -5.5
QZH pmax pmax
comp=Z,46nm,0.9s
QZH LR LR
comp=Z,690nm,17.1s
QZH LR LR
comp=Z,820nm,23.2s
JSD **Sado** 44.63 343 P **P** 00 39 34.8 +0.8
JSD IAmb IAmb 00 39 38.0
comp=Z,34nm,0.7s
JTU **Tsushima** 44.89 332 P **P** 00 39 36.5 +0.3
LEM **Lembang** 45.26 265 P **P** 00 39 38.0 -1.7
comp=Z,72nm,0.8s,baz=90,slow=9.0,SNR=10
LEM LR LR 01 01 57.9
comp=Z,1μm,21.7s,baz=92,slow=41
CNJI **Cibinong** 45.75 264 P **P** 00 39 41.3 -2.1
comp=Z,3μmcomp=Z,352nm,1.0s
SKJI **Sukabumi** 46.32 265 P **P** 00 39 47.3 -0.5
comp=Z,97nm,1.0s
HKPS **Hong Kong Po S** 46.53 307 P **P** 00 39 49.6 +0.2
HKPS IAmb IAmb 00 40 06.7
comp=Z,59nm,1.0s
HKPS IAMs_20 IAMs_20 00 56 26.1
comp=Z,3μm,20.0s
SSE **Sheshan** 46.78 322 P **P** 00 39 52.8 +1.7
SSE S **S** 00 46 37.5 -0.3
SSE pmax pmax
comp=Z,24nm,0.7s
SSE LR LR
comp=Z,510nm,20.3s
PPBI **Pangkal Pinang** 46.90 271 P **P** 00 39 52.5 +0.1
CGJI **Cibinong** 47.17 265 P **P** 00 39 53.3 -1.2
comp=Z,73nm,1.2s
XMI **Christmas Isla** 47.28 260 P **P** 00 39 55.2 -0.2
DLV **T Lat** 47.29 291 P **P** 00 39 55.5 -0.1
DLV **T Lat** 47.29 291 P **P** 00 39 56.4 +0.8
XMIS **Christmas Isla** 47.32 260 P **P** 00 39 55.7 0.0
XMIS IAmb IAmb 00 39 58.4
comp=Z,48nm,0.8s
XMIS **Christmas Isla** 47.32 260 P **P** 00 39 55.3 -0.4
TJN **Taejon** 47.35 332 *ce*P **P** 00 39 54.0 -1.5
TJN **Taejon** 47.35 332 P **P** 00 39 56.2 +0.7
KSRS **Korea Array** 47.97 333 P **P** 00 40 00.4 +0.1
comp=Z,16nm,0.9s,baz=150,slow=9.2,SNR=49
KSRS ScP **ScP** 00 45 20.4 +2.0
comp=Z,4.1nm,1.0s,baz=134,slow=4.6,SNR=8.1
KSRS LR LR 00 58 23.4
comp=Z,492nm,21.3s,baz=155,slow=34
KS19 **Wonju Array Si** 48.04 333 IAmb IAmb 00 40 17.3
comp=Z,80nm,1.6s
KASI **Kota Agung** 48.38 267 P **P** 00 40 01.7 -2.2
comp=Z,124nm,0.9s
INCN **Inchon** 48.59 332 P **P** 00 40 05.5 +0.3
INCN pmax pmax
comp=Z,202nm,1.0s
INCN **Inchon** 48.59 332 P **P** 00 40 05.5 +0.3
INCN **Inchon** 48.59 332 P **P** 00 40 06.2 +1.1
INCN **Inchon** 48.59 332 P **P** 00 40 05.7 +0.5
DSRI **Dabo** 48.60 273 P **P** 00 40 05.9 +0.3
comp=Z,40nm,0.8s
RAR **Rarotonga** 48.60 114 P **P** 00 40 07.0 +1.5
comp=Z,15nm,0.7s,baz=261,slow=9.3,SNR=3.8
RAR LR LR 00 57 44.7
comp=Z,876nm,21.6s,baz=284,slow=32
RAR **Rarotonga** 48.60 114 P **P** 00 40 07.0 +1.5
QIZ **Qiongzhong** 48.61 300 P **P** 00 40 06.2 +0.7
QIZ IAmb IAmb 00 40 08.0
comp=Z,23nm,1.0s
QIZ **Qiongzhong** 48.61 300 P **P** 00 40 06.0 +0.4
QIZ S **S** 00 47 04.3 0.0
QIZ LR LR
comp=Z,760nm,22.9s
QIZ LR LR
comp=Z,1μm,23.7s
QIZ LR LR
comp=Z,1μm,21.9s
NJ2 **Nanjing** 48.88 321 ⇑P **P** 00 40 08.8 +1.4
NJ2 pP **pP** 00 40 23.3 +2.0
NJ2 sP **sP** 00 40 26.8 -0.4
NJ2 pmax pmax
comp=Z,36nm,0.6s
JKA **Kamikawa-asahi** 49.43 350 P **P** 00 40 11.5 +0.1
ASAJ **Asahikawa** 49.43 350 P **P** 00 40 12.0 +0.6
comp=Z,42nm,0.7s,baz=224,slow=15,SNR=17
ASAJ LR LR 00 59 11.1
comp=Z,403nm,20.8s,baz=168,slow=34
MYKOM **Kota Tinggi** 49.59 276 P **P** 00 40 13.0 -0.1
KUR **Kuril'sk** 49.86 355 *i*P **P** 00 40 12.5 -2.1
KUR pmax pmax
comp=Z,35nm,1.0s
WHN **Wuhan** 50.92 316 ⇓P **P** 00 40 23.4 +0.5
WHN S **S** 00 47 36.0 -0.2
WHN pmax pmax
comp=Z,36nm,0.9s
WHN LR LR
comp=Z,5μm,24.8s
WHN LR LR
comp=Z,1μm,14.5s
WHN LR LR
comp=Z,3μm,28.9s
UBPT **Khong Chiam** 51.12 294 P **P** 00 40 24.7 0.0
KRJI **Kerinci** 51.57 271 P **P** 00 40 27.8 -0.4
comp=Z,25μmcomp=Z,244nm,0.9s
DL2 **Dalian** 52.17 329 P **P** 00 40 32.0 -0.1
DL2 S **S** 00 47 52.8 -0.3
DL2 pmax pmax
comp=Z,57nm,1.2s
DL2 pmax pmax
comp=Z,180nm,5.9s
DL2 LR LR
comp=Z,590nm,18.4s
DL2 LR LR

comp=Z,1μm,21.9s
DL2 LR LR
comp=Z,1μm,23.3s
YSS Yuzh-Sakhalins 52.17 351 eP P 00 40 30.5 -1.4
YSS eS S 00 47 50.5 -2.3
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.9s
YSS Yuzh-Sakhalins 52.17 351 P P 00 40 31.9 0.0
YSS IAmb IAmb 00 40 40.6
comp=Z,23nm,0.6s
USA0B Ussuriysk Arra 52.18 341 P P 00 40 32.1 +0.1
USA0B pmax pmax
comp=Z,32nm,0.8s
USA0B Ussuriysk Arra 52.18 341 P P 00 40 32.1 +0.1
USA0B IAmb IAmb 00 40 35.6
comp=Z,32nm,0.8s
USRK Ussuriysk Ar. 52.18 341 P P 00 40 32.1 0.0
comp=Z,20nm,0.7s,baz=167,slow=7.5,SNR=22
USRK LR LR 01 02 40.9
comp=Z,295nm,18.5s,baz=152,slow=36
BKNI Bangkinang 52.20 274 P P 00 40 32.0 -0.9
BKNI Bangkinang 52.20 274 P P 00 40 32.5 -0.3
comp=Z,74nm,1.0s
BKNI Bangkinang 52.20 274 P P 00 40 33.0 +0.2
TIA Tai'an 52.74 323 ⇓P P 00 40 36.3 -0.1
TIA S S **00 47 56.8 -4.2**
TIA pmax pmax
comp=Z,41nm,0.9s
TIA pmax pmax
comp=Z,97nm,3.5s
TIA LR LR
comp=Z,550nm,17.7s
TIA LR LR
comp=Z,730nm,18.1s
TIA LR LR
comp=Z,750nm,22.1s
PPI Padang Panjang 52.77 273 P P 00 40 35.9 -1.1
comp=Z,87nm,0.8s
IPM Ipoh 52.77 279 P P 00 40 36.1 -0.9
IPM IAmb IAmb 00 40 37.3
comp=Z,23nm,0.9s
IPM Ipoh 52.77 279 P P 00 40 36.5 -0.5
KULM Kulim 53.27 280 IAmb IAmb 00 40 41.2
comp=Z,29nm,0.7s
MDJ Mudanjiang 53.36 339 P P 00 40 40.3 -0.5
MDJ IAmb IAmb 00 40 57.6
comp=Z,28nm,0.9s
MDJ Mudanjiang 53.36 339 P P 00 40 41.1 +0.3
MDJ S S **00 48 11.8 +2.6**
MDJ pmax pmax
comp=Z,29nm,0.8s
MDJ pmax pmax
comp=Z,320nm,4.0s
MDJ LR LR
comp=Z,1μm,22.6s
MDJ LR LR
comp=Z,1μm,24.5s
MDJ LR LR
comp=Z,1μm,24.0s
MDJ Mudanjiang 53.36 339 P P 00 40 41.3 +0.5
MDJ Mudanjiang 53.36 339 P P 00 40 40.4 -0.3
SNY Shenyang 53.48 333 ⇓P P 00 40 54.8 +13
SNY S S **00 48 15.4 +4.6**
SNY pmax pmax
comp=Z,23nm,1.0s
SNY pmax pmax
comp=Z,270nm,4.3s
SNY LR LR
comp=N,2μm,23.5s
SNY LR LR
comp=E,2μm,22.1s
SNY LR LR
comp=Z,2μm,24.6s
MNSI Mandailing Nat 53.71 274 P P **00 40 43.2 -0.7**
comp=Z,68nm,0.8s
CN2 Changchun 54.26 336 eP P 00 40 46.6 -0.8
CN2 esP sP 00 41 09.5 +2.5
CN2 S S **00 48 18.8 -2.5**
CN2 esS sS 00 48 45.9 +2.1
CN2 SS SS **00 52 01.3 -2.8**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,270nm,3.0s
CN2 LR LR
comp=Z,540nm,16.0s
CN2 LR LR
comp=Z,420nm,16.0s
CN2 LR LR
comp=Z,750nm,18.0s
UGL Uglegorsk 54.34 351 eP P 00 40 48.9 +1.0
UGL pmax pmax
comp=Z,50nm,0.5s
GYA Guiyang 54.51 307 ⇑iP P 00 40 50.8 +1.1
GYA pP sP 00 41 07.8 -1.8
GYA PcP **PcP 00 41 53.1 +0.5**
GYA S S **00 48 26.3 +0.8**
GYA ScS **ScS 00 50 35.0 -0.2**
GYA pmax pmax
comp=Z,23nm,0.9s
GYA LR LR
comp=Z,1μm,17.7s
GYA LR LR
comp=Z,450nm,17.6s
GYA LR LR
comp=Z,1μm,19.4s
LYN LuoYang 54.59 319 ⇑P P 00 40 50.3 +0.3
LYN S S **00 48 21.6 -4.6**
LYN sS sS 00 48 47.4 -1.0
LYN ScS **ScS 00 50 32.6 -2.6**
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,290nm,6.1s
LYN LR LR
comp=Z,1μm,19.2s
LYN LR LR
comp=Z,1μm,19.4s
LYN LR LR
comp=Z,1μm,19.2s
PSI Prapat 54.60 277 LR LR 01 07 57.1
comp=Z,667nm,20.2s,baz=123,slow=40
SRIT Nakonsritamara 54.91 284 P P **00 40 52.1 -0.5**
SRIT IAmb IAmb 00 40 53.2
comp=Z,39nm,0.9s
HNS HongShan 54.98 323 ⇓P P 00 40 53.0 +0.3
HNS pP **pP 00 41 07.6 +1.0**
HNS S S **00 48 29.6 -1.6**
HNS sS **sS 00 48 52.8 -0.6**
HNS pmax pmax
comp=Z,54nm,1.0s
HNS LR LR
comp=Z,620nm,22.0s
HNS LR LR
comp=Z,460nm,20.2s
HNS LR LR
comp=Z,1μm,22.8s
BNX BinXian 55.12 338 ⇑P P 00 40 53.1 -0.4
BNX pP **pP 00 41 07.0 -0.5**
BNX sP **sP 00 41 12.6 -0.7**
BNX PP **PP 00 42 56.6 -0.8**
BNX S S **00 48 27.9 -4.9**
BNX sS **pS 00 48 50.3 +1.9**
BNX pmax pmax
comp=Z,160nm,0.8s
BNX pmax pmax
comp=Z,520nm,3.9s
GSI Gunungsitoli 55.75 275 P P 00 40 57.4 -1.4
comp=Z,64nm,0.8s
GSI Gunungsitoli 55.75 275 P P 00 40 57.6 -1.2
KCSI Kotacane, Aceh 55.84 277 P P 00 40 57.7 -1.7
comp=Z,40nm,0.7s
BJT Baijiatuau 55.89 326 P P 00 41 00.7 +1.5
BJT pmax pmax
comp=Z,14nm,0.8s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuau 55.89 326 P P 00 41 00.7 +1.5
BJT Baijiatuau 55.89 326 P P 00 40 59.5 +0.2
BJT pP **pP 00 41 15.5 +2.4**
BJI Beijing 55.90 326 P P 00 40 59.8 +0.5
BJI pP **pP 00 41 13.1 -0.1**
BJI PcP **PcP 00 41 59.4 +1.9**
BJI ScP **ScP 00 45 54.3 +1.6**
BJI S S **00 48 44.3 +0.8**
BJI sS **sS 00 49 02.8 -3.6**
BJI pmax pmax
comp=Z,7.0nm,1.2s
BJI pmax pmax
comp=Z,160nm,3.7s
BJI LR LR
comp=Z,650nm,18.8s
BJI LR LR
comp=Z,410nm,16.4s
BJI LR LR
comp=Z,1μm,18.5s
TYV Tymovskoe 56.00 352 eP P 00 41 00.4 +0.6
TYV eS S **00 48 47.2 +2.8**
TYV pmax pmax
comp=Z,300nm,4.1s
TYV pmax pmax
comp=Z,23nm,1.4s
TYV smax smax
comp=N,800nm,7.8s
TYV smax smax
comp=E,300nm,7.8s
XAN Xi'an 56.69 316 P P 00 41 04.9 -0.2
XAN S S **00 48 48.3 -5.9**
XAN pmax pmax
comp=E,36nm,0.7s
XAN LR LR
comp=E,1μm,17.6s
XAN LR LR
comp=E,810nm,19.2s
XAN LR LR
comp=E,680nm,19.4s
KLR Kul'dur 56.76 343 P **P 00 41 05.3 0.0**
comp=E,33nm,0.9s,baz=158,slow=4.1,SNR=57
KLR LR LR 01 04 26.3
comp=E,356nm,20.4s,baz=170,slow=35
LHMI Lhok Sumawe 56.90 279 P P 00 41 07.1 +0.2
comp=E,140nm,0.9s
LHMI Lhok Sumawe 56.90 279 P **P 00 41 06.7 -0.2**
GRNR Gornyy 57.01 347 ⇓iP P 00 41 07.4 +0.4
GRNR pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 57.11 304 ⇑P P 00 41 10.0 +1.5
KMI pP sP 00 41 25.5 -2.9
KMI sP pP 00 41 33.1 +11
KMI PP **PP 00 43 17.4 +1.5**
KMI ScP **ScP 00 46 00.4 +1.7**
KMI S S **00 48 57.4 -3.1**
KMI sS sS 00 49 25.0 +1.6
KMI SS **SS 00 52 54.3 +4.1**
KMI pmax pmax
comp=Z,21nm,1.0s
KMI pmax pmax
comp=Z,64nm,4.5s
KMI LR LR
comp=Z,740nm,19.5s
KMI LR LR
comp=Z,710nm,20.3s
KMI LR LR
comp=Z,1μm,23.7s
PPT Papeete 57.52 108 LR LR 01 03 43.8
comp=Z,346nm,18.7s,baz=290,slow=34
PPT2 Papeete2 57.52 108 eP P 00 41 12.0 +0.6
comp=Z,20nm,0.8s
PPT2 eS S **00 49 05.3 -0.6**
comp=Z,645nm,30.0s
PPT2 eLQ LQ 00 55 38.0
comp=Z,2μm,28.2s
PPT2 eLR LR 00 58 01.7
comp=Z,1μm,23.5s,baz=285
PPTF Pamatai, Papee 57.54 108 P **P 00 41 12.1 +0.6**
PET Petropavlovsk 57.63 4 ⇓iP P 00 41 11.7 +0.4
PET e 00 42 03.5
PET eSS SS 00 53 01.8 +4.9
PET pmax pmax
comp=Z,46nm,1.1s
PET pmax pmax
comp=Z,200nm,15.3s
PET Petropavlovsk 57.63 4 P **P 00 41 11.7 +0.4**
PET IAmb IAmb 00 41 46.4
comp=Z,56nm,1.2s
PET Petropavlovsk 57.63 4 P P 00 41 11.5 +0.2
PEA0B Petropavlovsk- 57.66 3 P P 00 41 12.1 +0.5
PEA0B pmax pmax
comp=Z,172nm,1.5s
PEA0B Petropavlovsk- 57.66 3 P P 00 41 12.1 +0.5
PETK Petropavlovsk- 57.66 3 P P 00 41 11.6 0.0
comp=Z,22nm,0.8s,baz=186,slow=10,SNR=16
PETK LR LR 01 02 14.7
comp=Z,409nm,22.0s,baz=190,slow=32
PETK Petropavlovsk- 57.66 3 P P 00 41 12.0 +0.4
PETK Petropavlovsk- 57.66 3 P P 00 41 11.9 +0.4
CM31 Chiang Mai Arr 58.05 295 P P 00 41 15.6 +0.7
CM31 IAmb IAmb 00 41 17.3
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 58.05 295 P **P 00 41 15.7 +0.7**
comp=Z,25nm,0.8s,baz=125,slow=5.2,SNR=22
CHTO Chiang Mai 58.16 295 P P 00 41 16.2 +0.6
CHTO pmax pmax
comp=Z,33nm,1.2s
CHTO Chiang Mai 58.16 295 P P 00 41 16.2 +0.6
CHTO IAmb IAmb 00 41 32.1
comp=Z,33nm,1.1s
CHTO Chiang Mai 58.16 295 P P 00 41 16.3 +0.6
CHTO Chiang Mai 58.16 295 P P 00 41 16.0 +0.3
PZH PanZhiHua 58.49 305 P P 00 41 18.3 +0.2
PZH pP **pP 00 41 32.0 -0.2**
PZH PcP **PcP 00 42 09.4 +1.2**
PZH S S **00 49 16.4 -2.0**
PZH ScS **ScS 00 51 01.8 -2.4**
PZH SS **SS 00 53 11.3 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,50nm,4.1s
PZH LR LR
comp=Z,560nm,22.2s
PZH LR LR
comp=Z,810nm,22.4s
PZH LR LR
comp=Z,1μm,24.9s
XLT XiLinHaoTe 58.66 329 ⇓iP P 00 41 18.8 0.0
XLT pP pP 00 41 31.3 -1.6
XLT sP sP 00 41 37.0 -1.6
XLT S S **00 49 15.3 -4.5**
XLT sS sS 00 49 43.3 +0.1
XLT SS **SS 00 53 06.4 -7.2**
XLT pmax pmax
comp=Z,44nm,1.1s
XLT pmax pmax
comp=Z,200nm,3.6s
XLT LR LR
comp=Z,420nm,19.0s
CD2 Chengdu 58.83 310 P P 00 41 20.4 +0.2
CD2 pP pP 00 41 33.6 -0.9
CD2 S S **00 49 19.8 -2.7**
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 LR LR
comp=Z,880nm,22.7s
CD2 LR LR
comp=Z,1μm,23.7s
PMOR Pomariorio Ree 58.92 105 eP P 00 41 22.3 +1.2
comp=Z,50nm,1.0s
HHC Hu-ho-hao-te 59.07 324 eP P 00 41 25.9 +4.1
HHC PP **PP 00 43 38.8 +6.0**
HHC S S **00 49 28.6 +3.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,200nm,8.2s
HHC LR LR
comp=Z,790nm,17.0s
HHC LR LR
comp=Z,670nm,19.1s
HHC LR LR
comp=Z,1μm,18.5s
VAH Vaihoa 59.20 105 eP P 00 41 24.0 +1.1
comp=Z,30nm,0.9s
BTO Baotou 59.83 323 eP P 00 41 27.8 +0.8
BTO S S **00 49 37.5 +2.4**
BTO LR LR
comp=Z,4μm,18.3s
BTO LR LR
comp=Z,3μm,19.1s
SHEM Shemya Is, Ala 59.86 15 LR LR 01 03 36.4
comp=Z,1μm,21.1s,baz=173,slow=32
HIA Hailar 60.99 336 P P 00 41 34.5 -0.2
HIA pmax pmax
comp=Z,15nm,0.9s
HIA Hailar 60.99 336 P P 00 41 34.5 -0.2
HIA IAmb IAmb 00 41 49.6
comp=Z,15nm,0.9s
LZH Lanzhou 61.30 316 eP P 00 41 38.4 +1.2
LZH pP pP 00 41 52.8 +1.5
LZH sP sP 00 41 57.8 +0.8
LZH S S **00 49 53.1 -1.1**
LZH sS sS 00 50 15.6 -1.4
LZH SS **SS 00 53 56.0 +0.5**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.9s
LZH LR LR
comp=Z,980nm,16.3s
LZH LR LR
comp=Z,490nm,14.9s
LZH LR LR
comp=Z,1μm,18.4s
KIWB Kanaga Island 61.73 20 P P 00 41 39.6 0.0
ZEA Zeya 62.06 343 eP P 00 41 42.5 +0.8
ZEA e 00 41 56.6
ZEA e 00 42 21.9
ZEA eS S **00 50 07.8 +5.0**
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA smax smax
comp=N,100nm,9.1s
PBA Port Blair 62.14 286 P P 00 41 42.1 -0.9
MA2 Magadan 64.03 359 LR LR 01 09 46.5
comp=N,284nm,19.2s,baz=177,slow=36
MA2 Magadan 64.03 359 eP P 00 41 53.9 -0.8
MA2 pmax pmax
comp=Z,82nm,1.3s
MA2 Magadan 64.03 359 P P 00 41 54.0 -0.7
MA2 Magadan 64.03 359 P P 00 41 54.9 +0.2
MA2 Magadan 64.03 359 P P 00 41 54.4 -0.3
GTA Gaotai 65.72 317 ⇓P P 00 42 07.0 +0.7
GTA pP pP 00 42 19.6 -0.9
GTA sP sP 00 42 26.3 +0.1
GTA S S **00 50 49.1 +0.1**
GTA sS sS 00 51 12.0 -0.7
GTA SS **SS 00 55 00.9 -3.4**
GTA pmax pmax
comp=Z,22nm,1.2s
GTA pmax pmax
comp=Z,72nm,4.2s
GTA LR LR
comp=Z,240nm,16.7s
GTA LR LR
comp=Z,410nm,18.5s
GTA LR LR
comp=Z,520nm,18.9s
NIKH Nikolski High 65.76 24 P **P 00 42 06.7 +0.7**
baz=222
ULN Ulaanbaatar 66.00 328 ceP P 00 42 06.1 -1.8
ULN pmax pmax
comp=Z,39nm,1.7s
ULN Ulaanbaatar 66.00 328 P P 00 42 08.4 +0.5
ULN IAmb IAmb 00 42 37.7
comp=Z,21nm,1.1s
ULN Ulaanbaatar 66.00 328 P P 00 42 08.8 +0.8
ULN pP **sP 00 42 25.7 -2.2**
SONM Songino Array 66.33 328 P P 00 42 10.9 +0.9
comp=Z,4.5nm,0.5s,baz=146,slow=5.5,SNR=28
SONM PKP2ab 01 10 50.8
comp=Z,0.5nm,0.6s,baz=273,slow=0.9,SNR=3.8
SONM Songino Array 66.33 328 P P 00 42 10.5 +0.5
SONM pmax pmax
comp=Z,44nm,1.3s
SONM Songino Array 66.33 328 P P 00 42 10.5 +0.5
SONM IAmb IAmb 00 42 40.4
comp=Z,44nm,1.3s
TAOE Nuku Hiva Isla 66.39 98 eS S 00 50 56.7 -1.3
comp=Z,270nm,28.6s
TAOE Nuku Hiva Isla 66.39 98 eLR LR 01 02 10.0
comp=Z,2μm,30.9s,baz=274
SHL Shillong 66.45 300 P P 00 42 11.2 -0.1
SHL pmax pmax
comp=Z,63nm,1.1s
SHL Shillong 66.45 300 P P 00 42 11.2 -0.1
SEY Seymchan 67.38 360 LR LR 01 10 00.7
comp=Z,133nm,19.7s,baz=168,slow=34
SEY Seymchan 67.38 360 ceP P 00 42 15.4 -0.8
SEY pmax pmax
comp=Z,37nm,1.3s
GOMU GeErMu 67.85 312 P P 00 42 21.3 +1.1
GOMU PP **PP 00 44 50.8 +0.4**
GOMU S S **00 51 15.4 0.0**
GOMU SS **SS 00 55 39.8 +1.8**
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU LR LR
comp=Z,370nm,20.0s
GOMU LR LR
comp=Z,510nm,21.2s
GOMU LR LR
comp=Z,580nm,20.2s
LSA Lhasa 68.36 304 IAmb IAmb 00 42 27.1
comp=Z,20nm,0.8s
LSA Lhasa 68.36 304 P P 00 42 24.8 +1.1
LSA S S **00 51 23.5 +1.5**
LSA LR LR
comp=Z,390nm,17.1s
LSA LR LR
comp=Z,320nm,17.4s
YAK Yakutsk 68.86 348 P P 00 42 25.8 +0.3
comp=Z,15nm,0.5s,baz=261,slow=1.0,SNR=7.2
YAK LR LR 01 09 51.3
comp=Z,371nm,21.9s,baz=148,slow=34
YAK Yakutsk 68.86 348 eP P 00 42 25.4 -0.1
YAK e*PP **pP 00 42 40.3 +0.7**
YAK e 00 42 50.9
YAK e 00 44 58.9
YAK ePPP PPP 00 46 38.1
YAK eS S **00 51 25.0 -0.7**
YAK e*SS **sS 00 51 55.0 +5.4**
YAK e 00 52 20.4
YAK pmax pmax
comp=Z,69nm,1.2s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,126nm,3.2s
YAK pmax pmax
comp=N,76nm,2.9s
YAK pmax pmax
comp=E,86nm,3.0s
YAK smax smax
comp=N,41nm,2.4s
YAK smax smax
comp=E,52nm,2.2s
YAK Yakutsk 68.86 348 P P 00 42 26.1 +0.6
ZAK Zakamensk 69.49 329 eP P 00 42 29.9 +0.1
ZAK pmax pmax
comp=Z,34nm,1.4s
BOD Bodaibo 69.73 339 eP P 00 42 30.8 -0.2
BOD pmax pmax
comp=Z,33nm,1.7s
IRK Irkutsk 70.09 331 eP P 00 42 33.5 +0.1
IRK pmax pmax
comp=Z,136nm,1.3s
TAPN Taplejung 70.55 301 eP P 00 42 37.5 +0.5
ODAN Odare 70.69 300 eP P 00 42 38.0 +0.2
comp=Z,61nm,0.6s
SDPT Sand Point 70.95 26 P P 00 42 39.0 +0.5
SDPT Sand Point 70.95 26 P P 00 42 38.3 -0.2
baz=230
RAMN Ramite 71.39 300 eP P 00 42 42.7 +0.6
comp=Z,20nm,0.5s
MOY Mondy 71.41 329 eP P 00 42 42.2 +0.7
MOY pmax pmax
comp=Z,50nm,1.8s
JIRN Jiri 71.93 301 eP P 00 42 45.7 +0.2
GUN Gumba 72.26 301 eP P 00 42 47.5 +0.1

comp=Z,102nm,0.6s
CHGN Chignik 72.46 26 P P 00 42 47.5 0.0
baz=232
CCD Concordia, Ant 72.46 188 P P 00 42 50.2 +2.4
CCD pP sP 00 43 08.3 +1.1
PKI Pulchoki 72.58 301 *e*P P 00 42 48.9 -0.4
comp=Z,24nm,0.6s
KKN Kakani 72.74 301 *e*P P 00 42 49.6 -0.5
comp=Z,40nm,0.6s
DMN Daman 72.85 301 *e*P P 00 42 50.8 0.0
comp=Z,94nm,0.7s
VNDA Vanda 72.99 178 P P 00 42 51.4 +1.1
comp=Z,22nm,0.9s,baz=329,slow=6.3,SNR=18
VNDA Vanda 72.99 178 P P 00 42 51.5 +1.1
VNDA IAmb IAmb 00 42 54.1
comp=Z,44nm,1.1s
BILL Bilibino 73.10 5 *e*P P 00 42 51.5 +0.4
BILL *e* 00 43 04.1
BILL *e* 00 45 32.3
BILL pmax pmax
comp=Z,57nm,1.7s
BILL MLR MLR
comp=Z,328nm,18.0s
BILL Bilibino 73.10 5 P P 00 42 50.9 -0.2
BILL IAmb IAmb 00 42 52.4
comp=Z,27nm,0.9s
BILL Bilibino 73.10 5 P P 00 42 50.9 -0.2
GAMB Gambell 73.15 16 P P 00 42 51.1 -0.3
GAMB IAMs_20 IAMs_20 01 09 04.0
comp=Z,1µm,21.0s
GAMB Gambell 73.15 16 P P 00 42 51.2 -0.3
baz=217,SNR=9.0
PALK Pallekele 73.17 279 P P 00 42 52.3 -0.4
PALK pmax pmax
comp=Z,13nm,0.9s
PALK Pallekele 73.17 279 P P 00 42 52.3 -0.4
GKN Gorkha 73.35 301 *e*P P 00 42 53.3 -0.3
comp=Z,56nm,0.6s
SBA Scott Base 73.53 177 P P 00 42 56.0 +2.5
SBA pmax pmax
comp=Z,46nm,1.2s
SBA Scott Base 73.53 177 P P 00 42 56.0 +2.5
SBA IAmb IAmb 00 42 58.4
comp=Z,46nm,1.2s
KOLN Koldanda 74.18 300 *e*P P 00 42 58.1 -0.5
comp=Z,46nm,0.7s
DANN Dangsing 74.18 301 *e*P P 00 42 58.1 -0.6
comp=Z,32nm,0.7s
PYUN Piuthan 74.78 301 *e*P P 00 43 01.2 -0.9
comp=Z,95nm,0.9s
OHAK Old Harbor 75.28 27 P P 00 43 03.9 -0.1
baz=236
ANM Nome 75.54 17 P P 00 43 05.5 +0.1
ANM pmax pmax
comp=Z,46nm,1.5s
ANM Nome 75.54 17 P P 00 43 05.5 +0.1
ANM IAmb IAmb 00 43 08.1
comp=Z,46nm,1.5s
ANM Nome 75.54 17 P P 00 43 05.1 -0.3
baz=223,SNR=16
TNA Tin City 75.57 16 P P 00 43 05.0 -0.4
baz=220,SNR=8.1
P18K Big Mountain, 75.69 24 IAMs_20 IAMs_20 01 10 38.6
comp=Z,1µm,22.0s
WMQ Urumqi 75.80 317 P P 00 43 08.3 +0.9
WMQ PcP PcP 00 43 19.0 -0.8
WMQ sP sP 00 43 31.8 +4.3
WMQ S S 00 52 46.5 +0.6
WMQ pmax pmax
comp=Z,37nm,1.7s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,560nm,19.9s
WMQ LR LR
comp=Z,510nm,16.7s
WMQ LR LR
comp=Z,360nm,19.5s
KDAK Kodiak Island 75.91 27 LR LR 01 12 41.7
comp=Z,734nm,19.1s,baz=251,slow=33
KDAK Kodiak Island 75.91 27 P P 00 43 06.9 -0.7
baz=237
Q19K Cape Douglas, 76.09 25 IAMs_20 IAMs_20 01 12 15.1
comp=Z,1µm,21.0s
Q19K Cape Douglas, 76.09 25 P P 00 43 08.2 -0.5
baz=235
O19K Port Alsworth 76.54 24 IAMs_20 IAMs_20 01 12 31.9
comp=Z,1µm,20.0s
SVW2 Sparrevohn 76.57 23 P P 00 43 11.3 0.0
SVW2 IAmb IAmb 00 43 46.8
comp=Z,23nm,1.0s
HYBB Hyderabad (bro 76.69 289 *e*P P 00 43 11.7 -1.2
N19K Bonanza Creek 76.83 24 P P 00 43 12.9 0.0
N19K IAMs_20 IAMs_20 01 13 56.6
comp=Z,1µm,20.0s
N19K Bonanza Creek 76.83 24 P P 00 43 12.6 -0.3
baz=234
O20K Slope Mountain 77.17 25 P P 00 43 14.3 -0.5
baz=236
CNPM China Poot 77.45 26 P P 00 43 15.9 -0.4
CNPM IAMs_20 IAMs_20 01 12 46.1
comp=Z,1µm,19.0s
L19K White Mountain 77.50 22 P P 00 43 16.8 +0.3
L19K IAmb IAmb 00 43 17.8
comp=Z,31nm,0.9s
L19K White Mountain 77.50 22 P P 00 43 16.2 -0.3
baz=234,SNR=12
M19K Big River Lodg 77.51 23 P P 00 43 16.3 -0.2
M19K Big River Lodg 77.51 23 P P 00 43 16.4 -0.2
baz=234,SNR=6.3
TTA Tatalina 77.52 21 P P 00 43 16.3 -0.4
TTA pmax pmax
comp=Z,25nm,1.5s
TTA Tatalina 77.52 21 P P 00 43 16.3 -0.4
TTA Tatalina 77.52 21 P P 00 43 16.1 -0.6
baz=232,SNR=8.1
BRLK Bradley Lake 77.73 25 IAMs_20 IAMs_20 01 11 18.1
comp=Z,1µm,22.0s
TIXI Tiksi 77.77 352 *ce*P P 00 43 16.6 -1.2
TIXI pmax pmax
comp=Z,36nm,1.7s
TIXI Tiksi 77.77 352 P P 00 43 16.8 -1.0
TIXI IAmb IAmb 00 43 21.6
comp=Z,44nm,1.5s
TIXI Tiksi 77.77 352 P P 00 43 16.2 -1.6
TIXI pP pP 00 43 33.7 +1.6
BRSE Bradley Lake S 77.78 26 P P 00 43 18.2 +0.1
baz=238
L20K Farewell, AK 78.04 22 P P 00 43 19.4 -0.1
baz=234,SNR=7.9
GCSA Galena City Sc 78.34 20 P P 00 43 20.8 -0.3
baz=231,SNR=6.7
K20K Telida 78.48 22 P P 00 43 21.8 -0.2
K20K Telida 78.48 22 P P 00 43 21.7 -0.2
baz=234,SNR=11
SEW Seward 78.52 26 P P 00 43 21.6 -0.6
baz=239
RDOG Red Dog Mine 78.75 15 P P 00 43 23.2 -0.1
RDOG IAMs_20 IAMs_20 01 12 40.0
comp=Z,1µm,22.0s
RDOG Red Dog Mine 78.75 15 P P 00 43 23.2 -0.1
baz=225,SNR=16
ZSN Zaisan 78.91 320 *e*P P 00 43 24.4 -0.2
ZSN Zaisan 78.91 320 *e*P P 00 43 24.5 -0.2
baz=320
RC01 Rabbit Creek A 78.91 25 IAmb IAmb 00 43 24.6
comp=Z,28nm,1.0s
RC01 IAMs_20 IAMs_20 01 14 10.7
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 78.91 25 P P 00 43 23.5 -0.8
baz=239,SNR=5.4
PPLA Purkeypile 78.92 22 P P 00 43 23.8 -0.7
baz=236
J20K Nowinta River 78.94 21 P P 00 43 24.5 +0.1
J20K IAmb IAmb 00 43 26.6
comp=Z,20nm,0.7s
J20K IAMs_20 IAMs_20 01 13 57.2
comp=Z,1µm,20.0s
J20K Nowinta River 78.94 21 P P 00 43 24.0 -0.4
baz=234,SNR=18
M22K Willow 79.11 24 IAmb IAmb 00 43 25.7
comp=Z,34nm,0.8s
M22K IAMs_20 IAMs_20 01 13 21.8
comp=Z,871nm,21.0s
M22K Willow 79.11 24 P P 00 43 24.1 -1.2
baz=238

CAST Castle Rocks 79.25 22 P P 00 43 24.8 -1.4
baz=236,SNR=19
PWL Port Wells 79.38 25 IAmb IAmb 00 43 27.4
comp=Z,40nm,0.8s
PWL IAMs_20 IAMs_20 01 13 18.2
comp=Z,1µm,21.0s
PWL Port Wells 79.38 25 P P 00 43 25.9 -1.1
baz=240,SNR=9.2
CUT Chulitna 79.39 23 P P 00 43 26.2 -0.7
CUT IAmb IAmb 00 43 58.1
comp=Z,60nm,1.4s
CUT IAMs_20 IAMs_20 01 15 19.4
comp=Z,836nm,20.0s
CUT Chulitna 79.39 23 P P 00 43 25.0 -1.9
baz=238
PMR Palmer 79.42 24 P P 00 43 26.0 -1.1
baz=239
CHUM Lake Minchumin 79.43 22 P P 00 43 26.1 -1.0
baz=236,SNR=13
GHO Glory Hole Cre 79.60 24 IAMs_20 IAMs_20 01 10 52.9
comp=Z,1µm,20.0s
KNK Knik Glacier 79.61 25 P P 00 43 27.8 -0.4
KNK IAmb IAmb 00 43 59.9
comp=Z,52nm,1.4s
KNK IAMs_20 IAMs_20 01 13 07.2
comp=Z,2µm,21.0s
KNK Knik Glacier 79.61 25 P P 00 43 27.3 -0.9
baz=240
KTH Kantishna Hill 79.76 22 IAmb IAmb 00 43 29.2
comp=Z,41nm,1.4s
SML Sawmill 79.86 24 IAmb IAmb 00 44 06.0
comp=Z,46nm,1.0s
SML IAMs_20 IAMs_20 01 13 15.8
comp=Z,1µm,21.0s
SML Sawmill 79.86 24 P P 00 43 28.7 -0.9
baz=240,SNR=8.5
TRF Thorofare Moun 79.94 22 IAMs_20 IAMs_20 01 14 17.9
comp=Z,1µm,20.0s
TRF Thorofare Moun 79.94 22 P P 00 43 28.3 -1.8
baz=238,SNR=6.9
BPAW Bear Paw Mtn. 80.03 22 P P 00 43 28.8 -1.6
baz=237,SNR=6.2
DGAR Diego Garcia 80.12 263 IAMs_20 IAMs_20 01 20 15.6
comp=Z,832nm,20.0s
KAAM Kaadhehdhoo 80.14 271 P P 00 43 30.8 -1.3
H21K Melozitna Rive 80.27 20 IAmb IAmb 00 43 32.7
comp=Z,37nm,1.5s
H21K Melozitna Rive 80.27 20 P P 00 43 31.1 -0.6
baz=235,SNR=8.7
I21K Tanana 80.28 21 IAmb IAmb 00 43 56.9
comp=Z,27nm,0.9s
I21K Tanana 80.28 21 P P 00 43 30.7 -1.0
baz=236,SNR=16
SCM Sheep Creek Mo 80.29 25 IAMs_20 IAMs_20 01 13 50.1
comp=Z,1µm,21.0s
SCM Sheep Creek Mo 80.29 25 P P 00 43 29.9 -2.0
baz=241
EYAK Cordova Ski Ar 80.35 26 P P 00 43 31.5 -0.6
EYAK IAmb IAmb 00 43 38.2
comp=Z,36nm,1.3s
EYAK Cordova Ski Ar 80.35 26 P P 00 43 31.2 -0.9
baz=242
MK31 Makanchi Array 80.38 319 *i* P P 00 43 31.9 -0.8
MKAR Makanchi Array 80.38 319 P P 00 43 32.1 -0.5
comp=Z,5.9nm,0.5s,baz=100,slow=6.4,SNR=74
MKAR PKKPbc **PKKPbc** 01 02 14.1 -2.5
comp=Z,0.6nm,0.8s,baz=272,slow=2.3,SNR=4.8
MKAR LR LR 01 18 60.0
comp=Z,454nm,21.3s,baz=110,slow=36
RND Reindeer 80.47 23 IAmb IAmb 00 43 32.5
comp=Z,23nm,0.9s
RND IAMs_20 IAMs_20 01 17 43.8
comp=Z,881nm,20.0s
WAT6 Susitna Watana 80.49 24 P P 00 43 32.0 -1.1
baz=240,SNR=6.5
MAKZ Makanchi 80.58 319 P P 00 43 33.8 0.0
MAKZ pmax pmax
comp=Z,50nm,1.3s
MAKZ MLR MLR
comp=Z,600nm,20.0s
MAKZ Makanchi 80.58 319 P P 00 43 33.8 0.0
MAKZ IAmb IAmb 00 43 39.5
comp=Z,50nm,1.2s
MAKZ Makanchi 80.58 319 P P 00 43 33.2 -0.6
MCK McKinley 80.61 22 P P 00 43 31.8 -1.7
MCK pmax pmax
comp=Z,72nm,1.3s
MCK McKinley 80.61 22 P P 00 43 31.8 -1.7
MCK IAmb IAmb 00 43 33.8
comp=Z,72nm,1.3s
MCK IAMs_20 IAMs_20 01 16 12.4
comp=Z,858nm,20.0s
MCK McKinley 80.61 22 P P 00 43 31.8 -1.7
baz=239,SNR=18
DIV Divide 80.61 26 P P 00 43 33.5 -0.2
MLY Manley 80.63 21 IAmb IAmb 00 43 34.8
comp=Z,18nm,0.5s
MLY Manley 80.63 21 P P 00 43 32.7 -1.0
baz=237,SNR=25
BWN Browne 80.64 22 IAmb IAmb 00 43 34.5
comp=Z,45nm,1.1s
KLU Klutina 80.71 25 P P 00 43 33.8 -0.4
KLU IAmb IAmb 00 43 35.6
comp=Z,30nm,1.0s
KLU IAMs_20 IAMs_20 01 12 59.4
comp=Z,996nm,22.0s
KLU Klutina 80.71 25 P P 00 43 33.8 -0.4
baz=242,SNR=8.5
RAGM Ragged Mountai 80.75 26 IAMs_20 IAMs_20 01 13 33.3
comp=Z,1µm,21.0s
DHY Denali Highway 80.88 23 IAMs_20 IAMs_20 01 16 12.7
comp=Z,915nm,20.0s
DHY Denali Highway 80.88 23 P P 00 43 34.1 -1.1
baz=240,SNR=7.2
M24K Tolsona, Glenn 80.90 25 P P 00 43 34.9 -0.3
M24K IAmb IAmb 00 43 58.2
comp=Z,37nm,0.9s
M24K IAMs_20 IAMs_20 01 14 18.2
comp=Z,2µm,21.0s
M24K Tolsona, Glenn 80.90 25 P P 00 43 34.8 -0.4
baz=242,SNR=5.9
HMT Hamilton 80.91 27 IAMs_20 IAMs_20 01 12 50.6
comp=Z,2µm,22.0s
NEA2 Nenana 81.00 22 P P 00 43 34.2 -1.4
NEA2 Nenana 81.00 22 P P 00 43 34.2 -1.4
baz=239,SNR=12
BMRM Bremner River 81.04 26 IAmb IAmb 00 43 36.6
comp=Z,68nm,1.6s
BMRM IAMs_20 IAMs_20 01 15 32.0
comp=Z,1µm,21.0s
BMRM Bremner River 81.04 26 P P 00 43 34.5 -1.4
baz=243
ZALV Zalesovo Beam 81.16 326 P P 00 43 35.7 -0.9
comp=Z,4.3nm,0.5s,baz=114,slow=6.6,SNR=21
ZALV LR LR 01 20 57.0
comp=Z,278nm,20.8s,baz=115,slow=37
BERG Berg Lake 81.18 27 IAMs_20 IAMs_20 01 13 43.9
comp=Z,1µm,22.0s
I23K Minto, Yukon-K 81.19 21 P P 00 43 36.2 -0.3
baz=238,SNR=7.8
SHLS Shalkode 81.30 315 *e*P P 00 43 35.8 -2.0
SHLS Shalkode 81.30 315 *e*P P 00 43 35.9 -2.0
baz=315
N25K Chitina, Valde 81.33 25 P P 00 43 36.6 -0.9
baz=243
WAX Waxell Ridge 81.59 27 IAMs_20 IAMs_20 01 12 59.6
comp=Z,1µm,22.0s
PAX Paxson 81.59 24 P P 00 43 37.6 -1.2
baz=242
GLB Gilahina Butte 81.59 26 IAmb IAmb 00 43 39.4
comp=Z,23nm,0.9s
TCOL CIGO, UAF Yank 81.59 22 IAmb IAmb 00 43 38.1
comp=Z,26nm,0.9s
TCOL CIGO, UAF Yank 81.59 22 P P 00 43 36.6 -2.1
baz=240
COLA College 81.60 22 P P 00 43 37.4 -1.3
COLA pmax pmax
comp=Z,24nm,0.9s
COLA College 81.60 22 P P 00 43 37.4 -1.3
COLA IAmb IAmb 00 43 38.1
comp=Z,24nm,0.9s
COLA College 81.60 22 P P 00 43 36.7 -2.0
baz=240
UZB Uzynbulak 81.61 315 *e*P P 00 43 38.7 -0.7
UZB Uzynbulak 81.61 315 *e*P P 00 43 38.8 -0.7
baz=315
VRDI Verde Repeater 81.66 26 IAMs_20 IAMs_20 01 14 15.3

comp=Z,1µm,21.0s
HDA Harding Lake 81.70 22 IAMs_20 IAMs_20 01 15 52.4
comp=Z,849nm,20.0s
HDA Harding Lake 81.70 22 P P 00 43 37.8 -1.6
baz=241
PAF Port-aux-Franc 81.85 221 P P 00 43 40.0 -0.4
PAF pmax pmax
comp=Z,322nm,1.4s
PAF Port-aux-Franc 81.85 221 P P 00 43 40.0 -0.4
POKR Poker Plat Res 81.88 22 P P 00 43 38.1 -2.1
baz=240
ISLE Juniper Island 81.88 27 P P 00 43 39.8 -0.7
ISLE IAmb IAmb 00 44 06.6
comp=Z,21nm,0.9s
ISLE IAMs_20 IAMs_20 01 12 56.4
comp=Z,974nm,22.0s
ILAR Eielson Array 81.91 22 P P 00 43 38.2 -2.2
comp=Z,7.0nm,0.8s,baz=247,slow=5.3,SNR=47
ILAR PKKPbc **PKKPbc** 01 02 11.5 -2.4
comp=Z,0.3nm,0.6s,baz=357,slow=1.6,SNR=5.8
ILAR LR LR 01 17 13.6
comp=Z,388nm,19.6s,baz=232,slow=34
ILAR Eielson Array 81.91 22 P P 00 43 38.6 -1.7
ILAR Eielson Array 81.91 22 P P 00 43 38.6 -1.7
MCARA McCarthy VSAT 81.91 26 P P 00 43 40.3 -0.1
MCARA IAmb IAmb 00 44 11.7
comp=Z,30nm,1.1s
MCARA IAMs_20 IAMs_20 01 14 24.1
comp=Z,895nm,22.0s
MCARA McCarthy VSAT 81.91 26 P P 00 43 39.7 -0.7
baz=245,SNR=6.3
KPKS Kokpek 81.93 315 *e*P P 00 43 40.7 -0.4
KPKS Kokpek 81.93 315 *e*P P 00 43 40.8 -0.4
baz=315
COLD Coldfoot 82.01 19 IAmb IAmb 00 43 42.2
comp=Z,30nm,1.4s
COLD Coldfoot 82.01 19 P P 00 43 40.5 -0.4
baz=237,SNR=7.6
SATY Saty 82.03 314 *e*P P 00 43 41.3 -0.3
SATY Saty 82.03 314 *e*P P 00 43 41.4 -0.3
baz=314
ZHN Zhinishke 82.03 315 *e*P P 00 43 41.6 0.0
ZHN Zhinishke 82.03 315 *e*P P 00 43 41.7 0.0
baz=315
H24K Noodor Dome 82.08 21 P P 00 43 40.9 -0.4
baz=240,SNR=6.3
TARG Taragay, Kyrgy 82.15 313 P P 00 43 42.7 0.0
TARG IAmb IAmb 00 43 58.8
comp=Z,34nm,1.4s
GRNC Granite Creek 82.20 27 IAmb IAmb 00 44 10.1
comp=Z,26nm,1.1s
GRNC IAMs_20 IAMs_20 01 13 42.6
comp=Z,823nm,19.0s
RIDG Independent Ri 82.20 23 IAmb IAmb 00 43 43.0
comp=Z,27nm,1.1s
RIDG IAMs_20 IAMs_20 01 24 28.6
comp=Z,811nm,21.0s
RIDG Independent Ri 82.20 23 P P 00 43 40.8 -1.2
baz=243,SNR=8.9
TABL Table Mountain 82.36 27 IAMs_20 IAMs_20 01 16 46.9
comp=Z,768nm,18.0s
BARN Barnard Glacie 82.38 26 P P 00 43 42.9 -0.2
BARN IAmb IAmb 00 44 11.4
comp=Z,28nm,1.1s
BARN IAMs_20 IAMs_20 01 16 23.4
comp=Z,886nm,21.0s
J25K Salcha River, 82.40 22 IAMs_20 IAMs_20 01 17 34.9
comp=Z,1µm,18.0s
J25K Salcha River, 82.40 22 P P 00 43 41.4 -1.7
baz=242
DOT Dot Lake 82.47 24 IAmb IAmb 00 44 10.9
comp=Z,29nm,1.1s
CTG Chitna Glacier 82.48 27 P P 00 43 42.9 -0.7
baz=246,SNR=6.1
CTGM Chitina Glacie 82.48 27 IAmb IAmb 00 44 11.3
comp=Z,27nm,0.9s
L26K Log Cabin Wild 82.48 24 IAMs_20 IAMs_20 01 15 09.1
comp=Z,1µm,22.0s
L26K Log Cabin Wild 82.48 24 P P 00 43 42.7 -0.7
baz=244,SNR=6.9
TDK Taldyqorghan 82.50 316 *e*P P 00 43 43.9 0.0
TDK pmax pmax
comp=Z,17nm,0.8s
TDK Taldyqorghan 82.50 316 *e*P P 00 43 43.9 0.0
comp=Z,17nm,0.8s,baz=316
LOGN Logan Glacier 82.57 27 P P 00 43 44.3 +0.2
LOGN IAMs_20 IAMs_20 01 13 17.6
comp=Z,1µm,20.0s
A21K Barrow 82.58 14 IAMs_20 IAMs_20 01 17 35.2
comp=Z,1µm,21.0s
A21K Barrow 82.58 14 P P 00 43 43.1 -0.6
baz=231
SCRK Sand Creek 82.65 23 IAmb IAmb 00 44 11.9
comp=Z,36nm,1.5s
SCRK Sand Creek 82.65 23 P P 00 43 43.3 -1.1
baz=244,SNR=9.2
KDJ Kajisay 82.69 313 P P 00 43 45.2 0.0
KDJ pmax pmax
comp=Z,23nm,0.9s
KDJ Kajisay 82.69 313 P P 00 43 45.2 0.0
KDJ IAmb IAmb 00 43 47.5
comp=Z,22nm,0.9s
SEM Semipalatinsk 82.72 322 *e*P P 00 43 43.4 -1.8
SEM Semipalatinsk 82.72 322 *e*P P 00 43 43.5 -1.8
baz=322
PRP Porcupine Dome 82.77 22 IAMs_20 IAMs_20 01 14 04.5
comp=Z,860nm,22.0s
M27K Edge Creek, AK 82.81 25 IAmb IAmb 00 44 13.8
comp=Z,39nm,0.9s
M27K Edge Creek, AK 82.81 25 P P 00 43 45.0 -0.4
baz=246,SNR=17
PNL Peninsula 82.87 28 P P 00 43 44.9 -0.6
baz=248
TOLK Toolik Lake Re 82.98 18 P P 00 43 45.5 -0.4
TOLK IAMs_20 IAMs_20 01 16 44.8
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 82.98 18 P P 00 43 45.8 -0.1
baz=238
MDOK Medeo 83.02 314 P P 00 43 46.8 0.0
MDOK Medeo 83.02 314 *e*P P 00 43 46.5 -0.3
baz=314
KSH Kashi 83.03 311 P P 00 43 48.4 +1.5
KSH pP pP 00 43 59.0 -2.5
KSH PP PP 00 47 03.4 +5.0
KSH S S 00 54 04.3 +1.4
KSH sS sS 00 54 26.3 -1.2
KSH pmax pmax
comp=Z,15nm,1.3s
KSH pmax pmax
comp=Z,220nm,5.9s
KSH LR LR
comp=Z,410nm,19.0s
KSH LR LR
comp=Z,390nm,19.5s
KSH LR LR
comp=Z,550nm,20.2s
J26L Joseph Creek 83.05 23 P P 00 43 45.5 -0.9
baz=244,SNR=11
AAA Alma-Ata 83.12 314 *e*P P 00 43 47.2 -0.1
AAA Alma-Ata 83.12 314 *e*P P 00 43 47.2 -0.1
baz=314
L27K Beaver Creek, 83.13 25 P P 00 43 46.3 -0.5
L27K IAMs_20 IAMs_20 01 14 40.2
comp=Z,1µm,22.0s
L27K Beaver Creek, 83.13 25 P P 00 43 46.6 -0.2
baz=246,SNR=13
YUK3 Moose Creek 83.19 26 P P 00 43 46.7 -0.7
baz=247,SNR=7.3
CHKK Chushkaly 83.22 315 *e*P P 00 43 46.5 -1.2
baz=315
BVCY Beaver Creek 83.27 25 P P 00 43 47.2 -0.3
baz=246,SNR=6.4
FYU Fort Yukon 83.37 21 IAmb IAmb 00 44 19.0
comp=Z,52nm,1.5s
ULHL Ulahol 83.40 313 P P 00 43 49.7 +0.8
SNR=6.9
BOOM Boomskoye usch 83.67 313 P P 00 43 50.4 +0.2
BOOM pmax pmax
comp=Z,64nm,1.6s
BOOM Boomskoye usch 83.67 313 P P 00 43 50.4 +0.2
BOOM IAmb IAmb 00 44 08.2
comp=Z,64nm,1.6s
KUU Kurty 83.68 315 *e*P P 00 43 49.7 -0.3
KUU pmax pmax
comp=Z,51nm,1.2s
KUU Kurty 83.68 315 *e*P P 00 43 49.8 -0.3
comp=Z,52nm,1.2s,baz=315

KURK Kurchatov 83.80 322 *ce*P P 00 43 49.5 -0.9
KURK pmax pmax
comp=Z,62nm,1.7s
KURK Kurchatov 83.80 322 P P 00 43 50.0 -0.4
KURK IAmb IAmb 00 43 55.8
comp=Z,46nm,1.2s
KURK Kurchatov 83.80 322 P P 00 43 50.0 -0.4
KURK pP pP 00 44 04.8 -0.3
YUK6 Outpost Mounta 83.81 27 P P 00 43 50.0 -0.7
baz=249
KURBB Kurchatov Arra 83.83 322 LR LR 01 19 54.9
comp=Z,326nm,21.6s,baz=89,slow=35
KURBB Kurchatov Arra 83.83 322 P P 00 43 49.4 -1.2
YUK4 Talbot Arm 83.83 27 P P 00 43 50.8 +0.1
baz=249,SNR=7.2
TKM2 Tokmak 2 84.01 314 P P 00 43 52.4 +0.4
SNR=33
TKM2 Tokmak 2 84.01 314 P P 00 43 50.6 -1.4
EGAK Eagle 84.10 23 IAmb IAmb 00 44 28.6
comp=Z,18nm,0.9s
EGAK Eagle 84.10 23 P P 00 43 51.0 -0.7
baz=246,SNR=8.8
HYT Haines Junctio 84.17 27 IAmb IAmb 00 44 20.9
comp=Z,46nm,1.2s
HYT Haines Junctio 84.17 27 P P 00 43 51.9 -0.4
baz=250,SNR=9.2
KBK Karagaybulak 84.42 314 P P 00 43 54.5 +0.5
SNR=24
H02S1 DAWSON INLET T 84.46 36 T T 02 17 06.8
SNR=323
DAWY Dawson 84.53 24 IAmb IAmb 00 44 24.6
comp=Z,25nm,1.4s
DAWY Dawson 84.53 24 P P 00 43 53.6 -0.4
baz=248,SNR=9.8
CHMS Chumysh 84.63 314 P P 00 43 55.3 +0.4
SNR=33
UCH Uchtor 84.65 313 P P 00 43 56.7 +1.1
SNR=58
FRU1 Bishkek 84.68 314 P P 00 43 55.8 +0.6
FRU1 pmax pmax
comp=Z,36nm,1.1s
FRU1 Bishkek 84.68 314 P P 00 43 55.8 +0.6
FRU1 IAmb IAmb 00 44 22.1
comp=Z,36nm,1.1s
BESE Bessie Mountai 84.70 30 P P 00 43 54.8 -0.2
BESE IAmb IAmb 00 44 23.5
comp=Z,39nm,1.3s
CRAG Craig 84.70 33 P P 00 43 54.4 -0.5
baz=254
SKAG Skagway 84.74 29 P P 00 43 54.7 -0.3
baz=252
AAK Ala-Archa 84.75 313 LR LR 01 22 51.2
comp=Z,418nm,21.1s,baz=98,slow=36
AAK Ala-Archa 84.75 313 P P 00 43 56.3 +0.6
SNR=40
AAK Ala-Archa 84.75 313 P P 00 43 56.3 +0.6
AAK pmax pmax
comp=Z,28nm,0.7s
AAK Ala-Archa 84.75 313 P P 00 43 56.3 +0.6
AAK IAmb IAmb 00 43 59.5
comp=Z,28nm,0.7s
SGDS Sogindy 84.81 314 *e*P P 00 43 55.9 +0.1
SGDS pmax pmax
comp=Z,14nm,1.1s
SGDS Sogindy 84.81 314 *e*P P 00 43 55.6 -0.3
comp=Z,15nm,1.1s,baz=314
JIS Juneau Island 84.85 30 IAMs_20 IAMs_20 01 15 48.0
comp=Z,989nm,18.0s
USP Osepenovka 84.86 314 P P 00 43 56.4 +0.2
SNR=48
M30M Minto, Yukon 85.09 26 P P 00 43 56.3 -0.4
baz=250,SNR=6.1
J29M Klondike Camp 85.15 24 P P 00 43 56.9 -0.2
baz=249
N31M Braeburn, Yuko 85.17 27 IAmb IAmb 00 44 22.9
comp=Z,21nm,0.9s
N31M IAMs_20 IAMs_20 01 16 16.5
comp=Z,942nm,21.0s
N31M Braeburn, Yuko 85.17 27 P P 00 43 57.0 -0.2
baz=251,SNR=8.2
AML Almayashu 85.23 313 P P 00 43 59.2 +0.8
SNR=110
EKS2 Erkin-Say 85.27 313 P P 00 43 58.8 +0.6
SNR=24
QSPA South Pole Qui 85.33 180 P P 00 43 58.1 +0.1
comp=Z,14nm,0.9s,baz=77,slow=7.5,SNR=3.1
QSPA LR LR 01 19 48.8
comp=Z,412nm,18.2s,baz=7.5,slow=34
QSPA South Pole Qui 85.33 180 P P 00 43 58.5 +0.5
QSPA South Pole Qui 85.33 180 P P 00 43 59.1 +1.0
WHY Whitehorse 85.33 28 IAmb IAmb 00 44 23.6
comp=Z,21nm,1.5s
WHY Whitehorse 85.33 28 P P 00 43 57.7 -0.5
baz=252
WRAK Wrangell Islan 85.38 33 P P 00 43 57.8 -0.5
baz=255
I29M Ogilvie Camp, 85.44 23 IAmb IAmb 00 43 59.1
comp=Z,38nm,1.4s
I29M IAMs_20 IAMs_20 01 16 45.3
comp=Z,1µm,21.0s
I29M Ogilvie Camp, 85.44 23 P P 00 43 57.6 -0.9
baz=249
BTLS Baital 85.53 316 *e*P P 00 43 58.9 -0.4
BTLS pmax pmax
comp=Z,26nm,1.2s
BTLS Baital 85.53 316 *e*P P 00 43 59.0 -0.4
comp=Z,26nm,1.2s,baz=316
MAW Mawson 85.83 203 P P 00 43 59.3 -1.0
comp=Z,19nm,0.8s,baz=104,slow=5.4,SNR=8.7
MAW LR LR 01 18 39.9
comp=Z,607nm,21.9s,baz=75,slow=33
MAW Mawson 85.83 203 IAmb IAmb 00 44 04.7
comp=Z,23nm,1.4s
NRIK Noril'sk 85.89 341 P P 00 44 00.2 -0.3
comp=Z,18nm,0.5s,baz=116,slow=4.0,SNR=35
NRIK Noril'sk 85.89 341 *ce*P P 00 43 59.5 -1.1
NRIK pmax pmax
comp=Z,31nm,1.1s
M31M Drury Creek, Y 86.03 27 IAmb IAmb 00 44 29.5
comp=Z,15nm,1.1s
M31M IAMs_20 IAMs_20 01 18 09.9
comp=Z,1µm,21.0s
M31M Drury Creek, Y 86.03 27 P P 00 44 01.3 -0.1
baz=252,SNR=5.5
P33M Teslin, Yukon 86.18 29 IAMs_20 IAMs_20 01 17 25.0
comp=Z,1µm,20.0s
P33M Teslin, Yukon 86.18 29 P P 00 44 01.5 -0.8
baz=254
EPYK Eagle Plains 86.41 22 P P 00 44 02.4 -0.8
baz=250
BBB Bella Bella 86.80 37 LR LR 01 15 37.0
comp=Z,576nm,21.9s,baz=262,slow=30
BTK Batken 87.03 310 IAmb IAmb 00 44 09.5
comp=Z,33nm,1.0s
DZA Taraz 87.08 313 *e*P P 00 44 06.7 -0.4
DZA Taraz 87.08 313 *e*P P 00 44 06.7 -0.4
baz=313
DLBC Dease Lake 87.10 31 LR LR 01 21 38.2
comp=Z,466nm,18.2s,baz=269,slow=35
DLBC Dease Lake 87.10 31 P P 00 44 06.3 -0.6
DLBC IAmb IAmb 00 44 35.0
comp=Z,14nm,1.1s
GAR Garm 87.26 309 P P 00 44 08.0 -0.2
OTUK Ortayu 87.27 319 P P 00 44 06.4 -1.4
BRZS Berezniki 87.35 320 *e*P P 00 44 06.5 -1.7
BRZS Berezniki 87.35 320 *e*P P 00 44 06.5 -1.7
baz=320
MMPY Sheldon Lake, 87.54 27 P P 00 44 08.5 -0.3
baz=255,SNR=6.2
KBL Kabul 87.69 305 P P 00 44 09.4 -1.0
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 87.69 305 P P 00 44 09.4 -1.0
KBL Kabul 87.69 305 P P 00 44 09.4 -1.0
J01E Myrtle Point 88.04 47 P P 00 44 10.1 -1.5
baz=262
WTLY Watson Lake, Y 88.10 29 P P 00 44 10.8 -0.7
baz=257
L02E Cave Junction 88.14 48 IAMs_20 IAMs_20 01 21 06.7
comp=Z,2µm,21.0s
INK Inuvik 88.20 21 P P 00 44 10.7 -1.0
comp=Z,12nm,1.0s,baz=234,slow=6.6,SNR=12
INK PKKPbc **PKKPdf** **01 01 52.9** -0.3
comp=Z,1.3nm,0.4s,baz=226,slow=9.4,SNR=4.7
INK LR LR 01 20 01.1
comp=Z,698nm,21.8s,baz=226,slow=33
INK Inuvik 88.20 21 IAmb IAmb 00 44 11.9
comp=Z,25nm,1.2s
INK Inuvik 88.20 21 P P 00 44 10.5 -1.2
baz=253
I02E Swisshome, OR 88.24 46 IAMs_20 IAMs_20 01 19 48.0
comp=Z,1µm,20.0s
O02D Mt. Diablo Mer 88.49 50 P P 00 44 12.7 -1.2
baz=263
M02C Callahan 88.60 48 IAMs_20 IAMs_20 01 15 53.8
comp=Z,1µm,22.0s
M02C Callahan 88.60 48 P P 00 44 13.5 -0.9
baz=263
TGTN Hyland Airport 88.65 28 P P 00 44 13.9 -0.3
baz=258
HUMO Hull Mountain 88.68 47 IAMs_20 IAMs_20 01 21 26.8
comp=Z,1µm,20.0s
YBH Yreka Blue Hor 88.75 48 LR LR 01 16 34.5
comp=Z,818nm,21.7s,baz=262,slow=30
YBH Yreka Blue Hor 88.75 48 IAMs_20 IAMs_20 01 15 48.7
comp=Z,1µm,22.0s
H04D Lebanon 89.08 45 IAMs_20 IAMs_20 01 14 48.3
comp=Z,1µm,22.0s
L04D Klamath Falls 89.11 48 IAMs_20 IAMs_20 01 15 15.2
comp=Z,2µm,22.0s
O03E Paynes Creek 89.25 50 IAMs_20 IAMs_20 01 16 06.3
comp=Z,2µm,22.0s
BRVK Borovoye 89.33 323 P P 00 44 16.3 -1.2
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK Borovoye 89.33 323 P P 00 44 16.3 -1.2
BRVK Borovoye 89.33 323 P P 00 44 16.0 -1.5
J04D Umpqua Nationa 89.37 47 IAMs_20 IAMs_20 01 20 58.2
comp=Z,1µm,19.0s
J04D Umpqua Nationa 89.37 47 P P 00 44 18.0 -0.2
baz=263
M04C Macdoel 89.40 48 IAMs_20 IAMs_20 01 16 33.0
comp=Z,1µm,22.0s
ORV Oroville 89.40 50 IAMs_20 IAMs_20 01 17 34.2
comp=Z,1µm,19.0s
E04D Cinebar 89.46 43 IAMs_20 IAMs_20 01 15 38.1
comp=Z,1µm,22.0s
J05D Fort Rock, OR 90.01 47 P P 00 44 20.1 -1.0
baz=264
PINE Pine Mountain 90.28 46 P P 00 44 22.0 -0.4
PINE IAmb IAmb 00 44 47.8
comp=Z,32nm,1.4s
MOD Modoc Plateau 90.55 48 IAMs_20 IAMs_20 01 19 59.5
comp=Z,1µm,20.0s
EDW2 Edwards Air Fo 91.75 55 P P 00 44 28.4 -0.8
baz=266
NVAR Mina Array Bea 91.77 52 P P 00 44 28.4 -1.1
comp=Z,2.0nm,0.9s,baz=236,slow=12,SNR=3.6
NVAR LR LR 01 18 51.3
comp=Z,2µm,20.6s,baz=265,slow=31
C36M Paulatuk 91.78 21 IAmb IAmb 00 45 01.1
comp=Z,10nm,1.0s
C36M Paulatuk 91.78 21 P P 00 44 28.0 -0.4
baz=262,SNR=7.1
CWC Cottonwood Cre 91.80 54 P P 00 44 28.7 -0.8
baz=266
A36M Sachs Harbour 91.80 18 IAmb IAmb 00 45 02.0
comp=Z,11nm,0.8s
A36M IAMs_20 IAMs_20 01 23 29.0
comp=Z,836nm,20.0s
A36M Sachs Harbour 91.80 18 P P 00 44 27.2 -1.3
baz=261,SNR=8.8
WVOR Wild Horse Val 91.83 48 IAMs_20 IAMs_20 01 16 53.4
comp=Z,1µm,22.0s
NV11 Mina Array Sit 91.89 52 IAmb IAmb 00 44 54.4
comp=Z,8.9nm,1.1s
BFSC Mount Baldy Ra 91.98 56 P P 00 44 29.4 -0.9
baz=266
KVN Kaiserville 91.98 51 P P 00 44 30.1 -0.2
KVN pmax pmax
comp=Z,10.0nm,1.4s
KVN Kaiserville 91.98 51 P P 00 44 30.1 -0.2
MPMC Manual Prospec 92.25 54 P P 00 44 30.9 -0.8
baz=266
QSM Queen of Sheba 92.74 54 IAmb IAmb 00 45 09.2
comp=Z,26nm,1.6s
GSC Goldstone, Bar 92.75 55 P P 00 44 34.4 +0.6
baz=266
FURC Furnace Creek, 92.78 54 P P 00 44 34.1 +0.3
baz=266
MONP2 Monument Peak 92.92 57 P P 00 44 33.9 -0.9
baz=266
PFO Pinyon Flats O 92.93 57 LR LR 01 17 58.3
comp=Z,996nm,21.7s,baz=266,slow=30
BMO Blue Mountains 92.97 45 IAMs_20 IAMs_20 01 19 15.2
comp=Z,1µm,20.0s
F10A Beach Ranch, E 93.09 44 IAmb IAmb 00 45 04.4
comp=Z,12nm,1.2s
HEC Hector,Ludlow 93.11 55 P P 00 44 34.8 -0.7
baz=267
IKP In-Ko-Pah, Jac 93.16 58 P P 00 44 32.9 -2.9
baz=267
NEW Newport 93.30 42 LR LR 01 22 30.0
comp=Z,442nm,18.5s,baz=264,slow=33
NEW Newport 93.30 42 IAMs_20 IAMs_20 01 23 03.5
comp=Z,870nm,18.0s
NEW Newport 93.30 42 P P 00 44 35.6 -0.4
baz=267
TPNV Topopah Spring 93.30 53 IAMs_20 IAMs_20 01 18 07.7
comp=Z,718nm,22.0s
TPNV Topopah Spring 93.30 53 P P 00 44 36.1 -0.4
baz=267
BELC Belle Mtn. Jos 93.34 56 P P 00 44 35.8 -0.8
baz=267
TUQ Turquoise Moun 93.48 55 P P 00 44 37.4 +0.1
baz=267
GMRC Granite Mounta 93.66 56 P P 00 44 37.8 -0.4
baz=267
BC3 Big Chuckawall 93.77 57 P P 00 44 39.5 +0.9
baz=267
R11A Troy Canyon, C 93.90 52 P P 00 44 39.3 0.0
baz=267
PLID Pearl Lake 93.91 45 P P 00 44 39.0 -0.2
PLID IAMs_20 IAMs_20 01 23 37.0
comp=Z,1µm,21.0s
SYO Syowa Base 93.91 199⇑ *e*pP pP 00 44 50.7 -1.8
MFID Camas Ranch 93.95 47 IAMs_20 IAMs_20 01 23 09.4
comp=Z,832nm,19.0s
IRM Iron Mountain 94.05 56 P P 00 44 40.0 +0.1
baz=267
GLA Glamis 94.26 57 P P 00 44 41.4 +0.5
baz=267
ELK Elko 94.28 50 LR LR 01 21 13.3
comp=Z,1µm,20.2s,baz=268,slow=32
RPN Rapa Nui 94.65 118 LR LR 01 18 31.5
comp=Z,519nm,21.9s,baz=265,slow=30
HLID Hailey 94.99 47 IAMs_20 IAMs_20 01 24 35.8
comp=Z,1µm,18.0s
YKA Yellowknife Ar 95.16 28 P P 00 44 43.4 -0.7
comp=Z,2.8nm,0.9s,baz=270,slow=4.7,SNR=37
YKA PKKP **PKKPdf** **01 01 36.3** -4.3
comp=Z,0.5nm,0.7s,baz=79,slow=2.7,SNR=7.2
YKA LR LR 01 22 10.2
comp=Z,656nm,21.6s,baz=285,slow=32
SVE Sverdlovsk 95.18 327⇑ *e*P P 00 44 43.4 -1.0
SVE pmax pmax
comp=Z,27nm,1.6s
SVE MLR MLR
comp=Z,858nm,22.0s
MSO Missoula 95.40 44 IAMs_20 IAMs_20 01 21 22.3
comp=Z,1µm,20.0s
WALA Waterton Lakes 95.45 41 P P 00 44 45.2 -0.8
AB31 Akbulak array 95.52 319 *i* P P 00 44 43.8 -2.3
ABKAR Akbulak array 95.52 319 IAmb IAmb 00 44 48.2
comp=Z,6.2nm,0.8s
DUG Dugway, Tooele 96.11 50 IAMs_20 IAMs_20 01 20 01.8
comp=Z,1µm,21.0s
DLMT Dillon 96.32 45 IAMs_20 IAMs_20 01 24 55.8
comp=Z,910nm,20.0s
ARU Arti 96.33 326 LR LR 01 29 25.6
comp=Z,263nm,19.6s,baz=89,slow=36
ARU Arti 96.33 326 *c i* P P 00 44 47.7 -1.9
ARU 00 48 42.5
ARU S **SKSac** **00 55 19.7** -2.4
ARU SS **SS** **01 02 35.5** -3.5
ARU pmax pmax
comp=Z,24nm,1.5s
ARU MLR MLR
comp=Z,371nm,18.0s
ARU Arti 96.33 326 P P 00 44 47.1 -2.5
AKTO Aktyubinsk 96.77 320 LR LR 01 29 26.8
comp=Z,152nm,20.6s,baz=99,slow=36
AKTO Aktyubinsk 96.77 320 P P 00 44 49.2 -2.6
BOZ Bozeman (W) 97.00 45 IAMs_20 IAMs_20 01 21 22.7
comp=Z,1µm,21.0s
BOZ Bozeman (W) 97.00 45 P P 00 44 53.2 +0.1
baz=271
HWUT Hardware Ranch 97.07 49 IAMs_20 IAMs_20 01 31 49.0
comp=Z,860nm,18.0s
WUAZ Wupatki 97.19 55 IAMs_20 IAMs_20 01 20 24.9
comp=Z,955nm,22.0s
TMUT Trail Mountain 97.34 51 P Pdif 00 44 55.2 +0.1
TMUT IAmb IAmb 00 44 57.7
comp=Z,9.5nm,0.7s
AHID Auburn Hatcher 97.41 48 IAMs_20 IAMs_20 01 23 11.8
comp=Z,1µm,20.0s
BELA Belgrano 2 97.49 178 P Pdif 00 44 56.1 +1.5
BELA IAmb IAmb 00 45 22.2
comp=Z,6.4nm,1.0s
MOOW Moose Ponds 97.65 47 IAMs_20 IAMs_20 01 27 10.2
comp=Z,862nm,18.0s
FLWY Flagg Ranch 97.68 46 IAMs_20 IAMs_20 01 27 20.9
comp=Z,1µm,19.0s
LOHW Long Hollow 97.76 47 IAMs_20 IAMs_20 01 21 37.0
comp=Z,935nm,22.0s
H17A Grant Village 97.76 46 P Pdif 00 44 57.1 +0.3
baz=271
LPIG La Paz 97.91 66 LR LR 01 25 16.2
comp=Z,1µm,18.1s,baz=273,slow=33
EGMT Eagleton 98.23 42 IAMs_20 IAMs_20 01 21 28.0
comp=Z,757nm,21.0s
BW06 Boulder Array 98.54 48 IAMs_20 IAMs_20 01 23 41.9
comp=Z,1µm,19.0s
PDAR Pinedale Array 98.54 48 P P 00 44 59.0 -1.3
comp=Z,0.8nm,0.9s,baz=241,slow=1.5,SNR=6.0
PDAR LR LR 01 24 21.9
comp=Z,818nm,19.8s,baz=267,slow=32
MVCO Mesa Verde 99.50 53 IAMs_20 IAMs_20 01 21 21.9
comp=Z,1µm,21.0s
LAO LASA Array 100.70 44 IAMs_20 IAMs_20 01 27 45.6
comp=Z,946nm,20.0s
Y22D IRIS PASSCAL I 100.87 56 IAMs_20 IAMs_20 01 24 31.5
comp=Z,973nm,19.0s
TROLL Troll, Antarti 101.15 189 Pdiff Pdif 00 45 11.1 -0.1
ANMO Albuquerque 101.22 55 IAMs_20 IAMs_20 01 21 47.8
comp=Z,745nm,22.0s
EPT El Paso 101.29 59 IAMs_20 IAMs_20 01 25 39.7
comp=Z,742nm,20.0s
ISCO Idaho Springs 101.65 50 IAMs_20 IAMs_20 01 26 58.4
comp=Z,1µm,19.0s
PHWY Pilot Hill 101.66 49 IAMs_20 IAMs_20 01 22 47.7
comp=Z,776nm,22.0s
DGMT Dagmar 101.90 42 IAMs_20 IAMs_20 01 38 41.0
comp=Z,665nm,18.0s
MNTX Cornudas Mount 102.25 59 IAMs_20 IAMs_20 01 26 30.2
comp=Z,961nm,19.0s
PRGR Permogore 102.31 332 *e*P Pdif 00 45 13.5 -2.7
VOI Vohitsoka 103.28 246 IAMs_20 IAMs_20 01 27 48.4
comp=Z,743nm,18.0s
ABPO Ambohimpanom 103.38 249 IAMs_20 IAMs_20 01 25 26.7
comp=Z,754nm,21.0s
TXAR Lajitas Array 103.82 61 PP PP 00 49 39.5 -1.9
comp=Z,0.8nm,1.1s,baz=259,slow=1.3,SNR=4.3
TXAR PKKPbc **PKKPbc** **01 01 14.3** -1.0
comp=Z,0.5nm,0.9s,baz=116,slow=5.7,SNR=5.2
OGNE Ogallala 104.27 49 IAMs_20 IAMs_20 01 28 39.7
comp=Z,1µm,21.0s
MAK Makhachkala 104.52 313 *e*P Pdif 00 45 22.7 -3.8
MAK *e* 00 49 45.2
MAK *e*PPP PPP 00 51 56.0
MAK *e* 00 56 02.1
MAK pmax pmax
comp=Z,207nm,1.2s
AMTX Amarillo 105.14 55 IAMs_20 IAMs_20 01 25 29.6
comp=Z,977nm,22.0s
APA Apatity 105.27 340‖ *i* P Pdif 00 45 34.1 +4.8
APA pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 105.36 332 *e*P Pdif 00 45 27.5 -2.4
KLMR *e* 00 49 51.1
KLMR pmax pmax
comp=Z,20nm,1.5s
KLMR Klimovskoe 105.36 332 *e*Pdif Pdif 00 45 27.5 -2.4
KLMR AMP 00 45 39.6
comp=Z,20nm,1.5s
KLMR *e*PP PP 00 49 51.1 -0.5
ARCES ARCESS Array B 106.79 343 PKiKP PKiKP 00 49 47.6 +1.6
comp=Z,8.3nm,1.0s,baz=294,slow=6.1,SNR=7.0
ARCES PKKPbc **PKKPbc** **01 01 03.0** -4.4
comp=Z,5.5nm,1.0s,baz=342,slow=1.9,SNR=7.2
AGMN Agassiz Nation 107.40 41 IAMs_20 IAMs_20 01 37 23.5
comp=Z,653nm,20.0s
WMOK Wichita Mounta 107.53 55 IAMs_20 IAMs_20 01 27 26.8
comp=Z,726nm,22.0s
ECSD EROS Data Cent 107.83 46 IAMs_20 IAMs_20 01 33 13.4
comp=Z,852nm,19.0s
TUL1 Leonard 109.80 54 IAMs_20 IAMs_20 01 30 53.5
comp=Z,859nm,20.0s
FINES FINESS Array B 111.01 336 Pdiff Pdif 00 45 53.9 -1.0
comp=Z,0.9nm,0.6s,baz=83,slow=6.1,SNR=6.1
FINES PKiKP **PKiKP** **00 49 53.4** -0.6
comp=Z,2.6nm,0.7s,baz=90,slow=1.9,SNR=8.8
FINES PKKPbc **PKKPbc** **01 00 50.4** -3.2
comp=Z,3.4nm,1.0s,baz=190,slow=2.3,SNR=8.5
FINES FINESS Array B 111.01 336 P Pdif 00 45 54.2 -0.8
FINES FINESS Array B 111.01 336 Pdif 00 45 54.2 -0.8
W39A Magazine 111.53 54 IAMs_20 IAMs_20 01 29 23.4
comp=Z,741nm,21.0s
U40A Yellville 112.06 53 IAMs_20 IAMs_20 01 29 17.4
comp=Z,602nm,20.0s
X40A Basin Creek Fa 112.42 55 IAMs_20 IAMs_20 01 30 13.1
comp=Z,916nm,22.0s
JFWS Jewell Farm 112.54 45 IAMs_20 IAMs_20 01 30 33.0
comp=Z,860nm,22.0s
HDIL Hopedale 113.85 48 IAMs_20 IAMs_20 01 34 21.9
comp=Z,964nm,20.0s
AKASG Malin Array Be 114.51 325 PKP PKiKP 00 50 00.6 -0.4
comp=Z,6.9nm,0.8s,baz=62,slow=2.3,SNR=14
AKASG Malin Array Be 114.51 325 *c i* PKiKP PKPdf 00 50 01.2 +0.2
AKASG pmax pmax
comp=Z,7.0nm,0.8s
KIBK Kibwezi 114.71 265 IAMs_20 IAMs_20 01 38 24.1
comp=Z,524nm,20.0s
FURI Furi 114.77 278 IAMs_20 IAMs_20 01 39 40.3
comp=Z,610nm,22.0s
OXF Oxford 115.19 54 IAMs_20 IAMs_20 01 38 42.4
comp=Z,589nm,19.0s
BRTR Keskin Array B 115.39 312 PKP PKiKP 00 50 02.8 -0.5
comp=Z,1.6nm,0.7s,baz=127,slow=2.9,SNR=8.7
BRTR PKKP **PKKPdf** **01 01 08.6** +5.8
comp=Z,0.9nm,0.8s,baz=203,slow=4.6,SNR=4.3
BRTR Keskin Array B 115.39 312 PKiKP **PKPdf** **00 50 03.8** +0.5
BRTR Keskin Array B 115.39 312 **PKPdf** **00 50 03.8** +0.5
KMBO Kilima Mbogo 115.62 267 PKP PKiKP 00 50 04.7 +0.1
comp=Z,1.0nm,0.6s,baz=306,slow=9.7,SNR=3.6
KMBO Kilima Mbogo 115.62 267 IAMs_20 IAMs_20 01 35 51.3
comp=Z,455nm,20.0s
SORM Soroca 116.09 322 ⇑P **PKPdf** **00 50 03.9** -0.2
SORM Soroca 116.09 322 ⇑PKiKP **PKPdf** **00 50 03.9** -0.2
PLAL Pickwick Lake 116.16 53 IAMs_20 IAMs_20 01 38 16.8
comp=Z,750nm,18.0s
SUW Suwalki 116.23 330 *e*P **PKPdf** **00 50 03.1** -1.1
MILM Milestii Mici 116.30 321 ⇑P **PKPdf** **00 50 03.5** -1.0
MILM Milestii Mici 116.30 321 ⇑PKiKP **PKPdf** **00 50 03.5** -1.0
NB2 NORSAR Subarra 116.85 340 PKPdf **PKPdf** **00 50 04.9** -0.4
comp=Z,9.5nm,1.1s,baz=40,slow=1.8
NB2 NORSAR Subarra 116.85 340 PKPdf **PKPdf** **00 50 04.9** -0.4
baz=40,slow=1.8
NOA NORSAR Array B 116.85 340 PKP **PKPdf** **00 50 04.1** -1.2
comp=Z,2.3nm,0.8s,baz=45,slow=1.9,SNR=13
MDUB Mudurnu 116.96 313 PKPdf **PKiKP** **00 50 06.4** +0.2
VLDR Vladesti 117.19 320 ⇑P **PKiKP** **00 50 07.1** +0.7
AAM Ann Arbor 117.36 44 IAMs_20 IAMs_20 01 37 34.4
comp=Z,916nm,21.0s
CFR Carcaliu 117.41 319 ⇑P **PKPdf** **00 50 06.5** -0.3
CFR Carcaliu 117.41 319 ⇑PKiKP **PKPdf** **00 50 06.5** -0.3
LRAL Lakeview Retre 117.48 55 IAMs_20 IAMs_20 01 33 31.0
comp=Z,757nm,22.0s
BORA Eskisehir 117.69 313 PKPdf **PKPdf** **00 50 07.4** -0.2
HARR Harsova 117.74 319 ⇑P **PKiKP** **00 50 08.0** +0.6
HARR Harsova 117.74 319 ⇑PKiKP **PKiKP** **00 50 08.0** +0.6
PLOR Plostina 118.10 320 ⇑P **PKiKP** **00 50 15.4** +7.2
PLOR Plostina 118.10 320 ⇑PKiKP **PKiKP** **00 50 15.4** +7.2
BUR08 Bucovina Ar. S 118.22 323 PKPdf **PKiKP** **00 50 09.7** +1.2
MSNA Messina 118.22 242 *i* P PKiKP 00 50 17.3 +8.2
MSNA Messina 118.22 242 *i* P PKiKP 00 50 17.3 +8.2
BURAR Bucovina Array 118.22 323 ⇑P **PKiKP** **00 50 10.0** +1.6
BURAR Bucovina Array 118.22 323 ⇑PKiKP **PKiKP** **00 50 10.0** +1.6
ACSO Alum Creek Sta 118.54 46 IAMs_20 IAMs_20 01 46 01.0
comp=Z,640nm,20.0s
MLR Muntele Rosu 118.70 320 ⇑P **PKPdf** **00 50 08.6** -0.8

MLR Muntele Rosu 118.70 320 ⇑PKIKP PKPdf 00 50 08.6 -0.8
KWP Kalwaria Pacla 118.73 326 *e*PKP PKiKP 00 50 10.5 +1.2
DOPR Dopca 118.84 321 ⇓P PKiKP 00 50 10.9 +1.3
DEL Delary 119.04 335 *e*P PKPdf 00 50 09.4 -0.1
VOIR 119.29 321 ⇓P PKiKP 00 50 13.3 +2.7
VOIR 119.29 321 ⇓PKIKP PKiKP 00 50 13.3 +2.7
P52A Corning 119.36 47 IAMs_20 IAMs_20 01 46 26.7
comp=Z,676nm,18.0s
UZH Uzhgorod 119.47 325 *e*PKIKP PKiKP 00 50 11.8 +1.1
UZH *e* 00 50 25.9
TRPA Tarpa 119.57 324 ⇓P PKPdf 00 50 10.4 -0.4
TRPA Tarpa 119.57 324 PKPDF PKPdf 00 50 10.7 -0.1
TRPA PKiKP PKiKP 00 50 11.7 +0.8
GKP Gorka Klasztor 119.58 331 *e*PKP PKiKP 00 50 11.9 +1.2
GKP Gorka Klasztor 119.58 331 *e*P PKPdf 00 50 10.3 -0.4
ARR Arges 119.58 321 ⇑P PKiKP 00 50 12.5 +1.3
HUMR Humele 119.73 320 ⇑P PKPdf 00 50 10.6 -0.7
COPA Copaceanca 119.74 319 ⇓P PKiKP 00 50 11.4 +0.1
PLCA Paso Flores 119.75 143 PKP PKPdf 00 50 11.1 -0.5
comp=Z,3.0nm,0.5s,baz=223,slow=2.1,SNR=15
PLCA PKKPab PKKPab 01 00 25.1 +0.7
comp=Z,2.2nm,0.9s,baz=37,slow=5.9,SNR=3.0
CRVS Cervenica-Dubn 119.80 325 *e*PKIKP PKiKP 00 50 12.5 +1.1
CRVS Cervenica-Dubn 119.80 325 *e*PKP PKiKP 00 50 12.5 +1.1
O53A New Philadelph 119.81 46 IAMs_20 IAMs_20 01 44 42.4
comp=Z,637nm,19.0s
TGUH Tegucigalpa,Un 119.87 77 IAMs_20 IAMs_20 01 33 16.9
comp=Z,865nm,20.0s
BOSA Boshof 119.94 233 PKP PKiKP 00 50 12.9 +0.5
comp=Z,2.5nm,0.6s,baz=126,slow=2.1,SNR=9.7
BOSA Boshof 119.94 233 *i* P PKiKP 00 50 14.0 +1.5
BOSA Boshof 119.94 233 *i* P PKiKP 00 50 14.0 +1.5
ERPA Erie 119.96 43 IAMs_20 IAMs_20 01 35 28.1
comp=Z,883nm,20.0s
OJC Ojcow 120.02 327 *e*PKP PKiKP 00 50 12.3 +0.5
BLWY Bulawayo 120.16 244 *i* P PKiKP 00 50 13.1 0.0
BLWY Bulawayo 120.16 244 *i* P PKiKP 00 50 13.1 0.0
MATP Matopo 120.17 243 *i* P PKiKP 00 50 13.4 +0.3
MATP Matopo 120.17 243 *i* P PKiKP 00 50 13.4 +0.3
NIE Niedzica 120.18 326 *e*PKP PKiKP 00 50 14.4 +2.3
GZR Gura Zlata 120.74 321 ⇑P PKPdf 00 50 12.8 -0.5
GZR Gura Zlata 120.74 321 ⇑PKIKP PKPdf 00 50 12.8 -0.5
LANS Liptovska Anna 120.79 326 *e*PKIKP PKiKP 00 50 15.1 +1.8
LANS Liptovska Anna 120.79 326 *e*PKP PKiKP 00 50 15.1 +1.8
MCWV Mont Chateau 121.00 46 IAMs_20 IAMs_20 01 46 51.0
comp=Z,767nm,18.0s
SIRR Siria 121.01 323 ⇑P PKPdf 00 50 13.7 0.0
LBTB Lobatse 121.09 237 *i* P PKPdf 00 50 13.6 -1.0
LBTB Lobatse 121.09 237 *i* P PKPdf 00 50 13.6 -1.0
PSZ Piszkesteto 121.21 325 PKPDF PKiKP 00 50 15.7 +1.4
PSZ PKPDF PKiKP 00 50 15.6 +1.4
BZS Buzias 121.35 322 ⇑P PKPdf 00 50 14.2 -0.2
BZS Buzias 121.35 322 ⇑PKIKP PKPdf 00 50 14.2 -0.2
BLA Blacksburg 121.45 49 P PKPdf 00 50 14.6 -0.3
baz=290
MORC Moravsky Berou 121.48 328 ⇑P PKiKP 00 50 15.4 +0.7
MORC Moravsky Berou 121.48 328 ⇑PKIKP PKiKP 00 50 15.4 +0.7
MORC Moravsky Berou 121.48 328 *e*PKP PKiKP 00 50 15.1 +0.4
KSP Ksiaz 121.50 329 *e*PKP PKPdf 00 50 14.4 0.0
KOLL Kolacno 121.69 326 *e*PKP PKiKP 00 50 15.5 +0.4
KRLC Kraliky 121.71 328 *e*PKIKP PKiKP 00 50 15.9 +0.8
KRLC *e* 00 50 27.4
KRLC Kraliky 121.71 328 *e*PKPDF PKiKP 00 50 15.9 +0.8
KRLC *e*pPKP pPKPdf 00 50 27.4 -2.5
OSTC Ostas 121.71 329 *e*PKPDF PKiKP 00 50 15.9 +0.8
BANR Banloc 121.76 322 ⇑P PKiKP 00 50 16.8 +1.6
CHVC Chvalec 121.78 329 *e*PKPDF PKiKP 00 50 15.6 +0.4
DPC Dobruska-Polom 121.78 329 *e*PKIKP PKiKP 00 50 16.1 +0.8
DPC Dobruska-Polom 121.78 329 *e*PKPDF PKiKP 00 50 16.1 +0.8
UPC Upice 121.85 329 *e*PKIKP PKiKP 00 50 16.3 +1.0
UPC Upice 121.85 329 *e*PKPDF PKiKP 00 50 16.3 +1.0
JAVC Velka Javorina 121.93 327 *e*PKP PKiKP 00 50 17.0 +1.4
LSZ Lusaka 121.94 249 PKIKP PKiKP 00 50 17.1 +0.5
LSZ MLR MLR
comp=Z,600nm,19.0s
LSZ Lusaka 121.94 249 PKiKP 00 50 17.1 +0.5
LSZ Lusaka 121.94 249 IAMs_20 IAMs_20 01 42 03.8
comp=Z,637nm,19.0s
SSPA Standing Stone 122.00 44 P PKPdf 00 50 15.6 -0.1
baz=294
MBAR Mbarara 122.15 266 *i* PKIKP PKPdf 00 50 13.5 -3.5
MBAR Mbarara 122.15 266 IAMs_20 IAMs_20 01 41 41.4
comp=Z,543nm,21.0s
SRO Srobarova 122.16 326 *e*PKIKP PKiKP 00 50 17.2 +1.2
SRO Srobarova 122.16 326 *e*PKP PKiKP 00 50 17.2 +1.2
VRAC Vranov 122.25 328 *e*PKP PKiKP 00 50 16.5 +0.3
SMOL Smolenice 122.26 327 *e*PKIKP PKiKP 00 50 17.3 +1.1
SMOL Smolenice 122.26 327 *e*PKP PKiKP 00 50 17.3 +1.1
BSEG Bad Segeberg 122.27 335 *e*PKPdf PKiKP 00 50 16.9 +0.9
baz=49,slow=1.9
LONY Lake Ozonia 122.39 39 P PKPdf 00 50 15.5 -0.9
baz=299
KRUC Moravsky 122.50 328 *e*PKP PKiKP 00 50 16.8 +0.1
PVCC Panska Ves 122.56 330 *e*PKIKP PKiKP 00 50 17.7 +1.0
PVCC Panska Ves 122.56 330 *e*PKPDF PKiKP 00 50 17.7 +1.0
ZST Bratislava 122.62 326 *e*PKIKP PKiKP 00 50 18.2 +1.3
ZST Bratislava 122.62 326 *e*PKP PKiKP 00 50 18.1 +1.2
BRG Berggiesshubel 122.66 330 ⇓*i*PKP PKiKP 00 50 17.1 +0.2
BRG Amp 00 50 18.7
comp=Z,20nm,0.9s
BRG Berggiesshubel 122.66 330 ⇓*i*PKIKP PKiKP 00 50 17.1 +0.2
BRG pmax pmax
comp=Z,20nm,0.9s
BRG Berggiesshubel 122.66 330 *e*PKPdf PKiKP 00 50 17.6 +0.7
baz=49,slow=1.9
FRGS Fruska Gora 122.68 322 ⇓P PKPdf 00 50 16.3 -0.6
FRGS Fruska Gora 122.68 322 ⇓*i*P PKPdf 00 50 15.9 -1.1
STIP Stip 122.80 318 *i* P PKPdf 00 50 17.1 -0.2
CLL Collm 122.83 331 ⇓*i*PKIP PKiKP 00 50 17.4 +0.2
CLL *e* 00 50 30.0
CLL pmax pmax
comp=Z,21nm,0.8s
CLL MLR MLR
comp=Z,400nm,20.4s
CLL Collm 122.83 331 ⇓*i*PKPdf PKiKP 00 50 17.4 +0.2
comp=Z,21nm,0.8s
CLL *e*pPKPdf pPKPdf 00 50 30.0 -2.0
CLL *e*PP PP 00 51 57.0 +1.8
CLL *e*SKPdf SKPdf 00 53 48.0 -0.5
CLL *e*PS PS 01 01 54.0 +2.2
CLL *e*PPS PPS 01 03 12.0
CLL *e*SS SS 01 08 42.0 +7.8
CLL *e*SSS SSS 01 13 06.0
CLL *e*SSSS 01 16 36.0
CLL LmV 01 46 00.0
comp=Z,400nm,20.4s
CLL Collm 122.83 331 *e*PKPdf PKiKP 00 50 17.6 +0.4
baz=49,slow=1.9
MORH Mrgy, Hungar 122.83 324 P PKPdf 00 50 17.2 0.0
TREC Trest 122.85 328 *e*PKIKP PKiKP 00 50 18.1 +0.7
TREC *e* 00 50 34.0
TREC Trest 122.85 328 *e*PKPDF PKiKP 00 50 18.1 +0.7
TREC *ex* x 00 50 34.0
TIH Tihany 122.90 325 PKPDF PKPdf 00 50 16.8 -0.5
TIH PKIKP PKiKP 00 50 19.2 +1.7
PRU Pruhonice 122.91 329 *e*PKIKP PKPdf 00 50 17.0 -0.2
PRU Pruhonice 122.91 329 *e*PKPDF PKPdf 00 50 17.0 -0.2
FBE Freiberg 122.91 331 *e*PKPdf PKiKP 00 50 18.3 +0.9
baz=49,slow=1.9
EGYH Egyhazaskeszo 122.93 326 PKIKP PKPdf 00 50 18.8 +1.4
EGYH PKPDF PKiKP 00 50 18.3 +0.7
FLTG Flechtingen 122.97 333 *e*PKPdf PKiKP 00 50 17.9 +0.5
baz=49,slow=1.9
BO02 Sierra Bellavi 123.10 137 PKPdf PKPdf 00 50 18.3 +0.1
DIVS Divibare 123.10 321 ⇓*i*P PKiKP 00 50 18.1 0.0
SKO Skopje 123.18 318 *i* P PKiKP 00 50 18.9 +0.7
LIT Litokhoron 123.28 316 PKIKP PKiKP 00 50 18.5 0.0
LIT Litokhoron 123.28 316 PKiKP 00 50 18.5 0.0
DWPF Disney Wildern 123.29 59 IAMs_20 IAMs_20 01 39 54.6
comp=Z,569nm,20.0s
NRDL Niedersach Rie 123.36 334 *e*PKPdf PKiKP 00 50 19.1 +1.0
baz=49,slow=1.9
BIGH Upper Bighouse 123.37 346 *e*P PKPdf 00 50 17.6 -0.2
PBCC Pribram 123.38 329 *e*PKPDF PKiKP 00 50 18.9 +0.5
CONA Conrad Observa 123.45 327 *i* P PKPdf 00 50 18.5 0.0
comp=Z,10nm,0.8s,SNR=7.9
NEUB Neuenburg 123.48 332 *e*PKPdf PKiKP 00 50 18.8 +0.3
baz=49,slow=1.9
RETH Rethem/Aller, 123.52 334 *e*PKPdf PKiKP 00 50 19.3 +0.8
baz=49,slow=1.9
BBLS Lazići 123.58 321 ⇓*i*P PKiKP 00 50 19.6 +0.5
TANN Tannenbergstha 123.67 331 *e*PKPdf PKiKP 00 50 19.6 +0.6
baz=49,slow=1.9

CLZ Clausthal 123.70 333 *e*PKPdf PKiKP 00 50 19.8 +0.8
baz=49,slow=1.9
RUDO Rudo 123.73 321 *e*P PKPdf 00 50 17.0 -2.0
CKRC Cesky Krumlov 123.75 328 *e*PKPDF PKiKP 00 50 19.2 0.0
CKRC *ep*PKP pPKPdf 00 50 30.9 -3.0
GUNZ Gunzen 123.77 331 *e*PKPdf PKiKP 00 50 19.9 +0.7
baz=49,slow=1.9
PLN Plauen 123.78 331 *e*PKPdf PKiKP 00 50 19.7 +0.5
baz=49,slow=1.9
BEHE Becsehely 123.78 325 *e*P PKiKP 00 50 20.1 +0.8
NKC Novy Kostel 123.80 331 *e*PKIKP PKiKP 00 50 20.0 +0.8
NKC Novy Kostel 123.80 331 *e*PKPDF PKiKP 00 50 20.0 +0.8
WERN Wernitzgruen 123.80 331 *e*PKPdf PKiKP 00 50 19.9 +0.7
baz=49,slow=1.9
MOX Moxa 123.93 331 *e*PKPdf PKiKP 00 50 20.0 +0.5
baz=49,slow=1.9
MOX *e*L L 01 44 29.2
comp=Z,361nm,22.0s
KHC Kasperske Hory 123.94 329 *e*PKIKP PKiKP 00 50 19.6 0.0
KHC *e* 00 50 30.1
KHC Kasperske Hory 123.94 329 *e*PKPDF PKiKP 00 50 19.6 0.0
KHC *ex* x 00 50 30.1
KHC Kasperske Hory 123.94 329 PKPdf PKiKP 00 50 19.8 +0.3
LINV Loch Inver, As 123.99 346 *e*P PKPdf 00 50 18.3 -0.7
OHR Ohrid 124.00 318 *i* P PKiKP 00 50 21.7 +1.7
ARSA Arzberg 124.04 326 *e*P PKiKP 00 50 20.1 +0.3
comp=Z,6.4nm,1.0s
GEC2 GERESS Array S 124.05 329 *e*PKPdf PKiKP 00 50 20.3 +0.4
baz=49,slow=1.9
GERES GERESS Array B 124.05 329 PKP PKiKP 00 50 19.9 0.0
comp=Z,7.1nm,0.7s,baz=54,slow=3.4,SNR=74
GTTG Gottingen 124.09 333 *e*PKPdf PKiKP 00 50 20.4 +0.7
baz=49,slow=1.9
MANZ Manzenberg 124.13 331 *e*PKPdf PKiKP 00 50 20.5 +0.6
baz=49,slow=1.9
ROTZ Rotzenmuhle 124.22 330 *e*PKPdf PKiKP 00 50 20.5 +0.5
baz=49,slow=1.9
UPM Unac-Piva 124.23 321 *e*P PKPdf 00 50 19.4 -0.8
WET Wettzell 124.28 329 *e*PKPdf PKiKP 00 50 20.9 +0.7
baz=49,slow=1.9
MOA Molln 124.36 327 *e*P PKiKP 00 50 20.6 +0.2
comp=Z,8.5nm,1.1s
LEWI Lewis, Hebride 124.37 347 *e*P PKPdf 00 50 19.5 -0.2
PDG Podgorica 124.39 320 ⇑P PKPdf 00 50 18.9 -1.4
PDG Podgorica 124.39 320 ⇓*i*P PKPdf 00 50 20.2 -0.1
BLY Banja Luka 124.49 323 ⇓*i*P PKiKP 00 50 20.9 +0.2
IBBN Ibbenburen 124.51 335 *e*PKPdf PKiKP 00 50 21.2 +0.7
baz=49,slow=1.9
DRME Dracevica, Mon 124.55 319 *e*P PKPdf 00 50 20.6 0.0
PAL Palisades 124.55 42 IAMs_20 IAMs_20 01 44 20.6
comp=Z,649nm,19.0s
BRY Bratogost 124.61 320 *e*P PKPdf 00 50 19.9 -1.0
SOKA Soboth 124.64 326 *i* P PKPdf 00 50 20.6 -0.2
comp=Z,16nm,1.1s,SNR=9.7
GRF Grafenberg Arr 124.75 331 *e*PKPdf PKiKP 00 50 21.7 +0.6
baz=49,slow=1.9
GRF *e*L L 01 52 17.8
comp=Z,323nm,20.5s
GRFO Grafenberg 124.75 331 PKIKP PKiKP 00 50 22.0 +0.9
GRFO Grafenberg 124.75 331 PKiKP 00 50 21.9 +0.9
BIOA Bad Ischl, Aus 124.80 328 *e*P PKiKP 00 50 21.6 +0.3
comp=Z,16nm,1.2s
KPL Plockton 124.82 346 *e*P PKPdf 00 50 20.1 -0.5
TREB Trebinje 124.83 320 *e*P PKPdf 00 50 20.7 -0.4
WSPT Westport, CT 124.86 42 IAMs_20 IAMs_20 01 43 40.7
comp=Z,778nm,20.0s
HCY Herceg Novi 124.87 320 *e*P PKPdf 00 50 20.7 -0.5
CRES Cresnjev 124.90 325 ⇓*i*P PKiKP 00 50 21.4 -0.1
OBKA Obir 125.01 326 *e*P PKiKP 00 50 22.0 +0.1
comp=Z,11nm,1.1s
KASTN Kahler Asten 125.02 334 *e*PKPdf PKiKP 00 50 22.2 +0.6
baz=49,slow=1.9
RJOB Jochberg 125.22 328 *e*PKPdf PKPdf 00 50 22.0 +0.2
baz=49,slow=1.9
ESY Stoneypath 125.29 343 *e*P PKiKP 00 50 21.9 -0.1
LJU Ljubljana 125.30 326 *e*P PKPdf 00 50 21.9 0.0
KBA Koelnbreinsper 125.33 327 *i* P PKPdf 00 50 22.0 -0.2
comp=Z,13nm,0.9s,SNR=6.7
CO03 El Pedregal 125.33 133 PKiKP 00 50 23.3 +0.3
BUG Bochum--Univer 125.35 334 *e*PKPdf PKiKP 00 50 22.6 +0.5
baz=49,slow=1.9
EDI Edinburgh 125.44 344 *e*P PKiKP 00 50 22.1 -0.2
MYKA Terra Mystica 125.44 327 *e*P PKPdf 00 50 21.7 -0.6
comp=Z,6.3nm,0.6s
EBL Broad Law 125.53 344 *e*P PKPdf 00 50 22.0 -0.1
CEY Cerknica 125.54 325 *e*P PKPdf 00 50 22.3 -0.1
TNS Taunus Mts 125.70 333 *e*PKPdf PKiKP 00 50 23.5 +0.5
baz=49,slow=1.9
FUR Furstenfeldbru 125.73 329 *e*PKPdf PKiKP 00 50 23.5 +0.4
baz=49,slow=1.9
LAWE Loch Awe, Argy 125.73 345 *e*P PKPdf 00 50 22.3 -0.1
SKDS Skadanscina 125.88 325 ⇓*i*P PKPdf 00 50 22.8 -0.3
ABTA Abfaltersbach 125.98 327 *i* P PKPdf 00 50 23.4 +0.1
comp=Z,28nm,1.0s,SNR=9.3
EDMD Edmundbyers 126.03 342 *e*P PKPdf 00 50 23.0 -0.1
AHRW Bad Neuenahr-A 126.09 334 *e*PKPdf PKiKP 00 50 24.3 +0.6
baz=49,slow=1.9
WATA Wanderalm 126.11 328 *i* P PKiKP 00 50 24.2 +0.1
comp=Z,22nm,0.9s,SNR=8.8
WTTA Wattenberg 126.12 328 *i* P PKiKP 00 50 24.6 +0.5
comp=Z,42nm,1.0s,SNR=18
MOTA Moosalm 126.35 329 *i* P PKiKP 00 50 24.9 +0.4
comp=Z,39nm,1.2s,SNR=12
STU Stuttgart 126.36 331 PKIKP PKiKP 00 50 24.6 +0.3
STU Stuttgart 126.36 331 PKiKP 00 50 24.6 +0.3
STU Stuttgart 126.36 331 *e*PKPdf PKiKP 00 50 24.6 +0.3
baz=49,slow=1.9
SQTA Sankt Quirin 126.38 328 *i* P PKiKP 00 50 25.1 +0.5
comp=Z,32nm,1.1s,SNR=13
RETA Reutte 126.43 329 *e*P PKiKP 00 50 24.7 +0.1
comp=Z,13nm,1.1s
NEWG New Galloway 126.44 344 *e*P PKPdf 00 50 22.9 -0.8
BTNL Ternell 126.47 334 *d*PKiKP PKPdf 00 50 24.2 +0.1
MEM Membach 126.50 334 *d*PKiKP PKiKP 00 50 24.6 +0.1
UBR Ueberruh 126.64 330 *e*PKPdf PKiKP 00 50 25.0 0.0
baz=49,slow=1.9
HPK Haverah Park 126.67 342 *e*P PKiKP 00 50 24.8 +0.1
BHOU Houvegnez 126.69 334 *d*PKiKP PKiKP 00 50 25.2 +0.3
BSTI Sart Tilman 126.71 335 *d*PKiKP PKiKP 00 50 25.4 +0.5
FETA Feichten 126.75 329 *i* P PKiKP 00 50 25.6 +0.2
comp=Z,34nm,1.1s,SNR=15
GAL1 Galloway 126.79 344 *e*P PKPdf 00 50 24.4 0.0
BCLA Clavier 126.94 335 *d*PKiKP PKPdf 00 50 25.1 +0.2
DAVA Damuels 127.02 329 *i* P PKiKP 00 50 25.8 -0.1
comp=Z,20nm,0.9s,SNR=9.0
BGES Gesves 127.06 335 *d*PKiKP PKPdf 00 50 25.4 +0.2
BFO Black Forest 127.08 331 PKIKP PKPdf 00 50 25.4 +0.1
BFO Black Forest 127.08 331 PKPdf PKPdf 00 50 25.4 +0.1
BFO Black Forest 127.08 331 *e*PKPdf PKiKP 00 50 25.7 -0.1
baz=49,slow=1.9
WLF Walferdange 127.13 334 *e*PKPdf PKiKP 00 50 26.9 +1.1
baz=49,slow=1.9
WLF Walferdange 127.13 334 *d*PKiKP PKiKP 00 50 26.5 +0.6
RCHB Rochefort 127.17 335 *d*PKP PKPdf 00 50 25.2 -0.1
RCHB *d*PKiKP PKiKP 00 50 25.9 0.0
BMRD Maredsous 127.26 335 *d*PKiKP PKiKP 00 50 26.1 +0.1
SNF Seneffe 127.30 335 *d*PKiKP PKiKP 00 50 26.3 +0.2
DAVOX Davos/Dischmat 127.35 329 PKP PKiKP 00 50 26.8 +0.1
comp=Z,20nm,0.8s,baz=168,slow=1.8,SNR=4.0
WIM Isle of Man 127.41 344 *e*P PKiKP 00 50 26.3 0.0
DOU Dourbes 127.49 335 *d*PKiKP PKiKP 00 50 26.6 +0.1
CWF Charnwood Fore 127.60 341 *e*P PKiKP 00 50 26.6 0.0
ECH Echery 127.72 332 PKIKP PKPdf 00 50 26.1 -0.4
ECH Echery 127.72 332 PKPdf 00 50 26.1 -0.4
WME Myndd Eilian 127.97 343 *e*P PKiKP 00 50 27.9 +0.5
FOEL Foel Wlyfa 128.08 342 *e*P PKiKP 00 50 28.0 +0.3
AQU L'Aquila 128.10 322 ⇓*i*P PKiKP 00 50 28.2 +0.1
HLM1 Longlynd 128.30 341 *e*P PKiKP 00 50 28.2 +0.1
MTDJ Mount Denham 128.78 70 IAMs_20 IAMs_20 01 38 30.2
comp=Z,720nm,19.0s
ZARC Zaragoza, Cauc 132.28 84 PKPdf 00 50 34.6 -1.5
LPAZ La Paz 134.26 118 PKP PKPdf 00 50 39.1 -1.5
comp=Z,2.4nm,0.7s,baz=190,slow=3.1,SNR=4.6
LPAZ SKPbc SKPbc 00 54 07.5 +1.2
comp=Z,7.5nm,1.1s,baz=298,slow=2.6,SNR=9.2
LPAZ La Paz 134.26 118 PKPdf PKPdf 00 50 40.6 +0.1
KEST Kesra 134.46 318 PKP PKPdf 00 50 40.2 +0.5
comp=Z,4.9nm,0.7s,baz=157,slow=1.0,SNR=8.1
KEST SKPbc SKPbc 00 54 07.2 +1.5
comp=Z,14nm,1.0s,baz=308,slow=3.7,SNR=5.9
SDV Santo Domingo 136.42 82 PKPdf PKPdf 00 50 43.8 -0.3
SDV Santo Domingo 136.42 82 *e*P PKPdf 00 50 43.9 -0.3
CPUP Villa Florida 137.41 138 PKP PKPdf 00 50 45.5 +0.1
comp=Z,4.1nm,0.9s,baz=279,slow=1.5,SNR=6.2
PGAV Gavieira, Arco 139.26 339 *e*PKPdf PKPdf 00 50 49.4 +0.9

ESDC Sonseca Array 139.40 332 PKhKP PKPpre 00 50 43.5
comp=Z,1.2nm,0.8s,baz=22,slow=2.5,SNR=7.4
MVO Moncorvo 139.48 337 *e*PKPdf PKiKP 00 50 50.3 -0.9
POLO Lamas de Olo 139.60 338 *e*PKPdf PKPdf 00 50 50.0 +0.9
MTE Manteigas 140.34 337 *e*PKPdf PKPdf 00 50 51.4 +1.0
MTE Manteigas 140.34 337 PKPdf PKPdf 00 50 51.1 +0.7
PCBR Castelo Branco 140.79 336 *e*PKPdf PKiKP 00 50 52.8 -1.0
PCAS Casmilo, Conde 141.01 337 *e*PKPdf PKPdf 00 50 51.1 -0.5
PMRV Marv??o 141.10 336 *e*PKPdf PKPdf 00 50 46.4 -5.4
PMTG Montargil 141.75 336 *e*PKPdf PKiKP 00 50 56.6 +0.8
PBAR Barrancos 142.01 334 *e*PKPdf PKPdf 00 50 54.5 +1.1
EVO Evora 142.12 336 *e*PKPdf PKPdf 00 50 49.5 -4.1
PNCL Nicolau / Gran 142.69 336 *e*PKPdf PKPdf 00 50 50.7 -3.9
PCVE Castro Verde 142.89 335 *e*PKPdf PKPdf 00 50 54.9 -0.1
MORF Marmelete 143.43 335 *e*PKPdf PKPbc 00 50 52.9 -0.3
PCMB Pacaembu 144.67 138 *e*P PKPab 00 50 57.2 -0.1
MDT Midelt 145.06 326 PKPbc PKPdf 00 50 58.9 -0.2
comp=Z,24nm,1.0s,baz=68,slow=3.6,SNR=39
MACA Manacapuru-AM 145.40 102 *e*P PKPbc 00 50 57.8 -2.2
AVE Averroes 146.17 330 P PKPab 00 51 02.7 +0.2
BOAV Boa Vista 146.40 93 *e*P PKPdf 00 51 01.4 -0.3
ITRB Iturama 146.60 137 *e*P PKPbc 00 51 02.8 -0.7
SRHM Skhour des Reh 147.07 330 P PKPab 00 51 06.1 -0.1
TZRR Tazzarine 147.11 325 P PKPbc 00 51 05.0 +0.2
CLDB Colider 147.40 118 *e*P PKPdf 00 51 04.3 +0.9
OUZM OUZ 147.69 326 P PKPbc 00 51 07.1 +0.7
MAN01 Angra dos Reis 148.00 149 *e*P PKPdf 00 51 05.8 +1.5
OUK Oukaimeden 148.06 328 P PKPab 00 51 10.0 -0.4
ARAG Araguaiana, MT 148.14 130 *e*P PKPdf 00 51 05.3 +0.8
DUB01 Friburgo-RJ 149.45 151 *e*P PKPdf 00 51 07.3 +0.7
CAM01 Campos-RJ 150.01 152 *e*P PKPdf 00 51 08.4 +1.0
PMPS Porto Santo 150.04 342 *e*PKPdf PKiKP 00 51 14.0 +1.0
TOA0 Torodi Ar. Sit 150.51 289 PKPdf PKPdf 00 51 07.9 -0.5
TOA0 PKPbc PKPbc 00 51 13.1 -0.6
TORD Torodi Ar. Bea 150.51 289 PKP PKPdf 00 51 09.9 +1.5
comp=Z,52nm,0.8s,baz=4.5,slow=2.4,SNR=183
TORD PKPbc PKPbc 00 51 13.1 -0.7
comp=Z,52nm,0.8s,baz=67,slow=2.2,SNR=190
TORD Torodi Ar. Bea 150.51 289 PKPdf 00 51 07.9 -0.5
TORD PKPbc 00 51 13.4 -0.4
PMAR Madeira 150.53 343 *e*PKPdf PKiKP 00 51 14.7 +0.4
BDFB Brasilia 150.99 134 PKP PKPdf 00 51 10.8 +1.5
comp=Z,13nm,0.6s,baz=167,slow=5.6,SNR=7.2
BDFB PKPbc PKPbc 00 51 14.7 -0.3
comp=Z,25nm,0.6s,baz=313,slow=0.7,SNR=26
ALF01 Guarapari-ES 151.49 152 *e*P PKPdf 00 51 10.6 +0.9
DIAM Diamantina, MG 151.87 145 *e*P PKPdf 00 51 11.2 +0.7
MALB Monte Alegre 151.94 103 *e*P PKPdf 00 51 11.1 +0.5
RIB01 Linhares ES 152.76 151 *e*P PKPdf 00 51 12.9 +1.2
PEXB Peixe 153.02 128 *e*P PKPdf 00 51 13.7 +1.5
MCPB Macapa, AP 154.42 101 *e*P PKPdf 00 51 15.2 +0.9
SMTB Santa Maria do 155.43 123 *e*P PKPdf 00 51 16.1 +0.5
NBIT Itapeh - BA 156.95 148 *e*P PKPdf 00 51 18.2 +0.7
DBIC Dimbokro 157.94 276 PKPab PKPab 00 51 52.2 +0.1
comp=Z,15nm,0.6s,baz=88,slow=5.4,SNR=12
DBIC Dimbokro 157.94 276 PKIKP PKPdf 00 51 20.0 +1.2
DBIC 00 51 52.2
DBIC Dimbokro 157.94 276 PKPdf PKPdf 00 51 20.0 +1.2
DBIC Dimbokro 157.94 276 pPKPab pPKPab 00 52 01.8 -5.0

MDD ***18*** *00:52:43.9±0.5, 35°.80N×4°.71W, h92km±7km, Mb2.4/16, M_mb1.4/16 Error ellipse: s-maj=4.2km s-min=2.7km az=170.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
SFS ***18*** *00:52:43.0, 35°.75N×4°.70W, ML3.4, MAR DE ALBORAN*
CNRM ***18*** *00:52:44.2, 35°.62N×4°.72W, h110km, ml2.1*
IGIL ***18*** *00:52:44.5, 35°.76N×4°.79W, h20km, ML2.9*
ISC 18 00:52:41.7±1.3, 35°.82N±0°.03×4°.65W±0°.03, h111km±7km, n32, σ1°.93/63, 15C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.59**	**278**	P		Pn		**00 52 58.8**	**-0.5**
CEU				S		Sn		00 53 10.2	-2.2
SMIR	**Smir Dam**	**0.61**	**257**	P		Pn		**00 53 00.9**	**+1.6**
SMIR				S		Sn		00 53 14.6	+1.9
PVLZ	**Peæn de**	**0.71**	**156**	P		Pn		**00 52 59.6**	**-0.6**
PVLZ				S		Sn		00 53 09.8	-4.4
EMIJ	**Mijas**	**0.75**	**353**	P		Pn		**00 53 00.2**	**-0.4**
EMIJ				⇑*i*Vmb_V				00 53 00.6	
	649nm,SNR=9.0								
EMIJ				S		Sn		00 53 11.8	-3.0
PALE	**Palemas**	**0.84**	**136**	P		Pn		**00 53 01.5**	**+0.1**
PALE				S		Sn		00 53 16.0	-0.3
CHEFC	**Chefchaouen**	**0.91**	**218**	P		Pn		**00 53 04.0**	**+1.9**
CHEFC				S		Sn		00 53 18.8	+1.2
EJIF	**Jimena Fronter**	**0.91**	**314**	P		Pn		**00 53 04.0**	**+2.0**
EJIF				S		Sn		00 53 19.1	+1.7
EMAL	**Malaga-Limoner**	**0.95**	**11**	P		Pn		**00 53 02.9**	**+0.4**
EMAL				S		Sn		00 53 16.4	-1.8
EALB	**Alboran**	**1.32**	**84**	P		Pn		**00 53 06.6**	**+0.2**
EALB				⇑*i*Vmb_V				00 53 08.9	
	684nm,SNR=2.7								
EALB				S		Sn		00 53 23.6	-1.6
ELGU	**Los Guajares,**	**1.33**	**38**	P		Pn		**00 53 07.1**	**+0.5**
ELGU				⇑*i*Vmb_V				00 53 07.4	
	1µm,SNR=13								
ELGU				S		Sn		00 53 24.3	-1.3
EGOR	**Sierra Gorda,**	**1.36**	**19**	P		Pn		**00 53 09.4**	**+2.4**
EGOR				S		Sn		00 53 28.1	+1.8
ESPR	**Espera**	**1.43**	**317**	P		Pn		**00 53 09.2**	**+1.6**
ESPR				⇑*i*Vmb_V				00 53 11.8	
	243nm,SNR=3.1								
ESPR				S		Sn		00 53 26.3	-1.1
AKLM	**AKL**	**1.46**	**153**	P		Pn		**00 53 09.0**	**+0.8**
AKLM				S		Sn		00 53 27.9	-0.3
GOG	**Mont Gurugu**	**1.48**	**113**	P		Pn		**00 53 11.0**	**+2.6**
GOG				S		Sn		00 53 31.3	+2.6
EBER	**Berja**	**1.78**	**52**	P		Pn		**00 53 13.3**	**+1.1**
EBER				⇑*i*Vmb_V				00 53 21.4	
	183nm,SNR=1.3								
EBER				S		Sn		00 53 35.2	-0.2
LCRM	**LCR**	**2.14**	**185**	P		Pn		**00 53 17.1**	**+0.5**
LCRM				S		Sn		00 53 42.1	-1.2
ENIJ	**Nijar**	**2.28**	**59**	P		Pn		**00 53 19.4**	**+1.1**
ENIJ				⇑*i*Vmb_V				00 53 20.1	
	258nm,SNR=1.9								
ENIJ				S		Sn		00 53 46.1	-0.3
ECAB	**El Cabril**	**2.33**	**345**	P		Pn		**00 53 20.1**	**+1.2**
ECAB				⇑*i*Vmb_V				00 53 21.1	
	89nm,SNR=1.7								
ECAB				S		Sn		00 53 46.6	-0.9
EADA	**Adamuz**	**2.34**	**1**	P		Pn		**00 53 20.6**	**+1.6**
EADA				⇑*i*Vmb_V				00 53 21.4	
	371nm,SNR=5.2								
EADA				S		Sn		00 53 47.2	-0.6
EQES	**Quesada**	**2.35**	**32**	P		Pn		**00 53 21.2**	**+1.9**
EQES				⇑*i*Vmb_V				00 53 22.5	
	155nm,SNR=2.7								
EQES				S		Sn		00 53 48.7	+0.6
EMIN	**Mina Concepcio**	**2.53**	**321**	⇑*i*Vmb_V				00 53 22.9	
	332nm,SNR=4.9								

EPLA				⇑*i*Vmb_V			00 53 56.7	
	comp=N,99nm,SNR=1.4							
EPLA				S		**Sn**	**00 54 34.0**	**-2.2**
ECHE	**Chera**	**4.76**	**37**	P		**Pn**	**00 53 53.5**	**+2.2**
ECHE				S		**Sn**	**00 54 38.6**	**-6.8**
ETOR	**Torete**	**5.39**	**21**	P		**Pn**	**00 54 01.4**	**+1.6**
ETOR				S		**Sn**	**00 54 57.8**	**-2.9**

*MDD **18** 01:10:04.5±0.4,35°.54N×3°.79W, h1^{km}±2^{km}, mb_Lg2.6/19, Error ellipse: s-maj=2.9km s-min=2.1km az=177.0*
*SFS **18** 01:10:04.0,35°.55N×3°.79W, ML2.7, ALBORAN SUR*
*CNRM **18** 01:10:04.3,35°.50N×3°.83W, h4^{km}, ml2.9*
*IGIL **18** 01:10:05.3,35°.56N×3°.80W, h5^{km}, ML2.6*

ISC 18 01:10:03.9±1.0,**35°.52N**±0°.03×**3°.82W**±0°.02,**h16**^{km}±9^{km}, **n39**,σ1°**26**/68,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.32**	**198**	P	**Pg**	**01 10 10.1**	**-0.6**
PVLZ	**Peæn de**	**0.53**	**229**	P	**Pg**	**01 10 14.7**	**+0.3**
PVLZ				S	**Sg**	**01 10 22.1**	**+0.6**
GOG	**Mont Gurugu**	**0.73**	**114**	P	**Pg**	**01 10 18.0**	**-0.3**
EMEL	**Melilla**	**0.74**	**107**	Pg	**Pg**	**01 10 17.9**	**-0.4**
EMEL				Sg	**Sb**	**01 10 28.1**	**-0.2**
EALB	**Alboran**	**0.76**	**57**	Pg	**Pb**	**01 10 18.8**	**+0.1**
EALB				Sg	**Sb**	**01 10 28.6**	**-0.3**
EALB				*i* Vmb_Lg		01 10 33.1	
SMIR	**Smir Dam**	**1.28**	**277**	P	**Pn**	**01 10 28.0**	**+0.7**
EMIJ	**Mijas**	**1.29**	**324**	Pg	**Pn**	**01 10 27.7**	**+0.2**
EMIJ				Sg	**Sn**	**01 10 46.4**	**+1.9**
EMIJ				*i* Vmb_Lg		01 10 53.1	
CHEFC	**Chefchaouen**	**1.31**	**252**	P	**Pb**	**01 10 29.0**	**+0.7**
CEU	**Ceuta**	**1.32**	**287**	P	**Pn**	**01 10 25.9**	**-1.9**
CEU				S	**Sb**	**01 10 40.1**	**-5.0**
EMAL	**Malaga-Limoner**	**1.33**	**338**	P	**Pn**	**01 10 28.1**	**+0.2**
EMAL				S	**Sb**	**01 10 45.7**	**+0.4**
ELGU	**Los Guajares,**	**1.35**	**6**	Pg	**Pn**	**01 10 27.9**	**-0.4**
ELGU				Sg	**Sb**	**01 10 45.9**	**-0.2**
ELGU				*i* Vmb_Lg		01 10 50.5	
TAF	**Taforalt**	**1.35**	**121**	P	**Pg**	**01 10 30.0**	**+0.1**
EBER	**Berja**	**1.56**	**28**	Pn	**Pn**	**01 10 30.5**	**-0.7**
EBER				Sn	**Sn**	**01 10 50.8**	**-0.5**
EBER				*i* Vmb_Lg		01 10 59.0	
JBK	**JBK**	**1.57**	**139**	P	**Pn**	**01 10 32.0**	**+0.6**
JBK				S	**Sg**	**01 10 55.0**	**+0.4**
EGOR	**Sierra Gorda,**	**1.60**	**352**	Pn	**Pn**	**01 10 32.7**	**+0.9**
EGOR				Sn	**Sn**	**01 10 52.1**	**-0.1**
EGOR				*i* Vmb_Lg		01 10 59.4	
EJIF	**Jimena Fronter**	**1.63**	**305**	Pn	**Pn**	**01 10 33.3**	**+1.3**
EJIF				Sn	**Sn**	**01 10 52.5**	**-0.2**
EQUE	**Quentar**	**1.71**	**10**	Pn	**Pn**	**01 10 33.9**	**+0.8**
EQUE				Sn	**Sn**	**01 10 53.9**	**-0.8**
EQUE				*i* Vmb_Lg		01 11 09.0	
ENIJ	**Nijar**	**1.94**	**42**	Pn	**Pn**	**01 10 37.0**	**+0.6**
ENIJ				Sn	**Sn**	**01 11 00.6**	**+0.1**
ENIJ				*i* Vmb_Lg		01 11 01.6	
LCRM	**LCR**	**2.02**	**205**	P	**Pb**	**01 10 41.0**	**+0.5**
ESPR	**Espera**	**2.13**	**310**	Pn	**Pn**	**01 10 40.2**	**+1.4**
ESPR				Pg	**Pb**	**01 10 43.0**	**+0.9**
ESPR				Sn	**Sn**	**01 11 05.9**	**+1.0**
ESPR				Sg	**Sg**	**01 11 11.3**	**-1.0**
ESPR				*i* Vmb_Lg		01 11 13.4	
IFR	**Ifrane**	**2.28**	**209**	P	**Pn**	**01 10 41.0**	**-0.1**
IFR				S	**Sn**	**01 11 08.2**	**-0.7**
EQES	**Quesada**	**2.35**	**15**	Pn	**Pb**	**01 10 44.5**	**-1.6**
EQES				Sn	**Sn**	**01 11 10.6**	**-0.1**
EQES				*i* Vmb_Lg		01 11 27.3	
CZD	**Col de Zad**	**2.69**	**203**	P	**Pn**	**01 10 48.0**	**+1.2**
EADA	**Adamuz**	**2.71**	**347**	Pn	**Pn**	**01 10 48.7**	**+1.8**
EADA				Sn	**Sn**	**01 11 20.4**	**+1.1**
EADA				*i* Vmb_Lg		01 11 32.7	
MDT	**Midelt**	**2.78**	**194**	P	**Pn**	**01 10 49.0**	**+1.0**
ECAB	**El Cabril**	**2.85**	**334**	Pn	**Pn**	**01 10 51.0**	**+2.1**
ECAB				Sn	**Sn**	**01 11 22.6**	**-0.3**
ECAB				*i* Vmb_Lg		01 11 38.2	
EZAR	**Zarzadilla de**	**2.90**	**35**	Pn	**Pn**	**01 10 50.0**	**+0.4**
EZAR				Sn	**Sn**	**01 11 22.5**	**-1.7**
EMIN	**Mina Concepcio**	**3.21**	**315**	Pn	**Pn**	**01 10 54.6**	**+0.9**
EMIN				Sn	**Sn**	**01 11 32.8**	**+1.2**
EMIN				*i* Vmb_Lg		01 11 40.3	
EGRO	**El Granado**	**3.57**	**305**	Pn	**Pn**	**01 10 59.6**	**+0.9**
EGRO				Sn	**Sn**	**01 11 40.3**	**-0.3**
EGRO				*i* Vmb_Lg		01 11 44.7	
ETOB	**Tobarra**	**3.60**	**30**	Pn	**Pn**	**01 11 01.1**	**+1.9**
ETOB				Sn	**Sn**	**01 11 40.7**	**-0.9**
ETOB				*i* Vmb_Lg		01 11 51.0	
PVAQ	**Vaqueiros**	**3.66**	**302**	P	**Pn**	**01 11 01.0**	**+1.0**
PAB	**San Pablo**	**4.04**	**354**	P	**Pn**	**01 11 07.7**	**+2.5**
PAB	**San Pablo**	**4.04**	**354**	Pn	**Pn**	**01 11 07.2**	**+2.0**
PAB				Sn	**Sn**	**01 11 52.7**	**+0.5**
PAB				*i* Vmb_Lg		01 11 57.6	
EBAD	**Badajoz**	**4.11**	**323**	Pn	**Pn**	**01 11 08.4**	**+2.3**
EBAD				Sn	**Sn**	**01 11 53.9**	**-0.1**
EBAD				*i* Vmb_Lg		01 12 00.2	
ESDC	**Sonseca Array**	**4.14**	**358**	Pn	**Pn**	**01 11 09.0**	**+2.3**
ESDC				Sn	**Sn**	**01 11 54.6**	**-0.2**
MORF	**Marmelete**	**4.29**	**296**	*e*P	**Pn**	**01 11 09.3**	**+0.8**
MORF				*e*S	**Sn**	**01 11 56.1**	**-2.2**
MORF				IAML		01 12 04.6	
	comp=N,11nm,0.8s						
ECHE	**Chera**	**4.65**	**28**	Pn	**Pn**	**01 11 13.7**	**+0.1**
EPLA	**Plasencia**	**4.87**	**339**	Pn	**Pn**	**01 11 18.1**	**+1.5**
EPLA				Sn	**Sn**	**01 12 12.0**	**-0.7**
ETOR	**Torete**	**5.46**	**14**	Pn	**Pn**	**01 11 26.1**	**+1.3**

*IDC **18** 01:16:14.3±1.7,20°.78S×179°.00W, h604^{km}±18^{km}, mb3.2/11, mb1 3.5/13, mb1mx3.4/23, mbtmp4.1/13, Error ellipse: s-maj=25.4km s-min=15.9km az=141.0*

ISC 18 01:16:14.1±0.8,**20°.8S**±0°.2×**179°.0W**±0°.1,**h600**^{km},**n17**, σ1°**09**/17,**mb3.8**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.17**	**317**	P	**P**	**01 17 42.2**	**+1.3**
	24nm,0.3s,baz=144,slow=13,SNR=189						
DZM	**Mont Dzumac**	**13.65**	**262**	P	**P**	**01 19 09.5**	**-0.1**
	0.4nm,0.3s,baz=99,slow=19,SNR=2.3						
STKA	**Stephens Creek**	**36.84**	**244**	P	**P**	**01 22 32.8**	**-0.3**
	1.8nm,0.5s,baz=347,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**43.58**	**257**	P	**P**	**01 23 26.4**	**-0.3**
	3.3nm,0.5s,baz=96,slow=7.7,SNR=46						
ASAR				ScP	**ScP**	**01 27 57.1**	**+1.3**
	0.2nm,0.4s,baz=98,slow=4.5,SNR=8.2						
WRA	**Warramunga Arr**	**43.67**	**263**	P	**P**	**01 23 26.8**	**-0.8**
	1.4nm,0.3s,baz=97,slow=7.3,SNR=152						
VNDA	**Vanda**	**57.52**	**185**	P	**P**	**01 25 06.9**	**0.0**
	0.4nm,0.5s,baz=349,slow=6.5,SNR=5.7						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	**01 26 25.6**	**-0.7**
	1.7nm,0.5s,baz=142,slow=6.1,SNR=1.7						
PETK	**Petropavlovsk-**	**76.35**	**346**	P	**P**	**01 27 02.3**	**-0.1**
	2.4nm,0.6s,baz=163,slow=5.6,SNR=1.9						
NVAR	**Mina Array Bea**	**81.87**	**44**	P	**P**	**01 27 32.5**	**+0.4**
	0.2nm,0.3s,baz=224,slow=6.2,SNR=3.6						
TXAR	**Lajitas Array**	**87.98**	**58**	P	**P**	**01 28 01.8**	**+0.1**
	0.6nm,0.8s,baz=221,slow=5.3,SNR=8.8						
ILAR	**Eielson Array**	**88.82**	**13**	P	**P**	**01 28 03.5**	**-1.2**
	0.4nm,0.5s,baz=217,slow=5.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**01 28 09.4**	**+1.0**
	1.6nm,0.3s,baz=141,slow=3.1,SNR=5.5						
PDAR	**Pinedale Array**	**89.81**	**44**	P	**P**	**01 28 10.3**	**+0.2**
	0.2nm,0.6s,baz=243,slow=6.0,SNR=2.7						
AKASG	**Malin Array Be**	**142.85**	**330**	PKhKP	PKPpre	01 34 36.4	
	3.3nm,0.4s,baz=42,slow=4.5,SNR=19						
BRTR	**Keskin Array B**	**146.38**	**311**	PKPbc	**PKPdf**	**01 34 47.8**	**+1.1**
	0.8nm,0.6s,baz=132,slow=5.5,SNR=5.0						
GERES	**GERESS Array B**	**150.25**	**343**	PKPbc	**PKPbc**	**01 34 55.8**	**-2.6**
	0.1nm,0.3s,baz=350,slow=31,SNR=2.4						
ESDC	**Sonseca Array**	**160.72**	**12**	PKP	**PKPdf**	**01 35 07.7**	**+1.2**
	0.3nm,0.6s,baz=347,slow=5.3,SNR=2.5						

*NEIC **18** 02:01:43.1±0.4,51°.6N±0°.2×179°.96W±0°.09, h67^{km}±9^{km}, mb4.0/11, ML3.4/18(AEIC), Error ellipse: s-maj=33.5km s-min=3.6km az=166.0*
*AEIC **18** 02:01:43.1±1.0,51°.6N±0°.2×179°.8W±0°.2, h70^{km}±6^{km}, Error ellipse: s-maj=30.3km s-min=12.0km az=166.0*
*IDC **18** 02:01:43.0±4.0,51°.58N×179°.90W, h68^{km}±34^{km}, mb3.3/7, mb1 3.7/9, mb1mx3.4/50, mbtmp3.7/9, ML3.9/2, Error ellipse: s-maj=56.3km s-min=16.4km az=1.0*

ISC 18 02:01:40.5±1.3,**51°.3N**±0°.2×**180°.00W**±0°.05,**h50**^{km},**n41**, σ1°**44**/38,**mb3.9**/11,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.89**	**59**		**Pn**	**02 01 58.6**	**+1.9**
GAEA	**Gareloi East**	**0.91**	**59**		**Pn**	**02 01 58.9**	**+1.9**
TAFP	**Tanaga Falls P**	**1.39**	**64**		**Pn**	**02 02 04.9**	**+1.4**
TAFP					**Sn**	**02 02 21.4**	**+0.8**
TAPA	**Tanaga Point A**	**1.45**	**69**		**Pn**	**02 02 06.1**	**+1.7**
KIMD	**Kanaga Island**	**1.78**	**74**		**Pn**	**02 02 10.6**	**+1.8**
KICM	**Kanaga Island**	**1.85**	**70**		**Pn**	**02 02 12.0**	**+2.3**
KIKV	**Kanaga Island**	**1.85**	**71**		**Pn**	**02 02 11.4**	**+1.7**
KIWB	**Kanaga Island**	**1.86**	**72**		**Pn**	**02 02 11.5**	**+1.7**
ADK	**Adak**	**2.14**	**73**		**Pn**	**02 02 15.3**	**+1.6**
ADK					**Sn**	**02 02 40.1**	**+1.0**
GSCK	**Great Sitkin C**	**2.49**	**72**		**Pn**	**02 02 20.2**	**+1.7**
GSTD	**Great Sitkin T**	**2.51**	**71**		**Pn**	**02 02 20.1**	**+1.3**
GSTD					**Sn**	**02 02 49.3**	**+1.1**
GSMY	**Great Sitkin M**	**2.56**	**72**		**Pn**	**02 02 21.1**	**+1.6**
GSTR	**Great Sitkin T**	**2.57**	**71**		**Pn**	**02 02 21.1**	**+1.5**
ATKA	**Atka Island**	**3.71**	**74**		**Pn**	**02 02 36.9**	**+1.7**
KOFP	**Korovin Flat P**	**3.79**	**73**		**Pn**	**02 02 38.5**	**+2.2**
SHEM	**Shemya Is, Ala**	**3.91**	**294**	P	**Pn**	**02 02 38.7**	**+0.8**
	5.3nm,0.3s,baz=263,slow=16,SNR=2.2						
SHEM				S	**Sn**	**02 03 25.6**	**+3.0**
	7.0nm,0.3s,baz=146,slow=21,SNR=1.5						
KDAK	**Kodiak Island**	**17.09**	**57**	P	**Pn**	**02 05 33.5**	**-2.0**
	0.8nm,0.3s,baz=217,slow=2.7,SNR=11						
KTH	**Kantishna Hill**	**19.66**	**40**	P	**P**	**02 06 04.0**	**-0.9**
KTH				IAmb	IAmb	02 06 07.2	
	comp=Z,6.0nm,0.9s						
RND	**Reindeer**	**20.45**	**42**	P	**P**	**02 06 12.6**	**-0.9**
RND				IAmb	IAmb	02 06 27.1	
	comp=Z,11nm,1.4s						
NEA2	**Nenana**	**20.83**	**39**	P	**P**	**02 06 16.1**	**-1.4**
NEA2				IAmb	IAmb	02 06 18.2	
	comp=Z,4.6nm,0.6s						
COLD	**Coldfoot**	**21.70**	**32**	P	**P**	**02 06 27.1**	**+0.3**
ILAR	**Eielson Array**	**21.77**	**39**	P	**P**	**02 06 26.2**	**-1.3**
	comp=Z,6.0nm,0.8s,baz=226,slow=7.3,SNR=6.5						
H11N2	**WAKE ISLAND Hy 33.17**	**203**		T	T	02 44 07.1	
	baz=16,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy 33.18**	**203**		T	T	02 44 07.5	
	baz=16,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy 33.19**	**203**		T	T	02 44 07.2	
	baz=16,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy 34.39**	**203**		T	T	02 45 18.2	
	baz=16,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 34.41**	**203**		T	T	02 45 37.6	
	baz=16,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy 34.41**	**203**		T	T	02 45 14.7	
	baz=16,slow=76,SNR=8.1						
YKA	**Yellowknife Ar**	**35.82**	**46**	P	**P**	**02 08 33.5**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=281,slow=7.2,SNR=12						
HLID	**Hailey**	**43.68**	**73**	P	**P**	**02 09 40.5**	**+0.1**
HLID				IAmb	IAmb	02 09 41.5	
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**44.30**	**82**	P	**P**	**02 09 45.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=295,slow=7.0,SNR=8.1						
ELK	**Elko**	**44.80**	**77**	P	**P**	**02 09 49.1**	**-0.4**
ELK				IAmb	IAmb	02 09 51.2	
	comp=Z,2.0nm,0.8s						
YHH	**Holmes Hill**	**45.11**	**70**	P	**P**	**02 09 51.0**	**-0.9**
YHH				IAmb	IAmb	02 09 52.2	
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**46.00**	**296**	P	**P**	**02 09 59.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=55,slow=9.1,SNR=3.8						
SONM	**Songino Array**	**46.00**	**296**	IAmb	IAmb	02 10 00.8	
	comp=Z,0.6nm,1.0s						
TPNV	**Topopah Spring**	**46.50**	**82**	P	**P**	**02 10 02.9**	**+0.1**
TPNV				IAmb	IAmb	02 10 06.8	
	comp=Z,2.7nm,0.9s						
PRN	**Pahroc Range**	**46.96**	**81**	P	**P**	**02 10 06.9**	**+0.6**
PD31	**Pinedale Array**	**47.04**	**71**	P	**P**	**02 10 07.0**	**-0.1**
PDAR	**Pinedale Array**	**47.04**	**71**	P	**P**	**02 10 06.8**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=322,slow=3.6,SNR=17						
TXAR	**Lajitas Array**	**59.41**	**80**	P	**P**	**02 11 37.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=300,slow=5.3,SNR=8.0						
MKAR	**Makanchi Array**	**59.48**	**308**	P	**P**	**02 11 36.9**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=56,slow=5.7,SNR=4.4						

IDC 18 02:16:41.5±8.8,**18°.99S**×178°.45W,**h589**^{km}±42^{km}, **mb3.1**/2,**mb1 3.3**/3,**mb1mx2.8**/29,**mbtmp3.9**/3,**Error ellipse: s-maj=250.9km s-min=101.8km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.56**	**290**	P	P	02 18 03.3	0.0
	2.2nm,0.3s,baz=162,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**44.41**	**261**	P	P	02 24 01.5	0.0
	1.2nm,0.5s,baz=97,slow=7.6,SNR=45						
ASAR	**Alice Springs**	**44.47**	**255**	P	P	02 24 01.6	-0.3
	2.1nm,0.7s,baz=92,slow=7.8,SNR=16						
AKASG	**Malin Array Be**	**141.50**	**332**	PKP	PKPdf	02 35 05.1	-1.2
	0.3nm,0.3s,baz=46,slow=3.7,SNR=6.1						

*THE **18** 02:29:29.7,37°.75N×19°.60E, h0^{km}±3^{km}, ML3.3/7, Error ellipse: s-maj=4.0km s-min=1.8km az=211.0*
*ATH **18** 02:29:29.3,37°.69N×19°.65E, h11^{km}±2^{km}, ML3.2/14, Error ellipse: s-maj=4.0km s-min=1.4km az=61.0*
*IDC **18** 02:29:36.7±10.0,38°.36N×20°.79E, h0^{km}, mb3.5/4, mb1 3.5/5, mb1mx3.4/42, mbtmp3.5/5, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/70, Error ellipse: s-maj=195.7km s-min=31.4km az=35.0*

ISC 18 02:29:29.9±1.9,**37°.75N**±0°.06×**19°.61E**±0°.06,**h7**^{km}±11^{km}, **n101**,σ1°**68**/114,**mb3.7**/4,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.74**	**52**	P	**Pg**	**02 29 43.8**	**-0.3**
KEF3				S	**Sg**	**02 29 54.1**	**+0.4**
KEF3	**Kipouria, Keph**	**0.74**	**52**	P	**Pg**	**02 29 43.9**	**-0.2**
KEF3				S	**Sb**	**02 29 54.3**	**-1.0**
	8µm,0.4s						
LXRA	**Lixouri, Kepha**	**0.79**	**56**	P	**Pg**	**02 29 44.3**	**-0.9**
LXRA				S	**Sg**	**02 29 55.7**	**+0.2**
ARGA	**Argostoli. Kep**	**0.81**	**58**	P	**Pg**	**02 29 45.2**	**-0.3**
KEF4	**Livadi, Kephal**	**0.82**	**52**	P	**Pg**	**02 29 44.6**	**-1.0**
KEF4	**Livadi, Kephal**	**0.82**	**52**	P	**Pg**	**02 29 44.7**	**-1.0**
PSDA	**Pessada-Kefalo**	**0.85**	**65**	P	**Pg**	**02 29 45.0**	**-1.3**
PSDA	**Pessada-Kefalo**	**0.85**	**65**	P	**Pg**	**02 29 46.0**	**-0.3**
PSDA				S	**Sb**	**02 29 57.7**	**-0.9**
	418nm,0.3s						
VLS	**Valsamata**	**0.88**	**61**	P	**Pg**	**02 29 45.4**	**-1.6**
VLS				S	**Sg**	**02 29 58.3**	**-0.1**
VLS				AML	AML	02 30 05.5	
	comp=E,7997µm,0.5s						
VLS				AML	AML	02 30 06.0	
	comp=N,8951µm,0.4s						
VLS	**Valsamata**	**0.88**	**61**	P	**Pg**	**02 29 45.6**	**-1.3**
VLS				S	**Sb**	**02 30 00.8**	**+1.2**
	comp=N,4µm,0.4s						
LTHK	**Lithakia**	**0.97**	**92**	P	**Pg**	**02 29 47.0**	**-1.7**
LTHK	**Lithakia**	**0.97**	**92**	P	**Pg**	**02 29 47.7**	**-1.0**
ZAK2	**Zakynthos**	**1.02**	**88**	P	**Pb**	**02 29 49.5**	**-0.5**
ZAK2				S	**Sb**	**02 30 04.4**	**+0.8**
	comp=N,9µm,0.5s						
FSK	**Fiskardo**	**1.03**	**47**	P	**Pg**	**02 29 49.0**	**-0.7**
FSK				AML	AML	02 30 09.6	
	comp=N,2290µm,0.5s						
FSK				AML	AML	02 30 11.5	
	comp=E,1930µm,0.2s						
FSK	**Fiskardo**	**1.03**	**47**	P	**Pg**	**02 29 49.2**	**-0.5**
FSK				S	**Sb**	**02 30 04.8**	**+1.0**
	comp=E,1µm,0.3s						
EVGl	**Lefkada island**	**1.20**	**43**	P	**Pb**	**02 29 52.9**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.20**	**39**	P	**Pb**	**02 29 53.0**	**0.0**
NYDR	**Nydri-Lefkada**	**1.29**	**42**	P	**Pb**	**02 29 54.5**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.29**	**42**	P	**Pb**	**02 29 54.5**	**+0.1**
LKD2	**Lefkada island**	**1.32**	**38**	P	**Pn**	**02 29 55.3**	**+0.5**
LKD2				AML	AML	02 30 21.0	
	comp=E,1934µm,0.4s						
LKD2				AML	AML	02 30 28.0	
	comp=N,2085µm,0.6s						
LKD2	**Lefkada island**	**1.32**	**38**	P	**Pg**	**02 29 54.7**	**-0.6**
LKD2				S	**Sn**	**02 30 13.4**	**+0.7**
	comp=N,845nm,0.4s						
RLS	**Riolos of Patr**	**1.50**	**78**	P	**Pn**	**02 29 57.1**	**-0.2**
RLS				AML	AML	02 30 27.1	
	comp=N,1040µm,0.6s						
RLS				AML	AML	02 30 27.4	
	comp=E,884µm,0.9s						
DRO	**Drossia**	**1.68**	**83**	P	**Pn**	**02 30 00.4**	**+0.7**
DRO				AML	AML	02 30 47.7	
	comp=E,2450µm,0.7s						
DRO				AML	AML	02 30 48.6	
	comp=N,1225µm,0.5s						
IGT	**Igoumenitsa**	**1.86**	**17**	P	**Pn**	**02 30 03.0**	**+0.7**
IGT				AML	AML	02 30 38.8	
	comp=N,526µm,0.4s						
IGT				AML	AML	02 30 46.4	
	comp=E,511µm,0.8s						
IGT	**Igoumenitsa**	**1.86**	**17**	P	**Pn**	**02 30 03.1**	**+0.8**
IGT				S	**Sb**	**02 30 28.1**	**+0.3**
	comp=E,258nm,0.5s						
PYL	**PYLOS**	**1.91**	**116**	P	**Pn**	**02 30 03.0**	**+0.2**
PYL	**PYLOS**	**1.91**	**116**	P	**Pn**	**02 30 02.9**	**+0.1**
ITM	**Ithomi**	**1.93**	**107**	P	**Pn**	**02 30 02.9**	**-0.3**
ITM				AML	AML	02 30 49.4	
	comp=N,615µm,0.7s						
ITM				AML	AML	02 30 52.6	
	comp=E,471µm,0.8s						
EFP	**Efpalio**	**1.93**	**69**	P	**Pn**	**02 30 04.1**	**+1.0**
EFP				AML	AML	02 30 44.8	
	comp=N,625µm,0.5s						
EFP				AML	AML	02 30 48.5	
	comp=E,786µm,0.8s						
LAKA	**Lakka**	**1.94**	**75**	P	**Pn**	**02 30 04.1**	**+0.9**
LAKA				AML	AML	02 30 47.2	
	comp=E,2672µm,1.1s						
LAKA				AML	AML	02 30 47.5	
	comp=N,2500µm,1.0s						
KEK	**Kerkira**	**1.96**	**4**	P	**Pn**	**02 30 04.9**	**+1.3**
ANX	**Ano Chora**	**2.01**	**65**	P	**Pb**	**02 30 05.6**	**-1.1**
ANX				AML	AML	02 30 45.8	
	comp=E,1580µm,0.5s						
ANX				AML	AML	02 30 49.7	
	comp=N,1551µm,0.5s						
KASA	**Kassiopi**	**2.01**	**7**	P	**Pn**	**02 30 05.4**	**+1.3**
KLV	**Kalavryta, Ach**	**2.03**	**81**	P	**Pn**	**02 30 05.5**	**+0.9**
TRIZ	**Trizonia**	**2.04**	**72**	P	**Pn**	**02 30 05.4**	**+0.8**
SERG	**Sergoula**	**2.04**	**70**	P	**Pn**	**02 30 05.7**	**+1.0**
EVR	**Evrytania**	**2.08**	**55**	P	**Pb**	**02 30 07.0**	**-1.1**
EVR				AML	AML	02 30 47.9	
	comp=N,439µm,0.8s						
EVR				AML	AML	02 30 54.4	
	comp=E,582µm,1.0s						
JAN	**Janina**	**2.13**	**27**	P	**Pn**	**02 30 07.8**	**+1.8**
JAN				AML	AML	02 30 48.8	
	comp=E,504µm,0.4s						
JAN				AML	AML	02 30 49.6	
	comp=N,482µm,0.7s						
MAKR	**Makrakomi, Fth**	**2.35**	**57**	P	**Pn**	**02 30 10.8**	**+1.8**
MAKR				AML	AML	02 30 55.9	
	comp=E,388µm,1.1s						
MAKR				AML	AML	02 30 59.0	
	comp=N,356µm,1.2s						
THAL	**Thalero**	**2.43**	**82**	P	**Pn**	**02 30 11.0**	**+0.9**
THAL				AML	AML	02 31 03.9	
	comp=E,1410µm,0.6s						
THAL				AML	AML	02 31 04.4	
	comp=N,808µm,0.4s						
AGG	**Agios Georgios**	**2.49**	**59**	P	**Pn**	**02 30 12.2**	**+1.4**
KPRO	**Kipourio**	**2.59**	**31**	P	**Pn**	**02 30 14.8**	**+2.5**
THL	**Klokotos Trika**	**2.61**	**45**	P	**Pn**	**02 30 14.4**	**+1.9**
VLI	**Veliai**	**2.85**	**110**	P	**Pn**	**02 30 17.5**	**+1.7**
KZN	**Kozani**	**3.06**	**33**	P	**Pn**	**02 30 20.6**	**+1.9**
KTHR	**Kythira**	**3.10**	**118**	P	**Pn**	**02 30 20.8**	**+1.5**
KTHA	**Kythira Island**	**3.14**	**117**	P	**Pn**	**02 30 21.0**	**+1.2**
OHR	**Ohrid**	**3.48**	**15**	*i* Pn	**Pn**	**02 30 27.4**	**+3.0**
ANKY	**Antikythira Is**	**3.51**	**121**	P	**Pn**	**02 30 26.0**	**+1.1**
STIP	**Stip**	**4.41**	**26**	*i* Pn	**Pn**	**02 30 40.5**	**+3.2**
DRME	**Dracevica, Mon**	**4.44**	**356**	*e*Pn	**Pn**	**02 30 37.9**	**+0.3**
PDG	**Podgorica**	**4.68**	**357**	*e*Pn	**Pn**	**02 30 40.9**	**0.0**
HCY	**Herceg Novi**	**4.76**	**350**	*e*Pn	**Pn**	**02 30 42.0**	**-0.1**
DBRK	**Dub

N -0.7640, Plg47.0000°, Azm94.0000°; P -2.1460, Plg33.0000°, Azm321.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

IDC ***18*** *02:46:22.6±6.3, 6°.27S×147°.56E, h112km±65km, mb3.2/3, mb1 3.4/5, mb1mx3.2/33, mbtmp3.6/5, MS3.5/4, Ms1 3.5/4, ms1mx2.9/25 Error ellipse: s-maj=83.6km s-min=30.6km az=139.0*

ISC 18 02:46:21.4±1.5, 6°.2S±0°.1×147°.5E±0°.3, h100km, n9, σ0s81/7, mb3.3/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**185**	P		**Pn**		**02 47 10.6**	**0.0**
	9.4nm,0.3s,baz=332,slow=6.6,SNR=8.8								
PMG				S		**Sn**		**02 47 48.7**	**+0.2**
	8.8nm,0.3s,baz=167,slow=21,SNR=2.0								
PMG				LR		LR		02 48 25.0	
	comp=Z,73nm,18.7s,baz=352,slow=39								
WRA	**Warramunga Arr**	**18.72**	**222**	P		**P**		**02 50 31.2**	**-1.2**
	0.2nm,0.3s,baz=47,slow=12,SNR=12								
ASAR	**Alice Springs**	**21.76**	**215**	P		**P**		**02 51 05.0**	**-0.1**
	0.5nm,0.5s,baz=55,slow=8.9,SNR=12								
FITZ	**Fitzroy Crossi**	**24.38**	**239**	P		**P**		**02 51 30.4**	**-0.1**
	2.3nm,0.7s,baz=36,slow=7.9,SNR=7.6								
JOW	**Kunigami**	**37.69**	**331**	LR		LR		03 07 03.5	
	comp=Z,83nm,21.6s,baz=123,slow=33								
URZ	**Urewera**	**41.77**	**144**	LR		LR		03 10 21.7	
	comp=Z,121nm,18.4s,baz=208,slow=35								
RPZ	**Rata Peaks**	**42.78**	**155**	LR		LR		03 09 40.0	
	comp=Z,177nm,19.4s,baz=128,slow=33								
ILAR	**Eielson Array**	**85.44**	**23**	P		**P**		**02 58 47.2**	**-0.4**
	0.2nm,0.5s,baz=261,slow=5.6,SNR=5.4								
TORD	**Torodi Ar. Bea**	**145.57**	**284**	PKPbc		**PKPab**		**03 05 50.8**	**+1.0**
	0.3nm,0.6s,baz=69,slow=2.3,SNR=1.8								

IDC ***18*** *03:04:01.4±2.0, 12°.42N×124°.95E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/52, mbtmp3.8/4, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/85, Error ellipse: s-maj=97.6km s-min=22.3km az=57.0*

MAN ***18*** *03:04:02.9, 12°.94N×124°.30E, h1km, mb4.7, ML3.6, MS3.5*

ISC 18 03:04:01.6±1.4, 13°.06N±0°.06×124°.72E±0°.08, h33km±5km, n23, σ2s51/20, mb3.9/4, 3C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.77**	**314**	⇑*eP*		**Pb**		**03 04 15.2**	**-1.4**
PVCP				*eS*		**Sn**		**03 04 30.8**	**+4.3**
SCSP	**San Jose Seism**	**1.31**	**297**	⇓*eP*		**Pb**		**03 04 25.1**	**-0.6**
SCSP				*eS*		**Sb**		**03 04 45.9**	**+3.7**
BESP	**Borongan**	**1.61**	**154**	⇑*eP*		**Pn**		**03 04 26.9**	**-0.7**
BESP				*eS*		**Sb**		**03 04 54.0**	**+3.3**
JCNP	**Jose Panganiba**	**2.31**	**302**	⇓*eP*		**Pn**		**03 04 39.2**	**+1.8**
JCNP				*eS*		**Sb**		**03 05 13.2**	**+2.2**
GQP	**Guinayangan**	**2.37**	**291**	⇓*eP*		**Pb**		**03 04 40.8**	**-2.8**
GQP				*eS*		**Sn**		**03 05 06.0**	**0.0**
RCP	**Roxas**	**2.44**	**233**	⇑*eP*		**Pn**		**03 04 39.3**	**+0.2**
RCP				*eS*		**Sn**		**03 05 06.3**	**-1.5**
LLP	**Lapu-Lapu**	**2.82**	**195**	*eP*		**Pb**		**03 04 51.5**	**+0.2**
LLP				*eS*		Sb		03 05 32.0	+6.5
MSLP	**Maasin**	**2.91**	**177**	⇓*eP*		**Pb**		**03 04 51.4**	**-1.4**
LQP	**Lukban**	**3.27**	**289**	⇓*eP*		**Pb**		**03 04 54.5**	**-4.5**
TBP	**Tagbilaran**	**3.45**	**194**	*eP*		**Pb**		**03 05 03.5**	**+1.4**
TGY	**Tagaytay City**	**3.82**	**286**	Pn		**Pb**		**03 05 06.0**	**-2.3**
	47nm,0.3s,baz=188,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**34.13**	**164**	P		**P**		**03 10 41.3**	**-2.4**
	0.4nm,0.6s,baz=349,slow=8.7,SNR=2.0								
ASAR	**Alice Springs**	**37.59**	**166**	P		**P**		**03 11 12.6**	**-0.7**
	0.8nm,0.6s,baz=347,slow=7.0,SNR=10.0								
CTA	**Charters Tower**	**39.17**	**147**	LR		LR		03 29 20.3	
	comp=Z,85nm,19.6s,baz=250,slow=39								
H11S3	**WAKE ISLAND Hy 40.68**	**77**		T		T		03 55 37.9	
	baz=269,slow=75,SNR=9.3								
H11S1	**WAKE ISLAND Hy 40.69**	**77**		T		T		03 55 24.4	
	baz=269,slow=75,SNR=6.3								
H11S2	**WAKE ISLAND Hy 40.70**	**77**		T		T		03 55 48.5	
	baz=269,slow=75,SNR=7.0								
H11N1	**WAKE ISLAND Hy 40.91**	**75**		T		T		03 55 30.4	
	baz=267,slow=75,SNR=61								
H11N2	**WAKE ISLAND Hy 40.92**	**75**		T		T		03 55 30.9	
	baz=267,slow=75,SNR=47								
H11N3	**WAKE ISLAND Hy 40.93**	**75**		T		T		03 55 36.8	
	baz=267,slow=75,SNR=55								
STKA	**Stephens Creek**	**47.52**	**160**	P		**P**		**03 12 33.4**	**-0.3**
	1.7nm,0.5s,baz=355,slow=7.8,SNR=3.3								
MKAR	**Makanchi Array**	**48.91**	**322**	P		P		03 12 54.5	+10
	1.2nm,0.9s,baz=123,slow=8.8,SNR=8.1								
GERES	**GERESS Array B**	**93.57**	**322**	LR		LR		04 01 08.1	
	comp=Z,42nm,20.9s,baz=203,slow=36								

JMA ***18*** *03:34:25.3±0.4, 22°.67N×120°.90E, h0km, M4.0*

TAP ***18*** *03:34:27.7, 22°.73N×120°.79E, h27km, ML4.0, B*

ISC 18 03:34:27.3±1.1, 22°.72N±0°.01×120°.82E±0°.01, h16km±9km, n128, σ1s19/220, 21C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSMG	**Majia**	**0.16**	**265**	⇑*iP*		**Pb**		**03 34 33.5**	**+1.5**
	baz=260								
TSMG				S		**Sb**		**03 34 37.1**	**+2.0**
	baz=260								
ECL	**Taimali**	**0.17**	**134**	⇓*iP*		**Pb**		**03 34 34.0**	**+1.9**
	baz=131								
ECL				*i* S		**Sb**		**03 34 38.2**	**+2.8**
	baz=131								
SSD	**Sandimen**	**0.17**	**279**	⇑*iP*		**Pb**		**03 34 33.5**	**+1.3**
	baz=276								
SSD				*i* S		**Sb**		**03 34 37.4**	**+1.9**
	baz=276								
MASBT	**Mashibuluo**	**0.20**	**238**	⇑*iP*		**Pb**		**03 34 33.9**	**+1.3**
	baz=225								
MASBT				*i* S		**Sb**		**03 34 37.9**	**+1.7**
	baz=225								
TWG	**Pinlang**	**0.25**	**66**	⇓*iP*		**Pb**		**03 34 35.2**	**+1.7**
	baz=67								
TWG				*i* S		**Sb**		**03 34 40.3**	**+2.6**
	baz=67								
TWGBT	**Beinan**	**0.26**	**68**	⇓*iP*		**Pb**		**03 34 35.2**	**+1.6**
	baz=67								
TWGBT				S		**Sb**		**03 34 40.0**	**+2.1**
	baz=67								
SGLT	**Jiouru**	**0.30**	**271**	⇑*iP*		**Pn**		**03 34 36.0**	**-1.1**
	baz=269								
TTN	**Taitung**	**0.30**	**83**	⇓*iP*		**Pn**		**03 34 36.7**	**-0.5**
	baz=82								
TTN				*i* S		**Sn**		**03 34 43.6**	**+0.3**
	baz=82								
SSPT	**Xinbi**	**0.33**	**225**	⇑*iP*		**Pn**		**03 34 36.1**	**-1.4**
	baz=215								
SSPT				S		**Sn**		**03 34 41.8**	**-2.1**
	baz=215								
EAST	**Anshuo**	**0.34**	**175**	⇓*iP*		**Pn**		**03 34 36.1**	**-1.4**
	baz=170								
EAST				*i* S		**Sn**		**03 34 41.6**	**-2.5**
	baz=170								
LONT	**Longtian**	**0.34**	**57**	⇓*iP*		**Pn**		**03 34 36.6**	**-1.1**
	baz=57								
LONT				S		**Sn**		**03 34 42.8**	**-1.4**
	baz=57								
SCST	**Cishan**	**0.34**	**299**	P		**Pn**		**03 34 36.3**	**-1.4**
	baz=304								
SCST				S		**Sn**		**03 34 43.2**	**-1.0**
	baz=304								
TAW	**Tawu**	**0.37**	**169**	*eP*		**Pn**		**03 34 36.6**	**-1.3**
	baz=164								
TAW				*eS*		**Sn**		**03 34 42.5**	**-2.3**
	baz=164								
TWM1	**Shoushan**	**0.38**	**286**	⇑*iP*		**Pn**		**03 34 37.4**	**-0.8**
	baz=289								
TWM1				S		**Sn**		**03 34 46.0**	**+0.7**
	baz=289								
TAWH	**Dawu Township**	**0.38**	**170**	*eP*		**Pn**		**03 34 36.7**	**-1.5**
	baz=170								
TAWH				*eS*		**Sn**		**03 34 44.4**	**-0.9**
	baz=170								
SCZT	**Fangliau**	**0.39**	**208**	⇑*iP*		**Pn**		**03 34 36.8**	**-1.5**
	baz=206								
SCZT				*i* S		**Sb**		**03 34 42.8**	**+1.1**
	baz=206								
SGST	**Jiashian**	**0.42**	**329**	⇑*iP*		**Pb**		**03 34 36.5**	**+0.1**
	baz=336								
SGST				*i* S		**Sb**		**03 34 43.7**	**+1.1**
	baz=336								
STYT	**Tauyuan**	**0.45**	**353**	⇑*iP*		**Pb**		**03 34 37.5**	**+0.7**
	baz=4.0								
STYT				S		**Sb**		**03 34 44.6**	**+1.3**
	baz=4.0								
SNJT	**Kaohsiung City**	**0.45**	**274**	*eP*		**Pn**		**03 34 39.3**	**+0.2**
	baz=273								
SNJT				*eS*		**Sn**		**03 34 47.7**	**+0.8**
	baz=273								
STYH	**Taoyuan**	**0.45**	**355**	P		**Pn**		**03 34 38.0**	**-1.2**
	baz=5.0								
STYH				S		**Sb**		**03 34 44.6**	**+1.2**
	baz=5.0								
KAU	**Kaohsiung**	**0.50**	**252**	P		**Pn**		**03 34 40.0**	**+0.3**
	baz=249								
KAU				S		**Sn**		**03 34 50.1**	**+2.1**
	baz=249								
SLIU	**Shizi**	**0.50**	**182**	*eP*		**Pn**		**03 34 38.7**	**-1.2**
	baz=181								
SLIU				S		**Sn**		**03 34 45.9**	**-2.3**
	baz=181								
ELDTW	**Lidau**	**0.50**	**21**	⇓*iP*		**Pn**		**03 34 38.7**	**-1.2**
	baz=26								
ELDTW				*i* S		**Sb**		**03 34 46.0**	**+0.9**
	baz=26								
EDH	**Donghe**	**0.51**	**60**	P		**Pn**		**03 34 38.9**	**-1.1**
	baz=73								
EDH				*eS*		**Sn**		**03 34 47.9**	**-0.6**
	baz=73								
ECS	**Chishang**	**0.53**	**44**	*eP*		**Pn**		**03 34 39.7**	**-0.5**
	baz=45								
ECS				*eS*		**Sn**		**03 34 48.8**	**0.0**
	baz=45								
SHHT	**Tainan City**	**0.53**	**305**	⇑*iP*		**Pn**		**03 34 40.2**	**0.0**
	baz=306								
SHHT				*i* S		**Sn**		**03 34 49.6**	**+0.8**
	baz=306								
CHN1	**Nanshi**	**0.54**	**330**	⇑*iP*		**Pn**		**03 34 39.3**	**-1.0**
	baz=333								
CHN1				*i* S		**Sb**		**03 34 47.7**	**+1.8**
	baz=333								
WLCH	**Liuqiu**	**0.55**	**228**	P		**Pn**		**03 34 41.8**	**+1.3**
	baz=225								
CHN3	**Shinhua**	**0.55**	**310**	⇑*iP*		**Pn**		**03 34 40.6**	**+0.1**
	baz=311								
CHN3				*i* S		**Sn**		**03 34 50.7**	**+1.3**
	baz=311								
WTP	**Ta-pu**	**0.56**	**340**	⇑*iP*		**Pb**		**03 34 39.5**	**+0.7**
	baz=343								
WTP				*i* S		**Sb**		**03 34 48.2**	**+1.7**
	baz=343								
TWP	**Hsiaoliuchiu**	**0.56**	**229**	P		**Pn**		**03 34 41.5**	**+0.9**
	baz=225								
TWP				S		**Sn**		**03 34 53.1**	**+3.5**
	baz=225								
LDUT	**Ludao**	**0.60**	**94**	P		**Pn**		**03 34 40.0**	**-1.2**
	baz=95								
LDUT				S		**Sn**		**03 34 48.9**	**-1.7**
	baz=95								
TPUB	**Ta-pu**	**0.60**	**343**	⇑*iP*		**Pb**		**03 34 40.2**	**+0.6**
	baz=346								
TPUB				S		**Sb**		**03 34 48.9**	**+1.0**
	baz=346								
TWK	**Hsinying**	**0.62**	**331**	⇑P		**Pb**		**03 34 40.4**	**+0.5**
	baz=334								
TWK				S		**Sn**		**03 34 50.6**	**-0.7**
	baz=334								
CHKT	**Chengkung**	**0.63**	**53**	⇓*iP*		**Pn**		**03 34 40.8**	**-0.8**
	baz=64								
CHKT				S		**Sn**		**03 34 50.8**	**-0.6**
	baz=64								
TAI1	**Yung-k'ang**	**0.63**	**300**	*eS*		**Sn**		**03 34 52.1**	**+0.8**
	baz=301								
SSHA	**Shanhua**	**0.64**	**310**	*eP*		**Pn**		**03 34 41.2**	**-0.6**
	baz=312								
SSHA				S		**Sn**		**03 34 52.3**	**+0.7**
	baz=312								
FULB	**Fuli**	**0.65**	**42**	⇑*iP*		**Pn**		**03 34 41.6**	**-0.3**
	baz=41								
FULB				S		**Sn**		**03 34 52.8**	**+1.0**
	baz=41								
CHN4	**Tsaushan**	**0.66**	**342**	⇑*iP*		**Pn**		**03 34 41.1**	**-0.9**
	baz=344								
CHN4				*i* S		**Sn**		**03 34 51.8**	**-0.4**
	baz=344								
SMST	**Manzhou Townsh**	**0.69**	**179**	*eP*		**Pn**		**03 34 42.2**	**-0.3**
	baz=190								
SMST				*eS*		**Sn**		**03 34 53.2**	**+0.2**
	baz=190								
HEN	**Hengchun**	**0.71**	**186**	P		**Pn**		**03 34 42.9**	**+0.2**
	baz=182								
HEN				S		**Sn**		**03 34 54.2**	**+0.8**
	baz=182								
SCLT	**Jiali**	**0.73**	**308**	P		**Pn**		**03 34 42.7**	**-0.4**
	baz=310								
SCLT				S		**Sn**		**03 34 54.1**	**+0.2**
	baz=310								
TWF1	**Yuli**	**0.77**	**35**	*eP*		**Pn**		**03 34 42.8**	**-0.8**
	baz=34								
TWF1				*eS*		**Sn**		**03 34 53.5**	**-1.3**
	baz=34								
TWK1	**Hengchun**	**0.77**	**181**	P		**Pn**		**03 34 43.8**	**+0.3**
	baz=189								
TWK1				S		**Sn**		**03 34 55.1**	**+0.3**
	baz=189								
TWKBT	**Hengchun**	**0.78**	**180**	P		**Pn**		**03 34 44.0**	**+0.3**
	baz=190								
TWKBT				S		**Sn**		**03 34 54.8**	**-0.1**
	baz=190								
YUS	**Yu-Shan**	**0.78**	**9**	⇓*iP*		**Pn**		**03 34 43.4**	**-0.7**
	baz=20								
YUS				S		**Sn**		**03 34 54.5**	**-1.2**
	baz=20								
EYUL	**Yuli**	**0.78**	**36**	P		**Pn**		**03 34 43.3**	**-0.3**
	baz=35								
EYUL				S		**Sn**		**03 34 54.0**	**-1.0**
	baz=35								
ALS	**Alishan**	**0.79**	**359**	⇑*iP*		**Pn**		**03 34 43.5**	**-0.5**
	baz=10.0								
ALS				*i* S		**Sn**		**03 34 54.9**	**-0.8**
	baz=10.0								
YULB	**Yu-li**	**0.80**	**33**	⇑*iP*		**Pb**		**03 34 42.7**	**-0.3**
	baz=29								
YULB				S		**Sb**		**03 34 54.1**	**+0.6**
	baz=29								
ICHU	**Yijhu**	**0.81**	**322**	P		**Pn**		**03 34 43.8**	**-0.3**
	baz=324								
ICHU				*eS*		**Sn**		**03 34 55.2**	**-0.6**
	baz=324								
TSEB	**Hengchuen, Pin**	**0.82**	**175**	P		**Pn**		**03 34 44.8**	**+0.6**
	baz=185								
TSEB				S		**Sn**		**03 34 57.2**	**+1.3**
	baz=185								
CHN8	**Yiju**	**0.84**	**318**	P		**Pn**		**03 34 43.9**	**-0.6**
	baz=321								
CHN8				S		**Sn**		**03 34 56.0**	**-0.5**
	baz=321								
CHY	**Chiayi**	**0.86**	**335**	*eP*		**Pn**		**03 34 44.4**	**-0.3**
	baz=338								
CHY				*eS*		**Sn**		**03 34 56.6**	**-0.3**
	baz=338								
CHN2	**Minshiung**	**0.87**	**339**	P		**Pn**		**03 34 45.1**	**+0.2**
	baz=341								
CHN2				S		**Sn**		**03 34 58.1**	**+0.8**
	baz=341								
CHN5	**Tsauling**	**0.88**	**352**	P		**Pn**		**03 34 44.8**	**-0.4**
	baz=355								
CHN5				*eS*		**Sn**		**03 34 58.3**	**+0.5**
	baz=355								
EHY	**Hungye**	**0.91**	**30**	⇑*iP*		**Pn**		**03 34 44.9**	**-0.6**
	baz=27								
EHY				S		**Sn**		**03 34 57.2**	**-1.1**
	baz=27								
HGSD	**Ruisui**	**0.95**	**36**	P		**Pn**		**03 34 46.1**	**+0.1**
	baz=32								
HGSD				S		**Sn**		**03 35 00.1**	**+0.9**
	baz=32								
LAY	**Lan-yu**	**0.96**	**135**	P		**Pn**		**03 34 45.1**	**-1.1**
	baz=134								
WDLH	**Douliu**	**1.00**	**345**	*eP*		**Pn**		**03 34 46.5**	**-0.2**
	baz=348								
WDLH				*eS*		**Sn**		**03 35 00.3**	**-0.2**
	baz=348								
LYUB	**Lan-yu**	**1.00**	**135**	*eP*		**Pb**		**03 34 44.3**	**-2.0**
	baz=135								
LYUB				*eS*		**Sb**		**03 34 56.8**	**-2.6**
	baz=135								
WTK	**Tuku**	**1.04**	**338**	*eP*		**Pb**		**03 34 46.7**	**-0.3**
	baz=340								
WTK				*eS*		**Sb**		**03 35 00.3**	**-0.1**
	baz=340								
WSF	**Szhu**	**1.07**	**329**	*eP*		**Pb**		**03 34 47.0**	**-0.4**
	baz=332								
WSF				S		**Sb**		**03 35 01.1**	**0.0**
	baz=332								
SSLB	**Suanglung**	**1.07**	**7**	P		**Pg**		**03 34 47.9**	**-0.1**
	baz=10.0								
SSLB				*eS*		**Sn**		**03 35 02.8**	**+0.5**
	baz=10.0								
VWDT	**VWDT**	**1.07**	**16**	⇓P		**Pg**		**03 34 48.3**	**+0.2**
	baz=19								
VWDT				*eS*		**Sn**		**03 35 05.3**	**+3.1**
	baz=19								
EGFH	**Guangfu**	**1.10**	**31**	*eP*		**Pg**		**03 34 48.8**	**+0.3**
	baz=40								
EGFH				*eS*		**Sn**		**03 35 04.0**	**+1.0**
	baz=40								
WJS	**Zhushan**	**1.10**	**356**	*eP*		**Pg**		**03 34 49.1**	**+0.5**
	baz=343								
WJS				*eS*		**Sn**		**03 35 04.0**	**+1.0**
	baz=343								
WNT	**Mingjian**	**1.16**	**354**	*eP*		**Pg**		**03 34 49.6**	**-0.1**
	baz=340								
SMLT	**Sun Moon Lake**	**1.16**	**4**	⇑P		**Pg**		**03 34 49.6**	**-0.1**
	baz=8.0								
SMLT				*eS*		**Sn**		**03 35 05.9**	**+1.3**
	baz=8.0								
TYC	**Yuchr**	**1.18**	**2**	P		**Pg**		**03 34 49.8**	**-0.3**
	baz=6.0								
TYC				*eS*		**Sg**		**03 35 07.1**	**+1.5**
	baz=6.0								
WDGT	**Dungji**	**1.20**	**297**	⇓*iP*		**Pn**		**03 34 47.9**	**-1.5**
	baz=297								
WDGT				S		**Sb**		**03 35 02.4**	**-2.4**
	baz=297								
ESL	**Shilin**	**1.23**	**27**	*eP*		**Pg**		**03 34 50.4**	**-0.6**
	baz=31								
ESL				*eS*		**Sb**		**03 35 05.4**	**-0.3**
	baz=31								
WRL	**Guolierlin Hig**	**1.25**	**341**	*eP*		**Pn**		**03 34 49.5**	**-0.6**
	baz=344								
WRL				*eS*		**Sb**		**03 35 06.2**	**-0.1**
	baz=344								
OWD	**Renai**	**1.27**	**15**	*eP*		**Pg**		**03 34 51.7**	**-0.2**
	baz=18								
OWD				*eS*		**Sg**		**03 35 10.4**	**+1.9**
	baz=18								
WUSB	**Renai**	**1.30**	**12**	P		**Pg**		**03 34 51.7**	**-0.6**
	baz=3.0								
WUSB				*eS*		**Sn**		**03 35 08.3**	**+0.3**
	baz=3.0								
WCS	**Beigang Elemen**	**1.33**	**4**	*eP*		**Pb**		**03 34 51.7**	**-0.3**
	baz=350								
VCHM	**Qimei**	**1.37**	**291**	*eP*		**Pn**		**03 34 50.1**	**-1.7**
	baz=278								
VCHM				*eS*		**Sn**		**03 35 06.3**	**-3.3**
	baz=278								
CHGB	**Renai**	**1.37**	**14**	P		**Pg**		**03 34 53.0**	**-0.9**
	baz=5.0								
CHGB				*eS*		**Sg**		**03 35 13.7**	**+1.9**
	baz=5.0								
WCHH	**Zhanghua**	**1.38**	**350**	*eP*		**Pb**		**03 34 52.5**	**-0.2**
	baz=353								
WCHH				*eS*		**Sn**		**03 35 10.1**	**+0.3**
	baz=353								
PHUB	**P'eng-hu**	**1.39**	**305**	P		**Pn**		**03 34 50.2**	**-1.9**
	baz=306								
PHUB				*eS*		**Sn**		**03 35 06.2**	**-4.1**
	baz=306								
TCU	**Taichung**	**1.43**	**355**	*eP*		**Pb**		**03 34 53.1**	**-0.5**
	baz=345								
TCU				*eS*		**Sg**		**03 35 13.0**	**-0.4**
	baz=345								
PNG	**Penghu**	**1.44**	**306**	*eP*		**Pn**		**03 34 51.1**	**-1.7**
	baz=306								
HWA	**Hwalien**	**1.45**	**30**	*eP*		**Pg**		**03 34 55.4**	**+0.3**
	baz=31								
WHF	**Hehuan Shan**	**1.48**	**16**	*eP*		**Pb**		**03 34 54.6**	**0.0**
	baz=20								
WHF				*eS*		**Sg**		**03 35 16.4**	**+1.2**
	baz=20								
TWD	**Chiawan**	**1.53**	**28**	*eP*		**Pg**		**03 34 55.5**	**-1.3**
	baz=31								
TWD				*eS*		**Sg**		**03 35 15.3**	**-1.4**
	baz=31								
WHP	**Taichung City**	**1.56**	**4**	*eP*		**Pb**		**03 34 55.1**	**-0.8**
	baz=350								
TWT	**Tachien**	**1.56**	**12**	*eP*		**Pb**		**03 34 56.1**	**+0.2**
	baz=358								
FUSS	**Fushou**	**1.57**	**14**	*eP*		**Pb**		**03 34 56.6**	**-0.9**
	baz=6.0								
FUSS				*eS*		**Sg**		**03 35 17.1**	**-1.0**
	baz=6.0								
ETLH	**Xiulin Townshi**	**1.60**	**22**	*eP*		**Pg**		**03 34 57.0**	**-1.1**
	baz=26								
ETLH				*eS*		**Sb**		**03 35 17.0**	**+0.4**
	baz=26								
NACB	**Ninganchiao**	**1.61**	**26**	*eP*		**Pn**		**03 34 55.2**	**+0.1**
	baz=30								
NACB				*eS*		**Sb**		**03 35 16.5**	**-0.4**
	baz=30								
TWQ1	**Liyutan**	**1.62**	**359**	*eP*		**Pb**		**03 34 56.2**	**-0.7**
	baz=2.0								
TWQ1				*eS*		**Sb**		**03 35 17.7**	**+0.5**
	baz=2.0								
WDJ	**Dajia District**	**1.63**	**354**	*eP*		**Pb**		**03 34 56.9**	**-0.1**
	baz=342								
NSY	**Sanyi**	**1.69**	**358**	*eP*		**Pb**		**03 34 58.4**	**+0.3**
	baz=344								
NNSB	**Datong**	**1.78**	**17**	*eP*		**Pb**		**03 34 59.0**	**-0.6**
	baz=20								
NNSB				*eS*		**Sb**		**03 35 22.3**	**+0.5**
	baz=20								
NNS	**Nan Shan**	**1.79**	**16**	*eP*		**Pb**		**03 35 00.0**	**+0.2**
	baz=20								
NNS				*eS*		**Sg**		**03 35 23.2**	**-1.7**
	baz=20								
ENA	**Nanau**	**1.90**	**26**	*eP*		**Pn**		**03 34 59.5**	**+0.4**
	baz=28								
NSTT	**Nanjuang**	**1.91**	**5**	*eP*		**Pb**		**03 35 00.8**	**-1.0**
	baz=351								
LATG	**Datong**	**1.92**	**20**	*eP*		**Pb**		**03 35 01.1**	**-1.0**
	baz=9.0								
LATG				*eS*		**Sb**		**03 35 27.0**	**+1.1**
	baz=9.0								
NFF	**Wufeng Townshi**	**1.92**	**8**	*eP*		**Pb**		**03 35 01.5**	**-0.6**
	baz=355								
LIOB	**Emei**	**1.93**	**5**	*eP*		**Pb**		**03 35

YOJ	**Yonaguni jima** baz=58	**2.66**	**49**	*eP*		**Pn**	**03 35 10.8**	**+1.4**
HATJ	**Hateruma jima**	**3.05**	**64**	P		**Pn**	**03 35 15.6**	**+0.7**
HATJ				S		**Sn**	**03 35 51.2**	**+0.1**
ZPLA	**Ao Xicun** baz=292	**3.07**	**294**	*eP*		**Pn**	**03 35 13.9**	**-1.2**
IRIF	**Iriomote-Funau**	**3.12**	**58**	P		**Pn**	**03 35 17.2**	**+1.4**
IRIF				S		**Sn**	**03 35 54.0**	**+1.2**
JKRS	**Kuro-shima**	**3.30**	**62**	P		**Pn**	**03 35 19.4**	**+1.1**
JKRS				*eS*		**Sn**	**03 35 58.7**	**+1.5**
JIJ	**Ishigaki jima**	**3.46**	**61**	P		**Pn**	**03 35 21.2**	**+0.6**
JIJ				*eS*		**Sn**	**03 35 59.3**	**-2.0**
JISG	**Ishigakijimahi**	**3.70**	**59**	P		**Pn**	**03 35 24.0**	**+0.1**
JISG				*eS*		**Sn**	**03 36 07.1**	**-0.1**
JTJ	**Tarama**	**4.04**	**61**	P		**Pn**	**03 35 29.7**	**+1.2**
JTJ				*eS*		**Sn**	**03 36 15.2**	**-0.4**
JIRB	**Irabujima**	**4.51**	**61**	P		**Pn**	**03 35 36.1**	**+1.2**
JIRB				*eS*		**Sn**	**03 36 26.2**	**-0.9**
JMJ2	**Miyako jima3**	**4.59**	**63**	P		**Pn**	**03 35 37.2**	**+1.0**
JOGS	**Gusukube**	**4.67**	**63**	P		**Pn**	**03 35 38.7**	**+1.5**

NDI 18 03:37:38.4±3.5, 25°81'N×73°21'E, h8km±20km, ML3.6, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**1.45**	**62**	*eP*	Pn	03 38 01.9	-3.1
AJM				*eS*	Sn	03 38 19.7	-4.6
JASL	**Jaisalmer**	**2.35**	**299**	*eP*	Pn	03 38 15.2	-2.2
JASL				*eS*	Sn	03 38 46.4	0.0
KHET	**Khetri**	**3.23**	**45**	*eP*	Pn	03 38 29.7	+0.1
KUDL	**Kundal**	**3.74**	**51**	*eP*	Pn	03 38 37.8	+1.4
KUDL				*eS*	Sn	03 39 19.6	-1.1
BHV	**Bhavnagar**	**4.16**	**194**	*eS*	Sn	03 39 30.2	-0.8
NDI	**New Delhi**	**4.57**	**50**	*ex*	x	03 38 52.0	
NDI				*eS*	Sn	03 39 37.0	-4.3
BHPL	**Bhopal**	**4.61**	**123**	*eP*	Pn	03 38 46.4	-2.1
BHPL				*eS*	Sn	03 39 39.3	-3.0
BHPL	comp=E,164nm,0.6s			IAML		03 39 58.9	
BHPL	comp=N,217nm,0.4s			IAML		03 39 59.0	
JHNI	**Jhansi**	**4.82**	**93**	*eP*	Pn	03 38 52.4	+1.1
JHNI				*eS*	Sn	03 39 44.2	-3.2
SMLA	**Simla**	**6.34**	**32**	*ex*	x	03 39 14.4	
SMLA				*eS*	Sn	03 40 20.9	-3.9
SMLA	comp=E,59nm,0.3s			IAML		03 40 27.4	
SMLA	comp=N,68nm,0.3s			IAML		03 40 27.4	
DHRM	**DHARAMSHALA**	**6.96**	**22**	*eS*	Sn	03 40 36.6	-3.9
DHRM	comp=E,72nm,0.2s			IAML		03 40 40.4	

TUL ***18*** *03:46:44.3±0.4, 36°.83N±0°.02×98°.28W±0°.02, h5km±7km, ML2.6, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=3.7km s-min=1.6km az=137.0*

NEIC 18 03:46:44.8±1.1, 36°.80N±0°.03×98°.25W±0°.03, h10km±7km, Error ellipse: s-maj=5.2km s-min=1.7km az=135.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.74**	**235**	Pg	Pg	03 46 58.7	-0.4
T35A	**Sooner Cattle**	**1.40**	**85**	Pn	Pn	03 47 10.6	+0.3
OKCFA	**Oklahoma City** comp=E,19nm,0.7s	**1.53**	**155**	IAmb_Lg		03 47 37.6	
OKCSW	**OKLAHOMA CITY**	**1.54**	**155**	Pn	Pb	03 47 13.3	-0.2
R32A	**Long Quarter,**	**1.66**	**347**		Pn	03 47 14.5	+0.5
FNO	**Franklin**	**1.69**	**156**		Pn	03 47 15.1	+0.7
W35A	**Tecumseh**	**1.99**	**146**		Pn	03 47 19.6	+1.1
W35A	comp=Z,18nm,0.7s			IAmb_Lg		03 47 49.8	
WMOK	**Wichita Mounta**	**2.11**	**192**		Pn	03 47 21.1	+1.0
TUL1	**Leonard**	**2.17**	**113**		Pn	03 47 21.6	+0.6
X34A	**Smith Ranch, M**	**2.22**	**171**		Pn	03 47 22.6	+0.8
CBKS	**Cedar Bluff**	**2.33**	**330**	Pn	Pn	03 47 21.9	-1.3
KSU1	**Kansas State U** KSU1 comp=Z,12nm,0.7s	**2.63**	**29**	Pn IAmb_Lg	Pn	03 47 26.5 03 48 10.9	-0.9
X37A	**Clayton** X37A comp=Z,9.3nm,0.8s	**3.22**	**133**	Pn IAmb_Lg	Pn	03 47 35.9 03 48 30.2	+0.4
AMTX	**Amarillo**	**3.38**	**237**	Pn	Pn	03 47 37.4	-0.5
HHAR	**Hobbs** comp=Z,8.0nm,0.8s	**3.51**	**97**	IAmb_Lg		03 48 44.1	
U40A	**Yellville** comp=Z,8.8nm,1.0s	**4.36**	**94**	IAmb_Lg		03 49 05.4	
P38A	**Dawn** comp=Z,7.1nm,0.9s	**4.66**	**51**	IAmb_Lg		03 49 20.5	
T25A	**Trinidad** comp=Z,5.6nm,0.9s	**4.95**	**276**	IAmb_Lg		03 49 23.0	
FCAR	**Ozark Folk Cen** comp=Z,6.0nm,1.0s	**5.02**	**99**	IAmb_Lg		03 49 25.4	
W41B	**Gary Mavity, V** comp=Z,5.6nm,0.7s	**5.13**	**107**	IAmb_Lg		03 49 35.2	
N38A	**Joes South For** comp=Z,8.0nm,0.7s	**5.58**	**43**	IAmb_Lg		03 49 52.4	

CNRM ***18*** *04:01:19.6, 35°.53N×3°.79W, h14km, ml2.0*
MDD ***18*** *04:01:21.2±0.8, 35°.46N×3°.81W, h0km, mb_Lg2.2/6, Error ellipse: s-maj=7.1km s-min=3.7km az=28.0*
SFS ***18*** *04:01:21.0, 35°.45N×3°.84W, ML2.5, ALBORAN SUR*

ISC 18 04:01:20.1±1.0, 35°.47N±0°.02×3°.80W±0°.02, h11km±8km, n25, σ1s38/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**204**	P	**Pg**	**04 01 25.0**	**-0.7**
PALE				S	**Sg**	**04 01 29.7**	**+0.2**
PVLZ	**Peæn de**	**0.51**	**234**	P	**Pg**	**04 01 30.2**	**+0.2**
PVLZ				S	**Sg**	**04 01 37.2**	**+0.5**
EMEL	**Melilla**	**0.71**	**104**	Pg	**Pg**	**04 01 33.2**	**-0.5**
EMEL				Sg	**Sb**	**04 01 44.3**	**+0.1**
EALB	**Alboran**	**0.78**	**53**	Pg	**Pb**	**04 01 35.4**	**-0.2**
EALB				*i* Vmb_Lg		04 01 47.7	
EALB				Sg	**Sn**	**04 01 47.9**	**-0.8**
AKLM	**AKL**	**0.96**	**183**	P	**Pb**	**04 01 39.3**	**+0.4**
AKLM				S	**Sb**	**04 01 52.9**	**+1.3**
SMIR	**Smir Dam**	**1.31**	**280**	P	**Pn**	**04 01 42.7**	**-1.6**
SMIR				S	**Sb**	**04 02 01.8**	**+0.3**
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**04 01 43.4**	**-1.0**
TAF				S	**Sb**	**04 02 00.2**	**-1.5**
CHEFC	**Chefchaouen**	**1.31**	**254**	P	**Pn**	**04 01 45.0**	**+0.5**
CHEFC				S	**Sg**	**04 02 03.0**	**+0.7**
EMIJ	**Mijas**	**1.35**	**324**	Pg	**Pn**	**04 01 44.8**	**-0.1**
EMIJ				Sg	**Sg**	**04 02 03.9**	**+0.5**
EMIJ				*i* Vmb_Lg		04 02 08.5	
CEU	**Ceuta**	**1.35**	**289**	P	**Pn**	**04 01 42.0**	**-2.9**
CEU				S	**Sb**	**04 01 57.5**	**-5.2**
EMAL	**Malaga-Limoner**	**1.39**	**339**	P	**Pb**	**04 01 46.0**	**0.0**
EMAL				S	**Sb**	**04 02 03.4**	**-0.3**
ELGU	**Los Guajares,**	**1.40**	**6**	Pg	**Pb**	**04 01 46.1**	**-0.2**
ELGU				Sg	**Sg**	**04 02 06.1**	**+1.0**
ELGU				*i* Vmb_Lg		04 02 06.9	
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**04 01 47.5**	**+0.1**
JBK				S	**Sg**	**04 02 09.4**	**+0.4**
EBER	**Berja**	**1.60**	**27**	Pg	**Pb**	**04 01 49.7**	**-0.1**
EBER				Sg	**Sn**	**04 02 09.2**	**-0.1**
EBER				*i* Vmb_Lg		04 02 12.0	
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pg	**Pg**	**04 01 52.3**	**+0.5**
EGOR				Sg	**Sb**	**04 02 11.9**	**+0.3**
EGOR				*i* Vmb_Lg		04 02 17.1	
LCRM	**LCR**	**1.98**	**206**	P	**Pn**	**04 01 55.4**	**+1.6**
LCRM				S	**Sb**	**04 02 21.1**	**0.0**
IFR	**Ifrane**	**2.24**	**210**	P	**Pn**	**04 01 58.0**	**+0.7**
IFR				S	**Sn**	**04 02 22.9**	**-2.1**
EQES	**Quesada**	**2.40**	**14**	Pn	**Pb**	**04 02 02.1**	**-1.2**
EQES				Sn	**Sb**	**04 02 30.9**	**-2.1**
EQES				*i* Vmb_Lg		04 02 35.2	
MD31	**MD31**	**2.72**	**197**	P	**Pn**	**04 02 04.6**	**+0.8**
MD31				S	**Sn**	**04 02 36.9**	**+0.2**
MDT	**Midelt**	**2.73**	**194**	P	**Pn**	**04 02 05.2**	**+1.2**
MDT				S	**Sn**	**04 02 38.5**	**+1.3**
EADA	**Adamuz**	**2.76**	**347**	Pn	**Pn**	**04 02 06.9**	**+2.6**
EADA				Sn	**Sn**	**04 02 39.5**	**+1.8**
TDRA	**Tendrara**	**2.83**	**148**	P	**Pn**	**04 02 05.2**	**-0.3**
TDRA				S	**Sn**	**04 02 39.5**	**-0.3**
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**04 02 08.4**	**+2.1**
ECAB				Sn	**Sn**	**04 02 43.5**	**+2.2**
EZAR	**Zarzadilla de**	**2.94**	**35**	Pn	**Pn**	**04 02 07.7**	**+0.9**
EZAR				Sn	**Sn**	**04 02 41.1**	**-1.0**
EMIN	**Mina Concepcio**	**3.25**	**316**	Pn	**Pn**	**04 02 11.6**	**+0.5**
EMIN				Sn	**Sn**	**04 02 49.2**	**-0.6**

IDC ***18*** *04:14:21.1±1.1, 22°.32S×67°.37W, h152km±13km, mb3.3/2, mb1 3.4/5, mb1mx3.2/26, mbtmp3.7/5, Error ellipse: s-maj=28.6km s-min=16.6km az=150.0*
GUC ***18*** *04:14:22.7±0.8, 22°.32S×67°.92W, h206km±8km, ML3.8*
SCB ***18*** *04:14:25.5±2.4, 22°.27S×67°.69W, h80km±47km, ML3.1/13, MW3.2, Error ellipse: s-maj=11.5km s-min=6.7km az=0.0*

ISC 18 04:14:21.9±1.0, 22°.32S±0°.05×67°.59W±0°.05, h167km±8km, n38, σ1s79/53, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.26**	**256**	P	**Pn**	**04 14 51.1**	**+0.2**
LVC	14nm,0.3s,baz=83,slow=7.5,SNR=114			S	**Sn**	**04 15 12.9**	**-0.1**
LVC	16nm,0.3s,baz=251,slow=17,SNR=26 **Limon Verde**	**1.26**	**256**	P	**Pn**	**04 14 51.2**	**+0.3**
PB09	**IPOC Station P**	**1.62**	**288**	*iP*	**Pn**	**04 14 55.5**	**+1.4**
PB09				*i* S	**Sn**	**04 15 20.8**	**+1.8**
PB09	**IPOC Station P**	**1.62**	**288**	P	**Pn**	**04 14 54.7**	**+0.5**
PB09	134nm,0.6s			IAML		04 15 23.2	
PB06	**IPOC Station P**	**1.88**	**258**	*eP*	**Pn**	**04 14 57.4**	**+0.5**
PB06				*i* S	**Sn**	**04 15 24.0**	**+0.2**
PB06	**IPOC Station P**	**1.88**	**258**	P	**Pn**	**04 14 57.3**	**+0.5**
PB06	92nm,0.2s			IAML		04 15 27.1	
YJA	**Yavi**	**1.93**	**86**	P	**Pn**	**04 14 59.7**	**+2.0**
YJA	12nm,0.5s			IAML		04 15 30.7	
PB15	**IPOC Station P**	**1.95**	**243**	*iP*	**Pn**	**04 14 58.3**	**+0.5**
PB15				*i* S	**Sn**	**04 15 25.9**	**+0.4**
PB15	**IPOC Station P**	**1.95**	**243**	P	**Pn**	**04 14 58.2**	**+0.5**
PB15				S	**Sn**	**04 15 21.1**	**-4.3**
PB15	435nm,0.2s			IAML		04 15 33.1	
MOCB	**Mochara**	**2.10**	**60**	P	**Pn**	**04 15 02.0**	**+2.3**
MOCB				S	**Sn**	**04 15 28.0**	**-0.8**
MOCB	97nm,0.8s			IAML		04 15 31.1	
PB01	**IPOC Station P**	**2.17**	**305**	*iP*	**Pn**	**04 15 00.4**	**+0.3**
PB01				*i* S	**Sn**	**04 15 30.0**	**+0.3**
PB01	comp=E,379nm,0.1s			IAML		04 15 31.5	
PB01	**IPOC Station P**	**2.17**	**305**	P	**Pn**	**04 15 01.0**	**+0.9**
PB01	comp=E,188nm,0.2s			IAML		04 15 31.5	
PB07	**IPOC Station P**	**2.21**	**285**	*iP*	**Pn**	**04 15 01.2**	**+0.5**
PB07				*i* S	**Sn**	**04 15 29.4**	**-1.2**
PB07	comp=N,565nm,0.3s			IAML		04 15 30.3	
PB07	**IPOC Station P**	**2.21**	**285**	P	**Pn**	**04 15 01.3**	**+0.6**
PB07				S	**Sn**	**04 15 25.8**	**-4.8**
PB07	comp=N,272nm,0.7s			IAML		04 15 30.0	
PB07	comp=N,169nm,0.6s			IAML		04 15 32.0	
PB02	**IPOC Station P**	**2.36**	**294**	*iP*	**Pn**	**04 15 02.6**	**+0.2**
PB02				*i* S	**Sn**	**04 15 32.2**	**-1.4**
PB02	comp=N,373nm,0.5s			IAML		04 15 33.0	
PB02	**IPOC Station P**	**2.36**	**294**	P	**Pn**	**04 15 03.0**	**+0.7**
PB02	comp=N,340nm,0.2s			IAML		04 15 35.0	
PB04	**IPOC Station P**	**2.37**	**269**	*iP*	**Pn**	**04 15 02.6**	**+0.1**
PB04				*i* S	**Sn**	**04 15 32.0**	**-1.9**
PB04	comp=N,264nm,0.2s			IAML		04 15 35.9	
PB04	**IPOC Station P**	**2.37**	**269**	P	**Pn**	**04 15 02.8**	**+0.3**
PB04	comp=N,221nm,0.1s			IAML		04 15 34.8	
PB08	**IPOC Station P**	**2.61**	**326**	*iP*	**Pn**	**04 15 07.2**	**+1.6**
PB08				*i* S	**Sn**	**04 15 40.9**	**+1.5**
PB08	comp=N,108nm,0.1s			IAML		04 15 42.8	
PB08	**IPOC Station P**	**2.61**	**326**	P	**Pn**	**04 15 07.5**	**+1.9**
PB08	comp=N,48nm,0.4s			IAML		04 15 42.8	
PATCX	**Punta Patache**	**2.81**	**301**	*iP*	**Pn**	**04 15 07.8**	**+0.1**
PATCX				*i* S	**Sn**	**04 15 41.7**	**-1.6**
PATCX	comp=N,274nm,0.2s			IAML		04 15 43.9	
HMBC	**Humberstone**	**2.95**	**313**	*eP*	**Pn**	**04 15 09.2**	**-0.3**
HMBC				*i* S	**Sn**	**04 15 45.4**	**-1.0**
HMBC	comp=N,233nm,0.2s			IAML		04 15 47.0	
PB10	**IPOC Station P**	**2.98**	**246**	P	**Pn**	**04 15 10.2**	**+0.5**
PB10	comp=N,30nm,1.3s			IAML		04 16 17.5	
GO01	**Chusmiza**	**3.03**	**330**	*eP*	**Pn**	**04 15 12.0**	**+1.1**
GO01				*i* S	**Sn**	**04 15 49.7**	**+0.9**
TA02	**Huaiquique**	**3.12**	**310**	IAML		04 15 52.4	
	comp=E,326nm,0.1s						
PB11	**IPOC Station P**	**3.19**	**322**	*iP*	**Pn**	**04 15 12.5**	**-0.1**
PB11				*i* S	**Sn**	**04 15 51.2**	**-0.7**
PB11	comp=E,197nm,0.1s			IAML		04 15 53.6	
PB11	**IPOC Station P**	**3.19**	**322**	P	**Pn**	**04 15 12.8**	**+0.3**
PB11	comp=E,60nm,0.2s			IAML		04 15 52.2	
GO02	**Mina Guanaco**	**3.38**	**213**	*eP*	**Pn**	**04 15 15.0**	**0.0**
PB16	**IPOC Station P**	**4.35**	**335**	P	**Pn**	**04 15 28.5**	**+0.8**
PB12	**IPOC Station P**	**4.49**	**325**	*eP*	**Pn**	**04 15 27.7**	**-1.4**
BBOE	**La Paz, Chanca**	**5.49**	**356**	P	**Pn**	**04 15 45.5**	**+2.9**
BBOD	**La Paz, Gloria**	**5.73**	**350**	P	**Pn**	**04 15 48.7**	**+2.9**
LPAZ	**La Paz** comp=E,1.4nm,0.3s,baz=170,slow=5.1,SNR=39	**6.02**	**355**	P	**Pn**	**04 15 50.8**	**+1.2**
LPAZ	**La Paz**	**6.02**	**355**	P	**Pn**	**04 15 51.6**	**+1.9**
SIV	**San Ignacio** comp=E,1.5nm,0.3s,baz=238,slow=7.2,SNR=30	**8.80**	**46**	P	**Pn**	**04 16 24.0**	**-2.0**
SIV				S	**Sn**	**04 17 57.4**	**-6.7**
CPUP	**Villa Florida** comp=E,0.4nm,0.3s,baz=270,slow=20,SNR=3.5	**10.17**	**115**	P	Pn	04 16 41.5	-2.4
TORD	**Torodi Ar. Bea** comp=E,0.3nm,0.5s,baz=256,slow=5.4,SNR=6.6	**76.48**	**70**	P	**P**	**04 25 53.5**	**-0.3**
YKA	**Yellowknife Ar** comp=E,0.2nm,0.6s,baz=135,slow=4.1,SNR=4.8	**92.36**	**340**	P	**P**	**04 27 13.9**	**+1.0**

IDC 18 04:35:39.2±1.5, 33°.07N×39°.85W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.5/34, mbtmp3.6/6, MS3.6/44, Ms1 3.6/44, ms1mx3.5/82, Error ellipse: s-maj=61.2km s-min=23.7km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan** comp=Z,66nm,19.8s,baz=94,slow=34	**27.91**	**244**	LR	LR	04 51 38.0	
SCHQ	**Schefferville** comp=Z,107nm,21.9s,baz=112,slow=35	**28.85**	**327**	LR	LR	04 52 23.5	
MDT	**Midelt** comp=Z,230nm,20.2s,baz=296,slow=30	**29.49**	**81**	LR	LR	04 50 31.3	
ESDC	**Sonseca Array** comp=Z,50nm,19.0s,baz=240,slow=31	**29.49**	**67**	LR	LR	04 50 42.9	
MDP	**Montagnes des** comp=Z,74nm,19.8s,baz=110,slow=32	**30.28**	**206**	LR	LR	04 51 33.4	
SADO	**Sadowa** comp=Z,81nm,18.4s,baz=161,slow=35	**32.43**	**303**	LR	LR	04 54 24.6	
SFJD	**Kangerlussuaq** comp=Z,57nm,20.8s,baz=200,slow=30	**34.55**	**353**	LR	LR	04 53 06.8	
FRB	**Frobisher Bay** comp=Z,65nm,18.4s,baz=182,slow=34	**35.51**	**338**	LR	LR	04 55 53.4	
TKL	**Tuckaleechee C** comp=Z,183nm,19.6s,baz=116,slow=32	**36.13**	**287**	LR	LR	04 55 12.6	
SDV	**Santo Domingo** comp=Z,81nm,21.2s,baz=48,slow=34	**37.24**	**237**	LR	LR	04 56 37.1	
RCBR	**Riachuelo** comp=Z,88nm,18.1s,baz=130,slow=32	**38.87**	**174**	LR	LR	04 56 15.1	
DAVOX	**Davos/Dischmat** comp=Z,53nm,21.4s,baz=260,slow=29	**39.86**	**55**	LR	LR	04 54 59.0	
DBIC	**Dimbokro** comp=Z,118nm,18.6s,baz=314,slow=33	**41.76**	**121**	LR	LR	04 58 37.8	
GERES	**GERESS Array B** comp=Z,38nm,18.4s,baz=304,slow=32	**42.50**	**52**	LR	LR	04 58 30.9	
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=304,slow=9.8,SNR=6.0	**42.70**	**108**	P	P	04 43 38.3	+0.2
NOA	**NORSAR Array B**	**43.00**	**34**	LR	LR	04 58 28.7	
VAE	**Valguarnera** comp=Z,66nm,18.3s,baz=192,slow=32	**44.01**	**68**	LR	LR	04 59 21.1	
ULM	**Lac du Bonnet** comp=Z,80nm,21.1s,baz=102,slow=34	**44.14**	**310**	LR	LR	05 00 46.6	
VRAC	**Vranov** comp=Z,41nm,18.6s,baz=266,slow=34	**44.40**	**51**	LR	LR	05 00 47.4	
JTS	**Las Juntas de** comp=Z,45nm,19.9s,baz=110,slow=33	**47.19**	**252**	LR	LR	05 01 47.3	
H10N2	**ASCENSION HYDR** baz=330,slow=75,SNR=33	**47.29**	**145**	T	T	05 34 19.6	
H10N3	**ASCENSION HYDR** baz=330,slow=75,SNR=40	**47.30**	**145**	T	T	05 34 25.3	
H10N1	**ASCENSION HYDR** baz=330,slow=75,SNR=34	**47.31**	**145**	T	T	05 34 18.8	
H10S3	**ASCENSION HYDR** baz=330,slow=74,SNR=13	**48.19**	**146**	T	T	05 35 29.6	
H10S2	**ASCENSION HYDR** baz=250,slow=74,SNR=8.4	**48.20**	**146**	T	T	05 35 31.4	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=273,slow=6.6,SNR=4.3	**52.42**	**49**	P	P	04 44 52.6	-0.6
AKASG	comp=Z,57nm,18.2s,baz=246,slow=34			LR	LR	05 05 34.8	
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=99,slow=6.5,SNR=4.4	**53.97**	**284**	P	P	04 45 05.3	+0.2
TXAR	comp=Z,98nm,19.7s,baz=66,slow=34			LR	LR	05 06 29.9	
ANMO	**Albuquerque** comp=Z,86nm,21.9s,baz=93,slow=33	**54.30**	**292**	LR	LR	05 05 37.2	
YKA	**Yellowknife Ar** 0.5nm,0.9s,baz=85,slow=7.6,SNR=4.1	**54.30**	**327**	P	P	04 45 07.8	+0.9
YKA	comp=Z,103nm,20.3s,baz=77,slow=34			LR	LR	05 06 48.8	
PDAR	**Pinedale Array** 0.8nm,0.9s,baz=81,slow=9.6,SNR=5.5	**54.42**	**302**	P	P	04 45 08.9	+0.5
PDAR	comp=Z,52nm,18.4s,baz=96,slow=35			LR	LR	05 07 40.7	
LPAZ	**La Paz** comp=Z,47nm,18.1s,baz=56,slow=35	**56.03**	**213**	LR	LR	05 08 38.9	
BRTR	**Keskin Array B** comp=Z,42nm,20.1s,baz=299,slow=33	**58.01**	**61**	LR	LR	05 07 54.4	
NEW	**Newport** comp=Z,61nm,21.9s,baz=88,slow=35	**58.15**	**310**	LR	LR	05 09 26.2	
ELK	**Elko** comp=Z,69nm,19.5s,baz=92,slow=36	**59.07**	**301**	LR	LR	05 10 36.7	
INK	**Inuvik** comp=Z,81nm,20.5s,baz=112,slow=34	**61.04**	**335**	LR	LR	05 10 20.6	
LPIG	**La Paz** comp=Z,43nm,18.8s,baz=16,slow=35	**61.50**	**281**	LR	LR	05 11 55.8	
NVAR	**Mina Array Bea** 0.3nm,0.8s,baz=68,slow=4.0,SNR=4.0	**62.09**	**299**	P	P	04 46 00.5	-1.7
NVAR	comp=Z,96nm,19.5s,baz=102,slow=36			LR	LR	05 12 21.8	
PFO	**Pinyon Flats O** comp=Z,80nm,19.5s,baz=63,slow=35	**62.52**	**294**	LR	LR	05 12 14.7	
DLBC	**Dease Lake** comp=Z,165nm,18.5s,baz=81,slow=36	**62.58**	**324**	LR	LR	05 13 26.6	
BELG	**Belogornoye** comp=Z,86nm,19.6s,baz=197,slow=35	**63.13**	**43**	LR	LR	05 12 19.8	
BBB	**Bella Bella** comp=Z,47nm,20.0s,baz=118,slow=35	**63.66**	**317**	LR	LR	05 13 08.8	
YBH	**Yreka Blue Hor** comp=Z,29nm,18.2s,baz=79,slow=37	**64.01**	**304**	LR	LR	05 15 28.2	
AKTO	**Aktyubinsk** comp=Z,61nm,18.6s,baz=311,slow=35	**69.87**	**42**	LR	LR	05 16 46.2	
KDAK	**Kodiak Island** comp=Z,73nm,18.5s,baz=200,slow=36	**73.45**	**329**	LR	LR	05 19 46.9	
MBAR	**Mbarara** comp=Z,61nm,18.9s,baz=232,slow=35	**74.13**	**101**	LR	LR	05 18 54.9	
ATD	**Arta Tunnel** comp=Z,47nm,18.0s,baz=243,slow=36	**77.73**	**84**	LR	LR	05 22 00.4	
LSZ	**Lusaka** comp=Z,52nm,18.1s,baz=305,slow=34	**80.74**	**115**	LR	LR	05 22 01.9	
AAK	**Ala-Archa** comp=Z,51nm,18.6s,baz=318,slow=36	**83.62**	**43**	LR	LR	05 25 23.2	
LBTB	**Lobatse** comp=Z,36nm,21.6s,baz=254,slow=32	**84.94**	**124**	LR	LR	05 20 25.8	
MKAR	**Makanchi Array** comp=Z,37nm,19.4s,baz=327,slow=35	**84.96**	**36**	LR	LR	05 25 45.7	

IDC 18 04:44:01.0±2.2, 4°.88S×144°.88E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.3/46, mbtmp3.6/3, MLJ3.2/1, Error ellipse: s-maj=314.2km s-min=32.4km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=34,slow=12,SNR=7.4	**18.15**	**214**	P	Pn	04 48 13.6	-1.1
ASAR	**Alice Springs** 2.6nm,0.8s,baz=37,slow=11,SNR=18	**21.47**	**208**	P	P	04 48 52.0	+0.6
ILAR	**Eielson Array** 0.3nm,0.7s,baz=250,slow=4.7,SNR=2.5	**85.30**	**24**	P	P	04 56 39.5	-0.1

IDC ***18*** *04:55:07.4±1.5, 55°.71N×110°.27E, h0km, mb3.4/2, mb1 3.6/6, mb1mx3.4/47, mbtmp3.5/6, ML3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/67, Error ellipse: s-maj=41.9km s-min=20.1km az=131.0*
MOS ***18*** *04:55:08.1±1.5, 55°.78N×110°.14E, h14km, mb3.6/1, Error ellipse: s-maj=12.5km s-min=8.1km az=59.9*
BYKL ***18*** *04:55:09.0±0.2, 55°.74N×110°.20E, h10km±3km*

ISC 18 04:55:08.3±1.0, 55°.67N±0°.03×110°.20E±0°.02, h3km±8km, n53, σ2s26/100, 3C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**287**	*iPg*	**Pg**	**04 55 16.0**	**+0.3**
NIZ				*e*		04 55 21.5	
NIZ	comp=Z,337nm,0.2s			pmax	pmax		
NIZ	comp=E,3μm,0.5s			smax	smax		
NIZ	**Nizh Angarsk**	**0.39**	**287**	*iPg*	**Pg**	**04 55 16.0**	**+0.3**
NIZ				*e*Sg	**Sg**	**04 55 21.5**	**+0.7**
NIZ	comp=E,316nm,0.2s			Pmax			
NIZ	comp=E,3μm,0.4s			Smax			
KMO	**Kumora**	**0.61**	**68**	*e*PG	**Pg**	**04 55 19.4**	**-0.6**
KMO				*e*		04 55 26.1	
KMO	comp=Z,91nm,0.2s			pmax	pmax		
KMO	comp=N,1μm,0.6s			smax	smax		
KMO	**Kumora**	**0.61**	**68**	*e*Pg	**Pg**	**04 55 19.1**	**-0.9**
KMO				*e*Sg	**Sg**	**04 55 27.0**	**-0.9**
KMO				*e*		04 55 36.8	
KMO	comp=N,241nm,0.3s			Pmax			
KMO	comp=N,2μm,1.4s			max			
YLYR	**Ulyunkhan**	**0.97**	**145**	*iPg*	**Pg**	**04 55 27.5**	**+0.7**
YLYR				*e*Sg	**Sb**	**04 55 41.7**	**+0.8**
YLYR				*e*		04 55 47.5	
YLYR	comp=N,178nm,0.3s			Pmax	

UKT	**Uakit**	**1.96**	**94**	*i*Pg	**Pn**	**04 55 43.7**	**+1.2**
UKT				*e*Sg	**Sb**	**04 56 10.1**	**+0.6**
UKT				Pmax			
	comp=N,123nm,0.4s						
UKT				Smax			
	comp=N,887nm,0.5s						
SYVR	**Suvo**	**2.02**	**183**	*e*PN	**Pb**	**04 55 46.6**	**+1.0**
SYVR				*e*		04 56 14.7	
SYVR				pmax	pmax		
	comp=Z,258nm,0.5s						
SYVR				smax	smax		
	comp=E,3µm,0.7s						
SYVR	**Suvo**	**2.02**	**183**	*e*Pg	**Pb**	**04 55 46.3**	**+0.7**
SYVR				*e*Sg	**Sg**	**04 56 14.5**	**+1.5**
SYVR				Pmax			
	comp=E,253nm,0.5s						
SYVR				Smax			
	comp=E,3µm,0.7s						
OGRR	**Ongureny**	**2.53**	**218**	*e*PN	**Pb**	**04 55 54.4**	**+0.1**
OGRR				*e*		04 55 58.4	
OGRR				*e*		04 56 31.2	
OGRR				pmax	pmax		
	comp=Z,51nm,0.5s						
OGRR				smax	smax		
	comp=E,465nm,0.8s						
OGRR	**Ongureny**	**2.53**	**218**	*e*Pg	**Pb**	**04 55 54.5**	**+0.1**
OGRR				*e*PgPg	**PbPb**	**04 55 57.8**	**+0.3**
OGRR				*e*		04 56 26.5	
OGRR				*e*Sg	**Sg**	**04 56 29.9**	**+0.4**
OGRR				max			
	comp=E,51nm,0.3s						
OGRR				Smax			
	comp=E,464nm,0.4s						
MXMB	**Maximikha**	**2.55**	**200**	*e*PN	**Pn**	**04 55 52.2**	**+1.6**
MXMB				*e*Pg	**Pb**	**04 55 55.8**	**+1.0**
MXMB				*e*Sn	**Sn**	**04 56 23.0**	**+0.8**
MXMB				*e*Sg	**Sg**	**04 56 30.3**	**0.0**
BOD	**Bodaibo**	**3.01**	**43**	*e*PN	**Pn**	**04 55 56.9**	**0.0**
BOD				*e*		04 56 02.4	
BOD				*e*		04 56 37.9	
BOD				pmax	pmax		
	comp=Z,20nm,0.3s						
BOD				smax	smax		
	comp=N,268nm,0.5s						
BOD	**Bodaibo**	**3.01**	**43**	*e*Pn	**Pn**	**04 55 57.1**	**+0.2**
BOD				*e*Pg	**Pb**	**04 56 01.6**	**-0.9**
BOD				*e*Sn	**Sn**	**04 56 30.6**	**-2.8**
BOD				*e*Sg	**Sb**	**04 56 39.3**	**-0.3**
BOD				Pmax			
	comp=N,21nm,0.3s						
BOD				Smax			
	comp=N,268nm,0.6s						
KELR	**Kotokel**	**3.17**	**204**	*e*Pg	**Pb**	**04 56 07.1**	**+1.9**
KELR				*e*Sn	**Sn**	**04 56 38.4**	**+1.1**
KELR				*e*Sg	**Sg**	**04 56 49.1**	**-0.9**
NLYR	**Nelyaty**	**3.19**	**73**	*e*PN	**Pn**	**04 56 01.2**	**+1.7**
NLYR				*e*		04 56 07.3	
NLYR				*e*		04 56 45.4	
NLYR				pmax	pmax		
	comp=Z,63nm,0.7s						
NLYR				smax	smax		
	comp=E,313nm,1.1s						
NLYR	**Nelyaty**	**3.19**	**73**	*e*Pn	**Pn**	**04 55 59.8**	**+0.3**
NLYR				*e*Pg	**Pb**	**04 56 07.7**	**+2.0**
NLYR				*e*Sn	**Sn**	**04 56 37.9**	**-0.2**
NLYR				*e*Sg	**Sb**	**04 56 47.9**	**+2.9**
NLYR				*e*		04 56 56.3	
NLYR				Pmax			
	comp=E,63nm,0.6s						
NLYR				max			
	comp=E,317nm,1.1s						
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	**Pn**	**04 56 08.1**	**+1.9**
TRG				*e*Pg	**Pb**	**04 56 16.6**	**+2.5**
TRG				*e*		04 56 31.5	
TRG				*e*Sg	**Sg**	**04 57 04.6**	**-2.0**
TRG				Pmax			
	comp=E,25nm,0.3s						
TRG				Smax			
	comp=E,196nm,0.4s						
VTMR	**Vitim**	**3.99**	**18**	*e*Pg	**Pb**	**04 56 20.0**	**+0.8**
VTMR				*e*Sg	**Sb**	**04 57 10.3**	**+2.5**
CIT	**Chita**	**4.16**	**150**	*e*PN	**Pn**	**04 56 13.6**	**+0.9**
CIT				*e*		04 56 24.5	
CIT				*e*S	**Sn**	**04 57 01.2**	**-0.6**
CIT				pmax	pmax		
	comp=Z,109nm,1.2s						
CIT				smax	smax		
	comp=E,197nm,1.2s						
CIT	**Chita**	**4.16**	**150**	*e*Pg	**Pb**	**04 56 24.4**	**+2.3**
CIT				*e*Sg	**Sg**	**04 57 19.0**	**-2.8**
CIT				Pmax			
	comp=E,59nm,0.2s						
CIT				Smax			
	comp=E,243nm,0.3s						
KAB	**Kabansk**	**4.19**	**212**	*e*Sg	**Sg**	**04 57 20.8**	**-1.9**
KAB				Smax			
	comp=E,359nm,1.0s						
BGT	**Bolshoye Golou**	**4.60**	**220**	*e*Pn	**Pn**	**04 56 19.4**	**+0.6**
BGT				*e*		04 56 29.4	
BGT				*e*Sn	**Sn**	**04 57 13.4**	**+0.6**
BGT				*e*Sg	**Sg**	**04 57 32.4**	**-3.7**
BGT				max			
	comp=E,25nm,0.5s						
BGT				Smax			
	comp=E,258nm,0.9s						
CRS	**Chara**	**4.67**	**71**	*e*PN	**Pn**	**04 56 19.5**	**-0.2**
CRS				*e*		04 56 33.4	
CRS				*e*		04 57 32.6	
CRS				pmax	pmax		
	comp=Z,44nm,0.8s						
CRS				smax	smax		
	comp=E,133nm,0.9s						
CRS	**Chara**	**4.67**	**71**	*e*Pn	**Pn**	**04 56 19.3**	**-0.4**
CRS				*e*Pg	**Pb**	**04 56 33.0**	**+2.2**
CRS				*e*Sg	**Sb**	**04 57 33.1**	**+5.8**
CRS				Pmax			
	comp=E,46nm,1.2s						
CRS				Smax			
	comp=E,137nm,1.0s						
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**04 56 25.2**	**+1.5**
LSTR				*e*Sn	**Sn**	**04 57 21.4**	**-0.1**
LSTR				*e*Sg	**Sg**	**04 57 43.2**	**-4.3**
LSTR				max			
	comp=E,7.0nm,0.2s						
LSTR				Smax			
	comp=E,90nm,1.3s						
IVK	**Ivanovka**	**5.17**	**224**	*e*Pn	**Pn**	**04 56 27.7**	**+1.1**
IVK				*e*Pg	**Pb**	**04 56 43.1**	**+3.7**
IVK				*e*Sn	**Sn**	**04 57 25.7**	**-1.1**
IVK				*e*Sg	**Sg**	**04 57 50.1**	**-4.3**
IVK				Pmax			
	comp=E,11nm,0.4s						
IVK				Smax			
	comp=E,133nm,0.9s						
KHNR	**Khani**	**5.59**	**73**	*e*Sg	**Sg**	**04 58 01.8**	**-5.9**
TUP	**Tupik**	**5.75**	**98**	*e*PN	**Pn**	**04 56 35.0**	**+0.5**
TUP				*e*		04 56 52.6	
TUP				*e*S	**Sn**	**04 57 38.0**	**-2.9**
TUP				*e*		04 58 07.3	
TUP				pmax	pmax		
	comp=Z,22nm,0.6s						
TUP				smax	smax		
	comp=N,180nm,0.9s						
TUP	**Tupik**	**5.75**	**98**	*e*Pn	**Pn**	**04 56 35.0**	**+0.5**
TUP				*e*Pg	**Pb**	**04 56 52.6**	**+3.4**
TUP				*e*		04 56 55.7	
TUP				*e*Sn	**Sn**	**04 57 38.2**	**-2.7**
TUP				*e*Sg	**Sg**	**04 58 07.5**	**-5.2**
TUP				max			
	comp=N,26nm,0.9s						
TUP				Smax			
	comp=N,230nm,2.0s						
ARS	**Arshan**	**5.94**	**234**	*e*Pn	**Pn**	**04 56 38.0**	**+0.8**
ARS				*e*Sn	**Sn**	**04 57 43.3**	**-2.5**
ARS				*e*Sg	**Sg**	**04 58 14.8**	**-4.2**
ARS				max			
	comp=N,23nm,0.4s						
ARS				Smax			
	comp=N,472nm,0.7s						
KPC	**Khapcheranga**	**6.12**	**167**	*e*PN	**Pn**	**04 56 41.2**	**+1.5**
KPC				*e*		04 56 59.7	
KPC				*e*		04 58 17.8	
KPC				pmax	pmax		
	comp=Z,19nm,0.6s						
KPC				smax	smax		
	comp=E,118nm,1.2s						
KPC	**Khapcheranga**	**6.12**	**167**	*e*Pn	**Pn**	**04 56 41.1**	**+1.4**
KPC				*e*Pg	Pb	04 57 00.9	+5.4
KPC				*e*Sg	**Sg**	**04 58 20.5**	**-4.2**
KPC				Pmax			
	comp=E,19nm,0.7s						
KPC				Smax			
	comp=E,118nm,1.0s						
YKLR	**Yuktali**	**6.47**	**77**	*e*Pg	**Pb**	**04 57 04.6**	**+3.1**
YKLR				*e*Sg	Sb	04 58 28.4	+9.1
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	**Pn**	**04 56 49.9**	**+1.7**
ZAK				*e*S	**Sn**	**04 58 09.7**	**+4.3**
ZAK				*e*		04 58 38.4	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZAK				smax	smax		
	comp=N,73nm,0.6s						
ZAK	**Zakamensk**	**6.74**	**221**	*e*Sn	**Sn**	**04 58 04.0**	**-1.4**
ZAK				*e*Sg	**Sg**	**04 58 39.7**	**-4.8**
ZAK				Smax			
	comp=N,73nm,1.1s						
MOY	**Mondy**	**6.78**	**238**	*e*PN	**Pn**	**04 56 51.1**	**+2.4**
MOY				*e*		04 57 12.9	
MOY				*e*S	**Sn**	**04 58 05.8**	**-0.6**
MOY				*e*		04 58 41.1	
MOY				pmax	pmax		
	comp=Z,13nm,0.6s						
MOY				smax	smax		
	comp=E,121nm,1.5s						
MOY	**Mondy**	**6.78**	**238**	*e*Pn	**Pn**	**04 56 51.3**	**+2.6**
MOY				*e*Sn	**Sn**	**04 58 04.7**	**-1.7**
MOY				*e*Sg	**Sg**	**04 58 40.1**	**-5.7**
MOY				max			
	comp=E,41nm,1.1s						
MOY				Smax			
	comp=E,121nm,1.5s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	**Pn**	**04 56 51.8**	**+1.9**
ORL				*e*		04 57 13.5	
ORL				*e*S	**Sn**	**04 58 05.8**	**-2.8**
ORL				*e*		04 58 41.2	
ORL				pmax	pmax		
	comp=Z,14nm,0.5s						
ORL				smax	smax		
	comp=N,61nm,1.5s						
ORL	**Orlik**	**6.86**	**247**	*e*Pn	**Pn**	**04 56 51.9**	**+2.0**
ORL				*e*Sn	**Sn**	**04 58 06.0**	**-2.6**
ORL				*e*Sg	**Sg**	**04 58 42.9**	**-5.7**
ORL				max			
	comp=N,15nm,0.7s						
ORL				Smax			
	comp=N,62nm,1.5s						
SONM	**Songino Array**	**8.19**	**198**	Pn	**Pn**	**04 57 08.5**	**+0.4**
	comp=N,0.2nm,0.3s,baz=12,slow=16,SNR=2.0						
SONM				Lg	Lg	04 59 29.1	
	comp=N,2.5nm,0.3s,baz=0.9,slow=28,SNR=20						
IENR	**Iengra**	**8.25**	**80**	*e*Pn	**Pn**	**04 57 08.6**	**-0.3**
IENR				*e*Sg	Sg	04 59 24.1	-8.9
KLR	**Kul'dur**	**14.60**	**107**	Lg	Lg	05 02 43.3	
	comp=N,0.1nm,0.3s,baz=71,slow=24,SNR=3.8						
ZALV	**Zalesovo Beam**	**14.71**	**274**	Pn	**Pn**	**04 58 37.5**	**+0.5**
	baz=93,slow=15,SNR=1.4						
KURK	**Kurchatov**	**19.45**	**268**	P	**Pn**	**04 59 36.8**	**-0.1**
MKAR	**Makanchi Array**	**19.48**	**255**	P	**P**	**04 59 36.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=60,slow=10,SNR=18						
KURBB	**Kurchatov Arra**	**19.54**	**268**	P	**P**	**04 59 36.8**	**0.0**
	comp=N,0.1nm,0.3s,baz=66,slow=12,SNR=9.5						
KSRS	**Korea Array**	**21.80**	**139**	LR	LR	05 08 24.7	
	comp=N,21nm,18.1s,baz=80,slow=37						
ILAR	**Eielson Array**	**46.35**	**35**	P	**P**	**05 03 35.1**	**-0.1**
	comp=N,0.7nm,1.0s,baz=305,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**57.10**	**23**	P	**P**	**05 04 53.5**	**-1.9**
	comp=N,0.3nm,0.7s,baz=329,slow=6.9,SNR=5.6						

IDC ***18*** *04:56:01.1±1.1,9.˚65S×157.˚51E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.7/40,mbtmp3.7/7,ML4.1/1,MS3.2/11, Ms1 3.2/11,ms1mx2.9/60,Error ellipse: s-maj=58.1km s-min=21.8km az=150.0*

ISC 18 04:56:04.3±1.1,9.˚7S±0.˚3×157.˚6E±0.˚1,h24km,n17, σ1s28/7,mb3.7/5,MS3.3/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.31**	**83**	Pn	**Pn**		**04 56 40.5**	**-0.4**
	40nm,0.3s,baz=256,slow=5.7,SNR=2.5							
HNR				Sn	**Sn**		**04 57 08.2**	**-0.4**
	200nm,0.3s,baz=330,slow=17,SNR=12							
PMG	**Port Moresby**	**10.32**	**271**	LR	LR		05 02 11.9	
	comp=Z,126nm,18.6s,baz=216,slow=36							
DZM	**Mont Dzumac**	**14.91**	**146**	LR	LR		05 04 12.0	
	comp=Z,123nm,21.1s,baz=160,slow=33							
CTA	**Charters Tower**	**15.05**	**226**	LR	LR		05 04 47.2	
	comp=Z,54nm,19.9s,baz=79,slow=35							
WRA	**Warramunga Arr**	**24.66**	**243**	P	**P**		**05 01 23.4**	**-0.1**
	3.0nm,0.7s,baz=72,slow=10,SNR=23							
GUMO	**Guam**	**26.40**	**331**	LR	LR		05 13 24.7	
	comp=Z,15nm,18.0s,baz=141,slow=40							
ASAR	**Alice Springs**	**26.55**	**236**	P	**P**		**05 01 40.4**	**-0.2**
	1.2nm,0.4s,baz=65,slow=10,SNR=18							
ASAR				LR	LR		05 10 29.6	
	comp=Z,54nm,20.3s,baz=86,slow=33							
URZ	**Urewera**	**33.37**	**151**	LR	LR		05 15 14.6	
	comp=Z,72nm,18.2s,baz=7.0,slow=34							
KAPI	**Kappang**	**37.83**	**274**	LR	LR		05 21 27.9	
	comp=Z,29nm,18.4s,baz=37,slow=40							
JHJ	**Hachijo jima 2**	**45.88**	**339**	LR	LR		05 22 23.4	
	comp=Z,32nm,20.4s,baz=288,slow=35							
ASAJ	**Asahikawa**	**55.30**	**347**	LR	LR		05 30 53.5	
	comp=Z,22nm,18.2s,baz=350,slow=38							
PETK	**Petropavlovsk-**	**62.59**	**0**	LR	LR		05 33 01.3	
	comp=Z,30nm,18.7s,baz=69,slow=36							
ILAR	**Eielson Array**	**84.97**	**21**	P	**P**		**05 08 36.7**	**-0.6**
	0.4nm,0.9s,baz=227,slow=4.8,SNR=1.9							
MKAR	**Makanchi Array**	**87.16**	**318**	P	**P**		**05 08 47.6**	**-0.9**
	0.2nm,0.6s,baz=101,slow=5.4,SNR=2.9							
NVAR	**Mina Array Bea**	**91.38**	**51**	P	**P**		**05 09 11.1**	**+2.3**
	0.2nm,0.6s,baz=253,slow=8.3,SNR=1.7							
PFO	**Pinyon Flats O**	**91.95**	**56**	LR	LR		05 42 35.9	
	comp=Z,22nm,20.8s,baz=208,slow=30							
YKA	**Yellowknife Ar**	**97.52**	**28**	P	Pdif		05 09 38.4	+2.2
	0.1nm,0.7s,baz=255,slow=4.9,SNR=2.6							

ANF ***18*** *04:58:04.6±0.1,35.˚35N×118.˚53W,h13km±1km,ML3.1/31, Error ellipse: s-maj=1.4km s-min=1.2km az=104.0*
NEIC ***18*** *04:58:05.1±1.6,35.˚32N±0.˚03×118.˚56W±0.˚04,h6km±5km, Error ellipse: s-maj=5.0km s-min=2.6km az=53.0*
PAS ***18*** *04:58:05.7±1.7,35.˚33N±0.˚04×118.˚55W±0.˚05,h8km±6km, ML3.1/141,ML2.9/100(NEIC),Error ellipse: s-maj=5.8km s-min=4.9km az=60.0*

ISC 18 04:58:04.9±1.0,35.˚33N±0.˚02×118.˚56W±0.˚02,h7km±10km, n82,σ0s67/100,Central California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARVC	**Arvin**	**0.30**	**227**	P	**Pb**		**04 58 11.9**	**-0.8**
	baz=48,SNR=600							
ARVC				S	**Sg**		**04 58 15.8**	**+0.9**
	baz=48							
ISA	**Isabella, Lake**	**0.34**	**12**	Pg	**Pg**		**04 58 11.6**	**0.0**
ISA	**Isabella, Lake**	**0.34**	**12**	P	**Pg**		**04 58 12.1**	**+0.5**
	baz=191,SNR=498							
ISA				S	**Sg**		**04 58 15.9**	**-0.1**
	baz=191							
CCAC	**Calif City Air**	**0.48**	**112**		**Pg**		**04 58 14.4**	**+0.2**
EDW2	**Edwards Air Fo**	**0.65**	**134**	P	**Pg**		**04 58 17.4**	**0.0**
	baz=315,SNR=41							
EDW2				S	**Sg**		**04 58 25.4**	**-0.4**
	baz=315							
VES	**Vestal, Richgr**	**0.66**	**320**	P	**Pg**		**04 58 17.8**	**+0.1**
	baz=139,SNR=75							
VES				S	**Sg**		**04 58 26.2**	**-0.2**
	baz=139							
OSI	**Osito Audit: C**	**0.73**	**191**	P	**Pg**		**04 58 19.2**	**+0.3**
	baz=11,SNR=5.6							
OSI				S	**Sg**		**04 58 29.0**	**+0.6**
	baz=11							
LRMC	**Laurel Mtn Rad**	**0.73**	**78**	P	**Pg**		**04 58 19.1**	**0.0**
	baz=258,SNR=164							
LRMC				S	**Sg**		**04 58 28.5**	**-0.1**
	baz=258							
BCW	**Bitter Crk WRg**	**0.80**	**241**		**Pg**		**04 58 20.2**	**-0.1**
BCW				IAML			04 58 38.5	
	comp=E,583nm,0.4s							
BCW				IAML			04 58 42.7	
	comp=N,609nm,0.6s							
DECC	**Green Verdugo**	**1.09**	**170**	P	**Pg**		**04 58 25.5**	**-0.4**
	baz=351,SNR=8.7							
DECC				S	**Sb**		**04 58 40.6**	**-0.1**
	baz=351							
MPMC	**Manual Prospec**	**1.13**	**50**	P	**Pg**		**04 58 26.5**	**-0.3**
	baz=230,SNR=119							
MPMC				S	**Sg**		**04 58 40.5**	**-1.0**
	baz=230							
CWC	**Cottonwood Cre**	**1.17**	**19**	S	**Sg**		**04 58 42.0**	**-0.7**
	baz=199							
SMMC	**Simmler**	**1.17**	**270**	P	**Pg**		**04 58 26.6**	**-0.9**
	baz=89,SNR=37							
SMMC				S	**Sb**		**04 58 43.0**	**0.0**
	baz=89							
VOG	**Valley Oaks Go**	**1.19**	**326**	P	**Pg**		**04 58 26.9**	**-0.9**
	baz=146,SNR=6.5							
VOG				S	**Sg**		**04 58 42.7**	**-0.6**
	baz=146							
PASC	**Pasadena Art C**	**1.20**	**165**	Pn	**Pg**		**04 58 27.6**	**-0.3**
PASC				IAML			04 58 46.4	
	comp=N,251nm,0.6s							
PASC	**Pasadena Art C**	**1.20**	**165**		**Sb**		**04 58 44.1**	**+0.4**
SBC	**Santa Barbara**	**1.30**	**227**	Pg	**Pg**		**04 58 30.1**	**+0.3**
	baz=47							
SBC				S	**Sn**		**04 58 47.2**	**0.0**
	baz=47							
BFSC	**Mount Baldy Ra**	**1.32**	**146**	Pg	**Pn**		**04 58 29.7**	**-0.3**
	baz=326,SNR=28							
BFSC				S	**Sg**		**04 58 46.7**	**-0.7**
	baz=326							
RRX	**Edison Barstow**	**1.36**	**109**	Pg	**Pn**		**04 58 30.4**	**0.0**
	baz=290,SNR=8.0							
RRX				Sg	**Sn**		**04 58 49.6**	**+0.9**
	baz=290							
HELL	**Mitchell Peak,**	**1.40**	**345**		**Pn**		**04 58 30.3**	**-0.7**
GSC	**Goldstone, Bar**	**1.44**	**91**		**Pn**		**04 58 30.7**	**-0.8**
GSC				IAML			04 58 56.0	
	comp=N,144nm,0.6s							
GSC	**Goldstone, Bar**	**1.44**	**91**	Pb	**Pn**		**04 58 30.7**	**-0.8**
	baz=272,SNR=117							
GSC				Sg	**Sg**		**04 58 51.5**	**+0.4**
	baz=272							
PAGB	**Antelope Grade**	**1.44**	**287**		**Pn**		**04 58 30.5**	**-0.9**
PAGB				IAML			04 58 55.6	
	comp=N,110nm,0.6s							
TRAM	**Private Proper**	**1.44**	**284**		**Pn**		**04 58 29.9**	**-1.6**
TRAM					**Sg**		**04 58 51.8**	**+0.6**
TSCN	**Private Proper**	**1.48**	**279**		**Pn**		**04 58 31.5**	**-0.5**
QSM	**Queen of Sheba**	**1.52**	**65**	Pn	**Pn**		**04 58 31.8**	**-0.8**
QSM				IAML			04 58 58.7	
	comp=N,128nm,0.6s							
FMP	**Fort Macarthur**	**1.63**	**172**	Pb	**Pn**		**04 58 34.7**	**+0.6**
	baz=353							
BBRC	**Big Bear Solar**	**1.72**	**128**	Pg	**Pb**		**04 58 37.2**	**+0.2**
	baz=309							
PKD	**Bear Valley Ra**	**1.73**	**291**		**Pn**		**04 58 35.2**	**-0.3**
TIN	**Tinemaha, Big**	**1.74**	**9**	Pg	**Pb**		**04 58 37.3**	**0.0**
	baz=189,SNR=14							
TIN				Sg	**Sg**		**04 59 01.3**	**+0.5**
	baz=189							
GWY	**Greenwater Val**	**1.76**	**60**	Pn	**Pn**		**04 58 35.4**	**-0.6**
GWY				IAML			04 59 06.3	
	comp=E,109nm,0.5s							
GWY				IAML			04 59 09.4	
	comp=N,92nm,0.5s							
FURC	**Furnace Creek,**	**1.78**	**50**	Pg	**Pb**		**04 58 38.5**	**+0.5**
	baz=231,SNR=38							
FURC				Sg	**Sg**		**04 59 02.2**	**-0.1**
	baz=231							
HEC	**Hector,Ludlow**	**1.89**	**105**	Pg	**Pb**		**04 58 40.3**	**+0.4**
	baz=286,SNR=16							
HEC				Sg	**Sg**		**04 59 06.0**	**+0.3**
	baz=286							
RAMR	**Ramage Ranch**	**1.91**	**280**		**Pn**		**04 58 37.6**	**-0.4**
GRAC	**Grapevine Rang**	**1.92**	**30**		**Pn**		**04 58 39.0**	**+0.8**
GRAC				IAML			04 59 12.9	
	comp=E,86nm,0.5s							
GRAC				IAML			04 59 14.3	
	comp=N,107nm,1.0s							
ELS	**Elsinore Mount**	**1.92**	**151**		**Pn**		**04 58 38.7**	**+0.5**
MTUM	**Tungsten Hills**	**2.02**	**360**		**Pb**		**04 58 42.2**	**+0.1**
PMPB	**Monarch Peak**	**2.02**	**296**	Pn	**Pn**		**04 58 39.7**	**+0.1**
PMPB				IAML			04 59 13.5	
	comp=N,143nm,0.8s							
PMPB				IAML			04 59 14.1	
	comp=E,105nm,0.8s							
LCH	**Last Change Ra**	**2.04**	**21**		**Pn**		**04 58 40.3**	**+0.4**
MURC	**Murrieta**	**2.06**	**146**	P	**Pn**		**04 58 39.8**	**-0.3**
	baz=328							
TUQ	**Turquoise Moun**	**2.16**	**86**	P	**Pn**		**04 58 40.6**	**-0.9**
	baz=268,SNR=46							
OMMB	**Old Mammoth Mi**	**2.30**	**351**		**Pn**		**04 58 44.6**	**+0.9**
MLAC	**Mammoth, Mammo**	**2.31**	**355**	Pb	**Pb**		**04 58 46.7**	**-0.3**
	baz=174							
BBGB	**Big Mountain B**	**2.37**	**302**		**Pn**		**04 58 44.1**	**-0.2**
PFO	**Pinyon Flats O**	**2.44**	**134**		**Pn**		**04 58 45.1**	**-0.3**
PFO				IAML			04 59 26.8	
	comp=E,55nm,0.6s							
PFO	**Pinyon Flats O**	**2.44**	**134**	P	**Pn**		**04 58 44.4**	**-0.9**
	baz=316,SNR=12							
GMRC	**Granite Mounta**	**2.44**	**102**	P	**Pn**		**04 58 43.8**	**-1.6**
	baz=284,SNR=27							
TPFO	**Pinon Flats**	**2.45**	**134**	P	**Pn**		**04 58 45.0**	**-0.4**
	baz=316,SNR=11							
TPNV	**Topopah Spring**	**2.47**	**49**		**Pn**		**04 58 46.2**	**+0.4**
TPNV	**Topopah Spring**	**2.47**	**49**	P	**Pn**		**04 58 46.4**	**+0.6**
	baz=230,SNR=9.6							
BELC	**Belle Mtn. Jos**	**2.49**	**121**	P	**Pn**		**04 58 45.6**	**-0.6**
	baz=303,SNR=22							
SAO	**San Andreas Ge**	**2.74**	**302**	Pn	**Pn**		**04 58 50.1**	**+0.7**
LHV	**Little Huntoon**	**2.91**	**1**	Pn	**Pn**		**04 58 51.6**	**-0.1**
TPH	**Tonopah**	**2.94**	**21**		**Pn**		**04 58 50.3**	**-2.0**
TPH				IAML			04 59 41.4	
	comp=E,46nm,0.7s							
TPH				IAML			04 59 47.2	
	comp=N,63nm,1.6s							
SHPR	**Sheep Range**	**3.00**	**66**	Pn	**Pn**		**04 58 52.2**	**-0.9**
MONP2	**Monument Peak**	**3.01**	**143**	P	**Pn**		**04 58 53.1**	**-0.2**
	baz=325,SNR=6.7							
IRM	**Iron Mountain**	**3.05**	**112**	P	**Pn**		**04 58 52.8**	**-0.9**
	baz=294,SNR=15							
BC3	**Big Chuckawall**	**3.06**	**122**	Pg	**Pg**		**04 59 02.7**	**-1.0**
	baz=304							
CMB	**Columbia Colle**	**3.07**	**332**	Pn	**Pn**		**04 58 54.6**	**+0.6**
CMB				IAML			04 59 45.1	
	comp=N,31nm,0.6s							
CMB				IAML			04 59 45.6	
	comp=E,28nm,0.8s							
BAR	**Barrett**	**3.08**	**149**		**Pn**		**04 58 54.6**	**+0.6**
BAR				IAML			04 59 41.4	
	comp=N,36nm,0.5s							
BAR				IAML			04 59 42.4	
	comp=E,31nm,0.5s							
NVAR	**Mina Array Bea**	**3.10**	**4**	Pn	**Pn**		**04 58 54.4**	**-0.1**
NV11	**Mina Array Sit**	**3.11**	**6**	Pn	**Pn**		**04 58 54.9**	**+0.2**
NV11				IAML			04 59 47.6	
	comp=E,24nm,0.8s							
S11A	**Rachel**	**3.23**	**44**	Pn	**Pn**		**04 58 56.5**	**+0.2**
S11A				IAML		

YERR	**Yerington**	**3.69**	**352**	Pn	**Pn**	**04 59 03.3**	**+0.7**
YERR				IAML		05 00 11.8	
	comp=N,30nm,0.8s						
KVN	**Kaiserville**	**3.73**	**6**	Pn	**Pn**	**04 59 03.3**	**+0.1**
KVN				IAML		05 00 15.2	
	comp=E,13nm,4.6s						
W13A	**Hualapai Mount**	**3.83**	**92**		**Pn**	**04 59 04.2**	**-0.5**
EMB	**Emerald Bay**	**3.84**	**342**	Pn	**Pn**	**04 59 05.7**	**+1.0**
PNTR	**Pine Nut**	**3.84**	**348**	Pn	**Pn**	**04 59 06.5**	**+1.8**
R11A	**Troy Canyon, C**	**3.84**	**38**	Pn	**Pn**	**04 59 05.6**	**+0.9**
RUBR	**Rubicon Trail**	**3.92**	**342**	Pn	**Pn**	**04 59 06.9**	**+1.0**
MPK	**Martis Peak**	**4.13**	**344**	Pn	**Pn**	**04 59 09.9**	**+1.2**
PAHR	**Pah Rah Range**	**4.42**	**352**	Pn	**Pn**	**04 59 13.1**	**+0.6**
PAHR				IAML		05 00 27.0	
	comp=N,8.2nm,0.7s						
PAHR				IAML		05 00 33.5	
	comp=E,11nm,1.1s						
LCMT	**Little Creek M**	**4.62**	**67**	Pn	**Pn**	**04 59 15.4**	**+0.2**
BEKR	**Beckworth**	**4.75**	**343**	Pn	**Pn**	**04 59 17.6**	**+0.5**
BEKR				IAML		05 00 36.8	
	comp=N,12nm,1.7s						
Y14A	**Wickenburg**	**4.79**	**105**		**Pn**	**04 59 16.7**	**-0.8**
Y14A				IAML		05 00 44.0	
	comp=E,7.7nm,0.8s						
Y14A				IAML		05 00 44.6	
	comp=N,9.8nm,0.9s						
PSUT	**Pine Spring**	**4.94**	**48**	Pn	**Pn**	**04 59 18.9**	**-1.0**
PSUT				IAML		05 00 51.7	
	comp=N,6.8nm,1.9s						
PSUT				IAML		05 01 00.4	
	comp=E,8.5nm,4.7s						
U15A	**North Rim**	**5.21**	**76**	Pn	**Pn**	**04 59 23.8**	**+0.3**
U15A				IAML		05 00 57.1	
	comp=E,6.1nm,4.7s						
U15A				IAML		05 00 59.4	
	comp=N,7.0nm,3.4s						

OMAN ***18*** *04:59:47.1±0.6,25°.22N×64°.09E,h83km±123km,mb4.4/10, ml3.8/1,Error ellipse: s-maj=24.1km s-min=11.7km az=325.0*

DSN 18 04:59:46.9±3.0,25°.30N×63°.79E,h10km,ML3.3/5,Error ellipse: s-maj=69.4km s-min=21.6km az=17.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**5.09**	**233**	P	Pn	05 01 01.7	-1.7
JLN	SNR=15			S	Sn	05 02 02.2	0.0
	SNR=14						
BIDO	**Bidbid**	**5.46**	**252**	P	Pn	05 01 10.2	+1.8
BIDO	SNR=14			S	Sn	05 02 12.6	+1.3
SMDO	**Samad**	**5.70**	**248**	P	Pn	05 01 12.3	+0.5
SMDO	SNR=18			S	Sn	05 02 18.8	+1.5
JMDO	**Jabal Madar**	**5.97**	**242**	P	Pn	05 01 15.9	+0.6
JMDO				S	Sn	05 02 26.1	+2.2
HOQ	**Hoqain**	**6.15**	**255**	P	Pn	05 01 18.0	+0.1
HOQ	SNR=15			S	Sn	05 02 31.4	+3.2
BSY	**Bisya**	**6.54**	**249**	P	Pn	05 01 25.2	+1.9
SOHO	**SOHO**	**6.70**	**262**	P	Pn	05 01 25.1	-0.3
SOHO				S	Sn	05 02 42.7	+0.9
SOHO	**SOHO**	**6.70**	**262**	P	Pn	05 01 24.7	-0.8
BANOM	**Banah**	**6.79**	**277**	P	Pn	05 01 26.5	-0.3
	SNR=36						
BANOM	**Banah**	**6.79**	**277**	P	Pn	05 01 25.7	-1.0
BANOM				S	Sn	05 02 45.0	+0.8
MHTO	**MHTO**	**6.86**	**233**	P	Pn	05 01 23.7	-3.9
UOSS	**Minazif**	**6.89**	**269**	P	Pn	05 01 26.5	-1.5
ARQ	**Araqi**	**6.91**	**255**	P	Pn	05 01 31.4	+3.1
	SNR=21						
SHME	**Shamm**	**6.94**	**278**	P	Pn	05 01 28.8	0.0
	SNR=18						
SHME	**Shamm**	**6.94**	**278**	P	Pn	05 01 29.3	+0.6
HATD	**Hatta, Dubai**	**6.96**	**268**	P	Pn	05 01 28.2	-0.8
ASHO	**Ashiyiah**	**7.04**	**267**	P	Pn	05 01 31.1	+0.9
	SNR=33						
ASHO	**Ashiyiah**	**7.04**	**267**	P	Pn	05 01 30.5	+0.3
FAQ	**Al Faqa, Dubai**	**7.46**	**268**	P	Pn	05 01 38.4	+2.5
	SNR=28						
FAQ	**Al Faqa, Dubai**	**7.46**	**268**	P	Pn	05 01 38.0	+2.2
ASUD	**Al Ashush, Dub**	**7.71**	**267**	P	Pn	05 01 39.6	+0.3
	SNR=12						

IDC ***18*** *05:24:16.6±4.6,6°.02S×151°.35E,h42km±36km,mb3.6/4, mb1 4.0/4,mb1mx3.5/30,mbtmp3.9/4,Error ellipse: s-maj=139.0km s-min=20.5km az=127.0*

ISC 18 05:24:15.6±2.3,6°.2S±0°.4×151°.6E±0°.6,h41km,n6,σ0s44/6, mb3.8/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.91**	**12**	P	**Pn**	**05 24 45.6**	**-0.1**
	4.0nm,0.3s,baz=246,slow=22,SNR=1.3						
WRA	**Warramunga Arr**	**21.65**	**229**	P	**P**	**05 29 02.3**	**-0.5**
	1.8nm,0.8s,baz=41,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**24.34**	**223**	P	**P**	**05 29 29.6**	**-0.2**
	3.2nm,0.7s,baz=52,slow=9.4,SNR=32						
FITZ	**Fitzroy Crossi**	**27.97**	**243**	P	**P**	**05 30 02.9**	**+0.3**
	1.5nm,0.7s,baz=72,slow=9.6,SNR=1.7						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**05 36 40.7**	**-0.1**
	0.9nm,0.8s,baz=252,slow=5.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**149.58**	**285**	PKPbc	**PKPbc**	**05 44 02.3**	**+0.5**
	0.4nm,0.6s,baz=62,slow=3.6,SNR=2.4						

TAP ***18*** *05:39:13.0,23°.83N×121°.63E,h40km,ML3.3,B*
JMA ***18*** *05:39:12.9±0.1,23°.79N×121°.72E,h33km±3km,M3.3*

ISC 18 05:39:13.4±1.0,23°.83N±0°.02×121°.65E±0°.02,h33km±2km, n81,σ0s76/125,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.06**	**311**	P	**Pb**	**05 39 19.9**	**+0.9**
TEYL	baz=343			*e*S	**Sb**	**05 39 26.1**	**+3.1**
	baz=343						
HWA	**Hwalien**	**0.15**	**345**	P	**Pb**	**05 39 20.6**	**+0.9**
HWA	baz=355			*e*S	**Sb**	**05 39 25.2**	**+1.3**
	baz=355						
ESL	**Shilin**	**0.20**	**266**	P	**Pn**	**05 39 20.0**	**+0.7**
ESL	baz=264			*e*S	**Sb**	**05 39 25.5**	**+0.9**
	baz=264						
TWD	**Chiawan**	**0.26**	**349**	*i* P	**Pn**	**05 39 21.2**	**+0.6**
TWD	baz=355			S	**Sb**	**05 39 27.4**	**+1.8**
	baz=355						
EGFH	**Guangfu**	**0.26**	**232**	P	**Pn**	**05 39 20.8**	**+0.2**
	baz=228						
ETL	**Fush Village**	**0.33**	**356**	P	**Pb**	**05 39 21.7**	**0.0**
	baz=359						
ETL				*e*S	**Sb**	**05 39 29.3**	**+2.0**
	baz=359						
NACB	**Ninganchiao**	**0.35**	**352**	P	**Pb**	**05 39 21.7**	**-0.2**
	baz=355						
NACB				*e*S	**Sb**	**05 39 28.5**	**+0.9**
	baz=355						
HGSD	**Ruisui**	**0.39**	**212**	P	**Pb**	**05 39 22.3**	**-0.2**
	baz=208						
HGSD				*e*S	**Sn**	**05 39 31.1**	**+2.1**
	baz=208						
ETLH	**Xiulin Townshi**	**0.41**	**338**	P	**Pb**	**05 39 22.4**	**-0.3**
	baz=340						
ETLH				S	**Sb**	**05 39 29.1**	**-0.1**
	baz=340						
EHY	**Hungye**	**0.44**	**223**	*e*P	**Pb**	**05 39 22.0**	**-1.2**
	baz=219						
EHY				*e*S	**Sb**	**05 39 29.0**	**-0.8**
	baz=219						
OWD	**Renai**	**0.45**	**286**	P	**Pb**	**05 39 23.1**	**-0.3**
	baz=286						
OWD				S	**Sb**	**05 39 30.6**	**+0.2**
	baz=286						
VWDT	**VWDT**	**0.47**	**261**	P	**Pb**	**05 39 23.4**	**-0.2**
	baz=260						
WHF	**Hehuan Shan**	**0.47**	**312**	P	**Pb**	**05 39 23.4**	**-0.6**
	baz=314						
WHF				S	**Sb**	**05 39 31.2**	**-0.1**
	baz=314						
CHGB	**Renai**	**0.49**	**298**	P	**Pb**	**05 39 23.9**	**-0.2**
	baz=299						
CHGB				*e*S	**Sb**	**05 39 31.9**	**+0.5**
	baz=299						
WUSB	**Renai**	**0.51**	**289**	P	**Pb**	**05 39 24.2**	**-0.2**
	baz=289						
WUSB				*e*S	**Sb**	**05 39 32.2**	**+0.3**
	baz=289						
FUSS	**Fushou**	**0.56**	**319**	*i* P	**Pb**	**05 39 25.2**	**0.0**
	baz=320						
FUSS				S	**Sb**	**05 39 33.4**	**+0.1**
	baz=320						
ENA	**Nanau**	**0.60**	**8**	P	**Pn**	**05 39 25.5**	**-0.2**
	baz=10.0						
ENA				S	**Sb**	**05 39 34.9**	**+0.8**
	baz=10.0						
TWT	**Tachien**	**0.61**	**315**	S	**Sb**	**05 39 34.8**	**+0.3**
	baz=314						
EWUT	**Wuta**	**0.63**	**11**	P	**Pn**	**05 39 25.9**	**0.0**
	baz=12						
EWUT				S	**Sb**	**05 39 36.4**	**+1.6**
	baz=12						
SSLB	**Suanglung**	**0.64**	**267**	P	**Pn**	**05 39 25.5**	**-0.6**
	baz=266						
SSLB				*e*S	**Sb**	**05 39 35.2**	**+0.1**
	baz=266						
NNSB	**Datong**	**0.65**	**338**	P	**Pn**	**05 39 26.0**	**-0.3**
	baz=339						
NNSB				S	**Sb**	**05 39 34.9**	**-0.6**
	baz=339						
NNS	**Nan Shan**	**0.66**	**338**	P	**Pn**	**05 39 26.4**	**-0.2**
	baz=339						
NNS				*e*S	**Sb**	**05 39 35.7**	**-0.1**
	baz=339						
SMLT	**Sun Moon Lake**	**0.69**	**275**	P	**Pn**	**05 39 26.4**	**-0.5**
	baz=274						
FULB	**Fuli**	**0.71**	**208**	P	**Pn**	**05 39 26.8**	**-0.3**
	baz=205						
FULB				*e*S	**Sn**	**05 39 37.1**	**+0.3**
	baz=205						
WCS	**Beigang Elemen**	**0.71**	**289**	P	**Pn**	**05 39 26.7**	**-0.4**
	baz=289						
LATG	**Datong**	**0.71**	**351**	P	**Pn**	**05 39 27.0**	**-0.3**
	baz=352						
LATG				*e*S	**Sn**	**05 39 37.4**	**+0.2**
	baz=352						
TYC	**Yuchr**	**0.73**	**276**	P	**Pn**	**05 39 27.0**	**-0.3**
	baz=276						
CHKT	**Chengkung**	**0.77**	**200**	*e*S	**Sn**	**05 39 38.7**	**+0.3**
	baz=197						
NDT	**Datong Townshi**	**0.78**	**351**	P	**Pn**	**05 39 28.0**	**-0.1**
	baz=352						
NDT				*e*S	**Sn**	**05 39 39.3**	**+0.6**
	baz=352						
WHP	**Taichung City**	**0.78**	**305**	P	**Pn**	**05 39 28.6**	**+0.4**
	baz=305						
TWC	**Suao**	**0.80**	**13**	P	**Pn**	**05 39 28.9**	**+0.5**
	baz=15						
NDS	**Dongshan**	**0.81**	**4**	P	**Pn**	**05 39 28.5**	**+0.1**
	baz=5.0						
ENTT	**Nioudou**	**0.81**	**355**	*e*S	**Sn**	**05 39 39.7**	**+0.2**
	baz=356						
ALS	**Alishan**	**0.84**	**248**	P	**Pn**	**05 39 28.9**	**-0.3**
	baz=246						
ALS				*e*S	**Sn**	**05 39 40.3**	**-0.1**
	baz=246						
WJS	**Zhushan**	**0.84**	**270**	*e*P	**Pn**	**05 39 29.2**	**+0.2**
	baz=269						
ELDTW	**Lidau**	**0.86**	**223**	*e*P	**Pn**	**05 39 29.2**	**-0.1**
	baz=220						
YHNB	**Yeheng**	**0.88**	**343**	P	**Pn**	**05 39 29.4**	**-0.1**
	baz=344						
YHNB				*e*S	**Sn**	**05 39 40.9**	**-0.2**
	baz=344						
WNT	**Mingjian**	**0.89**	**273**	*e*P	**Pn**	**05 39 30.1**	**+0.6**
	baz=273						
NSK	**Sanguang**	**0.89**	**343**	P	**Pn**	**05 39 29.5**	**-0.1**
	baz=344						
NSK				*e*S	**Sn**	**05 39 41.1**	**-0.2**
	baz=344						
EDH	**Donghe**	**0.91**	**201**	*e*S	**Sn**	**05 39 41.3**	**-0.4**
	baz=199						
CHN5	**Tsauling**	**0.92**	**256**	P	**Pn**	**05 39 30.1**	**0.0**
	baz=255						
FUSB	**Fushanzhiwuyua**	**0.93**	**357**	*e*P	**Pn**	**05 39 30.4**	**+0.1**
	baz=357						
NFF	**Wufeng Townshi**	**0.94**	**329**	*e*P	**Pn**	**05 39 30.9**	**+0.6**
	baz=329						
NFF				*e*S	**Sn**	**05 39 42.8**	**+0.2**
	baz=329						
TCU	**Taichung**	**0.94**	**290**	*e*P	**Pn**	**05 39 31.1**	**+0.7**
	baz=290						
TWQ1	**Liyutan**	**0.95**	**303**	P	**Pn**	**05 39 30.6**	**+0.1**
	baz=303						
NWLT	**Wulai**	**0.95**	**352**	*e*S	**Sn**	**05 39 43.1**	**+0.1**
	baz=353						
WDLH	**Douliu**	**1.03**	**263**	P	**Pn**	**05 39 31.8**	**+0.3**
	baz=261						
STYH	**Taoyuan**	**1.03**	**231**	P	**Pn**	**05 39 31.4**	**-0.2**
	baz=230						
STYH				*e*S	**Sn**	**05 39 45.1**	**+0.2**
	baz=230						
NMLH	**Miaoli**	**1.05**	**312**	*e*P	**Pn**	**05 39 32.2**	**+0.3**
	baz=312						
TPUB	**Ta-pu**	**1.07**	**241**	P	**Pn**	**05 39 32.4**	**+0.3**
	baz=240						
TPUB				*e*S	**Sn**	**05 39 46.5**	**+0.6**
	baz=240						
CHN4	**Tsaushan**	**1.08**	**244**	P	**Pn**	**05 39 32.9**	**+0.7**
	baz=243						
WTP	**Ta-pu**	**1.11**	**239**	P	**Pn**	**05 39 32.7**	**0.0**
	baz=237						
TWGBT	**Beinan**	**1.13**	**208**	P	**Pn**	**05 39 33.1**	**+0.1**
	baz=206						
TWG	**Pinlang**	**1.13**	**208**	P	**Pn**	**05 39 32.8**	**-0.2**
	baz=206						
TIPB	**Shuangxi**	**1.15**	**8**	P	**Pn**	**05 39 34.0**	**+0.8**
	baz=9.0						
LDUT	**Ludao**	**1.16**	**188**	*e*P	**Pn**	**05 39 33.2**	**-0.1**
	baz=187						
WRL	**Guolierlin Hig**	**1.17**	**274**	P	**Pn**	**05 39 34.0**	**+0.6**
	baz=273						
WRL				*e*S	**Sn**	**05 39 49.6**	**+1.4**
	baz=273						
CHY	**Chiayi**	**1.17**	**254**	*e*S	**Sn**	**05 39 48.1**	**-0.2**
	baz=253						
TWK	**Hsinying**	**1.20**	**243**	*e*P	**Pn**	**05 39 34.0**	**+0.1**
	baz=241						
CHN1	**Nanshi**	**1.21**	**238**	*e*P	**Pn**	**05 39 34.4**	**+0.3**
	baz=237						
CHN1				*e*S	**Sn**	**05 39 50.1**	**+0.8**
	baz=237						
SGST	**Jiashian**	**1.23**	**233**	P	**Pn**	**05 39 34.0**	**-0.3**
	baz=231						
NWF	**Wu-fen Shan**	**1.24**	**6**	*e*P	**Pn**	**05 39 35.2**	**+0.6**
	baz=6.0						
SXI1	**Grass Mountain**	**1.28**	**9**	P	**Pn**	**05 39 35.9**	**+0.8**
	baz=10.0						
YM01	**YM01**	**1.31**	**357**	*e*P	**Pn**	**05 39 36.2**	**+0.6**
	baz=357						
YM01				*e*S	**Sn**	**05 39 52.8**	**+0.8**
	baz=357						
ICHU	**Yijhu**	**1.34**	**250**	*e*P	**Pn**	**05 39 35.7**	**-0.1**
	baz=249						
ICHU				*e*S	**Sn**	**05 39 53.2**	**+0.7**
	baz=249						
YOJ	**Yonaguni jima**	**1.40**	**63**	P	**Pn**	**05 39 36.6**	**0.0**
YOJ				S	**Sn**	**05 39 53.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.40**	**63**	*e*P	**Pn**	**05 39 36.3**	**-0.2**
	baz=63						
YOJ				*e*S	**Sn**	**05 39 53.8**	**-0.1**
	baz=63						
SSD	**Sandimen**	**1.43**	**221**	*e*P	**Pn**	**05 39 37.4**	**+0.4**
	baz=219						
TSMG	**Majia**	**1.45**	**220**	*e*P	**Pn**	**05 39 37.4**	**+0.1**
	baz=218						
TSMG				*e*S	**Sn**	**05 39 56.0**	**+0.8**
	baz=218						
MASBT	**Mashibuluo**	**1.53**	**218**	*e*P	**Pn**	**05 39 39.0**	**+0.6**
	baz=216						
SCZT	**Fangliau**	**1.73**	**213**	*e*P	**Pn**	**05 39 41.9**	**+0.7**
	baz=212						
WDGT	**Dungji**	**1.91**	**253**	*e*P	**Pn**	**05 39 43.0**	**-0.7**
	baz=252						
WDGT				*e*S	**Sn**	**05 40 05.7**	**-0.9**
	baz=252						
PHUB	**P'eng-hu**	**1.93**	**261**	*e*P	**Pn**	**05 39 43.3**	**-0.6**
	baz=260						
PHUB				*e*S	**Sn**	**05 40 06.0**	**-1.0**
	baz=260						
IRIF	**Iriomote-Funau**	**1.97**	**75**	P	**Pn**	**05 39 44.6**	**+0.2**
IRIF				S	**Sn**	**05 40 07.9**	**-0.1**
HATJ	**Hateruma jima**	**1.99**	**83**	P	**Pn**	**05 39 44.4**	**-0.3**
HATJ				S	**Sn**	**05 40 07.6**	**-0.8**
JKRS	**Kuro-shima**	**2.20**	**79**	P	**Pn**	**05 39 47.7**	**+0.1**
JKRS				S	**Sn**	**05 40 13.8**	**+0.2**
VWUC	**VWUC**	**2.32**	**300**	*e*P	**Pn**	**05 39 48.1**	**-1.1**
	baz=300						
VWUC				*e*S	**Sn**	**05 40 14.7**	**-1.9**
	baz=300						
JIJ	**Ishigaki jima**	**2.34**	**76**	P	**Pn**	**05 39 48.9**	**-0.7**
JIJ				S	**Sn**	**05 40 15.1**	**-2.1**
JISG	**Ishigakijimahi**	**2.54**	**72**	P	**Pn**	**05 39 51.7**	**-0.7**
JISG				S	**Sn**	**05 40 20.5**	**-1.7**
MATB	**Ma-tsu**	**2.78**	**327**	*e*P	**Pn**	**05 39 54.6**	**-1.1**
	baz=326						
MATB				*e*S	**Sn**	**05 40 26.4**	**-1.7**
	baz=326						
KNMB	**Chin-men Tao**	**3.04**	**283**	*e*P	**Pn**	**05 39 57.9**	**-1.3**
	baz=282						

MOS ***18*** *05:53:43.9±1.0,55°.88N×110°.15E,h10km,mb4.8/26, MS3.8/9,Error ellipse: s-maj=6.8km s-min=5.2km az=74.3*
MOS Felt (III) at Nizhneangarsk; (II-III) at Severobaykalsk.
BJI ***18*** *05:53:44.1±0.0,56°.01N×110°.06E,h10km,mb4.2/41, mB4.6/23,Ms4.6/41,Ms7 4.4/38*
IDC ***18*** *05:53:44.2±0.5,55°.81N×110°.23E,h0km,mb4.3/32, mb1 4.5/38,mb1mx4.4/63,mbtmp4.4/38,ML4.1/6,MS3.6/56, Ms1 3.6/56,ms1mx3.5/97,Error ellipse: s-maj=12.8km s-min=10.0km az=165.0*
BYKL ***18*** *05:53:45.7±0.2,55°.73N×110°.21E,h8km±2km, Mw4.6/19(IEC),#STATIONS KDAK MA2 YSS ERM INCN TATO ENH KMI LSA AAK GNI GRFO LVZ KEV KBS DBG ANGG NOR ALE FELT I=III MSK at Nizhneangarsk, II-III at Severobajkal'sk.*
GCMT ***18*** *05:53:46.1±0.4,55°.87N±0°.03×109°.89E±0°.09,h24km±1km, MW4.8/66,Moment Tensor Solution. s12,c13; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.87±.19; $M_{\theta\theta}$1.42±.12; $M_{\phi\phi}$0.44±.10; $M_{r\theta}$0.24±.14; $M_{\theta\phi}$0.62±.07; M_{rr}0.47±.16; Best double couple: $M_0$1.86800×10^{16} NP1:ϕ_s72.00000°,δ39.00000°,λ-77.00000°. NP2: ϕ_s235.00000°,δ52.00000°,λ-101.00000°. Principal axes: T 1.7700, Plg7.0000°, Azm333.0000°; N 0.1930, Plg8.0000°, Azm242.0000°; P -1.9660, Plg79.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *05:53:47.1±1.8,55°.99N±0°.07×110°.1E±0°.1,h17km±4km, mb4.7/81 Error ellipse: s-maj=12.0km s-min=10.3km az=117.0*

ISC 18 05:53:45.0±0.7,55°.87N±0°.02×110°.24E±0°.02,h7km±4km, n391,σ2s11/459,mb4.6/96,MS3.8/60,31C-27D,Fault plane solution: NP1:ϕ_s65.31157°,δ85.63031°, λ82.92223°. **NP2:**ϕ_s303.77652°,δ8.31215°,λ148.19458°. **Principal axes:** T Plg48.8992°, Azm327.6954°; N Plg7.0571°, Azm65.8536°; P Plg40.2259°, Azm161.8642°;
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.40**	**256**	⇑*i*PG	**Pg**	**05 53 52.7**	**-0.1**
NIZ				*e*		05 53 57.5	
NIZ				pmax	pmax		
	comp=Z,3μm,0.2s						
NIZ				smax	smax		
	comp=N,58μm,1.0s						
NIZ	**Nizh Angarsk**	**0.40**	**256**	⇑*i*Pg	**Pg**	**05 53 52.7**	**-0.1**
NIZ				Pmax		05 53 53.1	
	comp=N,3μm,0.2s						
NIZ				*e*Sg	**Sg**	**05 53 58.2**	**+0.1**
NIZ				Smax		05 54 21.3	
	comp=N,58μm,1.0s						
KMO	**Kumora**	**0.54**	**88**	⇑*i*PG	**Pg**	**05 53 56.0**	**+0.6**
KMO				*e*		05 54 02.6	
KMO				pmax	pmax		
	comp=Z,828nm,0.2s						
KMO				smax	smax		
	comp=N,28μm,1.5s						
KMO	**Kumora**	**0.54**	**88**	⇑*i*Pg	**Pg**	**05 53 56.0**	**+0.6**
KMO				Pmax		05 53 57.2	
	comp=N,2μm,0.3s						
KMO				*e*Sg	**Sg**	**05 54 03.9**	**+1.4**
KMO				*e*		05 54 13.1	
KMO				max		05 54 18.6	
	comp=N,28μm,1.6s						
YOA	**Uoyan**	**0.88**	**72**	*e*PG	**Pb**	**05 54 03.2**	**+0.7**
YOA				*e*		05 54 15.9	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax	smax		
	comp=N,27μm,0.3s						
YOA	**Uoyan**	**0.88**	**72**	*e*Pg	**Pb**	**05 54 02.8**	**+0.3**
YOA				Pmax		05 54 05.0	
	comp=N,2μm,0.2s						
YOA				*e*Sg	**Sb**	**05 54 15.8**	**+1.4**
YOA				*e*		05 54 22.5	
YOA				max		05 54 24.6	
	comp=N,27μm,0.3s						
YLYR	**Ulyunkhan**	**1.13**	**152**	⇓*i*Pg	**Pg**	**05 54 04.2**	**-2.4**
	comp=N,2μm,1.2s						
YLYR				⇑*i*Pg	**Pg**	**05 54 04.2**	**-2.4**
	comp=N,1μm,1.2s						
YLYR				⇑*i*Pg	**Pg**	**05 54 04.2**	**-2.4**
	comp=N,2μm,1.2s						
YLYR				Pmax		05 54 05.8	
	comp=N,2μm,0.7s						
YLYR				*e*Sg	**Sg**	**05 54 18.1**	**-3.2**
YLYR				Smax		05 54 25.8	
	comp=N,8μm,0.4s						
SVKR	**Severomuysk**	**1.88**	**81**	⇓*i*PN	**Pb**	**05 54 19.7**	**0.0**
SVKR				*e*		05 54 47.1	
SVKR				pmax	pmax		
	comp=Z,5μm,1.4s						
SVKR				smax	smax		
	comp=N,30μm,1.4s						
SVKR	**Severomuysk**	**1.88**	**81**	*e*Pg	**Pb**	**05 54 19.7**	**0.0**
SVKR				Pmax		05 54 25.9	
	comp=N,4μm,0.3s						
SVKR				*e*Sg	**Sb**	**05 54 45.2**	**+1.8**
SVKR				Smax		05 54 48.8	
	comp=N,28μm,0.7s						
UKT	**Uakit**	**1.96**	**100**	⇓*i*PN	**Pn**	**05 54 20.4**	**+1.7**
UKT				*e*		05 54 46.4	
UKT				pmax	pmax		
	comp=Z,1μm,0.4s						
UKT				smax	smax		
	comp=N,7μm,0.3s						
UKT	**Uakit**	**1.96**	**100**	⇑*i*Pg	**Pn**	**05 54 20.4**	**+1.7**
	comp=N,157nm,0.8s						
UKT				⇓*i*Pg	**Pn**	**05 54 20.4**	**+1.7**
	comp=N,373nm,0.8s						
UKT				⇓*i*Pg	**Pn**	**05 54 20.4**	**+1.7**
	comp=N,518nm,0.8s						
UKT				Pmax		05 54 23.7	
	comp=N,2μm,0.5s						
UKT				*e*Sg	**Sb**	**05 54 47.1**	**+1.5**
UKT				Smax		05 54 50.5	
	comp=N,8μm,0.4s						
SYVR	**Suvo**	**2.23**	**184**	⇓*i*PN	**Pn**	**05 54 23.1**	**+0.9**
SYVR				*e*		05 54 52.2	
SYVR				pmax	pmax		
	comp=Z,3μm,0.6s						
SYVR				smax	smax		
	comp=N,14μm,1.0s						
SYVR	**Suvo**	**2.23**	**184**	*e*Pn	**Pn**	**05 54 21.5**	**-0.7**
SYVR				⇑*i*Pg	**Pb**	**05 54 23.2**	**-2.3**
SYVR				Pmax		05 54 27.2	
	comp=N,3μm,1.7s						
SYVR				*e*Sg	**Sn**	**05 54 51.7**	**+1.7**
SYVR				Smax		05 54 58.3	
	comp=N,14μm,1.0s						
OGRR	**Ongureny**	**2.71**	**215**	*e*PN	**Pn**	**05 54 30.9**	**+2.0**
OGRR				*e*		05 54 32.3	
OGRR				*e*		05 55 04.8	
OGRR				pmax	pmax		
	comp=Z,372nm,0.5s						
OGRR				smax	smax		
	comp=E,7μm,1.3s						

OGRR Ongureny 2.71 215⇓iPg Pn 05 54 30.9 +2.0
OGRR ePgPg PnPn 05 54 35.2 -0.8
OGRR max 05 54 35.3
comp=E,374nm,0.5s
OGRR eSg Sb 05 55 04.7 -2.4
OGRR eSgSg Sg 05 55 08.7 -3.2
OGRR max 05 55 10.6
comp=E,7μm,1.0s
MXMB Maximikha 2.76 199 ePn Pn 05 54 29.3 -0.2
MXMB ePg Pb 05 54 32.5 -2.0
MXMB eSg Sb 05 55 07.2 -1.3
BOD Bodaibo 2.84 45 ePN Pn 05 54 33.5 +2.7
BOD e 05 54 39.7
BOD e 05 55 16.1
BOD pmax pmax
comp=Z,448nm,0.5s
BOD smax smax
comp=E,5μm,1.0s
BOD Bodaibo 2.84 45 ePn Pn 05 54 33.4 +2.7
BOD ePg Pg 05 54 38.0 -1.4
BOD Pmax 05 54 44.3
comp=E,576nm,0.5s
BOD eSn Sn 05 55 07.7 +2.5
BOD eSg Sg 05 55 16.2 0.0
BOD Smax 05 55 21.2
comp=E,5μm,0.6s
NLYR Nelyaty 3.12 76⇓iPN Pn 05 54 36.2 +1.7
NLYR e 05 54 44.4
NLYR e 05 55 24.1
NLYR pmax pmax
comp=Z,859nm,0.8s
NLYR smax smax
comp=N,6μm,1.1s
NLYR Nelyaty 3.12 76⇓iPn Pn 05 54 36.4 +1.9
NLYR ePg Pg 05 54 43.6 -1.0
NLYR e 05 54 50.8
NLYR max 05 54 51.3
comp=N,869nm,0.7s
NLYR eSn Sn 05 55 13.3 +1.3
NLYR eSg Sg 05 55 24.1 -0.9
NLYR Smax 05 55 45.4
comp=N,6μm,0.9s
KELR Kotokel 3.37 203 ePn Pn 05 54 36.6 -1.3
KELR ePg Pb 05 54 43.0 -1.9
KELR eSn Sn 05 55 14.4 -3.7
KELR eSg Sb 05 55 24.9 -1.1
VTMR Vitim 3.79 18 ePn Pn 05 54 46.1 +2.5
VTMR ePg Pg 05 54 57.2 -0.2
VTMR eSn Sn 05 55 30.5 +2.1
VTMR eSg Sg 05 55 47.8 +1.4
TRG Tyrgan 3.86 218⇓iPN Pn 05 54 44.6 -0.2
TRG e 05 54 51.2
TRG eS Sn 05 55 26.7 -3.7
TRG e 05 55 41.8
TRG pmax pmax
comp=Z,649nm,0.7s
TRG smax smax
comp=N,3μm,1.0s
TRG Tyrgan 3.86 218⇓iPn Pn 05 54 44.7 -0.1
TRG ePg Pb 05 54 53.8 +0.4
TRG Pmax 05 55 00.0
comp=N,674nm,1.2s
TRG eSn Sn 05 55 27.5 -2.9
TRG eSg Sb 05 55 41.1 +0.8
TRG Smax 05 55 48.7
comp=N,3μm,1.4s
CIT Chita 4.33 152 ePN Pb 05 55 01.1 -0.2
CIT eS Sn 05 55 36.8 -5.1
CIT pmax pmax
comp=Z,1μm,1.5s
CIT smax smax
comp=E,3μm,1.3s
CIT Chita 4.33 152 ePn Pn 05 54 50.8 -0.4
CIT ePg Pb 05 55 01.3 0.0
CIT Pmax 05 55 03.1
comp=E,1μm,1.6s
CIT eSg Sb 05 55 55.7 +2.0
CIT Smax 05 56 03.0
comp=E,3μm,0.9s
STDB Stepnoy Dvoret 4.36 213 ePn Pn 05 54 51.6 +0.1
STDB ePg Pb 05 55 02.2 +0.4
STDB eSg Sb 05 55 57.5 +3.0
KAB Kabansk 4.38 210 e Pn 05 54 48.7 -3.1
KAB ePg Pb 05 55 02.9 +0.8
KAB Pmax 05 55 22.4
comp=E,749nm,1.0s
KAB eSg Sb 05 55 57.8 +2.7
KAB Smax 05 56 46.7
comp=E,5μm,1.1s
CRS Chara 4.58 74 ePN Pn 05 54 55.6 +1.0
CRS e 05 55 09.8
CRS e 05 56 09.8
CRS pmax pmax
comp=Z,707nm,1.1s
CRS smax smax
comp=E,3μm,1.5s
CRS Chara 4.58 74 ePn Pn 05 54 56.9 +2.3
CRS ePg Pg 05 55 09.9 -2.8
CRS Pmax 05 55 22.1
comp=E,706nm,1.2s
CRS eSg Sg 05 56 09.9 -2.1
CRS Smax 05 56 17.1
comp=E,3μm,1.4s
BGT Bolshoye Golou 4.78 219 ePn Pn 05 54 56.8 -0.5
BGT max 05 55 02.0
comp=E,443nm,0.8s
BGT eSn Sn 05 55 50.4 -2.5
BGT eSg Sb 05 56 09.4 +2.8
BGT Smax 05 56 15.1
comp=E,3μm,1.5s
IRK Irkutsk 5.06 226 ePN Pn 05 55 00.5 -0.6
IRK e 05 55 14.4
IRK eS Sn 05 55 58.3 -1.4
IRK e 05 56 18.5
IRK pmax pmax
comp=Z,606nm,0.1s
IRK smax smax
comp=E,4μm,1.4s
IRK Irkutsk 5.06 226 ePn Pn 05 55 01.6 +0.5
IRK max 05 55 04.1
comp=E,750nm,0.1s
IRK eSn Sn 05 55 56.2 -3.5
IRK eSg Sb 05 56 18.3 +3.7
IRK Smax 05 56 26.0
comp=E,4μm,1.4s
LSTR Listvyanka 5.13 221 ePn Pn 05 55 01.4 -0.7
LSTR max 05 55 06.8
comp=E,166nm,1.2s
LSTR eSn Sn 05 55 58.5 -3.1
LSTR eSg Sb 05 56 20.0 +3.3
LSTR Smax 05 56 30.2
comp=E,2μm,1.3s
IVK Ivanovka 5.34 223 ePn Pn 05 55 04.7 -0.3
IVK ePg Pb 05 55 20.3 +1.8
IVK Pmax 05 55 22.8
comp=E,159nm,0.8s
IVK eSn Sn 05 56 03.9 -2.8
IVK eSg Sb 05 56 27.5 +4.7
IVK Smax 05 56 39.5
comp=E,2μm,1.2s
KHNR Khani 5.51 75 ePn Pn 05 55 09.8 +2.4
KHNR ePg Pb 05 55 25.6 +4.1
KHNR eSg Sb 05 56 36.9 -4.9
TUP Tupik 5.76 101⇓iPN Pn 05 55 11.2 +0.4
TUP e 05 55 28.9
TUP eS Sn 05 56 17.0 -0.1
TUP e 05 56 44.2
TUP pmax pmax
comp=Z,156nm,0.8s
TUP smax smax
comp=N,5μm,1.5s
TUP Tupik 5.76 101⇓iPn Pn 05 55 11.2 +0.4
TUP ePg Pb 05 55 30.4 +4.7
TUP Pmax 05 55 41.2
comp=N,154nm,0.7s
TUP eSn Sn 05 56 15.7 -1.4
TUP eSg Sg 05 56 44.2 -5.5
TUP Smax 05 57 04.2
comp=N,4μm,2.0s
ARS Arshan 6.08 233 ePN Pn 05 55 14.2 -1.1
ARS e 05 55 33.3
ARS eS Sn 05 56 21.6 -3.5
ARS e 05 56 50.3
ARS pmax pmax
comp=Z,397nm,0.7s
ARS smax smax
comp=N,6μm,1.3s
ARS Arshan 6.08 233 ePn Pn 05 55 14.6 -0.7
ARS ePg Pb 05 55 33.4 +2.2
ARS e 05 55 39.1
ARS max 05 55 40.1
comp=N,401nm,0.6s
ARS eSn Sn 05 56 21.4 -3.7
ARS eSg Sb 05 56 50.7 +6.5
ARS Smax 05 56 57.3
comp=N,6μm,1.2s
KPC Khapcheranga 6.32 167 ePN Pn 05 55 18.0 -0.5
KPC e 05 55 36.3
KPC eS Sn 05 56 27.0 -3.9
KPC pmax pmax
comp=Z,192nm,1.2s
KPC smax smax
comp=E,2μm,1.2s
KPC Khapcheranga 6.32 167 ePn Pn 05 55 17.5 -1.0
KPC ePg Pb 05 55 38.1 +2.9
KPC Pmax 05 55 41.4
comp=E,193nm,1.1s
KPC eSn Sn 05 56 26.1 -4.8
KPC eSg Sb 05 56 57.4 +6.5
KPC Smax 05 57 16.0
comp=E,2μm,1.2s
YKLR Yuktali 6.41 79 ePn Pn 05 55 21.3 +1.6
YKLR ePg Pb 05 55 42.3 +5.6
YKLR eSn Sn 05 56 32.1 -0.9
YKLR eSg Sg 05 57 04.7 -5.8
MOY Mondy 6.91 236 ePN Pn 05 55 27.2 +0.5
MOY e 05 55 48.3
MOY eS Sn 05 56 42.2 -3.3
MOY e 05 57 15.5
MOY pmax pmax
comp=Z,278nm,1.1s
MOY smax smax
comp=E,3μm,1.5s
MOY Mondy 6.91 236⇓iPn Pn 05 55 27.5 +0.8
MOY max 05 55 28.5
comp=E,560nm,1.1s
MOY eSn Sn 05 56 42.3 -3.3
MOY eSg Sb 05 57 15.4 +7.4
MOY Smax 05 57 21.8
comp=E,3μm,1.5s
ZAK Zakamensk 6.91 220 ePN Pn 05 55 26.2 -0.4
ZAK eS Sb 05 57 15.5 +7.5
ZAK smax smax
comp=N,1μm,1.3s
ZAK Zakamensk 6.91 220 ePn Pn 05 55 26.3 -0.4
ZAK max 05 55 31.5
comp=N,175nm,1.5s
ZAK eSn Sn 05 56 40.7 -4.8
ZAK eSg Sb 05 57 16.2 +8.2
ZAK Smax 05 57 19.9
comp=N,1μm,1.4s
ORL Orlik 6.97 246 ePN Pn 05 55 28.3 +0.8
ORL eS Sn 05 56 42.7 -4.2
ORL eS Sg 05 57 21.8 -6.6
ORL smax smax
comp=N,1μm,1.5s
ORL Orlik 6.97 246 ePn Pn 05 55 28.3 +0.8
ORL e 05 55 36.5
ORL max 05 55 41.5
comp=N,292nm,1.1s
ORL eSn Sn 05 56 43.5 -3.4
ORL eSg Sg 05 57 19.0 -9.4
ORL Smax 05 57 34.9
comp=N,1μm,1.1s
IENR Iengra 8.20 82 ePn Pn 05 55 45.3 +1.1
IENR ePg Pb 05 56 12.9 +5.8
IENR eSg Sg 05 57 59.7 -8.0
CLNS Chul'man 8.20 77 ePn Pn 05 55 45.4 +1.1
CLNS ePg Pb 05 56 13.1 +5.9
CLNS eSn Sn 05 57 14.1 -3.0
CLNS eSg Sg 05 58 00.4 -7.5
ULN Ulaanbaatar 8.26 195cePN Pn 05 55 46.5 +1.3
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 8.26 195 ePg Pb 05 56 12.0 +3.7
ULN eSg Sb 05 57 56.3 +10
ULN Ulaanbaatar 8.26 195 Pn Pn 05 55 47.4 +2.2
SONM Songino Array 8.39 198 Pn Pn 05 55 46.9 -0.1
comp=Z,1.4nm,0.3s,baz=8.5,slow=13,SNR=13
SONM Lg Lg 05 58 06.5
comp=Z,9.6nm,0.3s,baz=11,slow=24,SNR=5.0
SONM LR LR 05 59 03.9
comp=Z,749nm,20.7s,baz=9.5,slow=38
SONM Songino Array 8.39 198 PN Pn 05 55 48.6 +1.6
SONM Songino Array 8.39 198 Pn Pn 05 55 48.6 +1.6
KNGR Kungurtug, Tuv 9.27 241 ePn Pn 05 56 01.3 +2.3
KNGR e 05 57 56.0
KNGR eSg Sg 05 58 31.0
ZEA Zeya 10.05 95 eP Pn 05 56 10.5 +0.9
ZEA eS Sn 05 58 05.6 +3.1
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA smax smax
comp=E,100nm,4.0s
ZEA MLR MLR
comp=E,2μm,6.0s
ZEA MLR MLR
comp=Z,2μm,6.0s
YAK Yakutsk 11.75 50 Pn Pn 05 56 30.6 -2.2
comp=Z,0.1nm,0.3s,baz=313,slow=1.6,SNR=6.2
YAK Sn Sn 05 58 38.3 -5.7
comp=Z,0.3nm,0.3s,baz=37,slow=21,SNR=7.6
YAK Lg Lg 05 59 53.4
comp=Z,0.4nm,0.3s,baz=322,slow=20,SNR=5.4
YAK LR LR 06 01 14.4
comp=Z,320nm,19.1s,baz=268,slow=38
YAK Yakutsk 11.75 50 eP Pn 05 56 33.7 +0.9
YAK eS Sn 05 58 46.7 +2.7
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,95nm,0.8s
YAK pmax pmax
comp=N,18nm,0.9s
YAK pmax pmax
comp=E,34nm,0.9s
YAK smax smax
comp=N,55nm,0.9s
YAK smax smax
comp=E,50nm,0.9s
YAK MLR MLR
comp=Z,208nm,15.0s
YAK MLR MLR
comp=N,64nm,13.0s
YAK MLR MLR
comp=E,99nm,13.0s
YAK Yakutsk 11.75 50 Pn 05 56 32.6 -0.1
XLT XiLinHaoTe 12.56 160 eP Pn 05 56 54.3 +10
XLT pP 05 56 58.9
XLT sP 05 57 02.0
XLT S Sn 05 59 07.5 +3.4
XLT SS SnSn 05 59 17.4 +1.6
XLT pmax pmax
comp=Z,11nm,0.9s
XLT smax smax
comp=N,5.0nm,1.5s
XLT smax smax
comp=E,56nm,1.6s
XLT LR LR
comp=N,180nm,8.4s
XLT LR LR
comp=E,1μm,6.1s
XLT LR LR
comp=Z,2μm,9.5s
KLR Kul'dur 14.64 108 Pn Pn 05 57 12.6 +0.2
comp=Z,0.9nm,0.3s,baz=305,slow=12,SNR=16
KLR Lg Lg 06 01 19.9
comp=Z,0.5nm,0.3s,baz=259,slow=13,SNR=5.7
ZAA0 Zalesovo Array 14.72 273 Pn Pn 05 57 13.1 -0.3
ZALV Zalesovo Beam 14.72 273 Pn Pn 05 57 13.2 -0.1
comp=Z,0.6nm,0.3s,baz=76,slow=9.8,SNR=20
ZALV Lg Lg 06 01 22.9
comp=Z,0.5nm,0.3s,baz=84,slow=29,SNR=2.7
ZALV LR LR 06 02 22.6
comp=Z,90nm,20.6s,baz=64,slow=35
ZALV Zalesovo Beam 14.72 273 Pn Pn 05 57 12.4 -1.0
HHC Hu-ho-hao-te 15.06 176 eP P 05 57 22.3 -1.3
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,49nm,8.2s
HHC LR LR
comp=Z,2μm,7.8s
HHC LR LR
comp=Z,1μm,6.2s
HHC LR LR
comp=Z,2μm,8.7s
BTO Baotou 15.28 181 eP Pn 05 57 23.0 +2.0
BTO S Sn 06 00 15.6 +5.1
CN2 Changchun 15.52 135 eP Pn 05 57 22.6 -1.5
CN2 S Sn 06 00 15.8 -0.3
CN2 LR LR
comp=Z,980nm,7.0s
CN2 LR LR
comp=Z,760nm,7.0s
CN2 LR LR
comp=Z,1μm,8.0s
NRIK Noril'sk 16.90 332 Pn Pn 05 57 38.2 -3.3
comp=Z,1.5nm,0.3s,baz=124,slow=12,SNR=14
NRIK Sn Sn 06 00 38.9 -10
comp=Z,2.2nm,0.3s,baz=140,slow=20,SNR=7.2
NRIK Lg Lg 06 02 31.2
baz=188,slow=19,SNR=1.0
NRIK LR LR 06 05 01.6
comp=Z,276nm,20.8s,baz=152,slow=40
NRIK Noril'sk 16.90 332 P Pn 05 57 38.1 -3.4
NRIK pmax pmax
comp=Z,28nm,0.8s
NRIK Noril'sk 16.90 332 Pn Pn 05 57 38.1 -3.4
TIXI Tiksi 17.70 19 P Pn 05 57 48.6 -2.9
comp=Z,3.4nm,0.3s,baz=264,slow=18,SNR=23
TIXI S Sn 06 00 56.1 -12
comp=Z,1.1nm,0.3s,baz=272,slow=24,SNR=3.4
TIXI Lg Lg 06 02 59.4
baz=90,slow=24,SNR=3.6
TIXI LR LR 06 05 07.4
comp=Z,258nm,20.7s,baz=185,slow=38
TIXI Tiksi 17.70 19ceP Pn 05 57 49.1 -2.4
TIXI pmax pmax
comp=Z,49nm,1.3s
TIXI MLR MLR
comp=Z,217nm,9.0s
TIXI Tiksi 17.70 19 P Pn 05 57 49.4 -2.1
GTA Gaotai 17.87 207 eP P 05 57 55.8 +1.1
GTA pP sP 05 57 59.9 +2.1
GTA sP pP 05 58 02.8 +5.9
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=Z,1μm,8.0s
GTA LR LR
comp=Z,570nm,9.1s
GTA LR LR
comp=Z,1μm,9.1s
USA0B Ussuriysk Arra 18.12 121 P P 05 57 59.5 +2.2
USA0B pmax pmax
comp=Z,75nm,2.0s
USA0B Ussuriysk Arra 18.12 121 P P 05 57 59.5 +2.2
USRK Ussuriysk Ar. 18.12 121 LR LR 06 04 36.7
comp=Z,160nm,19.2s,baz=252,slow=36
USRK Ussuriysk Ar. 18.12 121 P P 05 57 59.0 +1.7
USRK Ussuriysk Ar. 18.12 121 P P 05 57 59.0 +1.7
HNS HongShan 18.73 169 ⇑P Pn 05 58 06.9 +2.6
HNS S S 06 01 39.4 +2.2
HNS LR LR
comp=Z,500nm,9.0s
HNS LR LR
comp=Z,560nm,9.3s
WMQ Urumqi 18.78 240 eP Pn 05 58 07.0 +1.9
WMQ sP sP 05 58 15.5 +7.7
WMQ PP PnPn 05 58 22.1 +5.1
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,130nm,6.7s
WMQ LR LR
comp=Z,980nm,8.5s
WMQ LR LR
comp=Z,610nm,6.5s
KURK Kurchatov 19.48 268 P Pn 05 58 13.5 +0.2
KURK Kurchatov 19.48 268 P P 05 58 11.5 -0.7
KURK IAmb IAmb 05 58 18.5
comp=Z,51nm,0.8s
MK31 Makanchi Array 19.56 254 iP P 05 58 13.0 -0.1
MK31 Makanchi Array 19.56 254 P P 05 58 12.2 -0.9
MKAR Makanchi Array 19.56 254 P P 05 58 12.8 -0.3
comp=Z,0.7nm,0.3s,baz=59,slow=8.1,SNR=89
MKAR LR LR 06 06 41.6
comp=Z,72nm,19.6s,baz=36,slow=40
MKAR Makanchi Array 19.56 254 P P 05 58 12.0 -1.1
KURBB Kurchatov Arra 19.57 268 P P 05 58 13.5 +0.3
comp=Z,0.5nm,0.3s,baz=65,slow=12,SNR=65
KURBB LR LR 06 06 17.0
comp=Z,45nm,20.0s,baz=30,slow=38
MAKZ Makanchi 19.72 255 P P 05 58 13.9 -1.0
MAKZ pmax pmax
comp=Z,18nm,0.8s
MAKZ Makanchi 19.72 255 P P 05 58 13.9 -1.0
LZH Lanzhou 20.27 195 eP Pn 05 58 22.8 -0.1
LZH pP sP 05 58 28.3 +4.2
LZH sP pP 05 58 32.4 +9.2
LZH S S 06 02 01.0 -7.5
LZH sS Sn 06 02 10.6 -0.6
LZH SS SnSn 06 02 30.9 +5.3
LZH pmax pmax
comp=Z,10.0nm,1.1s
LZH pmax pmax
comp=Z,100nm,6.3s
LZH LR LR
comp=Z,780nm,7.3s
LZH LR LR
comp=Z,3μm,7.9s
LZH LR LR
comp=Z,1μm,10.3s
MA2 Magadan 21.71 63 P P 05 58 36.2 0.0
comp=Z,4.5nm,0.6s,baz=294,slow=14,SNR=5.8
MA2 LR LR 06 07 10.0
comp=Z,151nm,20.1s,baz=260,slow=37
MA2 Magadan 21.71 63ceP P 05 58 33.3 -2.9
MA2 pmax pmax
comp=Z,24nm,1.7s
MA2 MLR MLR
comp=Z,125nm,11.0s
MA2 Magadan 21.71 63 P P 05 58 35.6 -0.6
MA2 IAmb IAmb 05 58 40.0
comp=Z,55nm,1.9s
XAN Xi'an 21.85 183 P P 05 58 39.4 +1.4
XAN pP sP 05 58 47.4 +6.3
XAN pmax pmax
comp=Z,13nm,1.1s
KSAR Wonju Array Be 21.94 140 P P 05 58 39.6 +0.7
KSAR Wonju Array Be 21.94 140 P P 05 58 39.5 +0.7
KSRS Korea Array 21.95 140 P P 05 58 37.9 -1.0
comp=Z,0.7nm,0.6s,baz=338,slow=8.4,SNR=1.9
KSRS LR LR 06 08 26.0
comp=Z,17nm,21.8s,baz=325,slow=40
YSS Yuzh-Sakhalins 21.98 100 eP P 05 58 29.2 -10
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,400nm,11.0s
SEY Seymchan 22.23 54 P P 05 58 42.0 +0.3
comp=Z,2.1nm,0.7s,baz=285,slow=16,SNR=3.6
SEY Seymchan 22.23 54 iP P 05 58 39.7 -2.0
SEY pmax pmax
comp=Z,13nm,1.1s
SEY MLR MLR
comp=Z,149nm,17.0s
GOMU GeErMu 22.30 215 P P 05 58 43.3 +0.1
GOMU pP sP 05 58 48.3 +2.0
GOMU sP pP 05 58 51.3 +5.9
GOMU S S 06 02 48.3 -0.6
GOMU sS Sn 06 02 58.1 -2.4
GOMU pmax pmax

comp=Z,12nm,1.1s
GOMU pmax pmax
comp=Z,53nm,3.5s
GOMU LR LR
comp=Z,570nm,11.6s
GOMU LR LR
comp=Z,450nm,10.8s
GOMU LR LR
comp=Z,850nm,10.9s
BVAR Borovoye Array 23.12 280 P **P** **05 58 51.4 +0.2**
comp=Z,8.5nm,0.6s,baz=52,slow=17,SNR=31
BRVK Borovoye 23.16 280 P **P** **05 58 51.0 -0.7**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 23.16 280 P **P** **05 58 51.0 -0.7**
BRVK IAmb IAmb 05 59 12.1
comp=Z,33nm,0.9s
ASAJ Asahikawa 23.66 106 LR LR 06 08 45.8
comp=Z,80nm,20.9s,baz=136,slow=38
ASAJ Asahikawa 23.66 106 P **P** **05 58 57.4 +0.7**
ASAJ pmax pmax
comp=Z,69nm,1.5s
JKA Kamikawa-asahi 23.66 106 P **P** **05 58 57.4 +0.6**
NJ2 Nanjing 24.57 162 *e*P **P** **05 59 11.3 +6.0**
NJ2 pmax pmax
comp=Z,21nm,0.6s
JTM Tenmabayashi 25.18 114 P **P** **05 59 10.0 -0.7**
JTM IAmb IAmb 05 59 50.9
comp=Z,30nm,1.2s
TKM2 Tokmak 2 25.69 254 P **P** **05 59 15.8 +0.1**
BOOM Boomskoye usch 25.80 253 P **P** **05 59 17.5 +0.9**
BOOM pmax pmax
comp=Z,20nm,1.2s
BOOM Boomskoye usch 25.80 253 P **P** **05 59 17.5 +0.9**
BOOM IAmb IAmb 05 59 33.1
comp=Z,20nm,1.1s
FRU1 Bishkek 26.30 255 P **P** **05 59 21.3 +0.3**
FRU1 Bishkek 26.30 255 P **P** **05 59 21.3 +0.3**
AAK Ala-Archa 26.48 255 P **P** **05 59 24.8 +2.1**
comp=Z,2.3nm,0.7s,baz=61,slow=9.0,SNR=8.3
AAK LR LR 06 09 03.4
comp=Z,73nm,18.5s,baz=33,slow=35
AAK Ala-Archa 26.48 255*c e*P **P** **05 59 23.5 +0.7**
AAK pmax pmax
comp=Z,12nm,1.7s
AAK MLR MLR
comp=Z,182nm,13.0s
AAK Ala-Archa 26.48 255 P **P** **05 59 22.5 -0.3**
JNU Nakatsue 26.89 139 P **P** **05 59 29.4 +3.0**
SVE Sverdlovsk 27.02 293 *e*P **P** **05 59 29.3 +2.0**
MJAR Matsushiro Arr 27.06 124 LR LR 06 09 57.1
comp=Z,75nm,20.1s,baz=308,slow=36
PETK Petropavlovsk- 27.28 76 LR LR 06 10 58.9
comp=Z,98nm,19.6s,baz=330,slow=38
BILL Bilibino 27.89 42 *e*P **P** **05 59 33.9 -1.1**
BILL *e**PP **sP** **05 59 41.1 +2.8**
BILL *e* 06 00 24.1
BILL *e*PPP PPP 06 00 33.1
BILL *e*S **S** **06 04 20.7 +2.3**
BILL *e*SS **SnSn** **06 05 39.4 +8.2**
BILL *e*SSS SSS 06 05 51.1
BILL pmax pmax
comp=Z,13nm,2.5s
KSH Kashi 27.89 249 P P 05 59 44.3 +8.9
KSH pP sP 05 59 50.5 +12
KSH LR LR
comp=Z,200nm,10.0s
KSH LR LR
comp=Z,410nm,10.5s
KSH LR LR
comp=Z,360nm,11.0s
ARU Arti 28.23 293 P **P** **05 59 39.0 +0.8**
comp=Z,1.7nm,0.2s,baz=45,slow=7.0,SNR=7.4
ARU LR LR 06 12 33.0
comp=Z,97nm,18.3s,baz=94,slow=40
ARU Arti 28.23 293*c i*P **P** **05 59 38.7 +0.6**
ARU 06 00 23.4
ARU S **S** **06 04 26.3 +2.4**
ARU SS **SnSn** **06 05 41.1 +1.3**
ARU pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 28.23 293 IAmb IAmb 05 59 42.1
comp=Z,9.7nm,0.9s
KKAR Karatay Array 28.37 260 P **P** **05 59 39.1 -0.4**
KKAR Karatay Array 28.37 260 P **P** **05 59 39.1 -0.4**
AB31 Akbulak array 30.69 279 *i* P **P** **05 59 59.4 -0.5**
ABKAR Akbulak array 30.69 279 P **P** **05 59 59.8 -0.2**
ABKAR Akbulak array 30.69 279 P **P** **05 59 59.6 -0.3**
AKTO Aktyubinsk 31.14 282 P **P** **06 00 04.5 +0.6**
comp=Z,2.1nm,0.7s,baz=70,slow=10,SNR=10
AKTO LR LR 06 12 31.2
comp=Z,69nm,20.1s,baz=55,slow=36
KMI Kunming 31.20 193 ⇑P **P** **06 00 07.9 +3.0**
KMI pmax pmax
comp=Z,13nm,0.6s
KMI LR LR
comp=Z,200nm,11.7s
KMI LR LR
comp=Z,300nm,9.5s
KMI LR LR
comp=Z,200nm,13.3s
GAR Garm 31.29 254 P **P** **06 00 05.1 -0.4**
GAR IAmb IAmb 06 00 09.3
comp=Z,9.3nm,0.9s
KIRV Kirov 32.05 300 LR LR 06 13 48.6
comp=Z,130nm,20.9s,baz=62,slow=38
CHGR Chuyangaron 32.16 255 P **P** **06 00 12.2 -0.9**
CHGR IAmb IAmb 06 00 16.2
comp=Z,15nm,1.2s
SSLB Suanglung 33.01 162 P **P** **06 00 21.9 +1.3**
SSLB IAmb IAmb 06 00 24.6
comp=Z,11nm,0.9s
SHL Shillong 33.10 211 P **P** **06 00 21.6 0.0**
SHL pmax pmax
comp=Z,5.0nm,0.6s
SHL Shillong 33.10 211 P **P** **06 00 21.6 0.0**
SHL IAmb IAmb 06 00 25.2
comp=Z,4.7nm,0.6s
BELG Belogornoye 35.74 291 LR LR 06 16 08.2
comp=Z,139nm,18.4s,baz=44,slow=38
KLMR Klimovskoe 35.77 308 *e*P **P** **06 00 42.9 -1.1**
KLMR *e* 06 02 04.7
KLMR pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 35.77 308 *e*P **P** **06 00 42.9 -1.1**
KLMR AMP 06 00 48.5
comp=Z,25nm,1.3s
KLMR *e*PP **PP** **06 02 04.7 -0.3**
QIZ Qiongzhong 36.78 181 P **P** **06 00 55.1 +2.0**
QIZ S **S** **06 06 41.4 +4.1**
QIZ LR LR
comp=Z,300nm,12.6s
QIZ LR LR
comp=Z,250nm,16.4s
QIZ LR LR
comp=Z,270nm,13.6s
SPITS Spitsbergen Ar 36.83 340 P **P** **06 00 53.6 +0.6**
comp=Z,5.4nm,0.8s,baz=89,slow=11,SNR=10.0
SPITS LR LR 06 17 06.0
comp=Z,119nm,21.7s,baz=259,slow=38
GAMB Gambell 37.64 45 P **P** **06 01 00.2 +0.3**
GAMB Gambell 37.64 45 P **P** **06 01 01.7 +1.7**
baz=296
ARCES ARCESS Array B 37.68 325 P **P** **06 00 59.2 -1.1**
comp=Z,5.5nm,0.7s,baz=68,slow=8.5,SNR=14
ARCES LR LR 06 20 15.2
comp=Z,64nm,18.2s,baz=73,slow=42
ARCES ARCESS Array B 37.68 325 IAmb IAmb 06 01 02.7
comp=Z,85nm,1.7s
CHTO Chiang Mai 37.97 198 P **P** **06 01 03.7 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 37.97 198 P **P** **06 01 03.7 +0.5**
CMAR Chiang Mai Arr 38.32 197 P **P** **06 01 06.5 +0.3**
comp=Z,1.5nm,0.3s,baz=2.8,slow=8.7,SNR=6.6
CMAR LR LR 06 16 48.2
comp=Z,40nm,18.2s,baz=25,slow=36
TNA Tin City 38.33 42 P **P** **06 01 05.5 -0.2**
TNA IAmb IAmb 06 01 11.6
comp=Z,10.0nm,0.8s
TNA Tin City 38.33 42 P **P** **06 01 06.7 +0.9**
baz=296,SNR=6.7
GEYT Alibeck 38.80 265 LR LR 06 17 27.0
comp=Z,25nm,18.7s,baz=281,slow=37
VRH Novokhopyorsk 39.47 293 *e*P **P** **06 01 11.1 -4.4**
VRH pmax pmax
comp=Z,7.0nm,0.4s
ANM Nome 39.75 42 P **P** **06 01 18.6 +0.9**
ANM pmax pmax
comp=Z,9.0nm,1.1s
ANM Nome 39.75 42 P **P** **06 01 18.6 +0.9**
ANM Nome 39.75 42 P **P** **06 01 19.1 +1.4**
baz=299
OBN Obninsk 39.90 301 *e*P **P** **06 01 18.0 -1.0**
OBN *e* 06 02 53.0
OBN *e* 06 03 23.3
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,106nm,16.0s
LPSR Galich'ya Gora 40.11 296 *e*P **P** **06 01 20.6 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 41.24 314 P **P** **06 01 29.4 -0.6**
comp=Z,8.7nm,0.8s,baz=52,slow=8.5,SNR=16
FINES LR LR 06 19 35.8
comp=Z,79nm,20.4s,baz=76,slow=38
GCSA Galena City Sc 42.78 39 P **P** **06 01 43.4 +1.0**
baz=304
TOLK Toolik Lake Re 42.94 32 P **P** **06 01 43.2 -0.7**
TOLK Toolik Lake Re 42.94 32 P **P** **06 01 44.8 +0.9**
baz=306
KIV Kislovodsk 43.38 284 *e*P **P** **06 01 48.2 +0.4**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,61nm,16.0s
KIV Kislovodsk 43.38 284 P **P** **06 01 46.0 -1.8**
KIV IAmb IAmb 06 01 54.8
comp=Z,20nm,0.9s
KBZ Khabaz 43.41 283 P **P** **06 01 48.0 +0.1**
comp=Z,2.7nm,0.9s,baz=333,slow=6.8,SNR=2.4
SHA1 Shidzhatmaz 43.54 283 *i* P **P** **06 01 48.9 -0.3**
COLD Coldfoot 43.58 34 P **P** **06 01 50.1 +1.1**
COLD IAmb IAmb 06 01 54.4
comp=Z,34nm,1.9s
COLD Coldfoot 43.58 34 P **P** **06 01 50.3 +1.3**
baz=306
H21K Melozitna Rive 43.66 37 P **P** **06 01 49.9 +0.2**
H21K IAmb IAmb 06 01 55.2
comp=Z,13nm,1.1s
H21K Melozitna Rive 43.66 37 P **P** **06 01 51.3 +1.6**
baz=306,SNR=9.9
NEY Neytrino 43.83 283 *i* P **P** **06 01 51.7 +0.2**
NEY pmax pmax
comp=Z,4.0nm,0.9s
DLV T Lat 43.85 182 P **P** **06 01 52.0 +0.1**
EUNU Eureka 43.98 4 P **P** **06 01 51.8 -0.4**
J20K Nowinta River 44.07 39 P **P** **06 01 52.6 -0.4**
J20K Nowinta River 44.07 39 P **P** **06 01 54.3 +1.3**
baz=306
TTA Tatalina 44.14 41 P **P** **06 01 55.5 +1.9**
baz=306
I21K Tanana 44.22 37 P **P** **06 01 55.1 +1.0**
I21K Tanana 44.22 37 P **P** **06 01 55.3 +1.2**
baz=307
MNK Minsk 44.38 304 *i* P **P** **06 01 53.2 -2.3**
MNK *i* 06 03 35.0
MNK *i* PPP PPP 06 04 12.7
MNK *i* S **S** **06 08 27.3 -2.6**
MNK *i* SS **SS** **06 11 49.0 +1.0**
MNK *i* SSS SSS 06 12 29.9
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK MLR MLR
comp=Z,109nm,13.0s
MNK MLR MLR
comp=N,179nm,12.0s
MNK MLR MLR
comp=E,53nm,15.0s
MNK Minsk 44.38 304 *i* P **P** **06 01 53.3 -2.3**
comp=E,3.0nm,1.1s
MNK *i* P **P** **06 01 53.3 -2.3**
comp=N,14nm,1.1s
MNK *i* P **P** **06 01 53.3 -2.3**
comp=Z,8.0nm,0.9s,baz=53
MNK *i* PP **PP** **06 03 35.0 -3.6**
MNK *i* PPP PPP 06 04 12.7
MNK *i* S **S** **06 08 27.4 -2.6**
MNK *i* SS **SS** **06 11 49.1 +1.0**
MNK *i* SSS SSS 06 12 30.0
MNK *i* LQ LQ 06 17 14.6
MNK *i* LR LR 06 20 37.4
MNK *i* LRM MLR 06 23 58.0
comp=Z,109nm,12.8s
MNK *i* LRM MLR 06 24 03.1
comp=N,179nm,12.2s
MNK *i* LRM MLR 06 24 04.4
comp=E,53nm,14.7s
K20K Telida 44.59 40 P **P** **06 01 58.4 +1.2**
baz=307
NACGM Naroch 44.65 305⇓*e*P **P** **06 01 58.9 +1.2**
MLY Manley 44.73 37 P **P** **06 01 59.5 +1.2**
baz=308
GNI Garni 44.79 278 LR LR 06 22 15.2
comp=E,43nm,19.2s,baz=70,slow=38
CHUM Lake Minchumin 44.90 38 P **P** **06 02 01.4 +1.9**
baz=308,SNR=5.6
L19K White Mountain 45.02 41 P **P** **06 02 02.2 +1.6**
baz=308
I23K Minto, Yukon-K 45.12 36 P **P** **06 02 02.3 +1.0**
baz=309,SNR=7.9
H24K Noodor Dome 45.17 35 P **P** **06 02 03.5 +1.7**
H24K IAmb IAmb 06 02 07.1
comp=Z,7.9nm,1.0s
H24K Noodor Dome 45.17 35 P **P** **06 02 03.0 +1.3**
baz=309,SNR=5.5
BMAR Burnt Mountain 45.17 32 P **P** **06 02 02.9 +1.1**
L20K Farewell, AK 45.20 41 P **P** **06 02 03.4 +1.4**
baz=308
BPAW Bear Paw Mtn. 45.22 38 P **P** **06 02 02.7 +0.5**
baz=308
CAST Castle Rocks 45.26 39 P **P** **06 02 03.6 +1.1**
CAST IAmb IAmb 06 02 08.1
comp=Z,8.2nm,0.8s
CAST Castle Rocks 45.26 39 P **P** **06 02 03.2 +0.7**
baz=308,SNR=7.6
PPLA Purkeypile 45.55 39 P **P** **06 02 05.1 +0.1**
baz=309
NEA2 Nenana 45.56 36 P **P** **06 02 05.4 +0.5**
baz=309
MDM Murphy Dome 45.61 36 P **P** **06 02 06.4 +1.2**
MDM IAmb IAmb 06 02 33.5
comp=Z,26nm,1.7s
ANN Anapa 45.68 288 *e*P **P** **06 02 03.6 -2.4**
ANN *e*S **S** **06 08 46.4 -2.5**
POKR Poker Plat Res 45.77 35 P **P** **06 02 07.2 +0.7**
baz=310
TCOL CIGO, UAF Yank 45.79 36 P **P** **06 02 07.3 +0.7**
TCOL IAmb IAmb 06 02 13.0
comp=Z,11nm,0.8s
TCOL CIGO, UAF Yank 45.79 36 P **P** **06 02 07.7 +1.1**
baz=310
COLA College 45.79 36 P **P** **06 02 07.3 +0.7**
COLA pmax pmax
comp=Z,10.0nm,0.7s
COLA College 45.79 36 P **P** **06 02 07.3 +0.7**
COLA IAmb IAmb 06 02 13.0
comp=Z,10nm,0.7s
COLA College 45.79 36 P **P** **06 02 07.7 +1.1**
baz=310
TRF Thorofare Moun 45.87 38 P **P** **06 02 08.5 +0.9**
baz=309
DBG Daneborg 45.95 343 *e*P P 06 02 01.9 -5.9
CCB Clear Creek Bu 45.95 36 P **P** **06 02 09.2 +1.3**
CCB IAmb IAmb 06 02 13.4
comp=Z,13nm,1.2s
AKASG Malin Array Be 46.09 299 P **P** **06 02 09.6 +0.4**
comp=Z,5.3nm,0.7s,baz=45,slow=8.8,SNR=26
AKASG LR LR 06 20 44.2
comp=Z,115nm,20.4s,baz=54,slow=35
AKASG Malin Array Be 46.09 299 IAmb IAmb 06 02 12.4
comp=Z,9.0nm,1.9s
PRP Porcupine Dome 46.12 34 P **P** **06 02 10.3 +0.9**
PRP IAmb IAmb 06 02 12.7
comp=Z,8.5nm,1.0s
PRP Porcupine Dome 46.12 34 P **P** **06 02 10.4 +1.0**
baz=311,SNR=6.0
MCK McKinley 46.16 37 P **P** **06 02 11.1 +1.5**
baz=310
IL31 46.17 35 P **P** **06 02 10.0 +0.4**
IL31 IAmb IAmb 06 02 15.0
comp=Z,12nm,1.1s
ILAR Eielson Array 46.17 35 P **P** **06 02 10.6 +0.9**
comp=Z,8.0nm,1.0s,baz=301,slow=6.1,SNR=55
ILAR LR LR 06 21 18.5
comp=Z,88nm,19.8s,baz=5.0,slow=36
JMIC Jan Mayen 46.24 337 LR LR 06 23 04.0
comp=Z,88nm,19.5s,baz=61,slow=38
HDA Harding Lake 46.39 36 P **P** **06 02 12.7 +1.3**
HDA Harding Lake 46.39 36 P **P** **06 02 12.5 +1.1**
baz=311
A36M Sachs Harbour 46.71 21 P **P** **06 02 14.2 +0.4**
A36M Sachs Harbour 46.71 21 P **P** **06 02 14.2 +0.4**
baz=320,SNR=14
J25K Salcha River, 46.77 35 P **P** **06 02 13.7 -0.8**
J25K Salcha River, 46.77 35 P **P** **06 02 14.8 +0.4**
baz=312
HFS Hagfors 46.92 317 P **P** **06 02 15.2 -0.4**
comp=Z,5.8nm,0.7s,baz=125,slow=7.6,SNR=6.2
HFS LR LR 06 22 07.7
comp=Z,62nm,19.3s,baz=4.5,slow=36
DHY Denali Highway 47.12 37 P **P** **06 02 18.4 +1.0**
DHY IAmb IAmb 06 02 21.9
comp=Z,7.6nm,0.7s
DHY Denali Highway 47.12 37 P **P** **06 02 17.4 +0.1**
baz=312
NB2 NORSAR Subarra 47.27 319 P **P** **06 02 18.8 +0.5**
comp=Z,12nm,1.0s,baz=46,slow=7.4
NOA NORSAR Array B 47.27 319 P **P** **06 02 19.2 +0.9**
comp=Z,5.8nm,0.8s,baz=47,slow=7.2,SNR=18
NOA LR LR 06 23 12.8
comp=Z,54nm,18.5s,baz=60,slow=37
WAT6 Susitna Watana 47.32 38 P **P** **06 02 19.6 +0.6**
baz=312
GURO Guroymak-BITLI 47.41 279 P **P** **06 02 19.1 -0.8**
J26L Joseph Creek 47.42 34 P **P** **06 02 19.5 -0.1**
baz=313
NBO00 NORSAR Array S 47.43 319 P **P** **06 02 18.9 -0.7**
GHO Glory Hole Cre 47.44 39 P **P** **06 02 19.8 +0.1**
PMR Palmer 47.49 40 P **P** **06 02 19.9 -0.1**
baz=312
RIDG Independent Ri 47.52 36 P **P** **06 02 20.6 +0.3**
RIDG Independent Ri 47.52 36 P **P** **06 02 20.7 +0.4**
baz=313
INK Inuvik 47.61 27 P **P** **06 02 21.4 +0.6**
comp=Z,8.6nm,1.0s,baz=324,slow=8.7,SNR=15
INK Inuvik 47.61 27 P **P** **06 02 21.4 +0.6**
INK IAmb IAmb 06 02 26.4
comp=Z,12nm,1.1s
INK Inuvik 47.61 27 P **P** **06 02 21.1 +0.3**
baz=317,SNR=8.3
SML Sawmill 47.63 39 P **P** **06 02 22.4 +1.2**
SML Sawmill 47.63 39 P **P** **06 02 21.6 +0.4**
baz=312
PAX Paxson 47.84 37 P **P** **06 02 23.0 +0.2**
baz=313
DOT Dot Lake 47.84 35 P **P** **06 02 23.4 +0.6**
SCM Sheep Creek Mo 47.97 39 P **P** **06 02 24.6 +0.7**
baz=312
EGAK Eagle 47.98 33 P **P** **06 02 22.9 -0.9**
EGAK IAmb IAmb 06 02 29.1
comp=Z,10nm,0.9s
EPYK Eagle Plains 48.16 30 P **P** **06 02 26.2 +1.0**
baz=316
M24K Tolsona, Glenn 48.19 38 P **P** **06 02 26.5 +1.0**
baz=313
HARP HAARP 48.34 37 P **P** **06 02 27.7 +1.2**
baz=313
RES Resolute Bay 48.64 9 P **P** **06 02 29.8 +1.1**
comp=Z,4.6nm,1.1s,baz=21,slow=5.0,SNR=9.6
RES LR LR 06 23 43.5
comp=Z,29nm,19.4s,baz=30,slow=37
RES Resolute Bay 48.64 9 P **P** **06 02 29.4 +0.7**
RES pmax pmax
comp=Z,6.0nm,1.1s
RES Resolute Bay 48.64 9 P **P** **06 02 29.4 +0.7**
KLU Klutina 48.69 38 P **P** **06 02 30.6 +1.2**
baz=313
KDAK Kodiak Island 48.72 45 LR LR 06 23 56.5
comp=Z,118nm,18.6s,baz=329,slow=37
KDAK Kodiak Island 48.72 45 P **P** **06 02 30.8 +1.3**
baz=312
L27K Beaver Creek, 48.98 35 P **P** **06 02 33.1 +1.6**
L27K IAmb IAmb 06 02 37.0
comp=Z,8.8nm,0.8s
L27K Beaver Creek, 48.98 35 P **P** **06 02 32.4 +0.8**
baz=315,SNR=8.1
BCAR Beaver Creek A 48.99 35 P **P** **06 02 32.6 +1.0**
C36M Paulatuk 49.03 22 P **P** **06 02 32.0 +0.3**
C36M Paulatuk 49.03 22 P **P** **06 02 31.7 -0.1**
baz=323,SNR=25
DAWY Dawson 49.03 33 P **P** **06 02 33.3 +1.3**
baz=316
N25K Chitina, Valde 49.07 38 P **P** **06 02 34.0 +1.6**
baz=314
EYAK Cordova Ski Ar 49.41 39 P **P** **06 02 36.9 +2.2**
baz=314
M27K Edge Creek, AK 49.46 36 P **P** **06 02 35.5 +0.2**
M27K Edge Creek, AK 49.46 36 P **P** **06 02 37.9 +2.6**
baz=315
GUMO Guam 49.93 134 LR LR 06 21 32.2
comp=Z,37nm,22.0s,baz=298,slow=33
BUR08 Bucovina Ar. S 50.09 299 P **P** **06 02 39.9 -0.4**
BURAR Bucovina Array 50.10 299 P **P** **06 02 39.8 -0.6**
CTG Chitna Glacier 50.64 37 P **P** **06 02 45.1 +0.7**
baz=316
M30M Minto, Yukon 50.92 33 P **P** **06 02 47.6 +1.3**
baz=318
BR131 Keskin Array S 51.20 286 P **P** **06 02 47.7 -1.1**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 51.20 286 P **P** **06 02 47.7 -1.1**
BRTR Keskin Array B 51.20 286 P **P** **06 02 50.0 +1.1**
comp=Z,3.7nm,0.7s,baz=70,slow=4.9,SNR=14
BRTR Keskin Array B 51.20 286 P **P** **06 02 50.0 +1.1**
BRTR Keskin Array B 51.20 286 P **P** **06 02 48.3 -0.5**
MLR Muntele Rosu 51.20 296 P **P** **06 02 50.7 +2.0**
comp=Z,2.8nm,0.6s,baz=108,slow=22,SNR=4.1
M31M Drury Creek, Y 51.94 33 P **P** **06 02 55.2 +1.3**
M31M IAmb IAmb 06 02 59.2
comp=Z,14nm,1.0s
M31M Drury Creek, Y 51.94 33 P **P** **06 02 54.9 +1.0**
baz=320,SNR=12
HYT Haines Junctio 52.01 35 P **P** **06 02 55.5 +0.9**
baz=319
N31M Braeburn, Yuko 52.06 34 P **P** **06 02 55.1 +0.3**
N31M Braeburn, Yuko 52.06 34 P **P** **06 02 55.2 +0.3**
baz=319
FARO Faro, Yukon 52.24 32 P **P** **06 02 57.7 +1.6**
baz=320
KRLC Kraliky 52.42 306 *e*P **P** **06 02 58.8 +1.1**
KRLC Kraliky 52.42 306 *e*P **P** **06 02 58.8 +1.1**
DPC Dobruska-Polom 52.44 306 *e*P **P** **06 02 59.3 +1.5**
DPC Dobruska-Polom 52.44 306 *e*P **P** **06 02 59.3 +1.5**
MMPY Sheldon Lake, 52.55 31 P **P** **06 02 59.7 +1.2**
baz=322
WHY Whitehorse 52.98 34 P **P** **06 03 02.9 +1.2**
baz=320
VRAC Vranov 53.05 305 LR LR 06 27 47.4
comp=Z,137nm,18.9s,baz=42,slow=38
P33M Teslin, Yukon 53.97 33 P **P** **06 03 09.7 +0.7**
baz=322,SNR=8.2
BORG Borgarnes 54.14 337 LR LR 06 27 49.7
comp=Z,65nm,19.4s,baz=350,slow=38
CONA Conrad Observa 54.38 304 *e*P **P** **06 03 14.3 +2.2**
comp=Z,5.3nm,0.9s
CKRC Cesky Krumlov 54.45 306 *e*P **P** **06 03 13.7 +1.2**
KHC Kasperske Hory 54.55 307 *i* P **P** **06 03 12.8 -0.5**
KHC pmax pmax
comp=Z,6.0nm,0.9s
KHC MLR MLR
comp=Z,175nm,17.0s
KHC Kasperske Hory 54.55 307 *e*P **P** **06 03 14.4 +1.1**
GERES GERESS Array B 54.71 306 P **P** **06 03 15.5 +1.0**
comp=Z,1.4nm,0.8s,baz=40,slow=8.7,SNR=7.9
ARSA Arzberg 55.03 304 *e*P **P** **06 03 16.3 -0.5**
comp=Z,1.9nm,0.5s
MMAI Mount Meron Ar 55.12 279 LR LR 06 28 25.7
comp=Z,52nm,19.1s,baz=216,slow=38
MOA Molln 55.17 305 *e*P **P** **06 03 20.1 +2.3**
comp=Z,3.2nm,0.7s
SOKA Soboth 55.68 304 *e*P **P** **06 03 23.6 +2.1**
comp=Z,6.0nm,1.2s

OBKA	Obir	56.03	304	*e*P	P	06 03 26.0	+1.9	
	comp=Z,12nm,1.1s							
KBA	Koelnbreinsper	56.16	305	*e*P	P	06 03 27.9	+2.8	
	comp=Z,8.0nm,1.1s							
DLBC	Dease Lake	56.26	33	LR	LR	06 32 09.5		
	comp=Z,104nm,21.4s,baz=334,slow=41							
MYKA	Terra Mystica	56.36	305	*e*P	P	06 03 28.6	+2.1	
	comp=Z,5.4nm,0.8s							
SFJD	Kangerlussuaq	56.61	351	LR	LR	06 27 03.4		
	comp=Z,68nm,21.4s,baz=50,slow=35							
EKA	Eskdalemuir Ar	56.63	321	P	P	06 03 28.4	+0.3	
	comp=Z,4.3nm,0.8s,baz=36,slow=6.5,SNR=10							
EKA				LR	LR	06 31 22.5		
	comp=Z,80nm,18.1s,baz=360,slow=40							
RAYN	Ar Rayn	56.73	263	P	P	06 03 28.0	-1.3	
RAYN				pmax	pmax			
	comp=Z,11nm,1.3s							
RAYN	Ar Rayn	56.73	263	P	P	06 03 28.0	-1.3	
RAYN				IAmb	IAmb	06 03 30.5		
	comp=Z,11nm,1.3s							
WATA	Walderalm	56.78	307	*e*P	P	06 03 31.6	+2.1	
	comp=Z,1.8nm,0.5s							
ABTA	Abfaltersbach	56.79	305	*e*P	P	06 03 27.2	-2.3	
	comp=Z,5.7nm,1.3s							
WTTA	Wattenberg	56.81	306	*e*P	P	06 03 32.2	+2.5	
	comp=Z,3.9nm,0.8s							
YKA	Yellowknife Ar	56.90	23	P	P	06 03 30.2	+0.3	
	comp=Z,4.6nm,0.8s,baz=332,slow=7.1,SNR=41							
YKA				LR	LR	06 31 15.6		
	comp=Z,63nm,18.6s,baz=304,slow=40							
YKA	Yellowknife Ar	56.90	23	P	P	06 03 29.6	-0.3	
MOTA	Moosalm	56.99	307	*e*P	P	06 03 32.9	+1.9	
	comp=Z,6.6nm,1.0s							
SQTA	Sankt Quirin	57.03	307	*e*P	P	06 03 32.7	+1.5	
	comp=Z,4.4nm,0.9s							
RETA	Reutte	57.04	307	*e*P	P	06 03 30.6	-0.6	
	comp=Z,1.8nm,0.3s							
FETA	Feichten	57.40	307	*e*P	P	06 03 35.2	+1.4	
	comp=Z,3.9nm,0.8s							
DAVA	Damuels	57.58	308	*e*P	P	06 03 35.1	-0.1	
	comp=Z,6.6nm,1.3s							
DAVOX	Davos/Dischmat	57.97	307	P	P	06 03 38.4	+0.5	
	comp=Z,2.3nm,0.6s,baz=110,slow=9.2,SNR=5.1							
DAVOX				LR	LR	06 30 17.2		
	comp=Z,126nm,18.6s,baz=54,slow=38							
FRB	Frobisher Bay	60.71	359	LR	LR	06 29 10.3		
	comp=Z,64nm,18.0s,baz=233,slow=35							
BBB	Bella Bella	62.04	36	LR	LR	06 31 48.4		
	comp=Z,85nm,19.7s,baz=322,slow=37							
EDM	Edmonton	65.51	27	P	P	06 04 28.0	-0.4	
EDM				pmax	pmax			
	comp=Z,6.0nm,0.6s							
EDM	Edmonton	65.51	27	P	P	06 04 28.0	-0.4	
EDM				IAmb	IAmb	06 04 34.0		
	comp=Z,5.8nm,0.6s							
FFC	Flin Flon	66.66	20	P	P	06 04 36.0	+0.3	
FFC				pmax	pmax			
	comp=Z,12nm,1.3s							
FFC	Flin Flon	66.66	20	P	P	06 04 36.0	+0.3	
KEST	Kesra	66.82	300	LR	LR	06 35 01.7		
	comp=Z,63nm,18.2s,baz=316,slow=37							
ATD	Arta Tunnel	67.89	258	LR	LR	06 38 21.6		
	comp=Z,59nm,18.2s,baz=100,slow=40							
NEW	Newport	68.93	32	LR	LR	06 37 54.8		
	comp=Z,52nm,18.9s,baz=334,slow=38							
SCHQ	Schefferville	69.63	359	P	P	06 04 53.9	-0.5	
	comp=Z,3.8nm,1.0s,baz=344,slow=15,SNR=2.9							
ESDC	Sonseca Array	69.70	311	P	P	06 04 55.9	+0.7	
	comp=Z,4.1nm,0.8s,baz=25,slow=6.6,SNR=18							
ESDC				LR	LR	06 40 23.0		
	comp=Z,92nm,19.8s,baz=328,slow=40							
ESDC	Sonseca Array	69.70	311	P	P	06 04 55.5	+0.4	
ESDC				IAmb	IAmb	06 04 57.4		
	comp=Z,5.8nm,1.2s							
E08A	Dider Farm, El	69.92	34	P	P	06 04 57.6	+1.2	
E08A				IAmb	IAmb	06 05 01.8		
	comp=Z,5.1nm,1.0s							
G08A	Pilot Rock	71.03	34	P	P	06 05 03.5	+0.2	
G08A				IAmb	IAmb	06 05 09.6		
	comp=Z,13nm,1.5s							
MSO	Missoula	71.16	30	P	P	06 05 03.3	-0.7	
MSO				IAmb	IAmb	06 05 09.3		
	comp=Z,7.8nm,1.1s							
MSO	Missoula	71.16	30	P	P	06 05 04.3	+0.3	
	baz=336							
HRY	Holter Researc	71.85	29	P	P	06 05 08.6	+0.4	
ULM	Lac du Bonnet	72.03	17	LR	LR	06 37 56.7		
	comp=Z,42nm,20.1s,baz=48,slow=37							
DGMT	Dagmar	72.11	23	P	P	06 05 09.5	-0.1	
DGMT				IAmb	IAmb	06 05 14.3		
	comp=Z,11nm,1.1s							
DGMT	Dagmar	72.11	23	P	P	06 05 10.1	+0.4	
	baz=341							
L04D	Klamath Falls	72.64	38	P	P	06 05 13.0	0.0	
	baz=332							
DLMT	Dillon	72.88	30	P	P	06 05 14.8	+0.4	
DLMT				IAmb	IAmb	06 05 19.6		
	comp=Z,5.6nm,0.9s							
YBH	Yreka Blue Hor	72.93	39	LR	LR	06 37 26.8		
	comp=Z,46nm,19.1s,baz=340,slow=36							
N02D	Trinity Center	73.60	39	P	P	06 05 19.1	+0.4	
	baz=332							
AGMN	Agassiz Nation	73.92	18	P	P	06 05 20.7	+0.4	
	baz=345							
HLID	Hailey	73.99	32	P	P	06 05 20.9	-0.1	
	baz=336							
O02D	Mt. Diablo Mer	74.27	39	P	P	06 05 23.5	+0.9	
	baz=332							
MDT	Midelt	75.75	308	P	P	06 05 32.2	+0.9	
	comp=Z,3.5nm,0.8s,baz=93,slow=4.1,SNR=8.6							
PDAR	Pinedale Array	76.11	29	P	P	06 05 33.9	+0.5	
	comp=Z,0.7nm,0.8s,baz=67,slow=3.9,SNR=6.2							
PDAR	Pinedale Array	76.11	29	P	P	06 05 33.0	-0.3	
RSSD	Black Hills	76.25	25	P	P	06 05 33.7	-0.4	
	baz=341							
ELK	Elko	76.30	34	LR	LR	06 45 20.4		
	comp=Z,53nm,19.6s,baz=1.5,slow=40							
NVAR	Mina Array Bea	77.39	37	P	P	06 05 41.5	+0.9	
	comp=Z,1.2nm,0.8s,baz=326,slow=5.1,SNR=9.6							
NVAR				LR	LR	06 43 29.7		
	comp=Z,69nm,21.1s,baz=286,slow=38							
WRA	Warramunga Arr	78.23	157	P	P	06 05 44.4	-0.6	
	comp=Z,2.6nm,0.8s,baz=347,slow=5.9,SNR=11							
R11A	Troy Canyon, C	78.37	35	P	P	06 05 45.8	-0.3	
R11A				IAmb	IAmb	06 06 22.0		
	comp=Z,10nm,1.7s							
R11A	Troy Canyon, C	78.37	35	P	P	06 05 46.6	+0.6	
	baz=336							
N23A	Red Feather La	78.82	27	P	P	06 05 48.5	-0.1	
	baz=340							
O20A	White River Ci	78.92	29	P	P	06 05 48.4	-0.7	
O20A				IAmb	IAmb	06 05 54.9		
	comp=Z,8.2nm,1.1s							
O20A	White River Ci	78.92	29	P	P	06 05 49.6	+0.6	
	baz=339							
SADO	Sadowa	79.42	7	LR	LR	06 43 36.4		
	comp=Z,33nm,18.6s,baz=151,slow=38							
KMBO	Kilima Mbogo	81.44	255	P	P	06 06 02.5	-0.5	
	comp=Z,2.5nm,0.9s,baz=275,slow=4.3,SNR=3.2							
KMBO	Kilima Mbogo	81.44	255	IAmb	IAmb	06 06 07.6		
	comp=Z,3.6nm,0.9s							
S22A	4UR Ranch, Cre	81.54	29	P	P	06 06 03.8	+0.5	
	baz=340							
GMRC	Granite Mounta	81.59	37	P	P	06 06 04.8	+1.4	
	baz=336							
ASAR	Alice Springs	81.75	158	P	P	06 06 03.4	-0.6	
	comp=Z,2.1nm,1.0s,baz=353,slow=5.3,SNR=9.3							
SDCO	Great Sand Dun	81.90	28	P	P	06 06 05.9	+0.6	
	baz=341							
BINY	Binghamton	82.16	5	P	P	06 06 06.8	+0.7	
	baz=356							
BELC	Belle Mtn. Jos	82.19	37	P	P	06 06 08.0	+1.4	
	baz=336							
IRM	Iron Mountain	82.33	37	P	P	06 06 08.4	+1.2	
	baz=336							
PFO	Pinyon Flats O	82.38	38	LR	LR	06 45 10.1		
	comp=Z,46nm,18.0s,baz=349,slow=37							
TPFO	Pinon Flats	82.39	38	P	P	06 06 09.1	+1.5	
	baz=336							
N54A	Moraine State	83.14	8	P	P	06 06 12.0	+0.7	
	baz=354							
ANMO	Albuquerque	84.27	30	LR	LR	06 51 36.5		
	comp=Z,54nm,20.3s,baz=353,slow=41							
ANMO	Albuquerque	84.27	30	P	P	06 06 18.2	+0.8	
	baz=340							
TKL	Tuckaleechee C	88.05	11	LR	LR	06 51 28.3		
	comp=Z,56nm,19.0s,baz=24,slow=39							
TORD	Torodi Ar. Bea	89.31	293	P	P	06 06 42.2	+0.2	
	comp=Z,2.3nm,0.9s,baz=55,slow=4.2,SNR=8.3							
TORD	Torodi Ar. Bea	89.31	293	P	P	06 06 42.1	+0.1	
TORD				IAmb	IAmb	06 06 46.7		
	comp=Z,8.1nm,1.4s							
TXAR	Lajitas Array	90.33	29	LR	LR	06 54 22.9		
	comp=Z,40nm,18.6s,baz=354,slow=40							
DZM	Mont Dzumac	91.02	130	LR	LR	06 48 38.5		
	comp=Z,32nm,18.1s,baz=19,slow=36							
LPIG	La Paz	93.21	37	LR	LR	06 51 10.6		
	comp=Z,73nm,21.0s,baz=258,slow=37							
VNDA	Vanda	136.90	166	PKP	PKiKP	06 13 08.0	-0.2	
	comp=Z,1.3nm,1.1s,baz=206,slow=3.5,SNR=3.1							
VNDA	Vanda	136.90	166	PKIKP	PKiKP	06 13 08.0	-0.2	
LPAZ	La Paz	140.47	358	PKP	PKiKP	06 13 17.2	-0.9	
	comp=Z,0.9nm,0.8s,baz=28,slow=14,SNR=3.9							
TROLL	Troll, Antarti	146.97	213	PKPdf	PKPbc	06 13 27.5	+0.8	
SNAA	Sanae	148.59	214	PKPdf	PKPbc	06 13 30.0	-1.0	
CPUP	Villa Florida	149.13	338	PKPbc	PKPbc	06 13 33.0	-0.6	
	comp=Z,4.1nm,0.8s,baz=18,slow=4.8,SNR=7.1							
VNA2	Neumayer--Watz	150.00	216	PKPdf	PKPbc	06 13 34.7	+0.3	
	baz=57,slow=2.0							
VNA1	Neumayer--Stat	150.28	216	PKPdf	PKPbc	06 13 34.9	-0.1	
VNA3	Neumayer Olymp	150.75	215	PKPdf	PKPbc	06 13 36.7	+0.5	

IDC 18 06:09:55.2±1.2, 45°24′N×99°90′E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.5/58, mbtmp3.9/5, ML3.6/2 Error ellipse: s-maj=26.6km s-min=21.7km az=164.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array	5.18	58	Pn	Pn	06 11 14.0	0.0
	4.0nm,0.3s,baz=242,slow=14,SNR=38						
SONM				Pg	Pg	06 11 31.2	-3.2
	12nm,0.3s,baz=243,slow=18,SNR=19						
SONM				Lg	Lg	06 12 38.9	
	27nm,0.3s,baz=245,slow=33,SNR=9.4						
KURBB	Kurchatov Arra	15.29	298	Pn	Pn	06 13 32.0	-0.1
	0.1nm,0.3s,baz=101,slow=12,SNR=4.1						
FINES	FINESS Array B	44.34	319	P	P	06 18 06.2	-0.4
	1.2nm,0.7s,baz=85,slow=2.9,SNR=3.6						
WRA	Warramunga Arr	72.04	146	P	P	06 21 20.2	-0.7
	0.4nm,0.7s,baz=336,slow=5.5,SNR=2.0						
ASAR	Alice Springs	75.25	148	P	P	06 21 40.1	+0.4
	0.5nm,0.5s,baz=343,slow=6.3,SNR=7.8						

*JMA **18** 06:19:56.7, 37°.55N×141°.48E, h78km±1km, M3.8*
JMA Felt I J1.
*IDC **18** 06:19:57.2±3.0, 37°.41N×141°.35E, h91km±28km, mb3.2/4, mb1 3.3/7, mb1mx3.0/73, mbtmp3.5/7, Error ellipse: s-maj=37.9km s-min=17.2km az=80.0*
ISC 18 06:19:55.8±1.1, 37°.50N±0°.05×141°.54E±0°.08, h81km±8km, n28, σ0§65/35, mb3.7/4, 8C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.55	256	⇓P	Pn	06 20 10.4	+0.3
JFK				S	Sn	06 20 20.3	-0.4
JMST	Minamisoumatoc	0.57	294	⇓P	Pn	06 20 10.4	+0.2
JMST				S	Sn	06 20 20.3	-0.6
JMM	Marumori	0.70	302	⇑P	Pn	06 20 11.7	+0.2
JMM				S	Sn	06 20 22.5	-0.7
ONAJ	Iwakimizuishiy	0.71	236	⇓P	Pn	06 20 12.2	+0.5
ONAJ				S	Sn	06 20 23.5	0.0
JIKH	Ishinomakibobu	0.81	356	⇑P	Pn	06 20 13.0	+0.3
JIKH				S	Sn	06 20 24.8	-0.5
JFT	Otama	0.96	272	⇑P	Pn	06 20 14.9	+0.5
JFT				S	Sn	06 20 28.0	-0.3
JIO	Ouri	0.97	351	⇑P	Pn	06 20 14.6	+0.1
JIO				S	Sn	06 20 27.5	-0.9
JOU	Okura	1.11	322	⇑P	Pn	06 20 16.0	-0.2
JOU				S	Sn	06 20 30.7	-0.8
JYS	Shirataka	1.37	302	⇑P	Pn	06 20 19.6	+0.1
JYS				S	Sn	06 20 37.4	0.0
JFY	Yanaizu	1.46	267	P	Pn	06 20 21.0	+0.3
JFY				S	Sn	06 20 39.1	-0.4
JMK	Ichinoseki	1.47	350	⇑P	Pn	06 20 20.7	-0.1
JMK				S	Sn	06 20 38.6	-1.0
JYK	Kaneyama	1.70	327	⇑P	Pn	06 20 23.9	+0.2
JNS	Sasagawa	1.79	281	P	Pn	06 20 25.3	+0.4
JYA	Atsumi	1.81	308	P	Pn	06 20 25.5	+0.3
JOM	Ohasama	1.98	354	P	Pn	06 20 27.6	+0.2
JOM				eS	Sn	06 20 50.6	-1.0
MJAR	Matsushiro Arr	2.83	251	P	Pn	06 20 38.1	-0.8
	0.3nm,0.3s,baz=72,slow=18,SNR=4.1						
MJAR				S	Sn	06 21 01.0	-11
	0.6nm,0.3s,baz=60,slow=12,SNR=8.0						
JHJ	Hachijo jima 2	4.60	199	P	Pn	06 21 03.0	+0.1
	5.9nm,0.3s,baz=16,slow=10,SNR=1.7						
JHJ				S	Sn	06 21 53.5	-1.5
	18nm,0.3s,baz=136,slow=24,SNR=7.6						
USRK	Ussuriysk Ar.	9.85	316	P	Pn	06 22 15.7	+1.2
	baz=121,slow=13,SNR=6.2						
H11N2	WAKE ISLAND Hy	28.30	122	T	T	06 56 11.5	
	baz=315,slow=76,SNR=21						
H11N1	WAKE ISLAND Hy	28.31	122	T	T	06 56 08.8	
	baz=315,slow=76,SNR=29						
H11N3	WAKE ISLAND Hy	28.32	122	T	T	06 56 12.9	
	baz=315,slow=76,SNR=21						
H11S1	WAKE ISLAND Hy	29.03	124	T	T	06 57 13.1	
	baz=317,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	29.03	124	T	T	06 57 01.4	
	baz=317,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy	29.05	124	T	T	06 57 14.3	
	baz=317,slow=76,SNR=12						
MKAR	Makanchi Array	43.96	302	P	P	06 27 53.9	-0.8
	0.4nm,0.7s,baz=88,slow=9.9,SNR=3.7						
KURBB	Kurchatov Arra	45.80	308	P	P	06 28 08.8	-0.4
	0.5nm,0.2s,baz=82,slow=7.8,SNR=4.1						
ILAR	Eielson Array	49.05	33	P	P	06 28 35.4	+1.2
	0.8nm,1.1s,baz=278,slow=6.9,SNR=3.3						
WRA	Warramunga Arr	57.53	188	P	P	06 29 37.1	+0.2
	0.6nm,0.9s,baz=5.2,slow=7.3,SNR=2.0						

*CNRM **18** 06:26:57.1, 35°.55N×3°.62W, h8km, ml2.2*
*SFS **18** 06:26:59.0, 35°.51N×3°.76W, ML2.3, ALBORAN SUR*
*MDD **18** 06:26:59.3±0.5, 35°.51N×3°.77W, h0km, mb_Lg2.3/9, Error ellipse: s-maj=4.6km s-min=2.7km az=3.0*
ISC 18 06:26:58.7±1.1, 35°.50N±0°.02×3°.75W±0°.02, h15km±9km, n33, σ1§48/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.32	209	P	Pn	06 27 06.0	-0.2
PALE	Palemas	0.32	209	P	Pb	06 27 06.0	-0.2
PALE				S	Sb	06 27 10.8	-0.3
PVLZ	Peæn de	0.55	235	P	Pg	06 27 09.2	-0.4
PVLZ				S	Sg	06 27 16.8	-0.3
EMEL	Melilla	0.68	107	Pg	Pb	06 27 12.8	+0.6
EMEL				Sg	Sb	06 27 21.6	+0.3
EALB	Alboran	0.73	53	Pg	Pb	06 27 13.4	+0.3
EALB				Sg	Sb	06 27 23.6	+0.7
EALB				*i* Vmb_Lg		06 27 24.5	
TAF	Taforalt	1.29	121	P	Pn	06 27 20.0	-2.3
TAF				S	Sb	06 27 36.9	-2.2
SMIR	Smir Dam	1.34	278	P	Pb	06 27 23.9	+0.3
SMIR				S	Sg	06 27 42.8	+0.7
EMIJ	Mijas	1.35	322	Pg	Pn	06 27 22.5	-0.5
EMIJ				Sg	Sn	06 27 40.9	+0.2
EMIJ				*i* Vmb_Lg		06 27 50.2	
CHEFC	Chefchaouen	1.36	254	P	Pn	06 27 23.2	0.0
CHEFC	Chefchaouen	1.36	254	P	Pn	06 27 23.2	0.0
CHEFC				S	Sg	06 27 45.4	+2.8
ELGU	Los Guajares,	1.37	4	Pg	Pn	06 27 22.9	-0.5
ELGU				Sg	Sn	06 27 40.5	-0.9
EMAL	Malaga-Limoner	1.38	337	P	Pb	06 27 23.9	-0.2
EMAL				S	Sn	06 27 40.5	-0.8
CEU	Ceuta	1.38	287	P	Pn	06 27 20.8	-2.6
CEU				S	Sn	06 27 35.9	-5.5
JBK	JBK	1.51	140	P	Pg	06 27 28.0	+0.2
JBK	JBK	1.51	140	P	Pn	06 27 23.9	-1.6
JBK				S	Sg	06 27 46.7	-0.9
EBER	Berja	1.56	26	Pg	Pn	06 27 25.9	-0.2
EBER				Sg	Sn	06 27 45.3	-0.9
EBER				*i* Vmb_Lg		06 27 49.9	
EGOR	Sierra Gorda,	1.64	350	Pg	Pg	06 27 29.6	-0.6
EGOR				Sg	Sg	06 27 51.5	0.0
EGOR				*i* Vmb_Lg		06 28 02.4	
SICH	Sidi Chahed	1.90	223	P	Pn	06 27 31.7	+1.2
SICH				S	Sg	06 27 58.4	-1.3
ENIJ	Nijar	1.93	40	Pn	Pn	06 27 31.0	0.0
ENIJ				Sn	Sn	06 27 54.2	-0.8
ENIJ				*i* Vmb_Lg		06 28 17.3	
LCRM	LCR	2.02	207	P	Pg	06 27 37.0	-0.6
LCRM	LCR	2.02	207	P	Pg	06 27 37.0	-0.6
LCRM				S	Sg	06 28 04.9	+1.0
IFR	Ifrane	2.28	210	P	Pb	06 27 41.0	+1.3
IFR				S	Sn	06 28 02.1	-1.7
EQES	Quesada	2.37	13	Pn	Pb	06 27 39.5	-1.6
EQES				Sn	Sb	06 28 09.6	-0.5
EQES				*i* Vmb_Lg		06 28 11.4	
EADA	Adamuz	2.75	346	Pn	Pn	06 27 44.6	+2.3
EADA				Sn	Sn	06 28 16.2	+1.0
EADA				*i* Vmb_Lg		06 28 25.5	
MD31	MD31	2.75	198	P	Pn	06 27 44.7	+2.3
MD31				S	Sn	06 28 16.0	+0.6
MDT	Midelt	2.77	195	P	Pn	06 27 44.6	+2.0
MDT	Midelt	2.77	195	P	Pn	06 27 44.6	+2.0
MDT				S	Sn	06 28 16.6	+0.8
EZAR	Zarzadilla de	2.89	34	Pn	Pn	06 27 45.2	+0.9
ECAB	El Cabril	2.90	333	Pn	Pn	06 27 46.1	+1.7
ECAB				Sn	Sn	06 28 20.9	+1.9
EMIN	Mina Concepcio	3.27	315	Pn	Pn	06 27 49.7	+0.4
EMIN				Sn	Sn	06 28 28.9	+1.0
ETOB	Tobarra	3.60	29	Pn	Pn	06 27 56.6	+2.5
ETOB				Sn	Sn	06 28 38.9	+2.6
EGRO	El Granado	3.63	305	Pn	Pn	06 27 54.2	-0.2
EGRO				Sn	Sn	06 28 35.2	-1.7
EGRO				*i* Vmb_Lg		06 30 00.5	
EBAD	Badajoz	4.17	322	Pn	Pn	06 28 02.8	+1.1
EBAD				*i* Vmb_Lg		06 28 11.6	
EBAD				Sn	Sn	06 28 50.2	0.0

*IDC **18** 06:27:09.4±1.8, 19°.91S×177°.44W, h351km±20km, mb3.3/5, mb1 3.5/9, mb1mx3.2/54, mbtmp4.2/9, Error ellipse: s-maj=29.8km s-min=19.8km az=140.0*
ISC 18 06:27:08.7±1.0, 19°.9S±0°.2×177°.3W±0°.1, h350km, n9, σ1§34/10, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.86	295	P	Pn	06 28 27.9	+1.0
	1.6nm,0.3s,baz=129,slow=14,SNR=19						
AFI	Afiamalu	7.97	43	P	Pn	06 29 02.6	-0.1
	5.3nm,0.3s,baz=8.0,slow=4.5,SNR=8.9						
AFI				S	S	06 30 33.8	-1.8
	7.9nm,0.3s,baz=107,slow=23,SNR=5.2						
DZM	Mont Dzumac	15.30	259	P	Pn	06 30 28.0	-1.2
	1.2nm,0.3s,baz=85,slow=15,SNR=15						
URZ	Urewera	18.94	194	P	P	06 31 06.0	+0.6
	1.2nm,0.3s,baz=310,slow=3.9,SNR=8.7						
CTA	Charters Tower	34.17	263	P	P	06 33 22.1	-0.3
	5.0nm,0.6s,baz=84,slow=11,SNR=6.3						
STKA	Stephens Creek	38.61	244	P	P	06 33 59.0	-0.5
	2.3nm,0.8s,baz=87,slow=11,SNR=4.6						
ASAR	Alice Springs	45.26	256	P	P	06 34 52.3	-0.6
	3.1nm,0.6s,baz=94,slow=8.1,SNR=52						
WRA	Warramunga Arr	45.30	261	P	P	06 34 52.2	-1.0
	0.5nm,0.4s,baz=94,slow=7.6,SNR=15						
ILAR	Eielson Array	87.58	13	P	P	06 39 19.5	+2.2
	0.2nm,0.5s,baz=226,slow=4.7,SNR=5.6						

*IDC **18** 06:28:02.3±1.7, 55°.74N×110°.04E, h0km, mb3.4/1, mb1 3.7/6, mb1mx3.3/64, mbtmp3.6/6, ML3.0/4, Error ellipse: s-maj=41.1km s-min=20.8km az=128.0*
*MOS **18** 06:28:02.3±1.5, 55°.72N×110°.11E, h12km, mb3.6/1, Error ellipse: s-maj=12.9km s-min=7.5km az=64.8*
*BYKL **18** 06:28:03.0±0.2, 55°.73N×110°.21E, h8km±3km*
ISC 18 06:28:03.1±0.6, 55°.67N±0°.02×110°.18E±0°.02, h10km, n55, σ2§62/108, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	Nizh Angarsk	0.37	286	⇑*i*Pg	Pg	06 28 10.1	-0.4
NIZ				*e*		06 28 15.6	
NIZ				pmax	pmax		
	comp=Z,190nm,0.2s						
NIZ				smax	smax		
	comp=E,2µm,0.5s						
NIZ	Nizh Angarsk	0.37	286	⇑*i*Pg	Pg	06 28 10.1	-0.4
NIZ				*e*Sg	Sg	06 28 15.7	+0.3
NIZ				Pmax			
	comp=E,131nm,0.3s						
NIZ				Smax			
	comp=E,2µm,0.7s						
KMO	Kumora	0.62	69	⇑*i*PG	Pg	06 28 12.9	-2.1
KMO				*e*		06 28 19.8	
KMO				pmax	pmax		
	comp=Z,148nm,0.2s						
KMO				smax	smax		
	comp=N,2µm,0.8s						
KMO	Kumora	0.62	69	*e*Pg	Pg	06 28 13.0	-2.1
KMO				*e*Sg	Sg	06 28 20.7	-2.5
KMO				Pmax			
	comp=N,166nm,0.2s						
KMO				Smax			
	comp=N,2µm,1.1s						
YLYR	Ulyunkhan	0.98	144	*e*Pg	Pg	06 28 21.3	-0.6
YLYR				*e*Sg	Sb	06 28 35.6	+0.5
YLYR				Pmax			
	comp=N,217nm,0.6s						
YLYR				Smax			
	comp=N,716nm,0.3s						
YOA	Uoyan	0.99	62	*e*PG	Pg	06 28 20.9	-1.2
YOA				*e*		06 28 33.4	
YOA				pmax	pmax		
	comp=Z,176nm,0.2s						
YOA				sm

OGRR Smax
comp=E,308nm,0.8s
MXMB Maximikha 2.56 200 *e*Pn **Pn 06 28 45.7 +1.1**
MXMB *e*Pg **Pb 06 28 50.3 +1.3**
MXMB *e*Sg **Sg 06 29 24.6 -0.5**
BOD Bodaibo 3.01 43 *e*PN **Pb 06 28 55.1 -1.7**
BOD *e* 06 29 33.1
BOD pmax pmax
comp=Z,30nm,0.6s
BOD smax smax
comp=N,235nm,0.6s
BOD Bodaibo 3.01 43 *e*Pn **Pn 06 28 50.7 -0.1**
BOD *e*Pg **Pb 06 28 55.3 -1.5**
BOD *e*Sn **Sn 06 29 25.5 -1.4**
BOD *e*Sg **Sb 06 29 33.2 -0.4**
BOD Pmax
comp=N,30nm,0.8s
BOD Smax
comp=N,241nm,0.5s
KELR Kotokel 3.17 204 *e*Pg **Pb 06 29 01.4 +2.0**
KELR *e*Sg **Sb 06 29 42.3 +4.2**
NLYR Nelyaty 3.21 73 *e*PN **Pn 06 28 56.4 +2.9**
NLYR *e* 06 29 01.6
NLYR *e* 06 29 39.9
NLYR pmax pmax
comp=Z,75nm,1.5s
NLYR smax smax
comp=N,391nm,1.2s
NLYR Nelyaty 3.21 73 *e*Pn **Pn 06 28 53.5 0.0**
NLYR *e*Pg **Pb 06 28 59.9 -0.2**
NLYR *e*Sn **Sn 06 29 31.4 -0.3**
NLYR *e*Sg **Sb 06 29 41.6 +2.5**
NLYR Pmax
comp=N,75nm,0.9s
NLYR Smax
comp=N,397nm,1.2s
TRG Tyrgan 3.68 219 *e*Pn **Pn 06 29 01.8 +1.7**
TRG *e*Sn **Sn 06 29 43.5 0.0**
TRG *e*Sg **Sb 06 29 57.8 +4.9**
TRG max
comp=N,10.0nm,0.2s
TRG Smax
comp=N,142nm,0.9s
VTMR Vitim 3.99 18 *e*Pn **Pn 06 29 04.6 +0.4**
VTMR *e*Pg **Pb 06 29 14.4 +1.0**
VTMR *e*Sn **Sn 06 29 49.8 -1.1**
VTMR *e*Sg **Sb 06 30 05.3 +3.7**
CIT Chita 4.17 150 *e*PN **Pn 06 29 06.4 -0.4**
CIT *e* 06 29 18.4
CIT *e*S **Sn 06 29 55.1 -0.5**
CIT *e* 06 30 13.4
CIT pmax pmax
comp=Z,110nm,0.5s
CIT smax smax
comp=N,227nm,1.2s
CIT Chita 4.17 150 *e*Pg **Pb 06 29 18.5 +2.0**
CIT *e*Sg **Sg 06 30 13.7 -3.2**
CIT Pmax
comp=N,47nm,0.1s
CIT Smax
comp=N,156nm,0.4s
STDB Stepnoy Dvoret 4.17 214 *e*Sg **Sg 06 30 15.0 -1.9**
BGT Bolshoye Golou 4.60 220 *e*Pn **Pn 06 29 15.4 +2.7**
BGT *e* 06 30 08.2
BGT *e*Sg **Sg 06 30 27.6 -3.1**
BGT max
comp=N,17nm,0.6s
BGT Smax
comp=N,233nm,1.4s
CRS Chara 4.67 71 *e*PN **Pb 06 29 27.8 +2.7**
CRS *e* 06 30 27.0
CRS pmax pmax
comp=Z,43nm,1.0s
CRS smax smax
comp=E,102nm,1.1s
CRS Chara 4.67 71 *e*Pn **Pn 06 29 13.5 -0.2**
CRS *e*Pg **Pb 06 29 26.3 +1.2**
CRS *e*Sg **Sb 06 30 26.3 +4.9**
CRS Pmax
comp=E,50nm,1.1s
CRS Smax
comp=E,103nm,1.5s
IRK Irkutsk 4.89 228 *e*PN **Pn 06 29 18.6 +1.9**
IRK *e* 06 29 32.6
IRK *e*S **Sn 06 30 14.1 +0.7**
IRK *e* 06 30 36.7
IRK pmax pmax
comp=Z,346nm,0.1s
IRK smax smax
comp=E,289nm,0.4s
LSTR Listvyanka 4.96 222 *e*Pn **Pn 06 29 19.0 +1.5**
LSTR *e*Sn **Sn 06 30 16.3 +1.4**
LSTR *e*Sg **Sg 06 30 37.3 -4.8**
LSTR max
comp=E,4.0nm,0.4s
LSTR Smax
comp=E,76nm,1.4s
IVK Ivanovka 5.17 224 *e*Pn **Pn 06 29 21.9 +1.4**
IVK *e*Sn **Sn 06 30 21.2 +1.1**
IVK *e*Sg **Sg 06 30 44.6 -4.4**
IVK max
comp=E,4.0nm,0.3s
IVK Smax
comp=E,117nm,1.3s
KHNR Khani 5.60 73 *e*Pn **Pn 06 29 26.6 +0.2**
KHNR *e*Pg **Pb 06 29 43.4 +2.5**
KHNR *e*Sg **Sb 06 30 54.8 +6.7**
TUP Tupik 5.76 99 *e*PN **Pn 06 29 29.4 +0.8**
TUP *e* 06 29 46.8
TUP *e*S **Sn 06 30 31.8 -2.9**
TUP *e* 06 31 01.2
TUP pmax pmax
comp=Z,16nm,1.0s
TUP smax smax
comp=N,239nm,1.0s
TUP Tupik 5.76 99 *e*Pn **Pn 06 29 28.9 +0.3**
TUP *e*Pg **Pb 06 29 46.7 +3.1**
TUP *e*Sn **Sn 06 30 31.9 -2.8**
TUP *e*Sg **Sg 06 31 01.4 -6.4**
TUP Pmax
comp=N,13nm,1.0s
TUP Smax
comp=N,239nm,1.0s
ARS Arshan 5.93 234 *e*PN **Pn 06 29 32.1 +1.0**
ARS *e*S **Sn 06 30 39.3 +0.2**
ARS *e*S **Sg 06 31 10.1 -3.4**
ARS smax smax
comp=N,377nm,1.0s
ARS Arshan 5.93 234 *e*Pn **Pn 06 29 32.0 +1.0**
ARS *e*Sn **Sn 06 30 37.3 -1.8**
ARS *e*Sg **Sg 06 31 07.2 -6.3**
ARS max
comp=N,25nm,0.7s
ARS Smax
comp=N,377nm,1.0s
KPC Khapcheranga 6.13 166 *e*Pn **Pn 06 29 34.9 +1.3**
KPC *e* 06 29 53.7
KPC *e*S **Sn 06 30 43.1 -0.7**
KPC *e* 06 31 12.1
KPC pmax pmax
comp=Z,16nm,0.7s
KPC smax smax
comp=E,87nm,1.1s
KPC Khapcheranga 6.13 166 *e*Pn **Pn 06 29 35.0 +1.3**
KPC *e*Pg **Pb 06 29 53.9 +4.0**
KPC *e* 06 29 55.4
KPC *e*Sn **Sn 06 30 43.1 -0.7**
KPC *e*Sg **Sg 06 31 14.0 -5.7**
KPC max
comp=E,16nm,1.1s
KPC Smax
comp=E,88nm,1.1s
YKLR Yuktali 6.49 77 *e*Pn **Pn 06 29 38.5 0.0**
YKLR *e*Pg **Pb 06 29 58.9 +3.0**
YKLR *e*Sg **Sb 06 31 22.0 +8.6**
ZAK Zakamensk 6.73 221 *e*PN **Pn 06 29 43.7 +1.7**
ZAK *e*S **Sg 06 31 33.0 -6.1**
ZAK smax smax
comp=N,96nm,1.3s
ZAK Zakamensk 6.73 221 *e*Sg **Sg 06 31 33.2 -5.9**
ZAK Smax
comp=N,95nm,1.5s
MOY Mondy 6.77 237 *e*PN **Pn 06 29 45.1 +2.6**
MOY *e* 06 30 05.7
MOY *e*S **Sn 06 31 00.3 +0.6**
MOY *e* 06 31 35.2
MOY pmax pmax
comp=Z,15nm,0.8s
MOY smax smax
comp=E,124nm,1.4s
MOY Mondy 6.77 237 *e*Pn **Pn 06 29 44.6 +2.1**
MOY *e* 06 29 53.5
MOY *e* 06 31 00.3
MOY *e*Sg **Sg 06 31 35.1 -5.2**
MOY max
comp=E,50nm,1.2s
MOY Smax
comp=E,124nm,1.3s
ORL Orlik 6.86 247 *e*PN **Pn 06 29 45.8 +2.1**
ORL *e* 06 30 07.8
ORL *e*S **Sn 06 31 00.9 -0.9**
ORL *e* 06 31 37.0
ORL pmax pmax
comp=Z,19nm,1.1s
ORL smax smax
comp=N,56nm,1.1s
ORL Orlik 6.86 247⇑ *i*Pn **Pn 06 29 45.9 +2.2**
ORL *e*Sn **Sn 06 31 00.9 -0.9**
ORL *e*Sg **Sg 06 31 36.8 -6.1**
ORL max
comp=N,18nm,1.5s
ORL Smax
comp=N,55nm,1.6s
SONM Songino Array 8.19 198 Pn **Pn 06 30 02.7 +0.7**
comp=N,0.2nm,0.3s,baz=8.7,slow=10,SNR=1.8
SONM Lg Lg 06 32 23.4
comp=N,0.3nm,0.3s,baz=8.3,slow=32,SNR=3.7
IENR Iengra 8.26 80 *e*Pn **Pn 06 30 05.2 +2.3**
IENR *e*Pg Pb 06 30 32.2 +6.0
IENR *e*Sg Sg 06 32 17.5 -10
KLR Kul'dur 14.62 107 Lg Lg 06 35 42.0
comp=N,0.1nm,0.3s,baz=220,slow=18,SNR=6.0
ZALV Zalesovo Beam 14.70 274 Pn **Pn 06 31 29.0 -1.8**
comp=N,0.1nm,0.3s,baz=79,slow=15,SNR=1.6
NRIK Noril'sk 17.06 332 Sn Sn 06 34 56.0 -15
comp=N,0.3nm,0.3s,baz=39,slow=15,SNR=3.7
TIXI Tiksi 17.90 19 P **Pn 06 32 11.6 -0.1**
comp=N,0.5nm,0.3s,baz=267,slow=22,SNR=16
TIXI S Sn 06 35 16.9 -14
comp=N,0.2nm,0.3s,baz=87,slow=22,SNR=7.5
TIXI Lg Lg 06 37 19.6
comp=N,0.2nm,0.3s,baz=270,slow=24,SNR=4.7
KURK Kurchatov 19.44 268 P **Pn 06 32 30.9 +0.3**
MKAR Makanchi Array 19.48 255 P **P 06 32 30.2 +0.3**
comp=N,0.2nm,0.3s,baz=62,slow=10,SNR=19
KURBB Kurchatov Arra 19.53 268 P **P 06 32 30.9 +0.5**
comp=N,0.0nm,0.3s,baz=67,slow=12,SNR=8.9
ILAR Eielson Array 46.35 35 P **P 06 36 29.2 +0.4**
comp=N,0.6nm,0.9s,baz=293,slow=4.7,SNR=5.0

NNC 18 06:28:39.0±5.3, 37.99N×69.16E, h0km, mb 4.0, mpv 3.7, 3C-4D, Error ellipse: s-maj=40.9km s-min=31.1km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.20**	**9**	Pg	Pb	06 29 55.9	+2.0
	238nm,0.4s						
IUG				Lg	Lg	06 30 49.5	
	44nm,0.4s						
KK06	**Karatay Array**	**5.20**	**11**	⇓Pg	Pb	06 30 14.0	+3.1
	3.2nm,0.6s,baz=185,slow=17						
KK06				⇑Lg	Lg	06 31 20.4	
	9.8nm,0.6s,baz=188,slow=27						
MRKS	**Merke**	**5.67**	**32**	Pg	Pb	06 30 22.9	+4.0
	4.3nm,0.5s						
MRKS				Lg	Lg	06 31 38.2	
	8.8nm,0.5s						
AAK	**Ala-Archa**	**6.18**	**40**	⇓Pn	Pn	06 30 12.3	+0.7
	1.3nm,0.5s						
AAK				⇓Sn	Sn	06 31 24.5	+1.5
	2.4nm,0.6s						
AAK				⇑Lg	Lg	06 31 54.6	
	3.3nm,0.7s						
SGDS	**Sogindy**	**6.86**	**36**	Pg	Pg	06 30 47.4	-3.0
	2.1nm,0.6s						
SGDS				Lg	Lg	06 32 18.4	
	2.9nm,0.7s						
TKM2	**Tokmak 2**	**6.95**	**43**	⇓Pn	Pn	06 30 19.6	-2.8
	1.5nm,0.6s						
TKM2				⇑Lg	Lg	06 32 16.5	
	2.9nm,0.7s						
KRBS	**Karabastau**	**7.54**	**39**	Pg	Pg	06 31 02.5	-0.9
	1.1nm,0.3s						
KRBS				Lg	Lg	06 32 44.1	
	2.3nm,1.0s						
KTBS	**Karatobe**	**8.07**	**43**	Pg	Pg	06 31 10.5	-3.1
	0.8nm,0.4s						
KTBS				Lg	Lg	06 32 57.8	
	3.8nm,0.9s						
AB31	**Akbulak array**	**13.08**	**332**	P	Pn	06 31 40.1	-5.8
	0.1nm,0.2s,baz=170,slow=12,SNR=12						

*NOU **18** 06:48:48.8, 13.54S×167.95E, h196km, mb 4.4/25, Vanuatu Islands*
*NEIC **18** 06:48:55.6±1.9, 14.1S±0.1×167.3E±0.1, h191km±7km, mb 4.4/23, Error ellipse: s-maj=17.2km s-min=14.4km az=143.0*
*IDC **18** 06:48:57.6±2.8, 14.28S×167.25E, h209km±30km, mb 4.0/14, mb1 4.1/16, mb1mx3.9/31, mbtmp4.4/16, MS3.2/1, Ms1 3.2/1, ms1mx2.5/54, Error ellipse: s-maj=26.6km s-min=12.3km az=159.0*
ISC 18 06:48:56.4±0.5, 14.16S±0.08×167.28E±0.08, h200km, n74, σ1s11/74, mb 4.4/35, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.28**	**183**		**Pn**	**06 49 26.6**	**-1.7**
SANVU	**Saraoutou**	**1.28**	**183**	P	**Pn**	**06 49 27.2**	**-1.1**
DVP	**Devils Point**	**3.65**	**166**	P	**Pn**	**06 49 52.4**	**-1.5**
KOUNC	**Koumac, New Ca**	**6.97**	**204**	Pn	**Pn**	**06 50 35.3**	**-1.0**
KOUNC	**Koumac, New Ca**	**6.97**	**204**	P	**Pn**	**06 50 39.9**	**+3.6**
	38nm,2.9s						
MARNC	**Mare, Loyalty**	**7.32**	**175**	Pn	**Pn**	**06 50 38.1**	**-2.7**
YATNC	**Mamie plateau,**	**7.87**	**183**	P	**Pn**	**06 50 49.4**	**+1.5**
	14nm,1.6s						
DZM	**Mont Dzumac**	**7.91**	**186**	P	**Pn**	**06 50 47.8**	**-0.8**
	0.4nm,0.3s,baz=136,slow=21,SNR=1.9						
OUENC	**Ouen Island, N**	**8.23**	**183**	Pn	**Pn**	**06 50 52.1**	**-0.5**
OUENC	**Ouen Island, N**	**8.23**	**183**	P	**Pn**	**06 50 53.8**	**+1.2**
PINNC	**Pines Island,**	**8.41**	**179**	Pn	**Pn**	**06 50 54.3**	**-0.7**
MSVF	**Nonsavu**	**10.95**	**110**	P	**Pn**	**06 51 29.5**	**+1.5**
	0.2nm,0.3s,baz=312,slow=7.0,SNR=4.9						
EIDS	**Eidsvold**	**18.87**	**231**	P	**P**	**06 53 02.7**	**+1.0**
EIDS				IAmb	IAmb	06 53 04.0	
	comp=Z,9.0nm,0.8s						
EIDS	**Eidsvold**	**18.87**	**231**	P	**Pn**	**06 53 03.4**	**-1.3**
	comp=Z,14nm,1.1s						
AFI	**Afiamalu**	**20.32**	**92**	P	**P**	**06 53 18.8**	**+1.4**
	comp=Z,21nm,0.7s,baz=146,slow=3.6,SNR=4.3						
AFI	**Afiamalu**	**20.32**	**92**	IAmb	IAmb	06 53 20.7	
	comp=Z,28nm,1.0s						
CTA	**Charters Tower**	**20.93**	**251**	P	**P**	**06 53 23.4**	**-0.5**
	comp=Z,9.5nm,0.9s,baz=80,slow=8.2,SNR=5.7						
RMQ	**Roma**	**21.23**	**232**	P	**P**	**06 53 28.3**	**+1.4**
	comp=Z,63nm,0.8s						
ARMA	**Armidale**	**21.67**	**219**	P	**P**	**06 53 31.4**	**-0.1**
ARMA				IAmb	IAmb	06 53 58.2	
	comp=Z,35nm,1.5s						
ARMA	**Armidale**	**21.67**	**219**	P	**P**	**06 53 32.4**	**+0.8**
	comp=Z,15nm,2.5s						
MGCD	**Mangrove Creek**	**24.00**	**215**	P	**P**	**06 53 53.7**	**+0.8**
	comp=Z,20nm,0.9s						
QLP	**Quilpie**	**24.84**	**237**	P	**P**	**06 54 01.1**	**+0.5**
	comp=Z,47nm,0.8s						
CMSA	**Cobar Meteorol**	**26.28**	**225**	P	**P**	**06 54 13.6**	**+0.2**
	comp=Z,20nm,2.1s						
QIS	**Mount Isa**	**27.15**	**253**	P	**P**	**06 54 21.6**	**+0.2**
	comp=Z,8.3nm,1.8s						
LTZ	**Lake Taylor**	**28.85**	**172**	P	**P**	**06 54 37.8**	**+1.6**
STKA	**Stephens Creek**	**29.37**	**229**	P	**P**	**06 54 41.6**	**+0.7**
	comp=Z,14nm,0.5s,baz=54,slow=8.8,SNR=49						
STKA	**Stephens Creek**	**29.37**	**229**	P	**P**	**06 54 40.7**	**-0.3**
STKA				IAmb	IAmb	06 54 42.1	
	comp=Z,3.3nm,0.6s						
STKA	**Stephens Creek**	**29.37**	**229**	P	**P**	**06 54 41.6**	**+0.7**
	comp=Z,4.6nm,1.0s						
TOO	**Toolangi**	**30.32**	**216**	P	**P**	**06 54 49.2**	**0.0**
TOO	**Toolangi**	**30.32**	**216**	P	**P**	**06 54 49.5**	**+0.3**
	comp=Z,30nm,1.7s						
WB0	**Warramunga Arr**	**31.91**	**255**	P	**P**	**06 55 01.9**	**-1.5**
WRAB	**Tennant Creek**	**31.97**	**255**	P	**P**	**06 55 02.7**	**-1.2**
WRAB				IAmb	IAmb	06 55 03.4	
	comp=Z,8.1nm,0.6s						
WRAB	**Tennant Creek**	**31.97**	**255**	P	**P**	**06 55 02.7**	**-1.2**
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**31.98**	**255**	P	**P**	**06 55 02.8**	**-1.2**
	comp=Z,6.2nm,0.6s,baz=85,slow=9.5,SNR=99						
WRA				LR	LR	07 07 19.0	
	comp=Z,42nm,21.0s,baz=274,slow=34						
WRA	**Warramunga Arr**	**31.98**	**255**	P	**P**	**06 55 01.8**	**-2.2**
HTT	**Hallett**	**32.10**	**228**	P	**P**	**06 55 05.3**	**+0.3**
	comp=Z,23nm,1.0s						
OOD	**Oodnadatta**	**32.36**	**240**	P	**P**	**06 55 07.6**	**+0.4**
	comp=Z,17nm,2.7s						
AS31	**Alice Springs**	**32.89**	**248**	P	**P**	**06 55 10.4**	**-1.5**
AS31				IAmb	IAmb	06 55 11.9	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**32.89**	**248**	P	**P**	**06 55 10.7**	**-1.2**
	comp=Z,6.5nm,0.4s,baz=77,slow=9.3,SNR=118						
ASAR				PcP	**PcP**	**06 57 50.5**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=75,slow=1.9,SNR=4.2						
BBOO	**Buckleboo**	**33.94**	**231**	P	**P**	**06 55 20.1**	**-0.7**
BBOO	**Buckleboo**	**33.94**	**231**	P	**P**	**06 55 20.8**	**0.0**
	comp=Z,18nm,0.6s						
MULG	**Mulgathing**	**34.52**	**237**	P	**P**	**06 55 25.1**	**-0.8**
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**37.22**	**263**	P	**P**	**06 55 48.5**	**-0.4**
KNRA				IAmb	IAmb	06 55 49.9	
	comp=Z,13nm,0.7s						
KNRA	**Kununurra**	**37.22**	**263**	P	**P**	**06 55 48.6**	**-0.4**
	comp=Z,18nm,0.9s						
WRKA	**Warakurna**	**38.16**	**247**	P	**P**	**06 55 56.2**	**-0.6**
	comp=Z,18nm,1.6s						
FORT	**Forrest**	**39.60**	**239**	P	**P**	**06 56 08.1**	**-0.5**
	comp=Z,41nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.13**	**259**	P	**P**	**06 56 12.8**	**-0.4**
FITZ				IAmb	IAmb	06 56 13.9	
	comp=Z,9.8nm,1.0s						
MORW	**Morawa**	**49.53**	**244**	P	**P**	**06 57 26.1**	**-1.1**
MORW				IAmb	IAmb	06 57 27.2	
	comp=Z,13nm,0.8s						
MJAR	**Matsushiro Arr**	**57.41**	**332**	P	**P**	**06 58 25.0**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=146,slow=2.4,SNR=5.4						
MJAR	**Matsushiro Arr**	**57.41**	**332**	IAmb	IAmb	06 58 25.4	
	comp=Z,2.8nm,0.8s						
JHS	**Saijyo**	**58.66**	**327**	P	**P**	**06 58 33.8**	**+0.8**
JHS				IAmb	IAmb	06 58 34.5	
	comp=Z,8.9nm,0.8s						
PETK	**Petropavlovsk-**	**67.50**	**354**	P	**P**	**06 59 32.3**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=108,slow=7.6,SNR=4.7						
PETK	**Petropavlovsk-**	**67.50**	**354**	P	**P**	**06 59 30.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**74.73**	**294**	P	**P**	**07 00 16.7**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=109,slow=3.9,SNR=7.6						
CMAR	**Chiang Mai Arr**	**74.73**	**294**	P	**P**	**07 00 16.1**	**+1.3**
CHTO	**Chiang Mai**	**74.86**	**294**	P	**P**	**07 00 16.1**	**+0.6**
CHTO				IAmb	IAmb	07 00 17.7	
	comp=Z,6.4nm,1.2s						
QSPA	**South Pole Qui**	**75.87**	**180**	P	**P**	**07 00 19.5**	**-1.1**
SONM	**Songino Array**	**82.05**	**324**	P	**P**	**07 00 55.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=146,slow=6.3,SNR=7.6						
SONM	**Songino Array**	**82.05**	**324**	P	**P**	**07 00 54.9**	**+0.5**
CAST	**Castle Rocks**	**83.45**	**17**	P	**P**	**07 01 00.3**	**-0.8**
CAST				IAmb	IAmb	07 01 08.7	
	comp=Z,5.3nm,1.2s						
TRF	**Thorofare Moun**	**84.00**	**18**	P	**P**	**07 01 03.8**	**-0.3**
TRF				IAmb	IAmb	07 01 14.3	
	comp=Z,8.2nm,1.4s						
O02D	**Mt. Diablo Mer**	**84.33**	**46**	P	**P**	**07 01 06.7**	**+0.5**
IMAR	**Indian Mountai**	**85.01**	**15**	P	**P**	**07 01 09.3**	**+0.4**
WRH	**Wood River Hil**	**85.41**	**18**	P	**P**	**07 01 10.3**	**-0.6**
WRH				IAmb	IAmb	07 01 12.0	
	comp=Z,6.5nm,1.3s						
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**07 01 13.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=241,slow=5.0,SNR=22						
NVAR	**Mina Array Bea**	**86.89**	**49**	P	**P**	**07 01 18.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=223,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	**96.80**	**316**	P	**P**	**07 02 04.0**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=98,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**96.94**	**324**	P	**P**	**07 02 03.5**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=151,slow=3.4,SNR=4.2						
YKA	**Yellowknife Ar**	**97.04**	**27**	P	**PKiKP**	**07 02 03.8**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=256,slow=4.9,SNR=5.8						
ARCES	**ARCESS Array B**	**119.70**	**345**	PKP	**PKiKP**	**07 07 21.8**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=65,slow=2.6,SNR=10						
FINES	**FINESS Array B**	**125.20**	**338**	PKP	**PKiKP**	**07 07 33.0**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=93,slow=3.8,SNR=5.5						
GERES	**GERESS Array B**	**139.14**	**333**	PKP	**PKiKP**	**07 08 00.8**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=56,slow=3.4,SNR=4.8						
KEST	**Kesra**	**150.78**	**321**	PKPbc	**PKiKP**	**07 08 26.5**	**+0.4**
	comp=Z,8.2nm,0.7s,baz=314,slow=2.0,SNR=8.9						
ESDC	**Sonseca Array**	**153.44**	**345**	PKPbc	**PKiKP**	**07 08 31.8**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=15,slow=2.7,SNR=4.6						
ESDC				PKPab	**PKPab**	**07 08 45.1**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=13,slow=3.6,SNR=6.6						

IDC 18 07:11:14.4±4.8, 5.97S×147.02E, h0km, mb 3.2/2, mb1 3.4/3, mb1mx3.3/31, mbtmp3.2/3, ML 3.2/1, Error ellipse: s-maj=145.5km s-min=35.7km az=104.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.57**	**220**	P	P	07 15 31.6	-1.5
	0.1nm,0.3s,baz=46,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**21.65**	**214**	P	P	07 16 07.8	+1.2
	0.8nm,1.1s,baz=37,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**77.49**	**320**	P	P	07 23 11.9	0.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=4.5						

IDC 18 07:15:55.6±393.0, 56.89N×31.56E, h0km, Error ellipse: s-maj=89.8km s-min=62.2km az=106.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.12**	**91**	*i*		07 37 40.0	
	baz=274,slow=329,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**13.42**	**241**	*i*		08 36 40.0	
	baz=46,slow=328,SNR=0.5						
I37NO	**I37NO**	**13.52**	**340**	*i*		08 35 50.0	
	baz=148,slow=333,SNR=0.9						

*SOME **18** 07:29:49.5, 41.68N×80.65E, h10km*
*NNC **18** 07:29:51.3±2.5, 41.71N×80.52E, h0km, mb 3.7, mpv 3.5, Error ellipse: s-maj=10.4km s-min=8.2km az=144.0*
ISC 18 07:29:51.3±2.5, 41.77N±0.09×80.59E±0.07, h4km±11km, n38, σ1s73/60, 2C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.62**	**329**	*e*P	**Pn**	**07 30 18.5**	**-2.3**
	17nm,0.1s						
SHLS				*e*S	**Sn**	**07 30 39.3**	**-2.9**
	84nm,0.4s						
SHLS	**Shalkode**	**1.62**	**329**	P	**Pn**	**07 30 18.5**	**-2.3**
	17nm,0.1s						
SHLS				S	**Sn**	**07 30 39.3**	**-2.9**
	84nm,0.4s						
KTMS	**Ketmen**	**1.68**	**354**	*e*P	**Pg**	**07 30 23.3**	**-0.3**
	32nm,0.2s						
KTMS				*e*S	**Sg**	**07 30 47.8**	**+2.3**
	84nm,0.3s						
KTMS	**Ketmen**	**1.68**	**354**	P	**Pg**	**07 30 23.3**	**-0.3**
	32nm,0.2s						
KTMS				S	**Sg**	**07 30 47.8**	**+2.3**
	84nm,0.3s						
PDGK	**Podgornoye**	**1.76**	**333**	P	**Pb**	**07 30 24.6**	**+0.3**
	35nm,0.4s						
PDGK				S	**Sg**	**07 30 49.8**	**+2.1**
	51nm,0.4s						
UZB	**Uzynbulak**	**1.80**	**320**	*e*P	**Pb**	**07 30 24.6**	**-0.4**
	30nm,0.2s						
UZB				*e*S	**Sg**	**07 30 49.6**	**+0.5**
	133nm,0.3s						
UZB	**Uzynbulak**	**1.80**	**320**	P	**Pb**	**07 30 24.6**	**-0.4**
	30nm,0.2s						
UZB				S	**Sg**	**07 30 49.6**	**+0.5**
	133nm,0.3s						
SATY	**Saty**	**2.07**	**309**	*e*P	**Pg**	**07 30 30.4**	**-0.5**
	23nm,0.4s						

SATY				*e*S		**Sg**	**07 30 59.9**	**+2.2**
	53nm,0.3s							
SATY	**Saty**	**2.07**	**309**	Pg		**Pg**	**07 30 30.4**	**-0.5**
	23nm,0.4s							
SATY				Lg		Lg	07 30 59.9	
	53nm,0.3s							
ZHN	**Zhinishke**	**2.12**	**312**	*e*P		**Pb**	**07 30 31.0**	**+0.6**
	35nm,0.2s							
ZHN				*e*S		**Sg**	**07 31 01.0**	**+1.6**
	107nm,0.2s							
ZHN	**Zhinishke**	**2.12**	**312**	Pg		**Pb**	**07 30 31.0**	**+0.6**
	35nm,0.2s							
ZHN				Lg		Lg	07 31 01.0	
	107nm,0.2s							
KPKS	**Kokpek**	**2.20**	**321**	*e*P		**Pb**	**07 30 31.1**	**-0.7**
	40nm,0.4s							
KPKS				*e*S		**Sg**	**07 31 01.0**	**-1.1**
	84nm,0.3s							
KURS	**Kuram**	**2.48**	**315**	*e*P		**Pb**	**07 30 36.1**	**-0.4**
	13nm,0.7s							
KURS				*e*S		**Sg**	**07 31 09.6**	**-1.3**
	29nm,0.5s							
KURS	**Kuram**	**2.48**	**315**	Pg		**Pb**	**07 30 36.1**	**-0.4**
	13nm,0.7s							
KURS				Lg		Lg	07 31 09.6	
	29nm,0.5s							
DJR	**Jarkent**	**2.63**	**347**	*e*P		**Pb**	**07 30 37.5**	**-1.6**
	2.4nm,0.2s							
DJR				*e*S		**Sb**	**07 31 12.0**	**+0.3**
	34nm,0.6s							
DJR	**Jarkent**	**2.63**	**347**	Pg		**Pb**	**07 30 37.5**	**-1.6**
	2.4nm,0.2s							
DJR				Lg		Lg	07 31 12.0	
	34nm,0.6s							
MDOK	**Medeo**	**2.97**	**299**	*e*P		**Pb**	**07 30 44.4**	**-0.5**
	8.5nm,0.5s							
MDOK				*e*S		**Sb**	**07 31 23.8**	**+2.3**
	13nm,0.6s							
MDOK	**Medeo**	**2.97**	**299**	⇑Pg		**Pb**	**07 30 44.1**	**-0.8**
	5.6nm,0.5s							
MDOK				⇓Lg		Lg	07 31 21.2	
	17nm,0.7s							
MDOK	**Medeo**	**2.97**	**299**	Pg		**Pb**	**07 30 44.4**	**-0.5**
	8.5nm,0.5s							
MDOK				Lg		Lg	07 31 23.8	
	13nm,0.6s							
TNSS	**Tian-Shan**	**2.98**	**296**	*e*P		**Pb**	**07 30 44.7**	**-0.5**
	3.4nm,0.2s							
TNSS				*e*S		**Sg**	**07 31 25.6**	**-1.5**
	6.6nm,0.4s							
TNSS	**Tian-Shan**	**2.98**	**296**	Pg		**Pb**	**07 30 44.7**	**-0.5**
	3.4nm,0.2s							
TNSS				Lg		Lg	07 31 25.6	
	6.6nm,0.4s							
MTBS	**Maitube**	**3.37**	**295**	*e*P		**Pb**	**07 30 51.0**	**-0.6**
	3.3nm,0.3s							
MTBS				*e*S		**Sb**	**07 31 35.9**	**+2.9**
	16nm,0.3s							
MTBS	**Maitube**	**3.37**	**295**	Pg		**Pb**	**07 30 51.0**	**-0.6**
	3.3nm,0.3s							
MTBS				Lg		Lg	07 31 35.9	
	16nm,0.3s							
CHKK	**Chushkaly**	**3.37**	**309**	*e*P		**Pb**	**07 30 52.2**	**+0.5**
	3.5nm,0.3s							
CHKK				*e*S		**Sg**	**07 31 37.2**	**-2.4**
	18nm,0.4s							
CHKK	**Chushkaly**	**3.37**	**309**	Pg		**Pb**	**07 30 52.2**	**+0.5**
	3.5nm,0.3s							
CHKK				Lg		Lg	07 31 37.2	
	18nm,0.4s							
KTBS	**Karatobe**	**3.47**	**305**	*e*P		**Pb**	**07 30 53.1**	**-0.2**
	3.3nm,0.2s							
KTBS				*e*S		**Sb**	**07 31 38.9**	**+2.9**
	4.0nm,0.3s							
KTBS	**Karatobe**	**3.47**	**305**	Pg		**Pb**	**07 30 53.2**	**-0.2**
	3.3nm,0.2s							
KTBS				Lg		Lg	07 31 38.9	
	4.0nm,0.3s							
KST	**Kastek**	**3.66**	**292**	*e*P		**Pb**	**07 30 57.0**	**+0.4**
	4.3nm,0.3s							
KST				*e*S		**Sg**	**07 31 45.5**	**-3.2**
	14nm,0.5s							
KST	**Kastek**	**3.66**	**292**	Pg		**Pb**	**07 30 57.0**	**+0.4**
	4.3nm,0.3s							
KST				Lg		Lg	07 31 45.5	
	14nm,0.5s							
KUU	**Kurty**	**3.78**	**306**	*e*P		**Pb**	**07 30 58.8**	**+0.2**
	0.8nm,0.1s							
KUU				*e*S		**Sb**	**07 31 48.5**	**+3.7**
	8.7nm,0.3s							
KUU	**Kurty**	**3.78**	**306**	Pg		**Pb**	**07 30 58.8**	**+0.2**
	0.8nm,0.1s							
KUU				Lg		Lg	07 31 48.5	
	8.7nm,0.3s							
TKM2	**Tokmak 2**	**3.88**	**289**	⇑Pn		**Pn**	**07 30 54.0**	**+2.1**
	1.8nm,0.6s							
TKM2				⇓Lg		Lg	07 31 54.3	
	6.2nm,0.5s							
KRBS	**Karabastau**	**4.10**	**300**	*e*P		**Pb**	**07 31 04.6**	**+0.5**
	3.5nm,0.4s							
KRBS				*e*S		**Sb**	**07 31 58.5**	**+4.4**
	8.9nm,0.3s							
KRBS	**Karabastau**	**4.10**	**300**	Pg		**Pb**	**07 31 04.6**	**+0.5**
	3.5nm,0.4s							
KRBS				Lg		Lg	07 31 58.5	
	8.9nm,0.3s							
AAK	**Ala-Archa**	**4.61**	**283**	⇓Pg		**Pg**	**07 31 18.2**	**-1.4**
	1.9nm,0.6s							
AAK				⇓Lg		Lg	07 32 16.5	
	4.3nm,0.6s							
SGDS	**Sogindy**	**4.71**	**293**	*e*P		**Pb**	**07 31 17.2**	**+2.7**
	2.2nm,0.5s							
SGDS				*e*S		**Sg**	**07 32 19.7**	**-2.9**
	2.6nm,0.5s							
SGDS	**Sogindy**	**4.71**	**293**	Pg		**Pb**	**07 31 17.2**	**+2.7**
	2.2nm,0.5s							
SGDS				Lg		Lg	07 32 19.7	
	2.6nm,0.5s							
MK31	**Makanchi Array**	**5.17**	**13**	Pn		**Pn**	**07 31 09.7**	**+0.2**
	0.2nm,0.2s,baz=198,slow=14,SNR=60							
MK31				⇓Sn		**Sn**	**07 32 09.6**	**+0.1**
	0.4nm,0.3s,baz=191,slow=23,SNR=4.9							
MK31				⇓Lg		Lg	07 32 29.9	
	0.7nm,0.4s,baz=193,slow=28,SNR=5.5							

IDC ***18*** *07:32:46.1±3.0,51°.54N×173°.56W,h0km, mb3.4/4, mb1 3.6/5,mb1mx3.4/60,mbtmp3.4/5,ML3.8/1, Error ellipse: s-maj=83.7km s-min=27.8km az=179.0*
NEIC ***18*** *07:32:50.8±1.2,51°.6N±0°.2×173°.4W±0°.2,h47km±66km, Error ellipse: s-maj=31.1km s-min=16.3km az=184.0*
AEIC ***18*** *07:32:50.5±1.4,51°.52N±0°.07×173°.5W±0°.2,h25km±10km, ML2.9/15,Error ellipse: s-maj=14.8km s-min=10.3km az=106.0*

ISC 18 07:32:51.8±1.2,**51°.6N**±0°.1×**173°.48W**±0°.08,**h37**km,**n24,** σ0**s48/22,mb3.3/4,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.77**	**325**		**Pn**	**07 33 05.5**	**-0.5**
ATKA					**Sn**	**07 33 16.6**	**+0.3**
KOKL	**Mount Kliuchef**	**0.87**	**329**		**Pn**	**07 33 07.6**	**+0.1**
GSMY	**Great Sitkin M**	**1.67**	**287**		**Pn**	**07 33 17.8**	**-0.6**
GSTR	**Great Sitkin T**	**1.68**	**289**		**Pn**	**07 33 18.7**	**+0.1**
GSCK	**Great Sitkin C**	**1.72**	**286**		**Pn**	**07 33 18.5**	**-0.6**
GSTD	**Great Sitkin T**	**1.72**	**287**		**Pn**	**07 33 18.6**	**-0.6**
GSTD					**Sn**	**07 33 40.2**	**+0.2**
ADAG	**Mount Adagdak**	**1.98**	**283**		**Pn**	**07 33 23.2**	**+0.5**
ADK	**Adak**	**2.02**	**280**		**Pn**	**07 33 22.2**	**-1.0**
KIWB	**Kanaga Island**	**2.30**	**278**		**Pn**	**07 33 26.3**	**-0.8**
KIKV	**Kanaga Island**	**2.32**	**279**		**Pn**	**07 33 27.0**	**-0.3**
KIMD	**Kanaga Island**	**2.35**	**276**		**Pn**	**07 33 27.5**	**-0.2**
TAPA	**Tanaga Point A**	**2.71**	**277**		**Pn**	**07 33 32.8**	**0.0**
TAFP	**Tanaga Falls P**	**2.82**	**278**		**Pn**	**07 33 34.6**	**+0.3**
TAFP					**Sn**	**07 34 07.5**	**+0.6**
TASE	**Tanaga Southea**	**2.85**	**277**		**Pn**	**07 33 35.0**	**+0.3**
ILAR	**Eielson Array**	**19.06**	**36**	P	**P**	**07 37 10.2**	**-0.3**
	0.3nm,0.3s,baz=225,slow=9.0,SNR=30						
YKA	**Yellowknife Ar**	**32.66**	**47**	P	**P**	**07 39 19.9**	**+0.2**
	0.1nm,0.4s,baz=275,slow=7.9,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**35.33**	**213**	T	T	08 17 46.8	
	baz=18,slow=76,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**35.34**	**213**	T	T	08 17 48.1	
	baz=16,slow=76,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**36.53**	**213**	T	T	08 19 09.5	
	baz=20,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**36.54**	**213**	T	T	08 19 05.3	
	baz=20,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**36.54**	**213**	T	T	08 19 05.8	
	baz=20,slow=76,SNR=4.6						
PDAR	**Pinedale Array**	**43.05**	**76**	P	**P**	**07 40 48.1**	**+0.2**
	0.1nm,0.5s,baz=318,slow=2.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.34**	**316**	P	**P**	**07 43 03.2**	**0.0**
	0.2nm,0.4s,baz=42,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**62.46**	**311**	P	**P**	**07 43 10.7**	**-0.2**
	0.2nm,0.4s,baz=50,slow=7.2,SNR=7.2						

IDC ***18*** *07:47:08.5±3.6,45°.82N×26°.54E,h87km±35km,mb3.4/5, mb1 3.6/6,mb1mx3.2/35,mbtmp3.8/6, Error ellipse: s-maj=40.2km s-min=20.4km az=120.0*
MCSM ***18*** *07:47:10.9±0.8,46°.N±8°×2°.7E±°,h115km±4km,ML3.8, MLv3.4*
SIGU ***18*** *07:47:11.1,45°.77N×26°.70E,h122km,mb3.2*
SOF ***18*** *07:47:11.6,45°.73N×26°.62E,h100km,MD3.5*
BUC ***18*** *07:47:11.6±0.3,45°.73N×26°.71E,h116km±2km,ml4.1/49, Error ellipse: s-maj=1.8km s-min=1.5km az=178.0*
BEO ***18*** *07:47:19.2±0.9,45°.54N×25°.98E,h88km±4km,ML3.0/16*

ISC 18 07:47:11.4±0.7,**45°.76N**±0°.02×**26°.71E**±0°.02,**h125**km±4km, **n133,**σ1**s12/190,mb3.6/5,81C-38D,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.10**	**335**	⇑P	**Pn**	**07 47 28.0**	**-0.5**
PLOR				⇓S	**Sn**	**07 47 39.7**	**-1.8**
PLOR	**Plostina**	**0.10**	**335**	P	**Pn**	**07 47 27.9**	**-0.6**
PLOR				S	**Sn**	**07 47 39.8**	**-1.6**
VRI	**Vrincioaia**	**0.11**	**6**	⇑P	**Pn**	**07 47 28.1**	**-0.4**
VRI				⇑S	**Sn**	**07 47 40.1**	**-1.3**
BISRR	**Bisoca**	**0.21**	**180**	⇓P	**Pn**	**07 47 28.7**	**-0.1**
BISRR				⇑S	**Sn**	**07 47 41.2**	**-0.6**
PANC	**Panciu**	**0.33**	**70**	⇑P	**Pn**	**07 47 28.7**	**-0.2**
PANC				⇓S	**Sn**	**07 47 41.7**	**-0.6**
COVR	**Voineasa-Covas**	**0.36**	**284**	⇑P	**Pn**	**07 47 28.8**	**-0.5**
COVR				⇑S	**Sn**	**07 47 41.3**	**-1.4**
NEHR	**Nehoiu**	**0.44**	**221**	⇑P	**Pn**	**07 47 29.6**	**0.0**
NEHR				⇑S	**Sn**	**07 47 41.6**	**-1.7**
GHRR		**0.57**	**58**	⇑P	**Pn**	**07 47 30.3**	**0.0**
GHRR				⇑S	**Sn**	**07 47 44.5**	**-0.1**
MLR	**Muntele Rosu**	**0.60**	**244**	⇓P	**Pn**	**07 47 30.6**	**-0.2**
MLR				⇑S	**Sn**	**07 47 44.2**	**-1.0**
MLR	**Muntele Rosu**	**0.60**	**244**	*e*Pg	**Pn**	**07 47 32.7**	**+2.0**
MLR				*e*Sg	**Sn**	**07 47 44.9**	**-0.3**
MLR	**Muntele Rosu**	**0.60**	**244**	P	**Pn**	**07 47 30.5**	**-0.2**
MLR				S	**Sn**	**07 47 44.4**	**-0.8**
ISR	**Istrita**	**0.65**	**191**	⇑P	**Pn**	**07 47 31.1**	**+0.1**
ISR				⇓S	**Sn**	**07 47 43.4**	**-2.3**
TUDR		**0.69**	**103**	⇓P	**Pn**	**07 47 31.0**	**-0.1**
OZUR		**0.73**	**298**	⇓P	**Pn**	**07 47 30.9**	**-0.6**
OZUR				⇑S	**Sn**	**07 47 44.1**	**-1.6**
TESR	**Tescani**	**0.75**	**357**	⇑P	**Pn**	**07 47 30.9**	**-0.7**
TESR				⇑S	**Sn**	**07 47 44.7**	**-2.3**
SLCR	**Slobozia Conac**	**0.76**	**102**	⇑P	**Pn**	**07 47 31.3**	**-0.4**
SLCR				⇑S	**Sn**	**07 47 45.9**	**-1.1**
IZVR	**Izvoarele**	**0.77**	**106**	⇓P	**Pn**	**07 47 31.4**	**-0.4**
IZVR				⇑S	**Sn**	**07 47 45.8**	**-1.3**
VARL	**Varlezi**	**0.81**	**80**	⇑P	**Pn**	**07 47 31.8**	**-0.3**
VARL				⇑S	**Sn**	**07 47 47.1**	**-0.6**
BIR	**Birlad**	**0.81**	**51**	⇑P	**Pn**	**07 47 31.9**	**-0.2**
BIR				⇑S	**Sn**	**07 47 46.5**	**-1.4**
SCHL	**Schela**	**0.83**	**108**	⇑P	**Pn**	**07 47 32.2**	**0.0**
SCHL				⇓S	**Sn**	**07 47 47.2**	**-0.7**
SECR		**0.85**	**212**	⇑P	**Pn**	**07 47 33.0**	**+0.4**
SECR				⇑S	**Sn**	**07 47 48.8**	**+0.3**
PGOR	**Pogoanele**	**0.87**	**167**	⇑P	**Pn**	**07 47 32.8**	**+0.2**
PGOR				⇓S	**Sn**	**07 47 47.7**	**-1.0**
SCTR	**Scanteiesti**	**0.90**	**95**	⇑P	**Pn**	**07 47 33.0**	**+0.1**
SCTR				⇑S	**Sn**	**07 47 48.1**	**-1.1**
DOPR	**Dopca**	**0.95**	**283**	⇑P	**Pn**	**07 47 33.1**	**-0.3**
DOPR				⇑S	**Sn**	**07 47 49.3**	**-0.7**
TATR	**Tatarca**	**0.95**	**99**	⇑P	**Pn**	**07 47 33.3**	**-0.1**
TATR				⇑S	**Sn**	**07 47 49.1**	**-0.9**
VLDR	**Vladesti**	**0.96**	**84**	⇑P	**Pn**	**07 47 33.4**	**-0.1**
VLDR				⇑S	**Sn**	**07 47 49.4**	**-0.8**
PLAR	**PLOIESTI**	**0.97**	**210**	⇓P	**Pn**	**07 47 33.9**	**+0.4**
GISR	**Galati**	**0.99**	**108**	⇓S	**Sn**	**07 47 49.7**	**-1.0**
GIUM	**Giurgiulesti**	**1.09**	**104**	⇑P	**Pn**	**07 47 34.5**	**-0.1**
GIUM				⇑S	**Sn**	**07 47 51.5**	**-0.8**
SULR		**1.13**	**197**	⇑P	**Pn**	**07 47 35.4**	**+0.3**
SULR				⇑S	**Sn**	**07 47 53.3**	**+0.3**
VASR	**Vaslui**	**1.16**	**40**	⇑P	**Pn**	**07 47 35.2**	**-0.2**
VASR				⇓S	**Sn**	**07 47 52.5**	**-1.2**
CFR	**Carcaliu**	**1.16**	**120**	⇓P	**Pn**	**07 47 34.9**	**-0.5**
CFR				⇓S	**Sn**	**07 47 52.1**	**-1.5**
GIRR	**Girov**	**1.21**	**353**	⇑P	**Pn**	**07 47 35.7**	**-0.2**
VOIR		**1.21**	**255**	⇓P	**Pn**	**07 47 35.6**	**-0.5**
VOIR				⇑S	**Sn**	**07 47 52.9**	**-1.9**
AMRR	**Amara**	**1.23**	**159**	⇑P	**Pn**	**07 47 36.2**	**0.0**
AMRR				⇑S	**Sn**	**07 47 54.9**	**0.0**
MTUR	**Matau**	**1.28**	**246**	⇑P	**Pn**	**07 47 37.0**	**+0.3**
LEOM	**Leova**	**1.28**	**56**	⇓P	**Pn**	**07 47 36.6**	**0.0**
LEOM				⇑S	**Sn**	**07 47 55.2**	**-0.7**
LEHL	**Lehliu**	**1.29**	**177**	⇑P	**Pn**	**07 47 36.9**	**+0.2**
LEHL				⇑S	**Sn**	**07 47 56.0**	**0.0**
HARR	**Harsova**	**1.37**	**141**	⇑P	**Pn**	**07 47 37.4**	**-0.3**
INCR	**INCERC-Sediu C**	**1.38**	**197**	⇑S	**Sn**	**07 47 57.1**	**-0.6**
BUC1	**Bucharest**	**1.49**	**199**	⇑S	**Sn**	**07 47 59.4**	**-0.7**
TPGR	**Topolog**	**1.51**	**126**	⇓P	**Pn**	**07 47 38.6**	**-0.6**
TPGR				⇑S	**Sn**	**07 47 58.1**	**-2.3**
ARR	**Arges**	**1.51**	**256**	⇓P	**Pn**	**07 47 39.3**	**0.0**
ARR				⇑S	**Sn**	**07 47 58.9**	**-1.6**
STFAR	**Stefanesti-Arg**	**1.53**	**235**	⇓P	**Pn**	**07 47 39.7**	**+0.2**
STFAR				⇑S	**Sn**	**07 47 59.5**	**-1.3**
RASA	**Rasa**	**1.58**	**168**	⇓P	**Pn**	**07 47 39.9**	**-0.1**
RASA				⇑S	**Sn**	**07 48 00.2**	**-1.5**
TLCR		**1.59**	**110**	⇑P	**Pn**	**07 47 40.1**	**0.0**
TLCR				⇑S	**Sn**	**07 48 00.8**	**-1.1**
SGRR	**Singureni**	**1.62**	**199**	⇑P	**Pn**	**07 47 40.2**	**-0.3**
SGRR				⇑S	**Sn**	**07 48 00.4**	**-2.3**
CVDA	**Cernavoda**	**1.71**	**146**	⇑P	**Pn**	**07 47 41.3**	**-0.2**
CVDA				⇑S	**Sn**	**07 48 02.4**	**-2.0**
HUMR	**Humele**	**1.74**	**225**	⇑P	**Pn**	**07 47 41.5**	**-0.4**
HUMR				⇑S	**Sn**	**07 48 03.7**	**-1.4**
TIRR	**Tirgusor**	**1.77**	**137**	⇓P	**Pn**	**07 47 42.0**	**-0.3**
TIRR				⇓S	**Sn**	**07 48 03.6**	**-2.3**
ICOR	**Ion Corvin**	**1.81**	**154**	⇑P	**Pn**	**07 47 43.0**	**+0.2**
ICOR				⇑S	**Sn**	**07 48 05.8**	**-1.0**
JURR	**Jurilovca**	**1.82**	**122**	⇓P	**Pn**	**07 47 42.9**	**0.0**
MILM	**Milestii Mici**	**1.86**	**51**	⇑P	**Pn**	**07 47 43.1**	**-0.3**
KIS	**Kishinev**	**1.91**	**49**	⇑P	**Pn**	**07 47 43.7**	**-0.3**
COPA	**Copaceanca**	**1.94**	**214**	⇓P	**Pn**	**07 47 43.9**	**-0.4**
COPA				⇑S	**Sn**	**07 48 08.7**	**-0.8**
MFTR	**Murfatlar**	**1.99**	**142**	⇓P	**Pn**	**07 47 44.8**	**-0.2**
MFTR				⇑S	**Sn**	**07 48 10.1**	**-0.6**
LOT	**Lotru**	**2.09**	**262**	⇓P	**Pn**	**07 47 45.9**	**-0.4**
LOT				⇑S	**Sn**	**07 48 13.7**	**+0.7**
TSCT	**Constanta Port**	**2.11**	**138**	⇓P	**Pn**	**07 47 46.3**	**-0.1**
TSCT				⇓S	**Sn**	**07 48 11.7**	**-1.6**
BURAR	**Bucovina Array**	**2.12**	**332**	⇑P	**Pn**	**07 47 47.8**	**+1.2**
BURAR				⇑S	**Sn**	**07 48 15.7**	**+2.0**
EFOR	**EFORIE**	**2.16**	**140**	⇑S	**Sn**	**07 48 13.3**	**-1.2**
TSSL	**Sulina**	**2.21**	**105**	⇓P	**Pn**	**07 47 47.6**	**0.0**
TSSL				⇑S	**Sn**	**07 48 14.7**	**-0.6**
ZIMR		**2.31**	**205**	⇑S	**Sn**	**07 48 15.8**	**-1.9**
PSN	**Preselentsi**	**2.33**	**153**	*i* P	**Pn**	**07 47 49.7**	**+0.5**
MANR	**Mangalia**	**2.36**	**145**	⇑P	**Pn**	**07 47 49.5**	**0.0**
MANR				⇑S	**Sn**	**07 48 17.3**	**-1.5**
TSMN	**Mangalia Port-**	**2.37**	**145**	⇓S	**Sn**	**07 48 17.4**	**-1.7**
VLAD	**Vladila**	**2.41**	**224**	⇓P	**Pn**	**07 47 49.6**	**-0.6**
VLAD				⇓S	**Sn**	**07 48 17.5**	**-2.4**
SZH	**Strazhica**	**2.55**	**193**	*i* P	**Pn**	**07 47 51.7**	**-0.4**
PRD	**Provadia**	**2.61**	**169**	*i* P	**Pn**	**07 47 53.2**	**+0.5**
SORM	**Soroca**	**2.63**	**25**	⇓P	**Pn**	**07 47 52.1**	**-0.8**
SRE	**Strehaia**	**2.71**	**247**	⇓P	**Pn**	**07 47 53.7**	**-0.4**
SRE				⇓S	**Sn**	**07 48 25.1**	**-1.8**
GZR	**Gura Zlata**	**2.79**	**264**	⇓P	**Pn**	**07 47 55.2**	**+0.1**
KMPD	**K-Podol'skiy**	**2.81**	**357**	*e*P	**Pn**	**07 47 55.4**	**+0.1**
KMPD				*i* S	**Sn**	**07 48 27.1**	**-2.0**
KMPD	**K-Podol'skiy**	**2.81**	**357**	P		07 47 54.2	
KMPD				P	**Pn**	**07 47 53.9**	**-1.4**
NDNU	**Novodnistrovsk**	**2.87**	**9**	*i* P	**Pn**	**07 47 55.9**	**-0.2**
NDNU				Pm		07 47 56.6	
NDNU				*i* S	**Sn**	**07 48 28.5**	**-2.1**
NDNU				Sm		07 48 30.7	
DRGR		**2.96**	**292**	⇓P	**Pn**	**07 47 56.5**	**-0.9**
DRGR		**2.96**	**292**	*e*Pn	**Pn**	**07 47 56.4**	**-0.9**
DRGR				*e*Sn	Sn	07 48 21.8	-11
DRGR		**2.96**	**292**	P	**Pn**	**07 47 56.5**	**-0.9**
HERR	**Herculane**	**3.15**	**255**	⇑P	**Pn**	**07 47 59.1**	**-0.7**
HORU	**Horodok**	**3.46**	**357**	*e*P	**Pn**	**07 48 04.6**	**+0.8**
HORU				Pm		07 48 05.3	
HORU				*i* S	**Sn**	**07 48 44.7**	**+0.3**
HORU				Sm		07 48 59.0	
BZS	**Buzias**	**3.57**	**270**	⇑P	**Pn**	**07 48 04.2**	**-1.1**
BZS	**Buzias**	**3.57**	**270**	*e*Pn	**Pn**	**07 48 04.2**	**-1.1**
BZS				*e*Sn	Sn	07 48 32.5	-15
MDVR	**Moldovita**	**3.66**	**256**	⇑P	**Pn**	**07 48 05.9**	**-0.7**
TRPA	**Tarpa**	**3.71**	**311**	PN	**Pn**	**07 48 07.3**	**+0.2**
ZAGS	**Zajecar**	**3.73**	**240**	*e*Pn	**Pn**	**07 48 05.3**	**-2.2**
ZAGS				*e*Sn	Sn	07 48 34.9	-16
KUBS	**Kucevo**	**3.81**	**251**	*e*Pn	**Pn**	**07 48 06.2**	**-2.3**
KUBS				*e*Sn	Sn	07 48 36.8	-16
ZAPS	**Zavoj**	**3.83**	**231**	*e*Pn	**Pn**	**07 48 07.6**	**-1.2**
ZAPS				*e*Sn	Sn	07 48 38.3	-15
VTS	**Vitosha**	**4.01**	**220**	⇑P	**Pn**	**07 48 10.8**	**-0.5**
VTS	**Vitosha**	**4.01**	**220**	*e*Pn	**Pn**	**07 48 10.8**	**-0.5**
VTS				*e*Sn	Sn	07 48 44.8	-13
VTS	**Vitosha**	**4.01**	**220**	*e*P	**Pn**	**07 48 11.1**	**-0.2**
HOLU	**Holmets**	**4.05**	**315**	*i* P	**Pn**	**07 48 12.4**	**+0.8**
LUBAR	**Lubar, Ukraine**	**4.22**	**9**	P	**Pn**	**07 48 13.4**	**-0.5**
LUBAR				sP		07 48 39.6	
STZU	**Stuzhytsa**	**4.28**	**321**	*e*P	**Pn**	**07 48 15.6**	**+0.9**
BOSS	**Bosilegrad**	**4.46**	**225**	*e*Pn	**Pn**	**07 48 16.5**	**-0.7**
BOSS				*e*Sn	Sn	07 48 52.9	-15
GRUS	**Gruza**	**4.66**	**248**	*e*Pn	**Pn**	**07 48 18.8**	**-1.0**
GRUS				*e*Sn	Sn	07 48 57.6	-15
PRVS	**Prvonek**	**4.66**	**227**	*e*Pn	**Pn**	**07 48 19.1**	**-0.7**
PRVS				*e*Sn	Sn	07 48 58.0	-15
TRUS	**Trudelj**	**4.73**	**253**	*e*Pn	**Pn**	**07 48 19.8**	**-0.9**
TRUS				*e*Sn	Sn	07 48 59.5	-15
SELS	**Selova**	**4.74**	**240**	*e*Pn	**Pn**	**07 48 19.5**	**-1.4**
SELS				*e*Sn	Sn	07 48 58.7	-16
CRVS	**Cervenica-Dubn**	**4.76**	**313**	*e*P	**Pn**	**07 48 21.4**	**+0.3**
FRGS	**Fruska Gora**	**4.89**	**265**	*e*Pn	**Pn**	**07 48 22.2**	**-0.7**
KECS	**Kecovo**	**5.05**	**305**	*e*P	**Pn**	**07 48 25.2**	**+0.2**
DIVS	**Divibare**	**5.05**	**253**	*e*Pn	**Pn**	**07 48 24.0**	**-1.1**
DIVS				*e*Sn	Sn	07 49 05.7	-17
SEV	**Sevastopol'**	**5.07**	**101**	*e*P	**Pn**	**07 48 24.5**	**-0.7**
SEV				Pm		07 48 25.2	
SEV				*e*S	**Sn**	**07 49 20.3**	**-2.4**
SEV				Sm		07 49 20.5	
AK07	**Malin Array Si**	**5.08**	**18**	P	**Pn**	**07 48 24.6**	**-0.7**
AK13	**Malin Array Si**	**5.10**	**17**	P	**Pn**	**07 48 24.3**	**-1.4**
AK06	**Malin Array Si**	**5.11**	**18**	P	**Pn**	**07 48 24.9**	**-0.8**
AK14	**Malin Array Si**	**5.13**	**17**	P	**Pn**	**07 48 24.8**	**-1.2**
AK10	**Malin Array Si**	**5.13**	**18**	P	**Pn**	**07 48 25.4**	**-0.7**
AK05	**Malin Array Si**	**5.14**	**18**	P	**Pn**	**07 48 25.2**	**-1.0**
AK12	**Malin Array Si**	**5.15**	**18**	P	**Pn**	**07 48 25.7**	**-0.6**
AK09	**Malin Array Si**	**5.16**	**19**	P	**Pn**	**07 48 25.7**	**-0.7**
IVAS	**Ivanjica**	**5.16**	**247**	*e*Pn	**Pn**	**07 48 24.8**	**-1.8**
IVAS				*e*Sn	Sn	07 49 08.3	-17
AK08	**Malin Array Si**	**5.17**	**18**	P	**Pn**	**07 48 25.5**	**-1.0**
AK17	**Malin Array Si**	**5.17**	**17**	P	**Pn**	**07 48 25.4**	**-1.2**
AK02	**Malin Array Si**	**5.18**	**18**	P	**Pn**	**07 48 26.0**	**-0.7**
AK11	**Malin Array Si**	**5.19**	**18

LFK				SG	**Sn**	**07 57 00.7**	**+0.9**
CSS	**Mathiatis**	**0.47**	**271**	PG	**Pn**	**07 56 51.9**	**-0.5**
CSS				SG	**Sn**	**07 57 00.2**	**0.0**
CSS	**Mathiatis**	**0.47**	**271**	P	**Pn**	**07 56 51.8**	**-0.5**
CSS				S	**Sn**	**07 57 00.3**	**+0.2**
ASGA	**Asgata**	**0.56**	**253**	P	**Pn**	**07 56 53.0**	**-0.5**
ASGA				S	**Sn**	**07 57 02.9**	**+0.8**
ASGA				AML	AML	07 57 03.2	
	1.5nm,0.5s						
ASGA				AML	AML	07 57 03.2	
	1.5nm,0.5s						
ASGA				AML	AML	07 57 03.7	
	1.2nm,0.3s						
ASGA				AML	AML	07 57 03.7	
	1.2nm,0.3s						
SZAC	**Souni**	**0.86**	**257⇓**	*eP*	**Pn**	**07 56 57.1**	**-0.2**
SZAC				S	**Sn**	**07 57 09.2**	**+0.2**
SZAC				AML	AML	07 57 11.0	
	0.9nm,0.3s						
SZAC				AML	AML	07 57 11.0	
	0.9nm,0.3s						
SZAC				AML	AML	07 57 12.4	
	0.9nm,0.4s						
SZAC				AML	AML	07 57 12.4	
	0.9nm,0.4s						
ALFC	**Alefka**	**1.08**	**281⇑**	*eP*	**Pn**	**07 56 59.8**	**-0.6**
ALFC				S	**Sn**	**07 57 15.2**	**+0.8**
ALFC				AML	AML	07 57 18.1	
	0.2nm,0.3s						
ALFC				AML	AML	07 57 18.1	
	0.2nm,0.3s						
ALFC				AML	AML	07 57 18.1	
	0.4nm,0.5s						
ALFC				AML	AML	07 57 18.1	
	0.4nm,0.5s						
NATA	**Nata**	**1.11**	**261**	P	**Pn**	**07 57 01.0**	**+0.3**
AKK2	**Akkuyu-Mersin**	**1.21**	**347**	PN	**Pn**	**07 57 02.3**	**+0.2**
TISA	**Tisan-Mersin**	**1.22**	**352**	PN	**Pn**	**07 57 02.3**	**+0.1**
TISA				SN	**Sn**	**07 57 17.9**	**+0.3**
AKK1	**Akkuyu-Mersin**	**1.22**	**346**	PN	**Pn**	**07 57 02.0**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.23**	**347**	PN	**Pn**	**07 57 02.4**	**0.0**
AKKU				SN	**Sn**	**07 57 17.8**	**-0.2**
KARG	**Kargicak-Mersi**	**1.25**	**353**	PN	**Pn**	**07 57 03.3**	**+0.6**
AKMS	**Akamas**	**1.28**	**273**	P	**Pn**	**07 57 03.2**	**+0.1**
AKMS				AML	AML	07 57 24.4	
	0.3nm,0.2s						
AKMS				AML	AML	07 57 27.0	
	0.2nm,0.3s						
IKL	**Isikli**	**1.29**	**352**	PN	**Pn**	**07 57 03.4**	**+0.2**
IKL				SN	**Sn**	**07 57 19.4**	**0.0**
TEKE	**Tekeli-Mersin**	**1.35**	**332**	PN	**Pn**	**07 57 03.6**	**-0.3**
TEKE				SN	**Sn**	**07 57 20.3**	**-0.4**
BERE	**Bereket-Mersin**	**1.49**	**339**	PN	**Pn**	**07 57 05.5**	**-0.6**
BERE				SN	**Sn**	**07 57 24.2**	**-0.3**
KEBE	**Keben-Mersin**	**1.50**	**354**	PN	**Pn**	**07 57 05.5**	**-0.6**
TEVE	**Tevekalti-Mers**	**1.52**	**346**	PN	**Pn**	**07 57 06.9**	**+0.5**
GAZI	**Gazipasa**	**1.81**	**315**	PN	**Pn**	**07 57 09.5**	**-0.8**
HDMB	**Hadim**	**2.31**	**331**	PN	**Pn**	**07 57 17.2**	**-0.1**
OSC2	**CSNet OBS 4**	**2.31**	**216**	S	**Sn**	**07 57 44.6**	**+0.2**

*ATH **18** 08:11:21.9, 37°.54N×23°.58E, h18km±3km, ML2.7/4, Error ellipse: s-maj=3.9km s-min=0.9km az=165.0*
*THE **18** 08:11:22.5, 37°.55N×23°.59E, h9km±1km, ML2.6/8, Error ellipse: s-maj=1.4km s-min=0.5km az=120.0*

ISC 18 08:11:22.3±0.9, 37°.55N±0'.03×23°.57E±0'.04, h15km±7km, n22, σ0°44/37, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.21**	**203**	P	**Pg**	**08 11 27.0**	**-0.1**
YDRA				S	**Sg**	**08 11 30.5**	**+0.1**
YDRA				AML	AML	08 11 31.5	
	comp=E,6858μm,0.3s						
YDRA				AML	AML	08 11 33.0	
	comp=N,8680μm,0.2s						
VLY	**Voula,Athens**	**0.35**	**30**	P	**Pg**	**08 11 29.2**	**-0.3**
VLY				S	**Sg**	**08 11 34.5**	**+0.1**
VLY				AML	AML	08 11 35.1	
	comp=E,2588μm,0.4s						
VLY				AML	AML	08 11 36.2	
	comp=N,2391μm,0.2s						
VLY	**Voula,Athens**	**0.35**	**30**	P	**Pg**	**08 11 29.2**	**-0.3**
VLY				S	**Sg**	**08 11 34.9**	**+0.5**
	comp=N,1μm,0.3s						
EPID	**Epidavros**	**0.37**	**281**	P	**Pg**	**08 11 29.6**	**-0.2**
EPID				S	**Sg**	**08 11 35.2**	**+0.4**
EPID	**Epidavros**	**0.37**	**281**	P	**Pg**	**08 11 29.7**	**0.0**
ATH	**Athens Observa**	**0.44**	**15**	P	**Pg**	**08 11 31.3**	**+0.3**
ATH				S	**Sg**	**08 11 37.6**	**+0.6**
ATH				AML	AML	08 11 38.4	
	comp=E,2190μm,0.3s						
ATH				AML	AML	08 11 38.5	
	comp=N,3004μm,0.5s						
ATH	**Athens Observa**	**0.44**	**15**	P	**Pg**	**08 11 31.1**	**0.0**
ATH				S	**Sb**	**08 11 38.3**	**+0.1**
	comp=N,1μm,0.4s						
ATHU	**Athens Univers**	**0.45**	**22**	P	**Pg**	**08 11 30.9**	**-0.4**
ATHU				S	**Sg**	**08 11 37.4**	**0.0**
ATHU	**Athens Univers**	**0.45**	**22**	P	**Pg**	**08 11 30.9**	**-0.4**
ATHU				S	**Sg**	**08 11 37.5**	**0.0**
	comp=N,182nm,0.3s						
PTL	**Penteli**	**0.55**	**25**	P	**Pg**	**08 11 32.7**	**-0.5**
PTL				S	**Sb**	**08 11 41.0**	**-0.4**
PTL	**Penteli**	**0.55**	**25**	P	**Pg**	**08 11 32.7**	**-0.5**
PTL				S	**Sg**	**08 11 40.9**	**+0.3**
	comp=N,330nm,0.3s						
DION	**Dionisos Attik**	**0.60**	**28**	P	**Pg**	**08 11 33.8**	**-0.3**
DION	**Dionisos Attik**	**0.60**	**28**	P	**Pg**	**08 11 34.1**	**0.0**
DION				S	**Sg**	**08 11 42.4**	**+0.3**
	comp=N,730nm,0.4s						
VILL	**Villia**	**0.65**	**342**	P	**Pg**	**08 11 34.9**	**-0.1**
VILL				S	**Sb**	**08 11 44.6**	**+0.3**
	comp=N,1μm,0.3s						
VIL2	**Platees**	**0.71**	**340**	P	**Pg**	**08 11 34.7**	**-1.4**
VIL2				S	**Sg**	**08 11 44.5**	**-0.9**
VIL2				AML	AML	08 11 46.4	
	comp=N,1572μm,0.3s						
VIL2				AML	AML	08 11 47.9	
	comp=E,2025μm,0.4s						
KARY	**Karystos**	**0.84**	**54**	P	**Pg**	**08 11 38.0**	**-0.5**
VLI	**Veliai**	**0.97**	**212**	P	**Pb**	**08 11 40.2**	**-0.6**
VLI				S	**Sn**	**08 11 55.5**	**+0.6**
	comp=E,282nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.16**	**21**	P	**Pn**	**08 11 44.2**	**+0.2**
KYMI				S	**Sn**	**08 12 00.2**	**+0.5**
	comp=E,332nm,0.6s						
LKR	**Lokris**	**1.19**	**338**	P	**Pn**	**08 11 44.4**	**0.0**
ATAL	**Atalanti**	**1.22**	**339**	P	**Pn**	**08 11 44.8**	**-0.1**
ATAL	**Atalanti**	**1.22**	**339**	P	**Pb**	**08 11 45.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.23**	**294**	P	**Pb**	**08 11 45.4**	**+0.1**

NNC 18 08:59:06.0±3.0, 54°.33N×86°.09E, h0km, mb3.8, mpv2.9, 6C-4D, Error ellipse: s-maj=36.0km s-min=15.3km az=164.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.84**	**243**	⇑P	Pg	08 59 21.2	-0.8
	0.2nm,0.3s						
ZAA0				⇑S	Sg	08 59 34.0	+1.1
	2.2nm,0.5s						
KURK	**Kurchatov**	**5.82**	**235**	⇓Pn	Pn	09 00 34.5	+1.0
	3.2nm,0.7s						
KURK				⇑Sn	Sn	09 01 42.7	+1.8
	1.7nm,0.8s						
KURK				⇑Lg	Lg	09 02 12.3	
	3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.92**	**234**	⇑Pn	Pn	09 00 36.9	+2.0
	1.4nm,0.4s						
KURBB				⇓Sn	Sn	09 01 44.9	+1.5
	2.2nm,0.5s						
KURBB				⇑Lg	Lg	09 02 18.0	
	5.7nm,0.5s						
MK31	**Makanchi Array**	**7.92**	**199**	Pn	Pn	09 01 03.0	+0.6
	1.3nm,0.7s,baz=24,slow=13,SNR=15						
MK31				⇓Sn	Sn	09 02 32.1	-0.7
	0.4nm,0.6s,baz=28,slow=27,SNR=4.4						
MK31				⇓Lg	Lg	09 03 12.9	
	1.0nm,0.7s,baz=32,slow=28,SNR=4.6						

TRN 18 09:07:16.3, 15°.30N×61°.02W, h134km, MD3.7, 7C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLPL	**La Plaine**	**0.23**	**278**	*eP*	Pn	09 07 36.1	+1.5
DLPL				*eS*	Sn	09 07 49.3	+0.7
MDN	**Morne-Daniel**	**0.36**	**273**	*eP*	Pn	09 07 36.7	+1.6
MDN				*eS*	Sn	09 07 50.9	+1.6
DSLB	**Salisbury**	**0.41**	**289**	⇑*iP*	Pn	09 07 36.9	+1.6
DSLB				*eS*	Sn	09 07 51.2	+1.4
SVN	**Savane Anatole**	**0.48**	**198**	*eP*	Pn	09 07 37.2	+1.4
MDVC	**Dominica, Viel**	**0.49**	**310**	*eP*	Pn	09 07 37.0	+1.3
MDVC				*eS*	Sn	09 07 51.7	+1.2
BAMF	**Morne Balai**	**0.50**	**195**	*eP*	Pn	09 07 37.4	+1.5
CXM	**Morne La Croix**	**0.51**	**197**	*eP*	Pn	09 07 37.6	+1.5
PCM	**Pelee Case Pet**	**0.52**	**201**	*eP*	Pn	09 07 36.0	+0.1
PCM	**Pelee Case Pet**	**0.52**	**201**	*eP*	Pn	09 07 37.4	+1.5
GBMF	**Grand Be**	**0.52**	**196**	*eP*	Pn	09 07 37.8	+1.8
ILAM	**Ilet Lapin Mar**	**0.54**	**165**	*eP*	Pn	09 07 38.1	0.0
PML	**Morne Lenard**	**0.54**	**198**	*eP*	Pn	09 07 37.6	+1.5
FDF	**Fort de France**	**0.58**	**193**	⇓*iP*	Pn	09 07 37.8	+1.5
FDF				*eS*	Sn	09 07 52.3	+0.8
MAGL	**Barre de l'ile**	**0.69**	**338**	⇑*iP*	Pn	09 07 38.5	+1.5
MAGL				*eS*	Sn	09 07 53.7	+0.9
LPMF	**Morne Lapointe**	**0.72**	**176**	*eP*	Pn	09 07 38.0	+0.8
ZAM	**Aeronautique**	**0.72**	**181**	*eP*	Pn	09 07 38.2	+0.9
MVM	**Montagne Vaucl**	**0.75**	**171**	*eP*	Pn	09 07 38.8	+1.3
TRMF	**Trois Ilets**	**0.76**	**183**	*eP*	Pn	09 07 36.1	-1.4
BIM	**Bigot**	**0.78**	**184**	*eP*	Pn	09 07 39.1	+1.3
BIM				*eS*	Sn	09 07 55.5	+1.5
TDBA	**Terre de Bas,**	**0.81**	**312**	⇑*iP*	Pn	09 07 39.3	+1.4
TDBA				*eS*	Sn	09 07 55.6	+1.3
TBG	**Guadaloupe-3**	**0.82**	**312**	⇑*eP*	Pn	09 07 39.3	+1.3
TBG				*eS*	Sn	09 07 56.2	+1.8
MPOM	**Morne Pois Mar**	**0.86**	**170**	⇑*iP*	Pn	09 07 39.6	+1.3
MPOM				*eS*	Sn	09 07 56.1	+1.0
CBE	**Ff, Capester**	**0.95**	**323**	⇑*iP*	Pn	09 07 40.4	+1.2
CBE				*eS*	Sn	09 07 58.1	+1.5
ABD	**La Joyeuse, An**	**1.25**	**339**	*eP*	Pn	09 07 43.4	+1.4
ABD				*eS*	Sn	09 08 02.3	+0.7
SLBI	**Saint Lucia, B**	**1.27**	**178**	⇑*iP*	Pn	09 07 43.1	+0.9
SLBI				*eS*	Sn	09 08 01.6	-0.3
SLCP	**Castries, St.**	**1.28**	**179**	*eP*	Pn	09 07 43.1	+0.8
SLCP				*eS*	Sn	09 08 02.2	+0.1
MCLT	**Moule a Chique**	**1.58**	**177**	*eP*	Pn	09 07 47.5	+1.9
MCLT				*eS*	Sn	09 08 09.6	+1.6
MLYT	**Lee's Yard**	**1.81**	**321**	*eP*	Pn	09 07 49.9	+1.6
MBFL	**Flemmings, Mon**	**1.84**	**322**	*eP*	Pn	09 07 49.6	+1.0
MBFL				*eS*	Sn	09 08 14.2	+0.9
ANBD	**Bethesda, Anti**	**1.88**	**338**	*eP*	Pn	09 07 50.1	+1.0
ANBD				*eS*	Sn	09 08 14.3	+0.2
SVV	**Soufriere Volc**	**1.98**	**186**	*eP*	Pn	09 07 51.6	+1.4
SVV				*eS*	Sn	09 08 18.1	+1.8
SVB	**Belmont**	**2.03**	**187**	*eP*	Pn	09 07 52.2	+1.3
SVB				*eS*	Sn	09 08 18.2	+0.8
SVOC	**Richmond Hill,**	**2.14**	**185**	*eP*	Pn	09 07 52.8	+0.5
SVOC				*eS*	Sn	09 08 20.3	+0.5
ANWB	**Willy Bob**	**2.47**	**343**	*eP*	Pn	09 07 56.8	+0.6
ANWB				*eS*	Sn	09 08 27.4	+0.3
BCHC	**Barbados, Cave**	**2.54**	**148**	*eP*	Pn	09 07 57.7	+0.5
BCHC				*eS*	Sn	09 08 30.7	+2.2
BBGH	**Gun Hill**	**2.57**	**146**	*eP*	Pn	09 07 58.6	+1.1
BBGH				*eS*	Sn	09 08 29.9	+0.6
BBSP	**Saint Philip**	**2.65**	**145**	*eP*	Pn	09 07 59.1	+0.5
BBSP				*eS*	Sn	09 08 32.1	+0.9
GCMP	**Grenada, Carri**	**2.83**	**188**	*eP*	Pn	09 08 01.6	+0.8
GCMP				*eS*	Sn	09 08 35.2	0.0
GRGR	**Grenville**	**3.21**	**191**	*eP*	Pn	09 08 07.0	+1.1
GRFF	**Grenada Fort F**	**3.31**	**192**	*eP*	Pn	09 08 07.8	+0.7
GRFF				*eS*	Sn	09 08 45.4	-0.9
SMRT	**St. Maarten**	**3.37**	**324**	*eP*	Pn	09 08 09.4	+1.5
SMRT				*eS*	Sn	09 08 47.1	-0.8
TOSP	**Speyside**	**4.00**	**173**	*eP*	Pn	09 08 17.6	+1.4
TOSP				*eS*	Sn	09 09 01.7	-1.1
TRN	**Trinidad (W)**	**4.64**	**185**	*eP*	Pn	09 08 26.4	+1.8
TRN	**Trinidad (W)**	**4.64**	**185**	*eS*	Sn	09 09 16.8	-1.1

NNC 18 09:08:52.8±9.7, 37°.40N×70°.18E, h0km, mb4.0, mpv3.6, 3C-2D, Error ellipse: s-maj=75.8km s-min=71.0km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.45**	**29**	P	Pn	09 10 15.7	+0.1
	SNR=38						
KK09	**Karatay Array**	**5.72**	**2**	⇑P	Pn	09 10 21.4	+2.4
	1.0nm,0.3s,baz=187,slow=13						
KK09				⇑S	Sn	09 11 25.5	+0.1
	2.0nm,0.4s,baz=170,slow=24						
UCH	**Uchtor**	**5.86**	**33**	P	Pn	09 10 20.8	-0.6
	SNR=9.9						
EKS2	**Erkin-Say**	**5.94**	**27**	P	Pn	09 10 22.6	+0.4
	SNR=8.7						
AAK	**Ala-Archa**	**6.19**	**31**	P	Pn	09 10 25.6	0.0
	SNR=7.9						
AAK	**Ala-Archa**	**6.19**	**31**	⇓P	Pn	09 10 25.1	-0.5
	2.9nm,0.5s						
AAK				S	Sn	09 11 40.6	+3.4
	5.2nm,0.5s						
USP	**Ospenovka**	**6.72**	**28**	P	Pn	09 10 32.0	-0.8
	SNR=7.3						
TKM2	**Tokmak 2**	**6.90**	**35**	P	Pn	09 10 33.8	-1.6
	SNR=10						
TKM2	**Tokmak 2**	**6.90**	**35**	⇓P	Pn	09 10 33.4	-2.0
	4.1nm,0.6s						
TKM2				⇑S	Sn	09 11 54.4	-0.3
	2.1nm,0.8s						

*NEIC **18** 09:19:49.0±2.0, 51°.38N±0°.08×174°.00W±0°.08, h22km±6km, mb4.2/95, ML3.9(AEIC), Error ellipse: s-maj=11.3km s-min=7.4km az=173.0*
*AEIC **18** 09:19:49±2.2, 51°.34N±0°.06×174°.09W±0°.06, h17km±4km, Error ellipse: s-maj=9.3km s-min=5.6km az=192.0*
*IDC **18** 09:19:52.2±0.8, 51°.39N×173°.99W, h52km±6km, mb3.7/23, mb1 3.9/25, mb1mx3.7/66, mbtmp4.0/25, MS3.7/6, Ms1 3.7/6, ms1mx3.1/102, Error ellipse: s-maj=22.0km s-min=9.9km az=2.0*

ISC 18 09:19:50.7±0.5, 51°.37N±0°.08×174°.00W±0°.04, h35km, n166, σ1°.07/163, mb4.2/44, MS3.6/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.84**	**352**		**Pn**	**09 20 05.3**	**-0.8**
ATKA					**Sn**	**09 20 18.7**	**+1.6**
KOFP	**Korovin Flat P**	**0.91**	**356**		**Pn**	**09 20 06.8**	**-0.2**
GSMY	**Great Sitkin M**	**1.44**	**298**		**Pn**	**09 20 12.8**	**-1.6**
GSTR	**Great Sitkin T**	**1.47**	**300**		**Pn**	**09 20 13.9**	**-0.8**
GSCK	**Great Sitkin C**	**1.49**	**296**		**Pn**	**09 20 13.6**	**-1.4**
GSTD	**Great Sitkin T**	**1.50**	**298**		**Pn**	**09 20 13.8**	**-1.3**
GSTD					**Sn**	**09 20 35.0**	**+1.4**
ADK	**Adak**	**1.75**	**288**		**Pn**	**09 20 17.3**	**-1.2**
ADK	**Adak**	**1.75**	**288**		**Sn**	**09 20 39.4**	**-0.2**
KIWB	**Kanaga Island**	**2.02**	**285**		**Pn**	**09 20 21.8**	**-0.5**
KIKV	**Kanaga Island**	**2.04**	**286**		**Pn**	**09 20 22.4**	**-0.1**
KIMD	**Kanaga Island**	**2.06**	**282**		**Pn**	**09 20 22.1**	**-0.6**
KICM	**Kanaga Island**	**2.06**	**287**		**Pn**	**09 20 23.1**	**+0.3**
TAPA	**Tanaga Point A**	**2.42**	**282**		**Pn**	**09 20 27.7**	**-0.1**
TAFP	**Tanaga Falls P**	**2.54**	**284**		**Pn**	**09 20 29.4**	**0.0**
TAFP					**Sn**	**09 21 00.3**	**+1.2**
TASE	**Tanaga Southea**	**2.56**	**282**		**Pn**	**09 20 30.1**	**+0.3**
NIKH	**Nikolski High**	**3.55**	**61**		**Pn**	**09 20 42.8**	**-0.5**
UNV	**Unalaska Valle**	**5.20**	**59**	Pn	**Pn**	**09 21 06.0**	**+0.2**
SHEM	**Shemya Is, Ala**	**7.46**	**285**	LR	LR	09 24 56.8	
	comp=Z,426nm,18.3s,baz=117,slow=41						
GAMB	**Gambell**	**12.50**	**5**	Pn	**Pn**	**09 22 44.4**	**-1.4**
KDAK	**Kodiak Island**	**13.94**	**54**	P	**Pn**	**09 23 01.7**	**-3.8**
	0.6nm,0.3s,baz=243,slow=4.5,SNR=13						
KDAK	**Kodiak Island**	**13.94**	**54**	Pn	**Pn**	**09 23 04.3**	**-1.2**
ANM	**Nome**	**13.98**	**16**	Pn	**Pn**	**09 23 06.4**	**+0.4**
N19K	**Bonanza Creek**	**14.36**	**41**	Pn	**Pn**	**09 23 10.4**	**-1.0**
TNA	**Tin City**	**14.57**	**10**	Pn	**Pn**	**09 23 13.4**	**-0.6**
L19K	**White Mountain**	**15.01**	**36**	Pn	**Pn**	**09 23 19.3**	**-0.6**
M19K	**Big River Lodg**	**15.01**	**38**	Pn	**Pn**	**09 23 20.8**	**+0.8**
M19K				IAmb	IAmb	09 23 42.6	
	comp=Z,8.9nm,0.8s						
TTA	**Tatalina**	**15.07**	**33**	Pn	**Pn**	**09 23 20.0**	**-0.8**
TTA				IAmb	IAmb	09 23 35.3	
	comp=Z,16nm,1.1s						
CNPM	**China Poot**	**15.21**	**49**	Pn	**Pn**	**09 23 21.0**	**-1.7**
BRLK	**Bradley Lake**	**15.47**	**48**	Pn	**Pn**	**09 23 25.7**	**-0.3**
K20K	**Telida**	**16.02**	**34**	Pn	**Pn**	**09 23 32.9**	**-0.2**
K20K				IAmb	IAmb	09 23 47.1	
	comp=Z,12nm,0.9s						
PPLA	**Purkeypile**	**16.43**	**37**	Pn	**Pn**	**09 23 37.5**	**-0.9**
PPLA				IAmb	IAmb	09 23 57.2	
	comp=Z,37nm,1.3s						
J20K	**Nowinta River**	**16.53**	**32**		**Pn**	**09 23 39.9**	**+0.4**
RC01	**Rabbit Creek A**	**16.53**	**45**	Pn	**Pn**	**09 23 38.0**	**-1.5**
RC01				IAmb	IAmb	09 24 07.5	
	comp=Z,32nm,1.1s						
CAST	**Castle Rocks**	**16.77**	**36**	Pn	**Pn**	**09 23 42.5**	**-0.1**
PMR	**Palmer**	**17.01**	**43**	Pn	**Pn**	**09 23 44.6**	**-1.0**
PWL	**Port Wells**	**17.06**	**46**	Pn	**Pn**	**09 23 44.1**	**-2.2**
PWL				IAmb	IAmb	09 23 52.7	
	comp=Z,38nm,1.4s						
GHO	**Glory Hole Cre**	**17.18**	**43**	Pn	**Pn**	**09 23 46.1**	**-1.7**
GHO				IAmb	IAmb	09 24 09.4	
	comp=Z,16nm,1.1s						
KNK	**Knik Glacier**	**17.23**	**44**	Pn	**Pn**	**09 23 46.5**	**-1.8**
KTH	**Kantishna Hill**	**17.27**	**36**	Pn	**Pn**	**09 23 46.0**	**-3.0**
KTH				IAmb	IAmb	09 24 03.9	
	comp=Z,21nm,1.2s						
PEA0B	**Petropavlovsk-**	**17.38**	**287**		**Pn**	**09 23 50.1**	**-0.1**
PEA0B				IAmb	IAmb	09 24 04.7	
	comp=Z,38nm,1.1s						
PETK	**Petropavlovsk-**	**17.38**	**287**	P	**Pn**	**09 23 49.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=79,slow=14,SNR=7.1						
PETK				LR	LR	09 29 47.3	
	comp=Z,130nm,19.6s,baz=86,slow=34						
SML	**Sawmill**	**17.45**	**43**	Pn	**Pn**	**09 23 50.2**	**-0.8**
SML				IAmb	IAmb	09 23 50.7	
	comp=Z,21nm,1.4s						
TRF	**Thorofare Moun**	**17.45**	**37**		**Pn**	**09 23 51.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**17.56**	**35**		**P**	**09 23 54.8**	**+1.5**
BPAW				IAmb	IAmb	09 24 08.9	
	comp=Z,21nm,1.1s						
SCM	**Sheep Creek Mo**	**17.89**	**44**		**Pn**	**09 23 55.4**	**-1.2**
SCM				IAmb	IAmb	09 24 19.4	
	comp=Z,34nm,1.2s						
I21K	**Tanana**	**17.89**	**31**		**Pn**	**09 23 55.4**	**-1.0**
IMAR	**Indian Mountai**	**17.90**	**27**		**Pn**	**09 23 56.4**	**-0.1**
H21K	**Melozitna Rive**	**17.95**	**29**		**Pn**	**09 23 56.5**	**-0.7**
H21K				IAmb	IAmb	09 24 21.3	
	comp=Z,23nm,1.4s						
MCK	**McKinley**	**18.12**	**37**	P	**Pn**	**09 23 57.9**	**-1.4**
BWN	**Browne**	**18.15**	**36**	P	**P**	**09 24 00.7**	**+0.9**
MLY	**Manley**	**18.21**	**32**	P	**P**	**09 24 01.1**	**+0.7**
MLY				IAmb	IAmb	09 24 12.0	
	comp=Z,18nm,1.2s						
KLU	**Klutina**	**18.38**	**46**	P	**P**	**09 24 00.4**	**-2.0**
KLU				IAmb	IAmb	09 24 14.9	
	comp=Z,20nm,1.4s						
DHY	**Denali Highway**	**18.41**	**40**	P	**P**	**09 24 00.4**	**-2.3**
M24K	**Tolsona, Glenn**	**18.50**	**44**	P	**P**	**09 24 01.4**	**-2.2**
M24K				IAmb	IAmb	09 24 27.7	
	comp=Z,22nm,0.9s						
NEA2	**Nenana**	**18.53**	**35**	P	**P**	**09 24 03.4**	**-0.5**
I23K	**Minto, Yukon-K**	**18.75**	**33**	P	**P**	**09 24 06.5**	**+0.3**
I23K				IAmb	IAmb	09 24 26.8	
	comp=Z,19nm,0.9s						
HMT	**Hamilton**	**18.80**	**50**	P	**P**	**09 24 04.9**	**-2.0**
WRH	**Wood River Hil**	**18.82**	**36**	P	**P**	**09 24 05.5**	**-1.5**
WRH				IAmb	IAmb	09 24 31.8	
	comp=Z,15nm,1.2s						
N25K	**Chitina, Valde**	**19.02**	**46**	P	**P**	**09 24 07.8**	**-1.5**
CCB	**Clear Creek Bu**	**19.02**	**36**	P	**P**	**09 24 08.5**	**-0.7**
MDM	**Murphy Dome**	**19.03**	**35**	P	**P**	**09 24 10.1**	**+0.7**
MDM				IAmb	IAmb	09 24 26.6	
	comp=Z,10nm,1.0s						
TCOL	**CIGO, UAF Yank**	**19.12**	**35**	P	**P**	**09 24 09.3**	**-1.0**
COLA	**College**	**19.12**	**35**	P	**P**	**09 24 09.4**	**-0.9**
PAX	**Paxson**	**19.14**	**42**	P	**Pn**	**09 24 12.1**	**+0.3**
HDA	**Harding Lake**	**19.21**	**37**	P	**P**	**09 24 10.6**	**-0.8**
HDA				IAmb	IAmb	09 24 17.6	
	comp=Z,33nm,1.4s						
BILL	**Bilibino**	**19.29**	**337**	P	**P**	**09 24 10.7**	**-1.4**
BILL				IAmb	IAmb	09 24 19.1	
	comp=Z,30nm,1.2s						
GLB	**Gilahina Butte**	**19.32**	**47**	P	**P**	**09 24 12.9**	**+0.2**
POKR	**Poker Plat Res**	**19.40**	**35**	P	**P**	**09 24 13.1**	**-0.4**
IL31		**19.42**	**36**	P	**P**	**09 24 10.2**	**-3.4**
IL31				IAmb	IAmb	09 24 36.7	
	comp=Z,12nm,1.1s						
ILAR	**Eielson Array**	**19.42**	**36**	P	**P**	**09 24 12.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=230,slow=9.5,SNR=22						
ILAR				LR	LR	09 32 28.0	
	comp=Z,204nm,20.2s,baz=258,slow=39						
ILAR	**Eielson Array**	**19.42**	**36**	P	**P**	**09 24 13.3**	**-0.3**
H24K	**Noodor Dome**	**19.65**	**33**	P	**P**	**09 24 16

H11N1	**WAKE ISLAND Hy**	**34.99**	**213**	T	T			10 04 59.1	
	baz=21,slow=75,SNR=12								
YBH	**Yreka Blue Hor**	**35.89**	**85**	P	**P**			**09 26 46.4**	**-1.0**
	comp=Z,2.8nm,1.1s,baz=331,slow=3.7,SNR=3.5								
YBH	**Yreka Blue Hor**	**35.89**	**85**	IAmb	IAmb			09 27 00.7	
	comp=Z,7.3nm,1.4s								
NEW	**Newport**	**36.05**	**72**	P	**P**			**09 26 48.4**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=164,slow=4.0,SNR=4.2								
EDM	**Edmonton**	**36.17**	**63**	P	**P**			**09 26 50.2**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**36.18**	**212**	T	T			10 06 08.3	
	baz=20,slow=75,SNR=11								
H11S2	**WAKE ISLAND Hy**	**36.19**	**212**	T	T			10 06 09.3	
	baz=20,slow=75,SNR=11								
H11S3	**WAKE ISLAND Hy**	**36.19**	**212**	T	T			10 06 15.4	
	baz=20,slow=75,SNR=6.8								
USA0B	**Ussuriysk Arra**	**36.27**	**280**	P	**P**			**09 26 50.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**36.27**	**280**	P	**P**			**09 26 49.2**	**-1.2**
	comp=Z,4.7nm,0.6s,baz=56,slow=7.3,SNR=7.8								
USRK	**Ussuriysk A.**	**36.27**	**280**	P	**P**			**09 26 50.4**	**0.0**
RES	**Resolute Bay**	**38.49**	**25**	PcP	**PcP**			**09 29 22.8**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=326,slow=4.3,SNR=4.9								
PAHR	**Pah Rah Range**	**39.12**	**85**	P	**P**			**09 27 15.8**	**+1.0**
PAHR				IAmb	IAmb			09 27 16.3	
	comp=Z,6.5nm,1.2s								
VCNR	**Virginia City**	**39.20**	**86**	P	**P**			**09 27 16.3**	**+0.8**
PNTR	**Pine Nut**	**39.35**	**86**	P	**P**			**09 27 17.7**	**+0.9**
PNTR				IAmb	IAmb			09 27 38.1	
	comp=Z,6.4nm,0.8s								
HRY	**Holter Researc**	**39.94**	**71**	P	**P**			**09 27 21.2**	**-0.2**
NVAR	**Mina Array Bea**	**40.56**	**86**	P	**P**			**09 27 27.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=297,slow=8.1,SNR=9.1								
NVAR	**Mina Array Bea**	**40.56**	**86**	P	**P**			**09 27 25.9**	**-0.9**
BOZ	**Bozeman (W)**	**40.63**	**73**	P	**P**			**09 27 27.1**	**-0.1**
YHH	**Holmes Hill**	**41.53**	**73**	P	**P**			**09 27 34.5**	**-0.3**
YHH				IAmb	IAmb			09 27 52.9	
	comp=Z,7.8nm,1.3s								
LCH	**Last Change Ra**	**41.70**	**87**	P	**P**			**09 27 37.0**	**+0.9**
KSRS	**Korea Array**	**42.64**	**274**	P	**P**			**09 27 44.8**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=56,slow=8.2,SNR=9.0								
TPNV	**Topopah Spring**	**42.75**	**86**	P	**P**			**09 27 45.2**	**+0.6**
DUG	**Dugway, Tooele**	**42.92**	**80**	P	**P**			**09 27 46.4**	**+0.4**
DUG				IAmb	IAmb			09 28 11.4	
	comp=Z,8.2nm,1.4s								
PRN	**Pahroc Range**	**43.22**	**85**	P	**P**			**09 27 48.3**	**-0.1**
PRN				IAmb	IAmb			09 28 14.7	
	comp=Z,5.8nm,0.9s								
BW06	**Boulder Array**	**43.42**	**75**	P	**P**			**09 27 50.2**	**+0.1**
BW06				IAmb	IAmb			09 28 15.4	
	comp=Z,6.1nm,1.1s								
PD31	**Pinedale Array**	**43.42**	**75**	P	**P**			**09 27 50.2**	**+0.1**
PD31				IAmb	IAmb			09 28 15.4	
	comp=Z,5.5nm,1.1s								
PDAR	**Pinedale Array**	**43.42**	**75**	P	**P**			**09 27 49.9**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=305,slow=5.2,SNR=11								
PDAR				pP	**sP**			**09 28 04.2**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=308,slow=4.9,SNR=7.0								
PDAR	**Pinedale Array**	**43.42**	**75**	P	**P**			**09 27 49.6**	**-0.5**
GSC	**Goldstone, Bar**	**43.45**	**89**	P	**P**			**09 27 50.4**	**+0.2**
GSC				IAmb	IAmb			09 28 17.9	
	comp=Z,4.3nm,0.9s								
PV13	**Radium Mtn., P**	**46.62**	**80**	P	**P**			**09 28 15.2**	**-0.3**
SDCO	**Great Sand Dun**	**48.92**	**78**	P	**P**			**09 28 33.6**	**+0.1**
SDCO				IAmb	IAmb			09 28 58.5	
	comp=Z,1.7nm,0.9s								
SONM	**Songino Array**	**49.31**	**299**	P	**P**			**09 28 36.3**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=52,slow=8.7,SNR=11								
SONM	**Songino Array**	**49.31**	**299**	P	**P**			**09 28 36.1**	**-0.1**
SONM				IAmb	IAmb			09 28 37.1	
	comp=Z,1.8nm,0.8s								
T25A	**Trinidad**	**49.98**	**78**	P	**P**			**09 28 41.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**55.67**	**85**	P	**P**			**09 29 22.6**	**-0.8**
TX32	**Lajitas Array**	**55.67**	**85**	P	**P**			**09 29 22.4**	**-1.1**
TX32				IAmb	IAmb			09 29 43.8	
	comp=Z,3.0nm,1.1s								
TXAR	**Lajitas Array**	**55.67**	**85**	P	**P**			**09 29 22.5**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=304,slow=6.0,SNR=9.0								
TXAR				pP	**sP**			**09 29 37.1**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=305,slow=4.4,SNR=5.8								
TXAR	**Lajitas Array**	**55.67**	**85**	P	**P**			**09 29 23.0**	**-0.4**
ABTX	**Abilene, Hawle**	**55.90**	**79**	P	**P**			**09 29 24.7**	**-0.2**
KURK	**Kurchatov**	**61.16**	**316**	P	**P**			**09 30 01.1**	**-0.1**
KURBB	**Kurchatov Arra**	**61.26**	**316**	P	**P**			**09 30 02.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=44,slow=6.8,SNR=7.2								
KURBB				pP	**sP**			**09 30 15.4**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=42,slow=6.7,SNR=7.7								
MKAR	**Makanchi Array**	**62.35**	**311**	P	**P**			**09 30 08.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=45,slow=5.6,SNR=5.5								
MKAR	**Makanchi Array**	**62.35**	**311**	P	**P**			**09 30 08.2**	**-1.2**
MAKZ	**Makanchi**	**62.49**	**311**	P	**P**			**09 30 11.3**	**+1.0**
MAKZ				IAmb	IAmb			09 30 17.4	
	comp=Z,2.1nm,0.8s								
L59A	**Walton**	**63.33**	**55**	P	**P**			**09 30 17.5**	**+1.5**
FINES	**FINESS Array B**	**66.39**	**350**	P	**P**			**09 30 34.4**	**-1.1**
NB2	**NORSAR Subarra**	**67.86**	**357**	P	**P**			**09 30 47.3**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=7.3,slow=6.5								
AAK	**Ala-Archa**	**69.13**	**313**	P	**P**			**09 30 52.2**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=275,slow=12,SNR=4.3								
AAK	**Ala-Archa**	**69.13**	**313**	IAmb	IAmb			09 30 55.8	
	comp=Z,3.5nm,1.1s								
AKTO	**Aktyubinsk**	**69.37**	**327**	P	**P**			**09 30 54.5**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=78,slow=11,SNR=4.9								
ABKAR	**Akbulak array**	**69.70**	**326**	P	**P**			**09 30 56.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.99**	**280**	P	**P**			**09 31 23.2**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=29,slow=7.5,SNR=7.1								
GUN	**Gumba**	**74.61**	**295**	*eP*	**P**			**09 31 27.2**	**+0.6**
	comp=Z,20nm,0.5s								
JIRN	**Jiri**	**74.63**	**295**	*eP*	**P**			**09 31 27.6**	**+0.8**
RAMN	**Ramite**	**74.94**	**294**	*eP*	**P**			**09 31 29.1**	**+0.7**
	comp=Z,8.2nm,0.4s								
DANN	**Dangsing**	**75.47**	**297**	*eP*	**P**			**09 31 32.3**	**+0.8**
	comp=Z,22nm,0.8s								
PYUN	**Piuthan**	**76.09**	**298**	*eP*	**P**			**09 31 35.4**	**+0.5**
	comp=Z,20nm,1.0s								
AKASG	**Malin Array Be**	**76.41**	**345**	P	**P**			**09 31 35.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=16,slow=5.3,SNR=2.5								
GERES	**GERESS Array B**	**79.37**	**355**	P	**P**			**09 31 55.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=4.3,SNR=7.1								
WRA	**Warramunga Arr**	**84.17**	**228**	P	**P**			**09 32 16.4**	**-1.7**
	comp=Z,1.1nm,0.9s,baz=31,slow=5.5,SNR=4.6								
ASAR	**Alice Springs**	**87.59**	**226**	P	**P**			**09 32 34.5**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=20,slow=5.0,SNR=8.4								

IDC 18 09:23:30.0±21.0, 24°24'S×179°73'E, h489^{km}±220^{km}, mb2.8/3, mb1 3.0/4, mb1mx2.8/35, mbtmp3.7/4, Error ellipse: s-maj=601.4km s-min=90.3km az=94.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.66**	**346**	P	P	09 25 12.6	0.0
	1.1nm,0.3s,baz=168,slow=6.2,SNR=15						
STKA	**Stephens Creek**	**34.37**	**249**	P	P	09 29 34.5	-0.9
	1.2nm,0.5s,baz=88,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**41.73**	**261**	P	P	09 30 35.8	0.0
	0.3nm,0.3s,baz=91,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**42.14**	**267**	P	P	09 30 39.2	+0.2
	0.7nm,0.6s,baz=100,slow=7.0,SNR=21						

*NNC **18** 09:30:54.1±3.7, 37.97N×72.55E, h0^{km}, mb4.3, mpv4.0, Error ellipse: s-maj=27.3km s-min=20.3km az=165.0*
*IDC **18** 09:31:13.5±12.0, 39.04N×72.84E, h124^{km}±67^{km}, mb2.9/2, mb1 3.0/7, mb1mx2.9/63, mbtmp3.4/7, MS1.9/1, Ms1 1.9/1, ms1mx1.9/25, Error ellipse: s-maj=138.6km s-min=41.0km az=9.0*

ISC 18 09:30:51.4±1.9, 37.7N±0.1×72.31E±0.09, h10^{km}, n22, σ1°38/24, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.82**	**339**	Pg	**Pb**	**09 32 17.2**	**+1.2**
	1μm,0.9s						
IUG				Lg	Lg	09 33 18.5	
	115nm,1.6s						
MRKS	**Merke**	**5.14**	**8**	Pg	**Pb**	**09 32 22.5**	**+1.1**
	18nm,0.4s						
MRKS				Lg	Lg	09 33 26.8	
	12nm,0.7s						
AAK	**Ala-Archa**	**5.26**	**18**	P	**Pn**	**09 32 10.9**	**+0.8**
	1.5nm,0.3s,baz=201,slow=10,SNR=9.4						
AAK				LR	LR	09 33 15.7	
	comp=Z,18nm,21.1s,baz=216,slow=32						
AAK	**Ala-Archa**	**5.26**	**18**	⇑Pn	**Pn**	**09 32 09.4**	**-0.8**
	12nm,0.6s,baz=171,slow=26						
AAK				⇓Sn	**Sn**	**09 33 13.4**	**+2.6**
	30nm,0.9s,baz=171,slow=26						
KK08	**Karatay Array**	**5.62**	**346**	⇑Pn	**Pn**	**09 32 15.8**	**+0.8**
	5.6nm,0.6s,baz=165,slow=14						
KK08				⇓Sn	**Sn**	**09 33 18.9**	**-0.8**
	5.0nm,0.5s,baz=147,slow=26						
KK08				⇑Lg	Lg	09 33 44.9	
	10nm,0.7s,baz=171,slow=26						
TKM2	**Tokmak 2**	**5.83**	**24**	⇑Pn	**Pn**	**09 32 17.1**	**-1.0**
	6.4nm,0.7s						
TKM2				⇑Lg	Lg	09 33 45.5	
	11nm,0.8s						
SGDS	**Sogindy**	**6.06**	**16**	Pg	**Pb**	**09 32 35.3**	**-1.8**
	9.3nm,1.3s						
SGDS				Lg	Lg	09 33 48.4	
	6.0nm,0.9s						
KST	**Kastek**	**6.07**	**26**	Pg	**Pb**	**09 32 37.8**	**+0.6**
	9.9nm,0.9s						
KST				Lg	Lg	09 33 53.0	
	12nm,0.9s						
IZV	**Izvestkoviy**	**6.30**	**30**	Pg	**Pb**	**09 32 41.5**	**+0.3**
	4.7nm,0.4s						
IZV				Lg	Lg	09 33 59.2	
	18nm,0.9s						
TNSS	**Tian-Shan**	**6.44**	**32**	Pg	**Pb**	**09 32 44.2**	**+0.4**
	5.8nm,0.5s						
TNSS				Lg	Lg	09 34 03.7	
	6.5nm,0.9s						
KRBS	**Karabastau**	**6.56**	**22**	Pg	**Pb**	**09 32 45.5**	**0.0**
	8.5nm,0.9s						
KRBS				Lg	Lg	09 34 06.0	
	5.5nm,0.9s						
KOTS	**Kotyrbulak**	**6.67**	**32**	Pg	**Pb**	**09 32 49.2**	**+1.7**
	5.6nm,0.7s						
KOTS				Lg	Lg	09 34 11.9	
	37nm,0.9s						
KTBS	**Karatobe**	**6.91**	**27**	Pg	**Pb**	**09 32 50.8**	**-0.7**
	3.9nm,0.4s						
KTBS				Lg	Lg	09 34 15.0	
	15nm,0.7s						
KUU	**Kurty**	**6.95**	**25**	Pg	**Pb**	**09 32 52.8**	**+0.7**
	4.2nm,0.9s						
KUU				Lg	Lg	09 34 18.4	
	11nm,1.0s						
MKAR	**Makanchi Array**	**11.75**	**36**	P	**Pn**	**09 33 38.1**	**-0.9**
	0.0nm,0.3s,baz=222,slow=16,SNR=3.7						
KURBB	**Kurchatov Arra**	**13.71**	**17**	P	**Pn**	**09 34 03.9**	**-1.8**
	0.0nm,0.3s,baz=207,slow=12,SNR=4.7						
AB31	**Akbulak array**	**14.65**	**326**	P	**Pn**	**09 34 17.1**	**-1.4**
	0.5nm,0.4s,baz=171,slow=26,SNR=29						
AKTO	**Aktyubinsk**	**16.36**	**326**	P	**P**	**09 34 44.5**	**+0.6**
	0.6nm,0.3s,baz=117,slow=13,SNR=7.1						
AKTO	**Aktyubinsk**	**16.36**	**326**	⇓P	**P**	**09 34 46.2**	**+2.2**
	3.5nm,0.8s,baz=171,slow=26						
ZALV	**Zalesovo Beam**	**18.44**	**24**	P	**Pn**	**09 35 04.0**	**-2.8**
	0.3nm,0.3s,baz=220,slow=13,SNR=1.7						
SONM	**Songino Array**	**26.82**	**57**	P	**P**	**09 36 32.5**	**+0.6**
	0.3nm,0.5s,baz=251,slow=9.0,SNR=2.1						
YKA	**Yellowknife Ar**	**80.05**	**3**	P	**P**	**09 43 01.1**	**+0.3**
	0.1nm,0.6s,baz=348,slow=5.5,SNR=2.4						

*NEIC **18** 09:38:07.0±1.6, 51.55N±0.01×173.54W±0.06, h10^{km}±1^{km}, mb5.1/522, ML4.8/5, ML4.4(AEIC), Error ellipse: s-maj=6.0km s-min=2.9km az=258.0*
*AEIC **18** 09:38:08±1.7, 51.47N±0.04×173.54W±0.06, h21^{km}±4^{km}, Error ellipse: s-maj=5.8km s-min=4.6km az=220.0*
*BJI **18** 09:38:09.9±0.0, 51.91N×173.74W, h40^{km}, mb4.9/58, mB5.1/41, Ms4.9/54, Ms7 4.6/52*
*MOS **18** 09:38:09.8±1.0, 51.67N×173.52W, h43^{km}, mb5.1/67, MS4.5/8, Error ellipse: s-maj=6.1km s-min=4.9km az=87.6*
*GCMT **18** 09:38:10.0±0.2, 51.47N±0.01×173.51W±0.02, h17^{km}, MW5.2/122, Moment Tensor Solution. s86,c121; s122,c200; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.86±.14; $M_{θθ}$-4.42±.11; $M_{φφ}$-0.44±.09; $M_{rθ}$4.28±.29; $M_{rφ}$-1.34±.07; $M_{θφ}$2.29±.27; Best double couple: M=6.85700×10^{16} NP1:φ=260.00000°, δ=23.00000°, λ=104.00000°. NP2:φ=65.00000°, δ=68.00000°, λ=84.00000°. Principal axes: T 6.9180, Plg67.0000°, Azm325.0000°; N -0.1250, Plg5.0000°, Azm67.0000°; P -6.7970, Plg22.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **18** 09:38:11.9±0.7, 51.65N×173.58W, h48^{km}±5^{km}, mb4.3/38, mb1 4.5/40, mb1mx4.4/61, mbtmp4.6/40, MS4.4/84, Ms1 4.4/84, ms1mx4.3/102 Error ellipse: s-maj=15.0km s-min=8.8km az=170.0*
*BGR **18** 09:38:16.5±0.0, 52.28N×175.98W, h33^{km}, mb5.3, Ms4.4*
ISC 18 09:38:10.1±0.6, 51.57N±0.03×173.59W±0.03, h34^{km}±1^{km}, h33^{km}: pP-P, n1091, σ1911/1043, mb5.1/348, MS4.5/111, 42C-10D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.74**	**329**		**Pn**	**09 38 24.4**	**+0.3**
ATKA					**Sb**	**09 38 35.0**	**+0.6**
KOFP	**Korovin Flat P**	**0.77**	**336**		**Pn**	**09 38 25.5**	**+0.9**
GSMY	**Great Sitkin M**	**1.60**	**288**		**Pn**	**09 38 36.3**	**+0.3**
GSTR	**Great Sitkin T**	**1.62**	**290**		**Pn**	**09 38 36.9**	**+0.6**
GSCK	**Great Sitkin C**	**1.66**	**286**		**Pn**	**09 38 37.0**	**+0.2**
GSTD	**Great Sitkin T**	**1.66**	**288**		**Pn**	**09 38 36.6**	**-0.2**
ADK	**Adak**	**1.95**	**280**	P	**Pn**	**09 38 41.2**	**+0.4**
ADK						09 39 07.1	
ADK	**Adak**	**1.95**	**280**		**Pn**	**09 38 41.2**	**+0.4**
ADK				IAML		09 39 18.6	
	6μm,0.7s						
KIWB	**Kanaga Island**	**2.23**	**279**		**Pn**	**09 38 45.3**	**+0.6**
KIKV	**Kanaga Island**	**2.25**	**279**		**Pn**	**09 38 45.9**	**+1.0**
KICM	**Kanaga Island**	**2.27**	**280**		**Pn**	**09 38 46.7**	**+1.5**
KIMD	**Kanaga Island**	**2.28**	**276**		**Pn**	**09 38 45.4**	**+0.1**
TAPA	**Tanaga Point A**	**2.64**	**277**		**Pn**	**09 38 51.4**	**+1.1**
TAFP	**Tanaga Falls P**	**2.75**	**279**		**Pn**	**09 38 53.3**	**+1.5**
TAFP					**Sn**	**09 39 27.1**	**+3.2**
TASE	**Tanaga Southea**	**2.78**	**277**		**Pn**	**09 38 53.8**	**+1.5**
GAEA	**Gareloi East**	**3.22**	**276**		**Pn**	**09 39 00.0**	**+1.8**
NIKH	**Nikolski High**	**3.23**	**62**		**Pn**	**09 38 58.6**	**+0.3**
NIKH	**Nikolski High**	**3.23**	**62**	P	**Pn**	**09 38 59.1**	**+0.7**
	baz=245						
UNV	**Unalaska Valle**	**4.87**	**59**	Pn	**Pn**	**09 39 22.0**	**+1.1**
UNV	**Unalaska Valle**	**4.87**	**59**	P	**Pn**	**09 39 22.1**	**+1.3**
	baz=244						
AKUT	**Akutan**	**5.39**	**58**	Pn	**Pn**	**09 39 27.7**	**-0.3**
AKUT				IAML		09 41 05.2	
	comp=N,420nm,1.9s						
SPIA	**Saint Paul Isl**	**5.95**	**18**	Pn	**Pn**	**09 39 37.6**	**+2.0**
SPIA	**Saint Paul Isl**	**5.95**	**18**	P	**Pn**	**09 39 37.8**	**+2.1**
	baz=200						
FALS	**False Pass**	**6.94**	**58**	Pn	**Pn**	**09 39 51.2**	**+2.0**
SMY	**Shemya**	**7.67**	**284**	P	**Pn**	**09 39 59.3**	**0.0**
SMY	**Shemya**	**7.67**	**284**	Pn	**Pn**	**09 39 59.2**	**0.0**
SDPT	**Sand Point**	**8.69**	**59**	Pn	**Pn**	**09 40 13.1**	**-0.1**
CHGN	**Chignik**	**10.12**	**56**	Pn	**Pn**	**09 40 32.4**	**-0.4**
GAMB	**Gambell**	**12.28**	**4**	Pn	**Pn**	**09 41 01.9**	**-0.4**
GAMB	**Gambell**	**12.28**	**4**	P	**Pn**	**09 41 04.7**	**+2.4**
	baz=186,SNR=29						
SII	**Sitkinak Islan**	**12.43**	**59**	Pn	**Pn**	**09 41 03.7**	**-0.7**
P18K	**Big Mountain,**	**12.99**	**46**	Pn	**Pn**	**09 41 11.7**	**-0.4**
P18K	**Big Mountain,**	**12.99**	**46**	P	**Pn**	**09 41 12.1**	**-0.1**
	baz=241						
OHAK	**Old Harbor**	**13.09**	**56**	P	**Pn**	**09 41 12.9**	**-0.4**
	baz=253						
Q19K	**Cape Douglas,**	**13.51**	**49**		**Pn**	**09 41 18.1**	**-1.1**
Q19K	**Cape Douglas,**	**13.51**	**49**	P	**Pn**	**09 41 18.9**	**-0.3**
	baz=245						
KDAK	**Kodiak Island**	**13.62**	**55**	P	**Pn**	**09 41 18.9**	**-1.7**
	comp=N,1.9nm,0.3s,baz=267,slow=8.2,SNR=19						
KDAK	**Kodiak Island**	**13.62**	**55**	P	**Pn**	**09 41 18.5**	**-2.1**
KDAK	**Kodiak Island**	**13.62**	**55**	Pn	**Pn**	**09 41 18.5**	**-2.1**
KDAK	**Kodiak Island**	**13.62**	**55**	P	**Pn**	**09 41 20.7**	**+0.1**
	baz=252						
ANM	**Nome**	**13.72**	**15**	P	**Pn**	**09 41 21.9**	**0.0**
ANM	**Nome**	**13.72**	**15**		**Pn**	**09 41 21.9**	**0.0**
ANM	**Nome**	**13.72**	**15**	P	**Pn**	**09 41 23.2**	**+1.3**
	baz=202,SNR=21						
SVW2	**Sparrevohn**	**13.76**	**39**		**Pn**	**09 41 22.4**	**-0.2**
O19K	**Port Alsworth**	**13.79**	**44**		**Pn**	**09 41 21.7**	**-1.3**
O19K	**Port Alsworth**	**13.79**	**44**	P	**Pn**	**09 41 25.4**	**+2.5**
	baz=240						
P19K	**Oil Pt**	**14.02**	**47**	Pn	**Pn**	**09 41 26.2**	**+0.2**
N19K	**Bonanza Creek**	**14.04**	**41**		**Pn**	**09 41 26.8**	**+0.3**
N19K	**Bonanza Creek**	**14.04**	**41**	P	**Pn**	**09 41 27.8**	**+1.3**
	baz=237						
TNA	**Tin City**	**14.33**	**10**	Pn	**Pn**	**09 41 31.6**	**+1.4**
TNA	**Tin City**	**14.33**	**10**	P	**Pn**	**09 41 31.8**	**+1.6**
	baz=194,SNR=19						
RSO	**Redoubt South**	**14.60**	**44**	Pn	**Pn**	**09 41 33.8**	**-0.3**
L19K	**White Mountain**	**14.69**	**36**		**Pn**	**09 41 34.5**	**-0.7**
L19K	**White Mountain**	**14.69**	**36**	P	**Pn**	**09 41 37.9**	**+2.7**
	baz=232						
M19K	**Big River Lodg**	**14.70**	**38**		**Pn**	**09 41 35.2**	**-0.2**
M19K	**Big River Lodg**	**14.70**	**38**	P	**Pn**	**09 41 37.3**	**+2.0**
	baz=234						
HOM	**Homer**	**14.75**	**48**	Pn	**Pn**	**09 41 36.0**	**+0.1**
HOM	**Homer**	**14.75**	**48**	P	**Pn**	**09 41 37.3**	**+1.3**
	baz=246						
TTA	**Tatalina**	**14.77**	**33**	P	**Pn**	**09 41 35.0**	**-1.3**
TTA	**Tatalina**	**14.77**	**33**		**Pn**	**09 41 35.0**	**-1.3**
TTA	**Tatalina**	**14.77**	**33**	P	**Pn**	**09 41 37.6**	**+1.4**
	baz=227,SNR=21						
CNPM	**China Poot**	**14.89**	**49**		**Pn**	**09 41 36.5**	**-1.3**
BRLK	**Bradley Lake**	**15.14**	**48**		**Pn**	**09 41 40.3**	**-1.0**
BRLK				IAmb	IAmb	09 42 08.3	
	comp=Z,69nm,1.2s						
SPCR	**Spurr Chakacha**	**15.19**	**42**	P	**Pn**	**09 41 43.0**	**+1.0**
	baz=240						
BRSE	**Bradley Lake S**	**15.20**	**49**	P	**Pn**	**09 41 42.2**	**+0.2**
	baz=247						
L20K	**Farewell, AK**	**15.23**	**37**	P	**Pn**	**09 41 43.6**	**+1.1**
	baz=233,SNR=8.4						
K20K	**Telida**	**15.71**	**34**		**Pn**	**09 41 48.9**	**+0.3**
K20K	**Telida**	**15.71**	**34**	P	**Pn**	**09 41 49.5**	**+0.8**
	baz=230						
GCSA	**Galena City Sc**	**15.80**	**27**	P	**Pn**	**09 41 48.1**	**-1.5**
	baz=221,SNR=5.7						
SEW	**Seward**	**15.94**	**48**	Pn	**Pn**	**09 41 49.8**	**-1.7**
SEW	**Seward**	**15.94**	**48**	P	**Pn**	**09 41 50.1**	**-1.4**
	baz=248						
PPLA	**Purkeypile**	**16.11**	**37**		**Pn**	**09 41 52.7**	**-1.2**
PPLA	**Purkeypile**	**16.11**	**37**	P	**Pn**	**09 41 54.0**	**+0.1**
	baz=235						
RC01	**Rabbit Creek A**	**16.21**	**45**	Pn	**Pn**	**09 41 54.9**	**-0.1**
RC01	**Rabbit Creek A**	**16.21**	**45**	P	**Pn**	**09 41 54.1**	**-0.8**
	baz=244						
J20K	**Nowinta River**	**16.23**	**31**	Pn	**Pn**	**09 41 55.5**	**+0.3**
J20K	**Nowinta River**	**16.23**	**31**	P	**Pn**	**09 41 55.1**	**0.0**
	baz=228,SNR=19						
CAST	**Castle Rocks**	**16.46**	**36**		**Pn**	**09 41 58.4**	**+0.3**
CAST	**Castle Rocks**	**16.46**	**36**	P	**Pn**	**09 41 59.0**	**+0.8**
	baz=234,SNR=15						
CUT	**Chulitna**	**16.60**	**40**	Pn	**Pn**	**09 41 60.0**	**+0.1**
CUT				IAmb	IAmb	09 42 23.6	
	comp=Z,200nm,1.4s						
CUT	**Chulitna**	**16.60**	**40**	P	**Pn**	**09 42 00.3**	**+0.5**
	baz=240						
CHUM	**Lake Minchumin**	**16.65**	**34**	P	**Pn**	**09 41 59.7**	**-0.9**
	baz=232,SNR=7.5						
PMR	**Palmer**	**16.69**	**44**	P	**Pn**	**09 41 59.2**	**-1.8**
PMR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PMR	**Palmer**	**16.69**	**44**	Pn	**Pn**	**09 41 59.2**	**-1.8**
PMR	**Palmer**	**16.69**	**44**	P	**Pn**	**09 42 00.2**	**-0.8**
	baz=244						
PWL	**Port Wells**	**16.74**	**46**	Pn	**Pn**	**09 41 59.2**	**-2.5**
PWL	**Port Wells**	**16.74**	**46**	P	**Pn**	**09 41 59.9**	**-1.8**
	baz=247						
GHO	**Glory Hole Cre**	**16.86**	**43**		**Pn**	**09 42 02.8**	**-0.4**
KNK	**Knik Glacier**	**16.90**	**45**		**Pn**	**09 42 02.4**	**-1.4**
KNK	**Knik Glacier**	**16.90**	**45**	P	**Pn**	**09 42 02.1**	**-1.7**
	baz=246						
KTH	**Kantishna Hill**	**16.96**	**

VRDI Verde Repeater 19.10 48 P P 09 42 28.9 -0.9
IL31 19.11 36 P P 09 42 27.8 -1.8
ILAR Eielson Array 19.11 36 P P 09 42 27.9 -1.7
comp=Z,6.3nm,0.3s,baz=230,slow=11,SNR=230
ILAR ScP **ScP 09 50 25.6 0.0**
comp=Z,0.0nm,0.3s,baz=288,slow=3.1,SNR=1.3
ILAR LR LR 09 50 35.4
comp=Z,2μm,18.1s,baz=242,slow=39
ILAR Eielson Array 19.11 36 P P 09 42 28.0 -1.7
WAX Waxell Ridge 19.18 50 P P 09 42 29.8 -0.8
WAX lAmb lAmb 09 42 55.3
comp=Z,97nm,1.0s
BILL Bilibino 19.20 337 *e*P **P 09 42 30.0 -0.7**
BILL pmax pmax
comp=Z,24nm,1.3s
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 19.20 337 P P 09 42 30.4 -0.3
TGL Tana Glacier 19.26 50 P P 09 42 31.2 -0.4
MCARA McCarthy VSAT 19.34 48 P P 09 42 32.2 -0.1
baz=253
H24K Noodor Dome 19.34 33 P P 09 42 32.9 +0.5
H24K lAmb lAmb 09 42 54.0
comp=Z,60nm,0.8s
H24K Noodor Dome 19.34 33 P P 09 42 32.4 +0.1
baz=235,SNR=51
RIDG Independent Ri 19.40 40 P P 09 42 32.3 -0.7
RIDG Independent Ri 19.40 40 P P 09 42 32.6 -0.4
baz=244,SNR=15
ISLE Juniper Island 19.46 50 lAmb lAmb 09 43 06.6
comp=Z,87nm,1.2s
COLD Coldfoot 19.49 28 P 09 42 32.5 -1.4
COLD Coldfoot 19.49 28 P Pn 09 42 34.9 -0.4
baz=228,SNR=8.6
MENT Mentasta 19.55 43 P P 09 42 33.5 -1.0
J25K Salcha River, 19.60 37 lAmb lAmb 09 42 35.7
comp=Z,86nm,0.6s
J25K Salcha River, 19.60 37 P P 09 42 33.6 -1.6
baz=241
L26K Log Cabin Wild 19.74 43 P P 09 42 36.0 -0.6
L26K Log Cabin Wild 19.74 43 P P 09 42 35.8 -0.8
baz=248,SNR=34
GRNC Granite Creek 19.77 50 P P 09 42 36.7 -0.5
GRNC lAmb lAmb 09 42 58.2
comp=Z,120nm,1.4s
SCRK Sand Creek 19.85 40 P P 09 42 37.2 -0.8
SCRK lAmb lAmb 09 42 51.6
comp=Z,41nm,0.5s
SCRK Sand Creek 19.85 40 P P 09 42 36.4 -1.5
baz=245,SNR=34
BARN Barnard Glacie 19.89 49 P P 09 42 38.2 -0.4
PRP Porcupine Dome 19.99 35 P P 09 42 39.2 -0.3
PRP Porcupine Dome 19.99 35 P P 09 42 37.4 -2.0
baz=239,SNR=18
TABL Table Mountain 20.00 51 P P 09 42 39.6 -0.2
TABL lAmb lAmb 09 43 01.5
comp=Z,77nm,0.9s
CTG Chitna Glacier 20.02 49 P P 09 42 39.3 -0.6
baz=256
CTGM Chitina Glacie 20.02 49 P P 09 42 39.8 -0.1
LOGN Logan Glacier 20.15 50 lAmb lAmb 09 43 06.0
comp=Z,93nm,1.1s
M27K Edge Creek, AK 20.15 45 P P 09 42 40.8 -0.4
M27K Edge Creek, AK 20.15 45 P P 09 42 40.5 -0.7
baz=252,SNR=8.0
J26L Joseph Creek 20.24 39 P P 09 42 41.1 -1.1
baz=244,SNR=154
PCA Pinnacle 20.37 52 P P 09 42 43.8 +0.3
PCA lAmb lAmb 09 42 47.3
comp=Z,63nm,0.6s
L27K Beaver Creek, 20.40 43 P P 09 42 44.6 +0.7
L27K Beaver Creek, 20.40 43 P P 09 42 44.5 +0.7
baz=255,SNR=19
BCAR Beaver Creek A 20.42 43 P P 09 42 43.7 -0.4
BVCY Beaver Creek 20.62 46 P P 09 42 46.1 -0.1
baz=253,SNR=10
YUK3 Moose Creek 20.63 48 P P 09 42 45.1 -1.4
baz=255
TOLK Toolik Lake Re 20.63 25 P P 09 42 46.8 +0.5
TOLK Toolik Lake Re 20.63 25 P P 09 42 46.7 +0.5
baz=226,SNR=14
FYU Fort Yukon 20.64 33 lAmb lAmb 09 43 08.0
comp=Z,189nm,1.4s
BCPM Bancas Point 20.66 53 P P 09 42 47.0 +0.5
BCPM lAmb lAmb 09 42 50.2
comp=Z,59nm,1.0s
PNL Peninsula 20.73 54 P P 09 42 46.1 -1.3
baz=262
A21K Barrow 21.25 15 P P 09 42 52.2 -0.7
A21K lAmb lAmb 09 43 11.9
comp=Z,100nm,1.4s
A21K Barrow 21.25 15 P P 09 42 52.6 -0.3
baz=210
EGAK Eagle 21.30 39 P P 09 42 52.5 -1.0
EGAK lAmb lAmb 09 42 56.9
comp=Z,88nm,0.7s
BMAR Burnt Mountain 21.33 31 P P 09 42 54.3 +0.4
SEY Seymchan 21.35 315 *e*P **P 09 42 53.5 -0.5**
comp=Z,2.7nm,0.6s,baz=101,slow=11,SNR=16
SEY LR LR 09 51 30.6
comp=Z,1μm,18.7s,baz=117,slow=38
SEY Seymchan 21.35 315 *e*P **P 09 42 54.9 +0.9**
SEY pmax pmax
comp=Z,19nm,1.5s
YUK4 Talbot Arm 21.38 49 P P 09 42 54.6 +0.1
baz=258
YUK6 Outpost Mounta 21.44 50 P P 09 42 54.3 -1.0
baz=260
MA2 Magadan 21.46 306 P P 09 42 54.7 -0.5
comp=Z,3.4nm,0.3s,baz=76,slow=8.2,SNR=14
MA2 LR LR 09 51 16.6
comp=Z,2μm,18.2s,baz=104,slow=37
MA2 Magadan 21.46 306 *e*P **P 09 42 55.8 +0.6**
MA2 Magadan 21.46 306 P P 09 42 54.7 -0.5
DAWY Dawson 21.76 42 P P 09 42 57.8 -0.6
DAWY Dawson 21.76 42 P P 09 42 57.6 -0.8
baz=251,SNR=17
HYT Haines Junctio 21.84 51 P P 09 42 58.6 -0.8
HYT Haines Junctio 21.84 51 P P 09 42 59.0 -0.3
baz=261,SNR=7.7
J29M Klondike Camp 22.37 41 P P 09 43 04.4 -0.6
baz=252,SNR=11
M30M Minto, Yukon 22.49 46 P P 09 43 06.8 +0.5
M30M Minto, Yukon 22.49 46 P P 09 43 05.8 -0.5
baz=258
I29M Ogilvie Camp, 22.64 39 P P 09 43 06.1 -1.8
I29M lAmb lAmb 09 43 30.6
comp=Z,35nm,0.8s
I29M Ogilvie Camp, 22.64 39 P P 09 43 06.3 -1.5
baz=249
SIT Sitka 22.76 61 P P 09 43 09.5 +0.4
SIT pmax pmax
comp=Z,90nm,1.2s
SIT Sitka 22.76 61 P P 09 43 09.5 +0.4
SIT lAmb lAmb 09 43 24.9
comp=Z,90nm,1.2s
SIT Sitka 22.76 61 P P 09 43 09.6 +0.4
baz=272
SKAG Skagway 22.77 55 P P 09 43 09.3 0.0
SKAG lAmb lAmb 09 43 38.6
comp=Z,54nm,0.9s
SKAG Skagway 22.77 55 P P 09 43 08.5 -0.7
baz=266,SNR=8.5
BESE Bessie Mountai 22.99 57 P P 09 43 12.0 +0.4
WHY Whitehorse 23.09 52 P P 09 43 10.7 -2.0
baz=264
JIS Juneau Island 23.23 58 P P 09 43 14.8 +0.9
JIS lAmb lAmb 09 43 38.5
comp=Z,29nm,0.8s
M31M Drury Creek, Y 23.52 48 P P 09 43 17.7 +0.9
M31M Drury Creek, Y 23.52 48 P P 09 43 16.3 -0.5
baz=261
EPYK Eagle Plains 23.61 37 lAmb lAmb 09 43 36.9
comp=Z,42nm,1.0s
EPYK Eagle Plains 23.61 37 P P 09 43 16.1 -1.5
baz=249,SNR=14
P33M Teslin, Yukon 24.08 53 P P 09 43 21.6 -0.5
baz=267,SNR=6.7
WRAK Wrangell Islan 24.44 62 lAmb lAmb 09 43 51.1
comp=Z,38nm,1.1s
WRAK Wrangell Islan 24.44 62 P P 09 43 24.4 -0.9
baz=276
MMPY Sheldon Lake, 25.02 47 P P 09 43 30.3 -0.3
baz=263,SNR=9.1
INK Inuvik 25.45 34 P P 09 43 34.1 -0.3
comp=Z,18nm,0.9s,baz=241,slow=8.2,SNR=76

INK Inuvik 25.45 34 P P 09 43 33.8 -0.6
INK pmax pmax
comp=Z,26nm,0.9s
INK Inuvik 25.45 34 P P 09 43 33.8 -0.6
INK lAmb lAmb 09 43 55.1
comp=Z,26nm,0.9s
INK Inuvik 25.45 34 P P 09 43 33.6 -0.8
baz=249,SNR=41
DLBC Dease Lake 25.52 57 P P 09 43 35.6 +0.3
comp=Z,29nm,1.0s,baz=244,slow=7.3,SNR=36
DLBC LR LR 09 54 03.0
comp=Z,1μm,19.2s,baz=288,slow=37
DLBC Dease Lake 25.52 57 P P 09 43 37.1 +1.9
DLBC lAmb lAmb 09 43 51.3
comp=Z,49nm,1.2s
RUBB Prince Rupert 25.95 67 lAmb lAmb 09 44 01.6
comp=Z,30nm,1.1s
GRNB Grenville Isla 26.22 68 P P 09 43 41.9 +0.3
GRNB lAmb lAmb 09 44 09.6
comp=Z,53nm,1.2s
TGTN Hyland Airport 26.35 50 P P 09 43 41.9 -0.8
baz=268,SNR=15
TYV Tymovskoe 27.12 286 *e*P **P 09 43 51.3 +1.7**
TYV *e*S **S 09 48 30.4 +5.0**
TYV pmax pmax
comp=Z,7.0nm,0.6s
TYV pmax pmax
comp=Z,200nm,4.0s
TYV smax smax
comp=N,400nm,4.6s
TYV smax smax
comp=E,200nm,4.6s
BBB Bella Bella 27.73 71 P P 09 43 55.1 +0.1
comp=E,18nm,1.0s,baz=79,slow=9.3,SNR=3.2
BBB LR LR 09 53 32.5
comp=E,531nm,19.9s,baz=286,slow=33
BBB Bella Bella 27.73 71 lAmb lAmb 09 43 59.8
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 28.54 278 *e*P **P 09 44 03.6 +1.3**
YSS *e*S **S 09 48 46.6 -1.2**
YSS *e*SS **SS 09 50 37.9 -11**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.4s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=E,500nm,14.0s
YSS Yuzh-Sakhalins 28.54 278 P P 09 44 02.1 -0.1
YSS lAmb lAmb 09 44 05.3
comp=Z,37nm,1.1s
C36M Paulatuk 29.04 34 P P 09 44 06.4 -0.1
C36M Paulatuk 29.04 34 P P 09 44 05.6 -0.9
baz=258,SNR=10
A36M Sachs Harbour 29.35 28 P P 09 44 09.7 +0.4
A36M Sachs Harbour 29.35 28 P P 09 44 09.2 0.0
baz=252,SNR=10
JKA Kamikawa-asahi 29.96 273 P P 09 44 15.6 +0.6
JKA lAmb lAmb 09 44 35.1
comp=Z,38nm,1.2s
ASAJ Asahikawa 29.96 273 P P 09 44 15.5 +0.5
comp=Z,16nm,0.8s,baz=57,slow=3.7,SNR=8.4
ASAJ LR LR 09 56 07.1
comp=Z,510nm,20.6s,baz=93,slow=36
ERM Erimo 30.71 269⇓ *e*P **P 09 44 23.0 +1.4**
ERM pmax pmax
comp=Z,31nm,1.5s
YAK Yakutsk 31.74 311 LR LR 09 57 48.1
comp=Z,2μm,18.2s,baz=95,slow=37
LLLB Lilloet 31.94 71 lAmb lAmb 09 44 54.9
comp=Z,17nm,1.0s
TIXI Tiksi 32.09 330 P P 09 44 32.8 -0.6
comp=Z,2.0nm,0.5s,baz=90,slow=23,SNR=6.8
TIXI LR LR 09 59 12.3
comp=Z,630nm,18.1s,baz=178,slow=39
TIXI Tiksi 32.09 330⇓ *e*P **P 09 44 33.2 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 32.09 330 P P 09 44 33.2 -0.2
D03D Eldon 32.48 77 P P 09 44 37.1 0.0
baz=296
E03A Lebam 32.63 79 P P 09 44 39.1 +0.7
E03A lAmb lAmb 09 44 53.6
comp=Z,56nm,1.2s
JTM Tenmabayashi 32.70 269 P P 09 44 41.8 +2.7
JTM lAmb lAmb 09 45 08.8
comp=Z,18nm,1.1s
YKA Yellowknife Ar 32.72 47 P P 09 44 38.9 -0.2
comp=Z,3.8nm,0.5s,baz=274,slow=7.9,SNR=103
YKA PcP **PcP 09 47 24.1 +0.4**
comp=Z,1.2nm,0.6s,baz=288,slow=3.2,SNR=4.9
YKA pScP 09 51 12.9
comp=Z,0.5nm,0.6s,baz=289,slow=3.3,SNR=5.3
YKA LR LR 09 59 38.1
comp=Z,1μm,18.3s,baz=278,slow=39
YKA Yellowknife Ar 32.72 47 P P 09 44 38.5 -0.5
YKA 09 47 24.1
YKA Yellowknife Ar 32.72 47 P P 09 44 38.5 -0.5
B05A Bryant 32.76 75 P P 09 44 39.1 -0.4
baz=295
E04D Cinebar 33.24 78 P P 09 44 43.8 0.0
baz=298
D05A Enumclaw 33.30 77 P P 09 44 46.0 +1.7
F04A Amboy 33.62 79 P P 09 44 48.0 +0.9
F04A lAmb lAmb 09 45 09.9
comp=Z,25nm,1.1s
LTY Liberty 34.07 76 P P 09 44 51.5 +0.4
KLR Kul'dur 34.24 288 P P 09 44 52.0 -0.4
comp=Z,6.7nm,0.5s,baz=72,slow=9.5
KLR LR LR 09 58 50.9
comp=Z,684nm,20.4s,baz=71,slow=36
KLR Kul'dur 34.24 288 P P 09 44 52.0 -0.4
B08A Colville Reser 34.38 73 P P 09 44 53.0 -0.7
B08A lAmb lAmb 09 45 09.1
comp=Z,34nm,1.2s
H04A Detroit Lake 34.38 81 P P 09 44 54.6 +0.9
H04A lAmb lAmb 09 45 09.3
comp=Z,52nm,1.1s
K02D Willamette Mer 34.50 85 P P 09 44 56.1 +1.2
baz=302
DBO Dodson Butte 34.53 84 P P 09 44 55.0 -0.1
DBO lAmb lAmb 09 45 21.8
comp=Z,55nm,1.5s
G05D Wamic, OR 34.63 79 P P 09 44 57.1 +1.2
baz=300
I04A Tendick Farm, 34.70 82 P P 09 44 57.7 +1.2
baz=301
L02E Cave Junction 34.83 86 P P 09 44 59.4 +1.8
baz=303
E07A Sunnyside 34.89 77 P P 09 44 57.6 -0.5
E07A lAmb lAmb 09 45 12.9
comp=Z,34nm,1.5s
ZEA Zeya 35.06 297 *e*P **P 09 44 58.9 -0.5**
ZEA *e*S **S 09 50 29.7 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA smax smax
comp=E,100nm,7.2s
ZEA MLR MLR
comp=E,400nm,17.0s
ZEA MLR MLR
comp=N,400nm,19.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
I05D Terrebonne, OR 35.08 81 P P 09 45 00.9 +1.2
baz=301
F07A Phinny Hill Vi 35.16 78 P P 09 45 00.5 +0.1
F07A lAmb lAmb 09 45 15.9
comp=Z,49nm,1.4s
HAWA Hanford 35.16 77 P P 09 45 00.2 -0.2
HAWA lAmb lAmb 09 45 15.1
comp=Z,16nm,0.9s
J04D Umpqua Nationa 35.17 83 P P 09 45 02.0 +1.2
J04D Umpqua Nationa 35.17 83 P P 09 45 02.2 +1.4
baz=302
D08A Wollman Farm, 35.22 75 P P 09 45 01.0 +0.1
C09A Chrisman Ranch 35.26 74 P P 09 45 01.3 +0.1
C09A lAmb lAmb 09 45 16.3
comp=Z,29nm,1.1s
H11N2 WAKE ISLAND Hy 35.28 213 T T 10 23 14.1
baz=21,slow=76,SNR=62
H11N3 WAKE ISLAND Hy 35.29 213 T T 10 23 02.7
baz=21,slow=76,SNR=72
H11N1 WAKE ISLAND Hy 35.30 213 T T 10 23 00.9
baz=21,slow=76,SNR=81

E08A Dider Farm, El 35.40 76 P P 09 45 02.8 +0.4
E08A lAmb lAmb 09 45 17.7
comp=Z,34nm,1.4s
KHMM Horse Mountain 35.47 88 P P 09 45 04.5 +1.3
KHMM lAmb lAmb 09 45 20.7
comp=Z,50nm,1.1s
L04D Klamath Falls 35.60 85 P P 09 45 04.2 -0.2
L04D lAmb lAmb 09 45 20.2
comp=Z,78nm,1.4s
L04D Klamath Falls 35.60 85 P P 09 45 05.2 +0.8
baz=303
PINE Pine Mountain 35.60 81 P P 09 45 04.2 -0.3
PINE lAmb lAmb 09 45 20.6
comp=Z,52nm,1.2s
YBH Yreka Blue Hor 35.62 86 LR LR 09 58 11.8
comp=Z,357nm,18.0s,baz=310,slow=34
YBH Yreka Blue Hor 35.62 86 P P 09 45 05.3 +0.8
YBH pmax pmax
comp=Z,36nm,1.5s
YBH Yreka Blue Hor 35.62 86 P P 09 45 05.3 +0.8
YBH lAmb lAmb 09 45 20.1
comp=Z,36nm,1.5s
J05D Fort Rock, OR 35.69 82 P P 09 45 06.2 +1.0
baz=302,SNR=5.4
M02C Callahan 35.72 86 P P 09 45 06.2 +0.8
M02C lAmb lAmb 09 45 21.8
comp=Z,40nm,1.2s
M02C Callahan 35.72 86 P P 09 45 06.9 +1.5
baz=304
NEW Newport 35.74 72 LR LR 09 59 42.0
comp=Z,475nm,18.3s,baz=304,slow=36
NEW Newport 35.74 72 P P 09 45 06.3 +0.9
NEW pmax pmax
comp=Z,34nm,1.3s
NEW Newport 35.74 72 P P 09 45 06.3 +0.9
NEW lAmb lAmb 09 45 20.5
comp=Z,34nm,1.2s
NEW Newport 35.74 72 P P 09 45 05.5 +0.1
baz=297,SNR=12
EDM Edmonton 35.84 63 P P 09 45 07.4 +1.1
EDM pmax pmax
comp=Z,148nm,1.5s
EDM Edmonton 35.84 63 P P 09 45 07.4 +1.1
KMRM Mail Ridge 35.85 88 P P 09 45 07.6 +1.1
KMRM lAmb lAmb 09 45 24.6
comp=Z,24nm,0.9s
E09A Wood Farm, Sta 35.95 76 P P 09 45 08.4 +1.2
E09A lAmb lAmb 09 45 21.4
comp=Z,23nm,1.1s
N02D Trinity Center 36.05 87 P P 09 45 09.3 +1.1
N02D lAmb lAmb 09 45 24.4
comp=Z,30nm,1.1s
N02D Trinity Center 36.05 87 P P 09 45 09.2 +1.0
baz=305
G08A Pilot Rock 36.05 78 P P 09 45 08.6 +0.3
M04C Macdoel 36.13 85 P P 09 45 09.8 +0.9
M04C lAmb lAmb 09 45 24.9
comp=Z,51nm,1.1s
M04C Macdoel 36.13 85 P P 09 45 09.4 +0.4
baz=304,SNR=6.8
K05A Summer Lake 36.20 83 P P 09 45 08.8 -0.8
I07A Izee 36.34 80 lAmb lAmb 09 45 26.2
comp=Z,20nm,1.1s
WDC Whiskeytown Da 36.38 87 P P 09 45 10.3 -0.6
WDC pmax pmax
comp=Z,27nm,1.0s
WDC Whiskeytown Da 36.38 87 P P 09 45 10.3 -0.6
WDC lAmb lAmb 09 45 27.9
comp=Z,27nm,1.0s
O02D Mt. Diablo Mer 36.45 88 lAmb lAmb 09 45 29.1
comp=Z,38nm,1.0s
O02D Mt. Diablo Mer 36.45 88 P P 09 45 11.7 +0.1
baz=306,SNR=9.3
H11S1 WAKE ISLAND Hy 36.48 213 T T 10 24 24.9
baz=20,slow=76,SNR=230
USA0B Ussuriysk Arra 36.49 280 P P 09 45 11.8 0.0
USA0B pmax pmax
comp=Z,14nm,0.6s
USA0B Ussuriysk Arra 36.49 280 P P 09 45 11.8 0.0
USA0B lAmb lAmb 09 45 13.4
comp=Z,14nm,0.6s
USRK Ussuriysk Ar. 36.49 280 P P 09 45 11.9 +0.1
comp=Z,14nm,0.6s,baz=56,slow=9.0,SNR=27
USRK pP **pwP 09 45 25.4 -0.1**
comp=Z,7.7nm,0.6s,baz=54,slow=9.8,SNR=4.8
USRK LR LR 10 00 34.7
comp=Z,732nm,20.4s,baz=57,slow=37
USRK Ussuriysk Ar. 36.49 280 P P 09 45 11.4 -0.4
H11S2 WAKE ISLAND Hy 36.50 213 T T 10 24 34.7
baz=20,slow=76,SNR=65
H11S3 WAKE ISLAND Hy 36.50 213 T T 10 24 22.0
baz=20,slow=76,SNR=31
F10A Beach Ranch, E 36.77 76 P P 09 45 14.5 +0.2
O03E Paynes Creek 37.00 87 P P 09 45 16.4 +0.1
O03E Paynes Creek 37.00 87 P P 09 45 16.8 +0.5
baz=305,SNR=8.3
MOD Modoc Plateau 37.02 84 P P 09 45 15.9 -0.7
MOD lAmb lAmb 09 45 32.9
comp=Z,59nm,1.3s
MAJO Matsushiro 37.04 265⇓ *e*P **P 09 45 17.7 +1.1**
MAJO pmax pmax
comp=Z,11nm,1.1s
MAJO Matsushiro 37.04 265 P P 09 45 17.3 +0.7
MJAR Matsushiro Arr 37.04 265 P P 09 45 16.9 +0.3
comp=Z,1.9nm,0.5s,baz=50,slow=7.3,SNR=7.4
MJAR LR LR 09 59 21.8
comp=Z,581nm,20.3s,baz=52,slow=34
MJAR Matsushiro Arr 37.04 265 P P 09 45 15.8 -0.8
MJAR pmax pmax
comp=Z,13nm,1.5s
MJAR Matsushiro Arr 37.04 265 P P 09 45 15.8 -0.8
MJB9 Matsu-Tunnel 37.04 265 P P 09 45 17.3 +0.7
VLA Vladivostok 37.12 279⇑ *i*P **P 09 45 17.8 +0.6**
VLA pmax pmax
comp=Z,126nm,1.7s
GDXM Geysers 37.26 90 lAmb lAmb 09 45 36.2
comp=Z,39nm,1.1s
WALA Waterton Lakes 37.27 70 P P 09 45 19.3 +0.7
WALA lAmb lAmb 09 45 33.1
comp=Z,61nm,1.5s
J08A Circle Bar Ran 37.35 80 P P 09 45 19.3 -0.1
ORV Oroville 37.62 88 P P 09 45 21.7 +0.2
ORV pmax pmax
comp=Z,21nm,1.4s
ORV Oroville 37.62 88 P P 09 45 21.7 +0.2
JTMT Jette 37.67 72 P P 09 45 22.1 +0.2
JTMT lAmb lAmb 09 45 37.0
comp=Z,41nm,1.3s
MDJ Mudanjiang 37.74 282 P P 09 45 25.9 +3.5
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,190nm,5.0s
MDJ LR LR
comp=Z,700nm,16.7s
MDJ LR LR
comp=Z,1μm,16.7s
MDJ LR LR
comp=Z,1μm,20.1s
WVOR Wild Horse Val 37.76 82 lAmb lAmb 09 45 38.3
comp=Z,27nm,1.2s
MSHR Mys Shultsa 37.87 279⇑ *i*P **P 09 45 24.3 +0.8**
MSHR pmax pmax
comp=Z,14nm,0.6s
PLID Pearl Lake 37.96 76 P P 09 45 24.2 -0.4
BEKR Beckworth 38.15 86 P P 09 45 26.8 +0.7
RES Resolute Bay 38.21 25 PcP **PcP 09 47 40.1 +0.4**
comp=Z,2.8nm,0.6s,baz=172,slow=1.1,SNR=4.3
RES LR LR 10 05 20.5
comp=Z,832nm,18.5s,baz=271,slow=43
MSO Missoula 38.32 73 P P 09 45 28.1 +0.7
MSO lAmb lAmb 09 45 43.5
comp=Z,55nm,1.4s
MSO Missoula 38.32 73 P P 09 45 27.2 -0.2
baz=300,SNR=14
JHJ Hachijo jima 2 38.32 260 LR LR 09 58 43.0
comp=Z,238nm,21.8s,baz=68,slow=32
BNX BinXian 38.48 285⇑ **P P 09 45 28.5 -0.2**
BNX pmax pmax
comp=Z,15nm,0.7s
BNX pmax pmax
comp=Z,200nm,3.7s
MPK Martis Peak 38.69 87 P P 09 45 30.6 -0.3
MPK lAmb lAmb 09 45 47.5
comp=Z,75nm,1.2s
RUBR Rubicon Trail 38.76 87 P P 09 45 30.7 -0.6

RUBR IAmb IAmb 09 45 55.2
comp=Z,31nm,1.1s
PAHR Pah Rah Range 38.85 86 P P 09 45 33.1 +1.1
PAHR IAmb IAmb 09 45 48.0
comp=Z,63nm,1.3s
VCNR Virginia City 38.93 87 P P 09 45 33.8 +1.1
VCNR IAmb IAmb 09 45 49.0
comp=Z,54nm,1.2s
MFID Camas Ranch 38.95 79 P P 09 45 33.3 +0.6
PNTR Pine Nut 39.08 87 P P 09 45 34.5 +0.5
PNTR IAmb IAmb 09 45 50.3
comp=Z,121nm,1.5s
EUNU Eureka 39.21 16 P P 09 45 35.3 +0.9
CMB Columbia Colle 39.23 89 P P 09 45 35.9 +0.8
CMB pmax pmax
comp=Z,33nm,1.4s
CMB Columbia Colle 39.23 89 P P 09 45 35.9 +0.8
YERR Yerington 39.37 87 P P 09 45 36.8 +0.4
YERR IAmb IAmb 09 45 52.5
comp=Z,42nm,1.3s
HRY Holter Researc 39.63 72 P P 09 45 38.7 +0.3
LRM Limekiln Ridge 39.72 73 P P 09 45 38.9 -0.4
HLID Hailey 39.73 78 P P 09 45 40.0 +0.6
HLID Hailey 39.73 78 P P 09 45 39.1 -0.2
baz=303,SNR=7.0
BMN Battle Mountai 39.77 83 P P 09 45 40.1 +0.4
BMN pmax pmax
comp=Z,22nm,1.2s
BMN Battle Mountai 39.77 83 P P 09 45 40.1 +0.4
MCMT McKenzie Canyo 40.00 75 P P 09 45 42.2 +0.6
RYN Ryan 40.03 87 P P 09 45 41.9 0.0
EGMT Eagleton 40.19 69 P P 09 45 42.9 -0.1
EGMT IAmb IAmb 09 45 59.4
comp=Z,117nm,1.4s
EGMT Eagleton 40.19 69 P P 09 45 42.5 -0.5
baz=300,SNR=27
LHV Little Huntoon 40.27 87 P P 09 45 44.8 +1.1
LHV IAmb IAmb 09 46 00.9
comp=Z,51nm,1.3s
NVAR Mina Array Bea 40.29 87 P P 09 45 44.6 +0.6
comp=Z,4.4nm,0.9s,baz=294,slow=7.9,SNR=23
NVAR LR LR 10 01 14.4
comp=Z,354nm,19.2s,baz=301,slow=34
NVAR Mina Array Bea 40.29 87 P P 09 45 44.1 +0.1
BOZ Bozeman (W) 40.33 73 P P 09 45 44.6 +0.4
BOZ pmax pmax
comp=Z,23nm,1.1s
BOZ Bozeman (W) 40.33 73 P P 09 45 44.6 +0.4
BOZ Bozeman (W) 40.33 73 P P 09 45 43.6 -0.6
baz=302,SNR=24
OMMB Old Mammoth Mi 40.35 88 P P 09 45 44.4 -0.3
OMMB IAmb IAmb 09 46 02.2
comp=Z,31nm,1.2s
NV11 Mina Array Sit 40.38 87 P P 09 45 45.2 +0.4
BOD Bodaibo 40.45 308 *e*P P 09 45 45.0 +0.1
BOD pmax pmax
comp=Z,13nm,1.7s
CN2 Changchun 40.69 284 *e*P P 09 45 44.0 -3.1
CN2 *e*PP PP **09 47 21.9 +1.0**
CN2 S S **09 51 50.3 -4.5**
CN2 sS sS 09 52 10.8 -0.1
CN2 SS SS **09 54 46.5 -9.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,820nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
PAGB Antelope Grade 40.76 91 P P 09 45 47.8 0.0
PAGB IAmb IAmb 09 46 04.3
comp=Z,23nm,0.9s
ELK Elko 40.81 82 LR LR 10 02 49.2
comp=Z,795nm,18.1s,baz=314,slow=36
QLMT Earthquake Lak 40.85 74 P P 09 45 48.4 -0.2
YHL Hebgen Lake 40.99 74 P P 09 45 49.7 -0.2
TPH Tonopah 41.18 86 P P 09 45 52.3 +0.9
TPH pmax pmax
comp=Z,141nm,1.2s
TPH Tonopah 41.18 86 P P 09 45 52.3 +0.9
SMMC Simmler 41.19 92 P P 09 45 52.0 +0.7
baz=310
HIA Hailar 41.21 294 P P 09 45 51.1 -0.2
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 41.21 294 P P 09 45 51.1 -0.2
YMR Madison River 41.22 74 P P 09 45 51.2 -0.5
YMR IAmb IAmb 09 46 07.3
comp=Z,45nm,1.4s
YHH Holmes Hill 41.22 74 IAmb IAmb 09 46 07.2
comp=Z,38nm,1.2s
FFC Flin Flon 41.35 56 P P 09 45 52.5 +0.2
FFC pmax pmax
comp=Z,14nm,0.7s
FFC Flin Flon 41.35 56 P P 09 45 52.5 +0.2
YNR Norris Junctio 41.36 74 IAmb IAmb 09 46 09.0
comp=Z,45nm,1.2s
GCMT Greycliff 41.39 72 P P 09 45 52.6 -0.4
VES Vestal, Richgr 41.41 90 P P 09 45 53.5 +0.4
baz=310
LCH Last Change Ra 41.44 88 P P 09 45 54.4 +1.0
LCH IAmb IAmb 09 46 09.4
comp=Z,39nm,1.4s
YUF Upper Falls 41.47 74 P P 09 45 53.3 -0.4
YUF IAmb IAmb 09 46 14.7
comp=Z,42nm,1.4s
H17A Grant Village 41.60 74 P P 09 45 55.3 +0.4
H17A IAmb IAmb 09 46 11.2
comp=Z,46nm,1.4s
H17A Grant Village 41.60 74 P P 09 45 55.3 +0.4
baz=303,SNR=12
LKWY Lake 41.61 74 P P 09 45 53.9 -1.1
LKWY pmax pmax
comp=Z,35nm,1.4s
LKWY Lake 41.61 74 P P 09 45 53.9 -1.1
LKWY IAmb IAmb 09 46 22.9
comp=Z,34nm,1.4s
CWC Cottonwood Cre 41.66 89 P P 09 45 55.9 +0.6
baz=309
YMP Mirror Lake Pl 41.66 74 P P 09 45 55.6 +0.2
YMP IAmb IAmb 09 46 10.7
comp=Z,34nm,1.3s
FLWY Flagg Ranch 41.70 75 IAmb IAmb 09 46 11.2
comp=Z,49nm,1.4s
HVU Hansel Valley 41.73 79 P P 09 45 55.5 -0.3
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 41.73 79 P P 09 45 55.5 -0.3
GRAC Grapevine Rang 41.76 88 P P 09 45 56.0 0.0
GRAC IAmb IAmb 09 46 12.2
comp=Z,36nm,1.2s
GRAC Grapevine Rang 41.76 88 P P 09 45 56.3 +0.3
baz=309
BCW Bitter Crk WRg 41.79 92 P P 09 45 55.3 -1.0
BCW IAmb IAmb 09 46 13.7
comp=Z,22nm,0.9s
MOOW Moose Ponds 41.85 75 P P 09 45 58.0 +1.1
ECR Eagle Creek 41.86 76 P P 09 45 56.7 -0.2
TPAW Teton Pass 41.87 76 P P 09 45 56.5 -0.6
TPAW IAmb IAmb 09 46 12.3
comp=Z,41nm,1.5s
ISA Isabella, Lake 41.91 90 P P 09 45 55.4 -1.8
ISA pmax pmax
comp=Z,23nm,1.1s
ISA Isabella, Lake 41.91 90 P P 09 45 55.4 -1.8
ISA Isabella, Lake 41.91 90 P P 09 45 57.3 0.0
baz=310,SNR=5.5
LOHW Long Hollow 42.02 75 P P 09 45 57.7 -0.5
R11A Troy Canyon, C 42.03 85 P P 09 45 58.9 +0.5
R11A IAmb IAmb 09 46 13.8
comp=Z,29nm,1.2s
R11A Troy Canyon, C 42.03 85 P P 09 45 58.6 +0.2
baz=308,SNR=17
BGU Big Grassy Mou 42.07 80 P P 09 45 58.3 -0.3
AHID Auburn Hatcher 42.19 77 P P 09 45 58.6 -1.0
AHID IAmb IAmb 09 46 14.8
comp=Z,34nm,1.4s
MPMC Manual Prospec 42.27 89 P P 09 45 59.9 -0.5
baz=310,SNR=6.0
S11A Rachel 42.36 86 P P 09 46 00.9 -0.1
S11A IAmb IAmb 09 46 19.7
comp=Z,44nm,1.1s
FURC Furnace Creek, 42.40 88 P P 09 46 00.7 -0.5
baz=309,SNR=6.0

TPNV Topopah Spring 42.48 87 P P 09 46 01.9 -0.1
TPNV pmax pmax
comp=Z,16nm,1.0s
TPNV Topopah Spring 42.48 87 P P 09 46 01.9 -0.1
TPNV Topopah Spring 42.48 87 P P 09 46 01.4 -0.6
baz=309,SNR=13
LRMC Laurel Mtn Rad 42.52 90 P P 09 46 02.0 -0.3
baz=310
CCAC Calif City Air 42.52 90 P P 09 46 02.1 -0.2
HWUT Hardware Ranch 42.57 78 P P 09 46 03.9 +1.2
DUG Dugway, Tooele 42.63 81 P P 09 46 02.6 -0.6
DUG pmax pmax
comp=Z,49nm,1.2s
DUG Dugway, Tooele 42.63 81 P P 09 46 02.6 -0.6
DUG IAmb IAmb 09 46 18.9
comp=Z,50nm,1.2s
DUG Dugway, Tooele 42.63 81 P P 09 46 02.8 -0.4
baz=306,SNR=9.2
GWY Greenwater Val 42.70 88 P P 09 46 03.8 0.0
EDW2 Edwards Air Fo 42.71 91 P P 09 46 03.8 +0.1
baz=311
QSM Queen of Sheba 42.72 89 P P 09 46 03.9 +0.2
QSM IAmb IAmb 09 46 19.9
comp=Z,54nm,1.3s
KSRS Korea Array 42.88 274 P P 09 46 06.4 +1.4
comp=Z,7.1nm,0.9s,baz=55,slow=7.7,SNR=20
KSRS LR LR 10 03 13.5
comp=Z,286nm,20.4s,baz=45,slow=35
KSAR Wonju Array Be 42.92 274 P P 09 46 05.7 +0.4
KSAR Wonju Array Be 42.92 274 P P 09 46 05.7 +0.4
LAO LASA Array 42.94 69 P P 09 46 06.2 +0.8
LAO IAmb IAmb 09 46 21.0
comp=Z,28nm,1.1s
LAO LASA Array 42.94 69 P P 09 46 05.2 -0.3
baz=302,SNR=11
SNY Shenyang 42.94 283 ⇓P P 09 46 06.8 +1.4
SNY S S **09 52 24.1 -3.9**
SNY pmax pmax
comp=Z,33nm,1.1s
SNY pmax pmax
comp=Z,240nm,3.6s
SNY LR LR
comp=Z,840nm,18.6s
SNY LR LR
comp=Z,500nm,18.6s
SNY LR LR
comp=Z,1μm,21.1s
PRN Pahroc Range 42.94 86 IAmb IAmb 09 46 22.1
comp=Z,74nm,1.1s
PSUT Pine Spring 42.99 83 P P 09 46 06.8 +0.6
BW06 Boulder Array 43.12 76 P P 09 46 07.3 +0.1
BW06 IAmb IAmb 09 46 21.2
comp=Z,39nm,1.3s
BW06 Boulder Array 43.12 76 P P 09 46 06.7 -0.5
baz=305,SNR=15
PD31 Pinedale Array 43.12 76 IAmb IAmb 09 46 21.2
comp=Z,32nm,1.2s
PDAR Pinedale Array 43.12 76 P P 09 46 07.2 0.0
comp=Z,5.6nm,0.5s,baz=306,slow=3.8,SNR=79
PDAR LR LR 10 03 53.6
comp=Z,264nm,19.8s,baz=304,slow=36
DGMT Dagmar 43.16 66 P P 09 46 06.1 -1.1
DGMT IAmb IAmb 09 46 08.9
comp=Z,82nm,1.4s
DGMT Dagmar 43.16 66 P P 09 46 06.2 -1.0
baz=301,SNR=11
GSC Goldstone, Bar 43.18 89 IAmb IAmb 09 46 24.4
comp=Z,44nm,1.1s
GSC Goldstone, Bar 43.18 89 P P 09 46 07.1 -0.5
baz=310,SNR=12
NLU North Lily Min 43.23 81 P P 09 46 07.6 -0.5
NLU IAmb IAmb 09 46 27.1
comp=Z,29nm,1.1s
BFSC Mount Baldy Ra 43.34 91 P P 09 46 09.7 +0.8
baz=311
FCC Fort Churchill 43.44 48 P P 09 46 09.1 -0.1
FCC pmax pmax
comp=Z,14nm,0.7s
FCC Fort Churchill 43.44 48 P P 09 46 09.1 -0.1
FCC IAmb IAmb 09 46 11.3
comp=Z,14nm,0.7s
SCI2 San Clemente I 43.62 93 P P 09 46 10.9 -0.1
baz=312
TUQ Turquoise Moun 43.65 88 P P 09 46 11.9 +0.5
baz=310
HEC Hector,Ludlow 43.78 89 P P 09 46 12.9 +0.4
baz=311
BBRC Big Bear Solar 43.79 90 P P 09 46 13.1 +0.4
baz=311
ELS Elsinore Mount 43.88 92 P P 09 46 14.1 +0.9
ELS IAmb IAmb 09 46 29.1
comp=Z,30nm,1.1s
CCUT Cedar City 43.90 84 P P 09 46 12.5 -1.1
TJN Taejon 43.91 274 ⇑*i*P P 09 46 14.0 +0.7
TJN Taejon 43.91 274 P P 09 46 13.4 +0.1
MSU Marysvale 44.04 82 P P 09 46 14.1 -0.5
MSU Marysvale 44.04 82 P P 09 46 14.1 -0.5
SZCU Shurtz Canyon 44.05 84 P P 09 46 14.3 -0.4
MURC Murrieta 44.05 91 P P 09 46 14.9 +0.3
baz=312
TMUT Trail Mountain 44.16 81 P P 09 46 15.3 -0.4
TMUT IAmb IAmb 09 46 31.5
comp=Z,22nm,1.0s
GMRC Granite Mounta 44.23 89 P P 09 46 15.2 -0.9
baz=311,SNR=7.1
LCMT Little Creek M 44.31 85 P P 09 46 17.8 +1.0
LCMT IAmb IAmb 09 46 32.6
comp=Z,24nm,1.2s
P17A Butcher Ranch, 44.34 80 P P 09 46 16.4 -0.6
P17A IAmb IAmb 09 46 32.1
comp=Z,21nm,1.0s
RDMU Red Mountain 44.40 78 P P 09 46 17.8 +0.3
RDMU IAmb IAmb 09 46 32.5
comp=Z,81nm,1.5s
Q16A Castle Valley 44.41 81 P P 09 46 18.2 +0.6
Q16A IAmb IAmb 09 46 33.5
comp=Z,41nm,1.1s
PFO Pinyon Flats O 44.50 91 LR LR 10 04 10.9
comp=Z,316nm,18.1s,baz=296,slow=35
PFO Pinyon Flats O 44.50 91 P P 09 46 18.3 0.0
PFO pmax pmax
comp=Z,11nm,1.0s
PFO Pinyon Flats O 44.50 91 P P 09 46 18.3 0.0
PFO Pinyon Flats O 44.50 91 P P 09 46 17.9 -0.4
baz=312
TPFO Pinon Flats 44.51 91 P P 09 46 18.1 -0.3
baz=312
BELC Belle Mtn. Jos 44.53 90 P P 09 46 17.8 -0.8
baz=311
P18A Preston Nutter 44.55 80 P P 09 46 19.6 +0.7
P18A IAmb IAmb 09 46 33.2
comp=Z,31nm,1.1s
KNB Kanab 44.57 84 P P 09 46 19.5 +0.6
KNB pmax pmax
comp=Z,37nm,1.3s
KNB Kanab 44.57 84 P P 09 46 19.5 +0.6
KNB IAmb IAmb 09 46 34.9
comp=Z,37nm,1.3s
PKCU Pink Cliffs 44.62 84 P P 09 46 20.0 +0.6
SRU San Rafael Swe 44.70 80 P P 09 46 20.6 +0.8
SRU pmax pmax
comp=Z,19nm,0.8s
SRU San Rafael Swe 44.70 80 P P 09 46 20.6 +0.8
SRU IAmb IAmb 09 46 36.7
comp=Z,18nm,0.8s
NEE2 Needles Airpor 44.89 88 P P 09 46 21.0 -0.2
baz=311
IRM Iron Mountain 44.97 89 P P 09 46 21.5 -0.3
baz=311
BAR Barrett 44.99 92 P P 09 46 21.6 -0.4
BAR IAmb IAmb 09 46 38.7
comp=Z,18nm,1.0s
MONP2 Monument Peak 45.01 92 P P 09 46 22.2 -0.2
baz=312
K22A Casper 45.02 74 P P 09 46 22.6 +0.2
K22A IAmb IAmb 09 46 36.6
comp=Z,29nm,1.2s
K22A Casper 45.02 74 P P 09 46 21.7 -0.6
baz=306
BC3 Big Chuckawall 45.10 90 P P 09 46 23.3 +0.3
baz=312
W13A Hualapai Mount 45.14 87 P P 09 46 23.6 +0.2
W13A IAmb IAmb 09 46 39.3
comp=Z,19nm,1.1s
RWWY Rawlins 45.17 75 IAmb IAmb 09 46 37.5
comp=Z,37nm,1.3s

CBX Cerro Bola 45.24 92 P P 09 46 24.2 0.0
U15A North Rim 45.27 85 P P 09 46 25.2 +0.6
U15A IAmb IAmb 09 46 40.5
comp=Z,37nm,1.1s
SWSC Sam W. Stewart 45.36 91 P P 09 46 24.3 -0.7
baz=312
IKP In-Ko-Pah, Jac 45.36 92 P P 09 46 25.8 +0.7
baz=312
O20A White River Ci 45.47 78 P P 09 46 25.9 -0.1
O20A IAmb IAmb 09 46 44.6
comp=Z,54nm,1.1s
O20A White River Ci 45.47 78 P P 09 46 25.6 -0.4
baz=307,SNR=9.6
PDMCI Parker Dam,Lak 45.49 88 P P 09 46 26.4 +0.4
baz=311
BLYC Blythe 45.62 89 P P 09 46 27.0 0.0
BLYC IAmb IAmb 09 46 42.8
comp=Z,26nm,1.1s
RSSD Black Hills 45.65 71 P P 09 46 26.8 -0.5
RSSD pmax pmax
comp=Z,38nm,1.5s
RSSD Black Hills 45.65 71 P P 09 46 26.8 -0.5
RSSD IAmb IAmb 09 46 41.7
comp=Z,38nm,1.4s
RSSD Black Hills 45.65 71 P P 09 46 27.3 -0.1
baz=305
NRIK Noril'sk 45.86 331 P P 09 46 28.2 -0.3
comp=Z,8.3nm,0.6s,baz=74,slow=9.9,SNR=10
NRIK LR LR 10 07 55.3
comp=Z,405nm,18.5s,baz=40,slow=39
NRIK Noril'sk 45.86 331 *ce*P P 09 46 28.5 +0.1
NRIK pmax pmax
comp=Z,11nm,0.8s
NRIK Noril'sk 45.86 331 P P 09 46 28.4 -0.1
GLA Glamis 45.90 90 P P 09 46 28.0 -1.3
GLA pmax pmax
comp=Z,18nm,1.2s
GLA Glamis 45.90 90 P P 09 46 28.0 -1.3
GLA IAmb IAmb 09 46 42.5
comp=Z,18nm,1.2s
PV23 Carpenter Ridg 46.03 80 IAmb IAmb 09 46 58.6
comp=Z,20nm,0.8s
MDND Maddock 46.09 64 P P 09 46 31.1 +0.5
MDND Maddock 46.09 64 P P 09 46 30.6 +0.1
baz=304,SNR=9.0
E28A Huff 46.19 66 P P 09 46 31.9 +0.6
XLT XiLinHaoTe 46.23 290 *e*P P 09 46 32.8 +1.0
XLT sS sS 09 53 36.5 +4.1
XLT SS SS **09 56 35.0 -6.1**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,190nm,4.8s
XLT LR LR
comp=Z,51nm,16.9s
XLT LR LR
comp=Z,420nm,17.4s
XLT LR LR
comp=Z,350nm,20.6s
PV07 Paradox Valley 46.26 80 P P 09 46 32.4 +0.1
PV13 Radium Mtn., P 46.33 80 IAmb IAmb 09 46 47.8
comp=Z,42nm,1.0s
N23A Red Feather La 46.41 75 P P 09 46 33.5 +0.1
N23A IAmb IAmb 09 46 48.4
comp=Z,48nm,1.4s
N23A Red Feather La 46.41 75 P P 09 46 33.6 +0.2
baz=307
PV15 Paradox Valley 46.43 80 IAmb IAmb 09 46 53.9
comp=Z,35nm,1.3s
WUAZ Wupatki 46.43 85 P P 09 46 33.8 +0.3
WUAZ IAmb IAmb 09 46 49.2
comp=Z,33nm,1.2s
WUAZ Wupatki 46.43 85 P P 09 46 33.9 +0.3
baz=310
Y14A Wickenburg 46.44 88 P P 09 46 33.9 +0.3
PHWY Pilot Hill 46.46 75 P P 09 46 33.5 -0.4
ULM Lac du Bonnet 46.82 59 P P 09 46 36.0 -0.1
comp=Z,8.5nm,0.6s,baz=302,slow=9.3,SNR=14
ULM LR LR 10 06 14.4
comp=Z,600nm,18.8s,baz=320,slow=36
ULM Lac du Bonnet 46.82 59 P P 09 46 36.4 +0.2
ULM pmax pmax
comp=Z,53nm,1.5s
ULM Lac du Bonnet 46.82 59 P P 09 46 36.4 +0.2
ULM IAmb IAmb 09 46 52.1
comp=Z,53nm,1.5s
X16A Lo Mia Camp, P 47.10 86 P P 09 46 39.0 +0.2
X16A IAmb IAmb 09 46 55.3
comp=Z,14nm,1.2s
MVCO Mesa Verde 47.13 81 P P 09 46 38.1 -1.0
MVCO IAmb IAmb 09 46 53.6
comp=Z,34nm,1.4s
MVCO Mesa Verde 47.13 81 P P 09 46 39.0 -0.1
baz=309
ISCO Idaho Springs 47.27 76 P P 09 46 39.6 -0.7
ISCO pmax pmax
comp=Z,20nm,1.5s
ISCO Idaho Springs 47.27 76 P P 09 46 39.6 -0.7
ISCO IAmb IAmb 09 46 58.7
comp=Z,20nm,1.4s
ISCO Idaho Springs 47.27 76 P P 09 46 40.2 -0.1
baz=308
W18A Petrified Fore 47.71 84 P P 09 46 43.0 -0.5
W18A IAmb IAmb 09 46 59.7
comp=Z,13nm,0.9s
W18A Petrified Fore 47.71 84 P P 09 46 44.1 +0.6
baz=311
S22A 4UR Ranch, Cre 47.81 79 P P 09 46 44.2 -0.2
S22A IAmb IAmb 09 46 59.2
comp=Z,23nm,1.2s
S22A 4UR Ranch, Cre 47.81 79 P P 09 46 44.4 -0.1
baz=309,SNR=7.4
214A Organ Pipe Nat 47.89 90 P P 09 46 44.8 0.0
baz=313
AGMN Agassiz Nation 47.92 62 P P 09 46 44.4 -0.4
AGMN IAmb IAmb 09 46 45.7
comp=Z,26nm,1.0s
AGMN Agassiz Nation 47.92 62 P P 09 46 44.0 -0.8
baz=305,SNR=16
X18A Snowflake 47.96 85 P P 09 46 45.4 -0.1
SUSD Miller 48.42 67 P P 09 46 48.9 +0.1
SUSD Miller 48.42 67 P P 09 46 48.0 -0.7
baz=306,SNR=7.3
BJI Beijing 48.50 285 P P 09 46 50.3 +1.0
BJI pmax pmax
comp=Z,6.0nm,0.9s
BJI LR LR
comp=Z,890nm,20.5s
BJI LR LR
comp=Z,310nm,24.4s
BJI LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 48.63 79 P P 09 46 51.2 +0.4
SDCO IAmb IAmb 09 47 05.7
comp=Z,19nm,1.2s
SDCO Great Sand Dun 48.63 79 P P 09 46 51.2 +0.4
baz=310
OGNE Ogallala 48.73 73 P P 09 46 51.4 +0.1
OGNE Ogallala 48.73 73 P P 09 46 51.2 0.0
baz=308
TUC Tucson 48.91 88 P P 09 46 52.9 +0.1
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 48.91 88 P P 09 46 52.9 +0.1
TUC IAmb IAmb 09 47 06.7
comp=Z,23nm,1.4s
TUC Tucson 48.91 88 P P 09 46 53.8 +1.0
baz=313
B35A Bob, Littlefor 49.05 60 P P 09 46 53.2 -0.2
B35A IAmb IAmb 09 46 57.5
comp=Z,15nm,0.7s
ULN Ulaanbaatar 49.06 299⇓*e*P P 09 46 53.6 -0.2
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 49.06 299 P P 09 46 53.5 -0.3
F33A 5 Mile Ranch, 49.11 64 P P 09 46 53.2 -0.8
F33A IAmb IAmb 09 47 07.8
comp=Z,28nm,1.2s
SONM Songino Array 49.44 299 P P 09 46 57.5 +0.8
comp=Z,8.2nm,0.6s,baz=47,slow=7.9,SNR=49
SONM LR LR 10 09 00.0
comp=Z,1μm,19.3s,baz=56,slow=37
SONM Songino Array 49.44 299 P P 09 46 55.9 -0.7
SONM pmax pmax
comp=Z,8.0nm,0.6s
SONM Songino Array 49.44 299 P P 09 46 55.9 -0.7

SONM IAmb IAmb 09 46 59.1
comp=Z,8.4nm,0.6s
KSCO Kaye Shedlock' 49.57 75 P **P** **09 46 57.9 +0.1**
KSCO Kaye Shedlock' 49.57 75 P **P** **09 46 57.5 -0.3**
baz=309
ZAK Zakamensk 49.61 303 *eP* **P** **09 46 58.4 +0.5**
ZAK pmax pmax
comp=Z,17nm,1.4s
K31A O'Neill 49.63 69 P **P** **09 46 58.5 +0.4**
T25A Trinidad 49.68 78 P **P** **09 46 59.1 +0.4**
T25A Trinidad 49.68 78 P **P** **09 46 58.8 +0.1**
baz=310
ANMO Albuquerque 49.85 82 LR LR 10 07 22.4
comp=Z,233nm,18.5s,baz=302,slow=35
ANMO Albuquerque 49.85 82 P **P** **09 47 00.4 +0.4**
ANMO pmax pmax
comp=Z,17nm,1.3s
ANMO Albuquerque 49.85 82 P **P** **09 47 00.4 +0.4**
ANMO IAmb IAmb 09 47 18.4
comp=Z,17nm,1.2s
ANMO Albuquerque 49.85 82 P **P** **09 47 00.4 +0.4**
baz=311
MOY Mondy 50.03 306 *eP* **P** **09 47 01.9 +0.8**
MOY pmax pmax
comp=Z,17nm,1.6s
ECSD EROS Data Cent 50.19 67 P **P** **09 47 00.8 -1.4**
ECSD IAmb IAmb 09 47 16.5
comp=Z,29nm,1.2s
ECSD EROS Data Cent 50.19 67 P **P** **09 47 01.2 -1.1**
baz=308,SNR=14
BNM Barren Site 50.27 83 P **P** **09 47 02.8 -0.5**
TIA Tai'an 50.35 281 ⇑P **P** **09 47 04.1 +0.5**
TIA pmax pmax
comp=Z,12nm,1.4s
SPITS Spitsbergen Ar 50.37 357 LR LR 10 08 13.8
comp=Z,400nm,20.8s,baz=296,slow=36
121A Cookes Peak, D 50.63 85 P **P** **09 47 05.1 -0.8**
121A Cookes Peak, D 50.63 85 P **P** **09 47 06.0 +0.1**
baz=313
F36A Milaca 50.64 63 P **P** **09 47 05.0 -0.6**
BGNE Belgrade 50.74 70 P **P** **09 47 05.7 -0.8**
BGNE Belgrade 50.74 70 P **P** **09 47 06.4 0.0**
baz=309
HHC Hu-ho-hao-te 50.74 289 *eP* **P** **09 47 06.8 +0.2**
HHC PP **PP** **09 49 04.3 +1.8**
HHC S **S** **09 54 15.6 -4.0**
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,200nm,8.8s
HHC LR LR
comp=Z,670nm,17.2s
HHC LR LR
comp=Z,500nm,15.0s
HHC LR LR
comp=Z,470nm,19.4s
DAG Danmarks Havn 50.94 7 *i* P **P** **09 47 06.0 -1.4**
DAG IAmb IAmb 09 47 08.0
comp=Z,3.2nm,0.6s
HNS HongShan 51.06 284 ⇑P **P** **09 47 10.0 +1.2**
HNS S **S** **09 54 27.3 +3.5**
HNS pmax pmax
comp=Z,36nm,0.9s
HNS LR LR
comp=Z,290nm,22.1s
HNS LR LR
comp=Z,800nm,24.0s
HNS LR LR
comp=Z,620nm,22.1s
FRB Frobisher Bay 51.11 33 LR LR 10 10 14.9
comp=Z,1μm,18.2s,baz=294,slow=38
E38A The Farm, Brul 51.27 61 P **P** **09 47 09.9 -0.4**
E38A IAmb IAmb 09 47 37.9
comp=Z,46nm,1.2s
L34A Svendsen Farm, 51.42 68 P **P** **09 47 10.9 -0.6**
SPMN Marine on St. 51.43 63 P **P** **09 47 10.8 -0.8**
SPMN IAmb IAmb 09 47 12.4
comp=Z,29nm,1.3s
SPMN Marine on St. 51.43 63 P **P** **09 47 10.8 -0.8**
baz=308,SNR=5.8
CBKS Cedar Bluff 51.44 74 P **P** **09 47 10.7 -1.1**
CBKS pmax pmax
comp=Z,80nm,1.2s
CBKS Cedar Bluff 51.44 74 P **P** **09 47 10.7 -1.1**
CBKS Cedar Bluff 51.44 74 P **P** **09 47 11.4 -0.3**
baz=310
BTO Baotou 51.80 290 *eP* **P** **09 47 15.3 +0.8**
BTO S **S** **09 54 28.3 -6.0**
BTO LR LR
comp=Z,1μm,18.2s
BTO LR LR
comp=Z,2μm,19.6s
I37A Lemond, Waseca 51.85 65 P **P** **09 47 14.7 0.0**
NJ2 Nanjing 52.05 276 *eP* **P** **09 47 16.4 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
R32A Long Quarter, 52.30 73 P **P** **09 47 18.1 -0.1**
R32A IAmb IAmb 09 47 32.3
comp=Z,58nm,1.2s
N35A Tabor 52.55 69 P **P** **09 47 19.6 -0.3**
N35A IAmb IAmb 09 47 34.3
comp=Z,40nm,0.8s
MNTX Cornudas Mount 52.69 84 P **P** **09 47 20.9 -0.2**
MNTX Cornudas Mount 52.69 84 P **P** **09 47 20.9 -0.2**
baz=313,SNR=6.8
MSTX Muleshoe 52.77 80 P **P** **09 47 21.2 -0.6**
MSTX IAmb IAmb 09 47 36.8
comp=Z,40nm,1.2s
MSTX Muleshoe 52.77 80 P **P** **09 47 21.3 -0.5**
baz=312
AMTX Amarillo 52.83 79 P **P** **09 47 21.8 -0.4**
baz=312
COWI Conover 52.90 60 P **P** **09 47 22.6 +0.1**
COWI IAmb IAmb 09 47 36.9
comp=Z,46nm,1.4s
KSU1 Kansas State U 53.12 71 P **P** **09 47 23.5 -0.6**
KSU1 IAmb IAmb 09 47 38.5
comp=Z,63nm,1.3s
KSU1 Kansas State U 53.12 71 P **P** **09 47 23.4 -0.8**
baz=310
DBG Daneborg 53.13 9 *eP* **P** **09 47 21.7 -2.0**
SCIA State Center 53.28 67 P **P** **09 47 24.8 -0.5**
baz=310
U32A Winter Ranch, 53.47 76 P **P** **09 47 26.8 0.0**
U32A IAmb IAmb 09 47 41.5
comp=Z,25nm,1.0s
F42A Maple Grove Fa 53.66 60 P **P** **09 47 28.3 +0.2**
F42A IAmb IAmb 09 47 34.4
comp=Z,45nm,1.2s
E43A Lone Tree Farm 53.88 59 P **P** **09 47 29.5 -0.2**
E43A IAmb IAmb 09 47 30.8
comp=Z,53nm,1.3s
N38A Joes South For 53.99 68 P **P** **09 47 29.6 -0.9**
SFJD Kangerlussuaq 54.20 24 LR LR 10 13 29.1
comp=Z,300nm,19.8s,baz=312,slow=39
LYN LuoYang 54.30 282 *eP* **P** **09 47 33.8 +1.0**
LYN pmax pmax
comp=Z,180nm,3.8s
LYN LR LR
comp=Z,450nm,22.6s
LYN LR LR
comp=Z,220nm,19.2s
LYN LR LR
comp=Z,430nm,16.7s
JFWS Jewell Farm 54.32 64 P **P** **09 47 32.3 -0.6**
JFWS pmax pmax
comp=Z,14nm,0.8s
JFWS Jewell Farm 54.32 64 P **P** **09 47 32.3 -0.6**
JFWS IAmb IAmb 09 47 54.7
comp=Z,14nm,0.8s
JFWS Jewell Farm 54.32 64 P **P** **09 47 31.9 -1.0**
baz=310
L40A Anamosa 54.32 65 P **P** **09 47 31.8 -1.1**
L40A IAmb IAmb 09 47 46.6
comp=Z,39nm,1.2s
I42A Draeger Farm, 54.43 62 P **P** **09 47 33.5 -0.2**
I42A IAmb IAmb 09 47 34.5
comp=Z,17nm,0.8s
T35A Sooner Cattle 54.61 73 P **P** **09 47 35.4 +0.3**
T35A IAmb IAmb 09 47 48.8
comp=Z,41nm,1.3s
H43A Windswept, Lux 54.68 61 P **P** **09 47 35.2 -0.3**
H43A IAmb IAmb 09 47 36.4
comp=Z,26nm,0.7s
WMOK Wichita Mounta 54.70 77 P **P** **09 47 35.0 -0.8**
baz=312

ICESG Greenland Ices 54.98 18 *eP* **P** **09 47 37.0 -0.7**
ICESG IAmb IAmb 09 47 38.3
comp=Z,13nm,0.5s
LPIG La Paz 54.99 95 LR LR 10 08 24.2
comp=Z,242nm,18.1s,baz=308,slow=33
TX31 Lajitas Ar. Si 55.39 85 P **P** **09 47 40.5 -0.5**
TX32 Lajitas Array 55.39 85 P **P** **09 47 40.5 -0.5**
TX32 IAmb IAmb 09 47 56.4
comp=Z,15nm,1.1s
TXAR Lajitas Array 55.39 85 P **P** **09 47 40.3 -0.7**
comp=Z,1.1nm,0.4s,baz=300,slow=4.9,SNR=18
TXAR LR LR 10 10 55.6
comp=Z,236nm,18.1s,baz=312,slow=36
TXAR Lajitas Array 55.39 85 P **P** **09 47 40.2 -0.8**
N41A Harden Midland 55.41 66 P **P** **09 47 39.1 -1.7**
N41A IAmb IAmb 09 47 56.2
comp=Z,42nm,1.2s
P40A Paris 55.50 68 P **P** **09 47 40.3 -1.2**
K43A Burlington 55.52 63 P **P** **09 47 40.6 -1.0**
K43A IAmb IAmb 09 47 42.0
comp=Z,32nm,1.1s
W35A Tecumseh 55.57 75 **P** **09 47 42.2 +0.2**
ABTX Abilene, Hawle 55.60 79 P **P** **09 47 41.7 -0.7**
ABTX IAmb IAmb 09 47 56.0
comp=Z,43nm,1.4s
ABTX Abilene, Hawle 55.60 79 P **P** **09 47 41.0 -1.4**
baz=313
DY2G Dye2 55.69 23 *eP* **P** **09 47 42.0 -0.7**
TUL1 Leonard 55.71 74 P **P** **09 47 43.0 -0.1**
TUL1 IAmb IAmb 09 47 57.1
comp=Z,51nm,1.3s
TUL1 Leonard 55.71 74 P **P** **09 47 42.2 -0.8**
baz=312
NACB Ninganchiao 55.90 267 P **P** **09 47 42.3 -2.2**
NACB IAmb IAmb 09 47 52.5
comp=Z,27nm,1.1s
S39A Bolivar 55.98 71 P **P** **09 47 43.1 -1.9**
S39A IAmb IAmb 09 47 58.0
comp=Z,20nm,1.2s
L44A Lake County Fo 56.10 63 P **P** **09 47 44.5 -1.3**
baz=311
GLMI Grayling 56.16 59 P **P** **09 47 46.6 +0.5**
GLMI Grayling 56.16 59 P **P** **09 47 45.2 -0.9**
baz=311
R40A Maddies Statio 56.20 69 P **P** **09 47 45.1 -1.4**
R40A IAmb IAmb 09 48 00.8
comp=Z,14nm,0.6s
ZAA0 Zalesovo Array 56.22 316 P **P** **09 47 45.0 -1.3**
ZAA0 IAmb IAmb 09 47 58.9
comp=Z,17nm,1.2s
ZALV Zalesovo Beam 56.22 316 PcP **PcP** **09 48 43.8 +0.1**
comp=Z,2.6nm,0.7s,baz=35,slow=4.0,SNR=4.4
ZALV pPcP 09 48 57.2
comp=Z,3.1nm,0.6s,baz=35,slow=4.1,SNR=5.5
ZALV LR LR 10 13 22.7
comp=Z,451nm,18.5s,baz=67,slow=38
ZALV Zalesovo Beam 56.22 316 P **P** **09 47 45.1 -1.2**
ZALV Zalesovo Beam 56.22 316 P **P** **09 47 45.1 -1.2**
HDIL Hopedale 56.40 66 P **P** **09 47 46.1 -1.8**
HDIL Hopedale 56.40 66 P **P** **09 47 46.9 -1.0**
baz=312
SCO Scoresbysund 56.54 11 P **P** **09 47 48.0 -0.5**
SCO pmax pmax
comp=Z,7.0nm,1.1s
SCO Scoresbysund 56.54 11 *eP* **P** **09 47 48.0 -0.5**
SCO Scoresbysund 56.54 11 P **P** **09 47 48.0 -0.5**
M44A Midewin, Midew 56.56 64 P **P** **09 47 48.9 -0.1**
HHAR Hobbs 56.57 72 P **P** **09 47 48.4 -0.8**
HHAR IAmb IAmb 09 48 02.4
comp=Z,37nm,1.4s
SSLB Suanglung 56.58 267 P **P** **09 47 49.2 -0.2**
SSLB IAmb IAmb 09 48 05.1
comp=Z,51nm,1.4s
XAN Xi'an 56.80 284 P **P** **09 47 51.0 +0.1**
XAN pP pwP 09 48 00.5 -4.5
XAN pmax pmax
comp=Z,23nm,0.9s
XAN LR LR
comp=Z,310nm,15.9s
XAN LR LR
comp=Z,360nm,19.2s
XAN LR LR
comp=Z,780nm,22.7s
X37A Clayton 56.86 75 IAmb IAmb 09 48 06.9
comp=Z,19nm,0.8s
CCM Cathedral Cave 56.96 69 P **P** **09 47 51.1 -0.8**
CCM pmax pmax
comp=Z,33nm,1.2s
CCM Cathedral Cave 56.96 69 P **P** **09 47 51.1 -0.8**
CCM IAmb IAmb 09 48 05.5
comp=Z,33nm,1.2s
CCM Cathedral Cave 56.96 69 P **P** **09 47 50.4 -1.5**
baz=312
MGMO Mountain Grove 56.97 70 P **P** **09 47 51.0 -1.0**
MGMO IAmb IAmb 09 48 05.7
comp=Z,29nm,1.1s
JCT Junction City 56.99 81 P **P** **09 47 51.7 -0.6**
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT Junction City 56.99 81 P **P** **09 47 51.7 -0.6**
JCT Junction City 56.99 81 P **P** **09 47 50.9 -1.4**
baz=314
J47A Sunmer 57.10 60 P **P** **09 47 52.4 -0.5**
J47A IAmb IAmb 09 47 53.9
comp=Z,17nm,0.8s
O44A Mansfield 57.14 65 P **P** **09 47 53.0 -0.2**
O44A IAmb IAmb 09 48 06.2
comp=Z,16nm,0.9s
SLM Saint Louis 57.15 68 P **P** **09 47 53.0 -0.2**
SLM pmax pmax
comp=Z,88nm,1.4s
SLM Saint Louis 57.15 68 P **P** **09 47 53.0 -0.2**
U40A Yellville 57.16 71 P **P** **09 47 51.9 -1.5**
baz=313,SNR=15
JMIC Jan Mayen 57.28 6 LR LR 10 12 58.7
comp=Z,116nm,20.1s,baz=333,slow=36
WHTX Lake Whitney, 57.38 78 P **P** **09 47 54.6 -0.4**
WHTX IAmb IAmb 09 48 09.5
comp=Z,29nm,1.0s
WHTX Lake Whitney, 57.38 78 P **P** **09 47 53.9 -1.0**
baz=314
W39A Magazine 57.40 73 P **P** **09 47 54.2 -0.9**
W39A Magazine 57.40 73 P **P** **09 47 54.4 -0.6**
baz=313,SNR=8.7
FVM French Village 57.48 69 P **P** **09 47 54.3 -1.3**
FVM pmax pmax
comp=Z,82nm,1.5s
FVM French Village 57.48 69 P **P** **09 47 54.3 -1.3**
VLDQ Val d'Or 57.64 52 P **P** **09 47 55.0 -1.5**
VLDQ IAmb IAmb 09 47 56.2
comp=Z,21nm,1.1s
Q44A Meyer Farm, Va 57.67 67 P **P** **09 47 56.3 -0.6**
SFIN Lafayette 57.77 64 P **P** **09 47 56.9 -0.7**
baz=313,SNR=5.5
SCHQ Schefferville 57.78 41 P **P** **09 47 57.2 -0.3**
comp=Z,5.1nm,0.6s,baz=319,slow=7.9,SNR=29
SCHQ LR LR 10 15 04.9
comp=Z,762nm,18.2s,baz=327,slow=38
FCAR Ozark Folk Cen 57.91 71 P **P** **09 47 57.4 -1.2**
L48A N Adams 58.19 61 P **P** **09 48 00.2 -0.2**
L48A IAmb IAmb 09 48 01.3
comp=Z,20nm,0.7s
P46A Rosedale 58.22 65 P **P** **09 47 59.4 -1.3**
WHAR Wooly Hollow 58.22 72 P **P** **09 48 00.8 0.0**
WHAR IAmb IAmb 09 48 14.3
comp=Z,52nm,1.4s
PBMO Poplar Bluff 58.30 70 P **P** **09 48 00.6 -0.8**
OLIL Olney 58.31 66 P **P** **09 48 00.9 -0.5**
W41B Gary Mavity, V 58.33 72 P **P** **09 48 00.6 -0.9**
W41B IAmb IAmb 09 48 16.2
comp=Z,26nm,0.9s
W41B Gary Mavity, V 58.33 72 P **P** **09 48 00.3 -1.3**
baz=314,SNR=7.7
S44A Carbondale 58.36 68 P **P** **09 48 00.9 -0.8**
S44A IAmb IAmb 09 48 14.5
comp=Z,21nm,0.9s
LCAR Lake Charles 58.36 71 P **P** **09 48 00.3 -1.5**
LCAR IAmb IAmb 09 48 15.3
comp=Z,12nm,0.9s
SIUC Southern Illin 58.36 68 P **P** **09 48 02.7 +1.0**
SIUC IAmb IAmb 09 48 14.5
comp=Z,16nm,0.8s
237A Washetta, Mont 58.38 77 P **P** **09 48 02.0 0.0**
237A IAmb IAmb 09 48 16.4
comp=Z,21nm,0.9s

ARCES ARCESS Array B 58.40 352 P **P** **09 48 00.9 -0.6**
comp=Z,5.8nm,0.5s,baz=18,slow=6.4,SNR=24
ARCES pP **pwP** **09 48 14.5 -0.5**
comp=Z,4.5nm,0.6s,baz=27,slow=5.7,SNR=2.8
ARCES PcP **PcP** **09 48 51.8 -0.2**
comp=Z,7.2nm,0.7s,baz=22,slow=4.9,SNR=8.4
ARCES pPcP 09 49 06.1
comp=Z,3.8nm,0.6s,baz=20,slow=3.9,SNR=4.7
ARCES LR LR 10 13 13.6
comp=Z,302nm,21.5s,baz=344,slow=36
ARCES ARCESS Array B 58.40 352 P **P** **09 48 01.3 -0.3**
ARCES pmax pmax
comp=Z,44nm,1.5s
ARCES ARCESS Array B 58.40 352 P **P** **09 48 01.3 -0.3**
ARCES IAmb IAmb 09 48 23.6
comp=Z,44nm,1.5s
LZH Lanzhou 58.43 289 *eP* **P** **09 48 03.8 +1.3**
LZH pP pwP 09 48 17.1 +0.4
LZH sP sP 09 48 23.1 +8.3
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,310nm,5.6s
LZH LR LR
comp=Z,690nm,16.3s
LZH LR LR
comp=Z,690nm,15.7s
LZH LR LR
comp=Z,1μm,18.7s
X40A Basin Creek Fa 58.45 73 P **P** **09 48 01.4 -1.1**
X40A IAmb IAmb 09 48 16.3
comp=Z,42nm,1.4s
X40A Basin Creek Fa 58.45 73 P **P** **09 48 01.4 -1.1**
baz=314
GTA Gaotai 58.48 295 *eP* **P** **09 48 02.9 +0.1**
GTA pP pwP 09 48 17.6 +0.5
GTA S **S** **09 56 05.8 +2.0**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.4s
GTA LR LR
comp=Z,290nm,17.5s
GTA LR LR
comp=Z,700nm,15.6s
GTA LR LR
comp=Z,560nm,16.4s
PARMO Parma 58.77 69 P **P** **09 48 04.0 -0.6**
WLAR White Oak Lake 58.84 74 P **P** **09 48 04.6 -0.5**
O48B Farmland 58.94 63 P **P** **09 48 03.6 -2.1**
baz=313,SNR=5.5
HBAR Harrisburg 59.01 71 P **P** **09 48 06.4 +0.2**
N49A Columbus Grove 59.02 62 P **P** **09 48 06.1 -0.2**
ENH Enshi 59.07 281 P **P** **09 48 07.2 +0.4**
ENH IAmb IAmb 09 48 08.3
comp=Z,11nm,0.9s
SADO Sadowa 59.07 56 LR LR 10 15 29.6
comp=Z,707nm,18.2s,baz=353,slow=38
SADO Sadowa 59.07 56 P **P** **09 48 07.1 +0.5**
SADO IAmb IAmb 09 48 21.5
comp=Z,18nm,0.9s
USIN University of 59.09 67 P **P** **09 48 06.7 -0.1**
PEBM Pemiscott Bayo 59.09 70 P **P** **09 48 06.6 -0.2**
GNAR Gosnell 59.10 70 P **P** **09 48 06.4 -0.5**
HICK Hickman 59.16 69 P **P** **09 48 06.8 -0.5**
LNXT Lenox 59.31 70 P **P** **09 48 08.4 0.0**
P48A Milroy 59.33 64 P **P** **09 48 08.0 -0.5**
CCAR Cane Creek 59.48 73 P **P** **09 48 10.1 +0.6**
HALT Halls 59.53 70 P **P** **09 48 09.1 -0.8**
P49A Miami Univ. Ec 59.68 64 P **P** **09 48 09.2 -1.6**
P49A Miami Univ. Ec 59.68 64 P **P** **09 48 09.5 -1.4**
baz=314
WCI Wyandotte Cave 59.69 66 P **P** **09 48 10.4 -0.6**
WCI pmax pmax
comp=Z,35nm,1.1s
WCI Wyandotte Cave 59.69 66 P **P** **09 48 10.4 -0.6**
WCI IAmb IAmb 09 48 25.6
comp=Z,35nm,1.1s
WCI Wyandotte Cave 59.69 66 P **P** **09 48 09.8 -1.1**
baz=314
N51A Ashland 60.01 61 P **P** **09 48 12.2 -0.9**
N51A IAmb IAmb 09 48 14.0
comp=Z,22nm,0.7s
DELO Deloro Mine 60.03 55 P **P** **09 48 13.0 -0.2**
T47A Sharon Grove 60.08 67 P **P** **09 48 12.7 -1.0**
M52A Chesterland 60.13 60 P **P** **09 48 14.1 +0.2**
M52A IAmb IAmb 09 48 15.1
comp=Z,18nm,0.7s
W45A Hickory Valley 60.15 70 P **P** **09 48 14.3 +0.2**
ACSO Alum Creek Sta 60.16 62 P **P** **09 48 13.3 -0.9**
baz=314
WVT Waverly 60.26 68 P **P** **09 48 14.5 -0.4**
WVT pmax pmax
comp=Z,41nm,1.2s
WVT Waverly 60.26 68 P **P** **09 48 14.5 -0.4**
WVT Waverly 60.26 68 P **P** **09 48 14.3 -0.6**
baz=314
TRQ Mont Tremblant 60.38 52 P **P** **09 48 15.0 -0.7**
TRQ IAmb IAmb 09 48 16.4
comp=Z,22nm,0.8s
LATQ La Tuque 60.41 50 P **P** **09 48 15.7 0.0**
LATQ IAmb IAmb 09 48 32.5
comp=Z,24nm,0.9s
OXF Oxford 60.47 71 P **P** **09 48 15.5 -0.8**
OXF pmax pmax
comp=Z,168nm,1.3s
OXF Oxford 60.47 71 P **P** **09 48 15.5 -0.8**
OXF Oxford 60.47 71 P **P** **09 48 15.1 -1.2**
baz=314,SNR=6.2
ERPA Erie 60.47 59 P **P** **09 48 16.0 -0.2**
baz=314
M53A WI Miller and 60.57 60 P **P** **09 48 16.7 -0.3**
M53A WI Miller and 60.57 60 P **P** **09 48 16.6 -0.3**
baz=314
PECO Prince Edward 60.76 55 P **P** **09 48 18.7 +0.5**
R50A Paris 60.76 64 P **P** **09 48 17.9 -0.4**
Q51A Peebles 60.79 63 P **P** **09 48 18.5 0.0**
Y45A Yeager Farm, C 60.84 71 P **P** **09 48 18.3 -0.5**
O52A Adamsville 60.87 61 P **P** **09 48 18.9 -0.1**
PLAL Pickwick Lake 60.92 70 P **P** **09 48 18.6 -0.8**
P52A Corning 61.04 62 P **P** **09 48 19.9 -0.3**
P52A IAmb IAmb 09 48 33.6
comp=Z,45nm,1.5s
P52A Corning 61.04 62 P **P** **09 48 19.4 -0.7**
baz=314
M54A Oil Creek Stat 61.07 59 IAmb IAmb 09 48 43.1
comp=Z,38nm,1.4s
M54A Oil Creek Stat 61.07 59 P **P** **09 48 20.2 -0.1**
baz=315
O53A New Philadelph 61.11 61 P **P** **09 48 19.6 -1.0**
O53A IAmb IAmb 09 48 21.7
comp=Z,37nm,1.2s
O53A New Philadelph 61.11 61 P **P** **09 48 20.5 -0.2**
baz=315
V48A Smith Brothers 61.12 68 P **P** **09 48 20.2 -0.6**
V48A IAmb IAmb 09 48 35.2
comp=Z,34nm,1.2s
U49A Red Boiling Sp 61.18 67 P **P** **09 48 20.5 -0.7**
U49A IAmb IAmb 09 48 35.3
comp=Z,32nm,1.2s
KURK Kurchatov 61.19 316 *c i* P **P** **09 48 21.3 +0.3**
KURK pmax pmax
comp=Z,13nm,0.6s
KURK Kurchatov 61.19 316 P **P** **09 48 21.0 0.0**
KURK IAmb IAmb 09 48 22.8
comp=Z,13nm,0.7s
N54A Moraine State 61.28 60 P **P** **09 48 20.9 -0.8**
N54A Moraine State 61.28 60 P **P** **09 48 21.0 -0.8**
baz=315,SNR=7.3
KURBB Kurchatov Arra 61.30 316 LR LR 10 17 01.6
comp=Z,1μm,18.0s,baz=29,slow=38
KURBB Kurchatov Arra 61.30 316 P **P** **09 48 21.4 -0.3**
MNTQ Montreal, Queb 61.35 52 P **P** **09 48 21.2 -0.9**
T50A Nancy 61.36 66 P **P** **09 48 22.1 -0.3**
VBMS Vicksburg 61.42 73 P **P** **09 48 21.9 -0.9**
Q52A Bidwell 61.44 63 P **P** **09 48 22.1 -0.8**
Q52A IAmb IAmb 09 48 36.9
comp=Z,29nm,1.2s
LONY Lake Ozonia 61.50 53 P **P** **09 48 22.6 -0.7**
LONY IAmb IAmb 09 48 24.0
comp=Z,13nm,0.7s
LONY Lake Ozonia 61.50 53 P **P** **09 48 21.5 -1.7**
baz=316,SNR=6.0
P53A Whipple 61.55 62 P **P** **09 48 22.8 -0.8**
M55A Ridgway 61.57 58 P **P** **09 48 24.2 +0.4**

M55A IAmb IAmb 09 48 25.4
comp=Z,21nm,0.8s
O54A Avella 61.62 60 P **P** **09 48 23.8 -0.3**
S51A Beattyville 61.63 64 IAmb IAmb 09 48 38.4
comp=Z,37nm,1.4s
J57A Williamstown 61.64 55 P **P** **09 48 24.4 +0.2**
344A Westbrook Farm 61.83 74 P **P** **09 48 25.2 -0.4**
344A IAmb IAmb 09 48 40.5
comp=Z,24nm,1.1s
FRNY Flat Rock 61.84 53 P **P** **09 48 24.6 -0.9**
FRNY IAmb IAmb 09 48 42.1
comp=Z,39nm,1.5s
X48A Hartselle 61.89 69 P **P** **09 48 25.3 -0.7**
WMQ Urumqi 61.92 306 *eP* **P** **09 48 29.1 +2.9**
WMQ LR LR
comp=Z,690nm,18.1s
WMQ LR LR
comp=Z,820nm,23.3s
WMQ LR LR
comp=Z,320nm,19.7s
146A Union 61.99 72 P **P** **09 48 27.2 +0.5**
J58A Remsen 62.04 55 P **P** **09 48 27.4 +0.6**
CD2 Chengdu 62.10 285 P **P** **09 48 28.4 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
NCB Newcomb 62.14 54 P **P** **09 48 27.9 +0.4**
NCB IAmb IAmb 09 48 29.0
comp=Z,18nm,0.8s
Z47A Carrollton 62.18 71 P **P** **09 48 27.5 -0.4**
MCWV Mont Chateau 62.27 60 P **P** **09 48 28.8 +0.3**
MCWV Mont Chateau 62.27 60 P **P** **09 48 27.6 -0.9**
baz=315,SNR=6.7
J59A Piesco 62.36 54 IAmb IAmb 09 48 30.4
comp=Z,18nm,0.8s
W50A Signal Mountai 62.37 68 P **P** **09 48 28.4 -0.9**
D62A Allapoint, All 62.40 48 P **P** **09 48 28.3 -0.9**
D62A IAmb IAmb 09 48 45.7
comp=Z,34nm,1.2s
MK31 Makanchi Array 62.41 311*c iP* **P** **09 48 28.3 -1.1**
MK31 Makanchi Array 62.41 311 P **P** **09 48 28.7 -0.6**
MKAR Makanchi Array 62.41 311 P **P** **09 48 28.9 -0.5**
comp=Z,3.7nm,0.5s,baz=48,slow=6.1,SNR=59
MKAR LR LR 10 16 14.0
comp=Z,497nm,19.8s,baz=38,slow=37
MKAR Makanchi Array 62.41 311 P **P** **09 48 28.8 -0.6**
TZTN Tazewell 62.43 65 P **P** **09 48 29.7 +0.1**
TZTN Tazewell 62.43 65 P **P** **09 48 28.8 -0.8**
baz=315
V51A Loudon 62.49 66 IAmb IAmb 09 48 44.5
comp=Z,32nm,1.3s
BINY Binghamton 62.51 56 P **P** **09 48 29.6 -0.4**
BINY Binghamton 62.51 56 P **P** **09 48 30.1 0.0**
baz=316,SNR=6.6
O56A Blue Knob Stat 62.53 59 P **P** **09 48 30.2 -0.1**
O56A IAmb IAmb 09 48 44.0
comp=Z,22nm,1.1s
O56A Blue Knob Stat 62.53 59 P **P** **09 48 30.2 -0.1**
baz=316
M57A Sunshine Farm, 62.53 57 P **P** **09 48 30.2 0.0**
MAKZ Makanchi 62.55 311 P **P** **09 48 29.5 -0.8**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 62.55 311 P **P** **09 48 29.5 -0.8**
VT1 Waterbury 62.62 53 P **P** **09 48 30.9 +0.2**
SSPA Standing Stone 62.63 59 P **P** **09 48 30.5 -0.4**
SSPA Standing Stone 62.63 59 P **P** **09 48 30.7 -0.1**
baz=316
CPCT Cooper Cave 62.65 67 P **P** **09 48 30.1 -1.0**
CPCT IAmb IAmb 09 48 45.5
comp=Z,30nm,1.3s
FPAL Fort Paine 62.66 68 P **P** **09 48 30.1 -1.2**
S54A Dingess, Beckl 62.79 63 P **P** **09 48 32.1 +0.1**
BRVK Borovoye 62.80 322*c iP* **P** **09 48 32.3 +0.5**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 62.80 322 P **P** **09 48 31.7 -0.1**
BRVK IAmb IAmb 09 48 33.5
comp=Z,8.9nm,0.6s
ACCN Adirondack Com 62.84 54 P **P** **09 48 32.4 +0.2**
V52A Sevierville 62.90 66 P **P** **09 48 32.8 +0.1**
LRAL Lakeview Retre 62.93 70 P **P** **09 48 34.8 +1.9**
LRAL IAmb IAmb 09 48 45.6
comp=Z,20nm,1.4s
LRAL Lakeview Retre 62.93 70 P **P** **09 48 32.3 -0.6**
baz=316
TKL Tuckaleechee C 62.93 66 LR LR 10 15 46.7
comp=Z,420nm,20.8s,baz=325,slow=36
L59A Walton 63.01 56 P **P** **09 48 34.0 +0.6**
G62A West of Eustis 63.06 51 P **P** **09 48 34.0 +0.4**
Q56A Snyder Ridge, 63.07 61 P **P** **09 48 34.5 +0.7**
Q56A IAmb IAmb 09 48 49.0
comp=Z,11nm,0.8s
KSPA Keystone Colle 63.09 56 P **P** **09 48 34.7 +0.8**
KSPA IAmb IAmb 09 48 51.4
comp=Z,17nm,1.1s
LBNH Lisbon 63.09 52 P **P** **09 48 33.8 -0.1**
LBNH pmax pmax
comp=Z,28nm,1.2s
LBNH Lisbon 63.09 52 P **P** **09 48 33.8 -0.1**
LBNH IAmb IAmb 09 48 51.0
comp=Z,28nm,1.1s
LBNH Lisbon 63.09 52 P **P** **09 48 33.2 -0.7**
baz=317
R55A Marlinton 63.10 62 P **P** **09 48 35.1 +1.0**
W52A Murphy 63.24 67 P **P** **09 48 34.1 -0.9**
P57A Homestead Farm 63.39 59 P **P** **09 48 36.0 +0.2**
P57A IAmb IAmb 09 48 37.4
comp=Z,14nm,0.7s
J61A Chester 63.43 53 P **P** **09 48 36.5 +0.3**
J61A IAmb IAmb 09 48 37.8
comp=Z,19nm,0.8s
V53A Saluda 63.47 66 IAmb IAmb 09 48 51.2
comp=Z,30nm,1.1s
GYA Guiyang 63.52 280 ⇓P **P** **09 48 38.3 +1.2**
GYA pP pwP 09 48 52.3 +1.1
GYA pmax pmax
comp=Z,18nm,0.5s
GYA pmax pmax
comp=Z,130nm,3.5s
GYA LR LR
comp=Z,320nm,21.0s
PAGS Pennsylvania G 63.54 58 P **P** **09 48 36.2 -0.7**
N59A State Game Lan 63.55 57 P **P** **09 48 37.3 +0.4**
N59A State Game Lan 63.55 57 P **P** **09 48 36.4 -0.5**
baz=316
GOMU GeErMu 63.55 295 P **P** **09 48 37.4 -0.1**
GOMU PP **PP** **09 51 02.5 +5.4**
GOMU S **S** **09 57 06.9 -2.0**
GOMU SS **SS** **10 01 17.8 +2.0**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,62nm,5.5s
GOMU LR LR
comp=Z,290nm,17.0s
GOMU LR LR
comp=Z,310nm,17.3s
GOMU LR LR
comp=Z,270nm,17.3s
PKME Peaks-Kenny Pk 63.62 50 P **P** **09 48 37.4 +0.1**
baz=318
I62A Tamworth 63.65 52 P **P** **09 48 37.2 -0.4**
I62A IAmb IAmb 09 48 45.3
comp=Z,30nm,1.4s
BLA Blacksburg 63.70 63 P **P** **09 48 37.7 -0.4**
BLA pmax pmax
comp=Z,74nm,1.3s
BLA Blacksburg 63.70 63 P **P** **09 48 37.7 -0.4**
BLA Blacksburg 63.70 63 P **P** **09 48 37.3 -0.8**
baz=316
BG3 Lake Jocassee 63.88 66 P **P** **09 48 38.4 -0.9**
MVL Millersville 63.91 58 P **P** **09 48 39.4 +0.2**
MVL IAmb IAmb 09 48 40.7
comp=Z,8.8nm,0.7s
LUPA Lehigh Univers 63.99 57 P **P** **09 48 40.1 +0.3**
L61B Northampton 64.02 54 P **P** **09 48 40.4 +0.4**
baz=317
Y52A Lilburn 64.04 68 P **P** **09 48 39.7 -0.6**
SDMD Soldier's Deli 64.07 59 P **P** **09 48 39.8 -0.5**
SDMD IAmb IAmb 09 48 54.7
comp=Z,27nm,1.4s
ARU Arti 64.09 331 LR LR 10 21 10.3
comp=Z,982nm,18.0s,baz=42,slow=40
ARU Arti 64.09 331*c iP* **P** **09 48 40.3 +0.1**
ARU *PP **pwP** **09 48 51.8 -1.7**
ARU 09 49 14.3
ARU 09 50 57.8
ARU S **S** **09 57 15.5 +1.3**
ARU SS **SS** **10 01 25.9 +3.5**
ARU pmax pmax
comp=Z,15nm,0.6s
ARU MLR MLR
comp=Z,798nm,15.0s
ARU Arti 64.09 331 P **P** **09 48 40.1 -0.2**
KSCT Kent School, K 64.14 55 P **P** **09 48 41.0 +0.2**
V55A Taylorsville 64.24 64 P **P** **09 48 41.0 -0.6**
BRNJ Basking Ridge 64.34 56 P **P** **09 48 43.0 +0.9**
U56A King 64.35 63 IAmb IAmb 09 48 57.7
comp=Z,28nm,1.1s
PAL Palisades 64.45 56 P **P** **09 48 43.3 +0.5**
PAL pmax pmax
comp=Z,38nm,1.1s
PAL Palisades 64.45 56 P **P** **09 48 43.3 +0.5**
PAL Palisades 64.45 56 P **P** **09 48 42.4 -0.5**
baz=317
T57A Hurt 64.50 62 P **P** **09 48 42.8 -0.4**
T57A IAmb IAmb 09 48 58.5
comp=Z,19nm,1.1s
HRV Adam Dziewonsk 64.54 53 P **P** **09 48 43.4 -0.1**
baz=318
R58B Mineral 64.56 61 P **P** **09 48 43.7 +0.1**
R58B IAmb IAmb 09 49 00.3
comp=Z,25nm,1.2s
WSPT Westport, CT 64.63 55 P **P** **09 48 44.1 +0.2**
CBN Corbin Frederi 64.66 60 P **P** **09 48 44.3 +0.1**
baz=317
KMSC Kings Mountain 64.68 65 P **P** **09 48 44.4 0.0**
KMSC Kings Mountain 64.68 65 P **P** **09 48 43.9 -0.5**
baz=316,SNR=7.8
GOGA Godfrey 64.71 68 P **P** **09 48 44.8 +0.1**
GOGA pmax pmax
comp=Z,22nm,0.9s
GOGA Godfrey 64.71 68 P **P** **09 48 44.8 +0.1**
GOGA IAmb IAmb 09 48 57.6
comp=Z,22nm,0.9s
GOGA Godfrey 64.71 68 P **P** **09 48 43.7 -1.0**
baz=316,SNR=5.0
KIRV Kirov 64.75 337 LR LR 10 21 20.6
comp=Z,414nm,18.2s,baz=29,slow=40
KLMR Klimovskoe 64.83 343 *eP* **P** **09 48 48.3 +3.4**
KLMR pmax pmax
comp=Z,19nm,1.4s
KLMR Klimovskoe 64.83 343 *eP* **P** **09 48 48.3 +3.4**
KLMR AMP 09 49 01.2
comp=Z,19nm,1.4s
AFI Afiamalu 65.22 178 LR LR 10 16 58.7
comp=Z,156nm,18.6s,baz=342,slow=36
LMN Caledonia Moun 65.27 47 P **P** **09 48 48.1 0.0**
LMN IAmb IAmb 09 48 49.3
comp=Z,19nm,0.7s
JSC Jenkinsville 65.35 66 P **P** **09 48 48.9 +0.1**
JSC pmax pmax
comp=Z,62nm,1.2s
JSC Jenkinsville 65.35 66 P **P** **09 48 48.9 +0.1**
W57A Gilead 65.43 64 P **P** **09 48 49.1 -0.1**
W57A IAmb IAmb 09 49 03.8
comp=Z,13nm,0.8s
T59A Double "B" Far 65.46 61 P **P** **09 48 50.0 +0.6**
T59A IAmb IAmb 09 49 03.9
comp=Z,32nm,1.1s
BIRD Birdtown, Kers 65.54 65 P **P** **09 48 49.4 -0.6**
BIRD IAmb IAmb 09 49 03.8
comp=Z,28nm,1.1s
OTUK Ortayu 65.73 318 P **P** **09 48 51.4 +0.3**
FINES FINESS Array B 66.25 350 P **P** **09 48 53.6 -0.5**
comp=Z,2.2nm,0.5s,baz=19,slow=7.5,SNR=14
FINES PcP **PcP** **09 49 24.2 +0.2**
comp=Z,5.4nm,0.6s,baz=87,slow=2.4,SNR=6.8
FINES LR LR 10 20 44.3
comp=Z,170nm,19.6s,baz=34,slow=39
PZH PanZhiHua 66.50 283 P **P** **09 48 57.3 +0.8**
PZH pP **pwP** **09 49 11.6 +0.9**
PZH S **S** **09 57 43.3 -1.5**
PZH sS sS 09 58 03.9 +4.4
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,200nm,4.6s
PZH LR LR
comp=Z,640nm,21.2s
PZH LR LR
comp=Z,690nm,21.6s
PZH LR LR
comp=Z,810nm,24.3s
DAV Davao City (W) 66.58 251 LR LR 10 13 46.8
comp=Z,143nm,21.8s,baz=64,slow=32
TAOE Nuku Hiva Isla 66.72 144 *eS* S 09 57 23.0 -24
comp=Z,646nm,25.7s
TAOE Nuku Hiva Isla 66.72 144 *eLR* LR 10 08 34.9
comp=Z,301nm,20.4s,baz=350
KMI Kunming 66.91 282 ⇓P **P** **09 49 00.4 +1.2**
KMI pP pwP 09 49 14.0 +0.6
KMI sP PcP 09 49 20.4 -7.2
KMI pmax pmax
comp=Z,8.0nm,1.2s
KMI LR LR
comp=Z,160nm,15.6s
KMI LR LR
comp=Z,250nm,16.4s
KMI LR LR
comp=Z,170nm,18.0s
QIZ Qiongzhong 67.02 272 P **P** **09 48 59.4 -0.3**
QIZ S **S** **09 57 48.5 -2.5**
QIZ LR LR
comp=Z,210nm,8.0s
QIZ LR LR
comp=Z,330nm,21.0s
QIZ LR LR
comp=Z,200nm,20.6s
NC204 NORSAR Array S 67.45 358 P **P** **09 49 02.0 +0.1**
NC303 NORSAR Array S 67.48 357 P **P** **09 49 02.1 0.0**
NC303 IAmb IAmb 09 49 23.5
comp=Z,14nm,1.3s
456A Hilliard 67.51 69 P **P** **09 49 03.0 +0.4**
NC405 NORSAR Array S 67.59 357 P **P** **09 49 02.9 +0.2**
NC405 IAmb IAmb 09 49 20.0
comp=Z,33nm,1.4s
NB201 NORSAR Array S 67.66 357 P **P** **09 49 03.4 +0.2**
NB201 IAmb IAmb 09 49 03.8
comp=Z,7.4nm,0.7s
NB2 NORSAR Subarra 67.67 357 P **P** **09 49 02.9 -0.4**
comp=Z,1.8nm,0.7s,baz=3.8,slow=6.9
NOA NORSAR Array B 67.67 357 P **P** **09 49 02.8 -0.5**
comp=Z,0.8nm,0.5s,baz=3.5,slow=6.4,SNR=8.1
NOA pP **pwP** **09 49 16.4 -0.4**
comp=Z,0.8nm,0.6s,baz=4.2,slow=6.5,SNR=3.4
NOA PcP **PcP** **09 49 30.9 +0.9**
comp=Z,1.2nm,0.6s,baz=354,slow=3.1,SNR=4.1
NOA LR LR 10 19 41.2
comp=Z,139nm,18.6s,baz=10.0,slow=37
KDJ Kajisay 68.33 311 IAmb IAmb 09 49 32.3
comp=Z,16nm,1.4s
TARG Taragay, Kyrgy 68.34 310 IAmb IAmb 09 49 11.7
comp=Z,7.8nm,0.6s
TKM2 Tokmak 2 68.45 312 P **P** **09 49 10.1 +1.4**
SNR=10
TKM2 Tokmak 2 68.45 312 P **P** **09 49 09.3 +0.6**
HFS Hagfors 68.50 356 P **P** **09 49 07.5 -0.9**
comp=Z,3.2nm,0.6s,baz=113,slow=3.4,SNR=8.7
HFS LR LR 10 21 24.9
comp=Z,122nm,18.0s,baz=7.5,slow=38
BOOM Boomskoye usch 68.63 312 P **P** **09 49 10.9 +1.1**
BOOM pmax pmax
comp=Z,16nm,0.6s
BOOM Boomskoye usch 68.63 312 P **P** **09 49 10.9 +1.1**
BOOM IAmb IAmb 09 49 12.3
comp=Z,16nm,0.6s
USP Ospenovka 68.69 313 P **P** **09 49 11.0 +1.0**
SNR=15
KBK Karagaybulak 68.96 313 P **P** **09 49 13.2 +1.4**
SNR=7.3
AAK Ala-Archa 69.18 313 LR LR 10 21 02.3
comp=Z,250nm,18.2s,baz=43,slow=37
AAK Ala-Archa 69.18 313 P **P** **09 49 14.3 +1.2**
SNR=13
AAK Ala-Archa 69.18 313*c iP* **P** **09 49 13.9 +0.7**
AAK pmax pmax
comp=Z,32nm,1.3s
AAK Ala-Archa 69.18 313 P **P** **09 49 13.7 +0.5**
AAK IAmb IAmb 09 49 16.0
comp=Z,13nm,0.7s
AKTO Aktyubinsk 69.34 328 LR LR 10 23 21.4
comp=Z,503nm,18.4s,baz=33,slow=39
MSVF Nonsavu 69.39 189 LR LR 10 17 22.8
comp=Z,330nm,18.4s,baz=39,slow=34
MSVF Nonsavu 69.39 189 P **P** **09 49 15.2 +0.8**
MSVF pmax pmax
comp=Z,17nm,1.3s
MSVF Nonsavu 69.39 189 P **P** **09 49 15.2 +0.8**
MSVF IAmb IAmb 09 49 29.2
comp=Z,17nm,1.3s
EKS2 Erkin-Say 69.49 313 P **P** **09 49 16.1 +1.1**
SNR=24
PMG Port Moresby 69.51 222 LR LR 10 16 31.2
comp=Z,172nm,19.3s,baz=8.5,slow=33
AB31 Akbulak array 69.68 326*i* P **P** **09 49 15.8 -0.1**
ABKAR Akbulak array 69.68 326 P **P** **09 49 15.9 0.0**
SIJI Sorong 69.83 241 LR LR 10 15 40.8
comp=Z,91nm,21.6s,baz=38,slow=32
AML Almayashu 69.95 313 P **P** **09 49 20.1 +1.9**
SNR=5.5
LSA Lhasa 70.41 293 P **P** **09 49 22.5 +1.2**
LSA pmax pmax
comp=Z,38nm,0.6s
LSA Lhasa 70.41 293 P **P** **09 49 22.4 +1.2**
KKAR Karatay Array 70.59 316 P **P** **09 49 21.5 -0.1**
KKAR Karatay Array 70.59 316 P **P** **09 49 21.5 -0.1**
BELG Belogornoye 70.75 335 LR LR 10 25 28.6
comp=Z,280nm,18.1s,baz=1.9,slow=40
OBN Obninsk 70.76 342 LR LR 10 24 18.4
comp=Z,58nm,20.6s,baz=358,slow=39
OBN Obninsk 70.76 342*eP* **P** **09 49 21.6 -0.8**
OBN *e* 09 49 43.9
OBN *e* 09 51 58.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,252nm,18.0s
KSH Kashi 70.94 310 P P 09 49 27.8 +3.9
KSH pP PcP 09 49 42.8 -1.5
KSH PP **PP** **09 52 03.3 +2.5**
KSH pmax pmax
comp=Z,27nm,0.9s
KSH LR LR
comp=Z,400nm,18.2s
KSH LR LR
comp=Z,430nm,18.2s
KSH LR LR
comp=Z,680nm,18.0s
BORU Boraas 71.03 356*eP* **P** **09 49 24.0 0.0**
ONAU Onsala 71.30 357*eP* **P** **09 49 25.8 +0.2**
FABU Falkenberg 71.67 356*eP* **P** **09 49 29.4 +1.6**
PPT Papeete 71.97 156 LR LR 10 15 58.4
comp=Z,359nm,21.1s,baz=327,slow=32
PPT2 Papeete2 72.00 156*eS* S 09 58 23.2 -26
comp=Z,566nm,27.2s
PPT2 Papeete2 72.00 156*eLR* LR 10 10 54.7
comp=Z,367nm,22.5s,baz=338
DEL Delary 72.15 356*i P* **P** **09 49 31.0 +0.3**
BLEU Blekinge 72.21 355*i P* **P** **09 49 31.8 +0.7**
PABE Paberze 72.30 350 P **P** **09 49 31.5 -0.1**
MNK Minsk 72.79 347*i P* **P** **09 49 34.1 -0.4**
MNK *i* 09 52 14.1
MNK *i* PPP PPP 09 53 58.9
MNK *i* S **S** **09 58 58.3 +0.7**
MNK *i* SS **SS** **10 03 35.2 -1.2**
MNK pmax pmax
comp=Z,9.0nm,1.1s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,19nm,0.8s
MNK Minsk 72.79 347*i* P **P** **09 49 34.2 -0.4**
comp=E,2.0nm,0.7s
MNK *i* P **P** **09 49 34.2 -0.4**
comp=N,19nm,0.8s
MNK *i* P **P** **09 49 34.2 -0.4**
comp=Z,9.0nm,1.1s,baz=14
MNK *i* PP **PP** **09 52 14.2 -1.8**
MNK *i* PPP PPP 09 53 59.0
MNK *i* S **S** **09 58 58.3 +0.7**
MNK *i* SS **SS** **10 03 35.2 -1.2**
MNK *i* SSS SSS 10 06 59.0
MNK *i* LQ LQ 10 16 41.8
MNK *i* LR LR 10 22 48.7
MNK *i* LRM MLR 10 27 45.1
comp=Z,388nm,15.3s
MNK *i* LRM MLR 10 29 29.9
comp=N,2μm,16.0s
MNK *i* LRM MLR 10 29 38.8
comp=E,168nm,15.3s
EKA Eskdalemuir Ar 73.17 6 P **P** **09 49 37.1 +0.3**
comp=E,1.4nm,0.7s,baz=348,slow=4.8,SNR=5.2
RAR Rarotonga 73.48 167 LR LR 10 17 08.8
comp=E,402nm,20.3s,baz=322,slow=32
GAR Garm 73.99 313 P **P** **09 49 42.7 +0.6**
GAR IAmb IAmb 09 49 44.2
comp=Z,32nm,0.8s
TAPN Taplejung 74.15 294*eP* **P** **09 49 44.5 +1.0**
comp=Z,77nm,0.7s
CMAR Chiang Mai Arr 74.22 280 P **P** **09 49 43.2 -0.3**
comp=Z,1.7nm,0.5s,baz=22,slow=6.9,SNR=10
CMAR pP **PcP** **09 49 58.3 -0.1**
comp=Z,2.7nm,0.4s,baz=26,slow=7.3,SNR=3.2
CMAR LR LR 10 27 23.8
comp=Z,173nm,18.1s,baz=40,slow=40
CMAR Chiang Mai Arr 74.22 280*i* P **P** **09 49 45.4 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
JIRN Jiri 74.78 295*eP* **P** **09 49 48.3 +1.1**
comp=Z,131nm,0.6s
CHGR Chuyangaron 74.79 314 P **P** **09 49 46.1 -0.7**
RAMN Ramite 75.09 294*eP* **P** **09 49 49.6 +0.8**
comp=Z,50nm,0.5s
KKN Kakani 75.19 296*eP* **P** **09 49 50.3 +0.9**
PKI Pulchoki 75.29 296*eP* **P** **09 49 50.6 +0.5**
PKIN Phulchoki 75.29 296*eP* **P** **09 49 50.7 +0.7**
comp=Z,33nm,0.5s
GKN Gorkha 75.39 297*eP* **P** **09 49 51.2 +0.8**
comp=Z,97nm,0.8s
DZM Mont Dzumac 75.39 199 LR LR 10 20 01.4
comp=Z,354nm,18.6s,baz=42,slow=33
DZM Mont Dzumac 75.39 199*eS* **SKiKP** **09 59 03.5 -6.2**
comp=Z,123nm,23.2s
DZM Mont Dzumac 75.39 199*eLR* LR 10 12 30.5
comp=Z,243nm,20.2s
DMN Daman 75.43 296*eP* **P** **09 49 51.7 +0.9**
DANN Dangsing 75.61 297*eP* **P** **09 49 52.8 +1.0**
comp=Z,124nm,0.6s
KOLN Koldanda 76.14 297*eP* **P** **09 49 55.5 +0.7**
comp=Z,44nm,0.7s
PYUN Piuthan 76.22 298*eP* **P** **09 49 55.9 +0.6**
comp=Z,44nm,0.6s
AKASG Malin Array Be 76.28 345 P **P** **09 49 54.1 -0.8**
comp=Z,5.3nm,0.5s,baz=16,slow=6.0,SNR=22
AKBB Malin Array Si 76.28 345 P **P** **09 49 54.1 -0.8**
AKBB pmax pmax
comp=Z,9.0nm,0.5s
AKBB Malin Array Si 76.28 345 P **P** **09 49 54.0 -0.8**
AKBB IAmb IAmb 09 49 55.3
comp=Z,8.9nm,0.5s
CLL Collm 77.34 356*eP* **P** **09 50 02.0 +1.1**
CLL Collm 77.34 356*eP* **P** **09 50 02.0 +1.1**
CLL *ePP* **PP** **09 52 54.0 -0.5**
CLL *eS* **S** **09 59 48.0 -0.4**
CLL *ePS* **PnS** **10 00 36.0 +5.9**
CLL *eSS* SS 10 05 05.0 +19
BRG Berggiesshubel 77.73 355*eP* **P** **09 50 03.3 +0.2**
BRG Amp 09 50 04.6
comp=Z,7.2nm,0.7s
BRG *ex* x 09 50 16.1
BRG Amp 09 50 17.6
comp=Z,6.9nm,0.9s
BRG Berggiesshubel 77.73 355*eP* **P** **09 50 03.3 +0.2**
BRG *e* 09 50 16.1
BRG pmax pmax
comp=Z,7.0nm,0.7s
CHVC Chvalec 77.89 354*eP* **P** **09 50 04.1 +0.1**
OSTC Ostas 77.91 354*eP* **P** **09 50 04.8 +0.7**
UPC Upice 77.97 354*eP* **P** **09 50 05.2 +0.7**
UPC Upice 77.97 354*eP* **P** **09 50 05.2 +0.7**
MOX Moxa 78.06 357*eL* L 10 26 11.7
comp=Z,167nm,18.3s
DPC Dobruska-Polom 78.11 354*eP* **P** **09 50 05.7 +0.4**
DPC MLR MLR
comp=Z,400nm,16.5s

comp=Z,16nm,1.2s
DPC Dobruska-Polom 78.11 354 *e*P **P** 09 50 05.7 +0.4
DPC AMS AMS 10 34 30.0
comp=Z,400nm,16.5s
KBL Kabul 78.22 312 P **P** 09 50 05.1 -1.3
KBL pmax pmax
comp=Z,20nm,0.7s
KBL Kabul 78.22 312 P **P** 09 50 05.1 -1.3
KBL IAmb IAmb 09 50 07.7
comp=Z,20nm,0.7s
PRU Pruhonice 78.58 355 *e*P **P** 09 50 08.6 +0.8
PRU Pruhonice 78.58 355 *e*P **P** 09 50 08.6 +0.8
MORC Moravsky Berou 78.58 353 ⇑P **P** 09 50 08.1 +0.2
MORC Moravsky Berou 78.58 353 ⇑P **P** 09 50 08.1 +0.2
SORM Soroca 78.91 345 ⇓P **P** 09 50 09.3 -0.3
SORM Soroca 78.91 345 ⇓P **P** 09 50 09.3 -0.3
GRF Grafenberg Arr 79.03 357 *e*P **P** 09 50 11.2 +0.8
comp=Z,18nm,0.7s,baz=5.5,slow=4.8
GRF *e*L L 10 27 53.4
comp=Z,186nm,18.9s
LANS Liptovska Anna 79.04 351 *e*P **P** 09 50 11.9 +1.5
LANS Liptovska Anna 79.04 351 *e*P **P** 09 50 11.9 +1.5
VRAC Vranov 79.12 353 ⇑P **P** 09 50 11.6 +0.8
VRAC Vranov 79.12 353 P **P** 09 50 10.9 0.0
comp=Z,5.6nm,0.6s,baz=39,slow=5.3,SNR=7.4
VRAC LR LR 10 25 31.6
comp=Z,100nm,22.0s,baz=8.5,slow=36
VRAC Vranov 79.12 353 ⇑P **P** 09 50 11.6 +0.8
TREC Trest 79.21 354 AMS AMS 10 35 10.0
comp=Z,400nm,23.8s
UZH Uzhgorod 79.26 349 *e*P **P** 09 50 11.2 -0.3
UZH *e* 09 50 16.4
UZH *e* 09 50 25.2
MAK Makhachkala 79.32 331 *e*P **P** 09 50 10.3 -1.7
MAK *e* 09 53 12.9
MAK *e*PPP PPP 09 55 08.4
MAK *e*S **S** **10 00 10.0 +0.2**
MAK *e*SSS SSS 10 08 37.7
MAK pmax pmax
comp=Z,41nm,0.6s
KHC Kasperske Hory 79.49 355 ⇑*i*P **P** 09 50 13.4 +0.5
KHC pmax pmax
comp=Z,36nm,1.6s
KHC Kasperske Hory 79.49 355 *e*P **P** 09 50 13.1 +0.2
KHC *e*pP **pwP** 09 50 26.0 -0.3
KHC AMS AMS 10 36 20.0
comp=Z,300nm,16.7s
CTA Charters Tower 79.54 218 LR LR 10 21 07.3
comp=Z,88nm,19.8s,baz=25,slow=32
KAPI Kappang 79.72 248 LR LR 10 23 16.1
comp=Z,46nm,19.1s,baz=54,slow=34
TRPA Tarpa 79.72 349 ⇑P **P** 09 50 14.6 +0.5
CKRC Cesky Krumlov 79.76 355 AMS AMS 10 30 50.0
comp=Z,300nm,21.7s
GERES GERESS Array B 79.77 355 P **P** 09 50 14.1 -0.4
comp=Z,1.5nm,0.6s,baz=3.9,slow=5.9,SNR=15
GERES pP **pwP** 09 50 27.8 -0.1
comp=Z,1.1nm,0.6s,baz=349,slow=4.1,SNR=3.9
KIV Kislovodsk 79.80 334 ⇑P **P** 09 50 15.3 +0.5
KIV Kislovodsk 79.80 334 *e*P **P** 09 50 16.3 +1.6
KIV pmax pmax
comp=Z,13nm,1.0s
BUR08 Bucovina Ar. S 79.86 347 P **P** 09 50 15.2 +0.2
BURAR Bucovina Array 79.88 347 ⇑P **P** 09 50 15.0 -0.1
BURAR Bucovina Array 79.88 347 ⇑P **P** 09 50 15.0 -0.1
KBZ Khabaz 79.95 334 P **P** 09 50 15.9 +0.6
comp=Z,5.0nm,0.7s,baz=164,slow=3.5,SNR=13
KBZ LR LR 10 31 43.9
comp=Z,234nm,18.0s,baz=26,slow=40
KBZ Khabaz 79.95 334 P **P** 09 50 16.0 +0.6
NCK Nalchik 79.98 333⇓*e*P **P** 09 50 17.1 +1.5
NCK pmax pmax
comp=Z,49nm,0.6s
GEYT Alibeck 80.07 321 P **P** 09 50 16.5 +0.3
comp=Z,3.3nm,0.5s,baz=281,slow=10,SNR=6.5
GEYT LR LR 10 29 37.3
comp=Z,608nm,18.0s,baz=46,slow=39
GEYT Alibeck 80.07 321 P **P** 09 50 16.3 +0.1
GEYT IAmb IAmb 09 50 40.6
comp=Z,17nm,1.2s
ZEI Tsey 80.54 333 *e*P **P** 09 50 17.8 -1.1
ZEI pmax pmax
comp=Z,10.0nm,0.6s
CONA Conrad Observa 80.55 354 *e*P **P** 09 50 19.4 +0.8
comp=Z,4.7nm,0.6s
ECH Echery 80.59 359 P **P** 09 50 18.1 -0.7
ECH pmax pmax
comp=Z,20nm,1.4s
ECH Echery 80.59 359 P **P** 09 50 18.1 -0.7
ECH IAmb IAmb 09 50 19.9
comp=Z,20nm,1.4s
BIOA Bad Ischl, Aus 80.92 355 *e*P **P** 09 50 21.4 +0.8
comp=Z,1.9nm,0.4s
SOC Sochi 80.93 336 *e*P **P** 09 50 19.8 -0.8
SOC *e* 09 53 23.5
SOC *e*PPP PPP 09 55 17.1
SOC *e*S **S** **10 00 27.1 +0.4**
SOC *e*SS **SS** **10 05 46.0 +6.4**
SOC *e*SSS SSS 10 09 09.9
SOC MLR MLR
comp=Z,306nm,18.0s
JTS Las Juntas de 81.18 85 LR LR 10 25 34.2
comp=Z,73nm,20.1s,baz=26,slow=35
ARSA Arzberg 81.25 354 *e*P **P** 09 50 23.1 +0.8
comp=Z,4.4nm,0.6s
RETA Reutte 81.25 357 *e*P **P** 09 50 23.0 +0.6
comp=Z,1.9nm,0.5s
WATA Walderalm 81.37 356 *e*P **P** 09 50 23.6 +0.5
comp=Z,2.3nm,0.4s
VRI Vrincioaia 81.37 346 ⇑P **P** 09 50 24.5 +1.5
VRI Vrincioaia 81.37 346 ⇑P **P** 09 50 24.5 +1.5
MOTA Moosalm 81.38 357 *e*P **P** 09 50 24.6 +1.4
comp=Z,6.7nm,1.1s
HRA Herat 81.41 316 P **P** 09 50 24.3 +0.6
HRA IAmb IAmb 09 50 25.8
comp=Z,16nm,0.8s
WTTA Wattenberg 81.44 356 *e*P **P** 09 50 24.3 +0.7
comp=Z,6.3nm,0.6s
DAVA Damuels 81.48 358 *e*P **P** 09 50 23.7 0.0
comp=Z,1.7nm,0.6s
SQTA Sankt Quirin 81.50 357 *e*P **P** 09 50 24.8 +1.0
comp=Z,5.9nm,0.8s
KBA Koelnbreinsper 81.55 355 *e*P **P** 09 50 25.2 +1.1
comp=Z,14nm,0.7s
FETA Feichten 81.72 357 *e*P **P** 09 50 25.8 +0.8
comp=Z,9.9nm,1.6s
BATI Baumata 81.73 242 LR LR 10 21 39.9
comp=Z,72nm,19.9s,baz=32,slow=32
CFR Carcaliu 81.82 345 ⇑P **P** 09 50 25.9 +0.6
CFR Carcaliu 81.82 345 ⇑P **P** 09 50 25.9 +0.6
SOKA Soboth 81.85 354 *e*P **P** 09 50 26.2 +0.6
comp=Z,8.3nm,0.9s
MLR Muntele Rosu 81.86 346 ⇑P **P** 09 50 26.1 +0.4
MLR Muntele Rosu 81.86 346 P **P** 09 50 25.9 +0.2
comp=Z,2.8nm,0.6s,baz=114,slow=8.6,SNR=4.5
MLR LR LR 10 33 12.9
comp=Z,99nm,18.3s,baz=19,slow=40
MLR Muntele Rosu 81.86 346 ⇑P **P** 09 50 26.1 +0.4
ABTA Abfaltersbach 81.92 356 *e*P **P** 09 50 25.7 -0.2
comp=Z,6.0nm,1.0s
MYKA Terra Mystica 81.98 355 *e*P **P** 09 50 27.2 +0.9
comp=Z,1.2nm,0.3s
DAVOX Davos/Dischmat 81.98 358 P **P** 09 50 26.5 0.0
comp=Z,5.1nm,0.5s,baz=156,slow=19,SNR=11
DAVOX LR LR 10 25 34.2
comp=Z,108nm,22.0s,baz=77,slow=35
OBKA Obir 82.05 354 *e*P **P** 09 50 27.5 +0.8
comp=Z,5.5nm,0.8s
TPGR Topolog 82.09 344 ⇑P **P** 09 50 27.1 +0.4
TUE Stuetta 82.30 358 P **P** 09 50 27.9 -0.2
TUE IAmb IAmb 09 50 44.0
comp=Z,19nm,1.3s
HARR Harsova 82.33 345 ⇑P **P** 09 50 29.1 +1.1
HARR Harsova 82.33 345 ⇑P **P** 09 50 29.1 +1.1
GZR Gura Zlata 82.39 348 ⇑P **P** 09 50 28.3 -0.1
GZR Gura Zlata 82.39 348 ⇑P **P** 09 50 28.3 -0.1
TIRR Tirgusor 82.47 344 ⇑P **P** 09 50 29.6 +0.8
TIRR Tirgusor 82.47 344 ⇑P **P** 09 50 29.6 +0.8
TIRR Tirgusor 82.47 344 P **P** 09 50 29.6 +0.8
GNI Garni 82.73 331 LR LR 10 33 50.8
comp=Z,289nm,19.3s,baz=24,slow=40
BNI Bardonecchia 83.76 360 P **P** 09 50 36.1 +0.5
BNI pmax pmax
comp=Z,16nm,1.2s
BNI Bardonecchia 83.76 360 P **P** 09 50 36.1 +0.5
BNI IAmb IAmb 09 51 06.7
comp=Z,16nm,1.2s
WB0 Warramunga Arr 84.32 228 P **P** 09 50 37.8 -0.7
WB0 IAmb IAmb 09 50 52.6
comp=Z,14nm,1.1s
WRAB Tennant Creek 84.48 228⇑*e*P **P** 09 50 38.2 -1.1
WRAB pmax pmax
comp=Z,19nm,1.6s
WRAB Tennant Creek 84.48 228 P **P** 09 50 38.5 -0.8
WRAB IAmb IAmb 09 50 51.9
comp=Z,18nm,1.4s
WB2 Warramunga Arr 84.49 228 P **P** 09 50 39.1 -0.2
WB2 IAmb IAmb 09 50 54.2
comp=Z,15nm,1.2s
WRA Warramunga Arr 84.49 228 P **P** 09 50 38.0 -1.3
comp=Z,1.9nm,0.6s,baz=32,slow=5.7,SNR=24
WRA LR LR 10 23 26.1
comp=Z,101nm,21.1s,baz=20,slow=32
GEVA Gevas 84.92 332 P **P** 09 50 42.4 +0.7
GEVA IAmb IAmb 09 51 05.8
comp=Z,24nm,1.4s
VTS Vitosha 85.06 348 ⇑P **P** 09 50 42.9 +0.6
VTS Vitosha 85.06 348 ⇑P **P** 09 50 42.9 +0.6
VTS Vitosha 85.06 348 P **P** 09 50 42.4 +0.2
VTS IAmb IAmb 09 50 43.9
comp=Z,22nm,1.5s
BR131 Keskin Array S 86.02 339⇓*e*P **P** 09 50 47.4 +0.3
BR131 Keskin Array S 86.02 339 P **P** 09 50 46.1 -1.0
BR131 IAmb IAmb 09 50 50.1
comp=Z,7.6nm,0.7s
BRTR Keskin Array B 86.02 339 P **P** 09 50 47.0 -0.1
comp=Z,3.9nm,0.6s,baz=30,slow=2.7,SNR=17
BRTR LR LR 10 36 17.3
comp=Z,194nm,18.4s,baz=34,slow=41
BRTR Keskin Array B 86.02 339 *i* P **P** 09 50 47.7 +0.6
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 86.02 339 P **P** 09 50 46.6 -0.4
PSI Prapat 86.26 270 LR LR 10 28 30.8
comp=Z,69nm,21.3s,baz=29,slow=35
ALN Alexandroupoli 86.33 345 P **P** 09 50 47.9 -0.5
ALN pmax pmax
comp=Z,14nm,1.2s
ALN Alexandroupoli 86.33 345 P **P** 09 50 47.9 -0.5
ALN IAmb IAmb 09 51 11.5
comp=Z,14nm,1.2s
SJG San Juan 86.36 65 LR LR 10 29 32.4
comp=Z,106nm,19.8s,baz=313,slow=36
BORA Eskisehir 86.54 342 P **P** 09 50 48.4 -1.2
BORA IAmb IAmb 09 50 52.0
comp=Z,9.0nm,0.6s
FNA Florina 87.10 349 P **P** 09 50 52.1 -0.1
FNA pmax pmax
comp=Z,20nm,0.6s
FNA Florina 87.10 349 P **P** 09 50 52.1 -0.1
HYBB Hyderabad (bro 87.15 295 *e*P **P** 09 50 52.9 +0.2
FITZ Fitzroy Crossi 87.22 236 LR LR 10 27 01.7
comp=Z,88nm,20.5s,baz=62,slow=34
AS31 Alice Springs 87.91 227 P **P** 09 50 56.8 +0.7
ASAR Alice Springs 87.91 227 P **P** 09 50 55.8 -0.3
comp=Z,3.9nm,0.7s,baz=26,slow=4.8,SNR=45
ASAR Alice Springs 87.91 227 P **P** 09 50 56.4 +0.3
ASAR Alice Springs 87.91 227 P **P** 09 50 56.4 +0.3
ESDC Sonseca Array 88.68 8 P **P** 09 50 59.9 +0.1
comp=Z,1.0nm,0.6s,baz=354,slow=4.2,SNR=6.8
ESDC Sonseca Array 88.68 8 P **P** 09 50 59.3 -0.5
URZ Urewera 89.83 187 LR LR 10 27 57.7
comp=Z,178nm,18.9s,baz=31,slow=33
VAE Valguarnera 91.05 354 LR LR 10 35 19.2
comp=Z,188nm,18.9s,baz=138,slow=38
SDV Santo Domingo 91.05 74 LR LR 10 32 59.0
comp=Z,157nm,20.6s,baz=346,slow=36
STKA Stephens Creek 91.95 217 P **P** 09 51 15.6 +0.9
comp=Z,4.2nm,0.7s,baz=345,slow=12,SNR=6.8
STKA LR LR 10 30 11.1
comp=Z,203nm,18.6s,baz=25,slow=34
STKA Stephens Creek 91.95 217 IAmb IAmb 09 51 16.2
comp=Z,1.1nm,0.8s
IDI Anoyia 92.00 345 LR LR 10 38 00.3
comp=Z,89nm,19.6s,baz=26,slow=39
MMAI Mount Meron Ar 92.00 336 LR LR 10 39 29.6
comp=Z,57nm,18.4s,baz=190,slow=40
WSAR Wadi Sarin 92.59 313 LR LR 10 37 06.6
comp=Z,210nm,21.5s,baz=66,slow=38
PALK Pallekele 93.98 287 LR LR 10 36 37.5
comp=Z,120nm,21.2s,baz=148,slow=37
EIL Elat 95.30 335 LR LR 10 42 12.8
comp=Z,209nm,18.1s,baz=84,slow=40
MDT Midelt 95.42 9 LR LR 10 38 40.0
comp=Z,117nm,18.1s,baz=352,slow=38
RPZ Rata Peaks 95.84 191 LR LR 10 30 08.8
comp=Z,259nm,19.4s,baz=308,slow=32
RPN Rapa Nui 96.47 126 LR LR 10 29 45.8
comp=Z,138nm,18.1s,baz=20,slow=32
RAYN Ar Rayn 97.73 324 P **P** 09 51 41.4 -0.3
RAYN pmax pmax
comp=Z,8.0nm,1.5s
RAYN Ar Rayn 97.73 324 P **P** 09 51 41.4 -0.3
RAYN IAmb IAmb 09 52 04.1
comp=Z,8.2nm,1.4s
TORD Torodi Ar. Bea 115.42 5 PKP **PKiKP** 09 56 48.3 -0.2
comp=Z,0.3nm,0.6s,baz=338,slow=3.5,SNR=2.5
H03N2 Juan Fernandez 118.09 109 T T 12 06 36.8
baz=313,slow=76,SNR=10.0
H03N1 Juan Fernandez 118.11 109 T T 12 06 38.3
baz=309,slow=76,SNR=12
H03N3 Juan Fernandez 118.11 109 T T 12 06 05.0
SNR=11
PLCA Paso Flores 127.94 110 PKP **PKPdf** 09 57 11.6 -0.2
comp=Z,1.3nm,0.7s,baz=213,slow=3.3,SNR=5.9
VNDA Vanda 129.73 187 PKP **PKiKP** 09 57 14.1 -0.6
comp=Z,0.9nm,0.9s,baz=267,slow=2.3,SNR=3.0
MATP Matopo 144.44 323 *i* P **PKPdf** 09 57 42.5 -0.3
MATP Matopo 144.44 323 *i* P **PKPdf** 09 57 42.5 -0.3
MSNA Messina 145.57 319 *i* P **PKPab** 09 57 45.9 +0.8
MSNA Messina 145.57 319 *i* P **PKPab** 09 57 45.9 +0.8
LBTB Lobatse 149.70 324 *i* P **PKPbc** 09 57 54.3 -1.9
LBTB Lobatse 149.70 324 *i* P **PKPbc** 09 57 54.3 -1.9
BOSA Boshof 153.07 321 PKPbc **PKPbc** 09 58 03.5 -0.4
comp=Z,2.0nm,0.5s,baz=32,slow=2.0,SNR=11
BOSA Boshof 153.07 321 **PKPbc** 09 58 03.3 -0.6
BOSA **PKPab** 09 58 16.5 +1.1
BOSA Boshof 153.07 321 *i* P **PKPdf** 09 57 59.9 +3.3
BOSA Boshof 153.07 321 *i* P **PKPdf** 09 57 59.9 +3.3
SYO Syowa Base 156.50 210 ⇑*i*PKPdf pPKPdf 09 58 04.3 -5.0
SYO Syowa Base 156.50 210⇓*e*PKPab **PKPab** 09 58 32.0 +3.2

IDC 18 09:42:18.1±2.7,**53.67N×86.96E,h0**km,**mb1 2.7**/2,
mb1mx2.6/71,**mbtmp2.7**/2,**ML2.0**/2,**Error ellipse:**
s-maj=24.2km s-min=15.3km az=74.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**283**	*i*			09 51 20.3	
	baz=99,slow=341,SNR=3.0							
ZALV	**Zalesovo Beam**	**1.30**	**283**	Pg		Pg	09 42 41.9	-1.1
	0.4nm,0.3s,baz=102,slow=15,SNR=10							
ZALV				Lg		Lg	09 42 59.8	
	0.6nm,0.3s,baz=106,slow=26,SNR=13							
KURBB	**Kurchatov Arra**	**6.02**	**243**	Pn		Pn	09 43 49.4	+1.1
	0.0nm,0.3s,baz=59,slow=14,SNR=3.6							
KURBB				Lg		Lg	09 45 29.1	
	0.1nm,0.3s,baz=60,slow=32,SNR=5.1							
MKAR	**Makanchi Array**	**7.51**	**205**	Pn		Pn	09 44 10.2	+1.5
	0.1nm,0.3s,baz=26,slow=15,SNR=3.4							
MKAR				Lg		Lg	09 46 13.8	
	0.0nm,0.3s,baz=24,slow=32,SNR=4.4							

*AEIC **18** 09:45:50*±*1.3,51.5N*±*0.2×173.6W*±*0.2,h26km*±*9km,ML2.5,*
mb3.8/9(NEIC),Error ellipse: s-maj=27.1km s-min=10.0km
az=157.0

NEIC 18 09:45:50.2±0.8,**51.4N**±0.2×**173.5W**±0.2,**h51**km,38km,
Error ellipse: s-maj=35.8km s-min=17.1km az=189.0,
Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSTR	**Great Sitkin T**	**1.70**	**294**	Pn		Pn	09 46 18.0	+0.5
ADK	**Adak**	**2.01**	**284**	Pn		Pn	09 46 21.4	-0.3
KIWB	**Kanaga Island**	**2.29**	**282**	Pn		Pn	09 46 25.1	-0.4
SII	**Sitkinak Islan**	**12.48**	**58**	Pn		Pn	09 48 44.5	-0.4
RDOG	**Red Dog Mine**	**17.47**	**13**			P	09 49 50.6	+0.1
H21K	**Melozitna Rive**	**17.77**	**29**			Pn	09 49 53.6	0.0
J25K	**Salcha River,**	**19.70**	**37**	P		P	09 50 14.5	-0.4
J25K				IAmb		IAmb	09 50 43.8	
	comp=Z,5.1nm,1.1s							
M27K	**Edge Creek, AK**	**20.23**	**45**	P		P	09 50 21.9	+1.0
BCAR	**Beaver Creek A**	**20.51**	**43**	P		Pn	09 50 25.4	-1.0
TOLK	**Toolik Lake Re**	**20.75**	**25**	P		P	09 50 26.0	-0.4
TOLK				IAmb		IAmb	09 50 55.3	
	comp=Z,5.4nm,1.1s							
EGAK	**Eagle**	**21.39**	**39**	P		P	09 50 33.5	+0.3
EGAK				IAmb		IAmb	09 50 58.8	
	comp=Z,7.6nm,1.4s							
DAWY	**Dawson**	**21.85**	**42**	P		P	09 50 38.3	+0.2
M30M	**Minto, Yukon**	**22.57**	**46**	P		P	09 50 45.6	-0.3
M30M				IAmb		IAmb	09 51 11.8	
	comp=Z,4.8nm,1.4s							

*MAN **18** 09:50:32.0,16.26N×119.55E,h14km,mb4.6,ML3.5,*
MS3.3
*NEIC **18** 09:50:38.5*±*1.4,16.43N*±*0.08×120.2E*±*0.2,h102km*±*9km,*
mb4.1/15,Error ellipse: s-maj=21.7km s-min=11.2km
az=78.0
*IDC **18** 09:50:40.8*±*2.6,16.24N×119.91E,h124km*±*26km,mb3.5/7,*
mb1 3.7/8,mb1mx3.3/50,mbtmp3.9/8,MS3.4/1,Ms1 3.4/1,
ms1mx2.7/60,Error ellipse: s-maj=50.8km s-min=14.4km
az=61.0

ISC 18 09:50:33.5±1.0,**16.19N**±0.05×**119.60E**±0.08,**h44**km±10km,
n44,σ2.9**21/42,mb4.1**/14,**7C-5D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOLP	**Bolinao**	**0.35**	**58**⇓	*e*P		**Pn**	**09 50 40.8**	**-1.8**
BOLP				*e*S		**Sn**	**09 50 49.2**	**+0.2**
SCZP	**Santa Cruz**	**0.51**	**144**⇓	*e*P		**Pn**	**09 50 43.9**	**-0.6**
SCZP				*e*S		**Sn**	**09 50 52.5**	**+0.2**
SMPP	**San Manuel, Pa**	**1.04**	**92**⇓	*e*P		**Pn**	**09 50 52.1**	**+0.5**
SMPP				*e*S		**Sn**	**09 51 08.2**	**+3.3**
SAMP	**Sagada Mountai**	**1.53**	**55**⇑	*e*P		**Pn**	**09 50 58.2**	**-0.1**
SAMP				*e*S		**Sn**	**09 51 19.6**	**+2.6**
PCPH	**Palayan**	**1.57**	**113**⇑	*e*P		**Pn**	**09 51 00.1**	**+1.3**
SIPP	**Brgy, Tapao**	**1.91**	**25**⇓	*i*P		Pn	09 51 10.5	+7.0
SIPP				*i* S		Sn	09 51 51.3	+25
BALP	**Baler**	**1.95**	**103**⇑	*e*P		**Pn**	**09 51 06.1**	**+2.0**
BALP				*e*S		Sn	09 51 36.9	+10
QVP	**Quezon City--P**	**2.06**	**139**⇓	*e*P		**Pn**	**09 51 08.1**	**+2.5**
QVP				*e*S		Sn	09 51 40.8	+11
MACP	**Maragondon, Ca**	**2.20**	**151**⇑	*e*P		**Pn**	**09 51 09.4**	**+1.8**
MACP				*e*S		Sn	09 51 43.2	+10
APYP	**Conner**	**2.28**	**43**⇑	*e*P		**Pn**	**09 51 09.8**	**+1.1**
APYP				*e*S		**Sn**	**09 51 40.1**	**+4.4**
TGY	**Tagaytay City**	**2.44**	**148**	P		Pn	09 51 19.0	+8.0
	124nm,0.3s,baz=218,slow=7.1,SNR=2.4							
TGY				S		Sn	09 51 54.9	+15
	72nm,0.3s,baz=310,slow=16,SNR=5.4							
LUBP	**Lubang**	**2.52**	**166**⇑	*e*P		**Pn**	**09 51 13.0**	**+1.0**
LQP	**Lukban**	**2.79**	**138**⇑	*e*P		Pn	09 51 19.7	+3.8
TWG	**Pinlang**	**6.74**	**12**	Pn		**Pn**	**09 52 10.3**	**+0.5**
TPUB	**Ta-pu**	**7.14**	**8**	Pn		**Pn**	**09 52 16.6**	**+1.2**
YULB	**Yu-li**	**7.34**	**12**	Pn		**Pn**	**09 52 18.4**	**+0.3**
SSLB	**Suanglung**	**7.66**	**9**	Pn		**Pn**	**09 52 21.8**	**-0.8**
YHNB	**Yeheng**	**8.60**	**11**	Pn		**Pn**	**09 52 35.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.85**	**280**	P		**Pn**	**09 55 05.2**	**+2.4**
	3.4nm,0.4s,baz=96,slow=8.1,SNR=4.3							
KULM	**Kulim**	**21.52**	**242**	P		**P**	**09 55 24.1**	**+5.2**
KULM				IAmb		IAmb	09 55 35.4	
	comp=Z,20nm,1.5s							
JWT	**Wachi**	**23.69**	**34**	P		P	09 55 34.2	-7.0
GUMO	**Guam**	**24.55**	**93**	LR		LR	10 03 41.0	
	comp=Z,107nm,21.5s,baz=48,slow=32							
MAJO	**Matsushiro**	**26.15**	**36**	P		**P**	**09 55 57.6**	**-6.1**
MAJO				IAmb		IAmb	09 55 57.8	
	comp=Z,12nm,1.4s							
MJB9	**Matsu-Tunnel**	**26.15**	**36**	P		**P**	**09 55 58.1**	**-5.6**
MJB9				IAmb		IAmb	09 56 17.1	
	comp=Z,4.4nm,0.9s							
SONM	**Songino Array**	**33.38**	**344**	P		**P**	**09 57 07.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=167,slow=12,SNR=4.3							
SONM	**Songino Array**	**33.38**	**344**	IAmb		IAmb	09 57 18.3	
	comp=Z,1.2nm,1.2s							
WB0	**Warramunga Arr**	**38.58**	**157**	P		**P**	**09 57 50.9**	**-1.5**
WB0				IAmb		IAmb	09 58 18.0	
	comp=Z,11nm,1.5s							
WRAB	**Tennant Creek**	**38.72**	**157**	P		**P**	**09 57 52.3**	**-1.2**
WRAB				IAmb		IAmb	09 57 52.8	
	comp=Z,6.3nm,1.0s							
WRA	**Warramunga Arr**	**38.72**	**158**	P		**P**	**09 57 52.0**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=336,slow=9.4,SNR=16							
WRA	**Warramunga Arr**	**38.72**	**158**	P		**P**	**09 57 51.0**	**-2.5**
WB2	**Warramunga Arr**	**38.73**	**157**	P		**P**	**09 57 52.1**	**-1.5**
WR0	**Warramunga Arr**	**38.81**	**157**	P		**P**	**09 57 52.6**	**-1.8**
AS31	**Alice Springs**	**42.01**	**160**	P		**P**	**09 58 19.3**	**-1.4**
AS31				IAmb		IAmb	09 58 20.2	
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**42.01**	**160**	P		**P**	**09 58 19.9**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=336,slow=6.8,SNR=42							
MK31	**Makanchi Array**	**43.41**	**323**	P		**P**	**09 58 31.4**	**-0.5**
MKAR	**Makanchi Array**	**43.41**	**323**	P		**P**	**09 58 32.3**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=120,slow=10,SNR=2.6							
ZAA0	**Zalesovo Array**	**46.37**	**332**	P		**P**	**09 58 54.4**	**-0.9**
ZAA0				IAmb		IAmb	09 59 02.4	
	comp=Z,2.1nm,0.9s							
ZALV	**Zalesovo Beam**	**46.37**	**332**	P		**P**	**09 58 55.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=122,slow=5.2,SNR=2.2							
KURK	**Kurchatov**	**47.54**	**326**	P		**P**	**09 59 04.5**	**0.0**
KURK	**Kurchatov**	**47.54**	**326**	IAmb		IAmb	09 59 05.3	
	comp=Z,4.5nm,0.8s							
KURBB	**Kurchatov Arra**	**47.54**	**325**	P		**P**	**09 59 04.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=120,slow=8.6,SNR=7.3							
KKAR	**Karatay Array**	**49.49**	**313**	P		**P**	**09 59 19.5**	**-0.2**
BBOO	**Buckleboo**	**51.21**	**162**	P		**P**	**09 59 31.9**	**-0.8**
ABKAR	**Akbulak array**	**58.17**	**318**	P		**P**	**10 00 23.4**	**+0.4**

*NEIC **18** 09:53:48.6*±*1.5,6.14N*±*0.06×126.1E*±*0.1,h53km*±*9km,*
mb4.4/21,Error ellipse: s-maj=15.7km s-min=8.5km
az=72.0
*DJA **18** 09:53:53.6*±*0.4,6°N*±*4°×12°6E*±*°,h153km*±*5km,M4.4/12,*
mB4.9/7,mb4.4/12,MLv4.7/11,Mw(mB)4.2/7
*IDC **18** 09:53:55.2*±*1.1,6.00N×126.33E,h117km*±*13km,mb3.7/10,*
mb1 3.9/12,mb1mx3.6/43,mbtmp4.1/12,Error ellipse:
s-maj=38.1km s-min=11.1km az=82.0
*MAN **18** 09:53:55.1,6.10N×126.32E,h119km,mb4.7,ML3.6,*
MS3.6

ISC 18 09:53:53.4±0.5,**5.91N**±0.05×**126.34E**±0.08,**h100**km,**n53,**
σ1.8**81/54,mb4.2**/18,**2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**1.03**	**356**⇑	*e*P		**Pn**	**09 54 16.3**	**+2.1**
MATI				*e*S		**Sn**	**09 54 35.1**	**+5.3**
DAV	**Davao City (W)**	**1.37**	**327**	P		**Pn**	**09 54 19.7**	**+1.5**
	230nm,0.3s,baz=257,slow=3.5,SNR=12							
DAV				S		**Sn**	**09 54 39.2**	**+2.3**
	279nm,0.3s,baz=272,slow=23,SNR=9.1							
DAV	**Davao City (W)**	**1.37**	**327**	Pn		Pn	09 54 06.9	-11
BIPH	**Bislig**	**2.26**	**1**⇓	*e*P		**Pn**	**09 54 30.1**	**+0.7**
BIPH				*i* S		**Sn**	**09 54 57.8**	**+0.9**
BUKP	**Musuan**	**2.33**	**327**⇑	*e*P		**Pn**	**09 54 32.3**	**+1.9**
BUKP				*e*S		**Sn**	**09 54 57.7**	**-0.9**
SGSI	**Sangihe**	**2.35**	**200**	P		**Pn**	**09 54 34.9**	**+4.2**
TNTI	**Ternate**	**5.21**	**169**			**Pn**	**09 55 07.3**	**-1.8**
TNTI	**Ternate**	**5.21**	**169**	P		**Pn**	**09 55 11.4**	**+2.3**
	0.4nm2μm106nm,0.8s							
KMSI	**Cibinong**	**5.80**	**204**	P		**Pn**	**09 55 20.1**	**+3.0**
	0.6nm97nm,0.6s							
GTOI	**Gorontalo**	**6.21**	**212**	P		**Pn**	**09 55 24.2**	**+1.6**
	0.3nm718nm76nm,0.8s							
LBMI	**Labuha**	**6.61**	**170**	P		**Pn**	**09 55 30.6**	**+2.5**
	0.3nm1μm35nm,0.8s							
MRSI	**Marisa**	**6.96**	**219**	P		**Pn**	**09 55 33.7**	**+0.9**
	0.3nm66nm,1.0s							
TOLI2	**Tolitoli**	**7.31**	**229**			Pn	09 55 32.5	-5.2
SANI	**Sanana**	**7.92**	**183**	P		**Pn**	**09 55 45.3**	**-0.6**
	6μm145nm,0.8s							
APSI	**Ampana**

SBUM	**Sibu**	**14.49**	**257**	Pn	Pn	09 57 09.2	-4.6
JAY	**Jayapura**	**16.61**	**120**	P	**Pn**	**09 57 39.0**	**-1.5**
	7.5nm,0.8s						
PLAI	**Plampang**	**16.95**	**210**	P	**Pn**	**09 57 42.4**	**-2.1**
	2µm21nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.76**	**220**	P	**P**	**09 58 01.9**	**-2.8**
JAGI				IAmb	IAmb	09 58 02.6	
	comp=Z,30nm,1.2s						
JAGI	**Jajag, Banyuwa**	**18.76**	**220**	P	**P**	**09 58 01.1**	**-3.7**
	comp=Z,17nm,1.5s						
MTN	**Manton Dam**	**19.23**	**166**	P	**Pn**	**09 58 12.0**	**0.0**
MTN				IAmb	IAmb	09 58 13.4	
	comp=Z,18nm,0.8s						
KNRA	**Kununurra**	**21.59**	**174**	P	**P**	**09 58 37.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**23.87**	**182**	P	**P**	**09 58 58.9**	**+1.1**
	comp=Z,3.3nm,0.5s,baz=351,slow=9.7,SNR=7.5						
PMG	**Port Moresby**	**25.73**	**126**	P	**P**	**09 59 14.7**	**-0.2**
COEN	**Coen**	**25.87**	**140**	P	**P**	**09 59 16.5**	**+0.4**
COEN				IAmb	IAmb	09 59 38.4	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**26.72**	**163**	P	**P**	**09 59 24.3**	**+0.6**
WRAB	**Tennant Creek**	**26.87**	**163**	P	**P**	**09 59 25.5**	**+0.5**
WRAB				IAmb	IAmb	09 59 29.8	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**26.87**	**163**	P	**P**	**09 59 25.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=344,slow=11,SNR=24						
WB2	**Warramunga Arr**	**26.88**	**163**	P	**P**	**09 59 25.6**	**+0.5**
WB2				IAmb	IAmb	09 59 42.1	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**26.95**	**163**	P	**P**	**09 59 26.2**	**+0.5**
WR0				IAmb	IAmb	09 59 52.6	
	comp=Z,15nm,1.5s						
MBWA	**Marble Bar**	**27.67**	**193**	P	**P**	**09 59 32.4**	**+0.2**
MBWA				IAmb	IAmb	09 59 45.3	
	comp=Z,19nm,1.4s						
PSA00	**Pilbara Seismi**	**28.05**	**193**	P	**P**	**09 59 35.7**	**+0.2**
PSA00				IAmb	IAmb	09 59 36.1	
	comp=Z,8.6nm,0.6s						
AS31	**Alice Springs**	**30.31**	**166**	P	**P**	**09 59 56.7**	**+1.1**
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**09 59 56.7**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=343,slow=7,7,SNR=13						
ASAR				ScP	**ScP**	**10 06 25.2**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=342,slow=2.4,SNR=4.3						
ASAR	**Alice Springs**	**30.31**	**166**		**P**	**09 59 56.7**	**+1.1**
KSRS	**Korea Array**	**31.43**	**2**	P	**P**	**10 00 04.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=189,slow=9.3,SNR=4.1						
FORT	**Forrest**	**36.52**	**178**	P	**P**	**10 00 50.5**	**+1.2**
NWAO	**Narrogin (SRO)**	**39.58**	**192**	P	**P**	**10 01 15.8**	**+0.7**
BBOO	**Buckleboo**	**39.60**	**167**	P	**P**	**10 01 17.0**	**+1.7**
STKA	**Stephens Creek**	**40.30**	**160**	P	**P**	**10 01 20.9**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=333,slow=14,SNR=1.9						
STKA	**Stephens Creek**	**40.30**	**160**	P	**P**	**10 01 21.9**	**+0.9**
KLR	**Kul'dur**	**43.41**	**5**	P	**P**	**10 01 45.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=177,slow=17,SNR=4.6						
PETK	**Petropavlovsk-**	**53.58**	**23**	P	**P**	**10 03 02.7**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=228,slow=7.6,SNR=4.1						
NRIK	**Noril'sk**	**68.23**	**346**	P	**P**	**10 04 41.8**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=119,slow=5.7,SNR=3.5						
NRIK	**Noril'sk**	**68.23**	**346**	IAmb	IAmb	10 04 42.8	
	comp=Z,2.1nm,0.7s						
ABKAR	**Akbulak array**	**70.22**	**320**	P	**P**	**10 04 53.1**	**-2.6**
MLY	**Manley**	**81.68**	**25**	P	**P**	**10 06 01.3**	**+0.8**
MLY				IAmb	IAmb	10 06 25.9	
	comp=Z,5.7nm,1.4s						
COLD	**Coldfoot**	**82.05**	**23**	P	**P**	**10 06 03.8**	**+1.4**
COLD				IAmb	IAmb	10 06 04.8	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**83.31**	**26**	P	**P**	**10 06 08.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=281,slow=4.0,SNR=15						
YKA	**Yellowknife Ar**	**97.68**	**24**	P	**P**	**10 07 16.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=301,slow=4.4,SNR=6.5						

*KOLA **18** 10:01:32.8, 64°.87N×30°.39E, h0km, ML2.6*
*IDC **18** 10:01:32.4±2.3, 64°.80N×30°.45E, h0km, mb1 3.0/3, mb1mx2.8/41, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=33.3km s-min=8.3km az=98.0*
ISC 18 10:01:32.8±1.4, **64°.87N**±0°.06×**30°.3E**±0°.1, **h10**km, **n7, σ0s99/11, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**2.96**	**21**	P		**Pn**	**10 02 20.3**	**+0.6**
APA0				S		**Sn**	**10 02 56.1**	**+0.9**
LVZ	**Lovozero**	**3.51**	**28**	P		**Pn**	**10 02 26.8**	**-0.6**
LVZ				S		**Sn**	**10 03 08.5**	**-0.4**
FINES	**FINESS Array B**	**3.93**	**211**	Pn		**Pn**	**10 02 32.5**	**-0.6**
	0.2nm,0.3s,baz=30,slow=13,SNR=9.5							
FINES				Sn		**Sn**	**10 03 20.3**	**+1.0**
	0.3nm,0.3s,baz=30,slow=22,SNR=2.1							
FINES				Lg		Lg	10 03 34.1	
	2.1nm,0.3s,baz=29,slow=29,SNR=12							
ARCES	**ARCESS Array B**	**5.04**	**341**	Pn		**Pn**	**10 02 49.0**	**+0.7**
	baz=155,slow=13,SNR=8.6							
ARCES				Sn		**Sn**	**10 03 45.9**	**-0.5**
	baz=159,slow=25,SNR=1.7							
ARCES				Lg		Lg	10 04 09.9	
	baz=154,slow=28,SNR=7.6							
ARCES	**ARCESS Array B**	**5.04**	**341**	P		**Pn**	**10 02 49.2**	**+1.0**
ARCES				S		**Sn**	**10 03 44.9**	**-1.6**
I37NO	**I37NO**	**6.22**	**318**	*i*			10 41 40.0	
	baz=134,slow=337,SNR=2.0							
NOA	**NORSAR Array B**	**9.48**	**255**	Pn		**Pn**	**10 03 48.5**	**-0.7**
	0.0nm,0.3s,baz=56,slow=12,SNR=3.8							

IDC 18 10:09:58.6±2.9, **53°.58N**×**87°.84E, h0km, mb1 3.1**/2, **mb1mx2.9**/45, **mbtmp3.1**/2, **ML2.8**/2, **Error ellipse: s-maj=25.4km s-min=15.4km az=65.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**283**	*i*			10 21 50.0	
	baz=98,slow=330,SNR=0.4							
ZALV	**Zalesovo Beam**	**1.83**	**283**	Pn		Pn	10 10 30.7	-0.6
	1.3nm,0.3s,baz=101,slow=15,SNR=12							
ZALV				Lg		Lg	10 10 57.2	
	3.1nm,0.3s,baz=105,slow=26,SNR=13							
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn		Pn	10 11 34.9	+0.2
	0.1nm,0.3s,baz=63,slow=14,SNR=2.1							
KURBB				Lg		Lg	10 13 21.4	
	0.2nm,0.3s,baz=63,slow=32,SNR=9.6							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn		Pn	10 11 52.9	+1.4
	0.3nm,0.3s,baz=33,slow=13,SNR=7.7							
MKAR				Sn		Sn	10 13 19.4	+0.4
	0.1nm,0.3s,baz=30,slow=27,SNR=6.9							
MKAR				Lg		Lg	10 13 59.7	
	0.1nm,0.3s,baz=22,slow=31,SNR=10							

*CNRM **18** 10:15:31.6, 35°.62N×3°.71W, h44km, ml2.1*
*MDD **18** 10:15:31.6±0.4, 35°.68N×3°.72W, h0km, mb_Lg2.4/15, Error ellipse: s-maj=3.3km s-min=2.7km az=4.0*
*SFS **18** 10:15:32.0, 35°.47N×3°.64W, ML2.5, ALBORAN SUR*
ISC 18 10:15:31.6±1.1, **35°.61N**±0°.02×**3°.70W**±0°.03, **h24**km±12km, **n30**, σ1s**11/60, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALE	**Palemas**	**0.44**	**207**	P		**Pb**	**10 15 41.6**	**+0.7**
PALE				S		**Sn**	**10 15 50.7**	**+1.0**
EALB	**Alboran**	**0.63**	**59**	Pg		**Pb**	**10 15 42.3**	**-1.6**
EALB				Sg		**Sb**	**10 15 51.8**	**-0.5**
EALB				*i*	Vmb_Lg		10 15 52.4	
PVLZ	**Peæn de**	**0.66**	**228**	P		**Pb**	**10 15 45.0**	**+0.5**
PVLZ				S		**Sn**	**10 15 57.1**	**+2.1**
EMEL	**Melilla**	**0.68**	**117**	Pg		**Pb**	**10 15 44.4**	**-0.4**
EMEL				Sg		**Sb**	**10 15 53.9**	**+0.1**
GOG	**Mont Gurugu**	**0.69**	**124**	P		**Pb**	**10 15 44.9**	**-0.2**
GOG				S		**Sb**	**10 15 53.7**	**-0.6**
ELGU	**Los Guajares,**	**1.25**	**3**	Pg		**Pn**	**10 15 52.8**	**-0.8**
ELGU				Sg		**Sn**	**10 16 09.0**	**-0.7**
ELGU				*i*	Vmb_Lg		10 16 10.5	
EMIJ	**Mijas**	**1.29**	**318**	Pg		**Pn**	**10 15 53.5**	**-0.6**
EMIJ				Sg		**Sn**	**10 16 09.1**	**-1.5**
EMIJ				*i*	Vmb_Lg		10 16 14.8	
EMAL	**Malaga-Limoner**	**1.29**	**333**	P		**Pn**	**10 15 53.5**	**-0.6**
EMAL				S		**Sn**	**10 16 09.3**	**-1.3**
TAF	**Taforalt**	**1.32**	**127**	P		**Pn**	**10 15 54.6**	**+0.1**
TAF				S		**Sn**	**10 16 11.4**	**0.0**
SMIR	**Smir Dam**	**1.37**	**273**	P		**Pn**	**10 15 53.7**	**-1.5**
SMIR				S		**Sn**	**10 16 11.0**	**-1.6**
CEU	**Ceuta**	**1.39**	**282**	P		**Pn**	**10 15 53.5**	**-2.0**
CEU				S		**Sn**	**10 16 11.1**	**-2.0**
CHEFC	**Chefchaouen**	**1.44**	**250**	P		**Pb**	**10 15 57.8**	**+0.1**
CHEFC				S		**Sn**	**10 16 12.6**	**-1.7**
EBER	**Berja**	**1.44**	**27**	Pg		**Pb**	**10 15 58.0**	**+0.2**
EBER				Sn		**Sn**	**10 16 14.7**	**+0.2**
EBER				*i*	Vmb_Lg		10 16 20.9	
EGOR	**Sierra Gorda,**	**1.53**	**348**	Pn		**Pn**	**10 15 58.2**	**+0.7**
EGOR				Sn		**Sb**	**10 16 18.1**	**-0.2**
EGOR				*i*	Vmb_Lg		10 16 23.0	
JBK	**JBK**	**1.58**	**144**	P		**Pn**	**10 15 58.1**	**-0.1**
JBK				S		**Sn**	**10 16 16.7**	**-1.2**
EQUE	**Quentar**	**1.60**	**7**	Pn		**Pn**	**10 15 59.4**	**+0.9**
EQUE				Sn		**Sb**	**10 16 20.2**	**-0.2**
EQUE				*i*	Vmb_Lg		10 16 25.1	
EJIF	**Jimena Fronter**	**1.66**	**301**	Pn		**Pn**	**10 15 59.6**	**+0.5**
EJIF				Pg		**Pb**	**10 16 00.2**	**-1.3**
EJIF				Sn		**Sn**	**10 16 20.6**	**+0.8**
ESPR	**Espera**	**2.15**	**306**	Pn		**Pn**	**10 16 07.4**	**+1.5**
ESPR				Sn		**Sn**	**10 16 32.8**	**+1.1**
ESPR				*i*	Vmb_Lg		10 16 42.4	
EQES	**Quesada**	**2.24**	**13**	Pn		**Pn**	**10 16 08.8**	**+1.5**
EQES				Sn		**Sn**	**10 16 35.5**	**+1.3**
EQES				*i*	Vmb_Lg		10 16 44.7	
EADA	**Adamuz**	**2.64**	**345**	Pn		**Pn**	**10 16 13.1**	**+0.4**
EADA				Sn		**Sn**	**10 16 43.9**	**-0.1**
EADA				*i*	Vmb_Lg		10 16 52.2	
ECAB	**El Cabril**	**2.82**	**331**	Pn		**Pn**	**10 16 16.1**	**+1.0**
ECAB				Sn		**Sn**	**10 16 48.9**	**+0.6**
ECAB				Sg		**Sb**	**10 16 57.5**	**+2.2**
ECAB				*i*	Vmb_Lg		10 16 57.9	
MD31	**MD31**	**2.88**	**198**	P		**Pn**	**10 16 14.5**	**-1.5**
MD31				S		**Sn**	**10 16 49.8**	**-0.1**
MDT	**Midelt**	**2.89**	**195**	P		**Pn**	**10 16 15.8**	**-0.5**
MDT				S		**Sn**	**10 16 51.4**	**+1.1**
EMIN	**Mina Concepcio**	**3.21**	**313**	Pn		**Pn**	**10 16 21.0**	**+0.4**
EMIN				Sn		**Sn**	**10 16 57.3**	**-0.7**
EMIN				*i*	Vmb_Lg		10 16 59.0	
ZHG	**ZHG**	**3.25**	**229**	P		**Pn**	**10 16 21.1**	**0.0**
ZHG				S		**Sn**	**10 17 00.5**	**+1.4**
ETOB	**Tobarra**	**3.48**	**29**	Pn		**Pn**	**10 16 25.6**	**+1.3**
EGRO	**El Granado**	**3.60**	**303**	Pn		**Pn**	**10 16 26.3**	**+0.5**
EGRO				Sn		**Sn**	**10 17 07.1**	**-0.5**
EGRO				*i*	Vmb_Lg		10 17 09.6	
PVAQ	**Vaqueiros**	**3.70**	**300**	P		**Pn**	**10 16 28.7**	**+1.5**
PVAQ				S		**Sn**	**10 17 08.1**	**-1.9**
PAB	**San Pablo**	**3.96**	**353**	Pn		**Pn**	**10 16 31.9**	**+1.1**
PAB				*i*	Vmb_Lg		10 17 34.5	
EBAD	**Badajoz**	**4.10**	**321**	Pn		**Pn**	**10 16 34.2**	**+1.5**
EBAD				Sn		**Sn**	**10 17 19.0**	**-1.0**
EBAD				*i*	Vmb_Lg		10 17 21.3	

*UPA **18** 10:23:20.9±1.0, 8°.24N×83°.21W, h12km±2km, MW4.1*
*INET **18** 10:23:21.2±0.8, 8°.30N×83°.23W, h5km±5km, MW3.6*
*UCR **18** 10:23:21.2±1.7, 8°.26N×83°.32W, h5km, MW3.9*
ISC 18 10:23:20.0±1.3, **8°.21N**±0°.06×**83°.23W**±0°.03, **h17**km±7km, **n57**, σ0s**98/83, 14C-8D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.23**	**331**	*e*P		**Pg**	**10 23 25.0**	**-0.3**
PIRO				*e*S		**Sg**	**10 23 29.4**	**+0.6**
PIRO	**Carate, Puerto**	**0.23**	**331**	*e*P		**Pg**	**10 23 25.0**	**-0.3**
PTPM	**Petroterminale**	**0.34**	**90**↑	*e*P		**Pb**	**10 23 28.4**	**+0.7**
PTPM				*e*S		**Sb**	**10 23 33.7**	**+0.9**
CDITO	**Canoas**	**0.50**	**44**↓	*i*P		**Pb**	**10 23 30.5**	**+0.1**
CDITO				*e*S		**Sb**	**10 23 37.9**	**+0.4**
RIOS	**Rincon, Osa**	**0.57**	**330**	*e*P		**Pb**	**10 23 30.3**	**-1.2**
RIOS				*e*S		**Sb**	**10 23 38.5**	**-0.8**
EDSV	**San Vito**	**0.66**	**22**↓	*i*P		**Pg**	**10 23 33.6**	**+0.5**
EDSV				*e*S		**Sn**	**10 23 44.7**	**0.0**
MLIR3	**Monte Lirio, C**	**0.70**	**34**	*e*P		**Pg**	**10 23 34.5**	**+0.6**
MLIR3				*e*S		**Sn**	**10 23 45.2**	**-0.7**
EDPN	**Palmar Norte**	**0.79**	**343**	*e*P		**Pb**	**10 23 34.6**	**-0.7**
EDPN				*e*S		**Sb**	**10 23 46.4**	**+0.8**
BRU2	**Volcan**	**0.79**	**42**↓	*i*P		**Pg**	**10 23 35.7**	**+0.3**
BRU2				↓*e*S		**Sn**	**10 23 47.9**	**-0.1**
DVD	**David**	**0.80**	**73**↑	*e*P		**Pn**	**10 23 35.8**	**-0.7**
DVD				*e*S		**Sg**	**10 23 46.4**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.85**	**75**↓	*e*P		**Pn**	**10 23 36.7**	**-0.6**
LOMA3				*e*S		**Sg**	**10 23 47.9**	**-0.1**
BCO2	**Palmira**	**0.86**	**54**↑	*e*P		**Pn**	**10 23 37.1**	**-0.4**
BCO2				*e*S		**Sn**	**10 23 49.5**	**-0.2**
BC3P	**Paso Ancho**	**0.86**	**45**	*e*P		**Pn**	**10 23 36.7**	**+0.1**
BC3P				*e*S		**Sn**	**10 23 49.4**	**-0.4**
CHIR3	**Chiriqui UPA,**	**0.91**	**78**	*e*P		**Pg**	**10 23 37.2**	**-0.4**
CHIR3				*e*S		**Sg**	**10 23 49.8**	**+0.2**
LNBQ3	**Los Naranjos,**	**0.97**	**53**↑	*e*P		**Pb**	**10 23 38.5**	**0.0**
LNBQ3				*e*S		**Sn**	**10 23 52.3**	**-0.1**
DRK0	**Durika**	**1.05**	**359**	*e*P		**Pb**	**10 23 39.3**	**-0.6**
DRK0				*e*S		**Sb**	**10 23 53.7**	**+0.2**
EDDO	**Dominical**	**1.22**	**329**	*e*P		**Pn**	**10 23 41.1**	**-1.2**
EDDO				*e*S		**Sb**	**10 23 57.5**	**-0.5**
PEZE	**Perez Zeledon,**	**1.25**	**339**↑	*e*P		**Pn**	**10 23 42.5**	**-0.4**
PEZE				*e*S		**Sn**	**10 23 59.7**	**+0.3**
PEZE	**Perez Zeledon,**	**1.25**	**339**	*e*P		**Pn**	**10 23 42.4**	**-0.4**
PEZE				*e*S		**Sn**	**10 23 58.5**	**-0.8**
CHGR2	**Aguacate**	**1.29**	**56**↓	*e*P		**Pn**	**10 23 42.5**	**-0.8**
CHGR2				*e*S		**Sn**	**10 24 00.2**	**-0.1**
REME3	**Remedios, Chir**	**1.38**	**89**	*e*P		**Pn**	**10 23 44.9**	**-0.5**
CNI2	**El Empalme, Bo**	**1.42**	**32**	*e*P		**Pn**	**10 23 44.0**	**-1.1**
CNI2				*e*S		**Sn**	**10 24 01.6**	**-1.8**
CDM	**Cerro de Muert**	**1.44**	**338**↑	*e*P		**Pn**	**10 23 45.5**	**-0.3**
CDM				*e*S		**Sn**	**10 24 04.9**	**+0.4**
CDM	**Cerro de Muert**	**1.44**	**338**	*e*P		**Pn**	**10 23 45.6**	**-0.2**
RIMA	**Rio Macho**	**1.67**	**338**↑	*e*P		**Pn**	**10 23 48.8**	**0.0**
RIMA	**Rio Macho**	**1.67**	**338**	*e*P		**Pn**	**10 23 48.8**	**0.0**
LCR2	**La Lucha 2**	**1.71**	**333**↑	*e*P		**Pn**	**10 23 49.2**	**-0.1**
LCR2				*e*S		**Sn**	**10 24 11.8**	**+1.0**
BATAN	**Batan**	**1.89**	**355**	*e*P		**Pb**	**10 23 53.3**	**-0.7**
BATAN				*e*S		**Sn**	**10 24 13.9**	**-1.0**
HDC3	**Heredia 3**	**1.99**	**334**	*e*P		**Pn**	**10 23 53.8**	**+0.7**
HDC	**Heredia**	**1.99**	**334**↓	*e*P		**Pn**	**10 23 53.8**	**+0.8**
HDC				*e*S		**Sb**	**10 24 19.6**	**-0.8**
HDC	**Heredia**	**1.99**	**334**	*e*P		**Pn**	**10 23 54.2**	**+1.2**
HDC				*e*S		**Sn**	**10 24 19.3**	**+1.7**
JACO	**JACO, Garabito**	**2.02**	**316**↑	*e*P		**Pn**	**10 23 52.0**	**-1.5**
SRA1	**San Ramn**	**2.24**	**327**	*e*P		**Pn**	**10 23 57.8**	**+1.3**
LAFE	**Finca La Fe, P**	**2.30**	**314**	*e*P		**Pn**	**10 23 56.2**	**-1.1**
LAFE	**Finca La Fe, P**	**2.30**	**314**	*e*P		**Pn**	**10 23 56.2**	**-1.1**
JTS	**Las Juntas de**	**2.68**	**321**↑	*e*P		**Pn**	**10 24 03.7**	**+1.2**
JTS	**Las Juntas de**	**2.68**	**321**	*e*P		**Pn**	**10 24 03.9**	**+1.3**
JTS				*e*S		**Sn**	**10 24 35.5**	**+0.9**
JTS	**Las Juntas de**	**2.68**	**321**	*e*P		**Pn**	**10 24 03.2**	**+0.7**
COVE	**Coope Vega, Sa**	**2.75**	**335**	*e*P		**Pn**	**10 24 04.8**	**+1.3**
DUNO	**Dulce Nombre,**	**2.91**	**310**	*e*P		**Pn**	**10 24 05.4**	**-0.2**
ACAL	**Aguas Claras**	**3.00**	**324**	*e*P		**Pn**	**10 24 09.1**	**+2.1**
PTEN	**Parque Tenorio**	**3.04**	**325**↑	*i*P		**Pn**	**10 24 09.7**	**+2.2**
GUAI	**GUAI**	**3.05**	**312**	*i*P		**Pn**	**10 24 07.9**	**+0.4**
SAJU	**San Juanillo,**	**3.07**	**307**↑	*e*P		**Pn**	**10 24 07.3**	**-0.5**
CUI	**Cuipilapa**	**3.10**	**322**↑	*e*P		**Pn**	**10 24 10.0**	**+1.8**
COLC	**Colonia**	**3.13**	**322**	*e*P		**Pn**	**10 24 10.3**	**+1.7**
HORNC	**Hornillas**	**3.15**	**322**	*e*P		**Pn**	**10 24 10.3**	**+1.3**
GUAB	**Guayabo de Bag**	**3.18**	**322**	*e*P		**Pn**	**10 24 08.5**	**-0.8**
LIM1	**Limonal**	**3.18**	**321**	*e*P		**Pn**	**10 24 11.1**	**+1.7**
VMAR	**Armenia, Volca**	**3.19**	**324**	*e*P		**Pn**	**10 24 11.4**	**+1.8**
GPS2	**Hotel Rincn d**	**3.29**	**320**	*e*P		**Pn**	**10 24 12.5**	**+1.7**
LAPC	**Finca la Perla**	**3.35**	**320**	*e*P		**Pn**	**10 24 13.1**	**+1.4**
BUEV	**Buena Vista**	**3.36**	**320**	*e*P		**Pn**	**10 24 13.3**	**+1.5**
GB1A	**Borinquen Arri**	**3.37**	**321**	*e*P		**Pn**	**10 24 13.5**	**+1.5**
BUAI	**Buenos Aires**	**3.37**	**322**	*e*P		**Pn**	**10 24 13.3**	**+1.3**
GBS3	**Finca Las Img**	**3.37**	**319**	*e*P		**Pn**	**10 24 12.9**	**+0.9**
HZTE	**Horizontes, Gu**	**3.42**	**317**↑	*e*P		**Pn**	**10 24 14.1**	**+1.5**

*NOU **18** 10:31:44.6, 18°.51S×168°.68E, h70km, MLv4.8/17, Vanuatu Islands*
ISC 18 10:31:44.7±2.0, **18°.57S**±0°.05×**168°.7E**±0°.2, **h37**km, **n12**, σ1s**26/13, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTV	**Rentapao**	**0.80**	**344**	P		**Pn**	**10 32 00.8**	**+1.3**
DVP	**Devils Point**	**0.95**	**332**	P		**Pn**	**10 32 02.5**	**+1.0**
MARNC	**Mare, Loyalty**	**2.95**	**191**	P		**Pn**	**10 32 28.3**	**-0.8**
SANVU	**Saraoutou**	**3.40**	**336**	P		**Pn**	**10 32 34.1**	**-1.1**
YATNC	**Mamie plateau,**	**3.84**	**205**	P		**Pn**	**10 32 41.9**	**+0.6**
DZM	**Mont Dzumac**	**4.05**	**210**	*e*Pn		**Pn**	**10 32 45.0**	**+0.7**
	28nm,0.2s							
DZM				*e*Sn		**Sn**	**10 33 28.8**	**-1.7**
	184nm,0.3s							
DZM	**Mont Dzumac**	**4.05**	**210**	P		**Pn**	**10 32 45.5**	**+1.2**
NOUC	**Port Laguerre**	**4.15**	**212**	P		**Pn**	**10 32 47.1**	**+1.6**
PINNC	**Pines Island,**	**4.18**	**195**	P		**Pn**	**10 32 46.7**	**+0.8**
OUENC	**Ouen Island, N**	**4.19**	**204**	P		**Pn**	**10 32 47.1**	**+1.1**
ONTNC	**Ouen Toro**	**4.25**	**209**	P		**Pn**	**10 32 48.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.56**	**244**	P		**Pn**	**10 32 51.5**	**+0.3**

*IDC **18** 10:36:10.0±2.6, 19°.00S×179°.33E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/36, mbtmp3.9/4, Error ellipse: s-maj=264.4km s-min=33.1km az=161.0*
*NEIC **18** 10:36:59.5±0.8, 23°.7S×179°.9E±0°.2, h516km±16km, mb4.3/12, Error ellipse: s-maj=33.9km s-min=17.3km az=213.0*
ISC 18 10:36:59.8±1.0, **23°.6S**±0°.1×**180°.0E**±0°.2, **h535**km, **n20, σ0s77/20, mb4.0/10, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.09**	**343**			**P**	**10 38 37.7**	**-1.1**
URZ	**Urewera**	**14.83**	**189**	P		**P**	**10 40 05.7**	**-1.9**
QRZ	**Quartz Range**	**18.29**	**198**	P		**P**	**10 40 40.1**	**-0.7**
WHZ	**Wether Hill Ro**	**24.29**	**201**	P		**P**	**10 41 34.8**	**-0.1**
CTAO	**Charters Tower**	**31.43**	**270**	P		**P**	**10 42 38.6**	**+1.0**
CTAO				IAmb		IAmb	10 43 03.4	
	comp=Z,31nm,1.4s							
BBOO	**Buckleboo**	**39.53**	**247**	P		**P**	**10 43 44.3**	**-0.3**
AS31	**Alice Springs**	**42.05**	**260**	P		**P**	**10 44 05.2**	**+0.3**
ASAR	**Alice Springs**	**42.05**	**260**	P		**P**	**10 44 05.4**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=95,slow=8.3,SNR=26							
ASAR	**Alice Springs**	**42.05**	**260**	P		**P**	**10 44 04.6**	**-0.3**
WR0	**Warramunga Arr**	**42.20**	**266**	P		**P**	**10 44 06.3**	**+0.2**
WR0				IAmb		IAmb	10 44 09.3	
	comp=Z,17nm,1.4s							
WB2	**Warramunga Arr**	**42.38**	**266**	P		**P**	**10 44 07.7**	**+0.3**
WB2				IAmb		IAmb	10 44 27.9	
	comp=Z,13nm,1.4s							
WB0	**Warramunga Arr**	**42.38**	**266**	P		**P**	**10 44 07.2**	**-0.2**
WB0				IAmb		IAmb	10 44 34.0	
	comp=Z,6.2nm,1.1s							
WRAB	**Tennant Creek**	**42.38**	**266**	P		**P**	**10 44 06.7**	**-0.8**
WRAB				IAmb		IAmb	10 44 34.9	
	comp=Z,19nm,1.5s							
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**10 44 07.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=91,slow=8.3,SNR=77							
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**10 44 07.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.81**	**265**	P		**P**	**10 45 12.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=90,slow=6.1,SNR=1.4							
FITZ	**Fitzroy Crossi**	**50.81**	**265**	P		**P**	**10 45 11.3**	**0.0**
VNDA	**Vanda**	**54.69**	**185**	P		**P**	**10 45 38.9**	**+0.9**
QSPA

ITQB Itaqui 33.81 310 *e*P **P 10 58 32.4 +0.5**
QSPA South Pole Qui 33.89 180 P **P 10 58 33.2 +0.6**
comp=Z,63nm,0.6s,baz=211,slow=0.6,SNR=432
QSPA PcP **PcP 11 01 09.0 +0.5**
comp=Z,20nm,0.5s,baz=287,slow=0.8,SNR=8.2
QSPA ScP **ScP 11 04 41.8 -1.6**
comp=Z,8.6nm,0.5s,baz=352,slow=0.7,SNR=14
QSPA LR LR 11 12 27.6
comp=Z,220nm,18.9s,baz=191,slow=36
QSPA South Pole Qui 33.89 180 P **P 10 58 34.2 +1.7**
ITAB Concordia 34.16 318 P **P 10 58 36.1 +1.1**
ITAB IAmb IAmb 10 58 37.2
comp=Z,36nm,1.0s
ITAB Concordia 34.16 318 *e*P **P 10 58 35.6 +0.5**
PET01 Itanhaem-SP 35.24 327 *e*P **P 10 58 45.1 +0.8**
PARB Paraibuna 35.66 330 *e*P **P 10 58 49.2 +1.2**
MAN01 Angra dos Reis 35.67 333 *e*P **P 10 58 50.1 +2.0**
DUB01 Friburgo-RJ 36.03 336 *e*P **P 10 58 52.0 +0.9**
VAS01 Vassouras-RJ 36.10 334 *e*P **P 10 58 53.6 +1.9**
CAM01 Campos-RJ 36.12 337 *e*P **P 10 58 53.5 +1.7**
VAO Valinhos 36.36 328 *e*P **P 10 58 56.0 +2.0**
PTGB Pitanga 36.43 320 *e*P **P 10 58 55.1 +0.5**
BO02 Sierra Bellavi 36.53 287 P **P 10 58 55.5 +0.1**
BO02 PcP **PcP 11 01 17.3 +0.6**
FRTB Fartura 36.84 324 *e*P **P 10 58 57.6 -0.4**
LMEL Las Melosas 36.95 289 P **P 10 58 58.3 -0.7**
GO05 Huala 36.98 286 P **P 10 58 57.1 -2.0**
GO05 IAmb IAmb 10 59 51.4
comp=Z,30nm,1.1s
BO01 Tunca 37.00 288 P **P 10 58 57.9 -1.4**
CPUP Villa Florida 37.03 312 P **P 10 58 59.4 -0.1**
comp=Z,33nm,0.9s,baz=156,slow=8.0,SNR=30
CPUP PcP **PcP 11 01 18.7 +0.6**
comp=Z,2.5nm,0.4s,baz=117,slow=5.9,SNR=2.3
CPUP ScP **ScP 11 04 53.2 -2.0**
comp=Z,13nm,1.1s,baz=106,slow=2.2,SNR=7.5
CPUP LR LR 11 13 31.5
comp=Z,163nm,19.8s,baz=146,slow=35
CPUP Villa Florida 37.03 312 P **P 10 58 59.6 +0.1**
CPUP IAmb IAmb 10 59 00.4
comp=Z,54nm,1.1s
CPUP Villa Florida 37.03 312 *e*P **P 10 58 59.6 +0.1**
BO04 La Punta 37.06 289 P **P 10 58 58.6 -1.1**
ALF01 Guarapari-ES 37.09 339 *e*P **P 10 59 01.6 +1.5**
MT03 Universidad Ad 37.39 289 P **P 10 59 00.6 -2.1**
MT03 IAmb IAmb 10 59 05.4
comp=Z,24nm,0.7s
MT09 Talagante 37.42 288 P **P 10 59 00.9 -2.1**
MT09 IAmb IAmb 10 59 54.8
comp=Z,76nm,1.6s
MT01 Popeta 37.49 288 P **P 10 59 01.6 -1.8**
MT01 IAmb IAmb 11 00 05.8
comp=Z,62nm,1.6s
MT05 Renca 37.59 289 P **P 10 59 03.1 -1.2**
MT05 IAmb IAmb 10 59 53.1
comp=Z,23nm,0.7s
BSCB Bom Sucesso 37.66 332 *e*P **P 10 59 05.9 +0.9**
PEL Peldehue 37.75 289 P **P 10 59 04.7 -1.0**
PEL pmax pmax
comp=Z,26nm,0.8s
PEL Peldehue 37.75 289 P **P 10 59 04.7 -1.0**
PEL IAmb IAmb 10 59 07.3
comp=Z,26nm,0.8s
VA05 Santo Domingo 37.84 288 P **P 10 59 05.3 -1.1**
VA05 IAmb IAmb 10 59 30.8
comp=Z,44nm,1.0s
MT02 Curacav 37.90 289 P **P 10 59 05.7 -1.1**
MT02 IAmb IAmb 10 59 08.2
comp=Z,23nm,0.6s
ZON Zonda 37.97 293 P **P 10 59 06.2 -1.3**
ZON pmax pmax
comp=Z,17nm,0.6s
ZON Zonda 37.97 293 P **P 10 59 06.2 -1.3**
ZON IAmb IAmb 10 59 32.0
comp=Z,17nm,0.6s
VA03 San Esteban 37.98 290 P **P 10 59 07.8 +0.1**
VA03 IAmb IAmb 10 59 52.5
comp=Z,27nm,0.9s
ROC1 El Roble 38.06 289 P **P 10 59 05.3 -3.2**
ROC1 IAmb IAmb 10 59 10.9
comp=Z,22nm,0.7s
RIB01 Linhares ES 38.30 340 *e*P **P 10 59 11.7 +1.4**
TRCB Terra Rica 38.40 320 P **P 10 59 11.3 +0.2**
TRCB Terra Rica 38.40 320 *e*P **P 10 59 11.4 +0.2**
VA06 Catapilco 38.53 289 P **P 10 59 10.8 -1.2**
VA06 IAmb IAmb 10 59 50.2
comp=Z,53nm,1.1s
BB19B Bebedouro 38.65 327 *e*P **P 10 59 14.7 +1.4**
PCMB Pacaembu 39.02 323 *e*P **P 10 59 16.2 -0.1**
CO02 Combarbal 39.44 291 P **P 10 59 19.1 -0.8**
CO03 El Pedregal 39.57 292 P **P 10 59 20.5 -0.4**
NAN01 Guarapari, ES 39.68 340 *e*P **P 10 59 22.6 +0.9**
MAW Mawson 39.89 143 P **P 10 59 23.3 +0.3**
comp=Z,31nm,0.8s,baz=226,slow=6.9,SNR=15
MAW LR LR 11 14 51.9
comp=Z,138nm,18.0s,baz=242,slow=34
MAW Mawson 39.89 143 P **P 10 59 24.1 +1.1**
MAW pmax pmax
comp=Z,31nm,1.5s
MAW Mawson 39.89 143 P **P 10 59 24.1 +1.1**
DIAM Diamantina, MG 39.98 335 *e*P **P 10 59 25.4 +0.9**
ITRB Iturama 40.50 325 *e*P **P 10 59 29.7 +1.2**
SUR Sutherland 40.70 75 LR LR 11 13 25.3
comp=Z,194nm,18.2s,baz=202,slow=32
GUA01 Guaratinga, BA 40.85 341 *e*P **P 10 59 32.4 +0.9**
LCO Las Campanas 41.04 293 P **P 10 59 33.6 +0.3**
LCO pmax pmax
comp=Z,61nm,1.4s
LCO Las Campanas 41.04 293 P **P 10 59 33.6 +0.3**
LCO IAmb IAmb 10 59 58.2
comp=Z,61nm,1.4s
IPMB Ipameri, GO 41.47 329 *e*P **P 10 59 37.6 +1.0**
AQDB Aquidauana 41.64 318 P **P 10 59 37.2 -0.7**
AQDB IAmb IAmb 10 59 39.2
comp=Z,82nm,1.3s
AQDB Aquidauana 41.64 318 *e*P **P 10 59 37.5 -0.4**
AC04 Llanos de Chal 41.89 294 P **P 10 59 39.7 -0.1**
AC04 IAmb IAmb 11 00 05.3
comp=Z,73nm,1.0s
GO03 Copiap 41.96 295 P **P 10 59 40.1 -0.5**
CMC01 Camacan, BA 41.99 342 *e*P **P 10 59 41.5 +0.8**
AC02 Maricunga 42.03 297 P **P 10 59 41.8 +0.2**
AC02 IAmb IAmb 11 00 07.9
comp=Z,68nm,1.0s
AC06 Mina Casimiro 42.21 295 P **P 10 59 42.1 -0.5**
AC06 IAmb IAmb 11 00 07.6
comp=Z,62nm,1.2s
NBIT Itapeh - BA 42.40 342 *e*P **P 10 59 45.0 +0.9**
JANB Januaria 43.26 335 *e*P **P 10 59 51.9 +0.8**
AC01 Pan de Azucar 43.33 296 P **P 10 59 50.8 -0.8**
GDU01 Guandu, BA 43.61 342 *e*P **P 10 59 54.1 +0.3**
BDFB Brasilia 43.64 330 P **P 10 59 54.3 +0.1**
comp=Z,17nm,0.9s,baz=133,slow=6.4,SNR=14
BDFB LR LR 11 17 01.0
comp=Z,432nm,18.9s,baz=156,slow=34
BDFB Brasilia 43.64 330 P **P 10 59 54.7 +0.5**
BDFB pmax pmax
comp=Z,92nm,1.8s
BDFB Brasilia 43.64 330 P **P 10 59 54.7 +0.5**
BDFB IAmb IAmb 10 59 56.7
comp=Z,92nm,1.8s
GO02 Mina Guanaco 43.65 298 P **P 10 59 54.5 0.0**
PP1B Ponte de Pedra 43.98 320 *e*P **P 10 59 57.3 +0.5**
PB14 IPOC Station P 44.50 297 P **P 11 00 00.5 -0.8**
ARAG Araguaiana, MT 44.71 325 *e*P **P 11 00 03.2 +0.6**
PB15 IPOC Station P 45.23 299 P **P 11 00 06.3 -0.7**
PB15 IAmb IAmb 11 00 11.8
comp=Z,28nm,0.7s
LVC Limon Verde 45.47 300 LR LR 11 21 55.7
comp=Z,53nm,18.3s,baz=168,slow=40
LVC Limon Verde 45.47 300 P **P 11 00 09.5 +0.5**
LVC pmax pmax
comp=Z,56nm,0.6s
LVC Limon Verde 45.47 300 P **P 11 00 09.5 +0.5**
LVC Limon Verde 45.47 300 *e*P **P 11 00 09.7 +0.7**
PB10 IPOC Station P 45.51 298 P **P 11 00 08.9 0.0**
PB06 IPOC Station P 45.71 300 P **P 11 00 09.1 -1.6**
SBA Scott Base 45.77 184 P **P 11 00 11.6 +1.3**
SBA pmax pmax
comp=Z,127nm,1.6s
SBA Scott Base 45.77 184 P **P 11 00 11.6 +1.3**
SBA IAmb IAmb 11 00 15.1
comp=Z,127nm,1.6s
SALV Santo Antonio 45.84 320 *e*P **P 11 00 12.1 +0.6**

SDBA SAO DESIDERIO 45.95 336 *e*P **P 11 00 13.2 +0.7**
NBLA Lagarto - SE 46.01 345 *e*P **P 11 00 13.3 +0.5**
BOSA Boshof 46.03 75 P **P 11 00 12.8 -0.4**
comp=Z,5.9nm,0.9s,baz=221,slow=6.0,SNR=6.9
BOSA LR LR 11 16 31.8
comp=Z,292nm,18.5s,baz=208,slow=32
BOSA Boshof 46.03 75 P **P 11 00 12.7 -0.4**
BOSA Boshof 46.03 75 *i* P **P 11 00 11.8 -1.3**
BOSA Boshof 46.03 75 *i* P **P 11 00 11.8 -1.3**
VNDA Vanda 46.27 183 P **P 11 00 15.9 +1.8**
comp=Z,15nm,0.5s,baz=184,slow=7.2,SNR=99
VNDA LR LR 11 19 03.2
comp=Z,85nm,19.4s,baz=176,slow=35
VNDA Vanda 46.27 183 P **P 11 00 16.1 +1.9**
VNDA pmax pmax
comp=Z,26nm,0.8s
VNDA Vanda 46.27 183 P **P 11 00 16.1 +1.9**
PB04 IPOC Station P 46.30 299 P **P 11 00 14.6 -0.8**
PB04 IAmb IAmb 11 00 16.4
comp=Z,90nm,1.2s
PB09 IPOC Station P 46.32 301 P **P 11 00 16.6 +1.1**
NBPN Ponto Novo - B 46.53 342 *e*P **P 11 00 17.0 0.0**
PB07 IPOC Station P 46.69 300 P **P 11 00 18.3 -0.1**
PB07 IAmb IAmb 11 00 19.6
comp=Z,46nm,0.8s
PB02 IPOC Station P 47.04 300 P **P 11 00 21.4 +0.4**
PB01 IPOC Station P 47.08 301 P **P 11 00 21.9 +0.6**
PEXB Peixe 47.09 331 *e*P **P 11 00 21.6 +0.3**
NBAN Anadia - AL 47.12 348 *e*P **P 11 00 21.6 +0.1**
PTLB Pontes e Lacer 47.53 316 *e*P **P 11 00 24.9 +0.2**
PATCX Punta Patache 47.59 300 P **P 11 00 25.4 +0.2**
PATCX IAmb IAmb 11 00 26.6
comp=Z,93nm,1.2s
PB08 IPOC Station P 47.70 302 P **P 11 00 27.1 +0.6**
PB08 IAmb IAmb 11 00 28.6
comp=Z,89nm,1.2s
SIV San Ignacio 47.80 314 LR LR 11 23 38.4
comp=Z,75nm,18.1s,baz=110,slow=40
TA02 Huaiquique 48.05 301 P **P 11 00 29.3 +0.6**
TA02 IAmb IAmb 11 00 29.9
comp=Z,79nm,1.1s
SNDB Serra Nova Dou 48.06 327 *e*P **P 11 00 30.0 +1.1**
GO01 Chusmiza 48.12 302 P **P 11 00 30.8 +0.9**
PB11 IPOC Station P 48.26 301 P **P 11 00 30.8 +0.3**
H10S2 ASCENSION HYDR 48.29 17 T T 11 53 18.2
baz=31,slow=74,SNR=22
H10S3 ASCENSION HYDR 48.29 17 T T 11 53 18.4
baz=189,slow=74,SNR=16
LBTB Lobatse 49.08 73 P **P 11 00 36.4 -0.3**
comp=Z,6.3nm,0.6s,baz=218,slow=9.1,SNR=14
LBTB LR LR 11 19 06.0
comp=Z,174nm,18.2s,baz=228,slow=33
LBTB Lobatse 49.08 73 P **P 11 00 36.7 0.0**
LBTB pmax pmax
comp=Z,25nm,1.1s
LBTB Lobatse 49.08 73 P **P 11 00 36.6 0.0**
LBTB Lobatse 49.08 73 *i* P **P 11 00 37.0 +0.3**
LBTB Lobatse 49.08 73 *i* P **P 11 00 37.0 +0.3**
H10N1 ASCENSION HYDR 49.41 17 T T 11 54 52.9
baz=188,slow=75,SNR=14
H10N3 ASCENSION HYDR 49.41 17 T T 11 54 56.1
baz=188,slow=75,SNR=18
PB16 IPOC Station P 49.42 303 P **P 11 00 40.6 +0.7**
PB16 IAmb IAmb 11 00 41.7
comp=Z,40nm,1.2s
H10N2 ASCENSION HYDR 49.42 17 T T 11 54 54.5
baz=188,slow=75,SNR=20
PB12 IPOC Station P 49.57 302 P **P 11 00 40.9 +0.4**
PB12 IAmb IAmb 11 00 41.7
comp=Z,41nm,1.2s
NBMA Muriti-CE 49.72 345 *e*P **P 11 00 42.3 +0.8**
TSUM Tsumeb 49.82 61 LR LR 11 18 55.2
comp=Z,240nm,18.1s,baz=155,slow=32
TSUM Tsumeb 49.82 61 P **P 11 00 42.0 -0.4**
SMTB Santa Maria do 50.02 333 *e*P **P 11 00 44.7 +0.9**
PDRB Porto dos Gac 50.17 321 *e*P **P 11 00 44.9 -0.1**
VILB Vilhena 50.22 316 *e*P **P 11 00 45.1 -0.1**
NBPV Pedro Velho 50.22 349 *e*P **P 11 00 45.8 +0.6**
CLDB Colider 50.54 322 *e*P **P 11 00 47.5 -0.2**
LPAZ La Paz 50.57 305 P **P 11 00 49.5 +0.9**
comp=Z,52nm,0.8s,baz=139,slow=5.1,SNR=142
LPAZ pP **pP 11 01 12.2 -0.6**
comp=Z,34nm,0.7s,baz=170,slow=6.0,SNR=5.9
LPAZ ScP **ScP 11 05 49.3 -1.8**
comp=Z,1.5nm,0.4s,baz=70,slow=3.0,SNR=5.4
LPAZ LR LR 11 23 04.9
comp=Z,92nm,20.1s,baz=156,slow=37
LPAZ La Paz 50.57 305 P **P 11 00 49.1 +0.5**
LPAZ La Paz 50.57 305 *e*P **P 11 00 49.5 +0.9**
RCBR Riachuelo 50.87 349 LR LR 11 18 39.0
comp=Z,195nm,19.1s,baz=305,slow=32
NBPB Pedra_Branca-C 51.63 344 *e*P **P 11 00 56.7 +0.9**
NBCL Cascavel-CE 52.74 346 *e*P **P 11 01 04.8 +0.8**
NBPS Pedro II - PI 53.06 342 *e*P **P 11 01 06.9 +0.5**
PRPB Parauapebas 53.17 331 *e*P **P 11 01 08.5 +1.3**
CASY Casey 53.61 160 P **P 11 01 11.1 +1.3**
CASY IAmb IAmb 11 01 12.4
comp=Z,39nm,1.1s
NBMO Morrinhos-CE 53.89 344 *e*P **P 11 01 13.1 +0.7**
NPGB Novo Progresso 53.98 325 *e*P **P 11 01 13.3 +0.2**
MATP Matopo 54.36 72 *i* P **P 11 01 13.1 -2.9**
MATP Matopo 54.36 72 *i* P **P 11 01 13.1 -2.9**
BLWY Bulawayo 54.65 72 *i* P **P 11 01 14.8 -3.4**
BLWY Bulawayo 54.65 72 *i* P **P 11 01 14.8 -3.4**
ROSB Rosrio 55.01 339 *e*P **P 11 01 21.0 +0.4**
ETMB Extrema 55.48 311 *e*P **P 11 01 24.1 +0.1**
TMAB Tom-Au,PA,Br 56.39 335 *e*P **P 11 01 32.2 +1.8**
ITTB Itaituba 56.62 325 *e*P **P 11 01 32.2 +0.2**
NNA Nana 58.41 299‖ *e*P **P 11 01 45.1 +0.4**
NNA pmax pmax
comp=Z,74nm,1.8s
LSZ Lusaka 58.47 69 LR LR 11 24 33.8
comp=Z,168nm,18.6s,baz=236,slow=33
LSZ Lusaka 58.47 69 P **P 11 01 44.9 -0.3**
LSZ pmax pmax
comp=Z,26nm,1.0s
LSZ Lusaka 58.47 69 P **P 11 01 44.9 -0.3**
LSZ IAmb IAmb 11 02 13.0
comp=Z,26nm,1.0s
MALB Monte Alegre 58.54 328 *e*P **P 11 01 46.3 +0.8**
MCPB Macapa, AP 59.33 331 *e*P **P 11 01 52.5 +1.5**
MACA Manacapuru-AM 59.41 320 *e*P **P 11 01 50.9 -0.6**
CZSB Cruzeiro do Su 60.18 305 *e*P **P 11 01 56.1 -0.7**
TBTG Tabatinga, AM 62.10 310 *e*P **P 11 02 09.6 -0.2**
RPN Rapa Nui 63.62 260 LR LR 11 26 14.4
comp=Z,61nm,21.6s,baz=106,slow=32
BOAV Boa Vista 64.53 323 *e*P **P 11 02 25.5 -0.3**
MDP Montagnes des 64.72 332 LR LR 11 29 22.9
comp=Z,302nm,19.1s,baz=198,slow=35
LIC Lamto 64.97 24 *e*P pP 11 02 56.7 +3.2
comp=Z,70nm,1.1s
KIC Kosan Boka 65.17 25 *e*P pP 11 02 58.1 +3.3
comp=Z,21nm,0.8s
TIC Toumodi 65.38 24 *e*P pP 11 02 59.3 +3.1
DBIC Dimbokro 65.44 24 P **P 11 02 32.5 +0.9**
comp=Z,2.9nm,0.6s,baz=202,slow=7.8,SNR=4.8
DBIC LR LR 11 25 06.8
comp=Z,214nm,18.1s,baz=179,slow=30
DBIC Dimbokro 65.44 24 IAmb IAmb 11 02 59.9
comp=Z,71nm,1.8s
ABPO Ambohimpanom 65.74 88 P **P 11 02 36.0 +2.2**
ABPO pmax pmax
comp=Z,14nm,1.2s
ABPO Ambohimpanom 65.74 88 P **P 11 02 36.0 +2.2**
OTAV Otavalo 69.84 304 P **P 11 02 58.9 -1.0**
OTAV pmax pmax
comp=Z,38nm,1.2s
OTAV Otavalo 69.84 304 P **P 11 02 58.9 -1.0**
OTAV IAmb IAmb 11 03 03.6
comp=Z,38nm,1.1s
OTAV Otavalo 69.84 304 *e*P **P 11 03 01.2 +1.4**
TULM Tulcn-Chalpat 69.96 305 *e*P **P 11 03 02.3 +1.7**
GARC Garzon, Huila 70.23 308 *e*P **P 11 03 02.3 +0.3**
POPC Popayan, Colom 71.07 307 *e*P **P 11 03 08.5 +1.5**
ORTC Ortega, Tolima 71.66 309‖ *e*P **P 11 03 08.5 -1.8**
ROSC El Rosal 72.09 310 LR LR 11 37 51.3
comp=Z,110nm,18.6s,baz=77,slow=38
GR1C Gorgona, Isla 72.15 305‖ *e*P **P 11 03 14.3 +1.0**
YOTC Yotoco, Valle 72.21 308 *e*P **P 11 03 12.4 -1.4**
ANIL Santa Ana 72.25 309 *e*P **P 11 03 14.3 +0.1**
MBAR Mbarara 72.28 63 P **P 11 03 15.3 +1.0**
MBAR pmax pmax
comp=Z,31nm,1.3s
MBAR Mbarara 72.28 63 P **P 11 03 15.3 +1.0**

RUSC La Rusia 72.52 311 *e*P **P 11 03 14.3 -1.7**
SPBC San Pablo de B 72.72 310 *e*P **P 11 03 15.2 -1.5**
NORC Norcasia 72.98 310 *e*P **P 11 03 17.1 -1.1**
PLMC San Jos del P 73.00 308 *e*P **P 11 03 18.1 -0.3**
BARC Barichara 73.19 312 *i* P **P 11 03 17.6 -2.1**
KOWA Kowa 73.20 23 P **P 11 03 20.3 +1.0**
KOWA IAmb IAmb 11 03 48.0
comp=Z,35nm,1.1s
TOA0 Torodi Ar. Sit 73.32 29 P **P 11 03 20.3 +0.3**
TORD Torodi Ar. Bea 73.32 29 P **P 11 03 20.6 +0.5**
comp=Z,3.0nm,0.4s,baz=201,slow=6.3,SNR=53
TORD pP **pP 11 03 46.2 +0.6**
comp=Z,53nm,0.7s,baz=198,slow=6.6,SNR=30
TORD Torodi Ar. Bea 73.32 29 P **P 11 03 20.6 +0.5**
PTBC PUERTO BERRIO, 73.68 310‖ *e*P **P 11 03 19.0 -3.2**
SOCV Socops 73.78 315 *e*P **P 11 03 21.9 -1.0**
BIRV Birongo 74.06 320 P **P 11 03 24.6 +0.2**
BIRV IAmb IAmb 11 03 26.3
comp=Z,68nm,1.1s
SDV Santo Domingo 74.24 315 LR LR 11 37 06.2
comp=Z,260nm,19.5s,baz=159,slow=36
SDV Santo Domingo 74.24 315 P **P 11 03 25.8 0.0**
SDV IAmb IAmb 11 03 27.0
comp=Z,36nm,1.1s
SDV Santo Domingo 74.24 315 *e*P **P 11 03 25.7 0.0**
SDV Santo Domingo 74.24 315 *e*P **P 11 03 26.2 +0.4**
KIBK Kibwezi 74.52 70 P **P 11 03 29.6 +2.2**
ZARC Zaragoza, Cauc 74.70 311 P **P 11 03 26.7 -1.5**
ZARC Zaragoza, Cauc 74.70 311 *e*P **P 11 03 25.7 -2.5**
KMBO Kilima Mbogo 75.13 69 *i* P **P 11 03 34.9 +3.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
UREC San Jos de Ur 75.22 310 *e*P **P 11 03 29.5 -1.7**
SJCC San Jacinto, C 77.00 311 P **P 11 03 41.9 +0.6**
SJCC IAmb IAmb 11 03 42.7
comp=Z,39nm,1.1s
SJCC San Jacinto, C 77.00 311‖ *e*P **P 11 03 41.9 +0.6**
RPZ Rata Peaks 79.10 193 P **P 11 03 53.5 +0.8**
comp=Z,19nm,0.9s,baz=177,slow=9.4,SNR=4.8
RPZ Rata Peaks 79.12 193 IAmb IAmb 11 03 57.3
comp=Z,34nm,1.0s
RIOS Rincon, Osa 79.63 303 P **P 11 03 56.6 +0.9**
RIOS IAmb IAmb 11 03 57.6
comp=Z,32nm,0.9s
LTZ Lake Taylor 79.87 194 P **P 11 03 57.1 +0.3**
LTZ IAmb IAmb 11 04 00.1
comp=Z,37nm,0.9s
DRK0 Durika 80.00 304 P **P 11 03 58.6 +0.7**
SRBA San Rafael, Bu 80.02 304 P **P 11 03 57.7 -0.3**
THZ Tophouse 80.78 195 P **P 11 04 01.9 +0.1**
THZ IAmb IAmb 11 04 07.2
comp=Z,45nm,1.0s
TUWZ Tuamarina 80.96 196 P **P 11 04 02.8 +0.2**
TAU Tasmania Unive 80.99 176 P **P 11 04 03.0 +0.3**
TAU pmax pmax
comp=Z,159nm,1.2s
TAU Tasmania Unive 80.99 176 P **P 11 04 03.0 +0.3**
SJG San Juan 81.10 323 LR LR 11 43 10.6
comp=Z,93nm,18.8s,baz=134,slow=38
NNZ Nelson 81.25 196 P **P 11 04 05.1 +1.0**
NNZ IAmb IAmb 11 04 07.5
comp=Z,53nm,1.2s
JTS Las Juntas de 81.69 303*ce*P **P 11 04 07.9 +1.1**
JTS pmax pmax
comp=Z,17nm,1.1s
JTS Las Juntas de 81.69 303 P **P 11 04 07.2 +0.5**
ORTG Ortega, Santa 81.99 302 P **P 11 04 09.2 +0.8**
BKZ Black Stump Fm 82.75 198 P **P 11 04 12.8 +0.7**
BKZ IAmb IAmb 11 04 15.1
comp=Z,53nm,1.4s
ESPN Las Esperanzas 83.06 304 P **P 11 04 14.2 +0.4**
ACON Acoyapa 83.26 303 P **P 11 04 15.5 +0.7**
ACON IAmb IAmb 11 04 16.2
comp=Z,24nm,0.7s
URZ Urewera 83.52 199 P **P 11 04 16.0 +0.1**
comp=Z,8.2nm,0.9s,baz=216,slow=15,SNR=2.5
URZ LR LR 11 38 15.9
comp=Z,71nm,19.2s,baz=205,slow=33
URZ Urewera 83.52 199 IAmb IAmb 11 04 41.3
comp=Z,53nm,1.4s
MATN Matagalpa 84.45 303 P **P 11 04 21.6 +0.6**
MTO3 Montecristo 87.35 301 P **P 11 04 35.7 +0.3**
MTO3 IAmb IAmb 11 04 36.8
comp=Z,16nm,0.8s
ESQI Esquipulas 87.48 301 P **P 11 04 36.9 +1.0**
ESQI IAmb IAmb 11 04 37.8
comp=Z,33nm,0.8s
CAN Canberra 88.62 177 P **P 11 04 42.4 +1.2**
CAN pmax pmax
comp=Z,153nm,1.6s
CAN Canberra 88.62 177 P **P 11 04 42.4 +1.2**
ATD Arta Tunnel 88.77 67 LR LR 11 42 45.9
comp=Z,90nm,18.0s,baz=128,slow=34
MDT Midelt 90.87 19 LR LR 11 42 40.8
comp=Z,202nm,18.5s,baz=195,slow=34
STKA Stephens Creek 91.59 170 P **P 11 04 55.2 +0.1**
comp=Z,4.4nm,0.4s,baz=146,slow=5.9,SNR=19
STKA PP **PP 11 08 34.6 +1.0**
comp=Z,5.2nm,1.1s,baz=140,slow=6.5,SNR=3.3
STKA LR LR 11 46 39.7
comp=Z,57nm,18.4s,baz=200,slow=36
STKA Stephens Creek 91.59 170 P **P 11 04 55.6 +0.6**
STKA pmax pmax
comp=Z,24nm,2.0s
STKA Stephens Creek 91.59 170 P **P 11 04 55.6 +0.6**
STKA IAmb IAmb 11 04 57.8
comp=Z,24nm,1.9s
PPT2 Papeete2 92.01 234 *e*LR LR 11 34 32.6
comp=Z,221nm,27.5s
PPT Papeete 92.03 234 LR LR 11 37 42.9
comp=Z,72nm,21.7s,baz=139,slow=30
CMIG Matias Romero 92.34 298 LR LR 11 46 43.0
comp=Z,39nm,18.0s,baz=156,slow=36
RAR Rarotonga 93.02 223 LR LR 11 40 34.2
comp=Z,100nm,19.0s,baz=124,slow=31
TAOE Nuku Hiva Isla 95.03 246 *e*LR LR 11 35 54.5
comp=Z,74nm,29.3s
KEST Kesra 96.84 29 LR LR 11 45 58.9
comp=Z,150nm,18.3s,baz=220,slow=34
ESDC Sonseca Array 97.67 18 LR LR 11 46 22.6
comp=Z,108nm,18.2s,baz=203,slow=33
ASAR Alice Springs 98.69 162 P **P 11 05 27.1 -0.4**
comp=Z,6.7nm,0.9s,baz=188,slow=3.8,SNR=64
ASAR PP **PP 11 09 25.8 -3.0**
comp=Z,2.2nm,0.8s,baz=192,slow=6.4,SNR=10.0
ASAR PKiKP **PKiKP 11 09 58.5 +0.1**
comp=Z,1.0nm,0.8s,baz=176,slow=1.4,SNR=5.2
ASAR PKKPbc **PKKPdf 11 21 54.6 0.0**
comp=Z,0.3nm,0.6s,baz=31,slow=2.2,SNR=8.9
ASAR LR LR 11 48 49.9
comp=Z,104nm,18.4s,baz=161,slow=34
AS31 Alice Springs 98.69 162 P **P 11 05 27.0 -0.6**
VAE Valguarnera 99.91 32 LR LR 11 49 46.5
comp=Z,101nm,18.1s,baz=328,slow=35
DZM Mont Dzumac 101.04 193 *e*LR LR 11 38 47.8
comp=Z,222nm,32.9s
FITZ Fitzroy Crossi 102.38 154 P **Pdif 11 05 43.5 -0.4**
comp=Z,1.9nm,1.0s,baz=72,slow=3.2,SNR=1.4
WRA Warramunga Arr 102.41 162 P **Pdif 11 05 43.7 -0.4**
comp=Z,1.1nm,0.4s,baz=197,slow=4.4,SNR=28
WRA PP **PP 11 09 54.3 -2.5**
comp=Z,2.6nm,1.1s,baz=190,slow=6.0,SNR=4.8
WRA PKKPbc **PKKPbc 11 21 43.9 +1.8**
comp=Z,0.6nm,0.4s,baz=354,slow=2.8,SNR=17
WRA Warramunga Arr 102.41 162 P **Pdif 11 05 44.5 +0.4**
WRA Warramunga Arr 102.41 162 Pdif **Pdif 11 05 44.5 +0.4**
WRAB Tennant Creek 102.42 162‖ *e*P **Pdif 11 05 45.9 +1.8**
TXAR Lajitas Array 106.95 297 PKiKP **PKiKP 11 10 13.2 +0.1**
comp=Z,0.1nm,0.4s,baz=120,slow=3.3,SNR=4.4
TXAR PP **PP 11 10 33.8 +2.1**
comp=Z,0.3nm,0.7s,baz=126,slow=6.4,SNR=3.9
TXAR PKKPbc **PKKPbc 11 21 31.4 +2.3**
comp=Z,0.1nm,0.4s,baz=206,slow=1.8,SNR=6.0
GSI Gunungsitoli 109.62 119 P **Pdif 11 06 14.3 -1.9**
CLL Collm 112.32 26 *e*PKiKP **PKiKP 11 10 18.0 -4.3**
TUC Tucson 112.93 294 P **PKiKP 11 10 25.0 +0.7**
baz=143
EKA Eskdalemuir Ar 113.03 15 PKKPbc PKKPbc 11 21 10.0 -0.1
comp=Z,0.6nm,0.4s,baz=347,slow=2.5,SNR=6.4
SDCO Great Sand Dun 114.66 301 P **PKiKP 11 10 28.7 +1.0**
baz=143
S22A 4UR Ranch, Cre 115.30 300 P **PKiKP 11 10 30.0 +1.1**
baz=143
SCHQ Schefferville 115.45 336 PKP **PKPdf 11 10 27.7 -0.5**
comp=Z,1.1nm,0.6s,baz=169,slow=3.6,SNR=7.3
IKP In-Ko-Pah, Jac 115.94 290 P **PKiKP 11 10 31.0 +1.0**

baz=142
SWSC **Sam W. Stewart** 116.01 291 P PKiKP 11 10 31.1 +1.0
baz=142
PDMCI **Parker Dam,Lak** 116.22 293 P PKiKP 11 10 31.7 +1.3
baz=142
BC3 **Big Chuckawall** 116.39 291 P PKiKP 11 10 31.9 +1.0
baz=142
AKASG **Malin Array Be** 116.44 36 PKP PKPdf 11 10 29.6 -0.7
comp=Z,0.2nm,0.3s,baz=244,slow=2.1,SNR=4.6
AKASG **Malin Array Be** 116.44 36*c* *i*PKIKP PKiKP 11 10 31.6 +1.4
IRM **Iron Mountain** 116.62 292 P PKiKP 11 10 32.6 +1.3
baz=142
TPFO **Pinon Flats** 116.87 291 P PKiKP 11 10 32.9 +1.1
baz=142
PFO **Pinyon Flats O** 116.88 291 P PKiKP 11 10 32.8 +1.0
baz=142
BELC **Belle Mtn. Jos** 116.94 291 P PKiKP 11 10 33.1 +1.1
baz=142
GMRC **Granite Mounta** 117.38 292 P PKiKP 11 10 33.5 +0.6
baz=141
SCI2 **San Clemente I** 117.48 289 P PKiKP 11 10 33.5 +0.6
baz=141
KNB **Kanab** 117.67 296 PKIKP PKPdf 11 10 33.1 -0.3
KNB **Kanab** 117.67 296 PKPdf 11 10 33.1 -0.3
HEC **Hector,Ludlow** 117.76 292 P PKiKP 11 10 34.1 +0.6
baz=141
O20A **White River Ci** 117.86 301 P PKiKP 11 10 34.6 +0.9
baz=142
BFSC **Mount Baldy Ra** 117.99 290 P PKiKP 11 10 35.1 +1.1
baz=141
SZCU **Shurtz Canyon** 118.25 296 PKiKP 11 10 34.9 +0.4
GSC **Goldstone, Bar** 118.37 292 P PKiKP 11 10 35.8 +1.1
baz=141
P18A **Preston Nutter** 118.43 299 PKiKP 11 10 35.0 0.0
SHPR **Sheep Range** 118.45 294 PKPdf PKiKP 11 10 35.5 +0.6
EDW2 **Edwards Air Fo** 118.66 290 P PKiKP 11 10 36.3 +1.0
baz=141
LRMC **Laurel Mtn Rad** 118.96 291 P PKiKP 11 10 36.9 +1.1
baz=141
K22A **Casper** 119.02 304 P PKiKP 11 10 36.5 +0.7
baz=141
RSSD **Black Hills** 119.04 307 P PKiKP 11 10 36.4 +0.6
baz=142
PRN **Pahroc Range** 119.09 294 PKiKP 11 10 37.3 +1.2
FURC **Furnace Creek,** 119.30 292 P PKiKP 11 10 37.6 +1.3
baz=140
MPMC **Manual Prospec** 119.30 292 P PKiKP 11 10 37.7 +1.1
baz=140
TPNV **Topopah Spring** 119.35 293 P PKiKP 11 10 37.6 +1.0
baz=140
ISA **Isabella, Lake** 119.51 291 P PKiKP 11 10 38.1 +1.2
baz=140
CWC **Cottonwood Cre** 119.90 292 P PKiKP 11 10 38.4 +0.7
baz=140
GRAC **Grapevine Rang** 119.96 292 P PKiKP 11 10 38.8 +1.1
baz=140
VES **Vestal, Richgr** 119.97 290 P PKiKP 11 10 38.9 +1.2
baz=140
SMMC **Simmler** 120.04 289 P PKiKP 11 10 38.9 +1.0
baz=140
R11A **Troy Canyon, C** 120.09 295 P PKiKP 11 10 39.2 +1.2
baz=140
DUG **Dugway, Tooele** 120.12 298 P PKiKP 11 10 39.2 +1.2
baz=140
SIJI **Sorong** 120.33 155 PKP PKPdf 11 10 38.2 -0.8
comp=Z,6.9nm,0.9s,baz=158,slow=5.4,SNR=4.3
ULM **Lac du Bonnet** 120.48 316 PKP PKPdf 11 10 36.7 -1.3
comp=Z,3.5nm,0.5s,baz=122,slow=3.3,SNR=7.2
PD31 **Pinedale Array** 120.52 302 PKPdf 11 10 37.9 -0.8
PDAR **Pinedale Array** 120.52 302 PKP PKPdf 11 10 38.1 -0.6
comp=Z,0.8nm,0.4s,baz=122,slow=5.1,SNR=23
PDAR pPKP **pPKPdf** 11 11 04.3 -2.5
comp=Z,0.5nm,0.5s,baz=126,slow=4.8,SNR=3.4
PDAR PKKPbc **PKKPab** 11 20 44.8 +0.7
comp=Z,0.2nm,0.4s,baz=49,slow=1.5,SNR=5.9
NB2 **NORSAR Subarra** 120.89 21 PKPdf PKPdf 11 10 38.1 -0.5
comp=Z,1.2nm,1.1s,baz=202,slow=1.9
NOA **NORSAR Array B** 120.89 21 PKP PKPdf 11 10 38.0 -0.6
comp=Z,0.7nm,0.5s,baz=144,slow=2.1,SNR=7.7
NOA PKKPbc **PKKPbc** 11 20 43.0 +0.7
comp=Z,0.6nm,0.5s,baz=23,slow=3.4,SNR=4.6
NOA **NORSAR Array B** 120.89 21 PKIKP PKPdf 11 10 38.0 -0.6
NV11 **Mina Array Sit** 121.46 293 PKiKP 11 10 41.0 +0.3
NVAR **Mina Array Bea** 121.53 293 PKP PKiKP 11 10 41.7 +0.7
comp=Z,1.5nm,0.5s,baz=140,slow=2.7,SNR=22
NVAR pPKP **pPKPdf** 11 11 07.7 -1.3
comp=Z,0.7nm,0.6s,baz=112,slow=3.3,SNR=3.9
NVAR PKKPbc **PKKPab** 11 20 41.8 +1.7
comp=Z,0.4nm,0.7s,baz=301,slow=3.9,SNR=4.9
TPAW **Teton Pass** 121.73 302 PKPdf 11 10 40.6 -0.4
LAO **LASA Array** 122.00 307 P PKiKP 11 10 42.3 +0.9
baz=140
CMB **Columbia Colle** 122.31 291 PKIKP PKiKP 11 10 42.8 +0.6
CMB **Columbia Colle** 122.31 291 PKPdf PKiKP 11 10 42.8 +0.6
DGMT **Dagmar** 122.48 310 P PKiKP 11 10 43.2 +1.0
baz=140
OBN **Obninsk** 122.58 38 *e*PKIKP PKiKP 11 10 43.0 +0.9
OBN *e* 11 11 10.5
OBN *e* 11 12 20.5
OBN pmax pmax
comp=Z,4.0nm,0.9s
YHL **Hebgen Lake** 122.87 303 PKiKP 11 10 43.6 +0.2
HLID **Hailey** 123.44 300 P PKiKP 11 10 45.5 +1.0
baz=138
BOZ **Bozeman (W)** 123.64 303 P PKiKP 11 10 46.0 +1.2
baz=138
DLMT **Dillon** 123.92 302 PKiKP 11 10 46.1 +0.7
EGMT **Eagleton** 124.58 306 P PKiKP 11 10 47.5 +1.1
baz=138
FINES **FINESS Array B** 124.65 28 PKP PKPdf 11 10 45.5 -0.1
comp=Z,9.0nm,0.5s,baz=155,slow=1.9,SNR=96
WVOR **Wild Horse Val** 124.69 296 PKIKP PKiKP 11 10 47.4 +0.5
WVOR **Wild Horse Val** 124.69 296 PKiKP 11 10 47.4 +0.5
O03E **Paynes Creek** 124.72 292 PKPdf PKPdf 11 10 46.8 +0.1
O03E **Paynes Creek** 124.72 292 P PKiKP 11 10 47.8 +0.8
baz=138
CMAR **Chiang Mai Arr** 124.94 111 PKP PKPdf 11 10 47.7 0.0
comp=Z,2.6nm,0.7s,baz=234,slow=3.9,SNR=14
CMAR pPKP **pPKPdf** 11 11 13.2 -2.2
comp=Z,2.2nm,0.7s,baz=228,slow=3.8,SNR=4.1
CMAR **Chiang Mai Arr** 124.94 111 PKPdf PKPdf 11 10 47.2 -0.5
MOD **Modoc Plateau** 125.14 294 PKiKP 11 10 48.7 +0.9
O02D **Mt. Diablo Mer** 125.15 291 P PKiKP 11 10 48.5 +0.7
baz=138
GAR **Garm** 125.25 71 PKPdf PKiKP 11 10 48.3 +0.2
J08A **Circle Bar Ran** 125.29 297 PKPdf PKiKP 11 10 48.5 +0.5
PLID **Pearl Lake** 125.34 300 PKPdf PKiKP 11 10 48.1 -0.2
MSO **Missoula** 125.63 302 P PKiKP 11 10 49.5 +0.9
baz=137
N02D **Trinity Center** 125.69 292 PKiKP 11 10 49.5 +0.6
N02D **Trinity Center** 125.69 292 P PKiKP 11 10 48.9 0.0
baz=137
M04C **Macdoel** 125.83 293 P PKiKP 11 10 49.0 -0.2
baz=137
M02C **Callahan** 126.07 292 P PKiKP 11 10 50.1 +0.4
baz=137
L04D **Klamath Falls** 126.39 293 P PKiKP 11 10 51.2 +0.9
baz=137
K04D **Chiloquin, OR** 126.40 294 P PKiKP 11 10 51.6 +1.3
baz=137
FCC **Fort Churchill** 126.54 323 PKIKP PKPdf 11 10 48.3 -1.1
FCC **Fort Churchill** 126.54 323 PKPdf 11 10 48.3 -1.1
J05D **Fort Rock, OR** 126.62 295 P PKiKP 11 10 51.8 +1.0
baz=136
PINE **Pine Mountain** 126.83 295 PKPdf PKiKP 11 10 52.3 +1.0
G08A **Pilot Rock** 126.93 298 PKiKP 11 10 51.2 -0.1
HUMO **Hull Mountain** 127.00 293 PKiKP 11 10 51.9 +0.5
L02E **Cave Junction** 127.01 292 P PKiKP 11 10 52.8 +1.3
baz=136
J04D **Umpqua Nationa** 127.03 294 P PKiKP 11 10 52.3 +0.7
baz=136
I05D **Terrebonne, OR** 127.43 296 P PKiKP 11 10 53.2 +1.0
baz=136
K02D **Willamette Mer** 127.43 293 P PKiKP 11 10 53.1 +0.8
baz=136
ABKAR **Akbulak array** 127.53 56 PKPdf PKPdf 11 10 51.7 +0.1
I04A **Tendick Farm,** 127.58 295 P PKiKP 11 10 53.4 +0.8
baz=136
KLMR **Klimovskoe** 128.07 35 *e*PKIKP PKPdf 11 10 51.7 -0.5
KLMR pmax pmax
comp=Z,32nm,1.3s
KLMR **Klimovskoe** 128.07 35 *e*PKPdf PKPdf 11 10 51.7 -0.5
KLMR AMP 11 10 53.4
comp=Z,32nm,1.3s
D08A **Wollman Farm,** 128.17 300 PKiKP 11 10 53.9 +0.4
H04D **Lebanon** 128.26 295 P PKiKP 11 10 55.0 +1.2
baz=135
KKAR **Karatay Array** 128.32 68 PKIKP PKPdf 11 10 53.0 -0.4
KKAR **Karatay Array** 128.32 68 PKPdf PKPdf 11 10 53.0 -0.4
KSH **Kashi** 128.63 75 PKP PKPdf 11 10 53.8 -0.4
AAK **Ala-Archa** 130.06 71 *c* *i*PKIKP PKPdf 11 10 56.6 -0.3
AAK **Ala-Archa** 130.06 71 PKPdf 11 10 57.2 +0.3
DBG **Daneborg** 130.47 2 *e*P PKiKP 11 10 57.2 -0.2
D03D **Eldon** 130.54 298 P PKiKP 11 10 58.9 +0.6
baz=133
B05A **Bryant** 130.55 299 P PKiKP 11 10 58.8 +0.5
baz=133
PRGR **Permogore** 130.64 37 *e*PKIKP PKPdf 11 10 55.0 -2.1
PRGR *e* 11 11 25.8
PRGR pmax pmax
comp=Z,26nm,1.4s
ARCES **ARCESS Array B** 131.22 22 PKP PKPdf 11 10 58.0 -0.1
comp=Z,5.4nm,0.5s,baz=194,slow=1.8,SNR=46
ARCES SKPbc **SKPbc** 11 14 10.2 -3.0
comp=Z,2.9nm,0.6s,baz=13,slow=1.6,SNR=5.3
ARCES **ARCESS Array B** 131.22 22 PKIKP PKPdf 11 10 58.0 -0.1
ARU **Arti** 131.89 48 *i* PKIKP PKPdf 11 10 59.0 -0.7
ARU **Arti** 131.89 48 PKPdf PKPdf 11 10 59.9 +0.2
DAG **Danmarks Havn** 132.98 3 *i* P PKPdf 11 11 00.0 -1.2
PZH **PanZhiHua** 133.00 108 PKP PKiKP 11 11 07.8 +3.7
BRVK **Borovoye** 134.90 58 ⇑*i*PKIKP PKPdf 11 11 05.6 +0.2
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK **Borovoye** 134.90 58 PKPdf PKPdf 11 11 06.0 +0.6
YKA **Yellowknife Ar** 136.41 318 PKhKP PKPpre 11 10 56.7
comp=Z,0.3nm,0.5s,baz=123,slow=3.3,SNR=5.4
YKA PKP **PKPdf** 11 11 08.0 +0.1
comp=Z,4.4nm,0.5s,baz=128,slow=2.3,SNR=48
YKA PP **PP** 11 13 49.8 -1.5
comp=Z,1.9nm,0.9s,baz=119,slow=6.8,SNR=7.0
YKA SKPbc **SKPbc** 11 14 27.6 -2.8
comp=Z,6.6nm,1.0s,baz=120,slow=2.2,SNR=19
GOMU **GeErMu** 136.63 92 PKP PKiKP 11 11 11.3 -0.2
GOMU AMB AMB
baz=142
comp=Z,47nm,4.6s
MK31 **Makanchi Array** 136.97 72 ⇑*i*PKIKP PKPdf 11 11 08.4 -1.1
MKAR **Makanchi Array** 136.97 72 PKhKP PKPpre 11 10 57.8
comp=Z,0.7nm,0.5s,baz=233,slow=4.9,SNR=9.2
MKAR PKP **PKPdf** 11 11 07.9 -1.6
comp=Z,0.7nm,0.5s,baz=238,slow=1.8,SNR=7.3
MKAR SKPbc **SKPbc** 11 14 30.1 -2.6
comp=Z,1.7nm,0.8s,baz=222,slow=1.6,SNR=7.8
KURK **Kurchatov** 137.52 65 ⇑*i*PKIKP PKPdf 11 11 10.8 +0.4
KURK **Kurchatov** 137.52 65 PKPdf PKPdf 11 11 11.2 +0.8
CD2 **Chengdu** 137.56 106 PKP PKPdf 11 11 11.8 +0.6
WMQ **Urumqi** 137.95 79 *e*PKP PKiKP 11 11 12.8 -0.7
GTA **Gaotai** 141.69 93 *e*PKP PKPdf 11 11 14.4 -4.1
ZALV **Zalesovo Beam** 142.49 64 PKhKP PKPpre 11 11 14.9
comp=Z,2.9nm,0.4s,baz=232,slow=4.2,SNR=11
ZALV PKP **PKiKP** 11 11 21.0 -1.4
comp=Z,4.3nm,0.5s,baz=244,slow=3.4,SNR=11
ZALV **Zalesovo Beam** 142.49 64 PKIKP PKiKP 11 11 21.0 -1.4
XAN **Xi'an** 142.73 108 PKP PKPdf 11 11 17.4 -3.1
WHN **Wuhan** 142.75 118 ⇑PKP PKPdf 11 11 21.3 +0.8
M31M **Drury Creek, Y** 144.21 310 PKPbc 11 11 21.0 +0.3
A36M **Sachs Harbour** 144.48 328 PKPdf PKPdf 11 11 21.9 -0.4
A36M **Sachs Harbour** 144.48 328 P PKPdf 11 11 21.8 -0.4
baz=109
N31M **Braeburn, Yuko** 144.50 308 P PKPdf 11 11 22.2 -0.5
baz=115,SNR=7.7
LYN **LuoYang** 144.99 111 ⇑*i*PKPbc PKPbc 11 11 23.6 -0.3
HYT **Haines Junctio** 144.99 307 P PKPdf 11 11 24.1 +0.5
baz=115,SNR=11
M30M **Minto, Yukon** 145.38 310 PKPdf PKPab 11 11 24.5 -0.2
M30M **Minto, Yukon** 145.38 310 P PKPab 11 11 24.8 +0.2
baz=113
JOW **Kunigami** 145.62 139 PKPbc PKPab 11 11 26.8 +0.3
comp=Z,18nm,0.5s,baz=189,slow=6.0,SNR=5.6
JOW **Kunigami** 145.62 139 PKPbc 11 11 26.1 0.0
YUK4 **Talbot Arm** 145.71 307 P PKPab 11 11 25.9 -0.2
baz=113,SNR=11
INK **Inuvik** 146.05 320 PKP2 PKPbc 11 11 26.3 +0.2
INK **Inuvik** 146.05 320 PKPbc PKPbc 11 11 26.3 +0.2
INK **Inuvik** 146.05 320 P PKPbc 11 11 26.4 +0.3
baz=107,SNR=26
NJ2 **Nanjing** 146.17 122 PKPbc PKPbc 11 11 27.8 +0.2
J29M **Klondike Camp** 146.65 313 P PKPbc 11 11 28.2 +0.1
baz=109
YUK3 **Moose Creek** 146.68 307 P PKPbc 11 11 28.6 +0.1
baz=112
CTGM **Chitina Glacie** 146.76 306 PKPbc 11 11 28.8 +0.1
CTG **Chitna Glacier** 146.77 306 P PKPbc 11 11 29.0 +0.3
baz=112
I29M **Ogilvie Camp,** 146.97 314 P PKPbc 11 11 28.6 -0.3
baz=108
DAWY **Dawson** 147.01 312 P PKPbc 11 11 29.0 -0.1
baz=109
BVCY **Beaver Creek** 147.08 308 P PKPbc 11 11 29.4 0.0
baz=110,SNR=5.7
TIY **Taiyuan** 147.37 108 PKPbc PKPbc 11 11 30.6 -0.4
TIY PP **PP** 11 15 02.6 +4.6
TIY AMB AMB
comp=Z,210nm,4.9s
M27K **Edge Creek, AK** 147.51 308 P PKPbc 11 11 30.5 -0.1
baz=110
MCARA **McCarthy VSAT** 147.68 306 P PKPbc 11 11 31.1 +0.2
baz=111
BCAR **Beaver Creek A** 147.70 309 PKPdf PKPdf 11 11 26.4 -1.6
BCAR PKPbc PKiKP 11 11 32.2 -0.7
L27K **Beaver Creek,** 147.72 309 P PKPbc 11 11 30.9 -0.2
baz=109,SNR=9.7
KAIM **Kayak Island** 147.79 303 P PKiKP 11 11 32.2 -0.9
baz=112
VRDI **Verde Repeater** 147.82 305 PKPbc 11 11 32.1 +0.5
HMT **Hamilton** 147.87 304 PKPbc 11 11 32.1 +0.6
BTO **Baotou** 148.15 101 *e*PKPbc PKPdf 11 11 29.5 -0.1
HNS **HongShan** 148.33 110 PKPbc PKPbc 11 11 33.6 +0.2
L26K **Log Cabin Wild** 148.36 309 P PKPbc 11 11 32.8 +0.1
baz=108,SNR=8.1
N25K **Chitina, Valde** 148.47 306 P PKPbc 11 11 33.2 +0.1
baz=109
Q23K **Middleton Isla** 148.52 301 P PKPbc 11 11 33.6 +0.5
baz=112
EYAK **Cordova Ski Ar** 148.64 304 P PKPbc 11 11 33.7 +0.3
baz=110
TIA **Tai'an** 148.66 115 PKPbc PKPbc 11 11 34.3 0.0
J26L **Joseph Creek** 148.88 311 P PKPbc 11 11 34.0 -0.1
baz=105,SNR=13
SCRK **Sand Creek** 148.91 310 PKPbc 11 11 34.7 +0.5
SCRK **Sand Creek** 148.91 310 P PKPbc 11 11 34.4 +0.1
baz=106,SNR=10
HARP **HAARP** 148.97 307 P PKPbc 11 11 34.4 +0.2
baz=108
KLU **Klutina** 149.03 305 P PKiKP 11 11 35.2 -0.5
baz=109,SNR=10.0
HHC **Hu-hao-to** 149.16 103 *e*PKPbc PKPdf 11 11 33.0 +1.8
RIDG **Independent Ri** 149.22 310 PKiKP 11 11 35.8 -0.2
RIDG **Independent Ri** 149.22 310 P PKiKP 11 11 35.6 -0.4
baz=106,SNR=23
NRIK **Noril'sk** 149.24 39 PKPbc PKPbc 11 11 35.0 +0.3
comp=Z,6.8nm,0.7s,baz=28,slow=0.5,SNR=15
NRIK **Noril'sk** 149.24 39*c* *i*PKP2 PKPbc 11 11 34.4 -0.3
NRIK **Noril'sk** 149.24 39 PKiKP 11 11 35.4 -0.4
PAX **Paxson** 149.27 308 PKP2 PKiKP 11 11 35.8 -0.4
PAX **Paxson** 149.27 308 PKiKP 11 11 35.8 -0.4
PAX **Paxson** 149.27 308 P PKPbc 11 11 35.2 +0.1
baz=107
M24K **Tolsona, Glenn** 149.33 306 P PKPbc 11 11 35.7 +0.5
baz=108
J25K **Salcha River,** 149.66 311 P PKPbc 11 11 36.1 +0.1
baz=104,SNR=8.4
SCM **Sheep Creek Mo** 149.77 305 PKP2 PKiKP 11 11 37.4 +0.2
SCM **Sheep Creek Mo** 149.77 305 PKiKP 11 11 37.4 +0.2
SCM **Sheep Creek Mo** 149.77 305 P PKPbc 11 11 36.4 +0.1
baz=107,SNR=5.5
MOY **Mondy** 149.78 77 *e*PKHKP PKPbc 11 11 36.4 -0.3
MOY pmax pmax
comp=Z,48nm,1.6s
BMAR **Burnt Mountain** 149.92 317 PKPbc 11 11 36.8 +0.3
PRP **Porcupine Dome** 149.93 313 PKPdf PKPdf 11 11 29.8 -1.9
PRP PKPbc PKiKP 11 11 37.2 -0.3
PRP **Porcupine Dome** 149.93 313 P PKPbc 11 11 36.6 0.0
baz=102,SNR=9.2
PWL **Port Wells** 149.94 303 P PKPbc 11 11 37.0 +0.3
baz=108
DHY **Denali Highway** 150.14 308 P PKPbc 11 11 37.6 +0.4
baz=105
KNK **Knik Glacier** 150.16 304 P PKPbc 11 11 37.3 +0.1
baz=107,SNR=5.3
WAT6 **Susitna Watana** 150.17 307 P PKPbc 11 11 37.5 +0.1
baz=106,SNR=17
SML **Sawmill** 150.22 305 P PKPbc 11 11 37.7 +0.3
baz=107,SNR=7.9
SEW **Seward** 150.23 301 P PKPbc 11 11 37.5 +0.2
baz=109
HDA **Harding Lake** 150.28 311 P PKPbc 11 11 37.4 0.0
baz=103,SNR=9.8
ILAR **Eielson Array** 150.33 311 PKP PKPdf 11 11 29.4 -2.7
comp=Z,1.4nm,1.0s,baz=320,slow=2.1,SNR=8.3
ILAR PKPbc **PKPbc** 11 11 37.5 0.0
comp=Z,22nm,1.0s,baz=266,slow=0.9,SNR=109
ILAR pPKPbc **pPKPbc** 11 12 03.4 -2.1
comp=Z,24nm,0.9s,baz=137,slow=2.5,SNR=7.1
ZAK **Zakamensk** 150.38 80 *e*PKIKP PKPbc 11 11 37.1 -1.1
ZAK *e* 11 12 03.8
ZAK pmax pmax
comp=Z,44nm,1.6s
ZAK pmax pmax
comp=Z,24nm,1.5s
PMR **Palmer** 150.53 304 P PKPbc 11 11 38.2 +0.2
baz=106
POKR **Poker Plat Res** 150.63 312 PKiKP 11 11 38.6 -0.3
POKR PKPab 11 11 46.4 +0.8
POKR **Poker Plat Res** 150.63 312 P PKPbc 11 11 38.4 +0.2
baz=102
RC01 **Rabbit Creek A** 150.66 303 P PKiKP 11 11 38.8 -0.2
baz=107
CCB **Clear Creek Bu** 150.69 311 PKPdf PKPdf 11 11 31.6 -1.1
CCB PKPbc 11 11 37.6 -0.7
CCB PKPab 11 11 46.4 +0.6
BRSE **Bradley Lake S** 150.72 300 P PKPbc 11 11 38.6 +0.1
baz=109
SONM **Songino Array** 150.73 87 PKP PKPdf 11 11 34.4 +0.9
comp=Z,19nm,0.5s,baz=226,slow=1.3,SNR=6.5
SONM PKPbc **PKPbc** 11 11 39.0 -0.2
comp=Z,21nm,0.5s,baz=220,slow=3.7,SNR=118
COLA **College** 150.76 311 P PKPbc 11 11 38.6 +0.2
baz=102
TCOL **CIGO, UAF Yank** 150.76 311 P PKPbc 11 11 38.4 -0.1
baz=102
H24K **Noodor Dome** 150.95 313 P PKPbc 11 11 39.0 0.0
baz=100,SNR=8.1
KDAK **Kodiak Island** 150.97 296 PKIKP PKiKP 11 11 40.5 +0.8
KDAK **Kodiak Island** 150.97 296 PKiKP 11 11 40.5 +0.8
KDAK **Kodiak Island** 150.97 296 P PKiKP 11 11 39.9 +0.2
baz=111
MCK **McKinley** 150.98 309 PKIKP PKPdf 11 11 31.3 -1.9
MCK 11 11 47.2
MCK **McKinley** 150.98 309 PKPdf PKPdf 11 11 31.3 -1.9
MCK PKPbc PKiKP 11 11 39.8 +0.2
MCK PKPab PKPab 11 11 47.2 +0.1
MCK **McKinley** 150.98 309 P PKiKP 11 11 40.2 +0.6
baz=103
M22K **Willow** 151.02 305 PKiKP 11 11 40.1 +0.5
M22K **Willow** 151.02 305 P PKiKP 11 11 39.4 -0.2
baz=106
BJT **Baijiatuau** 151.04 109 PKIKP PKPbc 11 11 39.8 -0.1
BJT **Baijiatuau** 151.04 109 PKPbc 11 11 39.8 -0.1
BJI **Beijing** 151.06 109 PKPbc PKPbc 11 11 39.5 -0.4
BJI pPKP **pPKPbc** 11 12 05.8 -1.6
ULN **Ulaanbaatar** 151.11 87 *c* *i*PKIKP PKPbc 11 11 39.3 -0.8
ULN **Ulaanbaatar** 151.11 87 PKPdf PKPdf 11 11 33.0 -1.2
ULN PKPbc 11 11 39.5 -0.5
ULN PKPab PKPab 11 11 47.6 -0.7
OHAK **Old Harbor** 151.12 295 P PKiKP 11 11 39.9 -0.1
baz=112
NEA2 **Nenana** 151.21 310 PKPbc 11 11 39.2 -0.4
NEA2 **Nenana** 151.21 310 P PKPbc 11 11 39.4 -0.2
baz=101
BWN **Browne** 151.30 310 PKiKP 11 11 40.2 0.0
SII **Sitkinak Islan** 151.33 293 P PKiKP 11 11 40.5 -0.1
baz=112
I23K **Minto, Yukon-K** 151.44 312 P PKPbc 11 11 39.6 -0.4
baz=100,SNR=5.5
TRF **Thorofare Moun** 151.51 308 P PKPbc 11 11 40.5 0.0
baz=102,SNR=5.4
O20K **Slope Mountain** 151.73 300 P PKiKP 11 11 41.8 +0.4
baz=107
SPCR **Spurr Chakacha** 151.84 303 P PKiKP 11 11 42.0 +0.5
baz=105
Q19K **Cape Douglas,** 151.88 298 P PKiKP 11 11 41.7 +0.1
baz=108
TOLK **Toolik Lake Re** 151.92 319 P PKPbc 11 11 41.2 0.0
baz=93,SNR=5.6
BPAW **Bear Paw Mtn.** 151.94 309 PKPbc 11 11 41.3 0.0
BPAW **Bear Paw Mtn.** 151.94 309 P PKPbc 11 11 41.2 -0.1
baz=101,SNR=29
MLY **Manley** 151.99 311 PKPbc 11 11 41.4 -0.1
MLY PKPab PKPab 11 11 50.8 -0.5
MLY **Manley** 151.99 311 P PKiKP 11 11 41.7 0.0
baz=99,SNR=7.2
COLD **Coldfoot** 152.05 316 PKiKP 11 11 42.2 +0.5
COLD **Coldfoot** 152.05 316 P PKiKP 11 11 42.0 +0.3
baz=96,SNR=12
PPLA **Purkeypile** 152.23 306 PKPdf PKPdf 11 11 34.0 -1.3
PPLA PKiKP 11 11 42.5 +0.1
PPLA PKPab PKPab 11 11 52.1 -0.4
PPLA **Purkeypile** 152.23 306 P PKPbc 11 11 42.2 0.0
baz=102
CAST **Castle Rocks** 152.29 308 P PKPbc 11 11 41.6 -0.5
baz=101,SNR=16
CHUM **Lake Minchumin** 152.48 308 P PKPbc 11 11 42.2 -0.2
baz=100,SNR=10
I21K **Tanana** 152.54 311 P PKPbc 11 11 42.6 +0.1
baz=98,SNR=6.2
O19K **Port Alsworth** 152.58 300 P PKPbc 11 11 42.3 -0.4
baz=106
P18K **Big Mountain,** 152.80 298 P PKPbc 11 11 42.8 -0.6
baz=107
N19K **Bonanza Creek** 152.82 301 P PKPbc 11 11 43.0 -0.4
baz=104
L20K **Farewell, AK** 152.91 305 P PKiKP 11 11 44.0 +0.3
baz=102
H21K **Melozitna Rive** 152.94 312 P PKiKP 11 11 43.8 +0.2
baz=96,SNR=6.5
M19K **Big River Lodg** 153.03 304 P PKiKP 11 11 44.0 +0.1
baz=102
K20K **Telida** 153.16 307 P PKiKP 11 11 45.1 +1.0
baz=100
J20K **Nowinta River** 153.32 309 PKiKP 11 11 45.4 +1.0
J20K PKPab PKPab 11 11 57.7 +0.8
J20K **Nowinta River** 153.32 309 P PKiKP 11 11 45.3 +1.0
baz=98
XLT **XiLinHaoTe** 153.69 103 *e*PKPbc PKPdf 11 11 37.3 -0.7
XLT PKPab PKPab 11 11 59.3 +0.2
XLT AMB AMB
comp=Z,86nm,6.6s
TTA **Tatalina** 153.96 306 PKP2 PKPab 11 12 00.9 +1.2
TTA **Tatalina** 153.96 306 PKiKP 11 11 46.5 +0.7
TTA PKPab PKPab 11 12 00.9 +1.2
TTA **Tatalina** 153.96 306 P PKiKP 11 11 47.3 +1.4
baz=99
GCSA **Galena City Sc** 154.56 310 P PKPab 11 12 03.9 +1.8
baz=95
KSAR **Wonju Array Be** 154.77 128 PKIKP PKiKP 11 11 48.4 +0.2
KSAR 11 12 03.7
KSAR **Wonju Array Be** 154.77 128 PKPdf PKPdf 11 11 39.6 +0.1
KSAR PKPbc PKiKP 11 11 48.4 +0.2
KSAR PKPab 11 12 03.7 0.0
KSRS **Korea Array** 154.79 128 PKPab PKPab 11 12 03.0 -0.8
comp=Z,4.3nm,0.8s,baz=218,slow=4.2,SNR=12
MJAR **Matsushiro Arr** 157.85 147 PKPab PKPab 11 12 16.8 -0.2
comp=Z,7.3nm,1.1s,baz=211,slow=5.0,SNR=7.1
MJAR **Matsushiro Arr** 157.85 147 PKIKP PKPdf 11 11 42.9 -0.7
MJAR 11 12 16.6
MJAR **Matsushiro Arr** 157.85 147 PKPdf PKPdf 11 11 42.9 -0.7
MJAR PKPab 11 12 16.6 -0.4
ANM **Nome** 158.21 309 P PKPab 11 12 18.9 +1.0
baz=88
CN2 **Changchun** 158.57 114 *e*PKP PKPdf 11 11 40.8 -3.4
CN2 pPKP PKPab 11 12 18.8 -1.2
TNA **Tin City** 159.20 312 P PKPab 11 12 23.5 +1.4
baz=83
BNX **BinXian** 160.92 113 ⇓P PKPab 11 12 29.1 -1.1
BNX pmax pmax
comp=Z,19nm,1.0s
BNX pmax pmax
comp=Z,320nm,4.9s
GAMB **Gambell** 161.03 308 P PKPab 11 12 32.1 +2.0
baz=84
MDJ **Mudanjiang** 161.22 119 PKP PKPdf 11 11 46.9 -0.3
USRK **Ussuriysk Ar.** 162.04 124 PKPab PKPab 11 12 34.4 -0.7
comp=Z,3.0nm,0.5s,baz=211,slow=3.6,SNR=8.7
KLR **Kul'dur** 165.42 110 PKPab PKPab 11 12 49.2 -0.6
comp=Z,5.0nm,0.8s,baz=226,slow=3.2,SNR=10
BILL **Bilibino** 166.76 338 *e*PKIKP PKPdf 11 11 51.3 -0.2

BILL			*e*		11 12 18.7
BILL			pmax	pmax	
	comp=Z,2.0nm,1.1s				

*DDA **18** 10:57:15.3±0.0,38°.41N×39°.26E,h10km±2km, MW3.6*
*ISK **18** 10:57:15.2,38°.44N×39°.30E,h6km,ML3.4/20*
ISC 18 10:57:15.5±0.8,**38°.41N**±0°.02×**39°.29E**±0°.02,**h8**km±6km,
n56,σ0°**85**/**73**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.04**	**162**	PG	**Pg**	**10 57 17.3**	**-0.1**
SVRC				SG	**Sg**	**10 57 18.5**	**-0.1**
ELZG	**Elazig**	**0.26**	**290**	P	**Pg**	**10 57 21.0**	**+0.3**
ELZG				*i* AML	AML	10 57 27.0	
	comp=N,1μm,0.3s						
ELZG				*i* AML	AML	10 57 27.0	
	comp=E,1μm,0.4s						
KOVA	**Elazig, Kovanc**	**0.50**	**54**	P	**Pb**	**10 57 25.9**	**-0.8**
KOVA				*i* AML	AML	10 57 36.0	
	comp=E,725nm,0.5s						
KOVA				*i* AML	AML	10 57 40.0	
	comp=N,586nm,0.5s						
TNCL	**Tunceli-Merkez**	**0.73**	**15**	P	**Pg**	**10 57 29.3**	**-0.3**
DIYA	**Diyarbakir**	**0.81**	**126**	P	Pg	10 57 25.7	-5.5
HANI	**Diyarbakir_Han**	**0.87**	**89**	P	**Pg**	**10 57 32.1**	**-0.2**
HANI				S	**Sb**	**10 57 45.8**	**+1.1**
HANI				*i* AML	AML	10 57 48.0	
	comp=N,604nm,0.5s						
HANI				*i* AML	AML	10 57 48.0	
	comp=E,636nm,0.4s						
ARPR	**Arapgir-MALATY**	**1.01**	**313**	PG	**Pb**	**10 57 34.8**	**-0.6**
ARPR				SG	**Sn**	**10 57 49.9**	**-0.8**
KEMA	**Kemaliye**	**1.06**	**324**	P	**Pg**	**10 57 34.8**	**-1.1**
KEMA				S	**Sb**	**10 57 50.4**	**+0.1**
KEMA				*i* AML	AML	10 57 53.0	
	comp=N,753nm,0.6s						
KEMA				*i* AML	AML	10 57 55.0	
	comp=E,683nm,0.4s						
AKCD	**Akcadag**	**1.08**	**264**	P	**Pg**	**10 57 35.4**	**-1.0**
AKCD				S	**Sg**	**10 57 49.5**	**-0.9**
AKCD				*i* AML	AML	10 57 54.0	
	comp=N,2μm,0.2s						
AKCD				*i* AML	AML	10 57 55.0	
	comp=E,1μm,0.6s						
HEKM	**Malatya_Hekimh**	**1.14**	**295**	P	**Pg**	**10 57 36.7**	**-0.8**
HEKM				S	**Sn**	**10 57 53.1**	**-0.9**
HEKM				*i* AML	AML	10 58 01.0	
	comp=E,945nm,0.5s						
HEKM				*i* AML	AML	10 58 02.0	
	comp=N,645nm,0.7s						
ILIC	**ilic-Erzincan**	**1.18**	**332**	PN	**Pg**	**10 57 37.2**	**-1.1**
ILIC				SN	**Sn**	**10 57 54.1**	**-0.7**
ERZN	**Erzincan**	**1.22**	**16**	PN	**Pg**	**10 57 38.4**	**-0.6**
ATAB	**Bozova**	**1.23**	**220**	P	**Pb**	**10 57 38.6**	**-0.3**
ATAB				S	**Sn**	**10 57 56.1**	**+0.3**
ATAB				*i* AML	AML	10 57 58.0	
	comp=N,782nm,0.2s						
ATAB				*i* AML	AML	10 58 00.0	
	comp=E,948nm,0.4s						
BNGB	**Bingl**	**1.23**	**61**	PN	**Pb**	**10 57 38.9**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.26**	**191**	P	**Pn**	**10 57 39.2**	**-0.2**
SANL				*i* AML	AML	10 57 58.0	
	comp=N,2μm,0.7s						
SANL				*i* AML	AML	10 57 58.0	
	comp=E,1μm,0.2s						
YEDI	**Yedisu-Bingol**	**1.42**	**43**	PN	**Pb**	**10 57 42.1**	**-0.2**
SLHN	**Bingol, Solhan**	**1.46**	**68**	P	**Pg**	**10 57 43.5**	**-0.1**
SLHN				S	**Sg**	**10 58 03.6**	**+1.0**
SLHN				*i* AML	AML	10 58 07.0	
	comp=N,296nm,1.1s						
SLHN				*i* AML	AML	10 58 12.0	
	comp=E,525nm,0.7s						
SVAN	**Silvan-Diyarba**	**1.52**	**99**	PN	**Pn**	**10 57 42.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.52**	**99**	P	**Pn**	**10 57 42.8**	**-0.3**
SVAN				S	**Sg**	**10 58 04.2**	**-0.3**
SVAN				*i* AML	AML	10 58 08.0	
	comp=N,257nm,1.1s						
SVAN				*i* AML	AML	10 58 09.0	
	comp=E,214nm,0.6s						
MARD	**Mardin**	**1.61**	**133**	P	**Pn**	**10 57 44.2**	**-0.2**
MARD				S	**Sn**	**10 58 04.9**	**-0.4**
MARD				*i* AML	AML	10 58 07.0	
	comp=E,852nm,0.3s						
MARD				*i* AML	AML	10 58 11.0	
	comp=N,850nm,0.4s						
CUGUR	**Gurin_SVAS**	**1.61**	**282**	P	**Pg**	**10 57 46.7**	**+0.2**
CUGUR				*i* AML	AML	10 58 18.0	
	comp=E,453nm,0.7s						
CUGUR				*i* AML	AML	10 58 20.0	
	comp=N,413nm,0.5s						
BTMN	**Batman**	**1.64**	**108**	P	**Pn**	**10 57 45.2**	**+0.5**
BTMN				S	**Sn**	**10 58 05.9**	**-0.2**
BTMN				*i* AML	AML	10 58 12.0	
	comp=N,488nm,1.1s						
BTMN				*i* AML	AML	10 58 23.0	
	comp=E,318nm,1.1s						
CUKAN	**kangal_SIVAS**	**1.69**	**303**	P	**Pb**	**10 57 46.2**	**-0.7**
CUKAN				S	**Sg**	**10 58 10.0**	**+0.2**
CUKAN				*i* AML	AML	10 58 16.0	
	comp=N,256nm,0.8s						
CUKAN				*i* AML	AML	10 58 18.0	
	comp=E,286nm,1.0s						
ELBS	**KAHRAMANMARAS**	**1.70**	**268**	P	**Pb**	**10 57 46.2**	**-0.9**
ELBS				*i* AML	AML	10 58 14.0	
	comp=E,803nm,0.6s						
ELBS				*i* AML	AML	10 58 15.0	
	comp=N,997nm,1.0s						
GZT	**Gaziantep**	**1.73**	**233**	P	**Pn**	**10 57 46.0**	**0.0**
GZT				*i* AML	AML	10 58 13.0	
	comp=N,837nm,0.9s						
GZT				*i* AML	AML	10 58 14.0	
	comp=E,772nm,0.7s						
KELT	**Kelkit**	**1.73**	**359**	P	**Pg**	**10 57 48.6**	**-0.3**
KELT				*i* AML	AML	10 58 20.0	
	comp=N,86nm,0.8s						
KELT				*i* AML	AML	10 58 20.0	
	comp=E,84nm,0.6s						
MUSM	**Mu-Merkez**	**1.77**	**79**	P	**Pn**	**10 57 47.1**	**+0.6**
MUSM				*i* AML	AML	10 58 16.0	
	comp=E,79nm,0.7s						
MUSM				*i* AML	AML	10 58 21.0	
	comp=N,132nm,1.0s						
VRTB	**Varto-Mus**	**1.85**	**65**	PN	**Pn**	**10 57 47.9**	**+0.2**
CUZAR	**Zara_SIVAS**	**1.89**	**322**	P	**Pb**	**10 57 49.0**	**-1.4**
CUZAR				*i* AML	AML	10 58 25.0	
	comp=N,129nm,0.6s						
CUZAR				*i* AML	AML	10 58 27.0	
	comp=E,150nm,0.6s						
MIDY	**Mardin/Midyat-**	**1.94**	**120**	P	**Pb**	**10 57 50.3**	**-1.0**
MIDY				S	**Sb**	**10 58 15.9**	**+0.2**
MIDY				*i* AML	AML	10 58 21.0	
	comp=E,462nm,0.3s						
MIDY				*i* AML	AML	10 58 22.0	
	comp=N,527nm,0.5s						
ALUC	**Giresun/Alucra**	**1.97**	**348**	P	**Pb**	**10 57 51.8**	**0.0**
ALUC				*i* AML	AML	10 58 27.0	
	comp=E,180nm,1.1s						
ALUC				*i* AML	AML	10 58 28.0	
	comp=N,239nm,1.2s						
KHMN	**Narli-Kahraman**	**1.97**	**240**	PN	**Pn**	**10 57 49.3**	**0.0**
SUSE	**Susehri**	**1.98**	**335**	P	**Pb**	**10 57 51.8**	**-0.2**
SUSE				S	**Sg**	**10 58 18.7**	**-0.6**
SUSE				*i* AML	AML	10 58 26.0	
	comp=E,60nm,1.0s						
SUSE				*i* AML	AML	10 58 27.0	
	comp=N,110nm,0.9s						
KAHM	**Kahramanmaras,**	**2.03**	**245**	P	**Pn**	**10 57 50.3**	**+0.3**
KAHM				S	**Sg**	**10 58 21.4**	**+0.6**
KAHM				*i* AML	AML	10 58 30.0	
	comp=E,106nm,0.5s						
BAYT	**Aydintepe-Bayb**	**2.09**	**18**	PN	**Pn**	**10 57 51.6**	**+0.6**
EJDE	**Erzurum, Palan**	**2.11**	**47**	PN	**Pn**	**10 57 51.1**	**-0.4**
GURO	**Guroymak-BITLI**	**2.15**	**85**	PN	**Pn**	**10 57 53.0**	**+1.1**
CUAYA	**Sivas-Altinyay**	**2.16**	**294**	P	**Pb**	**10 57 53.9**	**-1.1**
CUAYA				S	**Sg**	**10 58 26.8**	**+1.7**
CUAYA				*i* AML	AML	10 58 37.0	
	comp=N,89nm,0.9s						
CUAYA				*i* AML	AML	10 58 39.0	
	comp=E,102nm,0.8s						
ERZM	**Erzurum**	**2.20**	**47**	PN	**Pn**	**10 57 53.4**	**+0.8**
BLIS	**Bitlis-Merkez**	**2.22**	**89**	P	**Pb**	**10 57 54.6**	**-1.4**
BLIS				*i* AML	AML	10 58 30.0	
	comp=N,127nm,0.4s						
BLIS				*i* AML	AML	10 58 37.0	
	comp=E,159nm,0.8s						
SARI	**SarD1z-Kayseri**	**2.26**	**271**	PN	**Pn**	**10 57 54.4**	**+1.1**
KUZU	**Kuzuini**	**2.40**	**228**	P	**Pn**	**10 57 54.9**	**-0.3**
KUZU				S	**Sb**	**10 58 30.1**	**+1.2**
KUZU				*i* AML	AML	10 58 37.0	
	comp=N,449nm,0.3s						
KUZU				*i* AML	AML	10 58 40.0	
	comp=E,483nm,0.3s						
KAMA	**Osmaniye**	**2.41**	**240**	P	**Pn**	**10 57 55.0**	**-0.4**
KAMA				*i* AML	AML	10 58 11.0	
	comp=E,23nm,0.3s						
KAMA				*i* AML	AML	10 58 11.0	
	comp=N,28nm,0.5s						
ANDN	**Andirin**	**2.47**	**251**	P	**Pn**	**10 57 56.7**	**+0.5**
ANDN				*i* AML	AML	10 58 42.0	
	comp=E,144nm,0.5s						
ANDN				*i* AML	AML	10 58 43.0	
	comp=N,200nm,0.7s						
RSDY	**Resadiye-TOKAT**	**2.50**	**323**	PN	**Pn**	**10 57 57.2**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**2.54**	**51**	PN	**Pn**	**10 57 58.2**	**+1.0**
PERV	**Siirt/Pervari-**	**2.60**	**99**	P	**Pn**	**10 57 58.0**	**0.0**
PERV				*i* AML	AML	10 58 44.0	
	comp=E,600nm,0.8s						
PERV				*i* AML	AML	10 58 51.0	
	comp=N,493nm,0.6s						
BNN	**Bunyan**	**2.73**	**280**	PN	**Pn**	**10 58 01.0**	**+1.2**
TOKT	**Tokat**	**2.86**	**313**	PN	**Pn**	**10 58 02.4**	**+0.9**
KOZT	**Kozan**	**2.89**	**252**	PN	**Pn**	**10 58 03.1**	**+1.2**
AKDM	**Akdamar-Van**	**2.90**	**90**	PN	**Pn**	**10 58 03.5**	**+1.4**
CEYT	**Ceyhan**	**3.14**	**245**	PN	**Pn**	**10 58 06.6**	**+1.3**
TAHT	**Tahtakopru-Har**	**3.20**	**232**	PN	**Pn**	**10 58 07.3**	**+1.2**
CMRD	**Camardi-Nigde**	**3.48**	**259**	PN	**Pn**	**10 58 11.7**	**+1.7**
KARA	**Karaisali**	**3.55**	**252**	PN	**Pn**	**10 58 13.0**	**+2.1**
CUKT	**Cukurca**	**3.61**	**107**	PN	**Pn**	**10 58 13.8**	**+1.9**

HEL 18 11:01:00.2±0.0,**67°.64N**×**21°.02E**,**h0**km,**ML1.4,**
ML1.1(UPP),**Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.42**	**116**	*i* P	Pg	11 01 07.7	-0.5
MASU				*i* S	Sg	11 01 13.4	-0.2
LANU	**Lannavaara**	**0.55**	**42**	*e*P	Pg	11 01 10.1	-0.6
DUNU	**Dundret**	**0.55**	**199**	*i* P	Pg	11 01 09.9	-0.8
DUNU				*i* S	Sg	11 01 17.5	-0.4
RATU	**Laukkuluspa**	**0.57**	**289**	*i* P	Pg	11 01 10.5	-0.6
NIKU	**Nikkaluokta**	**0.79**	**288**	*i* P	Pg	11 01 14.4	-0.9
SALU	**Saltoluokta**	**1.00**	**256**	*e*P	Pg	11 01 18.1	-1.2
PAJU	**Pajala**	**1.02**	**127**	*e*P	Pg	11 01 18.2	-1.5
	baz=306						
PAJU				*e*S	Sg	11 01 31.6	-1.4
ERTU	**Ertsjaerv**	**1.19**	**157**	*e*P	Pg	11 01 21.0	-1.8
ERTU				*e*SB	Sg	11 01 37.5	-0.7
KLF	**Kolari**	**1.21**	**108**	*e*P	Pg	11 01 21.8	-1.5
HEF	**Hetta**	**1.26**	**51**	*e*PB	Pg	11 01 22.9	-1.3
	baz=232						
HEF				MSG		11 01 38.7	
	comp=Z,1.3nm,0.2s						
HEF				*e*SB	Sg	11 01 39.6	-0.9
KIF	**Kilpisjarvi**	**1.37**	**357**	*e*PG	Pg	11 01 25.6	-0.9
KIF				MSG		11 01 41.8	
	comp=E,5.4nm,0.2s						
KIF				*e*SB	Sb	11 01 45.0	+0.3
HARU	**Harads**	**1.49**	**181**	*e*P	Pn	11 01 26.6	-1.6
KALU	**Kalix**	**2.02**	**152**	*e*P	Pn	11 01 35.4	0.0
KALU				*e*SG	Sb	11 02 02.5	-0.7
TOF	**Tornio**	**2.04**	**139**	*e*PB	Pn	11 01 36.2	+0.4
TOF				MSG		11 02 00.7	
	comp=Z,2.4nm,0.2s						
TOF				*e*SG	Sn	11 02 02.7	+0.8
SGF	**Sodankyl**	**2.12**	**93**	*e*PG	Pn	11 01 38.0	+1.2
RNF	**Rovaniemi**	**2.21**	**116**	*e*PB	Pn	11 01 38.8	+0.7
RNF				*e*SG	Sb	11 02 08.2	-0.6
ARA0	**ARCESS Array S**	**2.51**	**39**	*e*PB	Pn	11 01 43.4	+1.1
	baz=225						
ARA0				*e*SG	Sb	11 02 18.3	+0.7

UPP 18 11:01:46.0±0.1,**67°.62N**×**21°.01E**,**h0**km,**ML1.6,**
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.69**	**332**	P	Pg	11 01 59.0	-0.1
KOVU				S	Sg	11 02 08.2	+0.2
NIKU	**Nikkaluokta**	**0.79**	**289**	P	Pg	11 02 00.8	-0.3
SALU	**Saltoluokta**	**0.99**	**257**	P	Pg	11 02 04.8	-0.2
PAJU	**Pajala**	**1.01**	**125**	P	Pg	11 02 04.8	-0.5
ERTU	**Ertsjaerv**	**1.17**	**156**	P	Pg	11 02 07.7	-0.6
HEF	**Hetta**	**1.27**	**50**	*e*P	Pg	11 02 09.5	-0.8
KIF	**Kilpisjarvi**	**1.39**	**357**	*e*P	Pn	11 02 11.8	-0.6
HARU	**Harads**	**1.46**	**181**	P	Pn	11 02 13.0	-0.6

*NEIC **18** 11:03:35.0±1.5,38°.01S±0°.05×72°.3W±0°.1,h84km±11km,*
Error ellipse: s-maj=13.6km s-min=7.5km az=101.0
*GUC **18** 11:03:36.7±0.6,38°.06S×72°.10W,h82km±5km,ML4.0*
ISC 18 11:03:35.3±0.8,**38°.04S**±0°.03×**72°.13W**±0°.07,**h87**km±10km,
n63,σ1°**07**/**76**,**4C-11D**,**Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LC01	**Cunco**	**0.88**	**167**	Pn	**Pn**	**11 03 53.8**	**+0.3**
LC01	**Cunco**	**0.88**	**167**	*i* P	**Pn**	**11 03 53.8**	**+0.3**
LC01				*e*S	**Sn**	**11 04 07.2**	**+0.1**
LC02	**Puerto Saavedr**	**1.24**	**232**	Pn	**Pn**	**11 03 58.8**	**+1.1**
LC02	**Puerto Saavedr**	**1.24**	**232**	*e*P	**Pn**	**11 03 58.8**	**+1.1**
LC02				*e*S	**Sn**	**11 04 15.3**	**+0.9**
BI05	**Punta Hualpn**	**1.54**	**326**	Pn	**Pn**	**11 04 02.8**	**+1.4**
BI05	**Punta Hualpn**	**1.54**	**326**	*e*P	**Pn**	**11 04 03.1**	**+1.6**
BI05				*e*S	**Sn**	**11 04 22.0**	**+0.8**
BI05				IAML		11 04 24.2	
	comp=E,1μm,0.1s						
LR03	**Panguipulli**	**1.60**	**186**	Pn	**Pn**	**11 04 03.0**	**+0.8**
LR03	**Panguipulli**	**1.60**	**186**	*i* P	**Pn**	**11 04 03.0**	**+0.8**
LR03				*e*S	**Sn**	**11 04 23.0**	**+0.4**
LR03				IAML		11 04 24.4	
	comp=E,2μm,0.6s						
LR02	**Universidad Au**	**1.97**	**206**	*e*P	**Pn**	**11 04 08.2**	**+1.2**
LR02				*e*S	**Sn**	**11 04 31.6**	**+0.5**
LR02				IAML		11 04 39.5	
	comp=N,2μm,0.4s						
LR04	**Corral**	**2.10**	**208**	Pn	**Pn**	**11 04 08.8**	**+0.1**
LR04	**Corral**	**2.10**	**208**	*e*P	**Pn**	**11 04 08.8**	**+0.1**
LR04				*e*S	**Sn**	**11 04 34.5**	**+0.3**
LR04				IAML		11 04 43.6	
	comp=E,2μm,0.3s						
ML02	**Panimavida**	**2.34**	**14**	Pn	**Pn**	**11 04 13.3**	**+1.3**
ML02	**Panimavida**	**2.34**	**14**	*e*P	**Pn**	**11 04 13.6**	**+1.6**
ML02				*e*S	**Sn**	**11 04 41.1**	**+1.1**
ML02				IAML		11 04 44.2	
	comp=E,485nm,0.4s						
LL04	**Puerto Octay**	**2.88**	**184**		**Pn**	**11 04 19.2**	**+0.1**
LL04	**Puerto Octay**	**2.88**	**184**	*e*P	**Pn**	**11 04 19.5**	**+0.4**
LL04				*e*S	**Sn**	**11 04 53.1**	**+0.3**
LL04				IAML		11 04 54.9	
	comp=E,320nm,0.2s						
PLCA	**Paso Flores**	**2.96**	**156**		**Pn**	**11 04 21.4**	**+1.2**
GO05	**Huala**	**3.03**	**3**		**Pn**	**11 04 21.8**	**+0.5**
GO05	**Huala**	**3.03**	**3**	*e*P	**Pn**	**11 04 21.7**	**+0.5**
GO05				*e*S	**Sn**	**11 04 56.7**	**+0.2**
GO05				IAML		11 05 05.9	
	comp=N,310nm,0.4s						
LL03	**Petrohue**	**3.10**	**184**		**Pn**	**11 04 22.8**	**+0.6**
LL03	**Petrohue**	**3.10**	**184**	*e*P	**Pn**	**11 04 23.1**	**+1.0**
LL03				*e*S	**Sn**	**11 04 58.2**	**-0.1**
LL03				IAML		11 05 10.4	
	comp=N,236nm,0.5s						
BO02	**Sierra Bellavi**	**3.42**	**19**	Pn	**Pn**	**11 04 27.7**	**+1.1**
BO02	**Sierra Bellavi**	**3.42**	**19**	*i* P	**Pn**	**11 04 27.6**	**+1.1**
BO02				*e*S	**Sn**	**11 05 06.5**	**+0.4**
BO02				IAML		11 05 09.8	
	comp=N,472nm,0.3s						
LL05	**Los Muermos**	**3.52**	**197**	Pn	**Pn**	**11 04 27.3**	**-0.5**
LL05	**Los Muermos**	**3.52**	**197**	*e*P	**Pn**	**11 04 27.1**	**-0.7**
LL05				*e*S	**Sn**	**11 05 06.3**	**-2.0**
BO03	**Pichilemu**	**3.54**	**2**	*e*P	**Pn**	**11 04 27.8**	**-0.3**
BO03				*e*S	**Sn**	**11 05 06.7**	**-2.1**
BO01	**Tunca**	**3.74**	**13**		**Pn**	**11 04 30.9**	**+0.1**
BO01	**Tunca**	**3.74**	**13**	*i* P	**Pn**	**11 04 30.9**	**+0.1**
BO04	**La Punta**	**4.22**	**17**	*e*P	**Pn**	**11 04 37.5**	**+0.1**
BO04	**La Punta**	**4.22**	**17**	*e*P	**Pn**	**11 04 37.5**	**+0.1**
MT01	**Popeta**	**4.23**	**10**		**Pn**	**11 04 37.0**	**-0.4**
MT01	**Popeta**	**4.23**	**10**	*e*P	**Pn**	**11 04 37.0**	**-0.4**
LL06	**Loncomilla**	**4.33**	**195**	*e*P	**Pn**	**11 04 36.7**	**-2.0**
MT09	**Talagante**	**4.35**	**13**		**Pn**	**11 04 38.6**	**-0.6**
MT09	**Talagante**	**4.35**	**13**	*i* P	**Pn**	**11 04 38.7**	**-0.6**
VA05	**Santo Domingo**	**4.39**	**6**		**Pn**	**11 04 38.4**	**-1.3**
VA05	**Santo Domingo**	**4.39**	**6**	*e*P	**Pn**	**11 04 38.3**	**-1.3**
LMEL	**Las Melosas**	**4.46**	**21**		**Pn**	**11 04 41.1**	**+0.3**
MT03	**Universidad Ad**	**4.72**	**17**	Pn	**Pn**	**11 04 44.0**	**-0.3**
MT05	**Renca**	**4.77**	**14**	Pn	**Pn**	**11 04 44.8**	**-0.2**
MT05	**Renca**	**4.77**	**14**	*e*P	**Pn**	**11 04 44.7**	**-0.2**
MT02	**Curacav**	**4.84**	**10**		**Pn**	**11 04 45.0**	**-0.7**
MT02	**Curacav**	**4.84**	**10**	*e*P	**Pn**	**11 04 44.9**	**-0.9**
LL07	**Hotel Espejo d**	**4.90**	**192**	Pn	**Pn**	**11 04 45.7**	**-0.7**
VA01	**Torpederas**	**5.02**	**5**	Pn	**Pn**	**11 04 47.0**	**-1.2**
PEL	**Peldehue**	**5.02**	**14**		**Pn**	**11 04 47.6**	**-0.7**
ROC1	**El Roble**	**5.13**	**11**		**Pn**	**11 04 47.3**	**-2.7**
GO07	**Milladeo Hill,**	**5.20**	**192**		**Pn**	**11 04 49.7**	**-0.9**
VA03	**San Esteban**	**5.42**	**14**		**Pn**	**11 04 52.7**	**-1.0**
VA06	**Catapilco**	**5.51**	**7**	Pn	**Pn**	**11 04 53.6**	**-1.2**
AY01	**Puyuhuapi**	**6.39**	**183**	Pn	**Pn**	**11 05 05.7**	**-1.0**
CO02	**Combarbal**	**6.88**	**8**		**Pn**	**11 05 13.1**	**-0.6**
CO03	**El Pedregal**	**7.28**	**10**		**Pn**	**11 05 18.4**	**-0.7**
GO04	**Tololo Observa**	**7.92**	**8**	Pn	**Pn**	**11 05 26.9**	**-1.2**
LCO	**Las Campanas**	**9.08**	**8**	Pn	**Pn**	**11 05 42.6**	**-1.2**
AC04	**Llanos de Chal**	**9.85**	**5**	Pn	**Pn**	**11 05 51.8**	**-2.2**
AC02	**Maricunga**	**11.45**	**14**	Pn	**Pn**	**11 06 14.2**	**-2.1**
PB14	**IPOC Station P**	**13.45**	**7**	Pn	**Pn**	**11 06 41.9**	**-1.0**
PB09	**IPOC Station P**	**16.38**	**10**		**P**	**11 07 21.2**	**-0.3**
PB09				IAmb	IAmb	11 07 30.0	
	comp=Z,13nm,1.3s						
PB01	**IPOC Station P**	**17.09**	**8**	P	**P**	**11 07 30.7**	**+1.4**
PB01				IAmb	IAmb	11 07 32.5	
	comp=Z,9.7nm,1.0s						
PB11	**IPOC Station P**	**18.34**	**7**	P	**Pn**	**11 07 44.4**	**+0.4**
PB11				IAmb	IAmb	11 07 46.1	
	comp=Z,15nm,0.9s						
PB16	**IPOC Station P**	**19.76**	**7**	P	**P**	**11 07 58.0**	**-1.0**
SNAA	**Sanae**	**47.90**	**156**	P	**P**	**11 12 07.1**	**+2.8**
QSPA	**South Pole Qui**	**52.21**	**180**	P	**P**	**11 12 37.0**	**0.0**

*IDC **18** 11:11:52.6±0.8,57°.34S×25°.01W,h0km,mb4.3/7,*
mb1 4.4/8,mb1mx4.1/32,mbtmp4.2/8,ML3.8/1,Error
ellipse: s-maj=34.9km s-min=18.2km az=67.0
*NEIC **18** 11:11:58.1±1.4,57°.4S±0°.1×25°.1W±0°.3,h35km±1km,*
mb4.6/20,Error ellipse: s-maj=32.3km s-min=16.6km
az=60.0
ISC 18 11:11:54.8±0.7,**57°.4S**±0°.1×**25°.1W**±0°.2,**h15**km,**n32,**
σ0°**80**/**31**,**mb4.5**/**13**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.12**	**158**	P	**Pn**	**11 15 26.5**	**-1.0**
VNA3	**Neumayer Olymp**	**15.34**	**161**	P	**Pn**	**11 15 29.5**	**-1.0**
VNA2	**Neumayer--Watz**	**15.51**	**158**	P	**Pn**	**11 15 31.9**	**-0.8**
	baz=318,slow=16						
SNAA	**Sanae**	**17.04**	**156**	P	**Pn**	**11 15 52.6**	**+0.3**
SNAA	**Sanae**	**17.04**	**156**	P	**Pn**	**11 15 53.0**	**+0.7**
	0.3nm,0.3s,baz=309,slow=14,SNR=9.1						
BELA	**Belgrano 2**	**20.84**	**186**	P	**P**	**11 16 35.2**	**-0.3**
PLTB	**Pedras Altas**	**32.25**	**310**	P	**P**	**11 18 23.6**	**+1.1**
QSPA	**South Pole Qui**	**32.86**	**180**	P	**P**	**11 18 27.9**	**+0.2**
	1.1nm,0.5s,baz=207,slow=2.8,SNR=20						
QSPA	**South Pole Qui**	**32.86**	**180**	P	**P**	**11 18 28.3**	**+0.6**
QSPA				IAmb	IAmb	11 18 50.8	
	comp=Z,6.0nm,1.2s						
CPUP	**Villa Florida**	**38.56**	**310**	P	**P**	**11 19 15.9**	**-0.9**
	comp=Z,4.5nm,0.8s,baz=150,slow=8.8,SNR=6.1						
CPUP	**Villa Florida**	**38.56**	**310**	P	**P**	**11 19 17.4**	**+0.7**
VNDA	**Vanda**	**45.28**	**182**	P	**P**	**11 20 12.3**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=182,slow=6.7,SNR=7.1						
PB07	**IPOC Station P**	**48.19**	**298**	P	**P**	**11 20 34.3**	**-0.4**
PB01	**IPOC Station P**	**48.59**	**299**	P	**P**	**11 20 36.5**	**-1.1**
PB01				IAmb	IAmb	11 21 02.7	
	comp=Z,12nm,1.0s						
PATCX	**Punta Patache**	**49.09**	**299**	P	**P**	**11 20 40.1**	**-1.4**
PB08	**IPOC Station P**	**49.20**	**300**	P	**P**	**11 20 41.1**	**-1.6**
SIV	**San Ignacio**	**49.34**	**312**	P	**P**	**11 20 43.9**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=150,slow=8.5,SNR=19						
GO01	**Chusmiza**	**49.63**	**301**	P	**P**	**11 20 46.4**	**+0.3**
GO01				IAmb	IAmb	11 20 51.7	
	comp=Z,5.1nm,0.8s						
PB11	**IPOC Station P**	**49.77**	**300**	P	**P**	**11 20 45.2**	**-1.5**
PB16	**IPOC Station P**	**50.93**	**301**	P	**P**	**11 20 55.9**	**-0.2**
PB16				IAmb	IAmb	11 21 11.0	
	comp=Z,3.5nm,0.9s						
PB12	**IPOC Station P**	**51.07**	**300**	P	**P**	**11 20 56.9**	**+0.3**
PB12				IAmb	IAmb	11 21 10.3	
	comp=Z,18nm,1.3s						
LPAZ	**La Paz**	**52.09**	**304**	P	**P**	**11 21 05.3**	**+0.5**
	comp=Z,3.1nm,

SRKR				eS		Sn	11 35 16.2	-3.2	
KOK	**Koryaka**	**2.23**	**239**	eP		Pn	11 34 52.8	-0.8	
ESO	**Esso**	**2.30**	**310**	P		Pn	11 34 54.0	-0.5	
ESO				eS		Sn	11 35 23.2	+1.6	
DALK	**Dalny**	**2.33**	**233**	eP		Pn	11 34 53.8	-1.0	
DALK				eS		Sn	11 35 21.2	-0.9	
PET	**Petropavlovsk**	**2.38**	**233**	eP		Pn	11 34 54.7	-0.8	
PET				eS		Sn	11 35 21.9	-1.5	
GNL	**Ganaly**	**2.42**	**253**	eP		Pn	11 34 55.2	-0.9	
BKI	**Bering**	**2.51**	**71**	eS		Sn	11 35 26.8	+0.2	
KRMR	**Karymshinskiy**	**2.75**	**235**	eP		Pn	11 35 00.1	-0.5	
KRMR				eS		Sn	11 35 33.2	+0.7	
PETK	**Petropavlovsk-**	**2.80**	**242**	Pn		Pn	11 34 59.6	-1.7	
	2.3nm,0.3s,baz=58,slow=14,SNR=21								
PETK				Sn		Sn	11 35 36.3	+2.3	
	6.1nm,0.3s,baz=304,slow=29,SNR=6.7								
RUS	**Russkaya**	**2.85**	**225**	eP		Pn	11 35 00.3	-1.7	
RUS				eS		Sn	11 35 32.4	-2.6	
MTVR	**Mutnovka**	**2.95**	**229**	eP		Pn	11 35 02.7	-0.9	
MTVR				eS		Sn	11 35 36.7	-1.1	
GRL	**Gorelyy**	**2.95**	**231**	eP		Pn	11 35 03.4	-0.2	
GRL				eS		Sn	11 35 36.6	-1.2	
APC	**Apacha**	**3.18**	**243**	eP		Pn	11 35 06.6	+0.1	
APC				eS		Sn	11 35 45.3	+2.2	
MA2	**Magadan**	**7.90**	**315**	Pn		Pn	11 36 13.9	+2.6	
	0.2nm,0.3s,baz=119,slow=12,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**34.91**	**172**	T		T	12 18 12.3		
	baz=355,slow=76,SNR=468								
H11N3	**WAKE ISLAND Hy**	**34.92**	**172**	T		T	12 18 13.4		
	baz=355,slow=76,SNR=497								
H11N1	**WAKE ISLAND Hy**	**34.92**	**172**	T		T	12 18 13.6		
	baz=355,slow=76,SNR=619								
H11S1	**WAKE ISLAND Hy**	**36.10**	**172**	T		T	12 19 38.6		
	baz=352,slow=77,SNR=13								
H11S3	**WAKE ISLAND Hy**	**36.11**	**172**	T		T	12 19 38.1		
	baz=352,slow=77,SNR=16								
H11S2	**WAKE ISLAND Hy**	**36.12**	**172**	T		T	12 19 48.4		
	baz=352,slow=77,SNR=15								
YKA	**Yellowknife Ar**	**41.45**	**44**	P		P	**11 42 02.5**	**+0.6**	
	0.3nm,0.5s,baz=299,slow=7.8,SNR=3.7								
TXAR	**Lajitas Array**	**69.16**	**69**	P		P	**11 45 23.3**	**+1.4**	
	0.1nm,0.5s,baz=293,slow=4.8,SNR=2.0								
WRA	**Warramunga Arr**	**77.78**	**206**	P		P	**11 46 12.6**	**+0.2**	
	0.4nm,0.9s,baz=18,slow=5.3,SNR=2.0								
ASAR	**Alice Springs**	**81.45**	**206**	P		P	**11 46 33.3**	**+1.1**	
	0.4nm,1.0s,baz=16,slow=5.2,SNR=2.1								

*AEIC **18** 11:52:20.2±1.9,51°52'N±0'.07×173°62'W±0'.06,h28km±4km, ML3.6/19,mb4.4/181(NEIC),Error ellipse: s-maj=9.5km s-min=5.2km az=184.0*

*IDC **18** 11:52:21.1±0.7,51°53'N×173°61'W,h44km±6km,mb4.0/29, mb1 4.1/31,mb1mx4.0/52,mbtmp4.2/31,ML3.9/2,MS3.3/6, Ms1 3.3/6,ms1mx2.8/101,Error ellipse: s-maj=18.1km s-min=9.8km az=176.0*

*NEIC **18** 11:52:21.5±1.4,51°67'N±0'.06×173°59'W±0'.07,h40km±6km, Error ellipse: s-maj=9.0km s-min=6.0km az=189.0*

ISC 18 11:52:20.3±0.5,51°57'N±0'.07×173°50'W±0'.04,h37km, n363,σ1§10/353,mb4.4/104,MS3.2/6,1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.77**	**326**		**Pn**	**11 52 34.3**	**-0.2**
ATKA					**Sn**	**11 52 44.0**	**-0.9**
KOFP	**Korovin Flat P**	**0.80**	**333**		**Pn**	**11 52 35.5**	**+0.4**
GSMY	**Great Sitkin M**	**1.66**	**288**		**Pn**	**11 52 46.6**	**-0.2**
GSTR	**Great Sitkin T**	**1.68**	**289**		**Pn**	**11 52 47.4**	**+0.4**
GSCK	**Great Sitkin C**	**1.71**	**286**		**Pn**	**11 52 47.3**	**-0.2**
GSTD	**Great Sitkin T**	**1.71**	**288**		**Pn**	**11 52 46.9**	**-0.7**
GSTD					**Sn**	**11 53 10.5**	**+2.2**
ADK	**Adak**	**2.01**	**280**		**Pn**	**11 52 51.1**	**-0.4**
ADK	**Adak**	**2.01**	**280**		**Sn**	**11 53 16.2**	**+0.9**
KIWB	**Kanaga Island**	**2.29**	**279**		**Pn**	**11 52 55.6**	**+0.2**
KIKV	**Kanaga Island**	**2.31**	**279**		**Pn**	**11 52 56.2**	**+0.6**
KICM	**Kanaga Island**	**2.33**	**280**		**Pn**	**11 52 56.9**	**+1.0**
KIMD	**Kanaga Island**	**2.33**	**276**		**Pn**	**11 52 56.2**	**+0.1**
TAPA	**Tanaga Point A**	**2.70**	**277**		**Pn**	**11 53 01.6**	**+0.5**
TAFP	**Tanaga Falls P**	**2.81**	**279**		**Pn**	**11 53 03.3**	**+0.7**
TASE	**Tanaga Southea**	**2.84**	**277**		**Pn**	**11 53 03.4**	**+0.4**
NIKH	**Nikolski High**	**3.18**	**62**		**Pn**	**11 53 07.2**	**-0.5**
NIKH	**Nikolski High**	**3.18**	**62**	P	**Pn**	**11 53 08.5**	**+0.8**
	baz=246						
UNV	**Unalaska Valle**	**4.83**	**59**	Pn	**Pn**	**11 53 31.4**	**+1.2**
UNV	**Unalaska Valle**	**4.83**	**59**	P	**Pn**	**11 53 30.7**	**+0.5**
	baz=245						
AKUT	**Akutan**	**5.34**	**58**	Pn	**Pn**	**11 53 36.6**	**-0.8**
SHEM	**Shemya Is, Ala**	**7.72**	**284**	LR	LR	11 57 11.9	
	comp=Z,182nm,18.8s,baz=106,slow=38						
GAMB	**Gambell**	**12.28**	**4**	Pn	**Pn**	**11 55 07.8**	**-4.5**
GAMB	**Gambell**	**12.28**	**4**	P	**Pn**	**11 55 12.7**	**+0.4**
	baz=186						
KDAK	**Kodiak Island**	**13.58**	**55**	P	**Pn**	**11 55 28.8**	**-1.2**
	0.5nm,0.3s,baz=243,slow=2.1,SNR=16						
KDAK	**Kodiak Island**	**13.58**	**55**		**Pn**	**11 55 26.6**	**-3.3**
ANM	**Nome**	**13.71**	**15**		**Pn**	**11 55 30.9**	**-0.9**
ANM	**Nome**	**13.71**	**15**	P	**Pn**	**11 55 32.2**	**+0.4**
	baz=202						
SVW2	**Sparrevohn**	**13.73**	**39**	Pn	**Pn**	**11 55 31.6**	**-0.5**
N19K	**Bonanza Creek**	**14.01**	**41**		**Pn**	**11 55 35.7**	**-0.3**
TNA	**Tin City**	**14.32**	**9**	P	**Pn**	**11 55 40.7**	**+0.5**
	baz=194						
RSO	**Redoubt South**	**14.57**	**44**	Pn	**Pn**	**11 55 41.8**	**-1.9**
L19K	**White Mountain**	**14.66**	**36**	Pn	**Pn**	**11 55 44.4**	**-0.4**
L19K	**White Mountain**	**14.66**	**36**	P	**Pn**	**11 55 45.8**	**+1.0**
	baz=232						
M19K	**Big River Lodg**	**14.67**	**38**	Pn	**Pn**	**11 55 45.8**	**+0.9**
M19K	**Big River Lodg**	**14.67**	**38**	P	**Pn**	**11 55 45.3**	**+0.5**
	baz=234						
TTA	**Tatalina**	**14.74**	**33**	Pn	**Pn**	**11 55 44.9**	**-1.0**
TTA	**Tatalina**	**14.74**	**33**	P	**P**	**11 55 51.3**	**-0.1**
	baz=228,SNR=7.8						
CNPM	**China Poot**	**14.85**	**49**	Pn	**Pn**	**11 55 46.4**	**-0.9**
BRLK	**Bradley Lake**	**15.11**	**48**	Pn	**Pn**	**11 55 44.2**	**-6.5**
BRLK				IAmb	IAmb	11 56 08.9	
	comp=Z,38nm,1.4s						
BRSE	**Bradley Lake S**	**15.16**	**48**	P	**P**	**11 55 53.6**	**-2.5**
	baz=248						
L20K	**Farewell, AK**	**15.21**	**36**	P	**P**	**11 55 57.0**	**+0.4**
	baz=233						
SPU	**Mount Spurr**	**15.22**	**42**	Pn	Pn	11 55 42.9	-9.3
K20K	**Telida**	**15.69**	**34**	Pn	**P**	**11 55 59.5**	**-2.4**
GCSA	**Galena City Sc**	**15.78**	**27**	P	**Pn**	**11 55 59.7**	**+0.4**
	baz=221						
SEW	**Seward**	**15.90**	**48**	Pn	**Pn**	**11 55 60.0**	**-1.0**
SEW				IAmb	IAmb	11 56 20.5	
	comp=Z,35nm,1.3s						
PPLA	**Purkeypile**	**16.08**	**37**	Pn	**Pn**	**11 56 03.4**	**-0.1**
PPLA	**Purkeypile**	**16.08**	**37**	P	**Pn**	**11 56 03.2**	**-0.2**
	baz=235						
RC01	**Rabbit Creek A**	**16.17**	**45**	Pn	**Pn**	**11 56 03.9**	**-0.5**
RC01				IAmb	IAmb	11 56 18.4	
	comp=Z,23nm,1.1s						
J20K	**Nowinta River**	**16.20**	**31**	P	**Pn**	**11 56 04.7**	**0.0**
	baz=228						
CAST	**Castle Rocks**	**16.43**	**36**	Pn	**P**	**11 56 07.8**	**-2.3**
CAST	**Castle Rocks**	**16.43**	**36**	P	**P**	**11 56 09.0**	**-1.1**
	baz=234						
CUT	**Chulitna**	**16.57**	**40**	Pn	**Pn**	**11 56 05.6**	**-3.8**
CUT				IAmb	IAmb	11 56 31.1	
	comp=Z,60nm,1.5s						
PMR	**Palmer**	**16.65**	**44**	Pn	**Pn**	**11 56 06.6**	**-3.8**
PWL	**Port Wells**	**16.70**	**46**	Pn	**Pn**	**11 56 09.7**	**-1.5**
GHO	**Glory Hole Cre**	**16.82**	**43**	Pn	**Pn**	**11 56 11.4**	**-1.3**
GHO				IAmb	IAmb	11 56 37.5	
	comp=Z,34nm,1.4s						
KNK	**Knik Glacier**	**16.87**	**45**	Pn	**Pn**	**11 56 12.4**	**-0.8**
KTH	**Kantishna Hill**	**16.93**	**36**		**P**	**11 56 16.4**	**+0.7**
SML	**Sawmill**	**17.09**	**43**	Pn	**P**	**11 56 16.1**	**-1.4**
SML	**Sawmill**	**17.09**	**43**	P	**Pn**	**11 56 15.2**	**-0.8**
	baz=245						
BPAW	**Bear Paw Mtn.**	**17.23**	**35**	Pn	**P**	**11 56 18.2**	**-0.7**
BPAW	**Bear Paw Mtn.**	**17.23**	**35**	P	**P**	**11 56 17.9**	**-1.0**
	baz=234,SNR=7.2						
RDOG	**Red Dog Mine**	**17.33**	**13**	Pn	**Pn**	**11 56 17.9**	**-1.0**
SCM	**Sheep Creek Mo**	**17.53**	**44**	Pn	**P**	**11 56 22.0**	**-0.3**
SCM	**Sheep Creek Mo**	**17.53**	**44**	P	**Pn**	**11 56 20.7**	**-0.8**
	baz=246						
I21K	**Tanana**	**17.57**	**31**		**P**	**11 56 23.1**	**+0.5**
I21K	**Tanana**	**17.57**	**31**	P	**P**	**11 56 21.9**	**-0.7**
	baz=230						
PEA0B	**Petropavlovsk-**	**17.62**	**286**	Pn	**Pn**	**11 56 19.7**	**-2.9**
PEA0B				IAmb	IAmb	11 56 26.1	
	comp=Z,54nm,1.3s						
PETK	**Petropavlovsk-**	**17.62**	**286**	P	**P**	**11 56 22.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=102,slow=12,SNR=5.5						
PETK	**Petropavlovsk-**	**17.62**	**286**	Pn	**Pn**	**11 56 20.9**	**-1.7**
H21K	**Melozitna Rive**	**17.63**	**29**		**P**	**11 56 24.3**	**+1.0**
H21K	**Melozitna Rive**	**17.63**	**29**	P	**P**	**11 56 22.7**	**-0.7**
	baz=227						
RND	**Reindeer**	**17.63**	**38**	Pn	**P**	**11 56 23.0**	**-0.5**
MCK	**McKinley**	**17.77**	**37**	Pn	**P**	**11 56 24.5**	**-0.4**
MCK	**McKinley**	**17.77**	**37**	P	**P**	**11 56 23.7**	**-1.3**
	baz=238						
MLY	**Manley**	**17.88**	**32**	P	**P**	**11 56 27.7**	**+1.6**
MLY	**Manley**	**17.88**	**32**	P	**P**	**11 56 25.2**	**-0.9**
	baz=232						
DIV	**Divide**	**17.96**	**47**	P	**P**	**11 56 26.9**	**-0.3**
KLU	**Klutina**	**18.02**	**46**	P	**P**	**11 56 27.9**	**+0.2**
DHY	**Denali Highway**	**18.06**	**40**	P	**P**	**11 56 27.9**	**-0.3**
DHY	**Denali Highway**	**18.06**	**40**	P	**P**	**11 56 27.8**	**-0.3**
	baz=243						
NEA2	**Nenana**	**18.19**	**35**	P	**Pn**	**11 56 29.6**	**0.0**
NEA2	**Nenana**	**18.19**	**35**	P	**Pn**	**11 56 28.8**	**-0.7**
	baz=236						
I23K	**Minto, Yukon-K**	**18.41**	**33**	P	**Pn**	**11 56 32.3**	**+0.1**
I23K				IAmb	IAmb	11 56 38.3	
	comp=Z,15nm,0.7s						
I23K	**Minto, Yukon-K**	**18.41**	**33**	P	**Pn**	**11 56 32.0**	**-0.2**
	baz=234,SNR=13						
WRH	**Wood River Hil**	**18.48**	**36**	P	**Pn**	**11 56 32.0**	**-1.0**
N25K	**Chitina, Valde**	**18.66**	**46**	P	**P**	**11 56 33.6**	**-1.1**
	baz=251						
CCB	**Clear Creek Bu**	**18.68**	**36**	P	**Pn**	**11 56 33.9**	**-1.5**
CCB				IAmb	IAmb	11 56 38.0	
	comp=Z,8.9nm,0.5s						
HARP	**HAARP**	**18.70**	**44**	P	**Pn**	**11 56 34.3**	**-1.4**
	baz=248						
MDM	**Murphy Dome**	**18.70**	**35**	P	**Pn**	**11 56 35.6**	**-0.1**
BERG	**Berg Lake**	**18.72**	**50**	P	**Pn**	**11 56 37.4**	**+1.4**
BERG				IAmb	IAmb	11 56 39.5	
	comp=Z,16nm,0.6s						
TCOL	**CIGO, UAF Yank**	**18.78**	**35**	P	**Pn**	**11 56 35.9**	**-0.7**
TCOL	**CIGO, UAF Yank**	**18.78**	**35**	P	**Pn**	**11 56 35.3**	**-1.4**
	baz=237						
COLA	**College**	**18.79**	**35**	P	**Pn**	**11 56 36.1**	**-0.6**
COLA	**College**	**18.79**	**35**	P	**Pn**	**11 56 36.0**	**-0.6**
	baz=237						
PAX	**Paxson**	**18.79**	**42**		**Pn**	**11 56 36.8**	**-0.1**
PAX	**Paxson**	**18.79**	**42**	P	**Pn**	**11 56 35.4**	**-1.5**
	baz=246						
HDA	**Harding Lake**	**18.87**	**37**	P	**Pn**	**11 56 36.5**	**-1.2**
HDA				IAmb	IAmb	11 56 39.1	
	comp=Z,14nm,0.5s						
HDA	**Harding Lake**	**18.87**	**37**	P	**Pn**	**11 56 36.5**	**-1.2**
	baz=240,SNR=14						
GLB	**Gilahina Butte**	**18.96**	**47**	P	**Pn**	**11 56 37.6**	**-1.4**
POKR	**Poker Plat Res**	**19.07**	**35**	P	**Pn**	**11 56 39.3**	**-0.8**
POKR	**Poker Plat Res**	**19.07**	**35**	P	**Pn**	**11 56 39.0**	**-1.1**
	baz=237						
IL31		**19.08**	**36**	P	**Pn**	**11 56 39.4**	**-0.9**
IL31				IAmb	IAmb	11 56 40.8	
	comp=Z,8.7nm,0.6s						
ILAR	**Eielson Array**	**19.08**	**36**	P	**Pn**	**11 56 38.6**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=227,slow=9.0,SNR=128						
ILAR	**Eielson Array**	**19.08**	**36**	P	**Pn**	**11 56 39.6**	**-0.7**
BILL	**Bilibino**	**19.23**	**337**	P	**Pn**	**11 56 40.4**	**-1.6**
H24K	**Noodor Dome**	**19.32**	**33**	P	**Pn**	**11 56 42.6**	**-0.6**
H24K				IAmb	IAmb	11 56 58.1	
	comp=Z,16nm,0.8s						
H24K	**Noodor Dome**	**19.32**	**33**	P	**Pn**	**11 56 42.6**	**-0.6**
	baz=235,SNR=12						
RIDG	**Independent Ri**	**19.37**	**40**	P	**Pn**	**11 56 43.1**	**-0.7**
RIDG				IAmb	IAmb	11 56 51.7	
	comp=Z,20nm,1.4s						
RIDG	**Independent Ri**	**19.37**	**40**	P	**Pn**	**11 56 42.4**	**-1.4**
	baz=245						
COLD	**Coldfoot**	**19.47**	**28**	P	**Pn**	**11 56 44.1**	**-0.8**
	baz=228						
MENT	**Mentasta**	**19.52**	**43**	P	**Pn**	**11 56 44.7**	**-0.8**
J25K	**Salcha River,**	**19.57**	**37**	P	**P**	**11 56 43.8**	**-0.9**
J25K				IAmb	IAmb	11 56 45.2	
	comp=Z,20nm,0.6s						
J25K	**Salcha River,**	**19.57**	**37**	P	**P**	**11 56 43.5**	**-1.1**
	baz=242,SNR=29						
DOT	**Dot Lake**	**19.65**	**41**	P	**Pn**	**11 56 45.9**	**-1.3**
L26K	**Log Cabin Wild**	**19.70**	**43**	P	**Pn**	**11 56 46.2**	**-1.5**
L26K				IAmb	IAmb	11 56 52.8	
	comp=Z,8.0nm,0.6s						
L26K	**Log Cabin Wild**	**19.70**	**43**	P	**Pn**	**11 56 47.5**	**-0.2**
	baz=249						
SCRK	**Sand Creek**	**19.82**	**40**	P	**P**	**11 56 47.0**	**-0.4**
SCRK				IAmb	IAmb	11 56 51.3	
	comp=Z,10nm,0.6s						
SCRK	**Sand Creek**	**19.82**	**40**	P	**P**	**11 56 46.6**	**-0.9**
	baz=245,SNR=13						
PRP	**Porcupine Dome**	**19.96**	**35**	P	Pn	11 56 48.8	-2.1
PRP	**Porcupine Dome**	**19.96**	**35**	P	**P**	**11 56 48.3**	**-0.7**
	baz=239,SNR=8.2						
CTG	**Chitna Glacier**	**19.98**	**49**	P	**P**	**11 56 49.0**	**-0.3**
	baz=257						
CTGM	**Chitina Glacie**	**19.99**	**49**	P	Pn	11 56 51.3	0.0
CTGM				IAmb	IAmb	11 56 58.4	
	comp=Z,9.6nm,0.8s						
LOGN	**Logan Glacier**	**20.11**	**50**	P	Pn	11 56 52.2	-0.5
LOGN				IAmb	IAmb	11 56 54.4	
	comp=Z,22nm,1.2s						
M27K	**Edge Creek, AK**	**20.12**	**45**	P	Pn	11 56 51.6	-1.1
M27K	**Edge Creek, AK**	**20.12**	**45**	P	**P**	**11 56 49.9**	**-0.8**
	baz=252						
J26L	**Joseph Creek**	**20.21**	**39**	P	**P**	**11 56 51.1**	**-0.6**
	baz=244,SNR=48						
L27K	**Beaver Creek,**	**20.37**	**43**	P	Pn	11 56 55.6	0.0
L27K	**Beaver Creek,**	**20.37**	**43**	P	Pn	11 56 53.5	-2.0
	baz=250,SNR=7.8						
BCAR	**Beaver Creek A**	**20.39**	**43**	P	Pn	11 56 55.0	-0.8
BVCY	**Beaver Creek**	**20.59**	**46**	P	**P**	**11 56 55.2**	**-0.5**
	baz=253						
TOLK	**Toolik Lake Re**	**20.61**	**25**	P	Pn	11 56 57.2	-1.2
TOLK				IAmb	IAmb	11 57 24.9	
	comp=Z,14nm,1.1s						
TOLK	**Toolik Lake Re**	**20.61**	**25**	P	**P**	**11 56 55.4**	**-0.5**
	baz=226,SNR=7.5						
BCPM	**Bancas Point**	**20.61**	**53**	P	Pn	11 56 57.6	-0.8
BCPM				IAmb	IAmb	11 57 01.3	
	comp=Z,32nm,1.1s						
FYU	**Fort Yukon**	**20.62**	**33**	IAmb	IAmb	11 57 03.3	
	comp=Z,47nm,1.5s						
EGAK	**Eagle**	**21.27**	**39**	P	**P**	**11 57 03.7**	**+0.7**
BMAR	**Burnt Mountain**	**21.31**	**31**	P	**P**	**11 57 04.1**	**+0.7**
SEY	**Seymchan**	**21.39**	**315**	P	**P**	**11 57 04.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=104,slow=11,SNR=5.8						
SEY				LR	LR	12 05 51.4	
	comp=Z,98nm,20.8s,baz=56,slow=38						
MA2	**Magadan**	**21.50**	**306**	P	**P**	**11 57 05.7**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=97,slow=14,SNR=4.2						
MA2				LR	LR	12 05 51.3	
	comp=Z,80nm,18.4s,baz=108,slow=38						
MA2	**Magadan**	**21.50**	**306**	P	**P**	**11 57 04.1**	**-1.4**
DAWY	**Dawson**	**21.73**	**42**	P	**P**	**11 57 07.6**	**-0.3**
DAWY				IAmb	IAmb	11 57 12.1	
	comp=Z,6.1nm,0.7s						
DAWY	**Dawson**	**21.73**	**42**	P	**P**	**11 57 07.6**	**-0.3**
	baz=251						
HYT	**Haines Junctio**	**21.80**	**51**	P	**P**	**11 57 08.4**	**-0.4**
	baz=261						
M30M	**Minto, Yukon**	**22.45**	**46**	P	**P**	**11 57 17.6**	**+1.9**
I29M	**Ogilvie Camp,**	**22.61**	**39**	P	**P**	**11 57 16.6**	**-0.7**
I29M				IAmb	IAmb	11 57 43.0	
	comp=Z,6.1nm,0.8s						
SKAG	**Skagway**	**22.73**	**55**	P	**P**	**11 57 19.1**	**+0.4**
SKAG				IAmb	IAmb	11 57 39.4	
	comp=Z,31nm,1.5s						
SKAG	**Skagway**	**22.73**	**55**	P	**P**	**11 57 18.6**	**-0.1**
	baz=267						
P33M	**Teslin, Yukon**	**24.04**	**53**	P	**P**	**11 57 32.9**	**+1.3**
P33M	**Teslin, Yukon**	**24.04**	**53**	P	**P**	**11 57 30.8**	**-0.8**
	baz=267						
MMPY	**Sheldon Lake,**	**24.98**	**47**	P	**P**	**11 57 39.9**	**-0.2**
	baz=264						
INK	**Inuvik**	**25.43**	**34**	P	**P**	**11 57 44.1**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=237,slow=8.6,SNR=26						
INK	**Inuvik**	**25.43**	**34**	P	**P**	**11 57 43.9**	**-0.1**
INK				IAmb	IAmb	11 57 45.3	
	comp=Z,10nm,1.1s						
INK	**Inuvik**	**25.43**	**34**	P	**P**	**11 57 43.2**	**-0.7**
	baz=249,SNR=7.9						
DLBC	**Dease Lake**	**25.48**	**57**	P	**P**	**11 57 45.9**	**+1.2**
	comp=Z,8.1nm,0.8s,baz=259,slow=6.5,SNR=15						
DLBC				LR	LR	12 07 54.2	
	comp=Z,140nm,21.4s,baz=119,slow=36						
DLBC	**Dease Lake**	**25.48**	**57**	P	**P**	**11 57 45.0**	**+0.4**
DLBC				IAmb	IAmb	11 57 48.6	
	comp=Z,9.1nm,0.9s						
TGTN	**Hyland Airport**	**26.31**	**50**	P	**P**	**11 57 52.0**	**-0.1**
	baz=269						
C36M	**Paulatuk**	**29.02**	**34**	P	**P**	**11 58 15.2**	**-0.9**
	baz=258						
A36M	**Sachs Harbour**	**29.33**	**28**	P	**P**	**11 58 20.5**	**+1.6**
A36M				IAmb	IAmb	11 58 20.7	
	comp=Z,4.0nm,0.8s						
A36M	**Sachs Harbour**	**29.33**	**28**	P	**P**	**11 58 18.8**	**0.0**
	baz=252						
ASAJ	**Asahikawa**	**30.02**	**273**	P	**P**	**11 58 25.6**	**+0.4**
	comp=Z,7.8nm,0.9s,baz=327,slow=7.0,SNR=3.9						
ERM	**Erimo**	**30.77**	**269**	P	**P**	**11 58 33.3**	**+1.5**
YKA	**Yellowknife Ar**	**32.68**	**47**	P	**P**	**11 58 49.3**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=274,slow=7.8,SNR=32						
YKA				PcP	**PcP**	**12 01 34.4**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=285,slow=2.8,SNR=6.5						
YKA	**Yellowknife Ar**	**32.68**	**47**	P	**P**	**11 58 49.1**	**+0.6**
B08A	**Colville Reser**	**34.33**	**74**	P	**P**	**11 59 03.5**	**+0.4**
B08A				IAmb	IAmb	11 59 05.5	
	comp=Z,4.2nm,0.8s						
HAWA	**Hanford**	**35.11**	**77**	P	**P**	**11 59 11.3**	**+1.5**
HAWA				IAmb	IAmb	11 59 27.5	
	comp=Z,5.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**35.30**	**213**	T	T	12 37 23.5	
	baz=21,slow=76,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	12 37 24.1	
	baz=21,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	12 37 25.2	
	baz=21,slow=76,SNR=9.5						
YBH	**Yreka Blue Hor**	**35.56**	**86**	LR	LR	12 10 19.2	
	comp=Z,35nm,18.3s,baz=113,slow=30						
NEW	**Newport**	**35.69**	**73**	P	**P**	**11 59 16.0**	**+1.2**
NEW				IAmb	IAmb	11 59 32.8	
	comp=Z,4.5nm,0.8s						
NEW	**Newport**	**35.69**	**73**	P	**P**	**11 59 14.2**	**-0.6**
	baz=297						
EDM	**Edmonton**	**35.80**	**63**	P	**P**	**11 59 17.3**	**+1.6**
N02D	**Trinity Center**	**35.99**	**87**	P	**P**	**11 59 17.9**	**+0.4**
	baz=305						
M04C	**Macdoel**	**36.08**	**85**	P	**P**	**11 59 17.9**	**-0.4**
	baz=304						
I07A	**Izee**	**36.29**	**80**	P	**P**	**11 59 21.4**	**+1.4**
I07A				IAmb	IAmb	11 59 37.2	
	comp=Z,3.5nm,0.8s						
O02D	**Mt. Diablo Mer**	**36.40**	**88**	P	**P**	**11 59 20.0**	**-1.0**
O02D				IAmb	IAmb	11 59 39.2	
	comp=Z,5.3nm,0.9s						
O02D	**Mt. Diablo Mer**	**36.40**	**88**	P	**P**	**11 59 20.8**	**-0.2**
	baz=306						
H11S1	**WAKE ISLAND Hy**	**36.51**	**213**	T	T	12 38 36.6	
	baz=20,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	12 38 34.5	
	baz=20,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	12 38 44.0	
	baz=20,slow=76,SNR=8.4						
USRK	**Ussuriysk Ar.**	**36.54**	**280**	P	**P**	**11 59 21.9**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=54,slow=9.6,SNR=7.6						
USRK	**Ussuriysk Ar.**	**36.54**	**280**	P	**P**	**11 59 22.1**	**+0.1**
O03E	**Paynes Creek**	**36.95**	**87**	P	**P**	**11 59 25.4**	**-0.2**
	baz=306						
MOD	**Modoc Plateau**	**36.97**	**84**	P	**P**	**11 59 27.9**	**+2.0**
MOD				IAmb	IAmb	11 59 42.9	
	comp=Z,3.9nm,0.8s						
MJAR	**Matsushiro Arr**	**37.10**	**265**	LR	LR	12 12 38.0	
	comp=Z,42nm,20.4s,baz=150,slow=33						
WALA	**Waterton Lakes**	**37.22**	**70**	P	**P**	**11 59 28.8**	**+0.9**
WALA				IAmb	IAmb	11 59 30.2	
	comp=Z,6.0nm,0.9s						
J08A	**Circle Bar Ran**

PDAR	**Pinedale Array**	**43.07**	**76**	P	**P**	**12 00 17.4**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=302,slow=4.5,SNR=29						
PDAR				pP	**pwP**	**12 00 31.2**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=306,slow=4.6,SNR=7.0						
DGMT	**Dagmar**	**43.12**	**66**	P	**P**	**12 00 16.9**	**+0.2**
	baz=302						
GSC	**Goldstone, Bar**	**43.13**	**89**	P	**P**	**12 00 17.8**	**+0.9**
GSC				lAmb	lAmb	12 00 33.0	
	comp=Z,5.7nm,0.7s						
NLU	**North Lily Min**	**43.18**	**81**	P	**P**	**12 00 18.5**	**+1.1**
NLU				lAmb	lAmb	12 00 34.5	
	comp=Z,5.1nm,0.9s						
FCC	**Fort Churchill**	**43.40**	**48**	P	**P**	**12 00 19.1**	**+0.4**
FCC				lAmb	lAmb	12 00 20.5	
	comp=Z,6.0nm,0.7s						
MSU	**Marysvale**	**43.99**	**82**	P	**P**	**12 00 25.0**	**+1.0**
GMRC	**Granite Mounta**	**44.18**	**89**	P	**P**	**12 00 25.5**	**+0.1**
	baz=311						
LCMT	**Little Creek M**	**44.26**	**85**	P	**P**	**12 00 27.3**	**+1.2**
LCMT				lAmb	lAmb	12 00 43.1	
	comp=Z,3.5nm,1.0s						
RDMU	**Red Mountain**	**44.35**	**78**	P	**P**	**12 00 28.3**	**+1.4**
RDMU				lAmb	lAmb	12 00 44.5	
	comp=Z,4.2nm,0.8s						
Q16A	**Castle Valley**	**44.36**	**81**	P	**P**	**12 00 29.1**	**+2.2**
Q16A				lAmb	lAmb	12 00 44.5	
	comp=Z,5.4nm,0.8s						
P18A	**Preston Nutter**	**44.50**	**80**	P	**P**	**12 00 29.3**	**+1.1**
P18A				lAmb	lAmb	12 00 51.4	
	comp=Z,4.1nm,0.8s						
SRU	**San Rafael Swe**	**44.64**	**80**	P	**P**	**12 00 29.9**	**+0.7**
SRU				lAmb	lAmb	12 00 47.2	
	comp=Z,6.0nm,0.9s						
K22A	**Casper**	**44.97**	**74**	P	**P**	**12 00 32.2**	**+0.5**
	baz=306						
U15A	**North Rim**	**45.22**	**85**	P	**P**	**12 00 35.1**	**+1.2**
U15A				lAmb	lAmb	12 00 52.3	
	comp=Z,3.8nm,0.8s						
O20A	**White River Ci**	**45.42**	**78**	P	**P**	**12 00 36.0**	**+0.7**
O20A				lAmb	lAmb	12 00 51.1	
	comp=Z,5.7nm,0.8s						
O20A	**White River Ci**	**45.42**	**78**	P	**P**	**12 00 35.1**	**-0.2**
	baz=307						
RSSD	**Black Hills**	**45.59**	**71**	P	**P**	**12 00 37.2**	**+0.5**
RSSD				lAmb	lAmb	12 00 38.8	
	comp=Z,2.5nm,0.7s						
RSSD	**Black Hills**	**45.59**	**71**	P	**P**	**12 00 37.0**	**+0.2**
	baz=305						
NRIK	**Noril'sk**	**45.90**	**331**	P	**P**	**12 00 38.4**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=75,slow=10,SNR=5.7						
NRIK	**Noril'sk**	**45.90**	**331**	P	**P**	**12 00 38.3**	**-0.1**
NRIK				lAmb	lAmb	12 00 39.6	
	comp=Z,4.8nm,0.8s						
MDND	**Maddock**	**46.05**	**64**	P	**P**	**12 00 40.4**	**+0.4**
	baz=304						
E28A	**Huff**	**46.14**	**66**	P	**P**	**12 00 42.0**	**+1.3**
E28A				lAmb	lAmb	12 00 56.6	
	comp=Z,6.7nm,0.8s						
PV11	**David Mesa, Pa**	**46.16**	**80**	P	**P**	**12 00 42.3**	**+1.1**
PV11				lAmb	lAmb	12 00 58.8	
	comp=Z,7.3nm,0.8s						
PV13	**Radium Mtn., P**	**46.28**	**80**	P	**P**	**12 00 43.0**	**+0.7**
Y14A	**Wickenburg**	**46.39**	**88**	P	**P**	**12 00 43.8**	**+0.9**
Y14A				lAmb	lAmb	12 00 59.7	
	comp=Z,3.3nm,1.0s						
ULM	**Lac du Bonnet**	**46.77**	**59**	P	**P**	**12 00 45.8**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=299,slow=7.1,SNR=5.3						
ULM	**Lac du Bonnet**	**46.77**	**59**	P	**P**	**12 00 45.8**	**+0.2**
ULM				lAmb	lAmb	12 00 46.4	
	comp=Z,5.2nm,0.7s						
S22A	**4UR Ranch, Cre**	**47.76**	**79**	P	**P**	**12 00 55.1**	**+1.2**
S22A				lAmb	lAmb	12 01 09.9	
	comp=Z,4.3nm,1.3s						
AGMN	**Agassiz Nation**	**47.87**	**62**	P	**P**	**12 00 54.5**	**+0.3**
AGMN	**Agassiz Nation**	**47.87**	**62**	P	**P**	**12 00 54.0**	**-0.2**
	baz=305,SNR=5.4						
SUSD	**Miller**	**48.37**	**67**	P	**P**	**12 00 58.3**	**+0.2**
SUSD	**Miller**	**48.37**	**67**	P	**P**	**12 00 58.1**	**0.0**
	baz=307						
TUC	**Tucson**	**48.86**	**88**	P	**P**	**12 01 02.5**	**+0.4**
TUC				lAmb	lAmb	12 01 18.7	
	comp=Z,2.7nm,1.1s						
SONM	**Songino Array**	**49.49**	**299**	P	**P**	**12 01 06.7**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=46,slow=8.0,SNR=13						
SONM	**Songino Array**	**49.49**	**299**	lAmb	lAmb	12 01 08.1	
	comp=Z,2.2nm,0.8s						
T25A	**Trinidad**	**49.63**	**78**	P	**P**	**12 01 09.7**	**+1.6**
T25A				lAmb	lAmb	12 01 30.2	
	comp=Z,10.0nm,1.2s						
BNM	**Barren Site**	**50.22**	**83**	P	**P**	**12 01 13.6**	**+1.0**
HHC	**Hu-ho-hao-te**	**50.80**	**289**	*e*P	P	12 01 07.8	-8.9
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,86nm,9.4s						
HNS	**HongShan**	**51.11**	**284**	P	**P**	**12 01 20.5**	**+1.5**
HNS				pmax	pmax		
	comp=Z,21nm,0.9s						
G40A	**Rib Lake**	**52.80**	**62**	P	**P**	**12 01 32.0**	**+0.5**
KSU1	**Kansas State U**	**53.06**	**71**	P	**P**	**12 01 34.9**	**+1.3**
KSU1				lAmb	lAmb	12 01 57.1	
	comp=Z,7.5nm,0.8s						
JFWS	**Jewell Farm**	**54.27**	**64**	P	**P**	**12 01 41.5**	**-0.8**
	baz=310						
P38A	**Dawn**	**54.53**	**69**	P	**P**	**12 01 44.4**	**+0.1**
T35A	**Sooner Cattle**	**54.56**	**73**	P	**P**	**12 01 45.8**	**+1.3**
T35A				lAmb	lAmb	12 02 15.5	
	comp=Z,5.5nm,0.6s						
WMOK	**Wichita Mounta**	**54.64**	**77**	P	**P**	**12 01 46.0**	**+0.8**
E46A	**Sault Ste Mari**	**55.27**	**57**	P	**P**	**12 01 50.4**	**+1.0**
TX31	**Lajitas Ar. Si**	**55.34**	**85**	P	**P**	**12 01 50.7**	**+0.4**
TX32	**Lajitas Array**	**55.34**	**85**	P	**P**	**12 01 50.7**	**+0.4**
TX32				lAmb	lAmb	12 01 58.5	
	comp=Z,5.6nm,1.4s						
TXAR	**Lajitas Array**	**55.34**	**85**	P	**P**	**12 01 50.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=298,slow=4.7,SNR=8.9						
TXAR				pP	**sP**	**12 02 03.1**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=306,slow=5.1,SNR=13						
TXAR	**Lajitas Array**	**55.34**	**85**	P	**P**	**12 01 50.3**	**0.0**
N41A	**Harden Midland**	**55.37**	**66**	P	**P**	**12 01 51.6**	**+1.4**
P40A	**Paris**	**55.46**	**68**	P	**P**	**12 01 50.4**	**-0.5**
U40A	**Yellville**	**57.11**	**72**	P	**P**	**12 02 01.8**	**-1.0**
	baz=313						
SCHQ	**Schefferville**	**57.75**	**41**	P	**P**	**12 02 06.5**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=346,slow=7.0,SNR=8.0						
SCHQ	**Schefferville**	**57.75**	**41**	P	**P**	**12 02 07.7**	**+0.7**
SCHQ				lAmb	lAmb	12 02 10.2	
	comp=Z,2.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**57.86**	**71**	P	**P**	**12 02 07.7**	**-0.3**
FCAR				lAmb	lAmb	12 02 22.3	
	comp=Z,5.4nm,0.8s						
LCAR	**Lake Charles**	**58.31**	**71**	P	**P**	**12 02 10.4**	**-0.7**
LCAR				lAmb	lAmb	12 02 24.9	
	comp=Z,3.6nm,0.9s						
ARCES	**ARCESS Array B**	**58.41**	**352**	P	**P**	**12 02 11.2**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=347,slow=3.7,SNR=7.0						
ARCES				PcP	**PcP**	**12 03 02.4**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=24,slow=3.3,SNR=6.8						
ARCES	**ARCESS Array B**	**58.41**	**352**	P	**P**	**12 02 12.1**	**+0.6**
LZH	**Lanzhou**	**58.48**	**290**	*e*P	P	12 02 24.8	+12
LZH				pP	pwP	12 02 28.5	+0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
GTA	**Gaotai**	**58.53**	**295**	*e*P	**P**	**12 02 13.3**	**+0.4**
GTA				pP	pP	12 02 20.8	-1.8
GTA				sP	pwP	12 02 25.6	-2.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WLAR	**White Oak Lake**	**58.79**	**74**	P	**P**	**12 02 15.7**	**+1.2**
O48B	**Farmland**	**58.89**	**63**	P	**P**	**12 02 14.2**	**-0.9**
	baz=313						
P49A	**Miami Univ. Ec**	**59.63**	**64**	P	**P**	**12 02 19.2**	**-1.0**
	baz=314						
WCI	**Wyandotte Cave**	**59.64**	**66**	P	**P**	**12 02 19.6**	**-0.8**
	baz=314						
N51A	**Ashland**	**59.97**	**61**	P	**P**	**12 02 22.9**	**+0.3**
WVT	**Waverly**	**60.21**	**68**	P	**P**	**12 02 23.8**	**-0.5**
	baz=314						
PLAL	**Pickwick Lake**	**60.87**	**70**	P	**P**	**12 02 29.3**	**+0.5**
M54A	**Oil Creek Stat**	**61.02**	**59**	P	**P**	**12 02 29.2**	**-0.6**
	baz=315						
O53A	**New Philadelph**	**61.07**	**61**	P	**P**	**12 02 29.4**	**-0.7**
	baz=315						
N54A	**Moraine State**	**61.23**	**60**	P	**P**	**12 02 30.7**	**-0.5**
	baz=315						
KURK	**Kurchatov**	**61.23**	**316**	P	**P**	**12 02 31.6**	**+0.5**
KURK				lAmb	lAmb	12 02 32.3	
	comp=Z,4.6nm,0.6s						
KURBB	**Kurchatov Arra**	**61.34**	**316**	P	**P**	**12 02 31.7**	**0.0**
	comp=Z,3.2nm,0.6s,baz=44,slow=6.7,SNR=20						
LONY	**Lake Ozonia**	**61.46**	**53**	P	**P**	**12 02 33.0**	**+0.3**
LONY	**Lake Ozonia**	**61.46**	**53**	P	**P**	**12 02 32.6**	**-0.1**
	baz=316						
O54A	**Avella**	**61.57**	**60**	P	**P**	**12 02 34.5**	**+1.0**
L56A	**Greenwood**	**61.69**	**57**	P	**P**	**12 02 35.9**	**+1.5**
WMQ	**Urumqi**	**61.97**	**306**	*e*P	P	12 02 40.3	+4.1
WMQ				sP	pwP	12 02 54.1	+2.3
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
NCB	**Newcomb**	**62.10**	**54**	P	**P**	**12 02 37.3**	**+0.3**
MCWV	**Mont Chateau**	**62.23**	**61**	P	**P**	**12 02 39.0**	**+1.0**
J59A	**Piesco**	**62.32**	**54**	P	**P**	**12 02 39.5**	**+1.0**
D62A	**Allapoint, All**	**62.36**	**48**	P	**P**	**12 02 39.3**	**+0.6**
MK31	**Makanchi Array**	**62.46**	**311**	P	**P**	**12 02 38.8**	**-0.6**
MK31				lAmb	lAmb	12 02 40.1	
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**62.46**	**311**	P	**P**	**12 02 38.9**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=46,slow=5.4,SNR=26						
MKAR	**Makanchi Array**	**62.46**	**311**	P	**P**	**12 02 39.1**	**-0.3**
SSPA	**Standing Stone**	**62.59**	**59**	P	**P**	**12 02 40.9**	**+0.5**
SSPA	**Standing Stone**	**62.59**	**59**	P	**P**	**12 02 40.6**	**+0.3**
	baz=316						
MAKZ	**Makanchi**	**62.59**	**311**	P	**P**	**12 02 40.0**	**-0.3**
MAKZ				lAmb	lAmb	12 02 41.0	
	comp=Z,1.9nm,0.7s						
FPAL	**Fort Paine**	**62.62**	**68**	P	**P**	**12 02 41.6**	**+0.9**
BVAR	**Borovoye Array**	**62.83**	**322**	P	**P**	**12 02 41.8**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=135,slow=38,SNR=10						
BRVK	**Borovoye**	**62.84**	**323**	P	**P**	**12 02 42.2**	**+0.4**
BRVK				lAmb	lAmb	12 02 42.6	
	comp=Z,2.2nm,0.7s						
L59A	**Walton**	**62.96**	**56**	P	**P**	**12 02 44.3**	**+1.4**
G62A	**West of Eustis**	**63.02**	**51**	P	**P**	**12 02 43.8**	**+0.7**
R55A	**Marlinton**	**63.06**	**62**	P	**P**	**12 02 45.0**	**+1.4**
PQI	**Presque Isle**	**63.14**	**48**	P	**P**	**12 02 44.5**	**+0.6**
H62A	**Milan**	**63.19**	**51**	P	**P**	**12 02 45.2**	**+1.0**
F64A	**Sherman**	**63.58**	**49**	P	**P**	**12 02 47.5**	**+0.7**
GOMU	**GeErMu**	**63.61**	**295**	P	**P**	**12 02 47.5**	**-0.1**
GOMU				pP	pP	12 02 50.5	-6.9
GOMU				sP	pwP	12 02 51.5	-12
GOMU				PcP	PcP	12 03 30.8	+7.0
GOMU				PP	PP	12 05 14.3	+7.0
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,34nm,3.6s						
ARU	**Arti**	**64.12**	**331**	P	**P**	**12 02 50.6**	**+0.3**
	comp=Z,2.2nm,0.2s,baz=54,slow=4.7,SNR=8.2						
ARU	**Arti**	**64.12**	**331**	P	**P**	**12 02 50.5**	**+0.3**
EMMW	**East Machias**	**64.86**	**49**	P	**P**	**12 02 56.4**	**+1.2**
FINES	**FINESS Array B**	**66.26**	**350**	P	**P**	**12 03 03.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=349,slow=5.8,SNR=4.0						
FINES				PcP	**PcP**	**12 03 33.8**	**0.0**
	comp=Z,2.2nm,0.6s,baz=52,slow=2.5,SNR=5.5						
PZH	**PanZhiHua**	**66.56**	**283**	P	**P**	**12 03 05.8**	**-0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
NC405	**NORSAR Array S**	**67.59**	**357**	P	**P**	**12 03 11.8**	**-0.7**
NB201	**NORSAR Array S**	**67.67**	**357**	P	**P**	**12 03 13.4**	**+0.4**
NOA	**NORSAR Array B**	**67.68**	**358**	P	**P**	**12 03 12.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=2.9,slow=8.0,SNR=2.4						
BOOM	**Boomskoye usch**	**68.67**	**312**	P	**P**	**12 03 21.1**	**+1.3**
BOOM				lAmb	lAmb	12 03 21.8	
	comp=Z,5.2nm,0.7s						
AAK	**Ala-Archa**	**69.23**	**313**	P	**P**	**12 03 24.1**	**+0.9**
ABKAR	**Akbulak array**	**69.72**	**326**	P	**P**	**12 03 26.2**	**+0.4**
ABKAR				lAmb	lAmb	12 03 27.3	
	comp=Z,9.3nm,1.3s						
LSA	**Lhasa**	**70.46**	**293**	P	**P**	**12 03 33.0**	**+1.6**
KKAR	**Karatay Array**	**70.63**	**316**	P	**P**	**12 03 31.4**	**-0.2**
MNK	**Minsk**	**72.81**	**347**	*i* P	**P**	**12 03 42.7**	**-1.7**
	comp=E,3.0nm,1.2s						
MNK				*i* P	**P**	**12 03 42.7**	**-1.7**
	comp=N,19nm,0.9s						
MNK				*i* P	**P**	**12 03 42.7**	**-1.7**
	comp=Z,13nm,0.9s,baz=14						
MNK				*i* PP	**PP**	**12 06 26.0**	**+0.1**
MNK				*i* PPP	PPP	12 08 11.1	
MNK				*i* S	**S**	**12 13 07.4**	**+0.2**
MNK				*i* SS	**SS**	**12 17 50.1**	**+3.9**
MNK				*i* SSS	SSS	12 21 09.8	
MNK				*i* LQ	LQ	12 31 03.1	
MNK				*i* LR	LR	12 35 25.0	
MNK				*i* LRM	MLR	12 36 55.1	
	comp=N,886nm,14.7s						
MNK				*i* LRM	MLR	12 37 02.8	
	comp=E,96nm,14.1s						
MNK				*i* LRM	MLR	12 37 06.0	
	comp=Z,106nm,12.1s						
BTK	**Batken**	**72.95**	**314**	P	**P**	**12 03 46.6**	**+0.9**
BTK				lAmb	lAmb	12 03 47.4	
	comp=Z,7.7nm,1.1s						
GAR	**Garm**	**74.03**	**313**	P	**P**	**12 03 52.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**74.27**	**280**	P	**P**	**12 03 52.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=26,slow=7.5,SNR=6.2						
GUN	**Gumba**	**74.81**	**296**	*e*P	**P**	**12 03 58.0**	**+0.9**
	comp=Z,42nm,0.7s						
JIRN	**Jiri**	**74.83**	**295**	*e*P	**P**	**12 03 58.2**	**+1.0**
	comp=Z,47nm,0.7s						
CHGR	**Chuyangaron**	**74.84**	**314**	P	**P**	**12 03 57.6**	**+0.9**
RAMN	**Ramite**	**75.14**	**295**	*e*P	**P**	**12 03 59.8**	**+0.9**
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**75.34**	**296**	*e*P	**P**	**12 04 00.7**	**+0.6**
	comp=Z,10nm,0.6s						
PKIN	**Phulchoki**	**75.34**	**296**	*e*P	**P**	**12 04 00.6**	**+0.6**
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**75.44**	**297**	*e*P	**P**	**12 04 01.2**	**+0.7**
DMN	**Daman**	**75.48**	**296**	*e*P	**P**	**12 04 01.7**	**+0.9**
DANN	**Dangsing**	**75.66**	**297**	*e*P	**P**	**12 04 02.7**	**+0.8**
	comp=Z,58nm,0.7s						
KOLN	**Koldanda**	**76.19**	**297**	*e*P	**P**	**12 04 05.4**	**+0.6**
PYUN	**Piuthan**	**76.28**	**298**	*e*P	**P**	**12 04 05.9**	**+0.6**
	comp=Z,35nm,0.8s						
AKASG	**Malin Array Be**	**76.30**	**345**	P	**P**	**12 04 04.1**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=18,slow=6.1,SNR=7.1						
CLL	**Collm**	**77.36**	**356**	*e*P	P	12 04 14.0	+3.3
KBL	**Kabul**	**78.27**	**312**	P	**P**	**12 04 16.7**	**+0.3**
GERES	**GERESS Array B**	**79.78**	**355**	P	**P**	**12 04 24.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=20,slow=4.3,SNR=7.3						
GERES				pP	**pwP**	**12 04 37.2**	**-2.9**
	comp=Z,0.9nm,0.7s,baz=20,slow=4.4,SNR=3.4						
KBZ	**Khabaz**	**79.98**	**334**	P	**P**	**12 04 25.9**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=92,slow=2.5,SNR=5.4						
HRA	**Herat**	**81.45**	**316**	P	**P**	**12 04 34.2**	**+0.6**
HRA				lAmb	lAmb	12 04 35.3	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**84.53**	**228**	P	**P**	**12 04 47.4**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=32,slow=5.7,SNR=6.4						
WRA				pP	**sP**	**12 05 00.8**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=29,slow=5.5,SNR=2.9						
BRTR	**Keskin Array B**	**86.05**	**339**	P	**P**	**12 04 57.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=33,slow=2.4,SNR=6.4						
FNA	**Florina**	**87.12**	**349**	P	**P**	**12 05 02.7**	**+0.6**
ASAR	**Alice Springs**	**87.95**	**227**	P	**P**	**12 05 05.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=31,slow=4.9,SNR=11						

MOS ***18*** *12:49:10.8±0.9, 12°.47S×166°.53E, h30km, mb5.6/63, MS4.9/7, Error ellipse: s-maj=7.2km s-min=6.0km az=120.9*

NEIC ***18*** *12:49:10.2, 12°.50S×166°.63E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.75; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-1.96; $M_{r\theta}$0.18; $M_{\theta\phi}$0.53; $M_{\phi r}$0.01; Fault plane solution: $M_0$1.95000×10^{17} NP1:ϕ_s160.05000°, δ45.91000°, λ80.26000°. NP2:ϕ_s353.91000°, δ44.93000°, λ99.91000°. Principal axes: T 1.7763, Plg83.0000°, Azm351.0000°; N 0.3023, Plg7.0000°, Azm167.0000°; P -2.0787, Plg0.0000°, Azm257.0000°;*

BJI ***18*** *12:49:12.0±0.0, 12°.10S×166°.71E, h30km, mb5.8/85, mB5.5/65, Ms5.1/82, Ms7 4.8/76*

NEIC ***18*** *12:49:12.9±1.7, 12°.51S±0°.07×166°.62E±0°.07, h29km±1km, mb5.4/294, Ms_20 5.3/214, Mwb5.5/50, Mww5.5, Error ellipse: s-maj=12.6km s-min=10.3km az=56.0*

IDC ***18*** *12:49:14.0±0.7, 12°.53S×166°.57E, h44km±5km, mb4.9/26, mb1 5.1/29, mb1mx5.0/33, mbtmp5.2/29, ML3.4/2, MS4.8/62, Ms1 4.8/62, ms1mx4.8/67, Error ellipse: s-maj=12.1km s-min=10.9km az=99.0*

GCMT ***18*** *12:49:15.9±0.1, 12°.58S±0°.01×166°.22E±0°.01, h40km, MW5.5/143, Moment Tensor Solution. s143,c257; s136,c244; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}2.19±.03; $M_{\theta\theta}$-0.14±.02; $M_{\phi\phi}$-2.05±.02; $M_{r\theta}$0.13±.02; $M_{\theta\phi}$0.60±.01; $M_{\phi r}$0.21±.02; Best double couple: $M_0$2.22000×10^{17} NP1:ϕ_s159.00000°, δ43.00000°, λ83.00000°. NP2:ϕ_s349.00000°, δ47.00000°, λ97.00000°. Principal axes: T 2.2120, Plg85.0000°, Azm319.0000°; N 0.0170, Plg5.0000°, Azm164.0000°; P -2.2280, Plg2.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***18*** *12:49:18, 12°.69S×166°.22E, h46km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10^{17}Nm; M_{rr}2.38; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-2.13; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.76; $M_{\phi r}$0.22; Fault plane solution: $M_0$2.40000×10^{17} NP1: ϕ_s162.00000°, δ42.00000°, λ92.00000°. NP2: ϕ_s339.00000°, δ48.00000°, λ88.00000°. Principal axes: T 2.3938, Plg87.0000°, Azm226.0000°; N 0.0165, Plg1.0000°, Azm340.0000°; P -2.4104, Plg3.0000°, Azm70.0000°;*

NOU ***18*** *12:49:18.2, 12°.55S×166°.34E, h55km, ML5.5/88, Santa Cruz Islands*

ISC 18 12:49:13.8±0.3, 12°.53S±0°.04×166°.63E±0°.04, h45km±2km, h45km:pP-P, n1106, σ1°38/1104, mb5.5/338, MS5.1/195, 49C-33D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.95**	**169**	Pn		**Pn**	**12 49 58.7**	**+0.5**
SANVU	**Saraoutou**	**2.95**	**169**	P		**Pn**	**12 50 01.0**	**+2.8**
DVP	**Devils Point**	**5.38**	**164**	P		Pn	12 50 37.1	+5.6
	390µm,0.9s							
RTV	**Rentapao**	**5.51**	**162**	P		Pn	12 50 39.9	+6.6
	588µm,1.4s							
HNR	**Honiara**	**7.25**	**294**	P		**Pn**	**12 50 57.4**	**+0.2**
	118nm,0.3s,baz=160,slow=3.3,SNR=108							
HNR				S		**Sn**	**12 52 14.5**	**-3.7**
	162nm,0.3s,baz=32,slow=22,SNR=6.9							
HNR				LR		LR	12 53 56.6	
	comp=Z,9µm,21.5s,baz=130,slow=39							
HNR	**Honiara**	**7.25**	**294**	P		**Pn**	**12 50 57.0**	**-0.2**
HNR	**Honiara**	**7.25**	**294**			**Pn**	**12 50 57.0**	**-0.2**
HNR	**Honiara**	**7.25**	**294**	P		**Pn**	**12 50 58.7**	**+1.5**
	5µm,1.1s							
LIFNC	**LIFOU**	**8.22**	**176**	Pn		**Pn**	**12 51 10.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**8.29**	**195**	Pn		**Pn**	**12 51 12.1**	**+0.7**
KOUNC	**Koumac, New Ca**	**8.29**	**195**	P		**Pn**	**12 51 13.5**	**+2.1**
	690nm,0.8s							
MARNC	**Mare, Loyalty**	**9.00**	**172**			**Pn**	**12 51 21.8**	**+0.6**
MARNC	**Mare, Loyalty**	**9.00**	**172**	P		**Pn**	**12 51 25.9**	**+4.7**
	5.0nm,0.5s							
YATNC	**Mamie plateau,**	**9.48**	**179**	P		**Pn**	**12 51 31.7**	**+3.9**
	220nm,0.8s							
DZM	**Mont Dzumac**	**9.49**	**181**	P		**Pn**	**12 51 28.8**	**+0.8**
	2.9nm,0.3s,baz=144,slow=23,SNR=36							
DZM				LR		LR	12 54 51.8	
	comp=Z,11µm,20.8s,baz=20,slow=36							
DZM	**Mont Dzumac**	**9.49**	**181**	*e*Pn		**Pn**	**12 51 29.9**	**+1.9**
	463nm,1.1s							
DZM				*e*Sn		**Sn**	**12 53 11.0**	**-2.4**
	2µm,1.2s							
DZM				*e*LR		LR	12 53 42.6	
	comp=Z,16µm,25.4s							
DZM	**Mont Dzumac**	**9.49**	**181**	P		**Pn**	**12 51 30.5**	**+2.5**
	242nm,1.2s							
NOUC	**Port Laguerre**	**9.52**	**182**	P		**Pn**	**12 51 32.4**	**+4.0**
	149nm,1.1s							
ONTNC	**Ouen Toro**	**9.72**	**181**	Pn		**Pn**	**12 51 30.1**	**-1.0**
ONTNC	**Ouen Toro**	**9.72**	**181**	P		**Pn**	**12 51 34.2**	**+3.1**
	187nm,1.1s							
OUENC	**Ouen Island, N**	**9.84**	**179**	Pn		**Pn**	**12 51 34.8**	**+2.1**
OUENC	**Ouen Island, N**	**9.84**	**179**	P		**Pn**	**12 51 36.3**	**+3.6**
	179nm,1.0s							
PINNC	**Pines Island,**	**10.06**	**176**			**Pn**	**12 51 35.1**	**-0.6**
PINNC	**Pines Island,**	**10.06**	**176**	P		**Pn**	**12 51 39.3**	**+3.6**
	422nm,1.1s							
MSVF	**Nonsavu**	**12.18**	**117**	P		**Pn**	**12 52 09.6**	**+4.8**
	0.5nm,0.3s,baz=274,slow=5.1,SNR=33							
MSVF				LR		LR	12 55 56.3	
	comp=Z,11µm,20.3s,baz=295,slow=33							
MSVF	**Nonsavu**	**12.18**	**117**	*d* iP		P	12 52 11.7	-4.6
MSVF	**Nonsavu**	**12.18**	**117**	Pn		**Pn

ARMA Armidale 22.57 216 P **P** 12 54 10.2 -0.4
ARMA IAmb IAmb 12 54 13.8
comp=Z,183nm,0.9s
ARMA Armidale 22.57 216 P **P** 12 54 11.8 +1.3
comp=Z,244nm,1.4s
COEN Coen 22.87 264 P **P** 12 54 14.1 +0.4
COEN IAmb IAmb 12 54 15.8
comp=Z,97nm,0.9s
COEN Coen 22.87 264 P **P** 12 54 15.2 +1.5
comp=Z,130nm,1.3s
NIUE Niue 23.46 109 P **P** 12 54 21.8 +2.3
baz=24,SNR=4.0
NIUE Niue 23.46 109 P **P** 12 54 21.8 +2.3
NIUE Niue 23.46 109 P **P** 12 54 23.8 +4.3
comp=Z,388nm,1.1s
KNTN Kanton 23.52 67 P **P** 12 54 21.2 +1.1
KNTN Kanton 23.52 67 P P 12 54 28.5 +8.4
comp=Z,99nm,1.2s
MGCD Mangrove Creek 25.00 212 P **P** 12 54 34.9 +1.5
baz=25,SNR=27
MGCD Mangrove Creek 25.00 212 P **P** 12 54 34.9 +1.5
comp=Z,145nm,0.8s
QLP Quilpie 25.25 233 P **P** 12 54 36.3 +0.4
baz=25,SNR=30
QLP Quilpie 25.25 233 P **P** 12 54 37.4 +1.6
comp=Z,252nm,1.2s
RIV Riverview 25.46 211 P **P** 12 54 38.9 +1.3
baz=25,SNR=23
SYDH Sydney Hard Ro 25.62 212 P **P** 12 54 40.5 +1.4
comp=Z,98nm,0.8s
CMSA Cobar Meteorol 27.01 222 P **P** 12 54 51.8 +0.2
baz=27,SNR=47
CMSA Cobar Meteorol 27.01 222 P **P** 12 54 53.7 +2.0
comp=Z,114nm,1.4s
QIS Mount Isa 27.07 249 P **P** 12 54 53.6 +1.2
baz=27,SNR=14
QIS Mount Isa 27.07 249 P **P** 12 54 54.5 +2.1
comp=Z,37nm,0.9s
URZ Urewera 27.27 162 P **P** 12 54 54.8 +0.8
comp=Z,20nm,0.7s,baz=252,slow=0.7,SNR=14
URZ LR LR 13 03 57.4
comp=Z,4μm,21.8s,baz=324,slow=32
URZ Urewera 27.27 162 P **P** 12 55 00.1 +6.2
comp=Z,137nm,0.9s
JAY Jayapura 27.53 289 P **P** 12 54 55.5 -1.0
comp=Z,34nm,1.1s
CNB Canberra Magne 27.54 212 P **P** 12 54 57.5 +1.0
baz=28,SNR=17
CNB Canberra Magne 27.54 212 P **P** 12 54 57.4 +0.9
comp=Z,88nm,1.3s
CAN Canberra 27.73 212 P **P** 12 54 59.0 +0.8
CAN pmax pmax
comp=Z,295nm,2.0s
CAN Canberra 27.73 212 P **P** 12 54 59.0 +0.8
CAN IAmb IAmb 12 55 00.4
comp=Z,295nm,2.0s
CAN Canberra 27.73 212 P **P** 12 55 01.8 +3.6
comp=Z,95nm,1.7s
BKZ Black Stump Fm 27.93 163 P **P** 12 55 05.0 +5.1
comp=Z,168nm,0.8s
INKA Innaminka 28.54 234 P **P** 12 55 06.8 +1.4
comp=Z,217nm,1.1s
BFZ Birch Farm 29.29 165 IAMs_20 IAMs_20 13 05 51.1
comp=Z,5μm,20.0s
SMPI Sarmi 29.57 289 P **P** 12 55 14.8 +0.1
comp=Z,3μmcomp=Z,288nm,1.1s
BHW Baring Head 29.66 167 P **P** 12 55 14.8 -0.3
STKA Stephens Creek 30.00 226 P **P** 12 55 19.1 +0.7
comp=Z,44nm,0.7s,baz=44,slow=8.2,SNR=71
STKA LR LR 13 06 39.2
comp=Z,4μm,20.7s,baz=64,slow=35
STKA Stephens Creek 30.00 226 P **P** 12 55 19.0 +0.7
baz=30,SNR=67
STKA Stephens Creek 30.00 226 P **P** 12 55 19.0 +0.7
STKA pmax pmax
comp=Z,113nm,2.0s
STKA Stephens Creek 30.00 226 P **P** 12 55 19.0 +0.7
STKA IAmb IAmb 12 55 20.2
comp=Z,113nm,2.0s
STKA Stephens Creek 30.00 226 P **P** 12 55 19.4 +1.1
comp=Z,25nm,1.4s
TOO Toolangi 31.29 213 P **P** 12 55 30.6 +0.9
baz=31,SNR=8.3
TOO Toolangi 31.29 213 P **P** 12 55 30.5 +0.9
TOO pmax pmax
comp=Z,49nm,1.0s
TOO Toolangi 31.29 213 P **P** 12 55 30.4 +0.8
TOO IAmb IAmb 12 55 31.1
comp=Z,49nm,0.9s
TOO Toolangi 31.29 213 P **P** 12 55 31.2 +1.5
comp=Z,72nm,1.5s
RPZ Rata Peaks 31.31 174 P **P** 12 55 29.4 -0.3
comp=Z,57nm,0.7s,baz=31,slow=0.6,SNR=18
RPZ LR LR 13 07 39.5
comp=Z,2μm,18.5s,baz=345,slow=35
WR0 Warramunga Arr 31.64 252 P **P** 12 55 32.1 -0.9
LCRK Leigh Creek 31.75 231 P **P** 12 55 34.8 +1.1
comp=Z,139nm,0.8s
WB0 Warramunga Arr 31.75 253 P **P** 12 55 32.6 -1.3
WB0 IAmb IAmb 12 55 47.0
comp=Z,171nm,1.9s
WB2 Warramunga Arr 31.81 252 P **P** 12 55 33.5 -0.9
WRAB Tennant Creek 31.81 252 ‖ *iP* **P** 12 55 33.5 -1.0
WRAB pmax pmax
comp=Z,64nm,2.5s
WRAB Tennant Creek 31.81 252 P **P** 12 55 33.2 -1.2
WRAB Tennant Creek 31.81 252 P **P** 12 55 36.9 +2.4
comp=Z,25nm,1.3s
WRA Warramunga Arr 31.82 252 P **P** 12 55 33.0 -1.6
comp=Z,9.6nm,0.8s,baz=83,slow=9.0,SNR=54
WRA ScP **ScP** 13 02 06.5 +1.7
comp=Z,3.7nm,0.9s,baz=83,slow=3.9,SNR=6.0
WRA LR LR 13 07 14.6
comp=Z,3μm,20.1s,baz=72,slow=34
WRA Warramunga Arr 31.82 252 P **P** 12 55 32.9 -1.7
LBZ Lake Benmore 31.89 175 P **P** 12 55 34.0 -0.8
LBZ IAmb IAmb 12 55 36.1
comp=Z,47nm,1.0s
BRAT Ballarat 32.13 215 P **P** 12 55 39.2 +2.2
comp=Z,30nm,1.5s
WKZ Wanaka 32.25 177 IAMs_20 IAMs_20 13 07 25.3
comp=Z,4μm,20.0s
BAKI Biak 32.28 288 P **P** 12 55 41.3 +2.7
comp=Z,184nm,1.1s
OOD Oodnadatta 32.65 238 P **P** 12 55 42.7 +1.0
comp=Z,55nm,1.3s
HTT Hallett 32.74 226 P **P** 12 55 43.0 +0.5
baz=33,SNR=23
HTT Hallett 32.74 226 P **P** 12 55 44.0 +1.5
comp=Z,153nm,1.1s
ARPS Mount Arapiles 32.83 218 P **P** 12 55 43.9 +0.8
baz=33,SNR=5.7
AS31 Alice Springs 32.94 246 P **P** 12 55 42.9 -1.4
ASAR Alice Springs 32.94 246 P **P** 12 55 42.9 -1.4
comp=Z,30nm,0.8s,baz=72,slow=9.3,SNR=240
ASAR ScP **ScP** 13 02 10.4 +1.8
comp=Z,5.7nm,1.0s,baz=84,slow=3.9,SNR=9.5
ASAR LR LR 13 08 09.2
comp=Z,4μm,21.2s,baz=90,slow=34
ASAR Alice Springs 32.94 246 P **P** 12 55 42.7 -1.6
ASAR Alice Springs 32.94 246 P **P** 12 55 42.7 -1.6
NAPP Napperby 33.15 227 P **P** 12 55 46.9 +0.9
comp=Z,143nm,1.1s
RAR Rarotonga 33.23 110 LR LR 13 06 52.1
comp=Z,958nm,19.6s,baz=286,slow=32
PTPS Port Pirie 33.26 227 P **P** 12 55 47.8 +0.9
comp=Z,237nm,0.8s
KDU Kakadu 33.32 266 P **P** 12 55 47.3 -0.4
baz=33,SNR=11
KDU Kakadu 33.32 266 P **P** 12 55 48.3 +0.6
comp=Z,71nm,1.2s
CORO Coronation Par 33.47 207 P **P** 12 55 51.1 +2.5
comp=Z,84nm,1.1s
WHYH Whyalla 33.49 228 P **P** 12 55 49.3 +0.4
comp=Z,135nm,0.8s
GUMO Guam 33.74 320 LR LR 13 09 21.9
comp=Z,1μm,19.9s,baz=142,slow=36
TWOA Tennyson Woods 33.86 224 P **P** 12 55 53.3 +1.1
comp=Z,83nm,0.9s
MOO Moorlands 34.25 206 P **P** 12 55 56.7 +1.2
baz=34,SNR=4.7
BBOO Buckleboo 34.48 229 P **P** 12 55 57.7 +0.1
baz=34,SNR=59
BBOO Buckleboo 34.48 229 P **P** 12 55 57.7 +0.1
BBOO Buckleboo 34.48 229 P **P** 12 55 58.3 +0.7
comp=Z,199nm,0.8s
MTN Manton Dam 34.61 266 P **P** 12 55 58.8 -0.1
baz=34,SNR=18
MTN Manton Dam 34.61 266 P **P** 12 55 58.5 -0.4
MTN IAmb IAmb 12 55 59.6
comp=Z,55nm,0.8s
MTN Manton Dam 34.61 266 P **P** 12 55 59.3 +0.4
comp=Z,70nm,0.7s
MULG Mulgathing 34.91 234 P **P** 12 56 01.1 -0.3
comp=Z,82nm,0.8s
KNRA Kununurra 36.83 261 P **P** 12 56 17.5 -0.3
baz=37,SNR=34
KNRA Kununurra 36.83 261 P **P** 12 56 17.0 -0.9
KNRA Kununurra 36.83 261 P **P** 12 56 19.2 +1.3
comp=Z,164nm,1.2s
SIJI Sorong 36.92 286 LR LR 13 12 56.9
comp=Z,1μm,19.9s,baz=134,slow=39
SWI Sorong 36.92 286 P **P** 12 56 18.9 +0.1
comp=Z,2μmcomp=Z,249nm,1.0s
WRKA Warakurna 38.23 245 P **P** 12 56 28.7 -1.0
baz=38,SNR=57
WRKA Warakurna 38.23 245 P **P** 12 56 29.6 -0.1
comp=Z,59nm,0.8s
AAI Ambon 39.00 280 P **P** 12 56 36.6 +0.3
comp=Z,3μmcomp=Z,75nm,0.9s
FITZ Fitzroy Crossi 39.86 257 LR LR 13 12 29.0
comp=Z,2μm,20.2s,baz=84,slow=35
FITZ Fitzroy Crossi 39.86 257 P **P** 12 56 42.8 -0.6
baz=40,SNR=45
FITZ Fitzroy Crossi 39.86 257 P **P** 12 56 42.8 -0.6
FITZ IAmb IAmb 12 56 44.9
comp=Z,73nm,0.9s
FITZ Fitzroy Crossi 39.86 257 P **P** 12 56 42.8 -0.6
FORT Forrest 39.93 237 P **P** 12 56 43.7 -0.1
baz=40,SNR=36
FORT Forrest 39.93 237 P **P** 12 56 43.6 -0.2
FORT Forrest 39.93 237 P **P** 12 56 46.3 +2.5
comp=Z,202nm,1.1s
LBMI Labuha 40.55 284 P **P** 12 56 50.5 +1.3
comp=Z,2μmcomp=Z,2μmcomp=Z,158nm,1.2s
TNTI Ternate 41.14 286 P **P** 12 56 53.8 -0.2
TNTI IAmb IAmb 12 56 55.8
comp=Z,95nm,1.1s
TNTI Ternate 41.14 286 P **P** 12 56 55.7 +1.7
comp=Z,2μmcomp=Z,1μmcomp=Z,87nm,1.3s
TNTI Ternate 41.14 286 P **P** 12 56 55.7 +1.7
comp=Z,86nm,1.3s
SANI Sanana 41.57 281 P **P** 12 56 57.8 +0.3
comp=Z,2μmcomp=Z,150nm,1.1s
SANI Sanana 41.57 281 P **P** 12 56 58.3 +0.8
comp=Z,150nm,1.1s
BATI Baumata 42.15 269 LR LR 13 13 58.6
comp=Z,2μm,21.6s,baz=149,slow=35
BATI Baumata 42.15 269 P **P** 12 57 03.7 +1.4
comp=Z,1μmcomp=Z,952nmcomp=Z,80nm,0.8s
PAE Paea 42.52 102 *eP* **P** 12 57 07.8 +2.6
PAE *ep*P **pwP** 12 57 19.7 +0.4
comp=Z,14nm,1.0s
PPT Papeete 42.52 102 P **P** 12 57 07.8 +2.5
comp=Z,22nm,0.9s,baz=303,slow=16,SNR=3.8
PPT LR LR 13 10 55.6
comp=Z,1μm,21.0s,baz=268,slow=31
PPT2 Papeete2 42.52 102 *eP* **P** 12 57 08.2 +2.8
comp=Z,24nm,0.9s
PPT2 *ep*P **pwP** 12 57 20.4 +1.0
PPT2 *eS* **S** 13 03 20.9 -4.0
comp=Z,956nm,28.2s
PPT2 *eLQ* LQ 13 06 55.0
comp=Z,3μm,28.8s
PPT2 *eLR* LR 13 08 39.8
comp=Z,5μm,26.5s
PPTF Pamatai, Papee 42.53 102 P **P** 12 57 06.2 +0.8
PPTF IAmb IAmb 12 57 27.1
comp=Z,172nm,1.4s
TVO Taravao 42.83 103 *eP* **P** 12 57 10.3 +2.4
comp=Z,0.1nm,0.7s
MMRI Maumere 43.77 271 P **P** 12 57 14.7 -0.7
MMRI IAmb IAmb 12 57 53.5
comp=Z,64nm,0.9s
MMRI Maumere 43.77 271 P **P** 12 57 15.9 +0.5
comp=Z,2μmcomp=Z,2μmcomp=Z,67nm,1.3s
MMRI Maumere 43.77 271 P **P** 12 57 15.0 -0.4
PMOR Pomariorio Ree 44.18 99 *eP* **P** 12 57 21.7 +3.0
comp=Z,87nm,0.8s
PMOR *ep*P **pwP** 12 57 34.0 +1.2
comp=Z,347nm,1.2s
KMSI Cibinong 44.27 284 P **P** 12 57 20.9 +1.5
comp=Z,4μmcomp=Z,141nm,0.8s
VAH Vaihoa 44.43 99 *eP* **P** 12 57 23.6 +2.9
VAH *ep*P **pwP** 12 57 35.6 +0.8
comp=Z,39nm,0.9s
comp=Z,181nm,1.2s
LUWI Luwuk 44.94 281 P **P** 12 57 27.1 +2.4
comp=Z,3μmcomp=Z,200nm,1.3s
LUWI Luwuk 44.94 281 P **P** 12 57 26.5 +1.8
comp=Z,200nm,1.3s
DAV Davao City (W) 45.21 293 LR LR 13 16 03.2
comp=Z,590nm,19.7s,baz=100,slow=36
GTOI Gorontalo 45.21 284 P **P** 12 57 28.2 +1.3
comp=Z,481nmcomp=Z,31nm,1.4s
PSA00 Pilbara Seismi 45.48 252 P **P** 12 57 28.1 -0.8
PSA00 IAmb IAmb 12 57 31.2
comp=Z,129nm,1.4s
PSA00 Pilbara Seismi 45.48 252 P **P** 12 57 30.5 +1.5
comp=Z,78nm,1.3s
MBWA Marble Bar 45.56 253 P **P** 12 57 29.3 -0.3
MBWA IAmb IAmb 12 57 31.8
comp=Z,94nm,1.0s
APSI Ampana 46.05 281 P **P** 12 57 34.1 +0.6
comp=Z,1μmcomp=Z,97nm,1.3s
MRSI Marisa 46.18 283 P **P** 12 57 35.2 +0.7
comp=Z,2μmcomp=Z,709nmcomp=Z,42nm,1.1s
WBSI Waikabubak, Su 46.40 269 P **P** 12 57 37.5 +1.1
comp=Z,85nm,0.9s
BKSI Bulukumba 46.44 275 P **P** 12 57 36.2 -0.4
comp=Z,2μmcomp=Z,725nmcomp=Z,33nm,1.1s
BNSI Bone 46.66 276 P **P** 12 57 38.9 +0.6
comp=Z,2μmcomp=Z,189nm,1.1s
KAPI Kappang 46.87 275 *c iP* **P** 12 57 40.0 0.0
KAPI pmax pmax
comp=Z,172nm,1.2s
KAPI Kappang 46.87 275 P **P** 12 57 40.3 +0.4
KAPI Kappang 46.87 275 P **P** 12 57 41.8 +1.8
comp=Z,136nm,1.2s
SPSI Sidrap Palu 47.08 276 P **P** 12 57 41.3 -0.3
comp=Z,1μmcomp=Z,68nm,1.1s
MEEK Mekatharra 47.09 245 P **P** 12 57 41.7 +0.1
baz=47,SNR=59
TTSI Tana Toraja 47.25 277 P **P** 12 57 43.5 +0.5
comp=Z,966nmcomp=Z,50nm,1.1s
MPSI Mapaga 48.08 282 P **P** 12 57 49.0 -0.4
comp=Z,2μmcomp=Z,1μmcomp=Z,99nm,1.3s
PLAI Plampang 48.09 269 P **P** 12 57 49.4 -0.1
comp=Z,2μmcomp=Z,2μmcomp=Z,91nm,0.9s
PLAI Plampang 48.09 269 P **P** 12 57 50.2 +0.7
comp=Z,91nm,0.9s
KLBR Kelberrin 48.66 239 P **P** 12 57 53.4 -0.3
baz=48,SNR=7.3
KLBR Kellerberrin 48.66 239 P **P** 12 57 53.8 +0.1
comp=Z,162nm,0.8s
BLDU Ballidu 49.36 240 P **P** 12 57 58.9 -0.1
baz=49,SNR=7.3
BLDU Ballidu 49.36 240 P **P** 12 57 59.9 +0.8
comp=Z,42nm,1.6s
NWAO Narrogin (SRO) 49.37 237 P **P** 12 57 59.3 +0.2
NWAO pmax pmax
comp=Z,76nm,0.8s
NWAO MLR MLR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 49.37 237 P **P** 12 57 59.3 +0.2
NWAO Narrogin (SRO) 49.37 237 IAMs_20 IAMs_20 13 18 28.8
comp=Z,3μm,20.0s
MORW Morawa 49.69 242 P **P** 12 58 01.7 +0.1
baz=50,SNR=27
MORW Morawa 49.69 242 P **P** 12 58 01.8 +0.2
MORW Morawa 49.69 242 P **P** 12 58 02.2 +0.6
comp=Z,129nm,0.9s
RKGY Rocky Gully 49.96 235 P **P** 12 58 04.2 +0.7
baz=50,SNR=8.0
RKGY Rocky Gully 49.96 235 P **P** 12 58 05.6 +2.1
comp=Z,161nm,0.9s
MUN Mundaring 50.03 239 P **P** 12 58 04.6 +0.5
baz=50,SNR=9.4
MUN Mundaring 50.03 239 P **P** 12 58 03.5 -0.6
comp=Z,137nm,1.2s
DNP Denpasar 50.62 269 P **P** 12 58 09.7 +0.9
comp=Z,420nm,1.1s
IGBI Denpasar 50.66 269 P **P** 12 58 09.6 +0.5
comp=Z,4μmcomp=Z,425nm,1.2s
SRBI Singaraja 50.72 270 P **P** 12 58 11.6 +2.1
comp=Z,2μmcomp=Z,2μmcomp=Z,145nm,1.4s
GIRL Giralia 50.73 251 P **P** 12 58 11.0 +1.5
baz=51,SNR=8.0
GIRL Giralia 50.73 251 P **P** 12 58 10.6 +1.1
GIRL Giralia 50.73 251 P **P** 12 58 11.3 +1.8
comp=Z,425nm,1.5s
JAGI Jajag, Banyuwa 51.69 269 P **P** 12 58 15.7 -1.1
JAGI Jajag, Banyuwa 51.69 269 P **P** 12 58 15.8 -1.1
comp=Z,2μmcomp=Z,3μmcomp=Z,301nm,1.1s
JAGI Jajag, Banyuwa 51.69 269 P **P** 12 58 17.6 +0.8
comp=Z,302nm,1.1s
ABJI Asem Bagus 51.72 270 P **P** 12 58 17.8 +0.7
comp=Z,4μmcomp=Z,336nm,1.2s
BBKI Banjar Baru 51.98 275 P **P** 12 58 20.0 +1.0
comp=Z,146nm,1.5s
KMMI Kalianget 52.11 271 P **P** 12 58 20.2 +0.2
comp=Z,2μmcomp=Z,195nm,1.1s
JHJ Hachijo jima 2 52.12 331 LR LR 13 19 23.8
comp=Z,543nm,20.0s,baz=108,slow=35
BLJI Banyuglugur 52.35 270 P **P** 12 58 21.9 +0.1
comp=Z,2μmcomp=Z,209nm,1.0s
TAOE Nuku Hiva Isla 52.36 92 *eS* **S** 13 05 41.4 -3.6
comp=Z,571nm,26.1s
TAOE *e*LR LR 13 13 12.4
comp=Z,3μm,26.9s
GMJI Gumukmas 52.41 269 P **P** 12 58 21.7 -0.5
comp=Z,1μmcomp=Z,114nm,1.1s
MTKI Muara Teweh, K 52.54 279 P **P** 12 58 23.6 +0.4
KKM Kota Kinabalu 53.39 287 P **P** 12 58 30.0 +0.4
JOW Kunigami 54.02 317 LR LR 13 21 25.8
comp=Z,723nm,19.4s,baz=125,slow=36
JOW Kunigami 54.02 317 P **P** 12 58 34.6 +0.8
PWJI Pagerwojo 54.05 269 P **P** 12 58 34.0 -0.3
comp=Z,2μmcomp=Z,156nm,1.1s
JYT Yasato 54.54 334 P **P** 12 58 37.5 +0.2
JYT IAmb IAmb 12 58 51.1
comp=Z,83nm,1.1s
PCJI Pacitan 54.64 269 P **P** 12 58 38.9 +0.4
comp=Z,5μmcomp=Z,527nm,1.2s
PBKI Pangkalan Bun 55.24 275 P **P** 12 58 44.7 +1.8
comp=Z,171nm,1.0s
INU Inuyama 55.26 331 P **P** 12 58 42.5 -0.1
JGF Kuroka 55.30 331 P **P** 12 58 42.6 -0.3
JGF IAmb IAmb 12 58 56.7
comp=Z,114nm,1.8s
UGM Wanagama 55.32 269 P **P** 12 58 43.7 +0.1
UGM Wanagama 55.32 269 P **P** 12 58 44.1 +0.6
comp=Z,3μmcomp=Z,262nm,1.1s
SMRI Semarang 55.55 270 P **P** 12 58 45.0 -0.2
SMRI Semarang 55.55 270 P **P** 12 58 46.9 +1.7
comp=Z,228nm,1.3s
YOGI Yogyakarta 55.56 269 P **P** 12 58 46.3 +1.1
comp=Z,2μmcomp=Z,213nm,1.1s
JMN Monobe 55.58 327 P **P** 12 58 45.8 +0.8
JMM Marumori 55.68 335 P **P** 12 58 45.3 -0.2
JMM IAmb IAmb 12 58 59.7
comp=Z,74nm,1.2s
MJAR Matsushiro Arr 55.68 332 P **P** 12 58 45.0 -0.7
comp=Z,13nm,0.8s,baz=164,slow=7.6,SNR=25
MJAR pP **pP** 12 58 56.6 -1.1
comp=Z,34nm,1.0s,baz=167,slow=7.0,SNR=17
MJAR Matsushiro Arr 55.68 332 P **P** 12 58 44.9 -0.7
MJAR pmax pmax
comp=Z,49nm,1.1s
MJAR Matsushiro Arr 55.68 332 P **P** 12 58 44.9 -0.8
MJAR IAmb IAmb 12 58 58.7
comp=Z,49nm,1.1s
MAJO Matsushiro 55.68 332 *c iP* **P** 12 58 45.2 -0.4
MAJO pmax pmax
comp=Z,77nm,1.7s
MAJO Matsushiro 55.68 332 P **P** 12 58 45.3 -0.3
MAJO IAmb IAmb 12 58 58.8
comp=Z,61nm,1.1s
MJB9 Matsu-Tunnel 55.68 332 P **P** 12 58 45.4 -0.3
MJB9 IAmb IAmb 12 58 58.8
comp=Z,60nm,1.1s
JSU Suzuyama 55.86 322 P **P** 12 58 47.6 +0.5
SBUM Sibu 56.04 282 P **P** 12 58 48.9 +0.3
SBUM IAmb IAmb 12 58 50.6
comp=Z,23nm,0.9s
STKI Sintang 56.10 279 P **P** 12 58 50.1 +1.0
comp=Z,84nm,1.2s
JNU Nakatsue 56.78 324 P **P** 12 58 53.9 +0.3
TWG Pinlang 56.79 308 P **P** 12 58 53.0 -0.8
TWG IAmb IAmb 12 59 12.9
comp=Z,61nm,1.0s
JSD Sado 56.89 333 P **P** 12 58 54.2 0.0
YULB Yu-li 56.93 309 P **P** 12 58 54.5 -0.3
JHS Saijyo 56.95 327 P **P** 12 58 55.2 +0.5
KPJI Karang Pucung 56.98 269 P **P** 12 58 55.8 +0.5
comp=Z,1μmcomp=Z,97nm,0.9s
NACB Ninganchiao 57.15 310 P **P** 12 58 55.7 -0.6
CMJI Cimerak 57.37 269 P **P** 12 58 58.9 +0.8
comp=Z,1μmcomp=Z,1μmcomp=Z,71nm,0.8s
TPUB Ta-pu 57.39 308 P **P** 12 58 57.7 -0.4
SSLB Suanglung 57.41 309 P **P** 12 58 57.6 -0.7
YHNB Yeheng 57.59 310 P **P** 12 58 59.1 -0.4
KSM Kuching 57.60 280 P **P** 12 58 59.1 -0.6
TATO Taipei 57.68 310 P **P** 12 59 00.2 +0.2
JTM Tenmabayashi 58.09 337 P **P** 12 59 02.6 0.0
LEM Lembang 58.35 270 LR LR 13 27 05.2
comp=Z,504nm,19.5s,baz=97,slow=39
ERM Erimo 58.42 340 ‖ *eP* **P** 12 59 05.5 +0.7
ERM pmax pmax
comp=Z,45nm,1.9s
ERM Erimo 58.42 340 P **P** 12 59 04.8 0.0
ERM IAmb IAmb 13 00 07.0
comp=Z,42nm,1.1s
ERM Erimo 58.42 340 IAMs_20 IAMs_20 13 20 08.1
comp=Z,1μm,20.0s
JTU Tsushima 58.65 324 P **P** 12 59 07.3 +0.8
CNJI Cibinong 58.74 269 P **P** 12 59 07.4 -0.3
comp=Z,2μmcomp=Z,261nm,1.0s
CBJI Citeko 59.17 270 P **P** 12 59 10.2 -0.5
comp=Z,12μmcomp=Z,234nm,0.8s
DBJI Dramaga 59.25 270 P **P** 12 59 11.5 +0.3
comp=Z,52nm,0.7s
SKJI Sukabumi 59.35 269 P **P** 12 59 12.7 +0.7
comp=Z,248nm,0.9s
XMIS Christmas Isla 59.67 265 P **P** 12 59 14.6 +0.4
KNMB Chin-men Tao 59.74 308 P **P** 12 59 13.4 -1.0
QZH Quanzhou 59.84 309 ‖ *iP* **P** 12 59 15.8 +0.7
QZH pP **pP** 12 59 28.0 +0.8
QZH sP **sP** 12 59 33.9 +1.8
QZH S **S** 13 07 24.8 +1.0
QZH sS **sS** 13 07 42.5 -0.5
QZH pmax pmax
comp=Z,91nm,1.3s
QZH pmax pmax
comp=Z,320nm,4.3s
QZH LR LR
comp=Z,350nm,20.8s
QZH LR LR
comp=Z,380nm,20.8s
QZH LR LR
comp=Z,460nm,19.2s
KUR Kuril'sk 59.95 345 P **P** 12 59 15.2 -0.1
KUR *e* 13 01 27.2
KUR MLR MLR
comp=Z,900nm,16.0s
CGJI Cibinong 60.27 269 P **P** 12 59 17.5 -0.7
comp=Z,4μmcomp=Z,453nm,1.4s
JKA Kamikawa-asahi 60.47 340 P **P** 12 59 19.9 +1.0
ASAJ Asahikawa 60.47 340 LR LR 13 21 05.0
comp=Z,1μm,21.9s,baz=170,slow=32
ASAJ Asahikawa 60.47 340 P **P** 12 59 19.9 +0.9
ASAJ pmax pmax
comp=Z,77nm,0.9s
PPBI Pangkal Pinang 60.74 275 P **P** 12 59 22.0 +0.5
comp=Z,109nm,1.0s
BLSI Bandar Lampung 60.94 271 P **P** 12 59 23.6 +0.8
comp=Z,63nm,0.4s
TJN Taejon 61.13 324 *c iP* **P** 12 59 23.8 +0.2
TJN Taejon 61.13 324 P **P** 12 59 24.3 +0.7
SSE Sheshan 61.51 316 P **P** 12 59 27.1 +0.8
SSE S **S** 13 07 46.6 +1.7
SSE pmax pmax
comp=Z,160nm,0.9s
SSE LR LR
comp=Z,110nm,19.6s
SSE LR LR
comp=Z,250nm,19.2s
KLSI 61.58 271 P **P** 12 59 26.5 -0.6
comp=Z,783nmcomp=Z,400nmcomp=Z,16nm,1.5s
KSRS Korea Array 61.58 326 P **P** 12 59 27.3 +0.7

comp=Z,32nm,0.9s,baz=140,slow=7.1,SNR=126
KSRS LR LR 13 24 26.1
comp=Z,318nm,19.6s,baz=105,slow=34
KSAR Wonju Array Be 61.59 326 P P 12 59 27.2 +0.4
KSAR Wonju Array Be 61.59 326 P P 12 59 27.2 +0.4
KASI Kota Agung 61.64 270 P P 12 59 26.8 -0.8
comp=Z,2μmcomp=Z,231nm,1.0s
KS19 Wonju Array Si 61.65 326 P P 12 59 27.4 +0.3
KS19 IAmb IAmb 12 59 28.6
comp=Z,58nm,1.0s
PMBI Palembang 61.90 273 P P 12 59 29.7 +0.4
comp=Z,24μmcomp=Z,474nm,0.5s
HKPS Hong Kong Po S 62.00 304 P P 12 59 31.0 +1.3
MDSI Maura Dua 62.16 272 P P 12 59 29.7 -1.3
comp=Z,695nmcomp=Z,44nm,1.5s
LWLI Liwa 62.17 271 P P 12 59 30.9 -0.3
comp=Z,84nm,1.3s
INCN Inchon 62.32 325 P P 12 59 32.2 +0.5
INCN pmax pmax
comp=Z,204nm,1.5s
INCN Inchon 62.32 325 P P 12 59 32.2 +0.5
DLV T Lat 62.61 291 P P 12 59 33.9 -0.3
DSRI Dabo 62.65 276 P P 12 59 34.9 +0.6
comp=Z,3μmcomp=Z,63nm,1.2s
YSS Yuzh-Sakhalins 62.96 342 *ce*P **P 12 59 36.3 +0.7**
YSS *e**PP **pP 12 59 49.0 +1.1**
YSS *e*S **S 13 08 00.0 -2.4**
YSS *e* 13 08 34.1
YSS *e*SS **SS 13 12 17.1 +8.2**
YSS pmax pmax
comp=Z,300nm,6.9s
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 62.96 342 P P **12 59 36.5 +0.9**
YSS IAMs_20 IAMs_20 13 25 16.3
comp=Z,1μm,19.0s
GZH Guangzhou 63.03 304 P P **12 59 37.9 +1.3**
GZH S S **13 08 07.0 +2.8**
GZH LR LR
comp=Z,450nm,21.4s
GZH LR LR
comp=Z,590nm,21.2s
JMBI JAMBI 63.29 275 P P **12 59 39.6 +1.0**
comp=Z,103nm,1.0s
SKR Severo-Kuril's 63.61 353 *e*P P 12 59 27.9 -12
SKR pmax pmax
comp=Z,300nm,4.4s
SKR MLR MLR
comp=Z,300nm,15.0s
NJ2 Nanjing 63.68 315⇑ *i*P **P 12 59 41.8 +1.1**
NJ2 pP **pP 12 59 51.9 -1.2**
NJ2 S **S 13 08 17.8 +5.8**
NJ2 pmax pmax
comp=Z,270nm,0.9s
NJ2 LR LR
comp=Z,460nm,21.3s
NJ2 LR LR
comp=Z,370nm,21.3s
NJ2 LR LR
comp=Z,660nm,20.4s
MSHR Mys Shultsa 63.77 331⇓ *e*P **P 12 59 40.9 -0.2**
MSHR pmax pmax
comp=Z,47nm,1.8s
VLA Vladivostok 63.85 332⇓ *e*P **P 12 59 42.8 +1.2**
VLA pmax pmax
comp=Z,155nm,1.8s
MYKOM Kota Tinggi 63.91 278 P P **12 59 42.1 -0.6**
MYKOM IAmb IAmb 12 59 44.6
comp=Z,52nm,1.0s
QIZ Qiongzhong 64.14 298 P P **12 59 45.5 +1.4**
QIZ Qiongzhong 64.14 298 P P **12 59 44.3 +0.2**
QIZ S S **13 08 18.8 +0.6**
QIZ pmax pmax
comp=Z,89nm,1.0s
QIZ pmax pmax
comp=Z,500nm,5.1s
QIZ LR LR
comp=Z,300nm,15.6s
QIZ LR LR
comp=Z,300nm,18.5s
QIZ LR LR
comp=Z,510nm,23.1s
MASI Maura Aman, Be 64.33 273 P P **12 59 45.5 0.0**
comp=Z,258nm,0.9s
USA0B Ussuriysk Arra 64.65 333 P P **12 59 47.2 +0.3**
USA0B pmax pmax
comp=Z,108nm,1.2s
USA0B Ussuriysk Arra 64.65 333 P P **12 59 47.2 +0.3**
USRK Ussuriysk Ar. 64.65 333 P P **12 59 47.6 +0.7**
comp=Z,35nm,0.9s,baz=139,slow=6.0,SNR=31
USRK pP **pwP 13 00 00.6 -1.1**
comp=Z,52nm,0.9s,baz=137,slow=6.0,SNR=14
USRK LR LR 13 24 50.8
comp=Z,493nm,21.8s,baz=134,slow=33
USRK Ussuriysk Ar. 64.65 333 P P **12 59 47.4 +0.5**
USRK Ussuriysk Ar. 64.65 333 P P **12 59 47.4 +0.5**
VNDA Vanda 65.03 181 P P **12 59 48.8 -0.2**
comp=Z,28nm,1.1s,baz=1.8,slow=6.8,SNR=26
VNDA LR LR 13 24 41.2
comp=Z,680nm,20.2s,baz=1.0,slow=33
VNDA Vanda 65.03 181 P P **12 59 49.2 +0.3**
VNDA pmax pmax
comp=Z,106nm,1.6s
VNDA Vanda 65.03 181 P P **12 59 49.2 +0.3**
SHEM Shemya Is, Ala 65.31 5 LR LR 13 23 37.3
comp=Z,727nm,19.3s,baz=194,slow=32
KRJI Kerinci 65.31 273 P P **12 59 52.4 +0.4**
comp=Z,2μmcomp=Z,3μmcomp=Z,255nm,1.1s
CASY Casey 65.32 202 P P **12 59 51.1 +0.1**
CASY IAmb IAmb 12 59 51.3
comp=Z,35nm,0.9s
SBA Scott Base 65.32 180 P P **12 59 51.8 +1.0**
SBA pmax pmax
comp=Z,113nm,1.2s
SBA Scott Base 65.32 180 P P **12 59 51.8 +1.0**
PET Petropavlovsk 65.65 355 *c i*P P **12 59 54.6 +1.5**
PET *e*S S **13 08 37.9 +2.5**
PET *e*PPS PPS 13 09 07.6
PET *e* 13 09 44.4
PET *e*SS **SS 13 12 58.6 +8.0**
PET pmax pmax
comp=Z,24nm,1.0s
PET pmax pmax
comp=Z,200nm,14.9s
PET Petropavlovsk 65.65 355 P P **12 59 54.2 +1.1**
PET IAmb IAmb 13 00 19.2
comp=Z,28nm,1.0s
PETK Petropavlovsk- 65.82 354 P P **12 59 54.5 +0.2**
comp=Z,6.2nm,0.7s,baz=130,slow=4.6,SNR=9.4
PETK pP **pwP 13 00 08.5 -0.4**
comp=Z,6.3nm,0.8s,baz=187,slow=9.9,SNR=4.5
PETK LR LR 13 23 34.0
comp=Z,632nm,21.6s,baz=161,slow=31
PETK Petropavlovsk- 65.82 354 P P **12 59 54.9 +0.6**
PETK Petropavlovsk- 65.82 354 P P **12 59 54.9 +0.6**
WHN Wuhan 66.02 312⇑ P P **12 59 56.4 +0.4**
WHN S S **13 08 41.1 +0.2**
WHN pmax pmax
comp=Z,1μm,4.9s
WHN LR LR
comp=Z,3μm,27.7s
WHN LR LR
comp=Z,2μm,21.3s
WHN LR LR
comp=Z,2μm,22.0s
MDJ Mudanjiang 66.06 332 P P **12 59 56.5 +0.5**
MDJ Mudanjiang 66.06 332 P P **12 59 57.6 +1.6**
MDJ pP pwP 13 00 10.3 -0.5
MDJ S S **13 08 45.4 +4.6**
MDJ pmax pmax
comp=Z,61nm,0.9s
MDJ pmax pmax
comp=Z,740nm,4.4s
MDJ LR LR
comp=Z,250nm,5.8s
MDJ LR LR
comp=Z,490nm,11.7s
MDJ LR LR
comp=Z,730nm,23.9s
DL2 Dalian 66.18 323 P P **12 59 57.6 +0.8**
DL2 S S **13 08 44.0 +1.5**
DL2 pmax pmax
comp=Z,240nm,0.8s
DL2 pmax pmax
comp=Z,180nm,4.6s
DL2 LR LR
comp=Z,260nm,18.5s
DL2 LR LR
comp=Z,340nm,21.8s
DL2 LR LR
comp=Z,500nm,17.2s
BKNI Bangkinang 66.27 276 P P **12 59 59.1 +1.1**
BKNI Bangkinang 66.27 276 P P **12 59 59.1 +1.1**
comp=Z,2μmcomp=Z,7μmcomp=Z,546nm,1.0s
TYV Tymovskoe 66.50 344 *e*P P **13 00 00.2 +1.5**
TYV pmax pmax
comp=Z,300nm,5.4s
TYV pmax pmax
comp=Z,8.0nm,0.7s
UBPT Khong Chiam 66.54 293 P P **13 00 00.5 +0.9**
PPSI Pulau Pagai 66.58 272 P P **13 00 01.0 +1.0**
comp=Z,3μmcomp=Z,381nm,1.1s
PPI Padang Panjang 66.72 275 P P **13 00 01.5 +0.6**
comp=Z,633nmcomp=Z,78nm,0.9s
SNY Shenyang 67.04 326 ⇓P P **13 00 03.0 +0.7**
SNY S S **13 09 00.1 +7.3**
SNY pmax pmax
comp=Z,36nm,1.0s
SNY pmax pmax
comp=Z,420nm,3.9s
SNY LR LR
comp=Z,330nm,17.1s
SNY LR LR
comp=Z,490nm,20.0s
SNY LR LR
comp=Z,770nm,20.1s
TIA Tai'an 67.29 318⇑ P P **13 00 03.8 -0.3**
TIA pmax pmax
comp=Z,140nm,1.0s
TIA pmax pmax
comp=Z,410nm,4.2s
TIA LR LR
comp=Z,320nm,23.1s
TIA LR LR
comp=Z,520nm,23.1s
TIA LR LR
comp=Z,950nm,25.5s
IPM Ipoh 67.33 280 P P **13 00 05.3 +0.5**
CN2 Changchun 67.45 329 *e*P P **13 00 03.8 -1.1**
CN2 *e*PP **PP 13 02 34.9 +0.7**
CN2 *e*S S **13 08 55.8 -1.9**
CN2 *e*sS sS 13 09 17.8 -0.3
CN2 *e*SS **SS 13 13 18.6 -0.4**
CN2 pmax pmax
comp=Z,100nm,0.8s
CN2 pmax pmax
comp=Z,360nm,4.0s
CN2 LR LR
comp=Z,380nm,22.0s
CN2 LR LR
comp=Z,360nm,22.0s
CN2 LR LR
comp=Z,560nm,22.0s
SISI Saibi 67.79 274 P P **13 00 08.5 +0.8**
comp=Z,625nmcomp=Z,63nm,1.1s
MNSI Mandailing Nat 67.80 276 P P **13 00 07.2 -0.5**
comp=Z,2μmcomp=Z,218nm,0.9s
KULM Kulim 67.91 281 P P **13 00 08.3 -0.1**
BNX BinXian 67.92 331⇑ P P **13 00 08.0 +0.2**
BNX pmax pmax
comp=Z,350nm,1.6s
BNX pmax pmax
comp=Z,600nm,4.8s
GRNR Gornyy 68.33 340⇑ *i*P **P 13 00 12.6 +2.4**
GRNR pmax pmax
comp=N,10.0nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.1s
NIKH Nikolski High 68.55 16 P P **13 00 10.9 -0.7**
baz=206
KLR Kul'dur 68.75 336 LR LR 13 26 35.2
comp=Z,705nm,21.3s,baz=150,slow=33
PSI Prapat 68.93 278 LR LR 13 32 48.0
comp=Z,399nm,20.7s,baz=110,slow=38
NKL Nikolayevsk 69.10 344 *e*P P **13 00 13.3 -1.6**
NKL *e* 13 00 37.7
NKL *e*S S **13 09 14.3 -2.6**
NKL pmax pmax
comp=E,2.0nm,0.7s
NKL pmax pmax
comp=N,364nm,0.9s
NKL pmax pmax
comp=Z,44nm,0.9s
NKL pmax pmax
comp=Z,27nm,1.7s
NKL smax smax
comp=N,574nm,2.3s
TSI Tuntungan 69.45 279 P P **13 00 18.0 0.0**
comp=N,4μmcomp=N,384nm,1.0s
ENH Enshi 69.50 309 P P **13 00 18.0 -0.1**
LYN LuoYang 69.50 314⇑ *i*P P **13 00 18.3 +0.4**
LYN S S **13 09 16.8 -5.6**
LYN pmax pmax
comp=N,150nm,1.0s
LYN LR LR
comp=N,420nm,20.8s
LYN LR LR
comp=N,350nm,18.6s
LYN LR LR
comp=N,680nm,21.8s
HNS HongShan 69.56 318⇑ P P **13 00 19.1 +0.9**
HNS pP **pwP 13 00 32.9 -0.1**
HNS PP **PP 13 02 53.3 +0.7**
HNS S S **13 09 21.8 -1.2**
HNS sS **sS 13 09 41.3 -2.2**
HNS pmax pmax
comp=N,200nm,1.3s
HNS pmax pmax
comp=N,440nm,3.8s
HNS LR LR
comp=N,260nm,19.5s
HNS LR LR
comp=N,600nm,23.9s
HNS LR LR
comp=N,770nm,24.9s
SRIT Nakonsritamara 69.82 284 P P **13 00 21.3 +1.0**
GSI Gunungsitoli 69.87 276 P P **13 00 20.1 -0.5**
GSI Gunungsitoli 69.87 276 P P **13 00 20.9 +0.3**
comp=N,2μmcomp=N,259nm,1.1s
GYA Guiyang 69.96 304⇑ *i*P P **13 00 21.6 +0.5**
GYA pP pP 13 00 32.0 -1.3
GYA PP **PP 13 02 56.8 +0.3**
GYA S S **13 09 30.1 +1.6**
GYA pmax pmax
comp=N,150nm,1.0s
GYA pmax pmax
comp=N,580nm,4.4s
GYA LR LR
comp=N,410nm,19.9s
BJT Baijiatuau 70.16 321 P P **13 00 22.3 +0.5**
BJT pmax pmax
comp=Z,95nm,0.9s
BJT Baijiatuau 70.16 321 P P **13 00 22.3 +0.5**
BJI Beijing 70.17 321 P P **13 00 22.5 +0.6**
BJI pP **pP 13 00 32.8 -1.5**
BJI PcP **PcP 13 00 44.6 +1.0**
BJI S S **13 09 31.8 +1.7**
BJI pmax pmax
comp=Z,110nm,0.9s
BJI pmax pmax
comp=Z,430nm,3.8s
BJI LR LR
comp=Z,590nm,24.5s
BJI LR LR
comp=Z,540nm,25.1s
BJI LR LR
comp=Z,1μm,23.3s
KCSI Kotacane, Aceh 70.22 278 P P **13 00 21.8 -1.0**
comp=Z,1μmcomp=Z,112nm,1.0s
TIY Taiyuan 71.23 317⇑ P P **13 00 29.6 +1.1**
TIY pP **pP 13 00 40.0 -1.0**
TIY S S **13 09 50.1 +7.4**
TIY pmax pmax
comp=Z,190nm,1.0s
TIY LR LR
comp=Z,480nm,19.2s
TIY LR LR
comp=Z,370nm,18.0s
TIY LR LR
comp=Z,530nm,21.6s
XAN Xi'an 71.75 312 P P **13 00 32.4 +0.7**
XAN pP pP 13 00 42.3 -2.0
XAN S S **13 09 45.3 -3.5**
XAN pmax pmax
comp=Z,310nm,0.8s
XAN LR LR
comp=Z,220nm,22.6s
XAN LR LR
comp=Z,520nm,20.7s
XAN LR LR
comp=Z,630nm,19.2s
XLT XiLinHaoTe 72.57 324⇑ *i*P **P 13 00 37.4 +1.0**
XLT pP pP 13 00 47.3 -1.6
XLT PcP **PcP 13 00 53.6 -0.2**
XLT S S **13 09 59.9 +2.0**
XLT pmax pmax
comp=Z,180nm,0.9s
XLT pmax pmax
comp=Z,730nm,6.8s
XLT LR LR
comp=Z,30nm,19.0s
XLT LR LR
comp=Z,290nm,18.1s
XLT LR LR
comp=Z,420nm,21.1s
KMI Kunming 72.63 301⇑ P P **13 00 39.0 +1.7**
KMI pP pwP 13 00 51.8 -1.1
KMI PcP **PcP 13 00 55.9 +1.2**
KMI PP **PP 13 03 20.8 +1.3**
KMI S S **13 10 01.3 +1.7**
KMI sS sS 13 10 21.6 +2.0
KMI SS **SS 13 14 41.1 +1.3**
KMI pmax pmax
comp=Z,290nm,1.2s
KMI pmax pmax
comp=Z,750nm,3.5s
KMI LR LR
comp=Z,200nm,21.1s
KMI LR LR
comp=Z,330nm,19.2s
KMI LR LR
comp=Z,390nm,21.7s
MA2 Magadan 72.99 352 LR LR 13 27 25.3
comp=Z,763nm,21.7s,baz=174,slow=31
MA2 Magadan 72.99 352⇓ *e*P **P 13 00 37.7 -0.7**
MA2 pmax pmax
comp=Z,8.0nm,1.3s
MA2 Magadan 72.99 352 P P **13 00 39.0 +0.6**
CM31 Chiang Mai Arr 73.50 294 P P **13 00 43.5 +1.2**
CMAR Chiang Mai Arr 73.50 294 P P **13 00 43.5 +1.2**
comp=Z,71nm,0.9s,baz=119,slow=4.4,SNR=300
CMAR LR LR 13 32 30.2
comp=Z,136nm,20.5s,baz=115,slow=35
CMAR Chiang Mai Arr 73.50 294 *ce*P **P 13 00 43.5 +1.2**
CMAR pmax pmax
comp=Z,73nm,0.9s
HHC Hu-ho-hao-te 73.52 320 *e*P **P 13 00 44.4 +2.3**
HHC PP **PP 13 03 30.8 +4.2**
HHC S **SKiKP 13 10 10.0 +0.9**
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,400nm,9.1s
HHC LR LR
comp=Z,430nm,20.0s
HHC LR LR
comp=Z,640nm,19.6s
HHC LR LR
comp=Z,1μm,19.5s
CHTO Chiang Mai 73.61 294 P P **13 00 43.7 +0.7**
CHTO pmax pmax
comp=Z,196nm,1.4s
CHTO MLR MLR
comp=Z,200nm,20.0s
CHTO Chiang Mai 73.61 294 P P **13 00 43.6 +0.7**
PZH PanZhiHua 74.00 302⇑ P P **13 00 45.8 +0.6**
PZH pP **pP 13 00 58.3 +0.7**
PZH PcP **pwP 13 01 01.5 +0.6**
PZH sP **sP 13 01 03.9 +1.6**
PZH S S **13 10 14.8 0.0**
PZH sS **sS 13 10 35.6 +0.8**
PZH SS **SS 13 15 00.0 -0.5**
PZH pmax pmax
comp=Z,150nm,1.1s
PZH pmax pmax
comp=Z,450nm,5.3s
PZH LR LR
comp=Z,820nm,22.0s
PZH LR LR
comp=Z,870nm,21.8s
PZH LR LR
comp=Z,1μm,21.4s
ZEA Zeya 74.04 337 *e*P **P 13 00 46.3 +1.6**
ZEA *e*S **S 13 10 18.4 +4.5**
ZEA pmax pmax
comp=N,30nm,1.8s
ZEA pmax pmax
comp=Z,60nm,1.8s
ZEA pmax pmax
comp=Z,200nm,4.3s
ZEA smax smax
comp=E,200nm,7.7s
HIA Hailar 74.08 330 P P **13 00 45.8 +0.7**
HIA pmax pmax
comp=Z,55nm,1.0s
HIA Hailar 74.08 330 P P **13 00 45.8 +0.7**
HIA IAmb IAmb 13 00 46.9
comp=Z,55nm,1.0s
CD2 Chengdu 74.19 307 P P **13 00 47.0 +0.8**
CD2 S S **13 10 15.1 -1.5**
CD2 pmax pmax
comp=Z,270nm,1.0s
CD2 pmax pmax
comp=Z,470nm,5.8s
CD2 LR LR
comp=Z,370nm,25.6s
CD2 LR LR
comp=Z,410nm,24.6s
BTO Baotou 74.37 319 *e*P **P 13 00 49.4 +2.3**
BTO LR LR
comp=Z,2μm,21.2s
BTO LR LR
comp=Z,1μm,20.6s
SEY Seymchan 76.04 353 LR LR 13 29 48.8
comp=Z,991nm,21.9s,baz=158,slow=32
SEY Seymchan 76.04 353⇑ *e*P **P 13 00 55.5 -0.5**
SEY pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 76.39 312 *e*P **P 13 01 00.6 +1.7**
LZH pP PcP 13 01 10.9 +0.4
LZH sP sP 13 01 17.6 +1.2
LZH *e*S **S 13 10 48.8 +7.7**
LZH pmax pmax
comp=Z,440nm,1.2s
LZH pmax pmax
comp=Z,990nm,7.6s
LZH LR LR
comp=Z,440nm,15.7s
LZH LR LR
comp=Z,490nm,16.8s
LZH LR LR
comp=Z,660nm,17.4s
PBA Port Blair 77.16 285 P P **13 01 03.4 0.0**
QSPA South Pole Qui 77.48 180 LR LR 13 33 17.2
comp=Z,602nm,18.9s,baz=29,slow=34
QSPA South Pole Qui 77.48 180 P P **13 01 04.5 0.0**
KDAK Kodiak Island 77.64 21 LR LR 13 29 49.3
comp=Z,2μm,20.0s,baz=235,slow=31
GAMB Gambell 77.88 10 P P **13 01 06.1 -0.2**
GAMB IAMs_20 IAMs_20 13 28 39.7
comp=Z,988nm,20.0s
GAMB Gambell 77.88 10 P P **13 01 05.8 -0.5**
baz=202
P18K Big Mountain, 78.01 19 P P **13 01 06.5 -0.8**
baz=218
Q19K Cape Douglas, 78.16 20 P P **13 01 07.8 -0.3**
baz=220
CIT Chita 78.87 330 *e*P P **13 01 11.1 -1.1**
CIT *e* 13 01 20.1
CIT pmax pmax
comp=Z,224nm,1.9s
O19K Port Alsworth 78.93 19 P P **13 01 12.7 +0.5**
baz=219
RPN Rapa Nui 79.16 116 LR LR 13 31 55.1
comp=Z,222nm,18.1s,baz=256,slow=32
N19K Bonanza Creek 79.36 18 IAMs_20 IAMs_20 13 30 14.1
comp=Z,2μm,19.0s
BRSE Bradley Lake S 79.75 20 P P **13 01 18.3 +1.6**

baz=222
ANM Nome 79.75 12 P **P** **13 01 17.1 +0.5**
ANM pmax pmax
comp=Z,26nm,1.3s
ANM Nome 79.75 12 P **P** **13 01 17.1 +0.5**
ANM IAMs_20 IAMs_20 13 31 01.3
comp=Z,1µm,20.0s
ANM Nome 79.75 12 P **P** **13 01 17.2 +0.5**
baz=208
YAK Yakutsk 79.76 343 LR LR 13 37 47.3
comp=Z,683nm,18.2s,baz=101,slow=36
YAK Yakutsk 79.76 343 *e*P **P** **13 01 15.9 -0.8**
YAK *e* 13 01 20.4
YAK *e**PP **pP** **13 01 29.6 +0.2**
YAK *e* 13 04 19.6
YAK *e*PPP PPP 13 06 11.9
YAK *e*S **S** **13 11 14.9 -1.0**
YAK *e* 13 11 34.0
YAK *e*SS **SS** **13 16 24.2 -1.6**
YAK *e*SSS SSS 13 19 44.1
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,50nm,2.3s
YAK pmax pmax
comp=N,53nm,2.7s
YAK pmax pmax
comp=E,32nm,2.9s
YAK smax smax
comp=N,15nm,1.6s
YAK smax smax
comp=E,39nm,1.8s
YAK Yakutsk 79.76 343 P **P** **13 01 16.7 0.0**
YAK IAmb IAmb 13 01 30.8
comp=Z,51nm,0.8s
YAK IAMs_20 IAMs_20 13 36 12.5
comp=Z,893nm,20.0s
ULN Ulaanbaatar 80.00 324*c i*P **P** **13 01 19.3 +0.6**
ULN pmax pmax
comp=Z,127nm,0.9s
ULN Ulaanbaatar 80.00 324 P **P** **13 01 19.2 +0.6**
TNA Tin City 80.17 10 P **P** **13 01 20.6 +1.8**
baz=205
L19K White Mountain 80.33 17 P **P** **13 01 21.3 +1.4**
baz=218
BILL Bilibino 80.36 360*de*P **P** **13 01 19.1 -0.7**
BILL *e* 13 01 27.3
BILL *e* 13 04 23.2
BILL *e*PPP PPP 13 06 12.5
BILL pmax pmax
comp=Z,16nm,1.0s
BILL MLR MLR
comp=Z,491nm,20.0s
BILL Bilibino 80.36 360 P **P** **13 01 18.8 -1.0**
BILL IAmb IAmb 13 01 46.6
comp=Z,59nm,1.0s
SONM Songino Array 80.37 324 P **P** **13 01 21.0 +0.5**
comp=Z,27nm,0.8s,baz=142,slow=6.0,SNR=134
SONM LR LR 13 34 56.4
comp=Z,396nm,21.5s,baz=130,slow=34
SONM Songino Array 80.37 324 P **P** **13 01 21.0 +0.5**
SONM pmax pmax
comp=Z,63nm,1.1s
SONM Songino Array 80.37 324 P **P** **13 01 21.0 +0.5**
SONM IAmb IAmb 13 01 22.4
comp=Z,63nm,1.1s
TTA Tatalina 80.60 16 P **P** **13 01 21.7 +0.3**
TTA pmax pmax
comp=Z,28nm,1.4s
TTA Tatalina 80.60 16 P **P** **13 01 21.7 +0.3**
TTA Tatalina 80.60 16 P **P** **13 01 22.2 +0.8**
baz=217
GTA Gaotai 80.70 314 ⇑P **P** **13 01 23.8 +1.3**
GTA pP pP 13 01 34.3 -1.0
GTA sP sP 13 01 39.5 -0.6
GTA PP **PP** **13 04 25.6 -1.5**
GTA S **S** **13 11 29.0 +1.9**
GTA pmax pmax
comp=Z,120nm,1.0s
GTA pmax pmax
comp=Z,560nm,7.7s
GTA LR LR
comp=Z,240nm,17.8s
GTA LR LR
comp=Z,470nm,21.8s
GTA LR LR
comp=Z,670nm,21.8s
L20K Farewell, AK 80.84 17 P **P** **13 01 22.6 -0.1**
baz=219
PWL Port Wells 81.39 21 P **P** **13 01 26.6 +1.1**
PWL IAmb IAmb 13 01 56.1
comp=Z,44nm,1.0s
PWL Port Wells 81.39 21 P **P** **13 01 25.2 -0.3**
baz=224
K20K Telida 81.47 17 P **P** **13 01 27.8 +1.8**
K20K IAmb IAmb 13 02 21.6
comp=Z,40nm,1.6s
K20K Telida 81.47 17 P **P** **13 01 26.8 +0.9**
baz=219
PMR Palmer 81.65 20 P **P** **13 01 27.3 +0.4**
baz=224
KNK Knik Glacier 81.74 20 IAMs_20 IAMs_20 13 31 44.2
comp=Z,1µm,21.0s
KNK Knik Glacier 81.74 20 P **P** **13 01 27.8 +0.3**
baz=224
GCSA Galena City Sc 81.83 15 P **P** **13 01 28.7 +0.9**
baz=216
CUT Chulitna 81.88 19 IAMs_20 IAMs_20 13 31 06.9
comp=Z,972nm,22.0s
CUT Chulitna 81.88 19 P **P** **13 01 29.3 +1.2**
baz=222
SHL Shillong 81.98 298 P **P** **13 01 30.1 +0.4**
SHL pmax pmax
comp=Z,163nm,1.0s
SHL Shillong 81.98 298 P **P** **13 01 30.1 +0.4**
SML Sawmill 82.07 20 IAMs_20 IAMs_20 13 31 04.8
comp=Z,2µm,21.0s
SML Sawmill 82.07 20 P **P** **13 01 29.2 0.0**
baz=224
CAST Castle Rocks 82.09 17 P **P** **13 01 28.8 -0.4**
CAST Castle Rocks 82.09 17 P **P** **13 01 29.4 +0.1**
baz=221,SNR=11
J20K Nowinta River 82.10 16 P **P** **13 01 29.1 -0.1**
J20K IAmb IAmb 13 02 23.1
comp=Z,65nm,1.9s
J20K Nowinta River 82.10 16 P **P** **13 01 29.6 +0.4**
baz=219
BOD Bodaibo 82.23 335 *e*P **P** **13 01 29.8 -0.2**
BOD pmax pmax
comp=Z,37nm,2.0s
RAGM Ragged Mountai 82.36 22 IAMs_20 IAMs_20 13 29 28.5
comp=Z,2µm,21.0s
CHUM Lake Minchumin 82.38 17 P **P** **13 01 30.7 +0.1**
baz=220
SCM Sheep Creek Mo 82.42 20 P **P** **13 01 30.4 -0.7**
baz=225
KTH Kantishna Hill 82.54 18 P **P** **13 01 31.8 +0.2**
TRF Thorofare Moun 82.65 18 IAMs_20 IAMs_20 13 32 48.1
comp=Z,2µm,20.0s
TRF Thorofare Moun 82.65 18 P **P** **13 01 31.9 -0.4**
baz=222
KLU Klutina 82.67 21 IAMs_20 IAMs_20 13 32 10.6
comp=Z,2µm,20.0s
KLU Klutina 82.67 21 P **P** **13 01 31.4 -0.9**
baz=227
BGLC Bering Glacier 82.70 23 P **P** **13 01 31.8 -0.5**
baz=229
BMRM Bremner River 82.78 22 P **P** **13 01 32.4 -0.4**
baz=228
WAT6 Susitna Watana 82.82 19 P **P** **13 01 32.8 -0.4**
baz=225
KCPM Cahto Peak 82.92 47 P **P** **13 01 36.2 +2.0**
KCPM IAmb IAmb 13 01 38.1
comp=Z,34nm,0.7s
BPAW Bear Paw Mtn. 82.93 17 P **P** **13 01 33.4 -0.1**
baz=222
M24K Tolsona, Glenn 83.00 20 P **P** **13 01 33.9 -0.1**
baz=226
KMRM Mail Ridge 83.04 46 P **P** **13 01 35.9 +1.2**
KMRM IAmb IAmb 13 01 38.9
comp=Z,27nm,0.7s
RND Reindeer 83.06 19 P **P** **13 01 35.5 +1.2**
RND pmax pmax
comp=Z,20nm,1.0s
RND Reindeer 83.06 19 P **P** **13 01 35.5 +1.2**
RND IAmb IAmb 13 02 04.3
comp=Z,20nm,1.0s
RND IAMs_20 IAMs_20 13 32 37.8
comp=Z,1µm,20.0s
GOMU GeErMu 83.12 309 P **P** **13 01 36.6 +1.0**
GOMU pP pP 13 01 44.4 -4.0
GOMU sP pwP 13 01 48.1 -2.5
GOMU PP **PP** **13 04 43.1 -4.3**
GOMU S **S** **13 11 55.1 +2.5**
GOMU sS pS 13 12 08.5 +0.2
GOMU SS **SS** **13 17 13.3 -4.5**
GOMU pmax pmax
comp=Z,35nm,0.8s
GOMU pmax pmax
comp=Z,87nm,4.2s
GOMU LR LR
comp=Z,120nm,19.6s
GOMU LR LR
comp=Z,200nm,20.2s
GOMU LR LR
comp=Z,190nm,21.7s
GDXM Geysers 83.16 48 P **P** **13 01 36.2 +0.8**
N25K Chitina, Valde 83.21 21 P **P** **13 01 35.2 +0.1**
N25K IAmb IAmb 13 02 13.8
comp=Z,27nm,1.1s
N25K IAMs_20 IAMs_20 13 30 11.0
comp=Z,2µm,21.0s
N25K Chitina, Valde 83.21 21 P **P** **13 01 34.8 -0.3**
baz=228
MCK McKinley 83.27 18 P **P** **13 01 36.1 +0.8**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 83.27 18 P **P** **13 01 36.1 +0.8**
MCK IAMs_20 IAMs_20 13 31 41.5
comp=Z,824nm,19.0s
MCK McKinley 83.27 18 P **P** **13 01 35.1 -0.2**
baz=224
KHMM Horse Mountain 83.28 46 IAmb IAmb 13 01 40.2
comp=Z,21nm,0.7s
DHY Denali Highway 83.29 19 P **P** **13 01 35.2 -0.4**
baz=225
RDOG Red Dog Mine 83.30 11 P **P** **13 01 35.3 -0.1**
baz=210
VRDI Verde Repeater 83.37 22 IAMs_20 IAMs_20 13 33 09.1
comp=Z,922nm,19.0s
ZAK Zakamensk 83.41 325 *e*P **P** **13 01 36.6 +0.2**
ZAK pmax pmax
comp=Z,113nm,1.3s
BWN Browne 83.43 18 IAMs_20 IAMs_20 13 33 57.1
comp=Z,2µm,20.0s
I21K Tanana 83.47 16 IAmb IAmb 13 01 41.0
comp=Z,14nm,0.8s
I21K Tanana 83.47 16 P **P** **13 01 36.1 -0.1**
baz=221
H21K Melozitna Rive 83.61 16 P **P** **13 01 36.8 -0.2**
baz=220
IMAR Indian Mountai 83.62 15 P **P** **13 01 37.1 0.0**
MCARA McCarthy VSAT 83.62 22 IAMs_20 IAMs_20 13 33 38.0
comp=Z,905nm,21.0s
BBGB Big Mountain B 83.65 51 P **P** **13 01 38.6 +0.6**
BBGB IAmb IAmb 13 01 44.2
comp=Z,38nm,0.9s
GRNC Granite Creek 83.67 23 IAMs_20 IAMs_20 13 35 04.3
comp=Z,1µm,19.0s
O02D Mt. Diablo Mer 83.67 47 P **P** **13 01 39.1 +1.1**
O02D IAmb IAmb 13 01 42.2
comp=Z,27nm,0.8s
O02D Mt. Diablo Mer 83.67 47 P **P** **13 01 37.2 -0.8**
baz=248,SNR=24
MAW Mawson 83.68 202 P **P** **13 01 37.7 +0.3**
comp=Z,44nm,1.0s,baz=110,slow=3.5,SNR=15
MAW LR LR 13 32 58.1
comp=Z,526nm,21.4s,baz=78,slow=31
MAW Mawson 83.68 202 P **P** **13 01 37.8 +0.4**
baz=84,SNR=10.0
MAW Mawson 83.68 202 P **P** **13 01 37.8 +0.4**
MAW pmax pmax
comp=Z,23nm,1.3s
MAW Mawson 83.68 202 P **P** **13 01 37.8 +0.4**
MAW IAmb IAmb 13 01 38.9
comp=Z,23nm,1.3s
MLY Manley 83.70 17 P **P** **13 01 37.6 0.0**
MLY IAMs_20 IAMs_20 13 36 54.7
MLY Manley 83.70 17 P **P** **13 01 36.5 -1.0**
baz=222
TABL Table Mountain 83.72 23 IAMs_20 IAMs_20 13 31 08.6
comp=Z,1µm,20.0s
IRK Irkutsk 83.77 327 *e*P **P** **13 01 36.7 -1.4**
IRK pmax pmax
comp=Z,111nm,1.8s
PAX Paxson 83.84 20 P **P** **13 01 38.3 -0.1**
baz=227
NEA2 Nenana 83.86 18 IAmb IAmb 13 01 55.9
comp=Z,56nm,2.0s
NEA2 IAMs_20 IAMs_20 13 33 17.0
comp=Z,1µm,20.0s
NEA2 Nenana 83.86 18 P **P** **13 01 37.9 -0.4**
baz=223
L02E Cave Junction 83.86 45 P **P** **13 01 38.1 -0.8**
baz=247
LSA Lhasa 83.87 302 P **P** **13 01 41.0 +1.3**
LSA pmax pmax
comp=Z,66nm,0.9s
LSA Lhasa 83.87 302 P **P** **13 01 41.0 +1.3**
BARN Barnard Glacie 83.92 23 IAMs_20 IAMs_20 13 36 16.8
comp=Z,1µm,18.0s
CTG Chitna Glacier 83.98 23 P **P** **13 01 39.2 +0.1**
baz=231
CTGM Chitina Glacie 83.98 23 IAMs_20 IAMs_20 13 35 05.4
comp=Z,1µm,19.0s
WDC Whiskeytown Da 84.00 46 P **P** **13 01 39.2 -0.4**
WDC pmax pmax
comp=Z,16nm,1.1s
WDC Whiskeytown Da 84.00 46 P **P** **13 01 39.2 -0.4**
BCPM Bancas Point 84.01 24 IAMs_20 IAMs_20 13 31 06.2
comp=Z,2µm,22.0s
LOGN Logan Glacier 84.02 23 IAMs_20 IAMs_20 13 35 05.4
comp=Z,1µm,18.0s
K02D Willamette Mer 84.03 44 P **P** **13 01 39.0 -0.8**
baz=247,SNR=6.2
J01E Myrtle Point 84.03 44 P **P** **13 01 39.8 +0.2**
baz=247
N02D Trinity Center 84.03 46 P **P** **13 01 40.8 +1.0**
N02D IAmb IAmb 13 02 13.0
comp=Z,23nm,1.0s
N02D Trinity Center 84.03 46 P **P** **13 01 40.3 +0.4**
baz=248,SNR=9.2
WRH Wood River Hil 84.06 18 P **P** **13 01 39.2 -0.1**
WRH IAmb IAmb 13 02 44.1
comp=Z,17nm,1.0s
M02C Callahan 84.09 45 P **P** **13 01 41.1 +1.1**
M02C IAmb IAmb 13 01 44.2
comp=Z,22nm,0.8s
M02C Callahan 84.09 45 P **P** **13 01 40.3 +0.2**
baz=248,SNR=15
I23K Minto, Yukon-K 84.18 17 P **P** **13 01 40.5 +0.6**
baz=223
YBH Yreka Blue Hor 84.31 45 P **P** **13 01 42.8 +1.5**
comp=Z,21nm,0.8s,baz=244,slow=1.9,SNR=51
YBH LR LR 13 34 58.3
comp=Z,234nm,18.3s,baz=254,slow=32
YBH Yreka Blue Hor 84.31 45 P **P** **13 01 42.0 +0.8**
YBH Yreka Blue Hor 84.31 45 P **P** **13 01 42.0 +0.8**
YBH IAmb IAmb 13 01 45.2
comp=Z,20nm,0.8s
BCW Bitter Crk WRg 84.33 53 IAmb IAmb 13 01 45.4
comp=Z,20nm,0.8s
HDA Harding Lake 84.37 18 P **P** **13 01 39.9 -1.0**
HDA IAmb IAmb 13 02 29.8
comp=Z,39nm,1.0s
HDA Harding Lake 84.37 18 P **P** **13 01 39.9 -1.0**
baz=225,SNR=23
ORV Oroville 84.37 48 P **P** **13 01 42.0 +0.5**
ORV pmax pmax
comp=Z,17nm,0.9s
ORV Oroville 84.37 48 P **P** **13 01 42.0 +0.5**
ORV IAmb IAmb 13 01 44.8
comp=Z,17nm,0.9s
ORV IAMs_20 IAMs_20 13 34 04.3
comp=Z,891nm,18.0s
MDM Murphy Dome 84.37 18 P **P** **13 01 40.0 -0.9**
MDM IAmb IAmb 13 03 01.9
comp=Z,26nm,1.2s
MDM IAMs_20 IAMs_20 13 34 11.6
comp=Z,1µm,19.0s
MENT Mentasta 84.41 21 IAmb IAmb 13 02 31.9
comp=Z,32nm,1.3s
O03E Paynes Creek 84.42 47 P **P** **13 01 41.3 -0.5**
O03E IAmb IAmb 13 02 15.0
comp=Z,28nm,1.1s
O03E Paynes Creek 84.42 47 P **P** **13 01 41.0 -0.8**
baz=249,SNR=9.2
TCOL CIGO, UAF Yank 84.42 18 IAMs_20 IAMs_20 13 33 51.9
comp=Z,1µm,20.0s
COLA College 84.42 18 P **P** **13 01 40.5 -0.6**
COLA pmax pmax
comp=Z,386nm,0.3s
COLA College 84.42 18 P **P** **13 01 40.5 -0.6**
COLA IAMs_20 IAMs_20 13 33 51.9
comp=Z,1µm,20.0s
I02E Swisshome, OR 84.46 43 P **P** **13 01 40.5 -1.3**
baz=247
HUMO Hull Mountain 84.48 44 P **P** **13 01 42.0 0.0**
HUMO IAmb IAmb 13 01 46.0
comp=Z,21nm,0.8s
DBO Dodson Butte 84.48 44 P **P** **13 01 43.9 +1.9**
DBO IAmb IAmb 13 03 04.8
comp=Z,54nm,1.6s
RIDG Independent Ri 84.57 20 P **P** **13 01 42.2 +0.2**
RIDG IAmb IAmb 13 02 30.2
comp=Z,30nm,1.0s
RIDG IAMs_20 IAMs_20 13 32 23.9
comp=Z,2µm,22.0s
RIDG Independent Ri 84.57 20 P **P** **13 01 40.7 -1.3**
baz=227,SNR=6.9
L26K Log Cabin Wild 84.59 21 P **P** **13 01 42.1 +0.1**
L26K IAmb IAmb 13 02 32.9
comp=Z,22nm,1.2s
L26K Log Cabin Wild 84.59 21 P **P** **13 01 41.8 -0.3**
baz=229
CIS Catalina Islan 84.61 54 P **P** **13 01 42.5 -0.4**
baz=251
I03D Drain, OR 84.63 43 P **P** **13 01 42.5 -0.2**
baz=247
IL31 84.64 18 P **P** **13 01 41.1 -1.1**
IL31 IAmb IAmb 13 02 35.2
comp=Z,38nm,1.4s
ILAR Eielson Array 84.64 18 P **P** **13 01 40.9 -1.4**
comp=Z,6.9nm,0.6s,baz=228,slow=5.8,SNR=37
ILAR PKKPbc **PKKPdf** **13 19 49.9 +2.2**
comp=Z,0.6nm,0.8s,baz=12,slow=3.0,SNR=5.0
ILAR LR LR 13 33 26.1
comp=Z,721nm,21.3s,baz=228,slow=31
CMB Columbia Colle 84.64 49 P **P** **13 01 44.0 +1.0**
CMB pmax pmax
comp=Z,14nm,0.8s
CMB Columbia Colle 84.64 49 P **P** **13 01 44.0 +1.0**
CMB IAmb IAmb 13 01 46.2
comp=Z,14nm,0.8s
M27K Edge Creek, AK 84.67 22 P **P** **13 01 43.3 +0.6**
M27K IAmb IAmb 13 02 39.3
comp=Z,28nm,1.2s
M27K IAMs_20 IAMs_20 13 32 29.7
comp=Z,1µm,21.0s
M27K Edge Creek, AK 84.67 22 P **P** **13 01 43.0 +0.3**
baz=230
POKR Poker Plat Res 84.72 18 P **P** **13 01 41.8 -0.9**
POKR IAmb IAmb 13 02 11.9
comp=Z,50nm,1.6s
POKR IAMs_20 IAMs_20 13 34 40.8
comp=Z,986nm,20.0s
POKR Poker Plat Res 84.72 18 P **P** **13 01 41.5 -1.2**
baz=225
DOT Dot Lake 84.77 20 P **P** **13 01 42.9 0.0**
DOT IAmb IAmb 13 02 21.9
comp=Z,21nm,1.1s
L04D Klamath Falls 84.78 45 P **P** **13 01 44.5 +0.8**
L04D IAmb IAmb 13 01 47.2
comp=Z,38nm,0.8s
L04D Klamath Falls 84.78 45 P **P** **13 01 42.0 -1.7**
baz=248,SNR=12
YUK3 Moose Creek 84.82 22 P **P** **13 01 43.2 -0.3**
baz=232
M04C Macdoel 84.94 45 P **P** **13 01 45.5 +1.0**
M04C IAmb IAmb 13 01 48.1
comp=Z,22nm,0.8s
M04C Macdoel 84.94 45 P **P** **13 01 42.8 -1.7**
baz=248,SNR=10
J25K Salcha River, 85.00 19 P **P** **13 01 44.0 -0.1**
J25K IAmb IAmb 13 02 28.9
comp=Z,28nm,0.9s
J25K Salcha River, 85.00 19 P **P** **13 01 43.1 -1.1**
baz=227,SNR=16
SCRK Sand Creek 85.01 20 P **P** **13 01 44.4 +0.1**
SCRK IAmb IAmb 13 02 38.8
comp=Z,24nm,1.0s
SCRK IAMs_20 IAMs_20 13 32 37.5
comp=Z,972nm,20.0s
SCRK Sand Creek 85.01 20 P **P** **13 01 43.7 -0.6**
baz=228,SNR=6.2
BVCY Beaver Creek 85.07 22 P **P** **13 01 45.2 +0.7**
baz=231
H24K Noodor Dome 85.11 17 P **P** **13 01 46.1 +1.5**
H24K IAMs_20 IAMs_20 13 34 18.0
comp=Z,1µm,20.0s
H24K Noodor Dome 85.11 17 P **P** **13 01 44.9 +0.2**
baz=224
L27K Beaver Creek, 85.14 21 P **P** **13 01 45.8 +0.9**
L27K IAMs_20 IAMs_20 13 32 57.1
comp=Z,1µm,20.0s
L27K Beaver Creek, 85.14 21 P **P** **13 01 45.3 +0.4**
baz=230
RUBR Rubicon Trail 85.17 48 P **P** **13 01 45.9 +0.1**
RUBR IAmb IAmb 13 01 49.3
comp=Z,23nm,0.7s
EMB Emerald Bay 85.18 49 P **P** **13 01 47.8 +1.9**
EMB IAmb IAmb 13 01 48.8
comp=Z,14nm,0.7s
YUK4 Talbot Arm 85.24 23 P **P** **13 01 47.0 +1.4**
baz=233
JIS Juneau Island 85.25 27 IAMs_20 IAMs_20 13 30 43.2
comp=Z,995nm,21.0s
G03D McMinnville, O 85.28 42 P **P** **13 01 45.8 0.0**
baz=247
MOY Mondy 85.28 325 *e*P **P** **13 01 45.8 -0.1**
MOY pmax pmax
comp=Z,78nm,2.6s
J04D Umpqua Nationa 85.29 44 P **P** **13 01 48.4 +2.1**
J04D Umpqua Nationa 85.29 44 P **P** **13 01 45.8 -0.5**
baz=248,SNR=11
ISA Isabella, Lake 85.29 52 P **P** **13 01 47.1 +0.8**
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 85.29 52 P **P** **13 01 47.1 +0.8**
ISA Isabella, Lake 85.29 52 P **P** **13 01 45.8 -0.6**
baz=251,SNR=9.0
I04A Tendick Farm, 85.30 43 P **P** **13 01 46.5 +0.4**
baz=248
BEKR Beckworth 85.30 48 P **P** **13 01 46.1 -0.3**
BEKR IAmb IAmb 13 01 49.7
comp=Z,18nm,0.7s
K04D Chiloquin, OR 85.31 45 P **P** **13 01 46.1 -0.2**
baz=248
BBB Bella Bella 85.31 34 LR LR 13 34 52.2
comp=Z,824nm,18.8s,baz=260,slow=32
MPK Martis Peak 85.34 48 P **P** **13 01 47.2 +0.4**
MPK IAmb IAmb 13 01 50.3
comp=Z,24nm,0.7s
H04D Lebanon 85.36 43 P **P** **13 01 48.6 +2.3**
H04D IAmb IAmb 13 01 49.6
comp=Z,18nm,0.9s
H04D Lebanon 85.36 43 P **P** **13 01 46.3 0.0**
baz=248
HYT Haines Junctio 85.38 24 P **P** **13 01 46.6 +0.4**
baz=234
EDW2 Edwards Air Fo 85.42 53 P **P** **13 01 46.1 -0.8**
baz=251,SNR=14
BFSC Mount Baldy Ra 85.47 54 P **P** **13 01 46.0 -1.4**
baz=252
COLD Coldfoot 85.49 15 P **P** **13 01 47.6 +1.1**
COLD Coldfoot 85.49 15 P **P** **13 01 47.5 +1.1**
baz=222
SKAG Skagway 85.49 26 P **P** **13 01 47.5 +0.9**
baz=236
J26L Joseph Creek 85.50 19 P **P** **13 01 46.2 -0.5**
baz=228
OMMB Old Mammoth Mi 85.53 50 P **P** **13 01 48.2 +0.5**
PRP Porcupine Dome 85.58 18 IAMs_20 IAMs_20 13 37 11.4
comp=Z,900nm,20.0s
PRP Porcupine Dome 85.58 18 P **P** **13 01 46.7 -0.4**

baz=227
PNTR Pine Nut 85.58 49 P P 13 01 47.2 -0.7
PNTR IAmb IAmb 13 01 51.5
comp=Z,18nm,0.8s
MLAC Mammoth, Mammo 85.66 50 P P 13 01 47.1 -1.2
baz=251
YERR Yerington 85.81 49 P P 13 01 49.4 +0.4
CWC Cottonwood Cre 85.85 51 P P 13 01 48.8 -0.3
baz=251
LRMC Laurel Mtn Rad 85.85 52 P P 13 01 48.5 -0.7
baz=252,SNR=6.4
J05D Fort Rock, OR 85.90 44 P P 13 01 47.8 -1.5
baz=249,SNR=21
TIN Tinemaha, Big 85.93 51 P P 13 01 49.9 +0.4
baz=251
K05A Summer Lake 85.94 45 IAmb IAmb 13 01 53.3
comp=Z,28nm,0.7s
PAHR Pah Rah Range 85.95 48 IAmb IAmb 13 01 53.1
comp=Z,17nm,0.9s
MONP2 Monument Peak 86.04 55 P P 13 01 49.6 -0.7
baz=252
MOD Modoc Plateau 86.05 46 P P 13 01 50.3 +0.3
MOD IAmb IAmb 13 01 53.0
comp=Z,15nm,0.8s
BBRC Big Bear Solar 86.06 54 P P 13 01 51.0 +0.7
baz=252
TAPN Taplejung 86.08 299 *e*P **P 13 01 50.9 +0.2**
comp=Z,322nm,1.2s
LHV Little Huntoon 86.11 50 IAmb IAmb 13 01 54.1
comp=Z,16nm,0.8s
MPMC Manual Prospec 86.18 52 P P 13 01 50.2 -0.6
baz=252,SNR=16
ODAN Odare 86.22 298 *e*P **P 13 01 51.4 +0.1**
comp=Z,462nm,0.9s
I05D Terrebonne, OR 86.22 43 P P 13 01 50.8 +0.1
baz=249
IKP In-Ko-Pah, Jac 86.22 56 P P 13 01 51.0 0.0
baz=253
RYN Ryan 86.22 49 IAmb IAmb 13 01 54.4
comp=Z,13nm,0.7s
PFO Pinyon Flats O 86.23 55 P P 13 01 51.9 +0.8
comp=Z,5.4nm,0.8s,baz=282,slow=5.0,SNR=7.2
PFO LR LR 13 31 48.7
comp=Z,886nm,21.9s,baz=261,slow=30
PFO Pinyon Flats O 86.23 55 P P 13 01 51.6 +0.5
PFO pmax pmax
comp=Z,13nm,1.3s
PFO Pinyon Flats O 86.23 55 P P 13 01 51.6 +0.5
PFO Pinyon Flats O 86.23 55 P P 13 01 50.8 -0.3
baz=252
TPFO Pinon Flats 86.23 55 P P 13 01 51.5 +0.4
baz=252
PINE Pine Mountain 86.29 44 P P 13 01 52.4 +1.2
PINE IAmb IAmb 13 01 55.0
comp=Z,18nm,0.8s
D03D Eldon 86.29 40 P P 13 01 50.4 -0.4
baz=247
NVAR Mina Array Bea 86.32 50 P P 13 01 51.8 +0.2
comp=Z,12nm,0.7s,baz=237,slow=4.3,SNR=77
NVAR LR LR 13 35 30.2
comp=Z,1μm,18.8s,baz=248,slow=32
NVAR Mina Array Bea 86.32 50 P P 13 01 51.3 -0.2
WHY Whitehorse 86.35 25 P P 13 01 51.2 +0.2
baz=237
YUH Yuha Desert 86.37 56 P P 13 01 52.3 +0.7
FYU Fort Yukon 86.39 17 IAMs_20 IAMs_20 13 34 45.8
comp=Z,947nm,20.0s
LCH Last Change Ra 86.43 51 P P 13 01 52.2 +0.2
NV11 Mina Array Sit 86.43 50 P P 13 01 52.4 +0.4
NV11 IAmb IAmb 13 01 55.5
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 86.45 24 IAMs_20 IAMs_20 13 40 13.7
comp=Z,1μm,18.0s
EGAK Eagle 86.47 20 P P 13 01 51.3 0.0
EGAK IAmb IAmb 13 02 46.1
comp=Z,16nm,0.9s
EGAK IAMs_20 IAMs_20 13 34 13.1
comp=Z,754nm,20.0s
GSC Goldstone, Bar 86.47 53 P P 13 01 52.9 +0.7
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 86.47 53 P P 13 01 52.9 +0.7
GSC Goldstone, Bar 86.47 53 P P 13 01 51.8 -0.4
baz=252
SWSC Sam W. Stewart 86.56 55 P P 13 01 52.2 -0.3
baz=253
G05D Wamic, OR 86.56 42 P P 13 01 52.7 +0.4
baz=249
GRAC Grapevine Rang 86.57 51 P P 13 01 53.8 +1.2
GRAC IAmb IAmb 13 01 56.7
comp=Z,17nm,0.9s
GRAC Grapevine Rang 86.57 51 P P 13 01 52.8 +0.3
baz=252
DAWY Dawson 86.62 21 P P 13 01 52.9 +0.7
DAWY Dawson 86.62 21 P P 13 01 52.3 +0.1
baz=232
QSM Queen of Sheba 86.63 52 P P 13 01 52.9 +0.1
M30M Minto, Yukon 86.68 23 IAMs_20 IAMs_20 13 38 14.7
comp=Z,1μm,19.0s
M30M Minto, Yukon 86.68 23 P P 13 01 52.1 -0.4
baz=235
HEC Hector,Ludlow 86.70 53 P P 13 01 52.9 -0.4
baz=252,SNR=6.0
TOLK Toolik Lake Re 86.70 15 P P 13 01 52.6 +0.2
TOLK Toolik Lake Re 86.70 15 P P 13 01 52.6 +0.2
baz=223
BELC Belle Mtn. Jos 86.71 54 P P 13 01 53.2 -0.3
baz=253,SNR=12
FURC Furnace Creek, 86.79 52 P P 13 01 53.5 0.0
baz=252,SNR=10
GWY Greenwater Val 86.85 52 P P 13 01 54.9 +0.8
GWY IAmb IAmb 13 02 45.7
comp=Z,37nm,1.9s
RAMN Ramite 86.92 298 *e*P **P 13 01 54.6 -0.1**
comp=Z,127nm,1.1s
P33M Teslin, Yukon 86.97 26 IAMs_20 IAMs_20 13 32 12.5
comp=Z,885nm,20.0s
TPH Tonopah 87.01 50 P P 13 01 54.9 0.0
TPH pmax pmax
comp=Z,38nm,1.1s
TPH Tonopah 87.01 50 P P 13 01 54.9 0.0
TPH IAmb IAmb 13 02 19.2
comp=Z,38nm,1.1s
BC3 Big Chuckawall 87.05 55 P P 13 01 54.3 -0.7
baz=253
BMAR Burnt Mountain 87.16 17 P P 13 01 55.8 +1.1
B05A Bryant 87.19 39 P P 13 01 55.8 +0.6
baz=248
TUQ Turquoise Moun 87.20 53 P P 13 01 54.8 -0.9
baz=253,SNR=15
GMRC Granite Mounta 87.21 54 P P 13 01 55.6 -0.3
baz=253,SNR=7.3
A21K Barrow 87.25 11 P P 13 01 56.0 +1.0
baz=216
DLBC Dease Lake 87.30 28 LR LR 13 34 13.3
comp=Z,442nm,20.8s,baz=251,slow=31
I07A Izee 87.36 44 P P 13 01 56.5 +0.2
I07A IAmb IAmb 13 01 60.0
comp=Z,20nm,0.9s
GLA Glamis 87.37 55 P P 13 01 56.9 +0.3
GLA pmax pmax
comp=Z,12nm,0.8s
GLA Glamis 87.37 55 P P 13 01 56.9 +0.3
GLA IAmb IAmb 13 02 00.7
comp=Z,12nm,0.8s
GLA Glamis 87.37 55 P P 13 01 57.2 +0.7
baz=253,SNR=6.2
M31M Drury Creek, Y 87.39 24 P P 13 01 55.5 -0.4
baz=237
WVOR Wild Horse Val 87.40 46 P P 13 01 56.4 -0.2
WVOR pmax pmax
comp=Z,18nm,1.2s
WVOR Wild Horse Val 87.40 46 P P 13 01 56.4 -0.2
WVOR IAmb IAmb 13 02 35.7
comp=Z,18nm,1.1s
TPNV Topopah Spring 87.40 51 P P 13 01 57.5 +0.7
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 87.40 51 P P 13 01 57.5 +0.7
TPNV Topopah Spring 87.40 51 P P 13 01 57.0 +0.2
baz=252,SNR=11
IRM Iron Mountain 87.44 54 P P 13 01 57.2 +0.4
baz=253,SNR=8.4
JIRN Jiri 87.46 299 *e*P **P 13 01 57.6 +0.1**
comp=Z,255nm,1.0s
PALK Pallekele 87.61 278 LR LR 13 47 09.4
comp=Z,216nm,18.1s,baz=216,slow=40
PALK Pallekele 87.61 278 P P 13 01 59.0 +0.9
PALK pmax pmax
comp=Z,101nm,1.0s
PALK Pallekele 87.61 278 P P 13 01 59.0 +0.9
TIXI Tiksi 87.70 349 LR LR 13 36 53.3
comp=Z,410nm,21.4s,baz=179,slow=33
TIXI Tiksi 87.70 349 ǁ *i*P **P 13 01 56.6 -0.6**
TIXI pmax pmax
comp=Z,23nm,2.5s
TIXI Tiksi 87.70 349 P P 13 01 56.4 -0.8
TIXI IAmb IAmb 13 02 59.4
comp=Z,16nm,1.1s
F07A Phinny Hill Vi 87.71 42 IAmb IAmb 13 02 27.7
comp=Z,33nm,1.6s
LTY Liberty 87.71 41 P P 13 01 58.8 +0.9
LTY IAmb IAmb 13 02 39.8
comp=Z,35nm,1.7s
BMN Battle Mountai 87.76 48 P P 13 01 58.8 +0.4
BMN pmax pmax
comp=Z,15nm,1.2s
BMN Battle Mountai 87.76 48 P P 13 01 58.8 +0.4
I29M Ogilvie Camp, 87.78 20 P P 13 01 57.6 -0.1
baz=233
GUN Gumba 87.79 299 *e*P **P 13 01 59.3 +0.2**
comp=Z,257nm,0.9s
BLYC Blythe 87.81 55 P P 13 01 58.1 -0.5
BLYC IAmb IAmb 13 02 51.6
comp=Z,23nm,1.2s
J08A Circle Bar Ran 87.82 45 P P 13 01 58.3 -0.2
J08A IAmb IAmb 13 02 02.0
comp=Z,25nm,0.8s
E07A Sunnyside 87.99 41 P P 13 02 00.3 +1.2
E07A IAmb IAmb 13 02 02.7
comp=Z,16nm,0.7s
S11A Rachel 87.99 51 IAmb IAmb 13 02 56.9
comp=Z,36nm,1.4s
PKI Pulchoki 88.10 299 *e*P **P 13 02 00.4 -0.1**
comp=Z,368nm,1.0s
SHPR Sheep Range 88.11 52 P P 13 02 00.7 +0.6
PKIN Phulchoki 88.12 299 *e*P **P 13 02 00.2 -0.3**
comp=Z,307nm,0.9s
G08A Pilot Rock 88.14 43 P P 13 02 00.6 +0.5
G08A IAmb IAmb 13 02 38.9
comp=Z,16nm,1.1s
HAWA Hanford 88.14 42 IAmb IAmb 13 02 03.4
comp=Z,12nm,0.8s
113A Mohawk Valley, 88.15 56 P P 13 01 59.2 -1.0
113A IAmb IAmb 13 03 03.7
comp=Z,40nm,1.8s
KKN Kakani 88.27 299 *e*P **P 13 02 01.1 -0.1**
comp=Z,264nm,0.8s
PDMCI Parker Dam,Lak 88.28 54 P P 13 02 00.2 -0.6
baz=254,SNR=7.0
R11A Troy Canyon, C 88.33 50 P P 13 02 01.5 +0.3
R11A Troy Canyon, C 88.33 50 P P 13 02 00.9 -0.3
baz=253,SNR=12
DMN Daman 88.37 299 *e*P **P 13 02 01.9 +0.2**
comp=Z,614nm,0.8s
PRN Pahroc Range 88.45 51 P P 13 02 02.7 +1.0
PRN IAmb IAmb 13 02 05.6
comp=Z,14nm,0.9s
E08A Dider Farm, El 88.48 42 P P 13 02 02.4 +1.0
E08A IAmb IAmb 13 02 05.1
comp=Z,11nm,0.8s
W13A Hualapai Mount 88.70 54 P P 13 02 03.2 +0.2
214A Organ Pipe Nat 88.71 57 IAmb IAmb 13 02 07.1
comp=Z,15nm,1.1s
214A Organ Pipe Nat 88.71 57 P P 13 02 02.5 -0.4
baz=254,SNR=7.8
D08A Wollman Farm, 88.76 41 P P 13 02 03.7 +1.0
LPIG La Paz 88.84 65 LR LR 13 35 15.7
comp=Z,250nm,18.7s,baz=233,slow=31
MMPY Sheldon Lake, 88.85 24 P P 13 02 03.6 +0.7
baz=240
GKN Gorkha 88.88 299 *e*P **P 13 02 03.5 -0.4**
comp=Z,443nm,0.9s
B08A Colville Reser 88.94 40 P P 13 02 04.3 +0.7
B08A IAmb IAmb 13 02 59.7
comp=Z,18nm,1.4s
E09A Wood Farm, Sta 89.08 42 P P 13 02 05.4 +1.1
E09A IAmb IAmb 13 02 25.7
comp=Z,43nm,2.0s
ELK Elko 89.29 48 LR LR 13 37 57.7
comp=Z,613nm,18.4s,baz=258,slow=33
ELK Elko 89.29 48 IAmb IAmb 13 02 09.2
comp=Z,15nm,0.9s
F10A Beach Ranch, E 89.51 43 P P 13 02 06.3 -0.1
F10A IAmb IAmb 13 02 09.2
comp=Z,14nm,0.8s
MFID Camas Ranch 89.67 45 P P 13 02 07.6 +0.3
MFID IAmb IAmb 13 02 10.7
comp=Z,19nm,0.8s
PSUT Pine Spring 89.68 50 IAmb IAmb 13 02 11.1
comp=Z,11nm,0.8s
KOLN Koldanda 89.71 298 *e*P **P 13 02 07.3 -0.6**
comp=Z,250nm,0.9s
DANN Dangsing 89.71 299 *e*P **P 13 02 07.2 -0.8**
comp=Z,355nm,0.9s
LCMT Little Creek M 89.73 52 P P 13 02 08.2 +0.5
LCMT IAmb IAmb 13 02 11.5
comp=Z,14nm,0.8s
CCUT Cedar City 89.78 52 IAmb IAmb 13 02 12.1
comp=Z,13nm,0.9s
KNB Kanab 90.05 52 IAmb IAmb 13 02 39.7
comp=Z,26nm,1.2s
PLID Pearl Lake 90.05 44 IAmb IAmb 13 02 11.8
comp=Z,11nm,0.8s
NEW Newport 90.30 40 P P 13 02 09.9 -0.1
comp=Z,10nm,0.8s,baz=246,slow=3.8,SNR=14
NEW LR LR 13 35 01.2
comp=Z,351nm,21.6s,baz=265,slow=30
NEW Newport 90.30 40 P P 13 02 10.4 +0.4
baz=252
U15A North Rim 90.31 53 P P 13 02 11.3 +0.7
U15A IAmb IAmb 13 02 14.7
comp=Z,22nm,0.8s
PYUN Piuthan 90.31 299 *e*P **P 13 02 09.8 -0.9**
comp=Z,288nm,0.9s
TUC Tucson 90.46 57 P P 13 02 10.9 -0.3
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 90.46 57 P P 13 02 10.9 -0.3
TUC Tucson 90.46 57 P P 13 02 11.6 +0.4
baz=256
X16A Lo Mia Camp, P 90.46 55 P P 13 02 11.8 +0.5
SYO Syowa Base 90.62 197 ǁ *e*P **P 13 02 11.0 -0.1**
SYO Syowa Base 90.62 197 ǁ *e*PcP **PcP 13 02 14.2 +2.0**
HLID Hailey 90.69 46 IAmb IAmb 13 02 15.9
comp=Z,13nm,0.8s
HLID Hailey 90.69 46 P P 13 02 13.4 +1.3
baz=254
WMQ Urumqi 90.75 315 *e*P **P 13 02 12.8 +0.6**
WMQ pP PcP 13 02 19.0 +5.7
WMQ S **S 13 13 00.8 -4.5**
WMQ pmax pmax
comp=Z,85nm,1.3s
WMQ pmax pmax
comp=Z,360nm,4.1s
WMQ LR LR
comp=Z,360nm,21.1s
WMQ LR LR
comp=Z,440nm,21.1s
WMQ LR LR
comp=Z,490nm,21.1s
TCRU Three Creeks R 90.76 51 P P 13 02 13.4 +0.8
TCRU IAmb IAmb 13 02 17.3
comp=Z,20nm,0.8s
WUAZ Wupatki 90.79 54 P P 13 02 13.0 +0.2
WUAZ IAmb IAmb 13 02 16.7
comp=Z,11nm,0.8s
WUAZ IAMs_20 IAMs_20 13 34 00.8
comp=Z,734nm,20.0s
WUAZ Wupatki 90.79 54 P P 13 02 12.9 +0.2
baz=255,SNR=7.1
MTPU Mount Pierson 90.81 51 P P 13 02 13.7 +0.6
MTPU IAmb IAmb 13 02 17.5
comp=Z,19nm,0.9s
DUG Dugway, Tooele 90.91 49 IAmb IAmb 13 03 01.9
comp=Z,20nm,1.3s
DUG IAMs_20 IAMs_20 13 38 21.6
comp=Z,1μm,19.0s
DUG Dugway, Tooele 90.91 49 P P 13 02 14.4 +1.3
baz=254
MSU Marysvale 90.94 51 P P 13 02 14.0 +0.5
MSU Marysvale 90.94 51 P P 13 02 14.0 +0.5
BGU Big Grassy Mou 90.95 48 IAmb IAmb 13 02 16.4
comp=Z,9.7nm,0.8s
INK Inuvik 91.02 19 LR LR 13 39 44.3
comp=Z,920nm,19.3s,baz=214,slow=33
HVU Hansel Valley 91.36 48 P P 13 02 15.9 +0.6
HVU pmax pmax
comp=Z,18nm,0.9s
HVU Hansel Valley 91.36 48 P P 13 02 15.9 +0.6
HVU IAmb IAmb 13 02 19.0
comp=Z,18nm,0.9s
NLU North Lily Min 91.39 49 P P 13 02 16.4 +0.8
NLU IAmb IAmb 13 02 49.2
comp=Z,14nm,1.1s
319A Douglas 91.47 58 P P 13 02 17.3 +1.3
HYBB Hyderabad (bro 91.88 287 *e*P **P 13 02 17.4 -0.6**
HYBB IVmB_BB 13 02 18.1
comp=Z,491nm,1.2s
HYBB *e*pP **pP 13 02 28.2 -2.7**
HYBB *e*SKSac **SKSac 13 12 45.4 -2.5**
MSO Missoula 91.94 42 P P 13 02 19.4 +1.6
MSO Missoula 91.94 42 P P 13 02 18.0 +0.3
baz=254
JLU Jordanelle 92.02 49 IAmb IAmb 13 02 43.7
comp=Z,10nm,1.0s
MCMT McKenzie Canyo 92.12 45 P P 13 02 18.9 +0.1
P17A Butcher Ranch, 92.27 50 IAmb IAmb 13 02 59.2
comp=Z,25nm,1.9s
DLMT Dillon 92.44 44 P P 13 02 20.3 +0.2
DLMT IAmb IAmb 13 02 23.7
comp=Z,9.4nm,0.7s
LRM Limekiln Ridge 92.66 44 P P 13 02 21.6 +0.4
AHID Auburn Hatcher 92.82 47 IAMs_20 IAMs_20 13 39 44.9
comp=Z,586nm,18.0s
121A Cookes Peak, D 92.98 57 P P 13 02 23.9 +1.0
baz=257
TPAW Teton Pass 93.10 46 P P 13 02 23.6 +0.2
TPAW IAmb IAmb 13 03 26.3
comp=Z,20nm,1.8s
REDW Red Top Meadow 93.14 46 IAmb IAmb 13 03 20.0
comp=Z,16nm,1.4s
REDW IAMs_20 IAMs_20 13 36 10.4
comp=Z,760nm,21.0s
BOZ Bozeman (W) 93.16 44 P P 13 02 23.1 -0.3
BOZ pmax pmax
comp=Z,7.0nm,1.2s
BOZ Bozeman (W) 93.16 44 P P 13 02 23.1 -0.3
BOZ Bozeman (W) 93.16 44 P P 13 02 24.2 +0.8
baz=256
SNOW Snow King Moun 93.23 46 IAMs_20 IAMs_20 13 36 22.8
comp=Z,817nm,21.0s
YHL Hebgen Lake 93.28 45 P P 13 02 24.3 +0.1
YHL IAmb IAmb 13 03 15.4
comp=Z,12nm,1.2s
RDMU Red Mountain 93.40 49 P P 13 02 26.0 +1.2
RDMU IAmb IAmb 13 03 11.6
comp=Z,15nm,1.6s
PV11 David Mesa, Pa 93.41 52 P P 13 02 24.4 -0.5
FLWY Flagg Ranch 93.42 46 P P 13 02 26.0 +1.2
FLWY IAMs_20 IAMs_20 13 40 25.8
comp=Z,775nm,19.0s
MVCO Mesa Verde 93.45 53 P P 13 02 24.8 -0.3
MVCO Mesa Verde 93.45 53 P P 13 02 24.5 -0.6
baz=257
H17A Grant Village 93.58 45 P P 13 02 26.2 +0.6
baz=256
PV07 Paradox Valley 93.61 52 IAmb IAmb 13 02 28.9
comp=Z,8.3nm,0.8s
ZSN Zaisan 93.63 318 *c i*P **P 13 02 25.1 -0.3**
ZSN Zaisan 93.63 318 ǁ *i*P **P 13 02 25.1 -0.3**
baz=318
EPT El Paso 93.87 58 IAMs_20 IAMs_20 13 35 38.6
comp=Z,1μm,22.0s
BW06 Boulder Array 93.92 47 P P 13 02 28.0 +0.9
baz=257
PD31 Pinedale Array 93.92 47 P P 13 02 27.0 -0.2
PDAR Pinedale Array 93.92 47 P P 13 02 28.1 +1.0
comp=Z,1.9nm,0.9s,baz=207,slow=3.0,SNR=13
PDAR LR LR 13 40 57.6
comp=Z,374nm,18.6s,baz=270,slow=33
PDAR Pinedale Array 93.92 47 P P 13 02 28.4 +1.3
PMSA Palmer Station 94.04 161 LR LR 13 39 28.1
comp=Z,262nm,20.8s,baz=272,slow=32
O20A White River Ci 94.29 50 P P 13 02 29.5 +0.6
O20A White River Ci 94.29 50 P P 13 02 29.4 +0.6
baz=257,SNR=5.7
C36M Paulatuk 94.54 19 P P 13 02 29.4 +0.4
C36M IAmb IAmb 13 05 07.9
comp=Z,26nm,1.9s
C36M IAMs_20 IAMs_20 13 39 36.3
comp=Z,947nm,20.0s
C36M Paulatuk 94.54 19 P P 13 02 29.4 +0.4
baz=246
ANMO Albuquerque 94.58 55 LR LR 13 40 16.4
comp=Z,866nm,19.0s,baz=272,slow=32
ANMO Albuquerque 94.58 55 ǁ *i*P **P 13 02 31.3 +1.0**
ANMO pmax pmax
comp=Z,18nm,3.3s
ANMO Albuquerque 94.58 55 P P 13 02 30.6 +0.3
ANMO Albuquerque 94.58 55 IAMs_20 IAMs_20 13 39 45.1
comp=Z,991nm,20.0s
ANMO Albuquerque 94.58 55 P P 13 02 30.6 +0.3
baz=258
MNTX Cornudas Mount 94.79 59 P P 13 02 31.8 +0.7
MNTX Cornudas Mount 94.79 59 P P 13 02 32.2 +1.1
baz=258
S22A 4UR Ranch, Cre 94.86 53 P P 13 02 31.0 -0.7
baz=258,SNR=7.1
EGMT Eagleton 94.99 42 P P 13 02 30.9 -0.8
baz=257
TROLL Troll, Antarti 94.99 185 P P 13 02 30.2 -1.2
SMCO Snowmass 95.05 51 IAMs_20 IAMs_20 13 35 52.2
comp=Z,845nm,22.0s
MK31 Makanchi Array 95.19 317 P P 13 02 32.6 0.0
MK31 pmax pmax
comp=Z,74nm,0.9s
MK31 Makanchi Array 95.19 317 P P 13 02 32.6 0.0
MKAR Makanchi Array 95.19 317 P P 13 02 32.6 0.0
comp=Z,80nm,0.8s,baz=100,slow=6.0,SNR=569
MKAR PKKPbc **PKKPbc 13 19 24.8 -3.3**
comp=Z,2.5nm,0.9s,baz=286,slow=2.3,SNR=16
MKAR LR LR 13 44 01.9
comp=Z,342nm,21.9s,baz=92,slow=35
ZAAO Zalesovo Array 95.26 324 P P 13 02 32.5 -0.1
ZALV Zalesovo Beam 95.26 324 P P 13 02 31.4 -1.3
comp=Z,34nm,1.0s,baz=108,slow=4.8,SNR=67
ZALV LR LR 13 44 28.2
comp=Z,216nm,21.7s,baz=104,slow=35
ZALV Zalesovo Beam 95.26 324 *i P* **P 13 02 32.0 -0.7**
ZALV pmax pmax
comp=Z,34nm,1.0s
ZALV Zalesovo Beam 95.26 324 P P 13 02 32.8 +0.1
A36M Sachs Harbour 95.26 17 P P 13 02 32.0 -0.2
A36M IAmb IAmb 13 03 24.1
comp=Z,10nm,0.9s
A36M Sachs Harbour 95.26 17 P P 13 02 31.7 -0.5
baz=246
RWWY Rawlins 95.39 49 IAMs_20 IAMs_20 13 40 25.0
comp=Z,680nm,20.0s
MAKZ Makanchi 95.40 317 P P 13 02 33.4 -0.2
MAKZ pmax pmax
comp=Z,93nm,1.0s
MAKZ MLR MLR
comp=Z,400nm,21.0s
MAKZ Makanchi 95.40 317 P P 13 02 33.4 -0.2
SNAA Sanae 95.69 183 P P 13 02 32.7 -1.8
SNAA Sanae 95.69 183 LR LR 13 44 01.3
comp=Z,479nm,19.5s,baz=147,slow=34
SNAA Sanae 95.69 183 ǁ *i*P **P 13 02 33.6 -0.9**
SNAA pmax pmax
comp=Z,16nm,1.1s
SNAA Sanae 95.69 183 P P 13 02 33.7 -0.9
SNAA IAmb IAmb 13 02 48.3
comp=Z,19nm,1.2s
TX31 Lajitas Ar. Si 95.78 61 P P 13 02 34.9 -0.8
TX31 IAmb IAmb 13 02 39.2
comp=Z,7.8nm,0.8s
TX32 Lajitas Array 95.78 61 P P 13 02 35.0 -0.8
TXAR Lajitas Array 95.78 61 P P 13 02 35.5 -0.3
comp=Z,2.6nm,0.8s,baz=225,slow=5.8,SNR=31
TXAR LR LR 13 37 06.5
comp=Z,498nm,21.9s,baz=249,slow=30
TXAR Lajitas Array 95.78 61 P P 13 02 35.2 -0.6
TXAR Lajitas Array 95.78 61 P P 13 02 35.2 -0.6
YKA Yellowknife Ar 95.89 27 P P 13 02 35.3 0.0
comp=Z,1.6nm,0.7s,baz=257,slow=4.6,SNR=30
YKA PP **PP 13 06 31.5 +3.5**
comp=Z,0.3nm,1.0s,baz=264,slow=6.0,SNR=3.6

YKA PKiKP **PKiKP** **13 07 15.5 +1.3**
comp=Z,0.5nm,0.7s,baz=249,slow=1.4,SNR=6.5
YKA PKKPbc **PKKPbc** **13 19 26.6 -0.1**
comp=Z,0.1nm,0.5s,baz=84,slow=2.1,SNR=3.8
YKA LR LR 13 38 35.2
comp=Z,346nm,21.5s,baz=276,slow=31
SDCO Great Sand Dun 95.89 53 IAMs_20 IAMs_20 13 37 55.7
comp=Z,994nm,22.0s
SDCO Great Sand Dun 95.89 53 P **P** **13 02 35.4 -0.9**
baz=259
K22A Casper 96.08 48 P **P** **13 02 36.2 -0.8**
baz=259
N23A Red Feather La 96.16 50 P **P** **13 02 37.7 +0.2**
baz=259
ISCO Idaho Springs 96.20 51 IAMs_20 IAMs_20 13 38 55.8
comp=Z,994nm,20.0s
ISCO Idaho Springs 96.20 51 P **P** **13 02 38.1 +0.3**
baz=259
VNA3 Neumayer Olymp 96.39 181 P **P** **13 02 35.9 -1.7**
Q24A Divide 96.40 52 P **P** **13 02 38.6 0.0**
baz=259
SHLS Shalkode 96.41 313 *e*P **P** **13 02 36.8 -1.5**
SHLS pmax pmax
comp=Z,12nm,1.1s
SHLS Shalkode 96.41 313 *e*P **P** **13 02 36.8 -1.5**
comp=Z,12nm,1.1s,baz=313
PHWY Pilot Hill 96.60 49 IAMs_20 IAMs_20 13 44 48.2
comp=Z,662nm,18.0s
T25A Trinidad 96.63 54 P **P** **13 02 39.5 -0.1**
baz=259
VNA2 Neumayer--Watz 96.64 182 P **P** **13 02 37.5 -1.3**
baz=187,slow=5.0
UZB Uzynbulak 96.72 313*c i*P **P** **13 02 39.5 -0.3**
UZB Uzynbulak 96.72 313⇑*i*P **P** **13 02 39.6 -0.3**
baz=313
VNA1 Neumayer--Stat 96.95 182 P **P** **13 02 38.7 -1.4**
KPKS Kokpek 97.02 313 *e*P **P** **13 02 40.8 -0.3**
KPKS pmax pmax
comp=Z,12nm,0.8s
KPKS Kokpek 97.02 313 *e*P **P** **13 02 40.9 -0.2**
comp=Z,12nm,0.8s,baz=313
LAO LASA Array 97.06 44 IAMs_20 IAMs_20 13 38 17.9
comp=Z,685nm,21.0s
LAO LASA Array 97.06 44 P **P** **13 02 40.9 -0.3**
baz=259
ZHN Zhinishke 97.15 313 *e*P **P** **13 02 41.4 -0.3**
ZHN Zhinishke 97.15 313 *e*P **P** **13 02 41.5 -0.3**
baz=313
SATY Saty 97.15 312 *e*P **P** **13 02 41.6 -0.1**
SATY pmax pmax
comp=Z,10.0nm,1.6s
SATY Saty 97.15 312 *e*P **P** **13 02 41.6 -0.1**
comp=Z,10.0nm,1.6s,baz=312
SEM Semipalatinsk 97.25 320 *e*P **P** **13 02 40.4 -1.7**
SEM pmax pmax
comp=Z,14nm,1.1s
SEM Semipalatinsk 97.25 320 *e*P **P** **13 02 40.5 -1.7**
comp=Z,14nm,1.1s,baz=320
TARG Taragay, Kyrgy 97.35 311 P **P** **13 02 42.8 -0.2**
TARG IAmb IAmb 13 02 54.7
comp=Z,20nm,1.1s
MSTX Muleshoe 97.38 57 P **P** **13 02 42.2 -0.7**
baz=260
TDK Taldyqorghan 97.49 314 *e*P **P** **13 02 42.1 -1.0**
TDK Taldyqorghan 97.49 314 *e*P **P** **13 02 42.1 -1.0**
baz=314
NRIK Noril'sk 97.81 339 P **P** **13 02 42.8 -1.1**
comp=Z,3.6nm,0.8s,baz=103,slow=3.2,SNR=6.3
NRIK PP **PP** **13 06 43.5 +1.0**
comp=Z,1.2nm,0.3s,baz=105,slow=4.5,SNR=4.1
NRIK LR LR 13 44 16.6
comp=Z,556nm,21.8s,baz=110,slow=34
NRIK Noril'sk 97.81 339⇓*i*P **P** **13 02 43.2 -0.7**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 97.81 339 IAmb IAmb 13 02 57.3
comp=Z,16nm,1.2s
KDJ Kajisay 97.88 311 IAmb IAmb 13 02 47.4
comp=Z,9.3nm,0.8s
MDOK Medeo 98.15 312 *e*P **P** **13 02 45.7 -0.5**
MDOK Medeo 98.15 312 *e*P **P** **13 02 45.8 -0.5**
baz=312
TNSS Tian-Shan 98.20 312 *e*P **P** **13 02 46.5 -0.3**
baz=312
AAA Alma-Ata 98.25 312 *e*P **P** **13 02 45.8 -0.8**
AAA Alma-Ata 98.25 312 *e*P **P** **13 02 45.8 -0.8**
baz=312
CHKK Chushkaly 98.30 313 *e*P **P** **13 02 45.7 -1.0**
baz=313
KURK Kurchatov 98.33 320*c i*P **P** **13 02 45.6 -1.0**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 98.33 320 P **P** **13 02 45.7 -1.0**
KURK IAmb IAmb 13 06 46.6
comp=Z,24nm,1.4s
KSH Kashi 98.35 309 P Pdif 13 02 48.4 +1.2
KSH pP pP 13 02 58.4 -1.7
KSH sP sP 13 03 05.0 +0.1
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,210nm,21.8s
KSH LR LR
comp=Z,320nm,22.7s
KSH LR LR
comp=Z,410nm,18.1s
KURBB **Kurchatov Arra 98.37 320** LR LR 13 45 48.7
comp=Z,475nm,22.0s,baz=78,slow=34
AMTX Amarillo 98.42 56 IAMs_20 IAMs_20 13 39 40.0
comp=Z,898nm,21.0s
KUU Kurty 98.77 313 *e*P **P** **13 02 48.3 -0.5**
KUU pmax pmax
comp=Z,11nm,0.9s
KUU Kurty 98.77 313 *e*P **P** **13 02 48.3 -0.5**
comp=Z,11nm,0.9s,baz=313
BOOM Boomskoye usch 98.84 312 P **P** **13 02 49.2 -0.2**
BOOM pmax pmax
comp=Z,11nm,1.1s
BOOM Boomskoye usch 98.84 312 P **P** **13 02 49.2 -0.2**
BOOM IAmb IAmb 13 02 50.6
comp=Z,11nm,1.1s
TKM2 Tokmak 2 99.16 312 P **Pdif** **13 02 50.4 -0.5**
SNR=9.8
TKM2 Tokmak 2 99.16 312 P **Pdif** **13 02 49.8 -1.1**
JCT Junction City 99.28 61 IAMs_20 IAMs_20 13 39 07.6
comp=Z,765nm,22.0s
CHMS Chumysh 99.78 312 P **Pdif** **13 02 53.4 0.0**
SNR=6.4
UCH Uchtor 99.85 311 P **Pdif** **13 02 54.0 -0.3**
SNR=6.7
AAK Ala-Archa 99.92 312 LR LR 13 51 47.2
comp=Z,88nm,18.3s,baz=76,slow=38
AAK Ala-Archa 99.92 312*c i*P **Pdif** **13 02 53.8 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.9s
SGDS Sogindy 99.93 312 *e*P **Pdif** **13 02 53.5 -0.7**
baz=312
USP Ospenovka 100.00 312 P **Pdif** **13 02 54.5 +0.1**
SNR=8.0
AML Almayashu 100.44 311 P **Pdif** **13 02 57.3 +0.5**
SNR=8.0
BTLS Baital 100.56 314*c i*P **Pdif** **13 02 56.2 -0.5**
BTLS pmax pmax
comp=Z,11nm,1.6s
BTLS Baital 100.56 314⇑*i*P **Pdif** **13 02 56.3 -0.5**
comp=Z,11nm,1.6s,baz=314
WMOK Wichita Mounta 100.76 57 IAMs_20 IAMs_20 13 44 15.9
comp=Z,893nm,20.0s
BRZS Berezniki 102.01 319 *e*P **Pdif** **13 03 03.2 +0.1**
BRZS Berezniki 102.01 319 *e*P **Pdif** **13 03 03.3 +0.1**
baz=319
DZA Taraz 102.27 312 *e*P **Pdif** **13 03 03.5 -0.9**
DZA Taraz 102.27 312 *e*P **Pdif** **13 03 03.5 -0.9**
baz=312
HKT Hockley 102.61 62 IAMs_20 IAMs_20 13 55 05.7
comp=Z,560nm,21.0s
KSU1 Kansas State U 103.00 52 IAMs_20 IAMs_20 13 41 24.8
comp=Z,610nm,20.0s
IUG luzhnay 103.15 311 *e*P **Pdif** **13 03 08.2 -0.3**
IUG luzhnay 103.15 311 *e*P **Pdif** **13 03 08.3 -0.3**
baz=311
BRVK Borovoye 103.71 322 IAMs_20 IAMs_20 13 48 36.8
comp=Z,622nm,20.0s
NATX Nacogdoches 103.82 60 IAMs_20 IAMs_20 13 40 16.8
comp=Z,790nm,22.0s
AGMN Agassiz Nation 104.22 43 IAMs_20 IAMs_20 13 47 20.3
comp=Z,622nm,20.0s

W39A Magazine 104.89 57 IAMs_20 IAMs_20 13 42 43.2
comp=Z,769nm,19.0s
X40A Basin Creek Fa 105.61 57 IAMs_20 IAMs_20 13 46 58.3
comp=Z,630nm,20.0s
SNET Serv Nac Est T 106.41 79 IAMs_20 IAMs_20 13 39 34.2
comp=Z,632nm,19.0s
CCM Cathedral Cave 107.11 54 IAMs_20 IAMs_20 13 47 44.9
comp=Z,651nm,19.0s
JFWS Jewell Farm 108.01 49 IAMs_20 IAMs_20 13 57 49.0
comp=Z,672nm,18.0s
TGUH Tegucigalpa,Un 108.35 79 IAMs_20 IAMs_20 13 41 20.7
comp=Z,472nm,18.0s
HDIL Hopedale 108.70 51 IAMs_20 IAMs_20 13 44 25.6
comp=Z,732nm,22.0s
MSEY Mahe Island 109.49 260 IAMs_20 IAMs_20 13 50 49.4
comp=Z,766nm,20.0s
PLAL Pickwick Lake 109.55 57 IAMs_20 IAMs_20 13 49 21.6
comp=Z,804nm,20.0s
WVT Waverly 109.78 56 IAMs_20 IAMs_20 13 49 00.6
comp=Z,917nm,18.0s
ARU Arti 110.33 326⇑*i*PKIKP **PKiKP** **13 07 39.8 -0.9**
LRAL Lakeview Retre 110.38 59 IAMs_20 IAMs_20 13 44 38.3
comp=Z,701nm,21.0s
GLMI Grayling 112.02 47 IAMs_20 IAMs_20 13 51 05.9
comp=Z,784nm,20.0s
P49A Miami Univ. Ec 112.22 52 IAMs_20 IAMs_20 13 51 08.0
comp=Z,889nm,19.0s
AAM Ann Arbor 112.89 49 IAMs_20 IAMs_20 13 47 30.3
comp=Z,905nm,22.0s
TZTN Tazewell 113.23 56 IAMs_20 IAMs_20 13 51 55.1
comp=Z,733nm,19.0s
GOGA Godfrey 113.34 59 IAMs_20 IAMs_20 13 47 40.3
comp=Z,502nm,22.0s
BCIP Isla Barro Col 114.78 86 IAMs_20 IAMs_20 13 39 56.2
comp=Z,591nm,19.0s
O53A New Philadelph 114.88 51 IAMs_20 IAMs_20 13 53 23.1
comp=Z,774nm,20.0s
M53A WI Miller and 115.18 50 IAMs_20 IAMs_20 13 49 01.9
comp=Z,1µm,21.0s
BLA Blacksburg 115.71 55 IAMs_20 IAMs_20 13 53 07.5
comp=Z,911nm,20.0s
N54A Moraine State 115.74 51 IAMs_20 IAMs_20 13 49 19.8
comp=Z,855nm,22.0s
N54A Moraine State 115.74 51 P **PKPdf** **13 07 51.1 -0.5**
baz=276
MCWV Mont-Chateau 115.97 52 P **PKPdf** **13 07 50.5 -1.6**
baz=275
ARCES ARCESS Array B 117.98 346 PKP **PKPdf** **13 07 54.4 -0.6**
comp=Z,8.2nm,0.6s,baz=73,slow=2.4,SNR=14
ARCES PKKPbc **PKKPbc** **13 18 16.2 -1.4**
comp=Z,4.5nm,0.6s,baz=294,slow=1.2,SNR=11
KLMR Klimovskoe 118.45 334 *e*PKIKP **PKPdf** **13 07 54.2 -1.9**
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 118.45 334 *e*PKPdf **PKPdf** **13 07 54.2 -1.9**
KLMR AMP 13 08 09.9
comp=Z,23nm,1.2s
KLMR *e*PP **PP** **13 09 08.2 -4.9**
LPAZ La Paz 118.75 117 PKP **PKPdf** **13 07 58.0 -0.9**
comp=Z,1.9nm,0.8s,baz=14,slow=7.2,SNR=5.5
LPAZ La Paz 118.75 117 PKIKP **PKPdf** **13 07 58.0 -0.9**
MAK Makhachkala 119.69 312 *e*P **Pdif** **13 04 18.3 -3.5**
MAK *i* 13 07 57.4
MAK *e* 13 14 47.6
MAK *e*SS SS 13 25 38.1 -5.5
MAK pmax pmax
comp=Z,120nm,1.3s
SCHQ Schefferville 120.81 33 PKP **PKPdf** **13 08 00.5 -0.4**
comp=Z,2.9nm,0.8s,baz=249,slow=3.6,SNR=5.9
L61B Northampton 120.92 48 IAMs_20 IAMs_20 13 56 17.7
comp=Z,722nm,20.0s
MOS Moscow 121.69 329 *i* PKIKP **PKPdf** **13 08 00.3 -2.2**
MOS pmax pmax
comp=Z,37nm,0.6s
HRV Adam Dziewonsk 121.72 48 IAMs_20 IAMs_20 13 56 48.8
comp=Z,852nm,20.0s
D62A Allapoint, All 122.25 42 **PKPdf** **13 08 02.9 -1.0**
GNI Garni 122.26 310*c i*PKIKP **PKPdf** **13 08 04.5 +0.1**
GNI pmax pmax
comp=Z,42nm,1.7s
ZEI Tsey 122.31 313 *i* PKIKP **PKPdf** **13 08 00.7 -3.7**
ZEI pmax pmax
comp=Z,11nm,1.0s
CPUP Villa Florida 122.39 132 PKP **PKPdf** **13 08 03.9 -0.9**
comp=Z,8.6nm,1.0s,baz=206,slow=3.7,SNR=9.5
CPUP Villa Florida 122.39 132 PKIKP **PKPdf** **13 08 03.6 -1.2**
CPUP Villa Florida 122.39 132 PKPdf **PKPdf** **13 08 03.6 -1.2**
OBN Obninsk 122.51 329⇓*i*PKIKP **PKPdf** **13 08 04.0 -0.1**
OBN *e* 13 08 13.1
OBN *e* 13 08 16.4
OBN *e* 13 09 40.3
OBN *e*PPP PPP 13 12 17.5
OBN pmax pmax
comp=Z,17nm,1.3s
VORR Voronezh 122.56 324 *e*PKIKP **PKiKP** **13 08 05.2 +0.7**
VORR pmax pmax
comp=Z,80nm,0.5s
PKME Peaks-Kenny Pk 122.62 44 P **PKPdf** **13 08 04.1 -0.5**
baz=286
ONI Oni 122.68 313 PKIKP **PKiKP** **13 08 05.2 0.0**
ONI Oni 122.68 313 PKPdf **PKiKP** **13 08 05.2 0.0**
KBZ Khabaz 122.79 314 PKP **PKPdf** **13 08 04.7 -0.3**
comp=Z,4.7nm,0.9s,baz=106,slow=4.4,SNR=6.6
KIV Kislovodsk 122.88 314 *i* PKIKP **PKiKP** **13 08 05.7 +0.1**
KIV *e* 13 09 42.7
KIV *e*PS **PS** **13 19 38.2 -2.6**
KIV *e*SS SS 13 26 22.8 -1.8
KIV pmax pmax
comp=Z,10.0nm,1.0s
AKH Akhalkalaki 122.92 311⇑P **PKiKP** **13 08 06.4 +0.5**
NEY Neytrino 123.04 314⇑*i*PKIKP **PKiKP** **13 08 07.1 +1.1**
RAYN Ar Rayn 123.29 290 PKIKP **PKPdf** **13 08 05.8 -0.9**
RAYN Ar Rayn 123.29 290 PKPdf **PKPdf** **13 08 05.8 -0.9**
FINES FINESS Array B 123.46 339 PKP **PKPdf** **13 08 04.6 -1.2**
comp=Z,12nm,1.0s,baz=127,slow=5.0,SNR=9.2
FINES FINESS Array B 123.46 339 PKIKP **PKPdf** **13 08 05.7 0.0**
FINES FINESS Array B 123.46 339 **PKPdf** **13 08 05.7 0.0**
GEVA Gevas 123.91 308 PKPdf **PKiKP** **13 08 07.9 +0.1**
BATG Bathurst New B 124.12 41 PKPdf **PKPdf** **13 08 06.2 -1.3**
BOSA Boshof 124.61 222 PKP **PKPdf** **13 08 08.6 -0.6**
comp=Z,4.9nm,0.8s,baz=152,slow=2.2,SNR=9.3
BOSA Boshof 124.61 222 PKIKP **PKPdf** **13 08 08.3 -0.9**
BOSA Boshof 124.61 222 **PKPdf** **13 08 08.3 -0.9**
GURO Guroymak-BITLI 124.65 308 **PKiKP** **13 08 09.5 +0.2**
SOC Sochi 125.05 315 *i* PKIKP **PKPdf** **13 08 09.5 +0.1**
SOC *e* 13 10 00.4
SOC *e*PS **SP** **13 19 49.5 -4.0**
SOC *e*SS **SS** **13 26 47.6 -4.1**
SOC MLR MLR
comp=Z,326nm,19.0s
VSU Vasula 125.17 336⇓*i*PKIKP **PKPdf** **13 08 09.2 +0.1**
MARD Mardin 125.88 307 **PKiKP** **13 08 12.0 +0.2**
ANN Anapa 126.21 317 *i* PKIKP **PKPdf** **13 08 09.4 -2.1**
ANN *e* 13 08 20.5
ANN *e* 13 15 09.4
ANN *e*SSS SSS 13 31 43.2
ANN pmax pmax
comp=Z,107nm,1.2s
AQDB Aquidauana 127.01 128 PKPdf **PKPdf** **13 08 12.7 -1.2**
MNK Minsk 127.11 331 *i* PKIKP **PKPdf** **13 08 11.7 -1.2**
MNK *i* 13 10 09.3
MNK *i* 13 15 20.8
MNK *i* SS SS 13 27 14.0 -2.3
MNK *i* SSS SSS 13 31 58.0
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=N,20nm,1.1s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK Minsk 127.11 331 *i* PKP **PKPdf** **13 08 11.8 -1.2**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** **13 08 11.8 -1.2**
comp=N,20nm,1.1s
MNK *i* PKP **PKPdf** **13 08 11.8 -1.2**
comp=Z,23nm,0.9s,baz=54
MNK *i* PP **PP** **13 10 09.4 -2.2**
MNK *i* SKP 13 11 45.1
MNK *i* PKS **PKSdf** **13 11 46.7 -2.6**
MNK *i* PPP PPP 13 12 50.6
MNK *i* SKS **SKSdf** **13 15 20.8 -0.2**
MNK *i* SKKS **SKKSdf** **13 25 35.1 -2.7**
MNK *i* SS **SS** **13 27 14.0 -2.3**
MNK *i* SSS SSS 13 31 58.0
MNK *i* LR LR 14 03 38.5
MNK *i* LRM MLR 14 07 24.3
comp=Z,352nm,15.9s
MNK *i* LRM MLR 14 07 35.8
comp=E,186nm,28.0s
MNK *i* LRM MLR 14 07 43.4
comp=N,572nm,14.6s
NACGM **Naroch 127.37 332** *e*PKP **PKPdf** **13 08 13.4 -0.1**
KMBO Kilima Mbogo 127.96 259 *i* PKIKP **PKiKP** **13 08 17.1 +0.4**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 127.96 259 IAMs_20 IAMs_20 14 01 29.9
comp=Z,510nm,20.0s
NB2 NORSAR Subarra 128.35 345 PKPdf **PKPdf** **13 08 14.6 -0.6**
comp=Z,8.0nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.35 345 PKPdf **PKPdf** **13 08 14.6 -0.6**
baz=31,slow=1.9
NOA NORSAR Array B 128.35 345 PKP **PKPdf** **13 08 14.8 -0.4**
comp=Z,2.7nm,0.7s,baz=32,slow=2.0,SNR=10
NBO00 NORSAR Array S 128.47 345 PKPdf **PKiKP** **13 08 15.9 -0.1**
AKASG **Malin Array Be 128.57 327** PKP **PKPdf** **13 08 15.7 -0.2**
comp=Z,5.9nm,0.9s,baz=57,slow=2.4,SNR=24
AKASG PP **PP** **13 10 21.0 -0.5**
comp=Z,3.8nm,0.9s,baz=53,slow=6.7,SNR=8.9
BNN Bunyan 129.25 310 PKPdf **PKPdf** **13 08 17.3 -0.4**
BR131 Keskin Array S 130.60 312⇑*i*PKIKP **PKPdf** **13 08 20.2 -0.1**
BRTR Keskin Array B 130.60 312 PKP **PKPdf** **13 08 19.9 -0.3**
comp=Z,2.8nm,1.0s,baz=72,slow=0.4,SNR=8.8
BRTR PP **PP** **13 10 32.6 -2.8**
comp=Z,4.5nm,0.9s,baz=93,slow=4.3,SNR=8.9
BRTR Keskin Array B 130.60 312 PKIKP **PKPdf** **13 08 19.0 -1.3**
BRTR Keskin Array B 130.60 312 PKPdf **PKPdf** **13 08 18.9 -1.3**
LODK Lodwar 130.97 264 IAMs_20 IAMs_20 14 02 08.8
comp=Z,666nm,20.0s
TLCR 131.61 321⇓P **PKiKP** **13 08 22.9 +0.1**
TLCR 131.61 321⇓PKIKP **PKiKP** **13 08 22.9 +0.1**
TPGR Topolog 132.02 320⇓P **PKiKP** **13 08 24.6 +1.0**
CFR Carcaliu 132.04 321⇑P **PKPdf** **13 08 22.5 -0.1**
CFR Carcaliu 132.04 321⇑PKIKP **PKPdf** **13 08 22.5 -0.1**
MDUB Mudurnu 132.07 314 PKPdf **PKPdf** **13 08 22.3 -0.7**
BUR08 Bucovina Ar. S 132.46 325 PKPdf **PKPdf** **13 08 23.8 +0.3**
BURAR Bucovina Array 132.47 325⇓P **PKiKP** **13 08 24.3 -0.3**
BURAR Bucovina Array 132.47 325⇓PKIKP **PKiKP** **13 08 24.3 -0.3**
BURAR Bucovina Array 132.47 325 PKPdf **PKiKP** **13 08 24.1 -0.5**
VRI Vrincioaia 132.54 322⇓P **PKPdf** **13 08 24.2 +0.6**
VRI Vrincioaia 132.54 322⇓PKIKP **PKPdf** **13 08 24.2 +0.6**
BORA Eskisehir 132.83 313 PKPdf **PKPdf** **13 08 23.7 -0.7**
MLR Muntele Rosu 133.21 322⇑P **PKiKP** **13 08 26.2 0.0**
MLR Muntele Rosu 133.21 322⇑PKIKP **PKiKP** **13 08 26.2 0.0**
MLR Muntele Rosu 133.21 322 **PKPdf** **13 08 24.9 -0.1**
DOPR Dopca 133.28 323⇑P **PKiKP** **13 08 26.4 +0.2**
UZH Uzhgorod 133.44 328 *e*PKHKP PKPpre 13 08 15.0
UZH *e* 13 08 25.6
UZH *e* 13 08 40.3
OJC Ojcow 133.65 331 PKIKP **PKPdf** **13 08 25.7 +0.1**
OJC Ojcow 133.65 331 PKPdf **PKPdf** **13 08 25.7 +0.1**
ARR Arges 134.05 323⇓P **PKPdf** **13 08 27.2 +0.7**
MBAR Mbarara 134.33 257 IAMs_20 IAMs_20 14 02 48.6
comp=Z,622nm,20.0s
BORR Bors 134.66 326⇑P **PKPdf** **13 08 21.1 -6.4**
MANT Manisa 134.72 312 **PKPdf** **13 08 26.6 -1.7**
MORC Moravsky Berou 135.01 332⇑P **PKiKP** **13 08 30.1 +0.5**
MORC Moravsky Berou 135.01 332⇑PKIKP **PKiKP** **13 08 30.1 +0.5**
MORC Moravsky Berou 135.01 332 *e*PKP **PKPdf** **13 08 27.9 -0.3**
OSTC Ostas 135.04 334 *e*PKPDF **PKiKP** **13 08 29.6 -0.1**
OSTC *ep*PKP **pPKPdf** **13 08 39.6 -1.9**
CHVC Chvalec 135.09 334 *e*PKPDF **PKiKP** **13 08 30.3 +0.5**
CHVC *ep*PKP **pPKPdf** **13 08 42.8 +1.2**
GZR Gura Zlata 135.12 324⇓P **PKPdf** **13 08 28.0 -0.5**
GZR Gura Zlata 135.12 324⇓PKIKP **PKPdf** **13 08 28.0 -0.5**
PSZ Piszkesteto 135.13 328 IAMs_20 IAMs_20 14 13 33.2
comp=Z,579nm,20.0s
PSZ Piszkesteto 135.13 328 PKPDF **PKiKP** **13 08 29.6 -0.3**
PSZ PKIKP **PKPdf** **13 08 30.4 +1.9**
DPC Dobruska-Polom 135.15 333 *e*PKIKP **PKPdf** **13 08 28.6 +0.2**
DPC *e* 13 08 40.1
DPC Dobruska-Polom 135.15 333 *e*PKPDF **PKPdf** **13 08 28.6 +0.2**
DPC *ep*PKP **pPKPdf** **13 08 40.1 -1.6**
UPC Upice 135.17 334 *e*PKIKP **PKiKP** **13 08 30.4 +0.5**
UPC *e* 13 08 40.1
UPC Upice 135.17 334 *e*PKPDF **PKiKP** **13 08 30.4 +0.5**
UPC *ep*PKP **pPKPdf** **13 08 40.1 -1.6**
JAVC Velka Javorina 135.59 331 *e*PKP **PKiKP** **13 08 30.3 -0.6**
HERR Herculane 135.62 324⇑P **PKPdf** **13 08 29.6 +0.2**
BZS Buzias 135.65 325⇑P **PKPdf** **13 08 29.3 -0.1**
BZS Buzias 135.65 325⇑PKIKP **PKPdf** **13 08 29.3 -0.1**
BDFB Brasilia 135.75 128 SKPbc **SKPbc** **13 12 00.6 +1.9**
comp=Z,7.4nm,0.9s,baz=85,slow=3.7,SNR=5.9
BDFB Brasilia 135.75 128 PKIKP **PKPdf** **13 08 28.5 -2.1**
BDFB Brasilia 135.75 128 PKPdf **PKPdf** **13 08 28.5 -2.1**
BRG Berggiesshubel 135.76 335 *e*PKP **PKiKP** **13 08 30.5 -0.5**
BRG Amp 13 08 33.3
comp=Z,17nm,1.6s
BRG *ex* x 13 08 40.1
BRG Amp 13 08 46.2
comp=Z,14nm,1.2s
BRG SKP 13 12 01.1
BRG Amp 13 12 08.4
comp=Z,12nm,1.3s
BRG Berggiesshubel 135.76 335 *e*PKIKP **PKiKP** **13 08 30.5 -0.5**
BRG *e* 13 08 40.0
BRG pmax pmax
comp=Z,17nm,1.6s
CLL Collm 135.80 336 *e*PKIKP **PKiKP** **13 08 31.0 -0.1**
CLL *e* 13 08 44.0
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 135.80 336 *e*PKPdf **PKiKP** **13 08 31.0 -0.1**
CLL *i* PKiKP **PKPdf** **13 08 34.1 +4.6**
CLL *es*PKPdf **pPKPdf** **13 08 44.0 +1.1**
CLL *e*PP **PP** **13 11 10.0 +2.5**
CLL *e*SKPdf **SKPdf** **13 12 01.0 -0.1**
CLL *e*PKSdf **PKSdf** **13 12 07.0 +1.4**
CLL *ex* x 13 13 42.0
CLL *e*PS **PS** **13 21 24.0 -8.1**
CLL *e*PPS PPS 13 23 18.0
CLL *e*PPPrev 13 24 06.0
CLL *e*SSS SSS 13 34 18.0
CLL LmV 14 14 00.0
comp=Z,400nm,18.6s
KRUC Moravsky 136.05 332 *e*PKP **PKPdf** **13 08 29.5 -0.6**
MDVR Moldovita 136.09 324⇓P **PKPdf** **13 08 31.2 +0.9**
PRU Pruhonice 136.19 334 *ep*PKP pPKPdf 13 08 41.6 -2.0
VTS Vitosha 136.39 320 PKIKP **PKPdf** **13 08 30.4 -0.7**
VTS Vitosha 136.39 320 PKPdf **PKPdf** **13 08 30.4 -0.7**
MPLH Magyarpolny 136.82 329 PKPDF **PKPdf** **13 08 31.6 0.0**
MPLH PKIKP **PKiKP** **13 08 33.2 -0.1**
NKC Novy Kostel 136.87 336 *e*PKIKP **PKiKP** **13 08 33.3 -0.1**
NKC *e* 13 08 44.5
NKC Novy Kostel 136.87 336 *e*PKPDF **PKiKP** **13 08 33.3 -0.1**
NKC *ep*PKP **pPKPdf** **13 08 44.5 -0.4**
FRGS Fruska Gora 136.94 325⇓P **PKPdf** **13 08 30.9 -0.9**
CONA Conrad Observa 137.11 331 *e*P **PKPdf** **13 08 32.3 +0.1**
comp=Z,11nm,1.0s
CONA *e*P **pPKPdf** **13 08 44.3 -1.3**
comp=Z,13nm,1.2s
CONA *e*P **PP** **13 11 15.3 -0.7**
comp=Z,8.3nm,1.5s
CKRC Cesky Krumlov 137.16 333 *e*PKPDF **PKPdf** **13 08 32.7 +0.5**
CKRC *ep*PKP **pPKPdf** **13 08 42.4 -3.1**
KHC Kasperske Hory 137.25 334⇓*e*PKIKP **PKPdf** **13 08 32.7 +0.4**
KHC Kasperske Hory 137.25 334 *e*PKPDF **PKPdf** **13 08 32.3 0.0**
KHC *ep*PKP **pPKPdf** **13 08 42.9 -2.8**
KHC Kasperske Hory 137.25 334 PKPdf **PKPdf** **13 08 31.5 -0.8**
KOVH Kovagotottos 137.26 328 PKPDF **PKPdf** **13 08 32.3 -0.1**
KOVH PKIKP **PKiKP** **13 08 33.2 -1.1**
GEC2 GERESS Array S 137.41 334 PKPdf **PKPdf** **13 08 32.4 -0.3**
GERES GERESS Array B 137.41 334 PKhKP PKPpre 13 08 23.2
comp=Z,0.9nm,0.9s,baz=329,slow=1.6,SNR=5.5
GERES PKP **PKPdf** **13 08 33.3 +0.6**
comp=Z,1.6nm,0.8s,baz=20,slow=4.3,SNR=8.6
GERES SKPbc **SKPbc** **13 12 03.7 +1.0**
comp=Z,1.1nm,0.7s,baz=47,slow=4.3,SNR=2.7
DIVS Divibare 137.48 324 PKPdf **PKPdf** **13 08 33.1 +0.1**
ARSA Arzberg 137.75 331 *e*P **PKPdf** **13 08 34.3 +1.0**
comp=Z,2.8nm,0.8s
ARSA *e*P **pPKPdf** **13 08 48.1 +1.5**
comp=Z,5.8nm,0.9s
ARSA *e*P **PP** **13 11 20.9 +0.9**
comp=Z,0.1nm,0.3s
GRA1 Grafenberg Arr 137.78 336 IAMs_20 IAMs_20 14 12 27.5
comp=Z,482nm,19.0s
GRFO Grafenberg 137.78 336 IAMs_20 IAMs_20 14 13 56.5
comp=Z,499nm,19.0s

MOA	**Molln**	**137.90**	**332**	*e*P		**PKPdf**	13 08 31.8	**-1.8**
	comp=Z,6.7nm,1.2s								
MOA				*e*P		**pPKPdf**	13 08 45.5	**-1.5**
	comp=Z,4.1nm,1.0s								
MOA				*e*P		**PP**	13 11 22.8	**+1.9**
	comp=Z,5.8nm,1.2s								
BIOA	**Bad Ischl, Aus**	**138.30**	**333**	*e*P		**PKPdf**	13 08 33.9	**-0.4**
	comp=Z,3.2nm,0.6s								
BIOA				*e*P		**pPKPdf**	13 08 46.1	**-1.6**
	comp=Z,5.0nm,0.7s								
SOKA	**Soboth**	**138.39**	**330**	*e*P		**PKPdf**	13 08 34.7	**+0.2**
	comp=Z,12nm,1.1s								
FNA	**Florina**	**138.55**	**319**		PKIKP	**PKPdf**	13 08 34.6	**-0.4**
FNA	**Florina**	**138.55**	**319**		PKPdf	**PKPdf**	13 08 34.6	**-0.4**
IDI	**Anoyia**	**138.70**	**310**	⇑P		**PKiKP**	13 08 37.3	**-0.3**
OBKA	**Obir**	**138.75**	**331**	*e*P		**PKPdf**	13 08 35.4	**+0.2**
	comp=Z,2.8nm,0.8s								
OBKA				*e*P		**pPKPdf**	13 08 47.1	**-1.5**
	comp=Z,4.6nm,0.9s								
OBKA				*e*P		**PP**	13 11 24.5	**-1.7**
	comp=Z,4.6nm,1.2s								
BTNL	**Ternell**	**138.84**	**341**	*d*PKiKP		**PKPdf**	13 08 35.2	**0.0**
MEM	**Membach**	**138.86**	**341**	*d*PKiKP		**PKPdf**	13 08 35.7	**+0.5**
KBA	**Koelnbreinsper**	**138.89**	**332**	*e*P		**PKPdf**	13 08 34.9	**-0.7**
	comp=Z,6.5nm,1.2s								
KBA				*e*P		**pPKPdf**	13 08 47.3	**-1.7**
	comp=Z,7.0nm,1.1s								
KBA				*e*P		**PP**	13 11 24.2	**-3.0**
	comp=Z,7.6nm,1.2s								
PDG	**Podgorica**	**138.92**	**323**		PKPdf	**PKPdf**	13 08 35.3	**-0.2**
MYKA	**Terra Mystica**	**139.09**	**331**	*e*P		**PKiKP**	13 08 37.4	**-0.7**
	comp=Z,7.6nm,1.1s								
MYKA				*e*P		**pPKPdf**	13 08 48.9	**-0.3**
	comp=Z,3.9nm,0.6s								
MYKA				*e*P		**PP**	13 11 29.5	**+1.2**
	comp=Z,6.7nm,1.0s								
BCLA	**Clavier**	**139.24**	**342**	*d*PKiKP		**PKiKP**	13 08 37.9	**-0.3**
WATA	**Walderalm**	**139.48**	**334**	*e*P		**PKPdf**	13 08 37.0	**+0.4**
	comp=Z,18nm,1.2s								
WATA				*e*P		**PP**	13 11 32.0	**+1.2**
	comp=Z,3.3nm,0.6s								
BMRD	**Maredsous**	**139.51**	**342**	*d*PKiKP		**PKiKP**	13 08 37.7	**-1.0**
WTTA	**Wattenberg**	**139.51**	**334**	*e*P		**PKPdf**	13 08 36.8	**0.0**
	comp=Z,8.6nm,0.9s								
WTTA				*e*P		**pPKPdf**	13 08 47.3	**-2.8**
	comp=Z,10nm,0.8s								
WTTA				*e*P		**PP**	13 11 30.9	**-0.1**
	comp=Z,12nm,1.1s								
ABTA	**Abfaltersbach**	**139.52**	**332**	*e*P		**PKPdf**	13 08 37.4	**+0.7**
	comp=Z,12nm,1.0s								
ABTA				*e*P		**pPKPdf**	13 08 49.7	**-0.2**
	comp=Z,11nm,0.8s								
ABTA				*e*P		**PP**	13 11 33.4	**+2.5**
	comp=Z,6.4nm,1.1s								
MOTA	**Moosalm**	**139.68**	**334**	*e*P		**PKPdf**	13 08 37.3	**+0.3**
	comp=Z,16nm,1.1s								
MOTA				*e*P		**pPKPdf**	13 08 47.2	**-3.2**
	comp=Z,11nm,0.9s								
MOTA				*e*P		**PP**	13 11 33.8	**+1.9**
	comp=Z,6.0nm,0.9s								
RETA	**Reutte**	**139.71**	**335**	*e*P		**PKPdf**	13 08 36.9	**-0.1**
	comp=Z,7.1nm,0.9s								
RETA				*e*P		**pPKPdf**	13 08 52.0	**+1.7**
	comp=Z,5.7nm,0.8s								
SQTA	**Sankt Quirin**	**139.73**	**334**	*e*P		**PKPdf**	13 08 36.2	**-0.9**
	comp=Z,3.8nm,0.7s								
SQTA				*e*P		**pPKPdf**	13 08 50.7	**+0.3**
	comp=Z,9.6nm,0.8s								
SQTA				*e*P		**PP**	13 11 33.6	**+1.3**
	comp=Z,1.8nm,0.4s								
DOU	**Dourbes**	**139.74**	**342**	*d*PKiKP		**PKPdf**	13 08 37.0	**+0.3**
FETA	**Feichten**	**140.09**	**334**	*e*P		**PKPdf**	13 08 34.1	**-3.7**
	comp=Z,20nm,1.0s								
FETA				*e*P		**PP**	13 11 32.6	**-1.9**
	comp=Z,4.7nm,1.0s								
DAVA	**Damuels**	**140.24**	**335**	*e*P		**PKPdf**	13 08 37.9	**-0.1**
	comp=Z,4.3nm,0.9s								
DAVA				*e*P		**pPKPdf**	13 08 53.5	**+2.2**
	comp=Z,9.8nm,0.9s								
DAVA				*e*P		**PP**	13 11 36.2	**+0.9**
	comp=Z,9.0nm,1.1s								
ECH	**Echery**	**140.52**	**338**		IAMs_20	IAMs_20	14 04 51.9		
	comp=Z,476nm,22.0s								
NRCA	**Norcia**	**142.09**	**328**			**PKPdf**	13 08 41.4	**+0.1**
AQU	**L'Aquila**	**142.27**	**327**		IAMs_20	IAMs_20	14 18 43.3		
	comp=Z,488nm,20.0s								
BNI	**Bardonecchia**	**143.35**	**336**		IAMs_20	IAMs_20	14 16 40.9		
	comp=Z,627nm,21.0s								
CEL	**Celeste**	**143.47**	**320**		PKPdf	PKPbc	13 08 42.1	+0.9	
CEL					IAMs_20	IAMs_20	14 12 22.9		
	comp=Z,301nm,19.0s								
SSB	**Saint Sauveur**	**143.97**	**338**		PKIKP	PKPbc	13 08 43.4	+0.9	
SSB	**Saint Sauveur**	**143.97**	**338**		PKPdf	PKPbc	13 08 43.4	+0.9	
NBLA	**Lagarto - SE**	**146.33**	**133**	*e*P		**PKPdf**	13 08 49.0	**-0.5**	
VSL	**Villasalto**	**146.44**	**327**		PKPbc	**PKPab**	13 08 50.9	**-0.3**	
NBMA	**Muriti-CE**	**147.94**	**127**	*e*P		**PKPdf**	13 08 52.1	**-0.2**	
NBAN	**Anadia - AL**	**148.31**	**133**	*e*P		**PKPdf**	13 08 52.9	**+0.1**	
KEST	**Kesra**	**149.11**	**322**		PKPbc	**PKPbc**	13 08 58.2	**+0.4**	
	comp=Z,70nm,0.8s,baz=257,slow=1.2,SNR=62								
CMAH	**Djebel Manchou**	**149.59**	**326**		P	**PKPbc**	13 08 58.0	**-0.9**	
ABSA	**Djebel Ababsia**	**149.81**	**325**		P	**PKPbc**	13 09 00.0	**+0.5**	
CKFL	**Kef-Lekhel**	**150.14**	**326**		P	**PKiKP**	13 09 01.0	**-0.2**	
PBRG	**Braganca**	**150.27**	**350**	*e*PKP		**PKPbc**	13 08 59.9	**-0.5**	
PGAV	**Gavieira, Arco**	**150.34**	**352**	*e*PKP		**PKiKP**	13 09 01.7	**+0.3**	
DFRA	**Djebel Bou Aff**	**150.48**	**327**		P	**PKiKP**	13 09 02.0	**+0.1**	
CTEI	**Djebel Teioual**	**150.56**	**326**		P	**PKPbc**	13 09 01.0	**-0.4**	
POLO	**Lamas de Olo**	**150.85**	**351**	*e*PKP		**PKPbc**	13 09 01.9	**+0.1**	
MVO	**Moncorvo**	**150.94**	**350**	*e*PKP		**PKiKP**	13 09 02.8	**+0.2**	
PVRL	**Vila Real**	**150.94**	**351**	*e*PKP		**PKiKP**	13 09 02.5	**-0.1**	
RCBR	**Riachuelo**	**151.12**	**128**		PKIKP	**PKPbc**	13 09 02.2	**-1.0**	
RCBR	**Riachuelo**	**151.12**	**128**			**PKPbc**	13 09 02.2	**-1.0**	
PTO	**Porto**	**151.20**	**353**	*e*PKP		**PKiKP**	13 09 05.9	**+2.9**	
PVIS	**Viseu**	**151.51**	**351**	*e*PKP		**PKPbc**	13 09 03.6	**+0.3**	
ESBB	**Sonseca Array**	**151.71**	**345**			**PKPbc**	13 09 03.7	**-0.1**	
ESDC	**Sonseca Array**	**151.71**	**345**		PKP	**PKPdf**	13 08 58.7	**+1.2**	
	comp=Z,3.1nm,1.1s,baz=346,slow=1.0,SNR=5.2								
ESDC					PKPbc	**PKPbc**	13 09 03.2	**-0.6**	
	comp=Z,12nm,0.9s,baz=11,slow=2.2,SNR=39								
ESDC	**Sonseca Array**	**151.71**	**345**		PKPab	**PKPab**	13 09 13.7	**+1.1**	
ESDC	**Sonseca Array**	**151.71**	**345**		PKPdf	**PKPdf**	13 08 56.3	**-1.2**	
MTE	**Manteigas**	**151.77**	**351**	*e*PKP		**PKiKP**	13 09 04.4	**+0.1**	
MTE	**Manteigas**	**151.77**	**351**			**PKPbc**	13 09 04.2	**+0.2**	
MTE					PKPab	**PKPab**	13 09 14.2	**+1.3**	
PAB	**San Pablo**	**151.93**	**345**	⇑PKIKP		**PKPbc**	13 09 04.6	**+0.2**	
PAB	**San Pablo**	**151.93**	**345**			**PKPbc**	13 09 04.6	**+0.2**	
PAB					PKPab	**pPKPbc**	13 09 18.7	**+1.0**	
PCAS	**Casmilo, Conde**	**152.25**	**352**	*e*PKP		**PKiKP**	13 09 05.3	**0.0**	
PCBR	**Castelo Branco**	**152.30**	**350**	*e*PKP		**PKiKP**	13 09 05.6	**+0.2**	
PMRV	**Marv??o**	**152.69**	**350**	*e*PKP		**PKPbc**	13 09 06.1	**+0.1**	
PSBE	**So Bento**	**152.82**	**352**	*e*PKP		**PKiKP**	13 09 06.9	**+0.4**	
PMTG	**Montargil**	**153.18**	**351**	*e*PKP		**PKPbc**	13 09 06.9	**-0.1**	
EVO	**Evora**	**153.67**	**350**	*e*PKP		**PKPbc**	13 09 08.2	**+0.1**	
PBAR	**Barrancos**	**153.84**	**349**	*e*PKP		**PKiKP**	13 09 09.0	**+0.4**	
PBEJ	**Beja**	**154.14**	**350**	*e*PKP		**PKiKP**	13 09 09.9	**+0.7**	
PNCL	**Nicolau / Gran**	**154.16**	**351**	*e*PKP		**PKPab**	13 09 23.5	**+0.7**	
PCVE	**Castro Verde**	**154.55**	**350**	*e*PKP		**PKiKP**	13 09 10.8	**+0.7**	
PVAQ	**Vaqueiros**	**154.72**	**349**		PKPdf	**PKPdf**	13 09 01.6	**-0.2**	
PVAQ						**PKPab**	13 09 25.4	**+0.2**	
PTEO	**Sao Teotonio**	**154.74**	**351**	*e*PKP		**PKPab**	13 09 25.2	**-0.1**	
PBDV	**Barranco-do-Ve**	**154.91**	**350**	*e*PKP		**PKiKP**	13 09 11.9	**+1.0**	
TORD	**Torodi Ar. Bea**	**165.29**	**274**		PKP	**PKPdf**	13 09 12.8	**-1.5**	
	comp=Z,2.5nm,1.0s,baz=47,slow=0.8,SNR=9.3								
TORD					PKPab	**PKPab**	13 10 12.6	**+0.5**	
	comp=Z,70nm,0.9s,baz=87,slow=5.5,SNR=90								
TORD					PP	**PP**	13 13 57.8	**-1.5**	
	comp=Z,2.6nm,1.1s,baz=74,slow=3.1,SNR=3.5								
KIC	**Kosan Boka**	**169.51**	**235**	*e*PKP2		**PKPab**	13 10 30.2	**-0.4**	
	comp=Z,73nm,1.1s								
LIC	**Lamto**	**169.66**	**233**	*e*PKP2		**PKPab**	13 10 30.6	**-0.7**	
	comp=Z,120nm,1.3s								
DBIC	**Dimbokro**	**169.78**	**236**		PKP	**PKPdf**	13 09 15.1	**-2.4**	
	comp=Z,7.2nm,1.2s,baz=117,slow=7.0,SNR=3.2								
DBIC					PKPab	**PKPab**	13 10 32.1	**+0.3**	
	comp=Z,27nm,1.0s,baz=122,slow=4.6,SNR=18								
DBIC					PP	**PP**	13 14 19.0	**-2.4**	
	comp=Z,6.8nm,1.0s,baz=110,slow=4.5,SNR=3.4								
DBIC	**Dimbokro**	**169.78**	**236**		PKIKP	**PKPdf**	13 09 14.5	**-3.0**	
DBIC							13 10 31.1		
DBIC	**Dimbokro**	**169.78**	**236**		PKPdf	**PKPdf**	13 09 14.5	**-3.0**	
DBIC					PKPab	**PKPab**	13 10 31.1	**-0.7**	
TIC	**Toumodi**	**169.90**	**235**	*e*PKP2		**PKPab**	13 10 32.0	**-0.4**	
KOWA	**Kowa**	**170.69**	**283**		PKPab	**PKPab**	13 10 35.3	**-0.7**	

*CNRM **18** 13:33:36.0,35°.53N×3°.80W,h21km,ml3.0*
*SFS **18** 13:33:36.0,35°.31N×3°.77W,ML3.0,ALBORAN SUR*
*MDD **18** 13:33:37.0±0.5,35°.43N×3°.76W,h7km±3km,mb_Lg2.9/16,*
Error ellipse: s-maj=3.9km s-min=2.1km az=165.0

ISC 18 13:33:36.7±1.0,35°.48N±0°.02×3°.77W±0°.02,h17km±8km,
n45,σ1s54/83,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**208**	P	**Pg**	**13 33 43.1**	**+0.1**
PALE				S	**Sb**	**13 33 48.0**	**-0.1**
PVLZ	**Peæn de**	**0.53**	**235**	P	**Pg**	**13 33 47.1**	**-0.1**
PVLZ				S	**Sg**	**13 33 54.2**	**0.0**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**13 33 50.0**	**-0.2**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**13 33 49.8**	**-0.4**
GOG				S	**Sg**	**13 33 58.4**	**-0.9**
EMEL	**Melilla**	**0.69**	**105**	Pg	**Pg**	**13 33 50.1**	**-0.2**
EMEL				Sg	**Sb**	**13 33 59.6**	**+0.1**
EALB	**Alboran**	**0.76**	**52**	Pg	**Pg**	**13 33 51.6**	**+0.1**
EALB				Sg	**Sg**	**13 34 02.0**	**+0.4**
TAF	**Taforalt**	**1.30**	**120**	P	**Pb**	**13 34 01.0**	**+0.3**
TAF	**Taforalt**	**1.30**	**120**	P	**Pn**	**13 33 59.1**	**-1.0**
TAF				S	**Sn**	**13 34 17.3**	**+0.3**
SMIR	**Smir Dam**	**1.33**	**279**	P	**Pn**	**13 33 58.4**	**-2.0**
SMIR				S	**Sn**	**13 34 18.1**	**+0.4**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pg**	**13 34 04.0**	**+1.6**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pn**	**13 34 01.0**	**+0.4**
CHEFC				S	**Sn**	**13 34 17.0**	**-1.0**
EMIJ	**Mijas**	**1.35**	**324**	Pn	**Pn**	**13 34 00.1**	**-0.8**
EMIJ				Sn	**Sn**	**13 34 17.3**	**-1.2**
EMIJ				*i*	Vmb_Lg	13 34 30.7	
CEU	**Ceuta**	**1.37**	**288**	P	**Pn**	**13 33 58.4**	**-2.6**
CEU				S	**Sn**	**13 34 14.6**	**-4.1**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**13 34 00.6**	**-0.8**
ELGU				Sn	**Sn**	**13 34 18.1**	**-1.4**
ELGU				*i*	Vmb_Lg	13 34 22.2	
JBK	**JBK**	**1.51**	**139**	P	**Pb**	**13 34 04.0**	**-0.4**
JBK	**JBK**	**1.51**	**139**	P	**Pb**	**13 34 04.0**	**-0.4**
JBK				S	**Sb**	**13 34 23.8**	**+0.4**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**13 34 03.7**	**-0.5**
EBER				Sn	**Sn**	**13 34 24.0**	**-0.4**
EBER				*i*	Vmb_Lg	13 34 30.3	
EGOR	**Sierra Gorda,**	**1.65**	**351**	Pn	**Pn**	**13 34 05.7**	**+0.6**
EGOR				Sn	**Sn**	**13 34 26.3**	**+0.4**
EGOR				*i*	Vmb_Lg	13 34 31.9	
EJIF	**Jimena Fronter**	**1.68**	**306**	Pn	**Pn**	**13 34 05.9**	**+0.6**
EQUE	**Quentar**	**1.75**	**9**	Pn	**Pn**	**13 34 07.1**	**+0.8**
EQUE				Sn	**Sn**	**13 34 28.6**	**+0.4**
EQUE				*i*	Vmb_Lg	13 34 31.1	
ENIJ	**Nijar**	**1.96**	**40**	Pn	**Pn**	**13 34 08.4**	**-0.7**
ENIJ				Sn	**Sn**	**13 34 31.9**	**-1.4**
LCRM	**LCR**	**2.00**	**207**	P	**Pg**	**13 34 15.0**	**-0.1**
LCRM	**LCR**	**2.00**	**207**	P	**Pb**	**13 34 13.6**	**+0.9**
LCRM				S	**Sb**	**13 34 38.2**	**+0.8**
ESPR	**Espera**	**2.18**	**310**	Pn	**Pn**	**13 34 14.0**	**+1.8**
ESPR				Sn	**Sn**	**13 34 39.6**	**+0.8**
IFR	**Ifrane**	**2.25**	**210**	P	**Pb**	**13 34 18.2**	**+1.1**
IFR				S	**Sn**	**13 34 39.9**	**-0.9**
EQES	**Quesada**	**2.39**	**13**	Pn	**Pb**	**13 34 18.0**	**-1.4**
EQES				Sn	**Sb**	**13 34 46.9**	**-1.6**
CZD	**Col de Zad**	**2.66**	**204**	P	**Pn**	**13 34 19.1**	**+0.1**
CZD				S	**Sn**	**13 34 52.5**	**+1.6**
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**13 34 20.7**	**+0.9**
MD31				S	**Sn**	**13 34 52.7**	**+0.2**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**13 34 20.7**	**+0.6**
MDT				S	**Sn**	**13 34 53.0**	**+0.2**
EADA	**Adamuz**	**2.76**	**347**	Pn	**Pn**	**13 34 21.9**	**+1.7**
EADA				Sn	**Sn**	**13 34 55.6**	**+2.4**
EADA				*i*	Vmb_Lg	13 35 00.9	
ECAB	**El Cabril**	**2.91**	**334**	Pn	**Pn**	**13 34 23.5**	**+1.2**
ECAB				Sn	**Sn**	**13 34 59.0**	**+2.1**
EZAR	**Zarzadilla de**	**2.92**	**34**	Pn	**Pn**	**13 34 22.6**	**+0.2**
EZAR				Sn	**Sn**	**13 34 56.7**	**-0.5**
CART	**Cartagena**	**3.07**	**46**	P	**Pn**	**13 34 22.9**	**-1.5**
CART				S	**Sn**	**13 34 58.0**	**-2.7**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**13 34 23.7**	**-1.5**
ZHG				S	**Sn**	**13 35 02.7**	**+0.7**
EMIN	**Mina Concepcio**	**3.27**	**315**	Pn	**Pn**	**13 34 27.4**	**+0.3**
EMIN				Sn	**Sn**	**13 35 05.1**	**-0.4**
EMIN				*i*	Vmb_Lg	13 35 19.1	
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**13 34 32.3**	**+0.3**
EGRO				Sn	**Sn**	**13 35 12.2**	**-2.2**
EGRO				*i*	Vmb_Lg	13 35 20.3	
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**13 34 33.9**	**+1.7**
ETOB				*i*	Vmb_Lg	13 34 36.1	
ETOB				Sn	**Sn**	**13 35 16.5**	**+1.9**
PAB	**San Pablo**	**4.09**	**354**	Pn	**Pn**	**13 34 39.8**	**+1.3**
PAB				Sn	**Sn**	**13 35 25.8**	**-0.2**
PAB				*i*	Vmb_Lg	13 36 44.7	
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**13 34 39.9**	**+0.3**
EBAD				Sn	**Sn**	**13 35 27.6**	**-0.3**
EBAD				*i*	Vmb_Lg	13 35 33.1	
ESDC	**Sonseca Array**	**4.19**	**358**	Pn	**Pn**	**13 34 41.9**	**+2.0**
ESDC				Sn	**Sn**	**13 35 28.8**	**+0.3**
ESDC				*i*	Vmb_Lg	13 35 48.6	
PFVI	**Vila Bisbo**	**4.40**	**294**	P	**Pn**	**13 34 41.5**	**-1.2**
PFVI				S	**Sn**	**13 35 24.7**	**-8.1**
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**13 34 46.2**	**+1.3**
PESTR				S	**Sn**	**13 35 38.6**	**+1.2**
EPLA	**Plasencia**	**4.93**	**339**	Pn	**Pn**	**13 34 51.9**	**+1.9**
EPLA				Sn	**Sn**	**13 35 47.4**	**+0.7**
EPLA				*i*	Vmb_Lg	13 36 40.4	
ETOR	**Torete**	**5.50**	**14**	Pn	**Pn**	**13 34 59.8**	**+1.9**
ETOR				Sn	**Sn**	**13 36 03.4**	**+2.6**
ETOR				*i*	Vmb_Lg	13 39 05.3	
EMOS	**Mosqueruela**	**5.53**	**27**	Sn	**Sn**	**13 36 01.8**	**+0.1**

*NEIC **18** 13:33:57.1±2.9,51°.40N±0°.06×173°.54W±0°.05,h10km±2km,*
mb3.8/25,ML3.4/19(AEIC),Error ellipse: s-maj=10.1km
s-min=4.6km az=197.0
*AEIC **18** 13:33:59.7±2.1,51°.49N±0°.08×173°.54W±0°.05,h25km±7km,*
Error ellipse: s-maj=12.3km s-min=4.2km az=186.0
*IDC **18** 13:34:03.5±8.2,51°.85N×173°.73W,h54km±75km,mb3.3/9,*
mb1 3.6/11,mb1mx3.4/69,mbtmp3.6/11,ML3.5/2,Error
ellipse: s-maj=43.2km s-min=16.5km az=1.0

ISC 18 13:34:01.4±0.8,51°.58N±0°.09×173°.54W±0°.05,h37km,n68,
σ1s29/65,mb3.6/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.75**	**327**		**Pn**	**13 34 14.7**	**-0.7**
ATKA					**Sn**	**13 34 25.4**	**-0.1**
KOFP	**Korovin Flat P**	**0.78**	**334**		**Pn**	**13 34 15.8**	**-0.1**
GSMY	**Great Sitkin M**	**1.63**	**288**		**Pn**	**13 34 27.1**	**-0.5**
GSTR	**Great Sitkin T**	**1.65**	**289**		**Pn**	**13 34 27.8**	**0.0**
GSCK	**Great Sitkin C**	**1.69**	**286**		**Pn**	**13 34 27.8**	**-0.6**
GSTD	**Great Sitkin T**	**1.69**	**288**		**Pn**	**13 34 27.6**	**-0.8**
GSTD					**Sn**	**13 34 51.5**	**+2.8**
ADK	**Adak**	**1.98**	**280**		**Pn**	**13 34 31.6**	**-0.8**
ADK					**Sn**	**13 34 56.5**	**+0.6**
KIWB	**Kanaga Island**	**2.26**	**278**		**Pn**	**13 34 36.4**	**+0.1**
KIKV	**Kanaga Island**	**2.28**	**279**		**Pn**	**13 34 36.5**	**0.0**
KICM	**Kanaga Island**	**2.30**	**280**		**Pn**	**13 34 37.3**	**+0.6**
KIMD	**Kanaga Island**	**2.31**	**276**		**Pn**	**13 34 36.5**	**-0.4**
TAPA	**Tanaga Point A**	**2.67**	**277**		**Pn**	**13 34 42.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.78**	**278**		**Pn**	**13 34 43.7**	**+0.3**
TAFP					**Sn**	**13 35 19.5**	**+3.8**
TASE	**Tanaga Southea**	**2.81**	**277**		**Pn**	**13 34 44.0**	**+0.2**
NIKH	**Nikolski High**	**3.20**	**62**		**Pn**	**13 34 49.0**	**0.0**
UNV	**Unalaska Valle**	**4.84**	**59**	Pn	**Pn**	**13 35 11.8**	**+0.2**
GAMB	**Gambell**	**12.27**	**4**	Pn	**Pn**	**13 36 56.6**	**+3.3**
KDAK	**Kodiak Island**	**13.59**	**55**	P	**Pn**	**13 37 07.6**	**-3.8**
	0.2nm,0.3s,baz=170,slow=19,SNR=1.9						
KDAK	**Kodiak Island**	**13.59**	**55**		**Pn**	**13 37 12.3**	**+1.0**
ANM	**Nome**	**13.70**	**15**	Pn	**Pn**	**13 37 14.8**	**+2.0**
SVW2	**Sparrevohn**	**13.74**	**39**	Pn	**Pn**	**13 37 14.6**	**+1.2**
M19K	**Big River Lodg**	**14.68**	**38**	Pn	**Pn**	**13 37 26.6**	**+0.5**
TTA	**Tatalina**	**14.74**	**33**	P	**P**	**13 37 33.0**	**+0.4**
BRLK	**Bradley Lake**	**15.12**	**48**	P	**P**	**13 37 35.1**	**-1.6**
K20K	**Telida**	**15.69**	**34**	P	**P**	**13 37 42.1**	**-1.0**
K20K					IAmb	IAmb	13 38 01.8	
	comp=Z,10nm,1.2s							
PPLA	**Purkeypile**	**16.09**	**37**	P	**Pn**	**13 37 46.3**	**+1.7**
J20K	**Nowinta River**	**16.20**	**31**	P	**P**	**13 37 49.2**	**+0.5**
J20K					IAmb	IAmb	13 38 06.6	
	comp=Z,12nm,1.5s							
CAST	**Castle Rocks**	**16.43**	**36**	P	**P**	**13 37 51.6**	**+0.3**
CAST					IAmb	IAmb	13 38 07.0	
	comp=Z,12nm,1.5s							

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**16.94**	**36**	P	**P**	**13 37 57.0**	**+0.1**
TRF	**Thorofare Moun**	**17.11**	**37**	P	**P**	**13 38 00.9**	**+1.9**
TRF				IAmb	IAmb	13 38 25.6	
	comp=Z,14nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.23**	**35**	P	**P**	**13 38 00.2**	**+0.1**
PETK	**Petropavlovsk-**	**17.59**	**286**	P	**Pn**	**13 38 01.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=8.2						
MCK	**McKinley**	**17.78**	**37**	P	**Pn**	**13 38 04.8**	**-0.9**
MCK				IAmb	IAmb	13 38 19.0	
	comp=Z,14nm,1.4s						
CCB	**Clear Creek Bu**	**18.68**	**36**	P	**Pn**	**13 38 16.7**	**0.0**
MDM	**Murphy Dome**	**18.70**	**35**	P	**P**	**13 38 15.1**	**-1.2**
HDA	**Harding Lake**	**18.88**	**37**	P	**P**	**13 38 18.5**	**+0.3**
HDA				IAmb	IAmb	13 38 39.0	
	comp=Z,8.8nm,1.3s						
IL31		**19.09**	**36**	P	**P**	**13 38 20.5**	**+0.1**
ILAR	**Eielson Array**	**19.09**	**36**	P	**P**	**13 38 18.9**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=9.1,SNR=58						
ILAR	**Eielson Array**	**19.09**	**36**	P	**P**	**13 38 19.6**	**-0.9**
H24K	**Noodor Dome**	**19.32**	**33**	P	**P**	**13 38 23.1**	**0.0**
H24K				IAmb	IAmb	13 38 37.2	
	comp=Z,4.3nm,0.8s						
RIDG	**Independent Ri**	**19.38**	**40**	P	**P**	**13 38 22.9**	**-0.9**
RIDG				IAmb	IAmb	13 38 43.1	
	comp=Z,7.7nm,1.2s						
J25K	**Salcha River,**	**19.57**	**37**	P	**P**	**13 38 24.4**	**-1.5**
J25K				IAmb	IAmb	13 38 43.0	
	comp=Z,6.2nm,0.8s						
DOT	**Dot Lake**	**19.66**	**41**	P	**P**	**13 38 26.3**	**-0.5**
DOT				IAmb	IAmb	13 38 40.8	
	comp=Z,4.8nm,1.0s						
SCRK	**Sand Creek**	**19.82**	**40**	P	**P**	**13 38 27.4**	**-1.3**
PRP	**Porcupine Dome**	**19.96**	**35**	P	**P**	**13 38 29.2**	**-1.0**
PRP				IAmb	IAmb	13 38 47.0	
	comp=Z,3.7nm,0.8s						
BCAR	**Beaver Creek A**	**20.39**	**43**	P	**Pn**	13 38 37.2	+0.1
TOLK	**Toolik Lake Re**	**20.61**	**25**	P	**P**	**13 38 37.1**	**0.0**
EGAK	**Eagle**

GCMP	**Grenada, Carri**	**4.76**	**193**	*eP*	**Pn**	**13 43 27.0**	**+0.6**
GCMP	**Grenada, Carri**	**4.76**	**193**	*eS*	**Sn**	**13 44 18.9**	**-1.9**
CUPR	**Culebra, Puert**	**4.88**	**284**	Pn	**Pn**	**13 43 27.8**	**-0.2**
MTP	**Monte Pirata**	**5.09**	**281**		**Pn**	**13 43 31.1**	**+0.3**
GRGR	**Grenville**	**5.16**	**195**	Pn	**Pn**	**13 43 33.4**	**+1.6**
GRGR	**Grenville**	**5.16**	**195**	*eP*	**Pn**	**13 43 32.1**	**+0.2**
CBYP	**Canovanas**	**5.40**	**283**	Pn	**Pn**	**13 43 35.2**	**0.0**
PDPR	**Patillas Dam,**	**5.52**	**280**	Pn	**Pn**	**13 43 36.1**	**-0.7**
CELP	**Cerrillos**	**6.05**	**280**	Pn	**Pn**	**13 43 43.8**	**-0.3**
AOPR	**Arecibo Observ**	**6.25**	**282**	*eP*	**Pn**	**13 43 47.9**	**+0.9**
AOPR	**Arecibo Observ**	**6.25**	**282**	*eS*	**Sn**	**13 44 53.5**	**-4.2**
MLPR	**Magueyes Islan**	**6.47**	**278**	Pn	**Pn**	**13 43 51.0**	**+1.0**
CRPR	**Cabo Rojo, PR**	**6.54**	**278**	Pn	**Pn**	**13 43 51.6**	**+0.8**
DR12	**Loma Pena Alta**	**8.78**	**282**	Pn	**Pn**	**13 44 22.1**	**+0.3**
BIRV	**Birongo**	**8.80**	**222**	Pn	**Pn**	**13 44 21.8**	**-0.2**
SDDR	**Presa de Saban**	**10.60**	**282**		**Pn**	**13 44 46.0**	**-0.6**
SDV	**Santo Domingo**	**12.98**	**232**	Pn	**Pn**	**13 45 19.2**	**-0.2**
	baz=49,slow=8.1,SNR=5.2						
SJCC	**San Jacinto, C**	**16.15**	**245**	P	**P**	**13 46 03.7**	**-1.0**
SJCC				IAmb	IAmb	13 46 04.8	
	comp=Z,36nm,1.4s						
JTS	**Las Juntas de**	**24.87**	**257**	P	**P**	**13 47 38.1**	**+1.0**
	comp=Z,11nm,0.7s,baz=312,slow=14,SNR=4.8						
JTS	**Las Juntas de**	**24.87**	**257**	P	**P**	**13 47 35.4**	**-1.8**
JTS				IAmb	IAmb	13 47 42.1	
	comp=Z,17nm,1.0s						
SSPA	**Standing Stone**	**27.90**	**331**	P	**P**	**13 48 03.4**	**-0.8**
SSPA				IAmb	IAmb	13 48 04.8	
	comp=Z,41nm,1.2s						
N54A	**Moraine State**	**29.17**	**328**	P	**P**	**13 48 14.9**	**-0.7**
N54A				IAmb	IAmb	13 48 25.1	
	comp=Z,45nm,1.2s						
SIV	**San Ignacio**	**32.94**	**181**	P	**P**	**13 48 50.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=340,slow=11,SNR=2.4						
SCHQ	**Schefferville**	**37.94**	**354**	P	**P**	**13 49 33.1**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=177,slow=8.8,SNR=4.8						
SCHQ	**Schefferville**	**37.94**	**354**	P	**P**	**13 49 33.4**	**+1.8**
SCHQ				IAmb	IAmb	13 49 44.5	
	comp=Z,11nm,1.4s						
OGNE	**Ogallala**	**42.95**	**312**	P	**P**	**13 50 12.2**	**-1.2**
NEW	**Newport**	**55.41**	**317**	P	**P**	**13 51 48.4**	**-0.1**
YKA	**Yellowknife Ar**	**58.76**	**334**	P	**P**	**13 52 12.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=108,slow=7.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**59.77**	**85**	P	**P**	**13 52 19.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=285,slow=6.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**59.77**	**85**	P	**P**	**13 52 18.9**	**-0.8**
SHEL	**Horse Pasture**	**63.05**	**116**	P	**P**	**13 52 40.6**	**-1.2**
BCAR	**Beaver Creek A**	**71.01**	**332**	P	**P**	**13 53 32.1**	**+0.5**
L27K	**Beaver Creek,**	**71.03**	**332**	P	**P**	**13 53 32.7**	**+0.9**
L27K				IAmb	IAmb	13 53 55.8	
	comp=Z,4.6nm,1.3s						
ILAR	**Eielson Array**	**73.19**	**333**	P	**P**	**13 53 46.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=106,slow=5.7,SNR=2.3						
FINES	**FINESS Array B**	**73.38**	**30**	P	**P**	**13 53 46.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=286,slow=7.5,SNR=5.3						

*INET **18** 13:43:54.8±0.2, 12°.80N×91°.84W, h15km±2km, MW3.3*
*GCG **18** 13:44:02.7±0.6, 13°.13N×91°.25W, h3km±133km, MD4.2*
*IDC **18** 13:44:04.2±1.2, 13°.80N×90°.21W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/36, mbtmp3.9/7, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/67, Error ellipse: s-maj=54.6km s-min=23.2km az=52.0*
*SNET **18** 13:44:05.1±1.2, 13°.22N×91°.11W, h21km±18km, ML3.4*
*NEIC **18** 13:44:09.5±2.5, 13°.37N±0°.10×90°.97W±0°.09, h44km±8km, mb4.1/12, Error ellipse: s-maj=17.6km s-min=6.8km az=221.0*

ISC 18 13:44:06.9±0.7, **13°.18N**±0°.08×**91°.06W**±0°.07, **h33**km, **n67,** σ1ᵎ**26/69, mb4.0**/10, **4C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
FUG	**Fuego 3**	**1.27**	**9**	*eP*		**Pn**	**13 44 28.5**	**-0.1**
PCG	**Pacaya**	**1.28**	**20**	*eP*		**Pn**	**13 44 28.8**	**0.0**
NUBE	**Las Nubes**	**1.43**	**60**	⇑*iP*		**Pn**	**13 44 29.7**	**-1.0**
NUBE				IAML			13 44 59.4	
	comp=Z,387nm,0.4s							
RTAL	**Retalhuleu**	**1.47**	**335**	Pn		**Pn**	**13 44 30.5**	**-0.7**
SLOZ	**Alcaldia de Sa**	**1.49**	**56**	*eP*		**Pn**	**13 44 31.5**	**-0.1**
SLOZ				IAML			13 45 04.4	
	comp=Z,568nm,0.4s							
CEVE	**Cerro Verde**	**1.53**	**65**	⇑*iP*		**Pn**	**13 44 31.7**	**-0.6**
SBLS	**San Blas**	**1.54**	**65**	*eP*		**Pn**	**13 44 31.7**	**-0.7**
RTR	**El Retiro**	**1.54**	**62**	*eP*		**Pn**	**13 44 31.9**	**-0.5**
NBG	**Las Nubes**	**1.56**	**26**	*eP*		**Pn**	**13 44 33.6**	**+1.0**
SNJE	**San Jose**	**1.57**	**64**	*eP*		**Pn**	**13 44 32.1**	**-0.6**
STG3	**Santiaguito 3,**	**1.60**	**342**	*eP*		**Pn**	**13 44 31.9**	**-1.2**
JAYA	**Jayaque - finc**	**1.63**	**73**	*eP*		**Pn**	**13 44 32.8**	**-0.7**
BOQS	**Boqueron**	**1.81**	**72**	*eP*		**Pn**	**13 44 36.3**	**+0.2**
TACO	**Tacachico**	**1.83**	**64**	⇑*eP*		**Pn**	**13 44 36.0**	**-0.2**
SNET	**Serv Nac Est T**	**1.84**	**74**	Pn		**Pn**	**13 44 36.1**	**-0.3**
LFRS	**El Faro**	**1.99**	**77**	*eP*		**Pn**	**13 44 38.6**	**+0.2**
MTO3	**Montecristo**	**2.04**	**54**	Pn		**Pn**	**13 44 39.3**	**+0.1**
MTO3	**Montecristo**	**2.04**	**54**	⇑*iP*		**Pn**	**13 44 39.4**	**+0.1**
MTO3	**Montecristo**	**2.04**	**54**	*eP*		**Pn**	**13 44 39.6**	**+0.3**
ESQI	**Esquipulas**	**2.16**	**50**	Pn		**Pn**	**13 44 40.1**	**-0.6**
ESQI	**Esquipulas**	**2.16**	**50**	*eP*		**Pn**	**13 44 41.2**	**+0.5**
COEG	**Centro de Oper**	**2.16**	**78**	*eP*		**Pn**	**13 44 41.2**	**+0.5**
HUEH	**Huehuetenango**	**2.17**	**349**	Pn		**Pn**	**13 44 40.8**	**-0.1**
MRL	**Marmol**	**2.31**	**35**	*eP*		**Pn**	**13 44 44.5**	**+1.6**
POSS	**Presa 15 de Se**	**2.47**	**79**	*eP*		**Pn**	**13 44 45.3**	**+0.4**
COEB	**Comit de Eme**	**2.48**	**82**	*eP*		**Pn**	**13 44 44.9**	**-0.3**
COEB				*eS*		**Sb**	**13 45 23.9**	**+2.8**
CSGN	**Cosiguina Volc**	**3.41**	**93**	*eP*		**Pn**	**13 44 57.5**	**-0.5**
TGUH	**Tegucigalpa,Un**	**3.78**	**76**	Pn		**Pn**	**13 45 02.3**	**-0.8**
PETF	**Flores**	**3.89**	**17**	Pn		**Pn**	**13 45 03.8**	**-0.6**
CRIN	**San Cristobal**	**3.94**	**97**	Pn		**Pn**	**13 45 04.3**	**-0.8**
CRIN	**San Cristobal**	**3.94**	**97**	*eP*		**Pn**	**13 45 03.7**	**-1.4**
CNGN	**Cerro Negro**	**4.30**	**99**	Pn		**Pn**	**13 45 10.1**	**-0.1**
MATN	**Matagalpa**	**5.01**	**92**	Pn		**Pn**	**13 45 19.3**	**-0.6**
MATN	**Matagalpa**	**5.01**	**92**	*eP*		**Pn**	**13 45 18.8**	**-1.1**
BOAB	**BOACO BROADBAN**	**5.31**	**97**	Pn		**Pn**	**13 45 23.4**	**-0.5**
RIMA	**Rio Macho**	**7.82**	**115**			**Pn**	**13 46 01.0**	**+2.2**
SRBA	**San Rafael, Bu**	**8.51**	**117**			**Pn**	**13 46 09.7**	**+1.6**
DRK0	**Durika**	**8.60**	**116**	Pn		**Pn**	**13 46 11.4**	**+2.1**
TX32	**Lajitas Array**	**19.88**	**326**	P		**Pn**	**13 48 37.0**	**-0.4**
TXAR	**Lajitas Array**	**19.88**	**326**	P		**Pn**	**13 48 37.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=14							
TXAR	**Lajitas Array**	**19.88**	**326**	P		**P**	**13 48 36.3**	**+0.6**
TX31	**Lajitas Ar. Si**	**19.88**	**326**	P		**Pn**	**13 48 37.1**	**-0.4**
TX31				IAmb		IAmb	13 48 43.2	
	comp=Z,7.7nm,1.1s							
121A	**Cookes Peak, D**	**24.60**	**324**	P		**P**	**13 49 25.7**	**+1.2**
121A				IAmb		IAmb	13 49 27.8	
	comp=Z,3.4nm,0.7s							
ANMO	**Albuquerque**	**25.76**	**330**	P		**P**	**13 49 35.7**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=107,slow=9.7,SNR=4.1							
REDW	**Red Top Meadow**	**34.57**	**334**	P		**P**	**13 50 53.8**	**+0.9**
NV11	**Mina Array Sit**	**34.79**	**321**	P		**P**	**13 50 54.7**	**-0.1**
NV11				IAmb		IAmb	13 50 58.4	
	comp=Z,2.7nm,0.8s							
NVAR	**Mina Array Bea**	**34.88**	**321**	P		**P**	**13 50 58.2**	**+2.6**
	comp=Z,3.2nm,0.8s,baz=138,slow=8.4,SNR=30							
NVAR				PcP		**PcP**	**13 53 32.0**	**+3.9**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=3.5							
NVAR	**Mina Array Bea**	**34.88**	**321**			**P**	**13 50 56.1**	**+0.5**
MCMT	**McKenzie Canyo**	**36.60**	**334**	P		**P**	**13 51 10.9**	**+0.6**
PLID	**Pearl Lake**	**38.23**	**331**	P		**P**	**13 51 24.7**	**+0.6**
PLID				IAmb		IAmb	13 51 25.0	
	comp=Z,1.5nm,0.7s							
F10A	**Beach Ranch, E**	**39.46**	**331**	P		**P**	**13 51 34.9**	**+0.6**
YBH	**Yreka Blue Hor**	**39.57**	**322**	LR		LR	14 08 31.5	
	comp=Z,49nm,18.4s,baz=274,slow=37							
SIV	**San Ignacio**	**41.47**	**133**	P		**P**	**13 51 51.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=292,slow=12,SNR=4.9							
SCHQ	**Schefferville**	**45.67**	**19**	P		**P**	**13 52 20.6**	**-3.9**
	comp=Z,2.4nm,0.6s,baz=223,slow=6.4,SNR=6.8							
SCHQ	**Schefferville**	**45.67**	**19**	P		**P**	**13 52 22.4**	**-2.1**
SCHQ				IAmb		IAmb	13 52 22.4	
	comp=Z,3.0nm,0.8s							
YKA	**Yellowknife Ar**	**52.03**	**346**	P		**P**	**13 53 11.8**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=149,slow=7.5,SNR=7.4							
YKA				PcP		**PcP**	**13 54 25.0**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=155,slow=3.8,SNR=4.0							
BCAR	**Beaver Creek A**	**61.15**	**336**	P		**P**	**13 54 18.5**	**+0.5**
N25K	**Chitina, Valde**	**61.59**	**334**	P		**P**	**13 54 20.9**	**-0.2**
ILAR	**Eielson Array**	**63.95**	**337**	P		**P**	**13 54 36.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=161,slow=4.0,SNR=5.8							
ILAR	**Eielson Array**	**63.95**	**337**	P		**P**	**13 54 36.8**	**+0.2**
BMAR	**Burnt Mountain**	**64.37**	**340**	P		**P**	**13 54 39.7**	**+0.4**
EUNU	**Eureka**	**66.92**	**1**	P		**P**	**13 54 54.8**	**-0.8**
EUNU				IAmb		IAmb	13 54 57.9	
	comp=Z,2.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**89.67**	**77**	P		**P**	**13 57 00.7**	**-1.7**
WRA	**Warramunga Arr**	**136.08**	**255**	PKP		**PKiKP**	**14 03 31.3**	**+4.0**
	comp=Z,0.3nm,0.7s,baz=82,slow=2.2,SNR=4.6							
WRA	**Warramunga Arr**	**136.08**	**255**			**PKPdf**	**14 03 24.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**147.05**	**342**	PKPbc		**PKPab**	**14 03 48.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=344,slow=3.6,SNR=12							
CMAR	**Chiang Mai Arr**	**147.05**	**342**			**PKPbc**	**14 03 46.6**	**-0.7**

*IDC **18** 13:44:41.1±1.6, 7°.09S×129°.60E, h130km±21km, mb3.2/1, mb1 3.3/6, mb1mx2.9/39, mbtmp3.7/6, Error ellipse: s-maj=24.2km s-min=12.7km az=110.0*

ISC 18 13:44:41.2±0.9, **7°.14S**±0°.07×**129°.7E**±0°.1, **h139**km, **n6,** σ2ᵎ**46/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SIJI	**Sorong**	**6.43**	**14**	P		**Pn**	**13 46 14.8**	**+1.2**
	0.5nm,0.3s,baz=121,slow=24,SNR=8.3							
SIJI				S		**Sn**	**13 47 22.6**	**-3.4**
	1.2nm,0.3s,baz=264,slow=23,SNR=9.0							
BATI	**Baumata**	**6.67**	**242**	P		**Pn**	**13 46 17.3**	**+0.5**
	4.4nm,0.3s,baz=264,slow=2.7,SNR=6.4							
BATI				S		**Sn**	**13 47 30.8**	**-0.8**
	4.3nm,0.3s,baz=52,slow=21,SNR=6.8							
FITZ	**Fitzroy Crossi**	**11.57**	**199**	P		**Pn**	**13 47 24.0**	**+1.7**
	0.1nm,0.3s,baz=23,slow=11,SNR=8.8							
FITZ				S		**Sn**	**13 49 25.8**	**-4.2**
	0.2nm,0.3s,baz=232,slow=11,SNR=1.6							
WRA	**Warramunga Arr**	**13.51**	**161**	P		**Pn**	**13 47 48.4**	**+1.0**
	0.2nm,0.3s,baz=339,slow=12,SNR=12							
WRA				S		**Sn**	**13 50 15.1**	**-1.7**
	0.3nm,0.3s,baz=336,slow=22,SNR=6.0							
ASAR	**Alice Springs**	**16.93**	**167**	P		**Pn**	**13 48 31.7**	**+1.8**
	0.2nm,0.3s,baz=344,slow=10,SNR=36							
MKAR	**Makanchi Array**	**68.16**	**327**	P		**P**	**13 55 27.1**	**+0.6**
	0.3nm,0.5s,baz=119,slow=7.9,SNR=6.8							

*TUL **18** 13:47:26.3±1.5, 36°.21N±0°.03×99°.25W±0°.04, h0km±6km, ML2.7, mb_Lg2.7/37(NEIC), Error ellipse: s-maj=5.0km s-min=3.9km az=159.0*

NEIC 18 13:47:26.1±1.6, **36°.22N**±0°.03×**99°.32W**±0°.04, **h4**km±7km, **Error ellipse: s-maj=5.3km s-min=4.0km az=135.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
U32A	**Winter Ranch,**	**0.30**	**57**			Pg	13 47 32.5	+0.5
U32A				Sg		Sg	13 47 36.3	+0.3
WMOK	**Wichita Mounta**	**1.54**	**163**			Pn	13 47 54.5	+0.1
FNO	**Franklin**	**1.83**	**121**			Pn	13 47 58.1	-0.3
X34A	**Smith Ranch, M**	**2.02**	**143**			Pn	13 48 01.1	+0.1
X34A				IAmb_Lg			13 48 29.6	
	comp=Z,27nm,0.8s							
W35A	**Tecumseh**	**2.25**	**117**			Pb	13 48 05.9	-1.5
R32A	**Long Quarter,**	**2.26**	**12**			Pb	13 48 05.9	-1.6
AMTX	**Amarillo**	**2.34**	**236**			Pn	13 48 05.2	-0.3
AMTX				IAmb_Lg			13 48 43.7	
	comp=Z,47nm,0.7s							
T35A	**Sooner Cattle**	**2.37**	**72**	Pn		Pb	13 48 07.6	-1.7
T35A				IAmb_Lg			13 48 41.4	
	comp=Z,22nm,0.8s							
CBKS	**Cedar Bluff**	**2.62**	**353**			Pn	13 48 10.2	+1.0
TUL1	**Leonard**	**2.87**	**95**			Pn	13 48 11.6	-1.2
ABTX	**Abilene, Hawle**	**3.59**	**184**			Pn	13 48 23.1	+0.4
KSU1	**Kansas State U**	**3.59**	**36**	IAmb_Lg			13 49 24.4	
	comp=Z,20nm,0.9s							
X37A	**Clayton**	**3.61**	**116**			Pn	13 48 21.7	-1.1
MSTX	**Muleshoe**	**3.61**	**233**			Pn	13 48 22.6	-0.4
KSCO	**Kaye Shedlock'**	**3.83**	**318**	IAmb_Lg			13 49 37.7	
	comp=Z,20nm,0.9s							
T25A	**Trinidad**	**4.20**	**284**			Pn	13 48 31.0	-0.1
T25A				IAmb_Lg			13 49 44.4	
	comp=Z,13nm,0.8s							
HHAR	**Hobbs**	**4.35**	**88**			Pn	13 48 33.1	+0.1
HHAR				IAmb_Lg			13 49 44.3	
	comp=Z,12nm,0.7s							
W39A	**Magazine**	**4.62**	**101**			Pn	13 48 35.5	-1.2
S39A	**Bolivar**	**5.02**	**71**	Pn		Pn	13 48 40.3	-2.0
S39A				IAmb_Lg			13 50 12.8	
	comp=Z,10nm,0.8s							
OGNE	**Ogallala**	**5.18**	**337**	IAmb_Lg			13 50 16.6	
	comp=Z,26nm,0.8s							
SDCO	**Great Sand Dun**	**5.18**	**289**	Pn		Pn	13 48 45.6	+0.9
U40A	**Yellville**	**5.22**	**87**	Pn		Pn	13 48 43.7	-1.4
U40A				IAmb_Lg			13 50 14.5	
	comp=Z,9.6nm,0.9s							
Q24A	**Divide**	**5.38**	**302**	Pn		Pn	13 48 49.2	+1.7
Q24A				IAmb_Lg			13 50 31.2	
	comp=Z,10.0nm,0.7s							
X40A	**Basin Creek Fa**	**5.57**	**106**	Pn		Pn	13 48 50.0	+0.1
MGMO	**Mountain Grove**	**5.74**	**79**	Pn		Pn	13 48 52.1	-0.1
WHAR	**Wooly Hollow**	**5.79**	**97**	Pn		Pn	13 48 52.3	-0.5
W41B	**Gary Mavity, V**	**5.85**	**98**	Pn		Pn	13 48 52.6	-0.9
R40A	**Maddies Statio**	**5.99**	**68**	Pn		Pn	13 48 54.7	-0.9
R40A				IAmb_Lg			13 50 49.0	
	comp=Z,8.0nm,0.9s							
ISCO	**Idaho Springs**	**6.12**	**308**	Pn		Pn	13 49 00.0	+2.3
S22A	**4UR Ranch, Cre**	**6.20**	**286**	Pn		Pn	13 48 59.1	+0.3
BNM	**Barren Site**	**6.33**	**253**	Pn		Pn	13 49 01.4	+0.9
N38A	**Joes South For**	**6.61**	**44**	Pn		Pn	13 49 05.7	+1.7
LCAR	**Lake Charles**	**6.61**	**89**	Pn		Pn	13 49 04.6	+0.6
P40A	**Paris**	**6.63**	**58**	Pn		Pn	13 49 05.8	+1.4
CCM	**Cathedral Cave**	**6.71**	**72**	Pn		Pn	13 49 05.2	-0.2
CCM				IAmb_Lg			13 50 58.1	
	comp=Z,9.7nm,0.9s							
MNTX	**Cornudas Mount**	**6.76**	**230**			Pn	13 49 05.3	-0.9
MNTX	**Cornudas Mount**	**6.76**	**230**	P		Pn	13 49 05.3	-0.9
N23A	**Red Feather La**	**6.98**	**314**	IAmb_Lg			13 51 21.5	
	comp=Z,13nm,0.9s							
PHWY	**Pilot Hill**	**6.98**	**319**	IAmb_Lg			13 51 14.0	
	comp=Z,6.4nm,0.9s							
L40A	**Anamosa**	**8.58**	**45**	IAmb_Lg			13 52 11.7	
	comp=Z,11nm,0.8s							

*IDC **18** 13:49:24.7±5.8, 36°.46N×69°.99E, h78km±52km, mb3.9/1, mb1 3.5/6, mb1mx3.2/36, mbtmp3.8/6, ML3.6/5, Error ellipse: s-maj=68.1km s-min=19.9km az=156.0*
*NNC **18** 13:49:24.7±4.8, 36°.21N×70°.59E, h131km±77km, mb3.5, mpv4.0, Error ellipse: s-maj=39.4km s-min=38.3km az=136.0*

ISC 18 13:49:25.0±3.0, **36°.2N**±0°.2×**70°.4E**±0°.1, **h110**km, **n19,** σ1ᵎ**13/22, 2C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AML	**Almayashu**	**6.40**	**22**	P		**Pn**	**13 50 57.2**	**+0.2**
	SNR=71							
UCH	**Uchtor**	**6.76**	**27**	P		**Pn**	**13 51 02.4**	**+0.4**
	SNR=21							
KK08	**Karatay Array**	**6.85**	**0**	⇓P		**Pn**	**13 51 02.1**	**-0.7**
	3.9nm,0.4s							
KK08				⇓S		**Sn**	**13 52 21.3**	**+2.0**
	2.5nm,0.3s							
EKS2	**Erkin-Say**	**6.91**	**21**	P		**Pn**	**13 51 04.3**	**+0.6**
	SNR=40							
AAK	**Ala-Archa**	**7.11**	**25**	P		**Pn**	**13 51 07.2**	**+0.7**
	3.5nm,0.3s,baz=196,slow=7.0,SNR=33							
AAK				S		**Sn**	**13 52 24.9**	**-1.0**
	2.3nm,0.3s,baz=320,slow=23,SNR=14							
AAK	**Ala-Archa**	**7.11**	**25**	P		**Pn**	**13 51 06.9**	**+0.4**
	SNR=13							
AAK	**Ala-Archa**	**7.11**	**25**	⇑P		**Pn**	**13 51 06.6**	**+0.1**
	4.9nm,0.5s							
AAK				⇓S		**Sn**	**13 52 25.0**	**-0.9**
	9.5nm,0.6s							
KBK	**Karagaybulak**	**7.29**	**27**	P		**Pn**	**13 51 09.9**	**+1.0**
	SNR=8.7							
CHMS	**Chumysh**	**7.52**	**25**	P		**Pn**	**13 51 12.4**	**+0.5**
	SNR=17							
USP	**Ospenovka**	**7.68**	**23**	P		**Pn**	**13 51 14.3**	**+0.3**
	SNR=9.3							
TKM2	**Tokmak 2**	**7.76**	**29**	P		**Pn**	**13 51 15.9**	**+0.5**
	SNR=19							
TKM2	**Tokmak 2**	**7.76**	**29**	⇓P		**Pn**	**13 51 15.2**	**-0.2**
	4.8nm,0.5s							
TKM2				⇓S		**Sn**	**13 52 41.0**	**-0.8**
	3.3nm,0.5s							
GEYT	**Alibeck**	**9.99**	**283**	P		Pn	13 51 39.7	-5.7
	1.0nm,0.3s,baz=96,slow=13,SNR=8.3							
GEYT				S		Sn	13 53 25.9	-10
	0.7nm,0.3s,baz=68,slow=43,SNR=2.1							
MKAR	**Makanchi Array**	**13.76**	**36**	P		**Pn**	**13 52 35.1**	**-0.3**
	0.0nm,0.3s,baz=224,slow=10,SNR=4.4							
AB31	**Akbulak array**	**15.10**	**333**	⇑P		**Pn**	**13 52 49.9**	**-2.4**
	4.4nm,0.4s,baz=152,slow=12,SNR=144							
BVAR	**Borovoye Array**	**16.78**	**360**	P		**Pn**	**13 53 11.9**	**-1.3**
	0.2nm,0.3s,baz=209,slow=15,SNR=4.0							
AKTO	**Aktyubinsk**	**16.78**	**332**	P		**P**	**13 53 11.4**	**-1.8**
	0.3nm,0.3s,baz=138,slow=15,SNR=5.1							
AKTO	**Aktyubinsk**	**16.78**	**332**	⇓P		**Pn**	**13 53 13.9**	**+0.7**
	3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**20.34**	**25**	P		**P**	**13 53 54.1**	**+1.8**
	5.2nm,0.5s,baz=221,slow=10,SNR=26							

*BJI **18** 14:10:09.3±0.0, 10°.11S×161°.03E, h31km, mb4.7/30, mB5.1/16, Ms4.7/7, Ms7 4.5/7*
*MOS **18** 14:10:09.4±0.9, 10°.17S×160°.87E, h38km, mb5.1/24, Error ellipse: s-maj=13.5km s-min=9.1km az=96.5*
*IDC **18** 14:10:11.8±0.7, 10°.32S×160°.96E, h48km±6km, mb4.4/21, mb1 4.6/24, mb1mx4.5/41, mbtmp4.7/24, MS4.3/32, Ms1 4.3/32, ms1mx4.1/55, Error ellipse: s-maj=12.7km s-min=7.2km az=41.0*
*GCMT **18** 14:10:12.0±0.4, 10°.55S±0°.02×160°.89E±0°.03, h32km, MW5.0/59, Moment Tensor Solution. s42,c46; s59,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.78±.25; $M_{\theta\theta}$-3.54±.15; $M_{\phi\phi}$-1.24±.15; $M_{r\theta}$-0.56±.18; $M_{\theta\phi}$1.59±.10; $M_{\phi r}$-0.38±.22; Best double couple: $M_0$4.61200×10^{16} NP1:ϕ_s123.00000°, δ43.00000°, λ99.00000°. NP2: ϕ_s291.00000°, δ47.00000°, λ81.00000°. Principal axes: T 4.8590, Plg83.0000°, Azm134.0000°; N -0.4950, Plg6.0000°, Azm297.0000°; P -4.3640, Plg2.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 14:10:12.0±1.7, 10°.18S±0°.09×160°.98E±0°.09, h43km±6km, mb5.0/51 Error ellipse: s-maj=16.0km s-min=9.1km az=45.0*

ISC 18 14:10:10.6±0.6, **10°.20S**±0°.05×**160°.94E**±0°.05, **h33**km±2km, **h34**km:**pP-P, n267,** σ1ᵎ**18/262, mb5.0**/90, **MS4.3**/32, **8C-12D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HNR	**Honiara**	**1.24**	**308**	P		**Pb**	**14 10 32.8**	**-0.8**
	369nm,0.3s,baz=170,slow=7.8,SNR=112							
HNR				S		**Sb**	**14 10 50.6**	**+1.3**
	3µm,0.3s,baz=298,slow=22,SNR=13							
HNR	**Honiara**	**1.24**	**308**	P		**Pb**	**14 10 33.0**	**-0.6**
HNR	**Honiara**	**1.24**	**308**			**Pb**	**14 10 33.0**	**-0.6**
HNR	**Honiara**	**1.24**	**308**	P		**Pb**	**14 10 33.4**	**-0.2**
SANVU	**Saraoutou**	**8.03**	**131**			**Pn**	**14 12 05.5**	**+0.6**
SANVU	**Saraoutou**	**8.03**	**131**	P		**Pn**	**14 12 05.6**	**+0.6**
DVP	**Devils Point**	**10.26**	**138**	P		**Pn**	**14 12 37.5**	**+

comp=Z,5.0nm,1.1s
STKA Stephens Creek 28.04 217 P P 14 15 59.4 +0.5
STKA Stephens Creek 28.04 217 P P 14 15 59.4 +0.5
AS31 Alice Springs 29.05 239 P P 14 16 07.0 -1.1
ASAR Alice Springs 29.06 239 P P 14 16 06.6 -1.5
comp=Z,3.8nm,0.8s,baz=64,slow=10,SNR=29
ASAR LR LR 14 27 41.9
comp=Z,1μm,18.4s,baz=73,slow=36
ASAR Alice Springs 29.06 239 P P 14 16 07.2 -0.9
ASAR Alice Springs 29.06 239 P P 14 16 07.2 -0.9
LCRK Leigh Creek 29.21 223 P P 14 16 09.1 -0.3
MTN Manton Dam 29.32 262 P P 14 16 10.6 +0.1
MTN Manton Dam 29.32 262 P P 14 16 10.3 -0.2
OOD Oodnadatta 29.50 230 P P 14 16 12.6 +0.6
TOO Toolangi 30.60 205 P P 14 16 22.3 +0.7
TOO pmax pmax
comp=Z,45nm,1.2s
TOO Toolangi 30.60 205 P P 14 16 22.3 +0.7
TOO IAmb IAmb 14 16 23.2
comp=Z,45nm,1.2s
TOO Toolangi 30.60 205 P P 14 16 22.3 +0.7
HTT Hallett 30.73 218 P P 14 16 23.2 +0.4
baz=31,SNR=6.1
HTT Hallett 30.73 218 P P 14 16 22.8 0.0
SIJI Sorong 30.93 286 P P 14 16 24.1 -0.6
comp=Z,9.1nm,0.8s,baz=58,slow=7.7,SNR=4.2
URZ Urewera 31.48 155 P P 14 16 27.6 -1.7
comp=Z,9.4nm,0.8s,baz=280,slow=4.2,SNR=6.4
URZ LR LR 14 27 48.3
comp=Z,276nm,18.9s,baz=354,slow=34
URZ Urewera 31.48 155 P P 14 16 28.5 -0.8
URZ IAmb IAmb 14 16 47.5
comp=Z,21nm,1.0s
URZ Urewera 31.48 155 P P 14 16 30.2 +0.9
URZ Urewera 31.48 155 P P 14 16 29.2 -0.1
OTVZ Oturere 31.70 158 P P 14 16 36.2 +4.8
MWZ Matawai 31.72 155 P P 14 16 32.5 +1.0
KNRA Kununurra 31.81 257 P P 14 16 32.0 -0.4
baz=32,SNR=12
KNRA Kununurra 31.81 257 P P 14 16 32.3 -0.1
KNRA Kununurra 31.81 257 P P 14 16 31.7 -0.8
comp=Z,55nm,0.7s
RAGZ Rawiri 31.81 155 P P 14 16 33.6 +1.3
PUZ Puketiti 31.81 154 P P 14 16 31.1 -1.2
MTHZ Maungataniwha 31.88 156 P P 14 16 34.7 +1.8
BKZ Black Stump Fm 32.01 157 P P 14 16 33.8 -0.2
BKZ IAmb IAmb 14 16 45.1
comp=Z,26nm,1.1s
MULG Mulgathing 32.03 228 P P 14 16 33.4 -0.9
BBOO Buckleboo 32.12 222 P P 14 16 34.5 -0.6
baz=32,SNR=19
BBOO Buckleboo 32.12 222 P P 14 16 34.4 -0.6
BBOO IAmb IAmb 14 16 45.2
comp=Z,31nm,0.8s
BBOO Buckleboo 32.12 222 P P 14 16 35.0 -0.1
RIGZ Rimuhau 32.13 155 P P 14 16 35.4 +0.4
TUWZ Tuamarina 33.15 162 P P 14 16 44.6 +0.7
BFZ Birch Farm 33.24 159 P P 14 16 44.3 -0.4
WRKA Warakurna 34.32 240 P P 14 16 53.6 -0.8
baz=34,SNR=22
WRKA Warakurna 34.32 240 P P 14 16 54.3 -0.1
RPZ Rata Peaks 34.53 167 LR LR 14 31 15.4
comp=Z,177nm,18.0s,baz=347,slow=37
LBMI Labuha 34.58 284 P P 14 16 59.5 +2.8
comp=Z,29nm,1.3s
FITZ Fitzroy Crossi 35.07 253 LR LR 14 31 22.7
comp=Z,301nm,19.0s,baz=80,slow=36
FITZ Fitzroy Crossi 35.07 253 P P 14 17 00.0 -0.8
baz=35,SNR=16
FITZ Fitzroy Crossi 35.07 253 P P 14 17 00.0 -0.8
FITZ IAmb IAmb 14 17 11.6
comp=Z,21nm,1.0s
SANI Sanana 35.65 281 P P 14 17 06.8 +0.9
comp=Z,34nm,0.9s
BATI Baumata 36.68 267 P P 14 17 14.9 +0.2
comp=Z,29nm,0.8s,baz=227,slow=5.4,SNR=7.2
BATI LR LR 14 33 27.8
comp=Z,251nm,18.9s,baz=134,slow=38
FORT Forrest 36.77 231 P P 14 17 16.0 +0.7
FORT IAmb IAmb 14 17 28.6
comp=Z,38nm,1.1s
LUWI Luwuk 39.02 281 P P 14 17 36.4 +1.9
comp=Z,2μm comp=Z,120nm,1.1s
RAR Rarotonga 39.26 111 LR LR 14 30 50.4
comp=Z,286nm,19.4s,baz=288,slow=32
APSI Ampana 40.14 281 P P 14 17 44.3 +0.5
comp=Z,774nm comp=Z,69nm,1.3s
MRSI Marisa 40.23 283 P P 14 17 55.7 +11
BNSI Bone 40.89 275 P P 14 17 50.6 +0.6
comp=Z,659nm comp=Z,58nm,1.0s
PSA00 Pilbara Seismi 40.99 249 P P 14 17 50.8 0.0
TOLI2 Tolitoli 41.52 283 P P 14 17 54.2 -1.0
TOLI2 IAmb IAmb 14 17 54.8
comp=Z,26nm,0.9s
MPSI Mapaga 42.15 282 P P 14 17 59.6 -0.8
comp=Z,31nm,1.1s
PLAI Plampang 42.57 268 P P 14 18 03.0 -0.8
comp=Z,793nm comp=Z,76nm,0.8s
MEEK Meekatharra 43.13 242 P P 14 18 08.2 0.0
baz=43,SNR=11
MCQ Macquarie Isla 44.21 182 P P 14 18 17.0 +0.6
baz=44,SNR=4.9
MCQ Macquarie Isla 44.21 182 P P 14 18 18.0 +1.6
MCQ pmax pmax
comp=Z,251nm,1.4s
MCQ Macquarie Isla 44.21 182 P P 14 18 18.0 +1.6
MYLDM Lahad Datu 44.95 288 P P 14 18 22.2 -0.8
MYLDM IAmb IAmb 14 18 43.8
comp=Z,46nm,1.1s
MORW Morawa 45.94 239 P P 14 18 30.2 -0.4
MORW IAmb IAmb 14 18 45.5
comp=Z,16nm,1.1s
JAGI Jajag, Banyuwa 46.17 268 P P 14 18 31.0 -1.7
JAGI Jajag, Banyuwa 46.17 268 P P 14 18 31.1 -1.6
comp=Z,70nm,0.8s
KKM Kota Kinabalu 47.38 288 P P 14 18 41.3 -0.9
PPT Papeete 48.48 104 LR LR 14 34 42.0
comp=Z,166nm,21.4s,baz=292,slow=30
PPT2 Papeete2 48.48 104 *e*LR LR 14 32 38.6
comp=Z,330nm,22.8s
PCJI Pacitan 49.13 268 P P 14 18 55.2 -0.4
comp=Z,2μm comp=Z,126nm,1.0s
UGM Wanagama 49.81 268 P P 14 19 00.8 0.0
SBUM Sibu 50.11 282 P P 14 19 02.7 -0.3
STKI Sintang 50.24 279 P P 14 19 04.5 +0.4
comp=Z,39nm,1.0s
MJAR Matsushiro Arr 51.18 336 P P 14 19 09.8 -0.9
comp=Z,9.1nm,0.8s,baz=169,slow=8.4,SNR=4.9
MJAR Matsushiro Arr 51.18 336 P P 14 19 10.1 -0.6
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 51.18 336 P P 14 19 10.1 -0.6
MJAR IAmb IAmb 14 19 10.9
comp=Z,9.6nm,0.8s
MAJO Matsushiro 51.18 336 *ce*P P **14 19 09.9 -0.8**
MAJO pmax pmax
comp=Z,12nm,0.8s
MJB9 Matsu-Tunnel 51.19 336 P P 14 19 10.8 0.0
MJB9 IAmb IAmb 14 19 11.0
comp=Z,9.9nm,0.7s
KPJI Karang Pucung 51.44 269 P P 14 19 14.7 +1.6
comp=Z,38nm,0.8s
KPJI pP **pP 14 19 23.3 +0.6**
comp=Z,38nm,0.8s
KSM Kuching 51.71 280 P P 14 19 14.3 -0.8
CGJI Cibinong 54.72 269 P P 14 19 36.0 -1.3
comp=Z,1μm comp=Z,145nm,0.9s
PPBI Pangkal Pinang 55.00 275 P P 14 19 39.5 +0.2
TJN Taejon 56.09 327 *de*P **P 14 19 47.1 +0.5**
MDSI Maura Dua 56.53 271 P P 14 19 49.2 -1.1
comp=Z,597nm comp=Z,24nm,1.3s
ASAJ Asahikawa 56.57 344 LR LR 14 42 01.5
comp=Z,508nm,21.3s,baz=176,slow=34
KSRS Korea Array 56.61 329 P P 14 19 50.9 +0.5
comp=Z,14nm,1.2s,baz=150,slow=7.4,SNR=10
KSRS LR LR 14 42 16.5
comp=Z,178nm,20.9s,baz=135,slow=34
KSAR Wonju Array Be 56.62 329 P P 14 19 49.4 -1.1
KSAR Wonju Array Be 56.62 329 P P 14 19 49.4 -1.1
NJ2 Nanjing 58.17 318 *eP* **P 14 20 03.6 +2.1**
NJ2 pmax pmax
comp=Z,11nm,0.7s
YSS Yuzh-Sakhalins 59.17 346 *e*P **P 14 20 08.9 +0.8**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,700nm,17.0s
USRK Ussuriysk Ar. 60.18 336 P P 14 20 15.9 +0.8
comp=Z,20nm,0.9s,baz=142,slow=6.2,SNR=11
USRK LR LR 14 44 09.4
comp=Z,154nm,20.9s,baz=140,slow=34
PPI Padang Panjang 60.96 275 P P 14 20 21.6 +0.5
comp=Z,520nm comp=Z,28nm,0.6s
MDJ Mudanjiang 61.49 335 P P 14 20 25.6 +1.5
MDJ pmax pmax
comp=Z,23nm,1.0s
MDJ pmax pmax
comp=Z,85nm,3.5s
MNSI Mandailing Nat 62.01 276 P P 14 20 27.2 -1.0
comp=Z,56nm,0.9s
CN2 Changchun 62.68 332 *e*P **P 14 20 31.3 -0.8**
CN2 sP sP 14 20 49.3 +4.0
CN2 PP **PP 14 22 51.1 +0.7**
CN2 S **S 14 28 55.1 -3.2**
CN2 sS sS 14 29 16.9 +4.0
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 LR LR
comp=Z,250nm,17.0s
CN2 LR LR
comp=Z,160nm,17.0s
CN2 LR LR
comp=Z,210nm,18.0s
TYV Tymovskoe 62.86 347 *e*P **P 14 20 33.8 +0.7**
TYV pmax pmax
comp=Z,13nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.9s
PET Petropavlovsk 63.00 358 *e*P **P 14 20 34.1 +0.1**
PET *e*S **S 14 29 01.5 -0.5**
PET pmax pmax
comp=Z,27nm,1.4s
PETK Petropavlovsk- 63.12 358 P P 14 20 35.0 +0.2
comp=Z,3.5nm,0.8s,baz=186,slow=12,SNR=3.6
PETK LR LR 14 43 42.8
comp=Z,369nm,22.0s,baz=161,slow=32
PETK Petropavlovsk- 63.12 358 P P 14 20 34.5 -0.3
PETK Petropavlovsk- 63.12 358 P P 14 20 34.5 -0.3
BNX BinXian 63.32 334 ⇓P **P 14 20 36.1 -0.2**
BNX pmax pmax
comp=Z,32nm,0.9s
BNX pmax pmax
comp=Z,140nm,5.7s
SHEM Shemya Is, Ala 63.69 9 LR LR 14 46 11.1
comp=Z,174nm,18.6s,baz=190,slow=34
GSI Gunungsitoli 64.08 276 P P 14 20 41.1 -0.9
GSI Gunungsitoli 64.08 276 P P 14 20 41.6 -0.4
comp=Z,55nm,1.4s
HNS HongShan 64.16 320 ⇑P **P 14 20 43.3 +1.3**
HNS pmax pmax
comp=Z,8.0nm,1.6s
GRNR Gornyy 64.36 343 ⇑*i*P **P 14 20 43.7 +0.7**
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 64.50 339 P P 14 20 44.5 +0.5
comp=Z,12nm,1.0s,baz=155,slow=6.9,SNR=4.8
BJI Beijing 64.92 323 P P 14 20 47.8 +0.9
BJI pmax pmax
comp=Z,7.0nm,0.6s
KMI Kunming 66.68 303 ⇓P **P 14 21 00.0 +1.1**
KMI pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 67.30 180 P P 14 21 00.9 -0.7
comp=Z,3.4nm,0.9s,baz=329,slow=7.5,SNR=8.2
VNDA LR LR 14 47 33.7
comp=Z,134nm,18.0s,baz=350,slow=33
VNDA Vanda 67.30 180 P P 14 21 01.4 -0.3
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 67.30 180 P P 14 21 01.4 -0.3
CMAR Chiang Mai Arr 67.46 295 P P 14 21 04.2 +0.5
comp=Z,6.4nm,0.9s,baz=122,slow=4.8,SNR=16
CMAR Chiang Mai Arr 67.46 295 *i*P **P 14 21 04.1 +0.4**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
XLT XiLinHaoTe 67.49 326 *e*P **P 14 21 05.1 +1.6**
XLT pP pP 14 21 13.4 -0.1
XLT sP PcP 14 21 23.8 -6.8
XLT pmax pmax
comp=Z,14nm,1.1s
XLT pmax pmax
comp=Z,130nm,3.8s
PZH PanZhiHua 68.06 304 P P 14 21 10.4 +2.9
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,60nm,4.9s
HHC Hu-ho-hao-te 68.19 322 *e*P **P 14 21 11.0 +3.0**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,8.4s
ZEA Zeya 69.82 339 *e*P **P 14 21 18.8 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 70.02 355 P P 14 21 18.7 -0.1
comp=Z,14nm,0.9s,baz=156,slow=5.6,SNR=8.2
MA2 LR LR 14 48 29.1
comp=Z,166nm,21.8s,baz=153,slow=33
MA2 Magadan 70.02 355 *c i*P **P 14 21 18.0 -0.8**
MA2 pmax pmax
comp=Z,25nm,1.3s
MA2 Magadan 70.02 355 P P 14 21 18.3 -0.5
MA2 IAmb IAmb 14 21 19.4
comp=Z,17nm,0.9s
LZH Lanzhou 70.73 314 *e*P **P 14 21 26.0 +2.1**
LZH pP pP 14 21 33.3 -0.5
LZH sP sP 14 21 38.8 +1.4
LZH pmax pmax
comp=Z,14nm,1.2s
SEY Seymchan 73.21 356 P P 14 21 37.8 -0.1
comp=Z,6.9nm,0.8s,baz=160,slow=5.9,SNR=6.5
SEY Seymchan 73.21 356 ⇓*e*P **P 14 21 38.0 +0.1**
SEY pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 74.90 326 *de*P **P 14 21 49.2 +0.9**
ULN pmax pmax
comp=Z,13nm,1.7s
GTA Gaotai 75.11 315 *e*P **P 14 21 48.8 -0.9**
GTA pP pP 14 21 58.9 -0.8
GTA sP sP 14 22 03.5 +0.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 75.25 325 P P 14 21 50.3 0.0
comp=Z,3.5nm,0.8s,baz=130,slow=4.4,SNR=5.2
SONM LR LR 14 55 11.0
comp=Z,89nm,19.2s,baz=106,slow=36
SONM Songino Array 75.25 325 P P 14 21 50.8 +0.5
SONM Songino Array 75.25 325 P P 14 21 50.8 +0.5
YAK Yakutsk 76.02 345 LR LR 14 52 46.9
comp=Z,251nm,21.9s,baz=94,slow=34
YAK Yakutsk 76.02 345 *d i*P **P 14 21 54.3 +0.1**
YAK pmax pmax
comp=Z,43nm,1.7s
GOMU GeErMu 77.36 311 P P 14 22 01.8 -1.1
GOMU PcP **pP 14 22 12.0 -0.9**
GOMU PP **PP 14 24 56.1 -1.5**
GOMU S **S 14 31 55.5 +4.0**
GOMU sS sS 14 32 09.9 +2.1
GOMU SS **SS 14 36 52.6 +1.9**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,75nm,5.3s
GOMU LR LR
comp=Z,71nm,14.4s
GOMU LR LR
comp=Z,73nm,15.1s
GOMU LR LR
comp=Z,100nm,13.8s
KDAK Kodiak Island 77.61 23 P P 14 22 02.6 -0.6
KDAK pmax pmax
comp=Z,65nm,1.2s
KDAK Kodiak Island 77.61 23 P P 14 22 02.6 -0.6
BILL Bilibino 78.13 2 *d i*P **P 14 22 06.2 +0.2**
BILL *e* 14 22 15.9
BILL *e* 14 25 02.2
BILL *e*PPP PPP 14 26 47.6
BILL pmax pmax
comp=Z,59nm,1.7s
BILL Bilibino 78.13 2 P P 14 22 05.6 -0.3
P19K Oil Pt 78.65 22 P P 14 22 09.2 +0.2
SVW2 Sparrevohn 78.86 20 P P 14 22 09.3 -0.9
SVW2 IAmb IAmb 14 22 12.3
comp=Z,17nm,0.8s
QSPA South Pole Qui 79.80 180 LR LR 14 54 03.1
comp=Z,100nm,19.7s,baz=294,slow=33
QSPA South Pole Qui 79.80 180 P P 14 22 15.1 -0.4
QSPA IAmb IAmb 14 22 28.8
comp=Z,17nm,1.1s
KLU Klutina 82.59 23 P P 14 22 30.5 +0.3
KLU IAmb IAmb 14 22 33.5
comp=Z,15nm,0.6s
M24K Tolsona, Glenn 82.87 22 P P 14 22 30.0 -1.6
M24K IAmb IAmb 14 22 55.8
comp=Z,27nm,1.0s
GLB Gilahina Butte 83.38 23 P P 14 22 34.6 +0.4
GLB IAmb IAmb 14 22 38.8
comp=Z,23nm,1.2s
MAW Mawson 83.71 202 P P 14 22 36.6 +0.8
comp=Z,15nm,1.1s,baz=101,slow=5.8,SNR=5.2
MAW LR LR 14 54 32.8
comp=Z,179nm,21.9s,baz=57,slow=32
CTGM Chitina Glacie 84.10 24 P P 14 22 38.9 +0.9
CTGM IAmb IAmb 14 22 53.5
comp=Z,12nm,0.8s
ILAR Eielson Array 84.27 20 P P 14 22 39.5 +0.9
comp=Z,6.8nm,0.6s,baz=238,slow=4.7,SNR=16
ILAR LR LR 14 56 36.1
comp=Z,249nm,19.1s,baz=243,slow=33
TIXI Tiksi 84.42 350 ⇓*eP* **P 14 22 38.5 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
L26K Log Cabin Wild 84.47 22 P P 14 22 39.2 -0.5
L26K IAmb IAmb 14 22 52.1
comp=Z,10nm,1.0s
BCAR Beaver Creek A 85.08 23 P P 14 22 43.9 +1.1
WMQ Urumqi 85.18 316 *eP* **P 14 22 45.1 +1.3**
HYBB Hyderabad (bro 85.87 288 *eP* **P 14 22 47.0 -0.7**
M02C Callahan 86.52 47 P P 14 22 50.3 -0.2
DAWY Dawson 86.53 22 P P 14 22 51.3 +1.3
DAWY IAmb IAmb 14 23 04.8
comp=Z,16nm,0.8s
BBB Bella Bella 86.60 36 LR LR 14 53 52.5
comp=Z,147nm,21.0s,baz=283,slow=30
J05D Fort Rock, OR 88.20 46 P P 14 23 00.2 +1.6
baz=254
CWC Cottonwood Cre 88.83 53 P P 14 23 02.8 +1.0
baz=256
LRMC Laurel Mtn Rad 88.92 54 P P 14 23 03.7 +1.5
baz=257
NVAR Mina Array Bea 89.12 51 P P 14 23 03.2 0.0
comp=Z,1.9nm,0.8s,baz=240,slow=6.5,SNR=17
NVAR pP **sP 14 23 17.5 +0.2**
comp=Z,5.4nm,0.9s,baz=238,slow=6.0,SNR=13
MPMC Manual Prospec 89.20 53 P P 14 23 04.8 +1.2
baz=257
MONP2 Monument Peak 89.36 57 P P 14 23 05.8 +1.4
baz=258
I07A Izee 89.62 45 P P 14 23 05.8 +0.5
MK31 Makanchi Array 89.70 318 ⇓*eP* **P 14 23 05.1 -0.4**
FURC Furnace Creek, 89.79 53 P P 14 23 07.7 +1.7
baz=257
HEC Hector,Ludlow 89.85 55 P P 14 23 08.0 +1.4
baz=258
BELC Belle Mtn. Jos 89.95 56 P P 14 23 08.0 +0.9
baz=258
TUQ Turquoise Moun 90.31 54 P P 14 23 09.6 +0.8
baz=258
TPNV Topopah Spring 90.38 53 P P 14 23 10.4 +1.3
baz=258
GMRC Granite Mounta 90.39 55 P P 14 23 10.2 +1.0
baz=258
INK Inuvik 90.67 20 LR LR 15 00 08.8
comp=Z,361nm,19.7s,baz=214,slow=33
INK Inuvik 90.67 20 P P 14 23 08.1 -1.4
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 90.67 20 P P 14 23 08.1 -1.4
INK IAmb IAmb 14 23 20.1
comp=Z,9.1nm,0.9s
SYO Syowa Base 91.17 198 ⇑*eP* **P 14 23 10.2 -1.7**
R11A Troy Canyon, C 91.19 51 P P 14 23 14.0 +1.1
baz=258
BELA Belgrano 2 91.63 177 P P 14 23 13.0 -1.0
NEW Newport 92.21 41 P P 14 23 17.5 +0.3
baz=257
KURK Kurchatov 92.99 321 ⇑*eP* **P 14 23 19.9 -0.7**
KURK pmax pmax
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra 93.03 321 LR LR 15 05 30.3
comp=Z,111nm,21.4s,baz=83,slow=36
HLID Hailey 93.10 46 P P 14 23 22.9 +1.3
baz=259
NRIK Noril'sk 93.70 340 LR LR 15 05 51.5
comp=Z,286nm,20.5s,baz=110,slow=36
BOZ Bozeman (W) 95.41 45 P P 14 23 33.0 +0.9
baz=261
YKA Yellowknife Ar 96.41 28 P P 14 23 35.3 -0.7
comp=Z,1.3nm,0.8s,baz=257,slow=4.7,SNR=20
YKA pP **pwP 14 23 48.6 +0.3**
comp=Z,2.6nm,0.7s,baz=257,slow=4.7,SNR=18
BW06 Boulder Array 96.47 48 P P 14 23 39.6 +2.5
baz=262
PDAR Pinedale Array 96.47 48 P P 14 23 37.4 +0.3
comp=Z,0.4nm,0.6s,baz=263,slow=3.9,SNR=5.3
PDAR pP **sP 14 23 51.5 +0.4**
comp=Z,1.2nm,0.8s,baz=222,slow=2.0,SNR=4.4
SNAA Sanae 97.59 185 LR LR 15 03 06.3
comp=Z,142nm,21.6s,baz=234,slow=33
SNAA Sanae 97.59 185 P P 14 23 40.3 -1.1
SNAA pmax pmax
comp=Z,10.0nm,1.5s
SNAA Sanae 97.59 185 P P 14 23 40.2 -1.1
SNAA IAmb IAmb 14 23 44.0
comp=Z,10nm,1.5s
PMSA Palmer Station 98.01 162 LR LR 15 00 40.0
comp=Z,171nm,20.6s,baz=248,slow=31
ARCES ARCESS Array B 114.29 344 PKP PKPdf 14 28 45.3 -1.0
comp=Z,3.5nm,0.9s,baz=23,slow=0.7,SNR=5.8
OBN Obninsk 117.60 328 *e*PKIKP **PKPdf 14 28 53.0 0.0**
OBN *e* 14 30 04.9
OBN *e*PPP PPP 14 32 35.7
OBN pmax pmax
comp=Z,3.0nm,0.8s
VSLR Vesyoloye 119.26 314 ⇓*i*PKIKP **PKiKP 14 28 58.1 +1.4**
BOSA Boshof 122.38 227 PKP **PKPdf 14 29 02.0 -1.3**
comp=Z,1.3nm,0.6s,baz=2.8,slow=4.0,SNR=4.4
BOSA Boshof 122.38 227 PKIKP **PKPdf 14 28 59.9 -3.4**
BOSA Boshof 122.38 227 PKPdf 14 28 59.9 -3.4
AKASG Malin Array Be 123.53 325 PKP **PKPdf 14 29 03.0 -1.6**
comp=Z,0.6nm,0.4s,baz=68,slow=2.2,SNR=5.5
AKASG Malin Array Be 123.53 325 *i* PKIKP **PKiKP 14 29 04.9 +0.1**
AKBB Malin Array Si 123.53 325 ⇓*i*PKIKP **PKPdf 14 29 02.8 -1.8**
BR131 Keskin Array S 124.90 312 ⇑*i*PKIKP **PKPdf 14 29 07.7 -0.1**
ESDC Sonseca Array 147.72 338 PKPbc **PKPdf 14 29 50.2 +0.7**
comp=Z,1.1nm,0.9s,baz=9.9,slow=3.6,SNR=6.2
TORD Torodi Ar. Bea 159.47 280 PKP **PKPdf 14 30 04.7 -2.1**
comp=Z,1.3nm,0.8s,baz=73,slow=1.6,SNR=6.2
TORD PKPab **PKPab 14 30 42.4 -2.5**
comp=Z,2.4nm,0.8s,baz=81,slow=4.8,SNR=8.4
TORD Torodi Ar. Bea 159.47 280 PKPdf 14 30 05.4 -1.4
TORD PKPab **PKPab 14 30 44.0 -0.8**
DBIC Dimbokro 165.52 257 PKP **PKPdf 14 30 11.2 -1.7**
comp=Z,4.1nm,0.8s,baz=115,slow=2.5,SNR=4.5
DBIC Dimbokro 165.52 257 PKIKP **PKPdf 14 30 10.6 -2.3**
DBIC Dimbokro 165.52 257 PKPdf 14 30 10.6 -2.3

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*JMA **18** 14:12:49.2±0.1, 28.91N×143.18E, h23km±5km, M5.3*
*IDC **18** 14:12:49.0±0.4, 28.80N×143.05E, h0km, mb4.8/29, mb1 4.9/33, mb1mx4.9/42, mbtmp4.8/33, ML3.8/4, MS4.0/21, Ms1 4.0/21, ms1mx3.6/85, Error ellipse: s-maj=14.6km s-min=9.9km az=95.0*
*NIED **18** 14:12:49.3, 28.91N×143.18E, h23km, MW4.7, Moment Tensor Solution. s1 Moment tensor: Scale 10¹⁶Nm; Mrr=0.52; Mθθ 0.00; Mφφ 0.51; Mrθ 0.12; Mrφ -1.12; Mθφ 0.21; Fault plane solution: Mo 1.20000×10¹⁶ NP1: φs=183.00000°, δ 74.00000°, λ -20.00000°. NP2: φs=279.00000°, δ 70.00000°, λ -163.00000°.*
*NEIC **18** 14:12:51.6±2.1, 28.88N±0.05×142.97E±0.08, h10km±3km,*

mb5.1/106 Error ellipse: s-maj=10.7km s-min=5.4km az=64.0

BJI ***18*** *14:12:52.6±0.0,28°.87N×142°.82E,h27km,mb4.8/73, mB4.9/44,Ms4.4/65,Ms7 4.2/62*

MOS ***18*** *14:12:52.3±1.0,28°.80N×143°.03E,h34km,mb5.3/53,Error ellipse: s-maj=7.7km s-min=4.2km az=117.1*

GCMT ***18*** *14:12:53.6±0.3,28°.87N±0°.03×143°.13E±0°.02,h19km, MW4.9/82,Moment Tensor Solution. s30,c36; s82,c124; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.30±.18; Mθθ0.54±.10; Mφφ2.77±.12; Mrθ0.37±.22; Mrφ-0.88±.06; Mθφ0.49±.20; Best double couple: M₀3.24200×10¹⁶ NP1:ϕs333.00000°,δ42.00000°,λ-102.00000°. NP2: ϕs169.00000°,δ49.00000°,λ-79.00000°. Principal axes: T 3.0930, Plg3.0000°, Azm251.0000°; N 0.3060, Plg8.0000°, Azm342.0000°; P -3.3900, Plg81.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 14:12:52.8±0.5,28°.87N±0°.03×143°.04E±0°.04,h25km±3km, h25km:pP-P,n648,σ1§36/693,mb5.1/165,MS4.1/48, 42C-88D,Fault plane solution: NP1:ϕs150.35219°, δ46.48153°,λ-88.16911°. **NP2:**ϕs327.69428°,δ43.54927°, λ-91.92706°. **Principal axes:** T Plg1.4665°, Azm239.0572°; N Plg1.3276°, Azm329.0912°; P Plg88.0216°, Azm101.2279°; **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.92**	**203**	P	**Pn**	**14 13 22.8**	**-1.1**
CBIJ				S	**Sn**	**14 13 47.5**	**+0.2**
JCJ	**Chichijima**	**1.92**	**203**		**Pn**	**14 13 22.9**	**-1.1**
JCJ	**Chichijima**	**1.92**	**203**	P	**Pn**	**14 13 22.9**	**-1.1**
JHH2	**Haha-jima-NKT2**	**2.35**	**199**	P	**Pn**	**14 13 29.1**	**-0.8**
JHH2				S	**Sn**	**14 13 58.1**	**+0.1**
JAOM	**Aogashimamukai**	**4.56**	**323**	P	**Pn**	**14 13 59.8**	**-0.5**
JAOM				S	**Sn**	**14 14 52.6**	**+0.1**
JHCJ	**Hachijojimakas**	**5.03**	**327**	P	**Pn**	**14 14 06.2**	**-0.5**
JHJ2	**Mitsune**	**5.05**	**328**	P	**Pn**	**14 14 06.2**	**-0.8**
JHJ2				S	**Sn**	**14 15 04.5**	**-0.1**
JHJ2	**Mitsune**	**5.05**	**328**	Pn	**Pn**	**14 14 05.5**	**-1.5**
JHJ	**Hachijo jima 2**	**5.08**	**327**	Pn	**Pn**	**14 14 06.1**	**-1.3**
	21nm,0.3s,baz=112,slow=21,SNR=39						
JHJ				Sn	**Sn**	**14 15 00.7**	**-4.5**
	132nm,0.3s,baz=18,slow=23,SNR=7.7						
JMKN	**Mikurajimanish**	**5.81**	**330**	P	**Pn**	**14 14 16.4**	**-1.0**
JMKN				S	**Sn**	**14 15 22.9**	**-0.4**
BSO1	**Boso 1**	**6.03**	**344**	P	**Pn**	**14 14 19.0**	**-0.9**
JOD2	**Odawara 2**	**7.20**	**333**	P	**Pn**	**14 14 36.0**	**-0.6**
JYT	**Yasato**	**7.72**	**343**	Pn	**Pn**	**14 14 41.9**	**-1.8**
JRY	**Ryogami san**	**7.94**	**335**	P	**Pn**	**14 14 46.2**	**-0.5**
JRY				S	**Sn**	**14 16 14.8**	**-0.9**
JAG	**Ashikaga**	**8.12**	**339**	P	**Pn**	**14 14 47.4**	**-1.7**
INU	**Inuyama**	**8.23**	**323**	Pn	**Pn**	**14 14 51.2**	**+0.5**
INU	**Inuyama**	**8.23**	**323**	P	**Pn**	**14 14 52.0**	**+1.3**
JGF	**Kuroka**	**8.26**	**326**	Pn	**Pn**	**14 14 52.7**	**+1.6**
MJAR	**Matsushiro Arr**	**8.66**	**333**	Pn	**Pn**	**14 14 56.3**	**-0.3**
	1.8nm,0.3s,baz=156,slow=9.9,SNR=94						
MJAR				Sn	**Sn**	**14 16 30.3**	**-3.3**
	0.9nm,0.3s,baz=160,slow=19,SNR=6.1						
MJAR	**Matsushiro Arr**	**8.66**	**333**	P	**Pn**	**14 14 55.7**	**-0.9**
MJAR	**Matsushiro Arr**	**8.66**	**333**		**Pn**	**14 14 55.7**	**-0.9**
MAJO	**Matsushiro**	**8.67**	**333**	*d iP*	**Pn**	**14 14 56.4**	**-0.3**
MAJO	**Matsushiro**	**8.67**	**333**	Pn	**Pn**	**14 14 56.3**	**-0.3**
MAJO	**Matsushiro**	**8.67**	**333**	P	**Pn**	**14 14 57.5**	**+0.9**
MAT	**Matsushiro**	**8.67**	**333**	P	**Pn**	**14 14 56.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**8.67**	**333**	Pn	**Pn**	**14 14 56.9**	**+0.2**
JMM	**Marumori**	**9.17**	**349**		**Pn**	**14 15 00.3**	**-3.2**
JAD	**Aida**	**9.66**	**311**	P	**Pn**	**14 15 13.0**	**+2.7**
JSD	**Sado**	**9.97**	**338**	Pn	**Pn**	**14 15 12.5**	**-2.1**
JMK	**Ichinoseki**	**10.17**	**352**	P	**Pn**	**14 15 16.2**	**-1.0**
JHS	**Saijyo**	**10.41**	**308**	Pn	**Pn**	**14 15 23.4**	**+2.8**
JSU	**Suzuyama**	**11.20**	**287**	Pn	**Pn**	**14 15 30.0**	**-1.4**
JNU	**Nakatsue**	**11.26**	**295**	Pn	**Pn**	**14 15 33.8**	**+1.6**
JNU	**Nakatsue**	**11.26**	**295**	P	**Pn**	**14 15 34.5**	**+2.3**
JTM	**Tenmabayashi**	**12.00**	**353**		**Pn**	**14 15 37.8**	**-4.4**
ERM	**Erimo**	**13.12**	**0**	P	Pn	14 15 52.6	-4.9
ERM	**Erimo**	**13.12**	**0**	Pn	Pn	14 15 52.6	-4.9
NMR	**Nemuro--Hokkai**	**14.63**	**8**	*eP*	**Pn**	**14 16 13.5**	**-4.7**
TJN	**Taejon**	**15.17**	**304**	*⇓eP*	**Pn**	**14 16 26.1**	**+0.7**
TJN	**Taejon**	**15.17**	**304**	P	**Pn**	**14 16 27.6**	**+2.2**
JKA	**Kamikawa-asahi**	**15.22**	**359**		**Pn**	**14 16 22.1**	**-4.0**
ASAJ	**Asahikawa**	**15.22**	**359**	Pn	**Pn**	**14 16 23.2**	**-2.9**
	1.2nm,0.3s,baz=224,slow=14,SNR=16						
ASAJ				Sn	**Sn**	**14 19 10.6**	**-3.3**
	1.1nm,0.3s,baz=207,slow=33,SNR=3.8						
ASAJ				LR	LR	14 25 53.5	
	comp=Z,325nm,19.3s,baz=193,slow=51						
ASAJ	**Asahikawa**	**15.22**	**359**	P	**Pn**	**14 16 22.1**	**-4.0**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.9s						
KSRS	**Korea Array**	**15.27**	**308**	Pn	**Pn**	**14 16 27.6**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=110,slow=13,SNR=55						
KSRS				LR	LR	14 21 56.1	
	comp=Z,231nm,21.5s,baz=105,slow=36						
SHO	**Shikotan**	**15.28**	**10**	*eP*	**Pn**	**14 16 21.9**	**-4.9**
SHO				pmax	pmax		
	comp=Z,7.0nm,0.2s						
KSAR	**Wonju Array Be**	**15.29**	**308**	P	**P**	**14 16 29.5**	**-2.1**
KSAR	**Wonju Array Be**	**15.29**	**308**		**P**	**14 16 29.5**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**15.30**	**8**	P	**Pn**	**14 16 23.0**	**-4.1**
YUK				pmax	pmax		
	comp=E,39nm,0.4s						
YUK				pmax	pmax		
	comp=Z,71nm,0.4s						
RUSJ	**Misakicho**	**15.31**	**6**	*eP*	**Pn**	**14 16 22.6**	**-4.6**
KS19	**Wonju Array Si**	**15.33**	**308**	P	**P**	**14 16 30.3**	**-1.8**
INCN	**Inchon**	**16.18**	**306**	P	**Pn**	**14 16 38.8**	**+0.2**
INCN				pmax	pmax		
	comp=Z,163nm,1.0s						
INCN	**Inchon**	**16.18**	**306**		**Pn**	**14 16 38.8**	**+0.2**
INCN				IAmb	IAmb	14 16 43.9	
	comp=Z,163nm,0.9s						
INCN	**Inchon**	**16.18**	**306**	P	**P**	**14 16 41.3**	**-0.3**
KUR	**Kuril'sk**	**16.78**	**12**	P	**Pn**	**14 16 40.7**	**-5.3**
KUR				pmax	pmax		
	comp=Z,28nm,0.8s						
KUR				MLR	MLR		
	comp=Z,600nm,12.0s						
VLA	**Vladivostok**	**16.82**	**331**	*eP*	**P**	**14 16 48.1**	**-0.4**
VLA				pmax	pmax		
	comp=Z,167nm,1.4s						
USA0B	**Ussuriysk Arra**	**17.66**	**333**	P	**P**	**14 16 58.0**	**+0.1**
USA0B				pmax	pmax		
	comp=Z,23nm,1.0s						
USA0B	**Ussuriysk Arra**	**17.66**	**333**	P	**P**	**14 16 58.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**17.66**	**333**	P	**Pn**	**14 16 56.4**	**-0.7**
	baz=137,slow=12,SNR=8.0						
USRK	**Ussuriysk Ar.**	**17.66**	**333**	P	**Pn**	**14 16 55.9**	**-1.2**
USRK	**Ussuriysk Ar.**	**17.66**	**333**		**Pn**	**14 16 55.9**	**-1.2**
YSS	**Yuzh-Sakhalins**	**18.06**	**359**	*eP*	**P**	**14 17 03.6**	**+1.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**18.06**	**359**		**Pn**	**14 17 00.3**	**-1.6**
YSS	**Yuzh-Sakhalins**	**18.06**	**359**	P	**P**	**14 17 03.7**	**+1.5**
YOJ	**Yonaguni jima**	**18.43**	**261**	P	**P**	**14 17 05.3**	**-1.1**
YOJ				pmax	pmax		
	comp=Z,186nm,1.2s						
YOJ	**Yonaguni jima**	**18.43**	**261**	P	**P**	**14 17 05.3**	**-1.1**
YOJ				IAmb	IAmb	14 17 57.1	
	comp=Z,186nm,1.2s						
MDJ	**Mudanjiang**	**19.02**	**329**	P	**P**	**14 17 11.8**	**-1.0**
MDJ	**Mudanjiang**	**19.02**	**329**	P	**Pn**	**14 17 13.3**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,34nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,310nm,3.6s						
MDJ				LR	LR		
	comp=Z,680nm,12.0s						
MDJ				LR	LR		
	comp=Z,500nm,13.1s						
MDJ				LR	LR		
	comp=Z,830nm,13.7s						
MDJ	**Mudanjiang**	**19.02**	**329**	P	**Pn**	**14 17 13.8**	**+0.2**
SSE	**Sheshan**	**19.06**	**282**	P	**Pn**	**14 17 14.3**	**+0.1**
SSE				pmax	pmax		
	comp=Z,26nm,0.7s						
SSE				pmax	pmax		
	comp=Z,180nm,4.1s						
SSE				LR	LR		
	comp=Z,200nm,18.2s						
SSE				LR	LR		
	comp=Z,220nm,17.2s						
TATO	**Taipei**	**19.60**	**264**	P	**P**	**14 17 19.0**	**-0.3**
TATO				IAmb	IAmb	14 17 23.9	
	comp=Z,99nm,0.8s						
NACB	**Ninganchiao**	**19.74**	**261**	P	**P**	**14 17 19.3**	**-1.6**
YHNB	**Yeheng**	**19.78**	**263**	P	**P**	**14 17 21.5**	**+0.1**
YHNB				IAmb	IAmb	14 17 22.8	
	comp=Z,72nm,0.6s						
YHNB	**Yeheng**	**19.78**	**263**	P	**P**	**14 17 22.1**	**+0.7**
UGL	**Uglegorsk**	**20.20**	**358**	*eP*	**P**	**14 17 24.6**	**-1.0**
UGL				*eS*	**S**	**14 21 01.9**	**-9.1**
UGL				pmax	pmax		
	comp=Z,100nm,0.8s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
UGL				MLR	MLR		
	comp=N,1μm,17.0s						
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
YULB	**Yu-li**	**20.26**	**259**	P	**P**	**14 17 26.9**	**+0.4**
YULB				IAmb	IAmb	14 17 30.9	
	comp=Z,76nm,0.7s						
SNY	**Shenyang**	**20.41**	**314**	*⇓*P	Pn	14 17 34.4	+4.2
SNY				S	Sn	14 21 27.8	+8.3
SNY				pmax	pmax		
	comp=Z,13nm,0.9s						
SNY				pmax	pmax		
	comp=Z,170nm,4.7s						
SNY				LR	LR		
	comp=N,600nm,14.1s						
SNY				LR	LR		
	comp=E,290nm,11.8s						
SNY				LR	LR		
	comp=Z,670nm,13.3s						
SSLB	**Suanglung**	**20.42**	**261**		Pn	14 17 29.6	-0.9
SSLB	**Suanglung**	**20.42**	**261**	P	Pn	14 17 30.1	-0.4
CN2	**Changchun**	**20.50**	**321**	*eP*	**P**	**14 17 28.3**	**-0.7**
CN2				sP	sP	14 17 37.0	+2.0
CN2				S	**S**	**14 21 12.8**	**-4.4**
CN2				sS	Sn	14 21 20.9	-0.7
CN2				SS	**SnSn**	**14 21 43.6**	**+7.2**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
CN2				LR	LR		
	comp=Z,470nm,13.0s						
CN2				LR	LR		
	comp=Z,420nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
TWG	**Pinlang**	**20.65**	**258**	P	**P**	**14 17 29.0**	**-1.8**
TWG				IAmb	IAmb	14 17 34.2	
	comp=Z,62nm,0.6s						
TPUB	**Ta-pu**	**20.86**	**260**	P	**P**	**14 17 33.9**	**+0.8**
TPUB				IAmb	IAmb	14 17 49.3	
	comp=Z,99nm,1.1s						
TPUB	**Ta-pu**	**20.86**	**260**	P	**P**	**14 17 34.2**	**+1.1**
BNX	**BinXian**	**20.87**	**328**	*⇑*P	**P**	**14 17 33.9**	**+0.9**
BNX				pP	**sP**	**14 17 39.4**	**+0.2**
BNX				sP	**pP**	**14 17 42.5**	**+5.3**
BNX				S	**S**	**14 21 24.6**	**+0.1**
BNX				sS	Sn	14 21 29.1	-1.4
BNX				pmax	pmax		
	comp=Z,310nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,6.2s						
BNX				LR	LR		
	comp=Z,890nm,15.5s						
NJ2	**Nanjing**	**21.08**	**285**	*⇓*P	**P**	**14 17 34.4**	**-0.9**
NJ2				pP	**sP**	**14 17 42.1**	**+0.5**
NJ2				sP	**pwP**	**14 17 47.1**	**-4.1**
NJ2				S	**S**	**14 21 26.8**	**-1.9**
NJ2				sS	**pS**	**14 21 38.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,56nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,250nm,4.3s						
NJ2				LR	LR		
	comp=Z,330nm,12.8s						
NJ2				LR	LR		
	comp=Z,400nm,12.3s						
NJ2				LR	LR		
	comp=Z,660nm,18.6s						
TYV	**Tymovskoe**	**21.97**	**359**	*eP*	**P**	**14 17 45.3**	**+0.6**
TYV				pmax	pmax		
	comp=Z,19nm,1.5s						
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
KLR	**Kul'dur**	**22.09**	**340**	P	**P**	**14 17 45.4**	**-0.7**
	comp=Z,13nm,0.7s,baz=139,slow=9.2,SNR=42						
KLR				LR	LR	14 26 48.3	
	comp=Z,183nm,20.6s,baz=140,slow=38						
QZH	**Quanzhou**	**22.14**	**266**	*eP*	**P**	**14 17 48.1**	**+1.4**
QZH				LR	LR		
	comp=Z,200nm,15.3s						
QZH				LR	LR		
	comp=Z,380nm,14.2s						
QZH				LR	LR		
	comp=Z,380nm,17.4s						
GRNR	**Gornyy**	**22.44**	**349**	*⇑iP*	**P**	**14 17 51.3**	**+1.5**
GRNR				*eS*	**S**	**14 21 58.8**	**+4.1**
GRNR				pmax	pmax		
	comp=N,5.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GRNR				smax	smax		
	comp=N,3.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,140nm,17.0s						
GRNR				MLR	MLR		
	comp=N,170nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,360nm,17.0s						
KNMB	**Chin-men Tao**	**22.45**	**264**	P	**P**	**14 17 48.4**	**-1.7**
KNMB				IAmb	IAmb	14 17 52.2	
	comp=Z,83nm,0.9s						
TIA	**Tai'an**	**23.00**	**295**	*⇑*P	**P**	**14 17 54.0**	**-1.8**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIA				LR	LR		
	comp=Z,430nm,14.9s						
TIA				LR	LR		
	comp=Z,260nm,12.0s						
TIA				LR	LR		
	comp=Z,490nm,18.2s						
H11N2	**WAKE ISLAND Hy**	**23.54**	**107**	T	T	14 43 25.0	
	SNR=22						
H11N1	**WAKE ISLAND Hy**	**23.54**	**107**	T	T	14 43 28.6	
	baz=295,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**23.55**	**107**	T	T	14 43 29.3	
	baz=218,slow=74,SNR=21						
SKR	**Severo-Kuril's**	**23.92**	**21**	*eP*	P	14 17 55.1	-10
SKR				pmax	pmax		
	comp=Z,200nm,6.0s						
SKR				MLR	MLR		
	comp=Z,200nm,13.0s						
NKL	**Nikolayevsk**	**24.32**	**357**	*eP*	**P**	**14 18 04.5**	**-3.8**
NKL				*eS*	**S**	**14 22 28.0**	**+2.1**
NKL				pmax	pmax		
	comp=E,4.0nm,0.6s						
NKL				pmax	pmax		
	comp=N,259nm,0.9s						
NKL				pmax	pmax		
	comp=Z,45nm,0.9s						
NKL				smax	smax		
	comp=E,2.0nm,0.8s						
NKL				smax	smax		
	comp=N,400nm,1.1s						
NKL				MLR	MLR		
	comp=E,37nm,14.0s						
NKL				MLR	MLR		
	comp=N,12μm,12.0s						
NKL				MLR	MLR		
	comp=Z,124nm,19.0s						
BJT	**Baijiatuau**	**24.70**	**304**	P	**P**	**14 18 10.7**	**-1.3**
BJT				pmax	pmax		
	comp=Z,29nm,1.3s						
BJT	**Baijiatuau**	**24.70**	**304**	P	**P**	**14 18 10.7**	**-1.3**
BJI	**Beijing**	**24.70**	**304**	P	**P**	**14 18 10.8**	**-1.2**
BJI				pmax	pmax		
	comp=Z,13nm,1.3s						
BJI				LR	LR		
	comp=Z,330nm,15.3s						
BJI				LR	LR		
	comp=Z,430nm,17.5s						
BJI				LR	LR		
	comp=Z,680nm,16.3s						
WHN	**Wuhan**	**24.95**	**281**	*⇑*P	**P**	**14 18 14.3**	**0.0**
WHN				S	**S**	**14 22 37.6**	**+1.1**
WHN				pmax	pmax		
	comp=Z,78nm,1.0s						
WHN				LR	LR		
	comp=Z,640nm,15.8s						
WHN				LR	LR		
	comp=Z,700nm,14.3s						
WHN				LR	LR		
	comp=Z,600nm,17.5s						
HNS	**HongShan**	**25.13**	**297**	*⇑*P	**P**	**14 18 14.4**	**-1.5**
HNS				S	**S**	**14 22 34.9**	**-4.4**
HNS				pmax	pmax		
	comp=Z,14nm,1.1s						
HNS				LR	LR		
	comp=Z,230nm,16.8s						
HNS				LR	LR		
	comp=Z,760nm,22.8s						
HNS				LR	LR		
	comp=Z,400nm,18.4s						
TGY	**Tagaytay City**	**25.21**	**239**	P	**P**	**14 18 16.2**	**-0.5**
	comp=Z,222nm,0.4s,baz=86,slow=2.5,SNR=6.9						
XLT	**XiLinHaoTe**	**26.23**	**312**	*eP*	**P**	**14 18 27.6**	**+1.7**
XLT				pP	sP	14 18 36.0	+3.8
XLT				sP	pwP	14 18 40.8	-1.8
XLT				PP	**PnPn**	**14 19 09.3**	**+4.2**
XLT				S	**S**	**14 22 55.8**	**-1.0**
XLT				SS	**SnSn**	**14 24 02.8**	**+6.0**
XLT				pmax	pmax		
	comp=Z,29nm,1.1s						
XLT				LR	LR		
	comp=Z,33nm,12.6s						
XLT				LR	LR		
	comp=Z,230nm,13.5s						
XLT				LR	LR		
	comp=Z,280nm,15.8s						
PETK	**Petropavlovsk-**	**26.52**	**20**	P	**P**	**14 18 29.1**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=209,slow=14,SNR=2.0						
PETK	**Petropavlovsk-**	**26.52**	**20**	P	**P**	**14 18 29.7**	**+1.4**
PET	**Petropavlovsk**	**26.74**	**21**	*eP*	**P**	**14 18 32.8**	**+2.5**
PET				*eS*	**S**	**14 23 04.0**	**-0.4**
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
HIA	**Hailar**	**27.05**	**325**	*d iP*	**P**	**14 18 34.3**	**+1.2**
HIA				pmax	pmax		
	comp=Z,37nm,1.2s						
HIA	**Hailar**	**27.05**	**325**	P	**P**	**14 18 35.4**	**+2.3**
HIA				IAmb	IAmb	14 18 38.4	
	comp=Z,33nm,1.1s						
DAV	**Davao City (W)**	**27.23**	**221**	LR	LR	14 28 24.9	
	comp=Z,410nm,20.8s,baz=81,slow=34						
ZEA	**Zeya**	**27.41**	**339**	*eP*	**P**	**14 18 37.2**	**+1.0**
ZEA				*e*		14 18 48.9	
ZEA				*eS*	**S**	**14 23 10.0**	**-4.9**
ZEA				pmax	pmax		
	comp=N,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA				smax	smax		
	comp=N,100nm,4.5s						
ZEA				MLR	MLR		
	comp=Z,200nm,12.0s						
HHC	**Hu-ho-hao-te**	**28.31**	**303**	*eP*	**P**	**14 18 45.8**	**+1.2**
HHC				PP	**PnPn**	**14 19 36.6**	**+3.1**
HHC				S	**S**	**14 23 27.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,8.6s						
HHC				LR	LR		
	comp=Z,470nm,12.5s						
HHC				LR	LR		
	comp=Z,630nm,12.0s						
HHC				LR	LR		
	comp=Z,960nm,14.6s						
ENH	**Enshi**	**29.16**	**281**	P	**P**	**14 18 51.2**	**-1.0**
ENH				IAmb	IAmb	14 18 56.3	
	comp=Z,22nm,0.7s						
BTO	**Baotou**	**29.39**	**302**	*eP*	**P**	**14 18 55.9**	**+1.7**
BTO				S	**S**	**14 23 46.3**	**-0.3**
BTO				LR	LR		
	comp=Z,2μm,16.9s						
BTO				LR	LR		
	comp=Z,2μm,16.6s						
XAN	**Xi'an**	**29.47**	**289**	P	**P**	**14 18 54.1**	**-0.8**
XAN				pmax	pmax		
	comp=Z,28nm,0.9s						
XAN				LR	LR		
	comp=Z,410nm,15.4s						
XAN				LR	LR		
	comp=Z,380nm,18.7s						
XAN				LR	LR		
	comp=Z,650nm,16.5s						
MA2	**Magadan**	**31.15**	**8**	P	**P**	**14 19 09.3**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=192,slow=8.6,SNR=17						
MA2				LR	LR	14 31 53.5	
	comp=Z,144nm,20.9s,baz=172,slow=37						
MA2	**Magadan**	**31.15**	**8**	*⇓eP*	**P**	**14 19 09.5**	**+0.1**
MA2				pmax	pmax		
	comp=Z,13nm,1.3s						
MA2	**Magadan**	**31.15**	**8**	P	**P**	**14 19 10.2**	**+0.8**
SWI	**Sorong**	**31.64**	**203**	P	**P**	**14 19 13.9**	**-0.2**
	comp=Z,27nm,0.8s						
SIJI	**Sorong**	**31.64**	**203**	P	**P**	**14 19 12.9**	**-1.3**
	comp=Z,9.2nm,0.4s,baz=351,slow=16,SNR=12						
QIZ	**Qiongzhong**	**31.79**	**260**	P	**P**	**14 19 15.3**	**-0.2**
QIZ				S	**S**	**14 24 25.3**	**+0.9**
QIZ				LR	LR		
	comp=Z,220nm,9.3s						
QIZ				LR	LR		
	comp=Z,320nm,20.1s						
QIZ				LR	LR		
	comp=Z,300nm,20.1s						
GYA	**Guiyang**	**32.23**	**275**	*⇓iP*	**P**	**14 19 18.8**	**-0.6**
GYA				S	**S**	**14 24 27.8**	**-3.6**
GYA				pmax	pmax		
	comp=Z,36nm,1.0s						
GYA				pmax	pmax		
	comp=Z,200nm,3.5s						
GYA				LR	LR		
	comp=Z,260nm,14.6s						
GYA				LR	LR		
	comp=Z,410nm,18.5s						
GYA				LR	LR		
	comp=Z,550nm,18.5s						
LBMI	**Labuha**	**32.89**	**210**	P	**P**	**14 19 25.3**	**+0.2**
	comp=Z,33nm,1.0s						
ULN	**Ulaanbaatar**	**33.59**	**314**	*d iP*	**P**	**14 19 32.6**	**+1.4**
ULN				pmax	pmax		
	comp=Z,97nm,1.7s						
ULN	**Ulaanbaatar**	**33.59**	**314**	P	**P**	**14 19 33.1**	**+1.9**
LZH	**Lanzhou**	**33.67**	**293**	*eP*	**P**	**14 19 31.3**	**-0.7**
LZH				pP	pP	14 19 37.0	+0.1
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				LR	LR		
	comp=Z,360nm,12.5s						
LZH				LR	LR		
	comp=Z,440nm,12.5s						
LZH				LR	LR		
	comp=Z,470nm,16.3s						
GTOI	**Gorontalo**	**33.97**	**218**	P	**P**	**14 19 34.1**	**-0.4**
	comp=Z,22nm,0.8s						
SONM	**Songino Array**	**33.99**	**314**	P	**P**	**14 19 36.5**	**+1.9**
	comp=Z,29nm,0.8s,baz=124,slow=8.4						
SONM				LR	LR	14 35 52.4	
	comp=Z,173nm,18.0s,baz=111,slow=41						
SONM	**Songino Array**	**33.99**	**314**	P	**P**	**14 19 35.8**	**+1.1**
SONM	**Songino Array**	**33.99**	**314**	P	**P**	**14 19 35.8**	**+1.1**
CD2	**Chengdu**	**34.00**	**283**	P	**P**	**14 19 33.6**	**-1.2**
CD2				pmax	pmax		
	comp=Z,60nm,0.8s						
KKM	**Kota Kinabalu**	**34.04**	**233**	P	**P**	**14 19 35.3**	**0.0**
KKM				IAmb	IAmb	14 19 49.2	
	comp=Z,46nm,1.4s						
YAK	**Yakutsk**	**34.32**	**349**	*eP*	**P**	**14 19 36.2**	**-0.9**
YAK				*e**PP	**sP**	**14 19 45.4**	**+1.7**
YAK				*e*		14 20 51.8	
YAK				*e*PPP	PPP	14 21 06.0	
YAK				*e*		14 22 10.1	
YAK				*eS*	**S**	**14 25 01.2**	**-1.6**
YAK				*e**SS	sS	14 25 20.5	+10
YAK				*e*SS	**SnSn**

YAK pmax pmax
comp=Z,30nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,113nm,3.0s
YAK pmax pmax
comp=N,51nm,2.5s
YAK pmax pmax
comp=E,94nm,2.8s
YAK smax smax
comp=N,28nm,2.3s
YAK smax smax
comp=E,58nm,2.5s
SEY Seymchan 34.61 8 P **P** **14 19 40.5 +0.9**
comp=E,10nm,0.6s,baz=188,slow=7.2,SNR=69
SEY Seymchan 34.61 8⇓*i*P **P** **14 19 40.2 +0.6**
SEY pmax pmax
comp=Z,10.0nm,0.7s
MRSI Marisa 34.69 219 P **P** **14 19 41.8 +1.0**
comp=Z,894nmcomp=Z,70nm,0.7s
SANI Sanana 34.82 211 P **P** **14 19 39.6 -2.3**
comp=Z,42nm,0.8s
SANI Sanana 34.82 211 P **P** **14 19 41.2 -0.7**
TOLI2 Tolitoli 34.83 222 P **P** **14 19 42.0 0.0**
TOLI2 IAmb IAmb 14 19 43.0
comp=Z,32nm,1.0s
BOD Bodaibo 35.30 333 *e*P **P** **14 19 46.3 +0.7**
BOD pmax pmax
comp=Z,12nm,1.3s
KMI Kunming 35.98 274⇑P **P** **14 19 52.3 +0.2**
KMI pP sP 14 20 02.6 +3.6
KMI sP pwP 14 20 08.1 +0.1
KMI S **S** **14 25 29.0 -0.7**
KMI ScS **ScS** **14 30 09.8 +0.7**
KMI pmax pmax
comp=Z,18nm,1.2s
KMI pmax pmax
comp=Z,170nm,6.2s
KMI LR LR
comp=Z,220nm,16.0s
KMI LR LR
comp=Z,500nm,16.7s
KMI LR LR
comp=Z,510nm,17.7s
APSI Ampana 36.00 218 P **P** **14 19 50.0 -2.0**
comp=Z,29nm,0.5s
PZH PanZhiHua 36.52 276⇓P **P** **14 19 55.8 -0.8**
PZH pP **pwP** **14 20 07.8 -4.5**
PZH sP sP 14 20 11.8 +8.4
PZH S **S** **14 25 30.3 -7.3**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,3.7s
PZH LR LR
comp=Z,660nm,17.9s
PZH LR LR
comp=Z,500nm,17.8s
PZH LR LR
comp=Z,730nm,19.4s
ZAK Zakamensk 36.81 317 *e*P **P** **14 20 00.4 +1.7**
ZAK *e* 14 20 13.3
ZAK pmax pmax
comp=Z,52nm,1.3s
ZAK pmax pmax
comp=Z,40nm,1.5s
GTA Gaotai 36.98 298⇓P **P** **14 19 59.5 -0.9**
GTA pP sP 14 20 11.0 +4.2
GTA sP pwP 14 20 16.3 -0.8
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,110nm,6.1s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,320nm,17.8s
GTA LR LR
comp=Z,280nm,17.4s
PMG Port Moresby 38.26 173⇑*e*P **P** **14 20 12.1 +1.0**
PMG pmax pmax
comp=Z,48nm,1.4s
MOY Mondy 38.61 318 *e*P **P** **14 20 15.5 +1.5**
MOY pmax pmax
comp=Z,26nm,1.9s
SBUM Sibu 39.38 234 P **P** **14 20 20.8 +0.2**
SPSI Sidrap Palu 39.57 218 P **P** **14 20 21.7 -0.5**
comp=Z,20nm,0.5s
BNSI Bone 39.75 217 P **P** **14 20 23.3 -0.4**
comp=Z,33nm,0.8s
GOMU GeErMu 40.97 293 P **P** **14 20 33.9 -0.2**
GOMU PP **PP** **14 22 09.3 +0.6**
GOMU PcP **PcP** **14 22 34.6 +0.5**
GOMU S **S** **14 26 47.3 +2.2**
GOMU sS sS 14 26 53.8 0.0
GOMU pmax pmax
comp=Z,31nm,0.8s
GOMU pmax pmax
comp=Z,120nm,4.6s
GOMU LR LR
comp=Z,100nm,15.9s
GOMU LR LR
comp=Z,91nm,14.2s
GOMU LR LR
comp=Z,130nm,10.6s
CHTO Chiang Mai 41.35 266 P **P** **14 20 36.2 -0.8**
CHTO pmax pmax
comp=Z,23nm,1.1s
CHTO Chiang Mai 41.35 266 P **P** **14 20 36.2 -0.8**
CHTO Chiang Mai 41.35 266 P **P** **14 20 37.1 +0.1**
KSM Kuching 41.42 235 P **P** **14 20 36.7 -0.9**
KSM Kuching 41.42 235 P **P** **14 20 38.0 +0.4**
CMAR Chiang Mai Arr 41.49 266 P **P** **14 20 38.1 -0.1**
comp=Z,5.1nm,0.8s,baz=47,slow=9.8,SNR=35
CMAR LR LR 14 38 47.1
comp=Z,171nm,18.9s,baz=75,slow=38
BILL Bilibino 41.57 13*ce*P **P** **14 20 37.3 -0.8**
BILL *e* 14 22 15.0
BILL *e* 14 22 35.7
BILL *e*PPP PPP 14 22 43.1
BILL pmax pmax
comp=Z,11nm,1.3s
KDU Kakadu 42.55 195 P **P** **14 20 46.7 0.0**
COEN Coen 42.57 180 P **P** **14 20 46.3 -0.5**
COEN IAmb IAmb 14 21 00.8
comp=Z,67nm,1.4s
MTN Manton Dam 43.03 197 P **P** **14 20 49.9 -0.7**
MTN Manton Dam 43.03 197 P **P** **14 20 50.5 -0.1**
BATI Baumata 43.12 209 P **P** **14 20 50.4 -1.0**
comp=Z,58nm,0.4s,baz=33,slow=1.9,SNR=23
TIXI Tiksi 43.54 354*d i*P **P** **14 20 54.3 +0.3**
TIXI pmax pmax
comp=Z,34nm,1.7s
TIXI Tiksi 43.54 354 P **P** **14 20 54.5 +0.4**
LSA Lhasa 44.95 284 P **P** **14 21 07.1 +0.6**
GAMB Gambell 45.20 26 P **P** **14 21 07.7 +0.3**
baz=241
JRMM Jerantut 45.80 245 P **P** **14 21 14.0 +1.1**
MYKOM Kota Tinggi 46.02 241 P **P** **14 21 16.0 +1.4**
WMQ Urumqi 46.18 304 *e*P **P** **14 21 16.9 +1.3**
WMQ sP pwP 14 21 29.9 -2.6
WMQ PP **PP** **14 23 03.8 -0.2**
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=Z,340nm,20.1s
WMQ LR LR
comp=Z,130nm,19.9s
KNRA Kununurra 46.38 199 P **P** **14 21 17.1 -0.2**
KNRA Kununurra 46.38 199 P **P** **14 21 17.3 0.0**
KULM Kulim 46.44 248 P **P** **14 21 17.9 0.0**
KULM IAmb IAmb 14 21 19.3
comp=Z,20nm,0.8s
KULM Kulim 46.44 248 P **P** **14 21 19.0 +1.1**
IPM Ipoh 46.61 247 P **P** **14 21 19.1 -0.1**
IPM IAmb IAmb 14 21 20.0
comp=Z,19nm,0.7s
IPM Ipoh 46.61 247 P **P** **14 21 19.0 -0.3**
IPM Ipoh 46.61 247 P **P** **14 21 19.4 +0.1**
TNA Tin City 47.47 25 P **P** **14 21 26.3 +1.0**
baz=244
ANM Nome 48.05 27 P **P** **14 21 29.7 -0.1**
ANM pmax pmax
comp=Z,16nm,0.7s
ANM Nome 48.05 27 P **P** **14 21 29.7 -0.1**
ANM IAmb IAmb 14 21 44.3
comp=Z,16nm,0.7s
ANM Nome 48.05 27 P **P** **14 21 30.4 +0.6**
baz=248,SNR=14
UGM Wanagama 48.16 226 P **P** **14 21 30.1 -1.2**
ZSN Zaisan 48.19 309 *e*P **P** **14 21 32.5 +1.3**
ZSN pmax pmax
comp=Z,19nm,1.1s
ZSN Zaisan 48.19 309 *e*P **P** **14 21 32.5 +1.3**
comp=Z,18nm,1.1s,baz=309
TAPN Taplejung 48.45 282 *e*P **P** **14 21 33.8 0.0**
comp=Z,29nm,0.4s
ZAA0 Zalesovo Array 48.66 318 P **P** **14 21 34.8 +0.1**
ZALV Zalesovo Beam 48.66 318 P **P** **14 21 35.0 +0.3**
comp=Z,5.8nm,0.7s,baz=102,slow=7.7,SNR=17
ZALV PcP **PcP** **14 22 59.8 0.0**
comp=Z,6.3nm,0.7s,baz=99,slow=3.5,SNR=6.6
CTA Charters Tower 48.77 176 P **P** **14 21 35.4 -0.5**
comp=Z,8.0nm,0.8s,baz=357,slow=8.2,SNR=9.1
CTA LR LR 14 41 59.5
comp=Z,112nm,20.6s,baz=334,slow=36
ODAN Odare 48.85 282 *e*P **P** **14 21 36.8 0.0**
comp=Z,98nm,0.6s
WB0 Warramunga Arr 49.07 191 P **P** **14 21 37.5 -0.6**
WR0 Warramunga Arr 49.23 191 P **P** **14 21 37.6 -1.7**
WRAB Tennant Creek 49.24 191*d i*P **P** **14 21 38.8 -0.6**
WRAB pmax pmax
comp=Z,72nm,0.6s
WRAB Tennant Creek 49.24 191 P **P** **14 21 38.0 -1.4**
WRAB Tennant Creek 49.24 191 P **P** **14 21 39.2 -0.2**
WB2 Warramunga Arr 49.24 191 P **P** **14 21 39.0 -0.4**
WRA Warramunga Arr 49.25 191 P **P** **14 21 38.7 -0.8**
comp=Z,77nm,0.6s,baz=15,slow=9.0,SNR=168
WRA Warramunga Arr 49.25 191 P **P** **14 21 37.6 -1.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 49.25 191 P **P** **14 21 37.6 -1.9**
QIS Mount Isa 49.25 184 P **P** **14 21 39.5 0.0**
PSI Prapat 49.28 247 LR LR 14 42 13.3
comp=Z,174nm,18.4s,baz=42,slow=36
RAMN Ramite 49.51 282 *e*P **P** **14 21 42.0 +0.1**
comp=Z,60nm,0.4s
FITZ Fitzroy Crossi 49.63 202 P **P** **14 21 42.1 -0.3**
FITZ IAmb IAmb 14 21 43.6
comp=Z,22nm,0.8s
JIRN Jiri 49.66 283 *e*P **P** **14 21 43.8 +0.6**
GUN Gumba 49.86 283 *e*P **P** **14 21 45.1 +0.4**
comp=Z,176nm,0.7s
SANVU Saraoutou 49.87 149 P **P** **14 21 43.9 -0.4**
SANVU IAmb IAmb 14 23 11.7
comp=Z,38nm,1.2s
MK31 Makanchi Array 49.95 308 P **P** **14 21 45.2 +0.5**
MK31 pmax pmax
comp=Z,29nm,1.0s
MK31 Makanchi Array 49.95 308 P **P** **14 21 45.2 +0.5**
MK31 IAmb IAmb 14 21 47.0
comp=Z,29nm,0.9s
MKAR Makanchi Array 49.95 308 P **P** **14 21 45.8 +1.1**
comp=Z,20nm,0.8s,baz=92,slow=9.2,SNR=240
MKAR LR LR 14 43 47.0
comp=Z,176nm,19.5s,baz=88,slow=37
MKAR Makanchi Array 49.95 308 P **P** **14 21 45.4 +0.7**
MKAR Makanchi Array 49.95 308 P **P** **14 21 45.4 +0.7**
MAKZ Makanchi 50.16 308 P **P** **14 21 47.0 +0.7**
MAKZ pmax pmax
comp=Z,77nm,1.4s
MAKZ Makanchi 50.16 308 P **P** **14 21 47.0 +0.7**
RDOG Red Dog Mine 50.31 23 P **P** **14 21 48.1 +1.0**
baz=247
PKI Pulchoki 50.36 283 *e*P **P** **14 21 48.2 -0.2**
PKIN Phulchoki 50.37 283 *e*P **P** **14 21 48.1 -0.3**
KKN Kakani 50.41 283 *e*P **P** **14 21 48.6 -0.1**
DMN Daman 50.60 283 *e*P **P** **14 21 50.3 +0.1**
comp=Z,36nm,0.5s
GKN Gorkha 50.90 284 *e*P **P** **14 21 52.3 0.0**
GSI Gunungsitoli 51.25 246 P **P** **14 21 54.9 0.0**
GSI Gunungsitoli 51.25 246 P **P** **14 21 55.0 +0.1**
SEM Semipalatinsk 51.26 313 *e*P **P** **14 21 54.4 -0.4**
SEM Semipalatinsk 51.26 313 *e*P **P** **14 21 54.4 -0.4**
baz=313
NRIK Noril'sk 51.29 338 P **P** **14 21 55.2 +0.9**
comp=Z,15nm,0.9s,baz=109,slow=9.0,SNR=17
NRIK PcP **PcP** **14 23 10.2 +1.1**
comp=Z,9.6nm,0.8s,baz=70,slow=5.5,SNR=4.0
NRIK Noril'sk 51.29 338*d i*P **P** **14 21 55.0 +0.6**
NRIK pmax pmax
comp=Z,27nm,1.0s
NRIK Noril'sk 51.29 338 P **P** **14 21 54.8 +0.4**
NRIK IAmb IAmb 14 21 56.3
comp=Z,23nm,1.0s
TTA Tatalina 51.54 31 P **P** **14 21 56.7 +0.2**
TTA pmax pmax
comp=Z,14nm,1.2s
TTA Tatalina 51.54 31 P **P** **14 21 56.7 +0.2**
TTA Tatalina 51.54 31 P **P** **14 21 57.3 +0.8**
baz=258
DANN Dangsing 51.55 285 *e*P **P** **14 21 57.8 +0.5**
comp=Z,186nm,0.9s
KOLN Koldanda 51.84 284 *e*P **P** **14 21 59.6 +0.2**
comp=Z,138nm,0.9s
O19K Port Alsworth 51.87 34 P **P** **14 21 59.7 +0.9**
baz=262
N19K Bonanza Creek 51.88 34 P **P** **14 21 59.6 +0.5**
baz=261
OHAK Old Harbor 52.08 38 P **P** **14 22 00.2 -0.2**
baz=265
SHLS Shalkode 52.20 304 *e*P **P** **14 21 59.7 -2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.6s
SHLS Shalkode 52.20 304 *e*P **P** **14 21 59.7 -2.0**
comp=Z,8.2nm,0.6s,baz=304
PYUN Piuthan 52.27 285 *e*P **P** **14 22 03.1 +0.5**
comp=Z,152nm,0.5s
KURK Kurchatov 52.30 314*d i*P **P** **14 22 02.5 +0.3**
KURK pmax pmax
comp=Z,45nm,1.0s
KURK Kurchatov 52.30 314 P **P** **14 22 02.7 +0.5**
KURK IAmb IAmb 14 22 05.4
comp=Z,40nm,0.9s
L20K Farewell, AK 52.43 32 P **P** **14 22 02.6 -0.4**
baz=261
K20K Telida 52.49 30 P **P** **14 22 03.5 +0.1**
baz=260,SNR=14
J20K Nowinta River 52.61 29 P **P** **14 22 05.7 +1.4**
J20K IAmb IAmb 14 22 08.9
comp=Z,25nm,0.8s
J20K Nowinta River 52.61 29 P **P** **14 22 04.8 +0.6**
baz=259,SNR=17
KPKS Kokpek 52.73 304 *e*P **P** **14 22 06.1 +0.5**
KPKS pmax pmax
comp=Z,11nm,0.7s
KPKS Kokpek 52.73 304 *e*P **P** **14 22 06.2 +0.5**
comp=Z,11nm,0.7s,baz=304
TDK Taldyqorghan 52.76 306 *e*P **P** **14 22 06.8 +1.0**
TDK pmax pmax
comp=Z,13nm,0.6s
TDK Taldyqorghan 52.76 306 *e*P **P** **14 22 06.8 +1.0**
comp=Z,13nm,0.6s,baz=306
ZHN Zhinishke 52.94 304 *e*P **P** **14 22 06.5 -0.7**
ZHN Zhinishke 52.94 304 *e*P **P** **14 22 06.6 -0.7**
baz=304
AS31 Alice Springs 52.97 191 P **P** **14 22 06.5 -0.9**
ASAR Alice Springs 52.97 191 P **P** **14 22 06.5 -0.9**
comp=Z,3.4nm,0.5s,baz=8.8,slow=7.4,SNR=68
ASAR Alice Springs 52.97 191 P **P** **14 22 06.3 -1.1**
SATY Saty 52.97 304 *e*P **P** **14 22 08.1 +0.6**
SATY pmax pmax
comp=Z,15nm,1.0s
SATY Saty 52.97 304 *e*P **P** **14 22 08.2 +0.6**
comp=Z,15nm,1.0s,baz=304
SPCR Spurr Chakacha 53.03 33 P **P** **14 22 08.5 +0.9**
baz=263
PPLA Purkeypile 53.26 31 P **P** **14 22 10.4 +1.1**
PPLA IAmb IAmb 14 23 01.0
comp=Z,53nm,1.6s
PPLA Purkeypile 53.26 31 P **P** **14 22 09.6 +0.3**
baz=262
CNPM China Poot 53.34 35 P **P** **14 22 10.3 +0.4**
CHUM Lake Minchumin 53.35 30 P **P** **14 22 09.3 -0.5**
baz=261
CAST Castle Rocks 53.38 30 P **P** **14 22 11.2 +1.1**
CAST IAmb IAmb 14 22 14.5
comp=Z,21nm,0.8s
CAST Castle Rocks 53.38 30 P **P** **14 22 11.2 +1.1**
baz=262,SNR=12
H21K Melozitna Rive 53.45 28 P **P** **14 22 11.5 +1.0**
baz=259
I21K Tanana 53.70 28 P **P** **14 22 13.2 +0.9**
baz=260,SNR=8.5
CHKK Chushkaly 53.90 305 *e*P **P** **14 22 14.8 +0.7**
baz=305
MDOK Medeo 53.95 304 *e*P **P** **14 22 15.6 +0.9**
MDOK Medeo 53.95 304 *e*P **P** **14 22 15.7 +0.9**
baz=304
BPAW Bear Paw Mtn. 53.96 30 P **P** **14 22 15.4 +1.1**
BPAW Bear Paw Mtn. 53.96 30 P **P** **14 22 14.7 +0.4**
baz=262
KDJ Kajisay 53.99 303 P **P** **14 22 16.7 +1.6**
KDJ pmax pmax
comp=Z,20nm,0.8s
KDJ Kajisay 53.99 303 P **P** **14 22 16.7 +1.6**
KDJ IAmb IAmb 14 22 17.6
comp=Z,20nm,0.8s
AAA Alma-Ata 54.04 304 *e*P **P** **14 22 16.7 +1.5**
AAA Alma-Ata 54.04 304 *e*P **P** **14 22 16.8 +1.5**
baz=304
CUT Chulitna 54.08 32 P **P** **14 22 15.4 +0.3**
baz=264
M22K Willow 54.09 33 P **P** **14 22 14.6 -0.5**
baz=265
TRF Thorofare Moun 54.19 31 P **P** **14 22 16.4 +0.3**
baz=263
MLY Manley 54.20 29 P **P** **14 22 17.2 +1.1**
MLY IAmb IAmb 14 22 30.3
comp=Z,9.8nm,0.7s
MLY Manley 54.20 29 P **P** **14 22 15.7 -0.4**
baz=262,SNR=9.7
RC01 Rabbit Creek A 54.21 34 P **P** **14 22 16.1 0.0**
baz=266
SEW Seward 54.28 35 P **P** **14 22 15.5 -1.1**
baz=266
KUU Kurty 54.36 305 *e*P **P** **14 22 18.1 +0.6**
KUU Kurty 54.36 305 *e*P **P** **14 22 18.2 +0.6**
baz=305
EIDS Eidsvold 54.48 171 P **P** **14 22 18.6 +0.2**
EIDS IAmb IAmb 14 22 19.7
comp=Z,52nm,1.8s
PMR Palmer 54.54 33 P **P** **14 22 17.2 -1.3**
baz=266
ULHL Ulahol 54.67 303 P **P** **14 22 22.1 +2.1**
SNR=9.4
COLD Coldfoot 54.75 26 P **P** **14 22 21.6 +1.6**
COLD Coldfoot 54.75 26 P **P** **14 22 21.0 +1.1**
baz=261,SNR=5.4
I23K Minto, Yukon-K 54.79 29 P **P** **14 22 21.0 +0.8**
baz=263
MCK McKinley 54.82 30 P **P** **14 22 21.0 +0.5**
MCK pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 54.82 30 P **P** **14 22 21.0 +0.5**
MCK IAmb IAmb 14 22 33.0
comp=Z,27nm,1.0s
MCK McKinley 54.82 30 P **P** **14 22 19.6 -0.9**
baz=264
RND Reindeer 54.82 31 P **P** **14 22 20.5 -0.1**
RND pmax pmax
comp=Z,18nm,0.8s
RND Reindeer 54.82 31 P **P** **14 22 20.5 -0.1**
RND IAmb IAmb 14 22 23.7
comp=Z,18nm,0.8s
NEA2 Nenana 54.85 29 P **P** **14 22 21.1 +0.4**
baz=264,SNR=16
BOOM Boomskoye usch 54.85 304 P **P** **14 22 23.0 +1.7**
BOOM pmax pmax
comp=Z,29nm,0.7s
BOOM Boomskoye usch 54.85 304 P **P** **14 22 23.0 +1.7**
KNK Knik Glacier 54.85 33 P **P** **14 22 19.7 -1.1**
baz=266
PWL Port Wells 54.88 34 P **P** **14 22 21.0 -0.1**
baz=267
PSA00 Pilbara Seismi 54.91 207 P **P** **14 22 21.2 -0.4**
PSA00 IAmb IAmb 14 22 22.2
comp=Z,16nm,0.8s
PSA00 Pilbara Seismi 54.91 207 P **P** **14 22 21.3 -0.4**
PSA00 IAmb IAmb 14 22 22.2
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 54.91 207 P **P** **14 22 21.8 +0.2**
SML Sawmill 54.94 33 P **P** **14 22 21.6 +0.1**
baz=266
TKM2 Tokmak 2 55.03 304 P **P** **14 22 24.5 +1.8**
SNR=42
TKM2 Tokmak 2 55.03 304 P **P** **14 22 23.9 +1.2**
QLP Quilpie 55.15 179 P **P** **14 22 23.0 -0.2**
TOLK Toolik Lake Re 55.22 24 P **P** **14 22 24.7 +1.3**
TOLK Toolik Lake Re 55.22 24 P **P** **14 22 23.2 -0.2**
baz=260,SNR=8.9
WAT6 Susitna Watana 55.27 32 P **P** **14 22 23.6 -0.3**
baz=266
RMQ Roma 55.31 174 P **P** **14 22 24.6 +0.2**
KSH Kashi 55.33 300 P **P** **14 22 28.4 +3.6**
KSH sP pwP 14 22 42.5 +0.6
KSH PcP **PcP** **14 23 29.0 +3.8**
KSH pmax pmax
comp=Z,18nm,0.6s
TCOL CIGO, UAF Yank 55.40 29 P **P** **14 22 24.9 +0.3**
baz=265
COLA College 55.40 29 P **P** **14 22 25.0 +0.4**
baz=265
SCM Sheep Creek Mo 55.41 33 P **P** **14 22 25.4 +0.4**
baz=267
DZM Mont Dzumac 55.45 153 LR LR 14 47 00.8
comp=Z,222nm,18.7s,baz=346,slow=37
DHY Denali Highway 55.46 31 P **P** **14 22 25.5 +0.1**
baz=266
H24K Noodor Dome 55.48 28 P **P** **14 22 25.4 +0.1**
baz=264,SNR=8.3
KBK Karagaybulak 55.55 304 P **P** **14 22 28.0 +1.6**
SNR=46
POKR Poker Plat Res 55.60 29 P **P** **14 22 26.6 +0.5**
POKR IAmb IAmb 14 22 40.8
comp=Z,10nm,0.7s
POKR Poker Plat Res 55.60 29 P **P** **14 22 26.4 +0.2**
baz=265
CHMS Chumysh 55.64 304 P **P** **14 22 28.0 +1.2**
SNR=15
SGDS Sogindy 55.65 305 P **P** **14 22 25.8 -1.1**
SGDS Sogindy 55.65 305 *i* P **P** **14 22 27.6 +0.7**
comp=Z,9.1nm,0.9s,baz=305
HDA Harding Lake 55.75 30 P **P** **14 22 26.7 -0.5**
baz=266,SNR=9.1
USP Ospenovka 55.77 305 P **P** **14 22 29.0 +1.2**
SNR=21
IL31 55.80 29 P **P** **14 22 27.4 -0.1**
IL31 IAmb IAmb 14 22 30.4
comp=Z,12nm,0.8s
ILAR Eielson Array 55.80 29 P **P** **14 22 27.1 -0.5**
comp=Z,9.1nm,0.7s,baz=258,slow=6.0,SNR=99
ILAR Eielson Array 55.80 29 P **P** **14 22 27.7 +0.1**
AAK Ala-Archa 55.88 304 LR LR 14 47 37.3
comp=Z,117nm,20.8s,baz=77,slow=37
AAK Ala-Archa 55.88 304 P **P** **14 22 30.1 +1.4**
SNR=22
AAK Ala-Archa 55.88 304*d i*P **P** **14 22 29.8 +1.1**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 55.88 304 P **P** **14 22 28.7 0.0**
AAK IAmb IAmb 14 22 31.0
comp=Z,20nm,0.8s
UCH Uchtor 55.94 303 P **P** **14 22 31.5 +2.0**
SNR=34
M24K Tolsona, Glenn 55.97 32 P **P** **14 22 28.6 -0.3**
baz=268
KLU Kluane 56.07 33 P **P** **14 22 28.8 -0.8**
baz=269,SNR=6.6
EYAK Cordova Ski Ar 56.14 34 P **P** **14 22 29.4 -0.6**
baz=270
BRZS Berezniki 56.14 313 *e*P **P** **14 22 30.4 +0.2**
BRZS Berezniki 56.14 313 *e*P **P** **14 22 30.5 +0.2**
baz=313
PAX Paxson 56.33 31 P **P** **14 22 31.9 +0.4**
PAX pmax pmax
comp=Z,38nm,1.6s
PAX Paxson 56.33 31 P **P** **14 22 31.9 +0.4**
PAX IAmb IAmb 14 22 35.5
comp=Z,38nm,1.6s
PAX Paxson 56.33 31 P **P** **14 22 31.3 -0.1**
baz=268

INKA Innaminka 56.33 182 P P 14 22 31.3 -0.4
EKS2 Erkin-Say 56.40 304 P P 14 22 33.8 +1.4
SNR=26
PRP Porcupine Dome 56.43 28 P P 14 22 31.9 -0.3
baz=266
J25K Salcha River, 56.44 29 P P 14 22 31.1 -1.1
baz=267
HARP HAARP 56.45 32 P P 14 22 32.5 +0.2
baz=269
AML Almayashu 56.55 303 P P 14 22 35.9 +2.1
SNR=63
OTUK Ortayu 56.56 311 P P 14 22 34.0 +0.7
FYU Fort Yukon 56.62 27 P P 14 22 35.4 +2.1
RIDG Independent Ri 56.63 30 P P 14 22 33.5 -0.1
baz=268
N25K Chitina, Valde 56.71 33 P P 14 22 34.1 0.0
baz=270
BMAR Burnt Mountain 56.94 26 P P 14 22 37.4 +1.8
SCRK Sand Creek 57.02 30 P P 14 22 36.5 +0.2
SCRK IAmb IAmb 14 22 39.5
comp=Z,13nm,0.8s
SCRK Sand Creek 57.02 30 P P 14 22 36.6 +0.2
baz=269,SNR=17
J26L Joseph Creek 57.22 30 P P 14 22 37.9 +0.1
baz=269,SNR=13
L26K Log Cabin Wild 57.30 31 P P 14 22 38.2 -0.1
baz=270
BRVK Borovoye 57.32 317 *d* *i* P P 14 22 39.0 +0.4
BRVK pmax pmax
comp=Z,32nm,1.7s
BRVK Borovoye 57.32 317 P P 14 22 39.1 +0.6
BRVK IAmb IAmb 14 22 42.2
comp=Z,14nm,0.8s
BGLC Bering Glacier 57.37 35 P P 14 22 38.8 +0.1
baz=272
MCARA McCarthy VSAT 57.47 33 P P 14 22 39.6 +0.1
baz=271
M27K Edge Creek, AK 57.98 32 P P 14 22 40.6 -2.6
baz=272
L27K Beaver Creek, 57.99 31 P P 14 22 41.7 -1.5
baz=271
DZA Taraz 58.13 305 *e* P P 14 22 45.4 +1.0
DZA pmax pmax
comp=Z,8.0nm,0.8s
DZA Taraz 58.13 305 *e* P P 14 22 45.5 +1.0
comp=Z,8.3nm,0.8s,baz=305
KKAR Karatay Array 58.67 305 P P 14 22 49.3 +1.1
KKAR Karatay Array 58.67 305 P P 14 22 49.3 +1.1
YUK3 Moose Creek 58.68 33 P P 14 22 48.4 +0.3
baz=273,SNR=5.7
DAWY Dawson 59.04 30 P P 14 22 50.4 -0.1
baz=273,SNR=15
BTK Batken 59.10 302 P P 14 22 52.3 +0.9
BTK pmax pmax
comp=Z,21nm,1.1s
BTK Batken 59.10 302 P P 14 22 52.3 +0.9
BTK IAmb IAmb 14 22 53.5
comp=Z,21nm,1.1s
LCRK Leigh Creek 59.16 185 P P 14 22 51.7 +0.2
IUG luzhnay 59.22 304 *e* P P 14 22 53.3 +1.2
IUG luzhnay 59.22 304 *e* P P 14 22 53.4 +1.2
baz=304
I29M Ogilvie Camp, 59.44 29 P P 14 22 54.2 +1.0
baz=273
J29M Klondike Camp 59.53 30 P P 14 22 53.8 -0.1
baz=274
YUK4 Talbot Arm 59.57 33 P P 14 22 53.3 -1.1
baz=275,SNR=6.3
GAR Garm 59.73 301 P P 14 22 56.9 +1.1
CMSA Cobar Meteorol 60.12 177 P P 14 22 59.0 +0.8
HYT Haines Junctio 60.18 34 P P 14 22 59.4 +1.0
HYT IAmb IAmb 14 23 01.1
comp=Z,12nm,0.9s
HYT Haines Junctio 60.18 34 P P 14 22 57.6 -0.9
baz=276
M30M Minto, Yukon 60.33 32 P P 14 22 59.8 +0.4
baz=276
STKA Stephens Creek 60.43 181 P P 14 23 00.1 -0.1
comp=Z,16nm,0.7s,baz=350,slow=7.2,SNR=33
STKA Stephens Creek 60.43 181 P P 14 23 00.1 -0.1
STKA Stephens Creek 60.43 181 P P 14 23 00.4 +0.2
N31M Braeburn, Yuko 60.93 33 P P 14 23 03.7 +0.3
baz=277
FORT Forrest 61.01 195 P P 14 23 03.8 -0.4
FORT Forrest 61.01 195 P P 14 23 04.4 +0.2
INK Inuvik 61.11 25 P P 14 23 05.2 +0.8
comp=Z,4.0nm,0.4s,baz=258,slow=9.2,SNR=9.8
INK Inuvik 61.11 25 P P 14 23 04.7 +0.3
baz=276,SNR=5.9
SKAG Skagway 61.44 35 P P 14 23 07.2 +0.3
baz=279
WHY Whitehorse 61.48 34 P P 14 23 07.7 +0.4
baz=279
M31M Drury Creek, Y 61.48 32 P P 14 23 07.9 +0.7
baz=278,SNR=6.8
NAPP Napperby 61.89 185 P P 14 23 10.6 +0.5
FARO Faro, Yukon 61.96 32 P P 14 23 11.0 +0.6
baz=279,SNR=8.4
SVE Sverdlovsk 62.29 322 *e* P P 14 23 13.8 +1.1
SVE pmax pmax
comp=Z,19nm,1.0s
P33M Teslin, Yukon 62.56 34 P P 14 23 15.2 +0.6
baz=281
MMPY Sheldon Lake, 62.85 31 P P 14 23 17.1 +0.7
baz=281
A36M Sachs Harbour 63.37 20 P P 14 23 20.3 +0.7
baz=281,SNR=7.8
ARU Arti 63.49 322 *d* *i* P P 14 23 21.0 +0.3
ARU 14 23 53.8
ARU 14 25 38.2
ARU S S 14 31 54.3 +2.0
ARU SS SS 14 36 04.5 +5.5
ARU pmax pmax
comp=Z,23nm,0.8s
ARU Arti 63.49 322 P P 14 23 20.6 0.0
WRAK Wrangell Islan 63.57 38 P P 14 23 20.3 -0.9
baz=283
C36M Paulatuk 64.32 23 P P 14 23 26.0 +0.2
baz=284,SNR=30
C36M Paulatuk 64.32 23 P P 14 23 26.0 +0.2
AB31 Akbulak array 64.41 314 P P 14 23 26.8 0.0
ABKAR Akbulak array 64.41 314 P P 14 23 27.1 +0.3
ABKAR Akbulak array 64.41 314 P P 14 23 27.2 +0.4
ABKAR IAmb IAmb 14 23 30.1
comp=Z,25nm,0.6s
TGTN Hyland Airport 64.46 32 P P 14 23 28.1 +1.1
baz=284,SNR=18
KLBR Kellerberrin 64.76 204 P P 14 23 29.1 -0.1
AKTO Aktyubinsk 65.30 315 LR LR 14 54 00.5
comp=Z,143nm,19.8s,baz=76,slow=38
ARPS Mount Arapiles 65.30 181 P P 14 23 32.8 +0.2
EUNU Eureka 68.05 8 P P 14 23 50.6 +0.9
PRGR Permogore 68.41 329 *e* P P 14 23 51.0 -1.2
SPITS Spitsbergen Ar 68.78 350 P P 14 23 56.4 +2.1
SPITS pmax pmax
comp=Z,54nm,1.3s
GEYT Alibeck 69.18 303 P P 14 23 58.8 +1.3
comp=Z,4.5nm,0.6s,baz=197,slow=1.5,SNR=8.9
GEYT LR LR 14 57 56.9
comp=Z,130nm,18.3s,baz=30,slow=39
GEYT Alibeck 69.18 303 P P 14 23 58.5 +1.0
NOR Nord 69.26 357 *i* P P 14 23 57.6 +0.4
NOR IAmb IAmb 14 23 59.0
comp=Z,6.1nm,1.0s
RES Resolute Bay 70.17 14 P P 14 24 03.4 +0.6
RES pmax pmax
comp=Z,20nm,1.1s
RES Resolute Bay 70.17 14 P P 14 24 03.4 +0.6
RES IAmb IAmb 14 24 04.6
comp=Z,20nm,1.1s
YKA Yellowknife Ar 70.23 29 P P 14 24 03.5 +0.1
comp=Z,10nm,1.0s,baz=293,slow=6.1,SNR=39
YKA Yellowknife Ar 70.23 29 P P 14 24 03.2 -0.2
YKA Yellowknife Ar 70.23 29 P P 14 24 03.2 -0.2
KLMR Klimovskoe 71.43 330 *e* P P 14 24 09.9 -0.8
KLMR pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 71.43 330 *e* P P 14 24 10.0 -0.8
KLMR AMP 14 24 11.7
comp=Z,18nm,1.0s
D03D Eldon 71.75 45 P P 14 24 14.1 +1.1
baz=293
B05A Bryant 72.08 44 P P 14 24 14.5 -0.4
baz=293
ARCES ARCESS Array B 72.12 341 P P 14 24 15.6 +0.8
comp=Z,7.4nm,0.6s,baz=46,slow=6.9,SNR=32
ARCES ARCESS Array B 72.12 341 P P 14 24 16.1 +1.3
E04D Cinebar 72.47 46 P P 14 24 18.0 +0.8
baz=294
TULEG Thule 73.00 7 *i* P P 14 24 19.6 -0.2
TULEG IAmb IAmb 14 24 23.7
comp=Z,21nm,0.8s
I03D Drain, OR 73.11 49 P P 14 24 21.4 +0.3
baz=294
K02D Willamette Mer 73.30 50 P P 14 24 23.2 +0.7
baz=294
H04A Detroit Lake 73.47 48 P P 14 24 22.9 -0.4
H04A IAmb IAmb 14 24 27.5
comp=Z,20nm,1.0s
L02E Cave Junction 73.56 51 P P 14 24 24.7 +0.8
baz=294
I04A Tendick Farm, 73.69 49 P P 14 24 24.2 -0.5
baz=294
B08A Colville Reser 73.73 44 P P 14 24 24.3 -0.4
B08A IAmb IAmb 14 24 28.8
comp=Z,14nm,0.9s
G05D Wamic, OR 73.80 47 P P 14 24 25.7 +0.5
baz=295
DAG Damnarks Havn 74.00 356 *i* P P 14 24 25.5 -0.3
DAG IAmb IAmb 14 24 27.8
comp=Z,26nm,1.1s
J04D Umpqua Nationa 74.12 49 P P 14 24 25.4 -1.9
baz=295
I05D Terrebonne, OR 74.17 48 P P 14 24 26.9 -0.5
baz=295
RAR Rarotonga 74.30 125 LR LR 14 51 57.8
comp=Z,281nm,19.8s,baz=288,slow=32
YBH Yreka Blue Hor 74.34 51 LR LR 14 52 58.3
comp=Z,153nm,18.8s,baz=350,slow=32
YBH Yreka Blue Hor 74.34 51 P P 14 24 28.5 0.0
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 74.34 51 P P 14 24 28.5 0.0
M02C Callahan 74.39 51 P P 14 24 28.1 -0.7
baz=295
L04D Klamath Falls 74.42 50 P P 14 24 29.1 +0.1
baz=295
KCPM Cahto Peak 74.60 53 P P 14 24 29.3 -0.8
KCPM IAmb IAmb 14 24 32.4
comp=Z,41nm,1.4s
C09A Chrisman Ranch 74.61 44 P P 14 24 30.7 +0.8
C09A IAmb IAmb 14 24 33.9
comp=Z,20nm,1.1s
K04D Chiloquin, OR 74.61 50 P P 14 24 29.7 -0.5
baz=295
PINE Pine Mountain 74.66 48 P P 14 24 31.5 +1.0
PINE IAmb IAmb 14 24 35.2
comp=Z,20nm,0.8s
N02D Trinity Center 74.67 52 P P 14 24 30.1 -0.3
baz=295
MOS Moscow 74.68 326 *e* P P 14 24 29.9 -0.1
J05D Fort Rock, OR 74.68 49 P P 14 24 30.9 +0.3
baz=295
MAK Makhachkala 74.69 311 *e* P P 14 24 28.4 -1.9
MAK *e* 14 27 15.7
MAK *e* PPP PPP 14 29 01.6
MAK eS S 14 34 03.1 -1.9
MAK eSS SS 14 38 51.5 -0.5
MAK pmax pmax
comp=Z,112nm,1.3s
M04C Macdoel 74.92 50 P P 14 24 32.2 +0.3
baz=295
O02D Mt. Diablo Mer 74.94 52 P P 14 24 31.8 -0.3
baz=295
NEW Newport 75.10 43 P P 14 24 31.8 -0.9
baz=297,SNR=10
OBN Obninsk 75.51 325 *e* P P 14 24 34.3 -0.5
OBN *e* 14 24 48.1
OBN *e* PPP PPP 14 29 10.9
OBN pmax pmax
comp=Z,45nm,1.7s
O03E Paynes Creek 75.58 52 P P 14 24 35.4 -0.3
baz=296
VORR Voronezh 75.80 321 *e* P P 14 24 35.4 -1.2
VORR pmax pmax
comp=Z,100nm,0.4s
DBG Daneborg 76.49 355 *i* P P 14 24 40.3 +0.2
DBG IAmb IAmb 14 24 41.9
comp=Z,8.3nm,0.9s
BMO Blue Mountains 76.53 46 P P 14 24 41.8 +0.8
BMO pmax pmax
comp=Z,20nm,1.2s
BMO Blue Mountains 76.53 46 P P 14 24 41.8 +0.8
BMO IAmb IAmb 14 24 45.3
comp=Z,20nm,1.2s
WALA Waterton Lakes 76.62 41 P P 14 24 42.6 +1.1
WALA IAmb IAmb 14 24 45.9
comp=Z,18nm,0.8s
FIA1 FINESS Array S 76.69 334 P P 14 24 42.0 +0.6
FINES FINESS Array B 76.69 334 P P 14 24 42.2 +0.7
comp=Z,10nm,0.8s,baz=86,slow=5.2,SNR=24
FINES FINESS Array B 76.69 334 P P 14 24 41.6 +0.1
FINES FINESS Array B 76.69 334 P P 14 24 41.6 +0.1
ZEI Tsey 77.14 312 *e* P P 14 24 44.3 -0.4
ZEI pmax pmax
comp=Z,6.0nm,0.5s
PLID Pearl Lake 77.24 45 P P 14 24 45.6 +0.4
KBZ Khabaz 77.36 313 P P 14 24 47.0 +1.5
comp=Z,12nm,0.8s,baz=71,slow=4.9,SNR=25
KBZ LR LR 14 59 49.2
comp=Z,94nm,20.6s,baz=64,slow=36
KBZ Khabaz 77.36 313 P P 14 24 47.0 +1.5
KIV Kislovodsk 77.39 313 ⇑P P 14 24 48.1 +2.2
KIV Kislovodsk 77.39 313 ⇑P P 14 24 48.1 +2.2
MSO Missoula 77.67 43 P P 14 24 47.2 -0.2
baz=299
VSU Vasula 78.21 331 ⇑ *e* P P 14 24 50.9 +0.9
VSU pmax pmax
comp=Z,460nm,5.1s
KVN Kaiserville 78.69 52 P P 14 24 54.4 +1.1
KVN pmax pmax
comp=Z,13nm,0.8s
KVN Kaiserville 78.69 52 P P 14 24 54.4 +1.1
KVN IAmb IAmb 14 24 57.4
comp=Z,13nm,0.8s
NVAR Mina Array Bea 78.84 52 P P 14 24 54.9 +0.7
comp=Z,7.9nm,0.7s,baz=291,slow=5.5,SNR=20
HLID Hailey 78.97 46 P P 14 24 54.7 -0.1
baz=299,SNR=9.5
SOC Sochi 79.45 314 *e* P P 14 24 58.1 +1.0
SOC *e* 14 27 56.7
SOC *e* PPP PPP 14 29 47.5
SOC eS S 14 34 59.5 +2.6
SOC eSS SS 14 40 03.0 -0.8
SOC eSSS SSS 14 43 29.6
SOC MLR MLR
comp=Z,140nm,18.0s
EGMT Eagleton 79.53 41 P P 14 24 57.5 -0.1
baz=302
BOZ Bozeman (W) 79.68 43 P P 14 24 59.2 +0.7
baz=301,SNR=11
PPT Papeete 79.77 117 LR LR 14 56 36.6
comp=Z,100nm,18.7s,baz=344,slow=33
ELK Elko 79.81 49 LR LR 14 56 29.8
comp=Z,291nm,19.7s,baz=312,slow=33
FFC Flin Flon 79.84 32 P P 14 24 59.6 +0.6
FFC pmax pmax
comp=Z,30nm,0.9s
FFC Flin Flon 79.84 32 P P 14 24 59.6 +0.6
FFC IAmb IAmb 14 25 03.2
comp=Z,30nm,0.9s
CWC Cottonwood Cre 79.93 54 P P 14 24 59.9 -0.2
baz=298
ARVC Arvin 80.01 55 P P 14 25 00.4 0.0
baz=298
ISA Isabella, Lake 80.02 55 P P 14 25 00.6 +0.2
baz=298
MNK Minsk 80.06 328 *i* P P 14 24 59.3 -0.8
MNK *i* 14 28 00.4
MNK *i* PPP PPP 14 29 48.6
MNK *i* S S 14 35 01.8 -1.0
MNK *i* SS SS 14 40 13.1 +0.9
MNK *i* SSS SSS 14 43 39.7
MNK pmax pmax
comp=Z,38nm,1.0s
MNK pmax pmax
comp=N,29nm,1.0s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=N,550nm,19.0s
MNK MLR MLR
comp=E,73nm,22.0s
MNK MLR MLR
comp=Z,187nm,28.0s
MNK Minsk 80.06 328 *i* P P 14 24 59.4 -0.8
comp=E,4.0nm,0.9s
MNK *i* P P 14 24 59.4 -0.8
comp=N,29nm,1.0s
MNK *i* P P 14 24 59.4 -0.8
comp=Z,38nm,1.0s,baz=54
MNK *i* PP PP 14 28 00.5 -1.2
MNK *i* PPP PPP 14 29 48.7
MNK *i* S S 14 35 01.9 -1.0
MNK *i* SS SS 14 40 13.1 +0.9
MNK *i* SSS SSS 14 43 39.8
MNK *i* LQ LQ 14 55 16.3
MNK *i* LR LR 15 01 22.0
MNK *i* LRM MLR 15 02 42.0
comp=N,550nm,19.0s
MNK *i* LRM MLR 15 02 57.5
comp=E,73nm,22.4s
MNK *i* LRM MLR 15 02 58.9
comp=Z,187nm,27.8s
IDID Didziasalis 80.10 329 *e* P P 14 25 01.3 +0.9
ISAL Salakas 80.22 329 *e* P P 14 25 02.0 +0.9
ANN Anapa 80.25 316 *e* P P 14 24 59.8 -1.6
ANN *e**PP PcP 14 25 09.1 +0.5
ANN *e*S S 14 35 03.8 -1.4
ANN *e*SS SS 14 40 17.1 +1.5
ANN pmax pmax
comp=Z,116nm,1.0s
IIGN Ignalina 80.31 329 *e* P P 14 25 02.0 +0.4
NACGM Naroch 80.33 328 *e* P P 14 25 01.2 -0.4
SCO Scoresbysund 80.35 355 *i* P P 14 24 59.8 -1.7
SCO IAmb IAmb 14 25 04.1
comp=Z,37nm,1.3s
MPMC Manual Prospec 80.53 54 P P 14 25 03.5 +0.1
baz=299
YHH Holmes Hill 80.57 44 P P 14 25 04.8 +1.3
LRMC Laurel Mtn Rad 80.67 55 P P 14 25 04.0 0.0
baz=299
FCC Fort Churchill 80.69 26 P P 14 25 03.3 -0.2
FCC pmax pmax
comp=Z,11nm,1.0s
FCC Fort Churchill 80.69 26 P P 14 25 03.3 -0.2
EDW2 Edwards Air Fo 80.73 55 P P 14 25 04.6 +0.3
baz=299,SNR=8.6
R11A Troy Canyon, C 80.75 51 P P 14 25 05.0 +0.5
baz=300,SNR=12
FURC Furnace Creek, 80.78 54 P P 14 25 04.7 +0.3
baz=299
UPP Uppsala 80.90 335 *e* P P 14 25 04.9 +0.3
H17A Grant Village 80.94 44 P P 14 25 06.1 +0.6
baz=302,SNR=18
TPNV Topopah Spring 80.97 53 P P 14 25 05.9 +0.1
baz=299,SNR=14
MOOW Moose Ponds 81.17 45 P P 14 25 07.9 +1.2
MOOW IAmb IAmb 14 25 11.5
comp=Z,26nm,1.7s
BFSC Mount Baldy Ra 81.28 56 P P 14 25 07.5 +0.1
baz=299
GSC Goldstone, Bar 81.38 55 P P 14 25 06.6 -1.2
baz=299
AKASG Malin Array Be 81.64 324 P P 14 25 08.6 -0.2
comp=Z,1.9nm,0.4s,baz=50,slow=5.3,SNR=20
DUG Dugway, Tooele 81.69 49 P P 14 25 08.5 -0.9
baz=301,SNR=5.9
MURC Murrieta 81.93 56 P P 14 25 11.0 +0.3
baz=299
TUQ Turquoise Moun 81.95 54 P P 14 25 10.0 -0.9
baz=300,SNR=12
HEC Hector,Ludlow 81.95 55 P P 14 25 10.2 -0.7
baz=300
VIKU Vikbolandet 82.19 335 *e* P P 14 25 11.9 +0.4
NC204 NORSAR Array S 82.21 339 P P 14 25 12.2 +0.6
NB2 NORSAR Subarra 82.25 339 P P 14 25 12.2 +0.4
comp=Z,7.7nm,0.6s,baz=41,slow=5.1
NOA NORSAR Array B 82.25 339 P P 14 25 11.9 +0.2
comp=Z,15nm,0.7s,baz=41,slow=5.2,SNR=48
NOA NORSAR Array B 82.25 339 P P 14 25 12.0 +0.2
LAO LASA Array 82.27 41 P P 14 25 12.5 +0.2
baz=304
ICESG Greenland Ices 82.31 1 *i* P P 14 25 12.9 +0.5
ICESG IAmb IAmb 14 25 14.3
comp=Z,18nm,0.9s
DGMT Dagmar 82.38 38 P P 14 25 12.8 +0.1
baz=305
BW06 Boulder Array 82.43 45 P P 14 25 13.4 0.0
BW06 Boulder Array 82.43 45 P P 14 25 11.9 -1.5
baz=302,SNR=9.7
PD31 Pinedale Array 82.43 45 P P 14 25 13.2 -0.2
PDAR Pinedale Array 82.43 45 P P 14 25 13.6 +0.2
comp=Z,5.0nm,0.9s,baz=298,slow=3.2,SNR=15
GMRC Granite Mounta 82.46 55 P P 14 25 13.6 +0.1
baz=300,SNR=9.6
PFO Pinyon Flats O 82.46 56 ⇓ *i* P P 14 25 13.3 -0.3
PFO pmax pmax
comp=Z,25nm,1.3s
PFO Pinyon Flats O 82.46 56 P P 14 25 11.8 -1.7
baz=300
TPFO Pinon Flats 82.47 56 P P 14 25 11.7 -1.9
baz=300
SUW Suwalki 82.53 329 *e* P P 14 25 13.5 +0.2
BELC Belle Mtn. Jos 82.60 55 P P 14 25 12.9 -1.4
baz=300,SNR=6.5
MONP2 Monument Peak 82.84 56 P P 14 25 15.8 +0.1
baz=300
IRM Iron Mountain 83.14 55 P P 14 25 17.0 +0.1
baz=300
BC3 Big Chuckawall 83.17 55 P P 14 25 17.1 -0.1
baz=300,SNR=8.3
IKP In-Ko-Pah, Jac 83.19 57 P P 14 25 17.3 0.0
baz=300
SWSC Sam W. Stewart 83.27 56 P P 14 25 17.4 -0.2
baz=300
KNB Kanab 83.31 51 P P 14 25 18.9 +0.9
KNB pmax pmax
comp=Z,19nm,0.8s
KNB Kanab 83.31 51 P P 14 25 18.9 +0.9
KNB IAmb IAmb 14 25 22.6
comp=Z,18nm,0.8s
SOCY Socotra 83.40 280 P P 14 25 17.5 -1.2
SOCY IAmb IAmb 14 25 18.7
comp=Z,21nm,0.9s
PDMCI Parker Dam,Lak 83.78 54 P P 14 25 20.6 +0.4
baz=301
GLA Glamis 83.92 56 P P 14 25 21.3 +0.3
baz=301
K22A Casper 84.36 44 P P 14 25 22.7 -0.5
baz=304
O20A White River Ci 84.69 47 P P 14 25 24.8 -0.2
baz=304
RSSD Black Hills 85.00 42 P P 14 25 26.3 -0.2
baz=306
WUAZ Wupatki 85.09 52 P P 14 25 27.5 +0.4
baz=302,SNR=6.8
RAYN Ar Rayn 85.12 294 ⇓P P 14 25 28.3 +1.0
RAYN Ar Rayn 85.12 294 P P 14 25 27.9 +0.7
MDND Maddock 85.21 37 P P 14 25 27.1 -0.1
baz=309
BR131 Keskin Array S 85.35 313 *de* P P 14 25 28.8 +0.5
BR131 Keskin Array S 85.35 313 P P 14 25 29.0 +0.7
BR131 IAmb IAmb 14 25 32.3
comp=Z,11nm,0.9s
BRTR Keskin Array B 85.35 313 P P 14 25 28.7 +0.5
comp=Z,5.1nm,0.7s,baz=105,slow=4.6,SNR=22
BRTR Keskin Array B 85.35 313 P P 14 25 28.3 +0.1
BRTR Keskin Array B 85.35 313 P P 14 25 28.3 +0.1
TPGR Topolog 85.54 320 ⇓P P 14 25 27.3 -1.6
ULM Lac du Bonnet 85.55 33 P P 14 25 28.9 +0.1
comp=Z,5.6nm,0.8s,baz=277,slow=4.3,SNR=5.9
ULM LR LR 15 07 35.1
comp=Z,86nm,18.3s,baz=64,slow=38
BURAR Bucovina Array 85.60 323 ⇑P P 14 25 29.8 +0.5
BURAR Bucovina Array 85.60 323 ⇑P P 14 25 29.8 +0.5
N23A Red Feather La 85.71 45 P P 14 25 29.8 -0.4
baz=305
VRI Vrincioaia 85.87 321 ⇑P P 14 25 28.9 -1.6
VRI Vrincioaia 85.87 321 ⇑P P 14 25 28.9 -1.6
214A Organ Pipe Nat 85.94 56 P P 14 25 31.7 +0.5
baz=302,SNR=7.9
MVCO Mesa Verde 86.13 49 P P 14 25 30.8 -1.5
baz=304
W18A Petrified Fore 86.44 52 P P 14 25 33.8 0.0
baz=303
MLR Muntele Rosu 86.54 321 ⇑P P 14 25 34.2 +0.2
MLR Muntele Rosu 86.54 321 ⇑P P 14 25 34.2 +0.2

ISCO	**Idaho Springs**	**86.55**	**46**	P		**P**	**14 25 33.8**	**-0.6**
	baz=305							
CRVS	**Cervenica-Dubn**	**86.68**	**326**	*e*P		**P**	**14 25 35.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**86.68**	**326**	*e*P		**P**	**14 25 35.1**	**+0.6**
AGMN	**Agassiz Nation**	**86.85**	**35**	P		**P**	**14 25 34.1**	**-1.2**
	baz=311							
S22A	**4UR Ranch, Cre**	**86.94**	**48**	P		**P**	**14 25 36.3**	**0.0**
	baz=305							
TUC	**Tucson**	**87.22**	**55**	P		**P**	**14 25 36.9**	**-0.6**
	baz=303							
Q24A	**Divide**	**87.32**	**46**	P		**P**	**14 25 38.5**	**+0.3**
	baz=306							
ARR	**Arges**	**87.33**	**322**	⇑P		**P**	**14 25 38.6**	**+0.9**
SDCO	**Great Sand Dun**	**87.80**	**48**	P		**P**	**14 25 40.5**	**0.0**
	baz=305							
MMAI	**Mount Meron Ar**	**87.87**	**307**	LR		LR	15 09 33.6	
	comp=Z,48nm,18.1s,baz=219,slow=39							
MORC	**Moravsky Berou**	**87.96**	**328**	⇑P		**P**	**14 25 40.7**	**0.0**
MORC	**Moravsky Berou**	**87.96**	**328**	⇑P		**P**	**14 25 40.7**	**0.0**
DPC	**Dobruska-Polom**	**88.12**	**329**	*e*P		**P**	**14 25 41.7**	**+0.3**
DPC	**Dobruska-Polom**	**88.12**	**329**	*e*P		**P**	**14 25 41.7**	**+0.3**
VYHS	**Vyhne**	**88.24**	**327**	*e*P		**P**	**14 25 42.4**	**+0.4**
VYHS	**Vyhne**	**88.24**	**327**	*e*P		**P**	**14 25 42.4**	**+0.4**
ANMO	**Albuquerque**	**88.77**	**50**	⇑*i*P		**P**	**14 25 46.2**	**+1.2**
ANMO				pmax	pmax			
	comp=Z,11nm,4.3s							
ANMO	**Albuquerque**	**88.77**	**50**	P		**P**	**14 25 45.4**	**+0.5**
	baz=305							
BZS	**Buzias**	**88.78**	**323**	⇑P		**P**	**14 25 42.4**	**-2.2**
BZS	**Buzias**	**88.78**	**323**	⇑P		**P**	**14 25 42.4**	**-2.2**
BRG	**Berggiesshubel**	**88.79**	**331**	*e*P		**P**	**14 25 44.5**	**0.0**
BRG				Amp			14 25 47.4	
	comp=Z,9.7nm,1.3s							
BRG	**Berggiesshubel**	**88.79**	**331**	*e*P		**P**	**14 25 44.5**	**0.0**
BRG				pmax	pmax			
	comp=Z,10.0nm,1.3s							
T25A	**Trinidad**	**88.86**	**48**	P		**P**	**14 25 45.2**	**-0.2**
	baz=306							
CLL	**Collm**	**88.87**	**331**	*i* P		**P**	**14 25 44.7**	**-0.1**
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**88.87**	**331**	*i* P		**P**	**14 25 44.7**	**-0.1**
	comp=Z,6.0nm,0.9s							
121A	**Cookes Peak, D**	**89.22**	**53**	P		**P**	**14 25 46.8**	**-0.3**
	baz=304							
ECSD	**EROS Data Cent**	**89.45**	**39**	P		**P**	**14 25 47.0**	**-0.8**
	baz=311							
FRGS	**Fruska Gora**	**90.04**	**324**	⇑P		**P**	**14 25 49.5**	**-0.9**
CONA	**Conrad Observa**	**90.06**	**328**	*e*P		**P**	**14 25 51.0**	**+0.4**
	comp=Z,7.5nm,1.1s							
CKRC	**Cesky Krumlov**	**90.13**	**329**	*e*P		**P**	**14 25 50.8**	**0.0**
KHC	**Kasperske Hory**	**90.23**	**330**	⇓*i*P		**P**	**14 25 50.6**	**-0.7**
KHC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KHC	**Kasperske Hory**	**90.23**	**330**	*e*P		**P**	**14 25 51.3**	**0.0**
KHC				*ex*		x	14 26 05.3	
GERES	**GERESS Array B**	**90.38**	**329**	P		**P**	**14 25 51.0**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=51,slow=7.0,SNR=14							
GERES	**GERESS Array B**	**90.38**	**329**	P		**P**	**14 25 51.2**	**-0.9**
SPMN	**Marine on St.**	**90.47**	**36**	P		**P**	**14 25 51.5**	**-1.0**
	baz=314							
ARSA	**Arzberg**	**90.70**	**327**	*e*P		**P**	**14 25 51.0**	**-2.5**
	comp=Z,2.8nm,0.7s							
BIOA	**Bad Ischl, Aus**	**91.26**	**329**	*e*P		**P**	**14 25 56.3**	**+0.2**
	comp=Z,6.2nm,1.0s							
PERS	**Pernice**	**91.34**	**327**	*i* P		**P**	**14 25 56.1**	**-0.4**
SOKA	**Soboth**	**91.35**	**327**	*e*P		**P**	**14 25 56.1**	**-0.6**
	comp=Z,9.4nm,1.1s							
MNTX	**Cornudas Mount**	**91.37**	**52**	P		**P**	**14 25 57.3**	**+0.3**
	baz=306							
OBKA	**Obir**	**91.70**	**327**	*e*P		**P**	**14 25 57.7**	**-0.6**
	comp=Z,6.0nm,1.1s							
MSTX	**Muleshoe**	**91.81**	**49**	P		**P**	**14 25 58.8**	**-0.3**
	baz=307							
KBA	**Koelnbreinsper**	**91.85**	**328**	*e*P		**P**	**14 25 58.7**	**-0.4**
	comp=Z,3.3nm,0.7s							
AMTX	**Amarillo**	**91.98**	**48**	P		**P**	**14 25 59.1**	**-0.7**
	baz=308							
MYKA	**Terra Mystica**	**92.04**	**328**	*e*P		**P**	**14 25 58.6**	**-1.3**
	comp=Z,1.8nm,0.4s							
CRNS	**Crni Vrh**	**92.15**	**327**	*i* P		**P**	**14 25 59.1**	**-1.2**
JAVS	**Javornik**	**92.38**	**327**	*i* P		**P**	**14 26 00.2**	**-1.2**
ABTA	**Abfaltersbach**	**92.47**	**328**	*e*P		**P**	**14 26 00.9**	**-0.9**
	comp=Z,7.6nm,1.0s							
KSU1	**Kansas State U**	**92.47**	**42**	P		**P**	**14 26 00.7**	**-1.2**
	baz=311							
WTTA	**Wattenberg**	**92.49**	**329**	*e*P		**P**	**14 26 01.6**	**-0.4**
	comp=Z,3.6nm,0.5s							
MOTA	**Moosalm**	**92.66**	**330**	*e*P		**P**	**14 26 02.2**	**-0.6**
	comp=Z,0.6nm,0.4s							
RETA	**Reutte**	**92.71**	**330**	*e*P		**P**	**14 26 02.5**	**-0.4**
	comp=Z,5.7nm,1.0s							
SQTA	**Sankt Quirin**	**92.71**	**329**	*e*P		**P**	**14 26 02.3**	**-0.7**
	comp=Z,2.5nm,0.5s							
FETA	**Feichten**	**93.08**	**330**	*e*P		**P**	**14 26 04.5**	**-0.2**
	comp=Z,8.0nm,1.0s							
DAVA	**Damuels**	**93.25**	**330**	*e*P		**P**	**14 26 05.3**	**-0.2**
	comp=Z,7.6nm,0.7s							
JFWS	**Jewell Farm**	**93.40**	**36**	P		**P**	**14 26 04.8**	**-1.3**
	baz=315							
WMOK	**Wichita Mounta**	**93.94**	**47**	P		**P**	**14 26 08.2**	**-0.6**
	baz=309							
TX31	**Lajitas Ar. Si**	**93.94**	**54**	P		**P**	**14 26 09.8**	**+0.9**
TX32	**Lajitas Array**	**93.94**	**54**	P		**P**	**14 26 09.8**	**+0.9**
TX32				IAmb		IAmb	14 26 13.5	
	comp=Z,5.9nm,0.8s							
TXAR	**Lajitas Array**	**93.94**	**54**	P		**P**	**14 26 10.1**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=315,slow=3.0,SNR=25							
L44A	**Lake County Fo**	**95.13**	**35**	P		**P**	**14 26 13.7**	**-0.4**
	baz=317							
CCM	**Cathedral Cave**	**96.28**	**40**	P		**P**	**14 26 18.2**	**-1.2**
	baz=314							
U40A	**Yellville**	**96.52**	**42**	P		**P**	**14 26 19.6**	**-0.9**
	baz=313							
HRV	**Adam Dziewonsk**	**102.16**	**25**	P		**Pdif**	**14 26 44.4**	**-1.1**
	baz=330							
SYO	**Syowa Base**	**121.44**	**204**	⇓*e*Pdiff		**Pdif**	**14 28 11.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**123.96**	**313**	PKP		**PKPdf**	**14 31 48.8**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=34,slow=2.0,SNR=6.5							
TORD				PP		**PP**	**14 33 33.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=28,slow=5.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.96**	**313**			**PKPdf**	**14 31 49.0**	**-0.6**
SDV	**Santo Domingo**	**130.36**	**46**	PKPdf		**PKiKP**	**14 32 04.2**	**+1.2**
TROLL	**Troll, Antarti**	**131.83**	**195**	PKPdf		**PKPdf**	**14 32 03.5**	**+0.4**
DBIC	**Dimbokro**	**133.04**	**314**	PKP		**PKPdf**	**14 32 07.1**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=228,slow=1.6,SNR=3.3							
DBIC	**Dimbokro**	**133.04**	**314**			**PKiKP**	**14 32 07.7**	**-0.4**
SNAA	**Sanae**	**133.26**	**194**	PKPdf		**PKiKP**	**14 32 08.6**	**+1.7**
VNA2	**Neumayer--Watz**	**134.78**	**193**	PKPdf		**PKPdf**	**14 32 09.2**	**+0.7**
	baz=73,slow=1.0							
VNA3	**Neumayer Olymp**	**134.96**	**192**	PKPdf		**PKiKP**	**14 32 09.6**	**-0.7**
VNA1	**Neumayer--Stat**	**135.18**	**193**	PKPdf		**PKPdf**	**14 32 08.9**	**-0.3**
MG05	**Puerto Natales**	**145.11**	**141**			**PKPdf**	**14 32 28.2**	**+0.5**
LL02	**Futaleuf**	**148.62**	**127**			**PKiKP**	**14 32 38.5**	**-0.7**
LPAZ	**La Paz**	**149.72**	**73**	PKPbc		**PKiKP**	**14 32 40.4**	**-0.5**
	comp=Z,14nm,0.9s,baz=326,slow=3.2,SNR=18							
PB11	**IPOC Station P**	**148.94**	**80**			**PKPbc**	**14 32 39.8**	**+0.5**
LC01	**Cunco**	**149.50**	**118**			**PKiKP**	**14 32 40.9**	**-0.2**
PLCA	**Paso Flores**	**150.16**	**122**	PKPbc		**PKiKP**	**14 32 42.4**	**-0.1**
	comp=Z,11nm,0.9s,baz=231,slow=3.6,SNR=13							
PLCA	**Paso Flores**	**150.16**	**122**	PKIKP		**PKiKP**	**14 32 42.8**	**+0.3**
PLCA	**Paso Flores**	**150.16**	**122**			**PKiKP**	**14 32 42.8**	**+0.3**
GO02	**Mina Guanaco**	**150.75**	**91**			**PKiKP**	**14 32 44.5**	**0.0**
BO02	**Sierra Bellavi**	**150.76**	**110**			**PKiKP**	**14 32 43.9**	**0.0**

IDC ***18*** *14:21:30.7±1.9,* **41°.14N×115°.08E, h0**km**, mb3.1**/1, **mb1 3.4**/3**, mb1mx3.2**/46**, mbtmp3.4**/3**, ML3.4**/2 **Error ellipse: s-maj=56.0km s-min=20.7km az=41.0, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.13**	**320**	Pn	Pn	14 23 44.3	+0.6
	0.4nm,0.3s,baz=140,slow=14,SNR=13						
SONM				Sn	Sn	14 25 25.8	-1.4
	0.4nm,0.3s,baz=137,slow=24,SNR=6.0						
SONM				Lg	Lg	14 26 22.2	
	1.0nm,0.3s,baz=132,slow=30,SNR=7.7						
KSRS	**Korea Array**	**10.61**	**106**	Pn	Pn	14 24 03.1	-0.8
	0.2nm,0.3s,baz=293,slow=14,SNR=2.6						
KSRS				Lg	Lg	14 27 08.1	
	0.2nm,0.3s,baz=297,slow=28,SNR=5.0						
ASAR	**Alice Springs**	**66.80**	**161**	P	P	14 32 24.1	0.0
	0.1nm,0.5s,baz=330,slow=5.4,SNR=1.1						

JMA ***18*** *14:29:51.8±0.8, 46°.93N×152°.79E, h30km, M4.4*
SKHL ***18*** *14:29:52.5±0.3, 46°.60N×153°.10E, h67km±3km, mb4.6/4*
MOS ***18*** *14:29:52.9±1.4, 46°.67N×152°.86E, h69km, mb4.4/5, Error ellipse: s-maj=10.7km s-min=7.5km az=59.4*
NEIC ***18*** *14:29:55.0±1.8, 46°.81N±0°.10×152°.5E±0°.2, h62km±4km, mb4.3/22, Error ellipse: s-maj=18.8km s-min=8.6km az=132.0*
IDC ***18*** *14:29:57.1±2.4, 46°.87N×152°.71E, h84km±21km, mb3.5/15, mb1 3.8/21, mb1mx3.5/68, mbtmp3.9/21, Error ellipse: s-maj=19.9km s-min=13.0km az=130.0*
ISC 18 14:29:52.9±0.5, 46°.61N±0°.07×152°.89E±0°.07, h50km, n130, σ1s80/136, mb4.2/30, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.77**	**250**	*e*PN	**Pn**	**14 30 48.3**	**-0.1**
KUR				*e*S	**Sn**	**14 31 31.1**	**-0.3**
KUR				pmax	pmax		
	comp=N,41nm,0.4s						
KUR				pmax	pmax		
	comp=Z,108nm,0.4s						
KUR				smax	smax		
	comp=E,359nm,0.5s						
KUR				smax	smax		
	comp=N,192nm,0.4s						
KUR	**Kuril'sk**	**3.77**	**250**	*e*P	**Pn**	**14 30 49.0**	**+0.6**
KUR				AMB	AMB	14 30 50.1	
	comp=N,110nm,0.4s						
KUR				*e*S	**Sn**	**14 31 31.4**	**0.0**
KUR				A	A	14 31 47.9	
	comp=N,190nm,0.6s						
KUR				A	A	14 31 47.9	
	comp=N,360nm,0.6s						
SKR	**Severo-Kuril's**	**4.60**	**26**	*e*PN	**Pn**	**14 31 01.5**	**+1.6**
SKR				pmax	pmax		
	comp=Z,53nm,0.8s						
SKR	**Severo-Kuril's**	**4.60**	**26**	*e*P	**Pn**	**14 30 59.8**	**-0.1**
SKR				AMB	AMB	14 31 03.9	
	comp=Z,50nm,0.8s						
SKR				*e*S	**Sn**	**14 31 50.2**	**-1.8**
SKR				A	A	14 32 59.0	
	comp=Z,80nm,0.4s						
SKR				A	A	14 32 59.0	
	comp=Z,80nm,0.4s						
PAU	**Pauzhetka**	**5.50**	**26**	*e*P	**Pn**	**14 31 12.3**	**+0.1**
PAU				AMB	AMB	14 31 18.4	
	comp=Z,20nm,0.6s						
PAU				*e*S	**Sn**	**14 32 11.7**	**-2.4**
PAU				A	A	14 32 19.4	
	comp=Z,70nm,0.5s						
PAU				A	A	14 32 19.4	
	comp=Z,110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.58**	**245**	*c i*PN	**Pn**	**14 31 15.9**	**+2.5**
YUK				S	**Sn**	**14 32 19.1**	**+2.9**
YUK				pmax	pmax		
	comp=N,40nm,0.4s						
YUK				pmax	pmax		
	comp=Z,109nm,0.4s						
YUK				pmax	pmax		
	comp=E,33nm,0.3s						
YUK				smax	smax		
	comp=N,174nm,0.6s						
YUK				smax	smax		
	comp=E,86nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.58**	**245**	*i* P	**Pn**	**14 31 15.2**	**+1.9**
YUK				AMB	AMB	14 31 16.9	
	comp=E,80nm,0.5s						
YUK				*e*S	**Sn**	**14 32 17.3**	**+1.1**
YUK				A	A	14 32 25.9	
	comp=E,180nm,0.6s						
YUK				A	A	14 32 25.9	
	comp=E,90nm,0.6s						
RUSJ	**Misakicho**	**5.94**	**248**	*e*PN	Pn	14 31 23.6	+5.4
RUSJ				*e*S	**Sn**	**14 32 31.7**	**+6.8**
GLVR	**Golovnino**	**5.95**	**244**	*e*PN	**Pn**	**14 31 20.2**	**+1.9**
GLVR				*e*S	**Sn**	**14 32 25.6**	**+0.5**
GLVR	**Golovnino**	**5.95**	**244**	*e*P	**Pn**	**14 31 20.2**	**+1.9**
GLVR				*e*S	**Sn**	**14 32 25.6**	**+0.5**
NEM2	**Nemuro 2**	**6.02**	**240**	P	**Pn**	**14 31 19.1**	**-0.2**
NEM2				*e*S	**Sn**	**14 32 24.2**	**-2.6**
NMR	**Nemuro--Hokkai**	**6.02**	**240**	*e*PN	**Pn**	**14 31 19.1**	**-0.3**
NMR	**Nemuro--Hokkai**	**6.02**	**240**	*e*P	**Pn**	**14 31 19.3**	**-0.1**
JRA	**Rausu**	**6.10**	**247**	P	**Pn**	**14 31 22.9**	**+2.5**
JNK	**Nakash**	**6.53**	**245**	P	**Pn**	**14 31 28.2**	**+1.9**
AKK	**Akkeshi**	**6.76**	**241**	*e*P	**Pn**	**14 31 29.9**	**+0.5**
JAK	**Akkeshi**	**6.86**	**241**	P	**Pn**	**14 31 31.0**	**+0.2**
JAK				*e*S	**Sn**	**14 32 44.8**	**-2.6**
JTKR	**Abashiri--Toko**	**6.86**	**251**	P	**Pn**	**14 31 33.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.97**	**277**	*e*PN	**Pn**	**14 31 35.1**	**+2.7**
YSS				*e*S	**Sn**	**14 32 52.5**	**+2.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.97**	**277**	*e*P	**Pn**	**14 31 35.0**	**+2.7**
YSS				AMB	AMB	14 31 37.1	
	comp=E,10.0nm,0.5s						
JMP	**Maruseppu**	**7.21**	**252**	P	**Pn**	**14 31 38.5**	**+2.9**
PEA0B	**Petropavlovsk-**	**7.21**	**24**	Pn	**Pn**	**14 31 37.7**	**+2.1**
PEA0B				Sn	**Sn**	**14 32 55.5**	**-0.5**
PETK	**Petropavlovsk-**	**7.21**	**24**	P	**Pn**	**14 31 36.9**	**+1.3**
	comp=E,0.6nm,0.3s,baz=179,slow=11,SNR=13						
PETK	**Petropavlovsk-**	**7.21**	**24**		**Pn**	**14 31 36.6**	**+1.1**
JAR	**Ashorobuto**	**7.27**	**246**	P	**Pn**	**14 31 38.4**	**+2.0**
PET	**Petropavlovsk**	**7.42**	**28**	*e*PN	Pn	14 31 33.2	-5.3
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
JOB	**Onbets**	**7.43**	**243**	P	**Pn**	**14 31 39.3**	**+0.6**
JOB				*e*S	**Sn**	**14 33 00.6**	**-1.0**
JKK2	**Kamakawa 2**	**7.66**	**253**	P	**Pn**	**14 31 45.1**	**+3.2**
JKA	**Kamikawa-asahi**	**7.67**	**255**		**Pn**	**14 31 41.4**	**-0.5**
JKA				Sn	**Sn**	**14 33 00.5**	**-6.8**
JKA	**Kamikawa-asahi**	**7.67**	**255**	*e*P	**Pn**	**14 31 45.1**	**+3.2**
ASAJ	**Asahikawa**	**7.67**	**255**	P	**Pn**	**14 31 45.1**	**+3.2**
	comp=Z,1.7nm,0.3s,baz=80,slow=13,SNR=27						
ASAJ	**Asahikawa**	**7.67**	**255**	P	**Pn**	**14 31 45.6**	**+3.7**
JCH	**Churui**	**7.88**	**243**	P	**Pn**	**14 31 45.3**	**+0.4**
JCH				*e*S	**Sn**	**14 33 09.7**	**-2.9**
TYV	**Tymovskoe**	**7.99**	**306**	*e*PN	**Pn**	**14 31 48.2**	**+1.9**
TYV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV	**Tymovskoe**	**7.99**	**306**	*e*P	**Pn**	**14 31 47.9**	**+1.6**
TYV				AMB	AMB	14 31 51.6	
	comp=Z,10.0nm,0.8s						
JFR	**Furan**	**8.08**	**248**	P	**Pn**	**14 31 50.9**	**+3.3**
JAB	**Ashibetsu**	**8.16**	**252**	P	**Pn**	**14 31 52.0**	**+3.3**
ERM	**Erimo**	**8.35**	**240**	⇓*e*PN	**Pn**	**14 31 53.3**	**+2.0**
ERM	**Erimo**	**8.35**	**240**		**Pn**	**14 31 51.7**	**+0.5**
ERM				Sn	**Sn**	**14 33 21.0**	**-3.2**
JBT2	**Biratori 2**	**8.42**	**247**	P	**Pn**	**14 31 53.3**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.44**	**243**	P	**Pn**	**14 31 52.7**	**+0.2**
JEW	**Eniwo**	**8.97**	**249**	Pn	**Pn**	**14 31 58.9**	**-0.9**
JNB	**Noboribetsu**	**9.42**	**248**	P	**Pn**	**14 32 06.9**	**+1.0**
JKB	**Kayabe**	**9.73**	**245**	P	**Pn**	**14 32 09.8**	**-0.3**
JYM2	**Yakumo 2**	**10.03**	**248**	P	**Pn**	**14 32 14.4**	**+0.2**
JANG	**Nango**	**10.35**	**237**	P	**Pn**	**14 32 15.8**	**-2.8**
JANG				*e*S	Sn	14 34 03.1	-10
JTM	**Tenmabayashi**	**10.35**	**240**	Pn	**Pn**	**14 32 19.3**	**+0.8**
JRG	**Rokugo**	**11.50**	**236**	P	**Pn**	**14 32 33.1**	**-1.3**
MA2	**Magadan**	**13.05**	**355**	P	**Pn**	**14 32 55.1**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=172,slow=9.8,SNR=22						
MA2	**Magadan**	**13.05**	**355**	*d i*PN	**Pn**	**14 32 54.8**	**-0.6**
MA2	**Magadan**	**13.05**	**355**		**Pn**	**14 32 54.3**	**-1.1**
MA2	**Magadan**	**13.05**	**355**	*e*P	**Pn**	**14 32 54.8**	**-0.6**
MJAR	**Matsushiro Arr**	**14.87**	**233**	P	**P**	**14 33 25.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=37,slow=9.2,SNR=8.2						
MJB9	**Matsu-Tunnel**	**14.87**	**233**		**Pn**	**14 33 18.8**	**-1.2**
MAJO	**Matsushiro**	**14.87**	**233**	P	**Pn**	**14 33 19.4**	**-0.6**
MAJO	**Matsushiro**	**14.87**	**233**		**Pn**	**14 33 19.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**14.88**	**268**	P	**Pn**	**14 33 21.1**	**+1.2**
	baz=73,slow=13,SNR=5.8						
SEY	**Seymchan**	**16.36**	**359**	P	**P**	**14 33 40.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=198,slow=14,SNR=8.7						
SEY	**Seymchan**	**16.36**	**359**	*e*P	**P**	**14 33 41.3**	**+0.3**
KSRS	**Korea Array**	**20.61**	**253**	P	Pn	14 34 30.2	-0.2
	comp=Z,1.5nm,0.5s,baz=59,slow=9.5,SNR=12						
JNU	**Nakatsue**	**21.52**	**239**	P	**P**	**14 34 38.3**	**+0.7**
JNU				IAmb	IAmb	14 35 04.2	
	comp=Z,26nm,1.3s						
BILL	**Bilibino**	**22.56**	**13**	*e*P	**P**	**14 34 49.8**	**+1.3**
BILL				*e*		14 35 15.6	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL	**Bilibino**	**22.56**	**13**	*e*P	**P**	**14 34 49.8**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**29.16**	**152**	T	T	15 07 12.9	
	baz=340,slow=76,SNR=472						
H11N1	**WAKE ISLAND Hy**	**29.18**	**152**	T	T	15 07 14.6	
	baz=340,slow=76,SNR=429						
H11N3	**WAKE ISLAND Hy**	**29.18**	**152**	T	T	15 07 14.2	
	baz=340,slow=76,SNR=224						
H11S1	**WAKE ISLAND Hy**	**30.25**	**153**	T	T	15 08 35.3	
	baz=341,slow=76,SNR=595						
H11S3	**WAKE ISLAND Hy**	**30.26**	**153**	T	T	15 08 38.8	
	baz=341,slow=76,SNR=511						
H11S2	**WAKE ISLAND Hy**	**30.27**	**153**	T	T	15 08 37.5	
	baz=341,slow=76,SNR=466						
ULN	**Ulaanbaatar**	**30.80**	**289**	⇑*e*P	**P**	**14 36 05.1**	**+1.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.7s						
ULN	**Ulaanbaatar**	**30.80**	**289**	*e*P	**P**	**14 36 05.1**	**+1.3**
IMAR	**Indian Mountai**	**33.97**	**36**	P	**P**	**14 36 31.4**	**+0.2**
H21K	**Melozitna Rive**	**34.31**	**37**	P	**P**	**14 36 34.8**	**+0.7**
TOLK	**Toolik Lake Re**	**35.95**	**32**	P	**P**	**14 36 48.8**	**+0.6**
TOLK				IAmb	IAmb	14 37 01.2	
	comp=Z,6.0nm,1.4s						
IL31		**36.75**	**38**	P	**P**	**14 36 55.9**	**+0.8**
IL31				IAmb	IAmb	14 36 58.8	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**36.75**	**38**	P	**P**	**14 36 55.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=265,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**36.75**	**38**	*e*P	**P**	**14 36 59.0**	**+3.9**
ILAR	**Eielson Array**	**36.75**	**38**	P	**P**	**14 36 55.4**	**+0.3**
FYU	**Fort Yukon**	**37.45**	**35**	P	**P**	**14 37 02.2**	**+1.3**
BMAR	**Burnt Mountain**	**37.72**	**34**	P	**P**	**14 37 04.7**	**+1.4**
L27K	**Beaver Creek,**	**39.09**	**41**	P	**P**	**14 37 15.8**	**+1.0**
BCAR	**Beaver Creek A**	**39.11**	**41**	P	**P**	**14 37 16.6**	**+1.7**
EGAK	**Eagle**	**39.20**	**38**	P	**P**	**14 37 16.1**	**+0.4**
EGAK				IAmb	IAmb	14 37 16.2	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**42.57**	**306**	P	**P**	**14 37 41.3**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=44,slow=3.6,SNR=2.8						
M31M	**Drury Creek, Y**	**42.62**	**41**	P	**P**	**14 37 44.5**	**+0.6**
M31M				IAmb	IAmb	14 38 10.0	
	comp=Z,7.9nm,1.4s						
A36M	**Sachs Harbour**	**44.05**	**26**	P	**P**	**14 37 56.1**	**+1.0**
A36M				IAmb	IAmb	14 37 59.9	
	comp=Z,4.7nm,0.8s						
MK31	**Makanchi Array**	**46.87**	**297**	P	**P**	**14 38 16.4**	**-1.5**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MK31	**Makanchi Array**	**46.87**	**297**	P	**P**	**14 38 16.4**	**-1.5**
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**14 38 15.8**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=72,slow=5.1,SNR=10						
MKAR				PcP	**PcP**	**14 39 49.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=61,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**46.87**	**297**	*e*P	**P**	**14 38 16.3**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**14 38 16.2**	**-1.7**
MKAR	**Makanchi Array**	**46.87**	**297**	*e*P	**P**	**14 38 16.3**	**-1.6**
EUNU	**Eureka**	**49.30**	**11**	P	**P**	**14 38 36.2**	**0.0**
EUNU				IAmb	IAmb	14 38 36.8	
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**14 38 48.4**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=297,slow=6.7,SNR=3.0						
YKA				PcP	**PcP**	**14 40 04.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=303,slow=3.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**52.19**	**256**	P	**P**	**14 38 59.4**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=42,slow=7.1,SNR=5.4						
BOOM	**Boomskoye usch**	**52.94**	**295**	P	P	14 38 57.9	-6.3
BOOM				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BOOM	**Boomskoye usch**	**52.94**	**295**	P	P	14 38 57.9	-6.3
BOOM				IAmb	IAmb	14 39 13.6	
	comp=Z,5.9nm,1.1s						
ABKAR	**Akbulak array**	**58.40**	**310**	P	**P**	**14 39 41.1**	**-1.9**
COEN	**Coen**	**60.91**	**191**	P	**P**	**14 40 02.3**	**+1.8**
FCC	**Fort Churchill**	**61.46**	**33**	P	**P**	**14 40 03.9**	**+0.1**

SDRC				⇑*e*				14 31 37.0	
SDRC				IAML				14 31 37.0	
	comp=N,372nm,0.3s								
OLP	**Otay Lakes Par**	**0.99**	**90**	*e*P		**Pb**		**14 31 21.5**	**0.0**
OLP				*e*S		**Sb**		**14 31 34.2**	**-0.3**
EML	**El Monte Cty P**	**1.10**	**75**	*e*P		**Pb**		**14 31 22.8**	**-0.5**
EML				*e*S		**Sb**		**14 31 37.2**	**-0.3**
FMP	**Fort Macarthur**	**1.10**	**352**	P		**Pb**		**14 31 22.8**	**-0.5**
	baz=171								
FMP				S		**Sb**		**14 31 35.8**	**-1.8**
	baz=171								
ELS	**Elsinore Mount**	**1.18**	**29**			**Pn**		**14 31 23.6**	**-1.0**
ELS				Sg		**Sb**		**14 31 40.0**	**+0.3**
ELS				IAML				14 31 40.6	
	comp=E,201nm,0.3s								
ELS				IAML				14 31 41.3	
	comp=N,111nm,0.3s								
BAR	**Barrett**	**1.21**	**87**	Pg		**Pn**		**14 31 24.7**	**-0.3**
BAR				Sg		**Sb**		**14 31 39.7**	**-1.1**
BAR	**Barrett**	**1.21**	**87**⇑	*e*P		**Pn**		**14 31 24.6**	**-0.5**
BAR				*e*S		**Sb**		**14 31 39.9**	**-0.9**
BAR				IAML				14 31 43.2	
	comp=E,357nm,0.2s								
BAR				⇓*e*				14 31 43.2	
BAR				IAML				14 31 43.4	
	comp=N,372nm,0.3s								
TJIG	**Tijuana**	**1.23**	**98**	*e*P		**Pn**		**14 31 24.7**	**-0.5**
TJIG				*e*S		**Sb**		**14 31 40.6**	**-0.5**
MURC	**Murrieta**	**1.24**	**38**	P		**Pn**		**14 31 24.6**	**-1.0**
	baz=219								
MURC				S		**Sb**		**14 31 40.2**	**-1.5**
	baz=219								
CBX	**Cerro Bola**	**1.26**	**104**	Pn		**Pn**		**14 31 25.5**	**-0.3**
CBX				IAML				14 31 46.7	
	comp=E,154nm,0.8s								
CBX				IAML				14 31 47.6	
	comp=N,103nm,0.7s								
CBX	**Cerro Bola**	**1.26**	**104**⇑	*e*P		**Pn**		**14 31 25.5**	**-0.3**
CBX				*e*S		**Sb**		**14 31 42.1**	**-0.1**
TKX	**Tecate**	**1.27**	**92**	Pn		**Pn**		**14 31 26.0**	**+0.2**
SNCC	**San Nicolas Is**	**1.35**	**298**	Pn		**Pb**		**14 31 27.1**	**-0.5**
SNCC				IAML				14 31 49.8	
	comp=E,96nm,0.6s								
MATG	**Mataguay Scout**	**1.36**	**64**	*e*P		**Pn**		**14 31 26.9**	**-0.3**
CCX	**Cicese**	**1.43**	**121**	Pn		**Pb**		**14 31 28.4**	**-0.6**
CCX				IAML				14 31 50.4	
	comp=N,95nm,0.4s								
CCX				IAML				14 31 50.9	
	comp=E,123nm,0.3s								
MONP2	**Monument Peak**	**1.45**	**79**⇑	*e*P		**Pn**		**14 31 28.2**	**-0.2**
MONP2	**Monument Peak**	**1.45**	**79**	P		**Pn**		**14 31 28.3**	**-0.2**
	baz=261,SNR=14								
MONP2				S		**Sn**		**14 31 46.8**	**-0.6**
	baz=261								
PASC	**Pasadena Art C**	**1.55**	**358**	Pn		**Pb**		**14 31 31.2**	**+0.2**
DECC	**Green Verdugo**	**1.64**	**353**	Pg		**Pg**		**14 31 33.7**	**-0.3**
	baz=173								
DECC				S		**Sn**		**14 31 50.8**	**-1.2**
	baz=173								
BFSC	**Mount Baldy Ra**	**1.66**	**13**	P		**Pn**		**14 31 30.6**	**-0.7**
	baz=193,SNR=14								
BFSC				S		**Sn**		**14 31 51.0**	**-1.6**
	baz=193								
SLH	**Sleepy Hollow**	**1.66**	**69**	*e*P		**Pn**		**14 31 32.1**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**1.69**	**88**	*e*P		**Pn**		**14 31 32.1**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**1.69**	**88**	P		**Pn**		**14 31 32.1**	**+0.5**
	baz=271,SNR=11								
IKP				S		**Sn**		**14 31 53.1**	**0.0**
	baz=271								
PFO	**Pinyon Flats O**	**1.70**	**54**	IAML				14 31 56.2	
	comp=E,59nm,0.3s								
PFO	**Pinyon Flats O**	**1.70**	**54**			**Pn**		**14 31 32.5**	**+0.6**
PFO	**Pinyon Flats O**	**1.70**	**54**	Pb		**Pn**		**14 31 32.3**	**+0.4**
	baz=236,SNR=11								
PFO				Sg		**Sb**		**14 31 55.3**	**+0.4**
	baz=236								
RMX	**La Rumorosa**	**1.71**	**90**	Pn		**Pb**		**14 31 33.8**	**-0.1**
RMX				IAML				14 31 59.0	
	comp=N,92nm,0.3s								
RMX				IAML				14 32 07.4	
	comp=E,67nm,0.5s								
YUH	**Yuha Desert**	**1.84**	**89**	Pn		**Pn**		**14 31 34.8**	**+1.0**
YUH2	**Yuha Desert**	**1.84**	**89**	*e*P		**Pn**		**14 31 34.6**	**+0.9**
BBRC	**Big Bear Solar**	**1.92**	**31**	Sg		**Sb**		**14 32 02.3**	**+1.0**
	baz=212								
SWSC	**Sam W. Stewart**	**1.97**	**80**	Pb		**Pb**		**14 31 37.5**	**-0.7**
	baz=262								
OSI	**Osito Audit: C**	**2.06**	**346**	Sg		**Sg**		**14 32 08.4**	**-0.3**
	baz=165								
BELC	**Belle Mtn. Jos**	**2.24**	**51**	Pg		**Pb**		**14 31 43.2**	**+0.4**
	baz=233								
BELC				Sg		**Sb**		**14 32 12.4**	**+1.9**
	baz=233								
EDW2	**Edwards Air Fo**	**2.26**	**2**	P		**Pn**		**14 31 40.5**	**+1.0**
	baz=182								
EDW2				S		**Sn**		**14 32 06.5**	**-0.7**
	baz=182								
BC3	**Big Chuckawall**	**2.46**	**64**	Pg		**Pb**		**14 31 47.9**	**+1.4**
	baz=247								
CCAC	**Calif City Air**	**2.53**	**2**			**Pn**		**14 31 43.2**	**0.0**
BCW	**Bitter Crk WRg**	**2.56**	**335**	Pn		**Pn**		**14 31 44.1**	**+0.4**
BCW				IAML				14 32 30.4	
	comp=N,37nm,0.6s								
SPIG	**San Pedro Mart**	**2.74**	**124**	*e*P		**Pn**		**14 31 48.5**	**+2.1**
GLA	**Glamis**	**2.79**	**80**	Pn		**Pn**		**14 31 47.8**	**+0.9**
GLA				IAML				14 32 48.0	
	comp=E,21nm,0.7s								
GSC	**Goldstone, Bar**	**2.89**	**22**			**Pn**		**14 31 49.6**	**+1.4**
GSC				IAML				14 32 35.5	
	comp=E,29nm,0.7s								
GSC				IAML				14 32 36.2	
	comp=N,24nm,0.8s								
ISA	**Isabella, Lake**	**3.05**	**354**			**Pn**		**14 31 51.7**	**+1.2**
QSM	**Queen of Sheba**	**3.49**	**17**			**Pn**		**14 31 57.9**	**+1.5**
QSM				IAML				14 32 57.0	
	comp=E,13nm,0.6s								
QSM				IAML				14 32 57.1	
	comp=N,14nm,0.8s								
PAGB	**Antelope Grade**	**3.58**	**331**	Pn		**Pn**		**14 31 59.0**	**+1.4**
PAGB				IAML				14 34 00.2	
	comp=N,13nm,4.3s								
GWY	**Greenwater Val**	**3.75**	**18**			**Pn**		**14 32 01.5**	**+1.4**
GWY				IAML				14 33 07.7	
	comp=E,16nm,0.7s								
GWY				IAML				14 33 07.9	
	comp=N,13nm,0.6s								
SHPR	**Sheep Range**	**4.58**	**31**	Pn		**Pn**		**14 32 13.1**	**+1.7**
TPNV	**Topopah Spring**	**4.58**	**19**			**Pn**		**14 32 13.8**	**+2.3**
LCH	**Last Change Ra**	**4.62**	**5**	Pn		**Pn**		**14 32 13.8**	**+1.8**
PRN	**Pahroc Range**	**5.39**	**27**	Pn		**Pn**		**14 32 24.6**	**+1.9**

*IDC **18** 14:43:31.1±2.5, 16°.89S×174°.25W, h134km±23km, mb3.9/8, mb1 4.2/10, mb1mx3.9/27, mbtmp4.3/10, Error ellipse: s-maj=36.1km s-min=13.1km az=142.0*

*NEIC **18** 14:43:32.6±2.5, 16°.93S±0°.09×174°.03W±0°.09, h149km±7km, mb4.4/41, Error ellipse: s-maj=13.3km s-min=12.1km az=134.0*

*NOU **18** 14:43:34.1, 16°.80S×173°.71W, h200km, mb4.5/27, Tonga Islands*

ISC 18 14:43:32.2±0.5, 16°.90S±0°.06×174°.05W±0°.07, h150km, n123, σ1°.46/128, mb4.3/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.70**	**37**	P		**Pn**	**14 44 28.3**	**-0.3**
	92nm,0.3s,baz=196,slow=2.9,SNR=224							
AFI				S		**Sn**	**14 45 09.3**	**-3.1**
	236nm,0.3s,baz=47,slow=21,SNR=19							
AFI	**Afiamalu**	**3.70**	**37**	P		**Pn**	**14 44 28.7**	**+0.1**
NIUE	**Niue**	**4.48**	**119**			**Pn**	**14 44 38.3**	**-0.5**
NIUE	**Niue**	**4.48**	**119**	P		**Pn**	**14 44 38.7**	**-0.1**
MSVF	**Nonsavu**	**7.59**	**263**	P		Pn	14 45 23.7	+3.5
	1.4nm,0.3s,baz=94,slow=11,SNR=36							
MSVF	**Nonsavu**	**7.59**	**263**			**Pn**	**14 45 22.1**	**+1.9**
MSVF	**Nonsavu**	**7.59**	**263**	P		Pn	14 45 25.8	+5.6
MARNC	**Mare, Loyalty**	**17.52**	**252**	P		**P**	**14 47 25.2**	**-1.1**
MARNC	**Mare, Loyalty**	**17.52**	**252**	P		**Pn**	**14 47 29.6**	**+2.2**
PINNC	**Pines Island,**	**18.31**	**249**	P		**Pn**	**14 47 35.7**	**-0.9**
PINNC				IAmb		IAmb	14 47 50.0	
	comp=Z,38nm,0.9s							
DZM	**Mont Dzumac**	**19.09**	**251**	P		**P**	**14 47 43.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=70,slow=18,SNR=2.1							
DZM	**Mont Dzumac**	**19.09**	**251**	P		**Pn**	**14 47 45.1**	**-0.8**
DZM				IAmb		IAmb	14 48 00.4	
	comp=Z,23nm,1.2s							
DZM	**Mont Dzumac**	**19.09**	**251**	P		**Pn**	**14 47 45.8**	**-0.1**
OUZ	**Omahuta**	**21.31**	**209**	P		**P**	**14 48 09.8**	**+2.7**
MXZ	**Matakaoa Point**	**21.65**	**197**	P		**P**	**14 48 11.3**	**+0.6**
KUZ	**Kuaotunu**	**21.74**	**203**	P		**P**	**14 48 11.9**	**+0.3**
WMGZ	**Waiomatatini S**	**21.87**	**196**	P		**P**	**14 48 15.7**	**+2.7**
HAZ	**Te Kaha**	**21.98**	**197**	P		**P**	**14 48 13.3**	**-0.9**
WIAZ	**Waiheke Island**	**22.00**	**204**	P		**P**	**14 48 16.3**	**+1.9**
PKGZ	**Pakihiroa**	**22.02**	**197**	P		**P**	**14 48 16.8**	**+2.2**
PUZ	**Puketiti**	**22.14**	**196**	P		**P**	**14 48 18.2**	**+2.4**
PUZ				S		**S**	**14 52 06.2**	**-2.9**
RUGZ	**Raukumara Rang**	**22.21**	**198**	P		**P**	**14 48 17.2**	**+0.7**
RUGZ				S		**S**	**14 52 09.7**	**-0.6**
TWGZ	**Tauwhareparae**	**22.32**	**197**	P		**P**	**14 48 19.1**	**+1.6**
CNGZ	**Carnagh Statio**	**22.55**	**196**	P		**P**	**14 48 22.7**	**+3.1**
MWZ	**Matawai**	**22.59**	**197**	P		**P**	**14 48 20.8**	**+0.7**
MWZ				S		**S**	**14 52 14.2**	**-2.3**
TKGZ	**Te Karaka**	**22.60**	**197**	P		**P**	**14 48 22.3**	**+2.2**
URZ	**Urewera**	**22.65**	**198**	P		**P**	**14 48 20.4**	**-0.2**
	comp=Z,15nm,0.4s,baz=307,slow=0.8,SNR=32							
URZ	**Urewera**	**22.65**	**198**	P		**P**	**14 48 20.2**	**-0.3**
URZ				IAmb		IAmb	14 48 25.1	
	comp=Z,20nm,0.6s							
URZ	**Urewera**	**22.65**	**198**	P		**P**	**14 48 19.9**	**-0.7**
URZ				S		**S**	**14 52 15.9**	**-1.3**
URZ	**Urewera**	**22.65**	**198**	P		**P**	**14 48 20.4**	**-0.2**
RIGZ	**Rimuhau**	**22.87**	**197**	P		**P**	**14 48 24.1**	**+1.3**
RIGZ				S		**S**	**14 52 22.7**	**+1.8**
MUGZ	**Murupara**	**22.95**	**199**	P		**P**	**14 48 24.5**	**+1.1**
RTZ	**Ruatahuna**	**23.01**	**198**	P		**P**	**14 48 23.9**	**-0.2**
SNGZ	**Shannon Statio**	**23.06**	**197**	P		**P**	**14 48 25.8**	**+1.3**
PRRZ	**Plateau Road**	**23.09**	**199**	P		**P**	**14 48 23.9**	**-0.8**
TLZ	**Tolley Road**	**23.22**	**201**	P		**P**	**14 48 26.4**	**+0.5**
RAHZ	**Arahi**	**23.26**	**198**	P		**P**	**14 48 27.4**	**+1.1**
MTHZ	**Maungataniwha**	**23.27**	**198**	P		**P**	**14 48 27.5**	**+1.1**
MTHZ				S		**S**	**14 52 31.5**	**+4.1**
MRHZ	**Matea Rd**	**23.39**	**199**	P		**P**	**14 48 23.1**	**-4.4**
NMHZ	**Naumai**	**23.51**	**198**	P		**P**	**14 48 32.8**	**+4.2**
HIZ	**Hauiti**	**23.62**	**202**	P		**P**	**14 48 31.0**	**+1.4**
BKZ	**Black Stump Fm**	**23.67**	**199**	P		**P**	**14 48 29.4**	**-0.6**
BKZ	**Black Stump Fm**	**23.67**	**199**	P		**P**	**14 48 29.4**	**-0.6**
OTVZ	**Oturere**	**23.93**	**200**	P		**P**	**14 48 31.5**	**-1.0**
BHHZ	**Black Hill Sta**	**24.10**	**199**	P		**P**	**14 48 33.1**	**-0.8**
WNVZ	**Whainaroa**	**24.10**	**200**	P		**P**	**14 48 32.2**	**-1.9**
KAHZ	**Kahuranaki**	**24.14**	**197**	P		**P**	**14 48 38.2**	**+3.9**
PXZ	**Pawanui**	**24.36**	**197**	P		**P**	**14 48 35.7**	**-0.4**
NEZ	**North Egmont**	**24.57**	**203**	P		**P**	**14 48 40.9**	**+2.7**
TSZ	**Takapari Road**	**24.65**	**199**	P		**P**	**14 48 38.4**	**-0.5**
BFZ	**Birch Farm**	**25.14**	**198**	P		**P**	**14 48 43.4**	**+0.1**
BFZ	**Birch Farm**	**25.14**	**198**	P		**P**	**14 48 43.4**	**+0.1**
QRZ	**Quartz Range**	**26.51**	**203**	P		**P**	**14 48 54.7**	**-0.9**
TUWZ	**Tuamarina**	**26.54**	**200**	P		**P**	**14 48 56.8**	**+0.9**
KHZ	**Kahutara**	**27.55**	**200**	P		**P**	**14 49 04.1**	**-0.8**
EIDS	**Eidsvold**	**33.51**	**249**	P		**P**	**14 49 56.5**	**-1.1**
EIDS				IAmb		IAmb	14 50 17.9	
	comp=Z,5.9nm,1.2s							
ARMA	**Armidale**	**34.04**	**240**	P		**P**	**14 50 01.3**	**-0.9**
ARMA	**Armidale**	**34.04**	**240**	P		**P**	**14 50 01.9**	**-0.4**
CMSA	**Cobar Meteorol**	**39.26**	**241**	P		**P**	**14 50 45.5**	**-0.8**
TOO	**Toolangi**	**41.04**	**232**	P		**P**	**14 50 58.7**	**-2.2**
TOO				IAmb		IAmb	14 51 21.2	
	comp=Z,21nm,1.1s							
COEN	**Coen**	**41.28**	**268**	P		**P**	**14 51 03.9**	**+0.8**
COEN				IAmb		IAmb	14 51 11.2	
	comp=Z,19nm,1.2s							
STKA	**Stephens Creek**	**42.75**	**241**	P		**P**	**14 51 14.0**	**-0.9**
	comp=Z,6.1nm,0.6s,baz=89,slow=10,SNR=3.7							
STKA	**Stephens Creek**	**42.75**	**241**	P		**P**	**14 51 15.0**	**+0.1**
STKA	**Stephens Creek**	**42.75**	**241**	P		**P**	**14 51 14.6**	**-0.3**
MCQ	**Macquarie Isla**	**42.92**	**203**	P		**P**	**14 51 14.4**	**-1.4**
MCQ	**Macquarie Isla**	**42.92**	**203**	P		**P**	**14 51 14.4**	**-1.4**
INKA	**Inaminka**	**42.97**	**247**	P		**P**	**14 51 16.9**	**+0.2**
HTT	**Hallett**	**45.23**	**240**	P		**P**	**14 51 34.3**	**-0.4**
LCRK	**Leigh Creek**	**45.43**	**244**	P		**P**	**14 51 35.3**	**-0.9**
OOD	**Oodnadatta**	**47.45**	**248**	P		**P**	**14 51 51.6**	**-0.4**
BBOO	**Buckleboo**	**47.52**	**241**	P		**P**	**14 51 51.1**	**-1.4**
BBOO	**Buckleboo**	**47.52**	**241**	P		**P**	**14 51 52.1**	**-0.4**
WR0	**Warramunga Arr**	**48.71**	**258**	P		**P**	**14 52 00.7**	**-1.1**
WB0	**Warramunga Arr**	**48.87**	**258**	P		**P**	**14 52 01.5**	**-1.6**
WB0				IAmb		IAmb	14 52 03.3	
	comp=Z,4.5nm,0.8s							
WB2	**Warramunga Arr**	**48.89**	**258**			**P**	**14 52 01.6**	**-1.6**
WB2				IAmb		IAmb	14 52 02.4	
	comp=Z,13nm,1.4s							
WRAB	**Tennant Creek**	**48.90**	**258**	P		**P**	**14 52 01.8**	**-1.4**
WRAB				IAmb		IAmb	14 52 28.6	
	comp=Z,6.2nm,1.2s							
WRAB	**Tennant Creek**	**48.90**	**258**	P		**P**	**14 52 01.9**	**-1.3**
WRA	**Warramunga Arr**	**48.91**	**258**	P		**P**	**14 52 01.6**	**-1.7**
	comp=Z,3.1nm,0.4s,baz=97,slow=7.0,SNR=135							
WRA	**Warramunga Arr**	**48.91**	**258**	P		**P**	**14 52 01.9**	**-1.3**
MULG	**Mulgathing**	**49.00**	**244**	P		**P**	**14 52 02.5**	**-1.3**
AS31	**Alice Springs**	**49.06**	**253**	P		**P**	**14 52 03.3**	**-1.1**
ASAR	**Alice Springs**	**49.06**	**253**	P		**P**	**14 52 03.2**	**-1.2**
	comp=Z,48nm,0.5s,baz=87,slow=8.8,SNR=1387							
MTN	**Manton Dam**	**53.00**	**266**	P		**P**	**14 52 34.3**	**+0.4**
SAUL	**Saumlaki**	**53.95**	**272**	P		**P**	**14 52 40.4**	**-0.5**
WRKA	**Warkurna**	**54.10**	**251**	P		**P**	**14 52 40.8**	**-1.1**
FORT	**Forrest**	**54.19**	**244**	P		**P**	**14 52 41.2**	**-1.2**
KNRA	**Kununurra**	**54.73**	**263**	P		**P**	**14 52 45.2**	**-1.3**
KNRA				IAmb		IAmb	14 53 05.6	
	comp=Z,21nm,1.3s							
KNRA	**Kununurra**	**54.73**	**263**	P		**P**	**14 52 45.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**57.30**	**259**	P		**P**	**14 53 04.0**	**-0.7**
FITZ				IAmb		IAmb	14 53 04.7	
	comp=Z,5.2nm,1.2s							
VNDA	**Vanda**	**61.83**	**186**	P		**P**	**14 53 36.0**	**+1.3**
VNDA				IAmb		IAmb	14 53 45.2	
	comp=Z,5.6nm,1.4s							
PSA00	**Pilbara Seismi**	**62.18**	**254**	P		**P**	**14 53 37.7**	**-0.4**
PSA00				IAmb		IAmb	14 53 49.6	
	comp=Z,6.3nm,1.4s							
GIRL	**Giralia**	**67.16**	**252**	P		**P**	**14 54 10.8**	**+0.5**
QSPA	**South Pole Qui**	**73.15**	**180**	P		**P**	**14 54 46.9**	**+0.7**
KMRM	**Mail Ridge**	**73.63**	**38**	P		**P**	**14 54 50.9**	**+1.6**
KMRM				IAmb		IAmb	14 54 54.6	
	comp=Z,22nm,1.3s							
UGM	**Wanagama**	**73.85**	**266**	P		**P**	**14 54 49.7**	**-1.4**
PEA0B	**Petropavlovsk-**	**73.87**	**343**	P		**P**	**14 54 49.9**	**-0.3**
YBH	**Yreka Blue Hor**	**75.17**	**37**	P		**P**	**14 54 59.3**	**+1.1**
YBH				IAmb		IAmb	14 55 00.9	
	comp=Z,6.9nm,1.1s							
QSM	**Queen of Sheba**	**75.41**	**45**	P		**P**	**14 55 00.4**	**+0.8**
NVAR	**Mina Array Bea**	**75.86**	**42**	P		**P**	**14 55 04.0**	**+1.6**
	comp=Z,2.6nm,0.7s,baz=224,slow=9.4,SNR=26							
NVAR	**Mina Array Bea**	**75.86**	**42**	P		**P**	**14 55 04.3**	**+1.9**
NV11	**Mina Array Sit**	**75.96**	**42**	P		**P**	**14 55 04.0**	**+1.2**
K05A	**Summer Lake**	**76.84**	**37**	P		**P**	**14 55 07.9**	**+0.1**
K05A				IAmb		IAmb	14 55 10.4	
	comp=Z,7.3nm,1.1s							
U15A	**North Rim**	**78.79**	**46**	P		**P**	**14 55 20.4**	**+1.6**
TXAR	**Lajitas Array**	**81.97**	**56**	P		**P**	**14 55 37.5**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=211,slow=7.1,SNR=5.9							
BCAR	**Beaver Creek A**	**83.61**	**14**	P		**P**	**14 55 44.5**	**+1.1**
BW06	**Boulder Array**	**83.80**	**42**	P		**P**	**14 55 45.9**	**+0.9**
PD31	**Pinedale Array**	**83.80**	**42**	P		**P**	**14 55 44.7**	**-0.3**
PDAR	**Pinedale Array**	**83.80**	**42**	P		**P**	**14 55 45.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=207,slow=3.0,SNR=13							
PDAR	**Pinedale Array**	**83.80**	**42**	P		**P**	**14 55 45.5**	**+0.5**
YHL	**Hebgen Lake**	**83.83**	**40**	P		**P**	**14 55 46.6**	**+1.4**
YHL				IAmb		IAmb	14 55 48.1	
	comp=Z,7.5nm,1.1s							
IL31		**84.03**	**11**	P		**P**	**14 55 45.3**	**0.0**
ILAR	**Eielson Array**	**84.03**	**11**	P		**P**	**14 55 45.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=218,slow=5.7,SNR=21							
ILAR	**Eielson Array**	**84.03**	**11**	P		**P**	**14 55 46.8**	**+1.5**
IMAR	**Indian Mountai**	**84.04**	**8**	P		**P**	**14 55 46.2**	**+0.9**
J25K	**Salcha River,**	**84.19**	**12**	P		**P**	**14 55 47.4**	**+1.1**
J25K				IAmb		IAmb	14 55 50.6	
	comp=Z,5.0nm,1.3s							
DAWY	**Dawson**	**85.03**	**15**	P		**P**	**14 55 51.6**	**+1.1**
DAWY				IAmb		IAmb	14 55 53.0	
	comp=Z,6.6nm,1.2s							
EGAK	**Eagle**	**85.22**	**14**			**P**	**14 55 52.2**	**+0.9**
EGAK				IAmb		IAmb	14 55 53.2	
	comp=Z,3.3nm,0.9s							
BMAR	**Burnt Mountain**	**86.84**	**11**	P		**P**	**14 56 00.5**	**+1.2**
SNAA	**Sanae**	**91.44**	**177**	P		**P**	**14 56 19.7**	**-1.3**
SNAA				IAmb		IAmb	14 56 35.3	
	comp=Z,7.9nm,1.4s							
CMAR	**Chiang Mai Arr**	**92.49**	**288**	P		**P**	**14 56 28.3**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=65,slow=2.0,SNR=4.9							
KMBO	**Kilima Mbogo**	**144.31**	**243**	PKP		**PKPdf**	**15 02 51.7**	**0.0**
	comp=Z,1.7nm,0.5s,baz=42,slow=5.5,SNR=5.4							
KMBO	**Kilima Mbogo**	**144.31**	**243**			**PKPdf**	**15 02 51.2**	**-0.5**
CLL	**Collm**	**145.22**	**352**	*e*PKiKP		**PKiKP**	**15 02 55.0**	**-0.8**

NNC 18 14:47:48.5±13.0, 37°.21N×71°.03E, h0km, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=102.2km s-min=89.3km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK08	**Karatay Array**	**5.91**	**356**	⇑P		Pn	14 49 17.1	-0.1
	0.8nm,0.5s,baz=179,slow=13							
KK08				⇓S		Sn	14 50 26.6	+1.0
	2.0nm,0.4s,baz=178,slow=25							
AAK	**Ala-Archa**	**6.04**	**25**	P		Pn	14 49 19.9	+0.7
	0.8nm,0.5s							
AAK				S		Sn	14 50 35.0	+5.8
	6.2nm,0.6s							
TKM2	**Tokmak 2**	**6.70**	**30**	⇑P		Pn	14 49 28.3	0.0
	1.8nm,0.5s							
TKM2				⇑S		Sn	14 50 40.8	-4.6
	1.8nm,0.7s							

*NEIC **18** 14:54:09.0±0.5, 19°.0N±0°.1×64°.25W±0°.05, h53km±36km, Error ellipse: s-maj=19.4km s-min=3.0km az=198.0*

*RSPR **18** 14:54:09.4, 19°.03N×64°.23W, h56km±5km, MD3.1/3*

ISC 18 14:54:08.6±2.4, 19°.1N±0°.1×64°.25W±0°.08, h50km, n22, σ0°.24/26, 6C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TBVI	**Tortola**	**0.73**	**209**⇑	*e*P		**Pn**	**14 54 22.8**	**0.0**
TBVI	**Tortola**	**0.73**	**209**⇑	*e*P		**Pn**	**14 54 22.8**	**0.0**
TBVI				*e*S		**Sn**	**14 54 33.4**	**+0.3**
STVI	**Saint Thomas**	**0.98**	**223**⇑	*e*P		**Pn**	**14 54 25.8**	**-0.2**
STVI	**Saint Thomas**	**0.98**	**223**			**Pn**	**14 54 25.8**	**-0.2**
STVI						**Sn**	**14 54 38.7**	**-0.1**
STVI	**Saint Thomas**	**0.98**	**223**⇑	*e*P		**Pn**	**14 54 25.8**	**-0.2**
STVI				*e*S		**Sn**	**14 54 38.7**	**-0.1**
CUPR	**Culebra, Puert**	**1.24**	**233**⇓	*e*P		**Pn**	**14 54 29.6**	**0.0**
CUPR	**Culebra, Puert**	**1.24**	**233**	*e*S		**Sn**	**14 54 45.2**	**0.0**
CUPR	**Culebra, Puert**	**1.24**	**233**			**Pn**	**14 54 29.6**	**0.0**
CUPR						**Sn**	**14 54 45.2**	**0.0**
CUPR	**Culebra, Puert**	**1.24**	**233**	IAML			14 54 47.8	
	comp=N,66nm,0.6s							
CDVI	**St. Croix**	**1.40**	**201**	Pn		**Pn**	**14 54 31.9**	**+0.1**
CDVI				IAML			14 54 57.9	
	comp=E,179nm,0.5s							
CDVI				IAML			14 54 59.3	
	comp=N,167nm,0.7s							
MTP	**Monte Pirata**	**1.57**	**232**⇑	*e*P		**Pn**	**14 54 34.0**	**0.0**
MTP	**Monte Pirata**	**1.57**	**232**			**Pn**	**14 54 34.0**	**0.0**
MTP						**Sn**	**14 54 53.2**	**-0.1**
MTP	**Monte Pirata**	**1.57**	**232**	IAML			14 54 56.2	
	comp=N,42nm,0.2s							
MTP				IAML			14 54 59.2	
	comp=E,57nm,0.2s							
MTP	**Monte Pirata**	**1.57**	**232**⇑	*e*P		**Pn**	**14 54 34.0**	**0.0**
MTP				*e*S		**Sn**	**14 54 53.2**	**-0.1**
CBYP	**Canovanas**	**1.72**	**243**			**Pn**

WRA	**Warramunga Arr**	**21.21**	**216**	P	P	15 41 06.9	-0.1
	1.2nm,0.8s,baz=41,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**24.45**	**211**	P	P	15 41 40.3	+0.1
	1.3nm,0.7s,baz=39,slow=7.4,SNR=15							
ILAR	**Eielson Array**	**82.44**	**23**	P	P	15 48 43.3	-0.1
	0.5nm,1.0s,baz=250,slow=4.7,SNR=2.8							
YKA	**Yellowknife Ar**	**96.22**	**28**	P	P	15 49 49.2	-0.1
	0.3nm,0.8s,baz=272,slow=4.5,SNR=4.5							

IDC ***18*** *15:40:37.1±4.7, 23.81S×179.64W, h480km±43km, mb3.3/5, mb1 3.4/7, mb1mx3.1/36, mbtmp4.2/7, Error ellipse: s-maj=78.3km s-min=21.2km az=149.0*
ISC 18 15:40:39.1±1.5, 23.6S±0.2×179.8W±0.2, h500km, n8, σ0s87/8, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.13**	**340**	P	**P**	**15 42 16.4**	**-0.6**
	1.3nm,0.3s,baz=63,slow=23,SNR=12						
DZM	**Mont Dzumac**	**12.80**	**274**	P	**P**	**15 43 26.8**	**+0.5**
	0.9nm,0.3s,baz=62,slow=22,SNR=9.4						
CTA	**Charters Tower**	**31.68**	**270**	P	**P**	**15 46 22.4**	**+1.2**
	9.6nm,0.3s,baz=93,slow=10,SNR=18						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**15 46 48.2**	**-1.2**
	0.6nm,0.4s,baz=114,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**15 47 48.4**	**-0.2**
	0.6nm,0.5s,baz=91,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**	**15 47 51.0**	**-0.2**
	1.6nm,0.5s,baz=104,slow=8.5,SNR=21						
TXAR	**Lajitas Array**	**90.07**	**58**	P	**P**	**15 52 46.0**	**+0.5**
	0.5nm,0.8s,baz=227,slow=6.6,SNR=6.4						
AKASG	**Malin Array Be**	**144.79**	**328**	PKPbc	**PKPdf**	**15 59 18.2**	**-0.2**
	0.3nm,0.4s,baz=42,slow=3.5,SNR=4.1						

KRNET ***18*** *15:47:42.6±0.1, 39.72N×72.27E, h14km, mb2.6*
SOME ***18*** *15:47:46.5, 39.88N×72.30E, h5km*
NNC ***18*** *15:47:47.0±5.0, 39.87N×72.26E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=36.6km s-min=17.8km az=0.0*
ISC 18 15:47:41.4±1.3, 39.73N±0.05×72.33E±0.04, h13km±11km, n23, σ1s58/35, 17C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.48**	**239**	⇑*iP*	**Pg**	**15 47 51.1**	**+0.2**
	baz=37						
DRK				⇑*iS*	**Sg**	**15 47 57.4**	**+0.1**
	baz=37						
OHH	**Osh**	**0.87**	**24**	⇑*iP*	**Pn**	**15 47 59.8**	**+0.3**
	baz=26						
OHH				⇑*iS*	**Sn**	**15 48 12.2**	**+0.1**
	baz=26						
BTK	**Batken**	**1.21**	**286**	⇑*iP*	**Pn**	**15 48 04.4**	**+0.3**
	baz=87						
BTK				⇑*iS*	**Sn**	**15 48 20.9**	**+0.5**
	baz=87						
TRKS	**Terek-Say**	**2.02**	**334**	⇑*iP*	**Pb**	**15 48 18.6**	**+0.6**
	baz=35						
TRKS				⇑*iS*	**Sg**	**15 48 44.7**	**-1.6**
	baz=35						
ARK	**Arkit**	**2.09**	**352**	⇑*iP*	**Pg**	**15 48 20.9**	**-0.6**
	baz=54						
ARK				⇑*iS*	**Sg**	**15 48 48.7**	**+0.1**
	baz=54						
ARLS	**Aral**	**2.62**	**35**	⇑*iP*	**Pb**	**15 48 28.3**	**+0.1**
	baz=36						
ARLS				⇑*iS*	**Sb**	**15 49 01.5**	**+1.2**
	baz=36						
AML	**Almayashu**	**2.62**	**23**	P	**Pg**	**15 48 30.6**	**-1.0**
	SNR=26						
IUG	**luzhnay**	**2.98**	**325**	*eP*	**Pg**	**15 48 38.3**	**-0.2**
	5.7nm,0.1s						
IUG				*eS*	**Sg**	**15 49 16.1**	**-1.0**
	28nm,0.5s						
IUG	**luzhnay**	**2.98**	**325**	Pg	**Pg**	**15 48 38.3**	**-0.2**
	79nm,0.3s						
IUG				Lg	Lg	15 49 16.1	
	38nm,0.5s						
UCH	**Uchtor**	**3.00**	**33**	P	**Pb**	**15 48 35.7**	**+0.8**
	SNR=6.0						
UCH	**Uchtor**	**3.00**	**33**	⇑*iP*	**Pb**	**15 48 33.8**	**-1.1**
	baz=33						
UCH				⇑*iS*	**Sb**	**15 49 11.1**	**-0.5**
	baz=33						
MRKS	**Merke**	**3.09**	**12**	*eP*	**Pg**	**15 48 43.6**	**+3.0**
	4.2nm,0.3s						
MRKS				*eS*	**Sg**	**15 49 25.6**	**+5.0**
	11nm,0.3s						
MRKS	**Merke**	**3.09**	**12**	Pg	**Pg**	**15 48 43.6**	**+3.0**
	4.2nm,0.3s						
MRKS				Lg	Lg	15 49 25.6	
	11nm,0.3s						
EKS2	**Erkin-Say**	**3.13**	**20**	P	**Pb**	**15 48 38.3**	**+1.4**
	SNR=7.6						
EKS2	**Erkin-Say**	**3.13**	**20**	⇑*iP*	**Pb**	**15 48 35.3**	**-1.7**
	baz=21						
EKS2				⇑*iS*	**Sb**	**15 49 13.8**	**-1.3**
	baz=21						
KK08	**Karatay Array**	**3.65**	**338**	⇑Pg	**Pg**	**15 48 51.3**	**0.0**
	0.8nm,0.5s,baz=164,slow=17						
KK08				⇓Lg	Lg	15 49 34.6	
	2.6nm,0.5s,baz=152,slow=22						
CHMS	**Chumysh**	**3.74**	**28**	P	**Pb**	**15 48 46.0**	**-1.4**
	SNR=5.6						
USP	**Ospenovka**	**3.90**	**24**	P	**Pb**	**15 48 47.5**	**-2.4**
	SNR=5.5						
TKM2	**Tokmak 2**	**4.03**	**37**	⇓Pg	**Pg**	**15 48 58.1**	**-0.5**
	1.3nm,0.5s						
TKM2				⇓Lg	Lg	15 49 50.2	
	2.8nm,0.7s						
SGDS	**Sogindy**	**4.10**	**24**	*eP*	**Pg**	**15 48 58.3**	**-1.6**
	1.2nm,0.3s						
SGDS				*eS*	**Sg**	**15 49 51.0**	**-2.1**
	4.1nm,0.5s						
SGDS	**Sogindy**	**4.10**	**24**	Pg	**Pg**	**15 48 58.3**	**-1.6**
	1.2nm,0.3s						
SGDS				Lg	Lg	15 49 51.0	
	4.1nm,0.5s						
TNSS	**Tian-Shan**	**4.80**	**45**	*eP*	**Pg**	**15 49 13.4**	**+0.1**
	0.3nm,0.1s						
TNSS				*eS*	**Sg**	**15 50 16.2**	**+0.9**
	1.9nm,0.4s						
TNSS	**Tian-Shan**	**4.80**	**45**	Pg	**Pg**	**15 49 13.4**	**+0.1**
	0.3nm,0.1s						
TNSS				Lg	Lg	15 50 16.2	
	1.9nm,0.4s						

BGR ***18*** *16:10:50.9±0.0, 36.57N×73.58E, h10km, mb5.3, Ms4.9*
IDC ***18*** *16:10:57.7±0.4, 37.91N×72.70E, h0km, mb4.9/33, mb1 5.0/40, mb1mx4.9/46, mbtmp5.0/40, ML4.4/7, MS4.8/84, Ms1 4.8/84, ms1mx4.8/92, Error ellipse: s-maj=8.9km s-min=8.1km az=133.0*
BJI ***18*** *16:10:58.5±0.0, 38.00N×72.63E, h8km, mb4.8/71, mB5.2/59, ML5.4/4, Ms5.4/85, Ms7 5.2/76*
MOS ***18*** *16:10:58.8±1.2, 37.85N×72.59E, h17km, mb5.4/51, MS5.0/27, Error ellipse: s-maj=4.8km s-min=3.3km az=89.6*
NNC ***18*** *16:11:00.7±1.9, 38.07N×72.74E, h0km, mb5.7, mpv5.3, Error ellipse: s-maj=15.8km s-min=10.7km az=161.0*
GCMT ***18*** *16:11:00.2±0.1, 38.04N±0.01×72.62E±0.01, h24km, MW5.4/142, Moment Tension Solution. s103,c143; s142,c257; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.12±.03; Mθθ=1.65±.03; Mφφ=1.77±.02; Mrθ=0.11±.04; Mθφ=-0.53±.02; Mφr=-0.26±.04; Best double couple: M0=1.81000×10^17 NP1:φs=217.00000°, δ83.00000°, λ4.00000°. NP2:φs=126.00000°, δ86.00000°, λ173.00000°. Principal axes: T 1.8870, Plg8.0000°, Azm81.0000°; N -0.1530, Plg82.0000°, Azm280.0000°; P -1.7320, Plg3.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *16:11:00.2±2.4, 38.02N±0.05×72.41E±0.06, h10km±1km, mb5.4/136, Ms_20 5.1/172, Mwb5.3/29, Mww5.6 Error ellipse: s-maj=10.5km s-min=5.4km az=140.0*
NEIC ***18*** *16:11:00.1, 38.01N×72.44E, h22km, Moment Tension Solution. Moment tensor: Scale 10^17Nm; Mrr=0.25; Mθθ=0.84; Mφφ 1.09; Mrθ=0.06; Mθφ=0.27; Mφr=0.30; Fault plane solution: M0=1.07000×10^17 NP1:φs=126.57000°, δ75.44000°, λ178.59000°. NP2:φs=216.92000°, δ88.63000°, λ14.56000°. Principal axes: T 1.1892, Plg11.0000°, Azm83.0000°; N -0.2921, Plg75.0000°, Azm222.0000°; P -0.8971, Plg9.0000°, Azm351.0000°;*
NEIC ***18*** *16:11:05, 37.97N×72.45E, h14km, Moment Tensor Solution. Duration: 10s6 Moment tensor: Scale 10^17Nm; Mrr-1.04; Mθθ-2.15; Mφφ3.19; Mrθ0.42; Mθφ-1.69; Mφr-1.08; Fault plane solution: M0 3.48000×10^17 NP1: φs=210.00000°, δ78.00000°, λ6.00000°. NP2:φs=118.00000°, δ84.00000°, λ168.00000°. Principal axes: T 3.9464, Plg13.0000°, Azm74.0000°; N -1.2998, Plg76.0000°, Azm272.0000°; P -2.6466, Plg4.0000°, Azm165.0000°;*
ISC 18 16:10:59.8±0.5, 37.90N±0.02×72.56E±0.02, h11km±2km, h11km:pP-P, n1038, σ1s86/1028, mb5.2/275, MS5.0/205, 47C-64D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.68**	**340**	Pn	**Pn**	**16 11 26.8**	**-2.6**
GAR	**Garm**	**2.07**	**303**	Pn	**Pn**	**16 11 35.5**	**+0.8**
CHGR	**Chuyangaron**	**2.78**	**287**	PN	**Pn**	**16 11 46.8**	**+2.5**
CHGR	**Chuyangaron**	**2.78**	**287**	Pn	**Pn**	**16 11 46.8**	**+2.5**
KSH	**Kashi**	**3.12**	**58**	Pn	**Pn**	**16 11 45.5**	**-3.5**
KSH				Sn	**Sn**	**16 12 19.9**	**-6.4**
KSH				smax	smax		
	comp=N,34μm,1.1s						
KSH				smax	smax		
	comp=E,29μm,0.9s						
CEP	**Cherat**	**4.11**	**188**	P	**Pb**	**16 12 07.4**	**-4.7**
TAS	**Tashkent**	**4.25**	**325**	PN	**Pn**	**16 12 06.9**	**+2.5**
TAS	**Tashkent**	**4.25**	**325**	Pn	**Pn**	**16 12 06.9**	**+2.5**
CHCP	**Chirah Chowk**	**4.28**	**172**	P	Pb	16 12 10.0	-5.0
AML	**Almayashu**	**4.31**	**11**	P	**Pn**	**16 12 08.8**	**+3.1**
	SNR=252						
AML	**Almayashu**	**4.31**	**11**	PN	**Pn**	**16 12 07.2**	**+1.5**
AML	**Almayashu**	**4.31**	**11**	*i* P	**Pn**	**16 12 07.6**	**+1.9**
	SNR=882						
KBL	**Kabul**	**4.40**	**221**	PN	Pb	16 12 12.1	-5.1
KBL	**Kabul**	**4.40**	**221**	Pn	Pb	16 12 12.1	-5.0
KBL	**Kabul**	**4.40**	**221**	P	Pn	16 12 11.9	+5.2
	SNR=709						
UCH	**Uchtor**	**4.57**	**19**	P	**Pn**	**16 12 11.8**	**+2.5**
	SNR=60						
IUG	**luzhnay**	**4.66**	**336**	*d* iPN	**Pn**	**16 12 12.6**	**+2.4**
IUG				*i*		16 12 23.0	
IUG	**luzhnay**	**4.66**	**336**	⇓*i*Pn	**Pn**	**16 12 12.7**	**+2.4**
	baz=336						
IUG				*i* Pg	**Pb**	**16 12 23.0**	**+1.4**
	baz=336						
IUG				*e*Sg	**Sg**	**16 13 30.7**	**+1.3**
	baz=336						
IUG	**luzhnay**	**4.66**	**336**	Pg	**Pb**	**16 12 23.1**	**+1.5**
	31μm,0.7s						
IUG				Lg	Lg	16 13 26.5	
	7μm,1.7s						
EKS2	**Erkin-Say**	**4.84**	**11**	P	**Pn**	**16 12 16.2**	**+3.5**
	SNR=50						
EKS2	**Erkin-Say**	**4.84**	**11**	PN	**Pn**	**16 12 15.1**	**+2.4**
MRKS	**Merke**	**4.86**	**6**	Pg	**Pb**	**16 12 27.1**	**+2.1**
	412nm,0.4s						
MRKS				Lg	Lg	16 13 33.2	
	2μm,0.9s						
AAK	**Ala-Archa**	**4.96**	**17**	Pn	**Pn**	**16 12 16.8**	**+2.5**
	19nm,0.3s,baz=201,slow=11,SNR=467						
AAK	**Ala-Archa**	**4.96**	**17**	⇓*i*PN	**Pn**	**16 12 14.6**	**+0.3**
AAK	**Ala-Archa**	**4.96**	**17**	P	**Pn**	**16 12 16.8**	**+2.5**
AAK				S	**Sn**	**16 13 14.7**	**+3.1**
AAK	**Ala-Archa**	**4.96**	**17**	*i* P	**Pn**	**16 12 16.8**	**+2.5**
	SNR=284						
KBK	**Karagaybulak**	**5.09**	**20**	P	**Pn**	**16 12 19.3**	**+3.2**
	SNR=16						
KBK	**Karagaybulak**	**5.09**	**20**	PN	**Pn**	**16 12 18.8**	**+2.7**
THW	**Thamme Wali**	**5.14**	**188**	P	**Pn**	**16 12 20.6**	**+3.9**
FRU1	**Bishkek**	**5.15**	**17**	PN	**Pn**	**16 12 20.5**	**+3.6**
FRU1	**Bishkek**	**5.15**	**17**	Pn	**Pn**	**16 12 20.5**	**+3.6**
ULHL	**Ulahol**	**5.17**	**32**	P	**Pn**	**16 12 21.2**	**+3.8**
	SNR=19						
CHMS	**Chumysh**	**5.36**	**17**	P	**Pn**	**16 12 22.5**	**+2.8**
	SNR=15						
KK02	**Karatay Array**	**5.42**	**344**	⇑Pn	**Pn**	**16 12 22.3**	**+1.8**
	160nm,0.5s,baz=162,slow=11						
KK02				⇑Pg	**Pb**	**16 12 38.7**	**+4.2**
	322nm,0.6s,baz=169,slow=17						
KK02				⇑Lg	Lg	16 13 52.8	
	1μm,0.8s,baz=155,slow=26						
KKAR	**Karatay Array**	**5.42**	**344**	PN	**Pn**	**16 12 22.1**	**+1.5**
KKAR	**Karatay Array**	**5.42**	**344**		**Pn**	**16 12 22.1**	**+1.5**
KDJ	**Kajisay**	**5.51**	**39**	PN	**Pn**	**16 12 24.9**	**+2.9**
KDJ	**Kajisay**	**5.51**	**39**	Pn	**Pn**	**16 12 24.9**	**+2.9**
TKM2	**Tokmak 2**	**5.52**	**24**	P	**Pn**	**16 12 25.5**	**+3.4**
	SNR=20						
TKM2	**Tokmak 2**	**5.52**	**24**	PN	**Pn**	**16 12 24.2**	**+2.1**
TKM2	**Tokmak 2**	**5.52**	**24**	Pn	**Pn**	**16 12 23.5**	**+1.4**
TKM2				Pg	**Pb**	**16 12 37.1**	**+0.8**
TKM2				Lg	Lg	16 13 52.5	
USP	**Ospenovka**	**5.56**	**15**	P	**Pn**	**16 12 26.3**	**+3.8**
	SNR=33						
USP	**Ospenovka**	**5.56**	**15**	PN	**Pn**	**16 12 24.2**	**+1.8**
KST	**Kastek**	**5.75**	**26**	Pg	**Pb**	**16 12 42.9**	**+2.7**
	280nm,1.0s						
KST				Lg	Lg	16 14 00.2	
	2μm,1.0s						
SGDS	**Sogindy**	**5.76**	**15**	*e*PN	**Pn**	**16 12 26.5**	**+1.2**
SGDS				pmax	pmax		
	comp=Z,175nm,1.9s						
SGDS	**Sogindy**	**5.76**	**15**	⇓*i*Pn	**Pn**	**16 12 26.9**	**+1.6**
	baz=16						
SGDS				*i* Pg	**Pb**	**16 12 40.0**	**-0.3**
	baz=16						
SGDS	**Sogindy**	**5.76**	**15**	Pg	**Pb**	**16 12 40.4**	**+0.1**
	comp=Z,127nm,0.6s						
SGDS				Lg	Lg	16 13 55.7	
	comp=Z,755nm,0.9s						
SARP	**Sargodha**	**5.97**	**179**	P	**Pn**	**16 12 30.7**	**+2.6**
MTBS	**Maitube**	**6.00**	**28**	Pg	**Pb**	**16 12 44.9**	**+0.6**
	comp=Z,147nm,0.8s						
MTBS				Lg	Lg	16 14 02.7	
	comp=Z,2μm,1.1s						
THN	**Thein Dam**	**6.04**	**154**	*ex*	P	16 12 32.0	
THN				*e*S	**Sn**	**16 13 39.0**	**+0.9**
TNSS	**Tian-Shan**	**6.12**	**32**	*e*Pn	**Pn**	**16 12 32.9**	**+2.3**
	baz=32						
TNSS				*e*Pg	**Pb**	**16 12 48.9**	**+2.2**
	baz=32						
TNSS				*e*Lg	Lg	16 14 10.3	
	baz=32						
TNSS	**Tian-Shan**	**6.12**	**32**	Pg	**Pb**	**16 12 48.9**	**+2.2**
	comp=Z,117nm,0.8s						
TNSS				Lg	Lg	16 14 09.4	
	comp=Z,531nm,1.1s						
KRBS	**Karabastau**	**6.25**	**21**	Pg	**Pb**	**16 12 50.3**	**+1.6**
	comp=Z,184nm,0.9s						
KRBS				Lg	Lg	16 14 12.9	
	comp=Z,720nm,1.0s						
AAA	**Alma-Ata**	**6.25**	**31**	*e*PN	**Pn**	**16 12 35.2**	**+3.2**
AAA				*e*		16 12 52.0	
AAA	**Alma-Ata**	**6.25**	**31**	*e*Pn	**Pn**	**16 12 35.2**	**+3.2**
	baz=31						
AAA				*e*Pg	**Pb**	**16 12 52.1**	**+3.4**
	baz=31						
MDOK	**Medeo**	**6.27**	**32**	*i* PN	**Pn**	**16 12 34.7**	**+2.4**
MDOK				*i*		16 12 51.9	
MDOK	**Medeo**	**6.27**	**32**	*i* Pn	**Pn**	**16 12 34.8**	**+2.4**
	baz=32						
MDOK				*i* Pb	**Pb**	**16 12 47.7**	**-1.3**
	baz=32						
MDOK				*i* Pg	Pg	16 12 51.9	-7.8
	baz=32						
MDOK				*e*Sg	**Sg**	**16 14 23.2**	**+2.3**
	baz=32						
MDOK	**Medeo**	**6.27**	**32**	⇓Pn	**Pn**	**16 12 33.8**	**+1.5**
	comp=Z,92nm,0.7s						
MDOK				⇑Pg	**Pb**	**16 12 47.6**	**-1.3**
MDOK				⇓Lg	Lg	16 14 11.6	
	comp=Z,4μm,1.4s						
MDOK	**Medeo**	**6.27**	**32**	Pg	**Pb**	**16 12 50.5**	**+1.5**
	comp=Z,167nm,0.9s						
MDOK				Lg	Lg	16 14 13.3	
	comp=Z,1μm,1.5s						
KNDC	**Almaty**	**6.28**	**31**	PN	**Pn**	**16 12 35.1**	**+2.7**
KNDC						16 12 50.1	
KNDC	**Almaty**	**6.28**	**31**	⇓Pn	**Pn**	**16 12 35.1**	**+2.7**
KNDC				⇑Pg	**Pb**	**16 12 50.1**	**+1.0**
	comp=Z,1μm,0.9s						
KNDC				⇓Lg	Lg	16 14 13.6	
	comp=Z,10μm,1.2s						
KOTS	**Kotyrbulak**	**6.35**	**32**	Pg	**Pb**	**16 12 53.3**	**+2.8**
	comp=Z,226nm,0.7s						
KOTS				Lg	Lg	16 14 17.1	
	comp=Z,2μm,0.9s						
DHRM	**DHARAMSHALA**	**6.42**	**150**	⇓*i*P	**Pn**	**16 12 36.8**	**+2.3**
DHRM				*e*P	**Pn**	**16 12 37.2**	**+2.7**
DHRM				*e*S	**Sn**	**16 13 48.6**	**+0.8**
DHRM				IAML		16 14 07.2	
	comp=N,2μm,0.9s						
DHRM				IAML		16 14 45.6	
	comp=E,2μm,2.1s						
KTBS	**Karatobe**	**6.59**	**27**	Pg	**Pb**	**16 12 56.0**	**+1.6**
	comp=E,227nm,1.1s						
KTBS				Lg	Lg	16 14 22.7	
	comp=E,1μm,1.3s						
KUU	**Kurty**	**6.63**	**24**	*d* iPN	**Pn**	**16 12 37.9**	**+0.8**
KUU				*e*		16 14 15.7	
KUU	**Kurty**	**6.63**	**24**	⇓*i*Pn	**Pn**	**16 12 38.0**	**+0.8**
	baz=25						
KUU				*e*Pb	**Pb**	**16 12 52.8**	**-2.3**
	baz=25						
KUU				*e*Sb	**Sb**	**16 14 15.8**	**+1.4**
	baz=25						
KUU	**Kurty**	**6.63**	**24**	Pg	**Pb**	**16 12 56.5**	**+1.4**
	comp=E,180nm,0.8s						
KUU				Lg	Lg	16 14 23.4	
	comp=E,1μm,1.1s						
SATY	**Saty**	**6.81**	**39**	*d* iPN	**Pn**	**16 12 41.5**	**+1.8**
SATY				*e*		16 13 01.8	
SATY	**Saty**	**6.81**	**39**	⇓*i*Pn	**Pn**	**16 12 41.5**	**+1.8**
	baz=40						
SATY				*e*Pb	**Pb**	**16 12 56.9**	**-1.3**
	baz=40						
SATY				*e*Pg	Pg	16 13 01.9	-8.3
	baz=40						
SATY	**Saty**	**6.81**	**39**	Pg	**Pb**	**16 13 02.2**	**+4.1**
	comp=E,159nm,0.8s						
SATY				Lg	Lg	16 14 32.6	
	comp=E,2μm,1.2s						
CHKK	**Chushkaly**	**6.83**	**28**	*i* Pn	**Pn**	**16 12 42.0**	**+2.2**
	baz=29						
CHKK				*e*Pg	**Pb**	**16 13 01.6**	**+3.2**
	baz=29						
ZHN	**Zhinishke**	**6.90**	**39**	Pg	**Pb**	**16 13 01.5**	**+1.7**
	comp=E,63nm,0.7s						
ZHN				Lg	Lg	16 14 31.1	
	comp=E,843nm,1.2s						
UZB	**Uzynbulak**	**7.19**	**41**	*e*P	**Pn**	**16 12 46.2**	**+1.3**
UZB	**Uzynbulak**	**7.19**	**41**	*e*Pn	**Pn**	**16 12 46.3**	**+1.3**
	baz=42						
UZB				*e*Pg	Pb	16 13 09.1	+4.5
	baz=42						
UZB	**Uzynbulak**	**7.19**	**41**	Pg	**Pb**	**16 13 07.0**	**+2.4**
	comp=E,90nm,1.1s						
UZB				Lg	Lg	16 14 40.5	
	comp=E,674nm,1.5s						
BTLS	**Baital**	**7.22**	**8**	P	**Pn**	**16 12 44.3**	**-0.9**
BTLS	**Baital**	**7.22**	**8**	Pg	**Pb**	**16 13 08.7**	**+3.7**
	comp=E,118nm,0.8s						
BTLS				Lg	Lg	16 14 44.6	
	comp=E,354nm,0.9s						
KPKS	**Kokpek**	**7.25**	**38**	*i* P	**Pn**	**16 12 47.2**	**+1.6**
KPKS	**Kokpek**	**7.25**	**38**	*i* Pn	**Pn**	**16 12 47.3**	**+1.6**
	baz=39						
KPKS				*e*Pb	**Pb**	**16 13 04.6**	**-1.0**
	baz=39						
KPKS				*e*Pg	Pg	16 13 10.7	-7.8
	baz=39						
SHLS	**Shalkode**	**7.43**	**43**	*c* iP	Pn	16 12 52.9	+4.7
SHLS	**Shalkode**	**7.43**	**43**	⇑*i*Pn	Pn	16 12 53.0	+4.8
	baz=45						
SHLS				*i* Pb	**Pb**	**16 13 10.8**	**+2.1**
	baz=45						
PDGK	**Podgornoye**	**7.56**	**42**	P	**Pn**	**16 12 51.0**	**+1.0**
PDGK	**Podgornoye**	**7.56**	**42**	Pg	**Pb**	**16 13 13.3**	**+2.3**
	comp=E,62nm,1.1s						
PDGK				Lg	Lg	16 14 52.2	
	comp=E,404nm,1.2s						
SMLA	**Simla**	**7.75**	**149**	*e*P	**Pn**	**16 12 54.1**	**+1.5**
SMLA				IAML		16 14 23.3	
	comp=N,918nm,0.3s						
TDK	**Taldyqorghan**	**8.34**	**30**	*d* iP	**Pn**	**16 13 02.3**	**+1.8**
TDK	**Taldyqorghan**	**8.34**	**30**	⇓*i*Pn	**Pn**	**16 13 02.4**	**+1.8**
	baz=30						
TDK				*e*Pg	Pb	16 13 29.9	+5.8
	baz=30						
TDK	**Taldyqorghan**	**8.34**	**30**	Pg	Pb	16 13 29.4	+5.2
	comp=N,303nm,1.2s						
TDK				Lg	Lg	16 15 18.9	
	comp=N,2μm,1.0s						
DJR	**Jarkent**	**8.43**	**38**	Pg	Pb	16 13 32.4	+6.7
	comp=N,74nm,0.7s						
DJR				Lg	Lg	16 15 24.2	
	comp=N,374nm,1.7s						
DDI	**Dehra Dun**	**8.83**	**147**	*e*P	**Pn**	**16 13 07.9**	**+0.5**
HRA	**Herat**	**9.05**	**250**		**Pn**	**16 13 13.3**	**+2.8**
NDI	**New Delhi**	**9.98**	**156**	*e*P	**Pn**	**16 13 26.0**	**+2.8**
NDI				*e*S	**Sn**	**16 15 15.0**	**-0.2**
OTUK	**Ortayu**	**10.34**	**359**	P	**Pn**	**16 13 26.8**	**-1.2**
OTUK	**Ortayu**	**10.34**	**359**	⇑Pn	**Pn**	**16 13 26.8**	**-1.2**
	comp=N,71nm,0.7s						
MAKZ	**Makanchi**	**11.29**	**35**	P	**Pn**	**16 13 42.2**	**+1.2**
MAKZ	**Makanchi**	**11.29**	**35**		**Pn**	**16 13 42.2**	**+1.2**
GEYT	**Alibeck**	**11.41**	**275**	Pn	**Pn**	**16 13 40.4**	**-2.3**
	comp=N,9.6nm,0.3s,baz=101,slow=12,SNR=42						
GEYT				Sn	**Sn**	**16 15 45.9**	**-4.3**
	comp=N,6.4nm,0.3s,baz=117,slow=18,SNR=8.7						
GEYT				LR	LR	16 19 18.3	
	comp=N,8μm,18.3s,baz=87,slow=44						
GEYT	**Alibeck**	**11.41**	**275**	Pn	**Pn**	**16 13 42.8**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**11.41**	**275**	Pn	**Pn**	**16 13 42.5**	**-0.2**
MK31	**Makanchi Array**	**11.43**	**36**	*d* iP	**Pn**	**16 13 44.2**	**+1.3**
MK31	**Makanchi Array**	**11.43**	**36**		**Pn**	**16 13 44.0**	**+1.2**
MK31	**Makanchi Array**	**11.43**	**36**	Pn	**Pn**	**16 13 43.6**	**+0.7**
	comp=N,74nm,0.9s,baz=209,slow=12,SNR=310						
MKAR	**Makanchi Array**	**11.43**	**36**	Pn	**Pn**	**16 13 44.4**	**+1.5**
	comp=N,0.9nm,0.3s,baz=210,slow=12,SNR=53						
MKAR				Lg	Lg	16 16 54.2	
	comp=N,1.0nm,0.3s,baz=237,slow=20,SNR=2.6						
MKAR				LR	LR	16 17 55.5	
	comp=N,5μm,18.1s,baz=222,slow=37						
MKAR	**Makanchi Array**	**11.43**	**36**		**Pn**	**16 13 44.2**	**+1.3**

	comp=N,35nm,0.3s									
GKN	**Gorkha**	**14.14**	**131**	*e*	P	**Pn**	**16 14 16.1**	**-4.0**
	comp=N,148nm,0.4s									
AB31	**Akbulak array**	**14.55**	**325**	*e*	P	**Pn**	**16 14 21.6**	**-3.9**
AB31	**Akbulak array**	**14.55**	**325**	⇓	Pn	**Pn**	**16 14 21.6**	**-3.9**
	comp=N,35nm,0.5s,baz=137,slow=12,SNR=1296									
ABKAR	**Akbulak array**	**14.55**	**325**		Pn	**Pn**	**16 14 21.5**	**-4.0**
ABKAR	**Akbulak array**	**14.55**	**325**		Pn	**Pn**	**16 14 21.6**	**-4.0**
KKN	**Kakani**	**14.68**	**130**	*e*	P	Pn	16 14 22.7	-4.9
	comp=N,88nm,0.5s									
DMN	**Daman**	**14.71**	**131**	*e*	P	Pn	16 14 23.1	-4.9
	comp=N,130nm,0.5s									
PKIN	**Phulchoki**	**14.91**	**130**	*e*	P	Pn	16 14 25.4	-5.3
	comp=N,38nm,0.5s									
PKI	**Pulchoki**	**14.92**	**130**	*e*	P	Pn	16 14 25.8	-5.2
	comp=N,120nm,0.6s									
GUN	**Gumba**	**14.97**	**128**	*e*	P	Pn	16 14 26.2	-5.4
	comp=N,114nm,0.4s									
BVAR	**Borovoye Array**	**15.20**	**355**		Pn	**Pn**	**16 14 31.0**	**-3.2**
	comp=N,4.9nm,0.3s,baz=314,slow=28,SNR=118									
BVAR					Lg	Lg	16 19 01.7			
	comp=N,1.4nm,0.3s,baz=46,slow=56,SNR=1.8									
BHPL	**Bhopal**	**15.20**	**163**	*i*	x	**Pn**	**16 14 29.9**	**-4.6**
BHPL					*e*S	**Sn**	**16 17 14.2**	**-8.6**
BRVK	**Borovoye**	**15.24**	**355**	*d*	iP	**Pn**	**16 14 31.2**	**-3.5**
BRVK					pmax	pmax				
	comp=Z,178nm,1.3s									
BRVK	**Borovoye**	**15.24**	**355**		P	**Pn**	**16 14 31.7**	**-3.0**
BRVK	**Borovoye**	**15.24**	**355**	⇑	Pn	**Pn**	**16 14 31.2**	**-3.5**
	comp=Z,352nm,1.3s									
JIRN	**Jiri**	**15.34**	**128**	*e*	P	**Pn**	**16 14 31.9**	**-4.6**
	comp=Z,188nm,0.4s									
JBP	**Jabalpur**	**16.01**	**154**	*e*	P	**Pn**	**16 14 39.1**	**-5.9**
JBP					IAmb	IAmb	16 14 53.2			
	comp=Z,97nm,0.6s									
JBP				*e*	S	**Sn**	**16 17 34.8**	**-7.7**
RAMN	**Ramite**	**16.10**	**129**	*e*	P	**Pn**	**16 14 40.6**	**-5.7**
	comp=Z,116nm,0.5s									
AKTO	**Aktyubinsk**	**16.26**	**325**		Pn	**Pn**	**16 14 45.1**	**-3.0**
	comp=Z,1.8nm,0.3s,baz=129,slow=15,SNR=31									
AKTO					Sn	**Sn**	**16 17 41.3**	**-7.0**
	comp=Z,1.4nm,0.3s,baz=324,slow=23,SNR=3.8									
AKTO					LR	LR	16 21 17.0			
	comp=Z,4μm,18.7s,baz=143,slow=38									
TAPN	**Taplejung**	**16.52**	**125**	*e*	P	**Pn**	**16 14 45.5**	**-6.3**
	comp=Z,44nm,0.5s									
ODAN	**Odare**	**16.66**	**127**	*e*	P	**Pn**	**16 14 47.6**	**-5.8**
	comp=Z,374nm,0.7s									
GTK	**Tadong**	**17.12**	**123**	*e*	P	**Pn**	**16 14 54.7**	**-4.6**
LSA	**Lhasa**	**17.46**	**112**	*i*	P	**Pn**	**16 15 00.6**	**-3.2**
LSA					S	**S**	**16 18 25.5**	**-1.3**
LSA					LR	LR				
	comp=Z,16μm,12.1s									
LSA					LR	LR				
	comp=Z,8μm,11.5s									
GOMU	**GeErMu**	**17.84**	**89**		P	**Pn**	**16 15 05.8**	**-2.6**
GOMU					pP	P	16 15 10.5	+1.4
GOMU					sP	pP	16 15 12.5	-0.9
GOMU					S	**Sn**	**16 18 22.6**	**-4.8**
GOMU					sS	S	16 18 28.3	-6.0
GOMU					pmax	pmax				
	comp=Z,20nm,1.1s									
GOMU					pmax	pmax				
	comp=Z,730nm,8.0s									
GOMU					LR	LR				
	comp=Z,3μm,8.8s									
GOMU					LR	LR				
	comp=Z,2μm,7.1s									
GOMU					LR	LR				
	comp=Z,2μm,8.9s									
BOK	**Bokaro**	**18.10**	**137**	*ex*		**P**	**16 15 07.4**	**-4.2**
BOK					IAmb	IAmb	16 15 17.2			
BOK				*e*	S	**Sn**	**16 18 33.8**	**+0.6**
ZAA0	**Zalesovo Array**	**18.13**	**24**			**Pn**	**16 15 09.3**	**-2.0**
ZALV	**Zalesovo Beam**	**18.13**	**24**		P	**Pn**	**16 15 08.4**	**-2.9**
	comp=Z,7.6nm,0.3s,baz=209,slow=8.3,SNR=136									
ZALV					Lg	Lg	16 20 31.9			
	comp=Z,0.2nm,0.3s,baz=192,slow=29,SNR=4.0									
ZALV					LR	LR	16 22 19.7			
	comp=Z,3μm,20.2s,baz=216,slow=38									
ZALV	**Zalesovo Beam**	**18.13**	**24**		P	**Pn**	**16 15 08.6**	**-2.7**
ZALV	**Zalesovo Beam**	**18.13**	**24**		P	**Pn**	**16 15 08.6**	**-2.7**
BANOM	**Banah**	**18.22**	**234**		P	**Pn**	**16 15 10.4**	**-2.3**
	SNR=6.5									
BANOM					P	**Pn**	**16 15 10.4**	**-2.3**
	SNR=6.5									
BANOM					S	**S**	**16 18 40.0**	**-1.4**
BANOM					S	**S**	**16 18 40.0**	**-1.4**
BANOM	**Banah**	**18.22**	**234**	*i*	P	**P**	**16 15 14.0**	**+1.0**
	SNR=8.8									
SHME	**Shamm**	**18.23**	**234**		P	**P**	**16 15 14.1**	**+1.1**
MASF	**Masafi**	**18.70**	**233**		P	**Pn**	**16 15 22.0**	**+3.4**
	SNR=5.7									
MASF					P	**Pn**	**16 15 22.0**	**+3.4**
	SNR=5.7									
MASF					S	**S**	**16 18 50.3**	**-0.8**
MASF					S	**S**	**16 18 50.3**	**-0.8**
MSFE	**Esma-Masafi**	**18.71**	**233**	*i*	P	**P**	**16 15 18.4**	**+0.1**
	SNR=6.2									
WSAR	**Wadi Sarin**	**18.87**	**223**		P	**Pn**	**16 15 21.3**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=70,slow=7.9,SNR=22									
WSAR					S	**S**	**16 18 55.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=295,slow=14,SNR=1.0									
WSAR					LR	LR	16 24 57.0			
	comp=Z,3μm,18.4s,baz=84,slow=44									
BIDO	**Bidbid**	**18.93**	**225**		P	Pn	16 15 29.0	+7.7
	SNR=7.4									
BIDO					P	Pn	16 15 29.0	+7.7
	SNR=7.4									
UOSS	**Minazif**	**18.98**	**232**		P	**P**	**16 15 21.5**	**+0.3**
UOSS					IAmb	IAmb	16 15 34.8			
	comp=Z,196nm,1.2s									
UOSS	**Minazif**	**18.98**	**232**		P	**Pn**	**16 15 22.2**	**+0.3**
UOSS					S	**S**	**16 18 55.9**	**-0.8**
UOSS	**Minazif**	**18.98**	**232**	*i*	P	**Pn**	**16 15 21.8**	**-0.1**
	SNR=12									
HATD	**Hatta, Dubai**	**19.11**	**232**		P	**Pn**	**16 15 28.0**	**+4.4**
	SNR=7.8									
HATD	**Hatta, Dubai**	**19.11**	**232**	*i*	P	**Pn**	**16 15 24.3**	**+0.8**
	SNR=10									
ASHO	**Ashiyiah**	**19.26**	**232**		P	**Pn**	**16 15 28.2**	**+2.9**
	SNR=38									
ASHO	**Ashiyiah**	**19.26**	**232**	*i*	P	**Pn**	**16 15 25.0**	**-0.3**
	SNR=32									
NAZ	**Nazwa, Dubai**	**19.29**	**233**		P	**Pn**	**16 15 29.0**	**+3.3**
	SNR=8.0									
NAZ					P	**Pn**	**16 15 29.0**	**+3.3**
	SNR=8.0									
NAZ	**Nazwa, Dubai**	**19.29**	**233**	*i*	P	**Pn**	**16 15 25.5**	**-0.1**
	SNR=8.6									
POO	**Poona**	**19.34**	**176**	*e*	P	**Pn**	**16 15 26.8**	**+0.5**
POO					IAmb	IAmb	16 15 32.0			
	comp=Z,84nm,1.2s									
HOQ	**Hoqain**	**19.34**	**227**		P	**Pn**	**16 15 29.0**	**+2.7**
	SNR=11									
HOQ					P	**Pn**	**16 15 29.0**	**+2.7**
	SNR=11									
JLN	**Jalan Bani Buh**	**19.36**	**220**		P	**Pn**	**16 15 27.0**	**+0.5**
	SNR=16									
JLN					S	**S**	**16 19 08.3**	**+4.0**
FAQ	**Al Faqa, Dubai**	**19.51**	**233**		P	**Pn**	**16 15 35.0**	**+6.7**
	SNR=6.0									
FAQ	**Al Faqa, Dubai**	**19.51**	**233**	*i*	P	**P**	**16 15 26.9**	**-0.1**
	SNR=5.6									
MAK	**Makhachkala**	**19.70**	**293**	*e*	P	**P**	**16 15 25.1**	**-3.9**
MAK				*e*	S	**S**	**16 19 04.1**	**-6.8**
MAK					pmax	pmax				
	comp=Z,253nm,1.4s									
MAK					MLR	MLR				
	comp=Z,4μm,10.0s									
ASUD	**Al Ashush, Dub**	**19.76**	**233**		P	**Pn**	**16 15 34.0**	**+2.7**
	SNR=5.0									
ASUD	**Al Ashush, Dub**	**19.76**	**233**	*i*	P	**P**	**16 15 30.5**	**+0.8**
	SNR=6.6									
SEKA	**Sheki**	**19.81**	**288**		P	**Pn**	**16 15 31.2**	**-0.7**
JMDO	**Jabal Madar**	**19.86**	**223**		P	**Pn**	**16 15 34.0**	**+1.5**
	SNR=12									
JMDO					P	**Pn**	**16 15 34.0**	**+1.5**
	SNR=12									
JMDO					P	**Pn**	**16 15 34.0**	**+1.5**
	SNR=12									
MNGR	**Mingechevir, A**	**19.89**	**286**		P	**Pn**	**16 15 33.0**	**+0.3**
ALNE	**Al Ain**	**19.91**	**231**		P	**Pn**	**16 15 32.7**	**-0.4**
	SNR=32									
ALNE	**Al Ain**	**19.91**	**231**	*i*	P	**P**	**16 15 31.4**	**0.0**
	SNR=14									

GUWA	**GUWAHATI**	**19.94**	**120**	*ex*		**P**	**16 15 31.8**	**0.0**
ARQ	**Araqi**	**19.99**	**228**		P	**P**	**16 15 32.4**	**+0.1**
	SNR=34									
ARQ					P	**P**	**16 15 32.4**	**+0.1**
	SNR=34									
ARQ					P	**P**	**16 15 32.4**	**+0.1**
	SNR=34									
ARQ					S	**S**	**16 19 16.2**	**-0.8**
ARQ					S	**S**	**16 19 16.2**	**-0.8**
ARQ					S	**S**	**16 19 16.2**	**-0.8**
AJN	**Ajban**	**20.02**	**233**		P	Pn	16 15 35.9	+1.5
	SNR=5.3									
AJN					P	Pn	16 15 35.9	+1.5
	SNR=5.3									
BSY	**Bisya**	**20.06**	**225**		P	Pn	16 15 36.0	+1.1
	SNR=18									
BSY					P	Pn	16 15 36.0	+1.1
	SNR=18									
TEZP	**TEZPUR**	**20.44**	**118**	*ex*		**P**	**16 15 36.7**	**-0.4**
GANJ	**Ganja**	**20.47**	**286**		P	Pn	16 15 38.7	-0.9
SHL	**Shillong**	**20.48**	**121**		IAmb	IAmb	16 15 48.2			
	comp=Z,58nm,0.8s									
SVE	**Sverdlovsk**	**20.53**	**341**	*c*	iP	**P**	**16 15 37.3**	**-0.6**
SVE					*e*S	**S**	**16 19 27.3**	**+0.1**
SVE					pmax	pmax				
	comp=Z,138nm,0.9s									
SVE					MLR	MLR				
	comp=Z,6μm,11.0s									
DDFL	**Dedoflistskaro**	**20.63**	**288**		P	Pn	16 15 43.8	+2.3
ARU	**Arti**	**20.76**	**338**		P	**P**	**16 15 39.9**	**-0.5**
	comp=Z,56nm,0.8s,baz=155,slow=6.6,SNR=108									
ARU					LR	LR	16 24 27.9			
	comp=Z,4μm,19.9s,baz=143,slow=39									
ARU	**Arti**	**20.76**	**338**	*d*	iP	**P**	**16 15 39.9**	**-0.5**
ARU					S	**S**	**16 19 33.2**	**+1.4**
ARU					SS	**SnSn**	**16 19 52.8**	**+1.2**
ARU					pmax	pmax				
	comp=Z,236nm,0.9s									
ARU					MLR	MLR				
	comp=Z,3μm,12.0s									
ARU	**Arti**	**20.76**	**338**		P	**P**	**16 15 39.7**	**-0.7**
ARU					IAmb	IAmb	16 15 44.7			
	comp=Z,196nm,0.9s									
ITAN	**ITANAGAR**	**20.77**	**115**	*ex*		**P**	**16 15 45.5**	**+4.7**
GROC	**Groznyy**	**20.97**	**293**	*e*	P	**P**	**16 15 42.3**	**-0.5**
GROC				*e*	PPP	PPP	16 16 07.7			
GROC				*e*	S	**S**	**16 19 36.4**	**+0.1**
GROC					pmax	pmax				
	comp=Z,336nm,1.1s									
GROC					MLR	MLR				
	comp=Z,2μm,8.0s									
MHTO	**MHTO**	**21.06**	**221**		P	**P**	**16 15 45.9**	**+2.0**
	SNR=18									
HYBB	**Hyderabad (bro**	**21.08**	**164**	*e*	P	**P**	**16 15 43.6**	**-0.5**
HYBB					IVmB_BB		16 15 48.6			
	comp=Z,624nm,1.3s									
HYBB				*e*			16 19 29.1			
HYBB				*e*	S	Sn	16 19 43.5	-1.6
HYBB					IVMs_BB	IVMs_BB	16 23 54.4			
	comp=Z,3μm,10.6s									
HYB	**Hyderabad**	**21.08**	**164**	*ex*		**P**	**16 15 43.5**	**-0.7**
HYB					IAmb	IAmb	16 15 50.1			
	comp=Z,147nm,1.2s									
NAX	**Nakhchivan**	**21.18**	**282**		P	**P**	**16 15 47.0**	**+1.8**
AGT	**Agartala**	**21.22**	**126**	*ex*		**P**	**16 15 45.4**	**-0.2**
GTA	**Gaotai**	**21.31**	**77**	⇑	P	**P**	**16 15 46.4**	**-0.3**
GTA					pP	sP	16 15 52.9	-0.1
GTA					sP	pP	16 15 56.0	+4.9
GTA					S	**S**	**16 19 43.5**	**+0.1**
GTA					sS	pS	16 19 52.3	-0.1
GTA					pmax	pmax				
	comp=Z,34nm,1.7s									
GTA					pmax	pmax				
	comp=Z,880nm,5.9s									
GTA					LR	LR				
	comp=Z,4μm,14.5s									
GTA					LR	LR				
	comp=Z,6μm,14.9s									
GTA					LR	LR				
	comp=Z,8μm,14.2s									
JORH	**JORHAT**	**21.39**	**115**	*ex*		**P**	**16 15 50.5**	**+3.1**
KHOR	**Al-Khor Airpor**	**21.63**	**242**		P	**P**	**16 15 50.3**	**+0.4**
GNI	**Garni**	**21.70**	**285**		P	**P**	**16 15 53.5**	**+2.7**
	comp=Z,65nm,1.1s,baz=102,slow=1.4,SNR=13									
GNI					LR	LR	16 25 54.7			
	comp=Z,2μm,18.2s,baz=82,slow=41									
GNI	**Garni**	**21.70**	**285**	*c*	iP	**P**	**16 15 53.3**	**+2.5**
GNI					pmax	pmax				
	comp=Z,349nm,1.7s									
GNI	**Garni**	**21.70**	**285**		P	**P**	**16 15 53.5**	**+2.7**
GHWR	**Ruwais**	**21.81**	**236**		P	**P**	**16 15 52.4**	**+0.5**
GHWR					P	**P**	**16 15 52.4**	**+0.5**
SHMA	**Al-Shehemyia**	**21.86**	**243**		P	**P**	**16 15 52.5**	**0.0**
KOHI	**KOHIMA**	**21.91**	**117**	*ex*		**P**	**16 15 53.3**	**0.0**
MZR	**Muzera**	**22.10**	**233**	*i*	P	**P**	**16 15 54.1**	**-0.9**
	SNR=15									
LKP	**Lekhapani**	**22.21**	**112**	*ex*		**P**	**16 15 55.7**	**-0.6**
ZEI	**Tsey**	**22.32**	**292**	*e*	P	**P**	**16 15 57.2**	**-0.4**
ZEI					pmax	pmax				
	comp=Z,54nm,0.8s									
GOA	**Goa**	**22.35**	**177**	*ex*		**P**	**16 15 58.8**	**+1.0**
NCK	**Nalchik**	**22.59**	**293**	⇓	eP	**P**	**16 16 02.1**	**+1.8**
NCK					pmax	pmax				
	comp=Z,371nm,0.7s									
BELG	**Belogornoye**	**22.63**	**318**		P	**P**	**16 15 59.2**	**-1.3**
	comp=Z,94nm,0.6s,baz=31,slow=2.0,SNR=23									
BELG					S	**S**	**16 20 05.0**	**-3.1**
	comp=Z,39nm,1.0s,baz=216,slow=17,SNR=2.3									
BELG					LR	LR	16 26 05.1			
	comp=Z,1μm,20.1s,baz=116,slow=40									
ONI	**Oni**	**22.65**	**291**		P	**P**	**16 16 02.4**	**+1.5**
ONI					pmax	pmax				
	comp=Z,251nm,1.0s									
ONI	**Oni**	**22.65**	**291**		P	**P**	**16 16 02.4**	**+1.5**
ONI					IAmb	IAmb	16 16 15.9			
	comp=Z,251nm,1.0s									
KARS	**Kars**	**22.94**	**286**		P	**P**	**16 16 10.0**	**+5.9**
KBZ	**Khabaz**	**23.12**	**294**		P	**P**	**16 16 06.5**	**+0.9**
	comp=Z,33nm,1.0s,baz=120,slow=5.7,SNR=18									
KBZ					LR	LR	16 27 12.2			
	comp=Z,3μm,19.5s,baz=92,slow=42									
GOF	**Gofitskoye**	**23.15**	**297**	⇑	eP	**P**	**16 16 08.4**	**+2.3**
GOF					pmax	pmax				
	comp=Z,64nm,0.6s									
NEY	**Neytrino**	**23.21**	**293**	⇑	eP	**P**	**16 16 09.0**	**+2.1**
NEY					pmax	pmax				
	comp=Z,23nm,0.8s									
KIV	**Kislovodsk**	**23.29**	**295**		eP	**P**	**16 16 08.0**	**+0.5**
KIV					*e*S	**S**	**16 20 21.3**	**+1.4**
KIV					pmax	pmax				
	comp=Z,61nm,1.0s									
KIV					MLR	MLR				
	comp=Z,2μm,14.0s									
KIV	**Kislovodsk**	**23.29**	**295**		P	**P**	**16 16 07.6**	**+0.1**
KIV					IAmb	IAmb	16 16 41.7			
	comp=Z,73nm,0.8s									
KIV	**Kislovodsk**	**23.29**	**295**		P	**P**	**16 16 08.4**	**+0.8**
KIV					P	**P**	**16 16 08.4**	**+0.8**
KIV	**Kislovodsk**	**23.29**	**295**	*i*	P	**P**	**16 16 08.2**	**+0.6**
	SNR=13									
MOY	**Mondy**	**24.24**	**46**	*e*	P	**P**	**16 16 17.4**	**+0.8**
MOY					pmax	pmax				
	comp=Z,26nm,1.9s									
LZH	**Lanzhou**	**25.00**	**85**	*e*	P	**P**	**16 16 24.4**	**+0.7**
LZH					pP	sP	16 16 31.3	+1.0
LZH					sP	pP	16 16 34.8	+6.4
LZH					PP	**PnPn**	**16 16 55.3**	**-1.4**
LZH					S	**S**	**16 20 46.5**	**-1.1**
LZH					sS	sS	16 20 57.6	+2.3
LZH					pmax	pmax				
	comp=Z,33nm,1.0s									
LZH					pmax	pmax				
	comp=Z,890nm,4.6s									
LZH					LR	LR				
	comp=Z,5μm,12.2s									
LZH					LR	LR				
	comp=Z,5μm,13.8s									
LZH					LR	LR				
	comp=Z,6μm,17.1s									
MARD	**Mardin**	**25.12**	**279**		P	**P**	**16 16 26.9**	**+2.1**
MARD					IAmb	IAmb	16 17 11.3			
	comp=Z,63nm,1.2s									
ZAK	**Zakamensk**	**25.13**	**50**	*e*	P	**P**	**16 16 25.5**	**+0.7**
ZAK					pmax	pmax				
	comp=Z,78nm,1.6s									

SOC	**Sochi**	**25.41**	**293**	*e*	P	**P**	**16 16 25.5**	**-1.7**
SOC				*e*	S	**S**	**16 20 53.2**	**-0.6**
SOC				*e*	SSS	SSS	16 22 02.8			
SOC					pmax	pmax				
	comp=Z,96nm,1.3s									
SOC					MLR	MLR				
	comp=Z,2μm,19.0s									
VRH	**Novokhopyorsk**	**25.47**	**311**	*e*	P	**P**	**16 16 27.3**	**-0.3**
VRH					pmax	pmax				
	comp=Z,60nm,1.0s									
VRH					MLR	MLR				
	comp=Z,3μm,11.0s									
KIRV	**Kirov**	**25.56**	**332**		P	**P**	**16 16 28.5**	**+0.1**
	comp=Z,120nm,0.7s,baz=81,slow=1.0,SNR=34									
KIRV					LR	LR	16 26 13.3			
	comp=Z,3μm,20.5s,baz=134,slow=36									
MDRS	**Chennai**	**25.67**	**162**	*ex*		**P**	**16 16 29.9**	**+0.2**
MDRS					IAmb	IAmb	16 16 34.6			
	comp=Z,63nm,1.2s									
IRK	**Irkutsk**	**26.33**	**47**	*e*	P	**P**	**16 16 35.6**	**+0.1**
IRK					pmax	pmax				
	comp=Z,86nm,2.0s									
SONM	**Songino Array**	**26.52**	**57**		P	**P**	**16 16 37.5**	**+0.1**
	comp=Z,20nm,0.8s,baz=262,slow=7.3,SNR=65									
SONM					LR	LR	16 28 13.7			
	comp=Z,6μm,21.4s,baz=267,slow=39									
SONM	**Songino Array**	**26.52**	**57**		P	**P**	**16 16 37.5**	**+0.1**
SONM					IAmb	IAmb	16 16 46.1			
	comp=Z,124nm,1.4s									
CD2	**Chengdu**	**26.59**	**96**		P	**P**	**16 16 42.1**	**+4.1**
CD2					S	**S**	**16 21 13.0**	**+0.3**
CD2					pmax	pmax				
	comp=Z,50nm,0.6s									
CD2					LR	LR				
	comp=Z,530nm,16.2s									
CD2					LR	LR				
	comp=Z,5μm,12.3s									
CD2					LR	LR				
	comp=Z,4μm,12.3s									
VORD	**Divnogorie**	**26.85**	**310**	*e*	P	**P**	**16 16 39.7**	**-0.5**
VORD					pmax	pmax				
	comp=Z,10.0nm,0.7s									
ULN	**Ulaanbaatar**	**26.96**	**57**	*c*	iP	**P**	**16 16 41.0**	**-0.4**
ULN					pmax	pmax				
	comp=Z,79nm,1.7s									
ULN	**Ulaanbaatar**	**26.96**	**57**		P	**P**	**16 16 42.0**	**+0.6**
ULN	**Ulaanbaatar**	**26.96**	**57**		IAMs_20	IAMs_20	16 28 27.4			
	comp=Z,6μm,21.0s									
PZH	**PanZhiHua**	**27.08**	**106**	⇑	P	**P**	**16 16 45.3**	**+2.7**
PZH					pP	**pP**	**16 16 46.8**	**-0.5**
PZH					sP	**sP**	**16 16 50.0**	**+0.8**
PZH					PP	**PnPn**	**16 17 27.4**	**+2.2**
PZH					S	**S**	**16 21 21.3**	**+0.7**
PZH					sS	**sS**	**16 21 28.0**	**-0.3**
PZH					SS	**SnSn**	**16 22 31.4**	**+4.5**
PZH					ScP	**ScP**	**16 23 44.3**	**+0.6**
PZH					ScS	**ScS**	**16 27 33.6**	**-1.5**
PZH					pmax	pmax				
	comp=Z,20nm,1.1s									
PZH					pmax	pmax				
	comp=Z,310nm,3.8s									
PZH					LR	LR				
	comp=Z,2μm,11.9s									
PZH					LR	LR				
	comp=Z,3μm,11.2s									
PZH					LR	LR				
	comp=Z,2μm,10.4s									
ANN	**Anapa**	**27.10**	**296**	*e*	P	**P**	**16 16 36.2**	**-6.2**
ANN				*e**	PP	pP	16 16 38.5	-8.6
ANN				*e*	PPP	PPP	16 17 29.9			
ANN				*e*	S	**S**	**16 21 11.5**	**-8.9**
ANN					pmax	pmax				
	comp=Z,260nm,1.2s									
ANN					MLR	MLR				
	comp=Z,2μm,12.0s									
ANN					MLR	MLR				
	comp=E,1μm,12.0s									
ANN					MLR	MLR				
	comp=N,4μm,13.0s									
VORR	**Voronezh**	**27.11**	**311**	*e*	P	**P**	**16 16 41.0**	**-1.5**
VORR				*e*			16 16 41.4			
VORR					pmax	pmax				
	comp=Z,80nm,0.4s									
VORR					pmax	pmax				
	comp=Z,60nm,0.4s									
RAYN	**Ar Rayn**	**27.20**	**246**		P	**P**	**16 16 43.9**	**+0.3**
RAYN					pmax	pmax				
	comp=Z,158nm,1.8s									
RAYN	**Ar Rayn**	**27.20**	**246**		P	**P**	**16 16 43.9**	**+0.3**
RAYN					IAmb	IAmb	16 17 32.2			
	comp=Z,158nm,1.8s									
RAYN	**Ar Rayn**	**27.20**	**246**		P	**P**	**16 16 44.1**	**+0.4**
RAYN	**Ar Rayn**	**27.20**	**246**	*i*	P	**P**	**16 16 41.6**	**-2.0**
	SNR=35									
LPSR	**Galich'ya Gora**	**27.56**	**313**	*e*	P	**P**	**16 16 46.5**	**0.0**
LPSR					pmax	pmax				
	comp=Z,100nm,1.6s									
LPSR					MLR	MLR				
	comp=Z,1μm,12.0s									
KMI	**Kunming**	**28.58**	**108**	⇑	P	**P**	**16 16 58.3**	**+2.2**
KMI					pP	sP	16 17 02.3	-0.5
KMI					sP	pP	16 17 04.3	+3.5
KMI					S	**S**	**16 21 43.3**	**-1.2**
KMI					PcS	**PcS**	**16 23 54.8**	**+4.6**
KMI					pmax	pmax				
	comp=Z,9.0nm,1.2s									
KMI					pmax	pmax				
	comp=Z,220nm,4.2s									
KMI					LR	LR				
	comp=Z,6μm,17.9s									
KMI					LR	LR				
	comp=Z,2μm,21.1s									
KMI					LR	LR				
	comp=Z,2μm,36.9s									
BTO	**Ba

comp=Z,3.7nm,0.8s,baz=311,slow=8.9,SNR=27
CMAR ScP **ScP** **16 23 54.3 +1.1**
comp=Z,0.5nm,0.4s,baz=302,slow=3.3,SNR=5.3
HHC Hu-ho-hao-te 30.13 72 *e*P **P** **16 17 10.3 +0.7**
HHC PP **PnPn** **16 18 08.3 +1.7**
HHC S **S** **16 22 06.4 -1.9**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,180nm,7.8s
HHC LR LR
comp=Z,5μm,12.7s
HHC LR LR
comp=Z,2μm,12.1s
HHC LR LR
comp=Z,2μm,17.9s
BR131 Keskin Array S 30.22 286*d i*P **P** **16 17 12.3 +1.8**
BRTR Keskin Array B 30.22 286 P **P** **16 17 11.6 +1.1**
comp=Z,6.2nm,1.0s,baz=97,slow=6.5,SNR=18
BRTR LR LR 16 31 06.0
comp=Z,2μm,18.1s,baz=92,slow=40
BRTR Keskin Array B 30.22 286 *i*P **P** **16 17 12.0 +1.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
SOCY Socotra 30.52 218 P **P** **16 17 10.8 -2.4**
MMAI Mount Meron Ar 30.52 272 LR LR 16 32 48.6
comp=Z,2μm,19.4s,baz=237,slow=43
DGPR DIGLIPUR 30.59 138 *ex* **P** **16 17 12.4 -1.3**
DGPR *ex* **P** **16 17 14.2 +0.5**
DGPR IAmb IAmb 16 17 18.7
comp=Z,42nm,0.8s
GYA Guiyang 30.88 102 ⇓P **P** **16 17 16.3 -0.1**
GYA pP pP 16 17 20.1 -1.0
GYA S **S** **16 22 19.5 -0.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,190nm,3.8s
GYA LR LR
comp=Z,3μm,17.8s
GYA LR LR
comp=Z,2μm,10.2s
GYA LR LR
comp=Z,4μm,11.0s
KLMR Klimovskoe 30.90 329 *e*P **P** **16 17 14.4 -1.7**
KLMR S **S** **16 22 16.7 -3.1**
KLMR pmax pmax
comp=Z,62nm,1.3s
KLMR Klimovskoe 30.90 329 *e*P **P** **16 17 14.4 -1.7**
KLMR AMP 16 17 30.0
comp=Z,62nm,1.3s
KLMR S **S** **16 22 16.7 -3.1**
KLMR S **S** **16 22 16.7 -3.1**
KLMR LQ LQ 16 26 37.1
KLMR LQ LQ 16 26 37.1
KLMR LR LR 16 27 34.7
TIY Taiyuan 31.34 78 P **P** **16 17 23.8 +3.5**
TIY S **S** **16 22 30.3 +3.0**
TIY pmax pmax
comp=Z,18nm,0.5s
TIY LR LR
comp=Z,3μm,12.8s
TIY LR LR
comp=Z,4μm,15.7s
TIY LR LR
comp=Z,5μm,18.1s
ENH Enshi 31.36 93 IAMs_20 IAMs_20 16 31 55.3
comp=Z,4μm,19.0s
PALK Pallekele 31.37 164 P **P** **16 17 21.0 +0.3**
comp=Z,25nm,1.0s,baz=86,slow=8.4,SNR=12
PALK LR LR 16 30 07.4
comp=Z,3μm,20.6s,baz=91,slow=37
PALK Pallekele 31.37 164 P **P** **16 17 22.0 +1.3**
PALK pmax pmax
comp=Z,69nm,1.3s
PALK MLR MLR
comp=Z,3μm,19.0s
PALK Pallekele 31.37 164 P **P** **16 17 22.0 +1.3**
PALK IAmb IAmb 16 17 25.8
comp=Z,68nm,1.3s
PALK Pallekele 31.37 164 IAMs_20 IAMs_20 16 30 28.5
comp=Z,3μm,19.0s
PBA Port Blair 31.77 140 *ex* **P** **16 17 23.9 -0.2**
PBA IAmb IAmb 16 17 29.3
comp=Z,624nm,1.9s
PBA IAmb IAmb 16 17 31.2
comp=Z,413nm,1.9s
CIT Chita 31.80 50 *e*P **P** **16 17 24.4 +0.3**
CIT *e* 16 17 34.8
CIT *e* 16 18 27.4
CIT *e* 16 22 34.4
CIT pmax pmax
comp=Z,86nm,2.0s
EIL Elat 32.15 267 P **P** **16 17 30.1 +2.7**
comp=Z,13nm,1.0s,baz=78,slow=6.5,SNR=9.7
EIL LR LR 16 33 22.3
comp=Z,4μm,18.1s,baz=68,slow=42
LYN LuoYang 32.20 84 *e*P **P** **16 17 28.4 +0.6**
LYN PP **PnPn** **16 18 35.6 +1.9**
LYN S **S** **16 22 34.0 -6.6**
LYN pmax pmax
comp=Z,10.0nm,0.8s
LYN pmax pmax
comp=Z,150nm,3.5s
LYN LR LR
comp=Z,5μm,14.1s
LYN LR LR
comp=Z,2μm,12.9s
LYN LR LR
comp=Z,4μm,18.8s
NRIK Noril'sk 32.53 10 P **P** **16 17 30.5 +0.3**
comp=Z,18nm,0.8s,baz=198,slow=6.4,SNR=21
NRIK LR LR 16 32 25.9
comp=Z,3μm,18.5s,baz=200,slow=40
NRIK Noril'sk 32.53 10*d i*P **P** **16 17 29.9 -0.4**
NRIK pmax pmax
comp=Z,59nm,1.2s
NRIK Noril'sk 32.53 10 P **P** **16 17 29.8 -0.5**
NRIK IAmb IAmb 16 17 33.7
comp=Z,55nm,1.2s
AKASG Malin Array Be 33.07 307 P **P** **16 17 34.7 -0.5**
comp=Z,2.8nm,0.5s,baz=76,slow=7.0,SNR=28
AKASG LR LR 16 32 26.2
comp=Z,2μm,19.1s,baz=80,slow=39
AKASG Malin Array Be 33.07 307 P **P** **16 17 34.2 -1.0**
AKBB Malin Array Si 33.07 307 P **P** **16 17 34.2 -1.0**
AKBB pmax pmax
comp=Z,20nm,0.8s
AKBB Malin Array Si 33.07 307 P **P** **16 17 34.2 -1.0**
XLT XiLinHaoTe 33.14 66 *e*P **P** **16 17 36.6 +0.6**
XLT pP pP 16 17 40.0 -0.8
XLT sP sP 16 17 43.9 +1.1
XLT S **S** **16 22 52.8 -2.5**
XLT pmax pmax
comp=Z,13nm,1.1s
XLT pmax pmax
comp=Z,190nm,4.6s
XLT LR LR
comp=Z,850nm,17.7s
XLT LR LR
comp=Z,4μm,16.4s
XLT LR LR
comp=Z,5μm,13.5s
MILM Milestii Mici 33.16 300 ⇑P **P** **16 17 37.0 +1.0**
HNS HongShan 33.17 78 ⇓P **P** **16 17 36.6 +0.4**
HNS S **S** **16 22 57.9 +2.2**
HNS pmax pmax
comp=Z,18nm,0.9s
HNS LR LR
comp=Z,3μm,17.4s
HNS LR LR
comp=Z,2μm,17.3s
HNS LR LR
comp=Z,4μm,20.1s
BOD Bodaibo 33.48 40 *e*P **P** **16 17 39.9 +1.2**
BOD pmax pmax
comp=Z,209nm,1.1s
SORM Soroca 33.48 302 ⇑P **P** **16 17 39.4 +0.5**
TPGR Topolog 33.51 296 ⇑P **P** **16 17 40.4 +1.2**
TIRR Tirgusor 33.54 295 IAMs_20 IAMs_20 16 32 38.2
comp=Z,3μm,21.0s
CFR Carcaliu 33.69 297 ⇑P **P** **16 17 42.1 +1.4**
BJT Baijiatuau 33.73 73 IAMs_20 IAMs_20 16 32 59.5
comp=Z,4μm,20.0s
BJI Beijing 33.73 73 P **P** **16 17 44.1 +3.0**
BJI S **S** **16 23 05.3 +1.0**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,5μm,16.0s
BJI LR LR
comp=Z,2μm,14.6s
BJI LR LR
comp=Z,4μm,19.1s
AKAS Kas 34.09 281 P **P** **16 17 44.5 0.0**
AKAS IAmb IAmb 16 17 55.8
comp=Z,110nm,1.5s
PRD Provadia 34.39 293 *i*P P 16 17 51.7 +4.9
MNK Minsk 34.41 313 *i*P **P** **16 17 46.7 -0.1**
MNK *i* 16 19 00.8
MNK *i* 16 20 22.8
MNK *i*S **S** **16 23 15.6 +1.1**
MNK *i*SS **SnSn** **16 25 25.0 +0.6**
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,30nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,505nm,14.0s
MNK MLR MLR
comp=N,6μm,17.0s
MNK MLR MLR
comp=Z,3μm,14.0s
MNK Minsk 34.41 313 *i*P **P** **16 17 46.8 -0.1**
comp=E,4.0nm,0.9s
MNK *i*P **P** **16 17 46.8 -0.1**
comp=N,14nm,0.9s
MNK *i*P **P** **16 17 46.8 -0.1**
comp=Z,30nm,0.9s,baz=100
MNK *i*PP **PnPn** **16 19 00.9 -0.6**
MNK *i*PPP PPP 16 19 12.3
MNK *i*S **S** **16 23 15.7 +1.1**
MNK *i*SS **SnSn** **16 25 25.1 +0.6**
MNK *i*SSS SSS 16 25 41.0
MNK *i*LQ LQ 16 29 10.5
MNK *i*LR LR 16 31 17.4
MNK *i*LRM MLR 16 32 11.5
comp=E,505nm,13.8s
MNK *i*LRM MLR 16 32 20.1
comp=N,6μm,17.4s
MNK *i*LRM MLR 16 32 25.3
comp=Z,3μm,14.4s
PUL Pulkovo 34.51 323⇑ *e*P **P** **16 17 48.2 +0.6**
PUL pmax pmax
comp=Z,37nm,0.6s
VRI Vrincioaia 34.64 298 ⇑P **P** **16 17 50.4 +1.4**
TESR Tescani 34.66 299 ⇑P **P** **16 17 50.7 +1.6**
PLOR Plostina 34.69 298 ⇑P **P** **16 17 52.0 +2.5**
GIRR Girov 34.74 300 P **P** **16 17 51.3 +1.5**
HORU Horodok 34.78 304 P **P** **16 17 50.5 +0.4**
VALR Valaam 34.84 326⇓ *e*P **P** **16 17 49.3 -1.2**
VALR pmax pmax
comp=Z,68nm,0.9s
COVR Voineasa-Covas 35.00 298 ⇑P **P** **16 17 54.5 +2.3**
JMB Yambol 35.09 292 *i*P P 16 17 58.6 +5.8
WHN Wuhan 35.10 89 ⇓P **P** **16 17 56.0 +2.9**
WHN pmax pmax
comp=Z,100nm,1.3s
WHN LR LR
comp=Z,11μm,18.1s
WHN LR LR
comp=Z,4μm,11.3s
WHN LR LR
comp=Z,9μm,17.9s
NACGM Naroch 35.11 314 *e*P **P** **16 17 53.0 +0.1**
IDID Didziasalis 35.20 315 *e*P **P** **16 17 54.0 +0.3**
MLR Muntele Rosu 35.21 298 ⇑P **P** **16 17 56.2 +2.2**
MLR Muntele Rosu 35.21 298 LR LR 16 35 37.7
comp=Z,3μm,19.2s,baz=66,slow=42
TIA Tai'an 35.35 79 ⇓P **P** **16 17 55.6 +0.4**
TIA S **S** **16 23 29.3 -0.2**
TIA pmax pmax
comp=Z,10.0nm,1.3s
TIA pmax pmax
comp=Z,79nm,3.5s
TIA LR LR
comp=Z,3μm,14.5s
TIA LR LR
comp=Z,2μm,13.9s
TIA LR LR
comp=Z,4μm,19.1s
SZH Strazhica 35.45 294 *i*P **P** **16 17 59.0 +3.0**
IIGN Ignalina 35.50 315 *e*P **P** **16 17 56.8 +0.5**
DOPR Dopca 35.56 298 ⇑P **P** **16 17 59.1 +2.1**
ISAL Salakas 35.59 315 *e*P **P** **16 17 57.4 +0.4**
BURAR Bucovina Array 35.60 301 ⇑P **P** **16 17 58.7 +1.4**
BURAR Bucovina Array 35.60 301 P **P** **16 17 58.1 +0.8**
KSV Kosov 35.68 302 P **P** **16 17 56.9 -1.0**
VOIR 35.84 298 ⇑P **P** **16 18 01.1 +1.7**
VSU Vasula 35.89 320⇓ *e*P **P** **16 17 59.2 -0.3**
VSU pmax pmax
comp=Z,115nm,1.1s
VSU Vasula 35.89 320 *e*P **P** **16 17 58.5 -1.0**
KDZ Kurdzhali 36.07 291 *i*P P 16 18 06.1 +4.7
ARR Arges 36.14 297 ⇓P **P** **16 18 04.4 +2.5**
KARP Karpathos 36.19 280 P **P** **16 18 03.6 +1.1**
ARCR ARCALIA 36.21 300 ⇑P **P** **16 18 04.2 +1.8**
LVV L'vov 36.35 305 *e*P **P** **16 18 04.5 +0.9**
LVV *e*S **S** **16 23 42.7 -1.8**
LVV pmax pmax
comp=Z,70nm,1.5s
LVV MLR MLR
comp=N,3μm,16.0s
LVV MLR MLR
comp=E,700nm,16.0s
LVV MLR MLR
comp=Z,1μm,16.0s
LVZ Lovozero 36.63 337⇓ *e*P **P** **16 18 05.3 -0.6**
LVZ pmax pmax
comp=Z,134nm,1.4s
LVZ Lovozero 36.63 337 P **P** **16 18 05.2 -0.7**
LVZ IAmb IAmb 16 18 09.3
comp=Z,110nm,1.2s
LOT Lotru 36.74 298 ⇑P **P** **16 18 08.9 +1.8**
CJR Cluj-Napoca 36.75 300 ⇑P **P** **16 18 09.0 +1.9**
BMR Baia Mare 36.76 301 ⇑P **P** **16 18 08.9 +1.8**
UBPT Khong Chiam 36.76 119 P **P** **16 18 06.3 -1.1**
PABE Paberze 36.80 315 IAMs_20 IAMs_20 16 33 40.8
comp=Z,3μm,19.0s
PGB Panagyurishte 36.84 293 *i*P P 16 18 13.0 +5.1
APA Apatity 36.84 336⇓ *i*P **P** **16 18 08.6 +1.1**
APA *i* 16 19 34.8
APA *i*S **S** **16 23 53.0 +1.5**
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,5μm,13.0s
APE Apeiranthos 37.02 284 ⇑P **P** **16 18 12.0 +2.5**
MPEP Malo Peshtene 37.02 294 *i*P **P** **16 18 11.5 +2.1**
FIA1 FINESS Array S 37.04 325 P **P** **16 18 09.2 0.0**
FINES FINESS Array B 37.04 325 P **P** **16 18 09.3 0.0**
comp=Z,20nm,0.7s,baz=108,slow=10,SNR=33
FINES LR LR 16 33 03.2
comp=Z,2μm,21.7s,baz=106,slow=36
SUW Suwalki 37.08 312 *e*P **P** **16 18 13.6 +3.9**
SUW Suwalki 37.08 312 *e*P **P** **16 18 10.2 +0.5**
TRSU Trosnyk 37.10 302 P **P** **16 18 11.0 +1.0**
KWP Kalwaria Pacla 37.21 305 *e*P **P** **16 18 13.3 +2.4**
DRGR 37.35 300 ⇑P **P** **16 18 14.3 +2.0**
ATD Arta Tunnel 37.36 233 P **P** **16 18 14.1 +1.5**
comp=Z,24nm,1.0s,baz=44,slow=9.6,SNR=6.4
ATD LR LR 16 35 44.2
comp=Z,930nm,18.7s,baz=42,slow=40
TRPA Tarpa 37.37 302 ⇓P **P** **16 18 13.8 +1.4**
TRPA Tarpa 37.37 302 P **P** **16 18 13.9 +1.6**
MTSE Matsula 37.43 320 *e*P **P** **16 18 12.3 -0.4**
GZR Gura Zlata 37.44 298 ⇓P **P** **16 18 14.0 +1.0**
GZR Gura Zlata 37.44 298 P **P** **16 18 14.0 +1.0**
QIZ Qiongzhong 37.47 110 IAMs_20 IAMs_20 16 35 29.8
comp=Z,2μm,20.0s
QIZ Qiongzhong 37.47 110 P **P** **16 18 14.0 +0.6**
QIZ S **S** **16 24 04.8 +2.7**
QIZ PcS **PcS** **16 24 21.1 +0.5**
QIZ pmax pmax
comp=Z,15nm,2.5s
QIZ pmax pmax
comp=Z,200nm,3.6s
QIZ LR LR
comp=Z,3μm,26.4s
QIZ LR LR
comp=Z,2μm,24.3s
QIZ LR LR
comp=Z,2μm,18.3s
MEF Metsahovi 37.49 322 *e*P **P** **16 18 13.0 -0.1**
VTS Vitosha 37.51 293 ⇑P **P** **16 18 16.1 +2.4**
VTS Vitosha 37.51 293 *i*P **P** **16 18 16.6 +2.9**
UZH Uzhgorod 37.51 303 *e*P **P** **16 18 11.7 -1.8**
UZH *i* 16 18 15.9
UZH *e* 16 18 23.8
UZH *e* 16 19 40.5
UZH *e* 16 20 38.6
UZH *e*S **S** **16 23 56.9 -5.3**
UZH MLR MLR
comp=Z,290nm,14.0s
KKB Krupnik 37.75 292 *i*P P 16 18 21.0 +5.4
PBUR Paburge 38.00 315 *e*P **P** **16 18 18.4 +0.9**
IDI Anoyia 38.04 281 P **P** **16 18 19.2 +1.0**
comp=Z,16nm,0.9s,baz=123,slow=11,SNR=6.4
IDI Anoyia 38.04 281 P **P** **16 18 18.7 +0.5**
CRVS Cervenica-Dubn 38.05 304 *e*P **P** **16 18 20.9 +2.8**
CRVS Cervenica-Dubn 38.05 304 *e*P **P** **16 18 20.9 +2.8**
NJ2 Nanjing 38.07 85 ⇑P **P** **16 18 19.0 +0.6**
NJ2 pP **pP** **16 18 22.5 -0.7**
NJ2 S **S** **16 24 10.6 -0.4**
NJ2 sS **sS** **16 24 18.6 -0.2**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 LR LR
comp=Z,3μm,16.6s
NJ2 LR LR
comp=Z,3μm,15.3s
NJ2 LR LR
comp=Z,4μm,17.4s
DL2 Dalian 38.09 73 P **P** **16 18 20.0 +1.5**
DL2 S **S** **16 24 12.4 +1.2**
DL2 pmax pmax
comp=Z,28nm,0.8s
DL2 pmax pmax
comp=Z,220nm,3.6s
DL2 LR LR
comp=Z,4μm,19.4s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,4μm,20.6s
BZS Buzias 38.22 298 ⇑P **P** **16 18 21.0 +1.5**
MDVR Moldovita 38.26 297 ⇑P **P** **16 18 21.9 +1.9**
BOVS Bovan 38.44 295 ⇓P **P** **16 18 23.7 +2.3**
STIP Stip 38.44 292 *i*P **P** **16 18 21.0 -0.5**
NIE Niedzica 38.79 304 *e*P **P** **16 18 27.1 +2.8**
HKPS Hong Kong Po S 38.86 102 IAMs_20 IAMs_20 16 35 37.4
comp=Z,2μm,20.0s
SNY Shenyang 38.89 68 ⇓P **P** **16 18 22.1 -3.1**
SNY S **S** **16 24 19.8 -3.3**
SNY pmax pmax
comp=Z,9.0nm,0.9s
SNY pmax pmax
comp=Z,210nm,4.9s
SNY LR LR
comp=Z,2μm,15.9s
SNY LR LR
comp=Z,4μm,17.7s
SNY LR LR
comp=Z,4μm,16.7s
OJC Ojcow 39.07 306 *e*P **P** **16 18 27.4 +0.8**
OJC Ojcow 39.07 306 P **P** **16 18 27.3 +0.6**
OJC pmax pmax
comp=Z,27nm,0.8s
OJC Ojcow 39.07 306 P **P** **16 18 27.3 +0.6**
PSZ Piszkesteto 39.16 302 ⇑P **P** **16 18 29.3 +1.8**
PSZ Piszkesteto 39.16 302 IAMs_20 IAMs_20 16 36 41.6
comp=Z,2μm,19.0s
PSZ Piszkesteto 39.16 302 P **P** **16 18 29.8 +2.3**
FNA Florina 39.23 291 P **P** **16 18 29.1 +1.0**
FNA pmax pmax
comp=Z,31nm,1.2s
FNA Florina 39.23 291 P **P** **16 18 29.1 +1.0**
LANS Liptovska Anna 39.35 304 *e*P **P** **16 18 30.9 +1.9**
LANS Liptovska Anna 39.35 304 *e*P **P** **16 18 30.9 +1.9**
FRGS Fruska Gora 39.55 298 ⇓P **P** **16 18 31.5 +0.9**
AAL Aland 39.63 322 *e*P **P** **16 18 31.1 0.0**
ITM Ithomi 39.75 285 P **P** **16 18 31.6 -0.8**
VYHS Vyhne 39.81 303 *e*P **P** **16 18 35.5 +2.6**
VYHS Vyhne 39.81 303 *e*P **P** **16 18 35.5 +2.6**
CN2 Changchun 39.87 64 *e*P P 16 18 27.8 -5.5
CN2 *e*PP **PP** **16 20 03.8 -1.0**
CN2 *e*S S 16 24 27.6 -10
CN2 *e*sS sS 16 24 48.0 +2.2
CN2 *e*SS SS 16 27 17.0 -17
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,130nm,4.0s
CN2 LR LR
comp=N,6μm,18.0s
CN2 LR LR
comp=E,2μm,18.0s
CN2 LR LR
comp=Z,4μm,19.0s
KEV Kevo 39.98 337 P **P** **16 18 33.8 -0.1**
KEV pmax pmax
comp=Z,135nm,1.5s
KEV Kevo 39.98 337 P **P** **16 18 33.8 -0.1**
KEV IAmb IAmb 16 18 56.1
comp=Z,135nm,1.5s
KOLL Kolacno 40.09 303 *e*P **P** **16 18 37.4 +2.2**
OKC Ostrava-Krasne 40.16 305 AMS AMS 16 36 30.0
comp=Z,2μm,12.5s
ZEA Zeya 40.21 49 *e*P **P** **16 18 37.0 +1.0**
ZEA *e*S **S** **16 24 39.8 -2.8**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA smax smax
comp=E,200nm,10.3s
ZEA MLR MLR
comp=E,2μm,13.0s
ZEA MLR MLR
comp=N,1μm,11.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
SSE Sheshan 40.28 85 P **P** **16 18 36.3 -0.6**
SSE S **S** **16 24 43.0 -1.2**
SSE pmax pmax
comp=Z,15nm,0.6s
SSE pmax pmax
comp=Z,61nm,3.5s
SSE LR LR
comp=Z,1μm,14.9s
ARA0 ARCESS Array S 40.34 337 *e*P **P** **16 18 37.1 +0.2**
ARCES ARCESS Array B 40.34 337 P **P** **16 18 36.9 -0.1**
comp=Z,17nm,0.7s,baz=113,slow=7.8,SNR=26
ARCES LR LR 16 35 13.7
comp=Z,2μm,18.3s,baz=118,slow=36
ARCES ARCESS Array B 40.34 337 P **P** **16 18 36.6 -0.4**
ARCES IAmb IAmb 16 18 47.9
comp=Z,151nm,1.8s
PDG Podgorica 40.43 294 ⇑P **P** **16 18 39.2 +1.2**
JAVC Velka Javorina 40.55 304 *e*P **P** **16 18 41.4 +2.4**
MORC Moravsky Berou 40.55 305 ⇓P **P** **16 18 40.1 +1.1**
MORC Moravsky Berou 40.55 305 *e*P **P** **16 18 39.2 +0.2**
GKP Gorka Klasztor 40.59 311 *e*P **P** **16 18 39.9 +0.7**
KOVH Kovagotottos 40.60 300 P **P** **16 18 40.0 +0.7**
MPLH Magyarpolny 40.83 301 P **P** **16 18 43.0 +1.8**
KTK1 Kautokeino 40.85 335 *e*P **P** **16 18 40.8 -0.4**
BNX BinXian 40.92 61 ⇓P **P** **16 18 41.8 -0.2**
BNX pmax pmax
comp=Z,22nm,1.1s
BNX pmax pmax
comp=Z,260nm,4.1s
KRLC Kraliky 41.02 306 *e*P **P** **16 18 43.5 +0.7**
KRLC MLR MLR
comp=Z,2μm,12.2s
KRLC Kraliky 41.02 306 *e*P **P** **16 18 43.5 +0.7**
KRLC AMS AMS 16 36 50.0
comp=Z,2μm,12.2s
KNMB Chin-men Tao 41.04 95 IAMs_20 IAMs_20 16 38 03.7
comp=Z,2μm,19.0s
VIKU Vikbolandet 41.08 319 *e*P **P** **16 18 43.3 +0.1**
DLV T Lat 41.18 119 IAMs_20 IAMs_20 16 35 39.2
comp=Z,3μm,18.0s
DLV T Lat 41.18 119 P **P** **16 18 45.7 +1.0**

VRAC Vranov 41.21 305 LR LR 16 36 49.0
comp=Z,2µm,20.9s,baz=91,slow=38
VRAC Vranov 41.21 305 *e*P **P** **16 18 45.0 +0.6**
KSP Ksiaz 41.27 307 *e*P **P** **16 18 45.7 +0.9**
DPC Dobruska-Polom 41.29 306 *e*P **P** **16 18 46.1 +1.0**
DPC *e*S **S** **16 24 56.7 -2.3**
DPC MLR MLR
comp=Z,2µm,13.0s
DPC Dobruska-Polom 41.29 306 *e*P **P** **16 18 46.1 +1.0**
DPC *e*S **S** **16 24 56.7 -2.3**
DPC AMS AMS 16 37 00.0
comp=Z,2µm,13.0s
KULM Kulim 41.33 135 P **P** **16 18 45.8 +0.1**
KULM IAmb IAmb 16 18 49.4
comp=Z,61nm,1.3s
OSTC Ostas 41.34 307 *e*P **P** **16 18 48.7 +3.2**
OSTC AMS AMS 16 37 00.0
comp=Z,2µm,12.7s
KRUC Moravsky 41.37 304 *e*P **P** **16 18 46.2 +0.6**
HAMF Hammerfest 41.39 338 *e*P **P** **16 18 45.6 +0.1**
SOP Sopron 41.42 302 P P 16 18 53.3 +7.2
BLEU Blekinge 41.44 315 *i*P **P** **16 18 46.4 +0.3**
CHVC Chvalec 41.44 307 *e*P **P** **16 18 47.4 +1.1**
CHVC AMS AMS 16 36 10.0
comp=Z,2µm,16.8s
UPC Upice 41.47 306 *e*P **P** **16 18 47.7 +1.2**
UPC MLR MLR
comp=Z,2µm,15.8s
UPC Upice 41.47 306 *e*P **P** **16 18 47.7 +1.2**
UPC AMS AMS 16 36 10.0
comp=Z,2µm,15.8s
MOSL Moslavina 41.60 299 *i*P **P** **16 18 48.2 +0.5**
KALN Kalnik 41.72 300 *i*P **P** **16 18 50.9 +2.3**
RICI Ricice 41.73 296 *i*P **P** **16 18 49.1 +0.3**
CONA Conrad Observa 41.85 303 *i*P **P** **16 18 50.8 +1.0**
comp=Z,16nm,0.8s,SNR=25
MAKA Makarska 41.86 296 *i*P **P** **16 18 49.8 +0.1**
LOBO Lobor 41.98 300 *i*P **P** **16 18 51.4 +0.6**
JETT Jettan, Norway 41.99 335 *e*P **P** **16 18 51.7 +1.2**
FURI Furi 42.02 235 IAMs_20 IAMs_20 16 38 19.5
comp=Z,2µm,20.0s
YAK Yakutsk 42.10 36 P **P** **16 18 50.7 -0.7**
comp=Z,12nm,0.5s,baz=208,slow=3.2,SNR=9.3
YAK LR LR 16 35 11.2
comp=Z,1µm,18.3s,baz=268,slow=35
YAK Yakutsk 42.10 36 *e*P **P** **16 18 50.2 -1.3**
YAK *e* 16 20 30.5
YAK *e* 16 20 44.0
YAK *e*PPP PPP 16 21 00.2
YAK *e*S **S** **16 25 06.1 -4.4**
YAK *e*SS **SS** **16 28 09.6 -8.1**
YAK *e* 16 28 50.7
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,65nm,1.8s
YAK pmax pmax
comp=N,25nm,1.6s
YAK pmax pmax
comp=E,26nm,1.8s
YAK smax smax
comp=N,88nm,2.7s
YAK smax smax
comp=E,111nm,2.7s
YAK Yakutsk 42.10 36 IAMs_20 IAMs_20 16 36 14.1
comp=Z,3µm,21.0s
ARSA Arzberg 42.18 302 *e*P **P** **16 18 53.6 +1.2**
comp=Z,12nm,1.1s
IPM Ipoh 42.20 135 P **P** **16 18 52.8 -0.1**
IPM IAmb IAmb 16 18 56.0
comp=Z,99nm,1.2s
IPM Ipoh 42.20 135 P **P** **16 18 52.5 -0.3**
INCN Inchon 42.27 73 IAMs_20 IAMs_20 16 37 43.7
comp=Z,3µm,20.0s
INCN Inchon 42.27 73 P P 16 18 59.1 +5.8
comp=Z,33nm,0.7s
HVAR Hvar 42.29 296 *i*P **P** **16 18 49.5 -3.8**
GOLS Golise 42.31 300 *i*P **P** **16 18 54.7 +1.2**
PRU Pruhonice 42.46 306 *e*P **P** **16 18 55.3 +0.7**
PRU *e*S **S** **16 25 22.9 +6.6**
PRU MLR MLR
comp=Z,2µm,13.4s
PRU Pruhonice 42.46 306 *e*P **P** **16 18 55.3 +0.7**
PRU *e*S **S** **16 25 22.9 +6.6**
PRU AMS AMS 16 37 30.0
comp=Z,2µm,13.4s
PSI Prapat 42.47 139 P **P** **16 18 53.7 -1.5**
comp=Z,25nm,0.8s,baz=314,slow=6.0,SNR=23
PSI LR LR 16 37 25.8
comp=Z,1µm,21.8s,baz=299,slow=37
TRO Tromso 42.50 335 *e*P **P** **16 18 55.3 +0.7**
DEL Delary 42.52 315 *i*P **P** **16 18 54.0 -0.9**
DEL Delary 42.52 315 *e*P **P** **16 18 54.8 -0.2**
SOKA Soboth 42.60 301 *i*P **P** **16 18 57.0 +1.2**
comp=Z,11nm,0.8s,SNR=29
MDJ Mudanjiang 42.64 62 IAMs_20 IAMs_20 16 37 53.5
comp=Z,3µm,22.0s
MDJ Mudanjiang 42.64 62 P **P** **16 18 56.3 +0.2**
MDJ S **S** **16 25 19.0 0.0**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,270nm,4.4s
MDJ LR LR
comp=Z,3µm,12.9s
MDJ LR LR
comp=Z,2µm,10.4s
MDJ LR LR
comp=Z,4µm,13.9s
MDJ Mudanjiang 42.64 62 P **P** **16 19 00.3 +4.2**
MORI Morici 42.67 297 *i*P **P** **16 18 55.3 -1.0**
HFS Hagfors 42.75 321 LR LR 16 37 16.8
comp=Z,2µm,18.0s,baz=90,slow=37
BRG Berggiesshubel 42.75 307 *e*P **P** **16 18 57.9 +1.0**
BRG Amp 16 18 59.2
comp=Z,18nm,1.0s
BRG *ex* x 16 19 01.6
BRG Amp 16 19 04.4
comp=Z,43nm,1.1s
BRG PP **PcP** **16 20 47.8 -0.5**
BRG Amp 16 20 53.3
comp=Z,118nm,2.5s
BRG S **S** **16 25 26.0 +5.5**
BRG Amp 16 35 32.0
comp=E,2.0nm,13.8s
BRG Amp 16 35 53.0
comp=N,1.7nm,13.0s
BRG Amp 16 38 29.0
comp=Z,2.1nm,12.2s
BRG Berggiesshubel 42.75 307 *e*P **P** **16 18 57.9 +1.0**
BRG *e* 16 19 01.5
BRG 16 20 47.8
BRG S **S** **16 25 26.0 +5.5**
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,118nm,2.5s
BRG smax smax
comp=E,2µm,13.8s
BRG MLR MLR
comp=N,2µm,13.0s
BRG MLR MLR
comp=Z,2µm,12.2s
BRG Berggiesshubel 42.75 307 *e*P **P** **16 18 58.0 +1.0**
comp=Z,43nm,1.1s,baz=82,slow=7.9
CKRC Cesky Krumlov 42.76 304 *e*P **P** **16 18 59.6 +2.5**
CKRC *e*S **S** **16 25 22.9 +2.2**
CKRC AMS AMS 16 37 30.0
comp=Z,2µm,19.8s
RGN Rugen 42.87 313 IAMs_20 IAMs_20 16 36 38.4
comp=Z,2µm,20.0s
RGN Rugen 42.87 313 *e*P **P** **16 18 59.0 +1.3**
comp=Z,79nm,0.9s,baz=82,slow=7.9
MOA Molln 42.93 303 *i*P **P** **16 19 00.2 +1.7**
comp=Z,25nm,0.9s,SNR=11
OBKA Obir 42.96 301 *i*P **P** **16 19 00.7 +1.9**
comp=Z,27nm,1.2s,SNR=5.8
GSI Gunungsitoli 43.07 142 P **P** **16 19 00.6 +0.7**
GSI Gunungsitoli 43.07 142 P **P** **16 19 00.9 +1.0**
comp=Z,2µmcomp=Z,140nm,1.2s
GSI Gunungsitoli 43.07 142 P **P** **16 19 01.5 +1.6**

FBE Freiberg 43.12 307 *e*P **P** **16 19 01.1 +1.2**
comp=Z,56nm,1.1s,baz=82,slow=7.9
BORU Boraas 43.13 317 *i*P **P** **16 18 59.6 -0.3**
FAUS Fauske 43.15 332 *e*P **P** **16 18 59.9 0.0**
GEC2 GERESS Array S 43.15 304 *e*P **P** **16 19 01.6 +1.3**
comp=Z,35nm,1.3s,baz=82,slow=7.9
GERES GERESS Array B 43.15 304 P **P** **16 19 00.6 +0.2**
comp=Z,5.5nm,0.9s,baz=57,slow=9.7,SNR=14
GERES LR LR 16 38 09.4
comp=Z,2µm,21.7s,baz=90,slow=38
FABU Falkenberg 43.15 316 *i*P **P** **16 19 01.4 +1.3**
TJN Taejon 43.18 75⇓ *e*P **P** **16 19 02.2 +1.6**
CEY Cerknica 43.18 300 *e*P **P** **16 19 02.8 +2.2**
KHC Kasperske Hory 43.19 305 P **P** **16 18 59.8 -0.8**
KHC pmax pmax
comp=Z,28nm,1.1s
KHC Kasperske Hory 43.19 305 *e*P **P** **16 19 01.6 +1.0**
KHC *e*S **S** **16 25 28.8 +1.7**
KHC AMS AMS 16 37 50.0
comp=Z,2µm,14.7s
KHC Kasperske Hory 43.19 305 P **P** **16 18 59.8 -0.8**
MOR8 Moi Rana 43.22 330 *e*P **P** **16 18 59.6 -1.0**
KSAR Wonju Array Be 43.23 73 P **P** **16 19 01.5 +0.5**
KSAR Wonju Array Be 43.23 73 P **P** **16 19 01.5 +0.5**
KSRS Korea Array 43.26 73 P **P** **16 18 59.7 -1.5**
comp=Z,7.0nm,0.9s,baz=275,slow=7.5,SNR=15
KSRS LR LR 16 39 31.4
comp=Z,3µm,18.2s,baz=285,slow=40
CLL Collm 43.30 308⇓ *i*P **P** **16 19 01.6 +0.3**
CLL *e* 16 20 42.0
CLL *e*S **S** **16 25 29.0 +0.6**
CLL pmax pmax
comp=Z,31nm,1.0s
CLL Collm 43.30 308⇓ *i*P **P** **16 19 01.6 +0.3**
comp=Z,16nm,1.0s
CLL *i* Pmax 16 19 04.2
comp=Z,31nm,1.0s
CLL *e*PP **PP** **16 20 42.0 +0.2**
CLL *e*PcP **PcP** **16 20 53.0 +2.9**
CLL *i* x x 16 20 56.7
CLL *e*PPP PPP 16 21 13.0
CLL *e*PcS **PcS** **16 24 46.0 +3.6**
CLL *e*S **S** **16 25 29.0 +0.6**
CLL *ex* x 16 27 00.0
CLL *ex* x 16 28 06.0
CLL *e*SS **SS** **16 28 40.0 -1.5**
CLL Lmax 16 40 00.0
CLL Collm 43.30 308 *e*P **P** **16 19 01.8 +0.5**
comp=Z,31nm,1.1s,baz=82,slow=7.9
STEI Steigen 43.30 332 *e*P **P** **16 19 00.9 -0.1**
YHNB Yeheng 43.30 93 IAMs_20 IAMs_20 16 39 58.3
comp=Z,2µm,18.0s
KLR Kul'dur 43.32 55 P **P** **16 19 01.2 -0.4**
comp=Z,9.7nm,0.4s,baz=280,slow=7.4,SNR=33
KLR LR LR 16 38 34.4
comp=Z,3µm,20.9s,baz=276,slow=38
BIOA Bad Ischl, Aus 43.37 303 *e*P **P** **16 19 04.0 +1.9**
comp=Z,18nm,1.0s
TPUB Ta-pu 43.40 95 IAMs_20 IAMs_20 16 39 19.1
comp=Z,2µm,18.0s
SSLB Suanglung 43.41 95 IAMs_20 IAMs_20 16 39 25.3
comp=Z,2µm,19.0s
SSLB Suanglung 43.41 95 P P 16 19 07.2 +4.6
MYKA Terra Mystica 43.55 301 *e*P **P** **16 19 04.8 +1.2**
comp=Z,7.7nm,0.9s
ONAU Onsala 43.59 317 *i*P **P** **16 19 04.4 +0.8**
WET Wettzell 43.65 305 *e*P **P** **16 19 05.4 +1.1**
comp=Z,40nm,1.5s,baz=82,slow=7.9
KBA Koelnbreinsper 43.67 302 *e*P **P** **16 19 05.7 +1.1**
comp=Z,4.0nm,0.6s
ROBS Robic 43.72 301 *e*P **P** **16 19 05.2 +0.4**
NACB Ninganchiao 43.72 94 IAMs_20 IAMs_20 16 38 54.5
comp=Z,2µm,20.0s
TANN Tannenbergstha 43.74 307 *e*P **P** **16 19 06.0 +1.0**
comp=Z,52nm,1.7s,baz=82,slow=7.9
NC405 NORSAR Array S 43.78 322 P **P** **16 19 04.9 -0.3**
KONS Konsvik 43.80 330 *e*P **P** **16 19 05.0 -0.2**
WERN Wernitzgruen 43.81 306 *e*P **P** **16 19 06.5 +1.0**
comp=Z,38nm,1.7s,baz=82,slow=7.9
GUNZ Gunzen 43.83 307 *e*P **P** **16 19 06.8 +1.1**
comp=Z,25nm,1.2s,baz=82,slow=7.9
WERD Werda 43.84 307 *e*P **P** **16 19 06.6 +0.9**
comp=Z,29nm,1.3s,baz=82,slow=7.9
NC602 NORSAR Array S 43.85 322 P **P** **16 19 05.4 -0.3**
NC602 IAmb IAmb 16 19 10.1
comp=Z,92nm,1.2s
YULB Yu-li 43.88 95 IAMs_20 IAMs_20 16 39 40.8
comp=Z,3µm,19.0s
PLN Plauen 43.92 307 *e*P **P** **16 19 07.4 +0.9**
comp=Z,20nm,1.2s,baz=82,slow=7.9
STRU Stroemstad 43.98 319 *i*P **P** **16 19 06.8 +0.1**
NSS Namsos 43.98 327 *e*P **P** **16 19 06.1 -0.5**
NB201 NORSAR Array S 43.99 322 P **P** **16 19 06.5 -0.3**
NB201 IAmb IAmb 16 19 15.2
comp=Z,62nm,0.9s
ROTZ Rotzenmuhle 43.99 306 *e*P **P** **16 19 08.4 +1.5**
comp=Z,11nm,1.5s,baz=82,slow=7.9
TWG Pinlang 43.99 96 IAMs_20 IAMs_20 16 39 10.1
comp=Z,3µm,18.0s
TIXI Tiksi 44.01 22 LR LR 16 38 27.9
comp=Z,3µm,18.0s,baz=186,slow=38
TIXI Tiksi 44.01 22*d* *i*P **P** **16 19 06.0 -0.7**
TIXI pmax pmax
comp=Z,32nm,0.7s
TIXI Tiksi 44.01 22 P **P** **16 19 06.1 -0.7**
TIXI IAmb IAmb 16 19 09.5
comp=Z,30nm,0.8s
MANZ Manzenberg 44.02 306 *e*P **P** **16 19 08.5 +1.3**
comp=Z,6.9nm,1.4s,baz=82,slow=7.9
NB2 NORSAR Subarra 44.02 322 P **P** **16 19 06.3 -0.8**
comp=Z,41nm,1.0s,baz=92,slow=8.6
NB2 NORSAR Subarra 44.02 322 P **P** **16 19 06.3 -0.8**
baz=92,slow=8.6
NOA NORSAR Array B 44.02 322 P **P** **16 19 06.2 -0.8**
comp=Z,16nm,0.8s,baz=93,slow=7.8,SNR=36
NOA LR LR 16 39 37.9
comp=Z,1µm,19.6s,baz=105,slow=39
NEUB Neuenburg 44.07 308 *e*P **P** **16 19 08.3 +0.7**
comp=Z,41nm,1.0s,baz=82,slow=7.9
NAO01 NORSAR Array S 44.18 322 P **P** **16 19 08.6 +0.3**
NAO01 IAmb IAmb 16 19 16.9
comp=Z,64nm,0.9s
NAO01 NORSAR Array S 44.18 322 *e*P **P** **16 19 07.8 -0.5**
MOX Moxa 44.25 307 *e*P **P** **16 19 10.0 +1.0**
comp=Z,30nm,1.2s,baz=82,slow=7.9
MOX *e*L L 16 37 26.1
comp=Z,1µm,21.8s
NC204 NORSAR Array S 44.26 322 P **P** **16 19 08.7 -0.3**
NC204 IAmb IAmb 16 19 13.4
comp=Z,81nm,1.2s
FLTG Flechtingen 44.28 310 *e*P **P** **16 19 09.4 +0.2**
comp=Z,67nm,1.1s,baz=82,slow=7.9
ABTA Abfaltersbach 44.30 301 *e*P **P** **16 19 09.4 -0.2**
comp=Z,6.0nm,0.8s
ABTA *e*P **PP** **16 20 51.9 -0.7**
comp=Z,5.4nm,0.8s
USRK Ussuriysk Ar. 44.41 62 P **P** **16 19 09.9 -0.4**
comp=Z,4.0nm,0.6s,baz=287,slow=7.0,SNR=15
USRK LR LR 16 39 34.3
comp=Z,2µm,19.8s,baz=281,slow=39
USRK Ussuriysk Ar. 44.41 62 P **P** **16 19 09.8 -0.6**
MNSI Mandailing Nat 44.52 140 P **P** **16 19 12.0 +0.5**
comp=Z,74nm,0.8s
VLA Vladivostok 44.59 64⇓ *e*P **P** **16 19 14.7 +2.9**
VLA pmax pmax
comp=Z,36nm,1.0s
GRA1 Grafenberg Arr 44.63 306 IAMs_20 IAMs_20 16 38 16.3
comp=Z,2µm,21.0s
GRF Grafenberg Arr 44.63 306 *e*P **P** **16 19 14.0 +1.8**
comp=Z,75nm,1.2s,baz=82,slow=7.9
GRF *e*L L 16 38 15.2
comp=Z,2µm,20.4s
GRFO Grafenberg 44.63 306 IAMs_20 IAMs_20 16 38 16.3
comp=Z,2µm,20.0s
BSEG Bad Segeberg 44.67 312 *e*P **P** **16 19 13.4 +1.2**
comp=Z,26nm,0.9s,baz=82,slow=7.9
NRCA Norcia 44.75 296 P **P** **16 19 13.9 +0.7**
WTTA Wattenberg 44.78 302 *i*P **P** **16 19 13.4 -0.2**
comp=Z,13nm,0.8s,SNR=13
WTTA *e*P **PcP** **16 20 55.9 +0.4**
comp=Z,7.7nm,0.7s
KONO Kongsberg 44.80 320⇓ *e*P **P** **16 19 11.9 -1.3**
KONO pmax pmax
comp=Z,40nm,1.7s
KONO Kongsberg 44.80 320 P **P** **16 19 13.0 -0.2**
KONO IAmb IAmb 16 19 21.7
comp=Z,36nm,1.1s
KONO Kongsberg 44.80 320 *e*P **P** **16 19 12.7 -0.5**
WATA Walderalm 44.81 302 *e*P **P** **16 19 13.9 +0.2**
comp=Z,8.0nm,0.9s
WATA *e*P **PcP** **16 20 52.8 -2.7**
comp=Z,20nm,1.3s
FUR Furstenfeldbru 44.85 304 *e*P **P** **16 19 15.3 +1.4**
comp=Z,61nm,1.0s,baz=82,slow=7.9
CLZ Clausthal 44.86 309 *e*P **P** **16 19 14.0 0.0**
comp=Z,44nm,1.4s,baz=82,slow=7.9
NRDL Niedersach Rie 44.95 310 *e*P **P** **16 19 15.7 +1.2**
comp=Z,70nm,1.2s,baz=82,slow=7.9
GOET G??ttrup 45.06 316 *i*P **P** **16 19 15.7 +0.4**
SQTA Sankt Quirin 45.08 302 *e*P **P** **16 19 15.9 0.0**
comp=Z,10nm,1.0s
SQTA *e*P **PcP** **16 20 56.9 +0.4**
comp=Z,8.6nm,0.8s
DOMB Dombas 45.09 323 *e*P **P** **16 19 15.7 0.0**
MOTA Moosalm 45.12 303 *i*P **P** **16 19 16.2 -0.1**
comp=Z,17nm,0.8s,SNR=10.0
MOTA *e*P **PcP** **16 20 57.5 +0.9**
comp=Z,18nm,1.0s
GTTG Gottingen 45.16 309 *e*P **P** **16 19 17.2 +1.0**
comp=Z,89nm,1.1s,baz=82,slow=7.9
UBBA Unterbreizbach 45.24 308 *e*P **P** **16 19 17.7 +1.0**
comp=Z,52nm,1.6s,baz=82,slow=7.9
RETA Reutte 45.32 303 *i*P **P** **16 19 18.2 +0.5**
comp=Z,17nm,1.3s,SNR=5.6
VAE Valguarnera 45.35 288 LR LR 16 43 10.4
comp=Z,344nm,20.6s,baz=81,slow=42
RETH Rethem/Aller, 45.37 310 *e*P **P** **16 19 18.8 +1.0**
comp=Z,24nm,1.1s,baz=82,slow=7.9
HOMB Homborsund 45.39 318 *i*P **P** **16 19 18.1 +0.2**
HOMB Homborsund 45.39 318 *e*P **P** **16 19 17.9 0.0**
FETA Feichten 45.44 302 *i*P **P** **16 19 18.6 -0.1**
comp=Z,9.5nm,1.0s,SNR=9.8
FETA *e*P **PcP** **16 20 58.3 +0.5**
comp=Z,18nm,1.0s
SKAR Skarslia 45.44 322 *e*P **P** **16 19 19.4 +1.0**
RAFF Raffo Rosso 45.47 288 P P **16 19 18.9 -0.1**
BKNI Bangkinang 45.67 138 P **P** **16 19 20.1 -0.6**
comp=Z,160nm,0.9s
BKNI Bangkinang 45.67 138 P **P** **16 19 23.4 +2.7**
UBR Ueberruh 45.72 303 *e*P **P** **16 19 21.6 +0.7**
comp=Z,88nm,1.4s,baz=82,slow=7.9
DAVA Damuels 45.95 303 *i*P **P** **16 19 23.1 +0.3**
comp=Z,38nm,0.8s,SNR=19
PPI Padang Panjang 46.00 140 P **P** **16 19 23.1 -0.2**
comp=Z,28nm,0.8s
DAVOX Davos/Dischmat 46.06 302 LR LR 16 40 26.6
comp=Z,2µm,21.2s,baz=68,slow=38
GRNR Gornyy 46.06 52⇑ *i*P **P** **16 19 24.2 +0.8**
GRNR *e*S **S** **16 26 12.8 +4.2**
GRNR pmax pmax
comp=Z,3.0nm,0.7s
GRNR smax smax
comp=E,1.0nm,0.6s
GRNR MLR MLR
comp=E,2µm,12.0s
GRNR MLR MLR
comp=N,2µm,13.0s
GRNR MLR MLR
comp=Z,3µm,13.0s
AKN Aaknes 46.07 324 *e*P **P** **16 19 23.5 +0.1**
SNART Snartemo 46.07 318 *e*P **P** **16 19 23.4 0.0**
SISI Saibi 46.09 142 P **P** **16 19 25.7 +1.7**
comp=Z,893nmcomp=Z,66nm,1.6s
STU Stuttgart 46.10 305 IAMs_20 IAMs_20 16 39 47.2
comp=Z,2µm,22.0s
STU Stuttgart 46.10 305 *e*P **P** **16 19 24.8 +1.0**
baz=82,slow=7.9
HSPB Hornsund (broa 46.10 345 *e*P **P** **16 19 24.3 +0.9**
TNS Taunus Mts 46.31 307 *e*P **P** **16 19 26.3 +0.8**
comp=Z,29nm,1.4s,baz=82,slow=7.9
IBBN Ibbenburen 46.40 310 *e*P **P** **16 19 26.8 +0.8**
comp=Z,65nm,1.2s,baz=82,slow=7.9
SPB2 Spitsbergen Ar 46.41 346 P **P** **16 19 26.2 +0.4**
SPB2 IAmb IAmb 16 19 52.5
comp=Z,69nm,1.2s
SPA0 Spitsbergen Ar 46.42 346 *e*P **P** **16 19 25.9 0.0**
SPITS Spitsbergen Ar 46.42 346 LR LR 16 42 02.7
comp=Z,2µm,18.8s,baz=183,slow=40
HYA Hoyanger 46.47 322 *e*P **P** **16 19 29.9 +3.5**
TUE Stuetta 46.49 302 P **P** **16 19 26.9 -0.2**
TUE IAMs_20 IAMs_20 16 40 20.5
comp=Z,3µm,21.0s
BFO Black Forest 46.76 304 P **P** **16 19 28.2 -0.7**
BFO pmax pmax
comp=Z,25nm,1.2s
BFO MLR MLR
comp=Z,2µm,22.0s
BFO Black Forest 46.76 304 P **P** **16 19 28.2 -0.7**
BFO IAMs_20 IAMs_20 16 40 17.5
comp=Z,2µm,22.0s
BFO Black Forest 46.76 304 *e*P **P** **16 19 29.4 +0.4**
comp=Z,26nm,1.2s,baz=82,slow=7.9
BUG Bochum--Univer 46.84 309 *e*P **P** **16 19 30.3 +0.8**
comp=Z,136nm,1.9s,baz=82,slow=7.9
BER Bergen 46.92 321 *e*P **P** **16 19 34.3 +4.3**
FOO Floro 47.00 323 *e*P **P** **16 19 31.0 +0.4**
JNU Nakatsue 47.05 77 P **P** **16 19 31.6 +0.2**
JNU Nakatsue 47.05 77 P **P** **16 19 34.5 +3.0**
TPRI Tanjung Pinang 47.10 134 P **P** **16 19 32.2 +0.3**
comp=Z,88nm,1.4s
KBS Kingsbay 47.53 347 P **P** **16 19 33.9 -0.6**
KBS pmax pmax
comp=Z,38nm,1.0s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 47.53 347 P **P** **16 19 33.9 -0.6**
KBS IAmb IAmb 16 19 44.2
comp=Z,38nm,1.0s
KBS Kingsbay 47.53 347 IAMs_20 IAMs_20 16 39 03.4
comp=Z,2µm,20.0s
KBS Kingsbay 47.53 347 *e*P **P** **16 19 34.9 +0.4**
ECH Echery 47.54 304 IAMs_20 IAMs_20 16 40 41.3
comp=Z,2µm,21.0s
BTNL Ternell 47.70 308 *d*P **P** **16 19 37.0 +0.8**
JOW Kunigami 47.72 86 LR LR 16 43 14.9
comp=Z,2µm,18.7s,baz=296,slow=41
MEM Membach 47.77 308 *d*P **P** **16 19 37.4 +0.6**
PPSI Pulau Pagai 47.79 142 P **P** **16 19 37.7 +0.5**
comp=Z,3µmcomp=Z,186nm,1.7s
WLF Walferdange 47.88 307 IAMs_20 IAMs_20 16 39 39.0
comp=Z,2µm,21.0s
WLF Walferdange 47.88 307 *e*P **P** **16 19 38.8 +1.2**
comp=Z,60nm,1.2s,baz=82,slow=7.9
WLF Walferdange 47.88 307 *d*P **P** **16 19 38.0 +0.4**
SENIN Lac Senin/Sane 47.89 302 P **P** **16 19 38.6 +0.6**
SENIN IAmb IAmb 16 19 42.9
comp=Z,37nm,1.1s
KRJI Kerinci 47.94 139 P **P** **16 19 40.3 +1.7**
comp=Z,3µmcomp=Z,359nm,0.9s
JHS Saijyo 48.05 74 P **P** **16 19 38.9 -0.3**
JHS IAmb IAmb 16 19 42.4
comp=Z,50nm,1.2s
BCLA Clavier 48.25 308 *d*P **P** **16 19 41.6 +1.1**
BCLA *d*PcP **PcP** **16 21 09.5 +2.1**
DSRI Dabo 48.27 135 P **P** **16 19 42.7 +1.7**
comp=Z,762nmcomp=Z,36nm,1.4s
RCHB Rochefort 48.35 307 *d*P **P** **16 19 42.2 +0.9**
BGES Gesves 48.40 308 *d*P **P** **16 19 41.0 -0.6**
BGES *d*PcP **PcP** **16 21 06.5 -1.4**
BMRD Maredsous 48.61 308 *d*P **P** **16 19 44.4 +1.1**
BNI Bardonecchia 48.65 300 IAMs_20 IAMs_20 16 41 46.8
comp=Z,2µm,21.0s
DOU Dourbes 48.77 307 *d*P **P** **16 19 44.6 +0.2**
comp=Z,15nm,1.2s
DOU *d*PcP **PcP** **16 21 12.3 +3.0**
TGY Tagaytay City 48.86 106 LR LR 16 41 37.1
comp=Z,1µm,21.9s,baz=310,slow=38
SNF Seneffe 48.87 308 *d*P **P** **16 19 45.5 +0.3**
MASI Maura Aman, Be 49.24 139 P **P** **16 19 47.5 -1.0**
comp=Z,4µmcomp=Z,374nm,1.0s
KEST Kesra 49.78 288 P **P** **16 19 53.8 +1.2**
comp=Z,12nm,0.8s,baz=352,slow=2.6,SNR=12
KEST LR LR 16 46 40.8
comp=Z,681nm,18.4s,baz=14,slow=43
KEST Kesra 49.78 288 P **P** **16 19 53.7 +1.1**
KEST IAmb IAmb 16 19 58.7
comp=Z,61nm,1.4s
SSB Saint Sauveur 50.04 301 P **P** **16 19 55.0 +0.7**
SSB pmax pmax
comp=Z,34nm,1.1s
SSB Saint Sauveur 50.04 301 P **P** **16 19 55.0 +0.7**
SSB IAmb IAmb 16 19 59.8

comp=Z,34nm,1.1s
KSM Kuching 50.14 127 P **P** **16 19 56.1 +0.8**
LRW Lerwick 50.17 321 *e*P **P** **16 19 54.4 -0.6**
LRW IAmb IAmb 16 19 58.6
comp=Z,58nm,1.1s
ELMS Elmsett, Ipswi 50.52 311 *e*P **P** **16 19 57.7 -0.1**
PPBI Pangkai Pinang 50.53 134 P **P** **16 19 58.1 -0.2**
WACR West Acre 50.59 312 *e*P **P** **16 19 58.6 +0.3**
WACR IAmb IAmb 16 20 04.5
comp=Z,171nm,1.0s
SBUM Sibu 50.62 124 P **P** **16 19 59.8 +0.8**
KMBO Kilima Mbogo 50.69 228 P **P** **16 20 00.0 +0.2**
comp=Z,4.8nm,1.0s,baz=25,slow=7.8,SNR=13
KMBO LR LR 16 41 25.8
comp=Z,266nm,18.2s,baz=34,slow=36
KMBO Kilima Mbogo 50.69 228 P **P** **16 20 00.0 +0.2**
KKM Kota Kinabalu 50.72 118 P **P** **16 20 00.4 +0.6**
KKM IAmb IAmb 16 20 07.2
comp=Z,67nm,1.0s
KKM Kota Kinabalu 50.72 118 P **P** **16 20 01.1 +1.3**
CLF Chambon-Foret 50.77 305 IAms_20 IAms_20 16 42 41.6
comp=Z,2µm,20.0s
INU Inuyama 50.86 72 IAms_20 IAms_20 16 42 46.3
comp=Z,2µm,21.0s
INU Inuyama 50.86 72 P **P** **16 20 05.0 +4.4**
YSS Yuzh-Sakhalins 51.00 56 *e*P **P** **16 20 05.6 +4.1**
YSS *e* 16 21 25.5
YSS *e*S **S** **16 27 22.8 +4.4**
YSS pmax pmax
comp=Z,40nm,1.3s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,2µm,16.0s
YSS Yuzh-Sakhalins 51.00 56 IAms_20 IAms_20 16 44 12.3
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 51.00 56 P **P** **16 20 05.5 +4.1**
MAJO Matsushiro 51.29 70‖ *e*P **P** **16 20 03.8 -0.1**
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO Matsushiro 51.29 70 P **P** **16 20 03.6 -0.2**
MAJO Matsushiro 51.29 70 P **P** **16 20 06.5 +2.6**
MJAR Matsushiro Arr 51.29 70 P **P** **16 20 02.5 -1.4**
comp=Z,19nm,0.9s,baz=293,slow=11,SNR=21
MJAR LR LR 16 43 08.3
comp=Z,1µm,18.2s,baz=302,slow=38
JEW Eniwo 51.39 61 P **P** **16 20 03.8 -0.7**
EDMD Edmundbyers 51.60 315 *e*P **P** **16 20 06.0 +0.1**
EDMD IAmb IAmb 16 20 06.6
comp=Z,29nm,0.8s
HPK Haverah Park 51.62 314 *e*P **P** **16 20 05.6 -0.4**
HPK IAmb IAmb 16 20 07.2
comp=Z,40nm,0.8s
MCD Coleburn Disti 51.69 318 *e*P **P** **16 20 06.1 -0.4**
ESY Stoneypath 51.72 316 *e*P **P** **16 20 06.4 -0.3**
ASAJ Asahikawa 51.76 60 LR LR 16 43 08.9
comp=Z,1µm,18.2s,baz=289,slow=37
LWLI Liwa 51.77 139 P **P** **16 20 08.4 +0.7**
comp=Z,43µmcomp=Z,80nm,0.6s
LBWR Ladybower, Pea 51.81 313 *e*P **P** **16 20 07.1 -0.4**
LBWR IAmb IAmb 16 20 11.3
comp=Z,29nm,0.8s
JMIC Jan Mayen 51.81 336 LR LR 16 41 37.8
comp=Z,740nm,20.1s,baz=97,slow=36
KLSI 51.85 138 P **P** **16 20 05.6 -2.6**
comp=Z,22nm,1.0s
STKI Sintang 51.96 127 P **P** **16 20 09.9 +0.9**
comp=Z,20nm,0.6s
EBL Broad Law 51.98 316 *e*P **P** **16 20 08.4 -0.4**
EDI Edinburgh 52.03 316 *e*P **P** **16 20 09.0 0.0**
EKA Eskdalemuir Ar 52.15 315 LR LR 16 42 50.9
comp=Z,2µm,18.4s,baz=76,slow=37
ESK Eskdalemuir 52.18 315 P **P** **16 20 09.0 -1.2**
ESK PcP **PcP** **16 21 20.9 -0.8**
KESW Keswick, Cumbr 52.30 315 *e*P **P** **16 20 11.5 +0.3**
KESW IAmb IAmb 16 20 15.1
comp=Z,59nm,1.0s
KASI Kota Agung 52.43 138 P **P** **16 20 12.4 -0.1**
comp=Z,59nm,1.0s
MA2 Magadan 52.49 39 LR LR 16 43 22.7
comp=Z,920nm,18.4s,baz=278,slow=37
MA2 Magadan 52.49 39‖ *e*P **P** **16 20 12.6 +0.2**
MA2 pmax pmax
comp=Z,32nm,2.5s
MA2 Magadan 52.49 39 P **P** **16 20 13.4 +1.0**
STRD Stroud 52.49 311 *e*P **P** **16 20 12.4 -0.1**
STRD IAmb IAmb 16 20 17.1
comp=Z,70nm,1.2s
SEY Seymchan 52.56 35 LR LR 16 42 53.7
comp=Z,1µm,18.6s,baz=281,slow=36
LINV Loch Inver, As 52.58 319 *e*P **P** **16 20 12.7 -0.4**
LINV IAmb IAmb 16 20 17.0
comp=Z,65nm,1.3s
NOR Nord 52.65 349 *i* P **P** **16 20 13.4 +0.1**
NOR IAmb IAmb 16 20 17.2
comp=Z,29nm,1.5s
JMM Marumori 52.69 68 P **P** **16 20 14.2 0.0**
JMM IAmb IAmb 16 20 17.5
comp=Z,69nm,1.0s
PGBU Glenifferbraes 52.76 316 *e*P **P** **16 20 14.1 -0.4**
PGBU IAmb IAmb 16 20 17.4
comp=Z,172nm,1.8s
KAC Achnashellach 52.79 318 *e*P **P** **16 20 14.1 -0.6**
NEWG New Galloway 52.80 315 *e*P **P** **16 20 14.4 -0.4**
NEWG IAmb IAmb 16 20 19.2
comp=Z,32nm,1.0s
MONM Monmouth 52.86 311 *e*P **P** **16 20 14.7 -0.6**
MONM IAmb IAmb 16 20 19.4
comp=Z,58nm,1.1s
ERM Erimo 52.86 62 IAms_20 IAms_20 16 43 16.9
comp=Z,1µm,19.0s
MCH1 Michaelchurch 52.93 311 *e*P **P** **16 20 15.5 -0.3**
MCH1 IAmb IAmb 16 20 19.3
comp=Z,55nm,1.0s
KPL Plockton 53.01 318 *e*P **P** **16 20 15.1 -1.2**
KPL IAmb IAmb 16 20 19.9
comp=Z,31nm,1.0s
GAL1 Galloway 53.13 315 *e*P **P** **16 20 16.4 -0.9**
GAL1 IAmb IAmb 16 20 18.4
comp=Z,16nm,0.8s
LAWE Loch Awe, Argy 53.15 317 *e*P **P** **16 20 17.2 -0.1**
IOMK Kirk Michael 53.21 314 *e*P **P** **16 20 18.2 +0.4**
WIM Isle of Man 53.31 314 *e*P **P** **16 20 18.7 +0.2**
LEWI Lewis, Hebride 53.44 320 *e*P **P** **16 20 18.7 -0.8**
LEWI IAmb IAmb 16 20 24.1
comp=Z,48nm,1.3s
YRC Rhoscolyn 53.50 313 *e*P **P** **16 20 20.3 +0.4**
DAG Danmarks Havn 53.74 343 *i* P **P** **16 20 20.0 -1.4**
DAG IAmb IAmb 16 20 22.0
comp=Z,18nm,0.8s
JHJ Hachijo jima 2 53.87 73 LR LR 16 45 16.8
comp=Z,2µm,18.6s,baz=304,slow=38
RSBS Rosebush, Pemb 53.98 312 *e*P **P** **16 20 23.5 0.0**
RSBS IAmb IAmb 16 20 27.6
comp=Z,28nm,1.1s
CGJI Cibinong 53.98 138 P **P** **16 20 22.5 -1.4**
comp=Z,24nm,1.3s
PBKI Pangkalan Bun 54.24 129 P **P** **16 20 26.0 +0.2**
comp=Z,73nm,0.8s
MBAR Mbarara 54.33 235 LR LR 16 45 14.1
comp=Z,735nm,21.4s,baz=24,slow=38
DBG Daneborg 54.67 341 *e*P **P** **16 20 28.4 +0.2**
CCA1 Carnmenellis 54.82 310 *e*P **P** **16 20 29.4 -0.3**
LEM Lembang 55.20 136 LR LR 16 48 24.5
comp=Z,566nm,19.8s,baz=314,slow=41
KPJI Karang Pucung 56.34 135 P **P** **16 20 42.6 +1.7**
comp=Z,1µmcomp=Z,16nm,0.7s
CART Cartagena 56.67 294 P **P** **16 20 44.1 +0.9**
BILL Bilibino 56.80 27 *e*P **P** **16 20 43.7 +0.1**
BILL *e* 16 21 39.8
BILL *e* 16 22 49.7
BILL *e*S **S** **16 28 36.8 +0.6**
BILL *e*SS **SS** **16 32 27.1 +3.6**
BILL pmax pmax
comp=Z,15nm,1.0s
BILL Bilibino 56.80 27 P **P** **16 20 43.2 -0.3**
BILL IAms_20 IAms_20 16 45 46.2
comp=Z,1µm,18.0s
BBKI Banjar Baru 56.80 127 P **P** **16 20 44.0 -0.3**
comp=Z,7µmcomp=Z,39nm,0.9s
BBKI pP **pP** **16 20 47.5 -1.7**
comp=Z,7µmcomp=Z,39nm,0.9s
DAV Davao City (W) 56.83 109 LR LR 16 48 45.5
comp=Z,895nm,18.4s,baz=320,slow=40
DAV Davao City (W) 56.83 109 IAMs_20 IAMs_20 16 48 43.9
comp=Z,1µm,20.0s
MPSI Mapaga 57.34 119 P **P** **16 20 49.0 +0.9**
comp=Z,449nmcomp=Z,34nm,1.5s
TOLI2 Tolitoli 57.40 118 P **P** **16 20 49.2 +0.7**
UGM Wanagama 57.72 134 IAMs_20 IAMs_20 16 45 60.0
comp=Z,1µm,22.0s
ESBB Sonseca Array 57.91 298 P **P** **16 20 51.9 0.0**
ESDC Sonseca Array 57.91 298 P **P** **16 20 52.4 +0.4**
comp=Z,15nm,0.8s,baz=56,slow=7.0,SNR=92
ESDC LR LR 16 49 33.2
comp=Z,376nm,19.3s,baz=56,slow=40
ESDC Sonseca Array 57.91 298 P **P** **16 20 52.2 +0.3**
BORG Borgarnes 58.02 330 LR LR 16 45 25.5
comp=Z,712nm,19.9s,baz=77,slow=36
PETK Petropavlovsk- 58.10 45 LR LR 16 46 59.2
comp=Z,510nm,19.9s,baz=292,slow=37
PET Petropavlovsk 58.66 45 *e*P 16 21 06.4 +10
PET *e*S **S** **16 29 06.0 +5.0**
PET pmax pmax
comp=Z,12nm,0.9s
PET pmax pmax
comp=Z,100nm,10.9s
PET MLR MLR
comp=Z,1µm,15.0s
MRSI Marisa 58.67 117 P **P** **16 20 57.9 +0.5**
comp=Z,926nmcomp=Z,90nm,0.9s
TAF Taforalt 58.91 292 P **P** **16 21 01.1 +2.1**
PBRG Braganca 58.93 301 *e*P **P** **16 21 00.8 +1.8**
comp=Z,23nm,1.5s
JBK JBK 59.24 291 P **P** **16 21 06.0 +4.5**
FIGM Figuig 59.28 289 P P 16 21 07.0 +5.3
GTOI Gorontalo 59.31 116 P **P** **16 20 59.6 -2.3**
comp=Z,192nmcomp=Z,18nm,0.9s
MVO Moncorvo 59.40 300 *e*P **P** **16 21 03.5 +1.2**
comp=Z,47nm,1.8s
MVO Moncorvo 59.40 300 *e*LQ LQ 16 36 58.1
MVO *e*LR LR 16 45 28.4
comp=Z,557nm,20.0s
APSI Ampana 59.45 119 P **P** **16 21 04.2 +1.4**
comp=Z,607nmcomp=Z,67nm,1.3s
TTSI Tana Toraja 59.75 122 P P 16 21 14.7 +10
POLO Lamas de Olo 59.83 301 *e*P **P** **16 21 05.5 +0.2**
comp=Z,14nm,1.8s
PCAB Cabril 59.84 301 *e*P **P** **16 21 06.6 +1.3**
comp=Z,63nm,1.8s
PGAV Gavieira, Arco 59.90 302 *e*P **P** **16 21 06.2 +0.5**
comp=Z,68nm,2.0s
PGAV Gavieira, Arco 59.90 302 *e*LR LR 16 46 58.9
comp=Z,491nm,20.0s
MTE Manteigas 60.08 300 *e*P **P** **16 21 08.5 +1.5**
comp=Z,57nm,1.4s
MTE Manteigas 60.08 300 *e*LQ LQ 16 37 51.2
MTE *e*LR LR 16 47 16.0
comp=Z,715nm,18.0s
PVIS Viseu 60.18 300 *e*P **P** **16 21 08.7 +1.0**
comp=Z,51nm,2.2s
SOEG Soedalen 60.24 335 *i* P **P** **16 21 08.2 +0.7**
PCBR Castelo Branco 60.28 299 *e*P **P** **16 21 10.5 +2.2**
comp=Z,26nm,2.2s
PMRV Marv??o 60.40 299 *e*P **P** **16 21 10.5 +1.3**
comp=Z,36nm,1.4s
PMRV Marv??o 60.40 299 *e*LR LR 16 46 44.2
comp=Z,843nm,20.0s
SMIR Smir Dam 60.67 294 P **P** **16 21 12.0 +1.0**
PBAR Barrancos 60.72 297 *e*P **P** **16 21 12.0 +0.7**
comp=Z,57nm,1.5s
COI Coimbra 60.76 300 *e*P **P** **16 21 12.8 +1.3**
comp=Z,100nm,1.7s
OPO Ambohidratompo 61.03 208 LR LR 16 44 54.1
comp=Z,774nm,21.2s,baz=176,slow=33
PMTG Montargil 61.14 299 *e*P **P** **16 21 13.8 -0.4**
comp=Z,27nm,1.4s
KAPI Kappang 61.16 123 LR LR 16 50 46.8
comp=Z,487nm,21.6s,baz=302,slow=39
EVO Evora 61.24 298 *e*P **P** **16 21 16.0 +1.2**
comp=Z,32nm,1.7s
PSBE So Bento 61.34 299 *e*P **P** **16 21 16.7 +1.2**
comp=Z,88nm,2.0s
PBEJ Beja 61.37 297 *e*P **P** **16 21 16.3 +0.6**
comp=Z,32nm,1.8s
ABPO Ambohimpanom 61.43 207 IAMs_20 IAMs_20 16 44 37.8
comp=Z,1µm,21.0s
PVAQ Vaqueiros 61.55 297 *e*P **P** **16 21 17.8 +0.9**
comp=Z,58nm,1.6s
PVAQ Vaqueiros 61.55 297 *e*LR LR 16 48 03.0
comp=Z,441nm,20.0s
PVAQ Vaqueiros 61.55 297 P **P** **16 21 17.4 +0.5**
PVAQ IAmb IAmb 16 21 21.6
comp=Z,26nm,1.1s
PVAQ Vaqueiros 61.55 297 P **P** **16 21 17.7 +0.7**
PCVE Castro Verde 61.67 297 *e*P **P** **16 21 19.0 +1.2**
comp=Z,25nm,1.7s
EUNU Eureka 61.70 356 P **P** **16 21 17.4 0.0**
EUNU IAmb IAmb 16 21 30.0
comp=Z,22nm,1.0s
PBDV Barranco-do-Ve 61.77 297 *e*P **P** **16 21 19.5 +1.0**
comp=Z,96nm,1.3s
GOLM Goulmima 62.24 290 P P 16 21 28.0 +6.1
ICESG Greenland Ices 62.38 338 *i* P **P** **16 21 22.2 -0.2**
ICESG IAmb IAmb 16 21 26.0
comp=Z,55nm,1.2s
TZRR Tazzarine 63.15 289 P P 16 21 33.0 +5.0
TULEG Thule 63.26 351 *i* P **P** **16 21 27.2 -0.6**
TULEG Thule 63.26 351 P **P** **16 21 27.7 -0.1**
TULEG IAmb IAmb 16 21 31.5
comp=Z,77nm,1.5s
ZGR Zagora 63.52 289 P P 16 21 36.0 +5.6
WBSI Waikabubak, Su 64.42 127 P P 16 21 44.9 +8.7
A21K Barrow 65.64 16 IAMs_20 IAMs_20 16 52 35.3
comp=Z,833nm,19.0s
A21K Barrow 65.64 16 P **P** **16 21 42.9 -0.5**
baz=319
DY2G Dye2 65.97 337 *i* P **P** **16 21 45.1 -0.8**
DY2G IAmb IAmb 16 21 55.6
comp=Z,43nm,1.1s
RDOG Red Dog Mine 66.53 20 IAMs_20 IAMs_20 16 52 00.2
comp=Z,1µm,22.0s
RDOG Red Dog Mine 66.53 20 P **P** **16 21 47.4 -1.8**
baz=315
GAMB Gambell 66.70 26 IAMs_20 IAMs_20 16 52 32.5
comp=Z,1µm,18.0s
GAMB Gambell 66.70 26 P **P** **16 21 49.7 -0.6**
baz=309
TNA Tin City 66.79 23 P **P** **16 21 50.9 +0.1**
TNA IAmb IAmb 16 21 54.4
comp=Z,18nm,1.0s
TNA Tin City 66.79 23 P **P** **16 21 50.5 -0.3**
baz=312,SNR=12
TOA0 Torodi Ar. Sit 66.99 269 P **P** **16 21 52.4 -0.5**
TOA0 IAmb IAmb 16 22 02.4
comp=Z,67nm,1.4s
TORD Torodi Ar. Bea 66.99 269 P **P** **16 21 52.5 -0.4**
comp=Z,15nm,0.7s,baz=45,slow=5.4,SNR=61
TORD Torodi Ar. Bea 66.99 269 P **P** **16 21 52.8 -0.2**
TORD IAmb IAmb 16 22 02.4
comp=Z,61nm,1.4s
SHEM Shemya Is, Ala 67.08 40 LR LR 16 53 26.6
comp=Z,803nm,18.3s,baz=326,slow=38
LSZ Lusaka 67.32 227 LR LR 16 55 03.2
comp=Z,570nm,18.2s,baz=37,slow=39
RES Resolute Bay 67.38 356 LR LR 16 55 01.2
comp=Z,893nm,18.8s,baz=14,slow=39
RES Resolute Bay 67.38 356 P **P** **16 21 54.3 -0.2**
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 67.38 356 P **P** **16 21 54.3 -0.2**
BATI Baumata 67.59 124 LR LR 16 54 01.0
comp=Z,284nm,21.9s,baz=286,slow=38
BATI Baumata 67.59 124 P **P** **16 21 57.9 +1.3**
comp=Z,35nm,1.1s
GUMO Guam 67.88 90 LR LR 16 53 21.7
comp=Z,306nm,19.0s,baz=310,slow=38
ANM Nome 68.26 23 P **P** **16 22 00.4 +0.2**
ANM pmax pmax
comp=Z,22nm,0.9s
ANM Nome 68.26 23 P **P** **16 22 00.4 +0.2**
ANM IAmb IAmb 16 22 04.2
comp=Z,22nm,0.9s
ANM Nome 68.26 23 P **P** **16 21 59.4 -0.8**
baz=314,SNR=24
TOLK Toolik Lake Re 69.25 15 P **P** **16 22 06.1 -0.3**
TOLK IAMs_20 IAMs_20 16 53 22.8
comp=Z,858nm,19.0s
TOLK Toolik Lake Re 69.25 15 P **P** **16 22 04.6 -1.8**
baz=326
A36M Sachs Harbour 69.69 6 P **P** **16 22 08.7 -0.3**
A36M IAmb IAmb 16 22 13.3
comp=Z,45nm,0.9s
A36M IAMs_20 IAMs_20 16 54 14.8
comp=Z,1µm,22.0s
A36M Sachs Harbour 69.69 6 P **P** **16 22 07.8 -1.1**
baz=345
COLD Coldfoot 70.28 16 P **P** **16 22 12.4 -0.2**
COLD IAmb IAmb 16 22 14.2
comp=Z,27nm,0.7s
COLD Coldfoot 70.28 16 P **P** **16 22 11.7 -0.9**
baz=325
IMAR Indian Mountai 70.46 18 P **P** **16 22 12.7 -1.0**
GCSA Galena City Sc 70.61 20 P **P** **16 22 14.3 -0.3**
baz=321,SNR=7.7
H21K Melozitna Rive 70.95 18 P **P** **16 22 16.1 -0.7**
H21K IAmb IAmb 16 24 26.4
comp=Z,24nm,0.8s
H21K Melozitna Rive 70.95 18 P **P** **16 22 16.1 -0.7**
baz=324,SNR=15
BLWY Bulawayo 70.99 224 *i* P **P** **16 22 18.0 +0.2**
BLWY Bulawayo 70.99 224 *i* P **P** **16 22 18.0 +0.2**
BMAR Burnt Mountain 71.28 14 P **P** **16 22 19.1 +0.3**
MATP Matopo 71.28 224 LR LR 16 53 53.7
comp=Z,608nm,19.3s,baz=42,slow=36
MATP Matopo 71.28 224 *i* P **P** **16 22 18.5 -1.0**
MATP Matopo 71.28 224 *i* P **P** **16 22 18.5 -1.0**
I21K Tanana 71.54 18 IAMs_20 IAMs_20 16 56 00.6
comp=Z,794nm,20.0s
I21K Tanana 71.54 18 P **P** **16 22 19.9 -0.4**
baz=324,SNR=9.0
SPIA Saint Paul Isl 71.57 31 P **P** **16 22 19.6 -1.0**
baz=312
J20K Nowinta River 71.80 20 P **P** **16 22 21.7 -0.2**
J20K Nowinta River 71.80 20 P **P** **16 22 21.8 -0.2**
baz=323,SNR=22
FYU Fort Yukon 71.90 15 P **P** **16 22 22.8 +0.3**
FYU IAmb IAmb 16 22 26.5
comp=Z,35nm,1.0s
FYU IAMs_20 IAMs_20 16 53 19.8
comp=Z,1µm,20.0s
H24K Noodor Dome 71.96 16 P **P** **16 22 22.9 0.0**
H24K IAmb IAmb 16 24 15.4
comp=Z,26nm,0.6s
H24K Noodor Dome 71.96 16 P **P** **16 22 22.9 0.0**
baz=328,SNR=18
MLY Manley 71.97 18 P **P** **16 22 22.5 -0.5**
MLY IAmb IAmb 16 23 54.3
comp=Z,32nm,0.5s
MLY Manley 71.97 18 P **P** **16 22 22.6 -0.4**
baz=325,SNR=16
I23K Minto, Yukon-K 72.20 17 P **P** **16 22 24.5 +0.2**
I23K Minto, Yukon-K 72.20 17 P **P** **16 22 24.1 -0.1**
baz=326,SNR=14
TTA Tatalina 72.27 21 P **P** **16 22 24.3 -0.6**
TTA pmax pmax
comp=Z,52nm,0.6s
TTA Tatalina 72.27 21 P **P** **16 22 24.3 -0.6**
TTA Tatalina 72.27 21 P **P** **16 22 23.7 -1.1**
baz=322
INK Inuvik 72.32 10 LR LR 16 56 02.9
comp=Z,434nm,20.6s,baz=334,slow=37
INK Inuvik 72.32 10 P **P** **16 22 24.2 -0.7**
baz=339,SNR=20
C36M Paulatuk 72.36 6 P **P** **16 22 24.3 -0.8**
C36M IAmb IAmb 16 22 28.4
comp=Z,31nm,0.8s
C36M IAMs_20 IAMs_20 16 55 57.3
comp=Z,947nm,20.0s
C36M Paulatuk 72.36 6 P **P** **16 22 24.1 -1.1**
baz=346,SNR=34
K20K Telida 72.47 20 P **P** **16 22 25.9 -0.1**
K20K Telida 72.47 20 P **P** **16 22 25.8 -0.1**
baz=323,SNR=12
CHUM Lake Minchumin 72.51 19 P **P** **16 22 26.0 -0.2**
baz=324,SNR=14
MDM Murphy Dome 72.62 17 P **P** **16 22 26.4 -0.5**
POKR Poker Flat Res 72.67 17 P **P** **16 22 27.1 0.0**
POKR IAmb IAmb 16 23 53.4
comp=Z,48nm,0.9s
POKR Poker Flat Res 72.67 17 P **P** **16 22 26.8 -0.3**
baz=328,SNR=19
BPAW Bear Paw Mtn. 72.67 18 P **P** **16 22 26.2 -1.0**
baz=325,SNR=11
NEA2 Nenana 72.73 17 P **P** **16 22 26.9 -0.6**
NEA2 Nenana 72.73 17 P **P** **16 22 26.6 -0.9**
baz=327,SNR=26
PRP Porcupine Dome 72.74 16 P **P** **16 22 27.9 +0.2**
PRP IAmb IAmb 16 24 19.3
comp=Z,25nm,0.8s
PRP IAMs_20 IAMs_20 16 55 13.2
comp=Z,1µm,19.0s
PRP Porcupine Dome 72.74 16 P **P** **16 22 27.4 -0.4**
baz=329,SNR=10
TCOL CIGO, UAF Yank 72.78 17 P **P** **16 22 28.0 +0.3**
TCOL IAMs_20 IAMs_20 16 57 27.2
comp=Z,895nm,20.0s
TCOL CIGO, UAF Yank 72.78 17 P **P** **16 22 27.3 -0.4**
baz=328,SNR=11
COLA College 72.78 17 P **P** **16 22 27.9 +0.2**
COLA pmax pmax
comp=Z,127nm,1.0s
COLA MLR MLR
comp=Z,800nm,20.0s
COLA College 72.78 17 P **P** **16 22 27.9 +0.2**
COLA College 72.78 17 IAMs_20 IAMs_20 16 57 27.2
comp=Z,846nm,20.0s
COLA College 72.78 17 P **P** **16 22 27.0 -0.7**
baz=328
CAST Castle Rocks 72.95 19 P **P** **16 22 28.1 -0.7**
baz=325,SNR=20
CCB Clear Creek Bu 72.98 17 P **P** **16 22 28.8 -0.2**
CCB IAMs_20 IAMs_20 16 57 32.6
comp=Z,1µm,20.0s
WRH Wood River Hil 73.07 17 P **P** **16 22 28.4 -1.1**
IL31 73.09 17 P **P** **16 22 28.3 -1.2**
ILAR Eielson Array 73.09 17 P **P** **16 22 28.5 -1.1**
comp=Z,13nm,0.8s,baz=321,slow=4.7,SNR=125
ILAR LR LR 16 57 28.6
comp=Z,578nm,19.0s,baz=316,slow=38
L19K White Mountain 73.19 21 P **P** **16 22 29.9 -0.5**
L19K White Mountain 73.19 21 P **P** **16 22 29.8 -0.5**
baz=323
L20K Farewell, AK 73.23 21 P **P** **16 22 30.3 -0.2**
baz=323,SNR=12
PPLA Purkeypile 73.35 20 P **P** **16 22 31.1 -0.3**
PPLA Purkeypile 73.35 20 P **P** **16 22 30.7 -0.7**
baz=325
HDA Harding Lake 73.38 17 P **P** **16 22 29.9 -1.4**
baz=328
TRF Thorofare Moun 73.39 19 P **P** **16 22 30.5 -1.1**
baz=326,SNR=6.9
MCK McKinley 73.49 18 P **P** **16 22 31.2 -0.8**
baz=327,SNR=10.0
M19K Big River Lodg 73.55 21 P **P** **16 22 32.1 -0.2**
M19K Big River Lodg 73.55 21 P **P** **16 22 31.6 -0.7**
baz=323
J25K Salcha River, 73.56 16 P **P** **16 22 31.5 -1.0**
J25K Salcha River, 73.56 16 P **P** **16 22 31.2 -1.3**
baz=330,SNR=14
PSA00 Pilbara Seismi 73.99 135 P **P** **16 22 35.5 +0.1**
PSA00 Pilbara Seismi 73.99 135 P **P** **16 22 36.4 +1.0**
J26L Joseph Creek 74.04 15 P **P** **16 22 34.7 -0.7**
baz=316
FRB Frobisher Bay 74.09 343 LR LR 17 00 04.2
comp=Z,685nm,18.4s,baz=40,slow=40
CUT Chulitna 74.26 19 IAMs_20 IAMs_20 16 58 32.6
comp=Z,903nm,19.0s
CUT Chulitna 74.26 19 P **P** **16 22 35.7 -0.8**
baz=326
EGAK Eagle 74.29 14 IAMs_20 IAMs_20 16 54 30.8
comp=Z,1µm,20.0s
EGAK Eagle 74.29 14 P **P** **16 22 35.5 -1.1**
baz=333
I29M Ogilvie Camp, 74.29 13 P **P** **16 22 35.9 -0.8**
I29M IAmb IAmb 16 22 40.0
comp=Z,21nm,0.8s
I29M Ogilvie Camp, 74.29 13 P **P** **16 22 35.6 -1.1**
baz=335,SNR=21
N19K Bonanza Creek 74.39 22 P **P** **16 22 36.5 -0.9**
baz=323
SCRK Sand Creek 74.41 16 P **P** **16 22 37.0 -0.5**
SCRK IAmb IAmb 16 24 15.5
comp=Z,30nm,0.6s
SCRK Sand Creek 74.41 16 P **P** **16 22 36.6 -1.0**
baz=331,SNR=22

DHY	**Denali Highway**	**74.42**	**18**	P	**P**	**16 22 36.4**	**-1.3**	
	baz=328,SNR=19							
RIDG	**Independent Ri**	**74.43**	**16**	P	**P**	**16 22 36.4**	**-1.1**	
RIDG	**Independent Ri**	**74.43**	**16**	P	**P**	**16 22 36.4**	**-1.1**	
	baz=330,SNR=9.8							
DOT	**Dot Lake**	**74.68**	**16**	P	**P**	**16 22 38.1**	**-0.9**	
DOT				IAmb	IAmb	16 24 05.6		
	comp=Z,55nm,0.7s							
SPCR	**Spurr Chakacha**	**74.73**	**21**	P	**P**	**16 22 38.1**	**-1.3**	
	baz=325							
FITZ	**Fitzroy Crossi**	**74.75**	**128**	LR	LR	16 59 30.2		
	comp=Z,287nm,20.2s,baz=322,slow=39							
WAT6	**Susitna Watana**	**74.75**	**18**	P	**P**	**16 22 37.7**	**-1.9**	
	baz=328,SNR=16							
M22K	**Willow**	**74.84**	**20**	IAMs_20	IAMs_20	16 56 21.0		
	comp=Z,646nm,18.0s							
M22K	**Willow**	**74.84**	**20**	P	**P**	**16 22 39.0**	**-0.9**	
	baz=326							
O19K	**Port Alsworth**	**74.94**	**22**	P	**P**	**16 22 40.2**	**-0.2**	
	baz=323							
KNRA	**Kununurra**	**74.95**	**124**	P	**P**	**16 22 40.4**	**-0.8**	
KNRA				IAmb	IAmb	16 22 44.3		
	comp=Z,43nm,0.9s							
KNRA	**Kununurra**	**74.95**	**124**	P	**P**	**16 22 41.0**	**-0.1**	
PAX	**Paxson**	**74.96**	**17**	P	**P**	**16 22 40.1**	**-0.6**	
PAX				pmax	pmax			
	comp=Z,274nm,0.6s							
PAX	**Paxson**	**74.96**	**17**	P	**P**	**16 22 40.1**	**-0.6**	
PAX	**Paxson**	**74.96**	**17**	P	**P**	**16 22 39.4**	**-1.3**	
	baz=330,SNR=15							
J29M	**Klondike Camp**	**75.13**	**13**	P	**P**	**16 22 40.5**	**-1.1**	
	baz=335							
PMR	**Palmer**	**75.24**	**19**	P	**P**	**16 22 41.1**	**-1.0**	
	baz=327							
SML	**Sawmill**	**75.26**	**19**	P	**P**	**16 22 41.7**	**-0.7**	
	baz=328,SNR=19							
DAWY	**Dawson**	**75.27**	**14**	P	**P**	**16 22 41.7**	**-0.7**	
DAWY				IAmb	IAmb	16 25 10.7		
	comp=Z,22nm,0.8s							
DAWY	**Dawson**	**75.27**	**14**	P	**P**	**16 22 41.8**	**-0.7**	
	baz=334,SNR=13							
P18K	**Big Mountain,**	**75.31**	**23**	P	**P**	**16 22 42.5**	**-0.2**	
P18K				IAmb	IAmb	16 22 46.3		
	comp=Z,38nm,1.0s							
P18K	**Big Mountain,**	**75.31**	**23**	P	**P**	**16 22 41.9**	**-0.7**	
	baz=323							
L26K	**Log Cabin Wild**	**75.39**	**16**	P	**P**	**16 22 41.7**	**-1.4**	
	baz=332							
SCM	**Sheep Creek Mo**	**75.49**	**18**	P	**P**	**16 22 43.4**	**-0.4**	
SCM				pmax	pmax			
	comp=Z,185nm,0.7s							
SCM	**Sheep Creek Mo**	**75.49**	**18**	P	**P**	**16 22 43.4**	**-0.4**	
SCM	**Sheep Creek Mo**	**75.49**	**18**	P	**P**	**16 22 43.0**	**-0.8**	
	baz=328,SNR=9.8							
RC01	**Rabbit Creek A**	**75.50**	**20**	P	**P**	**16 22 43.0**	**-0.7**	
RC01	**Rabbit Creek A**	**75.50**	**20**	P	**P**	**16 22 42.3**	**-1.4**	
	baz=327							
HARP	**HAARP**	**75.53**	**17**	P	**P**	**16 22 43.6**	**-0.2**	
	baz=330,SNR=22							
M24K	**Tolsona, Glenn**	**75.54**	**18**	P	**P**	**16 22 43.5**	**-0.5**	
	baz=329,SNR=15							
KNK	**Knik Glacier**	**75.56**	**19**	P	**P**	**16 22 43.6**	**-0.5**	
	baz=328,SNR=9.3							
L27K	**Beaver Creek,**	**75.68**	**15**	P	**P**	**16 22 44.9**	**+0.1**	
L27K				IAmb	IAmb	16 24 34.5		
	comp=Z,24nm,0.9s							
L27K				IAMs_20	IAMs_20	16 55 51.8		
	comp=Z,1μm,20.0s							
L27K	**Beaver Creek,**	**75.68**	**15**	P	**P**	**16 22 44.7**	**-0.1**	
	baz=333,SNR=15							
BCAR	**Beaver Creek A**	**75.69**	**15**	P	**P**	**16 22 44.8**	**0.0**	
DBIC	**Dimbokro**	**76.01**	**268**	P	**P**	**16 22 47.5**	**+0.2**	
	comp=Z,11nm,0.9s,baz=74,slow=8.1,SNR=8.3							
DBIC				LR	LR	17 00 28.4		
	comp=Z,613nm,18.5s,baz=55,slow=39							
PWL	**Port Wells**	**76.07**	**19**	P	**P**	**16 22 46.2**	**-0.8**	
	baz=328							
KIC	**Kosan Boka**	**76.10**	**267**	*e*P	**P**	**16 22 47.6**	**-0.3**	
	comp=Z,8.4nm,0.5s							
KLU	**Klutina**	**76.13**	**18**	P	**P**	**16 22 47.6**	**+0.2**	
KLU	**Klutina**	**76.13**	**18**	P	**P**	**16 22 47.0**	**-0.4**	
	baz=330,SNR=7.1							
TIC	**Toumodi**	**76.15**	**268**	*e*P	**P**	**16 22 48.2**	**0.0**	
BRLK	**Bradley Lake**	**76.29**	**21**	P	**P**	**16 22 46.7**	**-1.6**	
BRLK				IAmb	IAmb	16 24 19.8		
	comp=Z,118nm,1.6s							
M27K	**Edge Creek, AK**	**76.30**	**16**	P	**P**	**16 22 48.4**	**0.0**	
M27K				IAmb	IAmb	16 24 30.8		
	comp=Z,21nm,0.8s							
M27K	**Edge Creek, AK**	**76.30**	**16**	P	**P**	**16 22 48.6**	**+0.1**	
	baz=333,SNR=8.7							
N25K	**Chitina, Valde**	**76.35**	**17**	P	**P**	**16 22 48.4**	**-0.3**	
	baz=331							
BRSE	**Bradley Lake S**	**76.35**	**21**	P	**P**	**16 22 47.3**	**-1.3**	
	baz=326							
SEW	**Seward**	**76.41**	**20**	P	**P**	**16 22 48.2**	**-0.7**	
SEW	**Seward**	**76.41**	**20**	P	**P**	**16 22 48.2**	**-0.7**	
	baz=327							
LIC	**Lamto**	**76.41**	**267**	*e*P	**P**	**16 22 49.2**	**-0.5**	
	comp=Z,72nm,1.3s							
BVCY	**Beaver Creek**	**76.46**	**15**	P	**P**	**16 22 49.2**	**0.0**	
	baz=334							
LBTB	**Lobatse**	**76.55**	**223**	LR	LR	16 57 31.6		
	comp=Z,604nm,18.3s,baz=28,slow=36							
LBTB	**Lobatse**	**76.55**	**223**	*i* P	**P**	**16 22 46.2**	**-4.0**	
LBTB	**Lobatse**	**76.55**	**223**	*i* P	**P**	**16 22 46.2**	**-4.0**	
GLB	**Gilahina Butte**	**76.68**	**17**	P	**P**	**16 22 50.6**	**+0.1**	
TSUM	**Tsumeb**	**76.76**	**233**	LR	LR	16 58 49.7		
	comp=Z,438nm,20.7s,baz=42,slow=37							
MCARA	**McCarthy VSAT**	**76.91**	**17**	P	**P**	**16 22 51.8**	**+0.1**	
MCARA				IAmb	IAmb	16 24 27.7		
	comp=Z,45nm,0.8s							
MCARA	**McCarthy VSAT**	**76.91**	**17**	P	**P**	**16 22 51.2**	**-0.6**	
	baz=332							
VRDI	**Verde Repeater**	**76.95**	**17**	P	**P**	**16 22 52.1**	**-0.1**	
VRDI				IAmb	IAmb	16 24 20.6		
	comp=Z,49nm,1.0s							
EYAK	**Cordova Ski Ar**	**76.99**	**18**	P	**P**	**16 22 51.2**	**-0.9**	
	baz=330							
M30M	**Minto, Yukon**	**77.11**	**13**	P	**P**	**16 22 52.6**	**-0.3**	
M30M	**Minto, Yukon**	**77.11**	**13**	P	**P**	**16 22 52.3**	**-0.6**	
	baz=337							
YUK3	**Moose Creek**	**77.12**	**15**	P	**P**	**16 22 52.2**	**-0.9**	
	baz=334							
KDAK	**Kodiak Island**	**77.43**	**23**	LR	LR	16 59 10.2		
	comp=Z,878nm,18.9s,baz=329,slow=37							
KDAK	**Kodiak Island**	**77.43**	**23**	P	**P**	**16 22 54.4**	**-0.2**	
KDAK				pmax	pmax			
	comp=Z,64nm,1.1s							
KDAK	**Kodiak Island**	**77.43**	**23**	P	**P**	**16 22 54.4**	**-0.2**	
KDAK				IAmb	IAmb	16 22 57.9		
	comp=Z,64nm,1.1s							
KDAK	**Kodiak Island**	**77.43**	**23**	P	**P**	**16 22 53.9**	**-0.8**	
	baz=325							
CTG	**Chitna Glacier**	**77.66**	**16**	P	**P**	**16 22 55.4**	**-0.7**	
	baz=333							
CTGM	**Chitina Glacie**	**77.66**	**16**	P	**P**	**16 22 56.3**	**+0.2**	
CTGM				IAmb	IAmb	16 24 49.4		
	comp=Z,28nm,1.1s							
OHAK	**Old Harbor**	**77.67**	**24**	P	**P**	**16 22 55.4**	**-0.6**	
	baz=325							
WAX	**Waxell Ridge**	**77.78**	**17**	P	**P**	**16 22 56.7**	**0.0**	
WAX				IAmb	IAmb	16 24 41.5		
	comp=Z,39nm,0.9s							
Q23K	**Middleton Isla**	**77.81**	**19**	P	**P**	**16 22 55.1**	**-1.6**	
	baz=330							
KAIM	**Kayak Island**	**77.86**	**18**	P	**P**	**16 22 55.6**	**-1.4**	
	baz=331							
YUK4	**Talbot Arm**	**77.89**	**15**	P	**P**	**16 22 57.3**	**-0.2**	
	baz=335,SNR=7.3							
M31M	**Drury Creek, Y**	**77.89**	**13**	P	**P**	**16 22 56.5**	**-0.7**	
M31M	**Drury Creek, Y**	**77.89**	**13**	P	**P**	**16 22 56.9**	**-0.3**	
	baz=339,SNR=9.8							
MMPY	**Sheldon Lake,**	**78.00**	**11**	P	**P**	**16 22 57.8**	**-0.1**	
	baz=341							
FARO	**Faro, Yukon**	**78.04**	**12**	P	**P**	**16 22 57.7**	**-0.4**	
	baz=339							
MORW	**Morawa**	**78.07**	**142**	P	**P**	**16 22 58.1**	**-0.5**	
MORW				IAmb	IAmb	16 23 01.5		
	comp=Z,71nm,1.4s							
MORW	**Morawa**	**78.07**	**142**	P	**P**	**16 22 58.0**	**-0.5**	
N31M	**Braeburn, Yuko**	**78.31**	**13**	P	**P**	**16 22 59.1**	**-0.5**	
N31M				IAmb	IAmb	16 23 02.9		
	comp=Z,41nm,1.2s							
N31M	**Braeburn, Yuko**	**78.31**	**13**	P	**P**	**16 22 59.1**	**-0.5**	
	baz=338							
YUK6	**Outpost Mounta**	**78.31**	**15**	P	**P**	**16 22 58.6**	**-1.2**	
	baz=336							
HYT	**Haines Junctio**	**78.59**	**15**	P	**P**	**16 23 01.3**	**0.0**	
HYT				IAmb	IAmb	16 23 14.5		
	comp=Z,26nm,0.9s							
HYT	**Haines Junctio**	**78.59**	**15**	P	**P**	**16 23 00.1**	**-1.2**	
	baz=336							
WHY	**Whitehorse**	**79.24**	**13**	P	**P**	**16 23 03.9**	**-0.9**	
WHY	**Whitehorse**	**79.24**	**13**	P	**P**	**16 23 04.0**	**-0.9**	
	baz=338							
PNL	**Peninsula**	**79.25**	**16**	P	**P**	**16 23 04.2**	**-0.6**	
	baz=335							
TGTN	**Hyland Airport**	**79.48**	**10**	P	**P**	**16 23 04.7**	**-1.3**	
	baz=344							
BOSA	**Boshof**	**79.62**	**221**	LR	LR	16 58 52.6		
	comp=Z,460nm,19.4s,baz=44,slow=36							
BOSA	**Boshof**	**79.62**	**221**	*i* P	**P**	**16 23 11.2**	**+3.9**	
BOSA	**Boshof**	**79.62**	**221**	*i* P	**P**	**16 23 11.2**	**+3.9**	
YKA	**Yellowknife Ar**	**79.78**	**3**	P	**P**	**16 23 06.9**	**-0.6**	
	comp=Z,17nm,0.8s,baz=348,slow=5.3,SNR=196							
YKA				LR	LR	17 02 18.6		
	comp=Z,564nm,19.6s,baz=328,slow=39							
P33M	**Teslin, Yukon**	**80.03**	**13**	P	**P**	**16 23 08.5**	**-0.5**	
P33M	**Teslin, Yukon**	**80.03**	**13**	P	**P**	**16 23 07.2**	**-1.9**	
	baz=340							
SKAG	**Skagway**	**80.27**	**14**	P	**P**	**16 23 10.0**	**-0.2**	
	baz=338							
SCHQ	**Schefferville**	**81.28**	**338**	P	**P**	**16 23 15.1**	**-0.7**	
	comp=Z,11nm,0.8s,baz=43,slow=5.8,SNR=23							
SCHQ				LR	LR	16 58 39.0		
	comp=Z,528nm,20.4s,baz=50,slow=35							
SCHQ	**Schefferville**	**81.28**	**338**	P	**P**	**16 23 15.4**	**-0.4**	
WRKA	**Warakurna**	**81.58**	**131**	P	**P**	**16 23 16.9**	**-0.8**	
WB0	**Warramunga Arr**	**81.61**	**123**	P	**P**	**16 23 16.4**	**-1.5**	
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**	**16 23 16.8**	**-1.6**	
	comp=Z,14nm,0.9s,baz=323,slow=4.9,SNR=70							
WRA				PKKPbc	**PKKPbc**	**16 41 50.4**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=128,slow=2.4,SNR=5.4							
WRA				LR	LR	17 04 26.7		
	comp=Z,144nm,21.2s,baz=320,slow=39							
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**	**16 23 17.1**	**-1.3**	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WRA	**Warramunga Arr**	**81.69**	**123**	P	**P**	**16 23 17.1**	**-1.3**	
WRAB	**Tennant Creek**	**81.69**	**123**	P	**P**	**16 23 17.0**	**-1.4**	
WB2	**Warramunga Arr**	**81.70**	**123**	P	**P**	**16 23 17.0**	**-1.4**	
WB2				IAmb	IAmb	16 23 30.0		
	comp=Z,22nm,0.8s							
WR0	**Warramunga Arr**	**81.84**	**123**	P	**P**	**16 23 17.5**	**-1.6**	
DLBC	**Dease Lake**	**82.18**	**12**	LR	LR	17 03 40.5		
	comp=Z,435nm,20.7s,baz=327,slow=38							
DRLN	**Deer Lake**	**82.61**	**330**	P	**P**	**16 23 22.6**	**-0.3**	
DRLN				IAmb	IAmb	16 23 31.5		
	comp=Z,26nm,1.2s							
FCC	**Fort Churchill**	**83.05**	**353**	P	**P**	**16 23 24.9**	**0.0**	
FCC				pmax	pmax			
	comp=Z,39nm,1.1s							
FCC	**Fort Churchill**	**83.05**	**353**	P	**P**	**16 23 24.9**	**0.0**	
FCC				IAmb	IAmb	16 23 29.1		
	comp=Z,39nm,1.1s							
WRAK	**Wrangell Islan**	**83.69**	**14**	P	**P**	**16 23 28.1**	**-0.1**	
	baz=341							
AS31	**Alice Springs**	**84.05**	**126**	P	**P**	**16 23 29.4**	**-1.2**	
ASAR	**Alice Springs**	**84.05**	**126**	P	**P**	**16 23 28.9**	**-1.6**	
	comp=Z,6.7nm,0.8s,baz=323,slow=5.0,SNR=51							
ASAR				PKKPbc	**PKKPbc**	**16 41 45.5**	**+0.8**	
	comp=Z,0.1nm,0.5s,baz=144,slow=4.1,SNR=5.2							
ASAR				LR	LR	17 06 00.1		
	comp=Z,111nm,18.9s,baz=319,slow=39							
ASAR	**Alice Springs**	**84.05**	**126**	P	**P**	**16 23 29.0**	**-1.6**	
ASAR	**Alice Springs**	**84.05**	**126**	P	**P**	**16 23 29.0**	**-1.6**	
SUR	**Sutherland**	**84.93**	**222**	LR	LR	17 05 12.5		
	comp=Z,305nm,18.1s,baz=31,slow=38							
QIS	**Mount Isa**	**85.67**	**120**	P	**P**	**16 23 37.3**	**-1.5**	
FORT	**Forrest**	**85.75**	**135**	P	**P**	**16 23 38.5**	**-0.4**	
FORT				IAmb	IAmb	16 23 44.2		
	comp=Z,60nm,1.2s							
FORT	**Forrest**	**85.75**	**135**	P	**P**	**16 23 39.1**	**+0.2**	
FFC	**Flin Flon**	**87.62**	**357**	P	**P**	**16 23 48.0**	**+0.1**	
FFC				pmax	pmax			
	comp=Z,33nm,1.2s							
FFC	**Flin Flon**	**87.62**	**357**	P	**P**	**16 23 48.0**	**+0.1**	
FFC				IAmb	IAmb	16 23 51.8		
	comp=Z,33nm,1.1s							
OOD	**Oodnadatta**	**88.11**	**128**	P	**P**	**16 23 49.1**	**-1.4**	
BBB	**Bella Bella**	**88.49**	**13**	LR	LR	17 10 31.7		
	comp=Z,305nm,18.1s,baz=332,slow=40							
MULG	**Mulgathing**	**88.88**	**131**	P	**P**	**16 23 53.8**	**-0.2**	
EDM	**Edmonton**	**89.10**	**4**	P	**P**	**16 23 55.0**	**0.0**	
EDM				pmax	pmax			
	comp=Z,20nm,0.9s							
EDM	**Edmonton**	**89.10**	**4**	P	**P**	**16 23 55.0**	**0.0**	
EDM				IAmb	IAmb	16 23 58.4		
	comp=Z,20nm,0.9s							
CTA	**Charters Tower**	**90.01**	**116**	LR	LR	17 07 48.0		
	comp=Z,318nm,21.8s,baz=304,slow=38							
ULM	**Lac du Bonnet**	**91.63**	**353**	P	**P**	**16 24 06.1**	**-0.7**	
	comp=Z,7.8nm,1.0s,baz=22,slow=5.9,SNR=6.0							
ULM				LR	LR	17 07 20.6		
	comp=Z,629nm,21.4s,baz=13,slow=37							
BBOO	**Buckleboo**	**91.87**	**131**	P	**P**	**16 24 06.0**	**-2.0**	
LONY	**Lake Ozonia**	**92.65**	**337**	IAMs_20	IAMs_20	17 04 59.3		
	comp=Z,502nm,19.0s							
LONY	**Lake Ozonia**	**92.65**	**337**	P	**P**	**16 24 10.5**	**-1.1**	
	baz=25							
HNH	**Hanover**	**92.74**	**335**	IAMs_20	IAMs_20	17 02 25.7		
	comp=Z,646nm,22.0s							
EYMN	**Ely**	**93.35**	**349**	IAMs_20	IAMs_20	17 11 30.8		
	comp=Z,651nm,22.0s							
NEW	**Newport**	**93.78**	**6**	LR	LR	17 11 03.1		
	comp=Z,821nm,19.2s,baz=345,slow=38							
NEW	**Newport**	**93.78**	**6**	P	**P**	**16 24 16.3**	**-0.5**	
	baz=352							
D03D	**Eldon**	**93.80**	**11**	P	**P**	**16 24 16.1**	**-0.7**	
	baz=348							
SADO	**Sadowa**	**93.83**	**340**	LR	LR	17 10 12.7		
	comp=Z,552nm,18.6s,baz=3.5,slow=38							
TRY	**Troy**	**94.06**	**336**	IAMs_20	IAMs_20	17 06 44.7		
	comp=Z,873nm,20.0s							
EGMT	**Eagleton**	**94.42**	**2**	P	**P**	**16 24 18.1**	**-1.7**	
	baz=358							
STKA	**Stephens Creek**	**94.63**	**127**	P	**P**	**16 24 22.3**	**+1.7**	
	comp=Z,1.8nm,0.6s,baz=334,slow=4.8,SNR=6.5							
STKA				LR	LR	17 14 43.5		
	comp=Z,296nm,18.4s,baz=304,slow=40							
STKA	**Stephens Creek**	**94.63**	**127**	P	**P**	**16 24 19.7**	**-1.0**	
STKA				pmax	pmax			
	comp=Z,10.0nm,2.0s							
STKA	**Stephens Creek**	**94.63**	**127**	P	**P**	**16 24 19.7**	**-1.0**	
COWI	**Conover**	**94.77**	**347**	IAMs_20	IAMs_20	17 10 59.3		
	comp=Z,605nm,20.0s							
WSPT	**Westport, CT**	**95.35**	**335**	IAMs_20	IAMs_20	17 09 55.8		
	comp=Z,621nm,19.0s							
MSO	**Missoula**	**95.44**	**4**	P	**P**	**16 24 23.4**	**-1.1**	
	baz=355							
LAO	**LASA Array**	**95.78**	**359**	P	**P**	**16 24 25.5**	**-0.5**	
	baz=1.1							
G05D	**Wamic, OR**	**96.29**	**10**	P	**P**	**16 24 28.1**	**-0.2**	
	baz=349							
ERPA	**Erie**	**96.52**	**340**	IAMs_20	IAMs_20	17 10 42.5		
	comp=Z,538nm,19.0s							
BOZ	**Bozeman (W)**	**96.79**	**3**	P	**P**	**16 24 29.9**	**-0.9**	
	baz=357							
DLMT	**Dillon**	**96.98**	**4**	IAMs_20	IAMs_20	17 10 01.3		
	comp=Z,778nm,20.0s							
PLID	**Pearl Lake**	**97.03**	**6**	IAMs_20	IAMs_20	17 08 38.6		
	comp=Z,540nm,19.0s							
SSPA	**Standing Stone**	**97.28**	**338**	IAMs_20	IAMs_20	17 11 17.9		
	comp=Z,581nm,18.0s							
M53A	**WI Miller and**	**97.33**	**340**	IAMs_20	IAMs_20	17 12 41.2		
	comp=Z,786nm,20.0s							
JFWS	**Jewell Farm**	**98.06**	**347**	IAMs_20	IAMs_20	17 11 58.2		
	comp=Z,686nm,20.0s							
JFWS	**Jewell Farm**	**98.06**	**347**	P	**P**	**16 24 35.4**	**-0.9**	
	baz=14							
ECSD	**EROS Data Cent**	**98.15**	**352**	IAMs_20	IAMs_20	17 13 17.7		
	comp=Z,725nm,19.0s							
RSSD	**Black Hills**	**98.30**	**358**	IAMs_20	IAMs_20	17 16 31.7		
	comp=Z,714nm,20.0s							
RSSD	**Black Hills**	**98.30**	**358**	P	**P**	**16 24 36.9**	**-0.7**	
	baz=2.8							
L44A	**Lake County Fo**	**98.33**	**345**	IAMs_20	IAMs_20	17 12 04.5		
	comp=Z,688nm,20.0s							
MOOW	**Moose Ponds**	**98.67**	**2**	IAMs_20	IAMs_20	17 12 30.5		
	comp=Z,672nm,20.0s							
ACSO	**Alum Creek Sta**	**99.07**	**341**	IAMs_20	IAMs_20	17 12 53.1		
	comp=Z,824nm,21.0s							
CBN	**Corbin Frederi**	**99.36**	**336**	IAMs_20	IAMs_20	17 11 21.7		
	comp=Z,738nm,18.0s							
YBH	**Yreka Blue Hor**	**99.53**	**12**	LR	LR	17 13 08.6		
	comp=Z,265nm,19.6s,baz=342,slow=38							
BW06	**Boulder Array**	**99.69**	**2**	IAMs_20	IAMs_20	17 12 10.7		
	comp=Z,825nm,20.0s							
PDAR	**Pinedale Array**	**99.69**	**2**	P	**Pdif**	**16 24 46.0**	**+2.1**	
	comp=Z,0.3nm,0.6s,baz=211,slow=1.7,SNR=3.7							
PDAR				LR	LR	17 14 10.4		
	comp=Z,490nm,19.0s,baz=2.0,slow=38							
HWUT	**Hardware Ranch**	**100.78**	**3**	IAMs_20	IAMs_20	17 12 48.7		
	comp=Z,670nm,19.0s							
CBKS	**Cedar Bluff**	**103.33**	**354**	IAMs_20	IAMs_20	17 21 09.8		
	comp=Z,589nm,19.0s							
NVAR	**Mina Array Bea**	**103.38**	**9**	Pdiff	**Pdif**	**16 25 01.5**	**+1.1**	
	comp=Z,0.4nm,0.7s,baz=330,slow=3.4,SNR=2.5							
WVT	**Waverly**	**104.13**	**344**	IAMs_20	IAMs_20	17 17 58.0		
	comp=Z,638nm,18.0s							
U40A	**Yellville**	**104.89**	**348**	IAMs_20	IAMs_20	17 18 21.0		
	comp=Z,670nm,18.0s							
TUL1	**Leonard**	**105.77**	**350**	IAMs_20	IAMs_20	17 16 28.3		
	comp=Z,677nm,20.0s							
DZM	**Mont Dzumac**	**106.16**	**106**	*e*LR	LR	17 00 16.9		
	comp=Z,474nm,32.4s							
X43A	**Marvell**	**106.32**	**346**	P	**PKiKP**	**16 29 25.3**	**+0.8**	
	baz=14							
WUAZ	**Wupatki**	**106.86**	**3**	IAMs_20	IAMs_20	17 17 27.6		
	comp=Z,574nm,20.0s							
LRAL	**Lakeview Retre**	**106.90**	**342**	IAMs_20	IAMs_20	17 14 45.2		
	comp=Z,595nm,21.0s							
WMOK	**Wichita Mounta**	**107.28**	**353**	IAMs_20	IAMs_20	17 15 52.4		
	comp=Z,635nm,20.0s							
SYO	**Syowa Base**	**109.36**	**192**	*e*Pdiff	**Pdif**	**16 25 24.6**	**-1.0**	
SYO	**Syowa Base**	**109.36**	**192**	*e*PPdiff	pPdif	16 25 29.4	-1.4	
AQDB	**Aquidauana**	**132.22**	**276**	*e*P	**PKPdf**	**16 30 14.3**	**+0.2**	
OTAV	**Otavalo**	**133.58**	**318**	*e*P	**PKPdf**	**16 30 16.6**	**-0.9**	
CPUP	**Villa Florida**	**136.48**	**270**	PKP	**PKPdf**	**16 30 20.7**	**-1.2**	
	comp=Z,2.5nm,0.7s,baz=344,slow=5.5,SNR=4.2							
PPT2	**Papeete2**	**138.01**	**73**	*e*LR	LR	17 15 01.0		
	comp=Z,503nm,22.8s							
TAOE	**Nuku Hiva Isla**	**138.71**	**54**	*e*LR	LR	17 15 23.8		
	comp=Z,395nm,25.8s							
LPAZ	**La Paz**	**139.32**	**291**	PKP	**PKPdf**	**16 30 28.4**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=12,slow=9.0,SNR=4.1							
LPAZ	**La Paz**	**139.32**	**291**	*e*P	**PKPdf**	**16 30 27.1**	**-1.1**	
LVC	**Limon Verde**	**143.68**	**284**	*e*P	**PKPdf**	**16 30 34.7**	**-0.9**	
LCO	**Las Campanas**	**148.26**	**275**	PKP2	**PKiKP**	**16 30 47.2**	**-0.9**	
LCO	**Las Campanas**	**148.26**	**275**	PKPbc	**PKiKP**	**16 30 47.2**	**-0.9**	
BO02	**Sierra Bellavi**	**150.43**	**265**	PKPbc	**PKPbc**	**16 30 51.5**	**+0.1**	
PLCA	**Paso Flores**	**151.45**	**253**	PKPbc	**PKPbc**	**16 30 53.8**	**+0.1**	
	comp=Z,12nm,1.1s,baz=9.6,slow=6.7,SNR=11							
PLCA	**Paso Flores**	**151.45**	**253**	*e*P	**PKPdf**	**16 30 47.5**	**0.0**	

TAP 18 16:11:39.4,22°.97N×120°.96E,h11km±1km,ML1.5,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.17**	**111**	P	Pb	16 11 44.1	-0.4
	baz=111						
LONT				S	Sg	16 11 46.7	+1.0
	baz=111						
TWG	**Pinlang**	**0.18**	**145**	P	Pb	16 11 44.4	-0.3
	baz=143						
TWG				S	Sg	16 11 47.0	+1.0
	baz=143						
TWGBT	**Beinan**	**0.19**	**143**	P	Pb	16 11 44.4	-0.5
	baz=143						
TWGBT				*e*S	Sg	16 11 47.0	+0.8
	baz=143						
ELDTW	**Lidau**	**0.23**	**14**	*i* P	Pb	16 11 45.0	-0.6
	baz=15						
ELDTW				S	Sg	16 11 48.0	+0.6
	baz=15						
STYH	**Taoyuan**	**0.26**	**320**	*e*P	Pb	16 11 46.2	+0.1
	baz=322						
STYT	**Tauyuan**	**0.27**	**316**	P	Pb	16 11 46.2	-0.1
	baz=317						
STYT				S	Sb	16 11 49.9	-0.9
	baz=317						
ECS	**Chishang**	**0.27**	**62**	*i* P	Pb	16 11 46.2	-0.1
	baz

ICHU	**Yijhu**	**0.40**	**351**	P	Pb	16 11 48.3	+0.4
	baz=350							
ICHU				S	Sn	16 11 55.5	-1.2
	baz=350							
CHN8	**Yiju**	**0.40**	**341**	P	Pb	16 11 48.3	+0.4
	baz=342							
CHN8				S	Sn	16 11 55.4	-1.2
	baz=342							
TPUB	**Ta-pu**	**0.42**	**38**	P	Pb	16 11 48.3	+0.1
	baz=37							
TPUB				eS	Sb	16 11 54.7	+0.5
	baz=37							
MASBT	**Mashibuluo**	**0.44**	**143**	P	Pb	16 11 49.2	+0.6
	baz=143							
STYH	**Taoyuan**	**0.44**	**63**	eP	Pb	16 11 49.4	+0.8
	baz=62							
STYH				eS	Sn	16 11 56.8	-1.0
	baz=62							
STYH	**Taoyuan**	**0.44**	**63**	eS	Pb	16 11 49.9	+1.3
	baz=322							
CHN4	**Tsaushan**	**0.44**	**30**	eP	Pb	16 11 48.8	+0.1
	baz=30							
CHY	**Chiayi**	**0.53**	**7**	eS	Sb	16 11 58.6	+1.2
	baz=8.0							
SCZT	**Fangliau**	**0.64**	**157**	eP	Pn	16 11 53.2	0.0
	baz=156							
WSF	**Szhu**	**0.68**	**350**	P	Pb	16 11 53.0	+0.4
	baz=350							
WSF				eS	Sn	16 12 03.4	-0.2
	baz=350							
ALS	**Alishan**	**0.68**	**38**	eP	Pb	16 11 53.3	+0.4
	baz=38							
ALS				eS	Sn	16 12 03.5	-0.7
	baz=38							
CHN5	**Tsauling**	**0.70**	**26**	P	Pb	16 11 53.4	+0.4
	baz=25							
CHN5				S	Sn	16 12 03.6	-0.5
	baz=25							
WDGT	**Dungji**	**0.70**	**295**	P	Pb	16 11 53.2	+0.2
	baz=294							
WDGT				eS	Sb	16 12 02.9	+0.8
	baz=294							
WTK	**Tuku**	**0.72**	**3**	eP	Pb	16 11 53.6	+0.3
	baz=2.0							
WTK				S	Sn	16 12 04.0	-0.6
	baz=2.0							
WDLH	**Douliu**	**0.74**	**14**	eS	Sn	16 12 04.9	-0.2
	baz=13							
YUS	**Yu-Shan**	**0.76**	**47**	eP	Pn	16 11 55.1	-0.1
	baz=47							
YUS				eS	Sn	16 12 06.3	0.0
	baz=47							
VCHM	**Qimei**	**0.88**	**286**	eP	Pb	16 11 56.1	+0.1
	baz=285							
VCHM				eS	Sb	16 12 07.8	+0.4
	baz=285							
PHUB	**P'eng-hu**	**0.90**	**307**	eP	Pb	16 11 56.0	-0.3
	baz=307							
PHUB				eS	Sb	16 12 07.9	0.0
	baz=307							
WJS	**Zhushan**	**0.92**	**22**	eP	Pb	16 11 56.7	0.0
	baz=22							
WJS				eS	Sn	16 12 09.4	-0.2
	baz=22							
WRL	**Guolierlin Hig**	**0.93**	**2**	eS	Sn	16 12 09.4	-0.4
	baz=1.0							
PNG	**Penghu**	**0.94**	**309**	eS	Sb	16 12 09.3	+0.1
	baz=309							
WNT	**Mingjian**	**0.96**	**19**	P	Pn	16 11 57.6	+0.1
	baz=19							
WNT				eS	Sn	16 12 11.1	+0.6
	baz=19							
EYUL	**Yuli**	**0.97**	**67**	eS	Sn	16 12 11.8	+1.1
	baz=67							
YULB	**Yu-li**	**0.97**	**64**	eS	Sn	16 12 11.5	+0.7
	baz=64							
SSLB	**Suanglung**	**0.99**	**34**	eP	Pn	16 11 58.1	+0.1
	baz=34							
SSLB				eS	Sn	16 12 11.7	+0.4
	baz=34							
EHY	**Hungye**	**1.04**	**59**	eP	Pb	16 11 59.8	+1.0
	baz=59							
EHY				S	Sn	16 12 14.3	+1.7
	baz=59							
SMLT	**Sun Moon Lake**	**1.04**	**29**	eP	Pb	16 11 58.9	+0.1
	baz=29							
SMLT				eS	Sn	16 12 14.0	+1.3
	baz=29							
TYC	**Yuchr**	**1.04**	**26**	eP	Pb	16 11 59.0	+0.2
	baz=27							
TYC				eS	Sn	16 12 13.4	+0.9
	baz=27							
VWDT	**VWDT**	**1.07**	**43**	eP	Pb	16 12 00.4	+1.1
	baz=42							
VWDT				eS	Sn	16 12 14.9	+1.7
	baz=42							
HGSD	**Ruisui**	**1.12**	**62**	eS	Sn	16 12 16.7	+2.3
	baz=62							
WCS	**Beigang Elemen**	**1.20**	**25**	eP	Pb	16 12 01.8	+0.3
	baz=25							
WCS				eS	Sb	16 12 17.9	+1.2
	baz=25							
EGFH	**Guangfu**	**1.21**	**55**	eP	Pb	16 12 02.4	+0.7
	baz=54							
WUSB	**Renai**	**1.24**	**35**	eP	Pb	16 12 02.2	0.0
	baz=34							
WUSB				eS	Sb	16 12 19.1	+1.2
	baz=34							
OWD	**Renai**	**1.24**	**38**	eP	Pb	16 12 02.8	+0.5
	baz=37							
OWD				eS	Sb	16 12 18.8	+0.9
	baz=37							

IDC 18 16:15:49.6±4.8, 49°48S×116°92E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.5/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/38, Error ellipse: s-maj=331.1km s-min=56.1km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.71**	**351**	T	T	16 34 47.0	
	baz=169,slow=73,SNR=29						
H01W1	**Cape Leeuwin H**	**14.72**	**351**	T	T	16 34 47.6	
	baz=169,slow=73,SNR=29						
H01W3	**Cape Leeuwin H**	**14.73**	**351**	T	T	16 34 40.1	
	baz=169,slow=73,SNR=26						
STKA	**Stephens Creek**	**25.50**	**56**	LR	LR	16 29 23.0	
	comp=Z,74nm,20.1s,baz=212,slow=32						
ASAR	**Alice Springs**	**29.01**	**34**	P	P	16 21 51.0	-0.1
	0.3nm,0.6s,baz=196,slow=9.4,SNR=7.9						
ASAR				LR	LR	16 32 15.6	
	comp=Z,132nm,20.3s,baz=260,slow=34						
MAW	**Mawson**	**32.13**	**216**	LR	LR	16 33 19.4	
	comp=Z,96nm,20.2s,baz=214,slow=33						
WRA	**Warramunga Arr**	**32.60**	**32**	P	P	16 22 22.7	0.0
	0.6nm,0.8s,baz=202,slow=8.5,SNR=3.8						
VNDA	**Vanda**	**32.83**	**164**	LR	LR	16 34 19.2	
	comp=Z,101nm,19.9s,baz=287,slow=34						
SNAA	**Sanae**	**51.93**	**200**	LR	LR	16 45 43.5	
	comp=Z,172nm,18.4s,baz=76,slow=34						
PDAR	**Pinedale Array**	**147.52**	**84**	PKPbc	PKPbc	16 35 34.8	-0.5
	0.2nm,0.6s,baz=204,slow=2.0,SNR=2.4						
YKA	**Yellowknife Ar**	**149.29**	**45**	PKPbc	PKPbc	16 35 38.2	-0.7
	0.3nm,0.6s,baz=271,slow=2.1,SNR=5.0						

NEIC 18 16:18:03.2±0.5, 37°24N±0°.02×97°.93W±0°.01, h11km±2km, Error ellipse: s-maj=2.3km s-min=1.6km az=179.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**1.18**	**106**	Pg	Pb	16 18 24.6	-0.9
R32A	**Long Quarter,**	**1.33**	**332**		Pb	16 18 28.2	-0.1
CBKS	**Cedar Bluff**	**2.13**	**318**		Pn	16 18 39.2	+0.5
TUL1	**Leonard**	**2.17**	**127**	IAmb_Lg		16 19 12.9	
	comp=Z,24nm,0.9s						
W35A	**Tecumseh**	**2.25**	**157**	Pn	Pn	16 18 41.2	+0.9
X34A	**Smith Ranch, M**	**2.63**	**178**	IAmb_Lg		16 19 25.8	
	comp=Z,18nm,1.2s						
X37A	**Clayton**	**3.36**	**141**	Pn	Pn	16 18 55.1	-0.5
X37A				IAmb_Lg		16 19 54.2	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.69**	**82**	Pn	Pn	16 19 01.0	+0.8
AMTX	**Amarillo**	**3.84**	**233**	IAmb_Lg		16 20 11.8	
	comp=Z,12nm,0.9s						
W39A	**Magazine**	**3.92**	**120**	IAmb_Lg		16 20 14.2	
	comp=Z,18nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.11**	**297**	IAmb_Lg		16 20 16.7	
	comp=Z,17nm,0.9s						
U40A	**Yellville**	**4.16**	**101**	IAmb_Lg		16 20 14.8	
	comp=Z,17nm,0.8s						
P38A	**Dawn**	**4.19**	**54**	IAmb_Lg		16 20 14.9	
	comp=Z,12nm,1.1s						
MGMO	**Mountain Grove**	**4.52**	**89**	IAmb_Lg		16 20 28.6	
	comp=Z,10.0nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.86**	**104**	IAmb_Lg		16 20 41.4	
	comp=Z,6.5nm,0.8s						
T25A	**Trinidad**	**5.18**	**271**	IAmb_Lg		16 20 52.9	
	comp=Z,7.9nm,0.9s						
JCT	**Junction City**	**6.92**	**194**	IAmb_Lg		16 21 59.5	
	comp=Z,5.2nm,0.7s						

*IDC **18** 16:37:57.7±6.0, 2°.08S×102°.16E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.0/61, mbtmp3.3/3, Error ellipse: s-maj=328.6km s-min=29.9km az=53.0*
*DJA **18** 16:38:03.5±0.5, 3°S±5°×10°1E±°, h31km±7km, M3.6/7, mb3.7/1, MLv3.5/7*
ISC 18 16:38:02.0±1.0, 2°.90S±0°.07×101°.19E±0°.05, h35km, n9, σ2s49/12, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.85**	**18**	P	**Pn**	**16 38 19.4**	**+1.9**
KRJI				S	**Sn**	**16 38 31.0**	**+2.2**
MASI	**Maura Aman, Be**	**1.07**	**103**	P	**Pn**	**16 38 22.7**	**+2.2**
MASI				S	**Sn**	**16 38 36.6**	**+2.4**
PPSI	**Pulau Pagai**	**1.19**	**277**	P	**Pn**	**16 38 24.4**	**+2.2**
PPSI				S	**Sn**	**16 38 39.6**	**+2.5**
MNAI	**Manna**	**2.28**	**130**	P	**Pn**	**16 38 39.3**	**+2.1**
SISI	**Saibi**	**2.62**	**307**	P	**Pn**	**16 38 43.2**	**+1.4**
GSI	**Gunungsitoli**	**5.53**	**319**	P	**Pn**	**16 39 23.5**	**+1.7**
WRA	**Warramunga Arr**	**36.51**	**120**	P	**P**	**16 45 02.2**	**-2.2**
	0.3nm,0.8s,baz=298,slow=8.8,SNR=1.3						
ASAR	**Alice Springs**	**37.76**	**126**	P	**P**	**16 45 12.9**	**-2.0**
	0.3nm,0.6s,baz=302,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**52.22**	**344**	P	**P**	**16 47 06.7**	**-2.8**
	0.3nm,0.6s,baz=140,slow=7.7,SNR=4.5						

NNC 18 16:39:43.2±7.5, 38°38N×72°21E, h0km, mb3.9, mpv3.5, 5C-1D, Error ellipse: s-maj=56.2km s-min=46.9km az=169.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK08	**Karatay Array**	**4.90**	**345**	⇑Pn	Pn	16 40 59.7	+1.5
	2.3nm,0.4s,baz=163,slow=15						
KK08				⇑Sn	Sn	16 41 55.9	+0.3
	3.1nm,0.5s,baz=170,slow=24						
KK08				⇑Lg	Lg	16 42 23.2	
	13nm,0.8s						
TKM2	**Tokmak 2**	**5.22**	**28**	⇑Pg	Pb	16 41 16.5	+1.0
	5.1nm,0.7s						
TKM2				⇓Lg	Lg	16 42 27.9	
	9.7nm,0.9s						
AB31	**Akbulak array**	**14.01**	**325**	P	Pn	16 43 00.7	-2.1
	0.7nm,0.6s,baz=142,slow=11,SNR=9.8						
AKTO	**Aktyubinsk**	**15.72**	**325**	⇑P	Pn	16 43 27.8	+1.9
	2.9nm,0.9s						

*SKHL **18** 16:41:56.8±0.4, 45°.50N×143°.00E, h318km±3km, mb4.0/3, msha4.4/2*
*IDC **18** 16:41:56.9±0.8, 45°.62N×142°.69E, h315km±16km, mb2.7/5, mb1 2.9/9, mb1mx2.7/64, mbtmp3.4/9, Error ellipse: s-maj=34.3km s-min=16.7km az=172.0*
*JMA **18** 16:41:56.3±0.3, 45°.56N×142°.68E, h316km±3km, M2.5*
ISC 18 16:41:56.3±0.7, 45°.53N±0°.08×142°.81E±0°.08, h313km±7km, n28, σ1s00/35, mb3.0/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**0.60**	**195**	P	**Pn**	**16 42 36.7**	**+0.1**
JWK2	**Keihoku**	**0.68**	**252**	P	**Pn**	**16 42 37.2**	**+0.4**
JWK2				eS	**S**	**16 43 08.7**	**-0.4**
JRR	**Rishiri**	**1.13**	**250**	P	**Pn**	**16 42 38.7**	**+0.1**
JRBN	**Rebuntou**	**1.23**	**265**	P	**Pn**	**16 42 38.5**	**-0.6**
JRBN				eS	**S**	**16 43 11.6**	**-1.7**
JSS	**Shosan**	**1.32**	**211**	P	**Pn**	**16 42 40.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**1.42**	**359**	eP	**Pn**	**16 42 40.0**	**-0.1**
YSS				AMB	AMB	16 42 40.3	
	14nm,0.3s						
YSS				eS	**S**	**16 43 14.0**	**-1.1**
YSS				A	A	16 43 14.3	
	20nm,0.4s						
YSS				A	A	16 43 14.3	
	10.0nm,0.4s						
ASAJ	**Asahikawa**	**1.43**	**186**	P	**Pn**	**16 42 41.1**	**+0.7**
	2.5nm,0.3s,baz=337,slow=7.4,SNR=34						
ASAJ				S	**S**	**16 43 17.7**	**+2.2**
	0.5nm,0.3s,baz=258,slow=32,SNR=1.5						
ASAJ	**Asahikawa**	**1.43**	**186**	P	**Pn**	**16 42 41.0**	**+0.7**
JMP	**Maruseppu**	**1.58**	**165**	P	**Pn**	**16 42 41.9**	**+0.6**
JMP				eS	**S**	**16 43 17.6**	**+0.4**
JKK2	**Kamakawa 2**	**1.66**	**181**	P	**Pn**	**16 42 42.6**	**+0.7**
JTKR	**Abashiri--Toko**	**1.75**	**153**	P	**Pn**	**16 42 43.3**	**+0.9**
JTKR				eS	**S**	**16 43 20.1**	**+0.9**
JAR	**Ashorobuto**	**2.34**	**163**	P	**Pn**	**16 42 48.0**	**+1.0**
JFR	**Furan**	**2.38**	**184**	P	**Pn**	**16 42 48.0**	**+0.7**
JEW	**Eniwo**	**2.87**	**200**	P	**Pn**	**16 42 52.6**	**+0.9**
AKK	**Akkeshi**	**2.91**	**149**	eS	**S**	**16 43 34.9**	**-1.9**
AKK				A	A	16 43 35.6	
	50nm,0.6s						
JCH	**Churui**	**2.95**	**172**	P	**Pn**	**16 42 51.7**	**-0.8**
NMR	**Nemuro--Hokkai**	**3.01**	**135**	eP	**Pn**	**16 42 52.6**	**-0.4**
NMR				AMB	AMB	16 42 55.4	
	5.0nm,0.1s						
NMR				eS	**S**	**16 43 35.8**	**-2.6**
NMR				A	A	16 43 37.7	
	30nm,0.4s						
NMR				A	A	16 43 37.7	
	20nm,0.4s						
NEM2	**Nemuro 2**	**3.02**	**135**	P	**Pn**	**16 42 52.0**	**-1.1**
JKB	**Kayabe**	**3.87**	**200**	P	**Pn**	**16 43 01.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**7.80**	**264**	P	**Pn**	**16 43 47.3**	**-0.2**
	baz=71,slow=13,SNR=5.4						
KLR	**Kul'dur**	**8.36**	**300**	P	**Pn**	**16 43 53.8**	**-0.5**
	0.2nm,0.3s,baz=114,slow=15,SNR=4.9						
MA2	**Magadan**	**14.86**	**16**	P	**P**	**16 45 11.8**	**+1.0**
	0.1nm,0.3s,baz=193,slow=10,SNR=6.3						
SEY	**Seymchan**	**18.27**	**14**	P	**P**	**16 45 47.5**	**-0.2**
	0.2nm,0.3s,baz=175,slow=12,SNR=8.5						
SONM	**Songino Array**	**24.94**	**288**	P	**P**	**16 46 51.5**	**-0.4**
	0.8nm,0.5s,baz=78,slow=8.8,SNR=7.8						
MKAR	**Makanchi Array**	**41.02**	**294**	P	**P**	**16 49 09.0**	**-0.5**
	0.1nm,0.6s,baz=70,slow=12,SNR=1.3						
ILAR	**Eielson Array**	**41.91**	**37**	P	**P**	**16 49 16.4**	**0.0**
	0.2nm,0.7s,baz=271,slow=8.7,SNR=4.3						
YKA	**Yellowknife Ar**	**56.02**	**33**	P	**P**	**16 51 02.7**	**+0.1**
	0.4nm,0.6s,baz=306,slow=6.9,SNR=8.0						
PDAR	**Pinedale Array**	**71.07**	**48**	P	**P**	**16 52 42.0**	**+1.0**
	0.2nm,0.6s,baz=283,slow=9.2,SNR=3.2						

*IDC **18** 16:44:27.0±0.8, 37°.77N×72°.68E, h0km, mb3.9/12, mb1 4.0/16, mb1mx3.7/61, mbtmp3.8/16, ML3.1/4, Error ellipse: s-maj=20.1km s-min=17.5km az=73.0*
*NNC **18** 16:44:30.5±4.1, 37°.94N×72°.65E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=30.3km s-min=25.9km az=153.0*
ISC 18 16:44:27.9±0.7, 37°.65N±0°.07×72°.55E±0°.09, h10km, n33, σ1s44/33, mb3.9/11, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.89**	**337**	Pg	**Pb**	**16 45 54.0**	**+0.2**
	484nm,0.7s						
IUG				Lg	Lg	16 46 54.8	
	104nm,0.6s						
MRKS	**Merke**	**5.12**	**6**	Pg	**Pb**	**16 45 59.2**	**+1.6**
	16nm,0.5s						
MRKS				Lg	Lg	16 47 03.6	
	16nm,0.6s						
AAK	**Ala-Archa**	**5.20**	**16**	Pn	**Pn**	**16 45 47.6**	**+1.7**
	1.2nm,0.3s,baz=158,slow=5.4,SNR=9.1						
KK08	**Karatay Array**	**5.67**	**344**	⇑Pn	**Pn**	**16 45 52.6**	**+0.3**
	6.5nm,0.6s						
KK08				⇑Sn	**Sn**	**16 46 58.6**	**+1.2**
	18nm,0.8s						
TKM2	**Tokmak 2**	**5.75**	**23**	⇑Pg	**Pb**	**16 46 09.4**	**+0.9**
	7.4nm,0.8s						
TKM2				⇑Lg	Lg	16 47 23.7	
	37nm,1.1s						
SGDS	**Sogindy**	**6.01**	**15**	Pg	**Pb**	**16 46 14.9**	**+2.2**
	2.7nm,0.7s						
SGDS				Lg	Lg	16 47 30.2	
	8.4nm,1.1s						
MKAR	**Makanchi Array**	**11.63**	**35**	Pn	**Pn**	**16 47 14.6**	**+0.6**
	0.1nm,0.3s,baz=226,slow=14,SNR=5.2						
MKAR				Lg	Lg	16 50 27.8	
	0.1nm,0.3s,baz=184,slow=26,SNR=1.8						
PYUN	**Piuthan**	**12.94**	**134**	eP	**Pn**	**16 47 32.6**	**+0.5**
	13nm,0.5s						
DANN	**Dangsing**	**13.20**	**131**	eP	**Pn**	**16 47 35.5**	**-0.2**
	14nm,0.5s						
KOLN	**Koldanda**	**13.54**	**134**	eP	**Pn**	**16 47 40.4**	**+0.2**
KURBB	**Kurchatov Arra**	**13.65**	**16**	Lg	Lg	16 51 33.2	
	baz=202,slow=29,SNR=4.7						
GKN	**Gorkha**	**13.98**	**130**	eP	**Pn**	**16 47 45.6**	**-0.6**
	8.9nm,0.4s						
PKIN	**Phulchoki**	**14.75**	**129**	eP	**Pn**	**16 47 56.1**	**-0.8**
AB31	**Akbulak array**	**14.76**	**326**	⇓P	**Pn**	**16 47 53.2**	**-3.3**
	1.1nm,0.5s,baz=140,slow=12,SNR=4.8						
PKI	**Pulchoki**	**14.76**	**129**	eP	**Pn**	**16 47 56.3**	**-0.8**
GUN	**Gumba**	**14.81**	**127**	eP	**Pn**	**16 47 55.9**	**-1.9**
	7.5nm,0.4s						
JIRN	**Jiri**	**15.19**	**127**	eP	**Pn**	**16 48 01.1**	**-1.7**
	11nm,0.5s						
BVAR	**Borovoye Array**	**15.45**	**355**	Pn	**Pn**	**16 48 02.3**	**-3.5**
	0.1nm,0.3s,baz=149,slow=46,SNR=3.1						
RAMN	**Ramite**	**15.95**	**128**	eP	**Pn**	**16 48 13.0**	**+0.4**
	18nm,0.5s						
AKTO	**Aktyubinsk**	**16.47**	**326**	⇓P	**P**	**16 48 22.9**	**+1.2**
	7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**18.36**	**23**	P	**P**	**16 48 39.7**	**-2.8**
	0.3nm,0.3s,baz=217,slow=11,SNR=8.5						
ARU	**Arti**	**20.99**	**338**	P	**P**	**16 49 12.2**	**+1.0**
	0.8nm,0.5s,baz=101,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**26.66**	**57**	P	**P**	**16 50 07.3**	**+0.3**
	0.8nm,0.7s,baz=251,slow=9.2,SNR=8.3						
FINES	**FINESS Array B**	**37.24**	**325**	P	**P**	**16 51 39.4**	**0.0**
	2.5nm,0.8s,baz=111,slow=10,SNR=5.0						
NOA	**NORSAR Array B**	**44.22**	**322**	P	**P**	**16 52 37.3**	**+0.2**
	0.4nm,0.5s,baz=91,slow=7.8,SNR=3.5						
TIXI	**Tiksi**	**44.24**	**22**	P	**P**	**16 52 35.9**	**-1.1**
	2.3nm,0.6s,baz=273,slow=23,SNR=16						
ESDC	**Sonseca Array**	**58.02**	**298**	P	**P**	**16 54 22.3**	**+1.3**
	1.1nm,1.1s,baz=52,slow=7.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**66.98**	**269**	P	**P**	**16 55 22.4**	**+1.2**
	0.7nm,0.6s,baz=45,slow=5.4,SNR=3.8						
ILAR	**Eielson Array**	**73.33**	**17**	P	**P**	**16 55 58.4**	**-1.0**
	0.7nm,0.8s,baz=317,slow=5.0,SNR=8.8						
YKA	**Yellowknife Ar**	**80.03**	**3**	P	**P**	**16 56 37.0**	**-0.2**
	0.8nm,0.7s,baz=347,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**81.56**	**123**	P	**P**	**16 56 46.8**	**+0.7**
	1.5nm,0.6s,baz=323,slow=5.0,SNR=19						
ASAR	**Alice Springs**	**83.91**	**126**	P	**P**	**16 56 58.9**	**+0.7**
	0.5nm,0.6s,baz=310,slow=5.0,SNR=15						
STKA	**Stephens Creek**	**94.48**	**127**	P	**P**	**16 57 48.4**	**+0.1**
	1.4nm,0.8s,baz=287,slow=8.8,SNR=3.1						

*IDC **18** 17:14:53.5±1.1, 7°.85S×74°.71W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/29, mbtmp3.9/8, ML3.9/3, Error ellipse: s-maj=35.6km s-min=23.1km az=44.0*
*NEIC **18** 17:15:05.6±2.6, 8°.71S±0°.09×74°.78W±0°.09, h121km±8km, mb4.2/8, Error ellipse: s-maj=17.4km s-min=7.4km az=134.0*
*VAO **18** 17:15:11.6±1.6, 8°.60S×74°.20W, h129km, mb4.3*
ISC 18 17:15:06.4±0.6, 8°.68S±0°.07×74°.82W±0°.08, h136km, n39, σ1s51/38, mb3.7/6, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.30**	**66**	eP	**Pn**	**17 15 43.4**	**-1.0**
NNA	**Nana**	**3.84**	**211**	Pn	**Pn**	**17 16 04.6**	**+0.4**
	8.9nm,0.3s,baz=8.3,slow=4.7,SNR=8.8						
NNA				Sn	**Sn**	**17 16 47.1**	**-2.0**
	36nm,0.3s,baz=164,slow=23,SNR=14						
TBTG	**Tabatinga, AM**	**6.62**	**48**	eP	**Pn**	**17 16 38.9**	**-2.3**
ETMB	**Extrema**	**8.57**	**98**	eP	Pn	17 17 03.8	-3.8
LPAZ	**La Paz**	**9.99**	**140**	Pn	**Pn**	**17 17 26.7**	**-0.5**
	0.3nm,0.3s,baz=300,slow=11,SNR=3.7						
LPAZ	**La Paz**	**9.99**	**140**		**Pn**	**17 17 25.7**	**-1.4**
LPAZ	**La Paz**	**9.99**	**140**	eP	**Pn**	**17 17 26.6**	**-0.5**
VILB	**Vilhena**	**14.97**	**108**	eP	**Pn**	**17 18 30.8**	**-0.5**
SIV	**San Ignacio**	**15.27**	**120**	Pn	**Pn**	**17 18 34.5**	**-0.4**
	0.9nm,0.3s,baz=301,slow=12,SNR=14						
PB15	**IPOC Station P**	**15.33**	**161**	Pn	**Pn**	**17 18 34.7**	**-1.1**
PB15				IAmb	IAmb	17 18 39.5	
	comp=Z,17nm,1.4s						
PDRB	**Porto dos Gac**	**18.05**	**101**	eP	**P**	**17 19 06.9**	**-0.5**
SJCC	**San Jacinto, C**	**18.46**	**359**	P	**Pn**	**17 19 13.0**	**-0.6**
SJCC				IAmb	IAmb	17 19 15.1	
	comp=Z,27nm,1.6s						
CLDB	**Colider**	**18.88**	**98**	eP	**P**	**17 19 16.6**	**+0.2**
NPGB	**Novo Progresso**	**19.35**	**87**	eP	**P**	**17 19 19.5**	**-2.1**
ITTB	**Itaituba**	**19.44**	**78**	eP	**P**	**17 19 21.2**	**-1.2**
BIRV	**Birongo**	**20.85**	**24**	P	**P**	**17 19 37.2**	**-0.4**
MALB	**Monte Alegre**	**21.55**	**73**	eP	**P**	**17 19 44.1**	**-1.1**
SNDB	**Serra Nova Dou**	**23.37**	**100**	eP	**P**	**17 20 02.8**	**-0.2**
MCPB	**Macapa, AP**	**24.13**	**71**	eP	**P**	**17 20 09.7**	**-0.3**
PRPB	**Parauapebas**	**24.92**	**86**	eP	**P**	**17 20 17.9**	**+0.7**
PEXB	**Peixe**	**26.30**	**100**	eP	**P**	**17 20 30.7**	**+1.1**
JANB	**Januaria**	**30.50**	**105**	eP	**P**	**17 21 07.5**	**+0.5**
NBPN	**Ponto Novo - B**	**34.18**	**97**	eP	**P**	**17 21 39.2**	**+0.2**
GDU01	**Guandu, BA**	**34.91**	**101**	eP	**P**	**17 21 46.1**	**+0.8**
RIB01	**Linhares ES**	**34.97**	**111**	eP	**P**	**17 21 46.9**	**+1.1**
CMC01	**Camacan, BA**	**35.13**	**104**	eP	**P**	**17 21 48.3**	**+1.2**
NBIT	**Itapeh - BA**	**35.16**	**104**	eP	**P**	**17 21 48.6**	**+1.2**
TXAR	**Lajitas Array**	**46.91**	**325**	P	**P**	**17 23 22.9**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=146,slow=9.7,

*KRNET **18** 17:35:09.5±0.1,41.°43N×73.°51E,h16km,mb2.5*
*KNET **18** 17:35:10.8±0.5,41.°51N×73.°57E,h3km,2km,ml1.9,Error ellipse: s-maj=3.3km s-min=2.7km az=78.0*
*SOME **18** 17:35:10.6,41.°42N×73.°57E,h15km*
*NNC **18** 17:35:13.0±2.7,41.°49N×73.°46E,h0km,mb3.7,mpv3.1, Error ellipse: s-maj=20.9km s-min=12.4km az=2.0*

ISC 18 17:35:09.6±1.3,41.°42N±0.°04×73.°59E±0.°03,h5km±11km, n33,σ1°09/59,33C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ARLS	**Aral** baz=55	**0.71**	**51**	⇑*i*P		**Pg**	**17 35 23.6**	**+0.4**
ARLS				⇑*i*S		**Sb**	**17 35 33.9**	**-0.7**
AML	**Almayashu** 8.4nm,0.1s,SNR=5.7	**0.72**	**6**	⇑P		**Pg**	**17 35 23.4**	**0.0**
AML				⇑S		**Sb**	**17 35 33.6**	**-1.5**
UCH	**Uchtor** 27nm,0.2s	**1.07**	**40**	P		**Pb**	**17 35 30.3**	**-0.5**
UCH				⇑S		**Sn**	**17 35 45.6**	**-1.3**
UCH	**Uchtor** 7.3nm,0.2s	**1.07**	**40**	⇑*i*P		**Pb**	**17 35 30.3**	**-0.5**
UCH				⇑*i*S		**Sn**	**17 35 45.6**	**-1.3**
OHH	**Osh** baz=43	**1.08**	**215**	⇑*i*P		**Pb**	**17 35 29.4**	**-1.3**
OHH				⇑*i*S		**Sb**	**17 35 44.1**	**-1.0**
EKS2	**Erkin-Say** baz=12	**1.25**	**6**	⇑P		**Pb**	**17 35 32.9**	**-0.9**
EKS2				⇑S		**Sg**	**17 35 50.0**	**+0.1**
EKS2	**Erkin-Say** 2.4nm,0.1s,SNR=11	**1.25**	**6**	⇑*i*P		**Pb**	**17 35 33.1**	**-0.7**
EKS2				⇑*i*S		**Sg**	**17 35 50.3**	**+0.4**
MRKS	**Merke** baz=9.0	**1.36**	**349**	*e*P		**Pg**	**17 35 36.9**	**+1.3**
MRKS				*e*S		**Sg**	**17 35 55.1**	**+1.9**
MRKS	**Merke** 1.8nm,0.2s	**1.36**	**349**	P		**Pg**	**17 35 36.9**	**+1.3**
MRKS				S		**Sg**	**17 35 55.1**	**+1.9**
KBK	**Karagaybulak** 22nm,0.3s	**1.60**	**39**	⇑P		**Pg**	**17 35 40.0**	**-0.3**
KBK	**Karagaybulak** 4.3nm,0.1s,SNR=16 baz=41	**1.60**	**39**	⇑*e*P		**Pb**	**17 35 39.8**	**+0.1**
KBK				⇑*i*S		**Sg**	**17 36 02.0**	**+1.0**
CHMS	**Chumysh** 2.9nm,0.2s	**1.80**	**28**	⇓*i*P		**Pg**	**17 35 43.5**	**-0.6**
CHMS	**Chumysh** baz=30	**1.80**	**28**	⇑*i*P		**Pb**	**17 35 43.0**	**-0.1**
CHMS				⇑*i*S		**Sg**	**17 36 07.7**	**+0.2**
TRKS	**Terek-Say** baz=72	**1.84**	**274**	⇑*i*P		**Pn**	**17 35 41.5**	**-0.5**
TRKS				⇑*i*S		**Sn**	**17 36 05.2**	**-0.5**
USP	**Ospenovka** 3.3nm,0.2s,SNR=15	**1.97**	**20**	⇑P		**Pb**	**17 35 46.1**	**+0.2**
USP				⇑S		**Sg**	**17 36 13.4**	**+0.5**
USP	**Ospenovka** baz=21	**1.97**	**20**	⇑*e*P		**Pb**	**17 35 45.7**	**-0.2**
USP				⇑*i*S		**Sg**	**17 36 12.3**	**-0.6**
BOOM	**Boomskoye usch** baz=59	**2.06**	**58**	⇑*i*P		**Pb**	**17 35 47.1**	**-0.4**
BOOM				⇑*i*S		**Sg**	**17 36 15.2**	**-0.4**
TKM2	**Tokmak 2** 12nm,0.3s,SNR=20	**2.12**	**44**	⇑P		**Pb**	**17 35 49.1**	**+0.6**
TKM2	**Tokmak 2** baz=45	**2.12**	**44**	⇓*e*P		**Pb**	**17 35 48.0**	**-0.6**
TKM2				⇓*i*S		**Sg**	**17 36 16.5**	**-1.2**
TKM2	**Tokmak 2** 4.8nm,0.3s	**2.12**	**44**	⇑P		**Pb**	**17 35 48.9**	**+0.4**
TKM2				⇑S		**Sg**	**17 36 18.6**	**+1.0**
ULHL	**Ulahol** baz=67	**2.15**	**66**	⇓*i*P		**Pb**	**17 35 48.5**	**-0.6**
ULHL				⇓*i*S		**Sb**	**17 36 17.5**	**+1.4**
SGDS	**Sogindy** 1.8nm,0.2s	**2.18**	**20**	*e*P		**Pg**	**17 35 50.5**	**-0.8**
SGDS				*e*S		**Sg**	**17 36 19.4**	**-0.1**
SGDS	**Sogindy** 1.8nm,0.2s	**2.18**	**20**	Pg		**Pg**	**17 35 50.5**	**-0.8**
SGDS				Lg		Lg	17 36 19.3	
DRK	**Karamyk** baz=14	**2.37**	**216**	⇑*i*P		**Pn**	**17 35 51.2**	**+1.9**
DRK				⇑*i*S		**Sn**	**17 36 20.8**	**+2.0**
KST	**Kastek** 3.0nm,0.2s	**2.40**	**46**	*e*P		**Pg**	**17 35 56.0**	**+0.4**
KST				*e*S		**Sg**	**17 36 28.4**	**+1.7**
KST	**Kastek** 3.0nm,0.2s	**2.40**	**46**	Pg		**Pg**	**17 35 56.0**	**+0.4**
KST				Lg		Lg	17 36 28.3	
BTK	**Batken** baz=37	**2.50**	**238**	⇑*i*P		**Pn**	**17 35 52.8**	**+1.8**
BTK				⇑*i*S		**Sn**	**17 36 24.0**	**+2.1**
MTBS	**Maitube** 1.9nm,0.2s	**2.72**	**50**	*e*P		**Pg**	**17 36 01.4**	**-0.2**
MTBS				*e*S		**Sg**	**17 36 37.4**	**+0.6**
MTBS	**Maitube** 1.9nm,0.2s	**2.72**	**50**	Pg		**Pg**	**17 36 01.4**	**-0.2**
MTBS				Lg		Lg	17 36 37.4	
IUG	**Iuzhnay** 1.9nm,0.2s	**2.76**	**287**	*e*P		**Pg**	**17 36 01.2**	**-1.3**
IUG				*e*S		**Sg**	**17 36 37.1**	**-1.1**
IUG	**Iuzhnay** 46nm,0.2s	**2.76**	**287**	Pg		**Pg**	**17 36 01.2**	**-1.3**
IUG				Lg		Lg	17 36 37.1	
KDJ	**Kajisay** baz=74	**2.78**	**74**	⇓*i*P		**Pb**	**17 35 58.0**	**-1.8**
KDJ				⇓*i*S		**Sb**	**17 36 32.4**	**-1.8**
MDOK	**Medeo** 0.7nm,0.4s	**3.10**	**55**	P		**Pb**	**17 36 05.7**	**+0.4**
MDOK				S		**Sg**	**17 36 47.3**	**-2.0**

*TUL **18** 17:52:16.4±2.6,36.°21N±0.°03×99.°24W±0.°04,h0km±6km, ML2.8,mb_Lg2.7/43(NEIC),Error ellipse: s-maj=5.3km s-min=3.8km az=138.0*

NEIC 18 17:52:18.0±2.2,36.°25N±0.°01×99.°16W±0.°04,h13km±3km, Error ellipse: s-maj=4.7km s-min=1.5km az=106.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.18**	**46**	Pg		Pg	17 52 21.8	-0.4
U32A				Sg		Sb	17 52 26.3	-0.4
WMOK	**Wichita Mounta**	**1.54**	**168**	Pn		Pn	17 52 44.9	-0.3
FNO	**Franklin**	**1.74**	**124**			Pn	17 52 48.0	+0.1
X34A	**Smith Ranch, M**	**1.97**	**146**			Pn	17 52 50.9	-0.3
X34A				IAmb_Lg			17 53 21.8	
W35A	**Tecumseh** comp=Z,36nm,0.8s	**2.16**	**120**			Pn	17 52 52.6	-1.1
R32A	**Long Quarter,**	**2.19**	**9**			Pn	17 52 53.1	-1.0
T35A	**Sooner Cattle** comp=Z,26nm,0.8s	**2.23**	**72**	Pn		Pn	17 52 53.5	-1.2
T35A				IAmb_Lg			17 53 33.2	
AMTX	**Amarillo**	**2.47**	**237**			Pn	17 52 58.5	+0.5
CBKS	**Cedar Bluff**	**2.60**	**350**			Pn	17 53 00.0	+0.3
TUL1	**Leonard** comp=Z,20nm,0.8s	**2.75**	**96**	Pn		Pn	17 53 02.1	+0.3
TUL1				IAmb_Lg			17 53 48.6	
KSU1	**Kansas State U**	**3.49**	**35**	Pn		Pn	17 53 09.7	-2.3
KSU1				IAmb_Lg			17 54 12.2	
X37A	**Clayton** comp=Z,17nm,0.8s	**3.51**	**117**	IAmb_Lg			17 54 18.0	
ABTX	**Abilene, Hawle** comp=Z,14nm,0.8s	**3.64**	**186**	Pn		Pn	17 53 11.5	-2.6
KSCO	**Kaye Shedlock'** comp=Z,19nm,0.9s	**3.89**	**316**	IAmb_Lg			17 54 29.4	
HHAR	**Hobbs** comp=Z,15nm,0.9s	**4.22**	**88**	Pn		Pn	17 53 20.8	-1.3
HHAR				IAmb_Lg			17 54 36.0	
T25A	**Trinidad** comp=Z,16nm,0.9s	**4.31**	**283**			Pn	17 53 22.8	-0.7
T25A				IAmb_Lg			17 54 34.2	
W39A	**Magazine** comp=Z,14nm,0.9s	**4.50**	**102**	Pn		Pn	17 53 24.0	-1.8
S39A	**Bolivar**	**4.89**	**71**	Pn		Pn	17 53 30.4	-0.9
U40A	**Yellville** comp=Z,12nm,0.8s	**5.09**	**87**	IAmb_Lg			17 55 04.3	
SDCO	**Great Sand Dun**	**5.29**	**288**			Pn	17 53 36.1	-0.9
Q24A	**Divide**	**5.47**	**301**	Pn		Pn	17 53 37.4	-2.1
Q24A	comp=Z,12nm,0.8s			IAmb_Lg			17 55 10.4	
P38A	**Dawn** comp=Z,14nm,0.8s	**5.58**	**51**	IAmb_Lg			17 55 26.1	
435B	**Jarrell** comp=Z,21nm,1.0s	**5.61**	**166**	IAmb_Lg			17 55 21.9	
WHAR	**Wooly Hollow** comp=Z,12nm,1.0s	**5.67**	**98**	Pn		Pn	17 53 40.3	-1.6
WHAR				IAmb_Lg			17 55 22.0	
W41B	**Gary Mavity, V** comp=Z,11nm,0.7s	**5.73**	**99**	Pn		Pn	17 53 38.6	-4.1
JCT	**Junction City**	**5.78**	**185**	IAmb_Lg			17 55 33.7	
R40A	**Maddies Statio** comp=Z,9.1nm,0.7s	**5.86**	**68**	Pn		Pn	17 53 41.2	-3.4
R40A				IAmb_Lg			17 55 27.0	
K31A	**O'Neill** comp=Z,16nm,0.9s	**6.37**	**3**	Pn		Pn	17 53 52.0	+0.4
P40A	**Paris**	**6.51**	**58**	Pn		Pn	17 53 51.2	-2.2
P40A				IAmb_Lg			17 55 46.3	
CCM	**Cathedral Cave** comp=Z,11nm,0.9s	**6.57**	**72**	Pn		Pn	17 53 52.4	-1.9
CCM				IAmb_Lg			17 55 48.0	
MNTX	**Cornudas Mount** comp=Z,2.3nm,0.8s	**6.88**	**230**	Pn		Pn	17 53 59.7	+1.2
PHWY	**Pilot Hill**	**7.04**	**318**	IAmb_Lg			17 56 05.8	
N23A	**Red Feather La** comp=Z,17nm,1.0s	**7.05**	**313**	Pn		Pn	17 54 00.5	-0.6
N23A				IAmb_Lg			17 56 07.6	
ECSD	**EROS Data Cent**	**7.72**	**14**	Pn		Pn	17 54 08.5	-1.6
S44A	**Carbondale** comp=Z,12nm,0.8s	**8.06**	**77**	IAmb_Lg			17 56 45.9	
K22A	**Casper** comp=Z,13nm,1.1s	**8.55**	**321**	IAmb_Lg			17 57 05.9	

*DDA **18** 18:02:59.9±0.0,37.°45N×38.°57E,h7km±2km,ML2.1*
*ISK **18** 18:03:00.7,37.°63N×38.°43E,h5km,ML2.7/5*

ISC 18 18:03:00.2±1.1,37.°51N±0.°03×38.°53E±0.°03,h5km±10km, n15,σ1°35/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.19**	**257**	P		**Pg**	**18 03 04.9**	**+0.9**
ATAB				S		**Sg**	**18 03 07.6**	**+1.1**
ATAB	comp=N,314nm,0.1s			*i* AML		AML	18 03 09.0	
ATAB	comp=E,316nm,0.3s			*i* AML		AML	18 03 11.0	
SANL	**SANLIURFA_Merk**	**0.50**	**133**	P		**Pg**	**18 03 08.8**	**-1.0**
SANL				S		**Sg**	**18 03 14.9**	**-1.4**
SANL	comp=E,266nm,0.5s			*i* AML		AML	18 03 15.0	
SANL	comp=N,259nm,0.3s			*i* AML		AML	18 03 15.0	
SURC	**SANLIURFA_SURC**	**0.64**	**174**	P		**Pg**	**18 03 11.6**	**-0.8**
SURC				*i* AML		AML	18 03 26.0	
SURC	comp=N,65nm,0.4s			*i* AML		AML	18 03 28.0	
GZT	**Gaziantep** comp=E,61nm,0.6s	**0.78**	**259**	P		**Pb**	**18 03 15.8**	**-0.5**
GZT				S		**Sn**	**18 03 29.9**	**-0.4**
GZT	comp=N,131nm,0.1s			*i* AML		AML	18 03 30.0	
GZT	comp=E,67nm,0.3s			*i* AML		AML	18 03 30.0	
AKCD	**Akcadag**	**0.92**	**329**	P		**Pn**	**18 03 19.2**	**-0.7**
AKCD				S		**Sn**	**18 03 32.4**	**-1.2**
AKCD	comp=N,123nm,0.4s			*i* AML		AML	18 03 35.0	
AKCD	comp=E,90nm,0.2s			*i* AML		AML	18 03 36.0	
ELZG	**Elazig**	**1.05**	**20**	P		**Pn**	**18 03 21.6**	**-0.1**
ELZG				S		**Sn**	**18 03 36.5**	**-0.3**
ELZG	comp=E,77nm,0.3s			*i* AML		AML	18 03 39.0	
ELZG	comp=N,66nm,0.3s			*i* AML		AML	18 03 42.0	
SVRC	**Sivrice-ELAZID**	**1.06**	**35**	PG		**Pb**	**18 03 21.1**	**0.0**
SVRC				SG		**Sn**	**18 03 36.6**	**-0.6**
KHMN	**Narli-Kahraman**	**1.10**	**264**	PG		**Pb**	**18 03 21.5**	**-0.2**
KHMN				SG		**Sn**	**18 03 37.2**	**-0.7**
KAHM	**Kahramanmaras,**	**1.23**	**271**	P		**Pn**	**18 03 23.3**	**-0.7**
KAHM				S		**Sn**	**18 03 39.4**	**-1.7**
KAHM	comp=N,23nm,0.2s			*i* AML		AML	18 03 43.0	
KAHM	comp=E,18nm,0.2s			*i* AML		AML	18 03 44.0	
KUZU	**Kuzuini**	**1.38**	**238**	P		**Pb**	**18 03 26.9**	**+0.5**
KUZU				S		**Sn**	**18 03 45.6**	**+0.9**
HEKM	**Malatya_Hekimh**	**1.44**	**342**	P		**Pb**	**18 03 28.8**	**+1.2**
HEKM				S		**Sn**	**18 03 49.5**	**+3.1**
HEKM	comp=E,44nm,0.3s			*i* AML		AML	18 03 51.0	
HEKM	comp=N,24nm,0.3s			*i* AML		AML	18 03 51.0	
KAMA	**Osmaniye**	**1.52**	**258**	P		**Pg**	**18 03 29.1**	**-0.1**
KAMA				S		**Sg**	**18 03 50.1**	**+1.2**
KAMA	comp=N,12nm,0.2s			*i* AML		AML	18 03 51.0	
KAMA	comp=E,12nm,0.2s			*i* AML		AML	18 03 55.0	
ARPR	**Arapgir-MALATY**	**1.58**	**355**	PN		**Pg**	**18 03 29.3**	**-1.2**
ARPR				SN		**Sg**	**18 03 50.2**	**-0.9**
SARI	**SarD1z-Kayseri**	**1.89**	**299**	PN		**Pb**	**18 03 33.9**	**-1.4**
GURO	**Guroymak-BITLI**	**2.95**	**68**	PN		**Pn**	**18 03 51.4**	**+3.5**

*IDC **18** 18:11:14.3±5.4,23.°43N×121.°78E,h0km,mb3.3/3, mb1 3.4/3,mb1mx3.2/38,mbtmp3.3/3,MS2.9/2,Ms1 3.0/2, ms1mx2.4/36,Error ellipse: s-maj=385.2km s-min=29.9km az=60.0*
*TAP **18** 18:11:15.6,23.°10N×120.°87E,h5km,ML3.9,C*
*JMA **18** 18:11:15.4±0.6,23.°01N×121.°05E,h0km,M3.3*

ISC 18 18:11:16.2±0.8,23.°09N±0.°01×120.°95E±0.°01,h8km±6km, n136,σ1°45/227,mb3.2/3,36C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=58	**0.11**	**33**	⇑*i*P		**Pg**	**18 11 19.5**	**+0.6**
ELDTW				*i* S		**Sg**	**18 11 22.3**	**+1.5**
STYH	**Taoyuan** baz=315	**0.18**	**296**	⇓*i*P		**Pg**	**18 11 18.4**	**-1.5**
STYH				*i* S		**Sg**	**18 11 20.1**	**-2.2**
STYT	**Tauyuan** baz=303	**0.19**	**291**	⇓*i*P		**Pg**	**18 11 18.4**	**-1.8**
STYT				*i* S		**Sg**	**18 11 20.2**	**-2.6**
ECS	**Chishang** baz=90	**0.25**	**90**	⇑*i*P		**Pg**	**18 11 23.0**	**+1.8**
ECS				*e*S		**Sg**	**18 11 28.0**	**+3.5**
LONT	**Longtian** baz=128	**0.25**	**138**	⇑*i*P		**Pg**	**18 11 22.4**	**+1.2**
LONT				S		**Sg**	**18 11 26.9**	**+2.3**
TWG	**Pinlang** baz=145	**0.29**	**157**	⇓*i*P		**Pb**	**18 11 23.0**	**-0.8**
TWG				S		**Sb**	**18 11 27.7**	**-1.2**
SLGT	**Liugui** baz=243	**0.30**	**250**	⇑*i*P		**Pg**	**18 11 21.0**	**-1.1**
SLGT				*i* S		**Sg**	**18 11 24.7**	**-1.4**
TWGBT	**Beinan** baz=145	**0.30**	**156**	⇓*i*P		**Pb**	**18 11 23.0**	**-0.9**
TWGBT				S		**Sb**	**18 11 27.7**	**-1.3**
FULB	**Fuli** baz=76	**0.33**	**72**	⇑*i*P		**Pg**	**18 11 24.8**	**+2.0**
FULB				*e*S		**Sg**	**18 11 30.8**	**+3.5**
SGST	**Jiashian** baz=266	**0.34**	**268**	⇑P		**Pg**	**18 11 20.6**	**-2.2**
SGST				S		**Sg**	**18 11 25.0**	**-2.4**
WTP	**Ta-pu** baz=303	**0.34**	**296**	⇓*i*P		**Pg**	**18 11 22.1**	**-0.9**
WTP				*i* S		**Sg**	**18 11 26.6**	**-0.9**
EDH	**Donghe** baz=107	**0.35**	**110**	⇑*i*P		**Pn**	**18 11 25.1**	**-2.6**
EDH				*e*S		**Sb**	**18 11 31.7**	**+1.3**
TPUB	**Ta-pu** baz=312	**0.36**	**305**	⇓*i*P		**Pg**	**18 11 22.6**	**-0.7**
TPUB				*i* S		**Sg**	**18 11 27.4**	**-0.7**
CHKT	**Chengkung** baz=90	**0.38**	**89**	⇑*i*P		**Pn**	**18 11 26.2**	**-1.9**
CHKT				*e*S		**Sb**	**18 11 33.9**	**+2.4**
TTN	**Taitung** baz=143	**0.38**	**152**	⇓*e*P		**Pb**	**18 11 25.6**	**+0.2**
TTN				*e*S		**Sb**	**18 11 32.4**	**+1.0**
YUS	**Yu-Shan** baz=12	**0.39**	**0**	⇑*i*P		**Pg**	**18 11 23.9**	**-0.2**
YUS				S		**Sg**	**18 11 29.6**	**+0.3**
CHN1	**Nanshi** baz=285	**0.40**	**283**	⇑*i*P		**Pg**	**18 11 23.3**	**-0.7**
CHN1				*i* S		**Sg**	**18 11 28.8**	**-0.5**
TWF1	**Yuli** baz=58	**0.41**	**51**	⇑*i*P		**Pb**	**18 11 25.3**	**-0.5**
TWF1				*e*S		**Sb**	**18 11 31.5**	**-0.8**
CHN4	**Tsaushan** baz=315	**0.42**	**308**	⇓*i*P		**Pg**	**18 11 23.9**	**-0.4**
CHN4				*i* S		**Sg**	**18 11 29.7**	**-0.2**
EYUL	**Yuli** baz=59	**0.42**	**53**	⇑*i*P		**Pb**	**18 11 25.5**	**-0.5**
EYUL				*e*S		**Sb**	**18 11 32.6**	**0.0**
SNST	**Tainan City** baz=289	**0.43**	**287**	⇑*i*P		**Pg**	**18 11 24.2**	**-0.5**
SNST				S		**Sg**	**18 11 30.0**	**-0.4**
ALS	**Alishan** baz=353	**0.43**	**342**	⇓*i*P		**Pg**	**18 11 24.4**	**-0.4**
ALS				*e*S		**Sg**	**18 11 30.6**	**0.0**
YULB	**Yu-li** baz=53	**0.44**	**47**	⇑*i*P		**Pb**	**18 11 25.4**	**-0.8**
YULB				S		**Sb**	**18 11 32.4**	**-0.6**
SSD	**Sandimen** baz=211	**0.45**	**220**	⇑*i*P		**Pg**	**18 11 23.6**	**-1.4**
SSD				*e*S		**Sg**	**18 11 28.5**	**-2.5**
TWK	**Hsinying** baz=296	**0.46**	**292**	⇓*i*P		**Pg**	**18 11 24.7**	**-0.5**
TWK				*e*S		**Sg**	**18 11 31.0**	**-0.2**
SCST	**Cishan** baz=239	**0.47**	**244**	⇑*i*P		**Pg**	**18 11 24.6**	**-0.7**
SCST				*e*S		**Sg**	**18 11 31.4**	**0.0**
TSMG	**Majia** baz=208	**0.48**	**216**	⇑*i*P		**Pg**	**18 11 24.1**	**-1.4**
TSMG				*e*S		**Sg**	**18 11 29.3**	**-2.5**
ECL	**Taimali** baz=170	**0.49**	**179**	⇓*i*P		**Pg**	**18 11 25.7**	**-0.2**
ECL				S		**Sg**	**18 11 32.3**	**0.0**
ECBN	**Changbin** baz=68	**0.51**	**64**	⇑*e*P		**Pn**	**18 11 28.5**	**-1.4**
ECBN				*e*S		**Sb**	**18 11 37.9**	**+2.8**
EHY	**Hungye** baz=46	**0.54**	**40**	⇑*i*P		**Pb**	**18 11 27.1**	**-0.8**
EHY				*e*S		**Sb**	**18 11 34.8**	**-1.0**
CHN3	**Shinhua** baz=267	**0.54**	**268**	⇑*e*P		**Pg**	**18 11 27.4**	**+0.7**
CHN3				*e*S		**Sb**	**18 11 37.7**	**+1.8**
TWM1	**Shoushan** baz=236	**0.56**	**241**	⇑P		**Pg**	**18 11 26.9**	**-0.1**
TWM1				*e*S		**Sb**	**18 11 38.7**	**+2.4**
SHHT	**Tainan City** baz=261	**0.56**	**263**	⇑*i*P		**Pg**	**18 11 27.9**	**+0.8**
SHHT				*e*S		**Sb**	**18 11 38.0**	**+1.6**
CHN5	**Tsauling** baz=340	**0.56**	**334**	⇓*i*P		**Pg**	**18 11 26.9**	**-0.2**
CHN5				*e*S		**Sg**	**18 11 35.2**	**+0.8**
SGLT	**Jiouru** baz=223	**0.56**	**229**	*e*P		**Pg**	**18 11 26.4**	**-0.6**
MASBT	**Mashibuluo** baz=204	**0.56**	**211**	⇑*i*P		**Pg**	**18 11 25.8**	**-1.3**
MASBT				*e*S		**Sg**	**18 11 32.1**	**-2.3**
TSPT	**Pingtung City** baz=220	**0.59**	**225**	*e*P		**Pg**	**18 11 27.5**	**-0.1**
HGSD	**Ruisui** baz=52	**0.59**	**48**	⇑P		**Pn**	**18 11 28.9**	**-2.0**
HGSD				*e*S		**Sn**	**18 11 39.2**	**-1.6**
SSHA	**Shanhua** baz=274	**0.61**	**274**	*e*P		**Pg**	**18 11 29.3**	**+1.3**
SSHA				*e*S		**Sb**	**18 11 39.6**	**+1.7**
CHN2	**Minshiung** baz=320	**0.62**	**315**	*e*P		**Pg**	**18 11 28.3**	**+0.2**
CHN2				*e*S		**Sg**	**18 11 38.0**	**+1.8**
CHY	**Chiayi** baz=315	**0.63**	**310**	⇓P		**Pg**	**18 11 28.4**	**0.0**
CHY				*e*S		**Sg**	**18 11 37.4**	**+0.8**
LDUT	**Ludao** baz=127	**0.64**	**131**	*e*P		**Pn**	**18 11 29.8**	**-1.8**
LDUT				*e*S		**Sn**	**18 11 40.7**	**-1.2**
TAI1	**Yung-k'ang** baz=264	**0.67**	**266**	*e*P		**Pg**	**18 11 30.5**	**+1.4**
TAI1				*e*S		**Sg**	**18 11 41.1**	**+3.3**
ICHU	**Yijhu** baz=296	**0.67**	**293**	⇓P		**Pg**	**18 11 29.0**	**-0.2**
ICHU				*e*S		**Sg**	**18 11 38.8**	**+0.9**
VWDT	**VWDT** baz=21	**0.68**	**15**	⇑P		**Pb**	**18 11 29.0**	**-1.4**
VWDT				*e*S		**Sn**	**18 11 41.7**	**-1.4**
WGK	**Gukeng** baz=335	**0.69**	**329**	⇓P		**Pg**	**18 11 30.1**	**+0.6**
WGK				*e*S		**Sb**	**18 11 40.7**	**+0.5**
SSLB	**Suanglung** baz=6.0	**0.69**	**0**	*e*P		**Pg**	**18 11 28.8**	**-0.8**
SSLB				*e*S		**Sg**	**18 11 37.9**	**-0.7**
SCLT	**Jiali** baz=277	**0.70**	**277**	*e*P		**Pg**	**18 11 30.2**	**+0.5**
SCLT				*e*S		**Sg**	**18 11 41.7**	**+2.8**
SSPT	**Xinbi** baz=204	**0.70**	**210**	⇑P		**Pg**	**18 11 29.0**	**-0.8**
SSPT				*e*S		**Sg**	**18 11 40.1**	**+1.2**
WDLH	**Douliu** baz=333	**0.70**	**328**	⇓*e*P		**Pg**	**18 11 30.3**	**+0.5**
WDLH				*e*S		**Sb**	**18 11 41.1**	**+0.5**
EAST	**Anshuo** baz=181	**0.71**	**188**	⇑P		**Pg**	**18 11 29.6**	**-0.4**

EAST					*e*S	**Sg**	**18 11 38.7**	**-0.6**
	baz=181								
EGFH	**Guangfu**	**0.72**	**37**⇑	*e*P		**Pb**	**18 11 30.3**	**-0.8**
	baz=42								
EGFH					*e*S	**Sn**	**18 11 42.1**	**-1.9**
	baz=42								
CHN8	**Yiju**	**0.72**	**290**	*e*P		**Pg**	**18 11 30.1**	**0.0**
	baz=293								
CHN8					*e*S	**Sg**	**18 11 41.1**	**+1.5**
	baz=293								
TAW	**Tawu**	**0.73**	**184**	*e*P		**Pg**	**18 11 30.1**	**-0.2**
	baz=178								
TAW					*e*S	**Sg**	**18 11 40.0**	**+0.1**
	baz=178								
TAWH	**Dawu Township**	**0.75**	**184**	⇑P		**Pg**	**18 11 30.4**	**-0.4**
	baz=179								
TAWH					*e*S	**Sg**	**18 11 40.2**	**-0.3**
	baz=179								
WJS	**Zhushan**	**0.75**	**344**	*e*P		**Pg**	**18 11 31.1**	**+0.3**
	baz=350								
WJS					*e*S	**Sb**	**18 11 42.8**	**+0.7**
	baz=350								
WSSB	**Gushan**	**0.78**	**235**	*e*P		**Pb**	**18 11 32.7**	**+0.6**
	baz=231								
SCZT	**Fangliau**	**0.78**	**203**	⇑P		**Pg**	**18 11 30.2**	**-1.1**
	baz=197								
SCZT					*e*S	**Sg**	**18 11 40.6**	**-0.8**
	baz=197								
WTK	**Tuku**	**0.78**	**319**⇓	*e*P		**Pg**	**18 11 31.4**	**0.0**
	baz=323								
WTK					*e*S	**Sg**	**18 11 38.6**	**-3.0**
	baz=323								
SMLT	**Sun Moon Lake**	**0.79**	**357**⇑	*e*P		**Pb**	**18 11 31.4**	**-0.9**
	baz=3.0								
SMLT					*e*S	**Sb**	**18 11 44.1**	**+0.9**
	baz=3.0								
TYC	**Yuchr**	**0.81**	**354**⇑	*e*P		**Pb**	**18 11 32.1**	**-0.6**
TYC					*e*S	**Sn**	**18 11 45.9**	**-0.3**
TEGC	**Jichi Village**	**0.82**	**41**	*e*P		**Pn**	**18 11 33.3**	**-0.8**
	baz=46								
WNT	**Mingjian**	**0.82**	**343**⇓	*e*P		**Pb**	**18 11 32.8**	**+0.1**
	baz=348								
WNT					*e*S	**Sb**	**18 11 44.9**	**+0.9**
	baz=348								
ESL	**Shilin**	**0.84**	**32**	*e*P		**Pb**	**18 11 32.2**	**-0.9**
	baz=36								
ESL					*e*S	**Sn**	**18 11 45.3**	**-1.8**
	baz=36								
WNT1	**Nantou City**	**0.85**	**343**	*e*P		**Pb**	**18 11 33.5**	**+0.3**
	baz=348								
WNT1					*e*S	**Sb**	**18 11 45.7**	**+1.0**
	baz=348								
WSF	**Szhu**	**0.86**	**309**⇓	*e*P		**Pg**	**18 11 32.5**	**-0.3**
	baz=312								
WSF					*e*S	**Sg**	**18 11 45.2**	**+1.2**
	baz=312								
OWD	**Renai**	**0.88**	**14**⇑	*e*P		**Pg**	**18 11 32.3**	**-1.0**
	baz=18								
OWD					*e*S	**Sn**	**18 11 48.1**	**-0.1**
	baz=18								
SLIU	**Shizi**	**0.88**	**189**⇑	*e*P		**Pg**	**18 11 32.5**	**-0.7**
	baz=184								
SLIU					*e*S	**Sb**	**18 11 46.1**	**+0.3**
	baz=184								
WUSB	**Renai**	**0.91**	**10**⇑	*e*P		**Pg**	**18 11 32.8**	**-0.9**
	baz=14								
WUSB					*e*S	**Sn**	**18 11 49.6**	**+0.8**
	baz=14								
WLCH	**Liuqiu**	**0.91**	**216**	*e*P		**Pn**	**18 11 35.8**	**+0.5**
	baz=211								
WPL	**Puli Township**	**0.91**	**0**	*e*P		**Pb**	**18 11 33.7**	**-0.7**
	baz=5.0								
TWP	**Hsiaoliuchiu**	**0.92**	**216**	*e*P		**Pn**	**18 11 36.6**	**+1.1**
	baz=212								
WYL	**Yuanlin Townsh**	**0.93**	**339**	*e*P		**Pb**	**18 11 34.6**	**0.0**
	baz=343								
DPDB	**Guoxing**	**0.94**	**359**	*e*P		**Pb**	**18 11 34.0**	**-0.7**
	baz=3.0								
DPDB					*e*S	**Sb**	**18 11 48.2**	**+0.8**
	baz=3.0								
WCS	**Beigang Elemen**	**0.96**	**358**	*e*P		**Pb**	**18 11 34.5**	**-0.7**
	baz=2.0								
WCS					*e*S	**Sb**	**18 11 48.9**	**+0.9**
	baz=2.0								
WRL	**Guolierlin Hig**	**0.96**	**327**⇓	*e*P		**Pg**	**18 11 34.3**	**-0.4**
	baz=331								
WRL					*e*S	**Sg**	**18 11 47.7**	**+0.5**
	baz=331								
WWF	**Wufeng**	**0.97**	**346**⇓	*e*P		**Pb**	**18 11 35.6**	**+0.2**
	baz=351								
WWF					*e*S	**Sb**	**18 11 50.0**	**+1.6**
	baz=351								
TEYL	**Yanliau Villag**	**0.97**	**38**	*e*P		**Pn**	**18 11 36.0**	**-0.3**
	baz=40								
WTCT	**Ta-ch'eng**	**0.98**	**321**	*e*P		**Pb**	**18 11 34.5**	**-0.7**
	baz=325								
WTCT					*e*S	**Sg**	**18 11 48.8**	**+0.9**
	baz=325								
CHGB	**Renai**	**0.98**	**12**⇑	*e*P		**Pg**	**18 11 34.3**	**-0.9**
	baz=16								
CHGB					*e*S	**Sn**	**18 11 52.2**	**+1.3**
	baz=16								
ETM	**Tongmen**	**1.00**	**30**	*e*P		**Pn**	**18 11 35.5**	**-1.1**
	baz=34								
WCHH	**Zhanghua**	**1.04**	**340**	*e*P		**Pg**	**18 11 36.3**	**0.0**
	baz=344								
HWA	**Hwalien**	**1.07**	**34**	*e*P		**Pn**	**18 11 37.8**	**+0.3**
	baz=38								
TCU	**Taichung**	**1.08**	**347**	*e*P		**Pb**	**18 11 37.2**	**0.0**
	baz=351								
WHF	**Hehuan Shan**	**1.09**	**15**	*e*P		**Pg**	**18 11 35.8**	**-1.4**
	baz=20								
HEN	**Hengchun**	**1.10**	**190**	*e*P		**Pn**	**18 11 39.2**	**+1.2**
	baz=186								
TWD	**Chiawan**	**1.15**	**31**	*e*P		**Pn**	**18 11 38.5**	**-0.1**
	baz=35								
TWD					*e*S	**Sn**	**18 11 55.4**	**+0.9**
	baz=35								
TWK1	**Hengchun**	**1.15**	**187**	*e*P		**Pn**	**18 11 39.8**	**+1.1**
	baz=183								
TWKBT	**Hengchun**	**1.16**	**186**	*e*P		**Pb**	**18 11 38.8**	**+0.3**
	baz=183								
TWT	**Tachien**	**1.17**	**10**	*e*P		**Pn**	**18 11 39.4**	**+0.2**
	baz=13								
WHP	**Taichung City**	**1.18**	**360**	*e*P		**Pn**	**18 11 39.0**	**-0.1**
	baz=3.0								
WHP					*e*S	**Sn**	**18 11 56.4**	**+0.9**
	baz=3.0								
FUSS	**Fushou**	**1.18**	**13**	*e*P		**Pg**	**18 11 36.6**	**-2.3**
	baz=17								
FUSS					*e*S	**Sn**	**18 11 58.5**	**+2.7**
	baz=17								
TSEB	**Hengchuen, Pin**	**1.19**	**182**	*e*P		**Pn**	**18 11 40.5**	**+1.3**
	baz=181								
WDGT	**Dungji**	**1.20**	**278**	*e*P		**Pg**	**18 11 37.7**	**-1.5**
	baz=278								
WDGT					*e*S	**Sg**	**18 11 53.5**	**-1.4**
	baz=278								
ETLH	**Xiulin Townshi**	**1.21**	**24**	*e*P		**Pb**	**18 11 38.5**	**-1.0**
	baz=27								
ETLH					*e*S	**Sn**	**18 11 57.4**	**+1.1**
	baz=27								
ETL	**Fush Village**	**1.23**	**30**	*e*P		**Pn**	**18 11 39.8**	**0.0**
	baz=33								
NACB	**Ninganchiao**	**1.23**	**29**	*e*P		**Pn**	**18 11 39.5**	**-0.2**
	baz=32								
TWQ1	**Liyutan**	**1.26**	**353**	*e*P		**Pn**	**18 11 40.5**	**+0.3**
	baz=356								
TWQ1					*e*S	**Sn**	**18 11 58.6**	**+1.2**
	baz=356								
WDJ	**Dajia District**	**1.28**	**347**	*e*P		**Pn**	**18 11 41.0**	**+0.5**
	baz=350								
WDJ					*e*S	**Sn**	**18 11 59.7**	**+1.8**
	baz=350								
NSY	**Sanyi**	**1.33**	**353**	*e*P		**Pb**	**18 11 42.0**	**+0.5**
	baz=356								
NSY					*e*S	**Sn**	**18 12 01.6**	**+2.5**
	baz=356								
PHUB	**P'eng-hu**	**1.33**	**289**	*e*P		**Pn**	**18 11 39.5**	**-1.6**
	baz=289								
PHUB					*e*S	**Sg**	**18 11 56.6**	**-2.6**
	baz=289								
PNG	**Penghu**	**1.36**	**290**⇓	*e*P		**Pn**	**18 11 39.9**	**-1.7**
	baz=291								
PNG					*e*S	**Sg**	**18 11 57.4**	**-2.8**
	baz=291								
NNSB	**Datong**	**1.39**	**17**	*e*P		**Pn**	**18 11 41.7**	**-0.4**
	baz=20								
NNSB					*e*S	**Sn**	**18 12 02.4**	**+1.7**
	baz=20								
NNS	**Nan Shan**	**1.40**	**16**	*e*P		**Pg**	**18 11 41.7**	**-1.3**
	baz=19								
NNS					*e*S	**Sn**	**18 12 03.6**	**+2.7**
	baz=19								
VCHM	**Qimei**	**1.40**	**275**	*e*P		**Pn**	**18 11 40.5**	**-1.7**
	baz=275								
VCHM					*e*S	**Sg**	**18 11 58.4**	**-3.0**
	baz=275								
NMLH	**Miaoli**	**1.44**	**354**	*e*P		**Pb**	**18 11 44.0**	**+0.5**
	baz=357								
NMLH					*e*S	**Sn**	**18 12 04.2**	**+2.3**
	baz=357								
ENA	**Nanau**	**1.51**	**28**	*e*P		**Pn**	**18 11 43.2**	**-0.5**
	baz=31								
LATG	**Datong**	**1.53**	**20**	*e*P		**Pb**	**18 11 44.2**	**-0.8**
	baz=23								
LATG					*e*S	**Sn**	**18 12 08.4**	**+4.2**
	baz=23								
NSTT	**Nanjuang**	**1.53**	**2**	*e*P		**Pg**	**18 11 44.7**	**-0.9**
	baz=5.0								
NFF	**Wufeng Townshi**	**1.54**	**6**	*e*P		**Pg**	**18 11 45.2**	**-0.6**
	baz=8.0								
NFF					*e*S	**Sn**	**18 12 07.4**	**+3.1**
	baz=8.0								
EWUT	**Wuta**	**1.54**	**29**	*e*P		**Pg**	**18 11 45.2**	**-0.7**
	baz=32								
LIOB	**Emei**	**1.55**	**2**	*e*P		**Pg**	**18 11 45.5**	**-0.4**
	baz=5.0								
NDT	**Datong Townshi**	**1.59**	**19**	*e*P		**Pg**	**18 11 45.5**	**-1.3**
	baz=21								
YHNB	**Yeheng**	**1.62**	**14**	*e*P		**Pb**	**18 11 45.6**	**-0.8**
	baz=16								
NSK	**Sanguang**	**1.62**	**13**	*e*P		**Pn**	**18 11 44.9**	**-0.3**
	baz=16								
ENTT	**Nioudou**	**1.64**	**20**	*e*P		**Pg**	**18 11 46.3**	**-1.4**
	baz=23								
ENTT					*e*S	**Sg**	**18 12 11.1**	**+2.1**
	baz=23								
NJD	**Zhudong**	**1.64**	**4**	*e*P		**Pg**	**18 11 46.6**	**-1.1**
	baz=7.0								
NDS	**Dongshan**	**1.69**	**24**	*e*P		**Pg**	**18 11 48.1**	**-0.5**
	baz=27								
TWC	**Suao**	**1.72**	**28**	*e*P		**Pg**	**18 11 48.9**	**-0.4**
	baz=31								
TWE	**Neicheng**	**1.75**	**22**	*e*P		**Pg**	**18 11 48.1**	**-1.7**
	baz=25								
NWLT	**Wulai**	**1.75**	**17**	*e*P		**Pg**	**18 11 48.7**	**-1.1**
	baz=19								
FUSB	**Fushanzhiwuyua**	**1.76**	**19**	*e*P		**Pg**	**18 11 48.8**	**-1.2**
	baz=22								
TIPB	**Shuangxi**	**2.03**	**23**	*e*P		**Pg**	**18 11 53.2**	**-2.1**
	baz=25								
WFSB	**Wu-fen Shan**	**2.11**	**21**	*e*P		**Pb**	**18 11 54.0**	**-0.8**
	baz=23								
JYNG	**Yonaguni jima**	**2.27**	**53**	P		**Pb**	**18 11 55.1**	**-2.5**
JYNG					*e*S	**Sg**	**18 12 25.5**	**-3.8**
YOJ	**Yonaguni jima**	**2.33**	**54**	P		**Pb**	**18 11 55.9**	**-2.6**
YOJ					*e*S	**Sb**	**18 12 26.4**	**-1.0**
HATJ	**Hateruma jima**	**2.79**	**69**	S		**Sn**	**18 12 35.8**	**+0.7**
IRIF	**Iriomote-Funau**	**2.83**	**64**	P		**Pn**	**18 12 02.5**	**+0.7**
IRIF					*e*S	**Sb**	**18 12 37.6**	**-4.3**
JKRS	**Kuro-shima**	**3.03**	**67**	P		**Pn**	**18 12 05.8**	**+1.3**
JKRS					*e*S	**Sb**	**18 12 42.5**	**-5.1**
JIJ	**Ishigaki jima**	**3.19**	**66**	P		**Pn**	**18 12 07.2**	**+0.5**
JIJ					*e*S	**Sn**	**18 12 45.1**	**+0.2**
JISG	**Ishigakijimahi**	**3.42**	**64**	P		**Pn**	**18 12 10.2**	**+0.3**
MJAR	**Matsushiro Arr**	**20.05**	**44**	LR		LR	18 23 48.6	
	comp=Z,41nm,18.7s,baz=86,slow=39								
CMAR	**Chiang Mai Arr**	**21.08**	**261**	LR		LR	18 24 40.1	
	comp=Z,25nm,21.3s,baz=70,slow=37								
MKAR	**Makanchi Array**	**38.98**	**317**	P		**P**	**18 18 44.5**	**+1.5**
	0.6nm,1.0s,baz=106,slow=9.2,SNR=3.7								
WRA	**Warramunga Arr**	**44.73**	**162**	P		**P**	**18 19 28.9**	**-1.3**
	0.3nm,0.9s,baz=344,slow=8.6,SNR=4.6								
ASAR	**Alice Springs**	**48.16**	**164**	P		**P**	**18 19 58.5**	**+1.4**
	0.3nm,0.8s,baz=332,slow=5.8,SNR=2.2								

*IDC **18** 18:27:41.9±2.0,3°.49N×122°.51E,h0km,mb3.4/3,*
mb1 3.7/3,mb1mx3.1/57,mbtmp3.4/3,Error ellipse:
s-maj=249.1km s-min=28.8km az=62.0
*MAN **18** 18:27:49.6,5°.20N×124°.78E,h13km,mb5.1,ML4.1,MS4.2*
ISC 18 18:27:42.2±1.2,**4°.55N**±0°.08×**124°.71E**±0°.09,**h10km**,**n7**,
σ1§63/10,**mb3.3/3**,**3C-1D**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.48**	**9**⇑	*e*P			**Pn**	**18 28 20.9**	**-1.8**
CTBH	**Cotabato--PC H**	**2.69**	**350**⇑	*i*P			**Pn**	**18 28 25.0**	**-0.7**
CTBH				*i*S			**Sn**	**18 28 56.5**	**-1.9**
MATI	**Mati**	**2.84**	**33**⇑	*e*P			**Pg**	**18 28 39.7**	**+3.0**
MATI				*e*S			**Sb**	**18 29 07.8**	**-0.1**
ZCP	**Zamboanga City**	**3.53**	**312**⇓	*e*P			**Pn**	**18 28 37.9**	**+0.7**
ZCP				*e*S			**Sn**	**18 29 19.4**	**+0.4**
WRA	**Warramunga Arr**	**26.11**	**159**	P			**P**	**18 33 16.2**	**-0.4**
	1.0nm,0.7s,baz=330,slow=10,SNR=8.1								
ASAR	**Alice Springs**	**29.44**	**163**	P			**P**	**18 33 46.3**	**-0.1**
	0.4nm,0.8s,baz=340,slow=6.3,SNR=6.1								
MKAR	**Makanchi Array**	**55.74**	**326**	P			**P**	**18 37 18.1**	**-1.2**
	0.1nm,0.5s,baz=128,slow=7.2,SNR=1.9								

*MIRAS **18** 18:42:00.0±0.0,60°.23N×60°.01E,h1km,ML2.8/7*
*IDC **18** 18:42:01.5±1.3,60°.08N×59°.88E,h0km,mb3.1/1,*
mb1 3.6/7,mb1mx3.3/56,mbtmp3.5/7,ML3.1/5,Error
ellipse: s-maj=19.3km s-min=12.9km az=60.0
*IEPN **18** 18:42:01.0,60°.35N×59°.97E,h10km*
ISC 18 18:41:58.3±1.0,**60°.21N**±0°.04×**60°.13E**±0°.05,**h6**km±6km,
n16,**σ1§96/62**,**Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk**	**0.07**	**262**	*i*P			**Pg**	**18 42 00.5**	**+0.5**
	8μm,0.5s,baz=137								
SVUR				*i*P			**Pg**	**18 42 00.5**	**+0.5**
	9μm,0.3s,baz=137								
SVUR				*i*P			**Pg**	**18 42 00.5**	**+0.5**
	baz=137								
SVUR				*e*S			**Sg**	**18 42 01.2**	**-0.1**
	baz=137								
SVUR				*e*S			**Sg**	**18 42 01.2**	**-0.1**
	baz=137								
SVUR				*e*S			**Sg**	**18 42 01.2**	**-0.1**
	baz=137								
PR7R	**Sarany**	**1.80**	**203**	*e*P			**Pn**	**18 42 30.6**	**+0.7**
	baz=201								
PR7R				*e*P			**Pn**	**18 42 30.6**	**+0.7**
	baz=201								
PR7R				*e*P			**Pn**	**18 42 30.6**	**+0.7**
	baz=201								
PR7R				*e*S			**Sn**	**18 42 54.8**	**+1.7**
	baz=201								
PR7R				*e*S			**Sn**	**18 42 54.8**	**+1.7**
	baz=201								
PR7R				*e*S			**Sn**	**18 42 54.8**	**+1.7**
	baz=201								
PR1R	**Pomanovo**	**2.00**	**241**	*i*P			**Pb**	**18 42 34.6**	**-0.4**
	143nm,0.3s,baz=239								
PR1R				*i*P			**Pb**	**18 42 34.6**	**-0.4**
	143nm,0.3s,baz=239								
PR1R				*i*P			**Pb**	**18 42 34.6**	**-0.4**
	143nm,0.3s,baz=239								
PR1R				*i*P			**Pb**	**18 42 34.6**	**-0.4**
	baz=239								
PR1R				*i*P			**Pb**	**18 42 34.6**	**-0.4**
	baz=239								
PR1R				*i*P			**Pb**	**18 42 34.6**	**-0.4**
	143nm,0.3s,baz=239								
PR1R				*e*S			**Sb**	**18 43 00.5**	**+0.3**
	baz=239								
PR1R				*e*S			**Sb**	**18 43 00.5**	**+0.3**
	baz=239								
PR1R				*e*S			**Sb**	**18 43 00.5**	**+0.3**
	baz=239								
PR1R				*e*S			**Sg**	**18 43 00.8**	**-1.7**
	baz=239								
PR1R				*e*S			**Sg**	**18 43 00.8**	**-1.7**
	baz=239								
PR1R				*e*S			**Sg**	**18 43 00.8**	**-1.7**
	baz=239								
PR0R	**Verkhnechusovs**	**2.54**	**219**	*i*P			**Pb**	**18 42 43.0**	**-1.2**
	baz=217								
PR0R				*i*P			**Pb**	**18 42 43.0**	**-1.2**
	baz=217								
PR0R				*i*P			**Pb**	**18 42 43.0**	**-1.2**
	72nm,0.3s,baz=217								
PR0R				*e*S			**Sb**	**18 43 15.3**	**-0.3**
	baz=217								
PR0R				*e*S			**Sb**	**18 43 15.3**	**-0.3**
	baz=217								
PR0R				*e*S			**Sb**	**18 43 15.3**	**-0.3**
	baz=217								
PR3R	**Kungur**	**3.21**	**212**	*e*P			**Pb**	**18 42 53.1**	**-2.6**
	baz=210								
PR3R				*e*P			**Pb**	**18 42 53.1**	**-2.6**
	baz=210								
PR3R				*e*P			**Pb**	**18 42 53.1**	**-2.6**
	74nm,0.4s,baz=210								
PR3R				*e*P			**Pb**	**18 42 53.1**	**-2.6**
	baz=210								
PR3R				*e*P			**Pb**	**18 42 53.1**	**-2.6**
	baz=210								
PR3R				*e*P			**Pb**	**18 42 53.1**	**-2.6**
	74nm,0.4s,baz=210								
PR3R				*e*S			**Sn**	**18 43 32.4**	**+4.5**
	baz=210								
PR3R				*e*S			**Sn**	**18 43 32.4**	**+4.5**
	baz=210								
PR3R				*e*S			**Sn**	**18 43 32.4**	**+4.5**
	baz=210								
PR3R				*e*S			**Sb**	**18 43 32.9**	**-2.2**
	baz=210								
PR3R				*e*S			**Sb**	**18 43 32.9**	**-2.2**
	baz=210								
PR3R				*e*S			**Sb**	**18 43 32.9**	**-2.2**
	baz=210								
PR4R	**Vlasy**	**3.25**	**227**	*e*P			**Pn**	**18 42 49.4**	**-0.5**
	92nm,0.3s,baz=226								
PR4R				*e*P			**Pn**	**18 42 49.4**	**-0.5**
	baz=226								
PR4R				*e*P			**Pn**	**18 42 49.4**	**-0.5**
	122nm,0.3s,baz=226								
PR4R				*e*S			**Sn**	**18 43 29.1**	**+0.3**
	baz=226								
PR4R				*e*S			**Sn**	**18 43 29.1**	**+0.3**
	baz=226								
PR4R				*e*S			**Sn**	**18 43 29.1**	**+0.3**
	baz=226								
ARU	**Arti**	**3.88**	**193**	Pn			**Pn**	**18 43 02.1**	**+3.6**
	0.0nm,0.3s,baz=32,slow=9.4,SNR=5.1								
ARU						Sn	**Sn**	**18 43 47.6**	**+3.3**
	0.0nm,0.3s,baz=342,slow=20,SNR=3.4								
ARU						Lg	Lg	18 43 57.7	
	0.0nm,0.3s,baz=129,slow=20,SNR=11								
LSH	**Leshukonskoye**	**8.12**	**311**	*e*P			**Pn**	**18 43 57.4**	**+0.8**
LSH				*e*S			**Sn**	**18 45 28.0**	**-0.7**
	20nm,1.8s								
BVAR	**Borovoye Array**	**9.15**	**137**	Pn			**Pn**	**18 44 13.5**	**+2.7**
	0.5nm,0.3s,baz=309,slow=18,SNR=6.3								
BVAR						Sn	**Sn**	**18 45 49.0**	**-4.9**
	0.4nm,0.3s,baz=309,slow=26,SNR=4.0								
AMDE	**Amderma**	**9.62**	**3**	*e*P			**Pn**	**18 44 17.3**	**+0.2**
AMDE				*e*S			**Sn**	**18 46 04.3**	**-0.9**
ZALV	**Zalesovo Beam**	**14.76**	**104**	Pn			**P**	**18 45 31.9**	**-1.6**
	0.5nm,0.3s,baz=208,slow=10,SNR=8.7								
FINES	**FINESS Array B**	**16.54**	**289**	Pn			**Pn**	**18 45 48.5**	**-2.1**
	0.1nm,0.3s,baz=91,slow=11,SNR=1.8								
ARCES	**ARCESS Array B**	**17.14**	**317**	Pn			**Pn**	**18 45 57.3**	**-0.8**
	baz=102,slow=11,SNR=5.0								
MKAR	**Makanchi Array**	**18.69**	**126**	P			**Pn**	**18 46 20.5**	**+3.1**
	0.0nm,0.3s,baz=325,slow=8.9,SNR=2.5								
AKASG	**Malin Array Be**	**19.76**	**255**	P			**Pn**	**18 46 29.5**	**-0.7**
	0.4nm,0.3s,baz=46,slow=11,SNR=5.0								
NOA	**NORSAR Array B**	**23.57**	**293**	P			**P**	**18 47 11.3**	**+2.0**
	0.6nm,0.8s,baz=70,slow=10,SNR=1.9								

IDC 18 18:59:48.1±2.8,**3°.25N**×**65°.88E**,**h0km**,**mb3.9/3**,**mb1 4.1/3**,
mb1mx3.2/40,**mbtmp3.9/3**,**MS3.3/7**,**Ms1 3.3/7**,
ms1mx2.8/80,**Error ellipse: s-maj=115.6km**
s-min=36.9km az=58.0,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.29**	**74**	LR			LR	19 07 55.4	
	comp=Z,61nm,19.6s,baz=353,slow=32								
WSAR	**Wadi Sarin**	**21.07**	**341**	LR			LR	19 10 37.7	
	comp=Z,48nm,20.6s,baz=188,slow=31								
PSI	**Prapat**	**33.00**	**90**	LR			LR	19 17 53.2	
	comp=Z,59nm,19.1s,baz=206,slow=33								
CMAR	**Chiang Mai Arr**	**35.71**	**63**	LR			LR	19 21 01.7	
	comp=Z,16nm,18.4s,baz=185,slow=36								
BRTR	**Keskin Array B**	**46.60**	**326**	LR			LR	19 26 59.2	
	comp=Z,28nm,19.7s,baz=108,slow=35								
ZALV	**Zalesovo Beam**	**52.87**	**14**	P			P	19 09 05.4	-0.1
	0.6nm,0.5s,baz=201,slow=7.6,SNR=2.4								
SUR	**Sutherland**	**55.49**	**227**	LR			LR	19 30 41.8	
	comp=Z,59nm,18.4s,baz=164,slow=33								
WRA	**Warramunga Arr**	**70.99**	**112**	P			P	19 11 08.7	+0.4
	1.8nm,0.9s,baz=290,slow=5.6,SNR=6.8								
ASAR	**Alice Springs**	**71.33**	**116**	P			P	19 11 10.0	-0.3
	1.0nm,0.9s,baz=282,slow=5.7,SNR=9.5								
SHEM	**Shemya Is, Ala**	**98.34**	**36**	LR			LR	19 58 33.4	
	comp=Z,31nm,18.1s,baz=238,slow=36								
TXAR	**Lajitas Array**	**146.08**	**344**	PKPbc			PKPdf	19 19 30.1	-0.1
	0.6nm,0.7s,baz=44,slow=3.8,SNR=7.0								

*ISK **18** 19:22:34.3,36°.74N×26°.70E,h14km,ML3.6/23*
*DDA **18** 19:22:34.1±0.0,36°.74N×26°.65E,h8km±1km,MW3.6*
*HLW **18** 19:22:34.8,36°.81N×26°.83E,h30km±14km,Md3.9,MI3.8*
*ATH **18** 19:22:34.1,36°.74N×26°.75E,h28km±1km,ML3.5/7,Error*
ellipse: s-maj=2.1km s-min=0.7km az=80.0
*THE **18** 19:22:35.7,36°.75N×26°.75E,h9km±2km,ML3.4/8,Error*
ellipse: s-maj=3.0km s-min=0.7km az=85.0
ISC 18 19:22:34.7±1.0,**36°.71N**±0°.02×**26°.74E**±0°.02,**h17**km±9km,
n84,**σ1§12/115**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.19**	**79**	P			**Pb**	**19 22 39.8**	**0.0**
KOSK				S			**Sb**	**19 22 44.2**	**+1.0**

comp=N,6844µm,0.3s
SMG Samos 1.00 4 P Pn 19 22 53.3 -0.6
SMG S Sn 19 23 07.8 +0.2
comp=N,4µm,0.3s
MLSB Milas 1.01 55 PG Pn 19 22 53.8 -0.3
APE Apeiranthos 1.03 290 P Pg 19 22 54.2 -0.6
APE S Sn 19 23 08.6 -0.1
APE Apeiranthos 1.03 290 P Pn 19 22 54.4 -0.1
APE S Sn 19 23 08.5 -0.1
APE Apeiranthos 1.03 290 PG Pg 19 22 54.1 -0.6
GCAM G?zelcaml? 1.06 22 PG Pn 19 22 55.1 +0.4
GCAM SG Sn 19 23 10.8 +1.7
GCAM G?zelcaml? 1.06 22 P Pn 19 22 54.5 -0.2
GCAM S Sn 19 23 09.8 +0.7
GCAM *i* AML AML 19 23 13.0
comp=N,2µm,0.5s
GCAM *i* AML AML 19 23 14.0
comp=N,2µm,0.5s
THR8 Santorini-Mono 1.06 254 P Pb 19 22 54.5 -0.1
THR2 Thira island, 1.09 256 P Pb 19 22 55.1 0.0
THT2 Imerovigli 1.10 256 P Pn 19 22 55.5 +0.2
THT2 S Sn 19 23 12.9 +2.8
comp=N,2µm,0.3s
CMBO Columbo, Santo 1.10 258 P Pb 19 22 55.1 -0.2
CMBO S Sg 19 23 10.3 -0.2
CMBO Columbo, Santo 1.10 258 P Pg 19 22 55.8 -0.2
CMBO S Sn 19 23 12.9 +2.7
comp=N,3µm,0.5s
THR3 Thira Island, 1.12 255 P Pb 19 22 55.6 0.0
SNT5 Nea Kammeni, S 1.13 254 P Pb 19 22 55.1 -0.6
SAP4 Santorini-Oia 1.13 258 P Pb 19 22 55.3 -0.4
THR6 Thira Island, 1.14 252 P Pb 19 22 56.1 +0.2
SAP3 Santorini-Thir 1.16 257 P Pg 19 22 56.7 -0.4
THR5 Thira Island, 1.16 256 P Pb 19 22 56.4 +0.1
THR9 Santorini-Faro 1.17 253 P Pn 19 22 56.4 +0.1
KARP Karpathos 1.21 164 P Pn 19 22 57.3 +0.4
KARP AML AML 19 23 19.8
comp=E,2727µm,0.6s
KARP AML AML 19 23 22.8
comp=N,1450µm,0.4s
KARP Karpathos 1.21 164 P Pb 19 22 57.5 +0.3
KARP S Sb 19 23 06.2 -6.4
comp=N,1µm,0.6s
KARP Karpathos 1.21 164 PN Pb 19 22 57.5 +0.3
YER Yerkesik 1.30 71 PN Pg 19 22 59.3 -0.5
AYDN Tasoluk 1.31 43 P Pg 19 22 58.8 -1.1
AYDN S Sg 19 23 17.6 +0.6
AYDN *i* AML AML 19 23 20.0
comp=N,772nm,0.7s
AYDN *i* AML AML 19 23 22.0
comp=N,800nm,0.5s
DGB zmir 1.34 5 P Pn 19 22 58.3 -0.3
DGB S Sg 19 23 19.2 +1.2
DGB *i* AML AML 19 23 21.0
comp=N,552nm,0.7s
DGB *i* AML AML 19 23 21.0
comp=N,441nm,0.5s
GMLD Gumuldur 1.37 6 PN Pb 19 22 59.3 -0.5
TNSA Tinos 1.51 304 P Pn 19 23 00.9 0.0
ZEYE Izmir, Urla-Ze 1.54 353 P Pn 19 23 00.7 -0.6
ZEYE S Sg 19 23 25.8 +1.6
ZEYE *i* AML AML 19 23 28.0
comp=N,824nm,0.3s
ZEYE *i* AML AML 19 23 29.0
comp=N,966nm,0.3s
DALY Dalyan (Mula) 1.54 86 PN Pb 19 23 02.5 -0.2
URLA Izmir 1.65 356 PN Pb 19 23 03.9 -0.7
URLA Izmir 1.65 356 P Pn 19 23 02.6 -0.3
URLA S Sg 19 23 29.4 +1.6
URLA *i* AML AML 19 23 32.0
comp=N,688nm,1.1s
URLA *i* AML AML 19 23 36.0
comp=N,688nm,1.1s
ZKR Zakros 1.65 195 P Pn 19 23 03.9 +1.0
ZKR AML AML 19 23 33.5
comp=N,1284µm,0.7s
ZKR AML AML 19 23 37.9
comp=E,1324µm,0.7s
ZKR Zakros 1.65 195 P Pn 19 23 04.0 +1.0
ZKR S Sb 19 23 25.9 +0.7
comp=E,655nm,0.7s
ZKR Zakros 1.65 195 PN Pn 19 23 03.8 +0.9
CHOS Chios island 1.76 342 P Pn 19 23 04.1 -0.4
CHOS S Sb 19 23 26.8 -1.5
CHOS AML AML 19 23 35.3
comp=E,1558µm,0.3s
CHOS AML AML 19 23 39.1
comp=N,1047µm,0.3s
CHOS Chios island 1.76 342 P Pn 19 23 04.2 -0.2
CHOS S Sb 19 23 27.1 -1.2
comp=N,640nm,0.4s
CHOS Chios island 1.76 342 PN Pn 19 23 04.6 +0.2
MHLO Agia Marina, M 1.88 270 P Pn 19 23 06.4 +0.4
FETY Fethiye 1.88 92 PN Pb 19 23 07.5 -1.1
FETY Fethiye 1.88 92 P Pg 19 23 10.0 -0.8
FETY S Sg 19 23 36.5 +1.2
FETY *i* AML AML 19 23 37.0
comp=N,165nm,0.8s
FETY *i* AML AML 19 23 46.0
comp=N,85nm,0.6s
FRMA Ierapetra Chan 1.88 206 P Pn 19 23 06.1 0.0
TAVA DENIZLI_Tavas 1.89 66 P Pb 19 23 08.0 -0.8
TAVA S Sg 19 23 38.0 +2.4
TAVA *i* AML AML 19 23 50.0
comp=N,108nm,0.9s
TAVA *i* AML AML 19 23 50.0
comp=N,107nm,1.2s
HRKL Herakleio 1.93 224 P Pn 19 23 07.8 +1.1
HRKL Herakleio 1.93 224 PN Pn 19 23 07.7 +1.0
KSTL Kastelli Herak 1.95 224 P Pn 19 23 07.0 0.0
PSRA Psara 2.05 333 P Pn 19 23 09.1 +0.7
CAME Cameli-Denizli 2.06 83 PN Pb 19 23 10.1 -1.7
IDI Anoyia 2.07 227 P Pn 19 23 09.0 +0.3
IDI AML AML 19 23 46.5
comp=E,1143µm,0.4s
IDI AML AML 19 23 48.7
comp=N,665µm,0.3s
IDI Anoyia 2.07 227 PN Pn 19 23 09.3 +0.6
KARY Karystos 2.26 306 P Pn 19 23 11.5 +0.3
ZEDA zmir-Bergama 2.26 7 P Pn 19 23 11.5 +0.2
ZEDA *i* AML AML 19 23 53.0
comp=N,193nm,0.5s
ZEDA *i* AML AML 19 24 00.0
comp=N,174nm,0.8s
TMBK Timbaki Herakl 2.29 225 P Pn 19 23 12.8 +1.1
SIVA Sivas 2.31 223 P Pn 19 23 13.1 +1.2
GOLH Golhisar 2.32 76 P Pb 19 23 15.7 -0.4
GOLH *i* AML AML 19 23 59.0
comp=N,67nm,0.7s
GOLH *i* AML AML 19 24 12.0
comp=N,85nm,0.8s
AKAS Kas 2.36 101 PN Pn 19 23 14.3 +1.6
AKAS Kas 2.36 101 P Pb 19 23 16.4 -0.4
AKAS *i* AML AML 19 24 15.0
comp=N,162nm,0.7s
AKAS *i* AML AML 19 24 16.0
comp=N,64nm,1.1s
DKL Dikili 2.36 3 PN Pn 19 23 13.1 +0.5
KSL Kastellorizon 2.36 103 P Pn 19 23 12.9 +0.3
VAM Vamos 2.44 238 P Pn 19 23 14.2 +0.5
ELL Elmali 2.54 88 PN Pn 19 23 17.0 +1.7
IMMV Iera Moni Meta 2.56 242 P Pn 19 23 16.0 +0.6
SIGR SIGRI 2.59 345 P Pn 19 23 15.9 +0.1
SIGR SIGRI 2.59 345 PN Pn 19 23 15.9 +0.1
USAK Uak-Merkez 2.69 41 P Pn 19 23 19.1 +1.8
USAK *i* AML AML 19 25 01.0
comp=N,48nm,3.4s
SKY Skiros Island 2.77 322 P Pn 19 23 18.3 0.0
KYMI Kymi, Euboea I 2.84 313 P Pn 19 23 19.5 +0.2
KORT Korkueli 2.91 83 PN Pn 19 23 22.2 +1.9
SLUM Salum 5.36 194 P Pn 19 23 54.5 +0.6
baz=195
SWA2 7.53 189 P Pn 19 24 24.1 +0.4
baz=190
SWA2 S Sn 19 25 44.4 -4.2
baz=190
GLL Jalalah 8.24 148 P Pn 19 24 33.7 +0.2
baz=149
HKAT Jabal Katrina 10.20 141 P Pn 19 25 00.6 +0.2
baz=141

*IDC **18** 19:25:23.9±1.4,59°.69N×153°.18W,h108km±22km,*

mb3.8/10,mb1 3.9/14,mb1mx3.5/68,mbtmp4.2/14,MS2.8/1, Ms1 2.8/1,ms1mx2.2/91,Error ellipse: s-maj=23.6km s-min=14.4km az=125.0

*NEIC **18** 19:25:23.8±1.4,59°.72N±0°.04×153°.16W±0°.07, h113km±3km,Error ellipse: s-maj=5.7km s-min=5.1km az=146.0*

*ANF **18** 19:25:24.4±0.2,59°.74N×153°.11W,h102km±3km,ML4.0/44, Error ellipse: s-maj=2.1km s-min=1.8km az=119.0*

*AEIC **18** 19:25:25±1.6,59°.74N±0°.03×153°.16W±0°.07,h105km±3km, ML3.7,mb4.3/7(NEIC),ML4.0/116(NEIC),Error ellipse: s-maj=5.2km s-min=4.6km az=215.0*

ISC 18 19:25:24.0±0.6,59.72N±0°.03×153°.10W±0°.03, h116km±5km,n266,σ0s97/314,mb4.3/16,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**225**		**Pn**	**19 25 39.5**	**-0.4**
P19K	**Oil Pt**	**0.10**	**225**		**Pn**	**19 25 39.5**	**-0.4**
P19K					Sn	19 25 50.9	-0.9
IVE	**Iliamna Volcan**	**0.30**	**8**		**Pn**	**19 25 40.0**	**-0.6**
IVE					Sn	19 25 51.7	-1.3
AU22	**Augustine Moun**	**0.38**	**201**		**Pn**	**19 25 40.5**	**-0.2**
AU22					Sn	19 25 52.4	-0.8
AUL	**Augustine Lava**	**0.38**	**207**		**Pn**	**19 25 40.7**	**-0.1**
AUL					Sn	19 25 52.5	-0.9
AUH	**Augustine H**	**0.40**	**206**		**Pn**	**19 25 40.9**	**-0.1**
AUQ	**Augustine Qik'**	**0.40**	**204**		**Pn**	**19 25 40.8**	**-0.1**
O20K	**Slope Mountain**	**0.43**	**33**		**Pn**	**19 25 40.9**	**-0.3**
O20K					Sn	19 25 53.0	-1.1
O20K	**Slope Mountain** baz=218,SNR=65	**0.43**	**33**	P	**Pn**	**19 25 40.9**	**-0.3**
O20K				S	Sn	19 25 53.2	-0.9
	baz=218						
HOM	**Homer**	**0.74**	**94**		**Pn**	**19 25 43.4**	**+0.3**
HOM				Sn	Sn	19 25 57.9	+0.2
HOM				IAML		19 25 59.3	
	comp=E,4µm,0.5s						
HOM				IAML		19 25 59.6	
	comp=N,5µm,0.4s						
HOM	**Homer** baz=276,SNR=34	**0.74**	**94**	P	**Pn**	**19 25 43.5**	**+0.3**
HOM				S	Sn	19 25 57.9	+0.2
	baz=276						
RSO	**Redoubt South**	**0.77**	**13**		**Pn**	**19 25 43.4**	**-0.3**
O19K	**Port Alsworth**	**0.78**	**308**		**Pn**	**19 25 42.8**	**-0.7**
O19K				Sn	Sn	19 25 56.5	-1.7
O19K				IAML		19 25 57.4	
	comp=N,8µm,0.5s						
O19K				IAML		19 25 58.6	
	comp=E,5µm,0.5s						
O19K	**Port Alsworth** baz=128,SNR=166	**0.78**	**308**	P	**Pn**	**19 25 42.9**	**-0.6**
O19K				S	Sn	19 25 56.6	-1.7
	baz=128						
RDWB	**Redoubt West**	**0.78**	**9**		**Pn**	**19 25 43.3**	**-0.5**
RDWB					Sn	19 25 57.7	-1.5
Q19K	**Cape Douglas,**	**0.84**	**200**		**Pn**	**19 25 43.9**	**-0.2**
Q19K				Sn	Sn	19 25 58.1	-1.3
Q19K				IAML		19 26 02.6	
	comp=E,3µm,0.8s						
Q19K				IAML		19 26 03.9	
	comp=N,5µm,0.7s						
Q19K	**Cape Douglas,** baz=17,SNR=44	**0.84**	**200**	P	**Pn**	**19 25 44.0**	**-0.2**
Q19K				S	Sn	19 25 58.5	-0.8
	baz=17						
NCT	**North Crescent**	**0.85**	**6**		**Pn**	**19 25 43.9**	**-0.4**
RDJH	**Redoubt Jeurge**	**0.89**	**9**		**Pn**	**19 25 44.3**	**-0.3**
DFR	**Drift River**	**0.90**	**13**		**Pn**	**19 25 44.5**	**-0.3**
CNPM	**China Poot**	**0.97**	**101**	Pn	**Pn**	**19 25 45.3**	**0.0**
CNPM				Sn	Sn	19 26 00.2	-1.2
CNPM				IAML		19 26 01.8	
	comp=N,3µm,0.4s						
BRLK	**Bradley Lake**	**1.12**	**87**	Pn	**Pn**	**19 25 46.7**	**-0.2**
BRLK				Sn	Sn	19 26 02.9	-1.3
BRLK				IAML		19 26 05.3	
	comp=E,1µm,0.4s						
BRLK				IAML		19 26 05.8	
	comp=N,2µm,0.3s						
P18K	**Big Mountain,**	**1.13**	**254**		**Pn**	**19 25 46.3**	**-0.8**
P18K				Sn	Sn	19 26 02.3	-2.2
P18K	**Big Mountain,** baz=71	**1.13**	**254**	P	**Pn**	**19 25 46.2**	**-0.8**
P18K				S	Sn	19 26 02.5	-2.0
	baz=71						
BRSE	**Bradley Lake S**	**1.19**	**88**		**Pn**	**19 25 47.4**	**-0.3**
BRSE	**Bradley Lake S** baz=270,SNR=39	**1.19**	**88**	P	**Pn**	**19 25 47.4**	**-0.3**
BRSE				S	Sn	19 26 04.7	-0.9
	baz=270						
N19K	**Bonanza Creek**	**1.30**	**328**		**Pn**	**19 25 48.2**	**-0.7**
N19K				Sn	Sn	19 26 06.0	-1.7
N19K	**Bonanza Creek** baz=148,SNR=297	**1.30**	**328**	P	**Pn**	**19 25 48.5**	**-0.4**
N19K				S	Sn	19 26 05.9	-1.9
	baz=148						
CAPN	**Captain Cook N**	**1.43**	**42**	Pn	**Pn**	**19 25 51.9**	**+1.6**
CAPN				Sn	Sn	19 26 12.2	+2.0
CAPN				IAML		19 26 15.5	
	comp=E,4µm,0.7s						
CAPN	**Captain Cook N** baz=225	**1.43**	**42**	S	**Sn**	**19 26 10.6**	**+0.3**
SPCR	**Spurr Chakacha**	**1.55**	**16**		**Pn**	**19 25 51.7**	**0.0**
SPCR	**Spurr Chakacha** baz=198,SNR=76	**1.55**	**16**	P	**Pn**	**19 25 51.8**	**0.0**
SPCR				S	Sn	19 26 11.7	-1.2
	baz=198						
SPU	**Mount Spurr**	**1.56**	**19**		**Pn**	**19 25 51.2**	**-0.6**
SPCN	**Chakachatna No**	**1.58**	**16**		**Pn**	**19 25 52.2**	**+0.2**
SLKM	**Skilak Lake**	**1.64**	**60**		**Pn**	**19 25 52.6**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.67**	**18**		**Pn**	**19 25 53.3**	**+0.1**
SVW2	**Sparrevohn**	**1.85**	**319**		**Pn**	**19 25 54.7**	**-0.6**
SVW2				Sn	Sn	19 26 16.9	-2.4
O22K	**Cooper Landing**	**1.85**	**64**		**Pn**	**19 25 55.7**	**+0.3**
O22K				Sn	Sn	19 26 17.1	-2.1
SEW	**Seward**	**1.88**	**77**	Pn	**Pn**	**19 25 55.5**	**-0.1**
SEW	**Seward** baz=260,SNR=34	**1.88**	**77**	P	**Pn**	**19 25 55.6**	**0.0**
SEW				S	Sn	19 26 18.1	-1.6
	baz=260						
STLK	**Strandline Lak**	**1.89**	**19**		**Pn**	**19 25 56.0**	**+0.1**
KDAK	**Kodiak Island**	**1.96**	**172**	P	**Pn**	**19 25 56.2**	**-0.6**
	comp=E,74nm,0.3s,baz=35,slow=8.5,SNR=508						
KDAK				S	Sn	19 26 20.6	-1.1
	comp=E,77nm,0.3s,baz=295,slow=22,SNR=23						
KDAK	**Kodiak Island**	**1.96**	**172**		**Pn**	**19 25 56.1**	**-0.6**
KDAK				Sn	Sn	19 26 20.4	-1.3
KDAK				IAML		19 26 28.8	
	comp=E,487nm,0.6s						
KDAK				IAML		19 26 29.3	
	comp=E,711nm,0.5s						
KDAK	**Kodiak Island** baz=351	**1.96**	**172**	P	**Pn**	**19 25 56.1**	**-0.6**
KDAK				S	Sn	19 26 20.6	-1.1
	baz=351						
FIS	**Fire Island**	**2.02**	**44**		**Pn**	**19 25 56.7**	**-0.7**
FIS				IAML		19 26 28.9	
	comp=N,1µm,0.7s						
FIS				IAML		19 26 32.3	
	comp=E,1µm,0.5s						
CAHL	**Cahill**	**2.03**	**215**		**Pn**	**19 25 57.9**	**+0.3**
KJL	**Kejulik**	**2.11**	**219**		**Pn**	**19 25 59.4**	**+0.8**
RC01	**Rabbit Creek A**	**2.16**	**49**	Pn	**Pn**	**19 25 59.4**	**+0.1**
RC01				Sn	Sn	19 26 24.7	-1.5
RC01				IAML		19 26 26.8	
	comp=N,2µm,0.3s						
RC01	**Rabbit Creek A** baz=233,SNR=27	**2.16**	**49**	P	**Pn**	**19 25 59.3**	**+0.1**
RC01				S	Sn	19 26 25.0	-1.2
	baz=233						
M19K	**Big River Lodg**	**2.28**	**344**		**Pn**	**19 26 00.6**	**-0.1**
OHAK	**Old Harbor**	**2.51**	**182**		**Pn**	**19 26 02.7**	**-0.9**
OHAK				Sn	Sn	19 26 31.1	-3.0
OHAK				IAML		19 26 34.2	
	comp=N,325nm,0.3s						
OHAK	**Old Harbor** baz=1.4,SNR=12	**2.51**	**182**	P	**Pn**	**19 26 02.7**	**-0.9**
M22K	**Willow**	**2.51**	**34**		**Pn**	**19 26 04.0**	**+0.3**
M22K				Sn	Sn	19 26 33.1	-1.0
M22K	**Willow** baz=218,SNR=45	**2.51**	**34**	P	**Pn**	**19 26 04.1**	**+0.5**
M22K				S	Sn	19 26 34.1	0.0
	baz=218						
L19K	**White Mountain**	**2.62**	**342**	Pn	**Pn**	**19 26 04.7**	**-0.4**
L19K				Sn	Sn	19 26 33.4	-3.3
L19K	**White Mountain** baz=161,SNR=115	**2.62**	**342**	P	**Pn**	**19 26 04.8**	**-0.2**
L19K				S	Sn	19 26 35.5	-1.2
	baz=161						
PLK3	**Peulik 3**	**2.62**	**220**		**Pn**	**19 26 06.0**	**+0.8**
PWL	**Port Wells**	**2.63**	**62**	Pn	**Pn**	**19 26 04.6**	**-0.7**
PWL				Sn	Sn	19 26 35.3	-1.8
PWL	**Port Wells** baz=247,SNR=64	**2.63**	**62**	P	**Pn**	**19 26 04.8**	**-0.5**
PWL				S	Sn	19 26 35.2	-1.8
	baz=247						
PMR	**Palmer**	**2.71**	**44**	Pn	**Pn**	**19 26 05.8**	**-0.5**
PMR				Sn	Sn	19 26 36.1	-2.7
PMR				IAML		19 26 39.8	
	comp=N,374nm,0.3s						
PMR				IAML		19 26 42.0	
	comp=E,497nm,0.3s						
PMR	**Palmer** baz=228,SNR=19	**2.71**	**44**	P	**Pn**	**19 26 05.7**	**-0.5**
PMR				S	Sn	19 26 36.6	-2.2
	baz=228						
L20K	**Farewell, AK**	**2.79**	**353**		**Pn**	**19 26 07.6**	**+0.2**
L20K	**Farewell, AK** baz=173,SNR=170	**2.79**	**353**	P	**Pn**	**19 26 07.7**	**+0.2**
KNK	**Knik Glacier**	**2.85**	**51**		**Pn**	**19 26 07.5**	**-0.6**
KNK				Sn	Sn	19 26 40.2	-1.9
KNK	**Knik Glacier** baz=236,SNR=20	**2.85**	**51**	P	**Pn**	**19 26 07.7**	**-0.5**
KNK				S	Sn	19 26 40.0	-2.1
	baz=236						
GHO	**Glory Hole Cre**	**2.91**	**43**		**Pn**	**19 26 08.4**	**-0.5**
GHO				Sn	Sn	19 26 40.1	-3.4
GHO				IAML		19 26 44.0	
	comp=N,768nm,0.3s						
GHO				IAML		19 26 44.4	
	comp=E,894nm,0.6s						
CUT	**Chulitna**	**3.02**	**26**	Pn	**Pn**	**19 26 11.1**	**+0.7**
CUT				Sn	Sn	19 26 44.2	-2.0
CUT				IAML		19 26 47.1	
	comp=N,597nm,0.5s						
CUT				IAML		19 26 47.3	
	comp=E,620nm,0.4s						
CUT	**Chulitna** baz=209,SNR=5.1	**3.02**	**26**	P	**Pn**	**19 26 10.1**	**-0.2**
CUT				S	Sn	19 26 45.9	-0.3
	baz=209						
SML	**Sawmill**	**3.14**	**46**	Pn	**Pn**	**19 26 11.3**	**-0.7**
SML				Sn	Sn	19 26 45.7	-3.3
SML				IAML		19 26 49.6	
	comp=N,468nm,0.9s						
SML				IAML		19 26 56.0	
	comp=E,472nm,0.7s						
SML	**Sawmill** baz=231,SNR=18	**3.14**	**46**	P	**Pn**	**19 26 11.5**	**-0.5**
SML				S	Sn	19 26 46.4	-2.5
	baz=231						
PPLA	**Purkeypile**	**3.22**	**7**	Pn	**Pn**	**19 26 13.6**	**+0.5**
PPLA	**Purkeypile** baz=189,SNR=34	**3.22**	**7**	P	**Pn**	**19 26 14.0**	**+0.9**
SII	**Sitkinak Islan**	**3.22**	**191**	Pn	**Pn**	**19 26 11.8**	**-1.3**
SII				Sn	Sn	19 26 47.5	-3.4
SII				IAML		19 26 51.3	
	comp=E,388nm,0.5s						
SII				IAML		19 26 51.6	
	comp=N,267nm,0.6s						
Q23K	**Middleton Isla**	**3.44**	**92**	Pn	**Pn**	**19 26 16.3**	**+0.4**
Q23K				IAML		19 27 24.6	
	comp=E,318nm,2.1s						
Q23K				IAML		19 27 56.4	
	comp=N,266nm,2.9s						
Q23K	**Middleton Isla** baz=278	**3.44**	**92**	P	**Pn**	**19 26 16.2**	**+0.2**
MID	**Middleton Isla**	**3.45**	**92**	Pn	**Pn**	**19 26 16.3**	**+0.3**
MID				IAML		19 27 24.7	
	comp=E,342nm,2.1s						
MID				IAML		19 27 56.5	
	comp=N,232nm,2.7s						
TT01	**Tatalina**	**3.50**	**337**		**Pn**	**19 26 16.2**	**-0.3**
TTA	**Tatalina**	**3.51**	**338**	Pn	**Pn**	**19 26 16.4**	**-0.5**
TTA	**Tatalina** baz=156,SNR=86	**3.51**	**338**	P	**Pn**	**19 26 16.4**	**-0.5**
SCM	**Sheep Creek Mo**	**3.54**	**51**		**Pn**	**19 26 16.9**	**-0.3**
SCM				IAML		19 27 00.3	
	comp=N,446nm,0.6s						
SCM	**Sheep Creek Mo** baz=236,SNR=16	**3.54**	**51**	P	**Pn**	**19 26 16.9**	**-0.3**
K20K	**Telida**	**3.68**	**353**		**Pn**	**19 26 19.0**	**-0.1**
K20K	**Telida** baz=173,SNR=56	**3.68**	**353**	P	**Pn**	**19 26 19.1**	**+0.1**
CAST	**Castle Rocks**	**3.74**	**7**	Pn	**Pn**	**19 26 19.9**	**0.0**
CAST	**Castle Rocks** baz=188,SNR=122	**3.74**	**7**	P	**Pn**	**19 26 20.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.77**	**74**		**Pn**	**19 26 20.2**	**0.0**
EYAK	**Cordova Ski Ar** baz=261,SNR=8.5	**3.77**	**74**	P	**Pn**	**19 26 20.1**	**-0.2**
EYAK				S	Sn	19 27 01.7	-2.1
	baz=261						
WAT6	**Susitna Watana**	**3.87**	**40**		**Pn**	**19 26 21.2**	**-0.5**
WAT6	**Susitna Watana** baz=225,SNR=49	**3.87**	**40**	P	**Pn**	**19 26 21.3**	**-0.5**
DIV	**Divide**	**3.90**	**66**		**Pn**	**19 26 21.6**	**-0.4**
KLU	**Klutina**	**3.96**	**60**		**Pn**	**19 26 22.4**	**-0.5**
KLU	**Klutina** baz=247,SNR=35	**3.96**	**60**	P	**Pn**	**19 26 22.3**	**-0.5**
TRF	**Thorofare Moun**	**3.98**	**19**		**Pn**	**19 26 22.6**	**-0.5**
TRF				IAML		19 27 11.2	
	comp=N,155nm,0.8s						
TRF				IAML		19 27 33.8	
	comp=E,107nm,0.7s						
TRF	**Thorofare Moun** baz=202,SNR=82	**3.98**	**19**	P	**Pn**	**19 26 22.7**	**-0.5**
KTH	**Kantishna Hill**	**3.98**	**14**		**Pn**	**19 26 22.9**	**-0.3**
KTH				IAML		19 27 33.5	
	comp=N,90nm,0.9s						
KTH				IAML		19 27 35.2	
	comp=E,98nm,0.8s						
CHIR	**Chirikof Islan**	**4.14**	**200**	Pn	**Pn**	**19 26 23.7**	**-1.5**
CHIR				IAML		19 28 14.0	
	comp=N,326nm,3.4s						
CHIR				IAML		19 28 43.8	
	comp=E,304nm,3.4s						
M24K	**Tolsona, Glenn**	**4.14**	**52**		**Pn**	**19 26 25.4**	**+0.1**
M24K				IAML		19 27 20.2	
	comp=E,342nm,0.7s						
M24K	**Tolsona, Glenn** baz=238,SNR=10	**4.14**	**52**	P	**Pn**	**19 26 25.3**	**0.0**
CHUM	**Lake Minchumin**	**4.20**	**5**		**Pn**	**19 26 26.2**	**+0.3**
CHUM	**Lake Minchumin** baz=186,SNR=65	**4.20**	**5**	P	**Pn**	**19 26 26.2**	**+0.3**
RND	**Reindeer**	**4.22**	**27**	Pn	**Pn**	**19 26 25.8**	**-0.5**
RND				IAML		19 27 14.8	
	comp=E,91nm,0.6s						
RND				IAML		19 27 17.7	
	comp=N,78nm,0.5s						
RAGM	**Ragged Mountai**	**4.28**	**77**	Pn	**Pn**	**19 26 26.5**	**-0.6**
DHY	**Denali Highway**	**4.35**	**37**		**Pn**	**19 26 27.9**	**-0.2**
DHY				IAML		19 27 19.3	
	comp=E,164nm,0.6s						
DHY				IAML		19 27 21.2	
	comp=N,176nm,0.5s						
DHY	**Denali Highway** baz=222,SNR=29	**4.35**	**37**	P	**Pn**	**19 26 27.9**	**-0.2**
KAIM	**Kayak Island**	**4.39**	**84**	Pn	**Pn**	**19 26 29.0**	**+0.5**
KAIM	**Kayak Island** baz=271	**4.39**	**84**	P	**Pn**	**19 26 29.1**	**+0.5**
PS11	**TAPS Pump St11**	**4.41**	**54**		**Pn**	**19 26 28.9**	**0.0**
CHGN	**Chignik**	**4.44**	**222**	Pn	**Pn**	**19 26 29.4**	**+0.2**
CHGN				IAML		19 27 18.9	
	comp=N,107nm,0.1s						
CHGN				IAML		19 27 20.5	
	comp=E,152nm,0.2s						
CHGN	**Chignik** baz=37	**4.44**	**222**	P	**Pn**	**19 26 29.6**	**+0.4**
HMT	**Hamilton**	**4.48**	**78**		**Pn**	**19 26 29.7**	**-0.1**
MCK	**McKinley**	**4.49**	**24**	Pn	**Pn**	**19 26 29.9**	**0.0**
MCK				IAML		19 27 24.2	
	comp=N,63nm,0.7s						
MCK				IAML		19 27 24.5	
	comp=E,75nm,0.4s						
MCK	**McKinley** baz=208,SNR=51	**4.49**	**24**	P	**Pn**	**19 26 30.0**	**+0.2**
J20K	**Nowinta River**	**4.50**	**354**	Pn	**Pn**	**19 26 30.1**	**0.0**
J20K	**Nowinta River** baz=174,SNR=50	**4.50**	**354**	P	**Pn**	**19 26 30.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.51**	**12**	Pn	**Pn**	**19 26 29.4**	**-0.7**

BPAW	Bear Paw Mtn.	4.51	12	P		Pn	19 26 29.6	-0.6
	baz=194,SNR=25							
N25K	Chitina, Valde	4.59	62	Pn		Pn	19 26 31.0	-0.4
N25K				IAML			19 27 25.3	
	comp=N,199nm,0.7s							
N25K	Chitina, Valde	4.59	62	P		Pn	19 26 30.9	-0.4
	baz=250,SNR=40							
HARP	HAARP	4.70	52	P		Pn	19 26 32.7	0.0
	baz=239							
SUCK	Suckling Hills	4.71	82	Pn		Pn	19 26 33.7	+0.9
SUCK				IAML			19 27 30.7	
	comp=N,188nm,2.5s							
SUCK				IAML			19 27 32.1	
	comp=E,137nm,2.2s							
BERG	Berg Lake	4.76	78			Pn	19 26 33.2	-0.4
BWN	Browne	4.79	19			Pn	19 26 33.7	-0.1
BWN				IAML			19 28 08.1	
	comp=N,103nm,1.0s							
BWN				IAML			19 28 41.1	
	comp=E,86nm,1.1s							
GLB	Gilahina Butte	4.89	65			Pn	19 26 35.0	-0.4
GLB				IAML			19 27 32.1	
	comp=E,149nm,0.6s							
PAX	Paxson	4.91	45	Pn		Pn	19 26 35.7	0.0
PAX	Paxson	4.91	45	P		Pn	19 26 35.4	-0.2
	baz=232,SNR=32							
GRIN	Grindle Hills	4.94	79			Pn	19 26 36.3	+0.3
KHIT	Khitrov Hills	4.99	77			Pn	19 26 36.2	-0.5
VRDI	Verde Repeater	5.01	68			Pn	19 26 36.3	-0.8
VRDI				IAML			19 27 34.3	
	comp=N,125nm,0.6s							
VRDI				IAML			19 27 36.7	
	comp=E,56nm,0.3s							
SNH	Sunshine Point	5.18	80	Pn		Pn	19 26 39.7	+0.4
SNH				IAML			19 27 43.9	
	comp=E,139nm,1.9s							
WAX	Waxell Ridge	5.18	77			Pn	19 26 39.4	+0.1
TGL	Tana Glacier	5.22	74			Pn	19 26 39.7	-0.1
TGL				IAML			19 27 39.2	
	comp=N,121nm,0.5s							
TGL				IAML			19 27 42.3	
	comp=E,136nm,0.6s							
NEA2	Nenana	5.24	19			Pn	19 26 39.3	-0.7
NEA2	Nenana	5.24	19	P		Pn	19 26 39.4	-0.6
	baz=203,SNR=67							
MCARA	McCarthy VSAT	5.24	67			Pn	19 26 39.6	-0.4
MCARA	McCarthy VSAT	5.24	67	P		Pn	19 26 39.7	-0.4
	baz=256,SNR=9.0							
WRH	Wood River Hil	5.32	24			Pn	19 26 40.1	-0.9
WRH				IAML			19 27 39.9	
	comp=E,39nm,0.5s							
GCSA	Galena City Sc	5.34	342			Pn	19 26 41.1	-0.2
GCSA	Galena City Sc	5.34	342	P		Pn	19 26 41.1	-0.2
	baz=159,SNR=24							
MLY	Manley	5.44	11	Pn		Pn	19 26 41.9	-0.9
MLY	Manley	5.44	11	P		Pn	19 26 42.1	-0.6
	baz=193,SNR=60							
ISLE	Juniper Island	5.45	76	Pn		Pn	19 26 42.5	-0.4
PTPK	Patty Peak	5.46	70			Pn	19 26 43.4	+0.2
KIAG	Kiagna River	5.47	73			Pn	19 26 43.3	0.0
BALM	Baldy	5.50	71			Pn	19 26 43.3	-0.2
I21K	Tanana	5.51	5			Pn	19 26 43.4	-0.2
I21K	Tanana	5.51	5	P		Pn	19 26 43.2	-0.3
	baz=186,SNR=31							
HDA	Harding Lake	5.52	29			Pn	19 26 43.1	-0.7
HDA	Harding Lake	5.52	29	P		Pn	19 26 43.4	-0.4
	baz=215,SNR=23							
CCB	Clear Creek Bu	5.53	24			Pn	19 26 43.1	-0.7
MENT	Mentasta	5.55	50			Pn	19 26 44.3	+0.1
BAGL	Bagley Icefiel	5.56	77			Pn	19 26 44.4	+0.1
RIDG	Independent Ri	5.62	41			Pn	19 26 45.3	+0.1
RIDG	Independent Ri	5.62	41	P		Pn	19 26 45.2	0.0
	baz=228,SNR=36							
PS08	TAPS Pump Stn8	5.66	29			Pn	19 26 45.3	-0.4
I23K	Minto, Yukon-K	5.72	16			Pn	19 26 45.7	-0.7
I23K	Minto, Yukon-K	5.72	16	P		Pn	19 26 46.0	-0.3
	baz=200,SNR=85							
TCOL	CIGO, UAF Yank	5.72	23			Pn	19 26 46.3	-0.1
TCOL	CIGO, UAF Yank	5.72	23	P		Pn	19 26 46.1	-0.3
	baz=208,SNR=20							
COLA	College	5.72	23			Pn	19 26 46.3	-0.1
MDM	Murphy Dome	5.72	21			Pn	19 26 45.6	-0.9
L26K	Log Cabin Wild	5.74	51			Pn	19 26 47.4	+0.6
L26K	Log Cabin Wild	5.74	51	P		Pn	19 26 47.1	+0.4
	baz=239							
BARN	Barnard Glacie	5.83	72			Pn	19 26 48.6	+0.5
DOT	Dot Lake	5.83	44			Pn	19 26 46.4	-1.6
IL31		5.84	27			Pn	19 26 47.1	-0.9
ILAR	Eielson Array	5.84	27	P		Pn	19 26 47.2	-0.8
	comp=E,14nm,0.3s,baz=214,slow=13,SNR=454							
ILAR				S		Sn	19 27 50.6	-3.1
	comp=E,9.2nm,0.3s,baz=199,slow=22,SNR=11							
ILAR	Eielson Array	5.84	27	Pn		Pn	19 26 46.9	-1.1
SDPT	Sand Point	5.91	225	Pn		Pn	19 26 48.5	-0.6
H21K	Melozitna Rive	5.96	1			Pn	19 26 49.6	-0.1
H21K	Melozitna Rive	5.96	1	P		Pn	19 26 49.8	+0.1
	baz=182,SNR=23							
CTG	Chitna Glacier	5.97	73	P		Pn	19 26 50.2	+0.2
	baz=263,SNR=18							
CTGM	Chitina Glacie	5.97	73			Pn	19 26 50.5	+0.4
POKR	Poker Flat Res	6.02	23			Pn	19 26 49.6	-0.9
POKR	Poker Flat Res	6.02	23	P		Pn	19 26 50.2	-0.3
	baz=209,SNR=22							
TABL	Table Mountain	6.03	78			Pn	19 26 51.0	+0.2
M27K	Edge Creek, AK	6.06	59			Pn	19 26 51.7	+0.5
SCRK	Sand Creek	6.07	41	Pn		Pn	19 26 49.2	-2.0
SCRK	Sand Creek	6.07	41	P		Pn	19 26 50.4	-0.9
	baz=230,SNR=20							
J25K	Salcha River,	6.10	33			Pn	19 26 51.0	-0.6
J25K	Salcha River,	6.10	33	P		Pn	19 26 51.3	-0.3
	baz=220,SNR=57							
LOGN	Logan Glacier	6.12	74			Pn	19 26 52.1	+0.1
IMAR	Indian Mountai	6.29	358	Pn		Pn	19 26 54.3	+0.1
L27K	Beaver Creek,	6.37	53			Pn	19 26 55.0	-0.2
L27K	Beaver Creek,	6.37	53	P		Pn	19 26 55.5	+0.3
	baz=244,SNR=7.4							
BCAR	Beaver Creek A	6.38	53	Pn		Pn	19 26 55.1	-0.4
PCA	Pinnacle	6.47	81			Pn	19 26 57.6	+0.9
BVCY	Beaver Creek	6.52	60	P		Pn	19 26 58.5	+1.2
	baz=251,SNR=7.3							
YUK3	Moose Creek	6.53	66	P		Pn	19 26 58.5	+0.9
	baz=257,SNR=16							
J26L	Joseph Creek	6.55	39	P		Pn	19 26 57.4	-0.4
	baz=228,SNR=27							
H24K	Noodor Dome	6.59	19			Pn	19 26 57.6	-0.6
H24K	Noodor Dome	6.59	19	P		Pn	19 26 57.8	-0.4
	baz=204,SNR=24							
PRP	Porcupine Dome	6.78	28	Pn		Pn	19 27 00.4	-0.5
PRP	Porcupine Dome	6.78	28	P		Pn	19 27 00.6	-0.3
	baz=215,SNR=82							
BCPM	Bancas Point	6.79	82			Pn	19 27 01.5	+0.6
PNL	Peninsula	6.94	85	P		Pn	19 27 03.2	+0.3
	baz=276,SNR=46							
YUK4	Talbot Arm	7.31	71	P		Pn	19 27 09.7	+1.5
	baz=263							
FALS	False Pass	7.41	233	Pn		Pn	19 27 07.6	-1.8
FALS	False Pass	7.41	233	P		Pn	19 27 09.8	+0.4
	baz=44							
YUK6	Outpost Mounta	7.42	74	P		Pn	19 27 10.2	+0.6
	baz=267,SNR=7.7							
ANM	Nome	7.52	315	Pn		Pn	19 27 11.2	+0.4
ANM	Nome	7.52	315	P		Pn	19 27 11.4	+0.6
	baz=125							
EGAK	Eagle	7.53	43			Pn	19 27 10.2	-0.7
EGAK	Eagle	7.53	43	P		Pn	19 27 10.3	-0.6
	baz=233,SNR=8.7							
COLD	Coldfoot	7.65	9	Pn		Pn	19 27 11.9	-0.6
COLD	Coldfoot	7.65	9	P		Pn	19 27 12.2	-0.3
	baz=191,SNR=15							
FYU	Fort Yukon	7.73	24	Pn		Pn	19 27 12.9	-0.7
DAWY	Dawson	7.80	50	Pn		Pn	19 27 14.2	-0.4
DAWY	Dawson	7.80	50	P		Pn	19 27 15.0	+0.5
	baz=242,SNR=6.8							
HYT	Haines Junctio	7.83	75	Pn		Pn	19 27 15.8	+0.7
HYT	Haines Junctio	7.83	75	P		Pn	19 27 16.0	+0.8
	baz=269,SNR=6.2							
M30M	Minto, Yukon	8.38	63	Pn		Pn	19 27 23.2	+0.7
M30M	Minto, Yukon	8.38	63	P		Pn	19 27 23.2	+0.7
	baz=258							
BMAR	Burnt Mountain	8.61	22	Pn		Pn	19 27 23.7	-1.9
N31M	Braeburn, Yuko	8.70	71	Pn		Pn	19 27 27.1	+0.3
N31M	Braeburn, Yuko	8.70	71	P		Pn	19 27 27.3	+0.5
	baz=266,SNR=8.5							
I29M	Ogilvie Camp,	8.86	44			Pn	19 27 29.2	+0.4
TNA	Tin City	8.98	317	Pn		Pn	19 27 30.9	+0.5
SKAG	Skagway	9.02	84			Pn	19 27 31.8	+0.7
SKAG	Skagway	9.02	84	P		Pn	19 27 31.5	+0.5
	baz=279,SNR=17							
TOLK	Toolik Lake Re	9.09	8	Pn		Pn	19 27 32.2	+0.2
TOLK	Toolik Lake Re	9.09	8	P		Pn	19 27 31.8	-0.2
	baz=192,SNR=12							
WHY	Whitehorse	9.12	76	Pn		Pn	19 27 32.8	+0.3
WHY	Whitehorse	9.12	76	P		Pn	19 27 32.7	+0.1
	baz=272,SNR=15							
UNV	Unalaska Valle	9.41	237	Pn		Pn	19 27 34.6	-1.8
UNV	Unalaska Valle	9.41	237	P		Pn	19 27 36.3	-0.1
	baz=46							
M31M	Drury Creek, Y	9.42	67			Pn	19 27 37.0	+0.4
M31M	Drury Creek, Y	9.42	67	P		Pn	19 27 37.0	+0.4
	baz=263,SNR=9.9							
BESE	Bessie Mountai	9.44	89	Pn		Pn	19 27 38.2	+1.4
GAMB	Gambell	9.70	303	Pn		Pn	19 27 42.0	+1.9
SIT	Sitka	9.70	98	Pn		Pn	19 27 39.9	-0.4
JIS	Juneau Island	9.76	90			Pn	19 27 41.8	+0.8
P33M	Teslin, Yukon	10.17	78	Pn		Pn	19 27 47.1	+0.4
P33M	Teslin, Yukon	10.17	78	P		Pn	19 27 47.7	+0.9
	baz=276,SNR=10							
MMPY	Sheldon Lake,	10.92	65	P		Pn	19 27 57.7	+1.0
	baz=264							
CRAG	Craig	11.52	103	Pn		Pn	19 28 05.1	+0.5
DLBC	Dease Lake	11.92	86	P		Pn	19 28 12.4	+2.3
	comp=E,3.5nm,0.3s,baz=297,slow=4.4,SNR=33							
DLBC	Dease Lake	11.92	86	Pn		Pn	19 28 09.2	-0.9
INK	Inuvik	12.09	36	P		Pn	19 28 13.3	+1.2
	comp=E,0.3nm,0.3s,baz=236,slow=18,SNR=6.1							
DIB	Dawson Inlet,	13.10	111	Pn		P	19 28 28.8	-2.4
MOBC	Moresby Island	13.38	110	Pn		Pn	19 28 31.1	+2.0
ADK	Adak	15.34	250	Pn		Pn	19 28 55.0	+1.0
C36M	Paulatuk	15.59	40	Pn		Pn	19 28 55.2	-1.8
C36M				IAmb		IAmb	19 29 08.7	
	comp=E,5.7nm,0.4s							
A36M	Sachs Harbour	16.52	31			Pn	19 29 08.2	-0.2
A36M				IAmb		IAmb	19 29 11.3	
	comp=E,8.4nm,0.8s							
YKA	Yellowknife Ar	18.61	65	P		Pn	19 29 34.0	+0.4
	comp=E,0.3nm,0.3s,baz=277,slow=9.8,SNR=18							
YKA	Yellowknife Ar	18.61	65	P		P	19 29 31.1	-0.9
SEY	Seymchan	25.69	301	P		P	19 30 42.8	0.0
	comp=E,0.6nm,0.5s,baz=215,slow=8.8,SNR=3.5							
PEA0B	Petropavlovsk-	27.45	278	P		P	19 30 59.5	+0.8
PEA0B				IAmb		IAmb	19 31 17.6	
	comp=E,22nm,1.2s							
PETK	Petropavlovsk-	27.45	278	P		P	19 30 58.7	0.0
	comp=E,0.8nm,0.4s,baz=73,slow=13,SNR=14							
PETK	Petropavlovsk-	27.45	278	P		P	19 30 59.6	+0.9
MA2	Magadan	27.65	294	P		P	19 31 02.1	+1.7
	comp=E,0.8nm,0.3s,baz=64,slow=12,SNR=3.7							
TIXI	Tiksi	31.68	324	LR		LR	19 46 34.5	
	comp=E,18nm,19.0s,baz=194,slow=40							
CN2	Changchun	49.52	290	eP		P	19 34 01.6	-0.9
CN2				pmax		pmax		
	comp=E,10.0nm,0.6s							
KSRS	Korea Array	53.19	283	P		P	19 34 31.4	+1.5
	comp=E,2.0nm,0.4s,baz=38,slow=7.1,SNR=12							
SONM	Songino Array	54.91	306	P		P	19 34 44.1	+1.6
	comp=E,2.4nm,0.4s,baz=45,slow=5.3,SNR=47							
SONM	Songino Array	54.91	306	P		P	19 34 44.0	+1.6
SONM				IAmb		IAmb	19 34 44.6	
	comp=E,2.9nm,0.6s							
ZALV	Zalesovo Beam	57.57	324	P		P	19 35 01.9	+0.8
	comp=E,6.0nm,0.5s,baz=34,slow=6.9,SNR=26							
ZALV	Zalesovo Beam	57.57	324	P		P	19 35 01.6	+0.6
HHC	Hu-ho-hao-te	58.27	297	eP		P	19 35 07.4	+1.2
HHC				pmax		pmax		
	comp=E,14nm,0.9s							
HHC				pmax		pmax		
	comp=E,100nm,8.4s							
KURK	Kurchatov	62.23	326	P		P	19 35 33.1	+0.2
KURK				IAmb		IAmb	19 35 35.0	
	comp=E,1.5nm,0.5s							
BVAR	Borovoye Array	62.29	332	P		P	19 35 34.0	+0.7
	comp=E,1.8nm,0.5s,baz=130,slow=35,SNR=5.3							
KURBB	Kurchatov Arra	62.34	326	P		P	19 35 34.2	+0.6
	comp=E,1.0nm,0.3s,baz=30,slow=6.4,SNR=5.9							
GTA	Gaotai	64.55	305	eP		P	19 35 48.8	+0.3
GTA				pmax		pmax		
	comp=E,3.0nm,1.0s							
MKAR	Makanchi Array	64.62	321	P		P	19 35 48.6	-0.1
	comp=E,0.7nm,0.5s,baz=36,slow=6.4,SNR=24							
LZH	Lanzhou	65.62	300	eP		P	19 35 56.4	+0.9
LZH				pmax		pmax		
	comp=E,15nm,1.4s							
CMAR	Chiang Mai Arr	82.94	295	P		P	19 37 35.5	-0.4
	comp=E,0.7nm,0.5s,baz=8.2,slow=5.7,SNR=4.3							
BOSA	Boshof	148.88	3	PKPbc		PKPbc	19 44 57.6	-0.1
	comp=E,1.3nm,0.7s,baz=335,slow=2.1,SNR=6.0							

*ISK **18** 19:29:07.3, 38.45N×40.16E, h6km, ML2.6/9*
*DDA **18** 19:29:07.6±0.0, 38.50N×40.17E, h7km±2km, ML2.4*

ISC 18 19:29:07.8±1.1, 38.48N±0.03×40.17E±0.02, h8km±9km, n19, σ0.50/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HANI	Diyarbakir_Han	0.19	109	P	Pg	19 29 11.3	-0.4
HANI				*i* AML	AML	19 29 15.0	
	comp=E,1μm,0.3s						
HANI				S	Sg	19 29 15.1	+0.6
HANI				*i* AML	AML	19 29 21.0	
	comp=N,1μm,0.7s						
KOVA	Elazig, Kovanc	0.36	309	P	Pg	19 29 15.1	+0.2
KOVA				S	Sb	19 29 22.3	0.0
KOVA				*i* AML	AML	19 29 27.0	
	comp=N,285nm,0.7s						
KOVA				*i* AML	AML	19 29 27.0	
	comp=E,322nm,0.8s						
DIYA	Diyarbakir	0.56	184	P	Pb	19 29 19.5	-0.3
DIYA				S	Sb	19 29 27.4	-0.4
DIYA				*i* AML	AML	19 29 28.0	
	comp=N,316nm,0.3s						
DIYA				*i* AML	AML	19 29 34.0	
	comp=E,371nm,0.7s						
BNGB	Bingl	0.65	38	PG	Pb	19 29 20.7	-0.7
BNGB				SG	Sb	19 29 30.7	+0.1
SVRC	Sivrice-ELAZID	0.69	262	PG	Pg	19 29 21.0	0.0
SVRC				SG	Sb	19 29 30.6	-1.1
TNCL	Tunceli-Merkez	0.80	323	P	Pg	19 29 22.5	-0.7
TNCL				S	Sb	19 29 35.6	+0.5
TNCL				*i* AML	AML	19 29 36.0	
	comp=E,218nm,0.7s						
TNCL				*i* AML	AML	19 29 41.0	
	comp=N,156nm,0.5s						
SVAN	Silvan-Diyarba	0.87	112	PG	Pg	19 29 24.1	-0.5
SVAN				SG	Sb	19 29 37.2	+0.2
YEDI	Yedisu-Bingol	1.00	17	PG	Pg	19 29 26.8	-0.3
YEDI				SG	Sn	19 29 42.4	-0.2
BTMN	Batman	1.05	124	P	Pb	19 29 28.1	-0.1
BTMN				S	Sn	19 29 43.5	0.0
BTMN				*i* AML	AML	19 29 44.0	
	comp=E,119nm,0.8s						
BTMN				*i* AML	AML	19 29 46.0	
	comp=N,133nm,0.7s						
KARO	Karliova-Bingo	1.08	39	PN	Pb	19 29 28.8	+0.1
MUSM	Mu-Merkez	1.08	76	P	Pg	19 29 28.2	-0.3
MUSM				S	Sb	19 29 43.6	+0.6
MUSM				*i* AML	AML	19 29 47.0	
	comp=N,113nm,0.5s						
MUSM				*i* AML	AML	19 29 47.0	
	comp=E,58nm,0.3s						
ERZN	Erzincan	1.16	343	PN	Pn	19 29 30.6	+0.2
ERZN				SN	Sn	19 29 46.5	0.0
VRTB	Varto-Mus	1.21	55	PN	Pn	19 29 31.3	+0.2
GURO	Guroymak-BITLI	1.46	87	PN	Pn	19 29 34.7	+0.1
GURO				SN	Sg	19 29 55.1	+0.3
ARPR	Arapgir-MALATY	1.56	294	PN	Pb	19 29 36.7	-0.2
ILIC	ilic-Erzincan	1.58	308	PN	Pb	19 29 36.9	-0.4
ERZM	Erzurum	1.70	33	PN	Pb	19 29 38.7	-0.7
KOPR	Koprukoy-ERZUR	2.00	40	PN	Pn	19 29 42.9	+0.9
SARI	SarD1z-Kayseri	2.95	270	PN	Pn	19 29 55.9	+0.9

*NEIC **18** 19:38:06.7±2.6, 41.822N±0.006×110.66W±0.05, h0km±2km, ML2.7/98, Error ellipse: s-maj=6.6km s-min=3.0km az=260.0*
*IDC **18** 19:38:07.2±1.1, 41.87N×110.72W, h0km, mb2.6/1, mb1 3.3/2, mb1mx3.1/49, mbtmp2.9/2, ML2.5/1, Error ellipse: s-maj=23.5km s-min=5.7km az=146.0*

ISC 18 19:38:06.2±0.9, 41.81N±0.02×110.68W±0.03, h0km, n63, σ1.04/63, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWUT	Hardware Ranch	0.69	253		Pb	19 38 20.6	-0.6
HWUT				IAML		19 38 38.9	
	208nm,0.7s						
HWUT				IAML		19 38 39.6	
	216nm,0.7s						
AHID	Auburn Hatcher	1.00	342		Pn	19 38 27.0	-0.7
AHID				IAML		19 38 50.1	
	218nm,0.5s						
AHID				IAML		19 38 50.4	
	171nm,0.7s						
BW06	Boulder Array	1.27	41		Pb	19 38 30.9	-0.1
PD31	Pinedale Array	1.27	41		Pb	19 38 30.9	-0.2
PDAR	Pinedale Array	1.27	41	Pg	Pb	19 38 31.0	0.0
	2.9nm,0.3s,baz=214,slow=14,SNR=98						
PDAR				Lg	Lg	19 38 47.2	
	4.0nm,0.3s,baz=219,slow=36,SNR=15						
PDAR	Pinedale Array	1.27	41	Pn	Pb	19 38 30.8	-0.2
ECR	Eagle Creek	1.34	338		Pn	19 38 32.9	+0.6
JLU	Jordanelle	1.34	206		Pg	19 38 31.6	-0.3
JLU				IAML		19 38 56.4	
	comp=E,106nm,0.6s						
JLU				IAML		19 38 59.0	
	comp=N,70nm,0.7s						
RDMU	Red Mountain	1.50	146		Pn	19 38 33.3	-1.2
RDMU				IAML		19 38 56.2	
	comp=N,66nm,0.9s						
RDMU				IAML		19 38 59.4	
	comp=E,88nm,0.7s						
REDW	Red Top Meadow	1.55	355		Pb	19 38 36.3	+0.4
REDW				IAML		19 39 09.8	
	comp=E,90nm,0.8s						
REDW				IAML		19 39 12.5	
	comp=E,104nm,1.1s						
HVU	Hansel Valley	1.56	269		Pg	19 38 36.0	-0.2
HVU				IAML		19 39 02.3	
	comp=E,166nm,0.7s						
SNOW	Snow King Moun	1.65	358		Pg	19 38 37.7	-0.1
SNOW				IAML		19 39 11.0	
	comp=E,156nm,0.7s						
SNOW				IAML		19 39 14.0	
	comp=E,65nm,0.8s						
TPAW	Teton Pass	1.69	353		Pn	19 38 37.3	+0.1
TPAW				IAML		19 39 10.8	
	comp=E,126nm,0.9s						
TPAW				IAML		19 39 16.0	
	comp=E,68nm,1.0s						
LOHW	Long Hollow	1.80	2		Pb	19 38 39.7	-0.4
LOHW				IAML		19 39 09.9	
	comp=E,51nm,0.5s						
LOHW				IAML		19 39 12.5	
	comp=E,54nm,0.8s						
MOOW	Moose Ponds	1.93	359		Pb	19 38 42.1	-0.3
MPU	Maple Canyon	1.94	202		Pb	19 38 42.0	-0.5
BGU	Big Grassy Mou	1.98	244		Pn	19 38 42.0	+0.9
NLU	North Lily Min	2.14	210		Pb	19 38 44.7	-1.2
P18A	Preston Nutter	2.21	171		Pb	19 38 46.0	-1.1
P18A				IAML		19 39 21.5	
	comp=E,29nm,0.9s						
P18A				IAML		19 39 25.1	
	comp=N,32nm,0.9s						
FLWY	Flagg Ranch	2.27	360		Pb	19 38 48.1	0.0
FLWY				IAML		19 39 33.1	
	comp=N,35nm,1.2s						
FLWY				IAML		19 39 44.0	
	comp=N,29nm,1.4s						
DUG	Dugway, Tooele	2.28	226		Pn	19 38 46.2	+0.9
DUG				IAML		19 39 28.2	
	comp=N,25nm,0.7s						
P17A	Butcher Ranch,	2.34	181		Pn	19 38 47.4	+1.4
P17A				IAML		19 39 25.7	
	comp=E,45nm,0.7s						
P17A				IAML		19 39 26.9	
	comp=N,31nm,0.7s						
O20A	White River Ci	2.50	131		Pn	19 38 49.5	+1.3
TMUT	Trail Mountain	2.55	189		Pn	19 38 49.8	+0.8
TMUT				IAML		19 39 31.8	
	comp=N,46nm,0.9s						
H17A	Grant Village	2.58	2	Pn	Pn	19 38 49.5	+0.1
RWWY	Rawlins	2.60	92		Pn	19 38 50.3	+0.6
RWWY				IAML		19 39 30.5	
	comp=N,49nm,0.7s						
SRU	San Rafael Swe	2.70	177		Pn	19 38 52.8	+1.8
YMR	Madison River	2.86	356		Pn	19 38 54.5	+1.2
YMR				IAML		19 40 04.4	
	comp=N,22nm,1.1s						
YMR				IAML		19 40 05.4	
	comp=E,18nm,1.0s						
YNR	Norris Junctio	2.90	0		Pn	19 38 55.0	+1.2
Q16A	Castle Valley	2.92	188		Pn	19 38 53.5	-0.5
Q16A				IAML		19 39 45.2	
	comp=N,24nm,1.1s						
Q16A				IAML		19 39 45.9	
	comp=E,18nm,1.0s						
YMP	Mirror Lake Pl	2.95	7		Pn	19 38 54.3	-0.2
YMP				IAML		19 40 06.7	
	comp=N,13nm,1.9s						
YHH	Holmes Hill	2.98	358		Pn	19 38 54.4	-0.5
YHL	Hebgen Lake	3.06	353		Pn	19 38 55.8	-0.2
QLMT	Earthquake Lak	3.06	350		Pn	19 38 58.1	+2.1
BCYI	Bear Canyon	3.19	322		Pn	19 38 57.2	-0.7
K22A	Casper	3.20	73		Pn	19 38 57.9	0.0
K22A				IAML		19 39 50.7	
	comp=N,34nm,0.7s						
HLID	Hailey	3.26	304		Pn	19 38 57.5	-1.1
MCMT	McKenzie Canyo	3.40	333		Pn	19 38 59.8	-0.9
TCRU	Three Creeks R	3.48	203		Pn	19 39 01.5	-0.3
TCRU				IAML		19 39 37.5	
	comp=N,9.0nm,1.6s						
TCRU				IAML		19 40 06.1

BMN					IAML			19 42 05.1
	comp=N,5.5nm,4.9s							
NVAR	**Mina Array Bea**	**6.75**	**242**	Pn		**Pn**	**19 39 50.2**	**+3.6**
	comp=N,0.1nm,0.3s,baz=60,slow=13,SNR=7.2							
YKA	**Yellowknife Ar**	**20.84**	**355**	P		**P**	**19 42 50.2**	**+1.0**
	comp=N,0.3nm,0.8s,baz=166,slow=11,SNR=3.2							

NIED ***18*** *19:39:08.8, 31.74N×129.00E, h22km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.15; Mθθ 0.58; Mrθ-0.04; Mθφ 1.27; Mφr 1.29; Fault plane solution: M₀2.07000×10¹⁴ NP1: φs195.00000°, δ69.00000°, λ-124.00000°. NP2: φs77.00000°, δ40.00000°, λ-35.00000°.*

JMA 18 19:39:08.8±0.1, 31.74N×129.00E, h22km±1km, M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.61**	**96**	P	Pb	19 39 20.3	-0.6
JSJ				*eS*	Sb	19 39 28.7	-0.4
JFU	**Fukue jima 2**	**0.94**	**347**	P	Pb	19 39 26.2	-0.2
JFU				*eS*	Sb	19 39 38.8	+0.4
NGSJ	**Nagasakinomoza**	**1.12**	**37**	P	Pn	19 39 29.1	0.0
JHD	**Hondo**	**1.21**	**53**	P	Pb	19 39 30.7	-0.2
JSU	**Suzuyama**	**1.26**	**100**	P	Pn	19 39 31.3	+0.1
JZO	**Okuchi**	**1.42**	**73**	P	Pn	19 39 33.4	+0.1

TUL ***18*** *19:57:01.3±1.4, 35.49N±0.01×96.98W±0.02, h5km±6km, ML3.0, mb_Lg2.6/38(NEIC), Error ellipse: s-maj=2.4km s-min=0.8km az=134.0*

NEIC 18 19:57:02.2±1.9, 35.51N±0.02×96.98W±0.02, h11km±4km, Error ellipse: s-maj=2.6km s-min=1.9km az=138.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.23**	**311**	Pg	Pg	19 57 06.6	-0.3
OK005				Sg	Sg	19 57 10.2	+0.2
W35A	**Tecumseh**	**0.36**	**166**	Pg	Pg	19 57 08.5	-0.9
W35A				Sg	Sg	19 57 13.6	-0.7
OKCSW	**OKLAHOMA CITY**	**0.39**	**255**	Pg	Pg	19 57 08.8	-1.0
OKCSW				Sg	Sg	19 57 14.8	-0.2
OKCFA	**Oklahoma City**	**0.39**	**257**		Pg	19 57 09.4	-0.6
OKCFA				Sg	Sg	19 57 15.2	0.0
FNO	**Franklin**	**0.42**	**234**	Pg	Pg	19 57 09.7	-0.8
FNO				Sg	Sg	19 57 15.8	-0.3
TUL1	**Leonard**	**1.05**	**67**		Pg	19 57 20.6	-1.7
TUL1				Sg	Sg	19 57 35.2	-0.8
X34A	**Smith Ranch, M**	**1.14**	**218**	Pg	Pb	19 57 23.2	-0.7
X34A				Sg	Sb	19 57 38.9	+0.1
T35A	**Sooner Cattle**	**1.46**	**15**		Pn	19 57 28.2	-0.3
T35A					Sb	19 57 48.0	+0.1
X37A	**Clayton**	**1.61**	**124**	Pn	Pn	19 57 30.6	+0.1
X37A				Sn	Sg	19 57 53.2	-0.7
WMOK	**Wichita Mounta**	**1.66**	**243**	Pn	Pn	19 57 31.1	-0.2
WMOK				Sn	Sb	19 57 53.5	-0.3
U32A	**Winter Ranch,**	**1.85**	**299**	Pn	Pn	19 57 34.5	+0.6
Z35A	**Perchaven, San**	**2.18**	**186**	Pn	Pn	19 57 39.4	+1.0
HHAR	**Hobbs**	**2.59**	**72**		Pn	19 57 45.1	+1.0
W39A	**Magazine**	**2.63**	**96**		Pn	19 57 44.9	+0.3
W39A				IAmb_Lg		19 58 29.9	
	comp=Z,20nm,0.8s						
Z38A	**Mt. Pleasant**	**2.79**	**143**	Pn	Pn	19 57 46.8	0.0
Z38A				IAmb_Lg		19 58 29.5	
	comp=Z,15nm,0.7s						
R32A	**Long Quarter,**	**3.22**	**335**	Pn	Pn	19 57 51.6	-1.1
U40A	**Yellville**	**3.46**	**75**		Pn	19 57 54.5	-1.5
WHTX	**Lake Whitney,**	**3.53**	**187**	Pn	Pn	19 57 54.7	-2.3
X40A	**Basin Creek Fa**	**3.55**	**105**		Pn	19 57 56.3	-1.0
X40A				IAmb_Lg		19 58 57.6	
	comp=Z,11nm,0.8s						
KSU1	**Kansas State U**	**3.60**	**5**	Pn	Pn	19 57 56.0	-1.9
KSU1				IAmb_Lg		19 58 58.8	
	comp=Z,24nm,1.0s						
ABTX	**Abilene, Hawle**	**3.63**	**218**	Pn	Pn	19 57 56.0	-2.3
ABTX				IAmb_Lg		19 58 59.6	
	comp=Z,9.6nm,1.0s						
S39A	**Bolivar**	**3.66**	**52**		Pn	19 57 59.1	+0.3
WHAR	**Wooly Hollow**	**3.84**	**92**	Pn	Pn	19 58 01.3	+0.1
WHAR				IAmb_Lg		19 59 04.4	
	comp=Z,12nm,1.0s						
W41B	**Gary Mavity, V**	**3.88**	**94**	Pn	Pn	19 58 02.2	+0.3
W41B				IAmb_Lg		19 59 12.8	
	comp=Z,16nm,0.8s						
AMTX	**Amarillo**	**3.90**	**262**	Pn	Pn	19 58 03.2	+1.1
AMTX				IAmb_Lg		19 59 13.4	
	comp=Z,23nm,1.0s						
CBKS	**Cedar Bluff**	**3.97**	**327**	Pn	Pn	19 58 05.6	+2.5
CBKS				IAmb_Lg		19 59 08.0	
	comp=Z,8.7nm,0.8s						
MGMO	**Mountain Grove**	**4.14**	**65**	Pn	Pn	19 58 05.7	+0.2
MGMO				IAmb_Lg		19 59 19.0	
	comp=Z,24nm,0.9s						
R40A	**Maddies Statio**	**4.69**	**52**	Pn	Pn	19 58 12.6	-0.3
R40A				IAmb_Lg		19 59 36.5	
	comp=Z,16nm,0.7s						
P38A	**Dawn**	**4.94**	**33**	Pn	Pn	19 58 15.1	-1.3
P38A				IAmb_Lg		19 59 37.9	
	comp=Z,8.9nm,0.8s						
CCM	**Cathedral Cave**	**5.26**	**59**	Pn	Pn	19 58 16.6	-4.1
CCM				IAmb_Lg		19 59 57.2	
	comp=Z,14nm,0.9s						
JCT	**Junction City**	**5.54**	**206**	Pn	Pn	19 58 23.7	-1.0
JCT				IAmb_Lg		20 00 02.6	
	comp=Z,12nm,0.9s						
P40A	**Paris**	**5.61**	**43**	Pn	Pn	19 58 26.1	+0.5
P40A				IAmb_Lg		20 00 06.7	
	comp=Z,11nm,0.8s						
GNAR	**Gosnell**	**5.68**	**83**	Pn	Pn	19 58 26.5	0.0
FVM	**French Village**	**5.82**	**63**	IAmb_Lg		20 00 09.7	
	comp=Z,13nm,0.8s						
N38A	**Joes South For**	**6.05**	**28**	IAmb_Lg		20 00 28.0	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**6.21**	**287**	IAmb_Lg		20 00 30.1	
	comp=Z,7.1nm,0.7s						

IDC ***18*** *20:02:19.6±0.9, 9.38S×158.39E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/50, mbtmp3.9/9, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/59, Error ellipse: s-maj=24.5km s-min=17.1km az=160.0*

NEIC ***18*** *20:02:22.4±1.5, 9.42S±0.09×158.41E±0.03, h18km±4km, mb4.3/18, Error ellipse: s-maj=12.7km s-min=3.9km az=192.0*

ISC 18 20:02:23.6±0.6, 9.46S±0.08×158.36E±0.06, h30km, n35, σ0s98/35, mb4.1/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.56**	**89**	Pn	**Pn**	**20 02 48.7**	**-0.7**
	55nm,0.3s,baz=224,slow=7.4,SNR=26						
HNR				Sn	**Sn**	**20 03 08.6**	**-0.1**
	369nm,0.3s,baz=153,slow=20,SNR=33						
HNR	**Honiara**	**1.56**	**89**		**Pn**	**20 02 48.8**	**-0.5**
HNR				Sn	**Sn**	**20 03 07.6**	**-1.1**
RABL	**Rabaul**	**8.08**	**310**	Pn	**Pn**	**20 04 17.6**	**-1.3**
SANVU	**Saraoutou**	**10.49**	**125**	Pn	**Pn**	**20 04 53.7**	**+1.7**
PMG	**Port Moresby**	**11.05**	**269**	LR	LR	20 08 51.3	
	comp=Z,141nm,21.9s,baz=46,slow=35						
ONTNC	**Ouen Toro**	**14.95**	**150**	Pn	**Pn**	**20 05 50.9**	**-2.0**
MARNC	**Mare, Loyalty**	**15.15**	**143**	Pn	**Pn**	**20 05 52.9**	**-2.6**
OUENC	**Ouen Island, N**	**15.24**	**149**	Pn	**Pn**	**20 05 56.9**	**+0.1**
OUENC				IAmb	IAmb	20 06 20.8	
	comp=Z,60nm,1.6s						
COEN	**Coen**	**15.53**	**252**	Pn	**Pn**	**20 06 01.6**	**+1.1**
COEN				IAmb	IAmb	20 06 26.7	
	comp=Z,57nm,1.5s						
CTA	**Charters Tower**	**15.76**	**227**	Pn	**Pn**	**20 06 03.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=43,slow=15,SNR=5.4						
CTAO	**Charters Tower**	**15.76**	**227**	Pn	**Pn**	**20 06 03.0**	**-0.5**
CTAO				IAmb	IAmb	20 06 19.2	
	comp=Z,21nm,1.4s						
EIDS	**Eidsvold**	**17.27**	**203**	Pn	**Pn**	**20 06 21.8**	**-0.8**
EIDS				IAmb	IAmb	20 06 27.0	
	comp=Z,9.3nm,0.9s						
ARMA	**Armidale**	**21.78**	**196**	P	**P**	**20 07 13.5**	**+0.3**
WR0	**Warramunga Arr**	**25.26**	**243**	P	**P**	**20 07 47.5**	**+0.1**
WR0				IAmb	IAmb	20 07 52.5	
	comp=Z,9.9nm,1.1s						
WB0	**Warramunga Arr**	**25.32**	**243**	P	**P**	**20 07 48.1**	**+0.2**
WB0				IAmb	IAmb	20 07 50.9	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**25.42**	**243**	P	**P**	**20 07 49.1**	**+0.2**
WB2				IAmb	IAmb	20 08 02.0	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**25.43**	**243**	P	**P**	**20 07 49.5**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=71,slow=9.9,SNR=15						
WRA	**Warramunga Arr**	**25.43**	**243**	IAmb	IAmb	20 07 52.9	
	comp=Z,0.2nm,1.1s						
STKA	**Stephens Creek**	**27.19**	**212**	P	**P**	**20 08 06.1**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=52,slow=18,SNR=7.4						
STKA				LR	LR	20 18 32.9	
	comp=Z,50nm,20.2s,baz=22,slow=36						
STKA	**Stephens Creek**	**27.19**	**212**	P	**P**	**20 08 05.9**	**+1.2**
AS31	**Alice Springs**	**27.30**	**236**	P	**P**	**20 08 06.0**	**+0.1**
ASAR	**Alice Springs**	**27.30**	**236**	P	**P**	**20 08 07.1**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=61,slow=10,SNR=12						
KNRA	**Kununurra**	**29.52**	**255**	P	**P**	**20 08 26.4**	**+0.8**
TOO	**Toolangi**	**30.31**	**201**	P	**P**	**20 08 32.0**	**-0.4**
BBOO	**Buckleboo**	**31.05**	**218**	P	**P**	**20 08 39.0**	**0.0**
FITZ	**Fitzroy Crossi**	**32.87**	**251**	P	**P**	**20 08 55.2**	**0.0**
FITZ				IAmb	IAmb	20 09 25.9	
	comp=Z,5.6nm,1.2s						
BHW	**Baring Head**	**35.01**	**158**	P	**P**	**20 09 14.9**	**+1.5**
FORT	**Forrest**	**35.29**	**229**	P	**P**	**20 09 15.3**	**-0.7**
JMN	**Monobe**	**48.85**	**333**	P	**P**	**20 11 05.8**	**-0.7**
KLR	**Kul'dur**	**62.94**	**341**	P	**P**	**20 12 47.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=72,slow=3.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**64.84**	**295**	P	**P**	**20 13 00.7**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=136,slow=4.6,SNR=5.1						
SONM	**Songino Array**	**73.21**	**326**	P	**P**	**20 13 52.7**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=135,slow=5.1,SNR=22						
SONM	**Songino Array**	**73.21**	**326**	P	**P**	**20 13 51.5**	**-0.3**
SONM				IAmb	IAmb	20 13 53.7	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**84.46**	**21**	P	**P**	**20 14 53.8**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=239,slow=5.1,SNR=3.6						
MKAR	**Makanchi Array**	**87.45**	**318**	P	**P**	**20 15 08.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=116,slow=8.2,SNR=3.7						

IDC ***18*** *20:08:47.2±0.9, 37.87N×72.61E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.5/67, mbtmp3.7/9, ML2.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.5/86, Error ellipse: s-maj=28.1km s-min=24.7km az=171.0*

NNC ***18*** *20:08:52.4±5.8, 38.15N×72.98E, h0km, mb4.6, mpv4.0, Error ellipse: s-maj=39.5km s-min=34.0km az=167.0*

ISC 18 20:08:48.9±0.8, 37.79N±0.08×72.7E±0.1, h10km, n27, σ1s07/25, mb3.7/8, 3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.81**	**336**	Pg	**Pb**	**20 10 13.1**	**-0.3**
	378nm,0.5s						
IUG				Lg	Lg	20 11 14.9	
	93nm,1.0s						
MRKS	**Merke**	**4.97**	**5**	Pg	**Pb**	**20 10 17.3**	**+1.2**
	5.1nm,0.5s						
MRKS				Lg	Lg	20 11 22.0	
	12nm,0.6s						
KK09	**Karatay Array**	**5.59**	**343**	⇓P	**Pn**	**20 10 13.9**	**+1.8**
	2.6nm,0.3s,baz=156,slow=12						
KK09				⇓S	**Sn**	**20 11 16.8**	**+0.4**
	7.0nm,0.5s,baz=156,slow=22						
KK09				⇓Lg	Lg	20 11 40.7	
	18nm,0.7s,baz=148,slow=26						
SGDS	**Sogindy**	**5.85**	**14**	Pg	**Pb**	**20 10 30.6**	**-0.5**
	1.5nm,0.3s						
SGDS				Lg	Lg	20 11 44.8	
	3.9nm,0.6s						
GEYT	**Alibeck**	**11.53**	**275**	LR	LR	20 17 08.1	
	comp=Z,38nm,20.5s,baz=144,slow=44						
PYUN	**Piuthan**	**12.95**	**135**	*eP*	**Pn**	**20 11 55.0**	**+1.7**
	8.9nm,0.5s						
DANN	**Dangsing**	**13.20**	**132**	*eP*	**Pn**	**20 11 57.8**	**+1.0**
	6.6nm,0.4s						
KOLN	**Koldanda**	**13.55**	**134**	*eP*	**Pn**	**20 12 04.1**	**+2.7**
	1.0nm,0.2s						
GKN	**Gorkha**	**13.98**	**131**	*eP*	**Pn**	**20 12 06.9**	**-0.4**
	2.3nm,0.4s						
KKN	**Kakani**	**14.52**	**130**	*eP*	**Pn**	**20 12 14.4**	**-0.4**
DMN	**Daman**	**14.55**	**131**	*eP*	**Pn**	**20 12 15.0**	**-0.2**
	2.9nm,0.4s						
PKIN	**Phulchoki**	**14.75**	**130**	*eP*	**Pn**	**20 12 16.8**	**-1.1**
PKI	**Pulchoki**	**14.76**	**130**	*eP*	**Pn**	**20 12 17.2**	**-0.9**
	1.2nm,0.4s						
GUN	**Gumba**	**14.81**	**128**	*eP*	**Pn**	**20 12 17.5**	**-1.2**
	3.7nm,0.4s						
JIRN	**Jiri**	**15.18**	**128**	*eP*	**Pn**	**20 12 23.2**	**-0.5**
ODAN	**Odare**	**16.50**	**127**	*eP*	**Pn**	**20 12 41.6**	**+0.9**
	5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**18.19**	**23**	P	**Pn**	**20 13 00.6**	**-0.8**
	0.2nm,0.3s,baz=214,slow=12,SNR=8.2						
SONM	**Songino Array**	**26.49**	**57**	P	**P**	**20 14 27.0**	**+0.5**
	0.6nm,0.9s,baz=234,slow=5.0,SNR=2.2						
VRAC	**Vranov**	**41.37**	**305**	LR	LR	20 37 05.9	
	comp=Z,48nm,18.5s,baz=256,slow=41						
KLR	**Kul'dur**	**43.29**	**55**	LR	LR	20 35 12.7	
	comp=Z,30nm,19.5s,baz=53,slow=37						
TIXI	**Tiksi**	**44.07**	**22**	P	**P**	**20 16 55.9**	**-0.7**
	0.8nm,0.6s,baz=272,slow=22,SNR=5.5						
ESDC	**Sonseca Array**	**58.06**	**298**	P	**P**	**20 18 42.0**	**-0.3**
	0.5nm,0.9s,baz=59,slow=7.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**67.10**	**269**	P	**P**	**20 19 42.2**	**-0.7**
	0.4nm,0.5s,baz=51,slow=5.8,SNR=8.3						
ILAR	**Eielson Array**	**73.17**	**17**	P	**P**	**20 20 18.5**	**-1.0**
	0.4nm,0.8s,baz=318,slow=2.6,SNR=3.1						
YKA	**Yellowknife Ar**	**79.89**	**3**	P	**P**	**20 20 56.9**	**-0.6**
	0.2nm,0.4s,baz=346,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**81.54**	**123**	P	**P**	**20 21 07.6**	**+0.7**
	0.8nm,0.8s,baz=325,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**83.89**	**126**	P	**P**	**20 21 19.5**	**+0.4**
	0.5nm,0.9s,baz=308,slow=4.7,SNR=6.3						

IDC 18 20:20:50.0±1.8, 4.27S×128.56E, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.5/35, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=44.6km s-min=26.0km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.33**	**39**	Pn	Pn	20 21 56.5	-0.6
	7.7nm,0.3s,baz=211,slow=22,SNR=13						
SIJI				Sn	Sn	20 22 51.6	+3.2
	0.5nm,0.3s,baz=282,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**16.57**	**161**	Pn	Pn	20 24 43.9	0.0
	0.1nm,0.3s,baz=343,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**19.96**	**166**	P	P	20 25 24.3	+0.3
	0.1nm,0.3s,baz=345,slow=11,SNR=22						
MKAR	**Makanchi Array**	**65.17**	**327**	P	P	20 31 32.8	-0.2
	0.2nm,0.7s,baz=131,slow=7.5,SNR=2.3						

IDC 18 20:29:55.5±4.1, 5.11S×151.88E, h0km, mb3.1/2, mb1 3.4/2, mb1mx2.9/31, mbtmp3.1/2, Error ellipse: s-maj=167.5km s-min=53.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**228**	P	P	20 34 58.0	+0.5
	0.3nm,0.6s,baz=52,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**25.31**	**221**	P	P	20 35 23.4	-0.6
	0.3nm,0.7s,baz=58,slow=9.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**149.52**	**287**	PKPbc	PKPbc	20 49 47.8	-0.1
	0.3nm,0.7s,baz=81,slow=2.8,SNR=1.8						

TUL ***18*** *20:34:32.2±1.3, 36.683N±0.009×97.67W±0.01, h6km±6km, ML2.9, mb_Lg2.5/19(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=61.0*

NEIC 18 20:34:32.4±0.9, 36.67N±0.01×97.662W±0.004, h7km±6km, Error ellipse: s-maj=1.7km s-min=0.4km az=169.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.96**	**75**	Pg	Pg	20 34 49.8	-1.0
T35A				Sg	Sg	20 35 03.2	0.0
U32A	**Winter Ranch,**	**1.12**	**256**	Pg	Pg	20 34 52.4	-1.3
U32A				Sg	Sg	20 35 07.5	-0.8
FNO	**Franklin**	**1.42**	**171**		Pb	20 34 59.0	-0.3
W35A	**Tecumseh**	**1.64**	**157**	Pn	Pn	20 35 01.7	0.0
TUL1	**Leonard**	**1.69**	**116**		Pn	20 35 02.1	-0.2
TUL1				IAmb_Lg		20 35 29.3	
	comp=Z,28nm,1.1s						
R32A	**Long Quarter,**	**1.94**	**335**	Pn	Pn	20 35 06.3	+0.4
X34A	**Smith Ranch, M**	**2.06**	**184**	Pn	Pn	20 35 08.7	+1.2
WMOK	**Wichita Mounta**	**2.13**	**206**	Pn	Pn	20 35 07.8	-0.6
KSU1	**Kansas State U**	**2.57**	**19**	Pn	Pb	20 35 17.0	-1.8
CBKS	**Cedar Bluff**	**2.70**	**323**	Pn	Pn	20 35 15.5	-0.8
X37A	**Clayton**	**2.79**	**137**	Pn	Pn	20 35 16.4	-1.1
X37A				IAmb_Lg		20 36 07.9	
	comp=Z,14nm,1.1s						
HHAR	**Hobbs**	**3.02**	**96**	Pn	Pn	20 35 20.5	-0.3
W39A	**Magazine**	**3.47**	**114**		Pn	20 35 25.7	-1.1
W39A				IAmb_Lg		20 36 28.6	
	comp=Z,12nm,1.0s						
S39A	**Bolivar**	**3.61**	**72**	Pn	Pn	20 35 28.2	-0.6
AMTX	**Amarillo**	**3.72**	**243**	IAmb_Lg		20 36 32.5	
	comp=Z,10.0nm,0.8s						
U40A	**Yellville**	**3.89**	**93**	Pn	Pn	20 35 32.6	0.0
U40A				IAmb_Lg		20 36 38.2	
	comp=Z,9.4nm,0.7s						
MGMO	**Mountain Grove**	**4.35**	**82**	Pn	Pn	20 35 39.2	+0.3
MGMO				IAmb_Lg		20 36 47.8	
	comp=Z,8.6nm,0.7s						
P38A	**Dawn**	**4.40**	**47**		Pn	20 35 38.0	-1.6
P38A				IAmb_Lg		20 37 03.6	
	comp=Z,9.5nm,0.8s						
X40A	**Basin Creek Fa**	**4.50**	**118**	Pn	Pn	20 35 39.2	-1.8
FCAR	**Ozark Folk Cen**	**4.54**	**98**	Pn	Pn	20 35 42.0	+0.4
FCAR				IAmb_Lg		20 36 55.5	
	comp=Z,6.9nm,0.9s						
WHAR	**Wooly Hollow**	**4.57**	**106**	Pn	Pn	20 35 39.9	-2.1
R40A	**Maddies Statio**	**4.59**	**68**	Pn	Pn	20 35 41.8	-0.4
W41B	**Gary Mavity, V**	**4.64**	**107**	Pn	Pn	20 35 43.3	+0.4
P40A	**Paris**	**5.27**	**55**	Pn	Pn	20 35 51.9	+0.3
P40A				IAmb_Lg		20 37 24.5	
	comp=Z,9.7nm,0.9s						
FVM	**French Village**	**5.92**	**75**	IAmb_Lg		20 37 37.6	
	comp=Z,7.2nm,0.8s						
S22A	**4UR Ranch, Cre**	**7.39**	**281**	IAmb_Lg		20 38 34.4	
	comp=Z,4.7nm,0.9s						

IDC ***18*** *20:34:52.3±2.1, 6.89S×129.89E, h141km±26km, mb3.1/1, mb1 3.6/6, mb1mx3.1/39, mbtmp4.0/6, Error ellipse: s-maj=37.1km s-min=20.0km az=95.0*

ISC 18 20:34:52.0±0.8, 6.95S±0.06×129.82E±0.08, h150km, n15, σ3s55/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.41**	**2**	P	**Pn**	**20 35 36.0**	**+3.9**
MTN	**Manton Dam**	**6.00**	**168**	P	**Pn**	**20 36 21.0**	**+2.3**
SIJI	**Sorong**	**6.21**	**14**	P	**Pn**	**20 36 20.6**	**-1.0**
	3.5nm,0.3s,baz=165,slow=20,SNR=20						
SIJI				S	**Sn**	**20 37 24.6**	**-7.1**
	3.9nm,0.3s,baz=353,slow=23,SNR=14						
KDU	**Kakadu**	**6.27**	**156**	P	**Pn**	**20 36 24.7**	**+2.3**
BATI	**Baumata**	**6.89**	**242**	P	**Pn**	**20 36 33.4**	**+2.7**
	8.0nm,0.3s,baz=45,slow=4.3,SNR=10						
BATI				S	**Sn**	**20 37 48.2**	**+0.1**
	6.3nm,0.3s,baz=38,slow=18,SNR=8.0						
KNRA	**Kununurra**	**8.74**	**187**	P	**Pn**	**20 36 56.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.81**	**200**	P	**Pn**	**20 37 35.9**	**+0.1**
	0.5nm,0.3s,baz=26,slow=12,SNR=16						
FITZ				S	**Sn**	**20 39 40.9**	**-5.5**
	0.6nm,0.3s,baz=151,slow=14,SNR=5.6						
PLAI	**Plampang**	**12.07**	**260**	P	**Pn**	**20 37 38.3**	**-1.0**
WRAB	**Tennant Creek**	**13.64**	**162**	P	**Pn**	**20 38 01.5**	**+2.1**
WRA	**Warramunga Arr**	**13.64**	**162**	P	**Pn**	**20 37 59.1**	**-0.3**
	0.8nm,0.3s,baz=342,slow=14,SNR=24						
WRA				S	**Sn**	**20 40 23.6**	**-7.0**
	0.7nm,0.3s,baz=334,slow=22,SNR=8.4						
COEN	**Coen**	**14.86**	**119**	P	**P**	**20 38 20.7**	**+3.9**
JAGI	**Jajag, Banyuwa**	**15.60**	**263**	P	**Pn**	**20 38 24.8**	**+0.8**
QIS	**Mount Isa**	**16.52**	**146**	P	**Pn**	**20 38 38.3**	**+3.1**
ASAR	**Alice Springs**	**17.08**	**167**	P	**Pn**	**20 38 44.5**	**+2.6**
	0.4nm,0.3s,baz=346,slow=10,SNR=43						
ASAR				S	**S**	**20 41 48.6**	**-3.2**
	0.1nm,0.3s,baz=358,slow=28,SNR=3.1						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**20 45 36.6**	**+1.1**
	0.2nm,0.4s,baz=115,slow=7.8,SNR=5.4						

NNC ***18*** *21:10:28.6±6.9, 36.81N×71.47E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=61.5km s-min=46.6km az=148.0*

ISC 18 21:10:32.0±1.3, 36.65N±0.09×71.7E±0.1, h114km, n13, σ1s34/16, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.38**	**140**	*eP*	**Pn**	**21 11 52.5**	**+2.6**
THN				*eS*	**Sn**	**21 12 50.5**	**-0.2**
KK09	**Karatay Array**	**6.53**	**353**	⇓P	**Pn**	**21 12 06.1**	**+0.6**
	5.1nm,0.4s						
KK09				⇑S	**Sn**	**21 13 18.0**	**-0.4**
	3.1nm,0.3s						
TKM2	**Tokmak 2**	**6.96**	**25**	⇓P	**Pn**	**21 12 10.6**	**-0.9**
	1.0nm,0.5s						
TKM2				⇓S	**Sn**	**21 13 30.8**	**+1.6**
	4.5nm,0.8s						
GKN	**Gorkha**	**13.95**	**124**	*eP*	**Pn**	**21 13 43.7**	**-1.1**

*IDC **18** 21:27:10.0±1.2,51°09N×15°98E,h0km,mb1 4.1/2, mb1mx3.2/45,mbtmp4.0/2,ML2.5/3,Error ellipse: s-maj=26.0km s-min=12.1km az=116.0*

ISC 18 21:27:02.9±1.2,51°53N±0°05×16°13E±0°05,h0km,n25, σ0s59/29,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.69**	**171**	*e*Sg		**Sg**	**21 27 24.9**	**-0.2**
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg		**Pg**	**21 27 16.4**	**+0.3**
CHVC	**Chvalec**	**0.94**	**183**	*e*PG		**Pg**	**21 27 21.1**	**+0.2**
OSTC	**Ostas**	**0.97**	**177**	*e*PG		**Pg**	**21 27 21.9**	**+0.4**
UPC	**Upice**	**1.02**	**184**	*e*PG		**Pg**	**21 27 22.5**	**0.0**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG		**Pg**	**21 27 25.3**	**-0.3**
DPC				*e*SG		**Sg**	**21 27 40.4**	**-0.5**
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG		**Pn**	**21 27 29.5**	**-0.3**
PVCC				*e*SG		**Sg**	**21 27 48.4**	**+0.4**
	comp=Z,84nm,0.3s							
KRLC	**Kraliky**	**1.51**	**164**	*e*PG		**Pn**	**21 27 30.7**	**-0.6**
KRLC				*e*SG		**Sg**	**21 27 51.0**	**-0.4**
BRG	**Berggiesshubel**	**1.52**	**246**	Pg		**Pb**	**21 27 32.0**	**0.0**
BRG	**Berggiesshubel**	**1.52**	**246**	Amp			21 27 52.8	
	comp=Z,25nm,0.4s							
BRG	**Berggiesshubel**	**1.52**	**246**	Amp			21 28 03.0	
	comp=Z,48nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**246**	Sg		**Sn**	**21 27 52.2**	**+0.2**
PRU	**Pruhonice**	**1.84**	**214**	*e*PG		**Pb**	**21 27 36.9**	**-0.5**
PRU				*e*SG		**Sb**	**21 28 00.7**	**-0.3**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*SG		**Sb**	**21 28 04.3**	**-0.4**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*PN		**Pn**	**21 27 36.9**	**-0.7**
VRAC	**Vranov**	**2.24**	**172**	Pn		**Pn**	**21 27 42.1**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=343,slow=18,SNR=6.9							
VRAC	**Vranov**	**2.24**	**172**	*e*PN		**Pn**	**21 27 41.7**	**+0.4**
KRUC	**Moravsky**	**2.47**	**176**	*e*PN		**Pn**	**21 27 45.0**	**+0.6**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PG		**Pg**	**21 27 54.0**	**0.0**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN		**Pn**	**21 27 50.0**	**-0.4**
KHC				*e*PG		**Pb**	**21 27 56.4**	**+0.8**
KHC				*e*SG		**Sg**	**21 28 34.9**	**-1.2**
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PG		**Pb**	**21 27 57.0**	**+0.6**
GERES	**GERESS Array B**	**3.10**	**211**	Pg		**Pb**	**21 27 59.7**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=28,slow=17,SNR=29							
GERES	**GERESS Array B**	**3.10**	**211**	Pn		**Pn**	**21 27 54.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=31,slow=14,SNR=9.7							
BLEU	**Blekinge**	**4.79**	**358**	*e*P		**Pn**	**21 28 17.2**	**+0.9**
DEL	**Delary**	**5.13**	**346**	*i* P		**Pn**	**21 28 20.0**	**-1.0**

*PRU **18** 21:27:14.1±0.0,51°48N×16°19E,h0km*

ISC 18 21:27:13.0±1.0,51°51N±0°05×16°11E±0°04,h0km,n19, σ0s95/25,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHVC	**Chvalec**	**0.93**	**182**	*e*PG		**Pg**	**21 27 31.1**	**+0.4**
CHVC				*e*SG		**Sg**	**21 27 43.0**	**+0.3**
CHVC	**Chvalec**	**0.93**	**182**	*e*SG		**Pg**	**21 27 31.1**	**+0.4**
	comp=Z,78nm,0.4s							
OSTC	**Ostas**	**0.96**	**176**	*e*PG		**Pg**	**21 27 31.7**	**+0.3**
OSTC	**Ostas**	**0.96**	**176**	*e*SG		**Pg**	**21 27 31.9**	**+0.5**
UPC	**Upice**	**1.01**	**183**	*e*PG		**Pg**	**21 27 32.4**	**+0.1**
UPC				*e*SG		**Sg**	**21 27 45.8**	**+0.4**
	comp=Z,82nm,0.4s							
UPC	**Upice**	**1.01**	**183**	*e*SG		**Pg**	**21 27 32.7**	**+0.4**
	comp=Z,183nm,0.5s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG		**Pg**	**21 27 35.2**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**225**	*e*SG		**Sn**	**21 27 58.3**	**-0.2**
	comp=Z,136nm,0.5s							
KRLC	**Kraliky**	**1.50**	**163**	*e*PG		**Pg**	**21 27 41.4**	**-0.3**
BRG	**Berggiesshubel**	**1.51**	**246**	Pg		**Pg**	**21 27 42.5**	**+0.7**
BRG	**Berggiesshubel**	**1.51**	**246**	Sg		**Sn**	**21 28 02.2**	**+0.7**
CLL	**Collm**	**1.96**	**265**	*e*Pg		**Pg**	**21 27 51.0**	**+0.6**
CLL				*ex*		x	21 27 54.0	
CLL				*e*Sg		**Sg**	**21 28 16.0**	**+0.2**
	comp=Z,20nm,0.9s							
CLL				LmV			22 50 00.0	
	comp=Z,100nm,19.3s							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*SG		**Sb**	**21 28 19.0**	**-0.1**
	comp=Z,56nm,0.7s							
OJC	**Ojcow**	**2.67**	**118**	*e*Pn		**Pn**	**21 27 55.9**	**-1.4**
OJC				*e*Pg		**Pg**	**21 28 05.4**	**+1.2**
OJC				*e*Sg		**Sg**	**21 28 41.2**	**+2.5**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*SG		**Sg**	**21 28 45.4**	**-0.2**
	comp=Z,14nm,0.6s							
SMOL	**Smolenice**	**3.12**	**164**	*e*PG		**Pn**	**21 28 04.8**	**+1.4**
SMOL				*e*			21 28 51.8	
LANS	**Liptovska Anna**	**3.20**	**136**	*e*PG		**Pn**	**21 28 04.2**	**-0.3**
LANS				*e*SG		**Sb**	**21 28 48.0**	**-2.2**
LANS				*e*			21 28 58.1	
FINES	**FINESS Array B**	**11.36**	**25**	Pn		**Pn**	**21 29 55.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=207,slow=15,SNR=3.6							
ARCES	**ARCESS Array B**	**18.62**	**10**	P		**Pn**	**21 31 31.7**	**-0.1**
	baz=209,slow=10,SNR=4.9							

*NCEDC **18** 21:45:58.6±1.9,38°80N±0°02×122°76W±0°07,h3km±7km, ML2.9/23,ML2.7/64(NEIC),Error ellipse: s-maj=8.4km s-min=2.3km az=73.0*

NEIC 18 21:45:58.5±1.7,38°77N±0°02×122°74W±0°06,h1km±8km, Error ellipse: s-maj=7.4km s-min=1.6km az=67.0, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GCRM	**Castle Rock Sp**	**0.02**	**69**			Pg	21 45 58.6	-0.4
GDXM	**Geysers**	**0.06**	**311**	Pg		Pg	21 45 58.4	-1.4
GDXM				Sg		Sg	21 45 59.1	-1.5
GDXM				IAML			21 45 59.9	
	comp=N,9μm,0.2s							
GSGM	**Seigler Mounta**	**0.10**	**11**			Pg	21 46 00.6	+0.1
GPMM	**Pine Mountain**	**0.18**	**296**			Pg	21 46 02.1	0.0
MNRC	**McLaughlin Min**	**0.25**	**64**			Pg	21 46 04.6	+1.2
HOPS	**Hopland Field**	**0.35**	**311**	Pg		Pg	21 46 05.2	0.0
HOPS				Sg		Sg	21 46 09.8	+0.1
HOPS				IAML			21 46 13.3	
	comp=N,2μm,1.2s							
FTR	**Fort Ross**	**0.41**	**234**			Pg	21 46 07.4	+0.9
CVS	**Carmenet Viney**	**0.47**	**153**			Pb	21 46 08.7	-1.0
MCCM	**Marconi Confer**	**0.63**	**190**	Pg		Pg	21 46 11.3	+0.7
MCCM				Sg		Sb	21 46 20.5	-1.2
MCCM				IAML			21 46 22.1	
	comp=N,424nm,1.2s							
MCCM				IAML			21 46 25.9	
	comp=E,445nm,0.8s							
GASB	**Alder Springs**	**0.89**	**1**			Pg	21 46 16.0	+0.4
BRK	**Berkeley--Havi**	**0.97**	**157**			Pb	21 46 17.8	-0.3
VAK	**Adit at Lawren**	**0.97**	**157**			Pb	21 46 17.9	-0.1
BL67	**Building 67, L**	**0.97**	**157**			Pb	21 46 18.0	-0.1
BKS	**Berkeley--Byer**	**0.97**	**156**			Pg	21 46 17.4	+0.2
BDM	**Black Diamond**	**1.06**	**140**			Pg	21 46 18.3	-0.6
KCPM	**Cahto Peak**	**1.13**	**325**	Pg		Pg	21 46 19.6	-0.6
KCPM				Sg		Sg	21 46 35.2	+0.3
KCPM				IAML			21 46 43.6	
	comp=N,154nm,1.4s							
ORV	**Oroville**	**1.24**	**50**	Pg		Pg	21 46 22.3	-0.1
002D	**Mt. Diablo Mer**	**1.41**	**358**			Pn	21 46 25.3	-0.1
KMRM	**Mail Ridge**	**1.64**	**333**	Pn		Pn	21 46 27.5	-1.1
KMRM				IAML			21 47 00.0	
	comp=N,66nm,1.3s							
KMRM				IAML			21 47 07.2	
	comp=E,85nm,1.0s							
O03E	**Paynes Creek**	**1.69**	**25**	Pn		Pn	21 46 26.4	-2.9
WDC	**Whiskeytown Da**	**1.82**	**5**			Pn	21 46 30.8	-0.2
CMB	**Columbia Colle**	**1.98**	**111**	Pn		Pn	21 46 32.7	-0.7
CMB				IAML			21 46 60.0	
	comp=E,40nm,0.8s							
CMB				IAML			21 47 01.3	
	comp=N,48nm,0.7s							
RUBR	**Rubicon Trail**	**2.03**	**81**			Pn	21 46 34.5	+0.3
EMB	**Emerald Bay**	**2.06**	**83**			Pn	21 46 34.9	+0.3
EMB				IAML			21 47 07.5	
	comp=N,81nm,0.5s							
BEKR	**Beckworth**	**2.15**	**58**	Pn		Pn	21 46 35.2	-0.5
BEKR				IAML			21 47 07.2	
	comp=E,34nm,0.8s							
MPK	**Martis Peak**	**2.17**	**75**			Pn	21 46 36.1	0.0
MPK				IAML			21 46 52.6	
	comp=E,74nm,0.7s							
N02D	**Trinity Center**	**2.20**	**1**			Pn	21 46 35.9	-0.4
SAO	**San Andreas Ge**	**2.25**	**153**	Pn		Pn	21 46 36.0	-0.8
VCNR	**Virginia City**	**2.46**	**77**			Pn	21 46 39.7	-0.3
VCNR				IAML			21 47 17.4	
	comp=E,35nm,0.9s							
VCNR				IAML			21 47 38.7	
	comp=N,38nm,0.9s							
PNTR	**Pine Nut**	**2.47**	**82**	Pn		Pn	21 46 39.4	-0.7
PNTR				IAML			21 47 28.2	
	comp=N,57nm,0.7s							
BBGB	**Big Mountain B**	**2.57**	**148**			Pn	21 46 41.1	-0.2
M02C	**Callahan**	**2.62**	**358**			Pn	21 46 42.7	+0.5
YERR	**Yerington**	**2.74**	**84**			Pn	21 46 44.8	+1.0
PAHR	**Pah Rah Range**	**2.77**	**69**			Pn	21 46 44.0	-0.2
PAHR				IAML			21 47 42.6	
	comp=N,16nm,2.5s							
YBH	**Yreka Blue Hor**	**2.96**	**0**			Pn	21 46 46.3	-0.5
PMPB	**Monarch Peak**	**2.98**	**148**	Pn		Pn	21 46 45.4	-1.6
PMPB				IAML			21 47 34.0	
	comp=N,34nm,4.1s							
OMMB	**Old Mammoth Mi**	**3.16**	**110**	Pn		Pn	21 46 51.2	+1.4
OMMB				IAML			21 47 37.1	
	comp=N,15nm,2.2s							
OMMB				IAML			21 47 38.5	
	comp=E,19nm,0.8s							
RYN	**Ryan**	**3.30**	**91**			Pn	21 46 51.5	0.0
RYN				IAML			21 47 45.5	
	comp=E,25nm,1.4s							
RYN				IAML			21 47 59.4	
	comp=N,15nm,2.4s							
LHV	**Little Huntoon**	**3.36**	**98**			Pb	21 47 00.8	+1.9
NV11	**Mina Array Sit**	**3.60**	**94**	IAML			21 47 55.7	
	comp=N,21nm,2.0s							
NV11				IAML			21 48 07.9	
	comp=E,16nm,2.1s							
KVN	**Kaiserville**	**3.63**	**84**			Pn	21 46 55.3	-0.7
KVN				Pg		Pb	21 47 05.6	+2.0
KVN				IAML			21 47 55.7	
	comp=N,11nm,2.7s							
KVN				IAML			21 47 59.1	
	comp=E,9.7nm,0.7s							
MOD	**Modoc Plateau**	**3.64**	**30**			Pg	21 47 11.9	+3.5
MOD				IAML			21 48 41.4	
	comp=E,7.1nm,4.1s							
MOD				IAML			21 48 48.3	
	comp=N,8.4nm,4.6s							

*BEO **18** 21:58:17.4±0.4,45°90N×21°18E,h3km±2km,ML2.8/19*
*KRSZO **18** 21:58:18.9±1.1,45°85N×21°22E,h10km±8km,ML3.3/27, Error ellipse: s-maj=4.5km s-min=3.4km az=23.0*
*BUC **18** 21:58:18.5±0.3,45°89N×21°18E,h4km±2km,ml2.9/24, Error ellipse: s-maj=2.3km s-min=1.5km az=96.0*
*PRU **18** 21:58:20.8±0.0,46°09N×21°22E,h0km*
*NEIC **18** 21:58:21.6±2.5,45°88N±0°06×21°23E±0°06,h28km±14km, Error ellipse: s-maj=9.9km s-min=3.7km az=213.0*

ISC 18 21:58:19.4±0.9,45°84N±0°02×21°18E±0°02,h11km±6km, n125,σ1s08/180,26C-25D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIM	**Timisoara**	**0.11**	**166**	⇓P		**Pg**	**21 58 22.1**	**-0.1**
TIM				⇓S		**Sg**	**21 58 25.0**	**+0.8**
BZS	**Buzias**	**0.38**	**126**	⇑P		**Pg**	**21 58 26.1**	**-0.8**
BZS				⇑S		**Sg**	**21 58 31.6**	**-0.2**
BZS	**Buzias**	**0.38**	**126**	*e*Pg		**Pg**	**21 58 26.0**	**-0.8**
BZS				*e*Sg		**Sg**	**21 58 31.4**	**-0.5**
BZS	**Buzias**	**0.38**	**126**	Pg		**Pg**	**21 58 26.1**	**-0.8**
	comp=Z,2.9nm,SNR=179							
BZS				Lg		Lg	21 58 31.5	
BANR	**Banloc**	**0.46**	**184**	⇑P		**Pg**	**21 58 28.6**	**+0.3**
BANR				⇓S		**Sb**	**21 58 36.2**	**0.0**
BANR	**Banloc**	**0.46**	**184**	Pg		**Pg**	**21 58 29.0**	**+0.6**
	comp=Z,2.6nm,SNR=45							
BANR				Lg		Lg	21 58 36.9	
SIRR	**Siria**	**0.54**	**38**	⇓P		**Pg**	**21 58 29.4**	**-0.5**
SIRR				⇓S		**Sg**	**21 58 36.3**	**-0.8**
SIRR	**Siria**	**0.54**	**38**	Pg		**Pg**	**21 58 28.8**	**-1.1**
	comp=Z,4.5nm,SNR=136							
SIRR				Lg		Lg	21 58 36.5	
AMBH	**Ambrzfalva**	**0.60**	**328**	Pg		**Pb**	**21 58 31.7**	**-0.2**
	comp=Z,1.8nm,SNR=25							
AMBH	**Ambrzfalva**	**0.60**	**328**	PG		**Pb**	**21 58 31.7**	**-0.2**
MDVR	**Moldovita**	**1.12**	**160**	⇓P		**Pb**	**21 58 39.8**	**-1.0**
MDVR				⇓S		**Sg**	**21 58 56.1**	**+0.5**
FRGS	**Fruska Gora**	**1.18**	**235**	⇑P		**Pb**	**21 58 40.3**	**-1.5**
FRGS				⇓S		**Sn**	**21 58 58.4**	**+0.5**
FRGS	**Fruska Gora**	**1.18**	**235**	*e*Pg		**Pb**	**21 58 39.8**	**-2.0**
FRGS				*e*Sg		**Sb**	**21 58 56.9**	**-0.2**
FRGS	**Fruska Gora**	**1.18**	**235**	*e*Pn		**Pb**	**21 58 40.2**	**-1.6**
DEV	**Deva**	**1.20**	**87**	⇓P		**Pn**	**21 58 41.1**	**-1.0**
DEV				⇓S		**Sb**	**21 58 57.7**	**-0.1**
DEV	**Deva**	**1.20**	**87**	Pg		**Pn**	**21 58 41.0**	**-1.2**
	comp=Z,1.2nm,SNR=31							
DEV				Sn		**Sb**	**21 58 57.6**	**-0.1**
GZR	**Gura Zlata**	**1.21**	**111**	⇑P		**Pn**	**21 58 41.1**	**-1.2**
GZR	**Gura Zlata**	**1.21**	**111**	Pn		**Pn**	**21 58 41.0**	**-1.2**
	comp=Z,1.6nm,SNR=108							
GZR				Sn		**Sb**	**21 58 57.1**	**-0.8**
BORR	**Bors**	**1.32**	**18**	⇓P		**Pn**	**21 58 43.2**	**-0.5**
BORR				⇓S		**Sn**	**21 59 00.8**	**-0.5**
DRGR		**1.42**	**48**	⇓P		**Pn**	**21 58 44.1**	**-1.2**
DRGR				⇓S		**Sn**	**21 59 03.4**	**-0.6**
DRGR		**1.42**	**48**	*e*Pg		**Pn**	**21 58 44.0**	**-1.2**
DRGR				*e*Sg		**Sn**	**21 59 01.9**	**-2.1**
DRGR		**1.42**	**48**	Pn		**Pn**	**21 58 44.0**	**-1.2**
	comp=Z,0.4nm,SNR=14							
DRGR				Sn		**Sn**	**21 59 03.4**	**-0.6**
KUBS	**Kucevo**	**1.47**	**166**	*e*Pg		**Pn**	**21 58 43.6**	**-2.2**
KUBS				*e*Sg		**Sb**	**21 59 05.6**	**+0.2**
DJES	**Djerdap**	**1.51**	**141**	*e*Pg		**Pn**	**21 58 44.7**	**-1.6**
DJES				*e*Sg		**Sg**	**21 59 07.7**	**-0.2**
SVIS	**Svilajnac**	**1.58**	**179**	*e*Pg		**Pn**	**21 58 47.3**	**+0.1**
SVIS				*e*Sg		**Sb**	**21 59 08.9**	**+0.5**
BSZH	**Besenyszg**	**1.59**	**337**	Pg		**Pg**	**21 58 51.9**	**+2.1**
BSZH	**Besenyszg**	**1.59**	**337**	PG		**Pg**	**21 58 51.9**	**+2.1**
RMGR	**Halanga-Turnu**	**1.59**	**137**	⇑P		**Pn**	**21 58 47.5**	**+0.1**
RMGR				⇑S		**Sg**	**21 59 10.7**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.62**	**18**	⇓S		**Sn**	**21 59 08.5**	**-0.2**
LTVH	**Ltavrtes, Hu**	**1.62**	**18**	Pn		Pn	21 58 38.2	-10
LTVH				Sn		**Sn**	**21 59 08.2**	**-0.6**
TRUS	**Trudelj**	**1.71**	**199**	*e*Pn		**Pn**	**21 58 48.0**	**-1.1**
TRUS				*e*Sn		**Sb**	**21 59 13.2**	**+0.9**
BLJ	**Bijeljina**	**1.72**	**233**	*e*Pn		**Pn**	**21 58 47.6**	**-1.6**
MESR	**Meseseni**	**1.79**	**42**	⇓P		**Pn**	**21 58 49.6**	**-0.6**
MESR				⇓S		**Sn**	**21 59 13.3**	**+0.3**
SRE	**Strehaia**	**1.85**	**129**	⇑P		**Pn**	**21 58 51.8**	**+0.7**
SRE				⇑S		**Sb**	**21 59 16.1**	**-0.3**
LOT	**Lotru**	**1.86**	**101**	⇑P		**Pn**	**21 58 51.9**	**+0.6**
LOT				⇑S		**Sb**	**21 59 16.4**	**-0.3**
LOT	**Lotru**	**1.86**	**101**	Pg		**Pb**	**21 58 52.9**	**-0.4**
	comp=Z,0.4nm,SNR=12							
LOT				Sn		**Sb**	**21 59 16.3**	**-0.3**
CBBR	**Cluj-Babes-Bol**	**1.89**	**60**	⇓P		**Pn**	**21 58 50.8**	**-0.7**
CJR	**Cluj-Napoca**	**1.89**	**62**	⇑P		**Pn**	**21 58 51.1**	**-0.6**
CJR				⇓S		**Sb**	**21 59 16.9**	**-0.6**
CJR	**Cluj-Napoca**	**1.89**	**62**	Pn		**Pn**	**21 58 51.1**	**-0.6**
	comp=Z,0.6nm,SNR=12							
DIVS	**Divibare**	**1.94**	**206**	*e*Pn		**Pn**	**21 58 51.0**	**-1.3**
DIVS				*e*Sn		**Sn**	**21 59 17.8**	**+1.1**
DIVS	**Divibare**	**1.94**	**206**	Pn		**Pn**	**21 58 51.0**	**-1.3**
DIVS	**Divibare**	**1.94**	**206**	*e*Pn		**Pn**	**21 58 50.8**	**-1.5**
GRUS	**Gruza**	**1.98**	**190**	*e*Pn		**Pn**	**21 58 53.4**	**+0.6**
GRUS				*e*Sn		**Sn**	**21 59 18.7**	**+1.1**
PUNG	**Punghina**	**2.00**	**141**	⇓P		**Pn**	**21 58 52.1**	**-0.9**
PUNG				⇑S		**Sb**	**21 59 20.5**	**0.0**
A266A	**Gyulaj**	**2.14**	**290**	Lg		Lg	21 59 29.0	
ZAGS	**Zajecar**	**2.16**	**159**	*e*Pn		**Pn**	**21 58 53.8**	**-1.5**
ZAGS				*e*Sn		**Sb**	**21 59 23.9**	**-1.4**
KOVH	**Kovagototos**	**2.16**	**278**	Pn		**Pn**	**21 58 54.3**	**-1.0**
	comp=Z,0.2nm,SNR=7.4							
KOVH				Lg		Lg	21 59 28.8	
KOVH	**Kovagototos**	**2.16**	**278**	PN		**Pn**	**21 58 54.3**	**-1.0**
KOVH				LG		Lg	21 59 28.8	
A267A	**Kaloz**	**2.17**	**302**	Sn		**Sn**	**21 59 20.8**	**-1.6**
BUD	**Budapest**	**2.21**	**319**	Pn		**Pn**	**21 58 55.8**	**-0.3**
	comp=Z,0.1nm,SNR=3.2							
BUD	**Budapest**	**2.21**	**319**	PN		**Pn**	**21 58 55.8**	**-0.3**
MDB	**Medias**	**2.25**	**81**	⇓P		**Pn**	**21 58 56.9**	**+0.4**
PSZ	**Piszkesteto**	**2.26**	**337**	⇑P		**Pn**	**21 58 55.7**	**-1.0**
PSZ	**Piszkesteto**	**2.26**	**337**	Pn		**Pn**	**21 58 55.7**	**-1.0**
PSZ	**Piszkesteto**	**2.26**	**337**	Pn		**Pn**	**21 58 56.0**	**-0.7**
	comp=Z,0.1nm,SNR=4.0							
PSZ	**Piszkesteto**	**2.26**	**337**	PN		**Pn**	**21 58 56.0**	**-0.7**
BBLS	**Lazići**	**2.34**	**213**	*e*Pn		**Pn**	**21 58 57.0**	**-0.9**
BBLS				*e*Sn		**Sn**	**21 59 28.0**	**+1.3**
BBLS	**Lazići**	**2.34**	**213**	*e*Pn		**Pb**	**21 59 02.5**	**+0.8**
IVAS	**Ivanjica**	**2.38**	**198**	*e*Pn		**Pn**	**21 58 56.6**	**-1.8**
IVAS				*e*Sn		**Sn**	**21 59 29.1**	**+1.5**
BAIL	**Bailesti**	**2.38**	**139**	⇑S		**Sb**	**21 59 30.5**	**-1.1**
BMR	**Baia Mare**	**2.43**	**40**	⇑P		**Pn**	**21 58 58.9**	**-0.1**
BMR				⇑S		**Sn**	**21 59 29.3**	**+0.6**
ARR	**Arges**	**2.47**	**100**	⇑P		**Pn**	**21 59 00.1**	**+0.5**
ARR				⇓S		**Sn**	**21 59 31.3**	**+1.5**
TRPA	**Tarpa**	**2.47**	**22**	⇑P		**Pn**	**21 58 58.1**	**-1.4**
TRPA	**Tarpa**	**2.47**	**22**	Pn		**Pn**	**21 58 58.6**	**-1.0**
	comp=Z,0.1nm,SNR=2.7							
TRPA				Pg		**Pg**	**21 59 08.0**	**+1.3**
TRPA	**Tarpa**	**2.47**	**22**	PN		**Pn**	**21 58 58.6**	**-1.0**
TRPA				PG		**Pg**	**21 59 08.0**	**+1.3**
TIH	**Tihany**	**2.51**	**296**	Pn		**Pn**	**21 58 58.1**	**-2.0**
	comp=Z,0.3nm,SNR=4.9							
TIH	**Tihany**	**2.51**	**296**	PN		**Pn**	**21 58 58.1**	**-2.0**
RUDO	**Rudo**	**2.57**	**211**	*e*Pn		**Pb**	**21 59 05.7**	**+0.2**
SELS	**Selova**	**2.62**	**181**	*e*Pn		**Pn**	**21 58 59.8**	**-1.9**
SELS				*e*Sn		**Sn**	**21 59 34.1**	**+0.6**
KECS	**Kecovo**	**2.69**	**350**	*e*PN		**Pn**	**21 59 03.5**	**+1.0**
SJES	**Sjenica**	**2.72**	**199**	*e*Pn		**Pn**	**21 59 02.4**	**-0.7**
SJES				*e*Sn		**Sn**	**21 59 36.9**	**+0.8**
VOIR		**2.74**	**97**	⇓P		**Pn**	**21 59 03.5**	**+0.1**
VOIR				⇑S		**Sn**	**21 59 38.7**	**+2.2**
A268A	**Rede**	**2.75**	**306**	Pn		**Pn**	**21 59 03.3**	**-0.1**
	comp=Z,0.2nm,SNR=7.7							
ZAPS	**Zavoj**	**2.77**	**157**	*e*Pn		**Pn**	**21 59 03.1**	**-0.6**
ZAPS				*e*Sn		**Sn**	**21 59 36.1**	**-1.0**
SRO	**Srobarova**	**2.79**	**316**	Pn		**Pn**	**21 59 04.1**	**+0.2**
	comp=Z,0.5nm,SNR=5.3							
SRO	**Srobarova**	**2.79**	**316**	*e*PN		**Pn**	**21 59 05.0**	**+1.1**
SRO				*e*SN		**Sn**	**21 59 38.8**	**+1.3**
A263A	**Hollad**	**2.80**	**288**	Pn		**Pn**	**21 59 03.5**	**-0.5**
	comp=Z,0.2nm,SNR=4.7							
MPLH	**Magyarpolny**	**2.84**	**299**	Pn		**Pn**	**21 59 05.0**	**+0.3**
	comp=Z,0.2nm,SNR=2.2							
MPLH	**Magyarpolny**	**2.84**	**299**	PN		**Pn**	**21 59 05.0**	**+0.3**
DOPR	**Dopca**	**2.94**	**86**	⇓P		**Pn**	**21 59 06.8**	**+0.8**
BLY	**Banja Luka**	**3.03**	**250**	*e*Pn		**Pb**	**21 59 13.8**	**+0.6**
BARS	**Barje**	**3.06**	**171**	*e*Pn		**Pn**	**21 59 06.8**	**-0.9**
BARS				*e*Sn		**Sn**	**21 59 45.2**	**+1.0**
EGYH	**Egyhazaskeszo**	**3.09**	**302**	Pn		**Pn**	**21 59 08.7**	**+0.7**
	comp=Z,0.1nm,SNR=2.0							
EGYH				Sn		**Sn**	**21 59 45.5**	**+0.6**
EGYH	**Egyhazaskeszo**	**3.09**	**302**	PN		**Pn**	**21 59 08.7**	**+0.7**
EGYH				SN		**Sn**	**21 59 45.5**	**+0.6**
VYHS	**Vyhne**	**3.10**	**330**	Pn		**Pn**	**21 59 08.3**	**0.0**
	SNR=6.6							
VYHS	**Vyhne**	**3.10**	**330**	*e*PN		**Pn**	**21 59 08.2**	**0.0**
VYHS				*e*SN		**Sn**	**21 59 46.4**	**+1.2**
UPM	**Unac-Piva**	**3.10**	**212**	*e*Pn		**Pg**	**21 59 16.9**	**-1.9**
BEHE	**Becsehely**	**3.13**	**283**	Pn		**Pn**	**21 59 08.1**	**-0.4**
	comp=Z,0.2nm,SNR=4.5							
BEHE	**Becsehely**	**3.13**	**283**	PN		**Pn**	**21 59 08.1**	**-0.4**
MGRS	**Mrkonjic Grad**	**3.23**	**245**	*e*Pn		**Pb**	**21 59 18.5**	**+1.7**
BURAR	**Bucovina Array**	**3.29

WRA	**Warramunga Arr**	**24.56**	**238**	P		**P**		**22 25 33.2**	**+1.1**
MTN	**Manton Dam**	**25.38**	**257**	P		**P**		**22 25 40.5**	**+1.0**
ASAR	**Alice Springs**	**26.73**	**231**	P		**P**		**22 25 51.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=60,slow=9.1,SNR=2.5								
ASAR				LR		LR		22 35 56.3	
	comp=Z,64nm,19.8s,baz=138,slow=35								
ASAR	**Alice Springs**	**26.73**	**231**	P		**P**		**22 25 51.1**	**-0.6**
STKA	**Stephens Creek**	**27.63**	**208**	LR		LR		22 36 25.0	
	comp=Z,69nm,18.3s,baz=25,slow=35								
H11S3	**WAKE ISLAND Hy**	**28.05**	**21**	T		T		22 54 26.7	
	baz=202,slow=75,SNR=14								
H11S2	**WAKE ISLAND Hy**	**28.05**	**21**	T		T		22 54 35.2	
	baz=202,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hy**	**28.07**	**21**	T		T		22 54 36.6	
	baz=202,slow=75,SNR=5.3								
KNRA	**Kununurra**	**28.17**	**251**	P		**P**		**22 26 06.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**31.65**	**248**	LR		LR		22 39 15.2	
	comp=Z,38nm,18.4s,baz=99,slow=36								
BATI	**Baumata**	**32.45**	**263**	LR		LR		22 40 22.0	
	comp=Z,86nm,20.0s,baz=92,slow=37								
KAPI	**Kappang**	**36.56**	**272**	LR		LR		22 42 54.3	
	comp=Z,14nm,18.4s,baz=119,slow=37								
SONM	**Songino Array**	**70.82**	**327**	P		**P**		**22 31 26.7**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=139,slow=6.4,SNR=18								
SONM	**Songino Array**	**70.82**	**327**	P		**P**		**22 31 26.9**	**-0.5**
SONM				IAmb		IAmb		22 31 27.8	
	comp=Z,3.5nm,1.0s								
I21K	**Tanana**	**82.12**	**20**	P		**P**		**22 32 30.6**	**0.0**
I21K				IAmb		IAmb		22 35 32.2	
	comp=Z,5.9nm,1.0s								
MK31	**Makanchi Array**	**84.98**	**318**	P		**P**		**22 32 45.8**	**+0.1**
MK31				IAmb		IAmb		22 32 46.4	
	comp=Z,5.8nm,0.8s								
MKAR	**Makanchi Array**	**84.98**	**318**	P		**P**		**22 32 45.5**	**-0.3**
	comp=Z,6.1nm,0.7s,baz=103,slow=5.9,SNR=72								
MKAR	**Makanchi Array**	**84.98**	**318**	P		**P**		**22 32 45.6**	**-0.1**
MAKZ	**Makanchi**	**85.19**	**318**	P		**P**		**22 32 46.5**	**-0.3**
ZAA0	**Zalesovo Array**	**85.68**	**326**	P		**P**		**22 32 47.7**	**-1.2**
ZAA0				IAmb		IAmb		22 32 48.5	
	comp=Z,4.1nm,0.8s								
ZALV	**Zalesovo Beam**	**85.68**	**326**	P		**P**		**22 32 47.8**	**-1.2**
	comp=Z,3.7nm,0.6s,baz=110,slow=5.6,SNR=14								
ZALV	**Zalesovo Beam**	**85.68**	**326**	P		**P**		**22 32 48.0**	**-0.9**
KURK	**Kurchatov**	**88.38**	**322**	P		**P**		**22 33 01.3**	**-0.7**
KURK				IAmb		IAmb		22 35 56.7	
	comp=Z,6.6nm,1.6s								
KURBB	**Kurchatov Arra**	**88.41**	**321**	P		**P**		**22 33 01.3**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=100,slow=4.5,SNR=14								

*IDC **18** 22:29:43.6±0.5,85°.31N×91°.55E,h0km,mb3.9/18, mb1 4.1/20,mb1mx3.8/61,mbtmp3.9/20,ML4.5/2,MS3.4/16, Ms1 3.4/16,ms1mx3.1/94,Error ellipse: s-maj=17.7km s-min=11.7km az=125.0*

*MOS **18** 22:29:43.1±1.0,85°.30N×90°.49E,h10km,mb4.6/7,Error ellipse: s-maj=99.9km s-min=8.7km az=88.3*

*NEIC **18** 22:29:44.8±1.4,85°.31N±0°.09×90°.2E±0°.3,h8km±5km, mb4.5/49,Error ellipse: s-maj=12.7km s-min=3.7km az=174.0*

*IEPN **18** 22:29:48.0,85°.25N×87°.88E,h10km*

ISC 18 22:29:45.2±0.4,**85°.24N**±0°.06×**89°.34E**±0°.05,**h10**km,**n123,** σ1$**81**/115,**mb4.4**/48,**MS3.2**/16,**3C-3D**,**North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**6.50**	**251**	*e*P		**Pn**	**22 31 20.3**	**-0.4**
ZFI2				*e*S		**Sn**	**22 32 29.7**	**-5.0**
ZFI	**Zemlya Franca-**	**6.50**	**251**	*e*P		**Pn**	**22 31 20.3**	**-0.4**
ZFI				*e*S		**Sn**	**22 32 29.7**	**-5.0**
	28nm,1.4s							
NOR	**Nord**	**10.80**	**311**	*e*P		Pn	22 32 25.7	+6.2
KBS	**Kingsbay**	**11.12**	**282**	⇓*e*P		**Pn**	**22 32 22.4**	**-1.5**
KBS	**Kingsbay**	**11.12**	**282**	*i* P		**Pn**	**22 32 21.6**	**-2.3**
KBS				*e*S		Sn	22 34 14.2	-14
KBS	**Kingsbay**	**11.12**	**282**	Pn		**Pn**	**22 32 22.2**	**-1.6**
KBS	**Kingsbay**	**11.12**	**282**	*e*P		**Pn**	**22 32 21.6**	**-2.3**
KBS				*e*S		Sn	22 34 18.2	-10
SPA0	**Spitsbergen Ar**	**11.44**	**276**	P		Pn	22 32 23.4	-4.9
SPITS	**Spitsbergen Ar**	**11.44**	**276**	Pn		**Pn**	**22 32 25.4**	**-2.9**
	baz=57,slow=12,SNR=26							
SPB2	**Spitsbergen Ar**	**11.44**	**276**	Pn		**Pn**	**22 32 26.3**	**-2.0**
HSPB	**Hornsund (broa**	**12.60**	**275**	*e*P		**Pn**	**22 32 42.5**	**-1.6**
HSPB				S		Sn	22 34 53.8	-10
EUNU	**Eureka**	**14.79**	**357**	Pn		**Pn**	**22 33 14.2**	**+0.2**
TIXI	**Tiksi**	**15.07**	**129**	Pn		**Pn**	**22 33 16.0**	**-1.7**
	0.2nm,0.3s,baz=268,slow=23,SNR=8.4							
TIXI	**Tiksi**	**15.07**	**129**	⇑*e*P		**Pn**	**22 33 18.0**	**+0.3**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
TIXI	**Tiksi**	**15.07**	**129**			**Pn**	**22 33 16.9**	**-0.8**
DAG	**Danmarks Havn**	**15.47**	**305**	*i* P		**Pn**	**22 33 25.0**	**+2.1**
NRIK	**Noril'sk**	**16.00**	**182**	Pn		**Pn**	**22 33 25.8**	**-4.1**
	baz=9.7,slow=11,SNR=11							
NRIK				LR		LR	22 40 17.7	
	comp=Z,159nm,18.1s,baz=348,slow=39							
NRIK	**Noril'sk**	**16.00**	**182**	⇓*e*P		**Pn**	**22 33 26.1**	**-3.8**
NRIK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
NRIK	**Noril'sk**	**16.00**	**182**	Pn		**Pn**	**22 33 25.9**	**-4.0**
NRIK				IAmb		IAmb	22 33 34.1	
	comp=Z,26nm,0.8s							
AMDE	**Amderma**	**16.27**	**215**	*e*P		**Pn**	**22 33 32.0**	**-1.3**
	comp=Z,4.2nm,0.8s							
AMDE				*e*S		Sn	22 36 19.5	-14
DBG	**Daneborg**	**17.96**	**304**	*e*P		**P**	**22 33 59.2**	**+4.2**
TULEG	**Thule**	**18.08**	**344**			**Pn**	**22 33 55.1**	**-0.9**
ARCES	**ARCESS Array B**	**18.95**	**256**	P		**P**	**22 34 06.8**	**+0.8**
	baz=18,slow=11,SNR=10.0							
ARCES				LR		LR	22 41 48.0	
	comp=Z,229nm,18.8s,baz=348,slow=38							
ARCES	**ARCESS Array B**	**18.95**	**256**	IAmb		IAmb	22 34 10.0	
	comp=Z,33nm,1.4s							
RES	**Resolute Bay**	**20.19**	**3**	LR		LR	22 42 23.9	
	comp=Z,66nm,19.6s,baz=301,slow=38							
BILL	**Bilibino**	**21.50**	**91**	*e*P		**P**	**22 34 32.7**	**-0.9**
BILL				*e*			22 34 53.6	
BILL				*e*PPP		PPP	22 35 02.8	
BILL				pmax		pmax		
	comp=Z,10.0nm,0.8s							
BILL				MLR		MLR		
	comp=Z,90nm,18.0s							
BILL	**Bilibino**	**21.50**	**91**	P		**P**	**22 34 32.8**	**-0.7**
BILL				IAmb		IAmb	22 34 37.7	
	comp=Z,19nm,0.9s							
LSH	**Leshukonskoye**	**22.03**	**232**	*e*P		**P**	**22 34 40.6**	**+1.3**
	comp=Z,114nm,3.0s							
LSH				*e*S		**S**	**22 38 36.2**	**-5.7**
A36M	**Sachs Harbour**	**22.23**	**28**	P		**P**	**22 34 39.8**	**-1.6**
A36M				IAmb		IAmb	22 34 42.9	
	comp=Z,27nm,1.1s							
RDOG	**Red Dog Mine**	**23.96**	**62**	P		**P**	**22 34 58.1**	**-0.9**
RDOG				IAmb		IAmb	22 35 00.1	
	comp=Z,10.0nm,0.9s							
TOLK	**Toolik Lake Re**	**24.30**	**50**	P		**P**	**22 35 01.1**	**-1.1**
TOLK				IAmb		IAmb	22 35 02.4	
	comp=Z,14nm,1.0s							
YAK	**Yakutsk**	**24.66**	**133**	LR		LR	22 44 23.1	
	comp=Z,84nm,21.3s,baz=278,slow=36							
YAK	**Yakutsk**	**24.66**	**133**	*e*P		**P**	**22 35 11.8**	**+6.4**
YAK				pmax		pmax		
	comp=Z,22nm,1.0s							
YAK				pmax		pmax		
	comp=N,2.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,2.0nm,1.0s							
SEY	**Seymchan**	**25.39**	**108**	P		**P**	**22 35 12.1**	**+0.1**
	comp=E,14nm,0.9s,baz=330,slow=6.9,SNR=48							
SEY	**Seymchan**	**25.39**	**108**	⇑*e*P		**P**	**22 35 12.5**	**+0.5**
SEY				pmax		pmax		
	comp=Z,23nm,1.0s							
INK	**Inuvik**	**25.54**	**36**	P		**P**	**22 35 11.7**	**-1.6**
	comp=Z,19nm,1.1s,baz=352,slow=11,SNR=16							
INK	**Inuvik**	**25.54**	**36**	P		**P**	**22 35 11.4**	**-1.9**
COLD	**Coldfoot**	**25.65**	**51**	P		**P**	**22 35 13.4**	**-1.1**
COLD				IAmb		IAmb	22 35 15.8	
	comp=Z,9.3nm,1.0s							
BMAR	**Burnt Mountain**	**25.80**	**46**	P		**P**	**22 35 14.2**	**-1.7**
KLMR	**Klimovskoe**	**26.45**	**237**	*e*P		**P**	**22 35 24.6**	**+2.9**
KLMR				pmax		pmax		
	comp=Z,18nm,1.2s							
KLMR	**Klimovskoe**	**26.45**	**237**	*e*P		**P**	**22 35 24.2**	**+2.5**
	comp=Z,36nm,1.9s							
KLMR	**Klimovskoe**	**26.45**	**237**	*e*P		**P**	**22 35 24.6**	**+2.9**
KLMR				AMP			22 35 30.3	
	comp=Z,18nm,1.2s							
FYU	**Fort Yukon**	**26.62**	**47**	P		**P**	**22 35 22.8**	**-0.3**
IMAR	**Indian Mountai**	**26.65**	**54**	P		**P**	**22 35 21.9**	**-1.5**
FINES	**FINESS Array B**	**26.88**	**252**	P		**P**	**22 35 27.3**	**+1.8**
	comp=Z,4.0nm,1.0s,baz=32,slow=9.0,SNR=4.9							
FINES				LR		LR	22 46 47.3	
	comp=Z,111nm,18.1s,baz=12,slow=38							
FINES	**FINESS Array B**	**26.88**	**252**	P		**P**	**22 35 26.7**	**+1.2**
SFJD	**Kangerlussuaq**	**26.98**	**326**	LR		LR	22 45 29.6	
	comp=Z,68nm,18.3s,baz=14,slow=35							
H21K	**Melozitna Rive**	**27.04**	**54**	P		**P**	**22 35 26.0**	**-1.0**
H21K				IAmb		IAmb	22 35 27.0	
	comp=Z,9.9nm,0.9s							
H24K	**Noodor Dome**	**27.18**	**49**	P		**P**	**22 35 27.4**	**-0.9**
H24K				IAmb		IAmb	22 35 31.9	
	comp=Z,10nm,0.9s							
ANM	**Nome**	**27.22**	**66**	P		**P**	**22 35 28.0**	**-0.6**
ANM				pmax		pmax		
	comp=Z,16nm,1.2s							
ANM	**Nome**	**27.22**	**66**	P		**P**	**22 35 28.0**	**-0.6**
ANM				IAmb		IAmb	22 35 29.3	
	comp=Z,16nm,1.2s							
POKR	**Poker Plat Res**	**27.93**	**49**	P		**P**	**22 35 32.8**	**-2.1**
POKR				IAmb		IAmb	22 35 40.4	
	comp=Z,12nm,1.0s							
MDM	**Murphy Dome**	**28.03**	**50**	P		**P**	**22 35 35.3**	**-0.6**
KIRV	**Kirov**	**28.07**	**226**	LR		LR	22 49 05.2	
	comp=Z,83nm,19.9s,baz=4.9,slow=41							
NC204	**NORSAR Array S**	**28.30**	**267**	P		**P**	**22 35 40.1**	**+1.8**
IL31		**28.30**	**49**	P		**P**	**22 35 37.0**	**-1.3**
ILAR	**Eielson Array**	**28.30**	**49**	P		**P**	**22 35 37.2**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=350,slow=7.7,SNR=23							
ILAR	**Eielson Array**	**28.30**	**49**	*e*P		**P**	**22 35 37.7**	**-0.6**
ILAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CCB	**Clear Creek Bu**	**28.37**	**50**	P		**P**	**22 35 37.8**	**-1.0**
CCB				IAmb		IAmb	22 35 39.1	
	comp=Z,8.6nm,1.0s							
HFS	**Hagfors**	**29.18**	**264**	LR		LR	22 49 06.3	
	comp=Z,39nm,18.8s,baz=19,slow=40							
ARU	**Arti**	**29.72**	**215**	P		**P**	**22 35 52.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=349,slow=5.2,SNR=3.7							
ARU				LR		LR	22 49 11.1	
	comp=Z,69nm,18.6s,baz=118,slow=39							
ARU	**Arti**	**29.72**	**215**	P		**P**	**22 35 51.8**	**+0.9**
ARU				IAmb		IAmb	22 36 16.1	
	comp=Z,13nm,1.5s							
PAX	**Paxson**	**30.18**	**48**	P		**P**	**22 35 53.7**	**-1.3**
PAX				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PAX	**Paxson**	**30.18**	**48**	P		**P**	**22 35 53.7**	**-1.3**
L26K	**Log Cabin Wild**	**30.26**	**46**	P		**P**	**22 35 55.0**	**-0.7**
L26K				IAmb		IAmb	22 35 56.5	
	comp=Z,12nm,1.3s							
BCAR	**Beaver Creek A**	**30.31**	**45**	P		**P**	**22 35 55.4**	**-0.7**
L19K	**White Mountain**	**30.34**	**57**	P		**P**	**22 35 55.7**	**-0.7**
L19K				IAmb		IAmb	22 35 56.8	
	comp=Z,7.9nm,1.1s							
GHO	**Glory Hole Cre**	**31.15**	**51**	P		**P**	**22 36 02.2**	**-1.4**
SML	**Sawmill**	**31.16**	**51**	P		**P**	**22 36 02.2**	**-1.4**
SCM	**Sheep Creek Mo**	**31.20**	**50**	P		**P**	**22 36 02.7**	**-1.3**
SCM				pmax		pmax		
	comp=Z,16nm,0.9s							
SCM	**Sheep Creek Mo**	**31.20**	**50**	P		**P**	**22 36 02.7**	**-1.3**
ZALV	**Zalesovo Beam**	**31.46**	**185**	P		**P**	**22 36 06.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=359,slow=9.3,SNR=3.7							
ZALV				LR		LR	22 50 09.1	
	comp=Z,42nm,18.2s,baz=46,slow=39							
ZALV	**Zalesovo Beam**	**31.46**	**185**	P		**P**	**22 36 06.2**	**0.0**
M31M	**Drury Creek, Y**	**31.58**	**38**	P		**P**	**22 36 07.0**	**-0.3**
M31M				IAmb		IAmb	22 36 17.1	
	comp=Z,11nm,1.4s							
YKA	**Yellowknife Ar**	**32.10**	**21**	P		**P**	**22 36 09.5**	**-2.2**
	comp=Z,3.0nm,1.0s,baz=355,slow=8.3,SNR=30							
YKA				PcP		**PcP**	**22 38 59.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=343,slow=3.3,SNR=7.3							
OBN	**Obninsk**	**32.37**	**239**	LR		LR	22 53 48.2	
	comp=Z,16nm,19.1s,baz=352,slow=44							
OBN	**Obninsk**	**32.37**	**239**	*e*P		**P**	**22 36 13.4**	**-0.8**
OBN				*e*			22 37 19.9	
OBN				pmax		pmax		
	comp=Z,13nm,0.5s							
OBN				MLR		MLR		
	comp=Z,99nm,18.0s							
BRVK	**Borovoye**	**32.63**	**201**	⇓*e*P		**P**	**22 36 17.6**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,12nm,2.5s							
BRVK	**Borovoye**	**32.63**	**201**	P		**P**	**22 36 17.8**	**+1.3**
P33M	**Teslin, Yukon**	**33.65**	**37**			**P**	**22 36 24.7**	**-0.8**
KURK	**Kurchatov**	**34.78**	**192**	P		**P**	**22 36 36.4**	**+1.2**
KURBB	**Kurchatov Arra**	**34.87**	**192**	P		**P**	**22 36 36.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=17,slow=7.0,SNR=6.7							
AKTO	**Aktyubinsk**	**35.73**	**215**	LR		LR	22 52 50.7	
	comp=Z,49nm,19.3s,baz=8.7,slow=39							
AKASG	**Malin Array Be**	**37.30**	**246**	P		**P**	**22 36 58.5**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=9.2,slow=8.2,SNR=5.1							
ULN	**Ulaanbaatar**	**37.79**	**160**	P		**P**	**22 37 01.3**	**+0.1**
ULN				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ULN	**Ulaanbaatar**	**37.79**	**160**	P		**P**	**22 37 01.3**	**+0.1**
SONM	**Songino Array**	**37.80**	**161**	P		**P**	**22 37 01.7**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=345,slow=7.9,SNR=28							
SONM	**Songino Array**	**37.80**	**161**	*e*P		**P**	**22 37 02.0**	**+0.8**
SONM				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**37.80**	**161**	P		**P**	**22 37 01.3**	**0.0**
MAKZ	**Makanchi**	**38.64**	**188**	P		**P**	**22 37 08.1**	**-0.1**
MAKZ				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MAKZ	**Makanchi**	**38.64**	**188**	P		**P**	**22 37 08.1**	**-0.1**
MK31	**Makanchi Array**	**38.65**	**188**	⇑*e*P		**P**	**22 37 08.2**	**-0.1**
MK31	**Makanchi Array**	**38.65**	**188**			**P**	**22 37 07.6**	**-0.7**
MKAR	**Makanchi Array**	**38.65**	**188**	P		**P**	**22 37 07.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=12,slow=6.4,SNR=13							
MKAR				LR		LR	22 55 01.9	
	comp=Z,33nm,18.2s,baz=346,slow=39							
MKAR	**Makanchi Array**	**38.65**	**188**	*e*P		**P**	**22 37 08.0**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VRAC	**Vranov**	**39.68**	**258**	LR		LR	22 54 02.0	
	comp=Z,90nm,19.0s,baz=6.0,slow=37							
KHC	**Kasperske Hory**	**40.10**	**261**	P		**P**	**22 37 22.0**	**+1.6**
KHC				pmax		pmax		
	comp=Z,4.0nm,1.3s							
KHC	**Kasperske Hory**	**40.10**	**261**	P		**P**	**22 37 22.0**	**+1.6**
GEC2	**GERESS Array S**	**40.38**	**261**	P		**P**	**22 37 24.3**	**+1.5**
GERES	**GERESS Array B**	**40.38**	**261**	P		**P**	**22 37 24.3**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=4.1,slow=6.9,SNR=2.5							
GERES				LR		LR	22 54 54.4	
	comp=Z,34nm,18.2s,baz=351,slow=37							
GERES	**GERESS Array B**	**40.38**	**261**	P		**P**	**22 37 23.9**	**+1.1**
DAVOX	**Davos/Dischmat**	**42.74**	**265**	LR		LR	22 55 58.4	
	comp=Z,46nm,19.2s,baz=298,slow=37							
KIV	**Kislovodsk**	**43.06**	**230**	*e*P		**P**	**22 37 43.4**	**-1.3**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,45nm,16.0s							
BTK	**Batken**	**45.61**	**200**	P		**P**	**22 38 06.2**	**+1.1**
BTK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BTK	**Batken**	**45.61**	**200**	P		**P**	**22 38 06.2**	**+1.1**
BTK				IAmb		IAmb	22 38 07.4	
	comp=Z,3.4nm,0.8s							
B08A	**Colville Reser**	**46.08**	**26**	P		**P**	**22 38 07.3**	**-1.4**
B08A				IAmb		IAmb	22 38 08.8	
	comp=Z,6.3nm,1.1s							
NEW	**Newport**	**46.26**	**24**	P		**P**	**22 38 09.5**	**-0.6**
NEW				pmax		pmax		
	comp=Z,6.0nm,1.1s							
NEW	**Newport**	**46.26**	**24**	P		**P**	**22 38 09.5**	**-0.6**
NEW				IAmb		IAmb	22 38 10.7	
	comp=Z,6.1nm,1.1s							
BRTR	**Keskin Array B**	**47.88**	**239**	P		**P**	**22 38 25.7**	**+2.7**
	comp=Z,1.3nm,0.9s,baz=40,slow=2.6,SNR=5.5							
PDAR	**Pinedale Array**	**51.97**	**18**	P		**P**	**22 38 52.9**	**-1.3**
	comp=Z,0.6nm,1.0s,baz=352,slow=6.0,SNR=4.2							
PDAR	**Pinedale Array**	**51.97**	**18**	P		**P**	**22 38 52.2**	**-1.9**
HWUT	**Hardware Ranch**	**53.08**	**20**	P		**P**	**22 39 01.6**	**-0.7**
HWUT				IAmb		IAmb	22 39 03.2	
	comp=Z,10nm,1.4s							
NVAR	**Mina Array Bea**	**56.03**	**26**	P		**P**	**22 39 23.4**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=4.4,slow=3.9,SNR=4.6							
R11A	**Troy Canyon, C**	**56.21**	**24**	P		**P**	**22 39 24.1**	**-0.9**
R11A				IAmb		IAmb	22 39 26.0	
	comp=Z,4.7nm,1.2s							
PV13	**Radium Mtn., P**	**56.59**	**17**	P		**P**	**22 39 26.9**	**-0.9**
LCMT	**Little Creek M**	**57.62**	**21**	P		**P**	**22 39 34.0**	**-1.0**
LCMT				IAmb		IAmb	22 39 35.7	
	comp=Z,4.2nm,1.0s							
GWY	**Greenwater Val**	**58.33**	**25**	P		**P**	**22 39 39.2**	**-0.8**
ANMO	**Albuquerque**	**59.85**	**15**	P		**P**	**22 39 50.2**	**-0.4**
ANMO				pmax		pmax		
	comp=Z,9.0nm,1.5s							
ANMO	**Albuquerque**	**59.85**	**15**	P		**P**	**22 39 50.2**	**-0.4**
TXAR	**Lajitas Array**	**65.50**	**12**	P		**P**	**22 40 26.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=5.4,SNR=6.4							
CMAR	**Chiang Mai Arr**	**66.94**	**170**	P		**P**	**22 40 37.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=347,slow=7.0,SNR=8.7							
TORD	**Torodi Ar. Bea**	**76.79**	**269**	P		**P**	**22 41 39.1**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=8.6,slow=5.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**76.79**	**269**	P		**P**	**22 41 37.5**	**+0.9**

*KRNET **18** 22:43:25.8±0.1,41°.04N×74°.06E,h18km,mb3.9*

*SOME **18** 22:43:26.1,41°.07N×74°.13E,h10km*

*KNET **18** 22:43:27.8±0.7,41°.16N×74°.19E,h1km±4km,ml3.2,Error ellipse: s-maj=5.0km s-min=3.5km az=37.0*

*NNC **18** 22:43:27.4±1.5,41°.07N×74°.09E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=13.1km s-min=6.1km az=174.0*

ISC 18 22:43:25.7±1.2,**41°.07N**±0°.02×**74°.18E**±0°.02,**h5**km±10km, **n78,** σ1$**65**/124,**38C-24D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARLS	**Aral**	**0.80**	**8**	⇓*i*P		**Pb**	**22 43 41.7**	**-0.5**
	baz=14							
ARLS				⇓*i*S		**Sb**	**22 43 53.2**	**-0.1**
	baz=14							
AML	**Almayashu**	**1.12**	**341**	⇓P		**Pb**	**22 43 47.3**	**-0.5**
	138nm,0.2s,SNR=398							
AML				⇓S		**Sg**	**22 44 02.5**	**+0.8**
	691nm,0.5s							
UCH	**Uchtor**	**1.18**	**12**	⇓P		**Pn**	**22 43 49.5**	**+0.1**
	94nm,0.2s,SNR=154							
UCH				⇓S		**Sn**	**22 44 06.2**	**+0.2**
	127nm,0.2s							
UCH	**Uchtor**	**1.18**	**12**	⇑*i*P		**Pb**	**22 43 48.9**	**0.0**
	baz=16							
UCH				⇑*i*S		**Sb**	**22 44 05.8**	**+1.1**
	baz=16							
OHH	**Osh**	**1.19**	**243**	⇓*i*P		**Pg**	**22 43 46.4**	**-2.1**
	baz=42							
OHH				⇓*i*S		**Sg**	**22 44 01.2**	**-2.8**
	baz=42							
EKS2	**Erkin-Say**	**1.61**	**350**	P		**Pg**	**22 43 56.5**	**-0.2**
	32nm,0.2s,SNR=180							
EKS2	**Erkin-Say**	**1.61**	**350**	⇑*i*P		**Pb**	**22 43 56.0**	**-0.1**
	baz=53							
EKS2				⇑*i*S		**Sg**	**22 44 17.9**	**+0.2**
	baz=53							
KBK	**Karagaybulak**	**1.68**	**20**	⇑P		**Pg**	**22 43 59.1**	**+1.1**
	40nm,0.1s,SNR=32							
KBK				⇑S		**Sg**	**22 44 22.5**	**+2.6**
	317nm,0.3s							
KBK	**Karagaybulak**	**1.68**	**20**	⇑*i*P		**Pg**	**22 43 57.9**	**-0.1**
	baz=22							
KBK				⇑*i*S		**Sg**	**22 44 21.1**	**+1.2**
	baz=22							
FRU1	**Bishkek**	**1.77**	**11**	⇑*i*P		**Pg**	**22 43 59.4**	**-0.2**
	baz=13							
FRU1				⇑*i*S		**Sg**	**22 44 24.1**	**+1.5**
	baz=13							
ARK	**Arkit**	**1.81**	**294**	⇓*i*P		**Pb**	**22 43 58.2**	**-1.3**
	baz=96							
ARK				⇓*i*S		**Sn**	**22 44 21.7**	**+0.5**
	baz=96							
MRKS	**Merke**	**1.81**	**337**	*e*P		**Pg**	**22 44 01.8**	**+1.2**
	152nm,0.3s							
MRKS				*e*S		**Sg**	**22 44 27.8**	**+3.7**
	144nm,0.3s							
MRKS	**Merke**	**1.81**	**337**	P		**Pg**	**22 44 01.9**	**+1.3**
	152nm,0.3s							
MRKS	

MTBS					*e*S	**Sg**	**22 44 53.0**	**+2.1**
	comp=E,262nm,0.5s								
MTBS	**Maitube**	**2.65**	**38**		Pg	**Pg**	**22 44 16.9**	**+0.3**
	comp=E,16nm,0.3s								
MTBS					Lg	Lg	22 44 53.0		
	comp=E,262nm,0.5s								
BTK	**Batken**	**2.75**	**249**	⇓	*i*P	**Pn**	**22 44 11.1**	**+0.5**
BTK	baz=49								
				⇓	*i*S	**Sn**	**22 44 44.1**	**-0.2**
	baz=49								
DZA	**Taraz**	**2.79**	**312**		*e*P	**Pg**	**22 44 17.6**	**-1.7**
	comp=E,24nm,0.1s								
DZA					*e*S	**Sg**	**22 44 54.0**	**-1.5**
	comp=E,327nm,0.4s								
DZA	**Taraz**	**2.79**	**312**		Pg	**Pg**	**22 44 17.6**	**-1.7**
	comp=E,24nm,0.1s								
DZA					Lg	Lg	22 44 54.0		
	comp=E,327nm,0.4s								
TNSS	**Tian-Shan**	**2.85**	**46**		*e*P	**Pg**	**22 44 19.8**	**-0.5**
	comp=E,9.7nm,0.3s								
TNSS					*e*S	**Sg**	**22 44 58.5**	**+1.3**
	comp=E,157nm,0.5s								
TNSS	**Tian-Shan**	**2.85**	**46**		Pg	**Pg**	**22 44 19.8**	**-0.5**
	comp=E,9.7nm,0.3s								
TNSS					Lg	Lg	22 44 58.5		
	comp=E,157nm,0.5s								
KNDC	**Almaty**	**2.98**	**43**	⇓	Pg	**Pg**	**22 44 22.6**	**-0.2**
	comp=E,44nm,0.6s								
KNDC				⇑	Lg	Lg	22 45 03.0		
	comp=E,270nm,0.5s								
MDOK	**Medeo**	**2.99**	**45**		*e*P	**Pg**	**22 44 22.6**	**-0.4**
	comp=E,30nm,0.4s								
MDOK					*e*S	**Sg**	**22 45 02.9**	**+1.2**
	comp=E,115nm,0.6s								
MDOK	**Medeo**	**2.99**	**45**	⇑	Pn	**Pb**	**22 44 19.0**	**-0.6**
	comp=E,14nm,0.4s								
MDOK				⇓	Lg	Lg	22 45 01.9		
	comp=E,107nm,0.6s								
MDOK	**Medeo**	**2.99**	**45**		Pg	**Pg**	**22 44 22.6**	**-0.4**
	comp=E,30nm,0.4s								
MDOK					Lg	Lg	22 45 02.9		
	comp=E,115nm,0.6s								
KOTS	**Kotyrbulak**	**3.07**	**44**		*e*P	**Pg**	**22 44 24.4**	**-0.2**
	comp=E,24nm,0.5s								
KOTS					*e*S	**Sg**	**22 45 05.9**	**+1.6**
	comp=E,187nm,0.6s								
KOTS	**Kotyrbulak**	**3.07**	**44**		Pg	**Pg**	**22 44 24.4**	**-0.2**
	comp=E,24nm,0.5s								
KOTS					Lg	Lg	22 45 05.9		
	comp=E,187nm,0.6s								
ANVS	**Anan'yevo**	**3.12**	**56**	⇓	*i*P	**Pb**	**22 44 18.7**	**-3.0**
	baz=56								
ANVS				⇓	*i*S	**Sb**	**22 44 57.4**	**-2.7**
	baz=56								
KTBS	**Karatobe**	**3.23**	**34**		*e*P	**Pg**	**22 44 26.5**	**-1.0**
	comp=E,13nm,0.3s								
KTBS					*e*S	**Sg**	**22 45 09.5**	**+0.2**
	comp=E,272nm,0.6s								
KTBS	**Karatobe**	**3.23**	**34**		Pg	**Pg**	**22 44 26.5**	**-1.0**
	comp=E,13nm,0.3s								
KTBS					Lg	Lg	22 45 09.5		
	comp=E,272nm,0.6s								
IUG	**Iuzhnay**	**3.29**	**290**		*e*P	**Pb**	**22 44 25.6**	**+1.0**
	comp=E,577nm,0.3s								
IUG					*e*S	**Sb**	**22 45 07.7**	**+2.7**
	comp=E,288nm,0.7s								
IUG	**Iuzhnay**	**3.29**	**290**		Pg	**Pb**	**22 44 25.6**	**+1.0**
	comp=E,577nm,0.3s								
IUG					Lg	Lg	22 45 07.7		
	comp=E,288nm,0.7s								
KK02	**Karatay Array**	**3.40**	**308**	⇑	Pn	**Pn**	**22 44 21.5**	**+2.1**
KK02				⇑	Pg	**Pb**	**22 44 26.4**	**-0.1**
	comp=E,4.1nm,0.3s								
KK02				⇑	Lg	Lg	22 45 10.7		
	comp=E,42nm,0.5s								
CHKK	**Chushkaly**	**3.47**	**36**		*e*P	**Pg**	**22 44 30.8**	**-1.5**
	comp=E,3.7nm,0.3s								
CHKK					*e*S	**Sg**	**22 45 17.0**	**-0.3**
	comp=E,85nm,0.6s								
CHKK	**Chushkaly**	**3.47**	**36**		Pg	**Pg**	**22 44 30.8**	**-1.5**
	comp=E,3.7nm,0.3s								
CHKK					Lg	Lg	22 45 17.0		
	comp=E,85nm,0.6s								
TAS	**Tashkent**	**3.69**	**276**	⇑	*i*P	**Pn**	**22 44 24.2**	**+0.7**
TAS	baz=76								
				⇑	*i*S	**Sn**	**22 45 06.8**	**-0.5**
	baz=76								
SATY	**Saty**	**3.72**	**56**		*e*P	**Pg**	**22 44 35.9**	**-1.2**
	comp=E,15nm,0.5s								
SATY					*e*S	**Sg**	**22 45 25.4**	**+0.1**
	comp=E,73nm,0.4s								
SATY	**Saty**	**3.72**	**56**		Pg	**Pg**	**22 44 35.9**	**-1.2**
	comp=E,15nm,0.5s								
SATY					Lg	Lg	22 45 25.4		
	comp=E,73nm,0.4s								
ZHN	**Zhinishke**	**3.80**	**55**		*e*P	**Pg**	**22 44 37.3**	**-1.2**
	comp=E,12nm,0.4s								
ZHN					*e*S	**Sg**	**22 45 27.7**	**0.0**
	comp=E,73nm,0.4s								
ZHN	**Zhinishke**	**3.80**	**55**		Pg	**Pg**	**22 44 37.3**	**-1.2**
	comp=E,12nm,0.4s								
ZHN					Lg	Lg	22 45 27.7		
	comp=E,73nm,0.4s								
KURS	**Kuram**	**3.82**	**50**		*e*P	**Pg**	**22 44 37.4**	**-1.6**
	comp=E,8.0nm,0.7s								
KURS					*e*S	**Sg**	**22 45 28.5**	**0.0**
	comp=E,18nm,0.7s								
KURS	**Kuram**	**3.82**	**50**		Pg	**Pg**	**22 44 37.3**	**-1.6**
	comp=E,8.0nm,0.7s								
KURS					Lg	Lg	22 45 28.5		
	comp=E,18nm,0.7s								
BTLS	**Baital**	**3.97**	**359**		*e*P	**Pg**	**22 44 40.3**	**-1.5**
	comp=E,7.3nm,0.6s								
BTLS					*e*S	**Sg**	**22 45 33.5**	**+0.3**
	comp=E,9.4nm,0.3s								
BTLS	**Baital**	**3.97**	**359**		Pg	**Pg**	**22 44 40.3**	**-1.5**
	comp=E,7.3nm,0.6s								
BTLS					Lg	Lg	22 45 33.5		
	comp=E,9.4nm,0.3s								
KPKS	**Kokpek**	**4.11**	**53**		*e*P	**Pg**	**22 44 43.0**	**-1.5**
	comp=E,6.3nm,0.3s								
KPKS					*e*S	**Sg**	**22 45 37.7**	**-0.1**
	comp=E,92nm,0.6s								
UZB	**Uzynbulak**	**4.16**	**59**		*e*P	**Pg**	**22 44 43.8**	**-1.6**
	comp=E,7.9nm,0.4s								
UZB					*e*S	**Sg**	**22 45 38.8**	**-0.4**
	comp=E,52nm,0.4s								
UZB	**Uzynbulak**	**4.16**	**59**		Pg	**Pg**	**22 44 43.8**	**-1.6**
	comp=E,7.9nm,0.4s								
UZB					Lg	Lg	22 45 38.8		
	comp=E,52nm,0.4s								
SHLS	**Shalkode**	**4.45**	**60**		*e*P	**Pg**	**22 44 53.8**	**+2.8**
	comp=E,7.7nm,0.4s								
SHLS					*e*S	**Sg**	**22 45 55.9**	**+7.3**
	comp=E,50nm,0.6s								
SHLS	**Shalkode**	**4.45**	**60**		Pg	**Pg**	**22 44 53.8**	**+2.8**
	comp=E,7.7nm,0.4s								
SHLS					Lg	Lg	22 45 55.9		
	comp=E,50nm,0.6s								
KTMS	**Ketmen**	**5.16**	**61**		*e*P	**Pg**	**22 45 01.7**	**-2.9**
	comp=E,3.5nm,0.3s								
KTMS					*e*S	**Sg**	**22 46 09.5**	**-1.9**
	comp=E,11nm,0.8s								
KTMS	**Ketmen**	**5.16**	**61**		Pg	**Pg**	**22 45 01.7**	**-2.9**
	comp=E,3.5nm,0.3s								
KTMS					Lg	Lg	22 46 09.5		
	comp=E,11nm,0.8s								
DJR	**Jarkent**	**5.26**	**50**		*e*P	**Pg**	**22 45 01.9**	**-4.7**
	comp=E,1.2nm,0.6s								
DJR					*e*S	**Sg**	**22 46 10.6**	**-4.2**
	comp=E,13nm,0.5s								
DJR	**Jarkent**	**5.26**	**50**		Pg	**Pg**	**22 45 04.3**	**-2.3**
	comp=E,1.6nm,0.3s								
DJR					Lg	Lg	22 46 13.4		
	comp=E,13nm,0.5s								
KAPS	**Kapalarasan**	**5.66**	**40**		*e*P	**Pg**	**22 45 11.7**	**-2.5**
	comp=E,1.5nm,0.4s								
KAPS					*e*S	**Sg**	**22 46 27.4**	**-0.1**
	comp=E,10nm,0.5s								
KAPS	**Kapalarasan**	**5.66**	**40**		Pg	**Pg**	**22 45 11.7**	**-2.5**
	comp=E,1.5nm,0.4s								
KAPS					Lg	Lg	22 46 27.4		
	comp=E,10nm,0.5s								
OTUK	**Ortayu**	**7.29**	**350**	⇓	Lg	Lg	22 47 15.3		
	comp=E,13nm,0.6s								
MAKZ	**Makanchi**	**8.03**	**42**	⇑	Lg	Lg	22 47 39.3		
	comp=E,8.7nm,1.4s								
MK31	**Makanchi Array**	**8.18**	**43**		Pn	Pb	22 45 37.1	-11	
	comp=E,0.7nm,0.5s,baz=225,slow=15,SNR=7.4								
MK31				⇑	Lg	Lg	22 47 44.9		
	comp=E,2.5nm,0.7s,baz=227,slow=28,SNR=4.8								
KURK	**Kurchatov**	**10.13**	**16**	⇑	Lg	Lg	22 48 45.1		
	comp=E,17nm,1.2s								

ROM 18 22:45:27.6±0.1, 42°.623N±0°.005×13°.234E±0°.006, h14km±1km, ML1.0/4, 2C-2D, Error ellipse: s-maj=0.6km s-min=0.1km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.07**	**84**	P	Pg	22 45 31.0	+0.4
SMA1				S	Sg	22 45 33.0	+0.4
SMA1				AML	AML		
	comp=N,92μm,0.2s						
SMA1				AML	AML		
	comp=N,92μm,0.2s						
SMA1				AML	AML		
	comp=E,251μm,0.2s						
SMA1	**SAN MARTINO**	**0.07**	**84**	⇑P	Pg	22 45 31.1	+0.5
SMA1				AML	AML		
	comp=E,251μm,0.2s						
SMA1				AML	AML		
	comp=N,92μm,0.2s						
SMA1				AML	AML		
	comp=N,92μm,0.2s						
SMA1				AML	AML		
	comp=E,251μm,0.2s						
RM33	**Pellescritta (**	**0.12**	**187**	P	Pb	22 45 31.4	-0.3
RM33				S	Sg	22 45 33.6	+0.3
RM33				AML	AML		
	comp=E,64μm,0.1s						
RM33				AML	AML		
	comp=N,79μm,0.2s						
RM33				AML	AML		
	comp=E,64μm,0.1s						
LNSS	**Leonessa**	**0.14**	**262**	P	Pg	22 45 31.7	+0.3
LNSS				S	Sg	22 45 34.4	+0.4
LNSS				AML	AML		
	comp=N,67μm,0.1s						
LNSS				AML	AML		
	comp=E,69μm,0.4s						
LNSS	**Leonessa**	**0.14**	**262**	⇑P	Pg	22 45 31.7	+0.3
LNSS				AML	AML		
	comp=E,69μm,0.4s						
LNSS				AML	AML		
	comp=N,67μm,0.1s						
LNSS				AML	AML		
	comp=N,67μm,0.1s						
LNSS				AML	AML		
	comp=E,69μm,0.4s						
CAMP	**Campotosto**	**0.16**	**124**	P	Pg	22 45 31.4	-0.1
CAMP				S	Sg	22 45 34.8	+0.6
CAMP	**Campotosto**	**0.16**	**124**	⇓P	Pg	22 45 25.3	-6.2
NRCA	**Norcia**	**0.23**	**337**	P	Pg	22 45 33.1	+0.4
NRCA				S	Sg	22 45 36.7	+0.6
NRCA				AML	AML		
	comp=E,69μm,0.7s						
NRCA				AML	AML		
	comp=N,41μm,0.1s						
NRCA				AML	AML		
	comp=N,41μm,0.1s						
NRCA	**Norcia**	**0.23**	**337**	⇓P	Pg	22 45 33.1	+0.4
NRCA				AML	AML		
	comp=E,69μm,0.7s						
NRCA				AML	AML		
	comp=N,41μm,0.1s						
NRCA				AML	AML		
	comp=N,41μm,0.1s						
NRCA				AML	AML		
	comp=E,69μm,0.7s						
TERO	**Teramo**	**0.27**	**90**	P	Pg	22 45 33.8	+0.4
TERO				S	Sb	22 45 38.1	-0.8

ROM 18 22:45:52.2±0.1, 38°.254N±0°.009×15°.67E±0°.01, h11km, ML1.4/1, 2C, Error ellipse: s-maj=1.1km s-min=1.0km az=285.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSCL	**Scilla**	**0.10**	**103**	P	Pg	22 45 55.5	+0.5
MSCL				S	Sg	22 45 57.2	+0.2
MSCL				AML	AML		
	comp=E,448μm,0.4s						
MSCL				AML	AML		
	comp=N,212μm,1.5s						
MSRU	**Castanea**	**0.12**	**274**	⇑P	Pg	22 45 55.9	+0.7
MSRU	**Castanea**	**0.12**	**274**	S	Sg	22 45 58.0	+0.6
MTTG	**Motta San Giov**	**0.25**	**175**	⇑P	Pb	22 45 58.1	-0.7
MTTG	**Motta San Giov**	**0.25**	**175**	S	Sg	22 46 01.8	+0.9
JOPP	**Joppolo**	**0.39**	**26**	P	Pb	22 46 00.6	-0.6
JOPP				S	Sg	22 46 05.9	+0.7
RM33	**Pellescritta (**	**4.64**	**337**	AML	AML		
	comp=E,64μm,0.1s						
RM33				AML	AML		
	comp=N,79μm,0.2s						
PE3	**Peglio**	**5.94**	**337**	AML	AML		
	comp=N,5μm,0.1s						
PE3				AML	AML		
	comp=E,4μm,0.1s						

*IDC **18** 22:46:52.1±0.6, 49°.45N×130°.24W, h0km, mb4.6/23, mb1 4.8/33, mb1mx4.7/47, mbtmp4.6/33, ML4.2/7, MS4.8/78, Ms1 4.8/78, ms1mx4.7/90, Error ellipse: s-maj=14.4km s-min=8.7km az=39.0*

*BJI **18** 22:46:52.0±0.0, 49°.60N×129°.90W, h7km, mb4.8/51, mB5.1/34, Ms5.4/44, Ms7 5.0/43*

*PGC **18** 22:46:53.2±3.4, 49°.45N×130°.10W, h10km, MLSn4.3/38, Mw5.5, 236km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

*MOS **18** 22:46:54.6±1.6, 49°.52N×129°.96W, h10km, mb5.2/36, MS5.0/35, Error ellipse: s-maj=8.3km s-min=4.3km az=103.6*

*GCMT **18** 22:46:55.8±0.1, 49°.40N±0°.01×130°.24W±0°.01, h15km, MW5.5/143, Moment Tensor Solution. s126,c210; s143,c274; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.29±.03; Mθθ=1.90±.02; Mφφ=2.19±.03; Mrθ=0.05±.07; Mθφ=0.33±.02; Mφr=-0.47±.07; Best double couple: M=2.11600×10^17 NP1:φs230.00000°, δ80.00000°, λ5.00000°. NP2:φs139.00000°, δ85.00000°, λ170.00000°. Principal axes: T 2.3010, Plg10.0000°, Azm94.0000°; N -0.3690, Plg79.0000°, Azm292.0000°; P -1.9320, Plg3.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **18** 22:46:56.8, 49°.68N×129°.82W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.16; Mθθ=1.36; Mφφ 1.52; Mrθ=0.44; Mθφ=0.34; Mφr=-0.02; Fault plane solution: M=1.55000×10^17 NP1:φs230.17000°, δ78.37000°, λ-13.48000°. NP2:φs322.94000°, δ76.80000°, λ-168.05000°. Principal axes: T 1.5589, Plg1.0000°, Azm277.0000°; N -0.0201, Plg72.0000°, Azm10.0000°; P -1.5388, Plg18.0000°, Azm186.0000°;*

*NEIC **18** 22:46:56.8, 49°.45N×130°.10W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.14; Mθθ=1.54; Mφφ 1.38; Mrθ=0.76; Mθφ=0.05; Mφr=1.20; Fault plane solution: M=2.00000×10^17 NP1:φs222.00000°, δ89.00000°, λ44.00000°. NP2:φs132.00000°, δ46.00000°, λ179.00000°. Principal axes: T 2.1691, Plg30.0000°, Azm96.0000°; N -0.2961, Plg46.0000°, Azm223.0000°; P -1.8730, Plg29.0000°, Azm348.0000°;*

*NEIC **18** 22:46:56.8±1.4, 49°.67N±0°.05×129°.85W±0°.08, h10km±1km, mb5.2/619, Ms_20 5.1/210, Mwb5.4/38, Mww5.5, Mwr5.5(OTT) Error ellipse: s-maj=9.1km s-min=7.9km az=216.0*

*NEIC **18** 22:47:04, 49°.58N×129°.97W, h12km, Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^17Nm; Mrr=0.54; Mθθ=1.54; Mφφ2.08; Mrθ0.51; Mθφ0.19; Mφr0.46; Fault plane solution: M=2.00000×10^17 NP1: φs319.00000°, δ66.00000°, λ-170.00000°. NP2: φs225.00000°, δ81.00000°, λ-23.00000°. Principal axes: T 2.1765, Plg10.0000°, Azm274.0000°; N -0.4230, Plg65.0000°, Azm27.0000°; P -1.7535, Plg23.0000°, Azm180.0000°;*

ISC 18 22:46:55.7±0.5, 49°.52N±0°.03×129°.92W±0°.04, h10km±2km, h11km:pP-P, n1374, σ1s73/1167, mb5.2/347, MS5.0/207, 43C-34D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.53**	**65**	Pn	**Pn**	**22 47 20.1**	**-3.0**
BPBC				Sn	**Sn**	**22 47 40.2**	**-2.8**
HOLB	**Holberg**	**1.61**	**45**	Pn	**Pn**	**22 47 21.6**	**-2.6**
HOLB				Sn	**Sn**	**22 47 42.1**	**-2.8**
HOLB	**Holberg**	**1.61**	**45**		**Pn**	**22 47 21.8**	**-2.4**
HOLB				Sn	**Sn**	**22 47 43.5**	**-1.4**
HOLB	**Holberg**	**1.61**	**45**	Pn	**Pn**	**22 47 21.6**	**-2.6**
HOLB				Sn	**Sn**	**22 47 42.1**	**-2.8**
KEMF	**NEPTUNE Canada**	**1.67**	**161**	Pn	Pn	22 47 17.2	-7.4
PACB	**Port Alice, BC**	**1.81**	**59**	Pn	**Pn**	**22 47 24.1**	**-2.9**
PACB				Sn	**Sn**	**22 47 47.8**	**-2.2**
PACB	**Port Alice, BC**	**1.81**	**59**	Pn	**Pn**	**22 47 24.1**	**-2.9**
PACB				Sn	**Sn**	**22 47 47.8**	**-2.2**
EDB	**Eliza Dome**	**1.85**	**78**	Pn	**Pn**	**22 47 24.4**	**-3.0**
EDB	**Eliza Dome**	**1.85**	**78**	Pn	**Pn**	**22 47 24.4**	**-3.0**
EDB				Sn	**Sn**	**22 47 47.1**	**-3.7**
MAYB	**Maynard**	**1.98**	**62**	Pn	**Pn**	**22 47 26.5**	**-2.9**
MAYB	**Maynard**	**1.98**	**62**	Pn	**Pn**	**22 47 26.5**	**-2.9**
PHC	**Port Hardy**	**1.99**	**52**	Pn	**Pn**	**22 47 27.0**	**-2.3**
PHC				Sn	**Sn**	**22 47 52.0**	**-2.3**
NC89	**ODP889**	**2.19**	**112**	Pn	**Pn**	**22 47 30.1**	**-1.8**
ETB	**Estevan Point**	**2.21**	**92**	Pn	**Pn**	**22 47 30.4**	**-2.0**
WOSB	**Woss**	**2.26**	**72**	Pn	**Pn**	**22 47 31.1**	**-2.0**
NC27	**ODP1027**	**2.27**	**140**	Pn	**Pb**	**22 47 35.9**	**-0.6**
NC27				Sn	**Sn**	**22 47 57.4**	**-3.2**
GDR	**Gold River**	**2.54**	**83**	Pn	**Pn**	**22 47 34.3**	**-2.6**
NCRB	**Newcastle Ridg**	**2.65**	**69**	Pn	**Pn**	**22 47 36.9**	**-1.6**
TOFB	**Tofino**	**2.65**	**96**	Pn	**Pn**	**22 47 35.3**	**-3.1**
SPLB	**Strathcona Par**	**2.79**	**81**	Pn	**Pn**	**22 47 38.6**	**-1.8**
BTB	**Buttle Lake**	**2.87**	**89**	Pn	**Pn**	**22 47 38.9**	**-2.7**
HG4B	**Hotspring**	**2.89**	**344**		**Pn**	**22 47 38.0**	**-3.8**
HG4B	**Hotspring**	**2.89**	**344**	Pn	Pn	22 47 36.4	-5.4
HG4B				Sn	**Sn**	**22 48 10.6**	**-6.0**
BBB	**Bella Bella**	**2.90**	**23**	Pn	**Pn**	**22 47 39.9**	**-2.0**
	335nm,0.3s,baz=193,slow=7.9,SNR=846						
BBB				LR	LR	22 48 10.3	
	comp=Z,5μm,19.1s,baz=340,slow=26						
BBB				Sn	**Sn**	**22 48 13.6**	**-3.2**
	218nm,0.3s,baz=310,slow=20,SNR=7.2						
BBB	**Bella Bella**	**2.90**	**23**	Pn	**Pn**	**22 47 39.8**	**-2.0**
BBB				Sn	**Sn**	**22 48 13.4**	**-3.3**
B012	**Ucluelet**	**2.93**	**100**	Pn	**Pn**	**22 47 40.2**	**-2.0**
OZB	**Mount Ozzard**	**2.95**	**99**		**Pn**	**22 47 40.7**	**-2.0**
OZB	**Mount Ozzard**	**2.95**	**99**	Pn	**Pn**	**22 47 39.3**	**-3.4**
OZB				Sn	**Sn**	**22 48 15.6**	**-2.5**
CBB	**Campbell River**	**3.00**	**78**	Pn	**Pn**	**22 47 41.7**	**-1.5**
CBB	**Campbell River**	**3.00**	**78**	Pn	**Pn**	**22 47 41.7**	**-1.5**
BFSB	**Bamfield**	**3.21**	**101**	Pn	**Pn**	**22 47 43.1**	**-3.0**
B928	**Bamfield**	**3.21**	**101**	Pn	**Pn**	**22 47 43.5**	**-2.6**
BNB	**Barry Inlet**	**3.27**	**340**	Pn	Pn	22 47 41.5	-5.5
B927	**Port Alberni**	**3.35**	**93**	Pn	**Pn**	**22 47 45.6**	**-2.4**
MGB	**Mount Grey**	**3.46**	**97**	Pn	**Pn**	**22 47 46.7**	**-3.0**
TXB	**Texada**	**3.57**	**85**	Pn	**Pn**	**22 47 50.0**	**-1.1**
HG1B	**Mitchell Dam**	**3.69**	**339**	Sn	**Sn**	**22 48 33.4**	**-2.8**
OCP	**Olym-Cheeka Pk**	**3.70**	**107**	Pn	**Pn**	**22 47 50.6**	**-2.2**
GHNB	**Nanoose**	**3.72**	**91**	Pn	**Pn**	**22 47 51.5**	**-1.6**
PFB	**Port Renfrew**	**3.73**	**103**	Pn	**Pn**	**22 47 51.0**	**-2.3**
BNKB	**Banks Island**	**3.82**	**0**	Pn	**Pn**	**22 47 51.7**	**-2.7**
MOBC	**Moresby Island**	**3.85**	**341**	Pn	**Pn**	**22 47 51.9**	**-3.1**
B926	**Mesachie Lake**	**3.86**	**98**	Pn	**Pn**	**22 47 53.9**	**-1.2**
B926				Sn	**Sn**	**22 48 39.3**	**-1.1**
CLRS	**Cowichan Lake**	**3.86**	**98**	Pn	**Pn**	**22 47 53.7**	**-1.3**
C03A	**Quillayute Air**	**3.88**	**112**		**Pn**	**22 47 56.4**	**+1.1**
NLLB	**Nanaimo Lost L**	**3.89**	**92**	Pn	**Pn**	**22 47 53.8**	**-1.6**
SHB	**Sechelt**	**3.93**	**87**	Pn	**Pn**	**22 47 55.4**	**-0.8**
DIB	**Dawson Inlet,**	**4.02**	**337**	Pn	**Pn**	**22 47 54.8**	**-2.5**
DIB	**Dawson Inlet,**	**4.02**	**337**	Pn	**Pn**	**22 47 53.9**	**-3.4**
DIB				Sn	**Sn**	**22 48 39.6**	**-4.7**
H02S1	**DAWSON INLET T**	**4.02**	**337**	Pn	**Pn**	**22 47 54.5**	**-2.7**
	SNR=550						
HWKB	**Hawksbury Isla**	**4.11**	**6**	Pn	**Pn**	**22 47 56.5**	**-2.1**
OBC	**Olympics--Boni**	**4.14**	**109**	Pn	**Pn**	**22 47 57.3**	**-1.6**
GOBB	**Galiano Island**	**4.24**	**95**	Pn	**Pn**	**22 47 59.4**	**-0.8**
GRNB	**Grenville Isla**	**4.33**	**360**	Pn	**Pn**	**22 47 59.3**	**-2.3**
GRNB	**Grenville Isla**	**4.33**	**360**	Pn	**Pn**	**22 47 59.3**	**-2.3**
PGC	**Sidney**	**4.34**	**99**		**Pn**	**22 48 00.3**	**-1.3**
PGC	**Sidney**	**4.34**	**99**	Pn	**Pn**	**22 47 59.5**	**-2.1**
PGC				Sn	**Sn**	**22 48 46.9**	**-5.3**
PA01	**PA01 North**	**4.34**	**99**	Sn	**Sn**	**22 48 51.0**	**-1.0**
OSD	**Olympics--Snow**	**4.46**	**110**	Pn	**Pn**	**22 48 02.5**	**-1.0**
VGZ	**Gonzales**	**4.48**	**102**	Pn	**Pn**	**22 48 02.7**	**-0.9**
B04A	**Port Angeles**	**4.49**	**107**	Pn	**Pn**	**22 48 03.5**	**-0.2**
SNB	**Saturna Island**	**4.49**	**97**	Pn	**Pn**	**22 48 02.4**	**-1.4**
NLWA	**Neilton Lookou**	**4.55**	**116**		**Pn**	**22 48 04.4**	**-0.3**
WSLR	**Whistler**	**4.57**	**80**	Pn	**Pn**	**22 48 03.9**	**-1.0**
WSLR				Sn	**Sn**	**22 48 58.6**	**+0.6**
KITB	**Kitimat**	**4.63**	**9**	Pn	**Pn**	**22 48 03.9**	**-1.7**
MCW	**Mount Constitu**	**4.73**	**98**	Pn	**Pn**	**22 48 07.2**	**+0.2**
WISH	**Wishkah**	**4.75**	**118**		**Pn**	**22 48 07.2**	**-0.1**
HNBB	**Haney**	**4.80**	**90**	Pn	**Pn**	**22 48 06.4**	**-1.6**
A04D	**Lummi Island**	**4.80**	**97**	P	**Pn**	**22 48 07.6**	**-0.4**
	baz=284,SNR=40						
RUBB	**Prince Rupert**	**4.82**	**358**	Pn	**Pn**	**22 48 06.6**	**-1.6**
RUBB	**Prince Rupert**	**4.82**	**358**	Pn	**Pn**	**22 48 06.5**	**-1.6**
NDB	**Naden**	**4.82**	**338**	Pn	**Pn**	**22 48 06.1**	**-2.2**
D03D	**Eldon**	**4.95**	**111**	P	**Pn**	**22 48 09.7**	**-0.4**
	baz=298,SNR=39						
UBRB	**Upper Baezaeko**	**4.98**	**45**	Pn	**Pn**	**22 48 10.3**	**-0.3**
VDB	**Vedder Mountai**	**5.14**	**93**	Pn	**Pn**	**22 48 12.4**	**-0.2**
E03A	**Lebam**	**5.20**	**123**	Pn	**Pn**	**22 48 15.0**	**+1.6**
LLLB	**Lillooet**	**5.29**	**75**	Pn	**Pn**	**22 48 14.2**	**-0.5**
LLLB	**Lillooet**	**5.29**	**75**	Pn	**Pn**	**22 48 14.1**	**-0.7**
D04E	**Lakebay**	**5.31**	**113**	P	**Pn**	**22 48 14.5**	**-0.5**
	baz=301						
B05A	**Bryant**	**5.31**	**101**	P	**Pn**	**22 48 14.8**	**-0.1**
	baz=288,SNR=80						
B06A	**Marblemount**	**5.64**

G05D	Wamic, OR	7.24	123	P		Pn	22 48 41.8	+0.3	
	baz=311,SNR=6.9								
G05D				S		Sn	22 50 02.0	-1.7	
	baz=311								
E07A	Sunnyside	7.37	110	Pn		Pn	22 48 44.1	+0.9	
I03D	Drain, OR	7.37	140	P		Pn	22 48 43.2	-0.1	
	baz=326,SNR=20								
I03D				S		Sn	22 50 07.0	+0.1	
	baz=326								
J01E	Myrtle Point	7.59	145	P		Pn	22 48 46.0	-0.2	
	baz=330								
J01E				S		Sn	22 50 11.4	-0.9	
	baz=330								
HAWA	Hanford	7.64	110	Pn		Pn	22 48 47.8	+0.8	
F07A	Phinny Hill Vi	7.65	115			Pn	22 48 48.8	+1.7	
I04A	Tendick Farm,	7.71	135	P		Pn	22 48 48.4	+0.5	
	baz=322								
I04A				S		Sn	22 50 13.9	-1.5	
	baz=322								
D08A	Wollman Farm,	7.74	104	Pn		Pn	22 48 48.2	-0.1	
I05D	Terrebonne, OR	7.83	128	P		Pn	22 48 48.9	-0.7	
	baz=316								
I05D				S		Sn	22 50 20.1	+1.8	
	baz=316								
BMBC	Bull Mountain	8.06	33	Pn		Pn	22 48 53.5	+0.8	
K02D	Willamette Mer	8.09	145	P		Pn	22 48 53.2	0.0	
	baz=331,SNR=13								
K02D				S		Sn	22 50 26.5	+1.8	
	baz=331								
SIT	Sitka	8.21	339	P		Pn	22 48 53.6	-1.2	
SIT	Sitka	8.21	339	Pn		Pn	22 48 53.6	-1.2	
SIT	Sitka	8.21	339	P		Pn	22 48 55.4	+0.7	
	baz=154								
J04D	Umpqua Nationa	8.28	136	P		Pn	22 48 56.8	+0.8	
	baz=323,SNR=41								
J04D				S		Sn	22 50 30.3	+0.7	
	baz=323								
NBC4	NorthernBC 4	8.35	39	Pn		Pn	22 48 57.1	+0.3	
E09A	Wood Farm, Sta	8.45	106			Pn	22 48 58.4	+0.3	
NEW	Newport	8.53	94	Pn		Pn	22 48 59.4	+0.2	
	21nm,0.3s,baz=291,slow=12,SNR=116								
NEW				LR		LR	22 52 17.8		
	comp=Z,26µm,18.8s,baz=284,slow=37								
NEW	Newport	8.53	94	P		Pn	22 48 58.8	-0.4	
	baz=284,SNR=93								
G08A	Pilot Rock	8.55	116			Pn	22 49 00.9	+1.3	
L02E	Cave Junction	8.58	147	Pn		Pn	22 49 01.8	+1.9	
L02E	Cave Junction	8.58	147	P		Pn	22 49 01.7	+1.8	
	baz=332,SNR=13								
L02E				S		Sn	22 50 37.0	+0.3	
	baz=332								
BDMTA	Bald Mountain	8.59	48	Pn		Pn	22 49 01.6	+1.6	
J05D	Fort Rock, OR	8.65	133	P		Pn	22 49 01.2	+0.2	
	baz=320,SNR=21								
J05D				S		Sn	22 50 38.9	+0.3	
	baz=320								
K04D	Chiloquin, OR	8.93	138	P		Pn	22 49 05.4	+0.6	
	baz=324,SNR=15								
K04D				S		Sn	22 50 48.1	+2.8	
	baz=324								
DLBC	Dease Lake	8.94	360	Pn		Pn	22 49 05.0	+0.3	
	4.7nm,0.3s,baz=194,slow=14,SNR=64								
DLBC	Dease Lake	8.94	360			Pn	22 49 03.0	-1.7	
DLBC	Dease Lake	8.94	360	Pn		Pn	22 49 05.3	+0.6	
WTMTA	White Mountain	8.96	42	Pn		Pn	22 49 06.0	+0.8	
I07A	Izee	8.97	123	Pn		Pn	22 49 06.9	+1.5	
L04D	Klamath Falls	9.03	141	P		Pn	22 49 07.7	+1.6	
	baz=328,SNR=29								
L04D				S		Sn	22 50 50.5	+2.7	
	baz=328								
NBC5	NorthernBC 5	9.10	25	Pn		Pn	22 49 07.8	+0.8	
JIS	Juneau Island	9.16	345			Pn	22 49 07.1	-0.6	
YBH	Yreka Blue Hor	9.28	144	Pn		Pn	22 49 12.6	+3.0	
	0.3nm,0.3s,baz=340,slow=13,SNR=32								
YBH	Yreka Blue Hor	9.28	144	P		Pn	22 49 12.1	+2.6	
YBH	Yreka Blue Hor	9.28	144	Pn		Pn	22 49 12.1	+2.6	
KRPM	Rodgers	9.33	151			Pn	22 49 12.9	+2.7	
M02C	Callahan	9.52	146	P		Pn	22 49 15.1	+2.3	
	baz=332,SNR=20								
M02C				S		Sn	22 51 01.1	+1.3	
	baz=332								
BESE	Bessie Mountai	9.53	344	Pn		Pn	22 49 11.3	-1.5	
M04C	Macdoel	9.58	141	P		Pn	22 49 15.4	+1.7	
	baz=328,SNR=43								
M04C				S		Sn	22 51 04.7	+3.3	
	baz=328								
JCC	Jacoby Creek,	9.64	152	Pn		Pn	22 49 16.8	+2.4	
KHMM	Horse Mountain	9.68	151			Pn	22 49 17.5	+2.4	
LGPLA	Lodgepole	9.80	63	Pn		Pn	22 49 19.0	+2.4	
N02D	Trinity Center	9.94	147			Pn	22 49 21.1	+2.6	
N02D	Trinity Center	9.94	147	P		Pn	22 49 19.8	+1.2	
	baz=332,SNR=33								
N02D				S		Sn	22 51 12.6	+2.4	
	baz=332								
J08A	Circle Bar Ran	10.01	124			Pn	22 49 21.1	+1.5	
PRDA	Priddis	10.11	76	Pn		Pn	22 49 22.6	+1.7	
MOD	Modoc Plateau	10.15	135			Pn	22 49 23.5	+1.9	
KMRM	Mail Ridge	10.29	152	Pn		Pn	22 49 26.0	+2.7	
WDC	Whiskeytown Da	10.35	147	P		Pn	22 49 26.7	+2.6	
WDC	Whiskeytown Da	10.35	147	Pn		Pn	22 49 26.7	+2.6	
SKAG	Skagway	10.44	345			Pn	22 49 24.7	-0.6	
SKAG	Skagway	10.44	345	P		Pn	22 49 25.2	0.0	
	baz=160								
WALA	Waterton Lakes	10.47	86	Pn		Pn	22 49 27.3	+1.4	
WVOR	Wild Horse Val	10.57	128	P		Pn	22 49 28.6	+1.4	
WVOR	Wild Horse Val	10.57	128			Pn	22 49 28.6	+1.4	
O02D	Mt. Diablo Mer	10.62	149	P		Pn	22 49 29.3	+1.4	
	baz=335								
O02D				S		Sn	22 51 30.1	+3.2	
	baz=335								
WTLY	Watson Lake, Y	10.63	3	P		Pn	22 49 28.4	+0.4	
	baz=184								
KCPM	Cahto Peak	10.81	153			Pn	22 49 33.5	+2.9	
P33M	Teslin, Yukon	10.84	352			Pn	22 49 30.3	-0.6	
P33M	Teslin, Yukon	10.84	352	P		Pn	22 49 30.3	-0.6	
	baz=170,SNR=16								
O03E	Paynes Creek	10.87	145	P		Pn	22 49 32.6	+1.3	
	baz=332								
O03E				S		Sn	22 51 35.4	+2.6	
	baz=332								
EDM	Edmonton	11.00	64	P		Pn	22 49 33.0	0.0	
EDM	Edmonton	11.00	64	Pn		Pn	22 49 33.0	0.0	
MSO	Missoula	11.01	98			Pn	22 49 33.9	+0.7	
MSO	Missoula	11.01	98	P		Pn	22 49 32.5	-0.6	
	baz=291								
WHY	Whitehorse	11.52	348	P		Pn	22 49 40.3	+0.2	
	baz=163,SNR=14								
WHY				S		Sn	22 51 56.9	+8.3	
	baz=163								
PNL	Peninsula	11.54	335	P		Pn	22 49 39.5	-0.9	
	baz=147								
PNL				S		Sn	22 51 58.0	+8.7	
	baz=147								
BEKR	Beckworth	11.80	141			Pn	22 49 47.0	+2.8	
BCPM	Bancas Point	11.85	336	Pn		Pn	22 49 42.3	-2.2	
GDXM	Geysers	11.86	152			Pn	22 49 47.3	+2.4	
HYT	Haines Junctio	12.12	342			Pn	22 49 48.9	+0.6	
HYT	Haines Junctio	12.12	342	P		Pn	22 49 47.7	-0.6	
	baz=155,SNR=13								
HYT				S		Sn	22 52 11.6	+8.1	
	baz=155								
PCA	Pinnacle	12.14	335			Pn	22 49 47.8	-0.8	
HLID	Hailey	12.22	113	Pn		Pn	22 49 50.8	+0.9	
HLID	Hailey	12.22	113	P		Pn	22 49 48.6	-1.2	
	baz=305								
HLID				S		Sn	22 52 13.3	+7.2	
	baz=305								
LRM	Limekiln Ridge	12.34	101			Pn	22 49 52.2	+0.7	
PAHR	Pah Rah Range	12.34	139	Pn		Pn	22 49 53.8	+2.3	
YUK6	Outpost Mounta	12.40	341	P		Pn	22 49 50.8	-1.5	
	baz=153								
YUK6				S		Sn	22 52 21.8	+11	
	baz=153								
HRY	Holter Researc	12.41	96			Pn	22 49 53.3	+0.9	
N31M	Braeburn, Yuko	12.44	347			Pn	22 49 51.6	-1.0	
N31M	Braeburn, Yuko	12.44	347	P		Pn	22 49 51.2	-1.3	
	baz=162								
MCCM	Marconi Confer	12.45	153	Pn		Pn	22 49 54.9	+2.2	
RUBR	Rubicon Trail	12.57	143			Pn	22 49 57.3	+2.5	
TABL	Table Mountain	12.68	334			Pn	22 49 54.4	-1.7	
YUK4	Talbot Arm	12.83	341	P		Pn	22 49 59.0	+0.9	
	baz=154								
YUK4				S		Sn	22 52 34.5	+14	
	baz=154								
FARO	Faro, Yukon	12.88	353	P		Pn	22 49 58.6	-0.1	
	baz=170								
M31M	Drury Creek, Y	12.95	351			Pn	22 50 00.5	+0.9	
M31M	Drury Creek, Y	12.95	351	P		Pn	22 50 00.5	+0.9	
	baz=167								
BOZ	Bozeman (W)	12.96	101	P		Pn	22 49 58.7	-1.2	
	baz=295								
GRNC	Granite Creek	13.09	334			Pn	22 50 01.4	-0.3	
MMPY	Sheldon Lake,	13.15	357	P		Pn	22 50 00.6	-1.8	
	baz=176								
ISLE	Juniper Island	13.16	332			Pn	22 50 01.6	-1.0	
CTGM	Chitina Glacie	13.16	335			Pn	22 50 02.4	-0.2	
CTG	Chitna Glacier	13.16	335	P		Pn	22 50 01.6	-1.0	
	baz=145								
WAX	Waxell Ridge	13.20	331			Pn	22 50 02.0	-1.1	
BARN	Barnard Glacie	13.33	335			Pn	22 50 04.4	-0.5	
KAIM	Kayak Island	13.34	327	P		Pn	22 50 04.1	-0.7	
	baz=134								
EGMT	Eagleton	13.38	89	P		Pn	22 50 05.0	-0.6	
	baz=285								
BERG	Berg Lake	13.43	329	Pn		Pn	22 50 06.2	+0.1	
ELK	Elko	13.56	125	Pn		Pn	22 50 10.6	+2.4	
	0.1nm,0.3s,baz=320,slow=12,SNR=13								
ELK				LR		LR	22 55 53.4		
	comp=Z,5µm,18.2s,baz=315,slow=40								
ELK	Elko	13.56	125	P		Pn	22 50 09.6	+1.4	
ELK	Elko	13.56	125	Pn		Pn	22 50 09.6	+1.4	
HMT	Hamilton	13.58	328	Pn		Pn	22 50 07.8	-0.4	
YUK3	Moose Creek	13.62	338	P		Pn	22 50 08.4	-0.5	
	baz=149								
M30M	Minto, Yukon	13.63	346			Pn	22 50 07.9	-0.9	
M30M	Minto, Yukon	13.63	346	P		Pn	22 50 08.4	-0.5	
	baz=160								
Q23K	Middleton Isla	13.73	322	P		Pn	22 50 10.2	0.0	
	baz=129								
RAGM	Ragged Mountai	13.76	328	Pn		Pn	22 50 09.2	-1.4	
YHH	Holmes Hill	13.80	103	Pn		Pn	22 50 12.6	+1.1	
NVAR	Mina Array Bea	13.87	139	Pn		Pn	22 50 14.2	+1.8	
	0.3nm,0.3s,baz=316,slow=12,SNR=32								
YNR	Norris Junctio	13.94	103			Pn	22 50 14.5	+1.1	
YFT	Old Faithful	13.97	104			Pn	22 50 15.3	+1.5	
MCARA	McCarthy VSAT	13.98	333			Pn	22 50 12.7	-1.0	
MCARA	McCarthy VSAT	13.98	333	P		Pn	22 50 13.1	-0.5	
	baz=142								
VRDI	Verde Repeater	13.99	332			Pn	22 50 12.1	-1.8	
Q09A	Carvers	14.04	135			Pn	22 50 16.8	+2.1	
YPP	Pitchstone Pla	14.07	105	Pn		Pn	22 50 17.7	+2.4	
H17A	Grant Village	14.16	104			Pn	22 50 18.5	+2.1	
H17A	Grant Village	14.16	104	P		Pn	22 50 16.3	-0.1	
	baz=299								
BMRM	Bremner River	14.16	330	P		Pn	22 50 16.5	+0.4	
	baz=137								
SAO	San Andreas Ge	14.16	151	P		Pn	22 50 15.7	-0.5	
SAO	San Andreas Ge	14.16	151	Pn		Pn	22 50 15.7	-0.5	
FXWY	Fox Creek	14.25	107			Pn	22 50 19.6	+2.0	
EYAK	Cordova Ski Ar	14.25	327	P		Pn	22 50 16.7	-0.6	
	baz=133								
HVU	Hansel Valley	14.25	116	P		Pn	22 50 18.9	+1.3	
HVU	Hansel Valley	14.25	116			Pn	22 50 18.9	+1.3	
GLB	Gilahina Butte	14.26	332			Pn	22 50 17.4	-0.2	
BVCY	Beaver Creek	14.27	339	P		Pn	22 50 16.8	-0.8	
	baz=150								
ECR	Eagle Creek	14.34	110			Pn	22 50 20.9	+1.9	
M27K	Edge Creek, AK	14.47	337	P		Pn	22 50 19.0	-1.5	
	baz=147								
REDW	Red Top Meadow	14.50	108			Pn	22 50 23.6	+2.6	
SNOW	Snow King Moun	14.51	107			Pn	22 50 23.9	+2.7	
N25K	Chitina, Valde	14.63	331	Pn		Pn	22 50 22.7	+0.1	
N25K	Chitina, Valde	14.63	331	P		Pn	22 50 22.1	-0.5	
	baz=139								
DIV	Divide	14.67	328			Pn	22 50 23.3	+0.2	
AHID	Auburn Hatcher	14.67	110			Pn	22 50 24.5	+1.1	
KLU	Klutina	14.98	329	P		Pn	22 50 26.9	-0.4	
	baz=136								
L27K	Beaver Creek,	15.06	339	P		Pn	22 50 26.7	-1.6	
	baz=148,SNR=18								
HWUT	Hardware Ranch	15.07	115	IAmb		IAmb	22 50 53.0		
	comp=Z,115nm,1.2s								
R11A	Troy Canyon, C	15.18	132	P		Pn	22 50 29.2	-1.0	
	baz=323,SNR=26								
VOG	Valley Oaks Go	15.26	146	P		Pn	22 50 30.5	-0.6	
	baz=334								
DUG	Dugway, Tooele	15.27	121	IAmb		IAmb	22 50 56.4		
	comp=Z,73nm,0.9s								
DUG	Dugway, Tooele	15.27	121	P		Pn	22 50 30.6	-0.7	
	baz=314,SNR=74								
SEW	Seward	15.39	321			Pn	22 50 31.4	-1.3	
SEW				IAmb		IAmb	22 50 43.9		
	comp=Z,96nm,1.0s								
SEW	Seward	15.39	321	P		Pn	22 50 31.7	-1.0	
	baz=124								
L26K	Log Cabin Wild	15.40	336	P		Pn	22 50 31.5	-1.4	
	baz=145								
PWL	Port Wells	15.41	324	IAmb		IAmb	22 50 46.0		
	comp=Z,76nm,1.0s								
PWL	Port Wells	15.41	324	P		Pn	22 50 32.3	-0.7	
	baz=129								
HARP	HAARP	15.41	333	P		Pn	22 50 32.4	-0.5	
	baz=140								
MENT	Mentasta	15.43	336			Pn	22 50 32.3	-0.9	
DAWY	Dawson	15.45	344	Pn		Pn	22 50 33.6	+0.1	
DAWY				IAmb		IAmb	22 50 41.7		
	comp=Z,147nm,1.4s								
DAWY	Dawson	15.45	344	P		Pn	22 50 32.6	-0.9	
	baz=156,SNR=25								
GRAC	Grapevine Rang	15.47	139			P	22 50 36.5	-2.0	
GRAC				IAmb		IAmb	22 50 58.8		
	comp=Z,173nm,1.2s								
GRAC	Grapevine Rang	15.47	139	P		Pn	22 50 36.1	+2.1	
	baz=329								
PAGB	Antelope Grade	15.49	149			Pn	22 50 35.2	+1.1	
YKA	Yellowknife Ar	15.50	27	Pn		Pn	22 50 32.0	-2.1	
	comp=Z,0.8nm,0.3s,baz=215,slow=12,SNR=80								
YKA				LR		LR	22 55 55.0		
	comp=Z,2µm,22.0s,baz=217,slow=35								
YKA	Yellowknife Ar	15.50	27	P		Pn	22 50 31.6	-2.6	
YKA	Yellowknife Ar	15.50	27	Pn		Pn	22 50 31.6	-2.6	
M24K	Tolsona, Glenn	15.51	330			Pn	22 50 34.5	+0.3	
M24K				IAmb		IAmb	22 50 47.3		
	comp=Z,282nm,1.4s								
M24K	Tolsona, Glenn	15.51	330	P		Pn	22 50 33.8	-0.5	
	baz=137								
CTU	Camp Tracy	15.54	118	Pn		Pn	22 50 36.5	+1.6	
J29M	Klondike Camp	15.62	347	P		Pn	22 50 35.3	-0.4	
	baz=159								
BW06	Boulder Array	15.62	108	IAmb		IAmb	22 50 47.5		
	comp=Z,224nm,1.1s								
BW06	Boulder Array	15.62	108	P		Pn	22 50 38.0	+2.0	
	baz=303,SNR=76								
PD31	Pinedale Array	15.62	108	IAmb		IAmb	22 50 47.5		
	comp=Z,202nm,1.1s								
PDAR	Pinedale Array	15.62	108	Pn		Pn	22 50 37.4	+1.4	
	comp=Z,0.7nm,0.3s,baz=311,slow=8.8,SNR=141								
PDAR				LR		LR	22 57 08.4		
	comp=Z,7µm,18.0s,baz=308,slow=39								
CWC	Cottonwood Cre	15.66	142	P		Pn	22 50 36.6	+0.1	
	baz=331								
S11A	Rachel	15.66	134	IAmb		IAmb	22 50 55.4		
	comp=Z,141nm,1.0s								
SCM	Sheep Creek Mo	15.69	328	P		Pn	22 50 37.1	+0.4	
SCM				pmax		pmax			
	comp=Z,121nm,1.1s								
SCM	Sheep Creek Mo	15.69	328			Pn	22 50 37.1	+0.4	
SCM				IAmb		IAmb	22 50 57.4		
	comp=Z,121nm,1.1s								
SCM	Sheep Creek Mo	15.69	328	P		Pn	22 50 36.7	0.0	
	baz=134,SNR=6.6								
KDAK	Kodiak Island	15.72	310	Pn		Pn	22 50 35.7	-1.2	
	comp=Z,0.5nm,0.3s,baz=120,slow=8.1,SNR=5.2								
KDAK				LR		LR	22 55 13.2		
	comp=Z,4µm,18.9s,baz=147,slow=32								
KDAK	Kodiak Island	15.72	310	P		Pn	22 50 35.7	-1.2	
KDAK				pmax		pmax			
	comp=Z,276nm,1.2s								
KDAK	Kodiak Island	15.72	310	IAmb		IAmb	22 50 43.0		
	comp=Z,276nm,1.1s								
KDAK	Kodiak Island	15.72	310	P		Pn	22 50 34.8	-2.1	
	baz=112								
O22K	Cooper Landing	15.72	322			Pn	22 50 36.9	-0.1	
O22K				IAmb		IAmb	22 51 02.6		
	comp=Z,248nm,1.1s								
O22K	Cooper Landing	15.72	322	P		Pn	22 50 36.9	-0.1	
	baz=125								
BRSE	Bradley Lake S	15.74	318	P		Pn	22 50 36.8	-0.4	
	baz=121								
VES	Vestal, Richgr	15.80	146	P		Pn	22 50 38.1	0.0	
	baz=334								
KNK	Knik Glacier	15.81	326	Pn		Pn	22 50 39.8	+1.7	
KNK				IAmb		IAmb	22 50 50.0		
	comp=Z,182nm,0.9s								
KNK	Knik Glacier	15.81	326	P		Pn	22 50 37.3	-0.8	
	baz=130								
BRLK	Bradley Lake	15.81	318	IAmb		IAmb	22 50 52.5		
	comp=Z,174nm,1.2s								
CNPM	China Poot	15.85	317	IAmb		IAmb	22 50 45.0		
	comp=Z,340nm,1.3s								
OHAK	Old Harbor	15.87	308			Pn	22 50 39.2	+0.3	
OHAK				IAmb		IAmb	22 50 45.4		
	comp=Z,128nm,1.2s								
OHAK	Old Harbor	15.87	308	P		Pn	22 50 38.9	-0.1	
	baz=109								
PAX	Paxson	15.94	334	P		Pn	22 50 39.4	-0.5	
	baz=140								
SMMC	Simmler	15.95	149	P		Pn	22 50 40.5	+0.3	
	baz=336								
TPNV	Topopah Spring	16.00	137	P		Pn	22 50 40.6	-0.2	
	baz=327								
SML	Sawmill	16.02	327			Pn	22 50 41.5	+0.5	
SML	Sawmill	16.02	327	P		Pn	22 50 40.6	-0.4	
	baz=131								
MPU	Maple Canyon	16.05	119			Pn	22 50 42.8	+1.2	
LAO	LASA Array	16.06	91	Pn		Pn	22 50 42.2	+0.6	
LAO				IAmb		IAmb	22 51 07.8		
	comp=Z,207nm,1.1s								
LAO	LASA Array	16.06	91	P		Pn	22 50 40.4	-1.2	
	baz=289								
RC01	Rabbit Creek A	16.09	324	P		Pn	22 50 41.1	-0.6	
	baz=127								
HOM	Homer	16.09	317			Pn	22 50 41.2	-0.5	
HOM	Homer	16.09	317	P		Pn	22 50 41.4	-0.4	
	baz=119								
FURC	Furnace Creek,	16.14	139	P		Pn	22 50 41.2	-1.2	
	baz=329								
SII	Sitkinak Islan	16.15	305	Pn		Pn	22 50 43.4	+0.9	
SII				IAmb		IAmb	22 50 47.5		
	comp=Z,291nm,1.3s								
SII	Sitkinak Islan	16.15	305	P		Pn	22 50 41.5	-1.0	
	baz=105								
PMR	Palmer	16.17	326	P		Pn	22 50 42.5	-0.3	
	baz=129								
ISA	Isabella, Lake	16.18	145	P		P	22 50 45.5	-0.9	
ISA				pmax		pmax			
	comp=Z,93nm,1.2s								
ISA	Isabella, Lake	16.18	145	Pn		P	22 50 45.5	-0.9	
ISA	Isabella, Lake	16.18	145	P		Pn	22 50 42.8	-0.4	
	baz=333								
PRN	Pahroc Range	16.18	133	IAmb		IAmb	22 51 04.9		
	comp=Z,168nm,1.1s								
MPMC	Manual Prospec	16.22	141	P		Pn	22 50 41.7	-2.1	
	baz=330								
SCRK	Sand Creek	16.35	338	IAmb		IAmb	22 50 58.5		
	comp=Z,170nm,1.3s								
SCRK	Sand Creek	16.35	338	P		Pn	22 50 44.0	-1.2	
	baz=145								
WAT6	Susitna Watana	16.36	330	P		Pn	22 50 45.1	-0.2	
	baz=134								
RIDG	Independent Ri	16.38	336			Pn	22 50 46.2	+0.7	
RIDG				IAmb		IAmb	22 51 01.1		
	comp=Z,283nm,1.3s								
RIDG	Independent Ri	16.38	336	P		Pn	22 50 44.1	-1.4	
	baz=143								
EGAK	Eagle	16.42	343			Pn	22 50 45.5	-0.4	
EGAK	Eagle	16.42	343	P		Pn	22 50 44.3	-1.6	
	baz=153								
CAPN	Captain Cook N	16.47	321	P		Pn	22 50 46.3	-0.2	
	baz=123								
I29M	Ogilvie Camp,	16.48	348			Pn	22 50 46.6	-0.2	
I29M	Ogilvie Camp,	16.48	348	P		Pn	22 50 46.6	-0.2	
	baz=160								
BCW	Bitter Crk WRg	16.49	148			P	22 50 48.9	-0.9	
ARVC	Arvin	16.53	146	P		Pn	22 50 47.3	-0.2	
	baz=334								
QSM	Queen of Sheba	16.56	140	IAmb		IAmb	22 51 16.3		
	comp=Z,170nm,1.3s								
TCRU	Three Creeks R	16.59	125			Pn	22 50 49.5	+1.0	
DHY	Denali Highway	16.60	331	P		Pn	22 50 48.0	-0.4	
	baz=136								
M22K	Willow	16.64	325			Pn	22 50 49.1	+0.3	
M22K				IAmb		IAmb	22 51 00.4		
	comp=Z,122nm,0.9s								
M22K	Willow	16.64	325	P		Pn	22 50 48.7	0.0	
	baz=128								
LRMC	Laurel Mtn Rad	16.65	143	P		Pn	22 50 49.1	-0.1	
	baz=332								
Q19K	Cape Douglas,	16.68	313	Pn		Pn	22 50 48.0	-1.2	
Q19K	Cape Douglas,	16.68	313	P		Pn	22 50 47.8	-1.5	
	baz=114								
J26L	Joseph Creek	16.69	339	P		Pn	22 50 49.1	-0.3	
	baz=147								
O20K	Slope Mountain	16.73	318	P		Pn	22 50 49.3	-0.7	
	baz=119								
CHIR	Chirikof Islan	16.76	302	Pn		Pn	22 50 49.0	-1.3	
CHIR				IAmb		IAmb	22 50 54.3		
	comp=Z,377nm,1.2s								
CHIR	Chirikof Islan	16.76	302	P		Pn	22 50 50.4	+0.2	
	baz=101								
TMUT	Trail Mountain	16.78	120	P		Pn	22 50 51.8	+0.8	
P19K	Oil Pt	16.80	316	P		Pn	22 50 48.6	-2.2	

FFC pmax pmax
comp=Z,582nm,1.0s
FFC Flin Flon 17.86 62 Pn Pn 22 51 02.1 -1.9
N19K Bonanza Creek 17.89 318 P Pn 22 51 03.2 -1.3
N19K IAmb IAmb 22 51 11.7
comp=Z,190nm,1.4s
N19K Bonanza Creek 17.89 318 P Pn **22 51 03.1 -1.4**
baz=118
O20A White River Ci 17.96 113 IAmb IAmb 22 51 30.9
comp=Z,149nm,1.1s
O20A White River Ci 17.96 113 P Pn **22 51 05.9 +0.3**
baz=309
PRP Porcupine Dome 18.00 339 P Pn **22 51 05.2 -0.6**
PRP Porcupine Dome 18.00 339 P Pn **22 51 04.9 -1.0**
baz=145
SNCC San Nicolas Is 18.00 151 P 22 51 08.5 +2.1
SNCC San Nicolas Is 18.00 151 P Pn **22 51 05.5 -0.4**
baz=338
GMRC Granite Mounta 18.08 139 P Pn **22 51 06.6 -0.4**
baz=329
COLA College 18.08 335 P Pn **22 51 06.5 -0.2**
COLA pmax pmax
comp=Z,165nm,1.4s
COLA College 18.08 335 P Pn **22 51 06.5 -0.2**
COLA College 18.08 335 P Pn **22 51 06.4 -0.3**
baz=139
TCOL CIGO, UAF Yank 18.09 335 P Pn **22 51 06.7 -0.1**
TCOL IAmb IAmb 22 51 17.4
comp=Z,167nm,1.4s
TCOL CIGO, UAF Yank 18.09 335 P Pn **22 51 06.6 -0.1**
baz=139
PPLA Purkeypile 18.11 326 P Pn **22 51 07.4 +0.2**
PPLA Purkeypile 18.11 326 P Pn **22 51 05.9 -1.3**
baz=127
POKR Poker Plat Res 18.16 336 P P **22 51 07.8 -0.1**
POKR Poker Plat Res 18.16 336 P Pn **22 51 07.6 -0.1**
baz=141
NEA2 Nenana 18.22 333 P Pn **22 51 08.2 -0.3**
baz=137
CIS Catalina Islan 18.23 148 P P **22 51 10.1 +1.2**
baz=336
MDM Murphy Dome 18.25 335 P Pn **22 51 08.7 -0.2**
U15A North Rim 18.31 129 P 22 51 11.8 +1.6
CHGN Chignik 18.38 303 IAmb IAmb 22 51 11.4
comp=Z,246nm,1.2s
CHGN Chignik 18.38 303 P Pn **22 51 08.5 -1.9**
baz=99
CAST Castle Rocks 18.39 327 P 22 51 09.7 -0.9
CAST Castle Rocks 18.39 327 P P **22 51 10.3 -0.2**
baz=128
BPAW Bear Paw Mtn. 18.47 330 P P **22 51 10.3 -1.1**
BPAW Bear Paw Mtn. 18.47 330 P P **22 51 10.0 -1.3**
baz=132
RSSD Black Hills 18.47 97 P P **22 51 11.4 -0.4**
RSSD pmax pmax
comp=Z,123nm,1.1s
RSSD Black Hills 18.47 97 P P **22 51 11.4 -0.4**
RSSD IAmb IAmb 22 51 31.7
comp=Z,123nm,1.1s
RSSD Black Hills 18.47 97 P P **22 51 10.6 -1.1**
baz=297
MURC Murrieta 18.50 145 P P **22 51 10.8 -1.0**
baz=334
SVW2 Sparrevohn 18.50 318 IAmb IAmb 22 51 15.6
comp=Z,308nm,1.4s
L20K Farewell, AK 18.50 324 P P **22 51 10.9 -0.8**
baz=123
NEE2 Needles Airpor 18.55 137 P Pn **22 51 12.9 +0.3**
baz=328
PV21 Cone Mtn., Par 18.55 118 P Pn **22 51 13.8 +0.9**
SCI2 San Clemente I 18.57 149 P Pn **22 51 13.3 +0.4**
baz=337
PV23 Carpenter Ridg 18.61 119 IAmb IAmb 22 51 29.4
comp=Z,287nm,1.2s
BELC Belle Mtn. Jos 18.61 141 P Pn **22 51 14.8 +1.2**
baz=331
PV14 Lion Creek, Pa 18.66 119 P Pn **22 51 15.4 +1.3**
PV04 Paradox Valley 18.71 119 P Pn **22 51 15.2 +0.5**
PV20 West Nyswonger 18.71 119 P Pn **22 51 15.2 +0.5**
I23K Minto, Yukon-K 18.71 334 P P **22 51 13.9 -0.1**
I23K Minto, Yukon-K 18.71 334 P P **22 51 13.1 -0.8**
baz=137
PV19 Morning Glory 18.72 119 P Pn **22 51 15.5 +0.6**
PV19 IAmb IAmb 22 51 29.8
comp=Z,311nm,1.2s
L19K White Mountain 18.73 322 P P **22 51 13.7 -0.5**
L19K IAmb IAmb 22 51 22.5
comp=Z,134nm,0.9s
L19K White Mountain 18.73 322 P P **22 51 13.4 -0.9**
baz=121
PV17 East Wray Mesa 18.76 119 P Pn **22 51 16.7 +1.4**
PV16 Nyswonger Mesa 18.76 119 P Pn **22 51 16.6 +1.2**
CHUM Lake Minchumin 18.77 328 P P **22 51 13.6 -1.0**
baz=129
PFO Pinyon Flats O 18.77 143 P Pn **22 51 15.4 0.0**
comp=Z,0.1nm,0.3s,baz=304,slow=4.8,SNR=11
PFO LR LR 22 58 38.9
comp=Z,2μm,18.1s,baz=319,slow=38
PFO Pinyon Flats O 18.77 143 *eP* Pn **22 51 16.1 +0.7**
PFO Pinyon Flats O 18.77 143 P Pn **22 51 15.7 +0.3**
PFO Pinyon Flats O 18.77 143 P Pn **22 51 15.7 +0.3**
baz=332
TPFO Pinon Flats 18.78 143 P Pn **22 51 16.1 +0.7**
baz=332
PV18 Skein Mesa, Pa 18.81 119 P Pn **22 51 17.4 +1.4**
FYU Fort Yukon 18.82 341 Pn 22 51 15.4 -0.2
FYU IAmb IAmb 22 51 25.4
comp=Z,237nm,1.2s
PV05 Paradox Valley 18.82 120 P Pn **22 51 17.4 +1.3**
PV12 Saucer Basin, 18.82 119 P Pn **22 51 17.5 +1.4**
PV12 IAmb IAmb 22 51 25.4
comp=Z,246nm,1.1s
PV07 Paradox Valley 18.83 118 P Pn **22 51 16.6 +0.4**
IRM Iron Mountain 18.83 139 P Pn **22 51 16.9 +0.8**
baz=330
PV03 Paradox Valley 18.84 119 P Pn **22 51 17.6 +1.3**
PV03 IAmb IAmb 22 51 31.0
comp=Z,285nm,1.2s
H24K Noodor Dome 18.84 337 IAmb IAmb 22 51 30.9
comp=Z,154nm,1.4s
H24K Noodor Dome 18.84 337 P P **22 51 15.5 0.0**
baz=141
N23A Red Feather La 18.90 108 IAmb IAmb 22 51 42.3
comp=Z,193nm,1.2s
N23A Red Feather La 18.90 108 P P **22 51 16.7 +0.2**
baz=306
INK Inuvik 18.93 356 P P **22 51 16.6 +0.4**
comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=40
INK LR LR 22 58 03.7
comp=Z,5μm,18.3s,baz=171,slow=35
INK Inuvik 18.93 356 IAmb IAmb 22 51 36.4
comp=Z,160nm,1.4s
INK Inuvik 18.93 356 P P **22 51 15.9 -0.4**
baz=173
PHWY Pilot Hill 18.98 106 IAmb IAmb 22 51 24.4
comp=Z,143nm,1.0s
PV15 Paradox Valley 18.99 118 IAmb IAmb 22 51 37.1
comp=Z,168nm,1.1s
MLY Manley 19.04 332 P P **22 51 16.8 -0.8**
baz=134
K20K Telida 19.07 326 P P **22 51 17.9 -0.1**
baz=125
PV01 Paradox Valley 19.08 119 P Pn **22 51 20.5 +1.3**
PV01 IAmb IAmb 22 51 33.9
comp=Z,218nm,1.2s
BC3 Big Chuckawall 19.14 141 P P **22 51 18.5 -0.5**
baz=331
PDMCI Parker Dam,Lak 19.15 137 P Pn **22 51 20.6 +0.7**
baz=328
MONP2 Monument Peak 19.42 144 P P **22 51 22.2 +0.1**
baz=333
SDPT Sand Point 19.42 299 P P **22 51 20.9 -0.9**
SDPT IAmb IAmb 22 51 33.1
comp=Z,274nm,1.1s
SDPT Sand Point 19.42 299 P P **22 51 21.2 -0.6**
baz=94
WUAZ Wupatki 19.49 129 P P **22 51 23.5 +0.6**
baz=322
BAR Barrett 19.51 145 P Pn **22 51 24.6 +0.3**
I21K Tanana 19.52 332 IAmb IAmb 22 51 31.4
comp=Z,103nm,1.0s
I21K Tanana 19.52 332 P P **22 51 22.5 -0.3**
baz=133
TTA Tatalina 19.57 323 P P **22 51 22.9 -0.6**
TTA pmax pmax
comp=Z,66nm,0.9s
TTA Tatalina 19.57 323 P P **22 51 22.9 -0.6**
TTA Tatalina 19.57 323 P P **22 51 23.2 -0.4**
baz=121
J20K Nowinta River 19.58 328 IAmb IAmb 22 51 37.5
comp=Z,102nm,1.1s
J20K Nowinta River 19.58 328 P P **22 51 22.2 -1.3**
baz=127
SWSC Sam W. Stewart 19.62 142 P P **22 51 23.8 -0.3**
baz=332
TKX Tecate 19.64 145 P Pn **22 51 26.2 +0.5**
IKP In-Ko-Pah, Jac 19.75 143 P P **22 51 25.0 -0.7**
baz=333
ISCO Idaho Springs 19.75 110 IAmb IAmb 22 51 30.5
comp=Z,126nm,1.4s
ISCO Idaho Springs 19.75 110 P P **22 51 26.2 +0.2**
baz=308
MVCO Mesa Verde 19.76 120 IAmb IAmb 22 51 34.2
comp=Z,254nm,1.1s
MVCO Mesa Verde 19.76 120 P P **22 51 26.4 +0.5**
baz=316
GLA Glamis 19.92 140 IAmb IAmb 22 51 41.2
comp=Z,102nm,1.3s
GLA Glamis 19.92 140 P P **22 51 27.4 -0.1**
baz=331
Y14A Wickenburg 19.97 135 IAmb IAmb 22 51 45.5
comp=Z,114nm,1.3s
MDND Maddock 20.02 83 P P **22 51 28.6 +0.1**
baz=287
H21K Melozitna Rive 20.10 332 IAmb IAmb 22 51 44.8
comp=Z,114nm,1.2s
H21K Melozitna Rive 20.10 332 P P **22 51 28.8 -0.3**
baz=132
CCX Cicese 20.24 146 P P **22 51 31.9 +1.0**
CPBX Cerro Prieto 20.27 142 P Pn 22 51 35.1 +1.8
X16A Lo Mia Camp, P 20.32 131 IAmb IAmb 22 51 46.8
comp=Z,109nm,1.4s
S22A 4UR Ranch, Cre 20.35 117 IAmb IAmb 22 51 39.4
comp=Z,286nm,1.2s
S22A 4UR Ranch, Cre 20.35 117 P Pn 22 51 33.7 -0.7
baz=313
COLD Coldfoot 20.51 337 IAmb IAmb 22 51 44.1
comp=Z,156nm,1.2s
COLD Coldfoot 20.51 337 P P **22 51 33.6 0.0**
baz=140
Q24A Divide 20.55 112 IAmb IAmb 22 51 42.4
comp=Z,133nm,1.2s
Q24A Divide 20.55 112 P P **22 51 34.6 -0.1**
baz=310
IMAR Indian Mountai 20.61 332 P P **22 51 33.8 -0.8**
113A Mohawk Valley, 20.61 138 Pn 22 51 36.4 -0.8
W18A Petrified Fore 20.64 127 IAmb IAmb 22 51 44.4
comp=Z,160nm,1.1s
W18A Petrified Fore 20.64 127 P P **22 51 36.0 +0.5**
baz=321
GCSA Galena City Sc 20.88 327 P P **22 51 37.3 -0.3**
baz=124,SNR=11
X18A Snowflake 20.99 128 IAmb IAmb 22 51 49.6
comp=Z,178nm,1.2s
FALS False Pass 21.08 297 P P **22 51 40.2 +0.3**
FALS False Pass 21.08 297 P P **22 51 39.7 -0.1**
baz=90
SDCO Great Sand Dun 21.13 115 IAmb IAmb 22 51 53.5
comp=Z,104nm,1.2s
SDCO IAMs_20 IAMs_20 23 00 13.0
comp=Z,8μm,19.0s
SDCO Great Sand Dun 21.13 115 P P **22 51 41.3 +0.5**
baz=312
OGNE Ogallala 21.33 103 P P **22 51 43.3 +0.5**
baz=304
TOLK Toolik Lake Re 21.47 340 P P **22 51 44.5 +0.5**
TOLK IAmb IAmb 22 51 56.9
comp=Z,122nm,1.1s
TOLK Toolik Lake Re 21.47 340 P P **22 51 43.6 -0.4**
baz=143
SUSD Miller 21.63 92 P P **22 51 46.8 +0.9**
SUSD Miller 21.63 92 P P **22 51 45.0 -0.9**
baz=295
SFX San Felipe 21.67 143 P P **22 51 48.5 +2.2**
214A Organ Pipe Nat 21.73 138 IAmb IAmb 22 51 59.9
comp=Z,96nm,1.4s
214A Organ Pipe Nat 21.73 138 P P **22 51 48.3 +1.3**
baz=329
ULM Lac du Bonnet 21.84 75 P P **22 51 46.9 -1.2**
comp=Z,61nm,0.8s,baz=291,slow=10,SNR=30
ULM Lac du Bonnet 21.84 75 P P **22 51 46.9 -1.2**
ULM pmax pmax
comp=Z,489nm,1.1s
ULM Lac du Bonnet 21.84 75 P P **22 51 46.9 -1.2**
D32A Dogwood Acres, 21.91 84 IAmb IAmb 22 52 03.9
comp=Z,161nm,1.1s
KSCO Kaye Shedlock' 22.07 108 P P **22 51 51.5 +0.7**
baz=308
T25A Trinidad 22.18 114 IAmb IAmb 22 52 03.2
comp=Z,159nm,1.2s
T25A Trinidad 22.18 114 P P **22 51 52.2 +0.2**
baz=312
AGMN Agassiz Nation 22.31 80 IAmb IAmb 22 52 03.5
comp=Z,131nm,0.9s
AGMN Agassiz Nation 22.31 80 P P **22 51 52.1 -1.0**
baz=286
TUC Tucson 22.36 133 P P **22 51 54.9 +1.0**
TUC pmax pmax
comp=Z,87nm,1.3s
TUC MLR MLR
comp=Z,4μm,20.0s
TUC Tucson 22.36 133 P P **22 51 54.9 +1.0**
TUC IAmb IAmb 22 52 11.6
comp=Z,87nm,1.3s
TUC Tucson 22.36 133 P P **22 51 54.8 +1.0**
baz=326
ANMO Albuquerque 22.54 121 P P **22 51 56.8 +0.9**
comp=Z,16nm,0.9s,baz=316,slow=10,SNR=26
ANMO LR LR 23 01 02.8
comp=Z,2μm,19.7s,baz=311,slow=38
ANMO Albuquerque 22.54 121 *eP* P **22 51 57.0 +1.1**
ANMO pmax pmax
comp=Z,23nm,1.0s
ANMO Albuquerque 22.54 121 P P **22 51 56.8 +0.9**
ANMO Albuquerque 22.54 121 P P **22 51 56.6 +0.7**
baz=318
A36M Sachs Harbour 22.64 4 P P **22 51 56.6 +0.2**
A36M IAmb IAmb 22 52 01.9
comp=Z,162nm,1.1s
A36M Sachs Harbour 22.64 4 P P **22 51 55.3 -1.1**
baz=188
FCC Fort Churchill 22.68 52 P P **22 51 56.3 -0.6**
FCC pmax pmax
comp=Z,176nm,1.1s
FCC Fort Churchill 22.68 52 P P **22 51 56.3 -0.6**
FCC IAmb IAmb 22 52 11.3
comp=Z,176nm,1.1s
F33A 5 Mile Ranch, 22.82 86 IAmb IAmb 22 52 02.9
comp=Z,136nm,1.0s
UNV Unalaska Vale 22.92 295 P P **22 52 00.2 +0.7**
UNV IAmb IAmb 22 52 28.9
comp=Z,162nm,1.4s
UNV Unalaska Valle 22.92 295 P P **22 51 59.7 +0.2**
baz=86
Y22D IRIS PASSCAL I 22.94 124 P P **22 52 02.1 +2.1**
Y22D IRIS PASSCAL I 22.94 124 P P **22 51 60.0 -0.1**
baz=320
ECSD EROS Data Cent 23.46 92 P P **22 52 04.5 -0.7**
baz=296
BGNE Belgrade 23.57 98 P P **22 52 07.2 +0.9**
BGNE Belgrade 23.57 98 P P **22 52 05.5 -0.8**
baz=301
121A Cookes Peak, D 23.67 128 IAmb IAmb 22 52 25.4
comp=Z,96nm,1.4s
121A Cookes Peak, D 23.67 128 P P **22 52 07.6 +0.2**
baz=323
319A Douglas 23.85 132 P P **22 52 10.6 +1.5**
319A IAmb IAmb 22 52 31.2
comp=Z,170nm,1.4s
CBKS Cedar Bluff 23.99 105 P P **22 52 10.3 -0.1**
baz=307
ANM Nome 24.03 322 P P **22 52 09.2 -1.2**
ANM pmax pmax
comp=Z,53nm,1.2s
ANM MLR MLR
comp=Z,1μm,20.0s
ANM Nome 24.03 322 P P **22 52 09.2 -1.2**
ANM IAmb IAmb 22 52 28.8
comp=Z,54nm,1.2s
ANM Nome 24.03 322 P P **22 52 09.6 -0.8**
baz=112
L34A Svendsen Farm, 24.44 95 P P **22 52 14.9 +0.5**
RDOG Red Dog Mine 24.73 331 P P **22 52 17.1 +0.3**
RDOG Red Dog Mine 24.73 331 P P **22 52 16.8 0.0**
baz=122
R32A Long Quarter, 24.87 105 P P **22 52 19.2 +0.8**
R32A IAmb IAmb 22 52 35.9
comp=Z,89nm,0.9s
SPIA Saint Paul Isl 24.95 303 P P **22 52 19.1 +0.3**
baz=90
A21K Barrow 25.09 340 P P **22 52 21.1 +1.1**
A21K Barrow 25.09 340 P P **22 52 20.0 0.0**
baz=136
EYMN Ely 25.21 79 P P **22 52 21.2 -0.2**
baz=288
SPMN Marine on St. 25.32 85 P P **22 52 22.7 +0.4**
baz=294
AMTX Amarillo 25.33 115 IAMs_20 IAMs_20 23 02 48.3
comp=Z,7μm,18.0s
AMTX Amarillo 25.33 115 P P **22 52 23.3 +0.7**
baz=314
MSTX Muleshoe 25.34 118 IAmb IAmb 22 52 45.9
comp=Z,155nm,1.5s
MSTX Muleshoe 25.34 118 P P **22 52 22.0 -0.7**
baz=316
TNA Tin City 25.40 323 P P **22 52 22.3 -0.5**
baz=110
I37A Lemond, Waseca 25.43 88 IAmb IAmb 22 52 27.7
comp=Z,100nm,1.3s
MNTX Cornudas Mount 25.58 125 P P **22 52 25.8 +1.0**
MNTX IAmb IAmb 22 52 32.4
comp=Z,56nm,1.3s
MNTX Cornudas Mount 25.58 125 P P **22 52 25.3 +0.5**
baz=322
E38A The Farm, Brul 25.62 82 P P **22 52 25.9 +0.8**
E38A IAmb IAmb 22 52 34.4
comp=Z,135nm,1.3s
KSU1 Kansas State U 25.81 101 IAMs_20 IAMs_20 23 02 58.9
comp=Z,4μm,19.0s
KSU1 Kansas State U 25.81 101 P P **22 52 26.7 -0.2**
baz=305
SRIG Santa Rosalia 26.01 142 P P **22 52 30.5 +1.8**
SRIG IAmb IAmb 22 52 44.1
comp=Z,43nm,1.0s
GAMB Gambell 26.44 318 P P **22 52 31.9 -0.3**
GAMB IAmb IAmb 22 52 41.3
comp=Z,98nm,1.2s
GAMB Gambell 26.44 318 P P **22 52 31.6 -0.7**
baz=102
SCIA State Center 26.52 93 P P **22 52 34.1 +0.8**
SCIA IAMs_20 IAMs_20 23 03 04.9
comp=Z,7μm,19.0s
SCIA State Center 26.52 93 P P **22 52 32.8 -0.5**
baz=300
G40A Rib Lake 27.00 84 P P **22 52 34.3 -3.2**
WMOK Wichita Mounta 27.17 111 P P **22 52 40.0 +0.8**
WMOK pmax pmax
comp=Z,100nm,1.3s
WMOK MLR MLR
comp=Z,7μm,18.0s
WMOK Wichita Mounta 27.17 111 P P **22 52 40.0 +0.8**
WMOK IAmb IAmb 22 52 44.1
comp=Z,100nm,1.2s
WMOK Wichita Mounta 27.17 111 P P **22 52 39.3 +0.1**
baz=313
COWI Conover 27.36 81 IAmb IAmb 22 52 47.2
comp=Z,52nm,0.8s
D41A Chassel 27.38 79 P P **22 52 41.9 +1.0**
OKCSW OKLAHOMA CITY 27.55 109 P P **22 52 43.5 +0.9**
FNO Franklin 27.67 109 P P **22 52 44.4 +0.7**
X34A Smith Ranch, M 27.84 110 P P **22 52 45.6 +0.4**
JFWS Jewell Farm 27.98 88 P P **22 52 46.8 +0.5**
JFWS pmax pmax
comp=Z,95nm,0.9s
JFWS MLR MLR
comp=Z,8μm,19.0s
JFWS Jewell Farm 27.98 88 P P **22 52 46.8 +0.5**
JFWS Jewell Farm 27.98 88 P P **22 52 45.4 -1.0**
baz=298
W35A Tecumseh 28.07 108 IAmb IAmb 22 53 12.0
comp=Z,36nm,1.0s
ABTX Abilene, Hawle 28.13 116 IAmb IAmb 22 52 54.0
comp=Z,87nm,1.5s
ABTX Abilene, Hawle 28.13 116 P P **22 52 46.7 -1.0**
baz=316
F42A Maple Grove Fa 28.14 82 P P **22 52 48.6 +0.9**
F42A IAmb IAmb 22 53 01.2
comp=Z,36nm,0.8s
TUL1 Leonard 28.25 106 IAmb IAmb 22 52 53.7
comp=Z,77nm,1.0s
TUL1 Leonard 28.25 106 P P **22 52 48.5 -0.4**
baz=310
TX31 Lajitas Ar. Si 28.35 126 IAmb IAmb 22 53 05.9
comp=Z,113nm,1.4s
TX32 Lajitas Array 28.35 126 IAmb IAmb 22 53 05.9
comp=Z,42nm,1.4s
TXAR Lajitas Array 28.35 126 P P **22 52 49.7 -0.1**
comp=Z,5.2nm,1.1s,baz=325,slow=7.6,SNR=25
TXAR LR LR 23 04 07.9
comp=Z,3μm,20.4s,baz=315,slow=36
I42A Draeger Farm, 28.41 86 P P **22 52 50.4 +0.3**
I42A IAmb IAmb 22 53 03.3
comp=Z,61nm,0.9s
S39A Bolivar 28.73 100 IAmb IAmb 22 53 07.5
comp=Z,76nm,1.0s
RES Resolute Bay 29.18 18 P P **22 52 56.3 -0.4**
comp=Z,7.3nm,0.8s,baz=230,slow=10,SNR=32
RES LR LR 23 05 20.9
comp=Z,626nm,21.3s,baz=226,slow=38
RES Resolute Bay 29.18 18 P P **22 52 56.5 -0.2**
RES pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 29.18 18 P P **22 52 56.5 -0.2**
HHAR Hobbs 29.19 103 IAmb IAmb 22 53 14.6
comp=Z,114nm,1.4s
HPIG 29.29 131 P P **22 52 59.4 +1.1**
K43A Burlington 29.32 87 P P **22 52 58.0 -0.2**
K43A IAmb IAmb 22 53 11.1
comp=Z,62nm,1.1s
X37A Clayton 29.37 107 IAmb IAmb 22 53 04.0
comp=Z,72nm,1.2s
JCT Junction City 29.60 119 IAmb IAmb 22 53 05.0
comp=Z,54nm,1.1s
JCT Junction City 29.60 119 P P **22 53 00.8 -0.1**
baz=319
LPIG La Paz 29.66 142 LR LR 23 03 53.1
comp=Z,1μm,19.7s,baz=334,slow=34
MGMO Mountain Grove 29.73 100 IAmb IAmb 22 53 19.1
comp=Z,61nm,0.8s
HDIL Hopedale 29.76 92 P P **22 53 00.8 -1.3**
baz=302
U40A Yellville 29.84 102 IAmb IAmb 22 53 07.5
comp=Z,73nm,0.9s
U40A IAMs_20 IAMs_20 23 05 25.5
comp=Z,4μm,18.0s
U40A Yellville 29.84 102 P P **22 53 02.1 -0.8**
baz=308
L44A Lake County Fo 29.85 88 P P **22 53 02.4 -0.5**
L44A IAmb IAmb 22 53 21.2
comp=Z,68nm,0.9s
L44A Lake County Fo 29.85 88 P P **22 53 01.4 -1.5**
baz=299
CCM Cathedral Cave 29.86 98 P P **22 53 02.7 -0.4**
CCM pmax pmax
comp=Z,43nm,0.9s
CCM MLR MLR
comp=Z,3μm,20.0s
CCM Cathedral Cave 29.86 98 P P **22 53 02.7 -0.4**
CCM IAmb IAmb 22 53 17.4
comp=Z,43nm,0.8s
CCM Cathedral Cave 29.86 98 P P **22 53 01.6 -1.5**
baz=306
WHTX Lake Whitney, 29.87 114 P P **22 53 04.2 +1.0**
WHTX IAmb IAmb 22 53 07.6
comp=Z,42nm,1.1s
WHTX Lake Whitney, 29.87 114 P P **22 53 02.7 -0.5**
baz=316
W39A Magazine 29.97 105 IAMs_20 IAMs_20 23 06 14.3
comp=Z,3μm,19.0s
W39A Magazine 29.97 105 P P **22 53 04.2 +0.2**
baz=310
G45A Suttons Bay 30.02 81 P P **22 53 04.8 +0.3**
G45A IAmb IAmb 22 53 20.1
comp=Z,46nm,0.8s
SLBS Sierra La Lagu 30.18 141 P P **22 53 06.4 +0.4**
SLM Saint Louis 30.18 96 P P **22 53 06.0 +0.1**
SLM pmax pmax
comp=Z,82nm,1.0s
SLM Saint Louis 30.18 96 P P **22 53 06.0 +0.1**
E46A Sault Ste Mari 30.36 78 P P **22 53 08.2 +0.8**

E46A IAmb IAmb 22 53 27.8
comp=Z,37nm,1.1s
FVM French Village 30.43 97 IAmb IAmb 22 53 23.0
comp=Z,51nm,0.8s
Z38A Mt. Pleasant 30.49 109 P **P** **22 53 09.6 +0.9**
Z38A IAmb IAmb 22 53 13.6
comp=Z,58nm,1.1s
O44A Mansfield 30.51 92 IAmb IAmb 22 53 24.2
comp=Z,38nm,0.9s
435B Jarrell 30.66 116 P **P** **22 53 10.6 +0.3**
435B IAmb IAmb 22 53 14.8
comp=Z,50nm,1.3s
435B IAMs_20 IAMs_20 23 05 57.5
comp=Z,6µm,19.0s
435B Jarrell 30.66 116 P **P** **22 53 10.3 +0.1**
baz=317
GLMI Grayling 30.79 81 P **P** **22 53 10.8 -0.4**
GLMI Grayling 30.79 81 P **P** **22 53 10.1 -1.1**
baz=296
Q44A Meyer Farm, Va 30.82 94 IAmb IAmb 22 53 26.3
comp=Z,77nm,1.5s
237A Washetta, Mont 30.86 112 P **P** **22 53 12.6 +0.7**
237A IAmb IAmb 22 53 16.8
comp=Z,76nm,1.2s
W41B Gary Mavity, V 30.96 103 P **P** **22 53 12.7 -0.1**
baz=310
L46A Eue Claire 30.98 87 IAmb IAmb 22 53 16.9
comp=Z,42nm,0.8s
X40A Basin Creek Fa 31.02 105 P **P** **22 53 14.5 +1.1**
X40A IAmb IAmb 22 53 19.4
comp=Z,27nm,1.1s
X40A IAMs_20 IAMs_20 23 06 57.2
comp=Z,3µm,18.0s
X40A Basin Creek Fa 31.02 105 P **P** **22 53 13.3 0.0**
baz=311
PBMO Poplar Bluff 31.13 99 IAmb IAmb 22 53 17.7
comp=Z,40nm,1.1s
SFIN Lafayette 31.28 90 IAmb IAmb 22 53 31.4
comp=Z,35nm,0.9s
SFIN Lafayette 31.28 90 P **P** **22 53 15.2 -0.4**
baz=302
J47A Sunmer 31.36 84 P **P** **22 53 16.5 +0.2**
WLAR White Oak Lake 31.37 106 P **P** **22 53 17.1 +0.7**
833A Chaparral WMA, 31.47 121 IAmb IAmb 22 53 22.1
comp=Z,48nm,1.0s
833A Chaparral WMA, 31.47 121 P **P** **22 53 17.2 -0.2**
baz=321
P46A Rosedale 31.61 92 IAmb IAmb 22 53 22.9
comp=Z,44nm,1.1s
PARMO Parma 31.64 99 P **P** **22 53 19.4 +0.7**
NATX Nacogdoches 31.72 111 P **P** **22 53 20.2 +0.6**
NATX IAmb IAmb 22 53 24.7
comp=Z,74nm,1.4s
NATX Nacogdoches 31.72 111 P **P** **22 53 19.4 -0.1**
baz=315
Z41A Richland Creek 31.85 107 P **P** **22 53 21.2 +0.6**
Z41A IAmb IAmb 22 53 25.9
comp=Z,22nm,0.8s
Z41A Richland Creek 31.85 107 P **P** **22 53 20.7 0.0**
baz=312
GNAR Gosnell 31.89 100 P **P** **22 53 21.4 +0.4**
PEBM Pemiscott Bayo 31.90 100 **P** **22 53 21.1 0.0**
N47A Urbana 31.94 89 IAmb IAmb 22 53 25.4
comp=Z,65nm,1.1s
CCAR Cane Creek 32.06 105 P **P** **22 53 24.1 +1.6**
T45A Paducah 32.14 97 P **P** **22 53 23.4 +0.2**
L48A N Adams 32.23 86 IAmb IAmb 22 53 27.2
comp=Z,52nm,0.9s
USIN University of 32.23 95 P **P** **22 53 24.0 0.0**
BLO Bloomington 32.30 92 IAmb IAmb 22 53 37.4
comp=Z,31nm,0.8s
HKT Hockley 32.31 114⇑ *e*P **P** **22 53 26.6 +2.0**
HKT pmax pmax
comp=Z,62nm,1.7s
HKT Hockley 32.31 114 P **P** **22 53 26.1 +1.5**
HKT IAmb IAmb 22 53 52.6
comp=Z,67nm,1.4s
MET Memphis--Engin 32.46 101 P **P** **22 53 26.6 +0.6**
AAM Ann Arbor 32.56 85 P **P** **22 53 26.6 -0.2**
AAM pmax pmax
comp=Z,38nm,1.1s
AAM MLR MLR
comp=Z,9µm,21.0s
AAM Ann Arbor 32.56 85 P **P** **22 53 26.6 -0.2**
AAM IAmb IAmb 22 53 30.4
comp=Z,38nm,1.1s
O48B Farmland 32.61 89 P **P** **22 53 25.9 -1.4**
baz=302
N49A Columbus Grove 32.90 87 IAmb IAmb 22 53 33.5
comp=Z,66nm,1.2s
W45A Hickory Valley 32.92 100 P **P** **22 53 30.4 +0.4**
WCI Wyandotte Cave 32.97 93 P **P** **22 53 30.2 -0.2**
WCI pmax pmax
comp=Z,38nm,1.2s
WCI MLR MLR
comp=Z,7µm,18.0s
WCI Wyandotte Cave 32.97 93 P **P** **22 53 30.2 -0.2**
WCI IAmb IAmb 22 53 33.9
comp=Z,38nm,1.1s
WCI Wyandotte Cave 32.97 93 P **P** **22 53 29.6 -0.9**
baz=305
K50A Casco 33.00 83 P **P** **22 53 29.9 -0.7**
K50A IAmb IAmb 22 53 34.8
comp=Z,44nm,1.1s
143A Socs Landing, 33.09 106 P **P** **22 53 32.4 +0.8**
T47A Sharon Grove 33.16 96 P **P** **22 53 31.3 -0.8**
T47A IAmb IAmb 22 53 35.4
comp=Z,25nm,1.1s
OXF Oxford 33.18 101 P **P** **22 53 31.3 -1.0**
baz=310
O49A Covington 33.18 89 IAmb IAmb 22 53 35.9
comp=Z,83nm,1.4s
WVT Waverly 33.20 98 P **P** **22 53 32.1 -0.4**
WVT pmax pmax
comp=Z,56nm,1.1s
WVT MLR MLR
comp=Z,1µm,22.0s
WVT Waverly 33.20 98 P **P** **22 53 32.1 -0.4**
WVT IAmb IAmb 22 53 36.5
comp=Z,56nm,1.1s
WVT Waverly 33.20 98 P **P** **22 53 31.4 -1.1**
baz=308
P49A Miami Univ. Ec 33.28 90 IAmb IAmb 22 53 36.9
comp=Z,43nm,1.1s
P49A Miami Univ. Ec 33.28 90 P **P** **22 53 31.2 -1.9**
baz=303
M50A Fremont 33.40 86 P **P** **22 53 34.0 -0.1**
M50A IAmb IAmb 22 53 37.5
comp=Z,28nm,0.8s
342A Flagon Creek P 33.42 109 P **P** **22 53 35.5 +1.0**
342A IAmb IAmb 22 53 55.9
comp=Z,41nm,1.1s
R49A Shelbyville 33.67 92 IAmb IAmb 22 53 40.7
comp=Z,29nm,1.2s
VBMS Vicksburg 33.97 106 P **P** **22 53 40.5 +1.3**
VBMS IAMs_20 IAMs_20 23 08 55.3
comp=Z,3µm,18.0s
VBMS Vicksburg 33.97 106 P **P** **22 53 38.8 -0.4**
baz=313
EUNU Eureka 33.99 12 P **P** **22 53 40.0 +1.0**
EUNU IAmb IAmb 22 53 45.1
comp=Z,83nm,1.5s
VLDQ Val d'Or 34.00 72 IAmb IAmb 22 53 47.7
comp=Z,24nm,1.0s
ACSO Alum Creek Sta 34.04 88 P **P** **22 53 38.0 -1.8**
baz=302
V48A Smith Brothers 34.08 97 IAmb IAmb 22 53 54.0
comp=Z,22nm,0.9s
CLTN Cedars of Leba 34.19 96 P **P** **22 53 42.3 +1.2**
U49A Red Boiling Sp 34.30 95 IAmb IAmb 22 54 10.3
comp=Z,34nm,1.4s
ZAIG Zacatecas 34.30 131 IAmb IAmb 22 53 48.0
comp=Z,24nm,1.1s
SADO Sadowa 34.32 78 LR LR 23 08 12.3
comp=Z,10µm,21.3s,baz=345,slow=37
SADO Sadowa 34.32 78 P **P** **22 53 41.4 -0.7**
SADO IAmb IAmb 22 53 45.1
comp=Z,29nm,1.0s
344A Westbrook Farm 34.36 107 P **P** **22 53 43.5 +1.0**
344A IAmb IAmb 22 53 52.2
comp=Z,50nm,0.9s
M52A Chesterland 34.42 85 IAmb IAmb 22 53 46.3
comp=Z,44nm,1.0s
Q51A Peebles 34.45 90 IAmb IAmb 22 53 47.3
comp=Z,44nm,1.0s
SHEM Shemya Is, Ala 34.53 297 LR LR 23 04 30.0
comp=Z,1µm,21.7s,baz=84,slow=31
146A Union 34.62 104 P **P** **22 53 46.0 +1.2**
X48A Hartselle 34.73 99 IAmb IAmb 22 53 53.8
comp=Z,28nm,0.8s
O52A Adamsville 34.85 87 IAmb IAmb 22 54 00.3
comp=Z,55nm,1.4s
Z47A Carrollton 34.88 102 P **P** **22 53 47.2 +0.2**
Z47A IAmb IAmb 22 53 52.0
comp=Z,72nm,1.4s
P52A Corning 34.91 88 IAmb IAmb 22 53 50.1
comp=Z,37nm,0.9s
P52A Corning 34.91 88 P **P** **22 53 45.8 -1.5**
baz=303
M53A WI Miller and 34.92 84 IAmb IAmb 22 53 51.1
comp=Z,70nm,1.1s
M53A WI Miller and 34.92 84 P **P** **22 53 44.7 -2.6**
baz=301
SWET Sewanee 34.98 97 IAmb IAmb 22 53 51.6
comp=Z,30nm,1.1s
ERPA Erie 35.02 83 P **P** **22 53 45.6 -2.7**
baz=300
S51A Beattyville 35.06 92 IAmb IAmb 22 53 52.0
comp=Z,52nm,0.8s
FRB Frobisher Bay 35.09 43 LR LR 23 07 57.8
comp=Z,2µm,19.3s,baz=274,slow=36
N53A Lisbon 35.14 85 IAmb IAmb 22 53 52.9
comp=Z,66nm,1.2s
O53A New Philadelph 35.18 86 IAmb IAmb 22 53 52.7
comp=Z,37nm,0.9s
O53A New Philadelph 35.18 86 P **P** **22 53 48.4 -1.2**
baz=302
Q52A Bidwell 35.19 89 P **P** **22 53 49.2 -0.5**
Q52A IAmb IAmb 22 54 03.1
comp=Z,62nm,1.3s
346A Big Creek Wild 35.19 106 P **P** **22 53 50.8 +1.0**
W50A Signal Mountai 35.39 97 IAmb IAmb 22 53 55.4
comp=Z,45nm,1.1s
DELO Delo Mine 35.40 78 IAmb IAmb 22 53 54.7
comp=Z,33nm,1.1s
P53A Whipple 35.47 88 IAmb IAmb 22 53 55.8
comp=Z,49nm,1.1s
KHLH Kahului Airpor 35.49 226 P **P** **22 53 53.6 +1.2**
Y49A Blount Mountai 35.52 100 IAmb IAmb 22 53 56.0
comp=Z,42nm,1.1s
M54A Oil Creek Stat 35.54 83 IAmb IAmb 22 53 58.9
comp=Z,17nm,0.8s
M54A Oil Creek Stat 35.54 83 P **P** **22 53 51.4 -1.3**
baz=301
N54A Moraine State 35.61 84 IAmb IAmb 22 53 56.4
comp=Z,41nm,1.1s
N54A Moraine State 35.61 84 P **P** **22 53 51.7 -1.6**
baz=301
V51A Loudon 35.65 95 IAmb IAmb 22 53 56.9
comp=Z,30nm,1.1s
LRAL Lakeview Retre 35.67 101 IAmb IAmb 22 53 57.9
comp=Z,52nm,1.1s
LRAL IAMs_20 IAMs_20 23 08 52.7
comp=Z,4µm,20.0s
LRAL Lakeview Retre 35.67 101 P **P** **22 53 53.6 -0.3**
baz=311
TZTN Tazewell 35.73 93 P **P** **22 53 53.9 -0.4**
TZTN Tazewell 35.73 93 P **P** **22 53 53.4 -1.0**
baz=306
R53A Hurricane 35.74 90 P **P** **22 53 54.7 +0.2**
R53A IAmb IAmb 22 53 57.4
comp=Z,25nm,0.9s
O54A Avella 35.76 86 IAmb IAmb 22 54 08.3
comp=Z,35nm,1.2s
WVNY West Valley, N 35.77 81 IAmb IAmb 22 54 15.8
comp=Z,25nm,1.1s
TULEG Thule 35.79 21 P **P** **22 53 54.5 +0.1**
BILL Bilibino 35.81 325‖ *e*P **P** **22 53 55.0 +0.3**
BILL *e* 22 55 13.9
BILL pmax pmax
comp=Z,16nm,1.1s
BILL MLR MLR
comp=Z,719nm,16.0s
BILL Bilibino 35.81 325 P **P** **22 53 55.4 +0.7**
HON Honolulu 35.88 229 P **P** **22 53 55.8 +0.1**
HON pmax pmax
comp=Z,252nm,1.1s
HON Honolulu 35.88 229 P **P** **22 53 55.8 +0.1**
HPAH Hawaii Prepara 35.90 224 P **P** **22 53 59.1 +3.0**
MMNY Mt. Morris Dam 36.06 81 IAmb IAmb 22 54 00.1
comp=Z,45nm,1.0s
PECO Prince Edward 36.07 78 P **P** **22 53 58.4 +1.2**
PECO IAmb IAmb 22 54 00.7
comp=Z,37nm,1.2s
TKL Tuckaleechee C 36.11 95 LR LR 23 09 05.9
comp=Z,7µm,18.1s,baz=306,slow=37
TKL Tuckaleechee C 36.11 95 IAmb IAmb 22 54 06.5
comp=Z,22nm,0.8s
M55A Ridgway 36.14 83 IAmb IAmb 22 54 00.2
comp=Z,23nm,0.9s
MWH Moku'aweowe 36.33 224 P **P** **22 54 01.2 +1.0**
W52A Murphy 36.35 96 IAmb IAmb 22 54 13.6
comp=Z,56nm,1.1s
MCWV Mont Chateau 36.39 86 IAmb IAmb 22 54 03.1
comp=Z,35nm,1.1s
MCWV Mont Chateau 36.39 86 P **P** **22 53 59.3 -0.6**
baz=303
S54A Dingess, Beckl 36.46 90 IAmb IAmb 22 54 06.4
comp=Z,26nm,0.8s
J56A Wolcott 36.47 79 P **P** **22 53 60.0 -0.6**
J56A IAmb IAmb 22 54 03.8
comp=Z,36nm,0.9s
TRQ Mont Tremblant 36.58 73 IAmb IAmb 22 54 04.9
comp=Z,62nm,1.3s
Z51A Franklin 36.66 99 IAmb IAmb 22 54 07.2
comp=Z,89nm,1.1s
BRAL Brewton 36.86 104 IAMs_20 IAMs_20 23 10 50.7
comp=Z,2µm,18.0s
U54A Nelsons Funny 36.87 92 IAmb IAmb 22 54 18.4
comp=Z,41nm,0.9s
O56A Blue Knob Stat 36.89 85 IAmb IAmb 22 54 17.6
comp=Z,62nm,1.4s
O56A Blue Knob Stat 36.89 85 P **P** **22 54 03.0 -1.3**
baz=302
K57A Scipio Center 36.96 80 P **P** **22 54 05.1 +0.3**
J57A Williamstown 36.96 78 IAmb IAmb 22 54 07.2
comp=Z,35nm,1.0s
R55A Marlinton 36.96 88 IAmb IAmb 22 54 19.4
comp=Z,82nm,1.1s
Y52A Lilburn 37.03 97 IAmb IAmb 22 54 09.9
comp=Z,83nm,1.1s
BG3 Lake Jocassee 37.06 95 IAmb IAmb 22 54 09.4
comp=Z,56nm,1.0s
SSPA Standing Stone 37.14 84 P **P** **22 54 06.0 -0.4**
baz=302
Q56A Snyder Ridge, 37.15 87 IAmb IAmb 22 54 11.9
comp=Z,60nm,1.2s
LATQ La Tuque 37.18 71 P **P** **22 54 06.2 -0.3**
M57A Sunshine Farm, 37.27 82 P **P** **22 54 07.8 +0.3**
LONY Lake Ozonia 37.28 76 IAmb IAmb 22 54 11.3
comp=Z,45nm,1.4s
LONY Lake Ozonia 37.28 76 P **P** **22 54 06.3 -1.2**
baz=296
BLA Blacksburg 37.38 90 IAmb IAmb 22 54 12.1
comp=Z,34nm,1.1s
BLA Blacksburg 37.38 90 P **P** **22 54 07.4 -1.0**
baz=306
BINY Binghamton 37.56 80 P **P** **22 54 09.4 -0.5**
BINY Binghamton 37.56 80 P **P** **22 54 08.3 -1.7**
baz=301
V55A Taylorsville 37.66 93 IAmb IAmb 22 54 22.2
comp=Z,36nm,1.1s
P57A Homestead Farm 37.67 85 IAmb IAmb 22 54 14.2
comp=Z,40nm,1.1s
GOGA Godfrey 37.70 98 IAmb IAmb 22 54 25.7
comp=Z,67nm,1.1s
GOGA IAMs_20 IAMs_20 23 09 44.6
comp=Z,3µm,18.0s
GOGA Godfrey 37.70 98 P **P** **22 54 10.0 -1.1**
baz=310
FRNY Flat Rock 37.81 75 IAmb IAmb 22 54 14.4
comp=Z,30nm,1.0s
SCHQ Schefferville 37.88 57 P **P** **22 54 11.7 -0.8**
comp=Z,22nm,1.1s,baz=301,slow=7.5,SNR=9.9
SCHQ LR LR 23 10 20.9
comp=Z,4µm,18.0s,baz=292,slow=37
SCHQ Schefferville 37.88 57 IAmb IAmb 22 54 28.0
comp=Z,40nm,1.2s
J59A Piesco 37.88 77 IAmb IAmb 22 54 15.2
comp=Z,44nm,1.1s
PAULI Pauline 37.89 94 IAmb IAmb 22 54 16.2
comp=Z,59nm,1.2s
HODGE Hodges 37.96 95 IAmb IAmb 22 54 17.3
comp=Z,37nm,1.2s
KMSC Kings Mountain 38.01 94 IAmb IAmb 22 54 17.6
comp=Z,52nm,1.1s
KMSC Kings Mountain 38.01 94 P **P** **22 54 11.9 -1.9**
baz=308
352A Blakely 38.01 101 IAmb IAmb 22 54 21.8
comp=Z,82nm,1.1s
S57A Dark Hollow, R 38.02 88 IAmb IAmb 22 54 17.8
comp=Z,46nm,1.0s
PAGS Pennsylvania G 38.11 83 IAmb IAmb 22 54 16.6
comp=Z,30nm,1.0s
L59A Walton 38.17 80 IAmb IAmb 22 54 43.4
comp=Z,35nm,1.2s
N59A State Game Lan 38.36 82 IAMs_20 IAMs_20 23 09 07.3
comp=Z,3µm,21.0s
N59A State Game Lan 38.36 82 P **P** **22 54 15.1 -1.6**
baz=302
154A Montrose 38.44 98 P **P** **22 54 18.3 +0.9**
154A IAmb IAmb 22 54 24.4
comp=Z,41nm,0.9s
VT1 Waterbury 38.57 75 P **P** **22 54 19.8 +1.4**
VT1 IAMs_20 IAMs_20 23 10 41.7
comp=Z,3µm,18.0s
JSC Jenkinsville 38.58 95 IAmb IAmb 22 54 22.5
comp=Z,56nm,1.2s
R58B Mineral 38.60 87 IAmb IAmb 22 54 22.8
comp=Z,76nm,1.1s
TRY Troy 38.78 78 P **P** **22 54 20.1 0.0**
LUPA Lehigh Univers 38.78 82 P **P** **22 54 20.0 -0.2**
LUPA IAmb IAmb 22 54 33.8
comp=Z,44nm,1.3s
CBN Corbin Frederi 38.80 87 P **P** **22 54 20.2 -0.1**
CBN IAmb IAmb 22 54 23.2
comp=Z,37nm,0.8s
CBN Corbin Frederi 38.80 87 P **P** **22 54 19.0 -1.3**
baz=305
W57A Gilead 38.87 92 IAmb IAmb 22 54 24.1
comp=Z,36nm,1.1s
BIRD Birdtown, Kers 38.88 93 IAmb IAmb 22 54 24.9
comp=Z,47nm,1.1s
UNM Universidad Na 38.88 130 IAMs_20 IAMs_20 23 12 09.6
comp=Z,3µm,20.0s
TIGA Tifton 38.89 100 IAmb IAmb 22 54 40.8
comp=Z,52nm,1.1s
TIGA Tifton 38.89 100 P **P** **22 54 20.5 -0.7**
baz=312
LBNH Lisbon 39.14 75 IAMs_20 IAMs_20 23 10 51.4
comp=Z,4µm,20.0s
LBNH Lisbon 39.14 75 P **P** **22 54 21.8 -1.4**
baz=299
J61A Chester 39.18 77 P **P** **22 54 23.9 +0.4**
553A Crawfordville 39.19 102 P **P** **22 54 24.3 +0.6**
553A IAmb IAmb 22 54 26.1
comp=Z,98nm,1.2s
BRNJ Basking Ridge 39.26 81 P **P** **22 54 23.4 -0.7**
255A Hazlehurst 39.29 98 IAmb IAmb 22 54 25.6
comp=Z,41nm,1.1s
Y57A Sumter 39.31 94 P **P** **22 54 25.1 +0.4**
Y57A IAmb IAmb 22 54 38.3
comp=Z,61nm,1.4s
T59A Double "B" Far 39.38 88 IAmb IAmb 22 54 29.0
comp=Z,47nm,1.1s
PAL Palisades 39.51 80 P **P** **22 54 23.7 -2.6**
baz=302
G62A West of Eustis 39.54 73 P **P** **22 54 26.5 -0.1**
U59A Littleton 39.59 89 P **P** **22 54 26.9 -0.1**
X58A Rowland 39.66 93 P **P** **22 54 27.6 0.0**
X58A IAmb IAmb 22 54 31.9
comp=Z,71nm,1.2s
FFD Franklin Falls 39.69 76 P **P** **22 54 28.0 +0.3**
K62A Royalston 39.72 77 P **P** **22 54 28.9 +0.8**
WSPT Westport, CT 39.80 80 IAMs_20 IAMs_20 23 10 38.2
comp=Z,4µm,21.0s
Y58A Scranton 39.85 94 IAmb IAmb 22 54 33.1
comp=Z,107nm,1.1s
NHSC New Hope 40.02 95 P **P** **22 54 29.4 -1.2**
baz=310
CNNC Cliffs of the 40.19 91 **P** **22 54 32.1 +0.1**
CNNC IAmb IAmb 22 54 36.9
comp=Z,126nm,1.4s
Y59A Loris 40.31 93 P **P** **22 54 33.4 +0.3**
WVL Waterville 40.40 73 P **P** **22 54 32.6 -1.0**
WVL IAmb IAmb 22 54 36.2
comp=Z,89nm,1.4s
PQI Presque Isle 40.41 70 P **P** **22 54 33.5 -0.3**
M63A Gales Ferry 40.49 79 P **P** **22 54 34.4 -0.1**
M63A IAmb IAmb 22 54 35.7
comp=Z,77nm,1.5s
BCX Boston College 40.57 77 IAMs_20 IAMs_20 23 11 36.6
comp=Z,4µm,20.0s
TLIG Tlapa 40.68 130 P **P** **22 54 36.0 -0.3**
V61A Roper 40.71 89 P **P** **22 54 35.9 -0.5**
656A Willston 40.95 101 P **P** **22 54 37.9 -0.5**
656A IAmb IAmb 22 54 45.2
comp=Z,56nm,1.1s
ILULI Ilulissat 41.09 32 IAMs_20 IAMs_20 23 10 14.6
comp=Z,2µm,20.0s
BATG Bathurst New B 41.32 68 P **P** **22 54 41.3 0.0**
BATG IAmb IAmb 22 54 45.8
comp=Z,76nm,1.4s
G65A Princeton 41.39 71 P **P** **22 54 43.5 +1.8**
SFJD Kangerlussuaq 41.84 35 LR LR 23 14 03.6
comp=Z,540nm,18.8s,baz=286,slow=39
SEY Seymchan 42.44 319 LR LR 23 13 16.0
comp=Z,1µm,18.2s,baz=72,slow=37
SEY Seymchan 42.44 319‖ *e*P **P** **22 54 47.7 -2.5**
SEY pmax pmax
comp=Z,6.0nm,1.0s
DWPF Disney Wildern 42.52 102 P **P** **22 54 51.8 +0.6**
DWPF IAmb IAmb 22 54 53.5
comp=Z,68nm,1.2s
DWPF Disney Wildern 42.52 102 IAMs_20 IAMs_20 23 12 43.3
comp=Z,2µm,19.0s
DWPF Disney Wildern 42.52 102 P **P** **22 54 51.0 -0.2**
baz=314
LMN Caledonia Moun 42.76 69 P **P** **22 54 53.5 +0.4**
LMN IAmb IAmb 22 55 13.8
comp=Z,38nm,1.1s
PET Petropavlovsk 43.13 303‖ *i*P **P** **22 54 53.4 -2.4**
PET *e* 22 56 36.6
PET *eS* **S** **23 01 15.7 -6.0**
PET pmax pmax
comp=Z,153nm,1.0s
PET pmax pmax
comp=Z,200nm,15.3s
PET MLR MLR
comp=Z,800nm,21.0s
PET MLR MLR
comp=Z,1µm,22.0s
PET Petropavlovsk 43.13 303 P **P** **22 54 53.5 -2.4**
PETK Petropavlovsk- 43.61 304 P **P** **22 54 56.8 -3.0**
comp=Z,17nm,0.8s,baz=73,slow=16,SNR=20
PETK LR LR 23 10 30.5
comp=Z,826nm,20.6s,baz=74,slow=33
PETK Petropavlovsk- 43.61 304 P **P** **22 54 57.3 -2.5**
PETK Petropavlovsk- 43.61 304 P **P** **22 54 57.3 -2.5**
DY2G Dye2 43.65 35 *e*P **P** **22 55 02.7 +2.5**
DY2G IAmb IAmb 22 55 04.0
comp=Z,129nm,1.6s
MA2 Magadan 44.41 314 LR LR 23 12 39.3
comp=Z,865nm,21.1s,baz=69,slow=35
MA2 Magadan 44.41 314‖ *e*P **P** **22 55 04.6 -1.5**
MA2 pmax pmax
comp=Z,30nm,2.5s
MA2 Magadan 44.41 314 P **P** **22 55 04.6 -1.5**
MA2 IAmb IAmb 22 55 12.6
comp=Z,68nm,1.5s
NOR Nord 44.57 11 *e*P **P** **22 55 09.5 +2.4**
ICESG Greenland Ices 45.02 30 *e*P **P** **22 55 12.8 +1.5**
ICESG IAmb IAmb 22 55 17.9
comp=Z,44nm,1.3s
CCIG Comitan 45.09 124 P **P** **22 55 13.4 +1.2**
CCIG IAmb IAmb 22 55 23.9
comp=Z,50nm,1.5s
DRLN Deer Lake 45.41 61 P **P** **22 55 14.2 0.0**
DRLN IAmb IAmb 22 55 36.1
comp=Z,50nm,1.1s
SKR Severo-Kuril's 45.59 301 *e*P **P** 22 55 08.2 -7.4
SKR *eS* **S** **23 01 55.4 -2.2**
SKR MLR MLR
comp=Z,400nm,19.0s
NRS Narsarsuaq 46.08 42 IAMs_20 IAMs_20 23 13 05.8
comp=Z,2µm,20.0s
DAG Danmarks Havn 46.87 17 *e*P **P** **22 55 26.7 +1.4**
DAG IAmb IAmb 22 55 29.0
comp=Z,37nm,1.4s

APG El Apazote 47.05 123 LR LR 23 17 24.7
comp=Z,3µm,20.2s,baz=272,slow=39
TIXI Tiksi 47.21 335 LR LR 23 15 35.8
comp=Z,876nm,22.0s,baz=2.0,slow=36
TIXI Tiksi 47.21 335⇑ *eP* **P 22 55 29.3 +1.3**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 47.21 335 P **P 22 55 28.4 +0.4**
DBG Daneborg 47.93 20 *eP* **P 22 55 35.5 +1.9**
DBG IAmb IAmb 22 55 49.7
comp=Z,38nm,1.0s
ESQI Esquipulas 48.03 122 P **P 22 55 36.3 +1.2**
MTO3 Montecristo 48.15 122 P **P 22 55 37.2 +1.0**
MTO3 IAmb IAmb 22 55 50.1
comp=Z,18nm,1.2s
SNET Serv Nac Est T 48.80 123 IAMs_20 IAMs_20 23 18 57.2
comp=Z,1µm,18.0s
TGUH Tegucigalpa,Un 49.59 120 P **P 22 55 48.3 +1.1**
TGUH IAMs_20 IAMs_20 23 18 20.8
comp=Z,1µm,19.0s
SCO Scoresbysund 49.70 25 IAMs_20 IAMs_20 23 17 00.8
comp=Z,1µm,19.0s
SPITS Spitsbergen Ar 50.92 8 LR LR 23 18 52.7
comp=Z,1µm,18.8s,baz=334,slow=38
SPITS Spitsbergen Ar 50.92 8 P **P 22 55 57.4 +1.0**
SPITS pmax pmax
comp=Z,88nm,1.3s
SPB2 Spitsbergen Ar 50.92 8 P **P 22 55 57.6 +1.2**
MATN Matagalpa 51.26 120 IAmb IAmb 22 56 13.3
comp=Z,22nm,1.1s
BOAB BOACO BROADBAN 51.80 120 IAMs_20 IAMs_20 23 21 10.4
comp=Z,3µm,18.0s
YAK Yakutsk 52.16 324 LR LR 23 18 07.7
comp=Z,811nm,18.9s,baz=64,slow=36
YAK Yakutsk 52.16 324 *eP* **P 22 56 05.6 -0.2**
YAK *e* 22 57 18.0
YAK *e* 22 58 04.0
YAK *e*PPP PPP 22 59 08.4
YAK *eS* **S 23 03 28.0 -1.7**
YAK *e**SS sS 23 03 46.5 +13
YAK *e* 23 05 52.6
YAK *e*SSS SSS 23 08 46.0
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,42nm,2.3s
YAK pmax pmax
comp=N,53nm,2.3s
YAK pmax pmax
comp=E,61nm,2.3s
YAK smax smax
comp=N,118nm,4.0s
YAK smax smax
comp=E,82nm,3.8s
YAK MLR MLR
comp=E,573nm,17.0s
YAK Yakutsk 52.16 324 P **P 22 56 07.4 +1.6**
YAK IAmb IAmb 22 56 11.4
comp=Z,40nm,0.9s
GTBY Guantanamo Bay 52.38 104 IAMs_20 IAMs_20 23 20 45.8
comp=Z,2µm,18.0s
ACON Acoyapa 52.47 120 P **P 22 56 10.3 +1.7**
ACON IAmb IAmb 22 56 21.3
comp=Z,25nm,1.2s
TYV Tymovskoe 52.75 307 *eP* **P 22 56 11.7 +1.3**
TYV pmax pmax
comp=Z,100nm,4.3s
TYV pmax pmax
comp=Z,17nm,0.9s
JMIC Jan Mayen 52.75 21 LR LR 23 18 21.4
comp=Z,487nm,18.4s,baz=322,slow=36
ESPN Las Esperanzas 52.78 119 P **P 22 56 12.3 +1.4**
ESPN IAmb IAmb 22 56 39.7
comp=Z,54nm,1.0s
BORG Borgarnes 53.41 30 LR LR 23 17 40.3
comp=Z,932nm,19.3s,baz=311,slow=34
JTS Las Juntas de 53.96 121 LR LR 23 22 19.2
comp=Z,588nm,19.7s,baz=24,slow=39
JTS Las Juntas de 53.96 121 IAMs_20 IAMs_20 23 20 07.6
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 55.01 303 *eP* **P 22 56 28.4 +1.4**
YSS *eS* **S 23 04 09.1 +0.3**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,200nm,3.9s
YSS smax smax
comp=E,400nm,10.8s
YSS MLR MLR
comp=Z,900nm,19.0s
YSS Yuzh-Sakhalins 55.01 303 P **P 22 56 28.5 +1.6**
YSS IAmb IAmb 22 56 34.0
comp=Z,38nm,1.0s
LGNH Logne 55.02 103 P **P 22 56 26.9 -0.5**
PEZE Perez Zeledon, 55.41 120 P **P 22 56 31.4 +1.1**
SDDR Presa de Saban 55.51 101 IAmb IAmb 22 56 43.3
comp=Z,23nm,1.1s
SDDR IAMs_20 IAMs_20 23 23 00.4
comp=Z,2µm,20.0s
SDDR Presa de Saban 55.51 101 *eP* **P 22 56 27.1 -3.9**
GRNR Gornyy 55.98 310⇓ *iP* **P 22 56 31.2 -2.7**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
GRNR MLR MLR
comp=E,470nm,20.0s
BRU2 Volcan 56.45 119 P **P 22 56 38.7 +0.9**
BRU2 IAmb IAmb 22 56 55.6
comp=Z,18nm,0.9s
BANI BANI 56.54 101 P **P 22 56 38.8 +0.4**
JKA Kamikawa-asahi 56.85 301 **pP 22 56 43.6 +1.0**
JKA IAmb IAmb 22 56 45.1
comp=Z,53nm,1.1s
ASAJ Asahikawa 56.85 301 P **P 22 56 38.3 -1.9**
comp=Z,5.7nm,0.6s,baz=60,slow=15,SNR=4.0
ASAJ LR LR 23 17 14.5
comp=Z,682nm,21.9s,baz=52,slow=32
DR12 Loma Pena Alta 56.87 100 P **P 22 56 41.5 +0.8**
PCDR Punta Cana, DR 57.72 99 P **P 22 56 46.5 -0.1**
BCIP Isla Barro Col 57.79 116 P **P 22 56 47.7 +0.6**
BCIP pmax pmax
comp=Z,72nm,1.3s
BCIP MLR MLR
comp=Z,900nm,22.0s
BCIP Isla Barro Col 57.79 116 P **P 22 56 47.7 +0.6**
ERM Erimo 57.87 299 P **P 22 56 48.6 +1.2**
ERM pmax pmax
comp=Z,64nm,1.1s
ERM MLR MLR
comp=Z,900nm,20.0s
ERM Erimo 57.87 299 P **P 22 56 48.6 +1.2**
H11N2 WAKE ISLAND Hy 57.90 263 T T 23 59 11.5
baz=43,slow=76,SNR=767
H11N3 WAKE ISLAND Hy 57.90 263 T T 23 59 17.0
baz=43,slow=76,SNR=1018
H11N1 WAKE ISLAND Hy 57.91 263 T T 23 59 13.7
baz=43,slow=76,SNR=454
NRIK Noril'sk 58.30 345 P **P 22 56 48.1 -1.8**
comp=Z,12nm,0.9s,baz=35,slow=5.6,SNR=12
NRIK LR LR 23 23 38.5
comp=Z,507nm,18.7s,baz=36,slow=38
NRIK Noril'sk 58.30 345⇑ *eP* **P 22 56 50.1 +0.1**
NRIK pmax pmax
comp=Z,19nm,1.1s
ZEA Zeya 58.39 317 *eP* **P 22 56 50.0 -0.8**
ZEA *eS* **S 23 04 53.7 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA smax smax
comp=E,200nm,15.5s
ZEA smax smax
comp=N,300nm,10.3s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,600nm,20.0s
TAOE Nuku Hiva Isla 58.82 192 *eS* **S 23 04 59.7 0.0**
comp=Z,271nm,29.9s
TAOE *e*LR LR 23 14 04.0
comp=Z,3µm,28.9s,baz=13
TAOE Nuku Hiva Isla 58.82 192 *eT* T 00 00 15.5
comp=Z,104nm,0.2s
H11S1 WAKE ISLAND Hy 58.91 262 T T 00 00 35.1
baz=34,slow=75,SNR=81
H11S2 WAKE ISLAND Hy 58.92 262 T T 00 00 33.4
baz=34,slow=75,SNR=119
H11S3 WAKE ISLAND Hy 58.93 262 T T 00 00 26.7
baz=34,slow=75,SNR=92
MLPR Magueyes Islan 58.98 99 P **P 22 56 55.6 +0.3**
MLPR IAmb IAmb 22 57 08.9
comp=Z,32nm,1.0s
CELP Cerrillos 59.20 98 IAmb IAmb 22 57 03.1
comp=Z,44nm,1.1s
OBIP Obispado Ponce 59.20 98 P **P 22 56 57.6 +0.7**
KLR Kul'dur 59.28 311 P **P 22 56 54.7 -2.4**
comp=Z,2.6nm,0.9s,baz=38,slow=11,SNR=5.6
KLR LR LR 23 20 59.0
comp=Z,776nm,20.9s,baz=50,slow=35
GCPR Guaynabo City 59.35 98 IAmb IAmb 22 57 00.1
comp=Z,34nm,0.9s
SJG San Juan 59.45 98 LR LR 23 25 08.4
comp=Z,781nm,18.0s,baz=302,slow=38
SJG San Juan 59.45 98 P **P 22 56 57.7 -1.0**
SJG pmax pmax
comp=Z,59nm,1.5s
SJG MLR MLR
comp=Z,1µm,20.0s
SJG San Juan 59.45 98 P **P 22 56 57.7 -1.0**
SJG San Juan 59.45 98 IAMs_20 IAMs_20 23 25 14.8
comp=Z,1µm,20.0s
CBYP Canovanas 59.52 97 P **P 22 56 57.3 -1.9**
CBYP IAmb IAmb 22 56 58.9
comp=Z,22nm,1.0s
SMRC Santa Marta, M 59.58 110 *eP* **P 22 56 58.0 -1.6**
PDPR Patillas Dam, 59.60 98 P **P 22 57 00.2 +0.5**
PDPR IAmb IAmb 22 57 02.4
comp=Z,22nm,0.9s
MTP Monte Pirata 59.84 97 IAmb IAmb 22 57 03.4
comp=Z,34nm,1.1s
ARCES ARCESS Array B 59.90 10 LR LR 23 24 48.2
comp=Z,584nm,18.2s,baz=338,slow=38
SJCC San Jacinto, C 59.98 112 P **P 22 57 03.0 +0.5**
SJCC IAmb IAmb 22 57 06.8
comp=Z,22nm,1.1s
SJCC San Jacinto, C 59.98 112 *eP* **P 22 57 03.8 +1.3**
URIC Uribia, Colomb 60.54 108 P **P 22 57 07.2 +1.0**
URIC IAmb IAmb 22 57 12.8
comp=Z,38nm,1.1s
URIC Uribia, Colomb 60.54 108 *eP* **P 22 57 05.8 -0.4**
MOTC Monteria, Cord 60.57 113 *eP* **P 22 57 05.8 -0.7**
BOD Bodaibo 60.83 327 *eP* **P 22 57 03.8 -3.8**
BOD pmax pmax
comp=Z,19nm,1.1s
UREC San Jos de Ur 61.46 114 *eP* **P 22 57 09.6 -2.9**
SMRT St. Maarten 61.48 95 IAMs_20 IAMs_20 23 22 20.7
comp=Z,2µm,22.0s
DBBC Dabeiba 61.64 115 *eP* **P 22 57 12.5 -1.3**
SEUS St. Eustatius 61.95 96 IAMs_20 IAMs_20 23 22 26.0
comp=Z,2µm,21.0s
ZARC Zaragoza, Cauc 62.07 113 IAmb IAmb 22 57 20.0
comp=Z,21nm,1.2s
ZARC Zaragoza, Cauc 62.07 113 *eP* **P 22 57 13.5 -3.1**
HATO Hato, Curacao 62.07 105 IAMs_20 IAMs_20 23 23 14.7
comp=Z,895nm,20.0s
LVZ Lovozero 62.33 7⇓ *eP* **P 22 57 18.8 +1.1**
LVZ pmax pmax
comp=Z,101nm,1.3s
OCAC Ocana 62.41 111 P **P 22 57 19.7 +0.7**
USRK Ussuriysk Ar. 62.55 307 P **P 22 57 15.4 -4.0**
comp=Z,11nm,0.9s,baz=50,slow=6.0,SNR=9.3
USRK LR LR 23 25 57.2
comp=Z,340nm,18.2s,baz=42,slow=38
USRK Ussuriysk Ar. 62.55 307 P **P 22 57 17.9 -1.5**
USRK Ussuriysk Ar. 62.55 307 P **P 22 57 17.9 -1.5**
ANWB Willy Bob 62.60 95 IAMs_20 IAMs_20 23 23 46.2
comp=Z,2µm,20.0s
CBOC Ciudad Bolivar 62.68 115 *eP* **P 22 57 21.2 +0.4**
HELC Santa Helena 62.71 115 *eP* **P 22 57 18.3 -2.9**
PTBC PUERTO BERRIO, 63.07 113 *eP* **P 22 57 22.2 -1.0**
JSD Sado 63.32 298 IAmb IAmb 22 57 28.4
comp=Z,32nm,1.1s
JYT Yasato 63.43 295 P **P 22 57 25.4 +0.1**
PAMC Pamplona, Colo 63.50 111 *eP* **P 22 57 25.1 -1.5**
MDJ Mudanjiang 63.50 308 IAMs_20 IAMs_20 23 23 19.4
comp=Z,936nm,20.0s
MDJ Mudanjiang 63.50 308 P **P 22 57 26.3 +0.6**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,270nm,3.6s
SDV Santo Domingo 63.56 108 LR LR 23 28 46.5
comp=Z,530nm,18.8s,baz=330,slow=40
SDV Santo Domingo 63.56 108 P **P 22 57 26.6 0.0**
SDV IAmb IAmb 22 57 30.3
comp=Z,21nm,1.0s
SDV Santo Domingo 63.56 108 *eP* **P 22 57 26.1 -0.6**
SDV Santo Domingo 63.56 108 *eP* **P 22 57 25.7 -0.9**
GUY2C Guyana, Caldas 63.58 115 *eP* **P 22 57 26.1 -1.1**
NORC Norcasia 63.60 114 *eP* **P 22 57 25.1 -1.7**
BARC Barichara 63.79 112 *eP* **P 22 57 29.0 +0.7**
BNX BinXian 63.82 310⇓ P **P 22 57 26.4 -1.4**
BNX pmax pmax
comp=Z,17nm,1.0s
BNX pmax pmax
comp=Z,230nm,6.3s
SOCV Socops 63.89 109 *eP* **P 22 57 26.1 -2.6**
YOTC Yotoco, Valle 64.00 117 *eP* **P 22 57 30.9 +1.4**
SPBC San Pablo de B 64.00 114 *eP* **P 22 57 32.8 +3.3**
GDSD La Dsirade Is 64.06 95 P **P 22 57 29.6 -0.1**
MJAR Matsushiro Arr 64.37 297 P **P 22 57 28.1 -3.6**
comp=Z,3.3nm,0.8s,baz=34,slow=5.4,SNR=6.6
MJAR Matsushiro Arr 64.37 297 IAmb IAmb 22 57 36.3
comp=Z,13nm,1.2s
MJB9 Matsu-Tunnel 64.37 297 IAmb IAmb 22 57 36.1
comp=Z,24nm,1.1s
MAJO Matsushiro 64.38 297⇓ *eP* **P 22 57 32.9 +1.3**
MAJO pmax pmax
comp=Z,26nm,1.2s
MAJO Matsushiro 64.38 297 P **P 22 57 30.7 -1.0**
MAJO IAmb IAmb 22 57 36.2
comp=Z,23nm,1.1s
RUSC La Rusia 64.41 113 *eP* **P 22 57 32.8 +0.2**
ROSC El Rosal 64.50 114 P **P 22 57 33.7 +0.6**
comp=Z,13nm,0.4s,baz=97,slow=4.6,SNR=6.9
ROSC LR LR 23 30 32.6
comp=Z,372nm,18.1s,baz=350,slow=40
ROSC El Rosal 64.50 114 P **P 22 57 33.2 0.0**
ROSC pmax pmax
comp=Z,36nm,1.0s
ROSC El Rosal 64.50 114 P **P 22 57 33.2 0.0**
ORTC Ortega, Tolima 64.70 116 *eP* **P 22 57 32.8 -1.2**
HIA Hailar 64.87 317 P **P 22 57 35.2 +0.5**
HIA pmax pmax
comp=Z,21nm,1.3s
HIA MLR MLR
comp=Z,1µm,21.0s
HIA Hailar 64.87 317 P **P 22 57 35.2 +0.5**
HIA IAmb IAmb 22 57 39.4
comp=Z,21nm,1.3s
HIA Hailar 64.87 317 IAMs_20 IAMs_20 23 23 42.7
comp=Z,960nm,21.0s
POPC Popayan, Colom 64.97 118⇓ *eP* **P 22 57 35.7 -0.3**
CHIC Chingaza 65.02 114 *eP* **P 22 57 34.8 -1.8**
BIRV Birongo 65.07 104 P **P 22 57 37.1 +0.7**
SVN Savane Anatole 65.07 96 IAMs_20 IAMs_20 23 24 35.8
comp=Z,2µm,22.0s
NC204 NORSAR Array S 65.13 20 P **P 22 57 36.5 +0.3**
NC204 IAmb IAmb 22 57 43.1
comp=Z,38nm,1.2s
FDF Fort de France 65.16 96 IAMs_20 IAMs_20 23 25 31.3
comp=Z,1µm,19.0s
NC300 NORSAR Array S 65.28 19 P **P 22 57 37.4 +0.2**
NC300 IAmb IAmb 22 57 51.8
comp=Z,20nm,1.2s
BIM Bigot 65.37 96 IAMs_20 IAMs_20 23 25 26.9
comp=Z,1µm,21.0s
NB2 NORSAR Subarra 65.44 20 P **P 22 57 40.4 +2.2**
comp=Z,21nm,1.4s,baz=334,slow=6.5
NOA NORSAR Array B 65.44 20 P **P 22 57 40.5 +2.3**
comp=Z,3.3nm,0.9s,baz=334,slow=6.4,SNR=7.4
NOA LR LR 23 25 27.8
comp=Z,489nm,18.4s,baz=330,slow=35
NAO01 NORSAR Array S 65.54 20 P **P 22 57 40.1 +1.3**
BETC Betania 65.58 117 *eP* **P 22 57 40.6 +0.9**
OTAV Otavalo 65.85 121 P **P 22 57 42.9 +1.0**
OTAV pmax pmax
comp=Z,51nm,1.4s
OTAV MLR MLR
comp=Z,400nm,19.0s
OTAV Otavalo 65.85 121 P **P 22 57 42.9 +1.0**
OTAV Otavalo 65.85 121 *eP* **P 22 57 41.5 -0.4**
OTAV Otavalo 65.85 121 *eP* **P 22 57 43.0 +1.1**
GARC Garzon, Huila 65.94 117 *eP* **P 22 57 40.6 -1.8**
CN2 Changchun 66.18 310 *eP* P 22 57 38.0 -5.2
CN2 S S 23 06 22.0 -10
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,110nm,5.0s
CN2 LR LR
comp=Z,560nm,18.0s
CN2 LR LR
comp=Z,660nm,18.0s
CN2 LR LR
comp=Z,800nm,20.0s
PMOR Pomariorio Ree 66.18 199 *eP* **P 22 57 42.8 -0.5**
comp=Z,54nm,1.0s
PMOR Pomariorio Ree 66.18 199 *eT* T 00 09 25.0
comp=Z,51nm,0.3s
VAH Vaihoa 66.35 199 *eP* **P 22 57 45.0 +0.6**
comp=Z,38nm,0.9s
ESK Eskdalemuir 66.44 30 IAMs_20 IAMs_20 23 24 11.6
comp=Z,1µm,19.0s
EKA Eskdalemuir Ar 66.44 30 LR LR 23 24 23.7
comp=Z,1µm,20.6s,baz=322,slow=34
HFS Hagfors 66.79 19 LR LR 23 27 19.8
comp=Z,827nm,20.4s,baz=330,slow=36
FIA1 FINESS Array S 67.72 12 P **P 22 57 53.0 +0.3**
FIA1 IAmb IAmb 22 57 55.5
comp=Z,40nm,1.2s
FINES FINESS Array B 67.72 12 P **P 22 57 53.3 +0.6**
comp=Z,9.4nm,0.9s,baz=0.0,slow=2.8,SNR=7.7
FINES LR LR 23 27 33.9
comp=Z,852nm,19.8s,baz=344,slow=36
FINES FINESS Array B 67.72 12 P **P 22 57 53.2 +0.5**
SNY Shenyang 68.56 310⇑ P **P 22 58 00.6 +2.3**
SNY pmax pmax
comp=Z,21nm,0.9s
SNY pmax pmax
comp=Z,160nm,3.5s
SNY LR LR
comp=Z,2µm,13.1s
SNY LR LR
comp=Z,960nm,12.8s
SNY LR LR
comp=Z,2µm,13.7s
PPT Papeete 69.03 200 LR LR 23 20 45.6
comp=Z,593nm,21.6s,baz=0.0,slow=30
PPT2 Papeete2 69.05 200 *eP* **P 22 58 01.6 +0.1**
comp=Z,48nm,1.3s
PPT2 *eS* **S 23 07 04.2 -2.4**
comp=Z,1µm,26.5s
PPT2 Papeete2 69.05 200 *e*LR LR 23 18 58.4
comp=Z,1µm,25.8s,baz=11
PAE Paea 69.12 200 *eP* **P 22 58 01.9 0.0**
comp=Z,11nm,1.1s
PAE Paea 69.12 200 *eT* T 00 13 04.9
comp=Z,3.0nm,0.3s
PRGR Permogore 69.14 2 *eP* **P 22 58 02.9 +1.4**
PRGR pmax pmax
comp=Z,18nm,0.9s
TVO Taravao 69.17 200 *eT* T 00 13 09.1
comp=Z,0.8nm,0.2s
KS19 Wonju Array Si 69.50 304 P **P 22 58 03.5 -0.7**
KS19 IAmb IAmb 22 58 09.0
comp=Z,23nm,1.1s
KSRS Korea Array 69.51 304 P **P 22 58 01.7 -2.6**
comp=Z,1.9nm,0.8s,baz=50,slow=6.3,SNR=7.5
KSRS LR LR 23 26 20.3
comp=Z,274nm,21.8s,baz=60,slow=34
KSAR Wonju Array Be 69.54 304 P **P 22 58 05.1 +0.7**
KSAR Wonju Array Be 69.54 304 P **P 22 58 05.1 +0.7**
KLMR Klimovskoe 69.65 5 *eP* **P 22 58 02.0 -2.7**
KLMR *e* 23 00 36.3
KLMR pmax pmax
comp=Z,74nm,1.3s
KLMR Klimovskoe 69.65 5 *eP* **P 22 58 02.0 -2.7**
KLMR AMP 22 58 16.6
comp=Z,74nm,1.3s
KLMR *e*PP **PP 23 00 36.4 -1.5**
KLMR LQ LQ 23 22 29.6
KLMR LQ LQ 23 22 29.6
KLMR LR LR 23 24 42.0
MOY Mondy 70.28 329 *eP* P 22 58 14.1 +5.2
MOY pmax pmax
comp=Z,28nm,2.1s
ZAK Zakamensk 70.56 327 *eP* **P 22 58 14.4 +3.7**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
XLT XiLinHaoTe 70.58 316 *eP* **P 22 58 14.9 +4.0**
XLT S **S 23 07 31.5 +7.2**
XLT sS sS 23 07 34.0 +5.5
XLT SS **SS 23 11 53.8 -0.9**
XLT pmax pmax
comp=Z,15nm,1.5s
XLT pmax pmax
comp=Z,110nm,5.6s
XLT LR LR
comp=Z,1µm,19.4s
XLT LR LR
comp=Z,580nm,18.9s
JNU Nakatsue 71.03 299 P **P 22 58 15.2 +1.5**
ULN Ulaanbaatar 71.24 323⇑ *eP* **P 22 58 13.2 -1.7**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 71.24 323 P **P 22 58 15.0 +0.1**
ULN Ulaanbaatar 71.24 323 IAMs_20 IAMs_20 23 29 29.9
comp=Z,1µm,21.0s
SONM Songino Array 71.52 324 P **P 22 58 14.6 -2.0**
comp=Z,2.6nm,1.1s,baz=23,slow=4.0,SNR=14
SONM LR LR 23 30 03.8
comp=Z,1µm,20.1s,baz=36,slow=36
BSEG Bad Segeberg 71.61 23 *eP* **P 22 58 18.9 +2.1**
comp=Z,28nm,1.3s,baz=337,slow=5.8
KIRV Kirov 72.25 0 LR LR 23 35 17.2
comp=Z,353nm,18.9s,baz=356,slow=40
RETH Rethem/Aller, 72.43 25 *eP* **P 22 58 24.1 +2.4**
comp=Z,49nm,1.4s,baz=337,slow=5.8
ZAA0 Zalesovo Array 72.83 339 IAmb IAmb 22 58 36.1
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 72.83 339 P **P 22 58 21.4 -2.7**
comp=Z,3.4nm,0.7s,baz=18,slow=5.4,SNR=15
ZALV LR LR 23 34 52.9
comp=Z,575nm,18.2s,baz=21,slow=40
ZALV Zalesovo Beam 72.83 339 *i* P **P 22 58 24.0 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
NRDL Niedersach Rie 72.85 24 *eP* **P 22 58 26.3 +2.1**
comp=Z,34nm,1.4s,baz=337,slow=5.8
BUG Bochum--Univer 73.00 26 *eP* **P 22 58 26.7 +1.6**
baz=337,slow=5.8
PABE Paberze 73.09 15 P **P 22 58 26.1 +0.5**
PABE IAMs_20 IAMs_20 23 32 38.8
comp=Z,812nm,21.0s
BSTI Sart Tilman 73.25 28 *d*sP sP 22 58 30.1 0.0
BMRD Maredsous 73.25 28 *d*pP **P 22 58 28.1 +1.5**
BGES Gesves 73.28 28 *d*sP sP 22 58 29.9 -0.5
FLTG Flechtingen 73.30 24 *eP* **P 22 58 28.2 +1.4**
comp=Z,32nm,1.5s,baz=337,slow=5.8
BCLA Clavier 73.32 28 *dx* **P 22 58 30.2 +3.1**
ASSE Asse, Remlinge 73.33 24 *eP* **P 22 58 29.0 +2.0**
comp=Z,28nm,1.5s,baz=337,slow=5.8
DOU Dourbes 73.38 29 *dP* **P 22 58 25.0 -2.5**
DOU *d*pP **pP 22 58 28.6 -1.3**
BTNL Ternell 73.42 27 *dx* **P 22 58 30.0 +2.3**
CLZ Clausthal 73.51 24 *eP* **P 22 58 29.7 +1.5**
comp=Z,37nm,1.5s,baz=337,slow=5.8
RCHB Rochefort 73.53 28 *d*sP sP 22 58 31.1 -0.6
KASTN Kahler Asten 73.54 26 *eP* **P 22 58 30.2 +1.8**
comp=Z,28nm,1.6s,baz=337,slow=5.8
IIGN Ignalina 73.61 14 *eP* **P 22 58 30.1 +1.5**
SVE Sverdlovsk 73.66 354 *eP* **P 22 58 27.8 -1.1**
SVE pmax pmax
comp=Z,32nm,1.3s
IDID Didziasalis 73.72 14 *eP* **P 22 58 30.8 +1.5**
AHRW Bad Neuenahr-A 73.74 27 *eP* **P 22 58 33.4 +3.9**
comp=Z,31nm,1.4s,baz=337,slow=5.8
GKP Gorka Klasztor 73.88 20 *eP* **P 22 58 33.1 +2.8**
GKP Gorka Klasztor 73.88 20 *eP* **P 22 58 31.3 +1.0**
NACGM Naroch 74.13 14 *eP* **P 22 58 34.1 +2.4**
ARU Arti 74.18 355 LR LR 23 34 13.1
comp=Z,324nm,19.0s,baz=14,slow=38

ARU **Arti** 74.18 355*c* *i*P P 22 58 33.3 +1.3
ARU 23 01 16.2
ARU S **S** 23 08 09.8 +4.9
ARU pmax pmax
comp=Z,23nm,1.1s
ARU Arti 74.18 355 P **P** 22 58 32.0 0.0
ARU IAmb IAmb 22 58 42.5
comp=Z,21nm,0.9s
WLF Walferdange 74.24 28 IAMs_20 IAMs_20 23 29 57.8
comp=Z,936nm,19.0s
WLF Walferdange 74.24 28 *e*P P 22 58 34.9 +2.4
comp=Z,30nm,1.7s,baz=337,slow=5.8
WLF Walferdange 74.24 28 *d*sP sP 22 58 35.5 -0.4
UBBA Unterbreizbach 74.33 25 *e*P **P** 22 58 34.7 +1.9
comp=Z,44nm,1.9s,baz=337,slow=5.8
TBTG Tabatinga, AM 74.34 116 *e*P **P** 22 58 32.1 -1.4
SUW Suwalki 74.38 16 *e*P **P** 22 58 35.4 +2.3
SUW Suwalki 74.38 16 P **P** 22 58 33.3 +0.1
SUW pmax pmax
comp=Z,32nm,1.0s
SUW Suwalki 74.38 16 P **P** 22 58 33.3 +0.1
SUW IAmb IAmb 22 58 36.3
comp=Z,32nm,1.0s
CLF Chambon-Foret 74.43 31 P **P** 22 58 33.2 -0.4
CLF IAmb IAmb 22 58 38.2
comp=Z,49nm,1.4s
CLF IAMs_20 IAMs_20 23 29 42.8
comp=Z,1μm,18.0s
TNS Taunus Mts 74.43 26 *e*P **P** 22 58 35.5 +1.8
comp=Z,24nm,1.4s,baz=337,slow=5.8
NEUB Neuenburg 74.46 24 *e*P **P** 22 58 35.4 +1.7
comp=Z,43nm,1.5s,baz=337,slow=5.8
MOS Moscow 74.59 7 *e*P **P** 22 58 35.1 +0.7
MOS *e*S **S** 23 08 06.9 -2.6
MOS pmax pmax
comp=Z,37nm,1.1s
MOS MLR MLR
comp=Z,500nm,17.0s
MNK Minsk 74.68 13 *i*P **P** 22 58 34.1 -0.8
MNK *i* 23 01 24.1
MNK *i* PPP PPP 23 03 11.4
MNK *i* S **S** 23 08 10.2 -0.3
MNK *i* SS **SS** 23 12 59.7 +3.3
MNK *i* SSS SSS 23 16 20.7
MNK pmax pmax
comp=Z,23nm,1.2s
MNK pmax pmax
comp=N,13nm,1.7s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=E,28nm,12.0s
MNK MLR MLR
comp=Z,952nm,20.0s
MNK MLR MLR
comp=N,371nm,14.0s
MNK Minsk 74.68 13 *i*P **P** 22 58 34.1 -0.8
comp=E,2.0nm,1.0s
MNK *i*P **P** 22 58 34.1 -0.8
comp=N,13nm,1.7s
MNK *i*P **P** 22 58 34.1 -0.8
comp=Z,23nm,1.2s,baz=165
MNK *i* PP **PP** 23 01 24.1 +3.1
MNK *i* PPP PPP 23 03 11.4
MNK *i* S **S** 23 08 10.3 -0.3
MNK *i* S **S** 23 08 10.3 -0.3
MNK *i* SS **SS** 23 12 59.8 +3.3
MNK *i* SSS SSS 23 16 20.8
MNK *i* LQ LQ 23 26 24.1
MNK *i* LR LR 23 30 35.2
MNK *i* LRM MLR 23 32 22.0
comp=E,28nm,11.9s
MNK *i* LRM MLR 23 32 22.0
comp=Z,952nm,20.4s
MNK *i* LRM MLR 23 32 30.5
comp=N,371nm,13.6s
CLL Collm 74.69 23 *i*P **P** 22 58 36.5 +1.5
CLL *i* 22 58 56.2
CLL *e*S **S** 23 08 11.0 +0.3
CLL pmax pmax
comp=Z,26nm,1.7s
CLL MLR MLR
comp=Z,1μm,18.2s
CLL Collm 74.69 23 P **P** 22 58 35.9 +0.9
CLL IAMs_20 IAMs_20 23 32 32.3
comp=Z,1μm,18.0s
CLL Collm 74.69 23 *i*P **P** 22 58 36.5 +1.5
comp=Z,26nm,1.7s
CLL *i*x x 22 58 56.2
CLL *e*S **S** 23 08 11.0 +0.3
CLL *e*x x 23 09 42.0
CLL *e*SS **SS** 23 13 00.0 +3.3
CLL *e*SSS SSS 23 16 24.0
CLL *e*SSSS 23 17 54.0
CLL LmV 23 32 00.0
comp=Z,1μm,18.2s
CLL Collm 74.69 23 *e*P **P** 22 58 36.6 +1.5
comp=Z,20nm,1.5s,baz=337,slow=5.8
BOAV Boa Vista 74.89 104 *e*P **P** 22 58 35.9 -0.8
MOX Moxa 74.93 24 *e*P **P** 22 58 38.0 +1.6
comp=Z,12nm,1.4s,baz=337,slow=5.8
MOX *e*L L 23 30 08.4
comp=Z,560nm,21.5s
HHC Hu-ho-hao-te 75.04 316 *e*P **P** 22 58 36.3 -1.1
HHC PP **PP** 23 01 25.3 +0.6
HHC S **S** 23 08 10.3 -5.0
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,170nm,8.1s
HHC LR LR
comp=Z,970nm,14.3s
HHC LR LR
comp=Z,1μm,17.5s
HHC LR LR
comp=Z,520nm,18.2s
OBN Obninsk 75.12 8 LR LR 23 32 07.5
comp=Z,153nm,21.8s,baz=0.5,slow=36
OBN Obninsk 75.12 8 *d*eP **P** 22 58 39.2 +1.8
OBN *e*'PP **pwP** 22 58 43.1 -0.1
OBN *e*'SP **PcP** 22 58 46.8 -4.2
OBN *e* 22 58 54.3
OBN *e* 23 01 25.1
OBN *e*PPP PPP 23 03 07.6
OBN pmax pmax
comp=Z,58nm,1.3s
OBN MLR MLR
comp=Z,564nm,20.0s
OBN Obninsk 75.12 8 P **P** 22 58 39.0 +1.6
FBE Freiberg 75.13 23 *e*P **P** 22 58 39.6 +2.0
comp=Z,39nm,1.6s,baz=337,slow=5.8
RAR Rarotonga 75.25 209 LR LR 23 24 34.2
comp=Z,454nm,18.5s,baz=356,slow=30
BRG Berggiesshubel 75.32 23 *e*P **P** 22 58 40.6 +1.9
BRG Amp 22 58 43.8
comp=Z,35nm,1.7s
BRG Amp 23 33 24.0
comp=E,0.7nm,14.4s
BRG Amp 23 33 26.0
comp=Z,1.2nm,16.6s
BRG Amp 23 33 28.0
comp=N,0.7nm,15.6s
BRG Berggiesshubel 75.32 23 *e*P **P** 22 58 40.6 +1.9
BRG pmax pmax
comp=Z,35nm,1.7s
BRG MLR MLR
comp=E,710nm,14.4s
BRG MLR MLR
comp=Z,1μm,16.6s
BRG MLR MLR
comp=N,690nm,15.6s
BRG Berggiesshubel 75.32 23 *e*P **P** 22 58 40.5 +1.9
comp=N,35nm,1.7s,baz=337,slow=5.8
TANN Tannenbergstha 75.36 24 *e*P **P** 22 58 40.6 +1.6
comp=N,18nm,1.7s,baz=337,slow=5.8
GUNZ Gunzen 75.37 24 *e*P **P** 22 58 40.8 +1.7
comp=N,18nm,1.7s,baz=337,slow=5.8
WERN Wernitzgruen 75.45 24 *e*P **P** 22 58 41.3 +1.7
comp=N,22nm,1.6s,baz=337,slow=5.8
PGAV Gavieira, Arco 75.50 41 *e*LR LR 23 23 58.2
comp=N,507nm,18.0s
NKC Novy Kostel 75.52 24 AMS AMS 23 34 10.0
comp=N,800nm,16.0s
CZSB Cruzeiro do Su 75.62 121 *e*P **P** 22 58 40.5 -0.3
GRA1 Grafenberg Arr 75.69 25 P **P** 22 58 41.6 +0.7
GRA1 IAmb IAmb 22 58 44.7
comp=Z,34nm,1.5s
GRA1 IAMs_20 IAMs_20 23 30 21.8
comp=Z,779nm,20.0s
GRF Grafenberg Arr 75.69 25 P **P** 22 58 41.6 +0.7
GRF pmax pmax
comp=Z,34nm,1.5s
GRF MLR MLR
comp=Z,800nm,20.0s
GRF Grafenberg Arr 75.69 25 *e*L L 23 30 32.4
comp=Z,772nm,20.9s
GRFO Grafenberg 75.69 25 P **P** 22 58 41.6 +0.7
GRFO pmax pmax
comp=Z,34nm,1.5s
GRFO MLR MLR
comp=Z,800nm,21.0s
GRFO Grafenberg 75.69 25 P **P** 22 58 41.6 +0.7
GRFO IAmb IAmb 22 58 44.6
comp=Z,34nm,1.5s
GRFO IAMs_20 IAMs_20 23 30 21.8
comp=Z,806nm,21.0s
PVCC Panska Ves 75.80 22 *e*P **P** 22 58 44.6 +3.2
PVCC Panska Ves 75.80 22 *e*P **P** 22 58 44.6 +3.2
PCAB Cabril 75.82 41 *i*LQ LQ 22 58 57.4
ECH Echery 75.83 28 P **P** 22 58 41.2 -0.6
ECH pmax pmax
comp=Z,19nm,1.3s
ECH MLR MLR
comp=Z,700nm,18.0s
ECH Echery 75.83 28 P **P** 22 58 41.2 -0.6
ECH IAmb IAmb 22 58 45.4
comp=Z,19nm,1.3s
ECH IAMs_20 IAMs_20 23 31 06.9
comp=Z,685nm,18.0s
ROTZ Rotzenmuhle 75.89 24 *e*P **P** 22 58 43.3 +1.3
comp=Z,2.8nm,1.4s,baz=337,slow=5.8
BTO Baotou 75.92 317 *e*P **P** 22 58 43.3 +0.8
BTO S **S** 23 08 22.0 -3.1
BTO LR LR
comp=Z,5μm,15.1s
BTO LR LR
comp=Z,7μm,18.1s
KSP Ksiaz 75.93 21 *e*P **P** 22 58 44.1 +1.9
STU Stuttgart 75.94 27 IAMs_20 IAMs_20 23 30 19.7
comp=Z,786nm,20.0s
TIA Tai'an 76.08 310 ⇑P **P** 22 58 45.8 +2.5
TIA pmax pmax
comp=Z,9.0nm,0.9s
BFO Black Forest 76.09 27 P **P** 22 58 42.6 -0.6
BFO pmax pmax
comp=Z,26nm,1.2s
BFO MLR MLR
comp=Z,900nm,21.0s
BFO Black Forest 76.09 27 P **P** 22 58 42.6 -0.6
BFO IAmb IAmb 22 58 47.5
comp=Z,26nm,1.2s
BFO IAMs_20 IAMs_20 23 30 44.5
comp=Z,904nm,21.0s
CHVC Chvalec 76.11 22 *e*P **P** 22 58 46.1 +2.9
CHVC AMS AMS 23 33 10.0
comp=Z,1μm,16.8s
UPC Upice 76.17 22 AMS AMS 23 33 10.0
comp=Z,1μm,17.2s
OSTC Ostas 76.17 21 *e*P **P** 22 58 46.3 +2.7
OSTC AMS AMS 23 33 30.0
comp=Z,1μm,16.4s
PBRG Braganca 76.28 40 *e*P **P** 22 58 45.8 +1.3
comp=Z,28nm,1.6s
PRU Pruhonice 76.29 23 *e*S **S** 23 08 33.3 +4.8
PRU AMS AMS 23 33 50.0
comp=Z,800nm,16.6s
PVRL Vila Real 76.31 41 *e*P **P** 22 58 46.9 +2.3
comp=Z,32nm,1.7s
HNS HongShan 76.33 312 ⇑P **P** 22 58 42.1 -2.6
HNS S **S** 23 08 22.1 -7.3
HNS pmax pmax
comp=Z,23nm,1.3s
HNS pmax pmax
comp=Z,180nm,5.6s
HNS LR LR
comp=Z,290nm,17.9s
HNS LR LR
comp=Z,1μm,21.7s
HNS LR LR
comp=Z,940nm,19.8s
BRVK Borovoye 76.37 348 ⇑*i*P **P** 22 58 45.0 +0.3
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 76.37 348 P **P** 22 58 44.9 +0.3
DPC Dobruska-Polom 76.39 21 *e*P **P** 22 58 47.6 +2.7
DPC *e*S **S** 23 08 37.6 +7.8
DPC MLR MLR
comp=Z,1μm,16.0s
DPC Dobruska-Polom 76.39 21 *e*P **P** 22 58 47.6 +2.7
DPC *e*S **S** 23 08 37.6 +7.8
DPC AMS AMS 23 33 40.0
comp=Z,1μm,16.0s
MVO Moncorvo 76.69 41 *i*LQ LQ 22 59 02.7
MVO Moncorvo 76.69 41 *e*LQ LQ 23 18 59.9
MVO *e*LR LR 23 24 20.7
comp=Z,455nm,22.0s
KRLC Kraliky 76.75 21 *e*P **P** 22 58 49.6 +2.6
KRLC MLR MLR
comp=Z,1μm,15.5s
KRLC Kraliky 76.75 21 *e*P **P** 22 58 49.6 +2.6
KRLC AMS AMS 23 33 50.0
comp=Z,1μm,15.5s
KHC Kasperske Hory 76.83 24 *e*P **P** 22 58 49.4 +2.0
KHC *e*S **S** 23 08 41.4 +6.8
KHC MLR MLR
comp=Z,800nm,17.1s
KHC Kasperske Hory 76.83 24 *e*P **P** 22 58 49.4 +2.0
KHC *e*S **S** 23 08 41.4 +6.8
KHC AMS AMS 23 34 50.0
comp=Z,800nm,17.1s
KHC Kasperske Hory 76.83 24 P **P** 22 58 48.1 +0.7
COI Coimbra 76.88 42 IAMs_20 IAMs_20 23 30 59.6
comp=Z,981nm,19.0s
PCAS Casmilo, Conde 76.97 42 *e*P **P** 22 58 49.9 +1.6
comp=Z,57nm,1.7s
MTE Manteigas 77.10 41 *e*LQ LQ 23 19 02.1
MTE *e*LR LR 23 24 51.4
comp=Z,433nm,20.0s
GEC2 GERESS Array S 77.12 24 P **P** 22 58 49.2 0.0
GEC2 IAmb IAmb 22 58 52.4
comp=Z,21nm,1.4s
GERES GERESS Array B 77.12 24 P **P** 22 58 48.4 -0.7
comp=Z,1.5nm,0.8s,baz=12,slow=6.8,SNR=15
GERES LR LR 23 32 54.6
comp=Z,562nm,21.6s,baz=335,slow=36
TREC Trest 77.17 22 AMS AMS 23 33 50.0
comp=Z,700nm,14.6s
KURK Kurchatov 77.20 342 *c* *i*P **P** 22 58 49.9 +0.5
KURK pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 77.20 342 P **P** 22 58 48.0 -1.4
MORC Moravsky Berou 77.21 21 ⇑P **P** 22 58 52.2 +2.7
MORC Moravsky Berou 77.21 21 ⇑P **P** 22 58 52.2 +2.7
MORC Moravsky Berou 77.21 21 P **P** 22 58 49.8 +0.3
MORC IAmb IAmb 22 59 12.2
comp=Z,22nm,1.5s
MORC Moravsky Berou 77.21 21 *e*P **P** 22 58 52.0 +2.5
OKC Ostrava-Krasne 77.30 21 AMS AMS 23 34 50.0
comp=Z,800nm,15.2s
OJC Ojcow 77.30 19 *e*P **P** 22 58 52.4 +2.4
OJC Ojcow 77.30 19 P **P** 22 58 50.7 +0.7
OJC pmax pmax
comp=Z,16nm,1.2s
OJC Ojcow 77.30 19 P **P** 22 58 50.7 +0.7
CKRC Cesky Krumlov 77.31 23 *e*P **P** 22 58 52.8 +2.7
CKRC AMS AMS 23 34 40.0
comp=Z,800nm,15.4s
KURBB Kurchatov Arra 77.31 342 LR LR 23 39 01.4
comp=Z,212nm,18.4s,baz=8.1,slow=40
VRAC Vranov 77.42 22 ⇑P **P** 22 58 54.1 +3.4
VRAC Vranov 77.42 22 LR LR 23 34 17.2
comp=Z,739nm,18.6s,baz=330,slow=37
VRAC Vranov 77.42 22 ⇑P **P** 22 58 54.1 +3.4
VRAC Vranov 77.42 22 *e*P **P** 22 58 53.4 +2.7
DAVA Damuels 77.48 27 *i*P **P** 22 58 51.6 +0.4
comp=Z,27nm,1.4s,SNR=7.5
SENIN Lac Senin/Sane 77.53 29 P **P** 22 58 52.0 +0.4
SENIN IAMs_20 IAMs_20 23 31 26.8
comp=Z,1μm,18.0s
RETA Reutte 77.56 26 *e*P **P** 22 58 53.6 +2.0
SSB Saint Sauveur 77.59 31 P **P** 22 58 52.8 +1.1
SSB pmax pmax
comp=Z,13nm,1.4s
SSB MLR MLR
comp=Z,900nm,22.0s
SSB Saint Sauveur 77.59 31 P **P** 22 58 52.8 +1.1
SSB Saint Sauveur 77.59 31 IAMs_20 IAMs_20 23 30 32.6
comp=Z,855nm,22.0s
PCBR Castelo Branco 77.59 42 *e*P **P** 22 58 52.2 +0.4
comp=Z,23nm,1.7s
KRUC Moravsky 77.61 22 *e*P **P** 22 58 53.9 +2.2
MOTA Moosalm 77.78 26 *i*P **P** 22 58 55.9 +3.0
comp=Z,14nm,1.5s,SNR=5.7
LPSR Galich'ya Gora 77.81 7 *e*P **P** 22 58 52.9 +0.1
LPSR pmax pmax
comp=Z,20nm,1.2s
MDP Montagnes des 77.88 96 LR LR 23 38 15.2
comp=Z,396nm,18.8s,baz=323,slow=40
WATA Walderalm 77.93 26 *i*P **P** 22 58 56.3 +2.6
comp=Z,24nm,1.4s,SNR=7.6
SQTA Sankt Quirin 77.93 26 *i*P **P** 22 58 55.6 +1.9
comp=Z,26nm,1.5s,SNR=9.2
DAVOX Davos/Dischmat 77.94 27 LR LR 23 33 40.7
comp=Z,1μm,18.5s,baz=322,slow=36
FETA Feichten 77.97 26 *e*P **P** 22 58 54.3 +0.3
comp=Z,14nm,1.3s
PMRV Marv??o 77.97 42 *e*P **P** 22 58 56.9 +3.0
comp=Z,35nm,2.0s
PMRV Marv??o 77.97 42 *e*LR LR 23 25 15.6
comp=Z,553nm,18.0s
WTTA Wattenberg 78.01 26 *i*P **P** 22 58 57.4 +3.2
comp=Z,27nm,1.6s,SNR=7.4
TUE Stuetta 78.06 27 P **P** 22 58 55.5 +1.0
TUE IAmb IAmb 22 58 59.1
comp=Z,20nm,1.3s
TUE IAMs_20 IAMs_20 23 34 17.7
comp=Z,1μm,19.0s
JAVC Velka Javorina 78.10 21 *e*P **P** 22 58 58.0 +3.5
BIOA Bad Ischl, Aus 78.17 24 *e*P **P** 22 58 54.3 -0.6
comp=Z,5.5nm,1.2s
NIE Niedzica 78.17 19 *e*P **P** 22 58 59.0 +4.2
MOA Molln 78.19 24 *e*P **P** 22 58 58.5 +3.5
comp=Z,6.8nm,1.8s
LANS Liptovska Anna 78.24 20 *e*P **P** 22 58 58.5 +3.2
LANS Liptovska Anna 78.24 20 *e*P **P** 22 58 58.5 +3.2
PESTR Estremoz 78.35 42 *e*P **P** 22 58 56.8 +0.8
comp=Z,27nm,1.7s
PESTR Estremoz 78.35 42 P **P** 22 58 56.2 +0.2
BELG Belogornoye 78.44 2 LR LR 23 38 40.4
comp=Z,263nm,19.9s,baz=348,slow=40
NJ2 Nanjing 78.45 306 *e*P **P** 22 58 56.6 -0.1
NJ2 pmax pmax
comp=Z,14nm,0.8s
RPN Rapa Nui 78.48 161 LR LR 23 23 47.3
comp=Z,52nm,21.9s,baz=344,slow=28
BNI Bardonecchia 78.50 30 P **P** 22 58 56.6 -0.3
BNI pmax pmax
comp=Z,13nm,1.3s
BNI MLR MLR
comp=Z,900nm,20.0s
BNI Bardonecchia 78.50 30 P **P** 22 58 56.6 -0.3
BNI IAMs_20 IAMs_20 23 31 39.5
comp=Z,903nm,20.0s
CONA Conrad Observa 78.53 23 *e*P **P** 22 58 59.6 +2.7
comp=Z,11nm,1.4s
LVV L'vov 78.54 17 *e*P **P** 22 58 59.2 +2.3
PNCL Nicolau / Gran 78.55 43 *e*P **P** 22 58 58.8 +1.7
comp=Z,50nm,1.6s
AKASG Malin Array Be 78.57 13 P **P** 22 58 54.7 -2.3
comp=Z,8.2nm,0.9s,baz=350,slow=5.0,SNR=19
AKASG LR LR 23 34 17.4
comp=Z,994nm,20.5s,baz=350,slow=36
AKASG Malin Array Be 78.57 13 *i*P **P** 22 58 58.5 +1.5
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 78.57 13 P **P** 22 58 55.9 -1.2
AKBB Malin Array Si 78.57 13 *d*iP **P** 22 58 58.5 +1.5
AKBB pmax pmax
comp=Z,21nm,1.1s
AKBB Malin Array Si 78.57 13 P **P** 22 58 56.7 -0.3
AKBB IAmb IAmb 22 58 59.4
comp=Z,18nm,1.1s
PMOZ Porto Moniz, M 78.62 52 *e*LR LR 23 26 32.3
comp=Z,672nm,18.0s
KBA Koelnbreinsper 78.65 25 *i*P **P** 22 58 58.0 +0.2
comp=Z,25nm,2.3s,SNR=6.9
ABTA Abfaltersbach 78.73 25 *e*P **P** 22 59 00.2 +2.1
comp=Z,9.9nm,1.4s
VORR Voronezh 78.76 7 *e*P **P** 22 58 58.8 +0.8
VORR pmax pmax
comp=Z,10.0nm,0.3s
ARSA Arzberg 79.07 23 *e*P **P** 22 59 02.8 +2.9
comp=Z,14nm,1.3s
CTI Castel Tesino 79.12 26 P **P** 22 59 00.4 +0.1
CTI pmax pmax
comp=Z,9.0nm,1.0s
CTI Castel Tesino 79.12 26 P **P** 22 59 00.4 +0.1
MYKA Terra Mystica 79.14 25 *e*P **P** 22 59 02.3 +1.9
comp=Z,1.9nm,0.4s
MORF Marmelete 79.16 44 *e*P P 22 58 53.5 -7.1
comp=Z,44nm,1.8s
PBAR Barrancos 79.16 42 *e*P **P** 22 59 00.3 -0.2
comp=Z,20nm,1.6s
PAB San Pablo 79.17 40 ⇑P **P** 22 59 03.5 +2.9
SALO Salr 79.18 27 P **P** 22 59 01.0 +0.5
SALO IAmb IAmb 22 59 04.4
comp=Z,41nm,1.3s
ESBB Sonseca Array 79.22 39 P **P** 22 59 01.0 +0.2
ESDC Sonseca Array 79.22 39 P **P** 22 58 59.7 -1.2
comp=Z,4.9nm,0.9s,baz=321,slow=4.9,SNR=17
ESDC LR LR 23 30 55.4
comp=Z,261nm,18.5s,baz=322,slow=33
UZH Uzhgorod 79.33 18 *e*P **P** 22 59 02.5 +1.3
UZH *i* 22 59 05.6
VRH Novokhopyorsk 79.40 5 *e*P **P** 22 59 01.6 +0.1
VRH pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 79.47 7 *e*P **P** 22 59 02.2 +0.3
VORD pmax pmax
comp=Z,10.0nm,0.7s
SOKA Soboth 79.47 24 *i*P **P** 22 59 01.7 -0.4
comp=Z,27nm,1.4s,SNR=12
PSZ Piszkesteto 79.50 20 ⇑P **P** 22 59 05.0 +2.8
PSZ Piszkesteto 79.50 20 ⇑P **P** 22 59 05.0 +2.8
PSZ Piszkesteto 79.50 20 P **P** 22 59 03.7 +1.5
PSZ IAmb IAmb 22 59 06.2
comp=Z,21nm,1.1s
PSZ IAMs_20 IAMs_20 23 36 50.4
comp=Z,824nm,18.0s
PSZ Piszkesteto 79.50 20 P **P** 22 59 05.6 +3.3
OBKA Obir 79.50 24 *i*P **P** 22 59 01.1 -1.3
comp=Z,12nm,0.9s,SNR=7.0
PVAQ Vaqueiros 79.50 43 *e*LQ LQ 23 19 39.0
PVAQ *e*LR LR 23 27 26.3
comp=Z,916nm,16.0s
MPLH Magyarpolny 79.65 22 P **P** 22 59 05.4 +2.4
LYN LuoYang 79.70 312 *e*P **P** 22 59 00.3 -3.1
LYN S **S** 23 08 59.5 -6.3
LYN SKS SKSac 23 09 08.8 -11
LYN SS **SS** 23 14 11.9 -1.2
LYN pmax pmax
comp=Z,130nm,4.1s
LYN LR LR
comp=Z,720nm,18.4s
LYN LR LR
comp=Z,330nm,15.3s
LYN LR LR
comp=Z,610nm,21.2s
TEOL Teolo 79.75 26 P **P** 22 59 04.3 +0.7
PRMA PARMA 79.89 28 P **P** 22 59 05.3 +1.0
TRI Trieste 80.03 25 P **P** 22 59 06.2 +1.2
TRI pmax pmax
comp=Z,12nm,1.1s
TRI Trieste 80.03 25 **P** 22 59 06.2 +1.2
MK31 Makanchi Array 80.08 338⇓ *e*P **P** 22 59 04.0 -1.4
MKAR Makanchi Array 80.08 338 P **P** 22 59 02.6 -2.8
comp=Z,2.8nm,0.6s,baz=41,slow=4.3,SNR=25
MKAR LR LR 23 36 50.9
comp=Z,686nm,21.3s,baz=16,slow=38
MKAR Makanchi Array 80.08 338 *i*P **P** 22 59 05.0 -0.4
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 80.14 338 ⇑P **P** 22 59 03.6 -2.1
MAKZ Makanchi 80.14 338 P **P** 22 59 03.0 -2.7
MAKZ IAmb IAmb 22 59 16.1
comp=Z,19nm,1.0s

AKTO	**Aktyubinsk**	**80.19**	**355**	LR	LR	23 36 25.8				
	comp=Z,284nm,21.7s,baz=8.2,slow=37									
KOVH	**Kovagotottos**	**80.80**	**22**	P	**P**	**22 59 11.2**	**+2.0**			
BUR08	**Bucovina Ar. S**	**80.85**	**17**	P	**P**	**22 59 10.1**	**+0.5**			
BURAR	**Bucovina Array**	**80.88**	**17**	⇑P	**P**	**22 59 13.4**	**+3.6**			
BURAR	**Bucovina Array**	**80.88**	**17**	⇑P	**P**	**22 59 13.4**	**+3.6**			
BURAR	**Bucovina Array**	**80.88**	**17**	P	**P**	**22 59 10.6**	**+0.9**			
SORM	**Soroca**	**80.93**	**15**	⇑P	**P**	**22 59 11.6**	**+1.8**			
SORM	**Soroca**	**80.93**	**15**	⇑P	**P**	**22 59 11.6**	**+1.8**			
ETMB	**Extrema**	**81.02**	**117**	*eP*	**P**	**22 59 08.3**	**-2.4**			
DRGR		**81.17**	**19**	⇑P	**P**	**22 59 14.2**	**+2.9**			
DRGR		**81.17**	**19**	⇑P	**P**	**22 59 14.2**	**+2.9**			
GTA	**Gaotai**	**81.18**	**323**	*eP*	**P**	**22 59 15.8**	**+4.2**			
GTA				pP	pwP	22 59 19.1	+1.7			
GTA				sP	PcP	22 59 21.8	+4.0			
GTA	**Gaotai**	**81.18**	**323**	S	**S**	**23 09 23.5**	**+2.0**			
GTA	**Gaotai**	**81.18**	**323**	SS	SS	23 14 38.4	+3.1			
GTA				pmax	pmax					
	comp=Z,5.0nm,1.0s									
GTA				pmax	pmax					
	comp=Z,61nm,5.5s									
GTA				LR	LR					
	comp=N,710nm,20.7s									
GTA				LR	LR					
	comp=E,880nm,20.4s									
GTA				LR	LR					
	comp=Z,230nm,22.5s									
MSVF	**Nonsavu**	**81.23**	**229**	LR	LR	23 29 02.0				
	comp=Z,410nm,18.4s,baz=356,slow=31									
MSVF	**Nonsavu**	**81.23**	**229**	P	**P**	**22 59 14.1**	**+2.3**			
MSVF				pmax	pmax					
	comp=Z,22nm,1.2s									
MSVF	**Nonsavu**	**81.23**	**229**	P	**P**	**22 59 14.1**	**+2.3**			
MSVF				IAmb	IAmb	22 59 26.0				
	comp=Z,22nm,1.2s									
OSSC	**Osservatorio P**	**81.30**	**27**		pP	22 59 15.0	+0.5			
WMQ	**Urumqi**	**81.39**	**333**	*eP*	**P**	**22 59 15.0**	**+2.5**			
WMQ				sP	pwP	22 59 22.0	+3.7			
WMQ				S	**S**	**23 09 24.3**	**+0.9**			
WMQ				SS	**SS**	**23 14 39.3**	**+1.3**			
WMQ				pmax	pmax					
	comp=Z,21nm,1.5s									
WMQ				LR	LR					
	comp=Z,600nm,15.1s									
WMQ				LR	LR					
	comp=Z,610nm,20.7s									
WMQ				LR	LR					
	comp=Z,480nm,20.7s									
SIRR	**Siria**	**81.45**	**20**	⇑P	**P**	**22 59 15.5**	**+2.8**			
XAN	**Xi'an**	**81.80**	**314**	P	**P**	**22 59 16.9**	**+2.1**			
XAN				pmax	pmax					
	comp=Z,15nm,0.8s									
CASP	**Castiglione de**	**81.85**	**28**	P	**P**	**22 59 14.0**	**-0.9**			
CASP				IAmb	IAmb	22 59 18.0				
	comp=Z,25nm,1.1s									
MURB	**Monte Urbino**	**81.92**	**27**	P	**P**	**22 59 15.5**	**+0.2**			
MURB				IAmb	IAmb	22 59 20.3				
	comp=Z,36nm,1.3s									
BZS	**Buzias**	**82.06**	**20**	⇑P	**P**	**22 59 18.6**	**+2.7**			
BZS	**Buzias**	**82.06**	**20**	⇑P	**P**	**22 59 18.6**	**+2.7**			
FRGS	**Fruska Gora**	**82.08**	**21**	⇑P	**P**	**22 59 17.7**	**+1.7**			
MALB	**Monte Alegre**	**82.12**	**102**	*eP*	**P**	**22 59 14.9**	**-1.7**			
TESR	**Tescani**	**82.21**	**16**	⇑P	**P**	**22 59 18.5**	**+1.8**			
CART	**Cartagena**	**82.21**	**39**	IAMs_20	IAMs_20	23 36 23.4				
	comp=Z,614nm,18.0s									
LATE	**Laterza**	**82.30**	**27**	P	**P**	**22 59 17.3**	**+0.1**			
LATE				IAmb	IAmb	22 59 21.3				
	comp=Z,49nm,1.3s									
LZH	**Lanzhou**	**82.37**	**319**	*eP*	**P**	**22 59 14.3**	**-3.6**			
LZH				pP	pP	22 59 20.8	+0.3			
LZH				sP	pwP	22 59 23.8	+0.1			
LZH				S	**S**	**23 09 36.5**	**+2.5**			
LZH				SS	**SS**	**23 14 54.3**	**+1.1**			
LZH				pmax	pmax					
	comp=Z,15nm,1.0s									
LZH				LR	LR					
	comp=Z,910nm,16.8s									
LZH				LR	LR					
	comp=Z,2μm,18.2s									
LZH				LR	LR					
	comp=Z,1μm,18.7s									
MCPB	**Macapa, AP**	**82.40**	**99**	*eP*	**P**	**22 59 17.4**	**-0.7**			
OZUR		**82.45**	**17**	⇓P	P	22 59 23.7	+5.7			
NRCA	**Norcia**	**82.48**	**27**	P	**P**	**22 59 18.0**	**-0.3**			
NRCA				IAmb	IAmb	22 59 25.7				
	comp=Z,13nm,1.0s									
DOPR	**Dopca**	**82.50**	**17**	⇓P	**P**	**22 59 21.6**	**+3.4**			
GZR	**Gura Zlata**	**82.52**	**19**	⇓P	**P**	**22 59 21.5**	**+3.1**			
GZR	**Gura Zlata**	**82.52**	**19**	⇓P	**P**	**22 59 21.5**	**+3.1**			
TATO	**Taipei**	**82.54**	**300**	IAMs_20	IAMs_20	23 31 09.2				
	comp=Z,1μm,21.0s									
COVR	**Voineasa-Covas**	**82.77**	**17**	⇑P	**P**	**22 59 22.8**	**+3.1**			
YHNB	**Yeheng**	**82.84**	**300**	IAMs_20	IAMs_20	23 31 06.3				
	comp=Z,825nm,19.0s									
VRI	**Vrincioaia**	**82.84**	**16**	⇑P	**P**	**22 59 22.7**	**+2.7**			
VRI	**Vrincioaia**	**82.84**	**16**	⇑P	**P**	**22 59 22.7**	**+2.7**			
PLOR	**Plostina**	**82.85**	**16**	⇑P	P	22 59 27.6	+7.5			
PLOR	**Plostina**	**82.85**	**16**	⇑P	P	22 59 27.6	+7.6			
ARR	**Arges**	**82.93**	**18**	⇑P	**P**	**22 59 20.7**	**+0.2**			
HERR	**Herculane**	**82.93**	**19**	⇓P	**P**	**22 59 23.5**	**+3.1**			
VOIR		**82.94**	**17**	⇓P	**P**	**22 59 22.9**	**+2.3**			
VOIR		**82.94**	**17**	⇓P	**P**	**22 59 22.9**	**+2.3**			
AQU	**L'Aquila**	**83.01**	**26**	P	**P**	**22 59 22.0**	**+1.0**			
AQU				pmax	pmax					
	comp=Z,23nm,1.0s									
AQU				MLR	MLR					
	comp=Z,600nm,19.0s									
AQU	**L'Aquila**	**83.01**	**26**	P	**P**	**22 59 22.0**	**+1.0**			
AQU				IAmb	IAmb	22 59 34.5				
	comp=Z,23nm,1.0s									
AQU				IAMs_20	IAMs_20	23 35 24.7				
	comp=Z,629nm,19.0s									
MLR	**Muntele Rosu**	**83.06**	**17**	LR	LR	23 36 35.9				
	comp=Z,1μm,21.1s,baz=355,slow=36									
MLR	**Muntele Rosu**	**83.06**	**17**	P	**P**	**22 59 22.3**	**+1.0**			
MLR				pmax	pmax					
	comp=Z,5.0nm,0.9s									
MLR				MLR	MLR					
	comp=Z,900nm,18.0s									
MLR	**Muntele Rosu**	**83.06**	**17**	P	**P**	**22 59 22.3**	**+1.0**			
MLR				IAMs_20	IAMs_20	23 39 21.6				
	comp=Z,906nm,18.0s									
NACB	**Ninganchiao**	**83.10**	**299**	P	**P**	**22 59 21.8**	**+0.2**			
NACB				IAmb	IAmb	22 59 34.3				
	comp=Z,31nm,1.0s									
NACB				IAMs_20	IAMs_20	23 34 35.3				
	comp=Z,1μm,18.0s									
ITTB	**Itaituba**	**83.12**	**105**	*eP*	**P**	**22 59 19.2**	**-2.7**			
DIVS	**Divibare**	**83.12**	**21**	P	**P**	**22 59 21.8**	**+0.2**			
DIVS				IAmb	IAmb	22 59 25.4				
	comp=Z,27nm,1.5s									
CFR	**Carcaliu**	**83.76**	**15**	⇓P	**P**	**22 59 27.8**	**+3.1**			
CFR	**Carcaliu**	**83.76**	**15**	⇓P	**P**	**22 59 27.8**	**+3.1**			
SSLB	**Suanglung**	**83.77**	**299**	P	**P**	**22 59 26.1**	**+0.9**			
SSLB				IAmb	IAmb	22 59 34.5				
	comp=Z,17nm,0.9s									
SSLB				IAMs_20	IAMs_20	23 33 21.9				
	comp=Z,826nm,19.0s									
YULB	**Yu-li**	**83.88**	**299**	IAMs_20	IAMs_20	23 32 40.0				
	comp=Z,586nm,19.0s									
TPGR	**Topolog**	**84.12**	**15**	⇑P	**P**	**22 59 29.2**	**+2.6**			
SGRT	**San Giovanni R**	**84.23**	**25**	P	**P**	**22 59 27.9**	**+0.6**			
TPUB	**Ta-pu**	**84.33**	**299**	P	**P**	**22 59 27.9**	**-0.2**			
TPUB				IAmb	IAmb	22 59 35.8				
	comp=Z,17nm,0.9s									
VSL	**Villasalto**	**84.36**	**30**	IAMs_20	IAMs_20	23 34 51.7				
	comp=Z,588nm,20.0s									
TWG	**Pinlang**	**84.45**	**299**	IAMs_20	IAMs_20	23 31 52.2				
	comp=Z,691nm,21.0s									
TIRR	**Tirgusor**	**84.51**	**15**	P	**P**	**22 59 28.6**	**+0.1**			
TIRR				pmax	pmax					
	comp=Z,60nm,1.5s									
TIRR				MLR	MLR					
	comp=Z,2μm,18.0s									
TIRR	**Tirgusor**	**84.51**	**15**	P	**P**	**22 59 28.6**	**+0.1**			
PDG	**Podgorica**	**84.52**	**22**	⇑P	**P**	**22 59 30.9**	**+2.3**			
PDG	**Podgorica**	**84.52**	**22**	IAMs_20	IAMs_20	23 41 14.4				
	comp=Z,624nm,18.0s									
HNR	**Honiara**	**84.55**	**249**	IAMs_20	IAMs_20	23 29 15.8				
	comp=Z,771nm,20.0s									
ENH	**Enshi**	**84.64**	**312**	P	**P**	**22 59 29.9**	**+0.4**			
ENH				IAmb	IAmb	22 59 43.9				
	comp=Z,14nm,1.0s									
ENH				IAMs_20	IAMs_20	23 38 04.3				
	comp=Z,1μm,19.0s									
KNMB	**Chin-men Tao**	**84.67**	**302**	IAMs_20	IAMs_20	23 33 31.7				
	comp=Z,717nm,18.0s									
MDT	**Midelt**	**84.73**	**44**	LR	LR	23 33 38.9				
	comp=Z,251nm,20.9s,baz=340,slow=33									
LPAZ	**La Paz**	**85.16**	**122**	P	**P**	**22 59 30.1**	**-2.7**			
	comp=Z,5.2nm,0.9s,baz=323,slow=2.7,SNR=14									
LPAZ				LR	LR	23 39 35.7				
	comp=Z,536nm,21.4s,baz=336,slow=37									
LPAZ	**La Paz**	**85.16**	**122**	IAmb	IAmb	22 59 43.8				
	comp=Z,19nm,1.0s									
VTS	**Vitosha**	**85.27**	**20**	⇑P	**P**	**22 59 34.8**	**+2.2**			
VTS	**Vitosha**	**85.27**	**20**	⇑P	**P**	**22 59 34.8**	**+2.2**			
VTS	**Vitosha**	**85.27**	**20**	P	**P**	**22 59 32.7**	**+0.1**			
ANN	**Anapa**	**85.42**	**9**	*eP*	**P**	**22 59 30.9**	**-2.1**			
ANN				*e**PP	**PcP**	**22 59 34.3**	**-1.8**			
ANN				*eS*	**SKSac**	**23 09 54.5**	**-3.5**			
ANN				*e*SSS	SSS	23 19 06.6				
ANN				pmax	pmax					
	comp=Z,121nm,1.0s									
NPGB	**Novo Progresso**	**85.42**	**106**	*eP*	**P**	**22 59 32.2**	**-1.3**			
GOF	**Gofitskoye**	**85.60**	**5**	⇑*eP*	**P**	**22 59 36.0**	**+2.0**			
GOF				pmax	pmax					
	comp=Z,28nm,1.0s									
TIR	**Tirane**	**85.69**	**22**	IAMs_20	IAMs_20	23 39 52.3				
	comp=Z,1μm,19.0s									
AAK	**Ala-Archa**	**85.76**	**342**	LR	LR	23 41 26.0				
	comp=Z,552nm,20.9s,baz=24,slow=38									
AAK	**Ala-Archa**	**85.76**	**342**	*de*	**P**	**22 59 36.7**	**+1.6**			
AAK				pmax	pmax					
	comp=Z,14nm,1.4s									
AAK	**Ala-Archa**	**85.76**	**342**	P	**P**	**22 59 34.4**	**-0.7**			
AAK	**Ala-Archa**	**85.76**	**342**	IAMs_20	IAMs_20	23 41 02.4				
	comp=Z,652nm,19.0s									
GOMU	**GeErMu**	**85.90**	**325**	P	**P**	**22 59 36.5**	**+0.4**			
GOMU				pP	sP	22 59 40.3	+0.7			
GOMU				sP	pwP	22 59 42.1	+0.1			
GOMU				PP	**PP**	**23 02 53.8**	**-1.1**			
GOMU				S	**S**	**23 10 11.0**	**+1.2**			
GOMU				SS	**SS**	**23 15 44.9**	**-0.7**			
GOMU				pmax	pmax					
	comp=Z,49nm,4.9s									
GOMU				LR	LR					
	comp=Z,280nm,15.7s									
GOMU				LR	LR					
	comp=Z,450nm,16.1s									
GOMU				LR	LR					
	comp=Z,320nm,19.1s									
TMAB	**Tom-Au,PA,Br**	**86.48**	**98**	*eP*	**P**	**22 59 37.7**	**-1.1**			
KIV	**Kislovodsk**	**86.68**	**5**	⇑P	**P**	**22 59 38.4**	**-1.1**			
KIV	**Kislovodsk**	**86.68**	**5**	*eP*	**P**	**22 59 41.4**	**+1.9**			
KIV				*e*		23 10 07.3				
KIV				pmax	pmax					
	comp=Z,17nm,1.1s									
KIV				MLR	MLR					
	comp=Z,317nm,20.0s									
KIV	**Kislovodsk**	**86.68**	**5**	P	**P**	**22 59 40.1**	**+0.6**			
KIV				IAmb	IAmb	22 59 51.3				
	comp=Z,16nm,1.0s									
SOC	**Sochi**	**86.83**	**8**	*eP*	**P**	**22 59 40.1**	**0.0**			
SOC				*e*		23 03 04.1				
SOC				*e*PPP	PPP	23 05 01.4				
SOC				*eS*	**SKSac**	**23 10 06.7**	**-0.2**			
SOC				*e*SS	**SS**	**23 16 00.3**	**+2.4**			
SOC				*e*SSS	SSS	23 19 31.9				
SOC				MLR	MLR					
	comp=Z,393nm,19.0s									
KBZ	**Khabaz**	**86.92**	**5**	P	**P**	**22 59 37.7**	**-2.7**			
	comp=Z,3.7nm,0.9s,baz=24,slow=3.7,SNR=3.3									
KBZ				LR	LR	23 39 56.4				
	comp=Z,466nm,21.9s,baz=356,slow=37									
VILB	**Vilhena**	**87.06**	**114**	*eP*	**P**	**22 59 39.9**	**-1.6**			
CEL	**Celeste**	**87.52**	**26**	IAMs_20	IAMs_20	23 36 54.9				
	comp=Z,537nm,20.0s									
GROC	**Groznyy**	**87.58**	**3**	P	**P**	**22 59 43.5**	**-0.2**			
GROC				pmax	pmax					
	comp=Z,18nm,1.2s									
KEST	**Kesra**	**87.75**	**32**	LR	LR	23 37 50.3				
	comp=Z,506nm,21.6s,baz=284,slow=35									
VAE	**Valguarnera**	**87.80**	**28**	LR	LR	23 40 05.5				
	comp=Z,424nm,18.8s,baz=20,slow=36									
MAK	**Makhachkala**	**87.87**	**2**	*eP*	**P**	**22 59 40.6**	**-4.5**			
MAK				*e*		23 10 04.7				
MAK				*e*SSS	SSS	23 19 41.8				
MAK				pmax	pmax					
	comp=Z,49nm,0.8s									
MAK				MLR	MLR					
	comp=Z,428nm,16.0s									
ZEI	**Tsey**	**87.91**	**5**	*eP*	**P**	**22 59 47.2**	**+1.6**			
ZEI				pmax	pmax					
	comp=Z,4.0nm,1.1s									
ONI	**Oni**	**88.09**	**5**	P	**P**	**22 59 46.1**	**-0.2**			
ONI				pmax	pmax					
	comp=Z,21nm,1.4s									
ONI	**Oni**	**88.09**	**5**	P	**P**	**22 59 46.1**	**-0.2**			
ONI				IAmb	IAmb	23 00 00.4				
	comp=Z,21nm,1.4s									
CLDB	**Colider**	**88.11**	**109**	*eP*	**P**	**22 59 45.1**	**-1.5**			
PDRB	**Porto dos Gac**	**88.11**	**110**	*eP*	**P**	**22 59 44.7**	**-1.9**			
PRPB	**Parauapebas**	**88.26**	**101**	*eP*	**P**	**22 59 45.7**	**-1.6**			
KSH	**Kashi**	**88.44**	**340**	P	**P**	**22 59 48.1**	**0.0**			
KSH				pP	sP	22 59 52.3	+0.7			
KSH				pmax	pmax					
	comp=Z,3.0nm,1.1s									
KSH				LR	LR					
	comp=Z,1μm,21.6s									
KSH				LR	LR					
	comp=Z,1μm,19.6s									
KSH				LR	LR					
	comp=Z,460nm,20.4s									
HKPS	**Hong Kong Po S**	**88.75**	**304**	IAMs_20	IAMs_20	23 40 34.4				
	comp=Z,441nm,18.0s									
MDUB	**Mudurnu**	**88.85**	**14**	P	**P**	**22 59 50.0**	**0.0**			
SIV	**San Ignacio**	**88.94**	**116**	LR	LR	23 44 39.6				
	comp=Z,277nm,18.9s,baz=341,slow=39									
BTK	**Batken**	**88.94**	**344**	P	**P**	**22 59 50.7**	**+0.3**			
BTK				pmax	pmax					
	comp=Z,31nm,1.5s									
BTK	**Batken**	**88.94**	**344**	P	**P**	**22 59 50.6**	**+0.3**			
BTK				IAmb	IAmb	23 00 02.1				
	comp=Z,31nm,1.4s									
GYA	**Guiyang**	**89.18**	**312**	⇓P	**P**	**22 59 54.8**	**+3.1**			
GYA				S	**S**	**23 10 42.4**	**+1.5**			
GYA				pmax	pmax					
	comp=Z,14nm,0.8s									
GYA				LR	LR					
	comp=Z,550nm,16.0s									
GYA				LR	LR					
	comp=Z,560nm,16.7s									
GYA				LR	LR					
	comp=Z,670nm,20.6s									
DRK	**Karamyk**	**89.33**	**343**	P	**P**	**22 59 52.3**	**-0.2**			
DRK				IAmb	IAmb	23 00 11.3				
	comp=Z,9.9nm,1.1s									
PTLB	**Pontes e Lacer**	**89.65**	**114**	*eP*	**P**	**22 59 51.8**	**-2.0**			
BR131	**Keskin Array S**	**89.95**	**13**	⇓*eP*	**P**	**22 59 56.2**	**+1.0**			
BRTR	**Keskin Array B**	**89.95**	**13**	P	**P**	**22 59 55.2**	**0.0**			
	comp=Z,1.5nm,0.9s,baz=342,slow=1.3,SNR=6.7									
BRTR				LR	LR	23 43 01.6				
	comp=Z,365nm,20.0s,baz=348,slow=37									
BRTR	**Keskin Array B**	**89.95**	**13**	*i P*	**P**	**22 59 56.9**	**+1.7**			
BRTR				pmax	pmax					
	comp=Z,2.0nm,0.9s									
BRTR	**Keskin Array B**	**89.95**	**13**	P	**P**	**22 59 54.6**	**-0.6**			
MANT	**Manisa**	**90.32**	**17**	P	**P**	**22 59 56.6**	**-0.4**			
MANT				IAmb	IAmb	22 59 59.2				
	comp=Z,17nm,1.2s									
GNI	**Garni**	**90.58**	**4**	LR	LR	23 47 41.5				
	comp=Z,157nm,18.1s,baz=16,slow=40									
DZM	**Mont Dzumac**	**90.86**	**236**	LR	LR	23 35 25.7				
	comp=Z,454nm,18.8s,baz=28,slow=32									
DZM	**Mont Dzumac**	**90.86**	**236**	*e*PS	PS	23 12 05.8	+0.9			
	comp=Z,173nm,25.8s									
DZM	**Mont Dzumac**	**90.86**	**236**	*e*LR	LR	23 28 59.1				
	comp=Z,822nm,23.4s									
BNN	**Bunyan**	**91.11**	**11**	P	**P**	**23 00 00.5**	**0.0**			
ISP	**Isparta**	**91.33**	**15**	IAMs_20	IAMs_20	23 41 26.7				
	comp=Z,605nm,21.0s									
PZH	**PanZhiHua**	**91.47**	**315**	P	**P**	**23 00 03.5**	**+1.1**			
PZH				pP	**pP**	**23 00 05.0**	**0.0**			
PZH				sP	**pwP**	**23 00 08.4**	**+0.1**			
PZH				PP	**PP**	**23 03 39.8**	**+0.4**			
PZH				SKS	**SKSac**	**23 10 33.4**	**-1.7**			
PZH				S	**SKKSac**	**23 10 50.6**	**-0.2**			
PZH				sS	**sS**	**23 11 08.0**	**+1.6**			
PZH				SS	**SS**	**23 17 01.1**	**-5.4**			
PZH				pmax	pmax					
	comp=Z,10.0nm,1.4s									
PZH				pmax	pmax					
	comp=Z,100nm,5.1s									
PZH				LR	LR					
	comp=Z,1μm,13.7s									
PZH				LR	LR					
	comp=Z,1μm,13.7s									
PZH				LR	LR					
	comp=Z,1μm,14.1s									
SMTB	**Santa Maria do**	**91.72**	**102**	*eP*	**P**	**23 00 05.6**	**+2.1**			
PMG	**Port Moresby**	**92.52**	**259**	IAMs_20	IAMs_20	23 34 09.4				
	comp=Z,613nm,21.0s									
GEYT	**Alibeck**	**92.64**	**354**	LR	LR	23 44 29.0				
	comp=Z,323nm,20.9s,baz=40,slow=37									
IDI	**Anoyia**	**92.65**	**20**	LR	LR	23 44 01.0				
	comp=Z,322nm,18.9s,baz=342,slow=37									
IDI	**Anoyia**	**92.65**	**20**	IAMs_20	IAMs_20	23 43 50.0				
	comp=Z,428nm,19.0s									
KARP	**Karpathos**	**92.89**	**19**	IAMs_20	IAMs_20	23 43 31.9				
	comp=Z,624nm,20.0s									
QIZ	**Qiongzhong**	**93.71**	**305**	P	**P**	**23 00 10.8**	**-1.9**			
QIZ				S	**S**	**23 11 20.0**	**-2.0**			
QIZ				SS	**SS**	**23 17 38.3**	**-0.6**			
QIZ				LR	LR					
	comp=Z,940nm,10.2s									
QIZ				LR	LR					
	comp=Z,660nm,12.4s									
QIZ				LR	LR					
	comp=Z,400nm,15.3s									
DAV	**Davao City (W)**	**93.97**	**286**	LR	LR	23 34 37.8				
	comp=Z,932nm,21.7s,baz=44,slow=31									
DAV	**Davao City (W)**	**93.97**	**286**	IAMs_20	IAMs_20	23 33 43.0				
	comp=Z,1μm,21.0s									
CSS	**Mathiatis**	**94.58**	**14**	IAMs_20	IAMs_20	23 44 03.4				
	comp=Z,543nm,22.0s									
BDFB	**Brasilia**	**96.59**	**106**	LR	LR	23 49 53.8				
	comp=Z,356nm,18.4s,baz=319,slow=39									
MMAI	**Mount Meron Ar**	**96.80**	**12**	LR	LR	23 47 18.3				
	comp=Z,216nm,20.9s,baz=152,slow=37									
RCBR	**Riachuelo**	**97.00**	**91**	LR	LR	23 41 57.5				
	comp=Z,737nm,19.5s,baz=102,slow=34									
FAKI	**Fak Fak**	**97.30**	**274**	IAMs_20	IAMs_20	23 50 10.6				
	comp=Z,504nm,20.0s									
TNTI	**Ternate**	**97.66**	**280**	IAMs_20	IAMs_20	23 35 13.4				
	comp=Z,587nm,22.0s									
CPUP	**Villa Florida**	**99.18**	**120**	LR	LR	23 51 12.3				
	comp=Z,258nm,19.1s,baz=340,slow=39									
CHTO	**Chiang Mai**	**99.38**	**314**	IAMs_20	IAMs_20	23 48 06.8				
	comp=Z,668nm,18.0s									
CMAR	**Chiang Mai Arr**	**99.69**	**314**	LR	LR	23 48 38.4				
	comp=Z,323nm,18.6s,baz=45,slow=37									
MQZ	**McQueen's Vall**	**105.53**	**219**	IAMs_20	IAMs_20	23 54 32.2				
	comp=Z,616nm,20.0s									
MMRI	**Maumere**	**108.10**	**278**	IAMs_20	IAMs_20	23 40 30.8				
	comp=Z,398nm,22.0s									
WRAB	**Tennant Creek**	**108.56**	**261**	IAMs_20	IAMs_20	23 40 49.1				
	comp=Z,820nm,22.0s									
MYKOM	**Kota Tinggi**	**111.19**	**300**	IAMs_20	IAMs_20	23 52 50.5				
	comp=Z,346nm,18.0s									
BKNI	**Bangkinang**	**113.97**	**302**	IAMs_20	IAMs_20	23 51 05.2				
	comp=Z,292nm,18.0s									
FURI	**Furi**	**120.98**	**13**	IAMs_20	IAMs_20	00 06 05.7				
	comp=Z,339nm,18.0s									
LODK	**Lodwar**	**125.75**	**18**	IAMs_20	IAMs_20	00 07 04.3				
	comp=Z,336nm,19.0s									
KIBK	**Kibwezi**	**131.88**	**16**	IAMs_20	IAMs_20	00 16 16.3				
	comp=Z,422nm,19.0s									
VNA3	**Neumayer Olymp**	**145.48**	**150**	PKPdf	**PKPdf**	**23 06 30.2**	**-2.2**			
VNA1	**Neumayer--Stat**	**146.01**	**150**	PKPdf	**PKPdf**	**23 06 31.8**	**-1.4**			
VNA2	**Neumayer--Watz**	**146.25**	**150**	PKPdf	**PKPdf**	**23 06 32.6**	**-1.1**			
	baz=315,slow=6.0									
SNAA	**Sanae**	**147.55**	**152**	PKPdf	**PKPdf**	**23 06 35.1**	**-0.8**			
SNAA	**Sanae**	**147.55**	**152**	PKP2	**PKPbc**	**23 06 39.3**	**+0.7**			
SNAA	**Sanae**	**147.55**	**152**		**PKPbc**	**23 06 39.3**	**+0.7**			
LBTB	**Lobatse**	**148.99**	**47**	PKP2	**PKiKP**	**23 06 46.0**	**+0.8**			
LBTB	**Lobatse**	**148.99**	**47**		**PKiKP**	**23 06 46.0**	**+0.8**			
TROLL	**Troll, Antarti**	**149.05**	**154**	PKPdf	**PKiKP**	**23 06 43.4**	**-0.5**			
BOSA	**Boshof**	**151.81**	**51**	PKPbc	**PKPbc**	**23 06 49.1**	**-1.4**			
	comp=Z,3.0nm,0.8s,baz=0.0,slow=3.6,SNR=6.6									
SYO	**Syowa Base**	**159.79**	**169**	⇑*e*PKPdf	**PKPdf**	**23 06 56.8**	**+3.5**			

CNRM ***18*** *22:47:37.9, 35°.48N ×3°.84W, h10km, ml3.1*
LDG ***18*** *22:47:38.7 ± 0.7, 35°.26N ×3°.49

EGRO	**El Granado**	**3.58**	**306**	Pn	**Pn**	**22 48 34.0**	**-0.4**
EGRO				Sn	**Sn**	**22 49 15.6**	**-1.3**
EGRO				*i* Vmb_Lg		22 49 20.2	
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**22 48 36.9**	**+1.4**
ETOB				Sn	**Sn**	**22 49 19.9**	**+1.1**
ETOB				*i* Vmb_Lg		22 49 22.7	
PVAQ	**Vaqueiros**	**3.67**	**303**	P	**Pn**	**22 48 35.1**	**-0.6**
PAB	**San Pablo**	**4.08**	**354**	Pn	**Pn**	**22 48 42.3**	**+1.0**
PAB				Sn	**Sn**	**22 49 32.1**	**+2.7**
PAB				*i* Vmb_Lg		22 50 09.0	
AFON	**Font Roja**	**4.13**	**39**	Sn	**Sn**	**22 49 31.9**	**+1.2**
EBAD	**Badajoz**	**4.14**	**323**	Pn	**Pn**	**22 48 42.4**	**+0.3**
EBAD				Sn	**Sn**	**22 49 30.9**	**+0.2**
EBAD				*i* Vmb_Lg		22 49 36.8	
ESDC	**Sonseca Array**	**4.19**	**359**	Pn	**Pn**	**22 48 43.9**	**+1.0**
ESDC				*i* Vmb_Lg		22 50 01.8	
MORF	**Marmelete**	**4.29**	**297**	*e*P	**Pn**	**22 48 43.7**	**-0.5**
PFVI	**Vila Bisbo**	**4.36**	**294**	P	**Pn**	**22 48 45.9**	**+0.9**
PFVI				S	**Sn**	**22 49 33.7**	**-2.2**
EVIV	**Cofrentes, Val**	**4.36**	**29**	Pn	**Pn**	**22 48 47.4**	**+2.3**
EVIV				Sn	**Sn**	**22 49 39.4**	**+3.2**
EVIV				*i* Vmb_Lg		22 50 52.8	
PESTR	**Estremoz**	**4.52**	**320**	P	**Pn**	**22 48 47.6**	**+0.3**
PESTR				S	**Sn**	**22 49 38.7**	**-1.3**
ECHE	**Chera**	**4.70**	**28**	Pn	**Pn**	**22 48 51.4**	**+1.6**
ECHE				Sn	**Sn**	**22 49 44.8**	**+0.4**
ECHE				*i* Vmb_Lg		22 50 47.2	
EPLA	**Plasencia**	**4.91**	**339**	Pn	**Pn**	**22 48 54.3**	**+1.6**
EPLA				*i* Vmb_Lg		22 49 33.8	
EPLA				Sn	**Sn**	**22 49 52.2**	**+2.4**
OUK	**Oukaimeden**	**5.43**	**220**	P	**Pn**	**22 48 59.0**	**-1.1**
ETOR	**Torete**	**5.52**	**14**	Pn	**Pn**	**22 49 01.9**	**+0.8**
ETOR				*i* Vmb_Lg		22 52 11.9	
ERTA	**Horta de San J**	**6.38**	**30**	Sn	**Sn**	**22 50 28.8**	**+2.9**
ELAN	**Lanestosa**	**7.75**	**2**	Pn	**Pn**	**22 49 33.9**	**+2.2**
ETSF	**Etsaut**	**7.84**	**18**	*e*Pn	**Pn**	**22 49 29.8**	**-3.1**
ETSF	**Etsaut**	**7.84**	**18**	*e*P	**Pn**	**22 49 35.7**	**+2.8**
ETSF				*e*Sn	**Sn**	**22 50 53.5**	**-8.3**
	0.5nm,0.3s						
SJPF	**Ste Jean**	**7.89**	**14**	*e*Pn	**Pn**	**22 49 31.9**	**-1.7**
SJPF	**Ste Jean**	**7.89**	**14**	*e*P	**Pn**	**22 49 36.7**	**+3.1**
SJPF				*e*Sn	**Sn**	**22 50 56.0**	**-7.0**
	0.6nm,0.3s						
EPF	**Esparros**	**8.21**	**22**	*e*Pn	**Pn**	**22 49 34.5**	**-3.5**
EPF	**Esparros**	**8.21**	**22**	*e*P	**Pn**	**22 49 41.1**	**+3.1**
EPF				*e*Sn	Sn	22 51 02.1	-8.8
	0.4nm,0.3s						
CAF	**Calviac**	**10.46**	**24**	*e*Pn	**Pn**	**22 50 05.1**	**-3.7**
CAF	**Calviac**	**10.46**	**24**	*e*P	**Pn**	**22 50 10.2**	**+1.4**
RJF	**Les Rejaudoux**	**10.63**	**21**	*e*Pn	**Pn**	**22 50 08.5**	**-2.6**
RJF	**Les Rejaudoux**	**10.63**	**21**	*e*P	**Pn**	**22 50 13.5**	**+2.4**

IDC 18 22:51:54.9±7.0, 24°79N×122°61E, h125km±68km, mb3.1/5, mb1 3.3/6, mb1mx3.0/44, mbtmp3.5/6, MS3.1/2, Ms1 3.1/2, ms1mx2.7/26, Error ellipse: s-maj=67.0km s-min=22.3km az=83.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**13.41**	**19**	P	Pn	22 55 00.5	+0.4
	0.4nm,0.3s,baz=186,slow=8.6,SNR=1.9						
KSRS				LR	LR	23 00 06.7	
	comp=Z,79nm,19.1s,baz=200,slow=37						
DAV	**Davao City (W)**	**17.85**	**170**	LR	LR	23 02 23.3	
	comp=Z,81nm,21.8s,baz=336,slow=35						
USRK	**Ussuriysk Ar.**	**20.82**	**19**	P	P	22 56 25.9	-0.4
	1.4nm,0.7s,baz=215,slow=12,SNR=2.3						
SONM	**Songino Array**	**26.34**	**335**	P	P	22 57 19.1	0.0
	0.8nm,0.8s,baz=132,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**45.91**	**165**	P	P	23 00 04.1	-1.0
	0.4nm,0.6s,baz=347,slow=8.4,SNR=2.1						
ASAR	**Alice Springs**	**49.40**	**166**	P	P	23 00 32.7	+0.7
	0.3nm,0.8s,baz=342,slow=8.8,SNR=4.1						
YKA	**Yellowknife Ar**	**81.90**	**23**	P	P	23 04 00.3	+0.1
	0.4nm,0.8s,baz=316,slow=6.1,SNR=4.5						

*TUL **18** 23:06:46.5±1.2, 36°23N±0°04×99°26W±0°04, h7km±7km, ML2.9, mb_Lg2.9/59(NEIC), Error ellipse: s-maj=6.5km s-min=3.7km az=144.0*

NEIC 18 23:06:46.8±1.0, 36°22N±0°04×99°23W±0°04, h5km±2km, Error ellipse: s-maj=7.1km s-min=3.9km az=326.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.24**	**48**	Pg	Pg	23 06 52.0	+0.5
U32A				Sg	Sg	23 06 56.0	+1.2
WMOK	**Wichita Mounta**	**1.52**	**166**		Pn	23 07 14.4	-0.3
OKCFA	**Oklahoma City**	**1.65**	**119**	Pn	Pn	23 07 16.2	-0.3
OKCSW	**OKLAHOMA CITY**	**1.66**	**119**	Pn	Pn	23 07 17.0	+0.3
FNO	**Franklin**	**1.77**	**122**		Pn	23 07 17.8	-0.3
FNO				IAmb_Lg		23 07 45.9	
	comp=Z,74nm,0.8s						
X34A	**Smith Ranch, M**	**1.97**	**144**		Pn	23 07 22.0	+1.1
W35A	**Tecumseh**	**2.19**	**118**		Pn	23 07 24.1	+0.2
R32A	**Long Quarter,**	**2.24**	**10**	Pn	Pn	23 07 24.8	+0.2
T35A	**Sooner Cattle**	**2.29**	**72**		Pn	23 07 26.0	+0.7
T35A				IAmb_Lg		23 08 03.9	
	comp=Z,51nm,0.7s						
AMTX	**Amarillo**	**2.40**	**237**		Pn	23 07 28.5	+1.6
CBKS	**Cedar Bluff**	**2.62**	**351**	Pn	Pn	23 07 31.8	+1.9
TUL1	**Leonard**	**2.80**	**95**	Pn	Pn	23 07 33.2	+0.9
TUL1				IAmb_Lg		23 08 23.8	
	comp=Z,51nm,0.9s						
Z35A	**Perchaven, San**	**3.31**	**150**	IAmb_Lg		23 08 38.7	
	comp=Z,24nm,0.9s						
X37A	**Clayton**	**3.54**	**116**		Pn	23 07 43.2	+0.7
KSU1	**Kansas State U**	**3.55**	**35**		Pn	23 07 42.8	+0.2
KSU1				IAmb_Lg		23 08 43.5	
	comp=Z,36nm,0.9s						
ABTX	**Abilene, Hawle**	**3.60**	**186**	IAmb_Lg		23 08 50.9	
	comp=Z,24nm,0.7s						
MSTX	**Muleshoe**	**3.67**	**233**	IAmb_Lg		23 08 49.0	
	comp=Z,34nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.88**	**317**	IAmb_Lg		23 08 57.3	
	comp=Z,57nm,0.8s						
T25A	**Trinidad**	**4.27**	**284**		Pn	23 07 52.7	0.0
HHAR	**Hobbs**	**4.27**	**88**	IAmb_Lg		23 09 01.3	
	comp=Z,24nm,0.7s						
W39A	**Magazine**	**4.54**	**101**	IAmb_Lg		23 09 19.2	
	comp=Z,25nm,1.0s						
S39A	**Bolivar**	**4.95**	**71**	IAmb_Lg		23 09 30.9	
	comp=Z,20nm,0.7s						
BGNE	**Belgrade**	**5.25**	**9**	IAmb_Lg		23 09 42.6	
	comp=Z,27nm,0.7s						
SDCO	**Great Sand Dun**	**5.25**	**289**		Pn	23 08 05.0	-1.3
SDCO				IAmb_Lg		23 09 34.9	
	comp=Z,14nm,0.9s						
Q24A	**Divide**	**5.44**	**302**	Pn	Pn	23 08 08.7	-0.3
Q24A				IAmb_Lg		23 09 40.2	
	comp=Z,34nm,0.7s						
X40A	**Basin Creek Fa**	**5.50**	**106**	IAmb_Lg		23 09 55.2	
	comp=Z,17nm,0.8s						
P38A	**Dawn**	**5.64**	**51**	IAmb_Lg		23 09 53.6	
	comp=Z,19nm,0.7s						
MGMO	**Mountain Grove**	**5.67**	**78**	IAmb_Lg		23 09 49.5	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**5.72**	**97**		Pn	23 08 12.0	-0.4
WHAR				IAmb_Lg		23 09 52.1	
	comp=Z,28nm,1.1s						
W41B	**Gary Mavity, V**	**5.77**	**98**		Pn	23 08 12.8	-0.3
W41B				IAmb_Lg		23 10 05.0	
	comp=Z,17nm,0.9s						
ANMO	**Albuquerque**	**6.03**	**260**	IAmb_Lg		23 10 05.0	
	comp=Z,15nm,1.3s						
ISCO	**Idaho Springs**	**6.18**	**307**	IAmb_Lg		23 10 08.4	
	comp=Z,24nm,0.9s						
P40A	**Paris**	**6.57**	**58**	IAmb_Lg		23 10 18.9	
	comp=Z,22nm,0.9s						
MNTX	**Cornudas Mount**	**6.82**	**230**	IAmb_Lg		23 10 25.1	
	comp=Z,14nm,0.8s						
PHWY	**Pilot Hill**	**7.03**	**318**	IAmb_Lg		23 10 37.6	
	comp=Z,21nm,0.8s						
PBMO	**Poplar Bluff**	**7.11**	**83**	IAmb_Lg		23 10 50.1	
	comp=Z,21nm,0.8s						
MVCO	**Mesa Verde**	**7.51**	**280**	IAmb_Lg		23 10 53.2	
	comp=Z,8.9nm,0.9s						
121A	**Cookes Peak, D**	**7.97**	**245**	IAmb_Lg		23 11 09.7	
	comp=Z,19nm,1.3s						
RWWY	**Rawlins**	**8.28**	**314**	IAmb_Lg		23 11 16.0	
	comp=Z,15nm,1.1s						
RSSD	**Black Hills**	**8.71**	**336**	IAmb_Lg		23 11 44.5	

comp=Z,9.7nm,0.7s

*TAP **18** 23:08:18.6, 24°94N×122°19E, h13km, ML3.3, D*

*IDC **18** 23:08:31.6±5.8, 24°88N×122°27E, h181km±58km, mb3.0/6, mb1 3.2/7, mb1mx3.0/33, mbtmp3.6/7, MS3.7/1, Ms1 3.7/1, ms1mx3.0/18, Error ellipse: s-maj=38.1km s-min=18.4km az=66.0*

ISC 18 23:08:14.6±1.6, 24°95N±0°04×122°41E±0°06, h16km±9km, n52, σ0°96/60, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**279**	*i* P	**Pg**	**23 08 23.0**	**+0.4**
	baz=290						
TWB1				*e*S	**Sg**	**23 08 26.9**	**-1.1**
	baz=290						
SXI1	**Grass Mountain**	**0.51**	**287**	*i* P	**Pb**	**23 08 25.8**	**+0.5**
	baz=297						
SXI1				*i* S	**Sg**	**23 08 31.2**	**-0.5**
	baz=297						
TIPB	**Shuangxi**	**0.53**	**273**	*i* P	**Pb**	**23 08 26.1**	**+0.4**
	baz=274						
TIPB				*i* S	**Sg**	**23 08 31.7**	**-0.7**
	baz=274						
NTC	**Toucheng**	**0.54**	**261**	P	**Pb**	**23 08 26.3**	**+0.6**
	baz=254						
NWF	**Wu-fen Shan**	**0.59**	**282**	P	**Pb**	**23 08 27.4**	**+0.8**
	baz=289						
NWF				*e*S	**Sg**	**23 08 31.4**	**-2.7**
	baz=289						
TWC	**Suao**	**0.61**	**237**	*e*P	**Pg**	**23 08 26.3**	**-0.3**
	baz=221						
ILA	**Ilan**	**0.63**	**254**	*e*P	**Pb**	**23 08 27.7**	**+0.4**
	baz=245						
NDS	**Dongshan**	**0.71**	**244**	*e*P	**Pb**	**23 08 29.4**	**+0.8**
	baz=234						
NDS				*e*S	**Sg**	**23 08 37.7**	**-0.1**
	baz=234						
TWE	**Neicheng**	**0.71**	**252**	P	**Pb**	**23 08 29.6**	**+0.9**
	baz=243						
TWE				*e*S	**Sg**	**23 08 37.6**	**-0.4**
	baz=243						
PCYT	**Pengchaiyu**	**0.75**	**336**	*e*P	**Pb**	**23 08 29.6**	**+0.3**
	baz=351						
TWA	**Mucha**	**0.75**	**273**	*e*P	**Pb**	**23 08 29.8**	**+0.4**
	baz=273						
TWA				*e*S	**Sg**	**23 08 37.8**	**-1.5**
	baz=273						
EWUT	**Wuta**	**0.76**	**229**	*e*P	**Pg**	**23 08 30.4**	**+0.9**
	baz=216						
FUSB	**Fushanzhiwuyua**	**0.77**	**256**	*e*P	**Pn**	**23 08 30.7**	**-0.2**
	baz=251						
YM01	**YM01**	**0.79**	**285**	P	**Pn**	**23 08 31.6**	**+0.4**
	baz=289						
ENA	**Nanau**	**0.80**	**230**	*e*P	**Pb**	**23 08 29.4**	**-0.7**
	baz=217						
TWY	**Chenhua**	**0.81**	**294**	*e*P	**Pn**	**23 08 31.7**	**+0.3**
	baz=301						
ENTT	**Nioudou**	**0.83**	**249**	*e*P	**Pn**	**23 08 31.5**	**-0.1**
	baz=241						
NWLT	**Wulai**	**0.84**	**259**	*e*P	**Pn**	**23 08 31.9**	**0.0**
	baz=255						
ANP	**Anpu**	**0.84**	**287**	*e*P	**Pn**	**23 08 32.4**	**+0.5**
	baz=291						
NDT	**Datong Townshi**	**0.89**	**248**	*e*P	**Pn**	**23 08 33.0**	**+0.5**
	baz=240						
LATG	**Datong**	**0.90**	**243**	*e*P	**Pb**	**23 08 31.7**	**-0.3**
	baz=235						
TWS1	**Kuangyinshan**	**0.92**	**280**	*e*S	**Sb**	**23 08 42.3**	**-1.8**
	baz=282						
YHNB	**Yeheng**	**0.98**	**254**	*e*P	**Pn**	**23 08 34.3**	**+0.5**
	baz=249						
NSK	**Sanguang**	**1.00**	**255**	*e*P	**Pn**	**23 08 34.6**	**+0.6**
	baz=250						
NNSB	**Datong**	**1.07**	**241**	*e*P	**Pn**	**23 08 35.3**	**+0.2**
	baz=234						
NNS	**Nan Shan**	**1.07**	**242**	*e*P	**Pg**	**23 08 36.0**	**+0.6**
	baz=235						
NNS				*e*S	**Sb**	**23 08 49.5**	**+0.8**
	baz=235						
ETLH	**Xiulin Townshi**	**1.12**	**229**	*e*P	**Pg**	**23 08 37.5**	**+1.2**
	baz=221						
TWD	**Chiawan**	**1.14**	**221**	*e*P	**Pg**	**23 08 37.8**	**+1.2**
	baz=211						
FUSS	**Fushou**	**1.27**	**237**	*e*P	**Pg**	**23 08 40.0**	**+0.8**
	baz=231						
LIOB	**Emei**	**1.30**	**257**	*e*P	**Pg**	**23 08 41.7**	**+1.9**
	baz=254						
WHF	**Hehuan Shan**	**1.31**	**233**	*e*P	**Pn**	**23 08 39.1**	**+0.4**
	baz=226						
TWT	**Tachien**	**1.32**	**239**	*e*P	**Pg**	**23 08 41.0**	**+0.9**
	baz=233						
NSTT	**Nanjuang**	**1.32**	**257**	*e*P	**Pg**	**23 08 42.0**	**+1.9**
	baz=253						
CHGB	**Renai**	**1.43**	**232**	*e*P	**Pg**	**23 08 42.3**	**0.0**
	baz=226						
ESL	**Shilin**	**1.44**	**219**	*e*P	**Pg**	**23 08 43.2**	**+0.9**
	baz=211						
WHP	**Taichung City**	**1.49**	**244**	*e*P	**Pg**	**23 08 43.2**	**-0.1**
	baz=239						
WHP				*e*S	**Sn**	**23 09 00.4**	**+0.3**
	baz=239						
OWD	**Renai**	**1.50**	**229**	*e*P	**Pg**	**23 08 43.6**	**+0.2**
	baz=223						
WUSB	**Renai**	**1.52**	**232**	*e*P	**Pg**	**23 08 43.8**	**0.0**
	baz=225						
WCS	**Beigang Elemen**	**1.63**	**237**	*e*P	**Pb**	**23 08 45.4**	**+1.1**
	baz=232						
VWDT	**VWDT**	**1.66**	**225**	*e*P	**Pb**	**23 08 46.0**	**+1.2**
	baz=218						
HGSD	**Ruisui**	**1.71**	**212**	*e*P	**Pg**	**23 08 47.2**	**-0.2**
	baz=205						
SMLT	**Sun Moon Lake**	**1.74**	**233**	*e*P	**Pb**	**23 08 46.8**	**+0.6**
	baz=227						
TYC	**Yuchr**	**1.76**	**234**	*e*P	**Pb**	**23 08 46.9**	**+0.4**
	baz=229						
SSLB	**Suanglung**	**1.76**	**229**	*e*P	**Pb**	**23 08 47.0**	**+0.5**
	baz=224						
KSRS	**Korea Array**	**13.33**	**19**	P	**P**	**23 11 35.1**	**+2.4**
	0.3nm,0.3s,baz=189,slow=12,SNR=9.5						
MJAR	**Matsushiro Arr**	**17.80**	**46**	LR	LR	23 19 28.0	
	comp=Z,247nm,19.6s,baz=40,slow=37						
SONM	**Songino Array**	**26.13**	**335**	P	**P**	**23 13 48.3**	**+0.3**
	0.8nm,0.8s,baz=163,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**38.59**	**315**	P	**P**	**23 15 36.5**	**-0.3**
	0.6nm,0.5s,baz=99,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**40.23**	**326**	P	**P**	**23 15 50.4**	**0.0**
	0.6nm,0.5s,baz=120,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**46.10**	**164**	P	**P**	**23 16 36.4**	**-1.8**
	0.5nm,0.6s,baz=344,slow=8.3,SNR=2.6						
ASAR	**Alice Springs**	**49.59**	**166**	P	**P**	**23 17 05.1**	**-0.2**
	0.1nm,0.5s,baz=346,slow=11,SNR=1.8						
YKA	**Yellowknife Ar**	**81.83**	**23**	P	**P**	**23 20 30.8**	**-2.0**
	0.3nm,0.6s,baz=304,slow=5.4,SNR=8.0						

IDC 18 23:16:04.5±6.0, 24°90N×122°24E, h179km±60km, mb3.1/6, mb1 3.3/7, mb1mx3.1/33, mbtmp3.7/7, Error ellipse: s-maj=40.7km s-min=18.6km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**13.42**	**20**	P	Pn	23 19 08.1	+0.2
	0.3nm,0.3s,baz=190,slow=12,SNR=11						
SONM	**Songino Array**	**26.10**	**335**	P	P	23 21 20.8	-0.9
	0.7nm,0.8s,baz=145,slow=5.3,SNR=4.7						
MKAR	**Makanchi Array**	**38.51**	**315**	P	P	23 23 09.7	+0.4
	0.8nm,0.8s,baz=100,slow=10,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.18**	**326**	P	P	23 23 22.6	-0.3
	0.9nm,0.4s,baz=108,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**46.10**	**164**	P	P	23 24 09.9	-0.9
	1.0nm,0.8s,baz=342,slow=8.1,SNR=1.8						
ASAR	**Alice Springs**	**49.59**	**166**	P	P	23 24 38.1	+0.5
	0.7nm,1.0s,baz=340,slow=7.1,SNR=3.1						
YKA	**Yellowknife Ar**	**81.94**	**23**	P	P	23 28 03.9	+0.1
	0.7nm,0.7s,baz=309,slow=5.2,SNR=6.4						

*TUL **18** 23:16:28.8±1.4, 36°23N±0°01×98°44W±0°01, h7km±6km, ML2.9, mb_Lg2.2/13(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=200.0*

NEIC 18 23:16:28.8±0.9, 36°23N±0°02×98°43W±0°02, h16km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=191.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.48**	**288**		Pg	23 16 37.4	-1.0
U32A				Sg	Sg	23 16 45.1	+0.2
OKCFA	**Oklahoma City**	**1.14**	**135**	Pg	Pn	23 16 49.8	-0.4
OKCSW	**OKLAHOMA CITY**	**1.15**	**135**	Pg	Pn	23 16 49.8	-0.5
FNO	**Franklin**	**1.28**	**139**	Pn	Pb	23 16 52.5	-0.2
WMOK	**Wichita Mounta**	**1.51**	**191**	Pn	Pb	23 16 56.1	-0.4
W35A	**Tecumseh**	**1.66**	**130**	Pn	Pb	23 16 58.6	-0.5
T35A	**Sooner Cattle**	**1.69**	**66**	Pn	Pb	23 16 59.5	-0.1
X34A	**Smith Ranch, M**	**1.70**	**163**	Pn	Pb	23 16 59.4	-0.3
X34A				IAmb_Lg		23 17 26.0	
	comp=Z,18nm,0.9s						
TUL1	**Leonard**	**2.16**	**98**	Pn	Pn	23 17 05.5	+1.3
TUL1				IAmb_Lg		23 17 37.9	
	comp=Z,10.0nm,0.7s						
R32A	**Long Quarter,**	**2.20**	**354**		Pn	23 17 05.3	+0.5
R32A				IAmb_Lg		23 17 42.8	
	comp=Z,6.7nm,0.7s						
AMTX	**Amarillo**	**2.97**	**244**	Pn	Pn	23 17 17.0	+1.6
AMTX				IAmb_Lg		23 18 09.7	
	comp=Z,5.5nm,0.8s						
X37A	**Clayton**	**2.99**	**122**	Pn	Pn	23 17 16.7	+1.1
X37A				IAmb_Lg		23 18 08.8	
	comp=Z,7.7nm,0.8s						
KSU1	**Kansas State U**	**3.21**	**26**	IAmb_Lg		23 18 18.6	
	comp=Z,8.4nm,0.7s						
T25A	**Trinidad**	**4.89**	**282**	IAmb_Lg		23 19 07.7	
	comp=Z,8.8nm,0.8s						

*BJI **18** 23:28:04.5±0.0, 26°81N×126°69E, h5km, mb4.5/66, mB4.9/35, ML4.7/3, Ms4.7/57, Ms7 4.6/52*

*IDC **18** 23:28:06.9±2.6, 26°97N×126°80E, h12km±15km, mb4.3/21, mb1 4.5/23, mb1mx4.2/62, mbtmp4.4/23, ML3.2/2, MS4.2/50, Ms1 4.2/50, ms1mx4.0/94, Error ellipse: s-maj=14.3km s-min=11.6km az=63.0*

*JMA **18** 23:28:06.5±0.3, 26°94N×126°69E, h20km±3km, M4.9 JMA Felt I J1.*

*GCMT **18** 23:28:06.9±0.4, 26°81N±0°03×126°71E±0°04, h13km±1km, MW4.8/69, Moment Tensor Solution. s13,c14; s69,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.41±.19; $M_{\theta\theta}$1.22±.12; $M_{\phi\phi}$0.19±.11; $M_{r\theta}$-0.60±.29; $M_{\theta\phi}$1.29±.07; $M_{r\phi}$0.35±.35; Best double couple: $M_0$1.95600×10^{16} NP1:ϕs209.00000°, δ47.00000°, λ-132.00000°. NP2: ϕs82.00000°, δ57.00000°, λ-54.00000°. Principal axes: T 2.1210, Plg5.0000°, Azm147.0000°; N -0.3290, Plg29.0000°, Azm240.0000°; P -1.7910, Plg60.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NIED **18** 23:28:06.5, 26°94N×126°69E, h20km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.27; $M_{\theta\theta}$0.87; $M_{\phi\phi}$0.40; $M_{r\theta}$-0.07; $M_{\theta\phi}$0.80; $M_{r\phi}$0.17; Fault plane solution: $M_0$1.38000×10^{16} NP1: ϕs224.00000°, δ47.00000°, λ-103.00000°. NP2: ϕs62.00000°, δ45.00000°, λ-77.00000°.*

*NEIC **18** 23:28:07.9±1.6, 26°63N±0°07×126°66E±0°06, h25km±3km, mb4.9/154 Error ellipse: s-maj=9.8km s-min=7.1km az=171.0*

ISC 18 23:28:06.6±0.7, 26°71N±0°04×126°70E±0°03, h14km±4km, n392, σ1°30/379, mb4.8/101, MS4.3/50, 1C-7D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.39**	**169**	P	**Pb**	**23 28 18.3**	**+3.1**
JKE				S	**Sn**	**23 28 26.7**	**+1.7**
JAGN	**Aguni-jima**	**0.50**	**104**	P	**Pb**	**23 28 18.0**	**+0.9**
JAGN				S	**Sb**	**23 28 26.3**	**+2.1**
JJT3	**Tamagusuku3**	**1.12**	**120**	P	**Pg**	**23 28 30.0**	**+1.8**
JJT3				*e*S	**Sn**	**23 28 45.9**	**+2.8**
JIH	**Iheya**	**1.17**	**74**	P	**Pb**	**23 28 27.1**	**-1.5**
JIH				S	**Sb**	**23 28 42.7**	**-1.0**
JNTH	**Nagotoyohara**	**1.20**	**99**	P	**Pn**	**23 28 29.2**	**+0.3**
JNTH				*e*S	**Sb**	**23 28 44.8**	**+0.5**
JOW	**Kunigami**	**1.41**	**85**	Pn	**Pn**	**23 28 31.6**	**-0.2**
	363nm,0.3s,baz=126,slow=17,SNR=196						
JOW				Sn	**Sn**	**23 28 50.5**	**+0.3**
	665nm,0.3s,baz=162,slow=29,SNR=13						
JOW	**Kunigami**	**1.41**	**85**	P	**Pn**	**23 28 31.6**	**-0.2**
JOW				*e*S	**Sn**	**23 28 49.3**	**-0.9**
JOW	**Kunigami**	**1.41**	**85**	Pn	**Pn**	**23 28 31.3**	**-0.5**
JOW					**Sb**	**23 28 51.7**	**+1.2**
JYRO	**Yoronjima**	**1.59**	**78**	P	**Pn**	**23 28 33.7**	**-0.6**
JYRO				*e*S	**Sn**	**23 28 55.1**	**+0.4**
JOKE	**Okinoerabujima**	**1.79**	**68**	P	**Pn**	**23 28 35.9**	**-1.1**
JOKE				S	**Sn**	**23 28 59.9**	**+0.3**
YOJ	**Yonaguni jima**	**4.02**	**237**	Pn	**Pn**	**23 29 06.1**	**-1.5**
YOJ				Pg	**Pb**	**23 29 18.8**	**+1.7**
JMZ	**Minamidaito 2**	**4.15**	**101**	Pn	**Pn**	**23 29 08.6**	**-0.9**
TATO	**Taipei**	**5.01**	**251**	Pn	**Pn**	**23 29 19.8**	**-1.4**
YHNB	**Yeheng**	**5.22**	**248**		**Pn**	**23 29 22.8**	**-1.5**
YHNB					**Pb**	**23 29 37.5**	**-0.2**
NACB	**Ninganchiao**	**5.26**	**242**	Pn	**Pn**	**23 29 22.9**	**-1.9**
NACB					**Pb**	**23 29 37.1**	**-1.2**
JSU	**Suzuyama**	**5.80**	**34**	Pn	**Pn**	**23 29 33.3**	**+1.2**
YULB	**Yu-li**	**5.91**	**237**	Pn	**Pn**	**23 29 31.6**	**-2.1**
YULB					**Pb**	**23 29 47.5**	**-2.0**
SSLB	**Suanglung**	**5.96**	**242**	Pn	**Pn**	**23 29 32.8**	**-1.6**
TWG	**Pinlang**	**6.42**	**234**	Pn	**Pn**	**23 29 38.7**	**-2.0**
TPUB	**Ta-pu**	**6.47**	**240**	Pn	**

MAJO **Matsushiro** 13.85 42 Pn **Pn** 23 31 21.7 -0.8
MJAR **Matsushiro Arr** 13.85 42 Pn **Pn** 23 31 21.1 -1.4
0.1nm,0.3s,baz=242,slow=13,SNR=14
MJAR LR LR 23 37 16.0
comp=Z,391nm,19.5s,baz=233,slow=40
MJB9 **Matsu-Tunnel** 13.85 42 Pn **Pn** 23 31 21.7 -0.8
LYN **LuoYang** 14.53 306 eP **Pn** 23 31 30.4 -1.3
LYN S **Sn** 23 34 16.3 +3.8
LYN pmax pmax
comp=Z,20nm,1.3s
LYN LR LR
comp=N,1µm,12.0s
LYN LR LR
comp=E,2µm,11.8s
LYN LR LR
comp=Z,3µm,12.4s
HNS **HongShan** 14.72 319 ⇓P **Pn** 23 31 34.8 +0.5
HNS S **Sn** 23 34 18.1 +0.9
HNS pmax pmax
comp=Z,9.0nm,1.5s
HNS LR LR
comp=N,2µm,11.9s
HNS LR LR
comp=E,2µm,12.5s
HNS LR LR
comp=Z,3µm,12.5s
JSD **Sado** 14.91 38 Pn **Pn** 23 31 37.5 +0.5
ENH **Enshi** 15.55 287 P **P** 23 31 51.4 +1.7
BJT **Baijiatuau** 15.91 329 P **Pn** 23 31 50.8 +0.8
BJI **Beijing** 15.92 329 P **Pn** 23 31 50.5 +0.3
BJI pP **pP** 23 31 56.8 -0.4
BJI sP **sP** 23 31 58.1 -0.7
BJI pmax pmax
comp=Z,10.0nm,1.1s
BJI LR LR
comp=N,900nm,13.6s
BJI LR LR
comp=E,500nm,12.0s
JMM **Marumori** 16.28 43 **Pn** 23 31 53.7 -1.1
XAN **Xi'an** 16.98 300 P **P** 23 32 07.1 +1.5
XAN pmax pmax
comp=Z,21nm,1.1s
CN2 **Changchun** 17.08 357 eP **P** 23 32 06.3 -0.3
CN2 PP **PnPn** 23 32 20.8 +6.0
CN2 S **Sn** 23 35 16.1 +1.5
CN2 sS S 23 35 21.8 -2.4
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 LR LR
comp=N,2µm,11.0s
CN2 LR LR
comp=E,920nm,11.0s
CN2 LR LR
comp=Z,1µm,12.0s
GYA **Guiyang** 17.93 274 ⇓P **P** 23 32 19.9 +3.7
GYA pmax pmax
comp=Z,14nm,1.4s
GYA pmax pmax
comp=Z,350nm,5.4s
GYA LR LR
comp=Z,2µm,13.0s
USA0B **Ussuriysk Arra** 17.97 12 P **P** 23 32 16.4 0.0
USRK **Ussuriysk Ar.** 17.97 12 LR LR 23 38 52.9
comp=Z,289nm,19.2s,baz=181,slow=36
USRK **Ussuriysk Ar.** 17.97 12 P **P** 23 32 17.2 +0.8
MDJ **Mudanjiang** 18.02 7 P **P** 23 32 17.3 +0.3
MDJ **Mudanjiang** 18.02 7 P **P** 23 32 18.8 +1.8
MDJ pmax pmax
comp=Z,30nm,1.0s
MDJ pmax pmax
comp=Z,280nm,4.4s
MDJ LR LR
comp=N,1µm,10.8s
MDJ LR LR
comp=E,2µm,12.2s
MDJ LR LR
comp=Z,910nm,11.4s
HHC **Hu-ho-hao-te** 18.86 322 eP **Pn** 23 32 29.8 +2.8
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,690nm,8.8s
HHC LR LR
comp=N,2µm,10.1s
HHC LR LR
comp=E,920nm,10.5s
HHC LR LR
comp=Z,2µm,12.1s
BNX **BinXian** 19.00 2 ⇓P **Pn** 23 32 28.9 +0.4
BNX pmax pmax
comp=Z,89nm,0.8s
BNX pmax pmax
comp=Z,290nm,4.0s
XLT **XiLinHaoTe** 19.19 336 ⇓iP **Pn** 23 32 30.5 -0.4
XLT pP sP 23 32 34.4 -0.7
XLT sP pwP 23 32 36.1 +0.4
XLT PP **PnPn** 23 32 50.8 +7.1
XLT S **S** 23 36 08.9 +1.8
XLT pmax pmax
comp=Z,33nm,1.5s
XLT pmax pmax
comp=Z,350nm,4.4s
XLT LR LR
comp=E,1µm,11.1s
XLT LR LR
comp=Z,2µm,12.7s
BTO **Baotou** 19.57 319 eP **Pn** 23 32 36.9 +1.4
BTO S **S** 23 36 14.1 -0.8
BTO LR LR
comp=N,5µm,12.9s
BTO LR LR
comp=E,3µm,11.8s
GUMO **Guam** 21.44 124 LR LR 23 39 27.0
comp=Z,343nm,21.7s,baz=7.5,slow=32
LZH **Lanzhou** 21.59 301 eP **P** 23 32 56.8 +0.6
LZH sP pwP 23 33 04.9 +3.0
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=N,840nm,13.3s
LZH LR LR
comp=E,1µm,13.6s
LZH LR LR
comp=Z,2µm,15.7s
KMI **Kunming** 21.61 271 ⇑P **P** 23 32 59.3 +2.8
KMI pP pwP 23 33 02.1 +2.0
KMI sP sP 23 33 04.0 +2.3
KMI S **S** 23 36 51.9 -3.9
KMI pmax pmax
comp=Z,12nm,1.1s
KMI pmax pmax
comp=Z,220nm,4.5s
KMI LR LR
comp=N,900nm,12.0s
KMI LR LR
comp=E,1µm,12.7s
KMI LR LR
comp=Z,1µm,14.1s
PZH **PanZhiHua** 22.31 275 P **P** 23 33 05.8 +1.8
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,190nm,5.4s
KLR **Kul'dur** 22.82 9 P **P** 23 33 06.1 -2.9
6.8nm,0.6s,baz=188,slow=9.0,SNR=20
KLR LR LR 23 41 51.1
comp=Z,359nm,19.0s,baz=162,slow=36
HIA **Hailar** 23.16 348 P **P** 23 33 12.2 -0.3
YSS **Yuzh-Sakhalins** 23.86 28 P **P** 23 33 19.4 +0.1
YSS IAmb IAmb 23 33 34.5
comp=Z,65nm,1.5s
GTA **Gaotai** 25.74 306 ⇓P **P** 23 33 36.9 0.0
GTA pP sP 23 33 41.9 -0.5
GTA sP pwP 23 33 44.9 +4.1
GTA PcP **PcP** 23 37 08.0 +1.3
GTA pmax pmax
comp=Z,28nm,1.2s
GTA pmax pmax
comp=Z,140nm,4.4s
GTA LR LR
comp=Z,700nm,11.3s
GTA LR LR
comp=Z,780nm,14.9s
GTA LR LR
comp=Z,1µm,13.8s
TNTI **Ternate** 25.80 178 P **P** 23 33 33.7 -3.6
TNTI IAmb IAmb 23 33 51.3
comp=Z,23nm,0.9s
TOLI2 **Tolitoli** 26.08 194 P **P** 23 33 36.9 -3.0
ULN **Ulaanbaatar** 26.14 329 P **P** 23 33 40.5 +0.2
GTOI **Gorontalo** 26.17 188 P **P** 23 33 44.7 +4.0
comp=Z,7.0nm,1.2s
SONM **Songino Array** 26.42 328 P **P** 23 33 42.7 -0.2
comp=Z,16nm,1.1s,baz=144,slow=6.9,SNR=61
SONM PcP **PcP** 23 37 09.2 +1.1
comp=Z,1.7nm,0.8s,baz=145,slow=2.9,SNR=4.6
SONM LR LR 23 45 01.5
comp=Z,703nm,18.9s,baz=97,slow=39
SONM **Songino Array** 26.42 328 P **P** 23 33 42.7 -0.2
SONM IAmb IAmb 23 33 44.6
comp=Z,23nm,1.1s
MPSI **Mapaga** 27.03 195 P **P** 23 33 52.2 +3.8
SBUM **Sibu** 27.84 212 P **P** 23 33 54.4 -1.3
GOMU **GeErMu** 28.69 297 P **P** 23 34 04.3 +0.6
GOMU pP sP 23 34 07.8 -1.4
GOMU sP pwP 23 34 09.9 +2.3
GOMU pmax pmax
comp=Z,160nm,4.2s
SRIT **Nakonsritamara** 31.37 240 P **P** 23 34 24.6 -2.5
SRIT IAmb IAmb 23 34 36.0
comp=Z,16nm,1.2s
KULM **Kulim** 32.74 234 P **P** 23 34 35.3 -3.8
KULM IAmb IAmb 23 34 41.4
comp=Z,12nm,1.2s
IPM **Ipoh** 33.03 232 P **P** 23 34 39.3 -2.4
IPM IAmb IAmb 23 34 49.6
comp=Z,9.0nm,0.8s
PETK **Petropavlovsk-** 35.02 33 P **P** 23 34 59.6 +1.0
YAK **Yakutsk** 35.37 2 LR LR 23 50 06.0
comp=Z,327nm,18.2s,baz=130,slow=38
PSI **Prapat** 35.69 233 P **P** 23 35 07.6 +2.7
comp=Z,6.6nm,0.9s,baz=17,slow=4.2,SNR=8.2
WMQ **Urumqi** 35.75 309 eP **P** 23 35 05.4 +0.3
WMQ pP sP 23 35 09.9 -0.7
WMQ PP **PP** 23 36 28.1 +1.9
WMQ pmax pmax
comp=Z,18nm,1.3s
WMQ LR LR
comp=Z,580nm,17.5s
WMQ LR LR
comp=Z,960nm,13.5s
WMQ LR LR
comp=Z,380nm,21.7s
MA2 **Magadan** 36.82 20 LR LR 23 50 38.4
comp=Z,223nm,18.2s,baz=243,slow=37
JAGI **Jajag, Banyuwa** 37.03 201 P **P** 23 35 13.5 -2.6
JAGI IAmb IAmb 23 35 24.6
comp=Z,22nm,1.2s
MK31 **Makanchi Array** 40.20 312 P **P** 23 35 42.2 -0.3
MKAR **Makanchi Array** 40.20 312 P **P** 23 35 42.2 -0.3
comp=Z,12nm,0.6s,baz=100,slow=10,SNR=171
MKAR PcP **PcP** 23 37 45.6 -0.9
comp=Z,1.1nm,0.7s,baz=79,slow=7.5,SNR=3.3
MKAR ScP **ScP** 23 41 36.8 +1.4
comp=Z,0.6nm,0.9s,baz=129,slow=3.3,SNR=3.9
MKAR LR LR 23 52 50.2
comp=Z,315nm,19.2s,baz=63,slow=37
MAKZ **Makanchi** 40.41 312 P **P** 23 35 43.3 -0.9
MAKZ IAmb IAmb 23 35 45.1
comp=Z,19nm,1.1s
PMG **Port Moresby** 41.03 148 LR LR 23 50 49.6
comp=Z,280nm,19.7s,baz=338,slow=33
ZAA0 **Zalesovo Array** 41.04 323 P **P** 23 35 48.2 -1.2
ZALV **Zalesovo Beam** 41.04 323 P **P** 23 35 48.3 -1.0
comp=Z,7.9nm,0.6s,baz=109,slow=8.1,SNR=36
ZALV ScP **ScP** 23 41 38.8 +0.4
comp=Z,1.3nm,0.7s,baz=114,slow=3.7,SNR=6.1
ZALV LR LR 23 54 09.8
comp=Z,426nm,18.1s,baz=121,slow=38
ZALV **Zalesovo Beam** 41.04 323 P **P** 23 35 48.2 -1.2
TARG **Taragay, Kyrgy** 42.56 303 P **P** 23 36 02.5 0.0
KURK **Kurchatov** 43.53 317 P **P** 23 36 09.0 -0.6
KURK IAmb IAmb 23 36 15.4
comp=Z,21nm,1.1s
KURBB **Kurchatov Arra** 43.56 316 P **P** 23 36 09.3 -0.6
comp=Z,9.8nm,0.9s,baz=104,slow=8.7,SNR=47
KURBB ScP **ScP** 23 41 47.8 -0.8
comp=Z,0.6nm,1.0s,baz=108,slow=3.8,SNR=4.1
KURBB LR LR 23 55 41.9
comp=Z,358nm,21.0s,baz=87,slow=38
SMY **Shemya** 43.69 40 P **P** 23 36 10.0 -0.9
KSH **Kashi** 43.84 300 P **P** 23 36 15.8 +3.3
KSH sP pwP 23 36 24.6 +8.1
KSH pmax pmax
comp=Z,3.0nm,1.2s
FITZ **Fitzroy Crossi** 44.55 181 P **P** 23 36 20.2 +2.1
comp=Z,3.6nm,0.7s,baz=9.7,slow=6.1,SNR=6.9
TIXI **Tiksi** 44.99 1 LR LR 23 56 23.3
comp=Z,466nm,18.8s,baz=181,slow=38
AAK **Ala-Archa** 45.07 305 P **P** 23 36 22.6 +0.2
comp=Z,1.3nm,0.8s,baz=206,slow=2.3,SNR=5.3
AAK **Ala-Archa** 45.07 305 P **P** 23 36 22.6 +0.2
WRA **Warramunga Arr** 46.96 170 P **P** 23 36 39.5 +2.3
comp=Z,4.2nm,0.8s,baz=352,slow=8.4,SNR=15
WRA **Warramunga Arr** 46.96 170 P **P** 23 36 38.8 +1.6
WB2 **Warramunga Arr** 46.97 170 P **P** 23 36 38.9 +1.7
WB2 IAmb IAmb 23 36 44.7
comp=Z,8.7nm,0.9s
WR0 **Warramunga Arr** 47.01 170 P **P** 23 36 39.3 +1.7
BTK **Batken** 47.81 301 P **P** 23 36 43.1 -0.7
KKAR **Karatay Array** 48.02 305 P **P** 23 36 45.8 +0.5
GAR **Garm** 48.24 300 P **P** 23 36 45.9 -1.3
GAR IAmb IAmb 23 37 02.3
comp=Z,9.5nm,1.0s
HNR **Honiara** 48.29 134 LR LR 23 54 50.1
comp=Z,877nm,20.8s,baz=197,slow=33
NRIK **Noril'sk** 48.38 343 P **P** 23 36 47.6 0.0
comp=Z,6.5nm,1.1s,baz=102,slow=5.1,SNR=5.8
NRIK LR LR 23 58 39.5
comp=Z,661nm,20.4s,baz=136,slow=38
NRIK **Noril'sk** 48.38 343 P **P** 23 36 46.3 -1.3
NRIK IAmb IAmb 23 36 54.0
comp=Z,14nm,1.2s
BVAR **Borovoye Array** 49.01 318 P **P** 23 36 52.5 -0.3
comp=Z,2.8nm,0.6s,baz=140,slow=46,SNR=9.6
BRVK **Borovoye** 49.08 318 P **P** 23 36 52.3 -0.9
BRVK IAmb IAmb 23 36 60.0
comp=Z,20nm,1.4s
KBL **Kabul** 49.66 294 P **P** 23 36 58.5 +0.3
CTA **Charters Tower** 50.24 156 LR LR 23 57 47.9
comp=Z,102nm,21.2s,baz=330,slow=35
AS31 **Alice Springs** 50.56 171 P **P** 23 37 02.1 -2.7
ASAR **Alice Springs** 50.56 171 P **P** 23 37 07.8 +3.0
comp=Z,2.2nm,0.6s,baz=358,slow=14,SNR=32
ASAR **Alice Springs** 50.56 171 P **P** 23 37 06.5 +1.6
MNCI **Minicoy** 53.93 260 P **P** 23 37 27.9 -2.2
HRA **Herat** 55.23 295 P **P** 23 37 40.5 +0.9
ABKAR **Akbulak array** 55.32 313 P **P** 23 37 39.5 -0.2
ABKAR **Akbulak array** 55.32 313 P **P** 23 37 39.4 -0.3
TNA **Tin City** 55.83 27 P **P** 23 37 43.2 +0.1
TNA **Tin City** 55.83 27 P **P** 23 37 42.7 -0.4
baz=259
ARU **Arti** 56.17 322 LR LR 00 04 08.0
comp=Z,691nm,19.0s,baz=114,slow=39
AKTO **Aktyubinsk** 56.52 314 LR LR 00 01 18.0
comp=Z,139nm,19.2s,baz=69,slow=35
ANM **Nome** 56.74 29 P **P** 23 37 49.2 -0.4
ANM **Nome** 56.74 29 P **P** 23 37 49.3 -0.4
baz=262
GEYT **Alibeck** 57.87 300 LR LR 00 05 38.1
comp=Z,342nm,20.2s,baz=50,slow=39
STKA **Stephens Creek** 59.97 165 P **P** 23 38 15.2 +2.7
comp=Z,5.5nm,1.1s,baz=344,slow=8.9,SNR=4.6
STKA LR LR 00 02 48.5
comp=Z,140nm,21.8s,baz=11,slow=35
TTA **Tatalina** 60.82 31 P **P** 23 38 17.9 -0.2
baz=272
KIRV **Kirov** 61.06 324 LR LR 00 06 52.7
comp=Z,273nm,18.2s,baz=81,slow=38
L19K **White Mountain** 61.39 32 P **P** 23 38 21.4 -0.5
L19K **White Mountain** 61.39 32 P **P** 23 38 21.8 -0.1
baz=273
J20K **Nowinta River** 61.60 29 P **P** 23 38 23.4 +0.1
J20K IAmb IAmb 23 38 24.4
comp=Z,19nm,1.4s
J20K **Nowinta River** 61.60 29 P **P** 23 38 23.3 0.0
baz=273
K20K **Telida** 61.68 30 IAmb IAmb 23 38 24.7
comp=Z,7.8nm,1.0s
K20K **Telida** 61.68 30 P **P** 23 38 24.2 +0.3
baz=273
L20K **Farewell, AK** 61.82 31 P **P** 23 38 24.6 -0.2
baz=274
ONTNC **Ouen Toro** 62.09 138 P **P** 23 38 24.9 -2.2
H21K **Melozitna Rive** 62.09 28 P **P** 23 38 26.2 -0.4
baz=273
CHUM **Lake Minchumin** 62.42 30 P **P** 23 38 28.4 -0.4
baz=275
I21K **Tanana** 62.46 28 P **P** 23 38 28.9 -0.1
baz=274
CAST **Castle Rocks** 62.56 30 P **P** 23 38 28.9 -0.9
baz=275
PPLA **Purkeypile** 62.56 31 P **P** 23 38 29.3 -0.7
baz=275
SPCR **Spurr Chakacha** 62.73 33 P **P** 23 38 30.5 -0.5
baz=276
BELG **Belogornoye** 62.80 317 LR LR 00 07 55.8
comp=Z,165nm,19.1s,baz=23,slow=38
KDAK **Kodiak Island** 62.95 36 P **P** 23 38 31.7 -0.7
baz=278
BPAW **Bear Paw Mtn.** 62.99 29 P **P** 23 38 31.8 -0.8
baz=276
MLY **Manley** 63.00 28 IAmb IAmb 23 38 33.4
comp=Z,11nm,1.5s
MLY **Manley** 63.00 28 P **P** 23 38 31.9 -0.8
baz=275
COLD **Coldfoot** 63.02 26 P **P** 23 38 32.6 -0.1
baz=275
TOLK **Toolik Lake Re** 63.14 24 P **P** 23 38 33.5 -0.1
baz=275
CAPN **Captain Cook N** 63.29 33 P **P** 23 38 33.8 -0.8
baz=277
I23K **Minto, Yukon-K** 63.57 28 P **P** 23 38 35.8 -0.6
baz=277
BRSE **Bradley Lake S** 63.63 34 P **P** 23 38 37.1 +0.2
baz=278
NEA2 **Nenana** 63.76 29 IAmb IAmb 23 38 37.5
comp=Z,8.4nm,0.8s
NEA2 **Nenana** 63.76 29 P **P** 23 38 37.4 -0.3
baz=277
MCK **McKinley** 63.93 30 P **P** 23 38 38.0 -0.9
baz=278
RND **Reindeer** 64.01 30 P **P** 23 38 38.4 -1.1
MDM **Murphy Dome** 64.07 28 IAmb IAmb 23 38 40.2
comp=Z,20nm,1.2s
H24K **Noodor Dome** 64.10 27 P **P** 23 38 39.9 -0.1
H24K IAmb IAmb 23 38 40.4
comp=Z,13nm,1.4s
H24K **Noodor Dome** 64.10 27 P **P** 23 38 39.1 -0.8
baz=278
POKR **Poker Plat Res** 64.38 28 P **P** 23 38 41.5 -0.3
POKR IAmb IAmb 23 38 42.3
comp=Z,14nm,1.2s
POKR **Poker Plat Res** 64.38 28 P **P** 23 38 41.2 -0.6
baz=278
WAT6 **Susitna Watana** 64.64 31 P **P** 23 38 42.6 -1.1
baz=279
PWL **Port Wells** 64.64 33 P **P** 23 38 42.1 -1.5
baz=280
ILAR **Eielson Array** 64.66 28 P **P** 23 38 41.5 -2.2
comp=Z,0.5nm,0.5s,baz=241,slow=4.1,SNR=12
ILAR **Eielson Array** 64.66 28 P **P** 23 38 42.8 -0.8
HDA **Harding Lake** 64.69 29 IAmb IAmb 23 38 42.9
comp=Z,7.8nm,0.9s
HDA **Harding Lake** 64.69 29 P **P** 23 38 42.3 -1.5
baz=279
DHY **Denali Highway** 64.72 30 P **P** 23 38 42.8 -1.4
baz=279
SCM **Sheep Creek Mo** 64.95 31 P **P** 23 38 44.4 -1.2
baz=280
PRP **Porcupine Dome** 65.11 27 P **P** 23 38 45.9 -0.8
baz=280
BMAR **Burnt Mountain** 65.16 25 P **P** 23 38 46.6 -0.2
M24K **Tolsona, Glenn** 65.44 31 P **P** 23 38 48.1 -0.7
baz=281
PAX **Paxson** 65.60 30 IAmb IAmb 23 38 54.7
comp=Z,10nm,1.5s
PAX **Paxson** 65.60 30 P **P** 23 38 48.9 -0.9
baz=281
KLU **Klutina** 65.67 32 P **P** 23 38 49.4 -1.0
baz=281
RIDG **Independent Ri** 65.72 29 P **P** 23 38 49.8 -0.8
baz=281
DIV **Divide** 65.82 32 P **P** 23 38 50.8 -0.5
DIV IAmb IAmb 23 38 51.5
comp=Z,11nm,0.8s
SCRK **Sand Creek** 66.05 29 P **P** 23 38 51.3 -1.4
SCRK IAmb IAmb 23 38 52.2
comp=Z,16nm,1.4s
SCRK **Sand Creek** 66.05 29 P **P** 23 38 51.4 -1.4
baz=282
DOT **Dot Lake** 66.08 29 IAmb IAmb 23 38 51.9
comp=Z,5.2nm,0.8s
J26L **Joseph Creek** 66.12 28 P **P** 23 38 51.9 -1.2
baz=282
N25K **Chitina, Valde** 66.27 31 P **P** 23 38 53.3 -0.9
baz=282
BMRM **Bremner River** 66.41 32 P **P** 23 38 53.9 -1.1
baz=283
L26K **Log Cabin Wild** 66.53 30 P **P** 23 38 54.6 -1.2
L26K **Log Cabin Wild** 66.53 30 P **P** 23 38 55.0 -0.7
baz=283
KAIM **Kayak Island** 66.73 33 P **P** 23 38 56.4 -0.7
baz=283
VRDI **Verde Repeater** 66.89 32 **P** 23 38 58.0 -0.3
VRDI IAmb IAmb 23 38 58.3
comp=Z,7.8nm,0.8s
MCARA **McCarthy VSAT** 67.06 32 P **P** 23 38 58.2 -0.9
baz=284
EGAK **Eagle** 67.07 28 P **P** 23 38 57.8 -1.2
EGAK **Eagle** 67.07 28 P **P** 23 38 58.2 -0.9
baz=284
L27K **Beaver Creek,** 67.20 30 P **P** 23 38 59.6 -0.4
baz=284
BCAR **Beaver Creek A** 67.22 30 P **P** 23 38 59.7 -0.4
M27K **Edge Creek, AK** 67.35 30 P **P** 23 39 00.6 -0.5
baz=284
WAX **Waxell Ridge** 67.37 32 P **P** 23 39 00.7 -0.5
BARN **Barnard Glacie** 67.78 32 P **P** 23 39 03.5 -0.4
BARN IAmb IAmb 23 39 04.2
comp=Z,5.6nm,0.8s
KBZ **Khabaz** 67.80 309 P **P** 23 39 04.5 +0.4
comp=Z,3.0nm,0.9s,baz=181,slow=1.8,SNR=4.9
KBZ LR LR 00 12 35.8
comp=Z,255nm,18.2s,baz=61,slow=39
KIV **Kislovodsk** 67.88 309 P **P** 23 39 04.8 0.0
KIV IAmb IAmb 23 39 18.2
comp=Z,21nm,1.4s
CTG **Chitna Glacier** 67.95 32 P **P** 23 39 04.5 -0.5
baz=285
DAWY **Dawson** 67.99 28 P **P** 23 39 04.4 -0.6
baz=286
SPITS **Spitsbergen Ar** 68.08 348 LR LR 00 12 49.3
comp=Z,168nm,18.9s,baz=270,slow=40
YUK3 **Moose Creek** 68.14 31 P **P** 23 39 05.3 -0.9
baz=286
OBN **Obninsk** 68.61 322 LR LR 00 11 07.2
comp=Z,89nm,18.4s,baz=8.0,slow=38
INK **Inuvik** 68.99 23 P **P** 23 39 10.4 -0.6
comp=Z,4.5nm,1.0s,baz=277,slow=6.5,SNR=7.0
INK **Inuvik** 68.99 23 IAmb IAmb 23 39 11.3
comp=Z,14nm,1.4s
INK **Inuvik** 68.99 23 P **P** 23 39 10.5 -0.5
baz=289
ARCES **ARCESS Array B** 69.06 338 LR LR 00 16 04.2
comp=Z,138nm,18.2s,baz=99,slow=42
YUK4 **Talbot Arm** 69.10 31 P **P** 23 39 12.1 -0.1
baz=287
YUK6 **Outpost Mounta** 69.35 31 P **P** 23 39 13.0 -0.8
baz=288
M30M **Minto, Yukon** 69.55 29 P **P** 23 39 15.0 +0.2
baz=288
HYT **Haines Junctio** 69.79 31 P **P** 23 39 16.2 -0.1
HYT **Haines Junctio** 69.79 31 P **P** 23 39 16.0 -0.4
baz=288
HLK **Haleakala** 69.81 76 P **P** 23 39 15.0 -2.3
A36M **Sachs Harbour** 70.20 18 IAmb IAmb 23 39 19.1
comp=Z,7.8nm,0.9s
A36M **Sachs Harbour** 70.20 18 P **P** 23 39 18.2 -0.4
baz=295
N31M **Braeburn, Yuko** 70.36 30 P **P** 23 39 19.9 +0.2
N31M IAmb IAmb 23 39 25.8
comp=Z,20nm,1.3s
N31M **Braeburn, Yuko** 70.36 30 P **P** 23 39 19.5 -0.3
baz=290
M31M **Drury Creek, Y** 70.73 29 P **P** 23 39 21.5 -0.5
baz=291
WHY **Whitehorse** 71.06 31 **P** 23 39 24.7 +0.6
WHY **Whitehorse** 71.06 31 P **P** 23 39 23.2 -0.9

baz=291
FARO Faro, Yukon 71.18 29 P P 23 39 25.0 +0.3
baz=291
SKAG Skagway 71.27 32 P P 23 39 24.9 -0.3
SKAG IAmb IAmb 23 39 26.4
comp=Z,10nm,0.9s
SKAG Skagway 71.27 32 P P 23 39 25.2 0.0
baz=291
FINES FINESS Array B 71.77 330 LR LR 00 14 23.9
comp=Z,424nm,18.4s,baz=24,slow=39
MMPY Sheldon Lake, 71.93 28 P P 23 39 28.0 -1.2
baz=293
AFI Afiamalu 72.10 116 LR LR 00 04 45.9
comp=Z,140nm,19.7s,baz=325,slow=30
P33M Teslin, Yukon 72.17 31 P P 23 39 30.3 -0.5
P33M IAmb IAmb 23 39 31.8
comp=Z,17nm,1.4s
P33M Teslin, Yukon 72.17 31 P P 23 39 31.0 +0.2
baz=292
TGTN Hyland Airport 73.67 29 P P 23 39 39.9 +0.3
baz=296
DLBC Dease Lake 74.20 32 P P 23 39 42.2 -0.6
DLBC IAmb IAmb 23 39 44.4
comp=Z,15nm,1.2s
AKASG Malin Array Be 74.28 319 LR LR 00 14 30.9
comp=Z,481nm,19.4s,baz=67,slow=38
RES Resolute Bay 75.33 11 P P 23 39 47.4 -1.6
comp=Z,1.5nm,0.6s,baz=282,slow=5.7,SNR=14
RES LR LR 00 14 26.5
comp=Z,61nm,20.2s,baz=285,slow=37
MMAI Mount Meron Ar 76.97 300 LR LR 00 18 27.7
comp=Z,130nm,20.9s,baz=230,slow=39
JMIC Jan Mayen 77.62 346 LR LR 00 18 10.7
comp=Z,33nm,18.1s,baz=70,slow=39
HFS Hagfors 77.76 332 LR LR 00 18 09.4
comp=Z,288nm,18.3s,baz=60,slow=39
BBB Bella Bella 77.99 37 P P 23 40 03.9 -0.4
NC405 NORSAR Array S 78.03 333 P P 23 40 04.0 -0.5
NOA NORSAR Array B 78.28 333 LR LR 00 18 40.5
comp=Z,234nm,19.2s,baz=70,slow=39
MLR Muntele Rosu 78.44 315 LR LR 00 16 00.3
comp=Z,214nm,20.3s,baz=70,slow=37
YKA Yellowknife Ar 78.66 25 P P 23 40 07.0 -0.8
comp=Z,3.8nm,0.8s,baz=299,slow=5.5,SNR=64
YKA PKKPbc **PKKPbc 23 59 02.0 -1.8**
comp=Z,0.1nm,0.3s,baz=127,slow=2.9,SNR=3.7
YKA Yellowknife Ar 78.66 25 P P 23 40 07.2 -0.7
CRVS Cervenica-Dubn 79.59 320 *eP* **P 23 40 17.0 +3.7**
KONO Kongsberg 79.74 333 P P 23 40 13.2 -0.6
KONO IAmb IAmb 23 40 18.2
comp=Z,12nm,1.2s
URZ Urewera 80.03 142 LR LR 00 09 32.5
comp=Z,90nm,21.2s,baz=346,slow=31
VRAC Vranov 82.14 322 LR LR 00 19 31.3
comp=Z,380nm,18.2s,baz=43,slow=38
LLLB Lillooet 82.16 37 P P 23 40 26.7 -0.3
LLLB IAmb IAmb 23 40 28.2
comp=Z,11nm,1.1s
D03D Eldon 83.14 40 P P 23 40 33.4 +1.3
baz=302
B05A Bryant 83.31 39 P P 23 40 33.2 +0.3
baz=303
D05A Enumclaw 83.96 40 P P 23 40 35.6 -0.7
E04D Cinebar 83.97 40 P P 23 40 35.9 -0.4
E04D Cinebar 83.97 40 P P 23 40 37.0 +0.7
baz=303
GERES GERESS Array B 83.99 322 LR LR 00 20 48.9
comp=Z,304nm,20.3s,baz=68,slow=38
COR Corvallis 84.59 42 P P 23 40 39.6 0.0
LTY Liberty 84.67 39 P P 23 40 39.4 -0.7
LTY IAmb IAmb 23 40 40.9
comp=Z,5.5nm,0.9s
B08A Colville Reser 84.79 38 P P 23 40 40.4 -0.2
EDM Edmonton 84.91 32 P P 23 40 40.6 -0.5
H04D Lebanon 84.97 42 P P 23 40 41.5 0.0
baz=303
J01E Myrtle Point 84.97 44 P P 23 40 41.3 -0.2
baz=302
BUCK Buck Mountain 84.99 43 P P 23 40 41.6 -0.1
I03D Drain, OR 85.04 43 P P 23 40 41.9 0.0
baz=302
HOOD Mount Hood Mea 85.18 41 P P 23 40 42.7 0.0
H04A Detroit Lake 85.21 42 P P 23 40 42.7 0.0
H04A IAmb IAmb 23 40 44.1
comp=Z,11nm,0.9s
K02D Willamette Mer 85.38 44 P P 23 40 43.8 +0.1
baz=302
DBO Dodson Butte 85.42 44 P P 23 40 43.7 -0.1
G05D Wamic, OR 85.42 41 P P 23 40 44.2 +0.4
baz=304
BORG Borgarnes 85.51 347 LR LR 00 21 24.8
comp=Z,58nm,18.2s,baz=358,slow=38
E07A Sunnyside 85.53 39 P P 23 40 44.3 0.0
RAR Rarotonga 85.65 116 LR LR 00 11 43.5
comp=Z,92nm,21.6s,baz=292,slow=30
L02E Cave Junction 85.71 45 P P 23 40 46.3 +1.0
baz=302
D08A Wollman Farm, 85.77 39 P P 23 40 44.7 -0.8
D08A IAmb IAmb 23 40 46.2
comp=Z,7.2nm,0.8s
HAWA Hanford 85.80 39 P P 23 40 46.0 +0.3
HAWA IAmb IAmb 23 40 47.2
comp=Z,8.9nm,0.9s
HUMO Hull Mountain 85.87 44 P P 23 40 46.4 +0.3
HUMO IAmb IAmb 23 40 48.4
comp=Z,4.0nm,0.8s
I05D Terrebonne, OR 85.91 42 P P 23 40 46.9 +0.6
baz=304
E08A Dider Farm, El 86.02 39 P P 23 40 46.3 -0.3
E08A IAmb IAmb 23 40 47.6
comp=Z,5.4nm,0.8s
NEW Newport 86.05 37 IAmb IAmb 23 40 48.0
comp=Z,11nm,1.0s
NEW Newport 86.05 37 P P 23 40 46.7 -0.2
baz=306
J04D Umpqua Nationa 86.05 43 P P 23 40 47.3 +0.1
J04D Umpqua Nationa 86.05 43 P P 23 40 47.7 +0.5
baz=303,SNR=8.1
PINE Pine Mountain 86.45 42 P P 23 40 48.6 -0.6
L04D Klamath Falls 86.49 44 P P 23 40 49.0 -0.3
L04D Klamath Falls 86.49 44 P P 23 40 49.8 +0.5
baz=303,SNR=9.6
YBH Yreka Blue Hor 86.50 45 P P 23 40 49.5 +0.2
YBH IAmb IAmb 23 40 51.2
comp=Z,9.8nm,1.1s
E09A Wood Farm, Sta 86.52 39 P P 23 40 49.2 +0.1
J05D Fort Rock, OR 86.56 43 P P 23 40 50.3 +0.7
baz=304,SNR=11
SFJD Kangerlussuaq 86.56 359 LR LR 00 21 07.5
comp=Z,84nm,19.1s,baz=355,slow=37
M02C Callahan 86.59 45 P P 23 40 50.1 +0.3
M02C IAmb IAmb 23 40 51.9
comp=Z,8.6nm,1.0s
M02C Callahan 86.59 45 P P 23 40 50.9 +1.2
baz=303
K04D Chiloquin, OR 86.61 43 P P 23 40 50.6 +0.8
baz=304
G08A Pilot Rock 86.76 40 P P 23 40 49.9 -0.7
N02D Trinity Center 86.92 45 P P 23 40 50.5 -0.8
N02D IAmb IAmb 23 40 58.1
comp=Z,7.7nm,1.1s
N02D Trinity Center 86.92 45 P P 23 40 51.8 +0.5
baz=303
M04C Macdoel 87.02 44 P P 23 40 51.2 -0.7
M04C Macdoel 87.02 44 P P 23 40 52.5 +0.6
baz=304,SNR=6.9
K05A Summer Lake 87.08 43 P P 23 40 52.0 -0.2
I07A Izee 87.14 41 P P 23 40 52.8 +0.4
I07A IAmb IAmb 23 40 54.2
comp=Z,7.2nm,1.2s
WDC Whiskeytown Da 87.23 45 P P 23 40 52.9 +0.2
WDC IAmb IAmb 23 40 53.8
comp=Z,6.6nm,1.0s
WALA Waterton Lakes 87.25 35 P P 23 40 52.9 +0.1
WALA IAmb IAmb 23 40 55.9
comp=Z,4.2nm,0.8s
DAVOX Davos/Dischmat 87.28 322 LR LR 00 24 28.8
comp=Z,327nm,18.6s,baz=36,slow=39
O02D Mt. Diablo Mer 87.30 46 P P 23 40 53.5 +0.3
O02D Mt. Diablo Mer 87.30 46 P P 23 40 54.5 +1.3
baz=303
EKA Eskdalemuir Ar 87.75 334 LR LR 00 24 02.1
comp=Z,212nm,21.0s,baz=3.5,slow=38
O03E Paynes Creek 87.86 45 P P 23 40 56.0 +0.1
baz=304
JTMT Jette 87.87 36 P P 23 40 55.2 -0.6
JTMT IAmb IAmb 23 40 57.4
comp=Z,7.2nm,1.0s
MOD Modoc Plateau 87.90 43 P P 23 40 55.9 -0.3
BMO Blue Mountains 87.97 40 P P 23 40 56.4 0.0
BMO IAmb IAmb 23 40 57.8
comp=Z,5.7nm,0.9s
GDXM Geysers 88.04 47 P P 23 40 57.0 +0.3
GDXM IAmb IAmb 23 40 58.9
comp=Z,11nm,1.3s
J08A Circle Bar Ran 88.17 41 P P 23 40 57.3 -0.1
J08A IAmb IAmb 23 40 58.7
comp=Z,6.7nm,0.7s
FCC Fort Churchill 88.36 20 P P 23 40 56.6 -1.1
FCC IAmb IAmb 23 40 57.6
comp=Z,8.1nm,1.1s
ORV Oroville 88.47 46 P P 23 40 58.5 -0.2
ORV IAmb IAmb 23 40 59.6
comp=Z,6.0nm,1.0s
PLID Pearl Lake 88.57 39 P P 23 40 58.8 -0.6
WVOR Wild Horse Val 88.61 42 P P 23 40 58.7 -0.8
MSO Missoula 88.63 37 P P 23 40 59.8 +0.3
baz=309
FFC Flin Flon 88.77 26 P P 23 40 59.5 -0.3
BEKR Beckworth 89.02 45 P P 23 41 01.4 -0.1
BEKR IAmb IAmb 23 41 02.8
comp=Z,8.3nm,1.2s
FRB Frobisher Bay 89.05 7 LR LR 00 24 02.6
comp=Z,97nm,18.5s,baz=12,slow=38
MFID Camas Ranch 89.69 40 P P 23 41 04.5 0.0
MFID IAmb IAmb 23 41 06.4
comp=Z,6.2nm,0.9s
PAHR Pah Rah Range 89.73 45 P P 23 41 04.9 +0.1
HRY Holter Researc 89.82 36 P P 23 41 05.1 +0.1
EGMT Eagleton 90.03 34 P P 23 41 06.6 +0.7
baz=312
LRM Limekiln Ridge 90.07 37 P P 23 41 06.7 +0.3
DLMT Dillon 90.28 37 P P 23 41 07.7 +0.4
DLMT IAmb IAmb 23 41 09.1
comp=Z,11nm,1.1s
HLID Hailey 90.41 40 P P 23 41 08.7 +0.7
HLID IAmb IAmb 23 41 09.7
comp=Z,5.0nm,0.9s
HLID Hailey 90.41 40 P P 23 41 09.2 +1.3
baz=308
BOZ Bozeman (W) 90.65 37 IAmb IAmb 23 41 10.5
comp=Z,5.9nm,0.9s
BOZ Bozeman (W) 90.65 37 P P 23 41 09.6 +0.6
baz=310
KVN Kaiserville 90.92 45 P P 23 41 10.2 -0.2
KVN IAmb IAmb 23 41 12.8
comp=Z,8.4nm,1.4s
NVAR Mina Array Bea 91.15 45 P P 23 41 11.6 +0.1
comp=Z,0.9nm,0.7s,baz=291,slow=4.5,SNR=7.8
NVAR Mina Array Bea 91.15 45 P P 23 41 11.0 -0.6
QLMT Earthquake Lak 91.26 37 P P 23 41 12.6 +0.7
YHL Hebgen Lake 91.38 37 P P 23 41 12.5 -0.1
GCMT Greycliff 91.56 36 P P 23 41 13.5 +0.3
YHH Holmes Hill 91.60 37 P P 23 41 12.8 -0.8
YHH IAmb IAmb 23 41 15.1
comp=Z,4.0nm,1.0s
YMR Madison River 91.61 37 P P 23 41 14.0 +0.4
ELK Elko 91.66 42 P P 23 41 13.9 0.0
YNR Norris Junctio 91.74 37 IAmb IAmb 23 41 17.0
comp=Z,6.4nm,1.1s
YMP Mirror Lake Pl 92.00 37 P P 23 41 15.8 +0.3
H17A Grant Village 92.00 37 P P 23 41 17.6 +2.2
baz=311
TPH Tonopah 92.05 45 P P 23 41 16.4 +0.7
FLWY Flagg Ranch 92.14 37 P P 23 41 17.1 +1.1
RLMT Red Lodge 92.22 36 P P 23 41 16.2 -0.1
RLMT IAmb IAmb 23 41 18.1
comp=Z,7.2nm,0.9s
LCH Last Change Ra 92.28 46 P P 23 41 16.8 +0.2
LCH IAmb IAmb 23 41 26.6
comp=Z,5.4nm,1.4s
PPT Papeete 92.34 108 LR LR 00 16 08.9
comp=Z,107nm,20.1s,baz=322,slow=31
TPAW Teton Pass 92.39 38 P P 23 41 16.6 -0.7
TPAW IAmb IAmb 23 41 18.3
comp=Z,4.0nm,0.8s
DGMT Dagmar 92.39 31 P P 23 41 17.6 +0.7
baz=316
HVU Hansel Valley 92.47 40 P P 23 41 17.4 -0.1
REDW Red Top Meadow 92.53 38 P P 23 41 17.8 -0.1
REDW IAmb IAmb 23 41 20.7
comp=Z,3.2nm,0.9s
BGU Big Grassy Mou 92.86 41 P P 23 41 19.3 0.0
R11A Hoy Canyon, C 92.91 44 P P 23 41 20.3 +0.7
baz=308
MPMC Manual Prospec 93.07 47 P P 23 41 20.4 0.0
baz=306
FURC Furnace Creek, 93.23 46 P P 23 41 20.8 -0.1
baz=307
HWUT Hardware Ranch 93.27 40 P P 23 41 20.8 -0.5
LRMC Laurel Mtn Rad 93.28 47 P P 23 41 21.3 -0.1
baz=306
TPNV Topopah Spring 93.34 46 P P 23 41 21.3 -0.3
TPNV IAmb IAmb 23 41 23.1
comp=Z,9.2nm,1.4s
TPNV Topopah Spring 93.34 46 P P 23 41 20.6 -1.0
baz=307
EDW2 Edwards Air Fo 93.43 48 P P 23 41 21.7 -0.2
baz=306
DUG Dugway, Tooele 93.45 41 P P 23 41 21.2 -0.9
DUG IAmb IAmb 23 41 24.1
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 93.45 41 P P 23 41 22.1 +0.1
baz=310
GWY Greenwater Val 93.53 46 P P 23 41 21.5 -1.0
GWY IAmb IAmb 23 41 24.8
comp=Z,9.6nm,1.5s
QSM Queen of Sheba 93.53 47 P P 23 41 21.8 -0.5
QSM IAmb IAmb 23 41 24.0
comp=Z,7.4nm,1.1s
BW06 Boulder Array 93.63 38 P P 23 41 21.6 -1.3
BW06 IAmb IAmb 23 41 24.3
comp=Z,5.3nm,1.0s
BW06 Boulder Array 93.63 38 P P 23 41 23.2 +0.2
baz=312
PD31 Pinedale Array 93.63 38 P P 23 41 22.3 -0.6
PD31 IAmb IAmb 23 41 23.7
comp=Z,3.6nm,1.0s
PDAR Pinedale Array 93.63 38 P P 23 41 22.2 -0.7
comp=Z,2.8nm,0.8s,baz=21,slow=0.6,SNR=24
PDAR LR LR 00 28 20.6
comp=Z,52nm,18.0s,baz=342,slow=39
FMP Fort Macarthur 93.91 49 P P 23 41 23.0 -1.0
baz=306
GSC Goldstone, Bar 93.97 47 P P 23 41 24.5 +0.1
baz=307
BFSC Mount Baldy Ra 94.03 48 P P 23 41 24.5 -0.3
baz=306
NLU North Lily Min 94.04 41 P P 23 41 25.0 +0.2
NLU IAmb IAmb 23 41 26.7
comp=Z,4.1nm,1.0s
HEC Hector,Ludlow 94.56 47 P P 23 41 27.0 -0.2
baz=307
ULM Lac du Bonnet 94.59 26 P P 23 41 25.8 -1.0
comp=Z,4.7nm,0.8s,baz=317,slow=4.8,SNR=6.3
ULM LR LR 00 27 19.5
comp=Z,133nm,18.1s,baz=332,slow=38
MURC Murrieta 94.72 49 P P 23 41 28.1 +0.2
baz=306
MDND Maddock 94.92 29 P P 23 41 28.5 0.0
baz=320
GMRC Granite Mounta 95.03 47 P P 23 41 28.8 -0.6
baz=307
P17A Butcher Ranch, 95.14 41 P P 23 41 29.3 -0.5
P17A IAmb IAmb 23 41 31.5
comp=Z,7.2nm,0.9s
PFO Pinyon Flats O 95.20 48 P P 23 41 30.3 +0.1
baz=307
TPFO Pinon Flats 95.21 48 P P 23 41 30.7 +0.5
baz=307
BELC Belle Mtn. Jos 95.28 48 P P 23 41 30.6 +0.1
baz=307
P18A Preston Nutter 95.32 41 P P 23 41 30.6 -0.2
P18A IAmb IAmb 23 41 32.7
comp=Z,6.3nm,0.9s
KNB Kanab 95.46 44 P P 23 41 31.1 -0.3
KNB IAmb IAmb 23 41 33.6
comp=Z,3.0nm,0.8s
RSSD Black Hills 95.60 34 P P 23 41 31.8 -0.1
baz=316
MONP2 Monument Peak 95.66 49 P P 23 41 30.9 -1.5
baz=307
BC3 Big Chuckawall 95.85 48 P P 23 41 33.0 -0.1
baz=307
IKP In-Ko-Pah, Jac 96.01 49 P P 23 41 34.3 +0.4
baz=307
SWSC Sam W. Stewart 96.04 49 P P 23 41 34.3 +0.5
baz=307
O20A White River Ci 96.13 39 P P 23 41 33.9 -0.5
baz=313
SCHQ Schefferville 97.96 8 LR LR 00 29 42.3
comp=Z,93nm,18.8s,baz=65,slow=38
ECSD EROS Data Cent 99.43 30 P Pdif 23 41 49.0 +0.1
baz=322
ESDC Sonseca Array 99.53 324 LR LR 00 29 01.1
comp=Z,96nm,18.7s,baz=26,slow=37
TUC Tucson 99.75 46 P Pdif 23 41 50.5 -0.2
baz=310
L44A Lake County Fo 104.37 26 P Pdif 23 42 11.0 +0.1
baz=326
PKME Peaks-Kenny Pk 106.90 12 P PKiKP 23 46 32.7 +0.9
baz=345
TORD Torodi Ar. Bea 113.51 300 PKiKP **PKiKP 23 46 44.8 -0.2**
comp=Z,0.8nm,0.8s,baz=30,slow=3.5,SNR=5.1
LPAZ La Paz 162.75 56 PKPab **PKPab 23 48 57.7 -0.7**
comp=Z,1.4nm,0.8s,baz=245,slow=1.3,SNR=3.8

IDC 18 23:29:37.6±1.8, 4.17N×124.81E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/55, mbtmp3.4/4, Error ellipse: s-maj=205.7km s-min=22.2km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.73**	**159**	P	P	23 35 10.4	+0.4
	0.3nm,0.3s,baz=339,slow=9.7,SNR=8.4						
ASAR	**Alice Springs**	**29.06**	**163**	P	P	23 35 39.4	-0.5
	0.2nm,0.3s,baz=335,slow=6.8,SNR=4.3						
MKAR	**Makanchi Array**	**56.11**	**326**	P	P	23 39 19.1	+0.3
	0.3nm,0.3s,baz=124,slow=8.3,SNR=8.5						
KURBB	**Kurchatov Arra**	**60.34**	**328**	P	P	23 39 47.9	-0.5
	0.1nm,0.3s,baz=148,slow=2.0,SNR=4.0						

*IDC **18** 23:48:26.3±1.1, 36.53N×26.77E, h126km±14km, mb3.3/5, mb1 3.3/9, mb1mx3.0/47, mbtmp3.5/9, Error ellipse: s-maj=21.4km s-min=12.5km az=160.0*
*ATH **18** 23:48:26.6, 36.56N×26.79E, h135km±4km, ML3.6/12, Error ellipse: s-maj=4.2km s-min=1.4km az=120.0*
*DDA **18** 23:48:28.0±0.0, 36.35N×26.74E, h14km, ML2.8*
*THE **18** 23:48:28.5, 36.55N×26.80E, h158km±8km, ML3.5/5, Error ellipse: s-maj=8.6km s-min=1.5km az=178.0*
*ISK **18** 23:48:28.8, 36.61N×26.65E, h99km±2km, ML3.1/10*
*HLW **18** 23:48:29.5, 36.27N×27.10E, h30km±20km, Md3.5*

ISC 18 23:48:27.3±0.7, 36.49N±0.03×26.81E±0.03, h136km±6km, n92, σ1.29/117, mb3.3/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.28**	**65**	P	Pn	**23 48 45.8**	**-0.2**
BDRM	**Kayabasi**	**0.77**	**42**	P	Pn	**23 48 48.4**	**-0.3**
BDRM				S	Sn	**23 49 04.1**	**-0.9**
KARP	**Karpathos**	**0.99**	**163**	P	Pn	**23 48 51.2**	**+0.5**
KARP				S	Sn	**23 49 08.7**	**+0.3**
KARP				AML	AML	23 49 12.1	
	comp=N,4345μm,0.2s						
KARP				AML	AML	23 49 12.7	
	comp=E,2588μm,0.2s						
KARP	**Karpathos**	**0.99**	**163**	P	Pn	**23 48 51.2**	**+0.5**
KARP				S	Sn	**23 49 08.4**	**0.0**
	comp=E,2μm,0.2s						
KARP	**Karpathos**	**0.99**	**163**	PN	Pn	**23 48 51.3**	**+0.7**
KARP				SN	Sn	**23 49 07.9**	**-0.5**
THR8	**Santorini-Mono**	**1.08**	**266**	P	Pn	**23 48 51.3**	**-0.1**
THR8	**Santorini-Mono**	**1.08**	**266**	P	Pn	**23 48 51.2**	**-0.1**
THR2	**Thira island,**	**1.11**	**268**	P	Pn	**23 48 51.6**	**-0.1**
THR2	**Thira island,**	**1.11**	**268**	P	Pn	**23 48 51.6**	**-0.1**
MLSB	**Milas**	**1.11**	**44**	PN	Pn	**23 48 51.7**	**-0.1**
THR3	**Thira Island,**	**1.14**	**266**	P	Pn	**23 48 52.0**	**+0.1**
THR3	**Thira Island,**	**1.14**	**266**	P	Pn	**23 48 52.0**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.14**	**266**	P	Pn	**23 48 52.1**	**+0.1**
THR6	**Thira Island,**	**1.15**	**264**	P	Pn	**23 48 52.3**	**+0.2**
THR6	**Thira Island,**	**1.15**	**264**	P	Pn	**23 48 52.2**	**+0.2**
APE	**Apeiranthos**	**1.18**	**300**	P	Pn	**23 48 52.0**	**-0.4**
THR5	**Thira Island,**	**1.18**	**267**	P	Pn	**23 48 52.7**	**+0.3**
SAP3	**Santorini-Thir**	**1.18**	**268**	P	Pn	**23 48 52.5**	**+0.1**
SMG	**Samos**	**1.21**	**1**	P	Pn	**23 48 51.9**	**-0.9**
GCAM	**G?zelcaml?**	**1.25**	**16**	PN	Pn	**23 48 52.5**	**-0.6**
GCAM				SN	Sn	**23 49 09.2**	**-3.6**
GCAM	**G?zelcaml?**	**1.25**	**16**	P	Pn	**23 48 52.5**	**-0.6**
GCAM				*i* AML	AML	23 49 12.0	
	comp=E,110nm,0.7s						
YER	**Yerkesik**	**1.34**	**61**	PN	Pn	**23 48 54.7**	**+0.6**
YER				SN	Sn	**23 49 13.8**	**-0.8**
AYDN	**Tasoluk**	**1.45**	**36**	P	Pn	**23 48 55.1**	**-0.1**
AYDN				*i* AML	AML	23 49 15.0	
	comp=E,53nm,0.6s						
AYDN				S	Sn	**23 49 15.6**	**-1.0**
AYDN				*i* AML	AML	23 49 16.0	
	comp=E,62nm,0.7s						
ZKR	**Zakros**	**1.46**	**199**	P	Pn	**23 48 56.3**	**+1.0**
ZKR				S	Sn	**23 49 17.2**	**+0.5**
ZKR				AML	AML	23 49 19.8	
	comp=N,1014μm,0.4s						
ZKR				AML	AML	23 49 20.1	
	comp=E,2153μm,0.3s						
ZKR	**Zakros**	**1.46**	**199**	P	Pn	**23 48 56.4**	**+1.0**
ZKR				S	Sn	**23 49 17.9**	**+1.2**
	comp=E,748nm,0.3s						
ZKR	**Zakros**	**1.46**	**199**	PN	Pn	**23 48 56.6**	**+1.3**
DALY	**Dalyan (Mula)**	**1.52**	**77**	PN	Pn	**23 48 57.1**	**+1.2**
DALY				SN	Sn	**23 49 18.3**	**+0.5**
FRMA	**Ierapetra Chan**	**1.72**	**211**	P	Pn	**23 48 59.0**	**+0.8**
FRMA				AML	AML	23 49 23.6	
	comp=E,1876μm,0.2s						
FRMA				AML	AML	23 49 23.9	
	comp=N,1353μm,0.4s						
HRKL	**Herakleio**	**1.82**	**230**	P	Pn	**23 48 59.9**	**+0.4**
HRKL				AML	AML	23 49 26.3	
	comp=E,6102μm,0.4s						
HRKL				AML	AML	23 49 27.8	
	comp=N,4071μm,0.5s						
HRKL	**Herakleio**	**1.82**	**230**	P	Pn	**23 48 59.2**	**-0.2**
HRKL				S	Sn	**23 49 23.8**	**-0.2**
	comp=N,862nm,0.3s						
HRKL	**Herakleio**	**1.82**	**230**	PN	Pn	**23 48 59.8**	**+0.4**
HRKL				SN	Sn	**23 49 22.4**	**-1.6**
FETY	**Fethiye**	**1.84**	**85**	P	Pn	**23 48 60.0**	**+0.4**
FETY				*i* AML	AML	23 49 23.0	
	comp=N,226nm,0.5s						
FETY				S	Sn	**23 49 23.3**	**-1.0**
FETY				*i* AML	AML	23 49 26.0	
	comp=N,258nm,0.5s						
KSTL	**Kastelli Herak**	**1.84**	**230**	P	Pn	**23 48 59.3**	**-0.3**
KSTL				AML	AML	23 49 23.6	
	comp=N,1746μm,0.2s						
KSTL				AML	AML	23 49 23.8	
	comp=E,717μm,0.3s						
KSTL	**Kastelli Herak**	**1.84**	**230**	P	Pn	**23 48 59.2**	**-0.5**
KSTL				S	Sn	**23 49 22.5**	**-2.0**
	comp=E,188nm,0.6s						
URLA	**Izmir**	**1.87**	**355**	PN	Pn	**23 48 58.8**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.94**	**59**	P	Pn	**23 49 01.4**	**+0.4**
TAVA				S	Sn	**23 49 25.7**	**-1.1**
TAVA				*i* AML	AML	23 49 26.0	
	comp=E,55nm,0.4s						
TAVA				*i* AML	AML	23 49 26.0	
	comp=E,59nm,0.4s						
MHLO	**Agia Marina, M**	**1.95**	**276**	P	Pn	**23 49 01.6**	**+0.7**
IDI	**Anoyia**	**1.97**	**233**	P	Pn	**23 49 01.1**	**-0.1**
	comp=E,6.9nm,0.3s,baz=288,slow=20,SNR=328						
IDI				S	Sn	**23 49 25.3**	**-1.9**
	comp=E,64nm,0.3s,baz=241,slow=13,SNR=38						
IDI	**Anoyia**	**1.97**	**233**	P	Pn	**23 49 01.1**	**-0.1**
IDI				AML	AML	23 49 26.2	
	comp=N,1104μm,0.2s						
IDI				AML	AML	23 49 27.7	
	comp=E,835μm,0.2s						
IDI	**Anoyia**	**1.97**	**233**	PN	Pn	**23 49 01.3**	**0.0**
IDI				SN	Sn	**23 49 25.6**	**-1.6**
CHOS	**Chios island**	**1.98**	**343**	P	Pn	**23 49 00.5**	**-0.9**
CHOS	**Chios island**	**1.98**	**343**	PN	Pn	**23 49 00.2**	**-1.2**
CAEL	**Denizli, Camel**	**2.11**	**72**	P	Pn	**23 49 03.7**	**+0.7**
CAEL				S	Sn	**23 49 27.6**	**-2.8**
CAEL				*i* AML	AML	23 49 34.0	
	comp=E,143nm,0.6s						

CAEL				*i* AML	AML	23 49 36.0		
	comp=E,192nm,0.7s							
TMBK	**Timbaki Herakl**	**2.19**	**230**	P	**Pn**	**23 49 04.5**	**+0.8**
KSL	**Kastellorizon**	**2.27**	**98**	P	**Pn**	**23 49 05.6**	**+0.8**
KSL				AML	AML	23 49 33.7		
	comp=E,2122μm,0.4s							
KSL				AML	AML	23 49 35.1		
	comp=N,873μm,0.3s							
KSL	**Kastellorizon**	**2.27**	**98**	P	**Pn**	**23 49 05.7**	**+0.9**
KSL				S	**Sn**	**23 49 32.0**	**-1.6**
AKAS	**Kas**	**2.27**	**96**	P	**Pn**	**23 49 05.0**	**0.0**
GOLH	**Golhisar**	**2.33**	**71**	P	**Pn**	**23 49 06.5**	**+0.9**
GOLH				S	**Sn**	**23 49 34.3**	**-0.9**
GOLH				*i* AML	AML	23 49 36.0		
	comp=N,63nm,0.5s							
GOLH				*i* AML	AML	23 49 39.0		
	comp=N,91nm,0.2s							
VAM	**Vamos**	**2.38**	**244**	P	**Pn**	**23 49 06.5**	**+0.3**
VAM				AML	AML	23 49 40.2		
	comp=E,663μm,0.2s							
VAM				AML	AML	23 49 40.2		
	comp=N,1080μm,0.2s							
KARY	**Karystos**	**2.44**	**310**	P	**Pn**	**23 49 06.4**	**-0.5**
CHAN	**Chania**	**2.44**	**247**	P	**Pn**	**23 49 06.2**	**-0.8**
IMMV	**Iera Moni Meta**	**2.52**	**247**	P	**Pn**	**23 49 07.8**	**-0.1**
IMMV				AML	AML	23 49 42.7		
	comp=E,697μm,0.2s							
IMMV				AML	AML	23 49 45.2		
	comp=N,716μm,0.3s							
VLY	**Voula,Athens**	**2.76**	**300**	P	**Pn**	**23 49 10.9**	**-0.1**
GVD	**Gavdhos**	**2.76**	**234**	P	**Pn**	**23 49 11.3**	**+0.2**
GVD				AML	AML	23 49 45.4		
	comp=E,715μm,0.2s							
GVD				AML	AML	23 49 46.0		
	comp=N,787μm,0.2s							
PRK	**Paraskevi**	**2.78**	**351**	P	**Pn**	**23 49 11.1**	**-0.1**
PRK				AML	AML	23 49 24.1		
	comp=N,403μm,0.5s							
PRK				AML	AML	23 49 24.4		
	comp=E,696μm,0.4s							
DION	**Dionisos Attik**	**2.79**	**305**	P	**Pn**	**23 49 11.0**	**-0.3**
PTL	**Penteli**	**2.81**	**304**	P	**Pn**	**23 49 11.6**	**-0.2**
PASA	**Karahalli, USA**	**2.82**	**48**	P	**Pn**	**23 49 12.1**	**+0.2**
PASA				S	**Sn**	**23 49 45.0**	**-1.3**
ATHU	**Athens Univers**	**2.83**	**302**	P	**Pn**	**23 49 11.7**	**-0.1**
ANKY	**Antikythira Is**	**2.91**	**259**	P	**Pn**	**23 49 12.5**	**-0.3**
KYMI	**Kymi, Euboea I**	**3.03**	**316**	P	**Pn**	**23 49 13.8**	**-0.7**
KTHA	**Kythira Island**	**3.03**	**267**	P	**Pn**	**23 49 14.5**	**0.0**
KRND	**ΚΡΑΝΙΔΙ**	**3.06**	**288**	P	**Pn**	**23 49 14.9**	**0.0**
KTHR	**Kythira**	**3.08**	**267**	P	**Pn**	**23 49 15.4**	**+0.4**
KTHR				AML	AML	23 49 54.7		
	comp=N,994μm,0.4s							
KTHR				AML	AML	23 49 55.7		
	comp=E,875μm,0.2s							
KTHR	**Kythira**	**3.08**	**267**	P	**Pn**	**23 49 15.5**	**+0.4**
KTHR				S	**Sn**	**23 49 50.6**	**-1.4**
	comp=E,158nm,0.2s							
VLI	**Veliai**	**3.12**	**275**	P	**Pn**	**23 49 15.1**	**-0.5**
SLUM	**Salum**	**5.16**	**195**	P	**Pn**	**23 49 42.6**	**0.0**
	baz=199							
SLUM				S	**Sn**	**23 50 36.6**	**-4.8**
	baz=199							
BRTR	**Keskin Array B**	**6.28**	**57**	P	**Pn**	**23 49 58.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=229,slow=13,SNR=7.1							
SWA2		**7.32**	**189**	P	**Pn**	**23 50 11.0**	**-0.6**
	baz=192							
SWA2				S	**Sn**	**23 51 26.9**	**-6.3**
	baz=192							
MMAI	**Mount Meron Ar**	**7.88**	**114**	P	**Pn**	**23 50 17.1**	**-2.0**
	comp=E,1.7nm,0.3s,baz=195,slow=5.2,SNR=24							
MMAI				S	**Sn**	**23 51 41.8**	**-5.0**
	comp=E,8.3nm,0.3s,baz=276,slow=27,SNR=6.8							
GLL	**Jalalah**	**8.03**	**148**	P	**Pn**	**23 50 20.5**	**-0.7**
	baz=148							
EIL	**Elat**	**9.64**	**133**	P	**Pn**	**23 50 41.9**	**-0.8**
	comp=E,0.8nm,0.3s,baz=354,slow=1.7,SNR=14							
EIL				S	Sn	23 52 22.3	-7.0	
	comp=E,4.5nm,0.3s,baz=70,slow=18,SNR=14							
HKAT	**Jabal Katrina**	**9.99**	**141**	P	**Pn**	**23 50 46.0**	**-1.6**
	baz=141							
HHRG	**Al Ghardaqah**	**10.88**	**146**	P	**Pn**	**23 51 01.6**	**+2.3**
	baz=147							
SOKA	**Soboth**	**13.45**	**323**	*e*Pn	**Pn**	**23 51 33.3**	**+0.6**
	comp=E,0.4nm,0.4s							
OBKA	**Obir**	**13.57**	**321**	*e*Pn	**Pn**	**23 51 35.6**	**+1.4**
	comp=E,1.1nm,0.6s							
AKASG	**Malin Array Be**	**14.31**	**6**	P	**Pn**	**23 51 45.8**	**+2.3**
	comp=E,0.9nm,0.3s,baz=197,slow=11,SNR=5.1							
KBA	**Koelnbreinsper**	**14.56**	**321**	*e*Pn	**P**	**23 51 49.6**	**-0.1**
	comp=E,3.8nm,0.7s							
ABTA	**Abfaltersbach**	**14.78**	**318**	*e*Pn	**Pn**	**23 51 50.1**	**+0.6**
	comp=E,1.7nm,0.5s							
WTTA	**Wattenberg**	**15.57**	**318**	*e*Pn	**P**	**23 52 01.9**	**+1.0**
	comp=E,1.3nm,0.4s							
GERES	**GERESS Array B**	**15.63**	**326**	P	**Pn**	**23 51 59.8**	**-0.3**
	comp=E,0.1nm,0.3s,baz=122,slow=15,SNR=8.2							
WATA	**Walderalm**	**15.65**	**319**	*e*Pn	**Pn**	**23 52 02.2**	**+1.8**
	comp=E,0.7nm,0.2s							
SQTA	**Sankt Quirin**	**15.78**	**318**	*e*Pn	**P**	**23 52 04.2**	**+1.1**
	comp=E,0.3nm,0.2s							
MOTA	**Moosalm**	**15.91**	**318**	*e*Pn	**Pn**	**23 52 04.2**	**+0.6**
FETA	**Feichten**	**15.92**	**316**	*e*Pn	**Pn**	**23 52 05.2**	**+1.4**
	comp=E,3.9nm,0.9s							
RETA	**Reutte**	**16.18**	**318**	*e*Pn	**Pn**	**23 52 06.9**	**0.0**
	comp=E,0.6nm,0.3s							
DAVA	**Damuels**	**16.55**	**316**	*e*Pn	**Pn**	**23 52 12.0**	**+0.6**
	comp=E,2.2nm,0.3s							
ESDC	**Sonseca Array**	**24.37**	**287**	P	**P**	**23 53 31.5**	**-1.3**
	comp=E,0.2nm,0.4s,baz=85,slow=9.4,SNR=4.9							
FINES	**FINESS Array B**	**24.98**	**359**	P	**P**	**23 53 37.0**	**-0.9**
	comp=E,4.0nm,0.9s,baz=158,slow=12,SNR=6.3							
NOA	**NORSAR Array B**	**26.49**	**343**	P	**P**	**23 53 50.7**	**-0.9**
	comp=E,0.7nm,0.9s,baz=158,slow=11,SNR=1.6							
TORD	**Torodi Ar. Bea**	**32.37**	**231**	P	**P**	**23 54 44.6**	**+0.6**
	comp=E,0.8nm,0.3s,baz=35,slow=8.7,SNR=34							
MKAR	**Makanchi Array**	**41.93**	**58**	P	**P**	**23 56 04.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=268,slow=8.3,SNR=7.8							

*IDC **19** 00:11:25.0±4.7, 36°.62N×70°.96E, h68km±35km, mb3.4/3, mb1 3.7/9, mb1mx3.3/43, mbtmp3.9/9, ML3.9/5, MS4.0/1, Ms1 4.0/1, ms1mx2.6/59, Error ellipse: s-maj=54.6km s-min=20.3km az=151.0*

*BJI **19** 00:11:26.0±0.0, 36°.90N×70°.80E, h110km, mb4.3/12, mB4.4/5*

*NEIC **19** 00:11:27.9±2.9, 36°.84N±0°.05×70°.83E±0°.08, h82km±5km, mb4.0/22, Error ellipse: s-maj=9.1km s-min=6.5km az=105.0*

*NNC **19** 00:11:30.4±5.0, 37°.10N×70°.41E, h94km±105km, mb3.8, mpv4.3, Error ellipse: s-maj=46.0km s-min=23.6km az=160.0*

ISC 19 00:11:26.7±0.5, 36°.62N±0°.05×70°.81E±0°.05, h100km, n88, σ2s24/95, mb4.0/13, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.41**	**351**	Pn	**Pn**	**00 12 03.7**	**-1.1**
CHGR	**Chuyangaron**	**2.42**	**328**	Pn	**Pn**	**00 12 04.8**	**-0.1**
KBL	**Kabul**	**2.52**	**215**	Pn	**Pn**	00 12 11.5	+5.2
DRK	**Karamyk**	**2.96**	**15**		**Pn**	**00 12 12.7**	**+0.5**
BTK	**Batken**	**3.44**	**0**		**Pn**	**00 12 19.0**	**+0.7**
KSH	**Kashi**	**5.00**	**53**	P	Pn	00 12 34.0	-5.4
KSH				S	Sn	00 13 23.3	-13
KSH				smax	smax		
	comp=N,120nm,0.6s						
KSH				smax	smax		
	comp=E,64nm,0.5s						
JMU	**Jammu**	**5.14**	**138**	*e*P	**Pn**	**00 12 42.1**	**+0.8**
JMU				*e*S	**Sn**	**00 13 37.0**	**-2.4**
THN	**Thein Dam**	**5.81**	**134**	*e*P	**Pn**	**00 12 51.3**	**+0.9**
THN				*e*P	**Pn**	**00 12 52.0**	**+1.6**
THN				*e*S	**Sn**	**00 13 54.0**	**-1.6**
THN				*e*S	**Sn**	**00 13 54.3**	**-1.3**
AML	**Almayashu**	**5.94**	**21**	P	**Pn**	**00 12 51.8**	**-0.7**
	SNR=34						
UCH	**Uchtor**	**6.29**	**26**	P	**Pn**	**00 12 56.9**	**-0.4**
	SNR=22						
EKS2	**Erkin-Say**	**6.46**	**20**	P	**Pn**	**00 12 59.2**	**0.0**
	SNR=13						
KKAR	**Karatay Array**	**6.49**	**358**	Pn	**Pn**	**00 12 58.6**	**-0.8**
KK09	**Karatay Array**	**6.50**	**358**	⇓P	**Pn**	**00 12 59.1**	**-0.7**
	18nm,0.4s,baz=181,slow=13						
KK09				⇑S	**Sn**	**00 14 06.7**	**-5.7**
	17nm,0.8s,baz=191,slow=24						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**00 13 01.4**	**-0.5**
	6.0nm,0.3s,baz=185,slow=5.8,SNR=76						
AAK				S	**Sn**	**00 14 14.6**	**-1.6**
	1.5nm,0.3s,baz=328,slow=20,SNR=5.7						
KBK	**Karagaybulak**	**6.82**	**27**	P	**Pn**	**00 13 04.5**	**+0.2**
	SNR=9.5						
FRU1	**Bishkek**	**6.85**	**24**		**Pn**	**00 13 03.8**	**-0.7**
CHMS	**Chumysh**	**7.06**	**24**	P	**Pn**	**00 13 06.7**	**-0.6**
	SNR=21						
BOOM	**Boomskoye usch**	**7.08**	**32**	Pn	**Pn**	**00 13 06.2**	**-1.5**
USP	**Ospenovka**	**7.22**	**22**	P	**Pn**	**00 13 08.3**	**-1.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.29**	**29**	P	**Pn**	**00 13 09.7**	**-1.0**
	SNR=12						
TKM2	**Tokmak 2**	**7.29**	**29**	⇑P	**Pn**	**00 13 09.9**	**-0.8**
	7.5nm,0.5s						
TKM2				⇑S	**Sn**	**00 14 27.7**	**-4.3**
	6.0nm,0.7s						
KDJ	**Kajisay**	**7.39**	**40**	Pn	**Pn**	**00 13 11.0**	**-1.0**
TARG	**Taragay, Kyrgy**	**7.45**	**45**		**Pn**	**00 13 12.6**	**-0.4**
SMLA	**Simla**	**7.60**	**134**	*e*P	**Pn**	**00 13 14.2**	**-0.5**
SMLA				*e*S	**Sn**	**00 14 34.1**	**-5.2**
SMLA				IAML		00 14 40.9		
	comp=N,62nm,0.0s							
SMLA				IAML		00 14 41.7		
	comp=E,60nm,0.4s							
MDOK	**Medeo**	**8.11**	**34**	⇑P	**Pn**	**00 13 20.7**	**-1.0**
	comp=E,7.6nm,0.6s							
MDOK				S	**Sn**	**00 14 52.0**	**+0.3**
	comp=E,8.2nm,1.1s							
KUDL	**Kundal**	**9.71**	**149**	*e*P	**Pn**	**00 13 41.7**	**-1.7**
KUDL				*e*S	**Sn**	**00 15 24.1**	**-6.5**
GEYT	**Alibeck**	**10.21**	**281**	P	**Pn**	**00 13 49.9**	**-0.2**
	comp=E,0.9nm,0.3s,baz=95,slow=16,SNR=8.9							
GEYT				S	**Sn**	**00 15 36.4**	**-6.2**
	comp=E,1.8nm,0.3s,baz=99,slow=18,SNR=4.4							
GEYT	**Alibeck**	**10.21**	**281**		**Pn**	**00 13 49.5**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**10.21**	**281**	Pn	**Pn**	**00 13 49.7**	**-0.5**
GYA0B					**Sn**	**00 15 39.2**	**-3.4**
GYA0B	**ALIBECK ARRAY**	**10.21**	**281**	⇑P	**Pn**	**00 13 49.7**	**-0.5**
GYA0B				⇓S	**Sn**	**00 15 37.1**	**-5.5**
MAKZ	**Makanchi**	**13.15**	**36**	Pn	**Pn**	**00 14 26.7**	**-2.6**
MK31	**Makanchi Array**	**13.29**	**36**	Pn	**Pn**	**00 14 29.6**	**-1.6**
MK31	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**00 14 28.2**	**-2.9**
	comp=E,3.8nm,1.0s,baz=222,slow=14,SNR=27							
MKAR	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**00 14 28.5**	**-2.7**
	comp=E,0.2nm,0.3s,baz=224,slow=15,SNR=16							
MKAR	**Makanchi Array**	**13.29**	**36**	Pn	**Pn**	**00 14 28.8**	**-2.4**
PYUN	**Piuthan**	**13.33**	**126**	*e*P	**Pn**	**00 14 28.5**	**-3.6**
	comp=E,13nm,0.4s							
DANN	**Dangsing**	**13.68**	**123**	*e*P	**Pn**	**00 14 33.8**	**-2.9**
	comp=E,7.1nm,0.3s							
KOLN	**Koldanda**	**13.95**	**126**	*e*P	**Pn**	**00 14 37.1**	**-3.1**
	comp=E,4.9nm,0.3s							
GKN	**Gorkha**	**14.49**	**122**	*e*P	**Pn**	**00 14 44.5**	**-2.6**
	comp=E,10nm,0.4s							
WMQ	**Urumqi**	**14.76**	**56**	*e*P	**Pn**	**00 14 48.8**	**-1.4**
AB31	**Akbulak array**	**14.91**	**331**	P	**Pn**	**00 14 50.1**	**-1.9**
	comp=E,0.7nm,0.3s,baz=154,slow=10,SNR=68							
AB31				⇓S	Sn	00 17 23.9	-13	
	comp=E,3.0nm,0.8s,baz=150,slow=24,SNR=4.5							
ABKAR	**Akbulak array**	**14.91**	**331**	Pn	**Pn**	**00 14 50.6**	**-1.4**
ABKAR	**Akbulak array**	**14.91**	**331**	Pn	**Pn**	**00 14 50.4**	**-1.7**
KURBB	**Kurchatov Arra**	**15.06**	**19**	P	**Pn**	**00 14 51.3**	**-2.7**
	comp=E,0.0nm,0.3s,baz=212,slow=11,SNR=3.4							
KURBB	**Kurchatov Arra**	**15.06**	**19**	⇓P	**P**	**00 14 55.3**	**-1.6**
	comp=E,3.5nm,0.8s							
KURK	**Kurchatov**	**15.17**	**19**	P	**P**	**00 14 57.6**	**-0.5**
KURK	**Kurchatov**	**15.17**	**19**	⇑P	**P**	**00 14 57.3**	**-0.7**
	comp=E,5.8nm,1.2s							
PKIN	**Phulchoki**	**15.28**	**122**	*e*P	**Pn**	**00 14 55.5**	**-1.7**
PKI	**Pulchoki**	**15.29**	**122**	*e*P	**Pn**	**00 14 55.6**	**-1.8**
GUN	**Gumba**	**15.40**	**120**	*e*P	**Pn**	**00 14 56.5**	**-2.3**
JIRN	**Jiri**	**15.78**	**120**	*e*P	**Pn**	**00 15 00.7**	**-2.8**
BRVK	**Borovoye**	**16.45**	**359**	Pn	**Pn**	**00 15 09.8**	**-1.4**
RAMN	**Ramite**	**16.50**	**121**	*e*P	**Pn**	**00 15 10.2**	**-2.2**
	comp=E,6.6nm,0.3s							
AKTO	**Aktyubinsk**	**16.61**	**330**	P	**Pn**	**00 15 13.2**	**0.0**
	comp=E,0.7nm,0.3s,baz=142,slow=14,SNR=12							
AKTO	**Aktyubinsk**	**16.61**	**330**	⇑P	**Pn**	**00 15 13.2**	**0.0**
	comp=E,12nm,0.9s							
AKTO				⇑S	Sn	00 18 05.1	-12	
	comp=E,4.4nm,0.9s							
ZAA0	**Zalesovo Array**	**19.87**	**25**	P	**P**	**00 15 49.4**	**-0.3**
ZAA0				IAmb	IAmb	00 15 50.7		
	comp=Z,3.7nm,0.7s							
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**00 15 48.9**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=214,slow=11,SNR=27							
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**00 15 49.3**	**-0.4**
GNI	**Garni**	**20.72**	**288**	P	Pn	00 16 04.5	+2.1
GNI				IAmb	IAmb	00 16 07.4		
	comp=Z,12nm,1.1s							
ARU	**Arti**	**21.48**	**341**	P	**P**	**00 16 06.5**	**-0.4**
ONI	**Oni**	**21.86**	**294**	P	**P**	**00 16 13.6**	**+2.4**
ONI				IAmb	IAmb	00 16 25.4		
	comp=Z,3.0nm,1.0s							
GEVA	**Gevas**	**22.07**	**283**	P	**P**	**00 16 12.8**	**-0.7**
GEVA				IAmb	IAmb	00 16 21.6		
	comp=Z,10nm,1.1s							
KIV	**Kislovodsk**	**22.60**	**298**	P	**P**	**00 16 19.6**	**+0.6**
KIV				IAmb	IAmb	00 16 36.6		
	comp=Z,3.2nm,0.8s							
GTA	**Gaotai**	**22.98**	**74**	*e*P	**P**	**00 16 24.5**	**+1.7**
GTA				pP	pP	00 16 47.6	+3.7	
GTA				sP	sP	00 17 00.3	+3.4	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**28.39**	**56**	P	**P**	**00 17 12.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=255,slow=9.8,SNR=7.4							
SONM	**Songino Array**	**28.39**	**56**	P	**P**	**00 17 12.4**	**+0.8**
BRTR	**Keskin Array B**	**29.26**	**288**	P	P	00 17 24.6	+5.2
HHC	**Hu-ho-hao-te**	**31.86**	**70**	*e*P	**P**	**00 17 37.8**	**-4.5**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,140nm,5.0s							
FINES	**FINESS Array B**	**37.30**	**326**	P	**P**	**00 18 29.1**	**+0.4**
KULM	**Kulim**	**41.46**	**132**	P	**P**	**00 19 07.1**	**+3.3**
KULM				IAmb	IAmb	00 19 15.9		
	comp=Z,5.0nm,0.9s							
NC602	**NORSAR Array S**	**44.01**	**323**	P	**P**	**00 19 24.3**	**+0.5**
NC300	**NORSAR Array S**	**44.12**	**323**	P	**P**	**00 19 28.1**	**+3.4**
NC300				IAmb	IAmb	00 19 34.5		
	comp=Z,9.7nm,1.1s							
KMBO	**Kilima Mbogo**	**48.80**	**227**	LR	LR	00 44 13.3		
	comp=Z,153nm,19.4s,baz=176,slow=40							
MTE	**Manteigas**	**59.51**	**300**	P	**P**	**00 21 20.5**	**+1.1**
TULEG	**Thule**	**64.30**	**350**	P	P	**00 21 53.9**	**+3.1**
TORD	**Torodi Ar. Bea**	**65.57**	**268**	P	P	**00 22 02.7**	**+2.7**
	comp=Z,2.0nm,0.4s,baz=58,slow=7.7,SNR=1.5							
TORD	**Torodi Ar. Bea**	**65.57**	**268**	IAmb	IAmb	00 22 10.5		
	comp=Z,0.9nm,1.1s							
RES	**Resolute Bay**	**68.57**	**356**	P	**P**	**00 22 20.2**	**+2.1**
TOLK	**Toolik Lake Re**	**70.85**	**15**	P	**P**	**00 22 34.2**	**+2.0**
IMAR	**Indian Mountai**	**72.11**	**18**	P	**P**	**00 22 40.6**	**+0.8**
PPLA	**Purkeypile**	**75.03**	**19**	P	**P**	**00 22 58.3**	**+1.3**
PPLA				IAmb	IAmb	00 23 12.9		
	comp=Z,2.9nm,1.2s							
SCM	**Sheep Creek Mo**	**77.14**	**17**	P	**P**	**00 23 10.4**	**+1.4**
SCM				IAmb	IAmb	00 23 16.5		
	comp=Z,4.1nm,1.1s							
KNK	**Knik Glacier**	**77.23**	**18**	P	**P**	**00 23 11.0**	**+1.6**
BCAR	**Beaver Creek A**	**77.29**	**15**	P	**P**	**00 23 11.9**	**+2.1**
KDAK	**Kodiak Island**	**79.15**	**22**	P	**P**	**00 23 21.5**	**+1.6**
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**00 23 32.8**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=349,slow=5.5,SNR=21							
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**00 23 32.6**	**+2.0**
COEN	**Coen**	**84.58**	**112**	P	**P**	**00 23 52.3**	**+3.1**
COEN				IAmb	IAmb	00 24 06.3		
	comp=Z,5.0nm,1.1s							

VIE 19 00:13:35.2±0.1, 47°.31N×11°.62E, h14km±1km, mb0.6/3, ml1.3/12, Error ellipse: s-maj=1.3km s-min=1.0km az=17.0 8 km WSW of Schwaz, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.04**	**314**	*e*Pg	Pg	00 13 37.9	-0.1
	26nm,0.1s						
WATA				*e*Sg	Sg	00 13 39.8	-0.2
	50nm,0.1s						
WTTA	**Wattenberg**	**0.05**	**164**	*e*Pg	Pg	00 13 38.4	+0.3
	69nm,0.1s						
WTTA				*e*Sg	Sg	00 13 40.6	+0.5
	28nm,0.1s						
SQTA	**Sankt Quirin**	**0.29**	**252**	*e*Pg	Pg	00 13 41.5	+0.1
	1.2nm,0.1s						
SQTA				*e*Sg	Sg	00 13 46.2	+0.6
	8.2nm,0.2s						
MOTA	**Moosalm**	**0.35**	**276**	*e*Pg	Pg	00 13 42.2	-0.2
	0.3nm,0.1s						
MOTA				*e*Sg	Sg	00 13 48.0	+0.6
	1.5nm,0.1s						
RETA	**Reutte**	**0.61**	**287**	*e*Pg	Pg	00 13 47.1	-0.1
	0.1nm,0.1s						
RETA				*e*Sg	Sg	00 13 55.4	+0.2
	0.9nm,0.1s						
FETA	**Feichten**	**0.67**	**245**	*e*Pg	Pb	00 13 48.8	+0.1
FETA				*e*Sg	Sg	00 13 57.4	+0.2
	0.1nm,0.1s						
ABTA	**Abfaltersbach**	**0.83**	**132**	*e*Pg	Pb	00 13 51.7	+0.3
ABTA				*e*Sg	Sb	00 14 02.5	0.0
	0.8nm,0.1s						
DAVA	**Damuels**	**1.18**	**270**	*e*Pg	Pg	00 13 58.2	+0.3
	0.3nm,0.1s						
DAVA				*e*Sg	Sg	00 14 14.0	+0.6
	0.3nm,0.1s						
KBA	**Koelnbreinsper**	**1.20**	**100**	*e*Pn	Pn	00 13 56.9	-0.8
	0.1nm,0.1s						
KBA				*e*Sn	Sg	00 14 14.2	+0.1
	1.6nm,0.2s						

PRU 19 00:14:25.1±0.0, 48°.71N×12°.92E, h0km, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHC	**Kasperske Hory**	**0.60**	**46**	*e*PG	Pg	00 14 36.9	+0.2
KHC				*e*SG	Sg	00 14 45.0	+0.5

WEL 19 00:22:53.4±1.1, 31°.5S×26°.18°0E±6°.9, h324km±34km, M4.3/5, mB4.3/5, MLv4.8/5, Mw(mB)3.4/5, Error ellipse: s-maj=0.1km s-min=0.0km az=110.2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.82**	**45**	S	S	00 24 34.5	+0.6
MWZ	**Matawai**	**7.28**	**194**	P	Pn	00 24 37.7	-0.9
MWZ				S	S	00 26 04.2	+0.3
TKGZ	**Te Karaka**	**7.32**	**192**	P	Pn	00 24 38.7	-0.3
TKGZ				S	S	00 26 05.6	+1.0
RAGZ	**Rawiri**	**7.46**	**195**	P	Pn	00 24 39.1	-1.6
RAGZ				S	S	00 26 08.9	+1.1
SNGZ	**Shannon Statio**	**7.75**	**194**	P	Pn	00 24 43.5	-0.7
SNGZ				S	S	00 26 17.0	+2.8
PRGZ	**Paritu Road**	**7.79**	**191**	P	Pn	00 24 46.7	+2.1
PRGZ				S	S	00 26 13.7	-1.3
MTHZ	**Maungataniwha**	**7.94**	**197**	P	Pn	00 24 46.9	+0.5
MTHZ				S	S	00 26 18.4	+0.1
RAHZ	**Arahi**	**7.94**	**195**	P	Pn	00 24 45.8	-0.6
RAHZ				S	S	00 26 18.1	-0.2
WHHZ	**Waihua**	**8.06**	**194**	P	Pn	00 24 49.4	+1.6
WHHZ				S	S	00 26 20.8	-0.1
NMHZ	**Naumai**	**8.18**	**197**	P	Pn	00 24 47.5	-1.9
NMHZ				S	S	00 26 23.9	+0.2
ARHZ	**Aropaoanui**	**8.29**	**195**	P	Pn	00 24 51.2	+0.6
ARHZ				S	S	00 26 25.5	-0.5
BKZ	**Black Stump Fm**	**8.32**	**198**	P	Pn	00 24 50.9	-0.1
BKZ				S	S	00 26 27.3	+0.5
MCHZ	**McNeill Hill**	**8.53**	**196**	P	Pn	00 24 55.0	+1.4
MCHZ				S	S	00 26 33.8	+2.4

*IDC **19** 00:36:12.7±13.0, 15°.11S×165°.62E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/28, mbtmp4.2/4, ML4.2/1, Error ellipse: s-maj=233.4km s-min=36.4km az=55.0*

*NEIC **19** 00:36:13.0±2.2, 14°.9S±0°.1×167°.54E±0°.07, h133km±6km, mb4.1/10, Error ellipse: s-maj=19.1km s-min=5.5km az=153.0*

ISC 19 00:36:13.1±2.0, 14°.9S±0°.1×167°.5E±0°.2, h150km, n22, σ1s74/26, mb4.1/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.63**	**206**	Pn	**Pn**	**00 36 32.4**	**-2.8**
SANVU				Sn	**Sn**	**00 36 48.1**	**-3.9**
LIFNC	**LIFOU**	**5.87**	**182**	Pn	**Pn**	**00 37 34.3**	**-3.8**
LIFNC				Sn	**Sn**	**00 38 42.1**	**-2.5**
KOUNC	**Koumac, New Ca**	**6.42**	**208**	Pn	**Pn**	**00 37 43.1**	**-2.3**
DZM	**Mont Dzumac**	**7.23**	**188**	Pn	**Pn**	**00 37 56.2**	**0.0**

IDC 19 01:13:42.4±2.2, 2°06N×99°02E, h124^{km}±9^{km}, mb3.7/1, mb1 4.0/2, mb1mx2.9/52, mbtmp4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=86.6km s-min=25.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	0.74	352	P	Pn	01 14 02.6	-0.1
	12nm,0.3s,baz=171,slow=13,SNR=35						
PSI				S	Sn	01 14 17.8	-0.1
	5.4nm,0.3s,baz=237,slow=8.7,SNR=47						
CMAR	Chiang Mai Arr	16.29	360	P	P	01 17 24.7	-0.2
	1.4nm,0.3s,baz=192,slow=13,SNR=2.1						
PALK	Pallekele	18.97	286	LR	LR	01 25 01.5	
	comp=Z,36nm,18.7s,baz=268,slow=36						
WRA	Warramunga Arr	40.97	124	P	P	01 21 13.2	-0.2
	1.2nm,0.5s,baz=302,slow=9.1,SNR=20						
MKAR	Makanchi Array	46.88	344	P	P	01 21 59.9	-0.3
	0.1nm,0.4s,baz=166,slow=8.7,SNR=1.8						

MOS 19 01:22:14.5±0.9, 51°49N×174°17W, h9^{km}, mb5.1/53, Error ellipse: s-maj=8.0km s-min=4.8km az=108.0
BJI 19 01:22:14.1±0.0, 51°64N×174°40W, h7^{km}, mb5.1/60, mB4.9/31, Ms5.6/32, Ms7 5.2/30
NEIC 19 01:22:16.2±1.8, 51°38N±0°04×174°21W±0°07, h10^{km}±1^{km}, mb5.0/422, ML4.4(AEIC), Error ellipse: s-maj=7.3km s-min=6.7km az=47.0
AEIC 19 01:22:17±1.8, 51°32N±0°04×174°17W±0°07, h13^{km}±3^{km}, Error ellipse: s-maj=6.9km s-min=5.0km az=137.0
IDC 19 01:22:18.4±2.7, 51°49N×174°16W, h25^{km}±17^{km}, mb4.5/33, mb1 4.7/36, mb1mx4.6/57, mbtmp4.7/36, ML4.1/3, MS4.1/1, Ms1 4.1/1, ms1mx3.4/105, Error ellipse: s-maj=15.5km s-min=9.7km az=170.0
BGR 19 01:22:20.8±0.0, 51°72N×175°91W, h33^{km}, mb5.2
ISC 19 01:22:18.2±0.7, 51°42N±0°05×174°18W±0°03, h24^{km}±4^{km}, n936, $\sigma 1^{s}04$/805, mb5.0/333, MS5.2/14, 59C-63D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.79	359		Pn	01 22 33.9	+0.1
ATKA					Sn	01 22 47.7	+2.9
KOFP	Korovin Flat P	0.86	3		Pn	01 22 35.5	+0.7
KOKL	Mount Kliuchef	0.91	359		Pn	01 22 36.2	+0.6
KOWE	Korovin West	0.95	357		Pn	01 22 37.0	+0.9
GSMY	Great Sitkin M	1.33	299		Pn	01 22 41.3	+0.1
GSTR	Great Sitkin T	1.35	301	Pn	Pn	01 22 41.6	0.0
GSCK	Great Sitkin C	1.37	297		Pn	01 22 41.8	-0.1
GSTD	Great Sitkin T	1.38	298		Pn	01 22 42.3	+0.3
GSTD					Sb	01 23 02.4	+1.8
ETKA	Kagalaska Isla	1.46	289		Pn	01 22 43.3	+0.2
ETKA					Sb	01 23 03.2	+0.5
ADK	Adak	1.63	288		Pn	01 22 45.1	-0.3
ADK	Adak	1.63	288		Sb	01 23 06.5	-1.2
KIWB	Kanaga Island	1.91	284		Pn	01 22 48.9	-0.3
KIKV	Kanaga Island	1.92	285		Pn	01 22 50.1	+0.7
KIMD	Kanaga Island	1.94	281		Pn	01 22 50.0	+0.4
KICM	Kanaga Island	1.95	286		Pn	01 22 50.6	+0.8
KICM					Sb	01 23 16.2	-0.5
TAPA	Tanaga Point A	2.30	281		Pn	01 22 55.5	+0.9
TAFP	Tanaga Falls P	2.42	283		Pn	01 22 57.3	+1.1
TAFP					Sn	01 23 26.6	+1.5
TASE	Tanaga Southea	2.44	281		Pn	01 22 57.7	+1.1
GAEA	Gareloi East	2.88	279		Pn	01 23 04.0	+1.6
GALAA	Gareloi Lava P	2.89	279		Pn	01 23 04.1	+1.4
GAKI	Gareloi-Kavalg	2.90	275		Pn	01 23 03.6	+0.7
GANO	Gareloi North	2.91	280		Pn	01 23 04.2	+1.2
GASW	Gareloi Southw	2.94	279		Pn	01 23 04.3	+0.9
NIKH	Nikolski High	3.63	62		Pn	01 23 13.5	+0.8
NIKH	Nikolski High	3.63	62	P	Pn	01 23 14.7	+1.9
	baz=245						
OKRE	Okmok R'deer P	4.24	58		Pn	01 23 22.7	+1.5
MSW	Makushin Switc	5.15	58		Pn	01 23 35.1	+1.4
UNV	Unalaska Valle	5.27	59	Pn	Pn	01 23 36.1	+0.8
UNV	Unalaska Valle	5.27	59	P	Pn	01 23 37.2	+1.9
	baz=245						
SPIA	Saint Paul Isl	6.21	20	Pn	Pn	01 23 48.9	+0.7
WESE	West Dahl East	6.55	58		Pn	01 23 55.3	+2.2
FALS	False Pass	7.33	58	Pn	Pn	01 24 05.7	+2.1
SHEM	Shemya Is, Ala	7.35	285	Pn	Pn	01 24 03.9	0.0
	3.1nm,0.3s,baz=75,slow=20,SNR=1.7						
SHEM				LR	LR	01 27 22.0	
	comp=Z,1μm,18.3s,baz=104,slow=41						
SMY	Shemya	7.35	285	P	Pn	01 24 05.3	+1.5
SMY	Shemya	7.35	285		Pn	01 24 05.3	+1.5
SDPT	Sand Point	9.08	59	Pn	Pn	01 24 28.9	+1.2
CHGN	Chignik	10.51	56	P	Pn	01 24 49.7	+2.6
	baz=248						
GAMB	Gambell	12.46	5	Pn	Pn	01 25 12.4	-1.4
GAMB	Gambell	12.46	5	P	Pn	01 25 18.0	+4.2
	baz=187,SNR=7.3						
OHAK	Old Harbor	13.48	56	Pn	Pn	01 25 27.5	-0.2
OHAK	Old Harbor	13.48	56	P	Pn	01 25 25.9	-1.7
	baz=253						
Q19K	Cape Douglas,	13.89	49	Pn	Pn	01 25 33.6	+0.2
ANM	Nome	13.96	16	P	Pn	01 25 33.9	-0.4
ANM	Nome	13.96	16		Pn	01 25 33.9	-0.4
ANM	Nome	13.96	16	P	P	01 25 38.5	-3.6
	baz=203,SNR=14						
KDAK	Kodiak Island	14.01	55	Pn	Pn	01 25 33.2	-1.7
	1.7nm,0.3s,baz=321,slow=1.7,SNR=15						
KDAK	Kodiak Island	14.01	55	⇓eP	Pn	01 25 33.6	-1.3
KDAK	Kodiak Island	14.01	55	Pn	Pn	01 25 35.5	+0.6
KDAK	Kodiak Island	14.01	55	P	Pn	01 25 37.1	+2.2
	baz=252						
SVW2	Sparrevohn	14.12	39	Pn	Pn	01 25 36.3	-0.1
P19K	Oil Pt	14.39	47	Pn	Pn	01 25 41.5	+1.3
P19K	Oil Pt	14.39	47	P	P	01 25 45.7	-1.2
	baz=244						
N19K	Bonanza Creek	14.40	42		Pn	01 25 42.0	+1.5
N19K	Bonanza Creek	14.40	42	P	Pn	01 25 42.9	+2.5
	baz=238,SNR=12						
TNA	Tin City	14.54	10	Pn	Pn	01 25 44.0	+1.8
TNA	Tin City	14.54	10	P	P	01 25 46.0	-2.6
	baz=196,SNR=10						
O20K	Slope Mountain	14.85	46	P	P	01 25 50.2	-1.9
	baz=244						
RSO	Redoubt South	14.97	44	Pn	Pn	01 25 48.3	+0.1
L19K	White Mountain	15.04	37		Pn	01 25 49.1	+0.2
L19K				IAmb	IAmb	01 26 15.2	
	comp=Z,41nm,0.9s						
L19K	White Mountain	15.04	37	P	P	01 25 55.5	+1.5
	baz=233,SNR=6.8						
M19K	Big River Lodg	15.05	38	IAmb	IAmb	01 26 08.9	
	comp=Z,31nm,0.8s						
M19K	Big River Lodg	15.05	38	P	P	01 25 52.7	-1.5
	baz=234						
TTA	Tatalina	15.10	33	P	Pn	01 25 49.5	-0.2
TTA				pmax	pmax		
	comp=Z,34nm,1.0s						
TTA	Tatalina	15.10	33	Pn	Pn	01 25 49.5	-0.2
TTA				IAmb	IAmb	01 25 57.9	
	comp=Z,34nm,1.0s						
TTA	Tatalina	15.10	33	P	P	01 25 54.4	-0.4
	baz=228,SNR=13						
CNPM	China Poot	15.27	49	IAmb	IAmb	01 26 11.7	
	comp=Z,53nm,0.8s						
BRLK	Bradley Lake	15.52	48	IAmb	IAmb	01 25 59.2	
	comp=Z,52nm,0.8s						
SPCR	Spurr Chakacha	15.56	42	P	P	01 25 58.7	-1.2
	baz=241						
L20K	Farewell, AK	15.58	37	P	P	01 26 00.2	+0.1
	baz=234,SNR=12						
BRSE	Bradley Lake S	15.58	49	P	Pn	01 25 57.2	+1.1
	baz=248						
SPU	Mount Spurr	15.61	43	Pn	Pn	01 25 56.5	0.0
K20K	Telida	16.05	34	P	P	01 26 04.6	-0.7
	baz=231,SNR=15						
GCSA	Galena City Sc	16.11	27	P	P	01 26 08.4	+2.5
	baz=222,SNR=8.0						
SEW	Seward	16.32	48	Pn	Pn	01 26 04.6	-0.8
SEW	Seward	16.32	48	P	Pn	01 26 03.8	-1.7
	baz=248						
O22K	Cooper Landing	16.34	47	IAmb	IAmb	01 26 13.9	
	comp=Z,134nm,0.6s						
O22K	Cooper Landing	16.34	47	P	P	01 26 07.4	-1.0
	baz=247						
PPLA	Purkeypile	16.46	37	Pn	Pn	01 26 07.0	-0.4
PPLA	Purkeypile	16.46	37	P	P	01 26 10.4	+0.4
	baz=236,SNR=12						
J20K	Nowinta River	16.55	32		Pn	01 26 07.2	-1.2
J20K	Nowinta River	16.55	32	P	P	01 26 11.3	+0.5
	baz=229,SNR=16						
RC01	Rabbit Creek A	16.57	45	P	Pn	01 26 09.3	+0.5
	baz=245						
PET	Petropavlovsk	16.69	286	eP	P	01 26 11.6	-0.8
PET				eS	Sn	01 29 14.7	0.0
PET				pmax	pmax		
	comp=Z,50nm,0.7s						
PET				MLR	MLR		
	comp=Z,600nm,17.0s						
CAST	Castle Rocks	16.80	36	P	P	01 26 13.9	+0.3
	baz=234,SNR=29						
CHUM	Lake Minchumin	16.99	34	P	P	01 26 17.1	+1.4
	baz=233,SNR=22						
PMR	Palmer	17.05	44	P	Pn	01 26 15.0	+0.3
	baz=244						
PWL	Port Wells	17.11	46	P	Pn	01 26 13.0	-2.5
	baz=248						
PEA0B	Petropavlovsk-	17.26	287	P	Pn	01 26 15.9	-1.4
PEA0B				pmax	pmax		
	comp=Z,36nm,1.0s						
PEA0B	Petropavlovsk-	17.26	287	Pn	Pn	01 26 15.9	-1.4
PETK	Petropavlovsk-	17.26	287	P	Pn	01 26 16.8	-0.5
	comp=Z,0.8nm,0.3s,baz=100,slow=15,SNR=20						
PETK	Petropavlovsk-	17.26	287	Pn	Pn	01 26 16.5	-0.9
KNK	Knik Glacier	17.27	45	P	Pn	01 26 17.1	-0.4
	baz=246,SNR=8.9						
KTH	Kantishna Hill	17.30	36	IAmb	IAmb	01 26 35.6	
	comp=Z,57nm,0.9s						
TRF	Thorofare Moun	17.48	37	P	P	01 26 21.7	+0.3
	baz=237,SNR=5.2						
SML	Sawmill	17.49	44	P	Pn	01 26 19.5	-0.8
	baz=245						
BPAW	Bear Paw Mtn.	17.59	35	P	P	01 26 22.5	+0.2
	baz=234,SNR=26						
I21K	Tanana	17.91	31	P	P	01 26 27.3	+1.5
	baz=230,SNR=22						
SCM	Sheep Creek Mo	17.94	44	IAmb	IAmb	01 26 40.6	
	comp=Z,66nm,0.8s						
SCM	Sheep Creek Mo	17.94	44	P	Pn	01 26 25.0	-0.8
	baz=246,SNR=11						
H21K	Melozitna Rive	17.97	29	Pn	Pn	01 26 24.7	-1.3
H21K	Melozitna Rive	17.97	29	P	P	01 26 27.6	+1.1
	baz=228,SNR=23						
WAT6	Susitna Watana	18.07	42	P	Pn	01 26 26.7	-0.8
	baz=244						
MCK	McKinley	18.15	38	P	Pn	01 26 27.7	-0.6
	baz=239,SNR=19						
BWN	Browne	18.18	36	IAmb	IAmb	01 26 43.0	
	comp=Z,82nm,1.0s						
MLY	Manley	18.23	33	IAmb	IAmb	01 26 34.1	
	comp=Z,54nm,0.8s						
MLY	Manley	18.23	33	P	P	01 26 30.4	+1.0
	baz=232,SNR=70						
KLU	Klutina	18.43	46	P	P	01 26 31.0	-0.7
KLU	Klutina	18.43	46	P	P	01 26 30.2	-1.5
	baz=249						
DHY	Denali Highway	18.44	40	P	P	01 26 31.2	-0.7
	baz=243,SNR=12						
M24K	Tolsona, Glenn	18.54	44	IAmb	IAmb	01 26 35.2	
	comp=Z,72nm,1.1s						
M24K	Tolsona, Glenn	18.54	44	P	Pn	01 26 33.5	+0.3
	baz=247,SNR=6.5						
NEA2	Nenana	18.56	35	P	P	01 26 32.5	-0.5
	baz=236						
I23K	Minto, Yukon-K	18.77	33	IAmb	IAmb	01 26 52.3	
	comp=Z,58nm,0.8s						
I23K	Minto, Yukon-K	18.77	33	P	Pn	01 26 36.1	+0.3
	baz=235,SNR=40						
WRH	Wood River Hil	18.85	36	P	P	01 26 34.2	-1.9
BMRM	Bremner River	18.87	48	P	P	01 26 36.0	-0.4
	baz=253						
CCB	Clear Creek Bu	19.05	36	IAmb	IAmb	01 26 52.9	
	comp=Z,34nm,0.6s						
N25K	Chitina, Valde	19.07	46	P	P	01 26 38.0	-0.7
	baz=251						
HARP	HAARP	19.10	44	P	P	01 26 38.6	-0.3
	baz=248,SNR=7.8						
COLA	College	19.15	35	P	P	01 26 39.0	-0.4
COLA				pmax	pmax		
	comp=Z,29nm,0.9s						
COLA	College	19.15	35	P	P	01 26 39.0	-0.4
PAX	Paxson	19.18	42	P	P	01 26 40.3	+0.3
	baz=246,SNR=8.7						
BILL	Bilibino	19.20	337	d iP	Pn	01 26 40.8	-0.2
BILL				eS	Sn	01 30 15.4	+0.1
BILL				pmax	pmax		
	comp=Z,25nm,0.8s						
BILL				MLR	MLR		
	comp=Z,418nm,18.0s						
BILL	Bilibino	19.20	337	P	P	01 26 39.9	-0.1
BILL				IAmb	IAmb	01 27 03.9	
	comp=Z,138nm,1.5s						
HDA	Harding Lake	19.25	37	IAmb	IAmb	01 26 41.5	
	comp=Z,63nm,1.0s						
HDA	Harding Lake	19.25	37	P	P	01 26 39.7	-0.8
	baz=240,SNR=39						
POKR	Poker Plat Res	19.43	35	P	Pn	01 26 43.3	-0.5
	baz=238						
ILAR	Eielson Array	19.45	36	P	P	01 26 40.3	-2.4
	comp=Z,2.5nm,0.3s,baz=238,slow=8.9,SNR=69						
ILAR				ScP	ScP	01 34 35.8	-1.2
	baz=238,slow=5.5,SNR=4.5						
WAX	Waxell Ridge	19.56	50	IAmb	IAmb	01 27 04.4	
	comp=Z,54nm,0.9s						
H24K	Noodor Dome	19.67	33	P	P	01 26 45.1	-0.1
H24K				IAmb	IAmb	01 27 14.0	
	comp=Z,49nm,0.9s						
H24K	Noodor Dome	19.67	33	P	P	01 26 45.3	+0.1
	baz=235,SNR=58						
MCARA	McCarthy VSAT	19.72	48	P	Pn	01 26 47.0	-0.2
	baz=254						
RIDG	Independent Ri	19.76	40	P	P	01 26 45.1	-1.0
	baz=245,SNR=17						
COLD	Coldfoot	19.80	28	P	Pn	01 26 47.3	-0.9
	baz=228,SNR=20						
ISLE	Juniper Island	19.84	50	IAmb	IAmb	01 27 09.1	
	comp=Z,52nm,1.2s						
MENT	Mentasta	19.91	43	IAmb	IAmb	01 27 16.2	
	comp=Z,29nm,0.6s						
J25K	Salcha River,	19.94	38	IAmb	IAmb	01 26 48.8	
	comp=Z,93nm,0.8s						
J25K	Salcha River,	19.94	38	P	P	01 26 47.1	-1.0
	baz=242						
DOT	Dot Lake	20.04	41	IAmb	IAmb	01 27 02.7	
	comp=Z,32nm,0.7s						
YAH	Yahtse	20.08	51	IAmb	IAmb	01 27 14.2	
	comp=Z,52nm,0.8s						
L26K	Log Cabin Wild	20.10	43	P	Pn	01 26 51.4	-0.4
	baz=249,SNR=12						
GRNC	Granite Creek	20.15	50	IAmb	IAmb	01 27 17.7	
	comp=Z,39nm,1.0s						
SCRK	Sand Creek	20.20	40	P	P	01 26 49.8	-1.3
SCRK				IAmb	IAmb	01 26 57.7	
	comp=Z,36nm,0.6s						
SCRK	Sand Creek	20.20	40	P	P	01 26 50.0	-1.1
	baz=246,SNR=42						
PRP	Porcupine Dome	20.33	35	P	P	01 26 52.2	-0.2
	baz=240,SNR=6.0						
TABL	Table Mountain	20.39	51	IAmb	IAmb	01 27 15.5	
	comp=Z,51nm,1.0s						
CTG	Chitna Glacier	20.40	49	P	Pn	01 26 55.0	-0.4
	baz=257						
CTGM	Chitina Glacie	20.41	49	IAmb	IAmb	01 27 16.2	
	comp=Z,32nm,0.8s						
M27K	Edge Creek, AK	20.52	45	IAmb	IAmb	01 26 58.3	
	comp=Z,30nm,0.9s						
M27K	Edge Creek, AK	20.52	45	P	Pn	01 26 57.1	+0.2
	baz=252,SNR=13						
LOGN	Logan Glacier	20.53	50	IAmb	IAmb	01 27 12.7	
	comp=Z,40nm,0.9s						
J26L	Joseph Creek	20.59	39	P	P	01 26 53.8	-1.4
	baz=245,SNR=118						
PCA	Pinnacle	20.76	52	IAmb	IAmb	01 27 19.0	
	comp=Z,49nm,0.9s						
PINM	Pinnacle	20.76	52	P	Pn	01 26 59.3	-0.2
	baz=260						
L27K	Beaver Creek,	20.77	43	P	Pn	01 26 59.3	-0.2
	baz=251,SNR=6.0						
BCAR	Beaver Creek A	20.79	43	P	P	01 26 56.7	-0.6
TOLK	Toolik Lake Re	20.93	25	P	P	01 26 58.7	-0.1
TOLK				IAmb	IAmb	01 27 09.3	
	comp=Z,68nm,0.8s						
TOLK	Toolik Lake Re	20.93	25	P	P	01 26 59.5	+0.7
	baz=227,SNR=56						
BVCY	Beaver Creek	20.99	46	P	Pn	01 27 02.0	-0.2
	baz=254,SNR=8.5						
YUK3	Moose Creek	21.01	47	P	P	01 26 58.7	-1.2
	baz=256						
PNL	Peninsula	21.12	53	P	P	01 27 01.4	+0.5
	baz=262						
SEY	Seymchan	21.20	316	P	P	01 27 02.2	+0.5
	comp=Z,15nm,0.9s,baz=129,slow=11,SNR=20						
SEY				PcP	PcP	01 31 06.2	+0.1
	comp=Z,3.2nm,0.7s,baz=53,slow=5.1,SNR=3.7						
SEY	Seymchan	21.20	316	⇓eP	P	01 27 01.5	-0.2
SEY				pmax	pmax		
	comp=Z,20nm,1.0s						
MA2	Magadan	21.25	306	P	P	01 27 02.9	+0.6
	comp=Z,7.1nm,0.6s,baz=89,slow=9.6,SNR=9.9						
MA2	Magadan	21.25	306	⇓eP	P	01 27 02.6	+0.3
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MA2	Magadan	21.25	306	P	P	01 27 01.3	-1.0
A21K	Barrow	21.50	15	P	P	01 27 03.4	-1.4
A21K				IAmb	IAmb	01 27 14.9	
	comp=Z,59nm,0.9s						
A21K	Barrow	21.50	15	P	P	01 27 04.8	+0.1
	baz=211						
EGAK	Eagle	21.65	39	IAmb	IAmb	01 27 20.2	
	comp=Z,127nm,0.9s						
EGAK	Eagle	21.65	39	P	P	01 27 05.6	-0.9
	baz=247,SNR=88						
BMAR	Burnt Mountain	21.66	31	P	P	01 27 06.9	+0.3
YUK4	Talbot Arm	21.76	49	P	P	01 27 08.7	+0.8
	baz=259						
YUK6	Outpost Mounta	21.82	50	P	P	01 27 09.9	+1.3
	baz=260						
DAWY	Dawson	22.12	42	P	P	01 27 11.7	0.0
	baz=251,SNR=19						
HYT	Haines Junctio	22.22	51	P	P	01 27 13.6	+0.8
	baz=261						
M30M	Minto, Yukon	22.86	46	P	P	01 27 18.9	-0.7
	baz=258						
I29M	Ogilvie Camp,	22.99	39	IAmb	IAmb	01 27 22.1	
	comp=Z,42nm,1.1s						
I29M	Ogilvie Camp,	22.99	39	P	P	01 27 19.6	-1.2
	baz=250,SNR=10						
SIT	Sitka	23.16	61	P	P	01 27 24.4	+1.9
	baz=272						
SKAG	Skagway	23.16	55	P	P	01 27 23.6	+1.1
SKAG	Skagway	23.16	55	P	P	01 27 23.8	+1.3
	baz=267						
WHY	Whitehorse	23.48	52	P	P	01 27 28.0	+2.2
	baz=264						
JIS	Juneau Island	23.63	58	IAmb	IAmb	01 27 41.2	
	comp=Z,22nm,0.8s						
M31M	Drury Creek, Y	23.90	48	P	P	01 27 30.5	+0.8
	baz=261						
P33M	Teslin, Yukon	24.47	53	P	P	01 27 36.3	+1.2
	baz=267,SNR=7.7						
CRAG	Craig	24.52	64	P	P	01 27 38.6	+3.2
	baz=278						
WRAK	Wrangell Islan	24.84	62	IAmb	IAmb	01 28 05.1	
	comp=Z,47nm,0.9s						
MMPY	Sheldon Lake,	25.40	47	P	P	01 27 43.4	0.0
	baz=264,SNR=10.0						
KUR	Kuril'sk	25.77	271	⇓eP	P	01 27 48.7	+1.9
INK	Inuvik	25.79	34	P	P	01 27 45.9	-0.9
	comp=Z,7.7nm,0.8s,baz=213,slow=6.7,SNR=18						
INK				PP	PnPn	01 28 18.2	-5.6
	comp=Z,15nm,1.0s,baz=263,slow=21,SNR=4.4						
INK	Inuvik	25.79	34	IAmb	IAmb	01 27 56.8	
	comp=Z,23nm,1.2s						
INK	Inuvik	25.79	34	P	P	01 27 45.9	-0.9
	baz=250,SNR=14						
DLBC	Dease Lake	25.92	57	P	P	01 27 50.1	+1.9
	comp=Z,19nm,1.1s,baz=280,slow=9.4,SNR=16						
DLBC	Dease Lake	25.92	57	P	P	01 27 49.7	+1.5
DLBC				IAmb	IAmb	01 27 52.6	
	comp=Z,44nm,1.4s						
RUBB	Prince Rupert	26.35	66	IAmb	IAmb	01 28 10.1	
	comp=Z,35nm,1.0s						
TGTN	Hyland Airport	26.73	50	P	P	01 27 56.1	+0.6
	baz=269,SNR=7.3						
YSS	Yuzh-Sakhalins	28.19	278	eP	P	01 28 09.9	+1.3
YSS				e		01 28 14.6	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
A36M	Sachs Harbour	29.66	28	IAmb	IAmb	01 28 36.3	
	comp=Z,9.4nm,0.8s						
A36M	Sachs Harbour	29.66	28	P	P	01 28 21.4	0.0
	baz=252,SNR=9.6						
ERM	Erimo	30.34	269	⇑eP	P	01 28 29.5	+1.8
ERM				pmax	pmax		
	comp=Z,36nm,1.0s						
ERM	Erimo	30.34	269	P	P	01 28 27.6	-0.1
ERM				IAmb	IAmb	01 28 31.6	
	comp=Z,30nm,0.9s						
GRNR	Gornyy	30.57	289	⇓iP	P	01 28 29.9	+0.2
GRNR				eS	S	01 33 34.4	+4.5
GRNR				pmax	pmax		
	comp=E,10.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.8s						
GRNR				smax	smax		
	comp=E,3.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,1μm,16.0s						
GRNR				MLR	MLR		
	comp=N,540nm,10.0s						
GRNR				MLR	MLR		
	comp=Z,960nm,20.0s						
YAK	Yakutsk	31.57	312	⇓eP	P	01 28 39.2	+0.9
YAK				pmax	pmax		
	comp=Z,20nm,0.6s						
TIXI	Tiksi	32.04	330	P	P	01 28 41.5	-0.9
	comp=Z,1.5nm,0.4s,baz=271,slow=23,SNR=9.5						
TIXI				PcP	PcP	01 31 31.2	-0.1
	comp=Z,14nm,1.0s,baz=90,slow=24,SNR=14						
TIXI	Tiksi	32.04	330	⇓iP	P	01 28 41.8	-0.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	Tiksi	32.04	330	P	P	01 28 41.6	-0.9
LLLB	Lillooet	32.34	70	IAmb	IAmb	01 29 01.5	
	comp=Z,18nm,1.0s						
D03D	Eldon	32.87	76	P	P	01 28 52.2	+2.2
	baz=296						
YKA	Yellowknife Ar	33.09	47	P	P	01 28 50.9	-0.8
	comp=Z,1.7nm,0.7s,baz=273,slow=9.7,SNR=39						
YKA				PcP	PcP	01 31 34.5	+0.2
	comp=Z,3.4nm,0.8s,baz=283,slow=2.8,SNR=12						
YKA				ScP	ScP	01 35 15.8	-1.0
	comp=Z,0.3nm,0.7s,baz=285,slow=3.3,SNR=4.2						
YKA	Yellowknife Ar	33.09	47	iP	P	01 28 51.2	-0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
E04D	Cinebar	33.63	78	P	P	01 28 59.1	+2.5
	baz=298						
D05A	Enumclaw	33.69	76	P	P	01 28 58.4	+1.3
D05A				IAmb	IAmb	01 29 20.1	
	comp=Z,18nm,0.9s						
KLR	Kul'dur	33.94	288	P	P	01 28 58.8	-0.5
	comp=Z,16nm,0.6s,baz=65,slow=8.0,SNR=67						
H04A	Detroit Lake	34.77	80	IAmb	IAmb	01 29 29.7	
	comp=Z,18nm,1.1s						
B08A	Colville Reser	34.77	73	IAmb	IAmb	01 29 23.0	
	comp=Z,13nm,0.9s						
HOOD	Mount Hood Mea	34.78	79	P	P	01 29 07.4	+0.7
HOOD				IAmb	IAmb	01 29 27.7	
	comp=Z,30nm,1.4s						
ZEA	Zeya	34.80	297	eP	P	01 29 05.6	-1.0
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
H11N2	WAKE ISLAND Hy	34.95	212	T	T	02 07 03.5	
	baz=20,slow=76,SNR=98						
H11N3	WAKE ISLAND Hy	34.96	212	T	T	02 07 02.9	
	baz=20,slow=76,SNR=92						
H11N1	WAKE ISLAND Hy	34.97	212	T	T	02 07 07.6	
	baz=20,slow=76,SNR=62						
G05D	Wamic, OR	35.02	79	P	P	01 29 10.5	+1.8
	baz=300						
I04A	Tendick Farm,	35.08	82	P	P	01 29 11.5	+2.3
	baz=301						
L02E	Cave Junction	35.21	85	P	P	01 29 13.0	+2.7
	baz=303						
I05D	Terrebonne, OR	35.47	80	P	P	01 29 14.0	+1.5
	baz=301						
HAWA	Hanford	35.56	76	IAmb	IAmb	01 29 30.6	
	comp=Z,13nm,0.8s						

J04D	**Umpqua Nationa**	**35.56**	**82**		IAmb	IAmb	01 29 31.6		
	comp=Z,24nm,0.9s								
J04D	**Umpqua Nationa**	**35.56**	**82**		P	**P**	**01 29 15.3**	**+1.7**	
	baz=302								
JYT	**Yasato**	**35.63**	**263**		P	**P**	**01 29 13.4**	**-0.5**	
JSD	**Sado**	**35.70**	**267**		P	**P**	**01 29 14.6**	**0.0**	
JSD					IAmb	IAmb	01 29 28.5		
	comp=Z,18nm,1.0s								
L04D	**Klamath Falls**	**35.98**	**84**		P	**P**	**01 29 18.9**	**+1.8**	
	baz=303								
PINE	**Pine Mountain**	**35.99**	**81**		P	**P**	**01 29 17.9**	**+0.6**	
PINE					IAmb	IAmb	01 29 37.1		
	comp=Z,13nm,1.1s								
YBH	**Yreka Blue Hor**	**36.00**	**85**		P	**P**	**01 29 18.3**	**+1.1**	
YBH					pmax	pmax			
	comp=Z,6.0nm,0.9s								
YBH	**Yreka Blue Hor**	**36.00**	**85**		P	**P**	**01 29 18.3**	**+1.1**	
J05D	**Fort Rock, OR**	**36.08**	**82**		P	**P**	**01 29 20.4**	**+2.5**	
	baz=302								
M02C	**Callahan**	**36.10**	**86**		P	**P**	**01 29 20.1**	**+2.1**	
	baz=304								
NEW	**Newport**	**36.13**	**72**		IAmb	IAmb	01 29 33.5		
	comp=Z,23nm,1.1s								
NEW	**Newport**	**36.13**	**72**		P	**P**	**01 29 20.2**	**+1.9**	
	baz=297,SNR=5.2								
USA0B	**Ussuriysk Arra**	**36.15**	**280**		P	**P**	**01 29 17.7**	**-0.7**	
USA0B					pmax	pmax			
	comp=Z,48nm,1.0s								
USA0B	**Ussuriysk Arra**	**36.15**	**280**		P	**P**	**01 29 17.7**	**-0.7**	
USA0B					IAmb	IAmb	01 29 19.4		
	comp=Z,48nm,0.9s								
USRK	**Ussuriysk Ar.**	**36.15**	**280**		P	**P**	**01 29 18.0**	**-0.3**	
	comp=Z,42nm,0.8s,baz=55,slow=7.3,SNR=37								
USRK	**Ussuriysk Ar.**	**36.15**	**280**		P	**P**	**01 29 17.7**	**-0.6**	
H11S1	**WAKE ISLAND Hy**	**36.15**	**212**		T	T	02 08 36.8		
	baz=20,slow=76,SNR=304								
H11S2	**WAKE ISLAND Hy**	**36.17**	**212**		T	T	02 08 37.4		
	baz=20,slow=76,SNR=187								
H11S3	**WAKE ISLAND Hy**	**36.17**	**212**		T	T	02 08 15.7		
	baz=20,slow=76,SNR=83								
N02D	**Trinity Center**	**36.42**	**86**		P	**P**	**01 29 22.3**	**+1.5**	
	baz=304								
M04C	**Macdoel**	**36.51**	**84**		IAmb	IAmb	01 29 24.5		
	comp=Z,13nm,1.0s								
M04C	**Macdoel**	**36.51**	**84**		P	**P**	**01 29 23.6**	**+2.0**	
	baz=304								
K05A	**Summer Lake**	**36.59**	**82**		P	**P**	**01 29 23.0**	**+0.7**	
K05A					IAmb	IAmb	01 29 45.6		
	comp=Z,19nm,0.9s								
KCPM	**Cahto Peak**	**36.62**	**88**		IAmb	IAmb	01 29 25.3		
	comp=Z,16nm,0.9s								
MJAR	**Matsushiro Arr**	**36.66**	**265**		P	**P**	**01 29 23.4**	**+0.5**	
	comp=Z,10nm,0.8s,baz=49,slow=8.1,SNR=19								
MAJO	**Matsushiro**	**36.66**	**265**	⇑	*eP*	**P**	**01 29 23.5**	**+0.7**	
MAJO					pmax	pmax			
	comp=Z,38nm,1.1s								
MAJO	**Matsushiro**	**36.66**	**265**		P	**P**	**01 29 23.1**	**+0.2**	
MAJO					IAmb	IAmb	01 29 24.5		
	comp=Z,36nm,1.1s								
MJB9	**Matsu-Tunnel**	**36.66**	**265**		IAmb	IAmb	01 29 24.5		
	comp=Z,37nm,1.1s								
VLA	**Vladivostok**	**36.78**	**279**	*d*	*i*P	**P**	**01 29 24.9**	**+1.2**	
VLA					pmax	pmax			
	comp=Z,100nm,0.9s								
O02D	**Mt. Diablo Mer**	**36.83**	**87**		P	**P**	**01 29 26.0**	**+1.7**	
	baz=305,SNR=8.5								
O03E	**Paynes Creek**	**37.38**	**86**		IAmb	IAmb	01 29 31.6		
	comp=Z,17nm,1.1s								
O03E	**Paynes Creek**	**37.38**	**86**		P	**P**	**01 29 29.9**	**+1.0**	
	baz=305,SNR=8.0								
MDJ	**Mudanjiang**	**37.41**	**282**		P	**P**	**01 29 28.3**	**-0.8**	
MDJ					IAmb	IAmb	01 29 29.7		
	comp=Z,38nm,0.9s								
MDJ	**Mudanjiang**	**37.41**	**282**		P	**P**	**01 29 27.9**	**-1.1**	
MDJ					pP	pP	01 29 31.0	-3.8	
MDJ					sP	sP	01 29 32.0	-5.1	
MDJ					S	**S**	**01 35 17.3**	**+1.6**	
MDJ					sS	sS	01 35 23.8	-1.4	
MDJ					pmax	pmax			
	comp=Z,39nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,150nm,4.6s								
MDJ					LR	LR			
	comp=Z,1μm,13.5s								
MDJ					LR	LR			
	comp=Z,3μm,12.6s								
MDJ					LR	LR			
	comp=Z,1μm,18.0s								
MSHR	**Mys Shultsa**	**37.52**	**278**	⇓	*eP*	**P**	**01 29 31.3**	**+1.3**	
MSHR					pmax	pmax			
	comp=Z,34nm,0.8s								
WALA	**Waterton Lakes**	**37.67**	**69**		IAmb	IAmb	01 29 50.3		
	comp=Z,21nm,1.2s								
JGF	**Kuroka**	**37.79**	**265**		P	**P**	**01 29 33.6**	**+1.2**	
JGF					IAmb	IAmb	01 29 34.9		
	comp=Z,18nm,0.9s								
JTMT	**Jette**	**38.06**	**71**		IAmb	IAmb	01 29 50.1		
	comp=Z,19nm,1.1s								
WVOR	**Wild Horse Val**	**38.14**	**81**		IAmb	IAmb	01 29 53.3		
	comp=Z,13nm,0.9s								
BNX	**BinXian**	**38.17**	**285**	⇓	P	**P**	**01 29 34.6**	**-0.8**	
BNX					pmax	pmax			
	comp=Z,63nm,0.8s								
BNX					pmax	pmax			
	comp=Z,240nm,4.4s								
BEKR	**Beckworth**	**38.53**	**86**		P	**P**	**01 29 39.2**	**+0.5**	
MSO	**Missoula**	**38.71**	**72**		P	**P**	**01 29 41.8**	**+1.7**	
	baz=300								
PNTR	**Pine Nut**	**39.46**	**86**		IAmb	IAmb	01 29 54.7		
	comp=Z,14nm,0.8s								
HLID	**Hailey**	**40.12**	**77**		P	**P**	**01 29 53.2**	**+1.2**	
HLID	**Hailey**	**40.12**	**77**		P	**P**	**01 29 53.1**	**+1.1**	
	baz=303,SNR=6.9								
BOD	**Bodaibo**	**40.26**	**308**		*eP*	**P**	**01 29 51.8**	**-0.9**	
BOD					pmax	pmax			
	comp=Z,18nm,1.1s								
CN2	**Changchun**	**40.37**	**284**		*eP*	**P**	**01 29 51.8**	**-2.0**	
CN2					PP	**PP**	**01 31 28.3**	**+1.6**	
CN2					S	**S**	**01 35 58.0**	**-2.3**	
CN2					sS	pS	01 36 05.3	-1.6	
CN2					pmax	pmax			
	comp=Z,20nm,1.1s								
CN2					LR	LR			
	comp=Z,3μm,17.0s								
CN2					LR	LR			
	comp=Z,2μm,17.0s								
CN2					LR	LR			
	comp=Z,1μm,19.0s								
EGMT	**Eagleton**	**40.59**	**69**		IAmb	IAmb	01 30 16.9		
	comp=Z,20nm,0.8s								
EGMT	**Eagleton**	**40.59**	**69**		P	**P**	**01 29 56.6**	**+0.9**	
	baz=300,SNR=5.7								
NVAR	**Mina Array Bea**	**40.66**	**86**		P	**P**	**01 29 57.2**	**+0.6**	
	comp=Z,4.0nm,0.8s,baz=292,slow=7.8,SNR=31								
NVAR					PcP	**PcP**	**01 31 58.7**	**+0.7**	
	comp=Z,2.5nm,0.9s,baz=260,slow=2.3,SNR=4.9								
NVAR	**Mina Array Bea**	**40.66**	**86**		P	**P**	**01 29 56.1**	**-0.5**	
BOZ	**Bozeman (W)**	**40.72**	**73**		P	**P**	**01 29 57.4**	**+0.4**	
	baz=302,SNR=13								
HIA	**Hailar**	**40.94**	**294**		P	**P**	**01 29 58.1**	**-0.4**	
HIA					pmax	pmax			
	comp=Z,26nm,1.0s								
HIA	**Hailar**	**40.94**	**294**		P	**P**	**01 29 58.1**	**-0.4**	
HIA					IAmb	IAmb	01 29 59.1		
	comp=Z,26nm,1.0s								
ELK	**Elko**	**41.20**	**81**		P	**P**	**01 30 01.9**	**+0.9**	
ELK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ELK	**Elko**	**41.20**	**81**		P	**P**	**01 30 01.9**	**+0.9**	
TIN	**Tinemaha, Big**	**41.55**	**88**		P	**P**	**01 30 05.4**	**+1.6**	
	baz=308								
TPH	**Tonopah**	**41.56**	**86**		IAmb	IAmb	01 30 06.5		
	comp=Z,35nm,1.1s								
YMR	**Madison River**	**41.62**	**74**		IAmb	IAmb	01 30 20.4		
	comp=Z,31nm,1.4s								
YHH	**Holmes Hill**	**41.62**	**73**		IAmb	IAmb	01 30 22.1		
	comp=Z,16nm,0.9s								
FFC	**Flin Flon**	**41.74**	**56**		P	**P**	**01 30 05.1**	**+0.1**	
FFC					pmax	pmax			
	comp=Z,15nm,0.8s								
FFC	**Flin Flon**	**41.74**	**56**		P	**P**	**01 30 05.1**	**+0.1**	
FFC					IAmb	IAmb	01 30 06.5		
	comp=Z,15nm,0.8s								
YNR	**Norris Junctio**	**41.76**	**73**		IAmb	IAmb	01 30 24.4		
	comp=Z,33nm,1.3s								
VES	**Vestal, Richgr**	**41.78**	**90**		P	**P**	**01 30 06.6**	**+1.0**	
	baz=310								
H17A	**Grant Village**	**42.00**	**74**		IAmb	IAmb	01 30 25.7		
	comp=Z,35nm,1.4s								
H17A	**Grant Village**	**42.00**	**74**		P	**P**	**01 30 09.3**	**+1.8**	
	baz=303								
LKWY	**Lake**	**42.01**	**73**		IAmb	IAmb	01 30 32.7		
	comp=Z,13nm,0.8s								
CWC	**Cottonwood Cre**	**42.03**	**88**		P	**P**	**01 30 08.4**	**+0.6**	
	baz=309								
FLWY	**Flagg Ranch**	**42.09**	**74**		IAmb	IAmb	01 30 24.3		
	comp=Z,21nm,1.2s								
ISA	**Isabella, Lake**	**42.28**	**90**		P	**P**	**01 30 10.0**	**+0.3**	
	baz=310								
RLMT	**Red Lodge**	**42.38**	**72**		IAmb	IAmb	01 30 26.2		
	comp=Z,43nm,1.3s								
RLMT	**Red Lodge**	**42.38**	**72**		P	**P**	**01 30 11.8**	**+1.1**	
	baz=303								
R11A	**Troy Canyon, C**	**42.41**	**84**		P	**P**	**01 30 11.2**	**+0.3**	
	baz=308,SNR=9.3								
KSRS	**Korea Array**	**42.53**	**274**		P	**P**	**01 30 12.7**	**+1.1**	
	comp=Z,8.6nm,0.8s,baz=55,slow=7.6,SNR=20								
KSAR	**Wonju Array Be**	**42.56**	**274**		P	**P**	**01 30 10.7**	**-1.1**	
KSAR	**Wonju Array Be**	**42.56**	**274**		P	**P**	**01 30 10.7**	**-1.1**	
SNY	**Shenyang**	**42.61**	**282**	⇑	P	**P**	**01 30 12.9**	**+0.7**	
SNY					pmax	pmax			
	comp=Z,130nm,1.0s								
MPMC	**Manual Prospec**	**42.64**	**88**		P	**P**	**01 30 13.3**	**+0.5**	
	baz=309								
FURC	**Furnace Creek,**	**42.78**	**87**		P	**P**	**01 30 15.1**	**+1.5**	
	baz=309								
TPNV	**Topopah Spring**	**42.86**	**86**		P	**P**	**01 30 15.1**	**+0.6**	
	baz=309,SNR=13								
DUG	**Dugway, Tooele**	**43.02**	**80**		IAmb	IAmb	01 30 32.9		
	comp=Z,19nm,1.0s								
DUG	**Dugway, Tooele**	**43.02**	**80**		P	**P**	**01 30 16.5**	**+0.7**	
	baz=306,SNR=11								
PRN	**Pahroc Range**	**43.32**	**85**		P	**P**	**01 30 19.3**	**+1.1**	
PRN					IAmb	IAmb	01 30 44.1		
	comp=Z,17nm,1.0s								
LAO	**LASA Array**	**43.34**	**68**		P	**P**	**01 30 19.5**	**+1.4**	
	baz=302								
BW06	**Boulder Array**	**43.52**	**75**		IAmb	IAmb	01 30 35.1		
	comp=Z,19nm,0.9s								
BW06	**Boulder Array**	**43.52**	**75**		P	**P**	**01 30 20.1**	**+0.2**	
	baz=305,SNR=22								
PD31	**Pinedale Array**	**43.52**	**75**		P	**P**	**01 30 19.9**	**+0.1**	
PD31					IAmb	IAmb	01 30 35.1		
	comp=Z,17nm,0.9s								
PDAR	**Pinedale Array**	**43.52**	**75**		P	**P**	**01 30 19.9**	**+0.1**	
	comp=Z,8.8nm,0.9s,baz=306,slow=4.2,SNR=59								
TJN	**Taejon**	**43.55**	**273**	⇓	*eP*	**P**	**01 30 18.1**	**-1.8**	
GSC	**Goldstone, Bar**	**43.55**	**89**		IAmb	IAmb	01 30 22.4		
	comp=Z,12nm,0.8s								
GSC	**Goldstone, Bar**	**43.55**	**89**		P	**P**	**01 30 20.8**	**+0.7**	
	baz=310,SNR=11								
DGMT	**Dagmar**	**43.56**	**65**		P	**P**	**01 30 20.5**	**+0.6**	
	baz=301								
NLU	**North Lily Min**	**43.62**	**80**		IAmb	IAmb	01 30 39.8		
	comp=Z,19nm,1.3s								
JLU	**Jordanelle**	**43.62**	**79**		IAmb	IAmb	01 30 37.1		
	comp=Z,15nm,1.1s								
BFSC	**Mount Baldy Ra**	**43.71**	**90**		P	**P**	**01 30 22.2**	**+0.8**	
	baz=311,SNR=5.5								
FCC	**Fort Churchill**	**43.81**	**48**		P	**P**	**01 30 21.0**	**-0.7**	
FCC					pmax	pmax			
	comp=Z,7.0nm,1.0s								
FCC	**Fort Churchill**	**43.81**	**48**		P	**P**	**01 30 21.0**	**-0.7**	
SHPR	**Sheep Range**	**43.82**	**86**		P	**P**	**01 30 22.0**	**-0.3**	
TUQ	**Turquoise Moun**	**44.02**	**88**		P	**P**	**01 30 24.8**	**+1.0**	
	baz=310								
HEC	**Hector,Ludlow**	**44.15**	**89**		P	**P**	**01 30 25.5**	**+0.6**	
	baz=310,SNR=5.8								
TMUT	**Trail Mountain**	**44.55**	**80**		IAmb	IAmb	01 30 45.9		
	comp=Z,14nm,0.9s								
GMRC	**Granite Mounta**	**44.60**	**88**		P	**P**	**01 30 29.2**	**+0.7**	
	baz=310,SNR=6.9								
MTPU	**Mount Pierson**	**44.71**	**82**		P	**P**	**01 30 30.6**	**+1.0**	
MTPU					IAmb	IAmb	01 30 46.6		
	comp=Z,12nm,1.2s								
RDMU	**Red Mountain**	**44.79**	**78**		IAmb	IAmb	01 30 54.3		
	comp=Z,20nm,0.9s								
Q16A	**Castle Valley**	**44.80**	**81**		IAmb	IAmb	01 30 46.9		
	comp=Z,18nm,1.2s								
PFO	**Pinyon Flats O**	**44.87**	**90**		P	**P**	**01 30 31.4**	**+0.7**	
	baz=311								
BELC	**Belle Mtn. Jos**	**44.90**	**89**		P	**P**	**01 30 31.4**	**+0.5**	
	baz=311								
P18A	**Preston Nutter**	**44.94**	**79**		IAmb	IAmb	01 30 55.8		
	comp=Z,33nm,1.1s								
KNB	**Kanab**	**44.95**	**84**		IAmb	IAmb	01 30 48.4		
	comp=Z,8.7nm,1.0s								
SRU	**San Rafael Swe**	**45.09**	**80**		IAmb	IAmb	01 30 50.6		
	comp=Z,42nm,1.5s								
IRM	**Iron Mountain**	**45.34**	**89**		P	**P**	**01 30 34.0**	**-0.2**	
	baz=311								
MONP2	**Monument Peak**	**45.37**	**91**		P	**P**	**01 30 35.3**	**+0.6**	
	baz=312								
K22A	**Casper**	**45.41**	**73**		IAmb	IAmb	01 30 51.5		
	comp=Z,9.4nm,0.9s								
K22A	**Casper**	**45.41**	**73**		P	**P**	**01 30 35.1**	**+0.1**	
	baz=306								
BC3	**Big Chuckawall**	**45.47**	**89**		P	**P**	**01 30 36.2**	**+0.7**	
	baz=311								
DL2	**Dalian**	**45.55**	**280**		P	**P**	**01 30 37.0**	**+1.2**	
DL2					pmax	pmax			
	comp=Z,48nm,0.9s								
DL2					LR	LR			
	comp=Z,2μm,15.4s								
DL2					LR	LR			
	comp=Z,2μm,10.3s								
DL2					LR	LR			
	comp=Z,4μm,11.9s								
U15A	**North Rim**	**45.66**	**84**		IAmb	IAmb	01 30 53.9		
	comp=Z,9.8nm,1.0s								
NRIK	**Noril'sk**	**45.82**	**331**		P	**P**	**01 30 37.4**	**-0.2**	
	comp=Z,7.3nm,0.8s,baz=80,slow=8.5,SNR=17								
NRIK					PcP	**PcP**	**01 32 15.2**	**+0.7**	
	comp=Z,1.6nm,0.6s,baz=21,slow=1.7,SNR=3.9								
NRIK	**Noril'sk**	**45.82**	**331**	*c*	*i*P	**P**	**01 30 36.9**	**-0.7**	
NRIK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
NRIK	**Noril'sk**	**45.82**	**331**		P	**P**	**01 30 37.4**	**-0.2**	
NRIK					IAmb	IAmb	01 30 38.0		
	comp=Z,7.7nm,0.8s								
O20A	**White River Ci**	**45.86**	**77**		IAmb	IAmb	01 30 53.8		
	comp=Z,25nm,0.9s								
O20A	**White River Ci**	**45.86**	**77**		P	**P**	**01 30 38.5**	**0.0**	
	baz=307,SNR=12								
PDMCI	**Parker Dam,Lak**	**45.87**	**88**		P	**P**	**01 30 38.9**	**+0.5**	
	baz=311								
XLT	**XiLinHaoTe**	**45.94**	**289**		*eP*	**P**	**01 30 39.5**	**+0.6**	
XLT					sP	sP	01 30 46.6	-0.5	
XLT					S	**S**	**01 37 18.9**	**-3.2**	
XLT					pmax	pmax			
	comp=Z,12nm,0.9s								
XLT					pmax	pmax			
	comp=Z,110nm,4.7s								
RSSD	**Black Hills**	**46.04**	**70**		P	**P**	**01 30 39.8**	**-0.2**	
RSSD					pmax	pmax			
	comp=Z,7.0nm,1.1s								
RSSD	**Black Hills**	**46.04**	**70**		P	**P**	**01 30 39.8**	**-0.2**	
RSSD	**Black Hills**	**46.04**	**70**		P	**P**	**01 30 39.6**	**-0.3**	
	baz=305								
GLA	**Glamis**	**46.26**	**90**		P	**P**	**01 30 41.8**	**+0.2**	
	baz=312								
PV23	**Carpenter Ridg**	**46.42**	**80**		IAmb	IAmb	01 30 59.0		
	comp=Z,26nm,1.4s								
MDND	**Maddock**	**46.49**	**64**		P	**P**	**01 30 43.7**	**+0.6**	
	baz=304,SNR=8.6								
PV13	**Radium Mtn., P**	**46.72**	**80**		P	**P**	**01 30 45.5**	**+0.1**	
PV13					IAmb	IAmb	01 31 01.8		
	comp=Z,22nm,0.8s								
N23A	**Red Feather La**	**46.80**	**75**		IAmb	IAmb	01 31 04.8		
	comp=Z,12nm,1.0s								
N23A	**Red Feather La**	**46.80**	**75**		P	**P**	**01 30 46.8**	**+0.7**	
	baz=307,SNR=7.8								
WUAZ	**Wupatki**	**46.81**	**84**		IAmb	IAmb	01 31 02.8		
	comp=Z,6.7nm,0.8s								
WUAZ	**Wupatki**	**46.81**	**84**		P	**P**	**01 30 47.0**	**+1.0**	
	baz=310								
ULM	**Lac du Bonnet**	**47.21**	**59**		P	**P**	**01 30 48.5**	**-0.2**	
	comp=Z,6.0nm,0.5s,baz=304,slow=6.8,SNR=9.3								
ULM	**Lac du Bonnet**	**47.21**	**59**		IAmb	IAmb	01 31 02.1		
	comp=Z,16nm,0.8s								
SMCO	**Snowmass**	**47.22**	**77**		P	**P**	**01 30 50.0**	**+0.5**	
MVCO	**Mesa Verde**	**47.52**	**81**		P	**P**	**01 30 51.5**	**-0.1**	
	baz=309								
ISCO	**Idaho Springs**	**47.67**	**76**		P	**P**	**01 30 53.1**	**+0.3**	
	baz=308								
IRK	**Irkutsk**	**47.83**	**305**		*eP*	**P**	**01 30 52.4**	**-1.1**	
IRK					pmax	pmax			
	comp=Z,212nm,1.1s								
W18A	**Petrified Fore**	**48.09**	**84**		P	**P**	**01 30 57.1**	**+1.2**	
	baz=311								
BJI	**Beijing**	**48.18**	**285**		P	**P**	**01 30 57.0**	**+0.7**	
BJI					pmax	pmax			
	comp=Z,28nm,0.9s								
BJT	**Baijiatuan**	**48.20**	**285**		P	**P**	**01 30 56.7**	**+0.2**	
BJT					pmax	pmax			
	comp=Z,22nm,0.8s								
BJT	**Baijiatuan**	**48.20**	**285**		P	**P**	**01 30 56.7**	**+0.2**	
BJT					IAmb	IAmb	01 30 58.0		
	comp=Z,22nm,0.8s								
S22A	**4UR Ranch, Cre**	**48.20**	**79**		IAmb	IAmb	01 31 13.2		
	comp=Z,7.9nm,1.1s								
S22A	**4UR Ranch, Cre**	**48.20**	**79**		P	**P**	**01 30 57.7**	**+0.8**	
	baz=309								
AGMN	**Agassiz Nation**	**48.31**	**61**		P	**P**	**01 30 57.0**	**-0.3**	
	baz=305,SNR=16								
ULN	**Ulaanbaatar**	**48.81**	**299**	*ce*	P	**P**	**01 31 01.0**	**-0.4**	
ULN					pmax	pmax			
	comp=Z,23nm,1.0s								
ULN	**Ulaanbaatar**	**48.81**	**299**		P	**P**	**01 31 00.6**	**-0.7**	
ULN					IAmb	IAmb	01 31 02.6		
	comp=Z,17nm,0.8s								
SDCO	**Great Sand Dun**	**49.02**	**78**		IAmb	IAmb	01 31 19.6		
	comp=Z,8.6nm,1.1s								
SDCO	**Great Sand Dun**	**49.02**	**78**		P	**P**	**01 31 03.5**	**+0.3**	
	baz=309,SNR=7.5								
SONM	**Songino Array**	**49.19**	**299**		P	**P**	**01 31 04.3**	**+0.1**	
	comp=Z,13nm,0.9s,baz=47,slow=8.9,SNR=92								
SONM					PcP	**PcP**	**01 32 26.9**	**-0.2**	
	comp=Z,4.0nm,0.9s,baz=99,slow=1.2,SNR=4.8								
SONM	**Songino Array**	**49.19**	**299**		P	**P**	**01 31 03.8**	**-0.4**	
SONM							01 32 26.9		
SONM					pmax	pmax			
	comp=Z,16nm,0.9s								
SONM	**Songino Array**	**49.19**	**299**		P	**P**	**01 31 03.8**	**-0.4**	
SONM					IAmb	IAmb	01 31 05.3		
	comp=Z,16nm,0.9s								
TUC	**Tucson**	**49.29**	**87**		P	**P**	**01 31 05.9**	**+0.8**	
	baz=312								
ZAK	**Zakamensk**	**49.39**	**303**		*eP*	**P**	**01 31 05.8**	**+0.2**	
ZAK					pmax	pmax			
	comp=Z,51nm,1.2s								
B35A	**Bob, Littlefor**	**49.44**	**60**		IAmb	IAmb	01 31 19.0		
	comp=Z,21nm,0.9s								
F33A	**5 Mile Ranch,**	**49.51**	**64**		IAmb	IAmb	01 31 20.1		
	comp=Z,23nm,1.1s								
MOY	**Mondy**	**49.83**	**306**		*eP*	**P**	**01 31 08.8**	**-0.2**	
MOY					pmax	pmax			
	comp=Z,28nm,1.2s								
T25A	**Trinidad**	**50.08**	**78**		IAmb	IAmb	01 31 27.7		
	comp=Z,29nm,1.1s								
T25A	**Trinidad**	**50.08**	**78**		P	**P**	**01 31 12.0**	**+0.8**	
	baz=310,SNR=14								
ANMO	**Albuquerque**	**50.24**	**81**	⇑	*eP*	**P**	**01 31 12.1**	**-0.3**	
ANMO					pmax	pmax			
	comp=Z,4.0nm,1.3s								
ANMO	**Albuquerque**	**50.24**	**81**		P	**P**	**01 31 12.7**	**+0.3**	
ANMO	**Albuquerque**	**50.24**	**81**		P	**P**	**01 31 12.2**	**-0.3**	
	baz=311								
HHC	**Hu-ho-hao-te**	**50.44**	**289**		*eP*	**P**	**01 31 15.0**	**+1.2**	
HHC					sP	pwP	01 31 23.8	-2.0	
HHC					S	**S**	**01 38 27.6**	**+1.7**	
HHC					pmax	pmax			
	comp=Z,17nm,0.9s								
HHC					pmax	pmax			
	comp=Z,73nm,5.6s								
HHC					LR	LR			
	comp=Z,4μm,17.6s								
HHC					LR	LR			
	comp=Z,2μm,11.2s								
HHC					LR	LR			
	comp=Z,2μm,14.6s								
SPA0	**Spitsbergen Ar**	**50.51**	**357**		*eP*	**P**	**01 31 13.9**	**+0.2**	
ECSD	**EROS Data Cent**	**50.59**	**66**		IAmb	IAmb	01 31 28.3		
	comp=Z,15nm,0.9s								
ECSD	**EROS Data Cent**	**50.59**	**66**		P	**P**	**01 31 14.4**	**-0.4**	
	baz=308,SNR=9.7								
HNS	**HongShan**	**50.73**	**283**	⇑	P	**P**	**01 31 16.8**	**+0.9**	
HNS					pP	**pP**	**01 31 21.3**	**-0.4**	
HNS					sP	**pwP**	**01 31 27.4**	**-0.5**	
HNS					pmax	pmax			
	comp=Z,100nm,1.0s								
HNS					LR	LR			
	comp=Z,2μm,11.0s								
HNS					LR	LR			
	comp=Z,2μm,11.5s								
HNS					LR	LR			
	comp=Z,3μm,11.8s								
EYMN	**Ely**	**50.89**	**59**		IAmb	IAmb	01 31 30.2		
	comp=Z,28nm,1.1s								
EYMN	**Ely**	**50.89**	**59**		P	**P**	**01 31 16.2**	**-0.8**	
	baz=307								
121A	**Cookes Peak, D**	**51.01**	**85**		P	**P**	**01 31 19.0**	**+0.7**	
	baz=312								
F36A	**Milaca**	**51.04**	**62**		IAmb	IAmb	01 31 31.0		
	comp=Z,16nm,1.3s								
DAG

X37A Clayton 57.26 74 IAmb IAmb 01 32 20.9
comp=Z,16nm,0.7s
P43A Skaggs, Pawnee 57.28 66 IAmb IAmb 01 32 17.4
comp=Z,32nm,1.1s
CCM Cathedral Cave 57.35 68 P **P** **01 32 02.3 -1.9**
baz=312
MGMO Mountain Grove 57.36 70 IAmb IAmb 01 32 19.7
comp=Z,8.8nm,0.8s
JCT Junction City 57.38 81 P **P** **01 32 05.1 +0.6**
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT Junction City 57.38 81 P **P** **01 32 05.1 +0.6**
JCT IAmb IAmb 01 32 22.0
comp=Z,8.2nm,0.8s
J47A Sunmer 57.50 60 IAmb IAmb 01 32 07.3
comp=Z,24nm,1.0s
U40A Yellville 57.56 71 IAmb IAmb 01 32 20.7
comp=Z,8.5nm,0.8s
U40A Yellville 57.56 71 P **P** **01 32 04.0 -1.7**
baz=313
W39A Magazine 57.79 73 IAmb IAmb 01 32 23.3
comp=Z,16nm,1.0s
W39A Magazine 57.79 73 P **P** **01 32 06.8 -0.5**
baz=313
FVM French Village 57.88 68 IAmb IAmb 01 32 22.8
comp=Z,19nm,1.1s
Q44A Meyer Farm, Va 58.07 66 IAmb IAmb 01 32 23.0
comp=Z,26nm,0.9s
LZH Lanzhou 58.13 289 *e*P **P** **01 32 10.8 +0.9**
LZH pP sP 01 32 17.6 -0.5
LZH sP pwP 01 32 23.8 +1.8
LZH pmax pmax
comp=Z,39nm,1.1s
SCHQ Schefferville 58.13 41 P **P** **01 32 09.2 -0.3**
comp=Z,8.2nm,0.8s,baz=322,slow=7.5,SNR=13
SCHQ Schefferville 58.13 41 P **P** **01 32 09.4 0.0**
SCHQ IAmb IAmb 01 32 10.8
comp=Z,9.0nm,0.8s
SFIN Lafayette 58.16 64 P **P** **01 32 09.7 -0.2**
baz=313
GTA Gaotai 58.21 295 ⇑P **P** **01 32 10.3 -0.1**
GTA pP pP 01 32 13.3 -3.0
GTA sP sP 01 32 16.1 -2.5
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,38nm,5.7s
GTA LR LR
comp=Z,2µm,20.4s
GTA LR LR
comp=Z,1µm,19.3s
GTA LR LR
comp=Z,590nm,20.7s
FCAR Ozark Folk Cen 58.31 71 IAmb IAmb 01 32 26.8
comp=Z,18nm,0.9s
MIAR Mount Ida 58.36 73 IAmb IAmb 01 32 28.0
comp=Z,22nm,1.0s
MIAR Mount Ida 58.36 73 P **P** **01 32 11.0 -0.4**
baz=314
ARA0 ARCESS Array S 58.50 352 *e*P **P** **01 32 11.1 -0.7**
ARCES ARCESS Array B 58.50 352 P **P** **01 32 11.0 -0.8**
comp=Z,10nm,0.8s,baz=16,slow=7.2,SNR=20
ARCES PcP **PcP** **01 33 01.9 -0.1**
comp=Z,21nm,0.8s,baz=15,slow=5.1,SNR=10.0
ARCES ARCESS Array B 58.50 352 IAmb IAmb 01 32 11.7
comp=Z,14nm,0.9s
WHAR Wooly Hollow 58.62 72 P **P** **01 32 12.6 -0.5**
WHAR IAmb IAmb 01 32 29.4
comp=Z,12nm,0.9s
W41B Gary Mavity, V 58.73 72 IAmb IAmb 01 32 30.1
comp=Z,16nm,0.9s
W41B Gary Mavity, V 58.73 72 P **P** **01 32 12.7 -1.2**
baz=314,SNR=5.7
X40A Basin Creek Fa 58.85 73 P **P** **01 32 14.5 -0.2**
baz=314
JETT Jettan, Norway 58.87 354 *i* P **P** **01 32 15.3 +1.0**
TRO Tromso 58.88 355 *e*P **P** **01 32 14.3 -0.1**
LVZ Lovozero 59.07 348⇓ *e*P **P** **01 32 13.2 -2.6**
LVZ pmax pmax
comp=Z,69nm,1.1s
KTK1 Kautokeino 59.20 353 *e*P **P** **01 32 16.1 -0.6**
O48B Farmland 59.33 63 P **P** **01 32 16.9 -1.1**
baz=313
USIN University of 59.48 66 P **P** **01 32 18.7 -0.3**
APA Apatity 59.54 348⇓ *i*P P 01 32 13.2 -5.8
APA pmax pmax
comp=Z,13nm,1.4s
APA MLR MLR
comp=Z,3µm,18.0s
P49A Miami Univ. Ec 60.08 63 IAmb IAmb 01 32 36.4
comp=Z,16nm,0.8s
P49A Miami Univ. Ec 60.08 63 P **P** **01 32 22.1 -1.0**
baz=314
WCI Wyandotte Cave 60.09 65 P **P** **01 32 22.8 -0.4**
WCI pmax pmax
comp=Z,20nm,0.9s
WCI Wyandotte Cave 60.09 65 P **P** **01 32 22.8 -0.4**
WCI IAmb IAmb 01 32 37.1
comp=Z,20nm,0.9s
WCI Wyandotte Cave 60.09 65 P **P** **01 32 23.1 -0.1**
baz=314
T47A Sharon Grove 60.48 67 IAmb IAmb 01 32 44.4
comp=Z,12nm,0.7s
ZSN Zaisan 60.54 310 *e*P **P** **01 32 27.0 +0.8**
ZSN pmax pmax
comp=Z,4.0nm,0.7s
ZSN Zaisan 60.54 310 *e*P **P** **01 32 27.1 +0.8**
comp=Z,4.1nm,0.7s,baz=310
WVT Waverly 60.66 68 P **P** **01 32 27.2 +0.1**
WVT pmax pmax
comp=Z,22nm,1.5s
WVT Waverly 60.66 68 P **P** **01 32 27.2 +0.1**
WVT IAmb IAmb 01 32 44.5
comp=Z,22nm,1.5s
WVT Waverly 60.66 68 P **P** **01 32 26.6 -0.5**
baz=314
STEI Steigen 60.77 356 *e*P **P** **01 32 26.3 -1.0**
ERPA Erie 60.86 58 P **P** **01 32 28.9 +0.5**
baz=314
OXF Oxford 60.86 70 P **P** **01 32 27.8 -0.7**
baz=314
M53A WI Miller and 60.97 59 P **P** **01 32 29.3 +0.1**
baz=314
KURK Kurchatov 61.05 316 *c i*P **P** **01 32 29.3 -0.2**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 61.05 316 P **P** **01 32 28.3 -1.2**
KURK IAmb IAmb 01 32 43.6
comp=Z,16nm,0.6s
KURBB Kurchatov Arra 61.16 316 P **P** **01 32 29.6 -0.7**
comp=Z,6.8nm,0.6s,baz=44,slow=6.8,SNR=50
KURBB PcP **PcP** **01 33 13.3 +0.4**
comp=Z,8.6nm,1.0s,baz=40,slow=4.6,SNR=8.6
R50A Paris 61.16 64 IAmb IAmb 01 32 44.8
comp=Z,25nm,1.1s
O52A Adamsville 61.26 61 P **P** **01 32 31.1 -0.1**
FAUS Fauske 61.31 356 *e*P **P** **01 32 30.7 -0.3**
PLAL Pickwick Lake 61.32 69 IAmb IAmb 01 32 45.4
comp=Z,10nm,0.8s
M54A Oil Creek Stat 61.46 58 P **P** **01 32 32.5 0.0**
baz=315
O53A New Philadelph 61.51 60 P **P** **01 32 33.0 +0.1**
baz=315
V48A Smith Brothers 61.52 68 IAmb IAmb 01 32 49.3
comp=Z,8.8nm,1.1s
CLTN Cedars of Leba 61.55 67 IAmb IAmb 01 32 49.0
comp=Z,13nm,1.0s
N54A Moraine State 61.67 59 P **P** **01 32 34.1 +0.1**
baz=315
WMQ Urumqi 61.72 306 *e*P **P** **01 32 34.3 0.0**
WMQ pP pP 01 32 39.0 -1.3
WMQ sP pwP 01 32 47.8 +1.4
WMQ PcP **PcP** **01 33 16.0 +0.6**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,3µm,17.3s
WMQ LR LR
comp=Z,2µm,21.5s
WMQ LR LR
comp=Z,1µm,18.3s
T50A Nancy 61.76 65 P **P** **01 32 33.6 -0.9**
T50A IAmb IAmb 01 32 48.8
comp=Z,16nm,1.0s
CD2 Chengdu 61.78 285 P **P** **01 32 30.5 -4.4**
CD2 pmax pmax
comp=Z,260nm,5.7s
CD2 LR LR
comp=Z,360nm,13.7s
CD2 LR LR
comp=Z,2µm,11.4s
CD2 LR LR
comp=Z,3µm,11.4s
LONY Lake Ozonia 61.89 53 P **P** **01 32 35.0 -0.3**
baz=316,SNR=8.8
S51A Beattyville 62.03 64 IAmb IAmb 01 32 50.4
comp=Z,18nm,0.8s
FRNY Flat Rock 62.23 52 IAmb IAmb 01 32 37.6
comp=Z,16nm,0.9s
MK31 Makanchi Array 62.24 311 P **P** **01 32 37.0 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 62.24 311 P **P** **01 32 37.0 -0.7**
MKAR Makanchi Array 62.24 311 P **P** **01 32 36.3 -1.4**
comp=Z,4.0nm,0.5s,baz=45,slow=6.4,SNR=58
MKAR Makanchi Array 62.24 311 P **P** **01 32 36.6 -1.1**
MKAR Makanchi Array 62.24 311 P **P** **01 32 36.6 -1.1**
KONS Konsvik 62.28 357 *e*P **P** **01 32 37.5 -0.1**
MAKZ Makanchi 62.38 311 P **P** **01 32 37.5 -1.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 62.38 311 P **P** **01 32 37.5 -1.1**
NCB Newcomb 62.53 53 IAmb IAmb 01 32 46.8
comp=Z,22nm,1.0s
MOR8 Moi Rana 62.56 356 *e*P **P** **01 32 37.7 -1.8**
MCWV Mont Chateau 62.67 60 P **P** **01 32 41.2 +0.6**
baz=315
BRVK Borovoye 62.70 322 *ce*P **P** **01 32 40.6 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 62.70 322 P **P** **01 32 40.6 0.0**
BRVK IAmb IAmb 01 32 55.2
comp=Z,7.4nm,0.8s
W50A Signal Mountai 62.77 67 IAmb IAmb 01 33 07.5
comp=Z,18nm,1.2s
TZTN Tazewell 62.83 65 P **P** **01 32 42.0 +0.3**
baz=315
BINY Binghamton 62.90 56 P **P** **01 32 42.6 +0.4**
baz=316
PRGR Permogore 62.92 340 *e*P **P** **01 32 40.0 -1.9**
PRGR pmax pmax
comp=Z,29nm,1.1s
O56A Blue Knob Stat 62.93 59 IAmb IAmb 01 32 56.6
comp=Z,20nm,0.9s
O56A Blue Knob Stat 62.93 59 P **P** **01 32 42.3 -0.1**
baz=316
SSPA Standing Stone 63.03 58 P **P** **01 32 43.3 +0.3**
SSPA Standing Stone 63.03 58 P **P** **01 32 43.1 +0.2**
baz=316
FPAL Fort Paine 63.06 68 IAmb IAmb 01 32 58.4
comp=Z,20nm,1.0s
SVE Sverdlovsk 63.07 330 *e*P **P** **01 32 43.2 +0.2**
SVE pmax pmax
comp=Z,17nm,0.9s
GOMU GeErMu 63.29 295 P **P** **01 32 45.4 +0.1**
GOMU pP pP 01 32 48.6 -2.7
GOMU sP sP 01 32 50.3 -3.2
GOMU PP **PP** **01 35 03.9 -0.2**
GOMU S **S** **01 41 15.3 -0.7**
GOMU SS **SS** **01 45 23.8 +1.9**
GOMU pmax pmax
comp=Z,29nm,0.9s
GOMU pmax pmax
comp=Z,47nm,3.8s
GOMU LR LR
comp=Z,880nm,15.3s
GOMU LR LR
comp=Z,710nm,18.5s
GOMU LR LR
comp=Z,650nm,17.6s
V52A Sevierville 63.30 65 IAmb IAmb 01 32 59.2
comp=Z,13nm,0.9s
LBNH Lisbon 63.48 52 P **P** **01 32 45.7 -0.2**
baz=317
KSPA Keystone Colle 63.48 56 P **P** **01 32 47.0 +1.1**
R55A Marlinton 63.50 61 IAmb IAmb 01 33 01.1
comp=Z,18nm,0.9s
HNH Hanover 63.69 52 IAmb IAmb 01 32 48.4
comp=Z,23nm,1.0s
TRY Troy 63.71 54 P **P** **01 32 47.3 -0.2**
N59A State Game Lan 63.94 57 P **P** **01 32 49.3 +0.2**
baz=316
BATG Bathurst New B 64.00 46 IAmb IAmb 01 32 50.7
comp=Z,20nm,1.0s
ARU Arti 64.05 331 *c i*P **P** **01 32 49.0 -0.5**
ARU 01 33 22.4
ARU 01 35 07.3
ARU S **S** **01 41 28.5 +4.4**
ARU SS **SS** **01 45 27.7 -4.3**
ARU pmax pmax
comp=Z,28nm,2.8s
ARU Arti 64.05 331 P **P** **01 32 48.5 -1.0**
ARU IAmb IAmb 01 32 49.8
comp=Z,6.5nm,0.7s
BRZS Berezniki 64.12 319 *e*P **P** **01 32 49.7 -0.4**
BRZS Berezniki 64.12 319 *e*P **P** **01 32 49.7 -0.4**
baz=319
L61B Northampton 64.41 54 P **P** **01 32 52.4 +0.3**
baz=317
ODNJ Ogdensburg 64.42 56 P **P** **01 32 52.8 +0.6**
SDMD Soldier's Deli 64.47 58 IAmb IAmb 01 33 07.3
comp=Z,18nm,0.9s
WUPA West Chester U 64.74 57 IAmb IAmb 01 33 08.9
comp=Z,11nm,0.9s
PAL Palisades 64.84 55 P **P** **01 32 55.5 +0.6**
baz=317
KLMR Klimovskoe 64.86 343 *e*P **P** **01 32 52.7 -2.0**
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 64.86 343 *e*P **P** **01 32 52.8 -2.0**
KLMR AMP 01 32 55.7
comp=Z,15nm,1.2s
T57A Hurt 64.90 62 IAmb IAmb 01 33 08.6
comp=Z,13nm,0.9s
HRV Adam Dziewonsk 64.93 53 P **P** **01 32 55.9 +0.4**
baz=318
KMSC Kings Mountain 65.08 64 P **P** **01 32 56.8 +0.2**
baz=316
GOGA Godfrey 65.11 67 P **P** **01 32 56.0 -0.8**
GOGA pmax pmax
comp=Z,11nm,0.9s
GOGA Godfrey 65.11 67 P **P** **01 32 56.0 -0.8**
GOGA IAmb IAmb 01 33 12.6
comp=Z,11nm,0.9s
GOGA Godfrey 65.11 67 P **P** **01 32 56.0 -0.8**
baz=316
HODGE Hodges 65.22 66 IAmb IAmb 01 33 11.7
comp=Z,15nm,1.1s
TDK Taldyqorghan 65.39 312 *e*P **P** **01 32 58.5 +0.1**
TDK pmax pmax
comp=Z,7.0nm,0.5s
TDK Taldyqorghan 65.39 312 *e*P **P** **01 32 58.6 +0.1**
comp=Z,6.9nm,0.5s,baz=312
JSC Jenkinsville 65.75 65 P **P** **01 33 01.6 +0.7**
JSC pmax pmax
comp=Z,25nm,1.2s
JSC Jenkinsville 65.75 65 P **P** **01 33 01.6 +0.7**
JSC IAmb IAmb 01 33 15.5
comp=Z,25nm,1.2s
BIRD Birdtown, Kers 65.94 64 IAmb IAmb 01 33 16.6
comp=Z,22nm,0.9s
PZH PanZhiHua 66.18 283 P **P** **01 33 04.5 +0.6**
PZH pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 66.28 310 *e*P **P** **01 33 03.2 -1.1**
SHLS pmax pmax
comp=Z,5.0nm,0.5s
SHLS Shalkode 66.28 310 *e*P **P** **01 33 03.2 -1.1**
comp=Z,5.3nm,0.5s,baz=310
FINES FINESS Array B 66.33 350 P **P** **01 33 02.8 -1.3**
comp=Z,8.3nm,0.8s,baz=31,slow=6.2,SNR=11
KPKS Kokpek 66.42 311 *e*P **P** **01 33 05.6 +0.4**
KPKS pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 66.42 311 *e*P **P** **01 33 05.7 +0.4**
comp=Z,6.9nm,0.6s,baz=311
UZB Uzunbulak 66.50 310 *e*P **P** **01 33 05.9 +0.1**
UZB Uzunbulak 66.50 310 *e*P **P** **01 33 06.0 +0.1**
baz=310
KMI Kunming 66.58 281 ⇓P **P** **01 33 10.5 +3.8**
KMI pmax pmax
comp=Z,27nm,1.1s
KMI Kunming 66.58 281 PP **P** **01 33 10.4 +3.8**
AKN Aaknes 66.75 359 *e*P **P** **01 33 07.1 +0.2**
SATY Saty 66.86 310 *e*P **P** **01 33 08.3 +0.3**
SATY Saty 66.86 310 *e*P **P** **01 33 08.4 +0.3**
baz=311
KUU Kurty 67.19 312 *e*P **P** **01 33 10.2 +0.2**
KUU pmax pmax
comp=Z,4.0nm,0.5s
KUU Kurty 67.19 312 *e*P **P** **01 33 10.2 +0.2**
comp=Z,3.8nm,0.5s,baz=312
BTLS Baital 67.35 314 *e*P **P** **01 33 11.0 0.0**
BTLS pmax pmax
comp=Z,5.0nm,0.8s
BTLS Baital 67.35 314 *e*P **P** **01 33 11.0 0.0**
comp=Z,5.1nm,0.8s,baz=315
MDOK Medeo 67.42 311 *e*P **P** **01 33 11.7 0.0**
MDOK Medeo 67.42 311 *e*P **P** **01 33 11.7 0.0**
baz=312
AAA Alma-Ata 67.45 312 *e*P **P** **01 33 11.8 +0.1**
AAA Alma-Ata 67.45 312 *e*P **P** **01 33 11.9 +0.1**
baz=312
MEF Metsahovi 67.72 350 *e*P **P** **01 33 12.3 -0.6**
NB201 NORSAR Array S 67.80 357 IAmb IAmb 01 33 40.0
comp=Z,25nm,1.1s
NB2 NORSAR Subarra 67.81 357 P **P** **01 33 13.3 -0.4**
comp=Z,2.2nm,0.7s,baz=4.9,slow=6.5
NB2 NORSAR Subarra 67.81 357 P **P** **01 33 13.3 -0.4**
baz=4.9,slow=6.5
NOA NORSAR Array B 67.81 357 P **P** **01 33 12.9 -0.8**
comp=Z,8.0nm,0.9s,baz=2.1,slow=6.3,SNR=20
SKAR Skarsila 68.24 359 *e*P **P** **01 33 16.3 -0.1**
TKM2 Tokmak 2 68.29 312 P **P** **01 33 18.0 +0.8**
SNR=6.4
SGDS Sogindy 68.32 313 *e*P **P** **01 33 17.9 +0.6**
baz=313
ASK Askoy 68.45 0 *e*P **P** **01 33 18.0 +0.4**
BOOM Boomskoye usch 68.46 312 P **P** **01 33 18.4 +0.2**
BOOM pmax pmax
comp=Z,8.0nm,0.7s
BOOM Boomskoye usch 68.46 312 P **P** **01 33 18.4 +0.2**
BOOM IAmb IAmb 01 33 19.4
comp=Z,7.6nm,0.7s
USP Ospenovka 68.52 313 P **P** **01 33 18.8 +0.3**
SNR=10
CHMS Chumysh 68.62 313 P **P** **01 33 19.8 +0.8**
SNR=5.2
UPP Uppsala 68.67 354 *e*P **P** **01 33 18.8 -0.1**
KBK Karagaybulak 68.79 312 P **P** **01 33 21.3 +1.0**
SNR=9.4
AAK Ala-Archa 69.02 313 *c i*P **P** **01 33 21.9 +0.2**
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 69.02 313 P **P** **01 33 21.9 +0.2**
AAK IAmb IAmb 01 33 27.1
comp=Z,12nm,0.8s
ODD1 Odda 69.03 360 *e*P **P** **01 33 21.3 0.0**
VSU Vasula 69.16 348⇓ *i*P **P** **01 33 21.4 -0.6**
VSU pmax pmax
comp=Z,99nm,1.0s
VSU Vasula 69.16 348 *e*P **P** **01 33 21.6 -0.5**
EKS2 Erkin-Say 69.33 313 P **P** **01 33 24.0 +0.4**
SNR=11
SWI Sorong 69.43 240 P **P** **01 33 24.2 -0.1**
comp=Z,50nm,1.0s
SIJI Sorong 69.43 240 P **P** **01 33 24.4 +0.1**
comp=Z,30nm,0.8s,baz=12,slow=7.6,SNR=8.9
BLS5 Blasjo 69.52 360 *e*P **P** **01 33 24.6 +0.3**
AB31 Akbulak array 69.60 326 *i* P **P** **01 33 24.6 -0.4**
ABKAR Akbulak array 69.60 326 P **P** **01 33 24.6 -0.4**
VIKU Vikbolandet 70.08 354 *e*P **P** **01 33 27.6 -0.1**
LSA Lhasa 70.13 293 P **P** **01 33 30.4 +1.3**
LSA pmax pmax
comp=Z,64nm,0.9s
LSA Lhasa 70.13 293 P **P** **01 33 30.4 +1.3**
TNTI Ternate 70.25 245 P **P** **01 33 28.4 -0.9**
TNTI Ternate 70.25 245 P **P** **01 33 28.4 -0.9**
comp=Z,64nm,1.2s
DZA Taraz 70.25 315 *e*P **P** **01 33 29.3 +0.2**
DZA Taraz 70.25 315 *e*P **P** **01 33 29.4 +0.2**
baz=315
KKAR Karatay Array 70.44 315 P **P** **01 33 29.8 -0.5**
KKAR Karatay Array 70.44 315 P **P** **01 33 29.8 -0.5**
SNART Snartemo 70.60 359 *e*P **P** **01 33 30.8 -0.1**
HOMB Homborsund 70.65 358 *e*P **P** **01 33 30.6 -0.6**
BELG Belogornoye 70.73 334⇓ *e*P **P** **01 33 31.2 -0.6**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 70.75 310 P **P** **01 33 35.6 +3.2**
KSH sP pwP 01 33 43.1 -1.5
KSH PcP **PcP** **01 33 53.8 +0.7**
KSH pmax pmax
comp=Z,41nm,1.0s
OBN Obninsk 70.80 342⇓ *e*P **P** **01 33 31.2 -0.9**
OBN *e* 01 33 51.2
OBN *e* 01 36 08.6
OBN pmax pmax
comp=Z,5.0nm,0.5s
IUG Iuzhnay 71.42 315 *e*P **P** **01 33 36.7 +0.4**
IUG Iuzhnay 71.42 315 *e*P **P** **01 33 36.7 +0.4**
baz=315
ISAL Salakas 72.06 348 *e*P **P** **01 33 40.5 +0.8**
IDID Didziasalis 72.22 348 *e*P **P** **01 33 40.5 -0.2**
IIGN Ignalina 72.26 348 *e*P **P** **01 33 40.5 -0.5**
DEL Delary 72.27 355 *e*P **P** **01 33 41.0 0.0**
NACGM Naroch 72.62 347 *e*P **P** **01 33 42.5 -0.6**
LPSR Galich'ya Gora 72.67 340 *e*P **P** **01 33 41.9 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BTK Batken 72.75 313 IAmb IAmb 01 33 46.2
comp=Z,24nm,0.9s
DRK Karamyk 72.76 312 IAmb IAmb 01 33 46.8
comp=Z,26nm,0.9s
SHL Shillong 72.80 289 P **P** **01 33 44.4 -0.5**
SHL pmax pmax
comp=Z,46nm,0.9s
SHL Shillong 72.80 289 P **P** **01 33 44.4 -0.5**
MNK Minsk 72.86 347 *i* P **P** **01 33 44.7 +0.2**
MNK *i* 01 34 01.7
MNK *i* 01 36 26.4
MNK *i* PPP PPP 01 38 10.8
MNK *i* S **S** **01 43 09.6 +0.8**
MNK *i* 01 43 52.2
MNK *i* SS **SS** **01 47 49.8 +2.0**
MNK pmax pmax
comp=Z,31nm,0.8s
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,71nm,17.0s
MNK MLR MLR
comp=N,785nm,17.0s
MNK MLR MLR
comp=Z,508nm,20.0s
MNK Minsk 72.86 347 *i* P **P** **01 33 44.8 +0.2**
comp=E,2.0nm,0.8s
MNK *i* P **P** **01 33 44.8 +0.2**
comp=N,19nm,0.9s
MNK *i* P **P** **01 33 44.8 +0.2**
comp=Z,31nm,0.8s,baz=194
MNK *i* PcP **PcP** **01 34 01.7 +0.2**
MNK *i* PP **PP** **01 36 26.5 +0.5**
MNK *i* PPP PPP 01 38 10.9
MNK *i* S **S** **01 43 09.6 +0.8**
MNK *i* SS **SS** **01 47 49.8 +2.0**
MNK *i* SSS SSS 01 51 12.7
MNK *i* LQ LQ 02 00 48.8
MNK *i* LR LR 02 06 48.7
MNK *i* LRM MLR 02 08 06.0
comp=E,71nm,16.8s
MNK *i* LRM MLR 02 08 12.2
comp=N,785nm,16.8s
MNK *i* LRM MLR 02 08 22.8
comp=Z,508nm,20.0s
VRH Novokhopyorsk 73.33 337 *e*P **P** **01 33 45.7 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 73.48 339 *e*P **P** **01 33 50.5 +2.3**
VORR pmax pmax
comp=Z,30nm,0.5s
CM31 Chiang Mai Arr 73.88 279 P **P** **01 33 51.7 +0.6**
CM31 IAmb IAmb 01 34 11.7
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 73.88 279 P **P** **01 33 50.6 -0.6**
comp=Z,8.2nm,0.8s,baz=38,slow=6.9,SNR=22

TAPN Taplejung 73.88 294 eP P 01 33 52.2 +0.8
comp=Z,184nm,1.0s
SUW Suwalki 73.94 349 eP P 01 33 49.8 -1.1
SUW Suwalki 73.94 349 eP P 01 33 49.8 -1.1
VORD Divnogorie 74.12 339 eP P 01 33 51.3 -0.7
VORD pmax pmax
comp=Z,10.0nm,0.7s
ODAN Odare 74.44 293 eP P 01 33 55.1 +0.5
GUN Gumba 74.50 295 eP P 01 33 55.8 +0.8
JIRN Jiri 74.51 295 eP P 01 33 56.0 +0.8
comp=Z,256nm,0.9s
RAMN Ramite 74.82 294 eP P 01 33 57.3 +0.5
comp=Z,74nm,0.5s
KKN Kakani 74.93 296 eP P 01 33 58.1 +0.7
BSEG Bad Segeberg 74.95 357 eP P 01 33 57.3 +0.5
comp=Z,42nm,0.9s,baz=4.5,slow=5.6
PKI Pulchoki 75.02 295 eP P 01 33 58.4 +0.3
comp=Z,144nm,1.0s
PKIN Phulchoki 75.02 295 eP P 01 33 58.3 +0.3
comp=Z,129nm,1.0s
GKN Gorkha 75.12 296 eP P 01 33 58.9 +0.4
DMN Daman 75.16 296 eP P 01 33 59.4 +0.6
comp=Z,146nm,1.0s
GKP Gorka Klasztor 75.25 353 eP P 01 33 58.5 +0.1
GKP Gorka Klasztor 75.25 353 eP P 01 33 58.6 +0.1
DANN Dangsing 75.35 297 eP P 01 34 00.5 +0.6
comp=Z,305nm,0.9s
KOLN Koldanda 75.89 297 eP P 01 34 03.2 +0.3
comp=Z,163nm,1.0s
PYUN Piuthan 75.97 297 eP P 01 34 03.8 +0.4
comp=Z,262nm,0.9s
RETH Rethem/Aller, 76.18 358 eP P 01 34 04.0 +0.2
comp=Z,22nm,0.9s,baz=4.5,slow=5.6
RUE Ruedersdorf 76.26 355 eP P 01 34 04.9 +0.6
RUE Ruedersdorf 76.26 355 eP P 01 34 04.3 +0.1
comp=Z,27nm,0.7s,baz=4.5,slow=5.6
AKASG Malin Array Be 76.34 345 P P 01 34 03.4 -1.4
comp=Z,9.0nm,0.7s,baz=17,slow=6.0,SNR=28
AKASG Malin Array Be 76.34 345 P P 01 34 04.0 -0.8
AKASG Malin Array Be 76.34 345 P P 01 34 04.0 -0.8
AKBB Malin Array Si 76.34 345 IAmb IAmb 01 34 04.5
comp=Z,14nm,0.9s
NRDL Niedersach Rie 76.40 357 eP P 01 34 05.0 0.0
comp=Z,18nm,0.9s,baz=4.5,slow=5.6
FLTG Flechtingen 76.53 357 eP P 01 34 05.6 -0.2
comp=Z,30nm,0.9s,baz=4.5,slow=5.6
IBBN Ibbenburen 76.64 359 eP P 01 34 06.9 +0.5
comp=Z,59nm,1.0s,baz=4.5,slow=5.6
ASSE Asse, Remlinge 76.75 357 eP P 01 34 07.3 +0.3
comp=Z,15nm,1.0s,baz=4.5,slow=5.6
CLZ Clausthal 77.05 357 eP P 01 34 08.5 -0.4
comp=Z,44nm,0.9s,baz=4.5,slow=5.6
CLL Collm 77.47 355⇑ iP P 01 34 10.9 -0.3
CLL e 01 34 25.0
CLL pmax pmax
comp=Z,25nm,0.8s
CLL Collm 77.47 355 IAmb IAmb 01 34 11.9
comp=Z,22nm,0.8s
CLL Collm 77.47 355⇑ iP P 01 34 10.9 -0.3
comp=Z,25nm,0.8s
CLL e(PcP) pwP 01 34 25.0 +1.5
CLL Collm 77.47 355 eP P 01 34 10.8 -0.3
comp=Z,25nm,0.8s,baz=4.5,slow=5.6
NEUB Neuenburg 77.63 356 eP P 01 34 12.0 0.0
comp=Z,60nm,0.9s,baz=4.5,slow=5.6
TTSI Tana Toraja 77.69 249 P P 01 34 24.0 +11
KSP Ksiaz 77.73 353 eP P 01 34 12.4 -0.2
KASTN Kahler Asten 77.73 358 eP P 01 34 12.8 +0.1
comp=Z,16nm,1.0s,baz=4.5,slow=5.6
FBE Freiberg 77.84 355 eP P 01 34 13.1 -0.1
comp=Z,37nm,1.0s,baz=4.5,slow=5.6
BRG Berggiesshubel 77.85 355 eP P 01 34 13.1 -0.2
BRG Amp 01 34 14.3
comp=Z,26nm,0.8s
BRG Berggiesshubel 77.85 355 eP P 01 34 13.1 -0.2
BRG pmax pmax
comp=Z,26nm,0.9s
BRG Berggiesshubel 77.85 355 eP P 01 34 12.9 -0.4
comp=Z,26nm,0.8s,baz=4.5,slow=5.6
LVV L'vov 77.96 348 eP P 01 34 12.9 -1.0
CHVC Chvalec 78.00 353 eP P 01 34 14.3 +0.1
OSTC Ostas 78.02 353 eP P 01 34 14.4 +0.1
OJC Ojcow 78.05 351 eP P 01 34 14.1 -0.4
OJC Ojcow 78.05 351 IAmb IAmb 01 34 15.7
comp=Z,12nm,1.1s
KBL Kabul 78.05 311 P P 01 34 14.1 -0.9
KBL pmax pmax
comp=Z,47nm,1.0s
KBL Kabul 78.05 311 P P 01 34 14.1 -0.9
UPC Upice 78.08 353 eP P 01 34 14.7 +0.1
UPC Upice 78.08 353 eP P 01 34 14.7 +0.1
PVCC Panska Ves 78.16 354 eP P 01 34 15.2 +0.2
PVCC Panska Ves 78.16 354 eP P 01 34 15.2 +0.2
MOX Moxa 78.20 356 eP P 01 34 14.9 -0.3
comp=Z,25nm,0.9s,baz=4.5,slow=5.6
DPC Dobruska-Polom 78.22 353 eP P 01 34 15.8 +0.4
DPC Dobruska-Polom 78.22 353 eP P 01 34 15.8 +0.4
KWP Kalwaria Pacla 78.31 349 eP P 01 34 15.7 -0.1
PLN Plauen 78.33 356 eP P 01 34 16.1 +0.1
comp=Z,15nm,0.9s,baz=4.5,slow=5.6
MEM Membach 78.35 360 dP P 01 34 16.4 +0.3
comp=Z,15nm,1.0s
WERD Werda 78.36 356 eP P 01 34 16.2 0.0
comp=Z,16nm,1.0s,baz=4.5,slow=5.6
BTNL Ternell 78.37 360 dP P 01 34 17.1 +0.8
comp=Z,19nm,1.0s
BSTI Sart Tilman 78.38 0 dP P 01 34 16.6 +0.4
comp=Z,3.1nm,0.9s
TANN Tannenbergstha 78.39 356 eP P 01 34 16.5 +0.1
comp=Z,13nm,1.1s,baz=4.5,slow=5.6
AHRW Bad Neuenahr-A 78.41 359 eP P 01 34 16.9 +0.4
comp=Z,29nm,0.9s,baz=4.5,slow=5.6
SNF Seneffe 78.44 1 dP P 01 34 16.5 -0.1
comp=Z,14nm,1.0s
GUNZ Gunzen 78.45 356 eP P 01 34 16.8 +0.1
comp=Z,15nm,0.9s,baz=4.5,slow=5.6
KRLC Kraliky 78.46 353 eP P 01 34 16.9 +0.2
KRLC Kraliky 78.46 353 eP P 01 34 16.9 +0.2
WERN Wernitzgruen 78.52 356 eP P 01 34 17.3 +0.2
comp=Z,34nm,0.9s,baz=4.5,slow=5.6
BCLA Clavier 78.54 0 kP P 01 34 17.2 +0.1
comp=Z,11nm,0.9s
NKC Novy Kostel 78.57 356 eP P 01 34 17.6 +0.3
NKC Novy Kostel 78.57 356 eP P 01 34 17.6 +0.3
BGES Gesves 78.58 0 dP P 01 34 17.3 0.0
comp=Z,11nm,0.9s
BHOU Houvegnez 78.61 360 dP P 01 34 17.9 +0.4
comp=Z,6.2nm,0.9s
BMRD Maredsous 78.66 1 dP P 01 34 18.1 +0.3
comp=Z,21nm,0.9s
GOF Gofitskoye 78.67 334⇑ eP P 01 34 17.3 -0.6
GOF pmax pmax
comp=Z,33nm,1.0s
MORC Moravsky Berou 78.69 352 ⇓P P 01 34 18.1 +0.1
MORC Moravsky Berou 78.69 352 ⇓P P 01 34 18.1 +0.1
MORC Moravsky Berou 78.69 352 IAmb IAmb 01 34 18.9
comp=Z,8.4nm,0.9s
MORC Moravsky Berou 78.69 352 eP P 01 34 17.9 -0.1
PRU Pruhonice 78.70 354 eP P 01 34 18.1 +0.1
PRU Pruhonice 78.70 354 eP P 01 34 18.1 +0.1
TNS Taunus Mts 78.71 358 eP P 01 34 18.5 +0.3
comp=Z,34nm,0.9s,baz=4.5,slow=5.6
RCHB Rochefort 78.80 0 dP P 01 34 18.1 -0.5
comp=Z,13nm,0.9s
MANZ Manzenberg 78.83 356 eP P 01 34 18.6 -0.2
comp=Z,3.3nm,0.9s,baz=4.5,slow=5.6
DOU Dourbes 78.86 1 dP P 01 34 18.9 0.0
comp=Z,12nm,1.0s
SORM Soroca 78.97 345 ⇑P P 01 34 18.8 -0.7
SORM Soroca 78.97 345 ⇑P P 01 34 18.8 -0.7
PBCC Pribram 79.03 355 eP P 01 34 19.9 0.0
ROTZ Rotzenmuhle 79.05 356 eP P 01 34 20.1 +0.1
comp=Z,3.8nm,0.9s,baz=4.5,slow=5.6
GRF Grafenberg Arr 79.17 356 eP P 01 34 21.0 +0.4
comp=Z,51nm,0.9s,baz=4.5,slow=5.6
GRFO Grafenberg 79.17 356 P P 01 34 20.9 +0.3
GRFO pmax pmax
comp=Z,42nm,0.8s
GRFO Grafenberg 79.17 356 P P 01 34 20.9 +0.3
CRVS Cervenica-Dubn 79.17 350 eP P 01 34 20.3 -0.3
CRVS Cervenica-Dubn 79.17 350 eP P 01 34 20.3 -0.3
VRAC Vranov 79.23 353 ⇓P P 01 34 21.4 +0.4
VRAC Vranov 79.23 353 ⇓P P 01 34 21.4 +0.4
VRAC Vranov 79.23 353 eP P 01 34 20.9 -0.1
MAK Makhachkala 79.28 330 eP P 01 34 15.7 -5.6
MAK e 01 37 16.0
MAK eS S 01 44 13.7 -6.1
MAK pmax pmax
comp=Z,44nm,1.0s
MAK MLR MLR
comp=Z,1μm,16.0s
WLF Walferdange 79.30 360 IAmb IAmb 01 34 22.9
comp=Z,16nm,0.8s
WLF Walferdange 79.30 360 eP P 01 34 21.8 +0.5
comp=Z,19nm,0.9s,baz=4.5,slow=5.6
WLF Walferdange 79.30 360 dP P 01 34 21.7 +0.4
comp=Z,14nm,0.8s
UZH Uzhgorod 79.34 349 eP P 01 34 17.1 -4.4
UZH i 01 34 21.5
BKSI Bulukumba 79.35 247 P P 01 34 22.8 +0.8
comp=Z,23nm,1.0s
BKSI Bulukumba 79.35 247 P P 01 34 20.1 -1.9
comp=Z,23nm,1.0s
KRUC Moravsky 79.49 353 eP P 01 34 22.1 -0.3
MTN Manton Dam 79.58 234 P P 01 34 22.8 -0.4
MTN IAmb IAmb 01 34 23.9
comp=Z,26nm,0.9s
JAVC Velka Javorina 79.59 352 eP P 01 34 23.9 +0.9
KHC Kasperske Hory 79.61 355c iP P 01 34 23.3 +0.2
KHC pmax pmax
comp=Z,46nm,0.9s
KHC Kasperske Hory 79.61 355 eP P 01 34 23.6 +0.5
KHC ex x 01 34 36.5
KHC IAmb IAmb 01 34 24.5
comp=Z,19nm,0.9s
WET Wettzell 79.64 355 eP P 01 34 23.2 0.0
comp=Z,9.3nm,1.1s,baz=4.5,slow=5.6
KIV Kislovodsk 79.78 334 ⇓P P 01 34 22.7 -1.4
KIV Kislovodsk 79.78 334 ⇓P P 01 34 22.7 -1.4
KIV Kislovodsk 79.78 334 P P 01 34 23.1 -1.0
KIV IAmb IAmb 01 34 25.1
comp=Z,9.8nm,1.0s
TRPA Tarpa 79.80 349 ⇓P P 01 34 24.7 +0.7
TRPA Tarpa 79.80 349 P P 01 34 23.5 -0.6
VYHS Vyhne 79.85 351 eP P 01 34 24.7 +0.4
VYHS Vyhne 79.85 351 eP P 01 34 24.7 +0.4
CKRC Cesky Krumlov 79.88 354 eP P 01 34 24.6 +0.1
GEC2 GERESS Array S 79.89 355 P P 01 34 24.9 +0.3
GEC2 IAmb IAmb 01 34 25.6
comp=Z,12nm,0.8s
GERES GERESS Array B 79.89 355 P P 01 34 24.4 -0.3
comp=Z,7.7nm,0.8s,baz=26,slow=6.5,SNR=59
BUR08 Bucovina Ar. S 79.93 347 IAmb IAmb 01 34 25.6
comp=Z,12nm,0.9s
KBZ Khabaz 79.93 334 P P 01 34 25.1 +0.3
comp=Z,4.2nm,0.9s,baz=75,slow=4.6,SNR=6.8
KBZ Khabaz 79.93 334⇑ eP P 01 34 24.6 -0.2
KBZ pmax pmax
comp=Z,6.0nm,1.0s
NCK Nalchik 79.95 333⇓ iP P 01 34 25.7 +0.7
NCK pmax pmax
comp=Z,13nm,0.8s
BURAR Bucovina Array 79.95 347 ⇑P P 01 34 25.2 +0.2
BURAR Bucovina Array 79.95 347 ⇑P P 01 34 25.2 +0.2
BURAR Bucovina Array 79.95 347 P P 01 34 25.1 +0.2
BURAR IAmb IAmb 01 34 26.1
comp=Z,16nm,0.8s
SMOL Smolenice 79.95 352 eP P 01 34 25.7 +0.8
SMOL Smolenice 79.95 352 eP P 01 34 25.7 +0.8
GEYT Alibeck 79.96 321 P P 01 34 25.1 0.0
comp=Z,14nm,0.9s,baz=264,slow=14,SNR=30
GEYT Alibek 79.96 321 IAmb IAmb 01 34 27.2
comp=Z,16nm,0.9s
GYA0B ALIBECK ARRAY 79.96 321 P P 01 34 25.9 +0.7
GYA0B IAmb IAmb 01 34 27.2
comp=Z,22nm,1.0s
KIS Kishinev 79.99 344 ⇓P P 01 34 25.4 +0.3
KIS Kishinev 79.99 344 ⇓P P 01 34 25.4 +0.3
MILM Milestii Mici 80.07 344 ⇑P P 01 34 25.1 -0.4
MILM Milestii Mici 80.07 344 ⇑P P 01 34 25.1 -0.4
BMR Baia Mare 80.13 348 ⇓P P 01 34 26.1 +0.3
BMR Baia Mare 80.13 348 ⇓P P 01 34 26.1 +0.3
STU Stuttgart 80.15 358 IAmb IAmb 01 34 27.1
comp=Z,25nm,1.0s
STU Stuttgart 80.15 358 eP P 01 34 26.1 +0.2
comp=Z,63nm,0.9s,baz=4.5,slow=5.6
CEI Carei 80.25 349 ⇓P P 01 34 37.0 +11
ZST Bratislava 80.30 352 eP P 01 34 27.6 +0.9
ZST Bratislava 80.30 352 eP P 01 34 27.6 +0.9
PSZ Piszkesteto 80.31 350 ⇑P P 01 34 27.9 +1.0
PSZ Piszkesteto 80.31 350 ⇑P P 01 34 27.9 +1.0
PSZ Piszkesteto 80.31 350 IAmb IAmb 01 34 28.3
comp=Z,9.7nm,1.1s
PSZ Piszkesteto 80.31 350 P P 01 34 27.5 +0.6
VASR Vaslui 80.51 345 ⇑P P 01 34 28.5 +0.6
ZEI Tsey 80.51 333 eP P 01 34 27.1 -1.2
ZEI pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 80.61 358 P P 01 34 28.9 +0.4
BFO pmax pmax
comp=Z,19nm,0.9s
BFO Black Forest 80.61 358 P P 01 34 28.9 +0.4
BFO IAmb IAmb 01 34 29.6
comp=Z,19nm,0.9s
BFO Black Forest 80.61 358 eP P 01 34 28.4 -0.1
comp=Z,24nm,1.0s,baz=4.5,slow=5.6
LTVH Ltavrtes, Hu 80.61 349 ⇑P P 01 34 26.6 -1.8
LTVH Ltavrtes, Hu 80.61 349 P P 01 34 28.6 +0.2
CONA Conrad Observa 80.66 353 iP P 01 34 29.6 +0.8
comp=Z,17nm,1.1s,SNR=6.2
MESR Meseseni 80.72 348 ⇑P P 01 34 41.7 +13
TESR Tescani 80.82 346 ⇑P P 01 34 29.1 -0.5
BUD Budapest 80.83 351 P P 01 34 29.9 +0.3
MOA Molln 80.85 354 eP P 01 34 29.8 +0.1
comp=Z,5.4nm,0.9s
BIR Birlad 80.90 345 ⇑P P 01 34 30.4 +0.4
BIR Birlad 80.90 345 ⇑P P 01 34 30.4 +0.4
BIOA Bad Ischl, Aus 81.04 355 eP P 01 34 31.2 +0.4
comp=Z,20nm,1.1s
DRGR 81.10 348 ⇓P P 01 34 30.7 -0.5
DRGR 81.10 348 ⇓P P 01 34 30.7 -0.5
GHRR 81.14 345 ⇑P P 01 34 32.1 +0.8
UBR Ueberruh 81.21 357 eP P 01 34 31.6 -0.1
comp=Z,14nm,1.2s,baz=4.5,slow=5.6
VLDR Vladesti 81.23 344 ⇑P P 01 34 32.3 +0.5
HRA Herat 81.27 316 IAmb IAmb 01 34 33.8
comp=Z,28nm,0.9s
MPLH Magyarpolny 81.28 352 P P 01 34 32.2 +0.2
ARSA Arzberg 81.36 353 eP P 01 34 33.2 +0.7
comp=Z,11nm,1.0s
RETA Reutte 81.39 357 eP P 01 34 32.6 -0.1
comp=Z,9.5nm,1.0s
SCTR Scanteiesti 81.41 344 ⇑P P 01 34 33.9 +1.2
VRI Vrincioaia 81.43 345 ⇓P P 01 34 31.1 -1.8
VRI Vrincioaia 81.43 345 ⇓P P 01 34 31.1 -1.8
PLOR Plostina 81.46 345 ⇓P P 01 34 32.3 -0.7
TATR Tatarca 81.48 344 ⇑P P 01 34 34.2 +1.1
WATA Walderalm 81.50 356 iP P 01 34 33.9 +0.5
comp=Z,16nm,0.8s,SNR=6.6
MOTA Moosalm 81.51 356 iP P 01 34 33.7 +0.3
comp=Z,18nm,1.0s,SNR=8.0
SLCR Slobozia Conac 81.53 345 ⇓P P 01 34 34.3 +0.9
COVR Voineasa-Covas 81.53 346 ⇓P P 01 34 34.7 +1.3
DOPR Dopca 81.54 346 ⇓P P 01 34 34.2 +0.7
WTTA Wattenberg 81.57 356 iP P 01 34 34.5 +0.7
comp=Z,24nm,1.1s,SNR=7.0
IZVR Izvoarele 81.58 345 ⇑P P 01 34 34.5 +0.9
SCHL Schela 81.61 345 ⇑P P 01 34 34.0 +0.3
DAVA Damuels 81.61 357 eP P 01 34 35.0 +1.0
comp=Z,8.0nm,0.8s
SQTA Sankt Quirin 81.63 356 iP P 01 34 34.3 +0.2
comp=Z,14nm,0.8s,SNR=7.6
KBA Koelnbreinsper 81.67 355 iP P 01 34 35.1 +0.8
comp=Z,27nm,0.8s,SNR=17
SIRR Siria 81.74 349 ⇓P P 01 34 34.5 0.0
TLCR 81.75 344 ⇓P P 01 34 35.0 +0.5
TLCR 81.75 344 ⇓P P 01 34 35.0 +0.5
FETA Feichten 81.85 357 iP P 01 34 35.9 +0.7
comp=Z,23nm,0.9s,SNR=12
CFR Carcaliu 81.87 344 ⇓P P 01 34 35.6 +0.5
MLR Muntele Rosu 81.92 346 ⇑P P 01 34 37.3 +1.7
MLR Muntele Rosu 81.92 346 ⇑P P 01 34 37.3 +1.7
MLR Muntele Rosu 81.92 346 IAmb IAmb 01 34 37.8
comp=Z,13nm,0.8s
SOKA Soboth 81.97 354 iP P 01 34 36.2 +0.5
comp=Z,26nm,0.9s,SNR=12
PERS Pernice 82.00 354 iP P 01 34 35.9 0.0
PERS i 01 34 37.3
comp=Z,22nm,0.7s
ABTA Abfaltersbach 82.05 355 iP P 01 34 36.4 +0.2
comp=Z,14nm,1.0s,SNR=7.0
MYKA Terra Mystica 82.10 355 eP P 01 34 37.1 +0.7
comp=Z,2.4nm,0.5s
VOIR 82.11 346 ⇓P P 01 34 22.4 -14
TPGR Topolog 82.14 344 ⇓P P 01 34 37.2 +0.6
OBKA Obir 82.17 354 iP P 01 34 37.1 +0.3
comp=Z,10nm,0.7s,SNR=6.1
ARR Arges 82.24 347 ⇑P P 01 34 38.2 +1.0
KOVH Kovagotottos 82.30 351 P P 01 34 36.8 -0.6
SECR 82.35 346 ⇓P P 01 34 38.6 +0.9
HARR Harsova 82.38 344 ⇑P P 01 34 38.7 +0.9
HARR Harsova 82.38 344 ⇑P P 01 34 38.7 +0.9
BZS Buzias 82.39 349 ⇓P P 01 34 37.7 -0.2
BZS Buzias 82.39 349 ⇓P P 01 34 37.7 -0.2
TUE Stuetta 82.44 358 IAmb IAmb 01 34 40.1
comp=Z,22nm,0.9s
GZR Gura Zlata 82.46 348 ⇑P P 01 34 38.3 -0.1
GZR Gura Zlata 82.46 348 ⇑P P 01 34 38.3 -0.1
TLBR Topalu 82.50 344 ⇑P P 01 34 39.2 +0.7
TIRR Tirgusor 82.52 344 ⇑P P 01 34 38.9 +0.3
TIRR Tirgusor 82.52 344 ⇑P P 01 34 38.9 +0.3
SENIN Lac Senin/Sane 82.59 359 IAmb IAmb 01 34 53.4
comp=Z,5.7nm,0.8s
SULR 82.67 345 ⇑P P 01 34 43.1 +3.8
ICOR Ion Corvin 82.96 344 ⇓P P 01 34 42.0 +1.2
HUMR Humele 83.01 346 ⇑P P 01 34 40.5 -0.6
HERR Herculane 83.01 348 ⇑P P 01 34 41.2 +0.1
FRGS Fruska Gora 83.05 350 ⇓P P 01 34 40.4 -0.9
MANR Mangalia 83.11 344 ⇑P P 01 34 56.6 +15
BOJS Bojanci 83.12 353 iP P 01 34 41.3 -0.3
SGRR Singureni 83.15 346 ⇑P P 01 34 41.9 +0.1
MDVR Moldovita 83.20 349 ⇓P P 01 34 42.8 +0.6
COPA Copaceanca 83.36 346 ⇓P P 01 34 42.9 0.0
SSB Saint Sauveur 83.68 1 P P 01 34 44.8 +0.2
SSB pmax pmax
comp=Z,14nm,1.0s
SSB Saint Sauveur 83.68 1 P P 01 34 44.8 +0.2
SSB IAmb IAmb 01 34 46.3
comp=Z,14nm,1.0s
DIVS Divibare 84.08 350 IAmb IAmb 01 34 48.4
comp=Z,9.0nm,1.0s
WRA Warramunga Arr 84.12 228 P P 01 34 45.8 -1.2
comp=Z,3.4nm,0.9s,baz=36,slow=6.1,SNR=16
WRA Warramunga Arr 84.12 228 iP P 01 34 46.0 -1.0
WRA pmax pmax
comp=Z,3.0nm,0.9s
TOKA Tokat 84.80 337 IAmb IAmb 01 34 52.1
comp=Z,15nm,0.9s
GEVA Gevas 84.89 331 P P 01 34 51.3 +0.3
GEVA IAmb IAmb 01 34 53.1
comp=Z,22nm,1.0s
GURO Guroymak-BITLI 84.97 332 IAmb IAmb 01 34 54.6
comp=Z,7.3nm,1.1s
VTS Vitosha 85.13 347 ⇑P P 01 34 52.0 -0.1
VTS Vitosha 85.13 347 ⇑P P 01 34 52.0 -0.1
VTS Vitosha 85.13 347 IAmb IAmb 01 34 53.1
comp=Z,17nm,1.0s
PDG Podgorica 85.81 350 ⇑P P 01 34 55.1 -0.2
NRCA Norcia 85.92 355 IAmb IAmb 01 34 57.4
comp=Z,20nm,0.9s
SKO Skopje 86.00 348 iP P 01 34 57.3 +0.9
BR131 Keskin Array S 86.03 339 IAmb IAmb 01 34 57.7
comp=Z,11nm,1.0s
BRTR Keskin Array B 86.04 339 P P 01 34 56.3 -0.4
comp=Z,5.7nm,0.9s,baz=52,slow=2.4,SNR=27
BRTR Keskin Array B 86.04 339 iP P 01 34 56.7 0.0
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 86.04 339 P P 01 34 56.6 -0.1
STIP Stip 86.18 348 iP P 01 34 56.8 -0.4
PCAB Cabril 86.47 10 eP P 01 34 58.7 0.0
comp=Z,40nm,1.5s
PBRG Braganca 86.52 9 eP P 01 34 58.9 0.0
comp=Z,30nm,1.7s
BORA Eskisehir 86.57 341 IAmb IAmb 01 35 01.0
comp=Z,9.5nm,0.7s
TIR Tirane 86.81 349 ⇑P P 01 35 00.9 +0.6
TIR Tirane 86.81 349 ⇑P P 01 35 00.9 +0.6
FITZ Fitzroy Crossi 86.82 236 P P 01 35 00.2 -0.3
FITZ IAmb IAmb 01 35 01.8
comp=Z,12nm,0.9s
POLO Lamas de Olo 86.83 10 eP P 01 35 00.5 0.0
comp=Z,14nm,1.7s
HYBB Hyderabad (bro 86.88 294 eP P 01 35 00.3 -0.7
OHR Ohrid 86.93 349 iP P 01 35 01.6 +0.7
PVRL Vila Real 86.93 10 eP P 01 35 01.1 +0.1
comp=Z,48nm,1.8s
MVO Moncorvo 87.12 10 eP P 01 35 01.9 0.0
comp=Z,26nm,1.8s
FNA Florina 87.18 348 IAmb IAmb 01 35 03.3
comp=Z,16nm,0.9s
PVIS Viseu 87.47 10 eP P 01 35 03.4 -0.2
comp=Z,34nm,1.4s
AS31 Alice Springs 87.54 226 P P 01 35 03.4 -0.5
ASAR Alice Springs 87.54 226 P P 01 35 03.3 -0.6
comp=Z,7.0nm,0.8s,baz=31,slow=4.7,SNR=52
ASAR Alice Springs 87.54 226 P P 01 35 03.0 -0.9
PAOL Paolisi 87.61 353 IAmb IAmb 01 35 04.7
comp=Z,14nm,1.2s
MTE Manteigas 87.82 10 eP P 01 35 05.0 -0.3
comp=Z,50nm,1.3s
COI Coimbra 87.91 11 eP P 01 35 05.7 +0.1
comp=Z,28nm,1.8s
PCAS Casmilo, Conde 88.05 11 eP P 01 35 06.3 0.0
comp=Z,34nm,2.2s
MDSI Maura Dua 88.27 261 P P 01 35 06.6 -1.0
comp=Z,925nmcomp=Z,3.9nm,1.1s
PCBR Castelo Branco 88.38 10 eP P 01 35 07.5 -0.3
comp=Z,28nm,1.8s
PMRV Marv??o 88.80 10 eP P 01 35 10.3 +0.4
comp=Z,19nm,2.1s
ESBB Sonseca Array 88.88 8 P P 01 35 10.2 -0.1
ESBB IAmb IAmb 01 35 11.4
comp=Z,7.9nm,0.9s
ESDC Sonseca Array 88.88 8 P P 01 35 09.9 -0.4
comp=Z,6.3nm,0.9s,baz=348,slow=4.7,SNR=32
ESDC Sonseca Array 88.88 8 P P 01 35 09.9 -0.4
ESDC IAmb IAmb 01 35 10.9
comp=Z,7.2nm,0.9s
PAB San Pablo 88.98 8 ⇑P P 01 35 10.2 -0.6
EVO Evora 89.61 11 eP P 01 35 13.3 -0.4
comp=Z,17nm,2.2s
PBAR Barrancos 90.07 10 eP P 01 35 15.8 0.0
comp=Z,18nm,1.4s
CSS Mathiatis 90.66 338 IAmb IAmb 01 35 20.6
comp=Z,16nm,0.9s
STKA Stephens Creek 91.60 216 P P 01 35 22.5 -0.2
comp=Z,4.8nm,0.9s,baz=16,slow=5.7,SNR=6.0
RAYN Ar Rayn 97.64 324 P P 01 35 50.6 -0.3
RAYN IAmb IAmb 01 35 51.8
comp=Z,7.6nm,0.9s
TORD Torodi Ar. Bea 115.61 4 PKP PKiKP 01 40 57.5 -0.9
comp=Z,0.7nm,0.8s,baz=10,slow=2.2,SNR=3.2
H03N2 Juan Fernandez 118.39 109 T T 03 51 12.4
baz=317,slow=78,SNR=17
H03N1 Juan Fernandez 118.40 109 T T 03 51 11.3
baz=317,slow=78,SNR=20
H03N3 Juan Fernandez 118.41 109 T T 03 51 12.8
baz=317,slow=78,SNR=16
KMBO Kilima Mbogo 123.33 321 PKP PKiKP 01 41 14.2 +0.4
comp=Z,2.4nm,0.9s,baz=18,slow=6.7,SNR=7.3
PLCA Paso Flores 128.23 110 PKP PKPdf 01 41 21.6 -0.3
comp=Z,2.1nm,0.9s,baz=251,slow=4.7,SNR=3.9
BLWY Bulawayo 144.03 322 iP PKPbc 01 41 49.9 +0.2
BLWY Bulawayo 144.03 322 iP PKPbc 01 41 49.9 +0.2
MATP Matopo 144.33 322 iP PKPbc 01 41 51.2 +0.6
MATP Matopo 144.33 322 iP PKPbc 01 41 51.2 +0.6
MSNA Messina 145.44 318 iP PKPab 01 41 54.2 0.0
MSNA Messina 145.44 318 iP PKPab 01 41 54.2 0.0
TSUM Tsumeb 146.54 340 PKPbc PKPbc 01 41 57.6 0.0
LBTB Lobatse 149.60 323 PKP2 PKPbc 01 42 05.6 0.0
LBTB Lobatse 149.60 323 PKPbc PKPbc 01 42 05.5 0.0
LBTB Lobatse 149.60 323 iP PKPdf 01 42 00.6 -0.4
LBTB Lobatse 149.60 323 iP PKPdf 01 42 00.6 -0.4
BELA Belgrano 2 149.63 164 PKPdf PKPdf 01 42 00.7 +1.4
BELA PKPab pPKPab 01 42 13.7 -1.8
BOSA Boshof 152.96 320 PKPbc PKPbc 01 42 13.1 -0.2
comp=Z,5.3nm,0.8s,baz=71,slow=1.1,SNR=9.0
BOSA PKPab PKPab 01 42 25.2 +0.7
comp=Z,24nm,0.9s,baz=17,slow=3.6,SNR=19
BOSA Boshof 152.96 320 PKIKP PKPbc 01 42 12.8 -0.5
BOSA Boshof 152.96 320 PKPbc 01 42 12.8 -0.5
BOSA PKPab PKPab 01 42 24.2 -0.4
BOSA Boshof 152.96 320 iP PKPdf 01 42 08.6 +2.5

BOSA Boshof 152.96 320 *i* P **PKPdf 01 42 08.6 +2.5**

JMA 19 01:27:33.9±0.3, 26.95N×126.70E, h18km±3km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.60**	**126**	P	Pb	01 27 45.4	-0.5
JAGN				S	Sg	01 27 53.6	-0.4
JKE	**Kume jima 2**	**0.63**	**173**	P	Pb	01 27 45.8	-0.5
JKE				S	Sg	01 27 54.3	-0.4
JIH	**Iheya**	**1.13**	**85**	P	Pn	01 27 54.5	-0.4
JNTH	**Nagotoyohara**	**1.26**	**110**	P	Pn	01 27 56.4	-0.2
JJT3	**Tamagusuku3**	**1.26**	**129**	P	Pb	01 27 57.6	+0.5
JOW	**Kunigami**	**1.41**	**94**	P	Pn	01 27 58.9	+0.2
JYRO	**Yoronjima**	**1.56**	**87**	P	Pn	01 28 01.0	+0.2
JOKE	**Okinoerabujima**	**1.72**	**76**	P	Pn	01 28 03.3	+0.4

IDC ***19*** *01:27:49.0±0.5, 26.98N×126.73E, h0km, mb4.5/23, mb1 4.7/24, mb1mx4.4/52, mbtmp4.5/24, ML3.1/1, Error ellipse: s-maj=14.9km s-min=12.1km az=45.0*

NIED ***19*** *01:27:50.5, 26.94N×126.64E, h23km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-1.30; Mθθ1.01; Mφφ0.28; Mrθ-0.15; Mθφ1.00; Mφr0.38; Fault plane solution: M₀1.58000×10¹⁶ NP1: φs216.00000°, δ50.00000°, λ-118.00000°. NP2: φs75.00000°, δ47.00000°, λ-61.00000°.*

JMA ***19*** *01:27:50.4±0.2, 26.94N×126.64E, h23km±3km, M4.9*

JMA Felt II J1.

MOS ***19*** *01:27:52.6±0.9, 26.97N×126.80E, h39km, mb4.9/25, Error ellipse: s-maj=10.3km s-min=6.2km az=115.0*

NEIC ***19*** *01:27:54.3±1.7, 27.00N±0.07×126.83E±0.03, h29km±5km, mb4.9/151, Error ellipse: s-maj=9.7km s-min=3.8km az=189.0*

BJI ***19*** *01:27:54.8±0.0, 27.11N×126.51E, h30km, mb4.6/44, mB4.8/26, ML4.7/1, Ms4.8/39, Ms7 4.6/36*

ISC 19 01:27:55.2±0.5, 26.95N±0.04×126.85E±0.03, h41km±4km, n333, σ1§61/327, mb4.9/120, MS4.7/7, 24C-5D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.51**	**135**	P	**Pn**	**01 28 02.6**	**-3.5**
JAGN				*e*S	**Sn**	**01 28 11.2**	**-2.5**
JKE	**Kume jima 2**	**0.62**	**185**	P	Pn	01 28 02.3	-5.4
JKE				S	**Sn**	**01 28 10.6**	**-6.0**
JIH	**Iheya**	**1.00**	**85**	P	**Pn**	**01 28 11.2**	**-1.6**
JIH				S	**Sn**	**01 28 26.9**	**+1.1**
JNTH	**Nagotoyohara**	**1.14**	**112**	P	**Pn**	**01 28 13.1**	**-1.6**
JNTH				S	**Sn**	**01 28 29.9**	**+0.8**
JJT3	**Tamagusuku3**	**1.16**	**134**	P	**Pn**	**01 28 14.2**	**-0.8**
JJT3				S	**Sn**	**01 28 31.7**	**+2.0**
JOW	**Kunigami**	**1.28**	**95**	Pn	**Pn**	**01 28 15.4**	**-1.2**
	216nm,0.3s,baz=296,slow=13,SNR=35						
JOW				Sn	**Sn**	**01 28 34.3**	**+1.6**
	1µm,0.3s,baz=91,slow=22,SNR=21						
JOW	**Kunigami**	**1.28**	**95**	P	**Pn**	**01 28 15.6**	**-1.1**
JOW				*e*S	**Sn**	**01 28 35.0**	**+2.4**
JOW	**Kunigami**	**1.28**	**95**	Pn	**Pn**	**01 28 14.9**	**-1.7**
JYRO	**Yoronjima**	**1.43**	**87**	P	**Pn**	**01 28 17.7**	**-1.0**
JYRO				*e*S	**Sn**	**01 28 37.7**	**+1.3**
JOKE	**Okinoerabujima**	**1.59**	**75**	P	**Pn**	**01 28 20.4**	**-0.5**
JMJ	**Miyako jima 2**	**2.55**	**214**	P	Pn	01 28 43.5	+9.5
YOJ	**Yonaguni jima**	**4.26**	**235**	P	**Pn**	**01 28 59.0**	**+1.5**
YOJ	**Yonaguni jima**	**4.26**	**235**		**Pn**	**01 28 59.0**	**+1.5**
YOJ	**Yonaguni jima**	**4.26**	**235**	P	**Pn**	**01 29 01.4**	**+3.8**
TATO	**Taipei**	**5.21**	**249**	Pn	**Pn**	**01 29 10.4**	**-0.3**
YHNB	**Yeheng**	**5.43**	**246**	Pn	**Pn**	**01 29 12.7**	**-1.1**
YHNB	**Yeheng**	**5.43**	**246**	P	**Pn**	**01 29 13.6**	**-0.1**
NACB	**Ninganchiao**	**5.49**	**241**		**Pn**	**01 29 15.1**	**+0.6**
JSU	**Suzuyama**	**5.53**	**34**	Pn	**Pn**	**01 29 16.2**	**+1.2**
YULB	**Yu-li**	**6.15**	**236**		**Pn**	**01 29 23.4**	**-0.2**
SSLB	**Suanglung**	**6.19**	**241**	Pn	**Pn**	**01 29 23.7**	**-0.5**
SSLB	**Suanglung**	**6.19**	**241**	P	**Pn**	**01 29 25.5**	**+1.3**
SSE	**Sheshan**	**6.45**	**311**	Pn	**Pn**	**01 29 28.1**	**+0.4**
SSE				Sn	**Sn**	**01 30 42.8**	**+2.8**
SSE				LR	LR		
	comp=N,2µm,12.7s						
SSE				LR	LR		
	comp=E,2µm,12.9s						
TPUB	**Ta-pu**	**6.70**	**239**		**Pn**	**01 29 30.5**	**-0.8**
TPUB	**Ta-pu**	**6.70**	**239**	P	**Pn**	**01 29 34.1**	**+2.9**
JNU	**Nakatsue**	**7.07**	**29**	Pn	**Pn**	**01 29 34.4**	**-1.9**
JNU	**Nakatsue**	**7.07**	**29**	P	Pn	01 29 41.8	+5.5
QZH	**Quanzhou**	**7.70**	**257**	Pn	**Pn**	**01 29 45.3**	**+0.5**
QZH				Sn	**Sn**	**01 31 06.9**	**-3.8**
QZH				LR	LR		
	comp=N,2µm,8.8s						
QZH				LR	LR		
	comp=E,3µm,7.2s						
QZH				LR	LR		
	comp=Z,2µm,8.6s						
KNMB	**Chin-men Tao**	**8.02**	**254**		**Pn**	**01 29 48.7**	**-0.6**
NJ2	**Nanjing**	**8.62**	**308**	*e*P	**Pn**	**01 29 54.3**	**-3.1**
NJ2				S	**Sn**	**01 31 32.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,21nm,0.8s						
NJ2				LR	LR		
	comp=N,5µm,12.6s						
NJ2				LR	LR		
	comp=E,3µm,12.3s						
NJ2				LR	LR		
	comp=Z,4µm,13.7s						
JMN	**Monobe**	**9.08**	**40**		**Pn**	**01 30 03.6**	**-0.2**
KSAR	**Wonju Array Be**	**10.50**	**5**	P	**Pn**	**01 30 24.0**	**+0.9**
KSAR	**Wonju Array Be**	**10.50**	**5**		**Pn**	**01 30 24.0**	**+0.9**
INCN	**Inchon**	**10.50**	**359**	P	**Pn**	**01 30 21.1**	**-2.1**
	38nm,1.2s						
WHN	**Wuhan**	**11.54**	**291**	⇑P	**Pn**	**01 30 37.6**	**+0.3**
WHN				S	**Sn**	**01 32 49.8**	**+5.0**
WHN				LR	LR		
	comp=N,6µm,12.7s						
WHN				LR	LR		
	comp=E,7µm,12.3s						
WHN				LR	LR		
	comp=Z,7µm,12.0s						
TIA	**Tai'an**	**12.40**	**320**	⇓P	**P**	**01 30 57.3**	**-3.0**
TIA				pmax	pmax		
	comp=Z,13nm,1.1s						
TIA				pmax	pmax		
	comp=Z,230nm,5.0s						
TIA				LR	LR		
	comp=N,2µm,14.1s						
TIA				LR	LR		
	comp=E,2µm,11.8s						
TIA				LR	LR		
	comp=Z,2µm,17.9s						
MAJO	**Matsushiro**	**13.59**	**42**	⇑*e*P	**Pn**	**01 31 05.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,20nm,1.2s						
MAJO	**Matsushiro**	**13.59**	**42**	Pn	**Pn**	**01 31 04.4**	**-1.0**
MAJO	**Matsushiro**	**13.59**	**42**	P	**P**	**01 31 13.7**	**+0.2**
MJAR	**Matsushiro Arr**	**13.59**	**42**	Pn	**Pn**	**01 31 05.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=9.5						
MJB9	**Matsu-Tunnel**	**13.59**	**42**	Pn	**Pn**	**01 31 04.4**	**-1.0**
LYN	**LuoYang**	**14.49**	**305**	*e*P	**Pn**	**01 31 14.6**	**-3.0**
LYN				S	**Sn**	**01 33 55.9**	**-1.0**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LYN				pmax	pmax		
	comp=Z,210nm,4.9s						
LYN				LR	LR		
	comp=Z,2µm,12.0s						
LYN				LR	LR		
	comp=Z,3µm,12.2s						
LYN				LR	LR		
	comp=Z,4µm,12.7s						
JYT	**Yasato**	**14.65**	**48**	Pn	**Pn**	**01 31 18.6**	**-1.1**
GULI	**GuiLin**	**14.90**	**267**	⇑P	**P**	**01 31 28.3**	**+0.2**
GULI				S	**S**	**01 34 21.8**	**-1.8**
GULI				pmax	pmax		
	comp=Z,50nm,1.2s						
GULI				LR	LR		
	comp=N,2µm,9.8s						
GULI				LR	LR		
	comp=E,2µm,9.2s						
GULI				LR	LR		
	comp=Z,2µm,10.8s						
ENH	**Enshi**	**15.60**	**286**		**Pn**	**01 31 33.9**	**+1.6**
ENH				IAmb	IAmb	01 31 37.4	
	comp=Z,79nm,1.1s						
BJT	**Baijiatuau**	**15.77**	**328**	P	**Pn**	**01 31 33.7**	**-0.6**
BJT				pmax	pmax		
	comp=Z,37nm,1.4s						
BJT	**Baijiatuau**	**15.77**	**328**	Pn	**Pn**	**01 31 33.7**	**-0.6**
BJI	**Beijing**	**15.78**	**328**	P	**Pn**	**01 31 33.8**	**-0.7**
BJI				PP	**PnPn**	**01 31 41.0**	**-2.5**
BJI				S	**Sn**	**01 34 31.3**	**+3.0**
BJI				SS	**S**	**01 34 46.3**	**+4.8**
BJI				pmax	pmax		
	comp=Z,11nm,1.3s						
BJI				LR	LR		
	comp=Z,840nm,15.5s						
BJI				LR	LR		
	comp=Z,490nm,15.5s						
JMM	**Marumori**	**16.02**	**44**	Pn	**Pn**	**01 31 36.1**	**-1.4**
TIY	**Taiyuan**	**16.21**	**315**	P	**Pn**	**01 31 40.8**	**+0.7**
TIY				pmax	pmax		
	comp=Z,440nm,4.2s						
TIY				LR	LR		
	comp=Z,1µm,10.6s						
TIY				LR	LR		
	comp=Z,2µm,11.7s						
TIY				LR	LR		
	comp=Z,2µm,11.0s						
CN2	**Changchun**	**16.85**	**357**	*e*P	**Pn**	**01 31 46.8**	**-1.2**
CN2				PP	**pwP**	**01 32 01.6**	**+0.1**
CN2				S	**Sn**	**01 34 50.8**	**-3.4**
CN2				sS	S	01 35 05.0	+1.7
CN2				SS	**SnSn**	**01 35 12.1**	**+4.2**
CN2				pmax	pmax		
	comp=Z,50nm,1.0s						
CN2				LR	LR		
	comp=Z,2µm,12.0s						
CN2				LR	LR		
	comp=Z,910nm,12.0s						
CN2				LR	LR		
	comp=Z,2µm,12.0s						
USRK	**Ussuriysk Ar.**	**17.70**	**12**	P	**P**	**01 32 01.3**	**+2.2**
	baz=198,slow=12,SNR=11						
USA0B	**Ussuriysk Arra**	**17.71**	**12**	P	**Pn**	**01 31 57.6**	**-1.0**
USA0B				pmax	pmax		
	comp=Z,45nm,1.3s						
USA0B	**Ussuriysk Arra**	**17.71**	**12**		**Pn**	**01 31 57.6**	**-1.0**
MDJ	**Mudanjiang**	**17.77**	**6**		**P**	**01 32 00.1**	**+0.3**
MDJ	**Mudanjiang**	**17.77**	**6**	P	**P**	**01 32 01.8**	**+2.0**
MDJ				pP	pP	01 32 09.1	-0.3
MDJ				S	**S**	**01 35 21.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,23nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,470nm,5.0s						
MDJ				LR	LR		
	comp=Z,1µm,13.5s						
MDJ				LR	LR		
	comp=Z,3µm,12.2s						
MDJ				LR	LR		
	comp=Z,1µm,12.9s						
GYA	**Guiyang**	**18.04**	**273**	⇑P	**P**	**01 32 04.3**	**+1.2**
GYA				pP	pP	01 32 12.5	-0.2
GYA				pmax	pmax		
	comp=Z,17nm,1.8s						
GYA				pmax	pmax		
	comp=Z,360nm,4.9s						
GYA				LR	LR		
	comp=Z,1µm,11.5s						
GYA				LR	LR		
	comp=Z,1µm,8.6s						
GYA				LR	LR		
	comp=Z,3µm,15.4s						
HHC	**Hu-ho-hao-te**	**18.75**	**322**	*e*P	**Pn**	**01 32 11.4**	**-0.1**
HHC				pP	pP	01 32 19.4	-1.0
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,290nm,5.9s						
HHC				LR	LR		
	comp=Z,2µm,11.0s						
HHC				LR	LR		
	comp=Z,1µm,11.3s						
HHC				LR	LR		
	comp=Z,2µm,11.4s						
BNX	**BinXian**	**18.76**	**1**	⇓P	**Pn**	**01 32 12.8**	**+1.4**
BNX				pmax	pmax		
	comp=Z,100nm,0.9s						
BNX				pmax	pmax		
	comp=Z,480nm,3.8s						
XLT	**XiLinHaoTe**	**19.02**	**336**	⇑*i*P	**P**	**01 32 14.0**	**+0.3**
XLT				pP	pP	01 32 21.6	-1.7
XLT				sP	pwP	01 32 26.4	+0.7
XLT				PP	**sP**	**01 32 30.6**	**+2.2**
XLT				S	**Sn**	**01 35 43.5**	**-3.3**
XLT				sS	S	01 35 52.1	+4.7
XLT				SS	**SnSn**	**01 36 02.8**	**+1.5**
XLT				pmax	pmax		
	comp=Z,40nm,1.3s						
XLT				pmax	pmax		
	comp=Z,260nm,4.2s						
XLT				LR	LR		
	comp=Z,1µm,13.5s						
XLT				LR	LR		
	comp=Z,2µm,12.8s						
BTO	**Baotou**	**19.48**	**319**	*e*P	**Pn**	**01 32 21.3**	**+1.1**
LZH	**Lanzhou**	**21.58**	**301**	*e*P	**P**	**01 32 41.1**	**-0.5**
LZH				pP	pP	01 32 50.4	-1.0
LZH				sP	sP	01 32 55.0	-1.4
LZH				S	**S**	**01 36 31.8**	**-6.8**
LZH				PcP	**PcP**	**01 36 44.1**	**+1.6**
LZH				sS	Sn	01 36 47.8	-0.8
LZH				SS	**SnSn**	**01 37 04.4**	**+0.3**
LZH				pmax	pmax		
	comp=Z,41nm,1.1s						
LZH				LR	LR		
	comp=Z,2µm,11.1s						
LZH				LR	LR		
	comp=Z,1µm,11.1s						
LZH				LR	LR		
	comp=Z,2µm,13.3s						
KMI	**Kunming**	**21.73**	**271**	⇑P	**P**	**01 32 43.4**	**+0.1**
KMI				pP	pP	01 32 52.8	-0.3
KMI				sP	sP	01 32 57.1	-1.0
KMI				S	**S**	**01 36 40.8**	**-1.0**
KMI				sS	Sn	01 36 50.1	-2.4
KMI				SS	**SnSn**	**01 37 13.6**	**+5.6**
KMI				pmax	pmax		
	comp=Z,18nm,0.7s						
KMI				pmax	pmax		
	comp=Z,210nm,3.5s						
KMI				LR	LR		
	comp=Z,1µm,12.2s						
KMI				LR	LR		
	comp=Z,2µm,11.6s						
KMI				LR	LR		
	comp=Z,1µm,11.1s						
PZH	**PanZhiHua**	**22.42**	**275**	P	**P**	**01 32 49.6**	**-1.0**
PZH				pP	**pP**	**01 33 00.0**	**-0.4**
PZH				PP	**PnPn**	**01 33 18.1**	**+3.5**
PZH				S	**S**	**01 36 54.8**	**+0.4**
PZH				SS	**SnSn**	**01 37 30.9**	**+6.2**
PZH				pmax	pmax		
	comp=Z,50nm,1.2s						
PZH				pmax	pmax		
	comp=Z,200nm,3.8s						
PZH				LR	LR		
	comp=Z,2µm,14.3s						
PZH				LR	LR		
	comp=Z,1µm,13.7s						
PZH				LR	LR		
	comp=Z,2µm,13.7s						
KLR	**Kul'dur**	**22.57**	**8**	P	**P**	**01 32 50.9**	**-0.9**
	comp=Z,7.6nm,0.9s,baz=178,slow=11,SNR=6.9						
HIA	**Hailar**	**22.95**	**348**	*d* *i*P	**P**	**01 32 57.2**	**+1.3**
HIA				pmax	pmax		
	comp=Z,24nm,1.1s						
HIA	**Hailar**	**22.95**	**348**	P	**P**	**01 32 54.4**	**-1.5**
UBPT	**Khong Chiam**	**23.04**	**244**	P	**P**	**01 32 58.0**	**+1.0**
MYLDM	**Lahad Datu**	**23.07**	**202**	P	**P**	**01 32 58.6**	**+1.3**
MYLDM				IAmb	IAmb	01 33 04.8	
	comp=Z,52nm,1.1s						
KKM	**Kota Kinabalu**	**23.13**	**208**	P	**P**	**01 32 57.9**	**-0.1**
KKM				IAmb	IAmb	01 33 05.0	
	comp=Z,42nm,1.3s						
GTA	**Gaotai**	**25.71**	**306**	⇑P	**P**	**01 33 20.3**	**-1.4**
GTA				pP	pwP	01 33 34.0	-0.7
GTA				sP	sP	01 33 39.1	+1.9
GTA				PcP	**PcP**	**01 36 52.0**	**+0.8**
GTA				S	**S**	**01 37 45.1**	**-2.7**
GTA				sS	sS	01 37 58.9	-6.9
GTA				pmax	pmax		
	comp=Z,39nm,1.3s						
GTA				pmax	pmax		
	comp=Z,92nm,4.3s						
GTA				LR	LR		
	comp=Z,940nm,10.5s						
GTA				LR	LR		
	comp=Z,830nm,8.7s						
GTA				LR	LR		
	comp=Z,1µm,9.5s						
ULN	**Ulaanbaatar**	**26.00**	**329**	*c* *i*P	**P**	**01 33 24.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,28nm,1.2s						
ULN	**Ulaanbaatar**	**26.00**	**329**	P	**P**	**01 33 23.3**	**-0.9**
ULN				IAmb	IAmb	01 33 27.1	
	comp=Z,24nm,1.1s						
SONM	**Songino Array**	**26.28**	**328**	P	**P**	**01 33 26.4**	**-0.5**
	comp=Z,22nm,1.0s,baz=143,slow=9.6,SNR=26						
SONM	**Songino Array**	**26.28**	**328**	P	**P**	**01 33 26.4**	**-0.5**
SONM				IAmb	IAmb	01 33 28.5	
	comp=Z,34nm,1.1s						
TOLI2	**Tolitoli**	**26.34**	**194**	P	**P**	**01 33 27.2**	**-0.3**
TOLI2				IAmb	IAmb	01 33 35.3	
	comp=Z,26nm,1.2s						
ZEA	**Zeya**	**26.76**	**1**	*e*P	**P**	**01 33 33.5**	**+2.6**
ZEA				*e*		01 33 50.8	
ZEA				pmax	pmax		
	comp=N,10.0nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CHTO	**Chiang Mai**	**26.91**	**258**	P	**P**	**01 33 33.0**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CHTO	**Chiang Mai**	**26.91**	**258**	P	**P**	**01 33 33.0**	**+0.4**
MPSI	**Mapaga**	**27.29**	**195**	P	**P**	**01 33 40.8**	**+4.8**
	comp=Z,477nmcomp=Z,22nm,0.9s						
LBMI	**Labuha**	**27.44**	**179**	P	P	01 33 51.5	+14
SBUM	**Sibu**	**28.11**	**212**	P	**P**	**01 33 43.6**	**+0.3**
GOMU	**GeErMu**	**28.70**	**297**	P	**P**	**01 33 45.3**	**-3.6**
GOMU				PcP	**PcP**	**01 36 59.9**	**+1.2**
GOMU				S	**S**	**01 38 34.4**	**-1.1**
GOMU				sS	sS	01 38 48.1	-5.5
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,98nm,5.1s						
GOMU				LR	LR		
	comp=Z,1µm,9.1s						
GOMU				LR	LR		
	comp=Z,690nm,8.1s						
GOMU				LR	LR		
	comp=Z,1µm,11.8s						
SANI	**Sanana**	**28.84**	**182**	P	**P**	**01 33 52.8**	**+3.0**
	comp=Z,40nm,1.3s						
MOY	**Mondy**	**31.46**	**329**	*e*P	**P**	**01 34 12.5**	**-0.4**
MOY				pmax	pmax		
	comp=Z,23nm,1.4s						
SRIT	**Nakonsritamara**	**31.60**	**240**	P	**P**	**01 34 13.6**	**-0.7**
SRIT				IAmb	IAmb	01 34 19.9	
	comp=Z,25nm,1.1s						
BBKI	**Banjar Baru**	**32.38**	**203**	P	P	01 34 26.0	+4.9
KULM	**Kulim**	**32.98**	**234**	P	**P**	**01 34 25.5**	**-0.9**
KULM				IAmb	IAmb	01 34 31.8	
	comp=Z,22nm,1.1s						
IPM	**Ipoh**	**33.27**	**232**	IAmb	IAmb	01 34 35.2	
	comp=Z,22nm,1.0s						
WMQ	**Urumqi**	**35.70**	**308**	*e*P	**P**	**01 34 48.4**	**-1.4**
WMQ				pP	pP	01 34 59.6	-1.0
WMQ				PP	**PP**	**01 36 12.0**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,25nm,1.5s						
WMQ				LR	LR		
	comp=Z,930nm,15.7s						
WMQ				LR	LR		
	comp=Z,1µm,13.7s						
WMQ				LR	LR		
	comp=Z,900nm,22.1s						
WMQ	**Urumqi**	**35.70**	**308**	PP	**P**	**01 34 48.8**	**-1.0**
PSI	**Prapat**	**35.94**	**233**	P	**P**	**01 34 51.5**	**-0.6**
	comp=Z,15nm,1.1s,baz=69,slow=3.0,SNR=5.8						
BKNI	**Bangkinang**	**36.28**	**227**	P	**P**	**01 34 55.3**	**+0.4**
MNSI	**Mandailing Nat**	**36.91**	**230**	P	**P**	**01 35 00.6**	**+0.3**
ZSN	**Zaisan**	**38.61**	**313**	*e*P	**P**	**01 35 13.9**	**-0.4**
ZSN	**Zaisan**	**38.61**	**313**	*e*P	**P**	**01 35 14.0**	**-0.4**
	baz=314						
SISI	**Saibi**	**38.80**	**228**	P	**P**	**01 35 14.7**	**-1.5**
	comp=Z,16nm,1.0s						
MK31	**Makanchi Array**	**40.13**	**312**	P	**P**	**01 35 25.6**	**-1.5**
MK31				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**40.13**	**312**	P	**P**	**01 35 25.6**	**-1.5**
MKAR	**Makanchi Array**	**40.13**	**312**	P	**P**	**01 35 26.0**	**-1.1**
	comp=Z,13nm,0.6s,baz=99,slow=10.0,SNR=32						
MKAR				ScP	**ScP**	**01 41 20.5**	**+3.8**
	comp=Z,0.2nm,0.6s,baz=104,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**40.13**	**312**	P	**P**	**01 35 26.0**	**-1.1**
MKAR	**Makanchi Array**	**40.13**	**312**	P	**P**	**01 35 26.0**	**-1.1**
MAKZ	**Makanchi**	**40.34**	**312**	P	**P**	**01 35 27.8**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,26nm,1.1s						
MAKZ	**Makanchi**	**40.34**	**312**	P	**P**	**01 35 27.8**	**-1.0**
MAKZ				IAmb	IAmb	01 35 28.9	
	comp=Z,26nm,1.1s						
ZAA0	**Zalesovo Array**	**40.93**	**323**	P	**P**	**01 35 32.1**	**-1.3**
ZALV	**Zalesovo Beam**	**40.93**	**323**	P	**P**	**01 35 32.2**	**-1.2**
	comp=Z,10nm,0.8s,baz=107,slow=8.0,SNR=19						
ZALV				ScP	**ScP**	**01 41 22.2**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=176,slow=6.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**40.93**	**323**	P	**P**	**01 35 32.3**	**-1.2**
ZALV					**ScP**	**01 41 22.6**	**+3.0**
SHLS	**Shalkode**	**41.45**	**306**	*e*P	**P**	**01 35 34.3**	**-3.8**
SHLS	**Shalkode**	**41.45**	**306**	*e*P	**P**	**01 35 34.4**	**-3.7**
	baz=306						
UZB	**Uzynbulak**	**41.77**	**305**	*i*P	**P**	**01 35 39.6**	**-1.1**
UZB	**Uzynbulak**	**41.77**	**305**	*i*P	**P**	**01 35 39.6**	**-1.1**
	baz=306						
KPKS	**Kokpek**	**42.05**	**306**	*c* *i*P	**P**	**01 35 41.9**	**-1.1**
KPKS	**Kokpek**	**42.05**	**306**	⇑*i*P	**P**	**01 35 42.0**	**-1.1**
	baz=306						
SATY	**Saty**	**42.21**	**305**	*c* *i*P	**P**	**01 35 43.6**	**-0.7**
SATY	**Saty**	**42.21**	**305**	⇑*i*P	**P**	**01 35 43.6**	**-0.7**
	baz=305						
SEM	**Semipalatinsk**	**42.36**	**316**	*c* *i*P	**P**	**01 35 44.2**	**-1.3**
SEM				pmax	pmax		
	comp=Z,12nm,0.8s						
SEM	**Semipalatinsk**	**42.36**	**316**	⇑*i*P	**P**	**01 35 44.3**	**-1.3**
	comp=Z,12nm,0.8s,baz=316						
KNRA	**Kununurra**	**42.41**	**177**	P	**P**	**01 35 45.6**	**-0.4**
KNRA				IAmb	IAmb	01 35 50.7	
	comp=Z,20nm,0.9s						
TDK	**Taldyqorghan**	**42.45**	**308**	*e*P	**P**	**01 35 45.9**	**-0.2**
TDK				pmax	pmax		
	comp=Z,31nm,1.0s						
TDK	**Taldyqorghan**	**42.45**	**308**	*e*P	**P**	**01 35 45.9**	**-0.2**
	comp=Z,31nm,1.0s,baz=308						
MDOK	**Medeo**	**43.21**	**305**	*i*P	**P**	**01 35 51.8**	**-0.6**
MDOK	**Medeo**	**43.21**	**305**	*i*P	**P**	**01 35 51.9**	**-0.6**
	baz=305						
TNSS	**Tian-Shan**	**43.27**	**305**	*e*P	**P**	**01 35 52.5**	**-0.8**
	baz=305						
CHKK	**Chushkaly**	**43.32**	**306**	*e*P	**P**	**01 35 52.3**	**-0.9**
	baz=306						
KURK	**Kurchatov**	**43.45**	**316**	*c* *i*P	**P**	**01 35 52.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,30nm,1.4s						
KURK	**Kurchatov**	**43.45**	**316**	P	**P**	**01 35 53.0**	**-1.0**
KURK				IAmb	IAmb	01 35 54.1	
	comp=Z,32nm,1.3s						
KURBB	**Kurchatov Arra**	**43.48**	**316**	P	**P**	**01 35 53.3**	**-1.0**
	comp=Z,7.6nm,0.7s,baz=105,slow=8.0,SNR=21						
KUU	**Kurty**	**43.79**	**306**	*c* *i*P	**P**	**01 35 56.2**	**-0.8**
KUU				pmax	pmax		
	comp=Z,34nm,1.5s						
KUU	**Kurty**	**43.79**	**306**	⇑*i*P	**P**	**01 35 56.2**	**-0.8**
	comp=Z,34nm,

BTLS **Baital** 45.53 308*c* *i*P P 01 36 09.6 -1.2
BTLS **Baital** 45.53 308 ⇑*i*P P 01 36 09.6 -1.2
baz=308
WB0 **Warramunga Arr** 47.01 170 P P
WB0 IAmb IAmb 01 36 27.3
comp=Z,12nm,1.1s
BRZS **Berezniki** 47.03 314 *e*P P 01 36 21.4 -1.1
BRZS **Berezniki** 47.03 314 *e*P P 01 36 21.5 -1.1
baz=314
WRAB **Tennant Creek** 47.17 170⇑ *e*P P 01 36 23.7 -0.1
WRA **Warramunga Arr** 47.18 170 P P 01 36 23.2 -0.7
comp=Z,6.2nm,0.9s,baz=353,slow=8.3,SNR=12
WRA **Warramunga Arr** 47.18 170 P P 01 36 24.7 +0.8
WRA **Warramunga Arr** 47.18 170 P P 01 36 24.6 +0.8
WB2 **Warramunga Arr** 47.18 170 P P 01 36 23.6 -0.2
WB2 IAmb IAmb 01 36 28.8
comp=Z,11nm,0.9s
WR0 **Warramunga Arr** 47.23 170 IAmb IAmb 01 36 29.2
comp=Z,10nm,0.9s
KKAR **Karatay Array** 47.98 305 P P 01 36 29.8 -0.2
KKAR **Karatay Array** 47.98 305 P P 01 36 29.8 -0.2
NRIK **Noril'sk** 48.19 342 P P 01 36 30.5 -0.7
comp=Z,5.4nm,1.0s,baz=119,slow=9.7,SNR=5.9
NRIK **Noril'sk** 48.19 342 ⇓*i*P P 01 36 31.3 +0.1
NRIK pmax pmax
comp=Z,12nm,1.2s
NRIK **Noril'sk** 48.19 342 P P 01 36 30.9 -0.3
NRIK IAmb IAmb 01 36 32.8
comp=Z,14nm,1.3s
BRVK **Borovoye** 48.98 318*c* *i*P P 01 36 36.4 -1.1
BRVK pmax pmax
comp=Z,18nm,1.4s
BRVK **Borovoye** 48.98 318 P P 01 36 36.8 -0.8
BRVK IAmb IAmb 01 36 38.0
comp=Z,12nm,1.1s
KBL **Kabul** 49.68 294 P P 01 36 42.9 -0.5
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL **Kabul** 49.68 294 P P 01 36 42.9 -0.5
ASAR **Alice Springs** 50.78 172 P P 01 36 50.9 -0.5
comp=Z,2.2nm,0.6s,baz=357,slow=14,SNR=12
ABKAR **Akbulak array** 55.25 313 P P 01 37 23.4 -0.7
ARU **Arti** 56.06 322*c* *i*P P 01 37 27.4 -2.4
ARU S S 01 45 15.1 -0.3
ARU SS SS 01 48 56.4 -5.2
ARU pmax pmax
comp=Z,7.0nm,1.5s
ANM **Nome** 56.47 29 P P 01 37 32.7 +0.1
baz=262
GEYT **Alibeck** 57.86 300 P P 01 37 42.1 -0.9
comp=Z,2.3nm,0.8s,baz=50,slow=12,SNR=4.0
STKA **Stephens Creek** 60.17 166 P P 01 37 59.1 +0.3
comp=Z,11nm,1.1s,baz=333,slow=9.5,SNR=5.4
STKA **Stephens Creek** 60.17 166 P P 01 37 59.2 +0.4
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA **Stephens Creek** 60.17 166 P P 01 37 59.1 +0.4
TTA **Tatalina** 60.55 31 P P 01 38 01.5 +0.3
baz=272
J20K **Nowinta River** 61.33 29 P P 01 38 07.2 +0.9
J20K IAmb IAmb 01 38 08.8
comp=Z,11nm,1.1s
J20K **Nowinta River** 61.33 29 P P 01 38 07.0 +0.7
baz=273
K20K **Telida** 61.41 30 IAmb IAmb 01 38 08.7
comp=Z,19nm,1.4s
K20K **Telida** 61.41 30 P P 01 38 07.4 +0.5
baz=273
H21K **Melozitna Rive** 61.82 28 P P 01 38 10.0 +0.3
baz=273
SII **Sitkinak Islan** 61.97 38 P P 01 38 14.9 +4.1
CHUM **Lake Minchumin** 62.15 30 P P 01 38 12.5 +0.6
baz=275
I21K **Tanana** 62.19 28 P P 01 38 12.9 +0.8
I21K IAmb IAmb 01 38 13.3
comp=Z,14nm,1.4s
I21K **Tanana** 62.19 28 P P 01 38 12.8 +0.7
baz=274
CAST **Castle Rocks** 62.29 30 P P 01 38 12.6 -0.3
baz=275
KDAK **Kodiak Island** 62.68 36 P P 01 38 15.5 +0.1
comp=Z,35nm,1.1s,baz=326,slow=7.3,SNR=5.4
KDAK **Kodiak Island** 62.68 36 P P 01 38 15.6 +0.1
baz=276
BPAW **Bear Paw Mtn.** 62.71 29 P P 01 38 15.7 0.0
baz=276
MLY **Manley** 62.73 28 P P 01 38 16.0 +0.2
baz=276
TOLK **Toolik Lake Re** 62.87 24 P P 01 38 16.9 +0.2
baz=275
NEA2 **Nenana** 63.49 29 P P 01 38 21.2 +0.5
NEA2 IAmb IAmb 01 38 21.9
comp=Z,12nm,1.0s
NEA2 **Nenana** 63.49 29 P P 01 38 21.1 +0.3
baz=277
MCK **McKinley** 63.66 30 IAmb IAmb 01 38 23.2
comp=Z,20nm,1.3s
MCK **McKinley** 63.66 30 P P 01 38 21.9 -0.1
baz=278
RND **Reindeer** 63.74 30 P P 01 38 22.2 -0.3
RND pmax pmax
comp=Z,17nm,1.0s
RND **Reindeer** 63.74 30 P P 01 38 22.2 -0.3
RND IAmb IAmb 01 38 22.8
comp=Z,17nm,1.0s
H24K **Noodor Dome** 63.83 27 IAmb IAmb 01 38 24.8
comp=Z,14nm,1.3s
H24K **Noodor Dome** 63.83 27 P P 01 38 23.7 +0.7
baz=278
WAT6 **Susitna Watana** 64.36 31 P P 01 38 26.2 -0.5
baz=279
ILAR **Eielson Array** 64.39 28 P P 01 38 25.0 -1.7
comp=Z,0.7nm,0.6s,baz=270,slow=4.0,SNR=9.6
HDA **Harding Lake** 64.42 29 IAmb IAmb 01 38 26.8
comp=Z,7.9nm,1.0s
HDA **Harding Lake** 64.42 29 P P 01 38 26.1 -0.9
baz=279
PAX **Paxson** 65.32 30 P P 01 38 33.7 +0.8
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX **Paxson** 65.32 30 P P 01 38 33.7 +0.8
PAX **Paxson** 65.32 30 P P 01 38 32.7 -0.2
baz=281
KLU **Klutina** 65.40 32 P P 01 38 33.2 -0.2
baz=281
RIDG **Independent Ri** 65.45 29 P P 01 38 33.9 +0.2
baz=281
SCRK **Sand Creek** 65.78 29 IAmb IAmb 01 38 35.6
comp=Z,6.7nm,1.0s
SCRK **Sand Creek** 65.78 29 P P 01 38 35.3 -0.5
baz=282
DOT **Dot Lake** 65.81 29 IAmb IAmb 01 38 35.8
comp=Z,5.8nm,0.8s
J26L **Joseph Creek** 65.85 28 P P 01 38 35.3 -1.0
baz=282
MSVF **Nonsavu** 66.64 126 P P 01 38 44.0 +2.1
comp=Z,9.4nm,0.8s,baz=302,slow=4.2,SNR=10
MSVF **Nonsavu** 66.64 126 P P 01 38 41.9 0.0
MSVF pmax pmax
comp=Z,17nm,0.9s
MSVF **Nonsavu** 66.64 126 P P 01 38 41.9 0.0
EGAK **Eagle** 66.80 28 P P 01 38 41.4 -0.8
baz=284
L27K **Beaver Creek,** 66.92 30 P P 01 38 43.6 +0.5
baz=284
M27K **Edge Creek, AK** 67.08 30 P P 01 38 44.2 -0.1
baz=284
ZEI **Tsey** 67.31 308 *e*P P 01 38 43.0 -3.1
ZEI pmax pmax
comp=Z,6.0nm,1.0s
DAWY **Dawson** 67.72 28 ⇑S S 01 47 38.4 -4.2
KBZ **Khabaz** 67.75 309 P P 01 38 47.5 -1.0
comp=Z,3.7nm,0.9s,baz=99,slow=4.5,SNR=5.2
KBZ **Khabaz** 67.75 309 ⇓*e*P P 01 38 48.9 +0.3
KBZ pmax pmax
comp=Z,12nm,1.3s
KIV **Kislovodsk** 67.83 309 *e*P P 01 38 47.0 -2.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV **Kislovodsk** 67.83 309 P P 01 38 49.6 +0.3
KIV IAmb IAmb 01 38 56.4
comp=Z,7.3nm,1.0s
VORR **Voronezh** 67.94 318 *e*P P 01 38 51.3 +1.7
VORR pmax pmax
comp=Z,10.0nm,0.4s
INK **Inuvik** 68.72 23 P P 01 38 54.4 +0.2
comp=Z,5.9nm,1.1s,baz=270,slow=6.6,SNR=6.8
INK **Inuvik** 68.72 23 P P 01 38 54.2 0.0
INK IAmb IAmb 01 38 55.7
comp=Z,12nm,1.2s
INK **Inuvik** 68.72 23 P P 01 38 54.1 -0.1
baz=289
A36M **Sachs Harbour** 69.94 18 P P 01 39 01.2 -0.5
A36M IAmb IAmb 01 39 03.0
comp=Z,8.4nm,0.9s
A36M **Sachs Harbour** 69.94 18 P P 01 39 01.1 -0.6
baz=295,SNR=9.0
GURO **Guroymak-BITLI** 69.94 304 P P 01 39 03.0 +0.4
N31M **Braeburn, Yuko** 70.09 30 P P 01 39 04.0 +1.1
baz=290
M31M **Drury Creek, Y** 70.46 29 P P 01 39 05.5 +0.4
baz=291
FARO **Faro, Yukon** 70.91 29 P P 01 39 08.1 +0.2
baz=292
SKAG **Skagway** 71.00 32 P P 01 39 09.4 +0.9
baz=291
MMPY **Sheldon Lake,** 71.66 28 P P 01 39 12.8 +0.3
baz=293
P33M **Teslin, Yukon** 71.90 31 P P 01 39 14.6 +0.6
baz=293
RAYN **Ar Rayn** 72.41 288 P P 01 39 18.8 +1.2
RAYN pmax pmax
comp=Z,3.0nm,1.5s
RAYN **Ar Rayn** 72.41 288 P P 01 39 18.8 +1.2
TGTN **Hyland Airport** 73.39 29 P P 01 39 23.5 +0.8
baz=296
MNK **Minsk** 73.44 323 *i*P P 01 39 22.8 -0.3
MNK *i* 01 39 38.6
MNK *i* 01 42 06.3
MNK *i* PPP PPP 01 43 51.3
MNK *i* 01 49 28.8
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK pmax pmax
comp=Z,9.0nm,1.1s
MNK pmax pmax
comp=N,21nm,1.0s
MNK MLR MLR
comp=E,75nm,19.0s
MNK MLR MLR
comp=Z,2μm,23.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK **Minsk** 73.44 323 *i*P P 01 39 22.8 -0.3
comp=E,4.0nm,1.2s
MNK *i*P P 01 39 22.8 -0.3
comp=N,21nm,1.1s
MNK *i*P P 01 39 22.8 -0.3
comp=Z,9.0nm,1.1s,baz=67
MNK *i* PcP PcP 01 39 38.6 -0.4
MNK *i* PP PP 01 42 06.4 -0.3
MNK *i* PPP PPP 01 43 51.4
MNK *i* S S 01 48 48.8 -0.5
MNK *i* SS SS 01 53 33.8 +2.3
MNK *i* SSS SSS 01 56 55.3
MNK *i* LQ LQ 02 06 46.2
MNK *i* LR LR 02 12 21.6
MNK *i* LRM MLR 02 14 21.4
comp=E,75nm,19.2s
MNK *i* LRM MLR 02 14 22.7
comp=Z,2μm,23.0s
MNK *i* LRM MLR 02 14 29.1
comp=N,1μm,20.4s
DLBC **Dease Lake** 73.93 32 P P 01 39 27.4 +1.3
comp=N,4.4nm,1.0s,baz=305,slow=7.0,SNR=6.2
DLBC **Dease Lake** 73.93 32 IAmb IAmb 01 39 28.4
comp=Z,12nm,1.1s
BRTR **Keskin Array B** 75.61 307 P P 01 39 35.2 -1.0
comp=Z,1.0nm,0.9s,baz=58,slow=3.1,SNR=4.5
NB2 **NORSAR Subarra** 78.12 333 P P 01 40 00.2 +10
comp=Z,8.9nm,1.2s,baz=53,slow=5.6
YKA **Yellowknife Ar** 78.39 25 P P 01 39 50.8 -0.4
comp=Z,3.5nm,0.8s,baz=300,slow=5.4,SNR=36
YKA **Yellowknife Ar** 78.39 25 P P 01 39 50.3 -0.9
LLLB **Lillooet** 81.89 37 IAmb IAmb 01 40 12.1
comp=Z,18nm,1.2s
CLL **Colm** 82.85 325 *e*P P 01 40 17.0 +1.7
D03D **Elan** 82.88 40 P P 01 40 17.0 +1.6
baz=302
D05A **Enumclaw** 83.69 40 P P 01 40 20.9 +1.2
E04D **Cinebar** 83.70 41 IAmb IAmb 01 40 21.5
comp=Z,14nm,0.9s
LTY **Liberty** 84.40 39 IAmb IAmb 01 40 24.4
comp=Z,7.8nm,0.9s
H04D **Lebanon** 84.70 42 P P 01 40 26.1 +1.2
baz=303
I03D **Drain, OR** 84.78 43 P P 01 40 26.6 +1.4
baz=303
H04A **Detroit Lake** 84.95 42 P P 01 40 26.0 -0.2
H04A IAmb IAmb 01 40 27.9
comp=Z,9.9nm,0.9s
G05D **Wamic, OR** 85.15 41 P P 01 40 28.4 +1.2
baz=304
DBO **Dodson Butte** 85.16 44 IAmb IAmb 01 40 29.5
comp=Z,13nm,1.0s
I04A **Tendick Farm,** 85.30 43 P P 01 40 28.7 +0.8
baz=303
C09A **Chrisman Ranch** 85.42 38 IAmb IAmb 01 40 29.7
comp=Z,8.1nm,1.0s
D08A **Wollman Farm,** 85.50 39 IAmb IAmb 01 40 30.6
comp=Z,9.2nm,1.0s
HAWA **Hanford** 85.54 40 IAmb IAmb 01 40 31.1
comp=Z,9.5nm,0.9s
HUMO **Hull Mountain** 85.61 44 P P 01 40 30.1 +0.6
HUMO IAmb IAmb 01 40 31.3
comp=Z,6.4nm,1.0s
I05D **Terrebonne, OR** 85.64 42 P P 01 40 30.6 +0.9
baz=304
NEW **Newport** 85.78 37 IAmb IAmb 01 40 31.9
comp=Z,9.5nm,0.9s
NEW **Newport** 85.78 37 P P 01 40 30.9 +0.6
baz=307
J04D **Umpqua Nationa** 85.78 43 P P 01 40 31.8 +1.2
baz=304,SNR=11
L04D **Klamath Falls** 86.23 44 P P 01 40 33.7 +1.0
baz=303,SNR=12
YBH **Yreka Blue Hor** 86.24 45 P P 01 40 32.9 +0.2
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH **Yreka Blue Hor** 86.24 45 P P 01 40 32.9 +0.2
YBH IAmb IAmb 01 40 35.1
comp=Z,8.7nm,1.0s
E09A **Wood Farm, Sta** 86.25 39 IAmb IAmb 01 40 34.7
comp=Z,13nm,1.2s
J05D **Fort Rock, OR** 86.29 43 P P 01 40 34.2 +1.2
baz=304,SNR=9.5
M02C **Callahan** 86.33 45 IAmb IAmb 01 40 35.8
comp=Z,8.7nm,1.0s
M02C **Callahan** 86.33 45 P P 01 40 34.4 +1.2
baz=303
K04D **Chiloquin, OR** 86.34 44 P P 01 40 34.4 +1.1
baz=304
N02D **Trinity Center** 86.66 45 IAmb IAmb 01 40 37.1
comp=Z,7.7nm,1.1s
N02D **Trinity Center** 86.66 45 P P 01 40 36.4 +1.6
baz=303
M04C **Macdoel** 86.75 44 P P 01 40 36.4 +1.1
baz=304,SNR=12
I07A **Izee** 86.88 41 IAmb IAmb 01 40 42.8
comp=Z,6.8nm,1.1s
WDC **Whiskeytown Da** 86.97 46 P P 01 40 37.4 +1.2
WDC pmax pmax
comp=Z,7.0nm,1.1s
WDC **Whiskeytown Da** 86.97 46 P P 01 40 37.4 +1.2
WDC IAmb IAmb 01 40 38.2
comp=Z,7.3nm,1.1s
WALA **Waterton Lakes** 86.98 35 IAmb IAmb 01 40 39.8
comp=Z,6.4nm,1.0s
O02D **Mt. Diablo Mer** 87.04 46 P P 01 40 38.1 +1.4
baz=303
O03E **Paynes Creek** 87.60 45 IAmb IAmb 01 40 40.7
comp=Z,14nm,1.3s
O03E **Paynes Creek** 87.60 45 P P 01 40 39.7 +0.3
baz=304
JTMT **Jette** 87.61 36 IAmb IAmb 01 40 41.3
comp=Z,7.6nm,1.0s
BMO **Blue Mountains** 87.70 40 IAmb IAmb 01 40 41.6
comp=Z,7.1nm,1.0s
GDXM **Geysers** 87.78 47 IAmb IAmb 01 40 42.7
comp=Z,10.0nm,1.1s
FCC **Fort Churchill** 88.09 20 P P 01 40 40.5 -0.6
FCC pmax pmax
comp=Z,15nm,1.2s
FCC **Fort Churchill** 88.09 20 P P 01 40 40.5 -0.6
ORV **Oroville** 88.21 46 IAmb IAmb 01 40 43.5
comp=Z,7.0nm,1.1s
WVOR **Wild Horse Val** 88.35 42 IAmb IAmb 01 40 45.1
comp=Z,15nm,1.5s
MSO **Missoula** 88.36 37 IAmb IAmb 01 40 44.4
comp=Z,9.2nm,1.1s
MSO **Missoula** 88.36 37 P P 01 40 43.6 +0.7
baz=309,SNR=6.5
FFC **Flin Flon** 88.49 26 P P 01 40 42.9 -0.3
FFC pmax pmax
comp=Z,13nm,0.9s
FFC **Flin Flon** 88.49 26 P P 01 40 42.9 -0.3
BEKR **Beckworth** 88.76 45 IAmb IAmb 01 40 46.8
comp=Z,9.1nm,1.1s
MFID **Camas Ranch** 89.42 40 IAmb IAmb 01 40 50.2
comp=Z,8.5nm,1.0s
EGMT **Eagleton** 89.75 34 P P 01 40 50.1 +0.7
EGMT **Eagleton** 89.75 34 P P 01 40 50.1 +0.7
baz=312,SNR=6.9
HLID **Hailey** 90.14 40 IAmb IAmb 01 40 54.0
comp=Z,7.9nm,1.1s
HLID **Hailey** 90.14 40 P P 01 40 52.9 +1.6
baz=309,SNR=9.3
BOZ **Bozeman (W)** 90.38 37 IAmb IAmb 01 40 54.4
comp=Z,7.5nm,1.0s
BOZ **Bozeman (W)** 90.38 37 P P 01 40 53.4 +0.9
baz=311,SNR=8.7
KVN **Kaiserville** 90.66 45 IAmb IAmb 01 40 55.9
comp=Z,6.8nm,1.1s
NVAR **Mina Array Bea** 90.89 45 P P 01 40 56.3 +1.2
comp=Z,1.2nm,0.8s,baz=283,slow=4.4,SNR=9.0
NVAR **Mina Array Bea** 90.89 45 P P 01 40 55.3 +0.2
YHH **Holmes Hill** 91.33 37 IAmb IAmb 01 40 59.4
comp=Z,14nm,1.4s
ELK **Elko** 91.40 42 IAmb IAmb 01 40 59.8
comp=Z,5.8nm,1.1s
YPP **Pitchstone Pla** 91.69 37 IAmb IAmb 01 41 07.2
comp=Z,10nm,1.5s
H17A **Grant Village** 91.73 37 P P 01 41 02.1 +3.2
baz=311,SNR=11
FLWY **Flagg Ranch** 91.87 37 P P 01 41 00.6 +1.1
RLMT **Red Lodge** 91.95 36 P P 01 41 00.8 +1.0
baz=312
LCH **Last Change Ra** 92.02 46 IAmb IAmb 01 41 02.2
comp=Z,8.1nm,1.3s
TPAW **Teton Pass** 92.12 38 IAmb IAmb 01 41 02.2
comp=Z,5.1nm,0.9s
LAO **LASA Array** 92.42 33 P P 01 41 02.9 +1.2
baz=314
BGU **Big Grassy Mou** 92.59 41 IAmb IAmb 01 41 04.7
comp=Z,5.5nm,1.2s
R11A **Troy Canyon, C** 92.65 44 P P 01 41 04.2 +1.1
baz=308
MPMC **Manual Prospec** 92.81 47 P P 01 41 04.9 +1.0
baz=306
TPNV **Topopah Spring** 93.08 46 P P 01 41 05.6 +0.5
TPNV pmax pmax
comp=Z,6.0nm,1.5s
TPNV **Topopah Spring** 93.08 46 P P 01 41 05.6 +0.5
TPNV IAmb IAmb 01 41 07.1
comp=Z,6.3nm,1.5s
TPNV **Topopah Spring** 93.08 46 P P 01 41 06.2 +1.0
baz=307
EDW2 **Edwards Air Fo** 93.17 48 P P 01 41 06.8 +1.4
baz=306
DUG **Dugway, Tooele** 93.19 41 IAmb IAmb 01 41 07.8
comp=Z,7.4nm,1.0s
DUG **Dugway, Tooele** 93.19 41 P P 01 41 06.8 +1.3
baz=310
GWY **Greenwater Val** 93.27 46 IAmb IAmb 01 41 07.8
comp=Z,3.9nm,1.0s
BW06 **Boulder Array** 93.37 38 IAmb IAmb 01 41 07.7
comp=Z,4.7nm,0.9s
BW06 **Boulder Array** 93.37 38 P P 01 41 06.6 +0.2
baz=312
PD31 **Pinedale Array** 93.37 38 IAmb IAmb 01 41 07.7
comp=Z,4.1nm,0.9s
PDAR **Pinedale Array** 93.37 38 P P 01 41 06.6 +0.2
comp=Z,2.5nm,0.8s,baz=336,slow=0.8,SNR=24
PSUT **Pine Spring** 93.61 43 IAmb IAmb 01 41 12.1
comp=Z,3.1nm,0.9s
GSC **Goldstone, Bar** 93.71 47 IAmb IAmb 01 41 09.9
comp=Z,8.3nm,1.1s
GSC **Goldstone, Bar** 93.71 47 P P 01 41 08.9 +1.0
baz=307
HEC **Hector,Ludlow** 94.30 47 P P 01 41 12.1 +1.4
baz=307
ULM **Lac du Bonnet** 94.32 26 P P 01 41 09.6 -0.7
comp=Z,5.4nm,0.8s,baz=332,slow=4.8,SNR=6.1
ULM **Lac du Bonnet** 94.32 26 P P 01 41 09.1 -1.3
P17A **Butcher Ranch,** 94.87 41 IAmb IAmb 01 41 15.5
comp=Z,6.6nm,0.9s
PFO **Pinyon Flats O** 94.95 48 P P 01 41 14.9 +1.2
comp=Z,3.2nm,0.9s,baz=277,slow=5.7,SNR=4.8
PFO **Pinyon Flats O** 94.95 48 IAmb IAmb 01 41 15.6
comp=Z,6.7nm,1.1s
KNB **Kanab** 95.19 44 IAmb IAmb 01 41 17.2
comp=Z,4.9nm,0.9s
RSSD **Black Hills** 95.33 34 P P 01 41 16.5 +1.2
baz=316
PV13 **Radium Mtn., P** 96.86 41 P P 01 41 23.5 +1.0
PV13 IAmb IAmb 01 41 25.5
comp=Z,6.3nm,1.3s
CNG **Changalane** 105.29 248 *i*P Pdif 01 42 01.3 +1.5
CNG **Changalane** 105.29 248 *i*P Pdif 01 42 01.3 +1.5
TORD **Torodi Ar. Bea** 113.50 300 PKiKP PKiKP 01 46 29.3 -0.4
comp=Z,1.1nm,0.9s,baz=37,slow=3.0,SNR=5.4
TORD **Torodi Ar. Bea** 113.50 300 PKiKP 01 46 28.6 -1.1

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*ROM **19** 01:31:51.9±0.2, 44.910N±0.004×11.105E±0.009, h6km, ML2.4/49, Error ellipse: s-maj=0.6km s-min=0.5km az=258.0*
*VIE **19** 01:31:53.7±0.9, 44.90N×11.00E, h4km, 2km, mb2.3/15, ml2.7/19, Error ellipse: s-maj=6.0km s-min=5.3km az=97.0*
52 km NNW of Bologna
*GEN **19** 01:31:53.5, 44.88N×11.08E, h9km, Ml2.2*
*LDG **19** 01:31:55.9±0.1, 44.89N×11.20E, h10km, Ml2.4/20, Error ellipse: s-maj=3.6km s-min=3.1km az=92.0*

ISC 19 01:31:53.8±0.6, 44.94N±0.01×11.10E±0.02, h11km±4km,
n155, σ1$49/196, 3C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIRAN	**Mirandola MO**	**0.07**	**202**	*i*Pg	**Pg**	**01 31 55.8**	**-0.3**
MIRAN				*i* Sg	**Sg**	**01 31 57.1**	**-0.7**
CAVE	**Cavezzo**	**0.10**	**223**	⇑*i*P	**Pg**	**01 31 56.4**	**0.0**
CAVE				S	**Sg**	**01 31 58.5**	**+0.1**
CAVE				AML	AML		
	comp=N,29750μm,0.4s						
CAVE				AML	AML		
	comp=E,42000μm,0.2s						
CAVE	**Cavezzo**	**0.10**	**223**	P	**Pg**	**01 31 56.4**	**0.0**
CAVE				S	**Sg**	**01 31 58.6**	**+0.1**
NDIM	**Novi di Modena**	**0.15**	**251**	⇓P	**Pg**	**01 31 57.6**	**+0.4**
NDIM				S	**Sg**	**01 32 01.2**	**+1.5**
NDIM				AML	AML		
	comp=E,22500μm,1.2s						
NDIM				AML	AML		
	comp=E,22550μm,1.2s						
NDIM				AML	AML		
	comp=N,13100μm,0.2s						
SERM	**Sermide**	**0.16**	**62**	P	**Pg**	**01 31 59.2**	**+1.9**
SERM				AML	AML		
	comp=E,1830μm,0.4s						
SERM				AML	AML		
	comp=N,1104μm,0.4s						
SERM				AML	AML		
	comp=E,2370μm,0.4s						
SERM				AML	AML		
	comp=E,2375μm,0.4s						
SERM				AML	AML		
	comp=N,2085μm,0.4s						
SERM	**Sermide**	**0.16**	**62**	P	**Pg**	**01 31 59.3**	**+1.9**
SBPO	**S.Benedetto Po**	**0.17**	**312**	⇑*i*P	**Pg**	**01 31 59.9**	**+2.3**
RAVA	**Ravarino**	**0.18**	**175**	⇓*i*P	**Pg**	**01 31 57.8**	**0.0**
RAVA				S	**Sg**	**01 32 01.5**	**+1.0**
RAVA				AML	AML		
	comp=E,15100μm,0.2s						
RAVA				AML	AML		
	comp=N,18100μm,0.3s						
RAVA				AML	AML		
	comp=N,18150μm,0.3s						
RAVA	**Ravarino**	**0.18**	**175**	P	**Pg**	**01 31 57.8**	**0.0**

RAVA				S	Sg	01 31 59.7	-0.8		
MODE	**Modena**		**0.32 199**	P	**Pb**	**01 32 00.8**	**-0.7**		
MODE				S	**Sb**	**01 32 06.9**	**+0.2**		
OPPE	**Oppeano**	**0.38**	**8**	P	**Pn**	**01 32 04.3**	**-0.7**		
FIU	**Minerbio Fiu**	**0.41**	**136**	P	**Pb**	**01 32 02.2**	**-0.8**		
FIU				AML	AML				
	comp=E,970µm,0.5s								
FIU				AML	AML				
	comp=N,708µm,1.1s								
FIU				AML	AML				
	comp=E,969µm,0.5s								
FIU				AML	AML				
	comp=N,708µm,1.1s								
FIU				AML	AML				
	comp=N,708µm,1.1s								
PRMA	**PARMA**		**0.58 253**	P	**Pn**	**01 32 06.5**	**-1.4**		
PRMA				AML	AML				
	comp=E,137µm,0.6s								
PRMA				AML	AML				
	comp=N,157µm,0.9s								
PRMA				AML	AML				
	comp=E,137µm,0.6s								
TEOL	**Teolo**	**0.59**	**44**	*e*Pg	**Pn**	**01 32 07.3**	**-0.8**		
TEOL				*e*Sg	**Sn**	**01 32 16.5**	**-1.1**		
TEOL	**Teolo**	**0.59**	**44**	P	**Pn**	**01 32 07.2**	**-0.8**		
TEOL				AML	AML				
	comp=E,565µm,0.8s								
TEOL				AML	AML				
	comp=N,506µm,0.5s								
ZOVE	**Zovencedo**	**0.59**	**28**	P	**Pn**	**01 32 07.2**	**-0.8**		
TREG	**Tregnago**	**0.59**	**4**	P	**Pn**	**01 32 07.5**	**-0.5**		
ZCCA	**Zocca**	**0.59**	**188**	P	**Pn**	**01 32 07.3**	**-0.8**		
ZCCA				AML	AML				
	comp=N,268µm,1.3s								
ZCCA				AML	AML				
	comp=E,277µm,1.6s								
ZCCA	**Zocca**	**0.59**	**188**	P	**Pn**	**01 32 07.3**	**-0.8**		
CMPO	**Campotto Po**	**0.62**	**125**	P	**Pn**	**01 32 07.2**	**-1.1**		
MTRZ	**Monterenzio**	**0.62**	**155**	P	**Pn**	**01 32 09.1**	**+0.6**		
MTRZ				AML	AML				
	comp=E,357µm,0.5s								
MTRZ				AML	AML				
	comp=N,323µm,0.5s								
MTRZ	**Monterenzio**	**0.62**	**155**	P	**Pn**	**01 32 09.4**	**+0.9**		
ADRI	**Adria, Italy**	**0.66**	**81**	*e*Pg	**Pn**	**01 32 08.4**	**-0.5**		
TRES	**Parco Tresine**	**0.68**	**324**	*e*Pg	**Pn**	**01 32 09.7**	**+0.4**		
TRES	**Parco Tresine**	**0.68**	**324**	P	**Pn**	**01 32 09.5**	**+0.2**		
TRES				S	**Sn**	**01 32 23.2**	**+3.3**		
MARN	**Marana (Italy)**	**0.71**	**6**	*e*Pg	**Pn**	**01 32 09.9**	**+0.2**		
ROVR	**Rover Verones**	**0.71**	**359**	P	**Pn**	**01 32 09.6**	**-0.2**		
ROVR				AML	AML				
	comp=N,514µm,0.4s								
ROVR				AML	AML				
	comp=N,1200µm,0.4s								
ROVR				AML	AML				
	comp=E,688µm,0.3s								
ROVR				AML	AML				
	comp=E,283µm,0.3s								
IMOL	**Imola, Italy**	**0.74**	**141**	P	**Pn**	**01 32 11.1**	**+1.0**		
IMOL	**Imola, Italy**	**0.74**	**141**	P	**Pn**	**01 32 11.7**	**+1.6**		
IMOL				S	**Sn**	**01 32 26.6**	**+5.4**		
FNVD	**Fontana Vidola**	**0.77**	**179**	P	**Pn**	**01 32 09.2**	**-1.4**		
FNVD				AML	AML				
	comp=E,178µm,0.3s								
FNVD				AML	AML				
	comp=N,229µm,0.6s								
FNVD	**Fontana Vidola**	**0.77**	**179**	P	**Pn**	**01 32 09.1**	**-1.5**		
BALD	**Monte Baldo**	**0.77**	**345**	*e*Pg	**Pn**	**01 32 11.4**	**+0.6**		
BALD	**Monte Baldo**	**0.77**	**345**	P	**Pn**	**01 32 10.9**	**+0.1**		
BALD				S	**Sn**	**01 32 24.5**	**+2.0**		
SALO	**Salr**	**0.79**	**330**	P	**Pn**	**01 32 11.4**	**+0.5**		
SALO				AML	AML				
	comp=N,924µm,0.9s								
SALO				AML	AML				
	comp=N,916µm,0.9s								
SALO				AML	AML				
	comp=E,554µm,0.7s								
SALO				AML	AML				
	comp=N,924µm,0.9s								
SALO				AML	AML				
	comp=E,587µm,0.6s								
SALO	**Salr**	**0.79**	**330**	P	**Pn**	**01 32 11.7**	**+0.8**		
SALO				S	**Sn**	**01 32 25.8**	**+3.1**		
GARGN	**Gargnano BS**	**0.81**	**338**	*e*Pg	**Pn**	**01 32 12.3**	**+1.1**		
GRDM	**Monte Maddalen**	**0.84**	**317**	*e*Pg	**Pn**	**01 32 12.5**	**+0.9**		
BRIS	**BRISIGHELLA**	**0.84**	**159**	P	**Pn**	**01 32 12.6**	**+1.1**		
BRIS				AML	AML				
	comp=E,94µm,1.5s								
BRIS				AML	AML				
	comp=N,145µm,0.4s								
GRAM	**Graiana**	**0.86**	**239**	P	**Pn**	**01 32 11.6**	**-0.3**		
GRAM				AML	AML				
	comp=E,322µm,0.8s								
GRAM				AML	AML				
	comp=N,334µm,0.8s								
GRAM	**Graiana**	**0.86**	**239**	P	**Pn**	**01 32 11.5**	**-0.3**		
GRAM				S	**Sn**	**01 32 29.9**	**+5.5**		
SEI	**Scarperia**	**0.90**	**168**	P	**Pn**	**01 32 12.7**	**+0.4**		
SEI				AML	AML				
	comp=E,312µm,0.3s								
SEI				AML	AML				
	comp=N,415µm,0.5s								
SEI				AML	AML				
	comp=E,311µm,0.3s								
SEI	**Scarperia**	**0.90**	**168**	P	**Pn**	**01 32 13.8**	**+1.5**		
MAGA	**Magasa**	**0.90**	**339**	P	**Pn**	**01 32 12.8**	**+0.3**		
MAGA				AML	AML				
	comp=N,2060µm,0.5s								
MAGA				AML	AML				
	comp=E,2245µm,0.3s								
SARO	**Sassorosso**	**0.90**	**214**	P	**Pn**	**01 32 12.2**	**-0.3**		
MTCR	**Monte La Croce**	**0.91**	**184**	P	**Pn**	**01 32 12.2**	**-0.3**		
MTCR	**Monte La Croce**	**0.91**	**184**	P	**Pn**	**01 32 12.8**	**+0.2**		
BDI	**Bagni Di Lucca**	**0.94**	**202**	P	**Pn**	**01 32 12.5**	**-0.4**		
BDI				AML	AML				
	comp=N,200µm,0.6s								
BDI				AML	AML				
	comp=E,172µm,0.9s								
BDI	**Bagni Di Lucca**	**0.94**	**202**	P	**Pn**	**01 32 12.6**	**-0.4**		
DOSS	**Dosso del Somm**	**0.95**	**4**	P	**Pn**	**01 32 13.6**	**+0.5**		
DOSS				AML	AML				
	comp=E,398µm,0.6s								
DOSS				AML	AML				
	comp=N,690µm,0.4s								
DOSS				AML	AML				
	comp=N,414µm,0.5s								
DOSS				AML	AML				
	comp=E,712µm,0.4s								
DOSS				AML	AML				
	comp=E,397µm,0.6s								
DOSS	**Dosso del Somm**	**0.95**	**4**	P	**Pn**	**01 32 13.6**	**+0.5**		
DOSS				S	**Sn**	**01 32 28.1**	**+1.4**		
LMD	**Lutirano**	**0.96**	**153**	P	**Pn**	**01 32 13.4**	**+0.2**		
LMD				AML	AML				
	comp=N,180µm,0.3s								
LMD				AML	AML				
	comp=E,143µm,0.8s								
LMD	**Lutirano**	**0.96**	**153**	P	**Pn**	**01 32 13.8**	**+0.6**		
LMD				S	**Sn**	**01 32 29.4**	**+2.5**		
MPPT	**Montemurlo**	**0.98**	**180**	P	**Pn**	**01 32 14.8**	**+1.4**		
CTL8	**Castelleone**	**1.00**	**290**	P	**Pn**	**01 32 15.6**	**+1.9**		
CTL8				AML	AML				
	comp=E,144µm,0.6s								
CTL8				AML	AML				
	comp=N,111µm,0.4s								
CARD	**Cardoso**	**1.01**	**206**	P	**Pn**	**01 32 14.5**	**+0.7**		
CARD				AML	AML				
	comp=N,271µm,0.4s								
CARD				AML	AML				
	comp=E,280µm,0.2s								
EQUI	**Equi**	**1.02**	**222**	P	**Pn**	**01 32 14.5**	**+0.5**		
EQUI				AML	AML				
	comp=E,75µm,0.5s								
EQUI				AML	AML				
	comp=N,168µm,0.3s								
VENL	**Venezia Lido**	**1.02**	**62**	P	**Pn**	**01 32 14.5**	**+0.5**		
ZONE	**Zone**	**1.08**	**320**	P	**Pn**	**01 32 16.4**	**+1.6**		
ZONE				AML	AML				
	comp=N,310µm,0.9s								
ZONE				AML	AML				
	comp=N,311µm,0.9s								
ZONE				AML	AML				
	comp=E,336µm,0.6s								
MAIM	**Mastiano**	**1.11**	**203**	P	**Pn**	**01 32 16.6**	**+1.4**		
MAIM				AML	AML				
	comp=N,154µm,1.2s								
MAIM				AML	AML				
	comp=E,193µm,0.6s								
MAIM	**Mastiano**	**1.11**	**203**	P	**Pn**	**01 32 16.9**	**+1.7**		
RUFI	**Rufina**	**1.14**	**165**	P	**Pn**	**01 32 17.3**	**+1.8**		
RUFI	**Rufina**	**1.14**	**165**	P	**Pn**	**01 32 17.3**	**+1.8**		
GAGG	**Gaggia**	**1.15**	**355**	P	**Pn**	**01 32 17.4**	**+1.5**		
GAGG				AML	AML				
	comp=E,478µm,0.2s								
GAGG				AML	AML				
	comp=N,259µm,0.6s								
GAGG	**Gaggia**	**1.15**	**355**	P	**Pn**	**01 32 17.5**	**+1.5**		
CTI	**Castel Tesino**	**1.18**	**19**	P	**Pn**	**01 32 17.4**	**+1.1**		
CTI				AML	AML				
	comp=E,309µm,0.3s								
CTI				AML	AML				
	comp=E,308µm,0.3s								
CTI				AML	AML				
	comp=N,390µm,0.5s								
CTI	**Castel Tesino**	**1.18**	**19**	P	**Pn**	**01 32 17.5**	**+1.3**		
BOB	**Bobbio (Coli)**	**1.19**	**262**	P	**Pn**	**01 32 17.9**	**+1.6**		
BOB				AML	AML				
	comp=E,137µm,0.7s								
BOB				AML	AML				
	comp=N,144µm,0.6s								
BOB	**Bobbio (Coli)**	**1.19**	**262**	P	**Pn**	**01 32 18.6**	**+2.4**		
MABI	**Malga Bissina**	**1.19**	**340**	P	**Pn**	**01 32 17.7**	**+1.2**		
MABI				AML	AML				
	comp=E,109µm,1.1s								
MABI				AML	AML				
	comp=N,83µm,0.4s								
MABI	**Malga Bissina**	**1.19**	**340**	P	**Pn**	**01 32 17.8**	**+1.3**		
ASQU	**Asqua**	**1.24**	**156**	P	**Pn**	**01 32 18.5**	**+1.4**		
ASQU				AML	AML				
	comp=N,58µm,0.5s								
ASQU				AML	AML				
	comp=E,64µm,0.5s								
ASQU	**Asqua**	**1.24**	**156**	P	**Pn**	**01 32 18.9**	**+1.9**		
PLMA	**Palmaria, Port**	**1.26**	**226**	P	**Pn**	**01 32 18.2**	**+1.0**		
PLMA				AML	AML				
	comp=E,95µm,0.4s								
PLMA				AML	AML				
	comp=N,140µm,0.6s								
PLMA	**Palmaria, Port**	**1.26**	**226**	P	**Pn**	**01 32 18.3**	**+1.2**		
VARN	**Col Varnada, M**	**1.27**	**33**	P	**Pg**	**01 32 18.6**	**+0.4**		
VARN				AML	AML				
	comp=E,209µm,0.4s								
VARN				AML	AML				
	comp=N,181µm,0.5s								
PII	**Pisa**	**1.28**	**199**	P	**Pb**	**01 32 18.7**	**+0.8**		
PII				AML	AML				
	comp=E,194µm,1.4s								
PII				AML	AML				
	comp=N,156µm,0.3s								
PII	**Pisa**	**1.28**	**199**	P	**Pb**	**01 32 18.8**	**+0.9**		
MSSA	**Maissana**	**1.29**	**242**	P	**Pb**	**01 32 19.1**	**+1.1**		
MSSA				AML	AML				
	comp=N,80µm,1.3s								
MSSA				AML	AML				
	comp=E,76µm,0.8s								
MSSA	**Maissana**	**1.29**	**242**	P	**Pb**	**01 32 19.3**	**+1.3**		
GORR	**Gorreto**	**1.33**	**256**	P	**Pg**	**01 32 20.8**	**+1.5**		
OSSC	**Osservatorio P**	**1.42**	**176**	P	**Pg**	**01 32 20.7**	**-0.2**		
OSSC				AML	AML				
	comp=N,39µm,0.5s								
OSSC				AML	AML				
	comp=E,49µm,1.5s								
OSSC	**Osservatorio P**	**1.42**	**176**	P	**Pg**	**01 32 20.8**	**-0.2**		
CRE	**Caprese Michel**	**1.45**	**155**	P	**Pg**	**01 32 21.9**	**+0.2**		
CRE				AML	AML				
	comp=N,67µm,1.2s								
CRE				AML	AML				
	comp=E,43µm,1.6s								
CSNT	**Castellina Chi**	**1.47**	**174**	P	**Pg**	**01 32 21.1**	**-0.9**		
CSNT				AML	AML				
	comp=N,43µm,0.5s								
CSNT				AML	AML				
	comp=E,39µm,0.9s								
CSNT	**Castellina Chi**	**1.47**	**174**	P	**Pg**	**01 32 21.2**	**-0.8**		
KOSI	**Kohlern**	**1.54**	**7**	P	**Pg**	**01 32 23.4**	**+0.1**		
KOSI				AML	AML				
	comp=N,75µm,1.0s								
KOSI				AML	AML				
	comp=E,90µm,1.1s								
APPI	**Appiano**	**1.54**	**3**	P	**Pg**	**01 32 23.4**	**-0.1**		
APPI				AML	AML				
	comp=E,208µm,0.4s								
APPI				AML	AML				
	comp=N,159µm,0.2s								
SARZ	**Sarezzano**	**1.56**	**268**	P	**Pg**	**01 32 23.4**	**-0.2**		
RNCA	**Ronca, Sant'Ol**	**1.60**	**254**	P	**Pg**	**01 32 25.0**	**+0.5**		
RNCA				AML	AML				
	comp=E,39µm,0.4s								
RNCA				AML	AML				
	comp=N,43µm,0.9s								
BRMO	**Bormio**	**1.62**	**342**	P	**Pg**	**01 32 25.4**	**+0.5**		
BRMO				AML	AML				
	comp=N,76µm,0.5s								
BRMO				AML	AML				
	comp=E,56µm,0.6s								
CIMO	**Cimolais**	**1.67**	**34**	P	**Pg**	**01 32 23.8**	**-1.9**		
CIMO				AML	AML				
CIMO				AML	AML				
MOSI	**Grossmontoni**	**1.72**	**347**	P	**Pg**	**01 32 27.2**	**+0.3**		
MOSI				AML	AML				
	comp=N,160µm,0.8s								
MOSI				AML	AML				
	comp=E,109µm,0.3s								
GROG	**Isola di Gorgo**	**1.74**	**210**	P	**Pg**	**01 32 25.0**	**-2.1**		
GROG				AML	AML				
	comp=N,59µm,1.0s								
GROG				AML	AML				
	comp=E,74µm,1.4s								
ABSI	**Aberstueckl**	**1.80**	**5**	P	**Pg**	**01 32 27.0**	**-1.3**		
ABSI				AML	AML				
	comp=N,148µm,0.6s								
ABSI				AML	AML				
	comp=E,219µm,0.5s								
PCP	**Piancastagn**	**1.86**	**259**	P	**Pg**	**01 32 28.3**	**-1.2**		
PCP				AML	AML				
	comp=N,38µm,1.1s								
PCP				AML	AML				
	comp=E,38µm,0.4s								
BRJN	**Brijuni**	**1.89**	**90**	*e*Pn	**Pb**	**01 32 25.7**	**-2.4**		
TUE	**Stuetta**	**1.96**	**322**	P	**Pg**	**01 32 30.3**	**-1.2**		
TUE				AML	AML				
	comp=N,39µm,1.1s								
TUE				AML	AML				
	comp=E,46µm,0.3s								
ROSI	**Rosskopf**	**2.00**	**6**	P	**Pg**	**01 32 30.4**	**-1.8**		
ROSI				AML	AML				
	comp=E,108µm,0.7s								
ROSI				AML	AML				
	comp=N,114µm,1.4s								
ABTA	**Abfaltersbach**	**2.06**	**28**	*e*Pg	**Pg**	**01 32 34.4**	**+1.1**		
	comp=N,0.6nm,0.1s,SNR=7.5								
ABTA				*e*Sn	**Sg**	**01 32 58.0**	**-2.0**		
	comp=N,4.0nm,0.4s								
FETA	**Feichten**	**2.10**	**353**	Pg	**Pg**	**01 32 34.8**	**+0.7**		
	comp=N,0.4nm,0.1s,SNR=6.5								
FETA				*e*Sn	**Sb**	**01 32 58.3**	**+0.2**		
	comp=N,3.7nm,0.3s								
RISI	**Rein**	**2.12**	**18**	P	**Pg**	**01 32 32.5**	**-2.0**		
RISI				AML	AML				
	comp=E,100µm,1.5s								
RISI				AML	AML				
	comp=N,136µm,1.1s								
SKDS	**Skadanscina**	**2.15**	**72**	*i* Pn	**Pn**	**01 32 29.8**	**+0.3**		
SMRN	**Sveta Marina**	**2.17**	**86**	*e*Pn	**Pb**	**01 32 30.3**	**-2.8**		
SQTA	**Sankt Quirin**	**2.29**	**2**	*e*Pn	**Pb**	**01 32 34.0**	**-1.0**		
	comp=N,3.4nm,0.2s,SNR=12								
SQTA				*e*Sn	**Sg**	**01 33 04.6**	**-2.6**		
	comp=N,1.8nm,0.2s								
JAVS	**Javornik**	**2.30**	**64**	*i* Pn	**Pb**	**01 32 32.4**	**-2.9**		
RORO	**Rocca Rossa**	**2.32**	**250**	AML	AML				
	comp=E,15µm,1.6s								
RORO				AML	AML				
	comp=N,18µm,1.4s								
WTTA	**Wattenberg**	**2.36**	**9**	*e*Pn	**Pn**	**01 32 33.4**	**+0.8**		
	comp=N,0.3nm,0.1s								
WTTA				*e*Sg	**Sg**	**01 33 12.1**	**+2.6**		
	comp=N,17nm,0.4s								
MOTA	**Moosalm**	**2.41**	**0**	*e*Pn	**Pb**	**01 32 37.0**	**-0.2**		
	comp=N,0.5nm,0.2s								
MOTA				*e*Sn	**Sb**	**01 33 08.3**	**+1.4**		
	comp=N,2.2nm,0.3s								
WATA	**Walderalm**	**2.42**	**8**	*e*Pn	**Pn**	**01 32 34.3**	**+0.9**		
	comp=N,1.2nm,0.2s,SNR=5.1								
WATA				*e*Sn	**Sb**	**01 33 07.0**	**-0.3**		
	comp=N,3.5nm,0.3s								
MYKA	**Terra Mystica**	**2.46**	**46**	*e*Pn	**Pg**	**01 32 39.5**	**-1.4**		
	comp=N,1.6nm,0.2s								
MYKA				*e*Sn	**Sb**	**01 33 09.3**	**+1.1**		
	comp=N,2.2nm,0.2s								
DAVA	**Damuels**	**2.50**	**341**	*e*Pg	**Pb**	**01 32 38.1**	**-0.7**		
	comp=N,0.5nm,0.1s								
DAVA				*e*Sn	**Sb**	**01 33 08.8**	**-0.7**		
	comp=N,3.8nm,0.3s								
RETA	**Reutte**	**2.56**	**355**	*e*Pn	**Pb**	**01 32 38.9**	**-0.8**		
	comp=N,0.3nm,0.2s,SNR=6.7								
RETA				*e*Sn	**Sb**	**01 33 10.6**	**-0.6**		
	comp=N,1.5nm,0.2s								
RABC	**Rab**	**2.63**	**93**	*e*Pn	**Pn**	**01 32 36.5**	**+0.5**		
KBA	**Koelnbreinsper**	**2.65**	**35**	*e*Pg	**Pg**	**01 32 45.6**	**+1.0**		
	comp=N,1.4nm,0.2s								
KBA				*e*Sg	**Sg**	**01 33 20.6**	**+1.5**		
	comp=N,4.2nm,0.4s								
A250A	**Rusevo Krmpots**	**2.71**	**86**	*e*Pn	**Pn**	**01 32 38.1**	**+0.9**		
NVLJ	**Novalja**	**2.71**	**97**	*e*Pn	**Pn**	**01 32 38.0**	**+0.8**		
PGF	**Pioggiola**	**2.83**	**213**	*e*Pn	**Pn**	**01 32 39.4**	**+0.5**		
PGF	**Pioggiola**	**2.83**	**213**	*e*P	**Pb**	**01 32 42.2**	**-2.1**		
PGF				*e*Sn	**Sn**	**01 33 11.2**	**-1.8**		
	comp=N,4.4nm,0.3s								
SBF	**Sospel**	**2.84**	**249**	*e*Pn	**Pb**	**01 32 40.6**	**-3.8**		
SBF	**Sospel**	**2.84**	**249**	*e*P	**Pb**	**01 32 42.8**	**-1.6**		
SBF	**Sospel**	**2.84**	**249**	*e*Pg	**Pg**	**01 32 48.0**	**-0.1**		
SBF				*e*Sn	**Sn**	**01 33 13.6**	**+0.5**		
	comp=N,11nm,0.4s								
OBKA	**Obir**	**2.88**	**56**	*e*Pn	**Pb**	**01 32 41.4**	**-3.8**		
	comp=N,0.3nm,0.1s								
OBKA				*e*Sg	**Sg**	**01 33 28.9**	**+2.5**		
	comp=N,4.5nm,0.3s								
VIRC	**Vir**	**2.90**	**101**	*e*Pn	**Pn**	**01 32 40.4**	**+0.6**		
DUGI	**Dugi Otok**	**2.99**	**107**	*e*Pn	**Pn**	**01 32 42.1**	**+1.1**		
MBDF	**Montbardon**	**3.08**	**268**	*e*Pn	**Pn**	**01 32 44.2**	**+1.7**		
MBDF	**Montbardon**	**3.08**	**268**	*e*P	**Pb**	**01 32 45.8**	**-2.9**		
MBDF				*e*Sn	**Sn**	**01 33 19.8**	**+0.4**		
	comp=N,1.8nm,0.3s								
LPG	**La Plagne**	**3.12**	**282**	*e*Pn	**Pb**	**01 32 45.3**	**-4.1**		
LPG	**La Plagne**	**3.12**	**282**	*e*P	**Pb**	**01 32 48.2**	**-1.2**		
LPG				*e*Sn	**Sn**	**01 33 20.3**	**-0.2**		
	comp=N,2.1nm,0.4s								
LPG				*e*Sg	**Sg**	**01 33 35.7**	**+1.7**		
	comp=N,0.7nm,0.2s								
LPL	**La Plagne**	**3.14**	**282**	*e*Pn	**Pn**	**01 32 45.2**	**+1.9**		
LPL	**La Plagne**	**3.14**	**282**	*e*P	**Pb**	**01 32 47.9**	**-1.7**		
LPL	**La Plagne**	**3.14**	**282**	*e*Pg	**Pg**	**01 32 55.2**	**+1.3**		
LPL				*e*Sn	**Sn**	**01 33 21.4**	**+0.6**		
	comp=N,1.5nm,0.3s								
LPL				*e*Sg	**Sg**	**01 33 36.4**	**+1.8**		
	comp=N,0.1nm,0.1s								
SOKA	**Soboth**	**3.26**	**56**	*e*Pg	**Pg**	**01 32 56.1**	**0.0**		
	comp=N,0.8nm,0.2s								
SOKA				*e*Sg	**Sg**	**01 33 40.0**	**+1.6**		
	comp=N,1.9nm,0.5s								
MORI	**Morici**	**3.47**	**106**	*e*Pn	**Pn**	**01 32 48.9**	**+1.2**		
FRF	**La Foret Royal**	**3.48**	**248**	*e*Pn	**Pn**	**01 32 49.0**	**+1.2**		
FRF	**La Foret Royal**	**3.48**	**248**	*e*P	Pb	01 32 50.5	-4.8		
FRF	**La Foret Royal**	**3.48**	**248**	*e*Pg	**Pg**	**01 33 00.0**	**-0.4**		
FRF				*e*Sn	**Sn**	**01 33 29.2**	**+0.3**		
	comp=N,3.4nm,0.3s								
ZIRJ	**Zirje**	**3.51**	**110**	*e*Pn	**Pn**	**01 32 49.4**	**+1.3**		
MOA	**Molln**	**3.65**	**36**	*e*Pn	**Pn**	**01 32 53.0**	**+2.9**		
	comp=N,0.2nm,0.1s								
MOA				*e*Sg	**Sg**	**01 33 53.9**	**+3.1**		
	comp=N,0.4nm,0.2s								
LMR	**La Mourre**	**3.67**	**246**	*e*Pn	**Pn**	**01 32 50.7**	**+0.3**		
LMR				*e*Sn	**Sn**	**01 33 33.5**	**-0.1**		
	comp=N,6.0nm,0.3s								
ORIF	**Oris-en-Rattie**	**3.71**	**272**	*e*Pn	**Pn**	**01 32 52.5**	**+1.5**		
ORIF	**Oris-en-Rattie**	**3.71**	**272**	*e*P	**Pb**	**01 32 55.8**	**-3.4**		
ORIF	**Oris-en-Rattie**	**3.71**	**272**	*e*Pg	**Pg**	**01 33 04.7**	**0.0**		
ORIF				*e*Sn	**Sn**	**01 33 34.0**	**-0.6**		
	comp=N,2.0nm,0.4s								
CABF	**La Chapelle**	**3.88**	**297**	*e*Pn	**Pn**	**01 32 53.9**	**+0.5**		
CABF				*e*Sn	**Sn**	**01 33 39.4**	**+0.4**		
	comp=N,0.4nm,0.3s								
SMRF	**Simiane la Rot**	**4.07**	**258**	*e*Pn	**Pn**	**01 32 57.7**	**+1.8**		
SMRF	**Simiane la Rot**	**4.07**	**258**	*e*P	Pb	01 33 00.2	-5.2		
SMRF				*e*Sn	**Sn**	**01 33 44.2**	**+0.7**		
	comp=N,1.0nm,0.3s								
HINF	**Hinteralfeld**	**4.11**	**316**	*e*Pn	**Pn**	**01 32 58.1**	**+1.6**		
HINF				*e*Sn	**Sn**	**01 33 44.2**	**-0.4**		
	comp=N,2.9nm,0.4s								
HVAR	**Hvar**	**4.24**	**113**	*e*Pn	**Pn**	**01 32 60.0**	**+1.8**		
CDF	**Champ du Feu**	**4.36**	**324**	*e*Pn	**Pn**	**01 33 01.5**	**+1.6**		
CDF				*e*Sn	**Sn**	**01 33 50.3**	**-0.4**		
	comp=N,1.8nm,0.3s								
HAU	**Haudompre**	**4.49**	**315**	*e*Pn	**Pn**	**01 33 03.8**	**+2.1**		
HAU				*e*Sn	**Sn**	**01 33 53.3**	**-0.6**		
	comp=N,3.5nm,0.3s								
VIVF	**Saint-Julien-l**	**4.57**	**271**	*e*Pn	**Pn**	**01 33 03.3**	**+0.6**		
VIVF	**Saint-Julien-l**	**4.57**	**271**	*e*P	Pb	01 33 07.1	-6.7		
VIVF	**Saint-Julien-l**	**4.57**	**271**	*e*Pg	**Pg**	**01 33 20.2**	**-1.0**		
VIVF				*e*Sn	**Sn**	**01 33 55.5**	**-0.2**		
	comp=N,0.9nm,0.3s								
RICI	**Ricice**	**4.57**	**106**	*e*Pn	**Pn**	**01 33 03.4**	**+0.6**		
LSTV	**Lastovo**	**4.72**	**115**	*e*Pn	**Pn**	**01 33 05.4**	**+0.7**		
LOR	**Lormes**	**5.55**	**297**	*e*Pn	**Pn**	**01 33 18.1**	**+1.9**		
	baz=130								
LOR				*e*Sn	**Sn**	**01 34 19.2**	**-0.7**		
	comp=N,1.1nm,0.3s								

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*BJI **19** 01:35:09.0±0.0, 51°.68N×174°.51W, h6km, mb5.7/82, mB6.1/77, Ms6.2/95, Ms7 6.0/88*

*MOS **19** 01:35:11.2±0.8, 51°.52N×174°.21W, h27km, mb6.1/103, MS5.8/75, Error ellipse: s-maj=6.8km s-min=4.9km az=111.7*

*AEIC **19** 01:35:11±2.6, 51°.31N±0°.05×174°.16W±0°.07, h8km±2km, Error ellipse: s-maj=7.0km s-min=6.3km az=180.0*

*

plane solution: $M_0$1.39000×10^{18} NP1:$\phi_0$230.42000°, δ61.35000°, λ71.95000°. NP2:$\phi_0$84.61000°, δ33.45000°, λ119.55000°. Principal axes: T 1.5171, Plg68.0000°, Azm104.0000°; N -0.2457, Plg16.0000°, Azm239.0000°; P -1.2714, Plg15.0000°, Azm333.0000°.

ISC 19 01:35:13.0±0.3, 51°39'N±0'.03×174°24'W±0'.02, h25km±1km, h25km:pP-P, n2435, σ1969/2518, mb6.1/690, MS5.9/351, 1050C-254D, Fault plane solution: NP1:$\phi_0$73.78536°, δ88.63860°, λ55.34796°. NP2:$\phi_0$341.81668°, δ34.67543°, λ177.60660°. Principal axes: T Plg36.7494°, Azm313.6677°; N Plg34.6409°, Azm74.7262°; P Plg34.3826°, Azm192.9401°; **Fault plane solution: NP1:ϕ_0**40.12441°, δ73.44344°, λ71.80625°. **NP2:** $\phi_0$269.19800°, δ24.40913°, λ136.40445°. **Principal axes:** T Plg57.7151°, Azm285.7092°; N Plg17.4147°, Azm45.4749°; P Plg26.2575°, Azm144.3762°; **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.81**	**2**			**Pb**	**Pb**	**01 35 28.4**	**0.0**
ATKA	**Atka Island**	**0.81**	**2**	⇓P		**Pb**	**Pb**	**01 35 28.4**	**0.0**
ATKA	**Atka Island**	**0.81**	**2**	P		**Pn**	**Pn**	**01 35 29.1**	**+0.3**
KOFP	**Korovin Flat P**	**0.89**	**6**			**Pn**	**Pn**	**01 35 30.0**	**+0.1**
KOKL	**Mount Kliuchef**	**0.93**	**2**			**Pn**	**Pn**	**01 35 30.9**	**+0.3**
GSMY	**Great Sitkin M**	**1.30**	**301**			**Pn**	**Pn**	**01 35 35.9**	**+0.3**
GSTR	**Great Sitkin T**	**1.33**	**303**	Pn		**Pn**	**Pn**	**01 35 36.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.35**	**298**			**Pn**	**Pn**	**01 35 36.3**	**+0.2**
GSTD	**Great Sitkin T**	**1.36**	**300**			**Pn**	**Pn**	**01 35 36.6**	**+0.2**
GSTD						**Sb**	**Sb**	**01 35 57.5**	**+2.8**
ADK	**Adak**	**1.60**	**289**			**Pn**	**Pn**	**01 35 39.9**	**+0.3**
ADK						**Sb**	**Sb**	**01 36 02.8**	**+1.3**
ADK	**Adak**	**1.60**	**289**	⇓P		**Pn**	**Pn**	**01 35 39.9**	**+0.3**
ADK	**Adak**	**1.60**	**289**	P		**Pn**	**Pn**	**01 35 40.2**	**+0.6**
KIWB	**Kanaga Island**	**1.87**	**285**			**Pn**	**Pn**	**01 35 44.2**	**+0.8**
KIKV	**Kanaga Island**	**1.89**	**286**			**Pn**	**Pn**	**01 35 44.6**	**+0.9**
KIMD	**Kanaga Island**	**1.90**	**282**			**Pn**	**Pn**	**01 35 44.5**	**+0.7**
KICM	**Kanaga Island**	**1.91**	**287**			**Pn**	**Pn**	**01 35 45.3**	**+1.4**
TAPA	**Tanaga Point A**	**2.27**	**282**			**Pn**	**Pn**	**01 35 50.1**	**+1.3**
TAFP	**Tanaga Falls P**	**2.39**	**284**			**Pn**	**Pn**	**01 35 52.0**	**+1.5**
TASE	**Tanaga Southea**	**2.41**	**282**			**Pn**	**Pn**	**01 35 52.4**	**+1.6**
GAEA	**Gareloi East**	**2.84**	**280**			**Pn**	**Pn**	**01 35 58.6**	**+1.9**
GALAA	**Gareloi Lava P**	**2.85**	**279**			**Pn**	**Pn**	**01 35 58.9**	**+2.1**
GAKI	**Gareloi-Kavalg**	**2.86**	**275**			**Pn**	**Pn**	**01 35 58.4**	**+1.5**
GASW	**Gareloi Southw**	**2.90**	**279**			**Pn**	**Pn**	**01 35 59.2**	**+1.7**
NIKH	**Nikolski High**	**3.67**	**62**			**Pn**	**Pn**	**01 36 07.8**	**-0.3**
NIKH	**Nikolski High** baz=248,SNR=63	**3.67**	**62**	P		**Pn**	**Pn**	**01 36 07.8**	**-0.3**
OKSO	**Okmok South**	**4.21**	**60**			**Sn**	**Sn**	**01 37 07.0**	**+3.1**
OKWE	**Okmok W'ng Wal**	**4.22**	**58**			**Pn**	**Pn**	**01 36 16.8**	**+1.1**
OKFG	**Magazine Ridge**	**4.37**	**60**			**Pn**	**Pn**	**01 36 18.4**	**+0.8**
OKFG						**Sn**	**Sn**	**01 37 09.7**	**+2.0**
MGOD	**Makushin Gods**	**5.09**	**59**			**Pn**	**Pn**	**01 36 28.0**	**+0.3**
MREP	**Makushin Rep't**	**5.17**	**59**			**Pn**	**Pn**	**01 36 29.6**	**+0.9**
MSW	**Makushin Switc**	**5.20**	**58**			**Pn**	**Pn**	**01 36 29.8**	**+0.8**
MSW						**Sn**	**Sn**	**01 37 30.3**	**+2.2**
MTBL	**Makushin Table**	**5.28**	**58**			**Pn**	**Pn**	**01 36 31.3**	**+1.1**
UNV	**Unalaska Valle**	**5.31**	**59**			**Sn**	**Sn**	**01 37 32.8**	**+1.9**
UNV	**Unalaska Valle**	**5.31**	**59**	Pn		**Pn**	**Pn**	**01 36 30.6**	**-0.1**
UNV	**Unalaska Valle** baz=247,SNR=48	**5.31**	**59**	P		**Pn**	**Pn**	**01 36 31.6**	**+1.0**
AKRB	**Akutan Reef Bi**	**5.67**	**58**			**Pn**	**Pn**	**01 36 35.9**	**+0.4**
ZRO	**Akutan Zero**	**5.70**	**58**			**Pn**	**Pn**	**01 36 37.3**	**+1.4**
AHB	**Akutan Harbor**	**5.80**	**59**			**Pn**	**Pn**	**01 36 37.7**	**+0.5**
AKSA	**Akutan Strait**	**5.87**	**59**			**Pn**	**Pn**	**01 36 39.8**	**+1.6**
SPIA	**Saint Paul Isl**	**6.25**	**20**	Pn		**Pn**	**Pn**	**01 36 42.7**	**-0.7**
SPIA	**Saint Paul Isl** baz=204,SNR=19	**6.25**	**20**	P		**Pn**	**Pn**	**01 36 46.6**	**+3.1**
SPIA	**Saint Paul Isl**	**6.25**	**20**	P		**Pn**	**Pn**	**01 36 46.7**	**+3.3**
WESE	**West Dahl East**	**6.60**	**58**			**Pn**	**Pn**	**01 36 50.6**	**+2.2**
SSLN	**Shishaldin Nor**	**7.05**	**57**			**Pn**	**Pn**	**01 36 56.8**	**+2.3**
BRPK	**Brown Peak**	**7.12**	**59**			**Pn**	**Pn**	**01 36 57.5**	**+2.1**
SHEM	**Shemya Is, Ala** 14nm,0.3s,baz=40,slow=2.5,SNR=8.2	**7.31**	**285**	Pn		**Pn**	**Pn**	**01 36 59.6**	**+1.5**
SMY	**Shemya**	**7.31**	**285**	P		**Pn**	**Pn**	**01 36 58.7**	**+0.6**
SMY	**Shemya**	**7.31**	**285**	Pn		**Pn**	**Pn**	**01 36 58.6**	**+0.6**
SMY	**Shemya**	**7.31**	**285**	⇑P		**Pn**	**Pn**	**01 36 59.5**	**+1.4**
FALS	**False Pass**	**7.38**	**58**	Pn		**Pn**	**Pn**	**01 36 59.4**	**+0.5**
FALS	**False Pass** baz=247,SNR=16	**7.38**	**58**	P		**Pn**	**Pn**	**01 37 01.1**	**+2.2**
FALS	**False Pass**	**7.38**	**58**	P		**Pn**	**Pn**	**01 36 59.8**	**+0.9**
HAG	**Hague Volcano**	**8.36**	**57**	P		**Pn**	**Pn**	**01 37 14.7**	**+2.3**
HAG	**Hague Volcano**	**8.36**	**57**			**Pn**	**Pn**	**01 37 14.7**	**+2.3**
PS4A	**Pavlof South-4**	**8.40**	**57**			**Pn**	**Pn**	**01 37 14.4**	**+1.5**
SDPT	**Sand Point**	**9.13**	**59**	Pn		**Pn**	**Pn**	**01 37 22.6**	**-0.3**
SDPT	**Sand Point** baz=251	**9.13**	**59**	P		**Pn**	**Pn**	**01 37 22.9**	**0.0**
VNFG	**Fog Glacier, M**	**9.96**	**55**			**Pn**	**Pn**	**01 37 36.4**	**+2.0**
VNHG	**Veniaminof 1**	**10.14**	**56**			**Pn**	**Pn**	**01 37 38.1**	**+1.3**
CHGN	**Chignik**	**10.56**	**56**	Pn		**Pn**	**Pn**	**01 37 42.1**	**-0.3**
CHGN	**Chignik** baz=249	**10.56**	**56**	P		**Pn**	**Pn**	**01 37 41.5**	**-0.9**
CHIR	**Chirikof Islan** baz=256	**11.90**	**61**	P		**Pn**	**Pn**	**01 38 00.8**	**-0.1**
GAMB	**Gambell** baz=187,SNR=81	**12.49**	**5**	P		**Pn**	**Pn**	**01 38 11.7**	**+2.9**
SII	**Sitkinak Islan**	**12.87**	**58**			**Pn**	**Pn**	**01 38 13.0**	**-1.1**
SII	**Sitkinak Islan** baz=255	**12.87**	**58**	P		**Pn**	**Pn**	**01 38 15.4**	**+1.3**
P18K	**Big Mountain,**	**13.41**	**46**	Pn		**Pn**	**Pn**	**01 38 20.6**	**-0.9**
P18K	**Big Mountain,** baz=242	**13.41**	**46**	P		**Pn**	**Pn**	**01 38 22.3**	**+0.8**
OHAK	**Old Harbor**	**13.53**	**56**	Pn		**Pn**	**Pn**	**01 38 20.1**	**-2.9**
OHAK	**Old Harbor** baz=254,SNR=5.6	**13.53**	**56**	P		**Pn**	**Pn**	**01 38 20.4**	**-2.6**
Q19K	**Cape Douglas,**	**13.94**	**49**	Pn		**Pn**	**Pn**	**01 38 27.7**	**-1.0**
Q19K	**Cape Douglas,** baz=246,SNR=5.8	**13.94**	**49**	P		**Pn**	**Pn**	**01 38 28.0**	**-0.7**
ANM	**Nome**	**14.00**	**16**	P		**Pn**	**Pn**	**01 38 30.4**	**+1.0**
ANM	**Nome**	**14.00**	**16**	Pn		**Pn**	**Pn**	**01 38 30.4**	**+1.0**
ANM	**Nome** baz=204,SNR=125	**14.00**	**16**	P		**Pn**	**Pn**	**01 38 31.8**	**+2.3**
KDAK	**Kodiak Island** 7.2nm,0.3s,baz=268,slow=8.6,SNR=52	**14.05**	**54**	Pn		**Pn**	**Pn**	**01 38 26.0**	**-4.2**
KDAK	**Kodiak Island**	**14.05**	**54**	⇓*e*P		**Pn**	**Pn**	**01 38 26.2**	**-4.0**
KDAK	**Kodiak Island**	**14.05**	**54**	Pn		**Pn**	**Pn**	**01 38 27.8**	**-2.4**
KDAK	**Kodiak Island** baz=253	**14.05**	**54**	P		**Pn**	**Pn**	**01 38 27.2**	**-3.0**
SVW2	**Sparrevohn**	**14.16**	**39**	Pn		**Pn**	**Pn**	**01 38 31.4**	**-0.2**
O19K	**Port Alsworth**	**14.20**	**44**	Pn		**Pn**	**Pn**	**01 38 31.5**	**-0.7**
O19K	**Port Alsworth** baz=241,SNR=49	**14.20**	**44**	P		**Pn**	**Pn**	**01 38 34.9**	**+2.6**
P19K	**Oil Pt**	**14.44**	**47**	Pn		**Pn**	**Pn**	**01 38 35.2**	**-0.2**
P19K	**Oil Pt** baz=245,SNR=18	**14.44**	**47**	P		**Pn**	**Pn**	**01 38 36.5**	**+1.0**
N19K	**Bonanza Creek**	**14.45**	**42**			**Pn**	**Pn**	**01 38 35.6**	**-0.1**
N19K	**Bonanza Creek** baz=238,SNR=106	**14.45**	**42**	P		**Pn**	**Pn**	**01 38 37.0**	**+1.3**
TNA	**Tin City**	**14.58**	**10**	Pn		**Pn**	**Pn**	**01 38 36.5**	**-0.7**
TNA	**Tin City**	**14.58**	**10**	⇑P		**Pn**	**Pn**	**01 38 39.0**	**+1.7**
TNA	**Tin City** baz=196,SNR=103	**14.58**	**10**	P		**Pn**	**Pn**	**01 38 39.7**	**+2.4**
O20K	**Slope Mountain** baz=244,SNR=28	**14.90**	**46**	P		**Pn**	**Pn**	**01 38 44.4**	**+2.6**
L19K	**White Mountain** baz=233,SNR=94	**15.08**	**37**	P		**Pn**	**Pn**	**01 38 46.5**	**+2.3**
M19K	**Big River Lodg** baz=235	**15.09**	**38**	P		**Pn**	**Pn**	**01 38 45.8**	**+1.6**
TTA	**Tatalina** comp=Z,1μm,1.4s	**15.14**	**33**	P		**Pn**	**Pn**	**01 38 44.5**	**-0.5**
TTA				pmax		pmax			
TTA	**Tatalina** comp=Z,1μm,1.4s	**15.14**	**33**	Pn		**Pn**	**Pn**	**01 38 44.5**	**-0.5**
TTA				IAmb		IAmb	IAmb	01 39 06.4	
TTA	**Tatalina**	**15.14**	**33**	⇑P		**Pn**	**Pn**	**01 38 45.4**	**+0.5**
TTA	**Tatalina** baz=229,SNR=79	**15.14**	**33**	P		**Pn**	**Pn**	**01 38 45.5**	**+0.5**
HOM	**Homer** baz=247,SNR=6.0	**15.17**	**48**	P		**P**	**P**	**01 38 49.9**	**-0.2**
CNPM	**China Poot** comp=Z,984nm,1.2s	**15.31**	**49**	IAmb		IAmb	IAmb	01 39 14.2	
BRLK	**Bradley Lake** comp=Z,721nm,1.1s	**15.57**	**48**	IAmb		IAmb	IAmb	01 39 09.9	
SPCR	**Spurr Chakacha** baz=241	**15.60**	**42**	P		**Pn**	**Pn**	**01 38 53.0**	**+2.0**
SPCR				S		**S**	**S**	**01 41 58.9**	**+1.0**
L20K	**Farewell, AK** baz=234,SNR=131	**15.62**	**37**	P		**Pn**	**Pn**	**01 38 52.8**	**+1.5**
BRSE	**Bradley Lake S** baz=248,SNR=45	**15.63**	**49**	P		**Pn**	**Pn**	**01 38 50.1**	**-1.2**
CAPN	**Captain Cook N**	**15.86**	**45**	IAmb		IAmb	IAmb	01 39 21.5	
CAPN	**Captain Cook N** baz=244	**15.86**	**45**	P		**P**	**P**	**01 38 57.3**	**-0.5**
K20K	**Telida** comp=Z,1μm,1.2s	**16.09**	**34**	IAmb		IAmb	IAmb	01 39 09.3	
K20K	**Telida** baz=231,SNR=118	**16.09**	**34**	P		**Pn**	**Pn**	**01 38 57.9**	**+0.7**
K20K				S		**Sn**	**Sn**	**01 42 01.0**	**+6.3**
GCSA	**Galena City Sc** baz=222,SNR=69	**16.14**	**27**	P		**P**	**P**	**01 38 59.7**	**-1.2**
GCSA				S		**S**	**S**	**01 42 10.6**	**+1.9**
SEW	**Seward**	**16.36**	**48**	Pn		**Pn**	**Pn**	**01 38 57.0**	**-3.6**
SEW	**Seward** baz=249,SNR=26	**16.36**	**48**	P		**Pn**	**Pn**	**01 38 57.6**	**-3.1**
O22K	**Cooper Landing** comp=Z,1μm,0.8s	**16.38**	**47**	IAmb		IAmb	IAmb	01 39 21.7	
O22K	**Cooper Landing** baz=248,SNR=53	**16.38**	**47**	P		**Pn**	**Pn**	**01 38 59.5**	**-1.4**
PPLA	**Purkeypile** baz=236,SNR=46	**16.50**	**37**	P		**Pn**	**Pn**	**01 39 03.7**	**+1.1**
PPLA				S		**S**	**S**	**01 42 15.3**	**-1.0**
J20K	**Nowinta River** baz=229,SNR=58	**16.59**	**32**	P		**Pn**	**Pn**	**01 39 04.0**	**+0.4**
J20K				S		**S**	**S**	**01 42 18.0**	**+0.1**
RC01	**Rabbit Creek A** baz=246,SNR=31	**16.62**	**45**	P		**Pn**	**Pn**	**01 39 02.9**	**-1.1**
RC01				S		**S**	**S**	**01 42 24.6**	**+6.1**
PET	**Petropavlovsk**	**16.66**	**286**	*c*	*i*P	**Pn**	**Pn**	**01 39 03.6**	**-0.9**
PET					*e*S	**Sn**	**Sn**	**01 42 04.7**	**-3.8**
PET	comp=Z,6μm,8.6s				pmax	pmax			
PET	comp=Z,257nm,1.7s				pmax	pmax			
PET	comp=Z,7μm,10.9s				pmax	pmax			
PET	comp=Z,22μm,18.0s				MLR	MLR			
PET	comp=Z,26μm,18.0s				MLR	MLR			
PET	**Petropavlovsk**	**16.66**	**286**		Pn	**Pn**	**Pn**	**01 39 03.0**	**-1.5**
M22K	**Willow** comp=Z,1μm,1.2s	**16.75**	**42**		IAmb	IAmb	IAmb	01 39 28.7	
M22K	**Willow** baz=243,SNR=22	**16.75**	**42**		P	**Pn**	**Pn**	**01 39 05.7**	**+0.2**
CAST	**Castle Rocks** baz=235,SNR=120	**16.84**	**36**		P	**Pn**	**Pn**	**01 39 07.0**	**+0.3**
CUT	**Chulitna** baz=241,SNR=15	**17.00**	**40**		P	**P**	**P**	**01 39 10.1**	**-0.3**
CHUM	**Lake Minchumin** baz=233,SNR=111	**17.03**	**34**		P	**P**	**P**	**01 39 10.1**	**-0.7**
PMR	**Palmer** baz=245,SNR=17	**17.10**	**44**		P	**Pn**	**Pn**	**01 39 10.0**	**+0.1**
PWL	**Port Wells** baz=248,SNR=46	**17.16**	**46**		P	**Pn**	**Pn**	**01 39 07.5**	**-3.2**
PEA0B	**Petropavlovsk-**	**17.23**	**287**		P	**Pn**	**Pn**	**01 39 10.9**	**-0.7**
PEA0B	comp=Z,602nm,1.5s				pmax	pmax			
PEA0B	**Petropavlovsk-**	**17.23**	**287**		Pn	**Pn**	**Pn**	**01 39 10.9**	**-0.7**
PETK	**Petropavlovsk-** comp=Z,3.6nm,0.3s,baz=87,slow=15,SNR=43	**17.23**	**287**		P	**Pn**	**Pn**	**01 39 11.8**	**+0.2**
PETK					LR	LR	LR	01 45 33.2	
PETK	comp=Z,21μm,21.6s,baz=96,slow=36				ScP	**ScP**	**ScP**	**01 47 26.0**	**-0.8**
PETK	**Petropavlovsk-** baz=91,slow=8.0,SNR=7.7	**17.23**	**287**		Pn	**Pn**	**Pn**	**01 39 10.5**	**-1.1**
KNK	**Knik Glacier** baz=246,SNR=49	**17.32**	**45**		P	**Pn**	**Pn**	**01 39 11.2**	**-1.6**
KTH	**Kantishna Hill** comp=Z,2μm,1.2s	**17.35**	**36**		IAmb	IAmb	IAmb	01 39 36.1	
TRF	**Thorofare Moun** baz=238,SNR=33	**17.53**	**37**		P	**Pn**	**Pn**	**01 39 15.6**	**+0.2**
TRF					S	**S**	**S**	**01 42 44.1**	**+6.8**
SML	**Sawmill** baz=246,SNR=62	**17.54**	**44**		P	**Pn**	**Pn**	**01 39 13.7**	**-1.8**
RDOG	**Red Dog Mine** baz=204,SNR=58	**17.61**	**14**		P	**P**	**P**	**01 39 18.6**	**+1.5**
RDOG					S	**S**	**S**	**01 42 44.5**	**+5.9**
BPAW	**Bear Paw Mtn.** comp=Z,2μm,1.2s	**17.63**	**35**		IAmb	IAmb	IAmb	01 39 32.7	
BPAW	**Bear Paw Mtn.** baz=235,SNR=257	**17.63**	**35**		P	**Pn**	**Pn**	**01 39 16.8**	**+0.2**
BPAW					S	**Sn**	**Sn**	**01 42 34.3**	**+2.3**
Q23K	**Middleton Isla** baz=256	**17.65**	**52**		P	**P**	**P**	**01 39 17.8**	**+0.2**
MID	**Middleton Isla**	**17.65**	**52**		P	**Pn**	**Pn**	**01 39 16.3**	**-0.5**
MID	comp=Z,550nm,0.8s				pmax	pmax			
MID	**Middleton Isla**	**17.65**	**52**		P	**Pn**	**Pn**	**01 39 16.3**	**-0.5**
I21K	**Tanana** comp=Z,1μm,1.1s	**17.95**	**31**		IAmb	IAmb	IAmb	01 39 31.9	
I21K	**Tanana** baz=230,SNR=134	**17.95**	**31**		P	**P**	**P**	**01 39 21.1**	**+0.2**
SCM	**Sheep Creek Mo** baz=247,SNR=72	**17.98**	**44**		P	**Pn**	**Pn**	**01 39 18.0**	**-2.9**
H21K	**Melozitna Rive** baz=228,SNR=166	**18.01**	**29**		P	**P**	**P**	**01 39 22.1**	**+0.5**
H21K					S	**S**	**S**	**01 42 47.9**	**+1.2**
WAT6	**Susitna Watana** baz=244,SNR=36	**18.12**	**42**		P	**Pn**	**Pn**	**01 39 20.9**	**-1.8**
MCK	**McKinley**	**18.19**	**38**		P	**Pn**	**Pn**	**01 39 21.3**	**-2.2**
MCK	comp=Z,776nm,1.1s				pmax	pmax			
MCK	**McKinley**	**18.19**	**38**			**Pn**	**Pn**	**01 39 21.3**	**-2.2**
MCK	**McKinley** baz=239,SNR=149	**18.19**	**38**		P	**Pn**	**Pn**	**01 39 22.0**	**-1.5**
BWN	**Browne** comp=Z,1μm,1.1s	**18.23**	**36**		IAmb	IAmb	IAmb	01 39 38.4	
EYAK	**Cordova Ski Ar** baz=253,SNR=15	**18.25**	**49**		P	**Pn**	**Pn**	**01 39 22.2**	**-1.9**
MLY	**Manley** baz=233,SNR=427	**18.27**	**33**		P	**P**	**P**	**01 39 24.5**	**+0.1**
MLY					S	**S**	**S**	**01 42 54.4**	**+2.4**
KLU	**Klutina** baz=250,SNR=72	**18.48**	**46**		P	**P**	**P**	**01 39 24.3**	**-2.5**
DHY	**Denali Highway** baz=243,SNR=63	**18.49**	**40**		P	**P**	**P**	**01 39 25.1**	**-1.8**
M24K	**Tolsona, Glenn**	**18.59**	**44**		P	**P**	**P**	**01 39 26.2**	**-1.8**
M24K	**Tolsona, Glenn** baz=248,SNR=61	**18.59**	**44**		P	**P**	**P**	**01 39 26.2**	**-1.8**
SKR	**Severo-Kuril's**	**18.60**	**279**	*e*	P	**P**	**P**	**01 39 27.4**	**-0.7**
SKR				*e*	S	**Sn**	**Sn**	**01 42 56.5**	**+1.0**
SKR	comp=Z,5μm,6.2s				pmax	pmax			
SKR	comp=Z,3μm,5.4s				pmax	pmax			
SKR	comp=Z,144nm,1.3s				pmax	pmax			
SKR	comp=Z,23μm,17.0s				MLR	MLR			
SKR	comp=Z,21μm,18.0s				MLR	MLR			
NEA2	**Nenana** baz=237,SNR=33	**18.60**	**35**		P	**P**	**P**	**01 39 26.6**	**-1.5**
I23K	**Minto, Yukon-K** comp=Z,3μm,1.4s	**18.81**	**33**		IAmb	IAmb	IAmb	01 39 40.5	
I23K	**Minto, Yukon-K** baz=235,SNR=314	**18.81**	**33**		P	**P**	**P**	**01 39 30.2**	**-0.1**
BMRM	**Bremner River**	**18.91**	**48**		P	**P**	**P**	**01 39 29.7**	**-1.8**
BMRM	**Bremner River** baz=253,SNR=34	**18.91**	**48**		P	**P**	**P**	**01 39 29.7**	**-1.8**
N25K	**Chitina, Valde** baz=251,SNR=36	**19.11**	**46**		P	**P**	**P**	**01 39 31.1**	**-2.7**
HARP	**HAARP** baz=248	**19.14**	**44**		P	**P**	**P**	**01 39 32.5**	**-1.5**
TCOL	**CIGO, UAF Yank** baz=238,SNR=20	**19.19**	**35**		P	**P**	**P**	**01 39 32.9**	**-1.6**
COLA	**College**	**19.20**	**35**		P	**P**	**P**	**01 39 32.1**	**-2.4**
COLA	comp=Z,485nm,1.1s				pmax	pmax			
COLA	**College**	**19.20**	**35**		P	**P**	**P**	**01 39 32.1**	**-2.4**
COLA	**College**	**19.20**	**35**		⇑P	**P**	**P**	**01 39 32.1**	**-2.4**
BILL	**Bilibino**	**19.21**	**338**	*d*	*i*P	**Pn**	**Pn**	**01 39 35.4**	**-0.3**
BILL					*e*S	**Sn**	**Sn**	**01 43 09.7**	**-0.3**
BILL	comp=Z,164nm,1.1s				pmax	pmax			
BILL	comp=Z,21μm,18.0s				MLR	MLR			
BILL	**Bilibino**	**19.21**	**338**			**Pn**	**Pn**	**01 39 34.0**	**-0.6**
BILL	comp=Z,1μm,1.5s				IAmb	IAmb	IAmb	01 39 43.7	
PAX	**Paxson** baz=246,SNR=43	**19.23**	**42**		P	**P**	**P**	**01 39 32.5**	**-2.6**
HDA	**Harding Lake** comp=Z,914nm,1.1s	**19.29**	**37**		IAmb	IAmb	IAmb	01 39 55.1	
HDA	**Harding Lake** baz=241,SNR=227	**19.29**	**37**		P	**P**	**P**	**01 39 33.3**	**-2.3**
POKR	**Poker Flat Res** baz=238,SNR=40	**19.48**	**35**		P	**P**	**P**	**01 39 35.4**	**-2.2**
POKR					S	**S**	**S**	**01 43 13.8**	**-2.2**
ILAR	**Eielson Array** comp=Z,13nm,0.3s,baz=237,slow=9.1,SNR=130	**19.49**	**36**		P	**P**	**P**	**01 39 33.9**	**-3.9**
ILAR	comp=Z,0.1nm,0.3s,baz=264,slow=3.4,SNR=6.8				ScP	**ScP**	**ScP**	**01 47 30.5**	**-1.1**
ILAR	comp=Z,31μm,18.3s,baz=238,slow=39				LR	LR	LR	01 47 48.9	
ILAR	**Eielson Array**	**19.49**	**36**		P	**P**	**P**	**01 39 34.1**	**-3.7**
ILAR	**Eielson Array**	**19.49**	**36**		P	**P**	**P**	**01 39 34.1**	**-3.7**
SNH	**Sunshine Point** comp=Z,980nm,1.0s	**19.55**	**51**		IAmb	IAmb	IAmb	01 39 57.8	
H24K	**Noodor Dome** comp=Z,1μm,1.1s	**19.72**	**33**		IAmb	IAmb	IAmb	01 39 51.0	
H24K	**Noodor Dome** baz=236,SNR=344	**19.72**	**33**		P	**P**	**P**	**01 39 40.3**	**0.0**
H24K					S	**S**	**S**	**01 43 20.6**	**-0.4**
MCARA	**McCarthy VSAT** baz=254,SNR=27	**19.77**	**48**		P	**P**	**P**	**01 39 38.4**	**-2.4**
RIDG	**Independent Ri** baz=245,SNR=95	**19.80**	**40**		P	**P**	**P**	**01 39 39.9**	**-1.3**
RIDG					S	**Sn**	**Sn**	**01 43 28.1**	**+3.6**
COLD	**Coldfoot** baz=229,SNR=161	**19.84**	**28**		P	**P**	**P**	**01 39 42.0**	**+0.4**
COLD					S	**Sn**	**Sn**	**01 43 29.4**	**+4.2**
ISLE	**Juniper Island**	**19.89**	**50**		P	**P**	**P**	**01 39 41.7**	**-0.6**
ISLE	comp=Z,886nm,1.3s				IAmb	IAmb	IAmb	01 39 59.8	
J25K	**Salcha River,** comp=Z,1μm,0.9s	**19.99**	**38**		IAmb	IAmb	IAmb	01 39 56.2	
J25K	**Salcha River,** baz=242	**19.99**	**38**		P	**P**	**P**	**01 39 40.4**	**-2.9**
J25K					S	**S**	**S**	**01 43 19.1**	**-7.5**
YAH	**Yahtse** comp=Z,640nm,1.0s	**20.12**	**51**		IAmb	IAmb	IAmb	01 39 57.0	
L26K	**Log Cabin Wild** baz=249,SNR=92	**20.15**	**43**		P	**P**	**P**	**01 39 43.5**	**-1.5**
L26K					S	Sn	Sn	01 43 35.6	+2.8
GRNC	**Granite Creek** comp=Z,714nm,1.1s	**20.20**	**50**		IAmb	IAmb	IAmb	01 40 07.4	
GRNC					IAMs_20	IAMs_20	IAMs_20	01 48 40.3	
SCRK	**Sand Creek** comp=Z,52μm,20.0s	**20.25**	**40**		P	**P**	**P**	**01 39 44.3**	**-1.9**
SCRK					IAmb	IAmb	IAmb	01 39 58.3	
SCRK	comp=Z,671nm,0.9s				IAMs_20	IAMs_20	IAMs_20	01 47 57.0	
SCRK	**Sand Creek** baz=246,SNR=309	**20.25**	**40**		P	**P**	**P**	**01 39 44.3**	**-1.9**
SCRK					S	**S**	**S**	**01 43 26.5**	**-5.5**
BARN	**Barnard Glacie** comp=Z,41μm,22.0s	**20.32**	**49**		IAMs_20	IAMs_20	IAMs_20	01 47 45.3	
PRP	**Porcupine Dome** comp=Z,42μm,18.0s	**20.37**	**35**		IAMs_20	IAMs_20	IAMs_20	01 48 14.1	
PRP	**Porcupine Dome** baz=240,SNR=64	**20.37**	**35**		P	**P**	**P**	**01 39 44.4**	**-3.1**
TABL	**Table Mountain** comp=Z,705nm,1.0s	**20.43**	**51**		IAmb	IAmb	IAmb	01 40 15.5	
TABL	comp=Z,65μm,19.0s				IAMs_20	IAMs_20	IAMs_20	01 48 48.3	
CTG	**Chitna Glacier** baz=257,SNR=40	**20.45**	**49**		P	**P**	**P**	**01 39 46.9**	**-1.5**
CTG					S	Sn	Sn	01 43 40.2	+0.1
CTGM	**Chitina Glacie** comp=Z,776nm,1.3s	**20.45**	**49**		IAmb	IAmb	IAmb	01 40 10.3	
CTGM	comp=Z,40μm,22.0s				IAMs_20	IAMs_20	IAMs_20	01 47 47.7	
M27K	**Edge Creek, AK** comp=Z,58μm,20.0s	**20.57**	**45**		IAMs_20	IAMs_20	IAMs_20	01 48 01.6	
M27K	**Edge Creek, AK** baz=253,SNR=86	**20.57**	**45**		P	**P**	**P**	**01 39 47.5**	**-2.2**
M27K					S	Sn	Sn	01 43 42.0	-1.0
LOGN	**Logan Glacier** comp=Z,612nm,1.0s	**20.58**	**50**		IAmb	IAmb	IAmb	01 40 11.6	
LOGN	comp=Z,41μm,19.0s				IAMs_20	IAMs_20	IAMs_20	01 48 52.2	
J26L	**Joseph Creek** baz=245,SNR=877	**20.64**	**39**		P	**P**	**P**	**01 39 48.3**	**-2.0**
PCA	**Pinnacle** comp=Z,575nm,0.8s	**20.80**	**52**		IAmb	IAmb	IAmb	01 40 09.4	
PINM	**Pinnacle** baz=261	**20.80**	**52**		P	**P**	**P**	**01 39 51.5**	**-0.7**
L27K	**Beaver Creek,** comp=Z,53μm,19.0s	**20.81**	**43**		IAMs_20	IAMs_20	IAMs_20	01 48 41.

baz=261
DAWY Dawson 22.17 42 P P 01 40 04.9 -1.9
baz=252,SNR=158
DAWY S S 01 44 10.0 +0.7
baz=252
HYT Haines Junctio 22.27 51 P P 01 40 06.6 -1.3
baz=262,SNR=23
HYT S S 01 44 15.2 +3.8
baz=262
J29M Klondike Camp 22.78 41 P P 01 40 13.1 -0.2
baz=252,SNR=7.8
J29M S S 01 44 23.4 +3.0
baz=252
M30M Minto, Yukon 22.91 46 P P 01 40 12.6 -2.0
M30M IAMs_20 IAMs_20 01 49 15.6
comp=Z,33µm,20.0s
M30M Minto, Yukon 22.91 46 P P 01 40 13.6 -1.0
baz=258,SNR=19
I29M Ogilvie Camp, 23.04 39 IAmb IAmb 01 40 30.4
comp=Z,983nm,1.2s
I29M IAMs_20 IAMs_20 01 50 38.6
comp=Z,32µm,20.0s
I29M Ogilvie Camp, 23.04 39 P P 01 40 13.7 -2.2
baz=250,SNR=207
I29M S S 01 44 21.6 -3.2
baz=250
N31M Braeburn, Yuko 23.19 49 P P 01 40 16.7 -0.8
N31M IAMs_20 IAMs_20 01 50 09.1
comp=Z,43µm,19.0s
N31M Braeburn, Yuko 23.19 49 P P 01 40 18.5 +1.0
baz=262
SIT Sitka 23.20 61 IAmb IAmb 01 40 36.4
comp=Z,545nm,1.0s
SIT Sitka 23.20 61 P P 01 40 18.4 +0.9
baz=273,SNR=13
SIT S S 01 44 31.2 +3.6
baz=273
SKAG Skagway 23.21 54 P P 01 40 17.6 0.0
baz=267,SNR=31
MIDW Midway 23.27 187 P P 01 40 19.4 +1.0
BESE Bessie Mountai 23.43 57 IAmb IAmb 01 40 48.3
comp=Z,668nm,1.2s
WHY Whitehorse 23.52 51 ⇓P P 01 40 21.4 +0.5
WHY Whitehorse 23.52 51 P P 01 40 21.4 +0.5
baz=265,SNR=19
JIS Juneau Island 23.68 57 IAmb IAmb 01 40 45.0
comp=Z,524nm,1.0s
M31M Drury Creek, Y 23.95 48 IAMs_20 IAMs_20 01 50 01.0
comp=Z,43µm,21.0s
M31M Drury Creek, Y 23.95 48 P P 01 40 24.0 -0.8
baz=262,SNR=14
FARO Faro, Yukon 24.43 48 P P 01 40 27.8 -1.5
baz=263,SNR=8.0
P33M Teslin, Yukon 24.51 53 IAMs_20 IAMs_20 01 51 30.2
comp=Z,34µm,18.0s
P33M Teslin, Yukon 24.51 53 P P 01 40 30.4 +0.3
baz=268,SNR=46
CRAG Craig 24.57 64 IAmb IAmb 01 40 49.9
comp=Z,1µm,1.4s
CRAG Craig 24.57 64 P P 01 40 32.4 +1.9
baz=278,SNR=15
CRAG S S 01 44 55.4 +5.8
baz=278
WRAK Wrangell Islan 24.89 62 IAmb IAmb 01 40 59.3
comp=Z,768nm,1.1s
WRAK Wrangell Islan 24.89 62 IAMs_20 IAMs_20 01 51 55.7
comp=Z,24µm,18.0s
WRAK Wrangell Islan 24.89 62 P P 01 40 34.9 +1.5
baz=276,SNR=16
WRAK S S 01 45 00.4 +5.6
baz=276
DIB Dawson Inlet, 25.35 69 P P 01 40 37.5 -0.1
DIB IAmb IAmb 01 40 55.9
comp=Z,404nm,1.1s
MMPY Sheldon Lake, 25.44 47 P P 01 40 38.2 -0.3
baz=264,SNR=69
KUR Kuril'sk 25.73 271 *c iP* P 01 40 38.9 -2.2
KUR *e* 01 40 50.1
KUR pmax pmax
comp=Z,2µm,1.6s
KUR pmax pmax
comp=N,409nm,1.5s
KUR pmax pmax
comp=E,572nm,1.2s
KUR pmax pmax
comp=Z,7µm,5.7s
KUR pmax pmax
comp=E,5µm,5.8s
KUR pmax pmax
comp=N,4µm,4.5s
KUR MLR MLR
comp=Z,9µm,17.0s
INK Inuvik 25.83 34 P P 01 40 40.4 -1.4
comp=Z,67nm,0.6s,baz=232,slow=9.1,SNR=72
INK ScP ScP 01 47 47.6 -0.3
comp=Z,16nm,1.1s,baz=275,slow=5.3,SNR=4.9
INK LR LR 01 51 47.2
comp=Z,24µm,20.0s,baz=222,slow=39
INK Inuvik 25.83 34 IAmb IAmb 01 40 51.0
comp=Z,569nm,1.1s
INK Inuvik 25.83 34 P P 01 40 40.4 -1.4
baz=250,SNR=123
DLBC Dease Lake 25.96 57 P P 01 40 44.5 +1.3
comp=Z,196nm,1.1s,baz=269,slow=10,SNR=72
DLBC LR LR 01 51 28.0
comp=Z,19µm,19.3s,baz=286,slow=38
DLBC Dease Lake 25.96 57 IAmb IAmb 01 41 08.2
comp=Z,635nm,1.2s
RUBB Prince Rupert 26.40 66 IAmb IAmb 01 41 10.5
comp=Z,724nm,1.2s
WTLY Watson Lake, Y 26.52 53 P P 01 40 49.0 +0.7
baz=272
GRNB Grenville Isla 26.67 67 P P 01 40 50.2 +0.6
GRNB IAmb IAmb 01 41 15.3
comp=Z,489nm,1.2s
GRNB ScP ScP 01 47 49.7 -1.0
TYV Tymovskoe 26.77 286 *eP* P 01 40 50.7 +0.2
TYV *eS* S 01 45 29.3 +4.6
TYV pmax pmax
comp=Z,1µm,3.9s
TYV pmax pmax
comp=Z,61nm,1.6s
TYV smax smax
comp=N,300nm,4.2s
TYV smax smax
comp=E,800nm,4.2s
TYV smax smax
comp=N,18nm,1.7s
TYV smax smax
comp=E,21nm,1.7s
TYV MLR MLR
comp=E,18µm,24.0s
TYV MLR MLR
comp=Z,21µm,24.0s
TGTN Hyland Airport 26.78 50 P P 01 40 50.1 -0.4
baz=269,SNR=40
NKL Nikolayevsk 27.30 292 *eP* P 01 40 54.6 -0.6
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL pmax pmax
comp=N,417nm,1.2s
NKL pmax pmax
comp=Z,101nm,1.3s
NKL MLR MLR
comp=E,23nm,16.0s
NKL MLR MLR
comp=N,4µm,14.0s
NKL MLR MLR
comp=Z,10µm,17.0s
YUK Yuzh-Kuril'sk 27.56 270 *d iP* P 01 40 56.8 -0.8
YUK *i* 01 41 43.1
YUK *i* PPP PPP 01 41 51.1
YUK *i* S S 01 45 38.5 +1.4
YUK *i* SS SnSn 01 46 51.8 +3.3
YUK *i* SSS SSS 01 47 07.8
YUK pmax pmax
comp=Z,748nm,1.4s
YUK pmax pmax
comp=E,421nm,1.5s
YUK pmax pmax
comp=N,252nm,1.1s
YUK pmax pmax
comp=Z,1µm,2.0s
YUK MLR MLR
comp=Z,12µm,17.0s
YUK MLR MLR
comp=N,5µm,12.0s
YUK MLR MLR
comp=E,7µm,13.0s
UGL Uglegorsk 27.74 283 *eP* P 01 41 00.7 +1.6
UGL pmax pmax
comp=Z,400nm,1.7s
UGL MLR MLR
comp=E,21µm,21.0s
UGL MLR MLR
comp=N,33µm,17.0s
UGL MLR MLR
comp=Z,21µm,19.0s
YSS Yuzh-Sakhalins 28.16 278 *α iP* P 01 41 04.4 +1.5
YSS *e**SP sP 01 41 10.7 -0.8
YSS *e* 01 41 16.9
YSS *e* 01 41 50.6
YSS *eS* S 01 45 48.8 +2.3
YSS *e*SS SS 01 47 24.5 -21
YSS pmax pmax
comp=Z,200nm,1.1s
YSS pmax pmax
comp=Z,3µm,3.6s
YSS pmax pmax
comp=Z,2µm,4.7s
YSS pmax pmax
comp=N,1µm,4.0s
YSS smax smax
comp=E,2µm,10.7s
YSS MLR MLR
comp=E,16µm,19.0s
YSS MLR MLR
comp=Z,27µm,19.0s
YSS Yuzh-Sakhalins 28.16 278 P P 01 41 03.5 +0.5
YSS IAmb IAmb 01 41 17.8
comp=Z,704nm,1.5s
YSS IAMs_20 IAMs_20 01 52 45.5
comp=Z,33µm,19.0s
YSS Yuzh-Sakhalins 28.16 278 ⇑P P 01 41 04.2 +1.3
BBB Bella Bella 28.18 70 P P 01 41 05.0 +2.0
comp=Z,42nm,0.9s,baz=275,slow=9.8,SNR=6.3
BBB LR LR 01 50 48.5
comp=Z,14µm,19.7s,baz=290,slow=33
BBB Bella Bella 28.18 70 IAmb IAmb 01 41 20.5
comp=Z,570nm,1.1s
BBB Bella Bella 28.18 70 ⇓P P 01 41 06.5 +3.5
WRGLY Wrigley 29.04 46 S S 01 45 58.8 -1.3
baz=270
JKA Kamikawa-asahi 29.56 273 P P 01 41 15.6 +0.1
JKA IAmb IAmb 01 41 28.5
comp=Z,289nm,1.2s
ASAJ Asahikawa 29.56 273 P P 01 41 17.1 +1.6
comp=Z,102nm,1.1s,baz=58,slow=8.5,SNR=17
ASAJ LR LR 01 56 28.5
comp=Z,11µm,18.1s,baz=70,slow=43
A36M Sachs Harbour 29.70 28 IAMs_20 IAMs_20 01 55 01.5
comp=Z,22µm,19.0s
A36M Sachs Harbour 29.70 28 P P 01 41 15.6 -0.7
baz=253,SNR=46
ERM Erimo 30.30 269 *c iP* P 01 41 22.8 +0.8
ERM pmax pmax
comp=Z,96nm,1.0s
ERM MLR MLR
comp=Z,12µm,19.0s
ERM Erimo 30.30 269 P P 01 41 21.4 -0.6
ERM Erimo 30.30 269 ⇑P P 01 41 23.1 +1.1
ERM Erimo 30.30 269 P P 01 41 23.7 +1.7
GRNR Gornyy 30.53 289 ⇓*iP* P 01 41 24.7 +0.7
GRNR *eS* S 01 46 30.0 +6.1
GRNR pmax pmax
comp=E,30nm,1.1s
GRNR pmax pmax
comp=Z,70nm,0.7s
GRNR smax smax
comp=E,20nm,0.8s
GRNR MLR MLR
comp=E,12µm,17.0s
GRNR MLR MLR
comp=N,5µm,15.0s
GRNR MLR MLR
comp=Z,7µm,17.0s
JEW Eniwo 30.93 272 IAmb IAmb 01 41 54.7
comp=Z,355nm,1.2s
JEW Eniwo 30.93 272 ⇑P P 01 41 27.5 0.0
YAK Yakutsk 31.55 312 LR LR 01 54 36.6
comp=Z,41µm,19.1s,baz=106,slow=37
YAK Yakutsk 31.55 312 *c iP* P 01 41 30.9 -1.9
YAK *e**PP sP 01 41 41.7 +0.4
YAK *e* 01 42 35.5
YAK *e* 01 44 23.7
YAK *eS* S 01 46 37.8 -1.7
YAK *e**SS sS 01 46 52.0 +1.7
YAK *e*SSS SSS 01 48 33.0
YAK *e* 01 51 59.6
YAK pmax pmax
comp=Z,77nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,50nm,1.1s
YAK pmax pmax
comp=Z,783nm,3.5s
YAK pmax pmax
comp=E,562nm,3.1s
YAK pmax pmax
comp=N,292nm,3.5s
YAK smax smax
comp=E,194nm,2.8s
YAK smax smax
comp=N,250nm,2.3s
YAK MLR MLR
comp=Z,47µm,20.0s
YAK MLR MLR
comp=N,12µm,18.0s
YAK MLR MLR
comp=E,34µm,20.0s
YAK Yakutsk 31.55 312 P P 01 41 32.3 -0.5
TIXI Tiksi 32.04 330 *c iP* P 01 41 35.6 -1.4
TIXI pmax pmax
comp=Z,73nm,1.7s
TIXI MLR MLR
comp=Z,11µm,18.0s
TIXI Tiksi 32.04 330 P P 01 41 35.7 -1.4
TIXI Tiksi 32.04 330 ⇑P P 01 41 36.1 -0.9
TIXI ⇓P PcP 01 44 26.3 +0.4
PGC Sidney 32.22 75 P P 01 41 38.4 -0.4
JTM Tenmabayashi 32.29 269 IAmb IAmb 01 41 54.4
comp=Z,205nm,1.3s
JTM Tenmabayashi 32.29 269 ⇑P P 01 41 39.6 +0.1
LLLB Lillooet 32.38 70 IAmb IAmb 01 41 57.9
comp=Z,426nm,1.2s
KIP Kipapa 32.48 151 P P 01 41 41.6 +0.3
KIP pmax pmax
comp=Z,609nm,1.5s
KIP MLR MLR
comp=Z,17µm,18.0s
KIP Kipapa 32.48 151 P P 01 41 41.6 +0.3
KIP IAmb IAmb 01 41 43.9
comp=Z,609nm,1.5s
KIP Kipapa 32.48 151 IAMs_20 IAMs_20 01 55 01.1
comp=Z,17µm,18.0s
NLWA Neilton Lookou 32.50 77 IAmb IAmb 01 42 00.7
comp=Z,303nm,1.2s
A04D Lummi Island 32.64 74 S S 01 47 00.9 +4.2
baz=295
TEY Ternei 32.84 279 ⇑*eP* P 01 41 44.5 +0.2
TEY *e* 01 42 53.8
TEY *eS* S 01 46 58.7 -1.3
TEY pmax pmax
comp=Z,160nm,1.2s
TEY pmax pmax
comp=E,300nm,4.9s
TEY pmax pmax
comp=N,200nm,3.4s
TEY pmax pmax
comp=Z,400nm,5.2s
TEY pmax pmax
comp=N,40nm,1.2s
TEY pmax pmax
comp=E,100nm,1.2s
D03D Eldon 32.91 76 P P 01 41 46.4 +1.5
baz=296,SNR=13
D03D S S 01 47 06.2 +5.2
baz=296
E03A Lebam 33.07 78 P P 01 41 46.5 +0.2
E03A IAmb IAmb 01 42 05.3
comp=Z,418nm,1.2s
E03A ScP ScP 01 48 11.1 -0.4
YKA Yellowknife Ar 33.14 47 P P 01 41 45.5 -1.3
comp=Z,24nm,0.8s,baz=274,slow=10,SNR=93
YKA PcP PcP 01 44 29.4 +0.3
comp=Z,15nm,0.8s,baz=283,slow=3.3,SNR=6.6
YKA ScP ScP 01 48 10.8 -0.6
comp=Z,8.5nm,1.0s,baz=282,slow=3.3,SNR=4.9
YKA LR LR 01 57 02.3
comp=Z,42µm,18.4s,baz=274,slow=40
YKA P3KPbc 02 13 01.7
comp=Z,0.2nm,0.5s,baz=92,slow=5.1,SNR=9.9
B05A Bryant 33.20 74 P P 01 41 48.4 +1.0
baz=296,SNR=9.7
B05A S S 01 47 07.4 +2.0
baz=296
D04E Lakebay 33.27 77 P P 01 41 50.7 +2.8
baz=297
D04E S S 01 47 13.2 +6.8
baz=297
B06A Marblemount 33.46 74 IAmb IAmb 01 42 06.8
comp=Z,240nm,1.0s
KHLH Kahului Airpor 33.48 149 P P 01 41 50.5 +0.5
KHLH IAmb IAmb 01 41 52.7
comp=Z,278nm,1.2s
HEBO Mount Hebo 33.58 80 IAmb IAmb 01 42 16.3
comp=Z,387nm,1.1s
F04D Rainier, OR 33.62 79 P P 01 41 52.5 +1.3
baz=298
E04D Cinebar 33.67 78 P P 01 41 52.9 +1.4
baz=298,SNR=17
E04D S S 01 47 16.5 +3.7
baz=298
G03D McMinnville, O 33.89 80 IAmb IAmb 01 42 09.9
comp=Z,412nm,1.4s
G03D McMinnville, O 33.89 80 P P 01 41 54.6 +1.2
baz=300
G03D S S 01 47 19.9 +3.8
baz=300
KLR Kul'dur 33.91 288 P P 01 41 53.1 -0.5
comp=Z,52nm,0.6s,baz=66,slow=7.5,SNR=202
KLR LR LR 01 55 55.0
comp=Z,13µm,20.4s,baz=70,slow=37
F04A Amboy 34.06 78 IAmb IAmb 01 42 11.0
comp=Z,206nm,1.1s
C06D Leavenworth 34.07 74 S S 01 47 22.6 +3.5
baz=296
I02E Swisshome, OR 34.07 82 IAmb IAmb 01 42 11.8
comp=Z,258nm,1.1s
I02E Swisshome, OR 34.07 82 P P 01 41 56.3 +1.2
baz=301
I02E S S 01 47 22.7 +3.6
baz=301
COR Corvallis 34.17 81 P P 01 41 56.7 +0.8
COR pmax pmax
comp=Z,919nm,1.5s
COR Corvallis 34.17 81 P P 01 41 56.7 +0.8
COR Corvallis 34.17 81 ⇑P P 01 41 57.5 +1.6
JMM Marumori 34.18 265 IAmb IAmb 01 41 58.3
comp=Z,229nm,1.2s
JMM Marumori 34.18 265 ⇑P P 01 41 56.5 +0.4
PNT Penticton 34.24 72 ⇑P P 01 41 57.6 +1.1
LTY Liberty 34.51 75 IAmb IAmb 01 42 22.6
comp=Z,210nm,1.2s
J01E Myrtle Point 34.51 84 IAmb IAmb 01 42 17.8
comp=Z,597nm,1.4s
J01E Myrtle Point 34.51 84 P P 01 41 59.3 +0.5
baz=302,SNR=7.8
J01E S S 01 47 29.7 +3.9
baz=302
HPAH Hawaii Prepara 34.52 148 P P 01 41 59.0 -0.2
HPAH IAmb IAmb 01 42 17.7
comp=Z,377nm,1.3s
H04D Lebanon 34.55 81 IAmb IAmb 01 42 17.2
comp=Z,214nm,1.1s
H04D Lebanon 34.55 81 P P 01 42 00.5 +1.3
baz=300,SNR=7.9
H04D S S 01 47 30.1 +3.6
baz=300
BUCK Buck Mountain 34.56 81 IAmb IAmb 01 42 22.5
comp=Z,372nm,1.4s
I03D Drain, OR 34.59 82 P P 01 42 01.0 +1.4
baz=301,SNR=8.9
I03D S S 01 47 31.1 +4.0
baz=301
F05D White Salmon 34.67 78 P P 01 42 01.3 +1.1
baz=299
F05D S S 01 47 30.1 +1.8
baz=299
ZEA Zeya 34.78 297 *ceP* P 01 42 00.6 -0.4
ZEA *eS* S 01 47 26.7 -3.0
ZEA pmax pmax
comp=E,30nm,1.9s
ZEA pmax pmax
comp=Z,70nm,1.6s
ZEA pmax pmax
comp=N,700nm,10.3s
ZEA pmax pmax
comp=Z,1µm,11.0s
ZEA smax smax
comp=N,1µm,19.9s
ZEA smax smax
comp=E,2µm,17.8s
ZEA MLR MLR
comp=E,8µm,17.0s
ZEA MLR MLR
comp=N,2µm,15.0s
ZEA MLR MLR
comp=Z,8µm,18.0s
HUH Hualalai 34.80 149 P P 01 42 01.7 -0.1
HUH IAmb IAmb 01 42 04.0
comp=Z,240nm,1.2s
H04A Detroit Lake 34.81 80 IAmb IAmb 01 42 17.8
comp=Z,311nm,1.1s
B08A Colville Reser 34.82 73 IAmb IAmb 01 42 19.3
comp=Z,568nm,1.2s
HOOD Mount Hood Mea 34.83 79 IAmb IAmb 01 42 31.3
comp=Z,479nm,1.4s
POHA Pohakuloa 34.83 148 P P 01 42 02.4 +0.4
POHA IAmb IAmb 01 42 04.1
comp=Z,315nm,1.1s
POHA Pohakuloa 34.83 148 IAMs_20 IAMs_20 01 55 05.0
comp=Z,17µm,20.0s
H11N2 WAKE ISLAND Hy 34.91 212 T T 02 20 12.2
baz=21,slow=76,SNR=1128
H11N3 WAKE ISLAND Hy 34.92 212 T T 02 20 06.4
baz=21,slow=76,SNR=1268
K02D Willamette Mer 34.92 84 P P 01 42 03.6 +1.1
baz=303,SNR=23
K02D S S 01 47 35.5 +3.1
baz=303
H11N1 WAKE ISLAND Hy 34.93 212 T T 02 20 13.6
baz=21,slow=76,SNR=1186
DBO Dodson Butte 34.96 83 IAmb IAmb 01 42 19.9
comp=Z,382nm,1.4s
HMH Humu'ula Sheep 34.99 148 IAmb IAmb 01 42 29.4
comp=Z,392nm,1.4s
G05D Wamic, OR 35.07 79 P P 01 42 04.6 +0.9
baz=300,SNR=12
G05D S S 01 47 37.2 +2.7
baz=300
I04A Tendick Farm, 35.13 82 P P 01 42 05.2 +1.0
baz=301,SNR=26
I04A S S 01 47 38.1 +2.7
baz=301
L02E Cave Junction 35.25 85 IAmb IAmb 01 42 25.1
comp=Z,405nm,1.1s
L02E Cave Junction 35.25 85 P P 01 42 06.6 +1.3
baz=303,SNR=30
L02E S S 01 47 41.5 +4.2
baz=303
E07A Sunnyside 35.33 76 IAmb IAmb 01 42 28.4
comp=Z,286nm,1.2s
HUMO Hull Mountain 35.41 84 P P 01 42 06.7 0.0
HUMO IAmb IAmb 01 42 26.5
comp=Z,256nm,1.4s
HUMO ScP ScP 01 48 18.9 -1.0
HUMO Hull Mountain 35.41 84 ⇑P P 01 42 07.9 +1.3
I05D Terrebonne, OR 35.51 80 P P 01 42 08.4 +0.9
baz=301,SNR=17
I05D S S 01 47 44.2 +2.9
baz=301
KRPM Rodgers 35.54 87 P P 01 42 08.3 +0.5
KRPM IAmb IAmb 01 42 25.8
comp=Z,443nm,1.3s
JYT Yasato 35.58 263 IAmb IAmb 01 42 23.7
comp=Z,619nm,1.3s
F07A Phinny Hill Vi 35.60 77 IAmb IAmb 01 42 26.9
comp=Z,262nm,1.1s
J04D Umpqua Nationa 35.60 82 IAmb IAmb 01 42 28.0

comp=Z,547nm,1.2s
J04D Umpqua Nationa 35.60 82 P P 01 42 09.6 +1.1
baz=302,SNR=33
J04D S S 01 47 46.3 +3.2
baz=302
HAWA Hanford 35.60 76 IAmb IAmb 01 42 26.2
comp=Z,328nm,1.1s
D08A Wollman Farm, 35.66 75 IAmb IAmb 01 42 25.7
comp=Z,271nm,1.1s
JSD Sado 35.66 267 ⇑P P 01 42 09.4 +0.6
C09A Chrisman Ranch 35.70 73 P P 01 42 09.5 +0.4
C09A IAmb IAmb 01 42 26.1
comp=Z,280nm,1.1s
JCC Jacoby Creek, 35.73 87 IAmb IAmb 01 42 29.3
comp=Z,586nm,1.4s
E08A Dider Farm, El 35.84 76 IAmb IAmb 01 42 28.7
comp=Z,277nm,1.3s
KHMM Horse Mountain 35.88 87 P P 01 42 11.0 +0.2
KHMM IAmb IAmb 01 42 31.0
comp=Z,576nm,1.3s
KHMM ScP **ScP 01 48 20.7 -1.2**
L04D Klamath Falls 36.03 84 IAmb IAmb 01 42 31.6
comp=Z,342nm,1.2s
L04D Klamath Falls 36.03 84 P P 01 42 12.9 +0.8
baz=303,SNR=22
L04D S S **01 47 51.6 +2.2**
baz=303
PINE Pine Mountain 36.04 81 IAmb IAmb 01 42 31.2
comp=Z,214nm,1.2s
YBH Yreka Blue Hor 36.04 85 LR LR 01 54 07.0
comp=Z,10µm,20.1s,baz=310,slow=32
YBH Yreka Blue Hor 36.04 85 P P 01 42 12.3 +0.2
YBH IAmb IAmb 01 42 31.5
comp=Z,314nm,1.4s
YBH ScP **ScP 01 48 20.9 -1.4**
H11S1 WAKE ISLAND Hy 36.11 212 T T 02 21 33.0
baz=20,slow=76,SNR=3018
USA0B Uesuriysk Arra 36.12 280 IAmb IAmb 01 42 29.4
comp=Z,193nm,1.0s
USRK Uesuriysk Ar. 36.12 280 P P 01 42 12.6 0.0
comp=Z,133nm,0.8s,baz=55,slow=9.9,SNR=79
USRK LR LR 01 57 58.1
comp=Z,14µm,19.7s,baz=54,slow=38
J05D Fort Rock, OR 36.12 82 P P 01 42 14.0 +1.1
baz=302,SNR=34
J05D S S **01 47 54.8 +3.9**
baz=302
H11S2 WAKE ISLAND Hy 36.13 212 T T 02 21 34.2
baz=20,slow=76,SNR=2120
H11S3 WAKE ISLAND Hy 36.13 212 T T 02 21 34.3
baz=20,slow=76,SNR=1084
M02C Callahan 36.14 85 P P 01 42 13.7 +0.7
M02C IAmb IAmb 01 42 33.2
comp=Z,391nm,1.4s
M02C ScP **ScP 01 48 22.5 -0.2**
M02C Callahan 36.14 85 P P 01 42 14.7 +1.7
baz=304,SNR=43
M02C S S **01 47 57.5 +6.4**
baz=304
K04D Chiloquin, OR 36.15 83 P P 01 42 14.1 +1.0
baz=303,SNR=8.4
NEW Newport 36.18 72 LR LR 01 55 23.6
comp=Z,7µm,20.0s,baz=308,slow=34
NEW Newport 36.18 72 IAmb IAmb 01 42 30.0
comp=Z,453nm,1.0s
NEW Newport 36.18 72 P P 01 42 13.1 -0.1
baz=297,SNR=67
NEW S S **01 47 52.9 +1.3**
baz=297
KMRM Mail Ridge 36.27 88 IAmb IAmb 01 42 37.3
comp=Z,266nm,1.1s
E09A Wood Farm, Sta 36.39 75 P P 01 42 15.3 +0.4
E09A IAmb IAmb 01 42 33.1
comp=Z,413nm,1.2s
N02D Trinity Center 36.47 86 IAmb IAmb 01 42 35.8
comp=Z,393nm,1.4s
N02D Trinity Center 36.47 86 P P 01 42 17.1 +1.4
baz=305,SNR=32
N02D S S **01 48 00.3 +4.2**
baz=305
G08A Pilot Rock 36.49 77 P P 01 42 15.5 -0.5
G08A ScP **ScP 01 48 23.5 -0.5**
M04C Macdoel 36.56 84 IAmb IAmb 01 42 36.2
comp=Z,386nm,1.1s
M04C Macdoel 36.56 84 P P 01 42 17.7 +1.0
baz=304,SNR=38
M04C S S **01 48 01.0 +3.4**
baz=304
MJAR Matsushiro Arr 36.62 265 P P 01 42 18.0 +1.0
comp=Z,32nm,0.9s,baz=42,slow=6.8,SNR=52
MJAR ScP **ScP 01 48 24.2 -0.2**
comp=Z,2.4nm,0.5s,baz=9.9,slow=2.1,SNR=5.5
MJAR LR LR 01 56 04.1
comp=Z,12µm,21.1s,baz=54,slow=34
MJAR Matsushiro Arr 36.62 265 P P 01 42 17.3 +0.3
MJAR IAmb IAmb 01 42 33.0
comp=Z,320nm,1.5s
MJAR ScP **ScP 01 48 24.2 -0.2**
MJB9 Matsu-Tunnel 36.62 265 IAmb IAmb 01 42 32.9
comp=Z,520nm,1.4s
MAJO Matsushiro 36.62 265 *c i* **P P 01 42 17.6 +0.5**
MAJO pmax pmax
comp=Z,367nm,1.7s
MAJO MLR MLR
comp=Z,5µm,18.0s
MAJO Matsushiro 36.62 265 P P 01 42 17.2 +0.1
MAJO IAmb IAmb 01 42 32.9
comp=Z,501nm,1.4s
MAJO Matsushiro 36.62 265 IAMs_20 IAMs_20 01 56 03.5
comp=Z,13µm,20.0s
MAJO Matsushiro 36.62 265 ⇑P P 01 42 18.0 +1.0
MAJO Matsushiro 36.62 265 P P 01 42 18.1 +1.0
K05A Summer Lake 36.63 82 IAmb IAmb 01 42 39.8
comp=Z,497nm,1.1s
KCPM Cahto Peak 36.66 88 IAmb IAmb 01 42 40.2
comp=Z,283nm,1.0s
WDC Whiskeytown Da 36.79 86 P P 01 42 18.5 0.0
WDC pmax pmax
comp=Z,419nm,1.4s
WDC Whiskeytown Da 36.79 86 P P 01 42 18.5 0.0
WDC IAmb IAmb 01 42 38.2
comp=Z,419nm,1.4s
WDC ScP **ScP 01 48 23.7 -1.3**
O02D Mt. Diablo Mer 36.87 87 IAmb IAmb 01 42 40.2
comp=Z,662nm,1.5s
O02D Mt. Diablo Mer 36.87 87 P P 01 42 20.6 +1.4
baz=306,SNR=70
O02D S S **01 48 08.0 +5.7**
baz=306
F10A Beach Ranch, E 37.21 75 ⇓P P 01 42 22.3 +0.3
MDJ Mudanjiang 37.38 282 P P 01 42 22.8 -0.6
MDJ Mudanjiang 37.38 282 P P 01 42 22.6 -0.8
MDJ pP pP 01 42 27.9 -1.6
MDJ sP sP 01 42 30.5 -1.5
MDJ S S **01 48 11.5 +1.8**
MDJ sS sS 01 48 21.6 +1.8
MDJ pmax pmax
comp=Z,100nm,1.4s
MDJ pmax pmax
comp=Z,2µm,4.9s
MDJ LR LR
comp=Z,11µm,18.2s
MDJ LR LR
comp=Z,23µm,21.0s
MDJ LR LR
comp=Z,23µm,19.5s
MDJ Mudanjiang 37.38 282 P P 01 42 23.7 +0.3
HOPS Hopland Field 37.38 89 IAmb IAmb 01 42 46.5
comp=Z,353nm,1.3s
HOPS IAMs_20 IAMs_20 01 54 05.0
comp=Z,15µm,20.0s
O03E Paynes Creek 37.42 86 P P 01 42 24.1 +0.2
O03E IAmb IAmb 01 42 46.3
comp=Z,486nm,1.2s
O03E ScP **ScP 01 48 25.8 -1.7**
O03E Paynes Creek 37.42 86 P P 01 42 24.4 +0.5
baz=306,SNR=68
O03E S S **01 48 14.0 +3.4**
baz=306
MOD Modoc Plateau 37.45 83 IAmb IAmb 01 42 40.7
comp=Z,298nm,1.3s
MOD IAMs_20 IAMs_20 01 58 53.2
comp=Z,11µm,18.0s
MSHR Mys Shultsa 37.49 278 *c i* **P P 01 42 25.0 +0.7**
MSHR pmax pmax
comp=Z,666nm,1.8s
MSHR MLR MLR
comp=Z,6µm,18.0s
GDXM Geysers 37.67 89 P P 01 42 26.5 +0.5
GDXM IAmb IAmb 01 42 46.9
comp=Z,489nm,1.5s
GDXM ScP **ScP 01 48 28.6 +0.2**
WALA Waterton Lakes 37.72 69 IAmb IAmb 01 42 43.2
comp=Z,655nm,1.2s
WALA Waterton Lakes 37.72 69 ⇑P P 01 42 26.4 0.0
JGF Kuroka 37.75 265 P P 01 42 28.3 +1.7
JGF IAmb IAmb 01 42 29.7
comp=Z,350nm,1.4s
JGF Kuroka 37.75 265 ⇑P P 01 42 27.3 +0.6
J08A Circle Bar Ran 37.79 80 IAmb IAmb 01 42 45.1
comp=Z,237nm,1.0s
JHJ Hachijo jima 2 37.88 259 LR LR 01 55 57.7
comp=Z,7µm,21.3s,baz=88,slow=33
MCCM Marconi Confer 38.02 90 IAMs_20 IAMs_20 01 54 07.7
comp=Z,12µm,20.0s
MCCM Marconi Confer 38.02 90 ⇓P P 01 42 29.0 +0.2
JTMT Jette 38.11 71 IAmb IAmb 01 42 47.1
comp=Z,515nm,1.2s
INU Inuyama 38.13 264 P P 01 42 29.2 -0.6
INU Inuyama 38.13 264 ⇑P P 01 42 30.1 +0.3
BNX BinXian 38.13 285 ⇑P P 01 42 28.8 -1.0
BNX pP **pP 01 42 31.8 -4.1**
BNX sP **sP 01 42 33.6 -4.8**
BNX PP **PnPn 01 44 00.5 +2.0**
BNX S **S 01 48 18.4 -2.7**
BNX pmax pmax
comp=Z,230nm,0.7s
BNX pmax pmax
comp=Z,630nm,6.5s
BNX LR LR
comp=Z,32µm,19.1s
BNX LR LR
comp=Z,30µm,16.7s
BNX LR LR
comp=Z,65µm,20.3s
WVOR Wild Horse Val 38.19 81 IAmb IAmb 01 42 48.0
comp=Z,292nm,1.1s
PLID Pearl Lake 38.40 76 IAMs_20 IAMs_20 01 58 24.9
comp=Z,11µm,18.0s
RES Resolute Bay 38.54 25 LR LR 02 03 25.2
comp=Z,22µm,18.5s,baz=277,slow=44
RES Resolute Bay 38.54 25 ⇑P P 01 42 31.2 -1.6
MSO Missoula 38.76 72 IAmb IAmb 01 42 52.9
comp=Z,594nm,1.1s
MSO Missoula 38.76 72 P P 01 42 35.0 -0.2
baz=300,SNR=46
MSO S S **01 48 31.8 +0.9**
baz=300
MPK Martis Peak 39.11 86 P P 01 42 37.7 -0.6
MPK IAmb IAmb 01 42 57.6
comp=Z,467nm,1.2s
MPK ScP **ScP 01 48 33.5 -0.6**
EMB Emerald Bay 39.26 87 IAmb IAmb 01 42 59.1
comp=Z,422nm,1.5s
PAHR Pah Rah Range 39.27 85 P P 01 42 39.6 0.0
PAHR IAmb IAmb 01 42 58.7
comp=Z,492nm,1.2s
VCNR Virginia City 39.35 86 IAmb IAmb 01 42 59.8
comp=Z,343nm,1.1s
PNTR Pine Nut 39.50 86 IAmb IAmb 01 42 59.0
comp=Z,289nm,0.9s
CMB Columbia Colle 39.64 88 P P 01 42 42.0 -0.5
CMB ScP **ScP 01 48 34.2 -1.7**
SAO San Andreas Ge 39.76 90 ⇓P P 01 42 43.8 +0.3
YERR Yerington 39.79 86 IAmb IAmb 01 43 03.2
comp=Z,318nm,1.0s
BBGB Big Mountain B 40.13 90 P P 01 42 47.6 +0.9
BBGB IAmb IAmb 01 43 09.4
comp=Z,509nm,1.0s
HLID Hailey 40.17 77 P P 01 42 47.3 +0.2
baz=303,SNR=72
BOD Bodaibo 40.24 308 *e* **P P 01 42 45.3 -1.9**
BOD pmax pmax
comp=Z,258nm,1.8s
DLMT Dillon 40.31 74 P P 01 42 48.4 +0.3
DLMT ScP **ScP 01 48 37.3 -1.3**
CN2 Changchun 40.34 284 *e* **P P 01 42 46.8 -1.4**
CN2 PP **PnPn 01 44 23.4 -1.4**
CN2 S **S 01 48 53.1 -1.2**
CN2 sS pS 01 49 00.4 -0.9
CN2 SS **SS 01 51 47.8 -5.2**
CN2 pmax pmax
comp=Z,220nm,1.4s
CN2 pmax pmax
comp=Z,3µm,3.0s
CN2 LR LR
comp=Z,24µm,20.0s
CN2 LR LR
comp=Z,18µm,20.0s
CN2 LR LR
comp=Z,30µm,20.0s
KVN Kaiserville 40.46 85 P P 01 42 49.5 0.0
KVN ScP **ScP 01 48 38.9 -0.4**
EGMT Eagleton 40.64 68 P P 01 42 51.0 +0.3
EGMT IAmb IAmb 01 43 04.9
comp=Z,680nm,1.1s
EGMT IAMs_20 IAMs_20 02 01 39.7
comp=Z,15µm,18.0s
EGMT Eagleton 40.64 68 P P 01 42 50.9 +0.1
baz=300,SNR=37
EGMT S S **01 48 59.2 +0.3**
baz=300
LHV Little Huntoon 40.69 86 IAmb IAmb 01 43 11.0
comp=Z,437nm,1.4s
NVAR Mina Array Bea 40.71 86 P P 01 42 51.8 +0.2
comp=Z,32nm,0.9s,baz=293,slow=8.1,SNR=107
NVAR ScP **ScP 01 48 39.4 -0.9**
comp=Z,9.8nm,1.1s,baz=274,slow=4.2,SNR=6.6
NVAR LR LR 01 57 10.5
comp=Z,6µm,20.0s,baz=303,slow=32
NVAR Mina Array Bea 40.71 86 P P 01 42 51.3 -0.2
NVAR ScP **ScP 01 48 39.5 -0.9**
JCJ Chichijima 40.73 250 P P 01 42 52.6 +1.0
JCJ IAmb IAmb 01 43 17.2
comp=Z,326nm,0.9s
JCJ Chichijima 40.73 250 P P 01 42 53.0 +1.4
BOZ Bozeman (W) 40.77 73 IAmb IAmb 01 43 09.1
comp=Z,782nm,1.4s
BOZ IAMs_20 IAMs_20 01 59 41.4
comp=Z,11µm,19.0s
BOZ Bozeman (W) 40.77 73 P P 01 42 51.5 -0.5
baz=302,SNR=38
BOZ S S **01 49 00.4 -0.6**
baz=302
JHS Saijyo 40.79 267 P P 01 42 52.2 +0.2
JHS Saijyo 40.79 267 ⇑P P 01 42 52.9 +0.9
NV11 Mina Array Sit 40.80 86 P P 01 42 52.3 +0.1
NV11 ScP **ScP 01 48 40.8 +0.2**
MLAC Mammoth, Mammo 40.86 87 P P 01 42 55.1 +2.3
baz=308
HIA Hailar 40.91 294 P P 01 42 52.0 -0.9
HIA pmax pmax
comp=Z,202nm,1.3s
HIA MLR MLR
comp=Z,12µm,18.0s
HIA Hailar 40.91 294 P P 01 42 52.0 -0.9
HIA Hailar 40.91 294 IAMs_20 IAMs_20 02 02 34.0
comp=Z,12µm,18.0s
JMN Monobe 41.14 265 P P 01 42 55.7 +0.8
JMN IAmb IAmb 01 42 58.2
comp=Z,348nm,1.4s
JMN Monobe 41.14 265 ⇑P P 01 42 56.2 +1.2
Q09A Carvers 41.16 85 IAmb IAmb 01 43 14.1
comp=Z,376nm,1.2s
HHU Hamhung 41.24 277 P P 01 42 56.3 +0.7
HHU pP **pwP 01 43 08.4 +0.4**
HHU S **S 01 49 11.8 +4.0**
HHU AmB
comp=Z,651nm,1.1s
HHU AMS AMS
comp=N,3µm,15.8s
HHU AMS AMS
comp=E,3µm,16.7s
HHU AMS AMS
comp=Z,813nm,4.8s
ELK Elko 41.24 81 LR LR 01 57 40.5
comp=Z,12µm,20.1s,baz=310,slow=33
ELK Elko 41.24 81 P P 01 42 56.1 +0.1
ELK pmax pmax
comp=Z,135nm,1.1s
ELK Elko 41.24 81 P P 01 42 56.1 +0.1
ELK IAMs_20 IAMs_20 01 57 28.6
comp=Z,12µm,19.0s
VOG Valley Oaks Go 41.33 89 P P 01 42 57.4 +1.0
baz=309
YHL Hebgen Lake 41.43 73 IAmb IAmb 01 43 15.6
comp=Z,454nm,1.1s
SMMC Simmler 41.59 91 P P 01 43 00.0 +1.4
baz=310
TIN Tinemaha, Big 41.60 88 P P 01 43 00.1 +1.3
baz=309,SNR=17
TPH Tonopah 41.60 86 P P 01 42 58.5 -0.4
TPH pmax pmax
comp=Z,1µm,1.1s
TPH Tonopah 41.60 86 P P 01 42 58.5 -0.4
TPH ScP **ScP 01 48 43.1 -0.7**
YMR Madison River 41.66 73 IAmb IAmb 01 43 14.6
comp=Z,453nm,1.2s
YHH Holmes Hill 41.66 73 IAmb IAmb 01 43 18.0
comp=Z,630nm,1.2s
FFC Flin Flon 41.79 56 P P 01 42 58.9 -1.1
FFC pmax pmax
comp=Z,202nm,1.2s
FFC MLR MLR
comp=Z,18µm,18.0s
FFC Flin Flon 41.79 56 P P 01 42 58.9 -1.1
FFC Flin Flon 41.79 56 IAMs_20 IAMs_20 02 02 27.3
comp=Z,18µm,18.0s
FFC Flin Flon 41.79 56 ⇑P P 01 42 59.5 -0.5
VES Vestal, Richgr 41.82 90 P P 01 43 00.7 +0.2
baz=310,SNR=29
YFT Old Faithful 41.86 74 IAmb IAmb 01 43 19.4
comp=Z,407nm,1.3s
YUF Upper Falls 41.91 73 IAmb IAmb 01 43 22.6
comp=Z,480nm,1.2s
H17A Grant Village 42.04 74 IAmb IAmb 01 43 22.0
comp=Z,708nm,1.2s
H17A Grant Village 42.04 74 P P 01 43 03.7 +1.2
baz=303,SNR=66
H17A S S **01 49 25.2 +5.1**
baz=303
LKWY Lake 42.06 73 IAmb IAmb 01 43 21.1
comp=Z,378nm,1.1s
CWC Cottonwood Cre 42.08 88 P P 01 43 03.0 +0.3
baz=309
YMP Mirror Lake Pl 42.11 73 IAmb IAmb 01 43 22.0
comp=Z,543nm,1.3s
FLWY Flagg Ranch 42.14 74 P P 01 43 03.9 +0.6
FLWY IAmb IAmb 01 43 21.9
comp=Z,517nm,1.4s
GRAC Grapevine Rang 42.17 87 IAmb IAmb 01 43 27.4
comp=Z,466nm,1.4s
GRAC Grapevine Rang 42.17 87 P P 01 43 04.4 +1.0
baz=309,SNR=11
GRAC S S **01 49 26.6 +4.9**
baz=309
ISA Isabella, Lake 42.32 89 P P 01 43 04.6 -0.1
baz=310,SNR=61
ISA S S **01 49 24.2 +0.1**
baz=310
SBC Santa Barbara 42.33 92 P P 01 43 05.8 +1.2
baz=311
RLMT Red Lodge 42.43 72 IAmb IAmb 01 43 23.3
comp=Z,722nm,1.1s
RLMT Red Lodge 42.43 72 P P 01 43 05.7 0.0
baz=303
RLMT S S **01 49 27.0 +1.2**
baz=303
ARVC Arvin 42.44 90 P P 01 43 05.9 +0.3
baz=310,SNR=6.5
REDW Red Top Meadow 42.45 75 IAmb IAmb 01 43 29.8
comp=Z,318nm,1.2s
REDW IAMs_20 IAMs_20 02 00 41.0
comp=Z,9µm,18.0s
SNOW Snow King Moun 42.45 75 P P 01 43 06.2 +0.4
R11A Troy Canyon, C 42.45 84 P P 01 43 05.1 -0.7
R11A ScP **ScP 01 48 46.1 -1.1**
R11A Troy Canyon, C 42.45 84 P P 01 43 05.5 -0.3
baz=308,SNR=80
R11A S S **01 49 28.1 +1.9**
baz=308
KSRS Korea Array 42.49 274 P P 01 43 07.0 +1.1
comp=Z,54nm,1.0s,baz=57,slow=7.2,SNR=66
KSRS LR LR 02 00 27.0
comp=Z,6µm,20.2s,baz=60,slow=36
SNY Shenyang 42.58 282 ⇑P P 01 43 07.5 +1.0
SNY pmax pmax
comp=Z,960nm,1.3s
SNY LR LR
comp=Z,19µm,18.7s
SNY LR LR
comp=Z,9µm,21.1s
SNY LR LR
comp=Z,21µm,20.1s
AHID Auburn Hatcher 42.63 76 IAMs_20 IAMs_20 02 02 17.9
comp=Z,10µm,18.0s
MPMC Manual Prospec 42.69 88 P P 01 43 08.1 +0.3
baz=310,SNR=41
MPMC S S **01 49 32.2 +2.6**
baz=310
S11A Rachel 42.78 85 IAmb IAmb 01 43 27.6
comp=Z,492nm,1.2s
FURC Furnace Creek, 42.82 87 P P 01 43 09.2 +0.7
baz=309,SNR=36
FURC S S **01 49 35.1 +4.0**
baz=309
PYAG Pyongyang 42.87 278 P P 01 43 10.2 +1.3
PYAG pP **pwP 01 43 20.4 -0.8**
PYAG S S **01 49 33.5 +1.8**
PYAG AmB
comp=Z,2µm,3.9s
PYAG AMS AMS
comp=N,2µm,12.7s
PYAG AMS AMS
comp=E,1µm,9.0s
PYAG AMS AMS
comp=Z,629nm,4.5s
TPNV Topopah Spring 42.90 86 P P 01 43 09.5 0.0
TPNV pmax pmax
comp=Z,103nm,1.0s
TPNV Topopah Spring 42.90 86 P P 01 43 09.5 0.0
TPNV Topopah Spring 42.90 86 ⇑P P 01 43 09.4 0.0
TPNV Topopah Spring 42.90 86 P P 01 43 09.6 +0.2
baz=309,SNR=81
TPNV S S **01 49 34.5 +1.8**
baz=309
CCAC Calif City Air 42.93 90 P P 01 43 09.1 -0.5
CCAC ScP **ScP 01 48 48.4 -0.7**
LRMC Laurel Mtn Rad 42.93 89 P P 01 43 09.8 +0.1
baz=310,SNR=6.2
SUJ Sinuiju 43.02 280 P P 01 43 10.9 +0.8
SUJ pP **pwP 01 43 22.8 +0.3**
SUJ S S **01 49 31.6 -2.4**
SUJ AmB
comp=Z,1µm,1.3s
SUJ AMS AMS
comp=N,1µm,3.3s
SUJ AMS AMS
comp=E,1µm,3.4s
SUJ AMS AMS
comp=Z,2µm,5.1s
CIT Chita 43.02 300 *e* **P P 01 43 09.3 -0.8**
CIT *e* 01 43 22.3
CIT pmax pmax
comp=Z,458nm,1.6s
DUG Dugway, Tooele 43.07 80 IAmb IAmb 01 43 29.4
comp=Z,368nm,1.1s
DUG Dugway, Tooele 43.07 80 P P 01 43 11.0 +0.3
baz=307,SNR=88
DUG S S **01 49 37.0 +1.9**
baz=307
GWY Greenwater Val 43.12 87 P P 01 43 10.5 -0.7
EDW2 Edwards Air Fo 43.12 90 P P 01 43 11.3 +0.1
baz=311,SNR=41
EDW2 S S **01 49 37.3 +1.5**
baz=311
QSM Queen of Sheba 43.13 88 P P 01 43 11.2 0.0
QSM ScP **ScP 01 48 49.6 -0.1**
SNCC San Nicolas Is 43.23 93 P P 01 43 11.6 -0.4
SNCC IAmb IAmb 01 43 30.2
comp=Z,447nm,1.4s
SNCC San Nicolas Is 43.23 93 P P 01 43 12.7 +0.7
baz=312
INCN Inchon 43.28 275 P P 01 43 13.1 +0.8
INCN pmax pmax
comp=Z,317nm,1.2s
INCN MLR MLR
comp=Z,6µm,18.0s
INCN Inchon 43.28 275 P P 01 43 13.1 +0.8
INCN IAmb IAmb 01 43 26.8

comp=Z,317nm,1.1s
INCN Inchon 43.28 275 P **P** **01 43 14.7 +2.4**
INCN P **P** **01 43 14.7 +2.4**
INCN P **P** **01 43 14.7 +2.4**
INCN S **S** **01 49 37.8 -0.2**
INCN S **S** **01 49 37.8 -0.2**
INCN S **S** **01 49 37.8 -0.2**
DECC Green Verdugo 43.32 91 P **P** **01 43 13.3 +0.6**
baz=311,SNR=6.9
PRN Pahroc Range 43.37 85 IAmb IAmb 01 43 34.6
comp=Z,679nm,1.1s
PRN Pahroc Range 43.37 85 ⇑P **P** **01 43 13.3 +0.1**
LAO LASA Array 43.38 68 IAmb IAmb 01 43 36.9
comp=Z,306nm,1.1s
LAO IAMs_20 IAMs_20 02 01 55.3
comp=Z,13µm,20.0s
LAO LASA Array 43.38 68 P **P** **01 43 13.2 +0.1**
baz=302,SNR=17
LAO S **S** **01 49 40.3 +0.9**
baz=302
JNU Nakatsue 43.42 267 IAmb IAmb 01 43 28.6
comp=Z,466nm,1.4s
JNU Nakatsue 43.42 267 ⇑P **P** **01 43 14.5 +1.0**
JNU Nakatsue 43.42 267 P **P** **01 43 15.0 +1.5**
HJU Haeju 43.50 276 P **P** **01 43 14.8 +0.8**
HJU pP **pwP** **01 43 25.8 -0.6**
HJU S **S** **01 49 40.0 -1.1**
HJU AmB
comp=Z,892nm,1.3s
HJU AMS AMS
comp=N,2µm,7.4s
HJU AMS AMS
comp=E,1µm,3.9s
HJU AMS AMS
comp=Z,1µm,3.9s
TJN Taejon 43.51 273*c i*P **P** **01 43 14.4 +0.2**
TJN Taejon 43.51 273 P **P** **01 43 15.1 +0.9**
TJN Taejon 43.51 273 P **P** **01 43 15.7 +1.5**
BW06 Boulder Array 43.56 75 IAmb IAmb 01 43 33.5
comp=Z,494nm,1.3s
BW06 IAMs_20 IAMs_20 02 01 27.6
comp=Z,9µm,18.0s
BW06 Boulder Array 43.56 75 P **P** **01 43 14.4 -0.4**
baz=305,SNR=149
BW06 S **S** **01 49 41.2 -1.2**
baz=305
PD31 Pinedale Array 43.56 75 P **P** **01 43 14.3 -0.6**
PD31 IAmb IAmb 01 43 33.5
comp=Z,441nm,1.3s
PD31 Pinedale Array 43.56 75 ⇑P **P** **01 43 14.2 -0.6**
PDAR Pinedale Array 43.56 75 P **P** **01 43 14.3 -0.6**
comp=Z,64nm,0.9s,baz=318,slow=2.5,SNR=131
PDAR ScP **ScP** **01 48 50.0 -1.7**
comp=Z,3.0nm,1.0s,baz=307,slow=6.6,SNR=2.4
PDAR LR LR 02 01 29.9
comp=Z,8µm,18.5s,baz=308,slow=36
GSC Goldstone, Bar 43.60 89 P **P** **01 43 14.4 -0.6**
GSC IAmb IAmb 01 43 37.5
comp=Z,310nm,0.9s
GSC ScP **ScP** **01 48 51.4 -0.4**
GSC Goldstone, Bar 43.60 89 P **P** **01 43 15.0 0.0**
baz=310,SNR=99
GSC S **S** **01 49 43.1 +0.3**
baz=310
DGMT Dagmar 43.61 65 IAmb IAmb 01 43 28.8
comp=Z,691nm,1.3s
DGMT Dagmar 43.61 65 IAMs_20 IAMs_20 02 03 54.1
comp=Z,19µm,19.0s
DGMT Dagmar 43.61 65 P **P** **01 43 15.1 +0.3**
baz=302,SNR=15
DGMT S **S** **01 49 43.0 +0.3**
baz=302
NLU North Lily Min 43.66 80 IAmb IAmb 01 43 37.5
comp=Z,242nm,1.1s
JLU Jordanelle 43.66 79 IAmb IAmb 01 43 31.4
comp=Z,337nm,1.3s
BFSC Mount Baldy Ra 43.75 90 P **P** **01 43 16.6 +0.4**
baz=311,SNR=52
RRX Edison Barstow 43.75 89 P **P** **01 43 17.2 +1.0**
baz=311,SNR=5.4
CIS Catalina Islan 43.83 92 P **P** **01 43 16.1 -0.7**
baz=312,SNR=12
CIS S **S** **01 49 47.8 +1.7**
baz=312
SHPR Sheep Range 43.86 86 P **P** **01 43 17.4 +0.2**
FCC Fort Churchill 43.86 48 P **P** **01 43 15.6 -1.1**
FCC pmax pmax
comp=Z,98nm,1.1s
FCC Fort Churchill 43.86 48 P **P** **01 43 15.6 -1.1**
SCI2 San Clemente I 44.02 92 P **P** **01 43 18.9 +0.6**
baz=312
TULEG Thule 44.05 19 *i*P P 01 43 09.0 -9.0
TULEG IAmb IAmb 01 43 53.3
comp=Z,298nm,1.8s
TULEG Thule 44.05 19 P **P** **01 43 17.0 -1.1**
TULEG Thule 44.05 19 ⇑P P 01 43 11.0 -7.0
TUQ Turquoise Moun 44.06 88 P **P** **01 43 19.0 +0.2**
baz=310,SNR=29
TUQ S **S** **01 49 52.2 +2.6**
baz=310
HEC Hector,Ludlow 44.20 89 P **P** **01 43 19.9 +0.1**
baz=311,SNR=35
BBRC Big Bear Solar 44.20 90 P **P** **01 43 20.9 +0.9**
baz=311,SNR=5.3
BBRC S **S** **01 49 55.2 +3.4**
baz=311
TCRU Three Creeks R 44.24 82 IAmb IAmb 01 43 36.6
comp=Z,300nm,1.4s
ELS Elsinore Mount 44.28 91 IAmb IAmb 01 43 38.4
comp=Z,372nm,1.4s
MURC Murrieta 44.46 91 P **P** **01 43 22.0 +0.1**
baz=312,SNR=24
MURC S **S** **01 49 57.1 +1.8**
baz=312
TMUT Trail Mountain 44.59 80 IAmb IAmb 01 43 45.3
comp=Z,351nm,1.1s
GMRC Granite Mounta 44.65 88 P **P** **01 43 23.3 -0.1**
baz=311,SNR=61
GMRC S **S** **01 50 01.2 +3.0**
baz=311
LCMT Little Creek M 44.74 84 IAmb IAmb 01 43 40.4
comp=Z,292nm,1.3s
JSU Suzuyama 44.77 266 P **P** **01 43 24.5 +0.2**
JSU IAmb IAmb 01 43 26.9
comp=Z,300nm,1.4s
JSU Suzuyama 44.77 266 ⇑P **P** **01 43 25.1 +0.8**
P17A Butcher Ranch, 44.78 80 P **P** **01 43 23.6 -0.9**
P17A IAmb IAmb 01 43 43.0
comp=Z,158nm,0.9s
P17A ScP **ScP** **01 48 55.5 -1.1**
RDMU Red Mountain 44.84 78 IAmb IAmb 01 43 41.5
comp=Z,286nm,1.0s
Q16A Castle Valley 44.85 80 IAmb IAmb 01 43 43.9
comp=Z,420nm,1.2s
PFO Pinyon Flats O 44.91 90 P **P** **01 43 25.6 +0.1**
comp=Z,28nm,1.0s,baz=318,slow=7.3,SNR=24
PFO LR LR 01 58 08.9
comp=Z,8µm,21.4s,baz=294,slow=31
PFO Pinyon Flats O 44.91 90*c i*P **P** **01 43 24.8 -0.8**
PFO pmax pmax
comp=Z,90nm,1.1s
PFO MLR MLR
comp=Z,8µm,17.0s
PFO Pinyon Flats O 44.91 90 P **P** **01 43 25.0 -0.6**
PFO Pinyon Flats O 44.91 90 P **P** **01 43 25.4 -0.2**
baz=312,SNR=25
PFO S **S** **01 50 02.6 +0.6**
baz=312
BELC Belle Mtn. Jos 44.95 89 P **P** **01 43 25.5 -0.4**
baz=311,SNR=35
109C Camp Elliot, M 44.99 91 P **P** **01 43 26.4 +0.4**
baz=312
P18A Preston Nutter 44.99 79 IAmb IAmb 01 43 50.0
comp=Z,357nm,1.1s
KNB Kanab 45.00 84 IAmb IAmb 01 43 42.6
comp=Z,381nm,1.3s
PKCU Pink Cliffs 45.05 83 IAmb IAmb 01 43 45.4
comp=Z,180nm,1.1s
SRU San Rafael Swe 45.13 80 IAmb IAmb 01 43 49.5
comp=Z,337nm,1.0s
NEE2 Needles Airpor 45.31 87 P **P** **01 43 28.6 +0.1**
baz=311,SNR=9.1
NEE2 S **S** **01 50 09.8 +2.2**
baz=311
IRM Iron Mountain 45.38 89 P **P** **01 43 29.0 -0.1**
baz=311,SNR=55
IRM S **S** **01 50 09.1 +0.5**
baz=311
MONP2 Monument Peak 45.41 91 P **P** **01 43 29.8 +0.2**
baz=312,SNR=18
MONP2 S **S** **01 50 11.9 +2.5**
baz=312
K22A Casper 45.46 73 P **P** **01 43 29.4 -0.5**
baz=306
K22A S **S** **01 50 09.6 -0.2**
baz=306
DL2 Dalian 45.51 280 P **P** **01 43 30.4 +0.3**
DL2 S **S** **01 50 10.0 -0.3**
DL2 sS **sS** **01 50 19.4 -1.1**
DL2 pmax pmax
comp=Z,280nm,1.5s
DL2 pmax pmax
comp=Z,2µm,6.0s
DL2 LR LR
comp=Z,6µm,16.6s
DL2 LR LR
comp=Z,5µm,16.1s
DL2 LR LR
comp=Z,8µm,16.7s
TKX Tecate 45.51 91 P **P** **01 43 30.1 -0.2**
BC3 Big Chuckawall 45.51 89 P **P** **01 43 29.8 -0.6**
baz=312,SNR=19
RWWY Rawlins 45.61 75 IAmb IAmb 01 43 44.9
comp=Z,440nm,1.3s
RWWY IAMs_20 IAMs_20 02 02 44.6
comp=Z,11µm,19.0s
U15A North Rim 45.70 84 IAmb IAmb 01 43 50.9
comp=Z,250nm,1.0s
SWSC Sam W. Stewart 45.77 90 P **P** **01 43 32.2 0.0**
baz=312,SNR=11
SWSC S **S** **01 50 17.1 +3.0**
baz=312
IKP In-Ko-Pah, Jac 45.77 91 P **P** **01 43 32.4 +0.1**
baz=312,SNR=18
NRIK Noril'sk 45.82 331 P **P** **01 43 31.6 -0.6**
comp=Z,29nm,0.7s,baz=69,slow=6.6,SNR=48
NRIK PcP **PcP** **01 45 09.7 +0.6**
comp=Z,48nm,1.2s,baz=76,slow=1.6,SNR=4.7
NRIK ScP **ScP** **01 49 00.8 +0.6**
comp=Z,2.5nm,0.7s,baz=120,slow=1.9,SNR=3.6
NRIK Noril'sk 45.82 331 P **P** **01 43 31.4 -0.7**
NRIK pmax pmax
comp=Z,88nm,1.1s
NRIK Noril'sk 45.82 331 P **P** **01 43 31.4 -0.7**
RMX La Rumorosa 45.82 91 P **P** **01 43 33.9 +1.0**
RMX ScP **ScP** **01 49 00.5 -0.5**
XLT XiLinHaoTe 45.91 289⇑*i*P **P** **01 43 33.6 +0.3**
XLT pP pP 01 43 39.0 -0.5
XLT PP **PP** **01 45 25.0 +4.2**
XLT S **S** **01 50 18.6 +2.5**
XLT sS sS 01 50 25.8 -0.6
XLT SS **ScS** **01 53 27.8 +0.6**
XLT pmax pmax
comp=Z,120nm,1.3s
XLT pmax pmax
comp=Z,3µm,5.4s
XLT LR LR
comp=Z,9µm,18.8s
XLT LR LR
comp=Z,8µm,21.4s
O20A White River Ci 45.91 77 IAmb IAmb 01 43 56.7
comp=Z,398nm,1.1s
O20A White River Ci 45.91 77 P **P** **01 43 33.1 -0.4**
baz=307,SNR=72
O20A S **S** **01 50 14.5 -1.9**
baz=307
PDMCI Parker Dam,Lak 45.91 88 P **P** **01 43 33.1 -0.2**
baz=311,SNR=37
BLYC Blythe 46.03 88 IAmb IAmb 01 43 56.5
comp=Z,196nm,1.0s
RSSD Black Hills 46.09 70 P **P** **01 43 34.0 -0.9**
RSSD pmax pmax
comp=Z,203nm,1.1s
RSSD Black Hills 46.09 70 P **P** **01 43 34.0 -0.9**
RSSD IAmb IAmb 01 43 51.6
comp=Z,203nm,1.1s
RSSD Black Hills 46.09 70 ⇑P **P** **01 43 34.0 -0.9**
RSSD Black Hills 46.09 70 P **P** **01 43 34.4 -0.5**
baz=305
RSSD S **S** **01 50 17.4 -1.6**
baz=305
GLA Glamis 46.30 89 P **P** **01 43 36.0 -0.5**
GLA pmax pmax
comp=Z,125nm,1.1s
GLA Glamis 46.30 89 P **P** **01 43 36.0 -0.5**
GLA ScP **ScP** **01 49 02.0 -0.9**
GLA Glamis 46.30 89 P **P** **01 43 36.5 0.0**
baz=312,SNR=11
GLA S **S** **01 50 25.1 +3.2**
baz=312
MDND Maddock 46.54 63 P **P** **01 43 38.5 +0.4**
baz=304,SNR=15
MDND S **S** **01 50 24.3 -0.6**
baz=304
PV11 David Mesa, Pa 46.65 80 P **P** **01 43 39.0 -0.3**
PV11 IAmb IAmb 01 43 58.4
comp=Z,252nm,0.8s
GUVIX Guadalupe Vict 46.65 90 P **P** **01 43 39.1 0.0**
GUVIX IAmb IAmb 01 43 57.4
comp=Z,116nm,0.7s
NOR Nord 46.70 4 *i*P **P** **01 43 37.3 -1.7**
NOR IAmb IAmb 01 43 39.4
comp=Z,2µm,4.0s
NOR Nord 46.70 4 ⇑P **P** **01 43 37.8 -1.2**
N23A Red Feather La 46.85 75 IAmb IAmb 01 43 58.5
comp=Z,271nm,1.1s
N23A Red Feather La 46.85 75 P **P** **01 43 40.7 -0.3**
baz=307,SNR=51
N23A S **S** **01 50 29.9 -0.2**
baz=307
WUAZ Wupatki 46.85 84 P **P** **01 43 40.5 -0.5**
WUAZ IAmb IAmb 01 44 01.7
comp=Z,173nm,0.9s
WUAZ ScP **ScP** **01 49 05.2 -0.2**
WUAZ IAMs_20 IAMs_20 02 00 25.3
comp=Z,12µm,20.0s
WUAZ Wupatki 46.85 84 ⇑P **P** **01 43 41.0 0.0**
WUAZ Wupatki 46.85 84 P **P** **01 43 41.0 0.0**
baz=310,SNR=40
WUAZ S **S** **01 50 31.8 +1.8**
baz=310
PHWY Pilot Hill 46.90 74 P **P** **01 43 40.7 -0.6**
ULM Lac du Bonnet 47.26 59 P **P** **01 43 43.0 -0.8**
comp=Z,53nm,0.4s,baz=302,slow=8.3,SNR=113
ULM ScP **ScP** **01 49 06.2 -0.4**
comp=Z,21nm,1.1s,baz=310,slow=7.2,SNR=4.6
ULM LR LR 02 05 56.4
comp=Z,12µm,18.6s,baz=316,slow=39
ULM Lac du Bonnet 47.26 59*c i*P **P** **01 43 42.4 -1.3**
ULM Lac du Bonnet 47.26 59 IAmb IAmb 01 43 52.6
comp=Z,270nm,1.2s
ULM Lac du Bonnet 47.26 59 ⇑P **P** **01 43 42.9 -0.8**
SMCO Snowmass 47.27 77 ⇓P **P** **01 43 44.0 -0.4**
MVCO Mesa Verde 47.56 81 IAmb IAmb 01 44 01.8
comp=Z,417nm,1.5s
MVCO Mesa Verde 47.56 81 P **P** **01 43 46.2 -0.3**
baz=310,SNR=27
MVCO S **S** **01 50 41.2 +1.0**
baz=310
SFX San Felipe 47.65 91 P **P** **01 43 46.9 0.0**
ISCO Idaho Springs 47.72 76 IAMs_20 IAMs_20 02 05 28.5
comp=Z,11µm,18.0s
ISCO Idaho Springs 47.72 76 P **P** **01 43 47.8 0.0**
baz=308,SNR=39
ISCO S **S** **01 50 44.4 +1.9**
baz=308
IRK Irkutsk 47.80 305 *e*P **P** **01 43 46.2 -1.7**
IRK pmax pmax
comp=Z,547nm,2.0s
W18A Petrified Fore 48.13 84 P **P** **01 43 51.1 +0.2**
baz=311,SNR=10.0
W18A S **S** **01 50 50.6 +2.4**
baz=311
BJI Beijing 48.15 285 P **P** **01 43 50.9 +0.2**
BJI PP **PP** **01 45 40.1 -2.7**
BJI S **S** **01 50 51.8 +3.9**
BJI ScS **ScS** **01 53 43.0 +1.2**
BJI pmax pmax
comp=Z,140nm,1.3s
BJI pmax pmax
comp=Z,3µm,9.4s
BJI LR LR
comp=Z,18µm,19.7s
BJI LR LR
comp=Z,9µm,20.3s
BJI LR LR
comp=Z,24µm,20.2s
BJT Baijiatuau 48.16 285 P **P** **01 43 50.7 -0.2**
BJT pmax pmax
comp=Z,73nm,1.0s
BJT MLR MLR
comp=Z,22µm,20.0s
BJT Baijiatuau 48.16 285 P **P** **01 43 50.7 -0.2**
S22A 4UR Ranch, Cre 48.25 79 IAmb IAmb 01 44 11.6
comp=Z,332nm,1.5s
S22A 4UR Ranch, Cre 48.25 79 P **P** **01 43 52.3 +0.3**
baz=309,SNR=50
S22A S **S** **01 50 52.4 +2.3**
baz=309
214A Organ Pipe Nat 48.30 89 P **P** **01 43 52.1 0.0**
baz=313,SNR=30
214A S **S** **01 50 51.3 +0.9**
baz=313
AGMN Agassiz Nation 48.36 61 P **P** **01 43 50.5 -1.7**
AGMN IAmb IAmb 01 44 06.0
comp=Z,331nm,1.1s
AGMN S **S** **01 50 49.7 -1.1**
AGMN IAMs_20 IAMs_20 02 07 01.4
comp=Z,13µm,19.0s
AGMN Agassiz Nation 48.36 61 P **P** **01 43 51.4 -0.9**
baz=305,SNR=103
AGMN S **S** **01 50 48.7 -2.1**
baz=305
X18A Snowflake 48.38 84 IAmb IAmb 01 44 09.0
comp=Z,203nm,1.3s
D32A Dogwood Acres, 48.39 63 P **P** **01 43 50.7 -1.8**
D32A IAmb IAmb 01 44 03.8
comp=Z,218nm,1.0s
D32A S **S** **01 50 48.8 -2.4**
Q24A Divide 48.52 76 IAmb IAmb 01 44 17.8
comp=Z,228nm,1.5s
Q24A Divide 48.52 76 P **P** **01 43 53.6 -0.4**
baz=309,SNR=14
Q24A S **S** **01 50 54.2 +0.4**
baz=309
ULN Ulaanbaatar 48.79 299*c i*P **P** **01 43 55.2 -0.5**
ULN pmax pmax
comp=Z,167nm,1.2s
ULN MLR MLR
comp=Z,19µm,19.0s
ULN Ulaanbaatar 48.79 299 P **P** **01 43 55.6 -0.2**
ULN IAmb IAmb 01 43 57.3
comp=Z,204nm,1.3s
ULN Ulaanbaatar 48.79 299 P **P** **01 43 55.8 0.0**
ULN P **P** **01 43 55.8 0.0**
ULN Ulaanbaatar 48.79 299 ⇑P **P** **01 43 55.3 -0.5**
SUSD Miller 48.86 67 P **P** **01 43 55.8 -0.4**
baz=307,SNR=12
SUSD S **S** **01 50 55.5 -2.5**
baz=307
UPNV Upernavik 48.99 20 *e*P **P** **01 43 56.3 -0.5**
UPNV IAmb IAmb 01 43 56.3
comp=Z,155nm,1.2s
SDCO Great Sand Dun 49.06 78 IAmb IAmb 01 44 22.0
comp=Z,178nm,1.2s
SDCO Great Sand Dun 49.06 78 P **P** **01 43 58.4 +0.2**
baz=310,SNR=38
SDCO S **S** **01 51 02.3 +0.7**
baz=310
SONM Songino Array 49.17 299 P **P** **01 43 58.2 -0.4**
comp=Z,61nm,1.0s,baz=51,slow=5.0,SNR=132
SONM PcP **PcP** **01 45 22.2 +0.6**
comp=Z,25nm,1.1s,baz=115,slow=2.2,SNR=5.0
SONM LR LR 02 06 04.7
comp=Z,22µm,19.2s,baz=58,slow=38
SONM Songino Array 49.17 299 IAmb IAmb 01 44 00.5
comp=Z,289nm,1.4s
OGNE Ogallala 49.17 72 P **P** **01 43 59.0 +0.3**
baz=308,SNR=8.0
OGNE S **S** **01 51 03.6 +1.1**
baz=308
TUC Tucson 49.33 87 P **P** **01 43 59.7 -0.3**
TUC pmax pmax
comp=Z,129nm,1.0s
TUC MLR MLR
comp=Z,6µm,18.0s
TUC Tucson 49.33 87 P **P** **01 43 59.7 -0.3**
TUC IAmb IAmb 01 44 22.3
comp=Z,129nm,1.0s
TUC Tucson 49.33 87 ⇑P **P** **01 43 59.7 -0.3**
TUC Tucson 49.33 87 P **P** **01 44 00.0 0.0**
baz=313
TUC S **S** **01 51 06.7 +1.7**
baz=313
ZAK Zakamensk 49.37 303 *e*P **P** **01 44 00.3 +0.2**
ZAK pmax pmax
comp=Z,499nm,1.4s
ZAK pmax pmax
comp=Z,201nm,1.5s
JOW Kunigami 49.39 263 P **P** **01 44 01.0 +0.5**
comp=Z,33nm,0.9s,baz=123,slow=19,SNR=6.8
JOW Kunigami 49.39 263 IAmb IAmb 01 44 15.9
comp=Z,214nm,1.4s
JOW Kunigami 49.39 263 P **P** **01 44 01.4 +1.0**
B35A Bob, Littlefor 49.49 60 P **P** **01 43 59.9 -1.0**
B35A IAmb IAmb 01 44 13.9
comp=Z,176nm,1.0s
B35A S **S** **01 51 05.2 -1.4**
F33A 5 Mile Ranch, 49.55 64 P **P** **01 44 00.1 -1.4**
F33A IAmb IAmb 01 44 14.2
comp=Z,306nm,1.1s
F33A S **S** **01 51 02.3 -5.3**
MOY Mondy 49.81 306 *e*P **P** **01 44 02.8 -0.6**
MOY pmax pmax
comp=Z,425nm,2.2s
PATS Pohnpei 49.89 217 P **P** **01 44 04.5 +0.2**
PATS IAmb IAmb 01 44 22.8
comp=Z,230nm,1.3s
PATS IAMs_20 IAMs_20 02 08 60.0
comp=Z,8µm,18.0s
KBS Kingsbay 49.89 358*c i*P **P** **01 44 03.7 +0.2**
KBS Kingsbay 49.89 358 P **P** **01 44 02.4 -1.1**
KBS Kingsbay 49.89 358 IAMs_20 IAMs_20 02 04 54.8
comp=Z,12µm,20.0s
KBS Kingsbay 49.89 358 ⇑P **P** **01 44 03.2 -0.4**
KBS Kingsbay 49.89 358 *e*P **P** **01 44 04.2 +0.7**
TIA Tai'an 49.98 280 ⇑P **P** **01 44 05.0 +0.2**
TIA PP **PP** **01 46 01.0 +1.4**
TIA S **S** **01 51 17.0 +3.2**
TIA pmax pmax
comp=Z,220nm,1.6s
TIA pmax pmax
comp=Z,3µm,3.9s
TIA LR LR
comp=Z,7µm,18.1s
TIA LR LR
comp=Z,8µm,18.6s
TIA LR LR
comp=Z,9µm,19.3s
KSCO Kaye Shedlock' 50.02 75 P **P** **01 44 05.7 +0.5**
baz=309,SNR=14
KSCO S **S** **01 51 16.7 +2.2**
baz=309
GUMO Guam 50.02 236 P **P** **01 44 04.9 -0.3**
comp=Z,36nm,0.4s,baz=0.7,slow=19,SNR=4.3
GUMO Guam 50.02 236 P **P** **01 44 05.3 0.0**
GUMO pmax pmax
comp=Z,371nm,1.2s
GUMO Guam 50.02 236 P **P** **01 44 05.3 0.0**
GUMO IAmb IAmb 01 44 23.1
comp=Z,371nm,1.2s
T25A Trinidad 50.12 78 P **P** **01 44 06.2 0.0**
baz=310,SNR=120
T25A S **S** **01 51 18.5 +2.3**
baz=310
ANMO Albuquerque 50.28 81 LR LR 02 03 13.4
comp=Z,7µm,20.8s,baz=304,slow=34
ANMO Albuquerque 50.28 81 P **P** **01 44 07.1 -0.2**
ANMO pmax pmax
comp=Z,159nm,1.3s
ANMO Albuquerque 50.28 81 P **P** **01 44 07.1 -0.2**
ANMO Albuquerque 50.28 81 ⇑P **P** **01 44 06.6 -0.7**
ANMO Albuquerque 50.28 81 P **P** **01 44 07.1 -0.2**
baz=311
ANMO S **S** **01 51 19.9 +1.4**
baz=311
HHC Hu-ho-hao-te 50.41 289 *e*P **P** **01 44 08.8 +0.6**
HHC sP sP 01 44 18.6 +1.7
HHC S **S** **01 51 23.3 +3.4**

HHC pmax pmax
comp=Z,3µm,9.0s
HHC LR LR
comp=Z,10µm,16.7s
HHC LR LR
comp=Z,10µm,19.9s
HHC LR LR
comp=Z,12µm,18.4s
LENM Lemitar 50.47 83 P **P** **01 44 09.3 +0.5**
NUUG Nuugaatsiaq 50.52 21 *i* P **P** **01 44 07.2 -1.1**
NUUG IAmb IAmb 01 44 08.4
comp=Z,51nm,1.1s
SPA0 Spitsbergen Ar 50.53 357 *e*P **P** **01 44 08.0 -0.4**
SPA0 *e*S **S** **01 51 24.7 +4.2**
SPA0 IVMs_BB IVMs_BB 02 08 17.1
comp=Z,6µm,13.7s
SPITS Spitsbergen Ar 50.53 357 LR LR 02 05 39.7
comp=Z,12µm,20.2s,baz=297,slow=36
Y22D IRIS PASSCAL I 50.57 83 IAMs_20 IAMs_20 02 03 12.4
comp=Z,15µm,20.0s
Y22D IRIS PASSCAL I 50.57 83 S **S** **01 51 26.9 +4.6**
baz=312
ECSD EROS Data Cent 50.64 66 IAmb IAmb 01 44 22.5
comp=Z,330nm,1.2s
ECSD EROS Data Cent 50.64 66 IAMs_20 IAMs_20 02 07 29.0
comp=Z,13µm,18.0s
ECSD EROS Data Cent 50.64 66 P **P** **01 44 08.2 -1.5**
baz=308,SNR=55
ECSD S **S** **01 51 19.0 -3.8**
baz=308
HNS HongShan 50.70 283 ⇑P **P** **01 44 11.4 +1.2**
HNS PP **PP** **01 46 09.4 +3.3**
HNS S **S** **01 51 28.6 +4.9**
HNS pmax pmax
comp=Z,550nm,1.4s
HNS pmax pmax
comp=Z,4µm,4.3s
HNS LR LR
comp=Z,6µm,15.8s
HNS LR LR
comp=Z,11µm,16.8s
HNS LR LR
comp=Z,11µm,19.4s
SSE Sheshan 50.85 273 P **P** **01 44 12.0 +0.6**
SSE S **S** **01 51 27.5 +1.5**
SSE pmax pmax
comp=Z,96nm,1.4s
SSE pmax pmax
comp=Z,2µm,6.5s
SSE LR LR
comp=Z,2µm,19.6s
EYMN Ely 50.94 59 IAmb IAmb 01 44 20.7
comp=Z,374nm,1.4s
EYMN Ely 50.94 59 IAMs_20 IAMs_20 02 07 49.4
comp=Z,13µm,19.0s
EYMN Ely 50.94 59 P **P** **01 44 11.1 -0.8**
baz=307,SNR=18
EYMN S **S** **01 51 23.9 -3.0**
baz=307
TARA Tarawa 51.02 197 IAMs_20 IAMs_20 02 02 12.3
comp=Z,7µm,19.0s
121A Cookes Peak, D 51.06 85 P **P** **01 44 12.7 -0.5**
baz=313,SNR=16
F36A Milaca 51.09 62 P **P** **01 44 11.2 -1.8**
F36A S **S** **01 51 27.1 -1.9**
DAG Danmarks Havn 51.17 7 *i* P **P** **01 44 12.2 -1.0**
DAG IAmb IAmb 01 44 12.8
comp=Z,346nm,2.4s
DAG Danmarks Havn 51.17 7 ⇑P **P** **01 44 11.4 -1.7**
BGNE Belgrade 51.18 70 P **P** **01 44 13.4 -0.4**
baz=309,SNR=20
BGNE S **S** **01 51 29.7 -0.7**
baz=309
BTO Baotou 51.48 289 *e*P **P** **01 44 16.9 +0.7**
BTO S **S** **01 51 38.8 +4.1**
BTO LR LR
comp=Z,31µm,17.5s
BTO LR LR
comp=Z,47µm,18.5s
FRB Frobisher Bay 51.49 33 LR LR 02 07 28.0
comp=Z,18µm,20.1s,baz=301,slow=38
FRB Frobisher Bay 51.49 33 ⇑P **P** **01 44 14.3 -1.4**
NJ2 Nanjing 51.66 275 ⇑*i*P **P** **01 44 17.4 -0.1**
NJ2 pP **pP** **01 44 24.6 +0.8**
NJ2 sP **pwP** **01 44 30.4 +0.5**
NJ2 PP **PP** **01 46 18.8 +3.9**
NJ2 ScP **ScP** **01 49 28.5 +2.9**
NJ2 S **S** **01 51 37.8 +0.7**
NJ2 sS **sS** **01 51 50.1 +2.6**
NJ2 pmax pmax
comp=Z,90nm,1.3s
NJ2 pmax pmax
comp=Z,3µm,3.5s
NJ2 LR LR
comp=Z,6µm,18.3s
NJ2 LR LR
comp=Z,6µm,20.1s
NJ2 LR LR
comp=Z,6µm,20.6s
E38A The Farm, Brul 51.72 61 IAmb IAmb 01 44 31.2
comp=Z,346nm,1.1s
HSPB Hornsund (broa 51.73 357 *e*P **P** **01 44 16.5 -0.9**
HSPB *e*L L 02 05 13.1
comp=Z,16µm,21.5s
HSPB Hornsund (broa 51.73 357 *e*P **P** **01 44 17.0 -0.4**
HSPB IVmB_BB 01 44 17.6
comp=Z,2µm,2.2s
HSPB *e*S **S** **01 51 39.0 +2.0**
HSPB IVMs_BB IVMs_BB 02 06 22.9
comp=Z,6µm,19.7s
HOPEN Hopen 51.78 354 *e*P **P** **01 44 17.4 -0.3**
HOPEN *e*S **S** **01 51 41.0 +3.4**
HOPEN IVMs_BB IVMs_BB 02 06 15.4
comp=Z,4µm,5.0s
SPMN Marine on St. 51.88 63 P **P** **01 44 18.2 -0.7**
SPMN IAmb IAmb 01 44 32.1
comp=Z,191nm,1.1s
SPMN S **S** **01 51 40.4 +0.5**
SPMN Marine on St. 51.88 63 P **P** **01 44 18.7 -0.3**
baz=308
SPMN S **S** **01 51 38.6 -1.2**
baz=308
TIY Taiyuan 51.88 285 ⇑P **P** **01 44 20.4 +1.2**
TIY pP **pP** **01 44 24.8 -0.7**
TIY sP **pwP** **01 44 32.3 +0.7**
TIY S **S** **01 51 39.8 -0.4**
TIY SS **SS** **01 55 15.4 -1.2**
TIY pmax pmax
comp=Z,250nm,1.4s
TIY pmax pmax
comp=Z,3µm,3.5s
TIY LR LR
comp=Z,6µm,17.9s
TIY LR LR
comp=Z,11µm,19.9s
TIY LR LR
comp=Z,12µm,19.2s
CBKS Cedar Bluff 51.88 73 IAMs_20 IAMs_20 02 10 05.4
comp=Z,7µm,18.0s
CBKS Cedar Bluff 51.88 73 ⇑P **P** **01 44 18.6 -0.6**
CBKS Cedar Bluff 51.88 73 P **P** **01 44 18.9 -0.2**
baz=310,SNR=22
CBKS S **S** **01 51 40.5 +0.4**
baz=310
N33A J Bar K, Exete 52.01 70 IAmb IAmb 01 44 37.4
comp=Z,480nm,1.1s
ILULI Ilulissat 52.72 22 IAMs_20 IAMs_20 02 08 32.5
comp=Z,14µm,20.0s
R32A Long Quarter, 52.75 73 IAmb IAmb 01 44 46.4
comp=Z,473nm,1.2s
D41A Chassel 53.05 59 IAmb IAmb 01 44 42.8
comp=Z,281nm,1.1s
MNTX Cornudas Mount 53.12 84 P **P** **01 44 28.1 -0.2**
baz=313,SNR=23
MNTX S **S** **01 51 59.8 +2.6**
baz=313
MSTX Muleshoe 53.20 80 P **P** **01 44 28.2 -0.8**
MSTX IAmb IAmb 01 44 47.7
comp=Z,481nm,1.1s
MSTX Muleshoe 53.20 80 P **P** **01 44 28.6 -0.5**
baz=312,SNR=34
MSTX S **S** **01 51 59.7 +1.2**
baz=312
AMTX Amarillo 53.27 78 P **P** **01 44 28.9 -0.6**
baz=312
AMTX S **S** **01 51 59.9 +0.6**
baz=312
G40A Rib Lake 53.29 61 P **P** **01 44 27.9 -1.5**
G40A IAmb IAmb 01 44 43.2
comp=Z,209nm,1.1s
G40A S **S** **01 51 57.0 -2.2**
COWI Conover 53.35 60 IAMs_20 IAMs_20 02 08 55.2
comp=Z,13µm,18.0s
DBG Daneborg 53.37 9 *i* P **P** **01 44 27.1 -2.4**
DBG IAmb IAmb 01 44 28.1
comp=Z,117nm,1.7s
K38A Parkersburg 53.51 65 IAmb IAmb 01 44 44.2
comp=Z,429nm,1.2s
KSU1 Kansas State U 53.56 71 IAmb IAmb 01 44 45.4
comp=Z,404nm,1.1s
KSU1 Kansas State U 53.56 71 IAMs_20 IAMs_20 02 08 31.7
comp=Z,8µm,21.0s
KSU1 Kansas State U 53.56 71 ⇑P **P** **01 44 30.2 -1.3**
KSU1 Kansas State U 53.56 71 P **P** **01 44 30.5 -1.0**
baz=311,SNR=8.7
KSU1 S **S** **01 52 00.1 -2.8**
baz=311
SCIA State Center 53.73 66 IAMs_20 IAMs_20 02 05 57.8
comp=Z,10µm,20.0s
SCIA State Center 53.73 66 P **P** **01 44 32.4 -0.3**
baz=310,SNR=22
SCIA S **S** **01 52 02.7 -2.5**
baz=310
U32A Winter Ranch, 53.91 75 **P** **01 44 33.8 -0.3**
U32A IAmb IAmb 01 44 57.6
comp=Z,321nm,0.9s
I40A Norwalk 53.93 63 IAmb IAmb 01 44 49.7
comp=Z,136nm,0.9s
LYN LuoYang 53.94 282 ⇑*i*P **P** **01 44 34.8 +0.5**
LYN S **S** **01 52 07.8 -0.3**
LYN pmax pmax
comp=Z,200nm,2.2s
LYN pmax pmax
comp=Z,4µm,6.3s
LYN LR LR
comp=Z,6µm,19.4s
LYN LR LR
comp=Z,8µm,19.8s
LYN LR LR
comp=Z,6µm,22.0s
BJO1 Bjornoya 54.08 356 *e*P **P** **01 44 34.0 -0.7**
BJO1 IVmB_BB 01 44 35.0
comp=Z,3µm,2.4s
BJO1 *e*S **S** **01 52 10.9 +2.0**
BJO1 IVMs_BB IVMs_BB 02 10 35.6
comp=Z,3µm,4.7s
F42A Maple Grove Fa 54.10 60 P **P** **01 44 34.9 -0.5**
F42A IAmb IAmb 01 44 49.5
comp=Z,392nm,1.1s
E43A Lone Tree Farm 54.32 58 IAmb IAmb 01 44 50.3
comp=Z,240nm,0.8s
SFJD Kangerlussuaq 54.53 24 LR LR 02 10 06.9
comp=Z,10µm,20.1s,baz=312,slow=38
SFJD Kangerlussuaq 54.53 24 P **P** **01 44 36.8 -1.3**
SFJD pmax pmax
comp=Z,159nm,1.4s
SFJD MLR MLR
comp=Z,11µm,21.0s
SFJD Kangerlussuaq 54.53 24 *i* P **P** **01 44 36.1 -2.0**
SFJD IAmb IAmb 01 44 38.1
comp=Z,101nm,1.4s
SFJD Kangerlussuaq 54.53 24 P **P** **01 44 36.8 -1.3**
SFJD Kangerlussuaq 54.53 24 IAMs_20 IAMs_20 02 09 45.4
comp=Z,11µm,21.0s
SFJD Kangerlussuaq 54.53 24 ⇓P **P** **01 44 37.4 -0.7**
KAPO Kapuskasing 54.68 53 ⇑P **P** **01 44 38.9 -0.5**
JFWS Jewell Farm 54.76 63 IAmb IAmb 01 44 52.6
comp=Z,496nm,1.5s
JFWS Jewell Farm 54.76 63 P **P** **01 44 38.9 -1.3**
baz=310,SNR=22
L40A Anamosa 54.77 65 IAmb IAmb 01 44 53.1
comp=Z,310nm,1.1s
I42A Draeger Farm, 54.88 62 IAmb IAmb 01 44 54.8
comp=Z,246nm,1.0s
TATO Taipei 54.96 267 IAMs_20 IAMs_20 02 06 53.0
comp=Z,8µm,22.0s
TATO Taipei 54.96 267 P **P** **01 44 42.3 +0.5**
TATO S **S** **01 52 19.0 -3.1**
T35A Sooner Cattle 55.05 73 IAmb IAmb 01 44 58.7
comp=Z,243nm,1.1s
H43A Windswept, Lux 55.13 61 P **P** **01 44 41.9 -0.9**
H43A IAmb IAmb 01 44 56.6
comp=Z,314nm,1.0s
WMOK Wichita Mounta 55.13 76 IAmb IAmb 01 45 06.8
comp=Z,194nm,1.0s
WMOK Wichita Mounta 55.13 76 IAMs_20 IAMs_20 02 08 43.9
comp=Z,10µm,19.0s
WMOK Wichita Mounta 55.13 76 ⇑P **P** **01 44 42.2 -0.8**
WMOK Wichita Mounta 55.13 76 P **P** **01 44 42.5 -0.6**
baz=313,SNR=36
WMOK S **S** **01 52 24.1 -0.3**
baz=313
YHNB Yeheng 55.25 267 IAMs_20 IAMs_20 02 06 16.8
comp=Z,8µm,22.0s
YHNB Yeheng 55.25 267 P **P** **01 44 44.5 +0.5**
ICESG Greenland Ices 55.28 18 *i* P **P** **01 44 41.1 -2.9**
LPIG La Paz 55.38 94 LR LR 02 05 49.8
comp=Z,3µm,18.0s,baz=306,slow=33
NACB Ninganchiao 55.48 266 IAmb IAmb 01 44 52.6
comp=Z,130nm,1.0s
OKCFA Oklahoma City 55.49 75 IAmb IAmb 01 45 08.6
comp=Z,215nm,1.0s
WHN Wuhan 55.50 277 ⇑P **P** **01 44 45.8 +0.2**
WHN S **S** **01 52 28.0 -1.2**
WHN pmax pmax
comp=Z,8µm,3.6s
WHN LR LR
comp=Z,11µm,15.6s
WHN LR LR
comp=Z,6µm,17.7s
WHN LR LR
comp=Z,15µm,17.9s
FNO Franklin 55.62 75 IAmb IAmb 01 45 09.8
comp=Z,287nm,1.1s
X34A Smith Ranch, M 55.80 76 IAmb IAmb 01 45 11.7
comp=Z,365nm,1.2s
TX31 Lajitas Ar. Si 55.82 85 ⇑P **P** **01 44 47.2 -0.9**
TX32 Lajitas Array 55.82 85 IAmb IAmb 01 45 03.6
comp=Z,154nm,1.1s
TXAR Lajitas Array 55.82 85 P **P** **01 44 47.2 -0.9**
comp=Z,8.1nm,0.7s,baz=302,slow=4.8,SNR=64
TXAR ScP **ScP** **01 49 43.6 -0.4**
comp=Z,11nm,1.1s,baz=300,slow=2.5,SNR=4.5
TXAR LR LR 02 08 05.8
comp=Z,4µm,18.1s,baz=309,slow=35
TXAR PKPPKP **P'P'df** **02 14 50.0 -1.6**
comp=Z,2.6nm,1.2s,baz=149,slow=2.9,SNR=4.8
TXAR Lajitas Array 55.82 85 P **P** **01 44 47.3 -0.8**
G45A Suttons Bay 55.90 59 IAmb IAmb 01 45 02.2
comp=Z,282nm,1.0s
SLBS Sierra La Lagu 55.91 94 P **P** **01 44 48.7 -0.2**
SLBS Sierra La Lagu 55.91 94 IAMs_20 IAMs_20 02 07 38.9
comp=Z,8µm,19.0s
SLBS Sierra La Lagu 55.91 94 ⇓P **P** **01 44 48.6 -0.2**
K43A Burlington 55.97 63 IAmb IAmb 01 45 04.8
comp=Z,418nm,1.2s
DY2G Dye2 56.01 22 *i* P **P** **01 44 48.1 -1.0**
ABTX Abilene, Hawle 56.04 79 P **P** **01 44 48.9 -0.7**
baz=314,SNR=22
ABTX S **S** **01 52 35.7 -0.8**
baz=314
ZALV Zalesovo Beam 56.06 316 P **P** **01 44 48.5 -0.8**
comp=Z,3.4nm,0.5s,baz=49,slow=6.6,SNR=19
ZALV PcP **PcP** **01 45 47.2 0.0**
comp=Z,44nm,1.1s,baz=38,slow=5.6,SNR=12
ZALV LR LR 02 11 21.3
comp=Z,14µm,18.0s,baz=54,slow=39
ZALV Zalesovo Beam 56.06 316 P **P** **01 44 47.6 -1.7**
TUL1 Leonard 56.15 73 IAmb IAmb 01 45 13.0
comp=Z,358nm,1.2s
TUL1 IAMs_20 IAMs_20 02 09 24.6
comp=Z,7µm,20.0s
TUL1 Leonard 56.15 73 P **P** **01 44 49.5 -0.8**
baz=313,SNR=16
TUL1 S **S** **01 52 36.3 -1.6**
baz=313
SSLB Suanglung 56.16 266 IAMs_20 IAMs_20 02 06 47.8
comp=Z,7µm,22.0s
SSLB Suanglung 56.16 266 P **P** **01 44 51.0 +0.5**
YULB Yu-li 56.23 266 P **P** **01 44 50.1 -0.9**
YULB IAmb IAmb 01 45 15.9
comp=Z,312nm,1.4s
I45A Fountain 56.25 60 IAmb IAmb 01 45 04.7
comp=Z,321nm,1.0s
HPIG 56.26 88 P **P** **01 44 50.9 -0.5**
S39A Bolivar 56.43 70 IAmb IAmb 01 45 07.1
comp=Z,224nm,1.3s
XAN Xi'an 56.45 284 P **P** **01 44 52.1 -0.4**
XAN pP pwP 01 45 05.9 +0.9
XAN pmax pmax
comp=Z,350nm,1.4s
XAN Xi'an 56.45 284 P **P** **01 44 52.4 -0.1**
XAN S **S** **01 52 44.3 +2.5**
XAN pmax pmax
comp=Z,3µm,3.7s
XAN LR LR
comp=Z,10µm,15.1s
XAN LR LR
comp=Z,12µm,18.1s
XAN LR LR
comp=Z,11µm,18.1s
L44A Lake County Fo 56.55 63 P **P** **01 44 51.7 -1.3**
baz=312,SNR=8.8
L44A S **S** **01 52 40.1 -2.8**
baz=312
GLMI Grayling 56.60 58 IAMs_20 IAMs_20 02 10 07.2
comp=Z,10µm,21.0s
GLMI Grayling 56.60 58 P **P** **01 44 52.9 -0.4**
baz=312,SNR=25
GLMI S **S** **01 52 42.8 -0.7**
baz=312
R40A Maddies Statio 56.65 69 IAmb IAmb 01 45 09.0
comp=Z,292nm,1.4s
TPUB Ta-pu 56.71 266 P **P** **01 44 54.9 +0.4**
TPUB IAmb IAmb 01 45 13.8
comp=Z,164nm,0.9s
TPUB IAMs_20 IAMs_20 02 07 07.6
comp=Z,7µm,22.0s
TPUB Ta-pu 56.71 266 P **P** **01 44 55.1 +0.7**
SCO Scoresbysund 56.80 11 P **P** **01 44 53.3 -1.0**
SCO pmax pmax
comp=Z,51nm,1.3s
SCO Scoresbysund 56.80 11 *i* P **P** **01 44 52.1 -2.2**
SCO IAmb IAmb 01 45 15.3
comp=Z,50nm,1.4s
SCO Scoresbysund 56.80 11 P **P** **01 44 53.3 -1.0**
SCO IAMs_20 IAMs_20 02 13 33.0
comp=Z,9µm,18.0s
SCO Scoresbysund 56.80 11 ⇑P **P** **01 44 53.1 -1.2**
QZH Quanzhou 56.80 269 ⇑*i*P **P** **01 44 55.6 +0.6**
QZH S **S** **01 52 49.8 +3.2**
QZH pmax pmax
comp=Z,100nm,1.4s
QZH pmax pmax
comp=Z,2µm,5.7s
QZH LR LR
comp=Z,2µm,19.5s
QZH LR LR
comp=Z,2µm,16.1s
QZH LR LR
comp=Z,3µm,18.8s
HDIL Hopedale 56.85 65 P **P** **01 44 53.8 -1.3**
baz=312,SNR=18
HDIL S **S** **01 52 44.1 -2.8**
baz=312
HHAR Hobbs 57.01 72 IAmb IAmb 01 45 12.2
comp=Z,200nm,1.2s
Z35A Perchaven, San 57.02 77 IAmb IAmb 01 45 19.6
comp=Z,404nm,1.1s
KNMB Chin-men Tao 57.27 269 P **P** **01 44 58.8 +0.4**
CCM Cathedral Cave 57.40 68 P **P** **01 44 57.3 -1.8**
CCM pmax pmax
comp=Z,275nm,1.2s
CCM MLR MLR
comp=Z,8µm,20.0s
CCM Cathedral Cave 57.40 68 P **P** **01 44 57.3 -1.8**
CCM IAmb IAmb 01 45 14.6
comp=Z,275nm,1.2s
CCM Cathedral Cave 57.40 68 IAMs_20 IAMs_20 02 10 03.2
comp=Z,8µm,20.0s
CCM Cathedral Cave 57.40 68 ⇑P **P** **01 44 56.7 -2.4**
CCM Cathedral Cave 57.40 68 P **P** **01 44 57.2 -1.9**
baz=313
CCM S **S** **01 52 49.4 -4.9**
baz=313
MGMO Mountain Grove 57.41 70 IAmb IAmb 01 45 15.5
comp=Z,268nm,1.2s
JCT Junction City 57.42 81 IAmb IAmb 01 45 13.8
comp=Z,141nm,1.0s
JCT IAMs_20 IAMs_20 02 07 43.8
comp=Z,7µm,20.0s
JCT Junction City 57.42 81 ⇓P **P** **01 44 58.2 -1.2**
JCT Junction City 57.42 81 P **P** **01 44 57.9 -1.5**
baz=314,SNR=16
JCT S **S** **01 52 51.8 -3.0**
baz=314
JMIC Jan Mayen 57.50 5 LR LR 02 09 02.4
comp=Z,3µm,21.8s,baz=348,slow=35
JMIC Jan Mayen 57.50 5 *e*P **P** **01 44 57.2 -2.0**
JMIC *e*S **S** **01 52 57.4 +2.8**
J47A Sunmer 57.55 60 IAmb IAmb 01 45 14.1
comp=Z,223nm,0.9s
L46A Eue Claire 57.56 62 IAmb IAmb 01 45 15.8
comp=Z,294nm,1.1s
SOEG Soedalen 57.56 15 *i* P **P** **01 45 00.1 +0.3**
SOEG IAmb IAmb 01 45 13.5
comp=Z,259nm,2.0s
HAMF Hammerfest 57.59 353 *e*P **P** **01 44 58.4 -1.5**
HAMF *e*S **S** **01 52 58.1 +2.4**
HAMF IVMs_BB IVMs_BB 02 13 45.8
comp=Z,4µm,3.8s
O44A Mansfield 57.59 65 IAmb IAmb 01 45 13.4
comp=Z,247nm,1.1s
U40A Yellville 57.60 71 IAmb IAmb 01 45 16.8
comp=Z,436nm,1.3s
U40A IAMs_20 IAMs_20 02 11 03.8
comp=Z,11µm,19.0s
U40A Yellville 57.60 71 P **P** **01 44 58.5 -2.0**
baz=313,SNR=21
U40A S **S** **01 52 53.0 -4.0**
baz=313
WHTX Lake Whitney, 57.82 78 IAmb IAmb 01 45 20.3
comp=Z,319nm,0.9s
WHTX Lake Whitney, 57.82 78 P **P** **01 45 01.3 -0.8**
baz=314
WHTX S **S** **01 52 59.8 -0.1**
baz=314
W39A Magazine 57.84 73 IAMs_20 IAMs_20 02 10 46.2
comp=Z,8µm,20.0s
W39A Magazine 57.84 73 P **P** **01 45 01.1 -1.1**
baz=313,SNR=42
W39A S **S** **01 52 57.6 -2.5**
baz=313
VLDQ Val d'Or 58.07 52 IAmb IAmb 01 45 02.9
comp=Z,342nm,1.1s
LZH Lanzhou 58.10 289 ⇑*i*P **P** **01 45 05.3 +1.0**
LZH sP sP 01 45 13.8 +0.7
LZH S **S** **01 52 55.9 -7.9**
LZH ScS **ScS** **01 54 51.0 -1.2**
LZH pmax pmax
comp=Z,380nm,1.3s
LZH pmax pmax
comp=Z,4µm,4.9s
LZH LR LR
comp=Z,8µm,16.0s
LZH LR LR
comp=Z,19µm,16.5s
LZH LR LR
comp=Z,27µm,18.2s
I49A Point Hope 58.15 58 IAmb IAmb 01 45 18.0
comp=Z,189nm,0.9s
KEV Kevo 58.17 351 P **P** **01 45 02.4 -1.6**
KEV pmax pmax
comp=Z,102nm,1.0s
KEV MLR MLR
comp=Z,7µm,19.0s
KEV Kevo 58.17 351 P **P** **01 45 02.4 -1.6**
KEV IAMs_20 IAMs_20 02 12 52.4
comp=Z,7µm,19.0s
KEV Kevo 58.17 351 ⇓P **P** **01 45 03.3 -0.7**
SCHQ Schefferville 58.18 41 P **P** **01 45 03.1 -1.2**
comp=Z,53nm,0.9s,baz=324,slow=7.7,SNR=48
SCHQ LR LR 02 12 20.7
comp=Z,23µm,18.1s,baz=318,slow=38
SCHQ Schefferville 58.18 41 ⇑P **P** **01 45 03.1 -1.2**
GTA Gaotai 58.19 295 ⇑P **P** **01 45 04.6 -0.2**
GTA pP pP 01 45 09.6 -1.6
GTA sP sP 01 45 12.4 -1.2
GTA PcP **PcP** **01 45 55.4 -0.6**

GTA PcS **PcS** **01 49 59.1 +1.5**
GTA S **S** **01 53 05.4 +0.6**
GTA sS sS 01 53 17.1 +1.8
GTA ScS **ScS** **01 54 48.8 -3.9**
GTA pmax pmax
comp=Z,120nm,1.5s
GTA pmax pmax
comp=Z,2μm,6.0s
GTA LR LR
comp=Z,6μm,17.5s
GTA LR LR
comp=Z,17μm,18.5s
GTA LR LR
comp=Z,14μm,17.4s
SFIN Lafayette **58.21 64** P **P** **01 45 04.2 -0.6**
baz=313,SNR=15
SFIN S **S** **01 53 02.4 -2.3**
baz=313
MIAR Mount Ida **58.41 73** IAMs_20 IAMs_20 02 10 53.9
comp=Z,7μm,20.0s
MIAR Mount Ida **58.41 73** P **P** **01 45 05.3 -1.0**
baz=314
MIAR S **S** **01 53 05.5 -2.0**
baz=314
ISOG Isortoq, Green **58.44 20** *i* P **P** **01 45 05.0 -0.9**
ISOG IAmb IAmb 01 45 05.2
comp=Z,159nm,1.4s
ARA0 ARCESS Array S **58.52 352** *e*P **P** **01 45 05.4 -1.1**
ARA0 IVMs_BB IVMs_BB 02 13 28.2
comp=Z,5μm,5.0s
ARCES ARCESS Array B **58.52 352** P **P** **01 45 05.2 -1.3**
comp=Z,24nm,0.5s,baz=24,slow=7.7,SNR=157
ARCES PcP **PcP** **01 45 57.1 +0.4**
comp=Z,49nm,0.9s,baz=18,slow=5.5,SNR=10.0
ARCES ARCESS Array B **58.52 352** P **P** **01 45 05.7 -0.8**
ARCES IAmb IAmb 01 45 06.8
comp=Z,149nm,1.2s
ARCES PcP **PcP** **01 45 56.8 +0.1**
435B Jarrell **58.58 79** IAmb IAmb 01 45 22.7
comp=Z,312nm,1.4s
435B Jarrell **58.58 79** P **P** **01 45 06.9 -0.6**
baz=315
435B S **S** **01 53 10.3 +0.5**
baz=315
L48A N Adams **58.63 61** IAmb IAmb 01 45 23.4
comp=Z,367nm,1.2s
ANGG Ammassalik, Gr **58.66 20** IAMs_20 IAMs_20 02 15 00.6
comp=Z,10μm,19.0s
WHAR Wooly Hollow **58.67 71** IAmb IAmb 01 45 24.1
comp=Z,321nm,1.1s
ENH Enshi **58.70 280** P **P** **01 45 08.1 -0.3**
ENH IAmb IAmb 01 45 22.8
comp=Z,273nm,1.2s
W41B Gary Mavity, V **58.77 72** IAmb IAmb 01 45 24.9
comp=Z,294nm,1.1s
W41B Gary Mavity, V **58.77 72** P **P** **01 45 07.0 -1.7**
baz=314,SNR=25
W41B S **S** **01 53 08.3 -3.9**
baz=314
S44A Carbondale **58.80 67** IAmb IAmb 01 45 21.9
comp=Z,266nm,1.1s
AAM Ann Arbor **58.81 60** IAmb IAmb 01 45 23.0
comp=Z,163nm,1.1s
AAM IAMs_20 IAMs_20 02 11 06.8
comp=Z,11μm,20.0s
AAM Ann Arbor **58.81 60** P **P** **01 45 09.0 +0.1**
baz=313,SNR=7.7
AAM S **S** **01 53 10.3 -2.2**
baz=313
SIUC Southern Illin **58.81 67** P **P** **01 45 07.4 -1.6**
SIUC IAmb IAmb 01 45 21.9
comp=Z,302nm,1.2s
SIUC **S** **01 53 11.2 -1.5**
JETT Jettan, Norway **58.89 354** *e*P **P** **01 45 09.7 +0.6**
JETT *e*S **S** **01 53 16.0 +3.1**
X40A Basin Creek Fa **58.89 73** IAmb IAmb 01 45 32.8
comp=Z,327nm,1.2s
X40A IAMs_20 IAMs_20 02 11 29.1
comp=Z,9μm,21.0s
X40A Basin Creek Fa **58.89 73** P **P** **01 45 08.8 -0.7**
baz=314,SNR=26
X40A S **S** **01 53 11.6 -2.2**
baz=314
TRO Tromso **58.90 355** *e*P **P** **01 45 08.7 -0.4**
TRO *e*S **S** **01 53 13.2 +0.3**
TRO IVMs_BB IVMs_BB 02 11 31.3
comp=Z,4μm,22.8s
K50A Casco **59.05 59** IAmb IAmb 01 45 24.7
comp=Z,135nm,0.8s
LVZ Lovozero **59.08 348** *c*e P **P** **01 45 09.3 -1.1**
LVZ pmax pmax
comp=Z,229nm,1.0s
LVZ Lovozero **59.08 348** P **P** **01 45 08.7 -1.7**
LVZ IAmb IAmb 01 45 11.1
comp=Z,173nm,0.9s
LVZ IAMs_20 IAMs_20 02 12 55.4
comp=Z,7μm,20.0s
LVZ Lovozero **59.08 348** ⇑P **P** **01 45 09.1 -1.4**
833A Chaparral WMA, **59.19 82** IAmb IAmb 01 45 27.1
comp=Z,298nm,1.1s
833A Chaparral WMA, **59.19 82** P **P** **01 45 11.3 -0.4**
baz=316,SNR=10
833A S **S** **01 53 16.2 -1.5**
baz=316
PARMO Parma **59.22 69** P **P** **01 45 10.6 -1.2**
KTK1 Kautokeino **59.22 353** *e*P **P** **01 45 10.2 -1.2**
KTK1 IVmB_BB 01 45 10.7
comp=Z,3μm,2.8s
KTK1 *e*S **S** **01 53 20.6 +3.5**
KTK1 *e*SS **SS** **01 57 14.2 +3.5**
KTK1 IVMs_BB IVMs_BB 02 12 01.2
comp=Z,3μm,4.6s
O48B Farmland **59.38 63** P **P** **01 45 11.2 -1.6**
baz=314,SNR=50
O48B S **S** **01 53 15.7 -4.3**
baz=314
N49A Columbus Grove **59.46 62** IAmb IAmb 01 45 29.0
comp=Z,229nm,1.1s
SADO Sadowa **59.51 55** LR LR 02 12 44.1
comp=Z,16μm,18.0s,baz=354,slow=38
SADO Sadowa **59.51 55** P **P** **01 45 13.2 -0.5**
SADO IAmb IAmb 01 45 22.9
comp=Z,85nm,0.8s
SADO **S** **01 53 20.5 -1.0**
SADO Sadowa **59.51 55** ⇑P **P** **01 45 13.2 -0.5**
APA Apatity **59.55 348** ⇓*i* P **P** **01 45 10.7 -3.0**
APA *i* 01 46 01.0
APA *i* 01 47 34.0
APA *i* PPP PPP 01 48 56.0
APA *i* S **S** **01 53 15.0 -6.4**
APA *i* 01 54 57.0
APA pmax pmax
comp=Z,36nm,1.0s
APA MLR MLR
comp=Z,9μm,17.0s
NATX Nacogdoches **59.68 76** IAMs_20 IAMs_20 02 15 52.3
comp=Z,7μm,18.0s
NATX Nacogdoches **59.68 76** P **P** **01 45 14.9 -0.2**
baz=315
NATX S **S** **01 53 23.5 -0.6**
baz=315
M50A Fremont **59.76 61** IAmb IAmb 01 45 29.3
comp=Z,160nm,0.9s
Z41A Richland Creek **59.76 74** IAmb IAmb 01 45 32.7
comp=Z,175nm,1.1s
Z41A Richland Creek **59.76 74** P **P** **01 45 15.4 -0.2**
baz=314
Z41A S **S** **01 53 25.4 +0.4**
baz=314
O49A Covington **59.88 62** IAmb IAmb 01 45 29.4
comp=Z,394nm,1.5s
P49A Miami Univ. Ec **60.12 63** P **P** **01 45 16.6 -1.4**
baz=314,SNR=35
P49A S **S** **01 53 26.4 -3.1**
baz=314
WCI Wyandotte Cave **60.13 65** P **P** **01 45 17.0 -1.1**
WCI pmax pmax
comp=Z,595nm,1.3s
WCI MLR MLR
comp=Z,16μm,19.0s
WCI Wyandotte Cave **60.13 65** P **P** **01 45 17.0 -1.1**
WCI Wyandotte Cave **60.13 65** ⇑P **P** **01 45 16.9 -1.2**
WCI Wyandotte Cave **60.13 65** P **P** **01 45 16.9 -1.1**
baz=314
WCI S **S** **01 53 27.0 -2.7**
baz=314

HKT Hockley **60.24 78** *c i* P **P** **01 45 18.0 -0.8**
HKT pmax pmax
comp=Z,57nm,1.4s
HKT MLR MLR
comp=Z,6μm,17.0s
HKT Hockley **60.24 78** P **P** **01 45 18.2 -0.7**
HKT IAmb IAmb 01 45 34.5
comp=Z,377nm,1.5s
HKT Hockley **60.24 78** IAMs_20 IAMs_20 02 09 10.8
comp=Z,6μm,21.0s
HKT Hockley **60.24 78** ⇓P **P** **01 45 18.7 -0.1**
ZSN Zaisan **60.52 310** *c i* P **P** **01 45 20.4 -0.3**
ZSN *e*S **S** **01 53 37.1 +2.5**
ZSN pmax pmax
comp=Z,386nm,3.0s
ZSN Zaisan **60.52 310** ⇑*i* P **P** **01 45 20.4 -0.3**
comp=Z,386nm,3.0s,baz=310
ZSN *e*S **S** **01 53 37.1 +2.5**
baz=310
SEM Semipalatinsk **60.54 315** *c i* P **P** **01 45 19.6 -1.4**
SEM pmax pmax
comp=Z,227nm,2.8s
SEM MLR MLR
comp=Z,5μm,17.0s
SEM Semipalatinsk **60.54 315** ⇑*i* P **P** **01 45 19.6 -1.4**
comp=Z,227nm,2.8s,baz=315
SEM LR LR 02 12 08.8
comp=Z,5μm,17.0s,baz=315
M52A Chesterland **60.58 59** IAmb IAmb 01 45 35.3
comp=Z,238nm,1.1s
ACSO Alum Creek Sta **60.60 61** IAmb IAmb 01 45 37.2
comp=Z,325nm,1.2s
ACSO IAMs_20 IAMs_20 02 11 43.3
comp=Z,11μm,20.0s
ACSO Alum Creek Sta **60.60 61** P **P** **01 45 20.7 -0.6**
baz=314,SNR=13
ACSO S **S** **01 53 33.4 -2.3**
baz=314
LOF Lofoten **60.66 357** *e*P **P** **01 45 21.0 -0.2**
LOF *e*S **S** **01 53 38.1 +2.5**
LOF IVMs_BB IVMs_BB 02 12 52.0
comp=Z,2μm,4.1s
KVTX Kingsville **60.67 82** IAMs_20 IAMs_20 02 09 13.9
comp=Z,8μm,19.0s
WVT Waverly **60.71 68** P **P** **01 45 21.4 -0.7**
WVT **S** **01 53 37.2 +0.1**
WVT Waverly **60.71 68** IAMs_20 IAMs_20 02 13 29.7
comp=Z,10μm,19.0s
WVT Waverly **60.71 68** ⇑P **P** **01 45 20.9 -1.2**
WVT Waverly **60.71 68** P **P** **01 45 21.3 -0.7**
baz=314
WVT S **S** **01 53 34.4 -2.8**
baz=314
R49A Shelbyville **60.73 64** IAmb IAmb 01 45 35.6
comp=Z,279nm,1.2s
STEI Steigen **60.79 356** *e*P **P** **01 45 21.4 -0.7**
STEI *e*S **S** **01 53 38.5 +1.4**
STEI IVMs_BB IVMs_BB 02 09 03.0
comp=Z,3μm,5.0s
J54A Appleton **60.81 56** IAmb IAmb 01 45 32.4
comp=Z,266nm,1.2s
ERPA Erie **60.91 58** P **P** **01 45 23.7 +0.4**
baz=315,SNR=6.8
ERPA S **S** **01 53 38.6 -0.9**
baz=315
OXF Oxford **60.91 70** P **P** **01 45 22.2 -1.2**
OXF S **S** **01 53 39.6 -0.1**
OXF pmax pmax
comp=Z,941nm,1.0s
OXF MLR MLR
comp=Z,7μm,20.0s
OXF Oxford **60.91 70** P **P** **01 45 22.2 -1.2**
OXF **S** **01 53 39.6 -0.1**
OXF IAMs_20 IAMs_20 02 11 54.2
comp=Z,7μm,20.0s
OXF Oxford **60.91 70** P **P** **01 45 22.4 -1.1**
baz=315,SNR=29
OXF S **S** **01 53 36.3 -3.4**
baz=315
MEDO Medina **60.98 56** IAmb IAmb 01 45 32.9
comp=Z,354nm,1.3s
M53A WI Miller and **61.02 59** IAMs_20 IAMs_20 02 12 34.1
comp=Z,8μm,20.0s
M53A WI Miller and **61.02 59** P **P** **01 45 23.7 -0.4**
baz=315,SNR=22
M53A S **S** **01 53 38.0 -2.9**
baz=315
KURK Kurchatov **61.04 316** *c i* P **P** **01 45 23.4 -0.6**
KURK pmax pmax
comp=Z,258nm,2.5s
KURK MLR MLR
comp=Z,24μm,18.0s
KURK Kurchatov **61.04 316** P **P** **01 45 23.5 -0.6**
KURK IAmb IAmb 01 45 25.5
comp=Z,179nm,1.4s
KURK Kurchatov **61.04 316** P **P** **01 45 24.4 +0.4**
KURK P **P** **01 45 24.4 +0.4**
KURK P **P** **01 45 24.4 +0.4**
KURK Kurchatov **61.04 316** ⇑P **P** **01 45 23.4 -0.6**
P51A Williamsport **61.08 62** IAmb IAmb 01 45 40.3
comp=Z,259nm,1.3s
KURBB Kurchatov Arra **61.14 316** P **P** **01 45 24.0 -0.7**
comp=Z,23nm,0.4s,baz=42,slow=6.6,SNR=5.1
KURBB LR LR 02 13 50.0
comp=Z,23μm,18.1s,baz=32,slow=38
KURBB Kurchatov Arra **61.14 316** P **P** **01 45 23.6 -1.2**
PECO Prince Edward **61.20 55** P **P** **01 45 25.1 -0.2**
ZAIG Zacatecas **61.20 89** P **P** **01 45 25.5 -0.4**
J55A Hilton **61.24 56** IAmb IAmb 01 45 41.5
comp=Z,208nm,0.9s
N2RO R_st **61.32 357** *e*P **P** **01 45 24.5 -1.1**
FAUS Fäuske **61.33 356** *e*P **P** **01 45 24.6 -1.1**
FAUS IVmB_BB 01 45 25.4
comp=Z,3μm,1.9s
FAUS *e*PP **PP** **01 47 38.5 -1.8**
FAUS *e*S **S** **01 53 46.9 +2.7**
FAUS IVMs_BB IVMs_BB 02 09 13.0
comp=Z,3μm,5.1s
PLAL Pickwick Lake **61.37 69** P **P** **01 45 25.0 -1.5**
PLAL IAMs_20 IAMs_20 02 14 51.2
comp=Z,7μm,18.0s
GZH Guangzhou **61.43 272** P P 01 45 22.1 -5.0
GZH PP **PP** **01 47 36.0 -6.3**
GZH S **S** **01 53 37.9 -8.7**
GZH pmax pmax
comp=Z,4μm,6.0s
GZH LR LR
comp=Z,4μm,16.9s
GZH LR LR
comp=Z,6μm,16.9s
WVNY West Valley, N **61.44 57** IAmb IAmb 01 45 53.5
comp=Z,293nm,1.2s
HKC Hong Kong Obse **61.49 271** ⇑P **P** **01 45 29.0 +1.5**
P52A Corning **61.49 61** IAmb IAmb 01 45 43.7
comp=Z,250nm,1.2s
P52A IAMs_20 IAMs_20 02 12 00.7
comp=Z,11μm,20.0s
P52A Corning **61.49 61** P **P** **01 45 26.0 -1.3**
baz=315,SNR=10
P52A S **S** **01 53 44.3 -2.7**
baz=315
M54A Oil Creek Stat **61.51 58** IAmb IAmb 01 45 37.6
comp=Z,221nm,1.0s
M54A Oil Creek Stat **61.51 58** P **P** **01 45 26.8 -0.6**
baz=315,SNR=22
M54A S **S** **01 53 45.9 -1.3**
baz=315
HKPS Hong Kong Po S **61.52 271** P **P** **01 45 28.7 +0.9**
HKPS IAmb IAmb 01 45 51.4
comp=Z,217nm,1.3s
HKPS IAMs_20 IAMs_20 02 17 15.6
comp=Z,6μm,19.0s
O53A New Philadelph **61.56 60** P **P** **01 45 27.2 -0.5**
baz=315,SNR=16
O53A S **S** **01 53 45.3 -2.5**
baz=315
V48A Smith Brothers **61.56 68** IAmb IAmb 01 45 44.1
comp=Z,256nm,1.1s
MMNY Mt. Morris Dam **61.57 56** IAmb IAmb 01 45 36.6
comp=Z,346nm,1.4s
U49A Red Boiling Sp **61.62 66** IAmb IAmb 01 45 44.0
comp=Z,342nm,1.3s
GULI GuiLin **61.69 276** ⇑P **P** **01 45 29.4 +0.5**
GULI S **S** **01 53 44.0 -5.9**
GULI pmax pmax
comp=Z,130nm,1.3s
GULI LR LR
comp=Z,3μm,19.5s
GULI LR LR
comp=Z,4μm,19.5s
GULI LR LR
comp=Z,7μm,18.4s
WMQ Urumqi **61.70 306** P **P** **01 45 28.8 +0.1**
WMQ sP pwP 01 45 41.1 -0.2
WMQ PcS **PcS** **01 50 13.0 +0.1**
WMQ S **S** **01 53 48.9 -0.8**
WMQ sS sS 01 54 01.3 +0.7
WMQ ScS **SKKSac** **01 55 17.4 -1.1**
WMQ pmax pmax
comp=Z,150nm,1.7s
WMQ pmax pmax
comp=Z,2μm,5.3s
WMQ LR LR
comp=Z,21μm,20.1s
WMQ LR LR
comp=Z,20μm,22.3s
WMQ LR LR
comp=Z,11μm,23.1s
N54A Moraine State **61.72 59** IAMs_20 IAMs_20 02 13 14.7
comp=Z,9μm,20.0s
N54A Moraine State **61.72 59** P **P** **01 45 28.4 -0.5**
baz=315,SNR=37
N54A S **S** **01 53 47.6 -2.3**
baz=315
CD2 Chengdu **61.75 285** P **P** **01 45 29.8 +0.6**
CD2 S **S** **01 53 56.4 +5.8**
CD2 SS **SS** **01 57 52.4 +0.4**
CD2 pmax pmax
comp=Z,300nm,1.4s
CD2 LR LR
comp=Z,12μm,18.9s
CD2 LR LR
comp=Z,11μm,18.9s
MNTQ Montreal, Queb **61.78 52** IAmb IAmb 01 45 29.1
comp=Z,265nm,1.1s
MNTQ Montreal, Queb **61.78 52** ⇑P **P** **01 45 27.8 -1.4**
T50A Nancy **61.80 65** P **P** **01 45 28.6 -0.9**
ICQ Pointe Anglais **61.84 45** ⇑P **P** **01 45 28.5 -0.9**
VBMS Vicksburg **61.86 73** IAMs_20 IAMs_20 02 13 43.7
comp=Z,8μm,20.0s
VBMS Vicksburg **61.86 73** P **P** **01 45 30.0 +0.1**
baz=315,SNR=10
VBMS S **S** **01 53 52.0 +0.1**
baz=315
Q52A Bidwell **61.88 62** IAmb IAmb 01 45 44.1
comp=Z,239nm,1.1s
LONY Lake Ozonia **61.93 53** IAMs_20 IAMs_20 02 15 40.9
comp=Z,11μm,19.0s
LONY Lake Ozonia **61.93 53** P **P** **01 45 29.2 -1.0**
baz=316,SNR=83
LONY S **S** **01 53 50.5 -2.0**
baz=316
O54A Avella **62.06 60** P **P** **01 45 30.6 -0.5**
O54A **S** **01 53 53.7 -0.5**
MK31 Makanchi Array **62.22 311** P **P** **01 45 31.3 -0.9**
MK31 pmax pmax
comp=Z,61nm,1.3s
MK31 Makanchi Array **62.22 311** P **P** **01 45 31.2 -0.9**
MKAR Makanchi Array **62.22 311** P **P** **01 45 30.9 -1.3**
comp=Z,16nm,0.4s,baz=46,slow=6.4,SNR=210
MKAR PKPPKP **P'P'df** **02 14 43.0 -1.6**
comp=Z,1.4nm,1.0s,baz=221,slow=2.6,SNR=5.5
MKAR LR LR 02 15 36.7
comp=Z,10μm,18.0s,baz=39,slow=39
MKAR Makanchi Array **62.22 311** P **P** **01 45 31.0 -1.2**
MKAR Makanchi Array **62.22 311** P **P** **01 45 31.0 -1.2**
FRNY Flat Rock **62.27 52** IAmb IAmb 01 45 32.6
comp=Z,207nm,1.2s
KONS Konsvik **62.30 357** *e*P **P** **01 45 31.7 -0.6**
BORG Borgarnes **62.31 13** IAMs_20 IAMs_20 02 16 12.7
comp=Z,5μm,19.0s
X48A Hartselle **62.34 69** IAmb IAmb 01 45 49.0
comp=Z,305nm,1.3s
MAKZ Makanchi **62.36 311** P **P** **01 45 31.9 -1.2**
MAKZ pmax pmax
comp=Z,52nm,1.1s
MAKZ MLR MLR
comp=Z,11μm,20.0s
MAKZ Makanchi **62.36 311** P **P** **01 45 31.9 -1.2**
MAKZ IAMs_20 IAMs_20 02 13 04.1
comp=Z,11μm,20.0s
MAKZ Makanchi **62.36 311** ⇑P **P** **01 45 31.8 -1.3**
SWET Sewanee **62.45 67** IAmb IAmb 01 45 49.9
comp=Z,267nm,1.3s
STOK Stokkvaagen **62.47 357** *e*P **P** **01 45 32.8 -0.7**
R53A Hurricane **62.50 62** P **P** **01 45 33.7 -0.5**
MOR8 Moi Rana **62.58 356** *e*P **P** **01 45 32.3 -1.9**
MOR8 IVmB_BB 01 45 32.6
comp=Z,2μm,3.0s
MOR8 *e*S **S** **01 53 60.0 -0.1**
MOR8 IVMs_BB IVMs_BB 02 17 30.1
comp=Z,2μm,5.0s
BRVK Borovoye **62.69 322** *c i* P **P** **01 45 34.5 -0.7**
BRVK pmax pmax
comp=Z,144nm,2.5s
BRVK MLR MLR
comp=Z,30μm,19.0s
BRVK Borovoye **62.69 322** P **P** **01 45 34.8 -0.5**
BRVK Borovoye **62.69 322** P **P** **01 45 34.9 -0.3**
BRVK P **P** **01 45 34.9 -0.3**
BRVK P **P** **01 45 34.9 -0.3**
BRVK Borovoye **62.69 322** ⇑P **P** **01 45 34.7 -0.5**
MCWV Mont Chateau **62.72 60** P **P** **01 45 35.6 0.0**
baz=316,SNR=29
MCWV S **S** **01 54 01.5 -1.1**
baz=316
TZTN Tazewell **62.87 65** P **P** **01 45 36.0 -0.6**
baz=316,SNR=16
TZTN S **S** **01 54 03.3 -1.3**
baz=316
PRGR Permogore **62.93 340** *e*P **P** **01 45 33.7 -2.8**
PRGR pmax pmax
comp=Z,672nm,1.5s
V51A Loudon **62.94 66** IAmb IAmb 01 45 52.8
comp=Z,271nm,1.1s
BINY Binghamton **62.95 56** P **P** **01 45 37.1 0.0**
baz=316,SNR=63
BINY S **S** **01 54 05.7 +0.3**
baz=316
M57A Sunshine Farm, **62.97 57** IAmb IAmb 01 45 53.0
comp=Z,150nm,0.9s
O56A Blue Knob Stat **62.97 59** IAmb IAmb 01 45 54.1
comp=Z,260nm,1.1s
O56A Blue Knob Stat **62.97 59** P **P** **01 45 36.4 -0.9**
baz=316,SNR=25
O56A S **S** **01 54 05.1 -0.7**
baz=316
VT1 Waterbury **63.05 52** IAmb IAmb 01 45 38.5
comp=Z,268nm,1.1s
SVE Sverdlovsk **63.07 330** *d i* P **P** **01 45 37.6 0.0**
SVE *e* 01 49 32.7
SVE *e*S **S** **01 54 07.3 +0.9**
SVE *e* 01 58 18.4
SVE pmax pmax
comp=Z,139nm,1.3s
SVE MLR MLR
comp=N,9μm,19.0s
SVE MLR MLR
comp=Z,19μm,18.0s
SVE MLR MLR
comp=E,13μm,18.0s
SSPA Standing Stone **63.07 58** P **P** **01 45 37.5 -0.3**
SSPA Standing Stone **63.07 58** ⇑P **P** **01 45 37.3 -0.6**
SSPA Standing Stone **63.07 58** P **P** **01 45 37.6 -0.3**
baz=316
SSPA S **S** **01 54 07.0 +0.1**
baz=316
CPCT Cooper Cave **63.09 66** IAmb IAmb 01 45 54.5
comp=Z,258nm,1.2s
Y49A Blount Mountai **63.13 69** IAmb IAmb 01 45 53.8
comp=Z,307nm,1.2s
GYA Guiyang **63.15 279** ⇑*i* P **P** **01 45 38.8 +0.1**
GYA S **S** **01 54 10.3 +1.8**
GYA pmax pmax
comp=Z,140nm,2.2s
GYA pmax pmax
comp=Z,3μm,3.5s
GYA LR LR
comp=Z,3μm,18.5s
GYA LR LR
comp=Z,6μm,19.6s
GYA LR LR

comp=Z,7μm,20.6s
GOMU GeErMu 63.26 295 P **P** **01 45 39.4 -0.3**
GOMU pP pP 01 45 43.8 -2.3
GOMU sP sP 01 45 45.4 -3.1
GOMU PcP **PcP** **01 46 19.0 +2.2**
GOMU PP **PP** **01 47 58.8 +0.3**
GOMU S **S** **01 54 08.8 -1.4**
GOMU sS sS 01 54 19.6 -1.1
GOMU SS **SS** **01 58 17.3 +1.3**
GOMU pmax pmax
comp=Z,120nm,1.1s
GOMU pmax pmax
comp=Z,720nm,5.7s
GOMU LR LR
comp=Z,9μm,18.9s
GOMU LR LR
comp=Z,7μm,18.6s
GOMU LR LR
comp=Z,5μm,19.9s
ACCN Adirondack Com 63.28 53 P **P** **01 45 38.1 -1.1**
LRAL Lakeview Retre 63.37 70 IAmb IAmb 01 45 55.9
comp=Z,186nm,1.3s
LRAL IAMs_20 IAMs_20 02 15 57.3
comp=Z,9μm,18.0s
LRAL Lakeview Retre 63.37 70 P **P** **01 45 37.9 -2.1**
baz=316
LRAL S **S** **01 54 06.8 -4.0**
baz=316
TGY Tagaytay City 63.43 259 P **P** **01 45 42.0 +1.4**
comp=Z,250nm,0.4s,baz=323,slow=2.0,SNR=25
TGY LR LR 02 08 44.2
comp=Z,2μm,21.8s,baz=108,slow=32
Q56A Snyder Ridge, 63.52 60 IAmb IAmb 01 45 57.2
comp=Z,201nm,1.1s
LBNH Lisbon 63.52 52 P **P** **01 45 40.5 -0.4**
LBNH pmax pmax
comp=Z,292nm,1.2s
LBNH MLR MLR
comp=Z,13μm,18.0s
LBNH Lisbon 63.52 52 P **P** **01 45 40.5 -0.4**
LBNH IAmb IAmb 01 45 41.8
comp=Z,292nm,1.2s
LBNH Lisbon 63.52 52 P **P** **01 45 40.4 -0.4**
baz=317,SNR=31
LBNH S **S** **01 54 09.3 -3.2**
baz=317
KSPA Keystone Colle 63.53 56 IAmb IAmb 01 46 07.6
comp=Z,235nm,1.1s
N58A Sunbury 63.55 57 IAmb IAmb 01 45 51.5
comp=Z,204nm,0.9s
PQI Presque Isle 63.60 48 IAmb IAmb 01 45 41.5
comp=Z,116nm,1.0s
H62A Milan 63.66 51 P **P** **01 45 41.1 -0.6**
W52A Murphy 63.69 66 IAmb IAmb 01 45 58.6
comp=Z,339nm,1.4s
HNH Hanover 63.74 52 IAmb IAmb 01 45 43.4
comp=Z,245nm,1.2s
TRY Troy 63.75 54 P **P** **01 45 41.5 -0.8**
TRY IAmb IAmb 01 45 43.6
comp=Z,312nm,1.2s
F63A Nahmakanta, Br 63.81 49 IAmb IAmb 01 45 43.4
comp=Z,249nm,1.1s
P57A Homestead Farm 63.83 59 IAmb IAmb 01 46 02.5
comp=Z,310nm,1.2s
N59A State Game Lan 63.99 57 P **P** **01 45 43.9 -0.1**
baz=317,SNR=44
N59A S **S** **01 54 19.6 +1.2**
baz=317
BATG Bathurst New B 64.04 46 IAmb IAmb 01 45 45.1
comp=Z,230nm,1.3s
PKME Peaks-Kenny Pk 64.05 49 IAmb IAmb 01 45 45.0
comp=Z,225nm,1.1s
PKME Peaks-Kenny Pk 64.05 49 P **P** **01 45 43.7 -0.5**
baz=318,SNR=20
PKME S **S** **01 54 16.3 -2.6**
baz=318
ARU Arti 64.05 331 LR LR 02 17 14.6
comp=Z,16μm,20.1s,baz=48,slow=39
ARU Arti 64.05 331*c i* P **P** **01 45 43.3 -0.7**
ARU 01 46 16.1
ARU 01 48 03.9
ARU S **S** **01 54 20.7 +2.1**
ARU SS **SS** **01 58 19.6 -6.9**
ARU SSS SSS 02 01 15.3
ARU pmax pmax
comp=Z,74nm,1.2s
ARU MLR MLR
comp=Z,16μm,20.0s
ARU Arti 64.05 331 P **P** **01 45 43.4 -0.7**
ARU Arti 64.05 331 ⇑P **P** **01 45 43.3 -0.7**
BRZS Berezniki 64.11 319*c i* P **P** **01 45 43.5 -1.1**
BRZS pmax pmax
comp=Z,197nm,2.8s
BRZS Berezniki 64.11 319⇑*i* P **P** **01 45 43.6 -1.1**
comp=Z,197nm,2.8s,baz=319
BLA Blacksburg 64.15 62 P **P** **01 45 44.8 -0.4**
baz=316,SNR=18
BLA S **S** **01 54 20.7 +0.2**
baz=316
FFD Franklin Falls 64.22 52 IAmb IAmb 01 45 46.5
comp=Z,290nm,1.2s
NSS Namsos 64.31 357*e* P **P** **01 45 44.9 -0.8**
NSS *e*PP **PP** **01 48 06.7 +0.2**
NSS *e*S **S** **01 54 24.0 +2.4**
NSS *e*SS **SS** **01 58 32.9 +2.6**
NSS IVMs_BB IVMs_BB 02 14 33.1
comp=Z,4μm,19.5s
MOIG Morelia 64.34 90 P **P** **01 45 46.4 -0.4**
MOIG IAmb IAmb 01 46 04.6
comp=Z,283nm,1.4s
MVL Millersville 64.35 58 IAmb IAmb 01 46 00.7
comp=Z,163nm,1.0s
WVL Waterville 64.39 50 IAmb IAmb 01 45 47.0
comp=Z,286nm,1.2s
L61B Northampton 64.46 53 IAmb IAmb 01 45 48.1
comp=Z,200nm,1.2s
L61B Northampton 64.46 53 P **P** **01 45 46.5 -0.5**
baz=317,SNR=23
L61B S **S** **01 54 22.6 -1.5**
baz=317
Y52A Lilburn 64.49 67 IAmb IAmb 01 46 03.8
comp=Z,317nm,1.2s
SDMD Soldier's Deli 64.51 58 P **P** **01 45 47.0 -0.4**
SDMD IAmb IAmb 01 46 01.8
comp=Z,145nm,0.9s
HNR Honiara 64.56 208 LR LR 02 09 06.6
comp=Z,4μm,20.1s,baz=12,slow=31
HNR Honiara 64.56 208 IAMs_20 IAMs_20 02 19 27.3
comp=Z,6μm,20.0s
KSCT Kent School, K 64.58 55 IAmb IAmb 01 45 49.3
comp=Z,317nm,1.2s
TRNY Table Rock, Ra 64.62 55 IAmb IAmb 01 45 49.6
comp=Z,300nm,1.4s
BRAL Brewton 64.68 71 IAMs_20 IAMs_20 02 17 28.1
comp=Z,6μm,19.0s
BRAL Brewton 64.68 71 S **S** **01 54 26.8 -0.2**
baz=316
QUA2 Belchertown 64.75 53 IAmb IAmb 01 45 50.0
comp=Z,266nm,1.2s
QUA2 IAMs_20 IAMs_20 02 14 05.5
comp=Z,11μm,20.0s
BRNJ Basking Ridge 64.78 56 P **P** **01 45 49.0 -0.1**
KLMR Klimovskoe 64.87 343*e* P **P** **01 45 45.1 -4.3**
KLMR *e* 01 46 19.1
KLMR *e*S **S** **01 54 24.9 -3.7**
KLMR *e*SS **SS** **01 58 38.2 -0.9**
KLMR pmax pmax
comp=Z,188nm,1.3s
KLMR Klimovskoe 64.87 343*e*P **P** **01 45 45.2 -4.2**
KLMR AMP 01 45 49.6
comp=Z,188nm,1.3s
KLMR *e*PcP **PcP** **01 46 19.2 -3.3**
KLMR *e*S **S** **01 54 24.9 -3.7**
KLMR *e*S **S** **01 54 24.9 -3.7**
KLMR *e*SS **SS** **01 58 38.3 -0.9**
KLMR *e*SS **SS** **01 58 38.3 -0.9**
KLMR LQ LQ 02 10 12.9
KLMR LQ LQ 02 10 12.9
KLMR LR LR 02 13 28.6
KLMR AMP 02 21 19.2
comp=Z,8μm,16.5s
PAL Palisades 64.89 55 IAMs_20 IAMs_20 02 14 05.3
comp=Z,9μm,19.0s
PAL Palisades 64.89 55 P **P** **01 45 49.6 -0.2**
baz=317,SNR=32
PAL S **S** **01 54 31.4 +2.1**
baz=317
G65A Princeton 64.91 48 IAmb IAmb 01 45 50.6
comp=Z,310nm,1.2s
T57A Hurt 64.95 62 IAmb IAmb 01 46 04.1
comp=Z,296nm,1.2s
152A Waverly Hall 64.97 69 IAmb IAmb 01 46 06.2
comp=Z,279nm,1.4s
HRV Adam Dziewonsk 64.98 53 P **P** **01 45 50.1 -0.2**
HRV pmax pmax
comp=Z,303nm,1.2s
HRV MLR MLR
comp=Z,14μm,18.0s
HRV Adam Dziewonsk 64.98 53 P **P** **01 45 50.1 -0.2**
HRV IAmb IAmb 01 45 51.6
comp=Z,303nm,1.2s
HRV Adam Dziewonsk 64.98 53 ⇑P **P** **01 45 50.0 -0.4**
HRV Adam Dziewonsk 64.98 53 P **P** **01 45 50.1 -0.2**
baz=318
HRV S **S** **01 54 29.3 -1.1**
baz=318
R58B Mineral 65.00 60 IAmb IAmb 01 46 05.6
comp=Z,213nm,1.1s
AFI Afiamalu 65.06 177 LR LR 02 13 34.3
comp=Z,4μm,18.2s,baz=354,slow=35
AFI Afiamalu 65.06 177 P **P** **01 45 51.2 +0.1**
AFI pmax pmax
comp=Z,64nm,1.2s
AFI MLR MLR
comp=Z,6μm,18.0s
AFI Afiamalu 65.06 177 P **P** **01 45 51.1 +0.1**
AFI Afiamalu 65.06 177 IAMs_20 IAMs_20 02 14 09.2
comp=Z,6μm,18.0s
CBN Corbin Frederi 65.10 60 IAMs_20 IAMs_20 02 15 20.3
comp=Z,10μm,20.0s
CBN Corbin Frederi 65.10 60 P **P** **01 45 51.4 +0.2**
baz=317,SNR=9.6
CBN S **S** **01 54 32.5 +0.4**
baz=317
KMSC Kings Mountain 65.13 64 P **P** **01 45 50.6 -0.9**
KMSC Kings Mountain 65.13 64 P **P** **01 45 50.8 -0.7**
baz=317,SNR=36
KMSC S **S** **01 54 31.3 -1.2**
baz=317
YLE Yale 65.16 54 IAmb IAmb 01 45 51.9
comp=Z,205nm,1.3s
GOGA Godfrey 65.16 67 P **P** **01 45 49.9 -1.8**
baz=317,SNR=14
GOGA S **S** **01 54 28.0 -4.9**
baz=317
BCX Boston College 65.30 53 IAmb IAmb 01 45 52.7
comp=Z,222nm,1.5s
GGN Saint George 65.31 48 IAmb IAmb 01 45 53.1
comp=Z,314nm,1.2s
TDK Taldyqorghan 65.37 312*c i* P **P** **01 45 52.8 -0.1**
TDK pmax pmax
comp=Z,77nm,1.4s
TDK MLR MLR
comp=Z,9μm,18.0s
TDK Taldyqorghan 65.37 312⇑*i* P **P** **01 45 52.9 -0.1**
comp=Z,77nm,1.4s,baz=312
TDK LR LR 02 15 35.8
comp=Z,9μm,18.4s,baz=312
OTUK Ortayu 65.59 318 P **P** **01 45 53.6 -0.7**
TBLU Trondheim 65.64 358*e* P **P** **01 45 52.6 -1.7**
TBLU *e*S **S** **01 54 37.4 -0.6**
LMN Caledonia Moun 65.69 46 P **P** **01 45 54.2 -0.7**
L64A Middleborough 65.76 53 IAmb IAmb 01 45 56.6
comp=Z,244nm,1.2s
VALR Valaam 65.82 347⇑*e* P **P** **01 45 54.6 -0.8**
VALR pmax pmax
comp=Z,293nm,1.2s
VALR MLR MLR
comp=Z,6μm,17.0s
UNM Universidad Na 65.86 89 IAMs_20 IAMs_20 02 13 16.0
comp=Z,6μm,19.0s
W57A Gilead 65.88 64 IAmb IAmb 01 46 10.1
comp=Z,282nm,1.3s
DAV Davao City (W) 66.14 250 P **P** **01 45 58.8 +0.6**
comp=Z,158nm,0.4s,baz=10,slow=6.9,SNR=4.1
DAV LR LR 02 10 29.7
comp=Z,4μm,22.0s,baz=74,slow=32
DAV Davao City (W) 66.14 250 P **P** **01 45 59.3 +1.1**
PZH PanZhiHua 66.14 283 ⇑P **P** **01 45 58.9 +0.6**
PZH sP **sP** **01 46 08.5 +1.4**
PZH PP **PP** **01 48 25.1 +1.4**
PZH PcS 01 50 33.8
PZH S **S** **01 54 45.3 -0.1**
PZH sS **sS** **01 54 59.0 +2.9**
PZH SS **SS** **01 59 03.8 +3.0**
PZH pmax pmax
comp=Z,270nm,2.0s
PZH pmax pmax
comp=Z,4μm,4.9s
PZH LR LR
comp=Z,4μm,20.2s
PZH LR LR
comp=Z,4μm,18.8s
PZH LR LR
comp=Z,5μm,18.0s
DRLN Deer Lake 66.16 40 P **P** **01 45 57.0 -1.0**
DRLN IAmb IAmb 01 45 58.6
comp=Z,148nm,1.0s
DRLN Deer Lake 66.16 40 ⇑P **P** **01 45 57.0 -1.0**
U59A Littleton 66.22 61 IAmb IAmb 01 46 12.8
comp=Z,293nm,1.2s
SHLS Shalkode 66.26 310*c i* P **P** **01 45 57.8 -1.0**
SHLS *e*S **S** **01 54 46.6 +0.2**
SHLS pmax pmax
comp=Z,219nm,1.5s
SHLS Shalkode 66.26 310⇑*i* P **P** **01 45 57.8 -1.0**
comp=Z,218nm,1.5s,baz=310
SHLS *e*S **S** **01 54 46.6 +0.2**
baz=310
FIA1 FINESS Array S 66.35 350 P **P** **01 45 57.7 -1.2**
FIA1 IAmb IAmb 01 45 59.1
comp=Z,190nm,1.1s
FINES FINESS Array B 66.35 350 P **P** **01 45 57.5 -1.3**
comp=Z,66nm,0.9s,baz=13,slow=6.8,SNR=102
FINES PcP **PcP** **01 46 28.7 +0.2**
comp=Z,19nm,0.6s,baz=46,slow=5.5,SNR=6.4
FINES PKPPKP P'P'df 02 14 30.1 -8.9
comp=Z,2.8nm,0.9s,baz=174,slow=5.2,SNR=3.5
FINES LR LR 02 18 01.2
comp=Z,8μm,19.7s,baz=14,slow=39
MOL Molde 66.37 359*e* P **P** **01 45 58.6 -0.4**
MOL IVmB_BB 01 45 59.1
comp=Z,2μm,3.5s
MOL *e*S **S** **01 54 49.1 +2.2**
MOL IVMs_BB IVMs_BB 02 16 38.1
comp=Z,2μm,15.3s
KPKS Kokpek 66.40 311*c i* P **P** **01 45 59.5 -0.2**
KPKS *e*S **S** **01 54 50.3 +2.2**
KPKS pmax pmax
comp=Z,320nm,2.2s
KPKS Kokpek 66.40 311⇑*i* P **P** **01 45 59.6 -0.2**
comp=Z,320nm,2.2s,baz=311
KPKS *e*S **S** **01 54 50.3 +2.2**
baz=311
UZB Uzynbulak 66.48 310*c i* P **P** **01 46 00.1 -0.2**
UZB pmax pmax
comp=Z,246nm,2.3s
UZB Uzynbulak 66.48 310⇑*i* P **P** **01 46 00.1 -0.2**
comp=Z,246nm,2.3s,baz=310
TIGA Tifton 66.52 69 P **P** **01 45 59.8 -0.6**
baz=317,SNR=7.2
TIGA S **S** **01 54 44.0 -5.6**
baz=317
KMI Kunming 66.54 281 ⇑P **P** **01 46 01.6 +0.6**
KMI pP pP 01 46 07.3 -0.1
KMI sP sP 01 46 09.6 -0.2
KMI PP **PP** **01 48 28.9 +1.6**
KMI S **S** **01 54 50.4 0.0**
KMI sS pS 01 54 59.6 +1.2
KMI SKS **ScS** **01 55 56.8 +0.4**
KMI SS **SS** **01 59 10.3 +3.1**
KMI pmax pmax
comp=Z,120nm,2.5s
KMI pmax pmax
comp=Z,3μm,4.8s
KMI LR LR
comp=Z,6μm,16.5s
KMI LR LR
comp=Z,1μm,15.9s
KMI LR LR
comp=Z,6μm,16.5s
QIZ Qiongzhong 66.62 271 IAmb IAmb 01 46 16.9
comp=Z,160nm,1.3s
QIZ Qiongzhong 66.62 271 P **P** **01 46 01.6 +0.3**
QIZ PP **PP** **01 48 30.8 +2.9**
QIZ S **S** **01 54 53.9 +2.9**
QIZ SS **SS** **01 59 10.1 +1.8**
QIZ pmax pmax
comp=Z,32nm,1.6s
QIZ pmax pmax
comp=Z,2μm,5.1s
QIZ LR LR
comp=Z,3μm,18.6s
QIZ LR LR
comp=Z,5μm,19.6s
QIZ LR LR
comp=Z,3μm,17.3s
ZHN Zhinishke 66.75 311*i* P **P** **01 46 01.9 0.0**
ZHN pmax pmax
comp=Z,92nm,2.9s
ZHN Zhinishke 66.75 311*i* P **P** **01 46 02.0 0.0**
comp=Z,92nm,2.9s,baz=311
AKN Aaknes 66.77 359*e* P **P** **01 46 01.4 -0.2**
AKN IVmB_BB 01 46 28.9
comp=Z,2μm,3.2s
AKN *e*SKSac **SKSac** **01 55 58.2 +1.9**
AKN *e*SS **SS** **01 59 12.6 +4.0**
AKN IVMs_BB IVMs_BB 02 16 49.0
comp=Z,2μm,21.8s
TAOE Nuku Hiva Isla 66.82 143*e* P **P** **01 46 02.2 -0.4**
comp=Z,300nm,1.1s
TAOE *e*S **S** **01 54 54.3 +0.8**
comp=Z,5μm,24.9s
TAOE *e*SS **SS** **01 59 11.5 -0.7**
comp=Z,2μm,23.8s
TAOE *e*LR LR 02 06 03.8
comp=Z,6μm,20.5s,baz=355
TAOE Nuku Hiva Isla 66.82 143*e*T T 02 58 42.6
comp=Z,82nm,0.2s
TAOE Nuku Hiva Isla 66.82 143 P **P** **01 46 03.9 +1.3**
TAOE IAmb IAmb 01 46 17.6
comp=Z,265nm,1.3s
SATY Saty 66.84 310*c i*P **P** **01 46 02.6 +0.1**
SATY *e*S **S** **01 54 55.9 +2.5**
SATY pmax pmax
comp=Z,283nm,2.2s
SATY Saty 66.84 310⇑*i*P **P** **01 46 02.6 +0.1**
comp=Z,283nm,2.2s,baz=310
SATY *e*S **S** **01 54 56.0 +2.5**
baz=310
DOMB Dombas 66.88 358*e* P **P** **01 46 01.6 -0.7**
DOMB IVmB_BB 01 46 02.1
comp=Z,2μm,2.0s
DOMB *e*S **S** **01 54 54.0 +0.8**
DOMB *e*SS **SS** **01 59 12.5 +2.2**
DOMB IVMs_BB IVMs_BB 02 15 22.2
comp=Z,2μm,22.4s
CHKK Chushkaly 66.91 312*e* P **P** **01 46 01.8 -1.0**
baz=312
CNNC Cliffs of the 66.99 62 IAmb IAmb 01 46 17.7
comp=Z,298nm,1.2s
CNNC Cliffs of the 66.99 62 ⇑P **P** **01 46 03.3 0.0**
CNNC Cliffs of the 66.99 62 P **P** **01 46 03.4 0.0**
baz=318
CNNC S **S** **01 54 55.2 +0.1**
baz=318
HAL Halifax 67.17 46 IAmb IAmb 01 46 05.2
comp=Z,339nm,1.3s
KUU Kurty 67.18 312*c i*P **P** **01 46 03.4 -1.1**
KUU *i* S **S** **01 54 58.8 +1.6**
KUU pmax pmax
comp=Z,77nm,2.0s
KUU MLR MLR
comp=Z,8μm,17.0s
KUU Kurty 67.18 312⇑*i*P **P** **01 46 03.4 -1.1**
comp=Z,77nm,2.0s,baz=312
KUU *i* S **S** **01 54 58.9 +1.6**
baz=312
KUU LR LR 02 15 53.5
comp=Z,8μm,16.9s,baz=312
RAF Rauma 67.20 352*e* P **P** **01 46 03.4 -0.9**
NHSC New Hope 67.27 65 P **P** **01 46 05.3 +0.1**
baz=318
NHSC S **S** **01 54 58.4 -0.1**
baz=318
BTLS Baital 67.34 314*c i*P **P** **01 46 05.0 -0.4**
BTLS pmax pmax
comp=Z,135nm,1.6s
BTLS Baital 67.34 314⇑*i*P **P** **01 46 05.1 -0.4**
comp=Z,136nm,1.6s,baz=314
FOO Floro 67.36 0*e*P **P** **01 46 04.7 -0.5**
FOO IVmB_BB 01 46 05.0
comp=Z,2μm,3.8s
FOO *e*S **S** **01 55 00.8 +2.1**
FOO IVMs_BB IVMs_BB 02 21 24.1
comp=Z,1μm,4.7s
MDOK Medeo 67.41 311*i* P **P** **01 46 05.8 -0.3**
MDOK MLR MLR
comp=Z,4μm,16.0s
MDOK Medeo 67.41 311*i* P **P** **01 46 05.8 -0.3**
baz=311
MDOK LR LR 02 15 55.3
comp=Z,4μm,16.4s,baz=311
PUL Pulkovo 67.42 347*ce*P **P** **01 46 04.6 -1.1**
PUL pmax pmax
comp=Z,150nm,1.0s
PUL MLR MLR
comp=Z,10μm,19.0s
AAA Alma-Ata 67.43 311*e*P **P** **01 46 06.3 +0.1**
AAA pmax pmax
comp=Z,151nm,1.5s
AAA MLR MLR
comp=Z,8μm,15.0s
AAA Alma-Ata 67.43 311*e*P **P** **01 46 06.4 +0.1**
comp=Z,151nm,1.5s,baz=312
AAA LR LR 02 15 57.1
comp=Z,8μm,15.3s,baz=312
TNSS Tian-Shan 67.55 311*i* P **P** **01 46 07.2 -0.1**
baz=311
NC204 NORSAR Array S 67.61 357 IAmb IAmb 01 46 07.9
comp=Z,296nm,1.1s
NC204 NORSAR Array S 67.61 357*e*P **P** **01 46 06.2 -0.8**
NC303 NORSAR Array S 67.64 357 IAmb IAmb 01 46 08.0
comp=Z,205nm,1.2s
NC303 NORSAR Array S 67.64 357*e*P **P** **01 46 06.7 -0.5**
MEF Metsahovi 67.73 350*e*P **P** **01 46 06.6 -1.1**
HYA Hoyanger 67.79 360*e*P **P** **01 46 07.9 -0.1**
HYA *e*S **S** **01 55 05.1 +1.2**
NB201 NORSAR Array S 67.82 357*e*P **P** **01 46 07.9 -0.4**
NB2 NORSAR Subarra 67.83 357 P **P** **01 46 07.8 -0.6**
comp=Z,262nm,1.2s,baz=5.0,slow=6.5
NB2 NORSAR Subarra 67.83 357 P **P** **01 46 07.8 -0.6**
baz=5.0,slow=6.5
NOA NORSAR Array B 67.83 357 P **P** **01 46 07.4 -1.0**
comp=Z,18nm,1.0s,baz=4.8,slow=6.8,SNR=92
NOA PKPPKP **P'P'df** **02 14 31.4 -5.2**
comp=Z,2.8nm,1.0s,baz=177,slow=3.4,SNR=5.2
NOA LR LR 02 16 37.0
comp=Z,4μm,18.6s,baz=10.0,slow=37
SUE Sulen 67.90 1*e*P **P** **01 46 08.0 -0.7**
SUE *e*S **S** **01 55 05.4 +0.2**
NAO01 NORSAR Array S 68.04 357 P **P** **01 46 09.2 -0.5**
NAO01 IAmb IAmb 01 46 09.6
comp=Z,259nm,1.4s
NC602 NORSAR Array S 68.13 357 IAmb IAmb 01 46 10.9
comp=Z,327nm,1.2s
NC602 NORSAR Array S 68.13 357*e*P **P** **01 46 09.7 -0.5**
AAL Aland 68.19 352*e*P **P** **01 46 09.5 -1.0**
SKAR Skarslia 68.26 359*e*P **P** **01 46 10.6 -0.5**
SKAR *e*S **S** **01 55 10.4 +0.7**
SKAR *e*SS **SS** **01 59 38.9 +7.2**
SKAR IVMs_BB IVMs_BB 02 20 38.9
comp=Z,2μm,17.0s
TKM2 Tokmak 2 68.27 312 P **P** **01 46 11.8 +0.1**
SNR=58
TKM2 Tokmak 2 68.27 312 P **P** **01 46 11.2 -0.5**
SGDS Sogindy 68.31 313*e*P **P** **01 46 11.4 -0.3**
SGDS pmax pmax
comp=Z,249nm,2.1s
SGDS Sogindy 68.31 313⇑*i*P **P** **01 46 11.8 +0.1**
comp=Z,250nm,2.1s,baz=313
SGDS *i* S **S** **01 55 13.7 +2.8**
baz=313
BOOM Boomskoye usch 68.44 312 IAmb IAmb 01 46 14.1
comp=Z,174nm,1.4s
ASK Askoy 68.48 0*e*P **P** **01 46 12.6 +0.2**
ASK *e*PP **PP** **01 48 41.9 -1.0**
ASK *e*S **S** **01 55 12.3 +0.1**

ASK IVMs_BB IVMs_BB 02 25 58.0
comp=Z,5µm,19.4s
ULHL Ulahol 68.49 311 P **P** **01 46 13.6 +0.5**
SNR=6.5
SANVU Saraoutou 68.50 199 IAMs_20 IAMs_20 02 13 13.6
comp=Z,6µm,20.0s
USP Ospenovka 68.51 313 P **P** **01 46 13.2 +0.3**
SNR=85
BER Bergen 68.58 0 IVmB_BB 01 46 13.0
comp=Z,2µm,2.7s
BER *eP* **P** **01 46 13.1 +0.1**
BER *eS* **S** **01 55 15.1 +1.7**
BER IVMs_BB IVMs_BB 02 25 41.0
comp=Z,2µm,22.5s
CHMS Chumysh 68.60 313 P **P** **01 46 13.8 +0.3**
SNR=52
UPP Uppsala 68.69 354 *eP* **P** **01 46 12.6 -1.0**
KBK Karagaybulak 68.78 312 P **P** **01 46 15.0 +0.2**
SNR=71
OSL Oslo 68.95 357 *eP* **P** **01 46 15.6 +0.3**
OSL *eS* **S** **01 55 19.5 +1.7**
OSL IVMs_BB IVMs_BB 02 16 21.7
comp=Z,2µm,14.2s
AAK Ala-Archa 69.00 313 LR LR 02 19 06.8
comp=Z,13µm,18.7s,baz=40,slow=38
AAK Ala-Archa 69.00 313*c iP* **P** **01 46 16.3 +0.2**
AAK pmax pmax
comp=Z,238nm,1.7s
AAK MLR MLR
comp=Z,13µm,18.0s
AAK Ala-Archa 69.00 313 P **P** **01 46 16.4 +0.2**
AAK IAmb IAmb 01 46 18.4
comp=Z,232nm,1.4s
AAK Ala-Archa 69.00 313 P **P** **01 46 16.4 +0.2**
AAK P **P** **01 46 16.4 +0.2**
AAK P **P** **01 46 16.4 +0.2**
AAK Ala-Archa 69.00 313 ⇑P **P** **01 46 16.3 +0.2**
AAK Ala-Archa 69.00 313 *i* P **P** **01 46 16.5 +0.2**
SNR=106
ODD1 Odda 69.05 360 *eP* **P** **01 46 15.9 -0.1**
ODD1 *eS* **S** **01 55 19.1 0.0**
LKP Lekhapani 69.09 288 *eP* **P** **01 46 18.4 +1.6**
PMG Port Moresby 69.11 221 LR LR 02 11 37.7
comp=Z,3µm,21.4s,baz=38,slow=32
PMG Port Moresby 69.11 221 P **P** **01 46 17.8 +1.0**
PMG pmax pmax
comp=Z,120nm,1.3s
PMG Port Moresby 69.11 221 P **P** **01 46 17.8 +1.0**
PMG IAmb IAmb 01 46 35.9
comp=Z,120nm,1.2s
MSVF Nonsavu 69.16 188 P **P** **01 46 17.8 +0.7**
comp=Z,7.1nm,0.8s,baz=338,slow=12,SNR=7.0
MSVF LR LR 02 13 27.1
comp=Z,8µm,19.0s,baz=348,slow=33
MSVF PKPPKP **P'P'df** **02 14 25.8 +4.6**
comp=Z,1.6nm,0.4s,baz=187,slow=8.4,SNR=8.6
MSVF Nonsavu 69.16 188⇑*eP* **P** **01 46 18.1 +1.0**
MSVF pmax pmax
comp=Z,147nm,1.8s
MSVF MLR MLR
comp=Z,5µm,18.0s
MSVF Nonsavu 69.16 188 P **P** **01 46 17.6 +0.5**
VSU Vasula 69.17 348*c iP* **P** **01 46 15.8 -0.9**
VSU pmax pmax
comp=Z,960nm,1.2s
VSU MLR MLR
comp=Z,13µm,19.0s
VSU Vasula 69.17 348 *eP* **P** **01 46 15.8 -0.9**
VSU Vasula 69.17 348 ⇑P **P** **01 46 14.6 -2.1**
MTSE Matsula 69.27 350 *eP* **P** **01 46 16.2 -1.1**
KONO Kongsberg 69.27 358*c iP* **P** **01 46 16.6 -0.7**
KONO pmax pmax
comp=Z,213nm,1.2s
KONO MLR MLR
comp=Z,4µm,18.0s
KONO Kongsberg 69.27 358 P **P** **01 46 17.0 -0.3**
KONO IAmb IAmb 01 46 18.5
comp=Z,199nm,1.1s
KONO Kongsberg 69.27 358 IAMs_20 IAMs_20 02 16 37.7
comp=Z,5µm,20.0s
KONO Kongsberg 69.27 358 ⇑P **P** **01 46 16.9 -0.4**
KONO Kongsberg 69.27 358 *eP* **P** **01 46 16.9 -0.4**
AKTO Aktyubinsk 69.27 327 LR LR 02 21 33.0
comp=Z,12µm,18.0s,baz=40,slow=40
AKTO Aktyubinsk 69.27 327 P **P** **01 46 16.9 -0.6**
EKS2 Erkin-Say 69.31 313 P **P** **01 46 19.0 +0.9**
SNR=36
UCH Uchtor 69.31 312 P **P** **01 46 21.0 +2.5**
SNR=22
SWI Sorong 69.38 240 P **P** **01 46 19.4 +0.8**
comp=Z,4µmcomp=Z,321nm,1.1s
SIJI Sorong 69.38 240 P **P** **01 46 18.6 0.0**
comp=Z,83nm,0.9s,baz=18,slow=7.1,SNR=32
SIJI LR LR 02 14 52.9
comp=Z,1µm,18.1s,baz=60,slow=34
BLS5 Blasjo 69.54 360 IVmB_BB 01 46 19.2
comp=Z,2µm,3.5s
BLS5 *eP* **P** **01 46 19.2 +0.2**
BLS5 IVMs_BB IVMs_BB 02 15 06.1
comp=Z,2µm,15.3s
AB31 Akbulak array 69.60 325 *eP* **P** **01 46 18.9 -0.6**
ABKAR Akbulak array 69.60 325 P **P** **01 46 19.2 -0.3**
ABKAR Akbulak array 69.60 325 ⇑P **P** **01 46 19.1 -0.3**
KMY Karmoy 69.75 0 *eP* **P** **01 46 21.1 +0.8**
KMY *eS* **S** **01 55 30.2 +2.9**
AML Almayashu 69.77 313 P **P** **01 46 22.5 +1.3**
SNR=12
AML Almayashu 69.77 313 P **P** **01 46 21.8 +0.5**
AML Almayashu 69.77 313 P **P** **01 46 21.7 +0.5**
PMOR Pomariorio Ree 70.00 153 *eP* **P** **01 46 21.4 -0.8**
comp=Z,243nm,1.3s
PMOR Pomariorio Ree 70.00 153 *eT* T 03 02 41.8
comp=Z,42nm,0.2s
MOS Moscow 70.01 341 *eP* P 01 46 16.7 -5.2
MOS *e* 01 46 41.2
MOS *e* 01 49 00.7
MOS *eS* **S** **01 55 26.4 -4.0**
MOS *e* 01 56 18.0
MOS pmax pmax
comp=Z,180nm,1.3s
MOS pmax pmax
comp=Z,1µm,3.4s
LSA Lhasa 70.10 293 P **P** **01 46 24.2 +0.7**
LSA pmax pmax
comp=Z,593nm,1.2s
LSA MLR MLR
comp=Z,7µm,19.0s
LSA Lhasa 70.10 293 P **P** **01 46 24.2 +0.7**
LSA IAMs_20 IAMs_20 02 19 56.0
comp=Z,7µm,19.0s
LSA Lhasa 70.10 293 P **P** **01 46 25.4 +1.9**
LSA S **S** **01 55 37.1 +3.9**
LSA LR LR
comp=Z,4µm,22.2s
LSA LR LR
comp=Z,4µm,19.2s
LSA Lhasa 70.10 293 P **P** **01 46 25.6 +2.1**
LSA P **P** **01 46 25.6 +2.1**
LSA Lhasa 70.10 293 P **P** **01 46 25.2 +1.7**
VIKU Vikbolandet 70.10 354 *eP* **P** **01 46 21.6 -0.8**
BIGH Upper Bighouse 70.19 5⇑*eP* **P** **01 46 21.9 -1.0**
BIGH IAMs_20 IAMs_20 02 22 35.7
comp=Z,8µm,16.6s
TNTI Ternate 70.20 245 P **P** **01 46 24.6 +0.9**
DWPF Disney Wildern 70.23 70 P **P** **01 46 23.5 -0.2**
DWPF Disney Wildern 70.23 70 IAMs_20 IAMs_20 02 20 37.1
comp=Z,7µm,18.0s
DWPF Disney Wildern 70.23 70 ⇑P **P** **01 46 23.4 -0.4**
DWPF Disney Wildern 70.23 70 P **P** **01 46 24.0 +0.3**
baz=319
DWPF S **S** **01 55 33.8 0.0**
baz=319
DZA Taraz 70.24 315 *eP* **P** **01 46 23.2 -0.4**
DZA pmax pmax
comp=Z,33nm,1.0s
DZA Taraz 70.24 315 *eP* **P** **01 46 23.3 -0.4**
comp=Z,33nm,1.0s,baz=315
VAH Vaihoa 70.30 153 *eP* **P** **01 46 23.0 -1.0**
comp=Z,188nm,1.1s
LEWI Lewis, Hebride 70.33 7⇑*eP* **P** **01 46 22.8 -1.1**
MLA1 Latheron 70.41 5 *eP* **P** **01 46 23.6 -0.7**
KKAR Karatay Array 70.43 315 P **P** **01 46 24.2 -0.6**
KKAR Karatay Array 70.43 315 P **P** **01 46 24.2 -0.6**
LINV Loch Inver, As 70.45 6⇑*eP* **P** **01 46 23.6 -1.0**
JORH JORHAT 70.48 288 *eP* **P** **01 46 26.0 +0.7**

SLIT Slitere, Latvi 70.50 351 *eP* **P** **01 46 23.4 -1.4**
SLIT Slitere, Latvi 70.50 351 ⇑P **P** **01 46 23.8 -1.0**
ITAN ITANAGAR 70.50 289⇑*iP* **P** **01 46 27.1 +1.7**
FAKI Fak Fak 70.57 238 P **P** **01 46 25.7 -0.2**
FAKI Fak Fak 70.57 238 P **P** **01 46 27.3 +1.4**
comp=Z,7µmcomp=Z,159nm,2.2s
SNART Snartemo 70.62 359 *eP* **P** **01 46 25.9 +0.3**
HOMB Homborsund 70.67 358 *eP* **P** **01 46 25.4 -0.5**
HOMB IVmBBB 01 46 26.1
comp=Z,2µm,0.9s
HOMB *eS* **S** **01 55 39.4 +1.4**
HOMB *eSS* **SS** **02 00 13.6 +4.9**
HOMB IVMs_BB IVMs_BB 02 26 00.9
comp=Z,2µm,19.3s
BELG Belogornoye 70.73 334 LR LR 02 22 17.8
comp=Z,10µm,18.3s,baz=41,slow=40
BELG Belogornoye 70.73 334*c iP* **P** **01 46 25.8 -0.6**
BELG pmax pmax
comp=Z,44nm,1.3s
KSH Kashi 70.74 310 P **P** **01 46 30.3 +3.5**
KSH sP pwP 01 46 37.9 -1.6
KSH PcP **PcP** **01 46 52.3 +4.7**
KSH PP **PP** **01 49 04.3 +1.2**
KSH S **S** **01 55 45.5 +5.8**
KSH pmax pmax
comp=Z,330nm,1.4s
KSH pmax pmax
comp=Z,3µm,4.9s
KSH LR LR
comp=Z,10µm,21.2s
KSH LR LR
comp=Z,17µm,21.1s
KSH LR LR
comp=Z,18µm,22.0s
OBN Obninsk 70.81 342 LR LR 02 22 51.7
comp=Z,1µm,18.0s,baz=16,slow=40
OBN Obninsk 70.81 342*c iP* **P** **01 46 25.5 -1.3**
OBN *i* 01 46 46.7
OBN *e* 01 49 03.1
OBN pmax pmax
comp=Z,193nm,1.3s
OBN MLR MLR
comp=Z,6µm,17.0s
OBN Obninsk 70.81 342 P **P** **01 46 25.6 -1.2**
OBN IAmb IAmb 01 46 27.1
comp=Z,222nm,1.3s
OBN IAMs_20 IAMs_20 02 22 39.4
comp=Z,7µm,19.0s
OBN Obninsk 70.81 342 ⇑P **P** **01 46 24.6 -2.1**
KAC Achnashellach 71.09 6 *eP* **P** **01 46 27.5 -1.0**
KAC *eP* **P** **01 46 27.5 -1.0**
MCD Coleburn Disti 71.14 5⇑*eP* **P** **01 46 28.1 -0.7**
MDO Dochfour 71.21 6 *eP* **P** **01 46 29.0 -0.3**
KPL Plockton 71.23 7⇑*eP* **P** **01 46 28.5 -0.8**
KPL IAMs_20 IAMs_20 02 20 24.0
comp=Z,7µm,17.5s
LBMI Labuha 71.28 244 P **P** **01 46 28.0 -2.2**
comp=Z,2µmcomp=Z,3µmcomp=Z,158nm,1.6s
KOHI KOHIMA 71.33 288⇑*iP* **P** **01 46 31.4 +0.7**
KOHI IAmb IAmb 01 46 33.0
comp=Z,933nm,1.4s
IUG luzhnay 71.41 315*c iP* **P** **01 46 31.0 +0.2**
IUG *eS* **S** **01 55 49.8 +2.4**
IUG luzhnay 71.41 315⇑*iP* **P** **01 46 31.1 +0.2**
baz=315
IUG *eS* **S** **01 55 49.9 +2.4**
baz=315
TEZP TEZPUR 71.44 289⇑*iP* **P** **01 46 31.4 +0.3**
OVD Ostervraa, Den 71.59 357 *i* P **P** **01 46 30.8 -0.7**
OVD IAmb IAmb 01 46 32.4
comp=Z,231nm,1.0s
DRUM Mains of Drumt 71.84 5⇑*eP* **P** **01 46 31.7 -1.4**
MYLDM Lahad Datu 71.87 255 IAmb IAmb 01 46 51.4
comp=Z,413nm,1.3s
GOET G??ttrup 71.90 358 *i* P **P** **01 46 32.7 -0.6**
GOET IAmb IAmb 01 46 34.7
comp=Z,290nm,1.2s
PPT Papeete 71.98 155 P **P** **01 46 35.6 +1.3**
comp=Z,12nm,0.4s,baz=280,slow=5.1,SNR=6.1
PPT LR LR 02 14 13.5
comp=Z,8µm,18.6s,baz=316,slow=32
PPT2 Papeete2 72.00 155 *eP* **P** **01 46 33.8 -0.6**
comp=Z,109nm,1.6s
PPT2 *eS* **S** **01 55 55.4 +1.1**
comp=Z,14µm,26.0s
PPT2 Papeete2 72.00 155 *eLR* LR 02 08 33.9
comp=Z,9µm,20.8s,baz=343
PPT2 Papeete2 72.00 155 *eT* T 03 05 12.2
comp=Z,20nm,0.3s
PPTF Pamatai, Papee 72.00 155 P **P** **01 46 35.2 +0.7**
ISAL Salakas 72.07 348 *eP* **P** **01 46 33.4 -1.0**
PAE Paea 72.07 155 *eP* **P** **01 46 33.8 -0.9**
comp=Z,15nm,1.1s
PAE Paea 72.07 155 *eT* T 03 05 17.2
comp=Z,4.9nm,0.4s
PBUR Paburge 72.11 351 *eP* **P** **01 46 33.9 -0.7**
UBPT Khong Chiam 72.17 272 IAmb IAmb 01 46 50.5
comp=Z,168nm,1.3s
UBPT Khong Chiam 72.17 272 ⇑P **P** **01 46 35.7 0.0**
EDU Dundee 72.18 5 *eP* **P** **01 46 33.9 -1.2**
IDID Didziasalis 72.24 348 *eP* **P** **01 46 34.2 -1.2**
TVO Taravao 72.27 155 *eP* **P** **01 46 35.0 -1.0**
comp=Z,0.9nm,0.9s
IIGN Ignalina 72.27 348 *eP* **P** **01 46 34.5 -1.1**
DEL Delary 72.29 355 *eP* **P** **01 46 34.4 -1.3**
KMSI Cibinong 72.30 248 P **P** **01 46 36.1 -0.2**
comp=Z,270nm,0.9s
LAWE Loch Awe, Argy 72.32 7⇑*eP* **P** **01 46 35.0 -0.9**
LAWE IAMs_20 IAMs_20 02 20 47.3
comp=Z,8µm,19.2s
TAS Tashkent 72.40 315 P **P** **01 46 36.0 -0.7**
TAS pmax pmax
comp=Z,119nm,1.0s
TAS Tashkent 72.40 315 P **P** **01 46 36.0 -0.7**
TAS IAmb IAmb 01 46 56.1
comp=Z,119nm,1.0s
GUWA GUWAHATI 72.41 290⇑*iP* **P** **01 46 36.6 -0.3**
MUD Monsted U'grnd 72.48 358 *iP* **P** **01 46 36.7 -0.1**
MUD IAmb IAmb 01 46 38.0
comp=Z,238nm,1.2s
MUD Monsted U'grnd 72.48 358 ⇑P **P** **01 46 36.8 -0.1**
CCIG Comitan 72.55 86 P **P** **01 46 37.7 -0.4**
KKM Kota Kinabalu 72.58 258 IAmb IAmb 01 46 53.9
comp=Z,126nm,1.0s
KKM Kota Kinabalu 72.58 258 ⇑P **P** **01 46 39.1 +0.9**
NACGM Naroch 72.63 347 *eP* **P** **01 46 37.1 -0.6**
LPSR Galich'ya Gora 72.68 340 *eP* **P** **01 46 37.3 -0.8**
LPSR pmax pmax
comp=Z,220nm,1.2s
LPSR MLR MLR
comp=Z,6µm,19.0s
MSAI Masohi 72.72 241 P **P** **01 46 42.0 +3.2**
BTK Batken 72.73 313 IAmb IAmb 01 46 40.8
comp=Z,307nm,1.2s
DRK Karamyk 72.74 312 IAmb IAmb 01 46 41.4
comp=Z,249nm,1.2s
SHL Shillong 72.77 289⇑*iP* **P** **01 46 39.1 -0.2**
SHL IAmb IAmb 01 46 46.0
comp=Z,134nm,0.4s
SHL Shillong 72.77 289 P **P** **01 46 40.0 +0.7**
SNR=321
EDI Edinburgh 72.79 5⇑*eP* **P** **01 46 37.8 -0.9**
GTOI Gorontalo 72.81 249 P **P** **01 46 39.7 +0.3**
comp=Z,2µmcomp=Z,874nmcomp=Z,31nm,1.2s
DLV T Lat 72.82 268 IAMs_20 IAMs_20 02 24 44.1
comp=Z,4µm,18.0s
PGBU Glenifferbraes 72.83 6⇑*eP* **P** **01 46 38.3 -0.6**
ESY Stoneypath 72.83 5⇑*eP* **P** **01 46 37.9 -1.1**
MNK Minsk 72.87 347 *iP* **P** **01 46 38.4 -0.8**
MNK *i* 01 46 55.4
MNK *i* 01 49 20.1
MNK *i* PPP PPP 01 51 04.5
MNK *i* S **S** **01 56 02.6 -0.8**
MNK *i* 01 56 45.8
MNK *i* SS **SS** **02 00 45.6 +3.2**
MNK pmax pmax
comp=E,7.0nm,1.1s
MNK pmax pmax
comp=Z,211nm,1.0s
MNK pmax pmax
comp=N,150nm,1.1s
MNK MLR MLR
comp=Z,8µm,22.0s
MNK MLR MLR
comp=E,476nm,20.0s

MNK MLR MLR
comp=N,5µm,18.0s
MNK Minsk 72.87 347 *iP* **P** **01 46 38.5 -0.8**
comp=E,7.0nm,1.1s
MNK *iP* **P** **01 46 38.5 -0.8**
comp=N,150nm,1.1s
MNK *iP* **P** **01 46 38.5 -0.8**
comp=Z,211nm,1.0s,baz=194
MNK *i* PcP **PcP** **01 46 55.4 -0.8**
MNK *i* PP **PP** **01 49 20.1 -0.6**
MNK *i* PPP PPP 01 51 04.5
MNK *i* S **S** **01 56 02.7 -0.8**
MNK *i* SS **SS** **02 00 45.7 +3.2**
MNK *i* SSS SSS 02 04 06.2
MNK *i* LQ LQ 02 14 16.1
MNK *i* LR LR 02 16 59.0
MNK *i* LRM MLR 02 20 19.6
comp=Z,8µm,22.4s
MNK *i* LRM MLR 02 21 03.1
comp=E,476nm,20.4s
MNK *i* LRM MLR 02 21 05.5
comp=N,5µm,17.9s
EBL Broad Law 72.95 5⇑*eP* **P** **01 46 38.7 -0.9**
COP Copenhagen 73.15 356 *iP* **P** **01 46 39.7 -1.1**
COP IVmB_BB 01 46 41.3
comp=Z,25µm,3.2s
COP IAmb IAmb 01 46 41.6
comp=Z,2µm,1.1s
SOR Soroa 73.28 74 IAmb IAmb 01 47 05.8
comp=Z,202nm,1.2s
SANI Sanana 73.29 244 ⇑P **P** **01 46 41.4 -0.8**
SANI Sanana 73.29 244 P **P** **01 46 42.6 +0.4**
comp=Z,4µmcomp=Z,2µmcomp=Z,106nm,1.3s
VRH Novokhopyorsk 73.33 337 *eP* **P** **01 46 40.8 -1.2**
VRH pmax pmax
comp=Z,170nm,1.3s
VRH MLR MLR
comp=Z,7µm,14.0s
GTK Tadong 73.36 293⇑*iP* **P** **01 46 43.8 +1.1**
GTK IAmb IAmb 01 46 46.2
comp=Z,135nm,0.6s
EKA Eskdalemuir Ar 73.38 5 LR LR 02 17 26.1
comp=Z,3µm,21.6s,baz=338,slow=35
ESK Eskdalemuir 73.40 5⇑*eP* **P** **01 46 41.7 -0.6**
ESK Eskdalemuir 73.40 5 P **P** **01 46 41.1 -1.2**
ESK pmax pmax
comp=Z,143nm,1.4s
ESK Eskdalemuir 73.40 5 P **P** **01 46 41.1 -1.2**
ESK Eskdalemuir 73.40 5 IAMs_20 IAMs_20 02 24 55.8
comp=Z,4µm,19.0s
ESK Eskdalemuir 73.40 5⇑P **P** **01 46 41.8 -0.6**
VORR Voronezh 73.48 339⇓*iP* **P** **01 46 43.5 +0.6**
VORR **01 46 57.5**
VORR **01 49 29.8**
VORR PPP PPP 01 51 17.6
VORR *eS* **S** **01 56 09.9 -0.6**
VORR **01 57 04.9**
VORR pmax pmax
comp=Z,428nm,1.4s
PETF Flores 73.49 84 P **P** **01 46 43.3 -0.1**
LLD Lille Linde 73.51 356 IAmb IAmb 01 46 43.9
comp=Z,207nm,1.1s
NEWG New Galloway 73.53 6⇑*eP* **P** **01 46 42.0 -1.1**
MRSI Marisa 73.57 249 P **P** **01 46 44.5 +0.6**
comp=Z,4µmcomp=Z,5µmcomp=Z,234nm,1.5s
CHTO Chiang Mai 73.57 280 P **P** **01 46 44.1 +0.1**
CHTO pmax pmax
comp=Z,219nm,1.3s
CHTO Chiang Mai 73.57 280 P **P** **01 46 44.1 +0.1**
CHTO IAmb IAmb 01 47 00.0
comp=Z,219nm,1.3s
CHTO Chiang Mai 73.57 280 IAMs_20 IAMs_20 02 24 34.0
comp=Z,5µm,18.0s
CHTO Chiang Mai 73.57 280 P **P** **01 46 44.7 +0.8**
CHTO P **P** **01 46 44.7 +0.8**
CHTO S **S** **01 56 12.7 +0.2**
CHTO S **S** **01 56 12.7 +0.2**
CHTO Chiang Mai 73.57 280 ⇑P **P** **01 46 43.9 -0.1**
CHTO Chiang Mai 73.57 280 P **P** **01 46 44.0 +0.1**
BSD Bornholm Skovb 73.59 355 *iP* **P** **01 46 40.7 -2.7**
BSD IAmb IAmb 01 46 43.1
comp=Z,123nm,1.2s
BSD IVmB_BB 01 46 43.4
comp=Z,2µm,2.9s
BSD Bornholm Skovb 73.59 355 *eP* **P** **01 46 42.4 -1.1**
BSD Bornholm Skovb 73.59 355 ⇑P **P** **01 46 42.7 -0.7**
LIFNC LIFOU 73.68 198 IAMs_20 IAMs_20 02 15 25.7
comp=Z,7µm,19.0s
TOLI2 Tolitoli 73.74 251 IAmb IAmb 01 47 00.2
comp=Z,220nm,1.3s
GAL1 Galloway 73.75 6 *eP* **P** **01 46 43.6 -0.7**
GAL1 IAMs_20 IAMs_20 02 23 34.9
comp=Z,5µm,20.2s
CM31 Chiang Mai Arr 73.84 279 P **P** **01 46 46.2 +0.8**
CM31 IAmb IAmb 01 47 01.2
comp=Z,406nm,1.4s
CMAR Chiang Mai Arr 73.84 279 P **P** **01 46 45.7 +0.2**
comp=Z,36nm,0.9s,baz=27,slow=5.0,SNR=59
CMAR LR LR 02 24 09.2
comp=Z,4µm,18.1s,baz=50,slow=40
CMAR Chiang Mai Arr 73.84 279 *iP* **P** **01 46 45.9 +0.4**
CMAR pmax pmax
comp=Z,51nm,0.9s
TAPN Taplejung 73.85 294 *eP* **P** **01 46 46.7 +0.9**
SLGI Shiliguri 73.94 293 *eP* **P** **01 46 47.2 +1.2**
EDMD Edmundbyers 73.95 5⇑*eP* **P** **01 46 44.9 -0.7**
SUW Suwalki 73.96 349 *eP* **P** **01 46 44.0 -1.5**
SUW *eL* L 02 21 19.7
comp=Z,6µm,20.4s
SUW Suwalki 73.96 349 IAMs_20 IAMs_20 02 21 27.7
comp=Z,6µm,20.0s
SUW Suwalki 73.96 349 *eP* **P** **01 46 44.2 -1.5**
SUW Suwalki 73.96 349 ⇑P **P** **01 46 44.1 -1.5**
VORD Divnogorie 74.12 339 *eP* **P** **01 46 46.0 -0.6**
VORD pmax pmax
comp=Z,90nm,0.7s
KESW Keswick, Cumbr 74.13 5 *eP* **P** **01 46 46.0 -0.7**
RGN Rugen 74.24 355 IAMs_20 IAMs_20 02 19 51.1
comp=Z,4µm,19.0s
RGN Rugen 74.24 355 *eP* **P** **01 46 47.5 +0.2**
RGN Rugen 74.24 355 *eP* **P** **01 46 47.6 +0.4**
comp=Z,602nm,1.2s,baz=4.1,slow=5.6
RGN Rugen 74.24 355 ⇑P **P** **01 46 47.6 +0.4**
LUWI Luwuk 74.31 248 ⇑P **P** **01 46 47.7 -0.5**
LUWI Luwuk 74.31 248 P **P** **01 46 48.6 +0.4**
comp=Z,10µmcomp=Z,430nm,1.3s
IOMK Kirk Michael 74.36 6 *eP* **P** **01 46 47.1 -0.8**
IOMK IAMs_20 IAMs_20 02 21 59.4
comp=Z,12µm,17.3s
ODAN Odare 74.41 293 *eP* **P** **01 46 49.7 +0.7**
comp=Z,2µm,1.6s
AGT Agartala 74.41 289⇑*iP* **P** **01 46 50.4 +1.6**
AGT IAmb IAmb 01 46 51.6
comp=Z,350nm,0.9s
GDLE Glaisdale, N Y 74.41 4⇑*eP* **P** **01 46 47.5 -0.8**
ILTH Belurgan, Co L 74.46 7⇑*eP* **P** **01 46 47.8 -0.7**
GUN Gumba 74.47 295 *eP* **P** **01 46 50.5 +1.0**
JIRN Jiri 74.48 295 *eP* **P** **01 46 50.6 +1.0**
BELO BELONIA 74.78 288⇑*iP* **P** **01 46 52.1 +1.2**
IGLA Glengowla, Co 74.79 9 *eP* **P** **01 46 49.7 -0.8**
RAMN Ramite 74.79 294 *eP* **P** **01 46 52.0 +0.8**
HPK Haverah Park 74.84 5⇑*eP* **P** **01 46 50.5 -0.2**
APSI Ampana 74.86 249 P **P** **01 46 52.5 +1.1**
comp=Z,2µmcomp=Z,98nm,1.1s
COEN Coen 74.87 223 P **P** **01 46 53.0 +1.7**
MPSI Mapaga 74.88 251 P **P** **01 46 51.6 +0.1**
comp=Z,4µmcomp=Z,4µmcomp=Z,212nm,1.6s
KKN Kakani 74.90 296 *eP* **P** **01 46 52.5 +0.7**
BSEG Bad Segeberg 74.97 357 *eP* **P** **01 46 51.8 +0.3**
comp=Z,309nm,1.1s,baz=4.1,slow=5.6
PKI Pulchoki 75.00 295 *eP* **P** **01 46 53.0 +0.5**
comp=Z,2µm,1.4s
PKIN Phulchoki 75.00 295 *eP* **P** **01 46 52.9 +0.5**
comp=Z,2µm,1.4s
DZM Mont Dzumac 75.09 199 LR LR 02 17 27.4
comp=Z,9µm,18.6s,baz=27,slow=34
DZM Mont Dzumac 75.09 199 *eP* **P** **01 46 52.0 -0.5**
comp=Z,170nm,1.4s
DZM *eS* **S** **01 56 28.8 -0.4**
comp=Z,4µm,25.8s
DZM Mont Dzumac 75.09 199 *eLQ* LQ 02 06 36.0
comp=Z,5µm,27.5s
DZM *eLR* LR 02 09 55.3
comp=Z,5µm,19.7s,baz=25
DZM Mont Dzumac 75.09 199 P **P** **01 46 53.9 +1.4**

GKN Gorkha 75.10 296 eP P 01 46 53.5 +0.6
DMN Daman 75.14 296 eP P 01 46 54.0 +0.8
comp=Z,2µm,1.5s
WPS Cemaes, Angles 75.22 6⇑eP P
WPS IAMs_20 IAMs_20 02 22 34.4
comp=Z,6µm,18.4s
WME Myndd Eilian 75.24 6⇑eP P 01 46 52.3 -0.7
GKP Gorka Klasztor 75.27 353 eP P 01 46 52.7 -0.5
GKP eL L 02 18 10.3
comp=Z,9µm,22.8s
GKP Gorka Klasztor 75.27 353 eP P 01 46 52.5 -0.7
DANN Dangsing 75.32 297 eP P 01 46 55.1 +0.8
SAUI Saumlaki 75.33 236 P P 01 46 55.1 +1.0
SAUI Saumlaki 75.33 236 P P 01 47 09.6 +16
WLF1 Llynfaes 75.34 6⇑eP P 01 46 52.9 -0.7
WLF1 IAMs_20 IAMs_20 02 22 37.8
comp=Z,12µm,18.9s
OUENC Ouen Island, N 75.35 198 P P 01 46 55.4 +1.5
YRC Rhoscolyn 75.37 6 eP P 01 46 54.0 +0.2
LBWR Ladybower, Pea 75.39 5⇑eP P 01 46 52.9 -1.0
STNC Stoke 75.67 5⇑eP P 01 46 55.4 -0.2
FOEL Foel Wylfa 75.82 6⇑eP P 01 46 56.1 -0.3
KOLN Koldanda 75.86 297 eP P 01 46 57.8 +0.5
PYUN Piuthan 75.94 297 eP P 01 46 58.4 +0.6
comp=Z,2µm,1.2s
VLK Valmikinagar 76.06 296⇑iP P 01 46 58.4 +0.2
IWEX Carrickbyrne, 76.07 8 eP P 01 46 57.5 -0.3
IWEX IAMs_20 IAMs_20 02 23 11.0
comp=Z,6µm,18.7s
CWF Charnwood Fore 76.07 4⇑eP P 01 46 57.4 -0.5
WACR West Acre 76.17 3⇑eP P 01 46 57.4 -1.0
RETH Rethem/Aller, 76.20 358 eP P 01 46 58.7 +0.2
comp=Z,273nm,1.2s,baz=4.1,slow=5.6
HLM1 Long Mynd 76.21 5⇑eP P 01 46 58.2 -0.4
BBSR BB Station 76.24 55 IAMs_20 IAMs_20 02 23 58.8
comp=Z,6µm,19.0s
BBSR BB Station 76.24 55 ⇑P P 01 46 59.4 +0.3
RUE Ruedersdorf 76.28 355 eP P 01 46 59.2 +0.2
RUE Ruedersdorf 76.28 355 eP P 01 46 59.0 0.0
comp=Z,409nm,1.2s,baz=4.1,slow=5.6
RUE Ruedersdorf 76.28 355 ⇑P P 01 46 58.9 -0.1
PTH Pithoragarh 76.34 300⇑iP P 01 46 59.6 -0.4
AKASG Malin Array Be 76.35 345 P P 01 46 58.0 -1.4
comp=Z,22nm,0.4s,baz=17,slow=5.9,SNR=162
AKASG PKPPKP P'P'df 02 14 13.1 -8.1
comp=Z,0.1nm,0.3s,baz=171,slow=1.3,SNR=4.2
AKASG LR LR 02 24 57.5
comp=Z,6µm,19.1s,baz=14,slow=39
AKASG Malin Array Be 76.35 345 IAmb IAmb 01 46 59.6
comp=Z,141nm,1.2s
AKBB Malin Array Si 76.35 345 P P 01 46 58.2 -1.2
AKBB pmax pmax
comp=Z,167nm,1.2s
AKBB Malin Array Si 76.35 345 P P 01 46 58.2 -1.2
AKBB IAmb IAmb 01 46 59.6
comp=Z,167nm,1.2s
BEL Belsk 76.36 350 eP P 01 46 59.2 -0.3
BEL eL L 02 20 26.1
comp=Z,8µm,22.8s
BEL Belsk 76.36 350 ⇑P P 01 46 58.7 -0.8
LGTI Lohaghat 76.40 300⇑iP P 01 47 00.7 +0.6
NRDL Niedersach Rie 76.42 357 eP P 01 46 59.8 +0.1
comp=Z,181nm,1.1s,baz=4.1,slow=5.6
THN Thein Dam 76.44 305⇑iP P 01 47 00.5 +0.3
FLTG Flechtingen 76.55 357 eP P 01 47 00.1 -0.4
comp=Z,188nm,1.0s,baz=4.1,slow=5.6
FLTG Flechtingen 76.55 357 P P 01 47 00.1 -0.4
JMU Jammu 76.63 306⇑iP P 01 47 01.9 +0.5
RSBS Rosebush, Pemb 76.65 7⇑eP P 01 47 00.6 -0.5
IBBN Ibbenburen 76.66 359 eP P 01 47 01.4 +0.2
comp=Z,361nm,0.9s,baz=4.1,slow=5.6
IBBN Ibbenburen 76.66 359 ⇑P P 01 47 01.4 +0.2
MCH1 Michaelchurch 76.72 6⇑eP P 01 47 00.5 -1.0
SMLA Simla 76.72 303⇑iP P 01 47 02.0 +0.1
SMLA IAmb IAmb 01 47 05.4
comp=Z,131nm,0.7s
SMLA i pP pwP 01 47 15.0 +0.4
ASSE Asse, Remlinge 76.77 357 eP P 01 47 01.9 +0.2
comp=Z,246nm,1.4s,baz=4.1,slow=5.6
MONM Monmouth 76.89 5⇑eP P 01 47 01.7 -0.7
DDI Dehra Dun 76.89 302 eP P 01 47 03.1 +0.1
DDI IAmb IAmb 01 47 05.3
comp=Z,172nm,0.8s
DDI i x x 01 47 16.8
STRD Stroud 76.99 5⇑eP P 01 47 02.9 -0.1
CLZ Clausthal 77.07 357 eP P 01 47 03.1 -0.5
comp=Z,412nm,1.2s,baz=4.1,slow=5.6
OLDB Oldbury-Upon-S 77.08 5⇑eP P 01 47 02.7 -0.8
SWN1 Swindon 77.27 5⇑eP P 01 47 04.4 -0.2
TGUH Tegucigalpa,Un 77.28 83 eP P 01 47 04.8 -0.5
GTTG Gottingen 77.38 357 eP P 01 47 05.6 +0.3
comp=Z,453nm,1.2s,baz=4.1,slow=5.6
CLL Collm 77.49 355⇑iP P 01 47 05.4 -0.5
CLL eS S 01 56 55.0 +0.1
CLL pmax pmax
comp=Z,239nm,1.3s
CLL MLR MLR
comp=Z,4µm,18.4s
CLL Collm 77.49 355 IAmb IAmb 01 47 07.0
comp=Z,277nm,1.3s
CLL IAMs_20 IAMs_20 02 22 19.1
comp=Z,5µm,19.0s
CLL Collm 77.49 355⇑iP P 01 47 05.4 -0.5
comp=Z,239nm,1.3s
CLL ePcP PcP 01 47 17.0 +0.8
CLL ePP PP 01 50 06.0 +6.2
CLL ePPP PPP 01 51 54.0
CLL ex x 01 56 18.0
CLL eS S 01 56 55.0 +0.1
CLL ePS PnS 01 57 38.0 +2.3
CLL eSS SS 02 02 00.0 +7.4
CLL eSSS SSS 02 05 24.0
CLL ex x 02 06 54.0
CLL ePKPPKPdP'P'df 02 14 10.0 -9.2
CLL LmH 02 23 00.0
comp=N,4µm,20.7s
CLL LmH 02 23 00.0
comp=E,3µm,20.9s
CLL LmV 02 29 00.0
comp=Z,4µm,18.4s
CLL Collm 77.49 355 eP P 01 47 05.4 -0.5
comp=Z,238nm,1.3s,baz=4.1,slow=5.6
BUG Bochum--Univer 77.53 359 eP P 01 47 05.9 -0.2
comp=Z,252nm,1.3s,baz=4.1,slow=5.6
HTL Hartland 77.62 7⇑eP P 01 47 06.3 -0.3
HTL IAMs_20 IAMs_20 02 20 51.2
comp=Z,4µm,22.6s
BOK Bokaro 77.63 292⇑iP P 01 47 07.8 +0.7
BOK IAmb IAmb 01 47 09.3
comp=Z,1µm,1.6s
BOK i x x 01 47 21.4
TTSI Tana Toraja 77.65 249 P P 01 47 08.0 +0.8
comp=Z,4µmcomp=Z,190nm,1.2s
NEUB Neuenburg 77.65 356 eP P 01 47 06.8 +0.1
comp=Z,612nm,1.2s,baz=4.1,slow=5.6
KSP Ksiaz 77.75 353 eP P 01 47 06.8 -0.5
KSP eL L 02 17 39.2
comp=Z,5µm,23.6s
KSP Ksiaz 77.75 353 ⇑P P 01 47 06.4 -0.9
KASTN Kahler Asten 77.76 358 eP P 01 47 07.5 +0.1
comp=Z,225nm,1.4s,baz=4.1,slow=5.6
ELSH Elham, Standar 77.76 3⇑eP P 01 47 07.0 -0.3
FBE Freiberg 77.86 355 eP P 01 47 08.1 +0.1
comp=Z,424nm,1.2s,baz=4.1,slow=5.6
BRG Berggiesshubel 77.87 355⇑iP P 01 47 07.7 -0.3
BRG Amp 01 47 09.8
comp=Z,275nm,1.2s
BRG ex x 01 47 21.1
BRG Amp 01 47 22.8
comp=Z,179nm,1.6s
BRG Berggiesshubel 77.87 355⇑iP P 01 47 07.7 -0.3
BRG e 01 47 21.0
BRG S S 01 56 57.0 -2.1
BRG pmax pmax
comp=Z,275nm,1.2s
BRG pmax pmax
comp=Z,12nm,1.6s
BRG Berggiesshubel 77.87 355 eP P 01 47 07.7 -0.3
comp=Z,276nm,1.2s,baz=4.1,slow=5.6
BKB Balikpapan 77.94 252 P P 01 47 11.6 +2.7
comp=Z,6µmcomp=Z,9µmcomp=Z,396nm,1.5s
LVV L'vov 77.97 348 eP P 01 47 07.1 -1.5
LVV e 01 50 03.3
LVV eS S 01 56 57.3 -2.8
LVV ePS PnS 01 57 28.8 -13
LVV eSS SS 02 01 59.0 -0.9
LVV pmax pmax
comp=Z,270nm,1.1s
LVV MLR MLR
comp=N,4µm,18.0s
LVV MLR MLR
comp=E,3µm,18.0s
LVV MLR MLR
comp=Z,6µm,18.0s
CHVC Chvalec 78.02 353 eP P 01 47 08.4 -0.5
CHVC AMS AMS 02 27 00.0
comp=Z,7µm,18.6s
KBL Kabul 78.03 311 P P 01 47 08.7 -0.8
KBL pmax pmax
comp=Z,310nm,1.1s
KBL Kabul 78.03 311 P P 01 47 08.7 -0.8
KBL IAmb IAmb 01 47 10.2
comp=Z,310nm,1.1s
KBL Kabul 78.03 311 P P 01 47 09.1 -0.4
SNR=168
KBL P P 01 47 09.1 -0.4
SNR=168
KBL S S 01 56 59.9 -1.8
KBL S S 01 56 59.9 -1.8
OSTC Ostas 78.04 353 eP P 01 47 08.6 -0.4
OSTC eS S 01 57 06.3 +5.4
OSTC AMS AMS 02 27 00.0
comp=Z,7µm,18.9s
OJC Ojcow 78.06 351 eP P 01 47 08.5 -0.6
OJC eL L 02 21 43.0
comp=Z,9µm,22.5s
OJC Ojcow 78.06 351 ⇑P P 01 47 08.4 -0.6
UBBA Unterbreizbach 78.10 357 eP P 01 47 09.3 +0.1
comp=Z,338nm,1.6s,baz=4.1,slow=5.6
UPC Upice 78.10 353 eP P 01 47 09.0 -0.3
UPC eS S 01 57 11.9 +10
UPC MLR MLR
comp=Z,8µm,18.4s
UPC Upice 78.10 353 eP P 01 47 09.0 -0.3
UPC eS S 01 57 11.9 +10
UPC AMS AMS 02 26 50.0
comp=Z,8µm,18.4s
VAR Varanasi 78.10 296⇑iP P 01 47 09.1 -0.6
UCC Uccle 78.18 1 dP P 01 47 09.5 -0.2
comp=Z,15nm,0.0s
PVCC Panska Ves 78.18 354 eP P 01 47 09.6 -0.1
PVCC MLR MLR
comp=Z,6µm,19.3s
PVCC Panska Ves 78.18 354 eP P 01 47 09.6 -0.1
PVCC AMS AMS 02 27 20.0
comp=Z,6µm,19.3s
BEBN Eben Emael 78.19 0 dP P 01 47 09.3 -0.4
comp=Z,99nm,0.9s
MOX Moxa 78.22 356 eP P 01 47 10.0 0.0
comp=Z,238nm,1.1s,baz=4.1,slow=5.6
MOX eL L 02 32 16.3
comp=Z,4µm,18.0s
DPC Dobruska-Polom 78.24 353 eP P 01 47 10.0 -0.1
DPC eS S 01 57 05.3 +2.2
DPC MLR MLR
comp=Z,6µm,18.9s
DPC Dobruska-Polom 78.24 353 eP P 01 47 10.0 -0.1
DPC eS S 01 57 05.3 +2.2
DPC AMS AMS 02 27 10.0
comp=Z,6µm,18.9s
KWP Kalwaria Pacla 78.32 349 eP P 01 47 10.1 -0.5
KWP eL L 02 14 49.0
comp=Z,4µm,31.5s
KWP Kalwaria Pacla 78.32 349 ⇑P P 01 47 10.2 -0.3
RAC Raciborz 78.35 352 eP P 01 47 10.4 -0.2
RAC LMZ LR 02 24 13.4
comp=Z,8.0nm,19.2s
RAC Raciborz 78.35 352 eP P 01 47 10.4 -0.2
RAC MLR MLR
comp=Z,8µm,19.2s
PLN Plauen 78.35 356 eP P 01 47 10.6 -0.1
comp=Z,181nm,1.3s,baz=4.1,slow=5.6
MEM Membach 78.38 360 dP P 01 47 10.5 -0.3
comp=Z,114nm,1.0s
WERD Werda 78.38 356 eP P 01 47 10.9 0.0
comp=Z,196nm,1.2s,baz=4.1,slow=5.6
BTNL Ternell 78.40 360 dP P 01 47 11.0 0.0
comp=Z,98nm,1.1s
BSTI Sart Tilman 78.40 0 dP P 01 47 11.1 +0.1
comp=Z,19nm,1.2s
TANN Tannenbergstha 78.41 356 eP P 01 47 11.2 +0.1
comp=Z,250nm,1.4s,baz=4.1,slow=5.6
SPSI Sidrap Palu 78.42 248 P P 01 47 12.1 +0.6
comp=Z,2µmcomp=Z,102nm,1.3s
AHRW Bad Neuenahr-A 78.44 359 eP P 01 47 11.5 +0.3
comp=Z,270nm,1.1s,baz=4.1,slow=5.6
GUNZ Gunzen 78.47 356 eP P 01 47 11.5 +0.1
comp=Z,229nm,1.3s,baz=4.1,slow=5.6
SNF Seneffe 78.47 1 dP P 01 47 11.1 -0.2
comp=Z,89nm,1.1s
KRLC Kraliky 78.47 353 eP P 01 47 11.1 -0.3
KRLC eS S 01 57 05.5 -0.2
KRLC MLR MLR
comp=Z,5µm,16.7s
KRLC Kraliky 78.47 353 eP P 01 47 11.1 -0.3
KRLC eS S 01 57 05.5 -0.2
KRLC AMS AMS 02 31 30.0
comp=Z,5µm,16.7s
WERN Wernitzgruen 78.54 356 eP P 01 47 12.0 +0.2
comp=Z,353nm,1.2s,baz=4.1,slow=5.6
BCLA Clavier 78.56 0 dP P 01 47 11.4 -0.4
comp=Z,79nm,1.2s
BNSI Bone 78.57 248 P P 01 47 13.2 +0.9
comp=Z,3µmcomp=Z,128nm,1.2s
NKC Novy Kostel 78.59 356 eP P 01 47 12.1 +0.1
NKC eS S 01 57 03.4 -3.5
NKC MLR MLR
comp=Z,4µm,17.4s
NKC Novy Kostel 78.59 356 eP P 01 47 12.1 +0.1
NKC eS S 01 57 03.4 -3.5
NKC AMS AMS 02 29 50.0
comp=Z,4µm,17.4s
OKC Ostrava-Krasne 78.60 352 eP P 01 47 11.9 -0.1
OKC MLR MLR
comp=Z,6µm,21.1s
OKC Ostrava-Krasne 78.60 352 eP P 01 47 11.9 -0.1
OKC AMS AMS 02 24 00.0
comp=Z,6µm,21.1s
BGES Gesves 78.60 0 dP P 01 47 11.3 -0.7
comp=Z,75nm,1.2s
BHOU Houvegnez 78.63 360 dP P 01 47 12.3 +0.1
comp=Z,44nm,1.1s
NDI New Delhi 78.63 302⇑iP P 01 47 11.6 -1.0
GOF Gofitskoye 78.67 334⇑iP P 01 47 12.3 -0.2
GOF eS S 01 57 04.8 -3.0
GOF pmax pmax
comp=Z,403nm,1.3s
GOF smax smax
comp=N,83nm,1.5s
GOF smax smax
comp=E,84nm,1.4s
BMRD Maredsous 78.68 1 dP P 01 47 12.3 -0.2
comp=Z,130nm,1.1s
STHS Stebnicka Huta 78.70 350 eP P 01 47 12.2 -0.5
STHS Stebnicka Huta 78.70 350 eP P 01 47 12.2 -0.5
MORC Moravsky Berou 78.71 352 ⇓P P 01 47 12.2 -0.5
MORC Moravsky Berou 78.71 352 ⇓P P 01 47 12.2 -0.5
MORC Moravsky Berou 78.71 352⇑iP P 01 47 12.2 -0.5
MORC Moravsky Berou 78.71 352 ⇑P P 01 47 12.2 -0.5
PRU Pruhonice 78.72 354 eP P 01 47 12.3 -0.4
PRU eS S 01 57 17.9 +10
PRU MLR MLR
comp=Z,7µm,19.5s
PRU Pruhonice 78.72 354 eP P 01 47 12.3 -0.4
PRU eS S 01 57 17.9 +10
PRU AMS AMS 02 27 30.0
comp=Z,7µm,19.5s
KDU Kakadu 78.73 233 ⇑P P 01 47 11.4 -1.7
KDU Kakadu 78.73 233 P P 01 47 13.2 +0.1
TNS Taunus Mts 78.74 358 eP P 01 47 12.9 0.0
comp=Z,246nm,1.1s,baz=4.1,slow=5.6
ALBI Allahabad 78.78 296⇑iP P 01 47 12.9 -0.5
RCHB Rochefort 78.83 0 dP P 01 47 12.8 -0.5
comp=Z,82nm,1.1s
AYAN Aya Nagar 78.84 302 eP P 01 47 13.3 -0.4
MANZ Manzenberg 78.85 356 eP P 01 47 13.4 -0.1
comp=Z,44nm,1.4s,baz=4.1,slow=5.6
DOU Dourbes 78.88 1 dP P 01 47 13.0 -0.6
comp=Z,91nm,1.2s
MTKI Muara Teweh, K 78.89 254 P P 01 47 15.1 +1.0
comp=Z,8µmcomp=Z,136nm,2.2s
SORM Soroca 78.98 345 ⇑P P 01 47 13.3 -0.8
SORM Soroca 78.98 345 ⇑P P 01 47 13.3 -0.8
PBCC Pribram 79.06 355 eP P 01 47 14.1 -0.5
ROTZ Rotzenmuhle 79.07 356 eP P 01 47 14.8 +0.2
comp=Z,56nm,1.3s,baz=4.1,slow=5.6
CTA Charters Tower 79.15 218 LR LR 02 20 44.1
comp=Z,887nm,18.4s,baz=19,slow=34
LANS Liptovska Anna 79.15 351 eP P 01 47 15.8 +0.6
LANS pmax pmax
comp=Z,69nm,1.0s
LANS Liptovska Anna 79.15 351 eP P 01 47 15.8 +0.6
CRVS Cervenica-Dubn 79.19 350 eP P 01 47 15.1 -0.2
CRVS pmax pmax
comp=Z,204nm,1.5s
CRVS Cervenica-Dubn 79.19 350 eP P 01 47 15.1 -0.2
GRA1 Grafenberg Arr 79.19 356 IAMs_20 IAMs_20 02 28 38.9
comp=Z,4µm,18.0s
GRF Grafenberg Arr 79.19 356 eP P 01 47 15.8 +0.5
comp=Z,548nm,1.2s,baz=4.1,slow=5.6
GRF eL L 02 28 39.3
comp=Z,4µm,18.1s
GRFO Grafenberg 79.19 356 P P 01 47 15.4 +0.1
GRFO pmax pmax
comp=Z,536nm,1.2s
GRFO Grafenberg 79.19 356 P P 01 47 15.4 +0.1
GRFO IAMs_20 IAMs_20 02 28 46.9
comp=Z,4µm,18.0s
VRAC Vranov 79.25 353 ⇑P P 01 47 15.8 +0.1
VRAC Vranov 79.25 353 LR LR 02 24 10.6
comp=Z,3µm,19.9s,baz=8.0,slow=37
VRAC Vranov 79.25 353 ⇑P P 01 47 15.8 +0.1
VRAC Vranov 79.25 353⇑iP P 01 47 15.4 -0.3
KAPI Kappang 79.27 248 LR LR 02 20 01.8
comp=Z,870nm,20.0s,baz=36,slow=34
KAPI Kappang 79.27 248 P P 01 47 16.5 +0.3
KAPI pmax pmax
comp=Z,278nm,1.5s
KAPI Kappang 79.27 248 P P 01 47 16.5 +0.3
KAPI IAmb IAmb 01 47 31.9
comp=Z,278nm,1.4s
KAPI Kappang 79.27 248 P P 01 47 17.3 +1.2
KAPI P P 01 47 17.3 +1.2
KAPI S S 01 57 18.5 +3.5
KAPI S S 01 57 18.5 +3.5
KAPI Kappang 79.27 248 ⇑P P 01 47 16.7 +0.5
MAK Makhachkala 79.28 330 eP P 01 47 10.7 -5.1
MAK e 01 50 11.3
MAK eS S 01 57 07.7 -6.6
MAK pmax pmax
comp=Z,365nm,1.9s
BKSI Bulukumba 79.31 247 P P 01 47 16.8 +0.5
comp=Z,3µmcomp=Z,133nm,1.3s
WLF Walferdange 79.32 360 IAmb IAmb 01 47 18.0
comp=Z,162nm,1.1s
WLF IAMs_20 IAMs_20 02 29 10.4
comp=Z,4µm,18.0s
WLF Walferdange 79.32 360 eP P 01 47 16.5 +0.5
comp=Z,255nm,1.3s,baz=4.1,slow=5.6
WLF Walferdange 79.32 360 ⇑P P 01 47 16.3 +0.3
WLF Walferdange 79.32 360 dP P 01 47 16.2 +0.3
comp=Z,78nm,1.1s
TREC Trest 79.35 354 eP P 01 47 15.9 -0.3
TREC MLR MLR
comp=Z,6µm,17.1s
TREC Trest 79.35 354 eP P 01 47 15.9 -0.3
TREC AMS AMS 02 32 40.0
comp=Z,6µm,17.1s
UZH Uzhgorod 79.36 349⇑iP P 01 47 12.7 -3.5
UZH i 01 47 16.1
UZH i 01 47 26.5
UZH i 01 50 09.8
UZH i S S 01 57 07.0 -7.9
UZH i 01 58 20.8
KUDL Kundal 79.45 302⇑iP P 01 47 17.0 -0.1
BOAB BOACO BROADBAN 80.50 83 P P 01 47 17.2 -0.3
BOAB IAmb IAmb 01 47 41.0
comp=Z,177nm,1.3s
BOAB IAMs_20 IAMs_20 02 29 01.1
comp=Z,5µm,20.0s
KRUC Moravsky 79.51 353⇑iP P 01 47 16.6 -0.5
MTN Manton Dam 79.54 234 P P 01 47 18.1 +0.6
MTN IAmb IAmb 01 47 34.5
comp=Z,169nm,0.9s
MTN Manton Dam 79.54 234 ⇑P P 01 47 16.4 -1.1
JSA Saint Aubin 79.57 5⇑eP P 01 47 16.8 -0.6
GROC Groznyy 79.58 331 eP P 01 47 16.5 -1.0
GROC e 01 47 24.4
GROC eS S 01 57 18.6 +1.1
GROC pmax pmax
comp=Z,95nm,1.9s
JAVC Velka Javorina 79.61 352⇑iP P 01 47 18.4 +0.7
KHC Kasperske Hory 79.63 355 eP P 01 47 17.9 +0.1
KHC eS SKSac 01 57 29.3 -3.3
KHC MLR MLR
comp=Z,6µm,18.4s
KHC Kasperske Hory 79.63 355 eP P 01 47 17.9 +0.1
KHC ePP PP 01 49 59.5 -18
KHC eSKS SKSac 01 57 29.3 -3.3
KHC AMS AMS 02 28 30.0
comp=Z,6µm,18.4s
KHC Kasperske Hory 79.63 355 IAmb IAmb 01 47 19.6
comp=Z,290nm,1.2s
WET Wettzell 79.66 355 eP P 01 47 18.1 +0.2
comp=Z,206nm,1.5s,baz=4.1,slow=5.6
IZAB Izabela 79.70 351 eP P 01 47 18.5 +0.4
IZAB pmax pmax
comp=Z,61nm,1.4s
KECS Kecovo 79.71 350 eP P 01 47 18.6 +0.5
KECS Kecovo 79.71 350 eP P 01 47 18.6 +0.5
KIV Kislovodsk 79.78 334 ⇑P P 01 47 18.6 -0.2
KIV Kislovodsk 79.78 334 eP P 01 47 17.9 -0.9
KIV e 01 50 19.0
KIV eS S 01 57 20.9 +1.0
KIV eSS SS 02 02 30.3 +2.7
KIV pmax pmax
comp=Z,49nm,1.1s
KIV pmax pmax
comp=Z,496nm,4.2s
KIV Kislovodsk 79.78 334 P P 01 47 18.4 -0.4
KIV IAMs_20 IAMs_20 02 26 54.2
comp=Z,4µm,20.0s
KIV Kislovodsk 79.78 334 P P 01 47 19.1 +0.3
KIV P P 01 47 19.1 +0.3
KIV Kislovodsk 79.78 334 ⇑P P 01 47 18.3 -0.4
KIV Kislovodsk 79.78 334 iP P 01 47 18.1 -0.6
SNR=11
KSM Kuching 79.79 259 IAmb IAmb 01 47 34.3
comp=Z,265nm,1.4s
TRPA Tarpa 79.82 349 ⇓P P 01 47 18.3 -0.4
TRPA Tarpa 79.82 349 P P 01 47 18.3 -0.4
KOLL Kolacno 79.82 352 eP P 01 47 19.0 +0.3
VYHS Vyhne 79.86 351 eP P 01 47 18.8 -0.2
VYHS Vyhne 79.86 351 eP P 01 47 18.8 -0.2
CKRC Cesky Krumlov 79.90 354 eP P 01 47 18.6 -0.6
CKRC ePP PP 01 50 11.7 -8.2
CKRC eS SKSac 01 57 37.1 +2.7
CKRC AMS AMS 02 28 20.0
comp=Z,7µm,21.3s
GEC2 GERESS Array S 79.91 355 P P 01 47 19.1 -0.3
GEC2 IAmb IAmb 01 47 20.7
comp=Z,168nm,1.2s
GEC2 GERESS Array S 79.91 355 eP P 01 47 19.2 -0.2
comp=Z,194nm,1.4s,baz=4.1,slow=5.6
GERES GERESS Array B 79.91 355 P P 01 47 18.7 -0.7
comp=Z,52nm,1.0s,baz=28,slow=6.5,SNR=214
GERES PKPPKP P'P'df 02 14 11.3 -3.6
comp=Z,0.4nm,0.8s,baz=285,slow=2.6,SNR=4.1
GERES LR LR 02 24 24.1
comp=Z,4µm,19.2s,baz=12,slow=37
KBZ Khabaz 79.94 334 P P 01 47 19.4 0.0
comp=Z,17nm,0.9s,baz=22,slow=4.1,SNR=23
KBZ LR LR 02 27 05.6
comp=Z,6µm,19.8s,baz=31,slow=39
KBZ Khabaz 79.94 334c iP P 01 47 18.4 -1.0
KBZ pmax pmax
comp=Z,144nm,2.7s
GEYT Alibeck 79.95 321 P P 01 47 20.0 +0.3
comp=Z,104nm,1.1s,baz=260,slow=18,SNR=114
GEYT LR LR 02 27 17.9
comp=Z,13µm,18.0s,baz=50,slow=39
GEYT Alibeck 79.95 321 IAmb IAmb 01 47 21.9
comp=Z,206nm,1.2s

GYA0 **ALIBECK ARRAY** 79.95 321 P **P** 01 47 18.7 -1.0
GYA0B **ALIBECK ARRAY** 79.95 321 P **P** 01 47 19.5 -0.2
GYA0B IAmb IAmb 01 47 21.8
comp=Z,277nm,1.3s
BURAR **Bucovina Array** 79.97 347 ⇑P **P** 01 47 19.2 -0.5
BURAR **Bucovina Array** 79.97 347 ⇑P **P** 01 47 19.2 -0.5
BURAR **Bucovina Array** 79.97 347 P **P** 01 47 19.2 -0.5
SMOL **Smolenice** 79.97 352 *e*P **P** 01 47 20.0 +0.4
SMOL pmax pmax
comp=Z,71nm,1.2s
SMOL **Smolenice** 79.97 352 *e*P **P** 01 47 20.0 +0.4
KIS **Kishinev** 80.00 344 ⇑P **P** 01 47 19.1 -0.6
KIS **Kishinev** 80.00 344 ⇑P **P** 01 47 19.1 -0.6
MTDJ **Mount Denham** 80.05 73 P **P** 01 47 19.9 -0.6
MTDJ IAmb IAmb 01 47 44.7
comp=Z,277nm,1.1s
MTDJ IAMs_20 IAMs_20 02 26 51.7
comp=Z,7μm,19.0s
MTDJ **Mount Denham** 80.05 73 *e*P **P** 01 47 19.5 -1.0
MILM **Milestii Mici** 80.08 344 ⇓P **P** 01 47 19.6 -0.5
MILM **Milestii Mici** 80.08 344 ⇓P **P** 01 47 19.6 -0.5
BMR **Baia Mare** 80.14 348 ⇑P **P** 01 47 20.4 -0.1
BMR **Baia Mare** 80.14 348 ⇑P **P** 01 47 20.4 -0.1
STU **Stuttgart** 80.17 358 IAmb IAmb 01 47 22.2
comp=Z,277nm,1.2s
STU IAMs_20 IAMs_20 02 28 10.9
comp=Z,4μm,19.0s
STU **Stuttgart** 80.17 358 *e*P **P** 01 47 20.6 0.0
comp=Z,664nm,1.2s,baz=4.1,slow=5.6
STU **Stuttgart** 80.17 358 ⇑P **P** 01 47 20.6 0.0
STKI **Sintang** 80.18 258 P **P** 01 47 22.1 +1.0
comp=Z,54nm,1.4s
GTBY **Guantanamo Bay** 80.18 71 *e*P **P** 01 47 18.9 -2.2
ZST **Bratislava** 80.31 352 *e*P **P** 01 47 22.1 +0.7
ZST pmax pmax
comp=Z,446nm,1.2s
ZST **Bratislava** 80.31 352 *e*P **P** 01 47 22.1 +0.7
ZST **Bratislava** 80.31 352 *e*S **SKSac** 01 57 37.5 +0.2
PSZ **Piszkesteto** 80.33 350 ⇑P **P** 01 47 21.8 +0.2
PSZ **Piszkesteto** 80.33 350 ⇑P **P** 01 47 21.8 +0.2
PSZ **Piszkesteto** 80.33 350 P **P** 01 47 21.1 -0.5
PSZ **Piszkesteto** 80.33 350 ⇑P **P** 01 47 21.6 -0.1
PSZ **Piszkesteto** 80.33 350 P **P** 01 47 21.5 -0.1
ANN **Anapa** 80.35 338 *e*P P 01 47 14.3 -7.3
ANN *e* 01 57 33.9
ANN pmax pmax
comp=E,123nm,1.3s
ANN pmax pmax
comp=Z,181nm,1.1s
ANN pmax pmax
comp=N,49nm,1.1s
ANN pmax pmax
comp=Z,1μm,2.2s
ANN pmax pmax
comp=N,276nm,1.3s
ANN pmax pmax
comp=E,227nm,1.2s
ROSF **Rostrenen** 80.35 6 *e*P **P** 01 47 20.9 -0.7
RAO **Raoul Island** 80.36 183 LR LR 02 19 36.3
comp=E,7μm,18.7s,baz=3.0,slow=33
JHSG **JHARSUGUGA** 80.43 293 *i*P **P** 01 47 22.1 -0.3
JHNI **Jhansi** 80.47 299 ⇑*i*P **P** 01 47 21.6 -1.1
ZEI **Tsey** 80.52 333 *e*P **P** 01 47 20.3 -2.6
ZEI pmax pmax
comp=Z,78nm,1.6s
VASR **Vaslui** 80.52 345 ⇓P **P** 01 47 22.6 +0.1
ESPN **Las Esperanzas** 80.55 82 IAmb IAmb 01 47 47.8
comp=Z,220nm,1.2s
SRO **Srobarova** 80.59 351 *e*P **P** 01 47 23.3 +0.4
SRO pmax pmax
comp=Z,98nm,1.2s
SRO **Srobarova** 80.59 351 *e*P **P** 01 47 23.3 +0.4
LEOM **Leova** 80.61 344 ⇓P **P** 01 47 24.1 +1.1
LEOM **Leova** 80.61 344 ⇓P **P** 01 47 24.1 +1.1
LTVH **Ltavrtes, Hu** 80.63 349 ⇑P **P** 01 47 23.5 +0.4
LTVH **Ltavrtes, Hu** 80.63 349 P **P** 01 47 23.2 +0.1
SRO2 **Moca** 80.63 351 *e*P **P** 01 47 22.3 -0.8
SRO2 pmax pmax
comp=Z,61nm,1.1s
SRO2 **Moca** 80.63 351 *e*P **P** 01 47 22.3 -0.8
BFO **Black Forest** 80.63 358 P **P** 01 47 22.3 -0.9
BFO pmax pmax
comp=Z,292nm,1.3s
BFO MLR MLR
comp=Z,5μm,19.0s
BFO **Black Forest** 80.63 358 P **P** 01 47 22.3 -0.9
BFO IAmb IAmb 01 47 24.7
comp=Z,292nm,1.3s
BFO IAMs_20 IAMs_20 02 24 57.1
comp=Z,5μm,19.0s
BFO **Black Forest** 80.63 358 *e*P **P** 01 47 23.2 0.0
comp=Z,255nm,1.2s,baz=4.1,slow=5.6
BFO **Black Forest** 80.63 358 P **P** 01 47 23.0 -0.2
BFO P **P** 01 47 23.0 -0.2
CONA **Conrad Observa** 80.68 353 *i*P **P** 01 47 23.8 +0.3
comp=Z,133nm,1.2s,SNR=91
CONA *e*P **PKKPdf** 02 05 52.8 +4.4
comp=Z,2.9nm,1.2s
CONA *e*P **P'P'df** 02 14 09.6 -3.9
comp=Z,2.9nm,1.2s
FUR **Furstenfeldbru** 80.71 356 *e*P **P** 01 47 23.7 +0.1
comp=Z,343nm,1.4s,baz=4.1,slow=5.6
MESR **Meseseni** 80.73 348 ⇑P **P** 01 47 24.7 +1.0
ECH **Echery** 80.76 359 IAmb IAmb 01 47 25.4
comp=Z,356nm,1.2s
ECH IAMs_20 IAMs_20 02 27 44.6
comp=Z,4μm,19.0s
ECH **Echery** 80.76 359 ⇑P **P** 01 47 23.7 -0.2
MMRI **Maumere** 80.80 244 P **P** 01 47 23.7 -0.7
MMRI IAmb IAmb 01 47 38.8
comp=Z,184nm,1.4s
MMRI **Maumere** 80.80 244 P P 01 47 37.0 +13
TESR **Tescani** 80.83 346 ⇑P **P** 01 47 24.0 -0.2
BUD **Budapest** 80.85 351 P **P** 01 47 24.3 0.0
MOA **Molln** 80.87 354 *i*P **P** 01 47 24.0 -0.5
comp=Z,56nm,1.2s,SNR=30
MOA *e*P **P'P'df** 02 14 07.0 -6.0
comp=Z,7.3nm,1.9s
SOP **Sopron** 80.87 353 P **P** 01 47 24.3 -0.1
BSZH **Besenyszg** 80.90 350 ⇑P **P** 01 47 25.2 +0.7
BSZH **Besenyszg** 80.90 350 P **P** 01 47 24.8 +0.3
BIR **Birlad** 80.91 345 ⇓P **P** 01 47 25.1 +0.5
BIR **Birlad** 80.91 345 ⇓P **P** 01 47 25.1 +0.5
CLF **Chambon-Foret** 80.92 2 IAMs_20 IAMs_20 02 27 33.6
comp=Z,4μm,20.0s
SOC **Sochi** 80.92 336 *e*P **P** 01 47 22.6 -2.1
SOC *e* 01 50 26.8
SOC *e*PPP PPP 01 52 16.7
SOC *e*S **S** 01 57 31.6 0.0
SOC *e*SS **SS** 02 02 43.3 -1.0
SOC pmax pmax
comp=Z,77nm,1.0s
SOC MLR MLR
comp=Z,10μm,20.0s
BBKI **Banjar Baru** 80.93 253 P **P** 01 47 26.1 +1.0
comp=Z,44nm,1.2s
BORR **Bors** 80.93 349 ⇓P **P** 01 47 25.3 +0.6
SIM **Simferopol'** 80.95 340 *e*P **P** 01 47 22.8 -2.1
SIM *e* 01 47 31.0
SIM *e* 01 50 32.0
SIM *e*S **S** 01 57 25.0 -6.9
SIM pmax pmax
comp=Z,253nm,1.9s
SRIT **Nakonsritamara** 80.95 272 IAmb IAmb 01 47 41.7
comp=Z,137nm,1.0s
BIOA **Bad Ischl, Aus** 81.06 355 *e*P **P** 01 47 25.6 +0.1
comp=Z,192nm,1.1s
BIOA *e*P **P'P'df** 02 14 08.1 -4.5
comp=Z,0.9nm,0.4s
RJOB **Jochberg** 81.06 355 *e*P **P** 01 47 25.5 0.0
comp=Z,99nm,1.2s,baz=4.1,slow=5.6
EGYH **Egyhazaskeszo** 81.07 352 P **P** 01 47 25.5 +0.1
CJR **Cluj-Napoca** 81.07 348 ⇑P **P** 01 47 25.5 -0.1
CJR **Cluj-Napoca** 81.07 348 ⇑P **P** 01 47 25.5 -0.1
CHVG **Ch'k'valeri** 81.09 334 ⇑P **P** 01 47 25.9 +0.2
CHVG **Ch'k'valeri** 81.09 334 ⇑P **P** 01 47 25.9 +0.2
DRGR 81.11 348 ⇑P **P** 01 47 25.4 -0.4
DRGR 81.11 348 ⇑P **P** 01 47 25.4 -0.4
TGMR **Targu Mures** 81.13 347 ⇑P **P** 01 47 27.1 +1.3
GHRR 81.15 345 ⇓P **P** 01 47 26.9 +1.0
VARL **Varlezi** 81.23 345 ⇑P **P** 01 47 27.3 +0.9
ORTG **Ortega, Santa** 81.23 84 IAmb IAmb 01 47 42.9
comp=Z,186nm,1.4s
UBR **Ueberruh** 81.24 357 *e*P **P** 01 47 26.6 +0.2
comp=Z,259nm,1.4s,baz=4.1,slow=5.6
VLDR **Vladesti** 81.25 344 ⇑P **P** 01 47 26.0 -0.4
HRA **Herat** 81.25 316 IAmb IAmb 01 47 28.9
comp=Z,359nm,1.2s
GRTK **Grand Turk** 81.27 67 IAMs_20 IAMs_20 02 22 38.2
comp=Z,6μm,20.0s
BATI **Baumata** 81.29 242 LR LR 02 17 38.7
comp=Z,892nm,21.5s,baz=38,slow=31
BATI **Bamata** 81.29 242 P **P** 01 47 29.0 +2.0
comp=Z,2μmcomp=Z,95nm,1.3s
MPLH **Magyarpolny** 81.30 352 P **P** 01 47 26.6 0.0
OZUR 81.37 346 ⇑P **P** 01 47 27.6 +0.5
ARSA **Arzberg** 81.38 353 *i*P **P** 01 47 27.3 +0.1
comp=Z,87nm,0.9s,SNR=49
ARSA *e*P P'P'df 02 14 00.5 -12
comp=Z,5.7nm,0.8s
RETA **Reutte** 81.41 357 *i*P **P** 01 47 27.2 -0.2
comp=Z,95nm,1.0s,SNR=40
RETA *e*S **SKSac** 01 57 45.3 +0.3
comp=Z,7.9nm,1.4s
RETA *e*P **PKKPbc** 02 06 03.7 +4.4
comp=Z,5.0nm,1.5s
RETA *e*P **P'P'df** 02 14 07.9 -4.2
comp=Z,6.8nm,1.5s
SCTR **Scanteiesti** 81.42 344 ⇑P **P** 01 47 28.0 +0.7
DUNO **Dulce Nombre,** 81.43 85 P **P** 01 47 27.2 -0.7
VRI **Vrincioaia** 81.44 345 ⇑P **P** 01 47 30.2 +2.7
VRI **Vrincioaia** 81.44 345 ⇑P **P** 01 47 30.2 +2.7
PRVC **Isla de Provid** 81.46 79 *e*P P 01 47 33.6 +5.7
PLOR **Plostina** 81.47 345 ⇓P **P** 01 47 28.0 +0.3
PLOR **Plostina** 81.47 345 ⇓P **P** 01 47 28.0 +0.3
TATR **Tatarca** 81.49 344 ⇓P **P** 01 47 28.0 +0.3
ODBI **Odobesti** 81.49 345 ⇑P **P** 01 47 29.6 +1.8
WATA **Walderalm** 81.53 356 *i*P **P** 01 47 28.0 -0.1
comp=Z,237nm,1.2s,SNR=94
WATA *e*S **SKSac** 01 57 43.9 -2.1
comp=Z,8.9nm,1.0s
WATA *e*P **PKKPbc** 02 06 02.5 +3.3
comp=Z,2.1nm,0.7s
WATA *e*P P'P'df 02 14 00.3 -12
comp=Z,4.6nm,1.2s
MOTA **Moosalm** 81.53 356 *i*P **P** 01 47 28.0 -0.2
comp=Z,184nm,1.1s,SNR=95
MOTA *e*S **SKSac** 01 57 49.0 +2.9
comp=Z,8.0nm,1.3s
MOTA *e*P **PKKPbc** 02 06 03.3 +4.2
comp=Z,6.1nm,1.6s
MOTA *e*P **P'P'df** 02 14 10.2 -1.8
comp=Z,10nm,1.5s
SLCR **Slobozia Conac** 81.55 345 ⇑P **P** 01 47 28.8 +0.8
COVR **Voineasa-Covas** 81.55 346 ⇓P **P** 01 47 28.7 +0.7
DOPR **Dopca** 81.55 346 ⇑P **P** 01 47 28.8 +0.7
TUDR 81.56 345 ⇓P **P** 01 47 25.2 -2.8
GIUM **Giurgiulesti** 81.57 344 ⇓P **P** 01 47 29.7 +1.6
DGPR **DIGLIPUR** 81.58 280 ⇑*i*P **P** 01 47 28.4 -0.3
DGPR IAmb IAmb 01 47 34.4
comp=Z,169nm,0.5s
DGPR *i* PP **PP** 01 50 36.4 +1.4
IZVR **Izvoarele** 81.59 345 ⇑P **P** 01 47 28.7 +0.4
WTTA **Wattenberg** 81.59 356 *i*P **P** 01 47 28.6 +0.1
comp=Z,190nm,1.2s,SNR=98
WTTA *e*S **SKSac** 01 57 42.6 -3.9
comp=Z,12nm,1.7s
WTTA *e*P **PKKPbc** 02 06 02.9 +3.9
comp=Z,7.1nm,1.4s
WTTA *e*P P'P'df 02 14 00.0 -12
comp=Z,7.0nm,1.5s
JTS **Las Juntas de** 81.61 84 P **P** 01 47 28.1 -0.7
JTS pmax pmax
comp=Z,40nm,1.3s
JTS MLR MLR
comp=Z,2μm,22.0s
JTS **Las Juntas de** 81.61 84 P **P** 01 47 28.1 -0.7
JTS **Las Juntas de** 81.61 84 *e*P P 01 47 18.1 -11
SCHL **Schela** 81.62 345 ⇑P **P** 01 47 29.8 +1.4
DAVA **Damuels** 81.64 357 *i*P **P** 01 47 28.5 -0.2
comp=Z,131nm,1.3s,SNR=48
DAVA *e*S **SKSac** 01 57 44.5 -2.2
comp=Z,7.0nm,1.2s
DAVA *e*P **PKKPbc** 02 06 03.5 +4.6
comp=Z,4.9nm,0.9s
DAVA *e*P **P'P'df** 02 14 06.5 -5.3
comp=Z,6.3nm,1.3s
SQTA **Sankt Quirin** 81.66 356 *i*P **P** 01 47 28.6 -0.2
comp=Z,188nm,1.2s,SNR=106
SQTA *e*S **SKSac** 01 57 43.1 -3.7
comp=Z,3.3nm,1.2s
SQTA *e*P **PKKPbc** 02 06 04.7 +5.9
comp=Z,4.9nm,1.2s
KBA **Koelnbreinsper** 81.69 355 *i*P **P** 01 47 29.5 +0.5
comp=Z,319nm,1.2s,SNR=206
KBA *e*S **SKSac** 01 57 45.4 -1.7
comp=Z,23nm,1.6s
KBA *e*P **PKKPbc** 02 06 03.3 +4.5
comp=Z,5.2nm,1.3s
KBA *e*P **P'P'df** 02 14 09.8 -2.0
comp=Z,7.7nm,1.6s
BISRR **Bisoca** 81.76 345 ⇑P **P** 01 47 30.2 +1.0
TLCR 81.76 344 ⇓P **P** 01 47 29.9 +0.8
TLCR 81.76 344 ⇓P **P** 01 47 29.9 +0.8
AJM **Ajmer** 81.76 302 ⇑*i*P **P** 01 47 29.7 +0.2
SIRR **Siria** 81.76 349 ⇑P **P** 01 47 29.1 0.0
AMBH **Ambrzfalva** 81.79 350 ⇑P **P** 01 47 29.6 +0.4
AMBH **Ambrzfalva** 81.79 350 P **P** 01 47 29.8 +0.6
FETA **Feichten** 81.87 357 *i*P **P** 01 47 30.1 +0.1
comp=Z,189nm,1.1s,SNR=100
FETA *e*S **S** 01 57 44.3 +2.5
comp=Z,8.2nm,1.5s
FETA *e*P **P'P'df** 02 14 07.8 -3.5
comp=Z,12nm,2.1s
GRER 81.88 345 ⇓P **P** 01 47 31.6 +1.8
CFR **Carcaliu** 81.88 344 ⇑P **P** 01 47 29.8 0.0
CFR **Carcaliu** 81.88 344 ⇑P **P** 01 47 29.8 0.0
MLR **Muntele Rosu** 81.93 346 ⇓P **P** 01 47 31.7 +1.5
MLR **Muntele Rosu** 81.93 346 LR LR 02 29 46.0
comp=Z,6μm,18.1s,baz=26,slow=40
MLR **Muntele Rosu** 81.93 346 ⇓P **P** 01 47 31.7 +1.5
MLR **Muntele Rosu** 81.93 346 IAmb IAmb 01 47 32.3
comp=Z,211nm,1.4s
CAO2 **Cobano, Puntar** 81.97 85 IAmb IAmb 01 47 55.9
comp=Z,201nm,1.2s
DEV **Deva** 81.98 348 ⇑P **P** 01 47 30.0 -0.3
DEV **Deva** 81.98 348 ⇑P **P** 01 47 30.0 -0.3
SOKA **Soboth** 81.98 354 *i*P **P** 01 47 30.4 0.0
comp=Z,291nm,1.2s,SNR=164
SOKA *e*S **S** 01 57 44.5 +1.8
comp=Z,7.9nm,1.7s
SOKA *e*P **PKKPbc** 02 06 01.6 +3.6
comp=Z,2.0nm,1.1s
SOKA *e*P **P'P'df** 02 14 06.7 -4.3
comp=Z,5.5nm,1.2s
PERS **Pernice** 82.02 354 *i*P **P** 01 47 30.4 -0.2
PERS *i* 01 47 43.8
PERS IAMs_20 IAMs_20 02 39 18.1
comp=Z,4μm,18.9s
BEHE **Becsehely** 82.06 352 ⇑*i*P **P** 01 47 30.6 -0.1
BEHE **Becsehely** 82.06 352 P **P** 01 47 30.9 +0.1
ABTA **Abfaltersbach** 82.07 355 *i*P **P** 01 47 30.5 -0.4
comp=Z,182nm,1.2s,SNR=102
ABTA *e*S **S** 01 57 43.2 -0.4
comp=Z,13nm,1.5s
ABTA *e*P **P'P'df** 02 14 03.9 -7.0
comp=Z,8.5nm,1.6s
KOGS **Kog** 82.12 353 *i*P **P** 01 47 30.7 -0.4
VOIR 82.12 346 ⇑P **P** 01 47 31.4 +0.2
VOIR 82.12 346 ⇑P **P** 01 47 31.4 +0.2
MYKA **Terra Mystica** 82.12 355 *i*P **P** 01 47 31.2 +0.1
comp=Z,104nm,1.4s,SNR=28
MYKA *e*S **S** 01 57 47.5 +3.4
comp=Z,17nm,1.6s
MYKA *e*P **P'P'df** 02 14 05.2 -5.6
comp=Z,8.4nm,1.0s
TPGR **Topolog** 82.15 344 ⇑P **P** 01 47 31.5 +0.3
JURR **Jurilovca** 82.15 344 ⇓P **P** 01 47 32.6 +1.4
OBKA **Obir** 82.19 354 *i*P **P** 01 47 31.3 -0.2
comp=Z,102nm,1.3s,SNR=43
OBKA *e*S **SKSac** 01 57 50.5 +0.2
comp=Z,5.9nm,1.4s
OBKA *e*P **P'P'df** 02 14 06.3 -4.4
comp=Z,6.7nm,1.3s
ISR **Istrita** 82.20 345 ⇓P **P** 01 47 33.3 +1.7
ISR **Istrita** 82.20 345 ⇓P **P** 01 47 33.3 +1.7
ARR **Arges** 82.25 347 ⇑P **P** 01 47 32.1 +0.3
QIS **Mount Isa** 82.26 223 P **P** 01 47 31.5 -0.5
JACO **JACO, Garabito** 82.27 84 IAmb IAmb 01 47 57.4
comp=Z,177nm,1.1s
LOT **Lotru** 82.29 347 ⇑P **P** 01 47 31.3 -0.8
EIDS **Eidsvold** 82.30 211 ⇓P **P** 01 47 33.0 +1.0
KOVH **Kovagotottos** 82.32 351 P **P** 01 47 31.4 -0.6
TIM **Timisoara** 82.33 349 ⇑P **P** 01 47 32.6 +0.5
TIM **Timisoara** 82.33 349 ⇑P **P** 01 47 32.6 +0.5
PGOR **Pogoanele** 82.34 345 ⇑P **P** 01 47 33.5 +1.3
SECR 82.36 346 ⇓P **P** 01 47 32.8 +0.5
PTCC **Patocco-Chiusa** 82.36 355 ⇑P **P** 01 47 30.9 -1.5
HARR **Harsova** 82.39 344 ⇑P **P** 01 47 32.6 +0.1
HARR **Harsova** 82.39 344 ⇑P **P** 01 47 32.6 +0.1
BZS **Buzias** 82.41 349 ⇑P **P** 01 47 32.1 -0.4
BZS **Buzias** 82.41 349 ⇑P **P** 01 47 32.1 -0.4
KALN **Kalnik** 82.42 353 *i*P **P** 01 47 31.8 -0.8
LOBO **Lobor** 82.43 353 *i*P **P** 01 47 31.8 -0.8
TUE **Stuetta** 82.47 357 IAmb IAmb 01 47 35.2
comp=Z,379nm,1.3s
TUE IAMs_20 IAMs_20 02 24 50.6
comp=Z,5μm,21.0s
TUE **Stuetta** 82.47 357 ⇑P **P** 01 47 33.3 +0.2
GZR **Gura Zlata** 82.48 348 ⇑P **P** 01 47 32.8 -0.2
GZR **Gura Zlata** 82.48 348 ⇑P **P** 01 47 32.8 -0.2
TLBR **Topalu** 82.51 344 ⇓P **P** 01 47 33.9 +0.8
TIRR **Tirgusor** 82.53 344 ⇓P **P** 01 47 33.2 0.0
TIRR **Tirgusor** 82.53 344 ⇓P **P** 01 47 33.2 0.0
TIRR **Tirgusor** 82.53 344 ⇑P **P** 01 47 33.3 +0.1
AMRR **Amara** 82.57 345 ⇓P **P** 01 47 33.6 +0.2
AMRR **Amara** 82.57 345 ⇓P **P** 01 47 33.6 +0.2
RAGD **RAYAGADA** 82.57 291 ⇑P **P** 01 47 34.2 +0.4
SENIN **Lac Senin/Sane** 82.61 359 IAMs_20 IAMs_20 02 25 22.6
comp=Z,4μm,21.0s
LJU **Ljubljana** 82.65 354 ⇑*i*P **P** 01 47 32.8 -1.0
LJU **Ljubljana** 82.65 354 *i*P **P** 01 47 32.9 -1.0
LJU *e*S **SKSac** 01 57 55.6 +2.4
LJU *e* 02 03 14.0
SULR 82.68 345 ⇓P **P** 01 47 34.5 +0.6
PTJ **Puntijarka** 82.68 353 *i*P **P** 01 47 33.1 -1.0
GNI **Garni** 82.69 331 LR LR 02 31 14.4
comp=Z,8μm,18.3s,baz=24,slow=41
GNI **Garni** 82.69 331 *c i*P **P** 01 47 34.7 +0.4
GNI pmax pmax
comp=Z,254nm,1.7s
GNI **Garni** 82.69 331 P **P** 01 47 34.5 +0.1
GNI **Garni** 82.69 331 P **P** 01 47 35.2 +0.9
GNI P **P** 01 47 35.2 +0.9
GNI **Garni** 82.69 331 ⇑P **P** 01 47 34.3 0.0
GNI **Garni** 82.69 331 P **P** 01 47 34.8 +0.5
BANR **Banloc** 82.69 349 ⇓P P 01 47 39.3 +5.3
STFAR **Stefanesti-Arg** 82.69 346 ⇓P **P** 01 47 35.5 +1.4
CVDA **Cernavoda** 82.72 344 ⇑P **P** 01 47 35.3 +1.1
KARS **Kars** 82.75 332 IAmb IAmb 01 47 43.4
comp=Z,291nm,1.4s
ZAG **Zagreb** 82.76 353 ⇑*i*P **P** 01 47 34.1 -0.3
ZAG **Zagreb** 82.76 353 *i*P **P** 01 47 34.0 -0.4
LEHL **Lehliu** 82.79 345 ⇑P **P** 01 47 34.5 0.0
CRES **Cresnjev** 82.80 353 ⇑*i*P **P** 01 47 33.8 -0.8
MFTR **Murfatlar** 82.80 344 ⇑P **P** 01 47 35.2 +0.6
KULM **Kulim** 82.84 269 IAmb IAmb 01 47 55.6
comp=Z,150nm,1.5s
KULM **Kulim** 82.84 269 ⇑P **P** 01 47 35.4 +0.2
BHPL **Bhopal** 82.85 298 ⇑*i*P **P** 01 47 34.9 -0.4
BHPL IAmb IAmb 01 47 36.7
comp=Z,253nm,0.8s
BHPL *i* x x 01 47 48.4
EFOR **EFORIE** 82.86 344 ⇑P **P** 01 47 35.7 +0.8
PBA **Port Blair** 82.87 280 *e*P **P** 01 47 34.8 -0.6
PBA *i* pP **pwP** 01 47 49.5 +1.3
PBA **Port Blair** 82.87 280 P **P** 01 47 35.5 +0.1
SNR=25
PBA **Port Blair** 82.87 280 ⇑P **P** 01 47 34.7 -0.6
MOSL **Moslavina** 82.91 352 *i*P **P** 01 47 34.1 -1.1
CEY **Cerknica** 82.96 354 ⇑*i*P **P** 01 47 34.4 -1.1
ICOR **Ion Corvin** 82.97 344 ⇑P **P** 01 47 36.1 +0.6
RASA **Rasa** 82.98 345 ⇓P **P** 01 47 36.6 +1.1
A252A **Venje** 82.99 351 *i*P **P** 01 47 34.5 -1.1
OZLJ **Ozalj** 83.01 353 *i*P **P** 01 47 34.4 -1.2
HUMR **Humele** 83.02 346 ⇑P **P** 01 47 34.9 -0.8
BASI **Baing, Sumba** 83.02 244 P P 01 47 45.5 +9.4
HERR **Herculane** 83.03 348 ⇑P **P** 01 47 35.2 -0.6
TRI **Trieste** 83.03 354 ⇑P **P** 01 47 34.6 -1.2
FRGS **Fruska Gora** 83.06 350 ⇑P **P** 01 47 34.7 -1.3
FRGS **Fruska Gora** 83.06 350 ⇑*i*P **P** 01 47 34.3 -1.7
MANR **Mangalia** 83.12 344 ⇓P **P** 01 47 37.3 +1.0
KNRA **Kununurra** 83.14 234 P **P** 01 47 36.6 +0.1
KNRA IAmb IAmb 01 47 50.0
comp=Z,139nm,1.5s
SRE **Strehaia** 83.14 348 ⇓P **P** 01 47 36.9 +0.5
SRE **Strehaia** 83.14 348 ⇓P **P** 01 47 36.9 +0.5
SDDR **Presa de Saban** 83.16 68 IAmb IAmb 01 47 55.3
comp=Z,107nm,1.2s
SDDR IAMs_20 IAMs_20 02 27 06.5
comp=Z,6μm,19.0s
SDDR **Presa de Saban** 83.16 68 *e*P **P** 01 47 35.5 -1.4
SDDR **Presa de Saban** 83.16 68 ⇓P **P** 01 47 37.0 0.0
SGRR **Singureni** 83.17 346 ⇓P **P** 01 47 36.2 -0.3
SKDS **Skadanscina** 83.18 354 ⇑*i*P **P** 01 47 35.6 -1.0
MDVR **Moldovita** 83.22 349 ⇑P **P** 01 47 36.6 -0.2
WBSI **Waikabubak, Su** 83.22 245 P **P** 01 47 37.1 -0.1
comp=Z,3μmcomp=Z,144nm,1.4s
IPM **Ipoh** 83.23 269 IAMs_20 IAMs_20 02 27 51.1
comp=Z,4μm,20.0s
SALO **Salr** 83.28 357 IAmb IAmb 01 47 38.2
comp=Z,220nm,1.2s
SALO **Salr** 83.28 357 ⇑P **P** 01 47 36.4 -0.7
PSN **Preselentsi** 83.33 344 *i*P **P** 01 47 38.6 +1.3
KTUT **Trabzon** 83.34 335 ⇑P **P** 01 47 36.7 -0.7
JASL **Jaisalmer** 83.34 305 *e*P **P** 01 47 37.4 -0.4
RIY **Rijeka** 83.37 354 ⇑*i*P **P** 01 47 36.5 -1.1
RIY **Rijeka** 83.37 354 *i*P **P** 01 47 36.5 -1.1
COPA **Copaceanca** 83.37 346 ⇑P **P** 01 47 36.9 -0.6
A251A **Rujevac** 83.43 353 *i*P **P** 01 47 37.2 -0.7
PLAI **Plampang** 83.49 247 P **P** 01 47 37.3 -1.2
comp=Z,3μmcomp=Z,88nm,1.4s
PLAI **Plampang** 83.49 247 P **P** 01 47 39.0 +0.5
MYKOM **Kota Tinggi** 83.55 265 P **P** 01 47 39.3 +0.4
KALB **Balgarevo** 83.55 344 ⇑P **P** 01 47 39.2 +0.7
PUNG **Punghina** 83.55 348 ⇑P **P** 01 47 38.9 +0.4
A250A **Rusevo Krmpots** 83.58 353 *i*P **P** 01 47 37.5 -1.2
VLAD **Vladila** 83.62 347 ⇓P **P** 01 47 39.2 +0.4
SMRN **Sveta Marina** 83.68 354 *i*P **P** 01 47 37.6 -1.5
SSB **Saint Sauveur** 83.70 1 IAmb IAmb 01 47 41.4
comp=Z,270nm,1.3s
SSB **Saint Sauveur** 83.70 1 IAMs_20 IAMs_20 02 31 12.4
comp=Z,4μm,19.0s
SSB **Saint Sauveur** 83.70 1 ⇑P **P** 01 47 39.5 +0.2
RIOS **Rincon, Osa** 83.73 84 IAmb IAmb 01 48 06.0
comp=Z,200nm,1.0s
BLY **Banja Luka** 83.73 352 ⇑*i*P **P** 01 47 38.8 -0.6
BLY **Banja Luka** 83.73 352 ⇑P **P** 01 47 38.8 -0.6
PLIT **Plitvice** 83.73 353 *i*P **P** 01 47 38.3 -1.2
H07N1 **FLORES T-PHASE** 83.74 28 *e*P **P** 01 47 40.3 +0.7
BAIL **Bailesti** 83.75 347 ⇑P **P** 01 47 39.2 -0.3
BRJN **Brijuni** 83.83 354 *i*P **P** 01 47 38.9 -1.0
WB0 **Warramunga Arr** 83.89 228 IAmb IAmb 01 47 57.8
comp=Z,159nm,1.4s
MONC **Moncucco Torin** 83.90 358 ⇑P **P** 01 47 40.2 -0.1
RABC **Rab** 83.92 354 *i*P **P** 01 47 39.2 -1.1
BNI **Bardonecchia** 83.93 359 IAMs_20 IAMs_20 02 30 20.4
comp=Z,5μm,19.0s
BNI **Bardonecchia** 83.93 359 ⇑P **P** 01 47 41.7 +1.1
WR0 **Warramunga Arr** 83.99 228 IAmb IAmb 01 47 58.2
comp=Z,107nm,1.4s
H07S1 **FLORES T-PHASE** 84.00 28 *e*P **P** 01 47 39.7 -1.2
KOPT **Kop Dagi** 84.04 334 P **P** 01 47 40.9 -0.6
WRAB **Tennant Creek** 84.06 228 *c i*P **P** 01 47 40.2 -1.0
WRAB pmax pmax
comp=Z,151nm,1.4s
WRAB MLR MLR
comp=Z,2μm,18.0s
WRAB **Tennant Creek** 84.06 228 P **P** 01 47 41.4 +0.1
WRAB IAmb IAmb 01 47 58.7
comp=Z,150nm,1.3s
WRAB **Tennant Creek** 84.06 228 P **P** 01 47 40.3 -1.0
WB2 **Warramunga Arr** 84.06 228 IAmb IAmb 01 47 58.7
comp=Z,182nm,1.4s
MGRS **Mrkonjic Grad** 84.07 352 ⇑*i*P **P** 01 47 42.1 +0.9
UDBI **Udbina** 84.07 353 *i*P **P** 01 47 40.2 -1.1
WRA **Warramunga Arr** 84.07 228 P **P** 01 47 40.8 -0.5
comp=Z,6.5nm,0.5s,baz=32,slow=5.6,SNR=72
WRA LR LR 02 22 24.7
comp=Z,2μm,20.3s,baz=17,slow=34
DIVS **Divibare** 84.09 350 IAMs_20 IAMs_20 02 28 16.8
comp=Z,6μm,20.0s

DIVS Divibare 84.09 350 ⇑*i*P P 01 47 40.8 -0.6
DIVS Divibare 84.09 350 ⇑P P 01 47 40.7 -0.6
NVLJ Novalja 84.10 353 *i*P P 01 47 39.1 -2.1
SZH Strazhica 84.11 345 *i*P P 01 47 40.4 -1.0
BRU2 Volcan 84.17 83 *e*P P 01 47 43.6 +1.3
BOB Bobbio (Coli) 84.17 357 ⇑P P 01 47 42.0 +0.3
CDITO Canoas 84.22 84 P P 01 47 42.2 -0.2
PVL Pavlikeni 84.25 346 *i*P P 01 47 41.7 -0.4
KMMI Kalianget 84.30 251 P P 01 47 43.6 +0.9
comp=Z,6µmcomp=Z,175nm,2.1s
BOVS Bovan 84.35 348 ⇑P P 01 47 41.9 -0.7
VIRC Vir 84.36 353 *i*P P 01 47 41.6 -1.0
BBLS Lazići 84.39 350 ⇑*i*P P 01 47 43.0 +0.1
SRBI Singaraja 84.39 250 P P 01 47 43.7 +0.6
comp=Z,2µmcomp=Z,60nm,1.0s
KIJV Kijevo 84.53 352 *i*P P 01 47 42.4 -1.2
MSSA Maissana 84.62 357 IAmb IAmb 01 47 44.9
comp=Z,204nm,1.2s
RUDO Rudo 84.64 350 ⇑*i*P P 01 47 43.4 -0.7
DUGI Dugi Otok 84.65 353 *i*P P 01 47 43.4 -0.7
ABJI Asem Bagus 84.74 251 P P 01 47 44.1 -0.8
comp=Z,2µmcomp=Z,62nm,1.1s
JMB Yambol 84.78 345 *i*P P 01 47 44.8 0.0
TOKA Tokat 84.80 337 IAmb IAmb 01 47 47.2
comp=Z,208nm,1.2s
PLE Pljevlja 84.92 350 ⇑*i*P P 01 47 45.9 +0.3
ZIRJ Zirje 84.94 353 *i*P P 01 47 44.5 -1.0
RICI Ricice 84.98 352 *i*P P 01 47 44.2 -1.5
KDZE Karadeniz Ereo 85.00 341 ⇑P P 01 47 46.2 +0.3
IGBI Denpasar 85.02 249 P P 01 48 01.8 +16
RUSF Rustrel 85.05 0 ⇑P P 01 47 49.6 +3.5
BLJI Banyuglugur 85.08 251 P P 01 47 45.9 -0.7
comp=Z,39nm,1.6s
PGB Panagyurishte 85.08 346 *i*P P 01 47 46.6 +0.2
UPM Unac-Piva 85.09 350 *e*P P 01 47 46.4 -0.2
UPM Unac-Piva 85.09 350 ⇑*i*P P 01 47 45.9 -0.7
AKL Akola 85.10 297 ⇑*i*P P 01 47 46.6 -0.1
VTS Vitosha 85.14 347 ⇑P P 01 47 46.8 0.0
VTS Vitosha 85.14 347 ⇑P P 01 47 46.8 0.0
VTS Vitosha 85.14 347 IAmb IAmb 01 47 48.2
comp=Z,261nm,1.3s
VTS Vitosha 85.14 347 ⇑P P 01 47 46.4 -0.4
VTS Vitosha 85.14 347 *i*P P 01 47 45.8 -1.0
LHMI Lhok Sumawe 85.21 272 P P 01 47 47.1 -0.2
SRBC Serra Branca 85.22 26 *e*P P 01 47 48.2 +1.2
comp=Z,597nm,1.5s
PGRA Graciosa 85.24 26 *e*P P 01 47 46.7 -0.5
comp=Z,259nm,1.5s
IVA Berane 85.31 350 ⇑*i*P P 01 47 47.0 -0.6
JAGI Jajag, Banyuwa 85.32 250 P P 01 47 40.5 -7.3
comp=Z,1µmcomp=Z,53nm,1.4s
HVAR Hvar 85.35 352 *i*P P 01 47 46.4 -1.2
EDRB Edirne 85.36 344 P P 01 47 46.4 -1.3
KOME Kolasin 85.38 350 ⇑*i*P P 01 47 47.1 -0.8
BRY Bratogost 85.43 351 *e*P P 01 47 47.8 -0.4
BRY Bratogost 85.43 351 ⇑*i*P P 01 47 47.2 -1.0
NKY Niksic 85.47 350 ⇑*i*P P 01 47 47.7 -0.7
NKME Niksic 85.52 350 ⇑*i*P P 01 47 47.8 -0.8
STON Ston 85.54 351 ⇑*i*P P 01 47 47.3 -1.3
STON Ston 85.54 351 *i*P P 01 47 46.6 -2.0
PMAN Manadas 85.58 26 *e*P P 01 47 48.8 -0.1
comp=Z,199nm,1.7s
PVY Plav 85.58 350 ⇑*i*P P 01 47 48.2 -0.8
GMJI Gumukmas 85.59 251 P P 01 47 47.4 -1.7
comp=Z,2µmcomp=Z,46nm,1.4s
PICO Pico 85.61 26 *e*P P 01 47 48.8 -0.3
comp=Z,336nm,1.7s
TREB Trebinje 85.63 351 *e*P P 01 47 47.9 -1.2
BCIP Isla Barro Col 85.65 81 *e*P P 01 47 51.3 +1.8
PPNO Prainha do Nor 85.68 26 *e*P P 01 47 49.1 -0.4
comp=Z,256nm,1.9s
DBRK Dubrovnik 85.70 351 *i*P P 01 47 47.5 -1.9
PAGU Agualva, Azore 85.70 25 *e*P P 01 47 48.8 -0.7
comp=Z,182nm,1.2s
ISK Istanbul-Kandi 85.70 343 P P 01 47 48.6 -0.8
LSTV Lastovo 85.72 352 *i*P P 01 47 47.7 -1.8
CEME Cevo 85.74 350 ⇑*i*P P 01 47 48.8 -0.9
PID Ribeirinha 85.75 26 *e*P P 01 47 48.8 -0.9
comp=Z,285nm,1.1s
ADH Angra Heroismo 85.79 25 *e*P P 01 47 50.3 +0.4
comp=Z,350nm,1.1s
QLP Quilpie 85.80 217 ⇓P P 01 47 51.0 +1.1
PDG Podgorica 85.82 350 ⇑P P 01 47 49.6 -0.4
PDG Podgorica 85.82 350 P P 01 47 49.2 -0.8
PDG Podgorica 85.82 350 ⇑*i*P P 01 47 49.2 -0.8
PDG Podgorica 85.82 350 ⇑P P 01 47 49.2 -0.8
TTG Podgorica 85.82 350 ⇑*i*P P 01 47 49.4 -0.6
PSI Prapat 85.85 269 LR LR 02 32 09.2
comp=Z,1µm,18.1s,baz=18,slow=40
MDUB Mudurnu 85.86 341 P P 01 47 50.5 +0.2
MDUB IAmb IAmb 01 48 15.2
comp=Z,227nm,1.1s
HCY Herceg Novi 85.89 351 *e*P P 01 47 50.0 -0.3
HCY Herceg Novi 85.89 351 ⇑*i*P P 01 47 49.1 -1.2
KKB Krupnik 85.90 347 *i*P P 01 47 50.8 +0.4
MGAB Montegabbione 85.91 355 ⇑P P 01 47 49.4 -1.1
UPA Univ. de Panam 85.98 81 *e*P P 01 47 47.4 -3.7
BUM Brajici-Budva 85.99 350 ⇑*i*P P 01 47 49.9 -1.0
SKO Skopje 86.02 348 *i*P P 01 47 51.4 +0.4
BR131 Keskin Array S 86.04 339 P P 01 47 50.9 -0.4
BR131 pmax pmax
comp=Z,182nm,1.3s
BR131 Keskin Array S 86.04 339 P P 01 47 50.9 -0.5
BR131 IAmb IAmb 01 47 52.8
comp=Z,182nm,1.3s
BRTR Keskin Array B 86.04 339 P P 01 47 51.0 -0.4
comp=Z,55nm,1.1s,baz=45,slow=1.9,SNR=114
BRTR PP **PP** 01 51 10.0 -0.7
comp=Z,11nm,1.2s,baz=19,slow=7.3,SNR=3.8
BRTR PKPPKP **P'P'df** 02 13 56.8 -6.5
comp=Z,1.7nm,0.9s,baz=148,slow=7.3,SNR=5.6
BRTR LR LR 02 31 03.8
comp=Z,4µm,20.2s,baz=46,slow=39
DRME Dracevica, Mon 86.07 350 ⇑*i*P P 01 47 50.9 -0.3
DRME Dracevica, Mon 86.07 350 ⇑*i*P P 01 47 50.9 -0.3
MMB Musomiste 86.08 347 *i*P P 01 47 52.3 +0.9
CASP Castiglione de 86.09 356 IAmb IAmb 01 47 51.5
comp=Z,194nm,1.4s
ANTO Ankara 86.09 339 P P 01 47 51.7 +0.2
ANTO pmax pmax
comp=Z,298nm,1.5s
ANTO Ankara 86.09 339 P P 01 47 51.7 +0.2
ANTO IAmb IAmb 01 47 53.5
comp=Z,298nm,1.5s
BR231 Keskin MP Arra 86.12 339 IAmb IAmb 01 47 53.8
comp=Z,259nm,1.4s
STIP Stip 86.19 348 *i*P P 01 47 51.2 -0.7
PGAV Gavieira, Arco 86.22 10 *e*P P 01 47 51.8 -0.3
comp=Z,124nm,1.6s
RDO Rodhopi 86.24 345 P P 01 47 51.9 -0.1
RDO Rodhopi 86.24 345 ⇑P P 01 47 52.2 +0.1
ULC Ulcinj 86.28 350 ⇑*i*P P 01 47 51.6 -0.7
NVR Nevrokopi 86.30 346 P P 01 47 52.0 -0.4
CRPR Cabo Rojo, PR 86.34 66 IAmb IAmb 01 48 11.8
comp=Z,149nm,1.1s
VJD Vijayawada 86.36 292 ⇑*i*P P 01 47 53.1 +0.1
PWJI Pagerwojo 86.36 252 P P 01 47 51.7 -1.2
comp=Z,2µmcomp=Z,121nm,1.3s
AQU L'Aquila 86.40 354 ⇑*i*P P 01 47 52.6 -0.3
AQU L'Aquila 86.40 354 ⇑P P 01 47 52.9 0.0
ALN Alexandroupoli 86.40 345 P P 01 47 52.3 -0.5
ALN Alexandroupoli 86.40 345 IAmb IAmb 01 48 10.7
comp=Z,134nm,1.5s
ALN Alexandroupoli 86.40 345 ⇑P P 01 47 53.3 +0.5
SMRI Semarang 86.41 254 P P 01 48 07.2 +14
PHP Peshkopia 86.42 349 P P 01 47 52.5 -0.6
CACAO El Cacao, Vera 86.43 83 *e*P P 01 47 53.1 -0.3
BKNI Bangkinang 86.44 266 P P 01 47 53.5 +0.1
BKNI IAmb IAmb 01 48 11.6
comp=Z,216nm,1.3s
AZU Azuero 86.44 82 *e*P P 01 47 40.1 -13
PCAB Cabril 86.50 10 *e*P P 01 47 53.3 -0.1
comp=Z,104nm,1.4s
ENEZ Enez 86.54 345 P P 01 47 52.8 -0.7
KAVA Kavala 86.55 346 P P 01 47 53.5 -0.1
PBRG Braganca 86.55 9 *e*P P 01 47 53.1 -0.5
comp=Z,131nm,1.5s
SRS Serrai 86.56 347 P P 01 47 53.3 -0.4
BORA Eskisehir 86.58 341 IAmb IAmb 01 47 55.5
comp=Z,152nm,1.4s
CELP Cerrillos 86.59 65 IAmb IAmb 01 48 13.0
comp=Z,233nm,1.2s
KNT Kendrikon 86.62 347 P P 01 47 54.1 +0.1

PAYG Puerto Ayora 86.74 95 P P 01 47 55.4 +0.5
PAYG IAmb IAmb 01 48 17.3
comp=Z,141nm,1.4s
PAYG Puerto Ayora 86.74 95 IAMs_20 IAMs_20 02 21 38.0
comp=Z,3µm,19.0s
PAYG Puerto Ayora 86.74 95 *e*P P 01 47 51.8 -3.1
FITZ Fitzroy Crossi 86.78 236 LR LR 02 23 45.7
comp=Z,1µm,20.5s,baz=50,slow=34
FITZ Fitzroy Crossi 86.78 236 P P 01 47 54.6 -0.2
FITZ IAmb IAmb 01 48 08.7
comp=Z,155nm,1.4s
KOKK Kokkinochori, 86.80 346 P P 01 47 54.0 -0.8
SJG San Juan 86.80 65 LR LR 02 30 32.9
comp=Z,4µm,18.0s,baz=311,slow=38
SJG San Juan 86.80 65 P P 01 47 55.7 +0.5
SJG pmax pmax
comp=Z,135nm,1.2s
SJG MLR MLR
comp=Z,9µm,20.0s
SJG San Juan 86.80 65 P P 01 47 55.7 +0.5
SJG IAmb IAmb 01 48 14.2
comp=Z,135nm,1.1s
SJG San Juan 86.80 65 *e*P P 01 47 53.9 -1.3
TIR Tirane 86.82 349 ⇓P P 01 47 55.2 +0.3
TIR Tirane 86.82 349 P P 01 47 54.7 -0.2
TIR Tirane 86.82 349 ⇓P P 01 47 55.2 +0.3
TIR Tirane 86.82 349 ⇑P P 01 47 54.7 -0.2
SGRT San Giovanni R 86.83 353 IAmb IAmb 01 47 55.9
comp=Z,277nm,1.2s
ARMA Armidale 86.83 209 IAmb IAmb 01 48 14.5
comp=Z,162nm,1.5s
ARMA Armidale 86.83 209 ⇑P P 01 47 57.1 +2.1
HYBB Hyderabad (bro 86.85 294 *e*P P 01 47 54.6 -0.9
HYBB IVmB_BB 01 48 09.6
comp=Z,2µm,2.3s
HYBB IVMs_BB IVMs_BB 02 29 51.6
comp=Z,1µm,16.8s
HYB Hyderabad 86.85 294 ⇑*i*P P 01 47 54.7 -0.7
HYB IAmb IAmb 01 48 00.7
comp=Z,241nm,1.5s
HYB *i* pP **pwP** 01 48 08.3 -0.1
POLO Lamas de Olo 86.86 10 *e*P P 01 47 55.2 -0.1
comp=Z,62nm,1.3s
SOH Sokhos 86.89 347 P P 01 47 54.8 -0.5
GRG Griva 86.89 347 P P 01 47 55.4 +0.1
THAS Thassos island 86.89 346 P P 01 47 54.5 -0.8
SMTH Samothraki Isl 86.90 345 P P 01 47 53.9 -1.4
OUZ Omahuta 86.90 190 IAMs_20 IAMs_20 02 23 48.1
comp=Z,4µm,20.0s
OHR Ohrid 86.94 349 *i*P P 01 47 55.5 -0.1
HUMP Col San Antoni 86.95 65 IAmb IAmb 01 48 19.0
comp=Z,156nm,1.2s
PDPR Patillas Dam, 86.95 65 IAmb IAmb 01 48 11.3
comp=Z,164nm,1.4s
PVRL Vila Real 86.97 10 *e*P P 01 47 55.7 0.0
comp=Z,136nm,1.2s
PSET Sete Cidades 86.97 24 *e*P P 01 47 55.5 -0.3
comp=Z,524nm,2.0s
PTO Porto 87.00 11 *e*P P 01 47 55.4 -0.4
comp=Z,125nm,1.1s
UGM Wanagama 87.04 254 P P 01 47 56.6 +0.3
comp=Z,122nm,1.3s
UGM Wanagama 87.04 254 P P 01 47 56.8 +0.5
PDA Ponta Delgada 87.06 24 *e*P P 01 47 56.1 0.0
comp=Z,593nm,1.5s
GRON Grota Negra 87.07 24 *e*P P 01 47 56.1 -0.2
comp=Z,278nm,1.5s
CMLA Cha da Macela 87.08 24 *e*P P 01 47 56.4 +0.1
comp=Z,459nm,1.8s
CMLA Cha da Macela 87.08 24 P P 01 47 56.0 -0.3
CMLA pmax pmax
comp=Z,226nm,1.1s
CMLA MLR MLR
comp=Z,5µm,20.0s
CMLA Cha da Macela 87.08 24 P P 01 47 56.0 -0.3
CMLA IAmb IAmb 01 48 01.3
comp=Z,226nm,1.1s
CMLA Cha da Macela 87.08 24 IAMs_20 IAMs_20 02 26 15.1
comp=Z,5µm,20.0s
CMLA Cha da Macela 87.08 24 ⇓P P 01 47 57.6 +1.3
CMLA ⇓P P 01 47 57.7 +1.4
GADA Gvkgeada 87.11 345 P P 01 47 54.5 -1.8
THE Thessaloniki 87.13 347 P P 01 47 55.1 -1.3
HORT Hortiatis 87.14 347 P P 01 47 54.9 -1.7
MVO Moncorvo 87.15 10 *e*P P 01 47 56.0 -0.6
comp=Z,172nm,1.2s
BART Pico Bartolome 87.16 24 *e*P P 01 47 56.1 -0.6
comp=Z,597nm,1.0s
FNA Florina 87.19 348 P P 01 47 56.0 -0.8
FNA Florina 87.19 348 IAmb IAmb 01 47 57.9
comp=Z,239nm,1.2s
FNA Florina 87.19 348 ⇑P P 01 47 56.1 -0.8
OUR Ouranopolis 87.27 346 P P 01 47 56.4 -0.7
STVI Saint Thomas 87.29 64 P P 01 47 56.9 -0.6
STVI IAmb IAmb 01 48 15.8
comp=Z,168nm,1.1s
PLG Polygyros 87.31 347 P P 01 47 56.4 -1.0
EZN Ezine 87.40 344 P P 01 47 56.9 -0.8
KBN Korca 87.43 349 P P 01 47 57.4 -0.6
KBN Korca 87.43 349 IAmb IAmb 01 48 19.9
comp=Z,124nm,1.0s
MRVN Minervino Murg 87.48 352 ⇑P P 01 47 57.7 -0.5
KTI Kastanea 87.48 348 P P 01 47 57.4 -0.9
AS31 Alice Springs 87.49 226 P P 01 47 58.4 +0.2
ASAR Alice Springs 87.49 226 P P 01 47 58.0 -0.3
comp=Z,8.0nm,0.8s,baz=31,slow=4.5,SNR=49
ASAR LR LR 02 23 25.1
comp=Z,2µm,20.3s,baz=30,slow=33
PVIS Viseu 87.50 10 *e*P P 01 47 57.7 -0.6
comp=Z,181nm,1.2s
LIA Limnos Island 87.51 345 P P 01 47 57.8 -0.5
SMRC Santa Marta, M 87.54 75 *e*P P 01 47 57.5 -1.3
KPJI Karang Pucung 87.55 255 P P 01 47 58.9 +0.2
comp=Z,1µmcomp=Z,60nm,1.3s
NEST Nestorio 87.60 348 P P 01 47 58.6 -0.2
KZN Kozani 87.61 348 P P 01 47 58.1 -0.8
PAOL Paolisi 87.63 353 IAmb IAmb 01 47 59.7
comp=Z,141nm,1.3s
LIT Litokhoron 87.72 347 P P 01 47 57.8 -1.5
LIT Litokhoron 87.72 347 IAmb IAmb 01 48 01.9
comp=Z,153nm,1.4s
LIT Litokhoron 87.72 347 ⇑P P 01 47 58.5 -0.8
PAIG Paliouri 87.72 346 P P 01 47 58.1 -1.2
VLO Vlora 87.73 350 P P 01 47 59.7 +0.4
MATE Matera 87.84 352 ⇑P P 01 47 59.8 -0.1
MATE Matera 87.84 352 ⇑P P 01 47 59.7 -0.1
MTE Manteigas 87.85 10 *e*P P 01 47 59.4 -0.6
comp=Z,154nm,1.2s
MTE Manteigas 87.85 10 IAmb IAmb 01 48 00.9
comp=Z,103nm,1.1s
MTE Manteigas 87.85 10 ⇑P P 01 47 59.2 -0.8
GSI Gunungsitoli 87.85 269 IAmb IAmb 01 48 17.4
comp=Z,195nm,1.2s
GSI Gunungsitoli 87.85 269 ⇑P P 01 48 00.3 +0.1
PSMA Santa Maria 87.91 24 *e*P P 01 47 57.6 -2.6
comp=Z,410nm,1.1s
PSMN Pico do Norte, 87.92 24 *e*P P 01 47 58.2 -2.1
comp=Z,408nm,1.3s
COI Coimbra 87.94 11 *e*P P 01 47 59.9 -0.4
comp=Z,252nm,1.2s
COI Coimbra 87.94 11 IAmb IAmb 01 48 01.2
comp=Z,181nm,1.1s
COI IAMs_20 IAMs_20 02 33 56.6
comp=Z,4µm,20.0s
SJCC San Jacinto, C 87.94 77 *e*P P 01 47 58.6 -2.2
LEM Lembang 87.95 257 LR LR 02 24 00.8
comp=Z,854nm,21.1s,baz=60,slow=33
PRK Paraskevi 87.97 344 P P 01 48 00.3 -0.2
KPRO Kipourio 88.01 348 P P 01 47 59.4 -1.4
SIGR SIGRI 88.07 345 P P 01 47 59.3 -1.7
PCAS Casmilo, Conde 88.08 11 *e*P P 01 48 00.7 -0.3
comp=Z,186nm,1.2s
KULA Kula-Manisa 88.25 342 P P 01 48 00.5 -1.5
SRN Sarande 88.26 349 P P 01 48 01.2 -0.6
THL Klokotos Trika 88.31 347 P P 01 48 00.6 -1.5
UCM Universidad Co 88.34 7 P P 01 48 00.1 -2.2
UCM S S 01 58 44.4 -1.3
JAN Janina 88.37 348 P P 01 48 01.4 -1.1
NEO Neokhori 88.39 347 P P 01 48 01.1 -1.5
PCBR Castelo Branco 88.41 10 *e*P P 01 48 01.6 -1.0
comp=Z,128nm,1.3s
KEK Kerkira 88.44 349 P P 01 48 02.0 -0.7
KEK Kerkira 88.44 349 ⇑P P 01 48 02.0 -0.7
KEK ⇓P P 01 48 03.0 +0.2
CRJC Cerrejon, Guaj 88.46 74 *e*P P 01 48 02.0 -1.3

URIC Uribia, Colomb 88.46 73 *e*P P 01 48 01.8 -1.4
PTAC Punta Ardita, 88.47 81 *e*P P 01 48 03.8 +0.5
MOTC Monteria, Cord 88.52 78 *e*P P 01 48 02.9 -0.5
ISP Isparta 88.55 341 P P 01 48 02.7 -0.7
ISP pmax pmax
comp=Z,30nm,0.9s
ISP MLR MLR
comp=Z,4µm,20.0s
ISP Isparta 88.55 341 P P 01 48 02.7 -0.7
ISP IAMs_20 IAMs_20 02 31 04.3
comp=Z,4µm,20.0s
IGT Igoumenitsa 88.56 349 P P 01 48 02.6 -0.7
PSBE So Bento 88.58 11 *e*P P 01 48 02.6 -0.8
comp=Z,180nm,1.2s
SMRT St. Maarten 88.58 63 IAmb IAmb 01 48 21.8
comp=Z,169nm,1.0s
SMRT St. Maarten 88.58 63 *e*P P 01 48 02.3 -1.4
POO Poona 88.60 298 ⇑*i*P P 01 48 03.9 0.0
POO IAmb IAmb 01 48 13.0
comp=Z,90nm,0.7s
AGG Agios Georgios 88.80 347 P P 01 47 58.5 -6.0
AGG Agios Georgios 88.80 347 IAmb IAmb 01 48 32.1
comp=Z,102nm,1.4s
AGG Agios Georgios 88.80 347 ⇑P P 01 48 02.9 -1.6
AGG ⇓P P 01 48 03.5 -1.0
PMRV Marv??o 88.83 10 *e*P P 01 48 03.5 -1.1
comp=Z,129nm,1.5s
MAKR Makrakomi, Fth 88.84 347 P P 01 48 03.7 -1.0
KASI Kota Agung 88.84 260 P P 01 48 19.3 +14
CHOS Chios island 88.84 344 P P 01 48 03.6 -1.2
ESBB Sonseca Array 88.91 7 IAmb IAmb 01 48 06.0
comp=Z,89nm,1.1s
ESDC Sonseca Array 88.91 7 P P 01 48 04.5 -0.6
comp=Z,44nm,1.0s,baz=348,slow=4.4,SNR=110
ESDC ScS S 01 58 55.0 +3.8
comp=Z,1.1nm,1.2s,baz=344,slow=6.0,SNR=4.6
ESDC PKPPKP **P'P'df** 02 13 55.6 -2.4
comp=Z,1.4nm,1.1s,baz=109,slow=0.2,SNR=4.5
ESDC Sonseca Array 88.91 7 IAmb IAmb 01 48 06.0
comp=Z,80nm,1.1s
KYMI Kymi, Euboea I 88.92 346 P P 01 48 03.4 -1.6
CGJI Cibinong 88.96 258 P P 01 48 09.3 +3.9
comp=Z,4µmcomp=Z,26nm,1.0s
EVR Evrytania 88.97 348 P P 01 48 04.9 -0.5
PAB San Pablo 89.01 8 ⇑P P 01 48 05.2 -0.3
PAB San Pablo 89.01 8 P P 01 48 04.9 -0.6
PAB San Pablo 89.01 8 IAMs_20 IAMs_20 02 32 34.8
comp=Z,3µm,19.0s
PAB San Pablo 89.01 8 ⇑P P 01 48 04.8 -0.7
PAB San Pablo 89.01 8 P P 01 48 04.8 -0.7
ATAL Atalanti 89.03 347 P P 01 48 02.4 -3.1
PMAFR Mafra 89.07 12 *e*P P 01 48 04.9 -0.8
comp=Z,343nm,1.2s
LKR Lokris 89.07 347 P P 01 48 02.2 -3.5
MAHO Mahon 89.08 1 P P 01 48 02.7 -3.0
MAHO S S 01 58 55.1 +2.6
SEUS St. Eustatius 89.08 63 IAMs_20 IAMs_20 02 29 28.8
comp=Z,6µm,20.0s
SEUS St. Eustatius 89.08 63 *e*P P 01 47 55.6 -10
LL6C La Loma 6 Bece 89.23 75 *e*P P 01 48 06.8 0.0
LKD2 Lefkada island 89.25 348 P P 01 48 05.9 -0.7
ANX Ano Chora 89.28 347 P P 01 48 05.6 -1.2
PMST Lisbon--Monsan 89.30 12 *e*P P 01 48 06.3 -0.5
comp=Z,173nm,1.3s
PACT Alcochete 89.31 11 *e*P P 01 48 06.7 -0.1
NYDR Nydri-Lefkada 89.32 348 P P 01 48 05.9 -0.9
LIS Lisbon 89.32 12 *e*P P 01 48 06.3 -0.6
LIS *e*SKSac **SKSac** 01 58 35.4 +0.2
LIS IAMs_20 IAMs_20 02 35 49.3
comp=N,4µm,13.0s
LIS Lisbon 89.32 12 *e*P P 01 48 06.4 -0.5
comp=N,201nm,1.3s
LIS Lisbon 89.32 12 *e*P P 01 48 06.2 -0.6
LIS *e* 01 58 35.3
MDRS Chennai 89.32 290 ⇑*i*P P 01 48 06.6 -0.6
MDRS IAmb IAmb 01 48 15.2
comp=Z,26nm,1.0s
MDRS *i* pP **pwP** 01 48 21.0 +1.0
PESTR Estremoz 89.36 10 *e*P P 01 48 06.1 -1.0
comp=Z,141nm,1.3s
PESTR Estremoz 89.36 10 P P 01 48 06.1 -1.0
UREC San Jos de Ur 89.40 78 *e*P P 01 48 04.4 -3.2
KAD Karad 89.41 297 ⇑*i*P P 01 48 06.2 -1.4
EVGI Lefkada island 89.42 348 P P 01 48 05.8 -1.5
VSL Villasalto 89.43 357 IAmb IAmb 01 48 08.6
comp=Z,81nm,1.2s
VSL IAMs_20 IAMs_20 02 35 25.0
comp=Z,4µm,19.0s
VSL Villasalto 89.43 357 ⇑P P 01 48 06.7 -0.7
SERG Sergoula 89.44 347 P P 01 48 04.8 -2.7
EFP Efpalio 89.44 347 P P 01 48 06.5 -0.9
KARY Karystos 89.46 345 P P 01 48 06.0 -1.5
DION Dionisos Attik 89.49 346 P P 01 48 04.8 -2.9
VILL Villia 89.50 346 P P 01 48 05.6 -2.2
PTL Penteli 89.53 346 P P 01 48 05.6 -2.3
DBBC Dabeiba 89.56 79 *e*P P 01 48 09.2 +0.7
FSK Fiskardo 89.59 348 P P 01 48 06.6 -1.5
URZ Urewera 89.60 187 LR LR 02 24 28.5
comp=Z,4µm,19.1s,baz=28,slow=33
URZ Urewera 89.60 187 IAMs_20 IAMs_20 02 29 27.4
comp=Z,6µm,19.0s
ANWB Willy Bob 89.60 62 *e*P P 01 48 14.2 +5.7
LAKA Lakka 89.62 347 P P 01 48 07.7 -0.6
ATHU Athens Univers 89.62 346 P P 01 48 05.6 -2.7
EVO Evora 89.64 11 P P 01 48 06.6 -1.8
EVO S **SKSac** 01 58 41.3 +4.2
EVO Evora 89.64 11 *e*P P 01 48 07.7 -0.7
comp=Z,96nm,1.6s
YER Yerkesik 89.66 342 P P 01 48 07.3 -1.3
ELL Elmali 89.71 341 IAmb IAmb 01 48 08.8
comp=Z,160nm,1.4s
VLY Voula,Athens 89.73 346 P P 01 48 06.8 -2.0
KLV Kalavryta, Ach 89.79 347 P P 01 48 07.2 -2.0
KEF4 Livadi, Kephal 89.80 349 P P 01 48 07.3 -1.8
VLS Valsamata 89.86 348 P P 01 48 08.6 -0.9
RLS Riolos of Patr 89.87 348 P P 01 48 08.9 -0.5
KEF3 Kipouria, Keph 89.87 349 P P 01 48 08.2 -1.2
DABV Dabajuro 89.89 73 *e*P P 01 48 15.0 +5.1
HATO Hato, Curacao 89.89 71 IAMs_20 IAMs_20 02 31 11.1
comp=Z,5µm,19.0s
BODT Bodrum 89.91 343 P P 01 48 07.7 -2.0
PSDA Pessada-Kefalo 89.93 348 P P 01 48 07.7 -2.0
DRO Drossia 89.94 347 P P 01 48 08.4 -1.4
FETY Fethiye 89.98 341 P P 01 48 08.0 -2.1
PNCL Nicolau / Gran 89.99 11 *e*P P 01 48 09.3 -0.7
comp=Z,140nm,1.7s
ZARC Zaragoza, Cauc 90.02 78 IAmb IAmb 01 48 26.1
comp=Z,129nm,1.3s
ZARC Zaragoza, Cauc 90.02 78 *e*P P 01 48 08.2 -2.3
HIZ Hauiti 90.04 189 IAMs_20 IAMs_20 02 24 10.0
comp=Z,4µm,20.0s
PBAR Barrancos 90.10 10 *e*P P 01 48 09.5 -1.1
comp=Z,221nm,1.5s
ANBD Bethesda, Anti 90.12 62 *e*P P 01 48 12.9 +2.0
PBEJ Beja 90.16 11 *e*P P 01 48 10.3 -0.5
comp=Z,84nm,1.6s
CEL Celeste 90.28 352 IAMs_20 IAMs_20 02 35 58.5
comp=Z,3µm,20.0s
LTHK Lithakia 90.29 348 P P 01 48 09.4 -2.0
OOD Oodnadatta 90.30 223 P P 01 48 11.3 0.0
OCAC Ocana 90.38 76 IAmb IAmb 01 48 28.1
comp=Z,93nm,1.3s
OCAC Ocana 90.38 76 *e*P P 01 48 11.6 -0.7
PCVE Castro Verde 90.53 11 *e*P P 01 48 11.8 -0.7
comp=Z,78nm,1.6s
PTEO Sao Teotonio 90.53 11 *e*P P 01 48 11.8 -0.7
BKZ Black Stump Fm 90.55 187 P P 01 48 13.7 +1.5
CBOC Ciudad Bolivar 90.58 80 *e*P P 01 48 13.5 +0.2
HELC Santa Helena 90.62 79 *e*P P 01 48 08.9 -4.8
CSS Mathiatis 90.66 338 IAmb IAmb 01 48 14.1
comp=Z,214nm,1.3s
CSS IAMs_20 IAMs_20 02 35 32.1
comp=Z,4µm,21.0s
CSS Mathiatis 90.66 338 ⇑P P 01 48 12.3 -0.9
CSS ⇓P **PcP** 01 48 12.8 -1.5
ITM Ithomi 90.67 347 P P 01 48 09.4 -3.8
ITM Ithomi 90.67 347 IAmb IAmb 01 48 13.8
comp=Z,163nm,1.3s
ITM Ithomi 90.67 347 ⇑P P 01 48 12.1 -1.1
ITM ⇓P **PcP** 01 48 12.8 -1.5
ABD La Joyeuse, An 90.73 62 *e*P P 01 48 14.1 +0.3
MORF Marmelete 90.77 11 *e*P P 01 48 13.1 -0.7
MORF *e*SKSac **SKSac** 01 58 44.2 +0.4
MORF IAMs_20 IAMs_20 02 30 15.4

comp=Z,5µm,20.9s
MORF Marmelete 90.77 11 *e*P **P 01 48 13.2 -0.6**
comp=Z,129nm,1.9s
MORF Marmelete 90.77 11 *e*P **P 01 48 13.0 -0.7**
MORF *e* 01 58 44.1
PVAQ Vaqueiros 90.79 11 *e*P **P 01 48 13.0 -0.8**
comp=Z,136nm,1.6s
PVAQ Vaqueiros 90.79 11 P **P 01 48 13.2 -0.5**
PVAQ Vaqueiros 90.79 11 P **P 01 48 13.7 -0.1**
PFVI Vila Bisbo 90.92 12 *e*P **P 01 48 13.9 -0.5**
PBDV Barranco-do-Ve 90.92 11 *e*P **P 01 48 14.1 -0.3**
comp=Z,138nm,2.0s
PYL PYLOS 90.97 347 P **P 01 48 12.4 -2.2**
PTBC PUERTO BERRIO, 91.01 78 *e*P **P 01 48 12.4 -2.7**
GOA Goa 91.08 297 *e*P **P 01 48 14.0 -1.3**
GOA IAmb IAmb 01 48 15.7
comp=Z,44nm,1.0s
SHME Shamm 91.09 316 P **P 01 48 14.5 -0.8**
SHME P **P 01 48 14.5 -0.8**
SHME Shamm 91.09 316 *i*P **P 01 48 14.2 -1.1**
SNR=7.6
BHL Bhannes 91.09 336 *e*P **P 01 48 14.6 -0.7**
BANOM Banah 91.13 316 P **P 01 48 15.0 -0.6**
BANOM P **P 01 48 15.0 -0.6**
BANOM Banah 91.13 316 *i*P **P 01 48 14.4 -1.2**
SNR=6.6
PLMC San Jos del P 91.16 81 *e*P **P 01 48 15.4 -0.5**
TDBA Terre de Bas, 91.16 63 *e*P P 01 48 22.9 +7.1
CLTB Caltabellotta 91.16 354 IAmb IAmb 01 48 16.6
comp=Z,128nm,1.2s
CLTB Caltabellotta 91.16 354 ⇑P **P 01 48 14.1 -1.5**
VAE Valguarnera 91.18 353 LR LR 02 32 51.7
comp=Z,3µm,18.9s,baz=4.5,slow=38
CART Cartagena 91.20 5 P **P 01 48 12.6 -3.0**
CART S S 01 59 02.1 -10
CART Cartagena 91.20 5 IAMs_20 IAMs_20 02 34 42.7
comp=Z,5µm,19.0s
CART Cartagena 91.20 5 ⇑P **P 01 48 14.0 -1.6**
ARNO Arenosillo 91.20 10 P **P 01 48 11.1 -4.6**
ARNO S **S 01 59 14.3 +2.1**
MAGL Barre de l'ile 91.28 62 *e*P **P 01 48 18.3 +2.0**
WRKA Warakurna 91.28 230 P **P 01 48 16.5 +0.5**
KARP Karpathos 91.41 343 IAMs_20 IAMs_20 02 37 05.5
comp=Z,4µm,19.0s
PAMC Pamplona, Colo 91.46 76 *e*P **P 01 48 17.0 -0.8**
GUY2C Guyana, Caldas 91.48 80 *e*P **P 01 48 17.3 -0.5**
SDV Santo Domingo 91.49 74 LR LR 02 33 41.8
comp=Z,2µm,18.0s,baz=344,slow=38
SDV Santo Domingo 91.49 74 P **P 01 48 17.1 -0.5**
SDV IAmb IAmb 01 48 33.4
comp=Z,200nm,1.4s
SDV Santo Domingo 91.49 74 IAMs_20 IAMs_20 02 33 22.9
comp=Z,5µm,20.0s
SDV Santo Domingo 91.49 74 *e*P **P 01 48 16.2 -1.4**
SDV Santo Domingo 91.49 74 *e*P **P 01 48 19.2 +1.6**
NORC Norcasia 91.52 79 *e*P **P 01 48 17.5 -0.1**
STKA Stephens Creek 91.56 216 P **P 01 48 17.9 +0.9**
comp=Z,6.0nm,0.7s,baz=337,slow=5.6,SNR=17
STKA LR LR 02 26 48.4
comp=Z,4µm,19.6s,baz=22,slow=34
STKA Stephens Creek 91.56 216 P **P 01 48 18.0 +0.9**
STKA Stephens Creek 91.56 216 P **P 01 48 17.6 +0.5**
LCRK Leigh Creek 91.59 220 P **P 01 48 17.9 +0.7**
SHBL Chebaa 91.59 335 *e*P **P 01 48 16.9 -0.9**
DSLB Salisbury 91.61 63 *e*P **P 01 48 17.1 -0.8**
SALM Salem 91.65 291 *e*P **P 01 48 17.7 -0.4**
MASF Masafi 91.67 316 P **P 01 48 17.4 -0.7**
MASF P **P 01 48 17.4 -0.7**
MASF S **SKSac 01 58 43.4 -5.8**
MASF S **SKSac 01 58 43.4 -5.8**
MSFE Esma-Masafi 91.68 316 *i*P **P 01 48 16.6 -1.5**
SNR=7.5
BARC Barichara 91.75 77 *e*P **P 01 48 18.8 -0.1**
EMAL Malaga-Limoner 91.76 8 P **P 01 48 17.2 -1.0**
EMAL S **S 01 59 12.6 -4.7**
SOCV Socops 91.83 74 *e*P **P 01 48 16.2 -2.8**
YOTC Yotoco, Valle 91.84 81 *e*P **P 01 48 18.0 -1.1**
SFS San Fernando 91.89 10 P **P 01 48 16.5 -2.3**
SFS S S 01 59 31.4 +13
SPBC San Pablo de B 91.94 79 *e*P **P 01 48 17.9 -1.6**
MMAI Mount Meron Ar 92.00 335 LR LR 02 37 17.0
comp=Z,2µm,18.1s,baz=198,slow=40
UOSS Minazif 92.02 316 P **P 01 48 18.5 -1.2**
UOSS IAmb IAmb 01 48 19.8
comp=Z,135nm,1.3s
UOSS Minazif 92.02 316 IAMs_20 IAMs_20 02 37 27.9
comp=Z,4µm,21.0s
UOSS Minazif 92.02 316 P **P 01 48 18.5 -1.2**
UOSS P **P 01 48 18.5 -1.2**
UOSS Minazif 92.02 316 *i*P **P 01 48 17.8 -1.9**
SNR=10
ANIL Santa Ana 92.03 80 *e*P **P 01 48 19.7 -0.4**
VAM Vamos 92.06 345 P **P 01 48 17.6 -2.1**
IDI Anoyia 92.06 344 LR LR 02 34 15.5
comp=Z,2µm,19.0s,baz=9.0,slow=38
IDI Anoyia 92.06 344 IAMs_20 IAMs_20 02 33 54.7
comp=Z,3µm,19.0s
HATD Hatta, Dubai 92.16 316 P **P 01 48 19.1 -1.2**
SNR=5.5
HATD P **P 01 48 19.1 -1.2**
SNR=5.5
HATD S **SKSac 01 58 49.1 -2.8**
HATD S **SKSac 01 58 49.1 -2.8**
HATD Hatta, Dubai 92.16 316 *i*P **P 01 48 18.5 -1.9**
SNR=11
CAN Canberra 92.18 209 IAMs_20 IAMs_20 02 38 13.0
comp=Z,3µm,18.0s
NAZ Nazwa, Dubai 92.22 316 P **P 01 48 19.8 -0.8**
SNR=5.0
NAZ P **P 01 48 19.8 -0.8**
SNR=5.0
NAZ Nazwa, Dubai 92.22 316 *i*P **P 01 48 19.3 -1.3**
SNR=11
ASHO Ashiyiah 92.31 316 P **P 01 48 20.0 -1.0**
SNR=5.4
ASHO P **P 01 48 20.0 -1.0**
SNR=5.4
ASHO Ashiyiah 92.31 316 *i*P **P 01 48 19.7 -1.4**
SNR=14
FDF Fort de France 92.34 63 IAMs_20 IAMs_20 02 33 15.1
comp=Z,6µm,20.0s
FDF Fort de France 92.34 63 *e*P **P 01 48 20.9 -0.4**
CMAH Djebel Manchou 92.34 359 P **P 01 48 20.2 -0.9**
RUSC La Rusia 92.36 78 *e*P **P 01 48 20.7 -1.2**
ASF Jabal al Asfar 92.39 334 LR LR 02 37 25.9
comp=Z,6µm,18.9s,baz=100,slow=40
BIDO Bidbid 92.40 313 P **P 01 48 21.8 +0.3**
SNR=11
BIDO P **P 01 48 21.8 +0.3**
SNR=11
WSAR Wadi Sarin 92.41 313 LR LR 02 34 14.5
comp=Z,3µm,21.0s,baz=76,slow=38
ROSC El Rosal 92.42 79 P **P 01 48 23.0 +0.9**
comp=Z,6.0nm,0.5s,baz=45,slow=13,SNR=4.1
ROSC LR LR 02 31 22.5
comp=Z,1µm,20.3s,baz=7.0,slow=36
ROSC El Rosal 92.42 79 P **P 01 48 23.0 +0.9**
DFRA Djebel Bou Aff 92.43 360 P **P 01 48 21.2 -0.3**
FAQ Al Faqa, Dubai 92.47 316 *i*P **P 01 48 20.2 -1.5**
SNR=7.8
CEU Ceuta 92.53 9 P **P 01 48 20.1 -1.7**
BIM Bigot 92.56 63 *e*P **P 01 48 23.4 +1.1**
QRZ Quartz Range 92.56 190 IAMs_20 IAMs_20 02 26 40.9
comp=Z,5µm,19.0s
ORTC Ortega, Tolima 92.58 81 *e*P P 01 48 16.5 -5.9
ASUD Al Ashush, Dub 92.68 316 P **P 01 48 21.8 -0.9**
ASUD P **P 01 48 21.8 -0.9**
ASUD S **SKSac 01 58 51.5 -3.3**
ASUD S **SKSac 01 58 51.5 -3.3**
ASUD Al Ashush, Dub 92.68 316 *i*P **P 01 48 21.4 -1.3**
SNR=10
PSA00 Pilbara Seismi 92.69 238 P **P 01 48 21.9 -0.7**
PSA00 IAmb IAmb 01 48 37.6
comp=Z,103nm,1.4s
PSA00 Pilbara Seismi 92.69 238 P **P 01 48 22.1 -0.5**
ABSA Djebel Ababsia 92.69 359 P **P 01 48 22.0 -0.7**
HOQ Hoqain 92.72 314 P **P 01 48 21.9 -1.1**
SNR=12
HOQ P **P 01 48 21.9 -1.1**
SNR=12
HOQ S **SKSac 01 58 52.7 -2.4**
HOQ S **SKSac 01 58 52.7 -2.4**
TAMC Tame, Arauca 92.72 76 *e*P **P 01 48 21.7 -1.3**
MPOM Morne Pois Mar 92.73 63 *e*P **P 01 48 18.7 -4.3**
SMIR Smir Dam 92.74 9 P **P 01 48 23.0 +0.2**
POPC Popayan, Colom 92.76 83 *e*P **P 01 48 19.9 -3.5**
SNZO South Karori 92.83 188 IAMs_20 IAMs_20 02 26 28.8
comp=Z,6µm,20.0s
SMDO Samad 92.83 313 P **P 01 48 22.9 -0.7**
SNR=27
SMDO P **P 01 48 22.9 -0.7**
SNR=27
SMDO S **SKSac 01 58 53.5 -2.5**
SMDO S **SKSac 01 58 53.5 -2.5**
NNZ Nelson 92.86 189 IAMs_20 IAMs_20 02 27 58.8
comp=Z,6µm,20.0s
AJN Ajban 92.89 316 S **SKSac 01 58 52.1 -3.9**
CHIC Chingaza 92.95 79 *e*P **P 01 48 24.0 -0.5**
JLN Jalan Bani Buh 92.99 312 P **P 01 48 24.2 +0.1**
SNR=29
JLN P **P 01 48 24.2 +0.1**
SNR=29
ALNE Al Ain 93.00 315 P **P 01 48 23.6 -0.6**
SNR=11
ALNE P **P 01 48 23.6 -0.6**
SNR=11
ALNE S **SKSac 01 58 53.1 -3.5**
ALNE S **SKSac 01 58 53.1 -3.5**
ALNE Al Ain 93.00 315 *i*P **P 01 48 22.9 -1.3**
SNR=19
SLBI Saint Lucia, B 93.01 63 *e*P **P 01 48 19.6 -4.7**
MULG Mulgathing 93.16 223 P **P 01 48 25.2 +0.7**
comp=Z,23nm,2.1s
KEST Kesra 93.19 357 P **P 01 48 24.6 -0.4**
comp=Z,41nm,1.2s,baz=316,slow=0.5,SNR=23
KEST Kesra 93.19 357 IAmb IAmb 01 48 26.2
comp=Z,90nm,1.3s
PAC1 Pacto, Paraso 93.20 86 *e*P **P 01 48 25.4 0.0**
KOD Kodaikanal 93.21 291 ⇑*i*P **P 01 48 25.1 -0.6**
ARQ Araqi 93.28 315 P **P 01 48 25.2 -0.4**
SNR=33
ARQ P **P 01 48 25.2 -0.4**
SNR=33
ARQ S **SKSac 01 58 55.1 -3.1**
ARQ S **SKSac 01 58 55.1 -3.1**
CHEFC Chefchaouen 93.32 9 P **P 01 48 26.0 +0.4**
PALE Palemas 93.34 8 P **P 01 48 25.0 -0.7**
PVLZ Peæn de 93.35 8 P **P 01 48 22.2 -3.4**
PVLZ S **SKSac 01 59 06.5 +8.3**
GCUF Volcan Galeras 93.36 84 *e*P P 01 48 21.6 -4.9
VILC Villavicencio, 93.38 79 *e*P P 01 48 40.5 +14
JMDO Jabal Madar 93.40 313 P **P 01 48 25.7 -0.4**
SNR=29
JMDO P **P 01 48 25.7 -0.4**
SNR=29
JMDO S **SKSac 01 58 55.3 -3.6**
JMDO S **SKSac 01 58 55.3 -3.6**
KHOR Al-Khor Airpor 93.41 320 P **P 01 48 25.4 -0.6**
KHOR S **SKSac 01 58 54.8 -4.0**
GOG Mont Gurugu 93.41 7 P **P 01 48 25.0 -1.1**
BETC Betania 93.41 81 *e*P **P 01 48 26.5 +0.2**
SHMA Al-Shehemyia 93.42 320 P **P 01 48 24.4 -1.6**
SHMA S **SKSac 01 58 54.9 -4.0**
OTAV Otavalo 93.44 85 P **P 01 48 27.0 +0.1**
OTAV pmax pmax
comp=Z,55nm,1.5s
OTAV MLR MLR
comp=Z,1µm,19.0s
OTAV Otavalo 93.44 85 P **P 01 48 27.0 +0.1**
OTAV Otavalo 93.44 85 ⇑P **P 01 48 26.5 -0.4**
OTAV ⇑P **PcP 01 48 27.6 +0.1**
OTAV Otavalo 93.44 85 *e*P P 01 48 28.8 +2.0
THZ Tephouse 93.45 190 IAMs_20 IAMs_20 02 26 43.4
comp=Z,4µm,19.0s
TULM Tulcn-Chalpat 93.48 85 *e*P **P 01 48 29.2 +2.1**
SAKB Bahrain 93.48 321 P **P 01 48 26.0 -0.4**
SAKB S **SKSac 01 58 54.3 -4.8**
BSY Bisya 93.49 314 P **P 01 48 26.1 -0.4**
SNR=30
BSY P **P 01 48 26.1 -0.4**
SNR=30
BSY S **SKSac 01 58 55.3 -4.1**
BSY S **SKSac 01 58 55.3 -4.1**
GHAJ Ghor Haditha 93.58 335 IAmb IAmb 01 48 27.7
comp=Z,86nm,1.2s
GHAJ IAMs_20 IAMs_20 02 37 30.4
comp=Z,6µm,20.0s
PALK Pallekele 93.64 286 LR LR 02 33 40.7
comp=Z,2µm,21.0s,baz=145,slow=38
PALK Pallekele 93.64 286 P **P 01 48 27.1 -0.2**
PALK pmax pmax
comp=Z,87nm,1.4s
PALK MLR MLR
comp=Z,2µm,20.0s
PALK Pallekele 93.64 286 P **P 01 48 27.1 -0.2**
PALK IAmb IAmb 01 48 49.0
comp=Z,87nm,1.4s
PALK Pallekele 93.64 286 P **P 01 48 28.2 +0.9**
PALK P **P 01 48 28.2 +0.9**
PALK S **SKSac 01 58 57.9 -2.5**
PALK S **SKSac 01 58 57.9 -2.5**
PMPST Porto Santo, M 93.67 18 *e*P **P 01 48 26.6 -0.6**
ELOV Elorza 93.67 74 *e*P **P 01 48 28.0 +0.6**
PMPS Porto Santo 93.69 18 *e*P **P 01 48 27.3 +0.1**
GARC Garzon, Huila 93.77 82 *e*P **P 01 48 28.7 +0.6**
TAF Taforalt 93.86 7 P **P 01 48 28.0 -0.1**
PMAR Madeira 93.90 19 *e*P **P 01 48 28.2 -0.2**
KHZ Kahutara 94.03 189 IAMs_20 IAMs_20 02 32 40.8
comp=Z,4µm,18.0s
MZWR Madinat Zayed 94.07 317 P **P 01 48 28.4 -0.7**
MZWR P **P 01 48 28.4 -0.7**
MZWR S **SKSac 01 58 59.4 -3.0**
MZWR S **SKSac 01 58 59.4 -3.0**
FLOC Florencia 94.14 82 *e*P **P 01 48 30.2 +0.6**
GRGR Grenville 94.16 65 IAMs_20 IAMs_20 02 30 42.6
comp=Z,5µm,20.0s
PTGC Puerto Gaitan, 94.27 78 *e*P **P 01 48 25.5 -4.6**
GHWR Ruwais 94.32 318 P **P 01 48 29.5 -0.8**
GHWR S **SKSac 01 58 59.8 -4.0**
TRNA Turayna 94.32 319 P **P 01 48 29.5 -0.7**
TRNA S **SKSac 01 59 00.9 -2.8**
JBK JBK 94.33 7 P **P 01 48 30.0 -0.4**
UMZA Um Al Zommool 94.43 315 P **P 01 48 29.4 -1.4**
UMZA P **P 01 48 29.4 -1.4**
UMZA S **SKSac 01 59 01.1 -3.3**
UMZA S **SKSac 01 59 01.1 -3.3**
LTZ Lake Taylor 94.53 190 IAMs_20 IAMs_20 02 33 13.8
comp=Z,4µm,19.0s
MHTO MHTO 94.66 312 P **P 01 48 31.2 -0.7**
SNR=47
MHTO P **P 01 48 31.2 -0.7**
SNR=47
MHTO S **SKSac 01 59 02.0 -3.7**
MHTO S **SKSac 01 59 02.0 -3.7**
SLWR Sila 94.72 319 P **P 01 48 30.6 -1.4**
SLWR P **P 01 48 30.6 -1.4**
SLWR S **SKSac 01 59 02.4 -3.5**
SLWR S **SKSac 01 59 02.4 -3.5**
LCRM LCR 94.77 9 P **P 01 48 33.1 +0.7**
AVE Averroes 94.88 11 P **P 01 48 29.9 -2.8**
AVE S **S 01 59 43.9 -1.1**
AVE Averroes 94.88 11 ⇑P **P 01 48 31.8 -0.9**
AVE ⇓P **PcP 01 48 32.4 -0.7**
AVE Averroes 94.88 11 P **P 01 48 32.0 -0.7**
MZR Muzera 94.91 317 P **P 01 48 31.4 -1.6**
SNR=10.0
MZR P **P 01 48 31.4 -1.6**
SNR=10.0
MZR S **SKSac 01 59 04.1 -3.0**
MZR S **SKSac 01 59 04.1 -3.0**
MZR Muzera 94.91 317 *i*P **P 01 48 31.6 -1.4**
SNR=21
OXZ Oxford 95.09 190 IAMs_20 IAMs_20 02 29 31.7
comp=Z,5µm,19.0s
EIL Elat 95.29 335 LR LR 02 39 19.7
comp=Z,4µm,18.0s,baz=47,slow=40
EIL Elat 95.29 335 ⇑P **P 01 48 33.7 -0.9**
EIL ⇓P **P 01 48 34.4 -0.3**
MQZ McQueen's Vall 95.40 190 IAMs_20 IAMs_20 02 28 57.9
comp=Z,3µm,20.0s
CZD Col de Zad 95.40 9 P **P 01 48 36.0 +0.5**
FOZ Fox Glacier 95.55 192 IAMs_20 IAMs_20 02 31 16.0
comp=Z,5µm,19.0s
RPZ Rata Peaks 95.58 191 LR LR 02 27 17.5
comp=Z,7µm,19.4s,baz=16,slow=33
SRHM Skhour des Reh 95.64 12 P **P 01 48 36.0 -0.3**
TDRA Tendrara 95.65 7 P **P 01 48 37.0 +0.5**
MDT Midelt 95.66 9 LR LR 02 33 28.2
comp=Z,2µm,19.5s,baz=7.0,slow=37
MDT Midelt 95.66 9 P **P 01 48 36.0 -0.4**
DQM DQM 95.78 312 P **P 01 48 35.4 -1.5**
SNR=8.8
DQM P **P 01 48 35.4 -1.5**
SNR=8.8
DQM S **SKSac 01 59 09.3 -2.4**
DQM S **SKSac 01 59 09.3 -2.4**
TATN Tataouine 96.29 356 ⇑P **P 01 48 36.7 -2.5**
TATN ⇑P **P 01 48 36.7 -2.5**
FIGM Figuig 96.61 6 P **P 01 48 41.0 +0.2**
RPN Rapa Nui 96.70 126 LR LR 02 27 25.4
comp=Z,4µm,18.1s,baz=330,slow=32
GOLM Goulmima 96.73 9 P **P 01 48 42.0 +0.7**
OUK Oukaimeden 96.89 12 P **P 01 48 42.0 -0.3**
WKZ Wanaka 96.93 192 IAMs_20 IAMs_20 02 26 37.9
comp=Z,5µm,20.0s
OUZM OUZ 97.32 11 P **P 01 48 44.0 0.0**
TZRR Tazzarine 97.57 10 P **P 01 48 45.0 -0.1**
MLZ Mavora Lakes 97.58 192 IAMs_20 IAMs_20 02 25 51.6
comp=Z,4µm,21.0s
RAYN Ar Rayn 97.64 324 ⇑P **P 01 48 44.7 -0.7**
RAYN Ar Rayn 97.64 324 P **P 01 48 44.7 -0.7**
RAYN IAmb IAmb 01 48 46.4
comp=Z,101nm,1.2s
RAYN Ar Rayn 97.64 324 P **P 01 48 44.4 -1.0**
RAYN S **SKSac 01 59 18.6 -2.8**
RAYN Ar Rayn 97.64 324 *i*P **P 01 48 44.5 -1.0**
SNR=79
DCZ Deep Cove 97.81 193 IAMs_20 IAMs_20 02 34 10.7
comp=Z,3µm,19.0s
WHZ Wether Hill Ro 98.12 192 IAMs_20 IAMs_20 02 28 54.9
comp=Z,3µm,19.0s
ZGR Zagora 98.22 10 P **P 01 48 48.0 -0.1**
SHAO Shalim 98.31 313 P **P 01 48 47.0 -1.5**
SHAO S **SKSac 01 59 23.1 -1.8**
DOK Doka 98.47 314 P **P 01 48 48.2 -1.0**
SNR=7.3
DOK P **P 01 48 48.2 -1.0**
SNR=7.3
DOK S **SKSac 01 59 23.0 -2.6**
DOK S **SKSac 01 59 23.0 -2.6**
HMDM Hanimaadhoo 98.49 292 IAMs_20 IAMs_20 02 40 27.9
comp=Z,4µm,19.0s
HMDM Hanimaadhoo 98.49 292 P **P 01 48 48.2 -1.1**
PYZ Puysegur Point 98.56 193 IAMs_20 IAMs_20 02 31 01.7
comp=Z,3µm,20.0s
DMTO DMTO 98.89 313 P **P 01 48 49.2 -1.9**
WHFO Wadi Hawf 99.25 314 P **Pdif 01 48 51.3 -1.4**
SNR=6.4
WHFO P **Pdif 01 48 51.3 -1.4**
SNR=6.4
WHFO S **SKSac 01 59 27.2 -2.4**
WHFO S **SKSac 01 59 27.2 -2.4**
RBK Rabkut 99.42 314 P **Pdif 01 48 51.7 -1.7**
RBK P **Pdif 01 48 51.7 -1.7**
RBK S **SKSac 01 59 28.7 -1.7**
RBK S **SKSac 01 59 28.7 -1.7**
ABTO Aybut 99.96 314 P **Pdif 01 48 54.9 -1.0**
SNR=7.4
ABTO P **Pdif 01 48 54.9 -1.0**
SNR=7.4
ABTO S **SKSac 01 59 31.5 -1.6**
ABTO S **SKSac 01 59 31.5 -1.6**
KAAM Kaadhehdhoo 103.64 288 P **Pdif 01 49 11.2 -1.0**
NNA Nana 103.87 92 IAMs_20 IAMs_20 02 32 08.8
comp=Z,2µm,20.0s
SOCY Socotra 104.16 311 Pdif **Pdif 01 49 12.6 -2.0**
SOCY IAMs_20 IAMs_20 02 41 59.2
comp=Z,4µm,20.0s
SOCY Socotra 104.16 311 P **Pdif 01 49 11.9 -2.8**
SNR=11
ATD Arta Tunnel 109.58 321 IAMs_20 IAMs_20 02 46 06.6
comp=Z,4µm,19.0s
TEND Ethiopian Broa 110.05 323 *e*P **Pdif 01 49 35.3 -5.4**
ANKE Ethiopia-Afar 112.54 323 *e*P **Pdif 01 49 45.3 -7.0**
AAE Adis Abeba 113.42 324 *e*P **Pdif 01 49 57.2 +1.1**
FURI Furi 113.58 324 *e*P **Pdif 01 49 53.3 -3.6**
KOWA Kowa 113.84 10 IAMs_20 IAMs_20 02 47 24.3
comp=Z,4µm,19.0s
TOA0 Torodi Ar. Sit 115.64 4 **PKiKP 01 53 52.0 -1.1**
TORD Torodi Ar. Bea 115.64 4 PKP **PKiKP 01 53 51.8 -1.2**
comp=Z,1.3nm,0.5s,baz=353,slow=2.5,SNR=17
TORD PKKPbc **PKKPbc 02 04 25.0 +1.3**
comp=Z,0.9nm,0.8s,baz=149,slow=2.6,SNR=2.5
DILA Dilla 115.99 324 *e*P **Pdif 01 50 03.2 -4.2**
SIV San Ignacio 116.77 82 PKP **PKPdf 01 53 54.4 -0.7**
comp=Z,1.5nm,0.7s,baz=341,slow=3.8,SNR=4.2
MSEY Mahe Island 117.83 301 IAMs_20 IAMs_20 02 46 05.5
comp=Z,2µm,20.0s
H03N2 Juan Fernandez 118.42 109 T T 04 03 37.7
baz=317,slow=78,SNR=162
H03N1 Juan Fernandez 118.43 109 T T 04 03 39.0
baz=317,slow=78,SNR=144
H03N3 Juan Fernandez 118.44 109 T T 04 03 38.3
baz=317,slow=78,SNR=134
LODK Lodwar 119.84 325 **PKPdf 01 54 00.9 -0.3**
SALV Santo Antonio 120.02 77 *e*P **PKiKP 01 54 04.0 +2.6**
LCO Las Campanas 120.30 99 IAMs_20 IAMs_20 02 39 41.7
comp=Z,2µm,20.0s
NBPB Pedra_Branca-C 120.87 56 *e*P **PKiKP 01 54 06.2 +2.9**
DBIC Dimbokro 121.45 12 PKP **PKPdf 01 54 03.5 -0.7**
comp=Z,2.7nm,0.4s,baz=38,slow=1.5,SNR=11
DBIC PKKPbc **PKKPab 02 04 05.3 -2.5**
comp=Z,3.0nm,0.9s,baz=233,slow=9.1,SNR=3.7
DBIC Dimbokro 121.45 12 PKPdf **PKPdf 01 54 03.2 -1.1**
PEXB Peixe 121.47 68 *e*P **PKiKP 01 54 06.6 +2.3**
NBMA Muriti-CE 122.84 56 *e*P **PKiKP 01 54 09.1 +2.0**
KMBO Kilima Mbogo 123.32 321 PKP **PKPdf 01 54 08.0 -0.2**
comp=Z,8.7nm,0.9s,baz=21,slow=2.3,SNR=14
KMBO Kilima Mbogo 123.32 321 PKiKP **PKPdf 01 54 08.0 -0.2**
KMBO Kilima Mbogo 123.32 321 PKPdf **PKPdf 01 54 07.6 -0.5**
KMBO Kilima Mbogo 123.32 321 *i*PKiKP **PKPdf 01 54 08.2 0.0**
SNR=15
AQDB Aquidauana 123.48 81 PKPdf **PKPdf 01 54 07.5 -0.4**
SDBA SÃO DESIDERIO 123.67 65 *e*P **PKiKP 01 54 10.7 +2.0**
NBPV Pedro Velho 123.79 52 *e*P **PKiKP 01 54 10.8 +1.8**
KIBK Kibwezi 124.11 320 PKPdf **PKPdf 01 54 09.2 -0.3**
KIBK IAMs_20 IAMs_20 02 55 21.3
comp=Z,4µm,20.0s
BDFB Brasilia 124.44 70 PKP **PKPdf 01 54 09.6 -0.3**
comp=Z,3.0nm,0.5s,baz=195,slow=1.4,SNR=6.9
BDFB Brasilia 124.44 70 PKPdf **PKPdf 01 54 09.3 -0.7**
NBPN Ponto Novo - B 125.00 60 *e*P **PKiKP 01 54 13.0 +1.7**
MBAR Mbarara 125.17 329 PKiKP **PKiKP 01 54 12.0 0.0**
MBAR Mbarara 125.17 329 PKPdf **PKiKP 01 54 12.0 0.0**
NBAN Anadia - AL 126.08 55 *e*P **PKiKP 01 54 15.3 +1.8**
JANB Januaria 126.14 67 *e*P **PKiKP 01 54 15.7 +2.1**
IPMB Ipameri, GO 126.15 72 *e*P **PKiKP 01 54 15.1 +1.5**
LC01 Cunco 126.31 109 PKPdf **PKPdf 01 54 12.5 -0.3**
NBLA Lagarto - SE 126.41 57 *e*P **PKiKP 01 54 15.8 +1.7**
CPUP Villa Florida 126.75 87 PKP **PKPdf 01 54 13.5 -0.4**
comp=Z,2.0nm,0.6s,baz=256,slow=3.3,SNR=4.1
CPUP Villa Florida 126.75 87 PKiKP **PKiKP 01 54 15.1 +0.7**
CPUP Villa Florida 126.75 87 PKPdf **PKiKP 01 54 15.1 +0.7**
PCMB Pacaembu 127.06 78 *e*P **PKiKP 01 54 17.2 +2.0**
GDU01 Guandu, BA 127.71 61 *e*P **PKiKP 01 54 18.4 +1.8**
PLCA Paso Flores 128.26 110 PKP **PKPdf 01 54 16.0 -0.5**
comp=Z,8.2nm,1.1s,baz=268,slow=1.7,SNR=10
PLCA Paso Flores 128.26 110 PKiKP **PKPdf 01 54 16.2 -0.3**
PLCA Paso Flores 128.26 110 PKPdf **PKPdf 01 54 16.2 -0.3**
PLCA Paso Flores 128.26 110 *e*P **PKiKP 01 54 19.5 +2.3**
NBIT Itapeh - BA 128.78 62 *e*P **PKiKP 01 54 20.6 +1.8**
PTGB Pitanga 128.87 81 *e*P **PKiKP 01 54 21.0 +2.2**
DIAM Diamantina, MG 129.07 68 *e*P **PKiKP 01 54 21.9 +2.3**
CMC01 Camacan, BA 129.09 62 *e*P **PKiKP 01 54 21.6 +2.3**
FRTB Fartura 129.40 78 *e*P **PKiKP 01 54 21.4 +1.5**
VNDA Vanda 129.50 187 PKiKP **PKiKP 01 54 22.5 +4.1**
VNDA Vanda 129.50 187 PKPdf **PKiKP 01 54 22.5 +4.1**
ITQB Itaqui 129.54 90 *e*P **PKPdf 01 54 18.5 -0.7**
GUA01 Guaratinga, BA 129.92 63 *e*P **PKiKP 01 54 22.5 +1.4**
COYC Coyhaique 130.35 116 IAMs_20 IAMs_20 02 38 54.8
comp=Z,3µm,21.0s
CASY Casey 130.40 211 IAMs_20 IAMs_20 02 46 58.8
comp=Z,2µm,20.0s
ITAB Concordia 130.64 84 *e*P **PKiKP 01 54 25.0 +2.8**
VAO Valinhos 130.73 75 *e*P **PKiKP 01 54 25.0 +2.3**
NAN01 Guarapari, ES 130.75 65 *e*P **PKPdf 01 54 20.7 -1.1**
SJMB Sao Joao De Ma 130.83 66 *e*P **PKiKP 01 54 24.3 +1.5**
RIB01 Linhares ES 131.77 66 *e*P **PKiKP 01 54 28.1 +3.4**
DUB01 Friburgo-RJ 132.78 70 *e*P **PKiKP 01 54 27.8 +1.0**
PLTB Pedras Altas 132.86 89 *e*P **PKiKP 01 54 28.4 +1.8**
ABPO Ambohimpanom 134.16 299 PKiKP **PKPdf 01 54 27.8 -0.7**
ABPO Ambohimpanom 134.16 299 PKPdf **PKPdf 01 54 27.8 -0.7**

VOI	Vohitsoka	136.72	297	IAMs_20	IAMs_20	03 05 53.3
	comp=Z,3µm,20.0s					
VOI	Vohitsoka	136.72	297	PKP	PKiKP	01 54 37.7 +2.8
QSPA	South Pole Qui	141.15	180	PKhKP	PKPpre	01 54 34.3
	comp=Z,2.6nm,0.5s,baz=309,slow=1.2,SNR=29					
QSPA	South Pole Qui	141.15	180	PKPdf	PKiKP	01 54 42.0 -0.4
QSPA	South Pole Qui	141.15	180	IAMs_20	IAMs_20	03 06 59.5
	comp=Z,2µm,18.0s					
BLWY	Bulawayo	144.02	322	*i* P	PKPbc	01 54 45.1 +0.8
BLWY	Bulawayo	144.02	322	*i* P	PKPbc	01 54 45.1 +0.8
MATP	Matopo	144.33	322	*i* P	PKPbc	01 54 45.9 +0.7
MATP	Matopo	144.33	322	*i* P	PKPbc	01 54 45.9 +0.7
MSNA	Messina	145.43	318	*i* P	**PKPab**	**01 54 49.3 +0.5**
MSNA	Messina	145.43	318	*i* P	**PKPab**	**01 54 49.3 +0.5**
ESPZ	Base Esperanza	145.59	135		**PKiKP**	**01 54 51.1 -0.4**
TSUM	Tsumeb	146.55	339		**PKPdf**	**01 54 51.0 +0.3**
CNG	Changalane	147.89	311	*i* P	**PKPbc**	**01 54 55.5 0.0**
CNG	Changalane	147.89	311	*i* P	**PKPbc**	**01 54 55.5 0.0**
MAW	Mawson	148.24	218	PKP2	**PKPbc**	**01 54 54.2 -1.0**
MAW	Mawson	148.24	218	PKPdf	**PKPbc**	**01 54 54.2 -1.0**
LBTB	Lobatse	149.59	323	PKHKP	**PKPdf**	**01 54 54.5 -1.0**
LBTB	Lobatse	149.59	323		**PKPdf**	**01 54 54.5 -1.0**
LBTB	Lobatse	149.59	323	*eP*	**PKPdf**	**01 54 56.1 +0.5**
LBTB	Lobatse	149.59	323	*eP*	**PKPdf**	**01 54 56.1 +0.5**
BELA	Belgrano 2	149.62	164	PKPdf	**PKPbc**	**01 54 57.0 -1.5**
CRZF	Crozet Islands	149.70	261	PKPdf	**PKPdf**	**01 54 54.1 -0.8**
CRZF				PKPab	**sPKPab**	**01 55 14.8 +0.8**
BOSA	Boshof	152.95	320	PKPbc	**PKPbc**	**01 55 07.7 -0.2**
	comp=Z,11nm,0.5s,baz=14,slow=2.4,SNR=29					
BOSA	Boshof	152.95	320	PKIKP	**PKPdf**	**01 54 58.6 -2.0**
BOSA	Boshof	152.95	320	PKPdf	**PKPdf**	**01 54 58.6 -2.0**
BOSA				PKPab	**PKPab**	**01 55 20.4 +1.3**
BOSA	Boshof	152.95	320	*eP*	**PKPdf**	**01 55 02.2 +1.7**
BOSA	Boshof	152.95	320	*eP*	**PKPdf**	**01 55 02.2 +1.7**
SYO	Syowa Base	156.14	210⇑	*eX*	**PKPab**	**01 55 26.4 -5.0**
VNA3	Neumayer Olymp	158.88	166	PKPdf	**PKPdf**	**01 55 06.5 -0.4**
TROLL	Troll, Antarti	159.26	177	PKPdf	**PKPdf**	**01 55 06.8 -0.8**
SNAA	Sanae	159.28	172	PKPdf	**PKPdf**	**01 55 10.7 +3.2**
SNAA	Sanae	159.28	172	PKPab	**PKPab**	**01 55 45.7 +0.7**
	comp=Z,6.9nm,0.6s,baz=216,slow=7.6,SNR=9.8					
SNAA	Sanae	159.28	172	PKIKP	**PKPdf**	**01 55 06.4 -1.1**
SNAA	Sanae	159.28	172	PKPdf	**PKPdf**	**01 55 06.4 -1.1**
VNA2	Neumayer--Watz	159.50	168	PKPdf	**PKPdf**	**01 55 06.2 -1.5**
	baz=281,slow=2.0					
VNA1	Neumayer--Stat	159.62	167	PKPdf	**PKPdf**	**01 55 06.6 -1.1**

*TUL **19** 01:38:05.1±0.8,36.95N±0.02×97.83W±0.03,h4km±7km, ML2.5,mb_Lg2.3/14(NEIC) Error ellipse: s-maj=3.0km s-min=2.3km az=116.0*

NEIC 19 01:38:05.3±0.6,36.93N±0.01×97.81W±0.02,h5km±7km, Error ellipse: s-maj=2.8km s-min=1.8km az=86.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	Sooner Cattle	1.04	90		Pg	01 38 25.3	+0.1
OKCFA	Oklahoma City	1.54	169		Pn	01 38 33.7	+0.3
OKCSW	OKLAHOMA CITY	1.55	169		Pn	01 38 33.9	+0.3
R32A	Long Quarter,	1.66	335		Pn	01 38 34.5	-0.6
FNO	Franklin	1.70	169	Pn	Pn	01 38 35.9	+0.3
TUL1	Leonard	1.92	121	Pn	Pn	01 38 39.2	+0.6
TUL1				IAmb_Lg		01 39 10.0	
	comp=Z,16nm,0.8s						
W35A	Tecumseh	1.92	157	Pn	Pn	01 38 39.1	+0.3
WMOK	Wichita Mounta	2.32	200	IAmb_Lg		01 39 22.3	
	comp=Z,15nm,0.9s						
KSU1	Kansas State U	2.37	23	Pn	Pn	01 38 44.9	0.0
CBKS	Cedar Bluff	2.43	322	Pn	Pn	01 38 47.2	+1.5
CBKS				IAmb_Lg		01 39 19.5	
	comp=Z,4.7nm,0.8s						
X37A	Clayton	3.06	139	Pn	Pn	01 38 54.4	+0.1
HHAR	Hobbs	3.18	101	Pn	Pn	01 38 55.7	-0.3
HHAR				IAmb_Lg		01 39 46.8	
	comp=Z,3.9nm,0.7s						
S39A	Bolivar	3.66	77	Pn	Pn	01 39 02.2	-0.3
W39A	Magazine	3.69	117	Pn	Pn	01 39 02.5	-0.5
W39A				IAmb_Lg		01 40 07.7	
	comp=Z,7.9nm,0.9s						
U40A	Yellville	4.02	97	Pn	Pn	01 39 07.4	-0.3
P38A	Dawn	4.31	50	IAmb_Lg		01 40 22.2	
	comp=Z,10.0nm,1.1s						
L34A	Svendsen Farm,	5.15	12	IAmb_Lg		01 41 02.5	
	comp=Z,8.9nm,0.7s						
N38A	Joes South For	5.26	41	IAmb_Lg		01 41 05.6	
	comp=Z,6.7nm,0.7s						

*AEIC **19** 01:40:13±1.0,51.3N±0.1×174.1W±0.1,h24km±9km,Error ellipse: s-maj=20.6km s-min=8.5km az=150.0*

NEIC 19 01:40:13.6±0.8,51.4N±0.3×174.1W±0.4,h20km±37km, ML3.5(AEIC)**,Error ellipse: s-maj=60.1km s-min=8.5km az=145.0,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.85	356		Pb	01 40 29.8	+0.2
KOFP	Korovin Flat P	0.92	0		Pn	01 40 31.5	0.0
KOKL	Mount Kliuchef	0.97	357		Pn	01 40 32.3	+0.1
KOWE	Korovin West	1.01	355		Pg	01 40 33.3	0.0
GSMY	Great Sitkin M	1.39	300		Pn	01 40 37.5	-0.4
GSTR	Great Sitkin T	1.42	302		Pn	01 40 38.2	-0.1
GSCK	Great Sitkin C	1.44	298		Pn	01 40 38.4	-0.2
GSTD	Great Sitkin T	1.45	300		Pn	01 40 38.3	-0.4
ADAG	Mount Adagdak	1.67	293		Pn	01 40 42.0	+0.2
ADK	Adak	1.69	289		Pn	01 40 41.8	-0.2
KIWB	Kanaga Island	1.96	286		Pn	01 40 45.9	+0.2
TAPA	Tanaga Point A	2.35	283		Pn	01 40 51.4	+0.2
TAFP	Tanaga Falls P	2.47	284		Pn	01 40 52.9	0.0
SPIA	Saint Paul Isl	6.25	20	Pn	Pn	01 41 44.1	-0.5

JMA 19 01:41:06.1,39.02N×140.60E,h10km±1km,M0.7,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	Kaneyama	0.21	242	P	Pg	01 41 10.6	+0.1
JYK				S	Sg	01 41 13.6	+0.1
JRG	Rokugo	0.38	4	*eS*	Sg	01 41 19.4	+0.8
JMK	Ichinoseki	0.49	98	S	Sg	01 41 21.9	-0.1

*SFS **19** 01:42:17.0,35.28N×3.71W,h24km,ML2.4,ALHUCEMAS (MARRUECOS)*
*MDD **19** 01:42:17.2±0.4,35.28N×3.72W,h24km,mb_Lg2.4/11, Error ellipse: s-maj=3.9km s-min=2.3km az=162.0*
*CNRM **19** 01:42:17.4,35.44N×3.79W,h20km,ml2.6*

ISC 19 01:42:15.0±1.2,35.46N±0.02×3.86W±0.02,h1km±10km, n42,σ1§51/72,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.26	195	P	Pb	01 42 22.8	+0.4
PALE	Palemas	0.26	195	P	Pb	01 42 23.0	+0.6
PALE				S	Sb	01 42 27.4	+0.1
PVLZ	Peæn de	0.47	232	P	Pb	01 42 26.8	+0.9
PVLZ				S	Sb	01 42 33.6	+0.3
GOG	Mont Gurugu	0.74	109	P	Pg	01 42 29.3	+0.1
GOG				S	Sb	01 42 42.0	+0.6
GOG	Mont Gurugu	0.74	109	P	Pg	01 42 29.8	+0.6
GOG				S	Sb	01 42 41.1	-0.3
EMEL	Melilla	0.75	102	Pg	Pg	01 42 29.5	+0.1
EMEL				Sg	Sg	01 42 39.2	+0.1
EALB	Alboran	0.82	54	Pg	Pg	01 42 31.3	+0.6
EALB				Sg	Sg	01 42 41.9	+0.6
EALB				*i* Vmb_Lg		01 42 44.4	
SMIR	Smir Dam	1.26	280	P	Pg	01 42 38.1	-1.0
CHEFC	Chefchaouen	1.27	254	P	Pg	01 42 40.0	+0.8
CEU	Ceuta	1.31	290	P	Pn	01 42 39.9	-2.4
CEU				S	Sg	01 42 51.4	-5.6
EMIJ	Mijas	1.33	326	Pn	Pn	01 42 40.2	-0.4
EMIJ				Sn	Sg	01 42 57.1	-0.5
EMIJ				*i* Vmb_Lg		01 43 01.0	
TAF	Taforalt	1.35	118	P	Pn	01 42 40.0	-1.0
TAF	Taforalt	1.35	118	P	Pn	01 42 38.9	-2.1
TAF				S	Sb	01 42 58.8	0.0
EMAL	Malaga-Limoner	1.38	340	P	Pn	01 42 41.2	-0.1
EMAL				S	Sb	01 42 56.3	-3.2
ELGU	Los Guajares,	1.41	7	Pn	Pn	01 42 40.5	-1.4
ELGU				Sn	Sb	01 42 58.7	-2.0
JBK	JBK	1.55	136	P	Pn	01 42 43.0	-0.8
JBK	JBK	1.55	136	P	Pn	01 42 43.0	-0.8
JBK				S	Sn	01 43 00.7	-3.9
EBER	Berja	1.63	28	Pn	Pn	01 42 43.5	-1.5
EBER				Sn	Sn	01 43 05.3	-1.4
EBER				*i* Vmb_Lg		01 43 10.1	
EJIF	Jimena Fronter	1.64	307	Pn	Pn	01 42 45.3	+0.4
EGOR	Sierra Gorda,	1.66	353	Pn	Pb	01 42 46.2	-0.2
EGOR				Sn	Sg	01 43 08.8	+0.6
EGOR				*i* Vmb_Lg		01 43 11.7	
EQUE	Quentar	1.77	11	Sn	Sn	01 43 09.8	-0.2
LCRM	LCR	1.96	205	P	Pg	01 42 53.2	+0.7
LCRM				S	Sb	01 43 17.0	+0.5
ENIJ	Nijar	2.01	41	Pn	Pn	01 42 49.3	-0.8
ENIJ				Sn	Sn	01 43 13.2	-2.7
ESPR	Espera	2.14	311	Sg	Sg	01 43 23.5	-0.3
IFR	Ifrane	2.21	209	P	Pn	01 42 53.8	+0.9
IFR				S	Sn	01 43 19.2	-1.7
EQES	Quesada	2.42	15	Pn	Pn	01 42 57.4	+1.6
EQES				Sn	Sn	01 43 27.1	+1.1
MD31	MD31	2.70	196	P	Pn	01 43 00.7	+1.2
MD31				S	Sn	01 43 32.5	-0.4
MDT	Midelt	2.72	193	P	Pn	01 43 00.8	+0.9
MDT	Midelt	2.72	193	P	Pn	01 43 00.7	+0.9
MDT				S	Sn	01 43 33.4	0.0
EADA	Adamuz	2.76	348	Pn	Pn	01 43 02.0	+1.7
EADA				Sn	Sn	01 43 34.9	+0.6
EADA				*i* Vmb_Lg		01 43 47.6	
TDRA	Tendrara	2.85	147	P	Pn	01 43 03.6	+1.8
ECAB	El Cabril	2.89	335	Pn	Pn	01 43 04.1	+1.9
ECAB				Sn	Sn	01 43 39.0	+1.4
ECAB				*i* Vmb_Lg		01 43 42.7	
EZAR	Zarzadilla de	2.97	35	Pn	Pn	01 43 02.8	-0.5
EZAR				Sn	Sn	01 43 37.8	-1.7
EMIN	Mina Concepcio	3.23	316	Pn	Pn	01 43 07.7	+0.9
EMIN				Sn	Sn	01 43 47.1	+1.2
EGRO	El Granado	3.58	306	Pn	Pn	01 43 12.1	+0.6
EGRO				Sn	Sn	01 43 53.2	-1.3
EGRO				*i* Vmb_Lg		01 43 55.5	
PVAQ	Vaqueiros	3.67	303	P	Pn	01 43 13.9	+1.1
ETOB	Tobarra	3.67	29	Pn	Pn	01 43 14.0	+1.1
ETOB				Sn	Sn	01 43 56.5	-0.4
ETOB				*i* Vmb_Lg		01 43 58.7	
PAB	San Pablo	4.09	355	Pn	Pn	01 43 20.6	+1.8
PAB				Sn	Sn	01 44 06.1	-1.2
EBAD	Badajoz	4.14	323	Pn	Pn	01 43 21.1	+1.8
EBAD				Sn	Sn	01 44 07.5	-0.9
EBAD				*i* Vmb_Lg		01 44 12.4	
PESTR	Estremoz	4.52	320	P	Pn	01 43 26.2	+1.7
PESTR				S	Sn	01 44 18.2	+0.5
ECSE	Chera	4.71	28	Pn	Pn	01 43 28.0	+0.8
ETOR	Torete	5.53	14	Pn	Pn	01 43 40.2	+1.7
ETOR				Sg	Sb	01 45 02.7	+3.4

*CNRM **19** 01:54:08.0,35.14N×3.86W,h24km,ml2.1*

ISC 19 01:54:07.8±1.0,35.21N±0.06×3.90W±0.03,h27km±6km, n17,σ1§15/26,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.03	292	P	Pb	01 54 12.4	0.0
PALE	Palemas	0.03	292	P	Pb	01 54 12.4	0.0
PALE				S	Sb	01 54 16.0	+0.4
PVLZ	Peæn de	0.33	264	P	Pb	01 54 15.3	-0.1
PVLZ				S	Sb	01 54 21.0	+0.5
GOG	Mont Gurugu	0.74	88	P	Pb	01 54 23.0	+0.8
GOG	Mont Gurugu	0.74	88	P	Pn	01 54 21.5	-1.1
GOG				S	Sn	01 54 33.1	0.0
TAF	Taforalt	1.28	107	P	Pb	01 54 33.0	+1.6
TAF	Taforalt	1.28	107	P	Pn	01 54 29.6	-0.4
TAF				S	Sn	01 54 45.9	-0.6
SMIR	Smir Dam	1.30	292	P	Pb	01 54 31.2	-0.3
SMIR				S	Sb	01 54 50.1	+2.4
JBK	JBK	1.40	128	P	Pn	01 54 30.2	-1.6
JBK				S	Sn	01 54 47.9	-1.6
SICH	Sidi Chahed	1.60	227	S	Sb	01 54 57.3	+0.8
LCRM	LCR	1.71	208	P	Pn	01 54 37.0	+1.0
LCRM	LCR	1.71	208	P	Pn	01 54 36.8	+0.8
LCRM				S	Sb	01 55 00.3	+0.5
IFR	Ifrane	1.96	211	P	Pn	01 54 39.0	-0.6
IFR				S	Sn	01 55 00.8	-2.6
MD31	MD31	2.44	197	P	Pn	01 54 45.7	-0.3
MD31				S	Sn	01 55 14.0	-0.9
MDT	Midelt	2.46	194	P	Pn	01 54 47.2	+1.0
MDT	Midelt	2.46	194	P	Pn	01 54 47.2	+1.0
TDRA	Tendrara	2.66	144	P	Pn	01 54 48.8	-0.3

*BGR **19** 02:06:49.2±0.0,49.85N×169.08W,h33km,mb5.0*
*IDC **19** 02:06:50.8±0.8,51.41N×174.17W,h0km,mb4.0/21, mb1 4.2/23,mb1mx4.0/72,mbtmp4.0/23,ML4.0/1, Error ellipse: s-maj=24.1km s-min=13.8km az=173.0*
*NEIC **19** 02:06:51.1±1.6,51.18N±0.04×174.02W±0.08,h10km±1km, mb4.2/54,ML3.7(AEIC), Error ellipse: s-maj=8.7km s-min=6.9km az=78.0*
*MOS **19** 02:06:52.0±0.9,51.36N×174.11W,h21km,mb4.8/18, Error ellipse: s-maj=12.9km s-min=8.2km az=107.3*
*AEIC **19** 02:06:55.2±2.2,51.32N±0.06×174.17W±0.07,h24km±4km, Error ellipse: s-maj=9.0km s-min=5.5km az=145.0*

ISC 19 02:06:55.6±0.5,51.32N±0.07×174.12W±0.04,h35km, n184,σ1§16/180,mb4.4/70,9C-50,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.89	357		Pn	02 07 10.9	-0.7
ATKA					Sn	02 07 24.7	+1.5
KOFP	Korovin Flat P	0.96	1		Pn	02 07 12.7	+0.1
KOKL	Mount Kliuchef	1.01	357		Pn	02 07 13.3	+0.1
GSMY	Great Sitkin M	1.41	302		Pn	02 07 18.2	-0.5
GSTR	Great Sitkin T	1.44	304	Pn	Pn	02 07 18.9	-0.2
GSCK	Great Sitkin C	1.45	299		Pn	02 07 18.8	-0.5
GSTD	Great Sitkin T	1.46	301		Pn	02 07 19.1	-0.4
GSTD					Sn	02 07 37.6	+0.1
ADK	Adak	1.70	291	P	Pn	02 07 22.4	-0.3
ADK						02 07 43.1	
ADK	Adak	1.70	291	Pn	Pn	02 07 22.4	-0.3
KIWB	Kanaga Island	1.97	287	Pn	Pn	02 07 25.9	-0.5
KIKV	Kanaga Island	1.99	288		Pn	02 07 26.9	+0.3
KIMD	Kanaga Island	2.00	284		Pn	02 07 26.6	-0.2
KICM	Kanaga Island	2.01	289		Pn	02 07 27.5	+0.5
TAPA	Tanaga Point A	2.36	284		Pn	02 07 32.3	+0.5
TAFP	Tanaga Falls P	2.48	285		Pn	02 07 34.2	+0.8
TAFP					Sn	02 08 03.6	+1.2
TASE	Tanaga Southea	2.50	284		Pn	02 07 34.5	+0.8
TANO	Tanaga North	2.57	285		Pn	02 07 35.4	+0.8
GAEA	Gareloi East	2.93	281		Pn	02 07 40.4	+0.8
GALAA	Gareloi Lava P	2.94	281		Pn	02 07 40.7	+0.9
NIKH	Nikolski High	3.64	61	Pn	Pn	02 07 47.1	-2.2
OKTU	Okmok Mt. Tuli	4.26	59		Pn	02 08 00.7	+2.8
MREP	Makushin Rep't	5.14	58		Pn	02 08 12.4	+2.3
UNV	Unalaska Valle	5.29	58		Pn	02 08 14.0	+2.1
KDAK	Kodiak Island	14.04	54	*iP*	Pn	02 10 12.2	+0.6
ANM	Nome	14.05	16	P	Pn	02 10 14.6	+2.8
ANM	Nome	14.05	16		Pn	02 10 14.6	+2.8
SVW2	Sparrevohn	14.17	39	Pn	Pn	02 10 12.8	-0.7
TNA	Tin City	14.64	10	Pn	Pn	02 10 21.4	+1.7
BRLK	Bradley Lake	15.56	48	Pn	Pn	02 10 31.0	-1.1
BRLK				IAmb	IAmb	02 10 42.8	
	comp=Z,33nm,1.4s						
K20K	Telida	16.11	34	Pn	Pn	02 10 36.4	-2.6
K20K				IAmb	IAmb	02 10 46.5	
	comp=Z,26nm,1.4s						
J20K	Nowinta River	16.61	32	Pn	Pn	02 10 43.7	-1.8
J20K				IAmb	IAmb	02 11 01.9	
	comp=Z,17nm,1.5s						
CAST	Castle Rocks	16.86	36	Pn	Pn	02 10 46.5	-2.0
PETK	Petropavlovsk-	17.32	287	P	Pn	02 10 53.8	-0.6
	baz=90,slow=16,SNR=3.1						
KTH	Kantishna Hill	17.36	36		Pn	02 10 54.1	-0.7
BPAW	Bear Paw Mtn.	17.65	35	Pn	Pn	02 10 55.8	-2.5
BPAW				IAmb	IAmb	02 11 10.1	
	comp=Z,22nm,1.4s						
I21K	Tanana	17.98	31		Pn	02 11 00.7	-1.6
H21K	Melozitna Rive	18.04	29	P	Pn	02 11 03.1	0.0
MCK	McKinley	18.20	37	P	Pn	02 11 03.6	-1.6
MCK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MCK	McKinley	18.20	37	P	Pn	02 11 03.6	-1.6
MLY	Manley	18.30	32	IAmb	IAmb	02 11 10.8	
	comp=Z,21nm,1.2s						
DHY	Denali Highway	18.50	40	P	P	02 11 08.4	-0.1
I23K	Minto, Yukon-K	18.83	33	P	P	02 11 10.8	-1.2
I23K				IAmb	IAmb	02 11 16.1	
	comp=Z,14nm,0.8s						
WRH	Wood River Hil	18.91	36	P	P	02 11 12.5	-0.4
WRH				IAmb	IAmb	02 11 15.7	
	comp=Z,16nm,1.4s						
CCB	Clear Creek Bu	19.11	36	P	P	02 11 14.1	-0.9
MDM	Murphy Dome	19.12	35	P	P	02 11 14.9	-0.3
HDA	Harding Lake	19.30	37	IAmb	IAmb	02 11 17.7	
	comp=Z,10nm,0.8s						
BILL	Bilibino	19.31	338⇑	*eP*	Pn	02 11 18.1	-0.3
BILL				pmax	pmax		
	comp=Z,12nm,1.7s						
BILL				MLR	MLR		
	comp=Z,2µm,15.0s						
BILL	Bilibino	19.31	338	P	P	02 11 17.0	-0.2
BILL				IAmb	IAmb	02 11 41.5	
	comp=Z,16nm,1.3s						
ILAR	Eielson Array	19.51	36	P	P	02 11 17.1	-2.3
	comp=Z,0.4nm,0.3s,baz=244,slow=10,SNR=25						
H24K	Noodor Dome	19.74	33	IAmb	IAmb	02 11 27.6	
	comp=Z,10nm,0.9s						
COLD	Coldfoot	19.87	28	P	P	02 11 23.2	-0.1
J25K	Salcha River,	20.00	37	IAmb	IAmb	02 11 25.5	
	comp=Z,22nm,0.8s						
DOT	Dot Lake	20.09	41	P	P	02 11 26.0	+0.2
DOT				IAmb	IAmb	02 11 31.3	
	comp=Z,6.9nm,0.7s						
L26K	Log Cabin Wild	20.15	43	P	P	02 11 27.1	+0.7
SCRK	Sand Creek	20.26	40	P	P	02 11 26.9	-0.8
SCRK				IAmb	IAmb	02 11 27.7	
	comp=Z,9.2nm,0.7s						
M27K	Edge Creek, AK	20.57	45	P	P	02 11 30.9	-0.2
M27K				IAmb	IAmb	02 11 37.0	
	comp=Z,8.6nm,0.9s						
TOLK	Toolik Lake Re	21.00	25	P	P	02 11 35.6	0.0
TOLK				IAmb	IAmb	02 11 37.0	
	comp=Z,12nm,0.8s						
SEY	Seymchan	21.30	316	P	P	02 11 39.2	+0.5
	comp=Z,1.6nm,0.6s,baz=119,slow=10,SNR=14						
SEY	Seymchan	21.30	316⇑	*eP*	P	02 11 40.1	+1.4
SEY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	Magadan	21.34	306	P	P	02 11 40.1	+0.9
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MA2	Magadan	21.34	306	P	P	02 11 40.1	+0.9
EGAK	Eagle	21.71	39	P	P	02 11 42.8	-0.4
DAWY	Dawson	22.17	42	P	P	02 11 46.4	-1.8
DAWY				IAmb	IAmb	02 12 00.1	
	comp=Z,7.8nm,1.0s						
INK	Inuvik	25.85	34	P	P	02 12 23.5	+0.2
	comp=Z,2.4nm,0.8s,baz=249,slow=8.6,SNR=5.1						
INK	Inuvik	25.85	34	P	P	02 12 22.5	-0.8
INK				IAmb	IAmb	02 12 42.9	
	comp=Z,4.3nm,0.9s						
TIXI	Tiksi	32.15	330⇑	*eP*	P	02 13 17.6	-1.6
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
YKA	Yellowknife Ar	33.13	47	P	P	02 13 27.6	-0.4
	comp=Z,0.4nm,0.7s,baz=271,slow=7.8,SNR=6.2						
YKA				PcP	PcP	02 16 11.2	+1.0
	comp=Z,0.6nm,0.7s,baz=286,slow=3.0,SNR=6.1						
KLR	Kul'dur	34.01	288	P	P	02 13 35.2	-0.5
	comp=Z,4.2nm,0.5s,baz=64,slow=7.6,SNR=10.0						
B08A	Colville Reser	34.77	73	P	P	02 13 40.8	-1.6
B08A				IAmb	IAmb	02 14 03.1	
	comp=Z,3.4nm,1.0s						
H11N2	WAKE ISLAND Hy	34.88	212	T	T	02 51 21.5	
	baz=20,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	34.89	212	T	T	02 51 22.1	
	baz=20,slow=76,SNR=5.8						
H11N1	WAKE ISLAND Hy	34.90	212	T	T	02 51 24.0	
	baz=20,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	36.09	212	T	T	02 53 15.9	
	baz=20,slow=76,SNR=7.5						
H11S2	WAKE ISLAND Hy	36.10	212	T	T	02 53 04.0	
	baz=20,slow=76,SNR=7.3						
H11S3	WAKE ISLAND Hy	36.10	212	T	T	02 53 03.7	
	baz=20,slow=76,SNR=3.5						
USA0B	Ussuriysk Arra	36.21	280	P	P	02 13 53.8	-0.9
USA0B				pmax	pmax		
	comp=Z,9.0nm,0.8s						
USA0B	Ussuriysk Arra	36.21	280	P	P	02 13 53.8	-0.9
USRK	Ussuriysk Ar.	36.21	280	P	P	02 13 54.2	-0.4
	comp=Z,8.8nm,0.7s,baz=51,slow=8.3,SNR=14						
USRK	Ussuriysk Ar.	36.21	280	P	P	02 13 54.1	-0.6
EDM	Edmonton	36.26	63	P	P	02 13 54.4	-0.7
EDM				pmax	pmax		
	comp=Z,12nm,0.7s						
EDM	Edmonton	36.26	63	P	P	02 13 54.4	-0.7
MAJO	Matsushiro	36.69	265	*eP*	P	02 13 58.5	-0.4
MAJO				pmax	pmax		
	comp=Z,24nm,1.7s						
BCYI	Bear Canyon	40.33	75	P	P	02 14 27.7	-1.9
MCMT	McKenzie Canyo	40.39	74	P	P	02 14 28.6	-1.6
NVAR	Mina Array Bea	40.63	86	P	P	02 14 34.3	+2.0
	comp=Z,0.4nm,0.7s,baz=296,slow=6.9,SNR=3.7						
NVAR	Mina Array Bea	40.63	86	P	P	02 14 29.7	-2.5
LCH	Last Change Ra	41.78	87	P	P	02 14 39.4	-2.2
LCH				IAmb

GOMU				pP	pP	02 17 25.8	-4.9
GOMU				sP	sP	02 17 27.6	-6.7
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH	**PanZhiHua**	**66.23**	**283**	P	**P**	**02 17 41.5**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FINES	**FINESS Array B**	**66.44**	**350**	P	**P**	**02 17 39.5**	**-1.2**
	comp=Z,4.8nm,1.0s,baz=342,slow=3.0,SNR=4.0						
FINES				PcP	**PcP**	**02 18 10.4**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=75,slow=2.2,SNR=4.4						
NB2	**NORSAR Subarra**	**67.91**	**357**	P	**P**	**02 17 49.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=2.5,slow=6.5						
AAK	**Ala-Archa**	**69.11**	**313**⇑	*eP*	**P**	**02 17 59.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ABKAR	**Akbulak array**	**69.71**	**326**	P	**P**	**02 18 02.3**	**+0.9**
ABKAR				IAmb	IAmb	02 18 25.6	
	comp=Z,2.8nm,0.9s						
KKAR	**Karatay Array**	**70.54**	**315**	P	**P**	**02 18 06.3**	**-0.3**
KKAR	**Karatay Array**	**70.54**	**315**	P	**P**	**02 18 06.3**	**-0.3**
KSH	**Kashi**	**70.85**	**310**	P	**P**	**02 18 12.9**	**+4.2**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BTK	**Batken**	**72.84**	**313**	P	**P**	**02 18 21.7**	**+1.1**
BTK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BTK	**Batken**	**72.84**	**313**	P	**P**	**02 18 21.7**	**+1.1**
SHL	**Shillong**	**72.86**	**289**	P	**P**	**02 18 20.8**	**-0.2**
SHL				pmax	pmax		
	comp=Z,11nm,0.8s						
SHL	**Shillong**	**72.86**	**289**	P	**P**	**02 18 20.8**	**-0.2**
GAR	**Garm**	**73.92**	**313**	P	**P**	**02 18 27.5**	**+0.5**
TAPN	**Taplejung**	**73.95**	**294**	*eP*	**P**	**02 18 28.8**	**+1.2**
GUN	**Gumba**	**74.57**	**295**	*eP*	**P**	**02 18 32.5**	**+1.3**
JIRN	**Jiri**	**74.58**	**295**	*eP*	**P**	**02 18 32.7**	**+1.3**
RAMN	**Ramite**	**74.89**	**294**	*eP*	**P**	**02 18 33.9**	**+0.9**
	comp=Z,14nm,0.4s						
PKI	**Pulchoki**	**75.10**	**295**	*eP*	**P**	**02 18 35.2**	**+0.9**
DANN	**Dangsing**	**75.43**	**297**	*eP*	**P**	**02 18 37.4**	**+1.3**
	comp=Z,57nm,0.9s						
KOLN	**Koldanda**	**75.96**	**297**	*eP*	**P**	**02 18 40.0**	**+0.9**
PYUN	**Piuthan**	**76.05**	**297**	*eP*	**P**	**02 18 40.4**	**+0.8**
	comp=Z,46nm,0.9s						
AKASG	**Malin Array Be**	**76.44**	**345**	P	**P**	**02 18 40.0**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=16,slow=5.8,SNR=6.5						
AKASG	**Malin Array Be**	**76.44**	**345**	*i* P	**P**	**02 18 40.4**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**77.57**	**355**	*eP*	**P**	**02 18 48.0**	**+0.5**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CLL	**Collm**	**77.57**	**355**	P	**P**	**02 18 46.5**	**-1.0**
CLL	**Collm**	**77.57**	**355**	*eP*	**P**	**02 18 48.0**	**+0.5**
	comp=Z,8.0nm,0.8s						
BRG	**Berggiesshubel**	**77.96**	**355**	*eP*	**P**	**02 18 50.2**	**+0.6**
BRG				Amp		02 18 51.2	
	comp=Z,6.9nm,0.7s						
BRG				Amp		02 27 51.0	
	comp=Z,5.2nm,18.5s						
BRG				Amp		02 28 02.0	
	comp=E,5.6nm,18.1s						
BRG				Amp		02 28 04.0	
	comp=N,4.7nm,17.1s						
BRG	**Berggiesshubel**	**77.96**	**355**	*eP*	**P**	**02 18 50.2**	**+0.6**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHVC	**Chvalec**	**78.10**	**353**	*eP*	**P**	**02 18 51.1**	**+0.6**
OSTC	**Ostas**	**78.12**	**353**	*eP*	**P**	**02 18 51.9**	**+1.3**
KBL	**Kabul**	**78.14**	**311**	P	**P**	**02 18 50.7**	**-0.5**
KBL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBL	**Kabul**	**78.14**	**311**	P	**P**	**02 18 50.7**	**-0.5**
UPC	**Upice**	**78.19**	**353**	*eP*	**P**	**02 18 51.8**	**+0.9**
UPC	**Upice**	**78.19**	**353**	*eP*	**P**	**02 18 51.8**	**+0.9**
KRLC	**Kraliky**	**78.56**	**353**	*eP*	**P**	**02 18 53.5**	**+0.4**
KRLC	**Kraliky**	**78.56**	**353**	*eP*	**P**	**02 18 53.5**	**+0.4**
NKC	**Novy Kostel**	**78.67**	**356**	*eP*	**P**	**02 18 54.5**	**+0.9**
NKC	**Novy Kostel**	**78.67**	**356**	*eP*	**P**	**02 18 54.5**	**+0.9**
MORC	**Moravsky Berou**	**78.79**	**352**	*eP*	**P**	**02 18 54.0**	**-0.4**
PRU	**Pruhonice**	**78.80**	**354**	*eP*	**P**	**02 18 54.9**	**+0.6**
PRU	**Pruhonice**	**78.80**	**354**	*eP*	**P**	**02 18 54.9**	**+0.6**
GRF	**Grafenberg Arr**	**79.27**	**356**	*eP*	**P**	**02 18 58.2**	**+1.3**
	comp=Z,15nm,0.9s,baz=2.0,slow=4.7						
GRFO	**Grafenberg**	**79.27**	**356**	P	**P**	**02 18 55.8**	**-1.1**
GRFO				pmax	pmax		
	comp=Z,11nm,0.8s						
GRFO	**Grafenberg**	**79.27**	**356**	P	**P**	**02 18 55.8**	**-1.1**
KHC	**Kasperske Hory**	**79.72**	**355**⇓	*iP*	**P**	**02 19 00.5**	**+1.1**
KHC				pmax	pmax		
	comp=Z,11nm,0.9s						
KHC	**Kasperske Hory**	**79.72**	**355**	*eP*	**P**	**02 19 00.4**	**+1.1**
KHC	**Kasperske Hory**	**79.72**	**355**	P	**P**	**02 18 59.9**	**+0.5**
KHC				IAmb	IAmb	02 19 01.1	
	comp=Z,4.1nm,0.8s						
CKRC	**Cesky Krumlov**	**79.98**	**354**	*eP*	**P**	**02 19 01.1**	**+0.3**
GERES	**GERESS Array B**	**79.99**	**355**	P	**P**	**02 19 01.3**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=14,slow=6.1,SNR=20						
GERES	**GERESS Array B**	**79.99**	**355**	P	**P**	**02 19 01.6**	**+0.6**
GERES	**GERESS Array B**	**79.99**	**355**	P	**P**	**02 19 01.6**	**+0.6**
BURAR	**Bucovina Array**	**80.06**	**347**	P	**P**	**02 19 01.5**	**+0.1**
BURAR				IAmb	IAmb	02 19 02.6	
	comp=Z,2.5nm,0.7s						
GEYT	**Alibeck**	**80.06**	**321**	P	**P**	**02 19 02.5**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=232,slow=16,SNR=5.0						
GEYT	**Alibeck**	**80.06**	**321**	P	**P**	**02 19 01.2**	**-0.2**
GEYT				IAmb	IAmb	02 19 03.9	
	comp=Z,3.6nm,1.0s						
CONA	**Conrad Observa**	**80.76**	**353**	*eP*	**P**	**02 19 06.2**	**+1.1**
	comp=Z,2.6nm,0.6s						
MOA	**Molln**	**80.95**	**354**	*eP*	**P**	**02 19 06.0**	**-0.1**
	comp=Z,1.1nm,0.6s						
HRA	**Herat**	**81.36**	**316**	P	**P**	**02 19 08.9**	**+0.2**
RETA	**Reutte**	**81.49**	**357**	*eP*	**P**	**02 19 09.8**	**+0.9**
	comp=Z,2.5nm,0.8s						
WATA	**Walderalm**	**81.61**	**356**	*eP*	**P**	**02 19 10.4**	**+0.7**
	comp=Z,7.2nm,1.2s						
MOTA	**Moosalm**	**81.62**	**356**	*eP*	**P**	**02 19 10.7**	**+1.0**
	comp=Z,6.2nm,1.2s						
WTTA	**Wattenberg**	**81.67**	**356**	*eP*	**P**	**02 19 10.9**	**+0.8**
	comp=Z,4.7nm,1.0s						
SQTA	**Sankt Quirin**	**81.74**	**356**	*eP*	**P**	**02 19 11.3**	**+1.0**
	comp=Z,2.6nm,0.7s						
KBA	**Koelnbreinsper**	**81.78**	**355**	P	**P**	**02 19 11.6**	**+1.0**
	comp=Z,7.5nm,0.8s,SNR=5.1						
FETA	**Feichten**	**81.95**	**357**	P	**P**	**02 19 12.6**	**+1.0**
	comp=Z,3.7nm,0.9s,SNR=5.8						
SOKA	**Soboth**	**82.07**	**354**	P	**P**	**02 19 12.9**	**+0.8**
	comp=Z,4.7nm,0.9s,SNR=6.8						
ABTA	**Abfaltersbach**	**82.15**	**355**	*eP*	**P**	**02 19 13.0**	**+0.6**
	comp=Z,4.6nm,1.2s						
OBKA	**Obir**	**82.27**	**354**	*eP*	**P**	**02 19 13.9**	**+0.8**
	comp=Z,3.4nm,0.8s						
WRAB	**Tennant Creek**	**84.06**	**228**	*ce*P	**P**	**02 19 23.6**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,19nm,2.5s						
WRA	**Warramunga Arr**	**84.08**	**228**	P	**P**	**02 19 22.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=32,slow=5.6,SNR=5.1						
BRTR	**Keskin Array B**	**86.14**	**339**	P	**P**	**02 19 33.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=63,slow=2.4,SNR=5.5						
BRTR	**Keskin Array B**	**86.14**	**339**	*ce*P	**P**	**02 19 32.9**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**87.50**	**226**	P	**P**	**02 19 39.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=28,slow=4.6,SNR=7.0						
ESDC	**Sonseca Array**	**88.98**	**8**	P	**P**	**02 19 45.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=347,slow=4.3,SNR=6.9						

*IDC **19** 02:31:33.8±0.9, 51°.57N×174°.06W, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.1/37, mbtmp4.0/22, ML3.6/2, Error ellipse: s-maj=26.8km s-min=14.7km az=176.0*

*NEIC **19** 02:31:34.4±2.2, 51°.24N±0°.04×174°.06W±0°.06, h11km±4km, mb4.2/49, ML3.6/26(AEIC), Error ellipse: s-maj=6.5km s-min=5.4km az=176.0*

*AEIC **19** 02:31:37±2.4, 51°.25N±0°.03×174°.16W±0°.04, h26km±5km, Error ellipse: s-maj=5.3km s-min=3.0km az=154.0*

ISC 19 02:31:38.3±0.5, 51°.32N±0°.08×174°.07W±0°.04, h35km, n131, σ1°10/125, mb4.3/47, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATKA	**Atka Island**	**0.89**	**355**			**Pn**	**02 31 53.5**	**-0.8**
ATKA						**Sn**	**02 32 07.8**	**+1.8**

KOFP	**Korovin Flat P**	**0.96**	**359**			**Pn**	**02 31 55.2**	**-0.1**
KOKL	**Mount Kliuchef**	**1.01**	**356**			**Pn**	**02 31 56.0**	**-0.1**
KOWE	**Korovin West**	**1.06**	**354**			**Pn**	**02 31 57.1**	**+0.5**
GSMY	**Great Sitkin M**	**1.43**	**301**			**Pn**	**02 32 00.9**	**-0.9**
GSTR	**Great Sitkin T**	**1.46**	**303**			**Pn**	**02 32 01.7**	**-0.5**
GSCK	**Great Sitkin C**	**1.48**	**299**			**Pn**	**02 32 01.4**	**-1.0**
GSTD	**Great Sitkin T**	**1.49**	**301**			**Pn**	**02 32 01.9**	**-0.7**
GSTD						**Sn**	**02 32 22.5**	**+1.7**
ADK	**Adak**	**1.72**	**290**			**Pn**	**02 32 04.6**	**-1.2**
ADK	**Adak**	**1.72**	**290**			**Sn**	**02 32 26.3**	**-0.2**
KIWB	**Kanaga Island**	**1.99**	**287**	Pn		**Pn**	**02 32 08.6**	**-0.9**
KIKV	**Kanaga Island**	**2.01**	**287**			**Pn**	**02 32 09.4**	**-0.3**
KIMD	**Kanaga Island**	**2.02**	**284**			**Pn**	**02 32 09.3**	**-0.6**
TAPA	**Tanaga Point A**	**2.39**	**284**			**Pn**	**02 32 14.9**	**0.0**
TAFL	**Tanaga Flats**	**2.43**	**282**			**Pn**	**02 32 15.5**	**+0.1**
TAFP	**Tanaga Falls P**	**2.51**	**285**			**Pn**	**02 32 16.6**	**+0.1**
TAFP						**Sn**	**02 32 46.8**	**+0.9**
TASE	**Tanaga Southea**	**2.53**	**283**			**Pn**	**02 32 17.2**	**+0.4**
GAEA	**Gareloi East**	**2.95**	**281**			**Pn**	**02 32 23.1**	**+0.4**
GALAA	**Gareloi Lava P**	**2.97**	**280**			**Pn**	**02 32 23.3**	**+0.4**
NIKH	**Nikolski High**	**3.62**	**61**	Pn		**Pn**	**02 32 31.8**	**+0.1**
UNV	**Unalaska Valle**	**5.26**	**58**			**Pn**	**02 32 55.5**	**+1.2**
KDAK	**Kodiak Island**	**14.01**	**54**	Pn		**Pn**	**02 34 49.8**	**-4.3**
	0.4nm,0.3s,baz=236,slow=1.8,SNR=6.3							
ANM	**Nome**	**14.04**	**16**	Pn		**Pn**	**02 34 56.6**	**+2.1**
N19K	**Bonanza Creek**	**14.44**	**41**	Pn		**Pn**	**02 34 59.5**	**-0.5**
TTA	**Tatalina**	**15.15**	**33**	Pn		**Pn**	**02 35 09.7**	**+0.3**
TTA				IAmb		IAmb	02 35 35.4	
	comp=Z,24nm,1.4s							
K20K	**Telida**	**16.09**	**34**	Pn		**Pn**	**02 35 21.2**	**-0.4**
J20K	**Nowinta River**	**16.60**	**31**	Pn		**Pn**	**02 35 26.4**	**-1.6**
CAST	**Castle Rocks**	**16.84**	**36**	Pn		**Pn**	**02 35 30.6**	**-0.5**
KTH	**Kantishna Hill**	**17.35**	**36**	Pn		**Pn**	**02 35 36.1**	**-1.3**
KTH				IAmb		IAmb	02 35 58.1	
	comp=Z,25nm,1.4s							
PETK	**Petropavlovsk-**	**17.35**	**287**	P		**Pn**	**02 35 36.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=91,slow=16,SNR=4.8							
BPAW	**Bear Paw Mtn.**	**17.64**	**35**	Pn		**Pn**	**02 35 39.1**	**-1.9**
BPAW				IAmb		IAmb	02 35 42.7	
	comp=Z,17nm,1.3s							
I21K	**Tanana**	**17.96**	**31**			**Pn**	**02 35 44.1**	**-0.8**
H21K	**Melozitna Rive**	**18.02**	**29**			**Pn**	**02 35 44.5**	**-1.1**
MCK	**McKinley**	**18.19**	**37**	P		**Pn**	**02 35 46.8**	**-1.0**
MCK				IAmb		IAmb	02 35 50.2	
	comp=Z,16nm,1.2s							
MLY	**Manley**	**18.28**	**32**	IAmb		IAmb	02 35 52.3	
	comp=Z,11nm,0.6s							
KLU	**Klutina**	**18.46**	**46**	P		**P**	**02 35 48.8**	**-1.9**
KLU				IAmb		IAmb	02 36 09.3	
	comp=Z,23nm,1.5s							
I23K	**Minto, Yukon-K**	**18.82**	**33**	P		**P**	**02 35 53.7**	**-0.9**
I23K				IAmb		IAmb	02 35 58.2	
	comp=Z,40nm,1.4s							
HDA	**Harding Lake**	**19.29**	**37**	IAmb		IAmb	02 36 00.2	
	comp=Z,14nm,1.0s							
IL31		**19.50**	**36**	P		**P**	**02 36 00.3**	**-1.6**
ILAR	**Eielson Array**	**19.50**	**36**	P		**P**	**02 35 59.0**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=217,slow=10.0,SNR=33							
ILAR	**Eielson Array**	**19.50**	**36**	P		**P**	**02 36 01.4**	**-0.6**
H24K	**Noodor Dome**	**19.72**	**33**	IAmb		IAmb	02 36 05.2	
	comp=Z,8.2nm,0.8s							
COLD	**Coldfoot**	**19.86**	**28**	P		**P**	**02 36 04.3**	**-1.6**
J25K	**Salcha River,**	**19.98**	**37**	IAmb		IAmb	02 36 07.6	
	comp=Z,19nm,0.7s							
DOT	**Dot Lake**	**20.08**	**41**	P		**P**	**02 36 05.8**	**-2.6**
SCRK	**Sand Creek**	**20.24**	**40**	IAmb		IAmb	02 36 17.0	
	comp=Z,7.9nm,0.6s							
TOLK	**Toolik Lake Re**	**20.99**	**25**	P		**P**	**02 36 17.7**	**-0.6**
TOLK				IAmb		IAmb	02 36 19.2	
	comp=Z,12nm,0.7s							
SEY	**Seymchan**	**21.32**	**316**	P		**P**	**02 36 22.0**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=113,slow=9.3,SNR=8.1							
EGAK	**Eagle**	**21.69**	**39**	P		**P**	**02 36 24.3**	**-1.4**
BMAR	**Burnt Mountain**	**21.71**	**31**	P		**P**	**02 36 25.5**	**-0.5**
DAWY	**Dawson**	**22.16**	**42**	P		**P**	**02 36 29.8**	**-0.9**
DAWY				IAmb		IAmb	02 36 32.8	
	comp=Z,5.3nm,0.8s							
INK	**Inuvik**	**25.84**	**34**	P		**P**	**02 37 02.8**	**-3.1**
	comp=Z,2.2nm,0.6s,baz=244,slow=5.7,SNR=7.0							
INK	**Inuvik**	**25.84**	**34**	IAmb		IAmb	02 37 14.4	
	comp=Z,4.7nm,0.9s							
DLBC	**Dease Lake**	**25.92**	**57**	P		**P**	**02 37 08.6**	**+1.7**
	comp=Z,9.9nm,1.3s,baz=241,slow=11,SNR=4.6							
DLBC	**Dease Lake**	**25.92**	**57**	IAmb		IAmb	02 37 29.7	
	comp=Z,9.8nm,1.3s							
YKA	**Yellowknife Ar**	**33.12**	**47**	P		**P**	**02 38 09.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=266,slow=7.8,SNR=9.4							
YKA				PcP		**PcP**	**02 40 53.7**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=286,slow=2.9,SNR=8.0							
H11S1	**WAKE ISLAND Hy**	**36.10**	**212**	T		T	03 17 52.3	
	baz=20,slow=76,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**36.12**	**212**	T		T	03 17 52.5	
	baz=20,slow=76,SNR=6.7							
H11S3	**WAKE ISLAND Hy**	**36.12**	**212**	T		T	03 17 50.3	
	baz=20,slow=76,SNR=3.3							
USRK	**Ussuriysk Ar.**	**36.23**	**280**	P		**P**	**02 38 37.6**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=70,slow=7.9,SNR=5.6							
EDM	**Edmonton**	**36.23**	**63**	P		**P**	**02 38 38.0**	**+0.4**
NVAR	**Mina Array Bea**	**40.61**	**86**	P		**P**	**02 39 15.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=297,slow=9.8,SNR=3.6							
FFC	**Flin Flon**	**41.75**	**56**	P		**P**	**02 39 24.2**	**+0.6**
FFC				IAmb		IAmb	02 39 24.7	
	comp=Z,3.3nm,0.8s							
PDAR	**Pinedale Array**	**43.48**	**75**	P		**P**	**02 39 38.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=322,slow=4.7,SNR=7.3							
PDAR	**Pinedale Array**	**43.48**	**75**	P		**P**	**02 39 38.6**	**+0.5**
GSC	**Goldstone, Bar**	**43.49**	**89**	P		**P**	**02 39 38.6**	**+0.4**
GSC				IAmb		IAmb	02 39 52.7	
	comp=Z,3.6nm,0.9s							
ULM	**Lac du Bonnet**	**47.21**	**59**	P		**P**	**02 40 07.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=331,slow=7.8,SNR=3.0							
ULN	**Ulaanbaatar**	**48.92**	**299**	P		**P**	**02 40 19.5**	**-1.2**
ULN				IAmb		IAmb	02 40 21.2	
	comp=Z,6.6nm,1.3s							
SONM	**Songino Array**	**49.30**	**299**	P		**P**	**02 40 23.7**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=44,slow=9.1,SNR=12							
SONM	**Songino Array**	**49.30**	**299**	P		**P**	**02 40 23.8**	**+0.1**
SONM				IAmb		IAmb	02 40 24.3	
	comp=Z,2.2nm,0.9s							
HHC	**Hu-ho-hao-te**	**50.53**	**289**	*eP*		**P**	**02 40 32.3**	**-0.8**
HHC				pmax		pmax		
	comp=Z,12nm,1.0s							
HHC				pmax		pmax		
	comp=Z,510nm,6.8s							
SPITS	**Spitsbergen Ar**	**50.61**	**357**	P		**P**	**02 40 32.2**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=99,slow=4.3,SNR=8.7							
TX31	**Lajitas Ar. Si**	**55.72**	**85**	P		**P**	**02 41 10.6**	**-0.8**
TXAR	**Lajitas Array**	**55.72**	**85**	P		**P**	**02 41 11.2**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=289,slow=3.8,SNR=4.9							
ZALV	**Zalesovo Beam**	**56.19**	**316**	PcP		**PcP**	**02 42 12.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=38,slow=7.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**56.19**	**316**	P		**P**	**02 41 15.4**	**+1.2**
GTA	**Gaotai**	**58.31**	**295**	*eP*		**P**	**02 41 29.8**	**+0.2**
GTA				pP		pP	02 41 35.3	-3.4
GTA				sP		sP	02 41 38.3	-4.0
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ARCES	**ARCESS Array B**	**58.61**	**352**	P		**P**	**02 41 30.1**	**-1.0**
	comp=Z,9.0nm,1.1s,baz=30,slow=9.8,SNR=6.3							
WMQ	**Urumqi**	**61.83**	**306**	*eP*		**P**	**02 41 56.4**	**+2.9**
MK31	**Makanchi Array**	**62.35**	**311**	P		**P**	**02 41 55.5**	**-1.4**
MKAR	**Makanchi Array**	**62.35**	**311**	P		**P**	**02 41 56.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=47,slow=5.7,SNR=15							
BRVK	**Borovoye**	**62.82**	**322**	P		**P**	**02 41 59.5**	**-0.5**
BRVK				IAmb		IAmb	02 42 14.2	
	comp=Z,1.3nm,0.7s							
PZH	**PanZhiHua**	**66.26**	**283**	P		**P**	**02 42 24.6**	**+1.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
FINES	**FINESS Array B**	**66.44**	**350**	P		**P**	**02 42 22.2**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=311,slow=9.1,SNR=3.9							
NOA	**NORSAR Array B**	**67.92**	**357**	P		**P**	**02 42 32.4**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=2.2,slow=5.9,SNR=5.2							
AAK	**Ala-Archa**	**69.13**	**313**	P		**P**	**02 42 41.0**	**+0.1**
AAK				IAmb		IAmb	02 42 42.2	
	comp=Z,2.0nm,0.8s							
ABKAR	**Akbulak array**	**69.72**	**326**	P		**P**	**02 42 43.8**	**-0.4**
ABKAR				IAmb		IAmb	02 43 07.8	
	comp=Z,2.1nm,0.9s							
LSA	**Lhasa**	**70.22**	**293**	P		**P**	**02 42 47.9**	**-0.3**
KKAR	**Karatay Array**	**70.56**	**315**	P		**P**	**02 42 47.9**	**-1.6**
KSH	**Kashi**	**70.87**	**310**	P		**P**	**02 42 53.8**	**+2.3**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BTK	**Batken**	**72.86**	**313**	P		**P**	**02 43 03.1**	**-0.3**

SHL	**Shillong**	**72.89**	**289**	P		**P**	**02 43 03.7**	**-0.2**
GAR	**Garm**	**73.94**	**313**	P		**P**	**02 43 09.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**73.96**	**279**	P		**P**	**02 43 12.2**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=26,slow=7.5,SNR=5.4							
GUN	**Gumba**	**74.59**	**295**	*eP*		**P**	**02 43 14.8**	**+0.7**
JIRN	**Jiri**	**74.61**	**295**	*eP*		**P**	**02 43 15.1**	**+0.9**
RAMN	**Ramite**	**74.92**	**294**	*eP*		**P**	**02 43 16.4**	**+0.5**
	comp=Z,9.5nm,0.5s							
PKI	**Pulchoki**	**75.12**	**295**	*eP*		**P**	**02 43 17.4**	**+0.3**
DANN	**Dangsing**	**75.45**	**297**	*eP*		**P**	**02 43 19.5**	**+0.5**
	comp=Z,45nm,0.9s							
PYUN	**Piuthan**	**76.07**	**297**	*eP*		**P**	**02 43 23.2**	**+0.8**
AKASG	**Malin Array Be**	**76.45**	**345**	P		**P**	**02 43 22.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=19,slow=6.0,SNR=6.6							
CLL	**Collm**	**77.58**	**355**	P		**P**	**02 43 30.0**	**-0.2**
BRG	**Berggiesshubel**	**77.96**	**355**	*eP*		**P**	**02 43 32.5**	**+0.2**
BRG				Amp			02 43 33.6	
	comp=Z,4.8nm,0.8s							
CHVC	**Chvalec**	**78.11**	**353**	*eP*		**P**	**02 43 33.1**	**-0.2**
CHVC				*ex*		x	02 43 46.1	
KBL	**Kabul**	**78.16**	**311**	P		**P**	**02 43 33.3**	**-0.8**
DPC	**Dobruska-Polom**	**78.33**	**353**	*eP*		**P**	**02 43 34.7**	**+0.2**
DPC				*e*PCP		**sP**	**02 43 46.6**	**-0.8**
KRLC	**Kraliky**	**78.56**	**353**	*eP*		**P**	**02 43 35.8**	**0.0**
KRLC				*ex*		x	02 43 49.7	
NKC	**Novy Kostel**	**78.68**	**356**	*eP*		**P**	**02 43 36.6**	**+0.2**
MORC	**Moravsky Berou**	**78.80**	**352**	*eP*		**P**	**02 43 36.7**	**-0.4**
PRU	**Pruhonice**	**78.81**	**354**	*eP*		**P**	**02 43 36.9**	**-0.2**
VRAC	**Vranov**	**79.34**	**353**	*eP*		**P**	**02 43 40.2**	**+0.2**
KHC	**Kasperske Hory**	**79.72**	**355**	*eP*		**P**	**02 43 42.6**	**+0.5**
GERES	**GERESS Array B**	**80.00**	**355**	P		**P**	**02 43 43.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=12,slow=6.8,SNR=14							
GERES	**GERESS Array B**	**80.00**	**355**	P		**P**	**02 43 42.3**	**-1.4**
BURAR	**Bucovina Array**	**80.06**	**347**	P		**P**	**02 43 44.0**	**-0.1**
BURAR				IAmb		IAmb	02 43 45.1	
	comp=Z,2.4nm,0.8s							
GEYT	**Alibeck**	**80.08**	**321**	P		**P**	**02 43 45.0**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=339,slow=7.9,SNR=4.2							
GEYT	**Alibeck**	**80.08**	**321**	P		**P**	**02 43 44.3**	**0.0**
GEYT				IAmb		IAmb	02 43 45.7	
	comp=Z,3.1nm,0.9s							
CONA	**Conrad Observa**	**80.77**	**353**	*eP*		**P**	**02 43 48.0**	**+0.1**
	comp=Z,3.0nm,0.9s							
MOA	**Molln**	**80.95**	**354**	*eP*		P	02 43 53.5	+4.8
	comp=Z,2.5nm,1.4s							
RETA	**Reutte**	**81.49**	**357**	*eP*		**P**	**02 43 54.0**	**+2.3**
	comp=Z,4.5nm,1.5s							
WATA	**Walderalm**	**81.61**	**356**	*eP*		**P**	**02 43 53.1**	**+0.6**
	comp=Z,1.7nm,0.6s							
MOTA	**Moosalm**

MINR	**Mina**	**3.21**	**341**	Pg	Pg	02 33 09.4	+4.4
MINR				Sg	Sg	02 33 53.1	+6.5
SHRR	**Shira**	**4.39**	**309**	Sg	Sg	02 34 26.0	+1.7
LUZB	**Luzhba, Kemero**	**4.68**	**295**	Pn	Pb	02 33 21.1	-4.8
LUZB				Pg	Pg	02 33 32.6	-0.5
LUZB				Sg	Sg	02 34 32.7	-0.9
ZAK	**Zakamensk**	**4.81**	**105**	Pg	Pg	02 33 32.3	-3.3
ZAK				Sg	Sg	02 34 39.9	+2.1
TASR	**Tashtagol**	**5.07**	**283**	Pg	Pg	02 33 40.8	+0.1
TASR				Sg	Sg	02 34 46.6	+0.3
CUR	**Chagan-Uzun**	**5.17**	**253**	Pn	Pn	02 33 25.8	+4.2
CUR				Pg	Pg	02 33 45.2	+2.7
CUR				Sg	Sg	02 34 46.5	-2.9
ARTR	**Artybash**	**5.42**	**272**	Pg	Pg	02 33 49.3	+2.0
ARTR				Sg	Sg	02 34 54.8	-2.8
AKAR	**Aktash**	**5.53**	**257**	Pn	Pn	02 33 34.6	-5.9
AKAR				Pg	Pg	02 33 47.6	-1.7
AKAR				Sg	Sg	02 34 56.4	-4.4
CHBI	**Chibit, Altay**	**5.60**	**257**	Pn	Pn	02 33 34.4	+6.9
CHBI				Pg	Pg	02 33 51.1	+0.4
CHBI				Sg	Sg	02 35 00.0	-3.1
BRCR	**Berchikul'**	**5.92**	**312**	Sg	Sg	02 35 14.2	+0.9
ELT	**Eltsovka**	**6.13**	**287**	Sg	Sg	02 35 17.9	-2.1
TRG	**Tyrgan**	**6.39**	**78**	Pg	Pg	02 34 04.2	-1.6
TRG				Sg	Sg	02 35 27.1	-1.4

JMA ***19*** *02:54:19.5±0.4, 34°.07N×141°.48E, h41km±4km, M3.3*
IDC ***19*** *02:54:20.8±4.2, 34°.05N×141°.58E, h48km±37km, mb3.4/4, mb1 3.7/5, mb1mx3.1/56, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=39.3km s-min=19.7km az=96.0*

ISC 19 02:54:18.4±1.4**, 34°.05N**±0°.06×**141°.5E**±0°.1**, h24km, n12,**
σ0$81/15, mb3.9/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.76**	**323**	P	**Pn**	**02 54 33.1**	**0.0**
BSO3	**Boso 3**	**1.13**	**312**	P	**Pn**	**02 54 38.4**	**0.0**
BSO3				*e*S	**Sn**	02 54 52.2	-0.8
BSO4	**Boso 4**	**1.36**	**314**	P	**Pb**	**02 54 42.8**	**-0.3**
JKUC	**kamogawauchiur**	**1.56**	**316**	P	**Pn**	**02 54 45.3**	**+0.7**
JKUC				*e*S	**Sn**	**02 55 03.9**	**-0.1**
JMKN	**Mikurajimanish**	**1.61**	**265**	P	**Pn**	**02 54 46.1**	**+0.7**
JHJ2	**Mitsune**	**1.70**	**237**	P	**Pn**	**02 54 47.2**	**+0.6**
JHJ	**Hachijo jima 2**	**1.72**	**238**	P	**Pn**	**02 54 47.5**	**+0.6**
	86nm,0.3s,baz=63,slow=18,SNR=13						
JHJ				S	**Sb**	**02 55 10.1**	**-0.5**
	76nm,0.3s,baz=49,slow=21,SNR=7.9						
MJAR	**Matsushiro Arr**	**3.68**	**313**	P	**Pn**	**02 55 15.6**	**+1.8**
	2.3nm,0.3s,baz=161,slow=13,SNR=24						
KURBB	**Kurchatov Arra**	**47.95**	**310**	P	**P**	**03 02 55.0**	**+0.1**
	0.3nm,0.3s,baz=82,slow=7.7,SNR=2.3						
FITZ	**Fitzroy Crossi**	**54.02**	**199**	P	**P**	**03 03 41.1**	**+0.4**
	1.4nm,0.7s,baz=14,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**54.12**	**188**	P	**P**	**03 03 40.4**	**-1.1**
	0.6nm,0.4s,baz=1.8,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**57.85**	**188**	P	**P**	**03 04 07.5**	**-0.7**
	0.2nm,0.5s,baz=2.0,slow=7.0,SNR=7.0						

DDA ***19*** *02:54:54.9±0.0, 39°.34N×26°.14E, h16km, ML3.0*
ISK ***19*** *02:54:54.7, 39°.34N×26°.13E, h13km, ML3.0/7*
ATH ***19*** *02:54:54.4, 39°.35N×26°.17E, h24km±1km, ML2.9/7, Error ellipse: s-maj=2.5km s-min=1.1km az=238.0*
THE ***19*** *02:54:55.5, 39°.34N×26°.12E, h10km±1km, ML2.7/11, Error ellipse: s-maj=1.4km s-min=0.6km az=144.0*

ISC 19 02:54:55.0±0.9**, 39°.35N**±0°.02×**26°.14E**±0°.02**, h16**km±6km**,**
n56, σ0$36/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.11**	**357**	PG	**Pg**	**02 54 58.6**	**0.0**
PRK	**Paraskevi**	**0.14**	**134**	P	**Pb**	**02 54 59.6**	**+0.4**
PRK				S	**Sb**	**02 55 02.2**	**+0.1**
PRK				AML	AML	02 55 02.3	
	comp=N,66957μm,0.2s						
PRK				AML	AML	02 55 02.9	
	comp=E,33722μm,0.3s						
PRK	**Paraskevi**	**0.14**	**134**	P	**Pb**	**02 54 59.5**	**+0.2**
PRK				S	**Sb**	**02 55 02.0**	**-0.1**
	comp=E,25μm,0.2s						
KOCA	**Canakkale, Ayv**	**0.16**	**359**	P	**Pb**	**02 54 59.4**	**-0.1**
KOCA				*i* AML	AML	02 55 02.0	
	comp=E,5μm,0.4s						
KOCA				S	**Sb**	**02 55 02.6**	**0.0**
KOCA				*i* AML	AML	02 55 03.0	
	comp=E,3μm,0.2s						
SIGR	**SIGRI**	**0.26**	**239**	P	**Pg**	**02 55 00.8**	**+0.1**
SIGR				AML	AML	02 55 04.8	
	comp=N,11952μm,0.3s						
SIGR				AML	AML	02 55 06.1	
	comp=E,6738μm,0.3s						
SIGR	**SIGRI**	**0.26**	**239**	P	**Pg**	**02 55 00.7**	**+0.1**
SIGR				S	**Sg**	**02 55 04.5**	**-0.1**
	comp=E,5μm,0.3s						
AYVA	**Ayvalik**	**0.43**	**95**	P	**Pg**	**02 55 03.7**	**0.0**
AYVA				S	**Sb**	**02 55 10.2**	**-0.1**
EZN	**Ezine**	**0.50**	**16**	P	**Pb**	**02 55 05.3**	**-0.1**
EZN				S	**Sb**	**02 55 12.5**	**+0.1**
	comp=E,810nm,0.2s						
EZN	**Ezine**	**0.50**	**16**	PG	**Pb**	**02 55 05.4**	**0.0**
EZN				SG	**Sb**	**02 55 12.5**	**+0.1**
BOZC	**Bozcaada**	**0.50**	**352**	PG	**Pb**	**02 55 05.3**	**-0.1**
BOZC				SG	**Sb**	**02 55 12.3**	**-0.2**
BOZC	**Bozcaada**	**0.50**	**352**	P	**Pb**	**02 55 05.2**	**-0.2**
BOZC				S	**Sb**	**02 55 12.8**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.51**	**38**	P	**Pg**	**02 55 04.8**	**-0.2**
BAYC				S	**Sb**	**02 55 12.4**	**-0.2**
BAYC				*i* AML	AML	02 55 16.0	
	comp=E,1μm,0.2s						
DKL	**Dikili**	**0.65**	**115**	PG	**Pb**	**02 55 08.2**	**+0.2**
ECEA	**Canakkale, Ece**	**0.70**	**2**	P	**Pb**	**02 55 09.1**	**+0.4**
ECEA				S	**Sn**	**02 55 21.0**	**+0.3**
ECEA				*i* AML	AML	02 55 22.0	
	comp=E,794nm,0.3s						
ECEA				*i* AML	AML	02 55 23.0	
	comp=E,473nm,0.3s						
BUHA	**Balikesir, Bur**	**0.74**	**78**	P	**Pg**	**02 55 09.4**	**-0.1**
BUHA				*i* AML	AML	02 55 22.0	
	comp=E,837nm,0.3s						
BUHA				S	**Sn**	**02 55 22.1**	**+0.4**
BUHA				*i* AML	AML	02 55 24.0	
	comp=E,485nm,0.4s						
ZEDA	**zmir-Bergama**	**0.82**	**117**	P	**Pg**	**02 55 11.0**	**+0.1**
ZEDA				S	**Sn**	**02 55 23.0**	**-0.6**
ZEDA				*i* AML	AML	02 55 24.0	
	comp=E,318nm,0.3s						
ZEDA				*i* AML	AML	02 55 24.0	
	comp=E,415nm,0.5s						
GOKA	**anakkale-Gk**	**0.86**	**348**	P	**Pg**	**02 55 11.7**	**-0.1**
GOKA				S	**Sn**	**02 55 24.7**	**0.0**
GOKA				*i* AML	AML	02 55 26.0	
	comp=E,579nm,0.2s						
GADA	**Gvkgeada**	**0.86**	**348**	P	**Pb**	**02 55 11.4**	**-0.2**
GADA				S	**Sg**	**02 55 23.5**	**+0.3**
	comp=E,262nm,0.2s						
GADA	**Gvkgeada**	**0.86**	**348**	PG	**Pb**	**02 55 11.4**	**-0.2**
EFSA	**Agios Efstrati**	**0.91**	**283**	P	**Pn**	**02 55 13.2**	**+0.1**
LIA	**Limnos Island**	**0.92**	**307**	P	**Pn**	**02 55 13.0**	**-0.2**
LIA				S	**Sn**	**02 55 26.0**	**-0.1**
LIA				AML	AML	02 55 26.8	
	comp=E,1427μm,0.5s						
LIA				AML	AML	02 55 27.3	
	comp=N,1150μm,0.5s						
LIA	**Limnos Island**	**0.92**	**307**	P	**Pg**	**02 55 12.9**	**0.0**
LIA				S	**Sn**	**02 55 26.1**	**-0.1**
	comp=N,645nm,0.5s						
CHOS	**Chios island**	**0.96**	**184**	P	**Pb**	**02 55 13.3**	**0.0**
CHOS				S	**Sn**	**02 55 27.1**	**-0.1**
CHOS				AML	AML	02 55 29.3	
	comp=N,2094μm,0.4s						
CHOS				AML	AML	02 55 31.3	
	comp=E,2632μm,0.2s						
CHOS	**Chios island**	**0.96**	**184**	P	**Pb**	**02 55 12.8**	**-0.5**
CHOS				S	**Sg**	**02 55 26.3**	**+0.1**
	comp=E,1μm,0.3s						
CHOS	**Chios island**	**0.96**	**184**	PG	**Pg**	**02 55 13.4**	**-0.2**
URLA	**Izmir**	**1.05**	**160**	PG	**Pn**	**02 55 14.8**	**-0.2**
URLA	**Izmir**	**1.05**	**160**	P	**Pb**	**02 55 14.6**	**-0.1**
URLA				S	**Sn**	**02 55 29.4**	**+0.1**
URLA				*i* AML	AML	02 55 31.0	
	comp=E,665nm,0.5s						
URLA				*i* AML	AML	02 55 31.0	
	comp=E,557nm,0.3s						
GELI	**Tayfur-Gelibol**	**1.08**	**14**	PN	**Pg**	**02 55 15.9**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.14**	**166**	P	**Pn**	**02 55 15.7**	**-0.6**
ZEYE				S	**Sb**	**02 55 30.9**	**+0.1**
ZEYE				*i* AML	AML	02 55 34.0	
	comp=E,435nm,0.5s						
ZEYE				*i* AML	AML	02 55 35.0	
	comp=E,527nm,0.3s						
BALY	**Balya**	**1.21**	**70**	P	**Pb**	**02 55 17.7**	**+0.2**
BALY				S	**Sg**	**02 55 34.2**	**0.0**
BALY				*i* AML	AML	02 55 35.0	
	comp=E,349nm,0.3s						
BALY				*i* AML	AML	02 55 36.0	
	comp=E,233nm,0.5s						
SMTH	**Samothraki Isl**	**1.22**	**338**	P	**Pb**	**02 55 17.6**	**-0.1**
SMTH				AML	AML	02 55 35.2	
	comp=N,251μm,0.2s						
SMTH				AML	AML	02 55 36.3	
	comp=E,224μm,0.3s						
SMTH	**Samothraki Isl**	**1.22**	**338**	P	**Pb**	**02 55 17.5**	**-0.1**
SMTH				S	**Sg**	**02 55 34.7**	**+0.3**
	comp=E,120nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.22**	**88**	P	**Pb**	**02 55 17.9**	**+0.2**
STEP				S	**Sg**	**02 55 34.8**	**+0.2**
STEP				*i* AML	AML	02 55 38.0	
	comp=E,272nm,0.3s						
STEP				*i* AML	AML	02 55 44.0	
	comp=E,256nm,0.7s						
CAVK	**Edirne/Enez-Ca**	**1.34**	**1**	P	**Pb**	**02 55 19.9**	**+0.1**
CAVK				S	**Sg**	**02 55 38.4**	**0.0**
CAVK				*i* AML	AML	02 55 43.0	
	comp=E,182nm,0.8s						
CAVK				*i* AML	AML	02 55 44.0	
	comp=E,279nm,0.9s						
ERIK	**Erikli-Kesan**	**1.35**	**12**	PN	**Pb**	**02 55 19.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.37**	**40**	PN	**Pn**	**02 55 19.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**59**	PN	**Pb**	**02 55 20.3**	**-0.1**
ENEZ	**Enez**	**1.39**	**0**	P	**Pb**	**02 55 20.7**	**+0.2**
ENEZ				S	**Sg**	**02 55 39.3**	**-0.6**
	comp=E,418nm,0.5s						
ENEZ	**Enez**	**1.39**	**0**	PN	**Pb**	**02 55 20.5**	**0.0**
KNL	**Balıkesir**	**1.41**	**49**	P	**Pb**	**02 55 20.8**	**-0.2**
KNL				S	**Sg**	**02 55 39.7**	**-0.8**
KNL				*i* AML	AML	02 55 42.0	
	comp=E,255nm,0.5s						
KNL				*i* AML	AML	02 55 44.0	
	comp=E,216nm,0.7s						
ALN	**Alexandroupoli**	**1.55**	**357**	P	**Pn**	**02 55 22.4**	**+0.4**
ALN				AML	AML	02 55 46.9	
	comp=N,292μm,0.4s						
ALN				AML	AML	02 55 48.6	
	comp=E,245μm,0.3s						
ALN	**Alexandroupoli**	**1.55**	**357**	P	**Pn**	**02 55 22.3**	**+0.4**
ALN				S	**Sb**	**02 55 42.7**	**0.0**
	comp=E,135nm,0.4s						
ALN	**Alexandroupoli**	**1.55**	**357**	PN	**Pn**	**02 55 22.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.56**	**30**	PN	**Pb**	**02 55 23.1**	**-0.4**
MAR3	**Marsite Statio**	**1.65**	**32**	PN	**Pb**	**02 55 24.3**	**-0.8**
THAS	**Thassos island**	**1.67**	**320**	P	**Pb**	**02 55 24.6**	**-0.7**
THAS				AML	AML	02 55 50.0	
	comp=N,262μm,0.4s						
THAS				AML	AML	02 55 50.1	
	comp=E,225μm,0.4s						
THAS	**Thassos island**	**1.67**	**320**	P	**Pn**	**02 55 23.7**	**+0.2**
THAS				S	**Sb**	**02 55 45.8**	**-0.2**
	comp=E,122nm,0.4s						
UKOP	**Uzunkopru-Edir**	**1.82**	**12**	PN	**Pb**	**02 55 26.8**	**-1.1**
RDO	**Rodhopi**	**1.86**	**346**	P	**Pn**	**02 55 26.9**	**+0.8**
RDO				S	**Sn**	**02 55 49.3**	**+0.1**
	comp=E,58nm,0.2s						
RDO	**Rodhopi**	**1.86**	**346**	PN	**Pn**	**02 55 26.9**	**+0.8**
PAIG	**Paliouri**	**1.99**	**288**	P	**Pn**	**02 55 29.1**	**+1.2**
KAVA	**Kavala**	**2.07**	**323**	P	**Pn**	**02 55 29.6**	**+0.6**
KAVA	**Kavala**	**2.07**	**323**	P	**Pn**	**02 55 29.3**	**+0.3**
KOKK	**Kokkinochori,**	**2.21**	**313**	P	**Pn**	**02 55 31.6**	**+0.6**
KOKK	**Kokkinochori,**	**2.21**	**313**	P	**Pn**	**02 55 31.2**	**+0.3**
EDRB	**Edirne**	**2.54**	**10**	P	**Pn**	**02 55 35.8**	**+0.3**

IDC ***19*** *02:54:57.3±1.0, 29°.50N×101°.89E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.4/64, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=53.0km s-min=17.6km az=56.0*
NEIC ***19*** *02:54:59.3±1.9, 29°.6N±0°.1×102°.1E±0°.1, h10km±1km, mb4.1/11, Error ellipse: s-maj=25.0km s-min=16.9km az=199.0*

ISC 19 02:54:58.2±0.9**, 29°.5N**±0°.1×**102°.0E**±0°.1**, h10**km**, n19,**
σ1$05/16, mb4.0/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.54**	**82**	Pn	**Pn**	**02 56 34.7**	**+0.2**
DLV	**T Lat**	**18.49**	**160**	P	**P**	**02 59 13.6**	**-1.1**
DLV				IAmb	IAmb	02 59 22.2	
	comp=E,9.0nm,0.4s						
SONM	**Songino Array**	**18.61**	**9**	P	**Pn**	**02 59 17.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=5.9						
SONM	**Songino Array**	**18.61**	**9**	IAmb	IAmb	02 59 21.3	
	comp=Z,2.8nm,1.3s						
MK31	**Makanchi Array**	**23.09**	**324**	P	**P**	**03 00 02.4**	**-1.6**
MKAR	**Makanchi Array**	**23.09**	**324**	P	**P**	**03 00 05.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=123,slow=11,SNR=5.5						
MAKZ	**Makanchi**	**23.26**	**323**	P	**P**	**03 00 06.1**	**+0.3**
MAKZ				IAmb	IAmb	03 00 50.1	
	comp=Z,4.9nm,1.7s						
ZAA0	**Zalesovo Array**	**27.43**	**338**	P	**P**	**03 00 44.1**	**+0.1**
ZAA0				IAmb	IAmb	03 01 13.5	
	comp=Z,3.9nm,1.3s						
ZALV	**Zalesovo Beam**	**27.43**	**338**	P	**P**	**03 00 43.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=148,slow=14,SNR=3.5						
KURBB	**Kurchatov Arra**	**27.49**	**327**	P	**P**	**03 00 44.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=130,slow=10.0,SNR=5.3						
KURK	**Kurchatov**	**27.51**	**327**	P	**P**	**03 00 44.4**	**-0.3**
KURK	**Kurchatov**	**27.51**	**327**	IAmb	IAmb	03 00 44.6	
	comp=Z,6.8nm,1.7s						
USRK	**Ussuriysk Ar.**	**27.93**	**50**	P	**P**	**03 00 46.6**	**-1.8**
GEYT	**Alibeck**	**37.18**	**295**	P	**P**	**03 02 09.4**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=103,slow=19,SNR=4.5						
GEYT	**Alibeck**	**37.18**	**295**	IAmb	IAmb	03 02 14.0	
	comp=Z,2.8nm,0.9s						
WRAB	**Tennant Creek**	**58.21**	**144**	P	**P**	**03 04 54.2**	**+1.5**
WRA	**Warramunga Arr**	**58.22**	**144**	P	**P**	**03 04 53.9**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=333,slow=7.7,SNR=30						
WB2	**Warramunga Arr**	**58.22**	**144**	P	**P**	**03 04 53.0**	**+0.2**
ASAR	**Alice Springs**	**61.12**	**146**	P	**P**	**03 05 13.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=327,slow=6.8,SNR=10						

DJA ***19*** *03:05:50.7±0.5, 10°.3S×11°.9E±°, h17km±4km, M4.7/22, mb4.8/15, mB5.1/7, MLv4.7/22, Mw(mB)4.5/7*
IDC ***19*** *03:05:51.6±3.5, 10°.14S×119°.45E, h55km±32km, mb3.7/4, mb1 3.9/9, mb1mx3.5/50, mbtmp4.0/9, ML4.1/5, MS3.8/3, Ms1 3.8/3, ms1mx3.4/74, Error ellipse: s-maj=33.4km s-min=13.0km az=59.0*
NEIC ***19*** *03:05:51.7±2.4, 10°.19S±0°.09×119°.53E±0°.09, h59km±7km, mb4.1/8, Error ellipse: s-maj=14.3km s-min=10.9km az=221.0*

ISC 19 03:05:50.5±0.6**, 10°.22S**±0°.05×**119°.55E**±0°.04**, h50**km**, n66,**
σ2$24/70, mb4.0/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.59**	**345**	P	**Pn**	**03 06 00.8**	**-2.1**
WBSI				S	**Sn**	**03 06 09.0**	**-2.9**
BASI	**Baing, Sumba**	**1.01**	**90**	P	**Pn**	**03 06 11.4**	**+3.0**
PLAI	**Plampang**	**2.23**	**308**	P	**Pn**	**03 06 25.5**	**+0.6**
PLAI	**Plampang**	**2.23**	**308**	P	**Pn**	**03 06 26.3**	**+1.4**
MMRI	**Maumere**	**3.08**	**60**		**Pn**	**03 06 38.0**	**+1.3**
MMRI	**Maumere**	**3.08**	**60**	P	**Pn**	**03 06 40.6**	**+3.9**
BATI	**Baumata**	**4.05**	**90**	P	**Pn**	**03 06 53.5**	**+3.5**
	20nm,0.3s,baz=302,slow=19,SNR=2.6						
BATI				S	**Sn**	**03 07 40.2**	**+3.9**
	42nm,0.3s,baz=303,slow=20,SNR=7.2						
BATI	**Baumata**	**4.05**	**90**	P	**Pn**	**03 06 53.4**	**+3.4**
BSSI	**Bau Bau, Buton**	**4.15**	**13**	P	**Pn**	**03 06 53.3**	**+1.9**
DNP	**Denpasar**	**4.54**	**289**	P	**Pn**	**03 06 59.5**	**+2.8**
IGBI	**Denpasar**	**4.56**	**287**	P	**Pn**	**03 06 56.1**	**-0.8**
IGBI				S	**Sn**	**03 07 47.3**	**-1.4**
SRBI	**Singaraja**	**4.77**	**296**	P	**Pn**	**03 07 02.3**	**+2.4**
BKSI	**Bulukumba**	**4.90**	**7**	P	**Pn**	**03 07 03.4**	**+1.8**
BKSI				S	**Sn**	**03 07 57.8**	**+0.8**
KAPI	**Kappang**	**5.17**	**2**	P	**Pn**	**03 07 07.5**	**+2.1**
	19nm,0.3s,baz=173,slow=12,SNR=54						
KAPI				S	**Sn**	**03 08 03.1**	**-0.7**
	11nm,0.3s,baz=32,slow=23,SNR=15						
KAPI				LR	LR	03 09 20.9	
	comp=Z,424nm,20.2s,baz=198,slow=41						
KAPI	**Kappang**	**5.17**	**2**	Pn	**Pn**	**03 07 06.8**	**+1.4**
KAPI	**Kappang**	**5.17**	**2**	P	**Pn**	**03 07 07.9**	**+2.5**
BBSI	**Bau Bau**	**5.57**	**33**	P	**Pn**	**03 07 12.4**	**+1.5**
	0.0nm13nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.60**	**288**	Pn	**Pn**	**03 07 12.8**	**+1.6**
JAGI	**Jajag, Banyuwa**	**5.60**	**288**	P	**Pn**	**03 07 10.7**	**-0.5**
	1.0nm3μm161nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.60**	**288**	P	**Pn**	**03 07 14.5**	**+3.3**
ABJI	**Asem Bagus**	**5.77**	**294**	P	**Pn**	**03 07 14.2**	**+0.6**
	0.9nm3μm118nm,0.9s						
BNSI	**Bone**	**5.80**	**6**	P	**Pn**	**03 07 16.5**	**+2.4**
	0.6nm1μm59nm,0.7s						
SPSI	**Sidrap Palu**	**6.21**	**2**	P	**Pn**	**03 07 21.2**	**+1.5**
	0.2nm944nm54nm,0.6s						
GMJI	**Gumukmas**	**6.33**	**287**	P	**Pn**	**03 07 22.7**	**+1.5**
	0.5nm2μm114nm,0.8s						
KMMI	**Kalianget**	**6.35**	**299**	P	**Pn**	**03 07 22.8**	**+1.3**
	0.2nm36nm,0.8s						
BLJI	**Banyuglugur**	**6.37**	**292**	P	**Pn**	**03 07 22.1**	**+0.3**
	0.4nm2μm75nm,0.9s						
TTSI	**Tana Toraja**	**7.13**	**2**	P	**Pn**	**03 07 33.9**	**+1.7**
	0.2nm68nm,0.8s						
PWJI	**Pagerwojo**	**7.95**	**285**	P	**Pn**	**03 07 44.7**	**+1.2**
	0.3nm46nm,0.7s						
BBKI	**Banjar Baru**	**8.18**	**325**	P	**Pn**	**03 07 47.0**	**+0.4**
	40nm,0.9s						
PCJI	**Pacitan**	**8.50**	**283**	P	**Pn**	**03 07 51.0**	**-0.1**
	67nm,0.7s						
UGM	**Wanagama**	**9.20**	**284**		**Pn**	**03 08 02.2**	**+1.6**
UGM	**Wanagama**	**9.20**	**284**	P	**Pn**	**03 08 00.7**	**0.0**
	95nm,1.4s						
UGM	**Wanagama**	**9.20**	**284**	P	**Pn**	**03 08 02.7**	**+2.0**
	71nm,0.8s						
FITZ	**Fitzroy Crossi**	**9.81**	**144**	P	**Pn**	**03 08 10.3**	**+1.3**
	0.8nm,0.3s,baz=335,slow=13,SNR=23						
FITZ				S	**Sn**	**03 09 52.7**	**-5.0**
	2.9nm,0.3s,baz=6.9,slow=24,SNR=13						
FITZ				LR	LR	03 13 21.1	
	comp=Z,366nm,19.8s,baz=326,slow=45						
KNRA	**Kununurra**	**10.49**	**122**	Pn	**Pn**	**03 08 19.1**	**+0.7**
KNRA	**Kununurra**	**10.49**	**122**	P	**Pn**	**03 08 19.8**	**+1.5**
PSA00	**Pilbara Seismi**	**11.30**	**179**	Pn	**Pn**	**03 08 30.2**	**+0.9**
PSA00	**Pilbara Seismi**	**11.30**	**179**		**Pn**	**03 08 29.4**	**+0.2**
PSA00	**Pilbara Seismi**	**11.30**	**179**	P	**Pn**	**03 08 30.2**	**+0.9**
MTN	**Manton Dam**	**11.65**	**104**	Pn	**Pn**	**03 08 33.7**	**-0.5**
MTN	**Manton Dam**	**11.65**	**104**	P	**Pn**	**03 08 35.1**	**+0.9**
GIRL	**Giralia**	**13.36**	**202**	Pn	**Pn**	**03 08 57.7**	**+0.2**
GIRL	**Giralia**	**13.36**	**202**	P	**Pn**	**03 08 58.7**	**+1.2**
FAKI	**Fak Fak**	**14.55**	**61**	Pn	**Pn**	**03 09 12.5**	**-1.0**
FAKI	**Fak Fak**	**14.55**	**61**	P	**Pn**	**03 09 13.5**	**0.0**
MEEK	**Meekatharra**	**16.36**	**183**	P	**P**	**03 09 38.7**	**-0.3**
WRKA	**Warakurna**	**16.92**	**152**	P	**P**	**03 09 45.7**	**+0.4**
WB0	**Warramunga Arr**	**17.19**	**125**	Pn	**Pn**	**03 09 46.8**	**-0.4**
WB0				IAmb	IAmb	03 10 13.4	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**17.23**	**126**	P	**Pn**	**03 09 48.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=297,slow=13,SNR=21						
WRA				S	**Sn**	**03 12 48.7**	**-10**
	comp=Z,0.4nm,0.3s,baz=303,slow=23,SNR=5.3						
WB2	**Warramunga Arr**	**17.25**	**126**	Pn	**Pn**	**03 09 47.4**	**-0.5**
WB2				IAmb	IAmb	03 09 59.4	
	comp=Z,26nm,1.5s						
WR0	**Warramunga Arr**	**17.41**	**126**		**Pn**	**03 09 50.5**	**+0.6**
WR0				IAmb	IAmb	03 10 08.8	
	comp=Z,8.3nm,0.8s						
MNAI	**Manna**	**17.45**	**288**	P	**P**	**03 09 53.5**	**+2.4**
AS31	**Alice Springs**	**19.15**	**136**	P	**P**	**03 10 10.3**	**+0.5**
ASAR	**Alice Springs**	**19.15**	**136**	P	**Pn**	**03 10 13.2**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=317,slow=12,SNR=18						
ASAR				S	**S**	**03 13 39.2**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=25,SNR=8.0						
ASAR	**Alice Springs**	**19.15**	**136**	P	**P**	**03 10 10.2**	**+0.5**
COEN	**Coen**	**23.40**	**102**	P	**P**	**03 10 55.9**	**+0.8**
H08S2	**Diego Garcia H**	**46.52**	**269**	T	T	04 03 41.1	
	baz=96,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**46.53**	**269**	T	T	04 03 40.1	
	baz=96,slow=76,SNR=15						
H08S1	**Diego Carcia H**	**46.54**	**269**	T	T	04 03 40.9	
	baz=96,slow=76,SNR=4.4						
SONM	**Songino Array**	**58.96**	**350**	P	**P**	**03 15 45.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=183,slow=8.4,SNR=3.8						
MK31	**Makanchi Array**	**65

	baz=236							
SLIU				*e*S	**Sb**	03 18 46.7	-0.8	
	baz=236							
FULB	**Fuli**	**0.66**	**352**	*e*P	**Pn**	03 18 38.5	-1.9	
	baz=340							
FULB				*e*S	**Sb**	03 18 47.2	-1.0	
	baz=340							
MASBT	**Mashibuluo**	**0.71**	**276**	⇓*i*P	**Pn**	03 18 39.3	-1.6	
	baz=272							
TSMG	**Majia**	**0.71**	**284**	⇓P	**Pn**	03 18 39.1	-1.9	
	baz=280							
SMST	**Manzhou Townsh**	**0.73**	**225**	⇓*i*P	**Pb**	03 18 40.3	-0.2	
	baz=213							
SMST				S	**Sb**	03 18 49.7	-0.4	
	baz=213							
ELDTW	**Lidau**	**0.73**	**332**	⇑*i*P	**Pn**	03 18 38.8	-2.7	
	baz=324							
SSD	**Sandimen**	**0.73**	**286**	⇓*i*P	**Pn**	03 18 39.4	-1.9	
	baz=283							
SCZT	**Fangliau**	**0.74**	**257**	⇓*i*P	**Pn**	03 18 40.0	-1.3	
	baz=253							
SSPT	**Xinbi**	**0.77**	**266**	*e*P	**Pn**	03 18 40.9	-0.9	
	baz=258							
ECBN	**Changbin**	**0.78**	**4**	*e*P	**Pn**	03 18 40.4	-1.4	
	baz=12							
ECBN				*e*S	**Sn**	03 18 50.2	-2.6	
	baz=12							
TSEB	**Hengchuen, Pin**	**0.78**	**216**	*e*P	**Pb**	03 18 42.6	+1.2	
	baz=216							
TSEB				S	**Sn**	03 18 52.8	-0.1	
	baz=216							
TWKBT	**Hengchun**	**0.80**	**222**	P	**Pn**	03 18 41.3	-1.0	
	baz=211							
TWKBT				S	**Sb**	03 18 51.8	-0.4	
	baz=211							
TWK1	**Hengchun**	**0.81**	**223**	*e*P	**Pb**	03 18 41.5	-0.3	
	baz=211							
TWK1				*e*S	**Sn**	03 18 51.7	-1.8	
	baz=211							
EYUL	**Yuli**	**0.81**	**355**	*e*P	**Pn**	03 18 41.0	-1.3	
	baz=345							
HEN	**Hengchun**	**0.81**	**229**	*e*P	**Pb**	03 18 41.5	-0.2	
	baz=226							
HEN				*e*S	**Sb**	03 18 52.5	+0.2	
	baz=226							
TWF1	**Yuli**	**0.81**	**354**	*e*P	**Pn**	03 18 40.2	-2.2	
	baz=345							
TSPT	**Pingtung City**	**0.84**	**280**	*e*P	**Pb**	03 18 43.3	+1.0	
	baz=276							
STYH	**Taoyuan**	**0.85**	**318**	⇑P	**Pn**	03 18 41.4	-1.5	
	baz=324							
YULB	**Yu-li**	**0.85**	**354**	*e*P	**Pn**	03 18 40.4	-2.6	
	baz=345							
SGLT	**Jiouru**	**0.86**	**283**	*e*P	**Pb**	03 18 43.9	+1.3	
	baz=282							
STYT	**Tauyuan**	**0.86**	**317**	⇑*i*P	**Pn**	03 18 41.4	-1.7	
	baz=323							
SCST	**Cishan**	**0.90**	**293**	*e*P	**Pn**	03 18 43.2	-0.3	
	baz=288							
SGST	**Jiashian**	**0.92**	**306**	*e*P	**Pn**	03 18 42.7	-1.2	
	baz=304							
SGST				*e*S	**Sn**	03 18 54.6	-1.8	
	baz=304							
TWM1	**Shoushan**	**0.94**	**288**	*e*P	**Pb**	03 18 44.5	+0.4	
	baz=287							
HGSD	**Ruisui**	**0.95**	**2**	*e*P	**Pn**	03 18 42.7	-1.6	
	baz=16							
WLCH	**Liuqiu**	**0.96**	**259**	*e*P	**Pb**	03 18 46.8	+2.5	
	baz=242							
EHY	**Hungye**	**0.96**	**356**	*e*P	**Pn**	03 18 42.1	-2.4	
	baz=347							
KAU	**Kaohsiung**	**1.01**	**272**	*e*P	**Pb**	03 18 47.0	+1.8	
	baz=269							
WTP	**Ta-pu**	**1.01**	**314**	⇑*i*P	**Pn**	03 18 44.8	-0.3	
	baz=321							
CHN1	**Nanshi**	**1.03**	**309**	⇑*i*P	**Pb**	03 18 45.6	0.0	
	baz=313							
CHN1				S	**Sn**	03 18 58.5	-0.5	
	baz=313							
YUS	**Yu-Shan**	**1.03**	**337**	*e*P	**Pn**	03 18 44.3	-1.5	
	baz=331							
TPUB	**Ta-pu**	**1.04**	**317**	⇑*i*P	**Pn**	03 18 45.1	-0.4	
	baz=316							
TPUB				*e*S	**Sb**	03 18 59.5	+0.6	
	baz=316							
SNST	**Tainan City**	**1.07**	**309**	*e*P	**Pn**	03 18 45.9	0.0	
	baz=307							
SNST				*e*S	**Sn**	03 18 59.8	-0.2	
	baz=307							
SHHT	**Tainan City**	**1.08**	**297**	*e*P	**Pb**	03 18 47.7	+1.3	
	baz=294							
SHHT				*e*S	**Sb**	03 19 03.4	+3.3	
	baz=294							
CHN3	**Shinhua**	**1.09**	**300**	*e*P	**Pb**	03 18 47.7	+1.1	
	baz=298							
CHN4	**Tsaushan**	**1.10**	**318**	⇑*i*P	**Pn**	03 18 46.2	-0.1	
	baz=316							
CHN4				*e*S	**Sb**	03 19 01.7	+1.1	
	baz=316							
TWK	**Hsinying**	**1.11**	**311**	P	**Pn**	03 18 46.5	0.0	
	baz=319							
TWK				*e*S	**Sn**	03 19 00.1	-0.9	
	baz=319							
ALS	**Alishan**	**1.11**	**331**	⇑*i*P	**Pn**	03 18 45.9	-0.9	
	baz=330							
EGFH	**Guangfu**	**1.12**	**1**	*e*P	**Pn**	03 18 47.1	+0.4	
	baz=351							
TEGC	**Jichi Village**	**1.17**	**6**	*e*P	**Pn**	03 18 46.9	-0.4	
	baz=18							
VWDT	**VWDT**	**1.23**	**349**	*e*P	**Pn**	03 18 46.9	-1.2	
	baz=357							
CHN5	**Tsauling**	**1.24**	**328**	*e*P	**Pn**	03 18 48.5	+0.1	
	baz=327							
ESL	**Shilin**	**1.27**	**2**	*e*P	**Pn**	03 18 46.7	-1.9	
	baz=353							
SCLT	**Jiali**	**1.28**	**300**	*e*P	**Pn**	03 18 48.8	+0.1	
	baz=297							
SCLT				*e*S	**Sb**	03 19 05.7	-0.1	
	baz=297							
CHN2	**Minshiung**	**1.30**	**320**	*e*P	**Pn**	03 18 49.2	+0.2	
	baz=316							
CHN2				*e*S	**Sn**	03 19 06.5	+0.7	
	baz=316							
CHY	**Chiayi**	**1.31**	**317**	*e*P	**Pn**	03 18 49.1	0.0	
	baz=314							
CHY				*e*S	**Sn**	03 19 06.2	+0.3	
	baz=314							
SSLB	**Suanglung**	**1.31**	**342**	⇑*e*P	**Pn**	03 18 48.3	-0.9	
	baz=351							
ICHU	**Yijhu**	**1.31**	**309**	*e*P	**Pn**	03 18 49.8	+0.5	
	baz=306							
ICHU				*e*S	**Sn**	03 19 06.3	+0.3	
	baz=306							
TEYL	**Yanliau Villag**	**1.34**	**8**	*e*P	**Pn**	03 18 49.3	-0.3	
	baz=355							
CHN8	**Yiju**	**1.36**	**307**	*e*P	**Pn**	03 18 50.4	+0.6	
	baz=304							
CHN8				*e*S	**Sb**	03 19 07.8	-0.2	
	baz=304							
WGK	**Gukeng**	**1.38**	**326**	*e*P	**Pn**	03 18 50.9	+0.8	
	baz=325							
WDLH	**Douliu**	**1.39**	**326**	*e*P	**Pn**	03 18 50.8	+0.5	
	baz=324							
WJS	**Zhushan**	**1.42**	**334**	*e*P	**Pn**	03 18 51.5	+0.8	
	baz=333							
ETM	**Tongmen**	**1.42**	**4**	*e*P	**Pn**	03 18 49.5	-1.2	
	baz=4.0							
OWD	**Renai**	**1.42**	**352**	*e*P	**Pn**	03 18 49.8	-1.1	
	baz=3.0							
TYC	**Yuchr**	**1.45**	**340**	*e*P	**Pn**	03 18 51.5	+0.4	
	baz=340							
WUSB	**Renai**	**1.47**	**350**	*e*P	**Pn**	03 18 51.4	-0.1	
	baz=360							
WTK	**Tuku**	**1.47**	**321**	⇑*e*P	**Pn**	03 18 51.9	+0.4	
	baz=318							
WTK				*e*S	**Sb**	03 19 11.1	-0.3	
	baz=318							
WNT	**Mingjian**	**1.48**	**334**	*e*P	**Pb**	03 18 52.7	-0.6	
	baz=333							
WNT1	**Nantou City**	**1.51**	**334**	*e*P	**Pn**	03 18 52.7	+0.7	
	baz=333							
WPL	**Puli Township**	**1.52**	**345**	*e*P	**Pn**	03 18 52.5	+0.4	
	baz=357							
CHGB	**Renai**	**1.53**	**352**	*e*P	**Pn**	03 18 51.7	-0.8	
	baz=4.0							
WSF	**Szhu**	**1.54**	**316**	*e*P	**Pn**	03 18 52.6	+0.3	
	baz=312							
WSF				*e*S	**Sn**	03 19 11.8	+0.3	
	baz=312							
TWD	**Chiawan**	**1.54**	**7**	*e*P	**Pn**	03 18 51.2	-1.3	
	baz=355							
DPDB	**Guoxing**	**1.55**	**344**	*e*P	**Pn**	03 18 53.1	+0.6	
	baz=356							
WCS	**Beigang Elemen**	**1.57**	**344**	*e*P	**Pn**	03 18 53.1	+0.3	
	baz=343							
WHF	**Hehuan Shan**	**1.60**	**356**	*e*P	**Pn**	03 18 52.8	-0.8	
	baz=7.0							
ETL	**Fush Village**	**1.63**	**7**	*e*P	**Pn**	03 18 54.0	+0.4	
	baz=356							
WWF	**Wufeng**	**1.63**	**337**	*e*P	**Pn**	03 18 53.9	+0.3	
	baz=334							
WWF				*e*S	**Sb**	03 19 15.7	-0.2	
	baz=334							
NACB	**Ninganchiao**	**1.64**	**6**	*e*P	**Pn**	03 18 53.0	-0.7	
	baz=356							
WRL	**Guolierlin Hig**	**1.65**	**326**	*e*P	**Pn**	03 18 54.2	+0.3	
	baz=324							
ETLH	**Xiulin Townshi**	**1.66**	**3**	*e*P	**Pn**	03 18 54.3	+0.2	
	baz=2.0							
WCHH	**Zhanghua**	**1.72**	**334**	*e*P	**Pn**	03 18 55.0	+0.3	
	baz=315							
TWT	**Tachien**	**1.72**	**353**	*e*P	**Pb**	03 18 56.4	-1.1	
	baz=3.0							
TCU	**Taichung**	**1.73**	**338**	*e*P	**Pn**	03 18 55.6	+0.6	
	baz=337							
WDGT	**Dungji**	**1.75**	**294**	*e*P	**Pn**	03 18 55.0	-0.3	
	baz=291							
WDGT				*e*S	**Sn**	03 19 14.8	-2.1	
	baz=291							
WHP	**Taichung City**	**1.78**	**347**	*e*P	**Pn**	03 18 56.8	+1.1	
	baz=357							
NNSB	**Datong**	**1.88**	**360**	*e*P	**Pn**	03 18 57.0	-0.1	
	baz=9.0							
TWQ1	**Liyutan**	**1.89**	**343**	*e*P	**Pn**	03 18 58.2	+1.0	
	baz=339							
TWQ1				*e*S	**Sn**	03 19 21.4	+1.1	
	baz=339							
NNS	**Nan Shan**	**1.89**	**359**	*e*P	**Pn**	03 18 57.8	+0.4	
	baz=9.0							
ENA	**Nanau**	**1.91**	**10**	*e*P	**Pn**	03 18 56.6	-0.8	
	baz=358							
EWUT	**Wuta**	**1.93**	**10**	*e*P	**Pn**	03 18 57.5	-0.3	
	baz=358							
WDJ	**Dajia District**	**1.93**	**339**	*e*P	**Pn**	03 18 58.5	+0.7	
	baz=338							
VCHM	**Qimei**	**1.93**	**291**	*e*P	**Pn**	03 18 57.4	-0.4	
	baz=287							
VCHM				*e*S	**Sn**	03 19 18.8	-2.5	
	baz=287							
PHUB	**P'eng-hu**	**1.94**	**300**	*e*P	**Pn**	03 18 57.4	-0.5	
	baz=297							
PHUB				*e*S	**Sn**	03 19 19.3	-2.2	
	baz=297							
NSY	**Sanyi**	**1.96**	**343**	*e*P	**Pn**	03 18 59.3	+1.2	
	baz=342							
PNG	**Penghu**	**1.98**	**301**	*e*P	**Pn**	03 18 58.2	-0.3	
	baz=298							
PNG				*e*S	**Sn**	03 19 20.9	-1.6	
	baz=298							
LATG	**Datong**	**1.99**	**3**	*e*P	**Pn**	03 18 58.0	-0.7	
	baz=2.0							
NDT	**Datong Townshi**	**2.06**	**3**	*e*P	**Pn**	03 19 00.7	+1.2	
	baz=2.0							
NMLH	**Miaoli**	**2.06**	**345**	*e*P	**Pn**	03 19 00.1	+0.5	
	baz=343							
ENTT	**Nioudou**	**2.10**	**4**	*e*P	**Pn**	03 19 01.1	+1.0	
	baz=3.0							
NFF	**Wufeng Townshi**	**2.10**	**353**	*e*P	**Pn**	03 19 00.8	+0.6	
	baz=359							
TWC	**Suao**	**2.10**	**11**	*e*P	**Pn**	03 19 00.2	+0.1	
	baz=359							
NDS	**Dongshan**	**2.11**	**8**	*e*P	**Pn**	03 19 01.9	+1.8	
	baz=8.0							
NSTT	**Nanjuang**	**2.11**	**350**	*e*P	**Pn**	03 19 01.0	+0.7	
	baz=334							
YHNB	**Yeheng**	**2.12**	**360**	*e*P	**Pn**	03 19 00.4	-0.1	
	baz=11							
LIOB	**Emei**	**2.13**	**351**	*e*P	**Pn**	03 19 01.1	+0.7	
	baz=349							
NSK	**Sanguang**	**2.13**	**359**	*e*P	**Pn**	03 19 00.7	+0.2	
	baz=10.0							
TWE	**Neicheng**	**2.19**	**6**	*e*P	**Pn**	03 19 02.4	+1.1	
	baz=5.0							
FUSB	**Fushanzhiwuyua**	**2.22**	**5**	*e*P	**Pn**	03 19 01.8	0.0	
	baz=1.0							
FUSB				*e*S	**Sn**	03 19 28.9	+0.5	
	baz=1.0							
NWLT	**Wulai**	**2.23**	**2**	*e*P	**Pn**	03 19 02.8	+0.9	
	baz=12							
NTC	**Toucheng**	**2.34**	**10**	*e*P	**Pn**	03 19 04.8	+1.5	
	baz=359							
EGS		**2.35**	**12**	*e*P	**Pn**	03 19 04.8	+1.4	
	baz=359							
JYNG	**Yonagunijimaku**	**2.38**	**36**	P	**Pn**	03 19 03.5	-0.4	
JYNG				*e*S	**Sn**	03 19 31.0	-1.2	
YOJ	**Yonaguni jima**	**2.42**	**37**	P	**Pn**	03 19 04.9	+0.5	
YOJ				*e*S	**Sn**	03 19 32.4	-1.0	
YOJ	**Yonaguni jima**	**2.42**	**37**	*e*P	**Pn**	03 19 05.0	+0.5	
	baz=47							
YOJ				*e*S	**Sn**	03 19 31.5	-1.9	
	baz=47							
TATO	**Taipei**	**2.43**	**2**	*e*P	**Pn**	03 19 06.3	+1.8	
	baz=11							
TIPB	**Shuangxi**	**2.45**	**9**	*e*P	**Pn**	03 19 05.2	+0.2	
	baz=355							
TIPB				*e*S	**Sn**	03 19 35.2	+1.0	
	baz=355							
NWF	**Wu-fen Shan**	**2.54**	**8**	*e*P	**Pn**	03 19 07.6	+1.3	
	baz=5.0							
WFSB	**Wu-fen Shan**	**2.54**	**8**	*e*P	**Pn**	03 19 07.3	+1.1	
	baz=5.0							
SXI1	**Grass Mountain**	**2.58**	**10**	*e*P	**Pn**	03 19 07.8	+1.1	
	baz=357							
SXI1				*e*S	**Sn**	03 19 38.4	+0.9	
	baz=357							
YM01	**YM01**	**2.60**	**3**	*e*P	**Pn**	03 19 07.9	+0.9	
	baz=360							
HATJ	**Hateruma jima**	**2.68**	**55**	P	**Pn**	03 19 08.1	0.0	
HATJ				S	**Sn**	03 19 38.1	-1.7	
IRIF	**Iriomote-Funau**	**2.79**	**50**	P	**Pn**	03 19 09.9	+0.3	
IRIF				*e*S	**Sn**	03 19 42.3	-0.2	
JKRS	**Kuro-shima**	**2.94**	**54**	P	**Pn**	03 19 11.8	+0.2	
JKRS				*e*S	**Sn**	03 19 44.9	-1.2	
VWUC	**VWUC**	**3.02**	**324**	*e*P	**Pn**	03 19 12.1	-0.7	
	baz=322							
JIJ	**Ishigaki jima**	**3.11**	**54**	P	**Pn**	03 19 14.2	+0.3	
JIJ				*e*S	**Sn**	03 19 48.1	-2.2	
PTMZ	**Houxiangcun**	**3.25**	**321**	*e*P	**Pn**	03 19 13.5	-2.3	
	baz=319							
KNM	**Kinmen**	**3.30**	**305**	*e*P	**Pn**	03 19 17.9	+1.3	
	baz=301							
KNMB	**Chin-men Tao**	**3.36**	**305**	*e*P	**Pn**	03 19 17.3	-0.1	
	baz=303							
JISG	**Ishigakijimahi**	**3.36**	**52**	P	**Pn**	03 19 16.9	-0.5	
JISG				S	**Sn**	03 19 55.4	-1.2	
ZPLA	**Ao Xicun**	**3.63**	**293**	*e*P	**Pn**	03 19 20.8	-0.3	
	baz=288							
ZPLA				*e*S	**Sn**	03 20 00.1	-3.0	
	baz=288							
JTJ	**Tarama**	**3.69**	**55**	P	**Pn**	03 19 22.1	+0.2	
JTJ				S	**Sn**	03 20 03.3	-1.2	
MATB	**Ma-tsu**	**3.83**	**340**	*e*P	**Pn**	03 19 23.2	-0.7	
	baz=338							
AXDP	**Jialalang**	**3.92**	**307**	*e*P	**Pn**	03 19 24.9	-0.2	
	baz=305							
JIRB	**Irabujima**	**4.14**	**56**	P	**Pn**	03 19 28.2	0.0	
JIRB				*e*S	**Sn**	03 20 14.1	-1.8	
MHZQ	**Yeshan**	**4.15**	**329**	*e*P	**Pn**	03 19 27.9	-0.4	
	baz=328							
JMJ2	**Miyako jima3**	**4.22**	**58**	P	**Pn**	03 19 29.6	+0.4	
JMJ	**Miyako jima 2**	**4.23**	**57**	*e*P	**Pn**	03 19 29.8	+0.4	
	baz=57							
LYJJ	**Jianjiangzhen**	**4.26**	**340**	*e*P	**Pn**	03 19 30.1	+0.3	
	baz=338							
JOGS	**Gusukube**	**4.29**	**58**	P	**Pn**	03 19 30.6	+0.4	
SXFK	**Yanhouchang**	**5.14**	**319**	*e*P	**Pn**	03 19 41.4	-0.6	
	baz=317							
JOW	**Kunigami**	**7.58**	**54**	Pn	**Pn**	03 20 12.0	-3.4	
	0.4nm,0.3s,baz=231,slow=29,SNR=1.1							
JOW				Sn	**Sn**	03 21 38.4	-2.1	
	0.8nm,0.3s,baz=314,slow=28,SNR=1.9							
SONM	**Songino Array**	**27.96**	**338**	LR	LR	03 35 18.8		
	comp=Z,449nm,19.6s,baz=359,slow=37							
MKAR	**Makanchi Array**	**39.66**	**317**	P	**P**	03 25 56.3	-0.1	
	0.3nm,0.6s,baz=122,slow=9.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**41.73**	**328**	P	**P**	03 26 13.0	-0.4	
	0.7nm,0.3s,baz=124,slow=8.0,SNR=4.5							
KURBB	**Kurchatov Arra**	**43.49**	**321**	P	**P**	03 26 27.2	-0.6	
	0.2nm,0.2s,baz=172,slow=7.2,SNR=4.1							
WRA	**Warramunga Arr**	**44.07**	**162**	P	**P**	03 26 35.9	+3.2	
	0.5nm,0.9s,baz=345,slow=8.9,SNR=2.3							

IDC 19 03:25:05.3±3.2, 4.88S×132.77E, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.3/35, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=131.3km s-min=32.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.87**	**207**	Pn	Pn	03 28 36.5	-0.5
	0.1nm,0.3s,baz=22,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**15.05**	**174**	Pn	Pn	03 28 38.3	-1.1
	0.1nm,0.3s,baz=353,slow=13,SNR=1.2						
ASAR	**Alice Springs**	**18.71**	**177**	P	P	03 29 26.1	+0.3
	0.1nm,0.3s,baz=9.1,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**68.02**	**325**	P	P	03 36 06.6	0.0
	0.1nm,0.4s,baz=122,slow=7.1,SNR=2.1						

*IDC **19** 03:47:48.3±6.3, 4.07S×139.26E, h98km±56km, mb3.4/4, mb1 3.7/7, mb1mx3.2/42, mbtmp3.9/7, Error ellipse: s-maj=59.4km s-min=22.3km az=86.0*

ISC 19 03:47:47.6±1.2, 4.36S±0.09×139.2E±0.2, h100km, n7, σ2ŝ40/9, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**8.62**	**293**	P	**Pn**	**03 49 50.2**	**+0.5**
	3.7nm,0.3s,baz=80,slow=17,SNR=9.7						
WRA	**Warramunga Arr**	**16.19**	**197**	P	**P**	**03 51 32.1**	**+1.5**
	0.7nm,0.3s,baz=17,slow=13,SNR=30						
WRA				S	**Sn**	**03 54 25.4**	**-3.4**
	0.4nm,0.3s,baz=8.4,slow=24,SNR=3.3						
FITZ	**Fitzroy Crossi**	**19.02**	**223**	P	**Pn**	**03 52 05.0**	**+1.4**
	0.3nm,0.3s,baz=50,slow=12,SNR=12						
FITZ				S	**S**	**03 55 29.8**	**-2.8**
	0.9nm,0.3s,baz=176,slow=13,SNR=8.2						
ASAR	**Alice Springs**	**19.86**	**194**	P	**Pn**	**03 52 16.4**	**+3.0**
	1.4nm,0.3s,baz=22,slow=9.9,SNR=27						
KLR	**Kul'dur**	**53.76**	**354**	P	**P**	**03 56 59.1**	**-0.5**
	0.5nm,0.3s,baz=162,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**71.37**	**323**	P	**P**	**03 58 56.7**	**-0.2**
	0.8nm,0.7s,baz=116,slow=7.5,SNR=8.1						
ILAR	**Eielson Array**	**87.14**	**24**	P	**P**	**04 00 20.8**	**-1.4**
	0.2nm,0.6s,baz=276,slow=4.4,SNR=4.5						

*MOS **19** 03:59:58.0±0.9, 51.70N×173.54W, h19km, mb5.1/51, MS4.0/5, Error ellipse: s-maj=8.1km s-min=5.3km az=104.7*

*NEIC **19** 03:59:59.3±2.0, 51.8N±0.1×173.59W±0.08, h10km±1km, mb4.9/425, ML4.3(AEIC), Error ellipse: s-maj=18.6km s-min=7.5km az=172.0*

*BJI **19** 03:59:59.0±0.0, 52.22N×174.13W, h10km, mb5.0/54, mB5.0/26, Ms4.7/10, Ms7 4.4/9*

*IDC **19** 04:00:00.4±2.6, 51.58N×173.54W, h27km±17km, mb4.5/41, mb1 4.6/43, mb1mx4.5/53, mbtmp4.7/43, ML4.5/2, MS3.9/12, Ms1 3.9/12, ms1mx3.5/104, Error ellipse: s-maj=16.2km s-min=9.8km az=175.0*

*AEIC **19** 04:00:00.4±2.3, 51.5N±0.1×173.52W±0.08, h29km±4km, Error ellipse: s-maj=16.3km s-min=6.7km az=173.0*

ISC 19 04:00:01.4±0.8, 51.68N±0.07×173.59W±0.03, h29km±4km, n747, σ1ŝ10/596, mb4.9/287, MS4.1/15, 34C-24D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.58**	**284**		**Pn**	**04 00 27.9**	**+0.5**
GSTR	**Great Sitkin T**	**1.59**	**286**		**Pn**	**04 00 28.6**	**+1.0**
GSTD	**Great Sitkin T**	**1.63**	**284**		**Pn**	**04 00 28.3**	**+0.1**
GSCK	**Great Sitkin C**	**1.63**	**283**		**Pn**	**04 00 28.3**	**+0.1**
ADAG	**Mount Adagdak**	**1.90**	**280**		**Pn**	**04 00 33.0**	**+1.3**
ADK	**Adak**	**1.94**	**277**	P	**Pn**	**04 00 32.2**	**-0.1**
ADK	**Adak**	**1.94**	**277**		**Pn**	**04 00 32.1**	**-0.1**
KIWB	**Kanaga Island**	**2.22**	**276**		**Pn**	**04 00 36.9**	**+0.6**
KIKV	**Kanaga Island**	**2.24**	**277**		**Pn**	**04 00 36.9**	**+0.5**
KICM	**Kanaga Island**	**2.25**	**278**		**Pn**	**04 00 37.5**	**+0.8**
KIMD	**Kanaga Island**	**2.27**	**274**		**Pn**	**04 00 37.0**	**0.0**
TAPA	**Tanaga Point A**	**2.63**	**275**		**Pn**	**04 00 42.5**	**+0.6**
TAFL	**Tanaga Flats**	**2.68**	**273**		**Pn**	**04 00 43.4**	**+0.8**
TAFP	**Tanaga Falls P**	**2.74**	**276**		**Pn**	**04 00 44.3**	**+0.9**
TASE	**Tanaga Southea**	**2.77**	**275**		**Pn**	**04 00 44.8**	**+0.9**
NIKH	**Nikolski High**	**3.18**	**64**		**Pn**	**04 00 49.7**	**+0.3**
NIKH	**Nikolski High**	**3.18**	**64**	P	**Pn**	**04 00 49.9**	**+0.5**
	baz=244,SNR=10						
GAEA	**Gareloi East**	**3.21**	**274**		**Pn**	**04 00 51.2**	**+1.4**
GASW	**Gareloi Southw**	**3.28**	**274**		**Pn**	**04 00 50.8**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**3.79**	**61**		**Pn**	**04 00 57.9**	**0.0**
OKFG	**Magazine Ridge**	**3.88**	**61**		**Pn**	**04 00 59.2**	**+0.2**
MREP	**Makushin Rep't**	**4.67**	**60**		**Pn**	**04 01 10.9**	**+0.9**
MSW	**Makushin Switc**	**4.70**	**59**		**Pn**	**04 01 11.2**	**+0.9**
UNV	**Unalaska Valle**	**4.82**	**60**	Pn	**Pn**	**04 01 12.8**	**+0.9**
UNV	**Unalaska Valle**	**4.82**	**60**	P	**Pn**	**04 01 13.7**	**+1.8**
	baz=244,SNR=8.0						
ZRO	**Akutan Zero**	**5.20**	**59**		**Pn**	**04 01 18.7**	**+1.5**
AKSA	**Akutan Strait**	**5.37**	**60**		**Pn**	**04 01 21.1**	**+1.5**
SPIA	**Saint Paul Isl**	**5.84**	**18**	P	Pn	04 01 31.0	+5.0
	baz=200						
WESE	**West Dahl East**	**6.10**	**59**		**Pn**	**04 01 30.5**	**+0.8**
FALS	**False Pass**	**6.88**	**58**	Pn	**Pn**	**04 01 40.8**	**+0.6**
FALS	**False Pass**	**6.88**	**58**	P	Pn	04 01 44.2	+4.1
	baz=245						
SHEM	**Shemya Is, Ala**	**7.64**	**283**	LR	LR

PMR pmax pmax
comp=Z,31nm,1.5s
PMR Palmer 16.61 44 Pn **Pn 04 03 49.9 -1.9**
PMR Palmer 16.61 44 P **P 04 03 52.6 -1.5**
baz=244
PWL Port Wells 16.66 47 Pn **Pn 04 03 51.2 -1.4**
PWL Port Wells 16.66 47 P **Pn 04 03 50.7 -1.8**
baz=247
KNK Knik Glacier 16.83 45 P **Pn 04 03 53.9 -0.8**
baz=245
PET Petropavlovsk 16.98 285 *ce*P **P 04 03 58.7 +0.5**
PET Petropavlovsk 16.98 285 Pn **Pn 04 03 55.2 -1.2**
SML Sawmill 17.05 44 P **Pn 04 03 57.1 -0.3**
baz=244
TRF Thorofare Moun 17.05 37 P **P 04 03 59.5 +0.3**
baz=237
BPAW Bear Paw Mtn. 17.17 35 Pn 04 03 58.2 -0.6
BPAW Bear Paw Mtn. 17.17 35 P **P 04 04 01.7 +1.4**
baz=234,SNR=12
RDOG Red Dog Mine 17.23 14 P P 04 04 08.8 +7.8
baz=203,SNR=6.5
SCM Sheep Creek Mo 17.49 44 IAmb IAmb 04 04 20.3
comp=Z,50nm,0.8s
SCM Sheep Creek Mo 17.49 44 P **P 04 04 03.5 -0.4**
baz=246,SNR=5.2
I21K Tanana 17.50 31 P **P 04 04 05.4 +1.5**
baz=229,SNR=16
PEA0B Petropavlovsk- 17.54 286 P **Pn 04 04 02.1 -1.4**
PEA0B pmax pmax
comp=Z,29nm,1.0s
PEA0B Petropavlovsk- 17.54 286 Pn **Pn 04 04 02.1 -1.4**
PETK Petropavlovsk- 17.54 286 P **Pn 04 04 03.6 +0.1**
comp=Z,1.4nm,0.3s,baz=96,slow=13,SNR=19
PETK LR LR 04 10 07.9
comp=Z,180nm,19.2s,baz=86,slow=34
PETK Petropavlovsk- 17.54 286 P **Pn 04 04 01.4 -2.1**
PETK Petropavlovsk- 17.54 286 Pn **Pn 04 04 01.4 -2.1**
H21K Melozitna Rive 17.56 29 P **P 04 04 06.1 +1.6**
baz=227,SNR=8.3
WAT6 Susitna Watana 17.63 42 P **Pn 04 04 04.6 -0.2**
baz=243
MCK McKinley 17.72 38 P **P 04 04 05.4 -0.9**
baz=238,SNR=10.0
MLY Manley 17.81 33 P **P 04 04 08.7 +1.3**
baz=232,SNR=20
KLU Klutina 17.98 46 P **Pn 04 04 08.0 -1.1**
baz=249
DHY Denali Highway 18.01 41 Pn **Pn 04 04 05.2 -4.2**
DHY Denali Highway 18.01 41 P **Pn 04 04 08.9 -0.5**
baz=242
M24K Tolsona, Glenn 18.10 44 P **P 04 04 11.4 +0.8**
baz=247
NEA2 Nenana 18.13 35 P **P 04 04 10.6 -0.3**
baz=236,SNR=6.3
I23K Minto, Yukon-K 18.35 33 IAmb IAmb 04 04 29.4
comp=Z,39nm,0.6s
I23K Minto, Yukon-K 18.35 33 P **P 04 04 14.4 +1.1**
baz=234,SNR=41
HMT Hamilton 18.40 50 IAmb IAmb 04 04 21.7
comp=Z,86nm,1.3s
BMRM Bremner River 18.42 48 P **Pn 04 04 15.2 +0.9**
baz=252
N25K Chitina, Valde 18.62 47 P **Pn 04 04 16.5 -0.3**
baz=250
CCB Clear Creek Bu 18.62 36 IAmb IAmb 04 04 19.1
comp=Z,25nm,0.5s
MDM Murphy Dome 18.64 35 P **P 04 04 15.7 -0.7**
HARP HAARP 18.65 44 P **Pn 04 04 16.9 -0.3**
baz=247
BERG Berg Lake 18.69 51 IAmb IAmb 04 04 23.1
comp=Z,50nm,0.7s
COLA College 18.73 35 P **P 04 04 16.1 -1.2**
COLA pmax pmax
comp=Z,17nm,0.6s
COLA College 18.73 35 P **P 04 04 16.1 -1.2**
PAX Paxson 18.75 42 P **Pn 04 04 18.1 -0.2**
baz=245
HDA Harding Lake 18.82 37 P **P 04 04 17.1 -1.2**
HDA IAmb IAmb 04 04 33.3
comp=Z,42nm,0.5s
HDA Harding Lake 18.82 37 P **Pn 04 04 18.1 -0.9**
baz=240,SNR=32
POKR Poker Plat Res 19.01 35 P **Pn 04 04 21.6 +0.2**
baz=237
IL31 19.02 36 P **P 04 04 19.4 -1.2**
IL31 IAmb IAmb 04 04 22.0
comp=Z,28nm,0.5s
ILAR Eielson Array 19.02 36 P **P 04 04 19.4 -1.3**
comp=Z,8.0nm,0.3s,baz=232,slow=10,SNR=156
ILAR LR LR 04 12 18.0
comp=Z,247nm,19.1s,baz=225,slow=39
BILL Bilibino 19.11 337 ⇓*e*P **Pn 04 04 23.6 +1.1**
BILL *e*S **Sn 04 07 47.2 -8.2**
BILL pmax pmax
comp=Z,18nm,1.0s
BILL MLR MLR
comp=Z,298nm,16.0s
BILL Bilibino 19.11 337 Pn 04 04 22.3 -0.2
WAX Waxell Ridge 19.11 51 IAmb IAmb 04 04 43.4
comp=Z,46nm,1.0s
H24K Noodor Dome 19.25 33 IAmb IAmb 04 04 40.3
comp=Z,59nm,0.9s
H24K Noodor Dome 19.25 33 P **Pn 04 04 24.3 -0.1**
baz=235,SNR=40
MCARA McCarthy VSAT 19.27 48 P **Pn 04 04 24.0 -0.6**
baz=253
RIDG Independent Ri 19.32 40 IAmb IAmb 04 04 32.1
comp=Z,35nm,0.5s
RIDG Independent Ri 19.32 40 P **P 04 04 23.9 -0.1**
baz=244,SNR=16
ISLE Juniper Island 19.39 50 IAmb IAmb 04 04 33.3
comp=Z,30nm,0.7s
COLD Coldfoot 19.39 28 P **Pn 04 04 26.6 +0.6**
baz=228
J25K Salcha River, 19.51 38 IAmb IAmb 04 04 29.8
comp=Z,84nm,0.6s
J25K Salcha River, 19.51 38 P **P 04 04 25.1 -1.0**
baz=241
YAH Yahtse 19.63 51 IAmb IAmb 04 04 44.3
comp=Z,29nm,0.8s
L26K Log Cabin Wild 19.66 43 IAmb IAmb 04 04 35.4
comp=Z,22nm,0.6s
L26K Log Cabin Wild 19.66 43 P **P 04 04 27.2 -0.4**
baz=248,SNR=18
GRNC Granite Creek 19.70 50 IAmb IAmb 04 04 46.5
comp=Z,37nm,0.9s
SCRK Sand Creek 19.77 40 P **P 04 04 28.2 -0.8**
SCRK IAmb IAmb 04 04 30.1
comp=Z,36nm,0.5s
SCRK Sand Creek 19.77 40 P **P 04 04 28.0 -1.0**
baz=245,SNR=47
PRP Porcupine Dome 19.90 35 P **P 04 04 30.2 -0.2**
baz=239
TABL Table Mountain 19.93 51 IAmb IAmb 04 04 39.0
comp=Z,34nm,0.6s
CTG Chitna Glacier 19.95 50 P **P 04 04 30.6 -0.4**
baz=256
CTGM Chitina Glacie 19.96 50 IAmb IAmb 04 04 44.1
comp=Z,26nm,0.7s
M27K Edge Creek, AK 20.08 46 P **Pn 04 04 33.1 -1.1**
baz=252,SNR=8.4
LOGN Logan Glacier 20.08 50 IAmb IAmb 04 04 52.9
comp=Z,27nm,0.7s
J26L Joseph Creek 20.16 39 P **P 04 04 32.3 -0.8**
baz=244,SNR=114
PCA Pinnacle 20.30 52 IAmb IAmb 04 04 38.0
comp=Z,65nm,0.7s
PINM Pinnacle 20.31 52 P **P 04 04 34.9 +0.1**
baz=260
L27K Beaver Creek, 20.32 44 P Pn 04 04 38.5 +1.5
baz=250,SNR=24
TOLK Toolik Lake Re 20.54 25 P 04 04 37.6 +0.5
TOLK Toolik Lake Re 20.54 25 P Pn 04 04 38.2 -1.3
baz=226,SNR=20
BVCY Beaver Creek 20.55 46 P **P 04 04 37.2 -0.1**
baz=253,SNR=15
YUK3 Moose Creek 20.56 48 P **P 04 04 36.6 -1.0**
baz=255,SNR=5.3
PNL Peninsula 20.67 54 P **P 04 04 39.4 +0.7**
baz=262
A21K Barrow 21.15 15 IAmb IAmb 04 04 53.7
comp=Z,43nm,0.8s
A21K Barrow 21.15 15 P **P 04 04 44.2 +0.6**
baz=210,SNR=11
EGAK Eagle 21.22 39 P **P 04 04 44.4 -0.1**
baz=247,SNR=109
BMAR Burnt Mountain 21.24 31 P **P 04 04 44.9 +0.2**

SEY Seymchan 21.27 315 P **P 04 04 45.9 +0.9**
comp=Z,2.8nm,0.5s,baz=105,slow=11,SNR=12
SEY ScP **ScP**
comp=Z,1.0nm,0.6s,baz=4.0,slow=2.8,SNR=3.9
SEY Seymchan 21.27 315 ⇑*e*P **P 04 04 45.8 +0.8**
SEY pmax pmax
comp=Z,6.0nm,0.8s
YUK4 Talbot Arm 21.31 49 P **P 04 04 47.0 +1.2**
baz=258
YUK6 Outpost Mounta 21.37 51 P **P 04 04 47.2 +0.7**
baz=260,SNR=6.0
MA2 Magadan 21.39 306 P **P 04 04 46.9 +0.4**
comp=Z,10nm,0.7s,baz=86,slow=9.0,SNR=16
MA2 LR LR 04 13 06.2
comp=Z,295nm,18.1s,baz=101,slow=37
MA2 Magadan 21.39 306 ⇓*e*P **P 04 04 47.4 +1.0**
MA2 pmax pmax
comp=Z,23nm,1.3s
MA2 Magadan 21.39 306 P **P 04 04 46.2 -0.2**
DAWY Dawson 21.68 42 P **P 04 04 48.9 -0.6**
baz=251,SNR=14
HYT Haines Junctio 21.77 51 P **P 04 04 52.1 +1.6**
baz=261,SNR=8.0
M30M Minto, Yukon 22.42 47 P **P 04 04 57.0 -0.4**
M30M Minto, Yukon 22.42 47 P **P 04 04 57.6 +0.2**
baz=258
N31M Braeburn, Yuko 22.69 50 P **P 04 05 03.3 +3.0**
baz=261
SKAG Skagway 22.71 55 IAmb IAmb 04 05 23.2
comp=Z,19nm,0.8s
SKAG Skagway 22.71 55 P **P 04 05 00.8 +0.3**
baz=266
BESE Bessie Mountai 22.93 57 IAmb IAmb 04 05 24.8
comp=Z,30nm,0.9s
WHY Whitehorse 23.03 52 P **P 04 05 07.0 +3.1**
baz=264
JIS Juneau Island 23.18 58 IAmb IAmb 04 05 27.0
comp=Z,32nm,1.0s
M31M Drury Creek, Y 23.45 48 P **P 04 05 09.0 +1.0**
baz=261
FARO Faro, Yukon 23.94 48 P **P 04 05 13.2 +0.5**
baz=262
P33M Teslin, Yukon 24.02 53 P **P 04 05 13.8 +0.4**
baz=267,SNR=5.9
WRAK Wrangell Islan 24.39 62 IAmb IAmb 04 05 22.6
comp=Z,20nm,0.8s
WRAK Wrangell Islan 24.39 62 P **P 04 05 19.3 +2.5**
baz=276
MMPY Sheldon Lake, 24.95 48 P **P 04 05 22.2 +0.3**
baz=263,SNR=12
INK Inuvik 25.37 34 P **P 04 05 24.9 -0.7**
comp=Z,12nm,0.6s,baz=234,slow=8.4,SNR=30
INK Inuvik 25.37 34 P **P 04 05 25.3 -0.3**
INK pmax pmax
comp=Z,48nm,1.4s
INK Inuvik 25.37 34 P **P 04 05 25.3 -0.3**
INK IAmb IAmb 04 05 26.9
comp=Z,48nm,1.4s
INK Inuvik 25.37 34 P **P 04 05 25.2 -0.3**
baz=249,SNR=22
DLBC Dease Lake 25.47 57 P **P 04 05 28.6 +1.9**
comp=Z,20nm,0.9s,baz=231,slow=8.8,SNR=38
DLBC LR LR 04 15 17.3
comp=Z,321nm,20.0s,baz=273,slow=36
DLBC Dease Lake 25.47 57 IAmb IAmb 04 05 30.3
comp=Z,21nm,0.8s
TGTN Hyland Airport 26.28 50 P **P 04 05 34.4 +0.4**
baz=268,SNR=8.7
TYV Tymovskoe 27.09 286 *e*P **P 04 05 41.4 +0.1**
TYV *e*S **S 04 10 21.7 +4.4**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,6.2s
TYV smax smax
comp=N,500nm,7.5s
TYV smax smax
comp=E,200nm,7.5s
YSS Yuzh-Sakhalins 28.52 278 ⇓*e*P **P 04 05 54.9 +0.8**
YSS pmax pmax
comp=Z,59nm,1.3s
YSS Yuzh-Sakhalins 28.52 278 P **P 04 05 54.0 -0.1**
YSS IAmb IAmb 04 05 56.0
comp=Z,46nm,1.1s
A36M Sachs Harbour 29.26 28 IAmb IAmb 04 06 17.5
comp=Z,11nm,0.7s
A36M Sachs Harbour 29.26 28 P **P 04 06 00.7 +0.3**
baz=252,SNR=16
JKA Kamikawa-asahi 29.95 273 P **P 04 06 07.6 +0.7**
JKA IAmb IAmb 04 06 22.7
comp=Z,38nm,1.2s
ASAJ Asahikawa 29.95 273 P **P 04 06 07.7 +0.8**
comp=Z,21nm,0.9s,baz=345,slow=5.6,SNR=8.7
ASAJ Asahikawa 29.95 273 P **P 04 06 07.6 +0.7**
ASAJ pmax pmax
comp=Z,38nm,1.2s
ERM Erimo 30.71 269 ⇑*e*P **P 04 06 14.5 +0.9**
ERM pmax pmax
comp=Z,22nm,1.0s
GRNR Gornyy 30.83 288 ⇑*i*P **P 04 06 14.0 -0.6**
GRNR pmax pmax
comp=Z,6.0nm,0.6s
GRNR MLR MLR
comp=E,310nm,15.0s
GRNR MLR MLR
comp=N,210nm,16.0s
GRNR MLR MLR
comp=Z,240nm,16.0s
JEW Eniwo 31.33 272 P **P 04 06 19.5 +0.5**
YAK Yakutsk 31.67 311 LR LR 04 19 39.3
comp=Z,375nm,18.7s,baz=244,slow=37
YAK Yakutsk 31.67 311 *ce*P **P 04 06 22.1 +0.3**
YAK pmax pmax
comp=Z,14nm,0.7s
LLLB Lillooet 31.90 71 IAmb IAmb 04 06 42.4
comp=Z,13nm,0.9s
TIXI Tiksi 32.00 330 P **P 04 06 24.4 -0.2**
comp=Z,4.3nm,0.6s,baz=89,slow=23,SNR=16
TIXI PcP **PcP 04 09 12.9 -0.7**
comp=Z,2.0nm,0.4s,baz=270,slow=23,SNR=2.3
TIXI LR LR 04 19 57.4
comp=Z,169nm,20.9s,baz=200,slow=37
TIXI Tiksi 32.00 330 ⇓*i*P **P 04 06 24.8 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 32.00 330 P **P 04 06 23.9 -0.7**
YKA Yellowknife Ar 32.65 48 P **P 04 06 30.0 -0.4**
comp=Z,3.6nm,0.5s,baz=275,slow=7.9,SNR=129
YKA PcP **PcP 04 09 15.5 0.0**
comp=Z,0.5nm,0.4s,baz=286,slow=3.2,SNR=7.5
YKA Yellowknife Ar 32.65 48 *i* P **P 04 06 30.3 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.5s
YKA Yellowknife Ar 32.65 48 P **P 04 06 29.1 -1.3**
B05A Bryant 32.73 75 P **P 04 06 32.9 +1.7**
baz=295
D05A Enumclaw 33.27 77 IAmb IAmb 04 06 53.2
comp=Z,29nm,0.8s
B08A Colville Reser 34.35 74 P **P 04 06 46.2 +0.8**
B08A IAmb IAmb 04 07 08.2
comp=Z,16nm,0.8s
H04A Detroit Lake 34.36 81 P **P 04 06 46.0 +0.5**
H04A IAmb IAmb 04 07 01.4
comp=Z,17nm,0.8s
HOOD Mount Hood Mea 34.37 80 P **P 04 06 47.1 +1.4**
HOOD IAmb IAmb 04 07 06.9
comp=Z,17nm,0.9s
L02E Cave Junction 34.82 86 P **P 04 06 51.0 +1.5**
baz=303
ZEA Zeya 35.01 297 *e*P **P 04 06 50.0 -1.0**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,18.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
I05D Terrebonne, OR 35.06 81 P **P 04 06 52.5 +0.9**
baz=301
HAWA Hanford 35.14 77 IAmb IAmb 04 07 09.3
comp=Z,19nm,0.8s
F07A Phinny Hill Vi 35.14 78 IAmb IAmb 04 07 08.1
comp=Z,14nm,0.9s
J04D Umpqua Nationa 35.16 83 P **P 04 06 52.0 -0.6**
J04D IAmb IAmb 04 07 09.3
comp=Z,20nm,0.9s

J04D Umpqua Nationa 35.16 83 P **P 04 06 54.2 +1.5**
baz=302
D08A Wollman Farm, 35.19 75 IAmb IAmb 04 07 08.8
comp=Z,14nm,0.9s
C09A Chrisman Ranch 35.23 74 IAmb IAmb 04 07 12.8
comp=Z,9.9nm,0.8s
H11N2 WAKE ISLAND Hy 35.37 213 T T 04 45 02.1
baz=21,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 35.38 213 T T 04 45 00.4
baz=21,slow=76,SNR=40
E08A Dider Farm, El 35.38 76 IAmb IAmb 04 07 09.8
comp=Z,9.5nm,0.9s
H11N1 WAKE ISLAND Hy 35.39 213 T T 04 44 44.1
baz=21,slow=76,SNR=40
PINE Pine Mountain 35.59 82 P **P 04 06 57.5 +1.2**
YBH Yreka Blue Hor 35.61 86 P **P 04 06 57.5 +1.1**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 35.61 86 P **P 04 06 57.5 +1.1**
YBH IAmb IAmb 04 07 12.9
comp=Z,13nm,0.9s
J05D Fort Rock, OR 35.68 82 P **P 04 06 57.9 +0.9**
baz=302
NEW Newport 35.70 73 IAmb IAmb 04 07 14.5
comp=Z,18nm,0.8s
NEW Newport 35.70 73 P **P 04 06 57.4 +0.4**
baz=297,SNR=11
M02C Callahan 35.71 86 P **P 04 06 58.1 +0.9**
baz=304
E09A Wood Farm, Sta 35.92 76 IAmb IAmb 04 07 15.6
comp=Z,16nm,0.9s
N02D Trinity Center 36.04 87 IAmb IAmb 04 07 29.4
comp=Z,9.1nm,0.9s
N02D Trinity Center 36.04 87 P **P 04 07 00.8 +0.8**
baz=305
M04C Macdoel 36.12 85 IAmb IAmb 04 07 17.0
comp=Z,2nm,0.8s
M04C Macdoel 36.12 85 P **P 04 07 01.9 +1.0**
baz=304
K05A Summer Lake 36.19 83 P **P 04 07 02.9 +1.5**
K05A IAmb IAmb 04 07 17.9
comp=Z,15nm,0.8s
I07A Izee 36.32 80 IAmb IAmb 04 07 18.2
comp=Z,11nm,0.7s
O02D Mt. Diablo Mer 36.45 88 IAmb IAmb 04 07 19.9
comp=Z,14nm,0.9s
O02D Mt. Diablo Mer 36.45 88 P **P 04 07 04.7 +1.1**
baz=306
USA0B Ussuriysk Arra 36.47 280 P **P 04 07 03.1 -0.5**
USA0B pmax pmax
comp=Z,15nm,0.8s
USA0B Ussuriysk Arra 36.47 280 P **P 04 07 03.1 -0.5**
USA0B IAmb IAmb 04 07 05.0
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 36.47 280 P **P 04 07 02.9 -0.6**
comp=Z,14nm,0.6s,baz=55,slow=9.0,SNR=18
USRK Ussuriysk Ar. 36.47 280 P **P 04 07 02.3 -1.3**
H11S1 WAKE ISLAND Hy 36.57 212 T T 04 46 18.0
baz=20,slow=76,SNR=126
H11S2 WAKE ISLAND Hy 36.59 212 T T 04 46 12.2
baz=20,slow=76,SNR=40
H11S3 WAKE ISLAND Hy 36.59 213 T T 04 46 12.8
baz=20,slow=76,SNR=14
O03E Paynes Creek 36.99 87 IAmb IAmb 04 07 37.0
comp=Z,23nm,1.1s
O03E Paynes Creek 36.99 87 P **P 04 07 09.3 +1.1**
baz=305
MOD Modoc Plateau 37.01 84 IAmb IAmb 04 07 24.3
comp=Z,16nm,0.8s
MJAR Matsushiro Arr 37.05 265 P **P 04 07 07.6 -1.1**
comp=Z,2.6nm,0.4s,baz=45,slow=8.2,SNR=5.9
MAJO Matsushiro 37.05 265 ⇓*e*P **P 04 07 09.9 +1.2**
MAJO pmax pmax
comp=Z,15nm,1.2s
WALA Waterton Lakes 37.23 70 IAmb IAmb 04 07 31.7
comp=Z,12nm,0.8s
J08A Circle Bar Ran 37.34 81 IAmb IAmb 04 07 28.0
comp=Z,21nm,1.1s
JTMT Jette 37.63 72 P **P 04 07 13.9 +0.3**
MDJ Mudanjiang 37.72 282 P **P 04 07 14.3 +0.1**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.9s
WVOR Wild Horse Val 37.74 82 IAmb IAmb 04 07 31.5
comp=Z,14nm,0.8s
MSO Missoula 38.28 73 IAmb IAmb 04 07 38.7
comp=Z,14nm,1.1s
MSO Missoula 38.28 73 P **P 04 07 19.1 0.0**
baz=300
BNX BinXian 38.46 285 ⇑P **P 04 07 19.6 -0.8**
BNX pmax pmax
comp=Z,21nm,0.5s
BNX pmax pmax
comp=Z,260nm,5.8s
MPK Martis Peak 38.69 87 IAmb IAmb 04 07 38.9
comp=Z,20nm,1.0s
PAHR Pah Rah Range 38.84 86 IAmb IAmb 04 07 39.4
comp=Z,15nm,0.8s
VCNR Virginia City 38.92 87 IAmb IAmb 04 07 41.0
comp=Z,14nm,0.9s
MFID Camas Ranch 38.93 79 P **P 04 07 25.4 +0.8**
PNTR Pine Nut 39.08 87 IAmb IAmb 04 07 41.8
comp=Z,32nm,0.8s
YERR Yerington 39.36 87 IAmb IAmb 04 07 44.0
comp=Z,14nm,0.9s
HLID Hailey 39.71 78 P **P 04 07 31.6 +0.5**
baz=303
BBGB Big Mountain B 39.73 91 P **P 04 07 33.2 +2.0**
BBGB IAmb IAmb 04 07 47.0
comp=Z,41nm,1.0s
MCMT McKenzie Canyo 39.97 75 P **P 04 07 33.1 -0.3**
EGMT Eagleton 40.15 69 P **P 04 07 34.8 +0.1**
EGMT IAmb IAmb 04 07 52.4
comp=Z,46nm,0.8s
EGMT Eagleton 40.15 69 P **P 04 07 34.7 +0.1**
baz=300,SNR=17
NVAR Mina Array Bea 40.28 87 P **P 04 07 35.8 -0.1**
comp=Z,2.9nm,0.8s,baz=290,slow=8.0,SNR=17
NVAR ScP **ScP 04 13 25.6 -0.5**
comp=Z,1.1nm,0.9s,baz=282,slow=4.5,SNR=5.2
BOZ Bozeman (W) 40.29 73 P **P 04 07 35.6 -0.3**
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ Bozeman (W) 40.29 73 P **P 04 07 35.6 -0.3**
BOZ IAmb IAmb 04 07 52.8
comp=Z,12nm,0.8s
BOZ Bozeman (W) 40.29 73 P **P 04 07 35.9 -0.1**
baz=302,SNR=16
OMMB Old Mammoth Mi 40.35 88 P **P 04 07 38.0 +1.4**
PAGB Antelope Grade 40.76 92 IAmb IAmb 04 07 55.1
comp=Z,21nm,0.7s
ELK Elko 40.80 82 P **P 04 07 40.6 +0.4**
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 40.80 82 P **P 04 07 40.6 +0.4**
YHL Hebgen Lake 40.96 74 IAmb IAmb 04 08 01.4
comp=Z,17nm,1.0s
HIA Hailar 41.17 294 *d*iP **P 04 07 42.4 -0.6**
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 41.17 294 P **P 04 07 41.7 -1.2**
HIA IAmb IAmb 04 07 42.9
comp=Z,13nm,0.7s
TIN Tinemaha, Big 41.18 88 P **P 04 07 45.7 +2.4**
baz=309
YMR Madison River 41.19 74 IAmb IAmb 04 08 00.5
comp=Z,16nm,1.0s
YHH Holmes Hill 41.19 74 IAmb IAmb 04 08 00.5
comp=Z,17nm,0.8s
FFC Flin Flon 41.29 57 P **P 04 07 43.7 -0.1**
FFC pmax pmax
comp=Z,15nm,0.8s
FFC Flin Flon 41.29 57 P **P 04 07 43.7 -0.1**
FFC IAmb IAmb 04 07 44.7
comp=Z,15nm,0.8s
YNR Norris Junctio 41.33 74 IAmb IAmb 04 08 02.3
comp=Z,17nm,0.9s
YUF Upper Falls 41.44 74 P **P 04 07 46.5 +1.1**
H17A Grant Village 41.57 74 P **P 04 07 48.3 +1.8**
baz=303,SNR=7.0
LKWY Lake 41.58 74 IAmb IAmb 04 08 05.4
comp=Z,20nm,0.8s
CWC Cottonwood Cre 41.66 89 P **P 04 07 48.4 +1.1**
baz=309
GRAC Grapevine Rang 41.75 88 P **P 04 07 49.5 +1.6**
baz=309

ISA	Isabella, Lake	41.91	90	P	P	04 07 51.8	+2.6
	baz=310						
RLMT	Red Lodge	41.95	73	IAmb	IAmb	04 08 06.3	
	comp=Z,14nm,0.8s						
RLMT	Red Lodge	41.95	73	P	P	04 07 50.2	+0.5
	baz=303						
SNOW	Snow King Moun	41.98	76	P	P	04 07 50.5	+0.5
R11A	Troy Canyon, C	42.02	85	P	P	04 07 50.0	-0.2
	baz=308						
MPMC	Manual Prospec	42.27	89	P	P	04 07 52.7	+0.4
	baz=310						
FURC	Furnace Creek,	42.40	88	P	P	04 07 54.5	+1.5
	baz=309						
TPNV	Topopah Spring	42.48	87	IAmb	IAmb	04 08 09.1	
	comp=Z,12nm,0.8s						
TPNV	Topopah Spring	42.48	87	P	P	04 07 54.0	+0.1
	baz=309						
DUG	Dugway, Tooele	42.62	81	P	P	04 07 55.5	+0.5
	baz=306						
KSRS	Korea Array	42.88	274	P	P	04 07 56.8	-0.1
	comp=Z,11nm,0.7s,baz=56,slow=7.8,SNR=24						
KSRS				LR	LR	04 24 42.9	
	comp=Z,66nm,21.0s,baz=270,slow=34						
LAO	LASA Array	42.90	69	IAmb	IAmb	04 08 13.0	
	comp=Z,14nm,0.8s						
LAO	LASA Array	42.90	69	P	P	04 07 57.7	+0.6
	baz=302,SNR=7.3						
KSAR	Wonju Array Be	42.91	274	P	P	04 07 57.3	+0.1
KSAR	Wonju Array Be	42.91	274	P	P	04 07 57.3	+0.1
SNY	Shenyang	42.92	282	⇓P	P	04 07 57.8	+0.6
SNY				pmax	pmax		
	comp=Z,45nm,1.1s						
PRN	Pahroc Range	42.93	86	IAmb	IAmb	04 08 15.6	
	comp=Z,28nm,0.8s						
BW06	Boulder Array	43.10	76	IAmb	IAmb	04 08 15.9	
	comp=Z,13nm,0.8s						
BW06	Boulder Array	43.10	76	P	P	04 07 58.9	-0.1
	baz=305,SNR=12						
PDAR	Pinedale Array	43.10	76	P	P	04 07 58.1	-0.9
	comp=Z,9.5nm,0.9s,baz=310,slow=3.2,SNR=67						
DGMT	Dagmar	43.12	66	IAmb	IAmb	04 08 13.6	
	comp=Z,20nm,1.1s						
DGMT	Dagmar	43.12	66	P	P	04 07 58.6	-0.2
	baz=301						
GSC	Goldstone, Bar	43.18	89	IAmb	IAmb	04 08 14.6	
	comp=Z,23nm,0.8s						
GSC	Goldstone, Bar	43.18	89	P	P	04 07 59.4	-0.2
	baz=310,SNR=5.9						
BFSC	Mount Baldy Ra	43.34	91	P	P	04 08 02.5	+1.5
	baz=311						
FCC	Fort Churchill	43.37	48	IAmb	IAmb	04 08 01.6	
	comp=Z,14nm,0.6s						
SHPR	Sheep Range	43.43	87	P	P	04 08 01.9	+0.2
TUQ	Turquoise Moun	43.64	89	P	P	04 08 04.2	+0.9
	baz=310						
HEC	Hector,Ludlow	43.78	90	P	P	04 08 05.7	+1.3
	baz=311						
TCRU	Three Creeks R	43.80	82	IAmb	IAmb	04 08 20.7	
	comp=Z,12nm,0.7s						
ELS	Elsinore Mount	43.88	92	IAmb	IAmb	04 08 19.9	
	comp=Z,13nm,0.9s						
TJN	Taejon	43.90	274	P	P	04 08 06.0	+0.8
TJN				pmax	pmax		
	comp=Z,99nm,0.7s						
TJN	Taejon	43.90	274	P	P	04 08 06.0	+0.8
TMUT	Trail Mountain	44.14	81	IAmb	IAmb	04 08 23.7	
	comp=Z,17nm,0.9s						
GMRC	Granite Mounta	44.23	89	P	P	04 08 07.3	-0.7
	baz=311						
MTPU	Mount Pierson	44.31	83	IAmb	IAmb	04 08 24.5	
	comp=Z,8.7nm,0.8s						
P17A	Butcher Ranch,	44.32	80	IAmb	IAmb	04 08 24.0	
	comp=Z,12nm,0.7s						
RDMU	Red Mountain	44.38	78	P	P	04 08 10.0	+0.7
RDMU				IAmb	IAmb	04 08 24.5	
	comp=Z,17nm,0.7s						
P18A	Preston Nutter	44.53	80	IAmb	IAmb	04 08 32.6	
	comp=Z,20nm,1.1s						
BELC	Belle Mtn. Jos	44.53	90	P	P	04 08 12.2	+1.7
	baz=311						
SRU	San Rafael Swe	44.68	81	IAmb	IAmb	04 08 32.0	
	comp=Z,15nm,0.7s						
IRM	Iron Mountain	44.96	89	P	P	04 08 15.0	+1.2
	baz=311						
K22A	Casper	44.99	74	IAmb	IAmb	04 08 29.2	
	comp=Z,8.3nm,0.8s						
BAR	Barrett	45.00	92	IAmb	IAmb	04 08 29.8	
	comp=Z,10nm,0.8s						
MONP2	Monument Peak	45.01	92	P	P	04 08 17.6	+3.2
	baz=312						
TKX	Tecate	45.11	92	P	P	04 08 15.8	+0.9
RWWY	Rawlins	45.14	75	IAmb	IAmb	04 08 39.7	
	comp=Z,16nm,1.2s						
U15A	North Rim	45.26	85	IAmb	IAmb	04 08 33.2	
	comp=Z,15nm,0.9s						
IKP	In-Ko-Pah, Jac	45.37	92	P	P	04 08 18.2	+1.1
	baz=312						
O20A	White River Ci	45.45	78	IAmb	IAmb	04 08 32.5	
	comp=Z,21nm,0.8s						
O20A	White River Ci	45.45	78	P	P	04 08 17.0	-0.8
	baz=307,SNR=9.5						
PDMCI	Parker Dam,Lak	45.49	88	P	P	04 08 21.1	+3.2
	baz=311						
RSSD	Black Hills	45.61	71	P	P	04 08 18.6	-0.4
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RSSD	Black Hills	45.61	71	P	P	04 08 18.6	-0.4
RSSD				IAmb	IAmb	04 08 37.5	
	comp=Z,8.1nm,0.9s						
RSSD	Black Hills	45.61	71	P	P	04 08 18.9	-0.2
	baz=305						
BLYC	Blythe	45.62	89	IAmb	IAmb	04 08 33.7	
	comp=Z,18nm,0.8s						
NRIK	Noril'sk	45.77	331	P	P	04 08 19.7	-0.1
	comp=Z,10nm,0.6s,baz=74,slow=8.8,SNR=14						
NRIK	Noril'sk	45.77	331	P	P	04 08 19.6	-0.1
NRIK				pmax	pmax		
	comp=Z,42nm,1.5s						
NRIK	Noril'sk	45.77	331	P	P	04 08 19.6	-0.1
NRIK				IAmb	IAmb	04 08 21.4	
	comp=Z,42nm,1.5s						
MDND	Maddock	46.05	64	P	P	04 08 22.2	0.0
	baz=304,SNR=8.5						
PV13	Radium Mtn., P	46.31	80	P	P	04 08 24.0	-0.7
N23A	Red Feather La	46.38	76	IAmb	IAmb	04 08 40.9	
	comp=Z,13nm,0.9s						
N23A	Red Feather La	46.38	76	P	P	04 08 26.7	+1.5
	baz=307						
WUAZ	Wupatki	46.42	85	IAmb	IAmb	04 08 48.3	
	comp=Z,14nm,0.8s						
WUAZ	Wupatki	46.42	85	P	P	04 08 26.4	+1.0
	baz=310						
Y14A	Wickenburg	46.44	88	IAmb	IAmb	04 08 40.2	
	comp=Z,9.0nm,0.9s						
ULM	Lac du Bonnet	46.76	59	P	P	04 08 27.4	-0.3
	comp=Z,9.5nm,0.4s,baz=305,slow=8.1,SNR=18						
ULM				LR	LR	04 27 27.6	
	comp=Z,235nm,19.9s,baz=122,slow=35						
ULM	Lac du Bonnet	46.76	59	IAmb	IAmb	04 08 42.7	
	comp=Z,13nm,0.9s						
SMCO	Snowmass	46.81	78	P	P	04 08 28.9	+0.1
X16A	Lo Mia Camp, P	47.09	86	IAmb	IAmb	04 08 46.6	
	comp=Z,6.0nm,0.9s						
ISCO	Idaho Springs	47.25	77	P	P	04 08 34.6	+2.6
	baz=308						
S22A	4UR Ranch, Cre	47.79	80	IAmb	IAmb	04 09 06.5	
	comp=Z,7.3nm,1.2s						
S22A	4UR Ranch, Cre	47.79	80	P	P	04 08 38.8	+2.5
	baz=309						
AGMN	Agassiz Nation	47.87	62	IAmb	IAmb	04 08 37.0	
	comp=Z,17nm,0.8s						
AGMN	Agassiz Nation	47.87	62	P	P	04 08 35.5	-0.9
	baz=305,SNR=13						
SUSD	Miller	48.38	68	P	P	04 08 40.0	-0.4
	baz=306,SNR=5.7						
SDCO	Great Sand Dun	48.61	79	IAmb	IAmb	04 09 02.5	
	comp=Z,7.5nm,0.9s						
SDCO	Great Sand Dun	48.61	79	P	P	04 08 46.1	+3.5
	baz=310						
TUC	Tucson	48.91	88	P	P	04 08 44.4	-0.3
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TUC	Tucson	48.91	88	P	P	04 08 44.4	-0.3
TUC				IAmb	IAmb	04 08 59.6	
	comp=Z,8.6nm,0.8s						
TUC	Tucson	48.91	88	P	P	04 08 45.9	+1.2
	baz=313						

B35A	Bob, Littlefor	48.99	60	IAmb	IAmb	04 08 47.9	
	comp=Z,13nm,0.6s						
ULN	Ulaanbaatar	49.01	299	*d* iP	P	04 08 45.4	0.0
ULN	Ulaanbaatar	49.01	299	P	P	04 08 44.9	-0.5
ULN				IAmb	IAmb	04 08 46.0	
	comp=Z,14nm,1.1s						
SONM	Songino Array	49.39	299	P	P	04 08 48.0	-0.2
	comp=Z,9.3nm,0.6s,baz=49,slow=7.5,SNR=54						
SONM				ScP	ScP	04 14 02.4	-0.9
	comp=Z,1.0nm,0.8s,baz=357,slow=2.7,SNR=5.0						
SONM				LR	LR	04 30 42.2	
	comp=Z,473nm,18.7s,baz=240,slow=37						
SONM	Songino Array	49.39	299	P	P	04 08 47.8	-0.4
SONM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONM	Songino Array	49.39	299	P	P	04 08 47.8	-0.4
SONM				IAmb	IAmb	04 08 49.2	
	comp=Z,8.8nm,0.6s						
ZAK	Zakamensk	49.55	303	*e*P	P	04 08 49.1	-0.3
ZAK				*e*		04 10 08.8	
ZAK				pmax	pmax		
	comp=Z,16nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
T25A	Trinidad	49.66	78	IAmb	IAmb	04 09 06.3	
	comp=Z,16nm,0.8s						
T25A	Trinidad	49.66	78	P	P	04 08 51.5	+1.0
	baz=310						
MOY	Mondy	49.97	306	*e*P	P	04 08 52.8	+0.2
ECSD	EROS Data Cent	50.15	67	IAmb	IAmb	04 09 08.5	
	comp=Z,15nm,0.9s						
ECSD	EROS Data Cent	50.15	67	P	P	04 08 52.4	-1.6
	baz=308,SNR=11						
SPITS	Spitsbergen Ar	50.27	357	P	P	04 08 54.3	0.0
	comp=Z,4.2nm,0.8s,baz=69,slow=4.6,SNR=12						
EYMN	Ely	50.44	60	P	P	04 08 55.1	-0.9
	baz=307						
F36A	Milaca	50.59	63	IAmb	IAmb	04 09 12.0	
	comp=Z,8.6nm,0.7s						
121A	Cookes Peak, D	50.62	85	IAmb	IAmb	04 09 12.7	
	comp=Z,9.1nm,0.8s						
121A	Cookes Peak, D	50.62	85	P	P	04 09 00.1	+2.3
	baz=313						
BGNE	Belgrade	50.70	70	P	P	04 08 57.4	-0.7
	baz=309						
HHC	Hu-ho-hao-te	50.71	289	*e*P	P	04 08 57.9	-0.4
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,7.7s						
HHC				LR	LR		
	comp=Z,190nm,15.6s						
HHC				LR	LR		
	comp=Z,360nm,16.1s						
HHC				LR	LR		
	comp=Z,480nm,17.9s						
HNS	HongShan	51.03	283	⇑P	P	04 09 01.3	+0.7
HNS				pmax	pmax		
	comp=Z,40nm,1.0s						
E38A	The Farm, Brul	51.22	61	IAmb	IAmb	04 09 14.7	
	comp=Z,20nm,0.8s						
SPMN	Marine on St.	51.38	63	P	P	04 09 02.7	-0.5
SPMN				IAmb	IAmb	04 09 03.3	
	comp=Z,13nm,1.1s						
SPMN	Marine on St.	51.38	63	P	P	04 09 02.5	-0.7
	baz=308						
CBKS	Cedar Bluff	51.41	74	IAmb	IAmb	04 09 19.1	
	comp=Z,22nm,0.8s						
CBKS	Cedar Bluff	51.41	74	P	P	04 09 03.7	+0.2
	baz=310						
BTO	Baotou	51.77	290	*e*P	P	04 09 05.3	-0.9
NJ2	Nanjing	52.04	275	*e*P	P	04 09 08.3	+0.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
R32A	Long Quarter,	52.27	73	IAmb	IAmb	04 09 25.0	
	comp=Z,19nm,0.8s						
MNTX	Cornudas Mount	52.68	84	P	P	04 09 13.7	+0.6
	baz=313						
MSTX	Muleshoe	52.75	80	IAmb	IAmb	04 09 29.6	
	comp=Z,14nm,0.9s						
MSTX	Muleshoe	52.75	80	P	P	04 09 12.6	-1.0
	baz=312						
G40A	Rib Lake	52.79	62	IAmb	IAmb	04 09 28.6	
	comp=Z,16nm,1.1s						
COWI	Conover	52.85	60	IAmb	IAmb	04 09 17.6	
	comp=Z,31nm,1.5s						
KSU1	Kansas State U	53.08	71	IAmb	IAmb	04 09 30.6	
	comp=Z,27nm,0.9s						
KSU1	Kansas State U	53.08	71	P	P	04 09 14.8	-1.0
	baz=310						
SCIA	State Center	53.24	67	P	P	04 09 16.6	-0.5
	baz=310						
I40A	Norwalk	53.44	63	P	P	04 09 18.5	0.0
I40A				IAmb	IAmb	04 09 32.9	
	comp=Z,11nm,0.8s						
JFWS	Jewell Farm	54.27	64	IAmb	IAmb	04 09 40.0	
	comp=Z,32nm,1.4s						
JFWS	Jewell Farm	54.27	64	P	P	04 09 23.1	-1.4
	baz=310						
L40A	Anamosa	54.27	65	IAmb	IAmb	04 09 39.4	
	comp=Z,14nm,0.8s						
LYN	LuoYang	54.28	282	*e*P	P	04 09 25.3	+0.6
LYN				pmax	pmax		
	comp=Z,20nm,0.4s						
WMOK	Wichita Mounta	54.67	77	P	P	04 09 27.0	-0.6
	baz=312						
E46A	Sault Ste Mari	55.25	57	IAmb	IAmb	04 09 46.7	
	comp=Z,26nm,1.0s						
N41A	Harden Midland	55.37	66	IAmb	IAmb	04 09 48.3	
	comp=Z,19nm,0.8s						
TX32	Lajitas Array	55.38	85	IAmb	IAmb	04 09 47.2	
	comp=Z,8.4nm,0.8s						
TXAR	Lajitas Array	55.38	85	P	P	04 09 31.3	-1.6
	comp=Z,2.3nm,0.7s,baz=294,slow=4.2,SNR=22						
TXAR	Lajitas Array	55.38	85	P	P	04 09 31.7	-1.2
TXAR	Lajitas Array	55.38	85	P	P	04 09 31.6	-1.2
W35A	Tecumseh	55.54	75	IAmb	IAmb	04 09 49.3	
	comp=Z,14nm,0.8s						
S39A	Bolivar	55.95	71	IAmb	IAmb	04 09 49.5	
	comp=Z,8.1nm,0.8s						
GLMI	Grayling	56.10	59	P	P	04 09 37.3	-0.4
	baz=311						
ZALV	Zalesovo Beam	56.14	316	P	P	04 09 36.8	-1.0
	comp=Z,1.4nm,0.4s,baz=46,slow=7.3,SNR=7.9						
ZALV				PcP	PcP	04 10 34.9	-0.5
	comp=Z,1.9nm,0.6s,baz=35,slow=4.9,SNR=4.8						
ZALV	Zalesovo Beam	56.14	316	*i* P	P	04 09 37.2	-0.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	56.14	316	P	P	04 09 37.7	-0.1
R40A	Maddies Statio	56.16	69	IAmb	IAmb	04 09 51.2	
	comp=Z,12nm,0.7s						
HDIL	Hopedale	56.36	66	P	P	04 09 38.7	-0.9
	baz=312						
HHAR	Hobbs	56.53	72	IAmb	IAmb	04 09 54.5	
	comp=Z,9.2nm,0.9s						
SSLB	Suanglung	56.58	267	P	P	04 09 40.7	-0.8
XAN	Xi'an	56.77	284	P	P	04 09 42.3	-0.4
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
X37A	Clayton	56.83	75	IAmb	IAmb	04 09 57.5	
	comp=Z,14nm,0.6s						
CCM	Cathedral Cave	56.92	69	P	P	04 09 42.9	-0.7
CCM				pmax	pmax		
	comp=Z,18nm,1.1s						
CCM	Cathedral Cave	56.92	69	P	P	04 09 42.9	-0.7
CCM				IAmb	IAmb	04 09 56.9	
	comp=Z,18nm,1.1s						
CCM	Cathedral Cave	56.92	69	P	P	04 09 42.1	-1.5
	baz=312						
MGMO	Mountain Grove	56.93	70	IAmb	IAmb	04 09 57.7	
	comp=Z,22nm,0.9s						
JCT	Junction City	56.97	81	P	P	04 09 44.1	0.0
	baz=314						
U40A	Yellville	57.13	72	IAmb	IAmb	04 09 58.5	
	comp=Z,19nm,1.1s						
U40A	Yellville	57.13	72	P	P	04 09 43.1	-2.1
	baz=313,SNR=5.9						
W39A	Magazine	57.37	73	IAmb	IAmb	04 09 53.7	
	comp=Z,11nm,0.9s						
W39A	Magazine	57.37	73	P	P	04 09 45.5	-1.3
	baz=313						
VLDQ	Val d'Or	57.57	52	IAmb	IAmb	04 09 47.0	
	comp=Z,19nm,0.9s						
SCHQ	Schefferville	57.70	41	P	P	04 09 48.2	-0.7
	comp=Z,4.3nm,0.5s,baz=321,slow=7.0,SNR=37						
SCHQ	Schefferville	57.70	41	P	P	04 09 48.2	-0.7

SCHQ				IAmb	IAmb	04 10 02.0	
	comp=Z,9.2nm,1.0s						
SFIN	Lafayette	57.72	64	P	P	04 09 48.4	-0.8
	baz=313						
MIAR	Mount Ida	57.94	74	IAmb	IAmb	04 10 06.6	
	comp=Z,20nm,0.9s						
MIAR	Mount Ida	57.94	74	P	P	04 09 50.5	-0.3
	baz=314						
PBMO	Poplar Bluff	58.26	70	P	P	04 09 52.4	-0.7
W41B	Gary Mavity, V	58.29	72	IAmb	IAmb	04 10 08.6	
	comp=Z,16nm,0.9s						
W41B	Gary Mavity, V	58.29	72	P	P	04 09 52.2	-1.1
	baz=314						
ARCES	ARCESS Array B	58.30	352	P	P	04 09 52.4	-0.4
	comp=Z,6.0nm,0.6s,baz=25,slow=6.9,SNR=20						
ARCES				PcP	PcP	04 10 43.3	-0.4
	comp=Z,4.8nm,0.5s,baz=15,slow=4.7,SNR=12						
ARCES				LR	LR	04 39 39.9	
	comp=Z,127nm,18.1s,baz=150,slow=41						
ARCES	ARCESS Array B	58.30	352	IAmb	IAmb	04 09 57.8	
	comp=Z,24nm,1.3s						
LZH	Lanzhou	58.39	289	*e*P	P	04 09 54.5	+0.3
LZH				sP	pP	04 10 01.9	-0.1
LZH				pmax	pmax		
	comp=Z,43nm,1.0s						
LZH				LR	LR		
	comp=Z,390nm,13.0s						
LZH				LR	LR		
	comp=Z,290nm,13.8s						
LZH				LR	LR		
	comp=Z,260nm,16.8s						
X40A	Basin Creek Fa	58.42	73	IAmb	IAmb	04 10 09.1	
	comp=Z,11nm,0.8s						
X40A	Basin Creek Fa	58.42	73	P	P	04 09 54.5	+0.3
	baz=314						
GTA	Gaotai	58.44	295	⇑P	P	04 09 54.0	-0.4
GTA				pP	pP	04 09 57.3	-4.9
GTA				sP	sP	04 10 01.3	-3.9
GTA				PcP	PcP	04 10 47.8	+2.9
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
O48B	Farmland	58.89	63	P	P	04 09 55.9	-1.5
	baz=313,SNR=8.9						
P49A	Miami Univ. Ec	59.63	64	IAmb	IAmb	04 10 16.4	
	comp=Z,11nm,0.7s						
P49A	Miami Univ. Ec	59.63	64	P	P	04 10 01.2	-1.3
	baz=314						
WCI	Wyandotte Cave	59.64	66	P	P	04 10 01.8	-0.8
WCI				pmax	pmax		
	comp=Z,27nm,0.9s						
WCI	Wyandotte Cave	59.64	66	P	P	04 10 01.8	-0.8
WCI	Wyandotte Cave	59.64	66	P	P	04 10 01.8	-0.8
	baz=314						
WVT	Waverly	60.22	68	P	P	04 10 07.5	+0.9
WVT				pmax	pmax		
	comp=Z,12nm,0.7s						
WVT	Waverly	60.22	68	P	P	04 10 07.5	+0.9
WVT				IAmb	IAmb	04 10 21.2	
	comp=Z,12nm,0.7s						
WVT	Waverly	60.22	68	P	P	04 10 08.7	+2.1
	baz=314						
OXF	Oxford	60.43	71	P	P	04 10 08.5	+0.5
	baz=314						
R50A	Paris	60.72	64	IAmb	IAmb	04 10 25.4	
	comp=Z,16nm,1.1s						
ZAIG	Zacatecas	60.79	90	P	P	04 10 11.0	0.0
M54A	Oil Creek Stat	61.01	59	P	P	04 10 11.7	-0.3
	baz=315						
O53A	New Philadelph	61.06	61	P	P	04 10 12.4	+0.1
	baz=315						
V48A	Smith Brothers	61.08	68	IAmb	IAmb	04 10 27.2	
	comp=Z,16nm,0.9s						
KURK	Kurchatov	61.12	316	*d* iP	P	04 10 12.1	-0.4
KURK				pmax	pmax		
	comp=Z,25nm,1.3s						
KURK	Kurchatov	61.12	316	P	P	04 10 11.9	-0.6
U49A	Red Boiling Sp	61.13	67	IAmb	IAmb	04 10 27.3	
	comp=Z,12nm,1.0s						
KURBB	Kurchatov Arra	61.22	316	P	P	04 10 12.4	-0.8
	comp=Z,9.3nm,0.6s,baz=45,slow=6.7,SNR=93						
N54A	Moraine State	61.22	60	P	P	04 10 12.8	-0.6
	baz=315						
MNTQ	Montreal, Queb	61.28	52	IAmb	IAmb	04 10 13.3	
	comp=Z,18nm,0.8s						
T50A	Nancy	61.31	66	IAmb	IAmb	04 10 28.7	
	comp=Z,17nm,1.0s						
LONY	Lake Ozonia	61.43	53	P	P	04 10 14.2	-0.6
LONY				IAmb	IAmb	04 10 14.8	
	comp=Z,14nm,0.8s						
LONY	Lake Ozonia	61.43	53	P	P	04 10 14.0	-0.7
	baz=316,SNR=5.5						
P53A	Whipple	61.50	62	IAmb	IAmb	04 10 30.1	
	comp=Z,16nm,0.8s						
X48A	Hartselle	61.86	69	IAmb	IAmb	04 10 31.6	
	comp=Z,13nm,1.0s						
WMQ	Urumqi	61.86	306	*e*P	P	04 10 20.4	+2.6
J58A	Remsen	61.98	55	P	P	04 10 18.5	0.0
CD2	Chengdu	62.07	285	P	P	04 10 19.3	0.0
CD2				pmax	pmax		
	comp=Z,30nm,1.1s						
Q54A	Coxs Mills	62.16	62	IAmb	IAmb	04 10 34.9	
	comp=Z,15nm,0.8s						
MCWV	Mont Chateau	62.22	61	P	P	04 10 20.1	-0.1
	baz=315,SNR=6.4						
J59A	Piesco	62.30	54	IAmb	IAmb	04 10 34.4	
	comp=Z,14nm,0.8s						
MK31	Makanchi Array	62.34	311	P	P	04 10 19.3	-1.6
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MK31	Makanchi Array	62.34	311	P	P	04 10 19.3	-1.6
MK31				IAmb	IAmb	04 10 21.1	
	comp=Z,5.3nm,1.1s						
MKAR	Makanchi Array	62.34	311	P	P	04 10 20.0	-0.9
	comp=Z,4.3nm,0.4s,baz=48,slow=6.1,SNR=118						
MKAR	Makanchi Array	62.34	311	P	P	04 10 19.6	-1.3
MKAR	Makanchi Array	62.34	311	P	P	04 10 19.6	-1.3
TZTN	Tazewell	62.38	65	IAmb	IAmb	04 10 36.1	
	comp=Z,17nm,0.9s						
TZTN	Tazewell	62.38	65	P	P	04 10 20.8	-0.5
	baz=315						
V51A	Loudon	62.45	66	IAmb	IAmb	04 10 36.9	
	comp=Z,8.2nm,0.8s						
BINY	Binghamton	62.45	56	P	P	04 10 21.8	+0.1
	baz=316						
O56A	Blue Knob Stat	62.48	59	P	P	04 10 21.2	-0.7
	baz=316						
MAKZ	Makanchi	62.48	311	P	P	04 10 20.7	-1.1
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAKZ	Makanchi	62.48	311	P	P	04 10 20.7	-1.1
MAKZ				IAmb	IAmb	04 10 22.0	
	comp=Z,5.5nm,0.7s						
SSPA	Standing Stone	62.58	59	P	P	04 10 22.1	-0.4
SSPA	Standing Stone	62.58	59	P	P	04 10 22.3	-0.1
	baz=316						
CPCT	Cooper Cave	62.60	67	IAmb	IAmb	04 10 36.9	
	comp=Z,20nm,1.3s						
BVAR	Borovoye Array	62.70	322	P	P	04 10 23.1	-0.1
	comp=Z,9.7nm,0.5s,baz=135,slow=38,SNR=27						
BRVK	Borovoye	62.72	322	*d* iP	P	04 10 23.3	+0.1
BRVK				pmax	pmax		
	comp=Z,13nm,1.3s						
BRVK	Borovoye	62.72	322	P	P	04 10 23.6	+0.4
BRVK				IAmb	IAmb	04 10 24.9	
	comp=Z,6.6nm,0.7s						
PRGR	Permogore

baz=316
GOMU GeErMu 63.51 295 P P **04 10 28.8 -0.4**
GOMU pP pP 04 10 32.5 -4.5
GOMU sP sP 04 10 34.1 -6.0
GOMU PcP **PcP** **04 11 03.5 -2.2**
GOMU PP **PP** **04 12 47.6 -1.0**
GOMU pmax pmax
comp=Z,11nm,0.8s
BLA Blacksburg 63.66 63 P P **04 10 29.9 +0.2**
baz=316
BG3 Lake Jocassee 63.84 66 IAmb IAmb 04 10 45.8
comp=Z,15nm,1.0s
MVL Millersville 63.85 58 IAmb IAmb 04 10 56.2
comp=Z,15nm,1.0s
ARU Arti 64.00 331 P P **04 10 31.4 -0.3**
comp=Z,7.4nm,0.4s,baz=38,slow=3.8,SNR=28
ARU Arti 64.00 331*c iP* P **04 10 31.4 -0.3**
ARU 04 11 05.5
ARU S **S** **04 19 09.9 +4.4**
ARU pmax pmax
comp=Z,12nm,0.5s
ARU Arti 64.00 331 P P **04 10 31.4 -0.3**
SDMD Soldier's Deli 64.02 59 IAmb IAmb 04 10 33.4
comp=Z,9.6nm,1.1s
S57A Dark Hollow, R 64.07 61 IAmb IAmb 04 10 47.9
comp=Z,12nm,0.8s
V55A Taylorsville 64.19 64 IAmb IAmb 04 10 48.4
comp=Z,14nm,0.9s
WUPA West Chester U 64.29 58 IAmb IAmb 04 10 49.2
comp=Z,4.4nm,0.7s
U56A King 64.30 63 P P **04 10 34.5 +0.6**
T57A Hurt 64.45 62 IAmb IAmb 04 10 50.5
comp=Z,14nm,0.9s
R58B Mineral 64.51 61 IAmb IAmb 04 10 50.8
comp=Z,7.5nm,0.8s
PAULI Pauline 64.60 66 IAmb IAmb 04 10 51.1
comp=Z,14nm,0.9s
CBN Corbin Frederi 64.61 60 P P **04 10 36.1 +0.2**
baz=317
KMSC Kings Mountain 64.64 65 P P **04 10 35.8 -0.3**
baz=316
KIRV Kirov 64.66 337 P P **04 10 35.9 0.0**
comp=Z,14nm,0.5s,baz=20,slow=2.0,SNR=6.7
KIRV PcP **PcP** **04 11 09.5 +0.1**
comp=Z,11nm,0.5s,baz=318,slow=1.5,SNR=3.7
GOGA Godfrey 64.67 68 P P **04 10 34.8 -1.6**
GOGA pmax pmax
comp=Z,20nm,0.9s
GOGA Godfrey 64.67 68 P P **04 10 34.8 -1.6**
GOGA Godfrey 64.67 68 P P **04 10 35.1 -1.3**
baz=316
KLMR Klimovskoe 64.72 343 *eP* P **04 10 34.2 -2.1**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 64.72 343 *eP* P **04 10 34.2 -2.1**
KLMR AMP 04 10 36.3
comp=Z,15nm,1.3s
TDK Taldyqorghan 65.49 312 *eP* P **04 10 41.8 +0.3**
TDK Taldyqorghan 65.49 312 *eP* P **04 10 41.9 +0.3**
baz=312
BIRD Birdtown, Kers 65.49 65 IAmb IAmb 04 10 57.1
comp=Z,21nm,1.2s
FINES FINESS Array B 66.14 350 P P **04 10 44.7 -0.7**
comp=Z,2.2nm,0.4s,baz=14,slow=6.7,SNR=22
FINES PcP **PcP** **04 11 15.5 0.0**
comp=Z,5.2nm,0.5s,baz=74,slow=2.4,SNR=8.5
SHLS Shalkode 66.39 310*c iP* P **04 10 46.8 -0.8**
SHLS pmax pmax
comp=Z,7.0nm,0.5s
SHLS Shalkode 66.39 310⇑ *iP* P **04 10 46.8 -0.8**
comp=Z,7.3nm,0.5s,baz=310
PZH PanZhiHua 66.48 283 P P **04 10 48.3 0.0**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,120nm,6.3s
KPKS Kokpek 66.53 311*c iP* P **04 10 48.8 +0.5**
KPKS pmax pmax
comp=Z,5.0nm,0.4s
KPKS Kokpek 66.53 311⇑ *iP* P **04 10 48.9 +0.5**
comp=Z,4.9nm,0.4s,baz=311
UZB Uzynbulak 66.61 310 *eP* P **04 10 49.3 +0.3**
UZB Uzynbulak 66.61 310 *eP* P **04 10 49.3 +0.3**
baz=310
KMI Kunming 66.89 282 ⇓P P **04 10 52.1 +1.0**
KMI pmax pmax
comp=Z,16nm,1.1s
BTLS Baital 67.43 315 *eP* P **04 10 53.6 -0.3**
BTLS pmax pmax
comp=Z,4.0nm,0.6s
BTLS Baital 67.43 315 *eP* P **04 10 53.7 -0.3**
comp=Z,3.5nm,0.6s,baz=315
MDOK Medeo 67.53 312 *eP* P **04 10 54.9 +0.1**
MDOK Medeo 67.53 312 *eP* P **04 10 54.9 +0.1**
baz=312
NB2 NORSAR Subarra 67.57 357 P P **04 10 53.9 -0.7**
comp=Z,1.1nm,0.5s,baz=4.5,slow=6.9
NOA NORSAR Array B 67.57 357 P P **04 10 53.9 -0.7**
comp=Z,0.3nm,0.4s,baz=327,slow=19,SNR=16
TKM2 Tokmak 2 68.38 312 P P **04 11 00.2 -0.1**
SNR=10
HFS Hagfors 68.39 356 P P **04 10 58.8 -0.9**
comp=Z,2.7nm,0.4s,baz=16,slow=32,SNR=23
SGDS Sogindy 68.41 313 *eP* P **04 11 00.9 +0.7**
baz=313
BOOM Boomskoye usch 68.56 312 P P **04 11 00.2 -1.1**
BOOM pmax pmax
comp=Z,16nm,0.6s
BOOM Boomskoye usch 68.56 312 P P **04 11 00.2 -1.1**
USP Ospenovka 68.61 313 P P **04 11 02.2 +0.7**
SNR=18
CHMS Chumysh 68.71 313 P P **04 11 02.5 +0.5**
SNR=5.8
KBK Karagaybulak 68.89 313 P P **04 11 03.6 +0.2**
SNR=12
FRU1 Bishkek 68.91 313 P P **04 11 04.1 +0.7**
FRU1 pmax pmax
comp=Z,34nm,0.8s
FRU1 Bishkek 68.91 313 P P **04 11 04.1 +0.7**
VSU Vasula 68.98 349⇑ *iP* P **04 11 02.6 -0.8**
VSU pmax pmax
comp=Z,28nm,0.6s
AAK Ala-Archa 69.11 313*c iP* P **04 11 04.9 +0.2**
AAK pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 69.11 313 P P **04 11 05.1 +0.4**
AKTO Aktyubinsk 69.25 328 P P **04 11 05.2 0.0**
comp=Z,21nm,0.5s,baz=54,slow=7.2,SNR=82
EKS2 Erkin-Say 69.42 313 P P **04 11 07.5 +0.9**
SNR=8.8
ABKAR Akbulak array 69.60 326 P P **04 11 07.3 -0.1**
ABKAR IAmb IAmb 04 11 08.9
comp=Z,12nm,0.8s
LSA Lhasa 70.36 293 P P **04 11 13.3 +0.3**
LSA pmax pmax
comp=Z,35nm,0.7s
LSA Lhasa 70.36 293 P P **04 11 13.3 +0.3**
KKAR Karatay Array 70.52 316 P P **04 11 12.7 -0.5**
KKAR Karatay Array 70.52 316 P P **04 11 12.7 -0.5**
BELG Belogornoye 70.65 335 P P **04 11 13.6 -0.1**
comp=Z,31nm,0.7s,baz=125,slow=1.4,SNR=13
BELG Belogornoye 70.65 335*c iP* P **04 11 13.5 -0.3**
BELG pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 70.66 342⇑ *eP* P **04 11 11.7 -2.1**
OBN *e* 04 11 34.1
OBN *e* 04 13 48.9
OBN pmax pmax
comp=Z,58nm,3.2s
OBN MLR MLR
comp=Z,131nm,17.0s
KSH Kashi 70.87 310 P P **04 11 18.8 +3.3**
KSH pP pP 04 11 23.3 -0.1
KSH PcP **PcP** **04 11 38.9 +2.9**
KSH pmax pmax
comp=Z,28nm,0.9s
ONAU Onsala 71.19 357 *i* P P **04 11 15.8 -1.2**
IUG luzhnay 71.50 315 *eP* P **04 11 19.4 +0.2**
IUG luzhnay 71.50 315 *eP* P **04 11 19.5 +0.2**
baz=316
FABU Falkenberg 71.56 356 *i* P P **04 11 20.6 +1.4**
DEL Delary 72.04 356 *i* P P **04 11 21.2 -0.9**
BLEU Blekinge 72.10 355 *i* P P **04 11 21.8 -0.7**
PABE Paberze 72.20 350 P P **04 11 22.9 -0.1**
LPSR Galich'ya Gora 72.55 340 *eP* P **04 11 25.3 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MNK Minsk 72.69 347 *i* P P **04 11 26.0 +0.1**
MNK *i* 04 11 43.3
MNK *i* 04 14 07.2
MNK *i* PPP PPP 04 15 51.5
MNK *i* S **S** **04 20 50.3 +1.4**
MNK *i* 04 21 33.1
MNK *i* SS **SS** **04 25 31.6 +4.4**
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK MLR MLR
comp=E,23nm,20.0s
MNK MLR MLR
comp=N,112nm,21.0s
MNK MLR MLR
comp=E,118nm,18.0s
MNK Minsk 72.69 347 *i* P P **04 11 26.1 +0.1**
comp=E,3.0nm,1.2s
MNK *i* P P **04 11 26.1 +0.1**
comp=N,22nm,1.1s
MNK *i* P P **04 11 26.1 +0.1**
comp=Z,9.0nm,0.9s,baz=194
MNK *i* PcP **PcP** **04 11 43.4 +0.1**
MNK *i* PP **PP** **04 14 07.3 +0.2**
MNK *i* PPP PPP 04 15 51.5
MNK *i* S **S** **04 20 50.4 +1.4**
MNK *i* SS **SS** **04 25 31.6 +4.4**
MNK *i* SSS SSS 04 28 56.2
MNK *i* LR LR 04 43 56.7
MNK *i* LRM MLR 04 45 48.8
comp=E,23nm,19.8s
MNK *i* LRM MLR 04 46 09.9
comp=N,112nm,21.1s
MNK *i* LRM MLR 04 46 10.6
comp=Z,118nm,17.9s
BTK Batken 72.83 314 IAmb IAmb 04 11 28.5
comp=Z,25nm,1.1s
SHL Shillong 73.06 290 P P **04 11 28.6 -0.3**
SHL pmax pmax
comp=Z,24nm,0.8s
SHL Shillong 73.06 290 P P **04 11 28.6 -0.3**
EKA Eskdalemuir Ar 73.06 6 P P **04 11 28.2 0.0**
comp=Z,4.7nm,1.1s,baz=354,slow=4.0,SNR=5.2
VRH Novokhopyorsk 73.23 338 *eP* P **04 11 28.6 -0.6**
VRH pmax pmax
comp=Z,30nm,0.5s
VORR Voronezh 73.36 339 *eP* P **04 11 31.4 +1.4**
VORR pmax pmax
comp=Z,40nm,0.4s
CHTO Chiang Mai 73.93 280 P P **04 11 34.3 +0.4**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 73.93 280 P P **04 11 34.3 +0.4**
VORD Divnogorie 74.01 339 *eP* P **04 11 33.6 -0.2**
VORD pmax pmax
comp=Z,20nm,0.5s
TAPN Taplejung 74.11 294 *eP* P **04 11 35.5 +0.3**
comp=Z,86nm,0.8s
CMAR Chiang Mai Arr 74.20 280 P P **04 11 35.5 0.0**
comp=Z,3.5nm,0.3s,baz=25,slow=7.4,SNR=12
CMAR Chiang Mai Arr 74.20 280 P P **04 11 36.2 +0.7**
ODAN Odare 74.67 294 *eP* P **04 11 38.9 +0.5**
comp=Z,21nm,0.6s
GUN Gumba 74.72 296 *eP* P **04 11 39.1 +0.3**
comp=Z,106nm,0.6s
JIRN Jiri 74.73 295 *eP* P **04 11 39.4 +0.5**
comp=Z,123nm,0.7s
RAMN Ramite 75.05 294 *eP* P **04 11 40.7 +0.1**
comp=Z,54nm,0.5s
PKI Pulchoki 75.24 296 *eP* P **04 11 41.8 0.0**
PKIN Phulchoki 75.24 296 *eP* P **04 11 41.7 -0.1**
comp=Z,47nm,0.6s
GKN Gorkha 75.34 297 *eP* P **04 11 42.3 +0.1**
DMN Daman 75.38 296 *eP* P **04 11 42.9 +0.4**
DANN Dangsing 75.56 297 *eP* P **04 11 43.8 +0.2**
comp=Z,201nm,0.8s
KOLN Koldanda 76.10 297 *eP* P **04 11 46.6 +0.1**
PYUN Piuthan 76.18 298 *eP* P **04 11 47.1 +0.1**
comp=Z,74nm,0.6s
AKASG Malin Array Be 76.18 345 P P **04 11 45.2 -1.2**
comp=Z,6.5nm,0.4s,baz=16,slow=5.8,SNR=33
AKASG Malin Array Be 76.18 345 P P **04 11 45.0 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 76.18 345 P P **04 11 45.0 -1.4**
AKBB Malin Array Si 76.18 345 IAmb IAmb 04 11 45.7
comp=Z,10nm,0.5s
CLL Collm 77.24 356 *i* P P **04 11 51.7 -0.6**
CLL *i* 04 12 04.6
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 77.24 356 IAmb IAmb 04 11 52.9
comp=Z,17nm,1.4s
CLL Collm 77.24 356 *i* P P **04 11 51.7 -0.6**
comp=Z,6.0nm,0.6s
CLL *i* PcP **PcP** **04 12 04.6 +1.7**
BRG Berggiesshubel 77.63 355 *eP* P **04 11 54.3 -0.3**
BRG Amp 04 11 55.7
comp=Z,8.0nm,0.7s
BRG *ex* x 04 12 07.2
BRG Amp 04 12 08.4
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 77.63 355 *eP* P **04 11 54.2 -0.3**
BRG *e* 04 12 07.2
BRG pmax pmax
comp=Z,8.0nm,0.7s
CHVC Chvalec 77.78 354 *eP* P **04 11 54.5 -0.9**
OSTC Ostas 77.80 354 *eP* P **04 11 55.6 0.0**
UPC Upice 77.87 354 *eP* P **04 11 55.9 0.0**
UPC Upice 77.87 354 *eP* P **04 11 55.9 0.0**
DPC Dobruska-Polom 78.00 354 *eP* P **04 11 56.8 +0.1**
DPC Dobruska-Polom 78.00 354 *eP* P **04 11 56.8 +0.1**
KBL Kabul 78.15 311 P P **04 11 57.2 -0.8**
KBL pmax pmax
comp=Z,24nm,0.7s
KBL Kabul 78.15 311 P P **04 11 57.2 -0.8**
KRLC Kraliky 78.24 353 *eP* P **04 11 58.0 0.0**
KRLC *e* 04 12 10.8
KRLC Kraliky 78.24 353 *eP* P **04 11 58.0 0.0**
KRLC *e*PCP **sP** **04 12 10.8 +2.1**
NKC Novy Kostel 78.34 356 *eP* P **04 11 58.7 +0.2**
NKC *e* 04 12 11.2
NKC Novy Kostel 78.34 356 *eP* P **04 11 58.7 +0.2**
NKC *e*PCP **sP** **04 12 11.2 +2.0**
BMRD Maredsous 78.39 1 *dP* P **04 11 58.8 0.0**
comp=Z,5.6nm,0.7s
PRU Pruhonice 78.48 355 *eP* P **04 11 59.3 +0.1**
PRU Pruhonice 78.48 355 *eP* P **04 11 59.3 +0.1**
MORC Moravsky Berou 78.48 353⇑P P **04 11 59.1 -0.3**
MORC Moravsky Berou 78.48 353 *eP* P **04 11 59.0 -0.3**
GOF Gofitskoye 78.59 334⇑ *eP* P **04 12 00.2 +0.2**
GOF pmax pmax
comp=Z,72nm,1.0s
PBCC Pribram 78.81 355 *eP* P **04 12 01.2 +0.1**
PBCC *ex* x 04 12 13.9
SORM Soroca 78.81 345⇑P P **04 12 00.5 -0.6**
GRFO Grafenberg 78.93 357 P P **04 12 01.9 +0.2**
GRFO pmax pmax
comp=Z,12nm,0.6s
GRFO Grafenberg 78.93 357 P P **04 12 01.9 +0.2**
GRFO IAmb IAmb 04 12 02.8
comp=Z,12nm,0.6s
LANS Liptovska Anna 78.94 351 *eP* P **04 12 02.7 +0.8**
LANS pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 78.94 351 *eP* P **04 12 02.7 +0.8**
VRAC Vranov 79.02 353 ⇓P P **04 12 02.7 +0.5**
VRAC Vranov 79.02 353 P P **04 12 02.4 +0.1**
comp=Z,7.2nm,0.6s,baz=16,slow=5.7,SNR=12
VRAC Vranov 79.02 353 *eP* P **04 12 02.3 0.0**
TREC Trest 79.11 354 *eP* P **04 12 02.7 -0.1**
TREC *e* 04 12 15.6
TREC Trest 79.11 354 *eP* P **04 12 02.7 -0.1**
TREC *ex* x 04 12 15.6
KRUC Moravsky 79.28 353 *eP* P **04 12 03.5 -0.2**
JAVC Velka Javorina 79.38 352 *eP* P **04 12 05.3 +1.0**
KHC Kasperske Hory 79.39 355*ceP* P **04 12 04.1 -0.2**
KHC pmax pmax
comp=Z,26nm,1.4s
KHC Kasperske Hory 79.39 355 *eP* P **04 12 04.6 +0.3**
KHC *ex* x 04 12 16.9
KHC Kasperske Hory 79.39 355 IAmb IAmb 04 12 05.8
comp=Z,17nm,1.4s
TRPA Tarpa 79.62 349⇑P P **04 12 05.7 +0.2**
VYHS Vyhne 79.64 352 *eP* P **04 12 06.0 +0.3**
VYHS Vyhne 79.64 352 *eP* P **04 12 06.0 +0.3**
CKRC Cesky Krumlov 79.66 355 *eP* P **04 12 05.3 -0.5**
GEC2 GERESS Array S 79.66 355 P P **04 12 06.1 +0.2**
GERES GERESS Array B 79.66 355 P P **04 12 05.7 -0.2**
comp=Z,3.4nm,0.8s,baz=15,slow=5.5,SNR=28
KIV Kislovodsk 79.71 334 ⇓P P **04 12 06.5 +0.3**
KIV Kislovodsk 79.71 334 *eP* P **04 12 06.6 +0.3**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 79.71 334 P P **04 12 05.7 -0.5**
KIV IAmb IAmb 04 12 08.7
comp=Z,14nm,0.7s
BUR08 Bucovina Ar. S 79.75 347 IAmb IAmb 04 12 07.0
comp=Z,5.3nm,0.7s
BURAR Bucovina Array 79.78 347 ⇓P P **04 12 06.5 0.0**
BURAR Bucovina Array 79.78 347 P P **04 12 05.8 -0.8**
BURAR IAmb IAmb 04 12 07.1
comp=Z,9.2nm,0.6s
KBZ Khabaz 79.86 334 P P **04 12 07.4 +0.5**
comp=Z,8.3nm,0.8s,baz=109,slow=3.5,SNR=18
GEYT Alibeck 79.99 321 P P **04 12 08.1 +0.3**
comp=Z,8.9nm,1.0s,baz=357,slow=3.0,SNR=11
GEYT Alibeck 79.99 321 IAmb IAmb 04 12 09.2
comp=Z,13nm,1.1s
GYA0B ALIBECK ARRAY 79.99 321 P P **04 12 07.5 -0.3**
GYA0B IAmb IAmb 04 12 12.2
comp=Z,13nm,0.9s
CONA Conrad Observa 80.44 354 *eP* P **04 12 10.6 +0.5**
comp=Z,4.2nm,0.6s
ZEI Tsey 80.45 333 *eP* P **04 12 09.3 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.6s
ECH Echery 80.48 359 IAmb IAmb 04 12 11.3
comp=Z,14nm,1.3s
MOA Molln 80.62 355 *eP* P **04 12 11.1 +0.1**
comp=Z,1.5nm,0.5s
BIOA Bad Ischl, Aus 80.82 355 *eP* P **04 12 12.4 +0.3**
comp=Z,2.4nm,0.3s
DRGR 80.92 349 ⇓P P **04 12 12.1 -0.5**
VLDR Vladesti 81.08 345 ⇓P P **04 12 13.8 +0.3**
ARSA Arzberg 81.14 354 *eP* P **04 12 13.9 +0.1**
comp=Z,2.9nm,0.6s
RETA Reutte 81.14 357 *eP* P **04 12 14.2 +0.3**
comp=Z,1.4nm,0.4s
WATA Walderalm 81.27 356 *eP* P **04 12 14.9 +0.3**
comp=Z,1.7nm,0.5s
VRI Vrincioaia 81.27 346⇑P P **04 12 15.5 +1.0**
MOTA Moosalm 81.28 357 *eP* P **04 12 14.6 -0.1**
comp=Z,2.8nm,0.6s
HRA Herat 81.33 316 IAmb IAmb 04 12 16.4
comp=Z,17nm,0.8s
WTTA Wattenberg 81.34 356 *eP* P **04 12 15.5 +0.5**
comp=Z,3.2nm,0.5s
COVR Voineasa-Covas 81.37 346⇑P P **04 12 15.7 +0.7**
DAVA Damuels 81.37 358 *eP* P **04 12 16.5 +1.3**
comp=Z,1.9nm,0.5s
DOPR Dopca 81.37 347 ⇓P P **04 12 16.0 +1.0**
SLCR Slobozia Conac 81.38 345⇑P P **04 12 16.1 +1.1**
SQTA Sankt Quirin 81.40 357 *eP* P **04 12 15.8 +0.5**
comp=Z,3.6nm,0.5s
KBA Koelnbreinsper 81.44 355 *i* P P **04 12 16.3 +0.7**
comp=Z,8.6nm,0.5s,SNR=15
TLCR 81.60 344⇑P P **04 12 16.9 +0.7**
FETA Feichten 81.61 357 *eP* P **04 12 16.9 +0.5**
comp=Z,4.0nm,0.8s
CFR Carcaliu 81.72 345⇑P P **04 12 16.8 0.0**
SOKA Soboth 81.75 354 *i* P P **04 12 17.3 +0.2**
comp=Z,4.4nm,0.7s,SNR=6.6
MLR Muntele Rosu 81.76 346 ⇓P P **04 12 18.7 +1.5**
MLR Muntele Rosu 81.76 346 P P **04 12 18.6 +1.5**
comp=Z,3.7nm,0.5s,baz=194,slow=2.0,SNR=4.3
MLR Muntele Rosu 81.76 346 IAmb IAmb 04 12 19.3
comp=Z,7.7nm,1.0s
PERS Pernice 81.78 354 *i* P P **04 12 17.2 0.0**
ABTA Abfaltersbach 81.81 356 *eP* P **04 12 17.5 0.0**
comp=Z,1.4nm,0.6s
VOIR 81.94 347 ⇓P P **04 12 18.4 +0.3**
OBKA Obir 81.94 354 *eP* P **04 12 18.7 +0.6**
comp=Z,3.3nm,0.5s
TPGR Topolog 81.98 344 ⇓P P **04 12 18.9 +0.6**
ARR Arges 82.06 347 ⇓P P **04 12 19.5 +0.7**
TUE Stuetta 82.20 358 IAmb IAmb 04 12 33.8
comp=Z,7.0nm,0.7s
BZS Buzias 82.20 349⇑P P **04 12 19.1 -0.2**
HARR Harsova 82.23 345⇑P P **04 12 19.8 +0.3**
GZR Gura Zlata 82.28 348⇑P P **04 12 19.9 0.0**
TLBR Topalu 82.35 345 ⇓P P **04 12 20.7 +0.5**
TIRR Tirgusor 82.37 344⇑P P **04 12 20.9 +0.6**
CTI Castel Tesino 82.55 356 P P **04 12 20.7 -0.6**
CTI pmax pmax
comp=Z,9.0nm,1.4s
CTI Castel Tesino 82.55 356 P P **04 12 20.7 -0.6**
CTI IAmb IAmb 04 12 21.1
comp=Z,9.5nm,1.4s
CVDA Cernavoda 82.56 345⇑P P **04 12 22.3 +1.1**
HERR Herculane 82.83 349 ⇓P P **04 12 22.4 -0.3**
BOJS Bojanci 82.90 354 *i* P P **04 12 22.6 -0.4**
BNI Bardonecchia 83.65 360 IAmb IAmb 04 12 30.9
comp=Z,8.4nm,0.9s
UDBI Udbina 83.83 353 *i* P P **04 12 27.4 -0.5**
DIVS Divibare 83.88 350 IAmb IAmb 04 12 29.7
comp=Z,4.5nm,0.7s
ZCCA Zocca 84.27 357 IAmb IAmb 04 12 34.9
comp=Z,25nm,1.5s
KIJV Kijevo 84.31 353 *i* P P **04 12 29.5 -0.8**
WRA Warramunga Arr 84.56 228 P P **04 12 29.3 -2.4**
comp=Z,0.9nm,0.6s,baz=34,slow=5.9,SNR=11
RICI Ricice 84.75 352 P P **04 12 32.2 -0.3**
GURO Guroymak-BITLI 84.91 333 P P **04 12 34.3 +0.7**
GURO IAmb IAmb 04 12 35.9
comp=Z,8.3nm,1.3s
VTS Vitosha 84.95 348⇑P P **04 12 33.6 -0.2**
VTS Vitosha 84.95 348 IAmb IAmb 04 12 34.6
comp=Z,5.6nm,0.7s
HVAR Hvar 85.12 353 *i* P P **04 12 33.4 -1.0**
STON Ston 85.32 352 *i* P P **04 12 33.8 -1.5**
NRCA Norcia 85.69 355 IAmb IAmb 04 12 52.8
comp=Z,8.9nm,0.8s
BR131 Keskin Array S 85.92 339 IAmb IAmb 04 12 40.0
comp=Z,7.9nm,0.8s
BRTR Keskin Array B 85.92 339 P P **04 12 38.6 -0.1**
comp=Z,5.1nm,0.8s,baz=42,slow=2.9,SNR=25
AQU L'Aquila 86.15 355 IAmb IAmb 04 13 04.5
comp=Z,12nm,0.9s
PSI Prapat 86.26 270 LR LR 04 51 51.2
comp=Z,57nm,20.9s,slow=36
MARD Mardin 86.42 333 P P **04 12 41.3 +0.3**
MARD IAmb IAmb 04 12 43.0
comp=Z,17nm,0.9s
BORA Eskisehir 86.44 342 IAmb IAmb 04 12 43.8
comp=Z,8.7nm,0.9s
HYBB Hyderabad (bro 87.11 295 *eP* P **04 12 43.4 -1.2**
LIT Litokhoron 87.53 348 IAmb IAmb 04 12 46.7
comp=Z,9.8nm,0.9s
ASAR Alice Springs 87.99 227 P P **04 12 47.0 -1.5**
comp=Z,1.6nm,0.7s,baz=28,slow=5.4,SNR=16
ASAR Alice Springs 87.99 227 P P **04 12 47.7 -0.8**
ASAR Alice Springs 87.99 227 P P **04 12 47.6 -0.8**
ESDC Sonseca Array 88.58 8 P P **04 12 50.7 -0.6**
comp=Z,2.5nm,1.0s,baz=346,slow=4.4,SNR=11
ESDC Sonseca Array 88.58 8 P P **04 12 50.9 -0.4**
ESDC IAmb IAmb 04 12 51.8
comp=Z,5.7nm,1.2s
TORD Torodi Ar. Bea 115.32 5 PKP **PKiKP** **04 18 38.5 -1.8**
comp=Z,0.3nm,0.5s,baz=338,slow=3.4,SNR=5.0
PLCA Paso Flores 127.98 110 PKP **PKPdf** **04 19 02.5 -1.3**
comp=Z,3.1nm,1.0s,baz=253,slow=5.4,SNR=4.4
TSUM Tsumeb 146.42 341 PKPbc **PKPdf** **04 19 39.2 +0.8**
LBTB Lobatse 149.61 324 PKP2 **PKPbc** **04 19 48.1 +0.1**
LBTB Lobatse 149.61 324 PKPbc **PKPbc** **04 19 48.1 +0.1**
BELA Belgrano 2 149.78 164 PKPdf **PKPdf** **04 19 44.3 +2.4**
BOSA Boshof 152.99 321 PKPbc **PKPbc** **04 19 54.9 -0.9**
comp=Z,3.0nm,0.5s,baz=61,slow=0.6,SNR=11

*IDC **19** 04:09:55.4±2.9,51°.68N×174°.13W,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.5/48,mbtmp3.6/8,ML3.4/2,Error ellipse: s-maj=79.2km s-min=26.4km az=177.0*
*NEIC **19** 04:09:57.1±0.7,51°.40N±0°.09×174°.18W±0°.10,h10km±2km,*

ML3.4(AEIC), Error ellipse: s-maj=16.3km s-min=9.3km az=161.0
AEIC 19 04:09:57.5±1.3, 51.3°N±0.1′×174.1°W±0.1′, h30km±9km, Error ellipse: s-maj=15.7km s-min=8.6km az=163.0
ISC 19 04:09:59.4±1.1, 51.4°N±0.1′×174.1°W±0.0′07, h35km, n24, σ0.56/24, mb3.6/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.78**	**359**		**Pn**	**04 10 13.8**	**-0.1**
KOFP	**Korovin Flat P**	**0.86**	**3**		**Pn**	**04 10 15.7**	**+0.7**
KOKL	**Mount Kliuchef**	**0.90**	**359**		**Pn**	**04 10 16.1**	**+0.5**
GSMY	**Great Sitkin M**	**1.32**	**299**		**Pn**	**04 10 21.1**	**-0.3**
GSTR	**Great Sitkin T**	**1.35**	**301**		**Pn**	**04 10 22.2**	**+0.5**
GSCK	**Great Sitkin C**	**1.37**	**296**		**Pn**	**04 10 22.3**	**+0.3**
GSTD	**Great Sitkin T**	**1.38**	**298**		**Pn**	**04 10 22.0**	**-0.1**
ADK	**Adak**	**1.63**	**287**		**Pn**	**04 10 25.2**	**-0.3**
KIWB	**Kanaga Island**	**1.90**	**284**		**Pn**	**04 10 29.5**	**+0.2**
KIKV	**Kanaga Island**	**1.92**	**285**		**Pn**	**04 10 30.3**	**+0.8**
KIMD	**Kanaga Island**	**1.94**	**281**		**Pn**	**04 10 29.4**	**-0.4**
TAPA	**Tanaga Point A**	**2.30**	**281**		**Pn**	**04 10 35.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.42**	**283**		**Pn**	**04 10 36.8**	**+0.4**
TASE	**Tanaga Southea**	**2.44**	**281**		**Pn**	**04 10 36.8**	**+0.1**
GAEA	**Gareloi East**	**2.87**	**279**		**Pn**	**04 10 43.1**	**+0.5**
NIKH	**Nikolski High**	**3.62**	**63**		**Pn**	**04 10 53.1**	**+0.2**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=91,slow=18,SNR=3.1	**17.25**	**287**	P	**P**	**04 13 58.6**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=232,slow=9.5,SNR=14	**19.45**	**36**	P	**P**	**04 14 21.2**	**-1.4**
PDAR	**Pinedale Array** 0.5nm,1.0s,baz=354,slow=4.4,SNR=3.0	**43.52**	**75**	P	**P**	**04 17 59.9**	**+0.3**
SONM	**Songino Array** 0.4nm,0.6s,baz=43,slow=8.8,SNR=4.1	**49.19**	**299**	P	**P**	**04 18 44.5**	**+0.7**
ARCES	**ARCESS Array B** 5.7nm,1.0s,baz=20,slow=8.4,SNR=3.5	**58.50**	**352**	P	**P**	**04 19 50.5**	**-0.8**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=45,slow=6.5,SNR=5.8	**61.15**	**316**	P	**P**	**04 20 10.3**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=55,slow=5.9,SNR=6.2	**62.23**	**311**	P	**P**	**04 20 16.6**	**-0.7**
GERES	**GERESS Array B** 0.2nm,0.7s,baz=358,slow=8.3,SNR=3.6	**79.89**	**355**	P	**P**	**04 22 04.7**	**+0.5**

NEIC 19 04:15:36.7±0.9, 51.27°N±0.06°×174.12°W±0.05, h15km±9km, ML3.0/18(AEIC), Error ellipse: s-maj=9.3km s-min=4.1km az=177.0
AEIC 19 04:15:37.3±1.5, 51.29°N±0.02°×174.23°W±0.06, h13km±4km, Error ellipse: s-maj=5.6km s-min=2.6km az=85.0
IDC 19 04:15:37.3±6.4, 51.94°N×174.32W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/42, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=162.0km s-min=31.2km az=166.0
ISC 19 04:15:40.0±2.2, 51.3°N±0.1°×174.15°W±0.07, h44km±17km, n23, σ1.906/26, mb3.6/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.88**	**358**		**Pn**	**04 15 54.5**	**-1.4**
ATKA					**Sn**	**04 16 08.0**	**+0.5**
KOFP	**Korovin Flat P**	**0.95**	**2**		**Pn**	**04 15 56.7**	**-0.2**
KOKL	**Mount Kliuchef**	**1.00**	**358**		**Pn**	**04 15 56.8**	**-0.8**
KOKL					**Sn**	**04 16 12.5**	**+1.9**
GSMY	**Great Sitkin M**	**1.39**	**302**		**Pn**	**04 16 01.9**	**-1.0**
GSMY					**Sn**	**04 16 21.2**	**+1.2**
GSTR	**Great Sitkin T**	**1.42**	**304**		**Pn**	**04 16 02.4**	**-0.8**
GSCK	**Great Sitkin C**	**1.43**	**299**		**Pn**	**04 16 02.4**	**-1.1**
GSTD	**Great Sitkin T**	**1.44**	**301**		**Pn**	**04 16 02.9**	**-0.8**
GSTD					**Sn**	**04 16 22.8**	**+1.4**
ADK	**Adak**	**1.68**	**290**		**Pn**	**04 16 05.7**	**-1.1**
ADK					**Sn**	**04 16 28.1**	**+1.0**
KIWB	**Kanaga Island**	**1.95**	**287**		**Pn**	**04 16 09.6**	**-0.9**
KIKV	**Kanaga Island**	**1.97**	**288**		**Pn**	**04 16 10.3**	**-0.4**
KIMD	**Kanaga Island**	**1.98**	**284**		**Pn**	**04 16 09.8**	**-1.1**
TAFP	**Tanaga Falls P**	**2.46**	**285**		**Pn**	**04 16 17.4**	**-0.1**
TAFP					**Sn**	**04 16 47.3**	**+0.9**
TASE	**Tanaga Southea**	**2.48**	**283**		**Pn**	**04 16 17.9**	**0.0**
NIKH	**Nikolski High**	**3.65**	**61**	Pn	**Pn**	**04 16 34.0**	**+0.2**
ILAR	**Eielson Array** 0.4nm,0.3s,baz=236,slow=9.2,SNR=21	**19.51**	**36**	P	**P**	**04 20 01.1**	**-2.1**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=274,slow=8.6,SNR=4.2	**33.14**	**47**	P	**P**	**04 22 11.8**	**+0.2**
H11S1	**WAKE ISLAND Hy** baz=18,slow=74,SNR=4.6	**36.09**	**212**	T	T	05 01 58.6	
H11S2	**WAKE ISLAND Hy** baz=18,slow=74,SNR=5.1	**36.10**	**212**	T	T	05 01 55.9	
H11S3	**WAKE ISLAND Hy** baz=18	**36.10**	**212**	T	T	05 01 40.6	
SONM	**Songino Array** 0.5nm,0.7s,baz=47,slow=7.8,SNR=3.6	**49.25**	**299**	P	**P**	**04 24 24.8**	**+0.8**
ARCES	**ARCESS Array B** 4.4nm,0.9s,baz=27,slow=8.2,SNR=4.2	**58.59**	**352**	P	**P**	**04 25 31.0**	**-0.7**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=47,slow=5.5,SNR=4.9	**62.31**	**311**	P	**P**	**04 25 57.2**	**-0.2**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=14,slow=6.1,SNR=5.1	**79.98**	**355**	P	**P**	**04 27 45.1**	**+0.8**

TUL 19 04:30:59.8±1.2, 36.95°N±0.02°×97.83W±0.03, h4km±7km, ML2.8, mb_Lg2.7/48(NEIC), Error ellipse: s-maj=3.1km s-min=2.2km az=120.0
NEIC 19 04:30:60.0±0.8, 36.92°N±0.01°×97.81W±0.02, h6km±6km, Error ellipse: s-maj=2.5km s-min=1.3km az=49.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**1.04**	**90**		Pg	04 31 19.9	0.0
U32A	**Winter Ranch,**	**1.10**	**241**	Pg	Pg	04 31 20.6	-0.5
OKCFA	**Oklahoma City** comp=Z,47nm,0.7s	**1.53**	**169**		Pn	04 31 28.1	+0.2
OKCFA					lAmb_Lg	04 31 51.7	
OKCSW	**OKLAHOMA CITY**	**1.54**	**169**		Pb	04 31 28.5	-0.4
R32A	**Long Quarter,**	**1.66**	**335**		Pn	04 31 30.0	+0.3
FNO	**Franklin**	**1.69**	**169**		Pb	04 31 30.9	-0.7
TUL1	**Leonard** comp=Z,48nm,0.8s	**1.91**	**121**		Pn	04 31 34.0	+0.8
TUL1					lAmb_Lg	04 32 03.2	
W35A	**Tecumseh**	**1.92**	**157**		Pn	04 31 33.8	+0.5
X34A	**Smith Ranch, M** comp=Z,41nm,1.2s	**2.32**	**181**	Pn	Pn	04 31 38.4	-0.3
X34A					lAmb_Lg	04 32 14.6	
WMOK	**Wichita Mounta** comp=Z,28nm,0.9s	**2.32**	**200**	Pn	Pn	04 31 38.4	-0.4
WMOK					lAmb_Lg	04 32 12.2	
KSU1	**Kansas State U**	**2.37**	**23**		Pn	04 31 40.0	+0.6
CBKS	**Cedar Bluff**	**2.43**	**322**		Pn	04 31 40.0	-0.3
X37A	**Clayton** comp=Z,32nm,1.0s	**3.06**	**139**	Pn	Pn	04 31 48.9	0.0
X37A					lAmb_Lg	04 32 44.1	
HHAR	**Hobbs** comp=Z,19nm,1.0s	**3.18**	**100**	Pn	Pn	04 31 49.5	-1.0
HHAR					lAmb_Lg	04 32 48.7	
S39A	**Bolivar**	**3.66**	**77**	Pn	Pn	04 31 56.1	-1.0
W39A	**Magazine**	**3.69**	**117**	Pn	Pn	04 31 57.3	-0.2
W39A	comp=Z,26nm,0.9s				lAmb_Lg	04 33 03.0	
AMTX	**Amarillo** comp=Z,13nm,0.7s	**3.75**	**238**	Pn	Pn	04 31 58.2	-0.2
AMTX					lAmb_Lg	04 33 04.9	
N33A	**J Bar K, Exete** comp=Z,14nm,0.7s	**3.82**	**4**	lAmb_Lg		04 33 03.5	
U40A	**Yellville**	**4.02**	**97**	Pn	Pn	04 32 01.9	-0.2
MIAR	**Mount Ida**	**4.18**	**123**	Pn	Pn	04 32 04.6	+0.3
N35A	**Tabor**	**4.28**	**23**	Pn	Pn	04 32 06.3	+0.6
P38A	**Dawn**	**4.31**	**50**	Pn	Pn	04 32 06.7	+0.6
KSCO	**Kaye Shedlock'** comp=Z,18nm,1.0s	**4.34**	**300**	lAmb_Lg		04 33 27.1	
MGMO	**Mountain Grove**	**4.44**	**85**	Pn	Pn	04 32 08.2	+0.3
MGMO	comp=Z,14nm,0.9s				lAmb_Lg	04 33 20.4	
BGNE	**Belgrade**	**4.49**	**357**	Pn	Pn	04 32 07.2	-1.3
R40A	**Maddies Statio**	**4.61**	**71**	Pn	Pn	04 32 10.5	+0.3
FCAR	**Ozark Folk Cen** comp=Z,12nm,0.9s	**4.70**	**101**	lAmb_Lg		04 33 28.5	
X40A	**Basin Creek Fa**	**4.72**	**120**	Pn	Pn	04 32 12.8	+1.1
WHAR	**Wooly Hollow** comp=Z,13nm,0.7s	**4.76**	**108**	lAmb_Lg		04 33 35.8	
W41B	**Gary Mavity, V** comp=Z,10.0nm,0.7s	**4.83**	**110**	Pn	Pn	04 32 12.8	-0.5
W41B					lAmb_Lg	04 33 42.7	
L34A	**Svendsen Farm,**	**5.16**	**12**	Pn	Pn	04 32 17.8	0.0
P40A	**Paris** comp=Z,10nm,1.0s	**5.23**	**58**	Pn	Pn	04 32 18.8	+0.1
P40A					lAmb_Lg	04 33 49.5	
N38A	**Joes South For** comp=Z,10nm,0.7s	**5.26**	**41**	lAmb_Lg		04 33 59.0	
T25A	**Trinidad**	**5.29**	**274**	Pn	Pn	04 32 20.5	+0.8
PBMO	**Poplar Bluff** comp=Z,8.2nm,0.8s	**5.92**	**89**	lAmb_Lg		04 34 08.0	
FVM	**French Village**	**5.97**	**78**	Pn	Pn	04 32 28.6	-0.2
435B	**Jarrell** comp=Z,13nm,0.7s	**6.13**	**178**	lAmb_Lg		04 34 20.8	
Q24A	**Divide** comp=Z,8.4nm,1.1s	**6.15**	**292**	lAmb_Lg		04 34 18.9	
N41A	**Harden Midland** comp=Z,12nm,0.9s	**6.61**	**53**	lAmb_Lg		04 34 28.7	
JCT	**Junction City** comp=Z,11nm,1.0s	**6.64**	**195**	lAmb_Lg		04 34 47.4	
S44A	**Carbondale** comp=Z,8.0nm,0.8s	**6.86**	**81**	lAmb_Lg		04 34 41.4	
SIUC	**Southern Illin** comp=Z,13nm,1.1s	**6.89**	**81**	lAmb_Lg		04 34 40.9	
N23A	**Red Feather La** comp=Z,10.0nm,0.9s	**7.48**	**305**	lAmb_Lg		04 35 15.2	

IDC 19 04:38:41.8±1.4, 26.83°N×126.76E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/56, mbtmp3.4/3, Error ellipse: s-maj=38.1km s-min=19.2km az=20.0
JMA 19 04:38:42.9±0.3, 26.95°N×126.70E, h18km±3km, M3.6
ISC 19 04:38:43.1±1.9, 26.91°N±0.07°×126.76E±0.06, h9km±12km, n12, σ0.81/19, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.54**	**127**	P	**Pb**	**04 38 54.4**	**-0.3**
JAGN				S	**Sb**	**04 39 02.6**	**+0.1**
JKE	**Kume jima 2**	**0.58**	**178**	P	**Pb**	**04 38 54.9**	**-0.6**
JKE				S	**Sb**	**04 39 03.1**	**-0.8**
JIH	**Iheya**	**1.08**	**83**	P	**Pg**	**04 39 03.3**	**-0.6**
JIH				S	**Sn**	**04 39 19.2**	**-0.4**
JJT3	**Tamagusuku3**	**1.19**	**130**	P	**Pg**	**04 39 06.6**	**+0.6**
JJT3				S	**Sn**	**04 39 23.5**	**+1.2**
JNTH	**Nagotoyohara**	**1.19**	**109**	P	**Pb**	**04 39 05.4**	**-0.5**
JNTH				S	**Sn**	**04 39 21.9**	**-0.4**
JOW	**Kunigami** 43nm,0.3s,baz=127,slow=14,SNR=81	**1.35**	**93**	Pn	**Pn**	**04 39 08.0**	**-0.3**
JOW				Sn	**Sg**	**04 39 27.1**	**+0.5**
JOW	**Kunigami**	**1.35**	**93**	P	**Pn**	**04 39 07.9**	**-0.3**
JOW				S	**Sg**	**04 39 27.2**	**+0.5**
JYRO	**Yoronjima**	**1.51**	**85**	P	**Pn**	**04 39 09.9**	**-0.4**
JOKE	**Okinoerabujima**	**1.67**	**74**	P	**Pn**	**04 39 12.7**	**+0.1**
SONM	**Songino Array** 0.5nm,0.9s,baz=148,slow=8.7,SNR=4.3	**26.27**	**328**	P	**P**	**04 44 21.1**	**+2.2**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=98,slow=11,SNR=7.9	**40.10**	**312**	P	**P**	**04 46 18.4**	**-0.6**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=348,slow=8.5,SNR=1.4	**47.15**	**170**	P	**P**	**04 47 15.7**	**-0.3**

NEIC 19 04:41:19.4±1.7, 51.30°N±0.05°×174.18W±0.05, h17km±3km, mb4.5/167, ML4.2(AEIC), Error ellipse: s-maj=7.2km s-min=4.3km az=176.0
AEIC 19 04:41:19.2±2.0, 51.29°N±0.06°×174.14W±0.06, h21km±4km, Error ellipse: s-maj=8.8km s-min=5.1km az=160.0
MOS 19 04:41:21.4±1.1, 51.41°N×174.26W, h41km, mb4.9/25, Error ellipse: s-maj=10.7km s-min=6.2km az=101.4
IDC 19 04:41:22.6±3.4, 51.58°N×174.17W, h33km±25km, mb4.1/35, mb1 4.2/37, mb1mx4.1/66, mbtmp4.3/37, ML3.9/2, MS4.0/9, Ms1 4.0/9, ms1mx3.3/100, Error ellipse: s-maj=18.3km s-min=9.4km az=175.0
ISC 19 04:41:21.5±1.0, 51.35°N±0.06°×174.18W±0.04, h33km±3km, n368, σ1.914/317, mb4.6/137, MS4.0/12, 36C-18D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.86**	**359**		**Pn**	**04 41 36.5**	**-0.7**
ATKA					**Sb**	**04 41 50.8**	**+1.7**
KOFP	**Korovin Flat P**	**0.93**	**3**		**Pn**	**04 41 37.9**	**-0.4**
KOKL	**Mount Kliuchef**	**0.98**	**359**		**Pn**	**04 41 38.6**	**-0.4**
GSMY	**Great Sitkin M**	**1.36**	**302**		**Pn**	**04 41 43.5**	**-0.7**
GSTR	**Great Sitkin T**	**1.39**	**303**		**Pn**	**04 41 44.0**	**-0.6**
GSCK	**Great Sitkin C**	**1.40**	**299**		**Pn**	**04 41 44.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.41**	**301**		**Pn**	**04 41 44.5**	**-0.4**
ETKA	**Kagalaska Isla**	**1.48**	**291**		**Pn**	**04 41 45.5**	**-0.3**
ETKA					**Sb**	**04 42 05.4**	**-1.5**
ADK	**Adak**	**1.65**	**290**	P	**Pn**	**04 41 47.5**	**-0.6**
ADK						04 42 09.5	
ADK	**Adak**	**1.65**	**290**		**Pn**	**04 41 47.5**	**-0.6**
KIWB	**Kanaga Island**	**1.92**	**286**		**Pn**	**04 41 52.0**	**+0.1**
KIKV	**Kanaga Island**	**1.94**	**287**		**Pn**	**04 41 52.3**	**+0.2**
KIMD	**Kanaga Island**	**1.95**	**283**		**Pn**	**04 41 52.1**	**-0.2**
KICM	**Kanaga Island**	**1.96**	**288**		**Pn**	**04 41 52.7**	**+0.3**
TAPA	**Tanaga Point A**	**2.32**	**283**		**Pn**	**04 41 57.9**	**+0.6**
TAFP	**Tanaga Falls P**	**2.44**	**285**		**Pn**	**04 41 59.6**	**+0.6**
TAFP					**Sn**	**04 42 29.7**	**+2.2**
TASE	**Tanaga Southea**	**2.46**	**283**		**Pn**	**04 41 60.0**	**+0.7**
GAEA	**Gareloi East**	**2.88**	**280**		**Pn**	**04 42 05.7**	**+0.6**
GALAA	**Gareloi Lava P**	**2.90**	**280**		**Pn**	**04 42 05.9**	**+0.7**
NIKH	**Nikolski High**	**3.66**	**62**		**Pn**	**04 42 15.4**	**-0.3**
NIKH					**Sn**	**04 42 57.8**	**+0.1**
MSW	**Makushin Switc**	**5.19**	**57**		**Pn**	**04 42 37.4**	**+0.7**
UNV	**Unalaska Valle**	**5.30**	**59**	Pn	**Pn**	**04 42 39.7**	**+1.5**
AKRB	**Akutan Reef Bi**	**5.66**	**57**		**Pn**	**04 42 44.2**	**+1.1**
SPIA	**Saint Paul Isl**	**6.28**	**20**	Pn	**Pn**	**04 42 53.4**	**+1.8**
FALS	**False Pass**	**7.37**	**57**	Pn	**Pn**	**04 43 06.1**	**-0.5**
CHGN	**Chignik**	**10.55**	**56**	Pn	**Pn**	**04 43 48.1**	**-2.0**
GAMB	**Gambell**	**12.53**	**5**	Pn	**Pn**	**04 44 18.1**	**+0.9**
Q19K	**Cape Douglas,**	**13.94**	**49**	Pn	**Pn**	**04 44 38.4**	**+1.9**
ANM	**Nome**	**14.03**	**16**	P	**Pn**	**04 44 39.8**	**+2.2**
ANM	**Nome**	**14.03**	**16**		**Pn**	**04 44 39.8**	**+2.2**
KDAK	**Kodiak Island** 0.5nm,0.3s,baz=175,slow=3.9,SNR=13	**14.05**	**54**	*d* Pn	**Pn**	**04 44 34.7**	**-3.2**
KDAK	**Kodiak Island**	**14.05**	**54**	*d* iP	**Pn**	**04 44 35.1**	**-2.8**
N19K	**Bonanza Creek**	**14.46**	**41**		**Pn**	**04 44 45.2**	**+1.6**
TNA	**Tin City**	**14.61**	**10**		**Pn**	**04 44 45.1**	**-0.4**
L19K	**White Mountain**	**15.09**	**37**	Pn	**Pn**	**04 44 52.7**	**+0.7**
L19K	comp=Z,14nm,0.9s				lAmb	04 45 08.7	
M19K	**Big River Lodg**	**15.10**	**38**	Pn	**Pn**	**04 44 51.5**	**-0.7**
TTA	**Tatalina**	**15.15**	**33**	P	**Pn**	**04 44 54.9**	**+2.0**
TTA	comp=Z,22nm,1.0s			pmax	pmax		
TTA	**Tatalina**	**15.15**	**33**	Pn	**Pn**	**04 44 54.9**	**+2.0**
TTA	comp=Z,22nm,1.0s				lAmb	04 45 12.3	
BRLK	**Bradley Lake**	**15.57**	**48**	Pn	**Pn**	**04 44 56.4**	**-1.9**
BRLK	comp=Z,29nm,0.9s				lAmb	04 45 13.0	
K20K	**Telida**	**16.10**	**34**		**Pn**	**04 45 06.0**	**+0.9**
PPLA	**Purkeypile** comp=Z,54nm,1.4s	**16.51**	**37**	lAmb	lAmb	04 45 30.6	
PET	**Petropavlovsk**	**16.71**	**286**	↓*e*P	**P**	**04 45 16.2**	**+1.4**
PET	comp=Z,19nm,1.3s			pmax	pmax		
PET	**Petropavlovsk**	**16.71**	**286**	Pn	**Pn**	**04 45 10.3**	**-2.5**
CAST	**Castle Rocks**	**16.85**	**36**	Pn	**Pn**	**04 45 13.6**	**-1.0**
PETK	**Petropavlovsk-** comp=Z,0.8nm,0.3s,baz=96,slow=15,SNR=9.5	**17.28**	**287**	P	**Pn**	**04 45 20.4**	**+0.5**
KTH	**Kantishna Hill** comp=Z,29nm,1.0s	**17.36**	**36**	lAmb	lAmb	04 45 49.9	
TRF	**Thorofare Moun** comp=Z,44nm,1.5s	**17.54**	**37**	lAmb	lAmb	04 45 44.4	
I21K	**Tanana** comp=Z,23nm,1.0s	**17.97**	**31**	lAmb	lAmb	04 45 37.2	
SCM	**Sheep Creek Mo** comp=Z,28nm,0.9s	**17.99**	**44**	lAmb	lAmb	04 45 41.2	
H21K	**Melozitna Rive**	**18.03**	**29**	P	**P**	**04 45 30.6**	**+1.2**
MLY	**Manley** comp=Z,31nm,0.9s	**18.29**	**33**	lAmb	lAmb	04 45 48.5	
M24K	**Tolsona, Glenn** comp=Z,23nm,0.5s	**18.59**	**44**	lAmb	lAmb	04 45 41.1	
NEA2	**Nenana**	**18.62**	**35**	P	**Pn**	**04 45 35.9**	**-0.4**
I23K	**Minto, Yukon-K** comp=Z,60nm,1.1s	**18.83**	**33**	lAmb	lAmb	04 45 53.9	
CCB	**Clear Creek Bu** comp=Z,10nm,0.6s	**19.10**	**36**	lAmb	lAmb	04 45 55.9	
COLA	**College**	**19.21**	**35**	P	**Pn**	**04 45 43.7**	**+0.3**
COLA	comp=Z,14nm,0.8s			pmax	pmax		
COLA	**College**	**19.21**	**35**	P	**Pn**	**04 45 43.7**	**+0.3**
COLA	comp=Z,14nm,0.8s			lAmb	lAmb	04 46 02.9	
BILL	**Bilibino**	**19.27**	**338**	↓*e*P	**Pn**	**04 45 44.5**	**+0.5**
BILL	comp=Z,17nm,1.0s			pmax	pmax		
BILL	comp=Z,179nm,17.0s			MLR	MLR		
BILL	**Bilibino**	**19.27**	**338**	P	**Pn**	**04 45 43.4**	**-0.7**
BILL	comp=Z,35nm,1.3s			lAmb	lAmb	04 45 52.5	
HDA	**Harding Lake** comp=Z,24nm,0.7s	**19.30**	**37**	lAmb	lAmb	04 45 58.6	
POKR	**Poker Plat Res**	**19.49**	**35**	P	**P**	**04 45 45.2**	**-0.2**
ILAR	**Eielson Array** comp=Z,0.8nm,0.3s,baz=225,slow=8.8,SNR=44	**19.51**	**36**	P	**P**	**04 45 42.9**	**-2.7**
H24K	**Noodor Dome** comp=Z,66nm,1.4s	**19.73**	**33**	lAmb	lAmb	04 46 01.9	
RIDG	**Independent Ri** comp=Z,19nm,0.9s	**19.81**	**40**	lAmb	lAmb	04 46 03.3	
COLD	**Coldfoot**	**19.86**	**28**	P	**Pn**	**04 45 50.6**	**-0.5**
J25K	**Salcha River,** comp=Z,48nm,0.9s	**20.00**	**37**	lAmb	lAmb	04 46 02.6	
DOT	**Dot Lake** comp=Z,42nm,1.4s	**20.09**	**41**	P	**P**	**04 45 51.7**	**-0.3**
DOT				lAmb	lAmb	04 46 17.2	
SCRK	**Sand Creek** comp=Z,27nm,0.7s	**20.26**	**40**	lAmb	lAmb	04 46 15.1	
PRP	**Porcupine Dome** comp=Z,12nm,0.8s	**20.38**	**35**	P	**P**	**04 45 55.7**	**+0.5**
PRP				lAmb	lAmb	04 46 14.8	
CTGM	**Chitina Glacie** comp=Z,26nm,1.0s	**20.45**	**49**	lAmb	lAmb	04 46 15.6	
M27K	**Edge Creek, AK** comp=Z,17nm,1.0s	**20.57**	**45**	lAmb	lAmb	04 46 18.5	
BCAR	**Beaver Creek A**	**20.84**	**43**	P	**P**	**04 46 00.5**	**+0.5**
SEY	**Seymchan** comp=Z,3.6nm,0.6s,baz=123,slow=9.8,SNR=16	**21.25**	**316**	P	**P**	**04 46 04.6**	**+0.2**
SEY	**Seymchan** comp=Z,2.0nm,0.6s	**21.25**	**316**	↑*e*P	**P**	**04 46 05.5**	**+1.1**
SEY				pmax	pmax		
MA2	**Magadan** comp=Z,2.7nm,0.6s,baz=80,slow=12,SNR=5.7	**21.29**	**306**	P	**P**	**04 46 05.6**	**+0.7**
MA2	**Magadan** comp=Z,5.0nm,0.9s	**21.29**	**306**	↓*e*P	**P**	**04 46 05.2**	**+0.3**
MA2				pmax	pmax		
MA2	**Magadan**	**21.29**	**306**	P	**P**	**04 46 06.0**	**+1.2**
A21K	**Barrow** comp=Z,31nm,0.8s	**21.56**	**15**	lAmb	lAmb	04 46 23.9	
BMAR	**Burnt Mountain**	**21.71**	**31**	P	**P**	**04 46 11.4**	**+2.0**
DAWY	**Dawson** comp=Z,12nm,0.8s	**22.17**	**42**	P	**P**	**04 46 14.8**	**+0.4**
DAWY				lAmb	lAmb	04 46 31.2	
HYT	**Haines Junctio**	**22.26**	**51**	P	**P**	**04 46 15.8**	**+0.4**
I29M	**Ogilvie Camp,** comp=Z,16nm,0.8s	**23.05**	**39**	lAmb	lAmb	04 46 40.6	
INK	**Inuvik** comp=Z,5.6nm,0.7s,baz=249,slow=8.4,SNR=12	**25.85**	**34**	P	**P**	**04 46 48.5**	**-0.9**
INK	comp=Z,305nm,18.9s,baz=231,slow=39			LR	LR	04 58 06.2	
INK	**Inuvik** comp=Z,22nm,1.4s	**25.85**	**34**	lAmb	lAmb	04 47 02.4	
DLBC	**Dease Lake** comp=Z,2.8nm,0.6s,baz=241,slow=6.1,SNR=10	**25.95**	**57**	P	**P**	**04 46 53.0**	**+2.3**
DLBC	**Dease Lake** comp=Z,17nm,1.2s	**25.95**	**57**	lAmb	lAmb	04 47 22.7	
ASAJ	**Asahikawa** comp=Z,6.7nm,0.8s,baz=294,slow=5.9,SNR=4.4	**29.60**	**273**	P	**P**	**04 47 26.1**	**+2.9**
A36M	**Sachs Harbour** comp=Z,7.1nm,0.8s	**29.72**	**28**	lAmb	lAmb	04 47 50.1	
YAK	**Yakutsk** comp=Z,203nm,18.4s,baz=89,slow=37	**31.61**	**312**	LR	LR	05 00 44.4	
YAK	**Yakutsk** comp=Z,21nm,0.8s	**31.61**	**312**	↑*e*P	**P**	**04 47 39.8**	**-1.0**
YAK				pmax	pmax		
TIXI	**Tiksi** comp=Z,0.9nm,0.4s,baz=92,slow=23,SNR=4.4	**32.10**	**330**	P	**P**	**04 47 44.4**	**-0.6**
TIXI	comp=Z,1.0nm,0.3s,baz=275,slow=20,SNR=4.6			PcP	**PcP**	**04 50 33.9**	**+0.6**
TIXI	**Tiksi** comp=Z,5.0nm,1.7s	**32.10**	**330**	↑*e*P	**P**	**04 47 44.8**	**-0.2**
TIXI				pmax	pmax		
TIXI	**Tiksi** comp=Z,7.0nm,1.5s	**32.10**	**330**	P	**P**	**04 47 48.4**	**+3.4**
TIXI				lAmb	lAmb	04 48 05.9	
LLLB	**Lillooet**	**32.36**	**70**	P	**P**	**04 47 47.4**	**-0.1**
LLLB	comp=Z,9.1nm,1.1s			lAmb	lAmb	04 48 03.9	
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.5s,baz=275,slow=8.1,SNR=8.4	**33.14**	**47**	P	**P**	**04 47 53.5**	**-0.6**
YKA	baz=287,slow=3.2			PcP	**PcP**	**04 50 37.2**	**+0.8**
YKA	comp=Z,0.2nm,0.7s,baz=276,slow=2.5,SNR=3.7			ScP	**ScP**	**04 54 17.6**	**-0.3**
KLR	**Kul'dur** comp=Z,8.7nm,0.5s,baz=69,slow=7.0,SNR=60	**33.96**	**288**	P	**P**	**04 48 01.2**	**-0.3**
B08A	**Colville Reser** comp=Z,20nm,1.4s	**34.80**	**73**	P	**P**	**04 48 08.7**	**-0.1**
B08A				lAmb	lAmb	04 48 25.1	
H11N2	**WAKE ISLAND Hy** baz=20,slow=76,SNR=36	**34.89**	**212**	T	T	05 26 05.8	
H11N3	**WAKE ISLAND Hy** baz=20,slow=76,SNR=29	**34.90**	**212**	T	T	05 25 47.1	
H11N1	**WAKE ISLAND Hy** baz=20,slow=76,SNR=24	**34.91**	**212**	T	T	05 25 47.9	
YBH	**Yreka Blue Hor** comp=Z,1.6nm,0

EGMT Eagleton 40.62 68 IAmb IAmb 04 49 20.5
comp=Z,12nm,0.9s
LHV Little Huntoon 40.65 86 IAmb IAmb 04 49 04.0
comp=Z,8.3nm,1.3s
NVAR Mina Array Bea 40.67 86 P **P** **04 48 59.5 +0.8**
comp=Z,1.0nm,0.7s,baz=288,slow=8.4,SNR=11
OMMB Old Mammoth Mi 40.73 88 P **P** **04 48 59.6 +0.3**
OMMB IAmb IAmb 04 49 17.2
comp=Z,10nm,1.4s
ELK Elko 41.21 81 LR LR 05 03 38.3
comp=Z,208nm,18.8s,baz=283,slow=32
ELK Elko 41.21 81 P **P** **04 49 04.0 +0.8**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 41.21 81 P **P** **04 49 04.0 +0.8**
YHH Holmes Hill 41.64 73 P **P** **04 49 07.6 +0.9**
YHH IAmb IAmb 04 49 27.4
comp=Z,6.9nm,0.9s
FFC Flin Flon 41.78 56 P **P** **04 49 07.3 -0.1**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 41.78 56 P **P** **04 49 07.3 -0.1**
FFC IAmb IAmb 04 49 21.0
comp=Z,6.3nm,0.9s
LKWY Lake 42.03 73 IAmb IAmb 04 49 30.9
comp=Z,8.9nm,1.1s
KSRS Korea Array 42.53 274 P **P** **04 49 14.9 +1.3**
comp=Z,3.4nm,0.7s,baz=50,slow=7.8,SNR=8.1
KSRS Korea Array 42.53 274 *eP* **P** **04 49 16.9 +3.2**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
TPNV Topopah Spring 42.87 86 P **P** **04 49 17.2 +0.6**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 42.87 86 P **P** **04 49 17.2 +0.6**
DUG Dugway, Tooele 43.03 80 IAmb IAmb 04 49 41.5
comp=Z,5.8nm,0.9s
PRN Pahroc Range 43.33 85 IAmb IAmb 04 49 38.9
comp=Z,9.3nm,0.9s
BW06 Boulder Array 43.54 75 IAmb IAmb 04 49 45.3
comp=Z,5.6nm,0.9s
PD31 Pinedale Array 43.54 75 IAmb IAmb 04 49 45.3
comp=Z,5.4nm,0.9s
PDAR Pinedale Array 43.54 75 P **P** **04 49 22.2 +0.1**
comp=Z,1.9nm,0.7s,baz=315,slow=3.3,SNR=20
PDAR Pinedale Array 43.54 75 P **P** **04 49 21.8 -0.3**
GSC Goldstone, Bar 43.56 89 IAmb IAmb 04 49 29.6
comp=Z,7.9nm,1.1s
TMUT Trail Mountain 44.56 80 IAmb IAmb 04 49 48.3
comp=Z,5.1nm,0.8s
LCMT Little Creek M 44.70 84 P **P** **04 49 31.6 +0.2**
RDMU Red Mountain 44.81 78 IAmb IAmb 04 49 49.4
comp=Z,7.9nm,0.9s
P18A Preston Nutter 44.96 79 IAmb IAmb 04 49 58.0
comp=Z,6.7nm,1.0s
SRU San Rafael Swe 45.10 80 IAmb IAmb 04 49 52.9
comp=Z,4.3nm,0.7s
U15A North Rim 45.66 84 IAmb IAmb 04 49 55.6
comp=Z,5.0nm,1.0s
NRIK Noril'sk 45.88 331⇑ *eP* **P** **04 49 41.8 +1.8**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
NRIK Noril'sk 45.88 331 P **P** **04 49 40.2 +0.1**
NRIK IAmb IAmb 04 49 45.0
comp=Z,4.4nm,0.9s
O20A White River Ci 45.88 77 IAmb IAmb 04 49 57.2
comp=Z,8.9nm,0.7s
PV13 Radium Mtn., P 46.73 80 P **P** **04 49 47.0 -0.5**
PV13 IAmb IAmb 04 50 15.9
comp=Z,7.8nm,0.9s
ULM Lac du Bonnet 47.25 59 P **P** **04 49 51.1 +0.1**
comp=Z,3.6nm,0.4s,baz=316,slow=8.1,SNR=6.7
ULM Lac du Bonnet 47.25 59 *eP* **P** **04 49 50.8 -0.2**
ULM pmax pmax
comp=Z,4.0nm,0.4s
ULM Lac du Bonnet 47.25 59 IAmb IAmb 04 50 05.5
comp=Z,11nm,1.2s
BJI Beijing 48.20 285 P **P** **04 49 59.8 +1.3**
BJI pmax pmax
comp=Z,12nm,0.8s
BJT Baijiatuau 48.22 285 P **P** **04 49 57.7 -1.0**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 48.22 285 P **P** **04 49 57.6 -1.0**
S22A 4UR Ranch, Cre 48.22 79 IAmb IAmb 04 50 02.6
comp=Z,3.7nm,1.2s
ULN Ulaanbaatar 48.84 299⇓ *iP* **P** **04 50 03.7 +0.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 48.84 299 P **P** **04 50 02.9 -0.7**
ULN IAmb IAmb 04 50 04.4
comp=Z,6.5nm,1.1s
SUSD Miller 48.84 67 P **P** **04 50 03.5 0.0**
SONM Songino Array 49.22 299 P **P** **04 50 06.8 +0.3**
comp=Z,4.1nm,0.8s,baz=48,slow=7.7,SNR=33
SONM LR LR 05 12 10.5
comp=Z,201nm,19.7s,baz=28,slow=38
SONM Songino Array 49.22 299 P **P** **04 50 06.1 -0.4**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 49.22 299 P **P** **04 50 06.1 -0.4**
SONM IAmb IAmb 04 50 07.5
comp=Z,4.5nm,0.9s
ZAK Zakamensk 49.42 303 *eP* **P** **04 50 07.8 -0.1**
ZAK *e* 04 50 20.5
ZAK pmax pmax
comp=Z,20nm,1.3s
ZAK pmax pmax
comp=Z,12nm,1.3s
ZAK pmax pmax
comp=Z,8.0nm,1.4s
B35A Bob, Littlefor 49.48 60 IAmb IAmb 04 50 22.5
comp=Z,10nm,1.1s
T25A Trinidad 50.09 78 P **P** **04 50 13.1 -0.2**
T25A IAmb IAmb 04 50 30.7
comp=Z,9.3nm,0.9s
HHC Hu-ho-hao-te 50.46 289 *eP* **P** **04 50 16.1 +0.1**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.0s
SPITS Spitsbergen Ar 50.58 357 P **P** **04 50 15.8 -0.4**
comp=Z,8.6nm,0.9s,baz=45,slow=6.0,SNR=15
HNS HongShan 50.75 283⇓ P **P** **04 50 19.6 +1.6**
HNS pmax pmax
comp=Z,34nm,0.9s
BGNE Belgrade 51.16 70 P **P** **04 50 21.8 +0.6**
FRB Frobisher Bay 51.50 33 LR LR 05 13 29.3
comp=Z,144nm,21.6s,baz=326,slow=38
BTO Baotou 51.53 289 *eP* **P** **04 50 24.1 +0.1**
NJ2 Nanjing 51.70 275 *eP* **P** **04 50 23.3 -1.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
SFJD Kangerlussuaq 54.55 24 LR LR 05 15 57.7
comp=Z,165nm,21.8s,baz=306,slow=38
TX31 Lajitas Ar. Si 55.78 85 P **P** **04 50 55.3 0.0**
TX32 Lajitas Array 55.78 85 IAmb IAmb 04 51 19.8
comp=Z,9.6nm,1.5s
TXAR Lajitas Array 55.78 85 P **P** **04 50 55.3 +0.1**
comp=Z,1.0nm,0.9s,baz=305,slow=5.8,SNR=9.0
ZALV Zalesovo Beam 56.12 316 P **P** **04 50 56.7 -0.4**
comp=Z,0.6nm,0.4s,baz=33,slow=7.5,SNR=2.7
ZALV PcP **PcP** **04 51 55.0 +0.2**
comp=Z,1.7nm,0.7s,baz=35,slow=3.0,SNR=5.5
ZALV Zalesovo Beam 56.12 316 P **P** **04 50 57.4 +0.2**
SSLB Suanglung 56.19 266 P **P** **04 50 56.4 -1.7**
XAN Xi'an 56.49 284 P **P** **04 51 00.4 +0.2**
XAN pP sP 04 51 10.8 -1.4
XAN pmax pmax
comp=Z,13nm,1.2s
R40A Maddies Statio 56.63 69 IAmb IAmb 04 51 14.2
comp=Z,6.2nm,0.6s
VLDQ Val d'Or 58.07 52 IAmb IAmb 04 51 10.6
comp=Z,8.4nm,0.8s
LZH Lanzhou 58.15 289 *eP* **P** **04 51 13.1 +1.1**
LZH pP pP 04 51 17.4 -3.3
LZH sP sP 04 51 20.4 -3.6
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=N,160nm,13.0s
LZH LR LR
comp=E,160nm,11.1s
LZH LR LR
comp=Z,230nm,16.3s
SCHQ Schefferville 58.19 41 P **P** **04 51 12.0 +0.2**
comp=Z,26nm,0.7s,baz=300,slow=6.3,SNR=5.7
GTA Gaotai 58.24 295⇓ P **P** **04 51 12.8 +0.2**
GTA pP pP 04 51 16.8 -4.4
GTA sP sP 04 51 19.3 -5.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,180nm,4.1s
GTA LR LR
comp=N,120nm,19.3s
GTA LR LR
comp=E,110nm,20.7s
GTA LR LR
comp=Z,160nm,20.4s
FCAR Ozark Folk Cen 58.33 71 P **P** **04 51 12.4 -0.6**
FCAR IAmb IAmb 04 51 32.7
comp=Z,9.5nm,1.0s
ARCES ARCESS Array B 58.57 352 P **P** **04 51 13.6 -0.7**
comp=Z,2.5nm,0.5s,baz=26,slow=7.3,SNR=23
ARCES PcP **PcP** **04 52 04.6 +0.4**
comp=Z,7.3nm,0.7s,baz=29,slow=5.5,SNR=4.5
ARCES ARCESS Array B 58.57 352 *eP* **P** **04 51 12.0 -2.2**
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 58.57 352 IAmb IAmb 04 51 16.7
comp=Z,14nm,1.4s
TRQ Mont Tremblant 60.80 52 P **P** **04 51 30.1 +0.1**
KURK Kurchatov 61.10 316*c iP* **P** **04 51 31.6 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 61.10 316 P **P** **04 51 31.4 -0.4**
KURBB Kurchatov Arra 61.20 316 P **P** **04 51 31.8 -0.7**
comp=Z,3.8nm,0.5s,baz=44,slow=6.8,SNR=45
WMQ Urumqi 61.75 306 *eP* **P** **04 51 37.0 +0.5**
WMQ sP pP 04 51 45.3 +0.1
WMQ pmax pmax
comp=Z,14nm,0.7s
L56A Greenwood 62.17 57 P **P** **04 51 40.4 +1.1**
MK31 Makanchi Array 62.28 311 IAmb IAmb 04 52 01.3
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 62.28 311 P **P** **04 51 39.2 -0.8**
comp=Z,1.1nm,0.4s,baz=45,slow=5.8,SNR=41
MAKZ Makanchi 62.42 311 P **P** **04 51 40.4 -0.5**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 62.42 311 P **P** **04 51 40.4 -0.5**
MAKZ IAmb IAmb 04 51 57.4
comp=Z,1.7nm,0.6s
J58A Remsen 62.47 54 P **P** **04 51 41.7 +0.4**
BRVK Borovoye 62.75 322⇓ *eP* **P** **04 51 43.4 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 62.75 322 P **P** **04 51 43.0 0.0**
BRVK IAmb IAmb 04 51 44.3
comp=Z,3.2nm,0.6s
GOMU GeErMu 63.32 295 P **P** **04 51 46.6 -0.8**
GOMU pP pP 04 51 50.3 -5.8
GOMU sP sP 04 51 52.6 -6.9
GOMU PcP **PcP** **04 52 24.4 +0.1**
GOMU PP **PP** **04 54 03.3 -3.2**
GOMU S **S** **05 00 08.8 -8.7**
GOMU sS pS 05 00 28.8 +0.8
GOMU GeErMu 63.32 295 SS SS 05 04 33.5 +10
GOMU pmax pmax
comp=Z,6.0nm,0.9s
GOMU pmax pmax
comp=Z,91nm,4.5s
GOMU LR LR
comp=N,74nm,16.4s
GOMU LR LR
comp=E,73nm,15.0s
TKL Tuckaleechee C 63.36 66 LR LR 05 17 29.9
comp=E,156nm,19.5s,baz=310,slow=34
PZH PanZhiHua 66.19 283 P **P** **04 52 07.8 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,4.7s
FINES FINESS Array B 66.40 350 P **P** **04 52 05.6 -0.9**
comp=Z,2.6nm,0.7s,baz=18,slow=7.1,SNR=11
FINES PcP **PcP** **04 52 36.5 +0.5**
comp=Z,1.9nm,0.5s,baz=43,slow=3.6,SNR=5.7
NB2 NORSAR Subarra 67.88 357 P **P** **04 52 15.8 -0.3**
comp=Z,0.7nm,0.5s,baz=4.4,slow=6.5
NOA NORSAR Array B 67.88 357 P **P** **04 52 15.3 -0.7**
comp=Z,1.1nm,0.7s,baz=3.5,slow=7.4,SNR=13
AAK Ala-Archa 69.06 313 P **P** **04 52 25.0 +1.0**
comp=Z,4.1nm,0.5s,baz=132,slow=5.0,SNR=12
AAK Ala-Archa 69.06 313*d iP* **P** **04 52 24.9 +1.0**
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 69.06 313 P **P** **04 52 24.6 +0.7**
ABKAR Akbulak array 69.66 326 P **P** **04 52 28.1 +0.8**
KKAR Karatay Array 70.49 315 P **P** **04 52 32.5 0.0**
KKAR Karatay Array 70.49 315 P **P** **04 52 32.5 0.0**
BELG Belogornoye 70.79 334⇓ *eP* **P** **04 52 32.8 -1.3**
BELG pmax pmax
comp=Z,3.0nm,1.4s
KSH Kashi 70.80 310 P **P** **04 52 38.5 +3.9**
KSH pP pP 04 52 41.6 -1.8
KSH pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 70.86 342⇑ *eP* **P** **04 52 36.6 +2.1**
OBN *e* 04 52 57.8
OBN *e* 04 55 16.1
OBN pmax pmax
comp=Z,7.0nm,0.6s
BORU Boraas 71.23 356 *i* P **P** **04 52 36.0 -0.7**
FABU Falkenberg 71.86 356 *i* P **P** **04 52 39.6 -0.9**
DEL Delary 72.34 355 *i* P **P** **04 52 43.8 +0.4**
BLEU Blekinge 72.39 354 *i* P **P** **04 52 42.6 -1.1**
SHL Shillong 72.82 289 P **P** **04 52 46.5 -0.5**
SHL pmax pmax
comp=Z,14nm,0.8s
SHL Shillong 72.82 289 P **P** **04 52 46.5 -0.5**
CHTO Chiang Mai 73.62 280 P **P** **04 52 51.6 +0.1**
CHTO pmax pmax
comp=Z,15nm,1.5s
CHTO Chiang Mai 73.62 280 P **P** **04 52 51.6 +0.1**
CHTO IAmb IAmb 04 53 07.1
comp=Z,15nm,1.4s
GAR Garm 73.87 313 P **P** **04 52 52.6 -0.3**
CMAR Chiang Mai Arr 73.89 279 P **P** **04 52 55.7 +2.6**
comp=Z,2.3nm,0.4s,baz=24,slow=6.9,SNR=12
CMAR LR LR 05 30 06.6
comp=Z,34nm,18.1s,baz=20,slow=40
CMAR Chiang Mai Arr 73.89 279 P **P** **04 52 54.0 +0.9**
CMAR Chiang Mai Arr 73.89 279 P **P** **04 52 54.0 +0.9**
TAPN Taplejung 73.91 294 *eP* **P** **04 52 54.2 +0.7**
comp=Z,66nm,0.9s
ODAN Odare 74.46 293 *eP* **P** **04 52 57.9 +1.2**
GUN Gumba 74.52 295 *eP* **P** **04 52 58.1 +0.9**
comp=Z,71nm,0.8s
JIRN Jiri 74.54 295 *eP* **P** **04 52 58.3 +1.0**
RAMN Ramite 74.85 294 *eP* **P** **04 52 59.7 +0.8**
comp=Z,28nm,0.5s
KKN Kakani 74.95 296 *eP* **P** **04 53 00.7 +1.2**
PKI Pulchoki 75.05 295 *eP* **P** **04 53 00.7 +0.5**
PKIN Phulchoki 75.05 295 *eP* **P** **04 53 00.9 +0.8**
DMN Daman 75.19 296 *eP* **P** **04 53 01.8 +0.9**
DANN Dangsing 75.38 297 *eP* **P** **04 53 02.8 +0.8**
comp=Z,81nm,0.8s
KOLN Koldanda 75.92 297 *eP* **P** **04 53 05.7 +0.7**
PYUN Piuthan 76.00 297 *eP* **P** **04 53 06.0 +0.5**
comp=Z,74nm,0.9s
AKASG Malin Array Be 76.40 345 P **P** **04 53 05.9 -1.1**
comp=Z,2.0nm,0.4s,baz=18,slow=6.0,SNR=11
AKASG Malin Array Be 76.40 345 *eP* **P** **04 53 06.1 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
CLL Collm 77.54 355 P **P** **04 53 13.2 -0.3**
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 77.54 355 P **P** **04 53 13.2 -0.3**
CLL Collm 77.54 355 *i* P **P** **04 53 13.3 -0.3**
comp=Z,7.0nm,0.6s
CLL *e*PcP **sP** **04 53 25.0 -0.7**
CLL LmV 05 30 00.0
comp=Z,100nm,19.1s
BRG Berggiesshubel 77.92 355 *eP* **P** **04 53 15.7 +0.1**
BRG Amp 04 53 17.9
comp=Z,7.2nm,0.8s
BRG *ex* x 04 53 27.8
BRG Amp 04 53 29.8
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 77.92 355 *eP* **P** **04 53 15.7 +0.1**
BRG *e* 04 53 27.8
BRG pmax pmax
comp=Z,7.0nm,0.8s
CHVC Chvalec 78.07 353 *eP* **P** **04 53 16.7 +0.2**
KBL Kabul 78.09 311 P **P** **04 53 16.1 -1.1**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 78.09 311 P **P** **04 53 16.1 -1.1**
UPC Upice 78.15 353 *eP* **P** **04 53 17.3 +0.4**
UPC Upice 78.15 353 *eP* **P** **04 53 17.3 +0.4**
PVCC Panska Ves 78.23 354 *eP* **P** **04 53 17.8 +0.5**
PVCC Panska Ves 78.23 354 *eP* **P** **04 53 17.8 +0.5**
DPC Dobruska-Polom 78.28 353 *eP* **P** **04 53 18.2 +0.5**
DPC Dobruska-Polom 78.28 353 *eP* **P** **04 53 18.2 +0.5**
KRLC Kraliky 78.52 353 *eP* **P** **04 53 19.3 +0.2**
KRLC Kraliky 78.52 353 *eP* **P** **04 53 19.3 +0.2**
NKC Novy Kostel 78.64 356 *eP* **P** **04 53 20.3 +0.6**
NKC Novy Kostel 78.64 356 *eP* **P** **04 53 20.3 +0.6**
MORC Moravsky Berou 78.76 352⇑ P **P** **04 53 20.2 -0.2**
MORC Moravsky Berou 78.76 352⇑ P **P** **04 53 20.2 -0.2**
MORC Moravsky Berou 78.76 352 *eP* **P** **04 53 20.0 -0.3**
PRU Pruhonice 78.77 354 *eP* **P** **04 53 20.8 +0.5**
PRU Pruhonice 78.77 354 *eP* **P** **04 53 20.8 +0.5**
SORM Soroca 79.03 345⇑ P **P** **04 53 21.7 -0.1**
SORM Soroca 79.03 345⇑ P **P** **04 53 21.7 -0.1**
PBCC Pribram 79.10 355 *eP* **P** **04 53 22.7 +0.5**
GRF Grafenberg Arr 79.23 356 *eP* **P** **04 53 23.9 +1.0**
comp=Z,17nm,0.8s,baz=3.5,slow=4.7
GRFO Grafenberg 79.23 356 P **P** **04 53 22.8 -0.1**
GRFO pmax pmax
comp=Z,15nm,0.7s
GRFO Grafenberg 79.23 356 P **P** **04 53 22.8 -0.1**
VRAC Vranov 79.30 353⇑ P **P** **04 53 21.9 -1.4**
VRAC Vranov 79.30 353⇑ P **P** **04 53 21.9 -1.4**
VRAC Vranov 79.30 353 *eP* **P** **04 53 22.1 -1.2**
KHC Kasperske Hory 79.68 355 P **P** **04 53 26.3 +0.9**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 79.68 355 *eP* **P** **04 53 26.1 +0.7**
KHC Kasperske Hory 79.68 355 P **P** **04 53 26.3 +0.9**
KHC IAmb IAmb 04 53 28.2
comp=Z,5.4nm,0.9s
CKRC Cesky Krumlov 79.95 354 *eP* **P** **04 53 26.6 -0.2**
GEC2 GERESS Array S 79.96 355 P **P** **04 53 27.2 +0.3**
GEC2 IAmb IAmb 04 53 29.6
comp=Z,3.7nm,0.8s
GERES GERESS Array B 79.96 355 P **P** **04 53 27.0 +0.1**
comp=Z,2.5nm,0.7s,baz=15,slow=5.5,SNR=26
GERES GERESS Array B 79.96 355 *eP* **P** **04 53 27.5 +0.5**
GERES pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 79.99 334⇑ *eP* **P** **04 53 25.4 -1.7**
KBZ pmax pmax
comp=Z,15nm,2.1s
GEYT Alibeck 80.01 321 P **P** **04 53 27.7 +0.3**
comp=Z,2.2nm,0.6s,baz=254,slow=9.1,SNR=4.5
GEYT Alibeck 80.01 321 P **P** **04 53 28.1 +0.7**
GEYT IAmb IAmb 04 53 31.6
comp=Z,12nm,1.4s
BURAR Bucovina Array 80.02 347⇓ P **P** **04 53 27.3 0.0**
BURAR Bucovina Array 80.02 347⇓ P **P** **04 53 27.3 0.0**
BURAR Bucovina Array 80.02 347 P **P** **04 53 27.2 -0.1**
BURAR IAmb IAmb 04 53 28.3
comp=Z,3.5nm,0.7s
CONA Conrad Observa 80.73 353 *i* P **P** **04 53 31.5 +0.4**
comp=Z,2.8nm,0.7s,SNR=4.8
ECH Echery 80.81 359 P **P** **04 53 31.8 +0.3**
ECH pmax pmax
comp=Z,7.0nm,0.8s
ECH Echery 80.81 359 P **P** **04 53 31.8 +0.3**
ECH IAmb IAmb 04 53 33.2
comp=Z,6.6nm,0.8s
MOA Molln 80.92 354 *eP* **P** **04 53 32.0 0.0**
comp=Z,1.7nm,0.9s
BIOA Bad Ischl, Aus 81.11 355 *eP* **P** **04 53 33.2 +0.1**
comp=Z,9.5nm,1.7s
DRGR 81.16 348⇑ P **P** **04 53 33.7 +0.3**
DRGR 81.16 348⇑ P **P** **04 53 33.7 +0.3**
HRA Herat 81.31 316 P **P** **04 53 34.4 -0.2**
HRA IAmb IAmb 04 53 36.1
comp=Z,7.5nm,0.8s
ARSA Arzberg 81.43 353 *eP* **P** **04 53 36.9 +2.2**
comp=Z,4.3nm,0.9s
RETA Reutte 81.45 357 *eP* **P** **04 53 35.5 +0.5**
comp=Z,2.0nm,0.7s
VRI Vrincioaia 81.50 345⇑ P **P** **04 53 36.0 +0.8**
VRI Vrincioaia 81.50 345⇑ P **P** **04 53 36.0 +0.8**
WATA Walderalm 81.57 356 *eP* **P** **04 53 36.6 +0.9**
comp=Z,2.4nm,0.4s
MOTA Moosalm 81.58 356 *eP* **P** **04 53 36.1 +0.3**
comp=Z,2.7nm,0.6s
DOPR Dopca 81.60 346⇑ P **P** **04 53 37.2 +1.4**
WTTA Wattenberg 81.64 356 *eP* **P** **04 53 37.0 +0.9**
comp=Z,5.9nm,0.9s
DAVA Damuels 81.68 357 *eP* **P** **04 53 36.6 +0.3**
comp=Z,5.4nm,1.1s
SQTA Sankt Quirin 81.70 356 *eP* **P** **04 53 37.0 +0.6**
comp=Z,5.8nm,0.8s
KBA Koelnbreinsper 81.74 355 *eP* **P** **04 53 37.5 +0.9**
comp=Z,8.7nm,0.7s
TLCR 81.81 344⇑ P **P** **04 53 37.7 +1.0**
TLCR 81.81 344⇑ P **P** **04 53 37.7 +1.0**
FETA Feichten 81.92 357 *i* P **P** **04 53 38.3 +0.7**
comp=Z,3.2nm,0.8s,SNR=6.2
CFR Carcaliu 81.94 344⇑ P **P** **04 53 39.0 +1.6**
CFR Carcaliu 81.94 344⇑ P **P** **04 53 39.0 +1.6**
MLR Muntele Rosu 81.99 346⇓ P **P** **04 53 39.9 +2.0**
MLR Muntele Rosu 81.99 346⇓ P **P** **04 53 39.9 +2.0**
SOKA Soboth 82.03 354 *i* P **P** **04 53 38.5 +0.4**
comp=Z,4.6nm,0.8s,SNR=6.6
ABTA Abfaltersbach 82.11 355 *eP* **P** **04 53 38.7 +0.2**
comp=Z,5.7nm,1.0s
MYKA Terra Mystica 82.17 355 *eP* **P** **04 53 39.5 +0.8**
comp=Z,2.4nm,0.9s
VOIR 82.17 346⇓ P **P** **04 53 39.2 +0.4**
VOIR 82.17 346⇓ P **P** **04 53 39.2 +0.4**
OBKA Obir 82.23 354 *i* P **P** **04 53 40.3 +1.2**
comp=Z,6.2nm,0.7s,SNR=10
ARR Arges 82.30 347⇑ P **P** **04 53 41.7 +2.3**
HARR Harsova 82.44 344⇑ P **P** **04 53 41.1 +1.0**
HARR Harsova 82.44 344⇑ P **P** **04 53 41.1 +1.0**
BZS Buzias 82.46 349⇑ P **P** **04 53 40.1 -0.1**
BZS Buzias 82.46 349⇑ P **P** **04 53 40.1 -0.1**
TUE Stuetta 82.51 358 P **P** **04 53 41.0 +0.3**
TUE IAmb IAmb 04 53 43.7
comp=Z,7.1nm,0.8s
GZR Gura Zlata 82.53 348⇑ P **P** **04 53 40.5 -0.1**
GZR Gura Zlata 82.53 348⇑ P **P** **04 53 40.5 -0.1**
TLBR Topalu 82.57 344⇑ P **P** **04 53 41.7 +1.0**
TIRR Tirgusor 82.59 344⇑ P **P** **04 53 41.9 +1.1**
TIRR Tirgusor 82.59 344⇑ P **P** **04 53 41.9 +1.1**
TSCT Constanta Port 82.83 344⇑ P P 04 53 28.4 -14
TEOL Teolo 83.54 356 P **P** **04 53 45.8 0.0**
BNI Bardonecchia 83.98 359 P **P** **04 53 50.2 +2.0**
BNI pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 83.98 359 P **P** **04 53 50.2 +2.0**
VTS Vitosha 85.19 347⇑ P **P** **04 53 53.4 -1.0**
VTS Vitosha 85.19 347⇑ P **P** **04 53 53.4 -1.0**
OSSC Osservatorio P 85.39 356 P **P** **04 53 55.7 +0.5**
MURB Monte Urbino 85.59 355 P **P** **04 53 57.4 +1.2**
BRTR Keskin Array B 86.10 339 P **P** **04 53 59.0 +0.1**
comp=Z,1.2nm,0.7s,baz=351,slow=1.3,SNR=8.3
BRTR Keskin Array B 86.10 339 *eP* **P** **04 53 59.7 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 86.10 339 P **P** **04 53 58.6 -0.3**
MARD Mardin 86.54 333 P **P** **04 54 00.5 -0.7**
FITZ Fitzroy Crossi 86.78 236 P **P** **04 54 02.7 +0.5**
comp=Z,4.6nm,0.8s,baz=56,slow=3.6,SNR=7.4
FITZ Fitzroy Crossi 86.78 236 IAmb IAmb 04 54 03.4
comp=Z,5.0nm,0.8s
HYBB Hyderabad (bro 86.91 294 *eP* **P** **04 54 02.7 -0.3**
AS31 Alice Springs 87.49 226 P **P** **04 54 04.4 -1.2**
AS31 IAmb IAmb 04 54 08.2
comp=Z,2.2nm,0.6s
ESDC Sonseca Array 88.95 8 P **P** **04 54 12.6 +0.1**
comp=Z,1.0nm,0.7s,baz=347,slow=3.8,SNR=11
ESDC Sonseca Array 88.95 8 IAmb IAmb 04 54 39.9
comp=Z,2.7nm,1.4s
STKA Stephens Creek 91.55 216 P **P** **04 54 25.4 +1.1**
comp=Z,3.2nm,1.0s,baz=348,slow=9.3,SNR=4.1
STKA LR LR 05 33 04.2

comp=Z,47nm,20.3s,baz=27,slow=34
TORD Torodi Ar. Bea 115.68 4 PKP **PKiKP 04 59 59.9 -0.5**
comp=Z,0.3nm,0.7s,baz=32,slow=2.3,SNR=1.9
H03N2 Juan Fernandez 118.37 109 T T 07 10 13.0
baz=317,slow=78,SNR=6.7
H03N1 Juan Fernandez 118.38 109 T T 07 10 14.5
baz=317,slow=78,SNR=8.9
H03N3 Juan Fernandez 118.39 109 T T 07 10 13.0
baz=317,slow=78,SNR=7.4
TSUM Tsumeb 146.60 340 PKPbc **PKPbc 05 00 59.3 -0.3**
BELA Belgrano 2 149.56 164 PKPbc **PKPbc 05 01 05.7 +0.1**
BOSA Boshof 153.01 320 PKPbc **PKiKP 05 01 15.6 +0.2**
comp=Z,1.6nm,0.4s,baz=354,slow=4.0,SNR=8.4

IDC ***19*** *04:48:30.1±0.8, 1°.20N×126°.10E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/51, mbtmp4.0/9, ML4.2/1, Error ellipse: s-maj=72.4km s-min=14.7km az=71.0*
DJA ***19*** *04:48:35.9±0.4, 1°.N±6°×12°.6E±°, h10km, M4.0/8, mb4.4/2, MLv3.9/8*
NEIC ***19*** *04:48:37.0±1.3, 1°.1N±0°.2×126°.25E±0°.08, h57km±12km, mb4.2/8, Error ellipse: s-maj=22.8km s-min=10.4km az=193.0*

ISC 19 04:48:36.6±0.7, 1°.28N±0°.08×126°.38E±0°.07, h50km, n29,
σ1ᵖ33/30, mb4.2/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.11**	**117**		**Pn**	**04 48 56.5**	**+0.7**
TNTI	**Ternate**	**1.11**	**117**	P	**Pn**	**04 48 56.9**	**+1.1**
LBMI	**Labuha**	**2.21**	**149**	P	**Pn**	**04 49 12.2**	**+1.3**
KMSI	**Cibinong**	**2.50**	**254**	P	**Pn**	**04 49 15.3**	**+0.5**
SANI	**Sanana**	**3.33**	**187**	P	**Pn**	**04 49 26.1**	**-0.1**
GTOI	**Gorontalo**	**3.43**	**259**	P	**Pn**	**04 49 28.9**	**+1.3**
MRSI	**Marisa**	**4.51**	**260**	P	**Pn**	**04 49 44.4**	**+2.0**
TOLI2	**Tolitoli**	**5.60**	**268**		**Pn**	**04 49 55.3**	**-2.1**
MPSI	**Mapaga**	**6.55**	**262**	P	**Pn**	**04 50 13.0**	**+2.6**
	0.1nm21nm,0.8s						
SPSI	**Sidrap Palu**	**8.41**	**232**	P	**Pn**	**04 50 37.3**	**+1.3**
MYLDM	**Lahad Datu**	**8.77**	**296**	Pn	**Pn**	**04 50 41.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P	**P**	**04 52 56.4**	**-0.9**
	0.5nm,0.3s,baz=360,slow=9.5,SNR=15						
WB0	**Warramunga Arr**	**22.34**	**160**	P	**P**	**04 53 29.0**	**-1.5**
WRAB	**Tennant Creek**	**22.48**	**160**	P	**P**	**04 53 29.7**	**-2.3**
WRAB				IAmb	IAmb	04 53 36.7	
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**22.49**	**160**	P	**P**	**04 53 31.4**	**-0.6**
	comp=Z,3.5nm,0.3s,baz=333,slow=11,SNR=73						
WB2	**Warramunga Arr**	**22.49**	**160**	P	**P**	**04 53 30.0**	**-2.1**
WB2				IAmb	IAmb	04 53 36.8	
	comp=Z,10.0nm,0.8s						
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**04 54 03.2**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=346,slow=7.3,SNR=41						
ASAR				PcP	**PcP**	**04 57 32.8**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=342,slow=2.0,SNR=4.8						
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**04 54 03.0**	**-0.7**
STKA	**Stephens Creek**	**35.99**	**158**	P	**P**	**04 55 33.4**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=336,slow=9.0,SNR=5.5						
KLR	**Kul'dur**	**47.99**	**5**	P	**P**	**04 57 11.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=185,slow=11,SNR=4.5						
SONM	**Songino Array**	**49.51**	**342**	P	**P**	**04 57 23.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=168,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**59.37**	**326**	P	**P**	**04 58 33.5**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=118,slow=8.0,SNR=17						
MAKZ	**Makanchi**	**59.55**	**326**	P	**P**	**04 58 32.6**	**-2.5**
MAKZ				IAmb	IAmb	04 58 39.8	
	comp=Z,2.0nm,0.9s						
ZAA0	**Zalesovo Array**	**62.61**	**334**	P	**P**	**04 58 55.3**	**-0.3**
ZALV	**Zalesovo Beam**	**62.61**	**334**	P	**P**	**04 58 54.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**63.61**	**328**	P	**P**	**04 59 02.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=125,slow=6.4,SNR=17						
KURK	**Kurchatov**	**63.62**	**328**	P	**P**	**04 59 02.2**	**-0.2**
KKAR	**Karatay Array**	**64.79**	**318**	P	**P**	**04 59 09.0**	**-1.3**
ABKAR	**Akbulak array**	**73.82**	**321**	P	**P**	**05 00 05.4**	**-0.6**
ABKAR				IAmb	IAmb	05 00 08.5	
	comp=Z,2.2nm,0.8s						

PGC ***19*** *04:52:48.1±0.5, 49°.43N×130°.06W, h10km, MLSn2.9/19, Mw3.5/19, 235km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
IDC ***19*** *04:52:51.3±2.9, 49°.70N×129°.81W, h0km, mb3.9/1, mb1 3.6/5, mb1mx3.3/56, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=37.2km s-min=20.5km az=67.0*

ISC 19 04:52:50.9±3.2, 49°.68N±0°.07×129°.82W±0°.07, h7km±18km, n42, σ1ᵖ45/50, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.45**	**48**	Pn	**Pn**	**04 53 16.4**	**-1.2**
HOLB				Sn	**Sg**	**04 53 37.1**	**-0.4**
PACB	**Port Alice, BC**	**1.68**	**62**	Pn	**Pn**	**04 53 19.0**	**-1.7**
PACB				Sn	**Sn**	**04 53 41.7**	**-0.8**
EDB	**Eliza Dome**	**1.76**	**83**	Pn	**Pn**	**04 53 19.4**	**-2.5**
EDB				Sn	**Sn**	**04 53 42.8**	**-1.7**
PHC	**Port Hardy**	**1.85**	**55**	Pn	**Pn**	**04 53 22.0**	**-1.0**
PHC				Sn	**Sn**	**04 53 46.4**	**-0.3**
MAYB	**Maynard**	**1.86**	**66**	Pn	**Pn**	**04 53 21.4**	**-1.8**
MAYB				Sn	**Sn**	**04 53 44.6**	**-2.4**
WOSB	**Woss**	**2.16**	**76**	Pn	**Pn**	**04 53 26.2**	**-1.1**
GDR	**Gold River**	**2.46**	**86**	Pn	**Pn**	**04 53 29.6**	**-1.8**
NCRB	**Newcastle Ridg**	**2.53**	**72**	Pn	**Pn**	**04 53 31.6**	**-0.9**
SPLB	**Strathcona Par**	**2.71**	**84**	Pn	**Pn**	**04 53 34.0**	**-0.9**
BBB	**Bella Bella**	**2.73**	**23**	Pn	**Pn**	**04 53 34.7**	**-0.5**
	7.1nm,0.3s,baz=204,slow=6.0,SNR=98						
BBB				Sn	**Sn**	**04 54 07.6**	**-0.8**
	21nm,0.3s,baz=113,slow=22,SNR=14						
BBB	**Bella Bella**	**2.73**	**23**	Pn	**Pn**	**04 53 34.6**	**-0.5**
BBB				Sn	**Sn**	**04 54 07.5**	**-0.9**
BTB	**Buttle Lake**	**2.81**	**93**	Pn	**Pn**	**04 53 35.5**	**-0.9**
CBB	**Campbell River**	**2.91**	**81**	Pn	**Pn**	**04 53 36.2**	**-1.4**
CBB				Sn	**Sn**	**04 54 12.8**	**+0.1**
OZB	**Mount Ozzard**	**2.92**	**103**	Pn	**Pn**	**04 53 37.4**	**-0.4**
BNB	**Barry Inlet**	**3.15**	**338**	Pn	**Pn**	**04 53 36.5**	**-4.4**
MGB	**Mount Grey**	**3.42**	**99**	Pn	**Pn**	**04 53 43.2**	**-1.6**
TXB	**Texada**	**3.50**	**88**	Pn	**Pn**	**04 53 45.0**	**-0.6**
BNKB	**Banks Island**	**3.66**	**359**	Pn	**Pn**	**04 53 46.4**	**-1.5**
BNKB				Sn	**Sn**	**04 54 29.9**	**-1.4**
NLLB	**Nanaimo Lost L**	**3.83**	**95**	Pn	**Pn**	**04 53 50.2**	**-0.1**
NLLB				Sn	**Sn**	**04 54 36.8**	**+1.2**
SHB	**Sechelt**	**3.87**	**89**	Pn	**Pn**	**04 53 51.0**	**+0.2**
H02S1	**DAWSON INLET T**	**3.90**	**336**	Pn	**Pn**	**04 53 50.8**	**-0.4**
HWKB	**Hawksbury Isla**	**3.95**	**6**	Pn	**Pn**	**04 53 51.4**	**-0.6**
HWKB				Sn	**Sn**	**04 54 37.8**	**-0.7**
GRNB	**Grenville Isla**	**4.18**	**359**	Pn	**Pn**	**04 53 54.2**	**-0.8**
GOBB	**Galiano Island**	**4.19**	**98**	Pn	**Pn**	**04 53 55.9**	**+0.7**
WSLR	**Whistler**	**4.48**	**82**	Pn	**Pn**	**04 54 00.3**	**+1.0**
UBRB	**Upper Baezaeko**	**4.83**	**46**	Pn	**Pn**	**04 54 06.0**	**+2.0**
VDB	**Vedder Mountai**	**5.09**	**94**	Pn	**Pn**	**04 54 08.1**	**+0.6**
A05A	**Maple Falls**	**5.10**	**95**	Pn	**Pn**	**04 54 08.3**	**+0.6**
LLLB	**Lillooet**	**5.19**	**77**	Pn	**Pn**	**04 54 10.0**	**+1.1**
MBW	**Mount Baker**	**5.27**	**97**	Pn	**Pn**	**04 54 10.3**	**+0.2**
RPW	**Rockport**	**5.60**	**100**	Pn	**Pn**	**04 54 15.2**	**+0.7**
FSB	**Fort Saint Jam**	**5.88**	**33**	Pn	**Pn**	**04 54 20.5**	**+2.0**
MNB	**Mounoet Dainar**	**7.66**	**66**	Pn	**Pn**	**04 54 45.0**	**+2.0**
C09A	**Chrisman Ranch**	**7.86**	**99**	Pn	**Pn**	**04 54 45.8**	**+0.1**
BMBC	**Bull Mountain**	**7.89**	**33**	Pn	**Pn**	**04 54 48.5**	**+2.4**
YKA	**Yellowknife Ar**	**15.34**	**27**	Pn	**Pn**	**04 56 26.7**	**-0.8**
	0.0nm,0.3s,baz=212,slow=12,SNR=5.1						
PDAR	**Pinedale Array**	**15.61**	**109**	Pn	**P**	**04 56 34.5**	**-1.3**
	0.1nm,0.3s,baz=306,slow=13,SNR=5.0						
ILAR	**Eielson Array**	**17.63**	**335**	P	**P**	**04 56 59.2**	**+1.5**
	0.1nm,0.3s,baz=153,slow=10.0,SNR=3.5						
ULM	**Lac du Bonnet**	**21.74**	**75**	P	**P**	**04 57 45.0**	**+2.4**
	5.6nm,0.9s,baz=280,slow=13,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**57.98**	**263**	T	T	06 05 06.7	
	baz=43,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**57.98**	**263**	T	T	06 05 07.3	
	baz=43,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**57.99**	**263**	T	T	06 05 08.4	
	baz=43,slow=75,SNR=17						

NEIC ***19*** *04:53:38.6±1.7, 23°.5S±0°.2×179°.6W±0°.2, h546km±11km, mb4.1/11, Error ellipse: s-maj=28.7km s-min=12.3km az=134.0*
IDC ***19*** *04:53:40.6±6.7, 23°.45S×179°.82W, h557km±75km, mb3.6/8, mb1 3.7/8, mb1mx3.2/40, mbtmp4.5/8, Error ellipse: s-maj=41.4km s-min=29.9km az=47.0*

ISC 19 04:53:37.5±0.8, 23°.5S±0°.1×179°.6W±0°.1, h536km, n29,
σ1ᵖ34/28, mb4.1/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**9.99**	**66**		**P**	**04 55 56.5**	**+1.3**
PINNC	**Pines Island,**	**11.99**	**271**	P	**P**	**04 56 17.4**	**+1.5**
OUZ	**Omahuta**	**13.14**	**205**	P	**P**	**04 56 29.4**	**+1.7**
URZ	**Urewera**	**15.02**	**190**	P	**P**	**04 56 45.2**	**-2.0**
	1.2nm,0.3s,baz=247,slow=1.6,SNR=6.2						
QRZ	**Quartz Range**	**18.55**	**199**	P	**P**	**04 57 21.1**	**+0.2**
RPZ	**Rata Peaks**	**21.63**	**199**	P	**P**	**04 57 50.3**	**+1.5**
	12nm,0.5s,baz=87,slow=2.3,SNR=5.9						
RPZ	**Rata Peaks**	**21.63**	**199**	IAmb	IAmb	04 57 55.2	
	comp=Z,37nm,1.3s						
CTA	**Charters Tower**	**31.87**	**269**	P	**P**	**04 59 19.2**	**+0.2**
	comp=Z,7.1nm,0.4s,baz=96,slow=11,SNR=20						
AS31	**Alice Springs**	**42.50**	**260**	P	**P**	**05 00 45.9**	**-0.1**
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**05 00 45.5**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=97,slow=7.3,SNR=25						
WR0	**Warramunga Arr**	**42.64**	**266**	P	**P**	**05 00 46.0**	**-1.2**
WR0				IAmb	IAmb	05 00 58.0	
	comp=Z,5.8nm,1.4s						
WB0	**Warramunga Arr**	**42.82**	**266**	P	**P**	**05 00 47.4**	**-1.2**
WB0				IAmb	IAmb	05 00 48.1	
	comp=Z,5.1nm,0.6s						
WRA	**Warramunga Arr**	**42.83**	**266**	P	**P**	**05 00 47.7**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=94,slow=8.4,SNR=110						
WRA	**Warramunga Arr**	**42.83**	**266**	P	**P**	**05 00 47.7**	**-0.9**
MTN	**Manton Dam**	**47.82**	**274**	P	**P**	**05 01 25.4**	**-1.4**
MTN				IAmb	IAmb	05 01 34.6	
	comp=Z,19nm,1.2s						
KNRA	**Kununurra**	**49.09**	**269**	P	**P**	**05 01 34.5**	**-1.7**
KNRA				IAmb	IAmb	05 01 43.4	
	comp=Z,9.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.26**	**265**	P	**P**	**05 01 52.4**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=120,slow=5.5,SNR=10						
FITZ	**Fitzroy Crossi**	**51.26**	**265**	P	**P**	**05 01 51.4**	**-0.7**
FITZ				IAmb	IAmb	05 01 53.2	
	comp=Z,2.7nm,0.8s						
MORW	**Morawa**	**57.40**	**250**	P	**P**	**05 02 34.2**	**-1.0**
MORW				IAmb	IAmb	05 02 50.9	
	comp=Z,12nm,1.2s						
ATKA	**Atka Island**	**75.48**	**3**	P	**P**	**05 04 22.3**	**-4.1**
KOFP	**Korovin Flat P**	**75.56**	**3**	P	**P**	**05 04 26.1**	**-0.8**
PETK	**Petropavlovsk-**	**78.77**	**346**	P	**P**	**05 04 45.2**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=186,slow=11,SNR=5.3						
MA2	**Magadan**	**86.25**	**345**	P	**P**	**05 05 22.3**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=97,slow=5.1,SNR=4.5						
MA2	**Magadan**	**86.25**	**345**	IAmb	IAmb	05 05 23.2	
	comp=Z,4.8nm,1.0s						
SEY	**Seymchan**	**88.92**	**348**	P	**P**	**05 05 35.4**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=131,slow=6.1,SNR=3.7						
ARCES	**ARCESS Array B**	**131.54**	**349**	PKP	**PKPdf**	**05 11 48.8**	**+0.3**
	comp=Z,9.5nm,1.1s,baz=46,slow=5.2,SNR=4.8						
AKASG	**Malin Array Be**	**144.81**	**328**	PKP	**PKPdf**	**05 12 13.2**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=45,slow=4.3,SNR=16						
BRTR	**Keskin Array B**	**147.62**	**308**	PKPbc	**PKPbc**	**05 12 21.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=139,slow=5.9,SNR=5.3						
BRTR				PKPab	**PKPab**	**05 12 26.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=97,slow=3.5,SNR=6.9						
CLL	**Collm**	**150.55**	**344**	*i* PKPbc	**PKPbc**	**05 12 29.2**	**+0.7**
	comp=Z,5.0nm,0.7s						

ISN ***19*** *05:05:43.6±0.3, 34°.69N×47°.20E, h10km, ML4.3*
GII ***19*** *05:05:44.6±0.0, 34°.53N×46°.91E, h10km*
MOS ***19*** *05:05:44.9±1.2, 34°.46N×46°.89E, h18km, mb4.7/28, Error ellipse: s-maj=7.4km s-min=4.6km az=113.2*
TEH ***19*** *05:05:44.7, 34°.60N×46°.90E, h7km, ML4.0*
NEIC ***19*** *05:05:46.3±1.9, 34°.54N±0°.07×46°.92E±0°.09, h10km±1km, mb4.4/37, mb_Lg4.0(TEH), Error ellipse: s-maj=12.5km s-min=11.9km az=215.0*
IDC ***19*** *05:05:49.9±3.3, 34°.63N×46°.80E, h33km±24km, mb3.8/18, mb1 3.9/24, mb1mx3.8/52, mbtmp4.0/24, ML3.7/6, MS3.5/23, Ms1 3.5/23, ms1mx3.2/89, Error ellipse: s-maj=21.0km s-min=12.9km az=157.0*

ISC 19 05:05:46.1±0.4, 34°.55N±0°.03×46°.84E±0°.03, h10km, n287,
σ1ᵖ45/282, mb4.4/67, MS3.5/19, 19C-19D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KER	**Kermanshah**	**0.29**	**124**	*e*Pg	**Pg**	**05 05 51.2**	**-0.8**
KER				*e*Sg	**Sg**	**05 05 56.6**	**+0.7**
IGHG	**Ghaleghazi**	**0.32**	**226**	*e*Pg	**Pg**	**05 05 53.5**	**+1.0**
IGHG				*e*		05 06 05.4	
	comp=Z,88μm,0.7s						
KCHF	**Cheshme Sefid,**	**0.32**	**149**	*e*Pg	**Pg**	**05 05 52.6**	**+0.1**
IDHR	**Dehrash**	**0.41**	**292**	*e*Pg	**Pg**	**05 05 54.1**	**0.0**
IDHR				*e*Sg	**Sb**	**05 06 01.2**	**-0.6**
IDHR				*e*		05 06 01.8	
	comp=Z,49μm,0.4s						
IBZA	**Bozab**	**0.84**	**95**	*e*Pg	**Pg**	**05 06 00.5**	**-1.9**
IALM	**Almabolaq**	**1.14**	**74**	*e*Pg	**Pb**	**05 06 05.5**	**-2.5**
IKFM	**Kafar-mosalman**	**1.32**	**141**	*e*Pg	**Pg**	**05 06 12.4**	**+1.0**
IKFM				*e*		05 06 15.1	
	comp=Z,24μm,0.3s						
IDOB	**Doab**	**1.34**	**124**	*e*Pg	**Pb**	**05 06 11.8**	**+0.3**
IBDR	**Badra**	**1.62**	**208**	*i* P	**Pg**	**05 06 17.8**	**+0.6**
IBDR				IAML		05 06 53.8	
	comp=N,4μm,1.4s						
IBDR				IAML		05 06 54.6	
	comp=E,3μm,1.6s						
BMDN	**Meydan**	**1.86**	**117**	*e*Pg	**Pb**	**05 06 21.0**	**+0.7**
BMDN				*e*		05 06 58.7	
	comp=Z,15μm,0.8s						
HAGD	**Aghdareh**	**1.91**	**81**	*e*Pn	**Pn**	**05 06 18.6**	**-0.4**
HAGD				*e*		05 06 50.4	
	comp=Z,6μm,0.6s						
IKRK	**Kirkuk**	**2.22**	**293**	*i* P	**Pb**	**05 06 25.6**	**-0.8**
IKRK				IAML		05 07 02.3	
	comp=N,3μm,1.0s						
IKRK				IAML		05 07 03.5	
	comp=E,3μm,1.0s						
MAHB	**Mahabad**	**2.40**	**338**	*e*Pn	**Pn**	**05 06 27.4**	**+1.8**
QABG	**Abgarm-Qazvin**	**2.53**	**62**	*e*Pn	**Pn**	**05 06 27.6**	**+0.2**
ZNJK	**Zanjan**	**2.59**	**35**	*e*Pn	**Pn**	**05 06 30.7**	**+2.3**
ASAO	**Ashtian**	**2.63**	**89**	*e*Pn	**Pb**	**05 06 32.3**	**-1.1**
IRAZ	**Razeghan**	**2.67**	**71**	*e*Pn	**Pn**	**05 06 31.5**	**+2.1**
IRAZ				*e*		05 07 20.6	
	comp=Z,9μm,1.0s						
KHMZ	**Khomeyn**	**2.71**	**106**	*e*Pn	**Pn**	**05 06 32.5**	**+2.6**
RAFI	**Al-Rafai**	**2.88**	**192**	*i* P	**Pb**	**05 06 34.5**	**-3.1**
RAFI				IAML		05 07 44.9	
	comp=E,673nm,0.9s						
RAFI				IAML		05 07 51.9	
	comp=N,749nm,1.1s						
IBST	**Bostanabad**	**3.14**	**1**	*e*Pn	**Pn**	**05 06 37.5**	**+1.6**
IBST				*e*		05 07 31.8	
	comp=Z,2μm,0.8s						
IAZR	**Azarshahr**	**3.20**	**348**	*e*Pn	**Pn**	**05 06 38.7**	**+2.0**
JIR1	**Jirandeh**	**3.23**	**47**	*e*Pn	**Pn**	**05 06 38.1**	**+1.0**
IGZV	**Ghazvin**	**3.31**	**55**	*e*Pn	**Pn**	**05 06 39.5**	**+1.3**
IGZV				*e*		05 06 56.6	
	comp=Z,4μm,0.8s						
ISRB	**Sarab**	**3.34**	**11**	*e*Pn	**Pn**	**05 06 39.1**	**+0.6**
ISRB				*e*		05 07 47.9	
	comp=Z,6μm,1.0s						
IQOM	**Qom**	**3.50**	**84**	*e*Pn	**Pn**	**05 06 42.5**	**+1.7**
IQOM				*e*		05 07 51.5	
	comp=Z,3μm,1.0s						
CSN1	**Caspian**	**3.52**	**31**	*e*Pn	**Pn**	**05 06 42.4**	**+1.6**
AMIS	**Naft Sefid**	**3.53**	**144**	*e*Pn	**Pn**	**05 06 43.8**	**+2.7**
THKV	**Tehran--Karaj**	**3.57**	**66**	*e*Pn	**Pn**	**05 06 41.7**	**-0.1**
QALM	**Alamut, Qazvin**	**3.63**	**58**	*e*Pn	**Pn**	**05 06 43.6**	**+1.0**
GHVR	**GHOM**	**3.68**	**90**	*e*Pn	**Pn**	**05 06 45.0**	**+1.9**
LHJ2	**Lahijan - Gila**	**3.69**	**44**	*e*Pn	**Pn**	**05 06 44.3**	**+1.1**
ITBZ	**Tabriz**	**3.72**	**352**	*e*Pn	**Pn**	**05 06 44.6**	**+0.8**
CHTH	**Charan**	**3.76**	**68**	*e*Pn	**Pn**	**05 06 46.7**	**+2.3**
ISHB	**Shabestar**	**3.85**	**346**	*e*Pn	**Pn**	**05 06 46.4**	**+0.7**
ISHB				*e*		05 07 55.8	
	comp=Z,3μm,0.7s						
IPIR	**Pirpir**	**3.86**	**118**	*e*Pn	**Pn**	**05 06 47.9**	**+2.1**
IPIR				*e*		05 08 12.9	
	comp=Z,2μm,0.8s						
SHK1	**Shahrekord**	**4.04**	**122**	*e*Pn	**Pn**	**05 06 50.5**	**+2.3**
IVRN	**Varamin**	**4.04**	**82**	*e*Pn	**Pn**	**05 06 49.9**	**+1.8**
IKLH	**Kolahrood**	**4.12**	**106**	*e*Pn	**Pn**	**05 06 51.9**	**+2.5**
IKLH				*e*		05 08 17.0	
	comp=Z,3μm,1.0s						
IMRD	**Marand**	**4.25**	**348**	*e*Pn	**Pn**	**05 06 52.7**	**+1.6**
IMRD				*e*		05 08 09.7	
	comp=Z,4μm,0.8s						
GRMI	**Germi**	**4.33**	**11**	*e*Pn	**Pn**	**05 06 54.5**	**+2.3**
DAMV	**Damavand**	**4.34**	**74**	*e*Pn	**Pn**	**05 06 55.0**	**+2.6**
IDMV	**Damavand**	**4.38**	**75**	*e*Pn	**Pn**	**05 06 54.8**	**+1.9**
KRSH	**Karshahi**	**4.42**	**96**	*e*Pn	**Pn**	**05 06 54.9**	**+1.5**
ISFB	**Sefidab**	**4.46**	**91**	*e*Pn	**Pn**	**05 06 56.1**	**+2.2**
IBRJ	**Brojen**	**4.54**	**124**	*e*Pn	**Pn**	**05 06 57.0**	**+1.8**
GEVA	**Gevas**	**4.84**	**322**		**Pn**	**05 07 00.6**	**+1.5**
IGAR	**Gharneh**	**4.84**	**115**	*e*Pn	**Pn**	**05 07 01.1**	**+1.8**
IGAR				*e*		05 08 02.2	
	comp=Z,559nm,0.4s						
IZEF	**Zefreh**	**4.86**	**108**	*e*Pn	**Pn**	**05 07 01.6**	**+2.1**
IFIR	**Firoozkooh**	**4.97**	**76**	*e*Pn	**Pn**	**05 07 02.5**	**+1.5**
KLNJ	**Kolanjah**	**5.33**	**130**	*e*Pn	**Pn**	**05 07 07.5**	**+1.4**
KLNJ				*e*		05 08 14.8	
	comp=Z,697nm,0.5s						
IRAM	**Ramesheh**	**5.39**	**119**	*e*Pn	**Pn**	**05 07 08.1**	**+1.3**
ISHM	**Shahmirzad**	**5.43**	**75**	*e*Pn	**Pn**	**05 07 09.5**	**+2.1**
GURO	**Guroymak-BITLI**	**5.56**	**317**		**Pn**	**05 07 10.0**	**+1.0**
MARD	**Mardin**	**5.64**	**301**	Pn	**Pn**	**05 07 10.8**	**+0.7**
GNI	**Garni**	**5.83**	**344**	Pg	Pb	05 07 33.8	+5.8
	comp=Z,1.2nm,0.3s,baz=237,slow=8.7,SNR=6.2						
GNI				Lg	Lg	05 08 51.8	
	baz=106,slow=16,SNR=3.4						
GNI	**Garni**	**5.83**	**344**	P	**Pn**	**05 07 15.2**	**+2.4**
GNI	**Garni**	**5.83**	**344**	Pn	**Pn**	**05 07 15.2**	**+2.4**
ANAR	**Anarak**	**5.89**	**101**	*e*Pn	**Pn**	**05 07 14.6**	**+1.1**
AHBU	**AHRAM**	**6.82**	**145**	*e*Pn	**Pn**	**05 07 29.6**	**+3.4**
YZKH	**Yazd**	**6.82**	**106**	*e*Pn	**Pn**	**05 07 29.3**	**+3.0**
MRVT	**Maraveh tapeh**	**8.10**	**65**	*e*Pn	**Pn**	**05 07 47.0**	**+3.2**
TNSJ	**Nastanj**	**8.11**	**91**	*e*Pn	**Pn**	**05 07 46.1**	**+2.1**
TPRV	**Parvadeh(Tabas**	**8.33**	**98**	*e*Pn	**Pn**	**05 07 49.1**	**+2.0**
MAK	**Makhachkala**	**8.41**	**3**	*e*P	Pn	05 07 43.3	-4.7
MAK				*e*S	**Sn**	**05 09 17.4**	**-5.6**
MAK				pmax	pmax		
	comp=Z,16nm,0.3s						
MAK				MLR	MLR		
	comp=Z,296nm,17.0s						
ONI	**Oni**	**8.46**	**343**	P	**Pn**	**05 07 50.5**	**+1.8**
ONI	**Oni**	**8.46**	**343**	Pn	**Pn**	**05 07 50.5**	**+1.8**
ZEI	**Tsey**	**8.54**	**345**	*e*P	Pn	05 07 58.4	+8.4
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TABS	**Tabas**	**8.57**	**93**	*e*Pn	**Pn**	**05 07 53.7**	**+3.4**
TKDS	**Koohdasht(Taba**	**8.58**	**93**	*e*Pn	**Pn**	**05 07 52.2**	**+1.7**
ASF	**Jabal al Asfar**	**8.65**	**257**	Pn	**Pn**	**05 07 53.6**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=102,slow=5.1,SNR=7.4						
ASF				Lg	Lg	05 10 21.1	
	comp=Z,0.6nm,0.3s,baz=272,slow=22,SNR=2.1						
SBZV	**Sabzevar**	**8.97**	**75**	*e*Pn	**Pn**	**05 07 57.1**	**+1.1**
NATI	**Neve Ativ**	**9.32**	**265**	Pn	**Pn**	**05 08 00.5**	**0.0**
MMA0B	**Mount Meron ar**	**9.64**	**264**	Pn	**Pn**	**05 08 05.0**	**0.0**
MMAI	**Mount Meron Ar**	**9.64**	**264**	Pn	**Pn**	**05 08 06.5**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=153,slow=10.0,SNR=7.0						
MMAI				Lg	Lg	05 10 57.6	
	comp=Z,1.0nm,0.3s,baz=82,slow=19,SNR=4.5						
MMAI				LR	LR	05 12 47.4	
	comp=Z,150nm,19.8s,baz=232,slow=43						
**

BURAR	**Bucovina Array**	**20.80**	**315**	⇑P		**P**	**05 10 28.8**	**+1.3**
BURAR	**Bucovina Array**	**20.80**	**315**	P		**P**	**05 10 28.0**	**+0.5**
BURAR				IAmb	IAmb		05 10 29.1	
	comp=Z,12nm,0.8s							
BUR08	**Bucovina Ar. S**	**20.82**	**315**	P		**P**	**05 10 27.8**	**+0.1**
FNA	**Florina**	**21.06**	**295**	P		**P**	**05 10 29.7**	**-0.6**
FNA				pmax	pmax			
	comp=Z,35nm,1.8s							
FNA	**Florina**	**21.06**	**295**	P		**P**	**05 10 29.7**	**-0.6**
FNA				IAmb	IAmb		05 10 32.5	
	comp=Z,35nm,1.8s							
GZR	**Gura Zlata**	**21.31**	**308**	⇓P		**P**	**05 10 34.1**	**+1.0**
GZR	**Gura Zlata**	**21.31**	**308**	P		**P**	**05 10 34.0**	**+1.0**
CJR	**Cluj-Napoca**	**21.33**	**312**	⇓P		**P**	**05 10 34.6**	**+1.4**
HERR	**Herculane**	**21.36**	**306**	⇓P		**P**	**05 10 34.9**	**+1.4**
KBN	**Korca**	**21.48**	**294**	P		**P**	**05 10 33.7**	**-1.2**
KBN				pmax	pmax			
	comp=Z,38nm,1.2s							
KBN	**Korca**	**21.48**	**294**	P		**P**	**05 10 33.7**	**-1.2**
KBN				IAmb	IAmb		05 10 39.8	
	comp=Z,38nm,1.2s							
OBN	**Obninsk**	**21.77**	**344**	P		**P**	**05 10 37.6**	**-0.1**
	comp=Z,5.6nm,0.5s,baz=206,slow=21,SNR=8.0							
OBN				LR	LR		05 20 04.6	
	comp=Z,32nm,18.1s,baz=360,slow=39							
OBN	**Obninsk**	**21.77**	**344**	*ce*P		**P**	**05 10 37.8**	**+0.1**
OBN				*e*			05 11 04.0	
OBN				pmax	pmax			
	comp=Z,73nm,1.7s							
OBN				MLR	MLR			
	comp=Z,113nm,17.0s							
OBN	**Obninsk**	**21.77**	**344**	P		**P**	**05 10 37.2**	**-0.5**
MDVR	**Moldovita**	**21.80**	**305**	⇓P		**P**	**05 10 39.5**	**+1.3**
DRGR		**21.91**	**311**	⇓P		**P**	**05 10 40.3**	**+0.8**
DRGR		**21.91**	**311**	P		**P**	**05 10 40.5**	**+1.0**
DRGR				pmax	pmax			
	comp=Z,2.0nm,1.2s							
MOS	**Moscow**	**22.12**	**346**	*e*P		**P**	**05 10 39.5**	**-2.0**
MOS				pmax	pmax			
	comp=Z,50nm,1.4s							
BZS	**Buzias**	**22.15**	**308**	⇓P		**P**	**05 10 44.0**	**+2.1**
BZS	**Buzias**	**22.15**	**308**	P		**P**	**05 10 44.4**	**+2.5**
BZS				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TRPA	**Tarpa**	**22.62**	**314**	P		**P**	**05 10 47.2**	**+0.3**
LVV	**L'vov**	**22.64**	**319**	*e*P		**P**	**05 10 46.9**	**-0.3**
DIVS	**Divibare**	**22.77**	**303**	P		**P**	**05 10 48.3**	**-0.4**
AAK	**Ala-Archa**	**23.00**	**61**	⇓*e*P		**P**	**05 10 48.9**	**-2.3**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
UZH	**Uzhgorod**	**23.00**	**315**	*e*P		**P**	**05 10 50.2**	**-0.7**
UZH				*i*			05 10 59.5	
SOCY	**Socotra**	**23.19**	**162**	P		**P**	**05 10 48.4**	**-4.8**
SOCY				IAmb	IAmb		05 10 57.8	
	comp=Z,16nm,1.2s							
FRGS	**Fruska Gora**	**23.20**	**305**	⇑P		**P**	**05 10 53.7**	**+0.6**
ATD	**Arta Tunnel**	**23.20**	**190**	LR	LR		05 20 06.5	
	comp=Z,126nm,21.9s,baz=349,slow=37							
ARU	**Arti**	**23.31**	**17**	P		**P**	**05 10 54.7**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=234,slow=4.9,SNR=7.4							
ARU				LR	LR		05 22 53.3	
	comp=Z,200nm,19.8s,baz=72,slow=44							
ARU	**Arti**	**23.31**	**17**	*d*P		**P**	**05 10 53.5**	**-0.5**
ARU							05 11 19.0	
ARU				S		**S**	**05 15 10.3**	**+4.0**
ARU				SS		**SnSn**	**05 15 43.7**	**+3.1**
ARU				pmax	pmax			
	comp=Z,27nm,2.6s							
ARU	**Arti**	**23.31**	**17**	P		**P**	**05 10 54.0**	**0.0**
CRVS	**Cervenica-Dubn**	**23.61**	**315**	*e*P		**P**	**05 10 57.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**23.61**	**315**	*e*P		**P**	**05 10 57.7**	**+0.6**
MNK	**Minsk**	**23.95**	**332**	*i* P		**P**	**05 10 59.6**	**-0.7**
MNK				*i* PPP	PPP		05 11 35.9	
MNK				*i*			05 14 41.2	
MNK				*i* S		**S**	**05 15 17.9**	**+1.2**
MNK				*i* SS		**SnSn**	**05 15 58.8**	**+2.4**
MNK				pmax	pmax			
	comp=E,3.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,12nm,0.7s							
MNK				pmax	pmax			
	comp=N,22nm,0.9s							
MNK				MLR	MLR			
	comp=Z,163nm,21.0s							
MNK				MLR	MLR			
	comp=N,166nm,18.0s							
MNK				MLR	MLR			
	comp=E,19nm,21.0s							
MNK	**Minsk**	**23.95**	**332**	*i* P		**P**	**05 10 59.6**	**-0.7**
	comp=E,3.0nm,0.8s							
MNK				*i* P		**P**	**05 10 59.6**	**-0.7**
	comp=N,22nm,0.9s							
MNK				*i* P		**P**	**05 10 59.6**	**-0.7**
	comp=Z,12nm,0.7s,baz=321							
MNK				*i* PP		**PnPn**	**05 11 28.1**	**-0.5**
MNK				*i* PPP	PPP		05 11 36.0	
MNK				*i* S		**S**	**05 15 17.9**	**+1.2**
MNK				*i* SS		**SnSn**	**05 15 58.9**	**+2.4**
MNK				*i* SSS	SSS		05 16 12.3	
MNK				*i* LR	LR		05 20 16.6	
MNK				*i* LRM	MLR		05 21 11.6	
	comp=Z,163nm,21.1s							
MNK				*i* LRM	MLR		05 21 25.2	
	comp=N,166nm,17.9s							
MNK				*i* LRM	MLR		05 21 47.0	
	comp=E,19nm,21.1s							
KIRV	**Kirov**	**24.11**	**3**	P		**P**	**05 11 01.9**	**+0.2**
	comp=E,4.2nm,0.5s,baz=158,slow=5.6,SNR=4.9							
KIRV				LR	LR		05 22 17.6	
	comp=E,217nm,18.3s,baz=155,slow=41							
PSZ	**Piszkesteto**	**24.12**	**312**	⇑P		**P**	**05 11 03.2**	**+1.1**
PSZ	**Piszkesteto**	**24.12**	**312**	P		**P**	**05 11 02.3**	**+0.2**
PSZ				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PSZ	**Piszkesteto**	**24.12**	**312**	P		**P**	**05 11 02.3**	**+0.2**
PSZ				IAmb	IAmb		05 11 05.4	
	comp=Z,14nm,1.1s							
PSZ	**Piszkesteto**	**24.12**	**312**	P		**P**	**05 11 02.5**	**+0.5**
KOVH	**Kovagotottos**	**24.62**	**307**	P		**P**	**05 11 06.0**	**-0.6**
NACGM	**Naroch**	**24.68**	**332**	⇓*e*P		**P**	**05 11 06.7**	**-0.3**
BRVK	**Borovoye**	**24.88**	**35**	⇓*i*P		**P**	**05 11 09.7**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BRVK	**Borovoye**	**24.88**	**35**	P		**P**	**05 11 09.0**	**+0.2**
BRVK				IAmb	IAmb		05 11 13.8	
	comp=Z,11nm,1.2s							
LANS	**Liptovska Anna**	**24.90**	**314**	*e*P		**P**	**05 11 10.7**	**+1.6**
LANS				pmax	pmax			
	comp=Z,9.0nm,1.0s							
LANS	**Liptovska Anna**	**24.90**	**314**	*e*P		**P**	**05 11 10.7**	**+1.6**
BVAR	**Borovoye Array**	**24.91**	**35**	P		**P**	**05 11 09.3**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=47,slow=6.5,SNR=13							
SRO2	**Moca**	**25.00**	**310**	*e*P		**P**	**05 11 11.1**	**+1.2**
SRO2	**Moca**	**25.00**	**310**	*e*P		**P**	**05 11 11.1**	**+1.2**
VYHS	**Vyhne**	**25.00**	**312**	*e*P		**P**	**05 11 10.8**	**+0.8**
VYHS	**Vyhne**	**25.00**	**312**	*e*P		**P**	**05 11 10.8**	**+0.8**
SRO	**Srobarova**	**25.07**	**311**	*e*P		**P**	**05 11 11.4**	**+0.9**
SRO				pmax	pmax			
	comp=Z,12nm,1.0s							
SRO	**Srobarova**	**25.07**	**311**	*e*P		**P**	**05 11 11.4**	**+0.9**
OJC	**Ojcow**	**25.19**	**317**	P		**P**	**05 11 11.4**	**-0.3**
OJC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
OJC	**Ojcow**	**25.19**	**317**	P		**P**	**05 11 11.4**	**-0.3**
OJC				IAmb	IAmb		05 11 12.6	
	comp=Z,9.8nm,0.9s							
IIGN	**Ignalina**	**25.23**	**332**	*e*P		**P**	**05 11 11.6**	**-0.3**
KOLL	**Kolacno**	**25.30**	**312**	*e*P		**P**	**05 11 14.9**	**+2.2**
MPLH	**Magyarpolny**	**25.33**	**309**	P		**P**	**05 11 14.1**	**+1.2**
ISAL	**Salakas**	**25.43**	**332**	*e*P		**P**	**05 11 13.5**	**-0.2**
SUW	**Suwalki**	**25.59**	**327**	P		**P**	**05 11 15.8**	**+0.6**
SUW				pmax	pmax			
	comp=Z,32nm,1.1s							
SUW	**Suwalki**	**25.59**	**327**	P		**P**	**05 11 15.8**	**+0.6**
JAVC	**Velka Javorina**	**25.86**	**312**	*e*P		**P**	**05 11 21.0**	**+3.2**
ZST	**Bratislava**	**25.96**	**311**	*e*P		**P**	**05 11 20.2**	**+1.5**
ZST				pmax	pmax			
	comp=Z,53nm,1.1s							
ZST	**Bratislava**	**25.96**	**311**	*e*P		**P**	**05 11 20.2**	**+1.5**
SOP	**Sopron**	**26.13**	**309**	P		**P**	**05 11 20.6**	**+0.4**
MORC	**Moravsky Berou**	**26.30**	**314**	⇓P		**P**	**05 11 22.0**	**+0.2**
MORC	**Moravsky Berou**	**26.30**	**314**	P		**P**	**05 11 21.5**	**-0.3**
MORC				pmax	pmax			
	comp=Z,8.0nm,1.2s							
MORC	**Moravsky Berou**	**26.30**	**314**	P		**P**	**05 11 21.5**	**-0.3**
MORC				IAmb	IAmb		05 11 50.4	
	comp=Z,8.0nm,1.2s							
MORC	**Moravsky Berou**	**26.30**	**314**	*e*P		**P**	**05 11 21.2**	**-0.6**
CONA	**Conrad Observa**	**26.66**	**309**	*e*P		**P**	**05 11 25.6**	**+0.5**
	comp=Z,7.3nm,1.4s							
ARSA	**Arzberg**	**26.67**	**308**	*e*P		**P**	**05 11 26.0**	**+0.9**
	comp=Z,4.3nm,1.0s							
VRAC	**Vranov**	**26.68**	**313**	P		**P**	**05 11 26.6**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=111,slow=8.7,SNR=4.6							
VRAC	**Vranov**	**26.68**	**313**	*e*P		**P**	**05 11 26.4**	**+1.2**
KRUC	**Moravsky**	**26.71**	**312**	*e*P		**P**	**05 11 24.3**	**-1.2**
KLMR	**Klimovskoe**	**26.74**	**352**	*e*P		**P**	**05 11 23.5**	**-2.0**
KLMR				pmax	pmax			
	comp=Z,22nm,1.3s							
KLMR	**Klimovskoe**	**26.74**	**352**	*e*P		**P**	**05 11 23.6**	**-2.0**
KLMR				AMP			05 11 30.4	
	comp=Z,22nm,1.3s							
SOKA	**Soboth**	**26.83**	**306**	*e*P		**P**	**05 11 27.5**	**+0.8**
	comp=Z,3.8nm,1.1s							
KRLC	**Kraliky**	**26.87**	**314**	*e*P		**P**	**05 11 30.1**	**+3.2**
KRLC				*e*			05 11 41.3	
KRLC	**Kraliky**	**26.87**	**314**	*e*P		**P**	**05 11 30.1**	**+3.2**
KRLC				*ex*	x		05 11 41.3	
OBKA	**Obir**	**27.11**	**306**	*e*P		**P**	**05 11 30.2**	**+1.1**
	comp=Z,6.8nm,1.6s							
DPC	**Dobruska-Polom**	**27.25**	**315**	*e*P		**P**	**05 11 30.0**	**-0.4**
DPC	**Dobruska-Polom**	**27.25**	**315**	*e*P		**P**	**05 11 30.0**	**-0.4**
VSU	**Vasula**	**27.42**	**337**	⇑*e*P		**P**	**05 11 30.7**	**-0.9**
VSU				pmax	pmax			
	comp=Z,165nm,2.8s							
VSU	**Vasula**	**27.42**	**337**	*e*P		**P**	**05 11 31.6**	**-0.1**
CHVC	**Chvalec**	**27.50**	**315**	*e*P		**P**	**05 11 32.7**	**+0.1**
MOA	**Molln**	**27.66**	**309**	*e*P		**P**	**05 11 34.3**	**+0.3**
	comp=Z,4.5nm,1.0s							
BIOA	**Bad Ischl, Aus**	**28.02**	**308**	*e*P		**P**	**05 11 37.7**	**+0.5**
	comp=Z,2.6nm,0.8s							
KURBB	**Kurchatov Arra**	**28.05**	**45**	P		**P**	**05 11 38.6**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=252,slow=9.3,SNR=5.3							
KBA	**Koelnbreinsper**	**28.05**	**307**	*e*P		**P**	**05 11 36.9**	**-0.8**
	comp=Z,4.3nm,0.8s							
KURK	**Kurchatov**	**28.13**	**45**	P		**P**	**05 11 38.6**	**+0.4**
KURK	**Kurchatov**	**28.13**	**45**	P		**P**	**05 11 38.6**	**+0.4**
GERES	**GERESS Array B**	**28.31**	**310**	P		**P**	**05 11 39.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=103,slow=8.4,SNR=2.4							
GERES				LR	LR		05 24 29.4	
	comp=Z,69nm,21.1s,baz=24,slow=40							
LATE	**Laterza**	**28.39**	**297**	P		**P**	**05 11 40.7**	**+0.1**
KHC	**Kasperske Hory**	**28.48**	**311**	⇑*e*P		**P**	**05 11 41.7**	**+0.4**
KHC				pmax	pmax			
	comp=Z,27nm,1.8s							
KHC	**Kasperske Hory**	**28.48**	**311**	P		**P**	**05 11 42.0**	**+0.7**
KHC				IAmb	IAmb		05 11 43.3	
	comp=Z,21nm,1.7s							
ABTA	**Abtersbach**	**28.53**	**306**	*e*P		**P**	**05 11 41.7**	**-0.2**
	comp=Z,2.4nm,0.9s							
CTI	**Castel Tesino**	**28.97**	**304**	P		**P**	**05 11 45.8**	**0.0**
CTI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CTI	**Castel Tesino**	**28.97**	**304**	P		**P**	**05 11 45.8**	**0.0**
WTTA	**Wattenberg**	**29.23**	**306**	*e*P		**P**	**05 11 48.4**	**+0.3**
	comp=Z,7.7nm,1.1s							
WATA	**Walderalm**	**29.28**	**307**	*e*P		**P**	**05 11 48.1**	**-0.6**
	comp=Z,7.6nm,1.1s							
MK31	**Makanchi Array**	**29.29**	**55**	P		**P**	**05 11 48.6**	**+0.1**
MK31				pmax	pmax			
	comp=Z,2.0nm,1.2s							
MK31	**Makanchi Array**	**29.29**	**55**	P		**P**	**05 11 48.6**	**+0.1**
MKAR	**Makanchi Array**	**29.29**	**55**	P		**P**	**05 11 48.7**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=243,slow=8.0,SNR=8.2							
SQTA	**Sankt Quirin**	**29.50**	**306**	*e*P		**P**	**05 11 49.8**	**-0.7**
	comp=Z,5.2nm,0.7s							
CLL	**Collm**	**29.56**	**315**	*e*P		**P**	**05 11 51.0**	**+0.1**
	comp=Z,26nm,2.2s							
MOTA	**Moosalm**	**29.60**	**306**	*e*P		**P**	**05 11 51.0**	**-0.4**
	comp=Z,8.6nm,1.0s							
FETA	**Feichten**	**29.78**	**306**	*e*P		**P**	**05 11 52.7**	**-0.3**
	comp=Z,7.9nm,1.0s							
RETA	**Reutte**	**29.86**	**307**	*e*P		**P**	**05 11 53.6**	**0.0**
	comp=Z,3.8nm,1.2s							
FINES	**FINESS Array B**	**30.01**	**340**	P		**P**	**05 11 54.3**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=141,slow=8.4,SNR=12							
FINES				LR	LR		05 26 16.0	
	comp=Z,120nm,19.9s,baz=36,slow=41							
DAVA	**Damuels**	**30.40**	**306**	*e*P		**P**	**05 11 57.9**	**-0.7**
	comp=Z,12nm,1.0s							
VIKU	**Vikbolandet**	**31.21**	**329**	*e*P		**P**	**05 12 07.0**	**+1.7**
BNI	**Bardonecchia**	**32.29**	**301**	P		**P**	**05 12 14.7**	**-0.5**
BNI				pmax	pmax			
	comp=Z,15nm,0.9s							
BNI	**Bardonecchia**	**32.29**	**301**	P		**P**	**05 12 14.7**	**-0.5**
WMQ	**Urumqi**	**32.71**	**61**	*e*P		**P**	**05 12 20.8**	**+2.0**
ZALV	**Zalesovo Beam**	**32.87**	**42**	P		**P**	**05 12 20.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=263,slow=7.0,SNR=6.7							
ZALV				LR	LR		05 28 47.4	
	comp=Z,95nm,19.1s,baz=59,slow=42							
ZALV	**Zalesovo Beam**	**32.87**	**42**			**P**	**05 12 19.9**	**0.0**
NB2	**NORSAR Subarra**	**34.95**	**330**	P		**P**	**05 12 36.7**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=124,slow=9.3							
NOA	**NORSAR Array B**	**34.95**	**330**	P		**P**	**05 12 36.8**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=124,slow=8.7,SNR=5.2							
NOA				LR	LR		05 28 12.8	
	comp=Z,34nm,19.5s,baz=25,slow=38							
KMBO	**Kilima Mbogo**	**36.61**	**196**	LR	LR		05 27 19.6	
	comp=Z,94nm,18.0s,baz=96,slow=35							
ARCES	**ARCESS Array B**	**36.98**	**348**	LR	LR		05 30 57.5	
	comp=Z,48nm,18.6s,baz=34,slow=41							
MBAR	**Mbarara**	**38.09**	**207**	LR	LR		05 30 22.7	
	comp=Z,71nm,20.6s,baz=68,slow=39							
GOMU	**GeErMu**	**38.84**	**73**	P		**P**	**05 13 14.5**	**+2.7**
GOMU				pP		sP	05 13 18.3	+1.6
GOMU				sP		pP	05 13 20.0	+4.7
GOMU				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GOMU				pmax	pmax			
	comp=Z,110nm,5.7s							
SHL	**Shillong**	**39.73**	**91**	P		**P**	**05 13 18.4**	**-0.7**
SHL				pmax	pmax			
	comp=Z,14nm,1.5s							
SHL	**Shillong**	**39.73**	**91**	P		**P**	**05 13 18.4**	**-0.7**
SHL				IAmb	IAmb		05 13 39.2	
	comp=Z,14nm,1.5s							
ESDC	**Sonseca Array**	**40.40**	**293**	P		**P**	**05 13 24.4**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=65,slow=7.5,SNR=10							
NRIK	**Noril'sk**	**41.42**	**20**	P		**P**	**05 13 33.7**	**+1.3**
NRIK				pmax	pmax			
	comp=Z,12nm,1.4s							
NRIK	**Noril'sk**	**41.42**	**20**	P		**P**	**05 13 33.7**	**+1.3**
NRIK				IAmb	IAmb		05 13 34.8	
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**46.00**	**254**	P		**P**	**05 14 10.2**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=53,slow=6.8,SNR=5.8							
TORD	**Torodi Ar. Bea**	**46.00**	**254**	IAmb	IAmb		05 14 14.6	
	comp=Z,6.0nm,1.6s							
ULN	**Ulaanbaatar**	**46.09**	**54**	⇓*e*P		**P**	**05 14 11.3**	**+0.9**
ULN				pmax	pmax			
	comp=Z,8.0nm,2.2s							
ULN	**Ulaanbaatar**	**46.09**	**54**	P		**P**	**05 14 10.9**	**+0.5**
ULN				IAmb	IAmb		05 14 12.3	
	comp=Z,6.2nm,1.4s							
PZH	**PanZhiHua**	**47.48**	**84**	P		**P**	**05 14 22.0**	**+0.5**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,6.4s							
HHC	**Hu-ho-hao-te**	**50.56**	**63**	*e*P		**P**	**05 14 42.9**	**-2.1**
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,170nm,5.5s							
TIXI	**Tiksi**	**55.13**	**22**	⇑*e*P		**P**	**05 15 17.5**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TIXI	**Tiksi**	**55.13**	**22**	P		**P**	**05 15 17.6**	**-0.4**
TIXI				IAmb	IAmb		05 15 19.8	
	comp=Z,8.3nm,1.2s							
YAK	**Yakutsk**	**56.88**	**34**	LR	LR		05 42 13.8	
	comp=Z,74nm,19.2s,baz=267,slow=38							
KLR	**Kul'dur**	**61.68**	**48**	LR	LR		05 45 04.0	
	comp=Z,49nm,18.6s,baz=316,slow=38							
LBTB	**Lobatse**	**62.58**	**202**	LR	LR		05 47 00.3	
	comp=Z,71nm,18.6s,baz=60,slow=39							
EUNU	**Eureka**	**62.77**	**352**	P		**P**	**05 16 12.1**	**+1.0**
KSAR	**Wonju Array Be**	**63.64**	**61**	P		**P**	**05 16 17.3**	**-0.1**
KSAR	**Wonju Array Be**	**63.64**	**61**	P		**P**	**05 16 17.3**	**-0.1**
KSRS	**Korea Array**	**63.66**	**61**	P		**P**	**05 16 17.5**	**0.0**
	comp=Z,3.0nm,0.8s,baz=279,slow=6.7,SNR=8.3							
KSRS				LR	LR		05 46 46.5	
	comp=Z,26nm,18.2s,baz=320,slow=39							
MSHR	**Mys Shultsa**	**63.83**	**55**	⇓*e*P		**P**	**05 16 15.9**	**-2.7**
MSHR				pmax	pmax			
	comp=Z,71nm,1.6s							
SEY	**Seymchan**	**66.37**	**29**	⇑*e*P		**P**	**05 16 35.7**	**+1.0**
SEY				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MA2	**Magadan**	**67.36**	**32**	LR	LR		05 52 21.7	
	comp=Z,40nm,18.2s,baz=100,slow=42							
MA2	**Magadan**	**67.36**	**32**	⇓*e*P		**P**	**05 16 41.9**	**+0.7**
MA2				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BILL	**Bilibino**	**68.25**	**21**	⇑*e*P		**P**	**05 16 47.3**	**+0.7**
BILL				*e*			05 17 09.0	
BILL				*e*			05 19 20.2	
BILL				*e*S		**S**	**05 25 52.0**	**+5.2**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,44nm,12.0s							
BILL	**Bilibino**	**68.25**	**21**	P		**P**	**05 16 47.1**	**+0.5**
A36M	**Sachs Harbour**	**73.61**	**357**	P		**P**	**05 17 19.1**	**0.0**
SCHQ	**Schefferville**	**74.41**	**327**	P		**P**	**05 17 23.3**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=44,slow=6.4,SNR=4.7							
INK	**Inuvik**	**77.46**	**0**	LR	LR		05 59 12.8	
	comp=Z,21nm,18.1s,baz=52,slow=41							
BMAR	**Burnt Mountain**	**77.97**	**4**	P		**P**	**05 17 44.7**	**+0.5**
IMAR	**Indian Mountai**	**78.53**	**8**	P		**P**	**05 17 47.3**	**+0.1**
ILAR	**Eielson Array**	**80.42**	**6**	P		**P**	**05 17 57.1**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=340,slow=4.4,SNR=11							
YKA	**Yellowknife Ar**	**82.14**	**351**	P		**P**	**05 18 06.0**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=13,slow=5.3,SNR=35							
YKA	**Yellowknife Ar**	**82.14**	**351**	*i* P		**P**	**05 18 06.4**	**-0.3**
YKA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WRAB	**Tennant Creek**	**99.06**	**108**	⇑*e*P		**Pdif**	**05 19 26.6**	**-1.0**
WRAB				pmax	pmax			
	comp=Z,9.0nm,1.7s							

GUC 19 05:09:34.2±0.7, 29°34S×71°35W, h74km±4km, ML3.5, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.59**	**170**	*e*P	Pn	05 09 48.2	0.0
CO05				*i* S	Sn	05 09 58.4	-0.2
CO05				IAML		05 09 58.7	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**0.66**	**60**	*e*P	Pn	05 09 48.4	-0.8
LCO				*i* S	Sn	05 10 00.2	-0.1
GO04	**Tololo Observa**	**0.96**	**150**	*e*P	Pn	05 09 53.0	+0.3
GO04				*i* S	Sn	05 10 06.6	+0.2
AC04	**Llanos de Chal**	**1.15**	**12**	⇓*i*P	Pn	05 09 55.1	+0.3
AC04				*i* S	Sn	05 10 10.1	-0.2
AC04				IAML		05 10 12.9	
	comp=E,2μm,0.1s						
CO06	**Fray Jorge**	**1.35**	**190**	*e*P	Pn	05 09 57.1	-0.3
CO06				IAML		05 10 16.9	
	comp=E,361nm,0.2s						
CO03	**El Pedregal**	**1.60**	**159**	*e*P	Pn	05 10 00.9	+0.2
CO03				*i* S	Sn	05 10 21.1	+0.3
CO03				IAML		05 10 22.1	
	comp=N,1μm,0.2s						
CO02	**Combarbal**	**1.89**	**171**	⇑*i*P	Pn	05 10 04.7	+0.2
CO02				*i* S	Sn	05 10 27.5	0.0
GO03	**Copiap**	**2.00**	**30**	⇑*i*P	Pn	05 10 06.2	+0.2
GO03				*i* S	Sn	05 10 30.2	+0.1
GO03				IAML		05 10 31.9	
	comp=E,312nm,0.2s						
AC06	**Mina Casimiro**	**2.16**	**24**	⇓*i*P	Pn	05 10 08.4	+0.3
AC06				IAML		05 10 35.6	
	comp=E,204nm,0.1s						
AC02	**Maricunga**	**3.17**	**39**	*e*P	Pn	05 10 23.1	+0.8
AC02				*i* S	Sn	05 10 59.5	+0.2
AC02				IAML		05 11 21.1	
	comp=E,147nm,0.6s						
VA06	**Catapilco**	**3.21**	**179**	*e*P	Pn	05 10 22.3	0.0
VA06				IAML		05 11 13.8	
	comp=N,131nm,0.6s						
AC01	**Pan de Azucar**	**3.25**	**12**	*e*P	Pn	05 10 21.7	-1.1
AC01				IAML		05 10 59.3	
	comp=E,72nm,0.3s						
VA03	**San Esteban**	**3.48**	**169**	*e*P	Pn	05 10 27.0	+0.9
VA03				*i* S	Sn	05 11 06.1	-0.2
VA03				IAML		05 11 07.6	
	comp=E,154nm,0.2s						
ROCH	**El Roble**	**3.63**	**175**	*e*P		05 10 28.4	
ROCH				*e*P	Pn	05 10 26.4	-1.9
PEL	**Peldehue**	**3.84**	**172**	*e*P	Pn	05 10 31.7	+0.8
PEL				*i* S	Sn	05 11 14.6	-0.3
MT05	**Renca**	**4.08**	**173**	IAML		05 11 23.4	
	comp=E,121nm,0.2s						
MT09

*STR **19** 05:22:10.8±0.2,43˚N±3˚×˚±˚, h11km±3km, MLv2.2/6, preliminary*
*LDG **19** 05:22:11.3±0.1,43˚.10N×0˚.63W, h10km, Md2.6/2, Ml2.6/27, Error ellipse: s-maj=1.4km s-min=1.3km az=114.0*
*MDD **19** 05:22:12.0±0.2,43˚.07N×0˚.61W, h0km, mb_Lg2.6/14, Error ellipse: s-maj=1.8km s-min=1.3km az=2.0*
*SFS **19** 05:22:12.0,43˚.07N×0˚.61W, ML2.5, POVILLON (FRANCIA)*

ISC 19 05:22:10.1±0.8,**43˚.16N**±0˚.02×**0˚.61W**±0˚.01,**h13**km±5km, **n93,σ1§74/169, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.10**	**223**	Pg	**Pg**	**05 22 13.2**	**0.0**
ATE				Sg	**Sg**	**05 22 14.7**	**-0.6**
ETSF	**Etsaut**	**0.26**	**172**	*e*Pg	**Pg**	**05 22 15.2**	**-0.4**
ETSF				*e*Sg	**Sg**	**05 22 18.3**	**-1.1**
	1µm,0.2s						
CANF	**Canfranc**	**0.40**	**171**	Pg	**Pg**	**05 22 17.6**	**-0.5**
CANF				Sg	**Sg**	**05 22 21.2**	**-2.3**
PYLO	**Lourdes**	**0.41**	**98**	Pg	**Pb**	**05 22 19.4**	**+0.2**
PYLO				Sg	**Sb**	**05 22 25.4**	**0.0**
SJPF	**Ste Jean**	**0.46**	**264**	*e*Pg	**Pg**	**05 22 19.1**	**0.0**
SJPF				*e*Sg	**Sg**	**05 22 25.2**	**0.0**
	131nm,0.2s						
OSSF	**Osses**	**0.49**	**282**	Pg	**Pg**	**05 22 19.5**	**-0.2**
OSSF				Sg	**Sg**	**05 22 26.4**	**+0.1**
VIEF	**Viey**	**0.54**	**121**	Pg	**Pg**	**05 22 20.8**	**+0.1**
VIEF				Sg	**Sg**	**05 22 27.7**	**-0.1**
EORO	**Oroz-Betelu**	**0.58**	**243**	Pg	**Pg**	**05 22 21.4**	**0.0**
EORO				Sg	**Sg**	**05 22 29.1**	**-0.1**
EORO				*i* Vmb_Lg		05 22 30.8	
EALK	**Alkurruntz**	**0.66**	**276**	Pg	**Pg**	**05 22 22.5**	**-0.5**
EALK	**Alkurruntz**	**0.66**	**276**	Pg	**Pg**	**05 22 22.5**	**-0.5**
EALK				Sg	**Sg**	**05 22 32.4**	**+0.7**
EALK				*i* Vmb_Lg		05 22 35.8	
EPF	**Esparros**	**0.70**	**100**	*e*Pg	**Pb**	**05 22 24.4**	**+0.2**
EPF	**Esparros**	**0.70**	**100**	*e*P	**Pn**	**05 22 26.0**	**+0.2**
EPF				*e*Sg	**Sb**	**05 22 34.5**	**+0.7**
	37nm,0.2s						
ECHI	**Chisagues Biel**	**0.77**	**130**	Pg	**Pb**	**05 22 24.7**	**-0.6**
ECHI	**Chisagues Biel**	**0.77**	**130**	Pg	**Pb**	**05 22 24.8**	**-0.6**
ECHI				Sg	**Sg**	**05 22 34.4**	**-0.7**
ECHI				*i* Vmb_Lg		05 22 35.1	
EARA	**Aranguren**	**0.81**	**242**	Sg	**Sb**	**05 22 35.5**	**-1.4**
EARA	**Aranguren**	**0.81**	**242**	Pg	**Pb**	**05 22 25.0**	**-1.0**
EARA				Pn	**Pb**	**05 22 26.3**	**+0.5**
EARA	**Aranguren**	**0.81**	**242**	Pg	**Pb**	**05 22 26.2**	**+0.2**
EARA				Sg	**Sb**	**05 22 38.4**	**+1.5**
EARA				*i* Vmb_Lg		05 22 39.8	
MLS	**Moulis**	**1.26**	**99**	Pg	**Pg**	**05 22 34.6**	**+0.2**
PAND	**Andorre**	**1.71**	**111**	Pg	**Pb**	**05 22 41.8**	**+0.4**
FNEB	**Nbias**	**2.01**	**96**	Pg	**Pb**	**05 22 47.3**	**+0.9**
FNEB				Sg	**Sg**	**05 23 12.9**	**-1.7**
EMIR	**Miracle**	**2.01**	**128**	Pg	**Pg**	**05 22 48.2**	**-0.4**
EMIR				Sg	**Sg**	**05 23 14.0**	**-0.7**
EMIR				*i* Vmb_Lg		05 23 15.0	
LFF	**La Frestale**	**2.03**	**28**	*e*Pn	**Pn**	**05 22 45.0**	**+1.1**
LFF	**La Frestale**	**2.03**	**28**	*e*P	**Pb**	**05 22 46.9**	**+0.2**
LFF	**La Frestale**	**2.03**	**28**	*e*Pg	**Pg**	**05 22 50.1**	**+1.2**
LFF				*e*Sn	**Sn**	**05 23 09.6**	**+0.6**
	19nm,0.3s						
LFF				*e*Sg	**Sg**	**05 23 17.5**	**+2.3**
ELAN	**Lanestosa**	**2.07**	**273**	Pn	**Pb**	**05 22 47.3**	**-0.2**
ELAN				Sg	**Sb**	**05 23 16.2**	**+3.1**
ELAN				*i* Vmb_Lg		05 23 21.6	
MTLF	**Montolieu**	**2.07**	**84**	*e*Pn	**Pn**	**05 22 45.0**	**+0.5**
MTLF	**Montolieu**	**2.07**	**84**	*e*P	**Pb**	**05 22 47.3**	**-0.2**
MTLF	**Montolieu**	**2.07**	**84**	*e*Pg	**Pg**	**05 22 50.4**	**+0.6**
MTLF				*e*Sn	**Sn**	**05 23 09.5**	**-0.6**
MTLF				*e*Sg	**Sg**	**05 23 16.1**	**-0.5**
	12nm,0.3s						
MTLF	**Montolieu**	**2.07**	**84**	Pn	**Pn**	**05 22 45.5**	**+1.0**
EPOB	**Poblet**	**2.20**	**145**	Pn	**Pn**	**05 22 47.4**	**+1.1**
EPOB				Pg	**Pb**	**05 22 51.3**	**+1.6**
EPOB				Sg	**Sb**	**05 23 18.8**	**+2.0**
EPOB				*i* Vmb_Lg		05 23 21.4	
ERTA	**Horta de San J**	**2.31**	**162**	Pn	**Pn**	**05 22 49.8**	**+2.0**
ERTA				Pg	**Pb**	**05 22 52.6**	**+1.1**
ERTA				Sn	**Sn**	**05 23 16.4**	**+0.3**
ERTA				Sg	**Sg**	**05 23 23.7**	**-0.5**
ERTA				*i* Vmb_Lg		05 23 26.8	
ETOR	**Torete**	**2.58**	**205**	Pn	**Pn**	**05 22 52.7**	**+1.2**
ETOR				Sn	**Sn**	**05 23 23.0**	**+0.3**
ETOR				*i* Vmb_Lg		05 23 34.9	
CAF	**Calviac**	**2.61**	**47**	*e*Pn	**Pn**	**05 22 52.7**	**+0.7**
CAF	**Calviac**	**2.61**	**47**	*e*P	**Pb**	**05 22 55.5**	**-1.2**
CAF	**Calviac**	**2.61**	**47**	*e*Pg	**Pg**	**05 23 01.4**	**+1.3**
CAF				*e*Sn	**Sn**	**05 23 23.4**	**-0.2**
	8.3nm,0.3s						
CAF				*e*Sg	**Sg**	**05 23 35.5**	**+1.5**
RJF	**Les Rejaudoux**	**2.63**	**35**	*e*Pn	**Pn**	**05 22 53.2**	**+1.0**
RJF	**Les Rejaudoux**	**2.63**	**35**	*e*P	**Pb**	**05 22 56.2**	**-0.8**
RJF	**Les Rejaudoux**	**2.63**	**35**	*e*Pg	**Pg**	**05 23 00.9**	**+0.4**
RJF				*e*Sn	**Sn**	**05 23 23.6**	**-0.4**
	9.4nm,0.2s						
RJF				*e*Sg	**Sg**	**05 23 36.4**	**+1.8**
EMOS	**Mosqueruela**	**2.79**	**178**	Pn	**Pb**	**05 22 58.1**	**-1.8**
EMOS				Sn	**Sn**	**05 23 28.4**	**+0.2**
EMOS				Sg	**Sb**	**05 23 36.3**	**+2.1**
EMOS				*i* Vmb_Lg		05 23 44.2	
EARI	**Arriondas**	**3.37**	**274**	Pn	**Pn**	**05 23 04.6**	**+2.2**
EARI				Sn	**Sn**	**05 23 43.7**	**+1.6**
LASF	**Ste Croix**	**3.37**	**73**	*e*Pn	**Pn**	**05 23 02.9**	**+0.6**
LASF	**Ste Croix**	**3.37**	**73**	*e*P	**Pn**	**05 23 05.7**	**+3.4**
LASF	**Ste Croix**	**3.37**	**73**	*e*Pg	**Pg**	**05 23 14.5**	**-0.1**
LASF				*e*Sn	**Sn**	**05 23 41.2**	**-1.0**
LASF				*e*Sg	**Sg**	**05 23 57.0**	**-1.2**
	3.6nm,0.3s						
ECOL	**Islas Columbre**	**3.40**	**163**	Sg	**Sg**	**05 23 56.7**	**-2.5**
MFF	**Saint Martin d**	**3.46**	**5**	*e*Pn	**Pn**	**05 23 04.3**	**+0.8**
MFF	**Saint Martin d**	**3.46**	**5**	*e*P	**Pn**	**05 23 07.6**	**+4.1**
MFF	**Saint Martin d**	**3.46**	**5**	*e*Pg	**Pg**	**05 23 16.4**	**+0.1**
MFF				*e*Sn	**Sn**	**05 23 44.4**	**+0.1**
	4.4nm,0.3s						
MFF				*e*Sg	**Sg**	**05 24 01.1**	**0.0**
UCM	**Universidad Co**	**3.47**	**216**	P	**Pg**	**05 23 16.2**	**-0.3**
UCM				S	**Sb**	**05 23 55.7**	**+2.4**
ECHE	**Chera**	**3.58**	**184**	Pn	**Pn**	**05 23 06.1**	**+0.9**
ECHE				Sn	**Sn**	**05 23 45.9**	**-1.4**
ECHE				Sg	**Sb**	**05 24 01.4**	**+5.0**
ECHE				*i* Vmb_Lg		05 24 02.7	
GUD	**Guadarrama**	**3.65**	**228**	Pn	**Pn**	**05 23 07.8**	**+1.4**
GUD				Sn	**Sn**	**05 23 48.2**	**-0.5**
TCF	**Toulx Ste Croi**	**3.72**	**32**	*e*Pn	**Pn**	**05 23 08.0**	**+0.9**
TCF	**Toulx Ste Croi**	**3.72**	**32**	*e*Pg	**Pg**	**05 23 21.1**	**-0.1**
TCF				*e*Sn	**Sn**	**05 23 49.9**	**-0.9**
TCF				*e*Sg	**Sg**	**05 24 09.0**	**-0.4**
	5.0nm,0.3s						
VIVF	**Saint-Julien-l**	**4.17**	**64**	*e*Pn	**Pn**	**05 23 13.7**	**+0.3**
VIVF	**Saint-Julien-l**	**4.17**	**64**	*e*P	**Pn**	**05 23 17.3**	**+3.9**
VIVF	**Saint-Julien-l**	**4.17**	**64**	*e*Pg	**Pg**	**05 23 29.6**	**-0.3**
VIVF				*e*Sn	**Sn**	**05 24 01.1**	**-0.8**
VIVF				*e*Sg	**Sg**	**05 24 22.8**	**-1.1**
	1.5nm,0.3s						
BGF	**Bois d'Agland**	**4.19**	**35**	*e*Pn	**Pn**	**05 23 14.3**	**+0.7**
BGF				*e*Sn	**Sn**	**05 24 01.8**	**-0.6**
BGF				*e*Sg	**Sg**	**05 24 22.9**	**-1.7**
	17nm,0.4s						
ESDC	**Sonseca Array**	**4.30**	**217**	Sn	**Sn**	**05 24 02.7**	**-2.5**
AFON	**Font Roja**	**4.49**	**179**	Sn	**Sn**	**05 24 03.4**	**-6.5**
ETOB	**Tobarra**	**4.57**	**189**	Pn	**Pn**	**05 23 20.4**	**+1.5**
ETOB				Sn	**Sn**	**05 24 09.0**	**-2.8**
SMRF	**Simiane la Rot**	**4.57**	**78**	*e*Pn	**Pn**	**05 23 19.5**	**+0.7**
SMRF	**Simiane la Rot**	**4.57**	**78**	*e*P	**Pn**	**05 23 23.1**	**+4.3**
SMRF				*e*Sn	**Sn**	**05 24 09.9**	**-1.8**
	0.5nm,0.3s						
PAB	**San Pablo**	**4.58**	**219**	Pn	**Pn**	**05 23 19.8**	**+0.8**
PAB				Sn	**Sn**	**05 24 10.0**	**-2.1**
PAB				*i* Vmb_Lg		05 24 36.1	
AVF	**Avril sur Loir**	**4.59**	**36**	*e*Pn	**Pn**	**05 23 19.9**	**+0.8**
AVF	**Avril sur Loir**	**4.59**	**36**	*e*Pg	**Pg**	**05 23 37.4**	**-0.5**
AVF				*e*Sn	**Sn**	**05 24 11.0**	**-1.2**
AVF				*e*Sg	**Sg**	**05 24 36.4**	**-1.0**
	5.3nm,0.5s						
SMF	**Signal de Mont**	**4.70**	**41**	*e*Pn	**Pn**	**05 23 20.8**	**+0.1**
SMF				*e*Sg	**Sg**	**05 24 40.0**	**-1.0**
	1.1nm,0.2s						
PBRG	**Braganca**	**4.73**	**255**	*e*Pn	**Pn**	**05 23 23.6**	**+2.5**
PBRG				*e*Sn	**Sn**	**05 24 15.5**	**-0.4**
PBRG				A	A	05 24 18.3	
	1.0nm,0.1s						
SSF	**Saint Saulge**	**4.87**	**35**	*e*Pn	**Pn**	**05 23 23.6**	**+0.7**
SSF				*e*Sn	**Sn**	**05 24 17.4**	**-1.7**
SSF				*e*Sg	**Sg**	**05 24 45.0**	**-1.3**
	2.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.00**	**67**	*e*P	Pn	05 23 29.9	+5.1
QUIF	**Quistinic**	**5.09**	**340**	*e*Pn	**Pn**	**05 23 26.4**	**+0.5**
QUIF				*e*Sn	**Sn**	**05 24 22.9**	**-1.5**
QUIF				*e*Sg	**Sg**	**05 24 51.8**	**-1.4**
	1.2nm,0.3s						
ETRV	**Los Montesinos**	**5.13**	**181**	Sn	**Sn**	**05 24 30.8**	**+5.1**
EPLA	**Plasencia**	**5.14**	**235**	Pn	**Pn**	**05 23 27.8**	**+1.1**
EPLA				Sn	**Sn**	**05 24 23.8**	**-2.0**
MVO	**Moncorvo**	**5.17**	**250**	*e*Pn	**Pn**	**05 23 28.2**	**+1.0**
MVO				*e*Sn	**Sn**	**05 24 26.4**	**-0.3**
MVO				A	A	05 24 27.1	
	2.1nm,0.3s						
LOR	**Lormes**	**5.18**	**36**	*e*Pn	**Pn**	**05 23 27.9**	**+0.7**
	baz=215						
LOR				*e*Sn	**Sn**	**05 24 23.6**	**-3.2**
LOR				*e*Sg	**Sg**	**05 24 54.9**	**-1.4**
	2.9nm,0.5s						
LMR	**La Mourre**	**5.20**	**86**	*e*Pn	**Pn**	**05 23 28.7**	**+1.2**
LMR				*e*Sn	**Sn**	**05 24 25.8**	**-1.5**
	0.3nm,0.3s						
GRR	**Gorron**	**5.23**	**358**	*e*Pn	**Pn**	**05 23 28.4**	**+0.5**
GRR				*e*Sn	**Sn**	**05 24 25.5**	**-2.6**
	2.0nm,0.3s						
GRR				*e*Sg	**Sg**	**05 24 56.5**	**-1.5**
	2.0nm,0.3s						
SGMF	**Saint Gilles**	**5.28**	**346**	*e*Pn	**Pn**	**05 23 28.7**	**+0.2**
SGMF	**Saint Gilles**	**5.28**	**346**	*e*Pg	**Pg**	**05 23 49.4**	**-1.6**
SGMF				*e*Sn	**Sn**	**05 24 27.5**	**-1.6**
SGMF				*e*Sg	**Sg**	**05 24 58.2**	**-1.1**
	0.6nm,0.2s						
FRF	**La Foret Royal**	**5.30**	**83**	*e*Pn	**Pn**	**05 23 29.6**	**+0.7**
FRF	**La Foret Royal**	**5.30**	**83**	*e*P	**Pn**	**05 23 33.5**	**+4.6**
LDF	**La Druitiere**	**5.45**	**3**	*e*Pn	**Pn**	**05 23 31.3**	**+0.5**
LDF	**La Druitiere**	**5.45**	**3**	*e*Pg	**Pg**	**05 23 52.4**	**-1.9**
LDF				*e*Sn	**Sn**	**05 24 30.6**	**-2.7**
	0.6nm,0.2s						
LDF				*e*Sg	**Sg**	**05 25 02.9**	**-1.9**
	0.6nm,0.2s						
EAGO	**Agolada(Pontev**	**5.50**	**269**	Pn	**Pn**	**05 23 33.9**	**+2.2**
ROSF	**Rostrenen**	**5.50**	**341**	*e*Pn	**Pn**	**05 23 31.2**	**-0.4**
ROSF				*e*Sn	**Sn**	**05 24 32.9**	**-1.8**
	1.2nm,0.3s						
POLO	**Lamas de Olo**	**5.62**	**254**	*e*Pn	**Pn**	**05 23 34.7**	**+1.3**
POLO				*e*Sn	**Sn**	**05 24 36.8**	**-1.1**
ELOB	**Lobios**	**5.66**	**259**	Pn	**Pn**	**05 23 35.9**	**+2.1**
EADA	**Adamuz**	**5.83**	**213**	Pn	**Pn**	**05 23 37.8**	**+1.6**
EADA				Sn	**Sn**	**05 24 39.0**	**-3.8**
SBF	**Sospel**	**5.89**	**80**	*e*Pn	**Pn**	**05 23 37.0**	**0.0**
ECAB	**El Cabril**	**6.26**	**217**	Pn	**Pn**	**05 23 43.6**	**+1.5**
ECAB				Sn	**Sn**	**05 24 50.0**	**-3.5**
PMRV	**Marv??o**	**6.32**	**236**	*e*Pn	**Pn**	**05 23 44.1**	**+1.2**
PMRV				*e*Sn	**Sn**	**05 24 51.7**	**-3.3**
PMRV				A	A	05 24 53.6	
	1.8nm,0.6s						
EBAD	**Badajoz**	**6.55**	**230**	Pn	**Pn**	**05 23 47.9**	**+2.0**
EBAD				Sn	**Sn**	**05 24 57.6**	**-2.9**
PESTR	**Estremoz**	**6.80**	**233**	*e*Pn	**Pn**	**05 23 49.7**	**+0.2**
PESTR				*e*Sn	**Sn**	**05 25 02.2**	**-4.6**
PBAR	**Barrancos**	**6.98**	**227**	*e*Pn	**Pn**	**05 23 53.7**	**+1.8**
PBAR				*e*Sn	**Sn**	**05 25 06.6**	**-4.5**
PGF	**Pioggiola**	**7.09**	**92**	*e*Pn	**Pn**	**05 23 53.2**	**-0.3**

*MDD **19** 05:25:50.5±1.0,43˚.52N×16˚.04W, h0km, Mb4.5/12, M_mb3.9/12, Error ellipse: s-maj=7.9km s-min=7.8km az=54.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
*INMG **19** 05:25:53.5±1.7,43˚.67N×16˚.36W, h10km, ML2.4, Error ellipse: s-maj=10.3km s-min=7.8km az=53.0*

ISC 19 05:25:55.3±3.9,**43˚.4N**±0˚.1×**15˚.6W**±0˚.2,**h10**km,**n36, σ1§23/64,12C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**4.84**	**93**	P	**Pn**	**05 27 07.9**	**-0.3**
EMAZ				*i*Vmb_V		05 27 16.7	
	602nm,SNR=1.6						
EMAZ				S	**Sn**	**05 28 03.6**	**-0.7**
EZAM	**Zamans**	**5.20**	**101**	P	**Pn**	**05 27 12.6**	**-0.6**
EZAM				*i*Vmb_V		05 27 15.2	
	473nm,SNR=1.7						
EZAM				S	**Sn**	**05 28 13.8**	**+0.5**
EAGO	**Agolada(Pontev**	**5.51**	**93**	P	**Pn**	**05 27 17.9**	**+0.5**
EAGO				*i*Vmb_V		05 27 27.2	
	382nm,SNR=1.6						
EAGO				S	**Sn**	**05 28 19.6**	**-1.1**
PGAV	**Gavieira, Arco**	**5.56**	**102**	*e*Pn	**Pn**	**05 27 19.1**	**+0.9**
PGAV				*e*Sn	**Sn**	**05 28 22.7**	**+0.5**
PGAV				A	A	05 28 27.6	
	4.5nm,0.6s						
ELOB	**Lobios**	**5.74**	**102**	P	**Pn**	**05 27 20.3**	**-0.3**
ELOB				*i*Vmb_V		05 27 20.3	
	193nm,SNR=1.2						
ELOB				S	**Sn**	**05 28 29.2**	**+2.7**
PCAB	**Cabril**	**5.81**	**104**	*e*Pn	**Pn**	**05 27 22.9**	**+1.3**
PCAB				*e*Sn	**Sn**	**05 28 31.1**	**+2.8**
POLO	**Lamas de Olo**	**6.09**	**106**	*e*Pn	**Pn**	**05 27 26.4**	**+0.9**
POLO				*e*Sn	**Sn**	**05 28 36.0**	**+0.7**
POLO				A	A	05 28 41.0	
	0.6nm,0.6s						
PVRL	**Vila Real**	**6.18**	**107**	*e*Pn	**Pn**	**05 27 27.7**	**+1.0**
PVRL				*e*Sn	**Sn**	**05 28 39.0**	**+1.6**
PCAS	**Casmilo, Conde**	**6.24**	**120**	*e*Pn	**Pn**	**05 27 28.2**	**+0.8**
PCAS				*e*Sn	**Sn**	**05 28 40.0**	**+1.3**
PCAS				A	A	05 28 44.6	
	2.1nm,0.7s						
PVIS	**Viseu**	**6.29**	**112**	*e*Pn	**Pn**	**05 27 29.1**	**+0.9**
PVIS				*e*Sn	**Sn**	**05 28 39.9**	**-0.3**
PVIS				A	A	05 28 45.8	
	2.3nm,0.3s						
PSBE	**So Bento**	**6.38**	**125**	*e*Pn	**Pn**	**05 27 29.8**	**+0.5**
PSBE				*e*Sn	**Sn**	**05 28 42.6**	**+0.4**
PMAFR	**Mafra**	**6.47**	**131**	*e*Pn	**Pn**	**05 27 30.8**	**+0.2**
PMAFR				*e*Sn	**Sn**	**05 28 44.6**	**+0.2**
MTE	**Manteigas**	**6.68**	**114**	*e*Pn	**Pn**	**05 27 33.5**	**0.0**
MTE				*e*Sn	**Sn**	**05 28 49.4**	**-0.3**
PMST	**Lisbon--Monsan**	**6.68**	**132**	*e*Pn	**Pn**	**05 27 34.1**	**+0.7**
PBRG	**Braganca**	**6.70**	**100**	*e*Pn	Pn	05 27 28.3	-5.5
PBRG				*e*Sn	**Sn**	**05 28 51.0**	**+0.9**
MVO	**Moncorvo**	**6.70**	**106**	*e*Pn	**Pn**	**05 27 34.8**	**+0.9**
MVO				*e*Sn	**Sn**	**05 28 49.7**	**-0.6**
PACT	**Alcochete**	**6.85**	**130**	*e*Pn	**Pn**	**05 27 36.1**	**+0.3**
PMTG	**Montargil**	**7.00**	**125**	*e*Pn	**Pn**	**05 27 38.3**	**+0.4**
PMTG				*e*Sn	**Sn**	**05 28 55.2**	**-2.3**
PCBR	**Castelo Branco**	**7.01**	**117**	*e*Sn	**Sn**	**05 28 56.3**	**-1.4**
PMRV	**Marv??o**	**7.29**	**120**	*e*Pn	**Pn**	**05 27 41.8**	**-0.1**
PMRV				*e*Sn	**Sn**	**05 29 04.2**	**-0.6**
EVO	**Evora**	**7.48**	**128**	*e*Pn	**Pn**	**05 27 44.8**	**+0.4**
EVO				*e*Sn	**Sn**	**05 29 10.3**	**+1.0**
PNCL	**Nicolau / Gran**	**7.48**	**132**	*e*Pn	**Pn**	**05 27 44.9**	**+0.4**
PNCL				*e*Sn	**Sn**	**05 29 08.7**	**-0.7**
PESTR	**Estremoz**	**7.51**	**124**	*e*Pn	**Pn**	**05 27 45.1**	**+0.2**
PESTR				*e*Sn	**Sn**	**05 29 09.7**	**-0.4**
EARI	**Arriondas**	**7.55**	**87**	P	**Pn**	**05 27 44.9**	**-0.6**
EARI				*i*Vmb_V		05 27 46.8	
	251nm,SNR=0.9						
EARI				S	**Sn**	**05 29 10.3**	**-0.9**
EPLA	**Plasencia**	**7.82**	**112**	P	**Pn**	**05 27 48.7**	**-0.5**
EPLA				*i*Vmb_V		05 27 55.9	
	103nm,SNR=1.1						
EBAD	**Badajoz**	**7.93**	**123**	P	**Pn**	**05 27 50.4**	**-0.3**
EBAD				*i*Vmb_V		05 27 51.9	
	148nm,SNR=1.8						
EBAD				S	**Sn**	**05 29 17.5**	**-2.9**
MORF	**Marmelete**	**8.03**	**137**	*e*Pn	**Pn**	**05 27 52.4**	**+0.4**
MORF				*e*Sn	**Sn**	**05 29 22.8**	**0.0**
PBAR	**Barrancos**	**8.29**	**126**	*e*Pn	**Pn**	**05 27 56.4**	**+0.9**
PBAR				*e*Sn	**Sn**	**05 29 28.2**	**-0.9**
PVAQ	**Vaqueiros**	**8.44**	**132**	*e*P	**Pn**	**05 27 58.3**	**+0.7**
PVAQ				*e*S	**Sn**	**05 29 31.5**	**-1.4**
EGRO	**El Granado**	**8.47**	**131**	P	**Pn**	**05 27 59.0**	**+0.9**
EGRO				*i*Vmb_V		05 28 01.8	
	111nm,SNR=1.2						
EMIN	**Mina Concepcio**	**8.77**	**127**	P	**Pn**	**05 28 01.3**	**-0.9**
EMIN				*i*Vmb_V		05 28 07.5	
	82nm,SNR=1.2						
ELAN	**Lanestosa**	**8.85**	**87**	P	**Pn**	**05 28 02.4**	**-0.9**
ELAN				*i*Vmb_V		05 28 10.5	
	179nm,SNR=1.0						
ELAN				S	**Sn**	**05 29 42.2**	**-0.9**
PAB	**San Pablo**	**9.24**	**111**	P	**Pn**	**05 28 10.8**	**+2.1**
PAB				*i*Vmb_V		05 28 16.3	
	98nm,SNR=1.5						
PAB				S	**Sn**	**05 29 49.5**	**-3.3**
ECAB	**El Cabril**	**9.34**	**121**	P	**Pn**	**05 28 09.7**	**-0.3**
ECAB				S	**Sn**	**05 29 52.2**	**-2.8**
EADA	**Adamuz**	**9.82**	**118**	P	**Pn**	**05 28 15.2**	**-1.3**
EADA				*i*Vmb_V		05 28 16.6	
	104nm,SNR=1.1						
EADA				S	**Sn**	**05 30 06.6**	**-0.2**
AFON	**Font Roja**	**12.28**	**107**	P	**Pn**	**05 28 53.2**	**+2.9**

*KRSC **19** 05:41:45.0±1.6,52˚.13N×157˚.42E, h224km±12km, ML3.6*
*IDC **19** 05:41:46.1±1.2,52˚.15N×156˚.79E, h206km±8km, mb2.8/4, mb1 3.1/4, mb1mx2.8/33, mbtmp3.4/4, Error ellipse: s-maj=29.2km s-min=19.7km az=141.0*

ISC 19 05:41:46.7±0.9,**52˚.18N**±0˚.08×**157˚.24E**±0˚.09,**h215**km±6km, **n29,σ1§42/44, mb3.1/4, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRL	**Gorelyy**	**0.63**	**54**	*e*P	**Pn**	**05 42 16.6**	**+0.4**
GRL				*e*S	**S**	**05 42 40.3**	**+1.0**
KDTR	**Khodutka, Kamc**	**0.64**	**125**	*e*P	**Pn**	**05 42 15.7**	**-0.4**
KDTR				*e*S	**S**	**05 42 37.3**	**-1.6**
MTVR	**Mutnovka**	**0.66**	**62**	*e*P	**Pn**	**05 42 16.7**	**+0.4**
MTVR				*e*S	**S**	**05 42 40.1**	**+0.6**
APC	**Apacha**	**0.75**	**356**	*e*P	**Pn**	**05 42 16.0**	**-0.5**
APC				*e*S	**S**	**05 42 37.7**	**-2.3**
PAU	**Pauzhetka**	**0.76**	**201**	*e*P	**Pn**	**05 42 16.5**	**-0.2**
RUS	**Russkaya**	**0.82**	**72**	*e*P	**Pn**	**05 42 17.1**	**+0.1**
RUS				*e*S	**S**	**05 42 39.8**	**-0.7**
KRMR	**Karymshinskiy**	**0.85**	**40**	*e*P	**Pn**	**05 42 17.2**	**+0.1**
KRMR				*e*S	**S**	**05 42 40.9**	**+0.1**
PETK	**Petropavlovsk-**	**0.97**	**17**	P	**Pn**	**05 42 16.7**	**-1.1**
	11nm,0.3s,baz=168,slow=6.9,SNR=243						
PETK				S	**S**	**05 42 42.0**	**-0.2**
	0.3nm,0.3s,baz=171,slow=20,SNR=3.3						
PET	**Petropavlovsk**	**1.21**	**45**	*e*P	**Pn**	**05 42 19.7**	**+0.3**
PET				*e*S	**S**	**05 42 44.5**	**-0.3**
DALK	**Dalny**	**1.26**	**47**	*e*P	**Pn**	**05 42 20.2**	**+0.4**
DALK				*e*S	**S**	**05 42 45.4**	**-0.1**
KOK	**Koryaka**	**1.40**	**37**	*e*P	**Pn**	**05 42 21.8**	**+0.8**
UGLR	**Uglovaya**	**1.41**	**42**	*e*P	**Pn**	**05 42 22.0**	**+0.9**
UGLR				*e*S	**S**	**05 42 48.8**	**+0.9**
AVH	**Avacha**	**1.42**	**39**	*e*P	**Pn**	**05 42 21.9**	**+0.8**
SMAR	**Somma**	**1.44**	**41**	*e*P	**Pn**	**05 42 22.3**	**+0.8**
SMAR				*e*S	**S**	**05 42 49.7**	**+1.2**
KRER	**Koryakskii**	**1.45**	**39**	*e*P	**Pn**	**05 42 22.2**	**+0.6**
KRER				*e*S	**S**	**05 42 49.1**	**+0.5**
SDLR	**Sedlovina**	**1.49**	**42**	*e*P	**Pn**	**05 42 22.3**	**+0.6**
SDLR				*e*S	**S**	**05 42 48.9**	**-0.1**
GNL	**Ganaly**	**1.58**	**15**	*e*P	**Pn**	**05 42 22.1**	**-0.4**
NLC	**Nalytchevo**	**1.62**	**51**	*e*S	**S**	**05 42 47.3**	**-3.4**
SKR	**Severo-Kuril's**	**1.66**	**206**	*e*P	**Pn**	**05 42 22.7**	**-0.4**
SPN	**Mys Shipunski**	**1.93**	**60**	*e*P	**Pn**	**05 42 25.6**	**0.0**
SPN				*e*S	**S**	**05 42 54.0**	**-1.8**
TUMR	**Tumrok**	**3.56**	**28**	*e*P	**Pn**	**05 42

*ISK **19** 06:25:39.0, 38.70N×26.03E, h10km, ML2.8/16*
*DDA **19** 06:25:39.0±0.0, 38.65N×25.97E, h7km, 3km, ML2.3*
*THE **19** 06:25:39.5, 38.65N×25.87E, h14km±1km, ML2.8/5, Error ellipse: s-maj=3.3km s-min=0.9km az=76.0*

ISC 19 06:25:39.1±1.1, 38.66N±0.02×25.97E±0.03, h15km±9km, n40, σ0951/63, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.28**	**167**	**P**	**Pb**	**06 25 46.0**	**-0.1**
CHOS				S	**Sb**	**06 25 50.3**	**-0.3**
CHOS				AML	AML	06 25 51.6	
	comp=N,6799µm,0.3s						
CHOS				AML	AML	06 25 51.6	
	comp=E,14584µm,0.3s						
CHOS	**Chios island**	**0.28**	**167**	P	**Pb**	**06 25 45.9**	**-0.1**
CHOS				S	**Sb**	**06 25 50.3**	**-0.3**
	comp=E,5µm,0.3s						
CHOS	**Chios island**	**0.28**	**167**	PG	**Pb**	**06 25 45.9**	**-0.1**
CHOS				SG	**Sb**	**06 25 50.4**	**-0.3**
SIGR	**SIGRI**	**0.56**	**351**	P	**Pb**	**06 25 50.5**	**-0.2**
SIGR				S	**Sb**	**06 25 58.6**	**+0.2**
SIGR				AML	AML	06 26 02.0	
	comp=E,1656µm,0.4s						
SIGR				AML	AML	06 26 02.2	
	comp=N,1006µm,0.2s						
SIGR	**SIGRI**	**0.56**	**351**	P	**Pb**	**06 25 50.4**	**-0.2**
SIGR				S	**Sg**	**06 25 58.0**	**+0.5**
	comp=N,840nm,0.5s						
SIGR	**SIGRI**	**0.56**	**351**	PG	**Pg**	**06 25 50.2**	**+0.1**
SIGR				SG	**Sg**	**06 25 57.8**	**+0.3**
URLA	**Izmir**	**0.58**	**121**	PG	**Pb**	**06 25 50.7**	**-0.2**
URLA				SG	**Sb**	**06 25 58.5**	**-0.5**
URLA	**Izmir**	**0.58**	**121**	P	**Pb**	**06 25 50.8**	**-0.2**
URLA				*i* AML	AML	06 25 58.0	
	comp=N,281nm,0.3s						
URLA				S	**Sb**	**06 25 58.5**	**-0.5**
URLA				*i* AML	AML	06 25 59.0	
	comp=N,170nm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.59**	**135**	P	**Pg**	**06 25 50.8**	**-0.1**
ZEYE				S	**Sb**	**06 25 58.8**	**-0.6**
ZEYE				*i* AML	AML	06 25 59.0	
	comp=N,355nm,0.2s						
ZEYE				*i* AML	AML	06 26 03.0	
	comp=N,333nm,0.4s						
FOCM	**Foa**	**0.60**	**85**	PG	**Pg**	**06 25 50.2**	**-0.6**
FOCM				SG	**Sg**	**06 25 58.5**	**-0.3**
PRK	**Paraskevi**	**0.63**	**22**	P	**Pb**	**06 25 52.1**	**+0.2**
PRK				S	**Sb**	**06 26 01.3**	**+0.8**
PRK				AML	AML	06 26 04.6	
	comp=E,1725µm,0.4s						
PRK				AML	AML	06 26 07.5	
	comp=N,1468µm,0.6s						
PRK	**Paraskevi**	**0.63**	**22**	P	**Pb**	**06 25 52.2**	**+0.4**
PRK				S	**Sn**	**06 26 02.9**	**-0.5**
	comp=N,1µm,0.5s						
GPNR	**Gulpinar-Canak**	**0.80**	**9**	PG	**Pg**	**06 25 54.1**	**-0.6**
DKL	**Dikili**	**0.84**	**60**	PG	**Pg**	**06 25 54.8**	**-0.6**
KOCA	**Canakkale, Ayv**	**0.85**	**9**	P	**Pg**	**06 25 55.4**	**-0.2**
KOCA				S	**Sn**	**06 26 08.9**	**+0.1**
KOCA				*i* AML	AML	06 26 10.0	
	comp=N,194nm,0.8s						
KOCA				*i* AML	AML	06 26 11.0	
	comp=N,179nm,0.8s						
AYVA	**Ayvalik**	**0.85**	**41**	P	**Pg**	**06 25 55.2**	**-0.5**
AYVA				*i* AML	AML	06 26 10.0	
	comp=N,120nm,0.2s						
AYVA				*i* AML	AML	06 26 12.0	
	comp=N,70nm,0.3s						
ZEDA	**zmir-Bergama**	**0.92**	**70**	P	**Pg**	**06 25 57.1**	**+0.2**
ZEDA				*i* AML	AML	06 26 10.0	
	comp=N,80nm,0.4s						
ZEDA				S	**Sn**	**06 26 10.1**	**-0.4**
ZEDA				*i* AML	AML	06 26 11.0	
	comp=N,49nm,0.4s						
DGB	**zmir**	**0.94**	**130**	P	**Pg**	**06 25 57.1**	**-0.3**
DGB				S	**Sg**	**06 26 09.5**	**-0.2**
DGB				*i* AML	AML	06 26 11.0	
	comp=N,88nm,0.4s						
DGB				*i* AML	AML	06 26 11.0	
	comp=N,100nm,0.8s						
BAYC	**CANAKKALE_Bayr**	**1.17**	**22**	P	**Pn**	**06 26 00.8**	**-0.2**
BAYC				S	**Sb**	**06 26 15.9**	**-0.1**
BAYC				*i* AML	AML	06 26 22.0	
	comp=N,43nm,0.3s						
BAYC				*i* AML	AML	06 26 23.0	
	comp=N,51nm,0.2s						
SMG	**Samos**	**1.17**	**144**	P	**Pb**	**06 26 01.1**	**-0.1**
SMG				AML	AML	06 26 20.1	
	comp=E,1172µm,0.6s						
SMG				AML	AML	06 26 20.2	
	comp=N,681µm,0.3s						
SMG	**Samos**	**1.17**	**144**	P	**Pb**	**06 26 01.0**	**-0.1**
SMG				S	**Sn**	**06 26 17.4**	**+0.6**
	comp=N,462nm,0.5s						
BOZC	**Bozcaada**	**1.18**	**3**	PN	**Pn**	**06 26 01.2**	**0.0**
BOZC				SN	**Sg**	**06 26 17.4**	**+0.1**
BOZC	**Bozcaada**	**1.18**	**3**	P	**Pn**	**06 26 01.0**	**-0.2**
BOZC				S	**Sn**	**06 26 17.0**	**0.0**
BOZC				*i* AML	AML	06 26 19.0	
	comp=N,58nm,0.3s						
BOZC				*i* AML	AML	06 26 20.0	
	comp=N,40nm,0.3s						
EZN	**Ezine**	**1.19**	**13**	PN	**Pn**	**06 26 01.1**	**-0.2**
EZN				SN	**Sn**	**06 26 17.6**	**+0.3**
BUHA	**Balikesir, Bur**	**1.20**	**45**	P	**Pb**	**06 26 01.6**	**0.0**
BUHA				S	**Sg**	**06 26 18.1**	**+0.1**
BUHA				*i* AML	AML	06 26 23.0	
	comp=N,57nm,0.5s						
BUHA				*i* AML	AML	06 26 28.0	
	comp=N,86nm,0.7s						
LIA	**Limnos Island**	**1.38**	**334**	P	**Pb**	**06 26 04.6**	**0.0**
LIA	**Limnos Island**	**1.38**	**334**	P	**Pn**	**06 26 04.2**	**+0.3**
LIA				S	**Sn**	**06 26 20.7**	**-1.1**
	comp=N,105nm,0.7s						
GCAM	**G?zelcaml?**	**1.38**	**134**	PN	**Pb**	**06 26 04.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.38**	**134**	P	**Pg**	**06 26 06.3**	**+0.6**
GCAM				S	**Sg**	**06 26 25.1**	**+1.3**
GCAM				*i* AML	AML	06 26 26.0	
	comp=N,79nm,0.3s						
GCAM				*i* AML	AML	06 26 27.0	
	comp=N,76nm,0.3s						
KYMI	**Kymi, Euboea I**	**1.47**	**269**	P	**Pn**	**06 26 04.9**	**-0.2**
GADA	**Gvkgeada**	**1.53**	**358**	PN	**Pn**	**06 26 04.5**	**+0.6**
APE	**Apeiranthos**	**1.63**	**192**	P	**Pn**	**06 26 07.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.78**	**12**	PN	**Pn**	**06 26 09.8**	**+0.5**
SMTH	**Samothraki Isl**	**1.84**	**349**	P	**Pn**	**06 26 10.5**	**+0.3**
BODT	**Bodrum**	**1.92**	**146**	PN	**Pb**	**06 26 12.9**	**-0.9**
MLSB	**Milas**	**1.98**	**133**	PN	**Pb**	**06 26 13.4**	**-1.4**
KRBG	**Karabiga-Canak**	**2.01**	**30**	PN	**Pn**	**06 26 12.5**	**-0.1**
KULA	**Kula-Manisa**	**2.11**	**93**	PN	**Pn**	**06 26 14.7**	**+0.6**
ALN	**Alexandroupoli**	**2.23**	**1**	P	**Pn**	**06 26 16.2**	**+0.6**
YER	**Yerkesik**	**2.38**	**129**	PN	**Pn**	**06 26 19.2**	**+1.5**

NEIC 19 06:46:28.4±0.7, 36.17N±0.04×99.17W±0.04, h5km±2km, mb_Lg2.6/48, Error ellipse: s-maj=7.0km s-min=4.9km az=314.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.25**	**33**	Pg	Pg	06 46 33.7	+0.3
WMOK	**Wichita Mounta**	**1.46**	**167**		Pn	06 46 55.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.60**	**118**		Pn	06 46 57.6	+0.2
FNO	**Franklin**	**1.71**	**122**		Pn	06 46 59.3	+0.5
X34A	**Smith Ranch, M**	**1.91**	**145**	Pn	Pn	06 47 01.6	-0.1
X34A				IAmb_Lg		06 47 30.4	
	comp=Z,36nm,0.9s						
W35A	**Tecumseh**	**2.13**	**118**		Pn	06 47 05.4	+0.8
T35A	**Sooner Cattle**	**2.27**	**70**		Pn	06 47 07.4	+0.8
T35A				IAmb_Lg		06 47 44.3	
	comp=Z,19nm,0.8s						
R32A	**Long Quarter,**	**2.28**	**9**		Pn	06 47 06.6	-0.1
AMTX	**Amarillo**	**2.42**	**239**	Pn	Pn	06 47 09.3	+0.6
CBKS	**Cedar Bluff**	**2.68**	**351**		Pn	06 47 12.7	+0.4
TUL1	**Leonard**	**2.75**	**94**		Pn	06 47 12.6	-0.7
TUL1				IAmb_Lg		06 48 03.0	
	comp=Z,15nm,0.8s						
X37A	**Clayton**	**3.48**	**116**	IAmb_Lg		06 48 22.0	
	comp=Z,11nm,0.9s						
ABTX	**Abilene, Hawle**	**3.56**	**186**	Pn	Pn	06 47 24.1	-0.3
KSU1	**Kansas State U**	**3.56**	**34**	IAmb_Lg		06 48 23.3	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.95**	**317**	IAmb_Lg		06 48 42.6	
	comp=Z,14nm,0.7s						
HHAR	**Hobbs**	**4.23**	**87**	Pn	Pn	06 47 33.7	+0.1
HHAR				IAmb_Lg		06 48 42.6	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**4.32**	**284**		Pn	06 47 34.7	-0.3
T25A				IAmb_Lg		06 48 45.5	
	comp=Z,18nm,0.9s						
W39A	**Magazine**	**4.49**	**101**	IAmb_Lg		06 48 58.5	
	comp=Z,9.8nm,0.8s						
MIAR	**Mount Ida**	**4.85**	**108**	IAmb_Lg		06 49 11.7	
	comp=Z,6.9nm,0.7s						
S39A	**Bolivar**	**4.93**	**70**	IAmb_Lg		06 49 16.0	
	comp=Z,12nm,0.9s						
U40A	**Yellville**	**5.11**	**86**	IAmb_Lg		06 49 14.9	
	comp=Z,9.6nm,0.7s						
BGNE	**Belgrade**	**5.29**	**8**	IAmb_Lg		06 49 21.1	
	comp=Z,12nm,0.8s						
Q24A	**Divide**	**5.51**	**302**	IAmb_Lg		06 49 36.0	
	comp=Z,14nm,0.8s						
435B	**Jarrell**	**5.53**	**166**	IAmb_Lg		06 49 28.4	
	comp=Z,18nm,0.8s						
MGMO	**Mountain Grove**	**5.64**	**78**	IAmb_Lg		06 49 31.4	
	comp=Z,7.5nm,0.9s						
P38A	**Dawn**	**5.64**	**51**	IAmb_Lg		06 49 37.9	
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**5.70**	**185**	IAmb_Lg		06 49 36.6	
	comp=Z,9.2nm,0.7s						
ISCO	**Idaho Springs**	**6.25**	**307**	IAmb_Lg		06 49 50.3	
	comp=Z,7.3nm,0.8s						
P40A	**Paris**	**6.56**	**57**	IAmb_Lg		06 50 05.3	
	comp=Z,10nm,0.7s						
CCM	**Cathedral Cave**	**6.61**	**71**	IAmb_Lg		06 50 05.6	
	comp=Z,7.8nm,0.8s						
PHWY	**Pilot Hill**	**7.10**	**318**	IAmb_Lg		06 50 17.4	
	comp=Z,6.9nm,0.7s						
N23A	**Red Feather La**	**7.10**	**314**	IAmb_Lg		06 50 23.0	
	comp=Z,13nm,0.9s						
735A	**Kenedy**	**7.38**	**171**	IAmb_Lg		06 50 32.6	
	comp=Z,10nm,1.1s						

*CNRM **19** 06:50:25.3, 35.56N×3.81W, h30km, ml1.9*
*MDD **19** 06:50:25.5±0.5, 35.63N×3.81W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=4.1km s-min=3.4km az=57.0*

ISC 19 06:50:23.2±1.4, 35.50N±0.03×3.85W±0.03, h14km±11km, n15, σ1905/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.29**	**194**	P	**Pn**	**06 50 33.3**	**+0.2**
PALE				S	**Sn**	**06 50 39.2**	**0.0**
PVLZ	**Peæn de**	**0.49**	**229**	P	**Pn**	**06 50 37.1**	**+1.3**
PVLZ				S	**Sn**	**06 50 44.4**	**+0.3**
EMEL	**Melilla**	**0.76**	**105**	Pg	**Pb**	**06 50 38.6**	**+0.5**
EMEL				Sg	**Sb**	**06 50 48.9**	**+0.5**
EALB	**Alboran**	**0.80**	**56**	Pg	**Pb**	**06 50 39.0**	**+0.1**
EALB				Sg	**Sg**	**06 50 49.7**	**+0.4**
EALB				*i* Vmb_Lg		06 50 52.7	
SMIR	**Smir Dam**	**1.26**	**279**	P	**Pb**	**06 50 46.7**	**0.0**
SMIR				S	**Sn**	**06 51 03.0**	**-0.1**
EMIJ	**Mijas**	**1.30**	**325**	Pg	**Pg**	**06 50 48.0**	**-0.2**
EMIJ				Sg	**Sb**	**06 51 03.0**	**-1.0**
EMIJ				*i* Vmb_Lg		06 51 09.4	
EMAL	**Malaga-Limoner**	**1.34**	**340**	P	**Pn**	**06 50 47.2**	**-0.3**
EMAL				S	**Sn**	**06 51 03.6**	**-1.6**
TAF	**Taforalt**	**1.36**	**120**	P	**Pb**	**06 50 48.8**	**+0.3**
ELGU	**Los Guajares,**	**1.38**	**8**	Pg	**Pn**	**06 50 48.4**	**+0.3**
ELGU				Sg	**Sn**	**06 51 05.2**	**-1.0**
ELGU				*i* Vmb_Lg		06 51 08.4	
JBK	**JBK**	**1.57**	**137**	P	**Pb**	**06 50 52.0**	**-0.2**
JBK				S	**Sn**	**06 51 09.2**	**-1.9**
EGOR	**Sierra Gorda,**	**1.62**	**353**	Pg	**Pn**	**06 50 51.6**	**0.0**
EGOR				Sg	**Sn**	**06 51 11.9**	**-0.4**
EGOR				*i* Vmb_Lg		06 51 19.0	
MD31	**MD31**	**2.73**	**196**	P	**Pn**	**06 51 07.7**	**+1.0**
MD31				S	**Sn**	**06 51 41.2**	**+1.6**
MDT	**Midelt**	**2.75**	**193**	P	**Pb**	**06 51 09.8**	**-2.4**
MDT				S	**Sb**	**06 51 44.8**	**-1.0**
ECAB	**El Cabril**	**2.86**	**334**	Pn	**Pn**	**06 51 09.6**	**+1.1**
ECAB				Sn	**Sn**	**06 51 43.4**	**+0.7**
PVAQ	**Vaqueiros**	**3.65**	**303**	P	**Pn**	**06 51 21.3**	**+2.1**
PVAQ				S	**Sn**	**06 52 02.5**	**+0.4**

*IDC **19** 07:12:08.4±1.2, 13.01N×144.61E, h42km±10km, mb4.0/14, mb1 4.2/14, mb1mx3.9/52, mbtmp4.2/14, MS3.6/47, Ms1 3.6/47, ms1mx3.5/80, Error ellipse: s-maj=24.7km s-min=13.6km az=108.0*
*NEIC **19** 07:12:09.2±1.2, 12.96N±0.06×144.8E±0.1, h49km±7km, mb4.6/18, Error ellipse: s-maj=18.6km s-min=9.1km az=85.0*

ISC 19 07:12:09.5±0.6, 13.03N±0.09×144.7E±0.2, h54km, n77, σ0982/35, mb4.4/23, MS3.6/46, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.59**	**18**	P	**Pn**	**07 12 21.8**	**-0.2**
	2µm,0.3s,baz=155,slow=21,SNR=964						
GUMO				S	**Sn**	**07 12 31.4**	**+0.3**
PATS	**Pohnpei**	**14.77**	**113**	Pn	Pn	07 15 29.2	-6.0
DAV	**Davao City (W)**	**19.71**	**254**	LR	LR	07 22 59.1	
	comp=Z,59nm,21.6s,baz=149,slow=33						
JOW	**Kunigami**	**20.62**	**314**	LR	LR	07 23 09.2	
	comp=Z,193nm,21.3s,baz=13,slow=32						
H11N1	**WAKE ISLAND Hy**	**22.31**	**70**	T	T	07 40 35.4	
	baz=256,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**22.32**	**70**	T	T	07 40 38.5	
	baz=256,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**22.33**	**70**	T	T	07 40 20.1	
	baz=256,slow=75,SNR=44						
PMG	**Port Moresby**	**22.42**	**174**	LR	LR	07 26 40.0	
	comp=Z,106nm,18.1s,baz=300,slow=39						
MJAR	**Matsushiro Arr**	**24.13**	**347**	P	**P**	**07 17 20.4**	**+0.1**
	2.7nm,0.7s,baz=178,slow=7.7,SNR=7.7						
MJAR				LR	LR	07 25 51.8	
	comp=Z,193nm,19.7s,baz=163,slow=34						
MJAR	**Matsushiro Arr**	**24.13**	**347**	P	**P**	**07 17 19.7**	**-0.6**
YULB	**Yu-li**	**24.45**	**298**	P	**P**	**07 17 24.0**	**+0.6**
YULB				IAmb	IAmb	07 17 48.6	
	comp=Z,13nm,1.0s						
KSRS	**Korea Array**	**28.57**	**331**	LR	LR	07 29 03.6	
	comp=Z,111nm,18.6s,baz=140,slow=36						
ASAJ	**Asahikawa**	**31.04**	**357**	LR	LR	07 31 59.7	
	comp=Z,34nm,19.9s,baz=187,slow=38						
CTA	**Charters Tower**	**32.94**	**177**	LR	LR	07 30 51.1	
	comp=Z,55nm,21.7s,baz=19,slow=34						
WB0	**Warramunga Arr**	**34.12**	**197**	P	**P**	**07 18 48.2**	**-1.1**
WB0				IAmb	IAmb	07 19 10.4	
	comp=Z,12nm,1.3s						
WB2	**Warramunga Arr**	**34.30**	**197**	P	**P**	**07 18 50.4**	**-0.5**
WB2				IAmb	IAmb	07 18 51.4	
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**34.30**	**197**	P	**P**	**07 18 50.5**	**-0.4**
	comp=Z,5.5nm,0.7s,baz=21,slow=9.7,SNR=38						
WRA				LR	LR	07 32 09.6	
	comp=Z,79nm,22.0s,baz=334,slow=35						
WRA	**Warramunga Arr**	**34.30**	**197**	P	**P**	**07 18 49.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**36.18**	**212**	LR	LR	07 35 17.8	
	comp=Z,37nm,18.3s,baz=22,slow=38						
KLR	**Kul'dur**	**37.65**	**346**	P	**P**	**07 19 19.3**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=180,slow=2.8,SNR=5.6						
KLR				LR	LR	07 33 50.0	
	comp=Z,98nm,19.0s,baz=209,slow=35						
AS31	**Alice Springs**	**37.96**	**196**	P	**P**	**07 19 22.1**	**-0.1**
ASAR	**Alice Springs**	**37.96**	**196**	P	**P**	**07 19 21.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=20,slow=11,SNR=29						
ASAR				PP	**PnPn**	**07 20 54.1**	**+2.5**
	comp=Z,1.3nm,1.1s,baz=19,slow=10,SNR=4.6						
ASAR				LR	LR	07 36 25.9	
	comp=Z,46nm,19.1s,baz=342,slow=38						
DZM	**Mont Dzumac**	**40.89**	**148**	LR	LR	07 35 12.7	
	comp=Z,118nm,18.8s,baz=8.5,slow=34						
PETK	**Petropavlovsk-**	**41.31**	**12**	LR	LR	07 33 41.9	
	comp=Z,97nm,21.0s,baz=180,slow=31						
CMAR	**Chiang Mai Arr**	**44.26**	**283**	P	**P**	**07 20 14.2**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=94,slow=6.0,SNR=6.1						
CMAR				LR	LR	07 38 13.1	
	comp=Z,52nm,19.6s,baz=95,slow=35						
STKA	**Stephens Creek**	**44.74**	**184**	P	**P**	**07 20 17.0**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=21,slow=8.7,SNR=4.0						
STKA				LR	LR	07 40 39.2	
	comp=Z,50nm,18.3s,baz=23,slow=38						
MSVF	**Nonsavu**	**44.93**	**132**	LR	LR	07 37 21.1	
	comp=Z,67nm,20.7s,baz=311,slow=34						
SHEM	**Shemya Is, Ala**	**46.05**	**25**	LR	LR	07 35 49.7	
	comp=Z,71nm,20.7s,baz=306,slow=31						
PSI	**Prapat**	**46.36**	**261**	LR	LR	07 43 29.5	
	comp=Z,26nm,18.5s,baz=66,slow=41						
MA2	**Magadan**	**46.69**	**4**	LR	LR	07 38 15.5	
	comp=Z,50nm,19.3s,baz=148,slow=34						
SONM	**Songino Array**	**47.09**	**325**	LR	LR	07 40 24.3	
	comp=Z,115nm,18.9s,baz=167,slow=36						
YAK	**Yakutsk**	**50.11**	**351**	LR	LR	07 41 22.0	
	comp=Z,104nm,20.2s,baz=96,slow=35						
AFI	**Afiamalu**	**50.77**	**120**	LR	LR	07 40 55.5	
	comp=Z,42nm,18.5s,baz=30,slow=34						
URZ	**Urewera**	**59.37**	**151**	LR	LR	07 45 26.3	
	comp=Z,55nm,20.1s,baz=30,slow=34						
RPZ	**Rata Peaks**	**61.39**	**158**	LR	LR	07 45 07.3	
	comp=Z,68nm,21.9s,baz=288,slow=32						
MKAR	**Makanchi Array**	**61.77**	**316**	P	**P**	**07 22 22.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=106,slow=5.2,SNR=5.3						
MKAR				LR	LR	07 49 53.4	
	comp=Z,57nm,20.5s,baz=98,slow=37						
ZALV	**Zalesovo Beam**	**61.97**	**325**	LR	LR	07 50 49.6	
	comp=Z,71nm,18.9s,baz=89,slow=38						
PALK	**Pallekele**	**63.10**	**272**	LR	LR	07 47 08.4	
	comp=Z,22nm,21.7s,baz=232,slow=33						
RAR	**Rarotonga**	**64.29**	**121**	LR	LR	07 45 08.4	
	comp=Z,43nm,21.0s,baz=250,slow=31						
KURBB	**Kurchatov Arra**	**64.93**	**320**	LR	LR	07 51 12.9	
	comp=Z,99nm,19.9s,baz=38,slow=36						
AAK	**Ala-Archa**	**66.74**	**311**	LR	LR	07 54 19.4	
	comp=Z,59nm,19.0s,baz=84,slow=38						
PWL	**Port Wells**	**67.56**	**29**	P	**P**	**07 22 59.6**	**-0.4**
SML	**Sawmill**	**67.79**	**28**	P	**P**	**07 23 00.8**	**-0.7**
ILAR	**Eielson Array**	**69.15**	**25**	P	**P**	**07 23 08.0**	**-2.0**
	comp=Z,2.1nm,0.6s,baz=247,slow=5.8,SNR=8.2						
TOLK	**Toolik Lake Re**	**69.20**	**21**	P	**P**	**07 23 10.4**	**+0.1**
TOLK				IAmb	IAmb	07 23 12.2	
	comp=Z,4.6nm,1.0s						
CTGM	**Chitina Glacie**	**70.94**	**30**	P	**P**	**07 23 21.4**	**+0.3**
JIS	**Juneau Island**	**74.26**	**33**	P	**P**	**07 23 41.5**	**+0.8**
INK	**Inuvik**	**74.95**	**22**	P	**P**	**07 23 44.1**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=249,slow=8.6,SNR=5.2						
A36M	**Sachs Harbour**	**77.73**	**19**	P	**P**	**07 23 59.8**	**-0.4**
A36M				IAmb	IAmb	07 24 00.9	
	comp=Z,6.2nm,0.8s						
AKTO	**Aktyubinsk**	**77.97**	**319**	LR	LR	07 59 40.1	
	comp=Z,65nm,19.2s,baz=80,slow=37						
BBB	**Bella Bella**	**78.13**	**39**	LR	LR	07 54 13.4	
	comp=Z,66nm,21.0s,baz=271,slow=32						
GEYT	**Alibeck**	**79.44**	**307**	LR	LR	08 03 19.7	
	comp=Z,32nm,19.3s,baz=162,slow=39						
YBH	**Yreka Blue Hor**	**83.38**	**49**	P	**P**	**07 24 32.4**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=342,slow=3.8,SNR=6.1						
YBH				LR	LR	08 01 13.0	
	comp=Z,35nm,18.7s,baz=261,slow=35						
YBH	**Yreka Blue Hor**	**83.38**	**49**	IAmb	IAmb	07 24 45.5	
	comp=Z,7.6nm,1.4s						
YKA	**Yellowknife Ar**	**83.44**	**27**	P	**P**	**07 24 30.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=288,slow=5.5,SNR=13						
BELG	**Belogornoye**	**84.05**	**322**	LR	LR	08 03 37.3	
	comp=Z,85nm,20.4s,baz=148,slow=37						
PINE	**Pine Mountain**	**84.23**	**47**	P	**P**	**07 24 35.8**	**+0.1**
PINE				IAmb	IAmb	07 25 03.6	
	comp=Z,11nm,1.3s						
B08A	**Colville Reser**	**84.31**	**42**	P	**P**	**07 24 35.8**	**0.0**
B08A				IAmb	IAmb	07 24 37.6	
	comp=Z,3.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.57**	**351**	LR	LR	08 03 31.5	
	comp=Z,29nm,18.3s,baz=246,slow=36						
RES	**Resolute Bay**	**85.14**	**13**	P	**P**	**07 24 39.6**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=339,slow=2.5,SNR=8.6						
RES	**Resolute Bay**	**85.14**	**13**	IAmb	IAmb	07 24 40.3	
	comp=Z,3.7nm,0.8s						
NEW	**Newport**	**85.77**	**42**	P	**P**	**07 24 43.7**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=311,slow=2.0,SNR=4.3						
NVAR	**Mina Array Bea**	**87.42**	**51**	P	**P**	**07 24 52.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=271,slow=5.6,SNR=9.1						
NVAR	**Mina Array Bea**	**87.42**	**51**	P	**P**	**07 24 51.8**	**+0.2**
ARCES	**ARCESS Array B**	**87.56**	**342**	LR	LR	08 07 21.7	
	comp=Z,24nm,19.1s,baz=258,slow=38						
MFID	**Camas Ranch**	**87.92**	**46**	P	**P**	**07 24 54.5**	**+0.7**
MFID				IAmb	IAmb	07 24 56.4	
	comp=Z,3.4nm,0.8s						
ELK	**Elko**	**89.08**	**48**	P	**P**	**07 25 00.8**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=226,slow=6.1,SNR=7.0						
ELK				LR	LR	07 57 04.0	
	comp=Z,37nm,20.8s,baz=302,slow=30						
OBN	**Obninsk**	**89.47**	**327**	LR	LR	08 07 13.4	
	comp=Z,15nm,19.5s,baz=11,slow=37						
VNDA	**Vanda**	**90.92**	**176**	LR	LR	08 03 54.8	
	comp=Z,21nm,20.5s,baz=250,slow=34						
FINES	**FINESS Array B**	**91.59**	**335**	LR	LR	08 09 23.4	
	comp=Z,51nm,18.1s,baz=336,slow=38						
PDAR	**Pinedale Array**	**92.49**	**45**	LR	LR	08 07 41.9	
	comp=Z,42nm,19.0s,baz=290,slow=36						
AKASG	**Malin Array Be**	**95.37**	**325**	LR	LR	08 11 18.4	

TGTN	**Hyland Airport**	**2.84**	**164**	Pn	**Pb**	**07 18 34.4**	**-2.2**
TGTN				Sn	**Sb**	**07 19 09.6**	**-1.8**
DAWY	**Dawson**	**4.16**	**272**	Pn	**Pn**	**07 18 48.5**	**-0.9**
DAWY				Sn	**Sn**	**07 19 34.1**	**-4.0**
WHY	**Whitehorse**	**4.29**	**215**	Pn	**Pn**	**07 18 51.7**	**+0.5**
WHY				Pg	**Pb**	**07 19 03.2**	**+1.9**
WHY				Sg	**Sb**	**07 19 53.3**	**+0.3**
INK	**Inuvik**	**4.32**	**342**	Pn	**Pn**	**07 18 53.3**	**+1.8**
	2.8nm,0.3s,baz=162,slow=12,SNR=20						
INK				Pg	**Pg**	**07 19 08.2**	**-0.4**
	3.9nm,0.3s,baz=163,slow=14,SNR=14						
INK				Sn	**Sn**	**07 19 42.1**	**+0.2**
	1.7nm,0.3s,baz=99,slow=28,SNR=1.5						
INK				Lg	Lg	07 20 01.4	
	3.1nm,0.3s,baz=93,slow=27,SNR=5.8						
INK	**Inuvik**	**4.32**	**342**	Pn	**Pn**	**07 18 53.1**	**+1.6**
INK				Sn	**Sn**	**07 19 42.0**	**+0.2**
YUK5	**Granite Creek**	**4.82**	**233**	Pn	**Pn**	**07 18 58.1**	**-0.4**
YUK5				Pg	**Pb**	**07 19 11.8**	**+1.3**
YUK5				Sg	**Sb**	**07 20 07.0**	**-1.6**
HYT	**Haines Junctio**	**4.92**	**229**	Pn	**Pn**	**07 18 59.6**	**-0.3**
HYT				Sn	**Sn**	**07 19 51.5**	**-5.4**
HYT				Sg	**Sb**	**07 20 10.9**	**-0.4**
YUK4	**Talbot Arm**	**4.96**	**238**	Pn	**Pn**	**07 18 58.9**	**-1.6**
YUK4				Sg	**Sb**	**07 20 09.0**	**-3.6**
YUK6	**Outpost Mounta**	**5.13**	**233**	Pn	**Pn**	**07 19 02.6**	**-0.3**
YUK6				Sg	**Sb**	**07 20 21.1**	**+3.6**
BVCY	**Beaver Creek**	**5.27**	**254**	Pn	**Pn**	**07 19 04.5**	**-0.1**
BVCY				Sn	**Sn**	**07 19 59.6**	**-5.8**
BVCY				Sg	**Sb**	**07 20 23.1**	**+1.7**
YUK7	**Dusty Glacier**	**5.35**	**229**	Sg	**Sb**	**07 20 25.9**	**+2.2**
YUK3	**Moose Creek**	**5.42**	**247**	Pn	**Pn**	**07 19 05.9**	**-0.9**
YUK3				Sn	**Sn**	**07 20 05.0**	**-4.2**
YUK3				Sg	**Sb**	**07 20 26.7**	**+1.1**
YUK8	**Steele Glacier**	**5.42**	**241**	Pn	**Pn**	**07 19 06.5**	**-0.4**
YUK8				Sn	**Sn**	**07 20 07.3**	**-2.1**
YUK8				Sg	**Sb**	**07 20 28.0**	**+2.2**
YUK2	**White River**	**5.56**	**249**	Pn	**Pn**	**07 19 08.3**	**-0.4**
YUK2				Sg	**Sb**	**07 20 30.4**	**+0.7**
NBC2	**NorthernBC 2**	**5.69**	**139**	Pn	**Pn**	**07 19 14.5**	**+4.3**
DLBC	**Dease Lake**	**5.84**	**181**	Pn	**Pn**	**07 19 14.4**	**+2.0**
	3.3nm,0.3s,baz=4.7,slow=11,SNR=85						
DLBC				Sn	**Sn**	**07 20 19.3**	**-0.1**
	1.2nm,0.3s,baz=188,slow=19,SNR=2.0						
DLBC				Lg	Lg	07 20 49.2	
	1.0nm,0.3s,baz=189,slow=17,SNR=3.6						
DLBC	**Dease Lake**	**5.84**	**181**	Pn	**Pn**	**07 19 14.2**	**+1.8**
DLBC				Sn	**Sn**	**07 20 19.5**	**+0.1**
DLBC				Sg	**Sg**	**07 20 47.9**	**-5.3**
BESE	**Bessie Mountai**	**6.17**	**205**	Pn	**Pn**	**07 19 17.6**	**+0.6**
BESE				Sg	**Sb**	**07 20 52.3**	**+5.2**
LOGN	**Logan Glacier**	**6.18**	**241**	Sg	**Sb**	**07 20 47.3**	**-0.3**
CTGM	**Chitina Glacie**	**6.22**	**243**	Pn	**Pn**	**07 19 18.5**	**+0.7**
CTGM				Sg	**Sb**	**07 20 52.9**	**+4.1**
DOT	**Dot Lake**	**6.27**	**271**	Pn	**Pn**	**07 19 17.5**	**-0.8**
TABL	**Table Mountain**	**6.48**	**239**	Sn	**Sn**	**07 20 35.9**	**+0.5**
GRNC	**Granite Creek**	**6.53**	**243**	Sn	**Sn**	**07 20 37.0**	**+0.4**
BALM	**Baldy**	**6.58**	**246**	Sg	**Sb**	**07 21 03.1**	**+4.2**
KIAG	**Kiagna River**	**6.65**	**246**	Sn	**Sn**	**07 20 39.2**	**-0.3**
KIAG				Sg	**Sb**	**07 21 04.4**	**+3.3**
KUKN	**Kugluktuk,NWT**	**7.00**	**53**	Pn	**Pn**	**07 19 32.6**	**+4.4**
KUKN				Sn	**Sn**	**07 20 49.1**	**+1.2**
KUKN				Sg	**Sg**	**07 21 29.0**	**-1.3**
YKA	**Yellowknife Ar**	**7.09**	**97**	Pn	**Pn**	**07 19 32.5**	**+2.9**
	0.4nm,0.3s,baz=288,slow=13,SNR=31						
YKA				Sn	**Sn**	**07 20 51.5**	**+1.4**
	0.6nm,0.3s,baz=286,slow=21,SNR=9.8						
ILAR	**Eielson Array**	**7.35**	**282**	Pn	**Pn**	**07 19 33.7**	**+0.7**
	0.1nm,0.3s,baz=99,slow=12,SNR=7.7						
ILAR				Lg	Lg	07 21 29.3	
	0.3nm,0.3s,baz=93,slow=27,SNR=6.2						
A36M	**Sachs Harbour**	**7.96**	**10**	Pn	**Pn**	**07 19 43.5**	**+2.2**
A36M				Sn	**Sn**	**07 21 09.9**	**-1.3**
RES	**Resolute Bay**	**15.78**	**34**	Pn	**Pn**	**07 21 28.4**	**+0.7**
	0.1nm,0.3s,baz=240,slow=15,SNR=2.3						
RES				Sn	**Sn**	**07 24 14.9**	**-7.4**
	0.2nm,0.3s,baz=185,slow=11,SNR=3.7						
PDAR	**Pinedale Array**	**24.47**	**142**	P	**P**	**07 23 06.5**	**+1.5**
	0.1nm,0.5s,baz=345,slow=9.5,SNR=1.6						

*IDC **19** 07:20:43.6±3.5, 13°.04N×145°.02E, h50km±40km, mb3.2/4, mb1 3.5/4, mb1mx3.2/41, mbtmp3.5/4, Error ellipse: s-maj=124.8km s-min=20.9km az=105.0*

ISC 19 07:20:43.7±1.2, **13°.0N**±0°.1×**145°.1E**±0°.3, **h50**km, **n5, σ0s80/6, mb3.5/4, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.65**	**339**	P	**Pn**	**07 20 56.9**	**0.0**
	229nm,0.3s,baz=334,slow=22,SNR=38						
GUMO				S	**Sn**	**07 21 06.4**	**0.0**
	200nm,0.3s,baz=353,slow=21,SNR=11						
WRA	**Warramunga Arr**	**34.38**	**198**	P	**P**	**07 27 25.9**	**-0.4**
	0.4nm,0.6s,baz=21,slow=9.9,SNR=3.0						
ASAR	**Alice Springs**	**38.03**	**197**	P	**P**	**07 27 57.7**	**+0.3**
	0.2nm,0.6s,baz=23,slow=10,SNR=4.7						
ILAR	**Eielson Array**	**69.02**	**25**	P	**P**	**07 31 42.9**	**-0.9**
	0.5nm,0.6s,baz=254,slow=5.9,SNR=8.5						
YKA	**Yellowknife Ar**	**83.30**	**27**	P	**P**	**07 33 05.8**	**+0.9**
	0.3nm,0.6s,baz=282,slow=4.8,SNR=5.2						

*CNRM **19** 07:24:41.4, 35°.68N×3°.61W, h31km*
*MDD **19** 07:24:42.6±0.4, 35°.65N×3°.56W, h22km±1km, mb_Lg2.8/7, Error ellipse: s-maj=3.2km s-min=3.6km az=161.0*
*SFS **19** 07:24:42.0, 35°.64N×3°.56W, h23km, ML2.8, ALBORAN SUR*

ISC 19 07:24:39.2±1.3, **35°.67N**±0°.02×**3°.61W**±0°.03, **h5**km±11km, **n35, σ1s25/61, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.53**	**211**	P	**Pb**	**07 24 52.0**	**+1.0**
PALE				S	**Sb**	**07 25 01.0**	**+2.1**
PALE	**Palemas**	**0.53**	**211**	P	**Pb**	**07 24 51.9**	**+0.9**
PALE				S	**Sb**	**07 24 59.1**	**+0.2**
EALB	**Alboran**	**0.54**	**60**	Pg	**Pn**	**07 24 52.3**	**-1.1**
EALB				Sg	**Sb**	**07 25 00.0**	**+1.0**
EALB				*i* Vmb_Lg		07 25 03.3	
EMEL	**Melilla**	**0.65**	**125**	Pg	**Pb**	**07 24 53.6**	**+0.6**
EMEL				Sg	**Sb**	**07 25 02.7**	**+0.4**
EMEL				*i* Vmb_Lg		07 25 03.3	
PVLZ	**Peæn de**	**0.76**	**229**	P	**Pb**	**07 24 54.9**	**+0.1**
PVLZ				S	**Sg**	**07 24 04.3**	**+0.8**
ELGU	**Los Guajares,**	**1.19**	**359**	Pg	**Pb**	**07 25 02.3**	**0.0**
ELGU				Sg	**Sn**	**07 27 18.6**	**-0.7**
ELGU				*i* Vmb_Lg		07 25 20.9	
EMAL	**Malaga-Limoner**	**1.27**	**329**	P	**Pn**	**07 25 02.8**	**-0.8**
EMAL				S	**Sg**	**07 25 18.9**	**-1.2**
EMIJ	**Mijas**	**1.30**	**314**	Pg	**Pn**	**07 25 03.0**	**-1.0**
EMIJ				Sg	**Sn**	**07 25 22.5**	**+0.8**
EMIJ				*i* Vmb_Lg		07 25 24.7	
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**07 25 04.0**	**-0.1**
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**07 25 03.9**	**-0.1**
TAF				S	**Sg**	**07 25 18.8**	**-2.1**
EBER	**Berja**	**1.35**	**25**	Pg	**Pg**	**07 25 05.5**	**+0.4**
EBER				Sg	**Sn**	**07 25 24.0**	**+0.7**
EBER				*i* Vmb_Lg		07 25 28.7	
SMIR	**Smir Dam**	**1.44**	**271**	P	**Pn**	**07 25 03.7**	**-2.2**
SMIR				S	**Sn**	**07 25 21.4**	**-3.8**
EGOR	**Sierra Gorda,**	**1.49**	**344**	Pg	**Pb**	**07 25 07.4**	**-0.1**
EGOR				Sg	**Sb**	**07 25 26.7**	**0.0**
EGOR				*i* Vmb_Lg		07 25 38.8	
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pb**	**07 25 08.0**	**+0.1**
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pn**	**07 25 07.7**	**+0.5**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**07 25 07.7**	**-0.3**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**07 25 07.7**	**-0.3**
JBK				S	**Sn**	**07 25 25.5**	**-3.6**
EJIF	**Jimena Fronter**	**1.70**	**298**	P	**Pn**	**07 25 09.8**	**+0.4**
SICH	**Sidi Chahed**	**2.10**	**222**	P	**Pn**	**07 25 17.1**	**-0.7**
SICH				S	**Sn**	**07 25 41.6**	**0.0**
IFR	**Ifrane**	**2.49**	**211**	P	**Pn**	**07 25 21.9**	**+1.4**
IFR				S	**Sn**	**07 25 50.0**	**-1.3**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**07 25 23.0**	**+1.0**
EADA				Sn	**Sn**	**07 25 54.7**	**+0.6**
EADA				Sg	**Sg**	**07 26 01.5**	**-1.5**
EADA				*i* Vmb_Lg		07 26 04.7	
ECAB	**El Cabril**	**2.80**	**329**	Pn	**Pn**	**07 25 25.6**	**+0.9**
ECAB				Sn	**Sn**	**07 25 59.8**	**+0.9**
CZD	**Col de Zad**	**2.89**	**205**	P	**Pn**	**07 25 27.5**	**+1.4**
TDRA	**Tendrara**	**2.93**	**153**	P	**Pn**	**07 25 27.5**	**+0.8**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**07 25 27.8**	**+1.0**
MD31				S	**Sn**	**07 26 01.8**	**-0.9**
MDT	**Midelt**	**2.97**	**196**	P	**Pn**	**07 25 28.1**	**+1.1**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**07 25 30.7**	**+0.2**
EMIN				Sn	**Sn**	**07 26 09.7**	**+0.4**
ETOB	**Tobarra**	**3.39**	**28**	Pn	**Pn**	**07 25 33.5**	**+0.6**
ETOB				Pg	**Pb**	**07 25 40.7**	**+0.9**
ETOB				Sn	**Sn**	**07 26 14.2**	**+0.7**
EGRO	**El Granado**	**3.63**	**302**	Pn	**Pn**	**07 25 36.3**	**+0.3**
EGRO				Sn	**Sn**	**07 26 19.0**	**-0.2**
EGRO				*i* Vmb_Lg		07 26 26.6	
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**07 25 37.9**	**+0.5**
FIGM	**Figuig**	**4.03**	**150**	P	**Pn**	**07 25 41.9**	**+0.2**
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**07 25 43.0**	**+0.5**
EBAD				Sn	**Sn**	**07 26 32.1**	**+1.1**
EBAD				*i* Vmb_Lg		07 26 32.3	
PFVI	**Vila Bisbo**	**4.46**	**291**	P	**Pn**	**07 25 48.3**	**+0.9**
PESTR	**Estremoz**	**4.50**	**316**	P	**Pn**	**07 25 47.3**	**-0.7**
PESTR				S	**Sn**	**07 26 39.2**	**-1.5**
EVO	**Evora**	**4.53**	**310**	P	**Pn**	**07 25 49.1**	**+0.7**
EVO				S	**Sn**	**07 26 37.7**	**-3.8**

KRSC 19 07:50:19.2±1.6, **54°.98N**×**165°.29E, h42**km±14km, **ML3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.45**	**60**	*e*P	Pn	07 50 29.2	-0.1
BKI				*e*S	Sn	07 50 35.0	-1.4
KBTR	**Krutoberegovo**	**1.87**	**312**	*e*P	Pn	07 50 50.2	+1.6
KBTR				*e*S	Sn	07 51 13.2	+2.3
KBG	**Krutoberegovo**	**1.94**	**312**	*e*P	Sn	07 51 15.1	+2.3
MKZ	**Mys Kozlova**	**2.11**	**260**	*e*P	Pn	07 50 56.2	+4.3
MKZ				*e*S	Sn	07 51 20.9	+4.1
TUMD	**Tumrok D**	**2.82**	**276**	*e*P	Pn	07 51 06.7	+5.0
TUMR	**Tumrok**	**2.97**	**278**	*e*P	Pn	07 51 09.0	+5.2
KMNR	**Kamenistaya**	**2.99**	**287**	*e*P	Pn	07 51 09.1	+5.0
KOZ	**Kozyrevsk**	**3.26**	**291**	*e*P	Pn	07 51 13.5	+5.7
KII	**Karymskiy**	**3.54**	**257**	*e*P	Pn	07 51 17.1	+5.5
KII				*e*S	Sn	07 51 54.9	+2.7
SPN	**Mys Shipunski**	**3.64**	**241**	*e*P	Pn	07 51 16.7	+3.8
SPN				*e*S	Sn	07 51 56.8	+2.3
NLC	**Nalytchevo**	**3.95**	**245**	*e*S	Sn	07 52 04.1	+2.0
SDLR	**Sedlovina**	**4.14**	**248**	*e*P	Pn	07 51 25.2	+5.3
SDLR				*e*S	Sn	07 52 11.9	+4.9
SMAR	**Somma**	**4.19**	**248**	*e*P	Pn	07 51 25.9	+5.2
KRER	**Koryakskii**	**4.20**	**249**	*e*P	Pn	07 51 26.1	+5.3
KRER				*e*S	Sn	07 52 12.2	+3.5
UGLR	**Uglovaya**	**4.20**	**248**	*e*P	Pn	07 51 26.3	+5.5
UGLR				*e*S	Sn	07 52 12.5	+3.9
AVH	**Avacha**	**4.22**	**249**	*e*P	Pn	07 51 26.8	+5.8
AVH				*e*S	Sn	07 52 13.4	+4.3
KOK	**Koryaka**	**4.27**	**249**	*e*P	Pn	07 51 27.2	+5.6
KOK				*e*S	Sn	07 52 14.2	+4.1
DALK	**Dalny**	**4.33**	**246**	*e*S	Sn	07 52 14.5	+3.1
OSSR	**Ossora**	**4.45**	**345**	*e*P	Pn	07 51 26.9	+2.9
GNL	**Ganaly**	**4.49**	**256**	*e*P	Pn	07 51 30.4	+5.7
KRMR	**Karymshinskiy**	**4.75**	**246**	*e*S	Sn	07 52 25.8	+3.8
RUS	**Russkaya**	**4.77**	**240**	*e*P	Pn	07 51 33.0	+4.6
MTVR	**Mutnovka**	**4.91**	**242**	*e*P	Pn	07 51 35.8	+5.3
MTVR				*e*S	Sn	07 52 29.1	+3.1
GRL	**Gorelyy**	**4.93**	**243**	*e*P	Pn	07 51 35.9	+5.2
GRL				*e*S	Sn	07 52 29.4	+3.0
KDTR	**Khodutka, Kamc**	**5.36**	**237**	*e*P	Pn	07 51 39.7	+3.2

*NEIC **19** 07:57:49.2±1.9, 54°.83N±0°.06×160°.66W±0°.10, h26km±16km, Error ellipse: s-maj=11.2km s-min=4.5km az=137.0*

AEIC 19 07:57:48±2.4, **54°.81N**±0°.05×**160°.58W**±0°.09, **h28**km±9km, **ML3.4, ML3.8**/13(NEIC), **Error ellipse: s-maj=9.6km s-min=4.4km az=131.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.55**	**6**		Pn	07 57 60.0	+0.1
SDPT	**Sand Point**	**0.55**	**6**	IAML		07 58 08.8	
	comp=N,8μm,0.3s						
SDPT				IAML		07 58 09.0	
	comp=E,6μm,0.2s						
PVV	**Pavlof Volcano**	**0.90**	**310**		Pn	07 58 04.8	+0.1
PS4A	**Pavlof South-4**	**0.91**	**307**		Pn	07 58 05.0	+0.1
HAG	**Hague Volcano**	**0.92**	**304**		Pn	07 58 05.2	+0.2
PN6	**Pavlof North-6**	**1.01**	**311**		Pb	07 58 07.1	+0.2
BALA	**Baldy Mountain**	**1.33**	**288**		Pb	07 58 11.8	-0.5
VNFG	**Fog Glacier, M**	**1.59**	**21**		Pb	07 58 16.1	-0.7
VNHG	**Veniaminof 1**	**1.63**	**29**		Pb	07 58 16.9	-0.5
FALS	**False Pass**	**1.65**	**273**		Pn	07 58 15.7	+0.8
CHGN	**Chignik**	**1.94**	**38**		Pb	07 58 20.8	-1.8
SSLN	**Shishaldin Nor**	**1.98**	**272**		Pn	07 58 21.1	+1.5
WESE	**West Dahl East**	**2.35**	**264**		Pn	07 58 26.5	+1.7
CHIR	**Chirikof Islan**	**3.01**	**68**		Pn	07 58 34.4	+0.8
CHIR	**Chirikof Islan**	**3.01**	**68**	IAML		07 58 57.8	
	comp=N,249nm,2.3s						
AKUT	**Akutan**	**3.10**	**260**	Pn	Pn	07 58 36.3	+1.3
AKUT				IAML		07 59 23.7	
	comp=N,225nm,4.9s						
UNV	**Unalaska Valle**	**3.60**	**257**	Pn	Pn	07 58 42.1	+0.3
SII	**Sitkinak Islan**	**4.02**	**61**	Pn	Pn	07 58 51.1	+3.5
OHAK	**Old Harbor**	**4.75**	**56**	Pn	Pn	07 58 57.3	-0.3
OHAK				IAML		08 00 23.3	
	comp=E,78nm,3.9s						
OHAK				IAML		08 00 28.6	
	comp=N,66nm,3.3s						
KDAK	**Kodiak Island**	**5.36**	**53**	Pn	Pn	07 59 05.7	-0.3
KDAK				IAML		08 01 49.5	
	comp=N,64nm,4.0s						
Q19K	**Cape Douglas,**	**5.62**	**40**	Pn	Pn	07 59 10.4	+0.9
N19K	**Bonanza Creek**	**6.84**	**26**	Pn	Pn	07 59 29.1	+2.7
SVW2	**Sparrevohn**	**6.84**	**21**	Pn	Pn	07 59 27.2	+0.8
M19K	**Big River Lodg**	**7.82**	**22**	Pn	Pn	07 59 41.7	+1.9

*IDC **19** 08:09:19.6±1.2, 29°.65N×92°.14E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/65, mbtmp3.5/7, Error ellipse: s-maj=48.3km s-min=21.4km az=64.0*

ISC 19 08:09:24.8±1.2, **29°.7N**±0°.2×**92°.2E**±0°.3, **h35**km, **n7**, **σ0s92/7, mb3.5/6, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.69**	**338**	P	**P**	**08 13 38.7**	**-1.3**
	baz=143,slow=11,SNR=1.8						
SONM	**Songino Array**	**21.15**	**27**	P	**P**	**08 14 06.8**	**-0.1**
	0.7nm,0.6s,baz=213,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**23.25**	**338**	P	**P**	**08 14 29.7**	**+0.8**
	1.5nm,0.8s,baz=151,slow=9.7,SNR=11						
ZALV	**Zalesovo Beam**	**24.79**	**350**	P	**P**	**08 14 44.0**	**+0.8**
	1.0nm,0.5s,baz=163,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**63.95**	**135**	P	**P**	**08 19 54.2**	**-0.5**
	0.4nm,0.9s,baz=328,slow=7.0,SNR=2.0						
ASAR	**Alice Springs**	**66.54**	**138**	P	**P**	**08 20 11.6**	**+0.2**
	0.3nm,0.7s,baz=326,slow=6.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.00**	**282**	P	**P**	**08 21 52.2**	**+0.1**
	1.1nm,1.2s,baz=69,slow=5.1,SNR=2.2						

*SFS **19** 08:14:35.0, 35°.64N×3°.64W, h31km, ML2.5, ALBORAN SUR*
*MDD **19** 08:14:35.4±0.6, 35°.66N×3°.68W, h20km±8km, mb_Lg2.2/5, Error ellipse: s-maj=7.8km s-min=4.2km az=151.0*
*CNRM **19** 08:14:35.7, 35°.71N×3°.60W, h31km, ml1.9*

ISC 19 08:14:34.4±1.2, **35.72N**±0°.03×**3°.60W**±0°.03, **h20**km±7km, **n15, σ0s97/28, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.51**	**64**	Pg	**Pn**	**08 14 46.8**	**+0.1**
EALB				Sg	**Sn**	**08 14 55.0**	**+0.1**
EALB				*i* Vmb_Lg		08 14 55.9	
PALE	**Palemas**	**0.57**	**209**	P	**Pn**	**08 14 47.3**	**-0.1**
PALE				S	**Sn**	**08 14 55.1**	**-1.1**
EMEL	**Melilla**	**0.67**	**128**	Pg	**Pn**	**08 14 48.4**	**-0.4**
EMEL				Sg	**Sg**	**08 14 57.3**	**+0.7**
PVLZ	**Peæn de**	**0.79**	**227**	P	**Pn**	**08 14 50.6**	**+0.3**
PVLZ				S	**Sn**	**08 15 01.6**	**+0.1**
ELGU	**Los Guajares,**	**1.15**	**359**	Pg	**Pg**	**08 14 56.4**	**-0.4**
ELGU				Sg	**Sg**	**08 15 13.1**	**+1.1**
ELGU				*i* Vmb_Lg		08 15 16.3	
EMAL	**Malaga-Limoner**	**1.24**	**328**	S	**Sn**	**08 15 13.1**	**+0.3**
EMIJ	**Mijas**	**1.27**	**312**	Pg	**Pg**	**08 14 58.3**	**-0.7**
EMIJ				Sg	**Sg**	**08 15 14.5**	**-1.2**
EMIJ				*i* Vmb_Lg		08 15 15.2	
EBER	**Berja**	**1.31**	**26**	Pn	**Pb**	**08 14 58.7**	**+0.1**
EBER				Sn	**Sn**	**08 15 14.9**	**0.0**
EBER				*i* Vmb_Lg		08 15 19.0	
TAF	**Taforalt**	**1.32**	**132**	P	**Pb**	**08 14 58.7**	**+0.1**
SMIR	**Smir Dam**	**1.45**	**269**	P	**Pn**	**08 14 59.4**	**-0.1**
SMIR				S	**Sb**	**08 15 18.2**	**-0.5**
EGOR	**Sierra Gorda,**	**1.45**	**344**	Pn	**Pn**	**08 14 59.8**	**+0.1**
EGOR				Pg	**Pg**	**08 15 01.9**	**-0.6**
EGOR				Sn	**Sn**	**08 15 17.1**	**-1.2**
EGOR				Sg	**Sg**	**08 15 22.6**	**+1.1**
EGOR				*i* Vmb_Lg		08 15 26.5	
JBK	**JBK**	**1.62**	**148**	P	**Pn**	**08 15 02.5**	**+0.4**
JBK				S	**Sn**	**08 15 20.5**	**-1.9**
MD31	**MD31**	**3.00**	**199**	P	**Pn**	**08 15 20.5**	**-0.4**
MD31				S	**Sn**	**08 15 58.8**	**+2.5**
MDT	**Midelt**	**3.01**	**196**	P	**Pn**	**08 15 22.5**	**+1.4**
PVAQ	**Vaqueiros**	**3.72**	**298**	P	**Pn**	**08 15 32.0**	**+1.3**

IDC 19 08:32:08.8±46.0, **13°.16S**×**168°.51E, h0**km, **mb3.9**/3, **mb1 4.1**/4, **mb1mx3.5**/36, **mbtmp3.9**/4, **ML3.7**/1, **Error ellipse: s-maj=788.1km s-min=56.9km az=64.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.07**	**192**	Pn	Pn	08 34 20.4	-0.8
	0.8nm,0.3s,baz=18,slow=20,SNR=9.7						
DZM				Sn	Sn	08 35 46.8	-17
	0.1nm,0.3s,baz=77,slow=21,SNR=1.5						
STKA	**Stephens Creek**	**30.92**	**229**	P	P	08 38 28.1	+0.6
	1.4nm,0.5s,baz=55,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**33.40**	**254**	P	P	08 38 49.4	0.0
	1.1nm,0.8s,baz=84,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**34.37**	**247**	P	P	08 38 57.4	-0.4
	1.1nm,0.7s,baz=74,slow=9.8,SNR=20						

*IDC **19** 08:50:24.7±1.4, 51°.75N×174°.37W, h0km, mb3.9/17, mb1 4.0/20, mb1mx3.9/58, mbtmp3.9/20, ML3.7/3, Error ellipse: s-maj=38.6km s-min=15.2km az=178.0*
*NEIC **19** 08:50:26.6±2.2, 51°.38N±0°.09×174°.21W±0°.07, h18km±6km, Error ellipse: s-maj=12.7km s-min=6.8km az=178.0*
*AEIC **19** 08:50:27.2±2.4, 51°.34N±0°.07×174°.25W±0°.08, h23km±5km, ML3.7, mb4.0/32(NEIC), Error ellipse: s-maj=10.6km s-min=6.0km az=157.0*

ISC 19 08:50:29.1±0.7, **51°.44N**±0°.09×**174°.26W**±0°.05, **h38**km, **n92, σ1s15/83, mb4.0/22, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.77**	**3**		**Pn**	**08 50 42.8**	**-0.6**
ATKA					**Sn**	**08 50 55.3**	**+1.6**
KOFP	**Korovin Flat P**	**0.85**	**7**		**Pn**	**08 50 44.7**	**+0.2**
KOKL	**Mount Kliuchef**	**0.89**	**2**		**Pn**	**08 50 45.1**	**0.0**
KOWE	**Korovin West**	**0.93**	**0**		**Pn**	**08 50 45.9**	**+0.2**
GSMY	**Great Sitkin M**	**1.27**	**299**		**Pn**	**08 50 49.7**	**-0.6**
GSTR	**Great Sitkin T**	**1.30**	**301**		**Pn**	**08 50 50.2**	**-0.5**
GSCK	**Great Sitkin C**	**1.31**	**297**		**Pn**	**08 50 50.3**	**-0.6**
GSTD	**Great Sitkin T**	**1.32**	**299**		**Pn**	**08 50 50.8**	**-0.3**
GSTD					**Sn**	**08 51 09.2**	**+1.7**
ETKA	**Kagalaska Isla**	**1.40**	**289**		**Pn**	**08 50 51.8**	**-0.3**
ADK	**Adak**	**1.57**	**288**	Pn	**Pn**	**08 50 53.8**	**-0.6**
ADK	**Adak**	**1.57**	**288**		**Sn**	**08 51 15.4**	**+1.9**
KIWB	**Kanaga Island**	**1.85**	**284**		**Pn**	**08 50 57.5**	**-0.7**
KIKV	**Kanaga Island**	**1.86**	**285**		**Pn**	**08 50 58.3**	**-0.1**
KIMD	**Kanaga Island**	**1.88**	**281**		**Pn**	**08 50 58.3**	**-0.4**
KICM	**Kanaga Island**	**1.89**	**286**		**Pn**	**08 50 59.3**	**+0.6**
TAPA	**Tanaga Point A**	**2.25**	**281**		**Pn**	**08 51 03.9**	**+0.2**
TAFP	**Tanaga Falls P**	**2.36**	**283**

H11S2 WAKE ISLAND Hy 36.16 212 T T 09 36 45.9
baz=20,slow=75,SNR=17
H11S3 WAKE ISLAND Hy 36.16 212 T T 09 36 44.9
baz=20,slow=75,SNR=5.7
NEW Newport 36.18 72 P **P** **08 57 28.8 +1.1**
comp=Z,0.8nm,0.4s,baz=270,slow=10,SNR=2.2
EDM Edmonton 36.28 63 P **P** **08 57 28.9 +0.4**
MCMT McKenzie Canyo 40.44 74 P **P** **08 58 04.1 +0.3**
NVAR Mina Array Bea 40.72 86 P **P** **08 58 07.1 +1.0**
comp=Z,0.1nm,0.3s,baz=319,slow=7.7,SNR=2.0
YHH Holmes Hill 41.67 73 P **P** **08 58 14.7 +0.7**
YHH IAmb IAmb 08 58 42.9
comp=Z,1.8nm,0.9s
PDAR Pinedale Array 43.57 75 P **P** **08 58 29.2 -0.1**
comp=Z,0.6nm,0.6s,baz=314,slow=4.4,SNR=7.0
SONM Songino Array 49.13 299 P **P** **08 59 12.9 +0.1**
comp=Z,0.8nm,0.8s,baz=57,slow=7.5,SNR=4.9
SONM Songino Array 49.13 299 IAmb IAmb 08 59 13.7
comp=Z,1.5nm,1.1s
HHC Hu-ho-hao-te 50.38 289 *eP* **P** **08 59 24.3 +1.9**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,84nm,6.6s
SPITS Spitsbergen Ar 50.49 357 P **P** **08 59 21.9 -0.7**
comp=Z,11nm,1.0s,baz=46,slow=6.2,SNR=2.0
SCHQ Schefferville 58.16 41 P **P** **09 00 18.6 0.0**
comp=Z,1.4nm,0.6s,baz=319,slow=9.3,SNR=2.5
SCHQ Schefferville 58.16 41 IAmb IAmb 09 00 25.4
comp=Z,12nm,1.5s
ARCES ARCESS Array B 58.48 352 P **P** **09 00 19.1 -1.4**
comp=Z,2.9nm,0.7s,baz=19,slow=7.7,SNR=7.3
WMQ Urumqi 61.66 305 *eP* **P** **09 00 45.0 +2.1**
MKAR Makanchi Array 62.18 311 P **P** **09 00 45.6 -0.7**
comp=Z,0.3nm,0.4s,baz=50,slow=5.4,SNR=8.7
FINES FINESS Array B 66.30 349 P **P** **09 01 11.6 -1.4**
comp=Z,1.8nm,0.8s,baz=23,slow=7.5,SNR=5.0
NOA NORSAR Array B 67.79 357 P **P** **09 01 21.8 -0.7**
comp=Z,0.9nm,0.9s,baz=1.4,slow=5.9,SNR=4.6
AKASG Malin Array Be 76.30 345 P **P** **09 02 11.3 -2.1**
comp=Z,0.8nm,0.4s,baz=17,slow=5.8,SNR=4.3
GERES GERESS Array B 79.87 355 P **P** **09 02 33.3 -0.1**
comp=Z,0.9nm,0.8s,baz=359,slow=4.9,SNR=6.6
BRTR Keskin Array B 86.00 339 P **P** **09 03 07.1 +1.7**
comp=Z,0.6nm,0.6s,baz=7.1,slow=5.8,SNR=2.5
H03N2 Juan Fernandez 118.45 109 T T 11 19 05.5
baz=316
H03N1 Juan Fernandez 118.46 109 T T 11 19 12.0
baz=316
H03N3 Juan Fernandez 118.46 109 T T 11 19 12.1
baz=316

BJI ***19*** *08:51:22.8±0.0,5.˚57S×129.˚58E, h274km, mb5.1/86, mB5.0/63*
MOS ***19*** *08:51:22.4±0.9,5.˚54S×129.˚42E, h261km, mb5.3/57, MS4.5/4, Error ellipse: s-maj=8.2km s-min=4.5km az=113.6*
NEIC ***19*** *08:51:24.9±1.5,5.˚57S±0.˙06×129.˚49E±0.˙07, h270km±5km, mb5.4/174, Mww5.7, Error ellipse: s-maj=10.0km s-min=9.3km az=72.0*
GCMT ***19*** *08:51:25.9±0.1,5.˚56S±0.˙01×129.˚43E±0.˙01, h282km, MW5.7/154, Moment Tensor Solution. s145,c282; s154,c300; Duration: 1ˢ7 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.71±.04; Mθθ3.82±.04; Mϕϕ-2.11±.04; Mrθ0.59±.04; Mθϕ-0.96±.04; Mϕr2.80±.04; Best double couple: M₀4.41800×10¹⁷ NP1:ϕs135.00000°,δ60.00000°, λ-31.00000°. NP2:ϕs242.00000°,δ63.00000°, λ-146.00000°. Principal axes: T 3.9780, Plg2.0000°, Azm8.0000°; N 0.8820, Plg48.0000°, Azm276.0000°; P -4.8590, Plg42.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***19*** *08:51:25.3±0.8,5.˚58S×129.˚40E, h277km±7km, mb4.9/31, mb1 5.1/38, mb1mx5.0/39, mbtmp5.7/38 Error ellipse: s-maj=7.2km s-min=5.3km az=58.0*
DJA ***19*** *08:51:25.3±0.1,6.˚5S×12.˚9E±.˚, h274km±2km, M5.4/120, mb5.6/120, mB5.8/97, MLv6.3/16, Mw(mB)5.4/97, MwMwp5.2/50, Mwp5.4/50*
NEIC ***19*** *08:51:26, 5.˚69S×129.˚38E, h300km, Moment Tensor Solution. Duration: 2ˢ0 Moment tensor: Scale 10¹⁷Nm; Mrr-1.20; Mθθ3.58; Mϕϕ-2.39; Mrθ1.54; Mθϕ-0.67; Mϕr2.28; Fault plane solution: M₀4.24000×10¹⁷ NP1: ϕs134.00000°,δ50.00000°,λ-18.00000°. NP2: ϕs236.00000°,δ76.00000°,λ-138.00000°. Principal axes: T 4.0333, Plg16.0000°, Azm360.0000°; N 0.3905, Plg47.0000°, Azm252.0000°; P -4.4238, Plg39.0000°, Azm104.0000°;*

ISC 19 08:51:24.9±0.2,5.˚55S±0.˙03×129.˚42E±0.˙03, h278km±1km, h278km:pP-P,n1232,σ1ˢ45/1405, mb5.3/211, 66C-17D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.13**	**25**	P	**Pn**	**08 52 04.4**	**+0.7**
AAI	**Ambon**	**2.22**	**327**	P	**Pn**	**08 52 12.5**	**+0.8**
AAI				S	**S**	**08 52 48.4**	**-0.4**
MSAI	**Masohi**	**2.25**	**347**	P	**Pn**	**08 52 11.6**	**-0.3**
MSAI				S	**S**	**08 52 46.0**	**-3.3**
SAUI	**Saumlaki**	**3.05**	**142**	Pn	**Pn**	**08 52 19.1**	**-0.6**
SAUI	**Saumlaki**	**3.05**	**142**	P	**Pn**	**08 52 19.6**	**-0.1**
SAUI	**Saumlaki**	**3.05**	**142**	P	**Pn**	**08 52 20.0**	**+0.3**
SANI	**Sanana**	**4.88**	**315**	P	**Pn**	**08 52 40.9**	**+0.7**
SANI				S	**S**	**08 53 34.5**	**-6.1**
SANI	**Sanana**	**4.88**	**315**	P	**Pn**	**08 52 41.6**	**+1.4**
SIJI	**Sorong**	**5.01**	**22**	P	**Pn**	**08 52 40.6**	**-1.1**
	556nm,0.3s,baz=222,slow=12,SNR=624						
SIJI				S	**S**	**08 53 36.6**	**-6.8**
	793nm,0.3s,baz=204,slow=23,SNR=14						
SWI	**Sorong**	**5.01**	**22**	P	**Pn**	**08 52 41.6**	**-0.2**
	50nm23µm128µm9µm,0.9s						
LBMI	**Labuha**	**5.24**	**339**	P	**Pn**	**08 52 45.5**	**+0.9**
	60nm13µm63µm7µm,0.7s						
TNTI	**Ternate**	**6.61**	**342**	Pn	**Pn**	**08 53 02.3**	**+1.1**
TNTI	**Ternate**	**6.61**	**342**	P	**Pn**	**08 53 02.2**	**+1.1**
	5.5nm6µm15µm1µm,0.7s						
TNTI	**Ternate**	**6.61**	**342**	P	**Pn**	**08 53 03.8**	**+2.6**
BBSI	**Bau Bau**	**6.81**	**270**	P	**Pn**	**08 53 06.8**	**+3.1**
	1.9nm5µm573nm,1.1s						
BATI	**Baumata**	**7.34**	**231**	P	**Pn**	**08 53 10.4**	**+0.2**
	4µm,0.3s,baz=105,slow=2.2,SNR=721						
BATI				S	**S**	**08 54 30.2**	**-5.0**
	935nm,0.3s,baz=263,slow=23,SNR=26						
BATI	**Baumata**	**7.34**	**231**	P	**Pn**	**08 53 10.2**	**0.0**
	39nm10µm76µm6µm,0.5s						
MTN	**Manton Dam**	**7.44**	**167**	P	**Pn**	**08 53 09.6**	**-1.8**
	baz=7.5,SNR=1000						
MTN	**Manton Dam**	**7.44**	**167**	Pn	**Pn**	**08 53 10.5**	**-0.9**
MTN	**Manton Dam**	**7.44**	**167**	P	**Pn**	**08 53 10.9**	**-0.5**
KDU	**Kakadu**	**7.70**	**157**	P	**Pn**	**08 53 12.7**	**-1.9**
	baz=7.7,SNR=1000						
KDU	**Kakadu**	**7.70**	**157**	P	**Pn**	**08 53 13.9**	**-0.8**
SRPI	**Serui, Papua**	**7.73**	**62**	P	**Pn**	**08 53 14.6**	**-0.5**
	4.0nm2µm10µm1µm,0.7s						
MMRI	**Maumere**	**7.75**	**246**		**Pn**	**08 53 17.1**	**+1.8**
MMRI	**Maumere**	**7.75**	**246**	P	**Pn**	**08 53 17.4**	**+2.1**
	7.8nm12µm22µm2µm,0.5s						
MMRI	**Maumere**	**7.75**	**246**	P	**Pn**	**08 53 18.2**	**+2.9**
LUWI	**Luwuk**	**8.00**	**304**	Pn	**Pn**	**08 53 20.2**	**+1.7**
LUWI	**Luwuk**	**8.00**	**304**	P	**Pn**	**08 53 19.4**	**+0.9**
	15µm1µm,0.8s						
LUWI	**Luwuk**	**8.00**	**304**	P	**Pn**	**08 53 20.9**	**+2.4**
KMSI	**Cibinong**	**8.15**	**318**	P	**Pn**	**08 53 21.6**	**+1.3**
	2µm20µm2µm,0.6s						
GTOI	**Gorontalo**	**8.87**	**314**	P	**P**	**08 53 33.0**	**-2.2**
	3µm9µm874nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.90**	**266**	P	**Pn**	**08 53 31.2**	**+1.6**
	6µm16µm708nm,0.9s						
APSI	**Ampana**	**9.02**	**300**	P	**Pn**	**08 53 33.5**	**+2.4**
	3µm8µm610nm,1.2s						
BKSI	**Bulukumba**	**9.26**	**271**	P	**Pn**	**08 53 35.8**	**+1.8**
	7µm13µm1µm,1.6s						
BNSI	**Bone**	**9.35**	**277**	P	**Pn**	**08 53 37.0**	**+1.8**
	9µm13µm786nm,1.0s						
MRSI	**Marisa**	**9.57**	**309**	P	**Pn**	**08 53 39.0**	**+1.0**
	5µm9µm851nm,0.6s						
KAPI	**Kappang**	**9.64**	**273**	P	**Pn**	**08 53 40.6**	**+1.8**
	38nm,0.3s,baz=102,slow=8.4,SNR=107						
KAPI				S	**S**	**08 55 27.4**	**-0.4**
	baz=64,slow=22,SNR=1.4						
KAPI	**Kappang**	**9.64**	**273**	Pn	**Pn**	**08 53 40.2**	**+1.4**
KAPI	**Kappang**	**9.64**	**273**	P	**Pn**	**08 53 41.0**	**+2.1**
KAPI	**Kappang**	**9.64**	**273**	P	**P**	**08 53 41.9**	**-1.9**
KAPI	**Kappang**	**9.64**	**273**	P	**Pn**	**08 53 40.8**	**+2.0**
SPSI	**Sidrap Palu**	**9.74**	**279**	P	**Pn**	**08 53 41.5**	**+1.4**
	6µm15µm1µm,1.3s						
TTSI	**Tana Toraja**	**9.89**	**284**	P	**Pn**	**08 53 44.2**	**+2.3**
	6µm8µm934nm,1.1s						
BASI	**Baing, Sumba**	**9.90**	**242**	P	**Pn**	**08 53 42.2**	**+0.1**
	2µm20µm1µm,0.4s						
SMPI	**Sarmi**	**9.93**	**69**	P	**Pn**	**08 53 43.0**	**+0.6**
	3µm4µm479nm,1.2s						
SGSI	**Sangihe**	**9.96**	**337**	P	**Pn**	**08 53 43.1**	**+0.2**
	68µm6µm,0.8s						
KNRA	**Kununurra**	**10.08**	**184**	P	**Pn**	**08 53 42.6**	**-1.7**
	baz=10,SNR=1000						
KNRA	**Kununurra**	**10.08**	**184**	Pn	**Pn**	**08 53 43.2**	**-1.1**
KNRA	**Kununurra**	**10.08**	**184**	P	**Pn**	**08 53 43.7**	**-0.6**
WBSI	**Waikabubak, Su**	**10.73**	**247**	P	**Pn**	**08 53 52.0**	**-0.4**
	25µm2µm,0.7s						
TOLI2	**Tolitoli**	**10.87**	**307**	Pn	**Pn**	**08 53 55.6**	**+1.5**
TOLI2	**Tolitoli**	**10.87**	**307**	P	**P**	**08 53 57.1**	**-0.4**
GENI	**Genyem**	**11.12**	**75**	P	**Pn**	**08 53 57.8**	**+0.6**
	5µm13µm2µm,0.8s						
GENI	**Genyem**	**11.12**	**75**	P	**Pn**	**08 53 58.1**	**+0.9**
MPSI	**Mapaga**	**11.16**	**301**	P	**P**	**08 54 00.1**	**-0.7**
	4µm217nm,0.8s						
MMPI	**Merauke**	**11.26**	**106**	P	**Pn**	**08 53 59.2**	**+0.3**
	68µm10µm,0.8s						
JAY	**Jayapura**	**11.66**	**75**	P	**Pn**	**08 54 04.1**	**+0.3**
	4µm396nm,0.9s						
PLAI	**Plampang**	**12.00**	**254**	P	**Pn**	**08 54 07.4**	**-0.6**
	3µm22µm980nm,0.5s						
PLAI	**Plampang**	**12.00**	**254**	P	**P**	**08 54 09.6**	**-0.5**
MATI	**Mati**	**12.81**	**346**	*eP*	**Pn**	**08 54 18.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**13.00**	**196**	P	**Pn**	**08 54 18.8**	**-1.4**
	98nm,0.3s,baz=26,slow=9.8,SNR=625						
FITZ				S	**S**	**08 56 35.7**	**-8.8**
	baz=97,slow=22,SNR=1.1						
DAV	**Davao City (W)**	**13.11**	**343**	P	**P**	**08 54 22.9**	**+0.5**
	156nm,0.3s,baz=106,slow=3.1,SNR=12						
DAV				S	**S**	**08 56 49.4**	**+2.3**
	68nm,0.3s,baz=258,slow=12,SNR=1.9						
DAV	**Davao City (W)**	**13.11**	**343**	P	**P**	**08 54 22.3**	**-0.2**
DAV	**Davao City (W)**	**13.11**	**343**	P	**P**	**08 54 24.9**	**+2.5**
DAV	**Davao City (W)**	**13.11**	**343**	P	**P**	**08 54 23.6**	**+1.2**
DAV	**Davao City (W)**	**13.11**	**343**	P	**P**	**08 54 22.7**	**+0.2**
SMKI	**Samarinda**	**13.20**	**292**	P	**P**	**08 54 26.8**	**+3.4**
	5µm15µm1µm,1.2s						
BKB	**Balikpapan**	**13.20**	**288**	P	**P**	**08 54 26.6**	**+3.1**
BKB	**Balikpapan**	**13.20**	**288**	P	**P**	**08 54 26.4**	**+3.0**
	5µm16µm2µm,1.2s						
BKB	**Balikpapan**	**13.20**	**288**	P	**P**	**08 54 26.8**	**+3.4**
KCP	**Kidapawan**	**13.20**	**341**	*iP*	**Pn**	**08 54 23.1**	**+0.4**
KCP	**Kidapawan**	**13.20**	**341**	*iP*	**S**	**08 56 48.0**	**-1.3**
CTBH	**Cotabato--PC H**	**13.70**	**338**	*iP*	**P**	**08 54 29.1**	**+0.2**
BIPH	**Bislig**	**13.98**	**347**	*eP*	**P**	**08 54 31.4**	**-0.7**
BIPH				*i* S	**S**	**08 57 00.1**	**-6.4**
BUKP	**Musuan**	**14.03**	**342**	*eP*	**Pn**	**08 54 33.3**	**+0.6**
SRBI	**Singaraja**	**14.32**	**259**	P	**Pn**	**08 54 36.8**	**+0.6**
	9µm432nm,0.8s						
ZCP	**Zamboanga City**	**14.40**	**329**	*eP*	**Pn**	**08 54 39.4**	**+2.2**
DNP	**Denpasar**	**14.43**	**257**	P	**Pn**	**08 54 38.5**	**+1.0**
IGBI	**Denpasar**	**14.52**	**256**	P	**P**	**08 54 37.7**	**-0.4**
PAGZ	**Pagadian**	**14.61**	**336**	*eP*	**Pn**	**08 54 40.4**	**+0.9**
BBKI	**Banjar Baru**	**14.68**	**278**	P	**Pn**	**08 54 42.4**	**+2.0**
	14µm2µm,1.1s						
WB0	**Warmunga Arr**	**14.94**	**162**	P	**P**	**08 54 41.8**	**-0.8**
WRAB	**Tennant Creek**	**15.08**	**162**	P	**P**	**08 54 43.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,1µm,1.1s						
WRAB	**Tennant Creek**	**15.08**	**162**	P	**P**	**08 54 43.2**	**-0.9**
WRAB	**Tennant Creek**	**15.08**	**162**	P	**P**	**08 54 43.9**	**-0.2**
WRA	**Warramunga Arr**	**15.08**	**162**	P	**P**	**08 54 43.3**	**-0.9**
	comp=Z,17nm,0.3s,baz=338,slow=13,SNR=1083						
WRA				S	**S**	**08 57 20.5**	**-9.3**
	comp=Z,34nm,0.3s,baz=340,slow=22,SNR=8.9						
WRA	**Warramunga Arr**	**15.08**	**162**	P	**P**	**08 54 42.8**	**-1.4**
WRA				IAmb	IAmb	08 54 45.3	
	comp=Z,202nm,1.4s						
WB2	**Warramunga Arr**	**15.09**	**162**	P	**P**	**08 54 43.6**	**-0.6**
WR0	**Warramunga Arr**	**15.16**	**161**	P	**P**	**08 54 44.3**	**-0.8**
MTKI	**Muara Teweh, K**	**15.20**	**287**	P	**Pn**	**08 54 47.1**	**+0.5**
	comp=Z,3µmcomp=Z,6µmcomp=Z,286nm,0.9s						
ABJI	**Asem Bagus**	**15.24**	**261**	P	**Pn**	**08 54 47.7**	**+0.6**
	comp=Z,5µmcomp=Z,13µmcomp=Z,1µm,1.1s						
MYLDM	**Lahad Datu**	**15.25**	**314**	P	**Pn**	**08 54 48.7**	**+1.5**
DCPH	**Dipolog City**	**15.29**	**337**	*eP*	**Pn**	**08 54 50.5**	**+2.9**
JAGI	**Jajag, Banyuwa**	**15.42**	**258**	P	**P**	**08 54 47.8**	**-0.2**
JAGI	**Jajag, Banyuwa**	**15.42**	**258**	P	**P**	**08 54 47.8**	**-0.2**
	comp=Z,3µmcomp=Z,11µmcomp=Z,752nm,1.2s						
JAGI	**Jajag, Banyuwa**	**15.42**	**258**	P	**Pn**	**08 54 49.1**	**-0.2**
KMMI	**Kalianget**	**15.43**	**264**	P	**Pn**	**08 54 51.3**	**+2.0**
	comp=Z,6µmcomp=Z,26µmcomp=Z,2µm,0.7s						
BLJI	**Banyuglugur**	**15.87**	**261**	P	**Pn**	**08 54 55.3**	**+0.9**
	comp=Z,3µmcomp=Z,6µmcomp=Z,727nm,1.1s						
COEN	**Coen**	**15.92**	**123**	P	**P**	**08 54 53.2**	**-0.2**
COEN	**Coen**	**15.92**	**123**	P	**Pn**	**08 54 54.4**	**-0.6**
SNPH	**Sibulan**	**16.03**	**337**	*eP*	**Pn**	**08 54 56.9**	**+0.5**
GMJI	**Gumukmas**	**16.08**	**259**	P	**Pn**	**08 54 56.5**	**-0.5**
	comp=Z,4µmcomp=Z,374nm,1.0s						
TBP	**Tagbilaran**	**16.12**	**340**	*iP*	**Pn**	**08 54 56.9**	**-0.5**
TBP				*i* S	**S**	**08 57 51.5**	**+0.9**
BWJI	**Bawean**	**16.68**	**268**	P	**Pn**	**08 55 02.9**	**-1.1**
	comp=Z,4µmcomp=Z,11µmcomp=Z,527nm,1.2s						
GRJI	**Gresik**	**16.89**	**265**	P	**Pn**	**08 55 06.2**	**-0.3**
	comp=Z,4µmcomp=Z,350nm,0.9s						
GUIM	**Jordan**	**17.45**	**337**	*eP*	**P**	**08 55 11.2**	**+1.1**
BESP	**Borongan**	**17.50**	**347**	*eP*	**Pn**	**08 55 12.7**	**-0.8**
KKM	**Kota Kinabalu**	**17.50**	**311**	P	**P**	**08 55 11.9**	**+1.2**
KKM	**Kota Kinabalu**	**17.50**	**311**	P	**Pn**	**08 55 13.8**	**0.0**
TBJI	**Tambak Boyo**	**17.51**	**265**	P	**Pn**	**08 55 12.8**	**-0.9**
	comp=Z,4µmcomp=Z,3µmcomp=Z,335nm,1.1s						
PWJI	**Pagerwojo**	**17.66**	**261**	P	**P**	**08 55 13.5**	**+1.2**
	comp=Z,3µmcomp=Z,270nm,0.6s						
QIS	**Mount Isa**	**17.90**	**147**	P	**P**	**08 55 14.6**	**-0.3**
	baz=18,SNR=892						
QIS	**Mount Isa**	**17.90**	**147**	P	**P**	**08 55 16.0**	**+1.1**
PBKI	**Pangkalan Bun**	**17.92**	**278**	P	**P**	**08 55 16.5**	**+1.3**
	comp=Z,75µmcomp=Z,5µmcomp=Z,370nm,1.1s						
PMG	**Port Moresby**	**18.00**	**103**	P	**P**	**08 55 15.2**	**-0.9**
	comp=Z,11nm,0.3s,baz=276,slow=7.7,SNR=35						
PMG	**Port Moresby**	**18.00**	**103**	*eP*	**P**	**08 55 15.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,994nm,1.0s						
PMG	**Port Moresby**	**18.00**	**103**	P	**P**	**08 55 14.7**	**-1.3**
PMG	**Port Moresby**	**18.00**	**103**	P	**P**	**08 55 16.8**	**+0.8**
PMG	**Port Moresby**	**18.00**	**103**	P	**P**	**08 55 17.0**	**+1.0**
PMG	**Port Moresby**	**18.00**	**103**	P	**P**	**08 55 14.9**	**-1.1**
MBWA	**Marble Bar**	**18.14**	**210**	P	**P**	**08 55 17.8**	**+0.4**
MANU	**Manus Island**	**18.24**	**80**	P	**P**	**08 55 19.0**	**+0.3**
RCP	**Roxas**	**18.25**	**339**	*eP*	**P**	**08 55 18.7**	**0.0**
PCJI	**Pacitan**	**18.30**	**261**	P	**P**	**08 55 19.9**	**+0.7**
	comp=Z,4µmcomp=Z,276nm,0.6s						
BATP	**Bataraza**	**18.37**	**321**	*eP*	**Pn**	**08 55 23.2**	**-0.4**
UWJI	**Ujung Watu**	**18.39**	**266**	P	**P**	**08 55 21.9**	**+1.7**
	comp=Z,5µmcomp=Z,286nm,1.6s						
PSA00	**Pilbara Seismi**	**18.43**	**209**	P	**P**	**08 55 20.3**	**-0.2**
PSA00	**Pilbara Seismi**	**18.43**	**209**	P	**P**	**08 55 20.7**	**+0.2**
PSA00				IAmb	IAmb	08 55 26.9	
	comp=Z,1µm,0.6s						
PSA00	**Pilbara Seismi**	**18.43**	**209**	P	**P**	**08 55 21.7**	**+1.2**
AS31	**Alice Springs**	**18.52**	**167**	P	**P**	**08 55 21.6**	**0.0**
ASAR	**Alice Springs**	**18.52**	**167**	P	**P**	**08 55 22.1**	**+0.6**
	comp=Z,218nm,0.3s,baz=352,slow=13,SNR=6046						
ASAR				S	**S**	**08 58 34.1**	**-4.0**
	comp=Z,167nm,0.3s,baz=348,slow=22,SNR=34						
ASAR				P3KPbc		09 29 37.6	
	comp=Z,0.1nm,0.3s,baz=152,slow=3.4,SNR=6.2						
ASAR	**Alice Springs**	**18.52**	**167**	P	**P**	**08 55 21.4**	**-0.1**
STKI	**Sintang**	**18.76**	**287**	P	**P**	**08 55 26.0**	**+1.8**
	comp=Z,4µmcomp=Z,92nm,1.3s						
UGM	**Wanagama**	**18.91**	**262**	P	**P**	**08 55 27.2**	**+1.4**
UGM				IAmb	IAmb	08 56 10.1	
	comp=Z,216nm,0.8s						
UGM	**Wanagama**	**18.91**	**262**	P	**P**	**08 55 27.3**	**+1.5**
	comp=Z,5µmcomp=Z,176nm,1.0s						
UGM	**Wanagama**	**18.91**	**262**	P	**P**	**08 55 27.6**	**+1.8**
SMRI	**Semarang**	**18.92**	**264**	P	**P**	**08 55 27.3**	**+1.4**
SMRI	**Semarang**	**18.92**	**264**	P	**P**	**08 55 26.6**	**+0.7**
	comp=Z,9µmcomp=Z,5µmcomp=Z,457nm,1.0s						
SMRI	**Semarang**	**18.92**	**264**	P	**Pn**	**08 55 28.4**	**-1.7**
SBUM	**Sibu**	**18.93**	**294**	P	**P**	**08 55 27.7**	**+1.7**
SBUM				IAmb	IAmb	08 55 31.2	
	comp=Z,210nm,1.0s						
MTSU	**Mount Surprise**	**19.19**	**132**	P	**P**	**08 55 28.6**	**-0.1**
	baz=19,SNR=199						
MTSU	**Mount Surprise**	**19.19**	**132**	P	**P**	**08 55 29.7**	**+1.0**
WRKA	**Warakurna**	**19.40**	**183**	P	**P**	**08 55 30.6**	**-0.4**
	baz=20,SNR=888						
WRKA	**Warakurna**	**19.40**	**183**	P	**P**	**08 55 32.0**	**+1.0**
PVCP	**Virac**	**19.73**	**345**	*eP*	**P**	**08 55 34.6**	**+0.2**
KSM	**Kuching**	**20.32**	**290**	P	**P**	**08 55 41.1**	**+0.3**
KSM				IAmb	IAmb	08 55 55.0	
	comp=Z,76nm,0.8s						
KSM	**Kuching**	**20.32**	**290**	P	**Pn**	**08 55 44.0**	**-2.3**
KPJI	**Karang Pucung**	**20.43**	**264**	P	**P**	**08 55 41.6**	**-0.3**
	comp=Z,4µmcomp=Z,362nm,1.0s						
PGP	**Puerto Galera**	**20.71**	**336**	*eP*	**P**	**08 55 45.9**	**+1.1**
CMJI	**Cimerak**	**20.94**	**263**	P	**P**	**08 55 45.2**	**-1.9**
	comp=Z,2µmcomp=Z,3µmcomp=Z,129nm,1.2s						
LQP	**Lukban**	**21.04**	**338**	*eP*	**P**	**08 55 48.3**	**0.0**
JCJI	**Jatiwangi**	**21.05**	**266**	P	**P**	**08 55 48.2**	**+0.1**
	comp=Z,17µmcomp=Z,1µm,1.3s						
LUBP	**Lubang**	**21.21**	**335**	*eP*	**P**	**08 55 49.9**	**+0.3**
TGY	**Tagaytay City**	**21.26**	**337**	P	**P**	**08 55 51.0**	**+0.9**
	comp=Z,2µm,0.7s,baz=189,slow=3.9,SNR=52						
TGY				S	**S**	**08 59 27.1**	**-0.4**
	comp=Z,154nm,0.3s,baz=152,slow=23,SNR=6.5						
LEM	**Lembang**	**21.71**	**266**	P	**P**	**08 55 54.5**	**+0.1**
	comp=Z,217nm,0.8s,baz=94,slow=10,SNR=28						
LEM				S	**S**	**08 59 34.1**	**-0.9**
	comp=Z,33nm,0.6s,baz=117,slow=23,SNR=1.3						
CTA	**Charters Tower**	**21.83**	**133**	P	**P**	**08 55 56.1**	**+0.8**
	comp=Z,206nm,0.7s,baz=306,slow=11,SNR=226						
CTA				S	**S**	**08 59 35.6**	**-1.0**
	comp=Z,16nm,0.7s,baz=12,slow=21,SNR=1.1						
CTA	**Charters Tower**	**21.83**	**133**	P	**P**	**08 55 56.8**	**+1.5**
CTAO	**Charters Tower**	**21.83**	**133**	P	**P**	**08 55 55.6**	**+0.2**
CNJI	**Cibinong**	**22.21**	**264**	P	**P**	**08 55 57.7**	**-1.1**
	comp=Z,3µmcomp=Z,13µmcomp=Z,1µm,1.4s						
GIRL	**Giralia**	**22.44**	**219**	P	**P**	**08 56 02.1**	**+1.3**
	baz=22,SNR=63						
GIRL	**Giralia**	**22.44**	**219**	P	**P**	**08 56 01.3**	**+0.5**
GIRL	**Giralia**	**22.44**	**219**	P	**P**	**08 56 03.4**	**+2.6**
CBJI	**Citeko**	**22.46**	**267**	P	**P**	**08 56 01.3**	**+0.2**
	comp=Z,7µmcomp=Z,17µmcomp=Z,467nm,0.6s						
PCPH	**Palayan**	**22.54**	**339**	*eP*	**P**	**08 56 01.3**	**-0.4**
RABL	**Rabaul**	**22.70**	**88**	P	**P**	**08 56 02.9**	**-0.4**
RABL	**Rabaul**	**22.70**	**88**	P	**P**	**08 56 04.1**	**+0.8**
SKJI	**Sukabumi**	**22.77**	**265**	P	**P**	**08 56 04.0**	**+0.1**
	comp=Z,3µmcomp=Z,236nm,0.6s						
OOD	**Oodnadatta**	**22.91**	**166**	P	**P**	**08 56 07.1**	**+2.1**
SMPP	**San Manuel, Pa**	**23.23**	**338**	*eP*	**P**	**08 56 08.9**	**+0.9**
MEEK	**Meekatharra**	**23.36**	**205**	P	**P**	**08 56 08.2**	**-1.0**
	baz=24,SNR=582						
MEEK	**Meekatharra**	**23.36**	**205**	P	**P**	**08 56 09.6**	**+0.4**
PPBI	**Pangkal Pinang**	**23.47**	**277**	P	**P**	**08 56 11.8**	**+1.6**
	comp=Z,133nm,1.2s						
CGJI	**Cibinong**	**23.61**	**266**	P	**P**	**08 56 11.0**	**-0.6**
	comp=Z,3µmcomp=Z,207nm,0.4s						
XMIS	**Christmas Isla**	**24.03**	**257**	P	**P**	**08 56 16.2**	**+0.9**
XMIS	**Christmas Isla**	**24.03**	**257**	P	**P**	**08 56 17.2**	**+1.9**
GUMO	**Guam**	**24.43**	**39**	P	**P**	**08 56 18.7**	**-0.3**
	comp=Z,199nm,0.8s,baz=193,slow=8.3,SNR=9.2						
GUMO				S	**S**	**09 00 17.1**	**-1.1**
	comp=Z,58nm,0.8s,baz=346,slow=18,SNR=2.0						
GUMO	**Guam**	**24.43**	**39**	P	**P**	**08 56 18.8**	**-0.1**
GUMO				IAmb	IAmb	08 56 26.2	
	comp=Z,215nm,0.8s						
GUMO	**Guam**	**24.43**	**39**	P	**P**	**08 56 19.5**	**+0.6**
INKA	**Innaminka**	**24.56**	**155**	P	**P**	**08 56

comp=Z,150nm,0.7s
YOJ Yonaguni jima 30.48 348 P P 08 57 12.2 -0.3
YOJ IAmb IAmb 08 57 13.5
comp=Z,150nm,0.7s
HNR Honiara 30.51 99 P P 08 57 12.6 -0.3
comp=Z,715nm,0.8s,baz=204,slow=1.9,SNR=18
HNR Honiara 30.51 99 P P 08 57 11.8 -1.1
HNR Honiara 30.51 99 P P 08 57 13.4 +0.5
HNR Honiara 30.51 99 P P 08 57 11.1 -1.8
HNR pP **pwP 08 58 12.5 -0.9**
TWOA Tennyson Woods 30.53 165 P P 08 57 14.3 +1.4
KULM Kulim 30.68 290 P P 08 57 14.9 +0.5
YHNB Yeheng 31.04 346 P P 08 57 16.7 -0.8
YHNB IAmb IAmb 08 57 18.9
comp=Z,82nm,0.7s
YHNB Yeheng 31.04 346 P P 08 57 18.0 +0.5
QIZ Qiongzhong 31.12 322 P P 08 57 18.6 +0.4
QIZ Qiongzhong 31.12 322 P P 08 57 18.3 +0.1
QIZ pP **pP 08 58 12.8 +0.4**
QIZ sP **sP 08 58 45.3 +0.7**
QIZ S **S 09 02 01.3 -1.8**
QIZ sS **sS 09 03 42.3 +3.4**
QIZ pmax pmax
comp=Z,33nm,1.1s
QIZ pmax pmax
comp=Z,370nm,3.2s
QIZ LR LR
comp=Z,1μm,14.7s
QIZ LR LR
comp=Z,1μm,18.7s
QIZ LR LR
comp=Z,950nm,16.4s
QIZ Qiongzhong 31.12 322 P P 08 57 18.8 +0.6
RKGY Rocky Gully 31.12 200 P P 08 57 19.8 +1.8
baz=31,SNR=106
RKGY Rocky Gully 31.12 200 P P 08 57 19.8 +1.8
PATS Pohnpei 31.36 67 P P 08 57 21.0 +0.7
baz=31,SNR=9.8
PATS Pohnpei 31.36 67 P P 08 57 19.6 -0.8
PATS Pohnpei 31.36 67 P P 08 57 21.8 +1.5
HKPS Hong Kong Po S 31.44 332 P P 08 57 20.9 -0.1
UBPT Khong Chiam 31.49 311 P P 08 57 21.8 +0.3
RPSI Rantau Prapat 31.54 284 P P 08 57 21.1 -0.8
PSI Prapat 31.57 284 P P 08 57 21.1 -1.2
comp=Z,22nm,0.9s,baz=119,slow=5.8,SNR=14
KNMB Chin-men Tao 31.71 341 P P 08 57 23.2 -0.1
KNMB IAmb IAmb 08 57 24.4
comp=Z,109nm,0.7s
QZH Quanzhou 32.09 341⇑*iP* **P 08 57 26.8 +0.3**
QZH S **S 09 02 14.9 -3.0**
QZH pmax pmax
comp=Z,130nm,0.6s
JOW Kunigami 32.21 358 P P 08 57 28.4 +0.8
JOW Kunigami 32.21 358 P P 08 57 29.4 +1.8
ARMA Armidale 32.39 142 P P 08 57 30.2 +1.0
baz=32,SNR=137
ARMA Armidale 32.39 142 P P 08 57 29.3 0.0
ARMA Armidale 32.39 142 P P 08 57 30.2 +1.0
GSI Gunungsitoli 32.52 281 P P 08 57 31.4 +0.9
comp=Z,76nm,0.8s
GSI Gunungsitoli 32.52 281 P P 08 57 33.2 +2.7
SRIT Nakonsritamara 32.88 295 P P 08 57 33.7 +0.1
SRIT IAmb IAmb 08 57 36.1
comp=Z,74nm,1.1s
ARPS Mount Arapiles 33.09 162 P P 08 57 35.9 +0.8
baz=33,SNR=72
ARPS Mount Arapiles 33.09 162 P P 08 57 36.4 +1.3
MGCD Mangrove Creek 34.13 146 P P 08 57 45.6 +1.5
baz=34,SNR=106
MGCD Mangrove Creek 34.13 146 P P 08 57 45.8 +1.7
LHMI Lhok Sumawe 34.14 288 P P 08 57 44.3 -0.2
LHMI IAmb IAmb 08 57 56.2
comp=Z,210nm,1.1s
LHMI Lhok Sumawe 34.14 288 P P 08 57 44.7 +0.2
comp=Z,166nm,0.8s
LHMI Lhok Sumawe 34.14 288 P P 08 57 44.9 +0.4
NTLH Newcastle Hard 34.23 145 P P 08 57 46.4 +1.5
SYDH Sydney Hard Ro 34.35 148 P P 08 57 47.4 +1.5
BRAT Ballarat 34.49 159 P P 08 57 48.3 +1.2
RIV Riverview 34.62 147 P P 08 57 50.4 +2.1
baz=35,SNR=3.2
CAN Canberra 34.69 151 P P 08 57 49.9 +1.0
CAN pmax pmax
comp=Z,219nm,0.7s
CAN Canberra 34.69 151 P P 08 57 49.9 +1.0
CAN Canberra 34.69 151 P P 08 57 50.4 +1.5
CAN Canberra 34.69 151 P P 08 57 50.0 +1.0
CAN pP pwP 08 58 55.9 +9.2
CNB Canberra Magne 34.86 151 P P 08 57 51.6 +1.1
baz=35,SNR=45
CNB Canberra Magne 34.86 151 P P 08 57 52.1 +1.7
TOO Toolangi 35.08 157 P P 08 57 54.1 +1.9
baz=35,SNR=76
TOO Toolangi 35.08 157 P P 08 57 53.4 +1.2
TOO pmax pmax
comp=Z,81nm,0.7s
TOO Toolangi 35.08 157 P P 08 57 53.4 +1.2
TOO IAmb IAmb 08 57 54.8
comp=Z,81nm,0.7s
TOO Toolangi 35.08 157 P P 08 57 54.5 +2.3
GEXS Deakin Univers 35.20 159 P P 08 57 55.4 +2.3
GULI GuiLin 35.82 330⇑**P P 08 57 59.9 +1.4**
GULI LR LR
comp=Z,600nm,19.0s
GULI LR LR
comp=Z,1μm,16.3s
GULI LR LR
comp=Z,830nm,17.4s
MILA Mila 36.18 153 P P 08 58 02.7 +1.2
baz=36,SNR=6.1
JSU Suzuyama 36.86 1 P P 08 58 07.9 +0.6
JSU IAmb IAmb 08 58 09.5
comp=Z,60nm,0.7s
KOUNC Koumac, New Ca 36.98 117 P P 08 58 09.0 +0.6
SSE Sheshan 37.28 348 P P 08 58 11.5 +0.8
SSE sP **PP 08 59 42.1 -0.4**
SSE S **S 09 03 36.3 -0.7**
SSE pmax pmax
comp=Z,49nm,0.7s
SSE pmax pmax
comp=Z,260nm,4.0s
SSE LR LR
comp=Z,200nm,12.0s
CM31 Chiang Mai Arr 38.37 309 P P 08 58 21.1 +1.1
CMAR Chiang Mai Arr 38.37 309 P P 08 58 21.5 +1.5
comp=Z,40nm,0.5s,baz=132,slow=7.1,SNR=180
CMAR PcP **PcP 09 00 29.6 +2.1**
comp=Z,9.1nm,0.6s,baz=155,slow=2.2,SNR=4.6
CMAR ScP **ScP 09 03 49.8 +1.0**
comp=Z,3.7nm,0.4s,baz=161,slow=2.1,SNR=11
CMAR Chiang Mai Arr 38.37 309 P P 08 58 20.6 +0.6
SANVU Saraoutou 38.37 108 P P 08 58 20.4 +0.4
SANVU Saraoutou 38.37 108 P P 08 58 21.4 +1.3
SANVU Saraoutou 38.37 108 P P 08 58 20.7 +0.6
JNU Nakatsue 38.49 2 P P 08 58 21.1 +0.3
JNU Nakatsue 38.49 2 P P 08 58 22.1 +1.3
CHTO Chiang Mai 38.57 310 P P 08 58 22.3 +0.6
CHTO pmax pmax
comp=Z,79nm,0.8s
CHTO Chiang Mai 38.57 310 P P 08 58 22.3 +0.6
CHTO IAmb IAmb 08 58 23.7
comp=Z,79nm,0.8s
CHTO Chiang Mai 38.57 310 P P 08 58 22.8 +1.0
CHTO Chiang Mai 38.57 310 P P 08 58 23.1 +1.4
CHTO Chiang Mai 38.57 310 P P 08 58 22.6 +0.8
CHTO pP **pP 08 59 16.0 -0.4**
WHN Wuhan 38.68 339⇑**P P 08 58 23.1 +0.7**
WHN sP **sP 08 59 52.3 +2.1**
WHN S **S 09 03 55.3 -2.8**
WHN pmax pmax
comp=Z,200nm,0.8s
WHN LR LR
comp=Z,690nm,11.4s
WHN LR LR
comp=Z,1μm,12.4s
WHN LR LR
comp=Z,2μm,18.0s
GYA Guiyang 38.72 326⇑*iP* **P 08 58 23.8 +0.9**
GYA pP pwP 08 59 20.8 -0.6
GYA PP **PnPn 09 00 05.6 +1.7**
GYA PcP **PcP 09 00 30.1 +1.5**
GYA ScP **ScP 09 03 50.5 +0.5**
GYA S **S 09 03 56.4 -2.6**
GYA sS sS 09 05 35.1 -1.9
GYA pmax pmax
comp=Z,63nm,0.5s
GYA pmax pmax
comp=Z,420nm,4.4s
GYA LR LR
comp=Z,2μm,17.5s
GYA LR LR
comp=Z,1μm,14.3s
GYA LR LR
comp=Z,830nm,15.8s
NJ2 Nanjing 38.73 346⇑*iP* **P 08 58 23.9 +1.2**
NJ2 pP **pP 08 59 23.3 +4.8**
NJ2 sP **sP 08 59 52.3 +2.3**
NJ2 S **S 09 03 59.4 +0.8**
NJ2 sS **sS 09 05 39.8 +3.1**
NJ2 SS **SS 09 06 58.5 -3.9**
NJ2 ScS **ScS 09 08 02.6 +1.2**
NJ2 pmax pmax
comp=Z,90nm,0.6s
NJ2 pmax pmax
comp=Z,540nm,3.5s
GLAD Gladstone 39.01 157 P P 08 58 26.8 +1.8
NOUC Port Laguerre 39.26 118 P P 08 58 28.0 +0.6
JMN Monobe 39.30 6 P P 08 58 28.7 +1.3
DZM Mont Dzumac 39.37 118 P P 08 58 28.6 +0.2
comp=Z,96nm,0.7s,baz=277,slow=7.7,SNR=107
DZM Mont Dzumac 39.37 118 *eP* **P 08 58 28.8 +0.4**
comp=Z,168nm,0.8s
DZM Mont Dzumac 39.37 118 P P 08 58 28.2 -0.2
DZM IAmb IAmb 08 58 29.4
comp=Z,106nm,0.8s
DZM Mont Dzumac 39.37 118 P P 08 58 29.3 +0.9
ONTNC Ouen Toro 39.46 119 P P 08 58 28.6 -0.4
ONTNC IAmb IAmb 08 58 31.8
comp=Z,138nm,0.7s
ONTNC Ouen Toro 39.46 119 P P 08 58 29.4 +0.4
LIFNC LIFOU 39.68 116 P P 08 58 29.7 -1.1
LIFNC LIFOU 39.68 116 P P 08 58 30.9 +0.1
DVP Devils Point 39.76 111 P P 08 58 32.5 +1.0
YATNC Mamie plateau, 39.76 118 P P 08 58 33.0 +1.5
OUENC Ouen Island, N 39.84 119 P P 08 58 32.4 +0.3
OUENC IAmb IAmb 08 58 33.4
comp=Z,101nm,0.8s
OUENC Ouen Island, N 39.84 119 P P 08 58 33.9 +1.8
MOO Moorlands 39.98 159 P P 08 58 34.8 +1.9
baz=40,SNR=16
RTV Rentapac 39.99 111 P P 08 58 33.8 +0.4
KMI Kunming 40.03 321⇑**P P 08 58 35.8 +1.9**
KMI pP pP 08 59 30.4 +0.6
KMI sP sP 09 00 04.3 +3.0
KMI ScP **ScP 09 03 56.5 +1.2**
KMI S **S 09 04 19.4 +0.6**
KMI sS sS 09 05 57.1 -0.2
KMI SS **SS 09 07 26.6 -2.2**
KMI pmax pmax
comp=Z,58nm,0.6s
KMI pmax pmax
comp=Z,290nm,5.8s
KMI LR LR
comp=Z,240nm,15.7s
KMI LR LR
comp=Z,550nm,15.7s
KMI LR LR
comp=Z,580nm,16.6s
PBA Port Blair 40.29 295 P P 08 58 35.6 -0.2
ENH Enshi 40.42 333 P P 08 58 36.5 -0.3
ENH IAmb IAmb 08 58 38.6
comp=Z,97nm,0.7s
PINNC Pines Island, 40.43 119 P P 08 58 37.7 +0.8
PINNC IAmb IAmb 08 58 39.9
comp=Z,167nm,0.9s
PINNC Pines Island, 40.43 119 P P 08 58 37.9 +1.0
TAU Tasmania Unive 40.44 160 P P 08 58 37.5 +0.8
TAU pmax pmax
comp=Z,307nm,2.0s
TAU Tasmania Unive 40.44 160 P P 08 58 37.5 +0.8
TAU IAmb IAmb 08 59 44.5
comp=Z,307nm,2.0s
TAU Tasmania Unive 40.44 160 P P 08 58 38.7 +2.0
JHS Saijyo 40.48 5 P P 08 58 38.1 +0.9
MARNC Mare, Loyalty 40.59 117 P P 08 58 37.7 -0.5
MARNC Mare, Loyalty 40.59 117 P P 08 58 39.7 +1.4
KWAJ Kwajalein Atol 40.66 70 P P 08 58 37.6 -1.3
KWAJ pmax pmax
comp=Z,406nm,0.9s
KWAJ Kwajalein Atol 40.66 70 P P 08 58 37.6 -1.3
KWAJ Kwajalein Atol 40.66 70 P P 08 58 41.2 +2.3
PZH PanZhiHua 41.65 321⇑**P P 08 58 47.5 +0.6**
PZH pP **pP 08 59 44.5 +1.9**
PZH sP **sP 09 00 15.0 +1.2**
PZH ScP **ScP 09 04 01.6 0.0**
PZH S **S 09 04 39.1 -3.2**
PZH sS **sS 09 06 19.6 -1.8**
PZH ScS **ScS 09 08 18.5 -1.0**
PZH pmax pmax
comp=Z,50nm,0.7s
PZH pmax pmax
comp=Z,250nm,3.5s
PZH LR LR
comp=Z,590nm,15.7s
PZH LR LR
comp=Z,590nm,16.5s
PZH LR LR
comp=Z,500nm,13.7s
TJN Taejon 41.75 358*ceP* **P 08 58 47.8 +0.4**
TJN Taejon 41.75 358 P P 08 58 48.3 +0.9
TJN IAmb IAmb 08 58 50.1
comp=Z,140nm,0.8s
TJN Taejon 41.75 358 P P 08 58 48.6 +1.2
MJAR Matsushiro Arr 42.68 10 P P 08 58 54.4 -0.5
comp=Z,25nm,0.7s,baz=192,slow=9.2,SNR=44
MJAR Matsushiro Arr 42.68 10 P P 08 58 54.1 -0.7
MAJO Matsushiro 42.68 10 *i* **P 08 58 55.6 +0.8**
MAJO pmax pmax
comp=Z,33nm,0.9s
MAJO Matsushiro 42.68 10 P P 08 58 54.1 -0.7
MAJO Matsushiro 42.68 10 P P 08 58 54.8 0.0
MJB9 Matsu-Tunnel 42.68 10 P P 08 58 54.1 -0.7
JYT Yasato 42.77 13 P P 08 58 55.5 -0.1
KSAR Wonju Array Be 42.80 358 P P 08 58 57.3 +1.6
KSAR Wonju Array Be 42.80 358 P P 08 58 57.3 +1.6
KSRS Korea Array 42.81 358 P P 08 58 57.0 +1.2
comp=Z,16nm,0.6s,baz=173,slow=8.9,SNR=78
KSRS PP **PcP 09 00 38.1 -3.4**
comp=Z,12nm,0.8s,baz=175,slow=10,SNR=5.4
KS19 Wonju Array Si 42.86 358 P P 08 58 56.8 +0.5
INCN Inchon 42.89 357 P P 08 58 57.9 +1.4
INCN pmax pmax
comp=Z,214nm,1.8s
INCN Inchon 42.89 357 P P 08 58 57.9 +1.4
LYN LuoYang 42.98 339⇑*iP* **P 08 58 58.0 +0.8**
LYN pP pP 08 59 56.8 +2.6
LYN PP **PP 09 00 45.9 +2.3**
LYN S **S 09 04 56.3 -4.9**
LYN sS sS 09 06 41.3 +0.5
LYN ScS **SS 09 08 24.3 -0.2**
LYN pmax pmax
comp=Z,40nm,1.1s
LYN pmax pmax
comp=Z,320nm,7.8s
TIA Tai'an 43.11 345⇑**P P 08 58 58.4 +0.1**
TIA S **S 09 04 54.3 -8.9**
TIA ScS **SS 09 08 26.8 0.0**
TIA pmax pmax
comp=Z,25nm,0.7s
TIA pmax pmax
comp=Z,290nm,3.5s
TIA LR LR
comp=Z,260nm,16.8s
TIA LR LR
comp=Z,570nm,11.9s
TIA LR LR
comp=Z,650nm,21.0s
CD2 Chengdu 43.78 327 P P 08 59 03.8 0.0
CD2 sP sP 09 00 36.6 +5.8
CD2 PcP **PcP 09 00 45.8 +0.7**
CD2 S **S 09 05 08.9 -4.1**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,340nm,8.0s
XAN Xi'an 43.89 335 P P 08 59 04.3 -0.3
XAN PP **PP 09 00 51.9 -1.4**
XAN S **S 09 05 07.9 -6.6**
XAN pmax pmax
comp=Z,120nm,0.5s
XAN pmax pmax
comp=Z,560nm,9.8s
XAN LR LR
comp=Z,590nm,19.2s
XAN LR LR
comp=Z,790nm,14.7s
XAN LR LR
comp=Z,790nm,19.2s
TARA Tarawa 43.99 82 P P 08 59 05.6 -0.1
TARA IAmb IAmb 08 59 07.7
comp=Z,198nm,0.8s
TARA Tarawa 43.99 82 P P 08 59 07.3 +1.6
JMM Marumori 44.48 13 P P 08 59 09.5 +0.4
DL2 Dalian 44.82 351 P P 08 59 12.3 +0.6
DL2 S **S 09 05 24.5 -3.1**
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,160nm,3.8s
HNS HongShan 44.88 343⇓**P P 08 59 12.4 +0.2**
HNS ScP **ScP 09 04 14.3 0.0**
HNS S **S 09 05 26.0 -2.5**
HNS ScS **ScS 09 08 40.3 +1.3**
HNS pmax pmax
comp=Z,130nm,0.7s
TIY Taiyuan 45.86 341⇑**P P 08 59 20.4 +0.4**
TIY S **S 09 05 41.0 -1.7**
TIY sS **sS 09 07 20.9 -2.5**
TIY pmax pmax
comp=Z,87nm,0.6s
TIY LR LR
comp=Z,460nm,17.3s
TIY LR LR
comp=Z,250nm,17.2s
TIY LR LR
comp=Z,400nm,18.5s
BJT Baijiatuao 46.96 346 P P 08 59 28.2 -0.2
BJT pmax pmax
comp=Z,137nm,0.6s
BJT Baijiatuao 46.96 346 P P 08 59 28.2 -0.2
BJT IAmb IAmb 08 59 30.6
comp=Z,137nm,0.6s
BJT Baijiatuao 46.96 346 P P 08 59 28.6 +0.2
BJI Beijing 46.98 346 P P 08 59 28.8 +0.3
BJI pP **pwP 09 00 27.5 -1.0**
BJI S **S 09 05 56.8 -1.5**
BJI sS **sS 09 07 39.5 +0.1**
BJI ScS **ScS 09 08 54.4 +1.8**
BJI pmax pmax
comp=Z,180nm,0.6s
BJI pmax pmax
comp=Z,500nm,4.7s
JTM Tenmabayashi 47.34 12 P P 08 59 31.2 0.0
SNY Shenyang 47.45 354⇓**P P 08 59 32.8 +0.7**
SNY S **S 09 06 02.4 -2.5**
SNY pmax pmax
comp=Z,40nm,1.1s
SNY LR LR
comp=Z,470nm,18.9s
SNY LR LR
comp=Z,390nm,18.7s
SNY LR LR
comp=Z,630nm,15.9s
SHL Shillong 47.80 312 P P 08 59 34.9 -0.5
SHL pmax pmax
comp=Z,69nm,0.6s
SHL Shillong 47.80 312 P P 08 59 34.9 -0.5
SHL Shillong 47.80 312 P P 08 59 36.0 +0.6
SNR=21
LZH Lanzhou 47.86 332 *eP* **P 08 59 36.9 +1.3**
LZH pP pP 09 00 32.6 -0.9
LZH sP sP 09 01 02.1 -2.1
LZH ScP **ScP 09 04 27.8 +0.7**
LZH *eS* **S 09 06 10.4 -0.8**
LZH ScS **ScS 09 08 57.9 -1.2**
LZH pmax pmax
comp=Z,100nm,1.1s
LZH pmax pmax
comp=Z,590nm,5.0s
LZH LR LR
comp=Z,700nm,14.0s
LZH LR LR
comp=Z,520nm,12.7s
LZH LR LR
comp=Z,960nm,18.2s
MSHR Mys Shultsa 47.93 2 *i* P **P 08 59 37.6 +1.9**
MSHR pmax pmax
comp=Z,29nm,0.7s
HHC Hu-ho-hao-te 49.00 342⇑*iP* **P 08 59 45.3 +1.3**
HHC pP pP 09 00 42.4 +0.3
HHC sP sP 09 01 18.0 +5.1
HHC S **S 09 06 26.8 +0.1**
HHC pmax pmax
comp=Z,45nm,1.5s
HHC pmax pmax
comp=Z,240nm,5.6s
MSVF Nonsavu 49.00 109 P P 08 59 45.8 +1.4
comp=Z,136nm,0.8s,baz=264,slow=7.3,SNR=130
MSVF Nonsavu 49.00 109*d iP* **P 08 59 46.0 +1.6**
MSVF pmax pmax
comp=Z,196nm,1.0s
MSVF Nonsavu 49.00 109 P P 08 59 45.6 +1.1
MSVF IAmb IAmb 08 59 48.1
comp=Z,171nm,0.9s
MSVF Nonsavu 49.00 109 P P 08 59 46.8 +2.4
MSVF Nonsavu 49.00 109 P P 08 59 46.1 +1.6
CN2 Changchun 49.26 356 *eP* **P 08 59 45.6 -0.2**
CN2 *es*P sP 09 01 18.1 +4.0
CN2 *eS* **S 09 06 29.3 -0.7**
CN2 *es*S sS 09 08 16.4 +4.4
CN2 *e*SS **SS 09 10 03.0 -2.6**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 pmax pmax
comp=Z,280nm,5.0s
CN2 LR LR
comp=Z,310nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,430nm,20.0s
BTO Baotou 49.27 341 *eP* **P 08 59 47.6 +1.5**
BTO S **S 09 06 31.3 +0.8**
BTO LR LR
comp=Z,1μm,16.9s
BTO LR LR
comp=Z,2μm,11.6s
FUNA Funafuti 49.47 96 P P 08 59 48.2 +0.3
FUNA IAmb IAmb 08 59 49.5
comp=Z,304nm,0.9s
FUNA Funafuti 49.47 96 P P 08 59 49.5 +1.6
USA0B Ussuriysk Arra 49.58 2 P P 08 59 49.2 +1.0
USA0B pmax pmax
comp=Z,28nm,0.7s
USA0B Ussuriysk Arra 49.58 2 P P 08 59 49.2 +1.0
USRK Ussuriysk Ar. 49.58 2 P P 08 59 49.4 +1.2
comp=Z,25nm,0.6s,baz=178,slow=7.0,SNR=42
USRK Ussuriysk Ar. 49.58 2 P P 08 59 48.6 +0.5
MDJ Mudanjiang 49.94 0 P P 08 59 51.3 +0.4
MDJ Mudanjiang 49.94 0 P P 08 59 51.8 +0.9
MDJ S **S 09 06 39.3 -0.1**
MDJ sS sS 09 08 20.8 -0.9
MDJ ScS **ScS 09 09 11.9 -0.5**
MDJ pmax pmax
comp=Z,35nm,0.6s
MDJ pmax pmax
comp=Z,140nm,3.8s
MDJ Mudanjiang 49.94 0 P P 08 59 52.5 +1.6
PALK Pallekele 50.25 284 P P 08 59 53.6 -0.2
PALK pmax pmax
comp=Z,94nm,1.7s
PALK Pallekele 50.25 284 P P 08 59 53.6 -0.2
PALK Pallekele 50.25 284 P P 08 59 54.4 +0.5
XLT XiLinHaoTe 50.68 348⇑*iP* **P 08 59 57.4 +0.9**
XLT pP pP 09 00 56.3 +1.4
XLT sP sP 09 01 25.0 -0.6
XLT PP **PP 09 01 59.4 +3.7**
XLT S **S 09 06 52.3 +2.5**
XLT pmax pmax
comp=Z,67nm,1.2s
XLT pmax pmax
comp=Z,260nm,3.9s
XLT LR LR

comp=Z,360nm,12.6s
XLT LR LR
comp=Z,370nm,16.9s
LSA Lhasa 50.76 316 P **P** **08 59 59.4 +1.5**
LSA pP **pP** **09 00 51.2 -4.5**
LSA Lhasa 50.76 316 P **P** **08 59 59.5 +1.6**
ASAJ Asahikawa 50.85 12 P **P** **08 59 58.5 +0.8**
comp=Z,14nm,0.3s,baz=234,slow=6.6,SNR=39
BNX BinXian 51.09 358 ⇓P **P** **09 00 00.3 +0.8**
BNX pP **pP** **09 00 58.8 +1.1**
BNX sP **sP** **09 01 31.3 +3.2**
BNX S **S** **09 06 51.0 -4.2**
BNX sS **sS** **09 08 35.5 -2.4**
BNX pmax pmax
comp=Z,49nm,1.1s
BNX pmax pmax
comp=Z,490nm,6.0s
ODAN Odare 51.88 311 *e*P **P** **09 00 06.8 +0.9**
comp=Z,261nm,0.5s
FOZ Fox Glacier 51.88 143 P **P** **09 00 05.6 +0.2**
FOZ lAmb lAmb 09 00 06.8
comp=Z,107nm,0.6s
TAPN Taplejung 51.90 311 *e*P **P** **09 00 07.1 +1.0**
comp=Z,287nm,0.4s
MLZ Mavora Lakes 51.99 146 P **P** **09 00 06.7 +0.4**
QRZ Quartz Range 52.12 139 P **P** **09 00 07.8 +0.7**
QRZ Quartz Range 52.12 139 P **P** **09 00 09.3 +2.1**
WHZ Wether Hill Ro 52.22 147 P **P** **09 00 07.8 -0.1**
WHZ lAmb lAmb 09 00 09.2
comp=Z,182nm,0.6s
NBEZ Newall Road No 52.25 137 P **P** **09 00 10.5 +2.3**
NMEZ Namu Road 52.33 137 P **P** **09 00 11.1 +2.4**
KHEZ Kahui Hut 52.37 137 P **P** **09 00 11.5 +2.3**
NEZ North Egmont 52.41 136 P **P** **09 00 11.8 +2.3**
GTA Gaotai 52.43 331 ⇑P **P** **09 00 10.8 +1.2**
GTA pP pwP 09 01 11.8 +0.6
GTA sP sP 09 01 45.1 +5.8
GTA ScP **ScP** **09 04 47.1 +0.5**
GTA S **S** **09 07 12.1 -1.8**
GTA sS sS 09 08 54.9 -2.2
GTA ScS **ScS** **09 09 29.3 -1.0**
GTA pmax pmax
comp=Z,49nm,1.0s
GTA pmax pmax
comp=Z,380nm,5.2s
GTA LR LR
comp=Z,200nm,18.5s
GTA LR LR
comp=Z,410nm,18.5s
GTA LR LR
comp=Z,610nm,18.9s
DREZ Durham Road 52.45 136 P **P** **09 00 12.0 +2.4**
MHEZ Mangahewa 52.48 136 P **P** **09 00 13.9 +4.1**
RAMN Ramite 52.52 310 *e*P **P** **09 00 11.9 +1.2**
comp=Z,902nm,0.5s
HIZ Hauiti 52.59 135 P **P** **09 00 12.5 +1.8**
HIZ Hauiti 52.59 135 P **P** **09 00 10.0 -0.7**
GOMU GeErMu 52.69 325 P **P** **09 00 12.9 +1.1**
GOMU PcP **PcP** **09 01 17.1 -0.6**
GOMU PP **PP** **09 02 18.6 +4.3**
GOMU S **S** **09 07 17.4 -0.5**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU pmax pmax
comp=Z,160nm,4.4s
GOMU LR LR
comp=Z,370nm,15.6s
GOMU LR LR
comp=Z,240nm,12.9s
GOMU LR LR
comp=Z,200nm,14.0s
TOZ Tahuroa Road 52.70 134 P **P** **09 00 13.4 +1.9**
LREZ Lake Rotokare 52.71 137 P **P** **09 00 14.3 +2.7**
RPZ Rata Peaks 52.73 143 P **P** **09 00 12.4 +0.8**
comp=Z,225nm,0.7s,baz=273,slow=3.1,SNR=118
VRZ Vera Road 52.80 136 P **P** **09 00 13.8 +1.6**
THZ Tophouse 52.84 140 P **P** **09 00 12.7 +0.2**
THZ lAmb lAmb 09 00 14.9
comp=Z,208nm,0.7s
NNZ Nelson 52.87 139 P **P** **09 00 12.5 -0.2**
NNZ lAmb lAmb 09 00 14.3
comp=Z,91nm,0.6s
TLZ Tolley Road 52.99 135 P **P** **09 00 15.4 +1.8**
OXZ Oxford 53.12 142 P **P** **09 00 14.0 -0.4**
OXZ lAmb lAmb 09 00 16.1
comp=Z,138nm,0.6s
KUR Kuril'sk 53.19 16 P P 09 00 08.8 -6.0
KUR *e*SSS SSS 09 13 23.9
JIRN Jiri 53.21 311 *e*P **P** **09 00 16.6 +0.8**
comp=Z,211nm,0.5s
ODZ Otahua Downs 53.24 144 P **P** **09 00 14.9 -0.4**
WAZ Wanganui 53.24 137 P **P** **09 00 16.9 +1.4**
TWVZ Taurewa 53.25 136 P **P** **09 00 17.2 +1.6**
KUTZ Kaahu Road 53.26 135 P **P** **09 00 17.8 +2.2**
WATZ Wairara 53.29 135 P **P** **09 00 17.9 +2.1**
TUWZ Tuamarina 53.35 139 P **P** **09 00 16.1 0.0**
WTVZ West Tongariro 53.37 136 P **P** **09 00 18.2 +1.7**
KATZ Kakaramea 53.38 135 P **P** **09 00 18.5 +1.9**
RATZ Rangitukua 53.39 135 P **P** **09 00 18.4 +1.8**
NNVZ North Ngauruho 53.40 136 P **P** **09 00 18.3 +1.6**
GRRZ Galatos Road 53.40 135 P **P** **09 00 18.7 +2.0**
NGZ Ngauruhoe 53.41 136 P **P** **09 00 18.3 +1.5**
FWVZ Far West T-bar 53.41 136 P **P** **09 00 18.0 +1.1**
MTVZ Mangateitei 53.41 136 P **P** **09 00 17.9 +1.2**
NTVZ North Tongarir 53.42 136 P **P** **09 00 18.6 +1.7**
TRVZ Turoa 53.42 136 P **P** **09 00 18.2 +1.2**
DRZ Dome Shelter 53.43 136 P **P** **09 00 19.1 +2.0**
WHTZ Whakaora 53.43 135 P **P** **09 00 19.4 +2.5**
SNVZ South Ngauruho 53.44 136 P **P** **09 00 18.8 +1.8**
BSWZ Blackbirch Sta 53.44 139 P **P** **09 00 16.1 -0.7**
OTVZ Oturere 53.45 136 P **P** **09 00 18.9 +1.8**
WHVZ Whangaehu Hut 53.45 136 P **P** **09 00 19.0 +1.8**
TMVZ Te Maari 53.45 136 P **P** **09 00 19.0 +2.0**
ETVZ East Tongariro 53.47 136 P **P** **09 00 18.9 +1.7**
WNVZ Wahianoa 53.47 136 P **P** **09 00 18.3 +1.1**
HSRZ Hossack Road 53.48 134 P **P** **09 00 19.8 +2.6**
TUVZ Tukino 53.48 136 P **P** **09 00 19.0 +1.7**
RITZ Rihia Road 53.50 135 P **P** **09 00 19.4 +2.1**
WPRZ Whakapapatarin 53.51 135 P **P** **09 00 19.5 +2.1**
HRRZ Handcock Road 53.54 135 P **P** **09 00 19.7 +2.1**
GUN Gumba 53.57 311 *e*P **P** **09 00 19.2 +0.8**
comp=Z,430nm,0.5s
KHZ Kahutara 53.58 140 P **P** **09 00 18.3 +0.6**
YSS Yuzh-Sakhalins 53.60 11 ⇑P **P** **09 00 18.5 +0.8**
YSS *e**PP **pwP** **09 01 21.4 +0.1**
YSS *e**SP **sP** **09 01 45.5 -1.0**
YSS *e* 09 02 23.6
YSS *e*S **S** **09 07 27.6 -1.4**
YSS *e**SS **sS** **09 09 09.7 -2.9**
YSS *e*SS **SS** **09 11 16.1 +2.0**
YSS pmax pmax
comp=Z,30nm,0.5s
YSS pmax pmax
comp=Z,1.0nm,3.6s
YSS smax smax
comp=E,1μm,8.6s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 53.60 11 P **P** **09 00 18.5 +0.8**
YSS Yuzh-Sakhalins 53.60 11 P **P** **09 00 18.7 +1.0**
MOVZ Moawhango 53.62 136 P **P** **09 00 18.7 +0.5**
HATZ Hinemaiaia 53.62 135 P **P** **09 00 19.5 +1.3**
ALRZ Allen Road 53.66 135 P **P** **09 00 20.3 +1.8**
PRRZ Plateau Road 53.67 135 P **P** **09 00 20.3 +1.8**
OHWZ Ohakea 53.68 137 P **P** **09 00 19.2 +0.7**
CMWZ Cape Campbell 53.68 139 P **P** **09 00 18.4 -0.2**
RRRZ Republican Roa 53.69 134 P **P** **09 00 21.1 +2.4**
KIW Kapiti Island 53.71 138 P **P** **09 00 19.1 +0.3**
PKI Pulchoki 53.75 310 *e*P **P** **09 00 20.1 +0.4**
comp=Z,135nm,0.5s
PKIN Phulchoki 53.77 310 *e*P **P** **09 00 20.1 +0.4**
comp=Z,121nm,0.5s
SNZO South Karori 53.79 138 P **P** **09 00 18.4 -0.9**
SNZO South Karori 53.79 138 P **P** **09 00 19.6 +0.3**
SNZO South Karori 53.79 138 P **P** **09 00 18.8 -0.5**
MRHZ Matea Rd 53.83 135 P **P** **09 00 20.2 +0.5**
OGWZ Otaki Gorge 53.86 138 P **P** **09 00 19.9 0.0**
BHHZ Black Hill Sta 53.87 136 P **P** **09 00 20.3 +0.3**
MUGZ Murupara 53.93 134 P **P** **09 00 21.3 +0.9**
CAW Cannon Point 53.93 138 P **P** **09 00 19.9 -0.5**
BHW Baring Head 53.95 138 P **P** **09 00 19.7 -0.7**
BHW Baring Head 53.95 138 P **P** **09 00 19.6 -0.8**
KKN Kakani 53.96 310 *e*P **P** **09 00 21.8 +0.7**
comp=Z,158nm,0.5s
DMN Daman 54.00 310 *e*P **P** **09 00 22.2 +0.8**
comp=Z,131nm,0.5s
BKZ Black Stump Fm 54.02 135 P **P** **09 00 21.0 -0.2**
BKZ Black Stump Fm 54.02 135 P **P** **09 00 21.0 -0.2**
BKZ Black Stump Fm 54.02 135 P **P** **09 00 22.0 +0.9**
TSZ Takapari Road 54.05 137 P **P** **09 00 21.6 +0.3**
POWZ Post Office Ro 54.07 137 P **P** **09 00 21.5 +0.1**
URZ Urewera 54.08 134 P **P** **09 00 21.3 -0.1**
comp=Z,349nm,0.6s,baz=274,slow=3.4,SNR=84
URZ Urewera 54.08 134 P **P** **09 00 21.4 -0.1**
URZ Urewera 54.08 134 P **P** **09 00 22.6 +1.2**
KWHZ Kaweka Forest 54.09 136 P **P** **09 00 22.4 +0.8**
HOWZ Holdsworth Sta 54.13 138 P **P** **09 00 21.3 -0.6**
RTZ Ruatahuna 54.13 134 P **P** **09 00 22.4 +0.4**
MTHZ Maungataniwha 54.13 135 P **P** **09 00 22.6 +0.7**
KRHZ Kereru 54.15 136 P **P** **09 00 21.7 -0.2**
PNHZ Pukenui 54.15 136 P **P** **09 00 22.2 +0.2**
MSWZ Moikau Station 54.20 138 P **P** **09 00 21.4 -0.9**
MSWZ Moikau Station 54.20 138 P **P** **09 00 21.8 -0.5**
MTW Mount Morrison 54.25 138 P **P** **09 00 22.3 -0.3**
PLWZ Palliser 54.28 138 P **P** **09 00 21.9 -0.9**
PLWZ Palliser 54.28 138 P **P** **09 00 22.3 -0.6**
PRWZ Pori Road 54.28 137 P **P** **09 00 23.0 +0.1**
WPHZ Waipukurau 54.38 136 P **P** **09 00 24.1 +0.4**
ARHZ Aropaoanui 54.42 135 P **P** **09 00 24.8 +0.9**
SNGZ Shannon Statio 54.46 135 P **P** **09 00 24.7 +0.5**
TMWZ Te Maipa 54.48 138 P **P** **09 00 24.3 -0.1**
TRWZ Traveller 54.48 138 P **P** **09 00 24.3 0.0**
BFZ Birch Farm 54.53 137 P **P** **09 00 24.3 -0.3**
BFZ lAmb lAmb 09 00 25.9
comp=Z,169nm,1.0s
BFZ Birch Farm 54.53 137 P **P** **09 00 26.3 +1.7**
GKN Gorkha 54.56 310 *e*P **P** **09 00 26.1 +0.8**
comp=Z,328nm,0.5s
KLR Kul'dur 54.59 2 *ce*P **P** **09 00 25.9 +1.0**
KLR pmax pmax
comp=Z,58nm,1.7s
CKHZ Cape Kidnapper 54.65 136 P **P** **09 00 26.3 +0.8**
MXZ Matakaoa Point 54.66 133 P **P** **09 00 25.8 +0.2**
HYBB Hyderabad (bro 55.17 296 *e*P **P** **09 00 29.9 +0.3**
HYBB IVmB_BB 09 00 30.3
comp=Z,406nm,0.3s
HYBB *e*pP **pP** **09 01 28.6 -0.2**
HYBB *e*sP **sP** **09 01 57.6 -1.6**
HYBB *e*ScP **ScP** **09 04 59.2 +0.3**
HYBB *e* 09 07 48.7
HYBB *e*ScS **ScS** **09 09 49.8 -0.6**
KOLN Koldanda 55.24 309 *e*P **P** **09 00 31.1 +0.9**
DANN Dangsing 55.40 310 *e*P **P** **09 00 32.2 +0.8**
comp=Z,154nm,0.6s
PYUN Piuthan 55.87 309 *e*P **P** **09 00 35.6 +1.0**
ULN Ulaanbaatar 56.72 342 *ce*P **P** **09 00 41.6 +1.4**
ULN pmax pmax
comp=Z,79nm,0.6s
ULN Ulaanbaatar 56.72 342 P **P** **09 00 41.1 +1.0**
ULN lAmb lAmb 09 00 43.3
comp=Z,92nm,0.7s
ULN Ulaanbaatar 56.72 342 P **P** **09 00 42.0 +1.8**
ULN Ulaanbaatar 56.72 342 P **P** **09 00 41.8 +1.7**
SONM Songino Array 56.89 342 P **P** **09 00 42.7 +1.4**
comp=Z,24nm,0.5s,baz=159,slow=6.5,SNR=156
SONM PcP **PcP** **09 01 34.3 +0.9**
comp=Z,6.2nm,0.5s,baz=160,slow=5.6,SNR=5.1
SONM Songino Array 56.89 342 P **P** **09 00 42.5 +1.2**
SONM lAmb lAmb 09 00 45.5
comp=Z,199nm,2.0s
TYV Tymovskoe 57.34 10 *e*P **P** **09 00 45.5 +1.3**
TYV *e*S **S** **09 08 19.7 +1.5**
TYV pmax pmax
comp=Z,22nm,1.4s
TYV pmax pmax
comp=Z,300nm,4.5s
TYV smax smax
comp=E,18nm,2.0s
TYV smax smax
comp=N,900nm,6.5s
TYV smax smax
comp=E,1μm,6.5s
AFI Afiamalu 58.43 103 P **P** **09 00 53.2 +0.7**
AFI pmax pmax
comp=Z,135nm,0.8s
AFI Afiamalu 58.43 103 P **P** **09 00 53.2 +0.7**
AFI lAmb lAmb 09 00 54.4
comp=Z,135nm,0.8s
AFI Afiamalu 58.43 103 P **P** **09 00 54.8 +2.3**
KNTN Kanton 58.76 90 P **P** **09 00 55.2 +0.5**
KNTN lAmb lAmb 09 00 57.0
comp=Z,66nm,0.7s
ZEA Zeya 59.10 359 *e*P **P** **09 00 58.5 +2.2**
ZEA *e* 09 01 39.9
ZEA *e* 09 02 29.0
ZEA *e* 09 08 44.1
ZEA *e* 09 10 17.1
ZEA pmax pmax
comp=N,20nm,1.9s
ZEA pmax pmax
comp=Z,30nm,1.8s
ZAK Zakamensk 60.12 341 *e*P **P** **09 01 04.3 +0.9**
ZAK *e* 09 01 44.6
ZAK pmax pmax
comp=Z,37nm,1.7s
ZAK pmax pmax
comp=Z,26nm,1.4s
NIUE Niue 60.49 109 P **P** **09 01 07.8 +1.4**
baz=60,SNR=13
NIUE Niue 60.49 109 P **P** **09 01 06.8 +0.4**
NIUE Niue 60.49 109 P **P** **09 01 07.5 +1.1**
NDI New Delhi 60.65 307 *e*P **P** **09 01 07.0 -0.3**
IRK Irkutsk 61.43 343 *e*P **P** **09 01 13.1 +1.0**
IRK *e*S **S** **09 09 13.6 +3.1**
IRK pmax pmax
comp=Z,108nm,1.6s
WMQ Urumqi 61.87 327 *e*P **P** **09 01 16.8 +1.5**
WMQ ScP **ScP** **09 05 28.3 +0.2**
WMQ S **S** **09 09 16.1 -0.4**
WMQ ScS **SKKSac** **09 10 37.8 -1.3**
WMQ sS sS 09 10 59.6 -4.0
WMQ pmax pmax
comp=Z,140nm,0.7s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ LR LR
comp=Z,470nm,13.1s
WMQ LR LR
comp=Z,630nm,17.9s
WMQ LR LR
comp=Z,450nm,19.1s
MOY Mondy 61.97 340 *e*P **P** **09 01 17.8 +2.0**
MOY pmax pmax
comp=Z,109nm,1.5s
CASY Casey 62.04 189 P **P** **09 01 16.2 +0.3**
PEA0B Petropavlovsk- 63.14 19 P **P** **09 01 24.1 +0.7**
PEA0B pmax pmax
comp=Z,84nm,1.0s
PEA0B Petropavlovsk- 63.14 19 P **P** **09 01 24.1 +0.7**
PEA0B lAmb lAmb 09 01 25.5
comp=Z,84nm,1.0s
PETK Petropavlovsk- 63.14 19 P **P** **09 01 23.7 +0.3**
comp=Z,56nm,0.9s,baz=190,slow=7.0,SNR=84
PETK PcP **PcP** **09 01 58.2 0.0**
comp=Z,18nm,0.5s,baz=202,slow=3.1,SNR=16
PETK Petropavlovsk- 63.14 19 P **P** **09 01 23.4 +0.1**
PET Petropavlovsk 63.38 19 ⇓*i*P **P** **09 01 25.6 +0.7**
PET *e**PP **pP** **09 02 27.1 +0.7**
PET *e**SP **sP** **09 02 53.8 -2.6**
PET *i* S **S** **09 09 35.2 +0.6**
PET *e* 09 10 44.3
PET *e*SS **SS** **09 13 47.9 +0.7**
PET pmax pmax
comp=Z,83nm,0.6s
PET pmax pmax
comp=Z,200nm,11.5s
PET MLR MLR
comp=Z,400nm,16.0s
PET Petropavlovsk 63.38 19 P **P** **09 01 25.2 +0.3**
PET lAmb lAmb 09 01 26.9
comp=Z,42nm,0.7s
PET Petropavlovsk 63.38 19 P **P** **09 01 26.2 +1.3**
PET Petropavlovsk 63.38 19 P **P** **09 01 25.5 +0.6**
BOD Bodaibo 64.39 351 *e*P **P** **09 01 31.8 +0.5**
BOD pmax pmax
comp=Z,60nm,1.5s
ZSN Zaisan 65.74 329 *i* P **P** **09 01 41.4 +1.2**
ZSN pmax pmax
comp=Z,20nm,0.9s
ZSN Zaisan 65.74 329 *i* P **P** **09 01 41.5 +1.2**
comp=Z,20nm,0.9s,baz=328
SHLS Shalkode 66.23 322 *c i*P **P** **09 01 43.4 -0.2**
SHLS pmax pmax
comp=Z,28nm,1.0s
SHLS Shalkode 66.23 322 ⇑*i*P **P** **09 01 43.5 -0.2**
comp=Z,28nm,1.0s,baz=322
TARG Taragay, Kyrgy 66.49 320 P **P** **09 01 46.6 +0.9**
TARG lAmb lAmb 09 01 50.3
comp=Z,107nm,1.8s
UZB Uzynbulak 66.49 322 *c i*P **P** **09 01 46.6 +1.3**
UZB pmax pmax
comp=Z,18nm,0.8s
UZB Uzynbulak 66.49 322 ⇑*i*P **P** **09 01 46.6 +1.3**
comp=Z,18nm,0.8s,baz=322
KSH Kashi 66.57 317 P **P** **09 01 47.3 +1.5**
KSH pP pwP 09 02 54.8 +2.1
KSH S **S** **09 10 15.3 +1.1**
KSH ScS **ScS** **09 11 16.6 +1.0**
KSH pmax pmax
comp=Z,37nm,0.7s
KSH pmax pmax
comp=Z,250nm,3.7s
KSH LR LR
comp=Z,290nm,21.0s
KSH LR LR
comp=Z,240nm,21.0s
KSH LR LR
comp=Z,320nm,20.6s
MK31 Makanchi Array 66.70 327 P **P** **09 01 47.5 +1.1**
MK31 pmax pmax
comp=Z,66nm,0.9s
MK31 Makanchi Array 66.70 327 P **P** **09 01 47.5 +1.1**
MK31 lAmb lAmb 09 01 49.3
comp=Z,66nm,0.9s
MKAR Makanchi Array 66.70 327 P **P** **09 01 47.6 +1.2**
comp=Z,65nm,0.6s,baz=125,slow=7.7,SNR=478
MKAR S **S** **09 10 15.8 +0.5**
comp=Z,7.8nm,1.2s,baz=127,slow=11,SNR=14
MKAR PKPPKP 09 30 07.1
comp=Z,0.5nm,0.6s,baz=280,slow=3.7,SNR=4.5
MKAR PKP2ab 09 30 21.1
comp=Z,1.1nm,0.7s,baz=328,slow=2.7,SNR=6.1
MKAR Makanchi Array 66.70 327 P **P** **09 01 47.2 +0.8**
SATY Saty 66.82 322 *c i*P **P** **09 01 48.9 +1.6**
SATY pmax pmax
comp=Z,29nm,0.9s
SATY Saty 66.82 322 ⇑*i*P **P** **09 01 49.0 +1.6**
comp=Z,28nm,0.9s,baz=322
ZHN Zhinishke 66.86 322 *e*P **P** **09 01 48.4 +0.8**
ZHN Zhinishke 66.86 322 *e*P **P** **09 01 48.4 +0.8**
baz=322
KPKS Kokpek 66.87 322 *c i*P **P** **09 01 48.9 +1.3**
KPKS pmax pmax
comp=Z,44nm,1.1s
KPKS Kokpek 66.87 322 ⇑*i*P **P** **09 01 49.0 +1.3**
comp=Z,44nm,1.1s,baz=322
MAKZ Makanchi 66.89 327 P **P** **09 01 48.2 +0.7**
MAKZ pmax pmax
comp=Z,120nm,1.2s
MAKZ Makanchi 66.89 327 P **P** **09 01 48.2 +0.7**
MAKZ lAmb lAmb 09 01 50.2
comp=Z,120nm,1.2s
MAKZ Makanchi 66.89 327 P **P** **09 01 48.5 +1.0**
KDJ Kajisay 67.10 320 P **P** **09 01 50.2 +1.0**
KDJ pmax pmax
comp=Z,30nm,0.5s
KDJ Kajisay 67.10 320 P **P** **09 01 50.2 +1.0**
KDJ lAmb lAmb 09 01 51.9
comp=Z,30nm,0.5s
MA2 Magadan 67.10 12 P **P** **09 01 49.6 +1.0**
comp=Z,32nm,0.9s,baz=191,slow=5.5,SNR=42
MA2 Magadan 67.10 12 *ce*P **P** **09 01 49.9 +1.3**
MA2 pmax pmax
comp=Z,101nm,1.7s
MA2 Magadan 67.10 12 P **P** **09 01 49.3 +0.8**
MA2 lAmb lAmb 09 01 50.9
comp=Z,66nm,1.1s
MA2 Magadan 67.10 12 P **P** **09 01 50.3 +1.7**
MA2 Magadan 67.10 12 P **P** **09 01 49.6 +1.0**
YAK Yakutsk 67.39 0 *e*P **P** **09 01 50.2 -0.1**
YAK *e* 09 02 19.3
YAK *e*S **S** **09 10 22.6 -0.2**
YAK *e* 09 11 16.2
YAK *e*SS **SS** **09 14 48.0 -1.0**
YAK pmax pmax
comp=Z,87nm,0.9s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=Z,151nm,3.1s
YAK pmax pmax
comp=N,81nm,3.0s
YAK smax smax
comp=N,516nm,2.3s
YAK smax smax
comp=E,396nm,2.2s
YAK Yakutsk 67.39 0 P **P** **09 01 50.7 +0.5**
TNSS Tian-Shan 67.72 321 *e*P **P** **09 01 54.9 +1.6**
baz=321
MDOK Medeo 67.72 321 *i* P **P** **09 01 54.5 +1.6**
MDOK Medeo 67.72 321 *i* P **P** **09 01 54.5 +1.6**
baz=321
AAA Alma-Ata 67.82 321 *e*P **P** **09 01 53.6 +0.1**
AAA *e*S **S** **09 10 29.9 +1.0**
AAA pmax pmax
comp=Z,27nm,0.8s
AAA Alma-Ata 67.82 321 *e*P **P** **09 01 53.6 +0.1**
comp=Z,27nm,0.8s,baz=321
AAA *e*S **S** **09 10 30.0 +1.0**
baz=321
TDK Taldyqorghan 67.88 323 *e*P **P** **09 01 55.3 +1.6**
TDK pmax pmax
comp=Z,66nm,1.3s
TDK Taldyqorghan 67.88 323 *e*P **P** **09 01 55.4 +1.6**
comp=Z,66nm,1.3s,baz=323
CHKK Chushkaly 68.12 322 *e*P **P** **09 01 56.2 +1.0**
baz=322
TKM2 Tokmak 2 68.51 320 P **P** **09 01 59.4 +1.5**
SNR=39
TKM2 Tokmak 2 68.51 320 P **P** **09 01 57.6 -0.3**
KUU Kurty 68.54 322 *c i*P **P** **09 01 59.3 +1.5**
KUU Kurty 68.54 322 ⇑*i*P **P** **09 01 59.3 +1.5**
baz=322
KBK Karagaybulak 68.79 320 P **P** **09 02 01.4 +1.8**
SNR=17
UCH Uchtor 68.86 319 P **P** **09 02 02.4 +2.0**
SNR=38
AAK Ala-Archa 69.07 320 P **P** **09 02 03.2 +1.9**
SNR=36
AAK Ala-Archa 69.07 320 P **P** **09 02 02.5 +1.1**
AAK pmax pmax
comp=Z,116nm,1.5s
AAK Ala-Archa 69.07 320 P **P** **09 02 02.5 +1.1**
AAK lAmb lAmb 09 02 04.8
comp=Z,116nm,1.5s
AAK Ala-Archa 69.07 320 P **P** **09 02 03.2 +1.9**
AAK Ala-Archa 69.07 320 P **P** **09 02 03.0 +1.7**
AAK pP **pwP** **09 03 09.1 +1.1**
AAK Ala-Archa 69.07 320 *i* P **P** **09 02 03.2 +1.9**
SNR=41
CHMS Chumysh 69.08 320 P **P** **09 02 02.7 +1.4**
SNR=10
AML Almayashu 69.34 319 P **P** **09 02 05.5 +2.2**
SNR=8.5
AML Almayashu 69.34 319 P **P** **09 02 05.4 +2.0**
AML Almayashu 69.34 319 *i* P **P** **09 02 05.2 +1.9**
SNR=51
USP Ospenovka 69.38 320 P **P** **09 02 04.5 +1.5**
SNR=47
SGDS Sogindy 69.38 321 ⇑*i*P **P** **09 02 04.5 +1.4**
comp=Z,33nm,1.7s,baz=320
KBL Kabul 69.39 310 P **P** **09 02 03.9 +0.3**
KBL pmax pmax
comp=Z,75nm,1.5s
KBL Kabul 69.39 310 P **P** **09 02 03.9 +0.3**
KBL lAmb lAmb 09 02 06.1
comp=Z,75nm,1.5s
KBL Kabul 69.39 310 P **P** **09 02 04.8 +1.3**
SNR=17
KBL Kabul 69.39 310 P **P** **09 02 04.3 +0.7**
EKS2 Erkin-Say 69.54 319 P **P** **09 02 06.3 +2.1**

SNR=29
SEM Semipalatinsk 69.97 329 *c i* P **P 09 02 07.3 +0.6**
SEM pmax pmax
comp=Z,67nm,1.5s
SEM Semipalatinsk 69.97 329⇑ *i* P **P 09 02 07.3 +0.6**
comp=Z,67nm,1.5s,baz=329
ZAA0 Zalesovo Array 70.04 334 P **P 09 02 06.6 -0.1**
ZAA0 lAmb lAmb 09 02 08.5
comp=Z,187nm,1.4s
ZALV Zalesovo Beam 70.04 334 P **P 09 02 07.0 +0.3**
comp=Z,54nm,0.5s,baz=139,slow=5.5,SNR=233
ZALV S **S** 09 10 46.3 -7.9
comp=Z,5.7nm,1.1s,baz=124,slow=12,SNR=4.3
ZALV PKP2bc 09 30 05.2
comp=Z,2.2nm,0.8s,baz=323,slow=4.7,SNR=7.9
GAR Garm 70.24 315 P **P 09 02 09.3 +0.8**
GAR lAmb lAmb 09 02 11.7
comp=Z,128nm,1.1s
SEY Seymchan 70.50 11 P **P 09 02 10.6 +1.2**
comp=Z,59nm,0.6s,baz=206,slow=4.8,SNR=248
SEY Seymchan 70.50 11 *c e* P **P 09 02 10.5 +1.2**
SEY pmax pmax
comp=Z,93nm,1.0s
BTLS Baital 70.53 322 *e* P **P 09 02 11.1 +1.2**
BTLS pmax pmax
comp=Z,40nm,1.2s
BTLS Baital 70.53 322 *e* P **P 09 02 11.2 +1.2**
comp=Z,40nm,1.2s,baz=322
KURBB Kurchatov Arra 70.98 328 PKP2bc 09 30 04.3
comp=Z,1.5nm,0.7s,baz=301,slow=3.2,SNR=10.0
KURBB Kurchatov Arra 70.98 328 P **P 09 02 11.9 -0.6**
KURK Kurchatov 70.99 329 *c e* P **P 09 02 13.6 +1.0**
KURK pmax pmax
comp=Z,179nm,1.3s
KURK Kurchatov 70.99 329 P **P 09 02 13.2 +0.7**
KURK Kurchatov 70.99 329 P **P 09 02 13.5 +1.0**
KURK Kurchatov 70.99 329 P **P 09 02 13.6 +1.0**
KURK pP **pP** 09 03 14.1 -1.3
DZA Taraz 71.24 319 *e* P **P 09 02 15.6 +1.3**
DZA Taraz 71.24 319 *e* P **P 09 02 15.6 +1.3**
baz=319
IUG Iuzhnay 71.78 318 *e* P **P 09 02 19.5 +1.9**
IUG Iuzhnay 71.78 318 *e* P **P 09 02 19.6 +1.9**
baz=318
KKAR Karatay Array 71.88 319 P **P 09 02 18.5 +0.5**
KKAR Karatay Array 71.88 319 P **P 09 02 18.5 +0.5**
RER Riviere de l'E 72.80 250 P **P 09 02 24.2 +0.2**
RER lAmb lAmb 09 02 27.2
comp=Z,92nm,1.0s
RER Riviere de l'E 72.80 250 P **P 09 02 26.2 +2.1**
MSEY Mahe Island 73.60 267 P **P 09 02 29.8 +1.0**
MSEY pmax pmax
comp=Z,38nm,1.0s
MSEY Mahe Island 73.60 267 P **P 09 02 29.8 +1.0**
MSEY Mahe Island 73.60 267 P **P 09 02 30.1 +1.2**
MSEY P PcP 09 02 30.2 -13
MSEY Mahe Island 73.60 267 *i* P **P 09 02 30.0 +1.2**
SNR=12
JLN Jalan Bani Buh 73.77 295 P **P 09 02 31.0 +1.4**
SNR=6.8
BRZS Berezniki 73.80 326 *e* P **P 09 02 30.1 +1.0**
BRZS pmax pmax
comp=Z,52nm,1.2s
BRZS Berezniki 73.80 326 *e* P **P 09 02 30.1 +1.0**
comp=Z,52nm,1.2s,baz=326
VNDA Vanda 73.94 173 P **P 09 02 29.4 -0.1**
comp=Z,17nm,0.5s,baz=318,slow=6.4,SNR=176
VNDA Vanda 73.94 173 P **P 09 02 29.3 -0.1**
HRA Herat 74.61 308 P **P 09 02 35.5 +1.0**
HRA lAmb lAmb 09 02 37.1
comp=Z,67nm,1.2s
ATKA Atka Island 74.73 32 P **P 09 02 35.2 +0.8**
MHTO MHTO 74.83 293 P **P 09 02 36.6 +1.0**
SNR=21
JMDO Jabal Madar 75.00 295 P **P 09 02 38.4 +1.8**
SNR=9.8
DQM DQM 75.00 292 P **P 09 02 38.1 +1.4**
SNR=12
SMDO Samad 75.20 295 P **P 09 02 39.5 +1.7**
SNR=9.1
BIDO Bidbid 75.23 296 P **P 09 02 39.7 +1.9**
SNR=15
BSY Bisya 75.89 295 P **P 09 02 42.8 +1.1**
SNR=7.9
HON Honolulu 75.93 67 P **P 09 02 42.8 +0.9**
HON pmax pmax
comp=Z,225nm,0.7s
HON Honolulu 75.93 67 P **P 09 02 42.8 +0.9**
HOQ Hoqain 75.97 296 P **P 09 02 43.6 +1.5**
SNR=20
MAW Mawson 76.08 201 P **P 09 02 42.4 +0.6**
comp=Z,20nm,0.4s,baz=73,slow=5.3,SNR=44
MAW Mawson 76.08 201 P **P 09 02 42.8 +1.0**
baz=76,SNR=39
MAW Mawson 76.08 201 P **P 09 02 42.2 +0.5**
SHAO Shalim 76.42 290 P **P 09 02 46.3 +1.6**
SHAO Shalim 76.42 290 *i* P **P 09 02 46.0 +1.4**
SNR=32
BRVK Borovoye 76.61 328 *c e* P **P 09 02 45.9 +0.9**
BRVK pmax pmax
comp=Z,75nm,1.3s
BRVK Borovoye 76.61 328 P **P 09 02 45.7 +0.7**
BRVK lAmb lAmb 09 02 47.4
comp=Z,41nm,0.8s
BRVK Borovoye 76.61 328 P **P 09 02 45.9 +0.9**
BRVK Borovoye 76.61 328 P **P 09 02 45.5 +0.5**
BRVK pP **pP** 09 03 46.7 -1.6
ARQ Araqi 76.63 295 P **P 09 02 47.9 +2.1**
SNR=7.8
SOHO SOHO 76.79 296 P **P 09 02 48.2 +1.6**
SOHO SOHO 76.79 296 *i* P **P 09 02 47.9 +1.3**
SNR=17
DMTO DMTO 77.00 290 P **P 09 02 48.8 +0.9**
SOCY Socotra 77.02 284 P **P 09 02 48.6 +0.4**
SOCY lAmb lAmb 09 02 49.9
comp=Z,131nm,1.1s
SOCY Socotra 77.02 284 P **P 09 02 48.9 +0.7**
SNR=14
TIXI Tiksi 77.05 360 *c e* P **P 09 02 46.7 -0.3**
TIXI pmax pmax
comp=Z,48nm,0.6s
UOSS Minazif 77.25 297 P **P 09 02 49.3 +0.1**
UOSS lAmb lAmb 09 02 51.4
comp=Z,94nm,1.4s
UOSS Minazif 77.25 297 P **P 09 02 50.9 +1.7**
UOSS Minazif 77.25 297 *i* P **P 09 02 50.2 +1.0**
SNR=6.6
HATD Hatta, Dubai 77.29 297 P **P 09 02 51.2 +1.8**
HATD Hatta, Dubai 77.29 297 *i* P **P 09 02 51.2 +1.8**
SNR=8.1
ASHO Ashiyiah 77.33 297 P **P 09 02 51.3 +1.6**
SNR=5.4
ASHO Ashiyiah 77.33 297 *i* P **P 09 02 51.1 +1.5**
SNR=12
BANOM Banah 77.38 298 P **P 09 02 51.7 +1.7**
BANOM Banah 77.38 298 *i* P **P 09 02 51.9 +2.0**
SNR=7.8
MSFE Esma-Masafi 77.38 297 *i* P **P 09 02 51.8 +1.8**
SNR=9.6
MASF Masafi 77.38 297 P **P 09 02 51.8 +1.8**
ALNE Al Ain 77.47 296 P **P 09 02 52.4 +1.9**
SNR=5.8
ALNE Al Ain 77.47 296 *i* P **P 09 02 52.1 +1.7**
SNR=9.9
SHME Shamm 77.54 298 P **P 09 02 52.4 +1.7**
SHME Shamm 77.54 298 *i* P **P 09 02 52.6 +1.8**
SNR=8.6
RBK Rabkut 77.66 289 P **P 09 02 53.0 +1.4**
SNR=6.2
UMZA Um Al Zommool 77.73 295 P **P 09 02 53.1 +1.2**
NAZ Nazwa, Dubai 77.74 297 P **P 09 02 54.0 +2.1**
FAQ Al Faqa, Dubai 77.75 297 P **P 09 02 53.3 +1.3**
FAQ Al Faqa, Dubai 77.75 297 *i* P **P 09 02 53.1 +1.2**
SNR=7.6
BILL Bilibino 77.85 13 *c e* P **P 09 02 51.5 0.0**
BILL *e* 09 05 54.6
BILL *e* PPP PPP 09 07 44.5
BILL pmax pmax
comp=Z,31nm,2.5s
BILL Bilibino 77.85 13 P **P 09 02 51.1 -0.4**
DOK Doka 77.92 290 P **P 09 02 53.6 +0.6**
SNR=5.7
NIKH Nikolski High 77.96 33 P **P 09 02 52.6 +0.2**
baz=244
ASUD Al Ashush, Dub 77.96 297 P **P 09 02 54.8 +1.8**
SNR=12
WHFO Wadi Hawf 78.14 290 P **P 09 02 54.7 +0.4**
SNR=11
ABTO Aybut 78.49 289 P **P 09 02 57.7 +1.5**
SNR=18
SBV Sambava 78.53 257 P **P 09 02 58.0 +1.6**
SNR=6.0
SBV Sambava 78.53 257 P **P 09 02 58.9 +2.5**
GEYT Alibeck 78.84 310 P **P 09 02 59.4 +1.7**
comp=Z,10nm,0.5s,baz=119,slow=5.4,SNR=24
GEYT Alibeck 78.84 310 P **P 09 02 58.7 +1.0**
GYA0B ALIBECK ARRAY 78.84 310 P **P 09 02 58.6 +0.9**
GYA0B lAmb lAmb 09 03 00.8
comp=Z,148nm,1.9s
MZR Muzera 79.31 295 P **P 09 03 01.9 +1.5**
SNR=5.3
MZR Muzera 79.31 295 *i* P **P 09 03 02.0 +1.5**
SNR=12
UNV Unalaska Valle 79.61 33 P **P 09 03 02.0 +0.7**
UNV lAmb lAmb 09 03 03.6
comp=Z,61nm,0.8s
UNV Unalaska Valle 79.61 33 P **P 09 03 01.6 +0.3**
baz=245
PAE Paea 79.78 107 *e* P **P 09 03 05.0 +1.9**
comp=Z,16nm,1.2s
PPT2 Papeete2 79.79 107 *e* P **P 09 03 05.3 +2.1**
comp=Z,79nm,1.0s
PPT2 *e* S **S 09 12 36.9 -6.2**
comp=Z,530nm,25.2s
PPT Papeete 79.79 107 P **P 09 03 05.1 +1.9**
comp=Z,85nm,0.9s,baz=290,slow=8.3,SNR=12
PPTF Pamatai, Papee 79.80 107 P **P 09 03 02.8 -0.5**
PPTF lAmb lAmb 09 03 08.1
comp=Z,87nm,0.9s
PPTF Pamatai, Papee 79.80 107 P **P 09 03 06.2 +2.9**
NRIK Noril'sk 80.02 346 P **P 09 03 04.2 +0.9**
comp=Z,34nm,0.8s,baz=134,slow=5.0,SNR=36
NRIK Noril'sk 80.02 346 *c e* P **P 09 03 04.0 +0.7**
NRIK pmax pmax
comp=Z,82nm,1.3s
NRIK Noril'sk 80.02 346 P **P 09 03 04.0 +0.7**
NRIK lAmb lAmb 09 03 06.9
comp=Z,69nm,1.1s
GHWR Ruwais 80.03 295 P **P 09 03 05.6 +1.3**
TVO Taravao 80.09 107 *e* P **P 09 03 06.7 +1.9**
comp=Z,0.3nm,0.7s
ABPO Ambohimpanom 80.84 252 P **P 09 03 09.2 +0.3**
ABPO pmax pmax
comp=Z,65nm,1.7s
ABPO Ambohimpanom 80.84 252 P **P 09 03 09.2 +0.3**
AB31 Akbulak array 81.02 322 *i* P **P 09 03 08.4 -0.6**
ABKAR Akbulak array 81.02 322 P **P 09 03 09.1 +0.1**
ABKAR lAmb lAmb 09 03 12.7
comp=Z,35nm,0.7s
VOI Vohitsoka 81.12 249 P **P 09 03 11.5 +1.2**
SNR=5.1
VOI Vohitsoka 81.12 249 P **P 09 03 11.4 +1.2**
PMOR Pomariorio Ree 81.54 104 *e* P **P 09 03 14.5 +2.1**
comp=Z,173nm,0.8s
KHOR Al-Khor Airpor 81.55 297 P **P 09 03 13.6 +1.4**
TRNA Turayna 81.66 296 P **P 09 03 14.6 +1.7**
FALS False Pass 81.67 33 P **P 09 03 12.5 +0.4**
FALS False Pass 81.67 33 P **P 09 03 12.6 +0.4**
baz=248
VAH Vaihoa 81.78 105 *e* P **P 09 03 15.5 +1.8**
comp=Z,85nm,0.9s
GAMB Gambell 81.81 23 P **P 09 03 13.9 +1.2**
baz=239,SNR=27
SHMA Al-Shehemyia 82.08 297 P **P 09 03 16.3 +1.3**
SAKB Bahrain 82.48 297 P **P 09 03 18.4 +1.3**
AKTO Aktyubinsk 82.58 322 P **P 09 03 17.3 +0.2**
SVE Sverdlovsk 83.24 329 *d e* P **P 09 03 21.4 +1.1**
SVE *e* S **S 09 13 11.5 -5.1**
SVE pmax pmax
comp=Z,149nm,1.4s
SDPT Sand Point 83.42 33 P **P 09 03 21.3 +0.1**
baz=250,SNR=10
TNA Tin City 84.10 22 P **P 09 03 24.5 +0.1**
TNA Tin City 84.10 22 P **P 09 03 24.9 +0.5**
baz=243
ARU Arti 84.18 328 *d i* P **P 09 03 25.4 +0.3**
ARU *PP **pP** 09 04 29.0 -0.4
ARU S **S** 09 13 21.6 -4.4
ARU pmax pmax
comp=Z,103nm,1.3s
ARU Arti 84.18 328 P **P 09 03 25.3 +0.3**
ARU lAmb lAmb 09 03 27.0
comp=Z,44nm,0.7s
QSPA South Pole Qui 84.41 180 P **P 09 03 25.3 -0.9**
QSPA lAmb lAmb 09 03 26.5
comp=Z,40nm,0.6s
ANM Nome 84.63 23 P **P 09 03 28.4 +1.2**
baz=245
SYO Syowa Base 84.79 201⇑ *e* P **P 09 03 27.5 -0.4**
SYO Syowa Base 84.79 201⇓ *e* PcP **PcP 09 03 30.6 -0.1**
CHGN Chignik 84.83 32 P **P 09 03 27.6 -0.6**
baz=252
RAYN Ar Rayn 86.63 294 P **P 09 03 38.4 +0.5**
RAYN pmax pmax
comp=Z,91nm,1.0s
RAYN Ar Rayn 86.63 294 P **P 09 03 38.4 +0.5**
RAYN lAmb lAmb 09 03 40.4
comp=Z,91nm,0.9s
RAYN Ar Rayn 86.63 294 P **P 09 03 38.9 +1.0**
RAYN Ar Rayn 86.63 294 P **P 09 03 38.4 +0.8**
RAYN Ar Rayn 86.63 294 *i* P **P 09 03 38.7 +0.8**
SNR=13
RDOG Red Dog Mine 86.96 20 P **P 09 03 38.6 +0.2**
baz=247,SNR=15
SII Sitkinak Islan 87.16 33 P **P 09 03 40.3 +0.7**
baz=256
P18K Big Mountain, 87.35 30 P **P 09 03 40.7 +0.1**
baz=254
SVW2 Sparrevohn 87.64 28 P **P 09 03 42.6 +0.7**
SVW2 lAmb lAmb 09 03 44.0
comp=Z,28nm,0.7s
ATD Arta Tunnel 87.75 282 **P 09 03 45.1 +1.7**
ATD lAmb lAmb 09 03 47.4
comp=Z,42nm,0.9s
OHAK Old Harbor 87.80 32 P **P 09 03 43.3 +0.8**
baz=256
MAK Makhachkala 87.85 313 *e* P **P 09 03 41.0 -2.2**
MAK *e* PP **pP 09 04 46.2 -1.7**
MAK *e* SP **sP 09 05 15.3 -1.1**
MAK *e* 09 07 10.7
MAK *e* PPP PPP 09 09 08.6
MAK *e* 09 13 41.2
MAK *e* SS sS 09 15 43.3 -14
MAK pmax pmax
comp=Z,154nm,1.2s
TTA Tatalina 87.96 26 P **P 09 03 43.4 0.0**
TTA pmax pmax
comp=Z,29nm,0.7s
TTA Tatalina 87.96 26 P **P 09 03 43.4 0.0**
TTA lAmb lAmb 09 03 45.5
comp=Z,29nm,0.7s
TTA Tatalina 87.96 26 P **P 09 03 43.8 +0.4**
baz=254,SNR=32
O19K Port Alsworth 88.01 29 P **P 09 03 43.2 -0.2**
O19K Port Alsworth 88.01 29 P **P 09 03 43.3 -0.2**
baz=255
N19K Bonanza Creek 88.08 28 P **P 09 03 44.8 +0.8**
baz=255,SNR=18
GCSA Galena City Sc 88.11 24 P **P 09 03 44.2 +0.3**
baz=253
L19K White Mountain 88.27 27 P **P 09 03 45.5 +0.7**
baz=255,SNR=16
KDAK Kodiak Island 88.30 32 P **P 09 03 44.9 0.0**
comp=Z,15nm,0.6s,baz=265,slow=4.4,SNR=17
KDAK Kodiak Island 88.30 32 P **P 09 03 45.5 +0.6**
baz=257
M19K Big River Lodg 88.41 27 P **P 09 03 46.1 +0.8**
M19K lAmb lAmb 09 03 48.0
comp=Z,34nm,0.9s
M19K Big River Lodg 88.41 27 P **P 09 03 46.2 +0.8**
baz=255
L20K Farewell, AK 88.78 27 P **P 09 03 47.8 +0.6**
baz=256,SNR=27
K20K Telida 88.92 26 P **P 09 03 48.1 +0.3**
K20K lAmb lAmb 09 03 49.4
comp=Z,36nm,0.7s
K20K Telida 88.92 26 P **P 09 03 48.5 +0.8**
baz=255,SNR=26
J20K Nowinta River 89.09 25 P **P 09 03 48.6 +0.1**
J20K lAmb lAmb 09 03 49.7
comp=Z,33nm,0.6s
J20K Nowinta River 89.09 25 P **P 09 03 49.2 +0.6**
baz=255,SNR=37
GROC Groznyy 89.12 313 *e* P **P 09 03 48.4 -0.8**
GROC *e* 09 07 23.3
GROC *e* S **SKSac 09 13 48.3 -3.8**
GROC *e* *SS sS 09 15 55.4 -14
GROC pmax pmax
comp=Z,21nm,0.4s
HOM Homer 89.19 30 P **P 09 03 49.3 +0.2**
baz=258
SPU Mount Spurr 89.32 28 P **P 09 03 48.9 -0.8**
BELG Belogornoye 89.36 323 PKKPbc PKKPbc 09 21 24.6 -2.4
comp=Z,6.5nm,0.6s,baz=289,slow=5.1,SNR=6.5
BELG Belogornoye 89.36 323 *c i* P **P 09 03 49.3 -0.7**
BELG pmax pmax
comp=Z,7.0nm,1.2s
GNI Garni 89.48 310 *i* P **P 09 03 52.4 +1.3**
GNI pmax pmax
comp=Z,34nm,1.5s
KIRV Kirov 89.50 329 *c e* P **P 09 03 49.7 -0.8**
PPLA Purkeypile 89.64 27 P **P 09 03 51.1 -0.2**
baz=257,SNR=7.6
BRSE Bradley Lake S 89.66 30 P **P 09 03 52.0 +0.7**
baz=258
IMAR Indian Mountai 89.71 23 P **P 09 03 51.0 -0.4**
CAST Castle Rocks 89.80 26 P **P 09 03 51.5 -0.4**
baz=257,SNR=19
CHUM Lake Minchumin 89.81 26 P **P 09 03 52.4 +0.5**
baz=257,SNR=54
H21K Melozitna Rive 90.01 24 P **P 09 03 52.9 +0.1**
baz=256,SNR=10
A21K Barrow 90.14 18 P **P 09 03 52.8 -0.4**
A21K lAmb lAmb 09 03 54.7
comp=Z,94nm,1.5s
A21K Barrow 90.14 18 P **P 09 03 53.4 +0.2**
baz=253,SNR=6.3
I21K Tanana 90.23 24 P **P 09 03 54.1 +0.3**
baz=257,SNR=12
O22K Cooper Landing 90.30 29 P **P 09 03 54.1 -0.1**
baz=259,SNR=7.0
M22K Willow 90.35 28 P **P 09 03 54.0 -0.4**
baz=259
RC01 Rabbit Creek A 90.41 29 P **P 09 03 54.4 -0.3**
baz=259,SNR=7.1
CUT Chulitna 90.41 27 P **P 09 03 54.7 +0.1**
baz=259
BPAW Bear Paw Mtn. 90.42 26 P **P 09 03 54.6 -0.2**
baz=258,SNR=11
ZEI Tsey 90.44 313 *e* P **P 09 03 55.4 -0.2**
ZEI pmax pmax
comp=Z,27nm,1.4s
TRF Thorofare Moun 90.60 26 P **P 09 03 54.9 -0.9**
baz=259,SNR=6.3
MLY Manley 90.72 25 P **P 09 03 56.0 -0.2**
MLY lAmb lAmb 09 03 57.7
comp=Z,36nm,0.6s
MLY Manley 90.72 25 P **P 09 03 56.2 0.0**
baz=258
ONI Oni 90.75 313 P **P 09 03 57.6 +0.8**
ONI pmax pmax
comp=Z,33nm,1.6s
ONI Oni 90.75 313 P **P 09 03 57.6 +0.8**
PMR Palmer 90.78 28 P **P 09 03 56.0 -0.4**
PMR pmax pmax
comp=Z,67nm,1.4s
PMR Palmer 90.78 28 P **P 09 03 56.0 -0.4**
PMR lAmb lAmb 09 03 56.3
comp=Z,67nm,1.4s
PMR Palmer 90.78 28 P **P 09 03 55.8 -0.6**
baz=260,SNR=7.8
PWL Port Wells 91.04 29 P **P 09 03 57.3 -0.4**
PWL Port Wells 91.04 29 P **P 09 03 57.7 0.0**
baz=260
KNK Knik Glacier 91.07 28 P **P 09 03 57.7 -0.1**
baz=260,SNR=10
BWN Browne 91.09 26 P **P 09 03 57.7 -0.2**
BWN lAmb lAmb 09 04 00.3
comp=Z,68nm,0.9s
KIBK Kibwezi 91.14 268 P **P 09 04 01.2 +1.9**
SNR=8.0
SML Sawmill 91.20 28 P **P 09 03 58.2 -0.3**
baz=260,SNR=9.2
MCK McKinley 91.25 26 P **P 09 03 57.8 -0.8**
baz=260,SNR=16
KBZ Khabaz 91.28 314 P **P 09 03 59.9 +0.7**
comp=Z,3.2nm,0.4s,baz=112,slow=3.0,SNR=9.5
KBZ Khabaz 91.28 314 *c e* P **P 09 03 59.0 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.5s
I23K Minto, Yukon-K 91.31 25 P **P 09 03 58.7 -0.2**
I23K lAmb lAmb 09 03 59.9
comp=Z,63nm,0.7s
I23K Minto, Yukon-K 91.31 25 P **P 09 03 58.8 0.0**
baz=260,SNR=41
GOF Gofitskoye 91.33 315⇑ *e* P **P 09 03 59.8 +0.4**
NEA2 Nenana 91.34 25 P **P 09 03 58.5 -0.5**
baz=260,SNR=11
COLD Coldfoot 91.36 23 P **P 09 03 59.5 +0.5**
baz=259,SNR=28
GURO Guroymak-BITLI 91.38 308 P **P 09 04 00.8 +0.9**
KIV Kislovodsk 91.46 314 *e* P **P 09 04 01.7 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,147nm,20.0s
WAT6 Susitna Watana 91.59 27 P **P 09 03 60.0 -0.5**
baz=261,SNR=8.4
SCM Sheep Creek Mo 91.67 28 P **P 09 04 00.8 +0.1**
baz=261,SNR=5.0
WRH Wood River Hil 91.74 25 P **P 09 03 59.9 -0.9**
WRH lAmb lAmb 09 04 00.9
comp=Z,40nm,0.8s
MDM Murphy Dome 91.75 25 P **P 09 03 59.7 -1.2**
DHY Denali Highway 91.83 27 P **P 09 04 01.5 0.0**
baz=261,SNR=31
TOLK Toolik Lake Re 91.86 21 P **P 09 04 01.6 +0.3**
baz=260,SNR=12
PRGR Permogore 91.89 332 *e* P **P 09 03 58.5 -3.0**
TCOL CIGO, UAF Yank 91.90 25 P **P 09 04 00.5 -1.0**
baz=261,SNR=7.6
COLA College 91.90 25 P **P 09 04 00.2 -1.3**
COLA pmax pmax
comp=Z,27nm,0.7s
COLA College 91.90 25 P **P 09 04 00.2 -1.3**
COLA lAmb lAmb 09 04 02.1
comp=Z,27nm,0.7s
H24K Noodor Dome 92.04 24 P **P 09 04 01.9 -0.4**
H24K lAmb lAmb 09 04 03.5
comp=Z,40nm,0.8s
H24K Noodor Dome 92.04 24 P **P 09 04 02.5 +0.2**
baz=261,SNR=34
KMBO Kilima Mbogo 92.05 269 P **P 09 04 04.8 +1.1**
comp=Z,7.5nm,0.7s,baz=76,slow=8.3,SNR=23
KMBO Kilima Mbogo 92.05 269 P **P 09 04 03.5 -0.2**
KMBO Kilima Mbogo 92.05 269 P **P 09 04 05.5 +1.8**
KMBO Kilima Mbogo 92.05 269 *i* P **P 09 04 04.7 +1.1**
SNR=12
POKR Poker Plat Res 92.11 25 P **P 09 04 02.0 -0.5**
baz=261
HDA Harding Lake 92.22 26 P **P 09 04 01.7 -1.3**
baz=262,SNR=34
M24K Tolsona, Glenn 92.25 28 P **P 09 04 03.5 +0.2**
baz=262,SNR=6.4
KLU Klutina 92.29 29 P **P 09 04 03.5 0.0**
baz=263
IL31 92.29 25 P **P 09 04 01.3 -2.0**
ILAR Eielson Array 92.29 25 P **P 09 04 01.5 -1.9**
comp=Z,14nm,0.7s,baz=263,slow=4.4,SNR=138
ILAR PKKPbc **PKKPdf 09 21 17.3 +0.5**
comp=Z,0.9nm,0.6s,baz=313,slow=1.2,SNR=9.8
DIV Divide 92.31 29 P **P 09 04 03.4 -0.3**
DIV lAmb lAmb 09 04 09.0
comp=Z,27nm,0.7s
PAX Paxson 92.68 27 P **P 09 04 04.9 -0.4**
PAX pmax pmax
comp=Z,27nm,0.7s
PAX Paxson 92.68 27 P **P 09 04 04.9 -0.4**
PAX lAmb lAmb 09 04 06.5
comp=Z,27nm,0.7s
PAX Paxson 92.68 27 P **P 09 04 05.2 -0.2**
baz=263,SNR=13
HARP HAARP 92.76 28 P **P 09 04 05.9 +0.3**
baz=263
BMRM Bremner River 92.86 29 P **P 09 04 06.3 +0.2**
baz=264

J25K	**Salcha River,**	**92.92**	**25**	P		**P**	**09 04 04.7**	**-1.7**
J25K	**Salcha River,** baz=263	**92.92**	**25**	P		**P**	**09 04 05.2**	**-1.1**
N25K	**Chitina, Valde** baz=264,SNR=5.2	**92.93**	**29**	P		**P**	**09 04 06.7**	**+0.2**
RIDG	**Independent Ri** baz=264,SNR=31	**93.05**	**26**	P		**P**	**09 04 06.7**	**-0.2**
DOT	**Dot Lake**	**93.39**	**27**	P		**P**	**09 04 08.0**	**-0.5**
SCRK	**Sand Creek**	**93.45**	**26**	P		**P**	**09 04 08.8**	**-0.1**
SCRK	**Sand Creek** baz=264,SNR=17	**93.45**	**26**	P		**P**	**09 04 08.5**	**-0.4**
MENT	**Mentasta**	**93.47**	**27**	P		**P**	**09 04 08.6**	**-0.3**
MENT	comp=Z,34nm,0.6s			IAmb	IAmb		09 04 10.0	
BMAR	**Burnt Mountain**	**93.55**	**23**	P		**P**	**09 04 09.4**	**+0.2**
SOC	**Sochi**	**93.57**	**313**	*e*P		**P**	**09 04 09.3**	**-0.4**
SOC				*e*			09 07 59.9	
SOC				*e*PPP	PPP		09 10 07.9	
SOC				*e*S		**SKSac**	**09 14 16.9**	**-0.3**
SOC				*e*SS		**SS**	**09 21 13.7**	**-4.8**
SOC				*e*SSS	SSS		09 25 03.1	
L26K	**Log Cabin Wild** baz=265,SNR=17	**93.65**	**27**	P		**P**	**09 04 09.8**	**+0.1**
J26L	**Joseph Creek** baz=265,SNR=66	**93.68**	**26**	P		**P**	**09 04 09.8**	**-0.2**
M27K	**Edge Creek, AK** baz=266,SNR=9.0	**94.28**	**28**	P		**P**	**09 04 13.3**	**+0.6**
L27K	**Beaver Creek,** baz=266,SNR=53	**94.34**	**27**	P		**P**	**09 04 13.5**	**+0.6**
LODK	**Lodwar**	**94.36**	**273**	P		**P**	**09 04 15.7**	**+1.6**
BCAR	**Beaver Creek A**	**94.36**	**27**	P		**P**	**09 04 13.4**	**+0.4**
VORR	**Voronezh**	**94.44**	**321**	*e*P		**P**	**09 04 12.5**	**-1.0**
VORR	comp=Z,70nm,0.4s			pmax	pmax			
CTG	**Chitna Glacier** baz=267	**94.44**	**29**	P		**P**	**09 04 13.9**	**+0.4**
EGAK	**Eagle**	**94.74**	**25**	P		**P**	**09 04 14.2**	**-0.4**
EGAK	comp=Z,24nm,0.9s			IAmb	IAmb		09 04 15.6	
EGAK	**Eagle** baz=267	**94.74**	**25**	P		**P**	**09 04 14.5**	**-0.1**
BVCY	**Beaver Creek** baz=267,SNR=7.0	**94.75**	**28**	P		**P**	**09 04 15.4**	**+0.6**
KLMR	**Klimovskoe**	**94.76**	**331**	*e*P		**P**	**09 04 12.4**	**-2.3**
KLMR				*e**PP		**pP**	**09 05 19.4**	**-0.5**
KLMR				*e**SP		**sP**	**09 05 45.8**	**-2.5**
KLMR				*e*			09 08 03.6	
KLMR	comp=Z,20nm,0.5s			pmax	pmax			
KLMR	**Klimovskoe**	**94.76**	**331**	*e*P		**P**	**09 04 12.5**	**-2.3**
KLMR	comp=Z,20nm,0.5s			AMP			09 04 14.3	
KLMR				*e*pP		**pP**	**09 05 19.5**	**-0.5**
KLMR				*e*sP		**sP**	**09 05 45.9**	**-2.4**
KLMR				*e*PP		**PP**	**09 08 03.6**	**-3.7**
YUK3	**Moose Creek** baz=267	**94.91**	**28**	P		**P**	**09 04 16.0**	**+0.2**
TROLL	**Troll, Antarti**	**95.41**	**194**	P		**P**	**09 04 18.8**	**+1.1**
DAWY	**Dawson**	**95.48**	**26**	P		**P**	**09 04 18.2**	**+0.2**
DAWY	**Dawson** baz=269	**95.48**	**26**	P		**P**	**09 04 18.5**	**+0.5**
YUK4	**Talbot Arm** baz=269	**95.77**	**29**	P		**P**	**09 04 20.1**	**+0.5**
I29M	**Ogilvie Camp,**	**95.96**	**25**	P		**P**	**09 04 19.8**	**-0.4**
I29M	comp=Z,40nm,1.0s			IAmb	IAmb		09 04 21.2	
I29M	**Ogilvie Camp,** baz=270	**95.96**	**25**	P		**P**	**09 04 20.2**	**0.0**
OBN	**Obninsk**	**96.15**	**325**⇑	*e*P		**P**	**09 04 20.1**	**-1.1**
OBN				*e**PP		**pP**	**09 05 27.5**	**+1.1**
OBN				*e*			09 08 16.5	
OBN	comp=Z,19nm,1.1s			pmax	pmax			
OBN	**Obninsk**	**96.15**	**325**	P		**P**	**09 04 19.9**	**-1.2**
OBN	comp=Z,25nm,0.6s			IAmb	IAmb		09 04 21.4	
BELA	**Belgrano 2**	**96.22**	**183**	P		**P**	**09 04 20.4**	**-0.7**
BELA	comp=Z,19nm,0.5s			IAmb	IAmb		09 04 25.6	
HYT	**Haines Junctio** baz=270	**96.31**	**29**	P		**P**	**09 04 22.3**	**+0.3**
EIL	**Elat** comp=Z,4.1nm,0.5s,baz=305,slow=4.3,SNR=9.6	**96.59**	**299**	PKKPbc	PKKPbc		09 21 08.1	+0.9
EPYK	**Eagle Plains**	**96.60**	**24**	P		**P**	**09 04 22.4**	**-0.7**
EPYK	comp=Z,21nm,0.9s			IAmb	IAmb		09 04 24.1	
EPYK	**Eagle Plains** baz=271	**96.60**	**24**	P		**P**	**09 04 22.7**	**-0.4**
M30M	**Minto, Yukon** baz=271	**96.64**	**28**	P		**P**	**09 04 23.8**	**+0.5**
SNAA	**Sanae**	**96.92**	**194**	P		**P**	**09 04 25.2**	**+0.7**
SNAA	**Sanae**	**96.92**	**194**	*ce*P		**P**	**09 04 25.3**	**+0.8**
SNAA	comp=Z,22nm,1.3s			pmax	pmax			
N31M	**Braeburn, Yuko** baz=272	**97.14**	**29**	P		Pdif	09 04 26.0	+0.4
APA	**Apatity**	**97.40**	**337**⇓	*i*P		**P**	**09 04 26.0**	**-0.6**
APA	comp=Z,15nm,1.0s			pmax	pmax			
SKAG	**Skagway** baz=272	**97.42**	**31**	P		Pdif	09 04 27.5	+0.7
WHY	**Whitehorse** baz=272	**97.61**	**30**	Pdiff		Pdif	09 04 28.1	+0.3
INK	**Inuvik** comp=Z,7.0nm,0.5s,baz=281,slow=4.1,SNR=31	**97.74**	**22**	P		**P**	**09 04 27.5**	**-0.6**
INK	comp=Z,3.1nm,0.5s,baz=43,slow=1.4,SNR=5.4			PKKPbc		**PKKPbc**	**09 21 02.4**	**-3.3**
INK	**Inuvik** baz=274	**97.74**	**22**	Pdiff		**P**	**09 04 27.5**	**-0.6**
BRTR	**Keskin Array B** comp=Z,4.2nm,1.0s,baz=124,slow=4.4,SNR=12	**97.96**	**309**	P		**P**	**09 04 29.4**	**-0.6**
BRTR	comp=Z,1.5nm,1.0s,baz=272,slow=4.7,SNR=4.1			PKKPbc		**PKKPbc**	**09 21 02.8**	**-1.3**
BRTR	**Keskin Array B**	**97.96**	**309**	P		**P**	**09 04 28.7**	**-1.2**
FARO	**Faro, Yukon** baz=274	**98.26**	**28**	Pdiff		Pdif	09 04 30.7	+0.1
MBAR	**Mbarara**	**98.58**	**269**	*i*P		Pdif	09 04 33.1	-0.2
MBAR	comp=Z,7.0nm,1.0s			pmax	pmax			
MBAR	**Mbarara**	**98.58**	**269**	P		Pdif	09 04 32.4	-0.9
MBAR	**Mbarara**	**98.58**	**269**	P		**P**	**09 04 34.5**	**+1.2**
ANTO	**Ankara**	**98.61**	**309**	P		**P**	**09 04 33.7**	**+0.9**
P33M	**Teslin, Yukon** baz=274	**98.65**	**30**	Pdiff		Pdif	09 04 32.0	-0.5
MMPY	**Sheldon Lake,** baz=276	**99.19**	**28**	Pdiff		**Pdif**	**09 04 35.5**	**+0.7**
BOSA	**Boshof** comp=Z,12nm,1.1s,baz=106,slow=6.3,SNR=8.2	**99.69**	**240**	P		**Pdif**	**09 04 36.9**	**-1.0**
BOSA	comp=Z,3.2nm,0.9s,baz=254,slow=0.9,SNR=3.8			PKKPbc		**PKKPbc**	**09 20 58.4**	**-0.3**
A36M	**Sachs Harbour** baz=283	**99.98**	**18**	Pdiff		**Pdif**	**09 04 37.9**	**0.0**
ARCES	**ARCESS Array B** comp=Z,5.0nm,0.4s,baz=83,slow=6.6,SNR=66	**100.03**	**340**	P		**Pdif**	**09 04 37.5**	**-0.7**
ARCES	comp=Z,1.6nm,0.5s,baz=93,slow=2.4,SNR=11			PKiKP		**PKiKP**	**09 09 04.5**	**0.0**
ARCES	comp=Z,1.5nm,0.4s,baz=250,slow=2.5,SNR=16			PKKPbc		**PKKPbc**	**09 20 55.5**	**-3.8**
DLBC	**Dease Lake** comp=Z,2.2nm,0.6s,baz=286,slow=3.1,SNR=11	**100.23**	**32**	P		**Pdif**	**09 04 39.8**	**+0.3**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=66,slow=4.2,SNR=7.9	**100.73**	**320**	P		**Pdif**	**09 04 40.6**	**-1.2**
AKASG	comp=Z,0.8nm,0.4s,baz=83,slow=2.2,SNR=8.5			PKiKP		**PKiKP**	**09 09 06.1**	**-0.1**
MNK	**Minsk** comp=E,6.0nm,0.8s	**101.19**	**324**	*i*P		**Pdif**	**09 04 40.8**	**-3.0**
MNK	comp=N,20nm,0.7s			*i*P		**Pdif**	**09 04 40.8**	**-3.0**
MNK	comp=E,9.0nm,0.7s,baz=263			*i*P		**Pdif**	**09 04 40.8**	**-3.0**
MNK				*i*pP		**pPdif**	**09 05 46.1**	**-3.0**
MNK				*i*PP		**PP**	**09 08 50.9**	**-5.5**
MNK				*i*PPP	PPP		09 11 00.5	
MNK				*i*SKS			09 14 37.2	
MNK				*i*S		**Sdif**	**09 15 59.0**	**+0.9**
MNK				*i*PS	PS		09 17 58.5	-7.7
MNK				*i*SS		**SS**	**09 22 55.8**	**-8.8**
MNK				*i*SSS	SSS		09 26 49.3	
MNK	comp=E,29nm,20.4s			*i*LRM	MLR		09 50 59.9	
MNK	comp=Z,127nm,17.9s			*i*LRM	MLR		09 50 59.9	
MNK	comp=N,219nm,18.5s			*i*LRM	MLR		09 51 13.9	
FINES	**FINESS Array B** comp=N,2.3nm,0.4s,baz=55,slow=5.3,SNR=22	**101.22**	**332**	P		**Pdif**	**09 04 42.4**	**-1.3**
FINES	comp=N,2.4nm,0.5s,baz=113,slow=3.5,SNR=12			PKiKP		**PKiKP**	**09 09 06.2**	**-0.6**
NACGM	**Naroch**	**101.78**	**325**	*e*P		**Pdif**	**09 04 45.9**	**-0.4**
MLR	**Muntele Rosu** comp=N,2.9nm,0.5s,baz=4.0,slow=6.7,SNR=3.7	**103.38**	**315**	PKiKP		**PKiKP**	**09 09 11.0**	**-0.4**
IDI	**Anoyia** comp=N,5.4nm,0.4s,baz=174,slow=4.4,SNR=9.2	**105.04**	**305**	PKiKP		**PKiKP**	**09 09 17.0**	**+2.3**
B05A	**Bryant** baz=280	**106.41**	**41**	PKiKP		**PKiKP**	**09 09 17.7**	**+1.0**
YKA	**Yellowknife Ar** comp=N,1.7nm,0.6s,baz=293,slow=4.6,SNR=34	**106.71**	**26**	Pdiff		**Pdif**	**09 05 07.7**	**-0.4**
YKA	comp=N,5.8nm,0.5s,baz=294,slow=1.8,SNR=103			PKiKP		**PKiKP**	**09 09 16.5**	**-0.4**
YKA	comp=N,0.3nm,0.4s,baz=114,slow=3.4,SNR=3.7			PKKPbc		**PKKPbc**	**09 20 35.9**	**-3.4**
YKA	comp=N,1.9nm,0.9s,baz=101,slow=4.3,SNR=8.0			PKKPab		**PKKPdf**	**09 20 51.2**	**+1.0**
M02C	**Callahan** baz=278	**106.94**	**49**	PKiKP		**PKiKP**	**09 09 19.2**	**+1.1**
N02D	**Trinity Center** baz=278	**107.11**	**49**	PKiKP		**PKiKP**	**09 09 19.5**	**+1.1**
O02D	**Mt. Diablo Mer** baz=277	**107.15**	**50**	PKiKP		**PKiKP**	**09 09 19.7**	**+1.2**
J04D	**Umpqua Nationa** baz=279	**107.22**	**47**	PKiKP		**PKiKP**	**09 09 19.3**	**+0.6**
L04D	**Klamath Falls** baz=278	**107.23**	**48**	PKiKP		**PKiKP**	**09 09 18.9**	**+0.3**
HFS	**Hagfors** comp=N,1.4nm,0.5s,baz=146,slow=10,SNR=3.5	**107.42**	**332**	PKiKP		**PKiKP**	**09 09 17.8**	**-0.5**
I05D	**Terrebonne, OR** baz=280	**107.60**	**45**	PKiKP		**PKiKP**	**09 09 20.0**	**+0.8**
J05D	**Fort Rock, OR** baz=279	**107.85**	**46**	PKiKP		**PKiKP**	**09 09 20.7**	**+0.9**
NB2	**NORSAR Subarra** comp=Z,4.3nm,0.8s,baz=70,slow=4.4	**108.23**	**333**	P		**Pdif**	**09 05 13.8**	**-1.2**
NB2	**NORSAR Subarra** baz=70,slow=4.4	**108.23**	**333**	P		**Pdif**	**09 05 13.8**	**-1.2**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=77,slow=4.3,SNR=5.1	**108.23**	**333**	Pdiff		**Pdif**	**09 05 13.5**	**-1.5**
NOA	comp=Z,0.4nm,0.6s,baz=46,slow=6.4,SNR=2.1			PKiKP		**PKiKP**	**09 09 20.4**	**+0.6**
NOA	comp=Z,0.9nm,0.7s,baz=234,slow=3.9,SNR=5.1			PKKPbc		**PKKPbc**	**09 20 32.0**	**-2.6**
KRLC	**Kraliky**	**108.68**	**321**	*e*PKP		**PKiKP**	**09 09 21.7**	**+0.7**
DPC	**Dobruska-Polom**	**108.90**	**321**	*e*PKP		**PKiKP**	**09 09 22.2**	**+0.8**
OSTC	**Ostas**	**108.91**	**322**	*e*PKP		**PKiKP**	**09 09 22.1**	**+0.7**
CHVC	**Chvalec**	**109.00**	**322**	*e*PKP		**PKiKP**	**09 09 22.1**	**+0.5**
NEW	**Newport** comp=Z,2.3nm,0.5s,baz=289,slow=2.6,SNR=9.0	**109.65**	**41**	PKiKP		**PKiKP**	**09 09 23.0**	**+0.1**
NEW	**Newport** baz=284	**109.65**	**41**	PKiKP		**PKiKP**	**09 09 22.9**	**0.0**
CONA	**Conrad Observa** comp=Z,2.0nm,0.4s	**109.80**	**319**	*e*P		**PKiKP**	**09 09 23.1**	**-0.1**
CONA	**Conrad Observa** comp=Z,2.3nm,0.5s	**109.80**	**319**	*e*P		**PKKPbc**	**09 20 27.5**	**-1.7**
SMMC	**Simmler** baz=278	**109.97**	**55**	PKiKP		**PKiKP**	**09 09 25.4**	**+1.6**
PRU	**Pruhonice**	**110.10**	**321**	*e*PKIKP		**PKiKP**	**09 09 24.1**	**+0.5**
PRU	**Pruhonice**	**110.10**	**321**	*e*PKP		**PKiKP**	**09 09 24.1**	**+0.5**
ARSA	**Arzberg** comp=Z,3.3nm,0.5s	**110.18**	**318**	*e*P		**PKiKP**	**09 09 23.8**	**-0.1**
PBCC	**Pribram**	**110.52**	**321**	*e*PKP		**PKiKP**	**09 09 24.9**	**+0.5**
CKRC	**Cesky Krumlov**	**110.56**	**320**	*e*PKP		**PKiKP**	**09 09 25.1**	**+0.5**
VES	**Vestal, Richgr** baz=278,SNR=5.7	**110.64**	**54**	PKiKP		**PKiKP**	**09 09 25.3**	**+0.2**
SOKA	**Soboth** comp=Z,1.6nm,0.4s	**110.65**	**318**	*e*P		**PKiKP**	**09 09 24.8**	**-0.1**
SOKA	comp=Z,5.9nm,1.4s			*e*S		**SKiKP**	**09 12 33.3**	**-0.3**
SOKA	**Soboth** comp=Z,2.7nm,0.6s	**110.65**	**318**	*e*P		**PKKPbc**	**09 20 24.8**	**-1.5**
CLL	**Collm**	**110.66**	**323**	*i*PKIKP		**PKiKP**	**09 09 24.2**	**-0.4**
CLL				*e*			09 15 39.0	
CLL	**Collm**	**110.66**	**323**	*i*PKiKP		**PKiKP**	**09 09 24.2**	**-0.4**
CLL				*e*PP		**PP**	**09 10 11.0**	**+5.3**
CLL				*e*SKSac		**SKSac**	**09 15 39.0**	**+1.4**
CLL				*e*SKKSac		**SKKSac**	**09 16 42.0**	**+2.5**
CLL				*e*Sdif		**Sdif**	**09 17 22.0**	**+4.9**
CLL				*e*SP		**SP**	**09 19 03.0**	**-3.8**
CLL				*e*PS		**PS**	**09 19 41.0**	**+0.8**
CLL				*e*SPP	SPP		09 20 20.0	
CLL				*ex*	x		09 22 18.0	
CLL				*e*SS		**SS**	**09 25 18.0**	**+5.2**
CLL				*e*sSS			09 26 48.0	
CLL				*e*SSS	SSS		09 29 24.0	
CLL				*ex*	x		09 30 30.0	
CLL				*e*SSSS			09 32 54.0	
BOJS	**Bojanci**	**110.79**	**317**	*i*PKiKP		**PKiKP**	**09 09 25.3**	**+0.2**
NVAR	**Mina Array Bea** comp=Z,1.0nm,0.8s,baz=289,slow=5.6,SNR=7.0	**110.85**	**51**	Pdiff		**Pdif**	**09 05 29.4**	**+2.0**
NVAR	comp=Z,1.5nm,0.6s,baz=261,slow=2.6,SNR=14			PKiKP		**PKiKP**	**09 09 26.7**	**+1.0**
NVAR	comp=Z,0.3nm,0.5s,baz=86,slow=5.5,SNR=4.3			PKKPbc		**PKKPbc**	**09 20 24.4**	**-1.1**
NVAR	comp=Z,2.6nm,0.9s,baz=114,slow=5.2,SNR=11			PKKPab		**PKKPab**	**09 20 35.8**	**+0.4**
MOA	**Molln** comp=Z,2.7nm,0.5s	**110.85**	**319**	*e*P		**PKiKP**	**09 09 24.9**	**-0.3**
MOA	**Molln** comp=Z,4.4nm,0.5s	**110.85**	**319**	*e*P		**PKKPbc**	**09 20 24.4**	**-1.2**
KHC	**Kasperske Hory**	**110.94**	**321**	*e*PKIKP		**PKiKP**	**09 09 25.6**	**+0.3**
KHC	**Kasperske Hory**	**110.94**	**321**	*e*PKP		**PKiKP**	**09 09 25.6**	**+0.3**
GERES	**GERESS Array B** comp=Z,4.6nm,0.5s,baz=55,slow=2.2,SNR=64	**110.94**	**320**	PKiKP		**PKiKP**	**09 09 25.4**	**0.0**
GERES	comp=Z,0.7nm,0.6s,baz=278,slow=3.6,SNR=7.4			PKKPbc		**PKKPbc**	**09 20 24.0**	**-1.5**
GERES	comp=Z,1.1nm,0.7s,baz=242,slow=2.9,SNR=7.6			PKKPab		**PKKPab**	**09 20 35.3**	**+0.6**
OBKA	**Obir** comp=Z,1.1nm,0.3s	**111.02**	**318**	*e*P		**PKiKP**	**09 09 25.5**	**-0.1**
OBKA	**Obir** comp=Z,4.1nm,0.7s	**111.02**	**318**	*e*P		**PKKPbc**	**09 20 24.2**	**-0.9**
LJU	**Ljubljana**	**111.15**	**317**	*i*PKiKP		**PKiKP**	**09 09 26.0**	**+0.2**
ISA	**Isabella, Lake** baz=279	**111.15**	**54**	PKiKP		**PKiKP**	**09 09 26.8**	**+0.7**
BIOA	**Bad Ischl, Aus** comp=Z,3.6nm,0.5s	**111.30**	**319**	*e*P		**PKiKP**	**09 09 25.7**	**-0.3**
BIOA	comp=Z,1.8nm,0.4s			*e*S		**SKiKP**	**09 12 34.5**	**-0.3**
BIOA	**Bad Ischl, Aus** comp=Z,3.8nm,0.5s	**111.30**	**319**	*e*P		**PKKPbc**	**09 20 22.7**	**-1.5**
CWC	**Cottonwood Cre** baz=279	**111.35**	**53**	PKiKP		**PKiKP**	**09 09 27.4**	**+0.8**
MYKA	**Terra Mystica** comp=Z,3.4nm,0.5s	**111.59**	**318**	*e*P		**PKiKP**	**09 09 26.0**	**-0.6**
MYKA	**Terra Mystica** comp=Z,7.5nm,0.6s	**111.59**	**318**	*e*P		**PKKPbc**	**09 20 22.3**	**-1.0**
EDW2	**Edwards Air Fo** baz=279	**111.66**	**55**	PKiKP		**PKiKP**	**09 09 28.0**	**+0.9**
KBA	**Koelnbreinsper** comp=Z,2.8nm,0.5s	**111.66**	**319**	*e*P		**PKiKP**	**09 09 26.0**	**-0.9**
KBA	**Koelnbreinsper** comp=Z,2.3nm,0.5s	**111.66**	**319**	*e*P		**PKKPbc**	**09 20 21.6**	**-1.5**
LRMC	**Laurel Mtn Rad** baz=279	**111.82**	**54**	PKiKP		**PKiKP**	**09 09 28.8**	**+1.3**
GRAC	**Grapevine Rang** baz=280	**111.82**	**52**	PKiKP		**PKiKP**	**09 09 28.5**	**+1.1**
MPMC	**Manual Prospec** baz=279,SNR=8.1	**111.88**	**53**	PKiKP		**PKiKP**	**09 09 28.7**	**+1.0**
BFSC	**Mount Baldy Ra** baz=278	**112.03**	**55**	PKiKP		**PKiKP**	**09 09 28.3**	**+0.4**
MSO	**Missoula** baz=286	**112.11**	**41**	PKiKP		**PKiKP**	**09 09 27.5**	**-0.1**
ABTA	**Abfaltersbach** comp=Z,7.1nm,0.5s,baz=6.1	**112.30**	**318**	*i*P		**PKiKP**	**09 09 27.5**	**-0.5**
ABTA	comp=Z,5.0nm,1.1s			*e*S		**SKiKP**	**09 12 36.4**	**-0.4**
ABTA	**Abfaltersbach** comp=Z,2.5nm,0.7s	**112.30**	**318**	*e*P		**PKKPbc**	**09 20 19.3**	**-1.6**
FURC	**Furnace Creek,** baz=280,SNR=5.9	**112.31**	**53**	PKiKP		**PKiKP**	**09 09 29.4**	**+1.3**
MURC	**Murrieta** baz=278	**112.50**	**56**	PKiKP		**PKiKP**	**09 09 29.7**	**+0.9**
GSC	**Goldstone, Bar** baz=280	**112.56**	**54**	PKiKP		**PKiKP**	**09 09 30.0**	**+1.1**
BBRC	**Big Bear Solar** baz=279	**112.63**	**55**	PKiKP		**PKiKP**	**09 09 30.1**	**+0.9**
HLID	**Hailey** baz=284	**112.65**	**45**	PKiKP		**PKiKP**	**09 09 30.2**	**+1.3**
TPNV	**Topopah Spring** baz=280	**112.71**	**52**	PKiKP		**PKiKP**	**09 09 30.1**	**+0.8**
ELK	**Elko** comp=Z,2.6nm,0.5s,baz=272,slow=2.2,SNR=24	**112.72**	**48**	PKiKP		**PKiKP**	**09 09 29.9**	**+0.8**
ELK	**Elko**	**112.72**	**48**	*i*PKIKP		**PKiKP**	**09 09 30.0**	**+0.8**
WTTA	**Wattenberg** comp=Z,49nm,0.5s,SNR=32	**112.73**	**319**	*i*P		**PKiKP**	**09 09 28.9**	**-0.1**
WTTA	comp=Z,7.3nm,0.7s			*e*S		**SKiKP**	**09 12 38.0**	**+0.3**
WTTA	**Wattenberg** comp=Z,3.1nm,0.6s	**112.73**	**319**	*e*P		**PKKPbc**	**09 20 20.5**	**+0.8**
WATA	**Walderalm** comp=Z,15nm,0.4s,SNR=9.3	**112.75**	**319**	*i*P		**PKiKP**	**09 09 28.8**	**-0.1**
WATA	comp=Z,7.2nm,1.0s			*e*S		**SKiKP**	**09 12 37.8**	**+0.1**
WATA	**Walderalm** comp=Z,3.5nm,0.6s	**112.75**	**319**	*e*P		**PKKPbc**	**09 20 19.7**	**+0.1**
R11A	**Troy Canyon, C** baz=282,SNR=8.7	**112.96**	**51**	PKiKP		**PKiKP**	**09 09 30.5**	**+0.9**
HEC	**Hector,Ludlow** baz=280	**113.01**	**55**	PKiKP		**PKiKP**	**09 09 30.8**	**+1.1**
SQTA	**Sankt Quirin** comp=Z,9.4nm,0.5s,SNR=8.8	**113.02**	**319**	*i*P		**PKiKP**	**09 09 29.6**	**+0.2**
SQTA	comp=Z,7.8nm,1.4s			*e*S		**SKiKP**	**09 12 38.6**	**+0.3**
SQTA	**Sankt Quirin** comp=Z,3.6nm,0.5s	**113.02**	**319**	*e*P		**PKKPbc**	**09 20 18.1**	**-0.5**
MOTA	**Moosalm** comp=Z,14nm,0.5s,SNR=7.6	**113.05**	**319**	*i*P		**PKiKP**	**09 09 29.3**	**-0.2**
MOTA	**Moosalm** comp=Z,6.8nm,1.3s	**113.05**	**319**	*e*P		**PKKPbc**	**09 20 15.8**	**-2.8**
PFO	**Pinyon Flats O** comp=Z,6.0nm,0.8s,baz=235,slow=3.2,SNR=8.5	**113.11**	**56**	PKiKP		**PKiKP**	**09 09 30.5**	**+0.5**
PFO	**Pinyon Flats O** baz=279,SNR=5.7	**113.11**	**56**	PKiKP		**PKiKP**	**09 09 31.1**	**+1.1**
TPFO	**Pinon Flats** baz=279,SNR=6.2	**113.11**	**56**	PKiKP		**PKiKP**	**09 09 30.9**	**+0.9**
RETA	**Reutte** comp=Z,4.9nm,0.4s,SNR=5.1	**113.22**	**320**	*i*P		**PKiKP**	**09 09 29.6**	**-0.1**
RETA	comp=Z,5.3nm,1.3s			*e*S		**SKiKP**	**09 12 38.7**	**+0.2**
RETA	**Reutte** comp=Z,4.2nm,0.8s	**113.22**	**320**	*e*P		**PKKPbc**	**09 20 16.3**	**-1.6**
TUQ	**Turquoise Moun** baz=280	**113.24**	**54**	PKiKP		**PKiKP**	**09 09 31.4**	**+1.2**
MONP2	**Monument Peak** baz=279,SNR=5.2	**113.25**	**57**	PKiKP		**PKiKP**	**09 09 31.7**	**+1.3**
FETA	**Feichten** comp=Z,6.4nm,0.5s,SNR=8.9	**113.39**	**319**	*i*P		**PKiKP**	**09 09 30.2**	**0.0**
FETA	comp=Z,5.6nm,1.2s			*e*S		**SKiKP**	**09 12 35.5**	**-3.5**
FETA	**Feichten** comp=Z,5.2nm,1.4s	**113.39**	**319**	*e*P		**PKKPbc**	**09 20 16.5**	**-0.9**
BELC	**Belle Mtn. Jos** baz=279,SNR=14	**113.42**	**55**	P		**PKiKP**	**09 09 31.9**	**+1.3**
IKP	**In-Ko-Pah, Jac** baz=279,SNR=5.1	**113.55**	**57**	P		**PKiKP**	**09 09 32.1**	**+1.3**
GMRC	**Granite Mounta** baz=280	**113.57**	**55**	P		**PKiKP**	**09 09 32.2**	**+1.4**
SWSC	**Sam W. Stewart** baz=279	**113.76**	**57**	P		**PKiKP**	**09 09 32.2**	**+1.1**
DAVA	**Damuels** comp=Z,24nm,0.4s,SNR=15	**113.86**	**320**	*i*P		**PKiKP**	**09 09 31.1**	**0.0**
DAVA	comp=Z,13nm,1.5s			*e*S		**SKiKP**	**09 12 40.4**	**+0.4**
DAVA	**Damuels** comp=Z,3.7nm,0.8s	**113.86**	**320**	*e*P		**PKKPbc**	**09 20 15.3**	**-0.5**
BC3	**Big Chuckawall** baz=280,SNR=7.9	**113.93**	**56**	P		**PKiKP**	**09 09 32.7**	**+1.2**
BOZ	**Bozeman (W)** baz=288	**114.00**	**42**	P		**PKiKP**	**09 09 32.3**	**+0.9**
DAVOX	**Davos/Dischmat** comp=Z,15nm,0.4s,baz=209,slow=2.7,SNR=52	**114.02**	**319**	PKP		**PKiKP**	**09 09 31.5**	**+0.1**
DAVOX	comp=Z,5.6nm,0.5s,baz=247,slow=6.5,SNR=17			PKKPbc		**PKKPbc**	**09 20 15.0**	**-0.4**
IRM	**Iron Mountain** baz=280,SNR=6.0	**114.10**	**55**	P		**PKiKP**	**09 09 33.1**	**+1.3**
EGMT	**Eagleton** baz=290	**114.44**	**39**	P		**PKiKP**	**09 09 32.3**	**+0.3**
DUG	**Dugway, Tooele** baz=284,SNR=10	**114.65**	**48**	P		**PKiKP**	**09 09 33.6**	**+0.8**
MEM	**Membach**	**115.04**	**324**	*d*PKPdf		**PKPdf**	**09 09 33.1**	**+0.1**
H17A	**Grant Village** baz=288	**115.08**	**43**	P		**PKPdf**	**09 09 35.8**	**+2.2**
BCLA	**Clavier**	**115.53**	**324**	*d*PKPdf		**PKiKP**	**09 09 34.2**	**+0.2**
BGES	**Gesves**	**115.67**	**324**	*d*PKPdf		**PKiKP**	**09 09 34.3**	**+0.1**
RCHB	**Rochefort**	**115.68**	**324**	*d*PKPdf		**PKiKP**	**09 09 34.8**	**+0.5**
RLMT	**Red Lodge** baz=289	**115.73**	**42**	P		**PKiKP**	**09 09 35.6**	**+0.8**
BMRD	**Maredsous**	**115.89**	**324**	*d*PKPdf		**PKiKP**	**09 09 34.8**	**+0.1**
DOU	**Dourbes**	**116.08**	**324**	*d*PKPdf		**PKiKP**	**09 09 35.4**	**+0.4**
SNF	**Seneffe**	**116.09**	**324**	*d*PKPdf		**PKiKP**	**09 09 35.5**	**+0.5**
BW06	**Boulder Array** baz=288	**116.28**	**45**	P		**PKiKP**	**09 09 36.2**	**+0.2**
PDAR	**Pinedale Array** comp=Z,4.1nm,0.7s,baz=270,slow=0.2,SNR=32	**116.28**	**45**	PKP		**PKiKP**	**09 09 36.0**	**0.0**
PDAR	comp=Z,2.2nm,0.4s,baz=116,slow=6.4,SNR=34			PKKPbc		**PKKPbc**	**09 20 06.0**	**-1.4**
PDAR	comp=Z,2.8nm,0.8s,baz=104,slow=6.3,SNR=12			PKKPab		**PKKPab**	**09 20 11.4**	**+0.1**
214A	**Organ Pipe Nat** baz=280	**116.42**	**57**	P		**PKiKP**	**09 09 37.1**	**+0.8**
WUAZ	**Wupatki** baz=283,SNR=14	**116.86**	**53**	P		**PKiKP**	**09 09 38.4**

baz=288,SNR=21
ANMO Albuquerque 120.90 52 PKP **PKiKP** 09 09 45.8 +0.7
comp=Z,10.0nm,0.7s,baz=239,slow=4.3,SNR=59
ANMO Albuquerque 120.90 52*c i* PKiKP **PKiKP** 09 09 45.9 +0.7
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 120.90 52 P **PKiKP** 09 09 46.0 +0.8
baz=286
ULM Lac du Bonnet 121.55 32 PKP **PKPdf** 09 09 44.8 -0.7
comp=Z,16nm,0.5s,baz=307,slow=1.6,SNR=28
ULM PKKPab **PKKPab** 09 19 46.6 -1.1
comp=Z,7.9nm,1.0s,baz=148,slow=4.1,SNR=6.2
T25A Trinidad 121.82 49 P **PKiKP** 09 09 47.7 +0.7
baz=289,SNR=22
KSCO Kaye Shedlock' 122.50 47 P **PKiKP** 09 09 48.7 +0.5
baz=292,SNR=5.8
AGMN Agassiz Nation 122.63 34 P **PKPdf** 09 09 46.6 -1.1
baz=303,SNR=6.1
MNTX Cornudas Mount 122.64 56 P **PKiKP** 09 09 49.2 +0.7
baz=285,SNR=15
SUSD Miller 122.73 40 P **PKPdf** 09 09 47.7 -0.3
baz=298
MSTX Muleshoe 124.10 52 P **PKiKP** 09 09 51.4 0.0
baz=288,SNR=17
ECSD EROS Data Cent 124.55 39 P **PKPdf** 09 09 51.1 -0.5
baz=300,SNR=24
BGNE Belgrade 124.65 42 P **PKPdf** 09 09 51.5 -0.4
baz=297,SNR=9.0
CBKS Cedar Bluff 124.65 46 P **PKiKP** 09 09 52.2 -0.1
baz=294,SNR=6.4
AMTX Amarillo 124.65 51 P **PKiKP** 09 09 52.6 +0.1
baz=290
TXAR Lajitas Array 124.67 58 PKP **PKiKP** 09 09 52.8 +0.1
baz=303,SNR=6.1
TXAR PKKPbc **PKKPbc** 09 19 35.4 -0.3
comp=Z,5.2nm,0.6s,baz=247,slow=1.7,SNR=19
comp=Z,0.8nm,0.4s,baz=118,slow=4.7,SNR=5.4
EYMN Ely 125.23 33 P **PKPdf** 09 09 52.7 0.0
baz=307,SNR=5.7
ESDC Sonseca Array 126.07 316 PKP **PKPdf** 09 09 54.7 +0.1
comp=Z,1.8nm,0.6s,baz=36,slow=2.3,SNR=16
ESDC PP **PP** 09 11 54.3 +2.3
comp=Z,1.1nm,1.0s,baz=59,slow=5.7,SNR=5.1
SPMN Marine on St. 126.08 36 P **PKPdf** 09 09 54.5 +0.1
baz=304,SNR=8.0
KSU1 Kansas State U 126.74 44 P **PKiKP** 09 09 56.2 -0.2
baz=297
PBRG Braganca 126.91 320 *e*PKPdf **PKiKP** 09 09 57.2 +0.5
WMOK Wichita Mounta 126.94 50 P **PKiKP** 09 09 56.8 -0.2
baz=292,SNR=13
ABTX Abilene, Hawle 127.01 53 P **PKiKP** 09 09 57.7 +0.6
baz=290
MVO Moncorvo 127.42 319 *e*PKPdf **PKiKP** 09 09 58.8 +1.0
JCT Junction City 127.57 56 P **PKiKP** 09 09 58.4 0.0
baz=288
SCIA State Center 127.63 40 P **PKiKP** 09 09 58.0 -0.1
baz=302
PCAB Cabril 127.78 320 *e*PKPdf **PKiKP** 09 09 59.3 +0.9
PGAV Gavieira, Arco 127.80 321 *e*PKPdf **PKiKP** 09 09 58.8 +0.3
POLO Lamas de Olo 127.81 320 *e*PKPdf **PKiKP** 09 09 59.6 +1.0
PVRL Vila Real 127.81 320 *e*PKPdf **PKiKP** 09 09 59.5 +1.0
TORD Torodi Ar. Bea 127.95 282 PKhKP PKPpre 09 09 45.1
comp=Z,0.3nm,0.4s,baz=85,slow=3.4,SNR=3.3
TORD PKP **PKPdf** 09 09 58.5 -0.2
comp=Z,13nm,0.6s,baz=62,slow=1.9,SNR=52
TORD SKPbc SKPbc 09 12 51.3
comp=Z,38nm,1.0s,baz=74,slow=3.0,SNR=32
TORD PKKPbc PKKPbc 09 19 22.5
comp=Z,1.4nm,0.7s,baz=292,slow=5.4,SNR=6.7
MTE Manteigas 128.14 318 *e*PKPdf **PKiKP** 09 10 00.1 +0.9
PVIS Viseu 128.21 319 *e*PKPdf **PKiKP** 09 10 00.2 +0.9
PCBR Castelo Branco 128.38 318 *e*PKPdf **PKiKP** 09 10 00.6 +1.0
PMRV Marv??o 128.53 317 *e*PKPdf **PKiKP** 09 10 00.7 +0.7
PMRV *i* LQ LQ 09 12 53.3
833A Chaparral WMA, 128.56 58 P **PKiKP** 09 10 01.3 +1.0
baz=287
TUL1 Leonard 128.71 48 P **PKiKP** 09 10 00.5 +0.1
baz=295,SNR=8.1
COI Coimbra 128.81 319 *e*PKPdf **PKiKP** 09 10 00.9 +0.4
PBAR Barrancos 128.89 316 *e*PKPdf **PKiKP** 09 10 00.5 -0.2
PBAR *i* LQ LQ 09 12 54.7
JFWS Jewell Farm 128.91 37 P **PKPdf** 09 09 60.0 +0.1
baz=305
PCAS Casmilo, Conde 128.95 319 *e*PKPdf **PKiKP** 09 10 01.5 +0.7
SCHQ Schefferville 129.15 12 PKP **PKPdf** 09 10 00.0 0.0
comp=Z,10nm,0.5s,baz=334,slow=2.2,SNR=45
SCHQ SKPbc SKPab 09 12 54.1 -0.1
comp=Z,13nm,0.6s,baz=348,slow=5.3,SNR=14
LCRM LCR 129.23 310 P SKPbc 09 12 58.0 +2.2
PMTG Montargil 129.26 317 *i* LQ LQ 09 12 55.6
MDT Midelt 129.37 308 P SKPbc 09 12 57.5 +1.2
EVO Evora 129.39 317 *e*PKPdf **PKiKP** 09 10 02.6 +0.9
EVO *i* LQ LQ 09 12 55.9
PBEJ Beja 129.53 316 *e*PKPdf **PKiKP** 09 10 01.7 -0.3
PBEJ *i* LQ LQ 09 12 57.2
CZD Col de Zad 129.62 309 P SKPbc 09 12 59.0 +1.5
PVAQ Vaqueiros 129.72 315 *e*PKPdf **PKPdf** 09 10 00.2 -1.4
PVAQ *i* LQ LQ 09 12 57.8
PVAQ Vaqueiros 129.72 315 P SKPbc 09 12 58.7 +1.4
PCVE Castro Verde 129.84 316 *e*PKPdf **PKiKP** 09 10 03.3 +0.7
PCVE *i* LQ LQ 09 12 58.3
PNCL Nicolau / Gran 129.95 316 *e*PKPdf **PKiKP** 09 10 03.5 +0.7
PNCL *i* LQ LQ 09 12 58.6
PBDV Barranco-do-Ve 129.95 315 *e*PKPdf **PKiKP** 09 10 05.1 +2.2
PBDV *i* LQ LQ 09 12 59.1
GOLM Goulmima 130.06 307 P **SKPbc** 09 13 01.0 +2.0
MORF Marmelete 130.42 316 *i* LQ LQ 09 13 00.5
PLCA Paso Flores 130.43 160 PKhKP PKPpre 09 09 48.9
comp=Z,1.2nm,0.8s,baz=253,slow=8.0,SNR=5.7
PLCA PKP **PKiKP** 09 10 03.4 -0.4
comp=Z,12nm,0.7s,baz=238,slow=2.8,SNR=20
PLCA SKPbc **SKPbc** 09 13 00.0 0.0
comp=Z,13nm,0.9s,baz=211,slow=4.5,SNR=10
W39A Magazine 130.50 48 P **PKPdf** 09 10 03.3 +0.2
baz=296,SNR=10.0
PFVI Vila Bisbo 130.63 315 *e*PKPdf **PKiKP** 09 10 05.6 +1.4
PFVI *i* LQ LQ 09 13 01.4
U40A Yellville 130.64 46 P **PKPdf** 09 10 03.1 -0.2
baz=298,SNR=12
ZHG ZHG 130.69 310 P **SKPbc** 09 13 02.0 +0.8
L44A Lake County Fo 130.74 37 P **PKPdf** 09 10 03.3 0.0
baz=307
HDIL Hopedale 130.85 39 P **PKPdf** 09 10 03.8 +0.1
baz=305
TZRR Tazzarine 130.88 306 P **SKPbc** 09 13 03.0 +0.9
GLMI Grayling 130.88 32 P **PKPdf** 09 10 03.4 -0.2
baz=312
CCM Cathedral Cave 130.93 43 P **PKPdf** 09 10 03.8 0.0
baz=301
ZGR Zagora 131.16 306 P **SKPbc** 09 13 04.0 +0.9
X40A Basin Creek Fa 131.51 48 P **PKiKP** 09 10 05.9 -0.1
baz=297
W41B Gary Mavity, V 131.63 47 P **PKPdf** 09 10 05.3 0.0
baz=298
OUZM OUZ 131.79 307 P **SKPbc** 09 13 06.0 +0.6
Z41A Richland Creek 132.08 49 P **PKiKP** 09 10 06.9 -0.3
baz=296
SFIN Lafayette 132.31 38 P **PKiKP** 09 10 07.0 -0.5
baz=307
KOWA Kowa 133.37 285 P **SKPbc** 09 13 11.0 0.0
O48B Farmland 133.56 37 P **PKPdf** 09 10 08.8 +0.1
baz=309,SNR=6.8
WCI Wyandotte Cave 134.09 40 P **PKiKP** 09 10 10.8 -0.3
baz=306
WVT Waverly 134.26 43 P **PKiKP** 09 10 11.2 -0.4
baz=303
VBMS Vicksburg 134.26 49 P **PKiKP** 09 10 11.8 +0.1
baz=297
P49A Miami Univ. Ec 134.28 37 P **PKPdf** 09 10 10.2 0.0
baz=309
KIC Kosan Boka 134.41 273 *e*PKIKP **PKiKP** 09 10 12.7 +0.2
comp=Z,24nm,0.5s
KIC Kosan Boka 134.41 273 *e*PKP2 **SKPbc** 09 13 13.6 -0.9
comp=Z,137nm,1.1s
DBIC Dimbokro 134.53 274 PKhKP PKPpre 09 09 58.6
comp=Z,3.7nm,0.4s,baz=107,slow=3.2,SNR=8.6
DBIC PKP **PKPdf** 09 10 11.5 +0.2
comp=Z,14nm,0.4s,baz=99,slow=1.8,SNR=26
DBIC SKPbc **SKPbc** 09 13 14.5 -0.3
comp=Z,55nm,1.0s,baz=102,slow=3.9,SNR=17
LIC Lamto 134.69 273 *e*PKIKP **PKiKP** 09 10 13.2 +0.1
comp=Z,62nm,0.4s
LIC Lamto 134.69 273 *e*PKP2 **SKPbc** 09 13 14.6 -0.8
comp=Z,285nm,1.3s
TIC Toumodi 134.69 274 *e*PKIKP **PKiKP** 09 10 13.2 +0.1
TIC Toumodi 134.69 274 *e*PKP2 **SKPbc** 09 13 14.7 -0.7
ACSO Alum Creek Sta 134.85 35 P **PKPdf** 09 10 11.2 0.0
baz=311,SNR=5.9
M53A WI Miller and 135.31 32 P **PKiKP** 09 10 12.9 -0.6
baz=315
P52A Corning 135.74 35 P **PKiKP** 09 10 14.2 -0.3
baz=312,SNR=6.2
LONY Lake Ozonia 135.78 25 P **PKiKP** 09 10 14.0 -0.5
baz=324
M54A Oil Creek Stat 135.79 32 P **PKPdf** 09 10 12.9 0.0
baz=316,SNR=8.8
N54A Moraine State 136.01 32 P **PKPdf** 09 10 14.0 +0.7
baz=315
LRAL Lakeview Retre 136.47 46 P **PKPdf** 09 10 14.6 +0.2
baz=301
TZTN Tazewell 136.85 40 P **PKPdf** 09 10 15.7 +0.6
baz=308
BINY Binghamton 137.09 28 P **PKPdf** 09 10 15.5 +0.1
baz=321
O56A Blue Knob Stat 137.26 32 P **PKPdf** 09 10 16.1 +0.4
baz=316
SSPA Standing Stone 137.35 31 P **PKPdf** 09 10 16.0 +0.2
baz=318
BLA Blacksburg 138.35 37 P **PKPdf** 09 10 17.8 -0.1
baz=312
L61B Northampton 138.35 25 P **PKPdf** 09 10 17.5 -0.1
baz=326
KMSC Kings Mountain 139.12 40 P **PKPdf** 09 10 19.7 +0.5
baz=309
TIGA Tifton 139.76 46 P **PKPdf** 09 10 20.7 +0.2
baz=303
VCA Vinchina 141.92 154 *e*P **PKPdf** 09 10 20.6 -4.0
TGUH Tegucigalpa,Un 142.92 74 *e*P **PKPdf** 09 10 24.0 -2.7
PB14 IPOC Station P 144.33 148 *e*P **PKPdf** 09 10 28.8 -0.4
PB10 IPOC Station P 145.15 147 *e*P **PKPab** 09 10 30.7 -0.1
JTS Las Juntas de 145.65 80 PKPbc **PKPab** 09 10 33.0 0.0
comp=Z,246nm,0.6s,baz=22,slow=1.7,SNR=221
JTS Las Juntas de 145.65 80 PKP2 **PKPab** 09 10 33.0 0.0
JTS Las Juntas de 145.65 80 *e*P **PKPdf** 09 10 31.7 +0.3
PB15 IPOC Station P 145.98 148 *e*P **PKPab** 09 10 34.0 +0.2
PB04 IPOC Station P 146.31 146 *e*P **PKPab** 09 10 35.0 -0.4
PB06 IPOC Station P 146.33 147 *e*P **PKPbc** 09 10 33.6 -0.6
PB07 IPOC Station P 146.94 146 *e*P **PKPdf** 09 10 34.4 +0.9
PB09 IPOC Station P 147.24 147 *e*P **PKPbc** 09 10 35.8 -1.0
CPUP Villa Florida 147.64 169 PKPbc **PKPbc** 09 10 37.7 +0.3
comp=Z,53nm,0.5s,baz=189,slow=1.8,SNR=147
CPUP SKPbc **SKPbc** 09 13 48.6 -0.1
comp=Z,8.4nm,0.7s,baz=104,slow=3.1,SNR=3.0
TA01 Diego Aracena 147.68 144 *e*P **PKPbc** 09 10 38.1 +0.4
BRU2 Volcan 147.99 82 *e*P **PKPdf** 09 10 36.7 +1.2
NNA Nana 148.61 124*c i* PKHKP PKPpre 09 10 36.4
NNA pmax pmax
comp=Z,275nm,1.3s
PB08 IPOC Station P 148.61 145 *e*P **PKPdf** 09 10 37.8 +1.1
PB11 IPOC Station P 148.62 144 *e*P **PKPdf** 09 10 36.9 +0.6
PB12 IPOC Station P 149.09 141 *e*P **PKPbc** 09 10 41.7 +0.2
GMAL Guarumal, Vera 149.48 84 *e*P **PKPdf** 09 10 34.2 -3.5
PB16 IPOC Station P 149.80 142 *e*P **PKiKP** 09 10 44.9 +0.2
CACAO El Cacao, Vera 149.87 85 *e*P **PKPbc** 09 10 43.4 0.0
AZU Azuero 150.43 84 *e*P **PKPbc** 09 10 44.6 -0.1
BCIP Isla Barro Col 150.77 81 *e*P **PKPdf** 09 10 38.8 -0.9
MTDJ Mount Denham 150.83 62 *e*P **PKPbc** 09 10 45.3 -0.4
UPA Univ. de Panam 151.09 82 *e*P **PKPbc** 09 10 44.9 -1.4
OTAV Otavalo 151.68 100 *e*P **PKPdf** 09 10 42.4 +0.7
CUSE Cuicocha Este 151.75 100 *e*P **PKiKP** 09 10 48.7 0.0
GTBY Guantanamo Bay 152.20 57 *e*P **PKPbc** 09 10 48.7 +0.1
LPAZ La Paz 152.21 142 PKP **PKPdf** 09 10 43.4 +0.9
comp=Z,6.2nm,1.0s,baz=272,slow=1.8,SNR=15
LPAZ PKPbc **PKiKP** 09 10 49.7 0.0
comp=Z,27nm,0.5s,baz=204,slow=2.9,SNR=42
LPAZ La Paz 152.21 142 *e*P **PKPbc** 09 10 46.2 -3.3
GR1C Gorgona, Isla 152.38 94 *e*P **PKPbc** 09 10 48.8 -0.4
UPD2 Meteti 152.62 82 *e*P **PKiKP** 09 10 50.2 +0.3
PTAC Punta Ardita, 152.90 85 *e*P **PKPbc** 09 10 49.1 -1.2
GCUF Volcan Galeras 152.95 98 *e*P **PKPdf** 09 10 44.8 +1.2
POPC Popayan, Colom 153.81 96 *e*P **PKPdf** 09 10 43.9 -0.6
YOTC Yotoco, Valle 154.28 92 *e*P **PKPdf** 09 10 44.3 -0.7
PLMC San Jos del P 154.40 90 *e*P **PKPdf** 09 10 45.9 +0.8
FLOC Florencia 154.68 98 *e*P **PKPdf** 09 10 44.6 -0.9
CBOC Ciudad Bolivar 154.70 88 *e*P **PKPdf** 09 10 45.8 +0.1
BETC Betania 155.05 96 *e*P **PKPdf** 09 10 47.1 +1.1
UREC San Jos de Ur 155.12 84 *e*P **PKPdf** 09 10 45.9 -0.1
HELC Santa Helena 155.18 87 *e*P **PKPdf** 09 10 45.6 -0.9
PTLC Puerto Leguiza 155.24 102 *e*P PKPdf 09 10 55.6 +9.4
ANIL Santa Ana 155.25 91 *e*P **PKPdf** 09 10 46.8 +0.2
SJCC San Jacinto, C 155.25 78 *e*P **PKPdf** 09 10 46.9 +0.7
GUY2C Guyana, Caldas 155.33 90 *e*P **PKPdf** 09 10 47.0 +0.1
ORTC Ortega, Tolima 155.37 93 *e*P **PKPdf** 09 10 46.2 -0.1
SDDR Presa de Saban 155.81 55 *e*P PKPdf 09 10 56.0 +9.2
ZARC Zaragoza, Cauc 155.81 84 *e*P **PKPdf** 09 10 46.4 -0.5
NORC Norcasia 155.83 89 *e*P **PKPdf** 09 10 49.5 +2.5
PTBC PUERTO BERRIO 156.24 86 *e*P **PKPdf** 09 10 46.4 -1.1
ROSC El Rosal 156.35 91 PKP **PKPdf** 09 10 47.3 -0.8
comp=Z,6.3nm,0.4s,baz=112,slow=6.2,SNR=5.6
ROSC PKPab **PKPab** 09 11 19.2 +1.3
comp=Z,49nm,0.7s,baz=290,slow=3.2,SNR=11
ROSC El Rosal 156.35 97 *e*P PKPdf 09 10 58.7 +11
MACC Macarena, Meta 156.55 97 *e*P **PKPdf** 09 10 47.6 -0.4
SPBC San Pablo de B 156.62 89 *e*P **PKPdf** 09 10 47.8 -0.3
CHIC Chingaza 156.93 91 *e*P **PKPdf** 09 10 48.3 -0.6
OCAC Ocana 157.27 82 *e*P **PKPdf** 09 10 48.7 -0.3
BARC Barichara 157.50 86 *e*P PKPdf 09 10 39.5 -10
RUSC La Rusia 157.61 88 *e*P **PKPdf** 09 10 48.2 -1.6
PAMC Pamplona, Colo 157.95 84 *e*P **PKPdf** 09 10 50.3 +0.1
TBTG Tabatinga, AM 158.41 116 *e*P **PKPdf** 09 10 50.5 +0.3
PTGC Puerto Gaitan, 158.49 93 *e*P **PKPdf** 09 10 46.7 -3.6
BDFB Brasilia 158.79 187 PKP **PKPdf** 09 10 50.7 0.0
comp=Z,3.6nm,0.6s,baz=189,slow=2.2,SNR=6.7
BDFB PKPab **PKPab** 09 11 27.9 +0.3
comp=Z,4.9nm,0.6s,baz=205,slow=2.1,SNR=4.9
DABV Dabajuro 159.46 74 *e*P **PKPab** 09 11 29.7 -1.1
SOCV Scoops 159.69 81 *e*P **PKPdf** 09 10 50.2 -1.5
SDV Santo Domingo 159.84 79 *e*P **PKPdf** 09 10 51.7 -0.4

AEIC ***19*** *09:19:34.±1.6, 51.°52N±0.°06×173.°50W±0.°05, h30km±7km, ML2.9, Error ellipse: s-maj=9.5km s-min=4.6km az=191.0*
NEIC ***19*** *09:19:34.4±1.0, 51.°58N±0.°08×173.°51W±0.°05, h21km±13km, Error ellipse: s-maj=11.4km s-min=4.0km az=191.0*
IDC ***19*** *09:19:54.6±12.0, 52.°15N×173.°37W, h197km±99km, mb2.8/4, mb1 3.1/6, mb1mx2.9/61, mbtmp3.5/6, Error ellipse: s-maj=99.7km s-min=30.4km az=11.0*
ISC 19 09:19:36.3±1.0, 51.°6N±0.°1×173.°49W±0.°04, h37km, n24,
σ1§00/28, mb3.4/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.76**	**325**		**Pn**	**09 19 49.6**	**-0.7**
ATKA					**Sn**	**09 20 00.6**	**+0.1**
KOFP	**Korovin Flat P**	**0.79**	**332**		**Pn**	**09 19 50.6**	**-0.2**
GSMY	**Great Sitkin M**	**1.66**	**287**		**Pn**	**09 20 02.1**	**-0.6**
GSMY					**Sn**	**09 20 24.4**	**+1.6**
GSTK	**Great Sitkin C**	**1.71**	**285**		**Pn**	**09 20 03.0**	**-0.5**
GSTD	**Great Sitkin T**	**1.71**	**287**		**Pn**	**09 20 02.7**	**-0.9**
GSTD					**Sn**	**09 20 25.5**	**+1.2**
ADAG	**Mount Adagdak**	**1.97**	**283**		**Pn**	**09 20 07.1**	**0.0**
ADK	**Adak**	**2.01**	**280**		**Pn**	**09 20 06.5**	**-1.0**
ADK	**Adak**	**2.01**	**280**	Pn	**Pn**	**09 20 05.8**	**-1.7**
KIWB	**Kanaga Island**	**2.29**	**278**		**Pn**	**09 20 10.3**	**-1.2**
KIMD	**Kanaga Island**	**2.34**	**276**		**Pn**	**09 20 11.5**	**-0.6**
TAPA	**Tanaga Point A**	**2.70**	**277**		**Pn**	**09 20 16.7**	**-0.5**
TAFL	**Tanaga Flats**	**2.75**	**275**		**Pn**	**09 20 17.3**	**-0.4**
TAFP	**Tanaga Falls P**	**2.81**	**278**		**Pn**	**09 20 18.4**	**-0.2**
TAFP					**Sn**	**09 20 52.9**	**+1.7**
TASE	**Tanaga Southea**	**2.84**	**277**		**Pn**	**09 20 18.9**	**-0.2**
NIKH	**Nikolski High**	**3.17**	**62**		**Pn**	**09 20 22.5**	**-1.0**
NIKH	**Nikolski High**	**3.17**	**62**		**Sn**	**09 21 01.9**	**+2.0**
UNV	**Unalaska Valle**	**4.81**	**59**	Pn	**Pn**	**09 20 45.2**	**-0.8**
KDAK	**Kodiak Island**	**13.56**	**55**	P	**P**	**09 22 55.2**	**+1.0**
	1.0nm,0.3s,baz=255,slow=1.8,SNR=14						
KDAK	**Kodiak Island**	**13.56**	**55**		**Pn**	**09 22 45.0**	**-0.7**
ILAR	**Eielson Array**	**19.06**	**36**	P	**Pn**	**09 23 55.4**	**-0.6**
	0.3nm,0.3s,baz=225,slow=9.1,SNR=20						
YKA	**Yellowknife Ar**	**32.66**	**47**	P	**P**	**09 26 04.7**	**+0.4**
	0.1nm,0.4s,baz=276,slow=7.9,SNR=2.5						
PDAR	**Pinedale Array**	**43.06**	**76**	P	**P**	**09 27 32.8**	**+0.3**
	0.2nm,0.6s,baz=305,slow=5.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.33**	**316**	P	**P**	**09 29 47.0**	**-0.7**
	0.3nm,0.6s,baz=49,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**62.45**	**311**	P	**P**	**09 29 54.1**	**-1.2**
	0.2nm,0.3s,baz=45,slow=5.2,SNR=4.5						

IDC ***19*** *09:20:53.2±4.3, 22.°99N×94.°01E, h83km±39km, mb3.3/6, mb1 3.4/7, mb1mx3.1/59, mbtmp3.6/7, Error ellipse: s-maj=63.7km s-min=16.6km az=60.0*
ISC 19 09:20:50.8±1.3, 23.°0N±0.°2×93.°9E±0.°3, h58km, n7, σ1§04/7, mb3.6/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.56**	**133**	P	**Pn**	**09 22 25.6**	**+0.9**
	2.8nm,0.3s,baz=313,slow=13,SNR=16						
MKAR	**Makanchi Array**	**25.52**	**341**	P	**P**	**09 26 14.7**	**+0.9**
	1.8nm,0.7s,baz=148,slow=10,SNR=20						
SONM	**Songino Array**	**26.74**	**19**	P	**P**	**09 26 24.3**	**-0.6**
	0.4nm,0.5s,baz=202,slow=11,SNR=2.8						
KURBB	**Kurchatov Arra**	**30.06**	**340**	P	**P**	**09 26 54.8**	**+0.5**
	0.3nm,0.2s,baz=158,slow=7.6,SNR=0.9						
AKASG	**Malin Array Be**	**56.58**	**316**	P	**P**	**09 30 27.4**	**-0.1**
	0.2nm,0.3s,baz=85,slow=6.1,SNR=2.5						
WRA	**Warramunga Arr**	**58.15**	**134**	P	**P**	**09 30 37.6**	**-1.3**
	0.2nm,0.5s,baz=321,slow=7.6,SNR=8.0						
ASAR	**Alice Springs**	**60.54**	**137**	P	**P**	**09 30 54.8**	**-0.6**
	0.3nm,0.6s,baz=319,slow=7.1,SNR=7.6						

IDC ***19*** *09:41:27.2±0.6, 52.°95N×168.°23W, h0km, mb4.1/29, mb1 4.3/30, mb1mx4.3/42, mbtmp4.1/30, ML3.9/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/100, Error ellipse: s-maj=18.6km s-min=11.6km az=173.0*
AEIC ***19*** *09:41:32±2.5, 52.°78N±0.°07×168.°13W±0.°06, h26km±4km, ML4.2, mb3.9/41(NEIC), Error ellipse: s-maj=10.4km s-min=4.4km az=160.0*
NEIC ***19*** *09:41:33.6±2.1, 52.°86N±0.°08×168.°20W±0.°06, h40km±6km, Error ellipse: s-maj=12.2km s-min=4.6km az=164.0*
ISC 19 09:41:34.0±0.5, 52.°87N±0.°08×168.°19W±0.°05, h49km, n157, σ1§08/157, mb4.2/43, MS3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**284**	Pg	**Pn**	**09 41 42.8**	**-1.4**
NIKH				Sg	**Sn**	**09 41 50.4**	**-1.1**
OKTU	**Okmok Mt. Tuli**	**0.52**	**10**		**Pn**	**09 41 45.1**	**-0.4**
MGOD	**Makushin Gods**	**1.21**	**40**		**Pn**	**09 41 54.0**	**-0.6**
MREP	**Makushin Rep't**	**1.27**	**42**		**Pn**	**09 41 54.7**	**-0.8**
MREP					**Sn**	**09 42 11.2**	**-0.3**
MSW	**Makushin Switc**	**1.34**	**38**		**Pn**	**09 41 55.6**	**-0.7**
MSW					**Sn**	**09 42 13.2**	**+0.3**
MNAT	**Makushin Natee**	**1.35**	**41**		**Pn**	**09 41 56.0**	**-0.5**
UNV	**Unalaska Valle**	**1.40**	**45**	Pn	**Pn**	**09 41 56.3**	**-0.8**
UNV	**Unalaska Valle**	**1.40**	**45**		**Sn**	**09 42 13.9**	**-0.5**
MTBL	**Makushin Table**	**1.42**	**39**		**Pn**	**09 41 57.4**	**0.0**
AKRB	**Akutan Reef Bi**	**1.78**	**44**		**Pn**	**09 42 02.8**	**+0.4**
AKRB					**Sn**	**09 42 26.1**	**+2.3**
ZRO	**Akutan Zero**	**1.80**	**46**		**Pn**	**09 42 02.2**	**-0.3**
AKGG	**Akutan Green G**	**1.86**	**44**		**Pn**	**09 42 04.1**	**+0.7**
AKUT	**Akutan**	**1.92**	**48**		**Pn**	**09 42 03.7**	**-0.4**
AKSA	**Akutan Strait**	**1.95**	**49**		**Pn**	**09 42 03.8**	**-0.8**
WESE	**West Dahl East**	**2.67**	**52**		**Pn**	**09 42 14.6**	**0.0**
SSLN	**Shishaldin Nor**	**3.15**	**50**		**Pn**	**09 42 22.1**	**+1.0**
BRPK	**Brown Peak**	**3.18**	**54**		**Pn**	**09 42 22.2**	**+0.7**
FALS	**False Pass**	**3.45**	**53**	Pn	**Pn**	**09 42 24.0**	**-1.1**
KOFP	**Korovin Flat P**	**3.66**	**263**		**Pn**	**09 42 29.1**	**+1.1**
KOKL	**Mount Kliuchef**	**3.71**	**264**		**Pn**	**09 42 29.7**	**+0.9**
ATKA	**Atka Island**	**3.73**	**262**		**Pn**	**09 42 29.5**	**+0.5**
SPIA	**Saint Paul Isl**	**4.47**	**345**	Pn	**Pn**	**09 42 41.7**	**+2.6**
GSTD	**Great Sitkin T**	**4.94**	**264**		**Pn**	**09 42 46.7**	**+1.1**
GSCK	**Great Sitkin C**	**4.96**	**263**		**Pn**	**09 42 46.8**	**+0.9**
SDPT	**Sand Point**	**5.17**	**58**	Pn	**Pn**	**09 42 46.5**	**-2.2**
ADK	**Adak**	**5.30**	**263**	Pn	**Pn**	**09 42 51.4**	**+0.9**
KIWB	**Kanaga Island**	**5.59**	**263**	Pn	**Pn**	**09 42 56.5**	**+2.0**
KIMD	**Kanaga Island**	**5.66**	**262**		**Pn**	**09 42 56.6**	**+1.1**
TASE	**Tanaga Southea**	**6.13**	**264**		**Pn**	**09 43 03.3**	**+1.4**
OHAK	**Old Harbor**	**9.59**	**57**	Pn	**Pn**	**09 43 47.6**	**-1.6**
KDAK	**Kodiak Island**	**10.15**	**55**	Pn	**Pn**	**09 43 55.5**	**-1.3**
	1.0nm,0.3s,baz=232,slow=6.5,SNR=21						
KDAK				Sn	**Sn**	**09 45 44.8**	**-4.3**
	0.3nm,0.3s,baz=38,slow=8.6,SNR=1.3						
KDAK	**Kodiak Island**	**10.15**	**55**	Pn	**Pn**	**09 43 55.7**	**-1.2**
SVW2	**Sparrevohn**	**10.71**	**35**	Pn	**Pn**	**09 44 06.5**	**+1.9**
SHEM	**Shemya Is, Ala**	**10.73**	**276**	LR	LR	09 47 40.4	
	comp=Z,138nm,22.0s,baz=72,slow=35						
CNPM	**China Poot**	**11.53**	**48**	Pn	**Pn**	**09 44 14.4**	**-1.3**
L19K	**White Mountain**	**11.74**	**32**	Pn	**Pn**	**09 44 18.2**	**-0.3**
BRLK	**Bradley Lake**	**11.80**	**47**	Pn	**Pn**	**09 44 21.3**	**+1.9**
ANM	**Nome**	**11.81**	**6**	Pn	**Pn**	**09 44 22.7**	**+2.7**
SEW	**Seward**	**12.60**	**48**	Pn	**Pn**	**09 44 28.6**	**-1.6**
TNA	**Tin City**	**12.73**	**0**	Pn	**Pn**	**09 44 33.5**	**+1.5**
RC01	**Rabbit Creek A**	**12.96**	**43**	Pn	**Pn**	**09 44 35.3**	**+0.2**
PWL	**Port Wells**	**13.44**	**46**	Pn	**Pn**	**09 44 40.5**	**-1.2**
J20K	**Nowinta River**	**13.45**	**27**	Pn	**Pn**	**09 44 43.3**	**+2.4**
CUT	**Chulitna**	**13.48**	**38**	Pn	**Pn**	**09 44 40.0**	**-2.3**
GHO	**Glory Hole Cre**	**13.65**	**42**	Pn	**Pn**	**09 44 42.8**	**-1.9**
KNK	**Knik Glacier**	**13.65**	**43**	Pn	**Pn**	**09 44 45.1**	**+0.4**
TRF	**Thorofare Moun**	**14.13**	**34**	Pn	**Pn**	**09 44 52.4**	**+1.1**
SCM	**Sheep Creek Mo**	**14.33**	**43**		**Pn**	**09 44 54.0**	**+0.2**
M24K	**Tolsona, Glenn**	**14.94**	**43**		**Pn**	**09 45 00.6**	**-1.2**
IMAR	**Indian Mountai**	**15.00**	**23**	Pn	**Pn**	**09 45 03.3**	**+0.8**
BMRM	**Bremner River**	**15.14**	**48**	Pn	**Pn**	**09 45 04.0**	**-0.4**
N25K	**Chitina, Valde**	**15.39**	**46**		**Pn**	**09 45 06.9**	**-0.8**
WRH	**Wood River Hil**	**15.54**	**34**	Pn	**Pn**	**09 45 10.3**	**+0.9**
WRH				IAmb	IAmb	09 45 35.5	
	comp=Z,7.0nm,1.2s						
GLB	**Gilahina Butte**	**15.67**

comp=Z,6.3nm,0.8s,baz=234,slow=11,SNR=18
INK PcP **PcP** 09 50 21.5 +0.5
comp=Z,2.1nm,0.9s,baz=256,slow=1.7,SNR=4.0
SEY Seymchan 22.87 312 P **P** 09 46 32.4 -0.4
comp=Z,2.9nm,0.5s,baz=94,slow=11,SNR=10
MA2 Magadan 23.47 303 P **P** 09 46 37.7 -1.1
comp=Z,3.2nm,0.5s,baz=89,slow=12,SNR=5.6
MA2 LR LR 09 55 04.6
comp=Z,40nm,19.9s,baz=314,slow=35
A36M Sachs Harbour 26.63 28 P **P** 09 47 07.9 +0.5
A36M IAmb IAmb 09 47 23.9
comp=Z,3.8nm,0.8s
LLLB Lillooet 28.38 76 P **P** 09 47 24.2 +0.9
LLLB IAmb IAmb 09 47 32.4
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 29.36 50 P **P** 09 47 31.5 -0.4
comp=Z,0.9nm,0.6s,baz=274,slow=7.7,SNR=21
YKA PcP **PcP** 09 50 37.4 +0.6
comp=Z,1.5nm,0.7s,baz=279,slow=2.5,SNR=19
YKA Yellowknife Ar 29.36 50 P **P** 09 47 31.6 -0.3
TIXI Tiksi 32.68 329 P **P** 09 48 01.1 +0.1
comp=Z,0.8nm,0.4s,baz=92,slow=24,SNR=1.9
TIXI PcP **PcP** 09 50 45.5 +0.1
comp=Z,2.2nm,0.7s,baz=274,slow=21,SNR=7.5
RES Resolute Bay 35.60 26 P **P** 09 48 25.2 -1.0
comp=Z,0.7nm,0.8s,baz=225,slow=8.6,SNR=2.2
RES PcP **PcP** 09 50 53.9 +0.1
comp=Z,0.7nm,0.6s,baz=109,slow=0.6,SNR=5.8
RES Resolute Bay 35.60 26 P **P** 09 48 26.2 0.0
RES IAmb IAmb 09 48 26.4
comp=Z,2.0nm,1.1s
NVAR Mina Array Bea 36.96 93 P **P** 09 48 40.0 +1.5
comp=Z,0.4nm,0.7s,baz=291,slow=7.7,SNR=5.2
NVAR PcP **PcP** 09 50 59.6 +0.8
comp=Z,0.6nm,0.6s,baz=284,slow=2.1,SNR=5.2
KLR Kul'dur 36.97 289 LR LR 10 04 01.7
comp=Z,56nm,20.2s,baz=68,slow=37
YHH Holmes Hill 37.69 79 P **P** 09 48 45.2 +0.5
YHH IAmb IAmb 09 48 45.7
comp=Z,2.4nm,0.8s
H11N2 WAKE ISLAND Hy 38.30 220 T T 10 29 53.0
baz=24,slow=76,SNR=845
H11N3 WAKE ISLAND Hy 38.31 220 T T 10 29 53.6
baz=24,slow=76,SNR=690
H11N1 WAKE ISLAND Hy 38.32 220 T T 10 29 55.5
baz=24,slow=76,SNR=520
H11S1 WAKE ISLAND Hy 39.49 219 T T 10 31 22.5
baz=24,slow=76,SNR=2286
H11S2 WAKE ISLAND Hy 39.50 219 T T 10 31 16.0
baz=24,slow=76,SNR=1020
H11S3 WAKE ISLAND Hy 39.50 219 T T 10 31 23.8
baz=24,slow=76,SNR=759
PDAR Pinedale Array 39.60 81 P **P** 09 49 00.9 +0.2
comp=Z,1.0nm,0.8s,baz=333,slow=2.5,SNR=11
FCC Fort Churchill 40.06 51 P **P** 09 49 04.7 +0.8
MJAR Matsushiro Arr 40.44 268 P **P** 09 49 07.2 -0.2
comp=Z,1.9nm,0.7s,baz=37,slow=7.9,SNR=4.7
MJAR Matsushiro Arr 40.44 268 IAmb IAmb 09 49 26.2
comp=Z,2.5nm,0.9s
KSRS Korea Array 46.06 277 P **P** 09 49 52.7 0.0
comp=Z,0.9nm,0.5s,baz=53,slow=7.5,SNR=5.6
NRIK Noril'sk 46.32 332 P **P** 09 49 55.2 +0.9
comp=Z,1.6nm,0.6s,baz=75,slow=12,SNR=4.1
SONM Songino Array 51.66 301 P **P** 09 50 35.1 -0.5
comp=Z,1.5nm,0.9s,baz=69,slow=6.3,SNR=7.1
SONM PcP **PcP** 09 51 48.1 -0.5
comp=Z,1.2nm,0.6s,baz=47,slow=2.4,SNR=7.7
SONM Songino Array 51.66 301 P **P** 09 50 35.6 0.0
TX31 Lajitas Ar. Si 52.02 90 P **P** 09 50 38.8 +0.2
TXAR Lajitas Array 52.02 90 P **P** 09 50 39.1 +0.6
comp=Z,0.9nm,0.5s,baz=302,slow=5.2,SNR=4.4
TXAR Lajitas Array 52.02 90 P **P** 09 50 38.0 -0.5
SCHQ Schefferville 54.57 44 P **P** 09 50 56.3 -0.5
comp=Z,5.9nm,0.8s,baz=324,slow=8.0,SNR=9.3
ARCES ARCESS Array B 57.49 354 P **P** 09 51 16.3 -1.2
comp=Z,13nm,1.1s,baz=7.0,slow=8.2,SNR=5.7
ARCES PcP **PcP** 09 52 10.3 -0.2
comp=Z,5.7nm,0.8s,baz=9.5,slow=3.1,SNR=5.5
ZALV Zalesovo Beam 57.53 318 P **P** 09 51 17.3 -0.6
comp=Z,0.5nm,0.4s,baz=61,slow=6.9,SNR=2.1
ZALV PcP **PcP** 09 52 11.2 +0.3
comp=Z,1.8nm,0.5s,baz=37,slow=3.7,SNR=6.7
ZALV LR LR 10 17 09.5
comp=Z,40nm,19.6s,baz=297,slow=37
MKAR Makanchi Array 63.98 314 P **P** 09 52 00.5 -1.4
comp=Z,1.2nm,0.7s,baz=46,slow=6.9,SNR=12
MKAR PcP **PcP** 09 52 36.9 -0.1
comp=Z,0.6nm,0.6s,baz=36,slow=5.1,SNR=4.4
MKAR LR LR 10 21 04.1
comp=Z,32nm,18.3s,baz=50,slow=37
FINES FINESS Array B 65.47 353 P **P** 09 52 10.4 -0.8
comp=Z,1.6nm,0.4s,baz=13,slow=6.9,SNR=16
NOA NORSAR Array B 66.44 0 P **P** 09 52 16.7 -0.8
comp=Z,0.5nm,0.7s,baz=358,slow=6.0,SNR=4.8
AKASG Malin Array Be 75.76 349 P **P** 09 53 12.8 -1.3
comp=Z,4.0nm,0.6s,baz=14,slow=5.5,SNR=19
AKASG Malin Array Be 75.76 349 IAmb IAmb 09 53 14.8
comp=Z,1.7nm,1.2s
CHVC Chvalec 76.85 357 *eP* **P** 09 53 20.5 +0.2
OSTC Ostas 76.88 357 *eP* **P** 09 53 21.4 +0.9
DPC Dobruska-Polom 77.08 357 *eP* **P** 09 53 22.0 +0.4
CMAR Chiang Mai Arr 77.20 284 P **P** 09 53 23.4 +0.6
comp=Z,7.8nm,0.8s,baz=24,slow=6.4,SNR=32
CMAR Chiang Mai Arr 77.20 284 P **P** 09 53 23.0 +0.3
KRLC Kraliky 77.34 357 *eP* **P** 09 53 23.1 0.0
MORC Moravsky Berou 77.61 356 *eP* **P** 09 53 24.3 -0.3
VRAC Vranov 78.11 357 *eP* **P** 09 53 27.2 -0.2
KHC Kasperske Hory 78.36 359 *eP* **P** 09 53 29.2 +0.4
KRUC Moravsky 78.37 357 *eP* **P** 09 53 28.5 -0.2
JAVC Velka Javorina 78.52 356 *eP* **P** 09 53 30.6 +0.9
GERES GERESS Array B 78.64 359 P **P** 09 53 30.4 0.0
comp=Z,1.0nm,0.6s,baz=15,slow=6.9,SNR=9.2
CKRC Cesky Krumlov 78.66 358 *eP* **P** 09 53 30.9 +0.5
CONA Conrad Observa 79.52 357 *eP* **P** 09 53 35.7 +0.5
comp=Z,4.1nm,0.7s
KBZ Khabaz 80.12 338 P **P** 09 53 38.7 +0.3
comp=Z,1.9nm,0.8s,baz=45,slow=1.4,SNR=3.7
MOTA Moosalm 80.16 0 *eP* **P** 09 53 39.1 +0.4
comp=Z,5.6nm,1.0s
ARSA Arzberg 80.20 357 *eP* **P** 09 53 39.7 +0.9
comp=Z,2.1nm,0.4s
DAVA Damuels 80.20 1 *eP* **P** 09 53 40.4 +1.4
comp=Z,5.0nm,1.0s
WTTA Wattenberg 80.24 0 *eP* **P** 09 53 39.7 +0.5
comp=Z,6.5nm,0.6s
SQTA Sankt Quirin 80.28 0 *eP* **P** 09 53 39.9 +0.5
comp=Z,7.3nm,0.9s
KBA Koelnbreinsepr 80.42 359 P **P** 09 53 41.3 +1.1
comp=Z,6.6nm,0.5s,SNR=17
FETA Feichten 80.48 1 *eP* **P** 09 53 41.0 +0.6
comp=Z,7.4nm,0.9s
ABTA Abfaltersbach 80.75 360 *eP* **P** 09 53 42.8 +1.0
comp=Z,6.6nm,1.3s
SOKA Soboth 80.79 358 P **P** 09 53 42.0 -0.1
comp=Z,3.3nm,0.7s,SNR=4.5
OBKA Obir 80.97 358 *eP* **P** 09 53 43.7 +0.7
comp=Z,5.5nm,0.8s
BRTR Keskin Array B 85.85 343 P **P** 09 54 09.1 +0.7
comp=Z,4.1nm,0.8s,baz=24,slow=3.1,SNR=14
ESDC Sonseca Array 86.82 12 P **P** 09 54 12.6 -0.3
comp=Z,1.6nm,0.6s,baz=348,slow=4.9,SNR=22
WRA Warramunga Arr 87.88 233 P **P** 09 54 17.1 -1.0
comp=Z,1.6nm,0.7s,baz=32,slow=5.8,SNR=14
FITZ Fitzroy Crossi 90.73 240 P **P** 09 54 31.7 +0.3
comp=Z,1.0nm,0.7s,baz=27,slow=9.0,SNR=1.7
ASAR Alice Springs 91.27 231 P **P** 09 54 33.7 -0.2
comp=Z,2.0nm,0.8s,baz=31,slow=4.7,SNR=22
H03N2 Juan Fernandez 115.44 112 T T 12 06 01.2
baz=322,slow=78,SNR=16
H03N1 Juan Fernandez 115.46 112 T T 12 06 05.8
baz=322,slow=78,SNR=28
H03N3 Juan Fernandez 115.46 112 T T 12 06 04.2
baz=322,slow=78,SNR=22

IDC ***19*** *10:18:57.9±1.8, 18°.86S×175°.23W, h227km±17km, mb3.6/9, mb1 3.9/12, mb1mx3.6/37, mbtmp4.2/12, Error ellipse: s-maj=19.0km s-min=13.2km az=143.0*
NEIC ***19*** *10:18:59.6±1.0, 18°.7S±0°.1×175°.24W±0°.09, h248km±10km, mb4.4/21, Error ellipse: s-maj=20.3km s-min=12.3km az=180.0*
ISC 19 10:18:59.8±0.5,**18°.76S**±0°.09×**175°.29W**±0°.06,**h250**km,
n41,σ1**s22**/45,**mb4.3**/19,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**1.55**	**12**	*eP*		**Pn**	**10 25 11.5 +0.3**
ALJI				*eS*		**Sn**	**10 25 31.2 -0.1**
ALJI	**Alcalda de J**	**1.55**	**12**	*eP*		**Pn**	**10 25 11.5 +0.3**
ALJI				*eS*		**Sn**	**10 25 31.2 -0.1**
LCY	**Lacayo**	**1.72**	**20**	*eP*		**Pn**	**10 25 13.8 +0.3**
LCY	**Lacayo**	**1.72**	**20**	*eP*		**Pn**	**10 25 13.8 +0.3**
LALI	**Alcalda de L**	**1.72**	**347**	*eP*		**Pn**	**10 25 13.9 +0.4**
LALI				*eS*		**Sn**	**10 25 34.9 -0.6**
LALI	**Alcalda de L**	**1.72**	**347**	*eP*		**Pn**	**10 25 13.9 +0.4**
LALI				*eS*		**Sn**	**10 25 34.9 -0.6**
COEB	**Comit de Eme**	**1.73**	**12**	*eP*		**Pn**	**10 25 13.8 +0.2**
COEB				*eS*		**Sn**	**10 25 35.2 -0.6**
COEB	**Comit de Eme**	**1.73**	**12**	*eP*		**Pn**	**10 25 13.8 +0.2**
COEB				*eS*		**Sn**	**10 25 35.2 -0.6**
TECO	**Alcaldia de Te**	**1.73**	**4**	*eP*		**Pn**	**10 25 13.7 +0.1**
TECO	**Alcaldia de Te**	**1.73**	**4**	*eP*		**Pn**	**10 25 13.7 +0.1**
VSM	**San Miguel**	**1.73**	**21**	*eP*		**Pn**	**10 25 14.3 +0.5**
VSM	**San Miguel**	**1.73**	**21**	*eP*		**Pn**	**10 25 14.3 +0.5**
RANC	**El Ranchito**	**1.73**	**21**	*eP*		**Pn**	**10 25 14.1 +0.4**
RANC				*eS*		**Sb**	**10 25 36.9 -0.5**
RANC	**El Ranchito**	**1.73**	**21**	*eP*		**Pn**	**10 25 14.1 +0.4**
RANC				*eS*		**Sb**	**10 25 36.9 -0.5**
PACA	**Pacayal**	**1.75**	**19**	*eP*		**Pb**	**10 25 15.1 -0.8**
PACA	**Pacayal**	**1.75**	**19**	*eP*		**Pb**	**10 25 15.1 -0.8**

NIUE	**Niue**	**5.09**	**94**	Pn		**Pn**	**10 20 17.1 +0.3**
NIUE				Sn		**S**	**10 21 16.7 -1.2**
AFI	**Afiamalu**	**5.88**	**36**	P		**Pn**	**10 20 23.1 -3.6**
	8.4nm,0.3s,baz=205,slow=4.1,SNR=13						
AFI				S		S	10 21 24.2 -12
	9.4nm,0.3s,baz=264,slow=23,SNR=7.1						
MSVF	**Nonsavu**	**6.41**	**278**	P		**Pn**	**10 20 33.7 +0.5**
	7.1nm,0.3s,baz=100,slow=12,SNR=82						
MSVF	**Nonsavu**	**6.41**	**278**	P		**Pn**	**10 20 33.9 +0.7**
MARNC	**Mare, Loyalty**	**15.90**	**257**	P		**P**	**10 22 29.5 -0.1**
LIFNC	**LIFOU**	**16.57**	**260**			**P**	**10 22 35.7 -1.3**
PINNC	**Pines Island,**	**16.60**	**254**			**Pn**	**10 22 38.4 -0.7**
DZM	**Mont Dzumac**	**17.43**	**256**	P		**Pn**	**10 22 47.7 -1.3**
	0.6nm,0.3s,baz=98,slow=19,SNR=2.5						
DZM	**Mont Dzumac**	**17.43**	**256**	P		**P**	**10 22 46.0 -0.5**
DZM				IAmb	IAmb	IAmb	10 22 48.9
	comp=Z,12nm,1.1s						
OUZ	**Omahuta**	**19.13**	**209**	P		**P**	**10 23 05.8 +1.2**
URZ	**Urewera**	**20.53**	**197**	P		**P**	**10 23 19.7 +0.3**
	comp=Z,7.3nm,0.3s,baz=298,slow=2.9,SNR=17						
URZ				S		**S**	**10 26 52.6 -1.4**
	comp=Z,4.4nm,0.8s,baz=45,slow=16,SNR=1.4						
URZ	**Urewera**	**20.53**	**197**	P		**P**	**10 23 19.2 -0.2**
BKZ	**Black Stump Fm**	**21.55**	**198**	P		**P**	**10 23 29.8 +0.1**
BKZ				IAmb	IAmb	IAmb	10 23 51.8
	comp=Z,13nm,1.2s						
ARMA	**Armidale**	**32.13**	**242**	P		**P**	**10 25 04.3 0.0**
ARMA				IAmb	IAmb	IAmb	10 25 18.4
	comp=Z,17nm,1.4s						
COEN	**Coen**	**40.07**	**270**	P		**P**	**10 26 10.8 -0.7**
STKA	**Stephens Creek**	**40.85**	**243**	P		**P**	**10 26 15.9 -1.8**
	comp=Z,0.8nm,0.4s,baz=105,slow=9.6,SNR=3.7						
STKA	**Stephens Creek**	**40.85**	**243**	P		**P**	**10 26 16.9 -0.7**
BBOO	**Buckleboo**	**45.61**	**242**	P		**P**	**10 26 55.0 -0.6**
BBOO				IAmb	IAmb	IAmb	10 27 16.1
	comp=Z,32nm,1.5s						
WR0	**Warramunga Arr**	**47.21**	**260**	P		**P**	**10 27 07.3 -0.9**
WB0	**Warramunga Arr**	**47.37**	**260**	P		**P**	**10 27 08.4 -1.0**
WB0				IAmb	IAmb	IAmb	10 27 09.3
	comp=Z,7.7nm,0.5s						
WB2	**Warramunga Arr**	**47.38**	**260**	P		**P**	**10 27 08.8 -0.7**
WB2				IAmb	IAmb	IAmb	10 27 09.2
	comp=Z,8.9nm,0.5s						
WRAB	**Tennant Creek**	**47.39**	**260**	P		**P**	**10 27 08.7 -0.8**
WRAB				IAmb	IAmb	IAmb	10 27 09.2
	comp=Z,6.7nm,0.5s						
WRA	**Warramunga Arr**	**47.40**	**260**	P		**P**	**10 27 08.8 -0.8**
	comp=Z,5.0nm,0.4s,baz=98,slow=6.7,SNR=186						
WRA				PcP		**PcP**	**10 28 37.4 +1.4**
	comp=Z,0.8nm,0.5s,baz=92,slow=3.5,SNR=5.2						
WRA	**Warramunga Arr**	**47.40**	**260**	P		**P**	**10 27 08.8 -0.8**
AS31	**Alice Springs**	**47.42**	**255**	P		**P**	**10 27 09.5 -0.3**
ASAR	**Alice Springs**	**47.42**	**255**	P		**P**	**10 27 09.3 -0.5**
	comp=Z,13nm,0.6s,baz=88,slow=8.3,SNR=196						
ASAR				PcP		**PcP**	**10 28 37.5 +1.4**
	comp=Z,1.4nm,0.6s,baz=99,slow=3.8,SNR=9.7						
ASAR	**Alice Springs**	**47.42**	**255**	P		**P**	**10 27 09.7 -0.1**
MTN	**Manton Dam**	**51.73**	**268**	P		**P**	**10 27 41.6 -0.6**
MTN				IAmb	IAmb	IAmb	10 28 10.5
	comp=Z,42nm,1.4s						
FORT	**Forrest**	**52.33**	**245**	P		**P**	**10 27 46.4 -0.1**
FORT				IAmb	IAmb	IAmb	10 27 55.2
	comp=Z,22nm,1.1s						
KNRA	**Kununurra**	**53.35**	**264**	P		**P**	**10 27 53.7 -0.4**
KNRA				IAmb	IAmb	IAmb	10 27 54.3
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**55.81**	**261**	P		**P**	**10 28 11.5 -0.2**
FITZ				IAmb	IAmb	IAmb	10 28 15.5
	comp=Z,14nm,1.5s						
RPN	**Rapa Nui**	**60.72**	**111**	P		**P**	**10 28 43.4 -2.1**
	comp=Z,68nm,0.8s,baz=162,slow=3.2,SNR=5.6						
RPN	**Rapa Nui**	**60.72**	**111**	P		**P**	**10 28 43.7 -1.8**
MJAR	**Matsushiro Arr**	**70.38**	**322**	P		**P**	**10 29 47.5 +0.6**
	comp=Z,0.9nm,0.6s,baz=163,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**78.02**	**42**	P		**P**	**10 30 33.8 +2.7**
	comp=Z,2.2nm,0.7s,baz=234,slow=9.9,SNR=2.5						
ILAR	**Eielson Array**	**86.07**	**12**	P		**P**	**10 31 13.3 +1.3**
	comp=Z,0.5nm,0.6s,baz=226,slow=5.6,SNR=8.2						
ILAR	**Eielson Array**	**86.07**	**12**	P		**P**	**10 31 12.7 +0.7**
CMAR	**Chiang Mai Arr**	**91.96**	**289**	P		**P**	**10 31 42.6 +2.0**
	comp=Z,0.4nm,0.3s,baz=126,slow=4.6,SNR=4.5						
YKA	**Yellowknife Ar**	**93.88**	**24**	P		**P**	**10 31 50.6 +2.1**
	comp=Z,0.3nm,0.7s,baz=243,slow=4.4,SNR=6.0						
BRTR	**Keskin Array B**	**147.46**	**316**	PKPbc		**PKiKP**	**10 38 16.0 -0.7**
	comp=Z,1.1nm,0.6s,baz=142,slow=4.1,SNR=6.6						
BRTR	**Keskin Array B**	**147.46**	**316**			**PKPab**	**10 38 16.9 -0.5**

IDC ***19*** *10:24:41.8±0.4, 11°.83N×88°.80W, h0km, mb5.0/30, mb1 5.1/33, mb1mx5.1/39, mbtmp5.0/33, ML4.6/3, MS4.8/57, Ms1 4.8/57, ms1mx4.7/66, Error ellipse: s-maj=17.7km s-min=9.0km az=51.0*
MOS ***19*** *10:24:43.7±0.9, 11°.85N×88°.79W, h19km, mb5.6/35, MS4.8/17, Error ellipse: s-maj=9.0km s-min=5.7km az=112.4*
BGR ***19*** *10:24:44.3±0.0, 11°.84N×88°.82W, h27km, mb5.2*
NEIC ***19*** *10:24:45.1±1.8, 11°.87N±0°.06×88°.77W±0°.06, h10km±1km, mb5.4/746, Ms_20 5.0/168, Mww5.6, Md5.3(SNET), Error ellipse: s-maj=11.3km s-min=8.3km az=224.0*
SNET ***19*** *10:24:45.0±1.4, 11°.88N×88°.86W, h10km, ML5.3, ML5.1, Fault plane solution: NP1:φs137.00000°, δ45.00000°, λ-69.00000°.*
GCMT ***19*** *10:24:46.1±0.1, 11°.76N±0°.01×89°.16W±0°.01, h12km, MW5.6/161, Moment Tensor Solution. s127,c201; s161,c334; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=2.68±.03; Mθθ 1.93±.02; Mφφ 0.75±.03; Mrθ 0.52±.08; Mθφ -1.34±.02; Mφr 0.52±.09; Best double couple: M₀2.84100×10^17 NP1:φs137.00000°, δ45.00000°, λ-69.00000°. NP2:φs289.00000°, δ48.00000°, λ-110.00000°. Principal axes: T 2.8090, Plg2.0000°, Azm33.0000°; N 0.0660, Plg15.0000°, Azm302.0000°; P -2.8730, Plg75.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
INET ***19*** *10:24:46.1±0.8, 11°.87N×88°.89W, h85km±33km, ML4.9, MW4.7*
UCR ***19*** *10:24:46.0±2.0, 11°.88N×88°.86W, h20km±9km, ML4.9, mb5.6(NEIC)*
NEIC ***19*** *10:24:51, 11°.85N×88°.91W, h12km, Moment Tensor Solution. Duration: 14s6 Moment tensor: Scale 10^17Nm; Mrr=3.23; Mθθ2.26; Mφφ 0.97; Mrθ 0.50; Mθφ -1.51; Mφr-0.40; Fault plane solution: M₀3.30000×10^17 NP1: φs122.00000°, δ39.00000°, λ-91.00000°. NP2: φs304.00000°, δ51.00000°, λ-88.00000°. Principal axes: T 3.3161, Plg6.0000°, Azm34.0000°; N -0.0249, Plg1.0000°, Azm124.0000°; P -3.2912, Plg84.0000°, Azm224.0000°;*
GCG ***19*** *10:25:12.9±0.6, 13°.81N×89°.94W, h118km±24km, MD4.5*
ISC 19 10:24:43.5±0.6,**11°.80N**±0°.03×**88°.91W**±0°.03,**h10**km±3km,
h11km:**pP-P,n1320,**σ1**s37**/1029,**mb5.4**/437,**MS4.9**/166,
44C-29D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**1.80**	**34**	*eP*		**Pn**	**10 25 14.3 -0.2**
LCND					IAML		10 25 44.9
	comp=Z,17μm,0.3s						
LCND	**La Caada**	**1.80**	**34**	*eP*		**Pn**	**10 25 14.3 -0.2**
LCND				*eP*		**Pn**	**10 25 14.4 -0.2**
LCND					IAML		10 25 44.9
	comp=Z,17μm,0.3s						
COEG	**Centro de Oper**	**1.81**	**1**	*eP*		**Pn**	**10 25 14.6 -0.1**
COEG	**Centro de Oper**	**1.81**	**1**	*eP*		**Pn**	**10 25 14.6 -0.1**
CNRM	**Centro Naciona**	**1.81**	**23**	*eP*		**Pn**	**10 25 14.9 +0.1**
CNRM				*eS*		**Sn**	**10 25 37.8 0.0**
CNRM	**Centro Naciona**	**1.81**	**23**	*eP*		**Pn**	**10 25 14.9 +0.1**
CNRM				*eS*		**Sn**	**10 25 37.8 0.0**
LFRS	**El Faro**	**1.82**	**355**	*eP*		**Pn**	**10 25 14.7 -0.1**
LFRS	**El Faro**	**1.82**	**355**	*eP*		**Pn**	**10 25 14.7 -0.1**
UESV	**Universidad de**	**1.83**	**4**	*eP*		**Pn**	**10 25 15.3 +0.4**
UESV					IAML		10 25 43.2
	comp=Z,14μm,0.4s						
UESV	**Universidad de**	**1.83**	**4**	*eP*		**Pn**	**10 25 15.3 +0.4**
UESV					IAML		10 25 43.2
	comp=Z,14μm,0.4s						
PQSS	**Presa 15 de Se**	**1.84**	**11**	*eP*		**Pn**	**10 25 15.6 +0.4**
PQSS	**Presa 15 de Se**	**1.84**	**11**	*eP*		**Pn**	**10 25 15.6 +0.4**
ITCA	**Escuela Especi**	**1.89**	**349**	*eP*		**Pn**	**10 25 16.1 +0.2**
ITCA	**Escuela Especi**	**1.89**	**349**	*eP*		**Pn**	**10 25 16.1 +0.2**
AEIL	**Aeropuerto Ilo**	**1.90**	**354**	*eP*		**Pn**	**10 25 16.5 +0.6**
AEIL	**Aeropuerto Ilo**	**1.90**	**354**	*eP*		**Pn**	**10 25 16.5 +0.6**
SCLA	**Alcaldia de Sa**	**1.90**	**5**	*eP*		**Pn**	**10 25 16.8 +0.9**
SCLA				*eS*		**Sn**	**10 25 39.6 -0.3**
SCLA	**Alcaldia de Sa**	**1.90**	**5**	*eP*		**Pn**	**10 25 16.8 +0.9**
SCLA				*eS*		**Sn**	**10 25 39.6 -0.3**
SNET	**Serv Nac Est T**	**1.90**	**351**			**Pn**	**10 25 16.3 +0.3**
SNET	**Serv Nac Est T**	**1.90**	**351**	*eP*		**Pn**	**10 25 16.1 +0.1**
SNET				*eS*		**Sn**	**10 25 39.1 -0.9**
SNET					IAML		10 25 42.8
	comp=Z,13μm,0.2s						
SNET	**Serv Nac Est T**	**1.90**	**351**	*eP*		**Pn**	**10 25 16.1 +0.1**
SNET				*eS*		**Sn**	**10 25 39.1 -0.9**
SNET					IAML		10 25 42.8
	comp=Z,13μm,0.2s						
PAVA	**Las Pavas**	**1.90**	**359**	*eP*		**Pn**	**10 25 16.3 +0.3**
PAVA					IAML		10 25 46.3
	comp=Z,15μm,0.4s						
PAVA	**Las Pavas**	**1.90**	**359**	*eP*		**Pn**	**10 25 16.3 +0.3**
PAVA					IAML		10 25 46.3
	comp=Z,15μm,0.4s						
MAGS	**Ministerio de**	**1.91**	**349**	*eP*		**Pn**	**10 25 16.3 +0.2**
MAGS					IAML		10 25 47.9
	comp=Z,24μm,0.4s						
UTEC	**Universidad Te**	**1.91**	**352**	*eP*		**Pn**	**10 25 16.5 +0.4**
UTEC	**Universidad Te**	**1.91**	**352**	*eP*		**Pn**	**10 25 16.5 +0.4**
JAYA	**Jayaque - finc**	**1.91**	**344**	*eP*		**Pn**	**10 25 16.6 +0.4**
JAYA				*eS*		**Sn**	**10 25 39.9 -0.6**
JAYA					IAML		10 25 42.9
	comp=Z,26μm,0.2s						
JAYA	**Jayaque - finc**	**1.91**	**344**	*eP*		**Pn**	**10 25 16.6 +0.4**
JAYA				*eS*		**Sn**	**10 25 39.9 -0.6**
JAYA					IAML		10 25 42.9
	comp=Z,26μm,0.2s						
SEMO	**Seminario San**	**1.91**	**351**	*eP*		**Pn**	**10 25 16.6 +0.4**
IGN	**Direccin Gen**	**1.92**	**353**	*eP*		**Pn**	**10 25 16.4 +0.2**
IGN	**Direccin Gen**	**1.92**	**353**	*eP*		**Pn**	**10 25 16.4 +0.2**
UDBS	**Universidad Do**	**1.92**	**353**	*eP*		**Pn**	**10 25 16.5 +0.3**
UDBS	**Universidad Do**	**1.92**	**353**	*eP*		**Pn**	**10 25 16.5 +0.3**
UESS	**Universidad de**	**1.93**	**352**	*eP*		**Pn**	**10 25 16.7 +0.3**
UESS	**Universidad de**	**1.93**	**352**	*eP*		**Pn**	**10 25 16.7 +0.3**
LBRS	**Las Brisas**	**1.93**	**356**	*eP*		**Pn**	**10 25 16.8 +0.4**
LBRS	**Las Brisas**	**1.93**	**356**	*eP*		**Pn**	**10 25 16.8 +0.4**
UEES	**Universidad Ev**	**1.93**	**351**	*eP*		**Pn**	**10 25 16.4 0.0**
UEES	**Universidad Ev**	**1.93**	**351**	*eP*		**Pn**	**10 25 16.4 0.0**
PMON	**Piamonte**	**1.94**	**348**	*eP*		**Pn**	**10 25 17.0 +0.4**
PMON	**Piamonte**	**1.94**	**348**	*eP*		**Pn**	**10 25 17.0 +0.4**
LFU	**La Fuente**	**1.94**	**354**	*eP*		**Pn**	**10 25 17.1 +0.5**
LFU				*eS*		**Sn**	**10 25 40.7 -0.4**
LFU	**La Fuente**	**1.94**	**354**	*eP*		**Pn**	**10 25 17.1 +0.5**
LFU				*eS*		**Sn**	**10 25 40.7 -0.4**
BOQS	**Boqueron**	**1.96**	**350**	*eP*		**Pn**	**10 25 17.4 +0.5**
BOQS	**Boqueron**	**1.96**	**350**	*eP*		**Pn**	**10 25 17.4 +0.5**
CRIN	**San Cristobal**	**2.03**	**64**			**Pn**	**10 25 17.9 +0.1**
CEDA	**San Andres**	**2.04**	**347**	*eP*		**Pn**	**10 25 18.7 +0.7**
CEDA					IAML		10 25 49.1
	comp=Z,25μm,0.4s						
CEDA	**San Andres**	**2.04**	**347**	*eP*		**Pn**	**10 25 18.7 +0.7**
CEDA					IAML		10 25 49.1
	comp=Z,25μm,0.4s						
CEVE	**Cerro Verde**	**2.13**	**341**	*eP*		**Pn**	**10 25 20.3 +1.0**
CEVE					IAML		10 25 50.2
	comp=Z,36μm,0.3s						
CEVE	**Cerro Verde**	**2.13**	**341**	*eP*		**Pn**	**10 25 20.3 +1.0**
CEVE					IAML		10 25 50.2
	comp=Z,36μm,0.3s						
SBLS	**San Blas**	**2.14**	**341**	*eP*		**Pn**	**10 25 20.3 +0.9**
SBLS	**San Blas**	**2.14**	**341**	*eP*		**Pn**	**10 25 20.3 +0.9**
SNJE	**San Jose**	**2.16**	**342**	*eP*		**Pn**	**10 25 20.4 +0.7**
SNJE	**San Jose**	**2.16**	**342**	*eP*		**Pn**	**10 25 20.4 +0.7**
TELN	**Telica**	**2.19**	**68**	*eP*		**Pn**	**10 25 20.2 +0.3**
TACO	**Tacachico**	**2.20**	**349**	*eP*		**Pn**	**10 25 21.0 +0.9**
TACO	**Tacachico**	**2.20**	**349**	*eP*		**Pn**	**10 25 21.0 +0.9**
RTR	**El Retiro**	**2.20**	**341**	*eP*		**Pn**	**10 25 21.4 +1.1**
RTR	**El Retiro**	**2.20**	**

JTS Sn **Sn** **10 26 34.8 -1.1**
comp=Z,123nm,0.3s,baz=168,slow=21,SNR=770

JTS **Las Juntas de** **4.17 111** *c i*P **Pn** **10 25 46.4 -0.8**
JTS **Las Juntas de** **4.17 111** Pn **Pn** **10 25 47.7 +0.6**
comp=Z,89nm,0.3s,baz=158,slow=13,SNR=3.7

CAO2 **Cobano, Puntar** **4.29 119** **Pn** **10 25 49.2 +0.4**
HUEH **Huehuetenango** **4.31 325** **Pn** **10 25 51.6 +2.3**
CEDE **Laguna Cedeo** **4.33 107**⇑ *i*P **Pn** **10 25 51.0 +1.6**
ESPN **Las Esperanzas** **4.53 85** **Pn** **10 25 52.2 +0.1**
ESPN **Las Esperanzas** **4.53 85** *e*P **Pn** **10 25 52.0 -0.2**
COVE **Coope Vega, Sa** **4.55 103** **Pn** **10 25 53.1 +0.7**
JACO **JACO, Garabito** **4.69 117** Pn **Pn** **10 25 55.3 +1.0**
HDC **Heredia** **5.04 110** **Pn** **10 26 00.6 +1.3**
PETF **Flores** **5.17 350** **Pn** **10 26 02.5 +1.6**
RIMA **Rio Macho** **5.36 112** Pn **Pn** **10 26 05.2 +1.5**
CVTR **Volcan Turrial** **5.36 109** **Pn** **10 25 59.5 -4.4**
CCIG **Comitan** **5.44 325** **Pn** **10 26 07.8 +3.0**
EDDO **Dominical** **5.57 117** *e*P **Pn** **10 26 08.0 +1.6**
PEZE **Perez Zeledon,** **5.68 115** **Pn** **10 26 09.6 +1.5**
BATAN **Batan** **5.70 107** **Pn** **10 26 08.2 +0.1**
SRBA **San Rafael, Bu** **6.03 115** **Pn** **10 26 13.5 +0.7**
EDPN **Palmar Norte** **6.06 117** *e*P **Pn** **10 26 15.2 +2.0**
DRK0 **Durika** **6.12 114** **Pn** **10 26 14.0 -0.1**
EDBA **Buenos Aires** **6.13 115** *e*P **Pn** **10 26 15.7 +1.5**
RIOS **Rincon, Osa** **6.14 120** **Pn** **10 26 15.8 +1.6**
EDSV **San Vito** **6.55 116** *e*P **Pn** **10 26 23.6 +3.5**
CDITO **Canoas** **6.76 118** **Pn** **10 26 25.4 +2.7**
PRVC **Isla de Provid** **7.54 77** Pn **Pn** **10 26 32.9 +0.5**
PRVC **Isla de Provid** **7.54 77** *e*P **Pn** **10 26 33.5 +0.1**
CMIG **Matias Romero** **7.81 313** Pn **Pn** **10 26 38.3 +1.1**
comp=Z,13nm,0.3s,baz=160,slow=13,SNR=138

CMIG Sn **Sn** **10 28 05.3 -0.5**
comp=Z,9.2nm,0.3s,baz=109,slow=20,SNR=1.8

CMIG LR LR 10 29 36.9
comp=Z,5µm,21.0s,baz=144,slow=38

GMAL **Guarumal, Vera** **8.57 117** *e*P **Pn** **10 26 48.4 +0.8**
GMAL *e*S Sn 10 28 35.5 +11
CACAO **El Cacao, Vera** **9.09 118** *e*P **Pn** **10 26 56.3 +1.5**
CACAO *e*S **Sn** **10 28 38.2 +0.9**
BCIP **Isla Barro Col** **9.30 105** P **Pn** **10 26 57.8 +0.1**
BCIP **Isla Barro Col** **9.30 105** Pn **Pn** **10 26 57.8 +0.1**
BCIP **Isla Barro Col** **9.30 105** *e*P **Pn** **10 26 57.6 -0.1**
BCIP *e*S Sn 10 28 55.2 +13
AZU **Azuero** **9.40 114** *e*P **Pn** **10 26 54.7 -4.3**
AZU *e*S Sn 10 29 03.0 +18
UPA **Univ. de Panam** **9.64 106** *e*P **Pn** **10 27 04.3 +1.9**
FSCY **Frank Sound, G** **10.54 44** **Pn** **10 27 14.7 0.0**
TLIG **Tlapa** **10.95 303** Pn **Pn** **10 27 22.5 +2.1**
LCCY **Blossom Villag** **11.55 46** **Pn** **10 27 28.1 -0.3**
CBCY **The Bluff, Cay** **11.82 47** **Pn** **10 27 31.5 -0.7**
SOR **Soroa** **12.29 26** P **Pn** **10 27 39.7 +1.0**
SOR **Soroa** **12.29 26** **Pn** **10 27 39.7 +1.0**
UNM **Universidad Na** **12.40 308** P **Pn** **10 27 43.2 +2.9**
UNM **Universidad Na** **12.40 308** **Pn** **10 27 43.2 +2.9**
PAYG **Puerto Ayora** **12.47 186** Pn **Pn** **10 27 42.8 +1.7**
MTDJ **Mount Denham** **12.71 58** Pn **Pn** **10 27 44.1 -0.3**
MOTC **Monteria, Cord** **13.38 102** *e*P **Pn** **10 27 54.8 +1.3**
MOTC *e*S **S** **10 30 50.9 +4.4**
SJCC **San Jacinto, C** **13.62 97** **Pn** **10 27 56.4 -0.5**
SJCC **San Jacinto, C** **13.62 97**⇑ *e*P **Pn** **10 27 56.1 -0.7**
UREC **San Jos de Ur** **13.79 106** *e*P **Pn** **10 28 00.2 +1.1**
CBOC **Ciudad Bolivar** **14.04 114**⇑ *e*P **Pn** **10 28 04.3 +1.6**
MOIG **Morelia** **14.17 305** **Pn** **10 28 07.0 +2.5**
PLMC **San Jos del P** **14.25 118** *e*P **Pn** **10 28 05.2 -0.3**
HELC **Santa Helena** **14.34 112** *e*P **Pn** **10 28 06.2 -0.8**
HELC *e*S **S** **10 31 10.3 +3.4**
ZARC **Zaragoza, Cauc** **14.50 106** **Pn** **10 28 08.2 -0.7**
ZARC **Zaragoza, Cauc** **14.50 106** *e*P **Pn** **10 28 08.4 -0.5**
ZARC *e*S S 10 31 42.7 +33
YOTC **Yotoco, Valle** **14.67 121** *e*P **Pn** **10 28 11.2 -0.1**
YOTC *e*S **Sn** **10 31 00.4 +6.3**
GUY2C **Guyana, Caldas** **14.90 115** *i* P **Pn** **10 28 16.7 +1.9**
GUY2C *e*S **S** **10 31 22.2 +3.7**
PTBC **PUERTO BERRIO,** **15.20 109** *e*P **P** **10 28 23.4 +0.1**
NORC **Norcasia** **15.20 113**⇑ *e*P **Pn** **10 28 20.7 +2.3**
NORC *e*S **S** **10 31 26.4 +2.5**
ANIL **Santa Ana** **15.21 117** *e*P **P** **10 28 27.9 +4.1**
ANIL *e*S **S** **10 31 33.8 +9.3**
POPC **Popayan, Colom** **15.22 126** *e*P **Pn** **10 28 20.5 +1.6**
POPC *e*S **S** **10 31 20.2 -4.5**
OTAV **Otavalo** **15.49 137** P **Pn** **10 28 22.9 +0.4**
OTAV pmax pmax
comp=Z,49nm,1.0s

OTAV **Otavalo** **15.49 137** **Pn** **10 28 22.9 +0.4**
OTAV **Otavalo** **15.49 137** *e*P **P** **10 28 28.9 +1.9**
GTBY **Guantanamo Bay** **15.53 57** P **Pn** **10 28 22.4 -0.2**
GTBY IAmb IAmb 10 28 28.7
comp=Z,217nm,0.8s

GCUF **Volcan Galeras** **15.56 132** *i* P **P** **10 28 26.7 -1.2**
GCUF *e*S **S** **10 31 29.9 -2.1**
TULM **Tulcn-Chalpat** **15.60 134** *e*P **Pn** **10 28 26.2 +2.2**
ORTC **Ortega, Tolima** **15.64 119** *e*P **P** **10 28 27.5 -0.7**
CRJC **Cerrejon, Guaj** **15.74 91** *e*P **Pn** **10 28 21.0 -4.4**
CRJC *e*S **Sn** **10 31 25.4 +5.4**
OCAC **Ocana** **15.76 102** **Pn** **10 28 25.2 -0.5**
OCAC **Ocana** **15.76 102**⇑ *e*P **Pn** **10 28 24.8 -1.0**
SPBC **San Pablo de B** **15.89 111** *e*P **Pn** **10 28 28.9 +1.5**
SPBC *e*S **S** **10 31 39.3 +1.2**
061Z **Ochoppi** **15.90 27** **Pn** **10 28 27.8 +0.4**
061Z IAmb IAmb 10 28 35.9
comp=Z,268nm,0.9s

ROSC **El Rosal** **16.00 114** Pn **P** **10 28 33.3 +0.6**
comp=Z,1.5nm,0.3s,baz=13,slow=3.5,SNR=24

ROSC **El Rosal** **16.00 114** P **P** **10 28 32.7 0.0**
ROSC pmax pmax
comp=Z,556nm,1.4s

ROSC **El Rosal** **16.00 114** P **P** **10 28 32.7 0.0**
ROSC IAmb IAmb 10 28 41.9
comp=Z,556nm,1.4s

ROSC **El Rosal** **16.00 114** *e*P **P** **10 28 31.6 -1.1**
BARC **Barichara** **16.36 107** *e*P **P** **10 28 35.1 -1.4**
URIC **Uribia, Colomb** **16.57 89** **Pn** **10 28 33.8 -2.3**
URIC IAmb IAmb 10 28 41.5
comp=Z,193nm,0.8s

URIC **Uribia, Colomb** **16.57 89** *e*P **Pn** **10 28 35.7 -0.3**
URIC **Uribia, Colomb** **16.57 89** *e*P **P** **10 28 39.8 +1.3**
PAMC **Pamplona, Colo** **16.59 104** *e*P **P** **10 28 38.9 -0.4**
FLOC **Florencia** **16.62 127** *i* P **P** **10 28 38.9 -0.2**
FLOC *e*S **S** **10 31 53.0 +0.1**
CHIC **Chingaza** **16.62 114** *i* P **P** **10 28 39.8 +0.2**
CHIC *e*S **S** **10 31 54.5 +0.8**
RUSC **La Rusia** **16.70 109** *e*P **P** **10 28 39.8 -0.7**
ZAIG **Zacatecas** **16.98 312** P **P** **10 28 44.3 +0.9**
JAKH **Jacmel** **17.07 66** Pn **Pn** **10 28 41.0 -1.3**
JAKH IAmb IAmb 10 28 54.7
comp=Z,400nm,1.5s

LGNH **Logne** **17.09 65** **Pn** **10 28 41.9 -0.7**
LGNH IAmb IAmb 10 28 48.0
comp=Z,312nm,1.1s

060A **Indiantown** **17.16 27** P **Pn** **10 28 43.5 +0.2**
DWPF **Disney Wildern** **17.67 22** P **Pn** **10 28 47.7 -2.1**
DWPF IAmb IAmb 10 28 54.2
comp=Z,306nm,1.4s

DWPF **Disney Wildern** **17.67 22** P **P** **10 28 50.2 -0.4**
baz=204

TAMC **Tame, Arauca** **17.72 106** *e*P **P** **10 28 53.5 +2.1**
TAMC *e*S **Sn** **10 32 10.0 +1.8**
KVTX **Kingsville** **17.79 333** P **P** **10 28 52.5 +0.6**
KVTX IAmb IAmb 10 28 59.0
comp=Z,447nm,1.2s

DABV **Dabajuro** **17.94 91** *e*P **Pn** **10 28 52.7 -0.5**
DABV *e*S **Sn** **10 32 11.8 -1.7**
SOCV **Socops** **18.12 99** *e*P **P** **10 28 56.2 +0.4**
SDV **Santo Domingo** **18.21 97** P **Pn** **10 28 56.1 -0.7**
comp=Z,3.8nm,0.3s,baz=280,slow=6.8,SNR=108

SDV S **Sn** **10 32 22.2 +1.8**
comp=Z,0.0nm,0.3s,baz=343,slow=20,SNR=0.9

SDV LR LR 10 37 02.7
comp=Z,2µm,18.3s,baz=306,slow=41

SDV **Santo Domingo** **18.21 97** P **Pn** **10 28 56.0 -0.7**
SDV **Santo Domingo** **18.21 97** *e*P **Pn** **10 28 56.5 -0.3**
SDDR **Presa de Saban** **18.42 65** IAmb IAmb 10 29 17.9
comp=Z,196nm,0.9s

656A **Williston** **18.46 18** IAmb IAmb 10 29 03.7
comp=Z,301nm,1.1s

735A **Kenedy** **18.89 335** IAmb IAmb 10 29 11.3
comp=Z,181nm,1.1s

451A **Vernon** **18.95 8** IAmb IAmb 10 29 11.2
comp=Z,390nm,1.1s

SC01 **Santiago de lo** **19.07 64** IAmb IAmb 10 29 23.8
comp=Z,287nm,0.9s

833A **Chaparral WMA,** **19.14 331** P **Pn** **10 29 08.3 +0.6**
833A IAmb IAmb 10 29 12.6
comp=Z,359nm,1.2s

833A **Chaparral WMA,** **19.14 331** P **Pn** **10 29 08.3 +0.6**
baz=147,SNR=62

HKT **Hockley** **19.17 341** *d i*P **P** **10 29 07.6 +0.5**
HKT pmax pmax
comp=Z,205nm,1.6s

HKT **Hockley** **19.17 341** P **Pn** **10 29 08.5 +0.5**
BRAL **Brewton** **19.35 5** IAmb IAmb 10 29 14.9
comp=Z,304nm,1.2s

BRAL **Brewton** **19.35 5** P **Pn** **10 29 11.0 +0.8**
baz=185,SNR=6.1

346A **Big Creek Wild** **19.50 359** IAmb IAmb 10 29 22.0
comp=Z,238nm,0.9s

342A **Flagon Creek P** **19.73 351** P **Pn** **10 29 14.5 -0.3**
TIGA **Tifton** **20.15 13** P Pn 10 29 19.4 -0.3
baz=195,SNR=26

250A **Grady** **20.23 7** IAmb IAmb 10 29 31.5
comp=Z,297nm,1.2s

VBMS **Vicksburg** **20.37 356** P Pn 10 29 22.5 +0.1
baz=175,SNR=38

435B **Jarrell** **20.53 338** P **P** **10 29 22.2 +0.2**
baz=155

NATX **Nacogdoches** **20.56 346** P **P** **10 29 23.0 +0.7**
NATX **Nacogdoches** **20.56 346** P **P** **10 29 23.2 +0.9**
baz=163,SNR=11

152A **Waverly Hall** **21.12 10** IAmb IAmb 10 29 36.0
comp=Z,214nm,1.1s

JCT **Junction City** **21.15 333** IAmb IAmb 10 29 37.3
comp=Z,207nm,1.0s

JCT **Junction City** **21.15 333** P **P** **10 29 28.9 +0.1**
baz=149,SNR=71

LRAL **Lakeview Retre** **21.21 4** IAmb IAmb 10 29 36.6
comp=Z,160nm,1.1s

LRAL **Lakeview Retre** **21.21 4** P **P** **10 29 30.3 +1.0**
baz=185,SNR=74

Z47A **Carrollton** **21.31 2** IAmb IAmb 10 29 45.4
comp=Z,251nm,0.9s

WHTX **Lake Whitney,** **21.58 340** P **P** **10 29 33.0 -0.3**
baz=156,SNR=6.0

Z41A **Richland Creek** **21.65 351** P **P** **10 29 35.9 +1.8**
baz=169,SNR=26

Z51A **Franklin** **21.69 8** IAmb IAmb 10 29 46.1
comp=Z,132nm,0.8s

HPIG **21.79 316** P **P** **10 29 37.3 +1.5**
CRPR **Cabo Rojo, PR** **21.94 71** IAmb IAmb 10 29 46.6
comp=Z,171nm,1.4s

PRSN **Puerto Rico Se** **21.96 70** P **P** **10 29 37.3 -0.2**
PRSN IAmb IAmb 10 29 42.0
comp=Z,194nm,1.4s

MLPR **Magueyes Islan** **22.00 71** P **P** **10 29 36.6 -1.3**
MLPR IAmb IAmb 10 29 47.8
comp=Z,108nm,0.9s

AGPR **Aguadilla, PR** **22.05 70** P **P** **10 29 37.6 -0.9**
Z38A **Mt. Pleasant** **22.07 346** IAmb IAmb 10 29 53.1
comp=Z,222nm,1.1s

Y49A **Blount Mountai** **22.07 6** P **P** **10 29 38.6 0.0**
Y49A IAmb IAmb 10 29 48.4
comp=Z,89nm,0.8s

GOGA **Godfrey** **22.08 12** IAmb IAmb 10 29 47.8
comp=Z,159nm,0.9s

GOGA **Godfrey** **22.08 12** P **P** **10 29 39.1 +0.5**
baz=194,SNR=50

TXAR **Lajitas Array** **22.21 324** P **P** **10 29 41.4 +1.1**
comp=Z,29nm,0.8s,baz=145,slow=11,SNR=79

TXAR PcP **PcP** **10 33 37.1 +0.2**
comp=Z,5.6nm,1.0s,baz=165,slow=3.7,SNR=4.7

TXAR SKKS 11 03 36.5
comp=Z,1.1nm,1.0s,baz=171,slow=6.4,SNR=3.6

TXAR **Lajitas Array** **22.21 324** P **P** **10 29 41.5 +1.3**
TX31 **Lajitas Ar. Si** **22.21 324** P **P** **10 29 41.4 +1.1**
TX31 IAmb IAmb 10 29 51.5
comp=Z,202nm,1.1s

BIRV **Birongo** **22.26 91** P **P** **10 29 39.9 -0.9**
AOPR **Arecibo Observ** **22.35 70** P **P** **10 29 40.0 -1.8**
AOPR IAmb IAmb 10 29 51.2
comp=Z,166nm,1.1s

Y52A **Lilburn** **22.40 11** P **P** **10 29 42.3 +0.1**
Y52A IAmb IAmb 10 29 52.1
comp=Z,216nm,0.8s

OBIP **Obispado Ponce** **22.42 71** P **P** **10 29 40.6 -1.9**
OBIP IAmb IAmb 10 30 01.1
comp=Z,96nm,0.8s

CELP **Cerrillos** **22.45 71** P **P** **10 29 41.8 -1.1**
CELP IAmb IAmb 10 29 52.2
comp=Z,102nm,0.8s

OXF **Oxford** **22.61 359** P **P** **10 29 45.0 +0.7**
baz=178,SNR=10

X48A **Hartselle** **22.61 4** IAmb IAmb 10 29 48.9
comp=Z,115nm,1.2s

NHSC **New Hope** **22.67 19** P **P** **10 29 45.1 +0.1**
NHSC **New Hope** **22.67 19** P **P** **10 29 45.3 +0.3**
baz=202,SNR=23

Z35A **Perchaven, San** **22.75 342** P **P** **10 29 45.5 -0.3**
Z35A IAmb IAmb 10 29 56.5
comp=Z,154nm,0.9s

FPAL **Fort Paine** **22.84 7** IAmb IAmb 10 29 58.3
comp=Z,103nm,1.1s

SJG **San Juan** **22.86 71** P **P** **10 29 46.0 -1.1**
comp=Z,80nm,0.8s,baz=270,slow=5.7,SNR=27

SJG LR LR 10 39 11.9
comp=Z,1µm,18.4s,baz=266,slow=38

SJG **San Juan** **22.86 71** P **P** **10 29 46.4 -0.7**
SJG pmax pmax
comp=Z,111nm,0.9s

SJG MLR MLR
comp=Z,2µm,20.0s

SJG **San Juan** **22.86 71** P **P** **10 29 46.4 -0.7**
SJG IAmb IAmb 10 29 48.0
comp=Z,111nm,0.9s

X40A **Basin Creek Fa** **22.86 352** IAmb IAmb 10 30 01.1
comp=Z,160nm,1.4s

X40A **Basin Creek Fa** **22.86 352** P **P** **10 29 47.8 +0.8**
baz=170,SNR=32

ABTX **Abilene, Hawle** **22.95 336** IAmb IAmb 10 29 58.0
comp=Z,201nm,1.1s

ABTX **Abilene, Hawle** **22.95 336** P **P** **10 29 46.9 -1.1**
baz=152,SNR=30

PDPR **Patillas Dam,** **22.95 72** IAmb IAmb 10 29 48.8
comp=Z,122nm,1.1s

X51A **Calhoun** **22.96 9** IAmb IAmb 10 29 58.7
comp=Z,129nm,1.1s

GCPR **Guaynabo City** **22.96 71** IAmb IAmb 10 29 57.0
comp=Z,109nm,0.7s

PLAL **Pickwick Lake** **23.09 2** P **P** **10 29 49.5 +0.1**
HODGE **Hodges** **23.14 14** IAmb IAmb 10 30 02.6
comp=Z,135nm,1.0s

HUMP **Col San Antoni** **23.14 71** IAmb IAmb 10 29 59.2
comp=Z,127nm,0.9s

CBYP **Canovanas** **23.16 71** IAmb IAmb 10 29 50.6
comp=Z,147nm,1.1s

SLBS **Sierra La Lagu** **23.22 303** P **P** **10 29 53.2 +2.2**
W41B **Gary Mavity, V** **23.46 353** P **P** **10 29 54.1 +1.0**
baz=171,SNR=54

SWET **Sewanee** **23.47 6** IAmb IAmb 10 30 01.3
comp=Z,85nm,1.1s

W50A **Signal Mountai** **23.52 7** IAmb IAmb 10 29 57.1
comp=Z,149nm,1.4s

Y58A **Scranton** **23.57 20** IAmb IAmb 10 30 16.9
comp=Z,156nm,0.9s

W52A **Murphy** **23.63 10** IAmb IAmb 10 30 05.9
comp=Z,134nm,1.2s

HBAR **Harrisburg** **23.70 356** P **P** **10 29 56.5 +1.1**
CUPR **Culebra, Puert** **23.70 71** P **P** **10 29 54.8 -0.9**
CUPR IAmb IAmb 10 30 05.1
comp=Z,118nm,0.8s

LPIG **La Paz** **23.70 304** P **P** **10 29 57.2 +1.6**
comp=Z,111nm,1.2s,baz=50,slow=1.4,SNR=4.7

W39A **Magazine** **23.71 350** IAmb IAmb 10 30 09.2
comp=Z,174nm,1.2s

W39A **Magazine** **23.71 350** P **P** **10 29 55.8 +0.2**
baz=168,SNR=55

BG3 **Lake Jocassee** **23.72 12** IAmb IAmb 10 30 04.7
comp=Z,137nm,0.9s

HALT **Halls** **24.01 359** P **P** **10 29 58.7 +0.4**
FCAR **Ozark Folk Cen** **24.16 354** P **P** **10 29 59.9 +0.1**
TKL **Tuckaleechee C** **24.20 10** P **P** **10 30 00.2 -0.1**
comp=Z,120nm,1.0s,baz=185,slow=11,SNR=64

TKL LR LR 10 40 45.7
comp=Z,2µm,18.6s,baz=228,slow=40

PEBM **Pemiscott Bayo** **24.22 358** P **P** **10 30 00.7 +0.3**
PEBM IAmb IAmb 10 30 05.9
comp=Z,157nm,0.9s

KMSC **Kings Mountain** **24.23 15** P **P** **10 30 01.5 +1.0**
baz=198,SNR=54

WVT **Waverly** **24.24 2** P **P** **10 30 00.7 +0.1**
WVT pmax pmax
comp=Z,55nm,1.3s

WVT MLR MLR
comp=Z,2µm,22.0s

WVT **Waverly** **24.24 2** P **P** **10 30 00.7 +0.1**
WVT **Waverly** **24.24 2** P **P** **10 30 00.7 +0.1**
baz=182

X58A **Rowland** **24.27 20** IAmb IAmb 10 30 12.2
comp=Z,129nm,0.9s

V52A **Sevierville** **24.41 10** IAmb IAmb 10 30 11.6
comp=Z,160nm,1.1s

WMOK **Wichita Mounta** **24.54 340** IAmb IAmb 10 30 14.5
comp=Z,115nm,1.2s

WMOK **Wichita Mounta** **24.54 340** P **P** **10 30 02.2 -1.1**
baz=156,SNR=73

TBTG **Tabatinga, AM** **24.69 129** *e*P **P** **10 30 04.5 -0.4**
TBTG **Tabatinga, AM** **24.69 129** *e*P **P** **10 30 06.0 +1.1**
U40A **Yellville** **24.70 352** P **P** **10 30 05.0 +0.2**
baz=170,SNR=144

OKCFA **Oklahoma City** **24.75 343** P **P** **10 30 04.9 -0.4**
U49A **Red Boiling Sp** **24.77 6** IAmb IAmb 10 30 14.8
comp=Z,101nm,1.0s

HHAR **Hobbs** **24.79 350** IAmb IAmb 10 30 17.4
comp=Z,159nm,1.3s

TUL1 **Leonard** **24.80 347** P **P** **10 30 04.9 -0.7**
baz=164,SNR=26

MNTX **Cornudas Mount** **24.96 325** IAmb IAmb 10 30 12.0
comp=Z,65nm,1.1s

MNTX **Cornudas Mount** **24.96 325** P **P** **10 30 07.6 +0.5**
baz=139,SNR=41

TZTN **Tazewell** **25.11 10** IAmb IAmb 10 30 35.0
comp=Z,77nm,0.9s

TZTN **Tazewell** **25.11 10** P **P** **10 30 08.4 0.0**
baz=192,SNR=16

CZSB **Cruzeiro do Su** **25.23 140** *e*P **P** **10 30 11.1 +1.4**
CNNC **Cliffs of the** **25.39 21** IAmb IAmb 10 30 14.6
comp=Z,141nm,1.1s

CNNC **Cliffs of the** **25.39 21** P **P** **10 30 10.7 -0.3**
comp=Z,206,SNR=5.6

MGMO **Mountain Grove** **25.42 354** IAmb IAmb 10 30 24.7
comp=Z,166nm,1.2s

MSTX **Muleshoe** **25.44 332** IAmb IAmb 10 30 19.4
comp=Z,105nm,1.0s

MSTX **Muleshoe** **25.44 332** P **P** **10 30 11.3 -0.3**
baz=147,SNR=42

SMRT **St. Maarten** **25.71 73** IAMs_20 IAMs_20 10 40 19.2
comp=Z,3µm,21.0s

AMTX **Amarillo** **25.74 335** P **P** **10 30 14.2 -0.1**
baz=150

S44A **Carbondale** **25.79 359** IAmb IAmb 10 30 23.4
comp=Z,105nm,0.9s

SIUC **Southern Illin** **25.81 359** IAmb IAmb 10 30 23.5
comp=Z,103nm,0.9s

USIN **University of** **26.08 2** IAmb IAmb 10 30 28.6
comp=Z,122nm,1.4s

U32A **Winter Ranch,** **26.11 341** IAmb IAmb 10 30 26.6
comp=Z,79nm,1.0s

CCM **Cathedral Cave** **26.23 356** P **P** **10 30 18.2 -0.4**
CCM pmax pmax
comp=Z,186nm,0.9s

CCM MLR MLR
comp=Z,2µm,22.0s

CCM **Cathedral Cave** **26.23 356** P **P** **10 30 18.2 -0.4**
CCM **Cathedral Cave** **26.23 356** P **P** **10 30 17.8 -0.8**
baz=174

WCI **Wyandotte Cave** **26.42 5** P **P** **10 30 19.8 -0.5**
WCI pmax pmax
comp=Z,99nm,0.8s

WCI MLR MLR
comp=Z,2µm,22.0s

WCI **Wyandotte Cave** **26.42 5** P **P** **10 30 19.8 -0.5**
WCI IAmb IAmb 10 30 28.7
comp=Z,99nm,0.8s

WCI **Wyandotte Cave** **26.42 5** P **P** **10 30 19.7 -0.6**
baz=185

U59A **Littleton** **26.43 20** IAmb IAmb 10 30 24.0
comp=Z,132nm,1.4s

BLA **Blacksburg** **26.43 15** IAmb IAmb 10 30 32.4
comp=Z,94nm,1.1s

BLA **Blacksburg** **26.43 15** P **P** **10 30 20.9 +0.5**
baz=199,SNR=14

NNA **Nana** **26.50 153** P **P** **10 30 21.3 0.0**
comp=Z,38nm,1.1s,baz=323,slow=2.5,SNR=6.2

NNA **Nana** **26.50 153** *ce*P **P** **10 30 22.2 +0.9**
NNA pmax pmax
comp=Z,168nm,1.4s

NNA **Nana** **26.50 153** P **P** **10 30 21.5 +0.2**
NNA IAmb IAmb 10 30 24.9
comp=Z,107nm,1.3s

R40A **Maddies Statio** **26.55 354** IAmb IAmb 10 30 24.3
comp=Z,102nm,1.3s

T57A **Hurt** **26.55 17** IAmb IAmb 10 30 30.7
comp=Z,59nm,0.8s

SLM **Saint Louis** **26.75 358** IAmb IAmb 10 30 36.1
comp=Z,41nm,0.7s

CBE **Ff. Capester** **26.83 78** IAMs_20 IAMs_20 10 39 52.8
comp=Z,2µm,19.0s

ANWB **Willy Bob** **26.86 74** IAMs_20 IAMs_20 10 42 28.6
comp=Z,2µm,19.0s

121A **Cookes Peak, D** **26.95 323** P **P** **10 30 27.7 +2.3**
baz=136,SNR=38

ABD **La Joyeuse, An** **26.98 77** IAMs_20 IAMs_20 10 41 27.0
comp=Z,2µm,20.0s

Q44A **Meyer Farm, Va** **26.99 360** IAmb IAmb 10 30 33.8
comp=Z,68nm,0.9s

T59A **Double "B" Far** **27.07 20** IAmb IAmb 10 30 34.0
comp=Z,120nm,1.2s

319A **Douglas** **27.08 319** IAmb IAmb 10 30 30.5
comp=Z,190nm,1.3s

GDSD **La Dsirade Is** **27.37 77** IAmb IAmb 10 30 28.2
comp=Z,161nm,1.4s

GDSD IAMs_20 IAMs_20 10 40 20.3
comp=Z,3µm,22.0s

R55A **Marlinton** **27.52 15** IAmb IAmb 10 30 38.8
comp=Z,56nm,1.1s

Q51A **Peebles** **27.56 9** IAmb IAmb 10 30 38.6
comp=Z,93nm,0.8s

Y22D **IRIS PASSCAL I** **27.59 326** IAmb IAmb 10 30 45.9
comp=Z,91nm,1.1s

Y22D **IRIS PASSCAL I** **27.59 326** P **P** **10 30 33.8 +2.7**
baz=139,SNR=6.8

Q52A **Bidwell** **27.69 11** IAmb IAmb 10 30 40.9
comp=Z,62nm,0.8s

P48A **Milroy** **27.72 6** IAmb IAmb 10 30 34.3
comp=Z,127nm,1.5s

P40A **Paris** **27.76 355** IAmb IAmb 10 30 40.1
comp=Z,101nm,1.0s

P49A **Miami Univ. Ec** **27.87 7** IAmb IAmb 10 30 35.8
comp=Z,115nm,1.5s

P49A **Miami Univ. Ec** **27.87 7** P **P** **10 30 31.9 -1.5**
baz=188,SNR=5.5

Q54A **Coxs Mills** **28.01 13** IAmb IAmb 10 30 46.8
comp=Z,136nm,1.4s

P38A **Dawn** **28.01 352** IAmb IAmb 10 30 38.2
comp=Z,70nm,1.2s

ANMO **Albuquerque** **28.02 328** P **P** **10 30 35.3 +0.4**
comp=Z,4.8nm,1.0s,baz=150,slow=11,SNR=12

ANMO **Albuquerque** **28.02 328** *ce*P **P** **10 30 35.8 +0.9**
ANMO pmax pmax
comp=Z,18nm,1.7s

ANMO **Albuquerque** **28.02 328** P **P** **10 30 35.8 +0.9**
ANMO **Albuquerque** **28.02 328** P **P** **10 30 36.2 +1.3**
baz=141

KSU1 **Kansas State U** **28.04 347** IAmb IAmb 10 30 43.4
comp=Z,62nm,0.9s

KSU1 **Kansas State U** **28.04 347** P **P** **10 30 34.2 -0.7**
baz=164,SNR=32

P51A **Williamsport** **28.05 10** IAmb IAmb 10 30 42.7
comp=Z,47nm,0.8s

CBN **Corbin Frederi** **28.24 19** IAmb IAmb 10 30 51.6
comp=Z,73nm,0.8s

CBN **Corbin Frederi** **28.24 19** P **P** **10 30 37.2 +0.6**
baz=204

P52A **Corning** **28.36 11** IAmb IAmb 10 30 46.0
comp=Z,62nm,0.8s

P52A **Corning** **28.36 11** P **P** **10 30 37.4 -0.4**
baz=194,SNR=10

P53A **Whipple** **28.37 12** IAmb IAmb 10 30 46.2
comp=Z,61nm,0.8s

Q56A **Snyder Ridge,** **28.48 16** IAmb IAmb 10 31 00.7
comp=Z,44nm,0.9s

SFIN **Lafayette** **28.51 3** P **P** **10 30 37.8 -1.2**
baz=183

O48B **Farmland** **28.54 6** P **P** **10 30 38.2 -1.0**
baz=187,SNR=6.4

CBKS **Cedar Bluff** **28.58 342** IAmb IAmb 10 30 51.8
comp=Z,83nm,1.0s

CBKS **Cedar Bluff** **28.58 342** P **P** **10 30 39.4 -0.3**
baz=157,SNR=6.2

HDIL	Hopedale	28.64	359	P	P	10 30 40.2	0.0			
	baz=179									
TUC	Tucson	28.65	319	P	P	10 30 42.1	+1.6			
TUC				pmax	pmax					
	comp=Z,25nm,1.0s									
TUC				MLR	MLR					
	comp=Z,3µm,18.0s									
TUC	Tucson	28.65	319	P	P	10 30 42.1	+1.6			
TUC	Tucson	28.65	319	IAMs_20	IAMs_20	10 42 22.4				
	comp=Z,3µm,18.0s									
TUC	Tucson	28.65	319	P	P	10 30 42.5	+2.0			
	baz=130									
ACSO	Alum Creek Sta	28.80	9	IAmb	IAmb	10 30 49.4				
	comp=Z,60nm,0.8s									
ACSO				IAMs_20	IAMs_20	10 43 25.5				
	comp=Z,2µm,19.0s									
ACSO	Alum Creek Sta	28.80	9	P	P	10 30 41.4	-0.3			
	baz=192,SNR=11									
T25A	Trinidad	28.82	334	P	P	10 30 43.3	+1.2			
	baz=147,SNR=37									
N41A	Harden Midland	28.84	357	IAmb	IAmb	10 30 50.1				
	comp=Z,77nm,0.9s									
MCWV	Mont Chateau	28.89	15	P	P	10 30 42.2	-0.2			
	baz=198									
O52A	Adamsville	28.89	11	IAmb	IAmb	10 30 50.7				
	comp=Z,57nm,0.8s									
N38A	Joes South For	29.13	353	IAmb	IAmb	10 30 48.1				
	comp=Z,152nm,1.4s									
O53A	New Philadelph	29.14	12	IAmb	IAmb	10 30 52.6				
	comp=Z,60nm,0.9s									
O53A				IAMs_20	IAMs_20	10 43 21.4				
	comp=Z,2µm,19.0s									
O53A	New Philadelph	29.14	12	P	P	10 30 45.1	+0.4			
	baz=195									
P57A	Homestead Farm	29.22	17	IAmb	IAmb	10 30 49.6				
	comp=Z,148nm,1.4s									
N49A	Columbus Grove	29.30	7	IAmb	IAmb	10 30 54.9				
	comp=Z,65nm,1.2s									
N51A	Ashland	29.57	10	IAmb	IAmb	10 30 55.9				
	comp=Z,81nm,1.1s									
BOAV	Boa Vista	29.65	106	*e*P	P	10 30 49.3	-0.1			
KSCO	Kaye Shedlock'	29.72	338	IAmb	IAmb	10 31 02.7				
	comp=Z,46nm,0.9s									
KSCO	Kaye Shedlock'	29.72	338	P	P	10 30 50.4	+0.4			
	baz=152,SNR=7.4									
N53A	Lisbon	29.75	12	IAmb	IAmb	10 30 53.2				
	comp=Z,132nm,1.5s									
214A	Organ Pipe Nat	29.77	316	IAmb	IAmb	10 30 53.5				
	comp=Z,52nm,1.1s									
214A	Organ Pipe Nat	29.77	316	P	P	10 30 52.9	+2.4			
	baz=127,SNR=29									
O56A	Blue Knob Stat	29.79	16	P	P	10 30 49.9	-0.5			
	baz=200									
SDCO	Great Sand Dun	29.80	333	P	P	10 30 52.2	+1.3			
	baz=146,SNR=27									
W18A	Petrified Fore	29.93	324	IAmb	IAmb	10 30 57.1				
	comp=Z,75nm,1.2s									
W18A	Petrified Fore	29.93	324	P	P	10 30 54.5	+2.5			
	baz=136,SNR=19									
M50A	Fremont	29.93	9	IAmb	IAmb	10 31 10.5				
	comp=Z,81nm,0.8s									
N54A	Moraine State	30.09	14	IAmb	IAmb	10 31 01.0				
	comp=Z,38nm,0.9s									
N54A	Moraine State	30.09	14	P	P	10 30 52.0	-1.1			
	baz=197									
L42A	Oliver, Polo	30.09	359	IAmb	IAmb	10 31 01.1				
	comp=Z,75nm,1.2s									
L46A	Eue Claire	30.18	4	IAmb	IAmb	10 31 01.9				
	comp=Z,42nm,0.9s									
MVL	Millersville	30.20	19	IAmb	IAmb	10 30 57.3				
	comp=Z,80nm,1.4s									
SCIA	State Center	30.23	354	IAMs_20	IAMs_20	10 44 51.3				
	comp=Z,2µm,21.0s									
SCIA	State Center	30.23	354	P	P	10 30 55.3	+1.0			
	baz=171,SNR=6.7									
BBSR	BB Station	30.24	44	P	P	10 30 53.5	-1.0			
BBSR	BB Station	30.24	44	IAMs_20	IAMs_20	10 42 54.3				
	comp=Z,2µm,19.0s									
L44A	Lake County Fo	30.27	1	P	P	10 30 52.8	-1.9			
	baz=182									
PAGS	Pennsylvania G	30.29	19	IAmb	IAmb	10 31 03.2				
	comp=Z,53nm,0.9s									
SSPA	Standing Stone	30.32	17	P	P	10 30 54.6	-0.5			
SSPA	Standing Stone	30.32	17	P	P	10 30 55.2	+0.1			
	baz=202									
M53A	WI Miller and	30.40	12	IAmb	IAmb	10 31 13.9				
	comp=Z,57nm,1.1s									
M53A	WI Miller and	30.40	12	P	P	10 30 55.9	+0.2			
	baz=196									
S22A	4UR Ranch, Cre	30.41	331	P	P	10 30 57.6	+1.3			
	baz=143									
BGNE	Belgrade	30.59	346	IAmb	IAmb	10 31 05.8				
	comp=Z,84nm,1.1s									
BGNE	Belgrade	30.59	346	P	P	10 30 57.2	-0.2			
	baz=162									
M54A	Oil Creek Stat	30.68	14	IAmb	IAmb	10 31 01.5				
	comp=Z,79nm,1.4s									
M54A				IAMs_20	IAMs_20	10 44 41.2				
	comp=Z,2µm,18.0s									
M54A	Oil Creek Stat	30.68	14	P	P	10 30 57.5	-0.8			
	baz=198									
ALLY	Allegheny Colle	30.71	13	IAmb	IAmb	10 31 14.6				
	comp=Z,61nm,1.3s									
AAM	Ann Arbor	30.73	8	IAmb	IAmb	10 31 01.5				
	comp=Z,103nm,1.3s									
AAM	Ann Arbor	30.73	8	P	P	10 30 59.1	+0.4			
	baz=190									
L34A	Svendsen Farm,	30.75	349	IAmb	IAmb	10 31 09.1				
	comp=Z,38nm,0.9s									
K43A	Burlington	30.79	1	IAmb	IAmb	10 31 09.3				
	comp=Z,75nm,1.3s									
MVCO	Mesa Verde	30.81	329	P	P	10 31 01.1	+1.3			
	baz=140,SNR=9.7									
M55A	Ridgway	30.86	15	IAmb	IAmb	10 31 20.4				
	comp=Z,72nm,1.4s									
113A	Mohawk Valley,	30.91	316	IAmb	IAmb	10 31 03.5				
	comp=Z,69nm,1.3s									
K38A	Parkersburg	30.91	354	IAmb	IAmb	10 31 08.2				
	comp=Z,92nm,1.1s									
JFWS	Jewell Farm	31.02	358	IAmb	IAmb	10 31 09.5				
	comp=Z,59nm,0.8s									
JFWS	Jewell Farm	31.02	358	IAMs_20	IAMs_20	10 44 39.0				
	comp=Z,2µm,20.0s									
JFWS	Jewell Farm	31.02	358	P	P	10 31 01.6	+0.4			
	baz=177,SNR=9.3									
Y14A	Wickenburg	31.12	319	IAmb	IAmb	10 31 06.0				
	comp=Z,80nm,1.5s									
ETMB	Extrema	31.15	133	*e*P	P	10 31 02.4	-0.3			
WUAZ	Wupatki	31.16	323	IAmb	IAmb	10 31 06.9				
	comp=Z,50nm,1.0s									
WUAZ	Wupatki	31.16	323	P	P	10 31 05.4	+2.6			
	baz=134,SNR=30									
ERPA	Erie	31.19	13	IAMs_20	IAMs_20	10 44 42.6				
	comp=Z,2µm,18.0s									
ERPA	Erie	31.19	13	P	P	10 31 03.6	+0.8			
	baz=197									
N59A	State Game Lan	31.22	19	IAmb	IAmb	10 31 06.2				
	comp=Z,90nm,1.5s									
N59A				IAMs_20	IAMs_20	10 45 19.1				
	comp=Z,3µm,18.0s									
N59A	State Game Lan	31.22	19	P	P	10 31 02.9	-0.2			
	baz=205									
OGNE	Ogallala	31.24	341	IAmb	IAmb	10 31 12.6				
	comp=Z,46nm,1.2s									
OGNE	Ogallala	31.24	341	P	P	10 31 05.0	+1.7			
	baz=154									
K50A	Casco	31.34	9	IAmb	IAmb	10 31 06.6				
	comp=Z,95nm,1.4s									
BRNJ	Basking Ridge	31.42	21	IAmb	IAmb	10 31 13.8				
	comp=Z,48nm,0.8s									
ISCO	Idaho Springs	31.56	335	P	P	10 31 07.4	+0.9			
	baz=147,SNR=22									
MACA	Manacapuru-AM	31.76	116	*e*P	P	10 31 08.1	0.0			
WVNY	West Valley, N	31.79	15	IAmb	IAmb	10 31 11.3				
	comp=Z,96nm,1.4s									
GLA	Glamis	31.79	316	IAmb	IAmb	10 31 12.3				
	comp=Z,100nm,1.1s									
GLA	Glamis	31.79	316	P	P	10 31 10.6	+2.4			
	baz=126,SNR=21									
KSPA	Keystone Colle	31.80	19	IAmb	IAmb	10 31 30.7				
	comp=Z,55nm,1.3s									
PV11	David Mesa, Pa	31.84	329	IAmb	IAmb	10 31 22.8				
	comp=Z,41nm,0.9s									
PAL	Palisades	31.94	22	IAmb	IAmb	10 31 17.6				
	comp=Z,32nm,0.8s									
PAL	Palisades	31.94	22	P	P	10 31 09.4	+0.1			
	baz=208									
I42A	Draeger Farm,	31.97	0	IAmb	IAmb	10 31 18.0				
	comp=Z,105nm,1.2s									
PV10	Paradox Valley	31.98	329	IAmb	IAmb	10 31 23.4				
	comp=Z,34nm,0.9s									
BLYC	Blythe	32.00	317	IAmb	IAmb	10 31 13.3				
	comp=Z,61nm,1.2s									
I40A	Norwalk	32.01	358	IAmb	IAmb	10 31 17.3				
	comp=Z,56nm,1.1s									
PV23	Carpenter Ridg	32.03	329	IAmb	IAmb	10 31 18.5				
	comp=Z,38nm,0.9s									
PDMCI	Parker Dam,Lak	32.09	318	P	P	10 31 13.4	+2.7			
	baz=128,SNR=54									
WSPT	Westport, CT	32.30	22	IAMs_20	IAMs_20	10 46 28.5				
	comp=Z,3µm,18.0s									
BINY	Binghamton	32.32	18	IAmb	IAmb	10 31 28.1				
	comp=Z,53nm,1.1s									
BINY				IAMs_20	IAMs_20	10 46 39.2				
	comp=Z,2µm,18.0s									
BINY	Binghamton	32.32	18	P	P	10 31 12.8	+0.1			
	baz=204									
YUH	Yuha Desert	32.32	314	IAmb	IAmb	10 31 16.3				
	comp=Z,48nm,1.2s									
U15A	North Rim	32.33	323	IAmb	IAmb	10 31 17.5				
	comp=Z,46nm,1.1s									
SWSC	Sam W. Stewart	32.40	315	P	P	10 31 16.2	+2.6			
	baz=124,SNR=16									
RMX	La Rumorosa	32.41	314	IAmb	IAmb	10 31 16.6				
	comp=Z,50nm,1.2s									
IKP	In-Ko-Pah, Jac	32.45	314	P	P	10 31 16.9	+2.7			
	baz=123,SNR=18									
ECSD	EROS Data Cent	32.51	350	IAmb	IAmb	10 31 22.3				
	comp=Z,49nm,1.1s									
ECSD	EROS Data Cent	32.51	350	P	P	10 31 13.0	-1.3			
	baz=166,SNR=22									
MEDO	Medina	32.54	14	IAmb	IAmb	10 31 22.8				
	comp=Z,54nm,1.1s									
BC3	Big Chuckawall	32.57	316	P	P	10 31 17.7	+2.6			
	baz=126,SNR=76									
YLE	Yale	32.57	23	IAMs_20	IAMs_20	10 45 16.7				
	comp=Z,2µm,20.0s									
N23A	Red Feather La	32.62	336	P	P	10 31 16.2	+0.5			
	baz=148									
K57A	Scipio Center	32.65	17	IAmb	IAmb	10 31 24.0				
	comp=Z,39nm,0.9s									
IRM	Iron Mountain	32.66	317	P	P	10 31 18.4	+2.5			
	baz=126,SNR=55									
NEE2	Needles Airpor	32.68	319	P	P	10 31 18.5	+2.5			
	baz=128,SNR=6.7									
KSCT	Kent School, K	32.73	22	IAmb	IAmb	10 31 24.6				
	comp=Z,79nm,1.3s									
TKX	Tecate	32.76	314	IAmb	IAmb	10 31 19.9				
	comp=Z,55nm,1.3s									
MONP2	Monument Peak	32.81	314	P	P	10 31 19.6	+2.2			
	baz=123,SNR=12									
O20A	White River Ci	32.98	332	IAmb	IAmb	10 31 26.9				
	comp=Z,55nm,0.9s									
O20A	White River Ci	32.98	332	P	P	10 31 20.1	+1.3			
	baz=143,SNR=44									
M63A	Gales Ferry	32.99	24	IAmb	IAmb	10 31 27.4				
	comp=Z,62nm,0.9s									
KNB	Kanab	33.04	323	IAmb	IAmb	10 31 23.7				
	comp=Z,81nm,1.1s									
GLMI	Grayling	33.11	6	IAmb	IAmb	10 31 29.2				
	comp=Z,35nm,1.1s									
BELC	Belle Mtn. Jos	33.14	316	P	P	10 31 22.4	+2.2			
	baz=125,SNR=33									
TPFO	Pinon Flats	33.23	315	P	P	10 31 23.4	+2.5			
	baz=124,SNR=13									
PFO	Pinyon Flats O	33.23	315	LR	LR	10 46 15.6				
	comp=Z,1µm,18.4s,baz=121,slow=39									
PFO	Pinyon Flats O	33.23	315	P	P	10 31 22.6	+1.6			
PFO				pmax	pmax					
	comp=Z,27nm,1.4s									
PFO	Pinyon Flats O	33.23	315	P	P	10 31 22.6	+1.6			
PFO	Pinyon Flats O	33.23	315	P	P	10 31 23.4	+2.4			
	baz=124,SNR=13									
G40A	Rib Lake	33.37	358	IAmb	IAmb	10 31 29.9				
	comp=Z,78nm,1.1s									
GMRC	Granite Mounta	33.37	318	P	P	10 31 24.7	+2.5			
	baz=127,SNR=60									
MTPU	Mount Pierson	33.39	325	IAmb	IAmb	10 31 27.1				
	comp=Z,42nm,1.1s									
J57A	Williamstown	33.42	17	IAmb	IAmb	10 31 30.5				
	comp=Z,59nm,1.4s									
SPMN	Marine on St.	33.47	355	P	P	10 31 21.6	-1.2			
	baz=173,SNR=34									
TRY	Troy	33.55	21	IAmb	IAmb	10 31 27.1				
	comp=Z,108nm,1.3s									
SZCU	Shurtz Canyon	33.59	324	IAmb	IAmb	10 31 28.6				
	comp=Z,72nm,1.3s									
QUA2	Belchertown	33.62	22	IAmb	IAmb	10 31 33.2				
	comp=Z,54nm,1.2s									
QUA2				IAMs_20	IAMs_20	10 46 06.5				
	comp=Z,3µm,19.0s									
L61B	Northampton	33.65	22	IAmb	IAmb	10 31 34.0				
	comp=Z,32nm,0.9s									
L61B				IAMs_20	IAMs_20	10 46 21.3				
	comp=Z,2µm,18.0s									
L61B	Northampton	33.65	22	P	P	10 31 23.9	-0.4			
	baz=209									
SUSD	Miller	33.65	347	P	P	10 31 23.9	-0.5			
	baz=162									
P17A	Butcher Ranch,	33.67	329	IAmb	IAmb	10 31 33.1				
	comp=Z,32nm,0.9s									
M65A	Busby, Falmout	33.69	25	IAMs_20	IAMs_20	10 45 33.1				
	comp=Z,2µm,19.0s									
CCUT	Cedar City	33.72	324	IAmb	IAmb	10 31 30.0				
	comp=Z,54nm,1.1s									
MURC	Murrieta	33.74	315	P	P	10 31 27.9	+2.7			
	baz=123,SNR=11									
RWWY	Rawlins	33.81	335	IAmb	IAmb	10 31 38.5				
	comp=Z,33nm,0.9s									
HEC	Hector,Ludlow	33.85	317	P	P	10 31 29.3	+3.1			
	baz=126,SNR=7.0									
SADO	Sadowa	33.91	13	LR	LR	10 46 35.9				
	comp=Z,2µm,18.2s,baz=185,slow=39									
SADO	Sadowa	33.91	13	IAmb	IAmb	10 31 33.7				
	comp=Z,48nm,0.9s									
BBRC	Big Bear Solar	33.92	316	P	P	10 31 30.3	+3.2			
	baz=124,SNR=28									
J59A	Piesco	33.92	19	IAmb	IAmb	10 31 33.6				
	comp=Z,77nm,1.5s									
TUQ	Turquoise Moun	33.94	318	P	P	10 31 29.7	+2.6			
	baz=127,SNR=34									
TCRU	Three Creeks R	33.94	326	IAmb	IAmb	10 31 33.3				
	comp=Z,54nm,1.3s									
K62A	Royalston	34.00	22	IAmb	IAmb	10 31 30.8				
	comp=Z,84nm,1.5s									
DELO	Del Mine	34.02	15	IAmb	IAmb	10 31 30.2				
	comp=Z,81nm,1.5s									
WES	Weston	34.11	24	IAmb	IAmb	10 31 32.0				
	comp=Z,128nm,1.5s									
SHPR	Sheep Range	34.11	321	IAmb	IAmb	10 31 32.8				
	comp=Z,61nm,1.4s									
HRV	Adam Dziewonsk	34.12	23	IAMs_20	IAMs_20	10 47 18.6				
	comp=Z,3µm,18.0s									
ACCN	Adirondack Com	34.12	20	IAmb	IAmb	10 31 36.4				
	comp=Z,55nm,1.3s									
BCX	Boston College	34.12	24	IAmb	IAmb	10 31 36.9				
	comp=Z,57nm,1.0s									
F36A	Milaca	34.17	354	IAmb	IAmb	10 31 39.4				
	comp=Z,42nm,1.0s									
COWI	Conover	34.18	360	IAmb	IAmb	10 31 36.1				
	comp=Z,60nm,1.0s									
COWI				IAMs_20	IAMs_20	10 46 12.6				
	comp=Z,2µm,22.0s									
K22A	Casper	34.34	337	P	P	10 31 31.2	+0.7			
	baz=148									
BFSC	Mount Baldy Ra	34.41	315	P	P	10 31 33.5	+2.2			
	baz=123,SNR=10									
GSC	Goldstone, Bar	34.44	317	IAmb	IAmb	10 31 34.8				
	comp=Z,46nm,1.2s									
GSC	Goldstone, Bar	34.44	317	P	P	10 31 34.0	+2.6			
	baz=126,SNR=26									
NCB	Newcomb	34.47	19	IAmb	IAmb	10 31 34.4				
	comp=Z,63nm,1.4s									
J61A	Chester	34.48	21	IAmb	IAmb	10 31 36.0				
	comp=Z,80nm,1.4s									
CIS	Catalina Islan	34.49	313	P	P	10 31 34.2	+2.4			
	baz=122									
E43A	Lone Tree Farm	34.50	2	IAmb	IAmb	10 31 38.6				
	comp=Z,56nm,0.9s									
F33A	5 Mile Ranch,	34.50	351	IAmb	IAmb	10 31 38.7				
	comp=Z,56nm,1.1s									
LPAZ	La Paz	34.66	143	P	P	10 31 33.1	-1.0			
	comp=Z,6.9nm,0.9s,baz=311,slow=5.8,SNR=15									
LPAZ				LR	LR	10 45 59.8				
	comp=Z,1µm,19.1s,baz=301,slow=37									
LPAZ	La Paz	34.66	143	*e*P	P	10 31 33.9	-0.2			
PASC	Pasadena Art C	34.74	315	IAmb	IAmb	10 31 38.9				
	comp=Z,49nm,1.3s									
RSSD	Black Hills	34.74	341	P	P	10 31 34.3	+0.3			
RSSD				pmax	pmax					
	comp=Z,15nm,0.8s									
RSSD				MLR	MLR					
	comp=Z,1µm,21.0s									
RSSD	Black Hills	34.74	341	P	P	10 31 34.3	+0.3			
RSSD	Black Hills	34.74	341	P	P	10 31 34.7	+0.7			
	baz=153									
E38A	The Farm, Brul	34.76	357	IAmb	IAmb	10 31 41.3				
	comp=Z,72nm,0.9s									
QSM	Queen of Sheba	34.87	318	IAmb	IAmb	10 31 40.9				
	comp=Z,75nm,1.1s									
GWY	Greenwater Val	34.87	319	IAmb	IAmb	10 31 38.4				
	comp=Z,67nm,1.4s									
HNH	Hanover	34.88	21	IAMs_20	IAMs_20	10 46 59.9				
	comp=Z,3µm,18.0s									
DECC	Green Verdugo	34.89	315	P	P	10 31 37.9	+2.7			
	baz=123,SNR=8.0									
FFD	Franklin Falls	34.91	22	IAmb	IAmb	10 31 45.4				
	comp=Z,28nm,0.7s									
FFD				IAMs_20	IAMs_20	10 47 21.6				
	comp=Z,3µm,18.0s									
LONY	Lake Ozonia	34.94	18	IAmb	IAmb	10 31 38.5				
	comp=Z,109nm,1.4s									
LONY	Lake Ozonia	34.94	18	P	P	10 31 35.0	-0.5			
	baz=205									
EDW2	Edwards Air Fo	35.00	316	P	P	10 31 38.4	+2.2			
	baz=124,SNR=19									
TPNV	Topopah Spring	35.07	320	P	P	10 31 39.9	+3.0			
	baz=128,SNR=30									
LRMC	Laurel Mtn Rad	35.12	317	P	P	10 31 40.0	+2.6			
	baz=125,SNR=27									
D41A	Chassel	35.15	0	IAmb	IAmb	10 31 44.4				
	comp=Z,51nm,0.9s									
CCAC	Calif City Air	35.16	316	IAmb	IAmb	10 31 41.8				
	comp=Z,135nm,1.4s									
FURC	Furnace Creek,	35.17	319	P	P	10 31 40.4	+2.9			
	baz=127,SNR=30									
S11A	Rachel	35.20	322	IAmb	IAmb	10 31 42.0				
	comp=Z,68nm,1.0s									
VT1	Waterbury	35.27	20	IAMs_20	IAMs_20	10 47 58.0				
	comp=Z,3µm,19.0s									
DUG	Dugway, Tooele	35.28	328	IAMs_20	IAMs_20	10 47 20.1				
	comp=Z,1µm,18.0s									
DUG	Dugway, Tooele	35.28	328	P	P	10 31 40.8	+2.1			
	baz=136,SNR=14									
MPMC	Manual Prospec	35.33	318	P	P	10 31 41.8	+2.5			
	baz=126,SNR=45									
PB12	IPOC Station P	35.35	149	IAmb	IAmb	10 31 48.2				
	comp=Z,56nm,0.9s									
FRNY	Flat Rock	35.45	19	IAmb	IAmb	10 31 42.8				
	comp=Z,79nm,1.4s									
LBNH	Lisbon	35.48	21	IAMs_20	IAMs_20	10 47 16.7				
	comp=Z,2µm,19.0s									
LBNH	Lisbon	35.48	21	P	P	10 31 42.0	+1.9			
	baz=209									
PB16	IPOC Station P	35.54	147	IAmb	IAmb	10 31 51.3				
	comp=Z,39nm,0.7s									
R11A	Troy Canyon, C	35.56	323	P	P	10 31 43.8	+2.6			
	baz=131,SNR=42									
PDAR	Pinedale Array	35.69	334	P	P	10 31 41.9	-0.4			
	comp=Z,4.0nm,1.1s,baz=134,slow=11,SNR=12									
PDAR				PcP	PcP	10 34 10.8	+0.3			
	comp=Z,6.8nm,1.0s,baz=142,slow=3.1,SNR=7.6									
PDAR				LR	LR	10 49 40.9				
	comp=Z,526nm,19.8s,baz=135,slow=42									
BW06	Boulder Array	35.69	334	P	P	10 31 45.5	+3.2			
	baz=144									
ARVC	Arvin	35.70	316	P	P	10 31 45.4	+3.2			
	baz=123,SNR=11									
ISA	Isabella, Lake	35.76	317	IAmb	IAmb	10 31 46.3				
	comp=Z,83nm,1.5s									
ISA	Isabella, Lake	35.76	317	P	P	10 31 45.5	+2.8			
	baz=124,SNR=19									
GRAC	Grapevine Rang	35.81	319	P	P	10 31 46.3	+3.2			
	baz=127,SNR=63									
I63A	Otisfield	35.81	23	IAmb	IAmb	10 31 54.4				
	comp=Z,87nm,1.1s									
CWC	Cottonwood Cre	35.94	318	P	P	10 31 46.8	+2.4			
	baz=126									
BCW	Bitter Crk WRg	36.01	315	IAmb	IAmb	10 31 49.3				
	comp=Z,75nm,1.3s									
E28A	Huff	36.07	346	IAmb	IAmb	10 31 53.3				
	comp=Z,44nm,0.9s									
EYMN	Ely	36.09	357	IAmb	IAmb	10 31 52.2				
	comp=Z,52nm,1.0s									
EYMN	Ely	36.09	357	P	P	10 31 44.3	-1.1			
	baz=176,SNR=6.4									
LCH	Last Change Ra	36.13	319	IAmb	IAmb	10 31 49.4				
	comp=Z,60nm,1.3s									
VES	Vestal, Richgr	36.27	316	P	P	10 31 49.9	+2.9			
	baz=124,SNR=65									
TIN	Tinemaha, Big	36.40	319	P	P	10 31 51.6	+3.3			
	baz=126									
TRQ	Mont Tremblant	36.41	17	IAmb	IAmb	10 31 50.9				
	comp=Z,69nm,1.5s									
MDP	Montagnes des	36.46	97	P	P	10 31 48.7	-0.2			
	comp=Z,32nm,1.0s,baz=256,slow=9.5,SNR=

KVN Kaiserville 37.52 321 IAmb IAmb 10 32 02.0
comp=Z,79nm,1.2s

RYN Ryan 37.52 321 P **P** **10 31 59.9 +2.0**
RYN IAmb IAmb 10 32 01.5
comp=Z,63nm,1.2s

EMMW East Machias 37.60 25 IAMs_20 IAMs_20 10 47 45.7
comp=Z,3µm,20.0s

VILB Vilhena 37.64 130 *e*P **P** **10 31 58.6 -0.3**

PMPB Monarch Peak 37.64 316 IAmb IAmb 10 32 01.8
comp=Z,131nm,1.4s

LAO LASA Array 37.73 340 IAmb IAmb 10 32 19.4
comp=Z,67nm,1.3s

LAO LASA Array 37.73 340 P **P** **10 31 59.6 +0.2**
baz=151,SNR=12

PB02 IPOC Station P 37.85 150 IAmb IAmb 10 32 02.7
comp=Z,70nm,1.2s

G65A Princeton 37.96 25 IAmb IAmb 10 32 09.9
comp=Z,81nm,0.9s

LATQ La Tuque 37.98 18 IAmb IAmb 10 32 04.2
comp=Z,87nm,1.4s

BBGB Big Mountain B 38.00 316 IAmb IAmb 10 32 10.9
comp=Z,50nm,1.0s

YERR Yerington 38.19 320 IAmb IAmb 10 32 07.8
comp=Z,158nm,1.4s

F64A Sherman 38.19 23 IAmb IAmb 10 32 06.5
comp=Z,64nm,1.2s

GGN Saint George 38.19 25 IAmb IAmb 10 32 11.2
comp=Z,66nm,1.2s

PB07 IPOC Station P 38.20 151 IAmb IAmb 10 32 07.7
comp=Z,63nm,1.2s

NPGB Novo Progresso 38.27 118 *e*P **P** **10 32 03.1 -1.1**

PNTR Pine Nut 38.47 320 IAmb IAmb 10 32 09.6
comp=Z,72nm,1.1s

MCPB Macapa, AP 38.54 106 *e*P **P** **10 32 06.3 -0.3**

HLID Hailey 38.56 330 IAMs_20 IAMs_20 10 49 40.7
comp=Z,1µm,20.0s

HLID Hailey 38.56 330 P **P** **10 32 07.8 +1.2**
baz=137,SNR=23

PB09 IPOC Station P 38.57 150 IAmb IAmb 10 32 17.2
comp=Z,91nm,1.0s

VCNR Virginia City 38.63 321 IAmb IAmb 10 32 11.6
comp=Z,89nm,1.5s

DGMT Dagmar 38.72 344 IAmb IAmb 10 32 16.5
comp=Z,97nm,0.9s

DGMT Dagmar 38.72 344 IAMs_20 IAMs_20 10 50 17.7
comp=Z,1µm,20.0s

DGMT Dagmar 38.72 344 P **P** **10 32 07.9 +0.3**
baz=155,SNR=32

ULM Lac du Bonnet 38.76 353 P **P** **10 32 06.0 -1.9**
comp=Z,31nm,1.1s,baz=175,slow=8.5,SNR=11

ULM LR LR 10 50 35.3
comp=Z,1µm,19.4s,baz=164,slow=40

ULM Lac du Bonnet 38.76 353 *i* P **P** **10 32 06.4 -1.5**

RUBR Rubicon Trail 38.80 320 IAmb IAmb 10 32 18.7
comp=Z,108nm,1.2s

BOZ Bozeman (W) 38.85 334 P **P** **10 32 09.7 +0.7**
baz=143,SNR=13

MPK Martis Peak 38.86 320 IAmb IAmb 10 32 13.8
comp=Z,178nm,1.3s

D62A Allapoint, All 38.95 22 IAmb IAmb 10 32 12.7
comp=Z,129nm,1.4s

PQI Presque Isle 38.99 23 IAMs_20 IAMs_20 10 51 06.5
comp=Z,2µm,18.0s

SIV San Ignacio 39.01 134 P **P** **10 32 10.5 +0.1**
comp=Z,70nm,1.0s,baz=311,slow=8.8,SNR=91

SIV LR LR 10 47 48.8
comp=Z,1µm,18.1s,baz=316,slow=36

HAL Halifax 39.27 29 IAmb IAmb 10 32 20.2
comp=Z,96nm,1.2s

BEKR Beckworth 39.41 321 IAmb IAmb 10 32 17.8
comp=Z,81nm,1.2s

LVC Limon Verde 39.42 150 P **P** **10 32 14.5 +0.3**
comp=Z,23nm,1.1s,baz=324,slow=5.5,SNR=12

LVC LR LR 10 48 56.4
comp=Z,405nm,18.6s,baz=328,slow=37

LVC Limon Verde 39.42 150 *e*P **P** **10 32 15.6 +1.4**

LVC Limon Verde 39.42 150 P **P** **10 32 15.0 +0.8**

PDRB Porto dos Gac 39.53 125 *e*P **P** **10 32 13.8 -1.0**

LMN Caledonia Moun 39.65 27 IAmb IAmb 10 32 23.4
comp=Z,78nm,0.8s

CLDB Colider 39.87 123 *e*P **P** **10 32 16.6 -1.1**

WVOR Wild Horse Val 39.99 325 IAMs_20 IAMs_20 10 50 26.1
comp=Z,1µm,19.0s

PTLB Pontes e Lacer 40.03 132 *e*P **P** **10 32 18.4 -0.5**

MCCM Marconi Confer 40.07 317 P **P** **10 32 20.1 +1.1**

MCCM IAmb IAmb 10 32 23.0
comp=Z,198nm,1.3s

EGMT Eagleton 40.10 338 P **P** **10 32 19.6 +0.4**
baz=147,SNR=34

BATG Bathurst New B 40.25 24 P **P** **10 32 19.6 -0.9**

PB14 IPOC Station P 40.46 154 P **P** **10 32 22.8 0.0**

J08A Circle Bar Ran 40.52 326 IAmb IAmb 10 32 26.3
comp=Z,96nm,1.2s

O03E Paynes Creek 40.55 320 IAmb IAmb 10 32 26.1
comp=Z,84nm,1.2s

O03E Paynes Creek 40.55 320 P **P** **10 32 24.9 +1.7**
baz=125,SNR=24

HOPS Hopland Field 40.65 318 P **P** **10 32 25.2 +1.3**

MSO Missoula 40.81 334 IAMs_20 IAMs_20 10 51 57.9
comp=Z,1µm,18.0s

MSO Missoula 40.81 334 P **P** **10 32 25.5 +0.4**
baz=140

O02D Mt. Diablo Mer 41.11 319 P **P** **10 32 28.3 +0.6**
baz=124,SNR=15

GO02 Mina Guanaco 41.29 153 P **P** **10 32 29.9 +0.4**

KCPM Cahto Peak 41.35 318 IAmb IAmb 10 32 36.8
comp=Z,161nm,1.3s

M04C Macdoel 41.45 322 IAmb IAmb 10 32 33.1
comp=Z,75nm,1.1s

M04C Macdoel 41.45 322 P **P** **10 32 31.9 +1.3**
baz=126,SNR=30

N02D Trinity Center 41.51 321 P **P** **10 32 31.0 0.0**
baz=125,SNR=7.7

JTMT Jette 41.67 334 P **P** **10 32 32.9 +0.7**

KMRM Mail Ridge 41.72 319 P **P** **10 32 34.3 +1.5**

M02C Callahan 41.84 321 P **P** **10 32 34.1 +0.4**
baz=125,SNR=11

K04D Chiloquin, OR 41.90 323 P **P** **10 32 36.3 +2.1**
baz=127,SNR=13

YBH Yreka Blue Hor 41.95 321 LR LR 10 52 05.3
comp=Z,1µm,19.9s,baz=136,slow=39

YBH Yreka Blue Hor 41.95 321 IAMs_20 IAMs_20 10 51 55.0
comp=Z,1µm,21.0s

L04D Klamath Falls 41.98 322 IAMs_20 IAMs_20 10 52 22.0
comp=Z,1µm,18.0s

L04D Klamath Falls 41.98 322 P **P** **10 32 36.5 +1.5**
baz=126,SNR=28

J05D Fort Rock, OR 42.01 324 P **P** **10 32 36.4 +1.2**
baz=128,SNR=29

KHMM Horse Mountain 42.09 320 IAmb IAmb 10 32 39.4
comp=Z,114nm,1.2s

J04D Umpqua Nationa 42.48 324 IAMs_20 IAMs_20 10 52 57.1
comp=Z,2µm,18.0s

J04D Umpqua Nationa 42.48 324 P **P** **10 32 41.2 +2.1**
baz=127,SNR=21

HUMO Hull Mountain 42.60 322 IAMs_20 IAMs_20 10 52 30.4
comp=Z,1µm,21.0s

I05D Terrebonne, OR 42.73 325 P **P** **10 32 42.8 +1.9**
baz=129,SNR=9.2

L02E Cave Junction 42.73 321 P **P** **10 32 41.4 +0.5**
baz=125

PRPB Paraupebas 42.79 113 *e*P **P** **10 32 41.1 -0.6**

SALV Santo Antonio 42.88 129 *e*P **P** **10 32 41.3 -1.0**

AC06 Mina Casimiro 42.89 155 P **P** **10 32 42.0 -0.3**

TMAB Tom-Au,PA,Br 42.94 107 *e*P **P** **10 32 42.5 -0.4**

AC02 Maricunga 42.95 154 IAmb IAmb 10 32 47.9
comp=Z,75nm,1.4s

I04A Tendick Farm, 42.99 324 P **P** **10 32 44.1 +1.0**
baz=128,SNR=21

DBO Dodson Butte 43.08 323 IAmb IAmb 10 32 46.5
comp=Z,85nm,1.4s

K02D Willamette Mer 43.08 322 P **P** **10 32 45.1 +1.3**
baz=125,SNR=8.0

G05D Wamic, OR 43.29 326 P **P** **10 32 48.0 +2.6**
baz=130,SNR=24

NEW Newport 43.30 333 LR LR 10 53 09.7
comp=Z,1µm,19.2s,baz=136,slow=39

NEW Newport 43.30 333 P **P** **10 32 46.4 +0.9**

NEW pmax pmax
comp=Z,8.0nm,1.1s

NEW MLR MLR
comp=Z,800nm,20.0s

NEW Newport 43.30 333 P **P** **10 32 46.4 +0.9**

NEW Newport 43.30 333 P **P** **10 32 46.6 +1.2**
baz=137

H04A Detroit Lake 43.42 325 P **P** **10 32 47.3 +0.9**

H04A IAmb IAmb 10 32 49.2
comp=Z,134nm,1.3s

I03D Drain, OR 43.48 323 P **P** **10 32 48.6 +1.7**
baz=126,SNR=17

J01E Myrtle Point 43.51 322 P **P** **10 32 49.2 +2.1**
baz=125,SNR=16

H04D Lebanon 43.63 325 IAmb IAmb 10 32 52.4
comp=Z,76nm,1.1s

H04D IAMs_20 IAMs_20 10 53 30.2
comp=Z,1µm,19.0s

H04D Lebanon 43.63 325 P **P** **10 32 48.9 +0.8**
baz=128,SNR=15

F05D White Salmon 43.78 327 P **P** **10 32 51.6 +2.2**
baz=130,SNR=7.7

COR Corvallis 43.98 324 P **P** **10 32 51.8 +0.9**

COR pmax pmax
comp=Z,89nm,1.2s

COR MLR MLR
comp=Z,1µm,22.0s

COR Corvallis 43.98 324 P **P** **10 32 51.8 +0.9**

COR IAmb IAmb 10 32 56.2
comp=Z,89nm,1.1s

I02E Swisshome, OR 44.01 324 IAmb IAmb 10 32 54.5
comp=Z,90nm,0.9s

I02E Swisshome, OR 44.01 324 P **P** **10 32 52.7 +1.5**
baz=126,SNR=7.7

FFC Flin Flon 44.04 349 P **P** **10 32 51.1 -0.1**

FFC pmax pmax
comp=Z,39nm,1.1s

FFC MLR MLR
comp=Z,2µm,22.0s

FFC Flin Flon 44.04 349 P **P** **10 32 51.1 -0.1**

FFC Flin Flon 44.04 349 IAMs_20 IAMs_20 10 53 07.2
comp=Z,2µm,22.0s

SNDB Serra Nova Dou 44.19 121 *e*P **P** **10 32 52.4 -0.6**

LCO Las Campanas 44.22 157 P **P** **10 32 53.2 -0.1**

LCO pmax pmax
comp=Z,57nm,1.2s

LCO Las Campanas 44.22 157 P **P** **10 32 53.2 -0.1**

LCO IAmb IAmb 10 32 54.1
comp=Z,57nm,1.1s

F04A Amboy 44.33 327 IAmb IAmb 10 32 56.5
comp=Z,54nm,1.3s

G03D McMinnville, O 44.34 325 P **P** **10 32 55.0 +1.2**
baz=128,SNR=25

PP1B Ponte de Pedra 44.53 130 *e*P **P** **10 32 55.7 0.0**

F04D Rainier, OR 44.74 326 P **P** **10 32 59.3 +2.3**
baz=129,SNR=11

E04D Cinebar 44.81 327 P **P** **10 32 58.6 +1.1**
baz=130

C06D Leavenworth 44.85 330 P **P** **10 32 59.0 +1.2**
baz=132,SNR=6.6

D05A Enumclaw 44.91 328 IAmb IAmb 10 33 01.2
comp=Z,60nm,1.2s

D04E Lakebay 45.31 328 P **P** **10 33 03.3 +1.9**
baz=130

DRLN Deer Lake 45.49 29 P **P** **10 33 02.3 -0.6**

DRLN IAmb IAmb 10 33 05.4
comp=Z,90nm,1.2s

B06A Marblemount 45.54 330 IAmb IAmb 10 33 05.6
comp=Z,45nm,0.9s

B05A Bryant 45.67 329 P **P** **10 33 04.0 -0.3**
baz=131,SNR=8.9

D03D Eldon 45.71 328 P **P** **10 33 05.8 +1.2**
baz=130,SNR=11

AQDB Aquidauana 45.78 134 *e*P **P** **10 33 05.1 -0.4**

CO03 El Pedregal 45.87 158 IAmb IAmb 10 33 07.5
comp=Z,60nm,1.1s

SMTB Santa Maria do 45.93 115 *e*P **P** **10 33 06.3 -0.6**

H03N2 Juan Fernandez 45.98 168 T T 11 22 16.5
baz=347,slow=76

H03N1 Juan Fernandez 45.99 168 T T 11 22 18.2
baz=347,slow=76

H03N3 Juan Fernandez 46.00 168 T T 11 22 17.4
baz=347,slow=76

NLWA Neilton Lookou 46.02 327 IAmb IAmb 10 33 12.6
comp=Z,65nm,1.2s

B04A Port Angeles 46.26 328 P **P** **10 33 10.1 +1.1**

B04A IAmb IAmb 10 33 12.1
comp=Z,78nm,1.1s

A04D Lummi Island 46.28 329 P **P** **10 33 10.5 +1.4**
baz=131,SNR=10.0

SCHQ Schefferville 46.31 18 P **P** **10 33 07.0 -2.4**

SCHQ PcP **PcP** **10 34 45.7 +1.3**
comp=Z,53nm,1.0s,baz=217,slow=6.9,SNR=36

SCHQ LR LR 10 54 08.0
comp=Z,36nm,0.8s,baz=232,slow=2.2,SNR=3.6

SCHQ Schefferville 46.31 18 P **P** **10 33 07.3 -2.0**

PGC Sidney 46.61 329 P **P** **10 33 12.8 +1.2**

PGC IAmb IAmb 10 33 14.6
comp=Z,58nm,1.2s

PEXB Peixe 46.79 119 *e*P **P** **10 33 12.8 -0.9**

ROSB Rosrio 46.86 105 *e*P **P** **10 33 13.8 -0.4**

FCC Fort Churchill 47.03 356 IAmb IAmb 10 33 22.5
comp=Z,46nm,1.1s

LLLB Lillooet 47.16 332 IAmb IAmb 10 33 27.1
comp=Z,26nm,1.0s

CBB Campbell River 48.45 329 IAmb IAmb 10 33 31.7
comp=Z,57nm,1.2s

BO04 La Punta 48.75 160 IAmb IAmb 10 33 29.7
comp=Z,51nm,1.2s

LMEL Las Melosas 48.76 159 IAmb IAmb 10 33 38.0
comp=Z,29nm,0.9s

CPUP Villa Florida 48.78 141 P **P** **10 33 27.3 -1.5**
comp=Z,22nm,1.1s,baz=332,slow=9.4,SNR=11

CPUP LR LR 10 54 06.9
comp=Z,710nm,18.7s,baz=329,slow=36

CPUP Villa Florida 48.78 141 P **P** **10 33 27.5 -1.3**

CPUP pmax pmax
comp=Z,54nm,1.3s

CPUP Villa Florida 48.78 141 P **P** **10 33 27.5 -1.3**

CPUP IAmb IAmb 10 33 31.2
comp=Z,54nm,1.3s

CPUP Villa Florida 48.78 141 *e*P **P** **10 33 27.6 -1.3**

BDFB Brasilia 48.81 123 P **P** **10 33 28.3 -1.0**
comp=Z,7.0nm,0.7s,baz=305,slow=13,SNR=9.8

BDFB LR LR 10 54 36.3
comp=Z,1µm,18.3s,baz=311,slow=37

BDFB Brasilia 48.81 123 P **P** **10 33 28.5 -0.9**

BDFB pmax pmax
comp=Z,26nm,0.7s

BDFB Brasilia 48.81 123 P **P** **10 33 28.5 -0.9**

BDFB IAmb IAmb 10 33 41.1
comp=Z,26nm,0.7s

BO01 Tunca 48.96 160 IAmb IAmb 10 33 31.3
comp=Z,64nm,1.2s

ITRB Iturama 49.21 129 *e*P **P** **10 33 32.6 +0.4**

BO02 Serra Bellavi 49.43 160 IAmb IAmb 10 33 49.8
comp=Z,37nm,1.0s

TRCB Terra Rica 49.45 134 *e*P **P** **10 33 32.7 -1.3**

PCMB Pacaembu 49.68 132 *e*P **P** **10 33 34.7 -1.1**

SDBA SAO DESIDERIO 49.87 117 *e*P **P** **10 33 36.1 -1.3**

IPMB Ipameri, GO 49.90 126 *e*P **P** **10 33 36.1 -1.5**

NBMO Morrinhos-CE 50.85 104 *e*P **P** **10 33 45.0 +0.1**

PTGB Pitanga 51.09 136 *e*P **P** **10 33 45.0 -1.5**

BBB Bella Bella 51.15 330 LR LR 10 59 23.7
comp=Z,929nm,18.6s,baz=128,slow=41

BB19B Bebedouro 51.40 129 *e*P **P** **10 33 47.8 -1.1**

JANB Januaria 51.61 120 *e*P **P** **10 33 49.2 -1.4**

ITQB Itaqui 51.66 144 *e*P **P** **10 33 49.4 -1.3**

FRTB Fartura 51.99 132 *e*P **P** **10 33 52.5 -0.7**

NBPB Pedra Branca-C 52.00 107 *e*P **P** **10 33 52.6 -0.9**

ITAB Concordia 52.72 138 *e*P **P** **10 33 57.7 -0.9**

NBCL Cascavel-CE 52.80 105 *e*P **P** **10 33 59.0 -0.3**

LC01 Cunco 52.88 163 P **P** **10 33 58.9 -0.6**

LC01 IAmb IAmb 10 34 00.3
comp=Z,55nm,1.1s

NBPN Ponto Novo - B 53.37 113 *e*P **P** **10 34 03.0 -0.6**

NBMA Muriti-CE 53.39 108 *e*P **P** **10 34 03.4 -0.4**

LR03 Panguipulli 53.44 164 IAmb IAmb 10 34 06.8
comp=Z,40nm,1.1s

TIJ01 Guaruva-PR 53.61 134 *e*P **P** **10 34 04.3 -1.0**

VAO Valinhos 53.70 130 *e*P **P** **10 34 05.3 -0.6**

DIAM Diamantina, MG 53.73 123 *e*P **P** **10 34 05.7 -0.6**

FRB Frobisher Bay 53.83 11 LR LR 10 59 43.9
comp=Z,3µm,18.1s,baz=204,slow=39

YKA Yellowknife Ar 53.87 346 P **P** **10 34 05.7 -0.7**
comp=Z,34nm,0.9s,baz=144,slow=7.1,SNR=147

YKA PcP **PcP** **10 35 12.3 +0.3**
comp=Z,5.6nm,0.8s,baz=148,slow=4.2,SNR=2.0

YKA LR LR 11 00 13.4
comp=Z,919nm,19.6s,baz=132,slow=40

CPSB Cacapava Do Su 54.09 142 *e*P **P** **10 34 07.1 -1.5**

PET01 Itanhaem-SP 54.23 132 *e*P **P** **10 34 08.8 -0.8**

LL04 Puerto Octay 54.62 165 IAmb IAmb 10 34 16.4
comp=Z,41nm,1.4s

PARB Paraibuna 54.90 130 *e*P **P** **10 34 14.6 -0.1**

TAOE Nuku Hiva Isla 54.92 250 *e*S **S** **10 41 52.2 -4.8**
comp=Z,1µm,26.2s

TAOE *e*LR LR 10 49 57.7
comp=Z,3µm,26.3s

CNLB Canela 54.95 139 *e*P **P** **10 34 13.6 -1.3**

PLTB Pedras Altas 54.96 143 *e*P **P** **10 34 14.9 0.0**

PLCA Paso Flores 54.96 163 P **P** **10 34 14.2 -0.6**
comp=Z,23nm,0.9s,baz=341,slow=8.0,SNR=33

PLCA LR LR 10 53 53.0
comp=Z,386nm,19.7s,baz=340,slow=32

PLCA Paso Flores 54.96 163 P **P** **10 34 14.5 -0.3**

PLCA pmax pmax
comp=Z,40nm,1.1s

PLCA Paso Flores 54.96 163 P **P** **10 34 14.5 -0.3**

PLCA IAmb IAmb 10 34 15.3
comp=Z,40nm,1.1s

PLCA Paso Flores 54.96 163 *e*P **P** **10 34 14.5 -0.3**

RCBR Riachuelo 55.56 106 P **P** **10 34 18.8 -0.8**
comp=Z,66nm,0.9s,baz=63,slow=6.1,SNR=13

RCBR LR LR 10 59 50.3
comp=Z,2µm,19.0s,baz=82,slow=38

RCBR Riachuelo 55.56 106 P **P** **10 34 19.1 -0.5**

RCBR pmax pmax
comp=Z,99nm,1.0s

RCBR Riachuelo 55.56 106 P **P** **10 34 19.1 -0.5**

RCBR Riachuelo 55.56 106 *e*P **P** **10 34 20.0 +0.4**

TER01 Tubaro-SC 55.56 137 *e*P **P** **10 34 18.4 -0.9**

NBLA Lagarto - SE 55.60 112 *e*P **P** **10 34 19.6 -0.2**

NBIT Itapeh - BA 55.74 117 *e*P **P** **10 34 22.0 +1.2**

CMC01 Camacan, BA 55.85 118 *e*P **P** **10 34 21.2 -0.4**

DLBC Dease Lake 55.89 335 LR LR 11 03 27.5
comp=Z,1µm,18.2s,baz=119,slow=42

DLBC Dease Lake 55.89 335 IAmb IAmb 10 34 24.9
comp=Z,67nm,1.1s

SJMB Sao Joao De Ma 55.98 122 *e*P **P** **10 34 22.2 -0.3**

VAS01 Vassouras-RJ 55.99 127 *e*P **P** **10 34 22.2 -0.3**

GUA01 Guaratinga, BA 56.15 119 *e*P **P** **10 34 23.2 -0.5**

NBPV Pedro Velho 56.32 106 *e*P **P** **10 34 26.0 +1.0**

NAN01 Guarapari, ES 56.46 121 *e*P **P** **10 34 25.8 -0.1**

NBAN Anadia - AL 56.50 110 *e*P **P** **10 34 25.8 -0.5**

DUB01 Friburgo-RJ 56.72 126 *e*P **P** **10 34 27.3 -0.4**

LL02 Futaleuf 56.91 165 IAmb IAmb 10 34 30.0
comp=Z,79nm,1.2s

RIB01 Linhares ES 56.93 122 *e*P **P** **10 34 28.5 -0.7**

CAM01 Campos-RJ 57.15 126 *e*P **P** **10 34 30.3 -0.4**

TGTN Hyland Airport 57.24 339 P **P** **10 34 33.1 +2.3**
baz=132,SNR=12

ALF01 Guarapari-ES 57.29 124 *e*P **P** **10 34 32.1 +0.3**

AY01 Puyuhuapi 57.87 166 IAmb IAmb 10 34 35.6
comp=Z,46nm,1.1s

P33M Teslin, Yukon 58.11 336 P **P** **10 34 38.0 +1.0**
baz=127,SNR=8.2

SKAG Skagway 58.70 334 IAmb IAmb 10 34 44.0
comp=Z,42nm,1.4s

SKAG Skagway 58.70 334 P **P** **10 34 42.3 +1.3**
baz=124,SNR=5.9

MMPY Sheldon Lake, 59.02 339 P **P** **10 34 44.2 +0.9**
baz=130,SNR=25

COYC Coyhaique 59.09 166 P **P** **10 34 43.7 -0.2**

WHY Whitehorse 59.20 336 P **P** **10 34 45.4 +0.7**
baz=125,SNR=5.2

FARO Faro, Yukon 59.53 338 P **P** **10 34 47.1 +0.2**
baz=127,SNR=10

M31M Drury Creek, Y 59.91 337 P **P** **10 34 50.6 +1.2**
baz=126,SNR=5.2

N31M Braeburn, Yuko 60.03 336 IAmb IAmb 10 34 55.6
comp=Z,34nm,0.9s

N31M Braeburn, Yuko 60.03 336 P **P** **10 34 51.6 +1.3**
baz=124,SNR=9.5

HYT Haines Junctio 60.37 335 IAmb IAmb 10 34 55.9
comp=Z,32nm,1.2s

HYT Haines Junctio 60.37 335 P **P** **10 34 54.8 +2.1**
baz=122,SNR=6.3

SFJD Kangerlussuaq 60.73 16 LR LR 11 00 57.8
comp=Z,418nm,21.4s,baz=217,slow=36

SFJD Kangerlussuaq 60.73 16 *e*P **P** **10 34 54.0 -0.9**

SFJD IAmb IAmb 10 35 01.9
comp=Z,100nm,1.6s

YUK6 Outpost Mounta 60.78 335 P **P** **10 34 57.6 +1.9**
baz=121

M30M Minto, Yukon 61.04 337 P **P** **10 34 58.1 +1.0**
baz=124,SNR=12

YUK4 Talbot Arm 61.11 335 P **P** **10 34 59.6 +1.7**
baz=121

DY2G Dye2 61.63 18 *e*P **P** **10 35 00.1 -1.2**

DY2G IAmb IAmb 10 35 09.4
comp=Z,28nm,1.0s

LOGN Logan Glacier 61.84 334 IAmb IAmb 10 35 06.0
comp=Z,46nm,1.3s

CTGM Chitina Glacie 62.05 334 IAmb IAmb 10 35 09.4
comp=Z,32nm,1.1s

CTGM IAMs_20 IAMs_20 11 07 10.7
comp=Z,1µm,18.0s

CTG Chitna Glacier 62.05 334 P **P** **10 35 05.9 +1.7**
baz=118

YUK3 Moose Creek 62.08 335 P **P** **10 35 05.5 +1.1**
baz=120,SNR=7.9

GRNC Granite Creek 62.12 334 IAmb IAmb 10 35 15.5
comp=Z,40nm,1.0s

ILULI Ilulissat 62.23 14 IAMs_20 IAMs_20 10 59 47.3
comp=Z,945nm,20.0s

BARN Barnard Glacie 62.23 334 IAmb IAmb 10 35 11.5
comp=Z,43nm,1.5s

BVCY Beaver Creek 62.56 336 P **P** **10 35 08.6 +1.2**
baz=120,SNR=6.3

TGL Tana Glacier 62.60 333 IAmb IAmb 10 35 10.8
comp=Z,51nm,1.2s

DAWY Dawson 62.84 338 P **P** **10 35 09.3 +0.1**
baz=122,SNR=12

M27K Edge Creek, AK 62.95 335 IAmb IAmb 10 35 20.6
comp=Z,18nm,0.9s

M27K Edge Creek, AK 62.95 335 P **P** **10 35 11.7 +1.6**
baz=118,SNR=5.4

RES Resolute Bay 62.95 358 LR LR 11 06 24.4
comp=Z,812nm,18.3s,baz=170,slow=40

RES Resolute Bay 62.95 358 IAmb IAmb 10 35 17.9
comp=Z,23nm,0.8s

MCARA McCarthy VSAT 62.97 334 IAmb IAmb 10 35 21.2
comp=Z,40nm,1.1s

MCARA McCarthy VSAT 62.97 334 P **P** **10 35 12.0 +1.9**
baz=117,SNR=5.5

VRDI Verde Repeater 63.09 334 IAmb IAmb 10 35 14.8
comp=Z,51nm,1.5s

I29M Ogilvie Camp, 63.15 339 IAmb IAmb 10 35 13.2
comp=Z,24nm,1.1s

I29M IAMs_20 IAMs_20 11 04 07.2
comp=Z,1µm,22.0s

I29M Ogilvie Camp, 63.15 339 P **P** **10 35 11.8 +0.6**
baz=123,SNR=10.0

EPYK Eagle Plains 63.19 340 IAmb IAmb 10 35 16.6
comp=Z,32nm,1.1s

EPYK Eagle Plains 63.19 340 P **P** **10 35 12.2 +0.7**
baz=126

BCAR Beaver Creek A 63.25 336 P **P** **10 35 12.4 +0.4**

L27K Beaver Creek, 63.27 336 IAmb IAmb 10 35 14.7
comp=Z,25nm,1.1s

L27K Beaver Creek, 63.27 336 P **P** **10 35 12.9 +0.8**
baz=119,SNR=15

INK Inuvik 63.40 343 LR LR 11 05 38.1
comp=Z,737nm,20.9s,baz=118,slow=39

INK Inuvik 63.40 343 IAmb IAmb 10 35 25.8
comp=Z,30nm,0.9s

INK Inuvik 63.40 343 P **P** **10 35 12.8 0.0**
baz=130,SNR=25

ISOG Isortoq, Green 63.44 21 *e*P **P** **10 35 12.6 -0.5**

ISOG IAmb IAmb 10 35 22.4
comp=Z,42nm,1.1s

BMRM Bremner River 63.47 333 IAmb IAmb 10 35 18.8
comp=Z,47nm,1.1s

BMRM Bremner River 63.47 333 P **P** **10 35 14.5 +1.0**
baz=115

N25K Chitina, Valde 63.75 334 IAmb IAmb 10 35 18.5
comp=Z,38nm,1.1s

N25K Chitina, Valde 63.75 334 P **P** **10 35 16.7 +1.4**
baz=116,SNR=8.1

EYAK Cordova Ski Ar 63.81 333 P **P** **10 35 17.4 +1.8**
baz=114

L26K Log Cabin Wild 63.86 336 P **P** **10 35 17.3 +1.3**
baz=117,SNR=6.4

EGAK Eagle 63.87 338 IAmb IAmb 10 35 18.2
comp=Z,28nm,1.2s

EGAK Eagle 63.87 338 P **P** **10 35 15.8 -0.2**
baz=120

ANGG Ammassalik, Gr 63.95 21 *e*P **P** **10 35 17.3 +0.8**

ANGG IAmb IAmb 10 35 22.4
comp=Z,23nm,0.9s

A36M	**Sachs Harbour**	**63.99**	**348**		IAmb	IAmb	10 35 28.6		
	comp=Z,35nm,0.9s								
A36M					IAMs_20	IAMs_20	11 05 02.6		
	comp=Z,2µm,21.0s								
A36M	**Sachs Harbour**	**63.99**	**348**		P	**P**	**10 35 15.5**	**-1.2**	
	baz=140,SNR=19								
VAH	**Vaihoa**	**64.04**	**247**	*e*	P	**P**	**10 35 17.7**	**-0.2**	
	comp=Z,113nm,1.1s								
DIV	**Divide**	**64.06**	**333**		IAmb	IAmb	10 35 28.3		
	comp=Z,33nm,0.9s								
PMOR	**Pomariorio Ree**	**64.19**	**247**	*e*	P	**P**	**10 35 19.0**	**+0.1**	
	comp=Z,147nm,1.4s								
KLU	**Klutina**	**64.27**	**333**		IAmb	IAmb	10 35 31.2		
	comp=Z,42nm,1.0s								
KLU	**Klutina**	**64.27**	**333**		P	**P**	**10 35 19.9**	**+1.1**	
	baz=114,SNR=10								
HARP	**HAARP**	**64.33**	**335**		P	**P**	**10 35 20.5**	**+1.5**	
	baz=115,SNR=5.4								
DOT	**Dot Lake**	**64.43**	**336**		IAmb	IAmb	10 35 22.3		
	comp=Z,41nm,1.1s								
SCRK	**Sand Creek**	**64.55**	**336**		IAmb	IAmb	10 35 23.4		
	comp=Z,46nm,1.4s								
SCRK	**Sand Creek**	**64.55**	**336**		P	**P**	**10 35 21.2**	**+0.5**	
	baz=117,SNR=10								
J26L	**Joseph Creek**	**64.63**	**337**		P	**P**	**10 35 22.1**	**+1.0**	
	baz=118,SNR=34								
M24K	**Tolsona, Glenn**	**64.64**	**334**		P	**P**	**10 35 23.1**	**+2.0**	
	baz=114								
PAX	**Paxson**	**64.70**	**335**		P	**P**	**10 35 22.6**	**+1.0**	
PAX					pmax	pmax			
	comp=Z,20nm,1.1s								
PAX	**Paxson**	**64.70**	**335**		P	**P**	**10 35 22.6**	**+1.0**	
PAX					IAmb	IAmb	10 35 23.1		
	comp=Z,20nm,1.1s								
PAX	**Paxson**	**64.70**	**335**		P	**P**	**10 35 21.9**	**+0.3**	
	baz=115,SNR=6.7								
RIDG	**Independent Ri**	**64.79**	**336**		IAmb	IAmb	10 35 24.7		
	comp=Z,50nm,1.1s								
RIDG	**Independent Ri**	**64.79**	**336**		P	**P**	**10 35 22.8**	**+0.7**	
	baz=116,SNR=14								
SCM	**Sheep Creek Mo**	**65.03**	**334**		IAmb	IAmb	10 35 28.2		
	comp=Z,46nm,1.1s								
SCM	**Sheep Creek Mo**	**65.03**	**334**		P	**P**	**10 35 24.6**	**+1.0**	
	baz=113								
ICESG	**Greenland Ices**	**65.23**	**17**	*e*	P	**P**	**10 35 23.1**	**-2.1**	
ICESG					IAmb	IAmb	10 35 33.4		
	comp=Z,23nm,0.8s								
SEW	**Seward**	**65.35**	**331**		P	**P**	**10 35 26.6**	**+0.9**	
	baz=110								
KNK	**Knik Glacier**	**65.36**	**333**		P	**P**	**10 35 27.1**	**+1.3**	
	baz=112,SNR=11								
SML	**Sawmill**	**65.45**	**333**		P	**P**	**10 35 27.4**	**+1.0**	
	baz=112,SNR=9.5								
WAT6	**Susitna Watana**	**65.50**	**334**		P	**P**	**10 35 27.7**	**+0.9**	
	baz=113,SNR=17								
DHY	**Denali Highway**	**65.54**	**335**		P	**P**	**10 35 27.4**	**+0.3**	
	baz=113								
TULEG	**Thule**	**65.61**	**5**	*e*	P	**P**	**10 35 26.2**	**-0.9**	
TULEG					IAmb	IAmb	10 35 34.4		
	comp=Z,24nm,1.0s								
TULEG	**Thule**	**65.61**	**5**		P	**P**	**10 35 26.9**	**-0.2**	
TULEG					IAmb	IAmb	10 35 38.6		
	comp=Z,24nm,1.0s								
TULEG					IAMs_20	IAMs_20	11 06 28.0		
	comp=Z,1µm,19.0s								
PMR	**Palmer**	**65.73**	**333**		IAmb	IAmb	10 35 32.4		
	comp=Z,46nm,1.1s								
PMR	**Palmer**	**65.73**	**333**		P	**P**	**10 35 29.1**	**+1.0**	
	baz=111,SNR=7.2								
RC01	**Rabbit Creek A**	**65.82**	**332**		P	**P**	**10 35 29.6**	**+0.8**	
	baz=110								
BRSE	**Bradley Lake S**	**65.84**	**331**		P	**P**	**10 35 30.3**	**+1.4**	
	baz=109,SNR=6.2								
PRP	**Porcupine Dome**	**65.84**	**338**		IAmb	IAmb	10 35 31.2		
	comp=Z,36nm,1.2s								
PRP	**Porcupine Dome**	**65.84**	**338**		P	**P**	**10 35 30.1**	**+1.1**	
	baz=116								
HDA	**Harding Lake**	**65.91**	**336**		P	**P**	**10 35 30.0**	**+0.8**	
	baz=114,SNR=23								
ILAR	**Eielson Array**	**66.04**	**337**		P	**P**	**10 35 30.4**	**+0.3**	
	comp=Z,30nm,1.0s,baz=119,slow=3.9,SNR=130								
ILAR					LR	LR	11 09 03.8		
	comp=Z,1µm,18.2s,baz=114,slow=40								
KDAK	**Kodiak Island**	**66.16**	**328**		LR	LR	11 06 24.2		
	comp=Z,268nm,18.1s,baz=138,slow=38								
KDAK	**Kodiak Island**	**66.16**	**328**	*i*	P	**P**	**10 35 31.6**	**+0.7**	
KDAK					pmax	pmax			
	comp=Z,45nm,1.1s								
FYU	**Fort Yukon**	**66.21**	**339**		IAMs_20	IAMs_20	11 05 29.1		
	comp=Z,1µm,22.0s								
M22K	**Willow**	**66.23**	**333**		P	**P**	**10 35 32.7**	**+1.3**	
	baz=110								
OHAK	**Old Harbor**	**66.37**	**328**		P	**P**	**10 35 33.8**	**+1.5**	
	baz=105								
BMAR	**Burnt Mountain**	**66.38**	**340**		P	**P**	**10 35 33.2**	**+0.8**	
WRH	**Wood River Hil**	**66.39**	**336**		IAmb	IAmb	10 35 42.0		
	comp=Z,25nm,0.9s								
POKR	**Poker Plat Res**	**66.39**	**337**		IAmb	IAmb	10 35 34.4		
	comp=Z,21nm,0.9s								
POKR	**Poker Plat Res**	**66.39**	**337**		P	**P**	**10 35 33.1**	**+0.7**	
	baz=114,SNR=6.9								
TVO	**Taravao**	**66.42**	**245**	*e*	P	**P**	**10 35 33.0**	**-0.4**	
	comp=Z,0.3nm,0.9s								
MCK	**McKinley**	**66.44**	**335**		IAMs_20	IAMs_20	11 10 04.6		
	comp=Z,1µm,22.0s								
MCK	**McKinley**	**66.44**	**335**		P	**P**	**10 35 33.5**	**+0.8**	
	baz=112,SNR=22								
COLA	**College**	**66.46**	**336**		P	**P**	**10 35 33.0**	**+0.3**	
COLA					pmax	pmax			
	comp=Z,28nm,0.9s								
COLA	**College**	**66.46**	**336**		P	**P**	**10 35 33.0**	**+0.3**	
COLA					IAmb	IAmb	10 35 34.5		
	comp=Z,28nm,0.9s								
TCOL	**CIGO, UAF Yank**	**66.46**	**336**		IAmb	IAmb	10 35 34.5		
	comp=Z,28nm,0.9s								
TCOL	**CIGO, UAF Yank**	**66.46**	**336**		P	**P**	**10 35 33.7**	**+0.9**	
	baz=114,SNR=6.7								
CUT	**Chulitna**	**66.52**	**334**		P	**P**	**10 35 34.3**	**+1.1**	
	baz=110,SNR=12								
PPT	**Papeete**	**66.63**	**245**		LR	LR	10 56 52.5		
	comp=Z,876nm,18.9s,baz=72,slow=29								
MDM	**Murphy Dome**	**66.64**	**337**		IAmb	IAmb	10 35 38.0		
	comp=Z,42nm,1.5s								
PPT2	**Papeete2**	**66.64**	**245**	*e*	P	**P**	**10 35 34.6**	**-0.2**	
	comp=Z,48nm,1.4s								
PPT2				*e*	S	**S**	**10 44 23.0**	**-3.7**	
	comp=Z,832nm,25.0s								
PPT2				*e*	LQ	LQ	10 52 46.7		
	comp=Z,1µm,27.2s								
PPT2				*e*	LR	LR	10 55 15.8		
	comp=Z,4µm,27.8s,baz=60								
PAE	**Paea**	**66.67**	**245**	*e*	P	**P**	**10 35 34.6**	**-0.3**	
	comp=Z,19nm,1.1s								
NEA2	**Nenana**	**66.83**	**336**		IAmb	IAmb	10 35 37.0		
	comp=Z,33nm,1.0s								
NEA2	**Nenana**	**66.83**	**336**		P	**P**	**10 35 36.0**	**+0.9**	
	baz=112,SNR=16								
H24K	**Noodor Dome**	**66.86**	**337**		IAmb	IAmb	10 35 37.8		
	comp=Z,50nm,1.2s								
H24K	**Noodor Dome**	**66.86**	**337**		P	**P**	**10 35 36.0**	**+0.6**	
	baz=114,SNR=23								
TRF	**Thorofare Moun**	**66.90**	**335**		P	**P**	**10 35 36.8**	**+0.9**	
	baz=111,SNR=14								
I23K	**Minto, Yukon-K**	**67.15**	**336**		P	**P**	**10 35 38.1**	**+0.9**	
	baz=112,SNR=24								
KTH	**Kantishna Hill**	**67.20**	**335**		IAmb	IAmb	10 35 39.4		
	comp=Z,40nm,1.0s								
MG03	**Isla Dawson**	**67.25**	**168**		P	**P**	**10 35 37.9**	**0.0**	
BPAW	**Bear Paw Mtn.**	**67.42**	**335**		P	**P**	**10 35 39.5**	**+0.6**	
	baz=110,SNR=30								
PPLA	**Purkeypile**	**67.52**	**334**		IAmb	IAmb	10 35 49.5		
	comp=Z,36nm,0.9s								
PPLA	**Purkeypile**	**67.52**	**334**		P	**P**	**10 35 40.4**	**+0.6**	
	baz=109,SNR=12								
CAST	**Castle Rocks**	**67.65**	**334**		IAmb	IAmb	10 35 44.1		
	comp=Z,32nm,1.0s								
CAST	**Castle Rocks**	**67.65**	**334**		P	**P**	**10 35 40.6**	**+0.2**	
	baz=109,SNR=17								
MLY	**Manley**	**67.65**	**336**		IAmb	IAmb	10 35 42.5		
	comp=Z,46nm,1.0s								
MLY	**Manley**	**67.65**	**336**		P	**P**	**10 35 41.2**	**+0.8**	
	baz=111								
O19K	**Port Alsworth**	**67.69**	**331**		P	**P**	**10 35 41.3**	**+0.6**	
	baz=106,SNR=8.2								
CHUM	**Lake Minchumin**	**67.90**	**335**		P	**P**	**10 35 42.3**	**+0.4**	
	baz=109,SNR=6.9								
P18K	**Big Mountain,**	**67.92**	**330**		IAmb	IAmb	10 35 51.6		
	comp=Z,30nm,0.9s								
N19K	**Bonanza Creek**	**67.94**	**331**		P	**P**	**10 35 42.9**	**+0.6**	
	baz=106,SNR=16								
L20K	**Farewell, AK**	**68.14**	**333**		P	**P**	**10 35 43.9**	**+0.4**	
	baz=107,SNR=26								
I21K	**Tanana**	**68.20**	**336**		IAmb	IAmb	10 35 45.0		
	comp=Z,27nm,1.1s								
I21K	**Tanana**	**68.20**	**336**		P	**P**	**10 35 44.4**	**+0.6**	
	baz=110,SNR=13								
M19K	**Big River Lodg**	**68.20**	**332**		P	**P**	**10 35 44.4**	**+0.5**	
	baz=106								
COLD	**Coldfoot**	**68.27**	**338**		P	**P**	**10 35 45.8**	**+1.6**	
	baz=112,SNR=30								
K20K	**Telida**	**68.48**	**334**		IAmb	IAmb	10 35 55.1		
	comp=Z,44nm,0.9s								
K20K	**Telida**	**68.48**	**334**		P	**P**	**10 35 45.5**	**-0.1**	
	baz=107,SNR=18								
L19K	**White Mountain**	**68.49**	**333**		IAmb	IAmb	10 35 46.8		
	comp=Z,30nm,1.1s								
L19K	**White Mountain**	**68.49**	**333**		P	**P**	**10 35 46.1**	**+0.3**	
	baz=106,SNR=5.5								
SVW2	**Sparrevohn**	**68.53**	**331**		IAmb	IAmb	10 35 49.6		
	comp=Z,45nm,1.1s								
TOLK	**Toolik Lake Re**	**68.60**	**340**		P	**P**	**10 35 47.1**	**+0.7**	
	baz=113,SNR=11								
EFI	**East Falkland**	**68.63**	**160**	*i*	P	**P**	**10 35 46.8**	**+0.2**	
EFI					pmax	pmax			
	comp=Z,217nm,2.3s								
H21K	**Melozitna Rive**	**68.68**	**336**		P	**P**	**10 35 47.1**	**+0.3**	
	baz=109,SNR=10.0								
J20K	**Nowinta River**	**68.76**	**335**		IAmb	IAmb	10 35 48.4		
	comp=Z,32nm,1.2s								
J20K	**Nowinta River**	**68.76**	**335**		P	**P**	**10 35 47.7**	**+0.4**	
	baz=107,SNR=17								
MACI	**Morro de la Ar**	**69.10**	**64**		P	**P**	**10 35 50.3**	**-0.1**	
IMAR	**Indian Mountai**	**69.16**	**337**		P	**P**	**10 35 49.7**	**-0.1**	
TTA	**Tatalina**	**69.20**	**333**		IAmb	IAmb	10 35 51.6		
	comp=Z,43nm,1.1s								
TTA	**Tatalina**	**69.20**	**333**		P	**P**	**10 35 50.4**	**+0.2**	
	baz=105,SNR=22								
BORG	**Borgarnes**	**69.90**	**25**		LR	LR	11 06 29.4		
	comp=Z,196nm,18.4s,baz=266,slow=36								
A21K	**Barrow**	**71.82**	**342**		IAMs_20	IAMs_20	11 05 23.0		
	comp=Z,680nm,20.0s								
A21K	**Barrow**	**71.82**	**342**		P	**P**	**10 36 07.1**	**+1.2**	
	baz=107,SNR=7.0								
RDOG	**Red Dog Mine**	**73.16**	**338**		IAmb	IAmb	10 36 16.1		
	comp=Z,67nm,1.2s								
RDOG					IAMs_20	IAMs_20	11 12 46.7		
	comp=Z,791nm,20.0s								
RDOG	**Red Dog Mine**	**73.16**	**338**		P	**P**	**10 36 15.3**	**+1.3**	
	baz=100,SNR=6.1								
UNV	**Unalaska Valle**	**73.24**	**323**		P	**P**	**10 36 15.9**	**+1.2**	
	baz=93								
ANM	**Nome**	**73.60**	**334**		IAmb	IAmb	10 36 18.7		
	comp=Z,36nm,1.2s								
ANM	**Nome**	**73.60**	**334**		P	**P**	**10 36 18.1**	**+1.4**	
	baz=97,SNR=18								
DAG	**Danmarks Havn**	**74.10**	**13**	*i*	P	**P**	**10 36 18.0**	**-1.4**	
DAG					IAmb	IAmb	10 36 28.2		
	comp=Z,13nm,0.9s								
TNA	**Tin City**	**74.78**	**335**		P	**P**	**10 36 25.2**	**+1.7**	
	baz=95,SNR=55								
PCAS	**Casmilo, Conde**	**75.20**	**52**	*e*	P	**P**	**10 36 25.8**	**-0.7**	
	comp=Z,137nm,1.0s								
PCAS					*e*pP	**pwP**	**10 36 34.6**	**-0.1**	
MORF	**Marmelete**	**75.25**	**54**	*e*	P	**P**	**10 36 26.2**	**-0.6**	
	comp=Z,71nm,1.3s								
MORF					*e*pP	**pwP**	**10 36 34.8**	**-0.3**	
COI	**Coimbra**	**75.26**	**51**		*e*pP	pP	10 36 35.5	+6.8	
PGAV	**Gavieira, Arco**	**75.28**	**50**		*e*pP	pP	10 36 34.9	+6.0	
PGAV	**Gavieira, Arco**	**75.28**	**50**		*e*LR	LR	10 59 50.6		
	comp=Z,795nm,20.0s								
PMTG	**Montargil**	**75.47**	**53**		*e*pP	pP	10 36 35.6	+5.7	
PVIS	**Viseu**	**75.63**	**51**		*e*P	**P**	**10 36 29.2**	**+0.2**	
	comp=Z,69nm,1.0s								
PVIS					*e*pP	**pwP**	**10 36 36.9**	**-0.3**	
POLO	**Lamas de Olo**	**75.67**	**50**		*e*P	**P**	**10 36 30.2**	**+1.0**	
	comp=Z,36nm,1.5s								
POLO					*e*pP	**pwP**	**10 36 36.9**	**-0.6**	
EVO	**Evora**	**75.67**	**53**		*e*P	**P**	**10 36 28.6**	**-0.6**	
	comp=Z,46nm,1.5s								
EVO					*e*pP	**pwP**	**10 36 35.7**	**-1.7**	
PCVE	**Castro Verde**	**75.71**	**54**		*e*P	**P**	**10 36 27.7**	**-1.7**	
PVRL	**Vila Real**	**75.73**	**50**		*e*P	**P**	**10 36 31.7**	**+2.2**	
	comp=Z,53nm,1.8s								
PVRL					*e*pP	**pwP**	**10 36 37.6**	**-0.2**	
PBEJ	**Beja**	**75.82**	**54**		*e*P	**P**	**10 36 30.6**	**+0.5**	
PBEJ					*e*pP	**pwP**	**10 36 37.8**	**-0.5**	
NOR	**Nord**	**75.82**	**8**		*e*P	**P**	**10 36 28.0**	**-1.2**	
NOR					IAmb	IAmb	10 36 40.1		
	comp=Z,23nm,1.5s								
PBDV	**Barranco-do-Ve**	**75.82**	**54**		*e*P	**P**	**10 36 30.4**	**+0.3**	
	comp=Z,50nm,1.4s								
PBDV					*e*pP	**pwP**	**10 36 38.4**	**0.0**	
MTE	**Manteigas**	**75.91**	**51**		*e*P	**P**	**10 36 29.8**	**-0.8**	
	comp=Z,86nm,1.1s								
MTE					*e*pP	**pwP**	**10 36 38.5**	**-0.4**	
MTE	**Manteigas**	**75.91**	**51**		*e*LR	LR	11 00 27.5		
	comp=Z,986nm,18.0s								
PESTR	**Estremoz**	**75.98**	**53**		*e*P	**P**	**10 36 31.7**	**+0.7**	
	comp=Z,40nm,1.1s								
PESTR					*e*pP	**pwP**	**10 36 38.5**	**-0.7**	
PVAQ	**Vaqueiros**	**75.98**	**54**		*e*P	**P**	**10 36 31.2**	**+0.2**	
	comp=Z,54nm,1.1s								
PVAQ					*e*pP	**pwP**	**10 36 39.0**	**-0.2**	
PVAQ	**Vaqueiros**	**75.98**	**54**		*e*LR	LR	11 00 22.5		
	comp=Z,887nm,22.0s								
PVAQ	**Vaqueiros**	**75.98**	**54**		IAmb	IAmb	10 36 40.2		
	comp=Z,34nm,1.1s								
PCBR	**Castelo Branco**	**76.00**	**52**		*e*P	**P**	**10 36 30.6**	**-0.4**	
	comp=Z,64nm,1.1s								
PCBR					*e*pP	**pwP**	**10 36 38.5**	**-0.8**	
PMRV	**Marv??o**	**76.09**	**52**		*e*P	**P**	**10 36 34.4**	**+2.8**	
	comp=Z,52nm,1.3s								
PMRV					*e*pP	**pwP**	**10 36 39.6**	**-0.3**	
PMRV	**Marv??o**	**76.09**	**52**		*e*LR	LR	11 00 23.3		
	comp=Z,572nm,18.0s								
MVO	**Moncorvo**	**76.25**	**50**		*e*P	**P**	**10 36 34.3**	**+1.7**	
	comp=Z,73nm,1.6s								
MVO					*e*pP	**pwP**	**10 36 41.0**	**+0.2**	
MVO	**Moncorvo**	**76.25**	**50**		*e*LR	LR	11 00 22.1		
	comp=Z,740nm,20.0s								
GAMB	**Gambell**	**76.31**	**333**		IAmb	IAmb	10 36 35.3		
	comp=Z,67nm,1.4s								
GAMB	**Gambell**	**76.31**	**333**		P	**P**	**10 36 34.2**	**+1.9**	
	baz=91,SNR=11								
PBRG	**Braganca**	**76.43**	**50**		*e*P	**P**	**10 36 34.0**	**+0.5**	
	comp=Z,66nm,1.5s								
PBRG					*e*pP	**pwP**	**10 36 41.6**	**-0.2**	
PBAR	**Barrancos**	**76.46**	**53**		*e*pP	pP	10 36 41.4	+5.8	
RAR	**Rarotonga**	**76.91**	**245**		LR	LR	11 01 36.5		
	comp=Z,484nm,18.7s,baz=77,slow=29								
ESK	**Eskdalemuir**	**77.96**	**36**		P	**P**	**10 36 41.3**	**-0.4**	
ESK					pmax	pmax			
	comp=Z,40nm,0.8s								
ESK	**Eskdalemuir**	**77.96**	**36**		P	**P**	**10 36 41.3**	**-0.4**	
ESK					IAmb	IAmb	10 36 49.8		
	comp=Z,40nm,0.8s								
EKA	**Eskdalemuir Ar**	**77.98**	**36**		LR	LR	11 06 02.5		
	comp=Z,303nm,20.5s,baz=267,slow=32								
PAB	**San Pablo**	**78.43**	**52**		P	**P**	**10 36 44.0**	**-0.8**	
PAB					pmax	pmax			
	comp=Z,52nm,1.1s								
PAB					MLR	MLR			
	comp=Z,900nm,19.0s								
PAB	**San Pablo**	**78.43**	**52**		P	**P**	**10 36 44.0**	**-0.8**	
PAB					IAmb	IAmb	10 36 53.9		
	comp=Z,52nm,1.1s								
PAB	**San Pablo**	**78.43**	**52**		IAMs_20	IAMs_20	11 12 20.9		
	comp=Z,874nm,19.0s								
PAB	**San Pablo**	**78.43**	**52**		P	**P**	**10 36 48.9**	**+4.1**	
PMSA	**Palmer Station**	**78.63**	**169**		LR	LR	11 06 11.0		
	comp=Z,211nm,19.3s,baz=332,slow=32								
ESDC	**Sonseca Array**	**78.71**	**52**		P	**P**	**10 36 45.9**	**-0.5**	
	comp=Z,9.1nm,0.9s,baz=286,slow=5.1,SNR=33								
ESDC					LR	LR	11 10 00.2		
	comp=Z,522nm,18.1s,baz=272,slow=35								
ESDC	**Sonseca Array**	**78.71**	**52**		P	**P**	**10 36 45.9**	**-0.5**	
ESDC					IAmb	IAmb	10 36 55.4		
	comp=Z,42nm,1.0s								
ESBB	**Sonseca Array**	**78.71**	**52**		IAmb	IAmb	10 36 55.3		
	comp=Z,52nm,0.9s								
MDT	**Midelt**	**78.97**	**59**		P	**P**	**10 36 47.3**	**-0.6**	
	comp=Z,12nm,1.0s,baz=334,slow=2.8,SNR=13								
MDT					LR	LR	11 08 57.9		
	comp=Z,958nm,19.1s,baz=296,slow=34								
MDT	**Midelt**	**78.97**	**59**		P	**P**	**10 36 48.0**	**+0.1**	
ADK	**Adak**	**79.45**	**321**		P	**P**	**10 36 50.5**	**+0.5**	
ADK					pmax	pmax			
	comp=Z,163nm,1.2s								
ADK	**Adak**	**79.45**	**321**		P	**P**	**10 36 50.5**	**+0.5**	
JBK	**JBK**	**80.46**	**57**		P	**P**	**10 36 56.1**	**0.0**	
TDRA	**Tendrara**	**81.08**	**58**		P	P	10 37 09.0	+9.5	
SMAI	**San Martin Ant**	**81.25**	**172**		IAmb	IAmb	10 37 00.9		
	comp=Z,66nm,1.2s								
SPITS	**Spitsbergen Ar**	**81.63**	**12**		LR	LR	11 16 42.3		
	comp=Z,585nm,18.1s,baz=7.5,slow=38								
CLF	**Chambon-Foret**	**82.12**	**43**		IAMs_20	IAMs_20	11 08 55.1		
	comp=Z,846nm,20.0s								
KOWA	**Kowa**	**82.25**	**77**		P	**P**	**10 37 06.0**	**+0.3**	
KOWA					IAMs_20	IAMs_20	11 09 37.4		
	comp=Z,653nm,21.0s								
TIC	**Toumodi**	**82.71**	**85**	*e*	P	**P**	**10 37 07.9**	**-0.3**	
LIC	**Lamto**	**82.79**	**85**	*e*	P	**P**	**10 37 08.5**	**0.0**	
	comp=Z,438nm,1.4s								
DBIC	**Dimbokro**	**82.87**	**85**		P	**P**	**10 37 09.3**	**+0.4**	
	comp=Z,21nm,0.9s,baz=294,slow=3.6,SNR=12								
DBIC					LR	LR	11 11 19.5		
	comp=Z,416nm,20.8s,baz=294,slow=34								
DBIC	**Dimbokro**	**82.87**	**85**		P	**P**	**10 37 09.2**	**+0.3**	
SNF	**Seneffe**	**83.02**	**40**	*dx*		x	10 37 16.5		
KIC	**Kosan Boka**	**83.04**	**85**	*e*	P	**P**	**10 37 09.7**	**-0.2**	
	comp=Z,142nm,0.9s								
DOU	**Dourbes**	**83.29**	**40**	*d*	P	**P**	**10 37 09.2**	**-1.3**	
DOU				*dx*		x	10 37 17.8		
BMRD	**Maredsous**	**83.36**	**40**	*d*	P	**P**	**10 37 10.3**	**-0.5**	
BMRD				*dx*		x	10 37 18.6		
BGES	**Gesves**	**83.55**	**40**	*d*	P	**P**	**10 37 11.4**	**-0.4**	
BGES				*dx*		x	10 37 19.4		
BCLA	**Clavier**	**83.68**	**40**	*d*	P	**P**	**10 37 12.0**	**-0.4**	
BCLA				*dx*		x	10 37 20.0		
RCHB	**Rochefort**	**83.68**	**40**	*d*	P	**P**	**10 37 12.1**	**-0.3**	
RCHB				*dx*		x	10 37 19.6		
BSTI	**Sart Tilman**	**83.81**	**40**	*d*	P	**P**	**10 37 12.8**	**-0.4**	
BSTI				*dx*		x	10 37 21.2		
MEM	**Membach**	**84.08**	**40**	*d*	P	**P**	**10 37 15.3**	**+0.9**	
MEM				*dx*		x	10 37 21.5		
BHOU	**Houvegnez**	**84.13**	**40**	*d*	P	**P**	**10 37 13.0**	**-1.7**	
BHOU				*dx*		x	10 37 22.6		
SSB	**Saint Sauveur**	**84.13**	**45**		IAmb	IAmb	10 37 23.4		
	comp=Z,18nm,0.9s								
SSB	**Saint Sauveur**	**84.13**	**45**		IAMs_20	IAMs_20	11 09 58.5		
	comp=Z,819nm,19.0s								
BTNL	**Ternell**	**84.16**	**40**	*dx*		x	10 37 22.8		
KONO	**Kongsberg**	**84.18**	**30**	*ce*	P	**P**	**10 37 13.2**	**-1.6**	
KONO					pmax	pmax			
	comp=Z,24nm,2.5s								
WLF	**Walferdange**	**84.36**	**41**	*e*	P	**P**	**10 37 15.8**	**-0.1**	
	comp=Z,16nm,0.9s,baz=285,slow=5.0								
WLF	**Walferdange**	**84.36**	**41**	*d*	P	**P**	**10 37 15.9**	**-0.1**	
WLF				*dx*		x	10 37 23.8		
BILL	**Bilibino**	**84.60**	**339**	*c*	*i* P	**P**	**10 37 17.7**	**+0.9**	
BILL				*e*			10 37 25.4		
BILL				*e*			10 40 35.5		
BILL				*i*	S	**S**	**10 47 42.2**	**-1.5**	
BILL					pmax	pmax			
	comp=Z,100nm,1.3s								
BILL	**Bilibino**	**84.60**	**339**		P	**P**	**10 37 17.8**	**+1.0**	
NB2	**NORSAR Subarra**	**84.62**	**29**		P	**P**	**10 37 17.5**	**+0.4**	
	comp=Z,23nm,1.0s,baz=285,slow=5.1								
NB2	**NORSAR Subarra**	**84.62**	**29**		P	**P**	**10 37 17.5**	**+0.4**	
	baz=285,slow=5.1								
NOA	**NORSAR Array B**	**84.62**	**29**		P	**P**	**10 37 16.9**	**-0.1**	
	comp=Z,5.4nm,1.0s,baz=284,slow=5.1,SNR=11								
NOA					LR	LR	11 13 51.6		
	comp=Z,420nm,19.4s,baz=280,slow=35								
NOA	**NORSAR Array B**	**84.62**	**29**		P	**P**	**10 37 17.0**	**-0.1**	
AHRW	**Bad Neuenahr-A**	**84.76**	**40**	*e*	P	**P**	**10 37 17.8**	**-0.2**	
	comp=Z,36nm,1.2s,baz=285,slow=5.0								
ECH	**Echery**	**85.31**	**42**		IAmb	IA

NKC *eS* **SKSac** **10 48 04.8 +1.2**
NKC MLR MLR
comp=Z,500nm,17.7s
NKC Novy Kostel 88.17 39 *eP* **P** **10 37 35.6 +0.9**
NKC *ex* x 10 37 42.9
NKC *eSKS* **SKSac** **10 48 04.8 +1.2**
NKC AMS AMS 11 17 00.0
comp=Z,500nm,17.7s
ABSA Djebel Ababsia 88.19 53 P **P** **10 37 32.9 -2.3**
SQTA Sankt Quirin 88.20 42 *eP* **P** **10 37 35.0 -0.1**
comp=Z,7.0nm,1.0s
SQTA *i* P **pwP** **10 37 43.1 -0.3**
comp=Z,19nm,0.9s,SNR=4.6
CLL Collm 88.21 38 P **P** **10 37 34.4 -0.4**
CLL pmax pmax
comp=Z,34nm,0.9s
CLL MLR MLR
comp=Z,800nm,19.0s
CLL Collm 88.21 38 P **P** **10 37 34.4 -0.4**
CLL IAMs_20 IAMs_20 11 19 19.0
comp=Z,767nm,19.0s
CLL Collm 88.21 38 *i* P **P** **10 37 34.4 -0.4**
comp=Z,16nm,1.3s
CLL *i* x x 10 37 42.6
comp=Z,37nm,0.9s
CLL *e*PP **PP** **10 41 03.0 +1.4**
CLL *ex* x 10 41 49.0
CLL *e*SKSac **SKSac** **10 48 04.0 +0.3**
CLL *e*(SP) 10 49 08.0
CLL *ex* x 10 50 48.0
CLL *eSS* **SS** **10 54 12.0 +4.3**
CLL *e*SSS SSS 10 57 42.0
CLL *e*SSSS 11 01 06.0
CLL Lm MLR 11 19 00.0
comp=N,300nm,18.7s
CLL Lm MLR 11 19 00.0
comp=E,500nm,18.4s
CLL Lm MLR 11 19 00.0
comp=Z,700nm,18.3s
CLL Collm 88.21 38 *eP* **P** **10 37 34.6 -0.3**
comp=Z,12nm,1.1s,baz=285,slow=5.0
CLL *e*PP **pwP** **10 37 42.6 -0.6**
RUE Ruedersdorf 88.33 37 *eP* **P** **10 37 36.3 +0.9**
WATA Walderalm 88.41 42 *eP* **P** **10 37 36.9 +0.8**
comp=Z,5.6nm,0.6s
WATA *eP* **pwP** **10 37 44.4 0.0**
comp=Z,19nm,0.7s
WTTA Wattenberg 88.47 42 *eP* **P** **10 37 37.2 +0.7**
comp=Z,0.1nm,0.2s
WTTA *eP* **pwP** **10 37 44.5 -0.3**
comp=Z,14nm,1.0s
FBE Freiberg 88.53 38 *eP* **P** **10 37 36.6 +0.3**
comp=Z,25nm,1.2s,baz=285,slow=5.0
WET Wettzell 88.75 40 *eP* **P** **10 37 37.7 +0.2**
comp=Z,50nm,1.4s,baz=285,slow=5.0
ZCCA Zocca 88.80 45 P **P** **10 37 37.8 -0.1**
CTI Castel Tesino 88.81 43 P **P** **10 37 37.5 -0.4**
CTI pmax pmax
comp=Z,28nm,0.9s
CTI Castel Tesino 88.81 43 P **P** **10 37 37.5 -0.4**
CTI IAmb IAmb 10 37 46.4
comp=Z,28nm,0.9s
VSL Villasalto 88.88 50 P **P** **10 37 38.7 +0.4**
BRG Berggiesshubel 88.90 38 *eP* **P** **10 37 38.1 0.0**
BRG Amp 10 37 39.9
comp=Z,31nm,1.8s
BRG *ex* x 10 37 46.1
BRG Amp 10 37 48.9
comp=Z,103nm,2.5s
BRG PP **PP** **10 41 09.9 +2.8**
BRG Amp 10 41 14.4
comp=Z,26nm,1.9s
BRG Berggiesshubel 88.90 38 *eP* **P** **10 37 38.0 0.0**
BRG *e* 10 37 46.1
BRG 10 41 09.9
BRG S **SKSac** **10 48 09.0 +1.2**
BRG pmax pmax
comp=Z,31nm,1.8s
BRG pmax pmax
comp=Z,26nm,1.9s
BRG Berggiesshubel 88.90 38 *eP* **P** **10 37 38.2 0.0**
comp=Z,18nm,1.4s,baz=285,slow=5.0
RJOB Jochberg 89.09 41 *eP* **P** **10 37 39.2 0.0**
comp=Z,14nm,1.1s,baz=285,slow=5.0
ABTA Abfaltersbach 89.19 42 *i* P **P** **10 37 39.2 -0.5**
comp=Z,20nm,1.2s,SNR=10
ABTA *eP* **pwP** **10 37 47.8 -0.2**
comp=Z,33nm,0.9s
KHC Kasperske Hory 89.19 40 *eP* **P** **10 37 40.0 +0.4**
KHC *e* 10 37 47.8
KHC *eS* **SKSac** **10 48 11.8 +2.0**
KHC MLR MLR
comp=Z,1µm,19.7s
KHC Kasperske Hory 89.19 40 *eP* **P** **10 37 40.0 +0.4**
KHC *ex* x 10 37 47.8
KHC *eSKS* **SKSac** **10 48 11.8 +2.0**
KHC AMS AMS 11 12 10.0
comp=Z,1µm,19.7s
KHC Kasperske Hory 89.19 40 IAmb IAmb 10 37 48.9
comp=Z,27nm,1.0s
OSSC Osservatorio P 89.21 46 P **P** **10 37 38.3 -1.4**
OSSC IAmb IAmb 10 37 47.8
comp=Z,14nm,0.9s
PBCC Pribram 89.29 39 *eP* **P** **10 37 41.7 +1.7**
PBCC *ex* x 10 37 48.4
GEC2 GERESS Array S 89.35 40 P **P** **10 37 40.4 -0.1**
GEC2 IAmb IAmb 10 37 49.4
comp=Z,24nm,1.0s
GEC2 GERESS Array S 89.35 40 *eP* **P** **10 37 40.3 -0.1**
comp=Z,16nm,1.2s,baz=285,slow=5.0
GERES GERESS Array B 89.35 40 P **P** **10 37 40.3 -0.1**
comp=Z,3.1nm,0.9s,baz=29,slow=3.0,SNR=28
GERES PP **PP** **10 41 11.5 +0.5**
comp=Z,0.2nm,0.2s,baz=19,slow=6.3,SNR=1.6
GERES LR LR 11 13 14.6
comp=Z,825nm,21.1s,baz=294,slow=33
GERES GERESS Array B 89.35 40 P **P** **10 37 40.5 +0.1**
GERES GERESS Array B 89.35 40 P **P** **10 37 40.5 +0.1**
RAF Rauma 89.48 27 *eP* **P** **10 37 42.0 +1.5**
PRU Pruhonice 89.53 39 *eP* **P** **10 37 42.2 +1.1**
PRU *e* 10 37 48.4
PRU *eS* **SKSac** **10 48 09.6 -2.0**
PRU MLR MLR
comp=Z,800nm,19.4s
PRU Pruhonice 89.53 39 *eP* **P** **10 37 42.2 +1.1**
PRU *ex* x 10 37 48.4
PRU *eSKS* **SKSac** **10 48 09.6 -2.0**
PRU AMS AMS 11 15 50.0
comp=Z,800nm,19.4s
KBA Koelnbreinsper 89.64 42 *i* P **P** **10 37 42.0 +0.1**
comp=Z,19nm,1.2s,SNR=8.6
KBA *eP* **pwP** **10 37 50.3 0.0**
comp=Z,21nm,1.0s
BIOA Bad Ischl, Aus 89.65 41 *eP* **P** **10 37 41.5 -0.2**
BIOA *eP* **pwP** **10 37 48.9 -1.2**
comp=Z,19nm,1.0s
CKRC Cesky Krumlov 89.74 40 *eP* **P** **10 37 42.8 +0.6**
CKRC *eSKS* **SKSac** **10 48 13.8 +0.8**
CKRC AMS AMS 11 14 20.0
comp=Z,900nm,18.3s
KEST Kesra 89.79 54 P **P** **10 37 42.7 0.0**
comp=Z,6.1nm,0.9s,baz=238,slow=3.9,SNR=5.1
KEST LR LR 11 16 01.0
comp=Z,188nm,18.4s,baz=262,slow=34
KEST Kesra 89.79 54 P **P** **10 37 43.2 +0.5**
KEST IAmb IAmb 10 37 58.6
comp=Z,18nm,0.8s
MYKA Terra Mystica 89.97 42 *eP* **P** **10 37 43.5 +0.2**
comp=Z,11nm,1.3s
MYKA *i* P **pwP** **10 37 51.3 -0.3**
comp=Z,29nm,1.0s,SNR=4.9
MOA Molln 90.01 41 *eP* **P** **10 37 43.8 +0.4**
comp=Z,7.9nm,1.1s
MOA *eP* **pwP** **10 37 51.6 -0.2**
comp=Z,15nm,0.9s
CADS Cadrg 90.15 43 *i* P **P** **10 37 43.9 -0.2**
MURB Monte Urbino 90.18 46 IAmb IAmb 10 37 52.3
comp=Z,16nm,0.7s
CHVC Chvalec 90.27 38 *eP* **P** **10 37 45.4 +0.8**
CHVC *ex* x 10 37 52.6
UPC Upice 90.27 38 *eSKS* **SKSac** **10 48 15.2 -0.7**
TRI Trieste 90.32 43 IAmb IAmb 10 37 53.8
comp=Z,17nm,0.8s
TREC Trest 90.33 39 AMS AMS 11 16 50.0
comp=Z,900nm,19.4s

OSTC Ostas 90.37 38 *eP* **P** **10 37 46.0 +0.9**
OSTC *ex* x 10 37 53.5
OSTC AMS AMS 11 22 50.0
comp=Z,600nm,19.2s
DPC Dobruska-Polom 90.50 38 *eP* **P** **10 37 46.2 +0.5**
DPC *e* 10 37 54.2
DPC *eS* **SKSac** **10 48 17.4 0.0**
DPC Dobruska-Polom 90.50 38 *eP* **P** **10 37 46.2 +0.5**
DPC *ex* x 10 37 54.2
DPC *eSKS* **SKSac** **10 48 17.4 0.0**
OBKA Obir 90.60 42 *i* P **P** **10 37 46.4 +0.1**
comp=Z,9.5nm,1.1s,SNR=5.8
OBKA *eP* **pwP** **10 37 55.3 +0.6**
comp=Z,11nm,0.9s
LJU Ljubljana 90.73 43 *eP* **P** **10 37 47.2 +0.4**
LJU *i* 10 37 54.9
SOKA Soboth 90.87 42 *eP* **P** **10 37 47.6 +0.1**
comp=Z,10nm,1.6s
SOKA *eP* **pwP** **10 37 56.4 +0.6**
comp=Z,14nm,1.3s
KRLC Kraliky 90.87 38 *eP* **P** **10 37 49.3 +1.9**
KRLC *e* 10 37 56.0
KRLC *eS* **SKSac** **10 48 19.2 -0.3**
KRLC Kraliky 90.87 38 *eP* **P** **10 37 49.3 +1.9**
KRLC *ex* x 10 37 56.0
KRLC *eSKS* **SKSac** **10 48 19.2 -0.3**
KRUC Moravsky 90.97 39 *eP* **P** **10 37 48.1 +0.3**
KRUC *e* 10 37 55.5
MEF Metsahovi 90.99 27 *eP* **P** **10 37 48.7 +1.1**
ARSA Arzberg 91.00 41 *eP* **P** **10 37 48.8 +0.7**
comp=Z,6.7nm,1.1s
ARSA *eP* **pwP** **10 37 56.1 -0.3**
comp=Z,17nm,1.1s
CONA Conrad Observa 91.01 41 *i* P **P** **10 37 48.5 +0.3**
comp=Z,13nm,1.4s,SNR=5.2
CONA *eP* **pwP** **10 37 56.6 +0.1**
comp=Z,22nm,0.9s
VRAC Vranov 91.01 39 LR LR 11 18 25.4
comp=Z,660nm,18.1s,baz=283,slow=36
VRAC Vranov 91.01 39 *eP* **P** **10 37 48.4 +0.3**
VRAC *e* 10 37 56.3
FINES FINESS Array B 91.18 26 P **P** **10 37 48.3 -0.2**
comp=Z,6.7nm,1.1s,baz=134,slow=8.2,SNR=4.8
FINES LR LR 11 19 39.2
comp=Z,439nm,18.9s,baz=299,slow=36
MTSE Matsula 91.38 29 *eP* **P** **10 37 50.4 +1.0**
MORC Moravsky Berou 91.44 38 P **P** **10 37 50.0 -0.1**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 91.44 38 P **P** **10 37 50.0 -0.1**
MORC Moravsky Berou 91.44 38 *eP* **P** **10 37 50.7 +0.6**
MORC *e* 10 37 58.1
SOP Sopron 91.53 41 P **P** **10 37 49.5 -0.9**
ZST Bratislava 91.70 40 *eP* **P** **10 37 52.9 +1.7**
ZST *e* 10 38 00.0
ZST pmax pmax
comp=Z,66nm,1.0s
ZST Bratislava 91.70 40 *e* **P** **10 37 52.9 +1.7**
ZST Bratislava 91.70 40 *eP* P 10 38 00.0 +8.8
OKC Ostrava-Krasne 91.78 38 AMS AMS 11 26 00.0
comp=Z,600nm,19.9s
SMOL Smolenice 91.80 40 *eP* P 10 38 00.4 +8.7
SMOL pmax pmax
comp=Z,8.0nm,1.1s
SMOL Smolenice 91.80 40 *eP* P 10 38 00.4 +8.7
JAVC Velka Javorina 91.83 39 *eP* **P** **10 37 53.7 +1.8**
SEY Seymchan 91.97 336 LR LR 11 25 54.5
comp=Z,393nm,18.8s,baz=34,slow=40
SEY Seymchan 91.97 336 *ceP* **P** **10 37 53.1 +0.9**
SEY pmax pmax
comp=Z,16nm,0.9s
MPLH Magyarpolny 92.33 41 P **P** **10 37 53.9 -0.2**
SRO Srobarova 92.60 40 *eP* P 10 38 03.7 +8.3
SRO Srobarova 92.60 40 *eP* P 10 38 03.7 +8.3
OJC Ojcow 92.64 38 P **P** **10 37 55.4 -0.1**
OJC Ojcow 92.64 38 P **P** **10 37 55.4 -0.1**
OJC IAmb IAmb 10 38 04.8
comp=Z,12nm,0.9s
VYHS Vyhne 92.68 39 *eP* P 10 38 04.9 +9.1
VYHS Vyhne 92.68 39 *eP* P 10 38 04.9 +9.1
LANS Liptovska Anna 92.83 39 *eP* **P** **10 37 59.0 +2.5**
LANS *e* 10 38 06.0
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 92.83 39 *e* **P** **10 37 59.0 +2.5**
LANS Liptovska Anna 92.83 39 *eP* P 10 38 06.0 +9.5
VSU Vasula 92.86 28 *eP* **P** **10 37 57.4 +1.1**
TIXI Tiksi 93.00 349 *ceP* **P** **10 37 56.5 -0.2**
TIXI pmax pmax
comp=Z,64nm,1.4s
TIXI Tiksi 93.00 349 P **P** **10 37 56.0 -0.7**
KOVH Kovagotottos 93.06 42 P **P** **10 37 58.3 +0.8**
VALR Valaam 93.23 25 *i* P **P** **10 37 58.2 +0.2**
VALR pmax pmax
comp=Z,33nm,0.8s
VAE Valguarnera 93.23 51 LR LR 11 17 34.1
comp=Z,381nm,18.6s,baz=262,slow=34
PSZ Piszkesteto 93.55 40 IAmb IAmb 10 38 09.9
comp=Z,24nm,1.1s
PSZ IAMs_20 IAMs_20 11 16 08.5
comp=Z,630nm,21.0s
PSZ Piszkesteto 93.55 40 P **P** **10 38 01.9 +2.0**
PET Petropavlovsk 93.66 326 *eP* P 10 38 05.7 +5.6
PET *eS* **S** **10 49 09.1 0.0**
PET pmax pmax
comp=Z,300nm,13.9s
PET pmax pmax
comp=Z,10.0nm,1.4s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,600nm,18.0s
IIGN Ignalina 94.06 31 *eP* **P** **10 38 03.0 +1.0**
CEL Celeste 94.11 50 IAMs_20 IAMs_20 11 19 11.8
comp=Z,573nm,19.0s
PETK Petropavlovsk- 94.14 326 P **P** **10 38 01.7 -0.7**
comp=Z,4.5nm,1.0s,baz=78,slow=14,SNR=6.1
PETK Petropavlovsk- 94.14 326 P **P** **10 38 02.4 0.0**
PETK Petropavlovsk- 94.14 326 P **P** **10 38 02.4 0.0**
CRVS Cervenica-Dubn 94.14 38 *eP* P 10 38 11.4 +8.9
CRVS Cervenica-Dubn 94.14 38 *eP* P 10 38 11.4 +8.9
IDID Didziasalis 94.33 31 *eP* **P** **10 38 04.2 +1.0**
MA2 Magadan 94.39 334 LR LR 11 25 47.9
comp=Z,262nm,19.6s,baz=92,slow=39
MA2 Magadan 94.39 334 *ceP* **P** **10 38 03.6 +0.2**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
MA2 Magadan 94.39 334 P **P** **10 38 03.4 0.0**
BELA Belgrano 2 94.46 170 IAmb IAmb 10 38 05.3
comp=Z,16nm,1.1s
NACGM Naroch 94.55 31 *eP* P 10 38 11.5 +7.3
UZH Uzhgorod 94.76 38 *eP* **P** **10 38 04.7 -0.6**
UZH *i* 10 38 12.7
RAO Raoul Island 94.81 241 LR LR 11 13 16.5
comp=Z,396nm,19.1s,baz=126,slow=31
DIVS Divibare 95.03 43 IAMs_20 IAMs_20 11 18 37.7
comp=Z,527nm,20.0s
TRPA Tarpa 95.11 39 P **P** **10 38 07.8 +0.9**
PDG Podgorica 95.13 45 IAMs_20 IAMs_20 11 17 37.7
comp=Z,717nm,20.0s
MNK Minsk 95.30 32 *i* P P 10 38 14.8 +7.2
MNK *i* 10 48 34.1
MNK *i* S **ScS** **10 49 27.7 +3.4**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,41nm,1.0s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=N,257nm,20.0s
MNK MLR MLR
comp=E,28nm,17.0s
MNK MLR MLR
comp=Z,226nm,20.0s
MNK Minsk 95.30 32 *i* P P 10 38 14.8 +7.2
comp=E,2.0nm,0.8s
MNK *i* P P 10 38 14.8 +7.2
comp=N,18nm,0.9s
MNK *i* P P 10 38 14.8 +7.2
comp=Z,41nm,1.0s,baz=116
MNK *i* PP PP 10 42 07.3 +10
MNK *i* PPP PPP 10 44 17.3
MNK *i* SKS **SKSac** **10 48 34.1 -10**

MNK *i* S **ScS** **10 49 27.8 +3.4**
MNK *i* PS PS 10 50 52.7 +11
MNK *i* SS SS 10 56 06.8 +17
MNK *i* SSS SSS 10 59 50.8
MNK *i* LR LR 11 17 23.4
MNK *i* LRM MLR 11 22 17.9
comp=N,257nm,20.0s
MNK *i* LRM MLR 11 22 20.3
comp=E,28nm,17.4s
MNK *i* LRM MLR 11 22 30.2
comp=Z,226nm,20.0s
MSVF Nonsavu 96.37 253 LR LR 11 10 58.8
comp=Z,517nm,21.9s,baz=84,slow=29
KLMR Klimovskoe 96.94 23 *eP* **P** **10 38 11.9 -3.0**
KLMR *e* 10 42 06.5
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 96.94 23 *eP* **P** **10 38 12.0 -3.0**
KLMR AMP 10 38 24.3
comp=Z,20nm,0.9s
KLMR *eP* **PP** **10 42 06.5 -3.2**
AKASG Malin Array Be 97.86 34 PP **PP** **10 42 15.2 -2.0**
comp=Z,0.3nm,0.5s,baz=301,slow=6.4,SNR=4.7
AKASG LR LR 11 19 53.7
comp=Z,648nm,20.6s,baz=260,slow=34
MLR Muntele Rosu 98.34 40 LR LR 11 20 05.7
comp=Z,471nm,19.8s,baz=276,slow=34
MLR Muntele Rosu 98.34 40 IAmb IAmb 10 38 30.9
comp=Z,15nm,1.0s
NRIK Noril'sk 99.03 1 LR LR 11 24 48.2
comp=Z,759nm,21.9s,baz=3.0,slow=36
NRIK Noril'sk 99.03 1 *ceP* **Pdif** **10 38 24.8 +0.6**
NRIK pmax pmax
comp=Z,13nm,1.8s
OBN Obninsk 99.22 28 LR LR 11 22 42.9
comp=Z,113nm,20.0s,baz=296,slow=35
OBN Obninsk 99.22 28 *i* *eP* **Pdif** **10 38 23.3 -2.0**
OBN *e* 10 42 24.9
OBN *i* S **SKSac** **10 49 05.3 +1.6**
OBN pmax pmax
comp=Z,39nm,1.6s
OBN MLR MLR
comp=Z,685nm,20.0s
SNAA Sanae 99.88 161 LR LR 11 15 56.7
comp=Z,154nm,20.1s,baz=286,slow=31
SNAA Sanae 99.88 161 *i* P **Pdif** **10 38 28.5 +0.6**
SNAA pmax pmax
comp=Z,54nm,3.8s
YAK Yakutsk 100.46 343 *i* P **Pdif** **10 38 30.5 -0.2**
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK Yakutsk 100.46 343 IAMs_20 IAMs_20 11 27 18.9
comp=Z,560nm,22.0s
ISP Isparta 104.89 46 IAMs_20 IAMs_20 11 24 08.4
comp=Z,384nm,20.0s
YSS Yuzh-Sakhalins 105.54 326 IAMs_20 IAMs_20 11 34 30.5
comp=Z,613nm,20.0s
DZM Mont Dzumac 107.79 250 *eSS* SS 10 58 42.8 -2.7
comp=Z,1µm,27.7s
DZM Mont Dzumac 107.79 250 *eLR* LR 11 14 36.2
comp=Z,760nm,28.6s
CSS Mathiatis 108.25 47 IAMs_20 IAMs_20 11 30 00.9
comp=Z,317nm,21.0s
KIV Kislovodsk 109.20 35 IAMs_20 IAMs_20 11 39 21.3
comp=Z,358nm,18.0s
MAK Makhachkala 112.50 33 *i* PKIKP **PKiKP** **10 43 14.6 -5.6**
MAK pmax pmax
comp=Z,174nm,1.2s
GNI Garni 112.80 37 IAMs_20 IAMs_20 11 28 11.7
comp=Z,384nm,21.0s
MDJ Mudanjiang 113.89 331 IAMs_20 IAMs_20 11 37 26.7
comp=Z,283nm,22.0s
SYO Syowa Base 114.16 162↑ *ePKP* Pdf **PKiKP** **10 43 27.8 +5.3**
HIA Hailar 114.16 340 IAMs_20 IAMs_20 11 41 29.4
comp=Z,328nm,20.0s
ZALV Zalesovo Beam 114.29 4 PKiKP **PKiKP** **10 43 22.6 -0.7**
comp=Z,0.8nm,0.4s,baz=270,slow=3.6,SNR=5.8
ZALV PP **PP** **10 44 14.9 -2.8**
comp=Z,2.2nm,0.9s,baz=347,slow=5.9,SNR=3.9
ZALV Zalesovo Beam 114.29 4 *i* PKIKP **PKiKP** **10 43 22.8 -0.5**
ZALV Zalesovo Beam 114.29 4 PKiKP **PKiKP** **10 43 22.8 -0.5**
BOSA Boshof 116.70 116 PKP **PKPdf** **10 43 27.8 -1.0**
comp=Z,7.7nm,1.0s,baz=191,slow=4.5,SNR=6.0
ZAK Zakamensk 117.17 351 *ePKIKP* **PKPdf** **10 43 27.1 -2.0**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 118.92 348 PKIKP **PKPdf** **10 43 32.6 0.0**
ULN Ulaanbaatar 118.92 348 **PKPdf** **10 43 32.6 0.0**
ULN Ulaanbaatar 118.92 348 IAMs_20 IAMs_20 11 44 02.4
comp=Z,449nm,18.0s
SONM Songino Array 119.09 348 PKP **PKPdf** **10 43 32.0 -0.9**
comp=Z,2.0nm,0.8s,baz=28,slow=0.2,SNR=13
SONM PP **PP** **10 44 54.2 +2.7**
comp=Z,3.8nm,1.1s,baz=3.4,slow=4.9,SNR=6.4
SONM PKKPbc **PKKPbc** **10 53 45.7 -2.5**
comp=Z,2.0nm,1.0s,baz=176,slow=2.2,SNR=7.4
MBAR Mbarara 119.11 84 IAMs_20 IAMs_20 11 29 28.8
comp=Z,491nm,22.0s
KSRS Korea Array 120.04 327 PKP **PKPdf** **10 43 34.4 -0.5**
comp=Z,4.7nm,0.9s,baz=16,slow=1.3,SNR=17
KSRS PP **PP** **10 44 58.7 +0.3**
comp=Z,1.2nm,0.9s,baz=34,slow=28,SNR=2.8
KSAR Wonju Array Be 120.07 327 PKIKP **PKPdf** **10 43 35.0 +0.1**
KSAR Wonju Array Be 120.07 327 **PKPdf** **10 43 35.0 +0.1**
MAKZ Makanchi 121.09 7 PKIKP **PKPdf** **10 43 35.7 -1.0**
MAKZ Makanchi 121.09 7 **PKPdf** **10 43 35.7 -1.0**
MAKZ IAMs_20 IAMs_20 11 42 58.3
comp=Z,456nm,20.0s
MK31 Makanchi Array 121.14 7 PKIKP **PKPdf** **10 43 35.7 -1.1**
MK31 Makanchi Array 121.14 7 **PKPdf** **10 43 35.7 -1.1**
MKAR Makanchi Array 121.14 7 PKP **PKPdf** **10 43 35.0 -1.8**
comp=Z,0.6nm,0.7s,baz=352,slow=2.4,SNR=8.8
MKAR PKKPbc **PKKPbc** **10 53 37.7 -2.7**
comp=Z,1.0nm,1.0s,baz=130,slow=6.5,SNR=5.7
MKAR Makanchi Array 121.14 7 PKIKP **PKPdf** **10 43 36.0 -0.8**
MKAR Makanchi Array 121.14 7 **PKPdf** **10 43 36.0 -0.8**
LODK Lodwar 122.58 78 **PKPdf** **10 43 40.5 0.0**
FURI Furi 123.99 71 IAMs_20 IAMs_20 11 38 00.0
comp=Z,442nm,19.0s
HHC Hu-ho-hao-te 124.29 341 *ePKP* **PKPdf** **10 43 39.1 -4.0**
HHC PP **PP** **10 45 28.0 +1.0**
HHC SS SS 11 02 20.0 +1.9
HHC AMB AMB
comp=Z,150nm,9.2s
HHC LR LR
comp=Z,510nm,20.6s
HHC LR LR
comp=Z,320nm,21.8s
HHC LR LR
comp=Z,870nm,22.3s
HHC Hu-ho-hao-te 124.29 341 SS SS 11 02 20.1 +2.0
WMQ Urumqi 124.56 3 *ePKP* **PKiKP** **10 43 43.9 +0.1**
WMQ LR LR
comp=Z,540nm,24.7s
WMQ LR LR
comp=Z,380nm,20.9s
WMQ LR LR
comp=Z,1µm,23.5s
TOO Toolangi 125.19 232 PKIKP **PKiKP** **10 43 45.2 +0.1**
TOO Toolangi 125.19 232 **PKiKP** **10 43 45.2 +0.1**
TARG Taragay, Kyrgy 125.35 12 **PKiKP** **10 43 46.3 +0.4**
KMBO Kilima Mbogo 125.57 83 PKP **PKPdf** **10 43 46.3 -0.1**
comp=Z,0.7nm,0.3s,baz=359,slow=4.4,SNR=7.0
KMBO Kilima Mbogo 125.57 83 IAMs_20 IAMs_20 11 44 37.9
comp=Z,357nm,18.0s
HNS HongShan 126.27 337↑ PKP **PKiKP** **10 43 47.8 +0.6**
HNS PP **PP** **10 45 41.9 +1.7**
HNS *e*SS SS 11 02 44.9 +2.1
HNS AMB AMB
comp=Z,260nm,7.0s
HNS LR LR
comp=Z,440nm,24.7s
HNS LR LR
comp=Z,540nm,24.7s
TIA Tai'an 126.30 334 PKP **PKPdf** **10 43 47.3 +0.4**
KIBK Kibwezi 126.62 84 **PKPdf** **10 43 48.4 +0.1**
KIBK IAMs_20 IAMs_20 11 50 13.8
comp=Z,379nm,18.0s
KSH Kashi 127.04 15 PKP **PKiKP** **10 43 49.4 +0.5**
KSH SKKS 10 52 46.0
KSH LR LR
comp=Z,260nm,19.2s
KSH LR LR
comp=Z,330nm,18.9s
KSH LR LR
comp=Z,460nm,18.9s

GTA	**Gaotai**	**128.41**	**351**	⇓PKP	**PKPdf**	**10 43 51.4**	**+0.3**
GTA				sPKP		10 43 59.8	
GTA				PP	**PP**	**10 45 59.4**	**+5.2**
GTA				AMB	AMB		
	comp=Z,78nm,7.6s						
GTA				LR	LR		
	comp=Z,300nm,22.9s						
GTA				LR	LR		
	comp=Z,220nm,22.9s						
GTA				LR	LR		
	comp=Z,510nm,23.3s						
NJ2	**Nanjing**	**128.93**	**329**	*e*PKP	**PKPdf**	**10 43 52.0**	**-0.1**
STKA	**Stephens Creek**	**129.54**	**238**	PKP	**PKPdf**	**10 43 52.4**	**-0.7**
	comp=Z,18nm,0.9s,baz=52,slow=2.5,SNR=28						
STKA	**Stephens Creek**	**129.54**	**238**	PKIKP	**PKPdf**	**10 43 53.3**	**+0.1**
STKA	**Stephens Creek**	**129.54**	**238**		**PKPdf**	**10 43 53.3**	**+0.1**
LYN	**LuoYang**	**129.63**	**337**	*e*PKP	**PKiKP**	**10 43 54.1**	**0.0**
LYN				PP	**PP**	**10 46 07.8**	**+5.5**
LYN				LR	LR		
	comp=Z,390nm,27.7s						
LYN				LR	LR		
	comp=Z,330nm,20.1s						
LYN				LR	LR		
	comp=Z,580nm,24.3s						
UOSS	**Minazif**	**130.09**	**43**	IAMs_20	IAMs_20	11 51 48.8	
	comp=Z,230nm,22.0s						
LZH	**Lanzhou**	**130.87**	**346**	*e*PKP	**PKiKP**	**10 43 57.3**	**+0.5**
LZH				AMB	AMB		
	comp=Z,310nm,7.5s						
LZH				LR	LR		
	comp=Z,430nm,21.0s						
LZH				LR	LR		
	comp=Z,520nm,20.5s						
LZH				LR	LR		
	comp=Z,470nm,21.6s						
GOMU	**GeErMu**	**132.13**	**356**	PKP	**PKiKP**	**10 43 59.8**	**+0.2**
GOMU				pPKP	sPKPdf	10 44 21.4	+20
GOMU				SKS	**SKSdf**	**10 51 11.8**	**+1.2**
GOMU				SKKS	**SKKSac**	**10 53 15.0**	**-2.0**
GOMU				AMB	AMB		
	comp=Z,65nm,4.6s						
GOMU				LR	LR		
	comp=Z,160nm,21.5s						
GOMU				LR	LR		
	comp=Z,150nm,18.9s						
GOMU				LR	LR		
	comp=Z,260nm,20.0s						
WHN	**Wuhan**	**132.32**	**333**	⇑PKP	**PKPdf**	**10 43 58.5**	**0.0**
WHN				PP	**PP**	**10 46 20.9**	**+1.0**
WHN				AMB	AMB		
	comp=Z,650nm,7.7s						
WHN				LR	LR		
	comp=Z,1μm,33.3s						
BBOO	**Buckleboo**	**133.86**	**236**		**PKPdf**	**10 44 01.4**	**+0.1**
ENH	**Enshi**	**134.57**	**337**		**PKPdf**	**10 44 02.7**	**-0.2**
CD2	**Chengdu**	**135.82**	**344**	PKP	**PKPdf**	**10 44 04.0**	**-1.2**
WR0	**Warramunga Arr**	**137.52**	**253**		**PKPdf**	**10 44 08.9**	**+0.4**
WB0	**Warramunga Arr**	**137.68**	**254**		**PKPdf**	**10 44 06.9**	**-1.9**
AS31	**Alice Springs**	**137.70**	**248**		**PKPdf**	**10 44 08.2**	**-0.6**
ASAR	**Alice Springs**	**137.70**	**248**	PKhKP	PKPpre	10 43 55.4	
	comp=Z,1.6nm,0.9s,baz=95,slow=4.0,SNR=15						
ASAR				PKP	**PKPdf**	**10 44 08.4**	**-0.4**
	comp=Z,9.1nm,0.9s,baz=97,slow=2.5,SNR=18						
WB2	**Warramunga Arr**	**137.70**	**253**		**PKPdf**	**10 44 09.4**	**+0.6**
WRA	**Warramunga Arr**	**137.71**	**253**	PKhKP	PKPpre	10 43 56.9	
	comp=Z,3.1nm,0.9s,baz=93,slow=2.7,SNR=11						
WRA				PKP	**PKPdf**	**10 44 07.9**	**-1.0**
	comp=Z,17nm,1.0s,baz=94,slow=1.5,SNR=26						
WRA	**Warramunga Arr**	**137.71**	**253**	PKIKP	**PKPdf**	**10 44 09.2**	**+0.3**
WRA	**Warramunga Arr**	**137.71**	**253**		**PKPdf**	**10 44 09.2**	**+0.3**
LSA	**Lhasa**	**138.74**	**360**	IAMs_20	IAMs_20	11 48 53.8	
	comp=Z,402nm,21.0s						
GYA	**Guiyang**	**139.06**	**338**	⇓PKP	**PKPdf**	**10 44 09.0**	**-2.4**
GYA				PP	**PP**	**10 47 04.1**	**+1.7**
GYA				SS	SS	11 05 18.3	-0.3
GYA				AMB	AMB		
	comp=Z,250nm,4.0s						
GYA				LR	LR		
	comp=Z,260nm,30.2s						
GYA				LR	LR		
	comp=Z,240nm,27.8s						
GYA				LR	LR		
	comp=Z,530nm,30.1s						
PZH	**PanZhiHua**	**140.54**	**345**	PKP	**PKPdf**	**10 44 11.1**	**-3.0**
PZH				sPKP		10 44 16.5	
PZH				PP	**PP**	**10 47 11.4**	**+0.1**
PZH				PKS	**PKSdf**	**10 47 43.6**	**-6.7**
PZH				AMB	AMB		
	comp=Z,100nm,8.0s						
PZH				LR	LR		
	comp=Z,210nm,26.5s						
PZH				LR	LR		
	comp=Z,220nm,25.5s						
PZH				LR	LR		
	comp=Z,440nm,29.4s						
KMI	**Kunming**	**141.58**	**343**	⇓PKP	**PKPdf**	**10 44 16.6**	**+0.5**
KMI				PP	**PP**	**10 47 21.1**	**+3.3**
KMI				AMB	AMB		
	comp=Z,170nm,4.3s						
KMI				LR	LR		
	comp=Z,340nm,23.1s						
KMI				LR	LR		
	comp=Z,310nm,18.0s						
KMI				LR	LR		
	comp=Z,1μm,20.0s						
SHL	**Shillong**	**142.85**	**359**	PKIKP	**PKPdf**	**10 44 17.2**	**-1.1**
SHL	**Shillong**	**142.85**	**359**		**PKPdf**	**10 44 17.2**	**-1.1**
MSEY	**Mahe Island**	**144.09**	**82**	PKIKP	PKPbc	10 44 19.3	+0.8
MSEY	**Mahe Island**	**144.09**	**82**		PKPbc	10 44 19.3	+0.7
QIZ	**Qiongzhong**	**144.22**	**329**	PKP	PKPbc	10 44 19.3	+0.6
RER	**Riviere de l'E**	**144.93**	**110**		**PKPdf**	**10 44 21.7**	**-0.1**
TOLI2	**Tolitoli**	**147.83**	**292**		**PKPdf**	**10 44 26.9**	**0.0**
TOLI2				PKPbc	**PKPbc**	**10 44 29.9**	**+0.1**
TOLI2				IAMs_20	IAMs_20	11 59 04.8	
	comp=Z,384nm,22.0s						
MYLDM	**Lahad Datu**	**147.94**	**300**		**PKPdf**	**10 44 27.5**	**+0.5**
HYBB	**Hyderabad (bro**	**148.44**	**23**	*e*PKPbc	**PKPbc**	**10 44 30.9**	**-0.4**
CHTO	**Chiang Mai**	**148.61**	**346**	PKIKP	**PKPdf**	**10 44 27.5**	**-0.5**
CHTO						10 44 31.9	
CHTO	**Chiang Mai**	**148.61**	**346**		**PKPdf**	**10 44 27.5**	**-0.5**
CHTO				PKPbc	**PKPbc**	**10 44 31.9**	**+0.2**
CM31	**Chiang Mai Arr**	**148.95**	**345**		**PKPdf**	**10 44 29.3**	**+0.7**
CM31				PKPbc	**PKPbc**	**10 44 33.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**148.95**	**345**	PKP	**PKPdf**	**10 44 28.8**	**+0.2**
	comp=Z,33nm,1.0s,baz=336,slow=2.0,SNR=23						
CMAR				PKPbc	**PKPbc**	**10 44 32.5**	**0.0**
	comp=Z,25nm,0.8s,baz=315,slow=2.0,SNR=32						
CMAR	**Chiang Mai Arr**	**148.95**	**345**	PKIKP	**PKPdf**	**10 44 28.9**	**+0.3**
CMAR						10 44 33.4	
CMAR	**Chiang Mai Arr**	**148.95**	**345**		**PKPdf**	**10 44 28.9**	**+0.3**
CMAR				PKPbc	**PKPbc**	**10 44 33.4**	**+0.8**
PSA00	**Pilbara Seismi**	**150.84**	**247**		**PKPdf**	**10 44 31.2**	**-0.2**
PSA00				PKPbc	**PKPbc**	**10 44 36.8**	**-0.3**
PSA00				PKPab	**PKPab**	**10 44 43.9**	**-0.3**
KAPI	**Kappang**	**150.87**	**281**	PKIKP	**PKiKP**	**10 44 38.0**	**0.0**
KAPI	**Kappang**	**150.87**	**281**		**PKiKP**	**10 44 38.0**	**0.0**
MORW	**Morawa**	**151.09**	**230**		**PKPbc**	**10 44 36.7**	**-0.8**
KSM	**Kuching**	**156.79**	**303**		**PKPdf**	**10 44 39.2**	**-1.0**
KSM					**PKPab**	**10 45 10.4**	**+0.8**
PALK	**Pallekele**	**158.42**	**29**	PKIKP	**PKPdf**	**10 44 41.3**	**-0.9**
PALK						10 45 17.1	
PALK	**Pallekele**	**158.42**	**29**		**PKPdf**	**10 44 41.3**	**-0.9**
PALK					**PKPab**	**10 45 17.1**	**+0.6**
KULM	**Kulim**	**160.54**	**330**		**PKPdf**	**10 44 42.8**	**-1.9**
KULM					**PKPab**	**10 45 25.7**	**+0.1**

*INET **19** 10:36:36.5±2.2,14°.04N×88°.05W,h38km±35km, ML3.6, MW2.7*
*SNET **19** 10:36:36.0±1.5, 12°.79N×88°.73W,h38km, ML3.9,ML3.8*
ISC 19 10:36:36.1±2.5,12°.8N±0°.1×88°.74W±0°.05,h33km±3km,n35, σ0°50/49,1C-6D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ALJI	**Alcalde de J**	**0.56**	**17**	⇓*e*P	**Pb**	**10 36 48.1**	**+0.4**
ALJI				*e*S	**Sb**	**10 36 56.2**	**+0.5**
COEB	**Comit de Eme**	**0.73**	**16**	⇓*e*P	**Pb**	**10 36 50.3**	**-0.3**
COEB				*e*S	**Sb**	**10 37 00.5**	**-0.1**
COEB	**Comit de Eme**	**0.73**	**16**	*e*P	**Pb**	**10 36 50.4**	**-0.3**
COEB				*e*S	**Sb**	**10 37 00.7**	**+0.2**
COEB				IAML		10 37 02.9	
	comp=Z,791nm,0.2s						
TECO	**Alcaldia de Te**	**0.75**	**357**	⇓*e*P	**Pb**	**10 36 50.5**	**-0.3**
TECO				*e*S	**Sb**	**10 37 00.5**	**-0.3**
LCY	**Lacayo**	**0.77**	**34**	*e*P	**Pn**	**10 36 50.8**	**+0.1**
VSM	**San Miguel**	**0.78**	**35**	*e*P	**Pn**	**10 36 51.3**	**+0.3**
PACA	**Pacayal**	**0.79**	**31**	*e*P	**Pn**	**10 36 51.1**	**+0.1**
PACA				IAML		10 37 08.2	
	comp=Z,119μm,0.2s						
SNVI	**San Vicente**	**0.83**	**353**	*e*P	**Pn**	**10 36 51.7**	**+0.1**
SNVI				*e*S	**Sb**	**10 37 02.7**	**-0.4**
COEG	**Centro de Oper**	**0.84**	**351**	*e*P	**Pn**	**10 36 51.6**	**-0.1**
COEG				IAML		10 37 08.4	
	comp=Z,2μm,0.2s						
COEG	**Centro de Oper**	**0.84**	**351**	*e*P	**Pn**	**10 36 51.7**	**+0.1**
PQSS	**Presa 15 de Se**	**0.85**	**12**	⇑*e*P	**Pn**	**10 36 52.0**	**+0.2**
PQSS				*e*S	**Sb**	**10 37 03.2**	**-0.4**
PQSS				IAML		10 37 04.3	
	comp=Z,2μm,0.1s						
LFRS	**El Faro**	**0.89**	**339**	*e*P	**Pn**	**10 36 52.4**	**0.0**
LALI	**Alcalda de L**	**0.90**	**321**	*e*P	**Pn**	**10 36 52.4**	**0.0**
LALI				*e*S	**Sn**	**10 37 02.6**	**-1.6**
SCLA	**Alcaldia de Sa**	**0.91**	**1**	⇓*e*P	**Pn**	**10 36 53.1**	**+0.5**
PAVA	**Las Pavas**	**0.94**	**348**	⇓*e*P	**Pn**	**10 36 53.4**	**+0.3**
PAVA				*e*S	**Sn**	**10 37 06.0**	**+0.6**
PAVA				IAML		10 37 08.9	
	comp=Z,2μm,0.3s						
PAVA	**Las Pavas**	**0.94**	**348**	*e*P	**Pn**	**10 36 53.4**	**+0.3**
LCND	**La Caada**	**0.98**	**58**	⇓*e*P	**Pn**	**10 36 53.4**	**-0.1**
LCND				*e*S	**Sn**	**10 37 05.9**	**-0.2**
LCND				IAML		10 37 08.4	
	comp=Z,2μm,0.3s						
LBRS	**Las Brisas**	**0.99**	**343**	*e*P	**Pn**	**10 36 54.2**	**+0.5**
SNET	**Serv Nac Est T**	**1.01**	**332**	*e*P	**Pn**	**10 36 54.2**	**+0.1**
SNET				*e*S	**Sn**	**10 37 06.5**	**-0.8**
SNET				IAML		10 37 10.7	
	comp=Z,885nm,0.1s						
SNET	**Serv Nac Est T**	**1.01**	**332**	*e*P	**Pn**	**10 36 54.4**	**+0.3**
LFU	**La Fuente**	**1.02**	**339**	*e*P	**Pn**	**10 36 54.5**	**+0.3**
LFU				*e*S	**Sn**	**10 37 07.9**	**+0.5**
UEES	**Universidad Ev**	**1.04**	**332**	*e*P	**Pn**	**10 36 54.7**	**+0.2**
UEES				*e*S	**Sn**	**10 37 07.6**	**-0.4**
UEES				IAML		10 37 16.6	
	comp=Z,897nm,0.2s						
BOQS	**Boqueron**	**1.08**	**331**	*e*P	**Pn**	**10 36 55.5**	**+0.4**
BOQS				*e*S	**Sn**	**10 37 10.3**	**+1.3**
FAGO	**Alcalda de S**	**1.09**	**34**	*e*P	Pn	10 36 44.9	-10
JAYA	**Jayaque - finc**	**1.10**	**321**	*e*P	**Pn**	**10 36 55.3**	**-0.1**
JAYA				*e*S	**Sn**	**10 37 08.8**	**-0.8**
JAYA				IAML		10 37 13.4	
	comp=Z,2μm,0.2s						
CSGN	**Cosiguina Volc**	**1.17**	**81**	*e*P	**Pn**	**10 36 56.4**	**+0.2**
CSGN				IAML		10 37 51.2	
	comp=Z,6μm,0.5s						
TACO	**Tacachico**	**1.32**	**333**	*e*P	**Pn**	**10 36 58.6**	**+0.3**
CEVE	**Cerro Verde**	**1.35**	**320**	*e*P	**Pn**	**10 36 59.2**	**+0.4**
CEVE				IAML		10 37 26.6	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**1.35**	**321**	*e*P	**Pn**	**10 36 59.5**	**+0.6**
SNJE	**San Jose**	**1.37**	**322**	*e*P	**Pn**	**10 36 59.7**	**+0.7**
SNJE				*e*S	**Sn**	**10 37 16.4**	**+0.3**
RTR	**El Retiro**	**1.41**	**321**	*e*P	**Pn**	**10 37 00.5**	**+0.8**
NUBE	**Las Nubes**	**1.50**	**318**	*e*P	**Pn**	**10 37 01.2**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.60**	**321**	*e*P	**Pn**	**10 37 02.6**	**+0.5**
MTO3	**Montecristo**	**1.71**	**339**	*e*P	**Pn**	**10 37 04.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.90**	**48**	*e*P	**Pn**	**10 37 06.7**	**+0.3**

*IDC **19** 10:37:23.4±1.1,67°.22N×21°.47E,h0km,mb1 2.8/3, mb1mx2.7/34,mbtmp2.7/3,ML1.9/3,Error ellipse: s-maj=18.0km s-min=7.5km az=109.0*
*HEL **19** 10:37:23.2±0.1,67°.18N×20°.67E,h0km,ML2.1, ML2.5(UPP),Explosion*
ISC 19 10:37:22.6±0.8,67°.18N±0°.02×20°.69E±0°.03,h0km,n31, σ1°9/47,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P	**Pg**	**10 37 33.9**	**+0.2**
MASU				*i* S	**Sg**	**10 37 41.7**	**+0.5**
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	**Pg**	**10 37 37.0**	**-0.4**
SALU	**Saltoluokta**	**0.87**	**285**	*i* P	**Pg**	**10 37 38.9**	**-0.3**
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	**Pg**	**10 37 40.0**	**-0.5**
PAJU	**Pajala**	**0.96**	**98**	*e*P	**Pg**	**10 37 40.3**	**-0.7**
	baz=278						
LANU	**Lannavaara**	**1.01**	**29**	*e*P	**Pg**	**10 37 41.1**	**-0.7**
LANU				*e*SB	**Sg**	**10 37 55.5**	**+0.6**
HARU	**Harads**	**1.02**	**173**	*e*P	**Pg**	**10 37 41.5**	**-0.6**
KOVU	**Salmi**	**1.07**	**349**	*e*P	**Pg**	**10 37 42.4**	**-0.6**
KLF	**Kolari**	**1.28**	**86**	*e*P	**Pg**	**10 37 45.8**	**-1.3**
KLF				*e*SB	**Sg**	**10 38 03.5**	**0.0**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**10 37 53.0**	**-0.1**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**10 37 52.4**	**-0.7**
HEF				MSG		10 38 13.6	
	comp=Z,17nm,0.2s						
HEF				*e*SN	**Sn**	**10 38 15.4**	**+0.1**
KALU	**Kalix**	**1.70**	**140**	*e*P	**Pn**	**10 37 53.4**	**0.0**
KALU				*e*SN	**Sn**	**10 38 16.7**	**+0.9**
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	**Pn**	**10 37 53.7**	**+0.1**
SJUU				*e*S	**Sn**	**10 38 16.9**	**+0.6**
TOF	**Tornio**	**1.82**	**126**	*e*P	**Pn**	**10 37 55.4**	**+0.3**
TOF				MSG		10 38 17.8	
	comp=Z,15nm,0.2s						
TOF				*e*SN	**Sb**	**10 38 21.0**	**+1.0**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**10 37 56.1**	**-0.9**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**10 37 56.1**	**-0.9**
KIF				MSG		10 38 18.3	
	comp=Z,11nm,0.2s						
KIF				*e*SG	**Sg**	**10 38 21.8**	**+0.3**
RNF	**Rovaniemi**	**2.18**	**103**	*e*P	**Pn**	**10 38 00.8**	**+0.8**
	baz=292						
RNF				*e*SG	**Sb**	**10 38 30.7**	**+0.4**
SGF	**Sodankyl**	**2.28**	**81**	*e*P	**Pn**	**10 38 02.4**	**+1.0**
SGF				*e*SG	**Sb**	**10 38 33.4**	**+0.2**
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**10 38 11.5**	**+0.7**
ARA0				*e*SB	**Sb**	**10 38 50.9**	**-2.1**
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**10 38 11.0**	**+0.1**
	baz=212,slow=14,SNR=18						
ARCES				Lg	Lg	10 38 48.0	
	baz=208,slow=23,SNR=11						
OUL	**Oulu**	**2.98**	**132**	*e*PB	**Pb**	**10 38 14.9**	**-1.6**
	baz=320						
OUF	**Merijarvi**	**3.28**	**148**	*e*PG	**Pb**	**10 38 21.0**	**-0.5**
	baz=334						
OUF				*e*SG	**Sb**	**10 39 03.7**	**+1.8**
UMAU	**Umeaa**	**3.31**	**180**	*e*P	**Pn**	**10 38 16.1**	**+0.6**
	baz=1.0						
KEV	**Kevo**	**3.48**	**39**	*e*P	**Pn**	**10 38 18.6**	**+0.7**
VRF	**Varrio**	**3.48**	**76**	*e*P	**Pn**	**10 38 18.8**	**+0.8**
OLKF	**Oulanka, Finla**	**3.56**	**100**	*e*P	**Pn**	**10 38 19.8**	**+0.8**
OLKF				*e*S	**Sn**	**10 39 02.3**	**+0.6**
MSF	**Maaselka**	**3.57**	**107**	*e*PG	**Pb**	**10 38 26.9**	**+0.3**
KU6	**Riekki**	**3.85**	**103**	*e*P	**Pn**	**10 38 23.5**	**+0.5**
	baz=288						
VAF	**Ylistaro**	**4.24**	**168**	*e*P	**Pn**	**10 38 30.1**	**+1.8**
VAF				*e*SG	**Sg**	**10 39 35.0**	**-3.5**
FINES	**FINESS Array B**	**6.21**	**155**	Pn	**Pn**	**10 38 56.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=6.5						
FINES				Sn	**Sn**	**10 40 05.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=342,slow=24,SNR=3.9						
FINES				Lg	Lg	10 40 33.9	
	comp=Z,0.4nm,0.3s,baz=344,slow=29,SNR=5.8						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**10 39 12.6**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=33,slow=23,SNR=2.0						
NOA				Sn	**Sn**	**10 40 39.0**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=54,slow=11,SNR=2.0						
NOA				Lg	Lg	10 41 15.6	
	comp=Z,0.0nm,0.3s,baz=54,slow=22,SNR=1.8						

*BJI **19** 10:54:55.9±0.0,54°.22N×127°.15E,h5km,mb4.6/43, mB4.8/24,ML5.3/5,Ms4.8/41,Ms7 4.5/39*
*IDC **19** 10:54:56.0±0.4,54°.31N×126°.54E,h0km,mb4.2/24, mb1 4.4/34,mb1mx4.4/48,mbtmp4.3/34,ML3.8/9,MS3.7/9, Ms1 3.7/9,ms1mx3.4/92,Error ellipse: s-maj=10.5km s-min=8.8km az=108.0*
*NEIC **19** 10:54:58.0±1.4,54°.35N±0°.06×126°.6E±0°.1,h10km±1km, mb4.7/128,Error ellipse: s-maj=14.1km s-min=10.1km az=102.0*
*SKHL **19** 10:54:57.0±0.4,54°.32N×126°.62E,h13km±4km,mb5.1/8, ms4.8/5,Felt (V) at Zolotaya Gora; (IV)at Kirovskiy, Beregovoy; (III-IV) at Zeya, Snezhnogorskiy; (III) at Verkhnezeysk; (II-III) at Bomnak*

*MOS **19** 10:54:57.4±1.5,54°.34N×126°.73E,h18km,mb4.8/29, MS4.0/13,Error ellipse: s-maj=7.8km s-min=5.0km az=109.7*
MOS Felt (IV) at Kirovskiy; (III-IV) at Bomnak, Zeya.
ISC 19 10:54:58.0±0.6,54°.34N±0°.03×126°.67E±0°.03,h14km±3km, n307,σ2°02/311,mb4.7/117,MS4.4/15,14C-6D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
KROS	**Kirovskiy**	**0.20**	**61**	*e*Pg	**Pg**	**10 55 01.9**	**-0.6**
KROS				AMB	AMB	10 55 02.1	
	32μm,0.2s						
KROS				*e*Sg	**Sg**	**10 55 05.3**	**-0.3**
KROS				A	A	10 55 05.8	
	203μm,0.2s						
KROS				A	A	10 55 05.8	
	150μm,0.2s						
ZEA	**Zeya**	**0.69**	**150**	⇑*e*P	**Pb**	**10 55 09.9**	**-1.9**
ZEA				*e*		10 55 22.1	
ZEA				pmax	pmax		
	comp=N,6μm,0.6s						
ZEA				pmax	pmax		
	comp=E,5μm,0.6s						
ZEA				pmax	pmax		
	comp=Z,6μm,0.5s						
ZEA	**Zeya**	**0.69**	**150**	⇑*i*Pg	**Pb**	**10 55 09.6**	**-2.2**
ZEA				AMB	AMB	10 55 10.3	
	comp=Z,6μm,0.5s						
ZEA				*e*Sg	**Sb**	**10 55 18.6**	**-2.6**
ZEA				A	A	10 55 19.5	
	comp=Z,64μm,0.5s						
ZEA				A	A	10 55 19.5	
	comp=Z,52μm,0.5s						
TNDR	**Tynda**	**1.39**	**307**	*e*Pg	**Pn**	**10 55 22.1**	**-0.9**
TNDR				*e*rx	rx	10 55 22.4	
TNDR				*e*Sg	**Sb**	**10 55 40.8**	**-0.6**
TUP	**Tupik**	**3.93**	**274**	*e*Pn	**Pn**	**10 55 57.0**	**-0.9**
TUP				*e*Pg	**Pb**	**10 56 07.6**	**+0.6**
TUP				*e*Sn	**Sn**	**10 56 43.6**	**-0.2**
TUP				*e*Sg	**Sb**	**10 56 58.7**	**+4.4**
EKMR	**Ekimchan**	**3.94**	**106**	*e*Pn	**Pn**	**10 55 58.2**	**+0.1**
EKMR				*e*Pg	**Pb**	**10 56 08.7**	**+1.5**
EKMR				AMB	AMB	10 56 09.7	
	comp=Z,598nm,0.9s						
EKMR				*e*Sg	**Sg**	**10 57 00.6**	**-3.9**
EKMR				A	A	10 57 06.2	
	comp=Z,4μm,1.1s						
EKMR				AMS	AMS	10 57 33.8	
	comp=Z,2μm,3.0s						
CRS	**Chara**	**5.41**	**302**	*e*Pn	**Pn**	**10 56 18.9**	**+0.7**
CRS				*e*Pg	**Pb**	**10 56 34.6**	**+2.4**
CRS				*e*Sg	**Sg**	**10 57 44.8**	**-6.6**
KLR	**Kul'dur**	**6.01**	**146**	Pn	**Pn**	**10 56 26.7**	**+0.2**
	comp=Z,23nm,0.3s,baz=329,slow=13,SNR=256						
KLR				Sn	**Sn**	**10 57 29.9**	**-5.1**
	comp=Z,27nm,0.3s,baz=347,slow=18,SNR=2.5						
KLR				Lg	Lg	10 57 57.7	
	comp=Z,43nm,0.3s,baz=257,slow=19,SNR=9.3						
KLR	**Kul'dur**	**6.01**	**146**	*c i*P	**Pn**	**10 56 26.5**	**+0.1**
KLR				pmax	pmax		
	comp=Z,186nm,0.6s						
KLR				MLR	MLR		
	comp=Z,2μm,11.0s						
KLR	**Kul'dur**	**6.01**	**146**	⇓*i*Pn	**Pn**	**10 56 26.6**	**+0.2**
KLR				*e*rx	rx	10 56 28.3	
KLR				*e*rx	rx	10 57 47.7	
KLR				*e*Sg	**Sg**	**10 58 02.7**	**-7.9**
HIA	**Hailar**	**6.65**	**223**	P	**Pn**	**10 56 35.2**	**0.0**
HIA	**Hailar**	**6.65**	**223**	Pn	**Pn**	**10 56 35.2**	**0.0**
GRNR	**Gornyy**	**6.94**	**117**	⇓*i*P	**Pn**	**10 56 40.1**	**+0.9**
GRNR						10 58 01.0	
GRNR				pmax	pmax		
	comp=N,20nm,0.3s						
GRNR				pmax	pmax		
	comp=E,30nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.3s						
GRNR	**Gornyy**	**6.94**	**117**	*e*Pn	**Pn**	**10 56 39.6**	**+0.4**
GRNR				*e*rx	rx	10 58 07.9	
GRNR				*e*Sg	**Sg**	**10 58 34.1**	**-6.3**
GRNR				A	A	10 58 42.0	
	comp=Z,860nm,1.0s						
GRNR				AMS	AMS	11 00 54.0	
	comp=Z,360nm,3.5s						
GRNR				AMS	AMS	11 00 54.0	
	comp=Z,540nm,3.5s						
GRNR				AMS	AMS	11 00 54.0	
	comp=Z,470nm,3.5s						
YAK	**Yakutsk**	**7.88**	**10**	Pn	**Pn**	**10 56 51.5**	**-0.5**
	comp=Z,5.2nm,0.3s,baz=178,slow=3.3,SNR=92						
YAK				Sn	**Sn**	**10 58 16.6**	**-4.3**
	comp=Z,2.8nm,0.3s,baz=170,slow=21,SNR=6.4						
YAK				Lg	Lg	10 58 53.9	
	comp=Z,6.5nm,0.3s,baz=131,slow=21,SNR=13						
YAK				LR	LR	11 00 09.3	
	comp=Z,350nm,18.1s,baz=164,slow=40						
YAK	**Yakutsk**	**7.88**	**10**	*e*P	**Pn**	**10 56 51.1**	**-0.9**
YAK				*e*		10 58 16.8	
YAK				pmax	pmax		
	comp=Z,323nm,0.5s						
YAK				smax	smax		
	comp=E,86nm,0.4s						
YAK				smax	smax		
	comp=N,218nm,0.5s						
YAK	**Yakutsk**	**7.88**	**10**	Pn	**Pn**	**10 56 51.3**	**-0.7**
YAK				Sn	**Sn**	**10 58 17.9**	**-2.9**
BOD	**Bodaibo**	**7.90**	**301**	*e*P	**Pn**	**10 56 53.3**	**+1.0**
BOD	**Bodaibo**	**7.90**	**301**	*e*Pn	**Pn**	**10

comp=E,11nm,0.7s
VLA Vladivostok 11.74 161 *i* P **Pn 10 57 47.9 +3.0**
VLA pmax pmax
comp=Z,89nm,2.1s
VLA MLR MLR
comp=Z,1μm,10.0s
VLA Vladivostok 11.74 161 P **Pn 10 57 47.9 +3.0**
MSHR Mys Shultsa 12.13 164 *i* P **Pn 10 57 51.3 +1.0**
MSHR pmax pmax
comp=Z,36nm,0.7s
MSHR MLR MLR
comp=Z,419nm,11.0s
XLT XiLinHaoTe 12.52 218 *e*P Pn 10 57 59.9 +4.2
XLT pP P 10 58 02.3 -5.1
XLT sP 10 58 06.3
XLT S Sn 11 00 23.4 +8.5
XLT pmax pmax
comp=Z,10.0nm,0.7s
YSS Yuzh-Sakhalins 12.58 119 *e*P **Pn 10 57 58.4 +2.0**
YSS *e*S **Sn 11 00 16.1 -0.2**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,1μm,11.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS Yuzh-Sakhalins 12.58 119 *e*P **Pn 10 57 58.4 +2.0**
YSS AMB AMB 10 57 58.8
comp=N,20nm,0.9s
YSS *e*rx rx 10 58 01.8
YSS AMS AMS 11 03 29.0
comp=N,1μm,11.0s
YSS AMS AMS 11 03 29.0
comp=N,2μm,15.0s
IRK Irkutsk 13.55 270 *e*P **Pn 10 58 08.5 -1.1**
IRK pmax pmax
comp=Z,113nm,0.1s
IRK Irkutsk 13.55 270 *e*P **Pn 10 58 12.6 +3.0**
ULN Ulaanbaatar 13.90 250*ce*P **Pn 10 58 13.6 -0.9**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 13.90 250 Pn **Pn 10 58 13.1 -1.5**
MA2 Magadan 14.11 58 Pn **Pn 10 58 18.4 +1.1**
comp=Z,0.3nm,0.3s,baz=270,slow=14,SNR=16
MA2 Sn **Sn 11 00 54.8 +1.3**
comp=Z,0.1nm,0.3s,baz=127,slow=20,SNR=2.3
MA2 Lg Lg 11 02 15.2
comp=Z,0.4nm,0.3s,baz=350,slow=4.7,SNR=6.1
MA2 LR LR 11 03 34.1
comp=Z,244nm,20.3s,baz=260,slow=36
MA2 Magadan 14.11 58*ce*P **Pn 10 58 18.1 +0.8**
MA2 pmax pmax
comp=Z,85nm,2.5s
MA2 MLR MLR
comp=Z,386nm,11.0s
MA2 Magadan 14.11 58 Pn **Pn 10 58 19.2 +2.0**
SONM Songino Array 14.28 251 Pn **Pn 10 58 18.3 -1.4**
comp=Z,2.8nm,0.3s,baz=55,slow=13,SNR=38
SONM Sn **Sn 11 00 50.2 -7.7**
comp=Z,1.7nm,0.3s,baz=38,slow=15,SNR=1.9
SONM Lg Lg 11 02 22.0
comp=Z,7.1nm,0.3s,baz=56,slow=27,SNR=9.7
SONM LR LR 11 04 09.9
comp=Z,308nm,18.6s,baz=60,slow=39
ASAJ Asahikawa 14.55 128 Pn **Pn 10 58 23.7 +0.3**
comp=Z,0.2nm,0.3s,baz=311,slow=11,SNR=1.1
ASAJ Lg Lg 11 02 29.2
comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=1.4
ZAK Zakamensk 14.80 264 *e*P **Pn 10 58 24.5 -2.3**
ZAK pmax pmax
comp=Z,35nm,1.2s
MOY Mondy 15.65 271 *e*P **Pn 10 58 38.3 +0.2**
MOY *e*S **S 11 01 39.0 -7.5**
DL2 Dalian 15.81 195 P **Pn 10 58 39.6 -0.4**
DL2 pmax pmax
comp=Z,20nm,0.8s
DL2 LR LR
comp=Z,790nm,7.8s
DL2 LR LR
comp=Z,2μm,8.2s
DL2 LR LR
comp=Z,530nm,9.0s
SEY Seymchan 15.81 47 Pn **Pn 10 58 39.7 -0.2**
comp=Z,0.2nm,0.3s,baz=247,slow=13,SNR=6.6
SEY Lg Lg 11 03 10.9
comp=Z,0.3nm,0.3s,baz=187,slow=21,SNR=4.4
SEY LR LR 11 03 48.4
comp=Z,250nm,19.8s,baz=322,slow=34
SEY Seymchan 15.81 47*ce*P **Pn 10 58 40.0 +0.1**
SEY pmax pmax
comp=Z,44nm,2.5s
SEY MLR MLR
comp=Z,525nm,10.0s
SEY Seymchan 15.81 47 *e*P **Pn 10 58 40.0 +0.1**
HHC Hu-ho-hao-te 16.85 223 *e*P **P 10 58 54.5 -1.0**
HHC PP sP 10 59 10.8 +9.4
HHC S **Sn 11 02 02.8 +2.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.4s
HHC LR LR
comp=Z,2μm,6.7s
HHC LR LR
comp=Z,2μm,7.3s
HHC LR LR
comp=Z,1μm,7.4s
KSRS Korea Array 16.91 177 Pn **P 10 58 55.4 -0.6**
comp=Z,0.1nm,0.3s,baz=355,slow=12,SNR=9.8
KSRS Lg Lg 11 03 49.7
comp=Z,0.2nm,0.3s,baz=358,slow=25,SNR=4.4
KSRS LR LR 11 05 39.7
comp=Z,383nm,18.3s,baz=0.0,slow=38
TIXI Tiksi 17.41 2 P **Pn 10 58 57.4 -2.6**
comp=Z,1.7nm,0.3s,baz=271,slow=23,SNR=23
TIXI S Sn 11 02 01.1 -12
comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=1.9
TIXI Lg Lg 11 03 57.0
comp=Z,0.9nm,0.3s,baz=268,slow=23,SNR=3.6
TIXI Tiksi 17.41 2*ce*P **Pn 10 58 58.0 -2.0**
TIXI pmax pmax
comp=Z,42nm,0.9s
TIXI MLR MLR
comp=Z,597nm,11.0s
TIXI Tiksi 17.41 2 Pn **Pn 10 58 58.0 -2.0**
BTO Baotou 17.69 226 *e*P **P 10 59 08.4 +3.6**
BTO S **S 11 02 31.8 +3.8**
BTO LR LR
comp=Z,16μm,12.1s
PEA0B Petropavlovsk- 18.33 81 P **P 10 59 12.2 +0.5**
PEA0B pmax pmax
comp=Z,81nm,1.0s
PEA0B Petropavlovsk- 18.33 81 **P 10 59 12.2 +0.5**
PEA0B IAmb IAmb 10 59 20.1
comp=Z,81nm,1.0s
PETK Petropavlovsk- 18.33 81 P **P 10 59 11.5 -0.2**
comp=Z,0.6nm,0.3s,baz=251,slow=9.2,SNR=53
PETK Petropavlovsk- 18.33 81 P **P 10 59 12.3 +0.6**
PETK Petropavlovsk- 18.33 81 P **P 10 59 12.3 +0.6**
HNS HongShan 18.83 211 ⇓P **Pn 10 59 19.8 +2.1**
HNS *e*S **S 11 02 50.6 -0.3**
HNS pmax pmax
comp=Z,13nm,1.2s
HNS LR LR
comp=Z,830nm,12.1s
HNS LR LR
comp=Z,690nm,11.6s
PET Petropavlovsk 18.91 81 *e*P **Pn 10 59 19.8 +1.2**
PET *e*S **Sn 11 02 45.7 -4.1**
PET pmax pmax
comp=Z,164nm,1.1s
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,900nm,15.0s
PET Petropavlovsk 18.91 81 P **Pn 10 59 20.0 +1.3**
PET Petropavlovsk 18.91 81 *e*P **Pn 10 59 19.9 +1.3**
MAJO Matsushiro 19.50 151 *i* P **Pn 10 59 26.8 +0.9**
MAJO pmax pmax
comp=Z,46nm,2.2s
MJAR Matsushiro Arr 19.50 151 P **Pn 10 59 26.1 +0.2**
comp=Z,0.0nm,0.3s,baz=328,slow=11,SNR=6.4
MJAR Matsushiro Arr 19.50 151 P **Pn 10 59 25.8 -0.1**
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 19.50 151 P **Pn 10 59 25.8 -0.1**

JHS Saijyo 19.86 164 P **Pn 10 59 29.4 -0.7**
JHS IAmb IAmb 10 59 35.5
comp=Z,67nm,1.2s
INU Inuyama 20.31 155 P Pn 10 59 33.6 -1.8
INU IAmb IAmb 10 59 42.5
comp=Z,38nm,1.0s
JNU Nakatsue 21.42 170 P **P 10 59 44.9 -0.5**
LYN LuoYang 22.15 212 *e*P **P 10 59 53.3 +0.1**
LYN S **S 11 03 51.4 -5.3**
LYN pmax pmax
comp=Z,60nm,3.9s
LYN LR LR
comp=Z,1μm,10.9s
LYN LR LR
comp=Z,810nm,8.6s
LYN LR LR
comp=Z,980nm,10.4s
BILL Bilibino 22.96 38⇓*e*P **P 11 00 05.6 +4.0**
BILL *e* 11 00 29.5
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,212nm,13.0s
BILL Bilibino 22.96 38 P **P 11 00 04.4 +2.8**
NJ2 Nanjing 22.96 197 *e*P **P 11 00 02.8 +1.0**
NJ2 pP **pP 11 00 05.6 -0.3**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,3.5s
NJ2 LR LR
comp=Z,760nm,13.5s
NJ2 LR LR
comp=Z,740nm,12.6s
NJ2 LR LR
comp=Z,870nm,16.4s
JSU Suzuyama 22.98 172 P **P 11 00 02.1 +0.1**
JHJ Hachijo jima 2 23.16 151 LR LR 11 08 36.4
comp=Z,161nm,19.6s,baz=52,slow=35
NRIK Noril'sk 23.21 325 P **P 11 00 03.0 -1.1**
comp=Z,2.9nm,0.6s,baz=107,slow=7.9,SNR=6.9
NRIK S Sn 11 04 22.9 -10
comp=Z,2.1nm,0.3s,baz=165,slow=13,SNR=1.4
NRIK Lg Lg 11 07 05.6
comp=Z,32nm,1.0s,baz=30,slow=18,SNR=2.2
NRIK Noril'sk 23.21 325*ce*P **P 11 00 03.8 -0.3**
NRIK pmax pmax
comp=Z,68nm,1.0s
NRIK MLR MLR
comp=Z,678nm,8.0s
NRIK Noril'sk 23.21 325 P **P 11 00 03.6 -0.4**
GTA Gaotai 23.46 242 *e*P **P 11 00 08.9 +1.9**
GTA pP sP 11 00 13.4 +0.3
GTA sP pP 11 00 16.1 +4.9
GTA S **S 11 04 17.8 -2.3**
GTA sS sS 11 04 28.4 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,140nm,5.8s
GTA LR LR
comp=Z,790nm,8.4s
GTA LR LR
comp=Z,1μm,7.3s
GTA LR LR
comp=Z,1μm,9.1s
LZH Lanzhou 24.14 230 *e*P P 11 00 20.3 +6.7
LZH pP sP 11 00 24.6 +4.9
LZH sP pP 11 00 27.4 +10
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.1s
LZH LR LR
comp=Z,3μm,10.0s
LZH LR LR
comp=Z,3μm,11.9s
LZH LR LR
comp=Z,930nm,11.9s
ZAA0 Zalesovo Array 24.26 286 P **P 11 00 13.8 -0.6**
ZALV Zalesovo Beam 24.26 286 P **P 11 00 14.2 -0.2**
comp=Z,1.4nm,0.6s,baz=54,slow=10,SNR=5.2
ZALV Lg Lg 11 07 40.2
comp=Z,10nm,1.0s,baz=75,slow=19,SNR=5.8
ZALV LR LR 11 10 51.9
comp=Z,120nm,18.6s,baz=59,slow=40
ZALV Zalesovo Beam 24.26 286 *i* P **P 11 00 16.1 +1.7**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 24.26 286 P **P 11 00 13.8 -0.6**
ZSN Zaisan 26.93 273 *e*P **P 11 00 41.8 +3.2**
ZSN Zaisan 26.93 273 *e*P **P 11 00 41.8 +3.2**
baz=272
ENH Enshi 27.05 214 P **P 11 00 39.7 -0.1**
WMQ Urumqi 27.27 263 *e*P **P 11 00 46.8 +5.0**
WMQ sP sP 11 00 50.8 +2.9
WMQ pmax pmax
comp=Z,28nm,1.3s
WMQ pmax pmax
comp=Z,250nm,4.7s
WMQ LR LR
comp=Z,800nm,10.1s
WMQ LR LR
comp=Z,570nm,8.7s
WMQ LR LR
comp=Z,270nm,21.3s
JOW Kunigami 27.50 177 LR LR 11 11 46.2
comp=Z,173nm,21.4s,baz=330,slow=37
SEM Semipalatinsk 28.21 281 *e*P **P 11 00 53.2 +3.0**
SEM Semipalatinsk 28.21 281 *e*P **P 11 00 53.3 +3.0**
baz=281
GOMU GeErMu 28.48 244 P **P 11 00 56.8 +3.8**
GOMU pP sP 11 01 00.0 +0.9
GOMU sP pP 11 01 01.0 +3.7
GOMU S **S 11 05 38.6 -1.7**
GOMU pmax pmax
comp=Z,5.0nm,1.1s
GOMU pmax pmax
comp=Z,130nm,5.1s
GOMU LR LR
comp=Z,490nm,10.2s
GOMU LR LR
comp=Z,570nm,9.5s
GOMU LR LR
comp=Z,640nm,10.2s
MK31 Makanchi Array 28.77 273 P **P 11 00 55.3 +0.2**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 28.77 273 P **P 11 00 55.3 +0.2**
MKAR Makanchi Array 28.77 273 P **P 11 00 55.2 +0.1**
comp=Z,3.0nm,0.8s,baz=61,slow=9.9,SNR=18
MKAR PcP **PcP 11 04 05.9 +1.3**
comp=Z,4.1nm,0.8s,baz=46,slow=8.7,SNR=4.6
MKAR Lg Lg 11 09 54.5
comp=Z,0.6nm,0.8s,baz=64,slow=31,SNR=2.0
MKAR Makanchi Array 28.77 273 P **P 11 00 55.4 +0.3**
MAKZ Makanchi 28.95 274 P **P 11 00 56.7 +0.1**
MAKZ pmax pmax
comp=Z,36nm,2.0s
MAKZ Makanchi 28.95 274 P **P 11 00 56.7 +0.1**
MAKZ IAmb IAmb 11 01 02.3
comp=Z,36nm,1.9s
KURK Kurchatov 29.00 283*ce*P **P 11 00 57.9 +0.9**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 29.00 283 P **P 11 00 57.3 +0.2**
KURK IAmb IAmb 11 01 02.8
comp=Z,16nm,1.0s
KURK Kurchatov 29.00 283 *e*P **P 11 00 57.9 +0.9**
KURBB Kurchatov Arra 29.10 283 P **P 11 00 57.5 -0.4**
comp=Z,9.5nm,1.0s,baz=71,slow=8.9,SNR=17
KURBB Lg Lg 11 10 07.9
comp=Z,1.3nm,0.2s,baz=73,slow=29,SNR=4.9
TDK Taldyqorghan 32.02 273 *e*P **P 11 01 27.4 +3.6**
TDK Taldyqorghan 32.02 273 *e*P **P 11 01 27.4 +3.6**
baz=273
SHLS Shalkode 32.48 270 *e*P **P 11 01 28.5 +0.6**
SHLS Shalkode 32.48 270 *e*P **P 11 01 28.6 +0.6**
baz=269
BRVK Borovoye 32.65 291*ce*P **P 11 01 30.4 +1.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 32.65 291 P **P 11 01 29.4 +0.2**
BRVK IAmb IAmb 11 01 35.3
comp=Z,9.7nm,0.9s
BRVK Borovoye 32.65 291 *e*P **P 11 01 30.4 +1.2**

BRZS Berezniki 32.72 285 *e*P **P 11 01 32.6 +2.8**
BRZS pmax pmax
comp=Z,12nm,1.0s
BRZS Berezniki 32.72 285 *e*P **P 11 01 32.7 +2.8**
comp=Z,12nm,1.0s,baz=285
UZB Uzynbulak 32.74 270 *e*P **P 11 01 33.0 +2.7**
comp=Z,8.6nm,0.8s,baz=270
KPKS Kokpek 32.75 271 *e*P **P 11 01 34.0 +3.8**
KPKS pmax pmax
comp=Z,9.0nm,0.8s
KPKS Kokpek 32.75 271 *e*P **P 11 01 34.1 +3.8**
comp=Z,9.3nm,0.8s,baz=271
ZHN Zhinishke 33.07 270 *e*P P 11 01 37.1 +4.0
ZHN Zhinishke 33.07 270 *e*P P 11 01 37.1 +4.0
baz=270
SATY Saty 33.16 270 *e*P **P 11 01 37.4 +3.6**
SATY pmax pmax
comp=Z,7.0nm,0.7s
SATY Saty 33.16 270 *e*P **P 11 01 37.5 +3.6**
comp=Z,6.6nm,0.7s,baz=270
PZH PanZhiHua 33.31 223 P P 11 01 39.5 +4.1
PZH sP sP 11 01 45.8 +4.3
PZH S **S 11 06 58.4 +2.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.9s
PZH LR LR
comp=Z,640nm,13.1s
PZH LR LR
comp=Z,1μm,13.7s
PZH LR LR
comp=Z,660nm,13.9s
CHKK Chushkaly 33.51 273 *e*P **P 11 01 40.0 +3.1**
baz=272
KUU Kurty 33.87 273 *e*P **P 11 01 42.9 +3.0**
KUU Kurty 33.87 273 *e*P **P 11 01 43.0 +3.0**
baz=273
MDOK Medeo 33.89 272 *e*P **P 11 01 42.7 +2.4**
MDOK Medeo 33.89 272 *e*P **P 11 01 42.7 +2.4**
baz=271
KMI Kunming 34.16 221 ⇑P **P 11 01 45.9 +3.1**
KMI sP sP 11 01 51.8 +2.8
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI LR LR
comp=Z,1μm,15.4s
KMI LR LR
comp=Z,2μm,15.2s
KMI LR LR
comp=Z,320nm,16.2s
ANM Nome 34.31 45 P **P 11 01 44.5 +1.0**
ANM pmax pmax
comp=Z,11nm,1.0s
ANM Nome 34.31 45 P **P 11 01 44.5 +1.0**
ANM IAmb IAmb 11 01 50.5
comp=Z,11nm,1.0s
BTLS Baital 34.54 276 *e*P **P 11 01 48.3 +2.6**
BTLS Baital 34.54 276 *e*P **P 11 01 48.4 +2.6**
baz=276
SGDS Sogindy 35.13 274 *e*P P 11 01 54.8 +3.9
SGDS pmax pmax
comp=Z,7.0nm,1.3s
SGDS Sogindy 35.13 274 *e*P **P 11 01 53.6 +2.7**
baz=274
AAK Ala-Archa 35.70 273 *i* P **P 11 01 58.3 +2.4**
AAK pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 35.70 273 *e*P **P 11 01 58.3 +2.4**
SVE Sverdlovsk 36.11 302 *e*P **P 11 02 00.6 +1.5**
ARU Arti 37.32 302*c i*P **P 11 02 09.7 +0.4**
ARU S **S 11 07 57.4 +1.2**
ARU SS **SnSn 11 10 25.5 -6.4**
ARU pmax pmax
comp=Z,10.0nm,1.6s
ARU Arti 37.32 302 P **P 11 02 09.4 +0.1**
ARU Arti 37.32 302 *e*P **P 11 02 09.8 +0.4**
QIZ Qiongzhong 37.53 207 P **P 11 02 13.8 +2.3**
QIZ S **S 11 08 04.6 +4.5**
QIZ LR LR
comp=Z,320nm,16.3s
QIZ LR LR
comp=Z,880nm,17.2s
QIZ LR LR
comp=Z,400nm,12.7s
KKAR Karatay Array 37.74 276 P **P 11 02 13.0 -0.2**
KKAR Karatay Array 37.74 276 P **P 11 02 13.0 -0.2**
IMAR Indian Mountai 38.47 40 P **P 11 02 20.3 +1.3**
IUG Iuzhnay 38.61 276 *e*P **P 11 02 24.2 +3.6**
IUG Iuzhnay 38.61 276 *e*P **P 11 02 24.2 +3.6**
baz=275
H21K Melozitna Rive 38.96 41 P **P 11 02 23.9 +0.8**
H21K IAmb IAmb 11 02 29.9
comp=Z,13nm,1.1s
J20K Nowinta River 39.03 43 P **P 11 02 24.9 +1.2**
K20K Telida 39.40 44 P **P 11 02 26.9 +0.1**
BTK Batken 39.47 272 IAmb IAmb 11 02 34.1
comp=Z,13nm,0.9s
CAST Castle Rocks 40.18 44 P **P 11 02 35.3 +2.0**
ABKAR Akbulak array 40.18 291 P **P 11 02 34.0 +0.5**
PPLA Purkeypile 40.37 44 P **P 11 02 36.9 +1.9**
GAR Garm 40.46 272 P **P 11 02 36.5 +0.5**
I23K Minto, Yukon-K 40.48 40 IAmb IAmb 11 02 43.1
comp=Z,15nm,1.1s
KIRV Kirov 40.70 308 *i* P **P 11 02 37.9 +0.3**
NEA2 Nenana 40.84 41 IAmb IAmb 11 02 46.8
comp=Z,15nm,1.2s
MDM Murphy Dome 40.99 40 P **P 11 02 40.8 +0.7**
MDM IAmb IAmb 11 02 48.3
comp=Z,15nm,1.1s
BMAR Burnt Mountain 41.18 36 P **P 11 02 43.6 +2.0**
WRH Wood River Hil 41.27 41 P **P 11 02 43.6 +1.3**
WRH IAmb IAmb 11 02 49.1
comp=Z,12nm,0.9s
MCK McKinley 41.29 42 P **P 11 02 44.2 +1.7**
MCK pmax pmax
comp=Z,39nm,1.8s
MCK McKinley 41.29 42 P **P 11 02 44.2 +1.7**
MCK IAmb IAmb 11 03 53.9
comp=Z,39nm,1.8s
IL31 41.59 40 P **P 11 02 45.4 +0.6**
IL31 IAmb IAmb 11 02 52.3
comp=Z,15nm,0.9s
ILAR Eielson Array 41.59 40 P **P 11 02 44.6 -0.2**
comp=Z,4.5nm,1.0s,baz=290,slow=7.3,SNR=26
ILAR Eielson Array 41.59 40 P **P 11 02 46.2 +1.3**
ILAR Eielson Array 41.59 40 P **P 11 02 46.2 +1.3**
CMAR Chiang Mai Arr 41.66 222 P **P 11 02 44.1 -1.8**
comp=Z,0.3nm,0.3s,baz=78,slow=4.2,SNR=1.0
CMAR Chiang Mai Arr 41.66 222 *i* P P 11 02 50.4 +4.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
DHY Denali Highway 42.23 43 P **P 11 02 50.9 +0.6**
DHY IAmb IAmb 11 02 55.8
comp=Z,39nm,1.8s
SML Sawmill 42.48 44 P **P 11 02 53.1 +0.9**
KNK Knik Glacier 42.62 45 P **P 11 02 54.2 +0.8**
KNK IAmb IAmb 11 02 59.4
comp=Z,22nm,1.1s
NOR Nord 42.89 353 *i* P **P 11 02 54.2 -1.0**
NOR IAmb IAmb 11 02 58.2
comp=Z,11nm,1.3s
M24K Tolsona, Glenn 43.20 43 P **P 11 02 59.5 +1.4**
KLMR Klimovskoe 43.86 315 *e*P **P 11 03 03.3 0.0**
KLMR *e* 11 04 50.2
KLMR pmax pmax
comp=Z,32nm,1.5s
KLMR Klimovskoe 43.86 315 *e*P **P 11 03 03.4 +0.1**
KLMR AMP 11 03 05.6
comp=Z,32nm,1.5s
KLMR *e*PcP **PcP 11 04 50.2 +0.9**
KLMR LQ LQ 11 17 36.1
KLMR LQ LQ 11 17 36.1
KLMR LR LR 11 21 26.3
EUNU Eureka 44.53 8 P **P 11 03 08.4 -0.2**
VRDI Verde Repeater 44.77 43 P **P 11 03 12.2 +1.4**
BELG Belogornoye 44.87 301 *i* P **P 11 03 12.4 +1.0**
BELG pmax pmax
comp=Z,5.0nm,1.1s
DAG Danmarks Havn 47.32 350 *i* P **P 11 03 28.5 -2.0**
DAG IAmb IAmb 11 03 31.3
comp=Z,9.8nm,0.8s
GEYT Alibeck 48.28 280 P **P 11 03 39.1 +0.6**
comp=Z,1.6nm,0.6s,baz=256,slow=12,SNR=1.5
RES Resolute Bay 48.32 14 P **P 11 03 39.3 +1.1**

RES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
RES	**Resolute Bay**	**48.32**	**14**	P	**P**	**11 03 39.3**	**+1.1**	
OBN	**Obninsk**	**48.48**	**310**	*eP*	**P**	**11 03 40.3**	**+0.6**	
OBN				*e*		11 05 33.0		
OBN				*eS*	S	11 10 50.1	+10	
OBN				*eSS*	**SS**	**11 14 09.1**	**0.0**	
OBN				pmax	pmax			
	comp=Z,45nm,2.4s							
OBN				MLR	MLR			
	comp=Z,647nm,19.0s							
OBN	**Obninsk**	**48.48**	**310**	*eP*	**P**	**11 03 40.6**	**+0.9**	
FINES	**FINESS Array B**	**48.76**	**321**	P	**P**	**11 03 41.6**	**-0.2**	
	comp=Z,24.4nm,0.6s,baz=46,slow=8.6,SNR=12							
TULEG	**Thule**	**49.02**	**5**	*i* P	**P**	**11 03 42.0**	**-1.6**	
VORR	**Voronezh**	**49.43**	**305**	*eP*	**P**	**11 03 49.8**	**+2.8**	
MAK	**Makhachkala**	**50.86**	**292**	*eP*	**P**	**11 03 53.7**	**-4.3**	
MAK				*eS*	**S**	**11 11 05.3**	**-8.2**	
MAK				*eSS*	**SS**	**11 14 45.2**	**-2.5**	
MAK				*e*SSS	SSS	11 16 18.1		
MAK				MLR	MLR			
	comp=Z,261nm,13.0s							
MNK	**Minsk**	**52.68**	**314**	*i* P	**P**	**11 04 09.5**	**-1.9**	
MNK				*i*		11 05 19.4		
MNK				*i*		11 06 08.6		
MNK				*i* PPP	PPP	11 07 11.8		
MNK				*i* S	**S**	**11 11 35.7**	**-2.6**	
MNK				*i*		11 13 59.4		
MNK				*i* SS	**SS**	**11 15 17.2**	**+1.2**	
MNK				*i* SSS	SSS	11 17 02.1		
MNK				pmax	pmax			
	comp=N,22nm,0.8s							
MNK				pmax	pmax			
	comp=E,4.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,12nm,0.8s							
MNK				MLR	MLR			
	comp=N,335nm,17.0s							
MNK				MLR	MLR			
	comp=Z,331nm,18.0s							
MNK				MLR	MLR			
	comp=E,30nm,15.0s							
MNK	**Minsk**	**52.68**	**314**	*i* P	**P**	**11 04 09.5**	**-1.9**	
	comp=E,4.0nm,1.1s							
MNK				*i* P	**P**	**11 04 09.5**	**-1.9**	
	comp=N,22nm,0.8s							
MNK				*i* P	**P**	**11 04 09.5**	**-1.9**	
	comp=Z,12nm,0.8s,baz=226							
MNK				*i* PcP	**PcP**	**11 05 19.4**	**-1.7**	
MNK				*i* PP	**PP**	**11 06 08.7**	**-1.6**	
MNK				*i* PPP	PPP	11 07 11.9		
MNK				*i* S	**S**	**11 11 35.7**	**-2.6**	
MNK				*i* SS	**SS**	**11 15 17.2**	**+1.2**	
MNK				*i* SSS	SSS	11 17 02.1		
MNK				*i* LQ	LQ	11 22 46.9		
MNK				*i* LR	LR	11 26 47.1		
MNK				*i* LRM	MLR	11 28 48.1		
	comp=N,335nm,16.6s							
MNK				*i* LRM	MLR	11 28 48.1		
	comp=Z,331nm,17.9s							
MNK				*i* LRM	MLR	11 29 07.7		
	comp=E,30nm,14.7s							
KIV	**Kislovodsk**	**52.77**	**296**	*eP*	**P**	**11 04 13.5**	**+1.1**	
KIV				pmax	pmax			
	comp=Z,53nm,1.1s							
KIV	**Kislovodsk**	**52.77**	**296**	P	**P**	**11 04 12.1**	**-0.3**	
KIV	**Kislovodsk**	**52.77**	**296**	*eP*	**P**	**11 04 13.5**	**+1.1**	
KBZ	**Khabaz**	**52.81**	**295**	P	**P**	**11 04 12.2**	**-0.4**	
	comp=Z,2.3nm,0.9s,baz=234,slow=1.8,SNR=3.2							
KBZ	**Khabaz**	**52.81**	**295**	*i* P	**P**	**11 04 13.7**	**+1.1**	
KBZ				pmax	pmax			
	comp=Z,6.0nm,1.2s							
YKA	**Yellowknife Ar**	**54.04**	**30**	P	**P**	**11 04 21.2**	**-0.1**	
	comp=Z,1.4nm,0.8s,baz=319,slow=6.9,SNR=20							
YKA	**Yellowknife Ar**	**54.04**	**30**	*i* P	**P**	**11 04 21.7**	**+0.4**	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NOA	**NORSAR Array B**	**54.15**	**327**	P	**P**	**11 04 21.9**	**-0.3**	
	comp=Z,2.1nm,1.0s,baz=39,slow=6.9,SNR=5.1							
NC602	**NORSAR Array S**	**54.28**	**327**	P	**P**	**11 04 23.5**	**+0.4**	
AKASG	**Malin Array Be**	**54.74**	**309**	P	**P**	**11 04 26.1**	**-0.4**	
	comp=Z,2.1nm,0.7s,baz=41,slow=8.4,SNR=14							
AKASG	**Malin Array Be**	**54.74**	**309**	*i* P	**P**	**11 04 26.6**	**+0.1**	
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AKBB	**Malin Array Si**	**54.74**	**309**	*ceP*	**P**	**11 04 27.0**	**+0.5**	
BUR08	**Bucovina Ar. S**	**58.77**	**309**	P	**P**	**11 04 56.5**	**+1.1**	
CHVC	**Chvalec**	**60.45**	**317**	*eP*	**P**	**11 05 07.0**	**+0.2**	
MORC	**Moravsky Berou**	**60.48**	**315**	P	**P**	**11 05 07.2**	**+0.2**	
MORC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MORC	**Moravsky Berou**	**60.48**	**315**	*eP*	**P**	**11 05 07.2**	**+0.2**	
MORC				IAmb	IAmb	11 05 08.6		
	comp=Z,7.2nm,1.0s							
MORC	**Moravsky Berou**	**60.48**	**315**	*eP*	**P**	**11 05 07.4**	**+0.4**	
BR131	**Keskin Array S**	**60.52**	**298**	P	**P**	**11 05 07.9**	**+0.3**	
BR131				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BR131	**Keskin Array S**	**60.52**	**298**	P	**P**	**11 05 07.9**	**+0.3**	
BRTR	**Keskin Array B**	**60.52**	**298**	P	**P**	**11 05 07.9**	**+0.3**	
	comp=Z,5.1nm,1.0s,baz=64,slow=4.2,SNR=10							
BRTR	**Keskin Array B**	**60.52**	**298**	*i* P	**P**	**11 05 08.6**	**+1.0**	
BRTR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
DPC	**Dobruska-Polom**	**60.53**	**316**	*eP*	**P**	**11 05 07.9**	**+0.5**	
DPC				*e*		11 05 13.0		
DPC	**Dobruska-Polom**	**60.53**	**316**	*eP*	**P**	**11 05 07.9**	**+0.5**	
DPC				*ep*P	**pP**	**11 05 13.0**	**+1.1**	
KRLC	**Kraliky**	**60.56**	**316**	*eP*	**P**	**11 05 08.2**	**+0.6**	
KRLC				*e*		11 05 12.6		
KRLC	**Kraliky**	**60.56**	**316**	*eP*	**P**	**11 05 08.2**	**+0.6**	
KRLC				*ep*P	**pP**	**11 05 12.6**	**+0.5**	
CLL	**Collm**	**61.09**	**319**	*i* P	**P**	**11 05 10.8**	**-0.3**	
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**61.09**	**319**	*i* P	**P**	**11 05 10.8**	**-0.3**	
	comp=Z,7.0nm,1.0s							
JAVC	**Velka Javorina**	**61.13**	**315**	*eP*	**P**	**11 05 13.7**	**+2.2**	
VRAC	**Vranov**	**61.23**	**315**	*eP*	**P**	**11 05 13.3**	**+1.2**	
VRAC				*e*		11 05 17.8		
KRUC	**Moravsky**	**61.50**	**315**	*eP*	**P**	**11 05 14.5**	**+0.5**	
CKRC	**Cesky Krumlov**	**62.54**	**316**	*eP*	**P**	**11 05 21.6**	**+0.6**	
KHC	**Kasperske Hory**	**62.59**	**317**	*eP*	**P**	**11 05 21.9**	**+0.6**	
KHC				*e*		11 05 26.5		
KHC	**Kasperske Hory**	**62.59**	**317**	*eP*	**P**	**11 05 21.9**	**+0.6**	
KHC				*ep*P	**pP**	**11 05 26.5**	**+0.6**	
KHC	**Kasperske Hory**	**62.59**	**317**	IAmb	IAmb	11 05 23.1		
	comp=Z,6.2nm,0.9s							
CONA	**Conrad Observa**	**62.61**	**315**	*eP*	**P**	**11 05 22.4**	**+0.8**	
	comp=Z,4.4nm,1.0s							
GERES	**GERESS Array B**	**62.77**	**317**	P	**P**	**11 05 22.1**	**-0.5**	
	comp=Z,1.1nm,0.7s,baz=37,slow=6.9,SNR=12							
ARSA	**Arzberg**	**63.29**	**315**	*eP*	**P**	**11 05 27.3**	**+1.3**	
	comp=Z,4.2nm,0.9s							
MOA	**Molln**	**63.33**	**316**	*eP*	**P**	**11 05 27.2**	**+1.0**	
	comp=Z,7.4nm,1.3s							
SOKA	**Soboth**	**63.95**	**315**	*eP*	**P**	**11 05 31.5**	**+1.1**	
	comp=Z,6.9nm,1.7s							
FFC	**Flin Flon**	**64.16**	**29**	P	**P**	**11 05 31.3**	**-0.3**	
FFC				pmax	pmax			
	comp=Z,7.0nm,1.4s							
FFC	**Flin Flon**	**64.16**	**29**	P	**P**	**11 05 31.3**	**-0.3**	
FFC				IAmb	IAmb	11 05 34.6		
	comp=Z,7.3nm,1.4s							
OBKA	**Obir**	**64.28**	**315**	*eP*	**P**	**11 05 33.6**	**+1.0**	
	comp=Z,11nm,1.6s							
KBA	**Koelnbreinsper**	**64.33**	**316**	*eP*	**P**	**11 05 34.2**	**+1.2**	
	comp=Z,10.0nm,1.1s							
MYKA	**Terra Mystica**	**64.56**	**315**	*eP*	**P**	**11 05 35.3**	**+0.9**	
	comp=Z,5.4nm,0.8s							
WTTA	**Wattenberg**	**64.86**	**317**	*eP*	**P**	**11 05 37.5**	**+1.0**	
	comp=Z,4.5nm,0.7s							
ABTA	**Abfaltersbach**	**64.93**	**316**	*eP*	**P**	**11 05 37.4**	**+0.6**	
	comp=Z,5.7nm,1.1s							
MOTA	**Moosalm**	**65.01**	**317**	*eP*	**P**	**11 05 37.8**	**+0.4**	
	comp=Z,4.2nm,0.7s							
RETA	**Reutte**	**65.03**	**318**	*eP*	**P**	**11 05 38.0**	**+0.5**	
	comp=Z,3.4nm,0.9s							
SQTA	**Sankt Quirin**	**65.07**	**317**	*eP*	**P**	**11 05 38.9**	**+1.2**	
	comp=Z,7.6nm,1.0s							
WALA	**Waterton Lakes**	**65.08**	**39**	P	**P**	**11 05 38.8**	**+0.9**	
FETA	**Feichten**	**65.42**	**317**	*eP*	**P**	**11 05 40.2**	**+0.1**	
	comp=Z,6.1nm,1.1s							
RAYN	**Ar Rayn**	**66.16**	**277**	P	**P**	**11 05 44.8**	**-0.2**	
RAYN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
RAYN	**Ar Rayn**	**66.16**	**277**	P	**P**	**11 05 44.8**	**-0.2**	
RAYN				IAmb	IAmb	11 05 50.6		
	comp=Z,5.9nm,1.1s							
F10A	**Beach Ranch, E**	**66.35**	**43**	IAmb	IAmb	11 05 52.9		
	comp=Z,4.0nm,0.8s							
PINE	**Pine Mountain**	**66.58**	**47**	IAmb	IAmb	11 05 49.9		
	comp=Z,7.1nm,1.1s							
MSO	**Missoula**	**66.92**	**41**	IAmb	IAmb	11 05 56.3		
	comp=Z,9.2nm,1.1s							
I07A	**Izee**	**66.95**	**46**	P	**P**	**11 05 51.6**	**+1.6**	
I07A				IAmb	IAmb	11 05 57.0		
	comp=Z,6.5nm,1.0s							
EGMT	**Eagleton**	**67.46**	**37**	IAmb	IAmb	11 05 59.7		
	comp=Z,6.7nm,0.8s							
PLID	**Pearl Lake**	**67.56**	**43**	IAmb	IAmb	11 06 00.9		
	comp=Z,4.5nm,0.9s							
WVOR	**Wild Horse Val**	**68.67**	**46**	IAmb	IAmb	11 06 22.8		
	comp=Z,11nm,1.4s							
BOZ	**Bozeman (W)**	**68.83**	**40**	IAmb	IAmb	11 06 08.4		
	comp=Z,4.3nm,0.9s							
MFID	**Camas Ranch**	**69.02**	**44**	IAmb	IAmb	11 06 12.7		
	comp=Z,4.2nm,0.9s							
HLID	**Hailey**	**69.47**	**43**	P	**P**	**11 06 06.3**	**+0.6**	
HLID				IAmb	IAmb	11 06 11.4		
	comp=Z,9.6nm,1.6s							
QLMT	**Earthquake Lak**	**69.55**	**40**	P	**P**	**11 06 07.8**	**+1.4**	
YHL	**Hebgen Lake**	**69.63**	**40**	P	**P**	**11 06 07.4**	**+0.5**	
YHL				IAmb	IAmb	11 06 14.1		
	comp=Z,4.1nm,0.8s							
BEKR	**Beckworth**	**70.03**	**49**	IAmb	IAmb	11 06 15.5		
	comp=Z,3.6nm,0.8s							
PAHR	**Pah Rah Range**	**70.58**	**48**	IAmb	IAmb	11 06 19.1		
	comp=Z,4.8nm,1.0s							
SCHQ	**Schefferville**	**70.63**	**8**	P	**P**	**11 06 12.1**	**-0.4**	
	comp=Z,3.8nm,1.0s,baz=270,slow=3.0,SNR=8.6							
SCHQ	**Schefferville**	**70.63**	**8**	IAmb	IAmb	11 06 13.8		
	comp=Z,12nm,1.3s							
MOOW	**Moose Ponds**	**70.73**	**40**	IAmb	IAmb	11 06 20.6		
	comp=Z,7.1nm,1.1s							
EMB	**Emerald Bay**	**70.87**	**49**	IAmb	IAmb	11 06 20.9		
	comp=Z,4.7nm,0.7s							
TPAW	**Teton Pass**	**70.88**	**41**	IAmb	IAmb	11 06 20.9		
	comp=Z,7.6nm,1.1s							
LOHW	**Long Hollow**	**70.90**	**40**	IAmb	IAmb	11 06 21.6		
	comp=Z,5.1nm,1.1s							
PNTR	**Pine Nut**	**71.00**	**49**	IAmb	IAmb	11 06 27.8		
	comp=Z,5.5nm,0.7s							
YERR	**Yerington**	**71.24**	**49**	IAmb	IAmb	11 06 23.4		
	comp=Z,6.0nm,0.8s							
KVN	**Kaiserville**	**71.69**	**48**	IAmb	IAmb	11 06 26.2		
	comp=Z,4.5nm,0.8s							
RYN	**Ryan**	**71.85**	**48**	IAmb	IAmb	11 06 26.6		
	comp=Z,14nm,1.6s							
PDAR	**Pinedale Array**	**72.02**	**40**	P	**P**	**11 06 21.4**	**-0.1**	
	comp=Z,1.3nm,0.6s,baz=23,slow=2.7,SNR=17							
NVAR	**Mina Array Bea**	**72.11**	**48**	P	**P**	**11 06 22.9**	**+0.9**	
	comp=Z,1.5nm,0.9s,baz=284,slow=4.2,SNR=15							
FITZ	**Fitzroy Crossi**	**72.14**	**181**	P	**P**	**11 06 21.2**	**-0.7**	
	comp=Z,4.4nm,1.0s,baz=0.0,slow=9.1,SNR=3.1							
FITZ	**Fitzroy Crossi**	**72.14**	**181**	P	**P**	**11 06 21.5**	**-0.4**	
FITZ				IAmb	IAmb	11 06 32.3		
	comp=Z,15nm,1.6s							
LHV	**Little Huntoon**	**72.17**	**49**	IAmb	IAmb	11 06 29.4		
	comp=Z,7.5nm,1.0s							
R11A	**Troy Canyon, C**	**73.35**	**47**	IAmb	IAmb	11 06 31.3		
	comp=Z,9.1nm,1.7s							
NLU	**North Lily Min**	**73.45**	**43**	IAmb	IAmb	11 06 36.6		
	comp=Z,6.3nm,1.2s							
WB0	**Warramunga Arr**	**74.10**	**172**	P	**P**	**11 06 32.9**	**-0.5**	
WB0				IAmb	IAmb	11 06 38.0		
	comp=Z,5.7nm,0.8s							
WRAB	**Tennant Creek**	**74.26**	**172**	P	**P**	**11 06 34.4**	**0.0**	
WRAB				pmax	pmax			
	comp=Z,23nm,1.5s							
WRAB	**Tennant Creek**	**74.26**	**172**	P	**P**	**11 06 34.4**	**0.0**	
WRA	**Warramunga Arr**	**74.27**	**173**	P	**P**	**11 06 34.0**	**-0.5**	
	comp=Z,4.9nm,0.7s,baz=352,slow=6.7,SNR=44							
WRA	**Warramunga Arr**	**74.27**	**173**	*i* P	**P**	**11 06 37.0**	**+2.5**	
WRA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
WRA	**Warramunga Arr**	**74.27**	**173**	P	**P**	**11 06 34.6**	**+0.1**	
WB2	**Warramunga Arr**	**74.27**	**172**	P	**P**	**11 06 34.5**	**0.0**	
WR0	**Warramunga Arr**	**74.30**	**172**	P	**P**	**11 06 34.8**	**+0.1**	
WR0				IAmb	IAmb	11 06 39.8		
	comp=Z,10.0nm,1.1s							
P17A	**Butcher Ranch,**	**74.39**	**43**	IAmb	IAmb	11 06 41.9		
	comp=Z,12nm,1.3s							
P18A	**Preston Nutter**	**74.45**	**42**	IAmb	IAmb	11 06 42.9		
	comp=Z,5.5nm,0.9s							
O20A	**White River Ci**	**74.79**	**41**	IAmb	IAmb	11 07 24.6		
	comp=Z,15nm,1.5s							
QSM	**Queen of Sheba**	**74.80**	**49**	IAmb	IAmb	11 06 43.7		
	comp=Z,11nm,1.5s							
MTPU	**Mount Pierson**	**75.03**	**44**	IAmb	IAmb	11 06 46.5		
	comp=Z,8.2nm,1.2s							
SHPR	**Sheep Range**	**75.09**	**47**	P	**P**	**11 06 39.8**	**+0.3**	
ECSD	**EROS Data Cent**	**75.56**	**31**	IAmb	IAmb	11 06 51.4		
	comp=Z,6.4nm,0.9s							
CTA	**Charters Tower**	**76.01**	**161**	P	**P**	**11 06 45.6**	**+1.1**	
	comp=Z,4.5nm,0.9s,baz=345,slow=6.4,SNR=4.7							
SMCO	**Snowmass**	**76.11**	**40**	IAmb	IAmb	11 06 52.3		
	comp=Z,4.5nm,0.8s							
PV15	**Paradox Valley**	**76.25**	**42**	IAmb	IAmb	11 06 52.8		
	comp=Z,5.4nm,0.8s							
ESDC	**Sonseca Array**	**77.22**	**323**	P	**P**	**11 06 51.2**	**-0.2**	
	comp=Z,4.0nm,1.0s,baz=22,slow=6.4,SNR=13							
ESDC	**Sonseca Array**	**77.22**	**323**	P	**P**	**11 06 51.7**	**+0.2**	
ESDC				IAmb	IAmb	11 06 52.6		
	comp=Z,7.5nm,1.4s							
ASAR	**Alice Springs**	**77.93**	**173**	P	**P**	**11 06 55.4**	**+0.1**	
	comp=Z,4.6nm,0.8s,baz=358,slow=5.5,SNR=17							
ASAR	**Alice Springs**	**77.93**	**173**	P	**P**	**11 06 55.9**	**+0.7**	
ASAR	**Alice Springs**	**77.93**	**173**	P	**P**	**11 06 55.9**	**+0.7**	
S39A	**Bolivar**	**82.09**	**31**	IAmb	IAmb	11 07 28.7		
	comp=Z,5.5nm,1.0s							
CCM	**Cathedral Cave**	**82.37**	**29**	P	**P**	**11 07 19.1**	**-0.1**	
CCM				pmax	pmax			
	comp=Z,11nm,1.5s							
CCM	**Cathedral Cave**	**82.37**	**29**	P	**P**	**11 07 19.1**	**-0.1**	
CCM				IAmb	IAmb	11 07 23.1		
	comp=Z,11nm,1.4s							
TXAR	**Lajitas Array**	**86.06**	**42**	P	**P**	**11 07 39.6**	**+1.3**	
	comp=Z,0.7nm,0.7s,baz=27,slow=6.1,SNR=3.5							
TXAR	**Lajitas Array**	**86.06**	**42**	P	**P**	**11 07 38.9**	**+0.6**	
STKA	**Stephens Creek**	**86.82**	**167**	P	**P**	**11 07 43.4**	**+1.9**	
	comp=Z,4.4nm,0.8s,baz=351,slow=6.2,SNR=8.2							
STKA	**Stephens Creek**	**86.82**	**167**	P	**P**	**11 07 40.8**	**-0.7**	
STKA				IAmb	IAmb	11 10 21.9		
	comp=Z,12nm,2.0s							

IDC ***19*** *11:04:17.0±3.6, 8.°30S×148.°32E, h75km±28km, mb3.3/4, mb1 3.4/5, mb1mx3.2/30, mbtmp3.5/5, MS3.9/2, Ms1 3.9/2, ms1mx3.0/27, Error ellipse: s-maj=73.7km s-min=30.1km az=132.0*

NEIC ***19*** *11:04:18.8±1.1, 8.°34S±0.°10×148.°4E±0.°1, h83km±8km, mb4.1/10, Error ellipse: s-maj=19.0km s-min=12.3km az=116.0*

ISC 19 11:04:19.8±0.7, 8.°4S±0.°1×148.°3E±0.°1, h100km, n26, σ1°21/25, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.50**	**229**	P	**Pn**	**11 04 45.2**	**-0.9**
	8.0nm,0.3s,baz=77,slow=10,SNR=13						
PMG				S	**Sn**	**11 05 02.8**	**-3.1**
	14nm,0.3s,baz=202,slow=19,SNR=7.5						
PMG	**Port Moresby**	**1.50**	**229**		**Pn**	**11 04 45.5**	**-0.5**
COEN	**Coen**	**7.46**	**222**	Pn	**Pn**	**11 06 05.5**	**-0.5**
WB0	**Warramunga Arr**	**17.57**	**229**	P	**P**	**11 08 19.1**	**+1.0**
WB0				IAmb	IAmb	11 08 19.5	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**17.58**	**228**	P	**Pn**	**11 08 19.9**	**+1.2**
WB2	**Warramunga Arr**	**17.71**	**228**	P	**P**	**11 08 20.4**	**+0.8**
WB2				IAmb	IAmb	11 08 49.6	
	comp=Z,7.4nm,1.3s						
WRA	**Warramunga Arr**	**17.72**	**228**	P	**P**	**11 08 18.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=53,slow=10,SNR=8.7						
KNRA	**Kununurra**	**20.42**	**247**	P	**P**	**11 08 51.1**	**+1.9**
KNRA				IAmb	IAmb	11 09 11.9	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**20.50**	**221**	P	**P**	**11 08 51.3**	**+1.3**
ASAR	**Alice Springs**	**20.50**	**221**	P	**P**	**11 08 51.6**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=50,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**20.50**	**221**	P	**P**	**11 08 51.3**	**+1.2**
ARMA	**Armidale**	**22.10**	**172**	P	**P**	**11 09 08.0**	**+0.9**
ARMA				IAmb	IAmb	11 09 20.0	
	comp=Z,22nm,1.5s						
DZM	**Mont Dzumac**	**22.10**	**130**	LR	LR	11 16 53.5	
	comp=Z,384nm,20.8s,baz=122,slow=34						
FITZ	**Fitzroy Crossi**	**24.04**	**244**	P	**P**	**11 09 24.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=66,slow=3.2,SNR=7.7						
FITZ	**Fitzroy Crossi**	**24.04**	**244**	P	**P**	**11 09 25.1**	**-0.7**
GIRL	**Giralia**	**35.63**	**243**	P	**P**	**11 11 08.7**	**+0.3**
THZ	**Tophouse**	**39.68**	**151**	P	**P**	**11 11 42.5**	**+0.2**
THZ				IAmb	IAmb	11 11 51.0	
	comp=Z,25nm,1.2s						
JHJ	**Hachijo jima 2**	**42.10**	**349**	LR	LR	11 27 07.7	
	comp=Z,174nm,21.5s,baz=78,slow=33						
KSAR	**Wonju Array Be**	**49.47**	**339**	P	**P**	**11 12 59.6**	**-0.4**
XMAS	**Kiritimati**	**55.07**	**82**	P	**P**	**11 13 40.5**	**-1.4**
MK31	**Makanchi Array**	**80.18**	**320**	P	**P**	**11 16 20.1**	**+0.9**
MK31				IAmb	IAmb	11 16 31.9	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**80.18**	**320**	P	**P**	**11 16 20.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=111,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**80.18**	**320**	P	**P**	**11 16 19.4**	**+0.2**
ILAR	**Eielson Array**	**87.19**	**23**	P	**P**	**11 16 54.0**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=252,slow=5.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**146.89**	**281**	PKPbc	**PKPdf**	**11 23 50.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=62,slow=3.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**146.89**	**281**		**PKPbc**	**11 23 51.2**	**-0.5**

HEL 19 11:11:09.4±0.2, 67.°56N×30.°32E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.33**	**306**	PG	Pg	11 11 15.7	-0.1
VRF				SG	Sg	11 11 20.2	+0.1
OLKF	**Oulanka, Finla**	**1.29**	**197**	PG	Pg	11 11 32.9	-1.2
	baz=18						
OLKF				SG	Sg	11 11 49.5	-1.4
SGF	**Sodankyl**	**1.46**	**267**	PN	Pn	11 11 36.4	-0.6
	baz=84						
SGF				SN	Sg	11 11 56.0	-0.4
KU6	**Riekki**	**1.55**	**186**	PG	Pn	11 11 37.0	-1.2
KU6				MSG		11 11 55.8	
	comp=Z,3.5nm,0.2s						
KU6				SG	Sn	11 11 56.9	-2.0
MSF	**Maaselka**	**1.73**	**198**	PG	Pn	11 11 40.4	-0.3
MSF				SG	Sn	11 12 03.1	-0.3
RNF	**Rovaniemi**	**1.94**	**243**	PG	Pn	11 11 44.0	+0.5
RNF				SG	Sb	11 12 09.3	-0.8
KLF	**Kolari**	**2.48**	**265**	PB	Pn	11 11 51.1	+0.1
KLF				SG	Sb	11 12 25.4	-0.3
KEV	**Kevo**	**2.52**	**333**	*eP*	Pn	11 11 51.7	+0.2
KEV	**Kevo**	**2.52**	**333**	PB	Pn	11 11 51.9	+0.4
KEV				MSG		11 12 23.8	
	comp=Z,2.7nm,0.2s						
KEV				SG	Sb	11 12 25.7	-1.2
HEF	**Hetta**	**2.65**	**292**	PB	Pb	11 11 55.6	-2.1
	baz=109						
HEF				MSG		11 12 27.4	
	comp=Z,3.7nm,0.2s						
HEF				SG	Sb	11 12 30.1	-0.6
ARA0	**ARCESS Array S**	**2.66**	**321**	PN	Pn	11 11 53.8	+0.3
	baz=138						
ARA0				SG	Sb	11 12 29.8	-1.2
TOF	**Tornio**	**2.80**	**241**	PN	Pn	11 11 55.0	-0.3
TOF				MSG		11 12 31.8	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sb	11 12 34.8	-0.1
PAJU	**Pajala**	**2.85**	**263**	PN	Pn	11 11 56.0	0.0
OUL	**Oulu**	**3.06**	**218**	SB	Sb	11 12 40.4	-1.9
LANU	**Lannavaara**	**3.20**	**283**	SG	Sb	11 12 47.2	+0.7
KIF	**Kilpisjarvi**	**3.83**	**297**	*eP*	Pn	11 12 09.8	+0.4
KIF	**Kilpisjarvi**	**3.83**	**297**	SN	Sn	11 12 55.6	+0.6
OUF	**Merijarvi**	**3.93**	**218**	SN	Sn	11 12 56.2	-1.5
OBF0	**Syolatti, Pyha**	**3.95**	**222**	SN	Sn	11 12 56.7	-1.3

KOLA 19 11:11:56.4, 67.°60N×30.°53E, h0km, ML2.2, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.94**	**89**	P	Pg	11 12 12.1	-2.4
APA0				S

M_{rr}0.66; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.78; $M_{r\theta}$-0.72; $M_{\theta\phi}$-0.84; $M_{r\theta}$0.07; Fault plane solution: M_o1.32000×10^{18} NP1: ϕ_s356.00000°,δ51.00000°,λ30.00000°. NP2: ϕ_s246.00000°,δ67.00000°,λ136.00000°. Principal axes: T 1.3083, Plg46.0000°, Azm204.0000°; N 0.0250, Plg42.0000°, Azm43.0000°; P -1.3333, Plg10.0000°, Azm304.0000°;

*GCMT **19** 11:26:36.2±0.1, 18°.07N×60°.69W,h38^{km},MW6.0/163, Moment Tensor Solution. s150,c330; s163,c529; Duration: 2^{s}6 Moment tensor: Scale 10^{18}Nm; M_{rr}0.68±.01; $M_{\theta\theta}$-0.07±.01; $M_{\phi\phi}$-0.60±.01; $M_{r\theta}$-0.92±.01; $M_{\theta\phi}$-0.94±.01; $M_{r\phi}$0.05±.01; Best double couple: M_o1.46200×10^{18} NP1:ϕ_s2.00000°,δ45.00000°, λ28.00000°. NP2:ϕ_s252.00000°,δ71.00000°,λ132.00000°. Principal axes: T 1.4680, Plg47.0000°, Azm206.0000°; N -0.0110, Plg39.0000°, Azm56.0000°; P -1.4570, Plg16.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 11:26:29.4±0.3, 17°.94N±0°.02×60°.79W±0°.02, h12^{km}±1^{km}, h12^{km}:pP-P,n2040,σ1^{s}78/2160,mb5.9/357,MS5.8/303, 286C-321D, Fault plane solution: NP1:ϕ_s346.98068°, δ35.17445°,λ11.68898°. **NP2:**ϕ_s247.38211°,δ83.29769°, λ124.61108°. **Principal axes:** T Plg41.3393°, Azm189.7220°; N Plg34.3413°, Azm62.7771°; P Plg29.7003°, Azm309.8412°; **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
ANWB	**Willy Bob**	**0.99**	**255**	Pn		**Pn**	**11 26 52.0 +2.9**
ANWB	**Willy Bob**	**0.99**	**255**	⇑P		**Pn**	**11 26 51.7 +2.7**
ANWB	**Willy Bob**	**0.99**	**255**	*e*P		**Pn**	**11 26 52.0 +2.9**
ANWB				*e*S		**Sn**	**11 27 06.2 +3.3**
ANBD	**Bethesda, Anti**	**1.28**	**227**	*e*P		**Pg**	**11 26 56.1 +2.0**
ANBD				*e*S		**Sg**	**11 27 13.4 +2.6**
ABD	**La Joyeuse, An**	**1.60**	**205**			**Pg**	**11 27 00.6 +0.5**
ABD	**La Joyeuse, An**	**1.60**	**205**	*e*P		**Pg**	**11 27 00.7 +0.6**
ABD				*e*S		**Sg**	**11 27 20.6 -0.3**
GDSD	**La Dsirade Is**	**1.64**	**189**			**Pg**	**11 27 00.4 -0.4**
MBFL	**Flemmings, Mon**	**1.80**	**229**	*e*P		**Pg**	**11 27 03.6 -0.3**
MLYT	**Lee's Yard**	**1.80**	**228**	*e*P		**Pg**	**11 27 04.0 0.0**
MLYT				*e*S		**Sg**	**11 27 26.7 -0.7**
GDHS	**Morne Mazeau,**	**1.90**	**210**			**Pg**	**11 27 05.2 -0.6**
NVDO	**Nevis, Disaste**	**1.93**	**245**	*e*P		**Pg**	**11 27 05.9 -0.5**
NVDO				*e*S		**Sb**	**11 27 28.3 -0.2**
SKI	**Saint Kitts**	**1.96**	**252**	P		**Pg**	**11 27 06.9 0.0**
SKI	**Saint Kitts**	**1.96**	**252**			**Pg**	**11 27 06.9 0.0**
SKI	**Saint Kitts**	**1.96**	**252**	*e*P		**Pg**	**11 27 06.6 -0.3**
SKI				*e*S		**Sb**	**11 27 30.1 +0.8**
SKOC	**St. Kitts, UWI**	**1.96**	**251**	*e*P		**Pg**	**11 27 06.5 -0.6**
SKOC				*e*S		**Sb**	**11 27 29.7 +0.3**
CBE	**Ff, Capester**	**2.01**	**203**			**Pb**	**11 27 06.8 +0.9**
CBE	**Ff, Capester**	**2.01**	**203**	*e*P		**Pb**	**11 27 06.8 +0.9**
CBE				*e*S		**Sb**	**11 27 31.7 +0.7**
MAGL	**Barre de l'ile**	**2.03**	**194**			**Pb**	**11 27 06.4 +0.2**
MAGL	**Barre de l'ile**	**2.03**	**194**	*e*P		**Pb**	**11 27 06.4 +0.2**
MAGL				*e*S		**Sb**	**11 27 31.4 0.0**
SEUS	**St. Eustatius**	**2.14**	**258**			**Pb**	**11 27 08.7 +0.7**
SEUS	**St. Eustatius**	**2.14**	**258**	*e*P		**Pb**	**11 27 08.8 +0.8**
SEUS				*e*S		**Sb**	**11 27 33.2 -1.3**
SMRT	**St. Maarten**	**2.18**	**273**	Pn		**Pb**	**11 27 08.3 -0.5**
SMRT	**St. Maarten**	**2.18**	**273**	*e*P		**Pb**	**11 27 08.4 -0.4**
SMRT				*e*S		**Sb**	**11 27 33.1 -0.7**
TBG	**Guadaloupe-3**	**2.23**	**202**	*e*P		**Pb**	**11 27 09.5 -0.1**
TDBA	**Terre de Bas,**	**2.23**	**202**	Pn		**Pb**	**11 27 09.8 +0.3**
TDBA	**Terre de Bas,**	**2.23**	**202**	*e*P		**Pb**	**11 27 09.5 -0.1**
TDBA				*e*S		**Sb**	**11 27 36.1 -1.0**
DSLB	**Salisbury**	**2.56**	**194**	*e*P		**Pb**	**11 27 14.0 -1.2**
DSLB				*e*S		**Sb**	**11 27 44.2 -2.4**
DLPL	**La Plaine**	**2.62**	**190**			**Pb**	**11 27 14.6 -1.8**
DLPL	**La Plaine**	**2.62**	**190**	*e*P		**Pb**	**11 27 14.3 -2.0**
DLPL				*e*S		**Sn**	**11 27 44.7 +1.3**
MDN	**Morne-Daniel**	**2.67**	**193**	*e*P		**Pb**	**11 27 15.8 -1.3**
MDN				*e*S		**Sn**	**11 27 45.5 +1.1**
SVN	**Savane Anatole**	**3.10**	**187**			**Pb**	**11 27 21.5 -3.0**
SVN	**Savane Anatole**	**3.10**	**187**	*e*P		**Pn**	**11 27 20.8 +2.7**
BAMF	**Morne Balai**	**3.12**	**186**	*e*P		**Pn**	**11 27 21.1 +2.6**
CXM	**Morne La Croix**	**3.13**	**187**	*e*P		**Pn**	**11 27 21.6 +3.0**
PCM	**Pelee Case Pet**	**3.13**	**188**	*e*P		**Pn**	**11 27 21.0 +2.4**
PCM	**Pelee Case Pet**	**3.13**	**188**	*e*P		**Pn**	**11 27 21.7 +3.1**
GBMF	**Grand Be**	**3.14**	**187**	*e*P		**Pn**	**11 27 21.4 +2.6**
ILAM	**Ilet Lapin Mar**	**3.14**	**182**			**Pn**	**11 27 21.6 +2.9**
ILAM	**Ilet Lapin Mar**	**3.14**	**182**	*e*P		**Pn**	**11 27 21.4 +2.7**
ILAM				*e*S		**Sn**	**11 27 56.7 +0.6**
PML	**Morne Lenard**	**3.16**	**187**	*e*P		**Pn**	**11 27 21.6 +2.6**
FDF	**Fort de France**	**3.20**	**186**	P		**Pn**	**11 27 22.1 +2.5**
FDF	**Fort de France**	**3.20**	**186**			**Pn**	**11 27 22.1 +2.5**
FDF	**Fort de France**	**3.20**	**186**	⇑P		**Pn**	**11 27 21.8 +2.2**
FDF	**Fort de France**	**3.20**	**186**	*e*P		**Pn**	**11 27 21.9 +2.3**
FDF				*e*S		**Sn**	**11 27 58.0 +0.3**
LPMF	**Morne Lapointe**	**3.35**	**183**	*e*P		**Pn**	**11 27 23.9 +2.4**
ZAM	**Aeronautique**	**3.35**	**184**	*e*P		**Pn**	**11 27 23.8 +2.2**
MVM	**Montagne Vaucl**	**3.36**	**182**	*e*P		**Pn**	**11 27 24.4 +2.6**
TRMF	**Trois Ilets**	**3.39**	**184**	*e*P		**Pn**	**11 27 24.6 +2.5**
BIM	**Bigot**	**3.41**	**185**			**Pn**	**11 27 25.0 +2.6**
BIM	**Bigot**	**3.41**	**185**	*e*P		**Pn**	**11 27 25.3 +2.9**
BIM				*e*S		**Sn**	**11 28 03.2 +0.4**
MPOM	**Morne Pois Mar**	**3.47**	**181**	*e*P		**Pn**	**11 27 26.1 +2.9**
MPOM				*e*S		**Sn**	**11 28 05.4 +1.2**
CDVI	**St. Croix**	**3.79**	**268**			**Pn**	**11 27 30.8 +3.2**
CDVI	**St. Croix**	**3.79**	**268**	*e*P		**Pn**	**11 27 30.7 +3.0**
CDVI				*e*S		**Sn**	**11 28 13.8 +1.5**
SLBI	**Saint Lucia, B**	**3.89**	**183**	*e*P		**Pn**	**11 27 31.9 +2.9**
SLBI				*e*S		**Sn**	**11 28 14.8 +0.1**
SLCP	**Castries, St.**	**3.91**	**183**	*e*P		**Pn**	**11 27 31.9 +2.7**
SLCP				*e*S		**Sn**	**11 28 15.2 +0.2**
STVI	**Saint Thomas**	**3.98**	**277**			**Pn**	**11 27 32.0 +1.7**
MCLT	**Moule a Chique**	**4.20**	**182**	Pn		**Pn**	**11 27 36.2 +2.9**
MCLT	**Moule a Chique**	**4.20**	**182**	*e*P		**Pn**	**11 27 35.9 +2.6**
MCLT	**Moule a Chique**	**4.20**	**182**	*e*S		**Sn**	**11 28 22.0 -0.3**
CUPR	**Culebra, Puert**	**4.29**	**276**			**Pn**	**11 27 36.2 +1.7**
MTP	**Monte Pirata**	**4.54**	**273**			**Pn**	**11 27 40.2 +2.3**
SVV	**Soufriere Volc**	**4.61**	**185**	*e*P		**Pn**	**11 27 43.0 +4.1**
SVV	**Soufriere Volc**	**4.61**	**185**	*e*S		**Sn**	**11 28 33.1 +0.8**
SVB	**Belmont**	**4.66**	**186**	*e*P		**Pn**	**11 27 42.9 +3.3**
SVB	**Belmont**	**4.66**	**186**	*e*S		**Sn**	**11 28 34.4 +0.8**
SVOC	**Richmond Hill,**	**4.77**	**185**	*e*P		**Pn**	**11 27 44.2 +3.1**
SVOC	**Richmond Hill,**	**4.77**	**185**	*e*S		**Sn**	**11 28 36.1 -0.3**
HUMP	**Col San Antoni**	**4.82**	**273**			**Pn**	**11 27 43.8 +2.0**
CBYP	**Canovanas**	**4.83**	**275**			**Pn**	**11 27 44.0 +2.0**
BCHC	**Barbados, Cave**	**4.90**	**167**	*e*P		**Pn**	**11 27 47.0 +4.1**
BCHC	**Barbados, Cave**	**4.90**	**167**	*e*S		**Sn**	**11 28 40.2 +0.6**
BBGH	**Gun Hill**	**4.91**	**166**			**Pn**	**11 27 46.0 +3.0**
BBGH	**Gun Hill**	**4.91**	**166**	⇓P		**Pn**	**11 27 46.0 +3.0**
BBGH	**Gun Hill**	**4.91**	**166**	*e*P		**Pn**	**11 27 46.3 +3.3**
BBGH	**Gun Hill**	**4.91**	**166**	*e*S		**Sn**	**11 28 40.4 +0.6**
BBSP	**Saint Philip**	**4.97**	**165**	*e*P		**Pn**	**11 27 47.9 +4.0**
PDPR	**Patillas Dam,**	**4.98**	**272**			**Pn**	**11 27 46.4 +2.3**
GCPR	**Guaynabo City**	**5.05**	**275**			**Pn**	**11 27 46.1 +1.2**
SJG	**San Juan**	**5.11**	**273**	Pn		**Pn**	**11 27 47.9 +2.1**
	320nm,0.3s,baz=83,slow=12,SNR=117						
SJG				Sn		**Sn**	**11 28 45.6 +1.0**
	4μm,0.3s,baz=163,slow=3.7,SNR=28						
SJG	**San Juan**	**5.11**	**273**	*e*P		**Pn**	**11 27 48.1 +2.4**
SJG				*e*S		**Sn**	**11 28 45.4 +0.7**
SJG	**San Juan**	**5.11**	**273**	⇓P		**Pn**	**11 27 47.8 +2.1**
SJG	**San Juan**	**5.11**	**273**	*e*P		**Pn**	**11 27 48.4 +2.7**
GCMP	**Grenada, Carri**	**5.45**	**187**	*e*P		**Pn**	**11 27 53.1 +2.6**
GCMP	**Grenada, Carri**	**5.45**	**187**	*e*S		**Sn**	**11 28 52.6 -0.5**
EMPR	**Esperanza - Ma**	**5.49**	**277**	Pn		**Pn**	**11 27 52.0 +1.1**
CELP	**Cerrillos**	**5.51**	**272**			**Pn**	**11 27 53.4 +2.1**
OBIP	**Obispado Ponce**	**5.54**	**272**			**Pn**	**11 27 52.9 +1.2**
GRSS	**Sisters**	**5.66**	**188**	*e*P		**Pn**	**11 27 57.0 +3.6**
GRSS	**Sisters**	**5.66**	**188**	*e*S		**Sn**	**11 28 58.7 +0.4**
AOPR	**Arecibo Observ**	**5.69**	**275**	Pn		**Pn**	**11 27 54.6 +0.9**
AOPR	**Arecibo Observ**	**5.69**	**275**	*e*P		**Pn**	**11 27 56.8 +3.0**
AOPR	**Arecibo Observ**	**5.69**	**275**	*e*S		**Sn**	**11 28 59.5 +0.5**
GRHS	**Sauteurs**	**5.74**	**188**	*e*P		**Pn**	**11 27 57.2 +2.8**
GRHS	**Sauteurs**	**5.74**	**188**	*e*S		**Sn**	**11 28 59.2 -1.0**
GRGR	**Grenville**	**5.83**	**188**			**Pn**	**11 27 58.8 +3.1**
GRGR	**Grenville**	**5.83**	**188**	⇑P		**Pn**	**11 27 58.8 +3.1**
GRGR	**Grenville**	**5.83**	**188**	*e*P		**Pn**	**11 27 58.5 +2.8**
GRGR	**Grenville**	**5.83**	**188**	*e*S		**Sn**	**11 29 02.2 -0.3**
GRFF	**Grenada Fort F**	**5.92**	**189**	*e*P		**Pn**	**11 27 59.6 +2.6**
GRFF	**Grenada Fort F**	**5.92**	**189**	*e*S		**Sn**	**11 29 05.0 +0.2**
MLPR	**Magueyes Islan**	**5.96**	**271**			**Pn**	**11 27 58.9 +1.5**
CRPR	**Cabo Rojo, PR**	**6.02**	**272**			**Pn**	**11 27 59.9 +1.6**
CRPR	**Cabo Rojo, PR**	**6.02**	**272**	*i* P		**Pn**	**11 27 59.8 +1.6**
CRPR				*e*S		**Sn**	**11 29 07.0 -0.1**
AGPR	**Aguadilla, PR**	**6.04**	**276**			**Pn**	**11 27 59.0 +0.5**
AGPR	**Aguadilla, PR**	**6.04**	**276**	*i* P		**Pn**	**11 27 59.0 +0.5**
AGPR				*e*S		**Sn**	**11 29 06.4 -1.1**
PRSN	**Puerto Rico Se**	**6.05**	**274**			**Pn**	**11 28 00.2 +1.4**
TOSP	**Speyside**	**6.60**	**178**			**Pn**	**11 28 09.2 +2.9**
TOSP	**Speyside**	**6.60**	**178**	*e*P		**Pn**	**11 28 10.1 +3.8**
TOSP	**Speyside**	**6.60**	**178**	*e*S		**Sn**	**11 29 20.6 -1.0**
PCDR	**Punta Cana, DR**	**7.24**	**276**			**Pn**	**11 28 16.7 +1.7**
PCDR	**Punta Cana, DR**	**7.24**	**276**	*i* P		**Pn**	**11 28 16.9 +1.8**
PCDR				IAML			**11 29 46.0**
	comp=Z,5μm,1.2s						
TRN	**Trinidad (W)**	**7.27**	**185**	*e*P		**Pn**	**11 28 18.4 +3.0**
TRN	**Trinidad (W)**	**7.27**	**185**	*e*S		**Sn**	**11 29 36.3 -1.7**
DR12	**Loma Pena Alta**	**8.21**	**277**			**Pn**	**11 28 29.9 +1.6**
SDD	**Santo Domingo**	**8.69**	**275**	*i* P		**Pn**	**11 28 38.9 +4.0**
BANI	**BANI**	**9.11**	**274**	*i* P		**Pn**	**11 28 44.0 +3.1**
BIRV	**Birongo**	**9.12**	**216**			**Pn**	**11 28 43.4 +2.5**
SC01	**Santiago de lo**	**9.54**	**281**			**Pn**	**11 28 46.7 +0.1**
SC01	**Santiago de lo**	**9.54**	**281**	*i* P		**Pn**	**11 28 47.4 +0.8**
HATO	**Hato, Curacao**	**9.75**	**235**			**Pn**	**11 28 51.8 +2.3**
LOBA2	**Hotel Casa Bon**	**9.81**	**272**	*i* P		**Pn**	**11 28 51.9 +1.6**
LOBA2				*e*S		**Sn**	**11 30 33.8 -6.6**
LOBA2				IAML			**11 30 45.5**
	comp=Z,1μm,0.7s						
SDDR	**Presa de Saban**	**10.02**	**278**	⇓P		**Pn**	**11 28 53.1 -0.2**
SDDR				⇓S		**Sn**	**11 30 46.8 +1.1**
SDDR	**Presa de Saban**	**10.02**	**278**	*i* P		**Pn**	**11 28 53.5 +0.3**
SDDR				IAML			**11 30 47.8**
	comp=Z,3μm,0.5s						
LOPP1	**Punta Rusia, P**	**10.04**	**283**	*i* P		**Pn**	**11 28 53.3 -0.1**
LOPP1				*e*S		**Sn**	**11 30 40.1 -5.9**
LONE2	**Loma La Sidra**	**10.17**	**275**	*i* P		**Pn**	**11 28 55.8 +0.4**
LONE2				IAML			**11 31 05.4**
	comp=Z,976nm,0.5s						
GRTK	**Grand Turk**	**10.37**	**292**			**Pn**	**11 28 56.5 -1.5**
GRTK	**Grand Turk**	**10.37**	**292**	⇑P		**Pn**	**11 28 56.5 -1.5**
GRTK				⇑S		**Sn**	**11 30 47.3 -6.9**
GRTK	**Grand Turk**	**10.37**	**292**	*i* P		**Pn**	**11 28 56.4 -1.5**
GRTK				*e*S		Sn	11 30 44.4 -10
GRTK				*e*S			11 30 40.8
LODA1	**ITESIL, Dajabo**	**10.47**	**281**	*i* P		**Pn**	**11 28 59.2 -0.1**
LODA1				*e*S		**Sn**	**11 30 48.9 -7.7**
JAKH	**Jacmel**	**11.16**	**273**			**Pn**	**11 29 10.6 +1.8**
JAKH	**Jacmel**	**11.16**	**273**	*i* P		**Pn**	**11 29 10.6 +1.8**
LGNH	**Logne**	**11.25**	**275**			**Pn**	**11 29 10.8 +0.8**
DABV	**Dabajuro**	**11.81**	**235**	*e*P		**Pn**	**11 29 18.8 +1.0**
DABV				*e*S		**Sn**	**11 31 23.7 -5.9**
URIC	**Uribia, Colomb**	**12.48**	**242**			**Pn**	**11 29 28.7 +1.9**
URIC	**Uribia, Colomb**	**12.48**	**242**	*e*P		**Pn**	**11 29 27.0 +0.1**
URIC				*e*S		**Sn**	**11 31 40.3 -5.6**
SDV	**Santo Domingo**	**13.13**	**228**	Pn		**Pn**	**11 29 38.9 +2.9**
	comp=Z,15nm,0.3s,baz=76,slow=10,SNR=112						
SDV				LR		LR	11 35 03.8
	comp=Z,24μm,21.6s,baz=53,slow=39						
SDV	**Santo Domingo**	**13.13**	**228**	Pn		**Pn**	**11 29 38.5 +2.5**
SDV	**Santo Domingo**	**13.13**	**228**	*i*P		**Pn**	**11 29 38.8 +2.8**
SDV				*e*S		Sn	11 31 50.6 -12
SDV	**Santo Domingo**	**13.13**	**228**	*e*P		**Pn**	**11 29 38.7 +2.7**
CRJC	**Cerrejon, Guaj**	**13.57**	**241**	*e*P		**Pn**	**11 29 43.5 +1.6**
CRJC				*e*S		**Sn**	**11 32 07.2 -5.7**
SMRC	**Santa Marta, M**	**14.64**	**244**	*e*P		**Pn**	**11 29 56.4 0.0**
SMRC				*e*S		Sn	11 32 28.0 -11
CMJ	**Castle Mountai**	**14.83**	**273**	*i* P		**Pn**	**11 29 57.5 -1.5**
LL1C	**La Loma 1 Cana**	**14.94**	**238**	*e*P		**Pn**	**11 30 02.2 +1.7**
LL1C				*e*S		**Sn**	**11 32 41.1 -5.0**
MDP	**Montagnes des**	**15.04**	**147**	Pn		**Pn**	**11 29 57.6 -4.2**
	comp=Z,15nm,0.3s,baz=336,slow=15,SNR=37						
MDP				Sn		Sn	11 32 34.4 -14
	comp=Z,90nm,0.3s,baz=67,slow=23,SNR=13						
MDP				LR		LR	11 35 38.3
	comp=Z,28μm,21.4s,baz=333,slow=37						
GWJ	**Greenwich**	**15.17**	**273**	*i* P		**P**	**11 30 07.7 -1.0**
HOJ	**Hope**	**15.19**	**273**	*i* P		**P**	**11 30 07.1 -1.7**
STH	**Stony Hill**	**15.24**	**273**	*i* P		**Pn**	**11 30 04.5 -0.1**
BOAV	**Boa Vista**	**15.45**	**179**	*e*P		**Pn**	**11 30 04.2 -3.0**
OCAC	**Ocana**	**15.54**	**233**			**Pn**	**11 30 08.9 +0.3**
OCAC	**Ocana**	**15.54**	**233**	⇑*e*P		**Pn**	**11 30 09.5 +0.9**
OCAC				*e*S		**Sn**	**11 32 59.2 -1.7**
PAMC	**Pamplona, Colo**	**15.67**	**229**	*e*P		**P**	**11 30 13.1 -1.7**
PAMC				*e*S		**S**	**11 33 12.5 -7.3**
TAMC	**Tame, Arauca**	**15.68**	**225**	*e*P		**Pn**	**11 30 11.7 +1.3**
MTDJ	**Mount Denham**	**15.93**	**274**			**Pn**	**11 30 12.3 -1.3**
MTDJ	**Mount Denham**	**15.93**	**274**	⇓P		**Pn**	**11 30 12.6 -1.0**
MCJ	**Malvern**	**16.08**	**273**	*i* P		**Pn**	**11 30 18.7 -0.2**
SJCC	**San Jacinto, C**	**16.09**	**242**			**Pn**	**11 30 16.2 +0.7**
SJCC	**San Jacinto, C**	**16.09**	**242**	*e*P		**Pn**	**11 30 14.5 -1.1**
SJCC				*e*S		**Sn**	**11 33 11.5 -2.6**
BARC	**Barichara**	**16.53**	**229**	*e*P		**P**	**11 30 23.0 -1.1**
BARC				*e*S		**S**	**11 33 33.0 -4.0**
RUSC	**La Rusia**	**16.95**	**227**	*e*P		**Pn**	**11 30 27.9 +0.8**
RUSC				*e*S		**Sn**	**11 33 35.8 0.0**
ZARC	**Zaragoza, Cauc**	**17.19**	**235**			**Pn**	**11 30 28.4 -1.2**
ZARC	**Zaragoza, Cauc**	**17.19**	**235**	*e*P		**Pn**	**11 30 28.0 -1.6**
ZARC				*e*S		**Sn**	**11 33 34.3 -6.6**
PTBC	**PUERTO BERRIO,**	**17.50**	**231**	*e*P		**Pn**	**11 30 32.1 -1.3**
PTBC				*e*S		**Sn**	**11 33 39.7 -8.6**
UREC	**San Jos de Ur**	**17.57**	**237**	*e*P		**Pn**	**11 30 32.1 -2.2**
UREC				*e*S		**Sn**	**11 33 39.7 -10**
PTGC	**Puerto Gaitan,**	**17.60**	**220**	⇑*e*P		**Pn**	**11 30 34.8 +0.2**
LCBC	**Los crdobas,**	**17.63**	**241**	*e*P		**P**	**11 30 37.5 +1.6**
LCBC				*e*S		**S**	**11 33 55.6 -3.3**
SPBC	**San Pablo de B**	**17.82**	**228**	⇑*e*P		**Pn**	**11 30 37.5 +0.1**
CBCY	**The Bluff, Cay**	**18.05**	**279**	P		**Pn**	**11 30 36.5 -3.7**
CHIC	**Chingaza**	**18.31**	**225**	⇑*e*P		**P**	**11 30 45.2 +1.3**
CHIC				*e*S		**Sn**	**11 34 10.5 +2.0**
LCCY	**Blossom Villag**	**18.35**	**278**	P		**P**	**11 30 44.1 +0.2**
HELC	**Santa Helena**	**18.53**	**233**	*e*P		**Pn**	**11 30 47.0 +0.6**
HELC				*e*S		Sn	11 34 00.1 -14
ROSC	**El Rosal**	**18.56**	**227**	P		**Pn**	**11 30 50.1 +3.2**
	comp=Z,104nm,0.3s,baz=55,slow=7.6,SNR=148						
ROSC				S		**Sn**	**11 34 15.1 +0.5**
	comp=Z,2.5nm,0.3s,baz=44,slow=18,SNR=1.9						
ROSC				LR		LR	11 39 30.5
	comp=Z,20μm,18.4s,baz=30,slow=42						
ROSC	**El Rosal**	**18.56**	**227**	P		**Pn**	**11 30 47.8 +0.9**
ROSC				pmax		pmax	
	comp=Z,4μm,1.1s						
ROSC	**El Rosal**	**18.56**	**227**	P		**Pn**	**11 30 47.8 +0.9**
ROSC	**El Rosal**	**18.56**	**227**	⇑*e*P		**Pn**	**11 30 47.0 +0.2**
GUY2C	**Guyana, Caldas**	**19.04**	**230**	*e*P		**Pn**	**11 30 56.5 +3.8**
GUY2C				*e*S		Sn	11 34 13.7 -13
CBOC	**Ciudad Bolivar**	**19.11**	**233**	⇑*e*P		**P**	**11 30 51.4 -1.0**
CBOC				*e*S		**Sn**	**11 34 18.6 -8.8**
GUVC	**San Jose del G**	**19.20**	**219**	*e*P		**Pn**	**11 30 55.2 +0.9**
FSCY	**Frank Sound, G**	**19.38**	**277**	P		**Pn**	**11 30 57.0 +0.7**
ANIL	**Santa Ana**	**19.57**	**229**	*e*P		**P**	**11 30 56.6 -1.1**
ANIL				*e*S		**S**	**11 34 34.4 -4.4**
ORTC	**Ortega, Tolima**	**19.87**	**227**	*e*P		**P**	**11 30 58.7 -2.0**
ORTC				*e*S		**S**	**11 34 36.5 -7.6**
PLMC	**San Jos del P**	**19.93**	**231**	⇑*e*P		**P**	**11 31 02.0 +0.6**
MCPB	**Macapa, AP**	**20.11**	**154**	*e*P		**P**	**11 31 03.9 +0.7**
060A	**Indiantown**	**20.21**	**300**	P		Pn	11 31 06.6 +0.5
061Z	**Ochoppi**	**20.25**	**296**	P		Pn	11 31 06.9 +0.3
UPA	**Univ. de Panam**	**20.27**	**246**	⇑*e*P		**P**	**11 31 03.4 -1.6**
UPA				*e*S		**S**	**11 34 44.9 -7.4**
PRVC	**Isla de Provid**	**20.32**	**260**	P		Pn	11 31 08.7 +1.1
PRVC	**Isla de Provid**	**20.32**	**260**	*e*P		**P**	**11 31 04.7 -0.8**
BCIP	**Isla Barro Col**	**20.45**	**247**	*e*P		**P**	**11 31 07.5 +0.6**
BCIP				*e*S		**S**	**11 34 48.2 -7.6**
BCIP	**Isla Barro Col**	**20.45**	**247**	⇑P		**P**	**11 31 07.7 +0.8**
YOTC	**Yotoco, Valle**	**20.60**	**230**	*e*P		**P**	**11 31 06.1 -2.6**
YOTC				*e*S		**S**	**11 34 51.7 -7.3**
MALB	**Monte Alegre**	**20.69**	**161**	*e*P		Pn	11 31 10.8 -1.0
BETC	**Betania**	**20.89**	**225**	*e*P		**P**	**11 31 11.0 -0.8**
MACA	**Manacapuru-AM**	**20.96**	**180**	*e*P		Pn	11 31 14.9 -0.1
GARC	**Garzon, Huila**	**21.29**	**224**	*e*P		**P**	**11 31 15.6 -0.7**
GARC				*e*S		**S**	**11 35 04.5 -8.4**
SOR	**Soroa**	**21.38**	**287**	P		**P**	**11 31 17.9 +1.0**
SOR	**Soroa**	**21.38**	**287**	P		**P**	**11 31 17.9 +1.0**
AZU	**Azuero**	**21.48**	**244**	*e*P		**P**	**11 31 19.1 +1.0**
AZU				*e*S		**S**	**11 35 12.6 -3.8**
DWPF	**Disney Wildern**	**21.50**	**302**	P		**P**	**11 31 19.6 +1.4**
DWPF	**Disney Wildern**	**21.50**	**302**	⇓P		**P**	**11 31 20.1 +1.9**
DWPF	**Disney Wildern**	**21.50**	**302**	P		**P**	**11 31 20.7 +2.6**
	baz=114						
POPC	**Popayan, Colom**	**21.84**	**227**	⇑*e*P		**P**	**11 31 20.4 -1.7**
FLOC	**Florencia**	**21.84**	**224**	*e*P		**P**	**11 31 21.0 -1.0**
FLOC				*e*S		**S**	**11 35 20.2 -3.2**
Y60A	**Bolivia**	**22.34**	**319**	P		**P**	**11 31 28.2 +1.1**
Y60A				IAmb		IAmb	11 31 39.5
	comp=Z,934nm,0.9s						
PTLC	**Puerto Leguiza**	**22.39**	**219**	⇑*e*P		**P**	**11 31 29.2 +1.3**
GR1C	**Gorgona, Isla**	**22.59**	**231**	*e*P		**P**	**11 31 31.1 +1.1**
GR1C				*e*S		**S**	**11 35 32.5 -5.0**
V61A	**Roper**	**22.63**	**325**	P		**P**	**11 31 32.1 +1.9**
ITTB	**Itaituba**	**22.71**	**167**	*e*P		**P**	**11 31 32.7 +1.4**
Y59A	**Loris**	**22.75**	**318**	P		**P**	**11 31 31.8 +0.4**
656A	**Willston**	**22.90**	**304**	P		**P**	**11 31 34.2 +1.1**
CNNC	**Cliffs of the**	**22.98**	**322**	P		**P**	**11 31 35.0 +1.1**
CNNC				IAmb		IAmb	11 31 55.6
	comp=Z,1μm,1.2s						
CNNC	**Cliffs of the**	**22.98**	**322**	⇓P		**P**	**11 31 34.9 +1.1**
CNNC				⇑S		**S**	**11 35 40.2 -3.9**
CNNC	**Cliffs of the**	**22.98**	**322**	P		**P**	**11 31 35.2 +1.3**
	baz=134,SNR=26						
257A	**Skidaway Islan**	**23.01**	**311**	P		**P**	**11 31 35.5 +1.2**
NHSC	**New Hope**	**23.06**	**315**	P		**P**	**11 31 35.5 +0.8**
NHSC	**New Hope**	**23.06**	**315**	P		**P**	**11 31 36.0 +1.3**
	baz=126,SNR=38						
BRU2	**Volcan**	**23.14**	**250**	P		**P**	**11 31 37.3 +1.4**
BRU2				IAmb		IAmb	11 32 04.9
	comp=

comp=Z,104nm,0.8s,baz=140,slow=8.2,SNR=59
TKL LR LR 11 41 37.3
comp=Z,18µm,21.8s,baz=136,slow=34
TKL Tuckaleechee C 26.96 315 P **P** **11 32 12.0 +1.2**
TKL IAmb IAmb 11 32 54.9
comp=Z,552nm,1.0s
SSPA Standing Stone 27.00 330 P **P** **11 32 12.7 +1.6**
SSPA IAmb IAmb 11 33 01.8
comp=Z,373nm,1.1s
SSPA Standing Stone 27.00 330 IAMs_20 IAMs_20 11 40 45.8
comp=Z,23µm,22.0s
SSPA Standing Stone 27.00 330 ⇓P **P** **11 32 12.7 +1.6**
SSPA Standing Stone 27.00 330 P **P** **11 32 13.0 +1.9**
baz=142
SSPA S **S** **11 36 50.9 +2.5**
baz=142
O56A Blue Knob Stat 27.04 329 P **P** **11 32 13.3 +1.7**
O56A Blue Knob Stat 27.04 329 P **P** **11 32 13.8 +2.3**
baz=140,SNR=60
O56A S **S** **11 36 51.5 +2.4**
baz=140
L59A Walton 27.06 336 P **P** **11 32 13.6 +1.8**
L59A IAmb IAmb 11 32 19.6
comp=Z,482nm,1.6s
BRAL Brewton 27.20 304 ⇓P **P** **11 32 15.2 +2.2**
BRAL Brewton 27.20 304 P **P** **11 32 15.9 +2.9**
baz=113,SNR=11
MCWV Mont Chateau 27.23 327 IAMs_20 IAMs_20 11 41 18.1
comp=Z,23µm,21.0s
MCWV Mont Chateau 27.23 327 P **P** **11 32 15.6 +2.3**
baz=137,SNR=25
MCWV S **S** **11 36 53.9 +1.8**
baz=137
TZTN Tazewell 27.33 317 P **P** **11 32 16.2 +2.1**
baz=126,SNR=59
CPCT Cooper Cave 27.34 314 P **P** **11 32 15.8 +1.4**
CPCT IAmb IAmb 11 33 00.2
comp=Z,544nm,1.1s
BINY Binghamton 27.44 335 P **P** **11 32 16.9 +1.7**
baz=147,SNR=28
BINY S **S** **11 36 55.8 +0.4**
baz=147
GGN Saint George 27.57 351 P **P** **11 32 18.1 +1.9**
GGN IAmb IAmb 11 32 20.9
comp=Z,663nm,1.8s
ESQI Esquipulas 27.61 267 P **P** **11 32 20.5 +3.6**
ESQI IAmb IAmb 11 32 53.0
comp=Z,809nm,1.3s
FPAL Fort Paine 27.62 312 P **P** **11 32 18.7 +1.8**
LBNH Lisbon 27.85 343 P **P** **11 32 21.1 +2.4**
LBNH pmax pmax
comp=Z,526nm,1.6s
LBNH MLR MLR
comp=Z,25µm,19.0s
LBNH Lisbon 27.85 343 P **P** **11 32 21.1 +2.4**
LBNH IAmb IAmb 11 32 23.8
comp=Z,526nm,1.6s
LBNH IAMs_20 IAMs_20 11 41 34.7
comp=Z,25µm,19.0s
LBNH Lisbon 27.85 343 P **P** **11 32 20.8 +2.1**
baz=157,SNR=30
LBNH S **S** **11 37 02.7 +1.0**
baz=157
LRAL Lakeview Retre 27.93 308 P **P** **11 32 21.8 +2.3**
baz=116,SNR=39
LRAL S **S** **11 37 04.0 +0.8**
baz=116
CZSB Cruzeiro do Su 28.09 206 *e*P **P** **11 32 20.5 -0.6**
ETMB Extrema 28.09 191 *e*P **P** **11 32 21.7 +0.6**
PKME Peaks-Kenny Pk 28.16 347 P **P** **11 32 23.2 +1.8**
PKME IAmb IAmb 11 32 26.1
comp=Z,423nm,1.5s
PKME IAMs_20 IAMs_20 11 41 10.8
comp=Z,27µm,22.0s
PKME Peaks-Kenny Pk 28.16 347 P **P** **11 32 23.4 +1.9**
baz=162,SNR=16
SWET Sewanee 28.20 313 P **P** **11 32 23.3 +1.3**
SWET IAmb IAmb 11 33 13.1
comp=Z,718nm,1.7s
N54A Moraine State 28.27 328 P **P** **11 32 24.5 +2.0**
N54A IAmb IAmb 11 33 06.2
comp=Z,506nm,1.4s
N54A IAMs_20 IAMs_20 11 41 37.5
comp=Z,20µm,22.0s
N54A Moraine State 28.27 328 P **P** **11 32 24.6 +2.1**
baz=138,SNR=23
N54A S **S** **11 37 08.5 +0.1**
baz=138
NCB Newcomb 28.32 339 P **P** **11 32 24.7 +1.8**
O53A New Philadelph 28.38 326 IAMs_20 IAMs_20 11 42 04.6
comp=Z,22µm,21.0s
O53A New Philadelph 28.38 326 P **P** **11 32 25.6 +2.1**
baz=136,SNR=31
O53A S **S** **11 37 09.5 -0.6**
baz=136
P52A Corning 28.45 324 P **P** **11 32 25.5 +1.3**
baz=133,SNR=22
P52A S **S** **11 37 11.7 +0.3**
baz=133
M54A Oil Creek Stat 28.52 329 IAMs_20 IAMs_20 11 41 45.3
comp=Z,19µm,21.0s
M54A Oil Creek Stat 28.52 329 P **P** **11 32 26.4 +1.6**
baz=140,SNR=30
M54A S **S** **11 37 13.5 +1.1**
baz=140
ALLY Alegheny Colle 28.86 329 P **P** **11 32 29.5 +1.6**
ALLY IAmb IAmb 11 32 42.7
comp=Z,390nm,1.4s
CLTN Cedars of Leba 28.93 314 P **P** **11 32 30.5 +2.1**
M53A WI Miller and 28.97 328 IAMs_20 IAMs_20 11 42 11.1
comp=Z,18µm,21.0s
M53A WI Miller and 28.97 328 P **P** **11 32 30.2 +1.5**
baz=138,SNR=6.9
LONY Lake Ozonia 29.01 339 P **P** **11 32 30.4 +1.3**
baz=152,SNR=20
CLDB Colider 29.05 170 *e*P **P** **11 32 30.6 +1.0**
ERPA Erie 29.14 330 P **P** **11 32 32.4 +2.1**
ERPA IAmb IAmb 11 32 53.7
comp=Z,352nm,1.2s
ERPA Erie 29.14 330 P **P** **11 32 31.9 +1.6**
baz=140,SNR=11
PECO Prince Edward 29.30 336 P **P** **11 32 33.5 +1.9**
ACSO Alum Creek Sta 29.34 324 P **P** **11 32 33.5 +1.5**
ACSO IAmb IAmb 11 33 25.0
comp=Z,378nm,1.1s
ACSO Alum Creek Sta 29.34 324 P **P** **11 32 33.6 +1.5**
baz=133,SNR=39
NBMO Morrinhos-CE 29.39 134 *e*P **P** **11 32 33.6 +0.9**
MNTQ Montreal, Queb 29.50 341 P **P** **11 32 33.6 +0.3**
MNTQ Montreal, Queb 29.50 341 ⇑P **P** **11 32 35.2 +1.9**
BATG Bathurst New B 29.58 353 P **P** **11 32 35.3 +1.2**
PLAL Pickwick Lake 29.61 310 IAMs_20 IAMs_20 11 43 33.0
comp=Z,17µm,20.0s
PDRB Porto dos Gac 29.63 172 *e*P **P** **11 32 36.8 +2.0**
SMTB Santa Maria do 29.64 153 *e*P **P** **11 32 35.4 +0.4**
P49A Miami Univ. Ec 29.89 321 IAMs_20 IAMs_20 11 42 43.8
comp=Z,19µm,22.0s
P49A Miami Univ. Ec 29.89 321 P **P** **11 32 38.3 +1.4**
baz=129,SNR=74
P49A S **S** **11 37 34.9 +1.0**
baz=129
WVT Waverly 29.99 313 P **P** **11 32 38.9 +1.0**
WVT pmax pmax
comp=Z,215nm,1.2s
WVT MLR MLR
comp=Z,15µm,20.0s
WVT Waverly 29.99 313 P **P** **11 32 38.9 +1.0**
WVT Waverly 29.99 313 ⇑P **P** **11 32 38.8 +0.9**
WVT Waverly 29.99 313 P **P** **11 32 38.8 +0.9**
baz=120
WVT S **S** **11 37 35.8 +0.2**
baz=120
CCIG Comitan 29.99 272 P **P** **11 32 39.6 +1.4**
CCIG IAmb IAmb 11 32 49.7
comp=Z,218nm,0.6s
DELO Deloro Mine 30.03 336 P **P** **11 32 39.9 +1.7**
WCI Wyandotte Cave 30.08 317 P **P** **11 32 40.9 +2.3**
WCI pmax pmax
comp=Z,130nm,0.9s
WCI MLR MLR
comp=Z,16µm,22.0s
WCI Wyandotte Cave 30.08 317 P **P** **11 32 40.9 +2.3**
WCI Wyandotte Cave 30.08 317 ⇑P **P** **11 32 40.7 +2.1**
WCI Wyandotte Cave 30.08 317 P **P** **11 32 40.3 +1.7**
baz=125
WCI S **S** **11 37 37.8 +0.8**
baz=125
GAC Glen Almond 30.27 339 ⇑P **P** **11 32 42.1 +1.9**
VBMS Vicksburg 30.33 304 IAMs_20 IAMs_20 11 45 33.4
comp=Z,15µm,20.0s
VBMS Vicksburg 30.33 304 P **P** **11 32 42.9 +2.0**
baz=111,SNR=22
VBMS S **S** **11 37 44.8 +3.8**
baz=111
OXF Oxford 30.38 309 IAMs_20 IAMs_20 11 43 37.4
comp=Z,16µm,20.0s
OXF Oxford 30.38 309 P **P** **11 32 42.4 +1.1**
baz=116,SNR=107
TRQ Mont Tremblant 30.43 341 P **P** **11 32 43.4 +1.7**
O48B Farmland 30.61 322 P **P** **11 32 44.2 +0.9**
baz=129,SNR=45
O48B S **S** **11 37 45.5 +0.3**
baz=129
VILB Vilhena 30.70 179 *e*P **P** **11 32 46.6 +2.4**
USIN University of 30.83 316 P **P** **11 32 47.0 +1.8**
SADO Sadowa 30.86 334 LR LR 11 43 14.5
comp=Z,21µm,21.9s,baz=174,slow=33
SADO Sadowa 30.86 334 P **P** **11 32 46.5 +1.1**
SADO Sadowa 30.86 334 ⇓P **P** **11 32 46.2 +0.8**
HALT Halls 30.95 311 P **P** **11 32 48.4 +2.0**
HALT IAmb IAmb 11 33 01.4
comp=Z,493nm,1.1s
AAM Ann Arbor 31.13 326 IAMs_20 IAMs_20 11 43 40.4
comp=Z,19µm,21.0s
AAM Ann Arbor 31.13 326 P **P** **11 32 49.7 +1.8**
baz=134,SNR=19
SNDB Serra Nova Dou 31.16 162 *e*P **P** **11 32 49.2 +0.9**
NBCL Cascavel-CE 31.26 133 *e*P **P** **11 32 50.6 +1.4**
NBPB Pedra_Branca-C 31.34 136 *e*P **P** **11 32 50.5 +0.5**
DRLN Deer Lake 31.36 4 P **P** **11 32 50.5 +0.8**
DRLN IAmb IAmb 11 32 52.8
comp=Z,174nm,0.9s
DRLN Deer Lake 31.36 4 ⇓P **P** **11 32 50.5 +0.8**
PEBM Pemiscott Bayo 31.43 311 P **P** **11 32 52.5 +1.9**
PVMO Portageville 31.45 312 P **P** **11 32 53.1 +2.4**
P46A Rosedale 31.47 319 P **P** **11 32 53.0 +2.1**
P46A IAmb IAmb 11 34 00.0
comp=Z,478nm,1.3s
GNAR Gosnell 31.47 311 P **P** **11 32 53.5 +2.6**
342A Flagon Creek P 31.51 301 P **P** **11 32 54.3 +3.0**
OLIL Olney 31.54 317 P **P** **11 32 53.4 +1.9**
SFIN Lafayette 31.85 320 P **P** **11 32 56.0 +1.8**
baz=127,SNR=19
SFIN S **S** **11 38 04.8 +0.2**
baz=127
ICQ Pointe Anglais 31.94 352 ⇑P **P** **11 32 55.6 +0.7**
PEXB Peixe 32.29 157 *e*P **P** **11 33 00.1 +1.7**
Z41A Richland Creek 32.50 304 P **P** **11 33 02.6 +2.6**
baz=110,SNR=21
Z41A S **S** **11 38 17.3 +2.4**
baz=110
CMIG Matias Romero 32.50 274 S **S** **11 38 08.3 -6.9**
comp=Z,9.2nm,1.0s,baz=339,slow=22,SNR=3.2
W41B Gary Mavity, V 32.78 308 P **P** **11 33 03.8 +1.4**
baz=113,SNR=120
W41B S **S** **11 38 19.7 +0.6**
baz=113
X40A Basin Creek Fa 32.96 306 P **P** **11 33 05.6 +1.5**
baz=112,SNR=97
X40A S **S** **11 38 21.0 -1.0**
baz=112
FCAR Ozark Folk Cen 32.98 309 P **P** **11 33 05.4 +1.2**
FCAR IAmb IAmb 11 33 34.6
comp=Z,219nm,1.0s
PTLB Pontes e Lacer 33.21 177 *e*P **P** **11 33 07.7 +1.4**
NBMA Muriti-CE 33.24 137 *e*P **P** **11 33 07.3 +0.6**
CCM Cathedral Cave 33.31 313 P **P** **11 33 08.3 +1.3**
CCM pmax pmax
comp=Z,150nm,0.9s
CCM MLR MLR
comp=Z,16µm,22.0s
CCM Cathedral Cave 33.31 313 P **P** **11 33 08.3 +1.3**
CCM IAmb IAmb 11 33 10.2
comp=Z,150nm,0.9s
CCM Cathedral Cave 33.31 313 IAMs_20 IAMs_20 11 45 02.8
comp=Z,16µm,22.0s
CCM Cathedral Cave 33.31 313 ⇓P **P** **11 33 07.9 +0.8**
CCM Cathedral Cave 33.31 313 P **P** **11 33 07.9 +0.8**
baz=118
CCM S **S** **11 38 25.6 -1.8**
baz=118
HDIL Hopedale 33.32 319 P **P** **11 33 08.5 +1.4**
HDIL IAmb IAmb 11 44 52.7
comp=Z,19µm,22.0s
HDIL Hopedale 33.32 319 P **P** **11 33 08.4 +1.4**
baz=124,SNR=106
H07S1 FLORES T-PHASE 33.38 44 *e*LR LR 11 41 35.2
GLMI Grayling 33.41 329 P **P** **11 33 09.8 +2.0**
GLMI IAMs_20 IAMs_20 11 44 58.6
comp=Z,18µm,21.0s
GLMI Grayling 33.41 329 P **P** **11 33 09.5 +1.6**
baz=136,SNR=46
L44A Lake County Fo 33.43 322 P **P** **11 33 09.7 +1.7**
L44A IAMs_20 IAMs_20 11 45 14.5
comp=Z,15µm,21.0s
L44A Lake County Fo 33.43 322 P **P** **11 33 09.5 +1.4**
baz=128,SNR=25
L44A S **S** **11 38 30.2 +1.1**
baz=128
NATX Nacogdoches 33.53 301 P **P** **11 33 11.6 +2.5**
NATX Nacogdoches 33.53 301 P **P** **11 33 11.8 +2.8**
baz=106,SNR=30
NATX S **S** **11 38 32.5 +1.6**
baz=106
NNA Nana 33.69 209 LR LR 11 48 23.5
comp=Z,9µm,21.8s,baz=6.0,slow=39
NNA Nana 33.69 209 *c*e P **P** **11 33 10.5 -0.1**
NNA pmax pmax
comp=Z,2µm,1.5s
NNA Nana 33.69 209 P **P** **11 33 11.0 +0.4**
NNA Nana 33.69 209 ⇑P **P** **11 33 10.5 -0.1**
U40A Yellville 33.71 309 IAMs_20 IAMs_20 11 45 37.5
comp=Z,16µm,20.0s
U40A Yellville 33.71 309 P **P** **11 33 11.5 +0.9**
baz=114,SNR=112
U40A S **S** **11 38 32.3 -1.3**
baz=114
SIV San Ignacio 33.71 180 LR LR 11 47 45.9
comp=Z,12µm,22.0s,baz=16,slow=38
W39A Magazine 33.95 307 P **P** **11 33 14.6 +2.0**
W39A IAmb IAmb 11 33 17.1
comp=Z,271nm,0.9s
W39A IAMs_20 IAMs_20 11 45 50.0
comp=Z,15µm,21.0s
W39A Magazine 33.95 307 P **P** **11 33 14.7 +2.1**
baz=112,SNR=138
W39A S **S** **11 38 37.4 0.0**
baz=112
SDBA SAO DESIDERIO 33.98 151 *e*P **P** **11 33 13.3 +0.2**
SALV Santo Antonio 33.99 171 *e*P **P** **11 33 14.3 +1.2**
K43A Burlington 34.00 322 P **P** **11 33 14.9 +1.9**
HKT Hockley 34.06 297 *d i*P **P** **11 33 14.8 +1.2**
HKT pmax pmax
comp=Z,204nm,1.5s
HKT Hockley 34.06 297 P **P** **11 33 16.2 +2.7**
HKT IAmb IAmb 11 33 18.6
comp=Z,255nm,1.5s
HKT Hockley 34.06 297 ⇓P **P** **11 33 16.2 +2.7**
RCBR Riachuelo 34.07 132 LR LR 11 45 53.9
comp=Z,7µm,19.6s,baz=104,slow=34
RCBR Riachuelo 34.07 132 P **P** **11 33 14.7 +0.8**
RCBR pmax pmax
comp=Z,184nm,1.4s
RCBR Riachuelo 34.07 132 P **P** **11 33 14.7 +0.8**
RCBR Riachuelo 34.07 132 ⇓P **P** **11 33 15.1 +1.1**
RCBR Riachuelo 34.07 132 *e*P **P** **11 33 14.9 +0.9**
G45A Suttons Bay 34.09 328 P **P** **11 33 15.7 +2.0**
G45A IAmb IAmb 11 33 17.2
comp=Z,176nm,0.7s
R40A Maddies Statio 34.13 313 P **P** **11 33 14.8 +0.6**
R40A IAmb IAmb 11 33 17.9
comp=Z,608nm,1.7s
Z38A Mt. Pleasant 34.23 303 P **P** **11 33 17.4 +2.3**
L42A Oliver, Polo 34.37 320 P **P** **11 33 17.6 +1.3**
E46A Sault Ste Mari 34.38 331 P **P** **11 33 17.6 +1.3**
E46A IAmb IAmb 11 33 19.9
comp=Z,189nm,0.8s
PAYG Puerto Ayora 34.41 241 P **P** **11 33 19.5 +2.6**
PAYG Puerto Ayora 34.41 241 ⇓P **P** **11 33 18.3 +1.4**
HHAR Hobbs 34.48 309 P **P** **11 33 18.7 +1.5**
237A Washetta, Mont 34.53 301 P **P** **11 33 20.1 +2.3**
P40A Paris 34.57 315 P **P** **11 33 18.9 +0.9**
P40A IAmb IAmb 11 34 30.1
comp=Z,254nm,1.0s
S39A Bolivar 34.61 311 P **P** **11 33 18.8 +0.5**
S39A IAmb IAmb 11 33 22.5
comp=Z,240nm,1.0s
CALA Caldeira 34.69 47 *e*LR LR 11 42 24.3
comp=Z,6µm,20.0s
LPAZ La Paz 34.77 192 P **P** **11 33 20.9 +0.3**
comp=Z,371nm,1.2s,baz=8.3,slow=8.7,SNR=178
LPAZ PcP **PcP** **11 35 54.9 +0.7**
comp=Z,41nm,0.6s,baz=18,slow=2.0,SNR=5.2
LPAZ LR LR 11 48 35.4
comp=Z,12µm,21.8s,baz=2.5,slow=38
LPAZ La Paz 34.77 192 ⇑P **P** **11 33 20.8 +0.3**
LPAZ La Paz 34.77 192 *e*P **P** **11 33 21.0 +0.5**
PCAN Candelaria 34.78 47 *e*P **P** **11 33 21.2 +1.3**
PICO Pico 34.84 47 *e*P **P** **11 33 21.4 +1.0**
comp=Z,309nm,1.2s
PICO *e*LR LR 11 42 40.6
comp=Z,11µm,22.0s
NBPV Pedro Velho 34.91 132 *e*P **P** **11 33 21.0 -0.2**
X37A Clayton 34.96 305 P **P** **11 33 23.4 +2.0**
X37A IAmb IAmb 11 34 36.3
comp=Z,310nm,1.4s
PID Ribeirinha 35.03 48 *e*P **P** **11 33 24.8 +2.8**
comp=Z,321nm,1.6s
ROSA Rosais 35.07 47 *e*P **P** **11 33 24.3 +2.0**
comp=Z,281nm,1.5s
ROSA *e*S **S** **11 38 58.0 +3.4**
ROSA *e*LR LR 11 42 36.5
comp=Z,8µm,22.0s
ROSA Rosais 35.07 47 P **P** **11 33 23.3 +1.0**
ROSA Rosais 35.07 47 ⇓P **P** **11 33 25.1 +2.7**
NBPN Ponto Novo - B 35.09 143 *e*P **P** **11 33 22.8 +0.1**
PMAN Manadas 35.14 47 *e*P **P** **11 33 25.4 +2.5**
comp=Z,186nm,1.3s
JFWS Jewell Farm 35.25 321 P **P** **11 33 25.0 +1.1**
JFWS pmax pmax
comp=Z,213nm,1.2s
JFWS MLR MLR
comp=Z,14µm,20.0s
JFWS Jewell Farm 35.25 321 P **P** **11 33 25.0 +1.1**
JFWS IAmb IAmb 11 33 28.5
comp=Z,213nm,1.1s
JFWS Jewell Farm 35.25 321 IAMs_20 IAMs_20 11 46 41.8
comp=Z,14µm,20.0s
JFWS Jewell Farm 35.25 321 P **P** **11 33 24.8 +0.9**
baz=126,SNR=37
JFWS S **S** **11 38 56.2 -1.2**
baz=126
L40A Anamosa 35.36 319 P **P** **11 33 25.2 +0.4**
L40A IAmb IAmb 11 33 27.6
comp=Z,208nm,0.8s
PGRA Graciosa 35.39 47 *e*S S 11 39 14.0 +14
PGRA *e*LR LR 11 42 54.9
comp=Z,4µm,22.0s
KVTX Kingsville 35.42 292 P **P** **11 33 29.0 +3.6**
KVTX Kingsville 35.42 292 ⇓P **P** **11 33 29.6 +4.1**
BDFB Brasilia 35.66 159 P **P** **11 33 27.1 -0.5**
comp=Z,37nm,0.9s,baz=0.4,slow=11,SNR=26
BDFB PcP **PcP** **11 35 57.0 +0.8**
comp=Z,58nm,1.0s,baz=242,slow=1.2,SNR=6.0
BDFB LR LR 11 48 22.0
comp=Z,10µm,21.8s,baz=332,slow=37
BDFB Brasilia 35.66 159 P **P** **11 33 28.7 +1.0**
BDFB pmax pmax
comp=Z,88nm,1.1s
BDFB Brasilia 35.66 159 P **P** **11 33 28.6 +1.0**
435B Jarrell 35.72 298 S **S** **11 39 05.2 +0.5**
baz=102
TUL1 Leonard 35.73 307 IAMs_20 IAMs_20 11 46 54.2
comp=Z,14µm,21.0s
TUL1 Leonard 35.73 307 P **P** **11 33 29.0 +1.0**
baz=111,SNR=148
TUL1 S **S** **11 39 03.8 -1.0**
baz=111
PP1B Ponte de Pedra 35.79 170 *e*P **P** **11 33 30.3 +1.7**
PAGU Agualva, Azore 35.83 48 *e*S S 11 39 22.3 +16
PAGU *e*LR LR 11 43 01.1
comp=Z,13µm,22.0s
WHTX Lake Whitney, 35.88 300 P **P** **11 33 32.0 +2.6**
baz=104,SNR=10
WHTX S **S** **11 39 06.6 -0.6**
baz=104
KAPO Kapuskasing 35.99 336 ⇑P **P** **11 33 30.6 +0.6**
W35A Tecumseh 36.31 305 P **P** **11 33 34.0 +1.0**
W35A IAmb IAmb 11 33 36.1
comp=Z,299nm,0.9s
PSET Sete Cidades 36.49 50 *e*LR LR 11 43 13.3
comp=Z,10µm,20.0s
SCIA State Center 36.54 318 IAMs_20 IAMs_20 11 46 40.9
comp=Z,22µm,22.0s
SCIA State Center 36.54 318 P **P** **11 33 35.8 +0.9**
baz=121,SNR=68
SCIA S **S** **11 39 16.1 -0.9**
baz=121
NBAN Anadia - AL 36.58 137 *e*P **P** **11 33 35.8 +0.3**
JANB Januaria 36.59 153 *e*P **P** **11 33 35.8 +0.3**
COWI Conover 36.60 326 IAMs_20 IAMs_20 11 46 46.1
comp=Z,21µm,21.0s
CMLA Cha da Macela 36.61 50 *e*LR LR 11 43 13.3
comp=Z,10µm,22.0s
G40A Rib Lake 36.65 324 P **P** **11 33 37.1 +1.4**
PSMN Pico do Norte, 36.66 52 *e*S **S** **11 39 18.3 -0.8**
PSMN *e*LR LR 11 43 19.5
comp=Z,7µm,20.0s
833A Chaparral WMA, 36.84 293 P **P** **11 33 39.6 +2.0**
baz=98,SNR=80
833A S **S** **11 39 21.4 -0.6**
baz=98
BART Pico Bartolome 36.88 50 *e*S S 11 39 38.7 +16
BART *e*LR LR 11 43 25.6
comp=Z,9µm,22.0s
PB16 IPOC Station P 37.05 194 P **P** **11 33 38.5 -1.5**
PB16 IAmb IAmb 11 33 42.4
comp=Z,460nm,1.1s
SCHQ Schefferville 37.12 354 P **P** **11 33 40.7 +1.0**
comp=Z,76nm,0.5s,baz=167,slow=6.8,SNR=261
SCHQ S **S** **11 39 24.5 -1.1**
comp=Z,9.4nm,1.2s,baz=288,slow=15,SNR=1.5
SCHQ LR LR 11 47 09.1
comp=Z,10µm,20.5s,baz=176,slow=34
SCHQ Schefferville 37.12 354 P **P** **11 33 40.7 +1.0**
SCHQ Schefferville 37.12 354 ⇑P **P** **11 33 40.6 +1.0**
JCT Junction City 37.53 297 ⇓P **P** **11 33 44.0 +0.5**
JCT Junction City 37.53 297 P **P** **11 33 44.4 +0.9**
baz=100,SNR=105
JCT S **S** **11 39 30.0 -2.5**
baz=100
KSU1 Kansas State U 37.54 312 IAMs_20 IAMs_20 11 48 37.0
comp=Z,12µm,20.0s
KSU1 Kansas State U 37.54 312 ⇓P **P** **11 33 43.5 0.0**
KSU1 Kansas State U 37.54 312 P **P** **11 33 43.5 0.0**
baz=114,SNR=76
WMOK Wichita Mounta 37.67 304 IAMs_20 IAMs_20 11 50 23.9
comp=Z,13µm,21.0s
WMOK Wichita Mounta 37.67 304 ⇑P **P** **11 33 45.5 +0.8**
WMOK Wichita Mounta 37.67 304 P **P** **11 33 45.1 +0.4**
baz=106,SNR=120
WMOK S **S** **11 39 31.7 -2.9**
baz=106
IPMB Ipameri, GO 37.77 160 *e*P **P** **11 33 46.4 +0.8**
GDU01 Guandu, BA 37.78 145 *e*P **P** **11 33 45.7 0.0**
ABTX Abilene, Hawle 37.83 300 P **P** **11 33 47.0 +1.0**
baz=103,SNR=81
ABTX S **S** **11 39 35.1 -1.9**
baz=103
SPMN Marine on St. 38.09 323 P **P** **11 33 48.8 +0.7**
SPMN IAmb IAmb 11 33 51.0
comp=Z,196nm,0.8s
SPMN Marine on St. 38.09 323 P **P** **11 33 48.6 +0.6**
baz=125,SNR=90
SPMN S **S** **11 39 39.1 -1.5**
baz=125
AQDB Aquidauana 38.50 172 *e*P **P** **11 33 53.1 +1.5**
ITRB Iturama 38.78 164 *e*P **P** **11 33 55.4 +1.4**
NBIT Itapeh - BA 38.85 146 *e*P **P** **11 33 55.1 +0.5**
EYMN Ely 39.02 327 IAMs_20 IAMs_20 11 48 11.2
comp=Z,19µm,22.0s
EYMN Ely 39.02 327 P **P** **11 33 56.4 +0.6**
baz=129,SNR=18
EYMN S **S** **11 39 52.9 -1.7**
baz=129
CMC01 Camacan, BA 39.17 146 *e*P **P** **11 33 58.0 +0.7**
ZAIG Zacatecas 39.37 284 P **P** **11 34 02.5 +3.1**

BGNE Belgrade 39.57 314 P **P** **11 34 01.2 +0.7**
baz=115,SNR=56
BGNE S **S** **11 40 00.9 -2.2**
baz=115
ECSD EROS Data Cent 39.61 318 IAMs_20 IAMs_20 11 48 37.3
comp=Z,16µm,22.0s
ECSD EROS Data Cent 39.61 318 P **P** **11 34 01.2 +0.4**
baz=119,SNR=193
ECSD S **S** **11 40 00.8 -2.8**
baz=119
CBKS Cedar Bluff 39.70 310 IAMs_20 IAMs_20 11 49 34.0
comp=Z,13µm,21.0s
CBKS Cedar Bluff 39.70 310 ⇓P **P** **11 34 02.2 +0.7**
CBKS Cedar Bluff 39.70 310 P **P** **11 34 02.3 +0.7**
baz=110,SNR=60
CBKS S **S** **11 40 03.2 -1.8**
baz=110
DIAM Diamantina, MG 39.74 154 *e*P **P** **11 34 02.2 0.0**
AMTX Amarillo 40.02 303 IAMs_20 IAMs_20 11 51 58.9
comp=Z,12µm,21.0s
AMTX Amarillo 40.02 303 S **S** **11 40 04.6 -5.4**
baz=104
GUA01 Guaratinga, BA 40.04 148 *e*P **P** **11 34 05.0 +0.4**
PCMB Pacaembu 40.39 166 *e*P **P** **11 34 08.4 +1.0**
BB19B Bebedouro 40.58 162 *e*P **P** **11 34 10.1 +1.0**
MSTX Muleshoe 40.68 301 P **P** **11 34 10.6 +0.7**
baz=102,SNR=116
MSTX S **S** **11 40 19.2 -0.9**
baz=102
TXAR Lajitas Array 40.68 294 P **P** **11 34 11.7 +1.7**
comp=Z,56nm,0.7s,baz=113,slow=8.2,SNR=131
TXAR PcP **PcP** **11 36 12.1 +0.4**
comp=Z,9.6nm,0.7s,baz=147,slow=5.2,SNR=2.2
TXAR LR LR 11 54 43.8
comp=Z,3µm,20.7s,baz=83,slow=42
TXAR Lajitas Array 40.68 294 P **P** **11 34 11.1 +1.1**
TX31 Lajitas Ar. Si 40.69 294 P **P** **11 34 11.6 +1.5**
TX31 IAmb IAmb 11 34 15.7
comp=Z,234nm,0.8s
TX31 Lajitas Ar. Si 40.69 294 ⇑P **P** **11 34 11.4 +1.4**
NAN01 Guarapari, ES 40.95 149 *e*P **P** **11 34 12.1 0.0**
LVC Limon Verde 41.07 191 LR LR 11 55 21.7
comp=Z,6µm,18.8s,baz=350,slow=42
LVC Limon Verde 41.07 191 P **P** **11 34 13.0 -0.5**
LVC pmax pmax
comp=Z,559nm,0.9s
LVC MLR MLR
comp=Z,12µm,22.0s
LVC Limon Verde 41.07 191 P **P** **11 34 13.0 -0.5**
LVC IAmb IAmb 11 34 16.5
comp=Z,559nm,0.9s
LVC Limon Verde 41.07 191 IAMs_20 IAMs_20 11 52 38.5
comp=Z,12µm,22.0s
LVC Limon Verde 41.07 191 ⇑P **P** **11 34 12.9 -0.5**
LVC Limon Verde 41.07 191 *e*P **P** **11 34 13.2 -0.2**
SJMB Sao Joao De Ma 41.19 151 *e*P **P** **11 34 14.6 +0.5**
TRCB Terra Rica 41.26 169 P **P** **11 34 15.5 +0.9**
TRCB IAmb IAmb 11 34 17.9
comp=Z,273nm,0.8s
TRCB Terra Rica 41.26 169 *e*P **P** **11 34 15.8 +1.2**
PB06 IPOC Station P 41.30 192 P **P** **11 34 14.3 -0.8**
SUSD Miller 41.44 318 P **P** **11 34 15.9 +0.1**
SUSD IAmb IAmb 11 34 18.8
comp=Z,587nm,1.2s
SUSD Miller 41.44 318 P **P** **11 34 16.0 +0.1**
baz=117,SNR=73
AGMN Agassiz Nation 41.58 325 P **P** **11 34 17.2 +0.3**
AGMN IAMs_20 IAMs_20 11 49 40.8
comp=Z,14µm,22.0s
AGMN Agassiz Nation 41.58 325 P **P** **11 34 17.2 +0.3**
baz=124,SNR=130
AGMN S **S** **11 40 29.1 -3.7**
baz=124
D32A Dogwood Acres, 41.59 323 P **P** **11 34 17.3 +0.2**
PMOZ Porto Moniz, M 41.78 61 *e*P **P** **11 34 20.0 +1.0**
comp=Z,470nm,1.1s
PMOZ *e*S **S** **11 40 43.5 +7.1**
PMOZ *e*LQ LQ 11 44 05.3
PMOZ *e*LR LR 11 45 19.8
comp=Z,4µm,20.0s
PMOZ Porto Moniz, M 41.78 61 P **P** **11 34 19.5 +0.5**
PMOZ Porto Moniz, M 41.78 61 P **P** **11 34 21.2 +2.2**
MACI Morro de la Ar 41.80 68 P **P** **11 34 20.7 +1.4**
KSCO Kaye Shedlock' 41.89 309 P **P** **11 34 20.9 +1.1**
KSCO IAmb IAmb 11 34 23.0
comp=Z,259nm,0.8s
KSCO Kaye Shedlock' 41.89 309 P **P** **11 34 20.8 +0.9**
baz=108,SNR=67
KSCO S **S** **11 40 37.2 -0.7**
baz=108
PMAR Madeira 42.00 61 *e*P P 11 34 27.0 +6.1
comp=Z,292nm,1.4s
RIB01 Linhares ES 42.09 151 *e*P **P** **11 34 22.9 +1.5**
OGNE Ogallala 42.09 312 P **P** **11 34 22.8 +1.4**
OGNE IAmb IAmb 11 34 24.3
comp=Z,697nm,1.4s
OGNE IAMs_20 IAMs_20 11 50 17.4
comp=Z,13µm,22.0s
OGNE Ogallala 42.09 312 P **P** **11 34 22.0 +0.6**
baz=110,SNR=32
HPIG 42.26 290 P **P** **11 34 25.0 +2.0**
HPIG IAmb IAmb 11 34 27.6
comp=Z,275nm,1.1s
PB10 IPOC Station P 42.28 193 P **P** **11 34 22.3 -0.7**
PB10 IAmb IAmb 11 34 24.3
comp=Z,242nm,1.0s
MNTX Cornudas Mount 42.45 298 P **P** **11 34 25.5 +1.2**
baz=98,SNR=178
MNTX S **S** **11 40 45.7 -0.5**
baz=98
FRTB Fartura 42.47 165 *e*P **P** **11 34 25.9 +1.5**
ULM Lac du Bonnet 42.71 327 P **P** **11 34 26.1 -0.1**
comp=Z,51nm,0.5s,baz=129,slow=7.9,SNR=40
ULM PP **PP** **11 36 09.1 +3.9**
comp=Z,21nm,1.0s,baz=85,slow=15,SNR=1.4
ULM LR LR 11 50 46.5
comp=Z,9µm,21.7s,baz=126,slow=34
ULM Lac du Bonnet 42.71 327 ⇓P **P** **11 34 25.9 -0.2**
T25A Trinidad 42.72 306 P **P** **11 34 27.8 +1.1**
baz=104,SNR=149
T25A S **S** **11 40 50.4 +0.1**
baz=104
VAO Valinhos 42.87 161 *e*P **P** **11 34 29.2 +1.4**
ALF01 Guarapari-ES 43.07 152 *e*P **P** **11 34 30.3 +1.0**
PTGB Pitanga 43.24 168 *e*P **P** **11 34 31.8 +1.1**
VAS01 Vassouras-RJ 43.42 156 *e*P **P** **11 34 33.1 +0.9**
MDND Maddock 43.46 322 P **P** **11 34 32.7 +0.4**
baz=120,SNR=55
PARB Paraibuna 43.61 160 *e*P **P** **11 34 35.4 +1.6**
DUB01 Friburgo-RJ 43.66 155 *e*P **P** **11 34 35.0 +0.8**
SDCO Great Sand Dun 43.71 306 P **P** **11 34 36.1 +1.3**
SDCO IAMs_20 IAMs_20 11 55 30.7
comp=Z,9µm,20.0s
SDCO Great Sand Dun 43.71 306 P **P** **11 34 35.9 +1.0**
baz=104,SNR=194
SDCO S **S** **11 41 03.1 -1.9**
baz=104
CAM01 Campos-RJ 43.73 154 *e*P **P** **11 34 36.0 +1.3**
Q24A Divide 43.76 308 P **P** **11 34 37.0 +1.8**
baz=106,SNR=19
MAN01 Angra dos Reis 43.76 157 *e*P **P** **11 34 35.7 +0.7**
ANMO Albuquerque 43.86 302 LR LR 11 54 55.4
comp=Z,10µm,20.2s,baz=106,slow=39
ANMO Albuquerque 43.86 302 *de*P **P** **11 34 37.1 +1.1**
ANMO pmax pmax
comp=Z,67nm,1.1s
ANMO Albuquerque 43.86 302 P **P** **11 34 37.2 +1.3**
ANMO Albuquerque 43.86 302 IAMs_20 IAMs_20 11 54 32.8
comp=Z,12µm,21.0s
ANMO Albuquerque 43.86 302 ⇓P **P** **11 34 37.2 +1.3**
ANMO Albuquerque 43.86 302 S **S** **11 41 04.4 -2.8**
baz=100
PET01 Itanhaem-SP 43.99 162 *e*P **P** **11 34 38.4 +1.7**
Y22D IRIS PASSCAL I 44.09 301 IAMs_20 IAMs_20 11 55 11.8
comp=Z,11µm,21.0s
Y22D IRIS PASSCAL I 44.09 301 P **P** **11 34 40.7 +2.9**
baz=99,SNR=7.8
CPUP Villa Florida 44.13 176 P **P** **11 34 37.0 -0.8**
comp=Z,32nm,0.7s,baz=1.2,slow=8.6,SNR=29
CPUP PcP **PP** **11 36 21.6 +0.8**
comp=Z,52nm,0.9s,baz=23,slow=5.2,SNR=5.0
CPUP LR LR 11 54 42.5
comp=Z,6µm,21.5s,baz=4.0,slow=38
CPUP Villa Florida 44.13 176 P **P** **11 34 37.3 -0.5**
CPUP pmax pmax
comp=Z,118nm,1.2s

CPUP Villa Florida 44.13 176 P **P** **11 34 37.3 -0.5**
CPUP Villa Florida 44.13 176 ⇑P **P** **11 34 37.0 -0.8**
CPUP Villa Florida 44.13 176 *e*P **P** **11 34 37.2 -0.6**
LENM Lemitar 44.15 301 P **P** **11 34 41.3 +3.1**
ISCO Idaho Springs 44.33 309 P **P** **11 34 40.7 +0.9**
ISCO pmax pmax
comp=Z,109nm,1.1s
ISCO Idaho Springs 44.33 309 P **P** **11 34 40.7 +0.9**
ISCO Idaho Springs 44.33 309 P **P** **11 34 41.1 +1.3**
baz=106,SNR=142
ISCO S **S** **11 41 15.0 +0.9**
baz=106
TIJ01 Guaruva-PR 44.50 165 *e*P **P** **11 34 42.5 +1.6**
NRS Narsarsuaq 44.54 11 P **P** **11 34 42.2 +1.5**
NRS pmax pmax
comp=Z,334nm,1.1s
NRS Narsarsuaq 44.54 11 *i* P **P** **11 34 42.0 +1.3**
NRS IAmb IAmb 11 35 03.3
comp=Z,337nm,1.1s
NRS Narsarsuaq 44.54 11 P **P** **11 34 42.2 +1.5**
NRS IAmb IAmb 11 35 03.6
comp=Z,334nm,1.1s
NRS IAMs_20 IAMs_20 11 50 18.9
comp=Z,11µm,21.0s
NRS Narsarsuaq 44.54 11 ⇑P **P** **11 34 42.2 +1.5**
121A Cookes Peak, D 44.58 298 P **P** **11 34 43.9 +2.2**
baz=97,SNR=104
121A S **S** **11 41 19.6 +2.0**
baz=97
RSSD Black Hills 44.62 315 P **P** **11 34 42.8 +0.8**
RSSD pmax pmax
comp=Z,80nm,0.7s
RSSD Black Hills 44.62 315 P **P** **11 34 42.8 +0.8**
RSSD Black Hills 44.62 315 ⇓P **P** **11 34 42.7 +0.7**
RSSD Black Hills 44.62 315 S **S** **11 41 16.9 -1.1**
baz=112
PHWY Pilot Hill 44.66 311 P **P** **11 34 43.4 +1.0**
PHWY IAmb IAmb 11 34 46.6
comp=Z,560nm,1.6s
PHWY IAMs_20 IAMs_20 11 53 12.2
comp=Z,11µm,20.0s
S22A 4UR Ranch, Cre 44.73 306 P **P** **11 34 44.2 +1.2**
baz=103,SNR=140
AC01 Pan de Azucar 44.84 193 P **P** **11 34 43.4 -0.2**
N23A Red Feather La 44.88 310 P **P** **11 34 46.0 +1.8**
baz=107,SNR=60
N23A S **S** **11 41 22.4 +0.4**
baz=107
SMCO Snowmass 45.18 308 P **P** **11 34 47.9 +1.1**
SMCO IAMs_20 IAMs_20 11 52 34.4
comp=Z,12µm,22.0s
SMCO Snowmass 45.18 308 ⇓P **P** **11 34 47.8 +1.1**
AC02 Maricunga 45.23 191 P **P** **11 34 47.8 +0.5**
ITAB Concordia 45.68 169 *e*P **P** **11 34 51.6 +1.4**
319A Douglas 45.72 297 P **P** **11 34 53.4 +2.6**
319A IAmb IAmb 11 35 17.1
comp=Z,392nm,1.1s
K22A Casper 45.83 313 P **P** **11 34 52.5 +1.0**
baz=108,SNR=148
K22A S **S** **11 41 33.8 -1.6**
baz=108
MVCO Mesa Verde 45.92 305 IAMs_20 IAMs_20 11 53 49.0
comp=Z,12µm,22.0s
MVCO Mesa Verde 45.92 305 P **P** **11 34 53.4 +1.0**
baz=101,SNR=22
RWWY Rawlins 46.03 311 P **P** **11 34 53.6 +0.4**
RWWY IAmb IAmb 11 34 57.4
comp=Z,474nm,1.5s
RWWY IAMs_20 IAMs_20 11 52 43.5
comp=Z,11µm,22.0s
FRB Frobisher Bay 46.08 355 LR LR 11 52 24.7
comp=Z,6µm,20.6s,baz=163,slow=34
FRB Frobisher Bay 46.08 355 ⇓P **P** **11 34 53.3 +0.4**
SLBS Sierra La Lagu 46.13 286 P **P** **11 34 57.3 +3.2**
SLBS Sierra La Lagu 46.13 286 ⇑P **P** **11 34 57.0 +3.0**
PV15 Paradox Valley 46.13 306 P **P** **11 34 55.4 +1.3**
PV15 IAmb IAmb 11 34 57.9
comp=Z,134nm,0.9s
GO03 Copiap 46.18 192 P **P** **11 34 54.6 +0.4**
GO03 Copiap 46.18 192 ⇑P **P** **11 34 53.8 -0.3**
PV07 Paradox Valley 46.28 306 P **P** **11 34 57.1 +1.9**
O20A White River Ci 46.37 309 P **P** **11 34 57.9 +2.1**
baz=104,SNR=34
O20A S **S** **11 41 43.6 +0.3**
baz=104
LPIG La Paz 46.45 286 LR LR 11 59 22.8
comp=Z,2µm,19.9s,baz=82,slow=42
DGMT Dagmar 46.47 321 IAMs_20 IAMs_20 11 52 24.6
comp=Z,15µm,22.0s
DGMT Dagmar 46.47 321 P **P** **11 34 57.2 +0.9**
baz=116,SNR=99
W18A Petrified Fore 46.54 302 P **P** **11 34 58.8 +1.5**
baz=98,SNR=30
W18A S **S** **11 41 44.1 -1.8**
baz=98
PV10 Paradox Valley 46.57 306 P **P** **11 34 58.5 +1.0**
PV10 IAmb IAmb 11 35 01.7
comp=Z,199nm,1.4s
LAO LASA Array 47.01 318 IAMs_20 IAMs_20 11 52 58.0
comp=Z,14µm,22.0s
LAO LASA Array 47.01 318 P **P** **11 35 01.8 +1.2**
baz=112,SNR=124
LAO S **S** **11 41 51.2 -0.8**
baz=112
TUC Tucson 47.08 298 P **P** **11 35 03.4 +2.0**
TUC pmax pmax
comp=Z,259nm,1.4s
TUC Tucson 47.08 298 P **P** **11 35 03.4 +2.0**
TUC IAmb IAmb 11 35 07.2
comp=Z,259nm,1.4s
TUC Tucson 47.08 298 ⇑P **P** **11 35 03.4 +2.0**
TUC Tucson 47.08 298 P **P** **11 35 03.3 +1.9**
baz=95
TUC S **S** **11 41 53.1 -0.3**
baz=95
RDMU Red Mountain 47.46 309 P **P** **11 35 05.5 +1.1**
RDMU IAmb IAmb 11 35 08.5
comp=Z,474nm,1.5s
FCC Fort Churchill 47.48 337 P **P** **11 35 03.6 -0.3**
FCC pmax pmax
comp=Z,261nm,1.5s
FCC Fort Churchill 47.48 337 P **P** **11 35 03.6 -0.3**
FCC IAmb IAmb 11 35 26.4
comp=Z,261nm,1.5s
ITQB Itaqui 47.50 175 P **P** **11 35 04.6 +0.2**
ITQB IAmb IAmb 11 35 06.8
comp=Z,307nm,1.3s
ITQB Itaqui 47.50 175 *e*P **P** **11 35 04.3 -0.1**
TER01 Tubaro-SC 47.55 166 *e*P **P** **11 35 06.1 +1.3**
LCO Las Campanas 47.64 192 IAMs_20 IAMs_20 11 56 18.5
comp=Z,12µm,22.0s
LCO Las Campanas 47.64 192 ⇑P **P** **11 35 05.7 -0.1**
X16A Lo Mia Camp, P 47.84 300 P **P** **11 35 09.5 +2.1**
WUAZ Wupatki 47.92 302 ⇓P **P** **11 35 09.8 +1.8**
WUAZ Wupatki 47.92 302 P **P** **11 35 09.8 +1.8**
baz=98,SNR=68
CNLB Canela 47.94 168 *e*P **P** **11 35 08.7 +0.8**
PD31 Pinedale Array 48.00 312 P **P** **11 35 09.3 +0.7**
PD31 IAmb IAmb 11 35 12.5
comp=Z,402nm,1.5s
PD31 Pinedale Array 48.00 312 ⇓P **P** **11 35 09.3 +0.7**
PDAR Pinedale Array 48.00 312 P **P** **11 35 09.8 +1.2**
comp=Z,44nm,0.5s,baz=113,slow=9.2,SNR=363
PDAR PcP **PcP** **11 36 37.2 +0.6**
comp=Z,19nm,0.8s,baz=98,slow=6.7,SNR=1.4
PDAR LR LR 11 54 42.2
comp=Z,9µm,21.5s,baz=124,slow=35
PDAR Pinedale Array 48.00 312 P **P** **11 35 09.1 +0.5**
BW06 Boulder Array 48.00 312 P **P** **11 35 09.2 +0.7**
BW06 IAmb IAmb 11 35 12.6
comp=Z,373nm,1.4s
BW06 IAMs_20 IAMs_20 11 54 41.7
comp=Z,11µm,21.0s
BW06 Boulder Array 48.00 312 P **P** **11 35 09.5 +0.9**
baz=106,SNR=254
BW06 S **S** **11 42 04.1 -2.5**
baz=106
FFC Flin Flon 48.33 329 P **P** **11 35 10.8 +0.2**
FFC pmax pmax
comp=Z,182nm,1.4s
FFC Flin Flon 48.33 329 P **P** **11 35 10.8 +0.2**
FFC IAmb IAmb 11 35 33.1
comp=Z,182nm,1.4s
FFC Flin Flon 48.33 329 ⇓P **P** **11 35 10.3 -0.3**
RLMT Red Lodge 48.48 315 P **P** **11 35 13.0 +0.9**

RLMT IAmb IAmb 11 35 17.2
comp=Z,321nm,1.2s
RLMT Red Lodge 48.48 315 P **P** **11 35 13.3 +1.2**
baz=108
RLMT S **S** **11 42 13.3 +0.1**
baz=108
CO05 La Serena 48.63 192 P **P** **11 35 13.9 +0.8**
214A Organ Pipe Nat 48.76 297 P **P** **11 35 16.6 +2.2**
baz=94,SNR=62
214A S **S** **11 42 17.8 +0.5**
baz=94
TTIG Tnine Tigouga, 48.97 65 P **P** **11 35 18.0 +1.9**
AHID Auburn Hatcher 49.10 311 P **P** **11 35 17.9 +1.0**
AHID IAMs_20 IAMs_20 11 54 55.7
comp=Z,11µm,21.0s
MOOW Moose Ponds 49.10 313 IAMs_20 IAMs_20 11 55 58.6
comp=Z,8µm,20.0s
FLWY Flagg Ranch 49.16 313 IAMs_20 IAMs_20 11 54 38.1
comp=Z,12µm,21.0s
H17A Grant Village 49.16 314 P **P** **11 35 19.4 +1.9**
baz=106,SNR=32
H17A S **S** **11 42 22.8 -0.1**
baz=106
LIS Lisbon 49.24 54 *e*P **P** **11 35 18.6 +0.7**
LIS IAmb IAmb 11 35 19.7
comp=Z,150nm,1.2s
LIS *e*S **S** **11 42 22.6 -1.1**
LIS Lisbon 49.24 54 *e*P **P** **11 35 18.5 +0.7**
LIS *e*S **S** **11 42 22.5 -1.1**
PFVI Vila Bisbo 49.25 56 *e*P **P** **11 35 19.0 +1.1**
comp=Z,139nm,1.8s
PTEO Sao Teotonio 49.39 56 *e*P **P** **11 35 20.1 +1.1**
comp=Z,154nm,1.7s
MORF Marmelete 49.41 56 *e*P **P** **11 35 19.9 +0.6**
MORF IAmb IAmb 11 35 21.6
comp=Z,137nm,1.1s
MORF *e*S **S** **11 42 25.1 -1.1**
MORF Marmelete 49.41 56 *e*P **P** **11 35 20.0 +0.7**
comp=Z,216nm,1.5s
MORF Marmelete 49.41 56 *e*PcP **PcP** **11 36 42.2 +0.6**
MORF Marmelete 49.41 56 *e*P **P** **11 35 19.8 +0.6**
MORF *e*S **S** **11 42 25.1 -1.1**
MORF Marmelete 49.41 56 ⇑P **P** **11 35 20.0 +0.7**
CO06 Fray Jorge 49.44 192 P **P** **11 35 20.3 +0.9**
SFJD Kangerlussuaq 49.48 5 LR LR 11 53 38.8
comp=Z,7µm,21.5s,baz=190,slow=33
SFJD Kangerlussuaq 49.48 5 P **P** **11 35 20.2 +1.0**
SFJD pmax pmax
comp=Z,592nm,1.3s
SFJD Kangerlussuaq 49.48 5 *i* P **P** **11 35 21.3 +2.1**
SFJD IAmb IAmb 11 35 40.8
comp=Z,377nm,1.3s
SFJD Kangerlussuaq 49.48 5 P **P** **11 35 20.2 +1.0**
SFJD Kangerlussuaq 49.48 5 IAMs_20 IAMs_20 11 53 15.6
comp=Z,8µm,21.0s
SFJD Kangerlussuaq 49.48 5 ⇑P **P** **11 35 20.1 +1.0**
OUK Oukaimeden 49.49 64 P **P** **11 35 23.0 +2.7**
PACT Alcochete 49.49 54 *e*P **P** **11 35 21.9 +2.1**
comp=Z,334nm,1.7s
SRHM Skhour des Reh 49.53 62 P **P** **11 35 22.0 +1.7**
PNCL Nicolau / Gran 49.62 55 *e*P **P** **11 35 21.2 +0.4**
comp=Z,151nm,1.5s
PNCL Nicolau / Gran 49.62 55 *e*PcP **PcP** **11 36 39.5 -2.7**
PSBE So Bento 49.65 53 *e*P **P** **11 35 21.3 +0.3**
comp=Z,143nm,1.8s
EGMT Eagleton 49.73 318 IAMs_20 IAMs_20 11 55 16.9
comp=Z,11µm,21.0s
EGMT Eagleton 49.73 318 P **P** **11 35 22.6 +1.1**
baz=110,SNR=116
ISOG Isortoq, Green 49.74 12 *i* P **P** **11 35 22.7 +1.5**
ISOG IAmb IAmb 11 35 42.6
comp=Z,490nm,1.3s
ISOG Isortoq, Green 49.74 12 ⇓P **P** **11 35 22.6 +1.3**
DUG Dugway, Tooele 49.80 308 P **P** **11 35 23.9 +1.6**
baz=101,SNR=223
DUG S **S** **11 42 32.5 +0.7**
baz=101
PLTB Pedras Altas 49.89 172 *e*P **P** **11 35 22.5 -0.3**
W13A Hualapai Mount 49.92 301 P **P** **11 35 26.1 +2.8**
PCVE Castro Verde 49.94 56 *e*P **P** **11 35 23.4 +0.2**
comp=Z,63nm,1.2s
PBDV Barranco-do-Ve 49.97 56 *e*P **P** **11 35 24.3 +0.8**
comp=Z,201nm,1.5s
PCAS Casmilo, Conde 49.97 52 *e*P **P** **11 35 23.9 +0.5**
comp=Z,251nm,1.2s
AVE Averroes 49.99 61 P **P** **11 35 27.1 +3.4**
AVE S **S** **11 42 32.1 -2.3**
PMTG Montargil 50.01 54 *e*P **P** **11 35 23.7 0.0**
comp=Z,145nm,1.6s
PDMCI Parker Dam,Lak 50.05 300 P **P** **11 35 26.2 +2.0**
baz=95,SNR=14
COI Coimbra 50.06 52 *e*P **P** **11 35 24.8 +0.7**
comp=Z,320nm,1.6s
COI Coimbra 50.06 52 IAMs_20 IAMs_20 11 50 46.0
comp=Z,7µm,22.0s
ANGG Ammassalik, Gr 50.07 12 *i* P **P** **11 35 24.4 +0.7**
ANGG IAmb IAmb 11 35 45.7
comp=Z,790nm,1.5s
ANGG Ammassalik, Gr 50.07 12 IAMs_20 IAMs_20 11 51 42.1
comp=Z,8µm,22.0s
ANGG Ammassalik, Gr 50.07 12 ⇑P **P** **11 35 24.5 +0.8**
EVO Evora 50.09 55 P **P** **11 35 27.1 +2.7**
EVO Evora 50.09 55 *e*P **P** **11 35 24.4 0.0**
comp=Z,75nm,1.3s
PTO Porto 50.10 51 *e*P **P** **11 35 25.6 +1.2**
comp=Z,127nm,1.6s
PBEJ Beja 50.13 55 *e*P **P** **11 35 25.4 +0.7**
comp=Z,112nm,1.6s
PBEJ Beja 50.13 55 *e*PcP **PcP** **11 36 45.6 +1.5**
PVAQ Vaqueiros 50.16 56 *e*P **P** **11 35 25.6 +0.7**
comp=Z,135nm,1.6s
PVAQ Vaqueiros 50.16 56 *e*PcP **PcP** **11 36 45.7 +1.5**
PVAQ *e*S **S** **11 42 44.5 +7.9**
PVAQ *e*LQ LQ 11 47 28.0
PVAQ *e*LR LR 11 49 27.9
comp=Z,7µm,20.0s
PVAQ Vaqueiros 50.16 56 P **P** **11 35 27.2 +2.3**
BOZ Bozeman (W) 50.21 315 P **P** **11 35 26.4 +1.0**
baz=106,SNR=162
BOZ S **S** **11 42 38.2 +0.8**
baz=106
OUZM OUZ 50.42 64 P **P** **11 35 29.0 +1.8**
PESTR Estremoz 50.47 54 *e*P **P** **11 35 28.4 +1.2**
comp=Z,185nm,1.4s
PESTR Estremoz 50.47 54 ⇑P **P** **11 35 28.6 +1.3**
PESTR Estremoz 50.47 54 P **P** **11 35 28.9 +1.7**
NEE2 Needles Airpor 50.48 301 S **S** **11 42 43.8 +2.5**
baz=95
PGAV Gavieira, Arco 50.51 50 *e*P **P** **11 35 28.2 +0.6**
comp=Z,192nm,1.4s
PGAV *e*S **S** **11 42 46.3 +4.7**
PGAV *e*LR LR 11 49 39.5
comp=Z,8µm,20.0s
GLA Glamis 50.53 298 P **P** **11 35 29.8 +2.0**
baz=93,SNR=24
GLA S **S** **11 42 43.3 +1.3**
baz=93
PVIS Viseu 50.55 52 *e*P **P** **11 35 28.1 +0.3**
comp=Z,113nm,1.8s
PCAB Cabril 50.64 50 *e*P **P** **11 35 28.7 +0.2**
comp=Z,145nm,1.3s
ZHG ZHG 50.64 61 P **P** **11 35 30.1 +1.4**
HRY Holter Researc 50.66 316 P **P** **11 35 29.7 +1.0**
PMRV Marv??o 50.71 53 *e*P **P** **11 35 29.0 0.0**
comp=Z,89nm,1.7s
PMRV *e*S **S** **11 42 49.0 +4.8**
PMRV *e*LR LR 11 49 54.3
comp=Z,5µm,22.0s
PCBR Castelo Branco 50.71 53 *e*P **P** **11 35 29.2 +0.2**
comp=Z,110nm,1.9s
POLO Lamas de Olo 50.74 51 *e*P **P** **11 35 29.7 +0.3**
comp=Z,102nm,1.6s
MTE Manteigas 50.75 52 *e*P **P** **11 35 29.7 +0.3**
comp=Z,139nm,1.8s
MTE *e*S **S** **11 42 45.6 +0.7**
MTE *e*LR LR 11 49 45.6
comp=Z,6µm,20.0s
MTE Manteigas 50.75 52 ⇑P **P** **11 35 29.5 +0.1**
PVRL Vila Real 50.78 51 *e*P **P** **11 35 30.2 +0.6**
comp=Z,196nm,1.6s
PBAR Barrancos 50.80 55 *e*P **P** **11 35 30.1 +0.4**
comp=Z,124nm,1.6s
DLMT Dillon 50.80 314 IAMs_20 IAMs_20 11 55 37.5
comp=Z,13µm,22.0s
IRM Iron Mountain 50.87 300 P **P** **11 35 32.5 +2.1**
baz=94,SNR=97

IRM S **S** **11 42 48.8 +2.2**
baz=94
ARNO Arenosillo 50.90 57 P **P** **11 35 34.5 +4.0**
BC3 Big Chuckawall 51.09 299 P **P** **11 35 33.9 +1.7**
baz=94,SNR=58
BC3 S **S** **11 42 50.5 +0.6**
baz=94
BCYI Bear Canyon 51.10 313 P **P** **11 35 33.7 +1.5**
PRN Pahroc Range 51.10 304 ⇑P **P** **11 35 34.8 +2.6**
SFS San Fernando 51.25 57 P **P** **11 35 39.3 +6.2**
SFS S **S** **11 42 56.9 +5.2**
MVO Moncorvo 51.27 51 *e*P **P** **11 35 33.7 +0.4**
comp=Z,154nm,1.5s
MVO *e*S **S** **11 42 58.4 +6.3**
MVO *e*LQ LQ 11 48 51.8
MVO *e*LR LR 11 49 55.8
comp=Z,4μm,20.0s
GMRC Granite Mounta 51.34 300 P **P** **11 35 35.8 +1.8**
baz=94,SNR=26
GMRC S **S** **11 42 53.2 -0.1**
baz=94
SWSC Sam W. Stewart 51.34 298 P **P** **11 35 36.0 +2.2**
baz=93,SNR=42
SWSC S **S** **11 42 57.6 +4.4**
baz=93
ZGR Zagora 51.39 66 P **P** **11 35 37.0 +2.5**
TZRR Tazzarine 51.45 65 P **P** **11 35 37.0 +2.1**
BELC Belle Mtn. Jos 51.57 299 P **P** **11 35 37.4 +1.7**
baz=93,SNR=43
BELC S **S** **11 43 00.1 +3.6**
baz=93
IKP In-Ko-Pah, Jac 51.59 298 P **P** **11 35 37.8 +2.0**
baz=92,SNR=33
IKP S **S** **11 42 58.1 +1.4**
baz=92
PBRG Braganca 51.60 51 *e*P **P** **11 35 36.2 +0.5**
comp=Z,148nm,1.5s
TUQ Turquoise Moun 51.61 301 P **P** **11 35 38.0 +1.9**
baz=95,SNR=58
TUQ S **S** **11 42 59.5 +2.5**
baz=95
ILULI Ilulissat 51.62 4 *i*P **P** **11 35 36.2 +0.9**
ILULI IAmb IAmb 11 35 56.5
comp=Z,571nm,1.1s
ILULI Ilulissat 51.62 4 IAMs_20 IAMs_20 11 54 22.1
comp=Z,11μm,21.0s
R11A Troy Canyon, C 51.64 305 P **P** **11 35 38.2 +1.9**
baz=97,SNR=78
R11A S **S** **11 42 53.7 -3.8**
baz=97
HLID Hailey 51.64 312 IAMs_20 IAMs_20 11 57 03.0
comp=Z,9μm,21.0s
HLID Hailey 51.64 312 P **P** **11 35 37.7 +1.5**
baz=102,SNR=104
PEL Peldehue 51.66 191 ⇓P **P** **11 35 36.9 +0.7**
ELK Elko 51.72 308 LR LR 11 57 38.5
comp=Z,11μm,21.2s,baz=98,slow=36
ELK Elko 51.72 308 IAMs_20 IAMs_20 11 57 38.3
comp=Z,11μm,21.0s
SICH Sidi Chahed 51.79 60 P **P** **11 35 40.0 +2.8**
CHEFC Chefchaouen 51.84 59 P **P** **11 35 41.0 +3.3**
SMIR Smir Dam 51.85 58 P **P** **11 35 41.0 +3.4**
MONP2 Monument Peak 51.86 298 P **P** **11 35 40.2 +2.1**
baz=92,SNR=103
MONP2 S **S** **11 43 03.6 +2.8**
baz=92
CEU Ceuta 51.87 58 P P 11 35 42.8 +5.0
CEU S **S** **11 43 02.8 +2.5**
HEC Hector,Ludlow 51.90 300 P **P** **11 35 40.4 +2.3**
baz=94,SNR=20
HEC S **S** **11 43 03.4 +2.5**
baz=94
IFR Ifrane 51.91 61 P **P** **11 35 40.3 +1.9**
IFR S **S** **11 43 01.5 +0.2**
MT05 Renca 51.91 191 P **P** **11 35 39.2 +1.1**
TPFO Pinon Flats 51.92 299 P **P** **11 35 40.7 +2.3**
baz=93,SNR=27
PFO Pinyon Flats O 51.93 299 LR LR 11 58 43.4
comp=Z,3μm,21.6s,baz=91,slow=37
PFO Pinyon Flats O 51.93 299 *i*P **P** **11 35 40.3 +1.9**
PFO pmax pmax
comp=Z,111nm,1.5s
PFO Pinyon Flats O 51.93 299 P **P** **11 35 40.7 +2.3**
PFO Pinyon Flats O 51.93 299 P **P** **11 35 40.5 +2.1**
baz=93,SNR=26
PFO S **S** **11 43 05.8 +4.3**
baz=93
CZD Col de Zad 51.96 62 P **P** **11 35 41.0 +2.1**
GOLM Goulmima 51.99 64 P **P** **11 35 42.0 +3.0**
TKX Tecate 52.01 298 P **P** **11 35 41.2 +2.2**
TPNV Topopah Spring 52.01 303 P **P** **11 35 41.6 +2.6**
TPNV pmax pmax
TPNV comp=Z,57nm,1.3s MLR MLR
comp=Z,4μm,21.0s
TPNV Topopah Spring 52.01 303 P **P** **11 35 41.6 +2.6**
TPNV Topopah Spring 52.01 303 ⇑P **P** **11 35 41.6 +2.6**
TPNV Topopah Spring 52.01 303 P **P** **11 35 41.4 +2.3**
baz=96,SNR=70
TPNV S **S** **11 43 04.2 +1.7**
baz=96
VAL Valentia 52.05 37 ⇓P **P** **11 35 39.2 +0.3**
MSO Missoula 52.09 316 P **P** **11 35 40.2 +0.9**
baz=105,SNR=33
MSO S **S** **11 43 03.4 +0.2**
baz=105
LCRM LCR 52.15 61 P **P** **11 35 42.0 +2.0**
GSC Goldstone, Bar 52.32 301 P **P** **11 35 43.4 +2.2**
baz=94,SNR=34
GSC S **S** **11 43 09.5 +2.8**
baz=94
MDT Midelt 52.32 62 LR LR 11 52 38.2
comp=Z,3μm,20.9s,baz=284,slow=30
MDT Midelt 52.32 62 P **P** **11 35 43.0 +1.7**
BBRC Big Bear Solar 52.34 300 P **P** **11 35 44.2 +2.5**
baz=93,SNR=22
BBRC S **S** **11 43 10.3 +2.9**
baz=93
H10N3 ASCENSION HYDR 52.38 115 T T 12 33 17.1
baz=298,slow=74
H10N2 ASCENSION HYDR 52.39 115 T T 12 33 10.0
baz=298
H10N1 ASCENSION HYDR 52.41 115 T T 12 33 17.1
baz=298
RRX Edison Barstow 52.44 300 P **P** **11 35 45.5 +3.4**
baz=94
RRX S **S** **11 43 11.0 +2.7**
baz=94
FURC Furnace Creek, 52.45 302 P **P** **11 35 44.2 +2.1**
baz=95,SNR=21
MURC Murrieta 52.54 299 P **P** **11 35 45.3 +2.5**
baz=92,SNR=30
MURC S **S** **11 43 12.3 +2.6**
baz=92
MFID Camas Ranch 52.62 311 IAMs_20 IAMs_20 11 57 32.9
comp=Z,12μm,22.0s
WALA Waterton Lakes 52.68 319 ⇑P **P** **11 35 44.4 +0.7**
PVLZ Peæn de 52.69 59 P **P** **11 35 40.9 -3.0**
PVLZ S **S** **11 43 10.4 -1.1**
EMAL Malaga-Limoner 52.70 57 P **P** **11 35 43.5 -0.5**
EMAL S **S** **11 43 16.7 +5.0**
ICESG Greenland Ices 52.81 9 *i*P **P** **11 35 44.2 -0.4**
ICESG IAmb IAmb 11 36 05.6
comp=Z,834nm,1.4s
GRAC Grapevine Rang 52.90 303 P **P** **11 35 48.1 +2.6**
GRAC IAmb IAmb 11 35 49.8
comp=Z,220nm,1.4s
GRAC Grapevine Rang 52.90 303 P **P** **11 35 47.9 +2.4**
baz=95,SNR=31
MPMC Manual Prospec 52.92 302 P **P** **11 35 47.9 +2.0**
baz=94,SNR=39
MPMC S **S** **11 43 16.8 +1.6**
baz=94
Q09A Carvers 52.94 305 P **P** **11 35 48.4 +2.5**
BO01 Tunca 52.95 191 P **P** **11 35 45.8 +0.2**
BFSC Mount Baldy Ra 52.95 300 P **P** **11 35 47.9 +1.9**
baz=93,SNR=21
BFSC S **S** **11 43 16.5 +1.0**
baz=93
PALE Palemas 52.99 59 P **P** **11 35 48.0 +1.8**
LRMC Laurel Mtn Rad 53.04 301 P **P** **11 35 48.9 +2.2**
baz=94,SNR=19
PAB San Pablo 53.06 54 P **P** **11 35 47.4 +0.8**
PAB pmax pmax
comp=Z,38nm,1.1s
PAB San Pablo 53.06 54 P **P** **11 35 47.4 +0.8**

PAB San Pablo 53.06 54 ⇑P **P** **11 35 46.9 +0.2**
PAB San Pablo 53.06 54 P **P** **11 35 48.3 +1.6**
PLID Pearl Lake 53.07 313 P **P** **11 35 47.0 +0.1**
PLID IAmb IAmb 11 35 50.5
comp=Z,223nm,1.6s
IGLA Glengowla, Co 53.09 36 *e*P **P** **11 35 45.8 -0.7**
IGLA IAMs_20 IAMs_20 11 52 56.6
comp=Z,9μm,18.7s
LCH Last Change Ra 53.14 303 P **P** **11 35 48.9 +1.5**
BMN Battle Mountai 53.17 307 P **P** **11 35 49.0 +1.4**
BMN pmax pmax
comp=Z,209nm,1.1s
BMN Battle Mountai 53.17 307 P **P** **11 35 49.0 +1.4**
BMN IAmb IAmb 11 35 51.1
comp=Z,209nm,1.1s
EDW2 Edwards Air Fo 53.26 300 P **P** **11 35 50.4 +2.2**
baz=93,SNR=43
EDW2 S **S** **11 43 20.5 +0.9**
baz=93
ESDC Sonseca Array 53.37 54 P **P** **11 35 48.9 0.0**
comp=Z,25nm,1.0s,baz=261,slow=8.5,SNR=67
ESDC LR LR 11 53 07.1
comp=Z,5μm,21.4s,baz=248,slow=30
ESDC PKP2bc 12 06 30.6
comp=Z,2.8nm,1.2s,baz=83,slow=1.9,SNR=4.4
ESDC Sonseca Array 53.37 54 P **P** **11 35 49.5 +0.6**
CWC Cottonwood Cre 53.43 302 P **P** **11 35 51.8 +2.3**
baz=94
CWC S **S** **11 43 23.9 +1.9**
baz=94
DECC Green Verdugo 53.51 300 P **P** **11 35 51.7 +1.7**
baz=92,SNR=5.9
DECC S **S** **11 43 22.9 -0.1**
baz=92
CIS Catalina Islan 53.55 299 P **P** **11 35 53.1 +2.7**
baz=92,SNR=9.1
SOEG Soedalen 53.58 13 *i*P **P** **11 35 54.5 +4.6**
SOEG IAmb IAmb 11 36 12.4
comp=Z,747nm,1.7s
TIN Tinemaha, Big 53.59 303 P **P** **11 35 53.0 +2.3**
baz=94,SNR=7.6
SCI2 San Clemente I 53.65 298 P **P** **11 35 54.2 +3.2**
baz=91
NV11 Mina Array Sit 53.66 305 P **P** **11 35 52.5 +1.4**
NV11 IAmb IAmb 11 35 55.6
comp=Z,177nm,1.2s
EDM Edmonton 53.66 324 P **P** **11 35 51.2 +0.4**
EDM pmax pmax
comp=Z,349nm,1.4s
EDM Edmonton 53.66 324 P **P** **11 35 51.2 +0.4**
EDM IAmb IAmb 11 35 53.7
comp=Z,349nm,1.4s
KVN Kaiserville 53.67 306 P **P** **11 35 52.2 +0.9**
KVN pmax pmax
comp=Z,42nm,1.1s
KVN Kaiserville 53.67 306 P **P** **11 35 52.2 +0.9**
ISA Isabella, Lake 53.70 301 P **P** **11 35 53.6 +2.2**
ISA pmax pmax
comp=Z,42nm,1.2s
ISA Isabella, Lake 53.70 301 P **P** **11 35 53.6 +2.2**
ISA Isabella, Lake 53.70 301 P **P** **11 35 54.2 +2.8**
baz=93,SNR=23
BORG Borgarnes 53.72 20 LR LR 11 53 31.1
comp=Z,7μm,21.7s,baz=239,slow=30
BORG Borgarnes 53.72 20 P **P** **11 35 53.1 +2.2**
BORG pmax pmax
comp=Z,601nm,1.4s
BORG Borgarnes 53.72 20 P **P** **11 35 53.1 +2.2**
BORG Borgarnes 53.72 20 IAMs_20 IAMs_20 11 53 20.3
comp=Z,7μm,22.0s
BORG Borgarnes 53.72 20 ⇑P **P** **11 35 53.9 +2.9**
GOG Mont Gurugu 53.76 59 P **P** **11 35 54.0 +2.1**
NVAR Mina Array Bea 53.77 305 P **P** **11 35 53.0 +0.9**
comp=Z,20nm,0.6s,baz=92,slow=6.1,SNR=126
NVAR LR LR 11 58 52.0
comp=Z,11μm,21.6s,baz=101,slow=36
NVAR PKPPKP **P'P'df** **12 06 11.0 -4.6**
comp=Z,0.5nm,0.8s,baz=210,slow=5.1,SNR=3.6
NVAR Mina Array Bea 53.77 305 P **P** **11 35 53.2 +1.1**
NUUG Nuugaatsiaq 53.79 3 *i*P **P** **11 35 51.2 -0.2**
NUUG IAmb IAmb 11 36 13.2
comp=Z,222nm,1.4s
ARVC Arvin 53.96 301 P **P** **11 35 56.3 +3.0**
baz=93,SNR=18
UCM Universidad Co 53.99 53 P **P** **11 35 57.5 +4.1**
UCM S S 11 43 40.1 +11
JBK JBK 54.07 60 P **P** **11 35 55.0 +0.7**
F10A Beach Ranch, E 54.10 314 ⇓P **P** **11 35 54.5 +0.2**
MLAC Mammoth, Mammo 54.12 304 P **P** **11 35 57.4 +2.7**
baz=94
VES Vestal, Richgr 54.20 302 P **P** **11 35 57.3 +2.2**
baz=93,SNR=25
IWEX Carrickbyrne, 54.21 38 *e*P **P** **11 35 55.0 +0.2**
IWEX IAmb IAmb 11 35 57.3
comp=Z,175nm,1.4s
IWEX IAMs_20 IAMs_20 11 52 37.9
comp=Z,15μm,25.2s
TAF Taforalt 54.22 60 P **P** **11 35 57.7 +2.4**
ML02 Panimavida 54.34 191 P **P** **11 35 56.2 +0.4**
BCW Bitter Crk WRg 54.43 300 P **P** **11 35 59.0 +2.1**
BCW IAmb IAmb 11 36 18.8
comp=Z,202nm,1.2s
KOWA Kowa 54.45 85 P **P** **11 35 56.8 -0.3**
KOWA IAmb IAmb 11 35 59.2
comp=Z,134nm,1.1s
KOWA IAMs_20 IAMs_20 11 56 45.4
comp=Z,7μm,19.0s
KOWA Kowa 54.45 85 ⇓P **P** **11 35 56.0 -1.1**
VOG Valley Oaks Go 54.47 302 P **P** **11 36 00.0 +3.1**
baz=93
SNCC San Nicolas Is 54.48 298 P **P** **11 35 59.1 +2.0**
baz=91
TDRA Tendrara 54.49 62 P **P** **11 35 59.0 +1.6**
WVOR Wild Horse Val 54.49 310 P **P** **11 35 58.2 +1.0**
WVOR pmax pmax
comp=Z,54nm,1.2s
WVOR MLR MLR
comp=Z,6μm,20.0s
WVOR Wild Horse Val 54.49 310 P **P** **11 35 58.1 +1.0**
WVOR Wild Horse Val 54.49 310 ⇑P **P** **11 35 58.4 +1.2**
CCA1 Carnmenellis 54.51 41 *e*P **P** **11 35 57.1 +0.2**
CCA1 IAmb IAmb 11 35 59.7
comp=Z,140nm,1.1s
CCA1 IAMs_20 IAMs_20 11 52 05.5
comp=Z,10μm,29.0s
NEW Newport 54.53 317 LR LR 11 58 23.7
comp=Z,7μm,21.5s,baz=98,slow=35
NEW Newport 54.53 317 IAMs_20 IAMs_20 12 00 37.9
comp=Z,8μm,20.0s
NEW Newport 54.53 317 P **P** **11 35 57.6 +0.4**
baz=103,SNR=145
SBC Santa Barbara 54.66 300 P **P** **11 36 00.0 +1.7**
baz=92
SMMC Simmler 54.92 301 P **P** **11 36 02.9 +2.6**
baz=92,SNR=28
ILTH Belurgan, Co L 54.99 36 *e*P **P** **11 35 60.0 -0.4**
FIGM Figuig 55.13 63 P **P** **11 36 04.0 +2.0**
RSBS Rosebush, Pemb 55.28 39 *e*P **P** **11 36 02.4 -0.2**
RSBS IAmb IAmb 11 36 06.2
comp=Z,92nm,0.8s
CMB Columbia Colle 55.38 304 IAMs_20 IAMs_20 11 59 26.4
comp=Z,10μm,22.0s
DYA Yadsworthy 55.38 41 *e*P **P** **11 36 02.9 -0.3**
DYA IAmb IAmb 11 36 07.2
comp=Z,99nm,1.3s
DYA IAMs_20 IAMs_20 11 52 37.6
comp=Z,7μm,30.0s
TIC Toumodi 55.45 94 *e*P **P** **11 36 03.5 -0.8**
CLGH Cloghs, Cushen 55.47 35 *e*P **P** **11 36 03.7 -0.1**
CLGH IAmb IAmb 11 36 07.5
comp=Z,56nm,0.9s
CLGH IAMs_20 IAMs_20 11 53 35.0
comp=Z,8μm,23.5s
CART Cartagena 55.49 56 P **P** **11 36 02.8 -1.5**
CART S **S** **11 43 46.7 -2.7**
LIC Lamto 55.56 95 *e*P **P** **11 36 04.4 -0.8**
comp=Z,242nm,0.9s
DBIC Dimbokro 55.59 94 P **P** **11 36 04.8 -0.5**
comp=Z,93nm,0.8s,baz=296,slow=7.1,SNR=67
DBIC LR LR 11 55 16.6
comp=Z,10μm,21.6s,baz=270,slow=31
DBIC Dimbokro 55.59 94 ⇑*i*P **P** **11 36 04.6 -0.8**
DBIC Dimbokro 55.59 94 P **P** **11 36 04.9 -0.5**
DBIC pmax pmax
comp=Z,161nm,1.0s
DBIC Dimbokro 55.59 94 P **P** **11 36 04.9 -0.5**

DBIC IAmb IAmb 11 36 07.2
comp=Z,161nm,1.0s
DBIC Dimbokro 55.59 94 ⇑P **P** **11 36 04.8 -0.5**
MOD Modoc Plateau 55.66 309 IAMs_20 IAMs_20 12 00 05.4
comp=Z,9μm,21.0s
HAWA Hanford 55.75 314 IAMs_20 IAMs_20 12 01 48.6
comp=Z,7μm,20.0s
HAWA Hanford 55.75 314 ⇑P **P** **11 36 06.6 +0.5**
YRC Rhoscolyn 55.75 37 *e*P **P** **11 36 05.9 +0.1**
KIC Kosan Boka 55.79 95 *e*P **P** **11 36 06.2 -0.6**
comp=Z,177nm,0.9s
WLF1 Llynfaes 55.87 37 *e*P **P** **11 36 06.8 +0.2**
WLF1 IAmb IAmb 11 36 10.3
comp=Z,110nm,0.9s
YLL Llanberis 55.95 37 *e*P **P** **11 36 07.3 0.0**
WIM Isle of Man 55.96 36 *e*P **P** **11 36 06.3 -1.1**
IOMK Kirk Michael 56.05 36 *e*P **P** **11 36 07.6 -0.4**
IOMK IAmb IAmb 11 36 10.9
comp=Z,253nm,1.4s
IOMK IAMs_20 IAMs_20 11 52 55.4
comp=Z,20μm,26.2s
SAO San Andreas Ge 56.15 303 IAMs_20 IAMs_20 12 01 11.1
comp=Z,9μm,20.0s
SAO San Andreas Ge 56.15 303 ⇑P **P** **11 36 11.7 +2.6**
GAL1 Galloway 56.16 35 *e*P **P** **11 36 08.5 -0.2**
GAL1 IAmb IAmb 11 36 10.4
comp=Z,42nm,0.9s
GAL1 IAMs_20 IAMs_20 11 54 40.3
comp=Z,8μm,19.8s
LEWI Lewis, Hebride 56.16 31 *e*P **P** **11 36 08.8 0.0**
JSA Saint Aubin 56.20 42 *e*P **P** **11 36 10.8 +1.7**
JSA IAmb IAmb 11 36 13.2
comp=Z,102nm,1.1s
JSA IAMs_20 IAMs_20 11 53 32.3
comp=Z,8μm,23.1s
LAWE Loch Awe, Argy 56.24 34 *e*P **P** **11 36 09.2 -0.1**
LAWE IAmb IAmb 11 36 12.2
comp=Z,30nm,1.0s
MCH1 Michaelchurch 56.34 39 *e*P **P** **11 36 10.4 +0.3**
MCH1 IAmb IAmb 11 36 13.1
comp=Z,52nm,1.0s
ORV Oroville 56.35 306 P **P** **11 36 11.9 +1.5**
ORV pmax pmax
comp=Z,247nm,1.4s
ORV Oroville 56.35 306 P **P** **11 36 11.9 +1.5**
ORV IAmb IAmb 11 36 14.4
comp=Z,247nm,1.4s
ORV IAMs_20 IAMs_20 11 59 20.0
comp=Z,8μm,22.0s
PNT Penticton 56.37 318 ⇑P **P** **11 36 11.4 +1.0**
FOEL Foel Wylfa 56.45 38 *e*P **P** **11 36 10.8 -0.1**
FOEL IAmb IAmb 11 36 13.7
comp=Z,125nm,1.3s
FOEL IAMs_20 IAMs_20 11 54 01.6
comp=Z,14μm,23.6s
KPL Plockton 56.48 32 *e*P **P** **11 36 10.8 -0.2**
KPL IAmb IAmb 11 36 19.9
comp=Z,95nm,1.2s
J05D Fort Rock, OR 56.50 310 P **P** **11 36 13.2 +1.5**
baz=97,SNR=79
NEWG New Galloway 56.50 35 *e*P **P** **11 36 11.1 -0.1**
NEWG IAmb IAmb 11 36 14.7
comp=Z,58nm,0.9s
HLM1 Long Mynd 56.54 38 *e*P **P** **11 36 11.7 +0.1**
HLM1 IAmb IAmb 11 36 13.8
comp=Z,115nm,1.0s
HLM1 IAMs_20 IAMs_20 11 54 28.3
comp=Z,13μm,22.3s
PGBU Glenifferbraes 56.58 34 *e*P **P** **11 36 10.9 -0.9**
PGBU IAmb IAmb 11 36 15.3
comp=Z,88nm,0.9s
O03E Paynes Creek 56.63 307 IAMs_20 IAMs_20 12 00 36.5
comp=Z,6μm,21.0s
O03E Paynes Creek 56.63 307 P **P** **11 36 13.7 +1.2**
baz=94,SNR=33
I05D Terrebonne, OR 56.70 312 P **P** **11 36 15.2 +2.2**
baz=97,SNR=31
KAC Achnashellach 56.71 32 *e*P **P** **11 36 12.6 -0.1**
EAB Aberfoyle 56.77 34 *e*P **P** **11 36 13.3 +0.1**
STRD Stroud 56.78 39 *e*P **P** **11 36 14.0 +0.7**
STRD IAmb IAmb 11 36 16.9
comp=Z,98nm,0.8s
M04C Macdoel 56.78 309 IAMs_20 IAMs_20 12 00 52.4
comp=Z,8μm,21.0s
M04C Macdoel 56.78 309 P **P** **11 36 14.8 +1.1**
baz=95,SNR=130
K04D Chiloquin, OR 56.80 310 P **P** **11 36 16.1 +2.3**
baz=96,SNR=7.0
K04D S **S** **11 44 08.1 +1.1**
baz=96
G05D Wamic, OR 56.80 313 P **P** **11 36 15.6 +2.0**
baz=98,SNR=26
C06D Leavenworth 56.93 316 P **P** **11 36 15.8 +1.3**
baz=100,SNR=9.2
LINV Loch Inver, As 56.99 31 *e*P **P** **11 36 14.4 -0.3**
LINV IAmb IAmb 11 36 17.6
comp=Z,53nm,1.1s
F05D White Salmon 56.99 313 IAMs_20 IAMs_20 11 59 47.5
comp=Z,8μm,21.0s
F05D White Salmon 56.99 313 P **P** **11 36 17.0 +2.0**
baz=98,SNR=39
F05D S **S** **11 44 09.4 +0.3**
baz=98
HOOD Mount Hood Mea 57.05 313 P **P** **11 36 17.0 +1.5**
HOOD IAmb IAmb 11 36 19.8
comp=Z,328nm,1.4s
ESK Eskdalemuir 57.12 35 *e*P **P** **11 36 15.5 -0.1**
ESK IAmb IAmb 11 36 18.9
comp=Z,44nm,0.9s
ESK IAMs_20 IAMs_20 11 53 25.3
comp=Z,7μm,24.1s
ESK Eskdalemuir 57.12 35 P **P** **11 36 15.8 +0.2**
ESK pmax pmax
comp=Z,296nm,1.6s
ESK Eskdalemuir 57.12 35 P **P** **11 36 15.8 +0.2**
ESK IAmb IAmb 11 36 36.8
comp=Z,296nm,1.6s
ESK Eskdalemuir 57.12 35 IAMs_20 IAMs_20 11 55 23.4
comp=Z,6μm,20.0s
ESK Eskdalemuir 57.12 35 ⇑P **P** **11 36 16.6 +0.9**
J04D Umpqua Nationa 57.13 310 P **P** **11 36 17.4 +1.2**
J04D IAmb IAmb 11 36 19.5
comp=Z,207nm,0.7s
J04D IAMs_20 IAMs_20 12 00 30.3
comp=Z,8μm,21.0s
J04D Umpqua Nationa 57.13 310 P **P** **11 36 17.7 +1.5**
baz=96,SNR=49
EKA Eskdalemuir Ar 57.15 35 LR LR 11 55 26.4
comp=Z,7μm,21.2s,baz=252,slow=30
MDO Dochfour 57.17 32 *e*P **P** **11 36 15.8 -0.1**
L04D Klamath Falls 57.17 309 P **P** **11 36 17.4 +1.0**
L04D IAmb IAmb 11 36 48.3
comp=Z,149nm,1.1s
L04D IAMs_20 IAMs_20 12 00 55.5
comp=Z,7μm,22.0s
L04D Klamath Falls 57.17 309 P **P** **11 36 17.6 +1.2**
baz=95,SNR=38
L04D S **S** **11 44 11.8 0.0**
baz=95
WDC Whiskeytown Da 57.22 307 P **P** **11 36 16.1 -0.5**
WDC pmax pmax
comp=Z,66nm,1.1s
WDC MLR MLR
comp=Z,7μm,22.0s
WDC Whiskeytown Da 57.22 307 P **P** **11 36 16.1 -0.5**
WDC IAMs_20 IAMs_20 12 01 14.9
comp=Z,7μm,22.0s
WDC Whiskeytown Da 57.22 307 ⇓P **P** **11 36 15.7 -0.9**
EBL Broad Law 57.34 35 *e*P **P** **11 36 15.9 -1.3**
MCCM Marconi Confer 57.35 304 IAMs_20 IAMs_20 12 00 38.6
comp=Z,11μm,22.0s
MCCM Marconi Confer 57.35 304 ⇑P **P** **11 36 19.6 +2.1**
N02D Trinity Center 57.37 308 P **P** **11 36 17.6 -0.1**
baz=94,SNR=39
O02D Mt. Diablo Mer 57.38 307 P **P** **11 36 17.5 -0.3**
baz=94,SNR=22
I04A Tendick Farm, 57.40 311 P **P** **11 36 19.5 +1.6**
baz=96,SNR=12
YBH Yreka Blue Hor 57.43 308 LR LR 12 01 42.9
comp=Z,6μm,20.2s,baz=106,slow=37
YBH Yreka Blue Hor 57.43 308 IAMs_20 IAMs_20 12 02 21.4
comp=Z,7μm,20.0s
LBWR Ladybower, Pea 57.44 38 *e*P **P** **11 36 18.1 +0.2**
LBWR IAmb IAmb 11 36 22.2
comp=Z,185nm,0.9s
LBWR IAMs_20 IAMs_20 11 54 30.6

comp=Z,13µm,23.8s
SCO Scoresbysund 57.49 14 *i* P **P 11 36 20.1 +2.1**
SCO IAmb IAmb 11 36 40.4
comp=Z,440nm,1.5s
SCO Scoresbysund 57.49 14 ⇑P **P 11 36 18.8 +0.9**
M02C Callahan 57.51 308 IAMs_20 IAMs_20 12 01 26.6
comp=Z,7µm,21.0s
M02C Callahan 57.51 308 P **P 11 36 19.0 +0.3**
baz=94,SNR=34
CWF Charnwood Fore 57.52 38 *e*P **P 11 36 18.9 +0.3**
CWF IAmb IAmb 11 36 21.2
comp=Z,185nm,1.6s
CWF IAMs_20 IAMs_20 11 55 08.8
comp=Z,11µm,21.5s
HOPS Hopland Field 57.53 305 IAMs_20 IAMs_20 12 00 23.4
comp=Z,10µm,22.0s
EDU Dundee 57.59 34 *e*P **P 11 36 20.0 +1.1**
ESY Stoneypath 57.62 34 *e*P **P 11 36 18.8 -0.3**
HPK Haverah Park 57.64 37 *e*P **P 11 36 19.1 -0.2**
HPK IAmb IAmb 11 36 21.5
comp=Z,75nm,1.0s
HPK IAMs_20 IAMs_20 11 54 21.9
comp=Z,11µm,24.9s
EDMD Edmundbyers 57.67 36 *e*P **P 11 36 19.1 -0.5**
EDMD IAmb IAmb 11 36 21.5
comp=Z,66nm,1.2s
EDMD IAMs_20 IAMs_20 11 55 46.6
comp=Z,7µm,19.4s
HUMO Hull Mountain 57.69 309 IAMs_20 IAMs_20 12 00 08.1
comp=Z,10µm,22.0s
HUMO Hull Mountain 57.69 309 ⇑P **P 11 36 19.9 +0.1**
H04D Lebanon 57.72 312 IAMs_20 IAMs_20 12 00 16.8
comp=Z,10µm,21.0s
H04D Lebanon 57.72 312 P **P 11 36 20.8 +0.7**
baz=96,SNR=18
BIGH Upper Bighouse 57.75 31 *e*P **P 11 36 19.5 -0.5**
BIGH IAmb IAmb 11 36 23.2
comp=Z,50nm,0.8s
BIGH IAMs_20 IAMs_20 11 54 04.6
comp=Z,9µm,26.3s
MCD Coleburn Disti 57.78 32 *e*P **P 11 36 19.9 -0.3**
B05A Bryant 57.78 316 P **P 11 36 19.1 -1.3**
baz=99,SNR=17
E04D Cinebar 57.85 314 P **P 11 36 21.1 +0.2**
baz=98,SNR=11
YKA Yellowknife Ar 57.86 334 P **P 11 36 20.1 -0.6**
comp=Z,30nm,0.7s,baz=106,slow=7.2,SNR=304
YKA PP **PP 11 38 31.3 +2.5**
comp=Z,27nm,1.1s,baz=115,slow=9.1,SNR=3.7
YKA LR LR 11 59 35.8
comp=Z,11µm,21.6s,baz=112,slow=34
YKA PKPPKP **P'P'df 12 06 03.6 -5.3**
comp=Z,1.8nm,1.0s,baz=274,slow=1.9,SNR=4.8
YKA PKP2bc 12 06 15.3
comp=Z,5.8nm,1.1s,baz=291,slow=2.4,SNR=9.1
YKA Yellowknife Ar 57.86 334 P **P 11 36 19.9 -0.8**
MLA1 Latheron 57.96 32 *e*P **P 11 36 20.8 -0.6**
DRUM Mains of Drumt 57.97 33 *e*P **P 11 36 21.3 -0.3**
DRUM IAMs_20 IAMs_20 11 54 35.9
comp=Z,5µm,26.7s
LLLB Lillooet 58.06 319 P **P 11 36 23.2 +0.8**
LLLB IAmb IAmb 11 36 26.5
comp=Z,300nm,1.2s
I03D Drain, OR 58.07 311 P **P 11 36 23.2 +0.7**
baz=95,SNR=12
D04E Lakebay 58.07 315 P **P 11 36 22.4 -0.1**
baz=98
F04D Rainier, OR 58.09 313 P **P 11 36 24.2 +1.5**
baz=97
COR Corvallis 58.13 312 P **P 11 36 24.5 +1.6**
COR pmax pmax
comp=Z,271nm,1.4s
COR MLR MLR
comp=Z,10µm,20.0s
COR Corvallis 58.13 312 P **P 11 36 24.5 +1.6**
COR IAmb IAmb 11 36 56.0
comp=Z,271nm,1.4s
COR Corvallis 58.13 312 IAMs_20 IAMs_20 12 01 12.6
comp=Z,10µm,20.0s
COR Corvallis 58.13 312 ⇓P **P 11 36 24.7 +1.8**
L02E Cave Junction 58.13 309 P **P 11 36 23.5 +0.5**
L02E IAMs_20 IAMs_20 12 01 26.8
comp=Z,9µm,21.0s
L02E Cave Junction 58.13 309 P **P 11 36 23.4 +0.4**
baz=94,SNR=15
KHMM Horse Mountain 58.14 307 P **P 11 36 24.2 +1.0**
G03D McMinnville, O 58.17 312 P **P 11 36 24.8 +1.6**
G03D McMinnville, O 58.17 312 P **P 11 36 24.7 +1.6**
baz=96,SNR=47
K02D Willamette Mer 58.21 309 P **P 11 36 24.3 +0.6**
baz=94,SNR=22
D03D Eldon 58.34 315 P **P 11 36 23.9 -0.4**
baz=98,SNR=6.9
J01E Myrtle Point 58.45 310 IAMs_20 IAMs_20 12 01 24.2
comp=Z,11µm,22.0s
J01E Myrtle Point 58.45 310 P **P 11 36 26.2 +1.0**
baz=94,SNR=14
I02E Swisshome, OR 58.47 311 P **P 11 36 27.0 +1.7**
baz=95
HEBO Mount Hebo 58.51 312 P **P 11 36 27.8 +2.1**
WACR West Acre 58.67 39 *e*P **P 11 36 26.7 +0.2**
WACR IAmb IAmb 11 36 28.4
comp=Z,206nm,0.9s
TULEG Thule 58.77 358 *i* P **P 11 36 28.1 +1.2**
TULEG IAmb IAmb 11 36 48.6
comp=Z,396nm,1.5s
TULEG Thule 58.77 358 ⇑P **P 11 36 27.6 +0.7**
NLWA Neilton Lookou 58.84 315 IAMs_20 IAMs_20 12 01 30.3
comp=Z,9µm,20.0s
NLWA Neilton Lookou 58.84 315 ⇑P **P 11 36 28.8 +0.9**
CLF Chambon-Foret 58.90 44 ⇑P **P 11 36 29.0 +0.8**
PLCA Paso Flores 59.07 189 P **P 11 36 29.7 +0.2**
comp=Z,154nm,0.8s,baz=4.3,slow=7.4,SNR=116
PLCA PP **PP 11 38 40.2 0.0**
comp=Z,43nm,1.0s,baz=20,slow=9.9,SNR=3.6
PLCA LR LR 12 05 50.2
comp=Z,3µm,19.6s,baz=1.5,slow=40
PLCA PKP2ab 12 06 27.4
comp=Z,3.8nm,1.1s,baz=233,slow=4.4,SNR=3.2
PLCA Paso Flores 59.07 189 P **P 11 36 29.9 +0.5**
PLCA pmax pmax
comp=Z,223nm,0.9s
PLCA Paso Flores 59.07 189 P **P 11 36 29.9 +0.5**
PLCA IAmb IAmb 11 36 33.5
comp=Z,223nm,0.9s
PLCA Paso Flores 59.07 189 ⇑P **P 11 36 29.6 +0.2**
PLCA Paso Flores 59.07 189 *e*P **P 11 36 29.6 +0.2**
LRW Lerwick 59.60 30 *e*P **P 11 36 31.9 -0.9**
LRW IAMs_20 IAMs_20 11 55 34.2
comp=Z,12µm,24.3s
RES Resolute Bay 59.70 350 LR LR 12 00 52.2
comp=Z,9µm,20.5s,baz=138,slow=35
RES PKPPKP 12 06 00.5
comp=Z,3.5nm,1.0s,baz=339,slow=0.7,SNR=6.2
RES PKP2bc 12 06 09.0
comp=Z,11nm,1.2s,baz=311,slow=3.9,SNR=7.0
RES Resolute Bay 59.70 350 P **P 11 36 33.5 +0.2**
RES pmax pmax
comp=Z,231nm,1.8s
RES Resolute Bay 59.70 350 P **P 11 36 33.5 +0.2**
RES IAmb IAmb 11 36 55.1
comp=Z,231nm,1.8s
RES Resolute Bay 59.70 350 ⇑P **P 11 36 33.0 -0.4**
MAHO Mahon 59.71 54 P **P 11 36 35.4 +1.5**
MAHO S **S 11 44 46.6 +2.0**
MAHO Mahon 59.71 54 ⇑P **P 11 36 34.8 +0.8**
TOA0 Torodi Ar. Sit 60.16 85 P **P 11 36 36.4 -1.0**
TOA0 IAmb IAmb 11 36 38.8
comp=Z,109nm,1.1s
TORD Torodi Ar. Bea 60.16 85 P **P 11 36 36.3 -1.2**
comp=Z,47nm,0.9s,baz=288,slow=5.6,SNR=142
TORD PKPPKP **P'P'df 12 06 00.2 -4.2**
comp=Z,3.2nm,1.2s,baz=159,slow=3.5,SNR=6.0
TORD PKP2bc 12 06 11.1
comp=Z,11nm,1.2s,baz=112,slow=3.2,SNR=7.6
TORD Torodi Ar. Bea 60.16 85 P **P 11 36 36.0 -1.5**
TORD IAmb IAmb 11 36 38.8
comp=Z,106nm,1.1s
CBB Campbell River 60.17 318 P **P 11 36 37.4 +0.5**
CBB IAmb IAmb 11 37 30.1
comp=Z,138nm,1.2s
SSB Saint Sauveur 60.18 48 ⇓P **P 11 36 38.0 +0.9**
SNF Seneffe 60.54 42 *d*P **P 11 36 39.8 +0.4**
comp=Z,51nm,1.5s
SNF *dx* x 11 36 59.4
DBG Daneborg 60.57 12 *i* P **P 11 36 39.0 -0.3**
DBG IAmb IAmb 11 37 01.5
comp=Z,586nm,1.4s
UCC Uccle 60.63 41 P **P 11 36 40.5 +0.4**
UCC pmax pmax
comp=Z,131nm,1.5s
UCC Uccle 60.63 41 P **P 11 36 40.5 +0.4**
DOU Dourbes 60.69 42 *d*P **P 11 36 40.3 -0.2**
comp=Z,28nm,1.8s
DOU *dp*P **pwP 11 36 48.0 -1.9**
DOU *dx* x 11 36 59.6
RUSF Rustrel 60.77 49 ⇓P **P 11 36 45.0 +3.8**
RUSF ⇑s **pwP 11 36 54.4 +3.8**
BMRD Maredsous 60.82 42 *d*P **P 11 36 41.3 -0.1**
comp=Z,37nm,1.5s
BMRD *dp*P **pwP 11 36 50.5 -0.3**
BMRD *dx* x 11 37 01.5
LL01 San Ignacio de 60.96 190 P **P 11 36 43.3 +1.1**
DFRA Djebel Bou Aff 60.98 58 P **P 11 36 44.0 +1.1**
BGES Gesves 61.04 42 *d*P **P 11 36 43.0 +0.1**
comp=Z,42nm,1.4s
BGES *dx* x 11 37 02.5
RCHB Rochefort 61.10 42 *d*P **P 11 36 42.9 -0.4**
comp=Z,48nm,1.5s
RCHB *dx* x 11 37 02.9
BCLA Clavier 61.18 42 κP **P 11 36 45.2 +1.3**
comp=Z,60nm,1.6s
BCLA *dx* x 11 37 03.9
JMIC Jan Mayen 61.31 17 LR LR 11 57 23.0
comp=Z,5µm,21.4s,baz=237,slow=30
JMIC Jan Mayen 61.31 17 *e*P **P 11 36 43.2 -1.1**
JMIC *eS* **S 11 45 03.5 -0.7**
JMIC IVMs_BB IVMs_BB 11 55 58.1
comp=Z,4µm,3.8s
BSTI Sart Tilman 61.37 42 *d*P **P 11 36 45.4 +0.3**
BSTI *dx* x 11 37 05.5
BEBN Eben Emael 61.46 41 *d*P **P 11 36 45.8 +0.1**
BEBN *dp*P **pwP 11 36 54.7 -0.3**
BEBN *dx* x 11 37 05.6
BHOU Houvegnez 61.62 42 *d*P **P 11 36 47.2 +0.4**
comp=Z,88nm,1.3s
BHOU *dp*P **pwP 11 36 54.5 -1.7**
BHOU *dx* x 11 37 07.5
WLF Walferdange 61.64 43 P **P 11 36 47.4 +0.4**
WLF pmax pmax
comp=Z,266nm,1.4s
WLF Walferdange 61.64 43 P **P 11 36 47.4 +0.4**
WLF IAmb IAmb 11 37 08.8
comp=Z,266nm,1.4s
WLF IAMs_20 IAMs_20 11 58 53.1
comp=Z,5µm,20.0s
WLF Walferdange 61.64 43 *e*P **P 11 36 47.4 +0.4**
comp=Z,182nm,1.3s,baz=267,slow=6.5
WLF Walferdange 61.64 43 ⇑P **P 11 36 47.4 +0.4**
WLF Walferdange 61.64 43 *d*P **P 11 36 47.4 +0.4**
comp=Z,58nm,1.4s
MEM Membach 61.65 42 *d*P **P 11 36 46.4 -0.6**
comp=Z,56nm,1.3s
MEM *dp*P **pwP 11 36 55.7 -0.7**
MEM *dx* x 11 37 07.7
CKFL Kef-Lekhel 61.66 58 P **P 11 36 49.8 +2.3**
BNI Bardonecchia 61.67 48 ⇓P **P 11 36 48.5 +1.0**
BTNL Ternell 61.72 42 *d*P **P 11 36 47.2 -0.3**
BTNL *dp*P **pwP 11 36 56.8 -0.2**
BBB Bella Bella 62.15 320 LR LR 12 03 40.2
comp=Z,10µm,20.4s,baz=102,slow=36
SENIN Lac Senin/Sane 62.17 47 P **P 11 36 51.6 +0.7**
SENIN IAmb IAmb 11 37 13.1
comp=Z,126nm,1.2s
ECH Echery 62.19 44 ⇓P **P 11 36 50.6 -0.1**
CMAH Djebel Manchou 62.22 58 P **P 11 36 53.2 +2.0**
ABSA Djebel Ababsia 62.28 58 P **P 11 36 51.8 +0.2**
AHRW Bad Neuenahr-A 62.32 42 *e*P **P 11 36 52.2 +0.8**
comp=Z,377nm,1.4s,baz=267,slow=6.5
KMY Karmoy 62.52 32 *e*P **P 11 36 52.2 -0.5**
KMY *eS* **S 11 45 16.1 -3.8**
BUG Bochum--Univer 62.52 41 *e*P **P 11 36 53.1 +0.2**
comp=Z,178nm,1.4s,baz=267,slow=6.5
MONC Moncucco Torin 62.56 48 ⇓P **P 11 36 54.5 +1.2**
DAG Danmarks Havn 62.59 10 *i* P **P 11 36 53.0 +0.1**
DAG IAmb IAmb 11 37 14.1
comp=Z,603nm,1.5s
DAG Danmarks Havn 62.59 10 *i* P P'P'df 12 05 49.0 -12
DAG Danmarks Havn 62.59 10 ⇓P **P 11 36 52.7 -0.2**
SUE Sulen 62.67 30 *e*P **P 11 36 53.2 -0.4**
SUE *eS* **S 11 45 20.2 -1.4**
SUE IVMs_BB IVMs_BB 11 57 36.2
comp=Z,4µm,18.1s
ASK Askoy 62.76 31 *e*P **P 11 36 54.5 +0.3**
ASK *eS* **S 11 45 20.6 -2.1**
BER Bergen 62.80 31 IVmB_BB 11 36 54.1
comp=Z,1µm,4.0s
BER *e*P **P 11 36 54.7 +0.1**
BER *eS* **S 11 45 20.7 -2.6**
BER IVMs_BB IVMs_BB 11 57 59.8
comp=Z,2µm,17.8s
IBBN Ibbenburen 62.91 40 ⇑P **P 11 36 55.8 +0.4**
FOO Floro 62.92 29 *e*P **P 11 36 54.6 -0.7**
FOO *eS* **S 11 45 23.2 -1.6**
BFO Black Forest 62.97 44 P **P 11 36 55.6 -0.4**
BFO pmax pmax
comp=Z,138nm,1.5s
BFO Black Forest 62.97 44 P **P 11 36 55.6 -0.4**
BFO Black Forest 62.97 44 *e*P **P 11 36 55.5 -0.5**
baz=267,slow=6.5
BFO Black Forest 62.97 44 P **P 11 36 55.7 -0.4**
BFO P **pP 11 36 56.8 -1.4**
AY01 Puyuhuapi 62.99 190 P **P 11 36 56.3 +0.5**
AY01 IAmb IAmb 11 36 59.6
comp=Z,200nm,1.1s
TNS Taunus Mts 63.17 42 *e*P **P 11 36 57.6 +0.3**
comp=Z,190nm,1.2s,baz=267,slow=6.5
BLS5 Blasjo 63.17 32 *e*P **P 11 36 57.3 +0.2**
BLS5 *eS* **S 11 45 26.2 -1.9**
BLS5 IVMs_BB IVMs_BB 11 57 50.6
comp=Z,2µm,22.9s
EUNU Eureka 63.22 355 P **P 11 36 57.2 +0.1**
EUNU IAmb IAmb 11 37 19.4
comp=Z,215nm,1.5s
EUNU Eureka 63.22 355 ⇑P **P 11 36 57.7 +0.6**
KASTN Kahler Asten 63.22 41 *e*P **P 11 36 57.6 0.0**
comp=Z,136nm,1.3s,baz=267,slow=6.5
ODD1 Odda 63.35 31 *e*P **P 11 36 58.9 +0.6**
ODD1 *eS* **S 11 45 28.2 -2.1**
ODD1 *eSS* **SS 11 49 34.9 -1.7**
HYA Hoyanger 63.37 30 *e*P **P 11 36 58.7 +0.5**
HYA *eS* **S 11 45 28.6 -1.8**
SNART Snartemo 63.37 33 *e*P **P 11 36 58.5 +0.1**
SNART *eS* **S 11 45 28.2 -2.3**
GRNB Grenville Isla 63.44 322 P **P 11 36 60.0 +1.0**
TAMR Tamra 63.55 57 ⇑P **P 11 37 01.2 +1.2**
STU Stuttgart 63.57 44 P **P 11 37 00.5 +0.6**
STU pmax pmax
comp=Z,286nm,1.3s
STU Stuttgart 63.57 44 P **P 11 37 00.5 +0.6**
STU IAmb IAmb 11 37 21.8
comp=Z,286nm,1.3s
TUE Stuetta 63.59 47 P **P 11 37 00.6 +0.3**
TUE IAmb IAmb 11 37 23.2
comp=Z,389nm,1.7s
TUE Stuetta 63.59 47 ⇓P **P 11 37 00.8 +0.5**
BOB Bobbio (Coli) 63.63 48 ⇓P **P 11 37 00.8 +0.3**
VSL Villasalto 63.65 54 P **P 11 37 00.8 +0.2**
VSL IAmb IAmb 11 37 22.4
comp=Z,282nm,1.3s
VSL IAMs_20 IAMs_20 11 58 54.7
comp=Z,8µm,22.0s
VSL Villasalto 63.65 54 ⇑P **P 11 37 00.7 +0.2**
WTLY Watson Lake, Y 63.68 329 P **P 11 37 01.9 +1.4**
baz=100
TGTN Hyland Airport 63.68 330 P **P 11 37 02.0 +1.6**
baz=101,SNR=39
TGTN S **S 11 45 34.3 -0.2**
baz=101
KEST Kesra 63.82 59 P **P 11 37 02.6 +0.8**
comp=Z,79nm,0.7s,baz=192,slow=2.3,SNR=60
KEST LR LR 12 01 04.1
comp=Z,3µm,20.8s,baz=221,slow=33
KEST PKP2bc 12 06 00.9
comp=Z,4.8nm,1.0s,baz=291,slow=5.7,SNR=3.9
KEST Kesra 63.82 59 P **P 11 37 02.8 +0.9**
KEST IAmb IAmb 11 37 24.1
comp=Z,248nm,1.1s
SHEL Horse Pasture 63.83 119 P **P 11 37 02.6 +0.5**
SHEL pmax pmax
comp=Z,159nm,0.9s
SHEL Horse Pasture 63.83 119 P **P 11 37 02.6 +0.5**
SHEL IAmb IAmb 11 37 04.6
comp=Z,159nm,0.9s
RETH Rethem/Aller, 63.92 40 *e*P **P 11 37 02.7 +0.6**
comp=Z,226nm,1.4s,baz=267,slow=6.5
AKN Aaknes 63.95 29 *e*P **P 11 37 02.9 +0.8**
AKN *eS* **S 11 45 36.4 -1.3**
AKN *eSS* **SS 11 49 47.7 +1.8**
AKN IVMs_BB IVMs_BB 11 58 13.0
comp=Z,4µm,19.8s
AKN IVMs_BB IVMs_BB 11 58 55.1
comp=E,3µm,5.7s
DAVOX Davos/Dischmat 63.96 46 LR LR 11 59 49.5
comp=E,3µm,21.7s,baz=263,slow=31
DAVA Damuels 63.98 46 *i* P **P 11 37 03.4 +0.6**
comp=E,34nm,0.7s,SNR=50
DAVA Damuels 63.98 46 *e*P P'P'df 12 05 51.4 -8.1
comp=E,21nm,1.2s
COYC Coyhaique 64.03 189 P **P 11 37 03.1 +0.3**
COYC IAmb IAmb 11 37 49.3
comp=Z,112nm,1.0s
COYC Coyhaique 64.03 189 ⇓P **P 11 37 03.4 +0.6**
DLBC Dease Lake 64.04 327 LR LR 12 04 16.0
comp=Z,18µm,20.6s,baz=92,slow=35
DLBC Dease Lake 64.04 327 P **P 11 37 04.0 +1.2**
DLBC IAmb IAmb 11 37 38.0
comp=Z,174nm,1.4s
HOMB Homborsund 64.04 33 *e*P **P 11 37 03.3 +0.5**
HOMB *eS* **S 11 45 37.6 -1.2**
HOMB IVMs_BB IVMs_BB 11 57 01.3
comp=Z,1µm,25.7s
UBR Ueberruh 64.14 45 *e*P **P 11 37 03.7 -0.1**
comp=Z,43nm,1.1s,baz=267,slow=6.5
MUD Monsted U'grnd 64.17 35 *i* P **P 11 37 03.0 -0.7**
MUD IAmb IAmb 11 37 25.2
comp=Z,403nm,1.5s
GTTG Gottingen 64.21 41 *e*P **P 11 37 04.3 +0.2**
comp=Z,115nm,1.3s,baz=267,slow=6.5
PRMA PARMA 64.25 48 P **P 11 37 04.9 +0.5**
PRMA IAmb IAmb 11 38 10.2
comp=Z,274nm,1.3s
MOL Molde 64.28 29 *e*P **P 11 37 03.5 -0.8**
MOL *eS* **S 11 45 39.7 -2.0**
MOL IVMs_BB IVMs_BB 11 59 08.2
comp=Z,3µm,23.9s
SKAR Skarslia 64.30 31 *e*P **P 11 37 05.2 +0.6**
SKAR *eS* **S 11 45 40.7 -1.4**
SKAR IVMs_BB IVMs_BB 11 58 44.5
comp=Z,3µm,21.5s
NRDL Niedersach Rie 64.36 40 *e*P **P 11 37 05.6 +0.7**
comp=Z,194nm,1.4s,baz=267,slow=6.5
SALO Salr 64.40 47 P **P 11 37 05.5 +0.1**
SALO Salr 64.40 47 ⇑P **P 11 37 06.1 +0.7**
CLZ Clausthal 64.48 41 *e*P **P 11 37 05.3 -0.6**
comp=Z,186nm,1.3s,baz=267,slow=6.5
FETA Feichten 64.55 46 *i* P **P 11 37 06.6 0.0**
comp=Z,53nm,0.9s,SNR=72
FETA Feichten 64.55 46 *e*P P'P'df 12 05 49.4 -9.2
comp=Z,10.0nm,1.4s
RETA Reutte 64.58 45 *i* P **P 11 37 06.8 +0.2**
comp=Z,36nm,0.7s,SNR=61
RETA Reutte 64.58 45 *e*P P'P'df 12 05 49.8 -8.6
comp=Z,14nm,1.4s
BSEG Bad Segeberg 64.59 38 *e*P **P 11 37 06.6 +0.2**
comp=Z,200nm,1.4s,baz=267,slow=6.5
ALE Alert 64.63 360 IAMs_20 IAMs_20 12 04 10.3
comp=Z,8µm,20.0s
CASP Castiglione de 64.67 51 P **P 11 37 08.0 +0.7**
CASP IAmb IAmb 11 37 29.2
comp=Z,334nm,1.5s
ASSE Asse, Remlinge 64.69 40 *e*P **P 11 37 07.7 +0.6**
comp=Z,169nm,1.3s,baz=267,slow=6.5
ASSE *ep*P **pwP 11 37 15.7 -0.8**
KONO Kongsberg 64.79 32*ce*P **P 11 37 08.2 +0.5**
KONO pmax pmax
comp=Z,34nm,0.9s
KONO Kongsberg 64.79 32 P **P 11 37 08.4 +0.8**
KONO IAmb IAmb 11 37 29.5
comp=Z,215nm,1.2s
KONO Kongsberg 64.79 32 ⇑P **P 11 37 08.4 +0.8**
KONO Kongsberg 64.79 32 *e*P **P 11 37 08.2 +0.5**
MOTA Moosalm 64.81 46 *i* P **P 11 37 08.0 -0.3**
comp=Z,33nm,0.7s,SNR=44
MOTA Moosalm 64.81 46 *e*P P'P'df 12 05 46.5 -12
comp=Z,28nm,1.2s
SQTA Sankt Quirin 64.88 46 *i* P **P 11 37 08.6 -0.1**
comp=Z,30nm,0.6s,SNR=46
SQTA Sankt Quirin 64.88 46 *e*P P'P'df 12 05 48.5 -9.4
comp=Z,24nm,1.2s
DOMB Dombas 64.88 29 *e*P **P 11 37 07.8 -0.5**
DOMB IVmB_BB 11 37 31.1
comp=Z,2µm,4.4s
DOMB *eS* **S 11 45 48.9 -0.4**
DOMB IVMs_BB IVMs_BB 11 58 43.1
comp=Z,3µm,15.5s
GRFO Grafenberg 64.93 43 P **P 11 37 08.9 +0.1**
GRFO pmax pmax
comp=Z,296nm,1.4s
GRFO Grafenberg 64.93 43 P **P 11 37 08.9 +0.1**
GRFO IAmb IAmb 11 37 31.0
comp=Z,296nm,1.4s
GRA1 Grafenberg Arr 64.93 43 P **P 11 37 08.7 -0.2**
GRA1 IAmb IAmb 11 37 31.1
comp=Z,295nm,1.4s
GRF Grafenberg Arr 64.93 43 P **P 11 37 08.7 -0.2**
GRF pmax pmax
comp=Z,295nm,1.4s
GRF Grafenberg Arr 64.93 43 *e*L L 11 59 29.9
comp=Z,5µm,21.8s
OSSC Osservatorio P 64.94 50 P **P 11 37 08.6 -0.4**
OSSC IAmb IAmb 11 37 34.1
comp=Z,238nm,1.3s
RPN Rapa Nui 64.98 227 P **P 11 37 11.2 +1.9**
comp=Z,288nm,1.0s,baz=319,slow=4.4,SNR=9.6
RPN LR LR 12 04 38.6
comp=Z,974nm,18.2s,baz=52,slow=35
RPN Rapa Nui 64.98 227 P **P 11 37 12.4 +3.0**
FLTG Flechtingen 65.04 40 *e*P **P 11 37 09.4 0.0**
comp=Z,234nm,1.5s,baz=267,slow=6.5
FLTG Flechtingen 65.04 40 P **P 11 37 09.2 -0.2**
WRAK Wrangell Islan 65.05 324 IAMs_20 IAMs_20 12 04 54.7
comp=Z,8µm,20.0s
TATN Tatouine 65.07 62 ⇑P **P 11 37 10.1 0.0**
VA02 Isla de Pascua 65.08 228 P **P 11 37 13.1 +3.1**
WATA Walderalm 65.13 46 *i* P **P 11 37 09.8 -0.5**
comp=Z,24nm,0.9s,SNR=26
WATA Walderalm 65.13 46 *e*P P'P'df 12 05 44.0 -14
comp=Z,16nm,1.1s
WTTA Wattenberg 65.17 46 *i* P **P 11 37 10.6 0.0**
comp=Z,18nm,0.8s,SNR=20
WTTA Wattenberg 65.17 46 *e*P P'P'df 12 05 48.5 -9.0
comp=Z,23nm,1.2s
CTI Castel Tesino 65.18 47 P **P 11 37 10.2 -0.5**
CTI pmax pmax
comp=Z,200nm,1.3s
CTI Castel Tesino 65.18 47 P **P 11 37 10.2 -0.5**
CTI IAmb IAmb 11 37 31.6
comp=Z,200nm,1.3s
TEOL Teolo 65.20 48 P **P 11 37 10.0 -0.6**
TEOL IAmb IAmb 11 37 31.5
comp=Z,306nm,1.3s
MOX Moxa 65.21 42 *e*P **P 11 37 10.4 -0.2**
comp=Z,72nm,1.7s,baz=267,slow=6.5
MOX *eL* L 12 00 54.4
comp=Z,6µm,20.3s
A36M Sachs Harbour 65.26 342 P **P 11 37 09.8 -0.6**
baz=109,SNR=30
A36M S **S 11 45 47.5 -5.9**
baz=109
MMPY Sheldon Lake, 65.26 331 P **P 11 37 11.4 +0.6**
baz=99,SNR=7.0
NEUB Neuenburg 65.33 41 *e*pP pP 11 37 19.6 +6.0
OSL Oslo 65.39 32 *e*P **P 11 37 10.4 -1.2**
OSL *eS* **S 11 45 53.5 -1.9**
MANZ Manzenberg 65.51 43 *e*pP pP 11 37 20.3 +5.5
ROTZ Rotzenmuhle 65.57 43 *e*P **P 11 37 13.2 +0.3**
comp=Z,32nm,1.5s,baz=267,slow=6.5
NC204 NORSAR Array S 65.57 30 P **P 11 37 13.7 +0.8**
MGAB Montegabbione 65.59 50 ⇑P **P 11 37 12.7 -0.6**
TBLU Trondheim 65.62 28 *e*P **P 11 37 12.7 -0.2**
TBLU *eS* **S 11 45 58.0 -0.1**
TBLU IVMs_BB IVMs_BB 12 01 15.3
comp=Z,3µm,28.7s
WERD Werda 65.65 42 *e*P **P 11 37 13.5 0.0**
comp=Z,93nm,1.3s,baz=267,slow=6.5

GUNZ **Gunzen** 65.66 42 *e*P P 11 37 13.6 0.0
comp=Z,70nm,1.5s,baz=267,slow=6.5
P33M **Teslin, Yukon** 65.68 329 P P 11 37 14.7 +1.1
baz=96,SNR=23
P33M S S 11 45 59.7 +0.5
baz=96
WERN **Wernitzgruen** 65.69 42 *e*P P 11 37 13.8 0.0
comp=Z,149nm,1.7s,baz=267,slow=6.5
NKC **Novy Kostel** 65.73 42 *e*P P 11 37 14.3 +0.3
NKC *e*S S 11 45 57.4 -2.7
NKC MLR MLR
comp=Z,6µm,21.3s
NKC **Novy Kostel** 65.73 42 *e*P P 11 37 14.3 +0.3
NKC *e*S S 11 45 57.4 -2.7
NKC AMS AMS 11 59 30.0
comp=Z,6µm,21.3s
TANN **Tannenbergstha** 65.75 42 *e*P P 11 37 14.3 +0.1
comp=Z,107nm,1.4s,baz=267,slow=6.5
NB2 **NORSAR Subarra** 65.76 31 P P 11 37 14.4 +0.4
comp=Z,286nm,1.2s,baz=263,slow=6.5
NB2 **NORSAR Subarra** 65.76 31 P P 11 37 14.4 +0.4
baz=263,slow=6.5
NOA **NORSAR Array B** 65.76 31 P P 11 37 14.2 +0.2
comp=Z,25nm,0.9s,baz=263,slow=6.4,SNR=64
NOA LR LR 12 00 25.4
comp=Z,7µm,21.7s,baz=265,slow=31
NOA PKPPKP 12 05 50.6
comp=Z,4.8nm,1.1s,baz=80,slow=4.2,SNR=4.9
ABTA **Abfaltersbach** 65.77 46 *i* P P 11 37 14.2 -0.2
comp=Z,30nm,1.1s,SNR=39
NC303 **NORSAR Array S** 65.86 30 *e*P P 11 37 15.3 +0.7
MURB **Monte Urbino** 65.88 50 P P 11 37 13.9 -1.2
MURB IAmb IAmb 11 37 35.9
comp=Z,179nm,1.3s
NC602 **NORSAR Array S** 65.89 31 *e*P P 11 37 15.5 +0.7
WET **Wettzell** 66.00 44 *e*P P 11 37 15.8 0.0
comp=Z,149nm,1.4s,baz=267,slow=6.5
CLL **Collm** 66.10 41 *i* P P 11 37 16.3 0.0
CLL *i* 11 37 23.6
CLL *i* 11 37 34.0
CLL *e*S S 11 46 04.0 -0.5
CLL pmax pmax
comp=Z,153nm,1.6s
CLL MLR MLR
comp=Z,4µm,19.9s
CLL **Collm** 66.10 41 *i* P P 11 37 16.3 0.0
comp=Z,153nm,1.6s
CLL *i* pP pwP 11 37 23.6 -2.2
CLL *i* x x 11 37 34.0
comp=Z,336nm,1.3s
CLL *e*Pmax 11 37 37.0
CLL *e*PP PP 11 39 47.0 +5.3
CLL *e*PPPP 11 42 00.0
CLL *e*S S 11 46 04.0 -0.5
CLL *e*ScS SKiKP 11 47 18.0 -3.8
CLL *e*SS SS 11 50 18.0 -1.8
CLL *e*x x 11 52 24.0
CLL *e*SSS SSS 11 53 36.0
CLL *e*SSSS 11 54 12.0
CLL Lmax 11 58 00.0
CLL LmV 12 01 00.0
comp=Z,4µm,19.9s
CLL *e*PKPPKPdf **P'P'df** 12 05 52.0 -3.7
CLL **Collm** 66.10 41 *e*P P 11 37 16.3 0.0
comp=Z,182nm,1.4s,baz=267,slow=6.5
FARO **Faro, Yukon** 66.17 331 P P 11 37 17.2 +0.6
baz=97,SNR=22
FARO S S 11 46 06.2 +1.2
baz=97
NOR **Nord** 66.22 6 *i* P P 11 37 15.9 -0.7
NOR IAmb IAmb 11 37 37.8
comp=Z,290nm,1.4s
NOR **Nord** 66.22 6 *e*P P'P'df 12 05 46.4 -8.6
KBA **Koelnbreinsper** 66.34 46 *i* P P 11 37 17.6 -0.6
comp=Z,18nm,0.7s,SNR=52
KBA **Koelnbreinsper** 66.34 46 *e*P P'P'df 12 05 46.2 -9.4
comp=Z,8.5nm,1.8s
PTCC **Patocco-Chiusa** 66.36 47 ⇓P P 11 37 17.5 -0.7
RGN **Rugen** 66.38 38 IAms_20 IAms_20 12 02 04.3
comp=Z,8µm,20.0s
RGN **Rugen** 66.38 38 *e*P P 11 37 17.6 -0.4
KHC **Kasperske Hory** 66.47 44 *e*P P 11 37 18.6 -0.2
KHC *e* 11 37 27.0
KHC *e*S S 11 46 07.5 -1.6
KHC MLR MLR
comp=Z,4µm,21.9s
KHC **Kasperske Hory** 66.47 44 *e*P P 11 37 18.6 -0.2
KHC *e*pP pwP 11 37 27.0 -1.2
KHC *e*S S 11 46 07.5 -1.6
KHC AMS AMS 11 59 20.0
comp=Z,4µm,21.9s
KHC **Kasperske Hory** 66.47 44 *e*P P'P'df 12 05 45.1 -10
BIOA **Bad Ischl, Aus** 66.53 45 *e*P P 11 37 19.6 +0.4
BIOA **Bad Ischl, Aus** 66.53 45 *e*P P'P'df 12 05 42.5 -13
comp=Z,6.2nm,0.8s
NSS **Namsos** 66.55 27 *e*P P 11 37 19.2 +0.3
NSS *e*S S 11 46 08.3 -1.0
GEC2 **GERESS Array S** 66.55 44 P P 11 37 18.9 -0.4
GEC2 IAmb IAmb 11 37 41.3
comp=Z,300nm,1.5s
GEC2 **GERESS Array S** 66.55 44 *e*P P 11 37 19.0 -0.4
comp=Z,128nm,1.4s,baz=267,slow=6.5
GEC2 *e*pP pwP 11 37 27.3 -1.5
GERES **GERESS Array B** 66.55 44 P P 11 37 18.9 -0.4
comp=Z,14nm,0.8s,baz=286,slow=5.3,SNR=78
GERES LR LR 12 00 35.7
comp=Z,3µm,21.8s,baz=274,slow=31
GERES PKPPKP P'P'df 12 05 46.9 -8.2
comp=Z,5.1nm,1.2s,baz=94,slow=4.0,SNR=10.0
GERES **GERESS Array B** 66.55 44 P P 11 37 19.2 -0.2
GERES **GERESS Array B** 66.55 44 P P 11 37 19.2 -0.2
MYKA **Terra Mystica** 66.55 46 *i* P P 11 37 19.8 +0.4
comp=Z,38nm,0.8s,SNR=37
MYKA **Terra Mystica** 66.55 46 *e*P P'P'df 12 05 45.9 -9.2
comp=Z,11nm,1.1s
AQU **L'Aquila** 66.56 51 *e*P P 11 37 19.8 +0.2
RUE **Ruedersdorf** 66.60 40 *e*P P 11 37 18.8 -0.7
CADS **Cadrg** 66.63 47 *e*P P 11 37 19.3 -0.6
CADS IAMs_20 IAMs_20 11 53 41.2
CADS *i* 12 03 08.4
comp=Z,2µm,21.5s
M31M **Drury Creek, Y** 66.65 331 IAMs_20 IAMs_20 12 04 25.4
comp=Z,6µm,21.0s
M31M **Drury Creek, Y** 66.65 331 P P 11 37 21.0 +1.3
baz=96,SNR=30
M31M S S 11 46 12.7 +1.9
baz=96
BRG **Berggiesshubel** 66.69 42 *i* P P 11 37 20.0 -0.1
BRG Amp 11 37 23.9
comp=Z,65nm,1.0s
BRG *i* x x 11 37 28.1
BRG Amp 11 37 31.3
comp=Z,130nm,1.4s
BRG *e*x x 11 37 40.1
BRG Amp 11 37 42.5
comp=Z,262nm,1.3s
BRG **Berggiesshubel** 66.69 42 S S 11 46 11.0 -0.7
BRG Amp 12 01 46.0
comp=Z,5.8nm,19.9s
BRG Amp 12 01 51.0
comp=E,4.0nm,19.9s
BRG Amp 12 01 56.0
comp=N,2.0nm,20.1s
BRG PKPPKP 12 05 57.9
BRG Amp 12 06 00.9
comp=Z,46nm,1.6s
BRG **Berggiesshubel** 66.69 42 *i* P P 11 37 20.0 -0.1
BRG *i* 11 37 28.1
BRG pmax pmax
comp=Z,65nm,1.0s
BRG **Berggiesshubel** 66.69 42 *e*P P 11 37 20.2 +0.1
comp=Z,131nm,1.4s,baz=267,slow=6.5
BRG *e*pP pwP 11 37 28.2 -1.4
PBCC **Pribram** 66.73 43 *e*P P 11 37 20.6 +0.2
SIT **Sitka** 66.73 325 P P 11 37 22.6 +2.4
baz=93
WHY **Whitehorse** 66.74 329 ⇑P P 11 37 21.1 +0.7
WHY **Whitehorse** 66.74 329 P P 11 37 21.1 +0.7
baz=95,SNR=5.7
DEL **Delary** 66.77 36 *e*P P 11 37 20.1 -0.3
CLTB **Caltabellotta** 66.78 56 ⇑P P 11 37 22.1 +1.1
CLTB ⇓P pP 11 37 22.6 -0.6
SKDS **Skadanscina** 66.85 48 ⇑*i*P P 11 37 21.3 0.0
SKAG **Skagway** 66.88 328 P P 11 37 22.0 +0.9
baz=94

HFS **Hagfors** 66.89 32 LR LR 12 02 10.2
comp=Z,4µm,20.0s,baz=267,slow=32
MOA **Molln** 66.94 45 *i* P P 11 37 21.2 -0.7
comp=Z,16nm,0.6s,SNR=22
MOA **Molln** 66.94 45 *e*P P'P'df 12 05 39.2 -15
comp=Z,7.1nm,1.4s
CKRC **Cesky Krumlov** 66.95 44 *e*P P 11 37 21.2 -0.7
CKRC *e*S S 11 46 10.9 -4.0
CKRC AMS AMS 12 00 30.0
comp=Z,3µm,22.4s
CKRC **Cesky Krumlov** 66.95 44 *e*P P'P'df 12 05 48.5 -5.8
PRU **Pruhonice** 67.08 43 *e*P P 11 37 22.9 +0.3
PRU *e* 11 37 33.1
PRU *e*S S 11 46 15.2 -1.2
PRU MLR MLR
comp=Z,5µm,21.9s
PRU **Pruhonice** 67.08 43 *e*P P 11 37 22.9 +0.3
PRU *e*pP pwP 11 37 33.1 +1.0
PRU *e*S S 11 46 15.2 -1.2
PRU AMS AMS 12 00 20.0
comp=Z,5µm,21.9s
PVCC **Panska Ves** 67.09 42 AMS AMS 12 01 30.0
comp=Z,6µm,19.8s
INK **Inuvik** 67.10 337 PKPPKP 12 05 49.5
comp=Z,13nm,1.2s,baz=283,slow=7.0,SNR=5.9
INK LR LR 12 06 48.8
comp=Z,7µm,19.4s,baz=89,slow=36
INK **Inuvik** 67.10 337 P P 11 37 21.9 -0.4
INK pmax pmax
comp=Z,248nm,1.3s
INK **Inuvik** 67.10 337 P P 11 37 21.9 -0.4
INK IAmb IAmb 11 37 56.2
comp=Z,248nm,1.2s
INK **Inuvik** 67.10 337 ⇓P P 11 37 21.7 -0.7
INK ⇓P P 11 37 21.9 -0.4
INK ⇓P sP 11 37 23.1 -2.3
INK **Inuvik** 67.10 337 P P 11 37 22.0 -0.4
baz=99,SNR=59
INK S S 11 46 11.4 -4.5
baz=99
CEY **Cerknica** 67.13 47 ⇑*i*P P 11 37 22.4 -0.7
OBKA **Obir** 67.18 46 *i* P P 11 37 23.1 -0.4
comp=Z,49nm,0.8s,SNR=64
OBKA **Obir** 67.18 46 *e*P P'P'df 12 05 45.1 -8.9
comp=Z,7.2nm,1.4s
LJU **Ljubljana** 67.19 47 ⇑*i*P P 11 37 22.7 -0.7
LJU **Ljubljana** 67.19 47 *i* P P 11 37 23.4 0.0
LJU *e* 11 37 41.9
LJU *e*S S 11 46 12.8 -5.1
LJU IAMs_20 IAMs_20 12 03 37.0
comp=Z,3µm,18.2s
STOK **Stokkvaagen** 67.22 25 *e*P P 11 37 22.7 -0.5
N31M **Braeburn, Yuko** 67.24 330 P P 11 37 24.4 +0.9
baz=94,SNR=30
KONS **Konsvik** 67.28 25 *e*P P 11 37 23.9 +0.3
KONS *e*S S 11 46 15.8 -2.3
BSD **Bornholm Skovb** 67.32 37 *e*P P 11 37 24.0 0.0
RABC **Rab** 67.43 48 *i* P P 11 37 24.4 -0.6
SOKA **Soboth** 67.51 46 *i* P P 11 37 24.6 -0.9
comp=Z,13nm,0.7s,SNR=36
SOKA **Soboth** 67.51 46 *e*P P'P'df 12 05 44.4 -9.1
comp=Z,16nm,1.3s
VIRC **Vir** 67.65 49 *i* P P 11 37 25.5 -0.8
LOF **Lofoten** 67.66 23 *e*P P 11 37 25.3 -0.6
LOF IVmB_BB 11 37 31.2
comp=Z,2µm,2.7s
LOF *e*S S 11 46 20.7 -2.0
LOF *e*SS SS 11 50 41.9 -1.3
LOF IVMs_BB IVMs_BB 12 02 24.4
comp=Z,3µm,4.2s
DUGI **Dugi Otok** 67.67 49 *i* P P 11 37 26.0 -0.5
TREC **Trest** 67.71 43 *e*P P 11 37 26.8 +0.1
TREC MLR MLR
comp=Z,3µm,23.8s
TREC **Trest** 67.71 43 *e*P P 11 37 26.8 +0.1
TREC AMS AMS 12 00 50.0
comp=Z,3µm,23.8s
BOJS **Bojanci** 67.72 48 *e*P P 11 37 26.4 -0.4
BOJS *e*S S 11 46 20.9 -3.3
VAE **Valguarnera** 67.73 56 LR LR 12 02 48.1
comp=Z,8µm,20.7s,baz=344,slow=32
MOR8 **Moi Rana** 67.77 25 *e*P P 11 37 28.1 +1.3
MOR8 *e*S S 11 46 25.6 +1.4
MOR8 *e*SS SS 11 50 46.2 +1.1
MOR8 IVMs_BB IVMs_BB 12 06 12.7
comp=Z,3µm,4.8s
M30M **Minto, Yukon** 67.80 331 IAMs_20 IAMs_20 12 07 11.7
comp=Z,5µm,20.0s
M30M **Minto, Yukon** 67.80 331 P P 11 37 27.6 +0.6
baz=94,SNR=27
ARSA **Arzberg** 67.82 46 *i* P P 11 37 26.6 -0.8
comp=Z,14nm,0.6s,SNR=27
ARSA **Arzberg** 67.82 46 *e*P P'P'df 12 05 39.6 -13
comp=Z,4.8nm,0.7s
CRES **Cresnjev** 67.85 47 ⇑*i*P P 11 37 26.6 -1.0
CONA **Conrad Observa** 68.02 45 *i* P P 11 37 28.4 -0.3
comp=Z,10nm,0.9s,SNR=30
CONA **Conrad Observa** 68.02 45 *e*P P'P'df 12 05 32.6 -20
comp=Z,5.5nm,1.2s
UPC **Upice** 68.02 42 *e*P P 11 37 28.5 0.0
UPC *e* 11 37 36.8
UPC *e*S S 11 46 26.0 -1.6
UPC MLR MLR
comp=Z,6µm,20.2s
UPC **Upice** 68.02 42 *e*P P 11 37 28.5 0.0
UPC *e*pP pwP 11 37 36.8 -1.2
UPC *e*S S 11 46 26.0 -1.6
UPC AMS AMS 12 01 50.0
comp=Z,6µm,20.2s
CHVC **Chvalec** 68.04 42 *e*P P 11 37 28.6 -0.1
CHVC AMS AMS 12 02 00.0
comp=Z,6µm,20.6s
CHVC **Chvalec** 68.04 42 *ex* x 12 05 54.1
CHVC *e*P P'P'df 12 05 44.3 -8.2
HYT **Haines Junctio** 68.04 329 P P 11 37 29.6 +0.9
baz=92,SNR=12
EPYK **Eagle Plains** 68.08 335 IAMs_20 IAMs_20 12 05 02.7
comp=Z,8µm,22.0s
EPYK **Eagle Plains** 68.08 335 P P 11 37 28.2 -0.5
baz=95
OSTC **Ostas** 68.14 42 *e*P P 11 37 29.3 -0.1
OSTC *e*S S 11 46 26.8 -2.4
OSTC AMS AMS 12 02 10.0
comp=Z,6µm,18.7s
UDBI **Udbina** 68.14 49 *i* P P 11 37 29.3 -0.2
MORI **Morici** 68.15 49 *i* P P 11 37 28.1 -1.4
KSP **Ksiaz** 68.18 42 *e*P P 11 37 29.4 -0.1
KSP *e*L L 12 00 24.4
comp=Z,7µm,24.6s
DPC **Dobruska-Polom** 68.22 42 *e*P P 11 37 29.7 -0.2
DPC *e*S S 11 46 26.0 -4.1
DPC MLR MLR
comp=Z,5µm,20.3s
DPC **Dobruska-Polom** 68.22 42 *e*P P 11 37 29.7 -0.2
DPC *e*S S 11 46 26.0 -4.1
DPC AMS AMS 12 01 40.0
comp=Z,5µm,20.3s
DPC **Dobruska-Polom** 68.22 42 *e*P P'P'df 12 05 45.7 -6.5
FAUS **Fauske** 68.23 24 *e*P P 11 37 30.3 +0.8
FAUS *e*S S 11 46 28.7 -0.8
FAUS IVMs_BB IVMs_BB 12 01 45.5
comp=Z,2µm,4.0s
STEI **Steigen** 68.27 23 *e*P P 11 37 28.5 -1.3
STEI IVMs_BB IVMs_BB 12 01 02.6
comp=Z,4µm,4.2s
KRUC **Moravsky** 68.32 44 *e*P P 11 37 29.9 -0.6
KRUC *e*S S 11 46 21.9 -9.4
KRUC *e*PKPPKP P'P'df 12 05 42.4 -10
VIKU **Vikbolandet** 68.36 33 *e*P P 11 37 29.1 -1.4
VRAC **Vranov** 68.44 43 ⇓P P 11 37 31.2 0.0
VRAC **Vranov** 68.44 43 LR LR 12 01 57.2
comp=Z,2µm,21.9s,baz=275,slow=31
VRAC **Vranov** 68.44 43 ⇓P P 11 37 31.2 0.0
VRAC **Vranov** 68.44 43 *e*P P 11 37 30.9 -0.3
VRAC *e*S S 11 46 29.6 -3.1
YUK6 **Outpost Mounta** 68.46 329 P P 11 37 33.2 +1.8
baz=92,SNR=19
SOP **Sopron** 68.50 45 P P 11 37 33.5 +1.9
KRLC **Kraliky** 68.52 43 *e*P P 11 37 32.4 +0.6
KRLC *e* 11 37 41.8
KRLC MLR MLR
comp=Z,4µm,20.8s
KRLC **Kraliky** 68.52 43 *e*P P 11 37 32.4 +0.6
KRLC *e*pP pwP 11 37 41.8 +0.6

KRLC AMS AMS 12 01 30.0
comp=Z,4µm,20.8s
YUK4 **Talbot Arm** 68.61 330 P P 11 37 33.0 +0.6
baz=92,SNR=19
KIJV **Kijevo** 68.64 49 *i* P P 11 37 32.4 -0.2
I29M **Ogilvie Camp,** 68.65 334 IAMs_20 IAMs_20 12 05 35.9
comp=Z,7µm,22.0s
I29M **Ogilvie Camp,** 68.65 334 P P 11 37 31.7 -0.6
baz=94,SNR=15
GKP **Gorka Klasztor** 68.69 39 *e*P P 11 37 33.0 +0.3
BEHE **Becsehely** 68.72 46 ⇑*i*P P 11 37 32.9 -0.1
BEHE **Becsehely** 68.72 46 P P 11 37 33.7 +0.7
HVAR **Hvar** 68.74 50 *i* P P 11 37 32.0 -1.2
MRVN **Minervino Murg** 68.75 52 ⇑P P 11 37 33.3 -0.1
MRVN ⇓P pP 11 37 33.5 -2.1
CEL **Celeste** 68.81 55 IAMs_20 IAMs_20 12 01 56.4
comp=Z,4µm,21.0s
ZST **Bratislava** 68.83 45 *e*P P 11 37 33.7 0.0
ZST *e* 11 37 53.8
ZST pmax pmax
comp=Z,573nm,1.3s
ZST **Bratislava** 68.83 45 *e*P P 11 37 33.7 0.0
ZST *e* 11 37 53.8
UPP **Uppsala** 68.86 32 *e*P P 11 37 33.0 -0.5
MORC **Moravsky Berou** 69.03 43 ⇓P P 11 37 35.2 +0.2
MORC **Moravsky Berou** 69.03 43 ⇓P P 11 37 35.2 +0.2
MORC **Moravsky Berou** 69.03 43 P P 11 37 35.1 +0.2
MORC IAmb IAmb 11 37 56.6
comp=Z,300nm,1.4s
MORC **Moravsky Berou** 69.03 43 *e*P P 11 37 34.7 -0.2
MORC *e*S S 11 46 35.3 -4.5
MORC **Moravsky Berou** 69.03 43 ⇑P P 11 37 35.0 +0.1
MORC ⇓P P 11 37 35.1 +0.1
SMOL **Smolenice** 69.03 44 *e*P P 11 37 35.3 +0.4
SMOL *e* 11 37 55.8
SMOL pmax pmax
comp=Z,72nm,1.3s
SMOL **Smolenice** 69.03 44 *e*P P 11 37 35.3 +0.4
SMOL *e* 11 37 55.8
EGYH **Egyhazaskeszo** 69.04 45 P P 11 37 34.7 -0.2
DAWY **Dawson** 69.05 333 P P 11 37 35.0 +0.2
DAWY IAmb IAmb 11 38 06.6
comp=Z,189nm,1.5s
DAWY **Dawson** 69.05 333 P P 11 37 35.1 +0.4
baz=92,SNR=37
DAWY S S 11 46 37.4 -2.1
baz=92
MGRS **Mrkonjic Grad** 69.09 49 *e*P P 11 37 35.3 -0.1
BLY **Banja Luka** 69.14 48 *e*P P 11 37 34.6 -1.0
JAVC **Velka Javorina** 69.17 44 *e*P P 11 37 36.3 +0.5
JAVC *e*PKPPKP P'P'df 12 05 45.4 -5.2
MPLH **Magyarpolny** 69.19 46 P P 11 37 35.9 -0.1
MPLH PKPDF 12 15 37.0
MPLH PKIKP 12 15 41.7
MPLH PKPpB 12 15 42.3
KBS **Kingsbay** 69.21 11 *ce*P P 11 37 36.7 +1.2
KBS pmax pmax
comp=Z,36nm,1.3s
KBS **Kingsbay** 69.21 11 *i* P P 11 37 35.8 +0.3
KBS IAmb IAmb 11 37 57.9
comp=Z,932nm,1.4s
KBS **Kingsbay** 69.21 11 P P 11 37 37.0 +1.5
KBS **Kingsbay** 69.21 11 ⇑P P 11 37 37.0 +1.5
KBS **Kingsbay** 69.21 11 *e*P P 11 37 36.7 +1.2
RICI **Ricice** 69.21 50 P P 11 37 35.5 -0.6
EFI **East Falkland** 69.35 178 P P 11 37 37.8 +1.2
EFI pmax pmax
comp=Z,715nm,1.6s
EFI MLR MLR
comp=Z,5µm,20.0s
EFI **East Falkland** 69.35 178 P P 11 37 37.8 +1.2
EFI **East Falkland** 69.35 178 IAMs_20 IAMs_20 12 11 38.6
comp=Z,5µm,20.0s
TIP **Timpagrande** 69.38 54 IAMs_20 IAMs_20 12 02 49.3
comp=Z,5µm,22.0s
PINM **Pinnacle** 69.39 328 P P 11 37 37.9 +0.9
baz=90
OKC **Ostrava-Krasne** 69.42 43 *e*S S 11 46 41.7 -2.5
OKC AMS AMS 12 02 00.0
comp=Z,3µm,22.2s
TIH **Tihany** 69.46 46 P P 11 37 37.1 -0.5
YUK3 **Moose Creek** 69.49 330 P P 11 37 38.6 +0.9
baz=90,SNR=9.9
HSPB **Hornsund (broa** 69.57 14 *e*P P 11 37 46.9 +9.2
HSPB *e*L L 11 59 26.1
comp=Z,5µm,34.2s
HSPB **Hornsund (broa** 69.57 14 *e*P P 11 37 39.5 +1.8
HSPB *e*S S 11 46 45.0 -0.2
HSPB IVMs_BB IVMs_BB 11 59 42.6
comp=Z,1µm,4.1s
KOVH **Kovagotottos** 69.67 47 P P 11 37 38.3 -0.6
KOVH PKPDF 12 15 38.0
KOVH PKPpB 12 15 40.2
SRO **Srobarova** 69.67 45 *e*P P 11 37 39.2 +0.3
SRO *e* 11 37 59.4
SRO pmax pmax
comp=Z,242nm,1.4s
SRO **Srobarova** 69.67 45 *e*P P 11 37 39.2 +0.3
SRO *e* 11 37 59.4
BVCY **Beaver Creek** 69.68 331 P P 11 37 39.7 +1.0
baz=90,SNR=17
BVCY S S 11 46 45.8 -1.2
baz=90
SRO2 **Moca** 69.73 45 *e*P P 11 37 39.6 +0.4
SRO2 pmax pmax
comp=Z,136nm,1.1s
SRO2 **Moca** 69.73 45 *e*P P 11 37 39.6 +0.4
TRO **Tromso** 69.75 22 *e*P P 11 37 39.4 +0.5
TRO *e*S S 11 46 46.5 -0.9
TRO *e*SS SS 11 51 15.3 0.0
EGAK **Eagle** 69.83 333 P P 11 37 39.5 -0.1
baz=91
EGAK S S 11 46 44.6 -4.0
baz=91
CTG **Chitna Glacier** 69.92 329 P P 11 37 41.7 +1.3
baz=89,SNR=7.4
SPA0 **Spitsbergen Ar** 69.93 12 *e*P P 11 37 41.0 +0.9
SPA0 *e*S S 11 46 49.4 -0.1
SPITS **Spitsbergen Ar** 69.93 12 LR LR 12 04 23.7
comp=Z,3µm,21.7s,baz=26,slow=33
VYHS **Vyhne** 69.97 44 *e*P P 11 37 40.9 +0.2
VYHS *e* 11 38 01.3
VYHS **Vyhne** 69.97 44 *e*P P 11 37 40.9 +0.2
VYHS *e* 11 38 01.3
VYHS *e* 12 05 43.3
VYHS *e* 12 15 35.4
BCAR **Beaver Creek A** 70.10 331 P P 11 37 41.9 +0.6
BJO1 **Bjornoya** 70.11 16 *e*P P 11 37 41.2 +0.2
BJO1 *e*S S 11 46 49.8 -1.8
GRNC **Granite Creek** 70.12 329 P P 11 37 42.8 +1.1
GRNC IAMs_20 IAMs_20 12 06 51.4
comp=Z,8µm,21.0s
L27K **Beaver Creek,** 70.12 331 IAMs_20 IAMs_20 12 09 15.1
comp=Z,6µm,18.0s
L27K **Beaver Creek,** 70.12 331 P P 11 37 42.2 +0.7
baz=89,SNR=34
L27K S S 11 46 50.2 -2.0
baz=89
M27K **Edge Creek, AK** 70.15 331 IAMs_20 IAMs_20 12 06 00.0
comp=Z,6µm,22.0s
M27K **Edge Creek, AK** 70.15 331 P P 11 37 42.7 +0.9
baz=89,SNR=20
M27K S S 11 46 50.7 -2.1
baz=89
BUD **Budapest** 70.18 45 P P 11 37 39.8 -2.2
TREB **Trebinje** 70.18 50 *e*P P 11 37 38.9 -3.2
JETT **Jettan, Norway** 70.26 22 *e*P P 11 37 43.6 +1.4
BRY **Bratogost** 70.30 50 *e*P P 11 37 41.2 -1.8
BRY **Bratogost** 70.30 50 ⇑*i*P P 11 37 43.1 +0.1
HCY **Herceg Novi** 70.31 51 *e*P P 11 37 40.5 -2.5
LANS **Liptovska Anna** 70.33 43 *e*P P 11 37 44.3 +1.3
LANS *e* 11 38 04.7
LANS pmax pmax
comp=Z,87nm,1.5s
LANS **Liptovska Anna** 70.33 43 *e*P P 11 37 44.3 +1.3
LANS *e* 11 38 04.7
OJC **Ojcow** 70.45 42 *e*P P 11 37 45.2 +1.6
OJC *e*L L 12 01 35.5
comp=Z,4µm,24.2s
UPM **Unac-Piva** 70.53 50 *e*P P 11 37 44.6 +0.1
UPM **Unac-Piva** 70.53 50 ⇑*i*P P 11 37 44.3 -0.2
CEME **Cevo** 70.61 50 ⇑*i*P P 11 37 45.2 +0.3
NKME **Niksic** 70.61 50 ⇑*i*P P 11 37 44.6 -0.2

BUM	Brajici-Budva	70.62	51	⇑	*i*	P		P	11 37 45.0	+0.1	
TGL	Tana Glacier	70.65	329			P		P	11 37 45.7	+1.0	
TGL						IAmb		IAmb	11 38 40.5		
	comp=Z,120nm,1.2s										
MCARA	McCarthy VSAT	70.72	330			IAMs_20		IAMs_20	12 07 49.1		
	comp=Z,6μm,20.0s										
MCARA	McCarthy VSAT	70.72	330			P		P	11 37 46.7	+1.6	
	baz=88,SNR=12										
MCARA						S		S	11 47 01.1	+1.9	
	baz=88										
PSZ	Piszkesteto	70.72	45	⇑	*i*	P		P	11 37 45.4	0.0	
PSZ	Piszkesteto	70.72	45	⇑		P		P	11 37 45.4	0.0	
PSZ	Piszkesteto	70.72	45			P		P	11 37 45.6	+0.2	
PSZ	Piszkesteto	70.72	45			P		P	11 37 45.6	+0.2	
PSZ						PKPDF			12 15 34.4		
PSZ						PKIKP			12 15 38.0		
BBLS	Lazići	70.81	49	⇑	*i*	P		P	11 37 45.8	-0.3	
L26K	Log Cabin Wild	70.82	331			IAMs_20		IAMs_20	12 09 36.5		
	comp=Z,7μm,18.0s										
L26K	Log Cabin Wild	70.82	331			P		P	11 37 46.6	+0.9	
	baz=88,SNR=28										
L26K						S		S	11 46 58.2	-2.1	
	baz=88										
NIE	Niedzica	70.84	43		*e*	P		P	11 37 47.7	+1.6	
NIE						eL		L	12 00 11.8		
	comp=Z,2μm,41.1s										
DRME	Dracevica, Mon	70.85	51		*e*	P		P	11 37 46.5	+0.3	
DRME	Dracevica, Mon	70.85	51	⇑	*i*	P		P	11 37 47.2	+1.0	
PLE	Pljevlja	70.86	50	⇑	*i*	P		P	11 37 47.0	+0.6	
J26L	Joseph Creek	70.87	333			P		P	11 37 46.1	0.0	
	baz=88,SNR=20										
PDG	Podgorica	70.88	51	⇓		P		P	11 37 46.6	+0.2	
PDG	Podgorica	70.88	51		*e*	P		P	11 37 46.5	+0.2	
PDG	Podgorica	70.88	51	⇑		P		P	11 37 46.3	0.0	
PDG				⇓		P		pP	11 37 46.7	-1.8	
TTG	Podgorica	70.88	51	⇑	*i*	P		P	11 37 46.3	0.0	
RAF	Rauma	70.89	31		*e*	P		P	11 37 45.1	-0.9	
ULC	Ulcinj	70.92	51	⇑	*i*	P		P	11 37 46.7	0.0	
VRDI	Verde Repeater	70.93	329			IAMs_20		IAMs_20	12 07 25.8		
	comp=Z,6μm,20.0s										
FRGS	Fruska Gora	70.95	48	⇑		P		P	11 37 46.3	-0.5	
FRGS	Fruska Gora	70.95	48	⇑	*i*	P		P	11 37 46.4	-0.5	
KOME	Kolasin	71.01	50	⇑	*i*	P		P	11 37 47.7	+0.4	
BSZH	Besenyszg	71.03	45			P		P	11 37 48.6	+1.4	
KECS	Kecovo	71.06	44		*e*	P		P	11 37 49.8	+2.4	
KECS					*e*				11 38 08.8		
KECS						pmax		pmax			
	comp=Z,131nm,1.3s										
KECS	Kecovo	71.06	44		*e*	P		P	11 37 49.8	+2.4	
KECS					*e*				11 38 08.8		
SCRK	Sand Creek	71.07	332			P		P	11 37 47.5	+0.2	
	baz=88,SNR=12										
GLB	Gilahina Butte	71.10	330			IAMs_20		IAMs_20	12 07 41.1		
	comp=Z,7μm,20.0s										
BMAR	Burnt Mountain	71.21	336			P		P	11 37 48.1	+0.1	
KTK1	Kautokeino	71.26	22		*e*	P		P	11 37 48.1	-0.2	
KTK1					*e*	S		S	11 47 04.4	-0.8	
KTK1					*e*	SS		SS	11 51 35.2	-3.5	
PBUR	Paburge	71.27	36		*e*	P		P	11 37 48.8	+0.3	
IVA	Berane	71.29	50	⇑	*i*	P		P	11 37 49.1	+0.1	
SLIT	Slitere, Latvi	71.35	34		*e*	P		P	11 37 48.7	-0.2	
HAMF	Hammerfest	71.39	20		*e*	P		P	11 37 48.1	-0.9	
HAMF					*e*	S		S	11 47 05.6	-0.9	
HAMF						IVMs_BB		IVMs_BB	12 03 24.5		
	comp=Z,5μm,4.1s										
AMBH	Ambrzfalva	71.45	46			P		P	11 37 50.0	+0.2	
RIDG	Independent Ri	71.46	332			P		P	11 37 50.0	+0.4	
	baz=87,SNR=7.5										
N25K	Chitina, Valde	71.47	330			IAMs_20		IAMs_20	12 08 02.7		
	comp=Z,6μm,21.0s										
N25K	Chitina, Valde	71.47	330			P		P	11 37 50.7	+1.0	
	baz=86,SNR=16										
FYU	Fort Yukon	71.50	335			IAMs_20		IAMs_20	12 07 20.1		
	comp=Z,6μm,20.0s										
BMRM	Bremner River	71.51	329			P		P	11 37 50.9	+0.9	
	baz=86,SNR=6.6										
CRVS	Cervenica-Dubn	71.66	44		*e*	P		P	11 37 52.0	+1.0	
CRVS					*e*				11 38 12.8		
CRVS						pmax		pmax			
	comp=Z,438nm,1.3s										
CRVS	Cervenica-Dubn	71.66	44		*e*	P		P	11 37 52.0	+1.0	
CRVS					*e*				11 38 12.8		
CRVS					*e*				12 15 34.2		
PRP	Porcupine Dome	71.66	334			IAMs_20		IAMs_20	12 07 29.6		
	comp=Z,6μm,22.0s										
PRP	Porcupine Dome	71.66	334			P		P	11 37 51.0	+0.1	
	baz=87,SNR=8.7										
HARP	HAARP	71.68	331			P		P	11 37 52.0	+1.1	
	baz=86,SNR=9.0										
HOPEN	Hopen	71.71	14		*e*	P		P	11 37 50.6	-0.1	
HOPEN					*e*	S		S	11 47 09.6	-0.5	
PAX	Paxson	71.79	331			P		P	11 37 52.0	+0.4	
	baz=86,SNR=14										
PHP	Peshkopia	71.85	51			P		P	11 37 53.0	+0.7	
DSPA	Despedida	71.88	185			P		P	11 37 53.8	+1.8	
ARA0	ARCESS Array S	72.05	22		*e*	P		P	11 37 53.2	+0.3	
ARA0					*e*	S		S	11 47 12.0	-2.3	
ARCES	ARCESS Array B	72.05	22			P		P	11 37 52.4	-0.6	
	comp=Z,52nm,0.9s,baz=285,slow=4.4,SNR=35										
ARCES						LR		LR	12 02 49.9		
	comp=Z,2μm,21.5s,baz=276,slow=30										
ARCES	ARCESS Array B	72.05	22			P		P	11 37 53.4	+0.4	
ARCES						pmax		pmax			
	comp=Z,424nm,1.4s										
ARCES	ARCESS Array B	72.05	22			P		P	11 37 53.4	+0.4	
MTSE	Matsula	72.07	33		*e*	P		P	11 37 52.3	-0.9	
IGT	Igoumenitsa	72.08	53			P		P	11 37 54.2	+0.5	
KLU	Klutina	72.11	330			IAMs_20		IAMs_20	12 08 42.7		
	comp=Z,6μm,20.0s										
KLU	Klutina	72.11	330			P		P	11 37 54.0	+0.5	
	baz=85,SNR=7.4										
SIRR	Siria	72.11	46	⇑		P		P	11 37 53.6	-0.2	
LTVH	Ltavrtes, Hu	72.13	45			P		P	11 37 55.1	+1.2	
BZS	Buzias	72.16	47	⇓		P		P	11 37 54.5	+0.4	
BZS	Buzias	72.16	47	⇓		P		P	11 37 54.5	+0.4	
SUW	Suwalki	72.17	38		*e*	P		P	11 37 55.1	+1.2	
SUW					*e*	L		L	12 03 35.6		
	comp=Z,5μm,23.4s										
SUW	Suwalki	72.17	38		*e*	P		P	11 37 53.5	-0.4	
M24K	Tolsona, Glenn	72.17	331			P		P	11 37 54.4	+0.4	
	baz=85										
OHR	Ohrid	72.20	52		*i*	P		P	11 37 56.8	+2.4	
MEF	Metsahovi	72.23	31		*e*	P		P	11 37 53.3	-0.9	
UZH	Uzhgorod	72.23	44		*e*	P		P	11 37 53.7	-0.7	
UZH					*i*				11 38 02.2		
UZH					*i*				11 38 07.1		
UZH					*i*				11 38 13.2		
UZH					*i*	S		S	11 47 11.5	-5.5	
KBN	Korca	72.26	52			P		P	11 37 56.6	+1.7	
IL31		72.28	333			P		P	11 37 54.0	-0.4	
ILAR	Eielson Array	72.28	333			P		P	11 37 53.9	-0.6	
	comp=Z,15nm,0.7s,baz=118,slow=4.0,SNR=139										
ILAR						LR		LR	12 08 46.7		
	comp=Z,8μm,21.9s,baz=91,slow=35										
HDA	Harding Lake	72.34	333			P		P	11 37 54.4	-0.4	
	baz=85,SNR=9.8										
MDVR	Moldovita	72.34	48	⇓		P		P	11 37 56.2	+1.0	
KWP	Kalwaria Pacla	72.38	43		*e*	P		P	11 37 56.3	+0.9	
KWP					*e*	L		L	12 00 52.5		
	comp=Z,4μm,36.7s										
JAN	Janina	72.46	53			P		P	11 37 57.0	+1.0	
TRPA	Tarpa	72.46	44	⇑		P		P	11 37 56.1	+0.3	
TRPA	Tarpa	72.46	44			P		P	11 37 56.1	+0.3	
PABE	Paberze	72.47	36			IAMs_20		IAMs_20	12 05 59.3		
	comp=Z,5μm,20.0s										
POKR	Poker Plat Res	72.49	334			P		P	11 37 55.8	+0.1	
POKR						IAmb		IAmb	11 38 28.8		
	comp=Z,293nm,1.7s										
POKR	Poker Plat Res	72.49	334			P		P	11 37 55.8	+0.1	
	baz=85,SNR=20										
SKO	Skopje	72.55	51		*i*	P		P	11 37 57.6	+1.1	
KEV	Kevo	72.56	21			P		P	11 37 56.5	+0.5	
KEV						pmax		pmax			
	comp=Z,304nm,1.4s										
KEV	Kevo	72.56	21			P		P	11 37 56.5	+0.5	
KEV						IAmb		IAmb	11 38 17.7		
	comp=Z,304nm,1.4s										
H24K	Noodor Dome	72.61	334			IAMs_20		IAMs_20	12 08 16.7		
	comp=Z,5μm,20.0s										
H24K	Noodor Dome	72.61	334			P		P	11 37 56.5	+0.1	
	baz=85,SNR=20										
DHY	Denali Highway	72.64	332			IAMs_20		IAMs_20	12 10 33.8		
	comp=Z,5μm,21.0s										
DHY	Denali Highway	72.64	332			P		P	11 37 56.8	0.0	
	baz=84										
FNA	Florina	72.68	52		*e*	P		P	11 37 58.5	+1.2	
FNA	Florina	72.68	52			P		P	11 37 57.4	+0.1	
COLA	College	72.69	333	⇑		P		P	11 37 56.9	+0.1	
COLA	College	72.69	333			P		P	11 37 56.6	-0.2	
COLA						IAmb		IAmb	11 38 30.5		
	comp=Z,340nm,1.6s										
COLA	College	72.69	333			IAMs_20		IAMs_20	12 08 56.9		
	comp=Z,7μm,21.0s										
COLA	College	72.69	333			P		P	11 37 56.8	+0.1	
	baz=85										
TCOL	CIGO, UAF Yank	72.69	333			P		P	11 37 56.9	0.0	
TCOL						IAmb		IAmb	11 38 30.5		
	comp=Z,343nm,1.6s										
TCOL						IAMs_20		IAMs_20	12 08 56.9		
	comp=Z,7μm,21.0s										
TCOL	CIGO, UAF Yank	72.69	333			P		P	11 37 56.9	0.0	
	baz=85,SNR=13										
SCM	Sheep Creek Mo	72.74	330			IAMs_20		IAMs_20	12 07 36.5		
	comp=Z,5μm,22.0s										
SCM	Sheep Creek Mo	72.74	330			P		P	11 37 57.8	+0.5	
	baz=84,SNR=6.7										
DRGR		72.76	46	⇓		P		P	11 37 57.6	-0.1	
DRGR		72.76	46	⇓		P		P	11 37 57.6	-0.1	
KPRO	Kipourio	72.80	53			P		P	11 37 59.3	+1.2	
WRH	Wood River Hil	72.83	333			P		P	11 37 58.2	+0.5	
MDM	Murphy Dome	72.84	334			IAMs_20		IAMs_20	12 08 06.8		
	comp=Z,6μm,22.0s										
WAT6	Susitna Watana	72.86	331			P		P	11 37 58.1	0.0	
	baz=84,SNR=7.3										
FINES	FINESS Array B	72.94	30			P		P	11 37 57.8	-0.6	
	comp=Z,35nm,0.6s,baz=270,slow=3.1,SNR=99										
FINES						LR		LR	12 04 16.8		
	comp=Z,6μm,21.9s,baz=278,slow=31										
FINES	FINESS Array B	72.94	30			P		P	11 37 58.2	-0.1	
FINES	FINESS Array B	72.94	30			P		P	11 37 58.2	-0.1	
FIA1	FINESS Array S	72.94	30			P		P	11 37 58.3	-0.1	
FIA1						IAmb		IAmb	11 38 19.9		
	comp=Z,285nm,1.2s										
GZR	Gura Zlata	73.00	47	⇑		P		P	11 37 59.1	0.0	
GZR	Gura Zlata	73.00	47	⇑		P		P	11 37 59.1	0.0	
TOLK	Toolik Lake Re	73.01	337			P		P	11 37 58.5	-0.2	
TOLK						IAMs_20		IAMs_20	12 09 51.0		
	comp=Z,5μm,21.0s										
TOLK	Toolik Lake Re	73.01	337			P		P	11 37 58.6	-0.2	
	baz=84,SNR=13										
KZN	Kozani	73.05	52			P		P	11 38 00.6	+1.0	
STIP	Stip	73.14	51		*i*	P		P	11 38 00.9	+1.0	
RLS	Riolos of Patr	73.19	55			P		P	11 38 01.7	+1.4	
LVV	L'vov	73.21	42		*e*	P		P	11 38 00.2	0.0	
LVV					*e*				11 40 41.3		
LVV					*e*	PPP		PPP	11 42 32.4		
LVV					*e*	S		S	11 47 24.3	-3.9	
LVV					*e*	PS		PnS	11 48 03.1	+3.2	
LVV						pmax		pmax			
	comp=Z,100nm,1.5s										
SML	Sawmill	73.22	330			IAMs_20		IAMs_20	12 09 31.1		
	comp=Z,5μm,20.0s										
SML	Sawmill	73.22	330			P		P	11 38 00.2	+0.1	
	baz=83										
NEA2	Nenana	73.24	333			P		P	11 37 59.9	-0.2	
	baz=84,SNR=25										
MCK	McKinley	73.28	332			P		P	11 38 00.3	-0.1	
	baz=83,SNR=7.0										
I23K	Minto, Yukon-K	73.30	334			IAMs_20		IAMs_20	12 09 15.8		
	comp=Z,7μm,21.0s										
I23K	Minto, Yukon-K	73.30	334			P		P	11 38 00.6	+0.2	
	baz=83,SNR=18										
EVR	Evrytania	73.31	54			P		P	11 38 03.2	+2.0	
KNK	Knik Glacier	73.33	330			IAMs_20		IAMs_20	12 08 40.9		
	comp=Z,5μm,21.0s										
KNK	Knik Glacier	73.33	330			P		P	11 38 01.6	+0.8	
	baz=83										
PWL	Port Wells	73.33	329			P		P	11 38 01.2	+0.5	
	baz=83										
THL	Klokotos Trika	73.36	53			P		P	11 38 01.2	-0.1	
COLD	Coldfoot	73.40	336			P		P	11 38 01.5	+0.5	
	baz=83,SNR=21										
SRE	Strehaia	73.41	48	⇓		P		P	11 38 00.4	-1.1	
SRE	Strehaia	73.41	48	⇓		P		P	11 38 00.4	-1.1	
GRG	Griva	73.42	52		*e*	P		P	11 38 03.4	+1.7	
GRG	Griva	73.42	52			P		P	11 38 01.8	+0.1	
ANX	Ano Chora	73.45	54			P		P	11 38 03.9	+1.9	
GHO	Glory Hole Cre	73.50	330			P		P	11 38 01.8	0.0	
GHO						IAMs_20		IAMs_20	12 11 07.6		
	comp=Z,4μm,21.0s										
LAKA	Lakka	73.56	55			P		P	11 38 03.2	+0.7	
SERG	Sergoula	73.59	54			P		P	11 38 03.2	+0.5	
PYL	PYLOS	73.61	56			P		P	11 38 01.9	-0.9	
VSU	Vasula	73.62	33		*i*	P		P	11 38 02.4	0.0	
VSU						pmax		pmax			
	comp=Z,224nm,0.8s										
VSU						MLR		MLR			
	comp=Z,4μm,18.0s										
VSU	Vasula	73.62	33		*e*	P		P	11 38 01.3	-1.1	
PMR	Palmer	73.62	330			P		P	11 38 03.0	+0.6	
	baz=83										
LIT	Litokhoron	73.63	53			P		P	11 38 01.2	-1.7	
ISAL	Salakas	73.68	36		*e*	P		P	11 38 03.4	+0.5	
AGG	Agios Georgios	73.69	54		*e*	P		P	11 38 03.8	+0.5	
AGG	Agios Georgios	73.69	54			P		P	11 38 02.1	-1.2	
ITM	Ithomi	73.70	56			P		P	11 38 04.4	+1.0	
ITM	Ithomi	73.70	56			P		P	11 38 02.8	-0.6	
KNT	Kendrikon	73.75	51			P		P	11 38 03.8	+0.2	
VTS	Vitosha	73.76	50	⇑		P		P	11 38 02.4	-1.4	
VTS	Vitosha	73.76	50	⇑		P		P	11 38 02.4	-1.4	
VTS	Vitosha	73.76	50		*i*	P		P	11 38 05.4	+1.6	
IIGN	Ignalina	73.76	36		*e*	P		P	11 38 03.6	+0.3	
KKB	Krupnik	73.77	51		*i*	P		P	11 38 05.1	+1.4	
MLY	Manley	73.89	334			IAMs_20		IAMs_20	12 09 44.6		
	comp=Z,7μm,21.0s										
MLY	Manley	73.89	334			P		P	11 38 03.5	-0.5	
	baz=82										
TRF	Thorofare Moun	73.91	332			P		P	11 38 04.4	+0.1	
	baz=82,SNR=20										
RC01	Rabbit Creek A	73.98	330			IAMs_20		IAMs_20	12 10 34.3		
	comp=Z,6μm,20.0s										
RC01	Rabbit Creek A	73.98	330			P		P	11 38 05.0	+0.4	
	baz=82										
HORT	Hortiatis	74.00	52		*e*	P		P	11 38 05.5	+0.3	
HORT	Hortiatis	74.00	52			P		P	11 38 04.7	-0.5	
CUT	Chulitna	74.05	331			IAMs_20		IAMs_20	12 15 01.9		
	comp=Z,4μm,21.0s										
CUT	Chulitna	74.05	331			P		P	11 38 05.0	+0.1	
	baz=82,SNR=12										
IDID	Didziasalis	74.06	36		*e*	P		P	11 38 05.2	+0.1	
M22K	Willow	74.07	330			IAMs_20		IAMs_20	12 11 45.6		
	comp=Z,5μm,22.0s										
M22K	Willow	74.07	330			P		P	11 38 06.0	+1.1	
	baz=82										
BPAW	Bear Paw Mtn.	74.13	333			P		P	11 38 05.0	-0.4	
BPAW						IAmb		IAmb	11 38 45.6		
	comp=Z,143nm,1.2s										
BPAW						IAMs_20		IAMs_20	12 09 09.9		
	comp=Z,8μm,22.0s										
BPAW	Bear Paw Mtn.	74.13	333			P		P	11 38 05.0	-0.4	
	baz=82,SNR=18										
NACGM	Naroch	74.15	37		*e*	P		P	11 38 05.8	+0.3	
SOH	Sokhos	74.15	52			P		P	11 38 06.5	+0.5	
LKR	Lokris	74.27	54			P		P	11 38 07.1	+0.4	
SRS	Serrai	74.28	51			P		P	11 38 06.3	-0.4	
ATAL	Atalanti	74.28	54			P		P	11 38 06.8	+0.1	
ARR	Arges	74.30	47	⇓		P		P	11 38 06.2	-0.6	
MMB	Musomiste	74.30	51		*i*	P		P	11 38 09.5	+2.7	
BUR08	Bucovina Ar. S	74.30	44			P		P	11 38 07.3	+0.5	
BUR08						IAmb		IAmb	11 38 29.2		
	comp=Z,352nm,1.2s										
BURAR	Bucovina Array	74.32	45	⇓		P		P	11 38 07.5	+0.6	
BURAR	Bucovina Array	74.32	45	⇓		P		P	11 38 07.5	+0.6	
BURAR	Bucovina Array	74.32	45			P		P	11 38 07.3	+0.4	
BURAR						IAmb		IAmb	11 38 29.6		
	comp=Z,259nm,1.1s										
I21K	Tanana	74.39	334			IAMs_20		IAMs_20	12 10 00.7		
	comp=Z,6μm,20.0s										
I21K	Tanana	74.39	334			P		P	11 38 06.7	-0.2	
	baz=81,SNR=7.9										
NVR	Nevrokopi	74.44	51			P		P	11 38 07.5	-0.1	
PAIG	Paliouri	74.56	53			P		P	11 38 09.2	+0.9	
VOIR		74.57	47	⇑		P		P	11 38 07.8	-0.6	
VOIR		74.57	47	⇑		P		P	11 38 07.8	-0.6	
VLI	Veliai	74.58	56			P		P	11 38 06.5	-2.0	
VILL	Villia	74.60	54			P		P	11 38 09.1	+0.4	
H21K	Melozitna Rive	74.66	335			IAMs_20		IAMs_20	12 12 12.6		
	comp=Z,5μm,22.0s										
H21K	Melozitna Rive	74.66	335			P		P	11 38 08.1	-0.3	
	baz=80,SNR=38										
BRSE	Bradley Lake S	74.67	328			P		P	11 38 09.0	+0.3	
	baz=81										
HUMR	Humele	74.68	48	⇑		P		P	11 38 09.4	+0.4	
OUR	Ouranopolis	74.71	52		*e*	P		P	11 38 11.1	+1.9	
OUR	Ouranopolis	74.71	52			P		P	11 38 09.1	-0.1	
CAST	Castle Rocks	74.71	332			P		P	11 38 08.1	-0.7	
	baz=80,SNR=15										
DOPR	Dopca	74.72	46	⇓		P		P	11 38 09.1	-0.1	
CHUM	Lake Minchumin	74.74	333			P		P	11 38 08.5	-0.4	
	baz=80,SNR=13										
MNK	Minsk	74.84	37		*i*	P		P	11 38 09.6	0.0	
MNK					*i*				11 38 23.2		
MNK					*i*				11 40 57.0		
MNK					*i*	PPP		PPP	11 42 42.9		
MNK					*i*	S		S	11 47 43.6	-2.7	
MNK					*i*				11 48 24.5		
MNK					*i*	SS		SS	11 52 34.2	+0.4	
MNK						pmax		pmax			
	comp=E,9.0nm,1.3s										
MNK						pmax		pmax			
	comp=Z,79nm,0.9s										
MNK						pmax		pmax			
	comp=N,28nm,0.9s										
MNK						MLR		MLR			
	comp=E,192nm,17.0s										
MNK						MLR		MLR			
	comp=Z,1μm,18.0s										
MNK						MLR		MLR			
	comp=N,767nm,19.0s										
MNK	Minsk	74.84	37		*i*	P		P	11 38 09.6	0.0	
	comp=E,9.0nm,1.3s										
MNK					*i*	P		P	11 38 09.6	0.0	
	comp=N,28nm,0.9s										
MNK					*i*	P		P	11 38 09.6	0.0	
	comp=Z,79nm,0.9s,baz=281										
MNK					*i*	PP		PP	11 40 57.0	+0.2	
MNK					*i*	PPP		PPP	11 42 43.0		
MNK					*i*	S		S	11 47 43.7	-2.7	
MNK					*i*	SS		SS	11 52 34.2	+0.4	
MNK					*i*	SSS		SSS	11 55 56.8		
MNK					*i*	LO		LO	12 04 25.1		
MNK					*i*	LR		LR	12 10 46.5		
MNK					*i*	LRM		MLR	12 13 28.2		
	comp=E,192nm,17.2s										
MNK					*i*	LRM		MLR	12 13 28.2		
	comp=Z,1μm,17.9s										
MNK					*i*	LRM		MLR	12 13 37.1		
	comp=N,767nm,18.5s										
PPLA	Purkeypile	74.85	332			P		P	11 38 09.5	-0.2	
	baz=80										
OZUR		74.97	46	⇓		P		P	11 38 26.6	+16	
IMAR	Indian Mountai	74.98	335			P		P	11 38 10.2	-0.1	
KAVA	Kavala	74.99	51			P		P	11 38 10.9	+0.1	
RZN	Rozhen	75.01	51		*i*	P		P	11 38 12.3	+1.2	
ATHU	Athens Univers	75.01	55			P		P	11 38 11.6	+0.6	
A21K	Barrow	75.01	341			P		P	11 38 11.3	+1.0	
	baz=78,SNR=22										
VLY	Voula,Athens	75.04	55			P		P	11 38 12.1	+1.0	
PTL	Penteli	75.05	54			P		P	11 38 12.1	+0.8	
DION	Dionisos Attik	75.10	54			P		P	11 38 11.4	-0.1	
APA	Apatity	75.17	23	⇓	*i*	P		P	11 38 13.3	+2.0	
APA					*i*				11 38 33.0		
APA						pmax		pmax			
	comp=Z,42nm,0.9s										
MLR	Muntele Rosu	75.18	47	⇑		P		P	11 38 12.3	+0.3	
MLR	Muntele Rosu	75.18	47			LR		LR	12 08 03.0		
	comp=Z,1μm,20.3s,baz=285,slow=33										
MLR	Muntele Rosu	75.18	47	⇑		P		P	11

URLA Izmir 77.09 54 *e*P **P 11 38 24.5 +1.6**
MAR3 Marsite Statio 77.10 51 *e*P **P 11 38 23.1 +0.3**
TIRR Tirgusor 77.11 47 ⇑P **P 11 38 21.6 -1.2**
TIRR Tirgusor 77.11 47 ⇑P **P 11 38 21.6 -1.2**
TIRR Tirgusor 77.11 47 IAMs_20 IAMs_20 12 07 38.4
comp=Z,6µm,22.0s
DKL Dikili 77.17 53 *e*P P 11 38 36.5 +13
KRBG Karabiga-Canak 77.18 52 *e*P **P 11 38 24.3 +1.0**
SLVT Silivri 77.67 51 *e*P **P 11 38 27.7 +1.7**
CTKS Kestanelik-??a 77.89 50 P **P 11 38 28.2 +1.0**
BGKT Bogazkoy 78.10 50 *e*P **P 11 38 29.3 +0.9**
MLSB Milas 78.25 55 *e*P **P 11 38 30.7 +1.3**
KLYT Kilyos 78.28 50 *e*P **P 11 38 28.7 -0.7**
ISK Istanbul-Kandi 78.33 51 *e*P **P 11 38 30.1 +0.4**
ISK Istanbul-Kandi 78.33 51 P **P 11 38 30.2 +0.5**
KAVV Kandilli-Istan 78.33 51 *e*P **P 11 38 29.3 -0.4**
TRML Termal-Yalova 78.53 51 *e*P **P 11 38 31.8 +1.0**
KULA Kula-Manisa 78.64 53 *e*P **P 11 38 33.2 +1.6**
KULA Kula-Manisa 78.64 53 P **P 11 38 31.4 -0.2**
YLV Yalova 78.68 51 P **P 11 38 32.5 +0.8**
SIMA Simav-Kutahya 78.75 53 *e*P **P 11 38 33.2 +1.1**
HRT Hereke 78.84 51 *e*P **P 11 38 33.3 +0.7**
TVSB Tavsanli 79.02 52 *e*P **P 11 38 34.9 +1.2**
GEDZ Gediz 79.08 52 P **P 11 38 34.6 +0.6**
SAUV Serdivan-Sakar 79.34 51 *e*P **P 11 38 34.6 -0.7**
CHGN Chignik 79.42 326 P **P 11 38 36.3 +1.1**
baz=74
FETY Fethiye 79.42 55 *e*P **P 11 38 31.2 -4.6**
KLMR Klimovskoe 79.43 29 *e*P **P 11 38 33.2 -2.1**
KLMR *e* 11 41 32.3
KLMR *e*S **S 11 48 31.4 -4.5**
KLMR *e*SS **SS 11 53 35.5 -7.1**
KLMR pmax pmax
comp=Z,137nm,1.3s
KLMR Klimovskoe 79.43 29 *e*P **P 11 38 33.2 -2.1**
KLMR AMP 11 38 50.2
comp=Z,137nm,1.3s
KLMR *e*PP **PP 11 41 32.3 -2.8**
KLMR *e*S **S 11 48 31.5 -4.5**
KLMR *e*S **S 11 48 31.5 -4.5**
KLMR *e*SS **SS 11 53 35.6 -7.1**
KLMR *e*SS **SS 11 53 35.6 -7.1**
KLMR LQ LQ 12 04 04.6
KLMR LQ LQ 12 04 04.6
KLMR LR LR 12 05 07.9
KLMR AMP 12 07 37.2
comp=Z,3µm,16.4s
ORCD Orcadas 79.46 172 P **P 11 38 36.2 +1.0**
OBN Obninsk 79.60 35 ⇓P **P 11 38 37.0 +0.7**
OBN Obninsk 79.60 35 LR LR 12 09 54.7
comp=Z,2µm,21.2s,baz=277,slow=33
OBN Obninsk 79.60 35*ce*P **P 11 38 36.1 -0.2**
OBN *i* S **S 11 48 29.8 -8.2**
OBN *e*SS **SS 11 53 42.7 -2.8**
OBN *e* 12 41 35.1
OBN *e*PPP PPP 12 43 26.1
OBN pmax pmax
comp=Z,1µm,19.0s
OBN Obninsk 79.60 35 P **P 11 38 36.5 +0.1**
OBN IAMs_20 IAMs_20 12 10 01.8
comp=Z,6µm,20.0s
BORA Eskisehir 79.65 51 *e*P **P 11 38 37.6 +0.5**
BORA Eskisehir 79.65 51 P **P 11 38 37.1 0.0**
BORA IAmb IAmb 11 38 58.6
comp=Z,133nm,1.1s
AKAS Kas 79.93 55 P **P 11 38 39.6 +0.9**
AKAS IAmb IAmb 11 39 00.1
comp=Z,285nm,1.1s
MOS Moscow 80.00 35 *e*P **P 11 38 36.8 -1.7**
MOS *e* 11 38 45.0
MOS *e* 11 41 44.0
MOS *e*S **S 11 48 41.4 -0.8**
MOS pmax pmax
comp=Z,79nm,1.4s
KDZE Karadeniz Ereo 80.02 50 *e*P **P 11 38 37.6 -1.3**
ELL Elmali 80.03 55 *e*P **P 11 38 40.4 +1.1**
ELL Elmali 80.03 55 P **P 11 38 40.9 +1.6**
ELL pmax pmax
comp=Z,811nm,1.1s
ELL Elmali 80.03 55 P **P 11 38 40.9 +1.6**
MDUB Mudurnu 80.05 51 *e*P **P 11 38 40.2 +0.9**
MDUB Mudurnu 80.05 51 P **P 11 38 40.8 +1.5**
SHUT Suhut-Afyon 80.06 53 *e*P **P 11 38 40.9 +1.5**
ANM Nome 80.07 335 IAMs_20 IAMs_20 12 19 36.6
comp=Z,5µm,20.0s
ANM Nome 80.07 335 P **P 11 38 39.7 +1.0**
baz=69,SNR=9.4
ISP Isparta 80.23 53 *e*P **P 11 38 39.9 -0.4**
ISP Isparta 80.23 53 *i* P **P 11 38 40.9 +0.6**
ISP pmax pmax
comp=Z,25nm,1.1s
CIFT Cifteler, Eski 80.24 52 *e*P **P 11 38 41.5 +1.2**
KORT Korkueli 80.31 54 *e*P **P 11 38 40.4 -0.4**
YUVA Yuva-Kibriscik 80.44 51 *e*P **P 11 38 42.1 +0.8**
SVRH Sivrihisar-ESK 80.56 52 *i* P **P 11 38 43.9 +1.9**
AUSIV SIVRIHISAR 80.58 52 *e*P **P 11 38 43.5 +1.4**
SUTC Sutluce-Ispart 80.69 54 *e*P P 11 38 52.5 +10
TNA Tin City 80.70 336 P **P 11 38 43.5 +1.4**
baz=67,SNR=24
SIM Simferopol' 80.92 46 *e*P **P 11 38 44.4 +0.7**
SIM *e* 11 38 53.0
SIM *e* 11 41 44.0
SIM pmax pmax
comp=Z,71nm,0.9s
KIZT Kizilcal 80.98 52 *i* P **P 11 38 45.4 +1.1**
LOD Lodumlu 81.36 51 *e*P **P 11 38 47.7 +1.4**
ANTO Ankara 81.39 51 P **P 11 38 48.0 +1.6**
ANTO Ankara 81.39 51 P **P 11 38 46.8 +0.4**
ANTO pmax pmax
comp=Z,203nm,1.1s
ANTO Ankara 81.39 51 P **P 11 38 46.8 +0.4**
ANTO IAmb IAmb 11 39 08.3
comp=Z,203nm,1.1s
LADK Ladik-KONYA 81.53 53 P **P 11 38 48.4 +1.2**
KONT Konya--Tatoy 81.60 53 *e*P **P 11 38 48.3 +0.8**
LPSR Galich'ya Gora 81.69 37 *e*P **P 11 38 47.8 +0.2**
LPSR pmax pmax
comp=Z,190nm,1.5s
ILGA Ilgaz 81.74 50 P **P 11 38 49.6 +1.2**
CANT Cankiri 81.79 50 P P 11 38 36.4 -12
CHBY Cihanbeyli 81.82 52 *e*P **P 11 38 49.4 +0.6**
PRGR Permogore 81.93 28 *e*P **P 11 38 46.8 -1.8**
PRGR pmax pmax
comp=Z,394nm,0.9s
GAZI Gazipasa 82.04 55 *e*P **P 11 38 49.1 -0.7**
BR131 Keskin Array S 82.06 51 P **P 11 38 49.7 -0.3**
BR131 pmax pmax
comp=Z,178nm,1.2s
BR131 Keskin Array S 82.06 51 P **P 11 38 49.7 -0.3**
BR131 IAmb IAmb 11 39 11.5
comp=Z,178nm,1.2s
BRTR Keskin Array B 82.06 51 P **P 11 38 49.5 -0.5**
comp=Z,24nm,0.8s,baz=267,slow=4.2,SNR=86
BRTR PKKPbc **PKKPbc 11 57 19.0 -0.8**
comp=Z,3.0nm,0.9s,baz=134,slow=3.6,SNR=8.7
BRTR LR LR 12 11 52.0
comp=Z,3µm,20.7s,baz=296,slow=33
BRTR Keskin Array B 82.06 51 *e*P **P 11 38 49.9 -0.1**
BRTR Keskin Array B 82.06 51 P **P 11 38 49.4 -0.7**
VORR Voronezh 82.15 38 *e*P **P 11 38 51.3 +1.3**
VORR pmax pmax
comp=Z,60nm,0.5s
KAMT Kaman 82.22 51 *e*P **P 11 38 49.4 -1.4**
SERE Sereflikochisa 82.22 52 *e*P **P 11 38 50.5 -0.4**
PMSA Palmer Station 82.49 181 LR LR 12 17 26.7
comp=Z,4µm,21.8s,baz=354,slow=37
PMSA Palmer Station 82.49 181 P **P 11 38 53.3 +2.0**
PMSA Palmer Station 82.49 181 IAMs_20 IAMs_20 12 16 30.0
comp=Z,6µm,22.0s
PMSA Palmer Station 82.49 181 *e*P **P 11 38 53.1 +1.8**
CORM Corum 82.66 50 *e*P **P 11 38 53.3 +0.2**
TEKE Tekeli-Mersin 82.69 55 P **P 11 38 53.5 +0.3**
TAOE Nuku Hiva Isla 82.71 258 *e*P **P 11 38 56.2 +2.4**
comp=Z,625nm,1.3s
TAOE Nuku Hiva Isla 82.71 258 *e*S **S 11 49 13.6 +1.7**
comp=Z,4µm,24.9s
TAOE Nuku Hiva Isla 82.71 258 *e*LR LR 12 04 48.8
comp=Z,3µm,24.2s
BERE Bereket-Mersin 82.71 54 *e*P **P 11 38 53.3 -0.2**
GAMB Gambell 82.92 335 P **P 11 38 55.3 +1.5**
AKKU Akkuyu-Mersin 83.02 54 *e*P **P 11 38 55.5 +0.6**
KEBE Keben-Mersin 83.06 54 *e*P **P 11 38 56.1 +0.9**
IKL Isikli 83.10 54 *e*P **P 11 38 53.6 -1.7**

CSS Mathiatis 83.20 56 *e*P **P 11 38 56.4 +0.5**
CSS Mathiatis 83.20 56 P **P 11 38 56.1 +0.2**
CSS IAmb IAmb 11 39 18.2
comp=Z,112nm,1.1s
ANN Anapa 83.22 45 *e*P **P 11 38 55.1 -0.6**
ANN *e* 11 49 16.9
ANN pmax pmax
comp=Z,216nm,1.0s
ANN MLR MLR
comp=Z,2µm,19.0s
LFK Lefkose 83.26 55 *e*P **P 11 38 55.5 -0.8**
KVT Kavak 83.41 49 *e*P **P 11 38 56.1 -0.8**
MERS Mersin 83.56 53 *e*P **P 11 38 58.5 +0.7**
CMRD Camardi-Nigde 83.67 53 *e*P **P 11 38 59.3 +0.9**
EREN Erenkoy 83.69 55 *e*P **P 11 38 59.2 +0.8**
VRH Novokhopyorsk 83.79 38 *e*P **P 11 38 58.6 +0.1**
VRH pmax pmax
comp=Z,80nm,1.0s
KARA Karaisali 83.84 53 *e*P **P 11 38 54.9 -4.3**
BNN Bunyan 83.95 51 *e*P **P 11 39 01.7 +1.8**
TOKT Tokat 84.01 50 *e*P **P 11 39 00.3 +0.3**
KOZT Kozan 84.36 53 *e*P **P 11 39 02.5 +0.7**
CEYT Ceyhan 84.45 53 *e*P **P 11 39 02.8 +0.6**
SARI SarD1z-Kayseri 84.52 52 *e*P **P 11 39 04.3 +1.5**
RSDY Resadiye-TOKAT 84.55 49 *e*P **P 11 39 03.7 +1.0**
KIRV Kirov 84.92 30 LR LR 12 12 09.8
comp=Z,5µm,21.4s,baz=299,slow=32
KIRV Kirov 84.92 30*ce*P **P 11 39 03.6 -0.5**
TAHT Tahtakopru-Hat 84.98 54 *e*P **P 11 39 04.8 -0.1**
SOC Sochi 85.17 46 *e*P **P 11 39 04.1 -1.6**
SOC *e*PPP PPP 11 44 14.5
SOC *e*S S 11 49 25.3 -10
SOC *e*SS **SS 11 55 10.9 +2.0**
SOC *e*SSS SSS 11 58 34.9
SOC pmax pmax
comp=Z,297nm,1.2s
SOC MLR MLR
comp=Z,618nm,19.0s
TSUM Tsumeb 85.34 112 LR LR 12 09 37.0
comp=Z,6µm,20.8s,baz=312,slow=30
TSUM Tsumeb 85.34 112 ⇑*i*P **P 11 39 06.9 -0.2**
TSUM Tsumeb 85.34 112 P **P 11 39 06.8 -0.3**
TSUM IAmb IAmb 11 39 09.7
comp=Z,93nm,0.9s
BHL Bhannes 85.35 56 *e*P **P 11 39 06.7 -0.2**
VSLR Vesyoloye 85.43 46 *i* P **P 11 39 06.6 -0.4**
QRWL Qaraoun 85.48 56 *e*P **P 11 39 08.8 +1.2**
MMLI Mount Malkishu 85.62 57 *e*P **P 11 39 09.8 +1.5**
ARPR Arapgir-MALATY 85.71 50 P **P 11 39 10.8 +2.1**
ILIC Ilic-Erzincan 85.76 50 *e*P **P 11 39 10.1 +1.2**
UJAP Al Uja 85.81 58 *e*P **P 11 39 11.2 +2.1**
SMAI San Martin Ant 85.94 182 P **P 11 39 10.9 +2.1**
EIL Elat 86.11 60 LR LR 12 17 12.6
comp=Z,2µm,19.8s,baz=273,slow=35
EIL Elat 86.11 60 *i* P **P 11 39 12.6 +1.9**
SVRC Sivrice-ELAZID 86.67 51 P **P 11 39 15.7 +2.2**
BELG Belogornoye 86.70 36 LR LR 12 14 27.4
comp=Z,5µm,20.9s,baz=306,slow=33
BELG Belogornoye 86.70 36 *i* P **P 11 39 12.9 -0.2**
BELG pmax pmax
comp=Z,31nm,1.1s
BELG MLR MLR
comp=Z,223nm,19.0s
GOF Gofitskoye 86.87 44⇑ *e*P **P 11 39 16.3 +2.2**
GOF pmax pmax
comp=Z,71nm,1.1s
KIV Kislovodsk 87.05 45 *e*P **P 11 39 15.8 +0.7**
KIV *e* 11 49 39.3
KIV pmax pmax
comp=Z,51nm,1.1s
KIV pmax pmax
comp=Z,102nm,4.7s
CHVG Ch'k'valeri 87.10 46 ⇑P **P 11 39 17.9 +2.6**
CHVG Ch'k'valeri 87.10 46 ⇑P **P 11 39 17.9 +2.6**
SHA1 Shidzhatmaz 87.11 45*c i*P **P 11 39 17.5 +1.9**
BATM Batumi 87.24 47 ⇑P **P 11 39 17.8 +1.8**
BATM Batumi 87.24 47 *e*P **P 11 39 16.5 +0.5**
BATM Batumi 87.24 47 ⇑P **P 11 39 17.8 +1.8**
KBZ Khabaz 87.27 45 P **P 11 39 17.1 +1.0**
comp=Z,22nm,0.9s,baz=276,slow=3.7,SNR=28
KBZ LR LR 12 14 10.9
comp=Z,1µm,21.8s,baz=308,slow=33
KBZ Khabaz 87.27 45*ce*P **P 11 39 15.9 -0.2**
KBZ pmax pmax
comp=Z,23nm,0.9s
KBZ MLR MLR
comp=Z,1µm,19.0s
NEY Neytrino 87.34 45 *i* P **P 11 39 16.0 -0.7**
NEY pmax pmax
comp=Z,20nm,1.2s
NEY MLR MLR
comp=Z,1µm,18.0s
BNGB Bingl 87.46 50 P **P 11 39 18.7 +1.4**
EJDE Erzurum, Palan 87.61 49 *e*P **P 11 39 18.5 +0.2**
KARO Karliova-Bingo 87.61 49 *e*P **P 11 39 20.4 +2.3**
BILL Bilibino 87.73 344*c i*P **P 11 39 17.7 -0.1**
BILL *e* 11 42 49.6
BILL *e*PPP PPP 11 44 38.3
BILL *i* SS SS 11 55 48.5 +3.6
BILL pmax pmax
comp=Z,22nm,1.1s
BILL MLR MLR
comp=Z,6µm,21.0s
BILL Bilibino 87.73 344 P **P 11 39 17.8 0.0**
BILL IAmb IAmb 11 39 41.0
comp=Z,132nm,1.5s
NCK Nalchik 87.83 45 *i* P **P 11 39 18.4 -0.4**
NCK pmax pmax
comp=Z,62nm,0.9s
NCK MLR MLR
comp=Z,720nm,18.0s
KOPR Koprukoy-ERZUR 87.94 49 P **P 11 39 21.5 +1.9**
VRTB Varto-Mus 87.96 49 *e*P **P 11 39 22.2 +2.5**
ONI Oni 88.08 46 P **P 11 39 20.9 +0.8**
ONI pmax pmax
comp=Z,243nm,1.3s
ONI Oni 88.08 46 P **P 11 39 20.9 +0.8**
MARD Mardin 88.13 51 P **P 11 39 21.4 +0.9**
MARD IAmb IAmb 11 39 42.7
comp=Z,98nm,1.2s
SVAN Silvan-Diyarba 88.14 50 *e*P **P 11 39 19.6 -0.8**
ZEI Tsey 88.31 45 *e*P **P 11 39 20.6 -0.8**
ZEI pmax pmax
comp=Z,155nm,1.6s
AKH Akhalkalaki 88.56 47 ⇓P **P 11 39 23.0 +0.5**
AKH Akhalkalaki 88.56 47 *e*P **P 11 39 23.5 +0.9**
MLAZ Malazgirt-MUS 88.76 49 *e*P **P 11 39 24.3 +0.8**
AKDM Akdamar-Van 89.38 50 *e*P **P 11 39 27.7 +1.3**
GROC Groznyy 89.42 44 *e*P **P 11 39 28.6 +2.3**
GROC *e* 11 42 56.1
GROC *e*S S 11 50 03.3 -13
GROC pmax pmax
comp=Z,58nm,0.7s
CLDR Caldiran 89.74 49 *e*P **P 11 39 29.6 +1.4**
GNI Garni 89.93 48 LR LR 12 19 19.3
comp=Z,963nm,19.3s,baz=326,slow=35
GNI Garni 89.93 48 P **P 11 39 30.4 +1.4**
GNI Garni 89.93 48 P **P 11 39 30.4 +1.4**
NRIK Noril'sk 90.08 11 P **P 11 39 28.1 -0.8**
comp=Z,3.8nm,0.6s,baz=14,slow=2.1,SNR=6.1
NRIK PKKP **PKKPdf 11 56 56.6 +0.6**
comp=Z,2.7nm,0.5s,baz=8.1,slow=0.9,SNR=5.5
NRIK LR LR 12 19 49.3
comp=Z,6µm,20.8s,baz=338,slow=36
NRIK Noril'sk 90.08 11*ce*P **P 11 39 28.7 -0.1**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
NRIK MLR MLR
comp=Z,6µm,21.0s
NRIK Noril'sk 90.08 11 P **P 11 39 28.8 -0.1**
CUKT Cukurca 90.25 51 *e*P **P 11 39 31.0 +0.5**
ARU Arti 90.27 29 LR LR 12 15 26.6
comp=Z,6µm,21.5s,baz=304,slow=33
ARU Arti 90.27 29*c i*P **P 11 39 30.4 +0.4**
ARU 11 43 04.4
ARU PPP PPP 11 44 59.4
ARU SP SP 11 51 28.9 -0.4
ARU SS **SS 11 56 17.8 -4.6**
ARU pmax pmax
comp=Z,36nm,1.0s
ARU Arti 90.27 29 P **P 11 39 29.8 -0.2**
ARU IAmb IAmb 11 39 52.0
comp=Z,173nm,1.7s
TIXI Tiksi 90.40 357 PKKP 11 56 55.9
comp=Z,5.0nm,0.8s,baz=269,slow=23,SNR=12
TIXI LR LR 12 17 45.8
comp=Z,2µm,21.8s,baz=1.0,slow=34
TIXI Tiksi 90.40 357*ce*P **P 11 39 30.1 -0.2**
TIXI pmax pmax
comp=Z,19nm,1.0s
TIXI MLR MLR
comp=Z,2µm,20.0s
TIXI Tiksi 90.40 357 P **P 11 39 30.0 -0.3**
TIXI IAmb IAmb 11 39 53.1
comp=Z,101nm,1.3s
TIXI IAMs_20 IAMs_20 12 16 03.4
comp=Z,4µm,22.0s
MAK Makhachkala 90.66 44 *e*P **P 11 39 29.7 -2.3**
MAK *e* 11 43 02.7
MAK *e*PPP PPP 11 45 05.1
MAK *e* 11 49 58.0
MAK *e*SS SS 11 56 27.4 -1.4
MAK *e*SSS SSS 12 00 05.2
MAK pmax pmax
comp=Z,466nm,1.7s
MAK MLR MLR
comp=Z,2µm,17.0s
AUGR Augrabies 90.95 120 *e*P **P 11 39 34.2 +0.5**
AUGR IAmb IAmb 11 39 36.1
comp=Z,92nm,0.9s
SVE Sverdlovsk 90.98 28 *e*P **P 11 39 32.8 -0.5**
SVE *e*S **SKSac 11 50 01.1 -4.0**
SVE pmax pmax
comp=Z,46nm,1.4s
CVNA Calvinia 91.46 123 *e*P **P 11 39 36.7 +0.7**
CVNA IAmb IAmb 11 39 38.9
comp=Z,239nm,1.3s
KEIM Keimoes 91.51 120 *e*P **P 11 39 36.6 +0.3**
KEIM IAmb IAmb 11 39 39.0
comp=Z,81nm,0.9s
UPI Upington 91.63 119 *e*P **P 11 39 37.5 +0.6**
UPI IAmb IAmb 11 39 40.1
comp=Z,176nm,1.6s
MBAR Mbarara 91.64 90 LR LR 12 18 46.4
comp=Z,4µm,19.4s,baz=284,slow=34
MBAR Mbarara 91.64 90 *i* P **P 11 39 36.2 -1.2**
MBAR pmax pmax
comp=Z,34nm,1.5s
MBAR Mbarara 91.64 90 P **P 11 39 38.0 +0.6**
MBAR Mbarara 91.64 90 IAMs_20 IAMs_20 12 16 26.5
comp=Z,5µm,20.0s
VAH Vaihoa 91.68 255 *e*P **P 11 39 39.6 +2.4**
comp=Z,421nm,1.2s
PMOR Pomariorio Ree 91.85 255 *e*P **P 11 39 40.5 +2.5**
comp=Z,336nm,1.3s
ELIM Elim 92.51 125 *e*P **P 11 39 40.4 -0.3**
ELIM IAmb IAmb 11 39 43.3
comp=Z,78nm,0.9s
SUR Sutherland 92.60 123 LR LR 12 14 07.0
comp=Z,3µm,20.0s,baz=296,slow=31
SUR Sutherland 92.60 123 P **P 11 39 42.0 +0.6**
SUR Sutherland 92.60 123 IAMs_20 IAMs_20 12 12 35.7
comp=Z,4µm,20.0s
AKTO Aktyubinsk 93.33 34 PKKP 11 56 50.6
comp=Z,5.8nm,0.4s,baz=108,slow=3.6,SNR=17
AKTO LR LR 12 18 49.7
comp=Z,2µm,20.3s,baz=315,slow=34
LSZ Lusaka 93.65 105 LR LR 12 15 16.8
comp=Z,3µm,21.4s,baz=302,slow=31
LSZ Lusaka 93.65 105 IAMs_20 IAMs_20 12 15 05.6
comp=Z,3µm,21.0s
GRAN Grantham 93.67 123 *e*P **P 11 39 47.3 +1.2**
GRAN IAmb IAmb 11 39 48.5
comp=Z,18nm,0.8s
TVO Taravao 93.93 253 *e*P **P 11 39 49.9 +2.2**
comp=Z,0.5nm,1.2s
PPTF Pamatai, Papee 94.16 253 P **P 11 39 51.7 +3.0**
PPTF IAmb IAmb 11 39 52.7
comp=Z,135nm,1.4s
PPT Papeete 94.17 253 P **P 11 39 51.0 +2.3**
comp=Z,53nm,1.2s,baz=57,slow=12,SNR=5.1
PPT2 Papeete2 94.17 253 *e*P **P 11 39 51.0 +2.2**
comp=Z,54nm,1.3s
PPT2 Papeete2 94.17 253 *e*S **S 11 51 00.3 0.0**
comp=Z,3µm,27.2s
PPT2 Papeete2 94.17 253 *e*LQ LQ 12 06 12.6
comp=Z,4µm,25.8s
PPT2 *e*LR LR 12 10 11.4
comp=Z,4µm,24.2s
PAE Paea 94.20 253 *e*P **P 11 39 51.0 +2.2**
comp=Z,24nm,1.1s
LBTB Lobatse 94.26 115 LR LR 12 15 29.4
comp=Z,4µm,20.2s,baz=278,slow=31
LBTB Lobatse 94.26 115 *e*P **P 11 39 48.6 -0.5**
LBTB IAmb IAmb 11 39 51.6
comp=Z,12nm,0.8s
SWZ Schweizer 94.68 117 *e*P **P 11 39 50.7 -0.4**
SWZ IAmb IAmb 11 39 54.2
comp=Z,28nm,1.0s
LODK Lodwar 94.80 85 P **P 11 39 53.0 +1.1**
LODK IAMs_20 IAMs_20 12 20 00.7
comp=Z,4µm,20.0s
ABKAR Akbulak array 95.02 34 P **P 11 39 51.9 -0.2**
ABKAR Akbulak array 95.02 34 P **P 11 39 51.6 -0.5**
BOSA Boshof 95.05 118 P **P 11 39 52.9 +0.2**
comp=Z,15nm,1.0s,baz=295,slow=3.6,SNR=11
BOSA LR LR 12 14 48.6
comp=Z,1µm,22.0s,baz=292,slow=31
BOSA Boshof 95.05 118 *e*P **P 11 39 53.1 +0.4**
BOSA IAmb IAmb 11 39 55.7
comp=Z,27nm,1.3s
BOSA Boshof 95.05 118 P **P 11 39 53.8 +1.1**
BOSA pmax pmax
comp=Z,61nm,1.6s
BOSA Boshof 95.05 118 P **P 11 39 53.8 +1.1**
SHEM Shemya Is, Ala 95.17 330 LR LR 12 22 44.8
comp=Z,7µm,21.0s,baz=70,slow=36
SEY Seymchan 95.30 345 P **P 11 39 53.3 +0.2**
comp=Z,10.0nm,1.2s,baz=22,slow=1.3,SNR=13
SEY PKKP **PKKPdf 11 56 46.1 -0.8**
comp=Z,2.6nm,0.8s,baz=163,slow=5.3,SNR=6.5
SEY LR LR 12 24 45.9
comp=Z,4µm,20.0s,baz=30,slow=37
SEY Seymchan 95.30 345*ce*P **P 11 39 53.4 +0.4**
SEY pmax pmax
comp=Z,14nm,1.7s
MATP Matopo 95.45 110 LR LR 12 17 28.7
comp=Z,3µm,19.3s,baz=278,slow=32
BLWY Bulawayo 95.47 109 *e*P **P 11 39 55.1 +0.3**
BLWY IAmb IAmb 11 39 56.5
comp=Z,55nm,1.1s
VNA3 Neumayer Olymp 95.53 165 P **P 11 39 54.9 +1.2**
HVD Gariep Dam 95.84 120 *e*P **P 11 39 57.1 +0.7**
HVD IAmb IAmb 11 39 58.7
comp=Z,54nm,1.2s
PRYS Parys 96.34 116 *e*P **P 11 39 59.2 +0.5**
PRYS IAmb IAmb 11 40 01.9
comp=Z,12nm,1.0s
SLR Silverton 96.79 115 *e*P **P 11 40 02.0 +1.3**
SLR IAmb IAmb 11 40 04.4
comp=Z,13nm,0.9s
BELA Belgrano 2 96.81 175 P **P 11 39 59.4 -0.1**
BELA IAmb IAmb 11 40 01.8
comp=Z,83nm,1.6s
SNKL Senekal, Frees 97.07 117 *e*P Pdif 11 40 02.6 +0.5
SNKL IAmb IAmb 11 40 03.9
comp=Z,21nm,1.0s
RAYN Ar Rayn 97.10 63 IAMs_20 IAMs_20 12 21 33.0
comp=Z,4µm,20.0s
MSNA Messina 97.36 111 *e*P Pdif 11 40 03.9 +0.6
MSNA IAmb IAmb 11 40 06.8
comp=Z,22nm,1.0s
SNAA Sanae 97.50 164 P Pdif 11 40 03.4 +0.6
SNAA Sanae 97.50 164 LR LR 12 26 57.3
comp=Z,1µm,18.9s,baz=303,slow=37
SNAA Sanae 97.50 164 *e*P Pdif 11 40 02.8 0.0
SNAA IAmb IAmb 11 40 06.0
comp=Z,2µm,1.2s
SNAA Sanae 97.50 164*ce*P **P 11 40 00.9 -1.8**
SNAA pmax pmax
comp=Z,34nm,1.2s
SNAA Sanae 97.50 164 P **P 11 40 02.2 -0.5**
BRVK Borovoye 97.67 27*ce*P **P 11 40 03.6 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 97.67 27 P Pdif 11 40 04.3 +0.2
KMBO Kilima Mbogo 98.00 89 P Pdif 11 40 07.7 +1.1
comp=Z,1.9nm,0.7s,baz=318,slow=3.1,SNR=6.6
KMBO LR LR 12 21 44.4
comp=Z,5µm,19.9s,baz=283,slow=34

KMBO	**Kilima Mbogo**	**98.00**	**89**	*ce*P		Pdif		11 40 07.6	+1.0		
KMBO				pmax		pmax					
	comp=Z,2.0nm,0.7s										
KMBO	**Kilima Mbogo**	**98.00**	**89**	P		Pdif		11 40 08.7	+2.1		
MA2	**Magadan**	**98.59**	**344**	P		Pdif		11 40 08.3	+0.3		
	comp=Z,1.5nm,0.6s,baz=352,slow=15,SNR=2.1										
MA2				PKKPbc		**PKKPbc**		**11 56 37.3**	**-1.5**		
	comp=Z,4.1nm,0.8s,baz=344,slow=0.4,SNR=5.3										
MA2				LR		LR		12 26 58.9			
	comp=Z,4μm,20.6s,baz=28,slow=37										
MA2	**Magadan**	**98.59**	**344**	*i* P		**P**		**11 40 08.0**	**0.0**		
MA2				pmax		pmax					
	comp=Z,3.0nm,1.0s										
MA2				MLR		MLR					
	comp=Z,4μm,21.0s										
MA2	**Magadan**	**98.59**	**344**	IAMs_20		IAMs_20		12 26 57.5			
	comp=Z,4μm,20.0s										
NWCL	**Newcastle**	**98.72**	**116**	*e*P		Pdif		11 40 10.4	+1.0		
NWCL				IAmb		IAmb		11 40 13.0			
	comp=Z,6.7nm,0.7s										
TROLL	**Troll, Antarti**	**99.09**	**164**	P		**Pdif**		**11 40 10.7**	**+0.7**		
KIBK	**Kibwezi**	**99.12**	**90**	IAMs_20		IAMs_20		12 21 33.9			
	comp=Z,3μm,20.0s										
ATD	**Arta Tunnel**	**99.16**	**75**	LR		LR		12 23 30.5			
	comp=Z,2μm,20.0s,baz=299,slow=35										
ATD	**Arta Tunnel**	**99.16**	**75**	IAMs_20		IAMs_20		12 24 43.5			
	comp=Z,3μm,20.0s										
YAK	**Yakutsk**	**99.87**	**355**	LR		LR		12 26 59.3			
	comp=Z,3μm,19.4s,baz=14,slow=36										
YAK	**Yakutsk**	**99.87**	**355**	*i* P		**Pdif**		**11 40 13.6**	**0.0**		
YAK				pmax		pmax					
	comp=Z,7.0nm,0.9s										
YAK				MLR		MLR					
	comp=Z,3μm,20.0s										
GEYT	**Alibeck**	**100.17**	**45**	PKKPbc		PKKPbc		11 56 34.5	+0.7		
	comp=Z,3.8nm,0.7s,baz=220,slow=13,SNR=4.5										
CNG	**Changalane**	**100.32**	**114**	*e*P		**Pdif**		**11 40 16.9**	**+0.6**		
CNG				IAmb		IAmb		11 40 20.2			
	comp=Z,33nm,2.4s										
NVL	**N'lazarevskaya**	**101.22**	**161** ⇑	*i* P		**Pdif**		**11 40 34.8**	**+16**		
NVL				pmax		pmax					
	comp=Z,26nm,1.2s										
PET	**Petropavlovsk**	**101.55**	**337**	IAMs_20		IAMs_20		12 28 41.5			
	comp=Z,3μm,21.0s										
PETK	**Petropavlovsk-**	**101.83**	**337**	PKKPbc		PKKPbc		11 56 27.9	-1.6		
	comp=Z,4.3nm,1.0s,baz=189,slow=4.5,SNR=7.5										
ZALV	**Zalesovo Beam**	**102.56**	**20**	Pdiff		**Pdif**		**11 40 25.9**	**+0.1**		
	comp=Z,0.7nm,0.6s,baz=311,slow=5.5,SNR=2.6										
ZALV				PP		**PP**		**11 44 39.4**	**+1.4**		
	comp=Z,2.6nm,0.9s,baz=335,slow=6.6,SNR=3.6										
ZALV				PKKPbc		**PKKPbc**		**11 56 24.4**	**-3.0**		
	comp=Z,3.0nm,0.6s,baz=164,slow=2.6,SNR=10										
KURK	**Kurchatov**	**102.90**	**25**	IAMs_20		IAMs_20		12 23 30.6			
	comp=Z,4μm,21.0s										
KURBB	**Kurchatov Arra**	**102.94**	**25**	PKKPbc		PKKPbc		11 56 24.6	-1.5		
	comp=Z,4.5nm,0.9s,baz=153,slow=2.2,SNR=12										
AAK	**Ala-Archa**	**107.02**	**33**	IAMs_20		IAMs_20		12 25 09.8			
	comp=Z,2μm,21.0s										
MKAR	**Makanchi Array**	**107.49**	**26**	PKiKP		**PKiKP**		**11 44 56.0**	**-0.2**		
	comp=Z,0.7nm,0.8s,baz=337,slow=5.0,SNR=3.6										
MKAR				PP		**PP**		**11 45 14.8**	**+0.1**		
	comp=Z,2.7nm,0.9s,baz=318,slow=6.2,SNR=6.5										
MKAR				PKKPbc		**PKKPbc**		**11 56 10.5**	**-1.8**		
	comp=Z,7.0nm,0.8s,baz=118,slow=5.3,SNR=25										
MKAR				PKKP		**PKKPdf**		**11 56 24.6**	**0.0**		
	comp=Z,5.6nm,0.6s,baz=142,slow=6.3,SNR=14										
QSPA	**South Pole Qui**	**107.89**	**180**	IAMs_20		IAMs_20		12 31 21.1			
	comp=Z,3μm,21.0s										
SYO	**Syowa Base**	**110.32**	**158** ⇑	*e*PKiKP		**PKiKP**		**11 45 01.2**	**+0.5**		
ZAK	**Zakamensk**	**110.55**	**11**	*e*PKIKP		**PKiKP**		**11 44 58.1**	**-3.9**		
ZAK				pmax		pmax					
	comp=Z,10.0nm,1.6s										
WMQ	**Urumqi**	**112.10**	**24**	PKP		**PKiKP**		**11 45 02.5**	**-2.6**		
WMQ				LR		LR					
	comp=Z,3μm,20.1s										
WMQ				LR		LR					
	comp=Z,3μm,23.1s										
WMQ				LR		LR					
	comp=Z,4μm,29.1s										
ABPO	**Ambohimpanom**	**112.19**	**104**	IAMs_20		IAMs_20		12 35 16.4			
	comp=Z,2μm,18.0s										
KLR	**Kul'dur**	**112.21**	**351**	PP		**PP**		**11 45 49.3**	**+0.8**		
	comp=Z,8.8nm,1.3s,baz=355,slow=7.7,SNR=5.3										
KLR				PKKPbc		**PKKPbc**		**11 55 55.5**	**-1.7**		
	comp=Z,3.6nm,0.8s,baz=229,slow=3.2,SNR=10										
VOI	**Vohitsoka**	**112.37**	**107**	IAMs_20		IAMs_20		12 24 29.6			
	comp=Z,3μm,21.0s										
SONM	**Songino Array**	**113.53**	**9**	PKiKP		**PKiKP**		**11 45 07.0**	**-0.8**		
	comp=Z,1.4nm,0.9s,baz=239,slow=0.7,SNR=5.3										
SONM				PP		**PP**		**11 45 59.6**	**+1.5**		
	comp=Z,2.5nm,1.1s,baz=300,slow=0.6,SNR=4.6										
SONM				PKKPbc		**PKKPbc**		**11 55 50.1**	**-2.8**		
	comp=Z,6.6nm,0.6s,baz=168,slow=3.3,SNR=21										
SONM				SKKP				11 59 49.8			
	comp=Z,4.3nm,1.2s,baz=169,slow=2.9,SNR=4.4										
ULN	**Ulaanbaatar**	**113.60**	**9**	IAMs_20		IAMs_20		12 34 20.2			
	comp=Z,3μm,22.0s										
BNX	**BinXian**	**116.20**	**354**	‖PKP		**PKiKP**		**11 45 11.6**	**-1.2**		
MSEY	**Mahe Island**	**116.40**	**86**	IAMs_20		IAMs_20		12 31 59.4			
	comp=Z,2μm,20.0s										
VNDA	**Vanda**	**116.81**	**190**	PKiKP		**PKiKP**		**11 45 14.8**	**+1.9**		
VNDA	**Vanda**	**116.81**	**190**	PKPdf		**PKiKP**		**11 45 14.8**	**+1.9**		
MDJ	**Mudanjiang**	**117.04**	**352**	PKP		**PKiKP**		**11 45 14.5**	**+0.1**		
MDJ				PP		PP		11 46 31.6	+9.0		
MDJ				AMB		AMB					
	comp=Z,490nm,8.2s										
USRK	**Ussuriysk Ar.**	**117.07**	**350**	PP		PP		11 46 24.6	+1.7		
	comp=Z,4.9nm,1.0s,baz=30,slow=9.0,SNR=5.2										
USRK				PKKPab		**PKKPab**		**11 55 43.8**	**-1.7**		
	comp=Z,11nm,1.1s,baz=222,slow=3.9,SNR=9.0										
XLT	**XiLinHaoTe**	**118.40**	**3**	*e*PKP		**PKiKP**		**11 45 18.1**	**+0.9**		
XLT				PP		PP		11 46 41.3	+9.1		
XLT				SS		SS		12 02 47.0	-0.6		
XLT				LR		LR					
	comp=Z,330nm,21.0s										
XLT				LR		LR					
	comp=Z,1μm,23.9s										
XLT				LR		LR					
	comp=Z,4μm,21.6s										
MAW	**Mawson**	**119.00**	**159**	PKP		**PKiKP**		**11 45 18.1**	**+0.7**		
	comp=Z,31nm,0.9s,baz=328,slow=1.1,SNR=7.9										
MAW	**Mawson**	**119.00**	**159**	PKiKP		**PKiKP**		**11 45 18.4**	**+1.0**		
MAW	**Mawson**	**119.00**	**159**	PKPdf		**PKiKP**		**11 45 18.4**	**+1.0**		
GTA	**Gaotai**	**120.14**	**17**	PKP		**PKPdf**		**11 45 20.0**	**-0.7**		
GTA				sPKP				11 45 29.4			
GTA				PP		**PP**		**11 46 48.8**	**+4.4**		
GTA				SKKS				11 53 41.8			
GTA				SS		**SKKSdf**		**12 03 11.8**	**-1.0**		
GTA				AMB		AMB					
	comp=Z,310nm,7.6s										
GTA				LR		LR					
	comp=Z,3μm,20.4s										
GTA				LR		LR					
	comp=Z,2μm,20.0s										
GTA				LR		LR					
	comp=Z,4μm,19.3s										
HHC	**Hu-ho-hao-te**	**121.09**	**7**	*e*PKP		**PKiKP**		**11 45 22.6**	**0.0**		
HHC				PP		**PP**		**11 46 57.3**	**+6.6**		
HHC				SKKS				11 53 47.8			
HHC				AMB		AMB					
	comp=Z,280nm,9.4s										
HHC				LR		LR					
	comp=Z,2μm,19.6s										
HHC				LR		LR					
	comp=Z,860nm,21.6s										
HHC				LR		LR					
	comp=Z,4μm,20.0s										
BTO	**Baotou**	**121.14**	**8**	*e*PKP		**PKPdf**		**11 45 21.4**	**-1.2**		
BTO				LR		LR					
	comp=Z,9μm,24.3s										
BTO				LR		LR					
	comp=Z,8μm,22.1s										
BJI	**Beijing**	**122.26**	**3**	PKP		**PKPdf**		**11 45 24.3**	**-0.3**		
BJI				SS		SS		12 03 34.4	-2.5		
BJI				LR		LR					
	comp=Z,3μm,20.7s										
BJI				LR		LR					
	comp=Z,1μm,20.7s										
PYUN	**Piuthan**	**122.35**	**38**	*e*P		**PKPdf**		**11 45 24.4**	**-1.0**		
PYUN	**Piuthan**	**122.35**	**38**	*e*P		**PKKPbc**		**11 55 20.5**	**-0.4**		
	comp=Z,69nm,0.7s										
DANN	**Dangsing**	**122.61**	**37**	*e*P		**PKPdf**		**11 45 25.6**	**-0.4**		
	comp=Z,88nm,0.8s										
DANN	**Dangsing**	**122.61**	**37**	*e*P		**PKKPbc**		**11 55 18.4**	**-1.6**		
	comp=Z,58nm,0.8s										
MJB9	**Matsu-Tunnel**	**122.92**	**342**	PKPdf		**PKPdf**		**11 45 25.6**	**-0.4**		
MAJO	**Matsushiro**	**122.92**	**342**	PKIKP		**PKPdf**		**11 45 25.5**	**-0.5**		
MAJO	**Matsushiro**	**122.92**	**342**			**PKPdf**		**11 45 25.5**	**-0.5**		
MAJO	**Matsushiro**	**122.92**	**342**	IAMs_20		IAMs_20		12 41 23.3			
	comp=Z,3μm,21.0s										
MJAR	**Matsushiro Arr**	**122.92**	**342**	PKP		**PKPdf**		**11 45 24.9**	**-1.1**		
	comp=Z,7.4nm,0.7s,baz=14,slow=1.3,SNR=18										
MJAR				PKKPab		**PKKPbc**		**11 55 18.6**	**-0.1**		
	comp=Z,15nm,1.2s,baz=215,slow=4.9,SNR=11										
MJAR	**Matsushiro Arr**	**122.92**	**342**	PKIKP		**PKPdf**		**11 45 25.7**	**-0.3**		
MJAR	**Matsushiro Arr**	**122.92**	**342**			**PKPdf**		**11 45 25.7**	**-0.3**		
KOLN	**Koldanda**	**122.95**	**38**	*e*P		**PKPdf**		**11 45 26.3**	**-0.2**		
	comp=Z,69nm,1.1s										
KOLN	**Koldanda**	**122.95**	**38**	*e*P		**PKKPbc**		**11 55 19.1**	**+0.6**		
	comp=Z,58nm,0.8s										
GKN	**Gorkha**	**123.38**	**37**	*e*P		**PKPdf**		**11 45 26.1**	**-1.2**		
	comp=Z,128nm,1.0s										
KKN	**Kakani**	**123.91**	**37**	*e*P		**PKPdf**		**11 45 28.0**	**-0.4**		
KKN	**Kakani**	**123.91**	**37**	*e*P		**PKKPbc**		**11 55 15.4**	**+0.6**		
DMN	**Daman**	**123.95**	**37**	*e*P		**PKPdf**		**11 45 27.8**	**-0.7**		
	comp=Z,12nm,0.5s										
DMN	**Daman**	**123.95**	**37**	*e*P		**PKKPbc**		**11 55 15.9**	**+1.2**		
PKIN	**Phulchoki**	**124.14**	**37**	*e*P		**PKPdf**		**11 45 28.2**	**-0.7**		
PKIN	**Phulchoki**	**124.14**	**37**	*e*P		**PKKPbc**		**11 55 13.7**	**-0.2**		
PKIN	**Phulchoki**	**124.14**	**37**	*e*P		**PKKPbc**		**11 55 15.0**	**+1.1**		
PKI	**Pulchoki**	**124.15**	**37**	*e*P		**PKPdf**		**11 45 28.3**	**-0.7**		
PKI	**Pulchoki**	**124.15**	**37**	*e*P		**PKKPbc**		**11 55 13.4**	**-0.6**		
PKI	**Pulchoki**	**124.15**	**37**	*e*P		**PKKPbc**		**11 55 15.1**	**+1.1**		
GUN	**Gumba**	**124.15**	**36**	*e*P		**PKPdf**		**11 45 28.2**	**-0.8**		
	comp=Z,37nm,0.7s										
GUN	**Gumba**	**124.15**	**36**	*e*P		**PKKPbc**		**11 55 13.0**	**-1.0**		
MSVF	**Nonsavu**	**124.21**	**260**	PKIKP		**PKiKP**		**11 45 29.8**	**+0.6**		
MSVF	**Nonsavu**	**124.21**	**260**	PKPdf		**PKiKP**		**11 45 29.8**	**+0.6**		
KSRS	**Korea Array**	**124.30**	**352**	PKP		**PKPdf**		**11 45 28.0**	**-0.6**		
	comp=Z,5.6nm,0.8s,baz=52,slow=2.1,SNR=20										
KSRS				PKKPab		**PKKPbc**		**11 55 13.5**	**+0.3**		
	comp=Z,1.9nm,0.9s,baz=192,slow=3.8,SNR=8.0										
KSRS				SKKPbc		SKKPbc		11 59 01.7	-0.2		
	comp=Z,3.3nm,1.1s,baz=170,slow=2.6,SNR=5.8										
KSAR	**Wonju Array Be**	**124.32**	**352**	PKIKP		**PKiKP**		**11 45 28.8**	**-0.1**		
KSAR	**Wonju Array Be**	**124.32**	**352**	PKPdf		**PKiKP**		**11 45 28.8**	**-0.1**		
LZH	**Lanzhou**	**124.34**	**15**	*e*PKP		**PKPdf**		**11 45 28.6**	**-0.3**		
LZH				sPKP				11 45 38.3			
LZH				SS		SS		12 04 02.1	-1.9		
LZH				LR		LR					
	comp=Z,4μm,15.2s										
LZH				LR		LR					
	comp=Z,3μm,16.5s										
LZH				LR		LR					
	comp=Z,4μm,17.1s										
INU	**Inuyama**	**124.38**	**342**	IAMs_20		IAMs_20		12 40 52.8			
	comp=Z,2μm,21.0s										
JIRN	**Jiri**	**124.52**	**36**	*e*P		**PKPdf**		**11 45 29.7**	**-0.1**		
	comp=Z,7.7nm,0.5s										
JIRN	**Jiri**	**124.52**	**36**	*e*P		**PKKPbc**		**11 55 12.3**	**-0.2**		
HNS	**HongShan**	**124.80**	**4**	‖PKP		**PKiKP**		**11 45 30.6**	**+0.8**		
HNS				SKS		**SKSdf**		**11 52 33.1**	**-8.4**		
HNS				AMB		AMB					
	comp=Z,640nm,10.5s										
HNS				LR		LR					
	comp=Z,3μm,21.0s										
HNS				LR		LR					
	comp=Z,2μm,19.3s										
HNS				LR		LR					
	comp=Z,3μm,21.0s										
RAMN	**Ramite**	**125.30**	**36**	*e*P		**PKPdf**		**11 45 30.3**	**-0.8**		
	comp=Z,52nm,0.6s										
LSA	**Lhasa**	**125.45**	**30**	IAMs_20		IAMs_20		12 38 20.4			
	comp=Z,2μm,20.0s										
LSA	**Lhasa**	**125.45**	**30**	PKP		**PKiKP**		**11 45 32.3**	**+0.3**		
RAGZ	**Rawiri**	**125.69**	**235**	P		**PKiKP**		**11 45 32.9**	**+1.3**		
SNGZ	**Shannon Statio**	**125.72**	**235**	P		**PKiKP**		**11 45 34.2**	**+2.6**		
ODAN	**Odare**	**125.81**	**36**	*e*P		**PKPdf**		**11 45 31.1**	**-1.0**		
	comp=Z,94nm,1.2s										
URZ	**Urewera**	**125.95**	**235**	PKP		**PKiKP**		**11 45 32.9**	**+0.9**		
	comp=Z,50nm,0.8s,baz=308,slow=0.5,SNR=15										
URZ	**Urewera**	**125.95**	**235**	P		**PKiKP**		**11 45 32.9**	**+0.9**		
BKZ	**Black Stump Fm**	**126.34**	**234**	P		**PKiKP**		**11 45 34.7**	**+1.9**		
BFZ	**Birch Farm**	**126.35**	**232**	P		**PKiKP**		**11 45 34.8**	**+2.0**		
BHHZ	**Black Hill Sta**	**126.64**	**234**	P		**PKiKP**		**11 45 35.5**	**+2.1**		
WPRZ	**Whakapapatarin**	**126.66**	**235**	P		**PKPdf**		**11 45 30.5**	**-2.5**		
HATZ	**Hinemaiaia**	**126.68**	**235**	P		**PKiKP**		**11 45 34.3**	**+0.8**		
HYBB	**Hyderabad (bro**	**126.76**	**51**	*e*PKPdf		**PKPdf**		**11 45 33.9**	**+0.1**		
MRZ	**Mangatainoka R**	**126.86**	**232**	P		**PKiKP**		**11 45 35.0**	**+1.3**		
ETVZ	**East Tongariro**	**126.95**	**234**	P		**PKiKP**		**11 45 35.5**	**+1.3**		
WNVZ	**Wahianoa**	**127.01**	**234**	P		**PKiKP**		**11 45 35.5**	**+1.2**		
TRVZ	**Turoa**	**127.05**	**234**	P		**PKiKP**		**11 45 34.8**	**+0.3**		
FWVZ	**Far West T-bar**	**127.06**	**234**	P		**PKiKP**		**11 45 35.3**	**+0.8**		
XAN	**Xi'an**	**127.39**	**11**	P		**PKiKP**		**11 45 35.4**	**+0.2**		
XAN				pP		sPKPdf		11 45 49.1	+11		
XAN				pmax		pmax					
	comp=Z,31nm,1.0s										
XAN	**Xi'an**	**127.39**	**11**	PKP		**PKiKP**		**11 45 35.5**	**+0.2**		
XAN				PP		**PP**		**11 47 37.3**	**+4.3**		
XAN				AMB		AMB					
	comp=Z,590nm,9.3s										
XAN				LR		LR					
	comp=Z,2μm,22.7s										
XAN				LR		LR					
	comp=Z,2μm,17.9s										
XAN				LR		LR					
	comp=Z,2μm,19.8s										
LYN	**LuoYang**	**127.41**	**7**	*e*PKP		**PKiKP**		**11 45 35.5**	**+0.3**		
LYN				AMB		AMB					
	comp=Z,570nm,10.4s										
LYN				LR		LR					
	comp=Z,2μm,24.1s										
LYN				LR		LR					
	comp=Z,2μm,24.1s										
LYN				LR		LR					
	comp=Z,3μm,26.1s										
HMDM	**Hanimaadhoo**	**128.36**	**66**	IAMs_20		IAMs_20		12 40 55.5			
	comp=Z,2μm,21.0s										
OXZ	**Oxford**	**128.98**	**228**			**PKiKP**		**11 45 38.7**	**+0.8**		
CD2	**Chengdu**	**129.21**	**17**	PKP		**PKiKP**		**11 45 39.1**	**+0.2**		
CD2				SKS		**SKSdf**		**11 52 48.0**	**-2.1**		
CD2				SKKS		**SKKSac**		**11 54 38.4**	**-5.4**		
CD2				LR		LR					
	comp=Z,210nm,24.6s										
CD2				LR		LR					
	comp=Z,2μm,20.8s										
CD2				LR		LR					
	comp=Z,3μm,26.5s										
RPZ	**Rata Peaks**	**129.59**	**228**	PKP		**PKiKP**		**11 45 39.0**	**-0.2**		
	comp=Z,42nm,0.8s,baz=253,slow=5.5,SNR=10										
NJ2	**Nanjing**	**130.30**	**0**	*e*PKP		**PKiKP**		**11 45 41.6**	**+0.6**		
NJ2				PP		**PP**		**11 47 59.0**	**+7.1**		
NJ2				SS		SS		12 05 21.5	+4.0		
NJ2				AMB		AMB					
	comp=Z,400nm,10.8s										
NJ2				LR		LR					
	comp=Z,2μm,22.5s										
NJ2				LR		LR					
	comp=Z,2μm,20.6s										
NJ2				LR		LR					
	comp=Z,2μm,25.0s										
WHZ	**Wether Hill Ro**	**131.12**	**224**	PKPdf		**PKiKP**		**11 45 43.5**	**+1.3**		
SSE	**Sheshan**	**131.22**	**358**	PKP		**PKiKP**		**11 45 43.0**	**+0.1**		
SSE				SS		SS		12 05 25.5	-3.3		
SSE				AMB		AMB					
	comp=Z,510nm,10.0s										
SSE				LR		LR					
	comp=Z,650nm,20.8s										
SSE				LR		LR					
	comp=Z,750nm,21.0s										
CASY	**Casey**	**131.35**	**175**	PKPdf		**PKiKP**		**11 45 42.7**	**+0.8**		
WHN	**Wuhan**	**131.57**	**6** ⇑	PKP		**PKPdf**		**11 45 42.8**	**+0.2**		
WHN				AMB		AMB					
	comp=Z,580nm,11.5s										
WHN				LR		LR					
	comp=Z,7μm,24.1s										
WHN				LR		LR					
	comp=Z,3μm,17.7s										
WHN				LR		LR					
	comp=Z,8μm,26.1s										
PZH	**PanZhiHua**	**132.68**	**21**	PKP		**PKPdf**		**11 45 44.8**	**-0.2**		
PZH				sPKP				11 45 57.8			
PZH				PP		**PP**		**11 48 11.0**	**+3.3**		
PZH				SKKS				11 54 59.0			
PZH				SS		**SS**		**12 05 43.3**	**-4.2**		
PZH				AMB		AMB					
	comp=Z,220nm,8.0s										
PZH				LR		LR					
	comp=Z,2μm,24.1s										
PZH				LR		LR					
	comp=Z,1μm,22.2s										
PZH				LR		LR					
	comp=Z,4μm,23.5s										
CNSH	**ChangSha**	**133.75**	**8** ⇑	PKP		**PKPdf**		**11 45 43.3**	**-3.5**		
CNSH				LR		LR					
	comp=Z,2μm,25.2s										
CNSH				LR		LR					
	comp=Z,2μm,21.3s										
CNSH				LR		LR					
	comp=Z,3μm,23.4s										
GYA	**Guiyang**	**134.22**	**16** ⇑	PKP		**PKPdf**		**11 45 47.1**	**-0.8**		
GYA				SKKS				11 55 08.3			
GYA				AMB		AMB					
	comp=Z,600nm,16.7s										
GYA				LR		LR					
	comp=Z,2μm,23.2s										
GYA				LR		LR					
	comp=Z,1μm,17.9s										
GYA				LR		LR					
	comp=Z,2μm,26.0s										
KMI	**Kunming**	**134.29**	**21** ⇑	PKP		**PKPdf**		**11 45 47.9**	**-0.3**		
KMI				PP		PP		11 48 26.0	+7.8		
KMI				SS		SS		12 06 02.8	-4.4		
KMI				AMB		AMB					
	comp=Z,330nm,9.6s										
KMI				LR		LR					
	comp=Z,2μm,21.5s										
KMI				LR		LR					
	comp=Z,2μm,23.1s										
KMI				LR		LR					
	comp=Z,4μm,23.1s										
PALK	**Pallekele**	**134.47**	**60**	PKIKP		**PKiKP**		**11 45 49.3**	**-0.6**		
PALK				MLR		MLR					
	comp=Z,3μm,22.0s										
PALK	**Pallekele**	**134.47**	**60**	PKPdf		**PKiKP**		**11 45 49.3**	**-0.6**		
PALK	**Pallekele**	**134.47**	**60**	IAMs_20		IAMs_20		12 43 11.9			
	comp=Z,2μm,22.0s										
DZM	**Mont Dzumac**	**135.56**	**257**	PKP		**PKPdf**		**11 45 51.0**	**+0.6**		
	comp=Z,29nm,1.0s,baz=125,slow=6.8,SNR=9.1										
DZM	**Mont Dzumac**	**135.56**	**257**	*e*PKIKP		**PKiKP**		**11 45 51.2**	**-0.8**		
	comp=Z,119nm,1.2s										
DZM	**Mont Dzumac**	**135.56**	**257**	*e*LR		LR		12 29 24.8			
	comp=Z,2μm,27.4s										
TATO	**Taipei**	**137.29**	**357**	IAMs_20		IAMs_20		12 50 24.7			
	comp=Z,2μm,21.0s										
YHNB	**Yeheng**	**137.60**	**357**	IAMs_20		IAMs_20		12 48 22.8			
	comp=Z,3μm,22.0s										
CHTO	**Chiang Mai**	**138.40**	**30**	IAMs_20		IAMs_20		12 53 04.7			
	comp=Z,2μm,20.0s										
CMAR	**Chiang Mai Arr**	**138.71**	**30**	PKhKP		PKPpre		11 45 45.0			
	comp=Z,0.4nm,0.4s,baz=336,slow=42,SNR=1.5										
CMAR				PKP		**PKPdf**		**11 45 56.6**	**+0.4**		
	comp=Z,13nm,0.8s,baz=308,slow=3.0,SNR=41										
CMAR	**Chiang Mai Arr**	**138.71**	**30**	*c i* PKIKP		**PKiKP**		**11 45 57.4**	**-1.0**		
CMAR				pmax		pmax					
	comp=Z,13nm,0.8s										
CMAR	**Chiang Mai Arr**	**138.71**	**30**	PKPdf		**PKPdf**		**11 45 57.1**	**+0.9**		
TPUB	**Ta-pu**	**138.99**	**358**	IAMs_20		IAMs_20		12 49 10.6			
	comp=Z,2μm,20.0s										
TWG	**Pinlang**	**139.45**	**357**	IAMs_20		IAMs_20		12 52 56.9			
	comp=Z,2μm,20.0s										

SMKI	**Samarinda**	**162.51**	**7**	PKP	**PKPdf**	**11 46 33.6**	**+1.4**
CGJI	**Cibinong**	**162.66**	**51**	PKP	**PKPdf**	**11 46 31.9**	**-0.4**
LUWI	**Luwuk**	**162.85**	**348**	PKP	**PKPdf**	**11 46 32.6**	**+0.1**
APSI	**Ampana**	**162.91**	**352**	PKP	**PKPdf**	**11 46 33.1**	**+0.5**
TNG	**Tangerang**	**163.05**	**48**	PKP	**PKPdf**	**11 46 33.2**	**+0.5**
PBKI	**Pangkalan Bun**	**163.15**	**27**	PKP	**PKPdf**	**11 46 33.9**	**+1.1**
DBJI	**Dramaga**	**163.39**	**49**	PKP	**PKPdf**	**11 46 33.9**	**+0.9**
CNJI	**Cibinong**	**164.18**	**50**	PKP	**PKPdf**	**11 46 33.2**	**-0.5**
LEM	**Lembang**	**164.19**	**47**	PKP	**PKPdf**	**11 46 34.5**	**+0.5**
FORT	**Forrest**	**164.90**	**211**		**PKPdf**	**11 46 33.1**	**-0.8**
FORT				PKPab	**pPKPab**	**11 47 31.4**	**-0.9**
BBKI	**Banjar Baru**	**164.99**	**17**	PKP	**PKPdf**	**11 46 35.0**	**+0.5**
AS31	**Alice Springs**	**165.13**	**245**		**PKPdf**	**11 46 33.1**	**-1.3**
AS31				PKPab	**pPKPab**	**11 47 32.8**	**-0.9**
ASAR	**Alice Springs**	**165.13**	**245**	PKP	**PKPdf**	**11 46 33.0**	**-1.3**
	comp=Z,18nm,1.0s,baz=100,slow=1.0,SNR=59						
ASAR				PKPab	**PKPab**	**11 47 30.9**	**-0.5**
	comp=Z,66nm,1.2s,baz=117,slow=4.1,SNR=27						
ASAR				PP	**PP**	**11 51 20.5**	**+2.3**
	comp=Z,12nm,1.2s,baz=122,slow=4.5,SNR=5.4						
ASAR	**Alice Springs**	**165.13**	**245**		**PKPdf**	**11 46 32.3**	**-2.0**
ASAR				PKPab	**PKPab**	**11 47 31.7**	**+0.3**
TTSI	**Tana Toraja**	**165.19**	**358**	PKP	**PKPdf**	**11 46 35.7**	**+1.1**
WR0	**Warramunga Arr**	**165.36**	**260**		**PKPdf**	**11 46 33.7**	**-0.9**
WR0				PKPab	**PKPab**	**11 47 32.7**	**+0.2**
CMJI	**Cimerak**	**165.45**	**47**	PKP	**PKPdf**	**11 46 34.5**	**-0.3**
KPJI	**Karang Pucung**	**165.46**	**45**	PKP	**PKPdf**	**11 46 35.1**	**+0.3**
WB0	**Warramunga Arr**	**165.51**	**260**		**PKPdf**	**11 46 33.7**	**-1.0**
WB0				PKPab	**PKPab**	**11 47 34.1**	**+0.9**
WB2	**Warramunga Arr**	**165.54**	**260**		**PKPdf**	**11 46 33.8**	**-0.9**
WB2				PKPab	**pPKPab**	**11 47 35.0**	**-0.5**
WRAB	**Tennant Creek**	**165.54**	**260**	PKIKP	**PKPdf**	**11 46 33.2**	**-1.6**
WRAB	**Tennant Creek**	**165.54**	**260**		**PKPdf**	**11 46 33.2**	**-1.6**
WRAB				PKPab	**pPKPab**	**11 47 35.1**	**-0.4**
WRA	**Warramunga Arr**	**165.55**	**260**	PKP	**PKPdf**	**11 46 33.5**	**-1.3**
	comp=Z,38nm,1.1s,baz=27,slow=0.4,SNR=74						
WRA				PKPab	**PKPab**	**11 47 33.1**	**-0.3**
	comp=Z,17nm,1.0s,baz=92,slow=4.1,SNR=10.0						
WRA				PP	**PP**	**11 51 24.2**	**+3.5**
	comp=Z,15nm,1.2s,baz=83,slow=3.8,SNR=5.7						
WRA	**Warramunga Arr**	**165.55**	**260**		**PKPdf**	**11 46 33.3**	**-1.5**
WRA				PKPab	**pPKPab**	**11 47 34.6**	**-1.0**
SPSI	**Sidrap Palu**	**166.10**	**358**	PKP	**PKPdf**	**11 46 35.6**	**+0.2**
BNSI	**Bone**	**166.52**	**356**	PKP	**PKPdf**	**11 46 36.1**	**+0.4**
BKSI	**Bulukumba**	**167.43**	**356**	PKP	**PKPdf**	**11 46 36.2**	**-0.2**
PWJI	**Pagerwojo**	**167.79**	**37**	PKP	**PKPdf**	**11 46 37.1**	**+0.5**
KMMI	**Kalianget**	**168.03**	**26**	PKP	**PKPdf**	**11 46 37.2**	**+0.4**
BSSI	**Bau Bau, Buton**	**168.21**	**354**	PKP	**PKPdf**	**11 46 37.3**	**+0.4**
BLJI	**Banyuglugur**	**168.49**	**29**	PKP	**PKPdf**	**11 46 36.6**	**-0.5**
MORW	**Morawa**	**168.54**	**166**		**PKPdf**	**11 46 36.7**	**-0.1**
MORW				PKPab	**PKPab**	**11 47 46.2**	**+0.2**
ABJI	**Asem Bagus**	**168.82**	**26**	PKP	**PKPdf**	**11 46 37.4**	**+0.1**
GMJI	**Gumukmas**	**168.88**	**31**	PKP	**PKPdf**	**11 46 37.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**169.38**	**28**		**PKPdf**	**11 46 37.3**	**-0.3**
JAGI				PKPab	**PKPab**	**11 47 48.6**	**-1.5**
JAGI	**Jajag, Banyuwa**	**169.38**	**28**	PKP	**PKPdf**	**11 46 37.4**	**-0.3**
SRBI	**Singaraja**	**169.46**	**22**	PKP	**PKPdf**	**11 46 37.6**	**-0.1**
DNP	**Denpasar**	**170.01**	**23**	PKP	**PKPdf**	**11 46 38.6**	**+0.6**
KNRA	**Kununurra**	**170.58**	**282**		**PKPdf**	**11 46 38.1**	**-0.1**
KNRA				PKPab	**pPKPab**	**11 47 57.5**	**-0.4**
PLAI	**Plampang**	**170.84**	**9**	PKP	**PKPdf**	**11 46 37.6**	**-0.9**
WBSI	**Waikabubak, Su**	**171.75**	**359**	PKP	**PKPdf**	**11 46 39.3**	**+0.3**
PSA00	**Pilbara Seismi**	**176.33**	**189**		**PKPdf**	**11 46 39.5**	**-0.8**
PSA00					**PKPab**	**11 48 21.3**	**+0.7**
PSA00	**Pilbara Seismi**	**176.33**	**189**		**PKPdf**	**11 46 39.1**	**-1.2**
PSA00					**PKPab**	**11 48 21.6**	**+1.0**

*IDC **19** 11:29:31.3±1.2,0.˝35S×129.˚49E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.6/46,mbtmp3.7/5,ML3.3/1 Error ellipse: s-maj=27.4km s-min=14.9km az=23.0*
*DJA **19** 11:29:33.6±0.3,0.˚3S×13.˚0E±.˚,h10km,M3.6/9,MLv3.6/9*
ISC 19 11:29:32.4±1.0,**0.˚23S**±0.˚09×**129.˚52E**±0.˚07,**h10**km,**n12**, σ1°**44**/13,**mb3.8**/3,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.84**	**110**	P	**Pn**	**11 30 04.8**	**+0.6**
SIJI	**Sorong**	**1.85**	**110**	Pg	**Pn**	**11 30 05.2**	**+0.9**
	54nm,0.3s,baz=331,slow=19,SNR=74						
SIJI				Lg	Lg	11 30 29.2	
	21nm,0.3s,baz=186,slow=21,SNR=4.8						
LBMI	**Labuha**	**2.06**	**259**	P	**Pn**	**11 30 07.7**	**+0.5**
TNTI	**Ternate**	**2.38**	**295**	P	**Pn**	**11 30 12.2**	**+0.7**
MSAI	**Masohi**	**3.15**	**191**	P	**Pn**	**11 30 23.8**	**+1.6**
AAI	**Ambon**	**3.68**	**201**	P	**Pn**	**11 30 31.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**18.16**	**192**	P	**Pn**	**11 33 42.0**	**-2.9**
	0.1nm,0.3s,baz=28,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**20.15**	**167**	P	**P**	**11 34 05.1**	**-1.9**
	1.3nm,0.8s,baz=348,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**23.68**	**170**	P	**P**	**11 34 44.5**	**0.0**
	2.0nm,0.7s,baz=349,slow=12,SNR=17						
ASAR				PcP	**PcP**	**11 38 28.7**	**-0.3**
	0.2nm,0.6s,baz=20,slow=3.0,SNR=1.9						
STKA	**Stephens Creek**	**33.48**	**161**	P	**P**	**11 36 12.8**	**+0.8**
	1.0nm,0.6s,baz=315,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**62.38**	**325**	P	**P**	**11 39 56.2**	**+0.7**
	0.5nm,0.7s,baz=120,slow=7.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**126.75**	**286**	PKP	**PKiKP**	**11 48 38.0**	**+0.1**
	0.4nm,0.7s,baz=98,slow=2.1,SNR=1.3						

*IDC **19** 11:33:46.6±2.8,38.˚49N×142.˚45E,h52km±28km,mb3.1/2, mb1 3.5/7,mb1mx3.2/51,mbtmp3.6/7,ML2.9/5,Error ellipse: s-maj=33.3km s-min=13.5km az=114.0*
*JMA **19** 11:33:49.2,38.˚44N×141.˚80E,h55km±1km,M3.7 Broadband fault plane solution: P waves. NP1: ϕ=48.00000°,δ51.00000°,λ126.00000°. NP2: ϕ=180.00000°,δ51.00000°,λ54.00000°. Principal axes: T Plg63.0000°, Azm24.0000°; N Plg27.0000°, Azm204.0000°; P Plg0.0000°, Azm114.0000°;*
JMA Felt II J1.
ISC 19 11:33:48.8±1.4,**38.˚44N**±0.˚05×**141.˚9E**±0.˚1,**h49**km±10km, **n20**,σ1°**99**/35,**3C-8D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.38**	**250**	P	**Pn**	**11 33 58.7**	**0.0**
JIKH				S	**Sn**	**11 34 05.3**	**-0.4**
JIO	**Ouri**	**0.45**	**272**	↑P	**Pn**	**11 33 59.3**	**-0.1**
JIO				S	**Sn**	**11 34 06.3**	**-0.7**
JKMT	**Kesennumamotoy**	**0.51**	**317**	↓P	**Pn**	**11 34 00.3**	**+0.2**
JKMT				S	**Sn**	**11 34 08.1**	**-0.1**
OFUJ	**Ofunato**	**0.67**	**343**	↓P	**Pn**	**11 34 02.5**	**+0.3**
OFUJ				S	**Sn**	**11 34 12.0**	**+0.2**
JMK	**Ichinoseki**	**0.75**	**313**	↓P	**Pn**	**11 34 03.3**	**+0.1**
JMK				S	**Sn**	**11 34 13.3**	**-0.3**
JOU	**Okura**	**0.99**	**266**	↓P	**Pn**	**11 34 05.7**	**-0.7**
JOU				S	**Sn**	**11 34 18.1**	**-1.3**
JMM	**Marumori**	**1.06**	**238**	↑P	**Pn**	**11 34 06.4**	**-0.9**
JMM				S	**Sn**	**11 34 19.0**	**-2.0**
JOM	**Ohasama**	**1.14**	**335**	↓P	**Pn**	**11 34 08.7**	**+0.2**
JOM				S	**Sn**	**11 34 23.5**	**+0.5**
JYK	**Kaneyama**	**1.31**	**292**	↓P	**Pn**	**11 34 10.4**	**-0.4**
JYK				S	**Sn**	**11 34 26.1**	**-1.1**
JFK	**Kawauchi**	**1.35**	**218**	↑P	**Pn**	**11 34 10.8**	**-0.6**
JFK				S	**Sn**	**11 34 26.8**	**-1.4**
JRG	**Rokugo**	**1.39**	**314**	↓P	**Pn**	**11 34 11.7**	**-0.1**
JYS	**Shirataka**	**1.48**	**262**	P	**Pn**	**11 34 12.6**	**-0.4**
JYS				eS	**Sn**	**11 34 30.0**	**-1.2**
JFT	**Otama**	**1.56**	**234**	↓P	**Pn**	**11 34 13.9**	**-0.2**
JFT				S	**Sn**	**11 34 31.5**	**-1.6**
MJAR	**Matsushiro Arr**	**3.51**	**238**	P	**Pn**	**11 34 43.0**	**+2.2**
	0.3nm,0.3s,baz=35,slow=14,SNR=9.8						
MJAR				S	**Sn**	**11 35 29.3**	**+8.2**
	0.1nm,0.3s,baz=30,slow=39,SNR=2.0						
JHJ	**Hachijo jima 2**	**5.59**	**199**	P	**Pn**	**11 35 09.1**	**-0.3**
	3.4nm,0.3s,baz=252,slow=20,SNR=2.3						
JHJ				S	**Sn**	**11 36 09.6**	**-2.7**
	8.1nm,0.3s,baz=244,slow=23,SNR=1.6						
ASAJ	**Asahikawa**	**5.69**	**5**	P	**Pn**	**11 35 07.4**	**-3.4**
	0.9nm,0.3s,baz=223,slow=10,SNR=13						
ASAJ				S	**Sn**	**11 36 12.8**	**-2.0**
	0.2nm,0.3s,baz=128,slow=19,SNR=1.6						
USRK	**Ussuriysk Ar.**	**9.43**	**311**	P	**Pn**	**11 36 02.6**	**+0.7**
	baz=123,slow=15,SNR=1.4						
KSRS	**Korea Array**	**11.10**	**269**	P	**Pn**	**11 36 27.9**	**+3.0**
	0.1nm,0.3s,baz=79,slow=14,SNR=1.6						
MKAR	**Makanchi Array**	**43.73**	**301**	P	**P**	**11 41 48.7**	**-0.5**
	0.4nm,0.6s,baz=83,slow=7.6,SNR=2.5						
WRA	**Warramunga Arr**	**58.51**	**188**	P	**P**	**11 43 38.5**	**-1.6**
	0.2nm,0.4s,baz=5.7,slow=7.0,SNR=7.1						

TRN 19 11:34:35.3,17.˚92N×60.˚75W,h46km,MD4.0,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.02**	**256**	*e*P	Pn	11 34 54.2	+1.0
ANWB				*e*S	Sn	11 35 07.9	+1.5
ANBD	**Bethesda, Anti**	**1.30**	**228**	*e*P	Pn	11 34 58.4	+1.3
ANBD				*e*S	Sn	11 35 15.1	+1.7
ABD	**La Joyeuse, An**	**1.60**	**206**	*e*P	Pn	11 35 02.9	+1.7
ABD				*e*S	Sn	11 35 22.8	+2.1
MBFL	**Flemmings, Mon**	**1.82**	**230**	*e*P	Pn	11 35 06.3	+2.1
MBFL				*e*S	Sn	11 35 27.9	+1.8
MLYT	**Lee's Yard**	**1.82**	**229**	*e*P	Pn	11 35 06.7	+2.5
MLYT				*e*S	Sn	11 35 28.9	+2.7
NVDO	**Nevis, Disaste**	**1.96**	**246**	*e*P	Pn	11 35 08.9	+2.8
NVDO				*e*S	Sn	11 35 31.6	+2.3
SKI	**Saint Kitts**	**1.99**	**253**	*e*P	Pn	11 35 08.8	+2.3
SKI				*e*S	Sn	11 35 32.3	+2.1
SKOC	**St. Kitts, UWI**	**1.99**	**252**	*e*P	Pn	11 35 07.6	+1.1
SKOC				*e*S	Sn	11 35 31.9	+1.6
CBE	**Ff, Capester**	**2.02**	**204**	*e*P	Pn	11 35 09.2	+2.3
CBE				*e*S	Sn	11 35 33.4	+2.4
MAGL	**Barre de l'ile**	**2.03**	**195**	*e*P	Pn	11 35 08.8	+1.8
MAGL				*e*S	Sn	11 35 33.2	+2.1
SEUS	**St. Eustatius**	**2.17**	**259**	*e*P	Pn	11 35 11.1	+2.1
SEUS				*e*S	Sn	11 35 36.4	+1.7
SMRT	**St. Maarten**	**2.22**	**274**	*e*P	Pn	11 35 10.4	+0.7
SMRT				*e*S	Sn	11 35 37.3	+1.4
TDBA	**Terre de Bas,**	**2.23**	**203**	*e*P	Pn	11 35 12.0	+2.2
TDBA				*e*S	Sn	11 35 38.8	+2.7
TBG	**Guadaloupe-3**	**2.23**	**203**	*e*P	Pn	11 35 12.2	+2.4
TBG				*e*S	Sn	11 35 38.5	+2.4
DSLB	**Salisbury**	**2.55**	**195**	*e*P	Pn	11 35 16.0	+1.8
DSLB				*e*S	Sn	11 35 46.1	+2.0
DLPL	**La Plaine**	**2.62**	**191**	*e*P	Pn	11 35 16.6	+1.5
DLPL				*e*S	Sn	11 35 46.8	+1.1
MDN	**Morne-Daniel**	**2.66**	**194**	*e*P	Pn	11 35 18.0	+2.3
MDN				*e*S	Sn	11 35 48.5	+1.7
SVN	**Savane Anatole**	**3.09**	**188**	*e*P	Pn	11 35 24.5	+2.8
BAMF	**Morne Balai**	**3.11**	**187**	*e*P	Pn	11 35 23.9	+2.0
CXM	**Morne La Croix**	**3.12**	**188**	*e*P	Pn	11 35 24.3	+2.1
PCM	**Pelee Case Pet**	**3.12**	**188**	*e*P	Pn	11 35 23.6	+1.6
ILAM	**Ilet Lapin Mar**	**3.13**	**182**	*e*P	Pn	11 35 23.7	+1.6
ILAM				*e*S	Sn	11 35 59.5	+1.2
GBMF	**Grand Be**	**3.13**	**187**	*e*P	Pn	11 35 23.8	+1.6
PML	**Morne Lenard**	**3.15**	**188**	*e*P	Pn	11 35 24.2	+1.7
FDF	**Fort de France**	**3.19**	**187**	*e*P	Pn	11 35 25.1	+2.1
FDF				*e*S	Sn	11 35 59.8	-0.2
LPMF	**Morne Lapointe**	**3.33**	**184**	*e*P	Pn	11 35 26.1	+1.1
ZAM	**Aeronautique**	**3.34**	**185**	*e*P	Pn	11 35 26.3	+1.2
MVM	**Montagne Vaucl**	**3.35**	**182**	*e*P	Pn	11 35 26.9	+1.7
TRMF	**Trois Ilets**	**3.38**	**185**	*e*P	Pn	11 35 27.1	+1.5
BIM	**Bigot**	**3.40**	**185**	*e*P	Pn	11 35 27.4	+1.5
BIM				*e*S	Sn	11 36 06.0	+1.0
MPOM	**Morne Pois Mar**	**3.46**	**182**	*e*P	Pn	11 35 28.2	+1.6
MPOM				*e*S	Sn	11 36 06.9	+0.5
SLBI	**Saint Lucia, B**	**3.88**	**183**	*e*P	Pn	11 35 34.3	+1.9
SLBI				*e*S	Sn	11 36 17.5	+0.7
MCLT	**Moule a Chique**	**4.19**	**183**	*e*P	Pn	11 35 39.0	+2.2
MCLT	**Moule a Chique**	**4.19**	**183**	*e*S	Sn	11 36 25.2	+0.7

*NEIC **19** 11:37:42.8±2.2,21.˚5S×0.˚1×177.˚6W±0.˚1,h394km±7km, mb4.3/21,Error ellipse: s-maj=17.0km s-min=16.2km az=157.0*
*IDC **19** 11:37:44.0±2.2,21.˚48S×177.˚85W,h406km±21km,mb3.4/9, mb1 3.5/12,mb1mx3.4/45,mbtmp4.1/12,Error ellipse: s-maj=26.7km s-min=16.2km az=135.0*
ISC 19 11:37:41.1±0.5,**21.˚48S**±0.˚08×**177.˚66W**±0.˚09,**h381**km, **n57**,σ1°**33**/57,**mb4.0**/19,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.50**	**312**	P	**Pn**	**11 39 10.1**	**+2.3**
	6.8nm,0.3s,baz=137,slow=7.9,SNR=45						
MSVF	**Nonsavu**	**5.50**	**312**		**Pn**	**11 39 09.9**	**+2.1**
NIUE	**Niue**	**7.64**	**73**		**Pn**	**11 39 32.1**	**+0.4**
AFI	**Afiamalu**	**9.39**	**38**	P	**Pn**	**11 39 49.9**	**-2.2**
	1.0nm,0.3s,baz=162,slow=20,SNR=1.8						
AFI				S	S	11 41 30.7	-8.9
	1.2nm,0.3s,baz=54,slow=19,SNR=1.7						
AFI	**Afiamalu**	**9.39**	**38**	P	**Pn**	**11 39 50.2**	**-1.9**
DZM	**Mont Dzumac**	**14.78**	**265**	P	**P**	**11 40 52.4**	**+0.2**
	0.1nm,0.3s,baz=255,slow=20,SNR=1.4						
URZ	**Urewera**	**17.32**	**194**	P	**P**	**11 41 19.9**	**+0.8**
	1.3nm,0.3s,baz=247,slow=4.2,SNR=8.5						
URZ				S	**S**	**11 44 16.0**	**-3.7**
	0.2nm,0.3s,baz=79,slow=16,SNR=2.0						
URZ	**Urewera**	**17.32**	**194**	P	**P**	**11 41 20.3**	**+1.2**
URZ				IAmb	IAmb	11 41 26.9	
	comp=Z,39nm,1.4s						
TUWZ	**Tuamarina**	**21.12**	**198**	P	**P**	**11 42 00.2**	**+3.3**
CTA	**Charters Tower**	**33.72**	**266**	P	**P**	**11 43 48.3**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=95,slow=7.6,SNR=5.4						
RABL	**Rabaul**	**33.96**	**296**	P	**P**	**11 43 49.7**	**-1.0**
TOO	**Toolangi**	**35.59**	**235**	P	**P**	**11 44 05.0**	**+0.8**
TOO				IAmb	IAmb	11 44 09.2	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**37.66**	**245**	P	**P**	**11 44 21.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=95,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**37.66**	**245**	P	**P**	**11 44 21.9**	**+0.4**
COEN	**Coen**	**37.97**	**275**	P	**P**	**11 44 24.7**	**+0.4**
COEN				IAmb	IAmb	11 44 31.0	
	comp=Z,18nm,1.4s						
BBOO	**Buckleboo**	**42.41**	**244**	P	**P**	**11 45 00.4**	**+0.3**
BBOO				IAmb	IAmb	11 45 14.9	
	comp=Z,38nm,1.5s						
WR0	**Warramunga Arr**	**44.60**	**263**	P	**P**	**11 45 16.3**	**-1.2**
AS31	**Alice Springs**	**44.61**	**258**	P	**P**	**11 45 17.8**	**+0.1**
ASAR	**Alice Springs**	**44.61**	**258**	P	**P**	**11 45 17.2**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=94,slow=8.1,SNR=31						
ASAR	**Alice Springs**	**44.61**	**258**	P	**P**	**11 45 17.4**	**-0.3**
WB0	**Warramunga Arr**	**44.77**	**263**	P	**P**	**11 45 18.3**	**-0.6**
WB2	**Warramunga Arr**	**44.78**	**263**	P	**P**	**11 45 18.1**	**-0.8**
WB2				IAmb	IAmb	11 45 44.0	
	comp=Z,9.2nm,1.5s						
WRAB	**Tennant Creek**	**44.78**	**263**	P	**P**	**11 45 18.1**	**-0.9**
WRAB				IAmb	IAmb	11 45 24.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**44.79**	**263**	P	**P**	**11 45 17.5**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=93,slow=5.9,SNR=55						
WRA	**Warramunga Arr**	**44.79**	**263**	P	**P**	**11 45 18.2**	**-0.8**
FORT	**Forrest**	**49.20**	**247**	P	**P**	**11 45 52.5**	**-0.1**
FORT				IAmb	IAmb	11 45 53.5	
	comp=Z,19nm,0.8s						
KNRA	**Kununurra**	**50.92**	**267**	P	**P**	**11 46 04.8**	**-0.7**
KNRA				IAmb	IAmb	11 46 22.0	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.22**	**263**	P	**P**	**11 46 22.4**	**+0.2**
FITZ				IAmb	IAmb	11 46 41.8	
	comp=Z,42nm,1.4s						
SWI	**Sorong**	**53.81**	**285**	PKP	**P**	**11 46 26.5**	**0.0**
MSAI	**Masohi**	**54.88**	**281**	PKP	**P**	**11 46 32.4**	**-1.7**
VNDA	**Vanda**	**56.97**	**185**	P	**P**	**11 46 47.7**	**-0.1**
VNDA				IAmb	IAmb	11 47 07.4	
	comp=Z,15nm,1.4s						
GIRL	**Giralia**	**62.60**	**255**	P	**P**	**11 47 26.0**	**-0.6**
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	**11 48 04.4**	**+0.5**
QSPA				IAmb	IAmb	11 48 17.2	
	comp=Z,17nm,1.4s						
PEA0B	**Petropavlovsk-**	**77.30**	**345**	P	**P**	**11 48 55.4**	**+1.1**
PETK	**Petropavlovsk-**	**77.30**	**345**	P	**P**	**11 48 54.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=188,slow=2.9,SNR=5.4						
PETK	**Petropavlovsk-**	**77.30**	**345**	P	**P**	**11 48 55.4**	**+1.1**
NVAR	**Mina Array Bea**	**81.52**	**43**	P	**P**	**11 49 19.1**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=220,slow=8.0,SNR=7.1						
NVAR	**Mina Array Bea**	**81.52**	**43**	P	**P**	**11 49 18.6**	**+1.1**
SNAA	**Sanae**	**87.02**	**178**	P	**P**	**11 49 44.2**	**0.0**
SEY	**Seymchan**	**87.40**	**347**	P	**P**	**11 49 46.2**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=139,slow=6.5,SNR=8.6						
IMAR	**Indian Mountai**	**89.07**	**10**	P	**P**	**11 49 54.5**	**+1.1**
ILAR	**Eielson Array**	**89.20**	**13**	P	**P**	**11 49 53.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=216,slow=5.2,SNR=7.4						
ILAR	**Eielson Array**	**89.20**	**13**	P	**P**	**11 49 50.1**	**-4.0**
BW06	**Boulder Array**	**89.46**	**43**	P	**P**	**11 49 56.9**	**+0.8**
PDAR	**Pinedale Array**	**89.46**	**43**	P	**P**	**11 49 57.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=242,slow=1.9,SNR=1.1						
PDAR	**Pinedale Array**	**89.46**	**43**		**P**	**11 49 57.0**	**+0.8**
ARCES	**ARCESS Array B**	**129.94**	**350**	PKP	**PKPdf**	**11 56 05.4**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=29,slow=2.1,SNR=4.7						
AKASG	**Malin Array Be**	**144.02**	**331**	PKP	PKPab	11 56 29.8	-0.7
	comp=Z,1.1nm,0.5s,baz=43,slow=4.4,SNR=16						
AKASG	**Malin Array Be**	**144.02**	**331**		PKPab	11 56 30.4	-0.1
BR131	**Keskin Array S**	**147.73**	**311**		**PKPbc**	**11 56 42.5**	**+0.6**
BRTR	**Keskin Array B**	**147.73**	**311**	PKPbc	**PKPbc**	**11 56 41.4**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=134,slow=3.7,SNR=6.9						
BRTR	**Keskin Array B**	**147.73**	**311**	PKPdf	**PKPdf**	**11 56 35.6**	**-2.9**
BRTR					**PKPbc**	**11 56 42.5**	**+0.6**
CLL	**Collm**	**149.09**	**347**	*e*PKPbc	**PKPbc**	**11 56 45.0**	**+0.2**
KHC	**Kasperske Hory**	**150.99**	**345**	*e*PKP	**PKPbc**	**11 56 49.7**	**+0.3**
KHC				*ex*	x	11 57 00.5	
CKRC	**Cesky Krumlov**	**151.09**	**344**	*e*PKP	**PKPbc**	**11 56 50.1**	**+0.5**
GERES	**GERESS Array B**	**151.23**	**344**	PKPbc	**PKPbc**	**11 56 49.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=352,slow=3.0,SNR=8.1						
GERES	**GERESS Array B**	**151.23**	**344**		**PKPbc**	**11 56 50.1**	**+0.1**

*NEIC **19** 11:55:41.8±2.1,21.˚19S±0.˚10×175.˚73W±0.˚08,h10km±1km, mb4.8/30,Error ellipse: s-maj=16.6km s-min=13.0km az=181.0*
*GCMT **19** 11:55:46.1±0.2,21.˚16S±0.˚01×175.˚62W±0.˚01,h12km, MW5.3/151,Moment Tensor Solution. s75,c100; s151,c219; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.35±.02; Mθθ-0.77±.02; Mϕϕ-0.58±.02; Mrθ-0.76±.08; Mθϕ0.06±.02; Mϕr-0.43±.08; Best double couple: Mo1.35000×10^17 NP1:ϕ=89.00000°,δ26.00000°, λ105.00000°. NP2:ϕ=252.00000°,δ65.00000°,λ83.00000°. Principal axes: T 1.6750, Plg70.0000°, Azm148.0000°; N -0.6540, Plg6.0000°, Azm255.0000°; P -1.0240, Plg19.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **19** 11:55:47.3±2.4,20.˚88S×176.˚09W,h47km±22km,mb4.2/21, mb1 4.4/24,mb1mx4.3/44,mbtmp4.5/24,ML4.3/3,MS4.9/33, Ms1 4.8/33,ms1mx4.6/67 Error ellipse: s-maj=18.2km s-min=12.9km az=155.0*
ISC 19 11:55:40.8±0.3,**21.˚15S**±0.˚08×**175.˚73W**±0.˚05,**h10**km, **h10**km:**pP-P**,**n141**,σ1°**81**/131,**mb4.7**/35,**MS4.9**/31,**1C**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.83**	**70**	P	**Pn**	**11 57 04.3**	**-3.1**
MSVF	**Nonsavu**	**6.78**	**299**	P	**Pn**	**11 57 20.3**	**-0.2**
	1.0nm,0.3s,baz=121,slow=15,SNR=17						
MSVF				LR	LR	11 59 40.2	
	comp=Z,13μm,20.8s,baz=85,slow=37						
MSVF	**Nonsavu**	**6.78**	**299**	P	**Pn**	**11 57 20.6**	**+0.1**
AFI	**Afiamalu**	**8.13**	**28**	P	**

QSPA South Pole Qui 68.92 180 P P 12 06 44.6 -1.3
PETK Petropavlovsk- 77.46 344 P P 12 07 36.0 -0.1
comp=Z,9.7nm,0.9s,baz=167,slow=8.9,SNR=5.8
PETK Petropavlovsk- 77.46 344 P P 12 07 37.1 +1.0
LPIG La Paz 77.93 58 LR LR 12 33 07.7
comp=Z,697nm,21.9s,baz=266,slow=29
PFO Pinyon Flats O 78.44 47 P P 12 07 44.2 +2.0
comp=Z,2.3nm,0.9s,baz=242,slow=4.5,SNR=4.5
PFO LR LR 12 34 06.3
comp=Z,451nm,21.3s,baz=309,slow=29
KSRS Korea Array 78.79 318 P P 12 07 41.8 -2.0
comp=Z,0.6nm,0.9s,baz=173,slow=4.4,SNR=1.6
YBH Yreka Blue Hor 79.49 37 LR LR 12 34 58.0
comp=Z,722nm,21.8s,baz=257,slow=30
NVAR Mina Array Bea 80.06 42 P P 12 07 51.2 +0.2
comp=Z,2.5nm,0.8s,baz=223,slow=8.9,SNR=12
NVAR LR LR 12 37 10.2
comp=Z,289nm,19.6s,baz=240,slow=31
KDAK Kodiak Island 80.97 12 LR LR 12 36 05.2
comp=Z,997nm,20.5s,baz=172,slow=30
MOD Modoc Plateau 80.98 38 P P 12 07 56.2 +0.4
MOD IAmb IAmb 12 08 01.2
comp=Z,8.3nm,1.1s
U15A North Rim 82.85 47 P P 12 08 07.1 +1.1
U15A IAmb IAmb 12 08 29.8
comp=Z,15nm,1.4s
ELK Elko 83.33 42 LR LR 12 37 08.7
comp=Z,777nm,21.9s,baz=268,slow=30
H03S2 Juan Fernandez 83.87 124 T T 13 40 34.9
baz=247
H03S1 Juan Fernandez 83.89 124 T T 13 40 36.0
baz=247
H03S3 Juan Fernandez 83.89 124 T T 13 40 34.8
baz=247
MA2 Magadan 84.99 344 P P 12 08 15.8 -0.2
comp=Z,5.8nm,0.8s,baz=135,slow=5.6,SNR=8.3
TXAR Lajitas Array 85.63 56 P P 12 08 22.3 +2.3
comp=Z,6.0nm,1.1s,baz=206,slow=8.3,SNR=11
TXAR LR LR 12 38 24.5
comp=Z,463nm,20.9s,baz=297,slow=30
TXAR Lajitas Array 85.63 56 P P 12 08 21.4 +1.3
ANMO Albuquerque 86.17 50 P P 12 08 24.6 +1.9
comp=Z,1.6nm,0.8s,baz=208,slow=6.1,SNR=5.4
ANMO LR LR 12 38 08.8
comp=Z,375nm,20.6s,baz=328,slow=30
ANMO Albuquerque 86.17 50 P P 12 08 23.9 +1.1
ANMO IAmb IAmb 12 08 28.2
comp=Z,5.6nm,1.2s
NEW Newport 86.67 35 LR LR 12 39 21.5
comp=Z,682nm,21.9s,baz=213,slow=30
PLCA Paso Flores 87.28 133 P P 12 08 28.8 +0.6
comp=Z,5.0nm,1.1s,baz=226,slow=8.6,SNR=4.4
PLCA LR LR 12 38 28.7
comp=Z,466nm,21.6s,baz=245,slow=29
PLCA Paso Flores 87.28 133 P P 12 08 29.2 +1.1
SNAA Sanae 87.29 178 P P 12 08 26.3 -1.2
SNAA IAmb IAmb 12 08 49.3
comp=Z,11nm,1.2s
SEY Seymchan 87.50 346 P P 12 08 27.9 -0.4
comp=Z,9.3nm,0.8s,baz=144,slow=5.7,SNR=20
DLBC Dease Lake 87.83 22 LR LR 12 41 03.5
comp=Z,404nm,19.8s,baz=23,slow=31
CMIG Matias Romero 87.87 71 LR LR 12 38 12.4
comp=Z,376nm,21.8s,baz=263,slow=29
WRH Wood River Hil 87.99 12 P P 12 08 31.1 +0.5
PD31 Pinedale Array 87.99 42 P P 12 08 32.6 +1.2
PDAR Pinedale Array 87.99 42 P P 12 08 31.1 -0.5
comp=Z,0.3nm,0.6s,baz=225,slow=3.4,SNR=2.2
PDAR LR LR 12 40 34.4
comp=Z,330nm,21.1s,baz=331,slow=30
PDAR Pinedale Array 87.99 42 P P 12 08 31.0 -0.5
ILAR Eielson Array 88.49 12 P P 12 08 32.9 0.0
comp=Z,3.9nm,1.1s,baz=217,slow=5.3,SNR=9.7
ILAR LR LR 12 41 49.5
comp=Z,383nm,20.3s,baz=224,slow=31
ILAR Eielson Array 88.49 12 P P 12 08 34.2 +1.2
DAWY Dawson 89.51 15 P P 12 08 38.3 +0.4
DAWY IAmb IAmb 12 08 42.6
comp=Z,4.6nm,0.8s
CMAR Chiang Mai Arr 92.33 289 P P 12 08 49.4 -2.6
comp=Z,0.5nm,0.3s,baz=104,slow=2.9,SNR=1.5
CMAR Chiang Mai Arr 92.33 289 P P 12 08 51.3 -0.7
NNA Nana 93.85 104 LR LR 12 40 37.2
comp=Z,370nm,21.8s,baz=268,slow=28
INK Inuvik 94.35 15 P P 12 08 59.6 -0.5
comp=Z,2.4nm,0.9s,baz=235,slow=1.3,SNR=6.3
INK LR LR 12 43 10.6
comp=Z,557nm,22.0s,baz=198,slow=30
JTS Las Juntas de 94.37 81 LR LR 12 41 19.3
comp=Z,363nm,20.5s,baz=0.5,slow=29
YKA Yellowknife Ar 96.22 24 P P 12 09 08.9 +0.1
comp=Z,0.9nm,0.8s,baz=239,slow=4.7,SNR=13
YKA LR LR 12 45 48.2
comp=Z,448nm,19.6s,baz=268,slow=31
YKA Yellowknife Ar 96.22 24 P P 12 09 09.7 +0.9
LVC Limon Verde 96.46 117 LR LR 12 42 52.4
comp=Z,503nm,21.9s,baz=253,slow=29
ULM Lac du Bonnet 99.76 40 LR LR 12 47 34.6
comp=Z,673nm,21.3s,baz=270,slow=31
TIXI Tiksi 99.92 345 LR LR 12 50 39.9
comp=Z,520nm,20.0s,baz=1.0,slow=33
FINES FINESS Array B 136.97 345 PKP PKiKP 12 15 04.8 -0.4
comp=Z,3.5nm,0.9s,baz=48,slow=2.1,SNR=4.2
NB2 NORSAR Subarra 139.85 355 PKP PKPdf 12 15 02.9 -5.9
comp=Z,5.1nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B 139.85 355 PKhKP PKPpre 12 15 02.5
comp=Z,0.3nm,0.7s,baz=82,slow=9.4,SNR=1.7
HFS Hagfors 140.48 353 PKhKP PKPpre 12 15 02.4
AKASG Malin Array Be 144.59 332 PKP PKPab 12 15 14.9 -1.1
comp=Z,14nm,0.8s,baz=36,slow=3.3,SNR=22
BRTR Keskin Array B 148.84 313 PKPbc PKPbc 12 15 28.2 -0.9
comp=Z,4.9nm,0.7s,baz=137,slow=3.4,SNR=14
BRTR Keskin Array B 148.84 313 PKPdf PKPdf 12 15 24.2 -1.0
BRTR PKPbc pPKPdf 12 15 28.7 +0.3
BRTR PKPab sPKPbc 12 15 33.8 +0.5
CLL Collm 149.13 349 *i* PKPbc PKPbc 12 15 29.1 -0.2
CLL *i* PKiKP PKiKP 12 15 31.5 +1.0
comp=Z,16nm,0.9s
CLL *i* PKPab PKPab 12 15 34.0 +0.5
comp=Z,20nm,0.7s
CLL Lm MLR 13 18 00.0
comp=Z,300nm,22.0s
OSTC Ostas 149.18 345 *e*PKP PKPbc 12 15 28.5 -1.0
CHVC Chvalec 149.19 345 *e*PKP PKPbc 12 15 29.8 +0.3
DPC Dobruska-Polom 149.34 345 *e*PKP PKPbc 12 15 30.6 +0.7
DPC *ex* x 12 15 33.0
BRG Berggiesshubel 149.38 348 *e*P PKPbc 12 15 30.1 +0.3
BRG Amp 12 15 35.6
comp=Z,9.1nm,0.9s
KRLC Kraliky 149.48 344 *e*PKP PKiKP 12 15 33.3 +1.9
KRLC *ex* x 12 15 35.4
MORC Moravsky Berou 149.55 343 *e*PKP PKPbc 12 15 30.6 +0.2
PVCC Panska Ves 149.58 347 *e*PKP PKPab 12 15 34.0 -1.4
MLR Muntele Rosu 149.90 329 PKPbc PKPbc 12 15 31.1 -0.4
comp=Z,8.9nm,1.0s,baz=183,slow=9.4,SNR=3.9
MLR Muntele Rosu 149.90 329 PKPdf PKPdf 12 15 25.9 -0.8
MLR pPKPdf 12 15 30.4 +0.5
MLR PKPab PKPab 12 15 37.1 +0.1
MMAI Mount Meron Ar 149.98 300 PKPbc PKPbc 12 15 31.7 -0.3
comp=Z,8.4nm,0.7s,baz=249,slow=7.4,SNR=4.6
PRU Pruhonice 150.09 347 *e*PKP PKPbc 12 15 32.0 +0.3
PRU *ex* x 12 15 34.5
VRAC Vranov 150.23 344 *e*PKP PKPbc 12 15 32.1 0.0
NKC Novy Kostel 150.26 349 *e*PKP PKPbc 12 15 32.5 +0.4
JAVC Velka Javorina 150.34 342 *e*PKP PKiKP 12 15 33.7 +0.5
KRUC Moravsky 150.51 344 *e*PKP PKPbc 12 15 32.4 -0.3
KHC Kasperske Hory 151.11 347 *e*PKP PKPbc 12 15 33.8 -0.4
KHC *ex* x 12 15 36.1
CKRC Cesky Krumlov 151.24 346 *e*PKP PKPdf 12 15 31.2 +2.7
CKRC *ex* x 12 15 33.8
GERES GERESS Array B 151.35 347 PKP PKPdf 12 15 29.9 +1.1
comp=Z,1.5nm,0.9s,baz=4.3,slow=3.9,SNR=4.4
GERES PKPbc PKiKP 12 15 36.6 +1.2
comp=Z,2.8nm,0.8s,baz=27,slow=4.5,SNR=10.0
CONA Conrad Observa 151.69 343 *e*P PKiKP 12 15 37.8 +1.8
comp=Z,5.1nm,0.8s
MOA Molln 152.17 345 *e*P PKiKP 12 15 40.9 +4.0
comp=Z,2.7nm,0.7s
ARSA Arzberg 152.41 343 *e*P PKiKP 12 15 41.3 +3.9
comp=Z,4.8nm,0.8s
BIOA Bad Ischl, Aus 152.46 346 *e*P PKiKP 12 15 41.9 +4.4
comp=Z,6.8nm,1.0s
KOVH Kovagotottos 152.67 339 ⇑PKP PKiKP 12 15 41.0 +3.0
SOKA Soboth 153.07 344 *e*P PKiKP 12 15 41.9 +3.0
comp=Z,9.5nm,1.0s
KBA Koelnbreinsper 153.10 346 *e*P PKiKP 12 15 41.8 +2.7
comp=Z,3.9nm,0.8s
RETA Reutte 153.20 350 *e*P PKPbc 12 15 38.8 -0.2
comp=Z,8.1nm,1.6s
WATA Walderalm 153.21 349 *e*P PKPbc 12 15 39.3 +0.1
comp=Z,4.7nm,0.8s
WTTA Wattenberg 153.27 349 *e*P PKiKP 12 15 43.8 +4.3
comp=Z,8.2nm,0.7s
MOTA Moosalm 153.29 350 *e*P PKPdf 12 15 35.5 +3.7
comp=Z,8.3nm,1.7s
OBKA Obir 153.35 344 *e*P PKiKP 12 15 43.2 +3.6
comp=Z,3.5nm,0.9s
SQTA Sankt Quirin 153.39 349 *e*P PKPdf 12 15 34.0 +2.1
comp=Z,2.7nm,1.3s
DAVA Damuels 153.53 351 *e*P PKiKP 12 15 41.9 +1.9
comp=Z,6.8nm,1.1s
ABTA Abfaltersbach 153.60 347 *e*P PKPdf 12 15 33.8 +1.6
comp=Z,4.5nm,1.0s
FETA Feichten 153.66 350 *e*P PKPdf 12 15 35.2 +2.9
comp=Z,6.4nm,0.9s
ESDC Sonseca Array 160.24 19 PKP PKPdf 12 15 41.3 +0.4
comp=Z,0.7nm,1.0s,baz=293,slow=6.6,SNR=2.1
ESDC PKPab pPKPab 12 16 22.9 -1.2
comp=Z,1.1nm,0.9s,baz=336,slow=2.8,SNR=5.4
ESDC Sonseca Array 160.24 19 PKPdf 12 15 39.6 -1.3
ESDC PKPab 12 16 20.6 -0.4
DBIC Dimbokro 163.11 147 PKPab PKPab 12 16 38.4 +4.2
comp=Z,3.2nm,0.9s,baz=205,slow=5.6,SNR=3.6
DBIC Dimbokro 163.11 147 PKPdf PKPdf 12 15 41.8 -2.7
DBIC PKPab 12 16 33.8 -0.4
TORD Torodi Ar. Bea 171.67 162 PKP PKPdf 12 15 52.2 +1.6
comp=Z,0.8nm,1.0s,baz=114,slow=1.7,SNR=3.0
TORD PKPab pPKPab 12 17 15.5 +0.5
comp=Z,2.0nm,0.8s,baz=175,slow=3.8,SNR=9.4
TORD Torodi Ar. Bea 171.67 162 PKPdf PKPdf 12 15 48.6 -2.0
TORD PKPab 12 17 11.5 -0.3

TUL ***19*** *12:01:15.8±1.5,36°.24N±0°.04×99°.26W±0°.02,h4km±7km, ML2.5,mb_Lg2.5/6(NEIC),Error ellipse: s-maj=6.1km s-min=2.5km az=166.0*

NEIC 19 12:01:15.9±1.5,36°.24N±0°.04×99°.27W±0°.04,h5km±2km, Error ellipse: s-maj=6.8km s-min=4.8km az=322.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
U32A	Winter Ranch,	0.26	56			Pg	12 01 21.4	+0.5
U32A					Sg	Sg	12 01 25.2	+0.9
WMOK	Wichita Mounta	1.55	165	Pn		Pn	12 01 43.5	-0.6
FNO	Franklin	1.81	122			Pn	12 01 46.9	-0.8
X34A	Smith Ranch, M	2.01	144	Pn		Pn	12 01 49.6	-0.8
X34A					lAmb_Lg		12 02 18.6	
	comp=Z,16nm,0.8s							
R32A	Long Quarter,	2.23	11			Pn	12 01 54.3	+0.8
W35A	Tecumseh	2.23	118			Pn	12 01 54.0	+0.5
T35A	Sooner Cattle	2.32	72			Pn	12 01 55.0	+0.2
AMTX	Amarillo	2.39	236			Pn	12 01 57.0	+1.2
AMTX					lAmb_Lg		12 02 33.2	
	comp=Z,36nm,0.8s							
TUL1	Leonard	2.83	96	Pn		Pn	12 02 03.0	+1.2
KSU1	Kansas State U	3.55	36	Pn		Pn	12 02 11.2	-0.5
X37A	Clayton	3.58	116			Pn	12 02 11.3	-0.8
ABTX	Abilene, Hawle	3.62	185	Pn		Pn	12 02 11.8	-0.8
MSTX	Muleshoe	3.66	233			Pn	12 02 13.6	+0.3
KSCO	Kaye Shedlock'	3.85	317			Pn	12 02 13.8	-2.0
KSCO					lAmb_Lg		12 03 28.1	
	comp=Z,9.7nm,0.8s							
T25A	Trinidad	4.23	284			Pn	12 02 20.6	-0.6
HHAR	Hobbs	4.30	88	Pn		Pn	12 02 23.1	+1.0
W39A	Magazine	4.58	102			Pn	12 02 24.4	-1.4
S39A	Bolivar	4.97	71	Pn		Pn	12 02 31.9	+0.7
U40A	Yellville	5.18	87	Pn		Pn	12 02 35.8	+1.7
SDCO	Great Sand Dun	5.21	289	Pn		Pn	12 02 37.1	+2.3
Q24A	Divide	5.41	302	Pn		Pn	12 02 36.8	-0.7
Q24A					lAmb_Lg		12 04 11.8	
	comp=Z,9.6nm,1.1s							
X40A	Basin Creek Fa	5.54	106	Pn		Pn	12 02 36.5	-2.5
MGMO	Mountain Grove	5.70	79	Pn		Pn	12 02 41.6	+0.4
WHAR	Wooly Hollow	5.75	97	Pn		Pn	12 02 42.0	+0.1
JCT	Junction City	5.76	185	Pn		Pn	12 02 41.5	-0.6
FCAR	Ozark Folk Cen	5.79	91	Pn		Pn	12 02 41.2	-1.3
W41B	Gary Mavity, V	5.81	98	Pn		Pn	12 02 42.0	-0.7
R40A	Maddies Statio	5.95	68	Pn		Pn	12 02 43.5	-1.0
ANMO	Albuquerque	6.00	260	Pn		Pn	12 02 45.0	-0.5
ISCO	Idaho Springs	6.14	307	Pn		Pn	12 02 46.9	-0.7
S22A	4UR Ranch, Cre	6.24	286	Pn		Pn	12 02 48.6	-0.3
CCM	Cathedral Cave	6.66	72	Pn		Pn	12 02 53.5	-0.8
MNTX	Cornudas Mount	6.80	230	Pn		Pn	12 02 54.9	-1.5
N23A	Red Feather La	7.00	314	Pn		Pn	12 02 59.1	-0.2

TUL ***19*** *12:06:25.3±1.2,36°.951N±0°.009×97°.83W±0°.01,h4km±5km, ML2.5,mb_Lg2.2/5(NEIC),Error ellipse: s-maj=1.6km s-min=1.2km az=109.0*

NEIC 19 12:06:25.5±0.7,36°.939N±0°.008×97°.820W±0°.009, h6km±4km,Error ellipse: s-maj=1.5km s-min=0.6km az=137.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
T35A	Sooner Cattle	1.05	91	Pg		Pg	12 06 45.6	0.0
T35A				Sg		Sg	12 06 59.4	+0.1
U32A	Winter Ranch,	1.10	240	Pg		Pg	12 06 46.3	-0.4
U32A				Sg		Sg	12 07 00.2	-0.7
R32A	Long Quarter,	1.64	335			Pb	12 06 55.6	-0.6
FNO	Franklin	1.71	168			Pn	12 06 55.9	+0.1
TUL1	Leonard	1.93	122			Pn	12 06 59.8	+0.9
W35A	Tecumseh	1.94	156			Pn	12 06 59.3	+0.3
WMOK	Wichita Mounta	2.33	200	Pn		Pn	12 07 04.6	+0.2
X34A	Smith Ranch, M	2.33	180	Pn		Pn	12 07 06.2	+1.8
KSU1	Kansas State U	2.36	24			Pn	12 07 04.8	0.0
CBKS	Cedar Bluff	2.41	322	Pn		Pn	12 07 05.1	-0.4
X37A	Clayton	3.08	139	Pn		Pn	12 07 14.7	+0.1
HHAR	Hobbs	3.19	101	Pn		Pn	12 07 16.0	-0.2
HHAR					lAmb_Lg		12 08 07.3	
	comp=Z,3.5nm,0.7s							
S39A	Bolivar	3.66	77			Pn	12 07 22.2	-0.5
W39A	Magazine	3.70	117			Pn	12 07 23.1	-0.1
AMTX	Amarillo	3.75	238	Pn		Pn	12 07 22.4	-1.5
AMTX					lAmb_Lg		12 08 34.1	
	comp=Z,5.2nm,0.7s							
N33A	J Bar K, Exete	3.81	4		lAmb_Lg		12 08 34.0	
	comp=Z,12nm,0.7s							
U40A	Yellville	4.04	97	Pn		Pn	12 07 26.3	-1.5
N35A	Tabor	4.27	23	Pn		Pn	12 07 30.4	-0.7
MGMO	Mountain Grove	4.45	86	Pn		Pn	12 07 35.1	+1.7
R40A	Maddies Statio	4.61	71	Pn		Pn	12 07 35.0	-0.7
FCAR	Ozark Folk Cen	4.71	101	Pn		Pn	12 07 36.7	-0.4
X40A	Basin Creek Fa	4.74	120	Pn		Pn	12 07 36.9	-0.6
WHAR	Wooly Hollow	4.77	109	Pn		Pn	12 07 37.3	-0.6
W41B	Gary Mavity, V	4.85	110	Pn		Pn	12 07 39.4	+0.5
T25A	Trinidad	5.28	274	Pn		Pn	12 07 43.6	-1.5
CCM	Cathedral Cave	5.35	76	Pn		Pn	12 07 45.6	-0.2

SJA ***19*** *12:24:00.9±0.7,30°.61S×72°.07W,h9km,ML4.3,MW3.9*
IDC ***19*** *12:24:01.9±0.9,30°.67S×71°.69W,h0km,mb4.0/6, mb1 4.0/11,mb1mx3.9/28,mbtmp3.8/11,ML3.8/5,MS4.4/1, Ms1 4.4/1,ms1mx3.4/52,Error ellipse: s-maj=34.7km s-min=23.1km az=95.0*
GUC ***19*** *12:24:06.4±0.9,30°.64S×71°.59W,h30km±4km,ML4.5*
NEIC ***19*** *12:24:07.5±2.1,30°.65S±0°.04×71°.61W±0°.09,h28km±4km, mb4.7/14,ML4.5(GUC),Error ellipse: s-maj=10.7km s-min=6.0km az=89.0*

ISC 19 12:24:06.2±0.7,30°.68S±0°.02×71°.81W±0°.04,h30km±4km, n125,σ1§99/157,mb4.5/9,1C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	Fray Jorge	0.15	88			Pb	12 24 12.0	+0.1
CO06					Sg	Sb	12 24 15.6	-0.1
CO06	Fray Jorge	0.15	88	⇑*i*	P	Pb	12 24 12.2	+0.3
CO06				*i*	S	Sb	12 24 15.7	-0.1
CO06					IAML		12 24 16.4	
	comp=E,74μm,0.3s							
CO02	Combarbal	0.87	127			Pn	12 24 21.8	-0.7
CO02	Combarbal	0.87	127	⇓*i*	P	Pn	12 24 21.7	-0.8
CO02				*i*	S	Sb	12 24 32.6	-1.6
CO02					IAML		12 24 34.9	
	comp=N,30μm,0.6s							
CO02	Combarbal	0.87	127			Pb	12 24 21.0	-1.8
CO02					IAML		12 24 38.8	
	comp=Z,5μm,0.4s							
CO05	La Serena	0.90	33			Pb	12 24 21.8	-1.5
CO05	La Serena	0.90	33	⇓*i*	P	Pb	12 24 21.7	-1.5
CO05				*i*	S	Sb	12 24 32.8	-2.2
CO03	El Pedregal	0.98	100			Pb	12 24 22.8	-1.8
CO03	El Pedregal	0.98	100	⇓*i*	P	Pb	12 24 22.7	-1.8
CO03				*i*	S	Sb	12 24 34.4	-2.7
CO03					IAML		12 24 35.4	
	comp=E,15μm,0.3s							
CO03	El Pedregal	0.98	100	*e*	P	Pn	12 24 24.5	+0.6
GO04	Tololo Observa	1.01	60	⇓*i*	P	Pb	12 24 23.3	-1.9
GO04				*e*	S	Sn	12 24 36.0	-1.7
LCO	Las Campanas	1.92	30			Pn	12 24 37.3	+0.2
LCO	Las Campanas	1.92	30	*e*	P	Pn	12 24 37.0	-0.1
LCO				*e*	S	Sn	12 25 00.5	+0.1
LCO	Las Campanas	1.92	30	*e*	P	Pn	12 24 37.0	-0.1
VA06	Catapilco	1.93	167			Pn	12 24 38.4	+1.5
VA06	Catapilco	1.93	167	*i*	P	Pn	12 24 38.1	+1.2
VA06				*e*	S	Sn	12 25 01.0	+0.9
VA06					IAML		12 25 10.1	
	comp=E,6μm,0.5s							
AROD	Rodeo	2.08	76	*e*	P	Pb	12 24 41.9	-1.6
VA03	San Esteban	2.34	153	*e*	P	Pn	12 24 44.5	+1.8
VA03				*e*	S	Sb	12 25 13.2	-3.0
VA03					IAML		12 25 25.7	
	comp=E,3μm,0.6s							
VA03	San Esteban	2.34	153	*e*	P	Pn	12 24 44.0	+1.3
VA03					IAML		12 25 25.2	
	comp=Z,1μm,0.6s							
VA01	Torpederas	2.34	177	*e*	P	Pn	12 24 43.1	+0.5
ACCO	Cerro Coronel	2.37	88	*e*	P	Pb	12 24 46.0	-2.3
ACCO				*e*	P	Pn	12 24 46.4	+3.1
ACCO				*e*	S	Sb	12 25 20.2	+3.0
ACDV	Cuesta del Vie	2.38	78	*e*	P	Pb	12 24 46.0	-2.4
ACDV					IAML		12 25 26.3	
	comp=Z,831nm,0.9s							
ROCH	El Roble	2.38	164	*i*	P	Pb	12 24 44.7	-3.9
ROCH				*e*	P	Pn	12 24 42.7	-0.7
ROCH				*e*	S	Sn	12 25 11.8	+0.1
ROCH					IAML		12 25 28.0	
	comp=E,7μm,0.9s							
ROC1	El Roble	2.39	164			Pn	12 24 43.1	-0.4
ROC1	El Roble	2.39	164	*e*	P	Pn	12 24 43.0	-0.5
RTLS	Leoncito	2.42	118	*e*	P	Pb	12 24 47.0	-2.3
RTLS					IAML		12 25 26.2	
	comp=Z,891nm,0.4s							
AC04	Llanos de Chal	2.55	15			Pn	12 24 45.1	-0.4
AC04	Llanos de Chal	2.55	15	*e*	P	Pn	12 24 45.2	-0.2
AC04				*i*	S	Sb	12 25 21.5	-0.6
AC04	Llanos de Chal	2.55	15	*e*	P	Pn	12 24 45.0	-0.4
AC04				*e*	S	Sb	12 25 20.3	-1.8
AUSP	Uspallata	2.58	127	*e*	P	Pb	12 24 49.0	-2.9
AUSP				*e*	S	Sb	12 25 20.3	-3.0
AUSP				*e*	S	Sn	12 25 24.5	+7.9
MT02	Curacav	2.63	168			Pn	12 24 49.1	+2.4
MT02	Curacav	2.63	168	*e*	P	Pn	12 24 47.4	+0.8
MT02	Curacav	2.63	168	*e*	P	Pn	12 24 48.0	+1.3
MT02					IAML		12 25 33.0	
	comp=Z,989nm,0.7s							
PEL	Peldehue	2.64	159			Pn	12 24 48.1	+1.3
PEL	Peldehue	2.64	159	*i*	P	Pn	12 24 48.5	+1.8
PEL					IAML		12 25 29.8	
	comp=N,2μm,0.4s							
PEL	Peldehue	2.64	159	*e*	P	Pn	12 24 48.0	+1.3
PEL				*e*	P	Pn	12 24 48.5	+1.8
PEL				*e*	S	Sn	12 25 19.8	+2.1
PEL				*e*	S	Sb	12 25 25.7	+1.0
ZON	Zonda	2.82	109	*e*	P	Pb	12 24 53.0	-2.9
ZON					IAML		12 25 41.1	
	comp=Z,687nm,0.4s							
MT05	Renca	2.85	162	*e*	P	Pn	12 24 51.3	+1.6
MT05					IAML		12 25 36.9	
	comp=E,3μm,0.5s							
MT05	Renca	2.85	162	*e*	P	Pn	12 24 52.0	+2.3
MT05				*e*	S	Sn	12 25 23.3	+0.2
MT05					IAML		12 25 42.3	
	comp=Z,1μm,0.9s							
RTLL	Cerro Villicun	2.93	104	*e*	P	Pn	12 24 53.0	+2.2
RTLL				*e*	P	Pb	12 24 53.5	-4.3
RTLL				*e*	S	Sb	12 25 30.3	-3.0
FCH	Farellones	2.94	154	*e*	P	Pn	12 24 53.4	+2.2
FCH					IAML		12 25 42.5	
	comp=E,947nm,0.2s							
VA05	Santo Domingo	2.97	177	*e*	P	Pn	12 24 50.5	-0.8
VA05					IAML		12 25 43.4	
	comp=E,2μm,0.4s							
MT03	Universidad Ad	3.02	159	*e*	P	Pn	12 24 53.7	+1.7
MT03					IAML		12 25 45.7	
	comp=E,3μm,0.4s							
MT03	Universidad Ad	3.02	159	*e*	P	Pn	12 24 54.8	+2.8
MT03				*e*	P	Pb	12 24 56.0	-3.2
MT03				*e*	S	Sb	12 25 33.8	-1.8
MT03					IAML		12 25 44.5	
	comp=Z,1μm,0.4s							
RTCV	Cerro Valdivia	3.04	114	*e*	P	Pb	12 24 56.7	-2.9
MT09	Talagante	3.17	168	*i*	P	Pn	12 24 55.8	+1.7
MT09					IAML		12 25 48.2	
	comp=E,1μm,0.4s							
ASAL	Salagasta	3.17	128	*e*	P	Pb	12 24 58.0	-3.9
ASAL				*e*	S	Sb	12 25 37.8	-2.4
MT01	Popeta	3.21	172	⇓*e*	P	Pn	12 24 55.7	+1.1
MT01	Popeta	3.21	172	*e*	P	Pn	12 24 56.0	+1.4
MT01				*e*	S	Sb	12 25 36.8	-4.4
MT01					IAML		12 25 47.7	
	comp=Z,677nm,0.6s							
ARCO	CERRO ARCO	3.26	132	*e*	P	Pb	12 25 00.0	-3.5
ARCO					IAML		12 25 53.3	
	comp=Z,682nm,0.4s							
GO03	Copiap	3.37	25	*e*	P	Pn	12 24 57.0	+0.1
GO03					IAML		12 26 00.7	
	comp=E,502nm,0.5s							
GO03	Copiap	3.37	25	*e*	P	Pn	12 24 57.3	+0.5
GO03				*e*	P	Pb	12 24 58.0	-7.2
GO03				*e*	S	Sb	12 25 42.3	-3.5
LMEL	Las Melosas	3.44	157	*e*	P	Pn	12 25 00.4	+2.5
LMEL					IAML		12 25 57.0	
	comp=N,938nm,0.3s							
BO04	La Punta	3.45	163	*i*	P	Pn	12 24 59.4	+1.5
BO04					IAML		12 25 55.0	
	comp=E,811nm,0.5s							
AAGR	Agrelo	3.49	134	*e*	P	Pb	12 25 03.0	-4.3
AAGR				*e*	S	Sb	12 25 53.9	+4.6
AC06	Mina Casimiro	3.55	21	*e*	P	Pn	12 24 58.7	-0.6
AC06					IAML		12 25 58.9	
	comp=E,314nm,0.3s							
VCA	Vinchina	3.68	59	*e*	P	Pn	12 24 49.3	-12
VCA				*e*	S	Sb	12 25 51.3	-3.6
VCA				*e*	S	Sn	12 25 53.3	+10
VCA					IAML		12 26 03.9	
	comp=Z,722nm,0.6s							
BO01	Tunca	3.75	171			Pn	12 25 04.8	+2.7
BO01	Tunca	3.75	171	*e*	P	Pn	12 25 03.5	+1.5
BO01	Tunca	3.75	171	*e*	P	Pn	12 25 04.0	+2.0
BO01				*e*	S	Sb	12 25 53.3	-3.4
BO01					IAML		12 26 05.6	
	comp=Z,260nm,0.6s

H03N3	**Juan Fernandez**	**6.64**	**244**	T		T	12 32 35.9	
	baz=72,slow=72,SNR=2608							
H03N2	**Juan Fernandez**	**6.64**	**244**	T		T	12 32 38.6	
	baz=72,slow=72,SNR=3910							
AHML	**Horco Molle**	**6.88**	**57**	*eP*		**Pn**	**12 25 42.3**	**-2.8**
AHML				*eP*		**Pn**	**12 25 46.0**	**+0.9**
LC01	**Cunco**	**8.20**	**180**	Pn		**Pn**	**12 26 04.7**	**+1.6**
LVC	**Limon Verde**	**8.44**	**19**	Pn		**Pn**	**12 26 06.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=257,slow=14,SNR=2.1							
PLCA	**Paso Flores**	**10.08**	**175**	Pn		**Pn**	**12 26 29.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=11,SNR=6.4							
PLCA	**Paso Flores**	**10.08**	**175**			**Pn**	**12 26 30.3**	**+1.3**
ITQB	**Itaqui**	**13.18**	**89**	Pn		**Pn**	**12 27 09.1**	**-2.2**
CPUP	**Villa Florida**	**13.45**	**75**	Pn		**Pn**	**12 27 12.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=239,slow=9.0,SNR=1.5							
LPAZ	**La Paz**	**14.71**	**14**	Pn		**Pn**	**12 27 31.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=229,slow=6.1,SNR=2.9							
LPAZ	**La Paz**	**14.71**	**14**			**Pn**	**12 27 30.3**	**-2.6**
PLTB	**Pedras Altas**	**15.62**	**99**	P		**Pn**	**12 27 42.1**	**-2.0**
SIV	**San Ignacio**	**17.61**	**36**	P		**Pn**	**12 28 07.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=223,slow=8.1,SNR=5.4							
ROSC	**El Rosal**	**35.40**	**356**	LR		LR	12 45 51.0	
	comp=Z,536nm,19.0s,baz=186,slow=37							
BANI	**BANI**	**48.81**	**2**	P		**P**	**12 32 49.4**	**+0.6**
SNAA	**Sanae**	**54.59**	**159**	P		**P**	**12 33 31.7**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=193,slow=8.4,SNR=1.8							
SNAA	**Sanae**	**54.59**	**159**	P		**P**	**12 33 31.9**	**+0.6**
SNAA				IAmb		IAmb	12 33 44.6	
	comp=Z,16nm,1.5s							
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**12 34 08.0**	**+1.3**
VNDA	**Vanda**	**67.39**	**191**	P		**P**	**12 34 58.3**	**+0.2**
SYO	**Syowa Base**	**68.88**	**159**	*eP*		**P**	**12 35 05.7**	**-1.8**
DBIC	**Dimbokro**	**73.95**	**72**	P		**P**	**12 35 38.9**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=244,slow=5.6,SNR=9.9							
DBIC	**Dimbokro**	**73.95**	**72**	P		**P**	**12 35 39.0**	**0.0**
DBIC				IAmb		IAmb	12 35 49.0	
	comp=Z,8.3nm,1.0s							
SUR	**Sutherland**	**76.28**	**120**	P		**P**	**12 35 53.3**	**+0.8**
MAW	**Mawson**	**76.30**	**164**	P		**P**	**12 35 52.5**	**+0.8**
KOWA	**Kowa**	**79.10**	**66**	P		**P**	**12 36 05.0**	**-3.1**
KOWA				IAmb		IAmb	12 36 21.7	
	comp=Z,4.5nm,0.8s							
PDAR	**Pinedale Array**	**80.90**	**333**	P		**P**	**12 36 18.6**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=147,slow=7.3,SNR=1.8							
PDAR	**Pinedale Array**	**80.90**	**333**	P		**P**	**12 36 19.5**	**+2.0**
BOSA	**Boshof**	**81.45**	**118**	P		**P**	**12 36 21.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=243,slow=3.2,SNR=1.6							
BOSA	**Boshof**	**81.45**	**118**	P		**P**	**12 36 21.1**	**+0.2**
BOSA				IAmb		IAmb	12 36 31.9	
	comp=Z,13nm,1.4s							
TOA0	**Torodi Ar. Sit**	**82.90**	**70**	P		**P**	**12 36 28.6**	**+0.1**
TOA0				IAmb		IAmb	12 36 29.2	
	comp=Z,11nm,1.4s							
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P		**P**	**12 36 28.1**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=278,slow=5.8,SNR=22							
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P		**P**	**12 36 28.6**	**+0.1**
TORD				IAmb		IAmb	12 36 42.0	
	comp=Z,5.0nm,1.1s							
LBTB	**Lobatse**	**83.53**	**115**	P		**P**	**12 36 32.2**	**+0.4**
LBTB				IAmb		IAmb	12 36 46.0	
	comp=Z,14nm,1.4s							
PLID	**Pearl Lake**	**85.45**	**330**	P		**P**	**12 36 42.0**	**+1.0**
SNZO	**South Karori**	**85.69**	**224**	P		**P**	**12 36 43.2**	**+1.0**
CMWZ	**Cape Campbell**	**85.71**	**223**	P		**P**	**12 36 45.4**	**+3.1**
PAB	**San Pablo**	**93.82**	**46**	P		**P**	**12 37 21.3**	**+0.8**
YKA	**Yellowknife Ar**	**98.98**	**341**	P		**P**	**12 37 43.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=148,slow=5.2,SNR=1.3							
WRA	**Warramunga Arr**	**123.74**	**210**	PKP		**PKPdf**	**12 43 01.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=158,slow=1.6,SNR=9.8							
WRA	**Warramunga Arr**	**123.74**	**210**			**PKPdf**	**12 43 01.6**	**0.0**
H11S2	**WAKE ISLAND Hy**	**125.95**	**271**	T		T	15 01 48.5	
	baz=115,slow=75,SNR=54							
H11S1	**WAKE ISLAND Hy**	**125.96**	**271**	T		T	15 01 48.9	
	baz=115,slow=75,SNR=59							
H11S3	**WAKE ISLAND Hy**	**125.97**	**271**	T		T	15 01 52.1	
	baz=115,slow=75,SNR=58							
KURBB	**Kurchatov Arra**	**150.25**	**39**	PKPbc		**PKPbc**	**12 43 54.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=289,slow=3.1,SNR=8.3							
KURK	**Kurchatov**	**150.26**	**39**			**PKPdf**	**12 43 50.6**	**+1.9**
KURK				PKPab		**PKPab**	**12 44 00.9**	**+0.8**
AAK	**Ala-Archa**	**150.64**	**57**	PKPbc		**PKPbc**	**12 43 54.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=9.2,SNR=3.7							
AAK	**Ala-Archa**	**150.64**	**57**			**PKPdf**	**12 43 50.6**	**+0.7**
AAK				PKPbc		**PKPbc**	**12 43 55.3**	**-0.1**
AAK				PKPab		**pPKPbc**	**12 44 04.1**	**-0.8**
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc		**PKPbc**	**12 43 56.7**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=291,slow=4.1,SNR=15							
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPdf		**PKPdf**	**12 43 49.7**	**-0.5**
ZALV						**PKiKP**	**12 43 57.2**	**+0.5**
ZALV				PKPab		**PKPab**	**12 44 05.6**	**+1.3**

*IDC **19** 12:29:28.8±2.2,28°.82N×85°.90E,h0km,mb3.5/5, mb1 3.8/7,mb1mx3.4/48,mbtmp3.6/7,ML3.7/1,Error ellipse: s-maj=80.9km s-min=20.2km az=69.0*

ISC 19 12:29:34.1±2.5,28°.9N±0°.3×85°.9E±0°.5,h35km,n7,σ0s12/7, mb3.4/5,Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.79**	**128**	Pn	**Pn**	**12 33 13.8**	**0.0**
	0.1nm,0.3s,baz=311,slow=11,SNR=23						
MKAR	**Makanchi Array**	**18.12**	**352**	P	**P**	**12 33 43.2**	**+0.2**
	baz=163,slow=13,SNR=5.9						
KURBB	**Kurchatov Arra**	**22.44**	**348**	P	**P**	**12 34 29.6**	**-0.1**
	1.0nm,0.8s,baz=164,slow=10,SNR=5.8						
SONM	**Songino Array**	**24.70**	**34**	P	**P**	**12 34 51.9**	**0.0**
	0.7nm,0.6s,baz=215,slow=10,SNR=6.2						
ZALV	**Zalesovo Beam**	**25.07**	**358**	P	**P**	**12 34 55.0**	**0.0**
	0.3nm,0.4s,baz=190,slow=5.9,SNR=2.2						
WRA	**Warramunga Arr**	**67.37**	**130**	P	**P**	**12 40 25.9**	**-0.1**
	0.7nm,0.6s,baz=324,slow=6.4,SNR=16						
ASAR	**Alice Springs**	**69.72**	**133**	P	**P**	**12 40 40.7**	**+0.1**
	0.4nm,0.5s,baz=313,slow=6.1,SNR=4.9						

*NEIC **19** 12:58:40.9±1.2,36°.74N±0°.05×141°.3E±0°.1,h46km±11km, mb4.2/6,Error ellipse: s-maj=14.7km s-min=1.7km az=118.0*
*JMA **19** 12:58:40.4±0.1,36°.73N×141°.11E,h46km±1km,M3.8 JMA Felt I J1.*
*IDC **19** 12:58:42.6±3.0,36°.58N×141°.17E,h57km±28km,mb3.3/5, mb1 3.5/8,mb1mx3.2/46,mbtmp3.7/8,ML3.2/2,MS3.9/1, Ms1 3.9/1,ms1mx3.1/40,Error ellipse: s-maj=26.5km s-min=12.7km az=69.0*

ISC 19 12:58:39.4±1.5,36°.71N±0°.04×141°.25E±0°.07,h29km±9km, n44,σ1s23/48,mb3.6/8,4C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**317**	⇓P	**Pb**	**12 58 50.5**	**+0.2**
ONAJ				S	**Sb**	**12 58 57.5**	**-0.2**
JHO	**Hitachi**	**0.55**	**260**	⇑P	**Pb**	**12 58 50.7**	**+0.1**
JHO				S	**Sb**	**12 58 57.8**	**-0.5**
JHYU	**Hitachinakayam**	**0.65**	**235**	⇑P	**Pb**	**12 58 52.2**	**0.0**
JHYU				S	**Sb**	**12 59 00.4**	**-0.5**
JFFD	**Fukushimafurud**	**0.67**	**305**	⇓P	**Pb**	**12 58 52.3**	**-0.2**
JFFD				S	**Sb**	**12 59 00.4**	**-1.1**
JFK	**Kawauchi**	**0.72**	**336**	⇓P	**Pb**	**12 58 53.1**	**-0.3**
JFK				S	**Sb**	**12 59 02.0**	**-0.9**
JYT	**Yasato**	**0.98**	**241**	⇑P	**Pn**	**12 58 56.4**	**-0.7**
JYT	**Yasato**	**0.98**	**241**		**Pn**	**12 58 56.6**	**-0.5**
JFT	**Otama**	**1.08**	**318**	⇓P	**Pn**	**12 58 58.9**	**+0.3**
JFT				S	**Sn**	**12 59 12.0**	**-0.6**
JMM	**Marumori**	**1.21**	**343**	⇓P	**Pn**	**12 59 00.0**	**-0.3**
JMM				S	**Sn**	**12 59 14.7**	**-0.9**
JMM	**Marumori**	**1.21**	**343**		**Pn**	**12 58 60.0**	**-0.3**
JFY	**Yanaizu**	**1.41**	**300**	P	**Pn**	**12 59 03.2**	**+0.1**
JAG	**Ashikaga**	**1.47**	**259**	⇑P	**Pn**	**12 59 03.4**	**-0.5**
JKT	**Katashina**	**1.60**	**273**	P	**Pn**	**12 59 05.9**	**+0.1**
MJAR	**Matsushiro Arr**	**2.45**	**267**	P	**Pn**	**12 59 17.8**	**+0.4**
	2.2nm,0.3s,baz=89,slow=14,SNR=79						
MJAR				S	**Sn**	**12 59 47.4**	**+1.1**
	2.2nm,0.3s,baz=42,slow=36,SNR=3.5						
MJAR	**Matsushiro Arr**	**2.45**	**267**		**Pn**	**12 59 18.5**	**+1.1**
MAJO	**Matsushiro**	**2.45**	**267**		**Pn**	**12 59 18.4**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.45**	**267**		**Pn**	**12 59 18.5**	**+1.1**
JSD	**Sado**	**2.72**	**300**		**Pn**	**12 59 20.9**	**-0.2**
JGF	**Kuroka**	**3.34**	**252**		**Pn**	**12 59 31.0**	**+1.4**
INU	**Inuyama**	**3.69**	**250**		**Pn**	**12 59 36.7**	**+2.3**
JHJ2	**Mitsune**	**3.78**	**199**	Pn	**Pn**	**12 59 36.7**	**+1.1**
JHJ	**Hachijo jima 2**	**3.78**	**199**	P	**Pn**	**12 59 36.4**	**+0.7**
	14nm,0.3s,baz=328,slow=20,SNR=24						
JHJ				S	**Sn**	**13 00 18.7**	**-0.4**
	36nm,0.3s,baz=300,slow=24,SNR=5.8						
JTM	**Tenmabayashi**	**4.07**	**358**		**Pn**	**12 59 42.0**	**+2.4**
ERM	**Erimo**	**5.50**	**15**	Pn	**Pn**	**13 00 00.1**	**+0.9**
ASAJ	**Asahikawa**	**7.47**	**8**	P	**Pn**	**13 00 24.8**	**-1.5**
	0.9nm,0.3s,baz=203,slow=11,SNR=11						
ASAJ				S	**Sn**	**13 01 49.4**	**-0.5**
	0.2nm,0.3s,baz=294,slow=16,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.27**	**320**	P	**Pn**	**13 01 08.9**	**+4.2**
	baz=151,slow=9.2,SNR=3.5						
SEY	**Seymchan**	**27.13**	**11**	P	**P**	**13 04 21.2**	**+1.7**
	0.5nm,0.3s,baz=181,slow=5.1,SNR=6.7						
SEY				LR	LR	13 16 52.9	
	comp=Z,266nm,19.5s,baz=308,slow=40						
SONM	**Songino Array**	**27.85**	**305**	P	**P**	**13 04 27.6**	**+1.2**
	0.9nm,0.7s,baz=96,slow=8.8,SNR=6.9						
SONM	**Songino Array**	**27.85**	**305**	P	**P**	**13 04 26.3**	**-0.1**
SONM				IAmb	IAmb	13 04 30.0	
	comp=Z,1.2nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	13 34 01.1	
	baz=313,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	13 34 00.6	
	baz=313,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	13 33 59.4	
	baz=313,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	13 34 50.5	
	baz=314,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	13 34 53.9	
	baz=314,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	13 34 52.8	
	baz=314,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**42.03**	**313**	P	**P**	**13 06 27.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=92,slow=4.9,SNR=2.1						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**13 06 45.9**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=95,slow=8.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**56.47**	**198**	P	**P**	**13 08 17.9**	**-0.7**
FITZ				IAmb	IAmb	13 08 39.9	
	comp=Z,8.5nm,1.4s						
WB0	**Warramunga Arr**	**56.55**	**188**	P	**P**	**13 08 17.3**	**-1.8**
WR0	**Warramunga Arr**	**56.72**	**188**	P	**P**	**13 08 19.8**	**-0.5**
WR0				IAmb	IAmb	13 08 46.2	
	comp=Z,2.7nm,0.9s						
WB2	**Warramunga Arr**	**56.72**	**188**	P	**P**	**13 08 17.5**	**-2.9**
WB2				IAmb	IAmb	13 08 23.3	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**13 08 19.3**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=4.7,slow=7.3,SNR=9.0						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**13 08 19.7**	**-0.8**
ABKAR	**Akbulak array**	**58.04**	**310**	P	**P**	**13 08 28.2**	**-1.3**

*IDC **19** 13:27:35.5±1.2,20°.81N×120°.61E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/37,mbtmp3.5/4,Error ellipse: s-maj=76.3km s-min=25.0km az=70.0*
*MAN **19** 13:27:39.7,20°.68N×120°.14E,h41km,mb4.4,ML3.3, MS3.1*

ISC 19 13:27:39.6±1.1,20°.8N±0°.1×120°.3E±0°.1,h26km,n7, σ0s79/7,mb3.5/4,3C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	**1.59**	**101**	⇑*eP*	**Pb**	**13 28 08.3**	**0.0**
SGCP	**Gonzaga**	**3.00**	**146**	⇑*eP*	**Pn**	**13 28 26.4**	**+0.9**
SAMP	**Sagada Mountai**	**3.70**	**171**	⇑*eP*	**Pn**	**13 28 35.5**	**+0.3**
MKAR	**Makanchi Array**	**40.30**	**319**	P	**P**	**13 35 15.4**	**+0.7**
	0.2nm,0.6s,baz=116,slow=6.6,SNR=3.8						
WRA	**Warramunga Arr**	**42.72**	**160**	P	**P**	**13 35 34.0**	**-0.8**
	0.5nm,0.5s,baz=342,slow=9.1,SNR=8.8						
ASAR	**Alice Springs**	**46.10**	**163**	P	**P**	**13 36 01.4**	**-0.5**
	0.3nm,0.4s,baz=345,slow=7.0,SNR=12						
YKA	**Yellowknife Ar**	**86.43**	**22**	P	**P**	**13 40 19.1**	**-0.5**
	0.6nm,1.1s,baz=309,slow=4.8,SNR=6.4						

*IDC **19** 13:43:57.3±3.2,51°.24N×173°.64W,h0km,mb3.2/3, mb1 3.6/4,mb1mx3.3/37,mbtmp3.3/4,ML3.8/1,Error ellipse: s-maj=84.6km s-min=32.4km az=178.0*
*AEIC **19** 13:44:04.1±1.5,51°.56N±0°.04×173°.81W±0°.07,h4km±7km, ML2.7/16,Error ellipse: s-maj=6.7km s-min=5.2km az=95.0*
*NEIC **19** 13:44:04.7±0.7,51°.5N±0°.1×173°.48W±0°.04,h41km±63km, Error ellipse: s-maj=16.8km s-min=2.6km az=191.0*

ISC 19 13:44:04.5±1.2,51°.5N±0°.1×173°.44W±0°.08,h37km,n24, σ0s71/22,mb3.2/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.81**	**325**		**Pn**	**13 44 19.1**	**-0.3**
ATKA					**Sn**	**13 44 29.9**	**-0.3**
KOFP	**Korovin Flat P**	**0.84**	**331**		**Pn**	**13 44 20.2**	**+0.4**
KOKL	**Mount Kliuchef**	**0.92**	**329**		**Pn**	**13 44 21.3**	**+0.4**
KOKL					**Sn**	**13 44 33.6**	**+0.7**
GSMY	**Great Sitkin M**	**1.70**	**288**		**Pn**	**13 44 31.4**	**-0.3**
GSTR	**Great Sitkin T**	**1.72**	**290**	Pn	**Pn**	**13 44 29.7**	**-2.1**
GSCK	**Great Sitkin C**	**1.76**	**287**		**Pn**	**13 44 32.3**	**-0.1**
GSTD	**Great Sitkin T**	**1.76**	**288**		**Pn**	**13 44 32.3**	**-0.1**
GSTD					**Sn**	**13 44 54.4**	**+0.8**
ADAG	**Mount Adagdak**	**2.02**	**284**		**Pn**	**13 44 36.4**	**+0.5**
ADK	**Adak**	**2.05**	**281**		**Pn**	**13 44 36.1**	**-0.3**
ADK					**Sn**	**13 45 01.6**	**+1.0**
KIWB	**Kanaga Island**	**2.33**	**279**		**Pn**	**13 44 40.0**	**-0.2**
KIKV	**Kanaga Island**	**2.35**	**280**		**Pn**	**13 44 40.4**	**-0.1**
KIMD	**Kanaga Island**	**2.38**	**277**		**Pn**	**13 44 41.0**	**+0.2**
TAPA	**Tanaga Point A**	**2.74**	**278**		**Pn**	**13 44 46.0**	**+0.1**
TASE	**Tanaga Southea**	**2.88**	**278**		**Pn**	**13 44 48.2**	**+0.4**
ILAR	**Eielson Array**	**19.08**	**36**	P	**Pn**	**13 48 23.9**	**-0.5**
	0.3nm,0.3s,baz=228,slow=9.0,SNR=21						
YKA	**Yellowknife Ar**	**32.67**	**47**	P	**P**	**13 50 33.4**	**+0.8**
	0.1nm,0.3s,baz=273,slow=7.7,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**35.30**	**213**	T	T	14 29 03.4	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	14 29 04.1	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	14 29 00.9	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**36.50**	**213**	T	T	14 30 21.5	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	14 30 21.8	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**36.52**	**213**	T	T	14 30 21.3	
	baz=19						
PDAR	**Pinedale Array**	**43.04**	**76**	P	**P**	**13 52 00.7**	**+0.1**
	0.2nm,0.4s,baz=298,slow=4.5,SNR=3.6						
MKAR	**Makanchi Array**	**62.50**	**311**	P	**P**	**13 54 22.9**	**-1.0**
	0.2nm,0.3s,baz=48,slow=6.4,SNR=6.7						

NNC 19 13:57:05.7±8.4,38°.23N×71°.57E,h6km±38km,mb3.9, mpv3.5,5C-1D,Error ellipse: s-maj=104.4km s-min=50.8km az=61.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK09	**Karatay Array**	**4.96**	**351**	⇓Pn	Pn	13 58 20.6	-0.1
	2.1nm,0.3s						
KK09				⇑Pg	Pb	13 58 35.1	+2.2
	4.9nm,0.5s						
KK09				⇑Lg	Lg	13 59 45.7	
	16nm,0.7s						
AB31	**Akbulak array**	**13.84**	**327**	P	Pn	14 00 21.6	-0.7
	0.5nm,0.5s,baz=133,slow=13,SNR=23						
AB31				⇑S	Sn	14 02 54.7	-1.5
	1.3nm,0.6s,baz=141,slow=23,SNR=4.7						
AKTO	**Aktyubinsk**	**15.55**	**326**	⇑P	P	14 00 48.5	-1.3
	5.7nm,1.2s						
AKTO				⇑S	Sn	14 03 40.2	+2.2
	2.4nm,0.8s						

*KRNET **19** 14:03:43.3±0.1,42°.21N×77°.82E,h20km,mb2.5*
*NNC **19** 14:03:43.5±0.5,42°.25N×77°.83E,h0km,mb2.3,mpv2.5, Error ellipse: s-maj=3.6km s-min=1.8km az=169.0*
*SOME **19** 14:03:43.1,42°.25N×77°.85E,h5km*

ISC 19 14:03:41.1±1.6,42°.14N±0°.05×77°.86E±0°.03,h5km±11km, n33,σ0s36/62,9C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.50**	**270**	⇑*iP*	**Pb**	**14 03 52.8**	**+0.2**
	baz=61						
KDJ				⇑*iS*	**Sb**	**14 03 59.9**	**-0.4**
	baz=61						
ANVS	**Anan'yevo**	**0.66**	**348**	⇑*iP*	**Pb**	**14 03 54.6**	**-0.7**
	baz=49						
ANVS				⇑*iS*	**Sg**	**14 04 03.1**	**+0.6**
	baz=49						
SATY	**Saty**	**1.01**	**24**	*eP*	**Pb**	**14 04 01.0**	**-0.1**
	baz=27						
SATY				*eS*	**Sg**	**14 04 13.9**	**+0.4**
	baz=27						
SATY	**Saty**	**1.01**	**24**	*eP*	**Pb**	**14 04 01.0**	**-0.1**
	0.4nm,0.2s						
SATY				*eS*	**Sg**	**14 04 13.9**	**+0.4**
	6.6nm,0.1s						
SATY	**Saty**	**1.01**	**24**	P	**Pb**	**14 04 01.0**	**-0.1**
	0.4nm,0.2s						
SATY				S	**Sg**	**14 04 13.9**	**+0.4**
	6.6nm,0.1s						
TNSS	**Tian-Shan**	**1.12**	**324**	*eP*	**Pg**	**14 04 02.9**	**+0.2**
	baz=22						
TNSS				*eS*	**Sg**	**14 04 17.3**	**0.0**
	baz=22						
TNSS	**Tian-Shan**	**1.12**	**324**	*eP*	**Pg**	**14 04 02.9**	**+0.2**
	2.8nm,0.0s						
TNSS				*eS*	**Sg**	**14 04 17.3**	**0.0**
	1.6nm,0.0s						
TNSS	**Tian-Shan**	**1.12**	**324**	P	**Pg**	**14 04 02.8**	**+0.2**
	2.8nm,0.1s						
TNSS				S	**Sg**	**14 04 17.3**	**0.0**
	1.4nm,0.2s						
MDOK	**Medeo**	**1.19**	**330**	*eP*	**Pg**	**14 04 03.8**	**-0.1**
	baz=29						
MDOK				*eS*	**Sg**	**14 04 18.8**	**-0.5**
	baz=29						
MDOK	**Medeo**	**1.19**	**330**	*eP*	**Pg**	**14 04 03.8**	**-0.1**
	2.0nm,0.2s						
MDOK				*eS*	**Sg**	**14 04 18.8**	**-0.5**
	1.3nm,0.0s						
MDOK	**Medeo**	**1.19**	**330**	Pg	**Pg**	**14 04 03.8**	**-0.1**
	2.0nm,0.2s						
MDOK				Lg	Lg	14 04 18.8	
	2.0nm,0.4s						
ULHL	**Ulahol**	**1.21**	**276**	⇓*iP*	**Pn**	**14 04 05.1**	**+0.3**
	baz=72						
ULHL				⇓*eS*	**Sb**	**14 04 20.5**	**0.0**
	baz=72						
KOTS	**Kotyrbulak**	**1.23**	**334**	*eP*	**Pb**	**14 04 04.8**	**-0.1**
	baz=33						
KOTS				*eS*	**Sb**	**14 04 20.8**	**-0.3**
	baz=33						
KOTS	**Kotyrbulak**	**1.23**	**334**	*eP*	**Pb**	**14 04 04.8**	**-0.1**
	4.8nm,0.1s						
KOTS				*eS*	**Sb**	**14 04 20.8**	**-0.3**
	3.1nm,0.3s						
KOTS	**Kotyrbulak**	**1.23**	**334**	P	**Pn**	**14 04 05.0**	**-0.1**
	4.8nm,0.1s						
KOTS				S	**Sb**	**14 04 20.8**	**-0.3**
	3.1nm,0.3s						
MTBS	**Maitube**	**1.45**	**314**	*eP*	**Pb**	**14 04 08.7**	**+0.1**
	baz=12						
MTBS				*eS*	**Sn**	**14 04 27.2**	**-0.3**
	baz=12						
MTBS	**Maitube**	**1.45**	**314**	*eP*	**Pb**	**14 04 08.7**	**+0.1**
	2.9nm,0.0s						
MTBS				*eS*	**Sn**	**14 04 27.1**	**-0.3**
	3.5nm,0.0s						
BOOM	**Boomskoye usch**	**1.47**	**285**	⇑*iP*	**Pg**	**14 04 09.3**	**+0.1**
	baz=82						
BOOM				⇑*iS*	**Sb**	**14 04 27.7**	**-0.2**
	baz=82						
PDGK	**Podgornoye**	**1.69**	**45**	P	**Pg**	**14 04 13.3**	**-0.3**
	0.3nm,0.6s						
PDGK				S	**Sg**	**14 04 35.1**	**-0.5**
	0.7nm,0.5s						
KTBS	**Karatobe**	**1.80**	**332**	*eP*	**Pb**	**14 04 14.5**	**0.0**
	baz=31						
KTBS				*eS*	**Sb**	**14 04 37.1**	**-0.2**
	baz=31						
KTBS	**Karatobe**	**1.80**	**332**	*eP*	**Pb**	**14 04 14.5**	**0.0**
	0.9nm,0.1s						
KTBS				*eS*	**Sb**	**14 04 37.1**	**-0.2**
	4.8nm,0.1s						
KTBS	**Karatobe**	**1.80**	**332**	P	**Pb**	**14 04 14.4**	**-0.1**
	0.9nm,0.3s						
KTBS				S	**Sb**	**14 04 37.1**	**-0.2**
	4.8nm,0.3s						
CHKK	**Chushkaly**	**1.83**	**340**	*eP*	**Pb**	**14 04 15.3**	**+0.2**
	baz=40						
CHKK				*eS*	**Sb**	**14 04 38.5**	**+0.

0.2nm,0.3s,baz=120,slow=3.0,SNR=2.3
DBIC LR LR 14 36 24.7
comp=Z,139nm,19.8s,baz=208,slow=33
KOWA Kowa 20.81 21 P **P** **14 33 46.8 -1.1**
KOWA IAmb IAmb 14 33 50.5
comp=Z,18nm,1.4s
TOA0 Torodi Ar. Sit 22.37 36 P **P** **14 34 04.0 -0.7**
TORD Torodi Ar. Bea 22.37 36 P **P** **14 34 03.2 -1.5**
comp=Z,6.7nm,0.9s,baz=225,slow=11,SNR=20
TORD Torodi Ar. Bea 22.37 36 P **P** **14 34 03.7 -1.0**
RCBR Riachuelo 24.22 267 LR LR 14 41 10.6
comp=Z,124nm,21.1s,baz=148,slow=30
TSUM Tsumeb 31.73 119 LR LR 14 46 26.6
comp=Z,72nm,18.1s,baz=331,slow=33
LSZ Lusaka 40.38 108 LR LR 14 51 11.2
comp=Z,61nm,20.2s,baz=282,slow=33
LBTB Lobatse 40.82 123 LR LR 14 50 31.5
comp=Z,32nm,19.9s,baz=288,slow=32
MATP Matopo 41.83 115 P **P** **14 36 56.5 -0.1**
comp=Z,7.2nm,1.0s,baz=268,slow=8.0,SNR=10
MATP LR LR 14 50 35.9
comp=Z,31nm,19.9s,baz=270,slow=31
BOSA Boshof 42.05 128 P **P** **14 36 58.7 +0.4**
comp=Z,1.4nm,0.6s,baz=327,slow=8.8,SNR=5.0
MBAR Mbarara 42.49 85 LR LR 14 54 36.2
comp=Z,79nm,18.9s,baz=150,slow=36
ESDC Sonseca Array 45.05 8 P **P** **14 37 22.5 +0.4**
comp=Z,1.5nm,1.0s,baz=190,slow=6.5,SNR=5.2
VAE Valguarnera 48.74 28 LR LR 14 57 08.6
comp=Z,95nm,19.5s,baz=202,slow=35
KMBO Kilima Mbogo 48.91 87 LR LR 14 57 14.4
comp=Z,60nm,18.8s,baz=106,slow=35
SIV San Ignacio 49.73 253 P **P** **14 38 00.4 +1.4**
comp=Z,0.6nm,0.4s,baz=204,slow=17,SNR=2.1
DAVA Damuels 55.44 18 *eP* **P** **14 38 41.3 +0.4**
comp=Z,4.6nm,0.8s
FETA Feichten 55.47 18 *eP* **P** **14 38 42.0 +0.9**
comp=Z,4.6nm,1.4s
SQTA Sankt Quirin 55.80 19 *eP* **P** **14 38 43.7 +0.3**
comp=Z,4.0nm,0.5s
ABTA Abfaltersbach 55.81 20 *eP* **P** **14 38 44.0 +0.5**
comp=Z,1.5nm,0.7s
MOTA Moosalm 55.87 18 *eP* **P** **14 38 43.7 -0.3**
comp=Z,3.6nm,0.9s
RETA Reutte 55.89 18 *eP* **P** **14 38 44.0 0.0**
comp=Z,2.5nm,0.6s
WTTA Wattenberg 55.97 19 *eP* **P** **14 38 44.8 +0.1**
comp=Z,6.8nm,0.9s
WATA Walderalm 56.02 19 *eP* **P** **14 38 45.9 +0.9**
comp=Z,3.3nm,0.8s
OBKA Obir 56.32 21 *eP* **P** **14 38 48.5 +1.4**
comp=Z,4.1nm,1.1s
KBA Koelnbreinsper 56.38 20 *eP* **P** **14 38 47.6 0.0**
comp=Z,1.3nm,0.6s
ATD Arta Tunnel 56.59 73 LR LR 15 01 49.5
comp=Z,34nm,18.1s,baz=56,slow=35
SOKA Soboth 56.64 22 *eP* **P** **14 38 50.8 +1.5**
MOA Molln 57.36 20 *eP* **P** **14 38 54.7 +0.3**
comp=Z,2.0nm,0.6s
CONA Conrad Observa 58.00 21 *eP* **P** **14 38 60.0 +1.0**
comp=Z,3.2nm,1.0s
GEC2 GERESS Array S 58.03 19 P **P** **14 38 59.0 -0.1**
GEC2 IAmb IAmb 14 39 00.7
comp=Z,5.0nm,0.8s
GERES GERESS Array B 58.03 19 P **P** **14 38 59.7 +0.5**
comp=Z,2.5nm,0.7s,baz=193,slow=5.5,SNR=27
GERES GERESS Array B 58.03 19 P **P** **14 38 58.9 -0.3**
VRAC Vranov 59.42 21 LR LR 15 06 31.6
comp=Z,65nm,18.8s,baz=252,slow=38
BRTR Keskin Array B 60.95 39 P **P** **14 39 21.3 +1.7**
comp=Z,1.3nm,0.6s,baz=238,slow=6.0,SNR=6.3
PLCA Paso Flores 63.45 227 P **P** **14 39 37.0 +0.6**
comp=Z,1.4nm,0.8s,baz=268,slow=6.3,SNR=4.5
ZARC Zaragoza, Cauc 64.34 281 P **P** **14 39 41.3 -1.3**
NNA Nana 64.77 259 LR LR 15 07 10.5
comp=Z,82nm,19.5s,baz=28,slow=35
AKASG Malin Array Be 65.66 27 P **P** **14 39 50.4 0.0**
comp=Z,2.8nm,0.7s,baz=225,slow=6.2,SNR=14
AKASG Malin Array Be 65.66 27 P **P** **14 39 48.7 -1.7**
AKASG IAmb IAmb 14 39 58.6
comp=Z,3.9nm,1.4s
AKBB Malin Array Si 65.66 27 P **P** **14 39 49.2 -1.2**
NOA NORSAR Array B 68.24 12 P **P** **14 40 06.8 +0.2**
comp=Z,1.2nm,0.9s,baz=204,slow=7.2,SNR=3.1
KBZ Khabaz 68.94 39 P **P** **14 40 12.0 +0.8**
comp=Z,2.3nm,1.0s,baz=79,slow=7.2,SNR=4.5
FINES FINESS Array B 72.40 18 P **P** **14 40 32.1 +0.1**
comp=Z,1.8nm,0.5s,baz=221,slow=3.7,SNR=13
GEYT Alibeck 77.30 49 LR LR 15 18 15.8
comp=Z,37nm,18.4s,baz=335,slow=38
MAW Mawson 79.46 158 P **P** **14 41 12.0 -0.2**
MAW IAmb IAmb 14 41 16.3
comp=Z,8.7nm,1.2s
AKTO Aktyubinsk 81.09 37 P **P** **14 41 22.2 +0.9**
comp=Z,1.8nm,0.6s,baz=200,slow=2.9,SNR=5.7
QSPA South Pole Qui 85.06 180 P **P** **14 41 43.9 +2.1**
comp=Z,3.4nm,0.9s,baz=195,slow=1.7,SNR=5.6
KURBB Kurchatov Arra 93.93 40 P **P** **14 42 24.6 +0.7**
comp=Z,0.7nm,0.9s,baz=280,slow=5.5,SNR=4.6
MKAR Makanchi Array 96.30 44 P **P** **14 42 35.2 +0.3**
comp=Z,0.4nm,0.9s,baz=246,slow=1.4,SNR=3.3
PDAR Pinedale Array 99.25 312 P **Pdif** **14 42 47.5 -1.1**
comp=Z,0.5nm,0.9s,baz=60,slow=5.3,SNR=2.0
ASAR Alice Springs 135.87 132 PKiKP PKPpre 14 48 16.1
comp=Z,0.3nm,0.9s,baz=214,slow=1.9,SNR=1.7
CTA Charters Tower 146.86 140 PKPbc **PKPab** **14 48 51.0 +0.2**
comp=Z,4.4nm,0.9s,baz=80,slow=2.1,SNR=4.5

*NEIC **19** 14:30:22.6±1.7, 19°.3S±0°.1×177°.4W±0°.1, h569km±10km, mb4.5/28, Error ellipse: s-maj=22.2km s-min=17.8km az=158.0*
*IDC **19** 14:30:22.1±1.2, 19°.30S×177°.40W, h569km, 13km, mb3.5/13, mb1 3.8/17, mb1mx3.5/46, mbtmp4.4/17, Error ellipse: s-maj=18.4km s-min=11.5km az=141.0*
ISC 19 14:30:20.3±0.5, 19°.26S±0°.09×177°.48W±0°.08, h550km, n66, σ1°52/72, mb4.4/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.51**	**289**	P		P		14 31 51.8	+5.5
	22nm,0.3s,baz=170,slow=5.2,SNR=164								
AFI	**Afiamalu**	**7.63**	**47**	P		**P**		**14 32 15.9**	**+1.4**
	19nm,0.3s,baz=176,slow=1.4,SNR=45								
AFI				S		**S**		**14 33 45.1**	**-3.0**
	2.1nm,0.3s,baz=39,slow=22,SNR=2.2								
AFI	**Afiamalu**	**7.63**	**47**	P		**P**		**14 32 15.6**	**+1.0**
SANVU	**Saraoutou**	**15.11**	**282**	P		**P**		**14 33 32.1**	**+1.1**
DZM	**Mont Dzumac**	**15.31**	**257**	P		**P**		**14 33 34.8**	**+1.7**
	0.8nm,0.3s,baz=93,slow=16,SNR=12								
HAZ	**Te Kaha**	**18.89**	**198**	P		**P**		**14 34 07.3**	**+1.2**
MKAZ	**Moumakai**	**18.91**	**198**	P		**P**		**14 34 09.3**	**+3.0**
TWGZ	**Tauwhareparae**	**19.26**	**191**	P		**P**		**14 34 11.7**	**+2.1**
TOZ	**Tahuroa Road**	**19.40**	**197**	P		**P**		**14 34 13.7**	**+3.0**
MWZ	**Matawai**	**19.50**	**192**	P		**P**		**14 34 12.8**	**+1.1**
URZ	**Urewera**	**19.51**	**193**	P		**P**		**14 34 10.6**	**-1.2**
	2.6nm,0.3s,baz=288,slow=1.8,SNR=21								
URZ				S		**S**		**14 37 14.0**	**-5.5**
	0.2nm,0.3s,baz=309,slow=3.3,SNR=1.3								
URZ	**Urewera**	**19.51**	**193**	P		**P**		**14 34 12.1**	**+0.4**
URZ				IAmb		IAmb		14 34 12.4	
	comp=Z,11nm,0.5s								
URZ	**Urewera**	**19.51**	**193**	P		**P**		**14 34 11.4**	**-0.4**
TKGZ	**Te Karaka**	**19.54**	**191**	P		**P**		**14 34 14.2**	**+2.2**
RAGZ	**Rawiri**	**19.67**	**192**	P		**P**		**14 34 14.7**	**+1.4**
MUGZ	**Murupara**	**19.79**	**193**	P		**P**		**14 34 14.6**	**+0.2**
RTZ	**Ruatahuna**	**19.88**	**193**	P		P		14 34 07.9	-7.3
SNGZ	**Shannon Statio**	**19.96**	**192**	P		**P**		**14 34 16.8**	**+0.9**
RAHZ	**Arahi**	**20.15**	**192**	P		**P**		**14 34 18.7**	**+1.1**
BKZ	**Black Stump Fm**	**20.51**	**193**	P		**P**		**14 34 20.9**	**0.0**
BKZ				IAmb		IAmb		14 34 29.1	
	comp=Z,10nm,1.1s								
BKZ	**Black Stump Fm**	**20.51**	**193**	P		**P**		**14 34 20.7**	**-0.3**
OTVZ	**Oturere**	**20.70**	**195**	P		**P**		**14 34 22.8**	**0.0**
BHHZ	**Black Hill Sta**	**20.92**	**194**	P		**P**		**14 34 23.4**	**-1.3**
ARMA	**Armidale**	**30.06**	**242**	P		**P**		**14 35 46.8**	**+1.3**
CAN	**Canberra**	**33.62**	**235**	P		**P**		**14 36 16.9**	**+1.3**
CAN				IAmb		IAmb		14 36 31.1	
	comp=Z,13nm,1.1s								
CTAO	**Charters Tower**	**34.12**	**262**	P		**P**		**14 36 21.2**	**+1.2**
CTAO				IAmb		IAmb		14 36 22.1	
	comp=Z,13nm,1.0s								
TOO	**Toolangi**	**37.03**	**233**	P		**P**		**14 36 45.2**	**+1.3**
TOO				IAmb		IAmb		14 36 46.3	
	comp=Z,13nm,0.8s								
COEN	**Coen**	**38.02**	**272**	P		**P**		**14 36 53.6**	**+1.4**
COEN				IAmb		IAmb		14 36 54.5	
	comp=Z,7.4nm,0.6s								
STKA	**Stephens Creek**	**38.78**	**243**	P		**P**		**14 36 59.9**	**+1.8**
	comp=Z,10nm,0.5s,baz=92,slow=10.0,SNR=48								
STKA	**Stephens Creek**	**38.78**	**243**	P		**P**		**14 36 59.7**	**+1.5**
BBOO	**Buckleboo**	**43.55**	**242**	P		**P**		**14 37 37.0**	**+1.1**
WR0	**Warramunga Arr**	**45.08**	**261**	P		**P**		**14 37 48.3**	**+0.3**
WR0				IAmb		IAmb		14 37 48.4	
	comp=Z,4.9nm,0.7s								
WB0	**Warramunga Arr**	**45.24**	**261**	P		**P**		**14 37 49.6**	**+0.4**
WB2	**Warramunga Arr**	**45.26**	**261**	P		**P**		**14 37 49.7**	**+0.4**
WRAB	**Tennant Creek**	**45.26**	**261**	P		**P**		**14 37 49.5**	**+0.2**
WRAB				IAmb		IAmb		14 37 49.8	
	comp=Z,8.7nm,0.6s								
WRA	**Warramunga Arr**	**45.27**	**261**	P		**P**		**14 37 49.8**	**+0.3**
	comp=Z,6.2nm,0.3s,baz=98,slow=7.7,SNR=282								
WRA				PcP		**PcP**		**14 39 17.5**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=73,slow=3.7,SNR=2.4								
WRA				ScP		**ScP**		**14 42 16.1**	**-2.0**
	comp=Z,0.5nm,0.9s,baz=92,slow=4.2,SNR=3.0								
WRA				S		**S**		**14 43 44.6**	**-5.5**
	comp=Z,0.5nm,0.8s,baz=92,slow=14,SNR=3.6								
WRA	**Warramunga Arr**	**45.27**	**261**	P		**P**		**14 37 48.7**	**-0.7**
AS31	**Alice Springs**	**45.29**	**255**	P		**P**		**14 37 50.1**	**+0.6**
AS31				IAmb		IAmb		14 37 51.8	
	comp=Z,7.5nm,0.3s								
ASAR	**Alice Springs**	**45.29**	**255**	P		**P**		**14 37 50.2**	**+0.7**
	comp=Z,21nm,0.7s,baz=87,slow=8.2,SNR=462								
ASAR				PcP		**PcP**		**14 39 17.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=105,slow=3.6,SNR=3.2								
ASAR				ScP		**ScP**		**14 42 17.3**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=101,slow=3.9,SNR=1.7								
ASAR				S		**S**		**14 43 47.5**	**-2.9**
	comp=Z,1.1nm,0.8s,baz=92,slow=15,SNR=12								
ASAR	**Alice Springs**	**45.29**	**255**	P		**P**		**14 37 49.9**	**+0.4**
MTN	**Manton Dam**	**49.66**	**269**	P		**P**		**14 38 22.3**	**0.0**
FORT	**Forrest**	**50.24**	**246**	P		**P**		**14 38 26.6**	**+0.2**
KNRA	**Kununurra**	**51.24**	**265**	P		**P**		**14 38 34.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.69**	**261**	P		**P**		**14 38 51.8**	**+0.5**
	comp=Z,5.5nm,0.4s,baz=119,slow=4.1,SNR=6.8								
FITZ	**Fitzroy Crossi**	**53.69**	**261**	P		**P**		**14 38 52.0**	**+0.7**
FITZ				IAmb		IAmb		14 38 52.7	
	comp=Z,6.1nm,0.5s								
BATI	**Baumata**	**57.41**	**270**	P		**P**		**14 39 17.9**	**+0.6**
	comp=Z,9.3nm,0.5s,baz=182,slow=1.0,SNR=3.8								
PSA00	**Pilbara Seismi**	**58.43**	**256**	P		**P**		**14 39 23.9**	**-0.2**
PSA00				IAmb		IAmb		14 39 25.3	
	comp=Z,13nm,0.8s								
PSA00	**Pilbara Seismi**	**58.43**	**256**	P		**P**		**14 39 23.7**	**-0.4**
PSA00				IAmb		IAmb		14 39 25.4	
	comp=Z,5.0nm,0.8s								
VNDA	**Vanda**	**59.18**	**185**	P		**P**		**14 39 27.6**	**-0.6**
MJAR	**Matsushiro Arr**	**69.51**	**323**	P		**P**		**14 40 34.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=144,slow=5.4,SNR=4.1								
KKM	**Kota Kinabalu**	**69.93**	**284**	P		**P**		**14 40 36.4**	**-0.8**
KKM				IAmb		IAmb		14 40 48.8	
	comp=Z,18nm,1.0s								
UGM	**Wanagama**	**70.49**	**268**	P		**P**		**14 40 39.9**	**-0.6**
UGM				IAmb		IAmb		14 40 45.5	
	comp=Z,27nm,1.0s								
QSPA	**South Pole Qui**	**70.80**	**180**	P		**P**		**14 40 42.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=295,slow=3.1								
QSPA	**South Pole Qui**	**70.80**	**180**	P		**P**		**14 40 42.2**	**+0.7**
YERR	**Yerington**	**79.51**	**42**	P		**P**		**14 41 31.1**	**+0.6**
NVAR	**Mina Array Bea**	**79.79**	**43**	P		**P**		**14 41 32.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=222,slow=8.8,SNR=12								
NVAR	**Mina Array Bea**	**79.79**	**43**	P		**P**		**14 41 32.6**	**+0.6**
TX31	**Lajitas Ar. Si**	**85.97**	**57**	P		**P**		**14 42 04.3**	**+1.2**
TX31				IAmb		IAmb		14 42 05.0	
	comp=Z,6.7nm,0.8s								
TXAR	**Lajitas Array**	**85.98**	**57**	P		**P**		**14 42 04.3**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=218,slow=7.4,SNR=9.7								
ILAR	**Eielson Array**	**87.00**	**13**	P		**P**		**14 42 06.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=232,slow=4.9,SNR=15								
PDAR	**Pinedale Array**	**87.73**	**43**	P		**P**		**14 42 11.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=225,slow=1.9,SNR=6.6								
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P		**P**		**14 42 24.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=135,slow=2.8,SNR=6.1								
YKA	**Yellowknife Ar**	**95.19**	**25**	P		**P**		**14 42 43.0**	**-1.7**
	comp=Z,0.1nm,0.6s,baz=232,slow=5.2,SNR=2.5								
MKAR	**Makanchi Array**	**110.70**	**314**	PKiKP		**PKiKP**		**14 47 49.8**	**-1.0**
	comp=Z,0.1nm,0.7s,baz=76,slow=0.6,SNR=1.5								
GERES	**GERESS Array B**	**149.14**	**346**	PKPbc		**PKPbc**		**14 49 06.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=3.2,SNR=3.7								
DAVOX	**Davos/Dischmat**	**151.90**	**349**	PKPbc		**PKPbc**		**14 49 13.1**	**-0.5**

*NIED **19** 14:30:31.4, 38°.23N×141°.69E, h51km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.23; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-3.30; $M_{r\theta}$0.68; $M_{\theta\phi}$-0.77; $M_{r\phi}$3.47; Fault plane solution: $M_0$5.25000×10^{14} NP1:ϕ_s13.00000°, δ66.00000°, λ,88.00000°. NP2:ϕ_s199.00000°, δ24.00000°, λ,95.00000°.*
*JMA **19** 14:30:31.3±0.1, 38°.23N×141°.69E, h51km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕ_s9.00000°, δ58.00000°, λ,85.00000°. NP2:ϕ_s197.00000°, δ32.00000°, λ,97.00000°. Principal axes: T Plg76.0000°, Azm265.0000°; N Plg4.0000°, Azm11.0000°; P Plg13.0000°, Azm102.0000°;*
JMA Felt II J1.
*IDC **19** 14:30:31.4±2.5, 38°.27N×142°.00E, h62km±20km, mb3.5/9, mb1 3.6/14, mb1mx3.4/59, mbtmp3.7/14, MS3.2/2, Ms1 3.2/2, ms1mx2.5/67 Error ellipse: s-maj=23.7km s-min=14.7km az=102.0*
ISC 19 14:30:30.8±1.2, 38°.23N±0°.05×141°.81E±0°.09, h48km±8km, n36, σ1°59/40, mb3.7/9, 1C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.28**	**288**	↑P		P	**Pn**	**14 30 39.8**	**+0.2**
JIKH				S		S	**Sn**	**14 30 45.6**	**-0.2**
JIO	**Ouri**	**0.42**	**302**	↓P		P	**Pn**	**14 30 41.1**	**0.0**
JIO				S		S	**Sn**	**14 30 47.7**	**-0.7**
JKMT	**Kesennumamotoy**	**0.64**	**336**	↓P		P	**Pn**	**14 30 43.8**	**+0.1**
JKMT				S		S	**Sn**	**14 30 52.5**	**-0.5**
JMK	**Ichinoseki**	**0.86**	**328**	↓P		P	**Pn**	**14 30 46.8**	**+0.2**
JMK				S		S	**Sn**	**14 30 57.5**	**-0.6**
OFUJ	**Ofunato**	**0.86**	**353**	↓P		P	**Pn**	**14 30 46.9**	**+0.3**
OFUJ				S		S	**Sn**	**14 30 57.8**	**-0.3**
JMM	**Marumori**	**0.88**	**246**	↓P		P	**Pn**	**14 30 46.0**	**-0.8**
JMM				S		S	**Sn**	**14 30 56.8**	**-1.7**
JOU	**Okura**	**0.91**	**279**	↓P		P	**Pn**	**14 30 46.9**	**-0.4**
JOU				S		S	**Sn**	**14 30 58.4**	**-1.0**
JFK	**Kawauchi**	**1.13**	**221**	↓P		P	**Pn**	**14 30 49.9**	**-0.4**
JFK				S		S	**Sn**	**14 31 03.1**	**-1.7**
JOM	**Ohasama**	**1.31**	**342**	↓P		P	**Pn**	**14 30 53.1**	**+0.4**
JYK	**Kaneyama**	**1.33**	**302**	↓P		P	**Pn**	**14 30 52.7**	**-0.2**
JFT	**Otama**	**1.36**	**239**	↓P		P	**Pn**	**14 30 53.3**	**-0.1**
JFT				S		S	**Sn**	**14 31 09.2**	**-1.1**
JYS	**Shirataka**	**1.37**	**270**	*eS*		S	**Sn**	**14 31 09.7**	**-0.8**
JRG	**Rokugo**	**1.48**	**322**	↓P		P	**Pn**	**14 30 55.6**	**+0.5**
JYA	**Atsumi**	**1.68**	**283**	↓P		P	**Pn**	**14 30 57.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.32**	**241**	P		P	**Pn**	**14 31 21.2**	**+0.9**
	0.7nm,0.3s,baz=36,slow=13,SNR=34								
MJAR				S		S	**Sn**	**14 32 04.4**	**+5.9**
	0.3nm,0.3s,baz=100,slow=15,SNR=1.7								
JHJ	**Hachijo jima 2**	**5.36**	**199**	P		P	**Pn**	**14 31 48.7**	**+0.5**
	6.8nm,0.3s,baz=350,slow=22,SNR=6.4								
JHJ				S		S	**Sn**	**14 32 44.5**	**-4.0**
	22nm,0.3s,baz=245,slow=23,SNR=5.9								
ASAJ	**Asahikawa**	**5.92**	**6**	P		P	**Pn**	**14 31 55.6**	**-0.2**
	0.8nm,0.3s,baz=220,slow=15,SNR=21								
ASAJ				S		S	**Sn**	**14 32 59.1**	**-3.1**
	0.3nm,0.3s,baz=112,slow=31,SNR=0.9								
USRK	**Ussuriysk Ar.**	**9.50**	**312**	P		P	**Pn**	**14 32 45.5**	**+0.6**
	baz=122,slow=14,SNR=6.9								
KSRS	**Korea Array**	**11.01**	**270**	P		P	**Pn**	**14 33 09.3**	**+3.7**
	0.1nm,0.3s,baz=81,slow=14,SNR=2.5								
MA2	**Magadan**	**22.12**	**12**	LR		LR		14 44 16.1	
	comp=Z,62nm,18.8s,baz=108,slow=37								
SEY	**Seymchan**	**25.56**	**11**	P		P	**P**	**14 35 55.4**	**+0.5**
	0.4nm,0.5s,baz=29,slow=0.3,SNR=3.7								
SONM	**Songino Array**	**27.40**	**302**	P		P	**P**	**14 36 12.5**	**+0.7**
	0.3nm,0.7s,baz=94,slow=8.0,SNR=2.1								
H11N2	**WAKE ISLAND Hy 28.51**	**123**		T		T		15 06 36.6	
	baz=316,slow=75,SNR=472								
H11N1	**WAKE ISLAND Hy 28.52**	**123**		T		T		15 06 36.5	
	baz=316,slow=75,SNR=303								
H11N3	**WAKE ISLAND Hy 28.53**	**123**		T		T		15 06 37.2	
	baz=316,slow=75,SNR=475								
H11S1	**WAKE ISLAND Hy 29.27**	**125**		T		T		15 07 32.4	
	baz=318,slow=76,SNR=89								
H11S3	**WAKE ISLAND Hy 29.27**	**125**		T		T		15 07 32.7	
	baz=318,slow=76,SNR=123								
H11S2	**WAKE ISLAND Hy 29.28**	**125**		T		T		15 07 33.5	
	baz=318,slow=76,SNR=129								
ZALV	**Zalesovo Beam 41.35**	**311**		P		**P**		**14 38 11.3**	**-0.5**
	1.2nm,0.4s,baz=78,slow=8.2,SNR=6.8								
MKAR	**Makanchi Array 43.76**	**301**		P		**P**		**14 38 30.9**	**-0.5**
	0.8nm,0.6s,baz=85,slow=10,SNR=14								
KURBB	**Kurchatov Arra 45.52**	**307**		P		**P**		**14 38 44.9**	**-0.5**
	2.3nm,0.6s,baz=81,slow=8.2,SNR=27								
BATI	**Baumata 51.08**	**203**		LR		LR		14 58 59.8	
	comp=Z,26nm,21.8s,baz=228,slow=33								
WRA	**Warramunga Arr 58.28**	**188**		P		**P**		**14 40 19.9**	**-0.7**
	0.7nm,0.5s,baz=2.9,slow=7.1,SNR=5.5								
ASAR	**Alice Springs 62.01**	**188**		P		**P**		**14 40 46.0**	**-0.1**
	0.5nm,0.8s,baz=356,slow=8.5,SNR=4.1								
NOA	**NORSAR Array B 73.21**	**337**		P		**P**		**14 41 56.3**	**-0.1**
	0.2nm,0.5s,baz=22,slow=5.8,SNR=1.9								
AKASG	**Malin Array Be 73.55**	**322**		P		**P**		**14 41 57.1**	**-1.4**
	0.4nm,0.5s,baz=44,slow=6.5,SNR=2.8								

*IDC **19** 14:40:46.2±0.8, 32°.94N×134°.21E, h0km, mb3.5/12, mb1 3.8/17, mb1mx3.6/58, mbtmp3.6/17, ML3.6/4, MS3.4/14, Ms1 3.4/14, ms1mx3.1/70, Error ellipse: s-maj=20.0km s-min=17.0km az=103.0*
*JMA **19** 14:40:48.9, 32°.92N×134°.33E, h36km±1km, M3.9*
JMA Felt I J1.
*NIED **19** 14:40:48.9, 32°.93N×134°.33E, h36km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.33; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$1.58; $M_{r\theta}$-0.25; $M_{\theta\phi}$-1.32; $M_{r\phi}$-0.29; Fault plane solution: $M_0$1.99000×10^{15} NP1: ϕ_s23.00000°, δ84.00000°, λ-12.00000°. NP2:ϕ_s114.00000°, δ78.00000°, λ-174.00000°.*
ISC 19 14:40:50.7±0.7, 32°.91N±0°.06×134°.22E±0°.07, h35km, n36, σ1°65/26, mb3.5/12, MS3.4/10, 2C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRT2	**Murotomisaki 2**	**0.48**	**352**	↓P		P	**Pn**	**14 40 59.2**	**-1.9**
MRT2				*eS*		S	**Sn**	**14 41 06.4**	**-1.9**
JMN	**Monobe**	**0.86**	**341**	↓P		P	**Pn**	**14 41 05.6**	**-0.9**
JAI	**Aioi**	**0.90**	**12**	↓P		P	**Pn**	**14 41 04.9**	**-2.0**
JAI				*eS*		S	**Sn**	**14 41 16.2**	**-2.5**
JKU	**Kubokawa**	**1.05**	**292**	↑P		P	**Pn**	**14 41 08.3**	**-0.7**
JWM	**Minabe**	**1.33**	**45**	↑P		P	**Pn**	**14 41 09.9**	**-2.9**
JHJ	**Hachijo jima 2**	**4.67**	**86**	Pn		P	**Pn**	**14 41 57.0**	**-1.8**
	25nm,0.3s,baz=102,slow=12,SNR=7.9								
JHJ				LR		LR		14 43 40.8	
	comp=Z,320nm,19.3s,baz=264,slow=37								
MJAR	**Matsushiro Arr**	**4.89**	**41**	Pn		P	**Pn**	**14 42 01.5**	**-0.3**
	0.1nm,0.3s,baz=232,slow=13,SNR=2.6								
MJAR				LR		LR		14 44 06.9	
	comp=Z,223nm,21.9s,baz=81,slow=41								
KSRS	**Korea Array**	**6.87**	**313**	Pn		P	**Pn**	**14 42 29.4**	**+0.5**
	0.5nm,0.3s,baz=116,slow=14,SNR=12								
KSRS				Sn		S	**Sn**	**14 43 44.8**	**-0.9**
	0.9nm,0.3s,baz=130,slow=24,SNR=3.5								
KSRS				LR		LR		14 45 33.2	
	comp=Z,119nm,18.6s,baz=100,slow=42								
JOW	**Kunigami**	**7.96**	**222**	Pn		P	**Pn**	**14 42 43.0**	**-1.0**
	2.3nm,0.3s,baz=89,slow=17,SNR=13								
JOW				Sn		S	**Sn**	**14 44 08.4**	**-4.4**
	0.6nm,0.3s,baz=107,slow=26,SNR=1.5								
KLR	**Kul'dur**	**16.41**	**354**	Pn		P	**Pn**	**14 44 38.4**	**+0.2**
	0.1nm,0.3s,baz=152,slow=10,SNR=18								
KLR				LR		LR		14 50 46.3	
	comp=Z,66nm,18.5s,baz=167,slow=37								
GUMO	**Guam**	**21.55**	**151**	LR		LR		14 51 55.6	
	comp=Z,53nm,20.3s,baz=12,slow=31								
SONM	**Songino Array**	**25.74**	**314**	P		P	**P**	**14 46 19.2**	**+1.2**
	1.4nm,0.8s,baz=129,slow=9.7,SNR=10								
SONM				LR		LR		14 56 14.0	
	comp=Z,60nm,18.6s,baz=96,slow=36								
PETK	**Petropavlovsk-

CNJI	**Cibinong**	**0.63**	**348**	P	Pn	15 19 40.2	+0.7
CNJI				S	Sn	15 19 48.6	+0.2
LEM	**Lembang**	**1.15**	**18**	P	Pn	15 19 47.6	+0.8
LEM				S	Sn	15 20 02.5	+1.1
SKJI	**Sukabumi**	**1.15**	**323**	P	Pn	15 19 47.7	+1.0
SKJI				S	Sn	15 20 01.2	0.0
CMJI	**Cimerak**	**1.19**	**83**	P	Pn	15 19 47.9	+0.8
CMJI				S	Sn	15 20 02.0	0.0
DBJI	**Dramaga**	**1.46**	**340**	P	Pn	15 19 51.3	+0.4
DBJI				S	Sn	15 20 08.4	-0.3
KPJI	**Karang Pucung**	**1.76**	**70**	P	Pn	15 19 55.7	+0.7
KPJI				S	Sn	15 20 16.9	+0.8
CGJI	**Cibinong**	**2.03**	**310**	P	Pn	15 19 59.3	+0.6
CGJI				S	Sn	15 20 21.3	-1.6
UGM	**Wanagama**	**3.23**	**90**	P	Pn	15 20 17.1	+1.8
UGM				S	Sn	15 20 51.8	-0.8
SMRI	**Semarang**	**3.27**	**75**	P	Pn	15 20 16.0	+0.2
KASI	**Kota Agung**	**3.64**	**311**	P	Pn	15 20 21.2	+0.4
KASI				S	Sn	15 21 03.6	+1.0
PCJI	**Pacitan**	**3.89**	**94**	P	Pn	15 20 26.1	+1.9
PCJI				S	Sn	15 21 07.5	-1.2
KLSI		**4.08**	**322**	P	Pn	15 20 28.4	+1.4
PWJI	**Pagerwojo**	**4.50**	**91**	P	Pn	15 20 34.4	+1.7
PWJI				S	Sn	15 21 22.8	-1.0
TPI	**Tanjungpandan**	**5.16**	**4**	P	Pn	15 20 41.3	-0.4
JAGI	**Jajag, Banyuwa**	**6.84**	**95**	P	Pn	15 21 07.4	+2.5

NEIC ***19*** *15:30:55.5±2.4, 11°.84N×88°.79W×0°.06, h10km±1km, mb4.5/25, Error ellipse: s-maj=14.1km s-min=8.6km az=211.0*

SSS ***19*** *15:30:55.1, 11°.84N×88°.87W, h103km, ML4.5*

SNET ***19*** *15:30:55.1±1.1, 11°.84N×88°.87W, h103km, ML4.7, ML4.5*

UCR ***19*** *15:30:56.5±1.2, 11°.81N×88°.89W, h33km±12km, ML4.2, MW3.9, mb4.5(NEIC)*

INET ***19*** *15:30:57.2±1.2, 11°.94N×88°.75W, h9km±23km, ML4.2, MW3.8*

IDC ***19*** *15:30:58.4±2.6, 11°.83N×88°.73W, h43km±24km, mb3.8/14, mb1 4.1/16, mb1mx4.0/33, mbtmp4.1/16, ML3.9/2, MS3.4/17, Ms1 3.4/17, ms1mx3.2/66, Error ellipse: s-maj=23.8km s-min=12.9km az=49.0*

GCG ***19*** *15:31:01.1±2.7, 12°.20N×89°.26W, h180km±161km, MD4.2*

ISC 19 15:30:56.1±1.6, 11°.87N±0°.05×88°.82W±0°.05, h25km±11km, n174, σ1°43/186, mb4.3/24, MS3.4/15, 3C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCY	**Lacayo**	**1.63**	**18**	*eP*	**Pb**	**15 31 24.2**	**-1.3**
LCY	**Lacayo**	**1.63**	**18**	*eP*	**Pb**	**15 31 24.2**	**-1.3**
CSGN	**Cosiguina Volc**	**1.65**	**48**	*eP*	**Pn**	**15 31 23.7**	**+0.1**
TECO	**Alcaldía de Te**	**1.66**	**1**	*eP*	**Pn**	**15 31 23.8**	**+0.2**
TECO				*eS*	**Sb**	**15 31 45.9**	**-0.6**
TECO	**Alcaldia de Te**	**1.66**	**1**	*eP*	**Pn**	**15 31 23.8**	**+0.2**
TECO				*eS*	**Sb**	**15 31 45.9**	**-0.6**
LALI	**Alcalda de L**	**1.68**	**343**	*eP*	**Pn**	**15 31 24.4**	**+0.5**
LALI				*eS*	**Sb**	**15 31 45.7**	**-1.4**
LCND	**La Caada**	**1.69**	**32**	*eP*	**Pn**	**15 31 24.5**	**+0.4**
LCND	**La Caada**	**1.69**	**32**	*eP*	**Pn**	**15 31 24.5**	**+0.4**
COEG	**Centro de Oper**	**1.74**	**358**	*eP*	**Pn**	**15 31 25.4**	**+0.6**
COEG	**Centro de Oper**	**1.74**	**358**	*eP*	**Pn**	**15 31 25.4**	**+0.6**
LFRS	**El Faro**	**1.76**	**352**	*eP*	**Pn**	**15 31 25.1**	**0.0**
LFRS	**El Faro**	**1.76**	**352**	*eP*	**Pn**	**15 31 25.1**	**0.0**
SCLA	**Alcaldia de Sa**	**1.82**	**3**	*eP*	**Pn**	**15 31 26.7**	**+0.8**
SCLA				*eS*	**Sb**	**15 31 51.4**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.82**	**3**	*eP*	**Pn**	**15 31 26.7**	**+0.8**
SCLA				*eS*	**Sb**	**15 31 51.4**	**+0.2**
PAVA	**Las Pavas**	**1.84**	**356**	*eP*	**Pn**	**15 31 26.3**	**+0.2**
PAVA				*eS*	**Sb**	**15 31 50.3**	**-1.4**
PAVA				IAML		15 31 52.1	
	comp=Z,3μm,0.3s						
PAVA	**Las Pavas**	**1.84**	**356**	*eP*	**Pn**	**15 31 26.3**	**+0.2**
PAVA				*eS*	**Sb**	**15 31 50.3**	**-1.4**
PAVA				IAML		15 31 52.1	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**1.85**	**347**		**Pn**	**15 31 26.3**	**0.0**
JAYA	**Jayaque - finc**	**1.88**	**341**	*eP*	**Pn**	**15 31 26.7**	**0.0**
JAYA				IAML		15 31 53.1	
	comp=Z,5μm,0.3s						
JAYA	**Jayaque - finc**	**1.88**	**341**	*eP*	**Pn**	**15 31 26.7**	**0.0**
JAYA				IAML		15 31 53.1	
	comp=Z,5μm,0.3s						
LFU	**La Fuente**	**1.89**	**351**	*eP*	**Pn**	**15 31 27.4**	**+0.6**
LFU	**La Fuente**	**1.89**	**351**	*eP*	**Pn**	**15 31 27.4**	**+0.6**
BOQS	**Boqueron**	**1.91**	**346**	*eP*	**Pn**	**15 31 27.6**	**+0.3**
BOQS	**Boqueron**	**1.91**	**346**	*eP*	**Pn**	**15 31 27.6**	**+0.3**
CRIN	**San Cristobal**	**1.92**	**64**		**Pn**	**15 31 28.1**	**+0.9**
CEDA	**San Andres**	**2.00**	**344**	*eS*	**Sb**	**15 31 54.5**	**-1.9**
CEDA	**San Andres**	**2.00**	**344**	*eS*	**Sb**	**15 31 54.5**	**-1.9**
CEVE	**Cerro Verde**	**2.10**	**338**	*eP*	**Pn**	**15 31 30.1**	**+0.3**
CEVE				IAML		15 32 04.4	
	comp=Z,8μm,0.4s						
CEVE	**Cerro Verde**	**2.10**	**338**	*eP*	**Pn**	**15 31 30.1**	**+0.3**
CEVE				IAML		15 32 04.4	
	comp=Z,8μm,0.4s						
SBLS	**San Blas**	**2.11**	**338**	*eP*	**Pn**	**15 31 30.4**	**+0.4**
SBLS	**San Blas**	**2.11**	**338**	*eP*	**Pn**	**15 31 30.4**	**+0.4**
SNJE	**San Jose**	**2.13**	**339**	*eP*	**Pn**	**15 31 30.6**	**+0.4**
SNJE	**San Jose**	**2.13**	**339**	*eP*	**Pn**	**15 31 30.6**	**+0.4**
TACO	**Tacachico**	**2.15**	**346**	*eP*	**Pn**	**15 31 30.9**	**+0.5**
TACO				IAML		15 32 00.3	
	comp=Z,1μm,0.3s						
TACO	**Tacachico**	**2.15**	**346**	*eP*	**Pn**	**15 31 30.9**	**+0.5**
TACO				IAML		15 32 00.3	
	comp=Z,1μm,0.3s						
CNGN	**Cerro Negro**	**2.17**	**73**		**Pn**	**15 31 30.2**	**-0.4**
CNGN	**Cerro Negro**	**2.17**	**73**	*eP*	**Pn**	**15 31 30.1**	**-0.4**
CNGN				*eP*	**Pn**	**15 31 30.3**	**-0.4**
CNGN				*eP*	**Pn**	**15 31 30.6**	**0.0**
CNGN				IAML		15 32 05.7	
	comp=N,2μm,0.1s						
RTR	**El Retiro**	**2.17**	**338**	*eP*	**Pn**	**15 31 31.4**	**+0.6**
RTR	**El Retiro**	**2.17**	**338**	*eP*	**Pn**	**15 31 31.4**	**+0.6**
COPN	**Copaltepe**	**2.20**	**82**	*eP*	**Pn**	**15 31 30.5**	**-0.5**
NUBE	**Las Nubes**	**2.23**	**335**	*eP*	**Pn**	**15 31 31.6**	**0.0**
NUBE				IAML		15 32 00.8	
	comp=Z,2μm,0.4s						
NUBE	**Las Nubes**	**2.23**	**335**	*eP*	**Pn**	**15 31 31.6**	**0.0**
NUBE				IAML		15 32 00.8	
	comp=Z,2μm,0.4s						
SLOZ	**Alcaldia de Sa**	**2.34**	**336**	*eP*	**Pn**	**15 31 34.0**	**+1.0**
SLOZ				*eS*	**Sn**	**15 32 02.7**	**+1.7**
SLOZ				IAML		15 32 06.8	
	comp=Z,1μm,0.4s						
APYN	**Apoyeque**	**2.44**	**81**	*eP*	**Pn**	**15 31 34.2**	**-0.2**
BRAN	**Las Pilas**	**2.56**	**70**	*eP*	**Pn**	**15 31 35.1**	**-0.8**
MTO3	**Montecristo**	**2.57**	**348**		**Pn**	**15 31 37.5**	**+1.2**
MTO3	**Montecristo**	**2.57**	**348**	*eP*	**Pn**	**15 31 37.2**	**+0.9**
MTO3				*eS*	**Sn**	**15 32 09.0**	**+2.1**
MTO3	**Montecristo**	**2.57**	**348**	*eP*	**Pn**	**15 31 37.2**	**+0.9**
MTO3				*eS*	**Sn**	**15 32 09.0**	**+2.1**
HUEN		**2.63**	**80**	*eP*	**Pn**	**15 31 37.4**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.65**	**35**	Pn	**Pn**	**15 31 38.3**	**+1.0**
ESQI	**Esquipulas**	**2.72**	**349**	Pn	**Pn**	**15 31 40.2**	**+1.9**
MATN	**Matagalpa**	**3.02**	**69**		**Pn**	**15 31 42.9**	**+0.5**
PCG	**Pacaya**	**3.05**	**325**	*eP*	**Pn**	**15 31 44.6**	**+1.5**
PCG				*eS*	**Sn**	**15 32 17.1**	**-1.8**
NBG	**Las Nubes**	**3.08**	**331**	*eP*	**Pn**	**15 31 46.2**	**+2.8**
NBG				*eS*	**Sn**	**15 32 20.5**	**+0.8**
BOAB	**BOACO BROADBAN**	**3.13**	**79**	Pn	**Pn**	**15 31 43.7**	**-0.2**
FUG	**Fuego 3**	**3.23**	**323**	*eP*	**Pn**	**15 31 46.5**	**+1.1**
FUG				*eS*	**Sn**	**15 32 23.2**	**-0.1**
MRL	**Marmol**	**3.30**	**345**	*eP*	**Pn**	**15 31 49.0**	**+2.6**
MRL				*eS*	**Sn**	**15 32 21.9**	**-3.0**
HZTE	**Horizontes, Gu**	**3.36**	**110**	Pn	**Pn**	**15 31 47.7**	**+0.7**
HZTE	**Horizontes, Gu**	**3.36**	**110**	*eP*	**Pn**	**15 31 47.8**	**+0.7**
HZTE	**Horizontes, Gu**	**3.36**	**110**	*eP*	**Pn**	**15 31 47.8**	**+0.8**
GBS3	**Finca Las Img**	**3.47**	**108**	*iP*	**Pn**	**15 31 49.3**	**+0.8**
LAPC	**Finca la Perla**	**3.50**	**108**	*eP*	**Pn**	**15 31 49.5**	**+0.7**
BUEV	**Buena Vista**	**3.51**	**107**	*eP*	**Pn**	**15 31 50.2**	**+1.0**
GB1A	**Borinquen Arri**	**3.51**	**107**	*eP*	**Pn**	**15 31 50.0**	**+0.8**
SAJU	**San Juanillo,**	**3.54**	**120**	*eP*	**Pn**	**15 31 48.7**	**-0.7**
BUAI	**Buenos Aires**	**3.56**	**106**	*eP*	**Pn**	**15 31 51.0**	**+1.2**
ACON	**Acoyapa**	**3.57**	**88**		**Pn**	**15 31 49.3**	**-0.6**
GPS2	**Hotel Rincn d**	**3.58**	**108**	*eP*	**Pn**	**15 31 50.8**	**+0.8**
GUAI	**GUAI**	**3.62**	**116**	*eP*	**Pn**	**15 31 50.0**	**-0.5**
ORTG	**Ortega, Santa**	**3.62**	**114**		**Pn**	**15 31 50.4**	**-0.3**
LIM1	**Limonal**	**3.69**	**108**	*eP*	**Pn**	**15 31 52.4**	**+0.9**
LIM1				*eS*	**Sn**	**15 32 34.4**	**+0.1**
GUAB	**Guayabo de Bag**	**3.71**	**108**	*eP*	**Pn**	**15 31 53.2**	**+1.4**
DUNO	**Dulce Nombre,**	**3.72**	**118**		**Pn**	**15 31 51.6**	**-0.3**
COLC	**Colonia**	**3.74**	**108**	*eP*	**Pn**	**15 31 53.4**	**+1.1**
HORNC	**Hornillas**	**3.75**	**107**	*eP*	**Pn**	**15 31 53.5**	**+1.0**
VMAR	**Armenia, Volca**	**3.77**	**106**	*eP*	**Pn**	**15 31 54.0**	**+1.2**
CUI	**Cuipilapa**	**3.78**	**108**	*iP*	**Pn**	**15 31 54.0**	**+1.1**
STG3	**Santiaguito 3,**	**3.89**	**317**	*eP*	**Pn**	**15 31 55.0**	**+0.5**
STG3				*eS*	**Sn**	**15 32 36.6**	**-2.9**
ACAL	**Aguas Claras**	**3.91**	**108**	*eP*	**Pn**	**15 31 55.9**	**+1.3**
PTEN	**Parque Tenorio**	**3.93**	**107**	*eP*	**Pn**	**15 31 56.0**	**+1.1**
JTS	**Las Juntas de**	**4.11**	**112**	P	**Pn**	**15 31 57.7**	**+0.4**
	comp=Z,65nm,0.3s,baz=166,slow=8.3,SNR=185						
JTS				S	**Sn**	**15 32 43.9**	**-0.7**
	comp=Z,30nm,0.3s,baz=26,slow=21,SNR=4.9						
JTS	**Las Juntas de**	**4.11**	**112**	*eP*	**Pn**	**15 31 57.8**	**+0.4**
CAO2	**Cobano, Puntar**	**4.24**	**120**		**Pn**	**15 31 58.5**	**-0.6**
ARE1	**Arenal 1**	**4.26**	**109**	*eP*	**Pn**	**15 32 00.5**	**+1.1**
CEDE	**Laguna Cedeo**	**4.26**	**108**	*iP*	**Pn**	**15 32 00.7**	**+1.2**
LAFE	**Finca La Fe, P**	**4.35**	**118**	*eP*	**Pn**	**15 32 00.1**	**-0.6**
JACO	**JACO, Garabito**	**4.64**	**118**	Pn	**Pn**	**15 32 05.0**	**+0.4**
PETF	**Flores**	**5.12**	**349**		**Pn**	**15 32 13.3**	**+2.1**
CVTR	**Volcan Turrial**	**5.30**	**110**		**Pn**	**15 32 15.5**	**+1.5**
RIMA	**Rio Macho**	**5.30**	**113**	Pn	**Pn**	**15 32 15.0**	**+1.1**
RIMA	**Rio Macho**	**5.30**	**113**	*eP*	**Pn**	**15 32 15.0**	**+1.1**
CCIG	**Comitan**	**5.44**	**324**		**Pn**	**15 32 18.7**	**+3.0**
CDM	**Cerro de Muert**	**5.47**	**114**	*eP*	**Pn**	**15 32 17.8**	**+1.3**
EDDO	**Dominical**	**5.52**	**118**	*eP*	**Pn**	**15 32 17.4**	**+0.7**
PEZE	**Perez Zeledon,**	**5.62**	**116**		**Pn**	**15 32 19.5**	**+1.3**
PEZE	**Perez Zeledon,**	**5.62**	**116**	*eP*	**Pn**	**15 32 19.6**	**+1.3**
BATAN	**Batan**	**5.63**	**108**		**Pn**	**15 32 18.4**	**+0.2**
PCIG		**5.73**	**312**		**Pn**	**15 32 20.9**	**+1.4**
SRBA	**San Rafael, Bu**	**5.97**	**116**		**Pn**	**15 32 23.9**	**+0.8**
SRBA	**San Rafael, Bu**	**5.97**	**116**	*eP*	**Pn**	**15 32 24.1**	**+1.1**
DRK0	**Durika**	**6.06**	**115**		**Pn**	**15 32 25.4**	**+1.1**
RIOS	**Rincon, Osa**	**6.09**	**121**		**Pn**	**15 32 26.0**	**+1.3**
PIRO	**Carate, Puerto**	**6.40**	**122**	*eP*	**Pn**	**15 32 30.2**	**+1.4**
CDITO	**Canoas**	**6.71**	**119**		**Pn**	**15 32 35.2**	**+2.2**
CMIG	**Matias Romero**	**7.84**	**312**	LR	LR	15 35 45.8	
	comp=Z,94nm,19.5s,baz=258,slow=36						
TLIG	**Tlapa**	**11.00**	**302**	Pn	**Pn**	**15 33 33.9**	**+1.9**
SJCC	**San Jacinto, C**	**13.54**	**97**	Pn	**Pn**	**15 34 08.2**	**+1.5**
GUY2C	**Guyana, Caldas**	**14.85**	**115**	*eP*	**P**	**15 34 31.4**	**+0.8**
NORC	**Norcasia**	**15.14**	**113**	*eP*	**P**	**15 34 34.3**	**+0.9**
ANIL	**Santa Ana**	**15.16**	**118**	*eP*	**P**	**15 34 40.7**	**+6.8**
ORTC	**Ortega, Tolima**	**15.59**	**119**	*eP*	**P**	**15 34 42.9**	**+4.5**
SPBC	**San Pablo de B**	**15.82**	**112**	*eP*	**P**	**15 34 41.0**	**-0.1**
BARC	**Barichara**	**16.30**	**107**	*eP*	**P**	**15 34 50.6**	**+4.2**
URIC	**Uribia, Colomb**	**16.47**	**89**	P	**P**	**15 34 48.2**	**0.0**
URIC				IAmb	IAmb	15 34 50.2	
	comp=Z,34nm,0.6s						
PAMC	**Pamplona, Colo**	**16.52**	**104**	*eP*	**P**	**15 34 51.6**	**+2.4**
CHIC	**Chingaza**	**16.57**	**114**	*eP*	**P**	**15 34 56.4**	**+6.8**
RUSC	**La Rusia**	**16.64**	**110**	*eP*	**P**	**15 34 54.5**	**+4.0**
KVTX	**Kingsville**	**17.77**	**333**		**P**	**15 35 04.7**	**+2.4**
SDV	**Santo Domingo**	**18.13**	**98**	P	**Pn**	**15 35 06.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=266,slow=7.2,SNR=11						
SDV				LR	LR	15 43 20.8	
	comp=Z,85nm,18.1s,baz=289,slow=41						
SDV	**Santo Domingo**	**18.13**	**98**	P	**P**	**15 35 08.0**	**+1.2**
SDV	**Santo Domingo**	**18.13**	**98**	*eP*	**P**	**15 35 07.9**	**+1.2**
LRAL	**Lakeview Retre**	**21.13**	**4**		**P**	**15 35 39.7**	**+0.6**
JCT	**Junction City**	**21.13**	**333**	P	**P**	**15 35 40.7**	**+1.4**
JCT				IAmb	IAmb	15 35 47.6	
	comp=Z,12nm,0.8s						
Z47A	**Carrollton**	**21.24**	**2**	P	**P**	**15 35 41.9**	**+1.6**
Z47A				IAmb	IAmb	15 35 45.5	
	comp=Z,13nm,0.8s						
BIRV	**Birongo**	**22.16**	**91**	P	**P**	**15 35 50.8**	**+0.4**
TXAR	**Lajitas Array**	**22.21**	**324**	P	**P**	**15 35 52.0**	**+1.1**
	comp=Z,0.0nm,0.5s,baz=324,slow=11,SNR=16						
TXAR	**Lajitas Array**	**22.21**	**324**	P	**P**	**15 35 50.7**	**-0.2**
TX31	**Lajitas Ar. Si**	**22.21**	**324**	P	**P**	**15 35 52.0**	**+1.1**
TX31				IAmb	IAmb	15 35 58.7	
	comp=Z,15nm,1.1s						
TX32	**Lajitas Array**	**22.21**	**324**	P	**P**	**15 35 52.0**	**+1.2**
MTP	**Monte Pirata**	**23.30**	**72**	P	**P**	**15 36 01.1**	**-1.2**
FCAR	**Ozark Folk Cen**	**24.10**	**353**	P	**P**	**15 36 10.9**	**+1.2**
FCAR				IAmb	IAmb	15 36 22.4	
	comp=Z,10.0nm,0.9s						
TKL	**Tuckaleechee C**	**24.12**	**10**	P	**P**	**15 36 09.2**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=190,slow=11,SNR=4.8						
TKL				LR	LR	15 44 36.5	
	comp=Z,74nm,19.8s,baz=182,slow=34						
V53A	**Saluda**	**24.31**	**12**	P	**P**	**15 36 13.0**	**+1.3**
V53A				IAmb	IAmb	15 36 21.5	
	comp=Z,13nm,0.8s						
T47A	**Sharon Grove**	**25.06**	**3**	P	**P**	**15 36 17.1**	**-1.3**
T47A				IAmb	IAmb	15 36 25.8	
	comp=Z,9.4nm,0.8s						
V58A	**Windy Hill, Pi**	**25.39**	**19**	P	**P**	**15 36 21.5**	**+0.1**
AMTX	**Amarillo**	**25.72**	**335**	P	**P**	**15 36 23.9**	**-0.7**
AMTX				IAmb	IAmb	15 36 28.6	
	comp=Z,8.7nm,0.7s						
S39A	**Bolivar**	**26.03**	**352**	P	**P**	**15 36 26.9**	**-0.3**
S39A				IAmb	IAmb	15 36 30.7	
	comp=Z,8.2nm,0.8s						
CCM	**Cathedral Cave**	**26.17**	**356**	P	**P**	**15 36 27.9**	**-0.6**
CCM				IAmb	IAmb	15 36 36.1	
	comp=Z,10nm,0.9s						
NNA	**Nana**	**26.52**	**153**	LR	LR	15 44 45.4	
	comp=Z,53nm,19.5s,baz=18,slow=31						
MTPU	**Mount Pierson**	**33.39**	**325**	P	**P**	**15 37 35.0**	**+2.0**
SADO	**Sadowa**	**33.82**	**12**	LR	LR	15 51 43.4	
	comp=Z,50nm,19.0s,baz=177,slow=37						
LPAZ	**La Paz**	**34.66**	**143**	P	**P**	**15 37 44.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=333,slow=4.5,SNR=2.3						
LPAZ				LR	LR	15 51 38.7	
	comp=Z,92nm,18.8s,baz=322,slow=36						
LPAZ	**La Paz**	**34.66**	**143**	P	**P**	**15 37 44.0**	**-0.5**
LPAZ				IAmb	IAmb	15 38 06.9	
	comp=Z,15nm,2.0s						
PDAR	**Pinedale Array**	**35.67**	**333**	P	**P**	**15 37 53.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=120,slow=8.8,SNR=3.7						
PDAR				PcP	**PcP**	**15 40 20.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=150,slow=3.8,SNR=4.4						
PDAR				LR	LR	15 54 38.3	
	comp=Z,64nm,19.4s,baz=134,slow=40						
MDP	**Montagnes des**	**36.38**	**98**	LR	LR	15 56 56.0	
	comp=Z,91nm,18.9s,baz=224,slow=43						
REDW	**Red Top Meadow**	**36.72**	**333**	P	**P**	**15 38 01.7**	**+0.3**
ELK	**Elko**	**36.97**	**326**	LR	LR	15 56 38.7	
	comp=Z,67nm,18.5s,baz=149,slow=42						
NV11	**Mina Array Sit**	**37.18**	**320**	P	**P**	**15 38 07.7**	**+2.3**
NV11				IAmb	IAmb	15 38 09.2	
	comp=Z,7.5nm,1.0s						
NVAR	**Mina Array Bea**	**37.27**	**320**	P	**P**	**15 38 08.7**	**+2.5**
	comp=Z,3.6nm,0.8s,baz=132,slow=7.1,SNR=34						
NVAR				PcP	**PcP**	**15 40 26.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=132,slow=4.0,SNR=8.9						
NVAR				LR	LR	15 55 20.2	
	comp=Z,41nm,18.2s,baz=177,slow=39						
LHV	**Little Huntoon**	**37.29**	**320**	P	**P**	**15 38 07.9**	**+1.8**
ULM	**Lac du Bonnet**	**38.71**	**353**	LR	LR	15 58 25.3	
	comp=Z,42nm,19.3s,baz=134,slow=42						
MCMT	**McKenzie Canyo**	**38.76**	**332**	P	**P**	**15 38 20.0**	**+1.3**
LVC	**Limon Verde**	**39.43**	**150**	LR	LR	15 52 30.5	
	comp=Z,48nm,19.6s,baz=302,slow=33						
YBH	**Yreka Blue Hor**	**41.95**	**321**	LR	LR	15 56 34.0	
	comp=Z,43nm,18.1s,baz=156,slow=36						
SCHQ	**Schefferville**	**46.22**	**17**	P	**P**	**15 39 17.1**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=180,slow=11,SNR=4.3						
SCHQ				PcP	**PcP**	**15 40 54.3**	**0.0**
	comp=Z,2.6nm,0.9s,baz=222,slow=2.8,SNR=6.1						
BDFB	**Brasilia**	**48.77**	**123**	P	**P**	**15 39 37.5**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=56,slow=27,SNR=1.3						
CPUP	**Villa Florida**	**48.78**	**141**	LR	LR	15 59 54.2	
	comp=Z,45nm,19.3s,baz=22,slow=36						
FRB	**Frobisher Bay**	**53.74**	**11**	LR	LR	16 04 27.2	
	comp=Z,27nm,20.2s,baz=188,slow=37						
YKA	**Yellowknife Ar**	**53.83**	**346**	P	**P**	**15 40 15.5**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=142,slow=7.6,SNR=35						
YKA				PcP	**PcP**	**15 41 21.9**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=146,slow=4.0,SNR=6.8						
PLCA	**Paso Flores**	**55.00**	**163**	P	**P**	**15 40 24.2**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=353,slow=11,SNR=4.0						
INK	**Inuvik**	**63.36**	**343**	LR	LR	16 15 32.3	
	comp=Z,32nm,18.3s,baz=15,slow=42						
ILAR	**Eielson Array**	**66.01**	**337**	P	**P**	**15 41 41.0**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=176,slow=5.2,SNR=23						
ILAR	**Eielson Array**	**66.01**	**337**	P	**P**	**15 41 40.2**	**0.0**
RND	**Reindeer**	**66.26**	**335**	P	**P**	**15 41 42.1**	**+0.1**
PPT	**Papeete**	**66.74**	**245**	P	**P**	**15 41 44.6**	**-1.1**
	comp=Z,13nm,0.7s,baz=104,slow=12,SNR=2.3						
ESDC	**Sonseca Array**	**78.60**	**52**	P	**P**	**15 42 55.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=276,slow=4.4,SNR=7.8						
SPITS	**Spitsbergen Ar**	**81.54**	**12**	LR	LR	16 21 23.0	
	comp=Z,26nm,18.2s,baz=302,slow=37						
TORD	**Torodi Ar. Bea**	**87.84**	**77**	P	**P**	**15 43 44.1**	**0.0**
	comp=Z,0.8nm,0.8s,baz=299,slow=5.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**87.84**	**77**	P	**P**	**15 43 42.9**	**-1.1**
GERES	**GERESS Array B**	**89.24**	**40**	P	**P**	**15 43 50.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=284,slow=4.9,SNR=3.9						
STKA	**Stephens Creek**	**129.65**	**238**	PKP	**PKPdf**	**15 50 02.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=39,slow=7.9,SNR=3.6						
ASAR	**Alice Springs**	**137.81**	**248**	PKhKP	PKPpre	15 50 05.2	
	comp=Z,0.2nm,0.6s,baz=114,slow=3.0,SNR=5.5						
ASAR				PKP	**PKPdf**	**15 50 18.5**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=90,slow=2.8,SNR=7.9						
WRA	**Warramunga Arr**	**137.82**	**253**	PKhKP	PKPpre	15 50 07.1	
	comp=Z,0.4nm,0.8s,baz=92,slow=3.8,SNR=2.5						
WRA				PKP	**PKPdf**	**15 50 18.6**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=82,slow=1.9,SNR=8.9						
PZH	**PanZhiHua**	**140.50**	**345**	PKP	**PKPdf**	**15 50 22.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**148.91**	**346**	PKP	**PKPdf**	**15 50 39.0**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=318,slow=1.2,SNR=7.8						
CMAR				PKPbc	**PKPbc**	**15 50 42.6**	**0.0**
	comp=Z,3.1nm,0.8s,baz=324,slow=1.8,SNR=8.9						

IDC 19 16:01:10.9±4.8, 17°.84S×178°.64W, h592km±24km, mb3.0/3, mb1 3.1/4, mb1mx2.8/26, mbtmp3.8/4, Error ellipse: s-maj=132.0km s-min=80.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.16**	**271**	P	P	16 02 30.4	0.0
	0.5nm,0.3s,baz=162,slow=7.5,SNR=5.7						
STKA	**Stephens Creek**	**38.47**	**241**	P	P	16 07 43.4	-0.2
	1.0nm,0.5s,baz=99,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**44.43**	**259**	P	P	16 08 30.4	-0.3
	0.5nm,0.5s,baz=94,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	16 08 32.0	0.0
	2.9nm,0.5s,baz=88,slow=8.5,SNR=80						
ASAR				PcP	PcP	16 10 01.4	-0.4
	0.3nm,0.8s,baz

DAV	Davao City (W)	4.05	149	LR	LR	16 56 01.5	
	comp=Z,107nm,18.3s,baz=342,slow=45						
WRA	Warramunga Arr	32.15	161	P	P	16 59 29.7	-2.6
	0.5nm,0.5s,baz=345,slow=8.6,SNR=10						
ASAR	Alice Springs	35.52	163	P	P	17 00 00.6	-1.1
	2.4nm,0.6s,baz=345,slow=7.1,SNR=67						
SONM	Songino Array	39.83	342	P	P	17 00 36.5	-1.4
	0.5nm,0.8s,baz=155,slow=7.8,SNR=4.3						
H11S3	WAKE ISLAND Hy	42.46	74	T	T	17 42 34.0	
	baz=263						
H11S1	WAKE ISLAND Hy	42.47	74	T	T	17 42 34.2	
	baz=263						
H11S2	WAKE ISLAND Hy	42.48	74	T	T	17 42 24.3	
	baz=263						
MKAR	Makanchi Array	50.15	324	P	P	17 02 02.2	+2.2
	0.3nm,0.8s,baz=116,slow=6.6,SNR=1.0						

*NEIC **19** 17:37:47.3±2.6,51.18N±0.05×174.13W±0.07,h10km±2km, mb4.0/23,ML3.3/19(AEIC), Error ellipse: s-maj=9.3km s-min=5.3km az=142.0*
*AEIC **19** 17:37:50±5.3,51.31N±0.05×174.30W±0.07,h5km±6km, Error ellipse: s-maj=8.1km s-min=5.6km az=145.0*
*IDC **19** 17:38:09.4±13.0,52.52N×174.51W,h143km±111km, mb2.6/3,mb1 3.0/5,mb1mx2.8/52,mbtmp3.3/5,ML3.8/2, Error ellipse: s-maj=124.9km s-min=26.2km az=10.0*

ISC 19 17:37:52.0±1.8,51.3N±0.1×174.12W±0.06,h51km±17km, n56,σ1$06/54,mb3.4/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.91	357		Pn	17 38 08.1	-0.4
ATKA					Sn	17 38 21.6	+1.0
KOFP	Korovin Flat P	0.98	1		Pn	17 38 09.7	+0.2
KOKL	Mount Kliuchef	1.03	357		Pn	17 38 10.2	0.0
KOKL					Sn	17 38 24.1	+0.4
GSMY	Great Sitkin M	1.42	303		Pn	17 38 14.5	-0.8
GSMY					Sn	17 38 34.0	+1.0
GSTR	Great Sitkin T	1.45	304		Pn	17 38 14.7	-1.1
GSCK	Great Sitkin C	1.46	300		Pn	17 38 15.3	-0.6
GSTD	Great Sitkin T	1.47	302		Pn	17 38 15.6	-0.6
GSTD					Sn	17 38 35.4	+1.1
ADK	Adak	1.70	291		Pn	17 38 18.4	-0.8
ADK					Sn	17 38 39.2	-0.6
KIWB	Kanaga Island	1.97	288		Pn	17 38 22.6	-0.3
KIKV	Kanaga Island	1.99	288		Pn	17 38 23.0	-0.1
KIMD	Kanaga Island	2.00	285		Pn	17 38 23.3	+0.1
TAPA	Tanaga Point A	2.36	284		Pn	17 38 28.5	+0.2
TAFP	Tanaga Falls P	2.48	286		Pn	17 38 30.3	+0.4
TASE	Tanaga Southea	2.50	284		Pn	17 38 30.9	+0.7
GALAA	Gareloi Lava P	2.94	281		Pn	17 38 36.8	+0.7
GANO	Gareloi North	2.97	282		Pn	17 38 37.1	+0.5
NIKH	Nikolski High	3.66	61	Pn	Pn	17 38 46.6	+0.7
UNV	Unalaska Valle	5.30	58	Pn	Pn	17 39 08.5	0.0
SDPT	Sand Point	9.12	58	Pn	Pn	17 40 01.0	+0.3
OHAK	Old Harbor	13.52	56	Pn	Pn	17 40 58.1	-2.7
KDAK	Kodiak Island	14.05	54	P	P	17 41 16.8	+2.4
	0.8nm,0.3s,baz=305,slow=5.1,SNR=9.4						
KDAK	Kodiak Island	14.05	54		Pn	17 41 06.3	-1.7
ANM	Nome	14.07	16	Pn	Pn	17 41 09.7	+1.5
TTA	Tatalina	15.18	33	Pn	Pn	17 41 22.8	-0.1
TTA				IAmb	IAmb	17 41 53.4	
	comp=Z,4.9nm,1.2s						
CNPM	China Poot	15.32	49	Pn	Pn	17 41 25.2	+0.5
BRLK	Bradley Lake	15.58	48	Pn	Pn	17 41 27.4	-0.6
BRLK				IAmb	IAmb	17 41 30.0	
	comp=Z,17nm,1.2s						
SEW	Seward	16.38	48	Pn	Pn	17 41 37.5	-0.5
PPLA	Purkeypile	16.54	37	Pn	Pn	17 41 39.3	-0.9
PPLA				IAmb	IAmb	17 42 02.0	
	comp=Z,33nm,1.6s						
J20K	Nowinta River	16.64	32	Pn	P	17 41 42.2	-0.9
GHO	Glory Hole Cre	17.29	43	Pn	Pn	17 41 49.5	0.0
GHO				IAmb	IAmb	17 42 11.1	
	comp=Z,19nm,1.3s						
KTH	Kantishna Hill	17.38	36		P	17 41 51.2	-0.2
KTH				IAmb	IAmb	17 42 14.2	
	comp=Z,13nm,1.4s						
SML	Sawmill	17.56	43	Pn	Pn	17 41 51.7	-1.1
DHY	Denali Highway	18.52	40	P	P	17 42 01.9	-2.1
DHY				IAmb	IAmb	17 42 03.5	
	comp=Z,13nm,1.4s						
M24K	Tolsona, Glenn	18.61	44	P	Pn	17 42 05.2	-0.4
WRH	Wood River Hil	18.93	36	P	P	17 42 07.4	-0.9
WRH				IAmb	IAmb	17 42 16.5	
	comp=Z,9.7nm,1.5s						
CCB	Clear Creek Bu	19.13	36	P	P	17 42 09.6	-0.8
HDA	Harding Lake	19.32	37	P	Pn	17 42 13.4	-0.6
HDA				IAmb	IAmb	17 42 27.4	
	comp=Z,11nm,1.5s						
IL31		19.53	36	P	P	17 42 12.7	-2.1
ILAR	Eielson Array	19.53	36	P	Pn	17 42 16.4	-0.1
	comp=Z,0.2nm,0.3s,baz=238,slow=8.6,SNR=13						
ILAR	Eielson Array	19.53	36	P	P	17 42 13.3	-1.5
RIDG	Independent Ri	19.83	40	P	P	17 42 18.3	+0.1
RIDG				IAmb	IAmb	17 42 41.2	
	comp=Z,17nm,1.6s						
DOT	Dot Lake	20.11	41	P	P	17 42 20.6	-0.6
DOT				IAmb	IAmb	17 42 34.4	
	comp=Z,5.5nm,1.1s						
SCRK	Sand Creek	20.28	40	P	P	17 42 23.5	+0.4
SCRK				IAmb	IAmb	17 42 37.6	
	comp=Z,10nm,1.4s						
LOGN	Logan Glacier	20.59	50	P	P	17 42 23.9	-2.6
TOLK	Toolik Lake Re	21.02	25	P	P	17 42 30.5	-0.5
SEY	Seymchan	21.31	316	P	P	17 42 32.6	-1.4
	comp=Z,0.1nm,0.3s,baz=178,slow=23,SNR=3.1						
A21K	Barrow	21.61	15	P	P	17 42 37.5	+0.4
A21K				IAmb	IAmb	17 42 44.3	
	comp=Z,6.7nm,0.6s						
EGAK	Eagle	21.73	39	P	P	17 42 38.5	0.0
EGAK				IAmb	IAmb	17 42 50.2	
	comp=Z,12nm,1.4s						
H11N2	WAKE ISLAND Hy	34.86	212	T	T	18 22 50.2	
	baz=21						
H11N3	WAKE ISLAND Hy	34.87	212	T	T	18 22 50.4	
	baz=21						
H11N1	WAKE ISLAND Hy	34.88	212	T	T	18 22 47.3	
	baz=21						
H11S1	WAKE ISLAND Hy	36.07	212	T	T	18 24 09.9	
	baz=20,slow=75,SNR=9.3						
H11S2	WAKE ISLAND Hy	36.08	212	T	T	18 24 06.6	
	baz=20,slow=75,SNR=8.0						
H11S3	WAKE ISLAND Hy	36.08	212	T	T	18 24 04.1	
	baz=20,slow=75,SNR=4.3						
PDAR	Pinedale Array	43.52	75	P	P	17 45 57.5	+7.0
	comp=Z,0.2nm,0.5s,baz=284,slow=3.6,SNR=1.7						
MKAR	Makanchi Array	62.34	311	P	P	17 48 10.4	+1.6
	comp=Z,0.1nm,0.3s,baz=53,slow=6.3,SNR=1.8						

IDC 19 17:38:00.2±1.6,3.69S×126.76E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.2/34,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=35.0km s-min=26.2km az=77.0,Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.30	58	Pn	Pn	17 39 22.1	+1.4
	3.1nm,0.3s,baz=246,slow=20,SNR=23						
SIJI				Sn	Sn	17 40 22.8	+0.2
	baz=276,slow=22,SNR=1.3						
WRA	Warramunga Arr	17.76	156	P	Pn	17 42 08.7	-0.4
	0.1nm,0.3s,baz=337,slow=12,SNR=8.0						
ASAR	Alice Springs	21.02	161	P	P	17 42 45.0	-0.7
	1.5nm,0.8s,baz=343,slow=11,SNR=15						
MKAR	Makanchi Array	63.72	328	P	P	17 48 33.9	+0.1
	0.2nm,0.4s,baz=132,slow=8.6,SNR=5.9						

IDC 19 17:45:15.8±2.3,5.32S×145.43E,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.3/29,mbtmp3.6/5,ML3.7/1,Error ellipse: s-maj=50.5km s-min=29.2km az=89.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.41	157	Pn	Pn	17 46 25.3	+1.3
	0.8nm,0.3s,baz=33,slow=9.9,SNR=17						
PMG				Sn	Sn	17 47 10.6	-5.4
	2.8nm,0.3s,baz=230,slow=16,SNR=7.1						
WRA	Warramunga Arr	18.10	216	P	P	17 49 29.6	+0.2
	0.3nm,0.3s,baz=45,slow=12,SNR=24						
ASAR	Alice Springs	21.35	210	P	P	17 50 03.7	-1.2
	1.2nm,0.8s,baz=52,slow=8.4,SNR=14						
FITZ	Fitzroy Crossi	23.13	235	P	P	17 50 24.0	+0.2
	2.9nm,0.7s,baz=55,slow=8.8,SNR=9.8						
SONM	Songino Array	63.06	332	P	P	17 55 45.0	-0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.0						

*IDC **19** 17:48:52.0±2.8,3.90S×130.82E,h0km,mb3.1/1, mb1 3.4/4,mb1mx3.1/30,mbtmp3.2/4,ML3.1/3,Error ellipse: s-maj=133.6km s-min=30.2km az=75.0*
*DJA **19** 17:48:58.5±1.1,4°S±7°×13°0E±°,h21km±12km,M3.3/6, MLv3.3/6*

ISC 19 17:48:53.1±1.0,4.06S±0.07×129.98E±0.07,h10km,n9, σ1$45/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.27	304	P	Pg	17 49 18.8	+1.4
MSAI				S	Sb	17 49 31.6	-1.8
AAI	Ambon	1.82	282	P	Pg	17 49 28.2	+0.2
AAI				S	Sg	17 49 50.4	-1.3
SWI	Sorong	3.42	22	P	Pn	17 49 44.6	-1.9
SWI				S	Sn	17 50 17.1	-10
LBMI	Labuha	4.21	324	P	Pn	17 49 56.9	-0.4
SANI	Sanana	4.46	296	P	Pn	17 50 00.6	-0.2
FITZ	Fitzroy Crossi	14.59	197	Pn	P	17 52 25.4	-0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=2.0						
FITZ				Sn	Sn	17 55 01.2	-0.4
	0.0nm,0.3s,baz=150,slow=12,SNR=1.4						
WRA	Warramunga Arr	16.35	165	Pn	Pn	17 52 42.7	-0.2
	0.1nm,0.3s,baz=349,slow=11,SNR=1.8						
WRA				Sn	Sn	17 55 32.9	-12
	0.1nm,0.3s,baz=358,slow=24,SNR=1.5						
ASAR	Alice Springs	19.86	169	P	P	17 53 25.0	+0.5
	0.2nm,0.3s,baz=350,slow=11,SNR=12						
MKAR	Makanchi Array	65.78	326	P	P	17 59 41.1	+2.7
	0.1nm,0.4s,baz=112,slow=6.4,SNR=1.6						

IDC 19 17:57:47.8±2.4,4.26N×123.60E,h554km±31km,mb2.8/4, mb1 3.0/4,mb1mx2.4/36,mbtmp3.8/4,Error ellipse: s-maj=135.5km s-min=14.3km az=65.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.26	157	P	P	18 02 39.2	-0.4
	1.1nm,0.3s,baz=334,slow=9.8,SNR=39						
ASAR	Alice Springs	29.52	161	P	P	18 03 08.2	+0.2
	0.5nm,0.3s,baz=340,slow=7.0,SNR=14						
ASAR				ScP	ScP	18 08 44.8	-0.6
	0.2nm,0.6s,baz=346,slow=2.8,SNR=4.9						
SONM	Songino Array	45.87	344	P	P	18 05 20.9	0.0
	0.2nm,0.5s,baz=169,slow=8.1,SNR=3.3						
MKAR	Makanchi Array	55.37	327	P	P	18 06 29.7	-0.1
	0.8nm,0.3s,baz=122,slow=7.7,SNR=27						
MKAR				PcP	PcP	18 07 21.6	-0.4
	0.2nm,0.6s,baz=142,slow=3.1,SNR=1.6						

IDC 19 18:06:41.9±1.3,3.02N×125.79E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.4/64,mbtmp3.5/5,MS2.3/1,Ms1 2.3/1, ms1mx2.0/49,Error ellipse: s-maj=145.4km s-min=20.2km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.03	357	LR	LR	18 09 01.7	
	comp=Z,39nm,19.6s,baz=300,slow=35						
WRA	Warramunga Arr	24.32	160	P	P	18 12 01.1	-0.4
	1.3nm,0.8s,baz=339,slow=11,SNR=16						
ASAR	Alice Springs	27.68	164	P	P	18 12 32.8	+0.9
	0.3nm,0.7s,baz=357,slow=8.0,SNR=5.8						
SONM	Songino Array	47.68	342	P	P	18 15 20.5	+0.3
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.2						
MKAR	Makanchi Array	57.61	326	P	P	18 16 33.0	-0.8
	0.5nm,0.7s,baz=115,slow=7.9,SNR=6.4						
KURBB	Kurchatov Arra	61.83	328	P	P	18 17 02.7	0.0
	0.5nm,0.6s,baz=128,slow=6.1,SNR=5.3						

*NEIC **19** 18:36:20.1±1.9,37.3S±0.1×94.7W±0.2,h14km±4km, mb4.9/120,Error ellipse: s-maj=19.9km s-min=15.8km az=100.0*
*IDC **19** 18:36:21.3±0.6,37.39S×94.31W,h0km,mb4.4/11, mb1 4.6/12,mb1mx4.4/25,mbtmp4.4/12,ML4.1/1,MS4.1/41, Ms1 4.1/41,ms1mx4.1/51,Error ellipse: s-maj=21.1km s-min=18.5km az=117.0*
*GCMT **19** 18:36:24.1±0.2,37.29S±0.01×94.63W±0.01,h24km±1km, MW5.1/127,Moment Tensor Solution. s57,c70; s127,c181; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.94±.19; Mθθ1.06±.16; Mϕϕ-0.12±.15; Mrθ-0.57±.22; Mθϕ-6.14±.13; Mϕr-0.61±.21; Best double couple: M₀6.24000×10¹⁶ NP1:ϕs357.00000°,δ83.00000°, λ-7.00000°. NP2:ϕs88.00000°,δ83.00000°,λ-173.00000°. Principal axes: T 6.6370, Plg0.0000°, Azm222.0000°; N -0.8000, Plg80.0000°, Azm132.0000°; P -5.8420, Plg10.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:36:20.4±0.5,37.19S±0.08×94.63W±0.07,h10km,n231, σ1$31/180,mb4.9/52,MS4.2/41,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	13.22	80	T	T	18 53 05.9	
	baz=264						
H03S1	Juan Fernandez	13.24	80	T	T	18 53 02.2	
	baz=264						
H03S3	Juan Fernandez	13.24	80	T	T	18 53 03.7	
	baz=264						
H03N2	Juan Fernandez	13.35	78	T	T	18 53 07.1	
	baz=249,slow=71,SNR=1001						
H03N3	Juan Fernandez	13.36	78	T	T	18 53 07.5	
	baz=249,slow=71,SNR=989						
H03N1	Juan Fernandez	13.37	78	T	T	18 53 10.0	
	baz=249,slow=71,SNR=939						
RPN	Rapa Nui	15.97	305	LR	LR	18 44 00.7	
	comp=Z,284nm,19.1s,baz=102,slow=28						
LL05	Los Muermos	16.90	111	P	Pn	18 40 18.6	+1.7
LL05				IAmb	IAmb	18 40 23.3	
	comp=Z,218nm,1.3s						
GO07	Milladeo Hill,	17.07	117	P	Pn	18 40 19.5	+0.5
GO07				IAmb	IAmb	18 40 25.0	
	comp=Z,109nm,1.2s						
LR03	Panguipulli	17.63	105		P	18 40 28.1	+1.0
LL04	Puerto Octay	17.65	109		Pn	18 40 25.2	-1.1
LL03	Petrohue	17.67	110	P	Pn	18 40 25.4	-1.2
LL03				IAmb	IAmb	18 40 41.5	
	comp=Z,68nm,1.0s						
LC01	Cunco	18.00	102		Pn	18 40 29.8	-0.9
AY01	Puyuhuapi	18.11	120	P	Pn	18 40 29.8	-2.1
AY01				IAmb	IAmb	18 40 36.5	
	comp=Z,158nm,1.6s						
LL02	Futaleuf	18.39	116	P	Pn	18 40 34.3	-1.1
GO05	Huala	18.47	90	P	P	18 40 34.8	-1.6
ML02	Panimavida	18.72	93	P	P	18 40 38.2	-0.8
ML02				IAmb	IAmb	18 41 09.7	
	comp=Z,73nm,1.3s						
COYC	Coyhaique	18.84	123	P	P	18 40 37.5	-2.7
PLCA	Paso Flores	19.04	108	P	P	18 40 43.4	+0.8
	comp=Z,0.1nm,0.3s,baz=274,slow=11,SNR=9.1						
PLCA				LR	LR	18 46 13.9	
	comp=Z,451nm,19.8s,baz=274,slow=32						
PLCA	Paso Flores	19.04	108	P	P	18 40 40.2	-2.4
PLCA	Paso Flores	19.04	108	eP	P	18 40 44.1	+1.4
BO01	Tunca	19.30	89	P	P	18 40 44.1	-1.2
MT01	Popeta	19.31	87	P	P	18 40 45.0	-0.5
BO02	Sierra Bellavi	19.44	90	P	P	18 40 46.2	-0.8
MT09	Talagante	19.54	87	P	P	18 40 47.0	-1.2
MT02	Curacav	19.58	85	P	P	18 40 47.6	-0.9
VA06	Catapilco	19.68	83	P	P	18 40 48.5	-1.0
VA06				IAmb	IAmb	18 40 52.9	
	comp=Z,126nm,1.6s						
BO04	La Punta	19.78	88	P	P	18 40 50.5	-0.3
BO04				IAmb	IAmb	18 41 00.9	
	comp=Z,79nm,1.4s						
MT05	Renca	19.85	86	P	P	18 40 49.6	-2.0
MT05				IAmb	IAmb	18 40 55.9	
	comp=Z,141nm,1.4s						
PEL	Peldehue	19.97	85	P	P	18 40 51.4	-1.4
PEL				IAmb	IAmb	18 41 03.2	
	comp=Z,82nm,1.4s						
MT03	Universidad Ad	20.00	87	P	P	18 40 51.6	-1.6
MT03				IAmb	IAmb	18 40 59.4	
	comp=Z,47nm,1.0s						
CO06	Fray Jorge	20.13	78	P	P	18 40 54.2	-0.3
LMEL	Las Melosas	20.15	88	P	P	18 40 54.1	-0.7
VA03	San Esteban	20.20	85	P	P	18 40 54.1	-1.3
CO02	Combarbal	20.41	80	P	P	18 40 56.0	-1.7
CO02				IAmb	IAmb	18 41 02.7	
	comp=Z,82nm,1.1s						
CO03	El Pedregal	20.80	79	P	P	18 41 01.1	-0.8
CO03				IAmb	IAmb	18 41 06.7	
	comp=Z,55nm,1.2s						
GO04	Tololo Observa	21.00	78	P	P	18 41 02.0	-2.2
GO04				IAmb	IAmb	18 41 19.0	
	comp=Z,53nm,0.7s						
MG05	Puerto Natales	21.32	140	P	P	18 41 04.4	-2.8
MG05				IAmb	IAmb	18 41 09.3	
	comp=Z,83nm,1.0s						
LCO	Las Campanas	21.60	75	P	P	18 41 11.7	+0.9
LCO				IAmb	IAmb	18 41 14.4	
	comp=Z,42nm,1.1s						
AC04	Llanos de Chal	21.71	72	P	P	18 41 10.3	-1.3
AC04				IAmb	IAmb	18 41 23.1	
	comp=Z,95nm,1.6s						
ZON	Zonda	22.12	83	P	P	18 41 15.7	-0.4
GO03	Copiap	22.66	72	P	P	18 41 21.4	-0.4
GO03				IAmb	IAmb	18 41 40.2	
	comp=Z,35nm,0.7s						
AC06	Mina Casimiro	22.69	71	P	P	18 41 21.9	-0.2
AC06				IAmb	IAmb	18 41 36.2	
	comp=Z,37nm,1.1s						
AC02	Maricunga	23.89	72	P	P	18 41 33.8	-1.0
AC02				IAmb	IAmb	18 41 38.7	
	comp=Z,26nm,0.8s						
PB14	IPOC Station P	24.19	66	P	P	18 41 36.5	-0.9
PB14				IAmb	IAmb	18 41 38.7	
	comp=Z,32nm,1.1s						
GO02	Mina Guanaco	24.47	68	P	P	18 41 39.1	-0.9
GO02				IAmb	IAmb	18 41 53.1	
	comp=Z,27nm,0.9s						
DSPA	Despedida	24.72	141	P	P	18 41 39.8	-1.7
MG01	Puerto William	25.56	143	P	P	18 41 47.1	-2.0
PB15	IPOC Station P	25.73	64	P	P	18 41 50.9	-0.3
PB04	IPOC Station P	25.80	62	P	P	18 41 52.5	+0.7
PB04				IAmb	IAmb	18 41 55.8	
	comp=Z,53nm,1.1s						
PB06	IPOC Station P	25.97	63	P	P	18 41 53.2	-0.1
PB07	IPOC Station P	26.38	61	P	P	18 41 57.3	+0.2
PB07				IAmb	IAmb	18 42 36.0	
	comp=Z,39nm,1.3s						
LVC	Limon Verde	26.50	64	P	P	18 41 59.5	+1.0
	comp=Z,12nm,0.9s,baz=223,slow=8.9,SNR=7.5						
LVC				LR	LR	18 49 38.8	
	comp=Z,1μm,21.7s,baz=233,slow=30						
LVC	Limon Verde	26.50	64	P	P	18 41 57.6	-0.8
LVC	Limon Verde	26.50	64	eP	P	18 41 57.3	-1.1
PB02	IPOC Station P	26.64	60	P	P	18 41 58.4	-1.0
PB02				IAmb	IAmb	18 42 02.8	
	comp=Z,26nm,1.1s						
PB09	IPOC Station P	26.79	62	P	P	18 42 00.4	-0.4
PB09				IAmb	IAmb	18 42 21.0	
	comp=Z,53nm,1.2s						
PATCX	Punta Patache	26.80	59	P	P	18 42 00.5	-0.2
PATCX				IAmb	IAmb	18 42 05.0	
	comp=Z,34nm,1.0s						
TA01	Diego Aracena	26.95	59	P	P	18 42 01.1	-1.0
TA01				IAmb	IAmb	18 42 05.2	
	comp=Z,37nm,1.1s						
PB01	IPOC Station P	27.11	61	P	P	18 42 02.7	-0.9
PB01				IAmb	IAmb	18 42 05.4	
	comp=Z,32nm,1.5s						
TA02	Huaiquique	27.19	58	P	P	18 42 03.8	-0.4
TA02				IAmb	IAmb	18 42 07.9	
	comp=Z,26nm,1.0s						
PB11	IPOC Station P	27.86	58	P	P	18 42 10.8	+0.4
PB11				IAmb	IAmb	18 42 19.2	
	comp=Z,33nm,1.0s						
PB08	IPOC Station P	27.94	60	P	P	18 42 10.7	-0.8
PB08				IAmb	IAmb	18 42 15.7	
	comp=Z,28nm,1.1s						
GO01	Chusmiza	28.24	59	P	P	18 42 13.0	-1.2
GO01				IAmb	IAmb	18 42 18.0	
	comp=Z,18nm,0.9s						
PB16	IPOC Station P	28.96	56	P	P	18 42 19.5	-1.1
NNA	Nana	29.74	37	LR	LR	18 51 13.4	
	comp=Z,945nm,19.9s,baz=213,slow=30						
LPAZ	La Paz	31.34	55	P	P	18 42 43.3	+1.6
	comp=Z,28nm,0.9s,baz=188,slow=3.9,SNR=39						
LPAZ				LR	LR	18 52 23.6	
	comp=Z,512nm,21.7s,baz=240,slow=31						
LPAZ	La Paz	31.34	55	P	P	18 42 41.9	+0.1
ITQB	Itaqui	32.43	88	eP	P	18 42 50.9	+0.3
PMSA	Palmer Station	33.03	156	LR	LR	18 52 34.4	
	comp=Z,293nm,20.1s,baz=290,slow=30						
CPUP	Villa Florida	33.32	82	P	P	18 42 57.4	-1.0
	comp=Z,2.3nm,0.8s,baz=210,slow=8.5,SNR=4.1						
CPUP				LR	LR	18 54 12.2	
	comp=Z,311nm,20.7s,baz=248,slow=32						
CPUP	Villa Florida	33.32	82	IAmb	IAmb	18 43 00.2	
	comp=Z,25nm,1.7s						
CPUP	Villa Florida	33.32	82	eP	P	18 42 57.6	-0.9
PLTB	Pedras Altas	34.06	93	eP	P	18 43 05.5	+0.7
CZSB	Cruzeiro do Su	35.45	40	eP	P	18 43 18.2	+1.3
SIV	San Ignacio	36.40	64	LR	LR	18 56 16.4	
	comp=Z,393nm,21.4s,baz=263,slow=33						
ITAB	Concordia	37.04	87	eP	P	18 43 30.8	+0.4
ETMB	Extrema	37.42	51	eP	P	18 43 33.9	+0.1
AQDB	Aquidauana	37.65	75	P	P	18 43 35.2	-0.5
AQDB				IAmb	IAmb	18 43 36.7	
	comp=Z,19nm,1.0s						
AQDB	Aquidauana	37.65	75	eP	P	18 43 35.6	-0.1
PTLB	Pontes e Lacer	38.16	65	eP	P	18 43 40.9	+0.9
PTGB	Pitanga	38.26	83	eP	P	18 43 41.3	+0.3
VILB	Vilhena	39.09	61	eP	P	18 43 48.0	+0.2
OTAV	Otavalo	40.14	26	P	P	18 43 55.2	-1.9
OTAV	Otavalo	40.14	26	eP	P	18 43 58.6	+1.5
SALV	Santo Antonio	40.40	69	eP	P	18 43 59.5	+0.8
PCMB	Pacaembu	40.48	80	eP	P	18 43 59.8	+0.3
FRTB	Fartura	40.93	83	eP	P	18 44 02.6	-0.5
PET01	Itanhaem-SP	42.28	86	eP	P	18 44 13.9	-0.2
PDRB	Porto dos Gac	42.46	63	eP	P	18 44 16.4	+0.7
BB19B	Bebedouro	42.93	81	eP	P	18 44 19.9	+0.4
VAO	Valinhos	43.16	85	eP	P	18 44 22.0	+0.5
CLDB	Colider	43.63	63	eP	P	18 44 24.9	-0.2
IPMB

BOAV	Boa Vista	50.53	47	*e*P		P	18 45 19.3	+0.3	
SDBA	SAO DESIDERIO	50.74	74	*e*P		P	18 45 21.3	+0.6	
SMTB	Santa Maria do	50.96	69	*e*P		P	18 45 23.6	+1.3	
SDV	Santo Domingo	51.05	31	LR		LR	19 04 45.9		
	comp=Z,595nm,21.9s,baz=202,slow=33								
SDV	Santo Domingo	51.05	31	P		P	18 45 22.0	-1.1	
SDV	Santo Domingo	51.05	31	*e*P		P	18 45 22.9	-0.3	
PRPB	Parauapebas	51.13	64	*e*P		P	18 45 24.0	+0.4	
MALB	Monte Alegre	51.13	56	*e*P		P	18 45 23.7	+0.2	
MTO3	Montecristo	51.55	7	P		P	18 45 26.6	-0.2	
PPT2	Papeete2	51.81	277	*e*S		S	18 52 49.4	-1.8	
	comp=Z,282nm,27.0s								
PPT2				*e*LR		LR	19 00 26.9		
	comp=Z,237nm,25.2s								
PPT	Papeete	51.82	277	LR		LR	19 01 28.2		
	comp=Z,60nm,21.4s,baz=130,slow=29								
GUA01	Guaratinga, BA	52.27	82	*e*P		P	18 45 32.4	+0.3	
QSPA	South Pole Qui	53.03	180	P		P	18 45 38.5	+1.2	
	comp=Z,1.7nm,0.7s,baz=145,slow=3.1,SNR=9.7								
QSPA				LR		LR	19 04 02.5		
	comp=Z,198nm,20.5s,baz=128,slow=31								
QSPA	South Pole Qui	53.03	180	IAmb		IAmb	18 47 01.0		
	comp=Z,30nm,1.8s								
CMC01	Camacan, BA	53.19	81	*e*P		P	18 45 39.6	+0.7	
CCIG	Comitan	53.23	3	P		P	18 45 38.6	-0.7	
NBIT	Itapeh - BA	53.51	81	*e*P		P	18 45 42.5	+1.2	
MCPB	Macapa, AP	53.71	57	*e*P		P	18 45 42.7	-0.1	
CMIG	Matias Romero	53.99	360	LR		LR	19 03 00.8		
	comp=Z,253nm,20.3s,baz=196,slow=30								
GDU01	Guandu, BA	54.10	80	*e*P		P	18 45 46.4	+0.8	
BIRV	Birongo	54.38	35	P		P	18 45 46.2	-1.3	
SNAA	Sanae	55.73	158	LR		LR	19 04 42.5		
	comp=Z,130nm,21.9s,baz=10.0,slow=31								
VNDA	Vanda	56.85	195	P		P	18 46 06.7	+2.2	
	comp=Z,4.9nm,1.1s,baz=136,slow=7.4,SNR=4.9								
VNDA				LR		LR	19 05 26.5		
	comp=Z,135nm,20.8s,baz=117,slow=31								
NBLA	Lagarto - SE	57.12	78	*e*P		P	18 46 07.5	+0.1	
MDP	Montagnes des	57.45	52	LR		LR	19 08 10.2		
	comp=Z,429nm,21.6s,baz=235,slow=33								
NBPB	Pedra_Branca-C	59.12	72	*e*P		P	18 46 22.2	+0.9	
ZAIG	Zacatecas	60.10	352	P		P	18 46 27.5	-0.6	
ZAIG				IAmb		IAmb	18 46 39.2		
	comp=Z,30nm,1.7s								
BIM	Bigot	60.36	38	P		P	18 46 28.1	-1.6	
MPOM	Morne Pois Mar	60.40	38	P		P	18 46 30.1	+0.1	
PDPR	Patillas Dam,	61.18	31	P		P	18 46 33.3	-1.9	
SJG	San Juan	61.21	31	LR		LR	19 12 22.3		
	comp=Z,136nm,18.0s,baz=246,slow=35								
SJG	San Juan	61.21	31	P		P	18 46 33.5	-1.9	
CDVI	St. Croix	61.47	33	P		P	18 46 36.5	-0.7	
RCBR	Riachuelo	61.76	75	LR		LR	19 12 23.1		
	comp=Z,443nm,18.6s,baz=2.5,slow=35								
HPIG		64.62	349	P		P	18 46 57.7	-0.5	
TXAR	Lajitas Array	66.71	351	P		P	18 47 15.8	+4.3	
	comp=Z,1.4nm,0.8s,baz=171,slow=7.8,SNR=9.0								
TXAR	Lajitas Array	66.71	351	P		P	18 47 12.4	+0.8	
TX31	Lajitas Ar. Si	66.71	351	P		P	18 47 11.4	-0.2	
TX32	Lajitas Array	66.71	351	P		P	18 47 11.0	-0.6	
TX32				IAmb		IAmb	18 47 29.2		
	comp=Z,18nm,1.6s								
BKZ	Black Stump Fm	67.00	238	P		P	18 47 11.8	-1.7	
URZ	Urewera	67.03	239	LR		LR	19 08 59.8		
	comp=Z,330nm,21.8s,baz=190,slow=29								
SNZO	South Karori	67.12	235	P		P	18 47 10.5	-3.6	
RPZ	Rata Peaks	68.23	231	LR		LR	19 09 00.2		
	comp=Z,188nm,19.8s,baz=112,slow=29								
250A	Grady	69.25	8	P		P	18 47 26.2	-1.1	
MNTX	Cornudas Mount	69.26	350	P		P	18 47 27.4	-0.1	
152A	Waverly Hall	70.11	9	P		P	18 47 33.8	+1.2	
152A				IAmb		IAmb	18 47 43.0		
	comp=Z,18nm,1.2s								
Z47A	Carrollton	70.29	6	P		P	18 47 33.6	-0.1	
Z47A				IAmb		IAmb	18 47 40.3		
	comp=Z,17nm,0.9s								
Z51A	Franklin	70.69	8	P		P	18 47 36.9	+0.7	
214A	Organ Pipe Nat	70.85	344	P		P	18 47 36.5	-0.8	
214A				IAmb		IAmb	18 47 48.1		
	comp=Z,15nm,1.7s								
MSTX	Muleshoe	71.20	353	P		P	18 47 37.9	-1.5	
MSTX				IAmb		IAmb	18 47 53.4		
	comp=Z,8.2nm,0.8s								
NHSC	New Hope	71.22	13	P		P	18 47 38.2	-1.1	
Y52A	Lilburn	71.37	9	P		P	18 47 38.7	-1.6	
Y52A				IAmb		IAmb	18 47 45.0		
	comp=Z,12nm,1.1s								
OXF	Oxford	71.50	5	P		P	18 47 39.9	-1.1	
AFI	Afiamalu	71.56	266	LR		LR	19 11 13.0		
	comp=Z,88nm,19.0s,baz=123,slow=29								
X48A	Hartselle	71.62	7	P		P	18 47 41.3	-0.5	
X48A				IAmb		IAmb	18 48 00.4		
	comp=Z,8.8nm,1.1s								
BNM	Barren Site	71.85	350	P		P	18 47 44.0	+0.5	
X51A	Calhoun	71.97	8	P		P	18 47 44.2	+0.3	
X51A				IAmb		IAmb	18 47 48.5		
	comp=Z,18nm,1.1s								
HODGE	Hodges	71.98	11	P		P	18 47 43.6	-0.3	
AMTX	Amarillo	72.00	354	P		P	18 47 44.4	+0.2	
AMTX				IAmb		IAmb	18 47 58.5		
	comp=Z,13nm,1.0s								
W41B	Gary Mavity, V	72.03	2	P		P	18 47 42.3	-1.9	
W41B				IAmb		IAmb	18 48 00.1		
	comp=Z,17nm,1.6s								
WHAR	Wooly Hollow	72.14	2	P		P	18 47 44.3	-0.6	
WHAR				IAmb		IAmb	18 47 50.4		
	comp=Z,31nm,1.7s								
RMX	La Rumorosa	72.26	341	P		P	18 47 44.0	-1.9	
ANMO	Albuquerque	72.61	350	LR		LR	19 15 31.9		
	comp=Z,141nm,18.8s,baz=168,slow=32								
ANMO	Albuquerque	72.61	350	P		P	18 47 48.2	+0.3	
PAULI	Pauline	72.63	11	P		P	18 47 47.1	-0.7	
PAULI				IAmb		IAmb	18 47 52.2		
	comp=Z,15nm,1.0s								
BG3	Lake Jocassee	72.63	10	P		P	18 47 45.5	-2.3	
BG3				IAmb		IAmb	18 47 53.5		
	comp=Z,25nm,1.3s								
TKL	Tuckaleechee C	73.18	9	LR		LR	19 17 08.1		
	comp=Z,125nm,18.2s,baz=176,slow=33								
V53A	Saluda	73.32	10	P		P	18 47 52.2	+0.3	
V53A				IAmb		IAmb	18 48 03.2		
	comp=Z,11nm,0.9s								
PFO	Pinyon Flats O	73.32	341	LR		LR	19 13 48.7		
	comp=Z,95nm,18.3s,baz=132,slow=30								
U49A	Red Boiling Sp	73.79	7	P		P	18 47 53.9	-0.8	
U49A				IAmb		IAmb	18 48 05.0		
	comp=Z,13nm,1.1s								
MAW	Mawson	74.15	171	LR		LR	19 19 28.5		
	comp=Z,124nm,18.1s,baz=240,slow=35								
CCUT	Cedar City	76.36	345	P		P	18 48 07.5	-2.3	
MSVF	Nonsavu	77.42	257	LR		LR	19 17 34.7		
	comp=Z,45nm,19.6s,baz=113,slow=32								
NVAR	Mina Array Bea	78.35	341	P		P	18 48 25.6	+4.7	
	comp=Z,1.0nm,0.7s,baz=165,slow=5.7,SNR=8.5								
NVAR				LR		LR	19 15 32.9		
	comp=Z,75nm,19.2s,baz=188,slow=30								
NVAR	Mina Array Bea	78.35	341	P		P	18 48 21.6	+0.7	
BEKR	Beckworth	80.24	340	P		P	18 48 29.1	-2.1	
PDAR	Pinedale Array	80.73	349	P		P	18 48 37.8	+4.0	
	comp=Z,1.9nm,0.8s,baz=160,slow=6.4,SNR=12								
PDAR	Pinedale Array	80.73	349	P		P	18 48 31.5	-2.3	
HLID	Hailey	82.36	346	P		P	18 48 39.8	-2.5	
YBH	Yreka Blue Hor	82.63	339	LR		LR	19 17 20.6		
	comp=Z,85nm,20.8s,baz=166,slow=30								
SADO	Sadowa	82.77	11	LR		LR	19 21 04.2		
	comp=Z,123nm,19.6s,baz=184,slow=32								
YHH	Holmes Hill	82.91	348	P		P	18 48 44.5	-0.8	
YHH				IAmb		IAmb	18 48 57.2		
	comp=Z,14nm,1.6s								
DZM	Mont Dzumac	83.69	247	LR		LR	19 17 29.3		
	comp=Z,115nm,21.1s,baz=82,slow=29								
DZM	Mont Dzumac	83.69	247	*e*LR		LR	19 15 00.3		
	comp=Z,298nm,28.1s								
I07A	Izee	83.98	342	P		P	18 48 49.1	-1.5	
ULM	Lac du Bonnet	87.07	359	LR		LR	19 25 10.8		
	comp=Z,93nm,19.2s,baz=114,slow=34								
STKA	Stephens Creek	93.52	225	LR		LR	19 25 10.5		
	comp=Z,79nm,19.1s,baz=200,slow=31								
BOSA	Boshof	93.62	130	P		P	18 49 38.4	+1.1	
	comp=Z,1.4nm,0.7s,baz=225,slow=1.4,SNR=1.6								
BOSA				LR		LR	19 25 41.5		
	comp=Z,88nm,20.1s,baz=285,slow=32								
DBIC	Dimbokro	93.80	85	LR		LR	19 26 57.5		
	comp=Z,66nm,18.0s,baz=239,slow=32								
SCHQ	Schefferville	94.71	16	LR		LR	19 28 56.2		
	comp=Z,53nm,18.8s,baz=148,slow=33								
TSUM	Tsumeb	95.08	119	LR		LR	19 24 50.4		
	comp=Z,41nm,20.7s,baz=196,slow=31								
HNR	Honiara	96.41	253	LR		LR	19 26 33.0		
	comp=Z,351nm,20.6s,baz=142,slow=31								
LBTB	Lobatse	96.41	128	LR		LR	19 25 30.8		
	comp=Z,62nm,21.2s,baz=212,slow=31								
CTA	Charters Tower	99.19	236	LR		LR	19 27 23.4		
	comp=Z,92nm,20.6s,baz=87,slow=31								
H01W1	Cape Leeuwin H	103.45	204	T		T	20 46 44.8		
	baz=157								
H01W2	Cape Leeuwin H	103.45	204	T		T	20 46 38.3		
	baz=157								
H01W3	Cape Leeuwin H	103.47	204	T		T	20 46 44.6		
	baz=157								
H11S2	WAKE ISLAND Hyl	107.69	280	T		T	20 51 16.5		
	baz=127								
H11S1	WAKE ISLAND Hyl	107.70	280	T		T	20 51 18.5		
	baz=127								
H11S3	WAKE ISLAND Hyl	107.71	280	T		T	20 51 21.3		
	baz=127								
GERES	GERESS Array B	128.15	53	PKP		PKPdf	18 55 27.7	+1.3	
	comp=Z,0.2nm,0.5s,baz=241,slow=2.0,SNR=2.4								
CLL	Collm	128.34	50	*e*SS		SS	19 14 48.0	+0.7	
CLL				*e*SSS		SSS	19 19 30.0		
FINES	FINESS Array B	136.37	37	PKP		PKiKP	18 55 43.9	+0.9	
	comp=Z,2.7nm,0.9s,baz=18,slow=9.4,SNR=2.8								
FINES	FINESS Array B	136.37	37	PKP		PKPdf	18 55 42.9	+1.5	
AKASG	Malin Array Be	138.37	53	PKhKP		PKPpre	18 55 41.3		
	comp=Z,0.5nm,0.5s,baz=267,slow=3.7,SNR=2.4								
AKASG				PKP		pPKPdf	18 55 49.0	+1.4	
	comp=Z,0.2nm,0.3s,baz=265,slow=3.2,SNR=4.6								
AKASG	Malin Array Be	138.37	53			PKPdf	18 55 44.0	-1.4	
BRTR	Keskin Array B	139.87	70	PKP		PKiKP	18 55 51.5	+0.3	
	comp=Z,0.7nm,0.8s,baz=222,slow=1.9,SNR=3.2								
KSRS	Korea Array	146.37	284	PKPbc		PKPab	18 56 03.3	+1.1	
	comp=Z,1.0nm,0.6s,baz=107,slow=4.0,SNR=5.7								
KBZ	Khabaz	147.31	65	PKPbc		PKPab	18 56 07.0	+1.4	
	comp=Z,2.6nm,0.9s,baz=234,slow=5.4,SNR=4.4								
NRIK	Noril'sk	147.77	359	PKPbc		PKiKP	18 56 07.0	+0.8	
	comp=Z,2.8nm,0.7s,baz=43,slow=3.9,SNR=4.2								
CMAR	Chiang Mai Arr	157.86	216	PKPab		PKPab	18 56 50.6	+0.3	
	comp=Z,0.9nm,0.9s,baz=190,slow=2.9,SNR=4.9								
SONM	Songino Array	161.26	311	PKPab		PKPab	18 57 08.0	+3.3	
	comp=Z,0.3nm,0.6s,baz=117,slow=0.3,SNR=2.5								
SONM	Songino Array	161.26	311			PKPab	18 57 06.1	+1.4	
PZH	PanZhiHua	162.50	237	PKP		PKPdf	18 56 19.0	-3.8	
ZALV	Zalesovo Beam	163.23	1	PKP		PKPdf	18 56 23.7	+1.3	
	comp=Z,0.9nm,0.7s,baz=172,slow=2.9,SNR=2.8								

*DJA **19** 18:45:29.8±1.2, 1°S±2°×12°5E±°, h26km±11km, M4.0/19, mb4.2/9, mB4.8/2, MLv3.9/19, Mw(mB)4.0/2*
*IDC **19** 18:45:30.2±2.6, 1°18S×124°66E, h52km±29km, mb3.0/3, mb1 3.5/5, mb1mx3. 1/32, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=27.9km s-min=14.9km az=162.0*
ISC 19 18:45:30.4±0.9, 1°27S±0.05×124°73E±0.04, h50km, n20, σ1§15/25, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANI	Sanana	1.48	122	P		Pn	18 45 53.7	-0.9
SANI				S		Sn	18 46 13.6	+0.8
LUWI	Luwuk	1.97	277	P		Pn	18 46 00.6	-0.7
KMSI	Cibinong	1.98	338	P		Pn	18 46 01.2	-0.3
KMSI				S		Sn	18 46 26.0	+0.9
LBMI	Labuha	2.84	77	P		Pn	18 46 13.5	+0.2
LBMI				S		Sn	18 46 47.0	+0.6
APSI	Ampana	3.10	277	P		Pn	18 46 17.7	+0.9
MRSI	Marisa	3.28	302	P		Pn	18 46 19.6	+0.3
AAI	Ambon	4.21	125	P		Pn	18 46 30.7	-1.5
BBSI	Bau Bau	4.71	207	P		Pn	18 46 40.0	+1.0
MPSI	Mapaga	5.09	288	P		Pn	18 46 44.5	+0.4
	0.1nm17nm,0.7s							
TTSI	Tana Toraja	5.21	250	P		Pn	18 46 46.7	+0.9
	0.1nm16nm,0.8s							
BNSI	Bone	5.56	236	P		Pn	18 46 51.1	+0.4
	0.1nm10nm,0.6s							
SPSI	Sidrap Palu	5.63	242	P		Pn	18 46 52.3	+0.7
	0.3nm2µm57nm,0.4s							
BKSI	Bulukumba	6.11	229	P		Pn	18 47 00.2	+2.0
	0.1nm380nm18nm,0.5s							
KAPI	Kappang	6.21	233	P		Pn	18 47 01.2	+1.7
	4.4nm,0.3s,baz=35,slow=7.9,SNR=13							
KAPI				S		Sn	18 48 08.7	-0.5
	3.1nm,0.3s,baz=114,slow=20,SNR=11							
BSSI	Bau Bau, Buton	6.43	221	P		Pn	18 47 01.4	-1.1
	0.1nm16nm,1.2s							
SWI	Sorong	6.54	87	P		Pn	18 47 01.8	-2.3
	0.1nm16nm,1.0s							
SIJI	Sorong	6.55	87	P		Pn	18 47 04.9	+0.7
	0.7nm,0.3s,baz=286,slow=18,SNR=10.0							
SIJI				S		Sn	18 48 19.1	+1.4
	0.3nm,0.3s,baz=233,slow=20,SNR=1.4							
WRA	Warramunga Arr	20.80	154	P		P	18 50 08.0	+0.3
	1.7nm,0.9s,baz=331,slow=11,SNR=9.5							
ASAR	Alice Springs	23.98	159	P		P	18 50 41.6	+1.2
	0.4nm,0.6s,baz=333,slow=9.0,SNR=13							
MKAR	Makanchi Array	60.60	328	P		P	18 55 34.6	-1.4
	0.1nm,0.5s,baz=112,slow=7.0,SNR=1.9							

*SJA **19** 18:50:24.0±0.8, 33°15S×72°07W, h5km±3km, ML4.0, MW3.8*
*IDC **19** 18:50:25.1±1.1, 33°14S×71°79W, h0km, mb3.8/2, mb1 3.9/7, mb1mx3.8/29, mbtmp3.7/7, ML3.9/5, Error ellipse: s-maj=43.7km s-min=26.3km az=99.0*
*NEIC **19** 18:50:28.6±2.7, 33°187S±0°010×71°81W±0°05, h25km±5km, mb4.3/6, ML4.0(GUC), Error ellipse: s-maj=6.1km s-min=1.5km az=89.0*
*GUC **19** 18:50:29.0±0.7, 33°17S×71°82W, h31km±2km, ML4.0*
ISC 19 18:50:28.1±0.7, 33°17S±0°02×71°90W±0°03, h28km±5km, n126, σ1§94/174, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA01	Torpederas	0.26	56			Pb	18 50 34.8	0.0
VA01				*e*P		Pb	18 50 39.0	-0.4
VA01	Torpederas	0.26	56	*e*P		Pb	18 50 34.6	-0.2
VA01				*e*S		Sb	18 50 38.9	-0.4
VA01				IAML			18 50 39.7	
	comp=N,38µm,0.4s							
VA01	Torpederas	0.26	56	*e*P		Pb	18 50 34.0	-0.8
VA05	Santo Domingo	0.55	154			Pb	18 50 38.9	-0.3
VA05						Sb	18 50 45.6	-1.1
VA05	Santo Domingo	0.55	154	⇓*e*P		Pb	18 50 39.1	-0.1
VA05				*e*S		Sb	18 50 46.6	-0.1
VA05				IAML			18 50 47.2	
	comp=E,14µm,0.3s							
MT02	Curacav	0.65	98			Pb	18 50 40.3	-0.6
MT02						Sb	18 50 48.4	-1.3
MT02	Curacav	0.65	98	⇓*e*P		Pb	18 50 40.6	-0.3
MT02				*e*S		Sb	18 50 48.5	-1.1
MT02	Curacav	0.65	98	*e*P		Pb	18 50 40.0	-0.9
MT02				*e*S		Sb	18 50 49.0	-0.6
MT02				IAML			18 50 49.6	
	comp=Z,4µm,0.3s							
ROC1	El Roble	0.77	76			Pb	18 50 40.2	-2.9
ROC1				Sn		Sb	18 50 50.2	-3.1
ROC1	El Roble	0.77	76	*e*P		Pb	18 50 40.0	-3.1
ROCH	El Roble	0.77	76	*e*P		Pn	18 50 42.7	-0.7
ROCH				⇓*e*P		Pb	18 50 40.7	-2.4
ROCH				*i* S		Sb	18 50 50.9	-2.5
ROCH				*e*S		Sn	18 50 52.4	-1.7
ROCH				IAML			18 50 52.7	
	comp=N,10µm,0.4s							
ROCH				IAML			18 50 53.4	
	comp=E,12µm,0.3s							
VA06	Catapilco	0.79	40			Pn	18 50 42.8	-0.6
VA06				Sn		Sb	18 50 53.2	-0.4
VA06	Catapilco	0.79	40	*e*P		Pn	18 50 42.9	-0.4
VA06				*e*S		Sb	18 50 53.0	-0.5
VA06				IAML			18 50 56.6	
	comp=E,22µm,0.5s							
MT01	Popeta	0.88	142			Pn	18 50 44.2	-0.5
MT01				Sn		Sn	18 50 55.3	-1.3
MT01	Popeta	0.88	142	⇓*e*P		Pn	18 50 44.2	-0.5
MT01				*e*S		Sn	18 50 55.6	-0.9
MT01				IAML			18 50 57.4	
	comp=E,6µm,0.3s							
MT01	Popeta	0.88	142	*e*P		Pn	18 50 44.0	-0.7
MT01				*e*S		Sb	18 50 56.2	-0.1
MT01				IAML			18 50 57.6	
	comp=Z,4µm,0.5s							
MT09	Talagante	0.98	129			Pn	18 50 45.6	-0.4
MT09				Sn		Sn	18 50 56.8	-2.2
MT09	Talagante	0.98	129	*e*P		Pn	18 50 46.0	-0.1
MT09				*i* S		Sb	18 50 58.5	-0.6
MT09				IAML			18 51 00.6	
	comp=N,8µm,0.3s							
MT05	Renca	1.00	103			Pn	18 50 46.2	-0.1
MT05				Sn		Sb	18 50 59.4	-0.3
MT05	Renca	1.00	103	⇓*e*P		Pb	18 50 46.5	-0.3
MT05				*e*S		Sb	18 50 58.8	-0.9
MT05				IAML			18 51 02.4	
	comp=E,15µm,0.3s							
MT05	Renca	1.00	103	*e*P		Pb	18 50 46.5	-0.3
MT05				IAML			18 51 06.7	
	comp=Z,3µm,0.3s							
PEL	Peldehue	1.02	89			Pn	18 50 46.3	-0.3
PEL				Sn		Sn	18 50 58.5	-1.5
PEL	Peldehue	1.02	89	*e*P		Pb	18 50 46.7	-0.5
PEL				*e*S		Sn	18 50 58.9	-1.2
PEL				IAML			18 51 04.0	
	comp=E,8µm,0.7s							
PEL	Peldehue	1.02	89	*e*P		Pn	18 50 46.5	-0.1
PEL				*e*P		Pb	18 50 47.1	-0.1
PEL				*e*S		Sb	18 51 03.4	+3.1
VA03	San Esteban	1.21	71			Pn	18 50 49.4	+0.1
VA03				Sn		Sb	18 51 04.7	-0.9
VA03	San Esteban	1.21	71	*e*P		Pn	18 50 49.3	+0.1
VA03				*e*S		Sb	18 51 04.5	-1.1
VA03				IAML			18 51 09.3	
	comp=N,11µm,0.4s							
MT03	Universidad Ad	1.21	106			Pb	18 50 49.9	-0.6
MT03	Universidad Ad	1.21	106	*e*P		Pn	18 50 49.3	+0.1
MT03				*e*S		Sn	18 51 03.8	-1.0
MT03				IAML			18 51 09.5	
	comp=E,12µm,0.5s							
MT03	Universidad Ad	1.21	106	*e*P		Pb	18 50 50.0	-0.4
MT03				*e*S		Sb	18 51 09.4	+3.7
MT03				IAML			18 51 11.0	
	comp=Z,5µm,0.3s							
BO03	Pichilemu	1.33	182	*e*P		Pn	18 50 51.4	+0.7
BO03				*e*S		Sn	18 51 08.1	+0.6
BO03				IAML			18 51 15.2	
	comp=N,2µm,0.7s							
BO04	La Punta	1.36	128			Pn	18 50 51.7	+0.6
BO04	La Punta	1.36	128	*e*P		Pn	18 50 51.8	+0.6
BO04				*e*S		Sb	18 51 08.7	-1.1
BO04				IAML			18 51 16.8	
	comp=N,3µm,0.5s							
FCH	Farellones	1.36	97	*e*P		Pb	18 50 52.5	-0.6
FCH				*e*S		Sb	18 51 09.8	-0.4
FCH				IAML			18 51 14.5	
	comp=E,5µm,0.3s							
BO01	Tunca	1.40	151	Pn		Pn	18 50 52.0	+0.3
BO01	Tunca	1.40	151	*e*P		Pn	18 50 52.1	+0.3
BO01				*e*S		Sb	18 51 10.2	-0.8
BO01				IAML			18 51 17.3	
	comp=E,962nm,0.4s							
BO01	Tunca	1.40	151	*e*P		Pn	18 50 52.0	+0.3
BO01				*e*P		Pb	18 50 52.2	-1.4
BO01				*e*S		Sb	18 51 13.4	+2.4
BO01				IAML			18 51 19.4	
	comp=Z,988nm,0.5s							
LMEL	Las Melosas	1.57	116			Pb	18 50 55.6	-1.1
LMEL	Las Melosas	1.57	116	*e*P		Pb	18 50 55.5	-1.1
LMEL				*e*S		Sb	18 51 14.7	-1.6
LMEL				IAML			18 51 20.7	
	comp=N,7µm,0.2s							
GO05	Huala	1.84	181			Pn	18 50 58.3	+0.5
GO05				Sn		Sn	18 51 19.8	-0.4
GO05	Huala	1.84	181	*e*P		Pn	18 50 58.4	+0.5
GO05				*e*S		Sn	18 51 20.1	-0.1
GO05				IAML			18 51 29.0	
	comp=N,879nm,0.7s							
GO05	Huala	1.84	181	*e*P		Pn	18 50 53.2	-4.6
GO05				*e*P		Pb	18 50 59.0	-2.1
BO02	Sierra Bellavi	1.87	150	Pn		Pn	18 50 59.9	+1.6
BO02	Sierra Bellavi	1.87	150	⇑*e*P		Pn	18 50 59.8	+1.6
BO02				*e*S		Sb	18 51 24.0	-0.6
BO02				IAML			18 51 31.8	
	comp=N,3µm,0.5s							
BO02	Sierra Bellavi	1.87	150	*e*P		Pn	18 50 59.9	+1.6
BO02				*e*S		Sb	18 51 25.5	+0.9
BO02				IAML			18 51 36.3	
	comp=Z,961nm,0.7s							
CO02	Combarbal	2.10	22			Pn	18 51 02.4	+0.9
CO02	Combarbal	2.10	22	⇑*e*P		Pn	18 51 02.6	+1.1
CO02				*e*S		Sn

LC01	Cunco	5.72	180	Pn		Pn	18 51 51.7	+0.5
LC01	Cunco	5.72	180	*e*P		Pn	18 51 52.0	+0.9
GO03	Copiap	5.74	15			Pn	18 51 51.1	-0.4
H03N1	Juan Fernandez	5.87	265	T		T	18 58 39.3	
	baz=89,slow=74,SNR=6.6							
H03N3	Juan Fernandez	5.88	265	T		T	18 58 37.7	
	baz=89,slow=74,SNR=43							
H03S1	Juan Fernandez	5.89	261	T		T	18 57 59.5	
	baz=91							
H03S3	Juan Fernandez	5.89	262	T		T	18 58 08.7	
	baz=91							
H03N2	Juan Fernandez	5.89	265	T		T	18 58 39.9	
	baz=89,slow=74,SNR=34							
H03S2	Juan Fernandez	5.90	262	T		T	18 58 08.1	
	baz=91							
AC06	Mina Casimiro	5.94	13			Pn	18 51 53.5	-0.8
AC02	Maricunga	6.75	22	Pn		Pn	18 52 05.9	+0.1
AC01	Pan de Azucar	7.09	10	Pn		Pn	18 52 08.9	-1.0
AC01	Pan de Azucar	7.09	10	*e*P		Pn	18 52 12.0	+2.1
PLCA	Paso Flores	7.63	172	Pn		Pn	18 52 19.4	+2.0
	comp=Z,0.4nm,0.3s,baz=329,slow=9.3,SNR=19							
PLCA	Paso Flores	7.63	172	Pn		Pn	18 52 19.1	+1.7
LL04	Puerto Octay	7.74	183	Pn		Pn	18 52 17.4	-1.4
GO02	Mina Guanaco	8.23	15			Pn	18 52 23.4	-2.5
PB14	IPOC Station P	8.61	9			Pn	18 52 28.7	-2.5
LL02	Futaleuf	10.01	180	Pn		Pn	18 52 53.1	+3.2
GO07	Milladeo Hill,	10.03	187	Pn		Pn	18 52 50.9	+0.8
PB15	IPOC Station P	10.15	13	Pn		Pn	18 52 53.9	+1.7
PB06	IPOC Station P	10.62	12	Pn		Pn	18 52 57.5	-1.1
LVC	Limon Verde	10.84	15	Pn		Pn	18 53 03.0	+1.2
	comp=Z,0.7nm,0.3s,baz=242,slow=11,SNR=2.4							
LVC	Limon Verde	10.84	15	Pn		Pn	18 52 58.1	-3.7
PB04	IPOC Station P	10.90	9	Pn		Pn	18 53 01.4	-1.0
PB07	IPOC Station P	11.54	9	Pn		Pn	18 53 08.3	-2.8
PB09	IPOC Station P	11.57	12	Pn		Pn	18 53 07.7	-3.8
PB02	IPOC Station P	11.93	9	Pn		Pn	18 53 12.7	-3.8
PB08	IPOC Station P	13.20	11	Pn		Pn	18 53 31.6	-2.4
ITQB	Itaqui	13.51	79	Pn		Pn	18 53 37.9	+0.1
CPUP	Villa Florida	14.37	66	Pn		Pn	18 53 49.3	-0.3
	comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=1.7							
PB16	IPOC Station P	14.93	9	Pn		Pn	18 53 56.7	-1.1
PLTB	Pedras Altas	15.51	90	P		Pn	18 54 02.4	-2.5
PLTB				IAmb		IAmb	18 54 15.5	
	comp=Z,27nm,1.3s							
LPAZ	La Paz	17.15	12	P		Pn	18 54 27.4	+1.0
	comp=Z,0.1nm,0.3s,baz=188,slow=8.2,SNR=6.7							
LPAZ	La Paz	17.15	12	Pn		Pn	18 54 23.2	-3.2
SIV	San Ignacio	19.71	32	P		P	18 54 54.8	-0.6
	comp=Z,0.5nm,0.3s,baz=220,slow=9.5,SNR=5.4							
EFI	East Falkland	21.07	156	P		P	18 55 09.8	+0.1
TXAR	Lajitas Array	69.06	331	P		P	19 01 33.0	+1.6
	comp=Z,0.2nm,0.5s,baz=156,slow=6.9,SNR=2.9							
TORD	Torodi Ar. Bea	83.82	70	P		P	19 02 55.6	+0.4
	comp=Z,1.6nm,0.7s,baz=257,slow=4.6,SNR=8.7							
TORD	Torodi Ar. Bea	83.82	70	P		P	19 02 55.5	+0.2
WRA	Warramunga Arr	121.54	209	PKP		PKiKP	19 09 21.0	+1.3
	comp=Z,0.6nm,1.2s,baz=150,slow=2.1,SNR=1.7							
H11S2	WAKE ISLAND Hyd	25.89	270	T		T	21 28 13.4	
	baz=118,slow=75,SNR=40							
H11S1	WAKE ISLAND Hyd	25.90	270	T		T	21 28 14.7	
	baz=118,slow=75,SNR=54							
H11S3	WAKE ISLAND Hyd	25.91	270	T		T	21 28 14.5	
	baz=118,slow=75,SNR=27							
AAK	Ala-Archa	152.00	60	PKPbc		PKiKP	19 10 22.1	+1.1
	comp=Z,2.6nm,0.7s,baz=205,slow=1.6,SNR=13							
AAK	Ala-Archa	152.00	60			PKiKP	19 10 22.4	+1.4
ZALV	Zalesovo Beam	153.46	32	PKPbc		PKPbc	19 10 23.5	+0.3
	comp=Z,0.5nm,0.6s,baz=253,slow=1.5,SNR=3.5							
ZALV				PKPab		sPKPbc	19 10 37.0	+1.5
	comp=Z,0.6nm,0.6s,baz=294,slow=5.3,SNR=3.7							
MKAR	Makanchi Array	156.13	48	PKPab		PKPab	19 10 48.1	+0.8
	comp=Z,0.8nm,0.6s,baz=294,slow=3.8,SNR=9.7							
PZH	PanZhiHua	171.37	139	PKP		PKPdf	19 10 32.0	-2.3

IDC 19 18:56:31.2±3.0, 6.79S×128.83E, h0km, mb3.1/1, mb1 3.3/3, mb1mx2.9/26, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=288.1km s-min=33.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.13**	**158**	Pn		Pn	18 59 51.7	-1.0
	0.2nm,0.3s,baz=337,slow=14,SNR=16							
WRA				Sn		Sn	19 02 19.1	-11
	0.1nm,0.3s,baz=341,slow=21,SNR=5.1							
ASAR	**Alice Springs**	**17.48**	**164**	P		P	19 00 37.4	-0.4
	0.0nm,0.3s,baz=337,slow=10,SNR=1.5							
MKAR	**Makanchi Array**	**67.42**	**327**	P		P	19 07 28.6	0.0
	0.2nm,0.9s,baz=114,slow=6.5,SNR=1.4							

*TUL **19** 19:07:48.3±0.6, 36.455N±0.010×98.77W±0.02, h7km±1km, ML2.8, mb_Lg2.3/12(NEIC), Error ellipse: s-maj=2.8km s-min=1.3km az=74.0*
NEIC 19 19:07:48.9**±0.5, **36.46N**±0.02×**98.77W**±0.03, **h6**km±1km, **Error ellipse: s-maj=3.6km s-min=1.7km az=51.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.20**	**248**	Pg		Pg	19 07 52.8	-0.1
FNO	**Franklin**	**1.63**	**137**	Pn		Pn	19 08 18.0	-0.2
WMOK	**Wichita Mounta**	**1.71**	**180**	Pn		Pn	19 08 18.4	-0.9
WMOK				IAmb_Lg			19 08 45.6	
	comp=Z,21nm,0.8s							
T35A	**Sooner Cattle**	**1.87**	**75**			Pn	19 08 21.3	-0.1
R32A	**Long Quarter,**	**1.96**	**1**			Pn	19 08 22.9	+0.2
X34A	**Smith Ranch, M**	**2.00**	**157**			Pn	19 08 24.2	+1.0
X34A				IAmb_Lg			19 08 53.7	
	comp=Z,12nm,0.7s							
W35A	**Tecumseh**	**2.02**	**130**	Pn		Pn	19 08 23.3	-0.2
TUL1	**Leonard**	**2.47**	**102**	Pn		Pn	19 08 29.6	0.0
CBKS	**Cedar Bluff**	**2.48**	**342**	Pn		Pn	19 08 30.3	+0.5
AMTX	**Amarillo**	**2.84**	**237**			Pn	19 08 33.9	-0.9
KSU1	**Kansas State U**	**3.15**	**32**	IAmb_Lg			19 09 30.0	
	comp=Z,8.3nm,1.0s							
X37A	**Clayton**	**3.34**	**123**	Pn		Pn	19 08 39.8	-1.9
ABTX	**Abilene, Hawle**	**3.89**	**191**	Pn		Pn	19 08 48.8	-0.5
W39A	**Magazine**	**4.24**	**106**	IAmb_Lg			19 10 02.7	
	comp=Z,6.6nm,0.8s							
S39A	**Bolivar**	**4.53**	**73**	Pn		Pn	19 08 57.1	-0.9
X40A	**Basin Creek Fa**	**5.23**	**110**	IAmb_Lg			19 10 42.5	
	comp=Z,6.6nm,1.0s							

*IDC **19** 19:12:44.6±1.4, 28.79S×71.84W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/19, mbtmp3.5/4, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/37, Error ellipse: s-maj=56.9km s-min=40.0km az=106.0*
*SJA **19** 19:12:49.8±0.5, 28.61S×71.63W, h40km, ML4.0, MW4.0*
*GUC **19** 19:12:49.2±0.8, 28.90S×71.33W, h41km±3km, ML3.8*
ISC 19 19:12:47.4±1.5, **28.80S**±0.02×**71.59W**±0.06, **h19**km±4km, **n37**, σ1§59/50, **3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.75**	**38**	*i* P		Pn	19 13 03.4	+0.4
AC04				*e*S		Sn	19 13 13.6	-0.2
AC04				IAML			19 13 14.9	
	comp=E,6μm,0.1s							
AC04	**Llanos de Chal**	**0.75**	**38**	*i* P		Pn	19 13 03.2	+0.3
AC04				*e*S		Sn	19 13 13.5	-0.2
AC04				IAML			19 13 16.3	
	comp=Z,2μm,0.3s							
LCO	**Las Campanas**	**0.81**	**106**	*e*P		Pb	19 13 02.3	-0.8
LCO				*i* S		Sb	19 13 12.0	-1.7
LCO	**Las Campanas**	**0.81**	**106**	*i* P		Pb	19 13 02.8	-0.3
LCO				*e*S		Sb	19 13 13.1	-0.7
LCO				IAML			19 13 13.6	
	comp=Z,24μm,0.4s							
CO05	**La Serena**	**1.16**	**165⇑**	*i* P		Pn	19 13 08.8	+0.1
CO05				*i* S		Sb	19 13 22.8	-0.8
CO05				IAML			19 13 24.2	
	comp=N,4μm,0.4s							
GO04	**Tololo Observa**	**1.54**	**153**	*e*P		Pn	19 13 14.0	-0.1
GO04				*e*S		Sn	19 13 33.5	-0.2
GO04				IAML			19 13 36.6	
	comp=N,6μm,0.5s							
GO03	**Copiap**	**1.69**	**45**	*e*P		Pb	19 13 17.4	-0.6
GO03				*e*S		Sb	19 13 39.0	0.0
GO03				IAML			19 13 44.8	
	comp=E,2μm,0.3s							
GO03	**Copiap**	**1.69**	**45**	*i* P		Pb	19 13 17.7	-0.3
				*e*S		Sb	19 13 40.4	+1.4
AC06	**Mina Casimiro**	**1.80**	**38**	*e*P		Pb	19 13 19.7	-0.2
AC06				*i* S		Sb	19 13 43.1	+1.1
AC06				IAML			19 13 46.7	
	comp=E,1μm,0.2s							
CO06	**Fray Jorge**	**1.87**	**181**	*e*P		Pn	19 13 18.3	-0.1
CO06				*e*S		Sn	19 13 41.0	-0.6
CO03	**El Pedregal**	**2.18**	**159**	*e*P		Pn	19 13 23.4	+0.6
CO03				*e*S		Sn	19 13 49.4	0.0
CO03				IAML			19 13 54.2	
	comp=E,908nm,0.3s							
CO02	**Combarbal**	**2.46**	**168**	*e*P		Pn	19 13 27.0	+0.5
CO02				*e*S		Sn	19 13 57.0	+0.9
AC01	**Pan de Azucar**	**2.78**	**19⇑**	*e*P		Pn	19 13 31.4	+0.5
AC01				*e*S		Sb	19 14 09.5	-0.8
AC01				IAML			19 14 22.5	
	comp=E,388nm,0.3s							
AC02	**Maricunga**	**2.93**	**49**	*e*P		Pn	19 13 36.0	+2.6
AC02				*e*S		Sb	19 14 11.9	-3.0
AC02				IAML			19 14 18.8	
	comp=N,521nm,0.3s							
VCA	**Vinchina**	**2.98**	**90**	*i* P		Pb	19 13 39.1	-0.8
VCA				*e*S		Sg	19 14 24.3	+1.2
VCA				IAML			19 14 26.4	
	comp=Z,490nm,0.3s							
RTLS	**Leoncito**	**3.59**	**147**	*i* P		Pn	19 13 46.0	+3.7
RTLS				*e*S		Sg	19 14 39.2	-3.6
RTLS				IAML			19 14 40.5	
	comp=Z,190nm,0.8s							
RTLL	**Cerro Villicun**	**3.70**	**134**	*i* P		Pn	19 13 46.9	+3.3
RTLL				*e*S		Sb	19 14 35.6	-1.1
VA06	**Catapilco**	**3.76**	**176**	*e*P		Pn	19 13 44.8	+0.4
GO02	**Mina Guanaco**	**4.04**	**27⇑**	*e*P		Pn	19 13 49.5	+1.1
VA03	**San Esteban**	**4.06**	**167**	*e*P		Pn	19 13 50.1	+1.5
VA03	**San Esteban**	**4.06**	**167**	*i* P		Pn	19 13 51.3	+2.7
VA03				*e*S		Sb	19 14 52.2	+5.3
VA03				IAML			19 14 56.4	
	comp=Z,146nm,0.7s							
MT02	**Curacav**	**4.47**	**175**	*e*P		Pn	19 13 54.0	-0.1
FCH	**Farellones**	**4.65**	**166**	*e*P		Pn	19 13 55.6	-1.4
TCA	**Tanti**	**6.57**	**114**	*i* P		Pn	19 14 23.5	+0.3
LVC	**Limon Verde**	**6.62**	**22**	Pn		Pn	19 14 24.4	+0.4
	comp=Z,0.5nm,0.3s,baz=203,slow=8.9,SNR=13							
LVC				Sn		Sn	19 15 38.3	-0.8
	comp=Z,0.6nm,0.3s,baz=229,slow=20,SNR=1.5							
LVC				LR		LR	19 16 53.6	
	comp=Z,60nm,19.1s,baz=258,slow=37							
H03N1	**Juan Fernandez**	**7.80**	**232**	T		T	19 22 36.2	
	baz=59,slow=72,SNR=619							
H03N2	**Juan Fernandez**	**7.81**	**232**	T		T	19 22 37.2	
	baz=59,slow=72,SNR=698							
H03N3	**Juan Fernandez**	**7.81**	**232**	T		T	19 22 34.3	
	baz=59,slow=72,SNR=539							
LPAZ	**La Paz**	**12.85**	**15**	Pn		Pn	19 15 51.9	+2.2
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=2.6							
TXAR	**Lajitas Array**	**65.43**	**329**	P		P	19 23 27.7	-1.4
	comp=Z,0.3nm,0.7s,baz=146,slow=16,SNR=2.5							
TORD	**Torodi Ar. Bea**	**82.09**	**70**	P		P	19 25 07.4	+0.3
	comp=Z,0.4nm,0.6s,baz=220,slow=4.2,SNR=2.8							
WRA	**Warramunga Arr**	**125.46**	**210**	PKP		PKiKP	19 31 48.6	+0.3
	comp=Z,0.2nm,0.7s,baz=159,slow=1.5,SNR=1.3							
H11N3	**WAKE ISLAND Hyd**	**126.35**	**274**	T		T	21 50 57.7	
	baz=112,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hyd**	**126.36**	**274**	T		T	21 50 58.8	
	baz=112,slow=75,SNR=9.3							
H11N2	**WAKE ISLAND Hyd**	**126.37**	**274**	T		T	21 50 58.7	
	baz=112,slow=75,SNR=12							
ZALV	**Zalesovo Beam**	**149.54**	**28**	PKPbc		PKiKP	19 32 36.3	+0.2
	comp=Z,1.4nm,0.6s,baz=299,slow=3.7,SNR=7.1							
MKAR	**Makanchi Array**	**152.83**	**41**	PKPbc		PKiKP	19 32 43.4	+0.2
	comp=Z,0.3nm,0.7s,baz=315,slow=0.4,SNR=4.1							

IDC 19 19:12:58.8±2.2, 8.26S×127.54E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, ML3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.3/29, Error ellipse: s-maj=223.7km s-min=33.8km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.35**	**151**	Pn		Pn	19 16 09.1	-0.7
	0.3nm,0.3s,baz=325,slow=13,SNR=23							
WRA				Sn		Sn	19 18 31.2	-7.8
	0.5nm,0.3s,baz=331,slow=24,SNR=10							
ASAR	**Alice Springs**	**16.49**	**159**	Pn		Pn	19 16 52.5	+0.8
	0.1nm,0.3s,baz=336,slow=8.6,SNR=1.9							
ASAR				Sn		Sn	19 19 50.0	-5.6
	0.1nm,0.3s,baz=318,slow=16,SNR=2.2							
ASAJ	**Asahikawa**	**53.88**	**13**	LR		LR	19 46 17.4	
	comp=Z,55nm,20.5s,baz=214,slow=37							
MKAR	**Makanchi Array**	**67.97**	**328**	P		P	19 23 59.7	0.0
	0.4nm,0.9s,baz=134,slow=6.2,SNR=3.2							

TAP 19 19:17:51.7, 24.18N×121.71E, h12km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ETL	**Fush Village**	**0.08**	**252**	P		Pg	19 17 54.6	+0.3
	baz=252							
ETL				*e*S		Sg	19 17 56.6	+0.4
	baz=252							
NACB	**Ninganchiao**	**0.10**	**264**	P		Pg	19 17 54.8	+0.2
	baz=264							
NACB				*e*S		Sg	19 17 56.9	+0.3
	baz=264							
TWD	**Chiawan**	**0.14**	**224**	P		Pg	19 17 55.3	+0.2
	baz=223							
TWD				S		Sg	19 17 57.9	+0.3
	baz=223							
ETLH	**Xiulin Townshi**	**0.21**	**276**	P		Pg	19 17 56.4	+0.2
	baz=276							
ETLH				S		Sg	19 17 59.8	+0.4
	baz=276							
ENA	**Nanau**	**0.24**	**7**	*e*P		Pg	19 17 57.2	+0.3
	baz=8.0							
ENA				S		Sg	19 18 00.8	+0.5
	baz=8.0							
EWUT	**Wuta**	**0.27**	**14**	*e*P		Pg	19 17 57.5	+0.2
	baz=13							
EWUT				S		Sg	19 18 01.5	+0.5
	baz=13							
NNSB	**Datong**	**0.38**	**310**	P		Pg	19 17 59.7	+0.3
	baz=309							
NNSB				S		Sg	19 18 05.2	+0.7
	baz=309							
LATG	**Datong**	**0.39**	**335**	P		Pg	19 17 59.9	+0.4
	baz=334							
LATG				S		Sb	19 18 05.8	-0.8
	baz=334							
NNS	**Nan Shan**	**0.40**	**310**	P		Pg	19 18 00.0	+0.3
	baz=310							
NNS				S		Sg	19 18 05.8	+0.8
	baz=310							
WHF	**Hehuan Shan**	**0.41**	**265**	*e*P		Pg	19 18 00.1	+0.2
	baz=264							
WHF				*e*S		Sg	19 18 06.0	+0.6
	baz=264							
FUSS	**Fushou**	**0.43**	**279**	*e*P		Pg	19 17 59.6	-0.6
	baz=279							
FUSS				*e*S		Sg	19 18 05.9	-0.1
	baz=279							
ESL	**Shilin**	**0.45**	**214**	*e*P		Pg	19 18 00.6	0.0
	baz=215							
NDS	**Dongshan**	**0.45**	**1**	*e*P		Pg	19 18 00.8	+0.3
	baz=360							
NDS				*e*S		Sg	19 18 07.0	+0.4
	baz=360							
NDT	**Datong Townshi**	**0.45**	**337**	*e*P		Pb	19 18 01.2	-0.5
	baz=336							
NDT				*e*S		Sb	19 18 07.8	-0.7
	baz=336							
ENTT	**Nioudou**	**0.47**	**344**	*e*P		Pg	19 18 01.5	+0.5
	baz=344							
ENTT				*e*S		Sb	19 18 08.2	-0.8
	baz=344							
CHGB	**Renai**	**0.50**	**256**	*e*P		Pg	19 18 02.1	+0.5
	baz=248							
CHGB				*e*S		Sg	19 18 09.2	+0.8
	baz=248							
TWE	**Neicheng**	**0.54**	**356**	P		Pb	19 18 02.8	-0.3
	baz=356							
TWE				*e*S		Sg	19 18 09.8	+0.5
	baz=356							
OWD	**Renai**	**0.54**	**245**	*e*S		Sg	19 18 09.8	+0.5
	baz=245							
YHNB	**Yeheng**	**0.57**	**328**	*e*P		Pb	19 18 03.5	-0.3
	baz=327							
YHNB				*e*S		Sg	19 18 10.5	+0.1
	baz=327							
WUSB	**Renai**	**0.57**	**251**	P		Pb	19 18 03.4	-0.4
	baz=243							
WUSB				*e*S		Sg	19 18 10.8	+0.3
	baz=243							
EGFH	**Guangfu**	**0.57**	**207**	*e*P		Pb	19 18 03.8	0.0
	baz=216							
EGFH				*e*S		Sb	19 18 12.7	+0.8
	baz=216							
FUSB	**Fushanzhiwuyua**	**0.58**	**349**	P		Pb	19 18 03.7	-0.3
	baz=348							
FUSB				S		Sg	19 18 11.5	+0.6
	baz=348							
NSK	**Sanguang**	**0.58**	**327**	*e*P		Pb	19 18 03.9	-0.1
	baz=327							
NSK				*e*S		Sb	19 18 11.8	-0.5
	baz=327							
NWLT	**Wulai**	**0.62**	**343**	*e*P		Pb	19 18 04.3	-0.3
	baz=342							
NWLT				*e*S		Sg	19 18 12.3	+0.3
	baz=342							
VWDT	**VWDT**	**0.67**	**231**	*e*S		Sb	19 18 14.9	+0.2
	baz=231							
WHP	**Taichung City**	**0.70**	**278**	*e*S		Sb	19 18 16.0	+0.3
	baz=278							
YULB	**Yu-li**	**0.87**	**206**	*e*S		Sn	19 18 21.8	-0.7
	baz=216							

JMA 19 19:18:02.5, 24.47N×123.66E, h0km, M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.15**	**155**	P		Pg	19 18 05.7	+0.3
IRIF				S		Sg	19 18 08.0	+0.7
JKRS	**Kuro-shima**	**0.39**	**126**	P		Pg	19 18 10.7	+0.6
JKRS				*e*S		Sg	19 18 16.7	+1.5
HATJ	**Hateruma jima**	**0.43**	**162**	*e*S		Sg	19 18 17.4	+1.0
JIJ	**Ishigaki jima**	**0.45**	**103**	P		Pg	19 18 11.7	+0.5
JIJ				*e*S		Sg	19 18 18.0	+0.9
JISG	**Ishigakijimahi**	**0.60**	**79**	P		Pg	19 18 14.8	+0.7
JISG				*e*S		Sb	19 18 23.7	-1.3
JTJ	**Tarama**	**0.96**	**80**	*e*S		Sb	19 18 35.2	-0.2

*IDC **19** 19:43:45.3±1.2, 13.57N×123.43E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/40, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=26.9km s-min=17.3km az=40.0*
*MAN **19** 19:43:45.5, 14.57N×123.50E, h31km, mb5.3, ML4.3, MS4.5*
ISC 19 19:43:39.4±1.1, **14.76N**±0.05×**123.60E**±0.05, **h10**km, **n22**, σ1§52/24, **mb3.3/4, 13C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JCNP	**Jose Panganiba**	**0.99**	**242⇑**	*e*P		Pn	19 44 01.1	+1.7
SCSP	**San Jose Seism**	**1.10**	**184⇑**	*e*P		Pn	19 44 01.7	+0.8
PVCP	**Virac**	**1.27**	**155⇑**	*e*P		Pg	19 44 05.6	+1.7
GQP	**Guinayangan**	**1.40**	**233⇓**	*i* P		Pg	19 44 07.2	+0.8
GQP				*e*S		Sn	19 44 23.0	-0.7
LQP	**Lukban**	**2.10**	**252⇓**	*e*P		Pb	19 44 18.2	+0.5
LQP				*e*S		Sb	19 44 43.9	0.0
BOAC	**Boac**	**2.14**	**233⇑**	*e*P		Pb	19 44 17.3	-1.0
BALP	**Baler**	**2.19**	**297⇑**	*e*P		Pb	19 44 19.8	+0.8
QVP	**Quezon City--P**	**2.52**	**267⇑**	*e*P		Pg	19 44 26.8	-0.9
PCPH	**Palayan**	**2.55**	**289⇓**	*e*P		Pb	19 44 25.0	-0.3
PCPH				*e*S		Sn	19 44 53.8	+1.8
TGY	**Tagaytay City**	**2.66**	**256**	Pn		Pb	19 44 26.4	-0.8
	41nm,0.3s,baz=189,slow=5.3,SNR=1.9							
TGY				Lg		Lg	19 45 04.5	
	56nm,0.3s,baz=192,slow=19,SNR=3.4							
MACP	**Maragondon, Ca**	**2.83**	**260⇑**	*e*P		Pg	19 44 32.8	-0.9
PGP	**Puerto Galera**	**2.86**	**244⇓**	*e*P		Pn	19 44 27.4	+2.3
PGP				*i* S		Sn	19 44 58.9	-0.7
SMPP	**San Manuel, Pa**	**3.14**	**297⇑**	*e*P		Pb	19 44 33.5	-1.8
RCP	**Roxas**	**3.29**	**195⇑**	*e*P		Pn	19 44 31.9	+0.9
LUBP	**Lubang**	**3.41**	**253⇑**	*e*P		Pn	19 44 35.7	+3.0
SAMP	**Sagada Mountai**	**3.48**	**312⇑**	*e*P		Pb	19 44 41.0	0.0
SCZP	**Santa Cruz**	**3.70**	**286⇑**	*e*P		Pn	19 44 39.0	+2.2
SGCP	**Gonzaga**	**3.77**	**337⇑**	*e*P		Pb	19 44 45.1	-1.1
KSRS	**Korea Array**	**22.93**	**9**	P		P	19 49 03.0	+19
	0.9nm,0.7s,baz=187,slow=11,SNR=4.5							
SONM	**Songino Array**	**35.94**	**340**	P		P	19 50 56.3	+16
	0.3nm,0.5s,baz=160,slow=9.2,SNR=4.6							
WRA	**Warramunga Arr**	**36.06**	**163**	P		P	**19 50 38.9**	**-2.5**
	0.3nm,0.7s,baz=344,slow=9.4,SNR=1.7							
ASAR	**Alice Springs**	**39.49**	**165**	P		P	**19 51 08.8**	**-1.5**
	0.4nm,0.6s,baz=342,slow=6.9,SNR=16							

IDC 19 19:57:49.4±8.9, **7.01S**×**155.20E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.2**/50, **mbtmp3.4**/3, **Error ellipse: s-maj=146.2km s-min=99.2km az=23.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.98**	**236**	P		P	20 03 07.4	+1.6
	0.3nm,0.4s,baz=58,slow=9.8,SNR=5.3							
ASAR	**Alice Springs**	**26.32**	**229**	P		P	20 03 26.6	-0.5
	0.2nm,0.5s,baz=53,slow=9.9,SNR=1.9							
STKA	**Stephens Creek**	**27.81**	**205**	P		P	20 03 39.2	-1.2
	0

BW06 Boulder Array 3.84 214 Pn 20 10 54.1 0.0
BW06 IAML 20 11 52.7
comp=N,17nm,0.5s
BW06 IAML 20 11 53.7
comp=N,22nm,0.5s
PD31 Pinedale Array 3.84 214 Pn 20 10 54.0 -0.1
PDAR Pinedale Array 3.84 214 Pn **Pn 20 10 54.5 +0.4**
comp=N,1.2nm,0.3s,baz=41,slow=12,SNR=17
PDAR Pg **Pb 20 11 01.9 -0.4**
comp=N,4.7nm,0.3s,baz=44,slow=18,SNR=25
PDAR Lg Lg 20 11 48.7
comp=N,4.2nm,0.3s,baz=51,slow=33,SNR=9.5
PDAR Pinedale Array 3.84 214 Pn 20 10 54.0 -0.1
TPAW Teton Pass 3.97 233 Pn 20 10 57.8 +1.9
TPAW IAML 20 12 07.1
comp=N,24nm,1.0s
REDW Red Top Meadow 4.00 231 Pn 20 10 56.5 +0.2
REDW IAML 20 12 11.9
comp=N,16nm,1.7s
REDW IAML 20 12 12.7
comp=N,17nm,2.9s
LRM Limekiln Ridge 4.08 270 Pn 20 10 57.3 -0.1
DLMT Dillon 4.24 264 Pn **Pn 20 11 00.5 +0.9**
DLMT IAML 20 12 14.5
comp=N,26nm,0.8s
DLMT IAML 20 12 49.2
comp=N,22nm,2.7s
RWWY Rawlins 4.30 186 Pn **Pn 20 11 01.1 +0.5**
RWWY IAML 20 12 14.4
comp=N,26nm,1.4s
MCMT McKenzie Canyo 4.54 258 Pn 20 11 03.8 0.0
PHWY Pilot Hill 4.74 169 Pn **Pn 20 11 07.9 +1.4**
N23A Red Feather La 5.10 174 Pn **Pn 20 11 11.7 +0.3**
MSO Missoula 5.14 282 Pn **Pn 20 11 11.3 -0.6**
JTMT Jette 5.56 291 Pn **Pn 20 11 18.0 +0.4**
HWUT Hardware Ranch 5.65 221 Pn 20 11 18.1 -0.8
RDMU Red Mountain 5.82 203 Pn **Pn 20 11 21.0 -0.2**
O20A White River Ci 5.96 192 Pn **Pn 20 11 23.3 +0.1**
ISCO Idaho Springs 6.21 173 Pn **Pn 20 11 27.4 +0.6**
PLID Pearl Lake 6.66 266 Pn **Pn 20 11 32.6 -0.2**
BGU Big Grassy Mou 6.88 225 Pn **Pn 20 11 34.9 -0.8**
P18A Preston Nutter 6.88 204 Pn 20 11 36.1 +0.1
P17A Butcher Ranch, 7.17 207 Pn **Pn 20 11 39.2 -0.6**
NLU North Lily Min 7.23 216 Pn **Pn 20 11 39.1 -1.5**
DUG Dugway, Tooele 7.35 220 Pn **Pn 20 11 41.8 -0.3**
F10A Beach Ranch, E 7.40 274 Pn **Pn 20 11 42.4 -0.5**
SRU San Rafael Swe 7.44 204 Pn **Pn 20 11 42.5 -1.1**
PV07 Paradox Valley 7.68 192 Pn **Pn 20 11 46.1 -0.7**
ULM Lac du Bonnet 8.36 55 Lg Lg 20 14 16.5
comp=N,0.1nm,0.3s,baz=346,slow=22,SNR=1.5
TXAR Lajitas Array 16.77 171 Pn **Pn 20 13 49.9 0.0**
comp=N,0.1nm,0.3s,baz=339,slow=14,SNR=1.8
YKA Yellowknife Ar 17.18 347 P **Pn 20 13 55.3 +0.6**
comp=N,0.0nm,0.3s,baz=163,slow=13,SNR=3.7

*MAN **19** 20:16:09.2, 16°.53N×120°.96E, h1km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY IV - AMBAGUIO, NUEVA VIZCAYA.
*NEIC **19** 20:16:10.1±1.0, 16°.45N±0°.08×121°.0E±0°.1, h10km±1km, mb4.2/11, Error ellipse: s-maj=22.8km s-min=9.2km az=296.0*
*IDC **19** 20:16:12.2±4.7, 16°.49N×121°.25E, h27km±35km, mb3.4/8, mb1 3.7/9, mb1mx3.4/54, mbtmp3.6/9, ML3.9/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/43, Error ellipse: s-maj=33.5km s-min=16.3km az=78.0*
ISC 19 20:16:09.7±0.5, 16°.49N±0°.03×121°.01E±0°.05, h10km, n47, σ1s54/47, mb3.6/15, 12C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.46**	**222**	*e*P	**Pb**	**20 16 18.7**	**-1.3**
SAMP	**Sagada Mountai**	**0.59**	**350**	*e*P	**Pg**	**20 16 20.1**	**-1.1**
BALP	**Baler**	**0.93**	**144**	*e*P	**Pg**	**20 16 27.5**	**0.0**
PCPH	**Palayan**	**0.93**	**175**	*e*P	**Pn**	**20 16 27.7**	**-1.1**
PCPH				*e*S	**Sn**	**20 16 43.2**	**+1.0**
BOLP	**Bolinao**	**1.05**	**264**	*e*P	**Pn**	**20 16 29.2**	**-1.3**
SCZP	**Santa Cruz**	**1.27**	**236**	*e*P	**Pg**	**20 16 33.2**	**-0.9**
SIPP	**Brgy, Tapao**	**1.51**	**340**	*e*P	**Pn**	**20 16 35.7**	**-1.1**
SIPP				*e*S	Sg	20 17 10.7	+12
QVP	**Quezon City--P**	**1.86**	**180**	*e*P	**Pg**	**20 16 44.5**	**-0.9**
SGCP	**Gonzaga**	**2.00**	**30**	*e*P	**Pn**	**20 16 44.3**	**+0.7**
MACP	**Maragondon, Ca**	**2.24**	**187**	*e*P	**Pb**	**20 16 48.4**	**-1.8**
TGY	**Tagaytay City**	**2.38**	**182**	Pn	**Pb**	**20 16 50.8**	**-1.9**
	30nm,0.3s,baz=188,slow=17,SNR=1.3						
TGY				Lg	Lg	20 17 27.9	
	78nm,0.3s,baz=108,slow=8.5,SNR=4.8						
TGY	**Tagaytay City**	**2.38**	**182**	*e*P	**Pb**	**20 16 52.8**	**+0.1**
TGY				*e*S	**Sg**	**20 17 30.7**	**+4.5**
LQP	**Lukban**	**2.42**	**168**	*e*P	**Pb**	**20 16 52.9**	**-0.7**
LQP				*e*S	**Sg**	**20 17 30.8**	**+3.2**
JCNP	**Jose Panganiba**	**2.73**	**143**	*e*P	**Pb**	**20 16 56.2**	**-2.5**
LUBP	**Lubang**	**2.84**	**195**	*e*P	**Pb**	**20 16 59.2**	**-1.3**
BOAC	**Boac**	**3.12**	**165**	*e*P	**Pb**	**20 17 01.6**	**-3.7**
TWG	**Pinlang**	**6.29**	**1**	Pn	**Pn**	**20 17 42.7**	**+0.1**
TPUB	**Ta-pu**	**6.78**	**357**	Pn	**Pn**	**20 17 50.2**	**+0.9**
SSLB	**Suanglung**	**7.26**	**360**	Pn	**Pn**	**20 17 56.6**	**+0.7**
YHNB	**Yeheng**	**8.14**	**2**	Pn	**Pn**	**20 18 10.8**	**+2.7**
DAV	**Davao City (W)**	**10.38**	**154**	LR	LR	20 23 54.2	
	comp=Z,52nm,18.7s,baz=264,slow=45						
JOW	**Kunigami**	**12.30**	**32**	LR	LR	20 23 46.1	
	comp=Z,24nm,18.3s,baz=332,slow=37						
CMAR	**Chiang Mai Arr**	**21.13**	**279**	P	**P**	**20 20 59.2**	**+4.3**
	0.6nm,0.3s,baz=91,slow=9.0,SNR=1.7						
KSAR	**Wonju Array Be**	**21.73**	**15**	P	**P**	**20 21 00.9**	**-0.2**
KSRS	**Korea Array**	**21.75**	**15**	P	**P**	**20 21 01.3**	**-0.1**
	0.9nm,0.4s,baz=200,slow=9.9,SNR=5.7						
KS19	**Wonju Array Si**	**21.79**	**15**	P	**P**	**20 21 01.3**	**-0.5**
KS19				IAmb	IAmb	20 21 07.0	
	comp=Z,8.0nm,0.8s						
LEM	**Lembang**	**26.69**	**211**	LR	LR	20 34 04.1	
	comp=Z,34nm,18.3s,baz=234,slow=40						
KNRA	**Kununurra**	**32.87**	**166**	P	**P**	**20 22 44.1**	**+0.1**
SONM	**Songino Array**	**33.49**	**342**	P	**P**	**20 22 49.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=165,slow=6.9,SNR=2.1						
KLR	**Kul'dur**	**33.80**	**13**	P	**P**	**20 22 52.1**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=235,slow=6.6,SNR=8.6						
WB0	**Warramunga Arr**	**38.36**	**159**	P	**P**	**20 23 29.7**	**-1.4**
WB0				IAmb	IAmb	20 23 48.3	
	comp=Z,6.1nm,1.3s						
WRA	**Warramunga Arr**	**38.51**	**160**	P	**P**	**20 23 31.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=338,slow=9.3,SNR=7.2						
WRA	**Warramunga Arr**	**38.51**	**160**	IAmb	IAmb	20 23 36.4	
	comp=Z,0.4nm,1.4s						
WR0	**Warramunga Arr**	**38.59**	**159**	P	**P**	**20 23 32.2**	**-0.8**
WR0				IAmb	IAmb	20 23 37.4	
	comp=Z,6.8nm,1.4s						
AS31	**Alice Springs**	**41.86**	**162**	P	**P**	**20 23 59.9**	**-0.3**
ASAR	**Alice Springs**	**41.86**	**162**	P	**P**	**20 23 59.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=339,slow=7.0,SNR=9.3						
ASAR	**Alice Springs**	**41.86**	**162**	P	**P**	**20 23 59.2**	**-1.0**
MK31	**Makanchi Array**	**44.00**	**322**	P	**P**	**20 24 17.6**	**+0.2**
MK31				IAmb	IAmb	20 24 28.1	
	comp=Z,1.5nm,1.4s						
MKAR	**Makanchi Array**	**44.00**	**322**	P	**P**	**20 24 17.7**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=120,slow=8.5,SNR=6.3						
MKAR				PcP	**PcP**	**20 26 02.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=93,slow=2.9,SNR=3.5						
TARG	**Taragay, Kyrgy**	**44.72**	**313**	P	**P**	**20 24 23.2**	**-0.4**
TARG				IAmb	IAmb	20 24 30.5	
	comp=Z,8.8nm,1.5s						
KKAR	**Karatay Array**	**50.27**	**313**	P	**P**	**20 25 07.0**	**+0.6**
BBOO	**Buckleboo**	**51.10**	**164**	P	**P**	**20 25 12.2**	**-0.3**
ABKAR	**Akbulak array**	**58.85**	**318**	P	**P**	**20 26 08.7**	**+0.2**
ABKAR	**Akbulak array**	**58.85**	**318**	P	**P**	**20 26 08.8**	**+0.3**
ABKAR				IAmb	IAmb	20 26 09.6	
	comp=Z,1.7nm,0.7s						
CAST	**Castle Rocks**	**74.02**	**28**	P	**P**	**20 27 45.3**	**-0.2**
CAST				IAmb	IAmb	20 27 46.6	
	comp=Z,3.7nm,0.9s						
ILAR	**Eielson Array**	**76.12**	**26**	P	**P**	**20 27 56.7**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=1.6						
SDV	**Santo Domingo**	**152.28**	**25**	PKPbc	**PKPbc**	**20 36 06.2**	**-0.8**
	baz=310,slow=7.9						

*AEIC **19** 20:17:53±5.7, 52°.54N±0°.09×178°.54E±0°.08, h71km±4km, Error ellipse: s-maj=12.9km s-min=6.8km az=189.0*
*IDC **19** 20:17:53.8±0.6, 52°.07N×178°.37E, h118km±4km, mb4.0/36, mb1 4.2/40, mb1mx4.1/63, mbtmp4.4/40, MS3.3/29, Ms1 3.3/29, ms1mx3.1/91, Error ellipse: s-maj=11.3km s-min=6.2km az=173.0*
*NEIC **19** 20:17:53.3±1.5, 51°.99N±0°.09×178°.40E±0°.07, h112km±5km, mb4.6/190, ML4.2(AEIC), Error ellipse: s-maj=13.4km s-min=6.6km az=182.0*
*MOS **19** 20:17:55.0±0.9, 52°.18N×178°.40E, h139km, mb4.5/15, Error ellipse: s-maj=8.2km s-min=7.0km az=110.2*
*GCMT **19** 20:17:56.3±0.4, 51°.97N±0°.03×178°.35E±0°.04, h111km±4km, MW4.8/86, Moment Tensor Solution. s20,c24; s86,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.86±.09; Mθθ-1.50±.14; Mφφ2.36±.11; Mrθ1.17±.07; Mθφ0.05±.13; Mφr-0.22±.07; Best double couple: Mo2.38700×10^16 NP1:ϕ219.00000°, δ61.00000°, λ-26.00000°. NP2:ϕ322.00000°, δ68.00000°, λ-149.00000°. Principal axes: T 2.3750, Plg4.0000°, Azm89.0000°; N 0.0240, Plg52.0000°, Azm354.0000°; P -2.3990, Plg37.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 20:17:53.1±0.4, 51°.90N±0°.05×178°.39E±0°.03, h115km±3km, h115km:pP-P, n515, σ1910/559, mb4.5/154, 16C-8D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.71**	**93**		**Pn**	**20 18 22.7**	**+0.1**
GASW					**Sn**	**20 18 45.3**	**+0.1**
GANO	**Gareloi North**	**1.74**	**91**		**Pn**	**20 18 22.9**	**-0.1**
GALAA	**Gareloi Lava P**	**1.77**	**93**		**Pn**	**20 18 23.5**	**+0.2**
GAEA	**Gareloi East**	**1.78**	**93**		**Pn**	**20 18 23.6**	**+0.1**
GAEA					**Sn**	**20 18 47.8**	**+1.2**
TASE	**Tanaga Southea**	**2.22**	**90**		**Pn**	**20 18 28.9**	**-0.1**
TAFP	**Tanaga Falls P**	**2.25**	**89**		**Pn**	**20 18 29.2**	**-0.1**
TAFP					**Sn**	**20 18 57.9**	**+0.7**
TAPA	**Tanaga Point A**	**2.36**	**91**		**Pn**	**20 18 30.6**	**-0.2**
KIMD	**Kanaga Island**	**2.72**	**91**		**Pn**	**20 18 35.2**	**-0.2**
KICM	**Kanaga Island**	**2.73**	**88**		**Pn**	**20 18 35.6**	**0.0**
KIKV	**Kanaga Island**	**2.75**	**89**		**Pn**	**20 18 35.6**	**-0.3**
SHEM	**Shemya Is, Ala**	**2.76**	**289**	P	**Pn**	**20 18 35.5**	**-0.5**
	141nm,0.3s,baz=55,slow=4.0,SNR=44						
SHEM				S	**Sn**	**20 19 07.7**	**-1.3**
	233nm,0.3s,baz=261,slow=16,SNR=21						
SHEM				LR	LR	20 19 30.4	
	comp=Z,618nm,21.6s,baz=300,slow=36						
SMY	**Shemya**	**2.76**	**289**		**Pn**	**20 18 35.0**	**-0.9**
SMY				Sn	**Sn**	**20 19 08.7**	**-0.3**
KIWB	**Kanaga Island**	**2.77**	**89**	Pn	**Pn**	**20 18 35.5**	**-0.6**
ADK	**Adak**	**3.05**	**88**	P	**Pn**	**20 18 39.0**	**-0.8**
ADK						20 19 15.7	
ADK	**Adak**	**3.05**	**88**	Pn	**Pn**	**20 18 39.0**	**-0.8**
GSCK	**Great Sitkin C**	**3.37**	**86**		**Pn**	**20 18 43.6**	**-0.4**
GSTD	**Great Sitkin T**	**3.38**	**85**		**Pn**	**20 18 43.4**	**-0.9**
GSTR	**Great Sitkin T**	**3.44**	**85**	Pn	**Pn**	**20 18 44.4**	**-0.5**
GSMY	**Great Sitkin M**	**3.44**	**85**		**Pn**	**20 18 44.5**	**-0.5**
ATKA	**Atka Island**	**4.59**	**83**		**Pn**	**20 18 59.7**	**-0.6**
KOFP	**Korovin Flat P**	**4.65**	**82**		**Pn**	**20 19 01.4**	**+0.2**
NIKH	**Nikolski High**	**7.87**	**77**	Pn	**Pn**	**20 19 45.3**	**+0.7**
NIKH	**Nikolski High**	**7.87**	**77**	P	**Pn**	**20 19 45.6**	**+1.0**
	baz=272,SNR=5.4						
OKSO	**Okmok South**	**8.31**	**75**		**Pn**	**20 19 51.5**	**+0.8**
SPIA	**Saint Paul Isl**	**8.46**	**47**	Pn	**Pn**	**20 19 53.5**	**+1.0**
SPIA	**Saint Paul Isl**	**8.46**	**47**	P	**Pn**	**20 19 54.4**	**+1.9**
	baz=238,SNR=7.4						
MSW	**Makushin Switc**	**9.19**	**71**		**Pn**	**20 20 03.3**	**+0.9**
MREP	**Makushin Rep't**	**9.20**	**72**		**Pn**	**20 20 03.1**	**+0.5**
UNV	**Unalaska Valle**	**9.34**	**72**		**Pn**	**20 20 05.2**	**+0.7**
UNV	**Unalaska Valle**	**9.34**	**72**	P	**Pn**	**20 20 04.9**	**+0.4**
	baz=268						
AKRB	**Akutan Reef Bi**	**9.63**	**70**		**Pn**	**20 20 09.3**	**+0.8**
ZRO	**Akutan Zero**	**9.68**	**71**		**Pn**	**20 20 09.6**	**+0.5**
AHB	**Akutan Harbor**	**9.78**	**71**		**Pn**	**20 20 10.1**	**-0.3**
AKSA	**Akutan Strait**	**9.85**	**71**		**Pn**	**20 20 12.3**	**+0.9**
WESE	**West Dahl East**	**10.54**	**69**		**Pn**	**20 20 21.2**	**+0.5**
FALS	**False Pass**	**11.26**	**68**	Pn	**Pn**	**20 20 30.5**	**+0.1**
PET	**Petropavlovsk**	**12.09**	**283**	*e*P	**Pn**	**20 20 41.0**	**-0.3**
PET				*e*S	**Sn**	**20 22 48.5**	**-5.7**
PET				pmax	pmax		
	comp=Z,57nm,1.0s						
PET				pmax	pmax		
	comp=Z,100nm,8.4s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
PET	**Petropavlovsk**	**12.09**	**283**	Pn	**Pn**	**20 20 41.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**12.66**	**284**	P	**Pn**	**20 20 49.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**12.66**	**284**	Pn	**Pn**	**20 20 49.4**	**+0.5**
PETK	**Petropavlovsk-**	**12.66**	**284**	P	**Pn**	**20 20 49.5**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=100,slow=17,SNR=23						
PETK				LR	LR	20 26 03.3	
	comp=Z,17nm,18.9s,baz=76,slow=39						
PETK	**Petropavlovsk-**	**12.66**	**284**	Pn	**Pn**	**20 20 49.0**	**+0.2**
SDPT	**Sand Point**	**13.00**	**66**	Pn	**Pn**	**20 20 51.7**	**-1.5**
SDPT	**Sand Point**	**13.00**	**66**	P	**P**	**20 20 58.1**	**-1.2**
	baz=266						
GAMB	**Gambell**	**13.00**	**20**	Pn	**Pn**	**20 20 54.2**	**+1.0**
GAMB	**Gambell**	**13.00**	**20**	P	**P**	**20 20 56.7**	**-2.5**
	baz=209						
SKR	**Severo-Kuril's**	**13.98**	**274**	*e*P	**P**	**20 21 08.6**	**-1.6**
SKR				pmax	pmax		
	comp=Z,129nm,1.0s						
SKR				pmax	pmax		
	comp=Z,100nm,3.7s						
ANM	**Nome**	**15.24**	**27**	Pn	**Pn**	**20 21 21.7**	**-0.1**
ANM	**Nome**	**15.24**	**27**	P	**Pn**	**20 21 22.4**	**+0.7**
	baz=222						
TNA	**Tin City**	**15.38**	**22**	P	**Pn**	**20 21 23.4**	**-0.1**
TNA				IAmb	IAmb	20 21 52.4	
	comp=Z,34nm,0.9s						
TNA	**Tin City**	**15.38**	**22**	P	**P**	**20 21 24.7**	**-0.8**
	baz=214						
P18K	**Big Mountain,**	**16.59**	**53**	P	**P**	**20 21 38.8**	**-0.2**
P18K				IAmb	IAmb	20 21 41.4	
	comp=Z,39nm,1.0s						
P18K	**Big Mountain,**	**16.59**	**53**	P	**P**	**20 21 40.5**	**+1.5**
	baz=256						
SII	**Sitkinak Islan**	**16.64**	**63**	Pn	**Pn**	**20 21 37.6**	**-1.6**
SVW2	**Sparrevohn**	**16.95**	**47**	P	**Pn**	**20 21 42.7**	**-0.3**
SVW2				IAmb	IAmb	20 21 50.5	
	comp=Z,24nm,0.9s						
OHAK	**Old Harbor**	**17.19**	**61**	P	**P**	**20 21 42.9**	**-2.8**
OHAK				IAmb	IAmb	20 22 01.9	
	comp=Z,76nm,1.3s						
OHAK	**Old Harbor**	**17.19**	**61**	P	**P**	**20 21 42.8**	**-2.8**
	baz=266						
BILL	**Bilibino**	**17.23**	**345**		**Pn**	**20 21 46.8**	**+0.5**
BILL				IAmb	IAmb	20 22 13.3	
	comp=Z,37nm,1.0s						
MA2	**Magadan**	**17.24**	**307**	P	**Pn**	**20 21 46.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=89,slow=9.8,SNR=25						
MA2				PcP	**PcP**	**20 26 22.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=87,slow=4.6,SNR=4.4						
MA2				LR	LR	20 28 55.9	
	comp=Z,42nm,18.9s,baz=124,slow=39						
MA2	**Magadan**	**17.24**	**307**		**Pn**	**20 21 46.9**	**+0.4**
O19K	**Port Alsworth**	**17.25**	**51**		**P**	**20 21 46.0**	**-0.2**
O19K	**Port Alsworth**	**17.25**	**51**	P	**Pn**	**20 21 49.3**	**+2.8**
	baz=255,SNR=30						
N19K	**Bonanza Creek**	**17.36**	**49**		**Pn**	**20 21 48.9**	**+0.9**
N19K	**Bonanza Creek**	**17.36**	**49**	P	**Pn**	**20 21 49.5**	**+1.6**
	baz=253,SNR=27						
TTA	**Tatalina**	**17.52**	**41**		**Pn**	**20 21 50.0**	**+0.1**
TTA				IAmb	IAmb	20 21 51.9	
	comp=Z,28nm,0.9s						
TTA	**Tatalina**	**17.52**	**41**	P	**Pn**	**20 21 50.5**	**+0.6**
	baz=244,SNR=14						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**20 21 48.0**	**-2.4**
	comp=Z,6.6nm,0.3s,baz=337,slow=1.2,SNR=97						
KDAK				LR	LR	20 28 34.2	
	comp=Z,90nm,20.3s,baz=268,slow=36						
KDAK	**Kodiak Island**	**17.63**	**59**	*i* P	**P**	**20 21 48.2**	**-2.3**
KDAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**20 21 48.1**	**-2.4**
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**20 21 47.8**	**-2.7**
	baz=265						
L19K	**White Mountain**	**17.69**	**44**	P	**Pn**	**20 21 51.6**	**-0.3**
L19K				IAmb	IAmb	20 21 56.0	
	comp=Z,46nm,0.9s						
L19K	**White Mountain**	**17.69**	**44**	P	**Pn**	**20 21 52.5**	**+0.7**
	baz=248,SNR=17						
SEY	**Seymchan**	**17.69**	**319**	P	**P**	**20 21 51.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=117,slow=12,SNR=14						
SEY				PcP	**PcP**	**20 26 23.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=3.4,SNR=8.3						
SEY	**Seymchan**	**17.69**	**319**	*ce*P	**P**	**20 21 50.5**	**-0.6**
SEY				pmax	pmax		
	comp=Z,15nm,2.5s						
M19K	**Big River Lodg**	**17.78**	**45**	P	**Pn**	**20 21 53.4**	**+0.5**
M19K				IAmb	IAmb	20 22 03.5	
	comp=Z,24nm,0.8s						
M19K	**Big River Lodg**	**17.78**	**45**	P	**Pn**	**20 21 53.7**	**+0.8**
	baz=249						
O20K	**Slope Mountain**	**18.04**	**52**	P	**Pn**	**20 21 57.6**	**+1.5**
	baz=257,SNR=7.8						
RSO	**Redoubt South**	**18.07**	**50**	P	**Pn**	**20 21 56.9**	**+0.3**
GCSA	**Galena City Sc**	**18.11**	**35**	P	**Pn**	**20 21 57.0**	**+0.2**
	baz=237						
L20K	**Farewell, AK**	**18.22**	**44**	P	**Pn**	**20 21 58.2**	**0.0**
	baz=248,SNR=15						
K20K	**Telida**	**18.50**	**41**	P	**Pn**	**20 22 00.8**	**-0.7**
K20K				IAmb	IAmb	20 22 04.8	
	comp=Z,35nm,0.9s						
K20K	**Telida**	**18.50**	**41**	P	**Pn**	**20 22 00.9**	**-0.7**
	baz=246,SNR=20						
SPCR	**Spurr Chakacha**	**18.53**	**48**	P	**Pn**	**20 22 02.4**	**+0.4**
	baz=254						
CNPM	**China Poot**	**18.60**	**54**	P	**P**	**20 22 00.5**	**-0.6**
BRLK	**Bradley Lake**	**18.82**	**53**	P	**P**	**20 22 02.4**	**-1.2**
J20K	**Nowinta River**	**18.84**	**39**	P	**P**	**20 22 04.4**	**+0.7**
J20K				IAmb	IAmb	20 22 08.0	
	comp=Z,24nm,0.8s						
J20K	**Nowinta River**	**18.84**	**39**	P	**Pn**	**20 22 04.6**	**-0.9**
	baz=243,SNR=22						
BRSE	**Bradley Lake S**	**18.89**	**53**	P	**P**	**20 22 03.9**	**-0.3**
	baz=261,SNR=14						
PPLA	**Purkeypile**	**19.10**	**43**	P	**Pn**	**20 22 08.0**	**-0.7**
PPLA	**Purkeypile**	**19.10**	**43**	P	**Pn**	**20 22 08.6**	**-0.1**
	baz=250,SNR=9.3						
CAST	**Castle Rocks**	**19.35**	**42**	P	**P**	**20 22 10.1**	**+0.9**
CAST				IAmb	IAmb	20 22 11.4	
	comp=Z,30nm,0.7s						
CAST	**Castle Rocks**	**19.35**	**42**	P	**Pn**	**20 22 10.4**	**-1.0**
	baz=248,SNR=22						
CHUM	**Lake Minchumin**	**19.44**	**41**	P	**Pn**	**20 22 11.5**	**-0.9**
	baz=247,SNR=45						
O22K	**Cooper Landing**	**19.54**	**51**	P	**P**	**20 22 10.8**	**-0.4**
O22K	**Cooper Landing**	**19.54**	**51**	P	**P**	**20 22 11.5**	**+0.3**
	baz=260,SNR=8.3						
SEW	**Seward**	**19.59**	**53**	P	**P**	**20 22 10.8**	**-1.0**
SEW	**Seward**	**19.59**	**53**	P	**P**	**20 22 11.0**	**-0.9**
	baz=261						
M22K	**Willow**	**19.65**	**48**	P	**P**	**20 22 11.0**	**-1.4**
RC01	**Rabbit Creek A**	**19.66**	**50**	P	**P**	**20 22 12.1**	**-0.5**
RC01				IAmb	IAmb	20 22 16.7	
	comp=Z,25nm,0.6s						
RC01	**Rabbit Creek A**	**19.66**	**50**	P	**P**	**20 22 12.7**	**+0.1**
	baz=258,SNR=6.9						
CUT	**Chulitna**	**19.77**	**46**	P	**P**	**20 22 14.2**	**+0.4**
CUT	**Chulitna**	**19.77**	**46**	P	**P**	**20 22 14.8**	**+1.0**
	baz=254,SNR=5.1						
KTH	**Kantishna Hill**	**19.88**	**42**	P	**P**	**20 22 15.4**	**+0.4**
KTH				IAmb	IAmb	20 22 18.0	
	comp=Z,38nm,1.1s						
IMAR	**Indian Mountai**	**19.89**	**34**	P	**P**	**20 22 15.1**	**0.0**
H21K	**Melozitna Rive**	**20.06**	**36**	P	**P**	**20 22 17.4**	**+0.5**
H21K				IAmb	IAmb	20 22 18.9	
	comp=Z,20nm,0.9s						
H21K	**Melozitna Rive**	**20.06**	**36**	P	**P**	**20 22 18.0**	**+1.1**
	baz=241,SNR=16						
BPAW	**Bear Paw Mtn.**	**20.06**	**41**	P	**P**	**20 22 17.5**	**+0.6**
BPAW				IAmb	IAmb	20 22 18.9	
	comp=Z,22nm,0.9s						
BPAW	**Bear Paw Mtn.**	**20.06**	**41**	P	**P**	**20 22 17.9**	**+1.0**
	baz=248,SNR=14						
PMR	**Palmer**	**20.07**	**48**	P	**P**	**20 22 16.0**	**-0.9**
PMR				pmax	pmax		
	comp=Z,14nm,0.6s						
PMR	**Palmer**	**20.07**	**48**	P	**P**	**20 22 16.0**	**-0.9**
PMR				IAmb	IAmb	20 22 20.0	
	comp=Z,14nm,0.6s						
PMR	**Palmer**	**20.07**	**48**	P	**P**	**20 22 17.4**	**+0.4**
	baz=257						
TRF	**Thorofare Moun**	**20.11**	**43**	P	**P**	**20 22 18.8**	**+1.2**
	baz=251,SNR=14						
I21K	**Tanana**	**20.13**	**37**	P	**P**	**20 22 18.5**	**+0.9**
I21K				IAmb	IAmb	20 22 19.8	
	comp=Z,30nm,0.8s						
I21K	**Tanana**	**20.13**	**37**	P	**P**	**20 22 18.8**	**+1.2**
	baz=244,SNR=19						
PWL	**Port Wells**	**20.28**	**51**	P	**P**	**20 22 18.5**	**-0.8**
	baz=260						
KNK	**Knik Glacier**	**20.34**	**49**	P	**P**	**20 22 19.0**	**-1.0**
KNK				IAmb	IAmb	20 22 21.8	
	comp=Z,34nm,0.8s						
KNK	**Knik Glacier**	**20.34**	**49**	P	**P**	**20 22 20.8**	**+0.9**
	baz=258,SNR=10						
SML	**Sawmill**	**20.49**	**48**	P	**P**	**20 22 20.6**	**-0.9**
SML	**Sawmill**	**20.49**	**48**	P	Pn	20 22 23.2	-1.6
	baz=258

ILAR ScP **ScP** **20 29 54.9 -2.6**
comp=Z,2.2nm,0.7s,baz=282,slow=3.3,SNR=18
ILAR LR LR 20 30 17.3
comp=Z,74nm,20.1s,baz=228,slow=34
ILAR Eielson Array 21.96 41 P **P** **20 22 36.1 -1.1**
PAX Paxson 22.06 46 P **P** **20 22 37.6 -0.7**
PAX pmax pmax
comp=Z,20nm,0.8s
PAX Paxson 22.06 46 P **P** **20 22 37.6 -0.7**
PAX IAmb IAmb 20 22 39.5
comp=Z,20nm,0.8s
PAX Paxson 22.06 46 P **P** **20 22 37.7 -0.7**
baz=258,SNR=14
HARP HAARP 22.07 47 P **P** **20 22 39.7 +1.3**
baz=260
BMRM Bremner River 22.10 51 P **P** **20 22 37.8 -0.8**
BMRM IAmb IAmb 20 22 38.8
comp=Z,50nm,1.0s
BMRM Bremner River 22.10 51 P **P** **20 22 38.0 -0.7**
baz=264,SNR=6.9
N25K Chitina, Valde 22.19 50 P **P** **20 22 39.5 -0.2**
N25K IAmb IAmb 20 22 43.1
comp=Z,19nm,0.8s
N25K Chitina, Valde 22.19 50 P **P** **20 22 39.3 -0.4**
baz=262
TYV Tymovskoe 22.19 282 *eP* **P** **20 22 41.1 +1.4**
TYV pmax pmax
comp=Z,29nm,0.7s
TYV pmax pmax
comp=Z,300nm,4.2s
A21K Barrow 22.48 21 P **P** **20 22 41.3 -1.1**
A21K IAmb IAmb 20 23 08.7
comp=Z,38nm,1.1s
A21K Barrow 22.48 21 P **P** **20 22 42.3 -0.1**
baz=224,SNR=5.5
RIDG Independent Ri 22.52 44 P **P** **20 22 41.7 -1.2**
RIDG Independent Ri 22.52 44 P **P** **20 22 41.9 -1.1**
baz=257
GLB Gilahina Butte 22.54 50 P **P** **20 22 42.7 -0.5**
GLB IAmb IAmb 20 22 46.5
comp=Z,32nm,0.6s
TOLK Toolik Lake Re 22.67 30 P **P** **20 22 44.5 +0.1**
TOLK IAmb IAmb 20 22 48.2
comp=Z,12nm,0.6s
TOLK Toolik Lake Re 22.67 30 P **P** **20 22 44.4 0.0**
baz=239,SNR=18
VRDI Verde Repeater 22.68 51 P **P** **20 22 44.1 -0.7**
VRDI IAmb IAmb 20 22 47.3
comp=Z,25nm,0.7s
DOT Dot Lake 22.83 44 P **P** **20 22 44.7 -1.3**
DOT IAmb IAmb 20 22 47.3
comp=Z,25nm,0.8s
MENT Mentasta 22.83 46 P **P** **20 22 46.6 +0.6**
MENT IAmb IAmb 20 22 50.2
comp=Z,26nm,0.6s
WAX Waxell Ridge 22.90 53 P **P** **20 22 47.1 +0.3**
MCARA McCarthy VSAT 22.91 50 P **P** **20 22 46.6 -0.1**
baz=264,SNR=9.5
TGL Tana Glacier 22.94 52 P **P** **20 22 46.9 -0.2**
TGL IAmb IAmb 20 22 49.0
comp=Z,37nm,0.8s
SCRK Sand Creek 22.94 44 P **P** **20 22 45.6 -1.7**
SCRK Sand Creek 22.94 44 P **P** **20 22 45.5 -1.7**
baz=257,SNR=8.2
L26K Log Cabin Wild 23.02 46 P **P** **20 22 47.6 -0.2**
baz=260,SNR=16
ISLE Juniper Island 23.16 53 P **P** **20 22 49.4 +0.1**
ISLE IAmb IAmb 20 22 50.9
comp=Z,33nm,0.8s
J26L Joseph Creek 23.25 43 P **P** **20 22 48.8 -1.3**
baz=256,SNR=28
YAH Yahtse 23.44 53 P **P** **20 22 52.8 +0.8**
GRNC Granite Creek 23.46 52 P **P** **20 22 52.2 0.0**
BARN Barnard Glacie 23.53 51 P **P** **20 22 52.9 +0.2**
YSS Yuzh-Sakhalins 23.54 272 *ce*P **P** **20 22 54.5 +1.8**
YSS pmax pmax
comp=Z,57nm,1.3s
YSS Yuzh-Sakhalins 23.54 272 P **P** **20 22 54.1 +1.4**
M27K Edge Creek, AK 23.57 48 P **P** **20 22 53.6 +0.6**
baz=263,SNR=8.3
CTG Chitna Glacier 23.68 52 P **P** **20 22 54.4 +0.4**
baz=267,SNR=7.3
L27K Beaver Creek, 23.70 46 P **P** **20 22 54.0 -0.1**
L27K IAmb IAmb 20 22 56.6
comp=Z,31nm,0.8s
L27K Beaver Creek, 23.70 46 P **P** **20 22 54.2 +0.1**
baz=262,SNR=34
BCAR Beaver Creek A 23.72 46 P **P** **20 22 54.2 -0.1**
TABL Table Mountain 23.75 53 P **P** **20 22 54.1 -0.6**
BMAR Burnt Mountain 23.79 35 P **P** **20 22 54.9 0.0**
BVCY Beaver Creek 24.05 48 P **P** **20 22 57.5 +0.3**
baz=264,SNR=27
YUK3 Moose Creek 24.17 50 P **P** **20 22 58.6 +0.1**
baz=266,SNR=30
PINM Pinnacle 24.18 54 P **P** **20 22 59.0 +0.6**
baz=270
EGAK Eagle 24.32 42 P **P** **20 22 58.9 -0.7**
EGAK IAmb IAmb 20 23 00.7
comp=Z,42nm,0.9s
EGAK Eagle 24.32 42 P **P** **20 22 59.3 -0.3**
baz=258,SNR=24
BCPM Bancas Point 24.48 54 P **P** **20 23 01.1 -0.1**
PNL Peninsula 24.60 55 P **P** **20 23 02.1 -0.2**
baz=272
DAWY Dawson 24.94 44 P **P** **20 23 05.3 -0.1**
DAWY IAmb IAmb 20 23 08.3
comp=Z,19nm,0.7s
DAWY Dawson 24.94 44 P **P** **20 23 05.5 +0.2**
baz=262,SNR=23
JKA Kamikawa-asahi 24.97 266 P **P** **20 23 07.0 +1.3**
JKA IAmb IAmb 20 23 10.4
comp=Z,30nm,0.9s
ASAJ Asahikawa 24.98 266 P **P** **20 23 06.7 +0.9**
comp=Z,22nm,0.8s,baz=91,slow=7.5,SNR=9.6
ASAJ LR LR 20 33 14.0
comp=Z,22nm,20.2s,baz=304,slow=37
ASAJ Asahikawa 24.98 266 P **P** **20 23 07.0 +1.3**
ASAJ pmax pmax
comp=Z,30nm,0.9s
YUK4 Talbot Arm 25.01 51 P **P** **20 23 09.2 +3.1**
baz=268,SNR=50
YUK6 Outpost Mounta 25.13 52 P **P** **20 23 09.4 +2.2**
baz=270,SNR=9.5
HYT Haines Junctio 25.55 52 P **P** **20 23 11.4 +0.5**
HYT Haines Junctio 25.55 52 P **P** **20 23 13.7 +2.8**
baz=271,SNR=30
I29M Ogilvie Camp, 25.63 42 P **P** **20 23 10.7 -0.8**
I29M IAmb IAmb 20 23 14.3
comp=Z,11nm,0.7s
I29M Ogilvie Camp, 25.63 42 P **P** **20 23 10.7 -0.8**
baz=260,SNR=12
M30M Minto, Yukon 25.95 48 P **P** **20 23 18.4 +4.0**
baz=268,SNR=17
GRNR Gornyy 25.99 284⇑*iP* **P** **20 23 15.4 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
N31M Braeburn, Yuko 26.39 51 P **P** **20 23 22.1 +3.8**
baz=271
EPYK Eagle Plains 26.46 40 P **P** **20 23 18.6 -0.3**
EPYK IAmb IAmb 20 23 33.6
comp=Z,13nm,0.8s
EPYK Eagle Plains 26.46 40 P **P** **20 23 18.6 -0.3**
baz=260,SNR=8.9
M31M Drury Creek, Y 27.05 49 P **P** **20 23 25.0 +0.7**
M31M IAmb IAmb 20 23 30.1
comp=Z,15nm,0.6s
M31M Drury Creek, Y 27.05 49 P **P** **20 23 28.8 +4.4**
baz=270,SNR=15
JIS Juneau Island 27.29 58 P **P** **20 23 26.1 -0.3**
JIS IAmb IAmb 20 23 27.7
comp=Z,11nm,0.8s
YAK Yakutsk 27.75 310 P **P** **20 23 29.4 -1.0**
comp=Z,1.7nm,0.3s,baz=161,slow=0.7,SNR=1.0
YAK PcP **PcP** **20 26 43.6 -0.2**
comp=Z,5.4nm,0.4s,baz=305,slow=1.7,SNR=4.2
YAK ScP **ScP** **20 30 11.5 -2.3**
comp=Z,3.3nm,0.4s,baz=151,slow=1.1,SNR=4.5
YAK LR LR 20 33 38.3
comp=Z,84nm,20.9s,baz=88,slow=34
YAK Yakutsk 27.75 310 *ce*P **P** **20 23 30.2 -0.3**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 27.75 310 P **P** **20 23 29.3 -1.2**
INK Inuvik 28.05 36 P **P** **20 23 33.4 +0.3**
comp=Z,3.2nm,0.5s,baz=275,slow=6.7,SNR=8.8
INK LR LR 20 35 19.2
comp=Z,73nm,18.7s,baz=212,slow=37
INK Inuvik 28.05 36 P **P** **20 23 33.0 0.0**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 28.05 36 P **P** **20 23 33.0 0.0**
TIXI Tiksi 29.32 331 P **P** **20 23 43.8 -0.5**
comp=Z,0.5nm,0.4s,baz=90,slow=23,SNR=3.6
TIXI PcP **PcP** **20 26 46.9 -0.7**
comp=Z,1.7nm,0.5s,baz=91,slow=23,SNR=7.6
TIXI ScP **ScP** **20 30 16.8 -1.7**
comp=Z,7.6nm,0.7s,baz=270,slow=21,SNR=46
TIXI Tiksi 29.32 331 **P** **20 23 44.0 -0.3**
KLR Kul'dur 29.35 284 P **P** **20 23 45.3 +0.5**
comp=Z,21nm,0.6s,baz=63,slow=8.6,SNR=75
DLBC Dease Lake 29.53 57 P **P** **20 23 46.9 +0.5**
comp=Z,4.6nm,0.7s,baz=311,slow=6.1,SNR=6.0
DLBC LR LR 20 35 53.7
comp=Z,94nm,18.8s,baz=258,slow=37
DLBC Dease Lake 29.53 57 P **P** **20 23 46.6 +0.2**
ZEA Zeya 30.42 294 *eP* **P** **20 23 53.7 -0.5**
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
A36M Sachs Harbour 31.49 30 P **P** **20 24 04.3 +0.9**
A36M IAmb IAmb 20 24 06.4
comp=Z,8.3nm,0.6s
A36M Sachs Harbour 31.49 30 P **P** **20 24 04.8 +1.5**
baz=261,SNR=9.8
USRK Ussuriysk Ar. 31.50 275 P **P** **20 24 04.1 +0.3**
comp=Z,5.8nm,0.7s,baz=56,slow=8.4,SNR=6.3
USRK PcP **PcP** **20 26 54.6 +0.8**
comp=Z,4.1nm,0.6s,baz=62,slow=6.7,SNR=5.7
USRK Ussuriysk Ar. 31.50 275 P **P** **20 24 03.5 -0.2**
MJAR Matsushiro Arr 32.16 257 PcP **PcP** **20 26 56.1 +0.3**
comp=Z,1.4nm,0.5s,baz=65,slow=1.5,SNR=8.3
MJAR LR LR 20 42 36.5
comp=Z,6.2nm,18.0s,baz=48,slow=46
BBB Bella Bella 32.28 68 LR LR 20 35 47.4
comp=Z,65nm,19.9s,baz=282,slow=33
MDJ Mudanjiang 32.77 277 P **P** **20 24 15.0 +0.2**
MDJ pP pP 20 24 38.6 -1.2
MDJ sP sP 20 24 48.9 -3.9
MDJ PcP **PcP** **20 26 58.5 +1.2**
MDJ ScP **ScP** **20 30 31.1 +0.6**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,160nm,4.4s
H11N2 WAKE ISLAND Hy 33.34 200 T T 20 59 43.1
baz=11,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 33.35 200 T T 21 00 02.7
baz=11,slow=76,SNR=20
H11N1 WAKE ISLAND Hy 33.36 200 T T 20 59 45.9
baz=11,slow=76,SNR=21
BNX BinXian 33.55 280⇑P **P** **20 24 20.9 -0.7**
BNX pmax pmax
comp=Z,57nm,0.7s
H11S1 WAKE ISLAND Hy 34.57 200 T T 21 01 34.8
baz=10,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 34.59 200 T T 21 01 30.5
baz=10,slow=76,SNR=10.0
H11S2 WAKE ISLAND Hy 34.59 200 T T 21 01 44.8
baz=10,slow=76,SNR=4.3
CLRS Cowichan Lake 35.98 72 P **P** **20 24 42.5 0.0**
CLRS IAmb IAmb 20 24 43.0
comp=Z,24nm,1.4s
YKA Yellowknife Ar 36.14 46 P **P** **20 24 43.8 +0.1**
comp=Z,4.5nm,0.8s,baz=281,slow=8.2,SNR=40
YKA pP **pwP** **20 25 09.6 +0.7**
comp=Z,2.9nm,0.7s,baz=284,slow=8.2,SNR=5.9
YKA PcP **PcP** **20 27 05.5 -1.3**
comp=Z,1.2nm,0.7s,baz=279,slow=3.5,SNR=6.5
YKA ScP **ScP** **20 30 39.8 -2.5**
comp=Z,1.8nm,0.9s,baz=298,slow=3.4,SNR=14
YKA PKiKP **PKiKP** **20 34 23.9 -1.6**
comp=Z,0.1nm,0.4s,baz=298,slow=0.7,SNR=4.2
YKA LR LR 20 40 19.1
comp=Z,98nm,18.5s,baz=320,slow=37
YKA Yellowknife Ar 36.14 46 P **P** **20 24 43.5 -0.2**
HIA Hailar 36.46 290 P **P** **20 24 46.0 -0.7**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 36.46 290 P **P** **20 24 46.0 -0.7**
HIA IAmb IAmb 20 24 46.7
comp=Z,9.6nm,0.6s
LLLB Lillooet 36.49 68 P **P** **20 24 46.8 -0.1**
LLLB IAmb IAmb 20 24 48.3
comp=Z,4.7nm,0.8s
NLWA Neilton Lookou 36.81 74 P **P** **20 24 49.5 -0.2**
NLWA IAmb IAmb 20 25 18.2
comp=Z,25nm,1.4s
D03D Eldon 37.20 73 P **P** **20 24 53.4 +0.5**
baz=300
B05A Bryant 37.44 71 P **P** **20 24 55.3 +0.5**
baz=300
KSRS Korea Array 37.89 268 P **P** **20 25 00.8 +2.0**
comp=Z,2.1nm,0.8s,baz=58,slow=8.1,SNR=8.3
KSRS PcP **PcP** **20 27 13.8 +1.3**
comp=Z,2.2nm,0.7s,baz=40,slow=2.7,SNR=10
B08A Colville Reser 39.01 70 P **P** **20 25 07.0 -1.1**
L02E Cave Junction 39.74 81 P **P** **20 25 15.2 +1.0**
L02E IAmb IAmb 20 25 20.0
comp=Z,22nm,1.4s
HAWA Hanford 39.88 72 P **P** **20 25 15.1 -0.2**
HAWA IAmb IAmb 20 25 16.4
comp=Z,11nm,1.3s
RES Resolute Bay 39.99 24 LR LR 20 42 58.9
comp=Z,40nm,21.3s,baz=270,slow=38
RES Resolute Bay 39.99 24 P **P** **20 25 16.4 +0.6**
EDM Edmonton 40.08 60 P **P** **20 25 16.5 -0.4**
EDM pmax pmax
comp=Z,18nm,0.7s
EDM Edmonton 40.08 60 P **P** **20 25 16.5 -0.4**
EUNU Eureka 40.25 16 P **P** **20 25 18.3 +0.3**
NEW Newport 40.33 69 P **P** **20 25 18.2 -0.9**
comp=Z,3.5nm,0.4s,baz=294,slow=9.4,SNR=12
NEW PcP **PcP** **20 27 20.9 +0.7**
comp=Z,1.3nm,0.5s,baz=297,slow=4.5,SNR=2.4
NEW Newport 40.33 69 P **P** **20 25 18.4 -0.7**
NEW Newport 40.33 69 P **P** **20 25 18.0 -1.0**
baz=301,SNR=5.8
L04D Klamath Falls 40.50 80 P **P** **20 25 21.5 +0.9**
baz=306
YBH Yreka Blue Hor 40.53 80 P **P** **20 25 21.8 +1.0**
comp=Z,4.9nm,0.8s,baz=286,slow=3.1,SNR=13
YBH LR LR 20 39 46.7
comp=Z,33nm,21.5s,baz=306,slow=32
YBH Yreka Blue Hor 40.53 80 P **P** **20 25 21.9 +1.1**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 40.53 80 P **P** **20 25 21.9 +1.1**
J05D Fort Rock, OR 40.55 78 P **P** **20 25 21.8 +0.8**
baz=305
M02C Callahan 40.64 81 P **P** **20 25 23.0 +1.3**
baz=307
K05A Summer Lake 41.07 78 P **P** **20 25 25.6 +0.2**
K05A IAmb IAmb 20 25 26.6
comp=Z,15nm,1.3s
O02D Mt. Diablo Mer 41.40 82 P **P** **20 25 28.4 +0.5**
O02D IAmb IAmb 20 25 30.5
comp=Z,16nm,1.4s
O02D Mt. Diablo Mer 41.40 82 P **P** **20 25 29.0 +1.1**
baz=308
WALA Waterton Lakes 41.77 66 P **P** **20 25 30.4 -0.4**
WALA IAmb IAmb 20 25 31.1
comp=Z,6.8nm,0.9s
MOD Modoc Plateau 41.90 79 P **P** **20 25 32.4 +0.3**
MOD IAmb IAmb 20 25 34.0
comp=Z,5.3nm,0.6s
O03E Paynes Creek 41.93 82 P **P** **20 25 32.8 +0.6**
baz=308,SNR=5.9
BMO Blue Mountains 42.03 73 P **P** **20 25 32.5 -0.5**
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 42.03 73 P **P** **20 25 32.5 -0.5**
JTMT Jette 42.24 68 P **P** **20 25 33.7 -1.1**
WVOR Wild Horse Val 42.60 77 P **P** **20 25 37.5 -0.2**
WVOR pmax pmax
comp=Z,3.0nm,0.6s
WVOR Wild Horse Val 42.60 77 P **P** **20 25 37.5 -0.2**
MSO Missoula 42.92 69 P **P** **20 25 39.1 -1.2**
MSO Missoula 42.92 69 P **P** **20 25 39.0 -1.2**
baz=304
NRIK Noril'sk 43.06 329 P **P** **20 25 41.5 +0.6**
comp=Z,2.0nm,0.6s,baz=83,slow=10,SNR=4.0
BEKR Beckworth 43.07 81 P **P** **20 25 41.6 0.0**
MPK Martis Peak 43.62 82 P **P** **20 25 46.1 -0.1**
MPK IAmb IAmb 20 25 48.5
comp=Z,28nm,1.5s
PNTR Pine Nut 44.01 82 P **P** **20 25 49.2 0.0**
PNTR IAmb IAmb 20 25 52.6
comp=Z,12nm,0.6s
CMB Columbia Colle 44.18 83 P **P** **20 25 50.8 +0.5**
CMB pmax pmax
comp=Z,8.0nm,1.5s
CMB Columbia Colle 44.18 83 P **P** **20 25 50.8 +0.5**
ULN Ulaanbaatar 44.45 294 *ce*P **P** **20 25 53.3 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 44.45 294 P **P** **20 25 52.5 0.0**
HLID Hailey 44.47 73 P **P** **20 25 52.3 -0.5**
baz=306,SNR=5.9
BCYI Bear Canyon 44.64 72 P **P** **20 25 53.4 -0.8**
BMN Battle Mountai 44.64 78 P **P** **20 25 54.3 +0.2**
BMN pmax pmax
comp=Z,5.0nm,0.6s
BMN Battle Mountai 44.64 78 P **P** **20 25 54.3 +0.2**
BMN IAmb IAmb 20 25 55.4
comp=Z,4.8nm,0.6s
MCMT McKenzie Canyo 44.67 71 P **P** **20 25 53.5 -0.9**
SONM Songino Array 44.84 295 P **P** **20 25 56.5 +0.9**
comp=Z,4.2nm,0.5s,baz=63,slow=7.8,SNR=40
SONM pP **pwP** **20 26 23.5 -0.2**
comp=Z,1.6nm,0.7s,baz=65,slow=10.0,SNR=3.1
SONM PcP **PcP** **20 27 35.7 +0.4**
comp=Z,2.4nm,0.7s,baz=64,slow=2.8,SNR=8.6
SONM ScP **ScP** **20 31 17.0 +0.2**
comp=Z,2.8nm,0.8s,baz=54,slow=2.0,SNR=13
SONM LR LR 20 44 46.1
comp=Z,31nm,21.5s,baz=70,slow=36
SONM Songino Array 44.84 295 P **P** **20 25 56.1 +0.5**
SONM **ScP** **20 31 16.6 -0.3**
BOZ Bozeman (W) 44.94 69 P **P** **20 25 55.6 -0.9**
baz=305
KVN Kaiserville 44.95 81 P **P** **20 25 57.0 +0.3**
KVN pmax pmax
comp=Z,4.0nm,0.6s
KVN Kaiserville 44.95 81 P **P** **20 25 57.0 +0.3**
KVN IAmb IAmb 20 25 58.8
comp=Z,4.3nm,0.6s
TULEG Thule 45.02 18 P **P** **20 25 56.0 -0.5**
TULEG IAmb IAmb 20 26 15.6
comp=Z,22nm,1.4s
ZAK Zakamensk 45.18 299 *eP* **P** **20 25 58.4 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
NVAR Mina Array Bea 45.22 81 P **P** **20 25 59.5 +0.7**
comp=Z,2.9nm,0.5s,baz=294,slow=7.5,SNR=30
NVAR pP **pP** **20 26 25.6 +0.5**
comp=Z,1.7nm,0.8s,baz=292,slow=9.0,SNR=2.6
NVAR PcP **PcP** **20 27 37.6 +0.7**
comp=Z,1.2nm,0.8s,baz=278,slow=3.7,SNR=3.5
NVAR ScP **ScP** **20 31 17.8 -0.8**
comp=Z,2.3nm,0.9s,baz=297,slow=3.9,SNR=10
NVAR Mina Array Bea 45.22 81 P **P** **20 25 59.3 +0.5**
NVAR **ScP** **20 31 18.1 -0.6**
NV11 Mina Array Sit 45.30 81 P **P** **20 25 59.4 +0.1**
ELK Elko 45.65 77 P **P** **20 26 01.9 -0.3**
ELK pmax pmax
comp=Z,2.0nm,0.6s
ELK Elko 45.65 77 P **P** **20 26 01.9 -0.3**
MOY Mondy 45.71 302 *eP* **P** **20 26 02.6 +0.2**
PAGB Antelope Grade 45.74 86 P **P** **20 26 03.1 +0.5**
PAGB IAmb IAmb 20 26 05.3
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 45.86 284 *eP* **P** **20 26 06.3 +2.6**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.8s
H17A Grant Village 46.24 70 P **P** **20 26 07.9 +1.1**
baz=307
HVU Hansel Valley 46.50 74 P **P** **20 26 08.9 +0.1**
HVU pmax pmax
comp=Z,13nm,1.4s
HVU Hansel Valley 46.50 74 P **P** **20 26 08.8 +0.1**
HVU IAmb IAmb 20 26 09.3
comp=Z,13nm,1.4s
R11A Troy Canyon, C 46.93 80 P **P** **20 26 12.2 0.0**
R11A Troy Canyon, C 46.93 80 P **P** **20 26 12.2 0.0**
baz=312,SNR=12
BTO Baotou 46.94 284 *eP* **P** **20 26 13.8 +1.7**
NJ2 Nanjing 47.05 269 *eP* **P** **20 26 12.8 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MPMC Manual Prospec 47.23 83 P **P** **20 26 15.2 +0.7**
baz=312,SNR=6.9
TPNV Topopah Spring 47.41 82 P **P** **20 26 15.8 -0.1**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 47.41 82 P **P** **20 26 15.8 -0.1**
TPNV Topopah Spring 47.41 82 P **P** **20 26 16.3 +0.4**
baz=311,SNR=7.5
DUG Dugway, Tooele 47.45 76 P **P** **20 26 16.2 +0.1**
DUG pmax pmax
comp=Z,5.0nm,0.6s
DUG Dugway, Tooele 47.45 76 P **P** **20 26 16.2 +0.1**
DUG IAmb IAmb 20 26 18.1
comp=Z,5.3nm,0.6s
DUG Dugway, Tooele 47.45 76 P **P** **20 26 16.3 +0.1**
baz=309,SNR=8.2
BW06 Boulder Array 47.81 71 P **P** **20 26 18.2 -0.7**
baz=308
PD31 Pinedale Array 47.81 71 P **P** **20 26 18.0 -1.0**
PDAR Pinedale Array 47.81 71 P **P** **20 26 18.2 -0.8**
comp=Z,1.5nm,0.5s,baz=319,slow=5.9,SNR=7.0
PDAR PcP **PcP** **20 27 44.5 -1.5**
comp=Z,0.5nm,0.8s,baz=320,slow=2.4,SNR=1.0
PDAR ScP **ScP** **20 31 26.8 -2.6**
comp=Z,0.4nm,0.7s,baz=38,slow=0.1,SNR=4.2
PDAR LR LR 20 47 48.1
comp=Z,44nm,18.4s,baz=316,slow=38
PDAR Pinedale Array 47.81 71 P **P** **20 26 18.1 -0.9**
PDAR **ScP** **20 31 27.1 -2.3**
PSUT Pine Spring 47.86 78 P **P** **20 26 19.1 -0.3**
GSC Goldstone, Bar 48.14 84 P **P** **20 26 21.8 +0.3**
GSC pmax pmax
comp=Z,9.0nm,0.6s
GSC Goldstone, Bar 48.14 84 P **P** **20 26 21.8 +0.3**
GSC IAmb IAmb 20 26 24.0
comp=Z,9.4nm,0.6s
GSC Goldstone, Bar 48.14 84 P **P** **20 26 21.9 +0.5**
baz=312,SNR=15
TUQ Turquoise Moun 48.59 83 P **P** **20 26 25.3 +0.3**
baz=312
GMRC Granite Mounta 49.19 83 P **P** **20 26 29.9 +0.4**
baz=313
BELC Belle Mtn. Jos 49.50 84 P **P** **20 26 32.0 +0.1**
baz=313,SNR=7.3
SPITS Spitsbergen Ar 49.72 355 P **P** **20 26 31.9 -0.9**
SPITS pmax pmax
comp=Z,38nm,1.3s
SPB2 Spitsbergen Ar 49.72 355 P **P** **20 26 32.2 -0.7**
IRM Iron Mountain 49.92 84 P **P** **20 26 35.2 +0.3**
baz=313,SNR=5.3
BC3 Big Chuckawall 50.07 84 P **P** **20 26 36.4 +0.2**
baz=313
U15A North Rim 50.17 79 P **P** **20 26 37.3 +0.2**
O20A White River Ci 50.22 73 P **P** **20 26 36.9 -0.4**
baz=310
CBX Cerro Bola 50.23 86 P **P** **20 26 38.1 +0.7**
CBX IAmb IAmb 20 26 40.6
comp=Z,3.8nm,0.8s
ULM Lac du Bonnet 50.85 56 P **P** **20 26 40.4 -1.2**
comp=Z,2.5nm,0.5s,baz=318,slow=6.0,SNR=3.5
ULM LR LR 20 47 34.9
comp=Z,51nm,19.3s,baz=301,slow=35
ULM Lac du Bonnet 50.85 56 P **P** **20 26 40.7 -0.9**
ULM pmax pmax
comp=Z,4.0nm,0.6s
ULM Lac du Bonnet 50.85 56 P **P** **20 26 40.7 -0.9**
ULM IAmb IAmb 20 26 41.3
comp=Z,3.7nm,0.6s
GLA Glamis 50.86 84 P **P** **20 26 42.4 +0.3**
baz=314
X16A Lo Mia Camp, P 52.02 81 P **P** **20 26 51.6 +0.8**
ZAA0 Zalesovo Array 52.39 312 P **P** **20 26 52.6 -0.4**
ZALV Zalesovo Beam 52.39 312 P **P** **20 26 52.0 -1.0**
comp=Z,0.5nm,0.5s,baz=50,slow=4.9,SNR=3.6
ZALV PcP **PcP** **20 28 02.6 +0.3**
comp=Z,5.1nm,0.7s,baz=30,slow=3.7,SNR=16

ZALV ScP **ScP** **20 31 48.1 -0.5**
comp=Z,1.6nm,0.8s,baz=27,slow=5.2,SNR=6.1
ZALV LR LR 20 49 39.7
comp=Z,29nm,21.6s,baz=96,slow=36
ZALV Zalesovo Beam 52.39 312 P **P** **20 26 52.0 -1.0**
LZH Lanzhou 53.56 284 *eP* **P** **20 26 59.5 -2.6**
LZH pP pP 20 27 08.3 -21
LZH pmax pmax
comp=Z,14nm,1.3s
GTA Gaotai 53.74 290 ⇑P **P** **20 27 03.8 +0.4**
GTA pP pP 20 27 32.3 +1.9
GTA sP sP 20 27 43.3 +0.3
GTA S **S** **20 34 30.0 +1.2**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,82nm,5.9s
GTA LR LR
comp=N,68nm,16.7s
GTA LR LR
comp=E,83nm,18.2s
GTA LR LR
comp=Z,95nm,16.0s
ANMO Albuquerque 54.69 77 LR LR 20 49 00.8
comp=Z,62nm,18.1s,baz=325,slow=34
SFJD Kangerlussuaq 55.81 21 P **P** **20 27 16.6 -1.0**
SFJD pmax pmax
comp=Z,8.0nm,1.0s
SFJD Kangerlussuaq 55.81 21 P **P** **20 27 16.6 -1.0**
SFJD IAmb IAmb 20 27 19.5
comp=Z,8.1nm,1.0s
N35A Tabor 57.01 64 P **P** **20 27 26.0 -0.6**
ARCES ARCESS Array B 57.26 349 P **P** **20 27 27.1 -0.8**
comp=Z,5.3nm,1.0s,baz=36,slow=6.6,SNR=5.5
ARCES ARCESS Array B 57.26 349 P **P** **20 27 26.8 -1.1**
ARCES pmax pmax
comp=Z,33nm,1.5s
ARCES ARCESS Array B 57.26 349 P **P** **20 27 26.8 -1.1**
KURK Kurchatov 57.38 312 *ceP* **P** **20 27 30.5 +1.5**
KURK pmax pmax
comp=Z,6.0nm,0.5s
KURK Kurchatov 57.38 312 P **P** **20 27 29.0 0.0**
MNTX Cornudas Mount 57.58 79 P **P** **20 27 30.3 -0.4**
MNTX Cornudas Mount 57.58 79 P **P** **20 27 30.8 +0.1**
baz=315
WMQ Urumqi 57.58 301 *eP* **P** **20 27 32.6 +2.0**
MK31 Makanchi Array 58.33 307 P **P** **20 27 35.0 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 58.33 307 P **P** **20 27 35.0 -0.7**
MK31 IAmb IAmb 20 27 38.1
comp=Z,2.5nm,0.6s
MKAR Makanchi Array 58.33 307 P **P** **20 27 35.3 -0.4**
comp=Z,2.8nm,0.5s,baz=45,slow=6.9,SNR=32
MKAR ScP **ScP** **20 32 14.1 -0.7**
comp=Z,0.4nm,0.8s,baz=65,slow=6.1,SNR=3.4
MKAR Makanchi Array 58.33 307 P **P** **20 27 35.2 -0.5**
MAKZ Makanchi 58.47 307 P **P** **20 27 36.7 -0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 58.47 307 P **P** **20 27 36.6 -0.1**
MAKZ IAmb IAmb 20 27 39.2
comp=Z,2.7nm,0.7s
GOMU GeErMu 58.83 290 P P 20 27 30.8 -9.0
GOMU pP pP 20 27 35.3 -32
GOMU sP sP 20 27 37.4 -42
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,78nm,4.8s
BRVK Borovoye 59.37 318 P **P** **20 27 43.1 +0.3**
BRVK 20 28 30.1
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 59.37 318 P **P** **20 27 43.1 +0.3**
BRVK PcP **PcP** **20 28 30.1 +0.6**
ANGG Ammassalik, Gr 59.60 16 P **P** **20 27 42.6 -1.5**
P40A Paris 59.92 63 P **P** **20 27 46.3 -0.4**
W35A Tecumseh 60.23 70 P **P** **20 27 48.1 -0.9**
TX32 Lajitas Array 60.29 79 P **P** **20 27 49.1 -0.5**
TX32 IAmb IAmb 20 27 50.7
comp=Z,2.3nm,0.6s
TXAR Lajitas Array 60.29 79 P **P** **20 27 49.6 0.0**
comp=Z,1.8nm,0.5s,baz=307,slow=5.1,SNR=36
TXAR PcP **PcP** **20 28 34.2 +0.5**
comp=Z,1.2nm,0.6s,baz=251,slow=2.6,SNR=5.1
TXAR pPcP 20 28 46.5
comp=Z,1.0nm,0.6s,baz=298,slow=2.7,SNR=4.3
TXAR ScP **ScP** **20 32 22.7 -1.2**
comp=Z,0.7nm,0.5s,baz=5.2,slow=2.8,SNR=4.2
TXAR Lajitas Array 60.29 79 P **P** **20 27 49.4 -0.2**
SCHQ Schefferville 60.66 37 P **P** **20 27 51.3 -0.3**
comp=Z,3.7nm,0.4s,baz=315,slow=6.3,SNR=24
SCHQ Schefferville 60.66 37 P **P** **20 27 50.7 -0.9**
SCHQ IAmb IAmb 20 27 52.3
comp=Z,4.8nm,0.7s
ARU Arti 61.22 327 *c iP* **P** **20 27 56.2 +0.9**
ARU S **S** **20 36 09.2 +3.5**
ARU SS **SS** **20 40 10.7 +3.9**
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 61.22 327 P **P** **20 27 55.9 +0.6**
PZH PanZhiHua 61.54 277 P **P** **20 27 58.4 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
SFIN Lafayette 62.01 60 P **P** **20 28 00.1 -0.8**
baz=316
KLMR Klimovskoe 62.88 339 *eP* **P** **20 28 04.8 -1.5**
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 62.88 339 *eP* **P** **20 28 04.8 -1.5**
KLMR AMP 20 28 06.4
comp=Z,13nm,1.3s
KLMR *e*pP **pP** **20 28 33.1 -0.7**
SADO Sadowa 62.90 51 LR LR 20 55 33.1
comp=Z,72nm,18.5s,baz=18,slow=36
LMQ La Malbaie 64.85 44 P **P** **20 28 17.9 -1.6**
FINES FINESS Array B 64.87 346 P **P** **20 28 17.5 -1.8**
comp=Z,1.1nm,0.7s,baz=15,slow=7.9,SNR=6.0
FINES pP **pP** **20 28 46.4 -0.6**
comp=Z,4.0nm,0.9s,baz=28,slow=8.6,SNR=3.6
FINES LR LR 20 59 18.6
comp=Z,18nm,20.4s,baz=11,slow=38
AAK Ala-Archa 65.17 308 P **P** **20 28 22.6 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 65.17 308 P **P** **20 28 22.6 +0.8**
AAK IAmb IAmb 20 28 25.0
comp=Z,4.3nm,0.7s
L56A Greenwood 65.62 52 P **P** **20 28 23.4 -1.2**
SIJI Sorong 65.81 233 P **P** **20 28 26.8 +0.8**
comp=Z,42nm,0.7s,baz=41,slow=5.0,SNR=15
AKTO Aktyubinsk 66.23 323 LR LR 20 58 47.8
comp=Z,28nm,19.9s,baz=28,slow=37
ABKAR Akbulak array 66.45 321 P **P** **20 28 30.1 +0.4**
ABKAR Akbulak array 66.45 321 P **P** **20 28 30.4 +0.8**
ABKAR IAmb IAmb 20 28 31.2
comp=Z,7.1nm,1.1s
KKAR Karatay Array 66.73 311 P **P** **20 28 32.0 +0.4**
KKAR Karatay Array 66.73 311 P **P** **20 28 32.0 +0.4**
NC204 NORSAR Array S 66.74 354 P **P** **20 28 30.7 -0.7**
KSH Kashi 66.77 305 P P 20 28 38.0 +5.9
KSH PcP sP 20 29 09.3 -2.8
KSH pmax pmax
comp=Z,14nm,0.7s
NB2 NORSAR Subarra 66.94 353 P **P** **20 28 31.9 -0.8**
comp=Z,0.6nm,0.6s,baz=7.2,slow=6.5
NOA NORSAR Array B 66.94 353 P **P** **20 28 31.3 -1.4**
comp=Z,0.5nm,0.6s,baz=2.8,slow=5.7,SNR=7.8
NOA pP **pP** **20 29 01.2 +0.7**
comp=Z,2.9nm,0.8s,baz=8.6,slow=6.5,SNR=7.0
N59A State Game Lan 67.42 52 P **P** **20 28 35.0 -1.0**
baz=320
HFS Hagfors 67.64 352 LR LR 20 59 20.5
comp=Z,16nm,19.2s,baz=44,slow=37
MYLDM Lahad Datu 67.67 249 P **P** **20 28 39.4 +1.5**
MYLDM IAmb IAmb 20 28 39.4
comp=Z,16nm,1.2s
SANVU Saraoutou 67.76 192 P **P** **20 28 38.8 +0.6**
DRLN Deer Lake 68.57 36 P **P** **20 28 42.4 -0.6**
OBN Obninsk 68.74 338⇓ *eP* **P** **20 28 44.2 +0.3**
OBN *e**PP **pwP** **20 29 14.7 +0.8**
OBN *e* 20 31 18.9
OBN *eS* **S** **20 37 39.8 +2.1**
OBN pmax pmax
comp=Z,3.0nm,0.8s
DRK Karamyk 68.89 307 P **P** **20 28 46.1 +0.5**
DRK IAmb IAmb 20 28 48.7
comp=Z,5.0nm,0.7s
BTK Batken 68.93 308 P **P** **20 28 46.2 +0.7**
BTK pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 68.93 308 P **P** **20 28 46.2 +0.7**
BTK IAmb IAmb 20 28 48.4
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 68.95 274 P **P** **20 28 46.8 +0.9**
CHTO pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 68.95 274 P **P** **20 28 46.8 +0.9**
CMAR Chiang Mai Arr 69.22 274 P **P** **20 28 47.9 +0.3**
DRK comp=Z,1.1nm,0.5s,baz=26,slow=7.3,SNR=12
CMAR Chiang Mai Arr 69.22 274 *ceP* **P** **20 28 48.2 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
TOLI2 Tolitoli 69.70 244 P **P** **20 28 50.3 -0.1**
TOLI2 IAmb IAmb 20 28 51.3
comp=Z,11nm,0.9s
GAR Garm 69.99 308 P **P** **20 28 52.6 +0.4**
GUN Gumba 70.03 290 *eP* **P** **20 28 53.9 +1.1**
comp=Z,24nm,0.4s
JIRN Jiri 70.04 289 *eP* **P** **20 28 54.1 +1.2**
comp=Z,4.8nm,0.3s
RAMN Ramite 70.33 289 *eP* **P** **20 28 55.3 +0.8**
comp=Z,15nm,0.4s
LUWI Luwuk 70.39 241 P **P** **20 28 54.4 -0.2**
KKN Kakani 70.47 290 *eP* **P** **20 28 56.3 +1.0**
comp=Z,14nm,0.6s
PKI Pulchoki 70.56 290 *eP* **P** **20 28 56.8 +0.8**
comp=Z,15nm,0.6s
PKIN Phulchoki 70.57 290 *eP* **P** **20 28 56.6 +0.6**
comp=Z,14nm,0.5s
GKN Gorkha 70.69 291 *eP* **P** **20 28 57.0 +0.4**
comp=Z,6.3nm,0.4s
CHGR Chuyangaron 70.82 308 P **P** **20 28 57.6 +0.5**
DANN Dangsing 70.93 292 *eP* **P** **20 28 59.0 +0.8**
comp=Z,17nm,0.6s
MNK Minsk 71.16 342 *i* P **P** **20 29 01.5 +2.8**
MNK *i* *PP **pwP** **20 29 31.3 +2.5**
MNK *i* 20 31 40.3
MNK *i* PPP PPP 20 33 24.2
MNK *i* S **S** **20 38 06.8 +0.9**
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,15nm,1.0s
MNK MLR MLR
comp=E,4.0nm,17.0s
MNK MLR MLR
comp=N,95nm,22.0s
MNK MLR MLR
comp=Z,211nm,24.0s
MNK Minsk 71.16 342 *i* P **P** **20 29 01.6 +2.8**
comp=E,3.0nm,1.0s
MNK *i* P **P** **20 29 01.6 +2.8**
comp=N,15nm,1.1s
MNK *i* P **P** **20 29 01.6 +2.8**
comp=Z,7.0nm,0.8s,baz=19
MNK *i* pP **pwP** **20 29 31.3 +2.5**
MNK *i* PP **PP** **20 31 40.4 +3.2**
MNK *i* PPP PPP 20 33 24.2
MNK *i* S **S** **20 38 06.8 +0.9**
MNK *i* sS sS 20 39 00.6 +7.8
MNK *i* SS **SS** **20 40 47.0 +6.6**
MNK *i* SSS SSS 20 46 09.5
MNK *i* LRM MLR 21 02 54.8
comp=E,4.0nm,16.6s
MNK *i* LRM MLR 21 03 00.7
comp=N,95nm,21.7s
MNK *i* LRM MLR 21 03 57.4
comp=Z,211nm,23.6s
KOLN Koldanda 71.46 291 *eP* **P** **20 29 01.8 +0.5**
comp=Z,9.9nm,0.7s
PYUN Piuthan 71.56 292 *eP* **P** **20 29 02.6 +0.7**
COEN Coen 72.34 216 P **P** **20 29 06.3 0.0**
COEN IAmb IAmb 20 29 07.5
comp=Z,11nm,1.1s
SBUM Sibu 73.53 252 P **P** **20 29 14.1 +0.7**
KBL Kabul 74.12 306 P **P** **20 29 17.1 +0.1**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 74.12 306 P **P** **20 29 17.1 +0.1**
KBL IAmb IAmb 20 29 18.9
comp=Z,10nm,0.7s
DZM Mont Dzumac 74.39 191 P **P** **20 29 20.0 +1.7**
DZM IAmb IAmb 20 29 21.8
comp=Z,20nm,1.1s
AKASG Malin Array Be 74.49 340 P **P** **20 29 17.4 -1.1**
comp=Z,1.8nm,0.5s,baz=21,slow=6.4,SNR=10.0
AKASG pP **pP** **20 29 47.3 +0.5**
comp=Z,6.6nm,0.6s,baz=22,slow=6.2,SNR=4.1
AKASG LR LR 21 04 31.7
comp=Z,23nm,21.2s,baz=28,slow=38
AKASG Malin Array Be 74.49 340 *ceP* **P** **20 29 19.7 +1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 74.49 340 P **P** **20 29 17.1 -1.3**
AKBB Malin Array Si 74.49 340 P **P** **20 29 17.8 -0.7**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 74.49 340 P **P** **20 29 17.8 -0.7**
KSM Kuching 75.45 253 P **P** **20 29 24.9 +0.4**
KSM IAmb IAmb 20 29 25.7
comp=Z,5.8nm,0.7s
MTN Manton Dam 76.30 227 P **P** **20 29 29.5 +0.3**
MAK Makhachkala 76.39 325 *eP* **P** **20 29 30.3 +0.8**
MAK *e**SP **sP** **20 30 07.6 -2.4**
MAK *eS* **S** **20 39 08.9 +3.8**
MAK *e**SS **sS** **20 39 53.3 +0.6**
MAK pmax pmax
comp=Z,93nm,1.1s
GEYT Alibeck 76.50 315 P **P** **20 29 30.0 -0.3**
comp=Z,3.1nm,0.9s,baz=349,slow=2.3,SNR=4.2
GEYT LR LR 21 05 54.5
comp=Z,27nm,19.6s,baz=116,slow=38
CTA Charters Tower 76.99 211 P **P** **20 29 33.9 +0.9**
comp=Z,5.6nm,0.7s,baz=359,slow=6.9,SNR=9.7
SORM Soroca 77.10 340⇓ P **P** **20 29 32.5 -0.9**
SORM Soroca 77.10 340⇓ P **P** **20 29 32.5 -0.9**
KIV Kislovodsk 77.14 329 *eP* **P** **20 29 32.4 -1.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 77.27 329 P **P** **20 29 34.0 -0.5**
comp=Z,3.0nm,0.8s,baz=109,slow=5.5,SNR=8.0
KBZ Khabaz 77.27 329 *ceP* **P** **20 29 33.9 -0.5**
KBZ pmax pmax
comp=Z,15nm,3.0s
HRA Herat 77.56 311 P **P** **20 29 37.6 +1.2**
HRA IAmb IAmb 20 29 38.7
comp=Z,5.3nm,0.7s
BATI Baumata 77.64 235 P **P** **20 29 37.0 +0.2**
comp=Z,26nm,0.7s,baz=28,slow=1.5,SNR=10
ZEI Tsey 77.78 327 *eP* **P** **20 29 37.5 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
BUR08 Bucovina Ar. S 78.21 342 P **P** **20 29 39.5 -0.2**
BUR08 IAmb IAmb 20 29 42.5
comp=Z,11nm,1.4s
TRPA Tarpa 78.23 344⇑ P **P** **20 29 39.7 +0.1**
BURAR Bucovina Array 78.24 342⇓ P **P** **20 29 39.7 -0.1**
BURAR Bucovina Array 78.24 342⇓ P **P** **20 29 39.7 -0.1**
BURAR Bucovina Array 78.24 342 P **P** **20 29 39.7 -0.1**
GERES GERESS Array B 78.79 350 P **P** **20 29 41.8 -1.0**
comp=Z,0.2nm,0.4s,baz=18,slow=6.5,SNR=2.1
CONA Conrad Observa 79.43 348 *eP* **P** **20 29 45.4 -0.9**
comp=Z,2.9nm,1.2s
DRGR 79.50 343⇓ P **P** **20 29 45.5 -1.2**
DRGR 79.50 343⇓ P **P** **20 29 45.5 -1.2**
COVR Voineasa-Covas 79.73 341⇓ P **P** **20 29 47.4 -0.6**
KNRA Kununurra 79.87 228 P **P** **20 29 48.7 -0.1**
BIOA Bad Ischl, Aus 79.93 350 *eP* **P** **20 29 47.7 -1.3**
comp=Z,0.7nm,0.4s
MLR Muntele Rosu 80.13 341 LR LR 21 10 42.0
comp=Z,37nm,18.4s,baz=296,slow=40
MOTA Moosalm 80.54 351 *eP* **P** **20 29 52.4 0.0**
comp=Z,3.6nm,1.0s
WTTA Wattenberg 80.56 351 *eP* **P** **20 29 51.6 -1.0**
comp=Z,8.2nm,1.5s
KBA Koelnbreinsper 80.57 350 *eP* **P** **20 29 52.5 -0.1**
comp=Z,2.6nm,0.9s
SQTA Sankt Quirin 80.65 351 *eP* **P** **20 29 52.3 -0.7**
comp=Z,5.0nm,1.5s
SOKA Soboth 80.77 348 *eP* **P** **20 29 53.3 -0.2**
comp=Z,6.8nm,1.6s
GZR Gura Zlata 80.83 343⇑ P **P** **20 29 51.8 -2.1**
GZR Gura Zlata 80.83 343⇑ P **P** **20 29 51.8 -2.1**
ABTA Abfaltersbach 80.99 350 *eP* **P** **20 29 54.0 -0.7**
comp=Z,3.0nm,1.0s
OBKA Obir 80.99 349 *eP* **P** **20 29 54.8 0.0**
comp=Z,2.1nm,0.7s
WB0 Warramunga Arr 81.03 221 P **P** **20 29 55.3 +0.3**
WB0 IAmb IAmb 20 29 56.2
comp=Z,10nm,0.8s
WRA Warramunga Arr 81.21 221 P **P** **20 29 56.3 +0.3**
comp=Z,9.3nm,0.7s,baz=32,slow=6.0,SNR=76
WRA Warramunga Arr 81.21 221 P **P** **20 29 55.5 -0.5**
PSI Prapat 81.30 263 P **P** **20 29 56.9 0.0**
comp=Z,3.2nm,0.4s,baz=103,slow=13,SNR=4.7
TEOL Teolo 82.45 351 P **P** **20 30 02.2 -0.1**
TEOL IAmb IAmb 20 30 04.4
comp=Z,7.2nm,0.7s
FITZ Fitzroy Crossi 83.43 230 P **P** **20 30 08.6 +1.1**
FITZ IAmb IAmb 20 30 09.5
comp=Z,11nm,0.8s
LEM Lembang 83.69 251 LR LR 21 01 38.9
comp=Z,25nm,21.6s,baz=204,slow=31
BR131 Keskin Array S 83.72 333 P **P** **20 30 09.7 +0.6**
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BR131 Keskin Array S 83.72 333 P **P** **20 30 09.7 +0.6**
BRTR Keskin Array B 83.72 333 P **P** **20 30 09.3 +0.2**
comp=Z,1.0nm,0.5s,baz=38,slow=3.2,SNR=7.4
BRTR LR LR 21 10 54.7
comp=Z,13nm,18.2s,baz=70,slow=38
BRTR Keskin Array B 83.72 333 *ceP* **P** **20 30 10.5 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 83.72 333 P **P** **20 30 09.1 0.0**
MURB Monte Urbino 84.43 350 P **P** **20 30 13.1 +0.5**
MURB IAmb IAmb 20 30 14.3
comp=Z,9.2nm,1.1s
AS31 Alice Springs 84.72 220 P **P** **20 30 14.3 +0.3**
ASAR Alice Springs 84.72 220 P **P** **20 30 14.9 +0.9**
comp=Z,5.8nm,0.8s,baz=23,slow=5.3,SNR=53
ASAR Alice Springs 84.72 220 P **P** **20 30 15.0 +0.9**
ASAR Alice Springs 84.72 220 P **P** **20 30 14.4 +0.4**
NRCA Norcia 84.79 349 P **P** **20 30 14.3 -0.1**
ARMA Armidale 85.27 203 P **P** **20 30 18.7 +2.0**
ARMA IAmb IAmb 20 30 19.6
comp=Z,11nm,0.9s
ESDC Sonseca Array 88.78 2 P **P** **20 30 31.8 -2.0**
comp=Z,0.4nm,0.7s,baz=355,slow=4.7,SNR=2.2
PALK Pallekele 89.06 280 LR LR 21 16 08.9
comp=Z,16nm,18.7s,baz=177,slow=39
PSA00 Pilbara Seismi 89.19 233 P **P** **20 30 35.5 -0.2**
PSA00 IAmb IAmb 20 30 36.4
comp=Z,4.7nm,0.9s
PSA00 Pilbara Seismi 89.19 233 P **P** **20 30 35.2 -0.5**
PSA00 IAmb IAmb 20 30 36.3
comp=Z,6.5nm,0.8s
STKA Stephens Creek 89.45 211 P **P** **20 30 38.2 +1.6**
comp=Z,11nm,0.6s,baz=353,slow=6.4,SNR=38
STKA Stephens Creek 89.45 211 P **P** **20 30 37.9 +1.3**
STKA IAmb IAmb 20 30 39.1
comp=Z,2.8nm,0.8s
TORD Torodi Ar. Bea 115.16 356 PKP **PKiKP** **20 36 19.6 -1.3**
comp=Z,1.5nm,0.5s,baz=344,slow=2.4,SNR=19
TORD PKKPbc **PKKPbc** **20 46 55.1 +1.1**
comp=Z,1.1nm,0.8s,baz=180,slow=2.8,SNR=4.1
LPAZ La Paz 117.12 82 PKP **PKPdf** **20 36 24.6 -0.7**
comp=Z,0.4nm,0.4s,baz=70,slow=3.3,SNR=3.7
KMBO Kilima Mbogo 119.85 314 PKP **PKPdf** **20 36 30.1 -0.2**
comp=Z,1.5nm,0.7s,baz=354,slow=2.6,SNR=5.2
SIV San Ignacio 121.18 76 PKP **PKPdf** **20 36 31.3 -1.1**
comp=Z,1.5nm,0.5s,baz=347,slow=0.9,SNR=7.1
DBIC Dimbokro 121.60 4 PKP **PKPdf** **20 36 32.2 -1.1**
comp=Z,3.3nm,0.6s,baz=12,slow=2.2,SNR=8.6
VNDA Vanda 129.56 185 SKPbc SKPab 20 39 54.8 -2.4
comp=Z,3.0nm,0.6s,baz=288,slow=3.2,SNR=17
CPUP Villa Florida 131.26 81 PKP **PKPdf** **20 36 50.7 -0.6**
comp=Z,2.7nm,0.7s,baz=207,slow=4.5,SNR=3.0
CPUP SKPbc **SKPbc** **20 40 04.4 -1.1**
comp=Z,5.2nm,0.7s,baz=252,slow=4.7,SNR=10
PLCA Paso Flores 132.80 105 PKP **PKPdf** **20 36 54.3 +0.4**
comp=Z,4.4nm,0.9s,baz=345,slow=1.0,SNR=7.2
PLCA SKPbc **SKPbc** **20 40 10.0 -0.7**
comp=Z,3.7nm,0.8s,baz=306,slow=4.0,SNR=11
MAW Mawson 145.82 218 PKPbc **PKPab** **20 37 18.3 +0.3**
comp=Z,27nm,0.9s,baz=80,slow=3.3,SNR=5.6
BOSA Boshof 149.31 309 PKPbc **PKPbc** **20 37 28.7 +0.5**
comp=Z,13nm,0.6s,baz=20,slow=2.7,SNR=52

KRSC ***19*** *20:17:52.9±0.9, 53.75N×159.11E, h177km±8km, ML3.8*
IDC ***19*** *20:17:54.0±2.2, 54.01N×158.85E, h164km±11km, mb3.3/7, mb1 3.5/7, mb1mx3.1/58, mbtmp3.7/7, Error ellipse: s-maj=55.5km s-min=19.4km az=85.0*

ISC 19 20:17:54.3±0.9, 53.77N±0.05×159.10E±0.06, h174km±6km, n48, σ0.93/63, mb3.4/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.34**	**38**	*eP*	**Pn**		**20 18 18.5**	**+0.6**
KII				*eS*	**Sn**		**20 18 37.3**	**+1.1**
SDLR	**Sedlovina**	**0.51**	**195**	*eP*	**Pn**		**20 18 18.9**	**+0.2**
KRER	**Koryakskii**	**0.51**	**204**	*eP*	**Pn**		**20 18 19.2**	**+0.4**
SMAR	**Somma**	**0.54**	**200**	*eP*	**Pn**		**20 18 19.4**	**+0.5**
AVH	**Avacha**	**0.55**	**203**	*eP*	**Pn**		**20 18 19.3**	**+0.5**
KOK	**Koryaka**	**0.55**	**210**	*eP*	**Pn**		**20 18 19.3**	**+0.5**
UGLR	**Uglovaya**	**0.58**	**197**	*eP*	**Pn**		**20 18 19.6**	**+0.6**
NLC	**Nalytchevo**	**0.62**	**166**	*eP*	**Pn**		**20 18 19.2**	**+0.2**
NLC				*eS*	**Sn**		**20 18 37.9**	**0.0**
GNL	**Ganaly**	**0.69**	**264**	*eP*	**Pn**		**20 18 19.1**	**-0.4**
GNL				*eS*	**Sn**		**20 18 37.2**	**-1.7**
DALK	**Dalny**	**0.77**	**196**	*eP*	**Pn**		**20 18 20.1**	**+0.3**
DALK				*eS*	**Sn**		**20 18 39.3**	**-0.1**
PET	**Petropavlovsk**	**0.79**	**200**	*eP*	**Pn**		**20 18 20.3**	**+0.3**
PET				*eS*	**Sn**		**20 18 39.9**	**+0.2**
SPN	**Mys Shipunski**	**0.87**	**140**	*eP*	**Pn**		**20 18 20.5**	**0.0**
SPN				*eS*	**Sn**		**20 18 40.0**	**-0.6**
PETK	**Petropavlovsk-** 13nm,0.3s,baz=71,slow=12,SNR=58	**1.07**	**232**	P	**Pn**		**20 18 20.9**	**-1.1**
PETK	1.9nm,0.3s,baz=84,slow=14,SNR=2.5			S	**Sn**		**20 18 42.4**	**-0.9**
KRMR	**Karymshinskiy**	**1.11**	**212**	*eP*	**Pn**		**20 18 22.5**	**+0.2**
KRMR				*eS*	**Sn**		**20 18 43.1**	**-0.7**
GRL	**Gorelyy**	**1.37**	**207**	*eP*	**Pn**		**20 18 25.6**	**+0.9**
RUS	**Russkaya**	**1.39**	**195**	*eP*	**Pn**		**20 18 24.6**	**-0.1**
RUS				*eS*	**Sn**		**20 18 47.6**	**-0.5**
MTVR	**Mutnovka**	**1.40**	**204**	*eP*	**Pn**		**20 18 25.1**	**+0.9**
MTVR				*eS*	**Sn**		**20 18 50.1**	**+1.4**
APC	**Apacha**	**1.44**	**235**	*eP*	**Pn**		**20 18 25.5**	**+0.3**
APC				*eS*	**Sn**		**20 18 48.9**	**-0.1**
TUMD	**Tumrok D**	**1.62**	**27**	*eP*	**Pn**		**20 18 27.2**	**+0.2**
TUMR	**Tumrok**	**1.64**	**21**	*eP*	**Pn**		**20 18 27.9**	**+0.7**
TUMR				*eS*	**Sn**		**20 18 53.0**	**+0.3**
MKZ	**Mys Kozlova**	**1.74**	**62**	*eP*	**Pn**		**20 18 28.5**	**+0.4**
MKZ				*eS*	**Sn**		**20 18 52.6**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.06**	**198**	*eP*	**Pn**		**20 18 31.3**	**-0.3**
KDTR				*eS*	**Sn**		**20 18 58.9**	**-1.6**
KMNR	**Kamenistaya**	**2.10**	**18**	*eP*	**Pn**		**20 18 32.6**	**+0.5**
ESO	**Esso**	**2.17**	**354**	*eP*	**Pn**		**20 18 33.3**	**+0.5**
KPT	**Kopyto**	**2.29**	**16**	*eP*	**Pn**		**20 18 34.3**	**0.0**
KIRR	**Kirishev**	**2.30**	**18**	*eP*	**Pn**		**20 18 34.6**	**+0.1**
KOZ	**Kozyrevsk**	**2.34**	**11**	*eP*	**Pn**		**20 18 34.6**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.34**	**20**	*eP*	**Pn**		**20 18 35.6**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.36**	**22**	*eP*	**Pn**		**20 18 35.6**	**+0.5**
ZLN	**Zelenaya**	**2.46**	**23**	*eP*	**Pn**		**20 18 37.3**	**+1.1**
LGNR	**Loginova**	**2.49**	**21**	*eP*	**Pn**		**20 18 37.6**	**+0.8**
CIRR	**Tsirk**	**2.54**	**21**	*eP*	**Pn**		**20 18 38.0**	**+0.8**
KRSR	**Krestovskiy**	**2.59**	**18**	*eP*	**Pn**		**20 18 37.8**	**0.0**
KLY	**Klyuchi**	**2.70**	**19**	*eP*	**Pn**		**20 18 40.2**	**+1.3**
KLY				*eS*	**Sn**		**20 19 14.6**	**+0.8**
BDR	**Baidarnaya**	**3.05**	**22**	*eP*	**Pn**		**20 18 44.2**	**+0.9**
SRKR	**Sorokina**	**3.12**	**21**	*eP*	**Pn**		**20 18 44.8**	**+0.6**
SMKR	**Semkarok**	**3.13**	**25**	*eP*	**Pn**		**20 18 44.6**	**+0.4**
KBG	**Krutoberegovo**	**3.24**	**38**	*eP*	**Pn**		**20 18 45.7**	**+0.2**
KBG				*eS*	**Sn**		**20 19 25.3**	**-0.3**
KBTR	**Krutoberegovo**	**3.25**	**40**	*eP*	**Pn**		**20 18 45.5**	**-0.2**
KBTR				*eS*	**Sn**		**20 19 24.6**	**-1.2**

SKR	Severo-Kuril's	3.59	212	*e*S		Sn	20 19 32.7	-0.8
BKI	Bering	4.26	68	*e*P		Pn	20 18 59.7	+1.3
BKI				*e*S		Sn	20 19 45.4	-3.2
TIXI	Tiksi	22.22	335	P		P	20 22 34.3	-1.9
	0.9nm,0.4s,baz=93,slow=21,SNR=9.6							
MKAR	Makanchi Array	47.33	295	P		P	20 26 08.8	-1.4
	0.5nm,0.5s,baz=58,slow=7.7,SNR=11							
FINES	FINESS Array B	59.26	336	P		P	20 27 35.2	-1.6
	3.2nm,1.0s,baz=35,slow=7.0,SNR=5.5							
NOA	NORSAR Array B	62.72	343	P		P	20 27 59.0	-1.2
	1.1nm,0.8s,baz=20,slow=6.3,SNR=2.8							
GERES	GERESS Array B	73.66	337	P		P	20 29 07.7	-0.7
	0.1nm,0.4s,baz=30,slow=8.0,SNR=3.5							
WRA	Warramunga Arr	76.45	204	P		P	20 29 25.9	+1.4
	0.4nm,0.7s,baz=12,slow=5.9,SNR=2.4							
ASAR	Alice Springs	80.14	203	P		P	20 29 46.8	+2.1
	0.6nm,0.7s,baz=14,slow=5.0,SNR=7.3							

TUL ***19*** *20:28:54.3±0.7, 36.70N±0.03×98.62W±0.03, h7km±6km, ML3.2, mb_Lg2.8/54(NEIC), Error ellipse: s-maj=5.7km s-min=1.9km az=140.0*

NEIC 19 20:28:55.1±0.5, 36.70N±0.02×98.61W±0.03, h4km±6km, Error ellipse: s-maj=4.5km s-min=0.8km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.45	225	Pg	Pg	20 29 03.2	-0.4
U32A				Sg	Sg	20 29 09.7	+0.3
OKCFA	Oklahoma City	1.58	143	Pn	Pn	20 29 23.1	-0.8
OKCSW	OKLAHOMA CITY	1.60	143	Pn	Pn	20 29 23.6	-0.5
T35A	Sooner Cattle	1.70	82		Pn	20 29 25.4	-0.2
R32A	Long Quarter,	1.73	357		Pn	20 29 25.8	-0.1
R32A				IAmb_Lg		20 29 49.4	
	comp=Z,57nm,0.8s						
FNO	Franklin	1.74	145		Pn	20 29 25.9	-0.2
WMOK	Wichita Mounta	1.96	184	Pn	Pn	20 29 28.4	-0.7
W35A	Tecumseh	2.09	137	Pn	Pn	20 29 30.5	-0.3
X34A	Smith Ranch, M	2.18	163	Pn	Pn	20 29 32.8	+0.6
X34A				IAmb_Lg		20 30 08.2	
	comp=Z,46nm,0.8s						
TUL1	Leonard	2.41	108	Pn	Pn	20 29 35.2	0.0
TUL1				IAmb_Lg		20 30 16.2	
	comp=Z,36nm,0.9s						
KSU1	Kansas State U	2.88	33	Pn	Pn	20 29 41.7	0.0
KSU1	Kansas State U	2.88	33	IAmb_Lg		20 30 28.6	
	comp=Z,25nm,0.9s						
AMTX	Amarillo	3.08	235	Pn	Pn	20 29 45.0	+0.3
X37A	Clayton	3.37	128	Pn	Pn	20 29 47.4	-1.1
X37A				IAmb_Lg		20 30 45.7	
	comp=Z,25nm,0.7s						
HHAR	Hobbs	3.79	95	Pn	Pn	20 29 54.2	0.0
KSCO	Kaye Shedlock'	3.93	307	IAmb_Lg		20 31 01.7	
	comp=Z,23nm,0.7s						
W39A	Magazine	4.19	109	Pn	Pn	20 29 59.4	-0.4
W39A				IAmb_Lg		20 31 17.6	
	comp=Z,22nm,0.7s						
S39A	Bolivar	4.34	75	Pn	Pn	20 30 01.2	-0.6
S39A				IAmb_Lg		20 31 20.2	
	comp=Z,14nm,1.1s						
Z38A	Mt. Pleasant	4.54	138	IAmb_Lg		20 31 30.3	
	comp=Z,26nm,0.8s						
MIAR	Mount Ida	4.63	116	IAmb_Lg		20 31 33.8	
	comp=Z,12nm,0.8s						
U40A	Yellville	4.65	92	Pn	Pn	20 30 05.7	-0.4
U40A				IAmb_Lg		20 31 24.0	
	comp=Z,21nm,0.7s						
WHTX	Lake Whitney,	4.79	168	Pn	Pn	20 30 07.1	-0.9
P38A	Dawn	4.96	52	Pn	Pn	20 30 09.5	-0.8
P38A				IAmb_Lg		20 31 39.9	
	comp=Z,12nm,0.7s						
X40A	Basin Creek Fa	5.20	113	Pn	Pn	20 30 13.8	+0.2
X40A				IAmb_Lg		20 31 48.1	
	comp=Z,14nm,0.7s						
FCAR	Ozark Folk Cen	5.30	97	IAmb_Lg		20 31 52.3	
	comp=Z,15nm,0.8s						
WHAR	Wooly Hollow	5.31	103	IAmb_Lg		20 31 55.5	
	comp=Z,19nm,0.8s						
W41B	Gary Mavity, V	5.38	105	Pn	Pn	20 30 15.8	-0.3
W41B				IAmb_Lg		20 31 57.9	
	comp=Z,22nm,0.9s						
P40A	Paris	5.90	59	IAmb_Lg		20 32 02.0	
	comp=Z,14nm,0.7s						
435B	Jarrell	5.96	171	IAmb_Lg		20 32 13.6	
	comp=Z,18nm,1.1s						
JCT	Junction City	6.28	189	IAmb_Lg		20 32 27.6	
	comp=Z,13nm,1.1s						
ISCO	Idaho Springs	6.32	301	IAmb_Lg		20 32 22.8	
	comp=Z,11nm,0.8s						
PBMO	Poplar Bluff	6.57	87	IAmb_Lg		20 32 30.3	
	comp=Z,15nm,0.9s						
FVM	French Village	6.65	76	IAmb_Lg		20 32 35.6	
	comp=Z,10nm,0.7s						
SCIA	State Center	6.68	37	IAmb_Lg		20 32 39.6	
	comp=Z,16nm,1.0s						
SIUC	Southern Illin	7.57	79	IAmb_Lg		20 32 59.4	
	comp=Z,11nm,0.8s						
P43A	Skaggs, Pawnee	7.74	65	IAmb_Lg		20 33 03.6	
	comp=Z,13nm,0.8s						
RSSD	Black Hills	8.49	333	IAmb_Lg		20 33 26.8	
	comp=Z,7.0nm,1.0s						

IDC ***19*** *20:30:21.8±4.0, 30.95S×72.23W, h90km±32km, mb1 3.4/5, mb1mx3.2/29, mbtmp3.6/5, Error ellipse: s-maj=77.5km s-min=28.1km az=101.0*

ISC 19 20:30:22.5±0.9, 31.01S±0.10×72.1W±0.1, h100km, n12, σ1§49/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N1	Juan Fernandez	6.22	245	P		Pn	20 31 51.5	0.0
	baz=99,slow=74,SNR=7.4							
H03N1				T		T	20 38 51.9	
	baz=69,slow=72,SNR=661							
H03N3	Juan Fernandez	6.24	245	P		Pn	20 31 51.5	-0.3
	baz=290,slow=74,SNR=7.0							
H03N3				T		T	20 38 51.3	
	baz=69,slow=72,SNR=768							
H03N2	Juan Fernandez	6.24	245	P		Pn	20 31 51.6	-0.1
H03N2				T		T	20 38 52.0	
	baz=69,slow=72,SNR=696							
LVC	Limon Verde	8.85	20	P		Pn	20 32 25.6	-2.3
	0.7nm,0.3s,baz=200,slow=9.8,SNR=2.1							
LVC				S		Sn	20 34 09.1	+3.0
	0.4nm,0.3s,baz=304,slow=23,SNR=5.6							
PLCA	Paso Flores	9.79	173	P		Pn	20 32 41.3	+1.0
	0.1nm,0.3s,baz=6.1,slow=12,SNR=3.0							
CPUP	Villa Florida	13.81	74	P		Pn	20 33 33.1	-0.9
	0.2nm,0.3s,baz=220,slow=17,SNR=1.2							
LPAZ	La Paz	15.11	15	P		Pn	20 33 51.0	-0.3
	0.1nm,0.3s,baz=191,slow=7.5,SNR=3.6							
SIV	San Ignacio	18.05	37	P		Pn	20 34 27.9	+1.0
	0.4nm,0.3s,baz=227,slow=10.0,SNR=4.5							
H11S2	WAKE ISLAND Hyd	25.67	271	T		T	23 07 55.9	
	baz=114,slow=75,SNR=12							
H11S1	WAKE ISLAND Hyd	25.68	271	T		T	23 07 56.0	
	baz=114,slow=75,SNR=16							
H11S3	WAKE ISLAND Hyd	25.69	271	T		T	23 07 56.0	
	baz=114,slow=75,SNR=14							
ZALV	Zalesovo Beam	151.71	29	PKPbc		PKPbc	20 50 04.4	-0.4
	0.9nm,0.5s,baz=287,slow=3.6,SNR=5.0							
ZALV				PKPab		PKPab	20 50 14.4	+0.5
	1.0nm,0.7s,baz=262,slow=4.1,SNR=3.8							

IDC ***19*** *20:38:23.2±0.5, 10.85N×84.83W, h144km±10km, mb3.4/8, mb1 3.7/9, mb1mx3.4/28, mbtmp3.9/9, Error ellipse: s-maj=38.0km s-min=18.2km az=43.0*

NEIC ***19*** *20:38:24.7±1.6, 10.67N±0.04×84.93W±0.05, h152km±4km, mb4.3/27, Error ellipse: s-maj=6.8km s-min=6.3km az=225.0*

UCR ***19*** *20:38:24.2±2.4, 10.34N×84.74W, h147km±14km, MW4.2, mb4.3(NEIC)*

INET ***19*** *20:38:26.0±1.9, 11.03N×84.43W, h4km±12km, MW3.7*

ISC 19 20:38:23.8±0.6, 10.66N±0.04×84.91W±0.05, h156km±5km, n94, σ1§40/107, mb4.2/19, 13C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEN	Parque Tenorio	0.10	307	*i*P		Pn	20 38 45.2	+0.3
ACAL	Aguas Claras	0.13	259	⇑*i*P		Pn	20 38 45.2	+0.4
PACM	Arenal	0.22	141	⇑*e*P		Pn	20 38 45.6	+0.6
CUI	Cuipilapa	0.25	270	⇑*i*P		Pn	20 38 45.1	+0.1
CUI				*i*S		Sn	20 39 01.3	+0.1
VMAR	Armenia, Volca	0.26	307	*e*P		Pn	20 38 45.2	+0.1
CEDE	Laguna Cedeo	0.26	130	⇑*i*P		Pn	20 38 46.1	+1.0
HORNC	Hornillas	0.27	282	⇑*i*P		Pn	20 38 45.4	+0.3
HORNC				*i*S		Sn	20 39 02.3	+0.9
ARE1	Arenal 1	0.27	136	*e*P		Pn	20 38 46.1	+1.1
COLC	Colonia	0.29	271	⇑*i*P		Pn	20 38 45.2	+0.1
COLC				*i*S		Sn	20 39 01.3	0.0
GUAB	Guayabo de Bag	0.32	279	⇑*i*P		Pn	20 38 45.3	0.0
LIM1	Limonal	0.34	277	⇑*i*P		Pn	20 38 45.3	0.0
JTS	Las Juntas de	0.37	187	P		Pn	20 38 45.5	+0.1
	821nm,0.3s,baz=61,slow=13,SNR=1954							
JTS				S		Sn	20 39 01.4	-0.5
	125nm,0.3s,baz=338,slow=22,SNR=7.5							
JTS	Las Juntas de	0.37	187	*e*P		Pn	20 38 45.5	+0.1
GPS2	Hotel Rincn d	0.45	282	⇑*i*P		Pn	20 38 45.6	-0.1
GPS3	Bodega del ICE	0.46	282	⇑*i*P		Pn	20 38 45.6	-0.1
COVE	Coope Vega, Sa	0.50	83	Pn		Pn	20 38 46.3	+0.4
COVE				Sn		Sn	20 39 02.5	-0.2
COVE	Coope Vega, Sa	0.50	83	*e*P		Pn	20 38 46.4	+0.4
GB1A	Borinquen Arri	0.51	288	⇑*i*P		Pn	20 38 46.1	+0.1
GBS3	Finca Las Img	0.55	283	⇑*i*P		Pn	20 38 45.8	-0.3
ORTG	Ortega, Santa	0.61	242			Pn	20 38 46.4	-0.2
ORTG				Sn		Sn	20 39 03.6	-0.4
HZTE	Horizontes, Gu	0.68	275			Pn	20 38 46.6	-0.2
HZTE				Sn		Sn	20 39 03.7	-0.7
HZTE	Horizontes, Gu	0.68	275	*e*P		Pn	20 38 46.6	-0.2
GUAI	GUAI	0.71	237	⇑*i*P		Pn	20 38 46.8	-0.3
GUAI				*i*S		Sn	20 39 04.4	-0.4
DUNO	Dulce Nombre,	0.81	225	Pn		Pn	20 38 47.4	-0.4
LAFE	Finca La Fe, P	0.84	180	*e*P		Pn	20 38 48.4	+0.4
LAFE				*e*S		Sn	20 39 04.4	-2.2
LAFE				*e*S		Sn	20 39 07.4	+0.8
INDI	Punta indio, G	0.98	217	*e*P		Pn	20 38 48.7	-0.4
CAO2	Cobano, Puntar	0.98	191	Pn		Pn	20 38 49.0	-0.1
CAO2				Sn		Sn	20 39 08.2	-0.2
SAJU	San Juanillo,	0.98	233	*e*P		Pn	20 38 48.2	-0.8
HDC	Heredia	1.02	130	*e*P		Pn	20 38 46.5	-3.0
JACO	JACO, Garabito	1.02	166			Pn	20 38 49.6	+0.3
HDC3	Heredia 3	1.02	130	*e*P		Pn	20 38 46.6	-2.9
CONN	Concepcion	1.14	322	*e*P		Pn	20 38 50.1	-0.4
CONN				*e*S		Sn	20 39 07.3	-3.6
LCR2	La Lucha 2	1.27	136	*e*P		Pn	20 38 47.8	-4.0
CVTR	Volcan Turrial	1.30	119	Pn		Pn	20 38 49.2	-3.1
ACON	Acoyapa	1.33	349	Pn		Pn	20 38 51.9	-0.3
ACON				Sn		Sn	20 39 12.0	-2.0
RIMA	Rio Macho	1.36	131	*e*P		Pn	20 38 48.6	-4.0
CDM	Cerro de Muert	1.57	134	*e*P		Pn	20 38 50.8	-4.3
BATAN	Batan	1.61	110	Pn		Pn	20 38 53.2	-1.8
ESPN	Las Esperanzas	1.64	21	Pn		Pn	20 38 55.2	-0.2
EDDO	Dominical	1.73	143	*e*P		Pn	20 38 53.4	-3.0
BOAB	BOACO BROADBAN	1.93	337			Pn	20 38 58.0	-0.5
BOAB	BOACO BROADBAN	1.93	337	*e*P		Pn	20 38 58.0	-0.5
BOAB				*e*S		Sn	20 39 23.4	-2.0
HUEN		2.08	324	*e*P		Pn	20 38 59.8	-0.4
SRBA	San Rafael, Bu	2.08	133	*e*P		Pn	20 38 56.9	-3.5
DRK0	Durika	2.15	130	*e*P		Pn	20 38 57.8	-3.4
MATN	Matagalpa	2.47	336			Pn	20 39 04.5	-0.5
CNGN	Cerro Negro	2.54	316	Pn		Pn	20 39 03.9	-1.8
BRU2	Volcan	2.87	130	Pn		Pn	20 39 08.1	-1.8
CDITO	Canoas	2.88	136	Pn		Pn	20 39 11.3	+1.3
CRIN	San Cristobal	2.92	314			Pn	20 39 09.9	-0.6
TGUH	Tegucigalpa,Un	4.09	326	Pn		Pn	20 39 24.3	-1.3
PRVC	Isla de Provid	4.40	52			Pn	20 39 30.3	+0.9
BCIP	Isla Barro Col	5.21	106	Pn		Pn	20 39 41.1	+1.0
MTO3	Montecristo	5.72	311	Pn		Pn	20 39 47.9	+0.8
CMIG	Matias Romero	11.60	305	P		Pn	20 41 03.7	-1.1
	0.6nm,0.3s,baz=164,slow=13,SNR=5.0							
SDV	Santo Domingo	14.18	96	P		Pn	20 41 39.8	+1.8
	0.7nm,0.3s,baz=284,slow=6.9,SNR=14							
SDV	Santo Domingo	14.18	96	P		P	20 41 40.8	0.0
BIRV	Birongo	18.33	89	P		P	20 42 27.8	+1.4
OBIP	Obispado Ponce	19.18	65	P		P	20 42 36.7	+1.2
CELP	Cerrillos	19.22	65	P		P	20 42 37.7	+1.7
CELP				IAmb		IAmb	20 42 42.0	
	comp=Z,20nm,1.1s							
553A	Crawfordville	19.44	1	P		Pn	20 42 39.7	-1.4
MTP	Monte Pirata	20.14	66	P		P	20 42 47.7	+1.7
MTP				IAmb		IAmb	20 43 04.2	
	comp=Z,20nm,1.1s							
GOGA	Godfrey	22.68	3	P		P	20 43 13.2	+1.2
GOGA				IAmb		IAmb	20 43 14.4	
	comp=Z,7.6nm,0.7s							
Y52A	Lilburn	23.11	2	P		P	20 43 17.6	+1.6
Y52A				IAmb		IAmb	20 43 19.4	
	comp=Z,9.8nm,0.8s							
Y49A	Blount Mountai	23.13	357	P		P	20 43 17.2	+1.0
Y49A				IAmb		IAmb	20 43 18.6	
	comp=Z,4.9nm,0.7s							
HODGE	Hodges	23.59	5	P		P	20 43 21.7	+1.4
JSC	Jenkinsville	23.75	8	P		P	20 43 22.7	+0.9
JSC				IAmb		IAmb	20 43 24.1	
	comp=Z,9.2nm,0.6s							
X48A	Hartselle	23.77	356	P		P	20 43 22.8	+0.8
X48A				IAmb		IAmb	20 43 24.7	
	comp=Z,4.8nm,0.7s							
BIRD	Birdtown, Kers	24.22	9	P		P	20 43 27.1	+1.0
BIRD				IAmb		IAmb	20 43 51.2	
	comp=Z,18nm,1.4s							
BG3	Lake Jocassee	24.29	4	P		P	20 43 28.3	+1.5
BG3				IAmb		IAmb	20 43 29.3	
	comp=Z,8.6nm,0.7s							
TKL	Tuckaleechee C	24.91	2	P		P	20 43 34.9	+2.6
	comp=Z,4.1nm,0.9s,baz=187,slow=12,SNR=3.7							
V53A	Saluda	24.97	4	P		P	20 43 33.9	+0.9
TXAR	Lajitas Array	25.54	319	P		P	20 43 38.8	+0.5
	comp=Z,0.2nm,0.4s,baz=135,slow=9.0,SNR=2.1							
TXAR				pP		pP	20 44 09.2	-1.5
	comp=Z,0.6nm,0.8s,baz=144,slow=10,SNR=4.1							
V58A	Windy Hill, Pi	25.57	11	P		P	20 43 39.4	+1.1
V58A				IAmb		IAmb	20 43 40.2	
	comp=Z,7.9nm,0.6s							
U40A	Yellville	26.58	346	P		P	20 43 48.4	+1.0
T57A	Hurt	26.72	10	P		P	20 43 49.6	+1.0
T57A				IAmb		IAmb	20 43 50.4	
	comp=Z,4.8nm,0.7s							
M55A	Ridgway	31.16	9	P		P	20 44 29.1	+1.1
M55A				IAmb		IAmb	20 44 29.5	
	comp=Z,4.9nm,0.7s							
SIV	San Ignacio	35.47	138	P		P	20 45 06.5	+0.9
	comp=Z,0.8nm,0.3s,baz=316,slow=5.6,SNR=4.4							
F36A	Milaca	35.85	350	P		P	20 45 07.0	-1.4
F33A	5 Mile Ranch,	36.39	347	P		P	20 45 11.8	-1.2
NVAR	Mina Array Bea	40.69	318	P		P	20 45 48.0	-1.2
	comp=Z,0.2nm,0.5s,baz=116,slow=8.1,SNR=1.5							
NVAR				PcP		PcP	20 47 49.1	+1.2
	comp=Z,0.9nm,0.6s,baz=123,slow=5.3,SNR=7.5							
SCHQ	Schefferville	46.33	14	P		P	20 46 33.2	-0.6
	comp=Z,3.9nm,0.4s,baz=218,slow=6.3,SNR=22							
SCHQ	Schefferville	46.33	14	P		P	20 46 33.2	-0.6
SCHQ				IAmb		IAmb	20 46 33.9	
	comp=Z,6.9nm,1.0s							
PLTB	Pedras Altas	51.75	146	P		P	20 47 17.0	+1.7
YKA	Yellowknife Ar	56.00	344	P		P	20 47 44.3	-1.5
	comp=Z,0.2nm,0.4s,baz=146,slow=6.5,SNR=5.4							
ESDC	Sonseca Array	76.34	52	P		P	20 49 55.5	-0.4
	comp=Z,1.1nm,0.8s,baz=282,slow=6.4,SNR=7.9							
KOWA	Kowa	78.67	77	P		P	20 50 10.1	+0.8
TOA0	Torodi Ar. Sit	84.36	78	P		P	20 50 39.5	+0.3
TORD	Torodi Ar. Bea	84.36	78	P		P	20 50 39.4	+0.2
	comp=Z,0.2nm,0.5s,baz=301,slow=6.3,SNR=4.7							
TORD	Torodi Ar. Bea	84.36	78	P		P	20 50 39.7	+0.5
ARCES	ARCESS Array B	87.05	19	P		P	20 50 50.4	-0.9
	comp=Z,3.2nm,0.9s,baz=270,slow=4.5,SNR=1.6							
ASAR	Alice Springs	140.86	246	PKhKP	PKPpre		20 57 29.4	
	comp=Z,0.2nm,0.4s,baz=108,slow=3.6,SNR=2.4							
WRA	Warramunga Arr	141.12	251	PKhKP	PKPpre		20 57 30.1	
	comp=Z,0.9nm,0.8s,baz=100,slow=2.8,SNR=5.3							
WRA	Warramunga Arr	141.12	251			PKPdf	20 57 37.6	+1.1

IDC ***19*** *20:44:11.6±4.5, 41.15S×87.41W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/19, mbtmp4.0/6, ML3.2/1, MS3.9/25, Ms1 3.9/25, ms1mx3.7/48, Error ellipse: s-maj=134.3km s-min=37.4km az=13.0*

NEIC ***19*** *20:44:12.2±1.9, 41.15S±0.1×87.4W±0.2, h10km±1km, mb4.5/23, Error ellipse: s-maj=21.5km s-min=20.7km az=269.0*

ISC 19 20:44:12.4±0.8, 41.13S±0.1×87.4W±0.1, h12km, n66, σ1§17/34, mb4.4/13, MS3.9/25, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	10.06	45	T	T	20 57 06.8	
	baz=214,SNR=61						
H03S1	Juan Fernandez	10.07	45	T	T	20 57 10.5	
	baz=214,SNR=60						
H03S3	Juan Fernandez	10.08	45	T	T	20 57 07.4	
	baz=214,SNR=71						
H03N3	Juan Fernandez	10.36	43	T	T	20 57 22.5	
	baz=220,slow=72,SNR=74						
H03N2	Juan Fernandez	10.37	43	T	T	20 57 29.5	
	baz=220,slow=72,SNR=162						
H03N1	Juan Fernandez	10.38	43	T	T	20 57 22.5	
	baz=220,slow=72,SNR=65						
LC01	Cunco	12.14	84		Pn	20 47 06.1	+0.9
PLCA	Paso Flores	12.75	93	Pn	Pn	20 47 16.5	+2.9
	0.0nm,0.3s,baz=274,slow=15,SNR=3.8						
PLCA				LR	LR	20 51 12.7	
	comp=Z,579nm,19.4s,baz=267,slow=33						
PLCA	Paso Flores	12.75	93		Pn	20 47 15.0	+1.4
GO05	Huala	13.71	68	Pn	Pn	20 47 24.1	-2.6
BO02	Sierra Bellavi	14.63	69	Pn	Pn	20 47 38.0	-1.3
MT09	Talagante	15.04	65	Pn	Pn	20 47 44.3	-0.6
MT09				IAmb	IAmb	20 48 10.0	
	comp=Z,32nm,1.2s						
BO04	La Punta	15.18	67	Pn	Pn	20 47 46.0	-0.7
BO04				IAmb	IAmb	20 47 57.1	
	comp=Z,23nm,0.9s						
MT02	Curacav	15.24	63	Pn	Pn	20 47 46.5	-0.9
MT02				IAmb	IAmb	20 48 02.8	
	comp=Z,29nm,1.0s						
ROC1	El Roble	15.49	63	Pn	Pn	20 47 51.5	+0.5
LMEL	Las Melosas	15.54	67	Pn	Pn	20 47 52.4	+0.9
LMEL				IAmb	IAmb	20 48 01.5	
	comp=Z,32nm,1.1s						
VA03	San Esteban	15.93	63	Pn	Pn	20 47 56.1	-0.4
VA03				IAmb	IAmb	20 48 00.7	
	comp=Z,52nm,1.2s						
AC02	Maricunga	20.88	52	P	Pn	20 48 56.5	-0.9
RPN	Rapa Nui	22.92	301	LR	LR	20 55 43.1	
	comp=Z,207nm,21.2s,baz=100,slow=30						
LVC	Limon Verde	24.30	45	LR	LR	20 56 42.6	
	comp=Z,170nm,21.0s,baz=212,slow=31						
LVC	Limon Verde	24.30	45	P	P	20 49 30.7	+0.5
LVC				IAmb	IAmb	20 49 41.1	
	comp=Z,15nm,1.1s						
PB16	IPOC Station P	27.58	39	P	P	20 50 01.2	+1.1
CPUP	Villa Florida	28.95	68	LR	LR	21 00 56.7	
	comp=Z,257nm,19.9s,baz=222,slow=35						
LPAZ	La Paz	30.00	39	LR	LR	21 00 23.3	
	comp=Z,62nm,20.1s,baz=209,slow=32						
NNA	Nana	30.67	21	LR	LR	20 59 13.4	
	comp=Z,137nm,21.4s,baz=196,slow=30						
AQDB	Aquidauana	33.96	62	P	P	20 50 54.9	-0.9
AQDB				IAmb	IAmb	20 51 05.7	
	comp=Z,7.5nm,1.0s						
SIV	San Ignacio	33.98	50	P	P	20 50 55.8	-0.2
	comp=Z,1.2nm,0.6s,baz=245,slow=14,SNR=2.4						
SIV				LR	LR	21 04 29.2	
	comp=Z,217nm,18.2s,baz=233,slow=36						
BELA	Belgrano 2	42.33	166	P	P	20 52 05.1	-0.5
BELA				IAmb	IAmb	20 52 15.7	
	comp=Z,11nm,1.4s						
BDFB	Brasilia	42.53	65	LR	LR	21 09 33.1	
	comp=Z,235nm,18.9s,baz=156,slow=36						
ROSC	El Rosal	47.48	18	LR	LR	21 09 33.0	
	comp=Z,172nm,18.4s,baz=34,slow=32						
QSPA	South Pole Qui	48.90	180	P	P	20 52 56.1	-1.9
QSPA				IAmb	IAmb	20 52 60.0	
	comp=Z,7.9nm,1.2s						
ZARC	Zaragoza, Cauc	49.94	16	P	P	20 53 06.6	+0.5
ZARC				IAmb	IAmb	20 53 09.5	
	comp=Z,4.3nm,0.9s						
JTS	Las Juntas de	51.41	3	LR	LR	21 09 14.0	
	comp=Z,120nm,18.4s,baz=210,slow=29						
SDV	Santo Domingo	52.30	21	LR	LR	21 13 19.6	
	comp=Z,93nm,18.9s,baz=116,slow=34						
VNDA	Vanda	54.26	195	LR	LR	21 13 30.5	
	comp=Z,57nm,19.4s,baz=282,slow=32						
MDP	Montagnes des	56.08	43	LR	LR	21 14 59.8	
	comp=Z,130nm,20.4s,baz=222,slow=33						
PPT2	Papeete2	57.79	275	*e*S	S	21 01 45.7	-17
	comp=Z,81nm,26.2s						
PPT2				*e*LR	LR	21 10 41.5	
	comp=Z,230nm,28.0s						
RCBR	Riachuelo	57.82	67	LR	LR	21 18 59.2	
	comp=Z,259nm,18.2s,baz=0.0,slow=36						
RAR	Rarotonga	63.28	265	LR	LR	21 15 19.4	
	comp=Z,53nm,18.9s,baz=298,slow=30						
URZ	Urewera	69.56	237	LR	LR	21 19 29.0	
	comp=Z,14nm,19.6s,baz=216,slow=30						
RPZ	Rata Peaks	69.

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	220nm,0.1s						
ZHN	**Zhinishke**	**1.67**	**306**	*e*P	**Pg**	**20 46 34.2**	**0.0**
	79nm,0.2s						
ZHN				*e*S	**Sg**	**20 46 58.8**	**+2.8**
	380nm,0.3s						
KPKS	**Kokpek**	**1.73**	**317**	*e*P	**Pg**	**20 46 34.3**	**-0.9**
	62nm,0.1s						
KPKS				*e*S	**Sg**	**20 46 58.8**	**+1.2**
	559nm,0.3s						
KURS	**Kuram**	**2.02**	**310**	*e*P	**Pg**	**20 46 40.1**	**-0.7**
	17nm,0.1s						
KURS				*e*S	**Sg**	**20 47 09.5**	**+2.5**
	96nm,0.4s						
ANVS	**Anan'yevo**	**2.02**	**287**	⇓*i*P	**Pg**	**20 46 41.1**	**+0.2**
	baz=77						
ANVS				⇓*e*S	**Sg**	**20 47 10.2**	**+3.0**
	baz=77						
DJR	**Jarkent**	**2.15**	**350**	*e*P	**Pb**	**20 46 39.1**	**-1.5**
	17nm,0.1s						
DJR				*e*S	**Sb**	**20 47 07.7**	**+0.6**
	65nm,0.3s						
BLB	**Baldybastay**	**2.31**	**326**	*e*P	**Pb**	**20 46 43.7**	**+0.5**
	62nm,0.1s						
BLB				*e*S	**Sg**	**20 47 15.2**	**-1.1**
	534nm,0.2s						
KDJ	**Kajisay**	**2.31**	**269**	⇑*e*P	**Pg**	**20 46 46.1**	**-0.3**
	baz=63						
KDJ				⇑*e*S	**Sg**	**20 47 19.3**	**+2.8**
	baz=63						
KOTS	**Kotyrbulak**	**2.56**	**295**	*e*P	**Pg**	**20 46 49.5**	**-1.6**
	34nm,0.0s						
KOTS				*e*S	**Sg**	**20 47 24.9**	**+0.6**
	390nm,0.5s						
MDOK	**Medeo**	**2.57**	**293**	*e*P	**Pg**	**20 46 50.1**	**-1.3**
	19nm,0.4s						
MDOK				*e*S	**Sg**	**20 47 26.4**	**+1.6**
	158nm,0.2s						
MDOK	**Medeo**	**2.57**	**293**	⇑Pg	**Pg**	**20 46 49.8**	**-1.6**
	12nm,0.4s						
MDOK				⇓Lg	Lg	20 47 26.6	
	95nm,0.8s						
TNSS	**Tian-Shan**	**2.60**	**290**	*e*P	**Pg**	**20 46 51.2**	**-0.8**
	10.0nm,0.1s						
TNSS				*e*S	**Sg**	**20 47 27.8**	**+2.1**
	50nm,0.1s						
AAA	**Alma-Ata**	**2.68**	**293**	*e*P	**Pg**	**20 46 52.1**	**-1.3**
	46nm,0.6s						
AAA				*e*S	**Sg**	**20 47 30.2**	**+2.0**
	320nm,0.5s						
CHKK	**Chushkaly**	**2.93**	**305**	*e*P	**Pb**	**20 46 55.3**	**+1.6**
	3.3nm,0.1s						
CHKK				*e*S	**Sg**	**20 47 34.9**	**-1.1**
	81nm,0.1s						
MTBS	**Maitube**	**2.99**	**289**	*e*P	**Pb**	**20 46 56.9**	**+2.0**
	8.3nm,0.4s						
MTBS				*e*S	**Sg**	**20 47 38.6**	**+0.4**
	68nm,0.2s						
ULHL	**Ulahol**	**3.01**	**272**	⇑*e*P	**Pb**	**20 46 55.9**	**+0.7**
	baz=67						
ULHL				⇑*e*S	**Sb**	**20 47 36.0**	**+4.3**
	baz=67						
KTBS	**Karatobe**	**3.04**	**301**	*e*P	**Pb**	**20 46 56.6**	**+0.8**
	4.0nm,0.1s						
KTBS				*e*S	**Sb**	**20 47 37.0**	**+4.4**
	401nm,0.4s						
TDK	**Taldyqorghan**	**3.11**	**335**	*e*P	**Pb**	**20 46 57.1**	**+0.3**
	23nm,0.1s						
TDK				*e*S	**Sg**	**20 47 38.2**	**-3.7**
	86nm,0.1s						
KAPS	**Kapalarasan**	**3.15**	**348**	*e*P	**Pb**	**20 46 57.1**	**-0.4**
	7.4nm,0.3s						
KAPS				*e*S	**Sb**	**20 47 38.2**	**+2.5**
	40nm,0.0s						
BOOM	**Boomskoye usch**	**3.24**	**276**	⇑*i*P	**Pb**	**20 46 58.5**	**-0.6**
	baz=71						
BOOM				⇑*e*S	**Sb**	**20 47 40.6**	**+2.4**
	baz=71						
KST	**Kastek**	**3.30**	**286**	*e*P	**Pb**	**20 47 02.5**	**+2.3**
	22nm,0.1s						
KST				*e*S	**Sg**	**20 47 47.1**	**-0.9**
	66nm,0.5s						
KUU	**Kurty**	**3.35**	**302**	*e*P	**Pb**	**20 47 03.2**	**+2.3**
	3.7nm,0.2s						
KUU				*e*S	**Sg**	**20 47 48.5**	**-1.1**
	71nm,0.1s						
DGS	**Degeres**	**3.48**	**289**	*e*P	**Pg**	**20 47 06.2**	**-2.6**
	9.3nm,0.3s						
DGS				*e*S	**Sg**	**20 47 53.7**	**-0.3**
	59nm,0.1s						
TKM2	**Tokmak 2**	**3.54**	**283**	⇓*i*P	**Pb**	**20 47 02.3**	**-2.0**
	baz=78						
TKM2				⇓*i*S	**Sb**	**20 47 47.1**	**+0.1**
	baz=78						
TKM2	**Tokmak 2**	**3.54**	**283**	⇑Pg	**Pb**	**20 47 03.1**	**-1.1**
	7.0nm,0.6s						
TKM2				⇓Lg	Lg	20 47 55.3	
	42nm,0.6s						
KRBS	**Karabastau**	**3.70**	**295**	*e*P	**Pb**	**20 47 09.7**	**+2.8**
	4.0nm,0.1s						
KRBS				*e*S	**Sg**	**20 47 59.7**	**-1.2**
	73nm,0.4s						
KBK	**Karagaybulak**	**3.98**	**278**	⇑*e*P	**Pb**	**20 47 08.7**	**-3.0**
	baz=74						
KBK				⇑*i*S	**Sb**	**20 47 58.1**	**-1.5**
	baz=74						
CHMS	**Chumysh**	**4.16**	**283**	⇓*e*P	**Pb**	**20 47 10.8**	**-4.0**
	baz=78						
CHMS				⇓*e*S	**Sb**	**20 48 01.8**	**-3.0**
	baz=78						
UCH	**Uchtor**	**4.29**	**272**	⇓*e*P	**Pb**	**20 47 13.5**	**-3.7**
	baz=69						
UCH				⇓*i*S	**Sb**	**20 48 06.5**	**-2.3**
	baz=69						
AAK	**Ala-Archa**	**4.31**	**278**	LR	LR	20 48 58.8	
	comp=Z,16nm,18.5s,baz=188,slow=37						
SGDS	**Sogindy**	**4.34**	**289**	*e*P	**Pg**	**20 47 21.9**	**-3.3**
	3.8nm,0.5s						
SGDS				*e*S	**Sg**	**20 48 20.5**	**-1.0**
	13nm,0.2s						
USP	**Ospenovka**	**4.39**	**286**	⇓*i*P	Pb	20 47 13.6	-5.1
	baz=81						
USP				⇓*i*S	**Sb**	**20 48 06.7**	**-4.7**
	baz=81						
MAKZ	**Makanchi**	**4.75**	**14**	⇓Pn	**Pn**	**20 47 14.2**	**+1.3**
	4.9nm,0.6s						
MAKZ				⇑Sn	**Sn**	**20 48 08.4**	**+0.9**
	5.6nm,0.7s						
MAKZ				⇑Lg	Lg	20 48 24.6	
	7.7nm,0.5s						
MK31	**Makanchi Array**	**4.80**	**17**	Pn	**Pn**	**20 47 14.1**	**+0.6**
	0.6nm,0.2s,baz=198,slow=12,SNR=143						
MK31				⇑Sn	**Sn**	**20 48 09.5**	**+0.8**
	7.8nm,0.7s,baz=190,slow=24,SNR=9.4						
MK31				⇑Lg	Lg	20 48 27.0	
	29nm,0.9s,baz=191,slow=27,SNR=9.0						
MKAR	**Makanchi Array**	**4.80**	**17**	Pn	**Pn**	**20 47 14.3**	**+0.8**
	1.1nm,0.3s,baz=201,slow=14,SNR=88						
MKAR				Sn	**Sn**	**20 48 11.0**	**+2.3**
	1.8nm,0.3s,baz=184,slow=15,SNR=9.9						
MKAR				Lg	Lg	20 48 26.2	
	3.3nm,0.3s,baz=192,slow=27,SNR=11						
MKAR				LR	LR	20 49 05.5	
	comp=Z,38nm,21.2s,baz=29,slow=40						
ZSN	**Zaisan**	**6.17**	**30**	*e*P	**Pb**	**20 47 49.1**	**+0.2**
	3.3nm,0.7s						
ZSN				*e*S	Sg	20 49 07.2	-13
	14nm,0.7s						
OTUK	**Ortayu**	**8.24**	**320**	⇑Lg	Lg	20 50 17.8	
	16nm,1.4s						
KURBB	**Kurchatov Arra**	**8.51**	**352**	⇑Lg	Lg	20 50 31.3	
	4.4nm,0.7s						
KURK	**Kurchatov**	**8.59**	**353**	⇓Lg	Lg	20 50 34.0	
	2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**12.13**	**13**	Pn	**Pn**	**20 48 55.5**	**+1.6**
	0.1nm,0.3s,baz=193,slow=11,SNR=2.4						
ZALV				Sn	**Sn**	**20 51 09.4**	**+0.9**
	0.1nm,0.3s,baz=197,slow=22,SNR=2.9						
SONM	**Songino Array**	**19.25**	**64**	P	**Pn**	**20 50 27.2**	**+0.8**
	0.1nm,0.3s,baz=270,slow=10,SNR=2.2						
GNI	**Garni**	**26.72**	**278**	LR	LR	21 04 27.3	
	comp=Z,47nm,20.2s,baz=262,slow=41						
FINES	**FINESS Array B**	**37.27**	**320**	P	P	20 53 19.4	+7.0
	0.8nm,0.6s,baz=83,slow=12,SNR=1.3						

DDA ***19*** *20:50:29.6±0.0, 39°.13N×29°.07E, h6^{km}±2^{km}, MW3.6*
ISK ***19*** *20:50:29.8, 39°.16N×29°.11E, h8^{km}, ML3.5/36*
ISC 19 20:50:30.1±0.8**, 39°.14N**±0°.02×**29°.10E**±0°.02**, h12**^{km}±5^{km},
n97, σ0^{s}.71/119**, 17C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SMAA	**Simav-Kutahya**	**0.10**	**248**	PG	**Pg**	**20 50 33.0**	**0.0**
SMAA				SG	**Sg**	**20 50 35.5**	**+0.4**
SIMA	**Simav-Kutahya**	**0.10**	**239**	PG	**Pg**	**20 50 32.9**	**-0.2**
SIMA				SG	**Sg**	**20 50 34.9**	**-0.4**
SHAP	**Saphane-Kutahy**	**0.15**	**139**	PG	**Pg**	**20 50 33.6**	**-0.2**
SHAP				SG	**Sg**	**20 50 36.1**	**-0.3**
GEDZ	**Gediz**	**0.26**	**110**	PG	**Pg**	**20 50 35.6**	**0.0**
DEMI	**Demirci**	**0.31**	**253**	P	**Pg**	**20 50 36.2**	**-0.3**
DEMI				S	**Sg**	**20 50 40.4**	**-0.3**
DEMI				*i* AML	AML	20 50 41.0	
	comp=N,4μm,0.3s						
DEMI				*i* AML	AML	20 50 42.0	
	comp=E,3μm,0.2s						
TVSB	**Tavsanli**	**0.42**	**42**	PG	**Pg**	**20 50 38.3**	**-0.2**
TVSB				SG	**Sg**	**20 50 43.9**	**-0.3**
USAK	**Uak-Merkez**	**0.43**	**188**	P	**Pg**	**20 50 38.3**	**-0.3**
USAK				S	**Sg**	**20 50 43.5**	**-0.8**
USAK				*i* AML	AML	20 50 44.0	
	comp=N,1μm,0.2s						
USAK				*i* AML	AML	20 50 46.0	
	comp=E,2μm,0.2s						
DST	**Dursunbey**	**0.59**	**322**	PG	**Pg**	**20 50 41.5**	**-0.2**
DURS	**Dursunbey**	**0.67**	**314**	P	**Pb**	**20 50 43.2**	**-0.6**
DURS				S	**Sg**	**20 50 52.0**	**0.0**
DURS				*i* AML	AML	20 50 54.0	
	comp=N,1μm,0.3s						
DURS				*i* AML	AML	20 50 57.0	
	comp=E,1μm,0.3s						
KULA	**Kula-Manisa**	**0.71**	**209**	PG	**Pg**	**20 50 43.5**	**-0.4**
ANDZ	**Kutahya, Merke**	**0.73**	**59**	P	**Pg**	**20 50 43.7**	**-0.6**
MANT	**Manisa**	**0.77**	**213**	P	**Pg**	**20 50 44.5**	**-0.6**
MANT				S	**Sg**	**20 50 53.8**	**-1.3**
MANT				*i* AML	AML	20 50 55.0	
	comp=N,917nm,0.6s						
MANT				*i* AML	AML	20 50 55.0	
	comp=E,979nm,0.4s						
PASA	**Karahalli, USA**	**0.84**	**159**	P	**Pg**	**20 50 46.0**	**-0.4**
PASA				S	**Sg**	**20 50 56.5**	**-1.1**
PASA				*i* AML	AML	20 50 59.0	
	comp=N,383nm,0.5s						
PASA				*i* AML	AML	20 51 01.0	
	comp=E,1μm,0.5s						
KHL	**Karahalli**	**0.88**	**157**	PG	**Pb**	**20 50 47.6**	**+0.3**
ORLT	**Orhaneli**	**0.92**	**350**	PG	**Pb**	**20 50 47.8**	**-0.2**
AFYO	**Afyonkarahisar**	**1.00**	**110**	P	**Pb**	**20 50 49.7**	**+0.3**
AFYO				S	**Sb**	**20 51 03.4**	**+0.9**
AFYO				*i* AML	AML	20 51 07.0	
	comp=N,2μm,0.6s						
AFYO				*i* AML	AML	20 51 07.0	
	comp=E,868nm,0.5s						
ULDT	**Uludag**	**1.00**	**2**	P	**Pg**	**20 50 48.9**	**-0.6**
ULDT				S	**Sg**	**20 51 02.2**	**-0.5**
ULDT				*i* AML	AML	20 51 06.0	
	comp=N,1μm,0.5s						
GOMA	**Golmarmara-Man**	**1.01**	**245**	PG	**Pn**	**20 50 50.2**	**+0.1**
STBT	**Saitabat**	**1.01**	**6**	P	**Pb**	**20 50 49.3**	**-0.3**
STBT				S	**Sb**	**20 51 03.5**	**+0.6**
STBT				*i* AML	AML	20 51 06.0	
	comp=N,4μm,0.5s						
STBT				*i* AML	AML	20 51 10.0	
	comp=E,2μm,0.4s						
AKHS	**Akhisar**	**1.03**	**256**	P	**Pn**	**20 50 50.6**	**+0.2**
AKS	**Akhisar**	**1.03**	**256**	PG	**Pn**	**20 50 50.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.09**	**283**	P	**Pn**	**20 50 51.6**	**+0.4**
STEP				S	**Sb**	**20 51 06.1**	**+0.9**
STEP				*i* AML	AML	20 51 08.0	
	comp=E,949nm,0.3s						
STEP				*i* AML	AML	20 51 10.0	
	comp=N,1μm,0.8s						
IGD	**Bursa**	**1.13**	**4**	P	**Pb**	**20 50 51.4**	**-0.1**
AVDN	**Avdancik/Bursa**	**1.16**	**3**	P	**Pb**	**20 50 51.9**	**-0.2**
AVDN				S	**Sn**	**20 51 08.2**	**+0.4**
AVDN				*i* AML	AML	20 51 13.0	
	comp=E,659nm,0.7s						
YYLC	**Yaylacik**	**1.19**	**350**	P	**Pn**	**20 50 52.9**	**+0.4**
YYLC				S	**Sb**	**20 51 08.2**	**+0.4**
YYLC				*i* AML	AML	20 51 15.0	
	comp=N,3μm,0.6s						
BILE	**Bilecik/Merkez**	**1.19**	**30**	P	**Pg**	**20 50 52.4**	**-0.6**
BILE				S	**Sb**	**20 51 07.9**	**-0.1**
BILE				*i* AML	AML	20 51 11.0	
	comp=E,583nm,0.7s						
KZIL	**AFYON_Kizioren**	**1.20**	**137**	P	**Pg**	**20 50 52.7**	**-0.5**
KZIL				S	**Sb**	**20 51 08.7**	**+0.4**
KZIL				*i* AML	AML	20 51 12.0	
	comp=N,507nm,0.5s						
KZIL				*i* AML	AML	20 51 13.0	
	comp=E,361nm,0.7s						
IZI	**Iznik**	**1.23**	**14**	PN	**Pn**	**20 50 53.5**	**+0.3**
SHUT	**Suhut-Afyon**	**1.28**	**117**	PN	**Pg**	**20 50 54.5**	**-0.2**
BORA	**Eskisehir**	**1.29**	**54**	PN	**Pb**	**20 50 54.2**	**-0.1**
BORA	**Eskisehir**	**1.29**	**54**	P	**Pn**	**20 50 53.9**	**0.0**
BORA				S	**Sb**	**20 51 10.7**	**-0.1**
BORA				*i* AML	AML	20 51 12.0	
	comp=E,1μm,0.6s						
BORA				*i* AML	AML	20 51 14.0	
	comp=N,805nm,0.6s						
BALY	**Balya**	**1.29**	**298**	P	**Pg**	**20 50 54.7**	**-0.3**
BALY				S	**Sb**	**20 51 10.1**	**-0.8**
BALY				*i* AML	AML	20 51 14.0	
	comp=N,834nm,0.9s						
BALY				*i* AML	AML	20 51 14.0	
	comp=E,504nm,0.4s						
GEMT	**Gemlik**	**1.30**	**3**	PN	**Pg**	**20 50 54.5**	**-0.6**
GONE	**Gonen-Balikesi**	**1.42**	**310**	PN	**Pb**	**20 50 56.3**	**-0.2**
BASM	**Basmaki-Afyon**	**1.43**	**148**	PN	**Pn**	**20 50 56.1**	**+0.2**
YLV	**Yalova**	**1.45**	**8**	PN	**Pn**	**20 50 56.2**	**+0.1**
KURT	**Yalova, Merkez**	**1.46**	**3**	P	**Pn**	**20 50 56.2**	**+0.1**
KURT				S	**Sn**	**20 51 15.1**	**-0.1**
KURT				*i* AML	AML	20 51 19.0	
	comp=E,840nm,0.4s						
KURT				*i* AML	AML	20 51 22.0	
	comp=N,640nm,0.7s						
TRML	**Termal-Yalova**	**1.47**	**2**	PN	**Pn**	**20 50 56.5**	**+0.1**
GPA	**Golpazari**	**1.48**	**39**	PN	**Pb**	**20 50 57.3**	**-0.3**
SRCK	**Saricakaya, Es**	**1.49**	**52**	PN	**Pn**	**20 50 57.2**	**+0.5**
EDC	**Edincik**	**1.54**	**322**	PN	**Pn**	**20 50 57.5**	**+0.2**
CIFT	**Cifteler, Eski**	**1.54**	**81**	PN	**Pn**	**20 50 57.9**	**+0.4**
ZEDA	**zmir-Bergama**	**1.58**	**264**	P	**Pg**	**20 51 00.5**	**+0.1**
BUHA	**Balikesir, Bur**	**1.61**	**284**	P	**Pn**	**20 50 58.8**	**+0.6**
BRDR	**BURDUR-Merkez**	**1.63**	**152**	P	**Pn**	**20 50 58.6**	**0.0**
GEYV	**SAKARYA_Geyve**	**1.63**	**34**	P	**Pb**	**20 50 59.6**	**-0.5**
GEYV				S	**Sg**	**20 51 22.5**	**-0.2**
GEYV				*i* AML	AML	20 51 26.0	
	comp=N,572nm,0.3s						
GEYV				*i* AML	AML	20 51 30.0	
	comp=E,516nm,0.6s						
KNL	**Balıkesir**	**1.66**	**314**	P	**Pn**	**20 50 59.4**	**+0.5**
KNL				S	**Sb**	**20 51 21.9**	**+0.5**
KNL				*i* AML	AML	20 51 25.0	
	comp=N,1μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.67**	**185**	P	**Pb**	**20 51 00.7**	**-0.2**
DKL	**Dikili**	**1.71**	**269**	PN	**Pb**	**20 51 00.9**	**-0.4**
ISP	**Isparta**	**1.73**	**139**	PN	**Pn**	**20 51 00.7**	**+0.7**
HRT	**Hereke**	**1.74**	**14**	PN	**Pn**	**20 51 00.6**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.86**	**30**	PN	**Pn**	**20 51 02.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.87**	**313**	PN	**Pn**	**20 51 02.9**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	PN	**Pn**	**20 51 02.9**	**+0.4**
AUSIV	**SIVRIHISAR**	**1.92**	**80**	PN	**Pn**	**20 51 03.1**	**+0.4**
KAVV	**Kandilli-Istan**	**1.93**	**359**	PN	**Pn**	**20 51 02.9**	**+0.3**
ISK	**Istanbul-Kandi**	**1.93**	**359**	PN	**Pn**	**20 51 03.4**	**+0.7**
CAEL	**Denizli, Camel**	**2.02**	**175**	P	**Pg**	**20 51 08.1**	**-0.7**
BGKT	**Bogazkoy**	**2.06**	**353**	PN	**Pn**	**20 51 04.4**	**-0.1**
KAYN	**Sakarya, Kayna**	**2.06**	**27**	P	**Pn**	**20 51 04.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**2.06**	**288**	P	**Pn**	**20 51 05.2**	**+0.6**
YER	**Yerkesik**	**2.10**	**198**	PN	**Pn**	**20 51 06.8**	**+1.7**
URLA	**Izmir**	**2.10**	**249**	PN	**Pb**	**20 51 07.2**	**-1.0**
MAR6	**Marsite Statio**	**2.10**	**319**	PN	**Pn**	**20 51 06.1**	**+1.0**
KLYT	**Kilyos**	**2.12**	**359**	PN	**Pn**	**20 51 05.6**	**+0.4**
CTKS	**Kestanelik-??a**	**2.15**	**348**	PN	**Pn**	**20 51 06.3**	**+0.6**
CAME	**Cameli-Denizli**	**2.19**	**176**	PN	**Pn**	**20 51 07.9**	**+1.4**
SLVT	**Silivri**	**2.20**	**342**	PN	**Pn**	**20 51 07.4**	**+1.0**
TKR	**Tekirdag**	**2.21**	**328**	PN	**Pn**	**20 51 07.3**	**+0.8**
EZN	**Ezine**	**2.25**	**289**	PN	**Pn**	**20 51 08.3**	**+1.2**
DOGA	**KONYA_Doganhis**	**2.26**	**116**	P	**Pn**	**20 51 08.4**	**+1.0**
KIBS	**BOLU**	**2.48**	**58**	P	**Pg**	**20 51 16.9**	**-0.8**
GOKA	**anakkale-Gk**	**2.68**	**294**	P	**Pb**	**20 51 16.7**	**-1.2**
ICOR	**Ion Corvin**	**5.07**	**349**	⇑P	**Pn**	**20 51 46.6**	**+0.8**
TIRR	**Tirgusor**	**5.34**	**355**	⇑P	**Pn**	**20 51 50.3**	**+0.8**
TLBR	**Topalu**	**5.46**	**352**	⇓P	**Pn**	**20 51 52.1**	**+0.9**
HARR	**Harsova**	**5.62**	**351**	⇓P	**Pn**	**20 51 54.2**	**+0.9**
TPGR	**Topolog**	**5.74**	**355**	⇑P	**Pn**	**20 51 55.4**	**+0.3**
TLCR		**6.05**	**358**	⇑P	**Pn**	**20 51 59.6**	**+0.4**
CFR	**Carcaliu**	**6.08**	**354**	⇑P	**Pn**	**20 51 60.0**	**+0.3**
SCTR	**Scanteiesti**	**6.58**	**353**	⇑P	**Pn**	**20 52 07.4**	**+0.8**
BISRR	**Bisoca**	**6.65**	**345**	⇓P	**Pn**	**20 52 09.4**	**+1.8**
VLDR	**Vladesti**	**6.75**	**354**	⇑P	**Pn**	**20 52 09.2**	**+0.3**
MLR	**Muntele Rosu**	**6.76**	**341**	⇑P	**Pn**	**20 52 10.9**	**+1.6**
MTUR	**Matau**	**6.78**	**335**	⇓P	**Pn**	**20 52 11.0**	**+1.5**
VRI	**Vrincioaia**	**6.95**	**346**	⇑P	**Pn**	**20 52 12.9**	**+1.2**
VOIR		**6.97**	**336**	⇓P	**Pn**	**20 52 12.9**	**+0.8**
GHRR		**7.03**	**350**	⇑P	**Pn**	**20 52 14.3**	**+1.5**
COVR	**Voineasa-Covas**	**7.04**	**343**	⇓P	**Pn**	**20 52 14.7**	**+1.8**
ARR	**Arges**	**7.05**	**333**	⇑P	**Pn**	**20 52 13.9**	**+0.7**
DOPR	**Dopca**	**7.35**	**339**	⇑P	**Pn**	**20 52 18.7**	**+1.5**
TESR	**Tescani**	**7.59**	**347**	⇑P	**Pn**	**20 52 21.1**	**+0.7**
HERR	**Herculane**	**7.59**	**321**	⇑P	**Pn**	**20 52 19.9**	**-0.6**
GZR	**Gura Zlata**	**7.81**	**325**	⇑P	**Pn**	**20 52 23.9**	**+0.3**
MDB	**Medias**	**7.81**	**335**	⇑P	**Pn**	**20 52 25.2**	**+1.7**
BURAR	**Bucovina Array**	**8.93**	**343**	⇑P	**Pn**	**20 52 40.4**	**+1.4**
SORM	**Soroca**	**9.01**	**357**	⇓P	**Pn**	**20 52 39.6**	**-0.3**

DDA ***19*** *21:01:15.8±0.0, 39°.13N×29°.06E, h7^{km}±2^{km}, MW3.5*
IASPEI ***19*** *21:01:16.3±0.8, 39°.14N±0°.02×29°.08E±0°.02, h14^{km}±5^{km},*
Error ellipse: s-maj=3.0km s-min=2.9km az=136.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009
ISK ***19*** *21:01:16.2, 39°.16N×29°.11E, h6^{km}, ML3.5/20*
ISC 19 21:01:16.5±0.8**, 39°.14N**±0°.02×**29°.08E**±0°.02**, h14**^{km}±5^{km},
n59, σ0^{s}.76/82**, 7C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SMAA	**Simav-Kutahya**	**0.09**	**244**	PG	**Pg**	**21 01 19.4**	**-0.1**
SMAA				SG	**Sg**	**21 01 21.9**	**+0.3**
SIMA	**Simav-Kutahya**	**0.09**	**234**	PG	**Pg**	**21 01 19.5**	**-0.1**
SIMA				SG	**Sg**	**21 01 21.5**	**-0.3**
SHAP	**Saphane-Kutahy**	**0.16**	**136**	PG	**Pg**	**21 01 19.9**	**-0.6**
SHAP				SG	**Sg**	**21 01 22.5**	**-0.7**
GEDZ	**Gediz**	**0.27**	**110**	PG	**Pg**	**21 01 22.0**	**-0.3**
GEDZ				SG	**Sg**	**21 01 26.0**	**-0.3**
DEMI	**Demirci**	**0.30**	**252**	P	**Pg**	**21 01 22.4**	**-0.3**
DEMI				S	**Sg**	**21 01 26.7**	**-0.3**
DEMI				*i* AML	AML	21 01 27.0	
	comp=N,5μm,0.3s						
DEMI				*i* AML	AML	21 01 28.0	
	comp=E,3μm,0.4s						
USAK	**Uak-Merkez**	**0.42**	**186**	P	**Pg**	**21 01 24.7**	**-0.2**
USAK				S	**Sg**	**21 01 30.0**	**-0.7**
USAK				*i* AML	AML	21 01 30.0	
	comp=N,2μm,0.2s						
USAK				*i* AML	AML	21 01 30.0	
	comp=E,2μm,0.3s						
TVSB	**Tavsanli**	**0.43**	**43**	PG	**Pg**	**21 01 24.8**	**-0.3**
TVSB				SG	**Sg**	**21 01 30.3**	**-0.7**
DST	**Dursunbey**	**0.59**	**323**	PG	**Pg**	**21 01 27.8**	**-0.2**
DURS	**Dursunbey**	**0.66**	**315**	P	**Pg**	**21 01 29.0**	**-0.4**
DURS				S	**Sg**	**21 01 38.0**	**-0.1**
DURS				*i* AML	AML	21 01 39.0	
	comp=N,784nm,0.2s						
KULA	**Kula-Manisa**	**0.70**	**208**	PG	**Pg**	**21 01 29.8**	**-0.4**
ANDZ	**Kutahya, Merke**	**0.74**	**59**	P	**Pg**	**21 01 30.1**	**-0.7**
MANT	**Manisa**	**0.76**	**212**	P	**Pg**	**21 01 30.8**	**-0.5**
MANT				S	**Sg**	**21 01 39.0**	**-2.4**
MANT				*i* AML	AML	21 01 41.0	
	comp=E,841nm,0.2s						
MANT				*i* AML	AML	21 01 41.0	
	comp=N,902nm,0.2s						
KHL	**Karahalli**	**0.88**	**157**	PG	**Pb**	**21 01 33.9**	**+0.3**
ORLT	**Orhaneli**	**0.92**	**351**	PG	**Pg**	**21 01 33.9**	**-0.4**
GOMA	**Golmarmara-Man**	**1.00**	**245**	PG	**Pn**	**21 01 36.3**	**+0.2**
ULDT	**Uludag**	**1.00**	**3**	P	**Pg**	**21 01 35.3**	**-0.6**
ULDT				S	**Sg**	**21 01 47.8**	**-1.2**
ULDT				*i* AML	AML	21 01 52.0	
	comp=N,993nm,0.9s						
AFYO	**Afyonkarahisar**	**1.01**	**110**	P	**Pb**	**21 01 36.3**	**+0.5**
AFYO				S	**Sg**	**21 01 48.2**	**-1.1**
STBT	**Saitabat**	**1.01**	**7**	P	**Pg**	**21 01 35.3**	**-0.7**
STBT				S	**Sb**	**21 01 49.3**	**+0.3**
STBT				*i* AML	AML	21 01 52.0	
	comp=N,3μm,0.4s						
STBT				*i* AML	AML	21 01 53.0	
	comp=E,2μm,0.2s						
AKHS	**Akhisar**	**1.02**	**256**	P	**Pg**	**21 01 35.6**	**-0.5**
AKHS				S	**Sg**	**21 01 49.2**	**-0.3**
AKHS				*i* AML	AML	21 01 53.0	
	comp=E,489nm,0.3s						
AKS	**Akhisar**	**1.02**	**256**	PG	**Pb**	**21 01 35.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.08**	**283**	P	**Pn**	**21 01 37.7**	**+0.5**
STEP				S	**Sb**	**21 01 51.8**	**+0.8**
IGD	**Bursa**	**1.13**	**5**	P	**Pb**	**21 01 37.8**	**+0.1**
IGD				S	**Sg**	**21 01 52.2**	**-0.7**
IGD				*i* AML	AML	21 01 58.0	
	comp=E,531nm,0.6s						
AVDN	**Avdancik/Bursa**	**1.16**	**3**	P	**Pg**	**21 01 37.8**	**-1.0**
AVDN				S	**Sn**	**21 01 54.1**	**+0.3**
AVDN				*i* AML	AML	21 01 59.0	
	comp=N,492nm,0.4s						
YYLC	**Yaylacik**	**1.18**	**350**	P	**Pn**	**21 01 39.0**	**+0.5**
YYLC				S	**Sn**	**21 01 55.2**	**+0.8**
YYLC				*i* AML	AML	21 01 58.0	
	comp=N,628nm,0.3s						
YYLC				*i* AML	AML	21 02 03.0	
	comp=E,2μm,0.9s						
BILE	**Bilecik/Merkez**	**1.19**	**31**	P	**Pg**	**21 01 38.8**	**-0.7**
BILE				S	**Sn**	**21 01 55.7**	**+0.8**
BILE				*i* AML	AML	21 01 57.0	
	comp=E,370nm,0.4s						
BILE				*i* AML	AML	21 01 58.0	
	comp=N,937nm,0.3s						
KZIL	**AFYON_Kizioren**	**1.21**	**136**	P	**Pg**	**21 01 39.1**	**-0.7**
KZIL				S	**Sg**	**21 01 54.2**	**-1.3**
KZIL				*i* AML	AML	21 01 58.0	
	comp=N,524nm,0.4s						
KZIL				*i* AML	AML	21 02 00.0	
	comp=E,269nm,0.5s						
IZI	**Iznik**	**1.24**	**14**	PN	**Pn**	**21 01 40.0**	**+0.6**
BALY	**Balya**	**1.28**	**299**	P	**Pn**	**21 01 40.3**	**+0.4**
BALY				S	**Sb**	**21 01 57.4**	**+0.7**
BALY				*i* AML	AML	21 02 00.0	
	comp=N,494nm,0.4s						
BALY				*i* AML	AML	21 02 03.0	
	comp=E,403nm,0.4s						
SHUT	**Suhut-Afyon**	**1.29**	**116**	PN	**Pg**	**21 01 40.9**	**-0.4**
BORA	**Eskisehir**	**1.30**	**55**	P	**Pg**	**21 01 40.9**	**-0.5**
BORA				S	**Sg**	**21 01 57.3**	**-1.1**
BORA				*i* AML	AML	21 01 58.0	
	comp=E,851nm,0.6s						
BORA				*i* AML	AML	21 02 00.0	
	comp=N,568nm,0.6s						
GEMT	**Gemlik**	**1.30**	**4**	PN	**Pg**	**21 01 41.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**311**	PN	**Pg**	**21 01 42.9**	**-0.6**
YLV	**Yalova**	**1.45**	**9**	PN	**Pn**	**21 01 42.5**	**+0.2**
KURT	**Yalova, Merkez**	**1.46**	**4**	P	**Pn**	**21 01 42.4**	**+0.1**
GPA	**Golpazari**	**1.49**	**39**	PN	**Pg**	**21 01 44.5**	**-0.6**
SRCK	**Saricakaya, Es**	**1.50**	**52**	PN	**Pb**	**21 01 44.1**	**+0.1**
EDC	**Edincik**	**1.53**	**323**	PN	**Pn**	**21 01 44.1**	**+0.8**
CIFT	**Cifteler, Eski**	**1.56**	**81**	PN	**Pn**	**21 01 44.5**	**+0.7**
ZEDA	**zmir-Bergama**	**1.57**	**264**	P	**Pn**	**21 01 44.6**	**+0.7**
BUHA	**Balikesir, Bur**	**1.59**	**284**	P	**Pg**	**21 01 46.3**	**-0.8**
GEYV	**SAKARYA_Geyve**	**1.64**	**34**	P	**Pb**	**21 01 46.5**	**+0.1**
GEYV				S	**Sg**	**21 02 08.7**	**-0.6**
GEYV				*i* AML	AML	21 02 12.0	
	comp=N,364nm,0.4s						
GEYV				*i* AML	AML	21 02 16.0	
	comp=E,349nm,0.7s						
KNL	**Balıkesir**	**1.65**	**314**	P	**Pn**	**21 01 45.8**	**+0.9**
KNL				S	**Sg**	**21 02 08.5**	**-1.0**
KNL				*i* AML	AML	21 02 11.0	
	comp=E,1μm,0.5s						
KNL				*i* AML	AML	21 02 12.0	
	comp=N,936nm,0.4s						
HRT	**Hereke**	**1.74**	**15**	PN	**Pn**	**21 01 47.4**	**+1.1**
CAEL	**Denizli, Camel**	**2.02**	**175**	P	**Pg**	**21 01 54.4**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**2.05**	**288**	P	**Pn**	**21 01 52.2**	**+1.7**
KAYN	**Sakarya, Kayna**	**2.07**	**28**	P	**Pn**	**21 01 51.2**	**+0.5**
DOGA	**KONYA_Doganhis**	**2.27**	**116**	P	**Pn**	**21 01 54.7**	**+1.0**

KOCA	Canakkale, Ayv	2.31	280	P	Pb	21 01 57.0	-0.9
GOKA	anakkale-Gk	2.66	294	P	Pb	21 02 02.7	-1.2
TLCR		6.05	358	⇑P	Pn	21 02 46.7	+1.3
CFR	Carcaliu	6.08	354	⇑P	Pn	21 02 46.5	+0.7
SCTR	Scanteiesti	6.58	353	⇑P	Pn	21 02 52.4	-0.4
MLR	Muntele Rosu	6.76	341	⇓P	Pn	21 02 57.7	+2.4
PLOR	Plostina	6.95	346	⇑P	Pn	21 02 57.9	+0.1
VRI	Vrincioaia	6.95	346	⇑P	Pn	21 02 58.0	+0.2
VOIR		6.97	336	⇓P	Pn	21 02 58.2	+0.1
DOPR	Dopca	7.35	339	⇑P	Pn	21 03 03.2	-0.1
HERR	Herculane	7.58	321	⇑P	Pn	21 03 06.6	+0.1
GZR	Gura Zlata	7.80	325	⇓P	Pn	21 03 10.2	+0.6

*IDC **19** 21:04:50.0±0.9, 26°.14N×44°.86W, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/59, mbtmp3.8/11, MS3.5/16, Ms1 3.5/16, ms1mx3.1/87, Error ellipse: s-maj=25.0km s-min=22.9km az=114.0*

ISC 19 21:04:51.9±0.8, 26°.1N±0°.1×44°.9W±0°.2, h12km, n31, σ0s56/11, mb3.9/11, MS3.5/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	San Juan	21.25	252	LR	LR	21 16 14.8	
	comp=Z,84nm,21.9s,baz=96,slow=32						
SDV	Santo Domingo	29.87	240	LR	LR	21 22 03.8	
	comp=Z,29nm,18.4s,baz=56,slow=35						
SCHQ	Schefferville	32.90	337	LR	LR	21 25 32.7	
	comp=Z,53nm,18.2s,baz=99,slow=38						
SADO	Sadowa	33.22	313	LR	LR	21 23 10.0	
	comp=Z,74nm,19.7s,baz=147,slow=33						
MDT	Midelt	35.52	70	LR	LR	21 23 19.9	
	comp=Z,50nm,19.4s,baz=288,slow=31						
FRB	Frobisher Bay	40.67	344	P	P	21 12 32.4	+0.7
	1.4nm,0.8s,baz=86,slow=19,SNR=2.0						
FRB				LR	LR	21 27 14.6	
	comp=Z,62nm,21.0s,baz=276,slow=33						
JTS	Las Juntas de	41.01	255	LR	LR	21 28 13.4	
	comp=Z,43nm,20.6s,baz=194,slow=34						
EKA	Eskdalemuir Ar	42.01	35	LR	LR	21 25 49.9	
	comp=Z,79nm,19.8s,baz=258,slow=30						
DBIC	Dimbokro	42.74	110	LR	LR	21 29 13.9	
	comp=Z,73nm,20.2s,baz=290,slow=34						
H10N2	ASCENSION HYDR	44.84	135	T	T	22 00 45.6	
	baz=320,slow=75,SNR=47						
H10N3	ASCENSION HYDR	44.84	135	T	T	22 00 45.8	
	baz=320,slow=75,SNR=36						
H10N1	ASCENSION HYDR	44.85	135	T	T	22 00 49.2	
	baz=320,slow=75,SNR=46						
TORD	Torodi Ar. Bea	45.48	97	P	P	21 13 11.9	+0.5
	0.4nm,0.8s,baz=302,slow=12,SNR=1.9						
H10S3	ASCENSION HYDR	45.59	136	T	T	22 01 38.3	
	baz=319,slow=74,SNR=37						
H10S2	ASCENSION HYDR	45.60	136	T	T	22 01 55.8	
	baz=261,slow=74,SNR=14						
LPAZ	La Paz	47.86	211	P	P	21 13 30.2	-0.3
	2.0nm,0.9s,baz=327,slow=6.2,SNR=5.0						
NOA	NORSAR Array B	51.18	31	P	P	21 13 55.2	+0.4
	0.8nm,0.8s,baz=253,slow=7.7,SNR=2.5						
TXAR	Lajitas Array	51.68	288	LR	LR	21 35 49.7	
	comp=Z,23nm,19.1s,baz=355,slow=36						
PDAR	Pinedale Array	54.59	305	P	P	21 14 20.7	+0.2
	1.3nm,0.9s,baz=87,slow=7.7,SNR=7.3						
PDAR				LR	LR	21 37 01.4	
	comp=Z,53nm,18.1s,baz=257,slow=35						
YKA	Yellowknife Ar	57.82	329	P	P	21 14 42.5	-0.4
	1.1nm,0.9s,baz=96,slow=7.5,SNR=9.4						
ELK	Elko	59.05	303	LR	LR	21 38 53.8	
	comp=Z,48nm,19.3s,baz=114,slow=35						
NEW	Newport	59.41	312	LR	LR	21 38 54.7	
	comp=Z,52nm,19.0s,baz=28,slow=34						
AKASG	Malin Array Be	60.34	45	P	P	21 14 59.8	-0.8
	0.4nm,0.5s,baz=278,slow=6.3,SNR=4.0						
PFO	Pinyon Flats O	61.43	296	LR	LR	21 41 15.9	
	comp=Z,62nm,18.8s,baz=141,slow=36						
NVAR	Mina Array Bea	61.81	301	LR	LR	21 39 44.6	
	comp=Z,74nm,21.6s,baz=224,slow=34						
BRTR	Keskin Array B	65.35	56	P	P	21 15 34.4	+0.1
	0.7nm,0.7s,baz=261,slow=5.7,SNR=3.1						
H09W1	TRISTAN DA CUN	69.95	153	T	T	22 32 19.4	
	SNR=5.6						
PLCA	Paso Flores	70.68	200	P	P	21 16 07.8	+0.3
	1.5nm,0.8s,baz=34,slow=7.5,SNR=3.6						
ILAR	Eielson Array	71.61	334	P	P	21 16 12.9	+0.1
	1.4nm,1.1s,baz=63,slow=4.2,SNR=6.6						
ATD	Arta Tunnel	82.98	81	LR	LR	21 52 35.5	
	comp=Z,34nm,19.4s,baz=147,slow=34						
ZALV	Zalesovo Beam	89.19	27	P	P	21 17 46.7	-0.8
	0.8nm,0.9s,baz=312,slow=9.5,SNR=3.5						

*NEIC **19** 21:20:31.8±1.8, 38°.79N±0°.04×122°.90W±0°.06, h7km±7km, Error ellipse: s-maj=7.7km s-min=4.3km az=55.0*

*NEIC **19** 21:20:32.4, 38°.85N×122°.76W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=4.14; Mθθ=0.82; Mφφ=4.96; Mrθ=0.60; Mθφ=1.88; Mφr=0.53; Fault plane solution: M0=5.04000×10^14 NP1:φs183.30000°, δ48.58000°, λ-108.49000°. NP2:φs30.12000°, δ44.67000°, λ-70.22000°. Principal axes: T 5.5311, Plg2.0000°, Azm286.0000°; N -1.1977, Plg14.0000°, Azm196.0000°; P -4.3334, Plg76.0000°, Azm24.0000°;*

*NCEDC **19** 21:20:32.4±1.6, 38°.849N±0°.010×122°.76W±0°.06, h2km±7km, Mwr3.7/7, ML3.2/89(NEIC) Error ellipse: s-maj=6.4km s-min=0.7km az=78.0*

*IDC **19** 21:20:32.3±2.5, 38°.91N×122°.80W, h0km, mb1 3.7/4, mb1mx3.4/38, mbtmp3.3/4, ML2.7/4, Error ellipse: s-maj=30.7km s-min=14.9km az=35.0*

ISC 19 21:20:32.7±0.9, 38°.80N±0°.03×122°.82W±0°.03, h10km, n77, σ0s90/76, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	Geysers	0.02	52	Pg	Pg	21 20 33.5	-1.1
GPMM	Pine Mountain	0.13	297		Pg	21 20 35.6	+0.1
HOPS	Hopland Field	0.28	315		Sg	21 20 38.5	-3.7
HOPS	Hopland Field	0.28	315	Pg	Pg	21 20 38.0	-0.4
HOPS	Hopland Field	0.28	315	IAML		21 20 46.8	
	comp=E,5μm,0.9s						
HOPS				IAML		21 20 47.5	
	comp=N,8μm,1.2s						
MNRC	McLaughlin Min	0.30	74		Pg	21 20 37.8	-0.9
CVS	Carmenet Viney	0.53	148		Pb	21 20 43.3	-0.7
MCCM	Marconi Confer	0.65	184	Pg	Pb	21 20 46.6	+0.5
MCCM				IAML		21 20 58.3	
	comp=E,761nm,0.8s						
MCCM				IAML		21 21 07.1	
	comp=N,918nm,1.0s						
GNAM	Navarro Ridge	0.75	303		Pb	21 20 48.1	+0.2
GASB	Alder Springs	0.86	5		Pg	21 20 48.7	-0.6
BRK	Berkeley--Havi	1.02	154		Pn	21 20 52.6	-0.3
BL67	Building 67, L	1.02	154		Pn	21 20 52.6	-0.4
VAK	Adit at Lawren	1.02	154		Pn	21 20 52.5	-0.5
BKS	Berkeley--Byer	1.02	153		Pg	21 20 52.1	-0.2
KCPM	Cahto Peak	1.07	326		Pn	21 20 53.9	+0.1
KCPM				IAML		21 21 14.9	
	comp=N,704nm,1.4s						
FARB	Farallon Islan	1.10	188		Pn	21 20 54.1	0.0
ORV	Oroville	1.27	53	Pg	Pn	21 20 54.3	-2.2
O02D	Mt. Diablo Mer	1.38	1		Pn	21 20 57.8	-0.2
O02D				IAML		21 21 02.2	
	comp=N,348nm,1.2s						
O02D				IAML		21 21 26.5	
	comp=E,288nm,1.2s						
WENL	Wente Vineyard	1.44	144		Pn	21 20 58.9	+0.1
JRSC	Jasper Ridge	1.46	162		Pn	21 20 58.7	-0.3
KMRM	Mail Ridge	1.58	334	Pn	Pn	21 21 00.7	-0.2
O03E	Paynes Creek	1.69	27	Pn	Pn	21 21 00.8	-1.6
COSM	Mount Oso	1.71	138		Pn	21 21 01.5	-1.2
MHC	Mount Hamilton	1.72	147		Pn	21 21 02.6	-0.2
WDC	Whiskeytown Da	1.79	7	Pn	Pn	21 21 02.7	-1.0
KCRM	Chalk Rock	1.80	335		Pn	21 21 04.0	+0.1
GHS	Gilroy Hot Spr	2.01	147		Pn	21 21 06.3	-0.4
CMB	Columbia Colle	2.05	111	Pn	Pn	21 21 06.6	-0.7
RUBR	Rubicon Trail	2.09	82		Pn	21 21 07.5	-0.4
RUBR				IAML		21 21 43.7	
	comp=E,246nm,0.9s						
RUBR				IAML		21 21 44.0	
	comp=N,280nm,0.8s						
HCOM	Corn Cob Canyo	2.10	155		Pn	21 21 07.7	-0.2
EMB	Emerald Bay	2.12	84		Pn	21 21 08.1	-0.3
EMB				IAML		21 21 23.1	
	comp=E,132nm,1.1s						
EMB				IAML		21 21 57.0	
	comp=N,257nm,1.7s						
N02D	Trinity Center	2.18	2		Pn	21 21 09.1	0.0
BEKR	Beckworth	2.19	60		Pn	21 21 09.1	-0.2
KHMM	Horse Mountain	2.19	342	Pn	Pn	21 21 09.4	+0.1
KHMM				IAML		21 22 19.1	
	comp=E,166nm,2.5s						
KHMM				IAML		21 22 19.1	
	comp=N,167nm,2.6s						
MPK	Martis Peak	2.23	76		Pn	21 21 09.8	-0.1
MPK				IAML		21 21 51.5	
	comp=N,262nm,1.0s						
HATC	Hat Creek Radi	2.27	27		Pn	21 21 11.9	+1.5
SAO	San Andreas Ge	2.30	151		Pn	21 21 09.4	-1.2
SCZ	Santa Cruz	2.46	153		Pn	21 21 11.4	-1.4
BJCM	Johnson Can.	2.51	153		Pn	21 21 12.3	-1.2
PNTR	Pine Nut	2.52	82	Pn	Pn	21 21 14.0	0.0
KRPM	Rodgers	2.54	339		Pn	21 21 14.9	+1.0
KRPM				IAML		21 22 25.6	
	comp=E,166nm,2.5s						
M02C	Callahan	2.59	359		Pn	21 21 15.6	+0.8
HAST	Hastings Reser	2.60	157		Pn	21 21 14.2	-0.7
BBGB	Big Mountain B	2.62	147		Pn	21 21 15.7	+0.6
BBGB				IAML		21 22 43.8	
	comp=E,164nm,1.7s						
YERR	Yerington	2.80	85		Pn	21 21 17.7	+0.1
YERR				IAML		21 21 58.0	
	comp=E,123nm,1.2s						
YERR				IAML		21 22 19.1	
	comp=N,131nm,1.1s						
PAHR	Pah Rah Range	2.81	70		Pn	21 21 17.5	-0.4
PAHR				IAML		21 22 17.6	
	comp=N,73nm,2.0s						
PAHR				IAML		21 22 32.6	
	comp=E,80nm,2.1s						
YBH	Yreka Blue Hor	2.94	2	Pn	Pn	21 21 19.7	+0.2
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=5.3						
YBH	Yreka Blue Hor	2.94	2	Pn	Pn	21 21 20.2	+0.8
PMPB	Monarch Peak	3.03	147	Pn	Pn	21 21 20.6	-0.1
PMPB				IAML		21 22 27.3	
	comp=N,81nm,1.7s						
PMPB				IAML		21 22 37.8	
	comp=E,112nm,2.0s						
M04C	Macdoel	3.08	14		Pn	21 21 21.4	-0.1
M04C				IAML		21 22 50.2	
	comp=N,113nm,1.8s						
M04C				IAML		21 23 06.6	
	comp=E,78nm,4.2s						
OMMB	Old Mammoth Mi	3.23	110	Pn	Pn	21 21 24.6	+0.9
OMMB				IAML		21 22 12.5	
	comp=N,47nm,1.1s						
OMMB				IAML		21 22 33.5	
	comp=E,42nm,1.3s						
RYN	Ryan	3.36	92		Pn	21 21 24.9	-0.5
RYN				IAML		21 22 26.6	
	comp=E,59nm,1.2s						
RYN				IAML		21 22 33.2	
	comp=N,42nm,1.4s						
L02E	Cave Junction	3.41	350		Pn	21 21 27.1	+1.1
L02E				IAML		21 22 34.6	
	comp=E,39nm,3.0s						
LHV	Little Huntoon	3.42	98		Pn	21 21 26.1	+0.1
NVAR	Mina Array Bea	3.55	94	Pn	Pn	21 21 28.6	+0.5
	comp=E,0.9nm,0.3s,baz=271,slow=14,SNR=29						
NVAR				Pg	Pb	21 21 37.1	+1.3
	comp=E,3.2nm,0.3s,baz=314,slow=56,SNR=27						
NVAR				Lg	Lg	21 22 24.2	
	comp=E,1.0nm,0.3s,baz=271,slow=18,SNR=1.4						
NVAR	Mina Array Bea	3.55	94	Pn	Pn	21 21 28.0	0.0
MOD	Modoc Plateau	3.65	31		Pn	21 21 29.9	+0.5
MOD				IAML		21 23 06.2	
	comp=N,33nm,1.8s						
NV11	Mina Array Sit	3.67	94		Pn	21 21 29.3	-0.3
NV11				IAML		21 22 30.6	
	comp=E,47nm,1.8s						
NV11				IAML		21 22 43.0	
	comp=N,49nm,1.3s						
PAGB	Antelope Grade	3.68	145		Pn	21 21 29.9	+0.2
PAGB				IAML		21 23 24.9	
	comp=E,36nm,4.4s						
PAGB				IAML		21 23 43.9	
	comp=N,30nm,2.0s						
KVN	Kaiserville	3.69	85	Pn	Pn	21 21 29.2	-0.7
KVN				IAML		21 22 31.8	
	comp=N,41nm,1.3s						
KVN				IAML		21 23 17.0	
	comp=E,30nm,4.8s						
HUMO	Hull Mountain	3.81	358		Pn	21 21 32.0	+0.6
DBO	Dodson Butte	4.33	356		Pn	21 21 39.6	+1.0
DBO				IAML		21 23 10.9	
	comp=N,41nm,2.7s						
LCH	Last Change Ra	4.37	109		Pn	21 21 39.6	+0.4
LCH				IAML		21 23 02.3	
	comp=N,17nm,2.9s						
LCH				IAML		21 23 06.6	
	comp=E,22nm,3.9s						
Q09A	Carvers	4.40	88		Pn	21 21 38.9	-0.8
TPH	Tonopah	4.45	98		Pn	21 21 39.9	-0.5
BMN	Battle Mountai	4.62	68		Pn	21 21 41.9	-0.8
BMN				IAML		21 23 23.7	
	comp=N,18nm,2.8s						
ISA	Isabella, Lake	4.67	131	Pn	Pn	21 21 43.8	+0.5
ISA				IAML		21 23 08.7	
	comp=E,20nm,3.2s						
GRAC	Grapevine Rang	4.67	111		Pn	21 21 44.0	+0.7
CCAC	Calif City Air	5.29	132	Pn	Pn	21 21 50.7	-1.1
TPNV	Topopah Spring	5.51	108		Pn	21 21 55.0	+0.1
GSC	Goldstone, Bar	5.94	124		Pn	21 22 00.7	0.0
ELK	Elko	6.15	69	Pn	Pn	21 22 04.0	+0.2
	comp=E,0.1nm,0.3s,baz=237,slow=11,SNR=6.9						
ELK				Lg	Lg	21 23 43.5	
	comp=E,0.1nm,0.3s,baz=356,slow=22,SNR=1.5						
PRN	Pahroc Range	6.28	100		Pn	21 22 05.8	+0.3
DUG	Dugway, Tooele	7.86	77	Pn	Pn	21 22 28.5	+1.3
MSU	Marysvale	8.33	89	Pn	Pn	21 22 34.5	+0.8
PDAR	Pinedale Array	10.81	64	Pn	Pn	21 23 12.4	+4.8
	comp=E,0.0nm,0.3s,baz=251,slow=12,SNR=12						
TXAR	Lajitas Array	18.43	115	P	Pn	21 24 51.1	+2.7
	baz=289,slow=9.2,SNR=7.1						

*IDC **19** 21:22:00.7±2.3, 13°.27N×56°.83E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/30, mbtmp3.7/6, MS3.3/4, Ms1 3.3/4, ms1mx2.6/79, Error ellipse: s-maj=61.0km s-min=31.8km az=57.0*

ISC 19 21:22:02.4±2.3, 13°.3N±0°.3×56°.9E±0°.4, h10km, n12, σ1s14/6, mb3.7/6, MS3.2/3, Socotra region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	10.03	9	LR	LR	21 27 55.3	
	comp=Z,146nm,18.1s,baz=227,slow=35						
AAK	Ala-Archa	32.99	24	LR	LR	21 42 43.0	
	comp=Z,44nm,18.6s,baz=150,slow=38						
MKAR	Makanchi Array	39.64	28	P	P	21 29 34.2	-0.2
	0.6nm,0.8s,baz=218,slow=7.7,SNR=4.3						
MKAR				LR	LR	21 47 18.0	
	comp=Z,27nm,19.4s,baz=330,slow=38						
CMAR	Chiang Mai Arr	40.75	77	P	P	21 29 44.9	+0.9
	0.6nm,0.5s,baz=273,slow=9.2,SNR=9.2						
ZALV	Zalesovo Beam	46.17	23	P	P	21 30 25.7	-1.4
	0.2nm,0.4s,baz=230,slow=3.6,SNR=2.0						
FINES	FINESS Array B	52.96	342	P	P	21 31 19.6	+0.8
	4.3nm,1.0s,baz=120,slow=5.0,SNR=5.4						
H01W3	Cape Leeuwin H	72.40	133	T	T	22 52 29.7	
	baz=302,slow=75,SNR=6.0						
H01W2	Cape Leeuwin H	72.41	133	T	T	22 52 30.2	
	baz=302,slow=75,SNR=7.3						
H01W1	Cape Leeuwin H	72.42	133	T	T	22 52 31.1	
	baz=302,slow=75,SNR=8.4						
MA2	Magadan	80.63	31	LR	LR	22 13 06.6	
	comp=Z,42nm,19.4s,baz=126,slow=38						
WRA	Warramunga Arr	83.06	112	P	P	21 34 28.6	-0.2
	0.7nm,0.9s,baz=289,slow=4.3,SNR=2.3						
ASAR	Alice Springs	83.76	116	P	P	21 34 31.9	-0.5
	0.4nm,0.6s,baz=284,slow=4.9,SNR=4.1						

NEIC 19 21:34:39.8±0.5, 37°.10N±0°.03×98°.03W±0°.02, h4km±6km, Error ellipse: s-maj=4.6km s-min=1.6km az=148.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	1.06	228	Pg	Pg	21 34 58.9	-1.2
T35A	Sooner Cattle	1.23	98	Pg	Pg	21 35 02.1	-1.2
R32A	Long Quarter,	1.43	338		Pn	21 35 05.7	-0.7
OKCFA	Oklahoma City	1.75	164		Pn	21 35 11.1	+0.2
FNO	Franklin	1.91	164		Pn	21 35 13.0	0.0
W35A	Tecumseh	2.16	154		Pn	21 35 16.1	-0.3
TUL1	Leonard	2.16	123		Pn	21 35 16.0	-0.5
TUL1				IAmb_Lg		21 35 50.5	
	comp=Z,66nm,0.9s						
CBKS	Cedar Bluff	2.18	322		Pn	21 35 16.8	0.0
KSU1	Kansas State U	2.29	29		Pn	21 35 18.6	+0.3
WMOK	Wichita Mounta	2.44	195		Pn	21 35 19.1	-1.2
X34A	Smith Ranch, M	2.50	176	Pn	Pn	21 35 20.5	-0.6
X37A	Clayton	3.31	138	Pn	Pn	21 35 31.9	-0.4
X37A				IAmb_Lg		21 36 28.3	
	comp=Z,25nm,0.8s						
HHAR	Hobbs	3.39	103		Pn	21 35 32.7	-0.7
AMTX	Amarillo	3.70	234	Pn	Pn	21 35 38.0	+0.3
S39A	Bolivar	3.79	80		Pn	21 35 38.5	-0.5
W39A	Magazine	3.93	118		Pn	21 35 40.8	0.0
U40A	Yellville	4.22	99		Pn	21 35 44.2	-0.7
U40A				IAmb_Lg		21 36 59.3	
	comp=Z,15nm,0.8s						
BGNE	Belgrade	4.30	359	Pn	Pn	21 35 44.1	-1.8
BGNE				IAmb_Lg		21 36 52.6	
	comp=Z,15nm,0.8s						
P38A	Dawn	4.34	53		Pn	21 35 46.1	-0.3
P38A				IAmb_Lg		21 37 03.0	
	comp=Z,19nm,0.8s						
MIAR	Mount Ida	4.43	124	IAmb_Lg		21 37 00.2	
	comp=Z,16nm,0.8s						
MGMO	Mountain Grove	4.61	88		Pn	21 35 50.1	0.0
ABTX	Abilene, Hawle	4.66	197	Pn	Pn	21 35 51.4	+0.5
R40A	Maddies Statio	4.72	74		Pn	21 35 51.6	-0.1
R40A				IAmb_Lg		21 37 13.6	
	comp=Z,18nm,0.8s						
FCAR	Ozark Folk Cen	4.91	102	Pn	Pn	21 35 53.4	-0.9
OGNE	Ogallala	4.94	322	IAmb_Lg		21 37 17.0	
	comp=Z,33nm,0.9s						
X40A	Basin Creek Fa	4.96	120	Pn	Pn	21 35 54.8	-0.3
X40A				IAmb_Lg		21 37 18.5	
	comp=Z,24nm,0.9s						
MSTX	Muleshoe	4.97	232		Pn	21 35 55.0	-0.3
WHAR	Wooly Hollow	4.98	110	Pn	Pn	21 35 53.9	-1.4
WHAR				IAmb_Lg		21 37 23.5	
	comp=Z,15nm,0.8s						
L34A	Svendsen Farm,	5.02	14	IAmb_Lg		21 37 24.6	
	comp=Z,26nm,0.9s						
W41B	Gary Mavity, V	5.06	111	Pn	Pn	21 35 55.7	-0.7
W41B				IAmb_Lg		21 37 25.9	
	comp=Z,14nm,0.7s						
T25A	Trinidad	5.10	272		Pn	21 35 57.5	+0.3
T25A				IAmb_Lg		21 37 21.0	
	comp=Z,16nm,0.8s						
WHTX	Lake Whitney,	5.12	175	Pn	Pn	21 35 56.4	-0.8
N38A	Joes South For	5.25	44	Pn	Pn	21 35 58.2	-0.7
WLAR	White Oak Lake	5.27	129	IAmb_Lg		21 37 31.6	
	comp=Z,21nm,1.0s						
P40A	Paris	5.29	61	IAmb_Lg		21 37 34.0	
	comp=Z,18nm,0.8s						
CCM	Cathedral Cave	5.47	78	Pn	Pn	21 36 01.4	-0.6
CCM				IAmb_Lg		21 37 37.7	
	comp=Z,27nm,1.2s						
Z41A	Richland Creek	5.75	130	IAmb_Lg		21 37 52.1	
	comp=Z,15nm,0.9s						
Q24A	Divide	5.92	290	Pn	Pn	21 36 09.0	+0.6
Q24A				IAmb_Lg		21 37 55.4	
	comp=Z,12nm,0.8s						
SCIA	State Center	6.07	36	IAmb_Lg		21 37 55.4	
	comp=Z,25nm,0.8s						
PBMO	Poplar Bluff	6.10	91	IAmb_Lg		21 38 04.9	
	comp=Z,11nm,0.8s						
FVM	French Village	6.11	79	IAmb_Lg		21 37 54.7	
	comp=Z,18nm,0.7s						
435B	Jarrell	6.31	177	IAmb_Lg		21 38 15.7	
	comp=Z,13nm,0.9s						
N41A	Harden Midland	6.65	55	IAmb_Lg		21 38 12.6	
	comp=Z,23nm,0.7s						
K38A	Parkersburg	6.86	35	IAmb_Lg		21 38 27.7	
	comp=Z,21nm,0.9s						
S44A	Carbondale	7.01	83	IAmb_Lg		21 38 22.6	
	comp=Z,16nm,0.8s						
SIUC	Southern Illin	7.04	82	IAmb_Lg		21 38 26.6	
	comp=Z,16nm,0.8s						
PHWY	Pilot Hill	7.13	308	IAmb_Lg		21 38 27.9	
	comp=Z,15nm,0.9s						
L40A	Anamosa	7.22	45	IAmb_Lg		21 38 32.2	
	comp=Z,16nm,0.8s						
O44A	Mansfield	8.08	65	IAmb_Lg		21 39 01.3	
	comp=Z,15nm,0.7s						
L42A	Oliver, Polo	8.10	50	IAmb_Lg		21 38 58.8	
	comp=Z,14nm,0.7s						
K22A	Casper	8.56	313	IAmb_Lg		21 39 33.6	
	comp=Z,11nm,0.8s						

*TUL **19** 21:43:54.9±0.5, 36°.84N±0°.02×98°.28W±0°.02, h3km±4km, ML2.5, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=3.4km s-min=1.3km az=140.0*

NEIC 19 21:43:55.7±0.5, 36°.84N±0°.02×98°.28W±0°.01, h3km±5km, Error ellipse: s-maj=2.5km s-min=1.3km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.75	232	Pg	Pg	21 44 08.9	-1.1
T35A	Sooner Cattle	1.42	87	Pg	Pn	21 44 21.1	-1.3
T35A					Sg	21 44 40.0	-1.1
OKCFA	Oklahoma City	1.57	155	IAmb_Lg		21 44 47.5	
	comp=Z,13nm,0.9s						
R32A	Long Quarter,	1.61	348		Pn	21 44 24.8	-0.4
FNO	Franklin	1.73	156	Pn	Pn	21 44 26.2	-0.5
W35A	Tecumseh	2.03	146	Pn	Pn	21 44 30.3	-0.5
WMOK	Wichita Mounta	2.14	191	Pn	Pn	21 44 31.6	-0.8
TUL1	Leonard	2.21	114	Pn	Pn	21 44 32.8	-0.5
X34A	Smith Ranch, M	2.27	171		Pn	21 44 33.8	-0.3
CBKS	Cedar Bluff	2.28	330	Pn	Pn	21 44 34.0	-0.3
CBKS				IAmb_Lg		21 45 08.9	
	comp=Z,14nm,0.7s						
X37A	Clayton	3.26	133	Pn	Pn	21 44 47.1	-0.6
X37A				IAmb_Lg		21 45 38.8	
	comp=Z,6.3nm,1.0s						
HHAR	Hobbs	3

ISC 19 21:55:29.8±0.3,65°05N±0'01×22°53E±0'01,h21km±3km,
n532,σ2°09/668,mb4.1/41,MS3.2/3,45C-52D,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SJUU	Sjulsmark	0.60	320	⇓P			Pb	21 55 42.1	+0.4
SJUU				S			Sb	21 55 50.4	+0.5
SJUU	Sjulsmark	0.60	320				Pb	21 55 42.1	+0.4
SJUU							Sb	21 55 50.4	+0.5
SJUU	Sjulsmark	0.60	320	⇓P			Pb	21 55 42.1	+0.4
SJUU				S			Sb	21 55 50.4	+0.5
SJUU	Sjulsmark	0.60	320	⇓*i*P			Pb	21 55 42.1	+0.4
SJUU				*i* S			Sb	21 55 50.2	+0.4
OBF8	Ulkokalla	0.82	151	*e*P			Pn	21 55 46.3	+0.2
OBF8				*e*S			Sn	21 55 57.3	-0.3
OBF8				MSG				21 55 57.8	
	comp=Z,5μm,0.1s								
OBF8	Ulkokalla	0.82	151	*e*P			Pn	21 55 46.3	+0.2
OBF8				*e*S			Sn	21 55 57.3	-0.3
OBF8				MSG				21 55 57.8	
	comp=Z,5μm,0.1s								
KALU	Kalix	0.88	23	⇑P			Pn	21 55 46.9	-0.1
KALU				S			Sb	21 55 58.3	+0.5
KALU	Kalix	0.88	23				Pn	21 55 46.9	-0.1
KALU							Sb	21 55 58.1	+0.4
KALU	Kalix	0.88	23	*e*P			Pn	21 55 46.9	-0.1
KALU				*e*S			Sb	21 55 58.1	+0.4
KALU	Kalix	0.88	23	⇑P			Pn	21 55 46.9	-0.1
KALU				S			Sb	21 55 58.3	+0.5
KALU	Kalix	0.88	23	⇑*e*P			Pn	21 55 46.9	-0.1
KALU				*e*S			Sb	21 55 58.1	+0.4
OBF1	Elvisluoto, P	0.91	134	*e*P			Pn	21 55 47.7	+0.4
OBF1				*e*S			Sn	21 55 59.6	-0.3
OBF1	Elvisluoto, P	0.91	134	*e*P			Pn	21 55 47.7	+0.4
OBF1				*e*S			Sn	21 55 59.6	-0.3
OBF0	Syolatti, Pyha	0.92	126	*e*P			Pn	21 55 47.9	+0.4
OBF0				*e*S			Sn	21 55 59.9	-0.1
OBF0				MSG				21 56 00.5	
	comp=Z,6μm,0.1s								
OBF0	Syolatti, Pyha	0.92	126	*e*P			Pn	21 55 47.9	+0.4
OBF0				*e*S			Sn	21 55 59.9	-0.1
OBF0				MSG				21 56 00.5	
	comp=Z,6μm,0.1s								
OBF3	Siikajoki	0.96	104	*e*P			Pn	21 55 48.4	+0.4
OBF3				*e*S			Sn	21 56 01.1	+0.1
OBF3				MSG				21 56 05.2	
	comp=Z,4μm,0.1s								
OBF3	Siikajoki	0.96	104	*e*P			Pn	21 55 48.4	+0.4
OBF3				*e*S			Sn	21 56 01.1	+0.1
OBF3				MSG				21 56 05.2	
	comp=Z,4μm,0.1s								
OBF2	Ylip, Raahe	0.97	120	*e*P			Pb	21 55 47.9	+0.1
OBF2				*e*S			Sb	21 55 59.9	-0.2
OBF2				MSG				21 56 00.4	
	comp=Z,4μm,0.2s								
OBF2	Ylip, Raahe	0.97	120	*e*P			Pb	21 55 47.9	+0.1
OBF2				*e*S			Sb	21 55 59.9	-0.2
OBF2				MSG				21 56 00.4	
	comp=Z,4μm,0.2s								
ODEU	Stanfors	1.01	231	⇓P			Pn	21 55 49.3	+0.6
ODEU				S			Sn	21 56 02.4	+0.2
ODEU	Stanfors	1.01	231				Pn	21 55 49.3	+0.6
ODEU							Sn	21 56 02.4	+0.2
ODEU	Stanfors	1.01	231	⇓P			Pn	21 55 49.3	+0.6
ODEU				S			Sn	21 56 02.4	+0.2
ODEU	Stanfors	1.01	231	⇓*e*P			Pn	21 55 49.3	+0.6
ODEU				*e*S			Sn	21 56 02.4	+0.2
OBF7	Kamusenper, K	1.09	142	*e*P			Pb	21 55 50.9	+0.9
OBF7				*e*S			Sn	21 56 05.3	+1.0
OBF7	Kamusenper, K	1.09	142	*e*P			Pb	21 55 50.9	+0.9
OBF7				*e*S			Sn	21 56 05.3	+1.0
OBF4	Vikkela, Lumij	1.12	101	*e*P			Pb	21 55 51.3	+0.9
OBF4				*e*S			Sn	21 56 06.0	+1.0
OBF4	Vikkela, Lumij	1.12	101	*e*P			Pb	21 55 51.3	+0.9
OBF4				*e*S			Sn	21 56 06.0	+1.0
LILU	Lilltraesk	1.16	283	⇓P			Pb	21 55 51.6	+0.6
LILU				S			Sn	21 56 06.9	+1.0
LILU	Lilltraesk	1.16	283				Pb	21 55 51.6	+0.6
LILU							Sn	21 56 06.9	+1.0
LILU	Lilltraesk	1.16	283	⇓P			Pb	21 55 51.6	+0.6
LILU				S			Sn	21 56 06.9	+1.0
LILU	Lilltraesk	1.16	283	⇓*e*P			Pb	21 55 51.6	+0.6
LILU				*e*S			Sn	21 56 06.7	+0.8
OUF	Merijarvi	1.17	125				Pb	21 55 52.1	+0.9
OUF							Sn	21 56 07.2	+1.1
OUF	Merijarvi	1.17	125	*e*P			Pb	21 55 52.1	+0.9
OUF				*e*S			Sn	21 56 07.2	+1.1
OUF	Merijarvi	1.17	125	*e*P			Pb	21 55 52.1	+0.9
OUF				*e*S			Sn	21 56 07.2	+1.1
OBF6	Kekajrvi, Yli	1.27	135	*e*P			Pb	21 55 53.7	+0.8
OBF6				*e*S			Sb	21 56 10.4	+1.6
OBF6	Kekajrvi, Yli	1.27	135	*e*P			Pb	21 55 53.7	+0.8
OBF6				*e*S			Sb	21 56 10.1	+1.3
TOF	Tornio	1.28	35	*e*P			Pb	21 55 53.6	+0.6
TOF				MSG				21 56 10.8	
	comp=Z,5μm,0.2s								
TOF	Tornio	1.28	35	*e*P			Pb	21 55 53.6	+0.6
TOF				*e*S			Sb	21 56 09.9	+0.9
TOF				MSG				21 56 10.8	
	comp=Z,5μm,0.2s								
HARU	Harads	1.29	331	⇑P			Pb	21 55 53.7	+0.3
HARU				S			Sb	21 56 10.6	+1.1
HARU	Harads	1.29	331	⇑P			Pb	21 55 53.7	+0.3
HARU				S			Sb	21 56 10.6	+1.1
HARU	Harads	1.29	331	⇑*e*P			Pb	21 55 53.7	+0.3
HARU				*e*S			Sb	21 56 10.3	+0.8
OBF5	Vihanti	1.36	117	*e*P			Pb	21 55 54.5	+0.0
OBF5				*e*S			Sb	21 56 12.2	+0.9
OBF5	Vihanti	1.36	117	*e*P			Pb	21 55 54.8	+0.3
OBF5				*e*S			Sb	21 56 12.2	+0.9
SVAU	Svanoeiden	1.38	248	⇓P			Pb	21 55 55.5	+0.7
SVAU				S			Sb	21 56 13.6	+1.5
SVAU	Svanoeiden	1.38	248	⇓P			Pb	21 55 55.5	+0.7
SVAU				S			Sb	21 56 13.6	+1.5
SVAU	Svanoeiden	1.38	248	⇓*e*P			Pb	21 55 55.5	+0.7
SVAU				*e*S			Sb	21 56 13.6	+1.5
UMAU	Umeaa	1.42	215	⇓P			Pb	21 55 56.3	+0.8
UMAU				S			Sb	21 56 14.5	+1.4
UMAU	Umeaa	1.42	215	*e*P			Pb	21 55 56.4	+0.9
UMAU				*e*S			Sb	21 56 14.6	+1.4
UMAU	Umeaa	1.42	215	⇓P			Pb	21 55 56.3	+0.8
UMAU				S			Sb	21 56 14.5	+1.4
UMAU	Umeaa	1.42	215	⇓*e*P			Pb	21 55 56.3	+0.8
UMAU				*e*S			Sb	21 56 14.5	+1.4
OUL	Oulu	1.43	87	Pg			Pb	21 55 56.3	+0.7
OUL				Lg			Lg	21 56 14.5	
OUL	Oulu	1.43	87				Pb	21 55 56.3	+0.7
OUL							Sb	21 56 14.3	+0.9
OUL	Oulu	1.43	87	Pg			Pb	21 55 56.3	+0.7
OUL				Sg			Sb	21 56 14.5	+1.2
OUL				MSG				21 56 18.1	
	comp=Z,3μm,0.2s								
OUL	Oulu	1.43	87	*e*P			Pb	21 55 56.3	+0.7
OUL				*e*S			Sb	21 56 14.3	+0.9
OUL				MSG				21 56 18.1	
	comp=Z,3μm,0.2s								
PAJU	Pajala	2.00	7	⇑P			Pb	21 56 04.5	-0.9
PAJU	Pajala	2.00	7	*e*P			Pb	21 56 04.5	-0.9
PAJU	Pajala	2.00	7	⇑P			Pb	21 56 04.5	-0.9
PAJU	Pajala	2.00	7	⇑*e*P			Pb	21 56 04.5	-0.9
VAF	Ylistaro	2.02	178	*e*P			Pb	21 56 04.7	-0.9
VAF				*e*SB			Sb	21 56 32.1	+1.9
VAF				MSG				21 56 32.7	
	comp=Z,2μm,0.1s								
VAF	Ylistaro	2.02	178	*e*P			Pb	21 56 04.7	-0.9
VAF				*e*SB			Sb	21 56 32.1	+1.9
VAF				MSG				21 56 32.7	
	comp=Z,2μm,0.1s								
BREU	Bredtraesk	2.07	238	⇓P			Pb	21 56 05.2	-1.3
BREU	Bredtraesk	2.07	238	⇓P			Pb	21 56 05.2	-1.3
BREU	Bredtraesk	2.07	238	⇓*e*P			Pb	21 56 05.3	-1.3
BREU				*e*S			Sb	21 56 30.7	-1.1
BREU				*e*SB			Sn	21 56 33.4	+5.0
RNF	Rovaniemi	2.12	41	*e*P			Pn	21 56 05.6	+1.6
RNF				*e*SB			Sb	21 56 34.2	+0.8
RNF				MSG				21 56 36.2	
	comp=Z,2μm,0.2s								
RNF	Rovaniemi	2.12	41	*e*P			Pn	21 56 05.6	+1.6
RNF				*e*SB			Sb	21 56 34.2	+0.8
RNF				MSG				21 56 36.2	
	comp=Z,2μm,0.2s								
DUNU	Dundret	2.23	340	*e*P			Pn	21 56 07.4	+1.9
HUSU	Husum	2.25	222	*e*P			Pb	21 56 08.0	-1.6
HUSU				*e*SB			Sb	21 56 38.3	+1.4
HUSU	Husum	2.25	222	*e*P			Pb	21 56 08.0	-1.6
HUSU				*e*SB			Sb	21 56 38.3	+1.4
KLF	Kolari	2.27	14	*e*P			Pb	21 56 08.2	-1.8
KLF				*e*S			Sb	21 56 37.1	-0.5
KLF				*e*SB			Sb	21 56 39.8	+2.2
KLF				MSG				21 56 42.6	
	comp=Z,970nm,0.2s								
KLF	Kolari	2.27	14	*e*P			Pb	21 56 08.2	-1.8
KLF				*e*SB			Sb	21 56 38.6	+1.0
KLF				MSG				21 56 42.6	
	comp=Z,970nm,0.2s								
MASU	Masugnsbyn	2.43	355	*e*P			Pn	21 56 10.2	+1.9
SUF	Sumiainen	2.83	144	*i* P			Pn	21 56 16.2	+2.4
SUF	Sumiainen	2.83	144	MSG				21 57 02.0	
	comp=Z,1μm,0.2s								
SUF	Sumiainen	2.83	144	*e*P			Pn	21 56 15.8	+2.0
SUF				MSG				21 57 02.0	
	comp=Z,1μm,0.2s								
MSF	Maaselka	2.85	69	*e*P			Pn	21 56 15.5	+1.5
MSF				*e*S			Sn	21 56 49.6	+1.9
MSF				MSG				21 57 03.7	
	comp=Z,2μm,0.3s								
MSF	Maaselka	2.85	69	*e*P			Pn	21 56 15.5	+1.5
MSF				*e*S			Sn	21 56 49.5	+1.8
MSF				MSG				21 57 03.7	
	comp=Z,2μm,0.3s								
SALU	Saltoluokta	2.85	327	*e*P			Pn	21 56 16.3	+2.2
SALU				*e*S			Sn	21 56 49.5	+1.7
SGF	Sodankyl	2.90	32	MSG				21 57 02.5	
	comp=Z,2μm,0.3s								
SGF	Sodankyl	2.90	32	*e*P			Pn	21 56 15.9	+1.3
SGF				*e*SB			Sb	21 56 57.2	+1.6
SGF				MSG				21 57 02.5	
	comp=Z,2μm,0.3s								
SOLU	Sollefteaa	2.93	234	*e*P			Pn	21 56 17.0	+1.8
LANU	Lannavaara	3.02	356	*e*P			Pn	21 56 18.4	+2.0
LANU				*e*S			Sn	21 56 53.5	+1.6
LANU	Lannavaara	3.02	356	*e*P			Pn	21 56 18.6	+2.2
LANU				*e*S			Sn	21 56 53.5	+1.6
RATU	Laukkuluspa	3.03	338	*e*P			Pn	21 56 18.7	+2.3
KEF	Keuruu	3.08	159	*i* P			Pn	21 56 19.7	+2.6
KEF	Keuruu	3.08	159	MSG				21 57 09.3	
	comp=Z,705nm,0.2s								
KEF	Keuruu	3.08	159	*e*P			Pn	21 56 19.6	+2.5
KEF				MSG				21 57 09.3	
	comp=Z,705nm,0.2s								
HEMU	Hemsoen	3.10	222	*e*P			Pn	21 56 19.0	+1.5
HEMU				*e*S			Sn	21 56 55.1	+1.3
HEMU	Hemsoen	3.10	222	*e*P			Pn	21 56 19.0	+1.5
HEMU				*e*S			Sn	21 56 55.1	+1.3
OLKF	Oulanka, Finla	3.12	63	MSG				21 57 09.7	
	comp=Z,741nm,0.2s								
OLKF	Oulanka, Finla	3.12	63	*e*P			Pn	21 56 19.0	+1.3
OLKF				MSG				21 57 09.7	
	comp=Z,741nm,0.2s								
NIKU	Nikkaluokta	3.16	335	*e*P			Pn	21 56 20.4	+2.1
KU6	Riekki	3.22	69	*e*P			Pn	21 56 20.6	+1.6
RMF	Romuvaara	3.29	101	*e*P			Pn	21 56 21.4	+1.3
KOVU	Salmi	3.33	345	*e*P			Pn	21 56 23.0	+2.4
KAF	Kangasniemi	3.40	148	*e*P			Pn	21 56 23.5	+2.0
HEF	Hetta	3.40	7	Pn			Pn	21 56 23.4	+1.8
HEF				Sn			Sn	21 57 02.5	+1.2
HEF				Lg			Lg	21 57 13.5	
HEF	Hetta	3.40	7	⇑*i*P			Pn	21 56 23.4	+1.8
HEF				*e*S			Sn	21 57 02.5	+1.2
HEF	Hetta	3.40	7	*e*P			Pn	21 56 23.4	+1.8
MOR8	Moi Rana	3.54	292	Pn			Pn	21 56 23.6	+0.1
MOR8				Pg			Pb	21 56 31.9	+0.3
MOR8				Sn			Sn	21 57 02.6	-2.1
MOR8				Lg			Lg	21 57 18.2	
MOR8	Moi Rana	3.54	292	*e*P			Pn	21 56 23.6	+0.1
MOR8				*e*S			Sn	21 57 03.6	-1.1
MOR8				*e*Sg			Sb	21 57 18.3	+4.2
MOR8				IAML				21 57 22.2	
	comp=Z,2μm,0.4s								
N2ST	Straumen	3.64	313	*e*P			Pn	21 56 26.7	+2.0
NOD	Norderasen	3.72	248	*e*P			Pn	21 56 26.8	+0.9
NOD				*e*Pg			Pb	21 56 36.6	+1.9
NOD	Norderasen	3.72	248	*e*P			Pn	21 56 26.6	+0.6
FAUS	Fauske	3.75	312	⇑*i*P			Pn	21 56 28.2	+1.8
FAUS				*e*S			Sn	21 57 11.0	+1.1
FAUS				*e*Sg			Sb	21 57 27.6	+7.4
FAUS				IAML				21 57 29.0	
	comp=Z,3μm,0.5s								
N2TV	Tvrnvik	3.91	314	⇑*e*P			Pn	21 56 30.2	+1.6
N2TV				*e*S			Sn	21 57 13.8	0.0
N2TV				IAML				21 57 35.3	
	comp=Z,1μm,0.7s								
NBB28	Valnes	3.92	307	*e*P			Pn	21 56 30.6	+1.9
HASU	Hassela	3.93	225	*e*P			Pn	21 56 29.7	+0.9
VRF	Varrio	3.93	43	*e*P			Pn	21 56 29.2	+0.4
NBB17	Glomfjord BVr	3.93	301	*e*P			Pn	21 56 30.8	+1.9
NBB17	Glomfjord BVr	3.93	301	*e*Pg			Pb	21 56 39.9	+1.6
FIA0	FINESS Array S	3.96	154	Pn			Pn	21 56 31.5	+2.3
	baz=336,slow=12								
FIA0				Sn			Sn	21 57 16.4	+1.5
	baz=348,slow=22								
FIA0				Lg			Lg	21 57 31.8	
	baz=340,slow=37								
FIA0	FINESS Array S	3.96	154	Pn			Pn	21 56 31.5	+2.3
	baz=336,slow=12								
FIA0				Sg			Sb	21 57 31.8	+5.7
	baz=340,slow=37								
FIA1	FINESS Array S	3.96	154				Pn	21 56 31.5	+2.3
FIA1				Sn			Sn	21 57 13.5	-1.4
FINES	FINESS Array B	3.96	154	Pn			Pn	21 56 31.5	+2.3
	comp=Z,3.1nm,0.3s,baz=336,slow=11,SNR=161								
FINES				Pg			Pb	21 56 40.0	+1.2
	comp=Z,34nm,0.3s,baz=346,slow=16,SNR=44								
FINES				Sn			Sn	21 57 15.9	+1.0
	comp=Z,40nm,0.3s,baz=351,slow=21,SNR=6.6								
FINES				Lg			Lg	21 57 30.4	
	comp=Z,296nm,0.3s,baz=352,slow=25,SNR=10.0								
FINES	FINESS Array B	3.96	154				Pn	21 56 31.1	+1.9
NBB08	Skaug oppvekst	3.96	310	*e*P			Pn	21 56 31.1	+1.9
KTK1	Kautokeino	3.99	4	Pn			Pn	21 56 31.1	+1.5
KTK1				Pg			Pb	21 56 40.2	+0.9
KTK1				Sn			Sn	21 57 16.0	+0.3
KTK1				Lg			Lg	21 57 32.5	
KTK1	Kautokeino	3.99	4	⇑*i*P			Pn	21 56 31.3	+1.7
KTK1				IAML				21 57 39.0	
	comp=Z,653nm,0.3s								
NBB05	Inndyr	4.00	304	*e*P			Pn	21 56 31.7	+1.9
KIF	Kilpisjarvi	4.03	351	Pn			Pn	21 56 32.5	+2.3
KIF				Pg			Pb	21 56 41.2	+1.3
KIF				Sn			Sn	21 57 17.3	+0.6
KIF				Lg			Lg	21 57 34.7	
KIF	Kilpisjarvi	4.03	351	*i* P			Pn	21 56 32.6	+2.3
KIF	Kilpisjarvi	4.03	351	*e*P			Pn	21 56 32.3	+2.1
KIF				*e*Pg			Pb	21 56 40.8	+0.8
KIF	Kilpisjarvi	4.03	351	*e*P			Pn	21 56 32.3	+2.1
RAF	Rauma	4.06	185	*e*P			Pb	21 56 41.0	+0.6
NBB30	Finnes	4.08	302	*e*P			Pn	21 56 32.6	+1.8
ARNU	Arnoeviken	4.09	217	*e*P			Pn	21 56 32.4	+1.4
NBB13	Alf Garage	4.10	297	*e*P			Pn	21 56 32.7	+1.5
STEI	Steigen	4.11	318	*e*P			Pn	21 56 32.8	+1.6
STEI				*e*P			Pn	21 56 32.9	+1.6
STEI				*e*S			Sn	21 57 18.6	0.0
STEI				*e*S			Sn	21 57 18.9	+0.3
STEI				*e*Sg			Sb	21 57 37.9	+7.5
STEI				IAML				21 57 39.7	
	comp=Z,678nm,0.5s								
STEI	Steigen	4.11	318	*e*P			Pn	21 56 32.7	+1.5
STEI				*e*S			Sn	21 57 18.6	0.0
HUDU	Hudiksvall	4.12	219	*e*P			Pn	21 56 32.9	+1.5
KONS	Konsvik	4.14	295	*e*P			Pn	21 56 32.8	+1.1
KONS				IAML				21 57 43.4	
	comp=Z,2μm,0.5s								
NBB40	Tonnes	4.19	295	*e*P			Pn	21 56 33.5	+1.2
NSS	Namsos	4.55	268	Pn			Pn	21 56 38.0	+0.7
NSS				Sn			Sn	21 57 29.4	0.0
NSS				Lg			Lg	21 57 50.7	
NSS	Namsos	4.55	268	*i* P			Pn	21 56 38.5	+1.2
NSS	Namsos	4.55	268	*e*P			Pn	21 56 38.2	+0.9
NSS				*e*P			Pn	21 56 38.5	+1.2
NSS				*e*Pg			Pb	21 56 49.8	+1.0
NSS				*e*S			Sn	21 57 29.4	0.0
NSS	Namsos	4.55	268	*e*P			Pn	21 56 38.2	+0.9
NSS				*e*S			Sn	21 57 29.4	0.0
JETT	Jettan, Norway	4.60	351	*e*P			Pn	21 56 40.3	+2.2
JETT				*e*				21 57 52.3	
JETT				IAML				21 57 55.7	
	comp=Z,1μm,0.4s								
ARA0	ARCESS Array S	4.65	13	Pn			Pn	21 56 39.8	+1.1
	baz=193,slow=12								
ARA0				Sn			Sn	21 57 30.1	-2.0
	baz=192,slow=28								
ARA0				Lg			Lg	21 57 51.5	
	baz=186,slow=28								
ARA0	ARCESS Array S	4.65	13	Pn			Pn	21 56 39.8	+1.1
	baz=193,slow=12								
ARA0				Sn			Sn	21 57 30.1	-2.0
	baz=192,slow=28								
ARA0				Sg			Sb	21 57 51.5	+5.5
	baz=186,slow=28								
ARA0				IAML				21 57 55.1	
	comp=Z,1μm,0.4s								
ARA0	ARCESS Array S	4.65	13	*e*P			Pn	21 56 39.8	+1.1
ARCES	ARCESS Array B	4.65	13	Pn			Pn	21 56 39.8	+1.1
	baz=194,slow=15								
ARCES				Sn			Sn	21 57 30.4	-1.6
	baz=191,slow=16,SNR=7.6								
ARCES				Lg			Lg	21 57 52.4	
	baz=193,slow=21,SNR=7.5								
ARCES	ARCESS Array B	4.65	13	P			Pn	21 56 39.0	+0.2
ARCES				S			Sb	21 57 48.7	+2.7
ARCES	ARCESS Array B	4.65	13	P			Pb	21 56 56.6	+6.0
ARCES				S			Sb	21 57 51.2	+5.2
NUR	Nurmijrvi	4.66	167	*e*P			Pn	21 56 41.4	+2.6
LOF	Lofoten	4.73	315	*e*P			Pn	21 56 40.5	+0.7
LOF				*e*S			Sn	21 57 32.9	-1.1
LOF				*e*				21 57 57.5	
LOF				IAML				21 58 02.7	
	comp=Z,753nm,0.4s								
N2VA	Vr_y	4.75	308	*e*P			Pn	21 56 40.2	+0.2
N2SV	S_rvVgen	4.76	311	*e*P			Pn	21 56 40.4	+0.2
TRO	Tromso	4.81	345	*e*P			Pn	21 56 42.3	+1.4
TRO				⇓*i*P			Pn	21 56 42.8	+1.9
TRO				*e*S			Sn	21 57 35.2	-0.6
TRO	Tromso	4.81	345	*e*P			Pn	21 56 42.3	+1.4
TRO				*e*S			Sn	21 57 35.2	-0.6
IGGU	Iggoen	4.82	212	*e*P			Pn	21 56 43.0	+2.0
N2RO	R_st	4.88	305	*e*P			Pn	21 56 42.0	+0.1
MEF	Metsahovi	4.93	169	*e*P			Pb	21 56 49.0	-6.2
MEF	Metsahovi	4.93	169	*e*P			Pn	21 56 44.9	+2.4
APA0	Apatity Array	4.94	54	Pn			Pn	21 56 42.5	-0.1
	baz=242,slow=12								
APA0				Sn			Sn	21 57 37.1	-1.9
	baz=255,slow=22								
APA0				Lg			Lg	21 57 59.4	
	baz=234,slow=28								
APA0	Apatity Array	4.94	54	Pn			Pn	21 56 42.5	-0.1
	baz=242,slow=12								
APA0				Sn			Sn	21 57 37.1	-1.9
	baz=255,slow=22								
APA0				Sg			Sb	21 57 59.4	+5.2
	baz=234,slow=28								
APA0	Apatity Array	4.94	54	P			Pn	21 56 42.5	-0.1
APA0				S			Sb	21 57 52.1	-2.1
APA0	Apatity Array	4.94	54	P			Pb	21 56 59.6	+4.2
APA0				S			Sb	21 57 58.8	+4.7
AAL	Aland	5.03	195	*e*P			Pb	21 56 53.6	-3.3
KEV	Kevo	5.03	18	Pn			Pn	21 56 44.2	+0.3
KEV				Sn			Sn	21 57 40.0	-1.3
KEV				Lg			Lg	21 58 01.9	
KEV	Kevo	5.03	18	P			Pn	21 56 44.1	+0.2
KEV								21 57 38.1	
KEV	Kevo	5.03	18				Pn	21 56 44.1	+0.3
KEV				Sn			Sn	21 57 38.1	-3.2
KEV	Kevo	5.03	18	*e*P			Pn	21 56 44.3	+0.3
KEV				*e*S			Sn	21 57 39.7	-1.7
KEV	Kevo	5.03	18	*e*P			Pn	21 56 44.2	+0.3
APA	Apatity	5.06	55	⇓*i*P			Pn	21 56 42.9	-1.4
APA				*i*				21 57 39.7	
APA				pmax		pmax			
	comp=Z,17nm,0.6s								
APA	Apatity	5.06	55	P			Pn	21 56 44.9	+0.6
APA				S			Sb	21 57 59.1	+1.3
APA	Apatity	5.06	55	P			Pb	21 57 04.9	+7.4
APA				S			Sb	21 58 03.0	+5.2
VALR	Valaam	5.29	131	*i* P			Pn	21 56 49.

SLIT Slitere, Latvi 7.45 181 *e*P **Pn** **21 57 19.6 +2.5**
OSL Oslo 7.49 232 *e*P **Pn** **21 57 17.5 -0.2**
OSL *e* 21 59 19.9
AKN Aaknes 7.49 255 Pn **Pn** **21 57 17.5 -0.2**
AKN Sn **Sn** **21 58 38.1 -3.8**
AKN Lg Lg 21 59 22.0
AKN Aaknes 7.49 255 Pn **Pn** **21 57 17.5 -0.2**
AKN Sn **Sn** **21 58 38.1 -3.8**
SKAR Skarslia 7.83 243 *e*P **Pn** **21 57 22.4 -0.1**
STRU Stroemstad 8.04 227 *i* P **Pn** **21 57 25.5 +0.3**
STRU Stroemstad 8.04 227 ⇑*i*P **Pn** **21 57 25.1 -0.2**
KONO Kongsberg 8.08 234 *i* P **Pn** **21 57 25.5 -0.3**
KONO pmax pmax
comp=Z,4.0nm,0.4s
KONO Kongsberg 8.08 234 Pn **Pn** **21 57 25.2 -0.6**
KONO Kongsberg 8.08 234 *e*P **Pn** **21 57 25.5 -0.3**
HYA Hoyanger 8.36 250 *e*P **Pn** **21 57 28.4 -1.1**
FOO Floro 8.58 254 *e*P **Pn** **21 57 31.4 -1.2**
BORU Boraas 8.78 217 *i* P **Pn** **21 57 36.8 +1.4**
KLMR Klimovskoe 8.80 111 *e*P **Pn** **21 57 34.7 -0.8**
KLMR *e* 21 59 17.2
KLMR pmax pmax
comp=Z,29nm,0.7s
KLMR Klimovskoe 8.80 111 *e*P **Pn** **21 57 34.7 -0.8**
comp=Z,23nm,0.6s
KLMR *e*S **Sn** **21 59 05.4 -8.5**
KLMR Klimovskoe 8.80 111 *e*Pn **Pn** **21 57 34.7 -0.8**
KLMR AMP 21 57 43.3
comp=Z,29nm,0.7s
KLMR *e*Sn **Sn** **21 59 17.3 +3.4**
KLMR *e*Sn **Sn** **21 59 17.3 +3.4**
KLMR ⇓*i*Lg Lg 22 00 04.7
KLMR ⇓*i*Lg Lg 22 00 04.7
KLMR ⇓*i*Lg Lg 22 00 04.7
ODD1 Odda 8.97 242 *e*P **Pn** **21 57 37.2 -0.8**
ODD1 *e* 21 59 13.1
SUE Sulen 8.99 252 *e*P **Pn** **21 57 36.6 -1.6**
PBUR Paburge 9.06 182 *e*P **Pn** **21 57 41.5 +2.3**
ASK Askoy 9.15 248 *e*P **Pn** **21 57 38.9 -1.6**
BER Bergen 9.16 247 *e*P **Pn** **21 57 40.2 -0.4**
BER IAML 21 59 32.0
comp=Z,29nm,0.6s
ONAU Onsala 9.21 219 *i* P **Pn** **21 57 41.6 +0.4**
ONAU *e*S **Sn** **21 59 17.9 -6.2**
FABU Falkenberg 9.36 215 *i* P **Pn** **21 57 43.4 +0.1**
BLEU Blekinge 9.37 204 *e*S **Sn** **21 59 22.7 -5.2**
BLEU *i* Sg 22 00 20.3
BLS5 Blasjo 9.37 240 *e*P **Pn** **21 57 43.0 -0.4**
HOMB Homborsund 9.50 231 *i* P **Pn** **21 57 44.0 -1.2**
HOMB Homborsund 9.50 231 *e*P **Pn** **21 57 44.3 -0.9**
IZAR Zarasai 9.51 167 *e*P Pn 21 57 50.1 +4.8
BJO1 Bjornoya 9.58 354 *e*P **Pn** **21 57 45.5 -0.7**
BJO1 Bjornoya 9.58 354 *e*P **Pn** **21 57 45.0 -1.2**
BJO1 *e*S **Sn** **21 59 26.1 -6.8**
DEL Delary 9.58 210 *i* P **Pn** **21 57 46.4 +0.1**
DEL Delary 9.58 210 *e*P **Pn** **21 57 46.1 -0.2**
PABE Paberze 9.60 175 Pn **Pn** **21 57 46.7 +0.1**
ISAL Salakas 9.67 168 *e*P **Pn** **21 57 51.5 +3.9**
ISAL IAmb IAmb 22 00 35.0
comp=Z,96nm,0.8s
LSH Leshukonskoye 9.82 80 *e*P **Pn** **21 57 49.2 -0.3**
comp=Z,131nm,2.2s
LSH *e*S **Sn** **21 59 31.8 -7.2**
SNART Snartemo 9.89 234 *i* P **Pn** **21 57 50.6 +0.1**
SNART Snartemo 9.89 234 *e*P **Pn** **21 57 49.6 -0.9**
IIGN Ignalina 9.90 168 *e*P Pn 21 57 56.8 +6.1
IIGN IAmb IAmb 22 00 45.6
comp=Z,256nm,0.9s
KMY Karmoy 9.96 242 *e*P **Pn** **21 57 50.5 -1.0**
IDID Didziasalis 9.99 166 *e*P Pn 21 57 56.8 +4.9
NACGM Naroch 10.40 166 *e*P **Pn** **21 57 53.8 -3.6**
COP Copenhagen 10.62 213 *e*P **Pn** **21 57 59.6 -1.0**
COP IAML 22 01 22.5
comp=Z,2µm,0.7s
BSD Bornholm Skovb 10.66 204 *i* P **Pn** **21 58 00.8 -0.3**
BSD IAML 22 01 08.6
comp=Z,304nm,0.9s
BSD Bornholm Skovb 10.66 204 *e*P **Pn** **21 58 00.8 -0.3**
MUD Monsted U'grnd 10.79 223 *i* P **Pn** **21 58 02.7 -0.1**
MUD IAML 22 01 25.4
comp=Z,140nm,0.6s
MUD Monsted U'grnd 10.79 223 *e*P **Pn** **21 58 02.5 -0.3**
PRGR Permogore 10.89 98 *e*P **Pn** **21 58 01.6 -2.7**
PRGR pmax pmax
comp=Z,8.0nm,1.1s
MNK Minsk 10.91 163 *i* P **Pn** **21 58 02.9 -1.6**
MNK *i* S **Sn** **22 00 07.4 +1.6**
MNK pmax pmax
comp=N,17nm,1.2s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK MLR MLR
comp=E,13nm,22.0s
MNK MLR MLR
comp=N,102nm,19.0s
MNK MLR MLR
comp=Z,232nm,22.0s
MNK Minsk 10.91 163 *i* P **Pn** **21 58 03.0 -1.6**
comp=E,2.0nm,1.2s
MNK *i* P **Pn** **21 58 03.0 -1.6**
comp=N,17nm,1.2s
MNK *i* P **Pn** **21 58 03.0 -1.6**
comp=Z,7.0nm,0.7s,baz=167
MNK *i* PP **PnPn** **21 58 10.7 -1.2**
MNK *i* S **Sn** **22 00 07.5 +1.6**
MNK *i* SS **SnSn** **22 00 20.1 +3.0**
MNK *i* LQ LQ 22 01 15.1
MNK *i* LR LR 22 02 05.4
MNK *i* LRM MLR 22 02 28.9
comp=E,13nm,22.5s
MNK *i* LRM MLR 22 02 30.6
comp=N,102nm,18.6s
MNK *i* LRM MLR 22 02 35.5
comp=Z,232nm,22.5s
LLD Lille Linde 10.99 212 *i* P **Pn** **21 58 03.1 -2.5**
LLD IAML 22 01 18.4
comp=Z,241nm,0.5s
SUW Suwalki 11.08 178 P **Pn** **21 58 07.9 +1.1**
SUW Suwalki 11.08 178 **Pn** **21 58 07.9 +1.1**
SUW Suwalki 11.08 178 *e*P **Pn** **21 58 11.4 +4.6**
RGN Rugen 11.49 208 Pn **Pn** **21 58 12.2 -0.2**
HOPEN Hopen 11.55 3 *e*P **Pn** **21 58 12.0 -1.1**
HOPEN Hopen 11.55 3 *e*P **Pn** **21 58 11.4 -1.7**
HOPEN *e*S **Sn** **22 00 13.2 -8.0**
MOS Moscow 11.91 134 *e*P Pn 21 58 24.6 +6.4
MOS *e*S Sn 22 00 45.8 +15
GKP Gorka Klasztor 12.12 195 *e*P **Pn** **21 58 21.4 +0.4**
OBN Obninsk 12.14 139 Pn **Pn** **21 58 21.9 +0.6**
comp=Z,3.4nm,0.3s,baz=162,slow=1.8,SNR=6.5
OBN Sn **Sn** **22 00 31.3 -4.6**
comp=Z,2.6nm,0.3s,baz=151,slow=19,SNR=3.3
OBN Lg Lg 22 01 45.3
comp=Z,6.1nm,0.3s,baz=198,slow=24,SNR=6.2
OBN Obninsk 12.14 139 *i* P **Pn** **21 58 22.4 +1.1**
OBN pmax pmax
comp=Z,26nm,0.3s
OBN Obninsk 12.14 139 Pn **Pn** **21 58 22.2 +0.9**
HSPB Hornsund (broa 12.21 353 *e*P **Pn** **21 58 21.8 -0.3**
HSPB Hornsund (broa 12.21 353 *e*P **Pn** **21 58 21.4 -0.7**
HSPB *e*S **Sn** **22 00 30.3 -7.0**
BSEG Bad Segeberg 12.72 215 *e*Pn **Pn** **21 58 28.1 -1.1**
SPB2 Spitsbergen Ar 13.32 355 **Pn** **21 58 35.8 -1.5**
SPA0 Spitsbergen Ar 13.32 354 Pn **Pn** **21 58 36.2 -1.2**
baz=165,slow=14
SPA0 Spitsbergen Ar 13.32 354 Pn **Pn** **21 58 36.2 -1.2**
baz=165,slow=14
SPITS Spitsbergen Ar 13.32 354 Pn **Pn** **21 58 36.4 -1.0**
baz=162,slow=17,SNR=484
SPITS Spitsbergen Ar 13.32 354 P **Pn** **21 58 36.1 -1.3**
RETH Rethem/Aller, 14.05 215 *e*Pn **Pn** **21 58 45.4 -1.9**
KIRV Kirov 14.17 105 Pn **Pn** **21 58 46.1 -2.8**
comp=Z,1.7nm,0.3s,baz=344,slow=7.4,SNR=2.5
KIRV Sn **Sn** **22 01 24.8 -0.4**
comp=Z,4.8nm,0.3s,baz=218,slow=21,SNR=4.0
KIRV Lg Lg 22 02 46.9
comp=Z,6.7nm,0.3s,baz=221,slow=22,SNR=8.8
KBS Kingsbay 14.28 352 P **Pn** **21 58 48.7 -1.7**
KBS Kingsbay 14.28 352 *i* P **Pn** **21 58 50.7 +0.4**
KBS Kingsbay 14.28 352 Pn **Pn** **21 58 48.7 -1.7**
KBS Kingsbay 14.28 352 *e*P **Pn** **21 58 50.1 -0.3**
KBS Kingsbay 14.28 352 *e*P **Pn** **21 58 49.8 -0.6**

KBS *e*S **Sn** **22 01 21.2 -6.6**
CLL Collm 14.64 204 *e*P **Pn** **21 58 57.0 +1.6**
CLL Collm 14.64 204 Pn **Pn** **21 58 55.5 +0.1**
CLL Collm 14.64 204 *e*Pn **Pn** **21 58 57.0 +1.6**
CLL *e*Sn Sn 22 01 18.0 -19
CLL *e*Sb S 22 02 33.0 +37
CLL *e*Sg 22 03 10.0
comp=Z,56nm,0.9s
CLL *e*Sglp 22 03 17.0
comp=N,100nm,20.0s
CLL *e*Sglp 22 03 17.0
comp=E,200nm,16.9s
CLZ Clausthal 14.65 211 *e*Pn **Pn** **21 58 52.1 -3.5**
AKASG Malin Array Be 14.81 163 Pn Pn 21 58 52.4 -5.3
comp=E,2.7nm,0.3s,baz=346,slow=13,SNR=13
AKASG Sn **Sn** **22 01 35.6 -5.3**
comp=E,3.3nm,0.3s,baz=351,slow=23,SNR=4.2
AKASG Lg Lg 22 03 09.8
comp=E,4.9nm,0.3s,baz=345,slow=31,SNR=5.2
AKASG LR LR 22 04 51.2
comp=E,61nm,18.5s,baz=56,slow=38
AKBB Malin Array Si 14.81 163 P **Pn** **21 58 53.4 -4.3**
AKBB Malin Array Si 14.81 163 Pn **Pn** **21 58 53.4 -4.3**
CHVC Chvalec 14.89 196 *e*P **Pn** **21 58 57.7 -1.2**
BRG Berggiesshubel 14.90 202 *e*P **Pn** **21 58 59.8 +0.7**
BRG Amp 21 59 04.0
comp=Z,16nm,0.7s
BRG *e*x x 22 01 28.9
BRG Amp 22 03 47.3
comp=Z,43nm,0.9s
BRG Berggiesshubel 14.90 202 *e*P **Pn** **21 58 59.7 +0.7**
BRG pmax pmax
comp=Z,16nm,0.7s
OSTC Ostas 14.90 196 *e*P **Pn** **21 58 57.9 -1.2**
OJC Ojcow 14.94 187 P **Pn** **21 58 55.7 -3.8**
OJC Ojcow 14.94 187 Pn **Pn** **21 58 55.7 -3.8**
LPSR Galich'ya Gora 15.02 138 *e*P **Pn** **21 59 01.1 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
DPC Dobruska-Polom 15.10 195 *e*P **Pn** **21 58 59.2 -2.4**
DPC Dobruska-Polom 15.10 195 *e*P **Pn** **21 58 59.2 -2.4**
DPC *e*S Sn 22 01 35.6 -12
PVCC Panska Ves 15.15 200 *e*P **Pn** **21 59 03.1 +0.9**
PVCC Panska Ves 15.15 200 *e*P **Pn** **21 59 03.1 +0.9**
LVV L'vov 15.29 176 *e*P **Pn** **21 59 04.6 +0.4**
LVV *e* 22 01 55.0
LVV MLR MLR
comp=Z,100nm,11.0s
KRLC Kraliky 15.32 194 *e*P **Pn** **21 59 02.7 -1.8**
KRLC Kraliky 15.32 194 *e*P **Pn** **21 59 02.7 -1.8**
KRLC *e*S Sn 22 01 38.6 -15
AMDE Amderma 15.54 55 *e*P **Pn** **21 59 03.2 -4.0**
comp=Z,3.8nm,0.5s
AMDE *e*S Sn 22 01 45.3 -13
MORC Moravsky Berou 15.54 192 ⇓P **Pn** **21 59 07.6 +0.2**
MORC Moravsky Berou 15.54 192 P **Pn** **21 59 05.3 -2.1**
MORC pmax pmax
comp=Z,10.0nm,0.5s
MORC Moravsky Berou 15.54 192 Pn **Pn** **21 59 05.3 -2.1**
MORC Moravsky Berou 15.54 192 *e*PN **Pn** **21 59 07.7 +0.2**
MORC Moravsky Berou 15.54 192 *e*SN Sn 22 01 46.2 -13
PLN Plauen 15.58 205 *e*Pn **Pn** **21 59 08.6 +0.7**
GUNZ Gunzen 15.66 205 *e*Pn **P** **21 59 11.8 -1.3**
PRU Pruhonice 15.68 199 *e*P **Pn** **21 59 10.6 +1.4**
PRU Pruhonice 15.68 199 *e*P **Pn** **21 59 10.6 +1.4**
STHS Stebnicka Huta 15.69 183 *e*P **Pn** **21 59 11.0 +1.6**
STHS Stebnicka Huta 15.69 183 *e*PN **Pn** **21 59 11.0 +1.6**
WERN Wernitzgruen 15.73 205 *e*Pn **Pn** **21 59 11.8 +1.8**
NKC Novy Kostel 15.77 204 *e*P **Pn** **21 59 11.5 +1.1**
NKC Novy Kostel 15.77 204 *e*P **Pn** **21 59 11.5 +1.1**
NKC *e*S **Sn** **22 01 55.3 -9.1**
EKA Eskdalemuir Ar 15.93 244 Pn **Pn** **21 59 10.4 -2.0**
baz=39,slow=11,SNR=15
EKA Sn **Sn** **22 02 06.9 -1.2**
baz=22,slow=24,SNR=4.2
VORR Voronezh 15.93 139 *e*P **P** **21 59 15.1 -0.8**
VORR *e*S **Sn** **22 02 10.8 +2.6**
VORR pmax pmax
comp=Z,50nm,0.5s
VORR smax smax
comp=N,90nm,0.5s
ESK Eskdalemuir 15.96 245 P **Pn** **21 59 11.0 -1.7**
ESK pmax pmax
comp=Z,23nm,1.4s
ESK Eskdalemuir 15.96 245 Pn **Pn** **21 59 11.0 -1.7**
ESK IAmb IAmb 21 59 25.3
comp=Z,23nm,1.4s
LANS Liptovska Anna 16.02 187 *e*P **Pn** **21 59 11.2 -2.5**
LANS Liptovska Anna 16.02 187 *e*PN **Pn** **21 59 11.2 -2.5**
LANS Liptovska Anna 16.02 187 *e*SN Sn 22 01 58.4 -12
MANZ Manzenberg 16.07 205 *e*Pn **Pn** **21 59 15.3 +1.1**
VRAC Vranov 16.09 194 ⇓P **P** **21 59 16.5 -1.3**
VRAC Vranov 16.09 194 Pn **Pn** **21 59 14.8 +0.2**
comp=Z,1.0nm,0.3s,baz=16,slow=13,SNR=11
VRAC Sn **Sn** **22 02 08.7 -3.5**
comp=Z,0.6nm,0.3s,baz=245,slow=22,SNR=1.7
VRAC Lg Lg 22 03 58.1
comp=Z,0.5nm,0.3s,baz=168,slow=13,SNR=3.7
VRAC LR LR 22 06 11.1
comp=Z,53nm,20.3s,baz=7.5,slow=40
VRAC Vranov 16.09 194 ⇓P **P** **21 59 16.5 -1.3**
VRAC Vranov 16.09 194 *e*PN **Pn** **21 59 15.6 +1.0**
CRVS Cervenica-Dubn 16.20 183 *e*P **Pn** **21 59 17.1 +1.2**
CRVS Cervenica-Dubn 16.20 183 *e*PN **Pn** **21 59 17.1 +1.2**
KRUC Moravsky 16.36 194 *e*PN **P** **21 59 19.9 -0.8**
JAVC Velka Javorina 16.44 191 *e*PN **P** **21 59 21.9 +0.3**
UZH Uzhgorod 16.46 181 *e*P **Pn** **21 59 16.0 -3.2**
UZH *e*S **Sn** **22 02 17.0 -4.1**
GRA1 Grafenberg Arr 16.51 207 Pn **Pn** **21 59 19.4 -0.5**
GRF Grafenberg Arr 16.51 207 P **Pn** **21 59 19.4 -0.5**
GRF pmax pmax
comp=Z,6.0nm,0.8s
GRFO Grafenberg 16.52 207 P **Pn** **21 59 18.7 -1.2**
GRFO pmax pmax
comp=Z,5.0nm,0.7s
GRFO Grafenberg 16.52 207 Pn **Pn** **21 59 18.7 -1.2**
VORD Divnogorie 16.59 140 *e*P **Pn** **21 59 21.4 +0.6**
VORD pmax pmax
comp=Z,10.0nm,0.4s
IZAB Izabela 16.59 187 *e*P **Pn** **21 59 19.7 -1.2**
KECS Kecovo 16.65 185 *e*P **P** **21 59 23.3 -0.6**
KECS Kecovo 16.65 185 *e*PN **P** **21 59 23.3 -0.6**
KHC Kasperske Hory 16.65 201 *e*P **P** **21 59 23.4 -0.6**
KHC *e* 22 02 28.5
KHC MLR MLR
comp=Z,200nm,14.5s
KHC Kasperske Hory 16.65 201 *e*P **P** **21 59 23.4 -0.6**
KHC *e*pP **pP** **21 59 29.5 -0.3**
KHC *e*S **Sn** **22 02 28.5 +2.7**
KHC AMS AMS 22 05 40.0
comp=Z,200nm,14.5s
KHC Kasperske Hory 16.65 201 **Pn** **21 59 22.0 +0.3**
VYHS Vyhne 16.72 189 *e*P **Pn** **21 59 23.1 +0.6**
VYHS Vyhne 16.72 189 *e*PN **Pn** **21 59 23.1 +0.6**
VYHS Vyhne 16.72 189 *e*SN Sn 22 02 15.8 -12
WET Wettzell 16.75 202 *e*Pn **P** **21 59 25.8 +0.8**
MEM Membach 16.85 219 *d*pP **pP** **21 59 29.9 -1.9**
MEM *d*PnPn **sP** 21 59 33.9 -0.6
CKRC Cesky Krumlov 16.85 199 *e*P **P** **21 59 26.4 +0.2**
GEC2 GERESS Array S 16.91 200 **Pn** **21 59 25.1 0.0**
GEC2 GERESS Array S 16.91 200 *e*Pn **P** **21 59 27.9 +0.9**
GERES GERESS Array B 16.91 200 Pn **Pn** **21 59 23.5 -1.5**
comp=Z,0.1nm,0.3s,baz=18,slow=14,SNR=5.8
GERES Sn **Sn** **22 02 30.9 -1.4**
comp=Z,0.4nm,0.3s,baz=27,slow=18,SNR=2.1
GERES Lg Lg 22 04 21.8
baz=4.3,slow=28,SNR=1.8
GERES GERESS Array B 16.91 200 P **Pn** **21 59 25.0 0.0**
GERES GERESS Array B 16.91 200 **Pn** **21 59 25.0 0.0**
TRPA Tarpa 16.96 180 ⇓P **Pn** **21 59 24.2 -1.3**
TRPA Tarpa 16.96 180 P **Pn** **21 59 26.1 +0.6**
VRH Novokhopyorsk 17.07 135 *e*P **Pn** **21 59 25.5 -1.4**
VRH pmax pmax
comp=Z,20nm,0.6s
ZFI Zemlya Franca- 17.15 13 *e*P **Pn** **21 59 23.6 -4.0**
comp=Z,120nm,3.4s
ZFI *e*S Sn 22 02 20.2 -17
ZFI2 Zemlya Franca- 17.15 13 *e*P **Pn** **21 59 24.2 -3.5**
comp=Z,72nm,2.7s
ZFI2 *e*S Sn 22 02 23.1 -14
PSZ Piszkesteto 17.23 186 ⇑P **P** **21 59 33.3 +2.9**
PSZ Piszkesteto 17.23 186 ⇑P **P** **21 59 33.3 +2.9**
PSZ Piszkesteto 17.23 186 Pn **Pn** **21 59 29.4 +0.4**

PSZ IAmb IAmb 21 59 46.3
comp=Z,12nm,0.9s
PSZ Piszkesteto 17.23 186 P **P** **21 59 31.9 +1.4**
SORM Soroca 17.24 167 ⇑P **Pn** **21 59 25.6 -3.4**
SORM Soroca 17.24 167 ⇑P **Pn** **21 59 25.6 -3.4**
BGES Gesves 17.30 220 *d*PnPn P 21 59 39.1 +8.0
DAG Danmarks Havn 17.30 329 *i* P **P** **21 59 30.9 0.0**
BMR Baia Mare 17.43 178 ⇑P **Pn** **21 59 31.1 -0.2**
BMR Baia Mare 17.43 178 ⇑P **Pn** **21 59 31.1 -0.2**
BUR08 Bucovina Ar. S 17.51 174 Pn **Pn** **21 59 28.4 -4.1**
BUR08 IAmb IAmb 21 59 37.0
comp=Z,11nm,0.6s
CONA Conrad Observa 17.54 195 *e*Pn **P** **21 59 35.4 +1.6**
comp=Z,3.1nm,0.6s
BURAR Bucovina Array 17.54 174 ⇑P **Pn** **21 59 29.8 -3.1**
BURAR Bucovina Array 17.54 174 ⇑P **Pn** **21 59 29.8 -3.1**
BURAR Bucovina Array 17.54 174 Pn **Pn** **21 59 28.6 -4.2**
SOP Sopron 17.70 193 P **P** **21 59 38.0 +2.4**
SOP Sopron 17.70 193 P **P** **21 59 37.7 +2.1**
LTVH Ltavrtes, Hu 17.71 181 ⇓P **P** **21 59 35.7 +0.1**
LTVH Ltavrtes, Hu 17.71 181 P **P** **21 59 36.5 +0.9**
MOA Molln 17.81 198 *i* Pn **P** **21 59 41.1 +4.4**
comp=Z,4.3nm,0.9s,SNR=5.4
EGYH Egyhazaskeszo 17.90 192 P **P** **21 59 44.6 +6.9**
MESR Meseseni 17.95 179 ⇑P **P** **21 59 39.0 +0.8**
BELG Belogornoye 18.01 123 Pn **Pn** **21 59 36.5 -2.0**
comp=Z,2.2nm,0.3s,baz=268,slow=1.3,SNR=16
BELG Sn **S** **22 03 02.9 -1.3**
comp=Z,1.1nm,0.3s,baz=184,slow=22,SNR=3.6
BIOA Bad Ischl, Aus 18.05 200 *e*Pn **P** **21 59 41.7 +2.3**
comp=Z,3.5nm,0.5s
MPLH Magyarpolny 18.13 191 P **P** **21 59 42.4 +2.2**
RJOB Jochberg 18.18 202 *e*Pn **P** **21 59 43.4 +3.0**
ARSA Arzberg 18.24 195 *e*Pn **P** **21 59 42.1 +0.6**
comp=Z,1.7nm,0.4s
DRGR 18.30 180 ⇓P **P** **21 59 43.1 +0.9**
DRGR 18.30 180 ⇓P **P** **21 59 43.1 +0.9**
CBBR Cluj-Babes-Bol 18.33 178 ⇓P **Pn** **21 59 42.9 +0.4**
TIH Tihany 18.37 190 P **Pn** **21 59 45.6 +2.7**
CJR Cluj-Napoca 18.39 178 ⇓P **Pn** **21 59 43.3 0.0**
CJR Cluj-Napoca 18.39 178 ⇓P **Pn** **21 59 43.3 0.0**
BFO Black Forest 18.40 211 P **Pn** **21 59 44.8 +1.4**
BFO pmax pmax
comp=Z,3.0nm,0.8s
BFO Black Forest 18.40 211 **Pn** **21 59 44.8 +1.4**
MILM Milestii Mici 18.49 166 ⇑P **Pn** **21 59 49.2 +4.8**
MILM Milestii Mici 18.49 166 ⇑P **Pn** **21 59 49.2 +4.8**
VASR Vaslui 18.67 169 ⇑P **Pn** **21 59 46.9 +0.2**
KBA Koelnbreinsper 18.69 200 *e*Pn **Pn** **21 59 50.6 +3.5**
comp=Z,0.9nm,0.5s
RETA Reutte 18.72 206 *e*Pn **Pn** **21 59 48.4 +1.1**
comp=Z,0.9nm,0.3s
TESR Tescani 18.72 171 ⇑P **Pn** **21 59 47.9 +0.7**
WATA Walderalm 18.72 204 *e*Pn **Pn** **21 59 51.5 +4.2**
comp=Z,0.9nm,0.3s
WTTA Wattenberg 18.78 204 *e*Pn **Pn** **21 59 52.2 +4.1**
comp=Z,3.4nm,0.7s
MOTA Moosalm 18.79 205 *e*Pn **Pn** **21 59 53.7 +5.4**
comp=Z,2.7nm,0.6s
SIRR Siria 18.83 182 ⇑P **Pn** **21 59 51.3 +2.7**
SOKA Soboth 18.86 196 *e*Pn **Pn** **21 59 52.3 +3.3**
comp=Z,0.4nm,0.4s
BEHE Becsehely 18.89 192 P **Pn** **21 59 54.4 +5.2**
SQTA Sankt Quirin 18.89 204 *e*Pn **Pn** **21 59 53.2 +3.7**
comp=Z,3.8nm,0.6s
BIR Birlad 19.03 169 ⇓P **Pn** **21 59 53.5 +2.5**
BIR Birlad 19.03 169 ⇓P **Pn** **21 59 53.5 +2.5**
DAVA Damuels 19.08 207 *e*Pn **Pn** **21 59 54.8 +3.1**
comp=Z,0.4nm,0.1s
OBKA Obir 19.09 197 *e*Pn **Pn** **21 59 54.2 +2.4**
comp=Z,1.2nm,0.6s
MYKA Terra Mystica 19.09 199 *e*Pn **Pn** **21 59 58.2 +6.5**
ABTA Abfaltersbach 19.14 201 *i* Pn **Pn** **21 59 56.5 +4.1**
SNR=6.3
KOVH Kovagotottos 19.16 189 P **Pn** **21 59 55.5 +2.9**
FETA Feichten 19.17 205 *e*Pn **Pn** **21 59 58.2 +5.4**
comp=Z,1.4nm,0.6s
DOPR Dopca 19.19 174 ⇓P **Pn** **21 59 55.2 +2.3**
GHRR 19.22 170 ⇑P **Pn** **21 59 54.6 +1.3**
ARU Arti 19.34 99 Pn **P** **21 59 51.3 -2.2**
comp=Z,0.0nm,0.3s,baz=304,slow=4.7,SNR=52
ARU Sn Sn 22 03 15.9 -15
comp=Z,0.0nm,0.3s,baz=151,slow=22,SNR=1.4
ARU Arti 19.34 99*d* *i*P **P** **21 59 52.0 -1.5**
ARU S **Sn** **22 03 30.8 +0.1**
ARU pmax pmax
comp=Z,9.0nm,0.5s
ARU Arti 19.34 99 **P** **21 59 51.5 -2.0**
COVR Voineasa-Covas 19.35 172 ⇑P **Pn** **21 59 56.4 +1.5**
VRI Vrincioaia 19.36 171 ⇑P **Pn** **21 59 55.5 +0.5**
VRI Vrincioaia 19.36 171 ⇑P **Pn** **21 59 55.5 +0.5**
PLOR Plostina 19.38 171 ⇓P **Pn** **21 59 54.8 -0.4**
PLOR Plostina 19.38 171 ⇓P **Pn** **21 59 54.8 -0.4**
PANC Panciu 19.39 170 ⇑P **Pn** **21 59 56.3 +1.1**
BZS Buzias 19.48 182 ⇑P **Pn** **21 59 59.7 +3.3**
BZS Buzias 19.48 182 ⇑P **Pn** **21 59 59.7 +3.3**
VLDR Vladesti 19.49 168 ⇓P **Pn** **21 59 57.7 +1.3**
DAVOX Davos/Dischmat 19.56 207 Pn **P** **21 59 56.6 +0.4**
comp=Z,0.1nm,0.3s,baz=349,slow=18,SNR=1.6
DAVOX LR LR 22 07 56.5
comp=Z,86nm,18.1s,baz=16,slow=38
SCTR Scanteiesti 19.65 169 ⇑P **Pn** **22 00 00.0 +1.7**
MLR Muntele Rosu 19.69 173 ⇓P **Pn** **22 00 00.4 +1.4**
MLR Muntele Rosu 19.69 173 P **Pn** **21 59 58.6 -0.4**
comp=Z,0.4nm,0.3s,baz=190,slow=3.5,SNR=8.6
MLR Muntele Rosu 19.69 173 ⇓P **Pn** **22 00 00.4 +1.4**
GZR Gura Zlata 19.70 179 ⇑P **Pn** **22 00 03.1 +4.0**
GZR Gura Zlata 19.70 179 ⇑P **Pn** **22 00 03.1 +4.0**
SLCR Slobozia Conac 19.72 169 ⇓P **Pn** **22 00 00.4 +1.3**
ARR Arges 19.76 176 ⇓P **Pn** **22 00 02.9 +3.1**
IZVR Izvoarele 19.76 169 ⇑P **Pn** **22 00 01.3 +1.6**
NEHR Nehoiu 19.78 172 ⇓P **Pn** **22 00 01.9 +2.0**
CTI Castel Tesino 19.96 203 P **Pn** **22 00 01.6 -0.5**
CTI pmax pmax
comp=Z,7.0nm,0.7s
CTI Castel Tesino 19.96 203 **Pn** **22 00 01.6 -0.5**
CTI IAmb IAmb 22 00 12.8
comp=Z,6.5nm,0.7s
TUE Stuetta 19.96 207 P **P** **22 00 00.2 -0.3**
TRI Trieste 19.98 198 P **P** **21 59 58.8 -1.7**
TRI pmax pmax
comp=Z,9.0nm,0.5s
TRI Trieste 19.98 198 **P** **21 59 58.8 -1.7**
CFR Carcaliu 20.16 168 ⇑P **Pn** **22 00 06.9 +2.6**
CFR Carcaliu 20.16 168 ⇑P **Pn** **22 00 06.9 +2.6**
TLCR 20.21 167 ⇓P **Pn** **22 00 05.6 +0.7**
TLCR 20.21 167 ⇓P **Pn** **22 00 05.6 +0.6**
HERR Herculane 20.21 180 ⇓P **Pn** **22 00 08.4 +3.4**
CLF Chambon-Foret 20.23 222 P **P** **22 00 03.2 0.0**
CLF IAmb IAmb 22 00 15.8
comp=Z,15nm,1.3s
TPGR Topolog 20.50 168 ⇓P Pn 22 00 11.0 +2.6
HARR Harsova 20.62 169 ⇑P **Pn** **22 00 10.3 +0.5**
HARR Harsova 20.62 169 ⇑P Pn 22 00 10.3 +0.5
TEOL Teolo 20.62 202 P **P** **22 00 08.2 +0.7**
TIRR Tirgusor 20.89 168 P **P** **22 00 10.8 +0.4**
TIRR pmax pmax
comp=Z,70nm,1.1s
TIRR Tirgusor 20.89 168 P **P** **22 00 10.8 +0.4**
DIVS Divibare 21.04 185 P **P** **22 00 13.8 +1.6**
BNI Bardonecchia 21.87 211 P **P** **22 00 21.8 +0.7**
BNI pmax pmax
comp=Z,8.0nm,1.4s
BNI Bardonecchia 21.87 211 P **P** **22 00 21.8 +0.7**
MSSA Maissana 22.01 206 P **P** **22 00 23.7 +1.2**
MSSA IAmb IAmb 22 00 33.0
comp=Z,10.0nm,0.9s
SSB Saint Sauveur 22.16 215 P **P** **22 00 23.8 -0.2**
SSB pmax pmax
comp=Z,10.0nm,1.4s
SSB Saint Sauveur 22.16 215 P **P** **22 00 23.8 -0.2**
SSB IAmb IAmb 22 00 41.0
comp=Z,10.0nm,1.4s
VTS Vitosha 22.48 179 P **P** **22 00 27.8 +0.2**
VTS pmax pmax
comp=Z,8.0nm,1.3s
VTS Vitosha 22.48 179 P **P** **22 00 27.8 +0.2**
VTS IAmb IAmb 22 00 40.1
comp=Z,8.2nm,1.3s
OSSC Osservatorio P 22.48 202 P **P** **22 00 28.6 +1.1**
OSSC IAmb IAmb 22 00 38.5
comp=Z,7.2nm,0.8s
MURB Monte Urbino 22.55 199 P **P** **22 00 29.1 +0.8**

MURB				IAmb	IAmb	22 00 41.1	
	comp=Z,8.0nm,0.8s						
CASP	**Castiglione de**	**23.26**	**202**	P	**P**	**22 00 36.1**	**+0.6**
CASP				IAmb	IAmb	22 00 47.0	
	comp=Z,5.2nm,0.8s						
AKTO	**Aktyubinsk**	**23.50**	**111**	P	**P**	**22 00 37.5**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=309,slow=5.8,SNR=8.1						
KIV	**Kislovodsk**	**23.94**	**142**	*eP*	**P**	**22 00 42.0**	**-0.3**
KIV				eS	S	**22 04 59.1**	**+1.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,33nm,14.0s						
KIV	**Kislovodsk**	**23.94**	**142**	P	**P**	**22 00 42.8**	**+0.5**
SHA1	**Shidzhatmaz**	**24.14**	**142**	*i* P	**P**	**22 00 46.0**	**+1.7**
KBZ	**Khabaz**	**24.21**	**142**	P	**P**	**22 00 50.3**	**+5.7**
	comp=Z,1.3nm,0.4s,baz=326,slow=5.5,SNR=9.4						
KBZ	**Khabaz**	**24.21**	**142**	*i* P	**P**	**22 00 46.0**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,11nm,1.0s						
FNA	**Florina**	**24.32**	**182**	P	**P**	**22 00 46.0**	**+0.3**
FNA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FNA	**Florina**	**24.32**	**182**	P	**P**	**22 00 46.0**	**+0.3**
FNA				IAmb	IAmb	22 00 53.5	
	comp=Z,7.1nm,1.2s						
ABKAR	**Akbulak array**	**25.19**	**111**	P	**P**	**22 00 54.2**	**+0.7**
ABKAR				IAmb	IAmb	22 01 12.0	
	comp=Z,3.1nm,0.8s						
ABKAR	**Akbulak array**	**25.19**	**111**	P	**P**	**22 00 53.6**	**+0.1**
BR131	**Keskin Array S**	**26.17**	**160**	P	**P**	**22 01 03.8**	**+1.1**
BR131				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BR131	**Keskin Array S**	**26.17**	**160**	P	**P**	**22 01 03.8**	**+1.1**
BR131				IAmb	IAmb	22 01 15.5	
	comp=Z,5.9nm,0.9s						
BRTR	**Keskin Array B**	**26.17**	**160**	P	**P**	**22 01 04.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=336,slow=7.5,SNR=5.0						
BRTR	**Keskin Array B**	**26.17**	**160**	P	**P**	**22 01 04.0**	**+1.3**
BRVK	**Borovoye**	**26.60**	**94**	*i* P	**P**	**22 01 10.0**	**+3.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**26.67**	**94**	P	**P**	**22 01 10.9**	**+4.0**
	comp=Z,0.3nm,0.4s,baz=10,slow=20,SNR=2.1						
ESDC	**Sonseca Array**	**29.68**	**224**	LR	LR	22 15 15.5	
	comp=Z,60nm,19.1s,baz=336,slow=40						
KURK	**Kurchatov**	**31.85**	**89**	*i* P	**P**	**22 01 54.5**	**+1.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**31.85**	**89**	P	**P**	**22 01 54.2**	**+1.4**
KURBB	**Kurchatov Arra**	**31.88**	**90**	P	**P**	**22 01 54.0**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=312,slow=10,SNR=6.8						
ZALV	**Zalesovo Beam**	**32.11**	**80**	P	**P**	**22 01 56.1**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=308,slow=7.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**32.11**	**80**	P	**P**	**22 01 55.9**	**+0.8**
KKAR	**Karatay Array**	**34.46**	**106**	P	**P**	**22 02 17.2**	**+1.5**
KKAR	**Karatay Array**	**34.46**	**106**	P	**P**	**22 02 17.2**	**+1.5**
TIXI	**Tiksi**	**34.80**	**32**	*ce*P	**P**	**22 02 20.3**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	**Tiksi**	**34.80**	**32**	P	**P**	**22 02 19.6**	**+1.3**
TIXI				IAmb	IAmb	22 02 20.5	
	comp=Z,2.1nm,0.8s						
FRB	**Frobisher Bay**	**36.14**	**311**	P	**P**	**22 02 29.7**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=33,slow=8.8,SNR=4.7						
MAKZ	**Makanchi**	**36.27**	**91**	P	**P**	**22 02 32.3**	**+1.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAKZ	**Makanchi**	**36.27**	**91**	P	**P**	**22 02 32.3**	**+1.1**
MAKZ				IAmb	IAmb	22 02 41.8	
	comp=Z,3.7nm,0.8s						
MK31	**Makanchi Array**	**36.41**	**90**	P	**P**	**22 02 33.2**	**+0.7**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	**36.41**	**90**	P	**P**	**22 02 33.1**	**+0.7**
MKAR	**Makanchi Array**	**36.41**	**90**	P	**P**	**22 02 33.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=337,slow=5.8,SNR=8.5						
WMQ	**Urumqi**	**41.08**	**88**	*eP*	**P**	**22 03 14.9**	**+3.2**
A36M	**Sachs Harbour**	**41.50**	**346**	P	**P**	**22 03 15.0**	**+0.4**
SCHQ	**Schefferville**	**42.15**	**300**	P	**P**	**22 03 19.9**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=25,slow=4.7,SNR=13						
SCHQ	**Schefferville**	**42.15**	**300**	P	**P**	**22 03 19.8**	**-0.4**
SCHQ				IAmb	IAmb	22 03 22.5	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**45.59**	**70**	P	**P**	**22 03 50.0**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=314,slow=9.2,SNR=13						
SONM	**Songino Array**	**45.59**	**70**	P	**P**	**22 03 50.0**	**+1.9**
SONM				IAmb	IAmb	22 03 59.6	
	comp=Z,1.8nm,0.8s						
SEY	**Seymchan**	**47.08**	**29**	P	**P**	**22 04 00.5**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=271,slow=9.9,SNR=6.1						
YKA	**Yellowknife Ar**	**48.88**	**335**	P	**P**	**22 04 13.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=17,slow=8.4,SNR=15						
YKA	**Yellowknife Ar**	**48.88**	**335**	P	**P**	**22 04 13.2**	**-0.1**
YKA	**Yellowknife Ar**	**48.88**	**335**	P	**P**	**22 04 13.2**	**-0.1**
H21K	**Melozitna Rive**	**49.54**	**357**	P	**P**	**22 04 19.1**	**+0.8**
H21K				IAmb	IAmb	22 04 21.0	
	comp=Z,2.2nm,0.7s						
MA2	**Magadan**	**49.77**	**32**	P	**P**	**22 04 20.8**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=360,slow=7.1,SNR=6.8						
MA2	**Magadan**	**49.77**	**32**	*ce*P	**P**	**22 04 21.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,6.0nm,2.5s						
GTA	**Gaotai**	**49.84**	**81**	*eP*	P	22 04 31.4	+10
GTA				pP	sP	22 04 36.8	+6.7
GTA				sP	pP	22 04 40.3	+13
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ILAR	**Eielson Array**	**50.25**	**354**	P	**P**	**22 04 24.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=359,slow=6.5,SNR=13						
ILAR	**Eielson Array**	**50.25**	**354**	P	**P**	**22 04 24.3**	**+0.6**
ILAR	**Eielson Array**	**50.25**	**354**	P	**P**	**22 04 24.3**	**+0.6**
DAWY	**Dawson**	**50.50**	**350**	P	**P**	**22 04 26.3**	**+0.5**
ANM	**Nome**	**50.55**	**4**	P	**P**	**22 04 27.1**	**+1.1**
ANM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANM	**Nome**	**50.55**	**4**	P	**P**	**22 04 27.1**	**+1.1**
ANM				IAmb	IAmb	22 04 28.4	
	comp=Z,3.1nm,0.8s						
BCAR	**Beaver Creek A**	**51.66**	**351**	P	**P**	**22 04 35.2**	**+0.7**
RND	**Reindeer**	**51.69**	**355**	P	**P**	**22 04 38.8**	**+4.1**
RND				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RND	**Reindeer**	**51.69**	**355**		**P**	**22 04 38.8**	**+4.1**
HHC	**Hu-ho-hao-te**	**53.45**	**71**	*eP*	**P**	**22 04 49.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,5.0s						
KOWA	**Kowa**	**53.65**	**213**	P	**P**	**22 04 50.8**	**+1.2**
KOWA				IAmb	IAmb	22 04 54.7	
	comp=Z,3.7nm,1.2s						
TOA0	**Torodi Ar. Sit**	**53.78**	**205**	P	**P**	**22 04 51.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**53.78**	**205**	P	**P**	**22 04 50.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=9.2,slow=7.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**53.78**	**205**	P	**P**	**22 04 51.1**	**+0.6**
TORD				IAmb	IAmb	22 04 59.9	
	comp=Z,2.3nm,1.0s						
LZH	**Lanzhou**	**54.34**	**80**	*eP*	P	22 05 08.1	+13
LZH				pP	sP	22 05 14.8	+11
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
KDAK	**Kodiak Island**	**57.43**	**357**	P	**P**	**22 05 17.2**	**+0.9**
	comp=Z,7.4nm,0.5s,baz=26,slow=4.8,SNR=7.1						
KSRS	**Korea Array**	**62.69**	**60**	P	**P**	**22 05 53.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=332,slow=6.9,SNR=2.5						
PDAR	**Pinedale Array**	**66.22**	**323**	P	**P**	**22 06 16.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=50,slow=7.9,SNR=4.7						
HLID	**Hailey**	**66.64**	**327**	P	**P**	**22 06 19.0**	**+0.5**
HLID				IAmb	IAmb	22 06 20.0	
	comp=Z,1.2nm,0.6s						
MJAR	**Matsushiro Arr**	**67.12**	**52**	LR	LR	22 37 17.3	
	comp=Z,24nm,20.4s,baz=23,slow=37						
ASAR	**Alice Springs**	**120.21**	**81**	PKP	**PKPdf**	**22 14 18.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=4.9,slow=2.4,SNR=1.7						

NEIC ***19*** *22:00:28.2±1.6,51°.25N±0°.04×173°.83W±0°.08,h10km±1km, Error ellipse: s-maj=9.1km s-min=6.8km az=243.0*
AEIC ***19*** *22:00:30±1.9,51°.34N±0°.05×173°.97W±0°.05,h14km±3km, ML3.5,mb4.1/39(NEIC),Error ellipse: s-maj=7.3km s-min=3.8km az=201.0*
IDC ***19*** *22:00:32.0±1.1,52°.32N×174°.57W,h0km,mb3.6/11, mb1 3.8/13,mb1mx3.7/66,mbtmp3.6/13,ML3.9/2,MS3.4/5,*

Ms1 3.4/5,ms1mx2.7/87,Error ellipse: s-maj=39.9km s-min=16.0km az=176.0

ISC 19 22:00:32.5±0.7,51°.36N±0°.08×173°.87W±0°.05,h35km,n88,σ1s08/79,mb3.8/15,MS3.6/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.87**	**347**		**Pn**	**22 00 47.2**	**-1.0**
ATKA					**Sn**	**22 01 00.1**	**+0.4**
KOFP	**Korovin Flat P**	**0.93**	**351**		**Pn**	**22 00 48.8**	**-0.3**
KOKL	**Mount Kliuchef**	**0.99**	**348**		**Pn**	**22 00 49.6**	**-0.3**
KOKL					**Sn**	**22 01 04.5**	**+1.7**
GSMY	**Great Sitkin M**	**1.53**	**298**		**Pn**	**22 00 56.4**	**-0.9**
GSTR	**Great Sitkin T**	**1.55**	**299**		**Pn**	**22 00 56.7**	**-0.9**
GSCK	**Great Sitkin C**	**1.57**	**296**		**Pn**	**22 00 56.8**	**-1.1**
GSTD	**Great Sitkin T**	**1.58**	**297**		**Pn**	**22 00 57.0**	**-1.0**
GSTD					**Sn**	**22 01 17.2**	**-0.1**
ADAG	**Mount Adagdak**	**1.81**	**291**		**Pn**	**22 01 00.6**	**-0.5**
ADK	**Adak**	**1.83**	**288**		**Pn**	**22 01 00.3**	**-1.1**
ADK	**Adak**	**1.83**	**288**		**Sn**	**22 01 22.4**	**-0.9**
KIWB	**Kanaga Island**	**2.11**	**285**		**Pn**	**22 01 05.0**	**-0.2**
KIKV	**Kanaga Island**	**2.13**	**286**		**Pn**	**22 01 05.3**	**-0.1**
KIMD	**Kanaga Island**	**2.14**	**282**		**Pn**	**22 01 05.3**	**-0.3**
TAPA	**Tanaga Point A**	**2.50**	**282**		**Pn**	**22 01 10.5**	**-0.2**
TAFP	**Tanaga Falls P**	**2.62**	**284**		**Pn**	**22 01 12.6**	**+0.3**
TAFP					**Sn**	**22 01 44.3**	**+1.4**
TASE	**Tanaga Southea**	**2.65**	**282**		**Pn**	**22 01 13.0**	**+0.4**
NIKH	**Nikolski High**	**3.48**	**60**	Pn	**Pn**	**22 01 23.5**	**-0.6**
UNV	**Unalaska Valle**	**5.13**	**58**	Pn	**Pn**	**22 01 45.3**	**-1.4**
KDAK	**Kodiak Island**	**13.89**	**54**	Pn	**Pn**	**22 03 49.4**	**+2.9**
	0.4nm,0.3s,baz=260,slow=5.7,SNR=5.8						
KDAK				LR	LR	22 08 46.7	
	comp=Z,104nm,18.6s,baz=252,slow=36						
KDAK	**Kodiak Island**	**13.89**	**54**		**Pn**	**22 03 46.2**	**-0.3**
ANM	**Nome**	**13.97**	**15**	Pn	**Pn**	**22 03 49.7**	**+2.0**
TNA	**Tin City**	**14.57**	**10**	Pn	**Pn**	**22 03 57.2**	**+1.4**
M19K	**Big River Lodg**	**14.98**	**38**		**P**	**22 04 04.8**	**-1.6**
M19K				IAmb	IAmb	22 04 18.5	
	comp=Z,5.7nm,1.0s						
TTA	**Tatalina**	**15.04**	**33**		**P**	**22 04 06.6**	**-0.6**
TTA				IAmb	IAmb	22 04 29.9	
	comp=Z,14nm,1.5s						
CNPM	**China Poot**	**15.16**	**49**		**P**	**22 04 06.4**	**-2.0**
BRLK	**Bradley Lake**	**15.42**	**48**		**Pn**	**22 04 08.8**	**+1.7**
K20K	**Telida**	**15.99**	**34**		**Pn**	**22 04 15.3**	**+0.9**
SEW	**Seward**	**16.21**	**48**		**Pn**	**22 04 17.4**	**+0.2**
SEW				IAmb	IAmb	22 04 24.0	
	comp=Z,32nm,1.2s						
PPLA	**Purkeypile**	**16.39**	**37**		**Pn**	**22 04 20.9**	**+1.2**
PPLA				IAmb	IAmb	22 04 31.6	
	comp=Z,19nm,1.4s						
RC01	**Rabbit Creek A**	**16.48**	**44**		**Pn**	**22 04 20.9**	**+0.2**
RC01				IAmb	IAmb	22 04 43.7	
	comp=Z,34nm,1.4s						
J20K	**Nowinta River**	**16.50**	**31**	Pn	**Pn**	**22 04 21.3**	**+0.4**
CAST	**Castle Rocks**	**16.73**	**35**	P	**P**	**22 04 25.4**	**-0.4**
CAST				IAmb	IAmb	22 04 37.0	
	comp=Z,5.9nm,0.6s						
GHO	**Glory Hole Cre**	**17.13**	**43**		**Pn**	**22 04 29.5**	**+0.6**
GHO				IAmb	IAmb	22 04 34.3	
	comp=Z,33nm,1.5s						
KNK	**Knik Glacier**	**17.18**	**44**		**Pn**	**22 04 28.9**	**-0.6**
KNK				IAmb	IAmb	22 04 44.7	
	comp=Z,33nm,1.4s						
KTH	**Kantishna Hill**	**17.24**	**36**		**P**	**22 04 31.2**	**-0.3**
KTH				IAmb	IAmb	22 04 53.6	
	comp=Z,15nm,1.3s						
SML	**Sawmill**	**17.40**	**43**	Pn	**Pn**	**22 04 32.6**	**+0.4**
SML				IAmb	IAmb	22 04 42.8	
	comp=Z,10nm,1.2s						
TRF	**Thorofare Moun**	**17.42**	**37**	P	**P**	**22 04 33.6**	**0.0**
SCM	**Sheep Creek Mo**	**17.85**	**44**		**Pn**	**22 04 36.2**	**-1.5**
SCM				IAmb	IAmb	22 04 47.0	
	comp=Z,36nm,1.4s						
KLU	**Klutina**	**18.34**	**46**		**P**	**22 04 42.6**	**-0.9**
WRH	**Wood River Hil**	**18.79**	**36**	P	**P**	**22 04 48.0**	**-0.4**
CCB	**Clear Creek Bu**	**18.98**	**36**	P	**P**	**22 04 48.0**	**-2.6**
HDA	**Harding Lake**	**19.18**	**37**	P	**P**	**22 04 52.5**	**-0.2**
HDA				IAmb	IAmb	22 04 54.4	
	comp=Z,10nm,1.1s						
IL31		**19.39**	**36**	P	**P**	**22 04 54.5**	**-0.4**
ILAR	**Eielson Array**	**19.39**	**36**	P	**P**	**22 04 54.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=236,slow=9.6,SNR=20						
ILAR				LR	LR	22 12 55.8	
	comp=Z,72nm,18.1s,baz=326,slow=39						
WAX	**Waxell Ridge**	**19.45**	**50**		**P**	**22 04 55.0**	**-0.8**
RIDG	**Independent Ri**	**19.68**	**40**		**P**	**22 04 58.8**	**+0.5**
RIDG				IAmb	IAmb	22 05 19.6	
	comp=Z,8.2nm,1.1s						
DOT	**Dot Lake**	**19.96**	**41**	P	**P**	**22 05 01.3**	**0.0**
DOT				IAmb	IAmb	22 05 08.1	
	comp=Z,5.4nm,1.0s						
SCRK	**Sand Creek**	**20.13**	**40**		**P**	**22 05 02.1**	**-1.1**
TOLK	**Toolik Lake Re**	**20.90**	**25**	P	**P**	**22 05 11.6**	**+0.2**
TOLK				IAmb	IAmb	22 05 19.8	
	comp=Z,6.3nm,1.0s						
BMAR	**Burnt Mountain**	**21.61**	**31**		**P**	**22 05 18.0**	**-1.0**
YKA	**Yellowknife Ar**	**32.99**	**47**	P	**P**	**22 07 03.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=282,slow=9.4,SNR=4.1						
YKA				PcP	**PcP**	**22 09 47.9**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=296,slow=2.2,SNR=2.2						
YKA	**Yellowknife Ar**	**32.99**	**47**	P	**P**	**22 07 03.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**35.00**	**213**	T	T	22 45 13.9	
	baz=20,slow=76,SNR=2.6						
H11N3	**WAKE ISLAND Hy**	**35.01**	**213**	T	T	22 45 13.3	
	baz=20,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**35.02**	**213**	T	T	22 45 14.5	
	baz=20,slow=76,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**36.20**	**212**	T	T	22 46 45.7	
	baz=19,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	22 46 46.6	
	baz=19,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**36.22**	**212**	T	T	22 46 46.5	
	baz=19,slow=75,SNR=9.4						
K05A	**Summer Lake**	**36.40**	**82**	P	**P**	**22 07 32.0**	**-1.6**
K05A				IAmb	IAmb	22 07 32.5	
	comp=Z,5.8nm,1.3s						
MJAR	**Matsushiro Arr**	**36.85**	**265**	P	**P**	**22 07 40.0**	**+2.8**
	comp=Z,1.1nm,0.8s,baz=42,slow=11,SNR=1.8						
RES	**Resolute Bay**	**38.48**	**25**	LR	LR	22 26 30.5	
	comp=Z,44nm,18.1s,baz=166,slow=41						
NVAR	**Mina Array Bea**	**40.48**	**86**	P	P	22 08 16.3	+8.5
	comp=Z,0.3nm,0.6s,baz=283,slow=9.2,SNR=2.5						
KSRS	**Korea Array**	**42.73**	**274**	P	**P**	**22 08 25.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=59,slow=9.7,SNR=3.1						
PDAR	**Pinedale Array**	**43.35**	**75**	P	P	22 08 37.3	+6.0
	comp=Z,1.0nm,0.7s,baz=302,slow=2.4,SNR=4.9						
PDAR	**Pinedale Array**	**43.35**	**75**		**P**	**22 08 32.1**	**+0.8**
SONM	**Songino Array**	**49.39**	**299**	P	**P**	**22 09 16.8**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=44,slow=7.4,SNR=5.6						
SONM				LR	LR	22 31 35.1	
	comp=Z,53nm,18.7s,baz=24,slow=38						
SONM	**Songino Array**	**49.39**	**299**	P	**P**	**22 09 17.9**	**-0.6**
SONM				IAmb	IAmb	22 09 19.2	
	comp=Z,1.4nm,1.0s						
TXAR	**Lajitas Array**	**55.59**	**85**	P	P	22 10 12.8	+8.3
	comp=Z,0.3nm,0.7s,baz=317,slow=7.4,SNR=2.4						
KURK	**Kurchatov**	**61.23**	**316**	P	**P**	**22 10 42.7**	**-0.7**
MK31	**Makanchi Array**	**62.42**	**311**	P	**P**	**22 10 50.6**	**-1.0**
MK31				IAmb	IAmb	22 11 05.1	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**62.42**	**311**	P	**P**	**22 10 50.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=43,slow=6.4,SNR=14						
BVAR	**Borovoye Array**	**62.85**	**322**	P	**P**	**22 10 52.5**	**-1.9**
	comp=Z,1.6nm,0.9s,baz=14,slow=2.6,SNR=1.9						
TKL	**Tuckaleechee C**	**63.17**	**66**	LR	LR	22 37 10.3	
	comp=Z,41nm,18.6s,baz=175,slow=35						
N59A	**State Game Lan**	**63.81**	**57**	P	**P**	**22 11 01.6**	**+0.7**
ABKAR	**Akbulak array**	**69.76**	**326**	P	**P**	**22 11 38.2**	**-0.4**
ABKAR	**Akbulak array**	**69.76**	**326**	P	**P**	**22 11 38.4**	**-0.2**
KKAR	**Karatay Array**	**70.62**	**316**	P	**P**	**22 11 43.7**	**-0.4**
PABE	**Paberze**	**72.48**	**349**	P	**P**	**22 11 54.3**	**-0.6**
AKASG	**Malin Array Be**	**76.44**	**345**	P	**P**	**22 12 17.3**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=17,slow=6.0,SNR=5.4						
GERES	**GERESS Array B**	**79.97**	**355**	P	**P**	**22 12 36.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=24,slow=7.7,SNR=2.4						
BUR08	**Bucovina Ar. S**	**80.03**	**347**	P	**P**	**22 12 38.1**	**0.0**
BUR08				IAmb	IAmb	22 12 42.5	
	comp=Z,4.1nm,1.3s						
BURAR	**Bucovina Array**	**80.06**	**347**	P	**P**	**22 12 38.5**	**+0.2**
BURAR				IAmb	IAmb	22 12 39.0	
	comp=Z,1.3nm,0.7s						
MLR	**Muntele Rosu**	**82.03**	**346**	P	**P**	**22 12 48.8**	**0.0**
BNI	**Bardonecchia**	**83.97**	**360**	P	**P**	**22 12 59.8**	**+1.0**
H03N2	**Juan Fernandez**	**118.19**	**109**	T	T	00 28 58.3	
	baz=319						
H03N1	**Juan Fernandez**	**118.20**	**109**	T	T	00 29 02.2	
	baz=319						
H03N3	**Juan Fernandez**	**118.20**	**109**	T	T	00 29 02.4	
	baz=319						
BOSA	**Boshof**	**153.13**	**320**	PKPbc	**PKiKP**	**22 20 28.8**	**+2.4**
	comp=Z,2.6nm,1.0s,baz=7.3,slow=4.5,SNR=4.1						

DJA ***19*** *22:03:34.9±0.6,1°.S±2°×12°.3E±°,h27km±5km,M4.6/21, mB5.2/6,mb4.7/18,MLv4.7/21,Mw(mB)4.6/6*
NEIC ***19*** *22:03:35.2±2.0,0°.56S±0°.05×123°.29E±0°.06,h31km±3km, mb4.2/18,Error ellipse: s-maj=8.8km s-min=6.0km az=120.0*
IDC ***19*** *22:03:36.8±2.2,0°.71S×123°.28E,h63km±24km,mb3.5/7, mb1 3.8/9,mb1mx3.5/43,mbtmp4.0/9,ML5.0/2,MS3.0/4, Ms1 3.0/4,ms1mx2.6/42,Error ellipse: s-maj=19.9km s-min=15.1km az=93.0*

ISC 19 22:03:35.9±0.8,0°.59S±0°.04×123°.27E±0°.04,h47km±9km,n88,σ1s48/92,mb4.2/23,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.67**	**228**		**Pn**	**22 03 47.9**	**-1.2**
LUWI					**Sn**	**22 03 58.8**	**+0.1**
LUWI	**Luwuk**	**0.67**	**228**	P	**Pn**	**22 03 48.5**	**-0.6**
LUWI				S	**Sn**	**22 03 58.5**	**-0.2**
LUWI	**Luwuk**	**0.67**	**228**	P	**Pn**	**22 03 48.8**	**-0.3**
GTOI	**Gorontalo**	**1.25**	**348**	P	**Pn**	**22 03 56.6**	**-0.3**
GTOI				S	**Sn**	**22 04 12.8**	**+0.2**
KMSI	**Cibinong**	**1.36**	**32**	P	**Pn**	**22 03 56.8**	**-1.7**
KMSI				S	**Sn**	**22 04 13.8**	**-1.5**
APSI	**Ampana**	**1.65**	**259**	P	**Pn**	**22 04 02.6**	**+0.1**
APSI				S	**Sn**	**22 04 23.5**	**+1.0**
MRSI	**Marisa**	**1.70**	**309**	P	**Pn**	**22 04 00.7**	**-2.4**
MRSI				S	**Sn**	**22 04 20.0**	**-3.7**
TOLI2	**Tolitoli**	**3.01**	**304**	Pn	**Pn**	**22 04 20.1**	**-1.0**
TOLI2	**Tolitoli**	**3.01**	**304**	P	**Pn**	**22 04 21.7**	**+0.6**
SANI	**Sanana**	**3.08**	**118**	P	**Pn**	**22 04 20.4**	**-1.7**
SANI				S	**Sn**	**22 04 55.7**	**-2.0**
MPSI	**Mapaga**	**3.50**	**285**	P	**Pn**	**22 04 27.6**	**-0.2**
TTSI	**Tana Toraja**	**4.22**	**235**	P	**Pn**	**22 04 37.8**	**0.0**
LBMI	**Labuha**	**4.23**	**91**	P	**Pn**	**22 04 40.2**	**+2.3**
TNTI	**Ternate**	**4.32**	**72**	Pn	**Pn**	**22 04 37.8**	**-1.3**
TNTI	**Ternate**	**4.32**	**72**	P	**Pn**	**22 04 39.9**	**+0.9**
TNTI	**Ternate**	**4.32**	**72**	P	**Pn**	**22 04 42.3**	**+3.3**
SPSI	**Sidrap Palu**	**4.84**	**226**	P	**Pn**	**22 04 46.8**	**+0.5**
BBSI	**Bau Bau**	**4.91**	**188**	P	**Pn**	**22 04 48.6**	**+1.3**
BNSI	**Bone**	**4.93**	**220**	P	**Pn**	**22 04 48.2**	**+0.7**
KAPI	**Kappang**	**5.63**	**219**	P	**Pn**	**22 04 58.1**	**+1.0**
	34nm,0.3s,baz=356,slow=7.3,SNR=99						
KAPI				S	**Sn**	**22 05 58.2**	**-2.2**
	3.7nm,0.3s,baz=118,slow=24,SNR=1.2						
KAPI	**Kappang**	**5.63**	**219**	Pn	**Pn**	**22 04 57.4**	**+0.3**
KAPI	**Kappang**	**5.63**	**219**	P	**Pn**	**22 04 58.2**	**+1.1**
BKSI	**Bulukumba**	**5.65**	**214**	P	**Pn**	**22 04 58.1**	**+0.7**
	0.4nm1μm95nm,0.6s						
AAI	**Ambon**	**5.80**	**122**	P	**Pn**	**22 05 01.1**	**+1.6**
	0.3nm68nm,0.8s						
BSSI	**Bau Bau, Buton**	**6.17**	**207**	P	**Pn**	**22 05 05.3**	**+0.7**
	1.0nm3μm234nm,0.8s						
MSAI	**Masohi**	**6.28**	**116**	P	Pn	22 05 22.7	+17
MYLDM	**Lahad Datu**	**7.45**	**320**	Pn	**Pn**	**22 05 20.1**	**-2.0**
KCP	**Kidapawan**	**7.76**	**13**	*eP*	**Pn**	**22 05 28.4**	**+2.0**
DAV	**

GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
JIRN	**Jiri**	**45.34**	**311**	*e*P	**P**	**22 11 47.9**	**-2.3**
	comp=Z,1.6nm,0.3s						
GUN	**Gumba**	**45.71**	**311**	*e*P	**P**	**22 11 50.8**	**-2.2**
	comp=Z,3.3nm,0.4s						
DANN	**Dangsing**	**47.53**	**311**	*e*P	**P**	**22 12 05.9**	**-1.4**
	comp=Z,3.7nm,0.4s						
PYUN	**Piuthan**	**48.00**	**310**	*e*P	**P**	**22 12 10.5**	**-0.3**
	comp=Z,6.4nm,0.5s						
SONM	**Songino Array**	**50.42**	**345**	P	**P**	**22 12 28.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=168,slow=9.5,SNR=7.4						
SONM	**Songino Array**	**50.42**	**345**	P	**P**	**22 12 29.2**	**+0.4**
WMQ	**Urumqi**	**54.43**	**329**	*e*P	**P**	**22 13 02.3**	**+3.7**
MKAR	**Makanchi Array**	**59.25**	**328**	P	**P**	**22 13 31.0**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=128,slow=6.6,SNR=2.1						
MKAR	**Makanchi Array**	**59.25**	**328**	P	**P**	**22 13 33.0**	**+0.3**
KURK	**Kurchatov**	**63.62**	**330**	P	**P**	**22 14 00.4**	**-1.6**
MA2	**Magadan**	**63.73**	**15**	P	**P**	**22 14 02.3**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=308,slow=22,SNR=2.8						
ABKAR	**Akbulak array**	**73.36**	**322**	P	**P**	**22 15 05.6**	**+2.8**

*SOME **19** 22:10:28.5, 42˚.25N ± 0˚.60E, h15km*
*KRNET **19** 22:10:29.8 ± 0.1, 42˚.35N ± 0˚.68E, mb2.8*
*NNC **19** 22:10:30.0 ± 3.1, 42˚.30N ± 0˚.42E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=29.4km s-min=8.2km az=151.0*

ISC 19 22:10:34.3 ± 1.9, **42˚.47N** ± 0˚.07 × **80˚.50E** ± 0˚.07, **h10km, n27, σ1s75/50, 12C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.98**	**354**	*e*P	**Pg**	**22 10 51.3**	**-1.9**
KTMS	1.5nm,0.0s			*e*S	**Sb**	**22 11 07.4**	**+0.9**
	4.7nm,0.2s						
SHLS	**Shalkode**	**1.02**	**312**	*e*P	Pg	22 10 48.5	-5.5
SHLS	7.8nm,0.0s			*e*S	**Sg**	**22 11 03.2**	**-4.2**
	27nm,0.1s						
SATY	**Saty**	**1.65**	**292**	*e*P	**Pn**	**22 11 02.7**	**-0.8**
SATY	1.8nm,0.2s			*e*S	**Sg**	**22 11 27.5**	**+0.2**
	15nm,0.1s						
KPKS	**Kokpek**	**1.66**	**307**	*e*P	**Pn**	**22 11 02.7**	**-0.9**
KPKS	2.6nm,0.0s			*e*S	**Sg**	**22 11 27.2**	**-0.6**
	48nm,0.2s						
ZHN	**Zhinishke**	**1.67**	**295**	*e*P	**Pn**	**22 11 02.5**	**-1.2**
ZHN	6.7nm,0.2s			*e*S	**Sb**	**22 11 26.8**	**+0.4**
	27nm,0.2s						
DJR	**Jarkent**	**1.93**	**345**	*e*P	**Pn**	**22 11 08.2**	**+0.9**
DJR	2.3nm,0.1s			*e*S	**Sg**	**22 11 37.3**	**+1.0**
	4.7nm,0.1s						
KURS	**Kuram**	**1.99**	**301**	*e*P	**Pn**	**22 11 08.9**	**+0.8**
KURS	5.9nm,0.5s			*e*S	**Sg**	**22 11 38.1**	**-0.1**
	15nm,0.9s						
ANVS	**Anan'yevo**	**2.11**	**279**	⇓*e*P	**Pn**	**22 11 09.9**	**0.0**
ANVS	baz=82			⇓*e*S	**Sb**	**22 11 39.6**	**+0.4**
	baz=82						
BLB	**Baldybastay**	**2.19**	**318**	*e*P	**Pb**	**22 11 12.5**	**-1.6**
BLB	5.5nm,0.2s			*e*S	**Sg**	**22 11 44.3**	**-0.5**
	27nm,0.1s						
KDJ	**Kajisay**	**2.49**	**263**	⇓*i*P	**Pn**	**22 11 15.0**	**0.0**
KDJ	baz=66			⇓*i*S	**Sn**	**22 11 47.2**	**+1.7**
	baz=66						
KOTS	**Kotyrbulak**	**2.60**	**288**	*e*P	**Pn**	**22 11 18.5**	**+1.9**
KOTS	2.3nm,0.1s			*e*S	**Sb**	**22 11 54.9**	**+1.7**
	19nm,0.5s						
MDOK	**Medeo**	**2.63**	**286**	*e*P	**Pn**	**22 11 18.6**	**+1.6**
MDOK	2.0nm,0.5s			*e*S	**Sb**	**22 11 54.8**	**+0.7**
	8.5nm,0.6s						
MDOK	**Medeo**	**2.63**	**286**	⇑Pg	**Pn**	**22 11 17.8**	**+0.9**
MDOK	1.8nm,0.7s			⇑Lg	Lg	22 11 54.9	
	4.3nm,0.6s						
TNSS	**Tian-Shan**	**2.68**	**283**	*e*P	**Pn**	**22 11 19.0**	**+1.2**
TNSS	0.9nm,0.2s			*e*S	**Sb**	**22 11 55.2**	**-0.4**
	4.1nm,0.4s						
CHKK	**Chushkaly**	**2.92**	**299**	*e*P	**Pb**	**22 11 24.2**	**-2.2**
CHKK	0.6nm,0.1s			*e*S	**Sb**	**22 12 04.1**	**+2.0**
	6.2nm,0.3s						
KAPS	**Kapalarasan**	**2.93**	**344**	*e*P	**Pb**	**22 11 25.8**	**-0.8**
KAPS	1.2nm,0.3s			*e*S	**Sg**	**22 12 07.0**	**-1.5**
	2.0nm,0.1s						
KTBS	**Karatobe**	**3.06**	**295**	*e*P	**Pb**	**22 11 26.9**	**-2.0**
KTBS	1.1nm,0.4s			*e*S	**Sb**	**22 12 08.6**	**+2.3**
	16nm,0.1s						
ULHL	**Ulahol**	**3.16**	**267**	⇓*e*P	**Pn**	**22 11 24.1**	**-0.2**
ULHL	baz=70			⇓*i*S	**Sn**	**22 12 04.4**	**+2.1**
	baz=70						
KUU	**Kurty**	**3.36**	**296**	*e*P	**Pb**	**22 11 32.0**	**-1.9**
KUU	0.6nm,0.1s			*e*S	**Sb**	**22 12 16.8**	**+2.0**
	3.7nm,0.0s						
BOOM	**Boomskoye usch**	**3.37**	**272**	⇑*i*P	**Pn**	**22 11 27.4**	**+0.2**
BOOM	baz=74			⇑*i*S	**Sn**	**22 12 09.3**	**+1.9**
	baz=74						
KST	**Kastek**	**3.39**	**281**	*e*P	**Pb**	**22 11 32.1**	**-2.4**
KST	1.0nm,0.0s			*e*S	**Sb**	**22 12 17.6**	**+1.8**
	4.5nm,0.5s						
DGS	**Degeres**	**3.56**	**284**	*e*P	**Pb**	**22 11 34.8**	**-2.6**
DGS	0.8nm,0.1s			*e*S	**Sb**	**22 12 21.9**	**+1.2**
	5.8nm,0.2s						
TKM2	**Tokmak 2**	**3.64**	**279**	⇑*e*P	**Pn**	**22 11 31.3**	**+0.4**
TKM2	baz=80			⇑*e*S	**Sn**	**22 12 16.2**	**+2.2**
	baz=80						
TKM2	**Tokmak 2**	**3.64**	**279**	⇑Pg	**Pn**	**22 11 34.4**	**+3.5**
TKM2	0.9nm,0.9s			⇑Lg	Lg	22 12 24.8	
	1.6nm,0.5s						
KRBS	**Karabastau**	**3.74**	**291**	*e*P	**Pb**	**22 11 38.9**	**-1.6**
KRBS	0.5nm,0.1s			*e*S	**Sb**	**22 12 29.1**	**+3.2**
	4.4nm,0.4s						
AAK	**Ala-Archa**	**4.44**	**274**	⇑Pg	**Pb**	**22 11 51.6**	**-0.8**
AAK	3.9nm,1.1s			⇓Lg	Lg	22 12 50.3	
	1.5nm,0.6s						
MK31	**Makanchi Array**	**4.51**	**16**	⇑Pn	**Pn**	**22 11 42.7**	**+0.1**
	0.1nm,0.3s,baz=201,slow=13,SNR=21						
MK31				⇑Sn	**Sn**	**22 12 38.6**	**+3.5**
	0.1nm,0.3s,baz=1.1,slow=50,SNR=4.9						
MK31				⇑Lg	Lg	22 12 55.6	
	1.5nm,0.7s,baz=191,slow=27,SNR=4.6						

*NEIC **19** 22:11:55.4 ± 1.6, 18˚.1N ± 0˚.3 × 68˚.6W ± 0˚.1, h64km ± 30km, Error ellipse: s-maj=48.3km s-min=8.4km az=196.0*
*OSPL **19** 22:11:56.8 ± 1.6, 17˚.92N × 68˚.41W, h0km ± 14km, ML2.2*
*RSPR **19** 22:11:56.5, 18˚.32N × 68˚.56W, h75km ± 3km, MD3.7/7*

ISC 19 22:11:56.0 ± 1.7, **18˚.1N** ± 0˚.1 × **68˚.59W** ± 0˚.06, **h50km, n43, σ0s89/47, 9C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.50**	**23**	⇑*e*P	**Pn**	**22 12 06.7**	**-0.5**
PCDR	**Punta Cana, DR**	**0.50**	**23**	*e*S	**Sn**	**22 12 15.5**	**+0.1**
PCDR	**Punta Cana, DR**	**0.50**	**23**	Pn	**Pn**	**22 12 06.8**	**-0.5**
PCDR	**Punta Cana, DR**	**0.50**	**23**		**Sn**	**22 12 15.5**	**+0.1**
PCDR	**Punta Cana, DR**	**0.50**	**23**	*i* P	**Pn**	**22 12 06.8**	**-0.5**
PCDR				*e*S	**Sn**	**22 12 15.4**	**+0.1**
PCDR				IAML		22 12 18.1	
	comp=Z,146nm,1.1s						
DR12	**Loma Pena Alta**	**1.05**	**314**	⇑*e*P	**Pn**	**22 12 14.7**	**+0.2**
DR12	**Loma Pena Alta**	**1.05**	**314**	Pn	**Pn**	**22 12 14.6**	**+0.1**
DR12					**Sn**	**22 12 28.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**92**	⇑*e*P	**Pn**	**22 12 19.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**92**	*e*S	**Sn**	**22 12 38.8**	**+2.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**92**	Pn	**Pn**	**22 12 18.2**	**-1.0**
CRPR				IAML		22 12 46.8	
	comp=N,44nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.41**	**92**		**Sn**	**22 12 38.8**	**+2.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**92**	*i* P	**Pn**	**22 12 19.1**	**-0.2**
CRPR				*e*S	**Sn**	**22 12 34.6**	**-2.0**
CRPR				IAML		22 12 44.6	
	comp=Z,31nm,3.2s						
LSP	**Las Mesas**	**1.43**	**85**	⇑*e*P	**Pn**	**22 12 20.3**	**+0.7**
LSP	**Las Mesas**	**1.43**	**85**	*e*S	**Sn**	**22 12 37.9**	**+0.5**
AGPR	**Aguadilla, PR**	**1.46**	**73**	⇑*e*P	**Pn**	**22 12 20.8**	**+0.8**
AGPR	**Aguadilla, PR**	**1.46**	**73**	Pn	**Pn**	**22 12 20.2**	**+0.2**
AGPR				IAML		22 12 51.3	
	comp=N,71nm,2.3s						
AGPR				IAML		22 13 10.2	
	comp=E,83nm,2.3s						
AGPR	**Aguadilla, PR**	**1.46**	**73**	*i* P	**Pn**	**22 12 22.2**	**+2.2**
AGPR				IAML		22 12 34.2	
	comp=Z,64nm,1.6s						
AGPR				*e*S	**Sn**	**22 12 38.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.77**	**80**	⇑*e*P	**Pn**	**22 12 23.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.77**	**80**	*e*S	**Sn**	**22 12 44.9**	**-0.6**
AOPR	**Arecibo Observ**	**1.77**	**80**	Pn	**Pn**	**22 12 23.5**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.79**	**83**	⇑*e*P	**Pn**	**22 12 23.5**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.79**	**83**	*e*S	**Sn**	**22 12 46.3**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.79**	**83**		**Pn**	**22 12 23.5**	**-0.9**
UUPR					**Sn**	**22 12 46.3**	**+0.3**
CELP	**Cerrillos**	**1.91**	**89**	⇓*e*P	**Pn**	**22 12 25.3**	**-0.8**
CELP	**Cerrillos**	**1.91**	**89**	*e*S	**Sn**	**22 12 50.5**	**+1.5**
CELP	**Cerrillos**	**1.91**	**89**	Pn	**Pn**	**22 12 25.0**	**-1.1**
CELP				IAML		22 12 55.6	
	comp=N,26nm,0.6s						
CELP	**Cerrillos**	**1.91**	**89**		**Sn**	**22 12 50.5**	**+1.5**
IGPR	**InterUniversit**	**2.36**	**92**	⇓*e*P	**Pn**	**22 12 31.7**	**-0.6**
PDPR	**Patillas Dam,**	**2.44**	**90**	Pn	**Pn**	**22 12 33.4**	**0.0**
PDPR				IAML		22 13 13.4	
	comp=E,36nm,1.7s						
CBYP	**Canovanas**	**2.60**	**85**	⇓*e*P	**Pn**	**22 12 34.8**	**-0.9**
CBYP	**Canovanas**	**2.60**	**85**	*e*S	**Sn**	**22 13 05.8**	**-0.4**
CBYP	**Canovanas**	**2.60**	**85**	Pn	**Pn**	**22 12 34.8**	**-0.9**
CBYP	**Canovanas**	**2.60**	**85**		**Sn**	**22 13 05.8**	**-0.4**
HUMP	**Col San Antoni**	**2.60**	**88**	⇑*e*P	**Pn**	**22 12 36.0**	**+0.4**
HUMP	**Col San Antoni**	**2.60**	**88**	*e*S	**Sn**	**22 13 05.9**	**-0.1**
HUMP	**Col San Antoni**	**2.60**	**88**	Pn	**Pn**	**22 12 35.5**	**-0.1**
HUMP				IAML		22 13 14.6	
	comp=N,21nm,0.2s						
HUMP	**Col San Antoni**	**2.60**	**88**		**Sn**	**22 13 05.9**	**-0.1**
SDDR	**Presa de Saban**	**2.73**	**290**	*i* P	Pn	22 12 42.4	+5.1
SDDR				*e*S	Sn	22 13 17.1	+7.9
MTP	**Monte Pirata**	**2.89**	**89**	⇑*e*P	**Pn**	**22 12 39.7**	**+0.2**
MTP	**Monte Pirata**	**2.89**	**89**	*e*S	**Sn**	**22 13 12.8**	**-0.2**
MTP	**Monte Pirata**	**2.89**	**89**	Pn	**Pn**	**22 12 38.6**	**-0.9**
MTP	**Monte Pirata**	**2.89**	**89**		**Sn**	**22 13 12.8**	**-0.2**
CUPR	**Culebra, Puert**	**3.15**	**85**	Pn	**Pn**	**22 12 43.0**	**-0.1**
CUPR				IAML		22 13 22.7	
	comp=N,11nm,1.1s						

*IDC **19** 22:37:58.9 ± 1.4, 45˚.90N × 106˚.85W, h0km, mb1 3.3/3, mb1mx3.1/35, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=41.7km s-min=9.6km az=130.0*
*NEIC **19** 22:38:00.7 ± 2.6, 45˚.90N ± 0˚.04 × 106˚.63W ± 0˚.07, h0km ± 2km, ML2.9/40, Error ellipse: s-maj=9.1km s-min=6.5km az=112.0*

ISC 19 22:37:58.3 ± 1.0, **45˚.89N** ± 0˚.05 × **106˚.77W** ± 0˚.05, **h0km, n28, σ2s11/28, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.89**	**25**	Pg	**Pb**	**22 38 16.9**	**+0.3**
LAO				IAML		22 38 31.6	
	347nm,0.6s						
RLMT	**Red Lodge**	**1.91**	**247**		**Pb**	**22 38 34.8**	**+0.6**
RLMT				IAML		22 39 03.4	
	97nm,0.5s						
RLMT				IAML		22 39 09.1	
	91nm,0.5s						
GCMT	**Greycliff**	**2.02**	**268**	Pn	**Pb**	**22 38 36.3**	**+0.2**
RSSD	**Black Hills**	**2.62**	**131**		**Pn**	**22 38 43.2**	**+1.0**
YMP	**Mirror Lake PI**	**2.65**	**246**		**Pb**	**22 38 45.9**	**-0.9**
LKWY	**Lake**	**2.88**	**244**	Pn	**Pb**	**22 38 50.6**	**-0.1**
LKWY				IAML		22 39 39.1	
	28nm,0.8s						
EGMT	**Eagleton**	**2.96**	**317**		**Pb**	**22 38 49.4**	**-2.5**
YNR	**Norris Junctio**	**3.00**	**248**		**Pb**	**22 38 52.1**	**-0.6**
YNR				IAML		22 39 33.9	
	comp=E,38nm,0.5s						
YNR				IAML		22 39 36.1	
	comp=N,33nm,0.6s						
H17A	**Grant Village**	**3.08**	**242**		**Pb**	**22 38 52.5**	**-1.5**
YHH	**Holmes Hill**	**3.08**	**251**		**Pn**	**22 38 50.8**	**+2.3**
DGMT	**Dagmar**	**3.12**	**33**		**Pn**	**22 38 50.7**	**+1.9**
YMR	**Madison River**	**3.20**	**249**		**Pb**	**22 38 55.0**	**-1.1**
YMR				IAML		22 39 59.1	
	comp=E,40nm,0.9s						
K22A	**Casper**	**3.24**	**177**		**Pn**	**22 38 52.2**	**+1.7**
K22A				IAML		22 39 44.2	
	comp=N,39nm,0.4s						
K22A				IAML		22 39 48.9	
	comp=E,43nm,0.5s						
FLWY	**Flagg Ranch**	**3.32**	**238**		**Pb**	**22 38 57.1**	**-1.1**
FLWY				IAML		22 39 55.8	
	comp=E,39nm,1.2s						
FLWY				IAML		22 40 05.4	
	comp=E,23nm,2.3s						
BOZ	**Bozeman (W)**	**3.41**	**267**		**Pb**	**22 38 58.1**	**-1.6**
BOZ				IAML		22 39 53.1	
	comp=E,30nm,1.8s						
BOZ				IAML		22 39 57.2	
	comp=E,18nm,0.9s						
MOOW	**Moose Ponds**	**3.54**	**234**		**Pb**	**22 38 60.0**	**-2.0**
PD31	**Pinedale Array**	**3.71**	**214**		**Pn**	**22 38 59.9**	**+2.9**
PDAR	**Pinedale Array**	**3.71**	**214**	Pn	**Pn**	**22 39 00.1**	**+3.1**
	comp=E,0.6nm,0.3s,baz=41,slow=13,SNR=19						
PDAR				Pg	**Pg**	**22 39 07.5**	**-1.7**
	comp=E,2.8nm,0.3s,baz=44,slow=18,SNR=25						
PDAR				Lg	Lg	22 39 54.5	
	comp=E,3.2nm,0.3s,baz=40,slow=33,SNR=11						
PDAR	**Pinedale Array**	**3.71**	**214**		**Pn**	**22 39 00.5**	**+3.5**
LRM	**Limekiln Ridge**	**3.97**	**271**		**Pn**	**22 39 03.2**	**+2.6**
RWWY	**Rawlins**	**4.21**	**184**		**Pn**	**22 39 05.2**	**+1.2**
RWWY				IAML		22 40 21.0	
	comp=E,23nm,0.7s						
MCMT	**McKenzie Canyo**	**4.41**	**258**		**Pn**	**22 39 09.8**	**+3.1**
PHWY	**Pilot Hill**	**4.68**	**168**	Pn	**Pn**	**22 39 13.2**	**+2.7**
PHWY				IAML		22 40 29.3	
	comp=E,8.6nm,0.5s						
PHWY				IAML		22 40 33.7	
	comp=E,15nm,0.7s						
N23A	**Red Feather La**	**5.03**	**173**		**Pn**	**22 39 18.7**	**+3.5**
JTMT	**Jette**	**5.48**	**293**	Pn	**Pn**	**22 39 24.0**	**+2.7**
I10CA	**LAC DU BONNET**	**8.39**	**55**	*i*		23 28 00.0	
	baz=240,slow=325,SNR=6.2						
ULM	**Lac du Bonnet**	**8.50**	**55**	Pn	**Pn**	**22 40 02.2**	**-0.4**
	comp=E,0.6nm,0.3s,baz=238,slow=9.4,SNR=2.4						
ULM				Lg	Lg	22 42 23.1	
	comp=E,0.6nm,0.3s,baz=154,slow=19,SNR=2.4						
YKA	**Yellowknife Ar**	**17.23**	**348**	P	**Pn**	**22 41 59.0**	**-1.1**
	comp=E,0.0nm,0.3s,baz=160,slow=13,SNR=3.4						

*IDC **19** 22:57:23.1 ± 1.6, 28˚.11N × 53˚.14E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.3/49, mbtmp3.5/8, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/74, Error ellipse: s-maj=31.0km s-min=25.9km az=177.0*
*TEH **19** 22:57:25.3, 28˚.01N × 53˚.23E, h19km, ML3.3*
*DSN **19** 22:57:26.6 ± 1.9, 27˚.76N × 53˚.16E, h10km, ML3.3/9, Error ellipse: s-maj=27.3km s-min=7.2km az=7.0*
*OMAN **19** 22:57:29.0 ± 1.1, 27˚.71N × 53˚.14E, h158km ± 7km, mb3.7/6, ml3.5/7, Error ellipse: s-maj=24.9km s-min=6.4km az=357.0*

ISC 19 22:57:24.5 ± 0.6, **27˚.98N** ± 0˚.03 × **53˚.19E** ± 0˚.04, **h14km, n73, σ1s47/80, mb3.5/6, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.51**	**346**	*e*Pg	**Pg**	**22 57 34.5**	**0.0**
QIR1				*e*Sg	**Sb**	**22 57 43.0**	**+0.5**
QIR1				*e*		22 57 49.9	
	comp=Z,50μm,0.2s						
JHRM	**Jahrom**	**0.62**	**33**	*e*Pg	**Pg**	**22 57 36.5**	**-0.2**
JHRM				*e*		22 57 50.0	
	comp=Z,57μm,0.6s						
LMD1	**Lamerd**	**0.64**	**182**	*e*Pg	**Pg**	**22 57 37.9**	**+0.9**
LMD1				*e*		22 57 57.3	
	comp=Z,26μm,0.4s						
LAR1	**LAR**	**1.10**	**106**	*e*Pg	**Pb**	**22 57 46.5**	**+1.2**
SHI	**Shiraz**	**1.76**	**340**	*e*Pn	**Pn**	**22 57 55.8**	**+1.1**
SHI				*e*		22 58 33.5	
	comp=Z,3μm,0.7s						
AHBU	**AHRAM**	**1.88**	**298**	*e*Pg	**Pg**	**22 58 01.7**	**+1.1**
KAZ1	**Kazerun**	**2.13**	**321**	*e*Pn	**Pn**	**22 58 01.8**	**+2.1**
GENO	**Geno**	**2.71**	**102**	*e*Pn	**Pn**	**22 58 08.1**	**+0.3**
GENO				*e*		22 59 01.6	
	comp=Z,1μm,0.3s						
SHMA	**Al-Shehemyia**	**2.90**	**224**	P	**Pn**	**22 58 12.5**	**+2.3**
SHMA				S	**Sb**	**22 58 53.9**	**+2.5**
SHME	**Shamm**	**3.26**	**125**	P	**Pn**	**22 58 16.7**	**+1.5**
	SNR=6.7						
SHME				S	**Sn**	**22 58 55.5**	**+1.7**
SHME	**Shamm**	**3.26**	**125**	*i* P	**Pn**	**22 58 16.5**	**+1.3**
	SNR=6.6						
KLNJ	**Kolanjah**	**3.32**	**336**	*e*Pn	**Pn**	**22 58 16.8**	**+0.5**
KLNJ				*e*		22 59 34.7	
	comp=Z,482nm,0.8s						
BANOM	**Banah**	**3.45**	**126**	P	**Pn**	**22 58 19.3**	**+1.4**
	SNR=17						
BANOM				S	**Sn**	**22 58 59.0**	**+0.4**
BANOM	**Banah**	**3.45**	**126**	*i* P	**Pn**	**22 58 19.3**	**+1.4**
	SNR=17						
BANOM				S	**Sn**	**22 58 58.1**	**-0.5**
NGRK	**Negar Kerman**	**3.52**	**61**	*e*Pn	**Pn**	**22 58 20.5**	**+1.4**
NGRK				*e*		22 58 20.8	
	comp=Z,540nm,0.3s						
IMEH	**Mehriz**	**3.62**	**20**	*e*Pn	**Pn**	**22 58 22.5**	**+2.2**
IMEH				*e*		22 58 25.1	
	comp=Z,450nm,0.2s						
KRBR	**Kerman**	**3.71**	**57**	*e*Pn	**Pn**	**22 58 23.4**	**+1.7**
NAZ	**Nazwa, Dubai**	**3.72**	**143**	P	**Pn**	**22 58 23.3**	**+1.9**
	SNR=13						
NAZ	**Nazwa, Dubai**	**3.72**	**143**	*i* P	**Pn**	**22 58 23.0**	**+1.5**
	SNR=13						
MSFE	**Esma-Masafi**	**3.73**	**134**	P	**Pn**	**22 58 22.9**	**+1.3**
KHGB	**Koh Gabri**	**3.74**	**50**	*e*Pn	**Pn**	**22 58 23.6**	**+1.6**
KHGB				*e*		22 58 24.5	
	comp=Z,290nm,0.3s						
AJN	**Ajban**	**3.77**	**154**	P	**Pn**	**22 58 24.4**	**+2.2**
	SNR=6.4						
ASUD	**Al Ashush, Dub**	**3.86**	**150**	P	**Pn**	**22 58 25.1**	**+1.8**
	SNR=18						
ASUD	**Al Ashush, Dub**	**3.86**	**150**	*i* P	**Pn**	**22 58 25.0**	**+1.6**
	SNR=18						
IRAM	**Rameshed**	**3.88**	**350**	*e*Pn	**Pn**	**22 58 25.3**	**+1.4**
FAQ	**Al Faqa, Dubai**	**3.88**	**146**	P	**Pn**	**22 58 25.0**	**+1.3**
KHNJ	**Kahnooj**	**4.00**	**89**	*e*Pn	**Pn**	**22 58 27.4**	**+2.1**
UOSS	**Minazif**	**4.06**	**138**	*e*S	**Sn**	**22 59 11.8**	**-1.7**
	SNR=6.2						
HATD	**Hatta, Dubai**	**4.11**	**139**	P	**Pn**	**22 58 28.7**	**+1.9**
	SNR=6.7						
HATD	**Hatta, Dubai**	**4.11**	**139**	*i* P	**Pn**	**22 58 27.9**	**+1.1**
	SNR=6.5						
ASHO	**Ashiyiah**	**4.17**	**141**	P	**Pn**	**22 58 29.0**	**+1.2**
	SNR=21						
ASHO	**Ashiyiah**	**4.17**	**141**	*i* P	**Pn**	**22 58 28.8**	**+1.0**
	SNR=21						
IGAR	**Gharneh**	**4.52**	**348**	*e*Pn	**Pn**	**22 58 33.9**	**+1.2**
YZKH	**Yazd**	**4.56**	**15**	*e*Pn	**Pn**	**22 58 35.6**	**+2.5**
SHK1	**Shahrekord**	**4.77**	**336**	*e*Pn	**Pn**	**22 58 36.0**	**-0.1**
KBAM	**BAM**	**4.77**	**75**	*e*Pn	**Pn**	**22 58 38.1**	**+2.0**
KBAM				*e*		22 58 39.5	
	comp=Z,451nm,0.2s						
IZEF	**Zefreh**	**4.95**	**352**	*e*Pn	**Pn**	**22 58 39.7**	**+1.0**
MZR	**Muzera**	**4.97**	**177**	P	**Pn**	**22 58 39.0**	**+0.3**
IPIR	**Pirpir**	**5.09**	**338**	*e*Pn	**Pn**	**22 58 40.7**	**+0.1**
IPIR				*e*		22 59 43.1	
	comp=Z,212nm,0.3s						
ANAR	**Anarak**	**5.21**	**5**	*e*Pn	**Pn**	**22 58 43.4**	**+1.3**
IKLH	**Kolahrood**	**5.50**	**346**	*e*Pn	**Pn**	**22 58 47.0**	**+0.8**
UMZA	**Um Al Zommool**	**5.54**	**161**	P	**Pn**	**22 58 47.1**	**+0.6**
UMZA				S	**Sn**	**22 59 47.4**	**-2.7**
HOQ	**Hoqain**	**5.75**	**139**	P	**Pn**	**22 58 50.0**	**+0.6**
	SNR=11						
HOQ				S	**Sn**	**22 59 53.0**	**-2.2**
TPRV	**Parvadeh(Tabas**	**5.87**	**30**	*e*Pn	**Pn**	**22 58 52.3**	**+1.2**
KRSH	**Karshahi**	**6.04**	**352**	*e*Pn	**Pn**	**22 58 54.3**	**+0.8**
BSY	**Bisya**	**6.35**	**144**	P	**Pn**	**22 58 58.5**	**+0.7**
	SNR=23						
KHMZ	**Khomeyn**	**6.37**	**335**	*e*Pn	**Pn**	**22 58 58.9**	**+0.7**
ISFB	**Sefidab**	**6.40**	**353**	*e*Pn	**Pn**	**22 58 59.1**	**+0.7**
BSRN	**Basiran**	**6.50**	**51**	*e*Pn	**Pn**	**22 59 02.0**	**+2.1**
TKDS	**Koohdasht(Taba**	**6.55**	**30**	*e*Pn	**Pn**	**22 59 01.7**	**+1.1**
SMDO	**Samad**	**6.58**	**137**	P	**Pn**	**22 59 02.0**	**+1.0**
	SNR=9.3						
TABS	**Tabas**	**6.58**	**30**	*e*Pn	**Pn**	**22 59 02.3**	**+1.4**
TNSJ	**Nastanj**	**6.65**	**25**	*e*Pn	**Pn**	**22 59 02.9**	**+1.1**
GHVR	**GHOM**	**6.68**	**346**	*e*Pn	**Pn**	**22 59 03.3**	**+1.1**
WSAR	**Wadi Sarin**	**6.81**	**133**	Pn	**Pn**	**22 59 05.7**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=315,slow=5.

	comp=Z,30nm,0.8s							
U40A	**Yellville**	**3.47**	**83**			Pn	22 59 59.2	-0.2
S39A	**Bolivar**	**3.48**	**60**			Pn	22 59 59.8	+0.4
X40A	**Basin Creek Fa**	**3.83**	**112**			Pn	23 00 04.5	+0.3
AMTX	**Amarillo**	**3.89**	**254**			Pn	23 00 03.8	-1.3
AMTX					IAmb_Lg		23 01 07.3	
	comp=Z,26nm,0.9s							
ABTX	**Abilene, Hawle**	**3.97**	**212**			Pn	23 00 05.0	-1.2
ABTX					IAmb_Lg		23 01 10.7	
	comp=Z,24nm,1.0s							
WHAR	**Wooly Hollow**	**4.00**	**99**	Pn	Pn		23 00 06.6	-0.1
WHAR					IAmb_Lg		23 01 14.7	
	comp=Z,22nm,0.7s							
WHTX	**Lake Whitney,**	**4.02**	**184**	Pn	Pn		23 00 06.7	-0.2
WLAR	**White Oak Lake**	**4.03**	**124**		IAmb_Lg		23 01 18.2	
	comp=Z,23nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.06**	**90**			Pn	23 00 07.5	+0.1
FCAR					IAmb_Lg		23 01 12.1	
	comp=Z,21nm,0.7s							
W41B	**Gary Mavity, V**	**4.06**	**100**			Pn	23 00 07.4	0.0
W41B					IAmb_Lg		23 01 13.1	
	comp=Z,23nm,0.7s							
MGMO	**Mountain Grove**	**4.07**	**72**			Pn	23 00 08.7	+1.1
MGMO					IAmb_Lg		23 01 20.4	
	comp=Z,29nm,0.8s							
R40A	**Maddies Statio**	**4.50**	**58**			Pn	23 00 13.8	+0.4
P38A	**Dawn**	**4.59**	**37**			Pn	23 00 15.3	+0.6
CCAR	**Cane Creek**	**4.87**	**114**	Pn	Pn		23 00 18.8	+0.3
N35A	**Tabor**	**4.98**	**13**	IAmb_Lg			23 01 56.5	
	comp=Z,37nm,0.8s							
CCM	**Cathedral Cave**	**5.13**	**65**	Pn	Pn		23 00 23.0	+0.9
CCM					IAmb_Lg		23 01 53.3	
	comp=Z,40nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.30**	**306**	IAmb_Lg			23 02 06.5	
	comp=Z,19nm,0.8s							
P40A	**Paris**	**5.34**	**47**	IAmb_Lg			23 01 53.7	
	comp=Z,32nm,0.8s							
BGNE	**Belgrade**	**5.45**	**352**	IAmb_Lg			23 02 07.7	
	comp=Z,34nm,0.7s							
PBMO	**Poplar Bluff**	**5.45**	**80**	IAmb_Lg			23 01 58.1	
	comp=Z,28nm,0.7s							
FVM	**French Village**	**5.71**	**68**	IAmb_Lg			23 02 05.1	
	comp=Z,35nm,0.8s							
JCT	**Junction City**	**5.96**	**203**	IAmb_Lg			23 02 17.6	
	comp=Z,28nm,1.1s							
L34A	**Svendsen Farm,**	**5.97**	**5**	IAmb_Lg			23 02 30.9	
	comp=Z,30nm,0.7s							
OGNE	**Ogallala**	**6.25**	**323**	IAmb_Lg			23 02 41.2	
	comp=Z,27nm,1.1s							
W45A	**Hickory Valley**	**6.53**	**95**	IAmb_Lg			23 02 41.4	
	comp=Z,22nm,0.7s							
S44A	**Carbondale**	**6.53**	**73**	IAmb_Lg			23 02 31.8	
	comp=Z,36nm,0.8s							
SIUC	**Southern Illin**	**6.56**	**73**	IAmb_Lg			23 02 39.1	
	comp=Z,34nm,0.7s							
SCIA	**State Center**	**6.63**	**26**	IAmb_Lg			23 02 44.1	
	comp=Z,22nm,0.9s							
K31A	**O'Neill**	**6.72**	**350**	IAmb_Lg			23 02 53.9	
	comp=Z,36nm,0.8s							
L40A	**Anamosa**	**7.59**	**35**	IAmb_Lg			23 03 13.7	
	comp=Z,17nm,0.9s							
O44A	**Mansfield**	**7.98**	**56**	IAmb_Lg			23 03 20.3	
	comp=Z,24nm,0.8s							
N23A	**Red Feather La**	**8.46**	**308**	IAmb_Lg			23 03 46.6	
	comp=Z,17nm,1.0s							
JFWS	**Jewell Farm**	**8.70**	**36**	IAmb_Lg			23 03 55.1	
	comp=Z,21nm,1.0s							
I40A	**Norwalk**	**9.32**	**30**	IAmb_Lg			23 03 58.9	
	comp=Z,9.5nm,0.7s							
K22A	**Casper**	**9.84**	**315**	IAmb_Lg			23 04 44.3	
	comp=Z,7.0nm,0.9s							

WEL 19 23:03:24.8±0.6, 44°S±3′×17°2E±2″, h5km±3km, M3.6/11, ML3.9/11, MLv3.6/11, Error ellipse: s-maj=0.0km s-min=0.0km az=170.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.24**	**129**	P	Pg	23 03 29.8	+0.3
MQZ				S	Sg	23 03 33.4	+0.8
RACZ	**Rakaia**	**0.25**	**227**	P	Pg	23 03 30.5	+0.8
OXZ	**Oxford**	**0.35**	**311**	P	Pg	23 03 31.4	-0.1
AMCZ	**Amberley**	**0.42**	**26**	P	Pg	23 03 33.4	+0.6
AKCZ	**Akaroa Harbour**	**0.49**	**131**	P	Pg	23 03 34.4	+0.2
OKCZ	**Okains Bay**	**0.51**	**110**	P	Pg	23 03 34.9	+0.3
OKCZ				S	Sg	23 03 42.3	+1.1
WACZ	**Wakanui South**	**0.56**	**226**	P	Pb	23 03 36.4	-0.7
MHCZ	**Mount Hutt**	**0.60**	**272**	P	Pg	23 03 36.9	+0.6
MHCZ				S	Sb	23 03 45.6	-1.1
GVZ	**Greta Valley S**	**0.75**	**39**	P	Pg	23 03 39.5	+0.3
GVZ				S	Sb	23 03 50.5	-0.3
LTZ	**Lake Taylor**	**0.78**	**353**	P	Pg	23 03 39.8	+0.1
LTZ				S	Sg	23 03 50.3	+0.6
ARCZ	**Arundel**	**0.97**	**246**	P	Pg	23 03 43.3	0.0
ARCZ				S	Sb	23 03 56.7	-0.5
RPZ	**Rata Peaks**	**0.99**	**260**	P	Pg	23 03 43.7	0.0
RPZ				S	Sg	23 03 57.0	+0.5
INZ	**Inchbonnie**	**1.08**	**320**	P	Pg	23 03 45.1	-0.4
TMZ	**Timaru**	**1.30**	**230**	P	Pn	23 03 48.0	-1.7
TMZ				S	Sb	23 04 06.9	+0.1
WVZ	**Waitaha Valley**	**1.30**	**291**	P	Pn	23 03 49.1	-0.5
WVZ				S	Sb	23 04 06.8	0.0
KHZ	**Kahutara**	**1.41**	**37**	P	Pn	23 03 48.9	-2.3
GCSZ	**Gaunt Creek Bo**	**1.53**	**278**	P	Pn	23 03 52.6	-0.1
LBZ	**Lake Benmore**	**1.80**	**242**	P	Pn	23 03 55.3	-1.2
THZ	**Tophouse**	**1.83**	**12**	P	Pn	23 03 55.0	-2.0
DSZ	**Denniston Nort**	**1.86**	**346**	P	Pn	23 03 55.7	-1.6
FOZ	**Fox Glacier**	**1.88**	**270**	P	Pn	23 03 57.6	+0.1
ODZ	**Otahua Downs**	**1.95**	**220**	P	Pn	23 03 56.9	-1.7
BSWZ	**Blackbirch Sta**	**2.14**	**31**	P	Pn	23 03 59.4	-1.7
MRNZ	**Matariki Terra**	**2.17**	**7**	P	Pn	23 04 00.9	-0.7
TUWZ	**Tuamarina**	**2.41**	**29**	P	Pn	23 04 03.5	-1.4
NNZ	**Nelson**	**2.45**	**18**	P	Pn	23 04 04.0	-1.3
TKNZ	**Takaka Hill**	**2.55**	**10**	P	Pn	23 04 06.7	-0.2
HHSZ	**Highcliff Hill**	**2.66**	**208**	P	Pn	23 04 07.0	-1.4
JCZ	**Jackson Bay**	**2.67**	**258**	P	Pn	23 04 08.3	-0.2
TCW	**Tory Channel**	**2.73**	**31**	P	Pn	23 04 07.8	-1.4
QRZ	**Quartz Range**	**2.73**	**2**	P	Pn	23 04 08.9	-0.3
WKZ	**Wanaka**	**2.74**	**241**	P	Pn	23 04 08.6	-0.9
EAZ	**Earnscleugh**	**2.78**	**232**	P	Pn	23 04 08.3	-1.6
PLWZ	**Palliser**	**2.90**	**48**	P	Pn	23 04 08.7	-2.9
DUWZ	**D'Urville Isla**	**2.98**	**23**	P	Pn	23 04 13.5	+0.9
MSWZ	**Moikau Station**	**3.00**	**46**	P	Pn	23 04 09.8	-3.2
TUZ	**Tuapeka**	**3.10**	**218**	P	Pn	23 04 12.7	-1.7
CAW	**Cannon Point**	**3.15**	**40**	P	Pn	23 04 12.1	-2.9
KIW	**Kapiti Island**	**3.27**	**36**	P	Pn	23 04 14.8	-2.0
MTW	**Mount Morrison**	**3.32**	**45**	P	Pn	23 04 14.2	-3.2
OGWZ	**Otaki Gorge**	**3.42**	**38**	P	Pn	23 04 17.4	-1.4
MLZ	**Mavora Lakes**	**3.56**	**238**	P	Pn	23 04 19.0	-1.7
MRZ	**Mangatainoka R**	**3.74**	**40**	P	Pn	23 04 20.2	-3.0
SYZ	**Scrubby Hill**	**3.77**	**217**	P	Pn	23 04 22.0	-1.6
WHZ	**Wether Hill Ro**	**3.94**	**232**	P	Pn	23 04 23.2	-2.7
BFZ	**Birch Farm**	**4.05**	**46**	P	Pn	23 04 24.2	-3.2
APZ	**The Paps**	**4.52**	**222**	P	Pn	23 04 31.6	-2.4
VRZ	**Vera Road**	**4.77**	**23**	P	Pn	23 04 37.8	+0.5
WNVZ	**Wahianoa**	**4.86**	**31**	P	Pn	23 04 37.6	-1.1
TRVZ	**Turoa**	**4.87**	**30**	P	Pn	23 04 39.4	+0.5
ETVZ	**East Tongariro**	**5.07**	**31**	P	Pn	23 04 41.0	-0.6
TMVZ	**Te Maari**	**5.08**	**30**	P	Pn	23 04 41.4	-0.4
HIZ	**Hauiti**	**5.37**	**21**	P	Pn	23 04 43.8	-1.8

*FUNV **19** 23:07:22.8, 10°.16N×72°.02W, h19km, MW3.3*
ISC 19 23:07:24.0±1.2, 10°.04N±0°.03×71°.70W±0°.03, h11km±11km, n17, σ1s63/30, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.82**	**271**	*e*S	**Pg**	**23 07 39.9**	**0.0**
DABV	**Dabajuro**	**1.37**	**50**	*e*P	**Pn**	**23 07 49.4**	**+0.3**
DABV				*e*S	**Sg**	**23 08 08.8**	**+0.7**
DABV	**Dabajuro**	**1.37**	**50**	*e*P	**Pn**	**23 07 49.3**	**+0.3**
DABV				*e*S	**Sg**	**23 08 08.2**	**+0.1**
CRJC	**Cerrejon, Guaj**	**1.52**	**310**	*e*P	**Pb**	**23 07 51.9**	**-0.4**
CRJC				*e*S	**Sg**	**23 08 12.3**	**-0.6**
CRJC				*i*		23 08 13.5	
	comp=Z,208nm,0.2s						
SDV	**Santo Domingo**	**1.56**	**137**	*e*P	**Pb**	**23 07 52.7**	**-0.3**
SDV				*e*S	**Sn**	**23 08 12.1**	**+0.1**
SDV				*i*		23 08 14.0	
	comp=Z,79nm,0.3s						
CVALL	**Valledupar, Ce**	**1.60**	**287**	*e*P	**Pb**	**23 07 53.4**	**-0.2**
CVALL				*e*S	**Sg**	**23 08 14.7**	**-0.9**
URIC	**Uribia, Colomb**	**1.68**	**350**	*e*P	**Pb**	**23 07 54.3**	**-0.6**
URIC				*e*S	**Sb**	**23 08 16.5**	**+0.5**
URIC				*i*		23 08 16.7	
	comp=Z,94nm,0.3s						
CURV	**Curarigua**	**1.71**	**91**	*e*S	**Sg**	**23 08 20.1**	**+0.9**
SOCV	**Socops**	**1.93**	**154**	*e*P	**Pn**	**23 07 57.7**	**+0.8**
SOCV				*e*S	**Sb**	**23 08 22.7**	**-0.7**
SIQV	**Siquisique**	**1.96**	**72**	*e*P	**Pn**	**23 07 58.4**	**+1.1**
SIQV				*e*S	**Sb**	**23 08 24.2**	**0.0**
SANV	**Sanarito**	**2.20**	**104**	*e*P	**Pb**	**23 08 03.1**	**-0.8**
SANV				*e*S	**Sb**	**23 08 31.5**	**+0.3**
CAPV	**Capacho**	**2.24**	**196**	*e*S	**Sn**	**23 08 27.1**	**-2.0**
PAMC	**Pamplona, Colo**	**2.86**	**200**	*e*P	**Pb**	**23 08 15.9**	**+0.6**
PAMC				*e*S	**Sb**	**23 08 52.5**	**+2.0**
MAPV	**Macapo**	**3.20**	**93**	*e*P	**Pn**	**23 08 16.1**	**+1.7**
MAPV				*e*S	**Sn**	**23 08 54.6**	**+2.1**
BENV	**Beln**	**4.04**	**91**	*e*P	**Pn**	**23 08 26.9**	**+1.0**
BENV				*e*S	**Sn**	**23 09 14.3**	**+1.0**
BIRV	**Birongo**	**5.36**	**85**	*e*P	**Pn**	**23 08 45.1**	**+1.1**
BIRV				*e*S	**Sn**	**23 09 44.5**	**-1.4**
CACV	**CAICARA DEL OR**	**5.66**	**115**	*e*P	Pn	23 08 55.1	+7.0
CACV				*e*S	**Sb**	**23 10 04.4**	**-6.4**

*DNK **19** 23:13:16.7±2.3, 81°.21N×3°.42W, h0km±131km, Mc3.7*
BER 19 23:13:17.6±1.7, 81°.33N×4°.20W, h10km, ML1.7, Mc3.7(DNK), Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.88**	**284**	*e*S	Sn	23 14 09.7	-3.7
KBS	**Kingsbay**	**3.67**	**123**	*i* P	Pn	23 14 12.0	-2.2
KBS	**Kingsbay**	**3.67**	**123**	*e*P	Pn	23 14 13.1	-1.2
KBS				IAML		23 14 51.5	
	comp=Z,3.3nm,0.8s						
KBS				*e*S	Sn	23 14 52.0	-5.5
SPA0	**Spitsbergen Ar**	**4.82**	**120**	*e*P	Pn	23 14 29.0	-1.0
SPA0				IAML		23 15 24.3	
	comp=Z,2.9nm,0.8s						
DAG	**Danmarks Havn**	**5.32**	**218**	*e*	Pn	23 14 34.1	-2.9
	baz=35,slow=16						
DAG				*i* P	Pn	23 14 35.7	-1.3
DAG				*i* S	Sn	23 15 35.1	-3.1
DAG	**Danmarks Havn**	**5.32**	**218**	*e*P	Pn	23 14 35.7	-1.2
DAG				*e*S	Sn	23 15 31.8	-6.4

*IDC **19** 23:14:19.4±0.9, 54°.08N×170°.46E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.5/55, mbtmp3.5/12, ML3.2/2, MS3.0/5, Ms1 3.0/5, ms1mx2.6/66, Error ellipse: s-maj=26.8km s-min=15.9km az=7.0*
*KRSC **19** 23:14:22.0±1.4, 53°.91N×169°.97E, h29km±16km, ML3.6*
*NEIC **19** 23:14:23.8±1.6, 54°.0N±0°.2×170°.5E±0°.1, h28km±8km, mb4.0/12, Error ellipse: s-maj=31.5km s-min=5.1km az=193.0*
ISC 19 23:14:24.2±0.6, 54°.05N±0°.10×170°.39E±0°.05, h35km, n44, σ1s38/38, mb3.8/15, MS3.0/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.59**	**119**	Pn	**Pn**	**23 15 02.3**	**-1.3**
	15nm,0.3s,baz=323,slow=1.3,SNR=14						
SHEM				Sn	**Sn**	**23 15 33.9**	**+0.1**
	26nm,0.3s,baz=248,slow=22,SNR=7.6						
SMY	**Shemya**	**2.59**	**119**	Pn	**Pn**	**23 15 02.0**	**-1.5**
BKI	**Bering**	**2.81**	**296**	*e*P	**Pn**	**23 15 05.7**	**-0.9**
BKI				*e*S	**Sn**	**23 15 37.6**	**-1.6**
KBTR	**Krutoberegovo**	**4.85**	**300**	*e*P	**Pn**	**23 15 34.6**	**0.0**
SPN	**Mys Shipunski**	**6.25**	**265**	*e*P	**Pn**	**23 15 53.9**	**+0.1**
SPN				*e*S	**Sn**	**23 17 02.0**	**-1.9**
TILK	**Tilichiki**	**6.81**	**342**	*e*P	Pn	23 16 06.3	+5.0
RUS	**Russkaya**	**7.31**	**262**	*e*P	**Pn**	**23 16 08.9**	**+0.6**
RUS				*e*S	**Sn**	**23 17 26.6**	**-3.3**
PEA0B	**Petropavlovsk-**	**7.61**	**268**	Pn	**Pn**	**23 16 14.4**	**+1.9**
PETK	**Petropavlovsk-**	**7.61**	**268**	Pn	**Pn**	**23 16 13.7**	**+1.2**
	0.6nm,0.3s,baz=79,slow=17,SNR=6.0						
PETK				Sn	**Sn**	**23 17 36.8**	**-0.7**
	baz=168,slow=24,SNR=2.0						
PETK				LR	LR	23 19 07.2	
	comp=Z,54nm,21.6s,baz=300,slow=38						
MA2	**Magadan**	**12.06**	**305**	LR	LR	23 21 10.4	
	comp=Z,266nm,21.9s,baz=99,slow=34						
TNA	**Tin City**	**15.76**	**34**		**P**	**23 18 08.0**	**+1.2**
J20K	**Nowinta River**	**20.54**	**46**	P	Pn	23 19 00.0	-1.6
IMAR	**Indian Mountai**	**21.17**	**42**	P	**P**	**23 19 06.7**	**+0.7**
PPLA	**Purkeypile**	**21.18**	**50**	P	**P**	**23 19 06.9**	**+0.5**
PPLA				IAmb	IAmb	23 19 30.2	
	comp=Z,9.5nm,1.3s						
TRF	**Thorofare Moun**	**22.11**	**49**	P	**P**	**23 19 16.4**	**+0.1**
TRF				IAmb	IAmb	23 19 18.4	
	comp=Z,15nm,1.4s						
SML	**Sawmill**	**22.90**	**54**	P	**P**	**23 19 23.6**	**-1.0**
WRH	**Wood River Hil**	**23.19**	**47**	P	**P**	**23 19 27.2**	**-0.2**
WRH				IAmb	IAmb	23 19 37.7	
	comp=Z,4.8nm,1.1s						
CCB	**Clear Creek Bu**	**23.34**	**46**	P	**P**	**23 19 28.5**	**-0.4**
TOLK	**Toolik Lake Re**	**23.52**	**36**	P	**P**	**23 19 31.4**	**+0.7**
TOLK				IAmb	IAmb	23 19 49.1	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**23.74**	**46**	P	**P**	**23 19 33.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=255,slow=8.8,SNR=8.2						
ILAR				LR	LR	23 28 04.6	
	comp=Z,55nm,18.8s,baz=236,slow=35						
KLR	**Kul'dur**	**24.24**	**274**	P	**P**	**23 19 37.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=40,slow=20,SNR=1.9						
KLR				LR	LR	23 28 21.5	
	comp=Z,22nm,20.5s,baz=50,slow=35						
TIXI	**Tiksi**	**25.05**	**330**	P	**P**	**23 19 46.6**	**+2.0**
	comp=Z,1.5nm,0.2s,baz=97,slow=23,SNR=6.7						
TIXI	**Tiksi**	**25.05**	**330**	P	**P**	**23 19 45.8**	**+1.1**
TIXI				IAmb	IAmb	23 19 55.2	
	comp=Z,2.6nm,0.8s						
BCAR	**Beaver Creek A**	**25.93**	**51**	P	**P**	**23 19 52.5**	**-0.3**
HYT	**Haines Junctio**	**28.18**	**55**	P	**P**	**23 20 11.8**	**-1.3**
H11N2	**WAKE ISLAND Hy**	**34.36**	**186**	T	T	23 57 49.9	
	baz=3.7,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**34.38**	**186**	T	T	23 57 46.2	
	baz=3.7,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**34.38**	**186**	T	T	23 57 47.9	
	baz=3.7,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**35.59**	**186**	T	T	23 59 18.8	
	baz=3.7,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**35.60**	**186**	T	T	23 59 17.3	
	baz=3.7,slow=76,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**35.61**	**186**	T	T	23 59 18.6	
	baz=3.7,slow=76,SNR=11						
YKA	**Yellowknife Ar**	**38.17**	**47**	P	**P**	**23 21 37.8**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=297,slow=8.0,SNR=4.6						
SONM	**Songino Array**	**39.55**	**288**	P	**P**	**23 21 50.2**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=67,slow=5.2,SNR=1.9						
NVAR	**Mina Array Bea**	**49.58**	**78**	P	**P**	**23 23 10.2**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=293,slow=7.8,SNR=2.6						
MK31	**Makanchi Array**	**53.11**	**301**	P	**P**	**23 23 38.4**	**+0.5**
MK31				IAmb	IAmb	23 23 39.0	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**53.11**	**301**	P	**P**	**23 23 38.1**	**+0.2**
MK31	**Makanchi Array**	**53.11**	**301**	IAmb	IAmb	23 23 39.0	
	comp=Z,1.4nm,0.8s						
AAK	**Ala-Archa**	**59.97**	**302**	P	**P**	**23 24 25.9**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=25,slow=12,SNR=2.4						
KKAR	**Karatay Array**	**61.58**	**305**	P	**P**	**23 24 40.4**	**+2.7**
NOA	**NORSAR Array B**	**64.07**	**349**	P	**P**	**23 24 54.9**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=15,slow=6.5,SNR=1.8						
TX31	**Lajitas Ar. Si**	**64.53**	**75**	P	**P**	**23 24 59.0**	**+1.5**
TXAR	**Lajitas Array**	**64.53**	**75**	P	**P**	**23 24 59.2**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=308,slow=4.3,SNR=5.4						
MSVF	**Nonsavu**	**71.79**	**172**	LR	LR	23 50 15.2	
	comp=Z,74nm,21.8s,baz=34,slow=30						
WRA	**Warramunga Arr**	**79.94**	**214**	P	**P**	**23 26 31.6**	**+2.2**
	comp=Z,0.3nm,1.0s,baz=33,slow=6.9,SNR=2.2						

*IDC **19** 23:17:27.1±1.9, 20°.08N×97°.59E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/48, mbtmp3.7/6, ML4.6/1, MS3.3/8, Ms1 3.3/8, ms1mx2.8/89, Error ellipse: s-maj=92.7km s-min=13.1km az=60.0*
*NEIC **19** 23:17:30.1±1.1, 20°.05N±0°.07×97°.67E±0°.09, h27km±6km, mb4.3/13, Error ellipse: s-maj=13.9km s-min=6.6km az=50.0*
ISC 19 23:17:30.9±0.6, 20°.02N±0°.09×97°.6E±0°.1, h35km, n36, σ1s11/30, mb4.1/12, MS3.2/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**1.75**	**133**		**Pn**	**23 17 57.7**	**-1.1**
CM31	**Chiang Mai Arr**	**2.01**	**141**		**Pn**	**23 18 01.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**2.01**	**141**	Pn	**Pn**	**23 18 04.8**	**+2.4**
	52nm,0.3s,baz=319,slow=18,SNR=213						
CMAR				Lg	Lg	23 18 31.0	
	146nm,0.3s,baz=315,slow=30,SNR=20						
CMAR				LR	LR	23 19 08.7	
	comp=Z,272nm,18.6s,baz=345,slow=49						
CMAR	**Chiang Mai Arr**	**2.01**	**141**		**Pn**	**23 18 01.7**	**-0.7**
KOHI	**KOHIMA**	**6.52**	**331**	*e*P	**Pn**	**23 19 07.4**	**+2.9**
KOHI				*e*S	Sn	23 20 39.7	+22
KOHI				IAML		23 21 09.6	
	comp=N,49nm,2.0s						
KOHI				IAML		23 21 15.5	
	comp=E,75nm,0.8s						
SHL	**Shillong**	**7.63**	**317**	Pn	**Pn**	**23 19 18.2**	**-1.6**
TEZP	**TEZPUR**	**7.91**	**327**	*e*P	**Pn**	**23 19 23.5**	**+0.1**
UBPT	**Khong Chiam**	**8.86**	**121**		**Pn**	**23 19 35.8**	**-0.7**
PBA	**Port Blair**	**9.54**	**210**	Pn	**Pn**	**23 19 46.2**	**+0.4**
LSA	**Lhasa**	**11.27**	**330**	Pn	**Pn**	**23 20 09.4**	**-0.6**
PSI	**Prapat**	**17.16**	**176**	LR	LR	23 28 43.1	
	comp=E,80nm,19.0s,baz=34,slow=39						
SONM	**Songino Array**	**28.65**	**12**	P	**P**	**23 23 25.6**	**+1.3**
	comp=E,0.2nm,0.8s,baz=188,slow=7.7,SNR=1.7						
SONM				LR	LR	23 35 50.6	
	comp=E,70nm,18.4s,baz=195,slow=39						
MK31	**Makanchi Array**	**29.49**	**338**	P	**P**	**23 23 31.6**	**-0.2**
MKAR	**Makanchi Array**	**29.49**	**338**	P	**P**	**23 23 32.4**	**+0.7**
	comp=E,1.6nm,0.7s,baz=151,slow=9.1,SNR=21						
MKAR	**Makanchi Array**	**29.49**	**338**	P	**P**	**23 23 31.4**	**-0.3**
MAKZ	**Makanchi**	**29.61**	**338**	P	**P**	**23 23 32.5**	**-0.3**
MAKZ				IAmb	IAmb	23 23 40.6	
	comp=Z,3.9nm,1.4s						
GAR	**Garm**	**30.17**	**315**	P	**P**	**23 23 38.0**	**+0.1**
GAR				IAmb	IAmb	23 23 43.2	
	comp=Z,9.0nm,1.3s						
KURK	**Kurchatov**	**34.11**	**338**	P	**P**	**23 24 12.6**	**+0.4**
KURK				IAmb	IAmb	23 24 19.2	
	comp=Z,3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**35.26**	**347**	P	**P**	**23 24 21.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=159,slow=9.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**35.26**	**347**	P	**P**	**23 24 21.3**	**-0.8**
GEYT	**Alibeck**	**38.53**	**306**	P	**P**	**23 24 49.4**	**-0.8**
GEYT				IAmb	IAmb	23 24 53.2	
	comp=Z,5.0nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**38.53**	**306**	P	**P**	**23 24 49.4**	**-0.8**
GYA0B				IAmb	IAmb	23 24 59.3	
	comp=Z,4.5nm,0.8s						
BRVK	**Borovoye**	**39.14**	**334**	P	**P**	**23 24 55.3**	**+0.3**
BRVK				IAmb	IAmb	23 25 02.0	
	comp=Z,3.1nm,0.8s						
KLR	**Kul'dur**	**39.90**	**35**	LR	LR	23 41 08.8	
	comp=Z,34nm,21.6s,baz=226,slow=36						
ABKAR	**Akbulak array**	**41.85**	**323**	P	**P**	**23 25 18.1**	**+0.6**
ABKAR	**Akbulak array**	**41.85**	**323**	P	**P**	**23 25 17.6**	**+0.2**
ABKAR				IAmb	IAmb	23 25 37.0	
	comp=Z,1.4nm,1.1s						
AKTO	**Aktyubinsk**	**43.52**	**324**	LR	LR	23 46 26.1	
	comp=Z,28nm,18.3s,baz=140,slow=40						
GNI	**Garni**	**49.17**	**306**	LR	LR	23 51 17.2	
	comp=Z,23nm,18.8s,baz=159,slow=41						
WB0	**Warramunga Arr**	**53.51**	**135**	P	**P**	**23 26 48.0**	**-0.3**
WB0				IAmb	IAmb	23 26 49.1	
	comp=Z,4.1nm,1.2s						
WRA	**Warramunga Arr**	**53.60**	**136**	P	**P**	**23 26 51.0**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=318,slow=8.0,SNR=4.3						
ASAR	**Alice Springs**	**56.02**	**139**	P	**P**	**23 27 07.8**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=322,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**56.02**	**139**	P	**P**	**23 27 05.4**	**-1.0**
ELL	**Elmali**	**60.69**	**302**	P	**P**	**23 27 38.2**	**-0.9**
OPO	**Ambohidratompo**

VA01	Torpederas	5.42	22			Pn	23 20 49.0	-0.6
PEL	Peldehue	5.64	30			Pn	23 20 52.7	0.0
PEL	Peldehue	5.64	30	eP		Pn	23 20 52.8	+0.1
FCH	Farellones	5.65	34	eP		Pn	23 20 53.1	+0.1
ROC1	El Roble	5.67	27			Pn	23 20 51.5	-1.7
H03S1	Juan Fernandez baz=138	5.80	316	T		T	23 26 50.7	
H03S3	Juan Fernandez baz=138	5.81	316	T		T	23 26 50.7	
H03S2	Juan Fernandez baz=138	5.82	315	T		T	23 26 52.4	
VA06	Catapilco	5.96	23	Pn		Pn	23 20 56.9	0.0
VA03	San Esteban	6.03	29			Pn	23 20 58.0	0.0
AY01	Puyuhuapi	6.40	171	Pn		Pn	23 21 02.9	-0.1
CO02	Combarbal	7.32	21			Pn	23 21 15.5	-0.3
COYC	Coyhaique	7.61	170	Pn		Pn	23 21 20.5	+0.9
CO03	El Pedregal	7.75	22	Pn		Pn	23 21 21.7	+0.1
GO04	Tololo Observa	8.35	20			Pn	23 21 29.4	-0.6
LCO	Las Campanas	9.48	18	Pn		Pn	23 21 44.9	-0.6
GO03	Copiap	10.95	18			Pn	23 22 04.6	-0.9
LVC	Limon Verde comp=E,213nm,20.8s,baz=194,slow=36	16.05	17	LR		LR	23 29 04.1	
LVC	Limon Verde	16.05	17	eP		Pn	23 23 14.6	-0.4
ITQB	Itaqui	16.70	65	eP		Pn	23 23 22.6	-0.3
USHA	Ushuaia comp=E,345nm,18.5s,baz=342,slow=41	17.17	169	LR		LR	23 31 15.1	
PB01	IPOC Station P	17.45	14	P		Pn	23 23 32.4	+0.1
EFI	East Falkland	17.62	146			Pn	23 23 33.5	-0.7
EFI	comp=Z,96nm,1.3s				IAmb	IAmb	23 23 45.3	
PLTB	Pedras Altas	17.89	75	Pn		Pn	23 23 34.6	-3.1
PLTB	Pedras Altas	17.89	75	eP		Pn	23 23 35.9	-1.9
CPUP	Villa Florida comp=Z,0.1nm,0.3s,baz=212,slow=9.5,SNR=6.7	18.34	55	P		P	23 23 40.8	-2.6
CPUP	comp=Z,301nm,20.6s,baz=228,slow=40				LR	LR	23 31 29.8	
CPUP	Villa Florida	18.34	55	P		P	23 23 41.8	-1.6
CPUP	Villa Florida	18.34	55	eP		P	23 23 43.1	-0.3
PB08	IPOC Station P	18.39	15			Pn	23 23 45.4	+1.1
PB11	IPOC Station P	18.66	13	P		Pn	23 23 47.7	+0.3
PB11	comp=Z,28nm,0.9s				IAmb	IAmb	23 23 52.5	
PB16	IPOC Station P	20.08	13	P		Pn	23 24 05.5	+0.6
PB16	comp=Z,12nm,0.9s				IAmb	IAmb	23 24 10.1	
CNLB	Canela	21.14	72	eP		P	23 24 13.3	-0.7
ITAB	Concordia	21.33	66	P		P	23 24 15.3	-0.8
ITAB	comp=Z,16nm,1.0s				IAmb	IAmb	23 24 19.4	
ITAB	Concordia	21.33	66	eP		P	23 24 16.0	-0.1
LPAZ	La Paz comp=Z,0.7nm,0.5s,baz=172,slow=7.8,SNR=12	22.34	15	P		P	23 24 26.6	-1.0
LPAZ	La Paz	22.34	15	eP		P	23 24 26.8	-0.8
PTGB	Pitanga	22.94	61	eP		P	23 24 32.8	-0.6
TRCB	Terra Rica	23.85	56	P		P	23 24 41.7	-0.9
TRCB	Terra Rica	23.85	56	eP		P	23 24 41.9	-0.7
SIV	San Ignacio comp=Z,0.9nm,0.4s,baz=275,slow=19,SNR=5.5	24.81	31	P		P	23 24 48.8	-2.6
SIV	comp=Z,233nm,19.4s,baz=224,slow=42				LR	LR	23 36 30.2	
FRTB	Fartura	25.56	62	eP		P	23 24 56.8	-1.4
PCMB	Pacaembu	25.59	57	eP		P	23 24 57.6	-0.8
PTLB	Pontes e Lacer	26.11	34	eP		P	23 25 04.0	+0.9
PP1B	Ponte de Pedra	26.43	45	eP		P	23 25 06.9	+0.9
PET01	Itanhaem-SP	26.59	67	eP		P	23 25 07.5	0.0
SALV	Santo Antonio	27.39	41	eP		P	23 25 15.3	+0.6
ITRB	Iturama	27.54	55	eP		P	23 25 17.1	+1.1
BB19B	Bebedouro	27.79	60	eP		P	23 25 19.1	+0.8
ETMB	Extrema	29.02	16	eP		P	23 25 30.8	+1.6
PDRB	Porto dos Gac	30.58	35	eP		P	23 25 43.7	+0.6
BDFB	Brasilia comp=Z,1.8nm,0.9s,baz=95,slow=25,SNR=1.6	32.03	53	P		P	23 25 55.1	-0.9
PEXB	Peixe	34.60	48	eP		P	23 26 19.1	+0.9
RIB01	Linhares ES	34.68	67	eP		P	23 26 19.1	+0.2
NPGB	Novo Progresso	35.24	33	eP		P	23 26 24.1	+0.3
NAN01	Guararapari, ES	35.82	65	eP		P	23 26 28.7	-0.1
SDBA	SAO DESIDERIO	36.44	53	eP		P	23 26 34.4	+0.3
SMTB	Santa Maria do	37.61	46	eP		P	23 26 44.4	+0.3
OTAV	Otavalo	38.36	353	P		P	23 26 51.5	+0.7
OTAV	comp=Z,9.9nm,1.1s				IAmb	IAmb	23 27 03.1	
OTAV	Otavalo	38.36	353	eP		P	23 26 52.9	+2.0
NBLA	Lagarto - SE	42.17	60	eP		P	23 27 21.9	-0.1
NBAN	Anadia - AL	44.15	60	eP		P	23 27 38.8	+0.8
NBMA	Muriti-CE	44.18	55	eP		P	23 27 39.4	+1.1
NBPB	Pedra_Branca-C	45.04	53	eP		P	23 27 46.4	+1.2
ZARC	Zaragoza, Cauc	45.36	359	P		P	23 27 48.4	+0.8
ZARC	comp=Z,7.3nm,1.0s				IAmb	IAmb	23 27 56.8	
SDV	Santo Domingo comp=Z,1.5nm,0.3s,baz=286,slow=6.7,SNR=3.8	46.85	5	P		P	23 27 59.1	-0.4
NBCL	Cascavel-CE	46.87	53	eP		P	23 27 58.7	-0.9
RCBR	Riachuelo comp=Z,365nm,20.5s,baz=360,slow=39	47.20	57	LR		LR	23 49 36.3	
RCBR	Riachuelo	47.20	57	eP		P	23 28 03.1	+0.9
MDP	Montagnes des comp=Z,153nm,18.5s,baz=216,slow=38	47.35	30	LR		LR	23 49 41.6	
QSPA	South Pole Qui	52.15	180	P		P	23 28 40.4	+1.0
QSPA	comp=Z,4.6nm,1.1s				IAmb	IAmb	23 28 51.8	
143A	Socs Landing,	72.28	345	P		P	23 30 54.8	+0.3
TX31	Lajitas Ar. Si	72.58	333	P		P	23 30 57.2	+0.7
TX31	comp=Z,6.1nm,0.8s				IAmb	IAmb	23 31 06.4	
TXAR	Lajitas Array comp=Z,2.1nm,0.8s,baz=161,slow=9.9,SNR=4.2	72.58	333	P		P	23 30 59.0	+2.4
TXAR	Lajitas Array	72.58	333	P		P	23 30 57.2	+0.6
W50A	Signal Mountai	73.68	350	P		P	23 31 02.4	-0.4
W50A	comp=Z,9.4nm,0.9s				IAmb	IAmb	23 31 13.0	
SUR	Sutherland comp=Z,34nm,19.1s,baz=182,slow=34	74.27	119	LR		LR	00 01 52.1	
CCM	Cathedral Cave	77.42	346	P		P	23 31 25.1	+0.9
LIC	Lamto comp=Z,26nm,0.9s	77.59	72	eP		P	23 31 33.2	+7.5
TIC	Toumodi	77.87	72	eP		P	23 31 34.8	+7.5
KIC	Kosan Boka comp=Z,14nm,0.8s	77.90	72	eP		P	23 31 34.6	+7.2
DBIC	Dimbokro comp=Z,4.8nm,0.8s,baz=239,slow=6.3,SNR=5.4	78.01	72	P		P	23 31 28.9	+0.8
DBIC	Dimbokro	78.01	72	P		P	23 31 27.9	-0.1
P40A	Paris	79.00	346	P		P	23 31 32.6	-0.3
BOSA	Boshof comp=Z,4.0nm,0.8s,baz=190,slow=5.0,SNR=5.1	79.58	118	P		P	23 31 36.5	-0.3
BOSA	Boshof	79.58	118	P		P	23 31 36.3	-0.5
BOSA	comp=Z,15nm,1.4s				IAmb	IAmb	23 31 36.9	
LBTB	Lobatse	82.03	115	P		P	23 31 49.6	-0.3
LBTB	comp=Z,8.3nm,1.1s				IAmb	IAmb	23 32 15.7	
KOWA	Kowa	83.78	66	P		P	23 31 59.6	+0.8
PDAR	Pinedale Array comp=Z,0.5nm,1.0s,baz=166,slow=5.6,SNR=2.0	86.72	335	P		P	23 32 15.1	+1.8
PDAR	Pinedale Array	86.72	335	P		P	23 32 13.8	+0.5
TOA0	Torodi Ar. Sit	87.10	71	P		P	23 32 14.8	-0.6
TOA0	comp=Z,3.0nm,1.1s				IAmb	IAmb	23 32 25.0	
TORD	Torodi Ar. Bea comp=Z,0.8nm,0.6s,baz=224,slow=4.9,SNR=5.4	87.10	71	P		P	23 32 15.2	-0.2
TORD	Torodi Ar. Bea	87.10	71	P		P	23 32 15.1	-0.2
TORD	comp=Z,2.8nm,0.9s				IAmb	IAmb	23 32 23.6	
ARU	Arti comp=Z,0.4nm,0.3s,baz=327,slow=0.5,SNR=3.2	143.86	44	PKP		PKPdf	23 39 02.2	-1.7
AKTO	Aktyubinsk comp=Z,2.0nm,0.6s,baz=250,slow=4.0,SNR=5.9	144.12	54	PKP		PKPdf	23 39 03.0	-1.6
BVAR	Borovoye Array comp=Z,1.1nm,0.7s,baz=18,slow=3.2,SNR=7.1	151.31	47	PKPbc		PKiKP	23 39 23.2	+0.4
AAK	Ala-Archa comp=Z,2.2nm,0.7s,baz=232,slow=2.5,SNR=11	155.67	69	PKPab		PKPab	23 39 49.7	+0.2
AAK	Ala-Archa	155.67	69			PKPab	23 39 49.9	+0.4
KURBB	Kurchatov Arra comp=Z,1.0nm,0.7s,baz=288,slow=4.9,SNR=7.7	156.88	48	PKPab		PKPab	23 39 54.3	+0.1
KURK	Kurchatov	156.90	48			PKPab	23 39 54.6	+0.4
ZALV	Zalesovo Beam comp=Z,0.5nm,0.6s,baz=294,slow=7.5,SNR=4.0	158.52	36	PKPab		PKPab	23 40 01.9	+0.7
ZALV	Zalesovo Beam	158.52	36			PKPab	23 40 00.7	-0.4
MKAR	Makanchi Array comp=Z,1.3nm,0.7s,baz=286,slow=4.3,SNR=18	160.54	56	PKPab		PKPab	23 40 09.9	-0.4
PZH	PanZhiHua	167.90	162	PKP		PKPdf	23 39 35.3	-0.9

*CNRM **19** 23:22:43.4, 35˚.45N×3˚.77W, h25km, ml2.8*

*MDD **19** 23:22:44.2±0.5, 35˚.44N×3˚.71W, h8km±3km, mb_Lg2.3/15, Error ellipse: s-maj=3.8km s-min=2.3km az=169.0*
*SFS **19** 23:22:44.0, 35˚.43N×3˚.71W, h8km, ML2.3, ALBORAN SUR*

ISC 19 23:22:43.5±1.0, 35˚.44N±0˚.02×3˚.74W±0˚.02, h14km±7km, n45, σ2≥14/76, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.28	217	P		Pg		23 22 49.8	+0.4
PALE	Palemas	0.28	217	P		Pg		23 22 49.8	+0.4
PALE				S		Sb		23 22 54.4	-0.6
PVLZ	Peæn de	0.54	240	P		Pg		23 22 53.7	-0.4
PVLZ				S		Sg		23 23 01.2	0.0
GOG	Mont Gurugu	0.64	110	P		Pb		23 22 56.1	-0.5
GOG				S		Sb		23 23 05.6	+0.1
EMEL	Melilla	0.65	102	Pg		Pb		23 22 56.7	+0.1
EMEL				Sg		Sb		23 23 06.0	+0.4
EALB	Alboran	0.76	49	Pg		Pg		23 22 57.6	-0.6
EALB				Sg		Sg		23 23 08.0	-0.2
EALB				*i*	Vmb_Lg			23 23 10.7	
TAF	Taforalt	1.25	120	P		Pn		23 23 05.8	-0.8
TAF	Taforalt	1.25	120	P		Pn		23 23 05.2	-1.4
TAF				S		Sn		23 23 22.9	-0.5
CHEFC	Chefchaouen	1.35	256	P		Pg		23 23 10.0	+0.4
CHEFC	Chefchaouen	1.35	256	P		Pn		23 23 07.6	-0.5
CHEFC				S		Sn		23 23 22.2	-3.7
EMMJ	Mijas	1.40	323	Pn		Pb		23 23 09.3	-0.2
EMIJ				Sn		Sn		23 23 27.1	+0.2
EMIJ				*i*	Vmb_Lg			23 23 34.0	
CEU	Ceuta	1.41	289	P		Pn		23 23 05.3	-3.4
CEU				S		Sn		23 23 20.0	-7.1
ELGU	Los Guajares,	1.43	4	Pn		Pn		23 23 08.3	-0.8
ELGU				Sn		Sn		23 23 26.0	-1.6
ELGU				*i*	Vmb_Lg			23 23 28.1	
EMAL	Malaga-Limoner	1.43	337	P		Pb		23 23 09.7	-0.3
EMAL				S		Sn		23 23 24.0	-3.7
JBK	JBK	1.46	139	P		Pn		23 23 09.0	-0.7
JBK	JBK	1.46	139	P		Pn		23 23 08.6	-1.1
JBK				S		Sn		23 23 27.3	-1.5
EBER	Berja	1.61	25	Pn		Pn		23 23 09.9	-1.7
EBER				Sn		Sn		23 23 30.9	-1.3
EBER				*i*	Vmb_Lg			23 23 33.6	
EGOR	Sierra Gorda,	1.69	350	Pn		Pn		23 23 13.5	+0.7
EGOR				Sn		Sb		23 23 35.3	-0.4
EGOR				*i*	Vmb_Lg			23 23 47.2	
EJIF	Jimena Fronter	1.73	306	Pn		Pb		23 23 14.4	-0.6
EJIF				Sn		Sn		23 23 34.4	-0.7
EQUE	Quentar	1.77	8	Pn		Pn		23 23 14.1	+0.2
EQUE				Sn		Sn		23 23 35.3	-1.0
EQUE				*i*	Vmb_Lg			23 23 45.5	
SICH	Sidi Chahed	1.86	225	P		Pn		23 23 13.7	-1.3
SICH				S		Sn		23 23 38.5	+0.1
ENIJ	Nijar	1.96	39	Pn		Pn		23 23 15.9	-0.5
ENIJ				Sn		Sn		23 23 39.0	-1.8
ENIJ				*i*	Vmb_Lg			23 23 39.2	
LCRM	LCR	1.98	208	P		Pg		23 23 21.1	-0.5
LCRM	LCR	1.98	208	P		Pn		23 23 16.4	-0.4
LCRM				S		Sn		23 23 40.2	-1.3
ESPR	Espera	2.23	310	Pn		Pn		23 23 20.6	+0.5
ESPR				*i*	Vmb_Lg			23 23 59.4	
IFR	Ifrane	2.24	211	P		Pn		23 23 20.8	+0.4
IFR				S		Sn		23 23 46.1	-1.8
CZD	Col de Zad	2.64	205	P		Pn		23 23 26.3	+0.4
CZD				S		Sn		23 23 56.9	-1.0
MD31	MD31	2.71	199	P		Pn		23 23 26.6	-0.1
MD31				S		Sn		23 23 58.2	-1.0
MDT	Midelt	2.72	196	P		Pn		23 23 28.9	+2.0
MDT	Midelt	2.72	196	P		Pn		23 23 28.9	+2.0
MDT				S		Sn		23 23 59.6	-0.1
EADA	Adamuz	2.80	346	Pn		Pn		23 23 29.4	+1.5
EADA				Sn		Sn		23 24 01.4	-0.2
EADA				*i*	Vmb_Lg			23 24 14.4	
EZAR	Zarzadilla de	2.93	33	Pn		Pn		23 23 29.4	-0.4
EZAR				Sn		Sn		23 24 03.9	-0.9
ECAB	El Cabril	2.96	333	Pn		Pn		23 23 31.4	+1.3
ECAB				Sn		Sn		23 24 06.0	+0.6
ECAB				*i*	Vmb_Lg			23 24 18.7	
EMIN	Mina Concepcio	3.31	315	Pn		Pn		23 23 35.4	+0.5
EMIN				Sn		Sn		23 24 14.1	0.0
ETOB	Tobarra	3.64	28	Pn		Pn		23 23 40.5	+1.0
ETOB				Sn		Sn		23 24 22.0	-0.4
ETOB				*i*	Vmb_Lg			23 24 27.0	
EGRO	El Granado	3.67	306	Pn		Pn		23 23 40.1	+0.3
EGRO				Sn		Sn		23 24 22.0	-0.9
EGRO				*i*	Vmb_Lg			23 24 25.2	
PVAQ	Vaqueiros	3.76	303	P		Pn		23 23 40.6	-0.5
PVAQ				S		Sn		23 24 22.0	-3.2
PAB	San Pablo	4.12	353	Pn		Pn		23 23 46.6	+0.4
EBAD	Badajoz	4.22	323	Pn		Pn		23 23 48.1	+0.8
EBAD				*i*	Vmb_Lg			23 24 31.3	
EBAD				Sn		Sn		23 24 35.6	-0.8
ESDC	Sonseca Array	4.23	358	Pn		Pn		23 23 48.1	+0.5
ROSA	Rosais	19.81	287	*e*S		Sn		23 31 06.2	+8.7
ROSA	43nm,0.3s			A		A		23 31 06.8	
PPNO	Prainha do Nor	19.82	286	*e*S		Sn		23 31 05.5	+7.7
PPNO	7.3nm,0.3s			A		A		23 31 07.8	
PICO	Pico	19.95	286	*e*S		Sn		23 31 02.7	+1.8
PICO	5.4nm,0.2s			A		A		23 31 04.2	
PCAN	Candelaria	19.99	286	*e*S		S		23 31 00.8	+0.8
PCAN	7.0nm,0.1s			A		A		23 31 03.2	
PCED	Cedros	20.17	286	*e*S		S		23 30 57.0	-6.4
PCED	13nm,0.2s			A		A		23 30 59.2	

IDC 19 23:34:14.0±2.4, 6˚.36S×129˚.54E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/36, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=154.8km s-min=32.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.28	161	Pn		Pn		23 37 36.7	-1.0
WRA	0.1nm,0.3s,baz=343,slow=13,SNR=2.4			Sn		Sn		23 40 03.4	-14
ASAR	Alice Springs	17.71	167	P		P		23 38 22.8	-0.4
ASAR	0.2nm,0.3s,baz=342,slow=21,SNR=3.9			S		Sn		23 41 26.6	-14
MKAR	Makanchi Array	67.45	327	P		P		23 45 11.7	0.0

*NNC **19** 23:36:46.4±8.3, 40˚.04N×54˚.01E, h0km, mb3.9, Error ellipse: s-maj=104.2km s-min=31.4km az=70.0*
*IDC **19** 23:36:47.3±1.4, 39˚.58N×53˚.88E, h0km, mb2.8/2, mb1 3.3/5, mb1mx3.0/42, mbtmp3.2/5, ML3.1/3, MS2.9/1, Ms1 2.9/1, ms1mx2.1/21, Error ellipse: s-maj=18.6km s-min=13.0km az=16.0*
*AZER **19** 23:36:57.4±1.4, 39˚.43N×53˚.68E, h143km±38km, Error ellipse: s-maj=14.5km s-min=11.1km az=76.0*

ISC 19 23:36:53.7±1.3, 39˚.55N±0˚.09×54˚.02E±0˚.07, h50km, n32, σ2≥01/48, 2C-3D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	3.59	115	Pn		Pn		23 37 45.9	-1.0
GEYT	0.7nm,0.3s,baz=299,slow=14,SNR=9.6			Lg		Lg		23 38 43.7	
GYA0B	ALIBECK ARRAY	3.59	115	⇑Pn		Pn		23 37 46.4	-0.4
GYA0B	baz=287,slow=17			⇑Lg		Lg		23 38 48.6	
ATGJ	Altiaghaj	4.11	290	P		Pn		23 37 56.2	+2.3
ATGJ				S		Sn		23 38 42.5	+1.7
LKRN	Lenkeran, Azer	4.16	260	P		Pn		23 37 55.5	+1.0
LKRN				S		Sn		23 38 41.2	-0.7
ASTR	Astara	4.19	258	P		Pn		23 37 56.1	+1.1
ASTR				S		Sn		23 38 42.3	-0.3
SIZA	Siyzn	4.20	293	P		Pn		23 37 56.7	+1.5
SIZA				S		Sn		23 38 45.4	+2.3
SAAT	Saatly	4.33	276	S		Sn		23 38 51.5	+5.5
PQL	Pirkuli	4.34	288	P		Pn		23 37 58.7	+1.5
PQL				S		Sn		23 38 49.2	+2.7
GLBA	Clilabad	4.37	268	P		Pn		23 37 57.9	+0.5
GLBA				S		Sn		23 38 46.8	-0.3
LRK	Lerik	4.51	260	P		Pn		23 37 59.8	+0.2
LRK				S		Sn		23 38 49.4	-1.4
YRD	Yardimli	4.53	264	P		Pn		23 38 00.4	+0.5
YRD				S		Sn		23 38 49.9	-1.4
QUBA	Quba, Azerbaij	4.59	295	P		Pn		23 38 02.6	+2.1
QUBA				S		Sn		23 38 51.2	-1.3
IML	Ismayilli	4.64	287	P		Pn		23 38 03.9	+2.6
IML				S		Sn		23 38 54.6	+0.7
XNQ	Khinaliq	4.78	292	P		Pn		23 38 06.0	+2.8
XNQ				S		Sn		23 38 56.3	-1.1
ZRD	Zardab	4.93	281	P		Pn		23 38 06.1	+1.0
ZRD				S		Sn		23 38 59.1	-1.7
QBL	Gabala	4.93	288	P		Pn		23 38 07.7	+2.4
QBL				S		Sn		23 38 59.8	-1.2
BLQ	Beylaqan	4.99	274	S		Sn		23 39 01.7	-0.7
AGDM	Agdam	5.35	278	P		Pn		23 38 12.5	+1.6
AGDM				S		Sn		23 39 12.4	+1.1
SEKA	Sheki	5.47	290	P		Pn		23 38 12.1	-0.4
SEKA				S		Sn		23 39 12.1	-2.1
GANJ	Ganja	6.00	283	S		Sn		23 39 24.8	-2.5
ZKTA	Zakatala	6.00	293	P		Pn		23 38 22.7	+2.7
ZKTA				S		Sn		23 39 28.3	+1.0
ORD	Ordubad	6.26	267	S		Sn		23 39 32.3	-1.4
GDB	GEDABAY	6.44	283	P		Pn		23 38 27.3	+1.3
GDB				S		Sn		23 39 35.8	-2.5
SBZ	Shahbuz	6.55	271	P		Pn		23 38 29.4	+1.9
SBZ				S		Sn		23 39 39.7	-1.2
QZX	Qazax, Azerbai	6.78	286	P		Pn		23 38 31.1	+0.6
QZX				S		Sn		23 39 45.1	-1.3
KBZ	Khabaz	9.31	300	Pn		Pn		23 39 02.5	-2.6
KBZ	0.2nm,0.3s,baz=118,slow=12,SNR=7.5			Sn		Sn		23 40 42.5	-5.9
AB31	Akbulak array	10.59	22	⇓Pn		Pn		23 39 14.8	-7.8
AB31	3.2nm,0.7s,baz=260,slow=5.5,SNR=64			Sn		Sn		23 41 06.8	-13
AKTO	Aktyubinsk	11.25	13	Pn		Pn		23 39 26.4	-5.2
AKTO	0.1nm,0.3s,baz=206,slow=23,SNR=3.8			Sn		Sn		23 41 22.5	-13
AKTO	Aktyubinsk	11.25	13	⇓Pn		Pn		23 39 24.0	-7.6
AKTO	0.2nm,0.3s,baz=57,slow=20,SNR=1.9			⇓Sn		Sn		23 41 21.8	-14
KIRV	1.2nm,0.8s	19.28	353	LR		LR		23 49 52.4	
AKASG	1.4nm,0.6s	20.64	311	P		P		23 41 28.1	-0.8
MKAR	Kirov comp=Z,33nm,19.0s,baz=354,slow=41	21.78	61	P		P		23 41 41.4	+0.3
	Malin Array Be								
	0.3nm,0.3s,baz=105,slow=9.2,SNR=4.2								
	Makanchi Array								
	0.2nm,0.7s,baz=262,slow=11,SNR=1.5								

OTT 19 23:47:52.8±0.5, 40˚.25N×63˚.67W, h18km, ML3.6/12, 414km south from Shelburne, Ns, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAL	Halifax	4.39	1	PN		Pn		23 48 58.4	-0.1
HAL				SN		Sn		23 49 45.5	-3.5
HAL	comp=Z,12nm,0.0s			Trac				23 49 49.4	
GBN	Guysborough	5.40	16	PN		Pn		23 49 11.3	-1.0
GBN				SN		Sn		23 50 09.7	-4.2
GBN	comp=Z,26nm,0.1s			Trac				23 50 12.3	
GGN	Saint George	5.40	335	PN		Pn		23 49 11.2	-1.1
GGN	comp=Z,7.6nm,0.2s			Trac				23 50 27.9	
WCNB	Wards Creek	5.56	347	PN		Pn		23 49 14.3	-0.3
WCNB				SN		Sn		23 50 14.2	-3.8
WCNB	comp=Z,2.9nm,0.1s			Trac				23 50 19.4	
LMN	Caledonia Moun	5.67	352	PN		Pn		23 49 15.9	-0.1
LMN				SN		Sn		23 50 17.2	-3.4
LMN	comp=Z,20nm,0.1s			Trac				23 50 19.6	
ELNB	Elgin, New Bru	5.71	350	PN		Pn		23 49 16.6	0.0
ELNB				SN		Sn		23 50 18.3	-3.3
ELNB	comp=Z,5.8nm,0.1s			Trac				23 50 22.5	
SRNB	Snider Mountai	5.77	346	PN		Pn		23 49 17.1	-0.2
SRNB				SN		Sn		23 50 19.0	-4.0
SRNB	comp=Z,3.1nm,0.1s			Trac				23 50 24.5	
HKNB	Havelock Quarr	5.86	348	PN		Pn		23 49 18.2	-0.5
HKNB				SN		Sn		23 50 20.9	-4.6
HKNB	comp=Z,13nm,0.1s			Trac				23 50 25.4	
MCA3	McAdam 3	5.98	334	PN		Pn		23 49 19.6	-0.7
MCA3				SN		Sn		23 50 23.1	-5.2
MCA3	comp=Z,5.5nm,0.0s			Trac				23 50 27.1	
SVNB	Stilesville Qu	5.98	352	PN		Pn		23 49 20.3	0.0
SVNB				SN		Sn		23 50 24.9	-3.3
SVNB	comp=Z,27nm,0.1s			Trac				23 50 29.1	
PKME	Peaks-Kenny Pk	6.50	322	PN		Pn		23 49 25.6	-1.8
PKME				SN		Sn		23 50 33.4	-7.7
PKME	comp=Z,7.7nm,0.1s			Trac				23 50 36.8	
CHEG	Cheticamp, Nov	6.91	17	PN		Pn		23 49 32.2	-0.9
CHEG				SN		Sn		23 50 45.6	-5.7
CHEG	comp=Z,18nm,0.2s			Trac				23 50 49.8	
BATG	Bathurst New B	7.24	347	PN		Pn		23 49 36.9	-0.7
BATG				SN		Sn		23 50 54.0	-5.3
BATG	comp=Z,4.4nm,0.1s			Trac				23 50 57.3	
LBNH	Lisbon	7.31	306	PN		Pn		23 49 36.2	-2.3
LBNH		

WR0	**Warramunga Arr**	**43.69**	**264**	P		**P**		**23 58 34.3**	**-0.9**
WRA	**Warramunga Arr**	**43.88**	**264**	P		**P**		**23 58 35.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=95,slow=8.2,SNR=8.3								
WRA	**Warramunga Arr**	**43.88**	**264**	P		**P**		**23 58 35.1**	**-1.6**
QSPA	**South Pole Qui**	**67.74**	**180**	P		**P**		**00 01 24.8**	**+1.5**
XMIS	**Christmas Isla**	**73.05**	**265**	P		**P**		**00 01 56.1**	**+0.3**
PETK	**Petropavlovsk-**	**77.91**	**346**	P		**P**		**00 02 21.0**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=163,slow=5.4,SNR=4.8								
PETK	**Petropavlovsk-**	**77.91**	**346**	P		**P**		**00 02 21.3**	**-0.8**
NVAR	**Mina Array Bea**	**82.70**	**43**	P		**P**		**00 02 51.0**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=224,slow=8.3,SNR=3.5								
N19K	**Bonanza Creek**	**85.12**	**12**	P		**P**		**00 02 59.5**	**+0.1**
N19K				IAmb		IAmb		00 03 09.5	
	comp=Z,17nm,1.4s								
M19K	**Big River Lodg**	**86.15**	**11**	P		**P**		**00 03 04.7**	**+0.4**
M19K				IAmb		IAmb		00 03 21.7	
	comp=Z,12nm,1.4s								
KAIM	**Kayak Island**	**86.58**	**16**	P		**P**		**00 03 06.7**	**+0.4**
TTA	**Tatalina**	**86.83**	**10**	P		**P**		**00 03 08.0**	**+0.4**
TTA				IAmb		IAmb		00 03 33.1	
	comp=Z,8.4nm,1.5s								
GHO	**Glory Hole Cre**	**87.12**	**14**	P		**P**		**00 03 09.6**	**+0.6**
GHO				IAmb		IAmb		00 03 37.7	
	comp=Z,21nm,1.4s								
SCM	**Sheep Creek Mo**	**87.53**	**14**	P		**P**		**00 03 11.9**	**+1.0**
SCM				IAmb		IAmb		00 03 12.9	
	comp=Z,12nm,0.8s								
K20K	**Telida**	**87.56**	**11**	P		**P**		**00 03 11.4**	**+0.5**
CAST	**Castle Rocks**	**87.97**	**12**	P		**P**		**00 03 12.0**	**-0.8**
CAST				IAmb		IAmb		00 03 13.4	
	comp=Z,4.6nm,0.6s								
GLB	**Gilahina Butte**	**88.04**	**16**	P		**P**		**00 03 13.5**	**+0.3**
SEY	**Seymchan**	**88.04**	**347**	P		**P**		**00 03 13.7**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=146,slow=6.6,SNR=5.6								
TRF	**Thorofare Moun**	**88.34**	**12**	P		**P**		**00 03 14.7**	**-0.1**
TRF				IAmb		IAmb		00 03 25.3	
	comp=Z,13nm,1.4s								
RND	**Reindeer**	**88.59**	**13**	P		**P**		**00 03 15.9**	**+0.1**
RND				IAmb		IAmb		00 03 17.5	
	comp=Z,8.9nm,0.7s								
I21K	**Tanana**	**89.60**	**11**	P		**P**		**00 03 21.0**	**+0.7**
BCAR	**Beaver Creek A**	**89.92**	**16**	P		**P**		**00 03 22.7**	**+0.8**
ILAR	**Eielson Array**	**90.21**	**13**	P		**P**		**00 03 23.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=217,slow=5.2,SNR=28								
ILAR	**Eielson Array**	**90.21**	**13**	P		**P**		**00 03 23.4**	**+0.2**
PDAR	**Pinedale Array**	**90.64**	**43**	P		**P**		**00 03 28.2**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=225,slow=5.4,SNR=3.6								
ARCES	**ARCESS Array B**	**130.62**	**349**	PKP		**PKPdf**		**00 09 31.1**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=53,slow=1.5,SNR=8.1								
ARCES	**ARCESS Array B**	**130.62**	**349**			**PKPdf**		**00 09 30.7**	**-0.1**
FINES	**FINESS Array B**	**137.37**	**343**	PKP		**PKPdf**		**00 09 43.9**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=349,slow=1.9,SNR=5.3								
FINES	**FINESS Array B**	**137.37**	**343**			**PKPdf**		**00 09 44.3**	**+0.6**
NB2	**NORSAR Subarra**	**140.73**	**353**	PKP		**PKPdf**		**00 09 44.3**	**-5.6**
	comp=Z,2.8nm,0.9s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**140.73**	**353**	PKhKP		PKPpre		00 09 41.0	
	comp=Z,0.2nm,0.4s,baz=18,slow=1.6,SNR=5.8								
NOA				PKP		**PKiKP**		**00 09 51.6**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=16,slow=3.8,SNR=2.1								
AKASG	**Malin Array Be**	**144.35**	**329**	PKP		PKPbc		00 09 55.1	-0.8
	comp=Z,0.7nm,0.3s,baz=43,slow=4.4,SNR=12								
SORM	**Soroca**	**146.48**	**327**	⇑P		**PKPbc**		**00 10 02.3**	**-0.1**
BRTR	**Keskin Array B**	**147.66**	**310**	PKPbc		**PKPbc**		**00 10 05.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=132,slow=4.4,SNR=6.5								
BRTR	**Keskin Array B**	**147.66**	**310**			**PKPbc**		**00 10 05.9**	**-0.2**
SCTR	**Scanteiesti**	**148.23**	**323**	⇑P		**PKPbc**		**00 10 06.3**	**-0.8**
BURAR	**Bucovina Array**	**148.38**	**329**	⇑P		**PKiKP**		**00 10 09.0**	**+0.1**
TIRR	**Tirgusor**	**148.73**	**321**	⇑P		**PKPdf**		**00 10 05.7**	**+1.6**
TRPA	**Tarpa**	**149.23**	**332**	⇑P		**PKPbc**		**00 10 09.9**	**+0.4**
DOPR	**Dopca**	**149.43**	**326**	⇑P		**PKiKP**		**00 10 11.2**	**+0.2**
MLR	**Muntele Rosu**	**149.46**	**325**	⇓P		**PKPbc**		**00 10 10.4**	**0.0**
OSTC	**Ostas**	**149.55**	**341**	*e*PKP		**PKiKP**		**00 10 11.8**	**+0.7**
DPC	**Dobruska-Polom**	**149.70**	**341**	*e*PKP		**PKiKP**		**00 10 11.9**	**+0.5**
CLL	**Collm**	**149.72**	**346**	*i* PKPbc		**PKiKP**		**00 10 11.3**	**-0.1**
	comp=Z,6.0nm,0.6s								
CLL				*e*PKPab		**PKPab**		**00 10 17.0**	**-0.4**
CJR	**Cluj-Napoca**	**149.80**	**329**	⇑P		**PKPbc**		**00 10 11.2**	**+0.2**
KRLC	**Kraliky**	**149.80**	**340**	*e*PKP		**PKPbc**		**00 10 11.3**	**+0.4**
MORC	**Moravsky Berou**	**149.82**	**339**	⇑P		**PKiKP**		**00 10 11.7**	**0.0**
PVCC	**Panska Ves**	**150.04**	**343**	*e*PKP		**PKiKP**		**00 10 12.6**	**+0.5**
DRGR		**150.16**	**330**	⇑P		**PKPbc**		**00 10 11.9**	**0.0**
ARR	**Arges**	**150.23**	**326**	⇑P		**PKiKP**		**00 10 13.6**	**+0.9**
PRU	**Pruhonice**	**150.54**	**343**	*e*PKP		**PKiKP**		**00 10 13.5**	**+0.4**
NKC	**Novy Kostel**	**150.85**	**345**	*e*PKP		**PKiKP**		**00 10 14.0**	**+0.2**
PBCC	**Pribram**	**150.96**	**343**	*e*PKP		**PKiKP**		**00 10 14.4**	**+0.4**
SIRR	**Siria**	**151.03**	**330**	⇑P		**PKiKP**		**00 10 14.5**	**+0.2**
GZR	**Gura Zlata**	**151.15**	**328**	⇑P		**PKPbc**		**00 10 13.1**	**-1.2**
BZS	**Buzias**	**151.54**	**329**	⇑P		**PKPbc**		**00 10 14.8**	**-0.2**
KHC	**Kasperske Hory**	**151.58**	**343**	*e*PKP		**PKiKP**		**00 10 15.9**	**+0.5**
KHC	**Kasperske Hory**	**151.58**	**343**			**PKPbc**		**00 10 15.4**	**+0.3**
CKRC	**Cesky Krumlov**	**151.66**	**342**	*e*PKP		**PKiKP**		**00 10 16.2**	**+0.7**
HERR	**Herculane**	**151.69**	**328**	⇑P		**PKPbc**		**00 10 15.4**	**0.0**
GERES	**GERESS Array B**	**151.81**	**343**	PKPbc		**PKPbc**		**00 10 15.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=28,slow=3.2,SNR=14								
CONA	**Conrad Observa**	**151.97**	**339**	*e*P		**PKiKP**		**00 10 16.4**	**+0.1**
	comp=Z,1.9nm,0.6s								
MOA	**Molln**	**152.54**	**341**	*e*P		**PKPbc**		**00 10 17.2**	**0.0**
	comp=Z,0.5nm,0.5s								
SOKA	**Soboth**	**153.34**	**339**	*e*P		**PKPbc**		**00 10 18.8**	**-0.2**
	comp=Z,0.4nm,0.3s								
KBA	**Koelnbreinsper**	**153.51**	**342**	*e*P		**PKPbc**		**00 10 19.6**	**+0.1**
	comp=Z,1.1nm,0.9s								
WATA	**Walderalm**	**153.76**	**344**	*i* P		**PKPbc**		**00 10 19.8**	**-0.2**
	comp=Z,0.7nm,0.4s								
WTTA	**Wattenberg**	**153.81**	**344**	*i* P		**PKPbc**		**00 10 20.1**	**-0.1**
	comp=Z,1.5nm,0.4s								
SQTA	**Sankt Quirin**	**153.95**	**345**	*e*P		**PKiKP**		**00 10 22.5**	**+2.0**
	comp=Z,0.4nm,0.4s								
ABTA	**Abfaltersbach**	**154.05**	**342**	*e*P		**PKPbc**		**00 10 20.4**	**-0.2**
	comp=Z,0.8nm,0.5s								
FETA	**Feichten**	**154.26**	**345**	*e*P		**PKiKP**		**00 10 22.1**	**+1.0**
	comp=Z,1.2nm,0.8s								

IDC 19 23:54:41.8±5.0, 19°.08S×172°.46W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.6/4, MS3.4/4, Ms1 3.4/4, ms1mx2.8/50, Error ellipse: s-maj=324.2km s-min=33.1km az=153.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**38.84**	**261**	P		P	00 02 09.9	+0.9
	1.4nm,0.6s,baz=78,slow=9.3,SNR=2.4							
PMG	**Port Moresby**	**40.22**	**278**	LR		LR	00 17 26.1	
	comp=Z,126nm,18.9s,baz=248,slow=34							
ASAR	**Alice Springs**	**49.92**	**255**	P		P	00 03 36.7	-1.0
	0.8nm,0.8s,baz=101,slow=8.8,SNR=6.3							
ASAR				LR		LR	00 22 34.8	
	comp=Z,80nm,21.7s,baz=350,slow=34							
WRA	**Warramunga Arr**	**49.98**	**260**	P		P	00 03 38.1	0.0
	0.2nm,0.3s,baz=94,slow=8.2,SNR=4.6							
GUMO	**Guam**	**53.11**	**305**	LR		LR	00 25 16.2	
	comp=Z,23nm,19.3s,baz=117,slow=34							
MJAR	**Matsushiro Arr**	**72.32**	**320**	LR		LR	00 36 44.4	
	comp=Z,6.4nm,18.3s,baz=136,slow=35							
NVAR	**Mina Array Bea**	**76.47**	**41**	P		P	00 06 33.9	+0.1
	0.1nm,0.5s,baz=244,slow=7.5,SNR=1.4							

*NEIC **20** 00:09:55.1±1.7, 4.°39S±0.°08×139.°26E±0.°08, h13km±3km, mb4.6/30, Error ellipse: s-maj=15.4km s-min=6.6km az=48.0*
*DJA **20** 00:09:58.3±0.2, 4.°3S±2.°×13.°9E±.°, h43km±8km, M4.8/16, mB5.5/3, mb4.7/16, MLv4.8/7, Mw(mB)4.9/3*
*IDC **20** 00:10:00.4±0.6, 4.°49S×139.°12E, h56km±4km, mb4.0/9, mb1 4.3/15, mb1mx4.0/42, mbtmp4.5/15, MS3.3/11, Ms1 3.3/11, ms1mx2.9/56, Error ellipse: s-maj=21.2km s-min=12.8km az=75.0*

ISC 20 00:09:58.3±0.4, 4.°53S±0.°04×139.°09E±0.°05, h44km, n107, σ1.995/116, mb4.5/26, MS3.3/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**2.20**	**29**	P		**Pn**	**00 10 33.0**	**+0.5**
GENI				S		**Sn**	**00 10 57.3**	**-1.2**
GENI	**Genyem**	**2.20**	**29**	P		**Pn**	**00 10 33.8**	**+1.3**
SMPI	**Sarmi**	**2.55**	**351**	P		**Pn**	**00 10 38.0**	**+0.7**
JAY	**Jayapura**	**2.57**	**39**	P		**Pn**	**00 10 36.3**	**-1.2**
JAY				S		**Sn**	**00 11 03.9**	**-3.7**
SRPI	**Serui, Papua**	**3.89**	**313**	P		**Pn**	**00 10 53.7**	**-1.9**
SRPI				S		**Sn**	**00 11 39.7**	**-0.3**
MMPI	**Merauke**	**4.12**	**162**	P		**Pn**	**00 10 59.0**	**+0.3**
MMPI				S		**Sn**	**00 11 48.4**	**+2.8**
FAKI	**Fak Fak**	**7.01**	**283**	Pn		**Pn**	**00 11 40.4**	**+1.8**
FAKI	**Fak Fak**	**7.01**	**283**	P		**Pn**	**00 11 40.5**	**+1.9**
	0.2nm68nm,0.6s							
SIJI	**Sorong**	**8.62**	**295**	P		**Pn**	**00 12 03.1**	**+2.5**
	4.0nm,0.3s,baz=112,slow=18,SNR=8.4							
SWI	**Sorong**	**8.63**	**295**	P		**Pn**	**00 12 00.8**	**+0.1**
	32nm,0.6s							
PMG	**Port Moresby**	**9.36**	**122**	P		**Pn**	**00 12 12.9**	**+2.2**
	2.7nm,0.3s,baz=300,slow=18,SNR=10							
PMG				S		**Sn**	**00 13 51.5**	**-3.1**
	1.8nm,0.3s,baz=202,slow=8.7,SNR=1.3							
PMG	**Port Moresby**	**9.36**	**122**	Pn		**Pn**	**00 12 09.0**	**-1.7**
PMG	**Port Moresby**	**9.36**	**122**	P		**Pn**	**00 12 15.2**	**+4.6**
PMG	**Port Moresby**	**9.36**	**122**	P		**Pn**	**00 12 15.3**	**+4.6**
COEN	**Coen**	**10.20**	**157**			**Pn**	**00 12 23.3**	**+1.1**
COEN	**Coen**	**10.20**	**157**	P		**Pn**	**00 12 24.0**	**+1.8**
KDU	**Kakadu**	**10.41**	**218**	P		**Pn**	**00 12 27.5**	**+2.3**
AAI	**Ambon**	**10.90**	**274**	P		**Pn**	**00 12 31.5**	**-0.4**
	32nm,0.6s							
MTN	**Manton Dam**	**11.40**	**223**	Pn		**Pn**	**00 12 40.3**	**+1.5**
MTN	**Manton Dam**	**11.40**	**223**	P		**Pn**	**00 12 39.8**	**+1.1**
SANI	**Sanana**	**13.31**	**280**	P		**Pn**	**00 13 03.9**	**-0.9**
	30nm,0.7s							
MTSU	**Mount Surprise**	**14.45**	**160**	P		**Pn**	**00 13 22.7**	**+2.4**
KNRA	**Kununurra**	**15.03**	**222**			**Pn**	**00 13 27.1**	**-0.8**
KNRA	**Kununurra**	**15.03**	**222**	P		**Pn**	**00 13 28.8**	**+0.9**
WB0	**Warramunga Arr**	**15.82**	**196**			**Pn**	**00 13 37.3**	**-0.9**
WB0				IAmb		IAmb	00 13 56.9	
	comp=Z,30nm,0.9s							
QIS	**Mount Isa**	**15.94**	**178**	P		**Pn**	**00 13 40.8**	**+1.1**
WRA	**Warramunga Arr**	**16.00**	**196**	P		**Pn**	**00 13 38.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=20,slow=13,SNR=27							
WRA				S		**Sn**	**00 16 30.2**	**-6.9**
	comp=Z,2.5nm,0.3s,baz=12,slow=22,SNR=6.7							
WRA				LR		LR	00 20 28.5	
	comp=Z,112nm,18.1s,baz=354,slow=39							
WRA	**Warramunga Arr**	**16.00**	**196**			**Pn**	**00 13 38.6**	**-1.9**
BATI	**Baumata**	**16.30**	**249**	P		**Pn**	**00 13 44.7**	**+0.4**
	comp=Z,5.3nm,0.3s,baz=179,slow=2.0,SNR=10							
BATI				S		**Sn**	**00 16 38.1**	**-6.3**
	comp=Z,1.5nm,0.3s,baz=77,slow=20,SNR=1.5							
BATI	**Baumata**	**16.30**	**249**	P		**Pn**	**00 13 44.2**	**-0.2**
	comp=Z,34nm,0.9s							
CTA	**Charters Tower**	**16.96**	**156**	P		**P**	**00 13 54.6**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=334,slow=13,SNR=30							
CTA				S		**Sn**	**00 16 54.8**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=309,slow=15,SNR=1.6							
CTA				LR		LR	00 20 38.1	
	comp=Z,137nm,18.6s,baz=339,slow=38							
CTA	**Charters Tower**	**16.96**	**156**	P		**P**	**00 13 56.6**	**+2.6**
MMRI	**Maumere**	**17.23**	**255**			**P**	**00 13 57.8**	**+0.7**
MMRI				IAmb		IAmb	00 14 06.9	
	comp=Z,39nm,1.0s							
FITZ	**Fitzroy Crossi**	**18.84**	**223**	P		**Pn**	**00 14 15.8**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=47,slow=12,SNR=37							
FITZ				S		Sn	00 17 34.3	-11
	comp=Z,2.0nm,0.3s,baz=158,slow=6.3,SNR=5.7							
FITZ				LR		LR	00 21 33.8	
	comp=Z,72nm,20.3s,baz=59,slow=37							
FITZ	**Fitzroy Crossi**	**18.84**	**223**			**Pn**	**00 14 15.6**	**0.0**
FITZ				IAmb		IAmb	00 14 30.0	
	comp=Z,14nm,0.7s							
FITZ	**Fitzroy Crossi**	**18.84**	**223**	P		**Pn**	**00 14 16.2**	**+0.6**
TOLI2	**Tolitoli**	**19.14**	**287**	P		**Pn**	**00 14 19.3**	**+0.1**
TOLI2	**Tolitoli**	**19.14**	**287**	P		**Pn**	**00 14 17.8**	**-1.4**
AS31	**Alice Springs**	**19.67**	**194**			**Pn**	**00 14 25.7**	**+0.2**
AS31				IAmb		IAmb	00 14 41.7	
	comp=Z,17nm,0.8s							
ASAR	**Alice Springs**	**19.67**	**194**	P		**Pn**	**00 14 26.9**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=24,slow=9.8,SNR=209							
ASAR				pP		**sP**	**00 14 38.8**	**-1.3**
	comp=Z,3.3nm,0.3s,baz=18,slow=9.2,SNR=22							
ASAR				S		**S**	**00 17 56.9**	**-6.7**
	comp=Z,0.9nm,0.3s,baz=21,slow=28,SNR=5.2							
ASAR	**Alice Springs**	**19.67**	**194**			**Pn**	**00 14 26.2**	**+0.6**
RK1H	**Rockhampton Ha**	**21.74**	**151**	P		**P**	**00 14 47.5**	**+1.4**
QLP	**Quilpie**	**22.47**	**168**	P		**P**	**00 14 54.9**	**+0.9**
WRKA	**Warakurna**	**22.88**	**206**	P		**P**	**00 14 59.7**	**+1.4**
INKA	**Innaminka**	**23.14**	**176**	P		**P**	**00 15 01.4**	**+0.6**
OOD	**Oodnadatta**	**23.36**	**188**	P		**P**	**00 15 04.8**	**+1.8**
EIDS	**Eidsvold**	**23.70**	**152**	P		**P**	**00 15 06.4**	**+0.1**
EIDS				IAmb		IAmb	00 15 08.6	
	comp=Z,8.3nm,0.8s							
RMQ	**Roma**	**23.71**	**158**	P		**P**	**00 15 07.6**	**+1.2**
PSA00	**Pilbara Seismi**	**25.21**	**226**	P		**P**	**00 15 22.5**	**+2.3**
PSA00	**Pilbara Seismi**	**25.21**	**226**	P		**P**	**00 15 22.4**	**+2.3**
PSA00				IAmb		IAmb	00 15 23.6	
	comp=Z,34nm,1.5s							
STKA	**Stephens Creek**	**27.30**	**175**	P		**P**	**00 15 38.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=341,slow=12,SNR=4.7							
STKA				LR		LR	00 27 27.2	
	comp=Z,106nm,18.6s,baz=356,slow=38							
STKA	**Stephens Creek**	**27.30**	**175**	P		**P**	**00 15 38.3**	**-0.6**
BBOO	**Buckleboo**	**28.28**	**185**	P		**P**	**00 15 50.8**	**+3.1**
BBOO				IAmb		IAmb	00 16 05.0	
	comp=Z,28nm,1.4s							
DZM	**Mont Dzumac**	**31.71**	**126**	LR		LR	00 28 36.3	
	comp=Z,46nm,18.1s,baz=278,slow=35							
OUENC	**Ouen Island, N**	**32.21**	**126**	P		**P**	**00 16 21.5**	**-1.0**
OUENC				IAmb		IAmb	00 16 41.9	
	comp=Z,34nm,1.5s							
JNU	**Nakatsue**	**38.25**	**349**	P		**P**	**00 17 14.0**	**-0.3**
JNU				IAmb		IAmb	00 17 15.4	
	comp=Z,22nm,1.0s							
NJ2	**Nanjing**	**41.16**	**333**	*e*P		**P**	**00 17 40.3**	**+1.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**45.69**	**301**	P		**P**	**00 18 16.7**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=129,slow=6.2,SNR=12							
CMAR				pP		**sP**	**00 18 30.2**	**-3.2**
	comp=Z,1.5nm,0.3s,baz=41,slow=44,SNR=1.9							
CMAR				sP		pP	00 18 38.0	+10
	comp=Z,2.3nm,0.3s,baz=126,slow=6.1,SNR=1.5							
CMAR				LR		LR	00 40 03.1	
	comp=Z,5.8nm,18.7s,baz=215,slow=40							
CMAR	**Chiang Mai Arr**	**45.69**	**301**	P		**P**	**00 18 15.4**	**+0.1**
CHTO	**Chiang Mai**	**45.84**	**302**	P		**P**	**00 18 16.8**	**+0.2**
QRZ	**Quartz Range**	**46.97**	**145**	P		**P**	**00 18 25.9**	**+0.9**
PZH	**PanZhiHua**	**47.52**	**313**	P		**P**	**00 18 33.0**	**+3.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.3s							
RPZ	**Rata Peaks**	**48.14**	**149**	LR		LR	00 38 33.2	
	comp=Z,54nm,19.6s,baz=238,slow=36							
TUWZ	**Tuamarina**	**48.17**	**145**	P		**P**	**00 18 34.8**	**+0.5**
BSWZ	**Blackbirch Sta**	**48.31**	**145**	P		**P**	**00 18 35.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**51.72**	**333**	*e*P		**P**	**00 19 02.5**	**+1.1**
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,6.0s							
KLR	**Kul'dur**	**53.92**	**354**	P		**P**	**00 19 18.5**	**+1.1**
	comp=Z,2.6nm,0.7s,baz=178,slow=2.2,SNR=12							
KLR				pP		**sP**	**00 19 33.3**	**-2.8**
	comp=Z,4.7nm,0.8s,baz=212,slow=4.6,SNR=9.0							
GTA	**Gaotai**	**56.76**	**324**	*e*P		**P**	**00 19 40.3**	**+2.2**
GTA				pP		pP	00 19 45.9	-5.8
GTA				sP		sP	00 19 48.9	-8.2
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**59.52**	**335**	P		**P**	**00 19 58.3**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=157,slow=7.2,SNR=4.4							
SONM				pP		**sP**	**00 20 13.8**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=161,slow=5.9,SNR=6.3							
SONM	**Songino Array**	**59.52**	**335**	P		**P**	**00 19 57.9**	**+0.6**
PETK	**Petropavlovsk-**	**59.53**	**13**	LR		LR	00 44 19.3	
	comp=Z,19nm,20.6s,baz=236,slow=35							
RAR	**Rarotonga**	**61.49**	**112**	LR		LR	00 46 27.6	
	comp=Z,25nm,18.1s,baz=279,slow=36							
MA2	**Magadan**	**64.58**	**7**	LR		LR	00 44 47.2	
	comp=Z,12nm,21.8s,baz=39,slow=32							
WMQ	**Urumqi**	**66.67**	**322**	*e*P		P	00 20 48.3	+3.5
MK31	**Makanchi Array**	**71.46**	**323**	P		**P**	**00 21 14.9**	**+0.6**
MK31				IAmb		IAmb	00 21 32.6	
	comp=Z,5.9nm,1.3s							
MKAR	**Makanchi Array**	**71.46**	**323**	P		**P**	**00 21 15.5**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=114,slow=7.8,SNR=29							
MKAR				pP		**sP**	**00 21 30.5**	**-2.6**
	comp=Z,2.3nm,0.8s,baz=104,slow=7.1,SNR=9.7							
MKAR	**Makanchi Array**	**71.46**	**323**	P		**P**	**00 21 14.8**	**+0.4**
MAKZ	**Makanchi**	**71.65**	**323**			**P**	**00 21 16.0**	**+0.5**
MAKZ				IAmb		IAmb	00 21 38.4	
	comp=Z,4.0nm,0.7s							
ZAA0	**Zalesovo Array**	**73.69**	**330**	P		**P**	**00 21 27.0**	**-0.4**
ZALV	**Zalesovo Beam**	**73.69**	**330**	P		**P**	**00 21 27.4**	**0.0**
	comp=Z,1.9nm,0.8s,baz=108,slow=4.8,SNR=7.8							
ZALV	**Zalesovo Beam**	**73.69**	**330**	P		**P**	**00 21 27.2**	**-0.3**
VNDA	**Vanda**	**73.94**	**175**	P		**P**	**00 21 29.4**	**+0.9**
KURK	**Kurchatov**	**75.42**	**325**			**P**	**00 21 37.3**	**-0.2**
KURK				IAmb		IAmb	00 21 55.4	
	comp=Z,7.2nm,1.1s							
KURBB	**Kurchatov Arra**	**75.43**	**325**	P		**P**	**00 21 38.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=116,slow=5.0,SNR=20							
KURBB				pP		**pP**	**00 21 53.1**	**+1.9**
	comp=Z,3.6nm,0.9s,baz=118,slow=5.4,SNR=8.5							
KKAR	**Karatay Array**	**77.69**	**316**	P		**P**	**00 21 49.3**	**-1.3**
BVAR	**Borovoye Array**	**81.02**	**325**	P		**P**	**00 22 09.3**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=139,slow=45,SNR=22							
BVAR				pP		**sP**	**00 22 24.1**	**-3.3**
	comp=Z,2.4nm,0.6s,baz=202,slow=11,SNR=8.6							
BRVK	**Borovoye**	**81.09**	**325**			**P**	**00 22 09.5**	**+0.6**
BRVK				IAmb		IAmb	00 22 10.5	
	comp=Z,6.2nm,0.7s							
NRIK	**Noril'sk**	**81.56**	**344**	P		**P**	**00 22 11.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=130,slow=5.8,SNR=4.0							
NRIK				pP		**sP**	**00 22 27.6**	**-2.5**
	comp=Z,2.7nm,0.8s,baz=131,slow=3.6,SNR=3.0							
RC01	**Rabbit Creek A**	**84.96**	**27**	P		**P**	**00 22 28.0**	**-0.7**
QSPA	**South Pole Qui**	**85.43**	**180**	P		**P**	**00 22 31.4**	**+0.3**
QSPA				IAmb		IAmb	00 22 54.9	
	comp=Z,4.5nm,1.1s							
PWL	**Port Wells**	**85.54**	**28**	P		**P**	**00 22 31.4**	**-0.2**
SML	**Sawmill**	**85.83**	**27**	P		**P**	**00 22 33.1**	**0.0**
SML				IAmb		IAmb	00 22 58.6	
	comp=Z,11nm,1.1s							
SCM	**Sheep Creek Mo**	**86.29**	**27**	P		**P**	**00 22 35.4**	**0.0**
DIV	**Divide**	**86.82**	**28**	P		**P**	**00 22 38.4**	**+0.4**
M24K	**Tolsona, Glenn**	**86.89**	**27**	P		**P**	**00 22 39.4**	**+1.1**
ILAR	**Eielson Array**	**87.32**	**24**	P		**P**	**00 22 39.2**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=261,slow=5.2,SNR=9.7							
ILAR	**Eielson Array**	**87.32**	**24**	P	

MAKZ	**Makanchi**	**13.37**	**35**	Pn	**Pn**	00 22 03.0	0.0	
MK31	**Makanchi Array**	**13.51**	**36**	Pn	**Pn**	00 22 04.7	0.0	
MKAR	**Makanchi Array**	**13.51**	**36**	P	**Pn**	00 22 06.3	+1.6	
	comp=E,0.3nm,0.3s,baz=208,slow=11,SNR=9.3							
MKAR	**Makanchi Array**	**13.51**	**36**	P	**Pn**	00 22 06.9	+2.2	
DANN	**Dangsing**	**13.61**	**122**	*e*Pn	**Pn**	00 22 06.2	-0.3	
DANN				*e*Sn	S	00 24 28.2	-10	
	comp=E,42nm,0.6s							
KOLN	**Koldanda**	**13.88**	**125**	*e*Pn	**Pn**	00 22 10.2	+0.5	
KOLN				*e*Sn	S	00 24 35.7	-8.4	
	comp=E,30nm,0.8s							
BHPL	**Bhopal**	**14.33**	**154**	*e*P	**P**	00 22 19.1	+2.6	
BHPL				*ex*	x	00 24 48.4		
GKN	**Gorkha**	**14.43**	**121**	*e*Pn	**Pn**	00 22 16.4	0.0	
GKN				*e*Sn	S	00 24 46.5	-10	
	comp=E,48nm,0.5s							
DMN	**Daman**	**15.00**	**122**	*e*Pn	**Pn**	00 22 24.7	+1.2	
DMN				*e*Sn	S	00 25 00.7	-9.4	
	comp=E,39nm,0.8s							
KKN	**Kakani**	**15.01**	**121**	*e*Pn	**Pn**	00 22 23.9	+0.4	
KKN				*e*Sn	S	00 25 00.2	-10	
	comp=E,18nm,0.5s							
AB31	**Akbulak array**	**15.08**	**332**	⫴P	**Pn**	00 22 25.2	+1.3	
	comp=E,2.2nm,0.5s,baz=149,slow=12,SNR=76							
AB31				⫴S	**S**	00 25 08.5	-2.4	
	comp=E,0.7nm,0.5s							
ABKAR	**Akbulak array**	**15.08**	**332**		**Pn**	00 22 23.9	0.0	
ABKAR	**Akbulak array**	**15.08**	**332**		**Pn**	00 22 23.5	-0.4	
ABKAR				IAmb	IAmb	00 22 27.4		
	comp=Z,4.5nm,0.5s							
PKIN	**Phulchoki**	**15.22**	**121**	*e*Pn	**Pn**	00 22 26.3	+0.1	
PKIN				*e*Sn	S	00 25 05.6	-10	
	comp=Z,24nm,0.6s							
PKI	**Pulchoki**	**15.23**	**121**	*e*Pn	**Pn**	00 22 26.8	+0.4	
PKI				*e*Sn	S	00 25 05.7	-10	
	comp=Z,24nm,0.6s							
KURBB	**Kurchatov Arra**	**15.30**	**19**	P	**Pn**	00 22 25.8	-0.7	
	comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=3.2							
GUN	**Gumba**	**15.36**	**119**	*e*Pn	**Pn**	00 22 27.6	-0.3	
JIRN	**Jiri**	**15.72**	**119**	*e*Pn	**P**	00 22 32.5	+0.3	
RAMN	**Ramite**	**16.45**	**120**	*e*Pn	**P**	00 22 41.2	+1.2	
BRVK	**Borovoye**	**16.67**	**359**	P	**P**	00 22 42.6	+0.7	
BRVK				IAmb	IAmb	00 22 46.1		
	comp=Z,4.4nm,0.9s							
AKTO	**Aktyubinsk**	**16.77**	**331**	P	**P**	00 22 44.9	+1.8	
	comp=Z,0.7nm,0.3s,baz=141,slow=10,SNR=11							
AKTO	**Aktyubinsk**	**16.77**	**331**	⫴P	**Pn**	00 22 48.8	+4.6	
	comp=Z,5.1nm,1.1s							
AKTO				⫴S	**S**	00 25 48.8	+1.3	
	comp=Z,4.5nm,1.4s							
TAPN	**Taplejung**	**16.99**	**117**	*e*Pn	**P**	00 22 48.7	+2.7	
TAPN				*e*Sn	**S**	00 25 47.3	-5.6	
	comp=Z,22nm,0.7s							
ZAA0	**Zalesovo Array**	**20.11**	**25**	P	**P**	00 23 19.3	+0.2	
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	00 23 20.0	+0.9	
	comp=Z,1.1nm,0.3s,baz=215,slow=11,SNR=9.1							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	00 23 19.4	+0.3	
SHL	**Shillong**	**21.06**	**115**	P	**P**	00 23 27.2	-2.5	
SHL				IAmb	IAmb	00 23 33.3		
	comp=Z,5.8nm,0.5s							
ARU	**Arti**	**21.67**	**342**	P	**P**	00 23 36.7	+1.3	
	comp=Z,1.1nm,0.5s,baz=135,slow=7.6,SNR=5.7							
ARU	**Arti**	**21.67**	**342**	P	**P**	00 23 36.7	+1.3	
ARU				IAmb	IAmb	00 23 38.7		
	comp=Z,3.7nm,0.6s							
BELG	**Belogornoye**	**22.84**	**322**	P	**P**	00 23 47.6	+1.3	
	comp=Z,7.8nm,0.6s,baz=326,slow=1.8,SNR=4.8							
KIRV	**Kirov**	**26.24**	**335**	P	**P**	00 24 18.9	+1.8	
	comp=Z,7.2nm,0.5s,baz=133,slow=3.9,SNR=6.7							
ELL	**Elmali**	**32.61**	**283**	P	**P**	00 25 14.8	+1.1	
NRIK	**Noril'sk**	**34.27**	**11**	P	**P**	00 25 29.5	+2.1	
	comp=Z,2.1nm,0.6s,baz=180,slow=5.4,SNR=5.4							
NRIK	**Noril'sk**	**34.27**	**11**	P	**P**	00 25 29.1	+1.7	
NRIK				IAmb	IAmb	00 25 30.1		
	comp=Z,2.3nm,0.6s							
FIA1	**FINESS Array S**	**37.45**	**326**	P	**P**	00 25 55.6	+1.1	
FIA1				IAmb	IAmb	00 26 13.0		
	comp=Z,10nm,1.4s							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	00 25 55.6	+1.1	
	comp=Z,1.1nm,0.6s,baz=120,slow=7.5,SNR=11							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	00 25 55.3	+0.8	
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	00 26 24.5	-0.6	
	comp=Z,3.8nm,0.9s,baz=90,slow=8.5,SNR=5.2							
NC405	**NORSAR Array S**	**44.10**	**323**	P	**P**	00 26 49.4	+0.6	
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	00 26 51.0	+0.3	
	comp=Z,0.9nm,0.4s,baz=100,slow=7.9							
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	00 26 51.1	+0.4	
	comp=Z,0.4nm,0.4s,baz=102,slow=7.1,SNR=7.3							
CTI	**Castel Tesino**	**44.55**	**302**	P	**P**	00 26 51.9	-0.8	
KEST	**Kesra**	**48.86**	**288**	P	**P**	00 27 27.5	+1.3	
	comp=Z,1.4nm,0.7s,baz=41,slow=9.3,SNR=2.0							
ESDC	**Sonseca Array**	**57.31**	**298**	P	**P**	00 28 27.0	-0.8	
	comp=Z,0.4nm,0.8s,baz=58,slow=9.0,SNR=2.3							
TOA0	**Torodi Ar. Sit**	**65.49**	**269**	P	**P**	00 29 21.8	-1.0	
TORD	**Torodi Ar. Bea**	**65.49**	**269**	P	**P**	00 29 21.2	-1.6	
	comp=Z,1.0nm,0.5s,baz=48,slow=5.5,SNR=8.1							
TORD	**Torodi Ar. Bea**	**65.49**	**269**	P	**P**	00 29 21.8	-1.0	
KOWA	**Kowa**	**69.35**	**273**	P	**P**	00 29 46.0	-1.0	
KOWA				IAmb	IAmb	00 30 01.5		
	comp=Z,3.0nm,1.4s							
LBTB	**Lobatse**	**74.45**	**222**	P	**P**	00 30 17.9	+0.8	
SCM	**Sheep Creek Mo**	**77.38**	**17**	P	**P**	00 30 34.0	+0.8	
BCAR	**Beaver Creek A**	**77.53**	**15**	P	**P**	00 30 34.0	+0.1	
YKA	**Yellowknife Ar**	**81.36**	**3**	P	**P**	00 30 55.3	+0.7	
	comp=Z,0.5nm,0.5s,baz=348,slow=5.5,SNR=11							
YKA	**Yellowknife Ar**	**81.36**	**3**	P	**P**	00 30 54.8	+0.3	
P33M	**Teslin, Yukon**	**81.81**	**12**	P	**P**	00 30 57.2	+0.1	
P33M				IAmb	IAmb	00 30 57.3		
	comp=Z,4.0nm,1.2s							
WB0	**Warramunga Arr**	**82.04**	**122**	P	**P**	00 30 58.7	0.0	
WB0				IAmb	IAmb	00 31 09.6		
	comp=Z,5.5nm,1.4s							

*IDC **20** 00:39:18.0±2.7, 30.˚79S×178.˚28W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/25, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=70.5km s-min=26.3km az=123.0*

ISC 20 00:39:22.0±1.9, 30.˚8S±0.˚1×178.˚2W±0.˚3, h35km, n6, σ1§27/8, mb3.3/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.53**	**8**	Pn	**Pn**	**00 39 48.0**	**+1.2**
	107nm,0.3s,baz=103,slow=22,SNR=1.5						
RAO				Sn	**Sn**	**00 40 04.0**	**-1.4**
	180nm,0.3s,baz=115,slow=23,SNR=2.4						
URZ	**Urewera**	**8.43**	**206**	Pn	**Pn**	**00 41 20.8**	**-0.8**
	0.2nm,0.3s,baz=243,slow=8.4,SNR=1.6						
URZ				Sn	**Sn**	**00 42 56.4**	**+0.9**
	0.5nm,0.3s,baz=10,slow=23,SNR=1.3						
STKA	**Stephens Creek**	**34.26**	**258**	P	**P**	**00 46 04.3**	**-0.5**
	0.6nm,0.4s,baz=105,slow=16,SNR=1.6						
ASAR	**Alice Springs**	**42.95**	**267**	P	**P**	**00 47 17.2**	**-0.7**
	0.2nm,0.6s,baz=104,slow=8.1,SNR=2.0						
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**00 47 27.6**	**+1.5**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=7.4						
FINES	**FINESS Array B**	**145.44**	**340**	PKPbc	**PKPab**	**00 58 55.6**	**-0.2**
	1.5nm,0.8s,baz=54,slow=3.5,SNR=8.8						

*NEIC **20** 00:44:52.9±1.4, 53.˚1N±0.˚2×168.˚6W±0.˚2, h95km±7km, Error ellipse: s-maj=30.3km s-min=4.3km az=146.0*

AEIC 20 00:44:52±1.5, 53.˚1N±0.˚2×168.˚6W±0.˚2, h93km±5km, ML2.9, mb3.5/6(NEIC), ML4.1/6(NEIC), Error ellipse: s-maj=28.6km s-min=4.4km az=146.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.17**	**232**		Pn	00 45 06.1	+0.8
OKSP	**Okmok Steeple**	**0.27**	**49**		Pn	00 45 06.6	+0.9
OKWE	**Okmok W'ng Wal**	**0.46**	**31**		Pn	00 45 07.8	+1.0
MREP	**Makushin Rep't**	**1.35**	**56**		Pn	00 45 17.1	+1.1
MSW	**Makushin Switc**	**1.39**	**52**		Pn	00 45 17.2	+0.7
MNAT	**Makushin Natee**	**1.42**	**54**		Pn	00 45 17.8	+1.0
UNV	**Unalaska Valle**	**1.49**	**58**		Pn	00 45 18.6	+1.0
AKRB	**Akutan Reef Bi**	**1.85**	**54**		Pn	00 45 24.0	+1.6
ZRO	**Akutan Zero**	**1.88**	**56**		Pn	00 45 24.4	+1.6
WESE	**West Dahl East**	**2.78**	**58**		Pn	00 45 36.1	+1.5
KOFP	**Korovin Flat P**	**3.42**	**259**		Pn	00 45 44.8	+1.5
ADK	**Adak**	**5.07**	**260**	Pn	Pn	00 46 05.8	+0.4
ADK				IAML		00 46 49.7	
	100nm,4.4s						
ADK				IAML		00 49 02.9	
	143nm,4.5s						
SDPT	**Sand Point**	**5.30**	**61**	Pn	Pn	00 46 08.8	+0.3
SDPT				IAML		00 48 23.1	
	comp=E,149nm,3.3s						
Q19K	**Cape Douglas,**	**10.22**	**49**	Pn	Pn	00 47 15.2	-0.4
KDAK	**Kodiak Island**	**10.26**	**56**	Pn	Pn	00 47 14.9	-1.1
KTH	**Kantishna Hill**	**13.97**	**34**	Pn	Pn	00 48 06.4	+0.9
BPAW	**Bear Paw Mtn.**	**14.31**	**33**	Pn	Pn	00 48 12.0	+2.1
CCB	**Clear Creek Bu**	**15.72**	**34**	Pn	Pn	00 48 25.9	-1.9
CCB				IAmb	IAmb	00 48 54.6	
	comp=Z,5.8nm,1.5s						
HDA	**Harding Lake**	**15.88**	**36**	Pn	Pn	00 48 28.9	-0.8
HDA				IAmb	IAmb	00 48 30.1	
	comp=Z,4.0nm,1.2s						
IL31		**16.11**	**35**	Pn	Pn	00 48 31.9	-0.7
IL31				IAmb	IAmb	00 48 59.5	
	comp=Z,5.4nm,1.4s						
H24K	**Noodor Dome**	**16.46**	**31**		P	00 48 38.8	+0.7
H24K				IAmb	IAmb	00 49 05.7	
	comp=Z,2.9nm,1.1s						
HYT	**Haines Junctio**	**18.51**	**53**	P	Pn	00 49 01.8	-0.2

JMA 20 01:09:20.2±0.2, 25.˚35N×123.˚21E, h172km±4km, M3.1, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.12**	**155**	P	Pn	01 09 48.1	+0.1
IRIF				*e*S	Sn	01 10 10.0	+0.5
JISG	**Ishigakijimahi**	**1.25**	**127**	P	Pn	01 09 49.2	0.0
JISG				S	Sn	01 10 12.5	+1.0
JIJ	**Ishigaki jima**	**1.30**	**139**	P	Pn	01 09 49.5	-0.1
JIJ				S	Sn	01 10 12.5	+0.2
JKRS	**Kuro-shima**	**1.32**	**147**	P	Pn	01 09 50.2	+0.4
JKRS				S	Sn	01 10 13.3	+0.6
HATJ	**Hateruma jima**	**1.40**	**157**	P	Pn	01 09 50.8	+0.3
JTJ	**Tarama**	**1.53**	**117**	P	Pn	01 09 52.2	+0.5
JTJ				S	Sn	01 10 16.7	+0.6
JIRB	**Irabujima**	**1.85**	**106**	P	Pn	01 09 55.2	+0.1
JIRB				S	Sn	01 10 21.5	-0.6
JIKM	**Ikemajima**	**1.90**	**103**	P	Pn	01 09 56.1	+0.6
JIKM				S	Sn	01 10 23.5	+0.6
JMJ2	**Miyako jima3**	**2.01**	**107**	P	Pn	01 09 57.3	+0.4
JKE	**Kume jima 2**	**3.37**	**72**	*e*S	Sn	01 10 51.8	-2.3

TAP 20 01:09:36.9, 24.˚41N×121.˚92E, h18km, ML3.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.13**	**284**	*i* P	Pg	01 09 41.4	+0.5
	baz=283						
EWUT				*i* S	Sg	01 09 44.8	+1.3
	baz=283						
ENA	**Nanau**	**0.17**	**275**	*i* P	Pb	01 09 41.7	+0.4
	baz=274						
ENA				*i* S	Sb	01 09 45.2	+0.9
	baz=274						
EHP	**Heping Village**	**0.19**	**238**	*i* P	Pb	01 09 41.8	-0.1
	baz=235						
EHP				S	Sb	01 09 46.1	+0.9
	baz=235						
TWC	**Suao**	**0.20**	**341**	P	Pb	01 09 42.2	+0.1
	baz=343						
TWC				S	Sb	01 09 45.7	+0.1
	baz=343						
NDS	**Dongshan**	**0.29**	**320**	P	Pb	01 09 44.0	+0.5
	baz=319						
NDS				S	Sb	01 09 48.6	+0.5
	baz=319						
ETL	**Fush Village**	**0.37**	**227**	*e*P	Pg	01 09 44.7	+0.1
	baz=226						
ETL				*e*S	Sb	01 09 51.0	+0.5
	baz=226						
LATG	**Datong**	**0.38**	**289**	P	Pb	01 09 45.5	+0.3
	baz=288						
LATG				*e*S	Sb	01 09 51.2	+0.4
	baz=288						
NACB	**Ninganchiao**	**0.38**	**231**	P	Pg	01 09 44.5	-0.3
	baz=231						
NACB				S	Sb	01 09 51.1	+0.4
	baz=231						
TWE	**Neicheng**	**0.38**	**323**	P	Pb	01 09 45.5	+0.4
	baz=324						
TWE				*e*S	Sb	01 09 50.9	+0.1
	baz=324						
ILA	**Ilan**	**0.38**	**336**	*e*P	Pb	01 09 45.9	+0.7
	baz=336						
ILA				*e*S	Sb	01 09 52.1	+1.3
	baz=336						
ENTT	**Nioudou**	**0.39**	**305**	P	Pb	01 09 45.8	+0.4
	baz=305						
ENTT				*e*S	Sb	01 09 51.8	+0.7
	baz=305						
NDT	**Datong Townshi**	**0.42**	**297**	P	Pb	01 09 46.3	+0.5
	baz=296						
NDT				*e*S	Sb	01 09 52.5	+0.7
	baz=296						
NTC	**Toucheng**	**0.45**	**349**	*e*P	Pb	01 09 46.5	+0.2
	baz=349						
NTC				*e*S	Sb	01 09 52.7	+0.1
	baz=349						
TWD	**Chiawan**	**0.45**	**222**	*e*P	Pg	01 09 45.7	-0.2
	baz=221						
ETLH	**Xiulin Townshi**	**0.45**	**243**	P	Pg	01 09 46.1	+0.1
	baz=242						
ETLH				*e*S	Sb	01 09 53.4	+0.6
	baz=242						
FUSB	**Fushanzhiwuyua**	**0.46**	**319**	P	Pb	01 09 47.1	+0.6
	baz=318						
FUSB				*e*S	Sb	01 09 53.0	0.0
	baz=318						
NNSB	**Datong**	**0.49**	**272**	P	Pb	01 09 47.3	+0.2
	baz=271						
NNSB				*e*S	Sb	01 09 54.6	+0.6
	baz=271						
NNS	**Nan Shan**	**0.50**	**273**	P	Pb	01 09 47.5	+0.3
	baz=272						
NNS				*e*S	Sb	01 09 54.3	0.0
	baz=272						
NWLT	**Wulai**	**0.53**	**314**	P	Pb	01 09 48.3	+0.7
	baz=313						
NWLT				S	Sb	01 09 55.6	+0.7
	baz=313						
YHNB	**Yeheng**	**0.56**	**297**	P	Pb	01 09 48.8	+0.6
	baz=297						
YHNB				S	Sb	01 09 56.8	+0.9
	baz=297						
TIPB	**Shuangxi**	**0.56**	**351**	*e*P	Pb	01 09 48.7	+0.5
	baz=351						
TIPB				*e*S	Sb	01 09 56.2	+0.2
	baz=351						
NSK	**Sanguang**	**0.57**	**297**	P	Pb	01 09 49.1	+0.6
	baz=297						
NSK				S	Sb	01 09 57.2	+0.8
	baz=297						
TWB1	**Santiao Chiao**	**0.59**	**6**	*e*P	Pg	01 09 48.7	0.0
	baz=6.0						
TWB1				*e*S	Sb	01 09 57.1	+0.2
	baz=6.0						
FUSS	**Fushou**	**0.64**	**255**	P	Pb	01 09 50.0	+0.4
	baz=254						
FUSS				*e*S	Sn	01 09 59.9	-1.3
	baz=254						
TWA	**Mucha**	**0.64**	**332**	*e*S	Sb	01 09 58.9	+0.7
	baz=331						
NHDH	**Xindian Distri**	**0.66**	**327**	*e*P	Pn	01 09 51.1	-0.2
	baz=326						
NHDH				*e*S	Sb	01 09 59.8	+1.2
	baz=326						
WHF	**Hehuan Shan**	**0.66**	**246**	P	Pb	01 09 50.0	0.0
	baz=245						
NWF	**Wu-fen Shan**	**0.67**	**349**	*e*P	Pb	01 09 50.7	+0.7
	baz=349						
NWF				S	Sb	01 10 00.1	+1.0
	baz=349						
SXI1	**Grass Mountain**	**0.68**	**357**	P	Pg	01 09 50.8	+0.6
	baz=356						
SXI1				S	Sb	01 09 59.9	+0.6
	baz=356						
TWT	**Tachien**	**0.70**	**257**	*e*P	Pn	01 09 52.5	+0.4
	baz=256						
TWT				*e*S	Sn	01 10 03.7	+1.2
	baz=256						
ESL	**Shilin**	**0.74**	**217**	P	Pb	01 09 51.2	-0.2
	baz=216						
NFF	**Wufeng Townshi**	**0.76**	**287**	P	Pn	01 09 52.6	-0.3
	baz=286						
CHGB	**Renai**	**0.77**	**243**	P	Pg	01 09 52.0	+0.1
	baz=242						
YM01	**YM01**	**0.80**	**336**	P	Pn	01 09 53.2	-0.1
	baz=336						
OWD	**Renai**	**0.82**	**236**	P	Pg	01 09 53.1	+0.2
	baz=236						
TWS1	**Kuangyinshan**	**0.82**	**326**	*e*P	Pn	01 09 54.5	+0.9
	baz=326						
WUSB	**Renai**	**0.85**	**240**	P	Pg	01 09 53.7	+0.3
	baz=240						
LIOB	**Emei**	**0.86**	**286**	P	Pn	01 09 54.8	+0.7
	baz=285						
NSTT	**Nanjuang**	**0.86**	**285**	*e*P	Pn	01 09 55.0	+0.8
	baz=284						
NSTT				*e*S	Sn	01 10 06.8	+0.5
	baz=284						
WHP	**Taichung City**	**0.90**	**262**	*e*P	Pn	01 09 55.6	+0.8
	baz=261						
WHP				*e*S	Sn	01 10 08.6	+1.2
	baz=261						
VWDT	**VWDT**	**0.97**	**227**	P	Pn	01 09 55.4	-0.2
	baz=227						
WCS	**Beigang Elemen**	**0.99**	**249**	P	Pg	01 09 57.0	+1.0
	baz=248						
WCS				*e*S	Sn	01 10 10.7	+1.3
	baz=248						
YOJ	**Yonaguni jima**	**0.99**	**87**	*e*S	Sb	01 10 06.5	-1.9
YOJ	**Yonaguni jima**	**0.99**	**87**	*e*P	Pb	01 09 53.9	-1.7
	baz=86						
YOJ				*e*S	Sb	01 10 06.6	-1.7
	baz=86						
HGSD	**Ruisui**	**1.02**	**206**	*e*P	Pb	01 09 55.8	-0.3
	baz=206						
TWQ1	**Liyutan**	**1.05**	**267**	*e*P	Pg	01 09 59.5	+2.3
	baz=266						
EHY	**Hungye**	**1.06**	**211**	P	Pb	01 09 56.0	-0.7
	baz=210						
NSY	**Sanyi**	**1.06**	**270**	*e*P	Pg	01 09 59.8	+2.4
	baz=270						
SSLB	**Suanglung**	**1.08**	**235**	*e*P	Pg	01 09 57.5	-0.3
	baz=234						
TYC	**Yuchr**	**1.10**	**243**	*e*P	Pg	01 09 58.5	+0.4
	baz=242						
WJS	**Zhushan**	**1.24**	**242**	*e*P	Pg	01 10 01.5	+0.7
	baz=241						
YUS	**Yu-Shan**	**1.28**	**224**	*e*P	Pb	01 10 01.1	+0.4
	baz=223						
YUS				*e*S	Sg	01 10 19.4	+1.0
	baz=223						
ALS	**Alishan**	**1.36**	**229**	*e*P	Pg	01 10 02.7	-0.5
	baz=228						
WDLH	**Douliu**	**1.46**	**241**	*e*P	Pg	01 10 04.7	-0.2
	baz=240						

*ISK **20** 01:16:38.7, 35.˚37N×23.˚63E, h2km, ML2.7/7*
*THE **20** 01:16:38.3, 35.˚37N×23.˚57E, h14km±3km, ML2.5/3, Error ellipse: s-maj=3.6km s-min=1.0km az=189.0*
*ATH **20** 01:16:38.4, 35.˚35N×23.˚59E, h15km±4km, ML2.4/4, Error ellipse: s-maj=5.4km s-min=1.2km az=184.0*

ISC 20 01:16:38.0±1.2, 35.˚33N±0.˚04×23.˚56E±0.˚04, h24km, n21, σ1§03/31, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.14**	**132**	P	**Pb**	**01 16 41.8**	**-1.0**
KNDR				S	**Sb**	**01 16 44.5**	**-1.6**
KNDR				AML	AML	01 16 44.6	
	comp=E,20505μm,0.2s						
KNDR				AML	AML	01 16 44.7	
	comp=N,16513μm,0.2s						
KNDR	**Palaiochora Ch**	**0.14**	**132**	P	**Pb**	**01 16 41.8**	**-1.0**
KNDR				S	**Sb**	**01 16 44.5**	**-1.6**
	comp=N,3μm,0.2s						
KNDR	**Palaiochora Ch**	**0.14**	**132**	PG	**Pb**	**01 16 41.8**	**-1.0**
KNDR				SG	**Sb**	**01 16 44.6**	**-1.5**
RODP	**Rodopos**	**0.28**	**35**	P	**Pb**	**01 16 44.1**	**-0.6**
RODP				S	**Sb**	**01 16 48.0**	**-1.2**
RODP	**Rodopos**	**0.28**	**35**	PG	**Pb**	**01 16 44.2**	**-0.5**
RODP				SG	**Sb**	**01 16 48.1**	**-1.2**
IMMV	**Iera Moni Meta**	**0.37**	**69**	P	**Pb**	**01 16 45.4**	**-0.6**
IMMV				S	**Sb**	**01 16 50.5**	**-1.0**
IMMV				AML	AML	01 16 51.0	
	comp=N,1501μm,0.2s						
IMMV				AML	AML	01 16 51.8	
	comp=E,1449μm,0.3s						
IMMV	**Iera Moni Meta**	**0.37**	**69**	P	**Pb**	**01 16 45.4**	**-0.6**
IMMV				S	**Sb**	**01 16 50.7**	**-0.8**
	comp=E,742nm,0.2s						
IMMV	**Iera Moni Meta**	**0.37**	**69**	PG	**Pb**	**01 16 45.5**	**-0.6**
CHAN	**Chania**	**0.44**	**64**	P	**Pb**	**01 16 46.7**	**-0.5**
CHAN				AML	AML	01 16 57.4	
	comp=N,819μm,0.3s						
CHAN				AML	AML	01 16 58.4	
	comp=E,830μm,0.3s						
VAM	**Vamos**	**0.53**	**81**	P	**Pb**	**01 16 48.3**	**-0.4**
VAM				S	**Sb**	**01 16 55.1**	**-0.9**
VAM				AML	AML	01 16 58.1	
	comp=N,1145μm,0.2s						
VAM				AML	AML	01 16 59.0	
	comp=E,976μm,0.3s						
VAM	**Vamos**	**0.53**	**81**	P	**Pb**	**01 16 48.3**	**-0.4**
VAM				S	**Sb**	**01 16 55.8**	**-0.2**
	comp=E,1μm,0.3s						
ANKY	**Antikythira Is**	**0.58**	**339**	P	**Pb**	**01 16 49.6**	**+0.1**
ANKY	**Antikythira Is**	**0.58**	**339**	P	**Pb**	**01 16 49.5**	**+0.1**
ANKY				S	**Sb**	**01 16 56.2**	**-1.1**
GVD	**Gavdhos**	**0.65**	**138**	PG	**Pb**	**01 16 52.2**	**+1.4**
KTHA	**Kythira Island**	**1.01**	**337**	P	**Pn**	**01 16 57.5**	**+0.8**
KTHR	**Kythira**	**1.03**	**334**	P	**Pn**	**01 16 57.7**	**+0.7**
IDI	**Anoyia**	**1.09**	**92**	P	**Pn**	**01 16 58.7**	**+0.9**
IDI	**Anoyia**	**1.09**	**92**	PG	**Pb**	**01 16 59.5**	**+1.3**
HRKL	**Herakleio**	**1.26**	**90**	PN	**Pb**	**01 17 02.9**	**+1.8**
VLI	**Veliai**	**1.48**	**340**	P	**Pb**	**01 17 05.6**	**+0.9**
ITM	**Ithomi**	**2.27**	**325**	PN	**Pb**	**01 17 18.5**	**+0.2**

*DJA **20** 01:20:16.

QIS **Mount Isa** 15.07 210 P **Pn** 01 23 49.3 +1.3
KDU **Kakadu** 15.78 250 P **P** 01 24 00.0 -0.7
baz=16,SNR=4.9
RK1H **Rockhampton Ha** 15.95 170 P **P** 01 24 02.5 0.0
SIJI **Sorong** 17.65 291 P **P** 01 24 24.1 +2.6
1.3nm,0.3s,baz=98,slow=23,SNR=1.7
WB0 **Warramunga Arr** 17.67 225 **Pn** 01 24 20.9 -0.1
WB0 IAmb IAmb 01 24 40.8
comp=Z,26nm,1.4s
WR0 **Warramunga Arr** 17.69 225 **Pn** 01 24 20.9 -0.4
WR0 IAmb IAmb 01 24 24.9
comp=Z,19nm,0.7s
WRAB **Tennant Creek** 17.81 225 **P** 01 24 23.4 +0.2
WRAB IAmb IAmb 01 24 34.5
comp=Z,14nm,0.6s
WRAB **Tennant Creek** 17.81 225 P **P** 01 24 23.7 +0.5
WC3 **Warramunga Arr** 17.81 225 P **P** 01 24 23.8 +0.6
baz=18
WB2 **Warramunga Arr** 17.82 225 **Pn** 01 24 22.2 -0.5
WB2 IAmb IAmb 01 24 37.3
comp=Z,15nm,0.7s
WRA **Warramunga Arr** 17.82 225 P **P** 01 24 23.6 +0.3
comp=Z,2.2nm,0.3s,baz=52,slow=12,SNR=95
WRA S **Sn** 01 27 32.7 -7.9
comp=Z,0.3nm,0.3s,baz=46,slow=23,SNR=11
WRA LR LR 01 31 56.3
comp=Z,197nm,19.6s,baz=62,slow=39
WRA **Warramunga Arr** 17.82 225 **Pn** 01 24 22.4 -0.5
RMQ **Roma** 18.83 177 P **Pn** 01 24 36.1 +1.0
baz=19,SNR=17
RMQ **Roma** 18.83 177 P **Pn** 01 24 36.6 +1.5
QLP **Quilpie** 19.17 189 P **Pn** 01 24 39.8 +0.6
baz=19,SNR=10
QLP **Quilpie** 19.17 189 P **Pn** 01 24 40.1 +0.9
AAI **Ambon** 19.75 280 P **P** 01 24 42.1 -2.5
comp=Z,2µmcomp=Z,40nm,0.6s
KNRA **Kununurra** 20.17 245 P Pn 01 24 51.2 +0.1
baz=20,SNR=25
KNRA **Kununurra** 20.17 245 P **P** 01 24 49.2 +0.1
SANVU **Saraoutou** 20.67 114 P **P** 01 24 51.0 -3.5
AS31 **Alice Springs** 20.73 218 P **P** 01 24 54.3 -0.9
AS31 IAmb IAmb 01 25 07.6
comp=Z,6.8nm,0.5s
ASAR **Alice Springs** 20.73 218 P **P** 01 24 56.0 +0.7
comp=Z,10nm,0.4s,baz=53,slow=9.2,SNR=162
ASAR S **S** 01 28 45.0 0.0
comp=Z,2.2nm,0.9s,baz=36,slow=25,SNR=5.9
ASAR LR LR 01 33 15.4
comp=Z,156nm,19.5s,baz=54,slow=37
ASAR **Alice Springs** 20.73 218 P **P** 01 24 55.1 -0.1
GUMO **Guam** 21.22 352 LR LR 01 32 08.9
comp=Z,52nm,18.5s,baz=129,slow=33
SANI **Sanana** 22.28 283 P **P** 01 25 10.9 -0.9
comp=Z,53nm,0.6s
SANI **Sanana** 22.28 283 P **P** 01 25 10.7 -1.1
OOD **Oodnadatta** 23.08 208 P **P** 01 25 20.3 +0.2
DZM **Mont Dzumac** 23.13 131 P **P** 01 25 18.4 -2.5
comp=Z,4.3nm,0.8s,baz=292,slow=21,SNR=2.3
DZM LR LR 01 33 28.5
comp=Z,157nm,20.2s,baz=324,slow=34
DZM **Mont Dzumac** 23.13 131 IAmb IAmb 01 25 33.2
comp=Z,12nm,1.2s
FITZ **Fitzroy Crossi** 23.85 242 P **P** 01 25 27.5 -0.2
comp=Z,4.2nm,0.5s,baz=58,slow=9.2,SNR=35
FITZ LR LR 01 34 54.7
comp=Z,116nm,19.2s,baz=58,slow=36
BATI **Baumata** 23.85 262 LR LR 01 36 20.9
comp=Z,172nm,21.0s,baz=96,slow=40
CMSA **Cobar Meteorol** 23.90 184 P **P** 01 25 28.8 +0.8
baz=24,SNR=6.1
MARNC **Mare, Loyalty** 24.03 127 P **P** 01 25 30.6 +1.2
LCRK **Leigh Creek** 24.41 200 P **P** 01 25 32.8 +0.1
STKA **Stephens Creek** 24.82 192 P **P** 01 25 36.2 -0.3
comp=Z,12nm,0.5s,baz=357,slow=9.0,SNR=39
STKA LR LR 01 35 23.8
comp=Z,135nm,18.5s,baz=9.7,slow=36
STKA **Stephens Creek** 24.82 192 P **P** 01 25 37.1 +0.7
baz=25,SNR=7.3
STKA **Stephens Creek** 24.82 192 P **P** 01 25 34.6 -1.9
STKA **Stephens Creek** 24.82 192 P **P** 01 25 36.8 +0.3
WRKA **Warakurna** 25.36 225 P **P** 01 25 41.2 -0.3
baz=26,SNR=28
WRKA **Warakurna** 25.36 225 P **P** 01 25 41.3 -0.3
MULG **Mulgathing** 25.93 208 P **P** 01 25 46.5 -0.1
HTT **Hallett** 26.96 196 P **P** 01 25 57.9 +2.0
baz=27,SNR=5.2
HTT **Hallett** 26.96 196 P **P** 01 25 57.0 +1.1
BBOO **Buckleboo** 27.31 202 P **P** 01 25 59.4 +0.4
FORT **Forrest** 29.48 216 P **P** 01 26 18.0 -0.4
baz=30,SNR=12
FORT **Forrest** 29.48 216 P **P** 01 26 17.9 -0.4
MEEK **Meekatharra** 33.47 232 P **P** 01 26 54.7 +1.2
baz=34,SNR=8.2
MEEK **Meekatharra** 33.47 232 P **P** 01 26 54.2 +0.6
MOO **Moorlands** 34.72 181 P **P** 01 27 04.4 +0.3
KLBR **Kellerberrin** 36.71 225 P **P** 01 27 21.0 -0.4
baz=37,SNR=7.9
KLBR **Kellerberrin** 36.71 225 P **P** 01 27 21.0 -0.4
LEM **Lembang** 39.72 268 LR LR 01 48 25.5
comp=Z,41nm,18.6s,baz=176,slow=42
RPZ **Rata Peaks** 41.41 154 LR LR 01 42 02.7
comp=Z,68nm,20.0s,baz=226,slow=32
MJAR **Matsushiro Arr** 44.78 349 P **P** 01 28 27.2 -0.6
comp=Z,4.6nm,1.0s,baz=178,slow=9.4,SNR=6.0
KSRS **Korea Array** 48.46 339 P **P** 01 28 57.0 +0.4
comp=Z,2.3nm,0.7s,baz=157,slow=8.6,SNR=9.3
KSAR **Wonju Array Be** 48.46 339 P **P** 01 28 55.7 -0.9
CMAR **Chiang Mai Arr** 54.58 299 P **P** 01 29 43.8 +1.0
comp=Z,2.7nm,0.5s,baz=118,slow=5.8,SNR=11
CMAR **Chiang Mai Arr** 54.58 299 P **P** 01 29 43.3 +0.5
CHTO **Chiang Mai** 54.72 299 P **P** 01 29 43.0 -0.8
CHTO IAmb IAmb 01 29 47.0
comp=Z,2.8nm,0.8s
PZH **PanZhiHua** 55.96 309 P **P** 01 29 55.0 +2.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.5s
CD2 **Chengdu** 56.84 315 i/P **P** 01 30 00.9 +2.0
CD2 pmax pmax
comp=Z,20nm,0.5s
KLR **Kul'dur** 58.27 348 P **P** 01 30 09.3 +0.9
comp=Z,1.0nm,0.6s,baz=141,slow=2.6,SNR=7.6
HHC **Hu-ho-hao-te** 58.52 328 eP **P** 01 30 12.8 +2.3
HHC pmax pmax
comp=Z,10.0nm,1.0s
PETK **Petropavlovsk-** 61.06 7 LR LR 01 52 52.7
comp=Z,54nm,21.9s,baz=259,slow=32
SHL **Shillong** 63.43 303 P **P** 01 30 44.6 +0.3
ULN **Ulaanbaatar** 65.81 331 P **P** 01 30 58.6 -0.8
ULN IAmb IAmb 01 31 02.2
comp=Z,2.1nm,0.9s
SONM **Songino Array** 66.10 331 P **P** 01 31 02.1 +0.9
comp=Z,1.0nm,0.7s,baz=140,slow=6.1,SNR=8.8
SONM **Songino Array** 66.10 331 P **P** 01 31 00.7 -0.5
SONM IAmb IAmb 01 31 04.0
comp=Z,4.2nm,1.3s
VNDA **Vanda** 70.30 177 P **P** 01 31 26.3 -0.7
comp=Z,1.4nm,0.9s,baz=77,slow=3.8,SNR=2.7
WMQ **Urumqi** 74.41 319 eP **P** 01 31 53.6 +1.5
WMQ LR LR
comp=N,170nm,14.9s
WMQ LR LR
comp=E,320nm,14.5s
WMQ LR LR
comp=Z,150nm,20.9s
MK31 **Makanchi Array** 79.13 321 P **P** 01 32 18.3 -0.3
MKAR **Makanchi Array** 79.13 321 P **P** 01 32 19.5 +0.9
comp=Z,1.3nm,0.5s,baz=99,slow=9.2,SNR=34
MKAR **Makanchi Array** 79.13 321 P **P** 01 32 18.5 -0.1
ZALV **Zalesovo Beam** 80.69 328 P **P** 01 32 26.5 -0.3
comp=Z,1.2nm,0.5s,baz=114,slow=5.8,SNR=5.7
KSH **Kashi** 80.92 312 P **P** 01 32 30.4 +1.8
ILAR **Eielson Array** 86.67 23 P **P** 01 32 56.0 -1.3
comp=Z,0.5nm,0.6s,baz=244,slow=5.0,SNR=3.5
NRIK **Noril'sk** 86.97 342 P **P** 01 32 57.8 -0.9
comp=Z,1.4nm,0.5s,baz=114,slow=4.3,SNR=5.7
TORD **Torodi Ar. Bea** 146.09 282 PKPbc **PKPbc** 01 39 54.9 -0.1
comp=Z,2.6nm,0.6s,baz=54,slow=3.1,SNR=20
TORD **Torodi Ar. Bea** 146.09 282 **PKPdf** 01 39 52.4 -1.6
BDFB **Brasilia** 152.19 146 PKPbc **PKPbc** 01 40 09.2 -1.4
comp=Z,1.7nm,0.5s,baz=263,slow=1.9,SNR=5.9
BDFB PKPab **pPKPbc** 01 40 20.4 -1.4
comp=Z,2.7nm,0.7s,baz=238,slow=0.7,SNR=5.3
DBIC **Dimbokro** 152.72 270 PKPbc **PKiKP** 01 40 11.5 -0.4
comp=Z,3.3nm,0.9s,baz=152,slow=1.7,SNR=4.1
DBIC PKPab **PKPab** 01 40 22.6 +0.1
comp=Z,1.5nm,0.4s,baz=136,slow=3.3,SNR=1.7

*IDC **20** 01:24:55.8±0.5,51°.45N×174°.31W,h0km,mb4.2/34, mb1 4.4/37,mb1mx4.3/63,mbtmp4.2/37,ML3.7/3,MS3.5/6, Ms1 3.5/6,ms1mx2.9/92,Error ellipse: s-maj=16.6km s-min=9.6km az=165.0*
*NEIC **20** 01:24:58.2±2.2,51°.44N±0°.04×174°.26W±0°.06,h10km±1km, mb4.2/76,ML3.7(AEIC), Error ellipse: s-maj=8.1km s-min=5.7km az=140.0*
*AEIC **20** 01:24:59±2.6,51°.41N±0°.04×174°.35W±0°.06,h3km±4km, Error ellipse: s-maj=6.3km s-min=4.3km az=134.0*
ISC 20 01:24:57.7±2.5,51°.42N±0°.07×174°.26W±0°.04, h12km±15km,n254,σ0=95/229,mb4.3/73,MS3.4/5,26C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.79**	**3**		**Pn**	**01 25 15.3**	**+0.7**
ATKA					**Sn**	**01 25 27.4**	**+1.0**
KOFP	**Korovin Flat P**	**0.87**	**7**		**Pn**	**01 25 16.9**	**+1.2**
KOSE	**Korovin Southe**	**0.94**	**8**		**Pn**	**01 25 18.2**	**+1.4**
KOSE					**Sn**	**01 25 31.9**	**+1.7**
GSMY	**Great Sitkin M**	**1.28**	**300**		**Pn**	**01 25 22.6**	**+1.1**
GSTR	**Great Sitkin T**	**1.31**	**302**	Pn	**Pn**	**01 25 22.0**	**+0.2**
GSCK	**Great Sitkin C**	**1.32**	**298**		**Pn**	**01 25 22.9**	**+0.9**
GSTD	**Great Sitkin T**	**1.33**	**299**		**Pn**	**01 25 23.2**	**+0.9**
GSTD					**Sn**	**01 25 43.2**	**+3.3**
ADK	**Adak**	**1.58**	**288**		**Pn**	**01 25 26.4**	**+0.9**
ADK					**Sg**	**01 25 48.5**	**0.0**
KIWB	**Kanaga Island**	**1.85**	**285**	Pn	**Pn**	**01 25 29.9**	**+0.6**
KIKV	**Kanaga Island**	**1.87**	**285**		**Pn**	**01 25 30.9**	**+1.4**
KIMD	**Kanaga Island**	**1.89**	**282**		**Pn**	**01 25 30.7**	**+1.0**
TAPA	**Tanaga Point A**	**2.25**	**282**		**Pn**	**01 25 36.5**	**+1.8**
TAFP	**Tanaga Falls P**	**2.37**	**283**		**Pn**	**01 25 38.4**	**+2.1**
TAFP					**Sb**	**01 26 08.7**	**-0.8**
TASE	**Tanaga Southea**	**2.39**	**282**		**Pn**	**01 25 38.9**	**+2.2**
GANO	**Gareloi North**	**2.86**	**280**		**Pn**	**01 25 45.3**	**+2.2**
NIKH	**Nikolski High**	**3.67**	**63**		**Pn**	**01 25 55.6**	**+1.3**
UNV	**Unalaska Valle**	**5.31**	**60**	Pn	**Pn**	**01 26 17.6**	**+0.8**
GAMB	**Gambell**	**12.47**	**5**	P	Pn	01 27 59.8	+5.0
	baz=188						
ANM	**Nome**	**13.98**	**16**	Pn	**Pn**	**01 28 17.4**	**+2.1**
ANM	**Nome**	**13.98**	**16**	P	**P**	**01 28 20.8**	**-2.6**
	baz=204						
KDAK	**Kodiak Island**	**14.05**	**55**	Pn	**Pn**	**01 28 18.0**	**+1.6**
	0.4nm,0.3s,baz=276,slow=9.2,SNR=12						
KDAK					**Sn**	**01 30 54.0**	**+2.0**
	0.1nm,0.3s,baz=289,slow=18,SNR=2.9						
N19K	**Bonanza Creek**	**14.44**	**42**		**Pn**	**01 28 21.8**	**0.0**
N19K	**Bonanza Creek**	**14.44**	**42**	P	**P**	**01 28 24.8**	**-3.8**
	baz=238						
TNA	**Tin City**	**14.55**	**11**	Pn	**Pn**	**01 28 22.1**	**-1.0**
TNA	**Tin City**	**14.55**	**11**	P	**P**	**01 28 28.1**	**-1.6**
	baz=196						
O20K	**Slope Mountain**	**14.89**	**46**	P	**P**	**01 28 34.7**	**+1.0**
	baz=244						
M19K	**Big River Lodg**	**15.08**	**38**	Pn	**Pn**	**01 28 30.9**	**+0.5**
M19K				IAmb	IAmb	01 28 49.7	
	comp=Z,19nm,1.3s						
M19K	**Big River Lodg**	**15.08**	**38**	P	**P**	**01 28 34.5**	**-1.1**
	baz=235						
TTA	**Tatalina**	**15.13**	**33**	Pn	**Pn**	**01 28 32.2**	**+1.2**
TTA				IAmb	IAmb	01 28 39.1	
	comp=Z,10nm,0.8s						
TTA	**Tatalina**	**15.13**	**33**	P	**P**	**01 28 36.2**	**0.0**
	baz=229,SNR=7.0						
L20K	**Farewell, AK**	**15.61**	**37**	P	**P**	**01 28 42.4**	**+0.8**
	baz=234						
BRSE	**Bradley Lake S**	**15.62**	**49**	P	**P**	**01 28 40.3**	**-1.4**
	baz=248						
K20K	**Telida**	**16.08**	**34**	Pn	**Pn**	**01 28 42.8**	**-0.5**
K20K	**Telida**	**16.08**	**34**	P	**P**	**01 28 46.5**	**-0.2**
	baz=231						
SEW	**Seward**	**16.36**	**48**	Pn	**Pn**	**01 28 47.6**	**+0.7**
SEW				IAmb	IAmb	01 29 05.2	
	comp=Z,14nm,0.7s						
SEW	**Seward**	**16.36**	**48**	P	**Pn**	**01 28 46.9**	**0.0**
	baz=249						
PPLA	**Purkeypile**	**16.49**	**37**	P	**P**	**01 28 53.6**	**+2.1**
	baz=236						
J20K	**Nowinta River**	**16.58**	**32**	Pn	**Pn**	**01 28 49.4**	**-0.3**
J20K	**Nowinta River**	**16.58**	**32**	P	**P**	**01 28 53.2**	**+1.0**
	baz=229						
CAST	**Castle Rocks**	**16.83**	**36**	Pn	**Pn**	**01 28 51.2**	**-1.7**
CAST				IAmb	IAmb	01 29 01.5	
	comp=Z,10nm,0.8s						
CAST	**Castle Rocks**	**16.83**	**36**	P	**P**	**01 28 55.6**	**+0.5**
	baz=235						
PETK	**Petropavlovsk-**	**17.21**	**287**	P	**Pn**	**01 28 58.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=5.2						
PETK				LR	LR	01 35 05.8	
	comp=Z,90nm,20.1s,baz=62,slow=36						
KNK	**Knik Glacier**	**17.31**	**45**		**Pn**	**01 28 58.0**	**-1.0**
KNK				IAmb	IAmb	01 29 15.2	
	comp=Z,14nm,0.8s						
KNK	**Knik Glacier**	**17.31**	**45**	P	**Pn**	**01 28 58.0**	**-1.0**
	baz=246						
KTH	**Kantishna Hill**	**17.34**	**37**	Pn	**Pn**	**01 28 58.4**	**-0.9**
KTH				IAmb	IAmb	01 29 20.1	
	comp=Z,19nm,1.2s						
SML	**Sawmill**	**17.53**	**44**	P	**Pn**	**01 29 01.6**	**-0.1**
	baz=246						
BPAW	**Bear Paw Mtn.**	**17.62**	**35**	Pn	**Pn**	**01 29 01.6**	**-1.2**
BPAW	**Bear Paw Mtn.**	**17.62**	**35**	P	**P**	**01 29 05.0**	**+1.3**
	baz=235,SNR=9.0						
IMAR	**Indian Mountai**	**17.93**	**28**	Pn	**Pn**	**01 29 06.0**	**-0.6**
I21K	**Tanana**	**17.94**	**31**	Pn	**Pn**	**01 29 05.0**	**-1.6**
I21K				IAmb	IAmb	01 29 15.6	
	comp=Z,15nm,0.9s						
I21K	**Tanana**	**17.94**	**31**	P	**P**	**01 29 09.3**	**+2.1**
	baz=230,SNR=11						
SCM	**Sheep Creek Mo**	**17.97**	**44**	P	**Pn**	**01 29 06.4**	**-0.8**
	baz=247						
H21K	**Melozitna Rive**	**17.99**	**29**		**Pn**	**01 29 06.8**	**-0.6**
H21K	**Melozitna Rive**	**17.99**	**29**	P	**P**	**01 29 09.5**	**+1.7**
	baz=228,SNR=6.2						
WAT6	**Susitna Watana**	**18.11**	**42**	P	**Pn**	**01 29 08.6**	**-0.4**
	baz=244						
MCK	**McKinley**	**18.18**	**38**		**Pn**	**01 29 08.7**	**-1.1**
MCK	**McKinley**	**18.18**	**38**	P	**P**	**01 29 09.4**	**-0.5**
	baz=239,SNR=5.7						
MLY	**Manley**	**18.26**	**33**	IAmb	IAmb	01 29 15.3	
	comp=Z,14nm,0.8s						
MLY	**Manley**	**18.26**	**33**	P	**P**	**01 29 12.4**	**+1.6**
	baz=233						
KLU	**Klutina**	**18.47**	**46**	P	**Pn**	**01 29 12.6**	**-0.7**
	baz=250						
M24K	**Tolsona, Glenn**	**18.58**	**44**	P	**Pn**	**01 29 14.3**	**-0.3**
	baz=248						
NEA2	**Nenana**	**18.59**	**35**	P	**Pn**	**01 29 14.9**	**+0.2**
NEA2	**Nenana**	**18.59**	**35**	P	**Pn**	**01 29 15.3**	**+0.6**
	baz=237						
I23K	**Minto, Yukon-K**	**18.80**	**34**	P	**Pn**	**01 29 18.1**	**+1.0**
	baz=235,SNR=13						
WRH	**Wood River Hil**	**18.88**	**36**	P	**Pn**	**01 29 18.1**	**-0.1**
BMRM	**Bremner River**	**18.91**	**48**	P	**P**	**01 29 17.3**	**-0.7**
	baz=253						
CCB	**Clear Creek Bu**	**19.08**	**36**	IAmb	IAmb	01 29 22.8	
	comp=Z,8.4nm,0.7s						
N25K	**Chitina, Valde**	**19.11**	**46**	P	**P**	**01 29 19.6**	**-0.6**
N25K	**Chitina, Valde**	**19.11**	**46**	P	**P**	**01 29 19.8**	**-0.4**
	baz=251						
HARP	**HAARP**	**19.13**	**44**	P	**Pn**	**01 29 20.8**	**-0.5**
	baz=248						
BILL	**Bilibino**	**19.18**	**338**	P	**Pn**	**01 29 20.7**	**-1.1**
PAX	**Paxson**	**19.22**	**42**	P	**P**	**01 29 21.4**	**-0.1**
PAX	**Paxson**	**19.22**	**42**	P	**Pn**	**01 29 22.5**	**+0.2**
	baz=246						
HDA	**Harding Lake**	**19.28**	**37**	IAmb	IAmb	01 29 40.9	
	comp=Z,19nm,0.9s						
HDA	**Harding Lake**	**19.28**	**37**	P	**Pn**	**01 29 22.4**	**-0.6**
	baz=241,SNR=9.2						
IL31		**19.48**	**36**	P	**P**	**01 29 22.9**	**-1.3**
IL31				IAmb	IAmb	01 29 32.9	
	comp=Z,6.4nm,0.6s						
ILAR	**Eielson Array**	**19.48**	**36**	P	**P**	**01 29 22.6**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=246,slow=10,SNR=38						
H24K	**Noodor Dome**	**19.70**	**33**	P	**P**	**01 29 26.3**	**-0.4**
H24K				IAmb	IAmb	01 29 44.0	
	comp=Z,20nm,1.1s						
H24K	**Noodor Dome**	**19.70**	**33**	P	**Pn**	**01 29 27.3**	**-0.8**
	baz=236,SNR=10						
RIDG	**Independent Ri**	**19.80**	**40**	P	**P**	**01 29 27.8**	**+0.1**
	baz=245						
DOT	**Dot Lake**	**20.08**	**41**	P	**P**	**01 29 30.9**	**+0.2**
DOT				IAmb	IAmb	01 29 44.6	
	comp=Z,8.7nm,0.7s						
L26K	**Log Cabin Wild**	**20.14**	**43**	IAmb	IAmb	01 29 42.5	
	comp=Z,18nm,1.5s						
SCRK	**Sand Creek**	**20.24**	**40**	P	**P**	**01 29 32.2**	**-0.4**
SCRK	**Sand Creek**	**20.24**	**40**	P	**P**	**01 29 32.1**	**-0.5**
	baz=246,SNR=14						
CTG	**Chitna Glacier**	**20.44**	**49**	P	Pn	01 29 36.0	-1.0
	baz=257						
M27K	**Edge Creek, AK**	**20.56**	**45**	P	**P**	**01 29 35.8**	**-0.3**
M27K				IAmb	IAmb	01 29 58.8	
	comp=Z,10.0nm,1.1s						
M27K	**Edge Creek, AK**	**20.56**	**45**	P	Pn	01 29 38.4	+0.1
	baz=253						
J26L	**Joseph Creek**	**20.63**	**39**	P	**P**	**01 29 35.9**	**-0.9**
	baz=245,SNR=36						
L27K	**Beaver Creek,**	**20.80**	**43**	P	Pn	01 29 40.6	-0.5
	baz=251						
TOLK	**Toolik Lake Re**	**20.95**	**25**	P	Pn	01 29 41.0	-1.8
	baz=227,SNR=17						
BVCY	**Beaver Creek**	**21.03**	**46**	P		01 29 43.6	
	baz=254						
SEY	**Seymchan**	**21.16**	**316**	P	**P**	**01 29 40.9**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=179,slow=24,SNR=13						
MA2	**Magadan**	**21.21**	**306**	LR	LR	01 37 50.2	
	comp=Z,116nm,19.1s,baz=98,slow=37						
BMAR	**Burnt Mountain**	**21.68**	**31**	P	**P**	**01 29 48.2**	**+0.2**
EGAK	**Eagle**	**21.69**	**39**	P	**P**	**01 29 47.8**	**-0.2**
EGAK	**Eagle**	**21.69**	**39**	P	**P**	**01 29 48.7**	**+0.7**
	baz=248,SNR=25						
DAWY	**Dawson**	**22.16**	**42**	P	**P**	**01 29 54.2**	**+1.0**
DAWY				IAmb	IAmb	01 30 14.9	
	comp=Z,14nm,1.4s						
DAWY	**Dawson**	**22.16**	**42**	P	**P**	**01 29 54.1**	**+0.9**
	baz=252,SNR=7.3						
HYT	**Haines Junctio**	**22.26**	**51**	IAmb	IAmb	01 30 22.2	
	comp=Z,6.3nm,1.0s						
HYT	**Haines Junctio**	**22.26**	**51**	P	**P**	**01 29 55.6**	**+1.2**
	baz=262						
EPYK	**Eagle Plains**	**23.99**	**37**	IAmb	IAmb	01 30 36.8	
	comp=Z,11nm,1.1s						
EPYK	**Eagle Plains**	**23.99**	**37**	P	**P**	**01 30 11.7**	**0.0**
	baz=250						
MMPY	**Sheldon Lake,**	**25.44**	**47**	P	**P**	**01 30 25.7**	**+0.6**
	baz=264						
INK	**Inuvik**	**25.82**	**34**	P	**P**	**01 30 28.4**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=257,slow=8.8,SNR=7.6						
INK	**Inuvik**	**25.82**	**34**	IAmb	IAmb	01 30 43.9	
	comp=Z,5.2nm,0.9s						
DLBC	**Dease Lake**	**25.96**	**57**	P	**P**	**01 30 31.5**	**+1.6**
	comp=Z,6.1nm,1.0s,baz=300,slow=12,SNR=8.6						
BBB	**Bella Bella**	**28.18**	**70**	LR	LR	01 40 25.0	
	comp=Z,59nm,21.5s,baz=294,slow=33						
A36M	**Sachs Harbour**	**29.69**	**28**	P	**P**	**01 31 03.6**	**+0.8**
A36M				IAmb	IAmb	01 31 20.1	
	comp=Z,4.0nm,0.9s						
A36M	**Sachs Harbour**	**29.69**	**28**	P	**P**	**01 31 02.8**	**-0.1**
	baz=253						
TIXI	**Tiksi**	**32.02**	**330**	P	**P**	**01 31 21.4**	**-2.0**
	comp=Z,0.9nm,0.2s,baz=271,slow=24,SNR=3.0						
YKA	**Yellowknife Ar**	**33.13**	**47**	P	**P**	**01 31 32.9**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=278,slow=8.3,SNR=13						
YKA				PcP	**PcP**	**01 34 16.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=285,slow=3.0,SNR=13						
YKA				LR	LR	01 46 40.1	
	comp=Z,185nm,18.1s,baz=290,slow=39						
KLR	**Kul'dur**	**33.89**	**288**	P	**P**	**01 31 40.1**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=63,slow=7.2,SNR=26						
H11N2	**WAKE ISLAND Hy**	**34.92**	**212**	T	T	02 09 51.0	
	baz=20,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**34.93**	**212**	T	T	02 09 32.5	
	baz=20,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**34.94**	**212**	T	T	02 09 52.3	
	baz=20,slow=76,SNR=2.5						
YBH	**Yreka Blue Hor**	**36.05**	**85**	P	**P**	**01 31 59.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=308,slow=3.0,SNR=5.7						
YBH	**Yreka Blue Hor**	**36.05**	**85**	IAmb	IAmb	01 32 16.2	
	comp=Z,6.5nm,1.3s						
USRK	**Ussuriysk Ar.**	**36.10**	**280**	P	**P**	**01 31 59.4**	**+0.3**
	comp=Z,8.5nm,0.7s,baz=66,slow=6.2,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**36.12**	**212**	T	T	02 11 13.6	
	baz=20,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**36.14**	**212**	T	T	02 11 15.0	
	baz=20,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**36.14**	**212**	T	T	02 11 10.3	
	baz=20,slow=76,SNR=3.0						
NEW	**Newport**	**36.19**	**72**	P	**P**	**01 32 00.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=284,slow=6.1,SNR=4.1						
EDM	**Edmonton**	**36.29**	**63**	P	**P**	**01 32 01.2**	**+0.4**
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**01 32 02.9**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=36,slow=7.4,SNR=5.7						
MJAR	**Matsushiro Arr**	**36.61**	**265**	IAmb	IAmb	01 32 05.3	
	comp=Z,7.9nm,1.3s						
O02D	**Mt. Diablo Mer**	**36.88**	**87**	P	**P**	**01 32 07.9**	**+1.9**
	baz=305						
RES	**Resolute Bay**	**38.53**	**25**	P	**P**	**01 32 19.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=265,slow=9.7,SNR=6.6						
RES				PcP	**PcP**	**01 34 32.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=286,slow=2.6,SNR=6.5						
RES				LR	LR	01 53 01.9	
	comp=Z,96nm,18.8s,baz=130,slow=44						
PNTR	**Pine Nut**	**39.51**	**86**	P	**P**	**01 32 28.9**	**+0.6**
PNTR				IAmb	IAmb	01 32 36.1	
	comp=Z,5.5nm,0.7s						
HLID	**Hailey**	**40.18**	**77**	P	**P**	**01 32 34.5**	**+0.7**
EGMT	**Eagleton**	**40.64**	**68**	P	**P**	**01 32 37.9**	**+0.4**
NVAR	**Mina Array Bea**	**40.72**	**86**	P	**P**	**01 32 38.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=293,slow=8.0,SNR=14						
NVAR	**Mina Array Bea**	**40.72**	**86**	P	**P**	**01 32 39.7**	**+1.4**
BOZ	**Bozeman (W)**	**40.77**	**73**	IAmb	IAmb	01 32 54.6	
	comp=Z,3.4nm,0.8s						
ELK	**Elko**	**41.25**	**81**	P	**P**	**01 32 43.6**	**+0.8**
YHH	**Holmes Hill**	**41.67**	**73**	P	**P**	**01 32 46.7**	**+0.5**
YHH				IAmb	IAmb	01 33 02.7	
	comp=Z,4.2nm,0.9s						
FFC	**Flin Flon**	**41.79**	**56**	P	**P**	**01 32 46.8**	**+0.1**
FFC				IAmb	IAmb	01 32 47.7	
	comp=Z,5.8nm,0.8s						
LKWY	**Lake**	**42.06**	**73**	IAmb	IAmb	01 33 07.1	
	comp=Z,4.9nm,0.8s						
RLMT	**Red Lodge**	**42.44**	**72**	IAmb	IAmb	01 33 09.8	
	comp=Z,6.5nm

T25A	**Trinidad**	**50.13**	**78**	P		**P**		**01 33 54.1**	**+1.2**
	baz=310								
ECSD	**EROS Data Cent**	**50.64**	**66**	P		**P**		**01 33 55.6**	**-0.8**
	baz=308								
SFJD	**Kangerlussuaq**	**54.51**	**24**	LR		LR		02 00 04.1	
	comp=Z,36nm,20.3s,baz=298,slow=39								
TXAR	**Lajitas Array**	**55.83**	**85**	P		**P**		**01 34 34.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=292,slow=4.3,SNR=9.9								
ZALV	**Zalesovo Beam**	**56.03**	**316**	PcP		**PcP**		**01 35 33.0**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=31,slow=4.3,SNR=4.6								
ZALV	**Zalesovo Beam**	**56.03**	**316**	P		**P**		**01 34 36.0**	**+0.2**
SCHQ	**Schefferville**	**58.17**	**41**	P		**P**		**01 34 50.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=311,slow=7.3,SNR=6.8								
ARCES	**ARCESS Array B**	**58.50**	**352**	P		**P**		**01 34 52.5**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=11,slow=7.4,SNR=8.1								
ARCES				PcP		**PcP**		**01 35 42.9**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=8.5,slow=2.5,SNR=5.2								
LONY	**Lake Ozonia**	**61.93**	**53**	P		**P**		**01 35 16.4**	**-0.5**
	baz=316								
MKAR	**Makanchi Array**	**62.20**	**311**	P		**P**		**01 35 18.1**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=54,slow=6.6,SNR=7.3								
FINES	**FINESS Array B**	**66.32**	**349**	P		**P**		**01 35 44.4**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=29,slow=4.4,SNR=5.5								
NB2	**NORSAR Subarra**	**67.81**	**357**	P		**P**		**01 35 54.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=2.9,slow=6.2								
NOA	**NORSAR Array B**	**67.81**	**357**	P		**P**		**01 35 54.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=2.2,slow=6.3,SNR=6.8								
CMAR	**Chiang Mai Arr**	**73.83**	**279**	P		**P**		**01 36 33.1**	**+0.9**
	comp=Z,1.9nm,0.4s,baz=22,slow=7.0,SNR=8.6								
TAPN	**Taplejung**	**73.83**	**294**	*eP*		**P**		**01 36 33.3**	**+0.8**
	comp=Z,45nm,1.0s								
ODAN	**Odare**	**74.39**	**293**	*eP*		**P**		**01 36 36.4**	**+0.7**
GUN	**Gumba**	**74.45**	**295**	*eP*		**P**		**01 36 37.1**	**+0.9**
	comp=Z,73nm,0.9s								
JIRN	**Jiri**	**74.46**	**295**	*eP*		**P**		**01 36 37.4**	**+1.1**
	comp=Z,62nm,0.9s								
RAMN	**Ramite**	**74.77**	**294**	*eP*		**P**		**01 36 38.5**	**+0.6**
	comp=Z,22nm,0.7s								
PKI	**Pulchoki**	**74.97**	**295**	*eP*		**P**		**01 36 39.8**	**+0.6**
PKIN	**Phulchoki**	**74.97**	**295**	*eP*		**P**		**01 36 39.5**	**+0.4**
GKN	**Gorkha**	**75.08**	**296**	*eP*		**P**		**01 36 40.4**	**+0.8**
DMN	**Daman**	**75.11**	**296**	*eP*		**P**		**01 36 40.8**	**+0.9**
	comp=Z,43nm,1.0s								
DANN	**Dangsing**	**75.30**	**297**	*eP*		**P**		**01 36 41.7**	**+0.7**
	comp=Z,67nm,0.8s								
KOLN	**Koldanda**	**75.84**	**297**	*eP*		**P**		**01 36 44.6**	**+0.6**
	comp=Z,39nm,1.0s								
PYUN	**Piuthan**	**75.92**	**297**	*eP*		**P**		**01 36 45.0**	**+0.5**
	comp=Z,62nm,0.9s								
AKASG	**Malin Array Be**	**76.32**	**345**	P		**P**		**01 36 45.0**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=19,slow=5.9,SNR=8.9								
CLL	**Collm**	**77.47**	**355**	*i* P		**P**		**01 36 52.6**	**+0.1**
	comp=Z,7.0nm,0.8s								
CLL				LmV				02 27 00.0	
	comp=Z,100nm,19.0s								
BRG	**Berggiesshubel**	**77.85**	**355**	*eP*		**P**		**01 36 55.0**	**+0.3**
BRG				Amp				01 36 56.4	
	comp=Z,7.3nm,0.8s								
CHVC	**Chvalec**	**78.00**	**353**	*eP*		**P**		**01 36 55.7**	**+0.1**
OSTC	**Ostas**	**78.02**	**353**	*eP*		**P**		**01 36 56.5**	**+0.8**
PVCC	**Panska Ves**	**78.16**	**354**	*eP*		**P**		**01 36 57.1**	**+0.7**
MOX	**Moxa**	**78.19**	**356**	*eL*		L		02 28 11.8	
	comp=Z,119nm,20.1s								
DPC	**Dobruska-Polom**	**78.21**	**353**	*eP*		**P**		**01 36 57.2**	**+0.4**
KRLC	**Kraliky**	**78.45**	**353**	*eP*		**P**		**01 36 58.4**	**+0.3**
NKC	**Novy Kostel**	**78.57**	**356**	*eP*		**P**		**01 36 59.3**	**+0.6**
MORC	**Moravsky Berou**	**78.68**	**352**	⇑P		**P**		**01 36 59.1**	**-0.3**
PRU	**Pruhonice**	**78.69**	**354**	*eP*		**P**		**01 36 59.7**	**+0.3**
SORM	**Soroca**	**78.95**	**345**	⇑P		**P**		**01 37 00.1**	**-0.7**
CTA	**Charters Tower**	**79.16**	**217**	P		**P**		**01 37 02.1**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=331,slow=10,SNR=4.3								
GRF	**Grafenberg Arr**	**79.16**	**356**	*eP*		**P**		**01 37 02.4**	**+0.4**
	comp=Z,13nm,0.8s,baz=3.5,slow=4.8								
GRF				*eL*		L		02 29 45.8	
	comp=Z,116nm,18.0s								
VRAC	**Vranov**	**79.23**	**353**	⇑P		**P**		**01 37 02.4**	**+0.1**
KHC	**Kasperske Hory**	**79.61**	**355**	*eP*		**P**		**01 37 05.2**	**+0.7**
TRPA	**Tarpa**	**79.79**	**349**	⇑P		**P**		**01 37 05.6**	**+0.2**
CKRC	**Cesky Krumlov**	**79.87**	**354**	*eP*		**P**		**01 37 06.2**	**+0.3**
GERES	**GERESS Array B**	**79.89**	**355**	P		**P**		**01 37 06.6**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=15,slow=5.8,SNR=24								
GEYT	**Alibeck**	**79.92**	**320**	P		**P**		**01 37 07.1**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=32,slow=12,SNR=6.0								
GEYT	**Alibeck**	**79.92**	**320**	P		**P**		**01 37 07.3**	**+1.0**
BURAR	**Bucovina Array**	**79.94**	**347**	⇑P		**P**		**01 37 06.2**	**-0.1**
MILM	**Milestii Mici**	**80.05**	**344**	⇑P		**P**		**01 37 05.6**	**-1.2**
VASR	**Vaslui**	**80.49**	**345**	⇑P		**P**		**01 37 09.5**	**+0.3**
CONA	**Conrad Observa**	**80.66**	**353**	*eP*		**P**		**01 37 11.0**	**+0.8**
	comp=Z,2.1nm,0.6s,SNR=5.0								
TESR	**Tescani**	**80.80**	**346**	⇑P		**P**		**01 37 10.7**	**-0.2**
BIOA	**Bad Ischl, Aus**	**81.04**	**355**	*eP*		**P**		**01 37 12.8**	**+0.6**
	comp=Z,1.9nm,0.6s								
DRGR		**81.09**	**348**	⇑P		**P**		**01 37 12.3**	**-0.2**
VLDR	**Vladesti**	**81.22**	**344**	⇑P		**P**		**01 37 13.7**	**+0.6**
RETA	**Reutte**	**81.38**	**357**	*eP*		**P**		**01 37 14.3**	**+0.3**
	comp=Z,2.2nm,0.9s								
SCTR	**Scanteiesti**	**81.40**	**344**	⇑P		**P**		**01 37 14.8**	**+0.8**
VRI	**Vrincioaia**	**81.42**	**345**	⇑P		**P**		**01 37 15.0**	**+0.8**
WATA	**Walderalm**	**81.50**	**356**	*eP*		**P**		**01 37 15.3**	**+0.5**
	comp=Z,2.2nm,0.6s								
MOTA	**Moosalm**	**81.51**	**356**	*eP*		**P**		**01 37 15.1**	**+0.3**
	comp=Z,8.2nm,1.4s								
SLCR	**Slobozia Conac**	**81.52**	**345**	⇑P		**P**		**01 37 15.7**	**+1.0**
COVR	**Voineasa-Covas**	**81.52**	**346**	⇑P		**P**		**01 37 16.3**	**+1.5**
DOPR	**Dopca**	**81.53**	**346**	⇑P		**P**		**01 37 14.1**	**-0.7**
WTTA	**Wattenberg**	**81.57**	**356**	*eP*		**P**		**01 37 15.5**	**+0.3**
	comp=Z,4.0nm,0.8s,SNR=4.2								
SQTA	**Sankt Quirin**	**81.63**	**356**	*eP*		**P**		**01 37 15.9**	**+0.4**
	comp=Z,2.4nm,0.8s,SNR=4.1								
KBA	**Koelnbreinsper**	**81.67**	**355**	*eP*		**P**		**01 37 16.6**	**+0.9**
	comp=Z,7.9nm,0.8s								
TLCR		**81.73**	**344**	⇑P		**P**		**01 37 15.0**	**-0.8**
FETA	**Feichten**	**81.85**	**357**	*eP*		**P**		**01 37 17.4**	**+0.7**
	comp=Z,5.3nm,1.2s								
CFR	**Carcaliu**	**81.86**	**344**	⇑P		**P**		**01 37 16.8**	**+0.3**
MLR	**Muntele Rosu**	**81.91**	**346**	⇑P		**P**		**01 37 17.7**	**+0.8**
SOKA	**Soboth**	**81.96**	**354**	*eP*		**P**		**01 37 17.5**	**+0.4**
	comp=Z,3.7nm,0.9s,SNR=7.1								
PERS	**Pernice**	**82.00**	**353**	*eP*		**P**		**01 37 17.7**	**+0.4**
ABTA	**Abfaltersbach**	**82.04**	**355**	*eP*		**P**		**01 37 18.0**	**+0.4**
	comp=Z,3.1nm,0.9s								
TPGR	**Topolog**	**82.12**	**344**	⇑P		**P**		**01 37 18.1**	**+0.2**
JURR	**Jurilovca**	**82.13**	**344**	⇑P		**P**		**01 37 18.4**	**+0.5**
GROS	**Grobnik**	**82.14**	**353**	*i* P		**P**		**01 37 18.1**	**0.0**
OBKA	**Obir**	**82.16**	**354**	*eP*		**P**		**01 37 18.9**	**+0.7**
	comp=Z,2.3nm,0.7s,SNR=7.8								
ARR	**Arges**	**82.22**	**347**	⇑P		**P**		**01 37 19.7**	**+1.2**
HARR	**Harsova**	**82.37**	**344**	⇑P		**P**		**01 37 19.9**	**+0.8**
BZS	**Buzias**	**82.38**	**349**	⇑P		**P**		**01 37 18.8**	**-0.4**
GZR	**Gura Zlata**	**82.45**	**348**	⇓P		**P**		**01 37 19.9**	**+0.2**
TLBR	**Topalu**	**82.49**	**344**	⇑P		**P**		**01 37 20.6**	**+0.8**
COPA	**Copaceanca**	**83.34**	**346**	⇑P		**P**		**01 37 22.9**	**-1.3**
WRA	**Warramunga Arr**	**84.08**	**228**	P		**P**		**01 37 26.9**	**-1.3**
	comp=Z,1.6nm,1.0s,baz=30,slow=5.4,SNR=9.4								
VTS	**Vitosha**	**85.12**	**347**	⇑P		**P**		**01 37 33.0**	**-0.5**
PSI	**Prapat**	**85.84**	**269**	P		**P**		**01 37 36.2**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=9.5,slow=6.1,SNR=1.5								
BRTR	**Keskin Array B**	**86.02**	**339**	P		**P**		**01 37 37.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=49,slow=2.4,SNR=4.3								
FITZ	**Fitzroy Crossi**	**86.78**	**236**	P		**P**		**01 37 41.8**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=32,slow=5.4,SNR=7.6								
ASAR	**Alice Springs**	**87.50**	**226**	P		**P**		**01 37 44.6**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=24,slow=4.4,SNR=19								
ESDC	**Sonseca Array**	**88.89**	**7**	P		**P**		**01 37 51.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=348,slow=4.4,SNR=12								
ESDC	**Sonseca Array**	**88.89**	**7**	P		**P**		**01 37 51.7**	**-0.1**
ESDC				IAmb		IAmb		01 37 51.9	
	comp=Z,1.8nm,0.9s								
STKA	**Stephens Creek**	**91.57**	**216**	P		**P**		**01 38 03.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=345,slow=12,SNR=2.5								
MDT	**Midelt**	**95.64**	**9**	P		**P**		**01 38 23.1**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=40,slow=8.2,SNR=4.3								
BOSA	**Boshof**	**152.92**	**320**	PKPbc		**PKPbc**		**01 44 54.1**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=309,slow=0.6,SNR=4.1								

IDC 20 01:25:08.8±10.0, 0.70S×12.81W, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.4/38, mbtmp3.7/3, ML3.5/2, MS3.5/4, Ms1 3.4/4, ms1mx2.8/60, Error ellipse: s-maj=287.3km s-min=61.7km az=155.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.28**	**193**	T	T	01 33 01.9	
	baz=16,slow=74,SNR=73						
H10N1	**ASCENSION HYDR**	**7.30**	**193**	T	T	01 33 05.4	
	baz=16,slow=74,SNR=91						
H10N3	**ASCENSION HYDR**	**7.30**	**193**	T	T	01 32 59.8	
	baz=16,slow=74,SNR=46						
DBIC	**Dimbokro**	**10.79**	**47**	Pn	Pn	01 27 46.5	+1.8
	0.2nm,0.3s,baz=230,slow=15,SNR=2.0						
DBIC				Sn	Sn	01 29 46.8	+0.4
	0.2nm,0.3s,baz=119,slow=8.3,SNR=1.7						
DBIC				LR	LR	01 31 20.8	
	comp=Z,107nm,21.7s,baz=234,slow=34						
TORD	**Torodi Ar. Bea**	**19.90**	**46**	P	P	01 29 41.3	-0.8
	0.2nm,0.3s,baz=232,slow=11,SNR=15						
MDP	**Montagnes des**	**40.20**	**279**	LR	LR	01 45 34.2	
	comp=Z,123nm,18.3s,baz=98,slow=30						
MBAR	**Mbarara**	**43.54**	**90**	LR	LR	01 49 41.3	
	comp=Z,71nm,18.9s,baz=184,slow=34						
CPUP	**Villa Florida**	**49.82**	**235**	LR	LR	01 52 26.6	
	comp=Z,34nm,18.9s,baz=204,slow=33						
GERES	**GERESS Array B**	**54.41**	**21**	P	P	01 34 37.7	0.0
	0.4nm,0.7s,baz=207,slow=5.5,SNR=6.8						

IDC 20 01:34:04.6±0.8, 26.95N×126.76E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.7/52, mbtmp3.8/12, ML2.7/2, Error ellipse: s-maj=21.4km s-min=15.2km az=42.0
JMA 20 01:34:05.5±0.3, 26.96N×126.69E, h17km±3km, M3.9
NEIC 20 01:34:06.0±1.6, 26.70N±0.08×126.70E±0.05, h18km±5km, mb4.0/11, Error ellipse: s-maj=11.8km s-min=5.8km az=187.0

ISC 20 01:34:06.3±1.4, 26.85N±0.06×126.67E±0.04, h16km±10km, n49, σ1.14/56, mb4.0/16, 2C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.53**	**169**	P	**Pb**	**01 34 17.6**	**+0.4**
JKE				S	**Sb**	**01 34 26.1**	**+1.5**
JAGN	**Aguni-jima**	**0.57**	**117**	P	**Pg**	**01 34 17.3**	**-0.3**
JAGN				S	**Sg**	**01 34 25.6**	**+0.3**
JIH	**Iheya**	**1.17**	**81**	P	**Pn**	**01 34 26.2**	**-1.8**
JIH				S	**Sb**	**01 34 42.1**	**-1.0**
JJT3	**Tamagusuku3**	**1.22**	**125**	P	**Pb**	**01 34 29.5**	**+0.5**
JJT3				S	**Sg**	**01 34 46.6**	**+0.8**
JNTH	**Nagotoyohara**	**1.25**	**105**	P	**Pn**	**01 34 28.2**	**-0.9**
JNTH				S	**Sb**	**01 34 45.0**	**-0.5**
JOW	**Kunigami**	**1.43**	**90**	Pn	**Pn**	**01 34 30.8**	**-0.9**
	134nm,0.3s,baz=112,slow=24,SNR=112						
JOW				Sn	**Sn**	**01 34 50.3**	**+0.2**
	327nm,0.3s,baz=104,slow=24,SNR=13						
JOW	**Kunigami**	**1.43**	**90**	P	**Pn**	**01 34 30.7**	**-0.9**
JOW				*eS*	**Sn**	**01 34 49.1**	**-1.1**
JOW	**Kunigami**	**1.43**	**90**		**Pn**	**01 34 30.7**	**-0.9**
JYRO	**Yoronjima**	**1.60**	**83**	P	**Pn**	**01 34 32.7**	**-1.2**
JYRO				S	**Sn**	**01 34 53.5**	**-0.7**
YOJ	**Yonaguni jima**	**4.07**	**235**	Pn	**Pn**	**01 35 06.4**	**-1.5**
YHNB	**Yeheng**	**5.24**	**247**	Pn	**Pn**	**01 35 22.5**	**-1.6**
NACB	**Ninganchiao**	**5.30**	**241**	Pn	**Pn**	**01 35 24.1**	**-0.7**
JSU	**Suzuyama**	**5.70**	**35**		**Pn**	**01 35 31.1**	**+0.8**
YULB	**Yu-li**	**5.96**	**236**	Pn	**Pn**	**01 35 31.6**	**-2.3**
JNU	**Nakatsue**	**7.24**	**29**	Pn	**Pn**	**01 35 52.9**	**+1.4**
KSRS	**Korea Array**	**10.63**	**5**	Pn	**Pn**	**01 36 38.4**	**+0.5**
	0.1nm,0.3s,baz=174,slow=13,SNR=1.7						
KSRS	**Korea Array**	**10.63**	**5**		**Pn**	**01 36 38.4**	**+0.5**
MJAR	**Matsushiro Arr**	**13.77**	**43**	Pn	**Pn**	**01 37 21.4**	**+0.5**
	0.0nm,0.3s,baz=230,slow=8.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**13.77**	**43**	Pn	**Pn**	**01 37 20.9**	**+0.1**
ENH	**Enshi**	**15.48**	**287**	Pn	**Pn**	**01 37 43.1**	**-0.9**
ENH				IAmb	IAmb	01 37 57.2	
	comp=Z,20nm,1.3s						
BJT	**Baijiatuan**	**15.77**	**329**	Pn	**Pn**	**01 37 48.1**	**+0.3**
MDJ	**Mudanjiang**	**17.89**	**7**		**Pn**	**01 38 14.3**	**-0.1**
KLR	**Kul'dur**	**22.69**	**9**	P	**P**	**01 39 06.2**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=190,slow=7.5,SNR=5.2						
GTA	**Gaotai**	**25.64**	**306**	*eP*	**P**	**01 39 38.8**	**+3.5**
GTA				pP	pwP	01 39 44.6	+2.8
GTA				sP	sP	01 39 48.1	+6.6
ULN	**Ulaanbaatar**	**26.00**	**329**	P	**P**	**01 39 39.4**	**+0.8**
ULN				IAmb	IAmb	01 39 45.4	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**26.29**	**328**	P	**P**	**01 39 42.2**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=142,slow=8.3,SNR=7.7						
SONM	**Songino Array**	**26.29**	**328**	P	**P**	**01 39 42.2**	**+1.1**
SONM	**Songino Array**	**26.29**	**328**	IAmb	IAmb	01 39 48.4	
	comp=Z,3.6nm,1.2s						
SBUM	**Sibu**	**27.94**	**212**	P	**P**	**01 39 52.3**	**-3.7**
SBUM				IAmb	IAmb	01 40 06.3	
	comp=Z,4.6nm,1.3s						
MK31	**Makanchi Array**	**40.08**	**312**	P	**P**	**01 41 40.7**	**-0.3**
MK31				IAmb	IAmb	01 41 46.8	
	comp=Z,2.9nm,0.8s						
MK31	**Makanchi Array**	**40.08**	**312**	⇓Pn	**P**	**01 41 41.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=196,slow=14,SNR=29						
MKAR	**Makanchi Array**	**40.08**	**312**	P	**P**	**01 41 41.5**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=99,slow=10,SNR=36						
MKAR	**Makanchi Array**	**40.08**	**312**	P	**P**	**01 41 41.2**	**+0.2**
MAKZ	**Makanchi**	**40.29**	**312**	P	**P**	**01 41 43.0**	**+0.3**
MAKZ	**Makanchi**	**40.29**	**312**	⇑Pn	**P**	**01 41 42.9**	**+0.2**
	comp=Z,6.9nm,1.1s						
MAKZ				⇑Lg	Lg	01 42 15.8	
	comp=Z,6.1nm,1.1s						
ZAA0	**Zalesovo Array**	**40.91**	**323**	P	**P**	**01 41 48.2**	**+0.5**
ZAA0				IAmb	IAmb	01 41 48.4	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**40.91**	**323**	P	**P**	**01 41 47.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=110,slow=8.8,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.91**	**323**	P	**P**	**01 41 47.9**	**+0.2**
KURK	**Kurchatov**	**43.41**	**317**	P	**P**	**01 42 08.9**	**+0.8**
KURBB	**Kurchatov Arra**	**43.44**	**316**	P	**P**	**01 42 08.7**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=107,slow=8.0,SNR=4.2						
WRA	**Warramunga Arr**	**47.10**	**170**	P	**P**	**01 42 39.0**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=352,slow=8.4,SNR=5.4						
KKAR	**Karatay Array**	**47.91**	**305**	P	**P**	**01 42 44.1**	**+0.2**
KBL	**Kabul**	**49.58**	**294**	P	**P**	**01 42 55.9**	**-1.1**
KBL				IAmb	IAmb	01 43 03.3	
	comp=Z,2.0nm,0.8s						
ASAR	**Alice Springs**	**50.70**	**171**	P	**P**	**01 43 07.2**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=355,slow=8.9,SNR=11						
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**01 46 06.5**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=297,slow=5.6,SNR=9.7						
YKA	**Yellowknife Ar**	**78.55**	**25**	P	**P**	**01 46 06.5**	**-0.1**
NVAR	**Mina Array Bea**	**91.08**	**45**	P	**P**	**01 47 11.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=253,slow=5.6,SNR=2.5						
PDAR	**Pinedale Array**	**93.54**	**38**	P	**P**	**01 47 21.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=343,slow=1.5,SNR=5.5						
PDAR	**Pinedale Array**	**93.54**	**38**	P	**P**	**01 47 21.8**	**-0.1**

NIED 20 01:34:41.5, 26.93N×126.69E, h18km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=3.34; Mθθ2.49; Mφφ0.85; Mrθ1.30; Mθφ2.83; Mφr-0.60; Fault plane solution: Mo4.33000×10^15 NP1: φs255.00000°, δ55.00000°, λ-59.00000°. NP2:φs30.00000°, δ45.00000°, λ-126.00000°.
JMA 20 01:34:41.5±0.2, 26.93N×126.69E, h18km±3km, M4.6
JMA Felt I J1.
NEIC 20 01:34:42.2±2.3, 27.02N±0.07×126.90E±0.04, h10km±1km, mb4.3/16, Error ellipse: s-maj=12.4km s-min=5.9km az=8.0
IDC 20 01:34:44.9±3.6, 26.90N×126.81E, h36km±31km, mb3.9/12, mb1 4.0/15, mb1mx3.7/52, mbtmp4.0/15, ML2.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/43, Error ellipse: s-maj=22.2km s-min=13.5km az=65.0

ISC 20 01:34:44.2±1.0, 26.89N±0.04×126.83E±0.04, h27km±8km, n72, σ2.04/87, mb4.3/23, MS4.2/6, 1C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.48**	**129**	P	**Pb**	**01 34 52.9**	**-1.2**
JAGN				S	**Sb**	**01 35 00.9**	**+0.1**
JKE	**Kume jima 2**	**0.57**	**184**	P	**Pb**	**01 34 53.0**	**-2.6**
JKE				S	**Sb**	**01 35 01.4**	**-1.9**
JIH	**Iheya**	**1.02**	**82**	P	**Pb**	**01 35 02.0**	**-1.3**
JIH				S	**Sn**	**01 35 17.4**	**+1.2**
JNTH	**Nagotoyohara**	**1.13**	**109**	P	**Pn**	**01 35 03.8**	**-0.4**
JNTH				S	**Sn**	**01 35 19.9**	**+1.1**
JJT3	**Tamagusuku3**	**1.14**	**131**	P	**Pb**	**01 35 04.8**	**-0.4**
JJT3				S	**Sn**	**01 35 22.0**	**+3.0**
JOW	**Kunigami**	**1.29**	**92**	Pn	**Pn**	**01 35 06.2**	**-0.2**
	194nm,0.3s,baz=271,slow=22,SNR=5.2						
JOW				Sn	**Sb**	**01 35 24.6**	**+0.5**
	696nm,0.3s,baz=84,slow=21,SNR=12						
JOW				LR	LR	01 35 37.8	
	comp=Z,339nm,21.0s,baz=332,slow=40						
JOW	**Kunigami**	**1.29**	**92**	P	**Pn**	**01 35 06.1**	**-0.4**
JOW				*eS*	**Sb**	**01 35 24.3**	**+0.2**
JOW	**Kunigami**	**1.29**	**92**	Pn	**Pn**	**01 35 06.4**	**0.0**
JOW					**Sb**	**01 35 26.5**	**+2.4**
JYRO	**Yoronjima**	**1.45**	**84**	P	**Pb**	**01 35 09.7**	**-0.9**
JYRO				S	**Sb**	**01 35 29.2**	**+0.6**
JOKE	**Okinoerabujima**	**1.62**	**73**	*eS*	**Sb**	**01 35 34.8**	**+1.3**
YOJ	**Yonaguni jima**	**4.21**	**236**	Pn	**Pn**	**01 35 48.6**	**+2.0**
YHNB	**Yeheng**	**5.39**	**247**	Pn	**Pn**	**01 36 04.8**	**+1.8**
NACB	**Ninganchiao**	**5.45**	**241**		**Pn**	**01 36 05.6**	**+2.0**
JSU	**Suzuyama**	**5.58**	**34**	Pn	**Pn**	**01 36 04.5**	**-1.0**
YULB	**Yu-li**	**6.11**	**236**	Pn	**Pn**	**01 36 14.5**	**+1.8**
SSLB	**Suanglung**	**6.15**	**241**	Pn	**Pn**	**01 36 14.1**	**+0.8**
TPUB	**Ta-pu**	**6.66**	**239**	Pn	**Pn**	**01 36 22.9**	**+2.6**
JNU	**Nakatsue**	**7.13**	**29**	Pn	**Pn**	**01 36 23.8**	**-2.9**
JMN	**Monobe**	**9.14**	**40**	Pn	**Pn**	**01 36 51.7**	**-2.6**
KSRS	**Korea Array**	**10.57**	**5**	Pn	**Pn**	**01 37 13.9**	**+0.1**
	0.2nm,0.3s,baz=196,slow=12,SNR=1.6						
TIA	**Tai'an**	**12.43**	**321**	*eP*	P	01 37 46.0	-5.0
TIA				S	Sn	01 40 11.4	+14
TIA				pmax	pmax		
	comp=Z,160nm,5.3s						
TIA				LR	LR		
	comp=N,640nm,11.4s						
TIA				LR	LR		
	comp=E,710nm,11.9s						
TIA				LR	LR		
	comp=Z,770nm,10.8s						
MJAR	**Matsushiro Arr**	**13.64**	**42**	Pn	**Pn**	**01 37 54.8**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=242,slow=13,SNR=4.3						
MJAR	**Matsushiro Arr**	**13.64**	**42**	Pn	**Pn**	**01 37 52.0**	**-3.9**
LYN	**LuoYang**	**14.51**	**305**	*eP*	**P**	**01 38 11.8**	**-2.3**
LYN				pP	Pn	01 38 20.3	+13
LYN				sP		01 38 27.9	
LYN				S	**Sn**	**01 40 51.9**	**+4.2**
LYN				SS	**S**	**01 41 08.3**	**+1.6**
LYN				LR	LR		
	comp=N,410nm,12.7s						
LYN				LR	LR		
	comp=E,640nm,12.6s						
LYN				LR	LR		
	comp=Z,800nm,12.0s						
HNS	**HongShan**	**14.65**	**319**	⇓P	**P**	**01 38 15.6**	**0.0**
HNS				*eS*	**Sn**	**01 40 57.5**	**+6.4**
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						

PZH				LR	LR			
	comp=E,450nm,12.6s							
PZH				LR	LR			
	comp=Z,490nm,12.9s							
GTA	**Gaotai**	**25.73**	**306**	⇓P	**P**	**01**	**40**	**11.0 -1.5**
GTA				S	**S**	**01**	**44**	**36.9 -3.0**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,140nm,4.8s							
GTA				LR	LR			
	comp=N,150nm,15.6s							
GTA				LR	LR			
	comp=E,310nm,14.5s							
GTA				LR	LR			
	comp=Z,360nm,13.8s							
ULN	**Ulaanbaatar**	**26.04**	**329**	P	**P**	**01**	**40**	**14.5 -0.7**
ULN				IAmb	IAmb	01	40	31.4
	comp=Z,5.3nm,0.9s							
SONM	**Songino Array**	**26.32**	**328**	P	**P**	**01**	**40**	**17.7 -0.1**
	comp=Z,5.1nm,0.9s,baz=142,slow=10,SNR=13							
SONM	**Songino Array**	**26.32**	**328**	P	**P**	**01**	**40**	**17.1 -0.7**
SONM				IAmb	IAmb	01	40	18.7
	comp=Z,8.8nm,1.2s							
SBUM	**Sibu**	**28.05**	**212**	P	**P**	**01**	**40**	**36.7 +3.3**
WMQ	**Urumqi**	**35.72**	**309**	*eP*	**P**	**01**	**41**	**39.9 -0.7**
WMQ				pP	sP	01	41	55.3 +3.9
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WMQ				LR	LR			
	comp=N,290nm,13.3s							
WMQ				LR	LR			
	comp=E,330nm,14.1s							
WMQ				LR	LR			
	comp=Z,110nm,20.3s							
MK31	**Makanchi Array**	**40.16**	**312**	P	**P**	**01**	**42**	**16.4 -1.5**
MK31				IAmb	IAmb	01	42	22.1
	comp=Z,3.7nm,0.7s							
MK31	**Makanchi Array**	**40.16**	**312**	Lg	Lg	01	42	16.0
	comp=Z,3.8nm,0.7s,baz=97,slow=11,SNR=12							
MKAR	**Makanchi Array**	**40.16**	**312**	P	**P**	**01**	**42**	**16.4 -1.5**
	comp=Z,4.4nm,0.6s,baz=101,slow=10.0,SNR=12							
MAKZ	**Makanchi**	**40.37**	**312**	P	**P**	**01**	**42**	**18.4 -1.3**
MAKZ				IAmb	IAmb	01	42	24.0
	comp=Z,9.9nm,1.1s							
ZAA0	**Zalesovo Array**	**40.96**	**323**	P	**P**	**01**	**42**	**23.9 -0.4**
ZAA0				IAmb	IAmb	01	42	34.8
	comp=Z,4.6nm,0.8s							
ZALV	**Zalesovo Beam**	**40.96**	**323**	P	**P**	**01**	**42**	**24.9 +0.5**
	comp=Z,2.1nm,0.6s,baz=106,slow=8.2,SNR=7.4							
ZALV	**Zalesovo Beam**	**40.96**	**323**	P	**P**	**01**	**42**	**23.3 -1.1**
KNRA	**Kununurra**	**42.36**	**177**	P	**P**	**01**	**42**	**35.5 -0.6**
KURK	**Kurchatov**	**43.48**	**316**	P	**P**	**01**	**42**	**44.3 -0.6**
KURK				IAmb	IAmb	01	42	49.9
	comp=Z,11nm,1.4s							
KURBB	**Kurchatov Arra**	**43.51**	**316**	P	**P**	**01**	**42**	**43.7 -1.5**
	comp=Z,2.8nm,0.3s,baz=108,slow=8.0,SNR=5.1							
FITZ	**Fitzroy Crossi**	**44.74**	**182**	P	**P**	**01**	**42**	**54.4 -0.9**
	comp=Z,1.8nm,0.7s,baz=332,slow=18,SNR=2.1							
WRA	**Warramunga Arr**	**47.12**	**170**	P	**P**	**01**	**43**	**13.4 -0.7**
	comp=Z,2.7nm,0.8s,baz=351,slow=8.4,SNR=8.9							
BTK	**Batken**	**47.81**	**301**	P	**P**	**01**	**43**	**18.6 -0.9**
KKAR	**Karatay Array**	**48.00**	**305**	P	**P**	**01**	**43**	**20.2 -0.6**
KBL	**Kabul**	**49.69**	**294**	P	**P**	**01**	**43**	**34.5 +0.4**
KBL				IAmb	IAmb	01	43	47.3
	comp=Z,2.6nm,0.7s							
AS31	**Alice Springs**	**50.73**	**172**	P	**P**	**01**	**43**	**41.7 0.0**
ASAR	**Alice Springs**	**50.73**	**172**	P	**P**	**01**	**43**	**42.0 +0.3**
	comp=Z,1.2nm,0.5s,baz=358,slow=14,SNR=12							
ABKAR	**Akbulak array**	**55.28**	**313**	P	**P**	**01**	**44**	**15.6 +0.5**
STKA	**Stephens Creek**	**60.12**	**166**	P	**P**	**01**	**44**	**48.1 -1.0**
	comp=Z,1.8nm,0.7s,baz=19,slow=9.4,SNR=3.3							
ILAR	**Eielson Array**	**64.45**	**28**	P	**P**	**01**	**45**	**17.7 -0.2**
	comp=Z,0.4nm,0.8s,baz=291,slow=8.6,SNR=3.3							
TOO	**Toolangi**	**66.48**	**164**	P	**P**	**01**	**45**	**34.5 +3.3**
YKA	**Yellowknife Ar**	**78.45**	**25**	P	**P**	**01**	**46**	**41.1 -1.2**
	comp=Z,1.1nm,0.8s,baz=301,slow=5.4,SNR=12							
NVAR	**Mina Array Bea**	**90.94**	**45**	P	**P**	**01**	**47**	**45.3 -0.8**
	comp=Z,0.4nm,0.7s,baz=296,slow=5.5,SNR=3.6							
PDAR	**Pinedale Array**			P	**P**	**01**	**47**	**57.1 -0.4**
	comp=Z,1.1nm,0.8s,baz=332,slow=0.4,SNR=9.4							

*TRN **20** 01:53:35.8, 19˚.40N×64˚.26W, h18km*
*RSPR **20** 01:53:39.5, 19˚.48N×64˚.34W, h38km±20km, MD3.6/10*
*NEIC **20** 01:53:40.8±1.4, 19˚.27N±0˚.08×64˚.4W±0˚.1, h38km±54km,*
Error ellipse: s-maj=14.9km s-min=10.6km az=54.0
ISC 20 01:53:39.4±1.8, 19˚.3N±0˚.1×64˚.34W±0˚.04, h27km, n53, σ0s.83/54, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
STVI	**Saint Thomas**	**1.11**	**212**	*eP*		**Pn**	**01**	**53**	**58.2**	**-1.0**
STVI	**Saint Thomas**	**1.11**	**212**	*eS*		**Sn**	**01**	**54**	**11.4**	**-2.3**
STVI	**Saint Thomas**	**1.11**	**212**			**Sn**	**01**	**54**	**11.4**	**-2.3**
CUPR	**Culebra, Puert**	**1.33**	**222**	*eP*		**Pn**	**01**	**54**	**02.0**	**-0.3**
CUPR	**Culebra, Puert**	**1.33**	**222**	*eS*		**Sn**	**01**	**54**	**17.9**	**-1.3**
CUPR	**Culebra, Puert**	**1.33**	**222**			**Pn**	**01**	**54**	**02.0**	**-0.3**
CUPR						**Sn**	**01**	**54**	**17.9**	**-1.3**
CUPR	**Culebra, Puert**	**1.33**	**222**	IAML			01	54	25.1	
	comp=N,270nm,0.4s									
CDVI	**St. Croix**	**1.60**	**195**	*eP*		**Pn**	**01**	**54**	**06.6**	**+0.7**
CDVI	**St. Croix**	**1.60**	**195**	*eS*		**Sn**	**01**	**54**	**28.0**	**+2.4**
CDVI	**St. Croix**	**1.60**	**195**			**Pn**	**01**	**54**	**06.7**	**+0.8**
CDVI	**St. Croix**	**1.60**	**195**	*eP*		**Pn**	**01**	**54**	**06.7**	**+0.7**
MTP	**Monte Pirata**	**1.66**	**224**	*eP*		**Pn**	**01**	**54**	**06.8**	**0.0**
MTP	**Monte Pirata**	**1.66**	**224**	*eS*		**Sn**	**01**	**54**	**28.2**	**+0.9**
MTP	**Monte Pirata**	**1.66**	**224**			**Pn**	**01**	**54**	**06.8**	**0.0**
MTP	**Monte Pirata**	**1.66**	**224**	IAML			01	54	32.0	
	comp=E,406nm,0.2s									
SMRT	**St. Maarten**	**1.73**	**136**	*eP*		**Pn**	**01**	**54**	**07.5**	**-0.2**
CBYP	**Canovanas**	**1.77**	**235**	*eP*		**Pn**	**01**	**54**	**08.0**	**-0.3**
CBYP	**Canovanas**	**1.77**	**235**			**Pn**	**01**	**54**	**08.0**	**-0.3**
HUMP	**Col San Antoni**	**1.84**	**231**	*eP*		**Pn**	**01**	**54**	**09.4**	**+0.2**
HUMP	**Col San Antoni**	**1.84**	**231**	*eS*		**Sn**	**01**	**54**	**32.1**	**+0.4**
HUMP	**Col San Antoni**	**1.84**	**231**			**Pn**	**01**	**54**	**09.4**	**+0.2**
HUMP	**Col San Antoni**	**1.84**	**231**	IAML			01	54	40.9	
	comp=N,180nm,0.2s									
GCPR	**Guaynabo City**	**1.93**	**239**	*eP*		**Pn**	**01**	**54**	**09.9**	**-0.5**
GCPR	**Guaynabo City**	**1.93**	**239**	*eS*		**Sn**	**01**	**54**	**34.3**	**+0.5**
GCPR	**Guaynabo City**	**1.93**	**239**			**Pn**	**01**	**54**	**09.9**	**-0.5**
GCPR						**Sn**	**01**	**54**	**34.3**	**+0.5**
PDPR	**Patillas Dam,**	**2.04**	**232**			**Pn**	**01**	**54**	**12.6**	**+0.5**
PDPR				IAML			01	54	40.3	
	comp=E,98nm,0.1s									
SJG	**San Juan**	**2.09**	**236**			**Pn**	**01**	**54**	**12.8**	**+0.2**
SJG				IAML			01	54	46.7	
	comp=E,106nm,0.3s									
SJG				IAML			01	54	46.8	
	comp=E,95nm,0.6s									
SJG	**San Juan**	**2.09**	**236**	*eP*		**Pn**	**01**	**54**	**13.5**	**+0.8**
IGPR	**InterUniversit**	**2.14**	**232**	*eP*		**Pn**	**01**	**54**	**13.8**	**+0.4**
IGPR	**InterUniversit**	**2.14**	**232**	*eS*		**Sn**	**01**	**54**	**40.0**	**+0.9**
EMPR	**Esperanza - Ma**	**2.23**	**249**	Pn		**Pn**	**01**	**54**	**15.3**	**+0.7**
EMPR				IAML			01	54	58.4	
	comp=E,157nm,0.8s									
EMPR				IAML			01	55	02.6	
	comp=N,177nm,1.0s									
CELP	**Cerrillos**	**2.45**	**240**	*eP*		**Pn**	**01**	**54**	**17.9**	**+0.2**
CELP	**Cerrillos**	**2.45**	**240**	*eS*		**Sn**	**01**	**54**	**46.9**	**+0.1**
CELP	**Cerrillos**	**2.45**	**240**			**Sn**	**01**	**54**	**46.9**	**+0.1**
AOPR	**Arecibo Observ**	**2.48**	**248**	*eS*		**Sn**	**01**	**54**	**46.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.48**	**248**			**Sn**	**01**	**54**	**46.9**	**-0.5**
AOPR	**Arecibo Observ**	**2.48**	**248**	*eP*		**Pn**	**01**	**54**	**19.2**	**+1.1**
SKI	**Saint Kitts**	**2.48**	**142**	*eP*		**Pn**	**01**	**54**	**16.8**	**-1.3**
SKI				*eS*		**Sn**	**01**	**54**	**48.6**	**+1.1**
OBIP	**Obispado Ponce**	**2.49**	**240**	*eP*		**Pn**	**01**	**54**	**17.8**	**-0.4**
OBIP	**Obispado Ponce**	**2.49**	**240**			**Pn**	**01**	**54**	**17.8**	**-0.4**
OBIP	**Obispado Ponce**	**2.49**	**240**	IAML			01	54	47.2	
	comp=N,61nm,0.7s									
LSP	**Las Mesas**	**2.83**	**247**	*eS*		**Sn**	**01**	**54**	**56.6**	**+0.3**
MLPR	**Magueyes Islan**	**2.89**	**243**	Pn		**Pn**	**01**	**54**	**24.8**	**+1.1**
ANWB	**Willy Bob**	**2.92**	**123**	*eP*		**Pn**	**01**	**54**	**23.2**	**-0.9**
ANWB				*eS*		**Sn**	**01**	**54**	**58.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.93**	**244**	Pn		**Pn**	**01**	**54**	**23.6**	**-0.6**
MBFL	**Flemmings, Mon**	**3.25**	**141**	*eP*		**Pn**	**01**	**54**	**28.8**	**+0.1**
ANBD	**Bethesda, Anti**	**3.32**	**132**	*eP*		**Pn**	**01**	**54**	**29.5**	**-0.2**
ANBD				*eS*		**Sn**	**01**	**55**	**08.1**	**-0.1**
CBE	**Ff, Capester**	**4.14**	**141**	*eP*		**Pn**	**01**	**54**	**41.2**	**+0.3**
CBE	**Ff, Capester**	**4.14**	**141**	*eS*		**Sn**	**01**	**55**	**28.5**	**0.0**
MAGL	**Barre de l'ile**	**4.43**	**138**	*eP*		**Pn**	**01**	**54**	**45.2**	**+0.2**
SDDR	**Presa de Saban**	**6.58**	**268**			**Pn**	**01**	**55**	**14.1**	**-0.4**
SDDR	**Presa de Saban**	**6.58**	**268**	*eP*		**Pn**	**01**	**55**	**14.9**	**+0.5**
SDDR	**Presa de Saban**	**6.58**	**268**	*eS*		**Sn**	**01**	**56**	**28.3**	**-0.3**

IDC 20 02:16:13.4±12.0, 25˚.41S×69˚.37E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/49, mbtmp3.7/5, MS3.5/4, Ms1 3.5/4, ms1mx2.8/75, Error ellipse: s-maj=418.5km s-min=33.8km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
H08S1	**Diego Carcia H**	**17.91**	**10**	T		T	02	38	04.2	
	baz=189,slow=76,SNR=7.9									
H08S2	**Diego Garcia H**	**17.91**	**10**	T		T	02	38	03.7	
	baz=189,slow=76,SNR=7.7									
H08S3	**Diego Garcia H**	**17.93**	**10**	T		T	02	38	05.9	
	baz=189,slow=76,SNR=4.9									
PALK	**Pallekele**	**34.30**	**20**	LR		LR	02	33	56.0	
	comp=Z,55nm,19.3s,baz=292,slow=31									
LEM	**Lembang**	**40.91**	**70**	LR		LR	02	38	17.1	
	comp=Z,45nm,20.5s,baz=140,slow=32									
CMAR	**Chiang Mai Arr**	**52.24**	**36**	LR		LR	02	46	06.9	
	comp=Z,17nm,18.5s,baz=190,slow=34									
ASAR	**Alice Springs**	**58.20**	**103**	P		P	02	26	09.8	0.0
	0.3nm,0.6s,baz=250,slow=6.2,SNR=6.2									
WRA	**Warramunga Arr**	**59.69**	**99**	P		P	02	26	19.9	-0.2
	0.5nm,0.8s,baz=254,slow=7.2,SNR=3.6									
MKAR	**Makanchi Array**	**72.80**	**9**	P		P	02	27	43.3	-0.3
	1.0nm,0.7s,baz=194,slow=6.2,SNR=14									
SONM	**Songino Array**	**80.14**	**24**	P		P	02	28	26.0	+0.6
	0.8nm,0.9s,baz=220,slow=3.6,SNR=4.0									
ZALV	**Zalesovo Beam**	**80.15**	**9**	P		P	02	28	25.1	+0.1
	0.8nm,0.6s,baz=180,slow=5.5,SNR=5.7									
MSVF	**Nonsavu**	**98.44**	**114**	LR		LR	03	08	22.5	
	comp=Z,70nm,18.5s,baz=6.9,slow=32									

*AEIC **20** 02:17:40.5±4.8, 53˚.63N×0˚.08×174˚.5W±0˚.1, h21km±7km,*
Error ellipse: s-maj=13.0km s-min=9.9km az=148.0
NEIC 20 02:17:40.1±1.9, 52˚.6N±0˚.2×174˚.0W±0˚.2, h180km±10km, mb4.1/9, ML2.7(AEIC), Error ellipse: s-maj=37.3km s-min=9.6km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KOKL	**Mount Kliuchef**	**0.32**	**202**			Pn	02	18	04.4	+0.1
KOFP	**Korovin Flat P**	**0.35**	**190**			Pn	02	18	04.2	-0.2
ATKA	**Atka Island**	**0.44**	**196**			Pn	02	18	03.9	-0.7
GSTR	**Great Sitkin T**	**1.37**	**248**	Pn		Pn	02	18	11.1	+0.3
GSMY	**Great Sitkin M**	**1.39**	**246**			Pn	02	18	11.1	+0.1
GSTD	**Great Sitkin T**	**1.43**	**247**			Pn	02	18	11.7	+0.2
GSCK	**Great Sitkin C**	**1.46**	**246**			Pn	02	18	12.0	+0.3
ADK	**Adak**	**1.81**	**247**			Pn	02	18	15.5	+0.4
ADK	**Adak**	**1.81**	**247**	Sn		Sn	02	18	41.4	-0.7
KIWB	**Kanaga Island**	**2.08**	**250**	Pn		Pn	02	18	17.6	-0.5
KIMD	**Kanaga Island**	**2.17**	**248**			Pn	02	18	19.6	+0.7
TAFP	**Tanaga Falls P**	**2.55**	**255**			Pn	02	18	24.4	+1.0
OHAK	**Old Harbor**	**12.75**	**61**	Pn		Pn	02	20	31.8	-3.0
KDAK	**Kodiak Island**	**13.25**	**59**	Pn		Pn	02	20	37.8	-3.4
TTA	**Tatalina**	**14.04**	**36**	Pn		Pn	02	20	49.1	-1.9
CNPM	**China Poot**	**14.42**	**52**	Pn		Pn	02	20	55.5	-0.1
BRLK	**Bradley Lake**	**14.66**	**52**	Pn		Pn	02	20	57.9	-0.9
KTH	**Kantishna Hill**	**16.28**	**39**			Pn	02	21	20.0	+1.6
KTH				IAmb		IAmb	02	21	41.6	
	comp=Z,9.3nm,1.3s									
BPAW	**Bear Paw Mtn.**	**16.55**	**37**	Pn		Pn	02	21	23.4	+1.7
PETK	**Petropavlovsk-**	**17.05**	**283**	P		P	02	21	23.4	-3.2
WRH	**Wood River Hil**	**17.82**	**38**	P		P	02	21	33.2	-1.7
RAGM	**Ragged Mountai**	**17.83**	**53**	P		P	02	21	34.1	-0.9
HDA	**Harding Lake**	**18.23**	**39**	P		P	02	21	39.1	-0.2
HDA				IAmb		IAmb	02	21	42.1	
	comp=Z,3.5nm,0.9s									
SCRK	**Sand Creek**	**19.22**	**42**	P		P	02	21	50.8	+0.5
SCRK				IAmb		IAmb	02	21	51.4	
	comp=Z,5.1nm,0.6s									
RUBB	**Prince Rupert**	**25.79**	**69**	P		P	02	22	55.3	+1.3
GRNB	**Grenville Isla**	**26.08**	**70**	P		P	02	22	55.3	-1.4
GRNB				IAmb		IAmb	02	22	58.0	
	comp=Z,12nm,1.0s									

*IDC **20** 02:23:20.7±0.7, 3˚.51N×126˚.54E, h0km, mb4.1/14,*
mb1 4.2/15, mb1mx3.9/44, mbtmp4.1/15, ML4.5/1, MS3.4/6,
Ms1 3.5/6, ms1mx2.9/76, Error ellipse: s-maj=36.2km
s-min=12.9km az=72.0
*DJA **20** 02:23:25.4±0.5, 4˚N±8˚×12˚7E±˚, h17km±9km, M4.4/10,*
mB5.4/4, mb4.5/7, MLv4.3/10, Mw(mB)4.8/4
*NEIC **20** 02:23:32.3±1.6, 3˚.42N±0˚.07×126˚.6E±0˚.1, h95km±10km,*
mb4.3/16, Error ellipse: s-maj=17.5km s-min=7.9km
az=70.0
ISC 20 02:23:28.2±0.5, 3˚.60N±0˚.07×126˚.73E±0˚.07, h53km, n59, σ1s71/52, mb4.2/24, MS3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SGSI	**Sangihe**	**1.21**	**274**	P		**Pn**	**02**	**23**	**46.8**	**-2.0**
SGSI				S		**Sn**	**02**	**24**	**03.8**	**-0.4**
TNTI	**Ternate**	**2.88**	**167**	Pn		**Pn**	**02**	**24**	**13.9**	**+2.2**
TNTI	**Ternate**	**2.88**	**167**	P		**Pn**	**02**	**24**	**14.2**	**+2.5**
DAV	**Davao City (W)**	**3.63**	**342**	Pn		Pn	02	24	28.9	+6.9
KMSI	**Cibinong**	**4.08**	**222**	P		**Pn**	**02**	**24**	**28.6**	**+0.5**
LBMI	**Labuha**	**4.28**	**170**	P		**Pn**	**02**	**24**	**30.9**	**0.0**
GTOI	**Gorontalo**	**4.75**	**232**	P		Pn	02	24	31.2	-6.1
MRSI	**Marisa**	**5.71**	**237**	P		**Pn**	**02**	**24**	**51.8**	**+1.3**
	0.2nm36nm,0.5s									
LUWI	**Luwuk**	**6.08**	**221**	Pn		**Pn**	**02**	**24**	**56.4**	**+0.8**
SWI	**Sorong**	**6.34**	**134**	P		**Pn**	**02**	**24**	**58.3**	**-0.8**
	0.2nm1µm35nm,0.8s									
SIJI	**Sorong**	**6.34**	**134**	Pn		**Pn**	**02**	**24**	**57.9**	**-1.4**
	9.9nm,0.3s,baz=329,slow=17,SNR=22									
SIJI				Sn		**Sn**	**02**	**26**	**11.9**	**+1.5**
	1.9nm,0.3s,baz=134,slow=18,SNR=3.5									
TOLI2	**Tolitoli**	**6.44**	**248**	Pn		**Pn**	**02**	**24**	**59.9**	**-0.7**
APSI	**Ampana**	**6.78**	**229**	P		**Pn**	**02**	**25**	**07.7**	**+2.5**
	0.2nm473nm33nm,0.7s									
PCI	**Palu**	**8.22**	**237**	P		**Pn**	**02**	**25**	**28.5**	**+3.5**
	47µm451nm,0.9s									
MYLDM	**Lahad Datu**	**8.36**	**281**	Pn		**Pn**	**02**	**25**	**29.6**	**+2.8**
TTSI	**Tana Toraja**	**9.56**	**226**	P		**Pn**	**02**	**25**	**46.3**	**+3.0**
SBUM	**Sibu**	**14.54**	**266**	Pn		**Pn**	**02**	**26**	**50.9**	**-0.2**
GUMO	**Guam**	**20.47**	**60**	LR		LR	02	34	21.6	
	comp=Z,60nm,20.3s,baz=194,slow=32									
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P		**P**	**02**	**28**	**12.7**	**-1.1**
	3.5nm,0.8s,baz=12,slow=6.8,SNR=9.3									
FITZ	**Fitzroy Crossi**	**21.59**	**183**	IAmb		IAmb	02	28	17.7	
	comp=Z,6.2nm,1.0s									
UBPT	**Khong Chiam**	**23.94**	**300**	P		**P**	**02**	**28**	**36.5**	**-1.1**
UBPT				IAmb		IAmb	02	28	45.2	
	comp=Z,11nm,1.0s									
WB0	**Warramunga Arr**	**24.41**	**162**	P		**P**	**02**	**28**	**39.4**	**-2.6**
WB0				IAmb		IAmb	02	28	41.7	
	comp=Z,27nm,1.1s									
WRA	**Warramunga Arr**	**24.56**	**163**	P		**P**	**02**	**28**	**41.3**	**-2.0**
	comp=Z,8.0nm,0.4s,baz=337,slow=11,SNR=49									
WB2	**Warramunga Arr**	**24.57**	**163**	P		**P**	**02**	**28**	**41.6**	**-1.8**
WR0	**Warramunga Arr**	**24.64**	**162**	P		**P**	**02**	**28**	**42.2**	**-1.8**
WR0				IAmb		IAmb	02	28	44.0	
	comp=Z,10nm,0.7s									
AS31	**Alice Springs**	**27.99**	**166**	P		**P**	**02**	**29**	**11.8**	**-2.5**
ASAR	**Alice Springs**	**27.99**	**166**	P		**P**	**02**	**29**	**12.7**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=345,slow=7.4,SNR=17									
KSRS	**Korea Array**	**33.71**	**2**	P		**P**	**02**	**30**	**05.0**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=173,slow=11,SNR=7.2									
MJAR	**Matsushiro Arr**	**34.44**	**16**	LR		LR	02	43	11.7	
	comp=Z,58nm,20.5s,baz=178,slow=34									
XAN	**Xi'an**	**34.53**	**333**	P		**P**	**02**	**30**	**13.5**	**+1.8**
XAN				pP		pP	02	30	18.8	-6.3
XAN				pmax		pmax				
	comp=Z,8.0nm,0.6s									
STKA	**Stephens Creek**	**38.01**	**159**	P		**P**	**02**	**30**	**39.9**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=336,slow=8.5,SNR=6.8									
STKA	**Stephens Creek**	**38.01**	**159**	P		**P**	**02**	**30**	**40.2**	**-1.1**
LZH	**Lanzhou**	**38.61**	**330**	*eP*		P	02	30	51.6	+5.0
LZH				pP		sP	02	31	12.0	+5.5
LZH				sP		pP	02	31	27.3	+27
LZH				pmax		pmax				
	comp=Z,13nm,1.4s									
HHC	**Hu-ho-hao-te**	**39.52**	**342**	*eP*		**P**	**02**	**30**	**57.3**	**+3.3**
HHC				pmax		pmax				
	comp=Z,10.0nm,0.9s									
HHC				pmax		pmax				
	comp=Z,100nm,5.7s									
SHL	**Shillong**	**39.95**	**307**	P		**P**	**02**	**30**	**56.8**	**-1.2**
GTA	**Gaotai**	**43.21**	**329**	*eP*		**P**	**02**	**31**	**27.3**	**+3.0**
GTA				pP		sP	02	31	46.9	+2.6
GTA				sP		pP	02	31	55.8	+18
GTA				pmax		pmax				
	comp=Z,3.0nm,0.9s									
KLR	**Kul'dur**	**45.66**	**5**	P		**P**	**02**	**31**	**43.7**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=265,slow=4.4,SNR=4.8									
ULN	**Ulaanbaatar**	**47.24**	**342**	P		**P**	**02**	**31**	**58.2**	**+2.0**
ULN				IAmb		IAmb	02	32	21.1	
	comp=Z,6.8nm,1.4s									
SONM	**Songino Array**	**47.42**	**341**	P		**P**	**02**	**31**	**57.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=150,slow=6.9,SNR=4.7									
SONM				LR		LR	02	53	04.6	
	comp=Z,57nm,19.4s,baz=161,slow=38									
WMQ	**Urumqi**	**52.83**	**325**	*eP*		**P**	**02**	**32**	**41.3**	**+2.8**
MK31	**Makanchi Array**	**57.66**	**325**	P		**P**	**02**	**33**	**13.2**	**0.0**
MK31				IAmb		IAmb	02	33	15.0	
	comp=Z,2.1nm,1.2s									
MKAR	**Makanchi Array**	**57.66**	**325**	P		**P**	**02**	**33**	**12.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=117,slow=7.1,SNR=15									
MKAR				LR		LR	03	00	03.2	
	comp=Z,49nm,18.2s,baz=68,slow=38									
MKAR	**Makanchi Array**	**57.66**	**325**	P		**P**	**02**	**33**	**12.2**	**-1.0**
MAKZ	**Makanchi**	**57.85**	**325**	P		**P**	**02**	**33**	**13.3**	**-1.3**
MAKZ				IAmb		IAmb	02	33	39.3	
	comp=Z,4.6nm,1.4s									
KSH	**Kashi**	**58.13**	**315**	P		**P**	**02**	**33**	**18.6**	**+1.8**
AAK	**Ala-Archa**	**60.45**	**318**	LR		LR	03	01	30.5	
	comp=Z,31nm,20.3s,baz=106,slow=38									
ZALV	**Zalesovo Beam**	**60.70**	**333**	P		**P**	**02**	**33**	**32.4**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=132,slow=10,SNR=3.0									
KURK	**Kurchatov**	**61.85**	**328**	P		**P**	**02**	**33**	**41.7**	**-0.2**
GAR	**Garm**	**62.01**	**313**	P		**P**	**02**	**33**	**41.8**	**-1.6**
SEY	**Seymchan**	**62.15**	**13**	P		**P**	**02**	**33**	**44.9**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=66,slow=22,SNR=2.3									
KKAR	**Karatay Array**	**63.33**	**317**	P		**P**	**02**	**33**	**52.0**	**+0.1**
NRIK	**Noril'sk**	**70.55**	**346**	P		**P**	**02**	**34**	**38.0**	**+0.7**
	comp=Z,1.

EMIN	**Mina Concepcio**	**3.20**	**311**	Pn	**Pn**	**02 42 49.6**	**-0.2**
EMIN				Sn	**Sn**	**02 43 26.2**	**-1.7**
EMIN				*i* Vmb_Lg		02 43 30.0	
ETOB	**Tobarra**	**3.38**	**29**	Pn	**Pn**	**02 42 54.1**	**+1.7**
ETOB				Sn	**Sn**	**02 43 32.8**	**+0.3**
EGRO	**El Granado**	**3.60**	**302**	Pn	**Pn**	**02 42 55.4**	**0.0**
EGRO				Sn	**Sn**	**02 43 36.0**	**-1.7**
EGRO				*i* Vmb_Lg		02 43 40.9	
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**02 42 56.8**	**0.0**
PVAQ	**Vaqueiros**	**3.70**	**299**	P	**Pn**	**02 42 56.8**	**0.0**
PVAQ				S	**Sn**	**02 43 38.1**	**-2.2**
AFON	**Font Roja**	**3.86**	**39**	Pn	**Pn**	**02 43 00.4**	**+1.4**
AFON				*i* Vmb_Lg		02 43 40.1	
AFON				Sn	**Sn**	**02 43 42.6**	**-1.7**
PAB	**San Pablo**	**3.88**	**352**	P	**Pn**	**02 43 00.8**	**+1.4**
PAB	**San Pablo**	**3.88**	**352**	P	**Pn**	**02 43 00.8**	**+1.4**
PAB	**San Pablo**	**3.88**	**352**	Pn	**Pn**	**02 43 00.3**	**+1.0**
PAB				Sn	**Sn**	**02 43 44.2**	**-0.7**
PAB				*i* Vmb_Lg		02 44 03.4	
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**02 43 02.1**	**+1.5**
	0.6nm,0.3s,baz=177,slow=12,SNR=54						
ESDC				Lg	Lg	02 44 03.3	
	1.1nm,0.3s,baz=180,slow=28,SNR=8.3						
ESDC	**Sonseca Array**	**3.98**	**356**	Pn	**Pn**	**02 43 01.7**	**+1.1**
ESDC				Sn	**Sn**	**02 43 47.6**	**+0.4**
EBAD	**Badajoz**	**4.07**	**320**	Pn	**Pn**	**02 43 02.1**	**+0.3**
EBAD				Sn	**Sn**	**02 43 47.9**	**-1.6**
EBAD				*i* Vmb_Lg		02 43 50.5	
MORF	**Marmelete**	**4.35**	**293**	*eP*	**Pn**	**02 43 05.3**	**-0.3**
MORF				*eS*	**Sn**	**02 43 53.0**	**-3.4**
MORF				IAML		02 43 58.5	
	comp=N,12nm,0.5s						
PFVI	**Vila Bisbo**	**4.43**	**290**	P	**Pn**	**02 43 06.8**	**+0.1**
PFVI				S	**Sn**	**02 43 53.8**	**-4.4**
PESTR	**Estremoz**	**4.47**	**316**	P	**Pn**	**02 43 07.7**	**+0.4**
PESTR				S	**Sn**	**02 43 55.2**	**-4.1**
GUD	**Guadarrama**	**4.95**	**355**	Pn	**Pn**	**02 43 15.3**	**+1.2**
GUD				Sn	**Sn**	**02 44 10.3**	**-1.1**
GUD				*i* Vmb_Lg		02 44 55.9	
ETOR	**Torete**	**5.26**	**13**	Pn	**Pn**	**02 43 19.5**	**+1.2**
ETOR				Sn	**Sn**	**02 44 16.8**	**-2.2**
ETOR				*i* Vmb_Lg		02 47 20.0	
OUK	**Oukaimeden**	**5.71**	**219**	P	**Pn**	**02 43 23.3**	**-1.3**
OUK				S	**Sn**	**02 44 28.8**	**-1.5**
ELOB	**Lobios**	**7.06**	**332**	Pn	**Pn**	**02 43 44.7**	**+1.6**
ELOB				Sn	**Sn**	**02 44 59.0**	**-4.3**
ELOB				*i* Vmb_Lg		02 45 03.5	
ELAN	**Lanestosa**	**7.53**	**1**	Pn	**Pn**	**02 43 51.2**	**+1.9**
EALK	**Alkurruntz**	**7.69**	**12**	Pn	**Pn**	**02 43 53.6**	**+2.0**
TORD	**Torodi Ar. Bea**	**22.96**	**167**	P	**P**	**02 47 09.4**	**+5.3**
	comp=N,0.7nm,1.0s,baz=344,slow=9.5,SNR=3.0						
AKTO	**Aktyubinsk**	**46.07**	**51**	LR	LR	03 09 57.3	
	comp=N,25nm,18.3s,baz=102,slow=36						
YKA	**Yellowknife Ar**	**67.71**	**332**	P	**P**	**02 52 57.4**	**+0.8**
	comp=N,0.1nm,0.6s,baz=59,slow=6.4,SNR=2.4						

*IDC **20** 02:42:49.0±1.6,34°.83N×137°.39E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/48, mbtmp3.4/2, Error ellipse: s-maj=73.2km s-min=14.3km az=108.0*

*JMA **20** 02:42:54.5,35°.01N×137°.25E, h38km, M3.5 Broadband fault plane solution: P waves. NP1:φ=195.00000°, δ63.00000°, λ-63.00000°. NP2:φ=327.00000°, δ37.00000°, λ-131.00000°. Principal axes: T Plg14.0000°, Azm266.0000°; N Plg23.0000°, Azm2.0000°; P Plg62.0000°, Azm147.0000°;*

JMA Felt II J1.

*NIED **20** 02:42:54.6, 35°.01N×137°.25E, h38km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-1.91; Mθθ 0.08; Mφφ 1.83; Mrθ 1.20; Mθφ-0.52; Mφr 0.87; Fault plane solution: M₀2.38000×10¹⁴ NP1: φs=193.00000°, δ60.00000°, λ-59.00000°. NP2: φs=323.00000°, δ42.00000°, λ-131.00000°.*

ISC 20 02:42:54.2±1.5, 34°.98N±0°.04×137°.23E±0°.04, h33km±3km, n15, σ0.88/22, 5C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	**Shinshiroyabe**	**0.23**	**105**	⇑P	**Pn**	**02 43 01.7**	**+0.8**
JSSY				S	**Sb**	**02 43 07.0**	**+1.1**
JAO	**Obara**	**0.29**	**4**	⇓P	**Pn**	**02 43 02.1**	**0.0**
JAO				S	**Sn**	**02 43 07.8**	**+1.0**
TSUJ	**Tsu 2**	**0.72**	**249**	⇑P	**Pn**	**02 43 08.5**	**+0.5**
TSUJ				*eS*	**Sb**	**02 43 19.0**	**+1.1**
JIE	**Ise**	**0.72**	**217**	⇑P	**Pn**	**02 43 08.8**	**+0.7**
JIE				S	**Sn**	**02 43 18.9**	**+0.9**
JYTA	**Yamagatataniai**	**0.74**	**327**	⇓P	**Pn**	**02 43 08.4**	**+0.1**
JYTA				S	**Sn**	**02 43 18.2**	**-0.2**
TK04	**Tokai 4**	**0.79**	**138**	⇓P	**Pn**	**02 43 09.6**	**+0.7**
SHZ3	**Shizuoka 3**	**0.81**	**83**	P	**Pn**	**02 43 09.0**	**-0.3**
SHZ3				*eS*	**Sn**	**02 43 20.1**	**-0.1**
JKN2	**Miekihoku**	**1.08**	**227**	⇑P	**Pn**	**02 43 13.4**	**+0.4**
TK02	**Tokai 2**	**1.11**	**157**	⇓P	**Pn**	**02 43 13.3**	**0.0**
TK02				S	**Sn**	**02 43 27.6**	**+0.3**
JYT	**Shimob**	**1.20**	**64**	⇑P	**Pn**	**02 43 14.9**	**+0.3**
JFNN	**Fujinakano**	**1.21**	**79**	P	**Pn**	**02 43 15.7**	**+0.9**
TTO2	**TONANKAI O.B.S**	**1.25**	**188**	P	**Pn**	**02 43 15.6**	**+0.6**
MJAR	**Matsushiro Arr**	**1.75**	**27**	Pn	**Pn**	**02 43 23.7**	**+1.4**
	6.2nm,0.3s,baz=204,slow=15,SNR=99						
MJAR				Lg	Lg	02 43 45.7	
	13nm,0.3s,baz=57,slow=24,SNR=8.1						
WRA	**Warramunga Arr**	**54.68**	**183**	P	**P**	**02 52 18.7**	**-1.3**
	0.3nm,0.5s,baz=360,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**58.41**	**184**	P	**P**	**02 52 44.9**	**-1.6**
	0.3nm,0.8s,baz=7.2,slow=8.9,SNR=4.8						

*IDC **20** 02:59:34.8±2.1,28°.34S×176°.78W, h170km±18km, mb3.3/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.8/5, MS3.4/4, Ms1 3.4/4, ms1mx3.1/16, Error ellipse: s-maj=43.7km s-min=26.7km az=174.0*

ISC 20 02:59:32.5±1.1, 28°.25±0°.2×176°.6W±0°.2, h150km, n14, σ1.9/12/11, mb3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.62**	**227**	P	**Pn**	**03 00 04.3**	**+1.1**
	234nm,0.3s,baz=140,slow=19,SNR=2.8						
URZ	**Urewera**	**11.38**	**206**	S	Sn	03 03 56.9	-19
	1.1nm,0.3s,baz=289,slow=24,SNR=7.7						
URZ				LR	LR	03 06 27.0	
	comp=Z,170nm,19.0s,baz=30,slow=37						
DZM	**Mont Dzumac**	**16.53**	**288**	P	**P**	**03 03 16.7**	**+1.0**
	0.1nm,0.3s,baz=138,slow=18,SNR=2.6						
DZM				LR	LR	03 08 10.9	
	comp=Z,82nm,20.8s,baz=270,slow=32						
PPT	**Papeete**	**26.95**	**73**	LR	LR	03 13 38.6	
	comp=Z,52nm,19.3s,baz=259,slow=31						
ASAR	**Alice Springs**	**44.53**	**264**	P	**P**	**03 07 28.6**	**-0.9**
	0.9nm,0.8s,baz=101,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**45.32**	**269**	P	**P**	**03 07 33.3**	**-2.4**
	1.3nm,0.8s,baz=108,slow=7.7,SNR=13						
BATI	**Baumata**	**58.65**	**275**	LR	LR	03 35 34.6	
	comp=Z,76nm,18.2s,baz=192,slow=37						
KSRS	**Korea Array**	**83.47**	**319**	P	**P**	**03 11 43.9**	**+0.7**
	1.0nm,0.7s,baz=141,slow=4.7,SNR=3.6						
NVAR	**Mina Array Bea**	**85.74**	**42**	P	**P**	**03 11 55.2**	**+0.3**
	0.4nm,0.8s,baz=249,slow=7.6,SNR=3.2						
MKAR	**Makanchi Array**	**117.27**	**311**	PKP	**PKPdf**	**03 17 59.8**	**0.0**
	0.3nm,0.8s,baz=79,slow=3.1,SNR=3.1						
NB2	**NORSAR Subarra**	**146.70**	**353**	PKP	**PKPbc**	**03 18 56.0**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=16,slow=3.0						
NOA	**NORSAR Array B**	**146.70**	**353**	PKPbc	**PKPbc**	**03 18 55.9**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=12,slow=4.4,SNR=3.7						
AKASG	**Malin Array Be**	**150.20**	**326**	PKPbc	**PKPbc**	**03 19 05.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=47,slow=2.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**164.98**	**173**	PKPab	**PKPab**	**03 20 15.6**	**-0.8**
	comp=Z,0.1nm,3.6s,baz=163,slow=4.6,SNR=4.5						

IDC 20 03:13:44.5±4.8, 32°.61S×179°.74E, h473km±42km, mb2.8/3, mb1 3.1/4, mb1mx2.9/32, mbtmp3.8/4, Error ellipse: s-maj=68.4km s-min=28.5km az=41.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.03**	**200**	P	P	03 15 19.8	0.0
	8.6nm,0.3s,baz=265,slow=9.8,SNR=18						
URZ	**Urewera**	**6.03**	**200**	P	P	03 15 19.8	0.0
ASAR	**Alice Springs**	**41.13**	**271**	P	P	03 20 46.0	-0.4
	0.2nm,0.4s,baz=108,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**42.33**	**276**	P	P	03 20 56.0	0.0
	0.7nm,0.5s,baz=116,slow=7.4,SNR=13						
QSPA	**South Pole Qui**	**57.50**	**180**	P	P	03 22 47.2	0.0
	1.6nm,1.0s,baz=39,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**146.50**	**337**	PKPbc	PKPbc	03 32 30.5	-0.7
	1.5nm,1.0s,baz=62,slow=3.3,SNR=3.4						

WEL 20 03:15:05.8±0.3, 38°S±2°×17°6E±°, h4km±2km, M2.5/32, ML2.8/37, MLv2.5/32, Error ellipse: s-maj=0.0km s-min=0.0km az=116.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.07**	**64**	P	Pg	03 15 07.4	0.0
HRRZ				S	Sg	03 15 09.5	+0.9
WPRZ	**Whakapapatarin**	**0.10**	**196**	P	Pg	03 15 07.9	0.0
WPRZ				S	Sg	03 15 10.3	+1.0
GRRZ	**Galatos Road**	**0.10**	**317**	P	Pg	03 15 08.0	+0.1
GRRZ				S	Sg	03 15 10.5	+1.2
HSRZ	**Hossack Road**	**0.12**	**18**	P	Pg	03 15 08.3	+0.2
HSRZ				S	Sg	03 15 11.6	+1.8
PRRZ	**Plateau Road**	**0.17**	**116**	P	Pg	03 15 09.3	+0.1
PRRZ				S	Sg	03 15 12.1	+0.7
ALRZ	**Allen Road**	**0.18**	**141**	P	Pg	03 15 09.4	0.0
HLRZ	**Highlands Stat**	**0.21**	**35**	P	Pg	03 15 10.2	+0.4
UTU	**Utuhina**	**0.25**	**359**	P	Pg	03 15 11.0	+0.5
RRRZ	**Republican Roa**	**0.26**	**71**	P	Pg	03 15 10.9	0.0
KUTZ	**Kaahu Road**	**0.30**	**257**	P	Pg	03 15 11.7	+0.1
TARZ	**Mount Tarawera**	**0.31**	**52**	P	Pg	03 15 12.2	+0.5
WHTZ	**Whakaora**	**0.31**	**218**	P	Pb	03 15 13.0	-0.8
NGRZ	**Ngongotaha**	**0.32**	**359**	P	Pg	03 15 12.4	+0.4
OMRZ	**Omania**	**0.34**	**23**	P	Pg	03 15 12.9	+0.4
MKRZ	**Makatiti**	**0.35**	**37**	P	Pg	03 15 13.3	+0.6
KARZ	**Kaharoa**	**0.40**	**5**	P	Pb	03 15 15.8	+0.3
MRHZ	**Matea Rd**	**0.45**	**157**	P	Pg	03 15 14.2	-0.1
MUGZ	**Murupara**	**0.45**	**97**	P	Pg	03 15 14.5	0.0
WATZ	**Wairara**	**0.46**	**232**	P	Pg	03 15 15.0	+0.3
TLZ	**Tolley Road**	**0.53**	**280**	P	Pg	03 15 15.5	-0.4
RATZ	**Rangitukua**	**0.55**	**217**	P	Pg	03 15 16.9	+0.5
KMRZ	**Kaimai**	**0.61**	**341**	P	Pg	03 15 17.5	0.0
RITZ	**Rihia Road**	**0.61**	**206**	P	Pg	03 15 17.9	+0.3
RTZ	**Ruatahuna**	**0.64**	**108**	P	Pg	03 15 18.3	+0.1
MTHZ	**Maungataniwha**	**0.66**	**131**	P	Pg	03 15 18.7	+0.2
TGRZ	**Tauranga**	**0.69**	**4**	P	Pg	03 15 19.3	+0.2
BKZ	**Black Stump Fm**	**0.78**	**163**	P	Pg	03 15 20.6	-0.1
NTVZ	**North Tongarir**	**0.79**	**211**	P	Pg	03 15 21.3	+0.4
TMVZ	**Te Maari**	**0.79**	**209**	P	Pg	03 15 21.3	+0.3
ETVZ	**East Tongariro**	**0.81**	**208**	P	Pg	03 15 21.1	-0.1
NMHZ	**Naumai**	**0.82**	**145**	P	Pb	03 15 22.5	-0.2
WTVZ	**West Tongariro**	**0.84**	**214**	P	Pg	03 15 22.8	+0.3
NNVZ	**North Ngauruho**	**0.84**	**213**	P	Pb	03 15 22.5	-0.2
OTVZ	**Oturere**	**0.85**	**209**	P	Pg	03 15 22.4	+0.4
RAHZ	**Arahi**	**0.85**	**126**	P	Pb	03 15 23.1	0.0
SNVZ	**South Ngauruho**	**0.88**	**210**	P	Pb	03 15 23.2	-0.5
TWVZ	**Taurewa**	**0.88**	**222**	P	Pg	03 15 21.5	-1.2
TOZ	**Tahuroa Road**	**0.88**	**321**	P	Pg	03 15 22.0	-0.7
NGZ	**Ngauruhoe**	**0.88**	**212**	P	Pb	03 15 23.6	-0.1
TUVZ	**Tukino**	**0.94**	**207**	P	Pb	03 15 24.6	-0.1
RAGZ	**Rawiri**	**0.96**	**95**	P	Pg	03 15 24.3	+0.2
SNGZ	**Shannon Statio**	**0.96**	**112**	P	Pb	03 15 24.9	-0.1
FWVZ	**Far West T-bar**	**0.97**	**211**	P	Pg	03 15 24.5	0.0
TRVZ	**Turoa**	**1.01**	**210**	P	Pg	03 15 25.5	+0.4
KWHZ	**Kaweka Forest**	**1.01**	**170**	P	Pg	03 15 25.2	-0.1
WNVZ	**Wahianoa**	**1.02**	**207**	P	Pg	03 15 24.9	-0.4
MOVZ	**Moawhango**	**1.04**	**199**	P	Pg	03 15 25.0	-0.8
ARHZ	**Aropaoanui**	**1.04**	**144**	P	Pn	03 15 27.2	+0.1
MWZ	**Matawai**	**1.05**	**86**	P	Pg	03 15 25.6	-0.3
HIZ	**Hauiti**	**1.06**	**265**	P	Pg	03 15 25.4	-0.7
BHHZ	**Black Hill Sta**	**1.07**	**186**	P	Pg	03 15 25.5	-0.8
MCHZ	**McNeill Hill**	**1.09**	**159**	P	Pn	03 15 28.0	+0.2
PKVZ	**Pokaka**	**1.09**	**217**	P	Pg	03 15 26.4	-0.3
KRHZ	**Kereru**	**1.23**	**174**	P	Pg	03 15 28.9	-0.4
KNZ	**Kokohu**	**1.30**	**118**	P	Pb	03 15 32.1	+1.4
PRGZ	**Paritu Road**	**1.41**	**111**	P	Pg	03 15 34.4	+1.6
KAHZ	**Kahuranaki**	**1.47**	**159**	P	Pg	03 15 35.4	+1.5
PNHZ	**Pukenui**	**1.49**	**180**	P	Pb	03 15 34.0	0.0
MKAZ	**Moumakai**	**1.55**	**328**	P	Pn	03 15 34.4	+0.3
MRZ	**Mangatainoka R**	**2.29**	**192**	P	Pb	03 15 48.4	+0.8

IDC 20 03:52:40.5±2.0, 3°.86N×127°.78E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.5/4, Error ellipse: s-maj=111.7km s-min=24.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.92**	**185**	P	P	03 57 35.5	-0.2
	0.7nm,0.5s,baz=4.8,slow=15,SNR=1.5						
WRA	**Warramunga Arr**	**24.52**	**165**	P	P	03 58 02.1	+0.2
	1.4nm,0.4s,baz=345,slow=10,SNR=22						
ASAR	**Alice Springs**	**28.01**	**161**	P	P	03 58 33.3	-0.1
	0.2nm,0.5s,baz=349,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**58.05**	**325**	P	P	04 02 35.4	-0.1
	0.3nm,0.5s,baz=116,slow=7.7,SNR=6.5						

*JMA **20** 03:58:11.9±0.5, 32°.08N×137°.97E, h399km, M3.4*

*IDC **20** 03:58:14.6±1.2, 32°.23N×137°.59E, h396km±16km, mb2.5/3, mb1 2.7/5, mb1mx2.5/61, mbtmp3.3/5, Error ellipse: s-maj=38.5km s-min=19.4km az=72.0*

ISC 20 03:58:14.8±1.1, 32°.4N±0°.1×137°.82E±0°.09, h400km, n15, σ1.9/50/20, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.80**	**66**	P	**Pn**	**03 59 10.9**	**+1.4**
	14nm,0.3s,baz=196,slow=22,SNR=1.6						
JHJ				S	**S**	**03 59 56.3**	**+2.6**
	37nm,0.3s,baz=74,slow=13,SNR=2.0						
JWY	**Kouya**	**2.59**	**315**	P	**Pn**	**03 59 14.8**	**0.0**
JOD2	**Odawara 2**	**3.04**	**20**	P	**Pn**	**03 59 19.0**	**+0.8**
JAI	**Aioi**	**3.15**	**297**	P	**Pn**	**03 59 18.4**	**-0.7**
BSO3	**Boso 3**	**3.28**	**43**	P	**Pn**	**03 59 19.3**	**-0.6**
BSO3				*eS*	**S**	**04 00 12.0**	**-0.8**
BSO4	**Boso 4**	**3.32**	**38**	P	**Pn**	**03 59 20.4**	**-0.1**
BSO4				S	**S**	**04 00 13.3**	**-0.5**
BSO1	**Boso 1**	**3.46**	**49**	P	**Pn**	**03 59 20.6**	**-0.6**
BSO1				S	**S**	**04 00 13.9**	**-1.3**
JHU	**Hanno**	**3.64**	**19**	P	**Pn**	**03 59 23.9**	**+0.5**
MJAR	**Matsushiro Arr**	**4.14**	**4**	P	**Pn**	**03 59 28.2**	**+0.1**
	0.1nm,0.3s,baz=179,slow=10,SNR=5.3						
MJAR				S	**S**	**04 00 30.3**	**+2.7**
	0.1nm,0.3s,baz=244,slow=3.4,SNR=4.3						
JAG	**Ashikaga**	**4.23**	**18**	P	**Pn**	**03 59 28.6**	**-0.3**
JYT	**Yasato**	**4.29**	**27**	*eS*	**S**	**04 00 26.8**	**-3.4**
JHO	**Hitachi**	**4.77**	**28**	P	**Pn**	**03 59 33.7**	**-0.6**
MKAR	**Makanchi Array**	**44.23**	**306**	P	**P**	**04 05 46.2**	**-0.1**
	0.3nm,0.5s,baz=90,slow=9.8,SNR=6.4						
WRA	**Warramunga Arr**	**52.16**	**184**	P	**P**	**04 06 44.7**	**-1.6**
	0.3nm,1.0s,baz=0.6,slow=7.6,SNR=4.5						
YKA	**Yellowknife Ar**	**69.28**	**28**	P	**P**	**04 08 41.5**	**+1.8**
	0.1nm,0.4s,baz=296,slow=6.8,SNR=2.1						

*IDC **20** 04:02:31.8±0.8, 51°.43N×174°.19W, h0km, mb4.0/31, mb1 4.1/32, mb1mx4.0/61, mbtmp4.0/32, ML4.4/1, MS3.2/8, Ms1 3.2/8, ms1mx2.8/97, Error ellipse: s-maj=22.5km s-min=13.1km az=177.0*

*NEIC **20** 04:02:33.6±2.0, 51°.39N±0°.05×174°.16W±0°.06, h10km±1km, mb4.2/47, ML3.5(AEIC), Error ellipse: s-maj=8.7km s-min=5.9km az=165.0*

*AEIC **20** 04:02:39±4.3, 51°.55N±0°.07×174°.50W±0°.07, h31km±5km, Error ellipse: s-maj=10.8km s-min=4.5km az=153.0*

ISC 20 04:02:37.1±0.5, 51°.41N±0°.08×174°.17W±0°.04, h35km, n140, σ1.9/11/131, mb4.2/56, MS3.1/8, 2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.80**	**359**		**Pn**	**04 02 52.3**	**+0.6**
ATKA					**Sn**	**04 03 02.5**	**+0.1**
KOFB	**Korovin Flat P**	**0.87**	**3**		**Pn**	**04 02 53.9**	**+1.0**
KOSE	**Korovin Southe**	**0.94**	**4**		**Pn**	**04 02 55.1**	**+1.3**
GSMY	**Great Sitkin M**	**1.34**	**299**		**Pn**	**04 02 58.9**	**-0.3**
GSMY					**Sn**	**04 03 12.2**	**-3.5**
GSTR	**Great Sitkin T**	**1.36**	**301**		**Pn**	**04 02 59.6**	**+0.1**
GSCK	**Great Sitkin C**	**1.38**	**297**		**Pn**	**04 02 59.3**	**-0.5**
GSTD	**Great Sitkin T**	**1.39**	**299**		**Pn**	**04 02 59.9**	**-0.1**
GSTD					**Sn**	**04 03 13.9**	**-3.2**
ETKA	**Kagalaska Isla**	**1.47**	**289**		**Pn**	**04 03 00.7**	**-0.3**
ADK	**Adak**	**1.64**	**288**	Pn	**Pn**	**04 03 02.7**	**-0.7**
ADK	**Adak**	**1.64**	**288**		**Sn**	**04 03 22.8**	**-0.4**
KIWB	**Kanaga Island**	**1.91**	**285**	Pn	**Pn**	**04 03 06.9**	**-0.2**
KIKV	**Kanaga Island**	**1.93**	**285**		**Pn**	**04 03 07.3**	**0.0**
KIMD	**Kanaga Island**	**1.95**	**282**		**Pn**	**04 03 07.1**	**-0.5**
KICM	**Kanaga Island**	**1.95**	**286**		**Pn**	**04 03 07.6**	**0.0**
TAPA	**Tanaga Point A**	**2.31**	**282**		**Pn**	**04 03 12.7**	**+0.1**
TAFP	**Tanaga Falls P**	**2.43**	**283**		**Pn**	**04 03 14.7**	**+0.5**
TAFP					**Sn**	**04 03 43.3**	**+0.6**
TASE	**Tanaga Southea**	**2.45**	**282**		**Pn**	**04 03 15.1**	**+0.5**
GANO	**Gareloi North**	**2.92**	**280**		**Pn**	**04 03 21.4**	**+0.4**
NIKH	**Nikolski High**	**3.62**	**62**	Pn	**Pn**	**04 03 28.9**	**-1.7**
ANM	**Nome**	**13.97**	**16**	Pn	**Pn**	**04 05 52.9**	**+0.7**
KDAK	**Kodiak Island**	**14.01**	**55**	Pn	**Pn**	**04 05 51.2**	**-1.6**
	0.5nm,0.3s,baz=238,slow=2.4,SNR=12						
L19K	**White Mountain**	**15.04**	**37**	Pn	**Pn**	**04 06 06.4**	**-0.3**
L19K				IAmb	IAmb	04 06 15.5	
	comp=Z,10.0nm,1.1s						
K20K	**Telida**	**16.05**	**34**	Pn	**Pn**	**04 06 17.4**	**-2.4**
CAST	**Castle Rocks**	**16.80**	**36**	Pn	**Pn**	**04 06 29.1**	**-0.2**
KTH	**Kantishna Hill**	**17.31**	**36**	Pn	**Pn**	**04 06 34.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**17.59**	**35**	Pn	**Pn**	**04 06 37.5**	**-1.6**
BPAW				IAmb	IAmb	04 07 00.5	
	comp=Z,15nm,1.3s						
I21K	**Tanana**	**17.91**	**31**	Pn	**Pn**	**04 06 40.8**	**-2.3**
H21K	**Melozitna Rive**	**17.97**	**29**	Pn	**Pn**	**04 06 41.1**	**-2.6**
MCK	**McKinley**	**18.15**	**38**	Pn	**Pn**	**04 06 43.5**	**-2.5**
MLY	**Manley**	**18.23**	**33**	Pn	**Pn**	**04 06 43.9**	**-3.1**
I23K	**Minto, Yukon-K**	**18.77**	**33**	P	**P**	**04 06 52.8**	**0.0**
I23K				IAmb	IAmb	04 06 57.5	
	comp=Z,12nm,0.8s						
WRH	**Wood River Hil**	**18.85**	**36**	P	**P**	**04 06 53.5**	**-0.3**
WRH				IAmb	IAmb	04 07 07.7	
	comp=Z,16nm,1.4s						
CCB	**Clear Creek Bu**	**19.05**	**36**	P	**P**	**04 06 55.2**	**-0.6**
CCB				IAmb	IAmb	04 06 58.6	
	comp=Z,5.7nm,0.5s						
BILL	**Bilibino**	**19.21**	**337**		**P**	**04 06 57.1**	**-0.6**
BILL				IAmb	IAmb	04 07 06.1	
	comp=Z,20nm,1.2s						
HDA	**Harding Lake**	**19.25**	**37**	IAmb	IAmb	04 07 15.1	
	comp=Z,12nm,1.1s						
IL31		**19.45**	**36**	P	**P**	**04 07 00.1**	**-0.1**
ILAR	**Eielson Array**	**19.45**	**36**	P	**P**	**04 06 58.5**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=247,slow=11,SNR=72						
H24K	**Noodor Dome**	**19.68**	**33**	P	**P**	**04 07 02.3**	**-0.5**
H24K				IAmb	IAmb	04 07 22.1	
	comp=Z,9.1nm,1.0s						
RIDG	**Independent Ri**	**19.76**	**40**	P	**P**	**04 07 01.8**	**-1.9**
RIDG				IAmb	IAmb	04 07 05.6	
	comp=Z,8.0nm,0.9s						
L26K	**Log Cabin Wild**	**20.10**	**43**	P	**P**	**04 07 07.1**	**-0.3**
L26K				IAmb	IAmb	04 07 26.8	
	comp=Z,4.2nm,0.6s						
SCRK	**Sand Creek**	**20.21**	**40**	P	**P**	**04 07 07.4**	**-1.3**
SCRK				IAmb	IAmb	04 07 25.2	
	comp=Z,12nm,1.1s						
TOLK	**Toolik Lake Re**	**20.93**	**25**	P	**P**	**04 07 15.6**	**-0.7**
TOLK				IAmb	IAmb	04 07 18.6	
	comp=Z,8.5nm,0.8s						
SEY	**Seymchan**	**21.21**	**316**	P	**P**	**04 07 19.8**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=124,slow=8.6,SNR=8.4						
MA2	**Magadan**	**21.26**	**306**	LR	LR	04 15 07.2	
	comp=Z,47nm,19.2s,baz=81,slow=36						
EGAK	**Eagle**	**21.65**	**39**	P	**P**	**04 07 23.9**	**-0.2**
DAWY	**Dawson**	**

	comp=Z,1.5nm,1.2s							
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**04 12 54.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=45,slow=6.2,SNR=20							
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**04 12 54.4**	**-0.6**
BVAR	**Borovoye Array**	**62.69**	**322**	P	**P**	**04 12 58.1**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=285,slow=2.0,SNR=7.3							
BRVK	**Borovoye**	**62.71**	**322**	P	**P**	**04 12 58.5**	**+0.6**
BRVK				IAmb	IAmb	04 12 59.4		
	comp=Z,1.3nm,0.7s							
PZH	**PanZhiHua**	**66.18**	**283**	P	**P**	**04 13 22.5**	**+1.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,120nm,5.7s							
FINES	**FINESS Array B**	**66.34**	**350**	P	**P**	**04 13 20.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=343,slow=9.0,SNR=2.6							
NB2	**NORSAR Subarra**	**67.82**	**357**	P	**P**	**04 13 30.9**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=4.2,slow=6.5							
NOA	**NORSAR Array B**	**67.82**	**357**	P	**P**	**04 13 31.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=264,slow=4.1,SNR=7.0							
HFS	**Hagfors**	**68.63**	**356**	P	**P**	**04 13 36.0**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=16,slow=42,SNR=3.2							
AAK	**Ala-Archa**	**69.03**	**313**	P	**P**	**04 13 41.4**	**+2.4**
AAK				IAmb	IAmb	04 13 45.0		
	comp=Z,2.4nm,0.9s							
AKTO	**Aktyubinsk**	**69.28**	**327**	P	**P**	**04 13 40.3**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=50,slow=7.2,SNR=5.2							
ABKAR	**Akbulak array**	**69.61**	**326**	P	**P**	**04 13 42.8**	**+0.5**
ABKAR				IAmb	IAmb	04 14 06.8		
	comp=Z,1.5nm,0.8s							
KKAR	**Karatay Array**	**70.45**	**315**	P	**P**	**04 13 48.4**	**+0.8**
KSH	**Kashi**	**70.76**	**310**	P	**P**	**04 13 53.5**	**+3.8**
KSH				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BTK	**Batken**	**72.75**	**313**	P	**P**	**04 14 01.8**	**+0.2**
BTK				IAmb	IAmb	04 14 03.5		
	comp=Z,3.5nm,0.8s							
SHL	**Shillong**	**72.80**	**289**	P	**P**	**04 14 02.4**	**+0.3**
EKA	**Eskdalemuir Ar**	**73.36**	**5**	P	**P**	**04 14 05.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=358,slow=5.3,SNR=4.3							
GAR	**Garm**	**73.84**	**313**	P	**P**	**04 14 08.7**	**+0.7**
TAPN	**Taplejung**	**73.89**	**294**	*eP*	**P**	**04 14 09.7**	**+1.0**
ODAN	**Odare**	**74.44**	**293**	*eP*	**P**	**04 14 13.1**	**+1.2**
GUN	**Gumba**	**74.50**	**295**	*eP*	**P**	**04 14 13.2**	**+0.9**
	comp=Z,19nm,0.6s							
JIRN	**Jiri**	**74.52**	**295**	*eP*	**P**	**04 14 13.4**	**+0.9**
RAMN	**Ramite**	**74.83**	**294**	*eP*	**P**	**04 14 14.9**	**+0.8**
	comp=Z,15nm,0.4s							
PKI	**Pulchoki**	**75.03**	**295**	*eP*	**P**	**04 14 16.0**	**+0.6**
PKIN	**Phulchoki**	**75.03**	**295**	*eP*	**P**	**04 14 16.3**	**+1.0**
DMN	**Daman**	**75.17**	**296**	*eP*	**P**	**04 14 17.3**	**+1.2**
DANN	**Dangsing**	**75.36**	**297**	*eP*	**P**	**04 14 18.0**	**+0.8**
	comp=Z,41nm,0.8s							
KOLN	**Koldanda**	**75.89**	**297**	*eP*	**P**	**04 14 20.8**	**+0.6**
	comp=Z,14nm,0.8s							
PYUN	**Piuthan**	**75.98**	**297**	*eP*	**P**	**04 14 21.1**	**+0.4**
	comp=Z,30nm,1.0s							
AKASG	**Malin Array Be**	**76.34**	**345**	P	**P**	**04 14 21.1**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=19,slow=5.9,SNR=5.7							
CLL	**Collm**	**77.48**	**355**	*iP*	**P**	**04 14 28.4**	**0.0**
CHVC	**Chvalec**	**78.01**	**353**	*eP*	**P**	**04 14 32.0**	**+0.5**
KBL	**Kabul**	**78.06**	**311**	P	**P**	**04 14 30.9**	**-1.3**
DPC	**Dobruska-Polom**	**78.23**	**353**	*eP*	**P**	**04 14 33.5**	**+0.8**
NKC	**Novy Kostel**	**78.58**	**356**	*eP*	**P**	**04 14 35.5**	**+0.9**
PBCC	**Pribram**	**79.04**	**355**	*eP*	**P**	**04 14 38.0**	**+0.8**
VRAC	**Vranov**	**79.24**	**353**	P	**P**	**04 14 38.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=348,slow=6.8,SNR=3.5							
KHC	**Kasperske Hory**	**79.62**	**355**	*eP*	**P**	**04 14 41.3**	**+0.9**
CKRC	**Cesky Krumlov**	**79.89**	**354**	*eP*	**P**	**04 14 42.7**	**+0.9**
GERES	**GERESS Array B**	**79.90**	**355**	P	**P**	**04 14 42.8**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=20,slow=4.3,SNR=9.0							
GERES	**GERESS Array B**	**79.90**	**355**	P	**P**	**04 14 41.5**	**-0.5**
CONA	**Conrad Observa**	**80.67**	**353**	*eP*	**P**	**04 14 47.1**	**+1.0**
	comp=Z,1.5nm,1.0s							
HRA	**Herat**	**81.27**	**316**	P	**P**	**04 14 49.7**	**0.0**
HRA				IAmb	IAmb	04 14 51.2		
	comp=Z,3.9nm,0.9s							
SQTA	**Sankt Quirin**	**81.64**	**356**	*eP*	**P**	**04 14 51.8**	**+0.5**
	comp=Z,3.5nm,1.0s							
KBA	**Koelnbreinsper**	**81.68**	**355**	*eP*	**P**	**04 14 52.6**	**+1.0**
	comp=Z,4.0nm,0.8s							
FETA	**Feichten**	**81.86**	**357**	*eP*	**P**	**04 14 53.8**	**+1.2**
	comp=Z,3.5nm,1.1s							
MLR	**Muntele Rosu**	**81.93**	**346**	P	**P**	**04 14 52.5**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=214,slow=3.8,SNR=4.5							
SOKA	**Soboth**	**81.97**	**354**	*eP*	**P**	**04 14 53.6**	**+0.6**
	comp=Z,2.0nm,0.8s							
DAVOX	**Davos/Dischmat**	**82.13**	**357**	P	**P**	**04 14 54.9**	**+0.9**
	comp=Z,1.7nm,0.9s							
WRA	**Warramunga Arr**	**84.11**	**228**	P	**P**	**04 15 03.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=31,slow=5.8,SNR=4.8							
WRA	**Warramunga Arr**	**84.11**	**228**	P	**P**	**04 15 03.0**	**-1.2**
BRTR	**Keskin Array B**	**86.04**	**339**	P	**P**	**04 15 14.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=21,slow=1.3,SNR=4.5							
ASAR	**Alice Springs**	**87.54**	**226**	P	**P**	**04 15 21.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=27,slow=4.7,SNR=4.1							
ESDC	**Sonseca Array**	**88.89**	**8**	P	**P**	**04 15 27.5**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.2,SNR=5.3							
TORD	**Torodi Ar. Bea**	**115.61**	**4**	PKP	**PKiKP**	**04 21 14.5**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=11,slow=2.1,SNR=1.6							
BOSA	**Boshof**	**152.97**	**320**	PKPbc	**PKPbc**	**04 22 30.7**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=35,slow=3.7,SNR=5.3							

*IDC **20** 04:17:47.6±0.9, 0.°97N×122.°27E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/45, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=49.0km s-min=15.3km az=71.0*
*NEIC **20** 04:18:00.1±1.9, 0.°61N±0.°05×121.°5E±0.°1, h99km±9km, mb4.3/14, Error ellipse: s-maj=17.7km s-min=2.9km az=69.0*
*DJA **20** 04:18:01.5±0.3, 1.°N±3.°×12.°2E±.°, h71km±5km, M4.2/13, mb4.3/6, MLv4.1/13*
ISC 20 04:18:00.4±0.6, **0.°71N**±0.°06×**121.°65E**±0.°06, **h113**km, **n54,** σ1§**49**/54, **mb4.2**/13, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.37**	**129**	P	**Pn**	**04 18 14.7**	**-2.1**
MRSI				S	**Sn**	**04 18 26.0**	**-3.2**
TOLI2	**Tolitoli**	**0.96**	**295**		**Pn**	**04 18 18.6**	**-2.9**
APSI	**Ampana**	**1.61**	**180**	P	**Pn**	**04 18 27.6**	**-1.1**
MPSI	**Mapaga**	**1.79**	**258**	P	**Pn**	**04 18 29.2**	**-1.7**
LUWI	**Luwuk**	**2.07**	**147**	Pn	**Pn**	**04 18 34.7**	**+0.3**
LUWI	**Luwuk**	**2.07**	**147**	P	**Pn**	**04 18 34.8**	**+0.4**
LUWI	**Luwuk**	**2.07**	**147**	P	**Pn**	**04 18 37.0**	**+2.6**
KMSI	**Cibinong**	**2.33**	**93**	P	**Pn**	**04 18 40.0**	**+2.3**
TTSI	**Tana Toraja**	**4.16**	**206**	P	**Pn**	**04 19 00.4**	**-1.5**
SPSI	**Sidrap Palu**	**5.01**	**202**	P	**Pn**	**04 19 12.6**	**-0.9**
SANI	**Sanana**	**5.13**	**122**	P	**Pn**	**04 19 14.0**	**-1.0**
	0.1nm22nm,1.0s						
SANI	**Sanana**	**5.13**	**122**	P	**Pn**	**04 19 16.0**	**+1.0**
BNSI	**Bone**	**5.31**	**197**	P	**Pn**	**04 19 18.0**	**+0.5**
	0.1nm38nm,0.6s						
MYLDM	**Lahad Datu**	**5.44**	**325**	Pn	**Pn**	**04 19 19.3**	**+0.1**
KAPI	**Kappang**	**6.00**	**198**	Pn	**Pn**	**04 19 24.5**	**-2.3**
	1.3nm,0.3s,baz=357,slow=16,SNR=2.6						
KAPI				Sn	**Sn**	**04 20 39.1**	**+5.0**
	0.2nm,0.3s,baz=202,slow=21,SNR=2.1						
KKM	**Kota Kinabalu**	**7.58**	**314**	Pn	**Pn**	**04 19 48.6**	**+0.2**
KKM	**Kota Kinabalu**	**7.58**	**314**	P	**Pn**	**04 19 51.9**	**+3.5**
FAKI	**Fak Fak**	**11.19**	**109**	P	**Pn**	**04 20 36.3**	**-0.8**
MTN	**Manton Dam**	**16.43**	**145**	P	**P**	**04 21 44.8**	**-0.3**
MTN				IAmb	IAmb	04 21 46.0	
	comp=Z,7.9nm,0.7s						
MTN	**Manton Dam**	**16.43**	**145**	P	**P**	**04 21 45.4**	**+0.3**
KNRA	**Kununurra**	**17.73**	**157**	P	**Pn**	**04 21 59.4**	**-0.9**
KNRA				IAmb	IAmb	04 22 01.0	
	comp=Z,8.7nm,0.8s						
KNRA	**Kununurra**	**17.73**	**157**	P	**Pn**	**04 22 00.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.10**	**168**	P	**P**	**04 22 14.0**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=7,3,slow=7.8,SNR=37						
WB0	**Warramunga Arr**	**23.88**	**149**	P	**P**	**04 23 02.2**	**-1.6**
WB0				IAmb	IAmb	04 23 03.8	
	comp=Z,9.7nm,0.9s						
WRAB	**Tennant Creek**	**24.00**	**149**	P	**P**	**04 23 04.0**	**-0.8**
WRA	**Warramunga Arr**	**24.00**	**149**	P	**P**	**04 23 03.7**	**-1.1**
	comp=Z,6.0nm,0.5s,baz=326,slow=11,SNR=119						
WB2	**Warramunga Arr**	**24.00**	**149**	P	**P**	**04 23 04.0**	**-0.8**
WB2				IAmb	IAmb	04 23 05.1	
	comp=Z,5.4nm,0.6s						
WR0	**Warramunga Arr**	**24.12**	**149**	P	**P**	**04 23 05.1**	**-0.7**
COEN	**Coen**	**25.82**	**125**	P	**P**	**04 23 20.6**	**-0.8**
COEN				IAmb	IAmb	04 23 28.3	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**25.82**	**125**	P	**P**	**04 23 20.2**	**-1.2**
WRKA	**Warakurna**	**26.39**	**166**	P	**P**	**04 23 25.7**	**-0.8**
AS31	**Alice Springs**	**27.00**	**155**	P	**P**	**04 23 30.5**	**-1.4**
ASAR	**Alice Springs**	**27.00**	**155**	P	**P**	**04 23 30.9**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=342,slow=11,SNR=22						
OOD	**Oodnadatta**	**31.39**	**156**	P	**P**	**04 24 10.2**	**-0.5**
BLDU	**Ballidu**	**31.51**	**188**	P	**P**	**04 24 10.3**	**-1.4**
MULG	**Mulgathing**	**33.01**	**160**	P	**P**	**04 24 24.6**	**-0.3**
LCRK	**Leigh Creek**	**34.77**	**154**	P	**P**	**04 24 39.4**	**-0.7**
BBOO	**Buckleboo**	**36.01**	**159**	P	**P**	**04 24 49.9**	**-0.8**
STKA	**Stephens Creek**	**37.51**	**152**	P	**P**	**04 25 02.8**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=348,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**37.51**	**152**	IAmb	IAmb	04 25 04.4	
	comp=Z,0.9nm,1.1s						
HTT	**Hallett**	**37.65**	**156**	P	**P**	**04 25 04.5**	**-0.2**
SHL	**Shillong**	**37.89**	**313**	P	**P**	**04 25 07.3**	**+0.4**
SHL				IAmb	IAmb	04 25 08.7	
	comp=Z,5.7nm,0.8s						
CMSA	**Cobar Meteorol**	**39.35**	**147**	P	**P**	**04 25 19.5**	**+0.7**
BJT	**Baijiatuan**	**39.44**	**353**	P	**P**	**04 25 20.9**	**+1.4**
BJT				IAmb	IAmb	04 25 28.0	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**48.77**	**346**	P	**P**	**04 26 34.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=163,slow=11,SNR=3.9						
MK31	**Makanchi Array**	**57.31**	**329**	P	**P**	**04 27 37.5**	**+0.9**
MKAR	**Makanchi Array**	**57.31**	**329**	P	**P**	**04 27 38.4**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=118,slow=9.3,SNR=7.1						
KBL	**Kabul**	**59.46**	**310**	P	**P**	**04 27 51.8**	**-0.2**
GAR	**Garm**	**60.36**	**316**	P	**P**	**04 27 58.3**	**+0.4**
ZALV	**Zalesovo Beam**	**61.12**	**336**	P	**P**	**04 28 03.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=134,slow=4.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.12**	**336**	P	**P**	**04 28 03.0**	**+0.4**
KURBB	**Kurchatov Arra**	**61.68**	**330**	P	**P**	**04 28 07.4**	**+1.0**
	comp=Z,0.5nm,0.2s,baz=134,slow=6.6,SNR=2.0						
KURK	**Kurchatov**	**61.70**	**330**	P	**P**	**04 28 07.4**	**+0.9**
KURK	**Kurchatov**	**61.70**	**330**	IAmb	IAmb	04 28 08.3	
	comp=Z,2.7nm,0.5s						

*IDC **20** 04:47:03.2±0.7, 52.°12N×171.°28W, h0km, mb3.9/19, mb1 4.1/21, mb1mx3.9/39, mbtmp3.8/21, ML3.4/2, MS3.2/7, Ms1 3.2/7, ms1mx2.7/94, Error ellipse: s-maj=21.9km s-min=13.8km az=172.0*
*AEIC **20** 04:47:06±2.5, 52.°0N±0.°1×170.°97W±0.°07, h25km±8km, Error ellipse: s-maj=19.9km s-min=4.4km az=166.0*
*NEIC **20** 04:47:09.8±1.9, 52.°2N±0.°1×171.°0W±0.°1, h37km±26km, mb3.7/2, ML3.8(AEIC), Error ellipse: s-maj=19.4km s-min=5.1km az=151.0*
ISC 20 04:47:09.6±0.7, **52.°2N**±0.°1×**171.°06W**±0.°05, **h42**km, **n57,** σ1§**16**/47, **mb3.8**/19, **MS3.3**/7, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.54**	**60**		**Pn**	**04 47 33.4**	**-1.1**
NIKH	**Nikolski High**	**1.54**	**60**	Sn	**Sn**	**04 47 53.3**	**0.0**
KOFP	**Korovin Flat P**	**1.87**	**273**		**Pn**	**04 47 38.7**	**-0.4**
ATKA	**Atka Island**	**1.93**	**271**		**Pn**	**04 47 38.5**	**-1.4**
KOKL	**Mount Kliuchef**	**1.93**	**274**		**Pn**	**04 47 40.5**	**+0.6**
OKSP	**Okmok Steeple**	**1.98**	**57**		**Pn**	**04 47 40.2**	**-0.4**
OKSO	**Okmok South**	**2.10**	**56**		**Pn**	**04 47 42.7**	**+0.5**
OKFG	**Magazine Ridge**	**2.25**	**57**		**Pn**	**04 47 44.5**	**+0.3**
MREP	**Makushin Rep't**	**3.05**	**57**		**Pn**	**04 47 56.4**	**+1.0**
GSTR	**Great Sitkin T**	**3.08**	**270**	Pn	**Pn**	**04 47 55.8**	**+0.1**
GSTR				Sn	**Sn**	**04 48 35.5**	**+4.2**
GSMY	**Great Sitkin M**	**3.09**	**269**		**Pn**	**04 47 56.4**	**+0.7**
MSW	**Makushin Switc**	**3.09**	**55**		**Pn**	**04 47 57.1**	**+1.3**
GSTD	**Great Sitkin T**	**3.14**	**269**		**Pn**	**04 47 57.1**	**+0.6**
GSCK	**Great Sitkin C**	**3.15**	**268**		**Pn**	**04 47 56.1**	**-0.6**
UNV	**Unalaska Valle**	**3.19**	**58**		**Pn**	**04 47 58.3**	**+1.1**
ADK	**Adak**	**3.49**	**267**		**Pn**	**04 48 01.4**	**+0.1**
ADK	**Adak**	**3.49**	**267**	Sn	**Sn**	**04 48 41.1**	**-0.2**
KIWB	**Kanaga Island**	**3.78**	**267**		**Pn**	**04 48 05.2**	**-0.1**
KIWB				Sn	**Sn**	**04 48 50.7**	**+2.2**
KIKV	**Kanaga Island**	**3.79**	**267**		**Pn**	**04 48 05.6**	**+0.2**
KDAK	**Kodiak Island**	**11.96**	**55**	Pn	**Pn**	**04 49 56.4**	**-0.8**
	0.2nm,0.3s,baz=201,slow=4.6,SNR=8.6						
SVW2	**Sparrevohn**	**12.28**	**38**	Pn	**Pn**	**04 50 01.9**	**+0.3**
ILAR	**Eielson Array**	**17.67**	**35**	P	**Pn**	**04 51 12.4**	**+0.3**
	0.1nm,0.3s,baz=228,slow=11,SNR=7.2						
PETK	**Petropavlovsk-**	**18.90**	**285**	P	**P**	**04 51 24.8**	**-1.5**
	0.9nm,0.3s,baz=89,slow=15,SNR=6.5						
EGAK	**Eagle**	**19.80**	**39**	P	**Pn**	**04 51 38.1**	**+0.2**
EGAK				IAmb	IAmb	04 51 41.7	
	comp=Z,2.4nm,0.6s						
SEY	**Seymchan**	**22.01**	**313**	P	**P**	**04 51 59.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=1.4,slow=23,SNR=6.2						
MA2	**Magadan**	**22.37**	**304**	LR	LR	05 00 41.1	
	comp=Z,30nm,20.5s,baz=84,slow=37						
DLBC	**Dease Lake**	**23.85**	**59**	P	**P**	**04 52 21.4**	**+2.7**
	comp=Z,1.6nm,0.5s,baz=263,slow=8.9,SNR=7.5						
INK	**Inuvik**	**24.04**	**34**	P	**P**	**04 52 21.2**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=294,slow=6.8,SNR=4.9						
YKA	**Yellowknife Ar**	**31.12**	**48**	P	**P**	**04 53 24.5**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=274,slow=8.0,SNR=18						
YKA				PcP	**PcP**	**04 56 18.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=289,slow=2.9,SNR=5.7						
YKA				LR	LR	05 08 39.3	
	comp=Z,66nm,20.6s,baz=298,slow=41						
YBH	**Yreka Blue Hor**	**34.02**	**88**	LR	LR	05 05 10.7	
	comp=Z,71nm,18.8s,baz=336,slow=32						
H11N2	**WAKE ISLAND Hy**	**36.70**	**216**	T	T	05 33 33.3	
	baz=20,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**36.71**	**216**	T	T	05 33 31.4	
	baz=20,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**36.72**	**216**	T	T	05 33 27.2	
	baz=20,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**37.90**	**216**	T	T	05 35 03.3	
	baz=22,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**37.91**	**216**	T	T	05 34 57.2	
	baz=22,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**37.92**	**216**	T	T	05 34 53.1	
	baz=22,slow=76,SNR=29						
NVAR	**Mina Array Bea**	**38.70**	**89**	P	**P**	**04 54 31.0**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=293,slow=7.4,SNR=4.9						
PDAR	**Pinedale Array**	**41.45**	**78**	P	**P**	**04 54 53.3**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=305,slow=4.0,SNR=8.1						
PDAR				LR	LR	05 10 06.1	
	comp=Z,54nm,18.6s,baz=316,slow=33						
KSRS	**Korea Array**	**44.39**	**276**	P	**P**	**04 55 15.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=52,slow=6.8,SNR=5.6						
KSRS				LR	LR	05 12 57.7	
	comp=Z,10nm,21.1s,baz=95,slow=35						
SPITS	**Spitsbergen Ar**	**49.79**	**358**	P	**P**	**04 55 57.4**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=29,slow=3.3,SNR=5.9						
SONM	**Songino Array**	**50.48**	**300**	P	**P**	**04 56 03.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.8,SNR=3.6						
TXAR	**Lajitas Array**	**53.79**	**88**	P	**P**	**04 56 28.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=313,slow=5.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**56.83**	**317**	LR	LR	05 22 60.0	
	comp=Z,16nm,18.3s,baz=9.0,slow=38						
ARCES	**ARCESS Array B**	**57.95**	**353**	P	**P**	**04 56 56.0**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=18,slow=6.7,SNR=1.3						
TKL	**Tuckaleechee C**	**61.23**	**68**	LR	LR	05 22 39.0	
	comp=Z,29nm,19.7s,baz=340,slow=35						
MKAR	**Makanchi Array**	**63.15**	**312**	P	**P**	**04 57 31.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=44,slow=6.1,SNR=9.0						
FINES	**FINESS Array B**	**65.86**	**351**	P	**P**	**04 57 49.4**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=357,slow=8.4,SNR=3.6						
NOA	**NORSAR Array B**	**67.08**	**359**	P	**P**	**04 57 57.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=3.6,slow=6.6,SNR=1.7						
CMAR	**Chiang Mai Arr**	**75.64**	**282**	P	**P**	**04 58 50.4**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=28,slow=6.6,SNR=9.5						
AKASG	**Malin Array Be**	**76.03**	**347**	P	**P**	**04 58 50.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=20,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**86.11**	**230**	P	**P**	**04 59 43.8**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=37,slow=5.8,SNR=18						
ESDC	**Sonseca Array**	**87.79**	**10**	P	**P**	**04 59 53.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=340,slow=4.3,SNR=7.2						
ASAR	**Alice Springs**	**89.51**	**229**	P	**P**	**05 00 01.2**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=27,slow=4.9,SNR=49						
H03N2	**Juan Fernandez**	**116.84**	**111**	T	T	07 13 21.1	
	baz=317						
H03N1	**Juan Fernandez**	**116.85**	**111**	T	T	07 13 18.2	
	baz=317,slow=74						
H03N3	**Juan Fernandez**	**116.86**	**111**	T	T	07 13 22.7	
	baz=317,slow=74						
PLCA	**Paso Flores**	**126.71**	**111**	PKP	**PKPdf**	**05 06 06.1**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=270,slow=6.1,SNR=4.0						

*JMA **20** 05:14:47.1, 24.°46N×121.°95E, h33km, M2.8*
*TAP **20** 05:14:47.1, 24.°52N×121.°97E, h11km, ML3.4, B*
ISC 20 05:14:45.8±0.9, **24.°50N**±0.°02×**122.°04E**±0.°02, **h9**km±8km, **n88,** σ0§**81**/145, **17C-10D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.21**	**303**	*iP*	**Pg**	**05 14 50.6**	**+0.5**
	baz=310						
TWC				*i* S	**Sg**	**05 14 52.6**	**-0.4**
	baz=310						
EWUT	**Wuta**	**0.24**	**258**	*i* P	**Pg**	**05 14 51.3**	**+0.6**
	baz=247						
EWUT				*i* S	**Sg**	**05 14 54.0**	**0.0**
	baz=247						
ENA	**Nanau**	**0.28**	**256**	*iP*	**Pb**	**05 14 52.1**	**-0.9**
	baz=245						
ENA				*i* S	**Sg**	**05 14 55.2**	**+0.1**
	baz=245						
NDS	**Dongshan**	**0.33**	**295**	*iP*	**Pg**	**05 14 52.7**	**+0.5**
	baz=296						
NDS				*i* S	**Sg**	**05 14 56.3**	**-0.3**
	baz=296						
EHP	**Heping Village**	**0.33**	**236**	P	**Pb**	**05 14 53.4**	**-0.4**
	baz=224						
EHP				S	**Sb**	**05 14 58.0**	**-1.2**
	baz=224						
EGS		**0.36**	**344**	*i* P	**Pb**	**05 14 54.0**	**-0.4**
	baz=356						
EGS				*e*S	**Sg**	**05 14 58.5**	**+0.8**
	baz=356						
ILA	**Ilan**	**0.38**	**315**	*iP*	**Pb**	**05 14 54.2**	**-0.5**
	baz=321						
ILA				S	**Sg**	**05 14 59.0**	**+0.7**
	baz=321						
NTC	**Toucheng**	**0.41**	**332**	*iP*	**Pb**	**05 14 54.5**	**-0.6**
	baz=339						
NTC				*e*S	**Sb**	**05 15 00.7**	**-0.7**
	baz=339						
TWE	**Neicheng**	**0.41**	**304**	*iP*	**Pg**	**05 14 54.2**	**+0.5**
	baz=307						
TWE				*i* S	**Sg**	**05 14 58.9**	**-0.3**
	baz=307						
ENTT	**Nioudou**	**0.46**	**289**	*iP*	**Pg**	**05 14 55.1**	**+0.4**
	baz=288						
ENTT				*e*S	**Sg**	**05 15 01.3**	**+0.7**
	baz=288						
LATG	**Datong**	**0.47**	**275**	*iP*	**Pg**	**05 14 55.4**	**+0.4**
	baz=272						
LATG				*e*S	**Sg**	**05 15 01.2**	**+0.1**
	baz=272						
FUSB	**Fushanzhiwuyua**	**0.49**	**303**	*iP*	**Pb**	**05 14 56.0**	**-0.6**
	baz=304						
FUSB				S	**Sg**	**05 15 01.4**	**-0.3**
	baz=304						
NDT	**Datong Townshi**	**0.49**	**283**	*iP*	**Pb**	**05 14 55.9**	**-0.7**
	baz=281						
NDT				*e*S	**Sg**	**05 15 01.5**	**-0.4**
	baz=281						
ETL	**Fush Village**	**0.51**	**229**	P	**Pb**	**05 14 56.5**	**-0.3**
	baz=221						
ETL				*e*S	**Sb**	**05 15 03.4**	**-0.9**
	baz=221						
TIPB	**Shuangxi**	**0.51**	**338**	*iP*	**Pb**	**05 14 56.6**	**-0.

	baz=336							
TWY				*e*S		**Sb**	**05 15 14.5**	**-0.4**
	baz=336							
ESL	**Shilin**	**0.88**	**219**	*e*P		**Pb**	**05 15 03.1**	**0.0**
	baz=214							
ESL				*e*S		**Sb**	**05 15 15.1**	**+0.2**
	baz=214							
YOJ	**Yonaguni jima**	**0.89**	**92**	P		**Pn**	**05 15 04.6**	**+0.3**
YOJ				*e*S		**Sn**	**05 15 17.3**	**0.0**
YOJ	**Yonaguni jima**	**0.89**	**92**	P		**Pn**	**05 15 04.7**	**+0.4**
	baz=93							
YOJ				*e*S		**Sn**	**05 15 17.7**	**+0.4**
	baz=93							
YOJ	**Yonaguni jima**	**0.89**	**92**	P		**Pn**	**05 15 04.7**	**+0.4**
CHGB	**Renai**	**0.90**	**241**	*e*P		**Pn**	**05 15 03.9**	**-0.9**
	baz=238							
CHGB				*e*S		**Sb**	**05 15 15.1**	**-0.7**
	baz=238							
NCUH	**Zhongli**	**0.91**	**301**	*e*P		**Pn**	**05 15 04.7**	**0.0**
	baz=302							
LIOB	**Emei**	**0.94**	**279**	*e*P		**Pn**	**05 15 05.1**	**-0.1**
	baz=278							
LIOB				*e*S		**Sn**	**05 15 19.6**	**+0.8**
	baz=278							
OWD	**Renai**	**0.95**	**236**	P		**Pn**	**05 15 04.6**	**-0.8**
	baz=232							
OWD				*e*S		**Sb**	**05 15 17.0**	**-0.4**
	baz=232							
NSTT	**Nanjuang**	**0.96**	**278**	*e*P		**Pn**	**05 15 05.2**	**-0.1**
	baz=277							
WUSB	**Renai**	**0.98**	**239**	*e*P		**Pn**	**05 15 05.3**	**-0.4**
	baz=236							
WUSB				*e*S		**Sg**	**05 15 17.5**	**+0.1**
	baz=236							
EGFH	**Guangfu**	**0.99**	**214**	*e*P		**Pn**	**05 15 05.9**	**0.0**
	baz=210							
SBCB	**Hsinchu**	**1.00**	**287**	*e*P		**Pn**	**05 15 07.8**	**+1.8**
	baz=287							
WHP	**Taichung City**	**1.02**	**258**	*e*P		**Pn**	**05 15 06.2**	**-0.1**
	baz=255							
WHP				*e*S		**Sb**	**05 15 18.6**	**-0.6**
	baz=255							
WPL	**Puli Township**	**1.10**	**244**	*e*P		**Pg**	**05 15 07.5**	**+0.6**
	baz=242							
VWDT	**VWDT**	**1.10**	**228**	*e*P		**Pg**	**05 15 07.5**	**+0.5**
	baz=225							
VWDT				*e*S		**Sn**	**05 15 22.5**	**-0.2**
	baz=225							
DPDB	**Guoxing**	**1.11**	**246**	*e*P		**Pg**	**05 15 07.6**	**+0.4**
	baz=243							
WCS	**Beigang Elemen**	**1.12**	**247**	*e*P		**Pg**	**05 15 08.2**	**+0.9**
	baz=244							
NMLH	**Miaoli**	**1.14**	**272**	*e*P		**Pg**	**05 15 10.0**	**+2.4**
	baz=271							
NMLH				*e*S		**Sn**	**05 15 26.4**	**+2.8**
	baz=271							
HGSD	**Ruisui**	**1.15**	**210**	*e*P		**Pg**	**05 15 09.4**	**+1.6**
	baz=206							
TWQ1	**Liyutan**	**1.16**	**263**	*e*P		**Pg**	**05 15 09.7**	**+1.6**
	baz=261							
EHY	**Hungye**	**1.18**	**214**	*e*P		**Pg**	**05 15 08.4**	**-0.1**
	baz=210							
SSLB	**Suanglung**	**1.22**	**235**	*e*P		**Pg**	**05 15 09.6**	**+0.4**
	baz=232							
SSLB				*e*S		**Sb**	**05 15 24.3**	**-0.4**
	baz=232							
SSLB	**Suanglung**	**1.22**	**235**	P		**Pg**	**05 15 09.7**	**+0.6**
TYC	**Yuchr**	**1.23**	**242**	*e*P		**Pg**	**05 15 10.0**	**+0.6**
	baz=239							
WDJ	**Dajia District**	**1.28**	**264**	*e*P		**Pg**	**05 15 12.8**	**+2.3**
	baz=262							
WDJ				*e*S		**Sg**	**05 15 30.1**	**+3.0**
	baz=262							
YULB	**Yu-li**	**1.29**	**212**	*e*P		**Pg**	**05 15 10.6**	**+0.1**
	baz=209							
EYUL	**Yuli**	**1.32**	**210**	*e*P		**Pg**	**05 15 12.4**	**+1.3**
	baz=207							
TWF1	**Yuli**	**1.32**	**211**	*e*P		**Pg**	**05 15 11.2**	**0.0**
	baz=208							
TWF1				*e*S		**Sg**	**05 15 30.5**	**+2.1**
	baz=208							
WJS	**Zhushan**	**1.37**	**241**	*e*P		**Pg**	**05 15 13.7**	**+1.6**
	baz=238							
YUS	**Yu-Shan**	**1.41**	**225**	*e*P		**Pg**	**05 15 13.7**	**+0.7**
	baz=222							
ALS	**Alishan**	**1.50**	**229**	*e*P		**Pg**	**05 15 15.3**	**+0.8**
	baz=226							
CHKT	**Chengkung**	**1.52**	**204**	*e*P		**Pn**	**05 15 13.1**	**0.0**
	baz=201							
IRIF	**Iriomote-Funau**	**1.55**	**96**	P		**Pb**	**05 15 14.0**	**-0.6**
IRIF				S		**Sb**	**05 15 33.8**	**-0.5**
EDH	**Donghe**	**1.66**	**204**	*e*P		**Pb**	**05 15 15.8**	**-0.7**
	baz=202							
HATJ	**Hateruma jima**	**1.67**	**105**	*e*S		**Sb**	**05 15 37.6**	**-0.1**
CHN4	**Tsaushan**	**1.75**	**230**	*e*P		**Pg**	**05 15 19.8**	**+0.5**
	baz=227							
TPUB	**Ta-pu**	**1.75**	**228**	*e*P		**Pg**	**05 15 20.0**	**+0.6**
	baz=225							
TPUB	**Ta-pu**	**1.75**	**228**	P		**Pg**	**05 15 20.1**	**+0.6**
JKRS	**Kuro-shima**	**1.81**	**98**	P		**Pb**	**05 15 18.6**	**-0.5**
JKRS				S		**Sb**	**05 15 41.2**	**-0.7**
LDUT	**Ludao**	**1.89**	**196**	*e*P		**Pn**	**05 15 18.0**	**-0.1**
	baz=194							
JIJ	**Ishigaki jima**	**1.92**	**93**	P		**Pb**	**05 15 19.4**	**-1.5**
JIJ				S		**Sn**	**05 15 43.2**	**+0.3**
JISG	**Ishigakijimahi**	**2.07**	**87**	P		**Pn**	**05 15 21.1**	**+0.5**
JISG				S		**Sb**	**05 15 47.4**	**-1.9**

IDC 20 05:20:30.9±4.2, 22°29S×148°38E, h0km, mb1 3.8/3, mb1mx3.3/27, mbtmp3.6/3, ML3.3/4, Error ellipse: s-maj=41.1km s-min=21.0km az=83.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.95**	**317**	Pn	Pn	05 21 17.3	-1.7
	0.5nm,0.3s,baz=134,slow=17,SNR=9.5						
CTA				Pg	Pb	05 21 25.7	+1.3
	4.3nm,0.3s,baz=137,slow=16,SNR=49						
CTA				Lg	Lg	05 22 05.0	
	6.3nm,0.3s,baz=93,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**11.30**	**211**	Pn	Pn	05 23 14.2	+0.6
	0.3nm,0.3s,baz=37,slow=9.8,SNR=5.1						
STKA				Sn	Sn	05 25 17.2	-3.4
	0.3nm,0.3s,baz=111,slow=21,SNR=2.4						
STKA				Lg	Lg	05 26 26.7	
	0.3nm,0.3s,baz=16,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**13.31**	**278**	Pn	Pn	05 23 41.7	+0.5
	0.2nm,0.3s,baz=100,slow=12,SNR=12						
WRA				Lg	Lg	05 27 33.2	
	0.1nm,0.3s,baz=105,slow=30,SNR=5.2						
I07AU	**WARRAMUNGA INF**	**13.32**	**278**	*i*		06 41 30.0	
	baz=101,slow=316,SNR=3.2						
ASAR	**Alice Springs**	**13.40**	**261**	Pn	Pn	05 23 44.0	+1.5
	0.3nm,0.3s,baz=92,slow=14,SNR=18						
ASAR				Sn	Sn	05 26 11.2	-1.1
	0.1nm,0.3s,baz=86,slow=20,SNR=4.1						
ASAR				Lg	Lg	05 27 36.0	
	0.1nm,0.3s,baz=82,slow=29,SNR=7.5						

NOU 20 05:25:46.5, 21°24S×169°87E, h0km, MLv4.2/13, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.73**	**262**	P	Pn	05 26 17.0	-0.9
PINNC	**Pines Island,**	**2.63**	**238**	P	Pn	05 26 30.1	-0.2
YATNC	**Mamie plateau,**	**2.89**	**253**	P	Pn	05 26 32.4	-1.4
OUENC	**Ouen Island, N**	**3.05**	**247**	P	Pn	05 26 36.4	+0.4
DZM	**Mont Dzumac**	**3.29**	**255**	P	Pn	05 26 39.5	+0.1
ONTNC	**Ouen Toro**	**3.35**	**251**	P	Pn	05 26 40.1	0.0
NOUC	**Port Laguerre**	**3.43**	**255**	P	Pn	05 26 41.3	+0.1
RTV	**Rentapao**	**3.69**	**338**	P	Pn	05 26 45.2	+0.4
DVP	**Devils Point**	**3.84**	**335**	P	Pn	05 26 47.8	+0.9
KOUNC	**Koumac, New Ca**	**5.27**	**276**	P	Pn	05 27 06.8	+0.3

IDC 20 05:31:20.3±1.9, 5°21S×151°42E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.5/33, mbtmp3.9/5, ML1.7/1, Error ellipse: s-maj=105.3km s-min=24.8km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.94**	**225**	Pn	Pn	05 32 50.2	+0.6
	1.1nm,0.3s,baz=37,slow=23,SNR=2.8						
PMG					Sn	Sn	05 33 59.5	+1.1
	3.0nm,0.3s,baz=61,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**22.15**	**227**	P		P	05 36 17.9	-0.2
	1.6nm,0.8s,baz=52,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.93**	**221**	P		P	05 36 44.9	-0.6
	2.8nm,0.9s,baz=56,slow=9.2,SNR=29							
FITZ	**Fitzroy Crossi**	**28.26**	**241**	P		P	05 37 16.1	+0.6
	1.5nm,0.5s,baz=56,slow=9.2,SNR=6.6							
ILAR	**Eielson Array**	**83.06**	**22**	P		P	05 43 47.6	+0.1
	0.5nm,0.8s,baz=256,slow=4.7,SNR=5.5							

TAP ***20*** *05:37:07.1, 24.33N×122.95E, h44km, ML3.3, D*
JMA ***20*** *05:37:07.0±0.1, 24.37N×122.99E, h50km±1km, M2.9*
ISC 20 05:37:07.3±1.2, 24.26N±0.03×123.00E±0.02, h42km±8km, n99, σ1.9s42/173, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.20**	**346**	P	**Pn**	**05 37 14.6**	**-0.2**
JYNG				S	**Sn**	**05 37 20.0**	**0.0**
YOJ	**Yonaguni jima**	**0.20**	**3**	P	**Pn**	**05 37 14.8**	**0.0**
YOJ				S	**Sn**	**05 37 20.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.20**	**3**	P	**Pn**	**05 37 14.8**	**0.0**
	baz=20						
YOJ				S	**Sn**	**05 37 20.2**	**+0.1**
	baz=20						
IRIF	**Iriomote-Funau**	**0.67**	**84**	P	**Pn**	**05 37 20.4**	**0.0**
IRIF				S	**Sn**	**05 37 29.9**	**+0.1**
HATJ	**Hateruma jima**	**0.76**	**105**	P	**Pn**	**05 37 22.3**	**+0.7**
JKRS	**Kuro-shima**	**0.92**	**91**	P	**Pn**	**05 37 24.4**	**+0.6**
JKRS				S	**Sn**	**05 37 36.9**	**+1.0**
JIJ	**Ishigaki jima**	**1.05**	**84**	P	**Pn**	**05 37 25.4**	**-0.1**
JIJ				S	**Sn**	**05 37 38.6**	**-0.4**
TWC	**Suao**	**1.10**	**289**	*i* P	**Pn**	**05 37 24.9**	**-1.3**
	baz=294						
TWC				*i* S	**Sn**	**05 37 37.7**	**-2.6**
	baz=294						
EWUT	**Wuta**	**1.13**	**280**	P	**Pn**	**05 37 24.3**	**-2.2**
	baz=287						
EWUT				S	**Sn**	**05 37 39.3**	**-1.6**
	baz=287						
EGS		**1.13**	**301**	*e*P	**Pn**	**05 37 26.5**	**-0.2**
	baz=299						
ENA	**Nanau**	**1.16**	**278**	*i* P	**Pn**	**05 37 26.6**	**-0.5**
	baz=284						
ENA				S	**Sn**	**05 37 40.8**	**-0.8**
	baz=284						
TWB1	**Santiao Chiao**	**1.18**	**309**	*i* P	**Pn**	**05 37 26.0**	**-1.3**
	baz=317						
TWB1				*i* S	**Sn**	**05 37 39.6**	**-2.7**
	baz=317						
NTC	**Toucheng**	**1.22**	**299**	*i* P	**Pn**	**05 37 27.0**	**-0.8**
	baz=298						
NTC				*i* S	**Sn**	**05 37 41.1**	**-2.0**
	baz=298						
NDS	**Dongshan**	**1.23**	**288**	P	**Pn**	**05 37 27.3**	**-0.7**
	baz=294						
NDS				S	**Sn**	**05 37 41.8**	**-1.6**
	baz=294						
JISG	**Ishigakijimahi**	**1.24**	**75**	P	**Pn**	**05 37 27.9**	**-0.2**
JISG				S	**Sn**	**05 37 43.0**	**-0.6**
ETL	**Fush Village**	**1.26**	**266**	*e*P	**Pn**	**05 37 30.3**	**+1.9**
	baz=248						
ETL				*e*S	**Sn**	**05 37 42.8**	**-1.4**
	baz=248						
TIPB	**Shuangxi**	**1.28**	**304**	*i* P	**Pn**	**05 37 27.8**	**-0.9**
	baz=312						
TIPB				*i* S	**Sn**	**05 37 42.3**	**-2.5**
	baz=312						
NACB	**Ninganchiao**	**1.28**	**266**	P	**Pn**	**05 37 28.3**	**-0.5**
	baz=263						
NACB				S	**Sn**	**05 37 45.0**	**+0.2**
	baz=263						
TWE	**Neicheng**	**1.30**	**291**	*i* P	**Pn**	**05 37 28.4**	**-0.5**
	baz=289						
TWE				S	**Sn**	**05 37 43.5**	**-1.5**
	baz=289						
SXI1	**Grass Mountain**	**1.32**	**309**	P	**Pn**	**05 37 28.5**	**-0.7**
	baz=316						
SXI1				*e*S	**Sn**	**05 37 43.6**	**-2.0**
	baz=316						
TEYL	**Yanliau Villag**	**1.34**	**253**	*e*S	**Sn**	**05 37 45.8**	**-0.3**
	baz=239						
ENTT	**Nioudou**	**1.36**	**286**	*i* P	**Pn**	**05 37 30.0**	**+0.2**
	baz=291						
ENTT				S	**Sn**	**05 37 44.8**	**-1.9**
	baz=291						
LATG	**Datong**	**1.37**	**282**	P	**Pn**	**05 37 30.4**	**+0.4**
	baz=287						
LATG				*e*S	**Sn**	**05 37 46.7**	**-0.3**
	baz=287						
NWF	**Wu-fen Shan**	**1.37**	**306**	*i* P	**Pn**	**05 37 29.1**	**-0.9**
	baz=305						
NWF				*i* S	**Sn**	**05 37 44.6**	**-2.4**
	baz=305						
WFSB	**Wu-fen Shan**	**1.37**	**306**	P	**Pn**	**05 37 29.2**	**-0.7**
	baz=305						
WFSB				S	**Sn**	**05 37 44.7**	**-2.2**
	baz=305						
FUSB	**Fushanzhiwuyua**	**1.38**	**291**	P	**Pn**	**05 37 29.4**	**-0.7**
	baz=298						
FUSB				S	**Sn**	**05 37 45.5**	**-1.7**
	baz=298						
ETLH	**Xiulin Townshi**	**1.39**	**268**	P	**Pn**	**05 37 29.8**	**-0.4**
	baz=265						
ETLH				S	**Sn**	**05 37 47.4**	**+0.1**
	baz=265						
NDT	**Datong Townshi**	**1.40**	**284**	*i* P	**Pn**	**05 37 30.7**	**+0.4**
	baz=290						
NDT				*i* S	**Sn**	**05 37 47.1**	**-0.4**
	baz=290						
ETM	**Tongmen**	**1.41**	**258**	P	**Pn**	**05 37 29.9**	**-0.6**
	baz=244						
ETM				S	**Sn**	**05 37 47.1**	**-0.7**
	baz=244						
NWLT	**Wulai**	**1.46**	**291**	*i* P	**Pn**	**05 37 31.3**	**+0.2**
	baz=289						
NWLT				*i* S	**Sn**	**05 37 47.5**	**-1.5**
	baz=289						
TWA	**Mucha**	**1.47**	**299**	S	**Sn**	**05 37 48.5**	**-0.9**
	baz=308						
NNSB	**Datong**	**1.48**	**277**	P	**Pn**	**05 37 32.4**	**+0.8**
	baz=274						
NNSB				*e*S	**Sn**	**05 37 48.0**	**-1.8**
	baz=274						
NNS	**Nan Shan**	**1.49**	**277**	P	**Pn**	**05 37 33.1**	**+1.4**
	baz=274						
NNS				S	**Sn**	**05 37 51.0**	**+0.9**
	baz=274						
ESL	**Shilin**	**1.50**	**253**	*i* P	**Pn**	**05 37 30.8**	**-0.9**
	baz=249						
ESL				*i* S	**Sn**	**05 37 48.9**	**-1.1**
	baz=249						
NHDH	**Xindian Distri**	**1.51**	**298**	*e*S	**Sn**	**05 37 50.1**	**-0.3**
	baz=296						
YHNB	**Yeheng**	**1.53**	**286**	P	**Pn**	**05 37 33.1**	**+0.9**
	baz=293						
YHNB				S	**Sn**	**05 37 51.1**	**+0.1**
	baz=293						
NSK	**Sanguang**	**1.55**	**286**	*i* P	**Pn**	**05 37 33.6**	**+1.1**
	baz=293						
NSK				*i* S	**Sn**	**05 37 51.0**	**-0.4**
	baz=293						
EGFH	**Guangfu**	**1.55**	**248**	P	**Pn**	**05 37 31.9**	**-0.6**
	baz=245						
EGFH				*i* S	**Sn**	**05 37 50.5**	**-0.9**
	baz=245						
YM01	**YM01**	**1.57**	**304**	S	**Sn**	**05 37 50.2**	**-1.7**
	baz=303						
WHF	**Hehuan Shan**	**1.59**	**266**	*i* P	**Pn**	**05 37 33.2**	**-0.1**
	baz=251						
WHF				S	**Sn**	**05 37 52.5**	**-0.3**
	baz=251						
JTJ	**Tarama**	**1.60**	**76**	P	**Pn**	**05 37 33.4**	**+0.4**
JTJ				*e*S	**Sn**	**05 37 52.3**	**-0.2**
FUSS	**Fushou**	**1.60**	**270**	*i* P	**Pn**	**05 37 32.9**	**-0.4**
	baz=267						
HGSD	**Ruisui**	**1.63**	**242**	P	**Pn**	**05 37 32.6**	**-0.9**
	baz=239						
HGSD				S	**Sn**	**05 37 51.7**	**-1.6**
	baz=239						
TWS1	**Kuangyinshan**	**1.66**	**300**	*e*P	**Pn**	**05 37 35.1**	**+1.2**
	baz=299						
TWT	**Tachien**	**1.66**	**270**	*e*S	**Sn**	**05 37 56.1**	**+1.7**
	baz=268						
CHGB	**Renai**	**1.68**	**264**	P	**Pn**	**05 37 34.4**	**0.0**
	baz=249						
CHGB				S	**Sn**	**05 37 55.0**	**+0.2**
	baz=249						
OWD	**Renai**	**1.69**	**260**	*i* P	**Pn**	**05 37 34.3**	**-0.2**
	baz=257						
OWD				*i* S	**Sn**	**05 37 54.5**	**-0.5**
	baz=257						
EHY	**Hungye**	**1.71**	**244**	*i* P	**Pn**	**05 37 33.7**	**-0.9**
	baz=253						
EHY				S	**Sn**	**05 37 53.8**	**-1.4**
	baz=253						
WUSB	**Renai**	**1.74**	**262**	P	**Pn**	**05 37 35.2**	**+0.1**
	baz=259						
WUSB				S	**Sn**	**05 37 55.8**	**-0.3**
	baz=259						
NFF	**Wufeng Townshi**	**1.75**	**283**	P	**Pn**	**05 37 36.4**	**+1.1**
	baz=281						
VWDT	**VWDT**	**1.77**	**254**	P	**Pn**	**05 37 35.3**	**-0.1**
	baz=251						
VWDT				S	**Sn**	**05 37 56.6**	**-0.2**
	baz=251						
YULB	**Yu-li**	**1.78**	**241**	P	**Pn**	**05 37 35.0**	**-0.6**
	baz=252						
YULB				S	**Sn**	**05 37 55.2**	**-1.9**
	baz=252						
EYUL	**Yuli**	**1.79**	**240**	*i* P	**Pn**	**05 37 35.5**	**-0.1**
	baz=236						
EYUL				*i* S	**Sn**	**05 37 56.6**	**-0.6**
	baz=236						
LIOB	**Emei**	**1.85**	**282**	*i* P	**Pn**	**05 37 37.6**	**+1.1**
	baz=281						
NSTT	**Nanjuang**	**1.86**	**282**	*i* P	**Pn**	**05 37 38.1**	**+1.5**
	baz=292						
NSTT				*i* S	**Sn**	**05 38 00.8**	**+1.9**
	baz=292						
WHP	**Taichung City**	**1.87**	**271**	*i* P	**Pn**	**05 37 38.3**	**+1.4**
	baz=258						
WHP				*i* S	**Sn**	**05 38 00.2**	**+0.9**
	baz=258						
FULB	**Fuli**	**1.89**	**236**	P	**Pn**	**05 37 36.8**	**-0.3**
	baz=222						
FULB				S	**Sn**	**05 37 59.4**	**-0.3**
	baz=222						
CHKT	**Chengkung**	**1.89**	**233**	*i* S	**Sn**	**05 37 57.2**	**-2.5**
	baz=219						
WCS	**Beigang Elemen**	**1.92**	**264**	P	**Pn**	**05 37 38.0**	**+0.5**
	baz=253						
WCS				S	**Sn**	**05 38 00.8**	**+0.4**
	baz=253						
SSLB	**Suanglung**	**1.93**	**256**	P	**Pn**	**05 37 37.8**	**+0.2**
	baz=254						
SSLB				S	**Sn**	**05 38 00.4**	**-0.2**
	baz=254						
TYC	**Yuchr**	**1.99**	**260**	*i* P	**Pn**	**05 37 39.0**	**+0.6**
	baz=247						
TYC				*i* S	**Sn**	**05 38 02.9**	**+0.8**
	baz=247						
EDH	**Donghe**	**2.02**	**231**	*i* P	**Pn**	**05 37 37.5**	**-1.3**
	baz=219						
EDH				*i* S	**Sn**	**05 38 00.1**	**-2.7**
	baz=219						
YUS	**Yu-Shan**	**2.02**	**248**	*i* P	**Pn**	**05 37 39.6**	**+0.3**
	baz=245						
YUS				*i* S	**Sn**	**05 38 03.0**	**-0.7**
	baz=245						
TWQ1	**Liyutan**	**2.03**	**273**	*i* P	**Pn**	**05 37 41.5**	**+2.5**
	baz=271						
TWQ1				S	**Sn**	**05 38 05.7**	**+2.5**
	baz=271						
ELDTW	**Lidau**	**2.11**	**240**	*i* P	**Pn**	**05 37 39.6**	**-0.5**
	baz=237						
ELDTW				S	**Sn**	**05 38 03.3**	**-1.9**
	baz=237						
LDUT	**Ludao**	**2.11**	**222**	*e*P	**Pn**	**05 37 39.1**	**-1.0**
	baz=210						
LDUT				S	**Sn**	**05 38 02.8**	**-2.4**
	baz=210						
WJS	**Zhushan**	**2.12**	**259**	*i* P	**Pn**	**05 37 41.2**	**+1.0**
	baz=247						
WJS				*i* S	**Sn**	**05 38 08.1**	**+2.7**
	baz=247						
TCU	**Taichung**	**2.12**	**267**	P	**Pn**	**05 37 42.2**	**+2.0**
	baz=279						
TCU				*i* S	**Sn**	**05 38 08.1**	**+2.7**
	baz=279						
ALS	**Alishan**	**2.14**	**250**	*i* P	**Pn**	**05 37 41.6**	**+0.8**
	baz=247						
ALS				*i* S	**Sn**	**05 38 06.8**	**+0.4**
	baz=247						
WNT	**Mingjian**	**2.15**	**260**	P	**Pn**	**05 37 41.8**	**+1.2**
	baz=246						
WNT				*i* S	**Sn**	**05 38 08.6**	**+2.5**
	baz=246						
WDJ	**Dajia District**	**2.15**	**273**	S	**Sn**	**05 38 06.9**	**+0.8**
	baz=271						
LONT	**Longtian**	**2.18**	**232**	*i* P	**Pn**	**05 37 40.7**	**-0.3**
	baz=221						
LONT				*i* S	**Sn**	**05 38 06.2**	**-0.7**
	baz=221						
WCHH	**Zhanghua**	**2.24**	**266**	S	**Sn**	**05 38 10.3**	**+2.1**
	baz=264						
TWGBT	**Beinan**	**2.27**	**231**	*e*P	**Pn**	**05 37 42.0**	**-0.3**
	baz=240						
TWGBT				S	**Sn**	**05 38 08.0**	**-1.1**
	baz=240						
TWG	**Pinlang**	**2.28**	**231**	P	**Pn**	**05 37 42.1**	**-0.3**
	baz=240						
TWG				*i* S	**Sn**	**05 38 07.4**	**-1.9**
	baz=240						
STYH	**Taoyuan**	**2.31**	**242**	S	**Sn**	**05 38 09.5**	**-0.5**
	baz=232						
WDLH	**Douliu**	**2.32**	**256**	S	**Sn**	**05 38 12.6**	**+2.3**
	baz=243						
TPUB	**Ta-pu**	**2.37**	**247**	P	**Pn**	**05 37 45.6**	**+1.9**
	baz=244						
TPUB				S	**Sn**	**05 38 13.4**	**+1.9**
	baz=244						
CHN4	**Tsaushan**	**2.38**	**248**	*i* P	**Pn**	**05 37 45.6**	**+1.8**
	baz=245						
CHN4				*i* S	**Sn**	**05 38 14.1**	**+2.3**
	baz=245						
WTP	**Ta-pu**	**2.41**	**246**	*i* P	**Pn**	**05 37 45.9**	**+1.7**
	baz=243						
WTP				*i* S	**Sn**	**05 38 14.8**	**+2.3**
	baz=243						
WRL	**Guolierlin Hig**	**2.42**	**262**	P	**Pn**	**05 37 46.0**	**+1.6**
	baz=260						
WRL				S	**Sn**	**05 38 14.4**	**+1.6**
	baz=260						
WTK	**Tuku**	**2.46**	**257**	*e*S	**Sn**	**05 38 16.9**	**+3.3**
	baz=245						
CHY	**Chiayi**	**2.48**	**253**	S	**Sn**	**05 38 16.0**	**+1.9**
	baz=250						
TWK	**Hsinying**	**2.50**	**247**	*i* P	**Pn**	**05 37 47.9**	**+2.3**
	baz=244						
TWK				*i* S	**Sn**	**05 38 17.1**	**+2.2**
	baz=244						
CHN1	**Nanshi**	**2.50**	**245**	*i* P	**Pn**	**05 37 47.8**	**+2.3**
	baz=242						
CHN1				*i* S	**Sn**	**05 38 16.9**	**+2.0**
	baz=242						
SGST	**Jiashian**	**2.51**	**243**	S	**Sn**	**05 38 16.4**	**+1.5**
	baz=240						
SNST	**Tainan City**	**2.52**	**246**	*i* P	**Pn**	**05 37 47.4**	**+1.7**
	baz=244						
SNST				*i* S	**Sn**	**05 38 17.6**	**+2.5**
	baz=244						
LAY	**Lan-yu**	**2.58**	**211**	P	**Pn**	**05 37 45.2**	**-1.4**
	baz=208						
LAY				*e*S	**Sn**	**05 38 14.1**	**-2.7**
	baz=208						
LYUB	**Lan-yu**	**2.60**	**210**	P	**Pn**	**05 37 44.8**	**-2.0**
	baz=208						
LYUB				*e*S	**Sn**	**05 38 14.0**	**-3.1**
	baz=208						
**

EAST	**Anshuo**	**2.72**	**227**	*i* P		**Pn**	**05 37 48.2**	**-0.3**
	baz=225							
MASBT	**Mashibuluo**	**2.72**	**233**	*e*P		**Pn**	**05 37 49.2**	**+0.7**
	baz=224							
TAWH	**Dawu Township**	**2.73**	**226**	*e*P		**Pn**	**05 37 48.2**	**-0.3**
	baz=232							
SSPT	**Xinbi**	**2.85**	**232**	*e*P		**Pn**	**05 37 51.7**	**+1.5**
	baz=225							
SLIU	**Shizi**	**2.87**	**225**	*e*P		**Pn**	**05 37 50.3**	**-0.3**
	baz=215							
SCZT	**Fangliau**	**2.88**	**230**	P		**Pn**	**05 37 53.0**	**+2.3**
	baz=221							
PHUB	**P'eng-hu**	**3.22**	**257**	*e*P		**Pn**	**05 37 55.0**	**-0.3**
	baz=255							
PHUB				*e*S		**Sn**	**05 38 32.8**	**+0.3**
	baz=255							

NEIC ***20*** *05:54:40.2±1.3, 18°.46N±0°.08×145°.6E±0°.1, h146km±7km, mb4.5/92, Error ellipse: s-maj=18.9km s-min=11.5km az=92.0*

IDC ***20*** *05:54:41.1±1.5, 18°.45N×145°.60E, h170km±14km, mb3.8/20, mb1 3.9/23, mb1mx3.8/57, mbtmp4.3/23, MS2.7/1, Ms1 2.7/1, ms1mx2.2/80, Error ellipse: s-maj=17.5km s-min=9.0km az=92.0*

ISC 20 05:54:39.6±0.4, 18°.45N±0°.05×145°.63E±0°.10, h150km, n126, σ1$24/110, mb4.4/65, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.89**	**189**	P	**Pn**	**05 55 53.0**	**+1.4**
	31nm,0.3s,baz=315,slow=1.4,SNR=12						
GUMO				LR	LR	05 56 48.6	
	comp=Z,77nm,19.3s,baz=244,slow=26						
GUMO				S	**Sn**	**05 56 49.0**	**+1.3**
	18nm,0.3s,baz=23,slow=23,SNR=1.9						
GUMO	**Guam**	**4.89**	**189**		**Pn**	**05 55 52.5**	**+0.9**
JOW	**Kunigami**	**18.05**	**301**	P	**P**	**05 58 39.8**	**+0.5**
	3.5nm,0.3s,baz=151,slow=13,SNR=7.6						
JOW	**Kunigami**	**18.05**	**301**	IAmb	IAmb	05 58 54.2	
	comp=Z,56nm,1.2s						
MJAR	**Matsushiro Arr**	**19.17**	**342**	P	**P**	**05 58 51.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=166,slow=9.2,SNR=2.7						
MJB9	**Matsu-Tunnel**	**19.18**	**342**	P	**P**	**05 58 51.8**	**+0.2**
MJB9				IAmb	IAmb	05 59 49.9	
	comp=Z,86nm,2.0s						
H11S3	**WAKE ISLAND Hy**	**19.98**	**87**	T	T	06 20 16.0	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**19.99**	**86**	T	T	06 20 10.6	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.99**	**87**	T	T	06 20 16.3	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	**20.13**	**83**	T	T	06 20 33.5	
	baz=271						
H11N2	**WAKE ISLAND Hy**	**20.14**	**83**	T	T	06 21 00.0	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**20.15**	**83**	T	T	06 20 44.4	
	baz=271						
KSRS	**Korea Array**	**24.48**	**324**	P	**P**	**05 59 43.5**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=120,slow=23,SNR=2.0						
JKA	**Kamikawa-asahi**	**25.71**	**355**	P	**P**	**05 59 54.3**	**-1.5**
JKA	**Kamikawa-asahi**	**25.71**	**355**	IAmb	IAmb	05 59 57.5	
	comp=Z,79nm,1.6s						
ASAJ	**Asahikawa**	**25.71**	**355**	P	**P**	**05 59 54.3**	**-1.5**
	comp=Z,11nm,1.1s,baz=233,slow=20,SNR=1.9						
NJ2	**Nanjing**	**27.65**	**304**	*e*P	**P**	**06 00 14.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
COEN	**Coen**	**32.30**	**184**	P	**P**	**06 00 53.7**	**-0.7**
COEN				IAmb	IAmb	06 01 15.2	
	comp=Z,13nm,1.3s						
MTN	**Manton Dam**	**34.23**	**206**	P	**P**	**06 01 10.4**	**-0.8**
HHC	**Hu-ho-hao-te**	**36.73**	**315**	*e*P	**P**	**06 01 34.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**37.76**	**207**	P	**P**	**06 01 42.1**	**+0.9**
CTA	**Charters Tower**	**38.31**	**179**	P	**P**	**06 01 45.5**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=352,slow=6.9,SNR=5.7						
WB0	**Warramunga Arr**	**39.55**	**197**	P	**P**	**06 01 56.1**	**0.0**
WB0				IAmb	IAmb	06 01 57.7	
	comp=Z,9.4nm,0.8s						
WR0	**Warramunga Arr**	**39.69**	**196**	P	**P**	**06 01 57.3**	**0.0**
WR0				IAmb	IAmb	06 01 57.7	
	comp=Z,7.6nm,0.9s						
WRAB	**Tennant Creek**	**39.72**	**197**	P	**P**	**06 01 57.5**	**0.0**
WRAB				IAmb	IAmb	06 01 58.9	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**39.73**	**197**	P	**P**	**06 01 57.6**	**0.0**
WB2				IAmb	IAmb	06 01 59.0	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**39.73**	**197**	P	**P**	**06 01 56.9**	**-0.7**
	comp=Z,10.0nm,0.8s,baz=18,slow=8.6,SNR=56						
WRA				PcP	**PcP**	**06 04 00.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=21,slow=4.2,SNR=1.9						
WRA				ScP	**ScP**	**06 07 31.0**	**-5.1**
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1,SNR=10						
WRA	**Warramunga Arr**	**39.73**	**197**	P	**P**	**06 01 56.4**	**-1.2**
PZH	**PanZhiHua**	**41.18**	**289**	P	**P**	**06 02 09.8**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.7s						
MA2	**Magadan**	**41.24**	**4**	P	**P**	**06 02 08.2**	**-1.3**
	comp=Z,4.8nm,0.6s,baz=198,slow=13,SNR=2.4						
FITZ	**Fitzroy Crossi**	**41.30**	**210**	P	**P**	**06 02 11.3**	**+0.9**
ULN	**Ulaanbaatar**	**42.92**	**322**	P	**P**	**06 02 23.4**	**-0.2**
ASAR	**Alice Springs**	**43.40**	**196**	P	**P**	**06 02 27.1**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=22,slow=8.1,SNR=51						
ASAR				ScP	**ScP**	**06 07 45.6**	**-5.1**
	comp=Z,0.5nm,0.7s,baz=16,slow=4.3,SNR=8.1						
ASAR	**Alice Springs**	**43.40**	**196**	P	**P**	**06 02 27.5**	**0.0**
CMAR	**Chiang Mai Arr**	**44.19**	**278**	P	**P**	**06 02 34.0**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=75,slow=5.3,SNR=2.5						
STKA	**Stephens Creek**	**50.19**	**184**	P	**P**	**06 03 19.9**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=320,slow=9.2,SNR=4.4						
BILL	**Bilibino**	**51.27**	**10**	P	**P**	**06 03 29.3**	**+1.6**
BILL				IAmb	IAmb	06 03 30.2	
	comp=Z,4.6nm,0.8s						
BBOO	**Buckleboo**	**51.79**	**190**	P	**P**	**06 03 33.5**	**+1.5**
GAMB	**Gambell**	**53.70**	**22**	P	**P**	**06 03 46.6**	**+1.0**
GAMB				IAmb	IAmb	06 03 50.3	
	comp=Z,18nm,1.7s						
TIXI	**Tiksi**	**54.10**	**354**	P	**P**	**06 03 48.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=95,slow=19,SNR=3.7						
TIXI	**Tiksi**	**54.10**	**354**	IAmb	IAmb	06 03 51.8	
	comp=Z,3.2nm,1.2s						
WMQ	**Urumqi**	**54.42**	**311**	*e*P	**P**	**06 03 54.5**	**+3.2**
KHLU	**Kahalu`u**	**55.06**	**79**	P	**P**	**06 03 57.1**	**+0.8**
MORW	**Morawa**	**55.21**	**212**	P	**P**	**06 03 57.3**	**+0.3**
ANM	**Nome**	**56.45**	**23**	P	**P**	**06 04 06.7**	**+1.4**
ANM				IAmb	IAmb	06 04 17.7	
	comp=Z,11nm,1.5s						
ZALV	**Zalesovo Beam**	**58.17**	**323**	P	**P**	**06 04 16.8**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=116,slow=6.8,SNR=4.6						
SII	**Sitkinak Islan**	**58.45**	**34**	P	**P**	**06 04 21.1**	**+1.6**
MK31	**Makanchi Array**	**58.59**	**314**	P	**P**	**06 04 21.0**	**+0.3**
MKAR	**Makanchi Array**	**58.59**	**314**	P	**P**	**06 04 20.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.4,SNR=17						
MKAR				PcP	**PcP**	**06 05 07.0**	**-2.3**
	comp=Z,0.7nm,0.7s,baz=96,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**58.59**	**314**	P	**P**	**06 04 21.0**	**+0.3**
MAKZ	**Makanchi**	**58.80**	**314**	P	**P**	**06 04 23.2**	**+1.1**
MAKZ				IAmb	IAmb	06 05 42.2	
	comp=Z,8.5nm,1.9s						
N19K	**Bonanza Creek**	**59.49**	**29**	P	**P**	**06 04 28.2**	**+1.5**
N19K				IAmb	IAmb	06 04 28.9	
	comp=Z,9.6nm,0.8s						
TTA	**Tatalina**	**59.50**	**27**	P	**P**	**06 04 27.3**	**+0.6**
CAST	**Castle Rocks**	**61.34**	**27**	P	**P**	**06 04 40.1**	**+0.9**
CAST				IAmb	IAmb	06 04 40.9	
	comp=Z,5.6nm,0.8s						
RC01	**Rabbit Creek A**	**61.80**	**30**	P	**P**	**06 04 42.6**	**+0.4**
NRIK	**Noril'sk**	**61.82**	**340**	P	**P**	**06 04 41.4**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=105,slow=10,SNR=4.0						
NRIK	**Noril'sk**	**61.82**	**340**	P	**P**	**06 04 42.2**	**0.0**
NRIK				IAmb	IAmb	06 06 49.0	
	comp=Z,7.4nm,1.1s						
BPAW	**Bear Paw Mtn.**	**62.00**	**26**	P	**P**	**06 04 44.5**	**+1.0**
BPAW				IAmb	IAmb	06 04 45.2	
	comp=Z,9.9nm,1.1s						
TRF	**Thorofare Moun**	**62.13**	**27**	P	**P**	**06 04 44.4**	**-0.2**
MLY	**Manley**	**62.37**	**25**	P	**P**	**06 04 47.2**	**+1.2**
MLY				IAmb	IAmb	06 04 47.6	
	comp=Z,4.2nm,0.8s						
MCK	**McKinley**	**62.78**	**27**	P	**P**	**06 04 50.4**	**+1.6**

SCM	**Sheep Creek Mo**	**63.09**	**29**	P	**P**	**06 04 51.7**	**+0.9**
TOLK	**Toolik Lake Re**	**63.84**	**22**	P	**P**	**06 04 56.9**	**+1.2**
TOLK				IAmb	IAmb	06 04 57.2	
	comp=Z,3.4nm,0.7s						
ILAR	**Eielson Array**	**63.89**	**26**	P	**P**	**06 04 55.1**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=256,slow=5.0,SNR=16						
ILAR	**Eielson Array**	**63.89**	**26**	P	**P**	**06 04 55.5**	**-0.5**
BKZ	**Black Stump Fm**	**64.18**	**154**	P	**P**	**06 04 57.8**	**-0.4**
J25K	**Salcha River,**	**64.50**	**26**	P	**P**	**06 04 59.6**	**-0.4**
J25K				IAmb	IAmb	06 05 10.3	
	comp=Z,18nm,1.9s						
DOT	**Dot Lake**	**64.89**	**28**	P	**P**	**06 05 03.1**	**+0.5**
DOT				IAmb	IAmb	06 05 47.4	
	comp=Z,10nm,1.1s						
MCARA	**McCarthy VSAT**	**65.05**	**30**	P	**P**	**06 05 04.5**	**+1.0**
BMAR	**Burnt Mountain**	**65.37**	**23**	P	**P**	**06 05 07.1**	**+1.5**
BCAR	**Beaver Creek A**	**65.83**	**28**	P	**P**	**06 05 09.4**	**+0.8**
DAWY	**Dawson**	**67.00**	**27**	P	**P**	**06 05 17.1**	**+1.1**
DAWY				IAmb	IAmb	06 07 36.2	
	comp=Z,20nm,2.0s						
HYT	**Haines Junctio**	**67.67**	**31**	P	**P**	**06 05 22.2**	**+1.7**
HYT				IAmb	IAmb	06 05 23.1	
	comp=Z,12nm,1.2s						
N31M	**Braeburn, Yuko**	**68.52**	**30**	P	**P**	**06 05 27.1**	**+1.5**
INK	**Inuvik**	**69.62**	**23**	P	**P**	**06 05 31.7**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=258,slow=6.4,SNR=8.9						
INK	**Inuvik**	**69.62**	**23**	P	**P**	**06 05 32.6**	**+0.4**
DLBC	**Dease Lake**	**71.53**	**33**	P	**P**	**06 05 45.3**	**+1.2**
DLBC				IAmb	IAmb	06 08 19.0	
	comp=Z,27nm,1.8s						
A36M	**Sachs Harbour**	**72.33**	**19**	P	**P**	**06 05 48.9**	**+0.4**
ABKAR	**Akbulak array**	**73.47**	**317**	P	**P**	**06 05 55.2**	**-0.4**
CLRS	**Cowichan Lake**	**76.50**	**43**	P	**P**	**06 06 14.3**	**+1.3**
NLWA	**Neilton Lookou**	**76.99**	**44**	P	**P**	**06 06 17.3**	**+1.5**
NLWA				IAmb	IAmb	06 07 47.8	
	comp=Z,18nm,1.4s						
WISH	**Wishkah**	**77.11**	**44**	P	**P**	**06 06 18.1**	**+1.7**
E03A	**Lebam**	**77.38**	**45**	P	**P**	**06 06 19.4**	**+1.4**
YKA	**Yellowknife Ar**	**78.23**	**28**	P	**P**	**06 06 22.1**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=288,slow=5.6,SNR=37						
YKA	**Yellowknife Ar**	**78.23**	**28**	P	**P**	**06 06 22.4**	**0.0**
BUCK	**Buck Mountain**	**78.34**	**47**	P	**P**	**06 06 24.9**	**+1.4**
DBO	**Dodson Butte**	**78.43**	**48**	P	**P**	**06 06 24.7**	**+0.8**
LTY	**Liberty**	**79.13**	**44**	P	**P**	**06 06 28.3**	**+0.6**
YBH	**Yreka Blue Hor**	**79.16**	**50**	P	**P**	**06 06 29.1**	**+1.1**
RES	**Resolute Bay**	**79.68**	**14**	P	**P**	**06 06 30.7**	**+0.7**
B08A	**Colville Reser**	**79.70**	**42**	P	**P**	**06 06 31.2**	**+0.5**
B08A				IAmb	IAmb	06 06 31.8	
	comp=Z,5.1nm,0.7s						
E07A	**Sunnyside**	**79.86**	**44**	IAmb	IAmb	06 06 32.6	
	comp=Z,4.7nm,0.7s						
E07A				P	**P**	**06 06 32.7**	**+1.1**
PINE	**Pine Mountain**	**79.87**	**47**	P	**P**	**06 06 33.3**	**+1.3**
PINE				IAmb	IAmb	06 06 33.7	
	comp=Z,9.5nm,0.8s						
HAWA	**Hanford**	**80.12**	**44**	P	**P**	**06 06 33.9**	**+0.9**
K05A	**Summer Lake**	**80.20**	**48**	P	**P**	**06 06 34.9**	**+1.2**
K05A				IAmb	IAmb	06 06 35.3	
	comp=Z,7.1nm,0.7s						
D08A	**Wollman Farm,**	**80.33**	**44**	P	**P**	**06 06 34.8**	**+0.7**
D08A				IAmb	IAmb	06 06 35.3	
	comp=Z,5.9nm,0.9s						
ORV	**Oroville**	**80.63**	**51**	P	**P**	**06 06 36.2**	**+0.4**
MOD	**Modoc Plateau**	**80.85**	**49**	P	**P**	**06 06 37.6**	**+0.5**
E09A	**Wood Farm, Sta**	**81.00**	**44**	P	**P**	**06 06 38.0**	**+0.4**
E09A				IAmb	IAmb	06 06 38.9	
	comp=Z,4.7nm,0.7s						
BEKR	**Beckworth**	**81.39**	**51**	P	**P**	**06 06 40.5**	**+0.4**
BEKR				IAmb	IAmb	06 06 41.0	
	comp=Z,5.6nm,0.7s						
PNTR	**Pine Nut**	**82.18**	**52**	IAmb	IAmb	06 06 46.0	
	comp=Z,6.9nm,0.7s						
YERR	**Yerington**	**82.47**	**52**	IAmb	IAmb	06 06 46.6	
	comp=Z,4.1nm,0.7s						
ARCES	**ARCESS Array B**	**82.71**	**342**	P	**P**	**06 06 45.4**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=19,slow=4.4,SNR=4.0						
PLID	**Pearl Lake**	**82.87**	**45**	P	**P**	**06 06 47.6**	**-0.1**
RYN	**Ryan**	**83.12**	**52**	P	**P**	**06 06 49.3**	**+0.2**
RYN				IAmb	IAmb	06 06 50.3	
	comp=Z,4.2nm,0.9s						
LHV	**Little Huntoon**	**83.25**	**52**	P	**P**	**06 06 50.3**	**+0.8**
KVN	**Kaiserville**	**83.30**	**51**	P	**P**	**06 06 50.4**	**+0.3**
KVN				IAmb	IAmb	06 06 51.1	
	comp=Z,5.0nm,0.7s						
NVAR	**Mina Array Bea**	**83.34**	**52**	P	**P**	**06 06 50.5**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=268,slow=6.0,SNR=40						
MFID	**Camas Ranch**	**83.53**	**46**	IAmb	IAmb	06 06 52.3	
	comp=Z,4.8nm,0.8s						
TPH	**Tonopah**	**84.26**	**52**	P	**P**	**06 06 55.4**	**+0.4**
HLID	**Hailey**	**84.45**	**46**	P	**P**	**06 06 56.3**	**+0.5**
ELK	**Elko**	**84.83**	**49**	IAmb	IAmb	06 06 59.0	
	comp=Z,4.0nm,0.8s						
PRN	**Pahroc Range**	**86.11**	**52**	IAmb	IAmb	06 07 06.4	
	comp=Z,12nm,1.7s						
HVU	**Hansel Valley**	**86.21**	**47**	IAmb	IAmb	06 07 06.0	
	comp=Z,4.8nm,1.1s						
PSUT	**Pine Spring**	**86.60**	**51**	IAmb	IAmb	06 07 07.5	
	comp=Z,3.6nm,0.8s						
DUG	**Dugway, Tooele**	**86.76**	**49**	IAmb	IAmb	06 07 08.2	
	comp=Z,3.3nm,0.7s						
FINES	**FINESS Array B**	**87.08**	**335**	P	**P**	**06 07 07.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=64,slow=5.9,SNR=7.0						
CCUT	**Cedar City**	**87.31**	**51**	IAmb	IAmb	06 10 37.0	
	comp=Z,17nm,2.0s						
NLU	**North Lily Min**	**87.37**	**49**	IAmb	IAmb	06 07 11.2	
	comp=Z,3.0nm,0.8s						
LCMT	**Little Creek M**	**87.60**	**52**	IAmb	IAmb	06 07 13.2	
	comp=Z,13nm,1.8s						
PDAR	**Pinedale Array**	**88.04**	**45**	P	**P**	**06 07 12.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=175,slow=1.3,SNR=5.5						
SRU	**San Rafael Swe**	**88.80**	**49**	IAmb	IAmb	06 07 17.7	
	comp=Z,3.9nm,0.8s						
Y14A	**Wickenburg**	**88.89**	**55**	IAmb	IAmb	06 07 18.5	
	comp=Z,2.7nm,0.7s						
FRB	**Frobisher Bay**	**93.87**	**15**	P	**P**	**06 07 38.2**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=355,slow=7.3,SNR=4.6						
LPAZ	**La Paz**	**147.73**	**91**	PKP	**PKPdf**	**06 14 02.7**	**-2.6**
	comp=Z,1.8nm,0.6s,baz=333,slow=6.8,SNR=1.6						
LPAZ				PKPbc	**PKPbc**	**06 14 08.2**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=326,slow=3.6,SNR=4.2						
LPAZ	**La Paz**	**147.73**	**91**	PKPbc	**PKPbc**	**06 14 08.6**	**+0.4**

GUC 20 05:55:26.3±0.8, 31°.00S×70°.30W, h131km±4km, ML3.7, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.37**	**296**	*e*P	Pn	05 55 44.0	-0.9
CO03				*i* S	Sn	05 55 57.5	-1.5
CO03				IAML		05 55 59.0	
	comp=N,3μm,0.1s						
CO02	**Combarbal**	**0.63**	**251**	*i*P	Pn	05 55 45.9	-0.5
CO02				*i* S	Sn	05 56 00.9	-0.8
CO02				IAML		05 56 02.9	
	comp=E,5μm,0.2s						
GO04	**Tololo Observa**	**0.93**	**332**	*i* P	Pn	05 55 48.3	-0.6
GO04				*i* S	Sn	05 56 05.1	-1.0
CO06	**Fray Jorge**	**1.19**	**286**	*i* P	Pn	05 55 50.9	-0.3
CO06				*i* S	Sn	05 56 09.1	-1.0
CO06				IAML		05 56 15.8	
	comp=E,798nm,0.2s						
CO05	**La Serena**	**1.35**	**323**	*e*P	Pn	05 55 52.5	-0.3
CO05				*i* S	Sn	05 56 12.3	-0.6
CO05				IAML		05 56 13.1	
	comp=E,493nm,0.5s						
VA03	**San Esteban**	**1.77**	**187**	*i*P	Pn	05 55 57.3	-0.3
VA03				*i* S	Sn	05 56 21.3	-0.3
VA03				IAML		05 56 23.0	
	comp=N,694nm,0.2s						
VA06	**Catapilco**	**1.77**	**208**	*e*P	Pn	05 55 56.6	-0.9
VA06				*i* S	Sn	05 56 20.0	-1.5
VA06				IAML		05 56 22.7	
	comp=N,620nm,0.4s						
LCO	**Las Campanas**	**2.01**	**350**	*e*P	Pn	05 56 00.4	-0.4
LCO				*i* S	Sn	05 56 25.7	-1.4
ROCH	**El Roble**	**2.06**	**197**	*e*P	Pn	05 56 00.1	-1.1
ROCH				*i* S	Sn	05 56 25.8	-2.2
ROCH				IAML		05 56 31.1	
	comp=N,343nm,0.3s						
PEL	**Peldehue**	**2.16**	**189**	*i*P	Pn	05 56 01.9	-0.5
PEL				*i* S	Sn	05 56 29.0	-1.0
VA01	**Torpederas**	**2.32**	**209**	*e*P	Pn	05 56 02.9	-1.3
VA01				IAML		05 56 35.6	
	comp=E,294nm,0.1s						

FCH	**Farellones**	**2.32**	**180**	*e*P	Pn	05 56 04.9	+0.3
FCH				*i* S	Sn	05 56 34.1	+0.1
FCH				IAML		05 56 35.9	
	comp=N,235nm,0.3s						
MT02	**Curacav**	**2.36**	**197**	*e*P	Pn	05 56 03.5	-1.3
MT02				*i* S	Sn	05 56 32.1	-2.2
MT02				IAML		05 56 34.2	
	comp=E,185nm,0.6s						
MT05	**Renca**	**2.41**	**189**	*e*P	Pn	05 56 05.1	-0.4
MT05				*i* S	Sn	05 56 34.7	-0.9
MT05				IAML		05 56 37.2	
	comp=E,402nm,0.4s						
MT03	**Universidad Ad**	**2.49**	**184**	*e*P	Pn	05 56 06.2	-0.3
MT03				*i* S	Sn	05 56 36.2	-1.2
MT03				IAML		05 56 40.1	
	comp=E,555nm,0.3s						
MT09	**Talagante**	**2.83**	**192**	*e*P	Pn	05 56 09.6	-1.3
MT09				*i* S	Sn	05 56 43.1	-2.0
LMEL	**Las Melosas**	**2.84**	**178**	*e*P	Pn	05 56 10.9	-0.1
LMEL				*i* S	Sn	05 56 44.8	-0.7
LMEL				IAML		05 56 49.1	
	comp=E,197nm,0.2s						
AC04	**Llanos de Chal**	**2.87**	**346**	*e*P	Pn	05 56 11.2	-0.1
AC04				*i* S	Sn	05 56 44.6	-1.3
AC04				IAML		05 56 46.5	
	comp=E,120nm,0.1s						
VA05	**Santo Domingo**	**2.87**	**202**	*e*P	Pn	05 56 09.6	-1.6
VA05				*i* S	Sn	05 56 42.6	-3.3
VA05				IAML		05 56 47.6	
	comp=E,230nm,0.3s						
MT01	**Popeta**	**2.97**	**195**	*e*P	Pn	05 56 11.3	-1.2
MT01				*i* S	Sn	05 56 45.4	-2.8
MT01				IAML		05 56 47.0	
	comp=E,247nm,0.4s						
BO04	**La Punta**	**2.99**	**185**	*e*P	Pn	05 56 12.0	-0.9
BO04				*i* S	Sn	05 56 47.2	-1.6
BO04				IAML		05 56 51.4	
	comp=N,142nm,0.4s						
GO03	**Copiap**	**3.40**	**1**	*e*P	Pn	05 56 18.1	-0.1
GO03				IAML		05 56 58.5	
	comp=N,77nm,0.2s						
BO01	**Tunca**	**3.44**	**191**	⇑*e*P	Pn	05 56 17.3	-1.4
BO01				*i* S	Sn	05 56 56.0	-3.3
BO01				IAML		05 56 59.3	
BO02	**Sierra Bellavi**	**3.80**	**186**	*e*P	Pn	05 56 22.4	-1.1
BO02				*i* S	Sn	05 57 04.2	-3.6
GO05	**Huala**	**4.23**	**198**	*e*P	Pn	05 56 26.4	-2.7
AC02	**Maricunga**	**4.28**	**14**	*e*P	Pn	05 56 29.8	-0.5
ML02	**Panimavida**	**4.84**	**191**	*e*P	Pn	05 56 35.4	-1.8

IDC ***20*** *06:01:38.9±1.3, 81°.90N×6°.44W, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.5/54, mbtmp3.9/10, ML4.2/5, MS3.2/10, Ms1 3.2/10, ms1mx2.8/83, Error ellipse: s-maj=26.9km s-min=18.4km az=5.0*

BER ***20*** *06:01:42.9±2.6, 81°.85N×4°.55W, h10km, ML2.9, ML3.1(DNK), Confirmed Earthquake*

DNK ***20*** *06:01:43.4±2.1, 81°.98N×4°.23W, h36km±22km, ML3.1*

IEPN ***20*** *06:01:44.0, 81°.84N×3°.46W, h10km*

ISC 20 06:01:43.2±0.8, 81°.74N±0°.07×4°.71W±0°.04, h35km, n50, σ2$63/70, mb3.7/6, MS3.4/7, 2C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.75**	**271**	Pn	**Pn**	**06 02 11.1**	**+0.1**
NOR				Sn	**Sn**	**06 02 31.2**	**-0.7**
NOR	**Nord**	**1.75**	**271**	*i* P	**Pn**	**06 02 11.0**	**+0.1**
NOR				*e*S	**Sn**	**06 02 31.9**	**0.0**
NOR				IAML		06 02 33.1	
	comp=Z,111nm,1.0s						
NOR	**Nord**	**1.75**	**271**	*i* P	**Pn**	**06 02 11.0**	**+0.1**
NOR				*e*S	**Sn**	**06 02 31.9**	**0.0**
NOR				IAML		06 02 33.1	
	comp=Z,111nm,1.0s						
KBS	**Kingsbay**	**3.96**	**127**	Pn	**Pn**	**06 02 42.3**	**+0.9**
KBS				Sn	**Sn**	**06 03 24.1**	**-2.4**
KBS	**Kingsbay**	**3.96**	**127**	*e*P	**Pn**	**06 02 42.1**	**+0.7**
KBS				*e*S	**Sn**	**06 03 24.2**	**-2.4**
KBS	**Kingsbay**	**3.96**	**127**	*e*P	**Pn**	**06 02 42.5**	**+1.1**
KBS				*e*S	**Sn**	**06 03 24.1**	**-2.4**
KBS				IAML		06 03 30.1	
	comp=Z,42nm,0.3s						
KBS	**Kingsbay**	**3.96**	**127**	⇑*i*P	**Pn**	**06 02 42.4**	**+1.1**
KBS				*e*S	**Sn**	**06 03 23.8**	**-2.7**
BRBA	**Barentsburg A**	**4.94**	**128**	Pn	**Pn**	**06 02 56.9**	**+2.1**
BRBA				S

RES S Sn 06 08 41.3 -16
comp=Z,0.2nm,0.3s,baz=335,slow=7.3,SNR=4.5
RES LR LR 06 12 12.6
comp=Z,79nm,20.6s,baz=38,slow=37
SFJD Kangerlussuaq 18.30 244 P **P 06 05 50.1 -3.6**
comp=Z,0.9nm,0.3s,baz=37,slow=11,SNR=7.6
SFJD S Sn 06 09 00.7 -16
comp=Z,0.7nm,0.3s,baz=11,slow=2.3,SNR=3.6
SFJD LR LR 06 12 23.4
comp=Z,72nm,18.4s,baz=42,slow=36
NOA NORSAR Array B 21.24 158 P **P 06 06 27.4 +1.7**
comp=Z,1.1nm,0.8s,baz=351,slow=11,SNR=3.8
HFS Hagfors 22.28 155 P **P 06 06 40.9 +4.1**
comp=Z,4.2nm,1.1s,baz=26,slow=18,SNR=2.4
HFS LR LR 06 13 49.9
comp=Z,28nm,18.2s,baz=331,slow=32
NRIK Noril'sk 22.62 67 P **P 06 06 43.0 +2.6**
comp=Z,2.3nm,0.6s,baz=357,slow=12,SNR=2.3
FRB Frobisher Bay 23.85 261 P **P 06 06 51.0 -1.6**
comp=Z,5.3nm,1.1s,baz=21,slow=11,SNR=9.3
ZALV Zalesovo Beam 36.98 79 LR LR 06 26 36.6
comp=Z,40nm,18.2s,baz=78,slow=40
MKAR Makanchi Array 43.60 84 P **P 06 09 46.2 +2.7**
comp=Z,0.5nm,0.6s,baz=352,slow=8.4,SNR=7.5
MKAR LR LR 06 31 05.6
comp=Z,34nm,18.3s,baz=342,slow=40
NEW Newport 45.63 300 LR LR 06 29 37.9
comp=Z,59nm,21.2s,baz=264,slow=37
AAK Ala-Archa 46.54 93 LR LR 06 33 13.1
comp=Z,49nm,18.7s,baz=286,slow=40
GEYT Alibeck 48.86 111 LR LR 06 34 27.4
comp=Z,38nm,18.4s,baz=210,slow=40
MJAR Matsushiro Arr 60.42 34 LR LR 06 38 38.2
comp=Z,23nm,19.0s,baz=43,slow=37
TORD Torodi Ar. Bea 68.68 173 P **P 06 12 46.6 +3.9**
comp=Z,0.5nm,0.9s,baz=340,slow=8.0,SNR=2.7

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*ARE **20** 06:03:48.2±2.4,5.66S±0.07×78.8W±0.2,h20km±9km,ML4.5, mb4.2/1(NEIC),Error ellipse: s-maj=25.3km s-min=9.2km az=98.0*

NEIC 20 06:03:47.3±1.9,**5.7S**±0.1×**79.2W**±0.2,**h80**km±9km,**Error ellipse: s-maj=29.0km s-min=13.1km az=75.0,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**5.93**	**7**		Pn	06 05 12.8	-0.3
NNA	**Nana**	**6.67**	**160**	Pn	Pn	06 05 23.2	+0.3
BCIP	**Isla Barro Col**	**14.77**	**358**	Pn	Pn	06 07 11.8	-0.3
LPAZ	**La Paz**	**15.12**	**135**	Pn	Pn	06 07 16.6	-0.6

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*RSPR **20** 06:06:23.8,18.54N×68.98W,h115km±2km, MD4.5/16*
*NEIC **20** 06:06:23.8±1.9,18.55N±0.06×68.97W±0.05,h113km±4km, Error ellipse: s-maj=9.2km s-min=7.0km az=193.0*
*NEIC **20** 06:06:23.7,18.54N×68.98W,h112km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.98; $M_{\theta\theta}$-1.33; $M_{\phi\phi}$0.35; $M_{r\theta}$0.02; $M_{r\phi}$0.16; $M_{\theta\phi}$-0.45; Fault plane solution: M_o1.29000×10^{16} NP1:ϕ_s250.26000°, δ49.77000°,λ52.46000°. NP2:ϕ_s120.21000°,δ52.75000°, λ125.76000°. Principal axes: T 1.2162, Plg62.0000°, Azm93.0000°; N 0.1317, Plg28.0000°, Azm277.0000°; P -1.3479, Plg2.0000°, Azm186.0000°;*
*IDC **20** 06:06:23.2±0.4, 18.51N×68.91W,h114km±3km,mb4.0/30, mb1 4.1/33,mb1mx4.0/47,mbtmp4.3/33,MS3.3/14, Ms1 3.3/14,ms1mx3.0/67 Error ellipse: s-maj=8.9km s-min=6.9km az=42.0*
*OSPL **20** 06:06:25.1±3.1,18.59N×68.93W,h125km±17km,ML4.8, Fault plane solution: NP1:ϕ_s28.60000°,δ48.90000°, λ124.10000°.*

ISC 20 06:06:23.2±0.3,**18.51N**±0.03×**68.99W**±0.03,**h114**km±2km,**h114km:pP-P,n540,σ1.51/527,mb4.6**/122,**21C-17D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.46**	**306**	⇓*eP*	**Pn**	**06 06 40.4**	**0.0**
DR12	**Loma Pena Alta**	**0.46**	**306**		**Pn**	**06 06 40.4**	**0.0**
PCDR	**Punta Cana, DR**	**0.57**	**90**	⇑*eP*	**Pn**	**06 06 41.3**	**+0.3**
PCDR	**Punta Cana, DR**	**0.57**	**90**	*eS*	**Sn**	**06 06 54.7**	**+0.4**
PCDR	**Punta Cana, DR**	**0.57**	**90**	Pn	**Pn**	**06 06 41.1**	**+0.2**
PCDR				Sn	**Sn**	**06 06 54.8**	**+0.4**
PCDR	**Punta Cana, DR**	**0.57**	**90**	ASPG		06 06 40.9	
	comp=Z,31μm,0.3s						
PCDR				⇑*iP*	**Pn**	**06 06 41.3**	**+0.3**
PCDR				ATPG		06 06 42.8	
	comp=Z,125μm,0.3s						
PCDR				ASSG		06 06 54.4	
	comp=Z,44μm,0.3s						
PCDR				*eS*	**Sn**	**06 06 54.8**	**+0.4**
PCDR				ATSG		06 06 56.4	
	comp=Z,84μm,0.7s						
PCDR				IAML		06 06 59.6	
	comp=Z,22μm,0.7s						
SDD	**Santo Domingo**	**0.88**	**267**		**Pn**	**06 06 44.2**	**+0.7**
SDD				Sn	**Sn**	**06 06 59.6**	**+0.7**
SDD				IAML		06 07 03.1	
	comp=E,24μm,0.3s						
SDD				IAML		06 07 05.1	
	comp=N,22μm,0.4s						
SDD	**Santo Domingo**	**0.88**	**267**	ASPG		06 06 43.7	
	comp=Z,2μm,0.3s						
SDD				⇑*iP*	**Pn**	**06 06 44.1**	**+0.5**
SDD				ATPG		06 06 45.4	
	comp=Z,8μm,0.3s						
SDD				ASSG		06 07 00.5	
	comp=Z,33μm,0.2s						
SDD				*eS*	**Sn**	**06 07 00.9**	**+2.0**
SDD				ATSG		06 07 02.7	
	comp=Z,110μm,0.3s						
BANI	**BANI**	**1.31**	**265**		**Pn**	**06 06 49.4**	**+1.2**
BANI	**BANI**	**1.31**	**265**	⇓*iP*	**Pn**	**06 06 49.5**	**+1.4**
IDE	**Isla Desecheo**	**1.44**	**95**	⇓*eP*	**Pn**	**06 06 49.6**	**+0.1**
PRSN	**Puerto Rico Se**	**1.77**	**99**		**Pn**	**06 06 54.3**	**+0.8**
PRSN				IAML		06 07 21.8	
	comp=N,18μm,0.3s						
PRSN				IAML		06 07 27.2	
	comp=E,16μm,0.3s						
AGPR	**Aguadilla, PR**	**1.78**	**91**	⇑*eP*	**Pn**	**06 06 54.7**	**+1.1**
AGPR	**Aguadilla, PR**	**1.78**	**91**	*eS*	**Sn**	**06 07 18.4**	**+1.6**
AGPR	**Aguadilla, PR**	**1.78**	**91**		**Pn**	**06 06 54.3**	**+0.7**
AGPR				IAML		06 07 23.5	
	comp=N,15μm,0.5s						
AGPR				IAML		06 07 23.7	
	comp=E,15μm,0.5s						
AGPR	**Aguadilla, PR**	**1.78**	**91**	ASPG		06 06 54.0	
	comp=Z,4μm,0.3s						
AGPR				⇓*iP*	**Pn**	**06 06 54.4**	**+0.7**
AGPR				ATPG		06 06 56.0	
	comp=Z,15μm,0.3s						
AGPR				ASSG		06 07 17.4	
	comp=Z,15μm,0.3s						
AGPR				*eS*	**Sn**	**06 07 17.8**	**+1.0**
AGPR				ATSG		06 07 18.9	
	comp=Z,44μm,0.2s						
AGPR				IAML		06 07 22.6	
	comp=Z,7μm,0.5s						
LSP	**Las Mesas**	**1.83**	**100**	⇑*eP*	**Pn**	**06 06 55.5**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.85**	**105**	⇓*eP*	**Pn**	**06 06 55.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.85**	**105**	*eS*	**Sn**	**06 07 19.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.85**	**105**		**Pn**	**06 06 55.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.85**	**105**	ASPG		06 06 54.7	
	comp=Z,2μm,0.3s						
CRPR				⇓*iP*	**Pn**	**06 06 55.1**	**+0.6**
CRPR				ATPG		06 06 55.9	
	comp=Z,7μm,0.3s						
CRPR				ASSG		06 07 18.7	
	comp=Z,7μm,0.3s						
CRPR				*eS*	**Sn**	**06 07 19.1**	**+0.7**
CRPR				ATSG		06 07 21.1	
	comp=Z,20μm,0.3s						
CRPR				IAML		06 07 30.9	
	comp=Z,2μm,0.5s						
SC01	**Santiago de lo**	**1.88**	**299**	Pn	**Pn**	**06 06 55.9**	**+1.0**
SC01	**Santiago de lo**	**1.88**	**299**	ASPG		06 06 55.6	
	comp=Z,801nm,0.3s						
SC01				⇓*iP*	**Pn**	**06 06 56.0**	**+1.1**
SC01				ATPG		06 06 57.9	
	comp=Z,2μm,0.3s						
SC01				ASSG		06 07 20.6	
	comp=Z,15μm,0.3s						
SC01				*eS*	**Sn**	**06 07 21.0**	**+1.9**
SC01				ATSG		06 07 23.1	
	comp=Z,45μm,0.3s						
SC01				IAML		06 07 33.5	
	comp=Z,14μm,0.9s						
MLPR	**Magueyes Islan**	**1.92**	**106**	⇓*eP*	**Pn**	**06 06 55.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.92**	**106**	*eS*	**Sn**	**06 07 20.6**	**+0.7**
MLPR	**Magueyes Islan**	**1.92**	**106**	Pn	**Pn**	**06 06 55.8**	**+0.4**
LOBA2	**Hotel Casa Bon**	**2.05**	**258**	ASPG		06 06 57.1	
	comp=Z,3μm,0.3s						
LOBA2				⇓*iP*	**Pn**	**06 06 57.5**	**+0.6**
LOBA2				ATPG		06 06 58.2	
	comp=Z,11μm,0.3s						
LOBA2				ASSG		06 07 22.2	
	comp=Z,26μm,0.3s						
LOBA2				*eS*	**Sn**	**06 07 22.6**	**-0.1**
LOBA2				ATSG		06 07 23.9	
	comp=Z,86μm,0.3s						
LOBA2				IAML		06 07 27.9	
	comp=Z,3μm,0.7s						
GBPR	**Guanica, Bosqu**	**2.07**	**105**	⇑*eP*	**Pn**	**06 06 58.0**	**+0.7**
GBPR	**Guanica, Bosqu**	**2.07**	**105**	*eS*	**Sn**	**06 07 25.2**	**+1.9**
AOPR	**Arecibo Observ**	**2.12**	**94**	⇑*eP*	**Pn**	**06 06 58.0**	**0.0**
AOPR	**Arecibo Observ**	**2.12**	**94**		**Pn**	**06 06 57.9**	**-0.1**
AOPR				IAML		06 07 28.6	
	comp=N,16μm,0.5s						
AOPR	**Arecibo Observ**	**2.12**	**94**	*eP*	**Pn**	**06 06 57.8**	**-0.2**
AOPR				*eS*	**Sn**	**06 07 24.1**	**-0.5**
SDDR	**Presa de Saban**	**2.23**	**282**		**Pn**	**06 07 01.1**	**+1.8**
SDDR				IAML		06 07 34.0	
	comp=N,11μm,0.9s						
SDDR				IAML		06 07 36.7	
	comp=N,15μm,0.9s						
SDDR	**Presa de Saban**	**2.23**	**282**	*eP*	**Pn**	**06 07 01.3**	**+1.9**
SDDR	**Presa de Saban**	**2.23**	**282**	*eP*	**Pn**	**06 07 00.8**	**+1.5**
SDDR				*eS*	**Sn**	**06 07 29.2**	**+2.1**
SDDR	**Presa de Saban**	**2.23**	**282**	ASPG		06 07 00.8	
	comp=Z,1μm,0.5s						
SDDR				⇓*iP*	**Pn**	**06 07 01.2**	**+1.8**
SDDR				ATPG		06 07 03.0	
	comp=Z,5μm,0.5s						
SDDR				ASSG		06 07 29.2	
	comp=Z,4μm,0.3s						
SDDR				*eS*	**Sn**	**06 07 29.6**	**+2.6**
SDDR				ATSG		06 07 31.1	
	comp=Z,9μm,0.3s						
SDDR				IAML		06 07 35.9	
	comp=Z,7μm,0.6s						
OBIP	**Obispado Ponce**	**2.31**	**101**	⇓*eP*	**Pn**	**06 06 59.7**	**-0.6**
OBIP	**Obispado Ponce**	**2.31**	**101**	*eS*	**Sn**	**06 07 28.9**	**+0.2**
OBIP	**Obispado Ponce**	**2.31**	**101**		**Pn**	**06 06 59.9**	**-0.4**
CELP	**Cerrillos**	**2.33**	**100**	⇓*eP*	**Pn**	**06 07 01.1**	**+0.5**
CELP	**Cerrillos**	**2.33**	**100**	*eS*	**Sn**	**06 07 30.1**	**+0.9**
CELP	**Cerrillos**	**2.33**	**100**		**Pn**	**06 07 01.1**	**+0.5**
CELP				IAML		06 07 34.7	
	comp=E,4μm,0.7s						
CELP				IAML		06 07 39.8	
	comp=N,5μm,0.6s						
EMPR	**Esperanza - Ma**	**2.33**	**90**	⇑*eP*	**Pn**	**06 07 00.5**	**-0.1**
EMPR	**Esperanza - Ma**	**2.33**	**90**	*eS*	**Sn**	**06 07 29.4**	**+0.1**
EMPR	**Esperanza - Ma**	**2.33**	**90**		**Pn**	**06 07 00.3**	**-0.2**
EMPR				IAML		06 07 36.7	
	comp=N,12μm,0.5s						
EMPR				IAML		06 07 38.7	
	comp=E,13μm,0.5s						
LONE2	**Loma La Sidra**	**2.36**	**271**	⇓*iP*	**Pn**	**06 07 02.2**	**+1.2**
LONE2				IAML		06 07 37.7	
	comp=Z,3μm,0.5s						
LOPP1	**Punta Rusia, P**	**2.48**	**303**	ASPG		06 07 01.9	
	comp=Z,2μm,0.3s						
LOPP1				*iP*	**Pn**	**06 07 02.3**	**-0.2**
LOPP1				ATPG		06 07 04.0	
	comp=Z,4μm,0.3s						
LOPP1				ASSG		06 07 32.5	
	comp=Z,2μm,0.3s						
LOPP1				*eS*	**Sn**	**06 07 32.9**	**+0.2**
LOPE2	**Hotel El Peder**	**2.67**	**260**	⇓*iP*	**Pn**	**06 07 06.6**	**+1.7**
LOPE2				*eS*	**Sn**	**06 07 38.2**	**+1.2**
LOPE2				IAML		06 07 48.3	
	comp=Z,3μm,1.1s						
SJG	**San Juan**	**2.72**	**98**	P	**Pn**	**06 07 04.3**	**-1.3**
	comp=Z,91nm,0.3s,baz=316,slow=11,SNR=93						
SJG				S	**Sn**	**06 07 36.2**	**-2.1**
	comp=Z,230nm,0.3s,baz=253,slow=19,SNR=4.2						
SJG	**San Juan**	**2.72**	**98**		**Pn**	**06 07 05.1**	**-0.5**
SJG				IAML		06 07 41.1	
	comp=Z,3μm,0.4s						
SJG				IAML		06 07 44.9	
	comp=Z,3μm,0.5s						
SJG	**San Juan**	**2.72**	**98**	*eP*	**Pn**	**06 07 05.2**	**-0.4**
SJG	**San Juan**	**2.72**	**98**	*eP*	**Pn**	**06 07 05.5**	**-0.2**
SJG				*eS*	**Sn**	**06 07 39.5**	**+1.2**
GCPR	**Guaynabo City**	**2.76**	**94**	⇑*eP*	**Pn**	**06 07 06.5**	**+0.3**
GCPR	**Guaynabo City**	**2.76**	**94**	*eS*	**Sn**	**06 07 37.9**	**-1.4**
GCPR	**Guaynabo City**	**2.76**	**94**	Pn	**Pn**	**06 07 05.2**	**-1.0**
LODA1	**ITESIL, Dajabo**	**2.77**	**292**	*iP*	**Pn**	**06 07 06.2**	**-0.1**
LODA1				*eS*	**Sn**	**06 07 39.2**	**-0.3**
LODA1				IAML		06 07 54.8	
	comp=Z,4μm,0.3s						
IGPR	**InterUniversit**	**2.79**	**101**	⇑*eP*	**Pn**	**06 07 06.8**	**+0.2**
PDPR	**Patillas Dam,**	**2.86**	**99**		**Pn**	**06 07 07.7**	**+0.2**
PDPR				IAML		06 07 52.5	
	comp=E,2μm,0.5s						
CBYP	**Canovanas**	**2.98**	**94**	⇑*eP*	**Pn**	**06 07 08.3**	**-0.8**
CBYP	**Canovanas**	**2.98**	**94**		**Pn**	**06 07 08.5**	**-0.6**
HUMP	**Col San Antoni**	**3.00**	**97**	⇑*eP*	**Pn**	**06 07 09.2**	**-0.1**
HUMP	**Col San Antoni**	**3.00**	**97**	*eS*	**Sn**	**06 07 43.4**	**-1.5**
HUMP	**Col San Antoni**	**3.00**	**97**	Pn	**Pn**	**06 07 09.7**	**+0.4**
HUMP				IAML		06 07 51.9	
	comp=N,3μm,0.7s						
PAPH	**Port-au-Prince**	**3.14**	**271**	⇓*iP*	**Pn**	**06 07 12.4**	**+1.2**
PAPH				IAML		06 08 14.7	
	comp=Z,805nm,0.8s						
MTP	**Monte Pirata**	**3.29**	**97**	⇑*eP*	**Pn**	**06 07 13.6**	**+0.5**
MTP	**Monte Pirata**	**3.29**	**97**	*eS*	**Sn**	**06 07 51.3**	**-0.4**
MTP	**Monte Pirata**	**3.29**	**97**	Pn	**Pn**	**06 07 13.5**	**+0.4**
MTP				IAML		06 07 56.4	
	comp=E,2μm,0.3s						
JAKH	**Jacmel**	**3.37**	**266**	Pn	**Pn**	**06 07 14.9**	**+0.8**
JAKH				IAML		06 07 56.4	
	comp=N,3μm,0.5s						
JAKH				IAML		06 07 59.7	
	comp=E,3μm,0.7s						
JAKH	**Jacmel**	**3.37**	**266**	⇓*iP*	**Pn**	**06 07 15.3**	**+1.1**
JAKH				*eS*	**Sn**	**06 07 52.9**	**-0.7**
JAKH				IAML		06 08 18.2	
	comp=Z,545nm,0.8s						
LGNH	**Logne**	**3.44**	**271**		**Pn**	**06 07 15.9**	**+0.9**
LGNH				IAML		06 08 00.6	
	comp=E,1μm,0.8s						
LGNH				IAML		06 08 24.0	
	comp=N,2μm,0.9s						
LGNH	**Logne**	**3.44**	**271**	*iP*	**Pn**	**06 07 16.4**	**+1.3**
CUPR	**Culebra, Puert**	**3.52**	**93**	⇑*eP*	**Pn**	**06 07 14.8**	**-1.4**
CUPR	**Culebra, Puert**	**3.52**	**93**	*eS*	**Sn**	**06 07 53.8**	**-3.5**
CUPR	**Culebra, Puert**	**3.52**	**93**	Pn	**Pn**	**06 07 15.3**	**-1.0**
GRTK	**Grand Turk**	**3.60**	**326**	Pn	**Pn**	**06 07 15.4**	**-1.8**
GRTK	**Grand Turk**	**3.60**	**326**	⇓*iP*	**Pn**	**06 07 15.5**	**-1.8**
GRTK				*eS*	**Sn**	**06 07 54.8**	**-4.4**
GRTK				IAML		06 07 55.9	
	comp=Z,3μm,0.3s						
STVI	**Saint Thomas**	**3.83**	**92**	⇑*eP*	**Pn**	**06 07 19.2**	**-1.1**
STVI	**Saint Thomas**	**3.83**	**92**		**Pn**	**06 07 19.4**	**-0.9**
STVI				IAML		06 08 07.3	
	comp=N,2μm,0.6s						
CDVI	**St. Croix**	**4.08**	**100**	⇑*eP*	**Pn**	**06 07 23.2**	**-0.5**
CDVI	**St. Croix**	**4.08**	**100**		**Pn**	**06 07 23.8**	**+0.1**
CDVI				IAML		06 08 38.2	
	comp=N,2μm,0.6s						
CDVI	**St. Croix**	**4.08**	**100**	*eP*	**Pn**	**06 07 22.6**	**-1.1**
CDVI	**St. Croix**	**4.08**	**100**	*eS*	**Sn**	**06 08 09.1**	**-1.6**
MASC	**Masc**	**5.22**	**289**	*eP*	**Pn**	**06 07 36.2**	**-2.9**
MASC				*eS*	**Sn**	**06 08 31.4**	**-6.7**
MASC				IAML		06 08 40.4	
	comp=E,288nm,0.5s						
MASC				IAML		06 08 41.5	
	comp=N,282nm,0.5s						
SMRT	**St. Maarten**	**5.63**	**94**	Pn	**Pn**	**06 07 43.5**	**-1.1**
SMRT	**St. Maarten**	**5.63**	**94**	*eP*	**Pn**	**06 07 43.6**	**-1.1**
GTBY	**Guantanamo Bay**	**5.96**	**285**	Pn	**Pn**	**06 07 46.9**	**-2.1**
GTBY	**Guantanamo Bay**	**5.96**	**285**	*eP*	**Pn**	**06 07 47.0**	**-2.1**
GTBY	**Guantanamo Bay**	**5.96**	**285**	*eP*	**Pn**	**06 07 46.8**	**-2.1**
GTBY				*eS*	**Sn**	**06 08 51.3**	**-4.7**
MOAC	**Moa**	**6.02**	**292**	*eP*	**Pn**	**06 07 45.8**	**-4.1**
MOAC				*eS*	**Sn**	**06 08 51.6**	**-5.9**
MOAC				IAML		06 08 53.7	
	comp=N,214nm,0.5s						
MOAC				IAML		06 08 54.5	
	comp=E,153nm,0.1s						
SKOC	**St. Kitts, UWI**	**6.08**	**101**	*eP*	**Pn**	**06 07 54.2**	**+3.6**
NVDO	**Nevis, Disaste**	**6.22**	**102**	*eP*	**Pn**	**06 07 54.7**	**+2.1**
HATO	**Hato, Curacao**	**6.30**	**180**	Pn	**Pn**	**06 07 55.0**	**+1.4**
RCC	**Rio Carpintero**	**6.51**	**284**	*eP*	**Pn**	**06 07 53.7**	**-2.8**
RCC				*eS*	**Sn**	**06 09 03.9**	**-5.4**
RCC				IAML		06 09 11.8	
	comp=E,60nm,0.5s						
RCC				IAML		06 09 12.2	
	comp=N,63nm,0.6s						
MBFL	**Flemmings, Mon**	**6.69**	**104**	*eP*	**Pn**	**06 08 00.6**	**+1.6**
MLYT	**Lee's Yard**	**6.72**	**104**	*eP*	**Pn**	**06 08 00.6**	**+1.2**
MLYT	**Lee's Yard**	**6.72**	**104**	*eS*	**Sn**	**06 09 14.6**	**+0.1**
ANWB	**Willy Bob**	**6.90**	**96**	Pn	**Pn**	**06 07 58.9**	**-2.9**
ANWB	**Willy Bob**	**6.90**	**96**	*eP*	**Pn**	**06 07 59.5**	**-2.3**
ANWB	**Willy Bob**	**6.90**	**96**	*eS*	**Sn**	**06 09 11.9**	**-6.9**
ANBD	**Bethesda, Anti**	**7.03**	**101**	*eP*	**Pn**	**06 08 02.0**	**-1.5**
ANBD	**Bethesda, Anti**	**7.03**	**101**	*eS*	**Sn**	**06 09 15.5**	**-6.5**
HLGC	**Holguin**	**7.07**	**291**	*eP*	**Pn**	**06 08 02.2**	**-1.9**
HLGC				*eS*	**Sn**	**06 09 18.2**	**-4.9**
HLGC				IAML		06 09 25.2	
	comp=N,106nm,0.4s						
HLGC				IAML		06 09 27.4	
	comp=E,81nm,0.2s						
URIC	**Uribia, Colomb**	**7.37**	**204**	Pn	**Pn**	**06 08 07.9**	**-0.2**
URIC	**Uribia, Colomb**	**7.37**	**204**	*eP*	**Pn**	**06 08 08.2**	**0.0**
GWJ	**Greenwich**	**7.37**	**268**	*i* P	**Pn**	**06 08 10.0**	**+1.7**
HOJ	**Hope**	**7.39**	**267**	*i* P	**Pn**	**06 08 11.6**	**+3.1**
ABD	**La Joyeuse, An**	**7.44**	**105**	*eP*	**Pn**	**06 08 05.3**	**-3.8**
ABD	**La Joyeuse, An**	**7.44**	**105**	*eP*	**Pn**	**06 08 06.3**	**-2.8**
STH	**Stony Hill**	**7.45**	**268**	*i* P	**Pn**	**06 08 09.6**	**+0.3**
CBE	**Ff, Capester**	**7.46**	**108**		**Pn**	**06 08 11.4**	**+2.0**
CBE	**Ff, Capester**	**7.46**	**108**	*eP*	**Pn**	**06 08 11.5**	**+2.2**
CBE	**Ff, Capester**	**7.46**	**108**	*eS*	**Sn**	**06 09 37.5**	**+5.1**
TBG	**Guadaloupe-3**	**7.50**	**110**	*eP*	**Pn**	**06 08 11.1**	**+1.2**
TDBA	**Terre de Bas,**	**7.51**	**110**	Pn	**Pn**	**06 08 11.7**	**+1.6**
TDBA	**Terre de Bas,**	**7.51**	**110**	*eP*	**Pn**	**06 08 11.1**	**+1.0**
DABV	**Dabajuro**	**7.71**	**192**	*eP*	**Pn**	**06 08 14.8**	**+1.9**
LMGC	**Las Mercedes**	**7.73**	**283**	*eP*	**Pn**	**06 08 09.5**	**-3.5**
LMGC				*eS*	**Sn**	**06 09 32.5**	**-6.4**
LMGC				IAML		06 09 40.8	
	comp=N,58nm,0.5s						
LMGC				IAML		06 09 41.0	
	comp=E,41nm,0.8s						
MAGL	**Barre de l'ile**	**7.79**	**108**	*eP*	**Pn**	**06 08 16.1**	**+2.2**
DSLB	**Salisbury**	**7.86**	**112**	*eP*	**Pn**	**06 08 15.2**	**+0.4**
H05N1	**Guadeloupe/Mar**	**7.88**	**105**	P	**Pn**	**06 08 15.0**	**-0.1**
	SNR=38						
H05N1				S	**Sn**	**06 09 40.8**	**-1.9**
MDN	**Morne-Daniel**	**7.93**	**112**	*eP*	**Pn**	**06 08 14.9**	**-0.9**
MTDJ	**Mount Denham**	**8.12**	**269**	Pn	**Pn**	**06 08 18.4**	**0.0**
MTDJ	**Mount Denham**	**8.12**	**269**	*eP*	**Pn**	**06 08 18.8**	**+0.3**
PCM	**Pelee Case Pet**	**8.31**	**115**	*eP*	**Pn**	**06 08 22.0**	**+1.0**
SVN	**Savane Anatole**	**8.33**	**115**		**Pn**	**06 08 22.0**	**+0.7**
SVN	**Savane Anatole**	**8.33**	**115**	*eP*	**Pn**	**06 08 21.9**	**+0.7**
CRJC	**Cerrejon, Guaj**	**8.35**	**207**	*eP*	**Pn**	**06 08 20.2**	**-1.3**
PML	**Morne Lenard**	**8.35**	**115**	*eP*	**Pn**	**06 08 23.3**	**+1.8**
GBMF	**Grand Be**	**8.36**	**115**	*eP*	**Pn**	**06 08 24.1**	**+2.5**
BAMF	**Morne Balai**	**8.36**	**115**	*eP*	**Pn**	**06 08 22.5**	**+0.8**
FDF	**Fort de France**	**8.40**	**115**	Pn	**Pn**	**06 08 21.7**	**-0.5**
FDF	**Fort de France**	**8.40**	**115**	*eP*	**Pn**	**06 08 20.5**	**-1.6**
BIRV	**Birongo**	**8.41**	**161**	Pn	**Pn**	**06 08 23.9**	**+1.5**
BIM	**Bigot**	**8.57**	**116**		**Pn**	**06 08 25.4**	**+0.9**
BIM	**Bigot**	**8.57**	**116**	*eP*	**Pn**	**06 08 25.2**	**+0.7**
BIM	**Bigot**	**8.57**	**116**	*eP*	**Pn**	**06 08 25.5**	**+1.0**
TRMF	**Trois Ilets**	**8.57**	**116**	*eP*	**Pn**	**06 08 25.2**	**+0.7**
ZAM	**Aeronautique**	**8.58**	**116**	*eP*	**Pn**	**06 08 24.9**	**+0.3**
LPMF	**Morne Lapointe**	**8.63**	**116**	*eP*	**Pn**	**06 08 26.0**	**+0.7**
CCCC	**Cccc**	**8.69**	**289**	*eP*	Pn	06 08 17.1	-8.8
CCCC				*eS*	Sn	06 09 42.9	-19
MPOM	**Morne Pois Mar**	**8.78**	**116**	Pn	**Pn**	**06 08 28.4**	**+1.1**
MPOM	**Morne Pois Mar**	**8.78**	**116**	*eP*	**Pn**	**06 08 28.7**	**+1.4**
H05S1	**Guadeloupe/Mar**	**8.81**	**116**	P	**Pn**	**06 08 29.2**	**+1.6**
	SNR=52						
H05S1				S	**Sn**	**06 10 03.2**	**-2.0**
SLCP	**Castries, St.**	**8.89**	**119**	*eP*	**Pn**	**06 08 29.5**	**+0.7**
SMRC	**Santa Marta, M**	**8.89**	**215**	*eP*	**Pn**	**06 08 25.8**	**-2.9**
SLBI	**Saint Lucia, B**	**8.89**	**119**	*eP*	**Pn**	**06 08 29.0**	**+0.2**
CVALL	**Valledupar, Ce**	**8.97**	**208**	*eP*	**Pn**	**06 08 29.1**	**-0.8**
SVB	**Belmont**	**9.08**	**124**	*eP*	**Pn**	**06 08 32.7**	**+1.3**
GCMP	**Grenada, Carri**	**9.43**	**128**	*eP*	**Pn**	**06 08 35.8**	**-0.3**
GRHS	**Sauteurs**	**9.45**	**130**	*eP*	**Pn**	**06 08 37.5**	**+1.1**
GRFF	**Grenada Fort F**	**9.49**

POPC Popayan, Colom 17.57 206 eP Pn 06 10 22.4 +1.1
NHSC New Hope 17.66 328 P Pn 06 10 24.7 +2.7
baz=143
BOAV Boa Vista 18.04 152 eP Pn 06 10 27.2 +0.6
FLOC Florencia 18.05 202 eP Pn 06 10 29.1 +2.3
255A Hazlehurst 18.07 320 P P 06 10 25.6 -0.1
255A IAmb IAmb 06 10 29.3
comp=Z,29nm,0.9s
PTLC Puerto Leguiza 19.10 198 eP Pn 06 10 41.4 +2.1
JSC Jenkinsville 19.14 328 IAmb IAmb 06 11 04.9
comp=Z,44nm,1.0s
W57A Gilead 19.24 332 IAmb IAmb 06 10 48.0
comp=Z,31nm,0.8s
U59A Littleton 19.40 338 IAmb IAmb 06 10 44.6
comp=Z,25nm,1.0s
V58A Windy Hill, Pi 19.41 335 IAmb IAmb 06 10 51.5
comp=Z,25nm,0.9s
HODGE Hodges 19.63 326 IAmb IAmb 06 10 44.4
comp=Z,23nm,0.8s
GOGA Godfrey 19.70 322 P P 06 10 43.4 -0.2
GOGA IAmb IAmb 06 10 49.3
comp=Z,45nm,1.1s
GOGA Godfrey 19.70 322 P Pn 06 10 45.0 -1.1
baz=135,SNR=12
PAULI Pauline 19.85 327 P P 06 10 44.7 -0.4
PAULI IAmb IAmb 06 10 47.2
comp=Z,29nm,1.0s
KMSC Kings Mountain 19.86 329 P P 06 10 44.6 -0.7
KMSC IAmb IAmb 06 11 05.8
comp=Z,17nm,0.7s
KMSC Kings Mountain 19.86 329 P P 06 10 45.1 -0.2
baz=143
T59A Double "B" Far 19.87 339 IAmb IAmb 06 10 49.5
comp=Z,38nm,1.1s
MTO3 Montecristo 19.96 261 P P 06 10 45.6 -1.2
152A Waverly Hall 19.96 318 P P 06 10 46.6 +0.1
152A IAmb IAmb 06 10 52.3
comp=Z,21nm,0.8s
Y52A Lilburn 20.38 322 P P 06 10 50.0 -0.8
V55A Taylorsville 20.38 330 P P 06 10 51.9 +1.0
V55A IAmb IAmb 06 11 06.1
comp=Z,20nm,0.7s
OTAV Otavalo 20.40 208 P P 06 10 52.3 +0.5
OTAV IAmb IAmb 06 10 60.0
comp=Z,45nm,1.1s
OTAV Otavalo 20.40 208 eP Pn 06 10 54.5 -0.4
OTAV Otavalo 20.40 208 eP Pn 06 10 54.6 -0.3
U56A King 20.41 333 P P 06 10 50.9 -0.3
U56A IAmb IAmb 06 11 13.2
comp=Z,30nm,1.0s
250A Grady 20.55 314 P P 06 10 51.6 -1.2
250A IAmb IAmb 06 10 59.4
comp=Z,43nm,1.0s
BG3 Lake Jocassee 20.57 326 IAmb IAmb 06 10 55.1
comp=Z,30nm,0.9s
Z51A Franklin 20.68 319 IAmb IAmb 06 11 00.7
comp=Z,32nm,0.8s
MDP Montagnes des 20.79 128 P P 06 10 53.5 -2.0
comp=Z,14nm,0.9s,baz=319,slow=14,SNR=5.7
R58B Mineral 20.88 340 IAmb IAmb 06 11 01.7
comp=Z,30nm,0.9s
CBN Corbin Frederi 20.94 341 P P 06 10 58.2 +1.3
baz=157,SNR=6.6
V53A Saluda 21.02 327 IAmb IAmb 06 11 00.1
comp=Z,31nm,0.8s
S57A Dark Hollow, R 21.07 338 IAmb IAmb 06 11 18.2
comp=Z,30nm,1.1s
BLA Blacksburg 21.16 334 IAmb IAmb 06 11 15.1
comp=Z,29nm,0.8s
BLA Blacksburg 21.16 334 P P 06 11 00.6 +1.3
baz=149,SNR=5.4
U54A Nelsons Funny 21.21 330 IAmb IAmb 06 11 02.5
comp=Z,28nm,0.8s
TKL Tuckaleechee C 21.52 325 P P 06 11 02.3 -0.8
comp=Z,12nm,0.8s,baz=156,slow=13,SNR=13
TKL S S 06 14 54.8 -0.2
comp=Z,11nm,0.7s,baz=109,slow=16,SNR=3.0
TKL Tuckaleechee C 21.52 325 IAmb IAmb 06 11 20.2
comp=Z,19nm,0.7s
V52A Sevierville 21.56 326 P P 06 11 03.1 -0.5
V52A IAmb IAmb 06 11 20.3
comp=Z,54nm,1.4s
LRAL Lakeview Retre 21.68 315 P P 06 11 05.4 +0.6
LRAL IAmb IAmb 06 11 29.4
comp=Z,31nm,0.9s
R55A Marlinton 21.96 336 IAmb IAmb 06 11 33.8
comp=Z,27nm,0.8s
S54A Dingess, Beckl 22.04 333 IAmb IAmb 06 11 10.6
comp=Z,34nm,0.8s
TZTN Tazewell 22.07 327 IAmb IAmb 06 11 34.2
comp=Z,54nm,1.4s
TZTN Tazewell 22.07 327 P P 06 11 09.8 +0.8
baz=141,SNR=5.0
CCIG Comitan 22.20 268 P P 06 11 11.8 +1.1
MVL Millersville 22.34 345 P P 06 11 11.2 -0.4
MVL IAmb IAmb 06 11 14.8
comp=Z,30nm,1.2s
Z47A Carrollton 22.50 314 IAmb IAmb 06 11 16.6
comp=Z,56nm,1.4s
TBTG Tabatinga, AM 22.57 182 eP P 06 11 14.2 0.0
X48A Hartselle 22.60 318 P P 06 11 14.4 +0.2
S51A Beattyville 22.95 329 IAmb IAmb 06 11 47.7
comp=Z,46nm,1.5s
ODNJ Ogdensburg 23.01 349 IAmb IAmb 06 11 38.6
comp=Z,21nm,0.7s
MACA Manacapuru-AM 23.04 158 eP P 06 11 19.4 +0.7
MCWV Mont Chateau 23.07 338 P P 06 11 20.7 +1.9
baz=153
N59A State Game Lan 23.08 347 P P 06 11 20.5 +1.6
baz=163
V48A Smith Brothers 23.31 321 IAmb IAmb 06 11 46.8
comp=Z,36nm,1.2s
SSPA Standing Stone 23.34 343 P P 06 11 22.9 +1.6
baz=158
PLAL Pickwick Lake 23.59 318 P P 06 11 24.6 +1.0
PLAL IAmb IAmb 06 11 50.7
comp=Z,26nm,0.8s
R50A Paris 23.81 329 IAmb IAmb 06 11 29.2
comp=Z,20nm,0.8s
P52A Corning 23.93 334 P P 06 11 27.9 +1.3
baz=148
HRV Adam Dziewonsk 24.02 355 P P 06 11 29.6 +2.2
baz=174
O53A New Philadelph 24.09 337 IAmb IAmb 06 11 31.6
comp=Z,22nm,0.8s
O53A New Philadelph 24.09 337 P P 06 11 31.0 +2.9
baz=151,SNR=5.3
L59A Walton 24.16 349 IAmb IAmb 06 11 31.5
comp=Z,20nm,0.9s
OXF Oxford 24.17 315 P P 06 11 30.2 +1.3
baz=126,SNR=5.3
WVT Waverly 24.18 320 P P 06 11 27.6 -1.3
WVT Waverly 24.18 320 P P 06 11 29.9 +1.0
baz=132
P51A Williamsport 24.19 333 IAmb IAmb 06 11 56.4
comp=Z,30nm,1.1s
N54A Moraine State 24.29 339 IAmb IAmb 06 11 56.4
comp=Z,33nm,1.1s
N54A Moraine State 24.29 339 P P 06 11 31.7 +1.8
baz=154
N53A Lisbon 24.44 338 IAmb IAmb 06 11 35.7
comp=Z,33nm,0.9s
L56A Greenwood 24.66 345 IAmb IAmb 06 11 37.0
comp=Z,19nm,0.9s
M54A Oil Creek Stat 24.67 341 IAmb IAmb 06 12 04.7
comp=Z,15nm,0.8s
M54A Oil Creek Stat 24.67 341 P P 06 11 34.9 +1.5
baz=155
CMIG Matias Romero 24.69 271 P P 06 11 33.7 -0.1
comp=Z,0.7nm,0.3s,baz=67,slow=7.6,SNR=1.7
CMIG LR LR 06 21 37.9
comp=Z,36nm,18.7s,baz=20,slow=37
WCI Wyandotte Cave 24.78 326 P P 06 11 36.3 +2.0
WCI Wyandotte Cave 24.78 326 P P 06 11 36.2 +1.9
baz=138
ACSO Alum Creek Sta 24.78 334 P P 06 11 37.7 +3.3
baz=147,SNR=5.4
MALB Monte Alegre 24.89 143 eP P 06 11 35.2 -0.4
P49A Miami Univ. Ec 24.98 330 IAmb IAmb 06 11 40.5
comp=Z,32nm,1.1s
P49A Miami Univ. Ec 24.98 330 P P 06 11 39.2 +2.9
baz=143,SNR=5.1
MCPB Macapa, AP 25.07 137 eP P 06 11 36.7 -0.5
P48A Milroy 25.27 329 P P 06 11 38.3 -0.5
O49A Covington 25.33 332 IAmb IAmb 06 11 43.9
comp=Z,22nm,0.8s
O48B Farmland 25.76 331 P P 06 11 46.2 +3.0
baz=143
OLIL Olney 26.12 324 P P 06 11 47.9 +1.4
OLIL IAmb IAmb 06 12 14.8
comp=Z,22nm,1.1s
ITTB Itaituba 26.22 149 eP P 06 11 47.1 -0.5
P46A Rosedale 26.28 327 IAmb IAmb 06 12 17.1
comp=Z,20nm,0.8s
CZSB Cruzeiro do Su 26.33 188 eP P 06 11 49.7 +1.1
W41B Gary Mavity, V 26.47 313 IAmb IAmb 06 12 17.9
comp=Z,26nm,1.2s
W41B Gary Mavity, V 26.47 313 P P 06 11 51.1 +1.4
baz=123
N47A Urbana 26.51 331 IAmb IAmb 06 11 51.7
comp=Z,19nm,0.8s
X40A Basin Creek Fa 26.52 312 IAmb IAmb 06 12 17.1
comp=Z,18nm,0.8s
X40A Basin Creek Fa 26.52 312 P P 06 11 51.9 +1.8
baz=121
WHAR Wooly Hollow 26.56 314 IAmb IAmb 06 12 18.7
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 26.78 315 IAmb IAmb 06 12 19.0
comp=Z,16nm,0.9s
SFIN Lafayette 26.80 328 P P 06 11 53.9 +1.4
baz=139
CCM Cathedral Cave 27.50 320 P P 06 11 58.2 -0.7
CCM IAmb IAmb 06 12 25.7
comp=Z,19nm,0.8s
CCM Cathedral Cave 27.50 320 P P 06 11 59.4 +0.5
baz=129
SADO Sadowa 27.52 344 LR LR 06 23 19.2
comp=Z,54nm,18.9s,baz=195,slow=37
U40A Yellville 27.53 315 P P 06 12 00.5 +1.2
baz=124
W39A Magazine 27.55 312 P P 06 12 01.5 +2.1
baz=121
ETMB Extrema 28.28 174 eP P 06 12 06.2 +0.2
R40A Maddies Statio 28.28 319 IAmb IAmb 06 12 32.0
comp=Z,10nm,0.8s
435B Jarrell 28.63 301 IAmb IAmb 06 12 36.7
comp=Z,20nm,0.9s
435B Jarrell 28.63 301 P P 06 12 10.9 +1.9
baz=109
NPGB Novo Progresso 28.73 151 eP P 06 12 09.3 -0.8
P40A Paris 28.92 321 IAmb IAmb 06 12 38.0
comp=Z,15nm,0.8s
TMAB Tom-Au,PA,Br 29.21 133 eP P 06 12 13.0 -1.3
TUL1 Leonard 29.33 312 P P 06 12 16.5 +1.4
baz=119,SNR=7.8
L40A Anamosa 30.15 326 IAmb IAmb 06 12 48.4
comp=Z,11nm,1.0s
JFWS Jewell Farm 30.26 328 P P 06 12 24.3 +1.1
baz=137,SNR=7.3
T35A Sooner Cattle 30.33 313 P P 06 12 23.5 -0.5
JCT Junction City 30.37 299 P P 06 12 25.0 +0.6
baz=106
ABTX Abilene, Hawle 30.89 303 P P 06 12 30.1 +1.0
baz=110,SNR=6.2
PRPB Parauapebas 30.97 141 eP P 06 12 28.6 -1.3
WMOK Wichita Mounta 31.00 307 P P 06 12 29.7 -0.2
WMOK P 06 12 55.8 +0.6
WMOK IAmb IAmb 06 12 56.3
comp=Z,15nm,0.8s
WMOK Wichita Mounta 31.00 307 P P 06 12 30.7 +0.7
baz=114,SNR=8.1
SCIA State Center 31.14 324 P P 06 12 32.0 +0.9
baz=131
I40A Norwalk 31.16 329 IAmb IAmb 06 12 33.2
comp=Z,13nm,1.0s
NNA Nana 31.28 195 LR LR 06 26 04.0
comp=Z,40nm,20.9s,baz=311,slow=38
CLDB Colider 31.97 155 eP P 06 12 39.0 +0.4
PDRB Porto dos Gac 32.28 157 eP P 06 12 41.4 +0.1
VILB Vilhena 32.44 164 eP P 06 12 43.3 +0.5
R32A Long Quarter, 32.59 314 P P 06 12 44.5 +0.7
R32A pP pP 06 13 10.2 +1.2
R32A sP 06 13 23.6 +1.3
SPMN Marine on St. 33.20 329 P P 06 12 50.2 +1.1
baz=136
TXAR Lajitas Array 33.37 295 P P 06 12 51.6 +0.8
comp=Z,2.3nm,0.6s,baz=110,slow=9.5,SNR=29
TXAR PcP PcP 06 15 30.7 +0.6
comp=Z,1.6nm,0.6s,baz=133,slow=4.4,SNR=6.9
TXAR ScP ScP 06 19 05.7 +1.5
comp=Z,1.5nm,1.0s,baz=116,slow=5.7,SNR=6.6
TXAR LR LR 06 27 49.3
comp=Z,22nm,21.3s,baz=332,slow=38
TX31 Lajitas Ar. Si 33.37 295 IAmb IAmb 06 12 53.6
comp=Z,8.7nm,0.8s
CBKS Cedar Bluff 33.48 314 P P 06 12 52.8 +1.2
baz=118
MSTX Muleshoe 33.80 304 P P 06 12 55.5 +0.9
baz=108,SNR=8.0
ECSD EROS Data Cent 34.23 323 P P 06 12 58.1 +0.1
ECSD EROS Data Cent 34.23 323 P P 06 12 58.7 +0.7
baz=129,SNR=8.4
SMTB Santa Maria do 34.43 140 eP P 06 12 59.3 -0.7
LPAZ La Paz 34.59 179 P P 06 13 01.8 -0.3
comp=Z,2.2nm,0.4s,baz=332,slow=3.7,SNR=15
LPAZ PcP PcP 06 15 33.8 -0.5
comp=Z,3.2nm,0.8s,baz=19,slow=4.1,SNR=3.0
LPAZ La Paz 34.59 179 P P 06 13 01.7 -0.3
LPAZ La Paz 34.59 179 eP P 06 13 00.8 -1.2
LPAZ La Paz 34.59 179 eP P 06 13 03.9 +1.9
SNDB Serra Nova Dou 34.96 149 eP P 06 13 03.9 -0.6
PTLB Pontes e Lacer 35.11 163 eP P 06 13 05.5 -0.3
SIV San Ignacio 35.16 167 LR LR 06 26 34.4
comp=Z,75nm,18.6s,baz=98,slow=34
MNTX Cornudas Mount 35.31 299 P P 06 13 09.6 +2.2
baz=103
F33A 5 Mile Ranch, 35.40 326 P P 06 13 08.2 +0.2
F33A IAmb IAmb 06 13 36.4
comp=Z,12nm,1.2s
F33A sP 06 13 47.4 +0.8
NBPS Pedro II - PI 35.42 127 eP P 06 13 08.7 0.0
KSCO Kaye Shedlock' 35.58 312 P P 06 13 10.7 +0.9
KSCO pP pP 06 13 36.3 +1.0
KSCO Kaye Shedlock' 35.58 312 P P 06 13 11.3 +1.5
baz=115
B35A Bob, Littlefor 35.91 332 IAmb IAmb 06 13 39.8
comp=Z,9.4nm,0.8s
SCHQ Schefferville 36.29 2 P P 06 13 14.8 -0.7
comp=Z,9.6nm,0.8s,baz=192,slow=6.8,SNR=25
SCHQ pP pwP 06 13 42.4 -0.4
comp=Z,6.4nm,0.7s,baz=174,slow=7.3,SNR=4.4
SCHQ Schefferville 36.29 2 P P 06 13 15.5 0.0
SCHQ IAmb IAmb 06 13 42.9
comp=Z,9.2nm,0.8s
SALV Santo Antonio 36.62 158 eP P 06 13 18.3 -0.3
PB16 IPOC Station P 36.62 181 IAmb IAmb 06 13 21.4
comp=Z,5.6nm,0.6s
PEXB Peixe 36.63 145 eP P 06 13 18.3 -0.5
AGMN Agassiz Nation 36.86 330 P P 06 13 20.4 0.0
AGMN IAmb IAmb 06 13 21.4
comp=Z,5.3nm,0.6s
AGMN Agassiz Nation 36.86 330 P P 06 13 21.0 +0.6
baz=134,SNR=5.9
ANMO Albuquerque 37.00 304 P P 06 13 21.8 -0.3
ANMO IAmb IAmb 06 13 50.4
comp=Z,9.8nm,1.1s
ANMO Albuquerque 37.00 304 P P 06 13 24.0 +2.0
baz=106
SDCO Great Sand Dun 37.16 309 IAmb IAmb 06 13 50.9
comp=Z,7.3nm,0.9s
SDCO Great Sand Dun 37.16 309 P P 06 13 25.0 +1.5
baz=111,SNR=6.2
NBPB Pedra_Branca-C 37.57 127 eP P 06 13 26.6 -0.3
GO01 Chusmiza 37.94 180 IAmb IAmb 06 13 32.9
comp=Z,8.2nm,0.8s
ISCO Idaho Springs 38.01 312 P P 06 13 32.4 +1.7
baz=113,SNR=6.9
S22A 4UR Ranch, Cre 38.15 308 P P 06 13 33.2 +1.4
baz=110
ULM Lac du Bonnet 38.25 332 P P 06 13 32.3 +0.2
comp=Z,2.9nm,0.8s,baz=152,slow=8.4,SNR=3.1
ULM Lac du Bonnet 38.25 332 P P 06 13 31.1 -1.0
ULM pP 06 13 58.8 +1.0
ULM IAmb IAmb 06 13 58.9
comp=Z,8.3nm,0.9s
PB08 IPOC Station P 38.41 180 IAmb IAmb 06 13 35.3
comp=Z,5.6nm,0.7s
SMCO Snowmass 38.75 310 IAmb IAmb 06 14 06.3
comp=Z,9.5nm,1.1s
LPIG La Paz 38.80 286 LR LR 06 30 41.7
comp=Z,21nm,19.0s,baz=233,slow=38
SDBA SAO DESIDERIO 38.84 141 eP P 06 13 36.0 -1.4
NBMA Muriti-CE 39.37 128 eP P 06 13 42.2 +0.3
BDFB Brasilia 39.73 147 P P 06 13 44.5 -0.4
comp=Z,6.9nm,0.8s,baz=332,slow=9.5,SNR=18
BDFB PcP PcP 06 15 50.1 +0.8
comp=Z,2.1nm,0.5s,baz=292,slow=5.4,SNR=3.8
BDFB Brasilia 39.73 147 P P 06 13 44.0 -0.9
BDFB IAmb IAmb 06 13 45.3
comp=Z,7.4nm,0.8s
K22A Casper 39.81 315 P P 06 13 46.8 +1.3
baz=116
PV11 David Mesa, Pa 39.86 308 IAmb IAmb 06 13 57.2
comp=Z,11nm,1.2s
RWWY Rawlins 39.88 314 IAmb IAmb 06 14 12.8
comp=Z,13nm,1.1s
TUC Tucson 39.92 298 P P 06 13 46.1 -0.3
TUC Tucson 39.92 298 P P 06 13 48.1 +1.6
baz=100
O20A White River Ci 40.01 311 P P 06 13 48.9 +1.7
baz=111
LVC Limon Verde 40.87 180 LR LR 06 32 04.6
comp=Z,32nm,18.5s,baz=270,slow=38
LVC Limon Verde 40.87 180 P P 06 13 53.6 -0.9
LVC Limon Verde 40.87 180 eP P 06 13 53.5 -1.0
AQDB Aquidauana 40.88 161 P P 06 13 54.3 +0.1
AQDB IAmb IAmb 06 13 56.0
comp=Z,13nm,0.9s
AQDB Aquidauana 40.88 161 eP P 06 13 54.1 0.0
JANB Januaria 41.28 142 eP P 06 13 55.5 -2.1
DGMT Dagmar 41.28 324 P P 06 13 57.8 +0.6
DGMT Dagmar 41.28 324 P P 06 13 59.0 +1.7
baz=124,SNR=14
P18A Preston Nutter 41.29 309 IAmb IAmb 06 14 25.7
comp=Z,9.7nm,1.0s
SRU San Rafael Swe 41.34 309 IAmb IAmb 06 14 25.9
comp=Z,9.8nm,1.1s
NBPV Pedro Velho 41.45 124 eP P 06 13 57.2 -1.8
214A Organ Pipe Nat 41.57 297 P P 06 14 02.1 +2.2
baz=98
P17A Butcher Ranch, 41.61 309 IAmb IAmb 06 14 28.2
comp=Z,12nm,0.8s
IPMB Ipameri, GO 41.62 149 eP P 06 13 58.5 -1.8
TMUT Trail Mountain 41.90 309 IAmb IAmb 06 14 31.4
comp=Z,14nm,0.8s
PDAR Pinedale Array 41.90 314 P P 06 14 03.1 +0.5
comp=Z,0.9nm,0.7s,baz=121,slow=10,SNR=10
PDAR pP pP 06 14 29.1 +0.3
comp=Z,2.2nm,0.7s,baz=115,slow=10.0,SNR=7.6
PDAR PcP PcP 06 15 56.3 0.0
comp=Z,1.7nm,0.5s,baz=116,slow=5.4,SNR=10
NBLA Lagarto - SE 42.51 131 eP P 06 14 05.4 -2.1
RLMT Red Lodge 42.66 318 IAmb IAmb 06 14 36.4
comp=Z,12nm,0.8s
RLMT Red Lodge 42.66 318 P P 06 14 09.9 +1.1
baz=115,SNR=13
NBAN Anadia - AL 42.73 128 eP P 06 14 09.1 -0.3
LOHW Long Hollow 42.93 315 IAmb IAmb 06 14 38.6
comp=Z,11nm,0.8s
YMP Mirror Lake Pl 43.08 317 IAmb IAmb 06 14 41.2
comp=Z,7.3nm,0.8s
MOOW Moose Ponds 43.08 315 IAmb IAmb 06 14 40.3
comp=Z,8.5nm,0.8s
GDU01 Guandu, BA 43.20 136 eP P 06 14 11.2 -1.9
DUG Dugway, Tooele 43.34 309 P P 06 14 15.7 +1.5
baz=107
PSUT Pine Spring 43.68 307 IAmb IAmb 06 14 46.5
comp=Z,17nm,1.0s
BGU Big Grassy Mou 43.72 310 IAmb IAmb 06 14 45.1
comp=Z,16nm,0.9s
IRM Iron Mountain 43.83 300 P P 06 14 20.5 +2.4
baz=99
BC3 Big Chuckawall 44.01 299 P P 06 14 21.5 +1.8
baz=98
FFC Flin Flon 44.05 333 P P 06 14 19.5 0.0
FCC Fort Churchill 44.18 342 P P 06 14 20.7 +0.3
FCC pP pP 06 14 46.4 -0.3
FCC IAmb IAmb 06 14 48.8
comp=Z,9.2nm,0.8s
FCC sP sP 06 14 57.3 -2.3
NBIT Itapeh - BA 44.18 137 eP P 06 14 20.1 -0.9
EGMT Eagleton 44.25 321 P P 06 14 22.8 +1.5
EGMT Eagleton 44.25 321 P P 06 14 23.1 +1.8
baz=117
GMRC Granite Mounta 44.35 301 P P 06 14 24.4 +2.0
baz=99
BOZ Bozeman (W) 44.38 317 IAmb IAmb 06 14 50.8
comp=Z,11nm,0.9s
BOZ Bozeman (W) 44.38 317 P P 06 14 24.2 +1.7
baz=113,SNR=6.6
CMC01 Camacan, BA 44.44 137 eP P 06 14 22.6 -0.5
TUQ Turquoise Moun 44.66 302 P P 06 14 27.7 +2.8
baz=100
MONP2 Monument Peak 44.72 298 P P 06 14 27.7 +2.2
baz=97
PFO Pinyon Flats O 44.84 299 P P 06 14 25.5 -0.7
comp=Z,1.3nm,0.7s,baz=135,slow=4.3,SNR=3.9
PFO Pinyon Flats O 44.84 299 P P 06 14 25.2 -1.1
DLMT Dillon 44.91 316 IAmb IAmb 06 14 55.2
comp=Z,13nm,0.9s
R11A Troy Canyon, C 44.96 306 IAmb IAmb 06 14 56.1
comp=Z,12nm,1.3s
R11A Troy Canyon, C 44.96 306 P P 06 14 29.3 +2.1
baz=103
LRM Limekiln Ridge 44.99 317 P P 06 14 28.4 +1.0
LRM pP pP 06 14 54.9 +1.0
LRM PcP PcP 06 16 07.9 +1.2
GUA01 Guaratinga, BA 45.18 139 eP P 06 14 28.4 -0.5
TPNV Topopah Spring 45.19 304 P P 06 14 32.0 +3.0
baz=101,SNR=8.6
FRB Frobisher Bay 45.20 0 P P 06 14 28.2 -0.2
comp=Z,5.5nm,0.6s,baz=187,slow=9.5,SNR=26
FRB pP pP 06 14 55.0 +0.5
comp=Z,9.0nm,0.7s,baz=183,slow=6.4,SNR=8.5
FRB LR LR 06 33 49.1
comp=Z,41nm,19.2s,baz=187,slow=36
HLID Hailey 45.51 313 P P 06 14 32.7 +1.2
baz=109
FRTB Fartura 45.72 155 eP P 06 14 33.0 -0.1
NAN01 Guarapari, ES 45.94 140 eP P 06 14 34.0 -0.8
SJMB Sao Joao De Ma 45.97 142 eP P 06 14 34.0 -1.1
CPUP Villa Florida 45.99 165 P P 06 14 34.1 -1.0
comp=Z,13nm,0.8s,baz=346,slow=8.3,SNR=15
CPUP PcP PcP 06 16 10.7 +0.7
comp=Z,2.4nm,0.6s,baz=41,slow=5.0,SNR=3.4
CPUP Villa Florida 45.99 165 P P 06 14 34.1 -1.0
MPMC Manual Prospec 46.02 302 P P 06 14 38.3 +2.6
baz=99
GRAC Grapevine Rang 46.08 304 P P 06 14 38.7 +2.8
baz=100,SNR=6.5
EDW2 Edwards Air Fo 46.26 301 P P 06 14 39.4 +2.0
baz=98
MSO Missoula 46.33 318 P P 06 14 39.0 +1.2
baz=112
CWC Cottonwood Cre 46.55 303 P P 06 14 42.4 +2.6
baz=99
JTMT Jette 46.89 319 IAmb IAmb 06 15 10.6
comp=Z,16nm,0.9s
KVN Kaiserville 47.03 306 IAmb IAmb 06 15 12.0
comp=Z,10nm,1.0s
NVAR Mina Array Bea 47.07 306 P P 06 14 44.6 +0.9
comp=Z,1.1nm,0.4s,baz=90,slow=7.3,SNR=28
NVAR pP pP 06 15 12.0 +1.6
comp=Z,16nm,1.0s,baz=98,slow=7.0,SNR=14
NVAR PcP PcP 06 16 15.9 +1.8
comp=Z,1.2nm,0.6s,baz=127,slow=3.9,SNR=1.6
PLID Pearl Lake 47.07 315 IAmb IAmb 06 15 11.3
comp=Z,9.9nm,0.9s
LHV Little Huntoon 47.19 305 IAmb IAmb 06 15 13.7
comp=Z,8.7nm,0.7s
VES Vestal, Richgr 47.27 302 P P 06 14 47.9 +2.8
baz=98,SNR=7.1
RYN Ryan 47.27 306 IAmb IAmb 06 15 14.1
comp=Z,10nm,0.8s
OMMB Old Mammoth Mi 47.47 304 IAmb IAmb 06 15 16.3
comp=Z,12nm,0.9s
NEW Newport 48.86 319 P P 06 14 57.7 +0.5
baz=110,SNR=8.2
ITQB Itaqui 49.37 166 P P 06 15 00.3 -0.9
ITQB Itaqui 49.37 166 eP P 06 15 00.2 -0.9
SFJD Kangerlussuaq 49.90 9 pP pP 06 15 33.0 +1.5
comp=Z,6.0nm,0.7s,baz=257,slow=4.4,SNR=3.5
B08A Colville Reser 50.28 318 IAmb IAmb 06 15 35.8
comp=Z,8.9nm,0.9s
CPSB Cacapava Do Su 50.89 163 eP P 06 15 12.0 -0.6
H04A Detroit Lake 51.20 313 P P 06 15 15.0 0.0
YKA Yellowknife Ar 54.01 336 PcP PcP 06 16 37.8 -1.1
baz=115,slow=7.1
BBB Bella Bella 56.74 321 LR LR 06 42 11.1
comp=Z,67nm,18.1s,baz=191,slow=38

RES	**Resolute Bay**	**57.92**	**352**	P		**P**		**06 16 03.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=165,slow=12,SNR=2.0								
RES				pP		**pP**		**06 16 30.0**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=158,slow=8.5,SNR=9.1								
PLCA	**Paso Flores**	**58.96**	**181**	P		**P**		**06 16 10.3**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=356,slow=8.3,SNR=9.1								
PLCA				pP		**pP**		**06 16 39.0**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=344,slow=6.7,SNR=2.2								
PLCA				PcP		**PcP**		**06 16 59.0**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=1.7,slow=9.4,SNR=7.2								
ESDC	**Sonseca Array**	**59.34**	**54**	P		**P**		**06 16 13.4**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=274,slow=7.6,SNR=17								
ESDC				pP		**pP**		**06 16 41.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=276,slow=7.1,SNR=4.6								
EKA	**Eskdalemuir Ar**	**61.25**	**36**	P		**P**		**06 16 26.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=293,slow=4.8,SNR=10								
EKA				pP		**pP**		**06 16 53.4**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=294,slow=4.5,SNR=3.7								
EKA				PcP		**sP**		**06 17 06.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=289,slow=4.6,SNR=4.1								
KOWA	**Kowa**	**62.14**	**83**	P		**P**		**06 16 32.3**	**-0.4**
A36M	**Sachs Harbour**	**62.36**	**343**	P		**P**		**06 16 33.5**	**+0.3**
A36M				pP		**pP**		**06 17 01.5**	**+0.4**
A36M	**Sachs Harbour**	**62.36**	**343**	P		**P**		**06 16 33.8**	**+0.5**
	baz=117								
TIC	**Toumodi**	**63.26**	**92**	*e*P		**P**		**06 16 40.0**	**-0.2**
LIC	**Lamto**	**63.37**	**92**	*e*P		**P**		**06 16 40.9**	**-0.1**
	comp=Z,35nm,1.0s								
DBIC	**Dimbokro**	**63.40**	**92**	P		**P**		**06 16 41.0**	**-0.2**
	comp=Z,7.2nm,0.6s,baz=280,slow=4.5,SNR=12								
DBIC	**Dimbokro**	**63.40**	**92**	IAmb		IAmb		06 16 43.0	
	comp=Z,7.8nm,0.8s								
DAG	**Danmarks Havn**	**63.47**	**11**	*i* P		**P**		**06 16 40.0**	**-0.6**
INK	**Inuvik**	**63.60**	**338**	P		**P**		**06 16 40.7**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=198,slow=6.4,SNR=16								
INK				pP		**pP**		**06 17 09.1**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=104,slow=6.1,SNR=5.0								
INK				LR		LR		06 44 19.3	
	comp=Z,45nn,19.4s,baz=82,slow=36								
KIC	**Kosan Boka**	**63.60**	**92**	*e*P		**P**		**06 16 42.6**	**+0.1**
	comp=Z,20nm,0.6s								
DAWY	**Dawson**	**64.95**	**333**	P		**P**		**06 16 51.3**	**+0.8**
	baz=99								
BCAR	**Beaver Creek A**	**65.87**	**332**	P		**P**		**06 16 57.3**	**+0.8**
BCAR				pP		**pP**		**06 17 25.1**	**+0.4**
L27K	**Beaver Creek,**	**65.89**	**332**	P		**P**		**06 16 57.6**	**+1.0**
	baz=97								
MCARA	**McCarthy VSAT**	**66.28**	**330**	IAmb		IAmb		06 17 05.4	
	comp=Z,11nm,1.1s								
NOR	**Nord**	**66.58**	**7**	*i* P		**P**		**06 17 00.5**	**-0.1**
SCRK	**Sand Creek**	**66.95**	**332**	P		**P**		**06 17 03.2**	**-0.1**
SCRK				IAmb		IAmb		06 17 32.8	
	comp=Z,8.4nm,0.8s								
SCRK	**Sand Creek**	**66.95**	**332**	P		**P**		**06 17 04.7**	**+1.3**
	baz=95								
TOA0	**Torodi Ar. Sit**	**67.84**	**83**	P		**P**		**06 17 08.8**	**-0.9**
TOA0				IAmb		IAmb		06 17 10.7	
	comp=Z,7.5nm,0.8s								
TOA0				PcP		**PcP**		**06 17 30.9**	**-4.7**
TORD	**Torodi Ar. Bea**	**67.84**	**83**	P		**P**		**06 17 09.2**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=291,slow=6.0,SNR=33								
TORD	**Torodi Ar. Bea**	**67.84**	**83**	P		**P**		**06 17 09.6**	**-0.1**
TORD				IAmb		IAmb		06 17 10.7	
	comp=Z,7.6nm,0.9s								
TORD				pP		**pP**		**06 17 37.7**	**-0.3**
ILAR	**Eielson Array**	**68.26**	**333**	P		**P**		**06 17 11.6**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=96,slow=4.1,SNR=10								
ILAR				pP		**pP**		**06 17 39.4**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=96,slow=5.0,SNR=10								
DAVA	**Damuels**	**69.15**	**46**	*e*P		pP		06 17 46.1	+0.2
	comp=Z,7.3nm,1.5s								
NB2	**NORSAR Subarra**	**69.25**	**31**	P		**P**		**06 17 18.8**	**+1.1**
	comp=Z,5.7nm,1.0s,baz=272,slow=6.5								
NOA	**NORSAR Array B**	**69.25**	**31**	P		**P**		**06 17 18.1**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=272,slow=6.3,SNR=4.8								
NOA				pP		**pP**		**06 17 45.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=272,slow=6.4,SNR=3.5								
I23K	**Minto, Yukon-K**	**69.32**	**334**	P		**P**		**06 17 18.7**	**+0.7**
	baz=91								
TOLK	**Toolik Lake Re**	**69.48**	**337**	P		**P**		**06 17 19.4**	**+0.3**
	baz=92								
RETA	**Reutte**	**69.73**	**45**	*e*P		**P**		**06 17 21.9**	**+0.9**
	comp=Z,4.2nm,1.1s								
RETA				*e*P		**pP**		**06 17 49.3**	**0.0**
	comp=Z,4.5nm,1.0s								
TRF	**Thorofare Moun**	**69.73**	**332**	P		**P**		**06 17 21.4**	**+0.7**
	baz=89								
FETA	**Feichten**	**69.75**	**46**	*e*P		**P**		**06 17 21.9**	**+0.7**
	comp=Z,2.2nm,0.8s								
MLY	**Manley**	**69.91**	**333**	P		**P**		**06 17 22.0**	**+0.3**
	baz=89								
MOTA	**Moosalm**	**69.97**	**45**	*e*P		**P**		**06 17 23.0**	**+0.4**
	comp=Z,2.4nm,1.0s								
MOTA				*e*P		**pP**		**06 17 50.7**	**-0.3**
	comp=Z,2.0nm,0.7s								
BPAW	**Bear Paw Mtn.**	**70.03**	**332**	P		**P**		**06 17 22.1**	**-0.3**
	baz=89								
SQTA	**Sankt Quirin**	**70.06**	**46**	*e*P		**P**		**06 17 23.3**	**+0.2**
	comp=Z,5.8nm,1.5s								
KEST	**Kesra**	**70.15**	**58**	P		**P**		**06 17 23.9**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=295,slow=1.2,SNR=7.6								
KEST	**Kesra**	**70.15**	**58**	P		**P**		**06 17 24.4**	**+0.6**
KEST				IAmb		IAmb		06 17 25.8	
	comp=Z,9.1nm,0.9s								
WATA	**Walderalm**	**70.30**	**45**	*e*P		**P**		**06 17 24.5**	**-0.1**
	comp=Z,3.5nm,1.2s								
WTTA	**Wattenberg**	**70.34**	**46**	*e*P		**P**		**06 17 25.5**	**+0.7**
	comp=Z,1.4nm,0.8s								
WTTA				*e*P		**pP**		**06 17 50.5**	**-2.8**
	comp=Z,4.0nm,1.3s								
CAST	**Castle Rocks**	**70.54**	**332**	P		**P**		**06 17 25.5**	**0.0**
	baz=88								
H21K	**Melozitna Rive**	**70.76**	**334**	P		**P**		**06 17 27.3**	**+0.5**
	baz=88								
ABTA	**Abfaltersbach**	**71.00**	**46**	*e*P		**P**		**06 17 29.0**	**+0.3**
	comp=Z,3.1nm,1.2s								
J20K	**Nowinta River**	**71.41**	**333**	P		**P**		**06 17 30.9**	**+0.2**
	baz=86								
L20K	**Farewell, AK**	**71.42**	**331**	P		**P**		**06 17 30.6**	**-0.2**
	baz=86								
KHC	**Kasperske Hory**	**71.42**	**43**	*e*P		**P**		**06 17 31.5**	**+0.4**
KBA	**Koelnbreinsper**	**71.52**	**46**	*e*P		**P**		**06 17 31.8**	**-0.2**
	comp=Z,1.9nm,0.9s								
GERES	**GERESS Array B**	**71.54**	**44**	P		**P**		**06 17 32.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=316,slow=8.3,SNR=1.6								
BIOA	**Bad Ischl, Aus**	**71.64**	**45**	*e*P		**P**		**06 17 33.4**	**+0.9**
	comp=Z,3.7nm,1.1s								
M19K	**Big River Lodg**	**71.70**	**330**	P		**P**		**06 17 33.1**	**+0.6**
	baz=85								
OBKA	**Obir**	**72.42**	**46**	*e*P		**P**		**06 17 38.0**	**+0.8**
	comp=Z,1.2nm,0.8s								
SOKA	**Soboth**	**72.72**	**46**	*e*P		**P**		**06 17 38.3**	**-0.7**
	comp=Z,2.3nm,1.5s								
ARSA	**Arzberg**	**72.97**	**45**	*e*P		**P**		**06 17 40.1**	**-0.3**
	comp=Z,3.1nm,1.2s								
ARCES	**ARCESS Array B**	**74.38**	**21**	P		**P**		**06 17 48.4**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=306,slow=4.1,SNR=17								
ARCES				pP		**pP**		**06 18 17.1**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=281,slow=4.0,SNR=2.2								
ARCES	**ARCESS Array B**	**74.38**	**21**	P		**P**		**06 17 48.6**	**+0.4**
FINES	**FINESS Array B**	**76.32**	**30**	P		**P**		**06 18 00.1**	**+0.8**
	comp=Z,2.7nm,0.4s,baz=278,slow=4.4,SNR=31								
FINES				pP		**pP**		**06 18 28.6**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=267,slow=4.1,SNR=2.7								
TRPA	**Tarpa**	**77.44**	**43**	⇑P		**P**		**06 18 07.4**	**+1.4**
DRGR		**77.88**	**45**	⇓P		**P**		**06 18 09.1**	**+0.6**
BURAR	**Bucovina Array**	**79.32**	**43**	⇑P		**P**		**06 18 18.1**	**+1.6**
VOIR		**79.80**	**46**	⇑P		P		06 18 13.6	-5.4
MLR	**Muntele Rosu**	**80.39**	**45**	⇑P		**P**		**06 18 23.8**	**+1.5**
MLR	**Muntele Rosu**	**80.39**	**45**	P		**P**		**06 18 24.4**	**+2.1**
AKASG	**Malin Array Be**	**80.94**	**40**	P		**P**		**06 18 24.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=286,slow=4.6,SNR=2.3								
BILL	**Bilibino**	**84.89**	**342**	P		P		**06 18 45.5**	**+0.5**
BILL				pP		**pP**		**06 19 14.7**	**+0.2**
BR131	**Keskin Array S**	**87.65**	**49**	P		**P**		**06 18 59.0**	**-0.3**
BR131				IAmb		IAmb		06 19 01.0	
	comp=Z,8.6nm,1.1s								
BRTR	**Keskin Array B**	**87.65**	**49**	P		**P**		**06 18 59.2**	**0.0**
	comp=Z,2.1nm,0.9s,baz=270,slow=3.2,SNR=8.9								
BRTR				pP		**pP**		**06 19 28.2**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=264,slow=3.7,SNR=3.2								
TIXI	**Tiksi**	**89.24**	**354**	P		**P**		**06 19 06.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=316,slow=4.1,SNR=5.0								
TIXI				pP		**pP**		**06 19 35.3**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=313,slow=4.4,SNR=7.7								
TIXI	**Tiksi**	**89.24**	**354**	P		**P**		**06 19 05.8**	**0.0**
TIXI				pP		**pP**		**06 19 35.5**	**-0.1**

NRIK	**Noril'sk**	**90.80**	**8**	pP		pP		06 19 43.4	+0.5
	comp=Z,1.6nm,0.4s,baz=356,slow=1.9,SNR=2.4								
SEY	**Seymchan**	**92.59**	**342**	P		**P**		**06 19 22.6**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=85,slow=11,SNR=5.9								
SEY				pP		**pP**		**06 19 52.3**	**+0.9**
	comp=Z,11nm,0.9s,baz=104,slow=4.4,SNR=20								
MA2	**Magadan**	**95.72**	**341**	LR		LR		07 04 30.1	
	comp=Z,20nm,21.8s,baz=95,slow=36								
SONM	**Songino Array**	**113.83**	**3**	PKKPbc		PKKPbc		06 35 29.9	-2.8
	comp=Z,0.4nm,0.5s,baz=174,slow=4.6,SNR=4.5								
GOMU	**GeErMu**	**123.47**	**16**	Pdif		**Pdif**		**06 21 37.8**	**-2.9**
GOMU				pPKP		pPdif		06 21 50.0	-20
GOMU				sPKP				06 21 54.1	
GOMU				AMB		AMB			
	comp=Z,97nm,5.1s								
PZH	**PanZhiHua**	**134.36**	**12**	PKP		**PKPdf**		**06 25 27.0**	**-1.6**
STKA	**Stephens Creek**	**149.41**	**238**	PKP		**PKPdf**		**06 25 54.8**	**-0.1**
	comp=Z,9.1nm,0.6s,baz=68,slow=2.3,SNR=3.4								
STKA				PKPbc		**PKPbc**		**06 25 59.4**	**0.0**
	comp=Z,9.1nm,0.6s,baz=56,slow=3.4,SNR=7.3								
WRA	**Warramunga Arr**	**157.93**	**262**	PKP		**PKPdf**		**06 26 06.7**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=84,slow=1.2,SNR=16								
WRA				PKPab		**PKPab**		**06 26 40.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=87,slow=3.7,SNR=5.5								
ASAR	**Alice Springs**	**158.05**	**253**	PKP		**PKPdf**		**06 26 06.7**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=92,slow=1.5,SNR=15								
ASAR				PKPab		**PKPab**		**06 26 41.2**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=102,slow=4.4,SNR=15								
ASAR				pPKPab		**pPKPab**		**06 27 09.1**	**-2.1**
	comp=Z,1.3nm,0.7s,baz=102,slow=4.9,SNR=6.2								
ASAR	**Alice Springs**	**158.05**	**253**	PKPdf		**PKPdf**		**06 26 06.4**	**-1.0**
ASAR						**PKPab**		**06 26 40.5**	**-0.9**

*TEH **20** 06:28:38.4,31.43N×51.53E,h8km,ML3.1*
*IDC **20** 06:28:46.4±4.0,31.13N×51.76E,h67km±47km, mb3.5/10, mb1 3.6/12,mb1mx3.3/46,mbtmp3.7/12,ML3.2/2,MS3.3/3, Ms1 3.3/3,ms1mx2.5/69,Error ellipse: s-maj=27.1km s-min=18.1km az=173.0*

ISC 20 06:28:40.6±0.6,31°39N±0.0°×51°53E±0.0°,3,h10km,n55, σ1s86/55,mb3.8/10,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KLNJ	**Kolanjah**	**0.38**	**172**	*e*Pg		**Pg**	**06 28 46.2**	**-2.1**
KLNJ				*e*			06 28 55.3	
	comp=Z,86μm,0.2s							
IBRJ	**Brojen**	**0.57**	**336**	*e*Pg		**Pg**	**06 28 48.5**	**-3.2**
IBRJ				*e*Sg		**Sg**	**06 28 57.9**	**-1.3**
IRAM	**Ramesheh**	**0.84**	**60**	*e*Pg		**Pg**	**06 28 54.1**	**-2.7**
IRAM				*e*Sg		**Sg**	**06 29 07.3**	**-0.5**
IRAM				*e*			06 29 08.6	
	comp=Z,9μm,0.2s							
SHK1	**Shahrekord**	**1.08**	**330**	*e*Pg		**Pg**	**06 28 58.8**	**-2.7**
SHK1				*e*			06 29 30.2	
	comp=Z,5μm,0.6s							
IGAR	**Gharneh**	**1.10**	**23**	*e*Pg		**Pg**	**06 28 58.8**	**-3.0**
ABEH	**Behbahan**	**1.35**	**235**	*e*Pg		**Pn**	**06 29 05.7**	**+0.2**
IPIR	**Pirpir**	**1.40**	**337**	*e*			06 29 36.5	
	comp=Z,6μm,0.9s							
IPIR				*e*Pg		**Pn**	**06 29 04.9**	**-1.6**
IZEF	**Zefreh**	**1.65**	**24**	*e*Pn		**Pn**	**06 29 08.3**	**-1.6**
KAZ1	**Kazerun**	**1.76**	**177**	*e*Pn		**Pn**	**06 29 12.0**	**+0.8**
NASN	**Na'in**	**1.78**	**37**	*e*Pg		**Pn**	**06 29 11.3**	**-0.4**
ISAD	**Sadrabad**	**1.91**	**74**	*e*Pn		**Pn**	**06 29 13.3**	**-0.2**
ISAD				*e*			06 29 49.4	
	comp=Z,2μm,0.4s							
IKLH	**Kolahrood**	**1.93**	**1**	*e*Pn		**Pn**	**06 29 13.4**	**-0.3**
IKLH				*e*			06 29 55.4	
	comp=Z,2μm,0.7s							
SHI	**Shiraz**	**1.94**	**154**	*e*Pg		**Pb**	**06 29 16.4**	**+0.3**
SHI				*e*			06 29 51.3	
	comp=Z,2μm,0.6s							
QAMS	**Qamsar**	**2.34**	**357**	*e*Pn		**Pn**	**06 29 20.4**	**+1.0**
QAMS				*e*			06 30 08.1	
	comp=Z,2μm,0.4s							
AHBU	**AHRAM**	**2.52**	**185**	*e*Pn		**Pb**	**06 29 26.5**	**+0.5**
ANAR	**Anarak**	**2.59**	**45**	*e*Pn		**Pn**	**06 29 22.8**	**+0.1**
KRSH	**Karshahi**	**2.62**	**11**	*e*Pn		**Pn**	**06 29 24.2**	**+1.0**
KRSH				*e*			06 30 17.5	
	comp=Z,1μm,1.0s							
KHMZ	**Khomeyn**	**2.69**	**331**	*e*Pn		**Pn**	**06 29 25.2**	**+1.0**
YZKH	**Yazd**	**2.79**	**68**	*e*Pn		**Pn**	**06 29 27.5**	**+2.1**
ISFB	**Sefidab**	**3.02**	**11**	*e*Pn		**Pn**	**06 29 28.9**	**+0.4**
GHVR	**GHOM**	**3.09**	**356**	*e*Pn		**Pn**	**06 29 32.2**	**+2.7**
BMDN	**Meydan**	**3.22**	**316**	*e*Pn		**Pn**	**06 29 31.6**	**+0.1**
ASAO	**Ashtian**	**3.39**	**339**	*e*Pn		**Pn**	**06 29 35.2**	**+1.3**
IQOM	**Qom**	**3.46**	**354**	*e*Pn		**Pn**	**06 29 35.5**	**+0.7**
IVRN	**Varamin**	**3.60**	**3**	*e*Pn		**Pn**	**06 29 37.0**	**+0.5**
IDOB	**Doab**	**3.70**	**311**	*e*Pn		**Pn**	**06 29 37.8**	**-0.3**
IKFM	**Kafar-mosalman**	**3.77**	**305**	*e*Pn		**Pn**	**06 29 38.9**	**+0.1**
DAMV	**Damavand**	**4.25**	**5**	*e*Pn		**Pn**	**06 29 47.2**	**+1.6**
IBZA	**Bozab**	**4.35**	**316**	*e*Pn		**Pn**	**06 29 46.7**	**-0.4**
THKV	**Tehran--Karaj**	**4.55**	**353**	*e*Pn		**Pn**	**06 29 50.8**	**+1.1**
ISHM	**Shahmirzad**	**4.64**	**18**	*e*Pn		**Pn**	**06 29 50.1**	**-1.0**
TPRV	**Parvadeh(Tabas**	**4.67**	**68**	*e*Pn		**Pn**	**06 29 52.5**	**+1.3**
KRBR	**Kerman**	**4.72**	**106**	*e*Pn		**Pn**	**06 29 54.6**	**+2.5**
TKDS	**Dandasht(Taba**	**5.22**	**63**	*e*Pn		**Pn**	**06 29 59.7**	**+0.9**
TABS	**Tabas**	**5.23**	**63**	*e*Pn		**Pn**	**06 30 01.0**	**+2.0**
IDHR	**Dehrash**	**5.43**	**309**	*e*Pn		**Pn**	**06 30 01.7**	**-0.2**
GENO	**Geno**	**5.67**	**133**	*e*Pn		**Pn**	**06 30 06.1**	**+0.9**
SHRO	**Shahrood**	**5.92**	**38**	*e*Pn		**Pn**	**06 30 10.9**	**+2.5**
BSRN	**Basiran**	**6.50**	**83**	*e*Pn		**Pn**	**06 30 19.5**	**+3.0**
MRVT	**Maraveh tapeh**	**7.30**	**30**	*e*Pn		**Pn**	**06 30 30.3**	**+3.0**
WSAR	**Wadi Sarin**	**10.28**	**140**	P		**Pn**	**06 31 06.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=341,slow=13,SNR=2.1							
WSAR				S		**Sn**	**06 32 58.0**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=315,slow=20,SNR=1.6							
GNI	**Garni**	**10.33**	**330**	LR		LR	06 35 45.2	
	comp=Z,32nm,21.4s,baz=107,slow=39							
BRTR	**Keskin Array B**	**16.75**	**305**	P		**P**	**06 32 40.7**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=3.4							
IDI	**Anoyia**	**22.57**	**287**	P		**P**	**06 33 45.0**	**+3.9**
	comp=Z,5.5nm,0.9s,baz=93,slow=18,SNR=1.6							
MLR	**Muntele Rosu**	**24.36**	**313**	P		**P**	**06 34 01.9**	**+3.0**
	comp=Z,1.1nm,0.6s,baz=159,slow=14,SNR=3.6							
AKASG	**Malin Array Be**	**25.43**	**326**	P		**P**	**06 34 09.6**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=141,slow=9.0,SNR=2.4							
BVAR	**Borovoye Array**	**25.59**	**27**	P		**P**	**06 34 10.0**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=123,slow=5.3,SNR=6.4							
KURBB	**Kurchatov Arra**	**27.76**	**38**	P		**P**	**06 34 29.0**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=240,slow=9.3,SNR=2.0							
MKAR	**Makanchi Array**	**28.18**	**48**	P		**P**	**06 34 32.1**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=233,slow=7.0,SNR=3.3							
ZALV	**Zalesovo Beam**	**32.80**	**37**	P		**P**	**06 35 14.7**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=249,slow=11,SNR=5.2							
FINES	**FINESS Array B**	**34.35**	**339**	P		**P**	**06 35 28.5**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=144,slow=12,SNR=1.7							
TORD	**Torodi Ar. Bea**	**49.12**	**260**	P		**P**	**06 37 27.7**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=60,slow=9.0,SNR=8.5							
TIXI	**Tiksi**	**56.56**	**22**	LR		LR	07 05 27.5	
	comp=Z,64nm,21.7s,baz=357,slow=39							
JOW	**Kunigami**	**65.93**	**72**	LR		LR	07 11 41.4	
	comp=Z,45nn,20.9s,baz=50,slow=39							
YKA	**Yellowknife Ar**	**85.78**	**354**	P		**P**	**06 41 20.4**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=13,slow=5.6,SNR=5.2							

NOU 20 06:33:03.0,15.64S×167.57E,h57km,MLv4.6/12, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.40**	**298**	P	Pn	06 33 15.0	+1.3
DVP	**Devils Point**	**2.16**	**164**	P	Pn	06 33 36.8	+0.2
KOUNC	**Koumac, New Ca**	**5.80**	**212**	P	Pn	06 34 26.6	+0.2
YATNC	**Mamie plateau,**	**6.42**	**186**	P	Pn	06 34 34.0	-1.0
DZM	**Mont Dzumac**	**6.49**	**189**	P	Pn	06 34 36.7	+0.7
NOUC	**Port Laguerre**	**6.54**	**190**	P	Pn	06 34 36.1	-0.5
ONTNC	**Ouen Toro**	**6.72**	**189**	P	Pn	06 34 38.6	-0.4
OUENC	**Ouen Island, N**	**6.78**	**186**	P	Pn	06 34 40.5	+0.6

SSNC 20 06:37:17.8±4.2,23.94N×72.29W,h5km±999km,MD3.9, ML2.5,Bahama Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**4.16**	**206**	*e*P	Pn	06 38 19.2	-2.8
MASC				*e*S	Sn	06 39 07.8	-3.1
MASC				IAML		06 39 09.1	
	comp=N,3.8nm,0.7s						
MASC				IAML		06 39 09.6	
	comp=E,3.2nm,0.6s						
GTBY	**Guantanamo Bay**	**4.78**	**214**	*e*P	Pn	06 38 27.4	-3.0
GTBY				*e*S	Sn	06 39 22.3	-3.9
RCC	**Rio Carpintero**	**5.04**	**219**	*e*P	Pn	06 38 35.7	+1.6
RCC				*e*S	Sn	06 39 26.8	-6.0

*IDC **20** 06:37:56.2±2.5,28.90S×136.74E,h0km,mb1 3.7/4, mb1mx3.5/25,mbtmp3.5/4,ML3.4/4,Error ellipse: s-maj=50.1km s-min=14.7km az=50.0*
*AUST **20** 06:37:59.1±0.7,28.91S×136.73E,h10km,Error ellipse: s-maj=12.1km s-min=7.1km az=51.0*
*NOU **20** 06:38:00.3,29.01S×136.76E,h10km,ML3.2/6,South Australia*

ISC 20 06:37:58.1±0.7,28°88S±0.05°×136°74E±0.04,h10km,n26, σ1s89/38,South Australia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OOD	**Oodnadatta**	**1.43**	**319**	P		**Pg**	**06 38 26.9**	**+1.4**
	baz=1.4,SNR=91							
OOD				S		**Sg**	**06 38 45.9**	**+1.9**
	baz=1.4							
OOD	**Oodnadatta**	**1.43**	**319**	P		**Pg**	**06 38 27.5**	**+2.0**
LCRK	**Leigh Creek**	**2.02**	**141**	P		**Pn**	**06 38 32.8**	**+0.5**
	baz=2.0,SNR=76							
LCRK				S		**Sb**	**06 39 00.6**	**+0.4**
	baz=2.0							
LCRK	**Leigh Creek**	**2.02**	**141**	P		**Pn**	**06 38 33.0**	**+0.7**
MULG	**Mulgathing**	**2.72**	**239**	P		**Pn**	**06 38 43.3**	**+1.4**
	baz=2.7,SNR=8.4							
MULG				S		**Sb**	**06 39 22.1**	**+1.9**
	baz=2.7							
MULG	**Mulgathing**	**2.72**	**239**	P		**Pn**	**06 38 43.2**	**+1.4**
INKA	**Innaminka**	**3.71**	**73**	P		**Pn**	**06 38 56.2**	**+0.6**
	baz=3.7,SNR=4.2							
BBOO	**Buckleboo**	**3.96**	**188**	P		**Pn**	**06 38 58.8**	**-0.1**
	baz=3.9							
BBOO	**Buckleboo**	**3.96**	**188**	P		**Pn**	**06 38 59.1**	**+0.2**
NAPP	**Napperby**	**4.45**	**165**	P		**Pn**	**06 39 06.4**	**+0.7**
HTT	**Hallett**	**4.90**	**158**	P		**Pn**	**06 39 13.0**	**+1.0**
	baz=4.9							
STKA	**Stephens Creek**	**5.15**	**127**	Pn		**Pn**	**06 39 14.6**	**-0.7**
	0.7nm,0.3s,baz=310,slow=11,SNR=7.4							
STKA				Pg		**Pb**	**06 39 31.2**	**+2.9**
	1.0nm,0.3s,baz=303,slow=15,SNR=7.1							
STKA				Sn		**Sn**	**06 40 11.1**	**-3.7**
	1.2nm,0.3s,baz=24,slow=16,SNR=3.7							
STKA			

ASAJ	**Asahikawa**	**8.46**	**16**	P		**Pn**	**07 03 38.3**	**-1.3**
	2.0nm,0.3s,baz=198,slow=11,SNR=7.6							
ASAJ				LR		LR	07 07 03.0	
	comp=Z,59nm,19.1s,baz=356,slow=38							
KSRS	**Korea Array**	**9.34**	**282**	P		**Pn**	**07 03 51.9**	**+0.3**
	0.3nm,0.3s,baz=96,slow=14,SNR=4.1							
USRK	**Ussuriysk Ar.**	**9.96**	**327**	P		**Pn**	**07 04 01.4**	**+1.4**
	baz=168,slow=7.5,SNR=3.3							
USRK	**Ussuriysk Ar.**	**9.96**	**327**			**Pn**	**07 03 60.0**	**0.0**
HHC	**Hu-ho-hao-te**	**22.30**	**291**	*eP*		P	07 06 19.9	-9.5
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,100nm,5.9s							
MA2	**Magadan**	**24.71**	**14**	P		**P**	**07 06 52.1**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=169,slow=6.7,SNR=4.1							
MA2				LR		LR	07 18 51.4	
	comp=Z,25nm,19.9s,baz=106,slow=42							
MA2	**Magadan**	**24.71**	**14**	P		**P**	**07 06 52.6**	**+0.8**
MA2				IAmb		IAmb	07 06 58.4	
	comp=Z,21nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**29.07**	**117**	T		T	07 38 01.4	
	baz=308,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**29.08**	**117**	T		T	07 37 41.4	
	baz=308,slow=75,SNR=8.9							
H11N3	**WAKE ISLAND Hy**	**29.09**	**117**	T		T	07 37 58.4	
	baz=308,slow=75,SNR=8.1							
H11S3	**WAKE ISLAND Hy**	**29.72**	**119**	T		T	07 38 50.6	
	baz=312,slow=76,SNR=3.1							
H11S1	**WAKE ISLAND Hy**	**29.72**	**119**	T		T	07 38 47.0	
	baz=312,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**29.74**	**119**	T		T	07 38 50.7	
	baz=312,slow=76,SNR=3.9							
TIXI	**Tiksi**	**36.13**	**354**	P		**P**	**07 08 31.4**	**-0.8**
TIXI				IAmb		IAmb	07 08 38.0	
	comp=Z,1.4nm,0.8s							
UBPT	**Khong Chiam**	**36.63**	**245**	P		**P**	**07 08 37.0**	**-0.1**
WMQ	**Urumqi**	**39.87**	**298**	*eP*		**P**	**07 09 07.5**	**+3.4**
WMQ				pmax		pmax		
	comp=Z,20nm,0.9s							
ZALV	**Zalesovo Beam**	**41.43**	**313**	P		**P**	**07 09 16.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=72,slow=9.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**41.43**	**313**	P		**P**	**07 09 17.4**	**+0.8**
MK31	**Makanchi Array**	**43.30**	**303**	P		**P**	**07 09 31.8**	**-0.2**
MKAR	**Makanchi Array**	**43.30**	**303**	P		**P**	**07 09 31.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=81,slow=11,SNR=5.3							
MKAR	**Makanchi Array**	**43.30**	**303**	P		**P**	**07 09 31.7**	**-0.3**
KURK	**Kurchatov**	**45.30**	**309**	P		**P**	**07 09 47.0**	**-0.8**
KURK				IAmb		IAmb	07 09 49.5	
	comp=Z,2.5nm,0.7s							
WRH	**Wood River Hil**	**50.72**	**32**	P		**P**	**07 10 31.2**	**+1.9**
ILAR	**Eielson Array**	**51.22**	**32**	P		**P**	**07 10 33.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=280,slow=5.7,SNR=6.1							
ILAR	**Eielson Array**	**51.22**	**32**	P		**P**	**07 10 33.7**	**+0.6**
BCAR	**Beaver Creek A**	**53.64**	**34**	P		**P**	**07 10 52.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**55.37**	**196**	P		**P**	**07 11 03.5**	**-0.4**
FITZ				IAmb		IAmb	07 11 27.2	
	comp=Z,5.4nm,1.5s							
WB0	**Warramunga Arr**	**55.67**	**186**	P		**P**	**07 11 04.9**	**-1.2**
WB0				IAmb		IAmb	07 11 05.1	
	comp=Z,3.6nm,0.8s							
WB2	**Warramunga Arr**	**55.85**	**186**	P		**P**	**07 11 06.4**	**-1.0**
WRA	**Warramunga Arr**	**55.85**	**186**	P		**P**	**07 11 06.2**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=1.3,slow=7.6,SNR=45							
WRA				PcP		**PcP**	**07 12 05.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=359,slow=4.6,SNR=2.2							
WRA	**Warramunga Arr**	**55.85**	**186**	P		**P**	**07 11 05.3**	**-2.1**
WR0	**Warramunga Arr**	**55.85**	**186**	P		**P**	**07 11 06.3**	**-1.1**
WR0				IAmb		IAmb	07 11 06.6	
	comp=Z,1.9nm,0.6s							
INK	**Inuvik**	**56.03**	**27**	P		**P**	**07 11 08.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=325,slow=5.1,SNR=4.1							
INK	**Inuvik**	**56.03**	**27**	P		**P**	**07 11 08.6**	**+0.6**
INK				IAmb		IAmb	07 11 11.3	
	comp=Z,2.6nm,1.2s							
ABKAR	**Akbulak array**	**57.36**	**310**	P		**P**	**07 11 17.5**	**-0.3**
ASAR	**Alice Springs**	**59.58**	**186**	P		**P**	**07 11 32.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=20,slow=9.6,SNR=14							
ASAR				PcP		**PcP**	**07 12 20.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=12,slow=3.7,SNR=4.4							
ASAR	**Alice Springs**	**59.58**	**186**	P		**P**	**07 11 33.5**	**+0.1**
RES	**Resolute Bay**	**63.99**	**14**	P		**P**	**07 12 03.4**	**+1.0**
RES				IAmb		IAmb	07 12 04.3	
	comp=Z,1.5nm,0.9s							
YKA	**Yellowknife Ar**	**65.50**	**29**	P		**P**	**07 12 11.5**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=300,slow=6.4,SNR=4.8							
YKA	**Yellowknife Ar**	**65.50**	**29**	P		**P**	**07 12 12.5**	**+0.2**
AKASG	**Malin Array Be**	**74.11**	**322**	P		**P**	**07 13 04.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=47,slow=6.0,SNR=1.8							
AKASG	**Malin Array Be**	**74.11**	**322**	P		**P**	**07 13 04.7**	**-0.7**
LRM	**Limekiln Ridge**	**76.00**	**43**	P		**P**	**07 13 17.9**	**+1.2**
NVAR	**Mina Array Bea**	**76.89**	**52**	P		**P**	**07 13 22.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=285,slow=5.5,SNR=6.3							
NVAR	**Mina Array Bea**	**76.89**	**52**	P		**P**	**07 13 21.8**	**+0.1**
PDAR	**Pinedale Array**	**79.53**	**44**	P		**P**	**07 13 35.3**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=338,slow=3.5,SNR=4.7							
GERES	**GERESS Array B**	**82.72**	**327**	P		**P**	**07 13 51.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=354,slow=7.9,SNR=3.4							
GERES	**GERESS Array B**	**82.72**	**327**	P		**P**	**07 13 52.3**	**-0.5**
TXAR	**Lajitas Array**	**92.02**	**51**	P		**P**	**07 14 38.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=310,slow=2.6,SNR=4.5							
LPAZ	**La Paz**	**148.60**	**58**	PKPbc		**PKPbc**	**07 21 17.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=270,slow=5.1,SNR=4.1							

TUL ***20*** *07:14:54.7±0.9,36°.19N±0°.01×96°.78W±0°.02, h7km±7km, ML3.3, mb_Lg3.0/64(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=88.0*

NEIC 20 07:14:54.8±0.8,**36°.20N**±0°.01×**96°.79W**±0°.02,**h5**km±2km,
Error ellipse: s-maj=3.0km s-min=2.4km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.75**	**17**		Pg	07 15 09.3	0.0
T35A				Sg	Sg	07 15 19.2	+0.2
TUL1	**Leonard**	**0.86**	**109**		Pg	07 15 10.8	-0.4
TUL1				Sg	Sg	07 15 22.1	-0.2
OKCFA	**Oklahoma City**	**0.95**	**215**		Pg	07 15 12.3	-0.7
OKCSW	**OKLAHOMA CITY**	**0.95**	**214**	Pg	Pg	07 15 12.4	-0.7
OKCSW				Sg	Sg	07 15 25.5	+0.1
W35A	**Tecumseh**	**1.05**	**184**		Pg	07 15 13.9	-1.0
FNO	**Franklin**	**1.06**	**208**	Pg	Pg	07 15 14.3	-0.9
U32A	**Winter Ranch,**	**1.80**	**276**		Pn	07 15 27.0	+0.4
X34A	**Smith Ranch, M**	**1.81**	**208**	Pn	Pn	07 15 27.2	+0.5
WMOK	**Wichita Mounta**	**2.19**	**229**	Pn	Pn	07 15 31.6	-0.2
HHAR	**Hobbs**	**2.30**	**87**		Pn	07 15 34.0	+0.5
W39A	**Magazine**	**2.64**	**111**		Pn	07 15 38.2	+0.2
W39A				IAmb_Lg		07 16 21.5	
	comp=Z,49nm,0.9s						
R32A	**Long Quarter,**	**2.70**	**326**	Pn	Pn	07 15 39.3	+0.4
Z35A	**Perchaven, San**	**2.89**	**188**		Pn	07 15 42.3	+0.8
KSU1	**Kansas State U**	**2.90**	**3**	Pn	Pn	07 15 41.9	+0.2
MIAR	**Mount Ida**	**3.10**	**121**		Pn	07 15 44.9	+0.5
S39A	**Bolivar**	**3.15**	**61**		Pn	07 15 46.0	+1.0
S39A				IAmb_Lg		07 16 41.8	
	comp=Z,44nm,0.8s						
U40A	**Yellville**	**3.18**	**86**		Pn	07 15 45.4	-0.2
Z38A	**Mt. Pleasant**	**3.29**	**153**	IAmb_Lg		07 16 47.2	
	comp=Z,42nm,0.8s						
CBKS	**Cedar Bluff**	**3.51**	**319**	Pn	Pn	07 15 50.4	+0.3
X40A	**Basin Creek Fa**	**3.65**	**117**	IAmb_Lg		07 16 54.2	
	comp=Z,34nm,0.8s						
MGMO	**Mountain Grove**	**3.75**	**74**		Pn	07 15 54.0	+0.6
MGMO				IAmb_Lg		07 16 57.7	
	comp=Z,29nm,0.7s						
WHAR	**Wooly Hollow**	**3.77**	**103**		Pn	07 15 53.4	-0.2
WHAR				IAmb_Lg		07 16 59.3	
	comp=Z,24nm,1.0s						
FCAR	**Ozark Folk Cen**	**3.79**	**93**	Pn	Pn	07 15 53.9	+0.1
W41B	**Gary Mavity, V**	**3.83**	**104**		Pn	07 15 54.2	-0.3
R40A	**Maddies Statio**	**4.17**	**59**	Pn	Pn	07 15 59.4	+0.3
R40A				IAmb_Lg		07 17 05.3	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**4.20**	**253**	IAmb_Lg		07 17 11.4	
	comp=Z,34nm,0.8s						
WHTX	**Lake Whitney,**	**4.23**	**188**	Pn	Pn	07 15 59.9	0.0
P38A	**Dawn**	**4.28**	**36**	Pn	Pn	07 16 00.4	-0.2
P38A				IAmb_Lg		07 17 13.7	
	comp=Z,25nm,0.8s						
Z41A	**Richland Creek**	**4.40**	**131**	Pn	Pn	07 16 02.0	-0.2
Z41A				IAmb_Lg		07 17 16.6	
	comp=Z,23nm,0.9s						
N33A	**J Bar K, Exete**	**4.56**	**354**	Pn	Pn	07 16 04.3	-0.2
N33A				IAmb_Lg		07 17 26.6	
	comp=Z,19nm,0.9s						
CCAR	**Cane Creek**	**4.70**	**118**	Pn	Pn	07 16 06.5	+0.2
N35A	**Tabor**	**4.74**	**11**	Pn	Pn	07 16 06.9	-0.1
N35A				IAmb_Lg		07 17 34.9	
	comp=Z,33nm,0.8s						
CCM	**Cathedral Cave**	**4.80**	**66**	IAmb_Lg		07 17 23.4	
	comp=Z,31nm,0.7s						
P40A	**Paris**	**5.01**	**47**	IAmb_Lg		07 17 34.3	
	comp=Z,26nm,0.8s						
HBAR	**Harrisburg**	**5.02**	**96**	IAmb_Lg		07 17 37.4	
	comp=Z,29nm,0.7s						
PBMO	**Poplar Bluff**	**5.16**	**82**	IAmb_Lg		07 17 45.4	
	comp=Z,16nm,0.8s						
BGNE	**Belgrade**	**5.31**	**349**	Pn	Pn	07 16 14.4	-0.4
BGNE				IAmb_Lg		07 17 55.8	
	comp=Z,28nm,0.8s						
N38A	**Joes South For**	**5.37**	**30**	Pn	Pn	07 16 15.1	-0.4
N38A				IAmb_Lg		07 17 58.0	
	comp=Z,22nm,0.9s						
FVM	**French Village**	**5.39**	**69**	IAmb_Lg		07 17 46.4	
	comp=Z,30nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.42**	**303**	Pn	Pn	07 16 16.2	-0.3
L34A	**Svendsen Farm,**	**5.77**	**3**	IAmb_Lg		07 18 03.9	
	comp=Z,18nm,0.7s						
T25A	**Trinidad**	**6.20**	**281**	IAmb_Lg		07 18 13.5	
	comp=Z,18nm,1.0s						
S44A	**Carbondale**	**6.21**	**74**	Pn	Pn	07 16 26.9	-0.3
JCT	**Junction City**	**6.24**	**205**	Pn	Pn	07 16 26.6	-0.9
JCT				IAmb_Lg		07 18 21.8	
	comp=Z,26nm,1.1s						
OGNE	**Ogallala**	**6.27**	**321**	IAmb_Lg		07 18 19.5	
	comp=Z,20nm,0.8s						
SCIA	**State Center**	**6.34**	**25**	IAmb_Lg		07 18 14.1	
	comp=Z,15nm,0.7s						
K31A	**O'Neill**	**6.59**	**347**	IAmb_Lg		07 18 36.7	
	comp=Z,22nm,0.8s						
T45A	**Paducah**	**6.60**	**80**	IAmb_Lg		07 18 21.4	
	comp=Z,20nm,1.0s						
Q24A	**Divide**	**7.19**	**295**	IAmb_Lg		07 18 52.4	
	comp=Z,21nm,1.2s						
HDIL	**Hopedale**	**7.32**	**51**	Pn	Pn	07 16 41.6	-0.7
T47A	**Sharon Grove**	**7.83**	**81**	IAmb_Lg		07 19 12.4	
	comp=Z,9.7nm,0.8s						
P46A	**Rosedale**	**8.30**	**63**	IAmb_Lg		07 19 31.2	
	comp=Z,18nm,0.8s						
JFWS	**Jewell Farm**	**8.39**	**35**	IAmb_Lg		07 19 38.8	
	comp=Z,12nm,1.0s						
N23A	**Red Feather La**	**8.57**	**306**	IAmb_Lg		07 19 34.5	
	comp=Z,12nm,0.8s						
K22A	**Casper**	**9.91**	**314**	IAmb_Lg		07 20 20.1	
	comp=Z,9.8nm,0.9s						

DJA ***20*** *07:22:46.2±1.4,2°.5S±5°.×13°.4E±°, h18km±10km, M4.0/5, MLv4.0/5*

IDC ***20*** *07:22:50.0±6.1,2°.36S×134°.09E, h58km±53km, mb3.5/4, mb1 3.8/7, mb1mx3.4/33, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=64.8km s-min=16.2km az=65.0*

ISC 20 07:22:46.6±0.9,**2°.28S**±0°.09×**134°.31E**±0°.05,**h30**km,**n11,**
σ0s92/14, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.97**	**78**	P	Pn	**07 23 17.4**	**-0.6**
SRPI				S	Sn	**07 23 41.8**	**0.0**
BAKI	**Biak**	**2.10**	**59**	P	Pn	**07 23 19.9**	**+0.1**
FAKI	**Fak Fak**	**2.15**	**253**	P	Pn	**07 23 20.6**	**+0.1**
SIJI	**Sorong**	**3.35**	**295**	P	Pn	**07 23 37.2**	**+0.2**
	15nm,0.3s,baz=81,slow=12,SNR=37						
SIJI				S	Sn	**07 24 15.2**	**-0.7**
	9.8nm,0.3s,baz=127,slow=20,SNR=6.9						
SWI	**Sorong**	**3.36**	**295**	P	Pn	**07 23 37.3**	**+0.2**
SWI				S	Sn	**07 24 16.0**	**0.0**
WRA	**Warramunga Arr**	**17.55**	**180**	P	Pn	**07 26 50.5**	**+1.2**
	0.2nm,0.3s,baz=359,slow=12,SNR=23						
FITZ	**Fitzroy Crossi**	**17.87**	**208**	P	Pn	**07 26 51.2**	**-2.0**
	0.1nm,0.3s,baz=22,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**21.26**	**181**	P	P	**07 27 31.2**	**+0.6**
	4.0nm,0.8s,baz=6.3,slow=10,SNR=31						
SONM	**Songino Array**	**55.55**	**338**	P	P	**07 32 20.5**	**+1.1**
	0.3nm,0.5s,baz=136,slow=6.7,SNR=1.8						
MKAR	**Makanchi Array**	**66.81**	**324**	P	P	**07 33 35.6**	**0.0**
	1.0nm,0.4s,baz=112,slow=8.1,SNR=19						
ZALV	**Zalesovo Beam**	**69.41**	**331**	P	P	**07 33 50.5**	**-1.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=1.7						

ISN ***20*** *07:24:04.5±1.2,32°.41N×47°.80E, h0km±237km, ML3.1*

TEH ***20*** *07:24:07.5,32°.46N×47°.90E, h12km, ML3.2*

ISC 20 07:24:08.6±1.1,**32°.39N**±0°.05×**47°.80E**±0°.04,**h15**km,**n37,**
σ0s94/41, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.13**	**2**	*e*Pg	Pb	**07 24 28.3**	**-1.6**
IKFM				*e*Sg	**Sb**	**07 24 43.7**	**-0.7**
IKFM				*e*		07 24 52.6	
	comp=Z,12μm,0.7s						
IDOB	**Doab**	**1.43**	**13**	*e*Pg	**Pn**	**07 24 32.7**	**-1.6**
IDOB				*e*		07 25 02.7	
	comp=Z,3μm,0.7s						
BMDN	**Meydan**	**1.54**	**34**	*e*Pg	**Pn**	**07 24 35.2**	**-0.6**
BMDN				*e*Sg	**Sn**	**07 24 55.7**	**+0.1**
IBDR	**Badra**	**1.73**	**295**	*e*Pn	**Pn**	**07 24 38.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**07 25 01.0**	**+1.0**
IBDR				AML	AML	07 25 09.0	
	comp=E,219nm,0.5s						
IBDR				AML	AML	07 25 10.6	
	comp=N,211nm,0.3s						
KCHF	**Cheshme Sefid,**	**1.98**	**341**	*e*Pn	**Pn**	**07 24 43.6**	**+1.7**
KCHF				*e*		07 25 16.0	
	comp=Z,3μm,0.4s						
KER	**Kermanshah**	**2.07**	**344**	*e*Pg	**Pn**	**07 24 44.7**	**+1.7**
IBZA	**Bozab**	**2.07**	**1**	*e*Pg	**Pn**	**07 24 44.9**	**+1.7**
IBZA				*e*		07 25 19.3	
	comp=Z,3μm,1.0s						
IGHG	**Ghaleghazi**	**2.19**	**332**	*e*Pn	**Pn**	**07 24 45.1**	**+0.3**
KHMZ	**Khomeyn**	**2.26**	**53**	*e*Pn	**Pn**	**07 24 47.0**	**+1.4**
IALM	**Almabolaq**	**2.48**	**7**	*e*Pn	**Pn**	**07 24 48.6**	**-0.2**
IALM				*e*		07 25 31.9	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**2.59**	**333**	*e*Pn	**Pn**	**07 24 50.4**	**+0.2**
IDHR				*e*		07 25 34.1	
	comp=Z,2μm,0.4s						
SHK1	**Shahrekord**	**2.61**	**91**	*e*Pn	**Pn**	**07 24 50.3**	**-0.2**
SHK1				*e*		07 25 34.7	
	comp=Z,564nm,0.9s						
IPIR	**Pirpir**	**2.63**	**83**	*e*Pn	**Pn**	**07 24 51.0**	**+0.2**
IPIR				*e*		07 25 42.8	
	comp=Z,2μm,1.0s						
ABEH	**Behbahan**	**2.75**	**130**	*e*Sg	**Sg**	**07 25 39.1**	**+2.0**
ASAO	**Ashtian**	**2.84**	**40**	*e*Pn	**Pn**	**07 24 55.0**	**+1.2**
IBRJ	**Brojen**	**2.97**	**98**	*e*Pn	**Pn**	**07 24 55.7**	**+0.1**
IBRJ				*e*		07 26 18.2	
	comp=Z,433nm,0.7s						
BHD	**Baghdad**	**3.01**	**288**	*e*Pn	**Pn**	**07 24 55.0**	**-0.8**
BHD				*e*Sn	**Sn**	**07 25 33.0**	**+1.4**
QAMS	**Qamsar**	**3.30**	**65**	*e*		07 25 53.1	
	comp=Z,659nm,0.5s						
IKLH	**Kolahrood**	**3.31**	**73**	*e*Pn	**Pn**	**07 25 00.3**	**+0.1**
IKLH				*e*		07 26 02.3	
	comp=Z,419nm,0.6s						
IRAZ	**Razeghan**	**3.49**	**30**	*e*Pn	**Pn**	**07 25 03.0**	**+0.4**
IRAZ				*e*		07 26 12.3	
	comp=Z,603nm,0.8s						
KLNJ	**Kolanjah**	**3.51**	**112**	*e*Pn	**Pn**	**07 25 02.8**	**-0.2**
KLNJ				*e*		07 26 39.4	
	comp=Z,472nm,0.9s						
GHVR	**GHOM**	**3.59**	**54**	*e*Pn	**Pn**	**07 25 04.9**	**+1.1**
IGAR	**Gharneh**	**3.59**	**89**	*e*Pn	**Pn**	**07 25 03.4**	**-0.6**
IGAR				*e*		07 26 15.8	
	comp=Z,206nm,0.5s						
QABG	**Abgarm-Qazvin**	**3.62**	**24**	*e*		07 25 15.7	
	comp=Z,264nm,0.8s						
QABG				*e*Pn	**Pn**	**07 25 05.2**	**+0.7**
IQOM	**Qom**	**3.66**	**47**	*e*Pn	**Pn**	**07 25 04.8**	**-0.2**
IQOM				*e*		07 26 15.9	
	comp=Z,465nm,1.1s						
IZEF	**Zefreh**	**3.85**	**81**	*e*Pn	**Pn**	**07 25 08.0**	**+0.4**
IZEF				*e*		07 26 35.8	
	comp=Z,162nm,0.6s						
IRAM	**Ramesheh**	**3.93**	**97**	*e*Pn	**Pn**	**07 25 08.6**	**-0.1**
IRAM				*e*		07 26 28.4	
	comp=Z,210nm,0.9s						
KRSH	**Karshahi**	**3.96**	**65**	*e*Pn	**Pn**	**07 25 08.5**	**-0.5**
KRSH				*e*		07 26 23.0	
	comp=Z,291nm,0.8s						
IKRK	**Kirkuk**	**4.16**	**317**	*e*Pn	**Pn**	**07 25 11.0**	**-0.6**
IKRK				*e*Sn	**Sn**	**07 26 00.0**	**+0.1**
IKRK				AML	AML	07 26 05.2	
	comp=E,55nm,0.4s						
IKRK				AML	AML	07 26 07.1	
	comp=N,57nm,0.4s						
IVRN	**Varamin**	**4.18**	**50**	*e*Pn	**Pn**	**07 25 12.1**	**+0.2**
ISFB	**Sefidab**	**4.20**	**61**	*e*Pn	**Pn**	**07 25 11.9**	**-0.3**
ZNJK	**Zanjan**	**4.33**	**9**	*e*Pn	**Pn**	**07 25 15.1**	**+0.9**
CHTH	**Charan**	**4.46**	**37**	*e*Pn	**Pn**	**07 25 17.5**	**+1.5**
ANAR	**Anarak**	**5.06**	**79**	*e*Pn	**Pn**	**07 25 23.1**	**-1.0**
IPRN	**Peran**	**5.37**	**43**	*e*Pn	**Pn**	**07 25 28.7**	**+0.3**
ISHM	**Shahmirzad**	**5.69**	**52**	*e*Pn	**Pn**	**07 25 32.9**	**0.0**
YZKH	**Yazd**	**5.74**	**88**	*e*Pn	**Pn**	**07 25 34.0**	**+0.5**

NOU ***20*** *07:31:39.2,43°.67S×173°.04E, h9km, MLv4.2/9, Off E. Coast of S. Island, N.Z.*

WEL ***20*** *07:31:39.8,44°.3S±1°.×17°.3E±°, h8km±1km, M3.7/12, ML3.9/12, MLv3.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=36.2*

ISC 20 07:31:40.5±1.0,**43°.56S**±0°.03×**172°.86E**±0°.04,**h12**km±9km,
n107,σ0s94/111, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.21**	**224**	P	**Pg**	**07 31 45.1**	**+0.1**
MQZ				S	**Sg**	**07 31 48.2**	**+0.1**
OKCZ	**Okains Bay**	**0.22**	**138**	P	**Pb**	**07 31 47.1**	**+0.6**
AKCZ	**Akaroa Harbour**	**0.32**	**173**	P	**Pb**	**07 31 48.5**	**+0.3**
AKCZ				S	**Sb**	**07 31 54.3**	**+1.0**
AMCZ	**Amberley**	**0.41**	**339**	P	**Pg**	**07 31 48.6**	**0.0**
AMCZ				S	**Sg**	**07 31 54.0**	**0.0**
RACZ	**Rakaia**	**0.55**	**252**	P	**Pg**	**07 31 51.2**	**0.0**
GVZ	**Greta Valley S**	**0.60**	**13**	P	**Pb**	**07 31 53.1**	**+0.1**
GVZ				S	**Sb**	**07 32 02.4**	**+0.9**
OXZ	**Oxford**	**0.64**	**291**	P	**Pg**	**07 31 52.0**	**-0.9**
WACZ	**Wakanui South**	**0.83**	**242**	P	**Pg**	**07 31 56.8**	**+0.3**
LTZ	**Lake Taylor**	**0.89**	**331**	P	**Pb**	**07 31 57.3**	**-0.5**
MHCZ	**Mount Hutt**	**0.94**	**271**	P	**Pb**	**07 31 58.0**	**-0.7**
KHZ	**Kahutara**	**1.25**	**24**	P	Pn	**07 32 02.9**	**-0.8**
KHZ	**Kahutara**	**1.25**	**24**	P	Pn	**07 32 03.6**	**-0.1**
ARCZ	**Arundel**	**1.28**	**252**	P	Pn	**07 32 03.3**	**-0.9**
RPZ	**Rata Peaks**	**1.32**	**262**	P	Pn	**07 32 03.8**	**-0.9**
RPZ	**Rata Peaks**	**1.32**	**262**	P	Pn	**07 32 04.0**	**-0.7**
INZ	**Inchbonnie**	**1.33**	**308**	P	Pn	**07 32 03.7**	**-1.1**
TMZ	**Timaru**	**1.57**	**238**	P	Pn	**07 32 07.7**	**-0.5**
WVZ	**Waitaha Valley**	**1.62**	**287**	P	Pn	**07 32 08.1**	**-0.8**
THZ	**Tophouse**	**1.79**	**1**	P	Pn	**07 32 10.7**	**-0.6**
DSZ	**Denniston Nort**	**1.97**	**336**	P	Pn	**07 32 13.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.99**	**23**	P	Pn	**07 32 13.9**	**-0.1**
LBZ	**Lake Benmore**	**2.10**	**246**	P	Pn	**07 32 15.2**	**-0.2**
MRNZ	**Matariki Terra**	**2.16**	**358**	P	Pn	**07 32 16.5**	**+0.2**
ODZ	**Otahua Downs**	**2.17**	**226**	P	Pn	**07 32 15.9**	**-0.5**
ODZ	**Otahua Downs**	**2.17**	**226**	P	Pn	**07 32 16.7**	**+0.2**
FOZ	**Fox Glacier**	**2.21**	**270**	P	Pn	**07 32 17.8**	**+0.8**
TUWZ	**Tuamarina**	**2.27**	**21**	P	Pn	**07 32 17.2**	**-0.6**
NNZ	**Nelson**	**2.37**	**10**	P	Pn	**07 32 19.2**	**0.0**
TKNZ	**Takaka Hill**	**2.52**	**2**	P	Pn	**07 32 22.0**	**+0.7**
TCW	**Tory Channel**	**2.57**	**25**	P	Pn	**07 32 21.0**	**-0.9**
BHW	**Baring Head**	**2.61**	**35**	P	Pn	**07 32 21.8**	**-0.7**
SNZO	**South Karori**	**2.63**	**32**	P	Pn	**07 32 22.2**	**-0.5**
PLWZ	**Palliser**	**2.66**	**43**	P	Pn	**07 32 22.2**	**-1.0**
QRZ	**Quartz Range**	**2.74**	**355**	P	Pn	**07 32 24.0**	**-0.2**
QRZ	**Quartz Range**	**2.74**	**355**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.34**	**329**	P	**Pn**	**07 47 01.6**	**0.0**
JHCJ				*e*S	**Sn**	**07 47 27.8**	**-1.7**
JHJ2	**Mitsune**	**2.36**	**330**	P	**Pn**	**07 47 02.1**	**+0.1**
JHJ2				S	**Sn**	**07 47 28.6**	**-1.5**
JHJ2	**Mitsune**	**2.36**	**330**	Pn	**Pn**	**07 47 02.3**	**+0.3**
JHJ2				Sn	**Sn**	**07 47 30.8**	**+0.6**
JHJ	**Hachijo jima 2**	**2.38**	**330**	P	**Pn**	**07 47 02.0**	**-0.2**
	69nm,0.3s,baz=58,slow=22,SNR=17						
JHJ				S	**Sn**	**07 47 28.4**	**-2.3**
	162nm,0.3s,baz=118,slow=24,SNR=11						
JHJ				LR	LR	07 48 01.6	
	comp=Z,166nm,19.3s,baz=332,slow=41						
JMKN	**Mikurajimanish**	**3.14**	**334**	*e*S	**Sn**	**07 47 47.3**	**-1.5**
BSO1	**Boso 1**	**3.59**	**357**	P	**Pn**	**07 47 18.7**	**+0.7**
BSO4	**Boso 4**	**3.98**	**350**	P	**Pn**	**07 47 25.0**	**+1.2**
CBIJ	**Chichi jima**	**4.04**	**168**	P	Pn	07 47 23.9	-0.8
CBIJ				*e*S	Sn	07 48 07.8	-3.1
JCJ	**Chichijima**	**4.04**	**168**	Pn	Pn	07 47 22.5	-2.3
JCJ				Sn	Sn	07 48 07.0	-3.9
TTO2	**TONANKAI O.B.S**	**4.43**	**308**	P	**Pn**	**07 47 31.4**	**+1.7**
TTO1	**TONANKAI O.B.S**	**4.54**	**305**	P	**Pn**	**07 47 32.9**	**+1.7**
JOD2	**Odawara 2**	**4.55**	**337**	P	**Pn**	**07 47 32.4**	**+0.7**
JHU	**Hanno**	**5.04**	**342**	P	**Pn**	**07 47 40.3**	**+2.0**
JYT	**Yasato**	**5.22**	**351**	P	**Pn**	**07 47 41.2**	**+0.5**
JYT	**Yasato**	**5.22**	**351**	Pn	**Pn**	**07 47 40.8**	**+0.1**
JRY	**Ryogami san**	**5.30**	**339**	P	**Pn**	**07 47 43.3**	**+1.4**
JTNC	**Tanabenakahech**	**5.48**	**302**	P	**Pn**	**07 47 46.0**	**+1.7**
INU	**Inuyama**	**5.54**	**322**		**Pn**	**07 47 46.7**	**+1.7**
JGF	**Kuroka**	**5.56**	**326**		**Pn**	**07 47 47.2**	**+1.8**
MJAR	**Matsushiro Arr**	**6.01**	**336**	P	**Pn**	**07 47 51.4**	**-0.1**
	0.7nm,0.3s,baz=165,slow=12,SNR=31						
MJAR				S	**Sn**	**07 48 57.5**	**-1.4**
	baz=354,slow=35,SNR=1.8						
MJAR	**Matsushiro Arr**	**6.01**	**336**		**Pn**	**07 47 52.2**	**+0.7**
MAJO	**Matsushiro**	**6.01**	**336**		**Pn**	**07 47 51.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**6.02**	**336**		**Pn**	**07 47 51.9**	**+0.3**
JMM	**Marumori**	**6.79**	**357**		**Pn**	**07 48 01.7**	**-0.5**
JSD	**Sado**	**7.37**	**341**	Pn	**Pn**	**07 48 09.0**	**-1.1**
JSU	**Suzuyama**	**9.22**	**276**	Pn	**Pn**	**07 48 37.5**	**+2.2**
JTM	**Tenmabayashi**	**9.70**	**359**	Pn	**Pn**	**07 48 41.3**	**-0.6**
KSRS	**Korea Array**	**12.71**	**304**	P	**Pn**	**07 49 21.2**	**-1.4**
	0.3nm,0.3s,baz=118,slow=16,SNR=5.3						
KSRS				LR	LR	07 53 54.0	
	comp=Z,40nm,20.9s,baz=125,slow=36						
USA0B	**Ussuriysk Arra**	**15.00**	**334**		**Pn**	**07 49 52.9**	**+0.3**
USA0B				IAmb	IAmb	07 49 57.3	
	comp=Z,8.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**15.00**	**334**	P	**Pn**	**07 49 52.1**	**-0.5**
	baz=194,slow=18,SNR=4.2						
USRK	**Ussuriysk Ar.**	**15.00**	**334**	Pn	**Pn**	**07 49 52.6**	**0.0**
MDJ	**Mudanjiang**	**16.33**	**329**	Pn	**Pn**	**07 50 09.3**	**0.0**
GUMO	**Guam**	**17.71**	**168**	P	**P**	**07 50 26.9**	**+0.6**
	comp=Z,8.1nm,0.3s,baz=8.9,slow=2.6,SNR=6.2						
GUMO	**Guam**	**17.71**	**168**	P	**P**	**07 50 23.2**	**-3.1**
CN2	**Changchun**	**17.81**	**320**	*e*P	**P**	**07 50 25.1**	**-2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**18.18**	**328**	⇓P	**Pn**	**07 50 31.5**	**-0.4**
BNX				pmax	pmax		
	comp=Z,25nm,1.0s						
BNX				pmax	pmax		
	comp=Z,220nm,4.2s						
NJ2	**Nanjing**	**19.08**	**279**	*e*P	**P**	**07 50 43.4**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KLR	**Kul'dur**	**19.51**	**341**	P	**P**	**07 50 46.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=138,slow=10,SNR=11						
HNS	**HongShan**	**22.77**	**293**	⇑P	**P**	**07 51 19.4**	**-1.4**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**24.35**	**324**	P	**P**	**07 51 35.2**	**-0.1**
HIA				IAmb	IAmb	07 51 37.2	
	comp=Z,18nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**25.73**	**110**	T	T	08 19 46.7	
	baz=300,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**25.74**	**110**	T	T	08 19 43.1	
	baz=300,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**25.75**	**110**	T	T	08 19 46.0	
	baz=300,slow=75,SNR=2.7						
HHC	**Hu-ho-hao-te**	**25.81**	**300**	*e*P	**P**	**07 51 50.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
H11S3	**WAKE ISLAND Hy**	**26.22**	**113**	T	T	08 20 52.7	
	baz=304,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**26.22**	**112**	T	T	08 20 57.0	
	baz=304,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**26.24**	**113**	T	T	08 20 58.1	
	baz=304,slow=75,SNR=23						
BTO	**Baotou**	**26.91**	**299**	*e*P	**P**	**07 52 00.4**	**+1.7**
ENH	**Enshi**	**27.26**	**277**	P	**P**	**07 52 00.9**	**-0.9**
ENH				IAmb	IAmb	07 52 01.2	
	comp=Z,9.5nm,0.5s						
ULN	**Ulaanbaatar**	**30.94**	**313**	P	**P**	**07 52 35.7**	**+1.2**
ULN				IAmb	IAmb	07 52 39.2	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**31.35**	**312**	P	**P**	**07 52 37.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=112,slow=8.3,SNR=9.7						
SONM	**Songino Array**	**31.35**	**312**	P	**P**	**07 52 38.2**	**+0.2**
GTA	**Gaotai**	**34.58**	**295**	⇑P	**P**	**07 53 05.6**	**-0.7**
GTA				pP	pP	07 53 18.3	-6.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PZH	**PanZhiHua**	**34.77**	**273**	P	**P**	**07 53 09.5**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,5.9s						
GOMU	**GeErMu**	**38.69**	**290**	P	**P**	**07 53 40.8**	**-0.7**
GOMU				pP	pP	07 53 44.0	-16
GOMU				sP	pwP	07 53 45.8	-18
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.16**	**262**	P	**P**	**07 53 51.2**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=59,slow=6.9,SNR=5.6						
CMAR				LR	LR	08 10 14.2	
	comp=Z,6.4nm,18.0s,baz=290,slow=36						
KSM	**Kuching**	**41.49**	**231**	P	**P**	**07 54 04.3**	**0.0**
KSM				IAmb	IAmb	07 54 17.9	
	comp=Z,21nm,1.3s						
SPIA	**Saint Paul Isl**	**42.26**	**37**	P	**P**	**07 54 08.0**	**-2.1**
LSA	**Lhasa**	**42.92**	**282**	P	**P**	**07 54 16.2**	**-0.2**
LSA				IAmb	IAmb	07 54 36.4	
	comp=Z,6.0nm,0.4s						
SHL	**Shillong**	**43.49**	**276**	P	**P**	**07 54 19.5**	**-1.4**
SHL				IAmb	IAmb	07 54 19.9	
	comp=Z,6.2nm,0.7s						
WMQ	**Urumqi**	**43.65**	**303**	*e*P	**P**	**07 54 24.8**	**+3.1**
ZALV	**Zalesovo Beam**	**45.98**	**317**	P	**P**	**07 54 39.5**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=90,slow=6.3,SNR=2.6						
ZALV				PcP	**PcP**	**07 56 15.6**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=125,slow=2.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**45.98**	**317**	P	**P**	**07 54 39.8**	**-0.2**
MK31	**Makanchi Array**	**47.36**	**307**	P	**P**	**07 54 50.4**	**-0.5**
MK31				IAmb	IAmb	07 54 52.5	
	comp=Z,3.3nm,1.4s						
MKAR	**Makanchi Array**	**47.36**	**307**	P	**P**	**07 54 50.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=88,slow=8.8,SNR=24						
MKAR				PcP	**PcP**	**07 56 21.2**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=86,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**47.36**	**307**	P	**P**	**07 54 51.1**	**+0.1**
MAKZ	**Makanchi**	**47.58**	**307**	P	**P**	**07 54 52.3**	**-0.3**
NRIK	**Noril'sk**	**48.66**	**338**	P	**P**	**07 55 01.4**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=119,slow=9.5,SNR=4.8						
NRIK	**Noril'sk**	**48.66**	**338**	P	**P**	**07 55 00.9**	**+0.4**
NRIK				IAmb	IAmb	07 55 14.2	
	comp=Z,5.6nm,0.9s						
KURK	**Kurchatov**	**49.65**	**312**	P	**P**	**07 55 07.5**	**-0.8**
KURK				IAmb	IAmb	07 55 08.9	
	comp=Z,8.3nm,1.0s						
WRA	**Warramunga Arr**	**51.14**	**188**	P	**P**	**07 55 18.5**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=5.9,slow=7.7,SNR=48						
KDAK	**Kodiak Island**	**51.75**	**39**	P	**P**	**07 55 25.6**	**+1.6**
	comp=Z,9.8nm,1.0s,baz=315,slow=8.6,SNR=1.8						
ILAR	**Eielson Array**	**54.68**	**30**	P	**P**	**07 55 46.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=360,slow=8.6,SNR=2.2						
AS31	**Alice Springs**	**54.87**	**188**	P	**P**	**07 55 46.6**	**-0.7**
ASAR	**Alice Springs**	**54.87**	**188**	P	**P**	**07 55 46.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=19,slow=12,SNR=20						
ASAR	**Alice Springs**	**54.87**	**188**	P	**P**	**07 55 46.3**	**-0.9**
CHGR	**Chuyangaron**	**58.24**	**299**	P	**P**	**07 56 12.1**	**+0.8**
KBL	**Kabul**	**59.56**	**294**	P	**P**	**07 56 20.0**	**-0.6**
KBL				IAmb	IAmb	07 56 21.3	
	comp=Z,6.6nm,0.8s						
ARU	**Arti**	**60.80**	**321**	P	**P**	**07 56 28.1**	**-0.3**
ABKAR	**Akbulak array**	**61.76**	**313**	P	**P**	**07 56 34.9**	**-0.1**
STKA	**Stephens Creek**	**62.60**	**180**	P	**P**	**07 56 40.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=333,slow=10,SNR=5.8						
YKA	**Yellowknife Ar**	**69.07**	**29**	P	**P**	**07 57 23.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=300,slow=6.4,SNR=9.8						
ARCES	**ARCESS Array B**	**69.53**	**340**	P	**P**	**07 57 25.1**	**+0.4**
	comp=Z,14nm,1.2s,baz=64,slow=8.1,SNR=3.0						
FINES	**FINESS Array B**	**74.03**	**333**	P	**P**	**07 57 52.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=100,slow=6.6,SNR=7.8						
KBZ	**Khabaz**	**74.71**	**312**	P	**P**	**07 57 56.9**	**+0.8**
	comp=Z,6.3nm,0.8s,baz=93,slow=4.5,SNR=11						
NVAR	**Mina Array Bea**	**78.74**	**52**	P	**P**	**07 58 20.3**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=284,slow=5.8,SNR=8.0						
NVAR	**Mina Array Bea**	**78.74**	**52**	P	**P**	**07 58 17.9**	**-1.3**
AKASG	**Malin Array Be**	**78.94**	**323**	P	**P**	**07 58 19.5**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=50,slow=5.6,SNR=11						
AKASG	**Malin Array Be**	**78.94**	**323**	P	**P**	**07 58 19.2**	**-0.5**
NOA	**NORSAR Array B**	**79.63**	**338**	P	**P**	**07 58 23.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=53,slow=6.6,SNR=1.9						
BRTR	**Keskin Array B**	**82.71**	**312**	P	**P**	**07 58 40.6**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=20,slow=3.9,SNR=4.3						
RAYN	**Ar Rayn**	**82.80**	**293**	P	**P**	**07 58 40.2**	**-0.6**
RAYN				IAmb	IAmb	07 58 42.2	
	comp=Z,8.4nm,0.7s						
VLO	**Vlora**	**90.70**	**320**	P	**P**	**07 59 17.7**	**-1.3**
TXAR	**Lajitas Array**	**93.89**	**52**	P	**P**	**07 59 36.6**	**+2.6**
	comp=Z,1.2nm,0.9s,baz=304,slow=2.9,SNR=5.5						
TXAR	**Lajitas Array**	**93.89**	**52**	P	**P**	**07 59 31.9**	**-2.1**
LPAZ	**La Paz**	**149.48**	**68**	PKPbc	**PKPbc**	**08 06 08.2**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=298,slow=4.8,SNR=6.2						

ISC 20 07:59:28.6±1.0, 50°20N±0°.06×18°.96E±0°.03, h0km, n7, σ0§52/13, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**87**	*e*Pg	**Pg**	**07 59 38.5**	**-0.4**
OJC				*e*Sg	**Sg**	**07 59 46.1**	**+0.3**
MORC	**Moravsky Berou**	**1.01**	**246**	*e*PG	**Pg**	**07 59 48.2**	**+0.3**
MORC				*e*SG	**Sg**	**07 59 59.8**	**-1.2**
LANS	**Liptovska Anna**	**1.10**	**162**	*e*PG	**Pg**	**07 59 50.1**	**+0.5**
LANS				*e*SG	**Sb**	**08 00 05.2**	**-0.1**
LANS				*e*LG	Lg	08 00 09.0	
NIE	**Niedzica**	**1.16**	**131**	*e*Pg	**Pn**	**07 59 52.2**	**0.0**
NIE				*e*Sg	**Sn**	**08 00 08.9**	**+0.1**
VYHS	**Vyhne**	**1.71**	**183**	*e*SN	**Sn**	**08 00 21.5**	**-0.6**
VRAC	**Vranov**	**1.77**	**241**	*e*PN	**Pn**	**08 00 01.1**	**+0.5**
VRAC				*e*SG	**Sn**	**08 00 23.6**	**-0.2**
KSP	**Ksiaz**	**1.82**	**292**	*e*Pg	**Pb**	**08 00 02.8**	**+0.0**
KSP				*e*Sg	**Sg**	**08 00 27.3**	**+0.1**

IDC 20 07:59:43.5±9.5, 62°.22S×158°.88E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.5/3, ML3.5/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/25, Error ellipse: s-maj=456.1km s-min=35.3km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.40**	**178**	Pn	Pn	08 03 22.6	+0.9
	0.2nm,0.3s,baz=349,slow=18,SNR=2.0						
VNDA				Sn	Sn	08 06 11.8	-0.9
	0.1nm,0.3s,baz=298,slow=14,SNR=1.8						
RPZ	**Rata Peaks**	**19.87**	**27**	LR	LR	08 11 09.2	
	comp=Z,181nm,19.7s,baz=194,slow=34						
URZ	**Urewera**	**26.48**	**34**	LR	LR	08 14 25.9	
	comp=Z,83nm,18.5s,baz=212,slow=33						
QSPA	**South Pole Qui**	**27.86**	**180**	LR	LR	08 15 46.7	
	comp=Z,195nm,21.9s,baz=4.0,slow=35						
H01W1	**Cape Leeuwin H**	**39.04**	**293**	T	T	08 47 11.3	
	baz=149,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**39.04**	**293**	T	T	08 47 11.5	
	baz=149,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**39.05**	**293**	T	T	08 47 12.5	
	baz=149,slow=75,SNR=10						
DZM	**Mont Dzumac**	**40.46**	**11**	LR	LR	08 20 19.6	
	comp=Z,48nm,19.8s,baz=228,slow=30						
ASAR	**Alice Springs**	**42.10**	**325**	P	P	08 07 37.1	+0.1
	0.5nm,0.9s,baz=158,slow=7.7,SNR=3.5						
CTA	**Charters Tower**	**43.00**	**342**	LR	LR	08 22 48.7	
	comp=Z,107nm,18.8s,baz=177,slow=32						
WRA	**Warramunga Arr**	**45.53**	**327**	P	P	08 08 04.3	-0.4
	0.6nm,0.9s,baz=164,slow=7.1,SNR=3.3						
SNAA	**Sanae**	**45.78**	**188**	LR	LR	08 28 13.8	
	comp=Z,166nm,21.0s,baz=185,slow=37						
FITZ	**Fitzroy Crossi**	**49.80**	**317**	LR	LR	08 26 34.7	
	comp=Z,67nm,20.6s,baz=167,slow=32						
KAPI	**Kappang**	**63.98**	**316**	LR	LR	08 36 58.5	
	comp=Z,14nm,18.2s,baz=172,slow=35						
H03S2	**Juan Fernandez**	**73.63**	**133**	T	T	09 33 58.9	
	baz=202						
H03S1	**Juan Fernandez**	**73.63**	**133**	T	T	09 34 00.4	
	baz=202						
H03S3	**Juan Fernandez**	**73.64**	**133**	T	T	09 33 58.6	
	baz=202						
H08S2	**Diego Garcia H**	**81.60**	**270**	T	T	09 40 14.2	
	baz=152,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**81.61**	**270**	T	T	09 40 12.9	
	baz=152,slow=76,SNR=5.0						
H08S3	**Diego Garcia H**	**81.62**	**270**	T	T	09 40 14.7	
	baz=152,slow=76,SNR=11						

ASRS 20 08:13:55.5±0.3, 52°N±2°×9°6E±°, h5km, MLh3.3/8, 1D, Error ellipse: s-maj=5.3km s-min=2.7km az=25.9, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.97**	**256**	Pg	Pn	08 14 16.5	+0.6
KZLR				Sg	Sb	08 14 28.5	+0.4
KNGR	**Kungurtug, Tuv**	**1.67**	**144**	⇓Pg	Pg	08 14 29.1	+1.6
KNGR				Sg	Sg	08 14 49.3	+0.2
DJOS	**Djoyskaya Sosn**	**2.92**	**288**	Pg	Pg	08 14 54.4	+2.9
DJOS				Sg	Sg	08 15 32.8	+3.4
CERR	**Cheremushki**	**2.93**	**290**	Pg	Pg	08 14 50.4	-1.2
CERR				Sg	Sg	08 15 32.2	+2.6
DJO	**Djoy, Khakassi**	**3.03**	**288**	Pg	Pg	08 14 52.2	-1.3
DJO				Sg	Sg	08 15 34.0	+1.3
MINR	**Mina**	**3.13**	**341**	Pg	Pg	08 15 00.5	+5.0
MINR				Sg	Sg	08 15 41.9	+5.8
MOY	**Mondy**	**3.13**	**93**	Pg	Pg	08 14 55.8	+0.2
MOY				Sg	Sg	08 15 37.2	+1.1
LUZB	**Luzhba, Kemero**	**4.62**	**294**	Sg	Sg	08 16 23.3	-0.3
TASR	**Tashtagol**	**5.02**	**282**	Sg	Sg	08 16 35.5	-1.2
CUR	**Chagan-Uzun**	**5.15**	**252**	Sg	Sg	08 16 35.6	-5.3
AKAR	**Aktash**	**5.50**	**256**	Sg	Sg	08 16 47.6	-4.6
CHBI	**Chibit, Altay**	**5.58**	**256**	Sg	Sg	08 16 53.4	-1.1
ELT	**Eltsovka**	**6.07**	**286**	Sg	Sg	08 17 06.8	-3.5

IDC 20 08:23:41.6±9.3, 36°.57N×70°.37E, h175km±104km, mb3.1/2, mb1 3.1/4, mb1mx2.7/43, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/36, Error ellipse: s-maj=117.1km s-min=42.0km az=151.0

ISC 20 08:23:49.8±3.0, 37°.2N±0°.2×70°.6E±0°.2, h200km, n7, σ1§23/7, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**5.94**	**359**	⇑Pn	**Pn**	**08 25 17.0**	**+0.9**
	5.9nm,0.5s,baz=170,slow=12						
KK09				⇓Pg		08 25 32.6	
	4.9nm,0.6s						
KK09				⇓Sn	**Sn**	**08 26 23.5**	**-1.0**
	2.2nm,0.3s,baz=170,slow=24						
KK09				⇓Lg	Lg	08 26 53.1	
	4.1nm,0.6s						
TKM2	**Tokmak 2**	**6.88**	**32**	⇓Pn	**Pn**	**08 25 30.0**	**+1.4**
	3.1nm,0.5s						
TKM2				⇑Pg		08 25 48.7	
	2.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**08 26 46.4**	**-0.5**
	7.4nm,0.8s						
TKM2				⇑Lg	Lg	08 27 17.4	
	5.9nm,0.8s						
GEYT	**Ailbeck**	**9.97**	**278**	P	Pn	08 25 59.5	-9.3
	0.5nm,0.3s,baz=117,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**12.92**	**38**	P	**Pn**	**08 26 46.8**	**+0.6**
	0.2nm,0.3s,baz=212,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**19.42**	**26**	P	**P**	**08 28 01.1**	**+0.4**
	0.8nm,0.3s,baz=220,slow=11,SNR=6.8						
SONM	**Songino Array**	**28.19**	**56**	P	**P**	**08 29 22.6**	**-1.2**
	0.4nm,0.5s,baz=260,slow=8.6,SNR=4.4						
PALK	**Pallekele**	**31.15**	**160**	LR	LR	08 42 17.5	
	comp=Z,60nm,19.4s,baz=259,slow=36						

IDC 20 08:28:30.5±2.1, 31°.88S×72°.36W, h0km, mb4.0/1, mb1 3.6/5, mb1mx3.5/22, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=70.8km s-min=33.0km az=100.0
GUC 20 08:28:33.6±0.7, 31°.80S×72°.07W, h35km±2km, ML3.7

ISC 20 08:28:32.3±1.8, 31°.81S±0°.03×72°.07W±0°.08, h9km±11km, n40, σ1§11/50, 7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.99**	**139**	⇓*i*P	**Pg**	**08 28 51.9**	**+0.4**
VA06				*i* S	**Sn**	**08 29 05.1**	**-1.5**
VA06				IAML		08 29 07.3	
	comp=N,6μm,0.4s						
CO02	**Combarbal**	**1.10**	**57**	*i* P	**Pg**	**08 28 53.3**	**-0.2**
CO02				*i* S	**Sn**	**08 29 07.8**	**-1.6**
CO02				IAML		08 29 10.9	
	comp=N,10μm,0.2s						
CO06	**Fray Jorge**	**1.20**	**18**	⇑*i*P	**Pn**	**08 28 54.4**	**-0.9**
CO06				*i* S	**Sb**	**08 29 09.7**	**-1.1**
CO06				IAML		08 29 16.3	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.46**	**142**	⇑*i*P	**Pb**	**08 28 59.3**	**-0.6**
ROCH				*e*P	**Pn**	**08 28 57.2**	**-1.9**
ROCH				*i* S	**Sn**	**08 29 16.8**	**-1.7**
ROCH				*i* S	**Sg**	**08 29 18.7**	**-0.7**
ROCH				IAML		08 29 21.1	
	comp=N,2μm,0.5s						
ROCH				IAML		08 29 28.9	
	comp=N,2μm,0.5s						
CO03	**El Pedregal**	**1.53**	**51**	*e*P	**Pb**	**08 29 00.1**	**-0.9**
CO03				*i* S	**Sb**	**08 29 19.1**	**-1.4**
CO03				IAML		08 29 21.0	
	comp=E,2μm,0.4s						
VA03	**San Esteban**	**1.60**	**127**	⇑*i*P	**Pb**	**08 29 01.4**	**-0.7**
VA03				*i* S	**Sb**	**08 29 21.9**	**-0.6**
VA03				IAML		08 29 29.4	
	comp=E,2μm,0.5s						
MT02	**Curacav**	**1.64**	**152**	⇑*i*P	**Pn**	**08 29 01.6**	**+0.2**
MT02				*i* S	**Sn**	**08 29 20.9**	**-1.8**
MT02				IAML		08 29 29.0	
PEL	**Peldehue**	**1.77**	**139**	⇑*i*P	**Pn**	**08 29 03.8**	**+0.6**
PEL				*i* S	**Sb**	**08 29 26.7**	**-0.6**
PEL				IAML		08 29 31.8	
	comp=N,1μm,0.4s						
VA05	**Santo Domingo**	**1.88**	**168**	*e*P	**Pn**	**08 29 04.6**	**0.0**
VA05				*i* S	**Sn**	**08 29 27.6**	**-0.8**
VA05				IAML		08 29 39.9	
	comp=N,1μm,0.4s						
MT05	**Renca**	**1.94**	**145**	*e*P	**Pn**	**08 29 06.0**	**+0.5**
MT05				*i* S	**Sb**	**08 29 30.9**	**-1.3**
MT05				IAML		08 29 36.7	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**1.97**	**34**	*e*P	**Pn**	**08 29 06.5**	**+0.4**
GO04				*i* S	**Sn**	**08 29 30.4**	**-0.6**
CO05	**La Serena**	**2.02**	**21**	*e*P	**Pn**	**08 29 06.4**	**-0.2**
CO05				*i* S	**Sn**	**08 29 32.1**	**+0.1**
CO05				IAML		08 29 40.0	
	comp=N,992nm,0.6s						
FCH	**Farellones**	**2.13**	**136**	*e*P	**Pn**	**08 29 09.1**	**+0.6**
FCH				IAML		08 29 41.5	
	comp=E,414nm,0.5s						
MT03	**Universidad Ad**	**2.13**	**142**	⇑*i*P	**Pn**	**08 29 09.1**	**+0.9**
MT03				*i* S	**Sb**	**08 29 36.0**	**-1.8**
MT03				IAML		08 29 43.1	
	comp=N,1μm,0.6s						
MT01	**Popeta**	**2.16**	**162**	*e*P	**Pn**	**08 29 08.8**	**+0.3**
MT01				IAML		08 29 48.0	
	comp=E,427nm,0.6s						
MT09	**Talagante**	**2.16**	**155**	*e*P	**Pn**	**08 29 09.6**	**+1.0**
MT09				IAML		08 29 50.5	
	comp=N,557nm,0.6s						
BO04	**La Punta**	**2.49**	**151**	⇑*i*P	**Pn**	**08 29 14.3**	**+1.1**
BO04				*i* S	**Sn**	**08 29 45.0**	**+1.3**
BO04				IAML		08 29 57.6	
	comp=E,399nm,0.5s						
LMEL	**Las Melosas**	**2.57**	**143**	*e*P	**Pn**	**08 29 15.4**	**+1.1**
LMEL

TUL1				Sb	Sb	08 31 05.9	+1.1	
	baz=285							
CBKS	Cedar Bluff	2.54	337	Sb	Sb	08 31 13.2	-0.1	
	baz=157							
AMTX	Amarillo	3.05	240	Sb	Sb	08 31 28.8	+0.8	
	baz=57							
X37A	Clayton	3.16	126	IAmb_Lg		08 31 42.4		
	comp=Z,31nm,0.7s							
ABTX	Abilene, Hawle	3.96	194	Pb	Pb	08 31 05.9	-0.3	
	baz=13							
W39A	Magazine	4.02	107	IAmb_Lg		08 32 07.5		
	comp=Z,25nm,0.8s							
W39A	Magazine	4.02	107	P	Pn	08 30 58.5	+0.6	
	baz=290							
KSCO	Kaye Shedlock'	4.15	309	IAmb_Lg		08 32 15.5		
	comp=Z,41nm,0.8s							
KSCO	Kaye Shedlock'	4.15	309	Pb	Pb	08 31 10.6	+1.1	
	baz=127							
S39A	Bolivar	4.30	72	IAmb_Lg		08 32 16.9		
	comp=Z,32nm,0.7s							
Z38A	Mt. Pleasant	4.31	137	IAmb_Lg		08 32 21.3		
	comp=Z,28nm,0.7s							
MSTX	Muleshoe	4.31	236	IAmb_Lg		08 32 16.8		
	comp=Z,32nm,0.7s							
MSTX	Muleshoe	4.31	236	Sb	Sb	08 32 07.7	+3.4	
	baz=53							
N33A	J Bar K, Exete	4.33	10	IAmb_Lg		08 32 24.0		
	comp=Z,28nm,0.7s							
U40A	Yellville	4.54	90	S	Sn	08 31 57.5	-0.4	
	baz=273							
T25A	Trinidad	4.80	280	IAmb_Lg		08 32 30.7		
	comp=Z,29nm,0.8s							
T25A	Trinidad	4.80	280	P	Pn	08 31 08.8	0.0	
	baz=96							
BGNE	Belgrade	4.93	3	IAmb_Lg		08 32 41.8		
	comp=Z,36nm,0.8s							
BGNE	Belgrade	4.93	3	S	Sn	08 32 07.8	+0.2	
	baz=184							
X40A	Basin Creek Fa	5.02	112	P	Pn	08 31 12.6	+1.0	
	baz=295							
MGMO	Mountain Grove	5.03	80	IAmb_Lg		08 32 35.6		
	comp=Z,22nm,0.8s							
WHAR	Wooly Hollow	5.17	101	IAmb_Lg		08 32 53.9		
	comp=Z,20nm,0.9s							
WLAR	White Oak Lake	5.21	121	IAmb_Lg		08 32 54.8		
	comp=Z,20nm,0.7s							
W41B	Gary Mavity, V	5.23	103	S	Sn	08 32 14.2	-0.6	
	baz=286							
Z41A	Richland Creek	5.66	123	IAmb_Lg		08 33 07.8		
	comp=Z,20nm,0.8s							
L34A	Svendsen Farm,	5.72	16	IAmb_Lg		08 33 08.5		
	comp=Z,39nm,0.8s							
435B	Jarrell	5.72	172	IAmb_Lg		08 33 02.1		
	comp=Z,24nm,0.8s							
SDCO	Great Sand Dun	5.75	285	P	Pn	08 31 23.2	+1.2	
	baz=101							
Q24A	Divide	5.84	297	IAmb_Lg		08 33 03.8		
	comp=Z,15nm,0.7s							
CCM	Cathedral Cave	5.98	73	IAmb_Lg		08 33 07.9		
	comp=Z,31nm,1.0s							
JCT	Junction City	6.08	191	IAmb_Lg		08 33 14.0		
	comp=Z,21nm,0.9s							
K31A	O'Neill	6.14	358	IAmb_Lg		08 33 26.0		
	comp=Z,35nm,0.7s							
PBMO	Poplar Bluff	6.48	85	IAmb_Lg		08 33 34.6		
	comp=Z,24nm,0.7s							
ISCO	Idaho Springs	6.53	303	IAmb_Lg		08 33 26.2		
	comp=Z,25nm,1.2s							
FVM	French Village	6.60	74	IAmb_Lg		08 33 25.0		
	comp=Z,15nm,0.8s							
SCIA	State Center	6.79	35	IAmb_Lg		08 33 36.5		
	comp=Z,22nm,0.7s							
PARMO	Parma	7.03	86	IAmb_Lg		08 33 45.3		
	comp=Z,30nm,0.8s							
PHWY	Pilot Hill	7.27	314	IAmb_Lg		08 34 02.5		
	comp=Z,15nm,0.8s							
Y22D	IRIS PASSCAL I	7.31	253	IAmb_Lg		08 34 01.2		
	comp=Z,26nm,0.7s							
ECSD	EROS Data Cent	7.39	11	P	Pn	08 31 42.4	-1.8	
	baz=192							
S44A	Carbondale	7.47	78	IAmb_Lg		08 33 53.0		
	comp=Z,26nm,1.0s							
K38A	Parkersburg	7.58	34	IAmb_Lg		08 34 12.8		
	comp=Z,23nm,0.8s							
W45A	Hickory Valley	7.67	97	IAmb_Lg		08 33 57.9		
	comp=Z,22nm,0.8s							
SUSD	Miller	7.97	358	IAmb_Lg		08 34 14.0		
	comp=Z,11nm,0.8s							
RSSD	Black Hills	8.73	333	IAmb_Lg		08 34 36.3		
	comp=Z,10nm,0.7s							
K22A	Casper	8.75	317	IAmb_Lg		08 34 54.3		
	comp=Z,16nm,0.9s							
L42A	Oliver, Polo	8.79	48	IAmb_Lg		08 34 36.0		
	comp=Z,18nm,0.8s							
JFWS	Jewell Farm	9.03	42	IAmb_Lg		08 35 00.4		
	comp=Z,16nm,0.9s							

JMA ***20*** *08:32:22.7, 33°.15N × 132°.14E, h55km ± 1km, M3.4*
Broadband fault plane solution: P waves. NP1: φs305.00000°, δ67.00000°, λ137.00000°. NP2: φs55.00000°, δ52.00000°, λ30.00000°. Principal axes: T Plg46.0000°, Azm263.0000°; N Plg43.0000°, Azm101.0000°; P Plg9.0000°, Azm3.0000°;

JMA Felt I J1.

IDC ***20*** *08:32:23.3 ± 2.2, 33°.20N × 132°.01E, h67km ± 23km, mb3.2/2, mb1 3.4/4, mb1mx2.9/42, mbtmp3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/24 Error ellipse: s-maj=26.9km s-min=5.8km az=24.0*

ISC 20 08:32:22.3 ± 1.0, 33°.14N ± 0°.05 × 132°.14E ± 0°.04, h58km ± 8km, n13, σ0s82/23, 5C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JUS	Usuki	0.34	257	⇓P		Pn	08 32 32.6	+0.1
JUS				S		Sn	08 32 39.8	0.0
JSKE	Saikikamae	0.40	210	⇓P		Pn	08 32 33.4	+0.4
JSKE				eS		Sn	08 32 41.0	+0.2
UWA2	Uwa jima 2	0.41	80	⇑P		Pn	08 32 33.3	+0.1
UWA2				S		Sn	08 32 41.3	+0.1
JNA	Nagahama	0.50	34	⇑P		Pn	08 32 34.3	+0.2
JNA				S		Sn	08 32 42.4	-0.3
JTO	Tosashimizu	0.62	117	⇑P		Pn	08 32 35.6	+0.1
JTO				S		Sn	08 32 45.1	0.0
JKU	Kubokawa	0.79	78	⇑P		Pn	08 32 37.7	+0.1
JKU				S		Sn	08 32 49.1	+0.3
JET	Tanbara	0.99	50	⇑P		Pn	08 32 40.4	+0.3
JET				S		Sn	08 32 53.0	-0.3
JHM	Kurahashi	1.05	18	⇓P		Pn	08 32 41.3	+0.5
JIU3	Izumi3	1.26	242	⇓P		Pn	08 32 44.2	+0.5
JIU3				eS		Sn	08 33 00.0	+0.2
KSRS	Korea Array	5.51	322	P		Pn	08 33 43.3	+1.6
	0.2nm,0.3s,baz=142,slow=14,SNR=2.5							
KSRS				S		Sn	08 34 42.0	-1.7
	0.6nm,0.3s,baz=142,slow=25,SNR=4.9							
MJAR	Matsushiro Arr	6.03	54	P		Pn	08 33 51.0	+2.1
	0.4nm,0.3s,baz=242,slow=14,SNR=19							
MJAR				S		Sn	08 34 55.6	-1.0
	0.1nm,0.3s,baz=212,slow=17,SNR=5.7							
MJAR				LR		LR	08 36 09.5	
	comp=Z,36nm,18.5s,baz=58,slow=37							
SONM	Songino Array	24.32	315	P		P	08 37 34.0	-0.4
	0.9nm,0.6s,baz=126,slow=9.2,SNR=7.4							
WRA	Warramunga Arr	52.83	177	P		P	08 41 31.3	-0.6
	0.5nm,1.0s,baz=355,slow=7.5,SNR=2.7							

SJA ***20*** *08:34:00.3 ± 0.7, 23°.27S × 66°.74W, h234km ± 4km, ML4.7, MW4.5*

IDC ***20*** *08:34:01.8 ± 0.7, 23°.23S × 66°.63W, h197km ± 6km, mb4.2/17, mb1 4.3/24, mb1mx4.2/33, mbtmp4.7/24, MS3.5/3, Ms1 3.5/3, ms1mx2.9/61, Error ellipse: s-maj=12.7km s-min=8.7km az=31.0*

VAO ***20*** *08:34:01.3 ± 0.3, 23°.22S × 66°.69W, h197km, mb4.8*

NEIC ***20*** *08:34:02.4 ± 1.8, 23°.31S ± 0°.05 × 66°.68W ± 0°.08, h206km ± 4km, mb4.9/426, Md4.6(SJA), Mwr4.6(GUC), Error ellipse: s-maj=10.9km s-min=7.7km az=90.0*

GUC ***20*** *08:34:03.3 ± 0.5, 23°.21S × 67°.05W, h241km ± 6km, MW4.6*

GCMT ***20*** *08:34:07.4 ± 0.4, 23°.21S ± 0°.03 × 66°.90W ± 0°.03, h219km ± 3km, MW4.9/84, Moment Tensor Solution. s20,c20; s84,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.39±.11; $M_{\theta\theta}$0.84±.14; $M_{\phi\phi}$1.55±.15; $M_{r\theta}$-0.09±.10; $M_{\theta\phi}$-0.58±.15; $M_{\phi r}$-2.00±.12; Best double couple: M_o2.89300×10^{16}*

NP1: φs144.00000°, δ26.00000°, λ-114.00000°. NP2: φs351.00000°, δ67.00000°, λ-79.00000°. Principal axes: T 2.5350, Plg21.0000°, Azm72.0000°; N 0.7160, Plg10.0000°, Azm166.0000°; P -3.2500, Plg67.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 20 08:34:01.9 ± 0.6, 23°.28S ± 0°.03 × 66°.73W ± 0°.04, h203km ± 5km, n596, σ1s35/482, mb4.9/211, 73C-100D, Fault plane solution: NP1: φs330.34769°, δ57.57801°, λ-61.75225°. **NP2:** φs105.28801°, δ41.96143°, λ-126.69148°. **Principal axes:** T Plg8.4349°, Azm40.5730°; N Plg23.5476°, Azm134.2783°; P Plg64.8121°, Azm292.1938°; **Fault plane solution: NP1:** φs356.13413°, δ75.31976°, λ-103.44894°. **NP2:** φs219.47257°, δ19.80893°, λ-48.40185°. **Principal axes:** T Plg29.0824°, Azm96.9809°; N Plg13.0021°, Azm359.6022°; P Plg57.6146°, Azm248.2528°; **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.21	87	eP		Pn	08 34 35.8	+1.8
HJA					IAML		08 35 06.8	
	comp=Z,604nm,1.5s							
YJA	Yavi	1.57	46	eP		Pn	08 34 39.0	+2.0
YJA				eS		S	08 35 07.2	+3.3
YJA					IAML		08 35 12.8	
	comp=Z,265nm,1.3s							
SLA	San Lorenzo	1.82	142	eP		Pn	08 34 41.2	+2.2
SLA				eS		S	08 35 05.7	-1.8
SLA				eS		S	08 35 10.7	+3.3
SLA					IAML		08 35 14.0	
	comp=Z,970nm,2.0s							
LVC	Limon Verde	2.12	288	P		Pn	08 34 43.4	+1.1
	comp=Z,745nm,0.3s,baz=102,slow=7.3,SNR=1633							
LVC				LR		LR	08 35 09.0	
	comp=Z,337nm,20.3s,baz=156,slow=31							
LVC				S		S	08 35 13.3	+0.2
	comp=Z,96nm,0.3s,baz=63,slow=5.4,SNR=5.9							
LVC	Limon Verde	2.12	288			Pn	08 34 43.4	+1.1
LVC					Sn	S	08 35 14.0	+0.9
LVC	Limon Verde	2.12	288	⇑P		Pn	08 34 43.4	+1.1
LVC				i S		S	08 35 13.7	+0.6
LVC	Limon Verde	2.12	288	eP		Pn	08 34 43.3	+1.1
LVC	Limon Verde	2.12	288	eP		Pn	08 34 43.4	+1.1
LVC				eS		S	08 35 15.4	+2.3
LVC					IAML		08 35 17.2	
	comp=Z,422nm,0.6s							
PB15	IPOC Station P	2.52	271			Pn	08 34 47.5	+1.0
PB15					Sn	S	08 35 21.0	+0.4
PB15	IPOC Station P	2.52	271	⇑P		Pn	08 34 47.3	+0.8
PB15				i S		S	08 35 21.2	+0.6
PB15	IPOC Station P	2.52	271	eP		Pn	08 34 47.3	+0.8
PB15				eS		S	08 35 22.1	+1.5
PB15					IAML		08 35 24.5	
	comp=Z,10μm,0.4s							
PB06	IPOC Station P	2.68	282			Pn	08 34 49.1	+0.9
PB06					Sn	S	08 35 23.6	-0.2
PB06	IPOC Station P	2.68	282	⇑P		Pn	08 34 49.0	+0.7
PB06				i S		S	08 35 23.5	-0.2
PB06	IPOC Station P	2.68	282	eP		Pn	08 34 48.9	+0.7
PB06				eS		S	08 35 24.8	+1.1
PB06					IAML		08 35 28.8	
	comp=Z,3μm,0.6s							
PB09	IPOC Station P	2.76	302			Pn	08 34 50.4	+1.3
PB09	IPOC Station P	2.76	302	⇑P		Pn	08 34 50.4	+1.3
PB09				i S		S	08 35 26.7	+0.5
PB09	IPOC Station P	2.76	302	eP		Pn	08 34 50.4	+1.3
PB09				eS		S	08 35 26.9	+1.7
PB09					IAML		08 35 31.6	
	comp=Z,1μm,0.5s							
FSA	Cafayete	2.90	167	eP		Pn	08 34 51.8	+1.1
FSA				eS		S	08 35 28.9	+0.6
GO02	Mina Guanaco	3.21	234	Pn		Pn	08 34 55.1	+0.5
GO02	Mina Guanaco	3.21	234	⇑P		Pn	08 34 54.9	+0.3
GO02				i S		S	08 35 34.8	-0.3
GO02	Mina Guanaco	3.21	234	eP		Pn	08 34 55.1	+0.5
GO02				eS		S	08 35 35.7	+0.6
PB04	IPOC Station P	3.30	286			Pn	08 34 55.6	+0.2
PB04	IPOC Station P	3.30	286	⇑P		Pn	08 34 55.6	+0.2
PB04				i S		S	08 35 35.6	-1.0
PB04	IPOC Station P	3.30	286	eP		Pn	08 34 55.7	+0.2
PB04				eP			08 34 56.0	
PB04				eS		S	08 34 56.8	+0.2
PB04					IAML		08 35 42.9	
	comp=Z,3μm,0.3s							
PB07	IPOC Station P	3.31	297			Pn	08 34 56.0	+0.4
PB07	IPOC Station P	3.31	297	⇑P		Pn	08 34 55.8	+0.3
PB07				i S		S	08 35 35.3	-1.5
PB07	IPOC Station P	3.31	297	eP		Pn	08 34 55.8	+0.3
PB07				eS		S	08 35 36.2	-0.6
PB07					IAML		08 35 38.0	
	comp=Z,3μm,0.3s							
PB01	IPOC Station P	3.39	311			Pn	08 34 57.6	+1.1
PB01	IPOC Station P	3.39	311	⇑P		Pn	08 34 56.8	+0.3
PB01				i S		S	08 35 38.0	-0.7
PB01	IPOC Station P	3.39	311	eP		Pn	08 34 56.8	+0.3
PB01				eS		S	08 35 38.3	-0.3
PB01				eS		S	08 35 39.0	+0.4
PB01					IAML		08 35 40.4	
	comp=Z,2μm,0.2s							
PB10	IPOC Station P	3.52	265	Pn		Pn	08 34 58.3	+0.4
PB10	IPOC Station P	3.52	265	⇑P		Pn	08 34 58.2	+0.2
PB10				i S		S	08 35 39.7	-1.6
PB10	IPOC Station P	3.52	265	eP		Pn	08 34 58.1	+0.2
PB10				eP			08 34 58.2	
PB10				eP			08 34 58.5	
PB10				eS		S	08 35 40.5	-0.8
PB10				eS		S	08 35 41.0	-0.3
PB10				eS		S	08 35 41.0	-0.3
PB10					IAML		08 35 43.6	
	comp=Z,1μm,0.3s							
PB02	IPOC Station P	3.52	303			Pn	08 34 58.2	+0.1
PB02	IPOC Station P	3.52	303	⇑P		Pn	08 34 58.0	-0.1
PB02				i S		S	08 35 39.7	-1.8
PB02	IPOC Station P	3.52	303	eP		Pn	08 34 58.1	+0.1
PB02				eP			08 34 58.2	
PB02				eS		S	08 35 41.0	-0.6
PB02					IAML		08 35 47.4	
	comp=Z,3μm,0.3s							
PB14	IPOC Station P	3.62	248	Pn		Pn	08 34 59.3	-0.2
PB14	IPOC Station P	3.62	248	⇑P		Pn	08 34 59.3	-0.2
PB14				i S		S	08 35 41.9	-2.1
PB14	IPOC Station P	3.62	248	eP		Pn	08 34 59.7	+0.3
PB14				eS		S	08 35 42.9	-1.0
PB14					IAML		08 35 45.8	
	comp=Z,1μm,0.6s							
PB08	IPOC Station P	3.85	324			Pn	08 35 03.6	+1.2
PB08	IPOC Station P	3.85	324	⇑P		Pn	08 35 03.7	+1.2
PB08				i S		S	08 35 49.8	+0.5
PB08	IPOC Station P	3.85	324	eP		Pn	08 35 03.7	+1.2
PB08				eP			08 35 03.8	
PB08				eP			08 35 03.9	
PB08				eP			08 35 04.0	
PB08				eS		S	08 35 50.2	+0.9
PB08				eS		S	08 35 51.1	+1.8
PB08					IAML		08 35 53.6	
	comp=Z,1μm,1.3s							
PATCX	Punta Patache	4.01	307			Pn	08 35 03.7	-0.3
PATCX	Punta Patache	4.01	307	⇑P		Pn	08 35 03.5	-0.6
PATCX				i S		S	08 35 49.8	-2.5
PATCX	Punta Patache	4.01	307	eP		Pn	08 35 03.8	-0.3
PATCX				eP			08 35 03.9	
PATCX				eP			08 35 04.0	
PATCX				eS		S	08 35 51.1	-1.2
PATCX					IAML		08 35 57.0	
	comp=Z,1μm,0.4s							
AC02	Maricunga	4.16	211			Pn	08 35 06.7	+0.5
AC02	Maricunga	4.16	211	⇑P		Pn	08 35 06.6	+0.4
AC02				i S		S	08 35 56.5	+0.3
AC02	Maricunga	4.16	211	eP		Pn	08 35 06.7	+0.5
AC02				eS		S	08 35 56.0	-0.2
AC02					IAML		08 36 05.1	
	comp=Z,246nm,0.6s							
HMBC	Humberstone	4.19	315	⇑P		Pn	08 35 05.4	-1.0
HMBC				i S		S	08 35 54.0	-2.5
TA01	Diego Aracena	4.19	309	Pn		Pn	08 35 05.7	-0.5
TA01	Diego Aracena	4.19	309	⇑P		Pn	08 35 05.2	-1.0
TA01				i S		S	08 35 53.5	-2.7
TA01	Diego Aracena	4.19	309	eP		Pn	08 35 05.7	-0.5
TA01				eS		S	08 35 55.1	-1.1
TA01					IAML		08 35 59.4	
	comp=Z,634nm,0.8s							
GO01	Chusmiza	4.27	327	⇑P		Pn	08 35 08.3	+0.7
GO01				i S		S	08 35 58.4	-0.3
GO01	Chusmiza	4.27	327	eP		Pn	08 35 08.4	+0.7
GO01				eS		S	08 36 00.9	+2.2
GO01				eS		S	08 36 01.2	+2.5
TA02	Huaiquique	4.36	313	eP		Pn	08 35 08.0	-0.3
TA02				i S		S	08 35 57.7	-2.3
TA02	Huaiquique	4.36	313	eP		Pn	08 35 07.2	-1.1
TA02				eP			08 35 08.3	
TA02					IAML		08 36 01.6	
	comp=Z,749nm,0.2s							
PB11	IPOC Station P	4.44	322	Pn		Pn	08 35 09.0	-0.4
PB11	IPOC Station P	4.44	322	⇓P		Pn	08 35 08.5	-1.0
PB11				i S		S	08 36 00.0	-2.1
PB11	IPOC Station P	4.44	322	eP		Pn	08 35 09.1	-0.4
PB11				eS		S	08 36 00.4	-1.8
PB11					IAML		08 36 06.3	
	comp=Z,1μm,0.3s							
PB11					IAML		08 36 06.3	
	comp=Z,1μm,0.3s							
AC01	Pan de Azucar	4.53	230	Pn		Pn	08 35 09.0	-1.4
AC01	Pan de Azucar	4.53	230	⇑P		Pn	08 35 09.0	-1.4
AC01				i S		S	08 35 58.3	-5.7
AC01	Pan de Azucar	4.53	230	eS		S	08 36 01.2	-2.8
AC01					IAML		08 36 05.7	
	comp=Z,391nm,0.2s							
AC06	Mina Casimiro	5.22	218			Pn	08 35 17.5	-1.7
GO03	Copiap	5.34	216			Pn	08 35 19.3	-1.5
GO03	Copiap	5.34	216	⇑P		Pn	08 35 18.9	-1.8
GO03				i S		S	08 36 18.8	-3.9
PB16	IPOC Station P	5.57	332			Pn	08 35 24.3	+0.1
PB16	IPOC Station P	5.57	332	⇓P		Pn	08 35 23.9	-0.3
PB16				i S		S	08 36 24.4	-4.5
PB16	IPOC Station P	5.57	332	eP		Pn	08 35 19.5	-4.8
PB16				eP		Pn	08 35 19.5	-4.8
PB16				eS		S	08 36 19.5	-9.3
PB16					IAML		08 36 30.6	
	comp=Z,395nm,1.1s							
PB12	IPOC Station P	5.74	323	Pn		Pn	08 35 24.1	-1.9
PB12	IPOC Station P	5.74	323	⇑P		Pn	08 35 23.6	-2.3
PB12				i S		S	08 36 26.2	-5.8
ACLC	CERRO LA CRUZ	6.12	182	eP		Pn	08 35 30.6	-0.3
ACLC					IAML		08 36 41.3	
	comp=Z,38nm,0.4s							
AC04	Llanos de Chal	6.28	218	Pn		Pn	08 35 30.3	-2.5
AC04	Llanos de Chal	6.28	218	⇑P		Pn	08 35 29.9	-2.9
AC04	Llanos de Chal	6.28	218	eS		S	08 36 40.8	-3.8
AC04				eS		S	08 36 40.8	-3.8
AC04					IAML		08 36 45.9	
	comp=Z,199nm,0.7s							
LCO	Las Campanas	6.73	211	Pn		Pn	08 35 36.3	-2.5
LPAZ	La Paz	7.08	349	P		Pn	08 35 44.9	+1.0
	comp=Z,7.0nm,0.3s,baz=187,slow=8.2,SNR=193							
LPAZ				S		S	08 37 02.2	-2.5
	baz=342,slow=22,SNR=1.3							
LPAZ	La Paz	7.08	349	eP		Pn	08 35 45.2	+1.3
GO04	Tololo Observa	7.77	207			Pn	08 35 50.2	-2.1
CO03	El Pedregal	8.31	204	Pn		Pn	08 35 57.2	-2.1
SIV	San Ignacio	9.00	37	P		Pn	08 36 06.7	-1.5
	comp=Z,12nm,0.3s,baz=215,slow=12,SNR=172							
SIV				S		S	08 37 32.2	-17
	baz=220,slow=16,SNR=1.8							
CPUP	Villa Florida	9.06	111	P		Pn	08 36 07.8	-1.2
	comp=Z,0.4nm,0.3s,baz=274,slow=11,SNR=4.9							
CPUP				S		S	08 37 49.3	-1.3
	baz=280,slow=18,SNR=1.3							
CPUP	Villa Florida	9.06	111			Pn	08 36 07.9	-1.1
CPUP	Villa Florida	9.06	111	eP		Pn	08 36 07.8	-1.1
VA03	San Esteban	10.03	199			Pn	08 36 20.8	-0.8
PTLB	Pontes e Lacer	10.58	44	eP		Pn	08 36 27.6	-1.1
AQDB	Aquidauana	10.61	77	Pn		Pn	08 36 28.7	-0.4
AQDB	Aquidauana	10.61	77	eP		Pn	08 36 28.6	-0.5
MT02	Curacav	10.67	200	Pn		Pn	08 36 26.2	-3.5
MT05	Renca	10.67	198	Pn		Pn	08 36 29.4	-0.4
ITQB	Itaqui	11.06	127	eP		Pn	08 36 34.7	0.0
MT09	Talagante	11.11	199	Pn		Pn	08 36 32.2	-3.2
VILB	Vilhena	12.00	32	eP		Pn	08 36 46.6	-0.2
BO02	Sierra Bellavi	12.00	196	Pn		Pn	08 36 46.1	-0.6
PP1B	Ponte de Pedra	12.46	65	eP		Pn	08 36 51.2	-1.4
SALV	Santo Antonio	12.72	57	eP		Pn	08 36 55.1	-0.8
TRCB	Terra Rica	12.99	91			Pn	08 36 56.9	-2.3
TRCB	Terra Rica	12.99	91	eP		Pn	08 36 58.5	-0.7
ETMB	Extrema	13.40	2	eP		Pn	08 37 02.8	-1.6
PTGB	Pitanga	13.48	99	eP		Pn	08 37 06.0	+0.6
ITAB	Concordia	13.78	110	Pn		Pn	08 37 07.8	-1.2
ITAB	Concordia	13.78	110	eP		Pn	08 37 08.5	-0.5
PLTB	Pedras Altas	14.37	129	Pn		Pn	08 37 14.8	-1.5
PLTB	Pedras Altas	14.37	129	eP		Pn	08 37 15.3	-1.1
PCMB	Pacaembu	14.40	86	eP		Pn	08 37 16.6	-0.1
NNA	Nana	14.79	318	P		P	08 37 22.9	+0.5
	comp=Z,1.4nm,0.3s,baz=166,slow=9.8,SNR=8.7							
NNA	Nana	14.79	318	P		P	08 37 23.6	+1.1
PDRB	Porto dos Gac	15.01	41	eP		Pn	08 37 23.1	-1.1
CNLB	Canela	15.45	116	eP		Pn	08 37 28.5	-1.0
ITRB	Iturama	15.64	80	eP		Pn	08 37 31.8	-0.1
FRTB	Fartura	15.77	94	eP		Pn	08 37 33.3	-0.1
CLDB	Colider	16.16	42	eP		P	08 37 37.5	0.0
LC01	Cunco	16.17	195			P	08 37 37.5	0.0
TIJ01	Guaruva-PR	16.29	101	eP		P	08 37 38.2	-0.8
CZSB	Cruzeiro do Su	16.50	339	eP		P	08 37 39.6	-1.6
TER01	Tubaro-SC	16.67	112	eP		Pn	08 37 43.7	-0.4
BB19B	Bebedouro	17.00	86	eP		Pn	08 37 47.4	-0.8
PLCA	Paso Flores	17.70	190	P		P	08 37 54.4	+0.2
	comp=Z,0.4nm,0.3s,baz=9.8,slow=10,SNR=25							
PLCA	Paso Fl

NBIT Itapeh - BA 27.06 77 eP P 08 39 25.2 -0.6
POPC Popayan, Colom 27.44 338 eP P 08 39 31.1 +1.7
TMAB Tom-Au,PA,Br 27.53 44 eP P 08 39 29.8 -0.2
ORTC Ortega, Tolima 28.27 342 eP P 08 39 36.5 -0.1
CHIC Chingaza 28.57 345 eP P 08 39 39.3 -0.3
YOTC Yotoco, Valle 28.68 340 eP P 08 39 39.6 -0.6
ROSC El Rosal 28.92 344 P P 08 39 44.6 +1.9
comp=Z,7.4nm,0.6s,baz=204,slow=22,SNR=2.5
ROSC El Rosal 28.92 344 P P 08 39 42.3 -0.4
PLMC San Jos del P 29.53 340 eP P 08 39 46.9 -0.8
GUY2C Guyana, Caldas 29.56 342 eP P 08 39 48.1 -0.4
SPBC San Pablo de B 29.64 345 eP P 08 39 47.5 -1.2
RUSC La Rusia 29.65 347 eP P 08 39 48.7 -0.6
NORC Norcasia 29.75 343 eP P 08 39 48.4 -1.3
ROSB Rosrio 29.82 51 eP P 08 39 48.8 -1.4
NBLA Lagarto - SE 30.16 71 eP P 08 39 51.3 -2.0
BARC Barichara 30.36 347 eP P 08 39 53.0 -2.2
CBOC Ciudad Bolivar 30.36 341 eP P 08 39 54.0 -1.1
HELC Santa Helena 30.53 343 eP P 08 39 55.1 -1.8
PTBC PUERTO BERRIO, 30.59 345 eP P 08 39 54.1 -2.9
NBPS Pedro II - PI 30.80 56 eP P 08 39 57.9 -1.1
NBMA Muriti-CE 31.17 64 eP P 08 40 01.1 -1.1
USHA Ushuaia 31.53 182 P P 08 40 07.7 +2.9
comp=Z,6.3nm,0.9s,baz=357,slow=12,SNR=2.0
NBPB Pedra_Branca-C 31.55 60 eP P 08 40 04.8 -0.7
ZARC Zaragoza, Cauc 31.60 344 P P 08 40 03.8 -2.1
ZARC Zaragoza, Cauc 31.60 344 eP P 08 40 03.5 -2.3
SOCV Socops 31.63 352 eP P 08 40 02.0 -4.1
UREC San Jos de Ur 32.02 343 eP P 08 40 08.4 -1.1
NBAN Anadia - AL 32.10 70 eP P 08 40 08.8 -1.4
SDV Santo Domingo 32.20 353 P P 08 40 09.8 -1.5
SDV IAmb IAmb 08 40 16.9
comp=Z,13nm,0.6s
SDV Santo Domingo 32.20 353 eP P 08 40 09.7 -1.5
SDV Santo Domingo 32.20 353 eP P 08 40 10.0 -1.3
NBMO Morrinhos-CE 32.56 56 eP P 08 40 12.5 -1.8
MOTC Monteria, Cord 33.04 344 eP P 08 40 16.0 -2.4
NBCL Cascavel-CE 33.37 60 eP P 08 40 20.9 -0.3
RCBR Riachuelo 34.39 65 P P 08 40 29.7 -0.4
RCBR IAmb IAmb 08 40 30.6
comp=Z,27nm,0.8s
RCBR Riachuelo 34.39 65 eP P 08 40 30.3 +0.2
NBPV Pedro Velho 34.58 66 eP P 08 40 31.1 -0.6
BCIP Isla Barro Col 34.71 337 P P 08 40 34.2 +1.5
BCIP Isla Barro Col 34.71 337 eP P 08 40 34.3 +1.5
CDITO Canoas 35.38 332 IAmb IAmb 08 40 42.4
comp=Z,33nm,0.9s
BRU2 Volcan 35.50 332 IAmb IAmb 08 40 50.4
comp=Z,17nm,0.7s
SRBA San Rafael, Bu 36.18 331 IAmb IAmb 08 40 49.0
comp=Z,24nm,0.9s
CVTR Volcan Turrial 37.06 331 IAmb IAmb 08 40 57.2
comp=Z,25nm,1.0s
HDC Heredia 37.20 331 IAmb IAmb 08 40 59.0
comp=Z,32nm,0.9s
JTS Las Juntas de 37.84 330 P P 08 41 01.2 +2.0
JTS IAmb IAmb 08 41 03.0
comp=Z,26nm,1.1s
COVE Coope Vega, Sa 37.96 331 P P 08 41 02.2 +1.9
ORTG Ortega, Santa 38.13 329 IAmb IAmb 08 41 05.5
comp=Z,31nm,0.9s
ESPN Las Esperanzas 39.23 332 IAmb IAmb 08 41 15.4
comp=Z,34nm,1.1s
BOAB BOACO BROADBAN 40.06 330 P P 08 41 17.9 +0.3
BOAB IAmb IAmb 08 41 21.8
comp=Z,46nm,1.2s
MATN Matagalpa 40.60 330 P P 08 41 22.6 +0.4
TGUH Tegucigalpa,Un 42.21 330 P P 08 41 35.4 +0.1
TGUH IAmb IAmb 08 41 37.4
comp=Z,55nm,0.9s
TGUH Tegucigalpa,Un 42.21 330 eP P 08 41 35.7 +0.5
SNET Serv Nac Est T 42.84 327 P P 08 41 40.1 -0.2
MTO3 Montecristo 43.51 327 IAmb IAmb 08 41 48.1
comp=Z,36nm,0.8s
ESQI Esquipulas 43.64 327 IAmb IAmb 08 41 49.4
comp=Z,40nm,0.8s
CCIG Comitan 46.52 325 IAmb IAmb 08 42 11.2
comp=Z,40nm,1.1s
SOR Soroa 48.46 340 IAmb IAmb 08 42 25.3
comp=Z,26nm,0.8s
DWPF Disney Wildern 53.03 344 P P 08 42 57.5 -0.6
baz=163
BELA Belgrano 2 56.72 172 P P 08 43 24.2 +0.3
BELA IAmb IAmb 08 43 26.2
comp=Z,27nm,1.4s
TIGA Tifton 56.76 343 P P 08 43 24.7 -0.1
baz=161
352A Blakely 57.17 341 P P 08 43 27.5 -0.1
NHSC New Hope 57.52 347 P P 08 43 31.2 +1.1
baz=165,SNR=5.7
ZAIG Zacatecas 57.53 320 IAmb IAmb 08 43 33.8
comp=Z,20nm,0.9s
BRAL Brewton 57.54 339 P P 08 43 30.5 +0.2
baz=158
GOGA Godfrey 58.59 344 IAmb IAmb 08 43 38.1
comp=Z,18nm,0.9s
GOGA Godfrey 58.59 344 P P 08 43 37.2 -0.3
baz=162,SNR=6.9
HODGE Hodges 59.07 345 IAmb IAmb 08 43 42.1
comp=Z,16nm,0.9s
344A Westbrook Farm 59.08 336 IAmb IAmb 08 43 42.1
comp=Z,28nm,0.8s
CNNC Cliffs of the 59.16 349 P P 08 43 41.4 +0.1
baz=168
Y52A Lilburn 59.18 343 IAmb IAmb 08 43 42.1
comp=Z,24nm,0.9s
LRAL Lakeview Retre 59.25 340 IAmb IAmb 08 43 42.5
comp=Z,33nm,1.2s
LRAL Lakeview Retre 59.25 340 P P 08 43 41.6 -0.4
baz=158,SNR=8.6
PAULI Pauline 59.53 346 IAmb IAmb 08 43 45.3
comp=Z,28nm,0.9s
146A Union 59.55 338 IAmb IAmb 08 43 45.1
comp=Z,28nm,0.9s
KMSC Kings Mountain 59.73 346 P P 08 43 45.8 +0.5
baz=164,SNR=14
Z47A Carrollton 59.74 339 IAmb IAmb 08 43 45.9
comp=Z,24nm,0.8s
Y49A Blount Mountai 59.83 341 IAmb IAmb 08 43 46.5
comp=Z,21nm,0.9s
HKT Hockley 59.86 331 P P 08 43 47.6 +1.4
V58A Windy Hill, Pi 59.91 348 IAmb IAmb 08 43 47.5
comp=Z,20nm,0.8s
SNAA Sanae 59.94 161 P P 08 43 46.2 -0.1
SNAA IAmb IAmb 08 44 12.2
comp=Z,31nm,1.4s
BG3 Lake Jocassee 59.96 345 P P 08 43 46.9 0.0
BG3 IAmb IAmb 08 43 48.1
comp=Z,26nm,1.0s
X51A Calhoun 60.05 343 P P 08 43 47.5 0.0
833A Chaparral WMA, 60.20 327 P P 08 43 49.6 +1.0
baz=145,SNR=22
U59A Littleton 60.23 350 IAmb IAmb 08 43 50.1
comp=Z,27nm,1.1s
FPAL Fort Paine 60.24 342 IAmb IAmb 08 43 49.3
comp=Z,18nm,0.8s
W52A Murphy 60.31 344 IAmb IAmb 08 43 50.2
comp=Z,28nm,1.2s
V53A Saluda 60.58 345 IAmb IAmb 08 43 52.2
comp=Z,24nm,1.1s
W50A Signal Mountai 60.77 343 IAmb IAmb 08 43 53.2
comp=Z,37nm,1.1s
CPCT Cooper Cave 60.80 343 IAmb IAmb 08 43 53.3
comp=Z,19nm,1.1s
TKL Tuckaleechee C 60.80 344 LR LR 09 14 54.4
comp=Z,34nm,18.0s,baz=172,slow=40
TKL Tuckaleechee C 60.80 344 IAmb IAmb 08 43 53.2
comp=Z,30nm,1.1s
NATX Nacogdoches 60.91 333 P P 08 43 54.5 +1.1
baz=151
V52A Sevierville 60.93 344 IAmb IAmb 08 43 54.0
comp=Z,42nm,1.3s
T57A Hurt 61.11 349 IAmb IAmb 08 43 55.3
comp=Z,22nm,1.0s
435B Jarrell 61.37 330 IAmb IAmb 08 43 57.4
comp=Z,16nm,0.9s
435B Jarrell 61.37 330 P P 08 43 57.1 +0.6
baz=148
OXF Oxford 61.38 339 P P 08 43 55.4 -1.0
OXF Oxford 61.38 339 P P 08 43 55.9 -0.6
baz=156,SNR=7.1
PLAL Pickwick Lake 61.38 340 P P 08 43 55.8 -0.7
PLAL IAmb IAmb 08 43 56.6
comp=Z,28nm,1.1s
Z41A Richland Creek 61.48 335 P P 08 43 57.4 +0.4
Z41A IAmb IAmb 08 43 58.7
comp=Z,16nm,0.8s
Z41A Richland Creek 61.48 335 P P 08 43 57.8 +0.8
baz=153
BLA Blacksburg 61.54 348 P P 08 43 58.0 +0.6
baz=166
V48A Smith Brothers 61.71 341 IAmb IAmb 08 43 59.2
comp=Z,22nm,0.9s
S57A Dark Hollow, R 61.80 349 IAmb IAmb 08 44 00.6
comp=Z,38nm,1.4s
R58B Mineral 61.82 350 IAmb IAmb 08 44 00.5
comp=Z,18nm,0.9s
CLTN Cedars of Leba 61.89 342 IAmb IAmb 08 44 00.4
comp=Z,20nm,0.9s
JCT Junction City 62.17 328 P P 08 44 02.5 +0.6
baz=146,SNR=20
WHTX Lake Whitney, 62.33 331 P P 08 44 02.8 0.0
baz=148
WVT Waverly 62.37 341 P P 08 44 02.1 -0.9
WVT Waverly 62.37 341 P P 08 44 02.3 -0.7
baz=158
R55A Marlinton 62.52 348 P P 08 44 04.4 +0.4
R55A IAmb IAmb 08 44 06.2
comp=Z,18nm,0.9s
HPIG 62.52 321 P P 08 44 05.0 +0.6
GNAR Gosnell 62.91 339 P P 08 44 06.2 -0.3
R53A Hurricane 62.93 347 IAmb IAmb 08 44 07.2
comp=Z,14nm,0.9s
W41B Gary Mavity, V 62.97 337 IAmb IAmb 08 44 07.8
comp=Z,17nm,1.2s
W41B Gary Mavity, V 62.97 337 P P 08 44 06.7 -0.3
baz=154,SNR=5.5
Q56A Snyder Ridge, 63.09 349 IAmb IAmb 08 44 09.5
comp=Z,19nm,0.9s
TX31 Lajitas Ar. Si 63.24 324 P P 08 44 09.3 +0.3
TXAR Lajitas Array 63.24 324 P P 08 44 09.6 +0.6
comp=Z,2.7nm,0.7s,baz=151,slow=8.1,SNR=21
P57A Homestead Farm 63.32 350 P P 08 44 09.9 +0.7
P57A IAmb IAmb 08 44 11.0
comp=Z,13nm,0.8s
Q54A Coxs Mills 63.33 348 IAmb IAmb 08 44 09.8
comp=Z,14nm,0.9s
W39A Magazine 63.57 335 P P 08 44 11.7 +0.8
baz=152,SNR=13
MVL Millersville 63.59 352 IAmb IAmb 08 44 12.3
comp=Z,13nm,1.0s
MCWV Mont Chateau 63.80 349 P P 08 44 13.0 +0.7
baz=167,SNR=7.7
ABTX Abilene, Hawle 63.86 329 IAmb IAmb 08 44 14.3
comp=Z,25nm,1.1s
ABTX Abilene, Hawle 63.86 329 P P 08 44 13.2 +0.2
baz=146,SNR=8.7
WCI Wyandotte Cave 63.89 343 P P 08 44 11.8 -1.1
WCI IAmb IAmb 08 44 12.8
comp=Z,17nm,0.7s
WCI Wyandotte Cave 63.89 343 P P 08 44 11.6 -1.3
baz=160
P53A Whipple 63.93 347 P P 08 44 13.0 -0.2
O56A Blue Knob Stat 64.18 350 IAmb IAmb 08 44 16.5
comp=Z,18nm,1.0s
O56A Blue Knob Stat 64.18 350 P P 08 44 15.2 +0.4
baz=168
P52A Corning 64.22 347 IAmb IAmb 08 44 15.7
comp=Z,22nm,0.9s
P52A Corning 64.22 347 P P 08 44 14.7 -0.3
baz=164,SNR=5.8
U40A Yellville 64.25 337 IAmb IAmb 08 44 16.1
comp=Z,13nm,0.8s
U40A Yellville 64.25 337 P P 08 44 15.2 -0.2
baz=153,SNR=13
SIUC Southern Illin 64.26 340 IAmb IAmb 08 44 16.6
comp=Z,17nm,1.0s
PAL Palisades 64.31 354 P P 08 44 16.2 +0.7
baz=173
O54A Avella 64.41 348 IAmb IAmb 08 44 36.8
comp=Z,19nm,1.4s
N59A State Game Lan 64.42 352 P P 08 44 17.0 +0.6
baz=171
SSPA Standing Stone 64.43 351 P P 08 44 16.8 +0.4
baz=169
N58A Sunbury 64.47 352 IAmb IAmb 08 44 18.2
comp=Z,27nm,1.1s
HHAR Hobbs 64.58 336 IAmb IAmb 08 44 18.4
comp=Z,22nm,0.9s
O53A New Philadelph 64.63 348 IAmb IAmb 08 44 18.6
comp=Z,18nm,0.9s
O53A New Philadelph 64.63 348 P P 08 44 17.8 +0.1
baz=165
X34A Smith Ranch, M 64.70 332 IAmb IAmb 08 44 19.7
comp=Z,20nm,0.9s
P49A Miami Univ. Ec 64.71 345 IAmb IAmb 08 44 18.2
comp=Z,21nm,0.9s
P49A Miami Univ. Ec 64.71 345 P P 08 44 17.5 -0.8
baz=162
MGMO Mount Main Grove 64.75 338 IAmb IAmb 08 44 19.5
comp=Z,21nm,0.9s
W35A Tecumseh 64.77 333 IAmb IAmb 08 44 18.8
comp=Z,14nm,0.8s
BLO Bloomington 64.83 343 IAmb IAmb 08 44 19.0
comp=Z,13nm,0.6s
ACSO Alum Creek Sta 64.98 346 P P 08 44 19.5 -0.4
baz=164,SNR=7.0
TUL1 Leonard 64.98 334 P P 08 44 20.2 +0.1
baz=161,SNR=8.1
M57A Sunshine Farm, 65.01 351 IAmb IAmb 08 44 21.4
comp=Z,13nm,0.8s
KSPA Keystone Colle 65.05 353 IAmb IAmb 08 44 21.5
comp=Z,20nm,0.9s
FNO Franklin 65.08 333 IAmb IAmb 08 44 21.6
comp=Z,18nm,0.8s
N54A Moraine State 65.09 349 P P 08 44 21.2 +0.5
baz=167,SNR=6.5
CCM Cathedral Cave 65.22 339 P P 08 44 21.3 -0.3
CCM Cathedral Cave 65.22 339 P P 08 44 21.2 -0.3
baz=155
WMOK Wichita Mounta 65.23 331 P P 08 44 21.3 -0.5
baz=148
O49A Covington 65.24 345 IAmb IAmb 08 44 21.9
comp=Z,17nm,0.9s
M55A Ridgway 65.38 350 IAmb IAmb 08 44 23.4
comp=Z,18nm,0.8s
O48B Farmland 65.50 345 P P 08 44 22.6 -0.7
baz=161,SNR=6.4
M54A Oil Creek Stat 65.57 349 IAmb IAmb 08 44 24.9
comp=Z,32nm,1.1s
M54A Oil Creek Stat 65.57 349 P P 08 44 23.9 +0.2
baz=167,SNR=6.5
HRV Adam Dziewonsk 65.61 356 P P 08 44 24.3 +0.4
HRV Adam Dziewonsk 65.61 356 P P 08 44 24.4 +0.4
baz=175
L61B Northampton 65.63 355 P P 08 44 24.3 +0.2
baz=174
M53A WI Miller and 65.68 349 P P 08 44 24.4 0.0
baz=166
BINY Binghamton 65.71 352 P P 08 44 25.4 +0.8
baz=171,SNR=12
R40A Maddies Statio 65.78 338 IAmb IAmb 08 44 25.2
comp=Z,13nm,0.8s
ALLY Alegheny Colle 65.79 349 IAmb IAmb 08 44 26.1
comp=Z,26nm,0.9s
L56A Greenwood 65.86 351 IAmb IAmb 08 44 27.0
comp=Z,26nm,0.9s
N49A Columbus Grove 65.91 346 IAmb IAmb 08 44 26.4
comp=Z,29nm,0.8s
MNTX Cornudas Mount 66.01 324 P P 08 44 27.0 +0.2
baz=141,SNR=15
SFIN Lafayette 66.12 343 IAmb IAmb 08 44 26.9
comp=Z,18nm,0.9s
SFIN Lafayette 66.12 343 P P 08 44 25.9 -1.3
baz=160
P43A Skaggs, Pawnee 66.12 341 IAmb IAmb 08 44 27.1
comp=Z,20nm,0.8s
T35A Sooner Cattle 66.14 334 IAmb IAmb 08 44 28.8
comp=Z,30nm,1.1s
ERPA Erie 66.22 349 P P 08 44 28.2 +0.4
baz=167
N47A Urbana 66.22 344 IAmb IAmb 08 44 28.0
comp=Z,26nm,1.0s
O44A Mansfield 66.28 342 IAmb IAmb 08 44 27.8
comp=Z,11nm,0.7s
MSTX Muleshoe 66.47 328 P P 08 44 30.3 +0.6
baz=144,SNR=40
J61A Chester 66.51 355 IAmb IAmb 08 44 31.5
comp=Z,15nm,0.9s
AMTX Amarillo 66.68 329 IAmb IAmb 08 44 32.3
comp=Z,26nm,1.2s
AMTX Amarillo 66.68 329 P P 08 44 31.3 +0.2
baz=145
U32A Winter Ranch, 66.71 332 IAmb IAmb 08 44 32.5
comp=Z,23nm,1.0s
J58A Remsen 66.78 353 IAmb IAmb 08 44 33.7
comp=Z,19nm,1.1s
P40A Paris 66.82 339 IAmb IAmb 08 44 32.3
comp=Z,22nm,0.9s
HNH Hanover 66.85 356 P P 08 44 32.6 +0.8
HNH IAmb IAmb 08 44 34.5
comp=Z,23nm,1.0s
HDIL Hopedale 66.89 341 IAmb IAmb 08 44 32.1
comp=Z,19nm,0.8s
HDIL Hopedale 66.89 341 P P 08 44 31.3 -0.9
baz=158
J57A Williamstown 66.91 353 IAmb IAmb 08 44 33.5
comp=Z,30nm,0.9s
QSPA South Pole Qui 66.92 180 P P 08 44 32.7 +0.4
L48A N Adams 66.94 346 IAmb IAmb 08 44 32.5
comp=Z,18nm,0.8s
LIC Lamto 66.98 72 eP P 08 44 32.4 -0.9
comp=Z,81nm,1.8s
TIC Toumodi 67.18 72 eP P 08 44 34.6 0.0
KIC Kosan Boka 67.29 72 eP P 08 44 34.0 -1.3
comp=Z,16nm,0.6s
DBIC Dimbokro 67.34 72 P P 08 44 34.5 -1.1
comp=Z,13nm,0.9s,baz=258,slow=5.0,SNR=9.0
DBIC Dimbokro 67.34 72 P P 08 44 34.4 -1.1
LBNH Lisbon 67.36 356 P P 08 44 36.1 +1.1
baz=175
319A Douglas 67.93 321 IAmb IAmb 08 44 41.7
comp=Z,21nm,0.8s
LONY Lake Ozonia 67.95 354 IAmb IAmb 08 44 40.3
comp=Z,18nm,1.0s
LONY Lake Ozonia 67.95 354 P P 08 44 39.5 +0.8
baz=172,SNR=5.7
121A Cookes Peak, D 67.95 323 IAmb IAmb 08 44 42.2
comp=Z,29nm,1.0s
121A Cookes Peak, D 67.95 323 P P 08 44 41.5 +2.3
baz=139,SNR=9.7
KSU1 Kansas State U 68.07 335 IAmb IAmb 08 44 40.4
comp=Z,27nm,0.8s
KSU1 Kansas State U 68.07 335 P P 08 44 39.3 -0.3
baz=150,SNR=9.8
N38A Joes South For 68.35 339 IAmb IAmb 08 44 41.7
comp=Z,29nm,1.0s
SADO Sadowa 68.67 351 IAmb IAmb 08 44 43.4
comp=Z,12nm,0.8s
MNTQ Montreal, Queb 68.74 355 IAmb IAmb 08 44 44.9
comp=Z,20nm,0.9s
L40A Anamosa 68.85 341 IAmb IAmb 08 44 45.3
comp=Z,31nm,0.9s
CBKS Cedar Bluff 69.08 333 P P 08 44 46.8 +1.0
baz=148,SNR=12
ANMO Albuquerque 69.09 326 P P 08 44 46.8 +0.6
ANMO IAmb IAmb 08 44 48.8
comp=Z,19nm,0.9s
ANMO Albuquerque 69.09 326 P P 08 44 47.6 +1.4
baz=141
N35A Tabor 69.25 337 IAmb IAmb 08 44 47.4
comp=Z,23nm,0.8s
JFWS Jewell Farm 69.34 342 IAmb IAmb 08 44 48.0
comp=Z,21nm,0.8s
JFWS Jewell Farm 69.34 342 P P 08 44 47.2 -0.2
baz=157,SNR=8.2
TUC Tucson 69.48 321 P P 08 44 49.8 +1.3
TUC IAmb IAmb 08 44 51.3
comp=Z,19nm,1.1s
TUC Tucson 69.48 321 P P 08 44 50.3 +1.7
baz=137
TRQ Mont Tremblant 69.54 354 P P 08 44 48.2 -0.4
TRQ IAmb IAmb 08 44 49.5
comp=Z,19nm,1.1s
T25A Trinidad 69.80 329 IAmb IAmb 08 44 53.1
comp=Z,16nm,0.9s
T25A Trinidad 69.80 329 P P 08 44 51.9 +1.3
baz=143,SNR=16
K38A Parkersburg 69.86 340 IAmb IAmb 08 44 51.1
comp=Z,27nm,1.1s
D62A Allapoint, All 70.06 358 IAmb IAmb 08 44 53.0
comp=Z,22nm,1.1s
214A Organ Pipe Nat 70.42 319 IAmb IAmb 08 44 57.3
comp=Z,21nm,1.2s
214A Organ Pipe Nat 70.42 319 P P 08 44 55.7 +1.5
baz=135,SNR=12
KSCO Kaye Shedlock' 70.49 331 IAmb IAmb 08 44 56.9
comp=Z,35nm,1.1s
KSCO Kaye Shedlock' 70.49 331 P P 08 44 55.8 +1.2
baz=145,SNR=7.7
BGNE Belgrade 70.65 335 P P 08 44 55.7 +0.3
baz=150,SNR=21
SDCO Great Sand Dun 70.81 328 P P 08 44 57.5 +0.8
SDCO IAmb IAmb 08 44 59.4
comp=Z,25nm,1.1s
SDCO Great Sand Dun 70.81 328 P P 08 44 58.2 +1.4
baz=142,SNR=34
W18A Petrified Fore 70.97 324 IAmb IAmb 08 45 00.4
comp=Z,24nm,0.9s
W18A Petrified Fore 70.97 324 P P 08 44 59.2 +1.6
baz=138,SNR=7.5
E46A Sault Ste Mari 71.13 347 IAmb IAmb 08 44 58.7
comp=Z,23nm,0.9s
I37A Lemond, Waseca 71.30 340 IAmb IAmb 08 44 60.0
comp=Z,37nm,1.1s
X16A Lo Mia Camp, P 71.39 322 IAmb IAmb 08 45 03.3
comp=Z,20nm,1.1s
S22A 4UR Ranch, Cre 71.46 327 P P 08 45 02.1 +1.4
baz=141,SNR=11
Q24A Divide 71.61 329 IAmb IAmb 08 45 04.0
comp=Z,28nm,0.9s
Q24A Divide 71.61 329 P P 08 45 02.8 +1.2
baz=143,SNR=12
OGNE Ogallala 71.83 333 IAmb IAmb 08 45 04.6
comp=Z,26nm,0.8s
OGNE Ogallala 71.83 333 P P 08 45 03.6 +1.1
baz=146,SNR=10
MVCO Mesa Verde 71.89 326 IAmb IAmb 08 45 05.8
comp=Z,24nm,1.1s
MVCO Mesa Verde 71.89 326 P P 08 45 04.7 +1.5
baz=140,SNR=22
KOWA Kowa 71.91 65 P P 08 45 02.4 -1.0
K31A O'Neill 71.93 336 IAmb IAmb 08 45 04.4
comp=Z,30nm,0.8s
ECSD EROS Data Cent 72.11 338 IAmb IAmb 08 45 05.0
comp=Z,27nm,1.2s
ECSD EROS Data Cent 72.11 338 P P 08 45 03.9 -0.2
baz=151,SNR=18
WUAZ Wupatki 72.16 323 IAmb IAmb 08 45 07.8
comp=Z,23nm,0.9s
WUAZ Wupatki 72.16 323 P P 08 45 06.8 +2.1
baz=137,SNR=21
SPMN Marine on St. 72.20 341 IAmb IAmb 08 45 05.1
comp=Z,23nm,1.3s
SPMN Marine on St. 72.20 341 P P 08 45 04.3 -0.2
baz=155,SNR=5.9
GLA Glamis 72.40 319 P P 08 45 08.2 +2.1
baz=134
ISCO Idaho Springs 72.49 330 P P 08 45 08.2 +1.5
baz=143,SNR=17
SMCO Snowmass 72.65 328 IAmb IAmb 08 45 10.7
comp=Z,18nm,1.1s
BLYC Blythe 72.70 320 IAmb IAmb 08 45 10.9
comp=Z,23nm,1.1s
PV15 Paradox Valley 72.75 327 IAmb IAmb 08 45 11.3
comp=Z,30nm,1.1s
PV13 Radium Mtn., P 72.78 326 IAmb IAmb 08 45 11.1
comp=Z,20nm,1.0s
YUH Yuha Desert 72.79 318 P P 08 45 09.1 +0.8
PDMCI Parker Dam,Lak 72.87 320 P P 08 45 10.7 +2.0
baz=135
IKP In-Ko-Pah, Jac 72.90 318 P P 08 45 11.0 +1.9
baz=133,SNR=5.2
SWSC Sam W Stewart 72.92 318 P P 08 45 11.1 +2.1
baz=134
PV10 Paradox Valley 73.06 326 IAmb IAmb 08 45 12.1
comp=Z,17nm,1.0s
BC3 Big Chuckawall 73.19 319 P P 08 45 12.7 +1.9
baz=134,SNR=11
MONP2 Monument Peak 73.26 318 P P 08 45 13.4 +2.1
baz=133
U15A North Rim 73.33 323 IAmb IAmb 08 45 15.1
comp=Z,19nm,1.0s
IRM Iron Mountain 73.36 320 P P 08 45 13.7 +2.1
baz=134,SNR=11
N23A Red Feather La 73.52 330 IAmb IAmb 08 45 15.2
comp=Z,14nm,0.8s
N23A Red Feather La 73.52 330 P P 08 45 14.2 +1.5
baz=143,SNR=12
SUSD Miller 73.56 337 P P 08 45 12.8 +0.2
baz=149

BELC	**Belle Mtn. Jos** baz=134,SNR=7.1	73.76	319	P	P	08 45 16.0 +1.9
PFO	**Pinyon Flats O**	73.77	318	P	P	08 45 14.8 +0.6
PFO	**Pinyon Flats O** baz=133,SNR=7.0	73.77	318	P	P	08 45 16.3 +2.1
O20A	**White River Ci** comp=Z,31nn,0.9s	74.01	328	IAmb	IAmb	08 45 18.2
O20A	**White River Ci** baz=141,SNR=22	74.01	328	P	P	08 45 17.1 +1.6
GMRC	**Granite Mounta** baz=134,SNR=21	74.10	320	P	P	08 45 18.1 +2.0
MURC	**Murrieta** baz=133,SNR=6.3	74.22	318	P	P	08 45 18.8 +2.1
EYMN	**Ely** baz=156	74.31	343	P	P	08 45 16.8 0.0
SRU	**San Rafael Swe** comp=Z,24nn,0.9s	74.37	326	IAmb	IAmb	08 45 20.1
BBRC	**Big Bear Solar** baz=133	74.50	319	P	P	08 45 20.9 +2.4
HEC	**Hector,Ludlow** baz=134,SNR=8.8	74.53	319	P	P	08 45 20.7 +2.3
Q16A	**Castle Valley** comp=Z,30nn,1.5s	74.56	325	IAmb	IAmb	08 45 22.5
P18A	**Preston Nutter** comp=Z,23nn,0.9s	74.61	327	IAmb	IAmb	08 45 22.0
TUQ	**Turquoise Moun** baz=134	74.70	320	P	P	08 45 21.4 +1.9
RWWY	**Rawlins** comp=Z,27nn,1.1s	74.73	330	IAmb	IAmb	08 45 21.2
CCUT	**Cedar City** comp=Z,26nn,1.0s	74.73	323	IAmb	IAmb	08 45 23.4
P17A	**Butcher Ranch,** comp=Z,31nn,1.0s	74.75	326	IAmb	IAmb	08 45 22.4
CIS	**Catalina Islan** baz=132	74.84	317	P	P	08 45 22.1 +1.9
BFSC	**Mount Baldy Ra** baz=132,SNR=8.3	74.93	318	P	P	08 45 22.6 +1.8
RDMU	**Red Mountain** comp=Z,32nn,1.2s	74.99	328	IAmb	IAmb	08 45 23.6
GSC	**Goldstone, Bar** comp=Z,28nn,1.4s	75.13	320	IAmb	IAmb	08 45 25.0
GSC	**Goldstone, Bar** baz=133,SNR=11	75.13	320	P	P	08 45 24.1 +2.1
K22A	**Casper** comp=Z,23nn,1.1s	75.17	331	IAmb	IAmb	08 45 24.6
K22A	**Casper** baz=143,SNR=9.3	75.17	331	P	P	08 45 23.6 +1.5
PASC	**Pasadena Art C** comp=Z,28nn,1.4s	75.21	318	IAmb	IAmb	08 45 25.1
RSSD	**Black Hills**	75.28	333	P	P	08 45 23.3 +0.6
RSSD	comp=Z,20nn,0.9s			IAmb	IAmb	08 45 24.8
RSSD	**Black Hills** baz=145	75.28	333	P	P	08 45 23.8 +1.0
DECC	**Green Verdugo** baz=132	75.36	318	P	P	08 45 25.2 +2.1
EDW2	**Edwards Air Fo** baz=132,SNR=5.4	75.57	319	P	P	08 45 25.8 +1.4
PRN	**Pahroc Range**	75.57	322	P	P	08 45 24.2 -0.2
PRN	comp=Z,20nn,1.1s			IAmb	IAmb	08 45 27.9
QSM	**Queen of Sheba**	75.62	320	P	P	08 45 25.0 +0.4
GWY	**Greenwater Val** comp=Z,20nn,1.0s	75.66	320	IAmb	IAmb	08 45 27.6
CCAC	**Calif City Air** comp=Z,28nn,1.2s	75.76	319	IAmb	IAmb	08 45 28.2
OSI	**Osito Audit: C** baz=132	75.83	318	P	P	08 45 27.5 +1.7
AGMN	**Agassiz Nation** baz=153,SNR=7.4	75.89	340	P	P	08 45 25.7 -0.1
TPNV	**Topopah Spring** baz=134,SNR=19	75.94	321	P	P	08 45 28.7 +2.2
SUR	**Sutherland** comp=Z,8.5nn,1.1s,baz=285,slow=12,SNR=1.1	75.94	119	P	P	08 45 26.8 -0.1
FURC	**Furnace Creek,** baz=133,SNR=13	75.97	320	P	P	08 45 28.7 +2.2
MPMC	**Manual Prospec** baz=133,SNR=9.1	76.06	320	P	P	08 45 28.7 +1.4
TOA0	**Torodi Ar. Sit**	76.08	69	P	P	08 45 26.8 -0.8
TORD	**Torodi Ar. Bea** comp=Z,5.3nn,0.4s,baz=261,slow=5.8,SNR=59	76.08	69	P	P	08 45 26.7 -0.9
TORD	**Torodi Ar. Bea**	76.08	69	P	P	08 45 26.6 -0.9
ARVC	**Arvin** baz=132	76.24	318	P	P	08 45 29.5 +1.4
DUG	**Dugway, Tooele** comp=Z,18nn,1.1s	76.36	325	IAmb	IAmb	08 45 31.7
DUG	**Dugway, Tooele** baz=137,SNR=14	76.36	325	P	P	08 45 30.6 +1.8
ISA	**Isabella, Lake** comp=Z,26nn,1.3s	76.38	319	IAmb	IAmb	08 45 32.0
ISA	**Isabella, Lake** baz=132,SNR=12	76.38	319	P	P	08 45 31.0 +2.0
R11A	**Troy Canyon, C** comp=Z,20nn,1.2s	76.54	322	IAmb	IAmb	08 45 33.2
R11A	**Troy Canyon, C** baz=135,SNR=24	76.54	322	P	P	08 45 32.0 +2.1
GRAC	**Grapevine Rang** baz=133	76.62	320	P	P	08 45 31.8 +1.6
BW06	**Boulder Array** baz=140,SNR=11	76.66	329	P	P	08 45 31.5 +0.9
PDAR	**Pinedale Array** comp=Z,3.8nn,0.7s,baz=137,slow=7.7,SNR=32	76.66	329	P	P	08 45 31.4 +0.8
PDAR	**Pinedale Array**	76.66	329	P	P	08 45 31.2 +0.6
CWC	**Cottonwood Cre** baz=132	76.67	320	P	P	08 45 32.5 +1.8
MDND	**Maddock** baz=149,SNR=10	76.72	338	P	P	08 45 31.5 +1.0
HWUT	**Hardware Ranch** comp=Z,16nn,0.9s	76.76	327	IAmb	IAmb	08 45 33.4
VES	**Vestal, Richgr** baz=132,SNR=11	76.87	319	P	P	08 45 33.3 +1.8
BGU	**Big Grassy Mou** comp=Z,21nn,1.2s	77.00	326	IAmb	IAmb	08 45 35.0
SMMC	**Simmler** baz=131,SNR=6.7	77.08	318	P	P	08 45 35.2 +2.4
TIN	**Tinemaha, Big** baz=132	77.17	320	P	P	08 45 35.5 +2.1
HVU	**Hansel Valley** comp=Z,16nn,1.0s	77.50	327	IAmb	IAmb	08 45 37.5
PAGB	**Antelope Grade** comp=Z,26nn,1.3s	77.51	318	IAmb	IAmb	08 45 38.2
TSUM	**Tsumeb** comp=Z,3.4nn,0.6s,baz=252,slow=5.3,SNR=2.5	77.61	106	P	P	08 45 35.8 -0.5
TSUM	comp=Z,72nm,19.3s,baz=154,slow=32			LR	LR	09 16 04.5
ULM	**Lac du Bonnet** comp=Z,5.4nm,0.6s,baz=126,slow=4.4,SNR=6.0	77.63	341	P	P	08 45 35.3 -0.2
REDW	**Red Top Meadow** comp=Z,22nn,0.9s	77.73	329	IAmb	IAmb	08 45 39.0
SNOW	**Snow King Moun** comp=Z,19nn,0.9s	77.76	329	IAmb	IAmb	08 45 39.3
SCHQ	**Schefferville** comp=Z,13nn,0.7s,baz=201,slow=4.4,SNR=25	77.79	360	P	P	08 45 36.4 +0.1
SCHQ	**Schefferville** comp=Z,18nn,0.8s	77.79	360	IAmb	IAmb	08 45 37.3
LOHW	**Long Hollow** comp=Z,14nn,0.8s	77.80	329	IAmb	IAmb	08 45 38.9
TPAW	**Teton Pass** comp=Z,20nn,1.0s	77.88	329	IAmb	IAmb	08 45 38.9
MLAC	**Mammoth, Mammo** baz=132,SNR=7.0	77.91	320	P	P	08 45 39.6 +1.9
OMMB	**Old Mammoth Mi** comp=Z,22nn,1.2s	78.00	320	IAmb	IAmb	08 45 40.9
NVAR	**Mina Array Bea** comp=Z,5.5nn,1.0s,baz=153,slow=6.3,SNR=30	78.14	321	P	P	08 45 40.4 +1.5
LAO	**LASA Array** comp=Z,24nn,0.9s	78.26	333	IAmb	IAmb	08 45 41.1
LAO	**LASA Array** baz=143,SNR=14	78.26	333	P	P	08 45 40.1 +1.0
RLMT	**Red Lodge** comp=Z,20nn,0.8s	78.34	331	IAmb	IAmb	08 45 42.1
RLMT	**Red Lodge** baz=141,SNR=32	78.34	331	P	P	08 45 41.2 +1.4
H17A	**Grant Village** baz=140,SNR=7.2	78.38	330	P	P	08 45 42.2 +2.1
KVN	**Kaiserville** comp=Z,19nn,1.0s	78.44	322	IAmb	IAmb	08 45 42.9
YMP	**Mirror Lake Pl** comp=Z,15nn,0.9s	78.45	330	IAmb	IAmb	08 45 51.5
YFT	**Old Faithful** comp=Z,18nn,1.1s	78.55	329	IAmb	IAmb	08 45 44.7
YMR	**Madison River** comp=Z,30nn,0.9s	78.77	330	IAmb	IAmb	08 45 45.4
YHH	**Holmes Hill** comp=Z,34nn,1.0s	78.81	330	IAmb	IAmb	08 45 45.5
DGMT	**Dagmar** baz=145,SNR=17	78.91	336	P	P	08 45 44.0 +1.5
YHL	**Hebgen Lake**	79.01	330	IAmb	IAmb	08 45 46.6
	comp=Z,39nn,1.4s					
YERR	**Yerington** comp=Z,31nn,1.3s	79.05	321	IAmb	IAmb	08 45 46.8
PNTR	**Pine Nut** comp=Z,23nn,1.0s	79.33	321	IAmb	IAmb	08 45 48.4
PAHR	**Pah Rah Range** comp=Z,34nn,1.0s	79.62	321	IAmb	IAmb	08 45 49.8
HLID	**Hailey** comp=Z,33nn,0.9s	79.62	327	IAmb	IAmb	08 45 49.9
HLID	**Hailey** baz=136,SNR=62	79.62	327	P	P	08 45 48.8 +2.0
MPK	**Martis Peak** comp=Z,29nn,1.2s	79.72	321	IAmb	IAmb	08 45 50.7
BOZ	**Bozeman (W)** baz=139,SNR=12	79.78	330	P	P	08 45 48.7 +1.2
MCMT	**McKenzie Canyo**	79.78	329	P	P	08 45 49.8 +2.1
DLMT	**Dillon**	80.06	329	P	P	08 45 50.7 +1.7
DLMT	comp=Z,32nn,1.2s			IAmb	IAmb	08 45 51.7
MFID	**Camas Ranch** comp=Z,22nn,1.3s	80.24	326	IAmb	IAmb	08 45 52.8
ORV	**Oroville** comp=Z,39nn,1.3s	80.75	320	IAmb	IAmb	08 45 55.4
EGMT	**Eagleton** comp=Z,29nn,0.9s	80.80	332	IAmb	IAmb	08 45 54.5
EGMT	**Eagleton** baz=141,SNR=27	80.80	332	P	P	08 45 53.4 +0.6
BOSA	**Boshof** comp=Z,1.5nn,0.4s,baz=250,slow=4.9,SNR=11	80.83	117	P	P	08 45 53.0 -0.6
BOSA	**Boshof**	80.83	117	P	P	08 45 53.0 -0.6
O03E	**Paynes Creek** comp=Z,25nn,1.1s	81.40	321	IAmb	IAmb	08 45 57.5
O03E	**Paynes Creek** baz=130,SNR=5.3	81.40	321	P	P	08 45 56.6 +0.4
J08A	**Circle Bar Ran** comp=Z,39nn,1.3s	81.58	325	IAmb	IAmb	08 45 59.8
MSO	**Missoula** comp=Z,22nn,1.4s	81.77	329	IAmb	IAmb	08 46 00.5
MSO	**Missoula** baz=137,SNR=9.7	81.77	329	P	P	08 45 59.4 +1.4
O02D	**Mt. Diablo Mer** baz=130	81.91	320	P	P	08 45 59.6 +0.8
N02D	**Trinity Center** baz=130	82.37	321	P	P	08 46 01.8 +0.6
M04C	**Macdoel** comp=Z,18nn,0.9s	82.39	322	IAmb	IAmb	08 46 03.5
M04C	**Macdoel** baz=130	82.39	322	P	P	08 46 02.5 +1.2
LBTB	**Lobatse** comp=Z,2.1nn,0.3s,baz=233,slow=7.1,SNR=10	82.45	114	P	P	08 46 04.1 +2.0
LBTB	**Lobatse**	82.45	114	P	P	08 46 01.4 -0.7
K05A	**Summer Lake** comp=Z,30nn,0.9s	82.47	323	IAmb	IAmb	08 46 04.6
M02C	**Callahan** baz=130	82.72	321	P	P	08 46 03.4 +0.4
F10A	**Beach Ranch, E** comp=Z,16nn,0.8s	82.75	327	IAmb	IAmb	08 46 06.1
K04D	**Chiloquin, OR** baz=131	82.89	322	P	P	08 46 04.8 +1.0
L04D	**Klamath Falls** baz=130	82.93	322	P	P	08 46 04.6 +0.4
J05D	**Fort Rock, OR** baz=131,SNR=8.5	83.03	323	P	P	08 46 05.9 +1.3
PINE	**Pine Mountain** comp=Z,22nn,0.9s	83.20	324	IAmb	IAmb	08 46 08.3
FFC	**Flin Flon**	83.37	340	P	P	08 46 05.6 -0.3
WALA	**Waterton Lakes**	83.39	331	P	P	08 46 06.3 0.0
HUMO	**Hull Mountain**	83.55	322	P	P	08 46 07.5 +0.3
L02E	**Cave Junction** baz=129	83.64	321	P	P	08 46 08.9 +1.3
I05D	**Terrebonne, OR** baz=131,SNR=6.0	83.78	324	P	P	08 46 10.1 +1.8
K02D	**Willamette Mer** baz=129,SNR=7.9	84.01	322	P	P	08 46 11.2 +1.6
DBO	**Dobson Butte** comp=Z,24nn,1.1s	84.04	322	IAmb	IAmb	08 46 12.1
HAWA	**Hanford** comp=Z,21nn,0.9s	84.20	326	IAmb	IAmb	08 46 12.6
NEW	**Newport** baz=135	84.30	329	P	P	08 46 11.0 +0.2
D08A	**Wollman Farm,** comp=Z,26nn,1.2s	84.34	327	IAmb	IAmb	08 46 13.3
G05D	**Wamic, OR** baz=131,SNR=5.6	84.36	325	P	P	08 46 12.8 +1.6
I03D	**Drain, OR** baz=130	84.47	323	P	P	08 46 12.7 +1.0
HOOD	**Mount Hood Mea** comp=Z,28nn,1.4s	84.59	325	IAmb	IAmb	08 46 14.9
I02E	**Swisshome, OR** baz=129	85.01	323	P	P	08 46 16.1 +1.7
LTY	**Liberty** comp=Z,27nn,1.2s	85.36	326	IAmb	IAmb	08 46 17.9
F04A	**Amboy** comp=Z,34nn,1.4s	85.40	325	IAmb	IAmb	08 46 18.1
ESDC	**Sonseca Array** comp=Z,2.9nn,1.0s,baz=247,slow=4.9,SNR=11	85.71	43	P	P	08 46 18.4 +0.4
D05A	**Enumclaw** comp=Z,22nn,1.0s	85.99	326	IAmb	IAmb	08 46 20.8
EDM	**Edmonton** comp=Z,35nn,1.4s	86.23	334	IAmb	IAmb	08 46 20.8
E03A	**Lebam** comp=Z,24nn,1.0s	86.40	325	IAmb	IAmb	08 46 23.7
B06A	**Mablemount** comp=Z,22nn,0.8s	86.61	327	IAmb	IAmb	08 46 23.2
MATP	**Matopo** comp=Z,4.9nn,0.6s,baz=250,slow=4.3,SNR=21	86.69	111	P	P	08 46 23.9 +0.4
B05A	**Bryant** baz=131,SNR=10	86.75	327	P	P	08 46 23.2 +0.4
D03D	**Eldon** baz=130	86.78	326	P	P	08 46 24.2 +1.2
A04D	**Lummi Island** baz=130	87.35	327	P	P	08 46 26.8 +1.1
LLLB	**Lillooet** comp=Z,18nn,1.1s	88.18	328	IAmb	IAmb	08 46 30.9
LSZ	**Lusaka** comp=Z,1.5nn,0.4s,baz=252,slow=11,SNR=3.6	88.46	106	P	P	08 46 33.4 +1.4
YKA	**Yellowknife Ar** comp=Z,4.4nn,0.7s,baz=132,slow=4.5,SNR=91	93.54	340	P	P	08 46 54.4 +0.2
YKA	**Yellowknife Ar**	93.54	340	P	P	08 46 53.9 -0.2
ILAR	**Eielson Array** comp=Z,0.8nn,0.9s,baz=105,slow=5.9,SNR=5.2	106.72	334	PP	PP	08 52 22.6 +1.2
ASAR	**Alice Springs** comp=Z,2.4nn,0.9s,baz=152,slow=2.3,SNR=23	129.21	205	PKP	PKPdf	08 52 46.6 -0.1
ASAR				SKPbc	SKPab	08 55 48.5 +0.1
AKTO	**Aktyubinsk** comp=Z,0.2nn,0.6s,baz=139,slow=3.1,SNR=4.6	129.59	43	PKP	PKPdf	08 52 46.4 0.0
AKTO	comp=Z,3.3nn,1.0s,baz=259,slow=4.0,SNR=6.0			SKPbc	SKPbc	08 55 49.7 +0.6
TIXI	**Tiksi** comp=Z,2.4nn,1.1s,baz=239,slow=2.9,SNR=6.4	130.79	354	PKP	PKPdf	08 52 47.6 -0.4
TIXI	comp=Z,0.7nn,0.3s,baz=90,slow=23,SNR=11			SKPbc	SKPbc	08 55 52.2 -0.8
GEYT	**Alibeck** comp=Z,1.1nn,0.5s,baz=224,slow=6.2,SNR=1.7	131.00	59	SKPbc	SKPab	08 55 55.9 +0.5
WRA	**Warramunga Arr** comp=Z,1.4nn,0.7s,baz=154,slow=1.7,SNR=20	132.38	207	PKP	PKPdf	08 52 52.7 0.0
WRA	comp=Z,1.6nn,0.8s,baz=157,slow=3.6,SNR=10			SKPbc	SKPbc	08 55 59.9 -0.5
BVAR	**Bovoyoe Array** comp=Z,1.8nn,0.9s,baz=39,slow=17,SNR=7.2	136.07	36	PKP	PKiKP	08 52 59.5 -0.8
KURBB	**Kurchatov Arra** comp=Z,1.4nn,0.7s,baz=296,slow=2.9,SNR=9.4	141.65	36	PKhKP	PKPpre	08 53 04.5
KURBB				PKP	PKPdf	08 53 09.2 +0.4
KURBB	comp=Z,2.5nn,0.9s,baz=296,slow=2.9,SNR=6.0			SKP		08 56 24.2
ZALV	**Zalesovo Beam** comp=Z,4.4nn,0.7s,baz=310,slow=4.9,SNR=20	142.64	28	PKhKP	PKPpre	08 53 05.8
ZALV	comp=Z,2.6nn,0.4s,baz=303,slow=3.1,SNR=10.0			PKP	PKPdf	08 53 11.5 +1.1
ZALV	comp=Z,1.2nn,0.8s,baz=270,slow=3.0,SNR=4.8			SKP		08 56 26.5
KSH	**Kashi**	144.58	54	PKP	PKPab	08 53 13.3 -0.3
MKAR	**Makanchi Array** comp=Z,22nn,0.8s,baz=308,slow=2.7,SNR=191	145.81	39	PKPbc	PKPbc	08 53 16.9 -0.3
MKAR				SKPbc	SKPbc	08 56 37.0 +0.1
MJAR	**Matsushiro Ar** comp=Z,0.7nn,0.7s,baz=337,slow=1.6,SNR=3.5	154.75	307	PKPbc	PKPbc	08 53 39.2 0.0
MJAR	comp=Z,1.3nn,0.5s,baz=78,slow=1.5,SNR=5.3			PKPab	PKPab	08 53 55.0 -0.1
SONM	**Songino Array** comp=Z,4.8nn,0.9s,baz=54,slow=3.5,SNR=6.3	154.89	11	PKP	PKPdf	08 53 31.7 +1.2
SONM	comp=Z,2.1nn,0.9s,baz=324,slow=2.3,SNR=12			PKPbc	PKiKP	08 53 39.7 +0.4
SONM	comp=Z,1.7nn,0.8s,baz=338,slow=2.5,SNR=9.3			PKPab	PKPab	08 53 56.3 +1.0
	comp=Z,2.8nn,0.8s,baz=315,slow=4.2,SNR=13					
GOMU	**GeErMu**	159.49	47	PKP	PKPdf	08 53 38.6 +1.7
GOMU				pPKP	PKPab	08 53 43.1 -33
GOMU				sPKP		08 53 47.8
GOMU	comp=Z,52nn,4.7s			AMB	AMB	
KSRS	**Korea Array** comp=Z,3.6nn,1.2s,baz=74,slow=1.8,SNR=5.6	161.08	322	PKP	PKPdf	08 53 39.5 +1.4
KSRS				PKPab	PKPab	08 54 23.6 +1.3
CMAR	**Chiang Mai Arr** comp=Z,4.9nn,1.1s,baz=45,slow=4.5,SNR=8.4	165.77	107	PKP	PKPdf	08 53 44.0 +1.0
CMAR	comp=Z,1.5nn,0.4s,baz=236,slow=1.0,SNR=6.7			PKPab	PKPab	08 54 43.0 -0.6
PZH	**PanZhiHua** comp=Z,1.7nn,0.3s,baz=248,slow=6.2,SNR=4.7	169.05	71	PKP	PKPdf	08 53 45.5 +0.2

IDC 20 09:11:38.6±3.9, 6°.93S×155°.22E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/29, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.5/60 Error ellipse: s-maj=116.8km s-min=29.6km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.04	235	P	P	P	09 16 55.2	-0.5
	0.3nm,0.5s,baz=63,slow=9.8,SNR=6.1							
ASAR	**Alice Springs**	26.39	229	P	P	P	09 17 18.4	+1.4
	0.2nm,0.6s,baz=58,slow=9.6,SNR=2.2							
H11S3	**WAKE ISLAND Hy**	27.68	24	T	T	T	09 45 50.0	
	baz=202,slow=76,SNR=33							
H11S2	**WAKE ISLAND Hy**	27.68	24	T	T	T	09 45 44.6	
	baz=202,slow=76,SNR=27							
H11S1	**WAKE ISLAND Hy**	27.69	24	T	T	T	09 45 48.4	
	baz=202,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	28.86	23	T	T	T	09 47 19.2	
	baz=204							
H11N3	**WAKE ISLAND Hy**	28.87	23	T	T	T	09 47 20.9	
	baz=204							
H11N2	**WAKE ISLAND Hy**	28.88	23	T	T	T	09 47 21.5	
	baz=204							
RPZ	**Rata Peaks**	39.19	162	LR	LR	LR	09 33 18.6	
	comp=Z,80nn,18.4s,baz=269,slow=33							
SONM	**Songino Array**	69.40	327	P	P	P	09 22 49.7	+1.1
	1.4nm,0.9s,baz=135,slow=6.2,SNR=7.2							
MKAR	**Makanchi Array**	83.50	319	P	P	P	09 24 08.4	-0.1
	1.5nm,0.6s,baz=100,slow=6.0,SNR=24							
ZALV	**Zalesovo Beam**	84.25	326	P	P	P	09 24 10.4	-1.7
	1.6nm,0.7s,baz=114,slow=4.8,SNR=5.8							

IDC 20 09:15:05.7±0.7, 56°.22S×27°.08W, h103km±6km, mb4.1/10, mb1 4.2/11, mb1mx3.9/25, mbtmp4.4/11, MS3.7/1, Ms1 3.7/1, ms1mx2.8/41, Error ellipse: s-maj=19.3km s-min=14.5km az=85.0

NEIC 20 09:15:06.2±1.1, 56°.3S±0°.1×27°.1W±0°.2, h103km±3km, mb4.6/15, Error ellipse: s-maj=20.5km s-min=14.8km az=217.0

ISC 20 09:15:05.4±0.5, 56°.31S±0°.08×27°.1W±0°.1, h101km, n41, σ0°91/44, mb4.5/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	5.75	287	Pn	Pn	Pn	09 16 28.5	+0.3
VNA3	**Neumayer Olymp**	16.73	160	P	Pn	Pn	09 18 53.2	0.0
VNA2	**Neumayer--Watz** baz=317,slow=14	16.93	158	P	P	P	09 18 56.7	+0.7
SNAA	**Sanae**	18.48	156	P	P	P	09 19 13.1	0.0
SNAA	**Sanae**	18.48	156	P	P	P	09 19 13.5	+0.4
	1.6nm,0.3s,baz=298,slow=9.9,SNR=22							
SNAA	**Sanae**	18.48	156	P	P	P	09 19 13.5	+0.4
SNAA	comp=Z,21nm,0.7s			IAmb	IAmb	IAmb	09 19 14.4	
BELA	**Belgrano 2**	21.83	184	P	P	P	09 19 48.8	-0.3
QSPA	**South Pole Qui**	33.94	180	P	P	P	09 21 39.5	+0.8
	comp=Z,11nn,0.5s,baz=198,slow=1.9,SNR=74							
QSPA	**South Pole Qui**	33.94	180	P	P	P	09 21 39.5	+0.8
QSPA	comp=Z,12nm,0.6s			IAmb	IAmb	IAmb	09 21 41.3	
MT03	**Universidad Ad**	37.42	289	P	P	P	09 22 08.6	0.0
MAW	**Mawson**	39.90	143	P	P	P	09 22 29.6	+0.8
	comp=Z,8.2nn,1.0s,baz=206,slow=5.8,SNR=6.9							
MAW	**Mawson**	39.90	143	P	P	P	09 22 29.3	+0.5
VNDA	**Vanda**	46.32	183	P	P	P	09 23 21.6	+1.2
	comp=Z,6.0nn,0.6s,baz=190,slow=5.6,SNR=22							
VNDA	**Vanda**	46.32	183	P	P	P	09 23 21.2	+0.9
VNDA	comp=Z,6.9nm,0.7s			IAmb	IAmb	IAmb	09 23 23.2	
GO01	**Chusmiza**	48.14	302	P	P	P	09 23 36.0	+0.3
LBTB	**Lobatse**	49.02	73	P	P	P	09 23 41.9	0.0
	comp=Z,3.6nn,0.7s,baz=232,slow=17,SNR=2.8							
LBTB	**Lobatse**	49.02	73	P	P	P	09 23 42.7	+0.7
LBTB	comp=Z,11nn,1.3s			IAmb	IAmb	IAmb	09 23 43.2	
H10N1	**ASCENSION HYDR** baz=189	49.34	17	T	T	T	10 17 14.5	
H10N3	**ASCENSION HYDR** baz=189	49.34	17	T	T	T	10 17 19.7	
H10N2	**ASCENSION HYDR** baz=189	49.36	17	T	T	T	10 17 20.0	
LPAZ	**La Paz**	50.58	305	P	P	P	09 23 54.7	+0.2
LPAZ	comp=Z,1.8nn,0.5s,baz=148,slow=4.9,SNR=11			pP	pP	pP	09 24 17.8	-0.5
LPAZ	comp=Z,3.5nn,0.7s,baz=180,slow=5.3,SNR=6.0							
LPAZ	**La Paz**	50.58	305	P	P	P	09 23 55.0	+0.5
LPAZ	comp=Z,4.5nm,0.8s			IAmb	IAmb	IAmb	09 24 18.8	
MATP	**Matopo**	54.29	72	P	P	P	09 24 20.8	-0.5
	comp=Z,0.6nn,0.3s,baz=211,slow=9.7,SNR=2.1							
MATP				LR	LR	LR	09 44 10.7	
	comp=Z,66nn,18.4s,baz=211,slow=32							
LSZ	**Lusaka**	58.40	69	P	P	P	09 24 50.0	-0.4
	comp=Z,3.0nn,0.7s,baz=224,slow=5.3,SNR=5.9							
DBIC	**Dimbokro**	65.37	24	P	P	P	09 25 37.1	+0.2
	comp=Z,1.0nn,0.4s,baz=172,slow=8.3,SNR=1.6							
DBIC	**Dimbokro**	65.37	24	P	P	P	09 25 37.3	+0.4
DBIC	comp=Z,9.6nm,1.4s			IAmb	IAmb	IAmb	09 26 02.7	
TOA0	**Torodi Ar. Sit**	73.24	29	P	P	P	09 26 25.8	+0.4
TOA0				IAmb	IAmb	IAmb	09 26 26.8	
TORD	**Torodi Ar. Bea**	73.24	29	P	P	P	09 26 25.6	+0.2
	comp=Z,2.4nn,0.5s,baz=203,slow=6.5,SNR=29							
TORD				pP	pP	pP	09 26 51.4	+1.2
	comp=Z,1.7nn,0.6s,baz=192,slow=6.3,SNR=4.8							
TORD	**Torodi Ar. Bea**	73.24	29	P	P	P	09 26 26.2	+0.8
CAN	**Canberra**	88.67	177	P	P	P	09 27 47.2	0.0
BBOO	**Buckleboo**	90.08	166	P	P	P	09 27 53.2	-0.5
BBOO	comp=Z,5.8nm,1.1s			IAmb	IAmb	IAmb	09 28 15.3	
ASAR	**Alice Springs**	98.72	162	P	P	P	09 28 33.4	-0.1
	comp=Z,0.4nn,0.6s,baz=185,slow=4.0,SNR=13							
ASAR				PP	PP	PP	09 32 31.1	-3.6
	comp=Z,0.4nn,0.9s,baz=189,slow=6.5,SNR=4.9							
ASAR	**Alice Springs**	98.72	162	P	P	Pdif	09 28 34.1	+0.6
WRA	**Warramunga Arr**	102.44	162	P	Pdif	P	09 28 49.9	-0.1
	comp=Z,0.3nn,0.9s,baz=192,slow=7.5,SNR=1.9							
FINES	**FINESS Array B**	124.58	28	PKP	PKPdf	PKPdf	09 33 50.8	-0.6
	comp=Z,0.9nn,0.5s,baz=180,slow=2.5,SNR=10							
FINES	**FINESS Array B**	124.58	28		PKPdf	PKPdf	09 33 51.1	-0.3
YKA	**Yellowknife Ar**	136.41	318	PKP	PKPdf	PKPdf	09 34 13.2	-0.5
	comp=Z,0.2nn,0.6s,baz=117,slow=2.4,SNR=5.6							
YKA				SKPbc	SKPbc	SKPbc	09 37 33.5	-2.9
	comp=Z,0.3nn,0.6s,ba

mb4.2/26, Error ellipse: s-maj=18.7km s-min=8.1km az=50.0

ISC 20 09:33:08.3±0.7, 13°53N±0.08×91°61W±0.07, 28km, n97, σ1ᵖ44/98, **mb4.2**/21, **MS3.5**/4, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.00**	**355**	Pn	**Pn**	**09 33 26.9**	**+0.4**
RTAL	**Retalhuleu**	**1.00**	**355**	*e*P	**Pn**	**09 33 26.3**	**-0.2**
STG3	**Santiaguito 3,**	**1.18**	**2**	*e*P	**Pb**	**09 33 33.3**	**+3.2**
FUG	**Fuego 3**	**1.18**	**39**	*e*P	**Pb**	**09 33 31.1**	**+0.8**
NBG	**Las Nubes**	**1.62**	**49**	*e*P	**Pb**	**09 33 38.1**	**+0.4**
HUEH	**Huehuetenango**	**1.79**	**3**	Pn	**Pn**	**09 33 39.2**	**+1.7**
HUEH	**Huehuetenango**	**1.79**	**3**	*e*P	**Pn**	**09 33 39.0**	**+1.5**
HUEH	**Huehuetenango**	**1.79**	**3**	*e*P	**Pn**	**09 33 39.0**	**+1.5**
NUBE	**Las Nubes**	**1.82**	**78**	*e*P	**Pn**	**09 33 38.1**	**+0.2**
NUBE	**Las Nubes**	**1.82**	**78**	*e*P	**Pn**	**09 33 38.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.84**	**74**	*e*P	**Pn**	**09 33 38.7**	**+0.6**
CEVE	**Cerro Verde**	**1.96**	**81**	*e*P	**Pn**	**09 33 40.9**	**+1.1**
CEVE	**Cerro Verde**	**1.96**	**81**	*e*P	**Pn**	**09 33 40.9**	**+1.1**
SBLS	**San Blas**	**1.96**	**81**	*e*P	**Pn**	**09 33 41.4**	**+1.5**
SBLS	**San Blas**	**1.96**	**81**	*e*P	**Pn**	**09 33 41.4**	**+1.5**
JAYA	**Jayaque - finc**	**2.11**	**86**	*e*P	**Pn**	**09 33 41.9**	**+0.1**
JAYA				IAML		09 34 15.0	
	comp=Z,501nm,0.3s						
JAYA	**Jayaque - finc**	**2.11**	**86**	*e*P	**Pn**	**09 33 41.9**	**+0.1**
JAYA				IAML		09 34 15.0	
	comp=Z,501nm,0.3s						
TACO	**Tacachico**	**2.24**	**78**	*i* P	**Pn**	**09 33 43.8**	**+0.2**
TACO	**Tacachico**	**2.24**	**78**	*i* P	**Pn**	**09 33 43.8**	**+0.2**
SNET	**Serv Nac Est T**	**2.32**	**86**	Pn	**Pn**	**09 33 46.6**	**+1.9**
MTO3	**Montecristo**	**2.35**	**68**	Pn	**Pn**	**09 33 46.4**	**+1.1**
MTO3	**Montecristo**	**2.35**	**68**	*e*P	**Pn**	**09 33 46.2**	**+0.9**
MTO3	**Montecristo**	**2.35**	**68**	*e*P	**Pn**	**09 33 46.2**	**+0.9**
MRL	**Marmol**	**2.43**	**50**	*e*P	**Pb**	**09 33 50.0**	**-1.4**
ESQI	**Esquipulas**	**2.43**	**65**	Pn	**Pn**	**09 33 48.1**	**+1.9**
ESQI	**Esquipulas**	**2.43**	**65**	*e*P	**Pn**	**09 33 47.5**	**+1.3**
LFRS	**El Faro**	**2.48**	**87**	*e*P	**Pn**	**09 33 48.4**	**+1.4**
LFRS	**El Faro**	**2.48**	**87**	*e*P	**Pn**	**09 33 48.4**	**+1.4**
COEG	**Centro de Oper**	**2.66**	**88**	*e*P	**Pn**	**09 33 50.4**	**+1.0**
COEG	**Centro de Oper**	**2.66**	**88**	*e*P	**Pn**	**09 33 50.4**	**+1.0**
CCIG	**Comitan**	**2.79**	**350**	Pn	**Pn**	**09 33 53.5**	**+2.2**
COEB	**Comit de Eme**	**3.00**	**90**	*e*P	**Pn**	**09 33 54.5**	**+0.5**
COEB	**Comit de Eme**	**3.00**	**90**	*e*P	**Pn**	**09 33 54.5**	**+0.5**
PETF	**Flores**	**3.77**	**26**	Pn	**Pb**	**09 34 12.8**	**-1.3**
TGUH	**Tegucigalpa,Un**	**4.25**	**82**		**Pn**	**09 34 13.0**	**+1.7**
CRIN	**San Cristobal**	**4.52**	**100**		**Pn**	**09 34 16.0**	**+1.1**
CMIG	**Matias Romero**	**4.75**	**319**	Pn	**Pn**	**09 34 16.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=164,slow=15,SNR=1.5						
CMIG				Sn	**Sn**	**09 35 10.8**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=139,slow=14,SNR=3.6						
CMIG				LR	LR	09 36 10.1	
	comp=Z,137nm,21.4s,baz=162,slow=38						
CNGN	**Cerro Negro**	**4.89**	**101**	Pn	**Pn**	**09 34 20.1**	**0.0**
MATN	**Matagalpa**	**5.57**	**95**		**Pn**	**09 34 29.6**	**+0.2**
HZTE	**Horizontes, Gu**	**6.51**	**115**	Pn	**Pn**	**09 34 43.5**	**+1.2**
ORTG	**Ortega, Santa**	**6.79**	**117**		**Pn**	**09 34 48.1**	**+1.8**
DUNO	**Dulce Nombre,**	**6.90**	**119**	Pn	**Pn**	**09 34 49.0**	**+1.4**
JTS	**Las Juntas de**	**7.27**	**116**	Pn	**Pn**	**09 34 54.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=6.8,slow=22,SNR=14						
JTS				Sn	**Sn**	**09 36 15.1**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=359,slow=22,SNR=1.2						
JTS	**Las Juntas de**	**7.27**	**116**	Pn	**Pn**	**09 34 54.9**	**+2.2**
JACO	**JACO, Jarabito**	**7.82**	**119**	Pn	**Pn**	**09 35 02.8**	**+2.6**
RIMA	**Rio Macho**	**8.46**	**115**	Pn	**Pn**	**09 35 12.1**	**+2.9**
PEZE	**Perez Zeledon,**	**8.80**	**117**	Pn	**Pn**	**09 35 16.4**	**+2.6**
SRBA	**San Rafael, Bu**	**9.14**	**117**	Pn	**Pn**	**09 35 20.9**	**+2.3**
DRK0	**Durika**	**9.23**	**116**	Pn	**Pn**	**09 35 22.4**	**+2.6**
RIOS	**Rincon, Osa**	**9.28**	**120**	Pn	**Pn**	**09 35 23.8**	**+3.4**
CDITO	**Canoas**	**9.89**	**119**	Pn	**Pn**	**09 35 32.3**	**+3.6**
SOR	**Soroa**	**12.32**	**40**	Pn	**Pn**	**09 36 05.9**	**+4.0**
TX31	**Lajitas Ar. Si**	**19.30**	**327**		**P**	**09 37 31.5**	**+0.2**
TX31				IAmb	IAmb	09 37 56.4	
	comp=Z,12nm,1.1s						
TX32	**Lajitas Array**	**19.30**	**327**	P	**P**	**09 37 30.8**	**-0.4**
TXAR	**Lajitas Array**	**19.30**	**327**	P	**Pn**	**09 37 33.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.3,SNR=4.3						
TXAR	**Lajitas Array**	**19.30**	**327**	P	**P**	**09 37 31.0**	**-0.2**
ABTX	**Abilene, Hawle**	**20.38**	**340**	P	**P**	**09 37 43.3**	**+0.4**
ABTX				IAmb	IAmb	09 37 51.0	
	comp=Z,18nm,1.5s						
SDV	**Santo Domingo**	**21.08**	**100**	P	**P**	**09 37 50.3**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=270,slow=7.1,SNR=2.4						
MNTX	**Cornudas Mount**	**22.07**	**327**	P	**P**	**09 38 00.6**	**-0.5**
FCAR	**Ozark Folk Cen**	**22.27**	**359**	P	**P**	**09 38 02.6**	**-0.6**
MSTX	**Muleshoe**	**22.74**	**335**	P	**P**	**09 38 08.2**	**-0.2**
AMTX	**Amarillo**	**23.13**	**339**	P	**P**	**09 38 11.8**	**-0.6**
AMTX				IAmb	IAmb	09 38 13.4	
	comp=Z,8.2nm,0.8s						
TKL	**Tuckaleechee C**	**23.14**	**16**	P	**P**	**09 38 11.9**	**-0.4**
	comp=Z,9.0nm,0.9s,baz=179,slow=9.0,SNR=8.0						
TKL				LR	LR	09 48 23.1	
	comp=Z,111nm,19.4s,baz=185,slow=40						
TKL	**Tuckaleechee C**	**23.14**	**16**	P	**P**	**09 38 13.0**	**+0.6**
TKL				IAmb	IAmb	09 38 17.1	
	comp=Z,13nm,1.1s						
PBMO	**Poplar Bluff**	**23.18**	**2**	P	**P**	**09 38 12.1**	**-0.6**
PBMO				IAmb	IAmb	09 38 13.8	
	comp=Z,9.1nm,0.9s						
MGMO	**Mountain Grove**	**23.54**	**359**	P	**P**	**09 38 15.8**	**-0.4**
S39A	**Bolivar**	**24.12**	**357**	P	**P**	**09 38 21.2**	**-0.5**
S39A				IAmb	IAmb	09 38 22.1	
	comp=Z,5.2nm,0.8s						
S44A	**Carbondale**	**24.16**	**5**	P	**P**	**09 38 21.9**	**-0.2**
SIUC	**Southern Illin**	**24.19**	**5**	P	**P**	**09 38 22.5**	**+0.1**
CCM	**Cathedral Cave**	**24.43**	**1**	P	**P**	**09 38 23.4**	**-1.3**
CCM				IAmb	IAmb	09 38 25.2	
	comp=Z,10.0nm,0.9s						
ANMO	**Albuquerque**	**25.20**	**330**	P	**P**	**09 38 33.9**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=8.7,SNR=2.4						
Q51A	**Peebles**	**26.43**	**15**	P	**P**	**09 38 42.6**	**-0.1**
Q51A				IAmb	IAmb	09 38 43.6	
	comp=Z,9.6nm,1.0s						
ACSO	**Alum Creek Sta**	**27.66**	**14**	P	**P**	**09 38 53.0**	**-0.8**
O54A	**Avella**	**28.33**	**18**	P	**P**	**09 38 59.0**	**-0.8**
O54A				IAmb	IAmb	09 39 17.6	
	comp=Z,10nm,1.3s						
SADO	**Sadowa**	**32.91**	**16**	LR	LR	09 53 55.8	
	comp=Z,89nm,19.9s,baz=216,slow=38						
PDAR	**Pinedale Array**	**33.01**	**335**	P	**P**	**09 39 41.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=161,slow=9.1,SNR=2.0						
NV11	**Mina Array Sit**	**34.19**	**321**	P	**P**	**09 39 52.6**	**+1.1**
NV11				IAmb	IAmb	09 40 17.5	
	comp=Z,4.6nm,1.4s						
NVAR	**Mina Array Bea**	**34.28**	**321**	P	**P**	**09 39 54.4**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=135,slow=8.0,SNR=7.6						
NVAR	**Mina Array Bea**	**34.28**	**321**	P	**P**	**09 39 52.9**	**+0.5**
J08A	**Circle Bar Ran**	**37.64**	**327**	P	**P**	**09 40 22.6**	**+1.5**
J08A				IAmb	IAmb	09 40 24.4	
	comp=Z,3.9nm,0.8s						
F10A	**Beach Ranch, E**	**38.91**	**331**	P	**P**	**09 40 32.1**	**+0.5**
F10A				IAmb	IAmb	09 40 42.1	
	comp=Z,3.2nm,0.9s						
SIV	**San Ignacio**	**42.09**	**133**	P	**P**	**09 40 56.9**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=307,slow=11,SNR=5.8						
FCC	**Fort Churchill**	**45.19**	**358**	IAmb	IAmb	09 41 21.5	
	comp=Z,7.5nm,1.2s						
FCC				P	**P**	**09 41 22.0**	**-0.6**
SCHQ	**Schefferville**	**45.54**	**20**	P	**P**	**09 41 23.1**	**-2.2**
SCHQ				LR	LR	10 01 17.4	
	comp=Z,2.2nm,0.6s,baz=197,slow=7.8,SNR=4.0						
SCHQ	**Schefferville**	**45.54**	**20**	P	**P**	**09 41 23.6**	**-1.8**
YKA	**Yellowknife Ar**	**51.57**	**347**	P	**P**	**09 42 10.8**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=149,slow=7.7,SNR=38						
YKA				PcP	**PcP**	**09 43 25.2**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=140,slow=3.8,SNR=4.6						
YKA	**Yellowknife Ar**	**51.57**	**347**	P	**P**	**09 42 11.7**	**+0.1**
BCAR	**Beaver Creek A**	**60.62**	**336**	P	**P**	**09 43 17.7**	**+1.3**
INK	**Inuvik**	**61.00**	**344**	P	**P**	**09 43 17.6**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=132,slow=4.5,SNR=5.0						
RES	**Resolute Bay**	**61.18**	**359**	LR	LR	10 12 36.9	
	comp=Z,31nm,18.6s,baz=62,slow=39						
ILAR	**Eielson Array**	**63.42**	**337**	P	**P**	**09 43 34.5**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=133,slow=4.1,SNR=8.8						
ILAR	**Eielson Array**	**63.42**	**337**	P	**P**	**09 43 36.1**	**+0.9**
BMAR	**Burnt Mountain**	**63.87**	**340**	P	**P**	**09 43 38.8**	**+0.7**
EUNU	**Eureka**	**66.59**	**1**	P	**P**	**09 43 54.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**90.12**	**77**	P	**P**	**09 46 03.4**	**-3.2**
TORD				IAmb	IAmb	09 46 13.8	
	comp=Z,1.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**146.56**	**342**	PKPbc	**PKPab**	**09 52 49.3**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=332,slow=3.4,SNR=9.0						
CMAR	**Chiang Mai Arr**	**146.56**	**342**		**PKPab**	**09 52 49.6**	**+0.6**

*MDD **20** 10:01:29.7±0.3, 36°61N×5°97W, h21km±1km, mb_Lg2.9/7, Error ellipse: s-maj=4.0km s-min=1.9km az=9.0*
*INMG **20** 10:01:29.5±2.5, 36°55N×5°96W, h21km±5km, ML2.8, Error ellipse: s-maj=3.7km s-min=3.7km az=122.0*
*SFS **20** 10:01:29.0, 36°58N×5°99W, ML3.0, PATERNA DE LA R. (CADIZ)*
*CNRM **20** 10:01:30.0, 36°39N×6°09W, h28km, ml2.5*

ISC 20 10:01:29.3±1.0, 36°61N±0.02×5°92W±0.02, h21km±2km, n56, σ2ᵖ40/100, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.27**	**11**	Pg	**Pb**	**10 01 34.9**	**-0.8**
ESPR				Sg	**Sb**	**10 01 41.1**	**+1.1**
SFS	**San Fernando**	**0.27**	**239**	P	**Pb**	**10 01 35.1**	**-0.5**
SFS				S	**Sn**	**10 01 44.1**	**+0.6**
SFS	**San Fernando**	**0.27**	**239**	P	**Pb**	**10 01 34.5**	**-1.1**
EJIF	**Jimena Fronter**	**0.40**	**113**	Pg	**Pb**	**10 01 37.3**	**-0.2**
EJIF				Sg	**Sb**	**10 01 41.7**	**-1.3**
CEU	**Ceuta**	**0.83**	**148**	P	**Pn**	**10 01 46.6**	**+0.8**
CEU				S	**Sn**	**10 02 05.3**	**+7.9**
EMIJ	**Mijas**	**0.93**	**92**	Pg	**Pb**	**10 01 45.6**	**-1.1**
EMIJ				Sg	**Sn**	**10 02 00.2**	**+0.4**
SMIR	**Smir Dam**	**1.02**	**154**	P	**Pb**	**10 01 49.2**	**+1.0**
EMAL	**Malaga-Limoner**	**1.21**	**82**	P	**Pb**	**10 01 50.6**	**-0.9**
EMAL				S	**Sb**	**10 02 11.3**	**+4.7**
EMIN	**Mina Concepcio**	**1.31**	**333**	Pg	**Pb**	**10 01 52.4**	**-0.8**
EMIN				Sg	**Sb**	**10 02 09.0**	**-0.5**
EMIN				*i* Vmb_Lg		10 02 09.8	
ECAB	**El Cabril**	**1.52**	**15**	Pg	**Pb**	**10 01 56.3**	**-0.5**
ECAB				Sg	**Sb**	**10 02 15.7**	**0.0**
ECAB				*i* Vmb_Lg		10 02 21.5	
EGOR	**Sierra Gorda,**	**1.54**	**70**	Pn	**Pn**	**10 01 55.3**	**-0.4**
EGOR				Pg	**Pb**	**10 01 57.9**	**+0.8**
EGOR				Sn	**Sb**	**10 02 15.0**	**-1.2**
EGOR				Sg	**Sn**	**10 02 18.3**	**+3.2**
EGOR				*i* Vmb_Lg		10 02 29.2	
EGRO	**El Granado**	**1.56**	**307**	Pn	**Pn**	**10 01 53.7**	**-2.1**
EGRO				Pg	**Pb**	**10 01 56.7**	**-0.7**
EGRO				Sg	**Sb**	**10 02 16.1**	**-0.6**
EGRO				*i* Vmb_Lg		10 02 21.6	
PVAQ	**Vaqueiros**	**1.64**	**300**	*e*Pn	**Pn**	**10 01 54.9**	**-2.1**
PVAQ				*e*Sg	**Sb**	**10 02 20.3**	**+1.1**
PVAQ				A	A	10 02 24.7	
	27nm,0.3s						
PVAQ	**Vaqueiros**	**1.64**	**300**	P	**Pn**	**10 01 55.0**	**-2.0**
PVAQ				S	**Sb**	**10 02 18.9**	**-0.3**
PBDV	**Barranco-do-Ve**	**1.73**	**292**	*e*Pn	**Pn**	**10 01 56.4**	**-1.8**
PBDV				*e*Sn	**Sn**	**10 02 15.4**	**-1.3**
PBDV				*e*Sg	**Sb**	**10 02 24.2**	**+2.5**
PBDV				A	A	10 02 42.3	
	28nm,0.8s						
PBAR	**Barrancos**	**1.80**	**331**	*e*Pg	**Pb**	**10 02 00.7**	**-0.9**
PBAR				*e*Sg	**Sb**	**10 02 23.9**	**+0.2**
PBAR				A	A	10 02 26.9	
	73nm,0.3s						
ELGU	**Los Guajares,**	**1.86**	**81**	Pn	**Pb**	**10 02 00.6**	**-2.0**
ELGU				Sn	**Sb**	**10 02 23.8**	**-1.7**
ELGU				*i* Vmb_Lg		10 02 47.6	
EADA	**Adamuz**	**1.89**	**34**	Pn	**Pn**	**10 01 59.5**	**-1.0**
EADA				Pg	**Pb**	**10 02 03.4**	**+0.3**
EADA				Sn	**Sb**	**10 02 23.3**	**-3.1**
EADA				Sg	**Sn**	**10 02 28.7**	**+4.4**
EADA				*i* Vmb_Lg		10 02 31.1	
PCVE	**Castro Verde**	**1.98**	**302**	*e*Pn	**Pn**	**10 01 59.7**	**-1.9**
PCVE	**Castro Verde**	**1.98**	**302**	*e*Pg	**Pb**	**10 02 05.6**	**+1.0**
PCVE				*e*Sg	**Sb**	**10 02 30.6**	**+1.8**
PCVE				A	A	10 02 36.7	
	25nm,0.4s						
PBEJ	**Beja**	**2.10**	**313**	*e*Pg	**Pb**	**10 02 06.7**	**0.0**
PBEJ				*e*Sg	**Sb**	**10 02 32.9**	**+0.5**
PBEJ				A	A	10 02 37.6	
	17nm,0.3s						
MORF	**Marmelete**	**2.30**	**289**	*e*Pn	**Pn**	**10 02 03.9**	**-2.1**
MORF				*e*Sn	**Sn**	**10 02 31.4**	**-2.3**
MORF				*e*Sg	**Sb**	**10 02 45.1**	**+7.1**
MORF				A	A	10 02 53.5	
	8.0nm,0.2s						
EBAD	**Badajoz**	**2.31**	**338**	Pn	**Pn**	**10 02 05.4**	**-0.8**
EBAD				Pg	**Pb**	**10 02 10.1**	**-0.2**
EBAD				Sg	**Sb**	**10 02 39.3**	**+0.8**
EBAD				*i* Vmb_Lg		10 02 42.0	
PFVI	**Vila Bisbo**	**2.39**	**284**	*e*Pn	**Pn**	**10 02 05.7**	**-1.5**
PFVI				*e*Sn	**Sn**	**10 02 33.4**	**-2.5**
PFVI				A	A	10 03 00.1	
	17nm,0.6s						
PFVI	**Vila Bisbo**	**2.39**	**284**	P	**Pn**	**10 02 05.0**	**-2.2**
PFVI				S	**Sn**	**10 02 32.4**	**-3.5**
PTEO	**Sao Teotonio**	**2.43**	**294**	*e*Pn	**Pn**	**10 02 03.1**	**-4.7**
PTEO				*e*Sn	**Sn**	**10 02 37.1**	**+0.2**
PTEO				*e*Sg	**Sb**	**10 02 48.6**	**+6.8**
PTEO				A	A	10 03 12.4	
	26nm,0.5s						
EVO	**Evora**	**2.54**	**320**	*e*Pn	**Pn**	**10 02 07.7**	**-1.6**
EVO	**Evora**	**2.54**	**320**	*e*Pg	**Pb**	**10 02 14.8**	**+0.6**
EVO				*e*Sg	**Sb**	**10 02 46.5**	**+1.5**
EVO				A	A	10 02 53.8	
	36nm,0.6s						
PNCL	**Nicolau / Gran**	**2.56**	**307**	*e*Pn	**Pn**	**10 02 07.7**	**-1.9**
PNCL	**Nicolau / Gran**	**2.56**	**307**	*e*Pg	**Pb**	**10 02 15.4**	**+0.8**
PNCL				*e*Sn	**Sn**	**10 02 38.3**	**-1.9**
PNCL				*e*Sg	**Sb**	**10 02 48.8**	**+3.1**
PNCL				A	A	10 02 54.3	
	16nm,0.6s						
PESTR	**Estremoz**	**2.62**	**330**	*e*Pg	**Pb**	**10 02 15.6**	**+0.1**
PESTR				*e*Sg	**Sb**	**10 02 48.7**	**+1.5**
PESTR				A	A	10 03 01.3	
	30nm,0.5s						
PESTR	**Estremoz**	**2.62**	**330**	P	**Pb**	**10 02 15.0**	**-0.5**
PESTR				S	**Sb**	**10 02 47.6**	**+0.3**
GOG	**Mont Gurugu**	**2.75**	**119**	P	**Pn**	**10 02 11.0**	**-1.2**
GOG				S	**Sn**	**10 02 42.6**	**-2.2**
PMRV	**Marv??o**	**3.05**	**338**	*e*Pg	**Pb**	**10 02 25.0**	**+2.1**
PMRV				*e*Sg	**Sb**	**10 03 01.8**	**+2.2**
PMRV				A	A	10 03 07.8	
	53nm,0.5s						
PMTG	**Montargil**	**3.06**	**324**	*e*Pn	**Pn**	**10 02 17.4**	**+0.9**
PMTG	**Montargil**	**3.06**	**324**	*e*Pg	**Pb**	**10 02 24.1**	**+1.0**
PMTG				*e*Sg	**Sb**	**10 03 04.0**	**+4.0**
PMTG				A	A	10 03 08.6	
	21nm,0.8s						
PACT	**Alcochete**	**3.16**	**314**	*e*Sg	Sb	10 03 09.9	+7.1
ZHG	**ZHG**	**3.21**	**191**	P	**Pn**	**10 02 17.1**	**-1.4**
ZHG				S	**Sn**	**10 02 54.2**	**-2.0**
PCBR	**Castelo Branco**	**3.46**	**340**	*e*Sg	**Sb**	**10 03 13.6**	**+2.3**
PMAFR	**Mafra**	**3.55**	**312**	*e*Pn	**Pn**	**10 02 24.1**	**+0.9**
PMAFR	**Mafra**	**3.55**	**312**	*e*Pg	Pb	10 02 34.8	+3.4
PMAFR				*e*Sn	**Sn**	**10 03 02.0**	**-2.5**
PMAFR				*e*Sg	Sb	10 03 21.4	+7.4
PMAFR				A	A	10 03 30.2	
	24nm,0.5s						
JBK	**JBK**	**3.55**	**129**	P	**Pn**	**10 02 23.5**	**0.0**
JBK				S	**Sn**	**10 03 02.8**	**-2.1**
PSBE	**So Bento**	**3.69**	**323**	*e*Pn	**Pn**	**10 02 24.7**	**-0.4**
PSBE				*e*Sg	**Sb**	**10 03 22.8**	**+4.8**
PSBE				A	A	10 03 36.9	
	22nm,0.5s						
MD31	**MD31**	**3.85**	**165**	P	**Pn**	**10 02 26.1**	**-1.3**
MD31				S	**Sn**	**10 03 09.9**	**-2.2**
MDT	**Midelt**	**3.93**	**164**	P	**Pn**	**10 02 27.6**	**-0.9**
MDT				S	**Sn**	**10 03 11.0**	**-3.2**
PCAS	**Casmilo, Conde**	**3.99**	**330**	*e*Sn	**Sn**	**10 03 17.6**	**+2.1**
PCAS				*e*Sg	**Sb**	**10 03 32.9**	**+6.1**
PCAS				A	A	10 03 45.0	
	30nm,0.5s						
MTE	**Manteigas**	**4.00**	**342**	*e*Sg	Sb	10 03 33.8	+6.8
MTE				A	A	10 03 38.9	
	52nm,0.6s						
ETOB	**Tobarra**	**4.02**	**58**	Pn	**Pn**	**10 02 28.6**	**-1.2**
ETOB				Sn	**Sn**	**10 03 13.3**	**-3.0**
ETOB				Sg	**Sb**	**10 03 32.4**	**+4.7**
COI	**Coimbra**	**4.09**	**332**	*e*Sg	Sb	10 03 38.4	+8.7
PVIS	**Viseu**	**4.38**	**340**	*e*Pn	**Pn**	**10 02 32.9**	**-1.8**
PVIS				*e*Sn	**Sn**	**10 03 25.2**	**0.0**
PVIS				*e*Sg	Sb	10 03 45.2	+7.1
PVIS				A	A	10 03 52.7	
	16nm,0.5s						
MVO	**Moncorvo**	**4.63**	**350**	*e*Pn	**Pn**	**10 02 37.5**	**-0.7**
MVO				*e*Sn	**Sn**	**10 03 29.7**	**-1.7**
MVO				*e*Sg	Sb	10 03 53.3	+8.0
MVO				A	A	10 04 01.4	
	18nm,0.4s						
PVRL	**Vila Real**	**4.87**	**344**	*e*Sn	**Sn**	**10 03 33.0**	**-4.1**
PVRL				*e*Sg	Sb	10 04 01.0	+9.0
POLO	**Lamas de Olo**	**4.98**	**344**	*e*Pn	Pn	10 02 46.0	+3.1
POLO				*e*Sn	**Sn**	**10 03 40.1**	**+0.2**
POLO				*e*Sg	Sb	10 04 06.6	+11
POLO				A	A	10 04 09.0	
	9.8nm,0.6s						
PBRG	**Braganca**	**5.23**	**353**	*e*Sg	Sb	10 04 12.6	+10
PBRG				A	A	10 04 17.3	
	9.3nm,0.6s						
PCAB	**Cabril**	**5.35**	**343**	*e*Sg	Sb	10 04 16.5	+11
PGAV	**Gavieira, Arco**	**5.65**	**342**	*e*Sg	Sb	10 04 26.9	+12

*IDC **20** 10:02:12.3±1.4, 7°10S×121°20E, h515km±15km, mb2.6/4, mb1 2.5/6, mb1mx2.3/30, mbtmp3.4/6, Error ellipse: s-maj=105.8km s-min=17.2km az=60.0*
*DJA **20** 10:02:14.8±0.7, 7°S±24°×12°1E±°, h487km±10km, M3.9/8, mb3.9/3, mB4.7/2, MLv3.9/8, Mw(mB)3.9/2*

ISC 20 10:02:11.4±0.9, 7°1S±0°1×121°0E±0°1, h500km, n13, σ1ᵖ55/16, **mb3.5**/3, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**3.02**	**212**	P	**P**	**10 03 22.6**	**+0.1**
BASI	**Baing, Sumba**	**3.15**	**188**	P	**P**	**10 03 24.7**	**+1.3**
PLAI	**Plampang**	**3.67**	**242**	P	**P**	**10 03 28.3**	**+1.1**
PLAI				S	**S**	**10 04 27.2**	**-1.6**
BATI	**Baumata**	**4.05**	**140**	P	**P**	**10 03 31.9**	**+1.7**
	10nm,0.3s,baz=285,slow=3.4,SNR=11						
BATI				S	**S**	**10 04 35.2**	**+0.8**
	5.7nm,0.3s,baz=36,slow=9.8,SNR=1.8						
IGBI	**Denpasar**	**6.08**	**253**	P	**P**	**10 03 50.9**	**+2.4**
	0.2nm2μm36nm,1.0s						
JAGI	**Jajag, Banyuwa**	**6.96**	**258**	P	**P**	**10 03 57.6**	**+0.4**
	0.2nm1μm36nm,0.6s						
GMJI	**Gumukmas**	**7.62**	**261**	P	**P**	**10 04 05.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.84**	**158**	P	**P**	**10 04 48.4**	**+0.2**
	0.1nm,0.3s,baz=342,slow=14,SNR=1.1						
WRA	**Warramunga Arr**	**18.17**	**136**	P	**P**	**10 05 52.9**	**-0.5**
	0.1nm,0.3s,baz=313,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**20.61**	**145**	P	**P**	**10 06 15.0**	**-0.6**
	0.1nm,0.3s,baz=327,slow=10.0,SNR=5.8						
ASAR				ScP	**ScP**	**10 12 49.8**	**-3.7**
	0.1nm,0.6s,baz=336,slow=2.0,SNR=1.5						
SONM	**Songino Array**	**56.19**	**348**	P	**P**	**10 11 03.3**	**0.0**
	0.2nm,0.4s,baz=162,slow=5.7,SNR=2.0						
MKAR	**Makanchi Array**	**63.71**	**331**	P	**P**	**10 11 53.9**	**+0.5**
	0.9nm,0.7s,baz=141,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**68.00**	**338**	P	**P**	**10 12 19.6**	**-0.3**
	0.5nm,0.4s,baz=126,slow=3.7,SNR=2.7						

*IDC **20** 10:19:09.0±0.6, 49°54N×28°47W, h0km, mb4.0/30, mb1 4.2/32, mb1mx4.1/64, mbtmp4.0/32, ML3.9/2, MS3.5/33, Ms1 3.5/33, ms1mx3.3/93, Error ellipse: s-maj=19.3km s-min=9.8km az=8.0*
*NEIC **20** 10:19:12.5±1.5, 49°6N±0°1×28°5W±0°1, h14km±3km, mb4.5/44, Error ellipse: s-maj=18.0km s-min=13.3km az=190.0*

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comp=Z,5.5nm,1.1s,baz=265,slow=8.4,SNR=7.2
FINES LR LR 10 37 18.0
comp=Z,64nm,19.6s,baz=300,slow=34
FINES FINESS Array B 32.09 47 P **P 10 25 38.4 +0.5**
FIA1 FINESS Array S 32.09 47 P **P 10 25 39.0 +1.1**
ARCES ARCESS Array B 32.30 32 P **P 10 25 39.2 -0.5**
comp=Z,3.0nm,1.0s,baz=276,slow=9.9,SNR=4.3
ARCES LR LR 10 37 00.1
comp=Z,23nm,20.9s,baz=113,slow=33
ARCES ARCESS Array B 32.30 32 P **P 10 25 39.7 0.0**
L59A Walton 32.83 275 P **P 10 25 44.7 +0.1**
DELO Deloro Mine 33.40 280 P **P 10 25 50.0 +0.4**
DELO IAmb IAmb 10 25 51.9
comp=Z,9.4nm,1.0s
N59A State Game Lan 33.94 274 P **P 10 25 55.0 +0.7**
N59A State Game Lan 33.94 274 P **P 10 25 54.0 -0.3**
baz=59
SADO Sadowa 34.26 282 P **P 10 25 56.8 -0.2**
comp=Z,4.4nm,0.8s,baz=72,slow=7.1,SNR=4.7
SADO LR LR 10 38 16.4
comp=Z,108nm,20.1s,baz=20,slow=34
MVL Millersville 34.79 273 P **P 10 26 02.0 +0.4**
MVL IAmb IAmb 10 26 03.4
comp=Z,8.6nm,0.9s
BUR08 Bucovina Ar. S 34.90 72 P **P 10 26 04.9 +2.2**
BUR08 IAmb IAmb 10 26 10.1
comp=Z,2.2nm,0.7s
BURAR Bucovina Array 34.92 72 P **P 10 26 04.4 +1.6**
M55A Ridgway 35.60 276 P **P 10 26 08.5 -0.1**
M54A Oil Creek Stat 36.16 277 P **P 10 26 12.9 -0.5**
M54A IAmb IAmb 10 26 15.1
comp=Z,9.9nm,0.9s
AKASG Malin Array Be 36.18 66 P **P 10 26 11.7 -1.7**
comp=Z,0.5nm,0.5s,baz=290,slow=8.5,SNR=2.5
AKASG LR LR 10 41 43.3
comp=Z,83nm,18.3s,baz=250,slow=37
AKASG Malin Array Be 36.18 66 P **P 10 26 13.9 +0.5**
MLR Muntele Rosu 36.28 75 LR LR 10 40 14.7
comp=Z,52nm,21.8s,baz=270,slow=35
N54A Moraine State 36.65 277 P **P 10 26 18.2 +0.5**
N54A Moraine State 36.65 277 P **P 10 26 18.0 +0.4**
baz=58
RES Resolute Bay 36.79 336 LR LR 10 40 09.8
comp=Z,84nm,18.2s,baz=101,slow=34
Q56A Snyder Ridge, 37.16 273 P **P 10 26 22.9 +1.0**
O53A New Philadelph 37.82 276 P **P 10 26 28.1 +0.6**
baz=58
P52A Corning 38.74 276 P **P 10 26 36.1 +0.8**
baz=57
Q52A Bidwell 39.20 275 P **P 10 26 39.5 +0.4**
Q52A IAmb IAmb 10 26 40.1
comp=Z,10nm,0.9s
U56A King 39.47 271 P **P 10 26 41.8 +0.3**
U56A IAmb IAmb 10 26 43.8
comp=Z,10nm,0.7s
P49A Miami Univ. Ec 40.47 278 P **P 10 26 49.3 -0.4**
baz=56
ULM Lac du Bonnet 42.07 298 P **P 10 27 01.4 -1.3**
comp=Z,4.9nm,0.8s,baz=55,slow=8.9,SNR=5.8
TKL Tuckaleechee C 42.09 272 P **P 10 27 03.0 -0.1**
comp=Z,4.0nm,0.9s,baz=58,slow=9.5,SNR=2.9
TKL LR LR 10 44 03.1
comp=Z,62nm,18.6s,baz=68,slow=36
JFWS Jewell Farm 42.19 285 P **P 10 27 03.5 -0.3**
baz=58
SJG San Juan 43.58 238 LR LR 10 42 18.1
comp=Z,33nm,19.5s,baz=86,slow=32
TOA0 Torodi Ar. Sit 43.94 135 P **P 10 27 19.2 +1.0**
TORD Torodi Ar. Bea 43.94 135 P **P 10 27 17.2 -1.0**
comp=Z,0.7nm,0.6s,baz=340,slow=7.1,SNR=5.4
TORD Torodi Ar. Bea 43.94 135 P **P 10 27 18.1 -0.1**
BRTR Keskin Array B 44.09 78 P **P 10 27 18.9 -0.5**
comp=Z,0.9nm,0.9s,baz=285,slow=7.3,SNR=3.6
WVT Waverly 44.44 276 P **P 10 27 22.3 +0.3**
baz=53
CCM Cathedral Cave 45.51 280 P **P 10 27 30.2 -0.3**
baz=54
ECSD EROS Data Cent 45.70 290 P **P 10 27 32.2 +0.2**
baz=58
LRAL Lakeview Retre 45.80 272 P **P 10 27 33.5 +0.7**
baz=51
BELG Belogornoye 45.91 56 LR LR 10 46 07.1
comp=Z,52nm,21.3s,baz=155,slow=35
YKA Yellowknife Ar 46.17 320 P **P 10 27 34.4 -1.1**
comp=Z,2.5nm,0.9s,baz=62,slow=8.1,SNR=15
YKA LR LR 10 46 40.8
comp=Z,56nm,18.2s,baz=344,slow=36
YKA Yellowknife Ar 46.17 320 P **P 10 27 35.4 -0.1**
DBIC Dimbokro 47.13 147 LR LR 10 44 54.9
comp=Z,79nm,21.5s,baz=342,slow=36
U40A Yellville 47.55 279 P **P 10 27 46.2 -0.3**
baz=52,SNR=6.4
KSU1 Kansas State U 48.30 285 P **P 10 27 51.8 -0.5**
baz=54
VBMS Vicksburg 48.61 273 P **P 10 27 54.5 -0.2**
VBMS Vicksburg 48.61 273 P **P 10 27 54.5 -0.2**
baz=50
X40A Basin Creek Fa 48.68 277 P **P 10 27 54.5 -0.8**
baz=51
W39A Magazine 48.85 279 P **P 10 27 56.1 -0.5**
baz=52
143A Socs Landing, 48.88 275 P **P 10 27 56.3 -0.5**
Z41A Richland Creek 49.43 276 P **P 10 28 01.3 +0.2**
baz=50
TUL1 Leonard 49.70 281 P **P 10 28 01.9 -1.2**
baz=52
LAO LASA Array 49.80 298 P **P 10 28 04.6 +0.8**
baz=56,SNR=8.1
INK Inuvik 50.09 332 LR LR 10 47 41.2
comp=Z,84nm,19.3s,baz=62,slow=34
EGMT Eagleton 51.05 301 P **P 10 28 13.2 -0.1**
baz=56,SNR=7.9
K22A Casper 52.30 294 P **P 10 28 22.4 -0.4**
baz=54,SNR=5.6
WMOK Wichita Mounta 52.34 282 P **P 10 28 22.1 -0.9**
baz=51
RLMT Red Lodge 52.44 298 P **P 10 28 23.9 0.0**
baz=54
PHWY Pilot Hill 52.46 292 P **P 10 28 23.6 -0.6**
PHWY IAmb IAmb 10 28 24.8
comp=Z,4.5nm,0.9s
AKTO Aktyubinsk 52.47 54 LR LR 10 50 48.6
comp=Z,21nm,19.9s,baz=340,slow=36
WALA Waterton Lakes 52.73 305 P **P 10 28 25.6 -0.3**
WALA IAmb IAmb 10 28 26.6
comp=Z,8.7nm,0.8s
N23A Red Feather La 53.00 292 P **P 10 28 28.8 +0.7**
baz=53,SNR=12
ISCO Idaho Springs 53.47 291 P **P 10 28 32.1 +0.5**
baz=52
BOZ Bozeman (W) 53.51 300 P **P 10 28 31.6 0.0**
baz=53,SNR=14
H17A Grant Village 53.62 298 P **P 10 28 34.6 +2.0**
baz=53
BW06 Boulder Array 54.02 296 P **P 10 28 34.2 -1.3**
BW06 IAmb IAmb 10 28 35.1
comp=Z,5.9nm,0.9s
BW06 Boulder Array 54.02 296 P **P 10 28 34.4 -1.1**
baz=52,SNR=9.7
PD31 Pinedale Array 54.02 296 P **P 10 28 34.5 -1.1**
PD31 IAmb IAmb 10 28 35.1
comp=Z,5.3nm,0.9s
PDAR Pinedale Array 54.02 296 P **P 10 28 34.3 -1.2**
comp=Z,5.1nm,0.8s,baz=63,slow=7.6,SNR=47
PDAR LR LR 10 49 32.2
comp=Z,44nm,19.1s,baz=332,slow=34
PDAR Pinedale Array 54.02 296 P **P 10 28 34.4 -1.1**
MSO Missoula 54.06 302 P **P 10 28 35.1 -0.6**
baz=53
AMTX Amarillo 54.09 284 P **P 10 28 36.0 +0.1**
baz=50
T25A Trinidad 54.38 287 P **P 10 28 38.8 +0.6**
baz=51,SNR=5.1
SDCO Great Sand Dun 54.67 289 P **P 10 28 40.8 +0.4**
baz=51
M30M Minto, Yukon 54.70 327 P **P 10 28 40.9 +0.9**
baz=49
DLBC Dease Lake 54.78 321 P **P 10 28 41.4 +0.8**
comp=Z,7.7nm,1.3s,baz=25,slow=12,SNR=3.5
DLBC Dease Lake 54.78 321 P **P 10 28 40.4 -0.2**
DLBC IAmb IAmb 10 28 48.3
comp=Z,10nm,1.3s
O20A White River Ci 54.85 293 P **P 10 28 41.3 -0.2**
baz=51
NEW Newport 54.92 305 P **P 10 28 41.0 -0.7**
comp=Z,3.2nm,0.9s,baz=79,slow=10,SNR=4.2
NEW Newport 54.92 305 P **P 10 28 41.4 -0.3**
baz=53
MSTX Muleshoe 55.37 283 P **P 10 28 44.8 -0.5**
baz=49,SNR=8.5
S22A 4UR Ranch, Cre 55.49 290 P **P 10 28 46.1 -0.2**
baz=50
JCT Junction City 55.76 278 P **P 10 28 47.2 -0.8**
baz=48
H24K Noodor Dome 55.94 334 P **P 10 28 50.3 +1.4**
baz=43
SCRK Sand Creek 56.13 331 P **P 10 28 51.0 +0.7**
baz=45,SNR=5.6
YUK4 Talbot Arm 56.18 327 P **P 10 28 51.3 +0.6**
baz=47
HLID Hailey 56.33 299 P **P 10 28 52.4 +0.3**
baz=51,SNR=7.3
ILAR Eielson Array 56.44 333 P **P 10 28 52.2 -0.1**
comp=Z,1.7nm,0.9s,baz=40,slow=5.3,SNR=11
ILAR LR LR 10 50 44.1
comp=Z,66nm,18.5s,baz=135,slow=34
HDA Harding Lake 56.72 333 P **P 10 28 54.7 +0.4**
baz=43
MVCO Mesa Verde 56.85 290 P **P 10 28 56.7 +0.7**
baz=50
ANMO Albuquerque 57.05 287 P **P 10 28 57.2 -0.2**
comp=Z,1.5nm,0.9s,baz=43,slow=8.6,SNR=7.4
ANMO LR LR 10 54 09.1
comp=Z,73nm,18.2s,baz=5.0,slow=37
ANMO Albuquerque 57.05 287 P **P 10 28 57.8 +0.4**
baz=49
NEA2 Nenana 57.20 334 P **P 10 28 58.9 +1.1**
baz=42
PAX Paxson 57.32 331 P **P 10 28 59.9 +1.2**
baz=44
LTY Liberty 57.42 306 P **P 10 28 58.6 -1.1**
LTY IAmb IAmb 10 28 59.3
comp=Z,6.2nm,0.9s
DUG Dugway, Tooele 57.53 295 P **P 10 29 00.9 +0.3**
DUG Dugway, Tooele 57.53 295 P **P 10 29 00.9 +0.3**
baz=50,SNR=12
I21K Tanana 57.57 335 P **P 10 29 00.2 -0.2**
baz=40
LENM Lemitar 57.88 286 P **P 10 29 05.6 +2.4**
TCRU Three Creeks R 58.33 294 P **P 10 29 06.1 -0.3**
H10N2 ASCENSION HYDR 58.44 164 T T 11 32 03.9
baz=350,slow=74
H10N3 ASCENSION HYDR 58.45 164 T T 11 32 06.6
baz=350,slow=74
H10N1 ASCENSION HYDR 58.46 164 T T 11 32 04.5
baz=350
D03D Eldon 58.50 308 P **P 10 29 07.5 +0.4**
baz=49
KLU Klutina 58.55 330 P **P 10 29 07.5 +0.2**
baz=43
ELK Elko 58.59 297 P **P 10 29 08.6 +0.4**
comp=Z,2.8nm,0.9s,baz=51,slow=4.2,SNR=11
PETF Flora 58.83 259 P **P 10 29 12.4 +2.7**
CAST Castle Rocks 58.96 334 P **P 10 29 10.0 -0.2**
baz=39
TX31 Lajitas Ar. Si 59.01 280 P **P 10 29 11.0 0.0**
TX31 IAmb IAmb 10 29 12.6
comp=Z,6.1nm,0.9s
TXAR Lajitas Array 59.01 280 P **P 10 29 10.4 -0.6**
comp=Z,1.4nm,0.8s,baz=70,slow=6.8,SNR=13
TXAR LR LR 10 52 58.2
comp=Z,81nm,21.5s,baz=13,slow=34
TXAR Lajitas Array 59.01 280 P **P 10 29 10.8 -0.2**
121A Cookes Peak, D 59.47 285 P **P 10 29 15.0 +0.7**
baz=48
I05D Terrebonne, OR 59.67 304 P **P 10 29 15.5 +0.2**
baz=49
U15A North Rim 59.67 292 P **P 10 29 15.5 -0.3**
U15A IAmb IAmb 10 29 16.9
comp=Z,4.6nm,0.9s
WUAZ Wupatki 59.71 290 P **P 10 29 16.4 +0.5**
baz=48
J05D Fort Rock, OR 60.30 303 P **P 10 29 20.5 +0.6**
baz=48,SNR=8.0
R11A Troy Canyon, C 60.36 295 P **P 10 29 20.2 -0.2**
baz=48,SNR=5.2
TPNV Topopah Spring 61.69 295 P **P 10 29 29.7 +0.3**
baz=48
NVAR Mina Array Bea 61.90 297 P **P 10 29 29.7 -1.1**
comp=Z,1.0nm,0.8s,baz=63,slow=5.3,SNR=7.4
CMIG Matias Romero 61.93 263 LR LR 10 54 35.0
comp=Z,26nm,21.5s,baz=31,slow=34
YBH Yreka Blue Hor 62.16 302 P **P 10 29 31.2 -1.2**
comp=Z,1.9nm,1.0s,baz=90,slow=4.0,SNR=4.5
PDMCI Parker Dam,Lak 62.21 291 P **P 10 29 32.9 +0.2**
baz=47
FURC Furnace Creek, 62.38 295 P **P 10 29 34.2 +0.5**
baz=47
O03E Paynes Creek 62.63 301 P **P 10 29 35.1 -0.4**
baz=47
GMRC Granite Mounta 62.80 292 P **P 10 29 37.4 +0.6**
baz=47
IRM Iron Mountain 62.92 292 P **P 10 29 37.9 +0.4**
baz=47
214A Organ Pipe Nat 62.99 288 P **P 10 29 38.2 +0.3**
baz=46
MPMC Manual Prospec 63.03 295 P **P 10 29 39.0 +0.6**
baz=47,SNR=7.6
GSC Goldstone, Bar 63.14 294 P **P 10 29 39.8 +0.8**
baz=47,SNR=12
HEC Hector,Ludlow 63.18 293 P **P 10 29 39.8 +0.6**
baz=47,SNR=5.5
LRMC Laurel Mtn Rad 63.54 294 P **P 10 29 42.1 +0.5**
baz=46
BELC Belle Mtn. Jos 63.54 292 P **P 10 29 42.5 +0.8**
baz=46
ISA Isabella, Lake 63.88 295 P **P 10 29 44.3 +0.4**
baz=46,SNR=6.0
BBRC Big Bear Solar 63.92 293 P **P 10 29 45.4 +1.1**
baz=46
PFO Pinyon Flats O 64.09 292 P **P 10 29 45.4 +0.1**
comp=Z,3.3nm,1.0s,baz=72,slow=5.0,SNR=5.6
PFO Pinyon Flats O 64.09 292 P **P 10 29 46.1 +0.8**
baz=46
VES Vestal, Richgr 64.12 295 P **P 10 29 47.8 +2.5**
baz=46
EDW2 Edwards Air Fo 64.13 294 P **P 10 29 46.1 +0.6**
baz=46
BFSC Mount Baldy Ra 64.38 293 P **P 10 29 47.7 +0.5**
baz=46
MK31 Makanchi Array 66.85 44 P **P 10 30 02.9 0.0**
MKAR Makanchi Array 66.85 44 P **P 10 30 02.5 -0.4**
comp=Z,0.7nm,0.7s,baz=320,slow=5.0,SNR=8.6
MKAR Makanchi Array 66.85 44 P **P 10 30 03.0 +0.1**
LPIG La Paz 66.89 280 LR LR 10 57 36.7
comp=Z,65nm,21.1s,baz=22,slow=34
WMQ Urumqi 71.57 43 *eP* **P 10 30 35.6 +3.4**
LPAZ La Paz 74.36 220 P **P 10 30 48.5 -1.0**
comp=Z,0.9nm,0.8s,baz=355,slow=11,SNR=2.5
LPAZ La Paz 74.36 220 P **P 10 30 49.2 -0.3**
LPAZ IAmb IAmb 10 30 51.1
comp=Z,2.7nm,1.2s
SONM Songino Array 75.43 30 P **P 10 30 54.8 -0.1**
comp=Z,0.8nm,0.8s,baz=307,slow=4.8,SNR=6.6
HHC Hu-ho-hao-te 83.33 29 *eP* **P 10 31 38.5 +0.4**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,73nm,5.8s
LZH Lanzhou 84.82 37 *eP* **P 10 31 45.0 -0.8**
LZH pP pP 10 31 50.3 -0.1
LZH pmax pmax
comp=Z,20nm,1.4s
USRK Ussuriysk Ar. 85.06 14 P **P 10 31 46.5 -0.2**
comp=Z,1.0nm,0.7s,baz=339,slow=3.7,SNR=3.3
BOSA Boshof 91.30 135 LR LR 11 14 59.7
comp=Z,85nm,18.4s,baz=122,slow=37
PZH PanZhiHua 92.27 43 P **P 10 32 21.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,6.5s
SUR Sutherland 92.58 140 LR LR 11 10 42.3
comp=Z,52nm,18.3s,baz=172,slow=33
CMAR Chiang Mai Arr 97.84 50 LR LR 11 20 04.3
comp=Z,8.3nm,18.7s,baz=195,slow=37
WRA Warramunga Arr 147.40 31 PKPbc **PKPbc 10 38 54.1 -0.8**
comp=Z,1.4nm,0.9s,baz=340,slow=3.1,SNR=12
WRA Warramunga Arr 147.40 31 **PKPdf 10 38 52.5 0.0**
ASAR Alice Springs 150.67 35 PKPbc **PKPbc 10 39 02.6 -0.6**
comp=Z,3.2nm,0.7s,baz=347,slow=2.0,SNR=49
ASAR Alice Springs 150.67 35 PKPdf **PKPdf 10 38 56.7 -1.1**
ASAR **PKPbc 10 39 02.6 -0.6**
ASAR PKPab **sPKPbc 10 39 08.9 -0.6**

*IDC **20** 10:22:27.2±0.9, 76°.14N×120°.93W, h0km, mb3.7/9, mb1 3.9/14, mb1mx3.6/60, mbtmp3.7/14, ML3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.3/91, Error ellipse: s-maj=24.5km s-min=16.8km az=102.0*
*NEIC **20** 10:22:29.3±2.6, 75°.93N±0°.10×120°.8W±0°.3, h15km±7km, Error ellipse: s-maj=16.3km s-min=8.8km az=146.0*
*OTT **20** 10:22:31.1±0.3, 75°.90N×120°.52W, h18km, ML4.1/4, 50km southwest from Mould Bay, Nt Sverdrup Seismic Zone.*

ISC 20 10:22:27.9±0.5, 75°.94N±0°.05×120°.66W±0°.06, h10km, n56, σ2s 27/65, mb3.8/10, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	**Sachs Harbour**	**4.17**	**200**		**Pn**	**10 23 32.0**	**+0.5**
A36M	**Sachs Harbour**	**4.17**	**200**	Pn	**Pn**	**10 23 32.0**	**+0.5**
A36M				Sn	**Sn**	**10 24 19.7**	**-0.5**
A36M	**Sachs Harbour**	**4.17**	**200**	PN	**Pn**	**10 23 32.0**	**+0.5**
A36M				SN	**Sn**	**10 24 19.7**	**-0.5**
A36M				Trac		10 24 57.4	
comp=Z,118nm,0.5s							
RES	**Resolute Bay**	**6.63**	**88**	Pn	**Pn**	**10 24 06.3**	**+1.2**
2.5nm,0.3s,baz=296,slow=6.1,SNR=78							
RES				Sn	**Sn**	**10 25 18.4**	**-2.3**
4.8nm,0.3s,baz=26,slow=16,SNR=9.4							
RES	**Resolute Bay**	**6.63**	**88**		**Pn**	**10 24 06.5**	**+1.3**
RES	**Resolute Bay**	**6.63**	**88**	PN	**Pn**	**10 24 06.4**	**+1.2**
RES				SN	**Sn**	**10 25 17.1**	**-3.7**
RES				Trac		10 25 26.9	
comp=Z,21nm,0.3s							
EUNU	**Eureka**	**8.10**	**44**		**Pn**	**10 24 26.5**	**+1.2**
EUNU	**Eureka**	**8.10**	**44**	PN	**Pn**	**10 24 26.9**	**+1.5**
EUNU				SN	**Sn**	**10 25 53.0**	**-3.8**
EUNU				Trac		10 25 58.2	
comp=Z,143nm,2.6s							
KUKN	**Kugluktuk,NWT**	**8.34**	**165**	PN	**Pn**	**10 24 29.3**	**+0.7**
KUKN				SN	**Sn**	**10 25 58.4**	**-4.3**
KUKN				Trac		10 27 04.8	
comp=Z,18nm,0.6s							
INK	**Inuvik**	**8.60**	**214**	Pn	**Pn**	**10 24 31.9**	**-0.3**
0.8nm,0.3s,baz=21,slow=7.0,SNR=5.2							
INK				Sn	**Sn**	**10 26 04.3**	**-4.7**
2.7nm,0.3s,baz=101,slow=24,SNR=7.3							
INK	**Inuvik**	**8.60**	**214**		**Pn**	**10 24 33.4**	**+1.2**
INK	**Inuvik**	**8.60**	**214**	PN	**Pn**	**10 24 32.5**	**+0.3**
INK				SN	**Sn**	**10 26 03.4**	**-5.6**
INK				Trac		10 26 08.4	
comp=Z,6.3nm,0.2s							
EPYK	**Eagle Plains**	**10.86**	**216**		**Pn**	**10 25 01.8**	**-1.4**
A21K	**Barrow**	**10.98**	**264**		**Pn**	**10 25 04.7**	**0.0**
BMAR	**Burnt Mountain**	**11.26**	**233**	Pn	**Pn**	**10 25 08.8**	**+0.1**
TOLK	**Toolik Lake Re**	**11.29**	**245**		**Pn**	**10 25 09.8**	**+0.7**
COLD	**Coldfoot**	**12.59**	**242**	Pn	**Pn**	**10 25 26.7**	**-0.1**
EGAK	**Eagle**	**13.03**	**222**	Pn	**Pn**	**10 25 34.1**	**+1.4**
DAWY	**Dawson**	**13.42**	**217**	Pn	**Pn**	**10 25 37.9**	**-0.2**
YKA	**Yellowknife Ar**	**13.67**	**168**	Pn	**Pn**	**10 25 39.2**	**-2.2**
0.4nm,0.3s,baz=358,slow=13,SNR=28							
YKA				Sn	Sn	10 28 04.0	-9.1
0.5nm,0.3s,baz=350,slow=22,SNR=6.6							
YKA	**Yellowknife Ar**	**13.67**	**168**	Pn	**Pn**	**10 25 41.2**	**-0.2**
IL31		**14.05**	**231**	Pn	**Pn**	**10 25 49.1**	**+2.5**
ILAR	**Eielson Array**	**14.05**	**231**	Pn	**Pn**	**10 25 47.1**	**+0.4**
0.1nm,0.3s,baz=24,slow=12,SNR=5.0							
ILAR				Sn	**Sn**	**10 28 16.3**	**-6.1**
0.1nm,0.3s,baz=27,slow=24,SNR=3.4							
ILAR	**Eielson Array**	**14.05**	**231**	Pn	**Pn**	**10 25 50.4**	**+3.7**
SCRK	**Sand Creek**	**14.25**	**225**	Pn	**Pn**	**10 25 49.5**	**0.0**
IMAR	**Indian Mountai**	**14.41**	**244**	Pn	**Pn**	**10 25 53.4**	**+1.9**
H21K	**Melozitna Rive**	**14.48**	**242**	Pn	**Pn**	**10 25 53.8**	**+1.2**
M30M	**Minto, Yukon**	**14.49**	**211**	Pn	**Pn**	**10 25 51.4**	**-1.3**
M31M	**Drury Creek, Y**	**14.57**	**206**		**Pn**	**10 25 53.1**	**-0.7**
BCAR	**Beaver Creek A**	**14.73**	**220**	Pn	**Pn**	**10 25 54.4**	**-1.6**
L27K	**Beaver Creek,**	**14.74**	**220**	Pn	**Pn**	**10 25 55.8**	**-0.4**
L26K	**Log Cabin Wild**	**15.03**	**223**	Pn	**Pn**	**10 25 59.4**	**-0.6**
L26K				IAmb	IAmb	10 26 26.5	
comp=Z,8.2nm,1.4s							
N31M	**Braeburn, Yuko**	**15.43**	**208**	Pn	**Pn**	**10 26 04.3**	**-0.9**
N31M				IAmb	IAmb	10 26 15.3	
comp=Z,12nm,1.2s							
CLRN	**Clyde River**	**15.48**	**84**	PN	**Pn**	**10 26 06.8**	**+1.0**
CLRN				Trac		10 27 49.1	
comp=Z,8.3nm,0.1s							
CLRN				SN	Sn	10 28 45.7	-11
J20K	**Nowinta River**	**16.05**	**241**	P	**P**	**10 26 15.9**	**-0.8**
HYT	**Haines Junctio**	**16.28**	**210**	P	**P**	**10 26 19.2**	**-0.2**
HYT				IAmb	IAmb	10 26 44.1	
comp=Z,14nm,1.4s							
CAST	**Castle Rocks**	**16.29**	**237**	P	**P**	**10 26 20.3**	**+0.8**
CAST				IAmb	IAmb	10 26 31.9	
comp=Z,7.8nm,1.4s							
P33M	**Teslin, Yukon**	**16.37**	**202**	P	**P**	**10 26 21.9**	**+1.5**
PCA	**Pinnacle**	**17.34**	**214**	P	**P**	**10 26 34.6**	**+3.5**
SKAG	**Skagway**	**17.36**	**206**	P	**P**	**10 26 33.7**	**+2.5**
SKAG				IAmb	IAmb	10 26 51.6	
comp=Z,9.9nm,1.2s							
DLBC	**Dease Lake**	**17.91**	**196**	P	**P**	**10 26 40.7**	**+3.4**
comp=Z,0.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.0							
DLBC	**Dease Lake**	**17.91**	**196**	P	**P**	**10 26 40.5**	**+3.2**
M19K	**Big River Lodg**	**18.13**	**238**	P	**P**	**10 26 40.8**	**+1.1**
M19K				IAmb	IAmb	10 26 43.7	
comp=Z,8.4nm,1.1s							
FCC	**Fort Churchill**	**19.69**	**136**	P	**P**	**10 26 57.1**	**+0.3**
FCC				IAmb	IAmb	10 26 58.8	
comp=Z,8.1nm,1.4s							
KDAK	**Kodiak Island**	**21.58**	**230**	P	**P**	**10 27 22.0**	**+4.9**
comp=Z,8.1nm,0.8s,baz=32,slow=12,SNR=5.3							
KDAK	**Kodiak Island**	**21.58**	**230**	P	**P**	**10 27 21.9**	**+4.7**
FFC	**Flin Flon**	**22.46**	**151**	P	**P**	**10 27 31.0**	**+4.3**
ARCES	**ARCESS Array B**	**33.25**	**21**	P	**P**	**10 29 03.9**	**-0.6**
comp=Z,4.0nm,0.9s,baz=354,slow=8.2,SNR=9.6							
PDAR	**Pinedale Array**	**33.63**	**165**	P	**P**	**10 29 11.2**	**+2.8**
comp=Z,0.5nm,0.8s,baz=32,slow=8.6,SNR=1.0							
FINES	**FINESS Array B**	**41.22**	**24**	P	**P**	**10 30 11.8**	**-0.3**
comp=Z,2.7nm,0.6s,baz=4.3,slow=7.2,SNR=14							
ZALV	**Zalesovo Beam**	**49.33**	**340**	P	**P**	**10 31 14.6**	**-1.9**
comp=Z,0.8nm,0.5s,baz=19,slow=9.3,SNR=5.1							
USRK	**Ussuriysk Ar.**	**51.59**	**299**	P	**P**	**10 31 33.5**	**-0.3**
comp=Z,0.5nm,0.5s,baz=19,slow=5.5,SNR=1.8							
GERES	**GERESS Array B**	**52.04**	**37**	P	**P**	**10 31 37.8**	**+0.6**
comp=Z,0.3nm,0.6s,baz=0.7,slow=8.0,SNR=2.4							
AKASG	**Malin Array Be**	**52.13**	**24**	P	**P**	**10 31 37.1**	**-0.5**
comp=Z,0.2nm,0.4s,baz=349,slow=7.8,SNR=4.4							
SONM	**Songino Array**	**52.82**	**322**	P	**P**	**10 31 43.1**	**+0.1**
comp=Z,0.6nm,1.0s,baz=18,slow=6.7,SNR=2.2							
MKAR	**Makanchi Array**	**56.64**	**341**	P	**P**	**10 32 09.4**	**-1.1**
comp=Z,0.3nm,0.3s,baz=24,slow=6.6,SNR=8.5							
MKAR				LR	LR	10 58 40.9	
comp=Z,36nm,19.5s,baz=299,slow=38							

NNC 20 10:37:05.6±8.2, 37°.37N×70°.61E, h0km, mb4.3, mpv4.2, 5C-3D, Error ellipse: s-maj=65.0km s-min=41.6km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**5.74**	**359**	⇑P	Pn	10 38 34.0	+1.8
16nm,0.3s,baz=180,slow=13							
KK09				⇓S	Sn	10 39 40.4	+1.6
7.6nm,0.6s,baz=186,slow=24							
TKM2	**Tokmak 2**	**6.73**	**33**	⇑P	Pn	10 38 44.8	-1.1
4.9nm,0.5s							
TKM2				⇓S	Sn	10 40 02.5	-0.9
5.7nm,0.8s							
AB31	**Akbulak array**	**14.17**	**330**	⇑P	Pn	10 40 27.4	-0.1
1.2nm,0.4s,baz=135,slow=13,SNR=62							
AB31				⇑S	Sn	10 43 08.3	+2.9
1.1nm,0.5s,baz=154,slow=24,SNR=4.3							
AKTO	**Aktyubinsk**	**15.87**	**329**	⇑P	Pn	10 40 49.7	-0.5
3.9nm,1.2s							
AKTO				⇓S	Sn	10 43 49.6	+2.9
3.3nm,1.1s							

IDC 20 10:51:29.0±1.8, 29°.59N×97°.99E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/48, mbtmp3.4/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/56, Error ellipse: s-maj=75.7km s-min=27.1km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.34**	**17**	P	P	10 55 55.4	-0.7
baz=214,slow=12,SNR=1.7							
MKAR	**Makanchi Array**	**21.08**	**329**	P	P	10 56 16.0	+1.1

0.2nm,0.4s,baz=147,slow=9.5,SNR=6.2
KURBB **Kurchatov Arra 25.60 331** P P 10 56 58.6 -1.2
0.2nm,0.2s,baz=138,slow=11,SNR=5.5
ZALV **Zalesovo Beam 26.16 342** P P 10 57 05.4 +0.6
0.7nm,0.5s,baz=162,slow=11,SNR=4.3
LEM **Lembang 37.37 164** LR LR 11 16 05.9
comp=Z,34nm,18.9s,baz=140,slow=40
WRA **Warramunga Arr 60.44 140** P P 11 01 40.8 +0.2
0.2nm,0.6s,baz=327,slow=7.9,SNR=2.1

*IDC **20** 10:56:27.8±1.2,40.°41N×144.°80E, h0km, mb3.4/9, mb1 3.6/12, mb1mx3.4/47, mbtmp3.5/12, ML3.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.3/54, Error ellipse: s-maj=28.8km s-min=20.6km az=94.0*
*JMA **20** 10:56:30.2±0.3, 40.°38N×144.°56E, h46km, M3.9*
*NIED **20** 10:56:30.3, 40.°38N×144.°56E, h46km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=0.33; Mθθ=1.63; Mφφ 1.96; Mrθ=-0.24; Mθφ2.10; Mφr0.44; Fault plane solution: M0 2.81000×10^14^ NP1: φs=160.00000°, δ87.00000°, λ=-169.00000°. NP2: φs=69.00000°, δ79.00000°, λ=-3.00000°.*

ISC 20 10:56:30.6±0.9, 40.°43N±0.°04×144.°52E±0.°06, h25km, n37, σ2s07/48, mb3.4/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.89**	**327**	P	**Pb**	**10 57 02.1**	**-2.2**
JEM				S	**Sb**	**10 57 25.2**	**-2.2**
JTHR	**Tokachihiroo**	**2.07**	**334**	P	**Pb**	**10 57 04.2**	**-3.3**
JTHR				*e*S	**Sn**	**10 57 29.2**	**+0.5**
JTH	**Tanohata**	**2.09**	**257**	P	**Pb**	**10 57 04.2**	**-3.6**
JTH				*e*S	**Sn**	**10 57 28.2**	**-1.1**
JKEN	**Kujiedanarisaw**	**2.16**	**265**	P	**Pb**	**10 57 05.0**	**-4.0**
JKEN				*e*S	**Sn**	**10 57 29.6**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.27**	**325**	P	**Pb**	**10 57 07.8**	**-3.1**
JNBK				*e*S	**Sb**	**10 57 36.2**	**-2.4**
JANG	**Nango**	**2.29**	**270**	P	**Pb**	**10 57 07.2**	**-4.1**
JANG				S	**Sn**	**10 57 34.8**	**+0.5**
JCH	**Churui**	**2.35**	**339**	P	**Pn**	**10 57 07.9**	**+0.4**
JCH				*e*S	**Sn**	**10 57 35.6**	**+0.1**
JAK	**Akkeshi**	**2.56**	**3**	P	**Pn**	**10 57 10.0**	**-0.5**
JAK				*e*S	**Sn**	**10 57 40.9**	**0.0**
JOM	**Ohasama**	**2.66**	**250**	P	**Pb**	**10 57 12.7**	**-4.8**
JOM				*e*S	**Sn**	**10 57 43.2**	**0.0**
JOT	**Ohata**	**2.80**	**291**	P	**Pb**	**10 57 15.2**	**-4.6**
JOT				*e*S	**Sn**	**10 57 47.8**	**+1.2**
JAR	**Ashorobuto**	**2.92**	**349**	P	**Pn**	**10 57 15.1**	**-0.3**
JAR				*e*S	**Sn**	**10 57 48.7**	**-0.9**
JMK	**Ichinoseki**	**2.94**	**241**	P	**Pn**	**10 57 16.0**	**+0.3**
JKB	**Kayabe**	**3.01**	**300**	*e*S	**Sn**	**10 57 52.7**	**+0.9**
NEM2	**Nemuro 2**	**3.07**	**17**	P	**Pn**	**10 57 15.6**	**-1.8**
NEM2				*e*S	**Sn**	**10 57 49.9**	**-3.4**
JFR	**Furan**	**3.09**	**333**	P	**Pn**	**10 57 18.9**	**+1.2**
JFR				*e*S	**Sn**	**10 57 54.2**	**+0.4**
JEW	**Eniwo**	**3.33**	**317**	P	**Pn**	**10 57 23.1**	**+2.1**
JEW				*e*S	**Sn**	**10 58 02.6**	**+2.9**
JRA	**Rausu**	**3.53**	**7**	P	**Pn**	**10 57 23.2**	**-0.6**
JYK	**Kaneyama**	**3.55**	**246**	P	**Pn**	**10 57 25.2**	**+1.1**
JYK				*e*S	**Sn**	**10 58 05.8**	**+0.6**
JTKR	**Abashiri--Toko**	**3.56**	**353**	P	**Pn**	**10 57 25.2**	**+1.0**
JTKR				*e*S	**Sn**	**10 58 05.9**	**+0.4**
JKK2	**Kamakawa 2**	**3.68**	**340**	P	**Pn**	**10 57 26.9**	**+1.0**
ASAJ	**Asahikawa**	**3.95**	**339**	Pn	**Pn**	**10 57 30.6**	**+1.0**
	2.0nm,0.3s,baz=166,slow=14,SNR=17						
ASAJ				Sn	**Sn**	**10 58 16.8**	**+1.8**
	3.1nm,0.3s,baz=21,slow=33,SNR=9.7						
JOSM	**Okushiri--Mats**	**4.14**	**295**	P	**Pn**	**10 57 33.4**	**+1.2**
MJAR	**Matsushiro Arr**	**6.29**	**234**	Pn	**Pn**	**10 58 02.7**	**+0.9**
	0.2nm,0.3s,baz=38,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	**10.01**	**296**	Pn	**Pn**	**10 58 55.5**	**+2.8**
	baz=92,slow=13,SNR=4.6						
KLR	**Kul'dur**	**12.62**	**318**	LR	LR	11 05 38.4	
	comp=Z,36nm,18.5s,baz=124,slow=43						
SEY	**Seymchan**	**23.02**	**9**	P	**P**	**11 01 33.2**	**-0.1**
	1.0nm,0.5s,baz=203,slow=15,SNR=6.1						
SONM	**Songino Array**	**28.12**	**298**	P	P	11 02 24.6	+4.1
	0.2nm,0.4s,baz=98,slow=10,SNR=1.9						
SONM				LR	LR	11 13 57.5	
	comp=Z,39nm,18.1s,baz=122,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.15**	**131**	T	T	11 31 01.8	
	baz=326						
H11N1	**WAKE ISLAND Hy**	**28.16**	**131**	T	T	11 31 02.2	
	baz=326						
H11N3	**WAKE ISLAND Hy**	**28.17**	**131**	T	T	11 31 03.5	
	baz=326						
ZALV	**Zalesovo Beam**	**41.52**	**310**	P	**P**	**11 04 17.4**	**+1.9**
	0.4nm,0.4s,baz=71,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**44.46**	**300**	P	P	11 04 43.1	+3.6
	0.2nm,0.6s,baz=76,slow=7.6,SNR=2.4						
ILAR	**Eielson Array**	**45.33**	**34**	P	**P**	**11 04 46.8**	**+0.7**
	0.3nm,0.6s,baz=256,slow=7.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**45.91**	**306**	P	**P**	**11 04 52.6**	**+1.8**
	0.2nm,0.3s,baz=78,slow=8.5,SNR=1.7						
WRA	**Warramunga Arr**	**60.81**	**191**	P	**P**	**11 06 42.0**	**+1.5**
	0.1nm,0.4s,baz=8.6,slow=6.9,SNR=1.5						
ASAR	**Alice Springs**	**64.53**	**191**	P	**P**	**11 07 06.5**	**+1.1**
	0.2nm,0.8s,baz=15,slow=7.7,SNR=2.3						
FINES	**FINESS Array B**	**66.93**	**333**	P	**P**	**11 07 21.9**	**+1.5**
	0.5nm,0.6s,baz=58,slow=8.4,SNR=1.1						

*AEIC **20** 11:03:20±1.5, 51.°30N±0.°05×174.°05W±0.°09, h14km±5km, Error ellipse: s-maj=8.4km s-min=6.8km az=95.0*
*NEIC **20** 11:03:20.7±2.1, 51.°29N±0.°05×174.°03W±0.°05, h23km±7km, ML3.0/12(AEIC), Error ellipse: s-maj=7.4km s-min=4.8km az=191.0*

ISC 20 11:03:21.2±1.5, 51.°4N±0.°1×173.°91W±0.°06, h35km, n15, σ2s00/18, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.86**	**348**		**Pn**	**11 03 37.0**	**+0.2**
ATKA					**Sn**	**11 03 49.9**	**+1.7**
KOFP	**Korovin Flat P**	**0.93**	**353**		**Pn**	**11 03 38.7**	**+0.9**
GSMY	**Great Sitkin M**	**1.50**	**298**		**Pn**	**11 03 45.4**	**-0.2**
GSMY					**Sn**	**11 04 06.3**	**+2.3**
GSTR	**Great Sitkin T**	**1.53**	**300**	Pn	**Pn**	**11 03 45.1**	**-0.9**
GSCK	**Great Sitkin C**	**1.55**	**296**		**Pn**	**11 03 46.3**	**0.0**
GSTD	**Great Sitkin T**	**1.56**	**298**		**Pn**	**11 03 45.6**	**-0.8**
GSTD					**Sn**	**11 04 06.5**	**+1.1**
ADK	**Adak**	**1.81**	**288**		**Pn**	**11 03 49.8**	**0.0**
ADK					**Sn**	**11 04 11.2**	**-0.3**
KIMD	**Kanaga Island**	**2.11**	**282**		**Pn**	**11 03 54.6**	**+0.6**
TASE	**Tanaga Southea**	**2.62**	**282**		**Pn**	**11 04 02.4**	**+1.4**
UNV	**Unalaska Vale**	**5.16**	**58**	Pn	**Pn**	**11 04 38.1**	**+2.4**
SHEM	**Shemya Is, Ala**	**7.52**	**285**	LR	LR	11 09 59.4	
	comp=Z,29nm,19.4s,baz=348,slow=34						
KDAK	**Kodiak Island**	**13.91**	**54**	Pn	Pn	11 06 30.9	-4.6
	0.1nm,0.3s,baz=104,slow=15,SNR=2.1						
KDAK				Sn	**S**	**11 09 23.3**	**-6.2**
	0.2nm,0.3s,baz=328,slow=20,SNR=2.7						
ILAR	**Eielson Array**	**19.40**	**36**	P	**P**	**11 07 44.6**	**+0.7**
	0.3nm,0.3s,baz=216,slow=11,SNR=16						
KURBB	**Kurchatov Arra**	**61.31**	**316**	P	**P**	**11 13 33.6**	**+0.9**
	0.2nm,0.4s,baz=44,slow=6.1,SNR=2.0						
MKAR	**Makanchi Array**	**62.40**	**311**	P	**P**	**11 13 39.7**	**-0.5**
	0.1nm,0.3s,baz=54,slow=6.4,SNR=4.5						

*NEIC **20** 11:05:58.5±1.2, 27.°65N±0.°07×140.°2E±0.°1, h467km±7km, mb4.1/34, Error ellipse: s-maj=18.5km s-min=6.6km az=62.0*
*IDC **20** 11:05:59.0±1.5, 27.°59N×140.°00E, h470km±16km, mb3.3/21, mb1 3.4/23, mb1mx3.2/63, mbtmp4.1/23, Error ellipse: s-maj=17.6km s-min=8.0km az=78.0*
*JMA **20** 11:05:59.9±0.1, 27.°92N×140.°71E, h463km, M4.0*

ISC 20 11:05:59.2±0.4, 27.°64N±0.°07×140.°30E±0.°09, h479km, n94, σ1s08/104, mb3.8/39, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.76**	**107**	P	**P**	**11 06 59.7**	**-1.5**
CBIJ				*e*S	**S**	**11 07 47.0**	**-4.5**
JCJ	**Chichijima**	**1.76**	**107**		**P**	**11 06 59.5**	**-1.7**
JCJ					**S**	**11 07 47.6**	**-3.9**
JHH2	**Haha-jima-NKT2**	**1.95**	**121**	P	**P**	**11 07 01.2**	**-1.0**
JHH2				*e*S	**S**	**11 07 49.7**	**-3.5**
JHJ2	**Mitsune**	**5.47**	**356**	P	**P**	**11 07 28.4**	**-1.0**
BSO1	**Boso 1**	**7.02**	**5**	P	**P**	**11 07 44.0**	**-0.1**
BSO3	**Boso 3**	**7.14**	**1**	P	**P**	**11 07 45.5**	**-0.2**
BSO4	**Boso 4**	**7.33**	**0**	P	**P**	**11 07 48.5**	**+0.7**
JIE	**Ise**	**7.40**	**336**	P	**P**	**11 07 50.4**	**+1.7**
JOD2	**Odawara 2**	**7.67**	**353**	P	**P**	**11 07 51.3**	**-0.2**
INU	**Inuyama**	**8.18**	**341**	P	**P**	**11 07 57.1**	**+0.2**
JEG	**Eigenji**	**8.19**	**337**	P	**P**	**11 07 58.6**	**+1.7**
JMN	**Monobe**	**8.21**	**319**	P	**P**	**11 07 57.5**	**+0.2**
JHU	**Hanno**	**8.23**	**354**	P	**P**	**11 07 55.7**	**-1.7**
JRY	**Ryogami san**	**8.44**	**352**	P	**P**	**11 07 58.4**	**-1.2**
JYT	**Yasato**	**8.56**	**359**	P	**P**	**11 08 00.1**	**-0.8**
JYT	**Yasato**	**8.56**	**359**	P	**P**	**11 07 59.8**	**-1.1**
JHO	**Hitachi**	**8.95**	**1**	P	**P**	**11 08 04.6**	**-0.4**
MJAR	**Matsushiro Arr**	**9.05**	**349**	P	**P**	**11 08 04.8**	**-1.4**
	0.3nm,0.3s,baz=279,slow=28,SNR=14						
MJAR	**Matsushiro Arr**	**9.05**	**349**	P	**P**	**11 08 04.9**	**-1.3**
MAJO	**Matsushiro**	**9.05**	**349**		**P**	**11 08 05.0**	**-1.1**
MJB9	**Matsu-Tunnel**	**9.06**	**349**		**P**	**11 08 05.5**	**-0.7**
JMM	**Marumori**	**10.21**	**2**	P	**P**	**11 08 18.6**	**+0.2**
JOW	**Kunigami**	**10.73**	**268**	P	**P**	**11 08 23.9**	**-0.4**
	14nm,0.3s,baz=106,slow=12,SNR=30						
JOW	**Kunigami**	**10.73**	**268**	P	**P**	**11 08 24.0**	**-0.3**
JOW	**Kunigami**	**10.73**	**268**	P	**P**	**11 08 24.0**	**-0.3**
JMK	**Ichinoseki**	**11.31**	**4**	P	**P**	**11 08 31.1**	**+0.9**
JEW	**Eniwo**	**15.20**	**3**	P	**P**	**11 09 11.7**	**+0.1**
ASAJ	**Asahikawa**	**16.55**	**6**	P	**P**	**11 09 27.5**	**+1.7**
	0.6nm,0.3s,baz=101,slow=4.4,SNR=5.6						
KLR	**Kul'dur**	**22.55**	**345**	P		**11 10 22.1**	**+0.4**
	0.9nm,0.5s,baz=155,slow=2.7,SNR=6.0						
SONM	**Songino Array**	**33.17**	**317**	P	**P**	**11 11 54.4**	**-0.5**
	0.4nm,0.5s,baz=138,slow=8.3,SNR=3.2						
SONM	**Songino Array**	**33.17**	**317**	P	**P**	**11 11 54.1**	**-0.9**
SEY	**Seymchan**	**36.18**	**9**	P	**P**	**11 12 20.9**	**+1.2**
	0.6nm,0.3s,baz=67,slow=23,SNR=4.2						
COEN	**Coen**	**41.44**	**176**	P	**P**	**11 13 04.8**	**+1.6**
COEN				IAmb	IAmb	11 13 27.3	
	comp=Z,12nm,1.5s						
KNRA	**Kununurra**	**44.49**	**196**		**P**	**11 13 26.9**	**-0.2**
KNRA				IAmb	IAmb	11 13 32.1	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**47.47**	**188**	P	**P**	**11 13 48.8**	**-1.0**
WB0				IAmb	IAmb	11 13 50.1	
	comp=Z,4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**47.63**	**199**	P	**P**	**11 13 50.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=17,slow=12						
FITZ	**Fitzroy Crossi**	**47.63**	**199**	P	**P**	**11 13 51.1**	**0.0**
WRAB	**Tennant Creek**	**47.64**	**188**	P	**P**	**11 13 49.9**	**-1.3**
WRAB				IAmb	IAmb	11 13 51.3	
	comp=Z,8.1nm,1.1s						
WR0	**Warramunga Arr**	**47.65**	**187**	P	**P**	**11 13 50.1**	**-1.0**
WR0				IAmb	IAmb	11 13 51.4	
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**47.65**	**188**	P	**P**	**11 13 50.4**	**-0.9**
WB2				IAmb	IAmb	11 13 51.4	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**47.65**	**188**	P	**P**	**11 13 50.7**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=4.8,slow=7.6,SNR=90						
WRA				PcP	**PcP**	**11 15 12.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=359,slow=3.7,SNR=8.7						
WRA	**Warramunga Arr**	**47.65**	**188**	P	**P**	**11 13 50.4**	**-0.9**
CTA	**Charters Tower**	**47.80**	**172**	P	**P**	**11 13 52.9**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=11,slow=8.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**47.98**	**319**	P	**P**	**11 13 52.6**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=106,slow=7.7,SNR=4.7						
ZALV				PcP	**PcP**	**11 15 12.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=136,slow=3.9,SNR=4.4						
ZALV				ScP	**ScP**	**11 18 20.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=66,slow=1.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**47.98**	**319**	P	**P**	**11 13 52.4**	**-0.9**
MK31	**Makanchi Array**	**48.48**	**309**	P	**P**	**11 13 59.4**	**-0.4**
MKAR	**Makanchi Array**	**48.84**	**309**	P	**P**	**11 13 59.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=90,slow=10,SNR=14						
MKAR				PcP	**PcP**	**11 15 15.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=81,slow=6.0,SNR=6.1						
MKAR				ScP	**ScP**	**11 18 24.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=84,slow=5.1,SNR=8.0						
MKAR	**Makanchi Array**	**48.84**	**309**	P	**P**	**11 13 59.5**	**-0.4**
MAKZ	**Makanchi**	**49.05**	**309**	P	**P**	**11 14 00.5**	**-1.0**
MAKZ				IAmb	IAmb	11 14 02.2	
	comp=Z,4.1nm,1.2s						
AS31	**Alice Springs**	**51.38**	**188**	P	**P**	**11 14 18.3**	**-0.5**
ASAR	**Alice Springs**	**51.38**	**188**	P	**P**	**11 14 18.2**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=0.5,slow=4.1,SNR=44						
ASAR				PcP	**PcP**	**11 15 26.4**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=348,slow=2.9,SNR=6.9						
ASAR	**Alice Springs**	**51.38**	**188**	P	**P**	**11 14 18.5**	**-0.3**
KURK	**Kurchatov**	**51.41**	**314**	P	**P**	**11 14 18.2**	**-0.4**
KURK				IAmb	IAmb	11 14 19.6	
	comp=Z,6.6nm,1.3s						
KURBB	**Kurchatov Arra**	**51.46**	**314**	P	**P**	**11 14 18.6**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=92,slow=7.9,SNR=40						
KURBB				PcP	**PcP**	**11 15 24.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=89,slow=4.4,SNR=4.4						
BOOM	**Boomskoye usch**	**53.52**	**304**	P	**P**	**11 14 34.5**	**+0.2**
BOOM				IAmb	IAmb	11 14 35.2	
	comp=Z,3.0nm,0.6s						
EIDS	**Eidsvold**	**53.72**	**168**	P	**P**	**11 14 36.6**	**+1.1**
EIDS				IAmb	IAmb	11 14 40.8	
	comp=Z,24nm,1.4s						
AAK	**Ala-Archa**	**54.57**	**304**	P	**P**	**11 14 41.0**	**-0.6**
BVAR	**Borovoye Array**	**56.51**	**317**	P	**P**	**11 14 54.7**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=194,slow=4.0,SNR=26						
BRVK	**Borovoye**	**56.57**	**317**	P	**P**	**11 14 55.0**	**-0.2**
BRVK				IAmb	IAmb	11 14 55.5	
	comp=Z,2.6nm,0.7s						
KKAR	**Karatay Array**	**57.41**	**305**	P	**P**	**11 15 01.3**	**+0.1**
H24K	**Noodor Dome**	**57.69**	**28**	P	**P**	**11 15 01.7**	**-1.1**
H24K				IAmb	IAmb	11 15 18.1	
	comp=Z,5.3nm,1.4s						
GAR	**Garm**	**58.27**	**301**	P	**P**	**11 15 07.2**	**-0.1**
GAR				IAmb	IAmb	11 15 07.4	
	comp=Z,5.5nm,0.6s						
ARMA	**Armidale**	**58.74**	**169**	P	**P**	**11 15 11.2**	**+0.8**
STKA	**Stephens Creek**	**59.20**	**179**	P	**P**	**11 15 13.4**	**+0.1**
	comp=Z,3.8nm,0.5s,baz=0.7,slow=6.6,SNR=14						
STKA	**Stephens Creek**	**59.20**	**179**	P	**P**	**11 15 13.4**	**+0.1**
FORT	**Forrest**	**59.26**	**192**	P	**P**	**11 15 13.5**	**-0.2**
BBOO	**Buckleboo**	**60.25**	**184**	P	**P**	**11 15 20.6**	**+0.2**
BBOO				IAmb	IAmb	11 15 48.5	
	comp=Z,13nm,1.3s						
ARU	**Arti**	**62.97**	**322**	P	**P**	**11 15 37.1**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=114,slow=6.5,SNR=3.7						
ABKAR	**Akbulak array**	**63.52**	**314**	P	**P**	**11 15 41.0**	**-0.5**
AKTO	**Aktyubinsk**	**64.47**	**315**	P	**P**	**11 15 47.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=66,slow=13,SNR=4.2						
TOO	**Toolangi**	**65.05**	**175**	P	**P**	**11 15 52.4**	**+1.0**
SPB2	**Spitsbergen Ar**	**69.55**	**349**	P	**P**	**11 16 18.9**	**+0.4**
YKA	**Yellowknife Ar**	**72.45**	**28**	P	**P**	**11 16 37.1**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=295,slow=5.8,SNR=9.8						
YKA	**Yellowknife Ar**	**72.45**	**28**	P	**P**	**11 16 36.8**	**+0.9**
ARCES	**ARCESS Array B**	**72.47**	**340**	P	**P**	**11 16 36.2**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=74,slow=9.1,SNR=5.5						
ARCES	**ARCESS Array B**	**72.47**	**340**	P	**P**	**11 16 36.3**	**+0.3**
BKZ	**Black Stump Fm**	**74.55**	**152**	P	**P**	**11 16 48.5**	**+0.2**
NNZ	**Nelson**	**75.05**	**155**	P	**P**	**11 16 51.1**	**+0.2**
KBZ	**Khabaz**	**76.41**	**312**	P	**P**	**11 16 59.0**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=10,slow=6.3,SNR=3.5						
FIA1	**FINESS Array S**	**76.71**	**333**	P	**P**	**11 16 59.8**	**-0.1**
FIA1				IAmb	IAmb	11 17 03.4	
	comp=Z,9.0nm,1.2s						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**11 16 59.8**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=69,slow=5.3,SNR=47						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**11 17 00.1**	**+0.1**
AKASG	**Malin Array Be**	**81.18**	**323**	P	**P**	**11 17 23.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=4.4						
SOCY	**Socotra**	**81.22**	**279**	P	**P**	**11 17 23.8**	**-1.2**
SOCY				IAmb	IAmb	11 17 26.8	
	comp=Z,7.6nm,1.0s						
NVAR	**Mina Array Bea**	**81.49**	**51**	P	**P**	**11 17 28.5**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=300,slow=5.7,SNR=7.0						
NVAR	**Mina Array Bea**	**81.49**	**51**	P	**P**	**11 17 27.6**	**+1.4**
NC300	**NORSAR Array S**	**82.25**	**338**	P	**P**	**11 17 29.4**	**0.0**
NC300				IAmb	IAmb	11 17 49.2	
	comp=Z,11nm,1.5s						
NB2	**NORSAR Subarra**	**82.48**	**338**	P	**P**	**11 17 29.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**82.48**	**338**	P	**P**	**11 17 30.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=47,slow=4.6,SNR=5.5						
RAYN	**Ar Rayn**	**83.39**	**293**	P	**P**	**11 17 36.3**	**+0.4**
RAYN				IAmb	IAmb	11 17 37.1	
	comp=Z,6.3nm,0.9s						
BURAR	**Bucovina Array**	**85.11**	**322**	P	**P**	**11 17 43.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**122.96**	**310**	PKP	**PKPdf**	**11 24 01.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=11,slow=1.4,SNR=4.5						
LPAZ	**La Paz**	**151.38**	**73**	PKPbc	**PKiKP**	**11 25 01.2**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=309,slow=2.3,SNR=9.2						
PLCA	**Paso Flores**	**151.49**	**125**	PKPbc	**PKiKP**	**11 25 00.1**	**+1.3**
	comp=Z,1.6nm,0.4s,baz=233,slow=2.6,SNR=16						

*JMA **20** 11:16:34.7±0.1, 24.°18N×121.°59E, h36km±1km*
*TAP **20** 11:16:36.1, 24.°33N×121.°79E, h5km, ML3.0, C*

ISC 20 11:16:36.1±0.8, 24.°32N±0.°01×121.°77E±0.°02, h9km±5km, n104, σ1s61/181, 3C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.03**	**248**	P	**Pg**	**11 16 37.6**	**-0.2**
	baz=239						
ENA	**Nanau**	**0.11**	**345**	⇑*i*P	**Pg**	**11 16 38.7**	**0.0**
	baz=342						
ENA				*i* S	**Sg**	**11 16 40.4**	**-0.1**
	baz=342						
EWUT	**Wuta**	**0.12**	**3**	P	**Pg**	**11 16 39.0**	**+0.1**
	baz=358						
EWUT				S	**Sg**	**11 16 40.8**	**-0.1**
	baz=358						
ETL	**Fush Village**	**0.21**	**220**	P	**Pg**	**11 16 40.9**	**+0.4**
	baz=210						
ETL				S	**Sg**	**11 16 44.6**	**+1.2**
	baz=210						
NACB	**Ninganchiao**	**0.22**	**228**	P	**Pg**	**11 16 40.8**	**+0.3**
	baz=217						
NACB				S	**Sg**	**11 16 44.8**	**+1.2**
	baz=217						
ETLH	**Xiulin Townshi**	**0.29**	**247**	P	**Pg**	**11 16 42.3**	**+0.3**
	baz=246						
ETLH				S	**Sg**	**11 16 47.7**	**+1.9**
	baz=246						
TWD	**Chiawan**	**0.29**	**214**	⇓*i*P	**Pg**	**11 16 42.3**	**+0.4**
	baz=213						
TWD				*i* S	**Sg**	**11 16 46.9**	**+1.1**
	baz=213						
TWC	**Suao**	**0.29**	**14**	*i* P	**Pg**	**11 16 42.2**	**+0.2**
	baz=4.0						
TWC				*i* S	**Sg**	**11 16 46.4**	**+0.4**
	baz=4.0						
LATG	**Datong**	**0.31**	**314**	P	**Pb**	**11 16 42.8**	**-1.2**
	baz=311						
LATG				*e*S	**Sb**	**11 16 47.3**	**-1.9**
	baz=311						
NDS	**Dongshan**	**0.32**	**351**	P	**Pb**	**11 16 42.8**	**-1.2**
	baz=349						
NDS				S	**Sg**	**11 16 47.2**	**+0.6**
	baz=349						
NDT	**Datong Townshi**	**0.37**	**320**	⇑*i*P	**Pb**	**11 16 44.1**	**-0.8**
	baz=318						
NDT				*i* S	**Sb**	**11 16 50.0**	**-0.7**
	baz=318						
ENTT	**Nioudou**	**0.37**	**329**	⇑*i*P	**Pb**	**11 16 44.0**	**-0.9**
	baz=328						
ENTT				*i* S	**Sb**	**11 16 49.6**	**-1.2**
	baz=328						
NNSB	**Datong**	**0.37**	**287**	P	**Pb**	**11 16 44.0**	**-1.0**
	baz=285						
NNSB				S	**Sb**	**11 16 48.9**	**-2.1**
	baz=285						
HWA	**Hwalien**	**0.38**	**204**	*i* P	**Pn**	**11 16 44.7**	**-3.1**
	baz=214						
NNS	**Nan Shan**	**0.38**	**288**	*i* P	**Pb**	**11 16 44.3**	**-1.0**
	baz=286						
NNS				*i* S	**Sb**	**11 16 49.2**	**-2.1**
	baz=286						
TWE	**Neicheng**	**0.41**	**346**	*i* P	**Pb**	**11 16 44.7**	**-0.9**
	baz=347						
TWE				*i* S	**Sg**	**11 16 50.2**	**+0.6**
	baz=347						
ETM	**Tongmen**	**0.44**	**216**	P	**Pn**	**11 16 44.9**	**-3.7**
	baz=203						
ETM				S	**Sb**	**11 16 51.3**	**-1.5**
	baz=203						
ILA	**Ilan**	**0.44**	**357**	*i* S	**Sg**	**11 16 52.3**	**+1.7**
	baz=347						
FUSB	**Fushanzhiwuyua**	**0.47**	**339**

NSTT	**Nanjuang**	**0.77**	**294**	*i*	P		**Pn**	**11 16 52.2 -1.0**
	baz=293							
NSTT				*i*	S		**Sn**	**11 17 02.5 -2.4**
	baz=293							
SXI1	**Grass Mountain**	**0.78**	**7**		P		**Pb**	**11 16 52.2 +0.3**
	baz=17							
SXI1					S		**Sg**	**11 17 01.9 +0.7**
	baz=17							
NTY	**Taoyuan**	**0.80**	**327**	*e*	P		**Pn**	**11 16 53.7 0.0**
	baz=337							
NTY				*e*	S		**Sb**	**11 17 03.9 +0.7**
	baz=337							
VWDT	**VWDT**	**0.81**	**226**		P		**Pn**	**11 16 51.9 -1.8**
	baz=214							
VWDT				*e*	S		**Sn**	**11 17 04.3 -1.6**
	baz=214							
TNOU	**National Taiwa**	**0.82**	**0**		P		**Pb**	**11 16 52.7 0.0**
TNOU					S		**Sg**	**11 17 03.0 +0.2**
WCS	**Beigang Elemen**	**0.83**	**252**		P		**Pn**	**11 16 53.1 -0.9**
	baz=251							
WCS					S		**Sn**	**11 17 04.5 -1.9**
	baz=251							
NCUH	**Zhongli**	**0.84**	**320**	*i*	P		**Pn**	**11 16 54.5 +0.3**
	baz=320							
NCUH				*e*	S		**Sn**	**11 17 06.7 +0.1**
	baz=320							
NCU	**National Centr**	**0.84**	**321**	*e*	P		**Pn**	**11 16 54.5 +0.3**
	baz=320							
TWS1	**Kuangyinshan**	**0.84**	**337**	*i*	P		**Pn**	**11 16 53.8 -0.4**
	baz=337							
TWS1				*e*	S		**Sn**	**11 17 05.6 -1.1**
	baz=337							
YM01	**YM01**	**0.84**	**347**		P		**Pn**	**11 16 53.6 -0.7**
	baz=347							
YM01					S		**Sb**	**11 17 04.3 -0.2**
	baz=347							
SBCB	**Hsinchu**	**0.86**	**303**		P		**Pn**	**11 16 55.3 +0.8**
	baz=302							
HGSD	**Ruisui**	**0.89**	**201**		P		**Pn**	**11 16 54.4 -0.4**
	baz=218							
NTST	**Danshui**	**0.89**	**341**		P		**Pn**	**11 16 55.4 +0.5**
	baz=351							
NTST					S		**Sn**	**11 17 07.9 -0.1**
	baz=351							
ANP	**Anpu**	**0.89**	**345**		P		**Pb**	**11 16 53.1 -0.8**
	baz=332							
SMLT	**Sun Moon Lake**	**0.91**	**241**	*i*	P		**Pn**	**11 16 54.3 -1.0**
	baz=228							
SMLT					S		**Sn**	**11 17 07.1 -1.5**
	baz=228							
EHY	**Hungye**	**0.91**	**207**	*i*	P		**Pn**	**11 16 53.6 -1.6**
	baz=205							
TWQ1	**Liyutan**	**0.91**	**272**	*i*	P		**Pn**	**11 16 56.0 +0.7**
	baz=271							
TWQ1					S		**Sn**	**11 17 08.8 +0.2**
	baz=271							
SSLB	**Suanglung**	**0.92**	**235**		P		**Pn**	**11 16 54.1 -1.2**
	baz=234							
SSLB					S		**Sn**	**11 17 06.4 -2.3**
	baz=234							
NMLH	**Miaoli**	**0.92**	**284**	*i*	P		**Pn**	**11 16 56.5 +1.2**
	baz=283							
NMLH					S		**Sn**	**11 17 08.7 0.0**
	baz=283							
NSY	**Sanyi**	**0.93**	**276**	*i*	P		**Pn**	**11 16 55.7 +0.3**
	baz=275							
TYC	**Yuchr**	**0.93**	**244**	*i*	P		**Pn**	**11 16 54.8 -0.7**
	baz=242							
TYC					S		**Sn**	**11 17 07.4 -1.6**
	baz=242							
TWY	**Chenhua**	**0.96**	**351**	*i*	P		**Pn**	**11 16 56.9 +1.0**
	baz=341							
TWY					S		**Sb**	**11 17 08.2 +0.3**
	baz=341							
TCU	**Taichung**	**1.02**	**260**	*e*	P		**Pn**	**11 16 58.0 +1.4**
	baz=259							
TCU					eS		**Sn**	**11 17 12.7 +1.6**
	baz=259							
YULB	**Yu-li**	**1.02**	**205**		P		**Pn**	**11 16 55.9 -0.9**
	baz=215							
YULB					eS		**Sn**	**11 17 11.3 0.0**
	baz=215							
WDJ	**Dajia District**	**1.03**	**272**	*i*	P		**Pn**	**11 16 58.7 +1.8**
	baz=271							
WDJ					S		**Sn**	**11 17 13.1 +1.6**
	baz=271							
EYUL	**Yuli**	**1.05**	**203**	*i*	P		**Pn**	**11 16 56.9 -0.3**
	baz=216							
WJS	**Zhushan**	**1.08**	**243**		P		**Pn**	**11 16 58.1 +0.6**
	baz=234							
WJS				*i*	S		**Sn**	**11 17 14.6 +2.0**
	baz=234							
WNT	**Mingjian**	**1.09**	**246**	*i*	P		**Pn**	**11 16 58.9 +1.3**
	baz=237							
WNT				*i*	S		**Sn**	**11 17 16.2 +3.4**
	baz=237							
YUS	**Yu-Shan**	**1.12**	**222**	*i*	P		**Pn**	**11 16 57.8 -0.7**
	baz=211							
YUS					S		**Sn**	**11 17 14.9 +0.6**
	baz=211							
WCHH	**Zhanghua**	**1.14**	**258**	*e*	P		**Pn**	**11 16 59.8 +1.5**
	baz=257							
WCHH					eS		**Sn**	**11 17 16.3 +2.3**
	baz=257							
YOJ	**Yonaguni jima**	**1.14**	**83**		P		**Pg**	**11 16 57.4 -0.6**
YOJ					eS		**Sg**	**11 17 13.3 +0.5**
YOJ	**Yonaguni jima**	**1.14**	**83**		P		**Pn**	**11 16 58.0 -0.3**
	baz=70							
YOJ					S		**Sg**	**11 17 13.6 +0.8**
	baz=70							
ALS	**Alishan**	**1.20**	**228**	*i*	P		**Pn**	**11 16 59.2 -0.2**
	baz=209							
FULB	**Fuli**	**1.20**	**202**	*i*	P		**Pn**	**11 17 00.4 +1.2**
	baz=214							
CHKT	**Chengkung**	**1.27**	**197**		P		**Pn**	**11 17 01.4 +1.2**
	baz=216							
CHKT					eS		**Sn**	**11 17 20.7 +3.3**
	baz=216							
WDLH	**Douliu**	**1.29**	**241**	*i*	P		Pn	11 17 02.4 +2.0
	baz=255							
WDLH				*i*	S		**Sn**	**11 17 21.2 +3.4**
	baz=255							
ELDTW	**Lidau**	**1.32**	**212**	*i*	P		**Pn**	**11 17 01.5 +0.5**
	baz=221							
ELDTW					S		**Sn**	**11 17 19.0 +0.2**
	baz=221							
PCYT	**Pengchaiyu**	**1.33**	**12**		P		**Pn**	**11 17 00.6 -0.3**
	baz=12							
PCYT					S		**Sb**	**11 17 19.4 +0.9**
	baz=12							
WRL	**Guolierlin Hig**	**1.34**	**252**		P		**Pn**	**11 17 02.8 +1.7**
	baz=251							
WRL					S		**Sn**	**11 17 22.6 +3.4**
	baz=251							
EDH	**Donghe**	**1.41**	**198**	*i*	P		**Pg**	**11 17 03.2 0.0**
	baz=179							
EDH					S		**Sn**	**11 17 22.8 +2.0**
	baz=179							
CHN2	**Minshiung**	**1.42**	**237**	*e*	S		**Sn**	**11 17 25.9 +4.8**
	baz=236							
CHN4	**Tsaushan**	**1.45**	**228**	*i*	P		**Pg**	**11 17 04.7 +0.8**
	baz=227							
CHN4					S		**Sn**	**11 17 26.1 +4.3**
	baz=227							
TPUB	**Ta-pu**	**1.46**	**226**		P		**Pg**	**11 17 04.6 +0.4**
	baz=212							
TPUB					eS		**Sn**	**11 17 25.4 +3.4**
	baz=212							
STYH	**Taoyuan**	**1.47**	**219**		P		**Pg**	**11 17 04.1 -0.1**
	baz=218							
STYH					S		**Sn**	**11 17 23.7 +1.5**
	baz=218							
CHY	**Chiayi**	**1.48**	**237**	*e*	S		**Sn**	**11 17 27.2 +4.7**
	baz=235							
WTP	**Ta-pu**	**1.51**	**225**	*i*	P		**Pg**	**11 17 05.3 +0.2**
	baz=211							
WTP					S		**Sn**	**11 17 27.9 +4.6**
	baz=211							
LONT	**Longtian**	**1.53**	**203**	*i*	P		**Pg**	**11 17 04.9 -0.6**
	baz=201							
TWK	**Hsinying**	**1.58**	**229**	*i*	P		**Pg**	**11 17 07.1 +0.7**
	baz=227							
TWK					S		**Sg**	**11 17 29.1 +2.3**
	baz=227							
SNST	**Tainan City**	**1.60**	**227**		P		Pg	11 17 07.9 +1.0
	baz=226							
SNST					S		**Sg**	**11 17 29.6 +1.9**
	baz=226							

CHN1	**Nanshi**	**1.61**	**225**	*i*	P		Pg	11 17 07.9 +0.9
	baz=225							
CHN1					S		**Sg**	**11 17 30.1 +2.3**
	baz=225							
TWG	**Pinlang**	**1.63**	**203**		P		**Pg**	**11 17 07.1 -0.2**
	baz=201							
TWGBT	**Beinan**	**1.63**	**203**	*e*	P		**Pg**	**11 17 05.4 -1.9**
	baz=201							
SGST	**Jiashian**	**1.65**	**222**	*i*	P		**Pg**	**11 17 07.8 0.0**
	baz=221							
SGST					eS		**Sg**	**11 17 31.2 +2.1**
	baz=221							
LDUT	**Ludao**	**1.66**	**190**	*e*	S		**Sg**	**11 17 26.9 -2.8**
	baz=175							
ICHU	**Yijhu**	**1.67**	**235**	*e*	P		**Pg**	**11 17 08.9 +0.8**
	baz=216							
ICHU					eS		**Sg**	**11 17 33.2 +3.4**
	baz=216							
SLGT	**Liugui**	**1.68**	**218**	*e*	S		**Sg**	**11 17 31.2 +1.1**
	baz=217							
IRIF	**Iriomote-Funau**	**1.79**	**89**		P		**Pn**	**11 17 07.0 -0.2**
IRIF					eS		**Sn**	**11 17 30.1 0.0**
SSD	**Sandimen**	**1.89**	**214**	*e*	P		**Pg**	**11 17 12.1 -0.2**
	baz=211							
TSMG	**Majia**	**1.91**	**213**		P		**Pg**	**11 17 11.7 -1.1**
	baz=213							
TSMG					eS		**Sg**	**11 17 37.3 -0.3**
	baz=213							
JKRS	**Kuro-shima**	**2.04**	**92**		P		**Pn**	**11 17 11.1 +0.3**
JKRS					eS		**Sn**	**11 17 37.1 +0.7**
JIJ	**Ishigaki jima**	**2.16**	**88**		P		**Pn**	**11 17 12.6 +0.2**
JISG	**Ishigakijimahi**	**2.33**	**83**	*e*	S		**Sn**	**11 17 43.7 +0.2**

IDC 20 11:49:17.8±1.6, 3°.04N×125°.94E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/46, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=89.6km s-min=25.3km az=59.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.59**	**126**	Pn	Pn	11 50 54.9	-1.2
	2.1nm,0.3s,baz=168,slow=24,SNR=2.9						
WRA	**Warramunga Arr**	**24.29**	**160**	P	P	11 54 37.4	+0.3
	0.8nm,0.4s,baz=337,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**27.66**	**164**	P	P	11 55 08.3	+0.7
	0.3nm,0.4s,baz=347,slow=8.1,SNR=1.7						
MKAR	**Makanchi Array**	**57.67**	**326**	P	P	11 59 09.7	-0.5
	0.2nm,0.4s,baz=120,slow=7.6,SNR=5.4						

JMA 20 12:11:18.2, 32°.57N×130°.87E, h12km±1km, M0.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.05**	**247**	P	Pg	12 11 20.6	0.0
JIU3				S	Sg	12 11 22.3	0.0
JZO	**Okuchi**	**0.49**	**208**	P	Pg	12 11 27.7	-0.1

*JMA **20** 12:11:21.0±0.5, 38°.26N×133°.98E, h474km±5km, M3.5*
*IDC **20** 12:11:21.1±0.8, 38°.34N×133°.82E, h440km±11km, mb3.1/10, mb1 3.2/15, mb1mx3.0/44, mbtmp3.9/15, Error ellipse: s-maj=18.1km s-min=10.9km az=61.0*
ISC 20 12:11:21.7±0.7, 38°.4N±0°.1×133°.86E±0°.10, h450km, n24, σ0°89/25, mb3.5/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**2.86**	**136**	P	**P**	**12 12 28.5**	**+0.8**
JKY	**Yasaka**	**2.90**	**159**	P	**P**	**12 12 28.6**	**+0.6**
JSZ	**Suzu**	**2.91**	**107**	P	**P**	**12 12 29.1**	**+1.1**
JWT	**Wachi**	**3.30**	**158**	P	**P**	**12 12 31.9**	**+0.8**
JSD	**Sado**	**3.48**	**94**	P	**P**	**12 12 33.3**	**+0.9**
JNG	**Nsakai**	**3.90**	**119**	P	**P**	**12 12 36.8**	**+0.8**
MJAR	**Matsushiro Arr**	**3.90**	**116**	P	**P**	**12 12 37.0**	**+1.0**
	0.6nm,0.3s,baz=298,slow=11,SNR=54						
MJAR				S	**S**	**12 13 34.1**	**-2.4**
	0.2nm,0.3s,baz=230,slow=20,SNR=7.0						
KSRS	**Korea Array**	**4.78**	**261**	P	**P**	**12 12 44.1**	**+0.3**
	0.4nm,0.3s,baz=71,slow=9.9,SNR=15						
JFT	**Otama**	**5.19**	**97**	P	**P**	**12 12 48.3**	**+0.5**
JOD2	**Odawara 2**	**5.21**	**125**	P	**P**	**12 12 48.5**	**+0.4**
JFK	**Kawauchi**	**5.64**	**98**	P	**P**	**12 12 52.3**	**0.0**
USRK	**Ussuriysk Ar.**	**6.01**	**347**	P	**P**	**12 12 57.0**	**+1.1**
	baz=165,slow=9.5,SNR=68						
ASAJ	**Asahikawa**	**8.74**	**46**	P	**P**	**12 13 24.6**	**-0.3**
	0.7nm,0.3s,baz=211,slow=10,SNR=11						
KLR	**Kul'dur**	**10.98**	**353**	P	**P**	**12 13 48.6**	**-0.6**
	0.4nm,0.3s,baz=175,slow=9.4,SNR=12						
SONM	**Songino Array**	**22.08**	**304**	P	**P**	**12 15 41.7**	**-0.2**
	1.3nm,0.5s,baz=110,slow=10,SNR=9.9						
ZALV	**Zalesovo Beam**	**36.58**	**311**	P	**P**	**12 17 46.8**	**-0.9**
	0.8nm,0.4s,baz=104,slow=6.8,SNR=4.8						
MKAR	**Makanchi Array**	**38.30**	**300**	P	**P**	**12 18 01.4**	**-0.6**
	0.6nm,0.5s,baz=87,slow=10,SNR=10						
ILAR	**Eielson Array**	**51.60**	**32**	P	**P**	**12 19 46.0**	**+1.6**
	0.3nm,0.6s,baz=295,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**57.99**	**179**	P	**P**	**12 20 30.1**	**+0.1**
	1.2nm,0.6s,baz=353,slow=7.5,SNR=24						
ARCES	**ARCESS Array B**	**60.57**	**337**	P	**P**	**12 20 46.9**	**+0.2**
	6.7nm,1.1s,baz=66,slow=9.0,SNR=1.5						
ASAR	**Alice Springs**	**61.69**	**180**	P	**P**	**12 20 55.4**	**+0.6**
	0.3nm,0.6s,baz=10,slow=14,SNR=7.8						
FINES	**FINESS Array B**	**64.75**	**330**	P	**P**	**12 21 14.1**	**+0.1**
	2.5nm,0.8s,baz=85,slow=8.1,SNR=9.3						
AKASG	**Malin Array Be**	**69.48**	**319**	P	**P**	**12 21 42.9**	**-0.5**
	0.7nm,0.4s,baz=51,slow=6.7,SNR=5.0						
NOA	**NORSAR Array B**	**70.53**	**334**	P	**P**	**12 21 49.6**	**0.0**
	0.4nm,0.6s,baz=22,slow=6.0,SNR=4.3						

*IDC **20** 13:08:29.8±2.1, 59°.90N×153°.52W, h67km±31km, mb3.3/4, mb1 3.4/9, mb1mx3.1/55, mbtmp3.5/9, ML3.0/4, Error ellipse: s-maj=33.7km s-min=10.4km az=104.0*
*NEIC **20** 13:08:32.7±1.1, 59°.80N±0°.02×153°.07W±0°.07, h105km±3km, Error ellipse: s-maj=5.6km s-min=2.8km az=110.0*
*AEIC **20** 13:08:34±1.0, 59°.82N±0°.03×153°.07W±0°.07, h97km±4km, ML3.0, ML3.3/105(NEIC), Error ellipse: s-maj=5.3km s-min=4.7km az=100.0*
ISC 20 13:08:32.6±0.9, 59°.80N±0°.04×153°.04W±0°.04, h106km±6km, n156, σ0°74/149, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.18**	**213**		**Pn**	**13 08 47.4**	**-0.1**
IVE	**Iliamna Volcan**	**0.21**	**3**		**Pn**	**13 08 47.3**	**-0.4**
IVE					**Sn**	**13 08 58.4**	**-0.6**
O20K	**Slope Mountain**	**0.35**	**36**		**Pn**	**13 08 48.1**	**-0.1**
O20K					**Sn**	**13 08 60.0**	**+0.1**
AU22	**Augustine Moun**	**0.47**	**201**		**Pn**	**13 08 48.7**	**-0.1**
AU22					**Sn**	**13 09 00.5**	**-0.4**
AUL	**Augustine Lava**	**0.47**	**206**		**Pn**	**13 08 49.0**	**+0.2**
AUQ	**Augustine Qik'**	**0.49**	**203**		**Pn**	**13 08 49.0**	**0.0**
RSO	**Redoubt South**	**0.68**	**12**		**Pn**	**13 08 50.3**	**-0.2**
RDWB	**Redoubt West**	**0.69**	**8**		**Pn**	**13 08 50.5**	**-0.2**
HOM	**Homer**	**0.72**	**101**		**Pn**	**13 08 51.1**	**+0.5**
HOM					**Sn**	**13 09 05.2**	**+0.9**
HOM	**Homer**	**0.72**	**101**	IAML		13 09 05.8	
	comp=E,1μm,0.5s						
HOM				IAML		13 09 07.3	
	comp=N,1μm,0.5s						
O19K	**Port Alsworth**	**0.76**	**302**		**Pn**	**13 08 50.8**	**-0.2**
O19K	**Port Alsworth**	**0.76**	**302**	IAML		13 09 04.9	
	comp=N,2μm,0.4s						
O19K				IAML		13 09 06.1	
	comp=E,1μm,0.4s						
NCT	**North Crescent**	**0.76**	**4**		**Pn**	**13 08 51.1**	**-0.1**
RDJH	**Redoubt Jeurge**	**0.80**	**8**		**Pn**	**13 08 51.5**	**-0.1**
DFR	**Drift River**	**0.81**	**12**		**Pn**	**13 08 51.6**	**0.0**
DFR					**Sn**	**13 09 05.5**	**-0.5**
Q19K	**Cape Douglas,**	**0.93**	**200**		**Pn**	**13 08 52.6**	**-0.1**
CNPM	**China Poot**	**0.95**	**106**		**Pn**	**13 08 53.0**	**0.0**
BRLK	**Bradley Lake**	**1.09**	**91**		**Pn**	**13 08 54.3**	**-0.1**
BRLK					**Sn**	**13 09 11.1**	**+0.2**
BRLK	**Bradley Lake**	**1.09**	**91**	IAML		13 09 12.1	
	comp=E,327nm,0.3s						
BRLK				IAML		13 09 12.5	
	comp=N,620nm,0.5s						
BRSE	**Bradley Lake S**	**1.16**	**92**		**Pn**	**13 08 55.1**	**0.0**
P18K	**Big Mountain,**	**1.19**	**251**		**Pn**	**13 08 55.1**	**-0.4**
N19K	**Bonanza Creek**	**1.24**	**325**		**Pn**	**13 08 56.1**	**0.0**
N19K					**Sn**	**13 09 13.5**	**-0.6**

CAPN	**Captain Cook N**	**1.35**	**43**				**Pn**	**13 08 59.1 +1.9**
CAPN	**Captain Cook N**	**1.35**	**43**	IAML				13 09 23.9
	comp=E,937nm,1.2s							
CAPN				IAML				13 09 47.2
	comp=N,795nm,1.1s							
SPCR	**Spurr Chakacha**	**1.46**	**16**				**Pn**	**13 08 59.0 +0.3**
SPU	**Mount Spurr**	**1.47**	**19**				**Pn**	**13 08 59.0 +0.3**
SPCN	**Chakachatna No**	**1.49**	**16**				**Pn**	**13 08 59.4 +0.4**
BGL	**Barrier Glacie**	**1.50**	**12**				**Pn**	**13 08 59.8 +0.6**
CRP	**Crater Peak**	**1.53**	**16**				**Pn**	**13 08 59.0 -0.7**
CRP							**Sn**	**13 09 18.4 -1.8**
SLKM	**Skilak Lake**	**1.57**	**62**				**Pn**	**13 09 00.4 +0.4**
SLKM							**Sn**	**13 09 21.2 +0.3**
SPCG	**Spurr Capps Gl**	**1.57**	**18**				**Pn**	**13 09 00.5 +0.4**
O22K	**Cooper Landing**	**1.79**	**66**				**Pn**	**13 09 03.0 +0.4**
O22K							**Sn**	**13 09 25.4 -0.2**
STLK	**Strandline Lak**	**1.80**	**19**				**Pn**	**13 09 03.4 +0.5**
SVW2	**Sparrevohn**	**1.81**	**317**				**Pn**	**13 09 02.7 -0.2**
SEW	**Seward**	**1.83**	**79**				**Pn**	**13 09 03.3 +0.2**
KDAK	**Kodiak Island**	**2.04**	**173**	P			**Pn**	**13 09 05.2 -0.6**
	comp=N,10nm,0.3s,baz=54,slow=9.2,SNR=329							
KDAK				S			**Sn**	**13 09 30.1 -1.2**
	comp=N,26nm,0.3s,baz=22,slow=11,SNR=54							
KDAK	**Kodiak Island**	**2.04**	**173**				**Pn**	**13 09 05.5 -0.3**
KDAK	**Kodiak Island**	**2.04**	**173**	IAML				13 09 32.1
	comp=N,299nm,0.7s							
KDAK				IAML				13 09 32.1
	comp=N,272nm,0.4s							
RC01	**Rabbit Creek A**	**2.08**	**50**				**Pn**	**13 09 06.9 +0.5**
RC01							**Sn**	**13 09 32.2 0.0**
M19K	**Big River Lodg**	**2.21**	**343**				**Pn**	**13 09 08.2 +0.2**
M22K	**Willow**	**2.42**	**35**				**Pn**	**13 09 11.7 +1.0**
M22K	**Willow**	**2.42**	**35**	IAML				13 09 45.0
	comp=E,280nm,0.4s							
L19K	**White Mountain**	**2.54**	**340**				**Pn**	**13 09 12.5 +0.1**
PWL	**Port Wells**	**2.57**	**64**				**Pn**	**13 09 12.1 -0.6**
PWL							**Sn**	**13 09 41.6 -1.9**
PWL	**Port Wells**	**2.57**	**64**	IAML				13 09 44.3
	comp=E,257nm,0.2s							
OHAK	**Old Harbor**	**2.59**	**183**				**Pn**	**13 09 12.0 -1.0**
OHAK	**Old Harbor**	**2.59**	**183**	IAML				13 09 57.9
	comp=E,88nm,3.0s							
OHAK				IAML				13 10 28.9
	comp=N,99nm,2.7s							
PMR	**Palmer**	**2.63**	**45**				**Pn**	**13 09 13.2 -0.2**
PMR	**Palmer**	**2.63**	**45**	IAML				13 09 44.7
	comp=E,144nm,0.3s							
PMR				IAML				13 09 45.6
	comp=N,118nm,0.2s							
L20K	**Farewell, AK**	**2.71**	**352**				**Pn**	**13 09 15.2 +0.5**
KNK	**Knik Glacier**	**2.77**	**52**				**Pn**	**13 09 15.0 -0.4**
KNK	**Knik Glacier**	**2.77**	**52**	IAML				13 09 49.0
	comp=E,177nm,0.3s							
GHO	**Glory Hole Cre**	**2.82**	**44**				**Pn**	**13 09 15.7 -0.4**
GHO				IAML				13 09 50.2
	comp=N,170nm,0.2s							
CUT	**Chulitna**	**2.94**	**26**				**Pn**	**13 09 18.4 +0.9**
CUT	**Chulitna**	**2.94**	**26**	IAML				13 09 57.6
	comp=E,123nm,0.5s							
CUT				IAML				13 10 00.1
	comp=N,100nm,0.5s							
SML	**Sawmill**	**3.06**	**47**				**Pn**	**13 09 18.9 -0.3**
SML	**Sawmill**	**3.06**	**47**	IAML				13 09 56.3
	comp=N,72nm,0.3s							
SML				IAML				13 10 05.2
	comp=E,70nm,1.1s							
PPLA	**Purkeypile**	**3.13**	**7**				**Pn**	**13 09 21.6 +1.4**
SII	**Sitkinak Islan**	**3.31**	**191**	Pn			**Pn**	**13 09 21.6 -0.9**
Q23K	**Middleton Isla**	**3.42**	**93**	Pn			**Pn**	**13 09 24.1 +0.3**
MID	**Middleton Isla**	**3.42**	**93**	Pn			**Pn**	**13 09 23.8 -0.2**
TT01	**Tatalina**	**3.43**	**337**				**Pn**	**13 09 24.1 0.0**
TTA	**Tatalina**	**3.45**	**337**				**Pn**	**13 09 24.2 -0.2**
SCM	**Sheep Creek Mo**	**3.46**	**51**				**Pn**	**13 09 24.1 -0.4**
SCM				IAML				13 10 06.5
	comp=E,69nm,0.6s							
SCM				IAML				13 10 06.6
	comp=N,49nm,0.4s							
K20K	**Telida**	**3.60**	**353**				**Pn**	**13 09 27.1 +0.7**
CAST	**Castle Rocks**	**3.66**	**7**				**Pn**	**13 09 28.1 +0.9**
EYAK	**Cordova Ski Ar**	**3.72**	**75**	Pn			**Pn**	**13 09 27.1 -0.7**
WAT6	**Susitna Watana**	**3.79**	**40**				**Pn**	**13 09 28.9 -0.1**
DIV	**Divide**	**3.83**	**67**				**Pn**	**13 09 30.5 +0.9**
TRF	**Thorofare Moun**	**3.89**	**19**	Pn			**Pn**	**13 09 31.7 +1.4**
TRF				IAML				13 10 23.1
	comp=N,27nm,2.8s							
TRF				IAML				13 11 03.0
	comp=E,31nm,4.0s							
KLU	**Klutina**	**3.89**	**61**				**Pn**	**13 09 29.7 -0.6**
KLU	**Klutina**	**3.89**	**61**	IAML				13 10 15.1
	comp=E,71nm,0.2s							
KTH	**Kantishna Hill**	**3.90**	**14**	Pn			**Pn**	**13 09 30.9 +0.5**
M24K	**Tolsona, Glenn**	**4.07**	**52**				**Pn**	**13 09 33.0 +0.3**
M24K				IAML				13 10 45.4
	comp=E,70nm,2.9s							
CHUM	**Lake Minchumin**	**4.11**	**4**				**Pn**	**13 09 34.2 +1.1**
RND	**Reindeer**	**4.13**	**27**				**Pn**	**13 09 34.2 +0.7**
RND	**Reindeer**	**4.13**	**27**	IAML				13 10 35.7
	comp=N,20nm,4.2s							
GOAT	**Goat Mountain**	**4.22**	**76**				**Pn**	**13 09 35.3 +0.5**
CHIR	**Chirikof Islan**	**4.23**	**200**	Pn			**Pn**	**13 09 33.4 -1.4**
DHY	**Denali Highway**	**4.26**	**37**	Pn			**Pn**	**13 09 35.3 -0.1**
DHY				IAML				13 10 26.9
	comp=E,31nm,0.3s							
DHY				IAML				13 10 27.7
	comp=N,25nm,0.3s							
MCK	**McKinley**	**4.40**	**25**				**Pn**	**13 09 38.0 +0.9**
MCK	**McKinley**	**4.40**	**25**	IAML				13 10 39.4
	comp=E,18nm,4.1s							
MCK				IAML				13 11 10.2
	comp=N,17nm,4.1s							
BPAW	**Bear Paw Mtn.**	**4.42**	**12**	Pn			**Pn**	**13 09 37.9 +0.5**
BPAW				IAML				13 11 36.8
	comp=N,16nm,4.3s							
BPAW				IAML			

MLY					IAML			13 11 12.8	
	comp=E,9.4nm,3.5s								
MLY					IAML			13 13 27.0	
	comp=N,8.8nm,3.7s								
ISLE	**Juniper Island**	**5.40**	**77**			**Pn**		**13 09 51.0**	**+0.3**
PTPK	**Patty Peak**	**5.41**	**71**			**Pn**		**13 09 52.0**	**+1.1**
KIAG	**Kiagna River**	**5.42**	**73**			**Pn**		**13 09 51.9**	**+0.8**
I21K	**Tanana**	**5.42**	**5**	Pn		**Pn**		**13 09 51.7**	**+0.9**
HDA	**Harding Lake**	**5.43**	**29**			**Pn**		**13 09 51.2**	**+0.1**
BALM	**Baldy**	**5.44**	**72**			**Pn**		**13 09 51.9**	**+0.6**
CCB	**Clear Creek Bu**	**5.44**	**24**			**Pn**		**13 09 51.1**	**0.0**
MENT	**Mentasta**	**5.47**	**51**	Pn		**Pn**		**13 09 51.0**	**-0.6**
RIDG	**Independent Ri**	**5.54**	**41**	Pn		**Pn**		**13 09 52.4**	**-0.1**
I23K	**Minto, Yukon-K**	**5.63**	**16**	Pn		**Pn**		**13 09 54.1**	**+0.5**
TCOL	**CIGO, UAF Yank**	**5.63**	**23**			**Pn**		**13 09 54.5**	**+0.8**
COLA	**College**	**5.63**	**23**			**Pn**		**13 09 54.5**	**+0.9**
MDM	**Murphy Dome**	**5.63**	**21**	Pn		**Pn**		**13 09 54.2**	**+0.4**
YAH	**Yahtse**	**5.68**	**79**			**Pn**		**13 09 55.6**	**+1.0**
GRNC	**Granite Creek**	**5.69**	**76**			**Pn**		**13 09 55.5**	**+0.7**
IL31		**5.75**	**27**			**Pn**		**13 09 55.5**	**+0.2**
ILAR	**Eielson Array**	**5.75**	**27**	P		**Pn**		**13 09 54.6**	**-0.7**
	comp=N,0.5nm,0.3s,baz=224,slow=13,SNR=23								
ILAR				S		**Sn**		**13 10 56.9**	**-3.0**
	comp=N,0.9nm,0.3s,baz=203,slow=17,SNR=9.3								
ILAR	**Eielson Array**	**5.75**	**27**			**Pn**		**13 09 55.3**	**0.0**
BARN	**Barnard Glacie**	**5.77**	**73**			**Pn**		**13 09 56.7**	**+0.8**
H21K	**Melozitna Rive**	**5.88**	**1**	Pn		**Pn**		**13 09 57.7**	**+0.6**
CTGM	**Chitina Glacie**	**5.92**	**74**			**Pn**		**13 09 59.0**	**+1.2**
POKR	**Poker Plat Res**	**5.93**	**24**	Pn		**Pn**		**13 09 58.8**	**+1.1**
TABL	**Table Mountain**	**5.98**	**79**	Pn		**Pn**		**13 09 59.7**	**+1.0**
SCRK	**Sand Creek**	**5.98**	**42**	Pn		**Pn**		**13 09 58.6**	**0.0**
M27K	**Edge Creek, AK**	**5.99**	**60**			**Pn**		**13 10 00.1**	**+1.4**
LOGN	**Logan Glacier**	**6.07**	**75**			**Pn**		**13 10 00.7**	**+0.9**
IMAR	**Indian Mountai**	**6.21**	**357**			**Pn**		**13 10 02.2**	**+0.6**
L27K	**Beaver Creek,**	**6.29**	**54**	Pn		**Pn**		**13 10 02.3**	**-0.4**
YUK2	**White River**	**6.29**	**66**			**Pn**		**13 10 03.3**	**+0.5**
BCAR	**Beaver Creek A**	**6.31**	**54**	Pn		**Pn**		**13 10 02.5**	**-0.4**
PCA	**Pinnacle**	**6.43**	**82**	Pn		**Pn**		**13 10 05.5**	**+0.9**
BVCY	**Beaver Creek**	**6.45**	**61**			**Pn**		**13 10 06.3**	**+1.4**
YUK3	**Moose Creek**	**6.47**	**67**			**Pn**		**13 10 06.5**	**+1.3**
H24K	**Noodor Dome**	**6.50**	**19**	Pn		**Pn**		**13 10 05.8**	**+0.3**
PNL	**Peninsula**	**6.90**	**85**			**Pn**		**13 10 11.1**	**+0.2**
YUK6	**Outpost Mounta**	**7.36**	**75**			**Pn**		**13 10 18.2**	**+0.8**
YUK5	**Granite Creek**	**7.62**	**73**			**Pn**		**13 10 21.5**	**+0.7**
HYT	**Haines Junctio**	**7.78**	**76**			**Pn**		**13 10 24.2**	**+1.2**
M30M	**Minto, Yukon**	**8.32**	**64**	Pn		**Pn**		**13 10 30.9**	**+0.7**
BMAR	**Burnt Mountain**	**8.52**	**23**	Pn		**Pn**		**13 10 33.6**	**+0.7**
N31M	**Braeburn, Yuko**	**8.64**	**71**	Pn		**Pn**		**13 10 35.4**	**+0.8**
WHY	**Whitehorse**	**9.07**	**77**	Pn		**Pn**		**13 10 41.8**	**+1.3**
M31M	**Drury Creek, Y**	**9.36**	**67**	Pn		**Pn**		**13 10 44.6**	**+0.3**
DLBC	**Dease Lake**	**11.88**	**87**	P		**Pn**		**13 11 19.8**	**+1.4**
	comp=N,1.3nm,0.3s,baz=258,slow=6.7,SNR=25								
INK	**Inuvik**	**12.01**	**37**	P		**Pn**		**13 11 20.1**	**+0.4**
	comp=N,0.0nm,0.3s,baz=243,slow=6.8,SNR=1.5								
YKA	**Yellowknife Ar**	**18.55**	**65**	P		**P**		**13 12 40.8**	**+0.2**
	comp=N,0.0nm,0.3s,baz=276,slow=10,SNR=2.9								
KSRS	**Korea Array**	**53.20**	**283**	P		**P**		**13 17 40.0**	**+0.5**
	comp=N,0.4nm,0.5s,baz=37,slow=7.5,SNR=2.7								
ZALV	**Zalesovo Beam**	**57.52**	**324**	P		**P**		**13 18 10.7**	**+0.5**
	comp=N,1.3nm,0.5s,baz=26,slow=5.9,SNR=5.1								
KURBB	**Kurchatov Arra**	**62.29**	**326**	P		**P**		**13 18 42.4**	**-0.5**
	comp=N,0.3nm,0.4s,baz=30,slow=6.3,SNR=2.0								
MKAR	**Makanchi Array**	**64.57**	**321**	P		**P**		**13 18 57.0**	**-1.0**
	comp=N,0.1nm,0.5s,baz=36,slow=7.0,SNR=1.8								

*IDC **20** 13:18:27.2±5.2, 37.°52N×71.°98E, h178km±35km, mb3.2/3, mb1 3.3/6, mb1mx2.9/43, mbtmp3.8/6, Error ellipse: s-maj=70.3km s-min=32.4km az=139.0*
*NEIC **20** 13:18:28.1±0.9, 37.°51N±0.°07×72.°2E±0.°1, h188km±5km, mb4.2/12, Error ellipse: s-maj=14.5km s-min=8.4km az=120.0*

ISC 20 13:18:29.3±0.9, 37.°62N±0.°10×72.°1E±0.°1, h200km, n34, σ1℗00/36, mb3.9/8, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.94**	**316**			Pn	**Pn**	**13 19 06.9**	**-0.4**
CHGR	**Chuyangaron**	**2.51**	**295**				**Pn**	**13 19 12.7**	**-0.6**
BTK	**Batken**	**2.62**	**339**				**Pn**	**13 19 15.4**	**+0.9**
KBL	**Kabul**	**3.92**	**219**	Pn			**Pn**	**13 19 28.4**	**-1.8**
AAK	**Ala-Archa**	**5.36**	**20**	P			**Pn**	**13 19 48.3**	**0.0**
	2.7nm,0.3s,baz=178,slow=5.9,SNR=37								
AAK				S			**Sn**	**13 20 49.1**	**-1.6**
	1.0nm,0.3s,baz=321,slow=23,SNR=17								
AAK	**Ala-Archa**	**5.36**	**20**				**Pn**	**13 19 47.8**	**-0.5**
KKAR	**Karatay Array**	**5.61**	**348**				**Pn**	**13 19 51.2**	**-0.2**
KK09	**Karatay Array**	**5.63**	**348**		⇓	Pn	**Pn**	**13 19 51.4**	**-0.3**
	1.3nm,0.4s,baz=170,slow=14								
KK09					⇑	Sn	**Sn**	**13 20 53.4**	**-3.5**
	6.3nm,0.5s,baz=172,slow=25								
BOOM	**Boomskoye usch**	**5.71**	**30**				**Pn**	**13 19 51.9**	**-0.9**
TKM2	**Tokmak 2**	**5.95**	**26**		⇓	Pn	**Pn**	**13 19 55.4**	**-0.7**
	2.2nm,0.8s								
TKM2					⇑	Sn	**Sn**	**13 21 03.4**	**-1.3**
	2.6nm,0.9s								
KDJ	**Kajisay**	**5.99**	**40**	Pn			**Pn**	**13 19 55.3**	**-1.2**
MAKZ	**Makanchi**	**11.76**	**36**	Pn			**Pn**	**13 21 10.4**	**-0.6**
MK31	**Makanchi Array**	**11.90**	**36**	P			**P**	**13 21 17.7**	**+0.1**
MKAR	**Makanchi Array**	**11.90**	**36**	P			**Pn**	**13 21 12.5**	**-0.2**
	0.0nm,0.3s,baz=220,slow=8.8,SNR=2.8								
MKAR	**Makanchi Array**	**11.90**	**36**	P			**P**	**13 21 17.0**	**-0.5**
KURBB	**Kurchatov Arra**	**13.80**	**18**	P			**P**	**13 21 38.5**	**-0.1**
	0.1nm,0.3s,baz=204,slow=11,SNR=8.1								
KURK	**Kurchatov**	**13.91**	**18**	P			**P**	**13 21 40.3**	**+0.5**
ABKAR	**Akbulak array**	**14.56**	**327**	P			**P**	**13 21 48.8**	**+1.7**
ZAA0	**Zalesovo Array**	**18.55**	**24**	P			**P**	**13 22 30.8**	**0.0**
ZALV	**Zalesovo Beam**	**18.55**	**24**	P			**P**	**13 22 31.5**	**+0.7**
	0.8nm,0.3s,baz=221,slow=10,SNR=17								
ZALV	**Zalesovo Beam**	**18.55**	**24**	P			**P**	**13 22 31.1**	**+0.3**
ARCES	**ARCESS Array B**	**40.44**	**337**	P			**P**	**13 25 48.8**	**+1.1**
	2.4nm,0.9s,baz=94,slow=7.2,SNR=1.5								
ARCES	**ARCESS Array B**	**40.44**	**337**	IAmb		IAmb	IAmb	13 25 57.4	
	comp=Z,8.5nm,1.4s								
SCTE	**Santa Cesarea**	**41.28**	**291**	P			**P**	**13 25 55.2**	**+0.3**
NC405	**NORSAR Array S**	**43.77**	**322**	P			**P**	**13 26 14.6**	**0.0**
NC405				IAmb		IAmb	IAmb	13 26 35.3	
	comp=Z,9.8nm,1.0s								
TIXI	**Tiksi**	**44.43**	**22**	P			**P**	**13 26 20.1**	**+0.4**
TOA0	**Torodi Ar. Sit**	**66.58**	**269**	P			**P**	**13 28 57.6**	**-0.6**
TOA0				IAmb		IAmb	IAmb	13 29 11.8	
	comp=Z,3.1nm,1.2s								
TORD	**Torodi Ar. Bea**	**66.58**	**269**	P			**P**	**13 28 57.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.4,SNR=5.2								
TOLK	**Toolik Lake Re**	**69.63**	**15**	P			**P**	**13 29 17.4**	**+1.0**
TOLK				IAmb		IAmb	IAmb	13 29 26.6	
	comp=Z,4.0nm,1.5s								
KTH	**Kantishna Hill**	**73.55**	**19**	P			**P**	**13 29 40.5**	**+0.6**
PPLA	**Purkeypile**	**73.76**	**19**	P			**P**	**13 29 41.0**	**-0.3**
PPLA				IAmb		IAmb	IAmb	13 29 45.8	
	comp=Z,14nm,1.4s								
RND	**Reindeer**	**74.18**	**18**	P			**P**	**13 29 43.4**	**-0.2**
RND				IAmb		IAmb	IAmb	13 29 54.4	
	comp=Z,11nm,1.4s								
SML	**Sawmill**	**75.67**	**19**	P			**P**	**13 29 52.0**	**-0.1**
YKA	**Yellowknife Ar**	**80.09**	**3**	P			**P**	**13 30 17.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=352,slow=5.3,SNR=8.3								

RSNC 20 13:21:55.4±0.8, 6.°80N×73.°17W, h142km±3km, ML3.1, Mw3.5, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**184**		⇓	*i*P	Pn	13 22 14.5	-0.5
BARC						*e*S	Sn	13 22 29.2	-0.6
BARC						*i*		13 22 30.7	
	comp=Z,307nm,0.3s								
PAMC	**Pamplona, Colo**	**0.71**	**41**		⇑	*e*P	Pn	13 22 17.3	-0.3
PAMC						*i*		13 22 17.6	
	comp=Z,655nm,0.2s								
PAMC						*e*S	Sn	13 22 34.4	-0.1
RUSC	**La Rusia**	**0.90**	**175**		⇓	*e*P	Pn	13 22 18.4	-0.7
RUSC						*e*S	Sn	13 22 37.2	+0.1
RUSC						*i*		13 22 38.7	
	comp=Z,89nm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.30**	**259**			*e*P	Pn	13 22 21.4	-0.9
PTBC						*e*S	Sn	13 22 42.1	-0.6
PTBC						*i*		13 22 48.6	
	comp=Z,131nm,0.4s								
TAMC	**Tame, Arauca**	**1.42**	**105**		⇓	*i*P	Pn	13 22 22.9	-0.5
TAMC						*e*S	Sn	13 22 44.5	-0.4
OCAC	**Ocana**	**1.44**	**354**			*e*P	Pn	13 22 22.5	-1.4
OCAC						*e*S	Sn	13 22 45.2	-0.4
OCAC						*i*		13 22 52.9	
	comp=Z,282nm,0.2s								
SPBC	**San Pablo de B**	**1.45**	**218**			*e*P	Pn	13 22 23.3	-0.6
SPBC						*e*S	Sn	13 22 45.5	-0.1
SPBC						*i*		13 22 50.1	
	comp=Z,216nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.81**	**292**			*e*P	Pn	13 22 26.9	-0.9
ZARC						*e*S	Sn	13 22 52.2	-0.5
ZARC						*i*		13 22 57.5	
	comp=Z,150nm,0.3s								
NORC	**Norcasia**	**2.09**	**234**		⇓	*e*P	Pn	13 22 30.6	-0.5
NORC						*e*S	Sn	13 22 57.9	-0.7
NORC						*i*		13 23 06.0	
	comp=Z,82nm,0.3s								
CHIC	**Chingaza**	**2.23**	**195**			*e*P	Pn	13 22 32.6	-0.6
CHIC						*e*S	Sn	13 23 01.8	-0.3
CHIC						*i*		13 23 05.2	
	comp=Z,95nm,0.6s								
HELC	**Santa Helena**	**2.42**	**256**			*e*P	Pn	13 22 35.5	0.0
HELC						*e*S	Sn	13 23 06.5	+0.3
HELC						*i*		13 23 12.9	
	comp=Z,51nm,0.4s								
GUY2C	**Guyana, Caldas**	**2.69**	**235**			*e*P	Pn	13 22 38.7	-0.2
GUY2C						*e*S	Sn	13 23 11.3	-1.1
GUY2C						*i*		13 23 20.8	
	comp=Z,65nm,0.6s								
VILC	**Villavicencio,**	**2.72**	**191**			*e*P	Pn	13 22 38.1	-0.9
VILC						*e*S	Sn	13 23 12.6	-0.1
LL1C	**La Loma 1 Cana**	**2.75**	**352**			*e*P	Pn	13 22 39.2	-0.1
LL1C						*e*S	Sn	13 23 13.3	+0.1
LL6C	**La Loma 6 Bece**	**2.92**	**358**			*e*P	Pn	13 22 38.8	-2.6
LL6C						*e*S	Sn	13 23 14.5	-2.5
LL6C						*i*		13 23 21.4	
	comp=Z,34nm,0.4s								
CBOC	**Ciudad Bolivar**	**2.97**	**252**			*e*P	Pn	13 22 42.3	0.0
CBOC						*e*S	Sn	13 23 18.4	0.0
MOTC	**Monteria, Cord**	**3.16**	**309**			*e*P	Pn	13 22 41.4	-3.1
MOTC						*e*S	Sn	13 23 20.1	-2.4
MOTC						*i*		13 23 35.4	
	comp=Z,33nm,0.5s								
ANIL	**Santa Ana**	**3.19**	**224**			*e*P	Pn	13 22 45.0	-0.2
ANIL						*e*S	Sn	13 23 23.7	0.0
ORTC	**Ortega, Tolima**	**3.54**	**216**			*e*P	Pn	13 22 48.8	-0.7
ORTC						*e*S	Sn	13 23 31.0	-0.3
ORTC						*i*		13 23 35.9	
	comp=Z,51nm,0.2s								
SJCC	**San Jacinto, C**	**3.67**	**327**			*e*P	Pn	13 22 47.5	-3.6
SJCC						*e*S	Sn	13 23 28.8	-5.5
SJCC						*i*		13 23 44.1	
	comp=Z,29nm,0.7s								
CRJC	**Cerrejon, Guaj**	**4.21**	**4**			*e*P	Pn	13 22 54.8	-3.5
CRJC						*e*S	Sn	13 23 42.5	-4.6
CRJC						*i*		13 23 49.6	
	comp=Z,37nm,0.3s								

*MEX **20** 13:30:39.4±1.2, 14.°70N×92.°55W, h80km±13km, MD4.0*
*UCR **20** 13:30:40.9±1.1, 14.°62N×92.°52W, h60km±15km, ML3.9*
*SNET **20** 13:30:41.0±1.1, 14.°62N×92.°51W, h61km±14km, ML4.2*
*GCG **20** 13:30:44.8±0.6, 14.°75N×92.°26W, h48km±11km, MD4.0*

ISC 20 13:30:39.1±1.8, 14.°58N±0.°08×92.°67W±0.°08, h43km±26km, n23, σ1℗11/42, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.51**	**51**			*e*P	**Pn**	**13 30 49.9**	**-0.2**
THIG						*e*S	**Sn**	**13 30 59.6**	**+1.7**
PATR	**El Naranjo**	**0.68**	**39**			*e*P	**Pn**	**13 30 51.8**	**-0.8**
PATR						*e*S	**Sn**	**13 31 01.9**	**-0.3**
CHUJ	**Union Juarez**	**0.75**	**47**			*e*P	**Pn**	**13 30 53.0**	**-0.5**
CHUJ						*e*S	**Sn**	**13 31 03.0**	**-0.9**
PAVE	**Pavencul**	**0.78**	**38**			*e*P	**Pn**	**13 30 53.5**	**-0.4**
PAVE						*e*S	**Sn**	**13 31 04.3**	**-0.3**
RTAL	**Retalhuleu**	**0.95**	**93**		⇓	*e*P	**Pn**	**13 30 56.2**	**+0.2**
RTAL						*e*S	**Sn**	**13 31 08.8**	**+0.4**
STG3	**Santiaguito 3,**	**1.08**	**83**			*e*P	**Pn**	**13 30 58.3**	**+0.4**
STG3						*e*S	**Sn**	**13 31 09.7**	**-2.1**
PCIG		**1.23**	**335**			*e*P	**Pn**	**13 30 59.7**	**-0.2**
PCIG						*e*S	**Sn**	**13 31 14.9**	**-0.5**
HUEH	**Huehuetenango**	**1.35**	**57**			*e*P	**Pn**	**13 31 02.2**	**+0.5**
HUEH						*e*S	**Sn**	**13 31 19.6**	**+1.0**
HUEH	**Huehuetenango**	**1.35**	**57**			*e*P	**Pn**	**13 31 02.2**	**+0.5**
HUEH						*e*S	**Sn**	**13 31 19.6**	**+1.0**
CCIG	**Comitan**	**1.77**	**17**			*e*P	**Pn**	**13 31 08.5**	**+1.1**
CCIG						*e*S	**Sn**	**13 31 28.6**	**-0.2**
FUG	**Fuego 3**	**1.78**	**94**			*e*P	**Pn**	**13 31 08.4**	**+0.9**
FUG						*e*S	**Sn**	**13 31 27.1**	**-2.0**
PCG	**Pacaya**	**2.01**	**95**			*e*P	**Pn**	**13 31 12.3**	**+1.4**
PCG						*e*S	**Sn**	**13 31 35.3**	**+0.4**
NBG	**Las Nubes**	**2.25**	**90**			*e*P	**Pn**	**13 31 15.6**	**+1.5**
NBG						*e*S	**Sn**	**13 31 37.5**	**-3.4**
NUBE	**Las Nubes**	**2.89**	**103**			*e*P	**Pn**	**13 31 23.2**	**+0.5**
NUBE						*e*S	**Sn**	**13 31 55.3**	**-1.1**
NUBE	**Las Nubes**	**2.89**	**103**			*e*P	**Pn**	**13 31 23.2**	**+0.5**
NUBE						*e*S	**Sn**	**13 31 55.3**	**-1.1**
CEVE	**Cerro Verde**	**3.05**	**104**			*e*P	**Pn**	**13 31 26.4**	**+1.3**
CEVE						IAML		13 32 14.1	
	comp=Z,952nm,0.3s								
CEVE	**Cerro Verde**	**3.05**	**104**			*e*P	**Pn**	**13 31 26.4**	**+1.3**
CEVE						IAML		13 32 14.1	
	comp=Z,952nm,0.3s								
MTO3	**Montecristo**	**3.21**	**93**			*e*P	**Pn**	**13 31 27.3**	**0.0**
MTO3	**Montecristo**	**3.21**	**93**			*e*P	**Pn**	**13 31 27.3**	**0.0**
JAYA	**Jayaque - finc**	**3.26**	**106**			*e*P	**Pn**	**13 31 27.6**	**-0.3**
JAYA						*e*S	**Sn**	**13 32 05.0**	**-0.6**
JAYA						IAML		13 32 15.6	
	comp=Z,406nm,0.2s								
JAYA	**Jayaque - finc**	**3.26**	**106**			*e*P	**Pn**	**13 31 27.6**	**-0.3**
JAYA						*e*S	**Sn**	**13 32 05.0**	**-0.6**
JAYA						IAML		13 32 15.6	
	comp=Z,406nm,0.2s								
LFRS	**El Faro**	**3.63**	**105**			*e*P	**Pn**	**13 31 34.6**	**+1.6**
LFRS						*e*S	**Sn**	**13 32 14.1**	**-0.5**
LFRS	**El Faro**	**3.63**	**105**			*e*P	**Pn**	**13 31 34.6**	**+1.6**
LFRS						*e*S	**Sn**	**13 32 14.1**	**-0.5**

*BUC **20** 13:46:38.6±0.3, 45.°60N×26.°40E, h149km±2km, ml3.9/44, Error ellipse: s-maj=2.0km s-min=1.6km az=171.0*
*SOF **20** 13:46:39.5, 45.°67N×26.°30E, h100km, MD3.0*

ISC 20 13:46:37.7±1.4, 45.°61N±0.°03×26.°39E±0.°03, h157km±7km, n65, σ0℗73/111, 64C-43D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.19**	**200**		⇓	P	**Pn**	**13 46 59.4**	**+0.5**
NEHR						S	**Sn**	**13 47 14.3**	**-0.7**
BISRR	**Bisoca**	**0.23**	**105**			P	**Pn**	**13 46 59.8**	**+0.7**
BISRR						S	**Sn**	**13 47 13.9**	**-1.4**
COVR	**Voineasa-Covas**	**0.27**	**331**		⇓	P	**Pn**	**13 46 59.0**	**-0.1**
COVR						S	**Sn**	**13 47 14.3**	**-1.2**
PLOR	**Plostina**	**0.30**	**37**			P	**Pn**	**13 46 59.3**	**+0.1**
PLOR						S	**Sn**	**13 47 15.2**	**-0.5**
MLR	**Muntele Rosu**	**0.34**	**250**		⇓	P	**Pn**	**13 46 59.6**	**+0.2**
MLR						S	**Sn**	**13 47 16.1**	**+0.2**
VRI	**Vrincioaia**	**0.35**	**42**			P	**Pn**	**13 46 59.6**	**+0.3**
VRI						S	**Sn**	**13 47 15.4**	**-0.5**
GRER		**0.47**	**119**		⇓	P	**Pn**	**13 47 01.2**	**+1.4**
GRER						S	**Sn**	**13 47 15.3**	**-1.2**
ODBI	**Odobesti**	**0.49**	**71**			P	**Pn**	**13 47 01.1**	**+1.3**
ODBI						S	**Sn**	**13 47 16.4**	**-0.3**
ISR	**Istrita**	**0.50**	**168**		⇓	P	**Pn**	**13 47 00.0**	**0.0**
ISR						S	**Sn**	**13 47 16.1**	**-0.8**
PANC	**Panciu**	**0.59**	**63**			P	**Pn**	**13 47 01.0**	**+0.7**
PANC					⇓	S	**Sn**	**13 47 18.2**	**+0.6**
SECR		**0.62**	**202**			P	**Pn**	**13 47 01.2**	**+0.7**
SECR						S	**Sn**	**13 47 18.2**	**+0.3**
PLAR	**PLOIESTI**	**0.74**	**200**			P	**Pn**	**13 47 02.0**	**+0.7**
PLAR					⇓	S	**Sn**	**13 47 20.2**	**+1.0**
DOPR	**Dopca**	**0.79**	**297**		⇓	P	**Pn**	**13 47 01.6**	**0.0**
DOPR						S	**Sn**	**13 47 19.4**	**-0.5**
PGOR	**Pogoanele**	**0.82**	**149**			P	**Pn**	**13 47 02.6**	**+0.8**
PGOR						S	**Sn**	**13 47 20.1**	**0.0**
GHRR		**0.84**	**57**			P	**Pn**	**13 47 02.8**	**+0.9**
GHRR					⇓	S	**Sn**	**13 47 21.1**	**+0.6**
TUDR		**0.90**	**90**		⇓	P	**Pn**	**13 47 02.6**	**+0.3**
TESR	**Tescani**	**0.92**	**11**		⇓	P	**Pn**	**13 47 02.6**	**0.0**
TESR						S	**Sn**	**13 47 19.9**	**-1.7**
SULR		**0.94**	**186**			P	**Pn**	**13 47 03.3**	**+0.6**
SULR						S	**Sn**	**13 47 22.4**	**+0.7**

VOIR		**0.96**	**260**		⇓	P	**Pn**	**13 47 02.7**	**-0.2**
VOIR					⇓	S	**Sn**	**13 47 21.2**	**-1.0**
IZVR	**Izvoarele**	**0.97**	**93**		⇓	P	**Pn**	**13 47 03.1**	**+0.2**
IZVR					⇓	S	**Sn**	**13 47 21.1**	**-1.0**
SLCR	**Slobozia Conac**	**0.97**	**91**		⇑	P	**Pn**	**13 47 03.3**	**+0.4**
SLCR					⇑	S	**Sn**	**13 47 21.8**	**-0.3**
MTUR	**Matau**	**1.01**	**248**		⇑	P	**Pn**	**13 47 03.6**	**+0.2**
SCHL	**Schela**	**1.02**	**96**		⇑	P	**Pn**	**13 47 03.5**	**+0.2**
SCHL					⇓	S	**Sn**	**13 47 22.0**	**-0.8**
BIR	**Birlad**	**1.08**	**52**		⇓	P	**Pn**	**13 47 04.3**	**+0.4**
BIR					⇓	S	**Sn**	**13 47 23.6**	**-0.4**
SCTR	**Scanteiesti**	**1.13**	**86**		⇓	P	**Pn**	**13 47 04.9**	**+0.7**
SCTR					⇓	S	**Sn**	**13 47 24.0**	**-0.5**
TATR	**Tatarca**	**1.16**	**90**		⇑	P	**Pn**	**13 47 05.2**	**+0.6**
TATR					⇑	S	**Sn**	**13 47 24.7**	**-0.4**
LEHL	**Lehliu**	**1.18**	**165**		⇑	S	**Sn**	**13 47 25.6**	**+0.3**
INCR	**INCERC-Sediu C**	**1.18**	**188**		⇓	S	**Sn**	**13 47 25.1**	**-0.3**
AMRR	**Amara**	**1.20**	**146**		⇑	P	**Pn**	**13 47 05.5**	**+0.6**
AMRR					⇑	S	**Sn**	**13 47 25.7**	**0.0**
VLDR	**Vladesti**	**1.21**	**78**		⇓	P	**Pn**	**13 47 05.6**	**+0.6**
VLDR					⇓	S	**Sn**	**13 47 25.4**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.26**	**234**		⇑	P	**Pn**	**13 47 06.2**	**+0.7**
STFAR					⇑	S	**Sn**	**13 47 27.7**	**+1.0**
ARR	**Arges**	**1.26**	**260**		⇓	P	**Pn**	**13 47 05.7**	**+0.2**
ARR					⇓	S	**Sn**	**13 47 26.2**	**-0.6**
GIUM	**Giurgiulesti**	**1.28**	**95**		⇓	P	**Pn**	**13 47 06.7**	**+1.0**
GIUM					⇓	S	**Sn**	**13 47 26.7**	**-0.3**
BUC1	**Bucharest**	**1.29**	**192**		⇑	P	**Pn**	**13 47 06.2**	**+0.5**
BUC1					⇓	S	**Sn**	**13 47 26.8**	**-0.3**
CFR	**Carcaliu**	**1.30**	**109**		⇑	P	**Pn**	**13 47 06.1**	**+0.3**
CFR					⇑	S	**Sn**	**13 47 26.5**	**-0.9**
SGRR	**Singureni**	**1.42**	**192**		⇓	P	**Pn**	**13 47 07.2**	**+0.2**
SGRR					⇓	S	**Sn**	**13 47 28.8**	**-0.6**
VASR	**Vaslui**	**1.42**	**43**		⇑	P	**Pn**	**13 47 07.4**	**+0.4**
VASR					⇑	S	**Sn**	**13 47 28.8**	**-0.7**
HARR	**Harsova**	**1.43**	**130**		⇑	P	**Pn**	**13 47 07.5**	**+0.4**
HUMR	**Humele**	**1.47**	**223**		⇓	P	**Pn**	**13 47 07.6**	**0.0**
HUMR					⇓	S	**Sn**	**13 47 29.8**	**-

BBOO				IAmb	IAmb	14 00 25.5		
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**44.10**	**259**	P	**P**	**14 00 30.8**	**-1.0**
WB0	**Warramunga Arr**	**44.26**	**260**	P	**P**	**14 00 31.9**	**-1.1**
WB2	**Warramunga Arr**	**44.28**	**259**	P	**P**	**14 00 32.1**	**-1.1**
WB2				IAmb	IAmb	14 00 33.2		
	comp=Z,10nm,0.6s							
WRAB	**Tennant Creek**	**44.28**	**259**	P	**P**	**14 00 32.0**	**-1.2**
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**14 00 32.2**	**-1.0**
	comp=Z,5.3nm,0.6s,baz=96,slow=7.2,SNR=164							
WRA				S	**S**	**14 06 27.0**	**-0.7**	
	comp=Z,0.2nm,0.8s,baz=102,slow=12,SNR=1.6							
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**14 00 32.3**	**-1.0**
AS31	**Alice Springs**	**44.47**	**254**	P	**P**	**14 00 34.6**	**-0.1**
AS31				IAmb	IAmb	14 00 35.2		
	comp=Z,19nm,0.6s							
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**14 00 34.6**	**0.0**
	comp=Z,48nm,0.5s,baz=89,slow=7.9,SNR=2087							
ASAR				ScP	**ScP**	**14 05 09.8**	**+3.6**	
	comp=Z,0.9nm,0.7s,baz=84,slow=4.4,SNR=5.9							
ASAR				S	**S**	**14 06 29.4**	**-0.9**	
	comp=Z,1.2nm,0.8s,baz=88,slow=16,SNR=9.4							
SMPI	**Sarmi**	**44.52**	**286**	P	**P**	**14 00 36.3**	**+1.2**
	comp=Z,21nm,1.0s							
MTN	**Manton Dam**	**48.42**	**268**	P	**P**	**14 01 04.3**	**-0.3**
MTN				IAmb	IAmb	14 01 05.3		
	comp=Z,13nm,0.8s							
FORT	**Forrest**	**49.74**	**244**	P	**P**	**14 01 13.9**	**-0.2**
FORT				IAmb	IAmb	14 01 14.6		
	comp=Z,26nm,0.6s							
KNRA	**Kununurra**	**50.12**	**264**	P	**P**	**14 01 16.9**	**-0.2**
KNRA				IAmb	IAmb	14 01 17.8		
	comp=Z,23nm,0.7s							
SIJI	**Sorong**	**51.81**	**283**	P	**P**	**14 01 29.9**	**+0.4**
	comp=Z,36nm,0.5s							
FITZ	**Fitzroy Crossi**	**52.68**	**260**	P	**P**	**14 01 36.0**	**+0.5**
PSA00	**Pilbara Seismi**	**57.59**	**255**	P	**P**	**14 02 09.4**	**-0.3**
PSA00	**Pilbara Seismi**	**57.59**	**255**	P	**P**	**14 02 09.2**	**-0.6**
PSA00				IAmb	IAmb	14 02 10.5		
	comp=Z,4.1nm,0.8s							
MORW	**Morawa**	**60.21**	**246**	P	**P**	**14 02 27.4**	**+0.2**
MORW				IAmb	IAmb	14 04 10.5		
	comp=Z,26nm,1.4s							
TOLI2	**Tolitoli**	**62.30**	**281**	P	**P**	**14 02 41.3**	**+0.1**
GIRL	**Giralia**	**62.58**	**253**	P	**P**	**14 02 43.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**65.66**	**269**	P	**P**	**14 03 01.5**	**-1.0**
JAGI				IAmb	IAmb	14 03 02.2		
	comp=Z,15nm,0.9s							
MJAR	**Matsushiro Arr**	**67.52**	**324**	P	**P**	**14 03 13.7**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=161,slow=5.9,SNR=4.7							
MJAR	**Matsushiro Arr**	**67.52**	**324**	P	**P**	**14 03 13.8**	**+0.3**
MAJO	**Matsushiro**	**67.52**	**324**	P	**P**	**14 03 13.7**	**+0.2**
MAJO				IAmb	IAmb	14 03 22.4		
	comp=Z,54nm,1.9s							
MJB9	**Matsu-Tunnel**	**67.52**	**324**	P	**P**	**14 03 13.6**	**+0.1**
MJB9				IAmb	IAmb	14 03 22.4		
	comp=Z,52nm,1.8s							
KKM	**Kota Kinabalu**	**68.32**	**284**	P	**P**	**14 03 19.5**	**+0.5**
KKM				IAmb	IAmb	14 04 13.7		
	comp=Z,30nm,1.3s							
UGM	**Wanagama**	**69.27**	**268**	P	**P**	**14 03 24.8**	**+0.1**
JHS	**Saijyo**	**69.50**	**319**	P	**P**	**14 03 26.5**	**+1.0**
SSLB	**Suanglung**	**71.81**	**303**	P	**P**	**14 03 38.9**	**-0.4**
TPUB	**Ta-pu**	**71.83**	**303**	P	**P**	**14 03 39.0**	**-0.5**
KSM	**Kuching**	**72.28**	**277**	P	**P**	**14 03 42.2**	**-0.1**
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**14 03 42.7**	**+0.9**
QSPA				IAmb	IAmb	14 03 43.6		
	comp=Z,12nm,0.9s							
PET	**Petropavlovsk**	**73.09**	**346**	P	**P**	**14 03 46.1**	**+0.1**
PETK	**Petropavlovsk-**	**73.39**	**345**	P	**P**	**14 03 48.0**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=129,slow=5.9,SNR=5.0							
KSRS	**Korea Array**	**74.30**	**319**	P	**P**	**14 03 54.5**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=122,slow=6.7,SNR=3.4							
USRK	**Ussuriysk Ar.**	**76.23**	**326**	P	**P**	**14 04 05.8**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=208,slow=33,SNR=4.0							
KRPM	**Rodgers**	**77.48**	**39**	P	**P**	**14 04 08.6**	**-2.3**
LCH	**Last Change Ra**	**79.36**	**45**	P	**P**	**14 04 21.9**	**+0.8**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**14 04 23.0**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=229,slow=8.8,SNR=6.6							
KVN	**Kaiserville**	**80.02**	**44**	P	**P**	**14 04 24.8**	**+0.2**
UBPT	**Khong Chiam**	**81.50**	**289**	P	**P**	**14 04 33.0**	**+0.5**
UBPT				IAmb	IAmb	14 07 27.6		
	comp=Z,29nm,1.9s							
BELA	**Belgrano 2**	**82.41**	**173**	P	**P**	**14 04 36.1**	**+0.1**
BELA				IAmb	IAmb	14 04 36.6		
	comp=Z,8.5nm,0.6s							
U15A	**North Rim**	**82.67**	**48**	P	**P**	**14 04 39.5**	**+1.1**
K20K	**Telida**	**83.08**	**11**	P	**P**	**14 04 40.0**	**+0.6**
K20K				IAmb	IAmb	14 06 31.2		
	comp=Z,33nm,1.9s							
SEY	**Seymchan**	**83.50**	**347**	P	**P**	**14 04 41.5**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=136,slow=6.4,SNR=24							
N25K	**Chitina, Valde**	**83.61**	**16**	P	**P**	**14 04 42.4**	**+0.2**
N25K				IAmb	IAmb	14 07 04.6		
	comp=Z,36nm,1.6s							
BCPM	**Bancas Point**	**83.65**	**19**	P	**P**	**14 04 42.6**	**+0.3**
GLB	**Gilahina Butte**	**83.68**	**16**	P	**P**	**14 04 42.7**	**+0.2**
GLB				IAmb	IAmb	14 05 18.3		
	comp=Z,33nm,1.6s							
J20K	**Nowinta River**	**83.82**	**11**	P	**P**	**14 04 43.6**	**+0.5**
MAW	**Mawson**	**83.92**	**200**	P	**P**	**14 04 44.4**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=125,slow=12,SNR=2.0							
RND	**Reindeer**	**84.16**	**13**	P	**P**	**14 04 45.0**	**+0.1**
RND				IAmb	IAmb	14 06 27.7		
	comp=Z,51nm,1.9s							
WRH	**Wood River Hil**	**85.26**	**13**	P	**P**	**14 04 49.7**	**-0.4**
WRH				IAmb	IAmb	14 07 57.2		
	comp=Z,25nm,1.9s							
HDA	**Harding Lake**	**85.45**	**13**	P	**P**	**14 04 51.2**	**+0.1**
HDA				IAmb	IAmb	14 08 05.6		
	comp=Z,20nm,1.7s							
CCB	**Clear Creek Bu**	**85.48**	**13**	P	**P**	**14 04 50.4**	**-0.7**
CCB				IAmb	IAmb	14 06 00.9		
	comp=Z,23nm,2.0s							
IL31		**85.78**	**13**	P	**P**	**14 04 52.4**	**-0.1**
IL31				IAmb	IAmb	14 04 59.6		
	comp=Z,17nm,1.6s							
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**14 04 52.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=227,slow=5.2,SNR=7.7							
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**14 04 57.2**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=219,slow=5.9,SNR=13							
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**14 04 56.6**	**+1.0**
PDAR	**Pinedale Array**	**87.47**	**44**	P	**P**	**14 05 01.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=203,slow=3.5,SNR=3.7							
CMAR	**Chiang Mai Arr**	**88.45**	**290**	P	**P**	**14 05 07.5**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=110,slow=2.6,SNR=7.8							
PLCA	**Paso Flores**	**91.75**	**134**	P	**P**	**14 05 22.9**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=232,slow=14,SNR=1.8							
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	**PKPab**	**14 11 46.4**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=105,slow=3.3,SNR=7.2							
BRTR	**Keskin Array B**	**144.37**	**315**	PKPbc	**PKPdf**	**14 11 45.9**	**0.0**
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc	**PKPbc**	**14 11 54.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=15,slow=5.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**175.44**	**186**	PKPab	**PKPab**	**14 14 01.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=212,slow=2.1,SNR=1.9							

*IDC **20** 14:00:20.3±1.4, 35°.20N×139°.30E, h135km±6km, mb3.0/4, mb1 3.2/6, mb1mx3.0/40, mbtmp3.5/6, Error ellipse: s-maj=52.1km s-min=6.5km az=68.0*

*JMA **20** 14:00:20.9±0.2, 35°.34N×139°.60E, h134km±2km, M3.2*

ISC 20 14:00:20.1±0.9, 35°.30N±0°.05×139°.53E±0°.07, h143km±6km, n22, σ0°973/31, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYO	**Yokosk**	**0.13**	**124**	P	**Pn**	**14 00 39.8**	**+0.5**
JYO				*e*S	**Sn**	**14 00 53.8**	**-0.1**
JOD2	**Odawara 2**	**0.36**	**265**	P	**Pn**	**14 00 39.9**	**-0.1**
JOD2				S	**Sn**	**14 00 54.6**	**-0.5**
TATJ	**Tateyama 2**	**0.40**	**132**	P	**Pn**	**14 00 40.5**	**+0.4**
TATJ				*e*S	**Sn**	**14 00 55.0**	**-0.2**
JIM2	**Oshima 3**	**0.59**	**188**	P	**Pn**	**14 00 40.6**	**-0.5**
JIM2				S	**Sn**	**14 00 55.8**	**-1.3**
JFNN	**Fujinakano**	**0.70**	**262**	P	**Pn**	**14 00 42.4**	**+0.6**
JFNN				S	**Sn**	**14 00 58.8**	**+0.5**
JIZS	**Izushimoda**	**0.79**	**223**	P	**Pn**	**14 00 42.9**	**+0.5**
JIZS				S	**Sn**	**14 00 59.5**	**+0.1**
JYN	**Shimob**	**0.83**	**284**	P	**Pn**	**14 00 43.5**	**+0.7**
JRY	**Ryogami san**	**0.88**	**325**	P	**Pn**	**14 00 43.8**	**+0.6**
BSO3	**Boso 3**	**0.94**	**121**	P	**Pn**	**14 00 43.6**	**+0.3**
BSO3				S	**Sn**	**14 01 01.2**	**+0.2**
JAG	**Ashikaga**	**1.13**	**357**	P	**Pn**	**14 00 45.3**	**0.0**
JAG				S	**Sn**	**14 01 03.5**	**-1.1**
BSO1	**Boso 1**	**1.35**	**118**	P	**Pn**	**14 00 47.0**	**+0.1**
BSO1				S	**Sn**	**14 01 07.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.64**	**319**	P	**Pn**	**14 00 49.9**	**-0.7**
	1.2nm,0.3s,baz=151,slow=9.9,SNR=76						
MJAR				S	**Sn**	**14 01 12.1**	**-1.9**
	1.5nm,0.3s,baz=145,slow=15,SNR=12						
MAT	**Matsushiro**	**1.64**	**319**	P	**Pn**	**14 00 50.9**	**+0.3**
MAT				S	**Sn**	**14 01 14.0**	**-0.1**
JHJ	**Hachijo jima 2**	**2.18**	**174**	P	**Pn**	**14 00 56.8**	**-0.1**
	92nm,0.3s,baz=300,slow=20,SNR=23						
JHJ				S	**Sn**	**14 01 23.8**	**-1.5**
	29nm,0.3s,baz=73,slow=23,SNR=6.7						
KLR	**Kul'dur**	**15.05**	**340**	P	**Pn**	**14 03 44.7**	**-0.5**
	0.3nm,0.3s,baz=168,slow=10,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.67**	**116**	T	T	14 36 09.1	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.68**	**116**	T	T	14 36 10.4	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**28.69**	**116**	T	T	14 36 11.5	
	baz=309						
ZALV	**Zalesovo Beam**	**41.99**	**314**	P	**P**	**14 07 57.6**	**+0.8**
	0.4nm,0.3s,baz=106,slow=9.6,SNR=2.9						
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**14 08 12.2**	**+0.9**
	0.1nm,0.4s,baz=84,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**55.16**	**186**	P	**P**	**14 09 37.6**	**-0.2**
	0.4nm,0.5s,baz=2.8,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**58.88**	**186**	P	**P**	**14 10 03.6**	**-0.3**
	0.2nm,0.8s,baz=7.6,slow=7.7,SNR=5.3						

IDC 20 14:13:38.6±3.9, 34°.01N×91°.99E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/37, mbtmp3.3/6, ML4.0/1, Error ellipse: s-maj=200.9km s-min=26.0km az=73.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.68**	**156**	Pn	Pn	14 17 35.1	+1.2
	0.2nm,0.3s,baz=328,slow=12,SNR=1.6						
ZALV	**Zalesovo Beam**	**20.57**	**348**	P	P	14 18 19.1	+0.2
	0.3nm,0.3s,baz=160,slow=9.1,SNR=1.7						
WRA	**Warramunga Arr**	**67.12**	**137**	P	P	14 24 34.6	+0.4
	0.1nm,0.7s,baz=303,slow=10.0,SNR=1.4						
ASAR	**Alice Springs**	**69.84**	**139**	P	P	14 24 50.6	-0.7
	0.4nm,0.9s,baz=321,slow=6.4,SNR=2.6						
ILAR	**Eielson Array**	**71.40**	**23**	P	P	14 25 00.5	+0.3
	0.2nm,0.6s,baz=285,slow=5.2,SNR=1.9						
YKA	**Yellowknife Ar**	**81.48**	**12**	P	P	14 25 57.2	-0.2
	0.2nm,0.6s,baz=331,slow=6.1,SNR=2.0						

*KRSC **20** 15:18:44.6±1.0, 53°.81N×159°.12E, h185km±11km, ML4.6*

*MOS **20** 15:18:45.5±0.8, 53°.93N×158°.66E, h180km, mb4.3/32, Error ellipse: s-maj=9.0km s-min=3.8km az=80.1*

*NEIC **20** 15:18:46.4±1.4, 54°.02N±0°.08×158°.6E±0°.1, h171km±5km, mb4.4/170, Error ellipse: s-maj=12.9km s-min=10.4km az=140.0*

*IDC **20** 15:18:46.9±0.6, 54°.03N×158°.56E, h173km±6km, mb3.6/24, mb1 3.8/27, mb1mx3.7/48, mbtmp4.1/27, Error ellipse: s-maj=11.4km s-min=9.2km az=141.0*

ISC 20 15:18:46.2±0.4, 53°.91N±0°.04×158°.86E±0°.04, h175km±4km, n394, σ1°18/425, mb4.3/136, 28C-8D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.37**	**71**	PN	**Pn**	**15 19 10.2**	**+0.2**
KII	**Karymskiy**	**0.37**	**71**	*e*P	**Pn**	**15 19 10.2**	**+0.2**
GNL	**Ganaly**	**0.58**	**248**	PN	**Pn**	**15 19 11.4**	**+0.5**
GNL				S	**Sn**	**15 19 30.5**	**+0.6**
GNL	**Ganaly**	**0.58**	**248**	*e*P	**Pn**	**15 19 11.4**	**+0.5**
GNL				*e*S	**Sn**	**15 19 30.5**	**+0.6**
KRER	**Koryakskii**	**0.61**	**186**	PN	**Pn**	**15 19 11.7**	**+0.5**
KRER	**Koryakskii**	**0.61**	**186**	*e*P	**Pn**	**15 19 11.7**	**+0.5**
KOK	**Koryaka**	**0.64**	**192**	PN	**Pn**	**15 19 11.8**	**+0.6**
KOK	**Koryaka**	**0.64**	**192**	*e*P	**Pn**	**15 19 11.8**	**+0.6**
SDLR	**Sedlovina**	**0.64**	**178**	PN	**Pn**	**15 19 11.5**	**+0.3**
SDLR	**Sedlovina**	**0.64**	**178**	*e*P	**Pn**	**15 19 11.5**	**+0.3**
SMAR	**Somma**	**0.65**	**183**	PN	**Pn**	**15 19 11.8**	**+0.4**
SMAR	**Somma**	**0.65**	**183**	*e*P	**Pn**	**15 19 11.8**	**+0.4**
AVH	**Avacha**	**0.65**	**186**	PN	**Pn**	**15 19 11.8**	**+0.5**
AVH	**Avacha**	**0.65**	**186**	*e*P	**Pn**	**15 19 11.8**	**+0.5**
UGLR	**Uglovaya**	**0.71**	**182**	PN	**Pn**	**15 19 12.1**	**+0.5**
UGLR	**Uglovaya**	**0.71**	**182**	*e*P	**Pn**	**15 19 12.1**	**+0.5**
NLC	**Nalytchevo**	**0.80**	**158**	PN	**Pn**	**15 19 11.7**	**-0.3**
NLC	**Nalytchevo**	**0.80**	**158**	*e*P	**Pn**	**15 19 11.7**	**-0.3**
DALK	**Dalny**	**0.89**	**184**	PN	**Pn**	**15 19 12.6**	**0.0**
DALK	**Dalny**	**0.89**	**184**	*e*P	**Pn**	**15 19 12.6**	**0.0**
PET	**Petropavlovsk**	**0.90**	**188**	*ik*PN	**Pn**	**15 19 12.8**	**+0.1**
PET				*i* S	**Sn**	**15 19 33.0**	**0.0**
PET				pmax	pmax		
	comp=Z,2μm,0.6s						
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax	smax		
	comp=E,449nm,0.7s						
PET				smax	smax		
	comp=N,1μm,0.9s						
PET	**Petropavlovsk**	**0.90**	**188**	Pn	**Pn**	**15 19 12.5**	**-0.1**
PET				Sn	**Sn**	**15 19 32.3**	**-0.7**
PET	**Petropavlovsk**	**0.90**	**188**	*e*P	**Pn**	**15 19 12.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.06**	**221**	*d*PN	**Pn**	**15 19 14.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.06**	**221**		**Pn**	**15 19 13.8**	**-0.1**
PETK	**Petropavlovsk-**	**1.06**	**221**	P	**Pn**	**15 19 13.6**	**-0.3**
	comp=N,67nm,0.3s,baz=74,slow=11,SNR=421						
PETK				S	**Sn**	**15 19 35.7**	**+0.5**
	comp=N,11nm,0.3s,baz=50,slow=25,SNR=4.1						
PETK	**Petropavlovsk-**	**1.06**	**221**	Pn	**Pn**	**15 19 13.1**	**-0.8**
SPN	**Mys Shipunski**	**1.07**	**139**	PN	**Pn**	**15 19 12.9**	**-1.1**
SPN				S	**Sn**	**15 19 33.0**	**-2.3**
SPN	**Mys Shipunski**	**1.07**	**139**	*e*P	**Pn**	**15 19 12.9**	**-1.1**
SPN				*e*S	**Sn**	**15 19 33.0**	**-2.3**
KRMR	**Karymshinskiy**	**1.17**	**202**	PN	**Pn**	**15 19 15.0**	**+0.3**
KRMR				S	**Sn**	**15 19 37.3**	**+0.6**
KRMR	**Karymshinskiy**	**1.17**	**202**	*e*P	**Pn**	**15 19 15.0**	**+0.3**
KRMR				*e*S	**Sn**	**15 19 37.3**	**+0.6**
APC	**Apacha**	**1.42**	**226**	PN	**Pn**	**15 19 17.8**	**+0.9**
APC				S	**Sn**	**15 19 41.9**	**+1.2**
APC	**Apacha**	**1.42**	**226**	*e*P	**Pn**	**15 19 17.8**	**+0.9**
APC				*e*S	**Sn**	**15 19 41.9**	**+1.2**
GRL	**Gorelyy**	**1.44**	**199**	PN	**Pn**	**15 19 18.1**	**+0.8**
GRL				S	**Sn**	**15 19 43.3**	**+1.9**
GRL	**Gorelyy**	**1.44**	**199**	*e*P	**Pn**	**15 19 18.1**	**+0.8**
GRL				*e*S	**Sn**	**15 19 43.3**	**+1.9**
MTVR	**Mutnovka**	**1.49**	**196**	PN	**Pn**	**15 19 18.3**	**+0.5**
MTVR				S	**Sn**	**15 19 44.7**	**+2.5**
MTVR	**Mutnovka**	**1.49**	**196**	*e*P	**Pn**	**15 19 18.3**	**+0.5**
MTVR				*e*S	**Sn**	**15 19 44.7**	**+2.5**
RUS	**Russkaya**	**1.50**	**188**	PN	**Pn**	**15 19 17.2**	**-0.5**
RUS				S	**Sn**	**15 19 40.5**	**-1.5**
RUS	**Russkaya**	**1.50**	**188**	*e*P	**Pn**	**15 19 17.2**	**-0.5**
RUS				*e*S	**Sn**	**15 19 40.5**	**-1.5**
TUMR	**Tumrok**	**1.56**	**28**	PN	**Pn**	**15 19 19.0**	**+0.6**
TUMR	**Tumrok**	**1.56**	**28**	*e*P	**Pn**	**15 19 19.6**	**+1.2**
TUMD	**Tumrok D**	**1.57**	**34**	*e*P	**Pn**	**15 19 19.0**	**+0.6**
KMNR	**Kamenistaya**	**2.01**	**23**	PN	**Pn**	**15 19 24.2**	**+1.2**
KMNR	**Kamenistaya**	**2.01**	**23**	*e*P	**Pn**	**15 19 24.2**	**+1.2**
ESO	**Esso**	**2.02**	**358**	PN	**Pn**	**15 19 24.9**	**+1.9**
ESO	**Esso**	**2.02**	**358**	*e*P	**Pn**	**15 19 24.9**	**+1.9**
MIPR	**Malaya Ipel'ka**	**2.07**	**218**	PN	**Pn**	**15 19 24.4**	**+0.7**
MIPR	**Malaya Ipel'ka**	**2.07**	**218**	*e*P	**Pn**	**15 19 24.4**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.16**	**193**	PN	**Pn**	**15 19 23.7**	**-1.0**
KDTR				S	**Sn**	**15 19 51.8**	**-2.7**
KDTR	**Khodutka, Kamc**	**2.16**	**193**	*e*P	**Pn**	**15 19 23.7**	**-1.0**
KDTR				*e*S	**Sn**	**15 19 51.8**	**-2.7**
KPT	**Kopyto**	**2.20**	**20**	PN	**Pn**	**15 19 25.8**	**+0.6**
KPT	**Kopyto**	**2.20**	**20**	*e*P	**Pn**	**15 19 25.8**	**+0.6**
KIRR	**Kirishev**	**2.22**	**22**	PN	**Pn**	**15 19 26.1**	**+0.7**
KIRR	**Kirishev**	**2.22**	**22**	*e*P	**Pn**	**15 19 26.1**	**+0.7**
KOZ	**Kozyrevsk**	**2.23**	**15**	PN	**Pn**	**15 19 27.6**	**+2.2**
KOZ	**Kozyrevsk**	**2.23**	**15**	*e*P	**Pn**	**15 19 27.6**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.26**	**24**	PN	**Pn**	**15 19 26.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.26**	**24**	*e*P	**Pn**	**15 19 26.9**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.29**	**27**	PN	**Pn**	**15 19 27.3**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**2.29**	**27**	*e*P	**Pn**	**15 19 27.3**	**+1.1**
ZLN	**Zelenaya**	**2.39**	**27**	PN	**Pn**	**15 19 28.8**	**+1.5**
ZLN	**Zelenaya**	**2.39**	**27**	*e*P	**Pn**	**15 19 28.8**	**+1.5**
LGNR	**Loginova**	**2.42**	**25**	PN	**Pn**	**15 19 29.3**	**+1.5**
LGNR	**Loginova**	**2.42**	**25**	*e*P	**Pn**	**15 19 29.3**	**+1.5**
CIRR	**Tsirk**	**2.46**	**26**	PN	**Pn**	**15 19 29.6**	**+1.4**
CIRR	**Tsirk**	**2.46**	**26**	*e*P	**Pn**	**15 19 29.6**	**+1.4**
KRSR	**Krestovskiy**	**2.51**	**22**	PN	**Pn**	**15 19 29.3**	**+0.6**
KRSR	**Krestovskiy**	**2.51**	**22**	*e*P	**Pn**	**15 19 29.3**	**+0.6**
KLY	**Klyuchi**	**2.62**	**22**	PN	**Pn**	**15 19 31.3**	**+1.5**
KLY	**Klyuchi**	**2.62**	**22**	*e*P	**Pn**	**15 19 31.3**	**+1.5**
PAU	**Pauzhetka**	**2.75**	**208**	PN	**Pn**	**15 19 32.2**	**+0.7**
PAU	**Pauzhetka**	**2.75**	**208**	*e*P	**Pn**	**15 19 32.2**	**+0.7**
BDR	**Baidarnaya**	**2.98**	**26**	PN	**Pn**	**15 19 35.7**	**+1.4**
BDR	**Baidarnaya**	**2.98**	**26**	*e*P	**Pn**	**15 19 35.7**	**+1.4**
SRKR	**Sorokina**	**3.05**	**25**	PN	**Pn**	**15 19 36.3**	**+1.2**
SRKR	**Sorokina**	**3.05**	**25**	*e*P	**Pn**	**15 19 36.3**	**+1.2**
SMKR	**Semkarok**	**3.06**	**28**	PN	**Pn**	**15 19 36.3**	**+1.0**
SMKR	**Semkarok**	**3.06**	**28**	*e*P	**Pn**	**15 19 36.3**	**+1.0**
KBG	**Krutoberegovo**	**3.22**	**42**	PN	**Pn**	**15 19 37.0**	**-0.2**
KBG	**Krutoberegovo**	**3.22**	**42**	*e*P	**Pn**	**15 19 37.0**	**-0.2**
KBTR	**Krutoberegovo**	**3.24**	**43**	PN	**Pn**	**15 19 37.0**	**-0.4**
KBTR	**Krutoberegovo**	**3.24**	**43**	*e*P	**Pn**	**15 19 37.0**	**-0.4**
SKR	**Severo-Kuril's**	**3.65**	**209**	*e*PN	**Pn**	**15 19 42.9**	**+0.3**
SKR				*e*S	**Sn**	**15 20 26.0**	**-0.6**
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR				smax	smax		
	comp=N,205nm,0.5s						
SKR				smax	smax		
	comp=E,445nm,0.4s						
SKR	**Severo-Kuril's**	**3.65**	**209**	*e*P	**Pn**	**15 19 42.9**	**+0.3**
SKR				*e*S	**Sn**	**15 20 26.0**	**-0.6**
BKI	**Bering**	**4.34**	**70**	PN	**Pn**	**15 19 50.6**	**-0.7**
BKI	**Bering**	**4.34**	**70**	*e*P	**Pn**	**15 19 50.6**	**-0.7**
BKI				*e*S	**Sn**	**15 20 36.5**	**-5.9**
PALN	**Palana**	**5.22**	**6**	PN	**Pn**	**15 20 04.0**	**+1.2**
PALN	**Palana**	**5.22**	**6**	*e*P	**Pn**	**15 20 04.0**	**+1.2**
OSSR	**Ossora**	**5.83**	**22**	PN	**Pn**	**15 20 11.7**	**+1.0**
OSSR	**Ossora**	**5.83**	**22**	*e*P	**Pn**	**15 20 11.7**	**+1.0**
SMY	**Shemya**	**9.20**	**91**	PN	**Pn**	**15 20 59.0**	**+3.9**
SMY	**Shemya**	**9.20**	**91**	Pn	**Pn**	**15 20 59.0**	**+3.9**
SEY	**Seymchan**	**9.65**	**342**	P	**Pn**	**15 21 01.4**	**+0.4**
	comp=E,0.1nm,0.3s,baz=163,slow=19,SNR=2.1						
SHO	**Shikotan**	**12.77**	**223**	*e*PN	Pn	15 21 36.2	-5.2
JKA	**Kamikawa-asahi**	**14.45**	**234**	P	**P**	**15 22 04.6**	**+0.2**
ASAJ	**Asahikawa**	**14.46**	**234**	P	**P**	**15 22 04.0**	**-0.4**
	comp=E,1.2nm,0.3s,baz=64,slow=7.2,SNR=12						
ASAJ	**Asahikawa**	**14.46**	**234**	P	**P**	**15 22 04.6**	**+0.2**
BILL	**Bilibino**	**14.60**	**11**	*de*P	**P**	**15 22 07.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,2.5s						
BILL	**Bilibino**	**14.60**	**11**		**Pn**	**15 22 05.0**	**+0.8**
**ERM

CTGM Chitina Glacier 31.91 53 P **P** **15 24 56.3 +1.5**
DAWY Dawson 32.09 47 P **P** **15 24 56.9 +0.7**
DAWY IAmb IAmb 15 25 14.2
comp=Z,9.8nm,1.5s
SONM Songino Array 33.00 281 P **P** **15 25 04.2 -0.2**
comp=Z,0.8nm,0.4s,baz=66,slow=7.9,SNR=5.8
SONM PcP **PcP** **15 27 44.3 +0.4**
comp=Z,0.5nm,0.5s,baz=55,slow=5.6,SNR=4.7
M30M Minto, Yukon 33.57 49 P **P** **15 25 10.8 +1.7**
INK Inuvik 33.67 38 P **P** **15 25 11.2 +1.5**
comp=Z,2.7nm,0.3s,baz=289,slow=6.2,SNR=13
INK Inuvik 33.67 38 P **P** **15 25 11.3 +1.5**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 33.67 38 P **P** **15 25 11.2 +1.5**
INK IAmb IAmb 15 25 11.7
comp=Z,3.7nm,0.6s
HYT Haines Junctio 33.74 52 P **P** **15 25 12.7 +2.0**
HYT IAmb IAmb 15 25 33.2
comp=Z,9.1nm,1.4s
HHC Hu-ho-hao-te 33.93 267 *eP* **P** **15 25 11.1 -1.4**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.0s
M31M Drury Creek, Y 34.75 49 P **P** **15 25 21.2 +2.0**
M31M IAmb IAmb 15 25 22.6
comp=Z,3.9nm,0.8s
WHY Whitehorse 35.02 52 P **P** **15 25 23.5 +1.9**
WHY IAmb IAmb 15 25 34.2
comp=Z,13nm,1.5s
A36M Sachs Harbour 35.80 31 P **P** **15 25 29.3 +1.4**
A36M IAmb IAmb 15 25 30.4
comp=Z,6.5nm,0.8s
P33M Teslin, Yukon 36.13 52 P **P** **15 25 33.1 +2.0**
EUNU Eureka 41.33 14 P **P** **15 26 14.9 +0.9**
EUNU IAmb IAmb 15 26 15.8
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 41.71 301 P **P** **15 26 16.1 -1.3**
comp=Z,0.5nm,0.3s,baz=63,slow=9.0,SNR=4.9
ZALV PcP **PcP** **15 28 10.6 +0.3**
comp=Z,0.9nm,0.5s,baz=71,slow=3.3,SNR=5.3
GTA Gaotai 41.79 275 *eP* **P** **15 26 18.8 +0.5**
GTA pP pP 15 26 53.4 -3.0
GTA sP sP 15 27 13.9 -2.4
GTA pmax pmax
comp=Z,4.0nm,1.3s
RES Resolute Bay 42.84 22 P **P** **15 26 27.2 +1.1**
RES pmax pmax
comp=Z,4.0nm,0.5s
RES Resolute Bay 42.84 22 P **P** **15 26 27.2 +1.1**
RES IAmb IAmb 15 26 27.9
comp=Z,4.3nm,0.5s
YKA Yellowknife Ar 43.06 43 P **P** **15 26 29.3 +1.3**
comp=Z,0.9nm,0.4s,baz=300,slow=7.7,SNR=17
YKA PcP **PcP** **15 28 15.6 +1.0**
comp=Z,0.2nm,0.5s,baz=302,slow=3.5,SNR=2.9
WMQ Urumqi 46.01 288 *eP* **P** **15 26 52.5 +0.8**
SPITS Spitsbergen Ar 46.20 350 P **P** **15 26 52.2 -0.5**
SPITS pmax pmax
comp=Z,39nm,1.4s
SPB2 Spitsbergen Ar 46.20 350 P **P** **15 26 52.4 -0.3**
TULEG Thule 46.33 14 P **P** **15 26 53.1 -0.6**
TULEG IAmb IAmb 15 27 09.6
comp=Z,10nm,1.4s
KURK Kurchatov 46.67 301 P **P** **15 26 55.7 -1.0**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 46.67 301 P **P** **15 26 55.7 -1.0**
KURK IAmb IAmb 15 26 56.5
comp=Z,8.8nm,0.8s
MK31 Makanchi Array 47.14 294*c iP* **P** **15 26 59.3 -1.1**
MK31 Makanchi Array 47.14 294 P **P** **15 26 59.1 -1.3**
MKAR Makanchi Array 47.14 294 P **P** **15 26 59.5 -0.9**
comp=Z,2.1nm,0.6s,baz=57,slow=7.5,SNR=35
MKAR PcP **PcP** **15 28 28.7 -0.4**
comp=Z,0.5nm,0.6s,baz=53,slow=3.6,SNR=4.1
MKAR Makanchi Array 47.14 294 P **P** **15 26 59.2 -1.2**
MAKZ Makanchi 47.30 294 P **P** **15 27 00.5 -1.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 47.30 294 P **P** **15 27 00.5 -1.1**
EDM Edmonton 48.86 53 P **P** **15 27 15.2 +1.6**
EDM pmax pmax
comp=Z,4.0nm,0.5s
EDM Edmonton 48.86 53 P **P** **15 27 15.2 +1.6**
EDM IAmb IAmb 15 27 15.5
comp=Z,4.2nm,0.5s
BRVK Borovoye 49.33 307*d iP* **P** **15 27 15.8 -1.3**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 49.33 307 P **P** **15 27 16.1 -1.0**
PZH PanZhiHua 49.78 260 P **P** **15 27 22.3 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,7.5s
DBO Dodson Butte 50.22 69 P **P** **15 27 24.8 +0.9**
DBO IAmb IAmb 15 27 49.6
comp=Z,19nm,1.5s
WALA Waterton Lakes 51.24 57 P **P** **15 27 33.1 +1.5**
KEV Kevo 51.80 341 P **P** **15 27 34.2 -1.0**
KEV pmax pmax
comp=Z,43nm,1.3s
KEV Kevo 51.80 341 P **P** **15 27 34.2 -1.0**
JTMT Jette 51.92 59 P **P** **15 27 38.9 +2.2**
JTMT IAmb IAmb 15 27 39.2
comp=Z,2.6nm,0.5s
ARCES ARCESS Array B 52.27 341 P **P** **15 27 37.8 -0.9**
comp=Z,1.1nm,0.4s,baz=28,slow=8.0,SNR=18
ARCES ARCESS Array B 52.27 341 P **P** **15 27 37.9 -0.9**
ARCES pmax pmax
comp=Z,15nm,1.5s
ARCES ARCESS Array B 52.27 341 P **P** **15 27 37.9 -0.9**
ARCES IAmb IAmb 15 27 50.0
comp=Z,15nm,1.5s
ARU Arti 52.29 316*c iP* **P** **15 27 38.6 -0.5**
ARU 15 29 35.0
ARU S **S** **15 34 49.9 -0.3**
ARU SS **SS** **15 38 24.5 -4.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 52.29 316 P **P** **15 27 38.5 -0.6**
ARU IAmb IAmb 15 27 39.7
comp=Z,5.1nm,0.5s
PLID Pearl Lake 52.80 62 P **P** **15 27 44.9 +1.6**
FCC Fort Churchill 53.30 38 P **P** **15 27 47.2 +0.8**
FCC pmax pmax
comp=Z,3.0nm,0.6s
FCC Fort Churchill 53.30 38 P **P** **15 27 47.2 +0.8**
FCC IAmb IAmb 15 27 47.6
comp=Z,3.0nm,0.6s
BOOM Boomskoye usch 53.38 294 P **P** **15 27 47.1 -0.4**
BOOM pmax pmax
comp=Z,2.0nm,0.8s
BOOM Boomskoye usch 53.38 294 P **P** **15 27 47.1 -0.4**
ORV Oroville 53.59 71 P **P** **15 27 50.1 +1.3**
ORV pmax pmax
comp=Z,5.0nm,1.5s
ORV Oroville 53.59 71 P **P** **15 27 50.1 +1.3**
HRY Holter Researc 53.85 58 P **P** **15 27 51.8 +1.0**
AAK Ala-Archa 54.05 295*ceP* **P** **15 27 52.0 -0.4**
AAK *i* *PP **pP** **15 28 28.3 -4.2**
AAK pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 54.05 295 P **P** **15 27 51.2 -1.2**
MCMT McKenzie Canyo 54.62 61 P **P** **15 27 57.4 +0.8**
BCYI Bear Canyon 54.69 62 P **P** **15 27 58.1 +1.1**
BOZ Bozeman (W) 54.72 59 P **P** **15 27 58.9 +1.8**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 54.72 59 P **P** **15 27 58.9 +1.8**
KSH Kashi 55.41 291 P **P** **15 28 05.0 +2.9**
KSH pmax pmax
comp=Z,3.0nm,0.8s
GCMT Greycliff 55.57 58 P **P** **15 28 05.2 +2.0**
YHH Holmes Hill 55.67 60 P **P** **15 28 05.9 +1.8**
KVN Kaiserville 55.83 69 P **P** **15 28 07.2 +2.0**
KVN pmax pmax
comp=Z,3.0nm,1.3s
KVN Kaiserville 55.83 69 P **P** **15 28 07.2 +2.0**
KKAR Karatay Array 55.84 298 P **P** **15 28 03.2 -1.8**
KKAR Karatay Array 55.84 298 P **P** **15 28 03.2 -1.8**
RYN Ryan 55.89 70 P **P** **15 28 08.1 +2.5**
RYN IAmb IAmb 15 28 12.1
comp=Z,4.8nm,1.5s
SCO Scoresbysund 55.91 0 P **P** **15 28 05.4 +0.4**
SCO pmax pmax
comp=Z,6.0nm,1.2s
SCO Scoresbysund 55.91 0 P **P** **15 28 05.4 +0.4**
SCO IAmb IAmb 15 28 29.3
comp=Z,5.6nm,1.2s
NVAR Mina Array Bea 56.15 70 P **P** **15 28 09.9 +2.4**
comp=Z,0.4nm,0.5s,baz=294,slow=7.2,SNR=7.1
NVAR Mina Array Bea 56.15 70 P **P** **15 28 10.1 +2.6**
REDW Red Top Meadow 56.67 61 P **P** **15 28 13.6 +2.4**
ABKAR Akbulak array 56.70 309 P **P** **15 28 09.3 -1.6**
ABKAR Akbulak array 56.70 309 P **P** **15 28 09.6 -1.3**
ABKAR IAmb IAmb 15 28 10.7
comp=Z,1.1nm,0.9s
PAGB Antelope Grade 56.98 73 P **P** **15 28 13.5 +0.4**
PAGB IAmb IAmb 15 28 32.0
comp=Z,7.6nm,1.1s
SFJD Kangerlussuaq 57.39 13 P **P** **15 28 15.0 -0.4**
SFJD pmax pmax
comp=Z,8.0nm,0.5s
SFJD Kangerlussuaq 57.39 13 P **P** **15 28 15.0 -0.4**
HWUT Hardware Ranch 57.55 63 P **P** **15 28 19.6 +2.3**
GRAC Grapevine Rang 57.70 70 P **P** **15 28 18.1 -0.1**
BW06 Boulder Array 57.76 60 P **P** **15 28 20.5 +1.7**
BW06 IAmb IAmb 15 28 21.3
comp=Z,2.4nm,0.6s
PD31 Pinedale Array 57.76 60 P **P** **15 28 20.5 +1.7**
PD31 IAmb IAmb 15 28 21.3
comp=Z,2.1nm,0.6s
PDAR Pinedale Array 57.76 60 P **P** **15 28 20.9 +2.0**
comp=Z,1.8nm,0.6s,baz=330,slow=2.3,SNR=24
PDAR Pinedale Array 57.76 60 P **P** **15 28 20.6 +1.7**
GWY Greenwater Val 58.67 71 P **P** **15 28 27.3 +2.3**
ULM Lac du Bonnet 58.79 46 P **P** **15 28 26.4 +0.9**
ULM pmax pmax
comp=Z,7.0nm,1.4s
ULM Lac du Bonnet 58.79 46 P **P** **15 28 26.4 +0.9**
ULM IAmb IAmb 15 28 34.4
comp=Z,7.5nm,1.4s
GAR Garm 58.86 294 P **P** **15 28 24.9 -1.4**
GAR IAmb IAmb 15 28 26.3
comp=Z,5.7nm,0.8s
FIA1 FINESS Array S 59.07 336 P **P** **15 28 26.8 -0.3**
FIA1 IAmb IAmb 15 28 44.1
comp=Z,13nm,1.2s
FINES FINESS Array B 59.07 336 P **P** **15 28 26.8 -0.4**
comp=Z,1.1nm,0.3s,baz=32,slow=8.2,SNR=19
RSSD Black Hills 59.56 56 P **P** **15 28 32.5 +1.3**
RSSD pmax pmax
comp=Z,7.0nm,0.6s
RSSD Black Hills 59.56 56 P **P** **15 28 32.5 +1.3**
RSSD IAmb IAmb 15 28 33.7
comp=Z,6.9nm,0.6s
CHGR Chuyangaron 59.73 295 P **P** **15 28 30.9 -1.3**
CHGR IAmb IAmb 15 28 31.9
comp=Z,6.3nm,0.8s
SRU San Rafael Swe 59.90 64 P **P** **15 28 35.7 +2.2**
SRU pmax pmax
comp=Z,3.0nm,0.6s
SRU San Rafael Swe 59.90 64 P **P** **15 28 35.7 +2.2**
SRU IAmb IAmb 15 28 36.5
comp=Z,2.6nm,0.6s
OBN Obninsk 61.42 326⇓ *eP* **P** **15 28 43.7 +0.5**
OBN pmax pmax
comp=Z,4.0nm,0.8s
PV13 Radium Mtn., P 61.50 64 P **P** **15 28 46.6 +2.2**
PV13 IAmb IAmb 15 28 47.2
comp=Z,1.9nm,0.6s
NC303 NORSAR Array S 62.34 343 P **P** **15 28 49.0 -0.3**
NC405 NORSAR Array S 62.39 343 P **P** **15 28 49.3 -0.3**
NC204 NORSAR Array S 62.40 343 P **P** **15 28 49.5 -0.3**
EYMN Ely 62.41 46 P **P** **15 28 49.8 -0.3**
EYMN IAmb IAmb 15 29 06.4
comp=Z,14nm,1.4s
NB201 NORSAR Array S 62.52 343 P **P** **15 28 50.3 -0.3**
NB2 NORSAR Subarra 62.54 343 P **P** **15 28 50.5 -0.2**
comp=Z,1.8nm,0.5s,baz=23,slow=6.9
NOA NORSAR Array B 62.54 343 P **P** **15 28 50.5 -0.2**
comp=Z,2.7nm,0.6s,baz=21,slow=7.2,SNR=16
NBO00 NORSAR Array S 62.62 343 P **P** **15 28 50.8 -0.5**
NC602 NORSAR Array S 62.77 343 P **P** **15 28 51.7 -0.5**
NAO01 NORSAR Array S 62.78 343 P **P** **15 28 51.6 -0.7**
ECSD EROS Data Cent 63.40 52 P **P** **15 28 57.6 +1.0**
ECSD IAmb IAmb 15 29 21.9
comp=Z,4.9nm,1.3s
KONO Kongsberg 64.13 343 P **P** **15 29 00.9 -0.2**
KONO pmax pmax
comp=Z,8.0nm,0.9s
KONO Kongsberg 64.13 343 P **P** **15 29 00.9 -0.2**
KONO IAmb IAmb 15 29 01.5
comp=Z,7.9nm,0.9s
D41A Chassel 64.33 44 P **P** **15 29 03.1 +0.5**
ANMO Albuquerque 65.16 64⇑ *eP* **P** **15 29 10.5 +2.1**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
SCHQ Schefferville 65.26 27 P **P** **15 29 08.2 -0.4**
comp=Z,1.8nm,0.7s,baz=344,slow=5.2,SNR=7.0
SCHQ Schefferville 65.26 27 P **P** **15 29 08.3 -0.2**
SCHQ IAmb IAmb 15 29 29.2
comp=Z,10nm,1.4s
E46A Sault Ste Mari 66.63 42 P **P** **15 29 16.9 -0.4**
AKASG Malin Array Be 67.53 328 P **P** **15 29 21.8 -1.1**
comp=Z,1.2nm,0.4s,baz=30,slow=6.6,SNR=12
AKBB Malin Array Si 67.53 328⇓ *eP* **P** **15 29 22.5 -0.4**
VLDQ Val d'Or 67.76 37 P **P** **15 29 23.2 -1.2**
VLDQ IAmb IAmb 15 29 42.0
comp=Z,10nm,1.5s
KBZ Khabaz 68.43 316 P **P** **15 29 28.3 -0.3**
comp=Z,2.8nm,0.9s,baz=131,slow=9.3,SNR=4.1
COEN Coen 68.92 196 P **P** **15 29 32.8 +0.9**
COEN IAmb IAmb 15 29 55.7
comp=Z,13nm,1.5s
R40A Maddies Statio 69.70 53 P **P** **15 29 37.0 +0.5**
R40A IAmb IAmb 15 29 37.7
comp=Z,2.3nm,0.7s
SORM Soroca 70.05 327⇑ P **P** **15 29 37.2 -1.3**
SORM Soroca 70.05 327⇑ P **P** **15 29 37.2 -1.3**
TRQ Mont Tremblant 70.40 36 P **P** **15 29 40.5 -0.3**
TRQ IAmb IAmb 15 29 53.7
comp=Z,5.6nm,1.1s
MTN Manton Dam 70.57 209 P **P** **15 29 43.1 +1.1**
LMQ La Malbaie 70.66 33 P **P** **15 29 42.1 -0.2**
LMQ IAmb IAmb 15 30 05.4
comp=Z,15nm,1.5s
P46A Rosedale 70.93 48 P **P** **15 29 44.2 +0.2**
TX31 Lajitas Ar. Si 70.99 66 P **P** **15 29 45.9 +1.3**
TX31 IAmb IAmb 15 29 57.3
comp=Z,7.4nm,1.4s
TX32 Lajitas Array 70.99 66 P **P** **15 29 46.1 +1.4**
TXAR Lajitas Array 70.99 66 P **P** **15 29 46.6 +2.0**
comp=Z,0.7nm,0.4s,baz=295,slow=5.3,SNR=16
TXAR Lajitas Array 70.99 66 P **P** **15 29 46.1 +1.5**
CLL Collm 71.32 338 P **P** **15 29 46.1 0.0**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 71.32 338 P **P** **15 29 46.1 0.0**
CLL IAmb IAmb 15 29 47.0
comp=Z,5.3nm,0.8s
CLL Collm 71.32 338⇓ *iP* **P** **15 29 46.1 0.0**
comp=Z,6.0nm,0.8s
BUR08 Bucovina Ar. S 71.47 329 P **P** **15 29 46.8 -0.5**
D62A Allapoint, All 71.48 32 P **P** **15 29 47.8 +0.6**
PECO Prince Edward 71.49 39 P **P** **15 29 47.3 +0.1**
PECO IAmb IAmb 15 30 15.6
comp=Z,9.2nm,0.8s
BURAR Bucovina Array 71.49 329⇑ P **P** **15 29 47.1 -0.3**
BURAR Bucovina Array 71.49 329⇑ P **P** **15 29 47.1 -0.3**
BURAR Bucovina Array 71.49 329 P **P** **15 29 46.9 -0.5**
SIUC Southern Illin 71.58 51 P **P** **15 29 48.4 +0.4**
SIUC IAmb IAmb 15 30 10.7
comp=Z,4.9nm,0.9s
MORC Moravsky Berou 71.67 335⇑ P **P** **15 29 48.9 +0.5**
MORC Moravsky Berou 71.67 335⇑ P **P** **15 29 48.9 +0.5**
LANS Liptovska Anna 71.75 333 *eP* **P** **15 29 50.2 +1.4**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 71.75 333 *eP* **P** **15 29 50.2 +1.4**
TRPA Tarpa 71.82 331⇑ P **P** **15 29 49.6 +0.5**
P48A Milroy 71.84 47 P **P** **15 29 49.6 +0.1**
P48A IAmb IAmb 15 30 12.5
comp=Z,17nm,1.5s
SLBS Sierra La Lagu 71.90 75 P **P** **15 29 50.8 +0.7**
SLBS IAmb IAmb 15 29 51.7
comp=Z,4.1nm,0.8s
WHAR Wooly Hollow 72.10 54 P **P** **15 29 51.4 +0.3**
WHAR IAmb IAmb 15 30 07.1
comp=Z,9.6nm,1.4s
PQI Presque Isle 72.17 32 P **P** **15 29 51.2 -0.1**
PQI IAmb IAmb 15 29 59.2
comp=Z,17nm,1.5s
BATG Bathurst New B 72.23 30 P **P** **15 29 52.4 +0.7**
BATG IAmb IAmb 15 30 20.9
comp=Z,14nm,1.4s
VRAC Vranov 72.34 335⇑ P **P** **15 29 53.2 +0.9**
VRAC Vranov 72.34 335⇑ P **P** **15 29 53.2 +0.9**
VYHS Vyhne 72.51 333 *eP* **P** **15 29 54.1 +0.7**
VYHS Vyhne 72.51 333 *eP* **P** **15 29 54.1 +0.7**
VRI Vrincioaia 72.57 327⇑ P **P** **15 29 53.6 -0.1**
VRI Vrincioaia 72.57 327⇑ P **P** **15 29 53.6 -0.1**
F64A Sherman 72.79 32 P **P** **15 29 55.3 +0.3**
F64A IAmb IAmb 15 30 17.5
comp=Z,20nm,1.4s
M55A Ridgway 72.91 42 P **P** **15 29 56.3 +0.5**
M55A IAmb IAmb 15 30 20.6
comp=Z,22nm,1.5s
O53A New Philadelph 72.96 44 P **P** **15 29 56.1 0.0**
O53A IAmb IAmb 15 30 13.8
comp=Z,11nm,1.2s
DRGR 72.98 330⇑ P **P** **15 29 55.5 -0.7**
DRGR 72.98 330⇑ P **P** **15 29 55.5 -0.7**
H62A Milan 73.01 35 P **P** **15 29 57.0 +0.6**
LBNH Lisbon 73.04 36 P **P** **15 29 56.6 +0.1**
LBNH pmax pmax
comp=Z,10.0nm,1.0s
LBNH Lisbon 73.04 36 P **P** **15 29 56.6 +0.1**
LBNH IAmb IAmb 15 29 58.9
comp=Z,9.5nm,1.0s
Q51A Peebles 73.10 46 P **P** **15 29 57.1 +0.2**
Q51A IAmb IAmb 15 29 57.3
comp=Z,9.0nm,1.2s
P52A Corning 73.10 45 P **P** **15 29 56.7 -0.2**
MLR Muntele Rosu 73.16 327⇑ P **P** **15 29 57.9 +0.6**
MLR Muntele Rosu 73.16 327⇑ P **P** **15 29 57.9 +0.6**
MLR Muntele Rosu 73.16 327 P **P** **15 29 57.5 +0.1**
MLR IAmb IAmb 15 30 26.6
comp=Z,6.4nm,1.3s
KHC Kasperske Hory 73.23 337⇑ *eP* **P** **15 29 58.4 +0.8**
KHC *i* *PP **pP** **15 30 37.8 -1.9**
KHC pmax pmax
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 73.23 337 P **P** **15 29 57.9 +0.3**
TIRR Tirgusor 73.27 325 P **P** **15 29 56.6 -1.2**
TIRR pmax pmax
comp=Z,45nm,1.4s
TIRR Tirgusor 73.27 325 P **P** **15 29 56.6 -1.2**
GEC2 GERESS Array S 73.47 337 P **P** **15 29 58.2 -0.8**
GERES GERESS Array B 73.47 337 P **P** **15 29 59.1 +0.1**
comp=Z,1.1nm,0.6s,baz=36,slow=5.4,SNR=11
VOIR 73.49 328⇑ P **P** **15 29 59.7 +0.5**
VOIR 73.49 328⇑ P **P** **15 29 59.7 +0.5**
G65A Princeton 73.63 32 P **P** **15 30 00.7 +0.8**
M57A Sunshine Farm, 73.66 41 P **P** **15 30 00.2 0.0**
M57A IAmb IAmb 15 30 20.5
comp=Z,21nm,1.4s
I63A Otisfield 73.67 35 P **P** **15 30 01.7 +1.6**
L59A Walton 73.71 39 P **P** **15 30 00.7 +0.2**
CONA Conrad Observa 73.80 335 *eP* **P** **15 30 02.0 +1.0**
comp=Z,2.0nm,0.7s
GGN Saint George 73.93 32 P **P** **15 30 01.9 +0.3**
SSPA Standing Stone 73.97 41 P **P** **15 30 02.3 +0.3**
SSPA IAmb IAmb 15 30 09.0
comp=Z,15nm,1.4s
O56A Blue Knob Stat 74.02 42 P **P** **15 30 03.0 +0.7**
O56A IAmb IAmb 15 30 21.0
comp=Z,16nm,1.3s
EMMW East Machias 74.10 32 P **P** **15 30 03.3 +0.6**
GZR Gura Zlata 74.23 329⇑ P **P** **15 30 03.0 -0.5**
GZR Gura Zlata 74.23 329⇑ P **P** **15 30 03.0 -0.5**
MOA Molln 74.27 336 *i P* **P** **15 30 04.2 +0.6**
comp=Z,1.6nm,0.7s
CTA Charters Tower 74.49 192 P **P** **15 30 05.5 +0.4**
comp=Z,2.6nm,0.8s,baz=40,slow=2.7,SNR=3.7
ARSA Arzberg 74.52 335 *eP* **P** **15 30 05.8 +0.7**
comp=Z,1.6nm,0.5s
MORH Mrgy, Hungar 74.66 333⇑ P **P** **15 30 05.6 -0.2**
R55A Marlinton 75.08 44 P **P** **15 30 08.9 +0.4**
R55A IAmb IAmb 15 30 24.2
comp=Z,13nm,1.2s
SOKA Soboth 75.17 335 *i* P **P** **15 30 09.7 +0.8**
comp=Z,2.8nm,0.5s
KBA Koelnbreinsper 75.21 336 *i* P **P** **15 30 10.4 +1.1**
comp=Z,3.9nm,0.5s
WATA Walderalm 75.37 338 *i* P **P** **15 30 10.9 +0.8**
comp=Z,1.5nm,0.3s
WTTA Wattenberg 75.43 338 *i* P **P** **15 30 11.2 +0.7**
comp=Z,2.1nm,0.4s
MOTA Moosalm 75.47 338 *i* P **P** **15 30 11.3 +0.6**
comp=Z,0.7nm,0.3s
BR131 Keskin Array S 75.52 319 P **P** **15 30 10.9 -0.2**
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BR131 Keskin Array S 75.52 319 P **P** **15 30 10.8 -0.2**
BRTR Keskin Array B 75.52 319 P **P** **15 30 10.7 -0.3**
comp=Z,1.0nm,0.6s,baz=35,slow=2.5,SNR=6.5
BRTR Keskin Array B 75.52 319 P **P** **15 30 10.6 -0.5**
SQTA Sankt Quirin 75.56 338 *eP* **P** **15 30 12.1 +0.9**
comp=Z,3.9nm,0.7s
V52A Sevierville 75.66 48 P **P** **15 30 12.5 +0.7**
ABTA Abfaltersbach 75.71 337 *i* P **P** **15 30 12.7 +0.7**
comp=Z,4.7nm,0.8s
U54A Nelsons Funny 75.86 46 P **P** **15 30 13.9 +1.0**
FETA Feichten 75.86 338 *i* P **P** **15 30 13.9 +0.9**
comp=Z,3.3nm,0.7s
DIVS Divibare 76.22 331 P **P** **15 30 14.6 -0.4**
DIVS IAmb IAmb 15 30 15.3
comp=Z,4.9nm,1.2s
WB0 Warramunga Arr 76.34 204 P **P** **15 30 16.4 +0.7**
WB0 IAmb IAmb 15 30 24.6
comp=Z,8.3nm,1.4s
WB2 Warramunga Arr 76.52 204 P **P** **15 30 17.5 +0.9**
WB2 IAmb IAmb 15 30 30.9
comp=Z,6.1nm,1.5s
WRA Warramunga Arr 76.53 204 P **P** **15 30 17.4 +0.8**
comp=Z,0.6nm,0.5s,baz=24,slow=6.2,SNR=14
CTI Castel Tesino 76.57 337 P **P** **15 30 16.7 -0.2**
CTI pmax pmax
comp=Z,3.0nm,0.6s
CTI Castel Tesino 76.57 337 P **P** **15 30 16.6 -0.2**
CTI IAmb IAmb 15 30 17.5
comp=Z,2.9nm,0.6s
TUE Stuetta 76.68 339 P **P** **15 30 17.9 +0.3**
TUE IAmb IAmb 15 30 19.4
comp=Z,6.4nm,0.6s
UOSS Minazif 77.26 295 P **P** **15 30 19.0 -1.9**
UOSS IAmb IAmb 15 30 42.6
comp=Z,15nm,1.1s
PDG Podgorica 77.97 331 P **P** **15 30 23.8 -0.8**
PDG IAmb IAmb 15 30 24.9
comp=Z,7.8nm,1.1s
BNI Bardonecchia 78.59 340 P **P** **15 30 29.4 +1.3**
BNI pmax pmax
comp=Z,3.0nm,0.8s
BNI Bardonecchia 78.59 340 P **P** **15 30 29.4 +1.3**
MSSA Maissana 78.69 338 P **P** **15 30 28.6 0.0**
MURB Monte Urbino 78.99 336 P **P** **15 30 30.9 +0.7**
MURB IAmb IAmb 15 30 32.8
comp=Z,11nm,0.9s
OSSC Osservatorio P 79.05 337 P **P** **15 30 31.1 +0.6**
OSSC IAmb IAmb 15 30 31.4
comp=Z,4.3nm,0.6s
NRCA Norcia 79.25 335 P **P** **15 30 32.0 +0.3**
NRCA IAmb IAmb 15 30 33.5
comp=Z,9.3nm,0.8s
SGRT San Giovanni R 79.58 333 P **P** **15 30 32.8 -0.7**
SGRT IAmb IAmb 15 30 38.5
comp=Z,5.2nm,0.9s
CSS Mathiatis 79.77 317 P **P** **15 30 33.6 -0.9**
AGG Agios Georgios 80.14 327 P **P** **15 30 35.5 -1.0**
AGG pmax pmax
comp=Z,17nm,1.4s
AGG Agios Georgios 80.14 327 P **P** **15 30 35.5 -1.0**
AGG IAmb IAmb 15 30 50.4
comp=Z,17nm,1.4s
AS31 Alice Springs 80.21 203 P **P** **15 30 38.1 +1.3**
ASAR Alice Springs 80.21 203 P **P** **15 30 38.4 +1.5**
comp=Z,1.3nm,0.8s,baz=19,slow=4.9,SNR=27
ASAR pP **pP** **15 31 20.9 +1.1**

comp=Z,0.4nm,0.7s,baz=14,slow=5.5,SNR=4.4
ASAR Alice Springs 80.21 203 P **P** **15 30 37.9 +1.0**
ASAR *PP **pP** **15 31 20.9 +1.1**
ASAR Alice Springs 80.21 203 P **P** **15 30 37.9 +1.0**
SCTE Santa Cesarea 80.37 330 P **P** **15 30 37.0 -0.6**
ITM Ithomi 81.95 327 P **P** **15 30 44.6 -1.5**
RAYN Ar Rayn 83.99 302 P **P** **15 30 55.4 -1.3**
RAYN pmax pmax
comp=Z,2.0nm,0.7s
RAYN Ar Rayn 83.99 302 P **P** **15 30 55.4 -1.3**
RAYN IAmb IAmb 15 30 56.9
comp=Z,2.4nm,0.7s
ESDC Sonseca Array 85.61 347 P **P** **15 31 04.9 +0.3**
comp=Z,0.7nm,0.7s,baz=4.1,slow=5.3,SNR=7.2
PLCA Paso Flores 144.75 89 PKP **PKPdf** **15 38 01.4 0.0**
comp=Z,0.8nm,0.6s,baz=349,slow=4.6,SNR=6.1

JMA 20 15:46:59.1±0.1, 24°22N×123°67E, h15km±1km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**26**	P	Pg	15 47 02.6	-0.1
IRIF				S	Sg	15 47 05.5	+0.4
HATJ	**Hateruma jima**	**0.20**	**143**	P	Pg	15 47 03.6	-0.2
HATJ				S	Sg	15 47 07.1	+0.1
JKRS	**Kuro-shima**	**0.31**	**87**	P	Pg	15 47 05.6	0.0
JKRS				S	Sb	15 47 10.7	-0.5
JJ	**Ishigaki jima**	**0.45**	**72**	P	Pg	15 47 07.9	-0.3
JJ				S	Sg	15 47 14.0	-0.4
JISG	**Ishigakijimahi**	**0.69**	**58**	P	Pg	15 47 12.3	-0.3
JISG				S	Sb	15 47 22.2	0.0
JTJ	**Tarama**	**1.03**	**66**	P	Pn	15 47 18.9	-0.1
JTJ				S	Sg	15 47 32.5	0.0

TAP 20 15:47:08.0, 24°70N×121°56E, h10km±1km, ML0.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENTT	**Nioudou**	**0.06**	**172**	P	Pg	15 47 10.9	+0.8
	baz=166						
ENTT				S	Sg	15 47 12.8	+1.1
	baz=166						
FUSB	**Fushanzhiwuyua**	**0.06**	**26**	P	Pg	15 47 10.7	+0.5
	baz=25						
FUSB				S	Sg	15 47 12.4	+0.6
	baz=25						
TWE	**Neicheng**	**0.10**	**79**	P	Pg	15 47 11.4	+0.8
	baz=81						
TWE				S	Sg	15 47 13.5	+1.1
	baz=81						
NDT	**Datong Townshi**	**0.11**	**202**	P	Pg	15 47 11.8	+1.1
	baz=202						
NDT				S	Sg	15 47 13.2	+0.7
	baz=202						
LATG	**Datong**	**0.17**	**190**	P	Pg	15 47 12.7	+1.0
	baz=189						
LATG				S	Sg	15 47 15.4	+1.1
	baz=189						
YHNB	**Yeheng**	**0.17**	**259**	P	Pg	15 47 12.9	+1.2
	baz=259						
YHNB				S	Sg	15 47 15.3	+1.1
	baz=259						
NSK	**Sanguang**	**0.18**	**262**	P	Pg	15 47 13.0	+1.1
	baz=260						
NSK				S	Sg	15 47 15.6	+1.0
	baz=260						

*ASRS **20** 15:55:12.4±0.2, 52°N±1°×9°4E±°, h5km, MLh4.6/17, Error ellipse: s-maj=2.8km s-min=2.1km az=25.3, confirmed*
*IDC **20** 15:55:13.1±1.1, 52°.02N×94°.39E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.5/41, mbtmp3.7/12, ML3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.3/85, Error ellipse: s-maj=21.4km s-min=14.9km az=173.0*
*MOS **20** 15:55:13.8±1.5, 51°.88N×94°.22E, h15km, mb4.4/5, Error ellipse: s-maj=8.1km s-min=6.5km az=39.8*
*NNC **20** 15:55:18.6±3.1, 52°.01N×93°.66E, h0km, mb4.0, mpv3.0, Error ellipse: s-maj=29.8km s-min=20.3km az=74.0*
ISC 20 15:55:14.7±1.1, 51°.94N±0°.03×94°.15E±0°.02, h4km±8km, n87, σ2s12/140, mb3.7/10, 17C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.30**	**141**	*d* iPg	**Pg**	**15 55 20.9**	**+0.4**
KZLR	**Kyzyl**	**0.30**	**141**	⇑Pg	**Pb**	**15 55 21.7**	**-0.9**
KZLR				Sg	**Sg**	**15 55 26.0**	**+1.6**
HVS	**Khovu-Aksy**	**0.85**	**200**	PG	**Pg**	**15 55 31.4**	**+0.4**
DJOS	**Djoyskaya Sosn**	**1.90**	**298**	PN	**Pb**	**15 55 50.4**	**+0.6**
DJOS				S	**Sg**	**15 55 54.7**	**+0.4**
DJOS	**Djoyskaya Sosn**	**1.90**	**298**	Pg	**Pb**	**15 55 50.4**	**+0.6**
DJOS				Sg	**Sg**	**15 56 15.9**	**+0.4**
CERR	**Cheremushki**	**1.91**	**300**	PN	**Pb**	**15 55 50.7**	**+0.6**
CERR				S	**Sg**	**15 56 16.8**	**+0.7**
CERR	**Cheremushki**	**1.91**	**300**	Pg	**Pb**	**15 55 50.7**	**+0.6**
CERR				Sg	**Sg**	**15 56 16.8**	**+0.7**
DJO	**Djoy, Khakassi**	**1.99**	**296**	PN	**Pn**	**15 55 49.9**	**+0.9**
DJO				S	**Sb**	**15 56 17.6**	**+1.1**
DJO	**Djoy, Khakassi**	**1.99**	**296**	Pn	**Pn**	**15 55 49.9**	**+0.9**
DJO				Pg	**Pb**	**15 55 52.0**	**+0.6**
DJO				Sg	**Sb**	**15 56 17.6**	**+1.1**
TBTR	**Tabat**	**2.33**	**297**	PN	**Pg**	**15 56 03.4**	**+4.2**
TBTR				S	**Sg**	**15 56 34.4**	**+5.1**
ABNR	**Abakan**	**2.43**	**318**	*ce*PN	**Pn**	**15 55 59.9**	**+0.8**
ABNR	**Abakan**	**2.43**	**318**	Sg	**Sb**	**15 56 29.7**	**+0.5**
ABNR	**Abakan**	**2.43**	**318**	Pg	**Pb**	**15 55 58.7**	**-0.2**
KNGR	**Kungurtug, Tuv**	**2.50**	**121**	PN	**Pb**	**15 55 59.2**	**-0.9**
KNGR				S	**Sg**	**15 56 33.5**	**-1.4**
KNGR	**Kungurtug, Tuv**	**2.50**	**121**	Pg	**Pb**	**15 55 59.2**	**-0.9**
KNGR				Sg	**Sg**	**15 56 33.5**	**-1.4**
MINR	**Mina**	**2.97**	**1**	PN	**Pn**	**15 56 03.7**	**+1.2**
MINR				PG	**Pb**	**15 56 08.9**	**+0.9**
MINR				S	**Sg**	**15 56 49.7**	**-0.2**
MINR	**Mina**	**2.97**	**1**	Pn	**Pn**	**15 56 03.8**	**+1.2**
MINR				Pg	**Pb**	**15 56 08.9**	**+0.9**
MINR				Sg	**Sg**	**15 56 49.8**	**-0.2**
LUZB	**Luzhba, Kemero**	**3.63**	**300**	PN	**Pn**	**15 56 12.3**	**+0.8**
LUZB				PG	**Pb**	**15 56 20.2**	**+1.0**
LUZB				S	**Sb**	**15 57 07.1**	**+3.6**
LUZB	**Luzhba, Kemero**	**3.63**	**300**	Pn	**Pn**	**15 56 12.4**	**+0.8**
LUZB				Pg	**Pb**	**15 56 20.2**	**+1.0**
LUZB				Sg	**Sb**	**15 57 07.2**	**+3.6**
TASR	**Tashtagol**	**3.93**	**285**	PN	**Pn**	**15 56 16.9**	**+1.2**
TASR				PG	**Pg**	**15 56 27.5**	**-2.5**
TASR				S	**Sg**	**15 57 18.8**	**-2.1**
TASR	**Tashtagol**	**3.93**	**285**	Pn	**Pn**	**15 56 17.0**	**+1.2**
TASR				Pg	**Pg**	**15 56 27.6**	**-2.5**
TASR				Sg	**Sg**	**15 57 18.9**	**-2.1**
CUR	**Chagan-Uzun**	**4.10**	**246**	PN	**Pn**	**15 56 20.0**	**+1.8**
CUR				PG	**Pg**	**15 56 32.6**	**-0.6**
CUR				S	**Sg**	**15 57 23.8**	**-2.5**
CUR	**Chagan-Uzun**	**4.10**	**246**	Pn	**Pn**	**15 56 20.0**	**+1.8**
CUR				Pg	**Pg**	**15 56 32.7**	**-0.6**
CUR				Sg	**Sg**	**15 57 23.8**	**-2.5**
KRAR	**Krasnoyarsk**	**4.15**	**350**	PN	Pn	15 56 11.6	-7.1
KRAR				S	**Sn**	**15 57 08.7**	**+1.1**
MOY	**Mondy**	**4.25**	**91**	*e*PN	**Pb**	**15 56 28.5**	**-1.6**
MOY				*i*		15 56 30.6	
MOY				*e*		15 57 23.9	
MOY	**Mondy**	**4.25**	**91**	Pg	**Pb**	**15 56 28.4**	**-1.6**
MOY				Sg	**Sb**	**15 57 24.2**	**+2.5**
ARTR	**Artybash**	**4.26**	**271**	Pn	**Pn**	**15 56 21.3**	**+1.0**
ARTR				Pg	**Pg**	**15 56 34.7**	**-1.5**
ARTR				Sg	**Sg**	**15 57 30.0**	**-1.4**
GZL	**Zheleznogorsk**	**4.35**	**355**	Sg	**Sg**	**15 57 31.4**	**-2.9**
AKAR	**Aktash**	**4.42**	**251**	PN	**Pn**	**15 56 24.4**	**+1.8**
AKAR				PG	**Pg**	**15 56 38.6**	**-0.7**
AKAR				S	**Sg**	**15 57 32.7**	**-3.9**
AKAR	**Aktash**	**4.42**	**251**	Pn	**Pn**	**15 56 24.5**	**+1.8**
AKAR				Pg	**Pg**	**15 56 38.7**	**-0.7**
AKAR				Sg	**Sg**	**15 57 32.7**	**-3.9**
CHBI	**Chibit, Altay**	**4.49**	**251**	PN	**Pn**	**15 56 26.5**	**+3.0**
CHBI				PG	**Pg**	**15 56 40.5**	**-0.2**
CHBI	**Chibit, Altay**	**4.49**	**251**	Pn	**Pn**	**15 56 26.6**	**+3.0**
CHBI				Pg	**Pg**	**15 56 40.5**	**-0.2**
CHBI				Sg	**Sg**	**15 57 39.8**	**+0.9**
ELT	**Eltsovka**	**5.00**	**288**	PN	**Pn**	**15 56 30.6**	**+0.2**
ELT				PG	**Pb**	**15 56 44.0**	**+1.3**
ELT				S	**Sg**	**15 57 51.5**	**-3.7**
ELT	**Eltsovka**	**5.00**	**288**	Pn	**Pn**	**15 56 30.7**	**+0.2**
ELT				Pg	**Pb**	**15 56 44.0**	**+1.3**
ELT				Sg	**Sg**	**15 57 51.5**	**-3.7**
BRCR	**Berchikul'**	**5.07**	**319**	PN	**Pn**	**15 56 31.6**	**+0.3**
BRCR				PG	**Pb**	**15 56 47.1**	**+3.3**
BRCR				S	**Sg**	**15 57 52.4**	**-4.9**
BRCR	**Berchikul'**	**5.07**	**319**	Pn	**Pn**	**15 56 31.7**	**+0.3**
BRCR				Pg	**Pb**	**15 56 47.1**	**+3.3**
BRCR				Sg	**Sg**	**15 57 52.5**	**-4.9**
BJR1	**Bachatsky 1, K**	**5.41**	**298**	PN	**Pn**	**15 56 37.4**	**+1.5**
BJR1				PG	**Pb**	**15 56 52.6**	**+3.1**
BJR1	**Bachatsky 1, K**	**5.41**	**298**	Pn	**Pn**	**15 56 37.4**	**+1.5**
BJR1				Pg	**Pb**	**15 56 52.7**	**+3.1**
BJR1				Sg	**Sg**	**15 58 04.7**	**-3.4**
SALR	**Pechorkino, Sa**	**5.66**	**299**	PN	**Pn**	**15 56 40.3**	**+1.0**
SALR				PG	**Pb**	**15 56 56.4**	**+2.6**
SALR	**Pechorkino, Sa**	**5.66**	**299**	Pn	**Pn**	**15 56 40.4**	**+1.0**
SALR				Pg	**Pb**	**15 56 56.4**	**+2.6**
SALR				Sg	**Sg**	**15 58 12.1**	**-4.0**
ZAK	**Zakamensk**	**5.95**	**102**	*e*PN	**Pb**	**15 56 58.1**	**-0.8**
ZAK				*e*		15 58 16.8	
ZAK				pmax	pmax		
	comp=Z,82nm,0.7s						
ZAK				smax	smax		
	comp=N,320nm,1.4s						
ZAK	**Zakamensk**	**5.95**	**102**	Pg	**Pb**	**15 57 00.8**	**+1.9**
ZAK				Sg	**Sg**	**15 58 19.4**	**-6.3**
UKR	**Ust'-Kan**	**5.95**	**264**	PN	Pn	15 56 50.6	+7.1
UKR				PG	**Pb**	**15 57 03.4**	**+4.5**
UKR	**Ust'-Kan**	**5.95**	**264**	Pn	Pn	15 56 50.6	+7.1
UKR				Pg	**Pb**	**15 57 03.4**	**+4.5**
UKR				Sg	**Sg**	**15 58 21.6**	**-4.1**
ZAA0	**Zalesovo Array**	**5.99**	**293**	⇑Pn	**Pn**	**15 56 45.1**	**+1.1**
	comp=N,0.4nm,0.5s						
ZAA0				⇓Pg	**Pb**	**15 56 59.4**	**-0.2**
	comp=N,2.3nm,0.6s						
ZAA0				⇑Lg	Lg	15 58 21.9	
	comp=N,20nm,0.8s						
ZALV	**Zalesovo Beam**	**5.99**	**293**	Pn	**Pn**	**15 56 45.2**	**+1.3**
	comp=N,1.8nm,0.3s,baz=106,slow=13,SNR=26						
ZALV				Lg	Lg	15 58 19.9	
	comp=N,11nm,0.3s,baz=109,slow=26,SNR=10.0						
IRK	**Irkutsk**	**6.25**	**83**	*e*PN	**Pb**	**15 57 04.8**	**+0.9**
IRK				*e*		15 58 24.3	
IRK				pmax	pmax		
	comp=Z,72nm,0.1s						
IRK				smax	smax		
	comp=N,479nm,0.9s						
IRK	**Irkutsk**	**6.25**	**83**	Sg	**Sb**	**15 58 24.6**	**+5.7**
TRG	**Tyrgan**	**7.52**	**79**	P	**Pn**	**15 57 07.7**	**+2.8**
TRG	**Tyrgan**	**7.52**	**79**	Pn	**Pn**	**15 57 07.7**	**+2.8**
TRG				Pg	**Pb**	**15 57 28.3**	**+2.8**
TRG				Sg	Sb	15 59 04.6	+9.2
SONM	**Songino Array**	**8.90**	**113**	Pg	Pg	15 57 52.4	-13
	comp=N,1.2nm,0.3s,baz=300,slow=18,SNR=14						
SONM				Lg	Lg	15 59 49.2	
	comp=N,0.8nm,0.3s,baz=289,slow=30,SNR=2.3						
SONM				LR	LR	16 00 49.9	
	comp=N,71nm,18.1s,baz=195,slow=38						
ULN	**Ulaanbaatar**	**9.27**	**111**	⇑*e*P	**Pn**	**15 57 26.8**	**-2.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MK31	**Makanchi Array**	**9.29**	**241**	⇓*e*P	**Pn**	**15 57 30.4**	**+1.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**9.29**	**241**	⇓Pn	**Pn**	**15 57 30.4**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=51,slow=14,SNR=73						
MK31				⇑Lg	Lg	16 00 08.0	
	comp=Z,44nm,1.1s,baz=56,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**9.29**	**241**	Pn	**Pn**	**15 57 30.7**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=47,slow=15,SNR=50						
MKAR				Pg		15 57 57.0	
	comp=Z,0.9nm,0.3s,baz=54,slow=12,SNR=6.6						
MKAR				Lg	Lg	16 00 07.1	
	comp=Z,1.2nm,0.3s,baz=48,slow=33,SNR=6.8						
MKAR	**Makanchi Array**	**9.29**	**241**	Pn	**Pn**	**15 57 30.5**	**+1.2**
MKAR				Sg	Sg	16 00 07.9	
MAKZ	**Makanchi**	**9.45**	**242**	P	**Pn**	**15 57 32.9**	**+1.4**
MAKZ	**Makanchi**	**9.45**	**242**	⇑Pn	**Pn**	**15 57 32.7**	**+1.2**
	comp=Z,2.0nm,0.7s						
MAKZ				⇑Lg	Lg	16 00 11.9	
	comp=Z,57nm,1.4s						
MAKZ	**Makanchi**	**9.45**	**242**	Pn	**Pn**	**15 57 32.9**	**+1.4**
MAKZ				Sg	Sg	16 00 14.9	
KURK	**Kurchatov**	**9.80**	**269**	*de*P	**Pn**	**15 57 36.8**	**+0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**9.80**	**269**	⇑Pn	**Pn**	**15 57 35.9**	**-0.3**
	comp=Z,3.9nm,0.6s						
KURK				Lg	Lg	16 00 18.6	
	comp=Z,59nm,0.9s						
KURBB	**Kurchatov Arra**	**9.88**	**268**	Pn	**Pn**	**15 57 38.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=76,slow=16,SNR=84						
KURBB				Lg	Lg	16 00 23.6	
	comp=Z,0.1nm,0.3s,baz=78,slow=36,SNR=5.3						
KURBB	**Kurchatov Arra**	**9.88**	**268**	P	**Pn**	**15 57 38.3**	**+1.0**
KURBB	**Kurchatov Arra**	**9.88**	**268**	⇑Pn	**Pn**	**15 57 38.3**	**+1.0**
	comp=Z,3.6nm,0.3s						
KURBB				⇑Lg	Lg	16 00 21.8	
	comp=Z,78nm,0.8s						
BVAR	**Borovoye Array**	**14.51**	**284**	Pn	**Pn**	**15 58 38.7**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=90,slow=10,SNR=14						
BRVK	**Borovoye**	**14.57**	**284**	⇓*e*P	**Pn**	**15 58 40.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU	**GeErMu**	**15.74**	**178**	P	**Pn**	**15 58 57.8**	**+0.4**
GOMU				pP	P	15 59 01.1	-0.4
GOMU				sP	pP	15 59 02.8	-0.3
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,92nm,5.2s						
AAK	**Ala-Archa**	**16.22**	**243**	Pn	**Pn**	**15 59 03.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=102,slow=9.3,SNR=3.0						
AAK				Lg	Lg	16 03 49.3	
	comp=Z,0.1nm,0.3s,baz=329,slow=22,SNR=1.4						
AAK	**Ala-Archa**	**16.22**	**243**	⇑*e*P	**Pn**	**15 59 00.9**	**-2.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,2.1s						
HIA	**Hailar**	**16.44**	**89**	⇑*e*P	**Pn**	**15 59 05.1**	**-0.9**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**21.15**	**296**	P	**P**	**16 00 02.2**	**+1.8**
	comp=Z,2.3nm,0.5s,baz=94,slow=7.1,SNR=13						
ARU	**Arti**	**21.15**	**296**	*c* i*P*	**P**	**16 00 02.1**	**+1.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	**Yakutsk**	**21.55**	**48**	⇓*e*P	**P**	**16 00 03.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AB31	**Akbulak array**	**21.76**	**277**	*i* P	**P**	**16 00 05.2**	**-1.8**
TIXI	**Tiksi**	**25.03**	**25**	P	**P**	**16 00 37.2**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=269,slow=22,SNR=6.5						
TIXI	**Tiksi**	**25.03**	**25**	⇑*e*P	**P**	**16 00 38.4**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**34.74**	**278**	*e*P	**P**	**16 02 04.8**	**-0.9**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**35.60**	**271**	⇓*e*P	**P**	**16 02 10.8**	**-2.4**
GNI				pmax	pmax		
	comp=Z,27nm,1.4s						
FINES	**FINESS Array B**	**36.89**	**312**	P	**P**	**16 02 22.4**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=39,slow=9.1,SNR=1.4						
BILL	**Bilibino**	**36.95**	**37**	⇓*e*P	**P**	**16 02 25.0**	**+0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,2.0s						
AKASG	**Malin Array Be**	**39.38**	**295**	P	**P**	**16 02 43.1**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=57,slow=8.8,SNR=3.4						
BR131	**Keskin Array S**	**42.70**	**278**	⇑*e*P	**P**	**16 03 12.8**	**+0.2**
BRTR	**Keskin Array B**	**42.70**	**278**	P	**P**	**16 03 11.3**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=73,slow=6.7,SNR=6.2						
BRTR	**Keskin Array B**	**42.70**	**278**	*ce*P	**P**	**16 03 12.8**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MBAR	**Mbarara**	**74.41**	**248**	LR	LR	16 40 55.0	
	comp=Z,60nm,18.3s,baz=129,slow=37						
WRA	**Warramunga Arr**	**79.71**	**142**	P	**P**	**16 07 23.3**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=344,slow=6.2,SNR=1.4						
ASAR	**Alice Springs**	**82.94**	**144**	P	**P**	**16 07 39.6**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=337,slow=4.4,SNR=2.0						

*IDC **20** 16:08:14.4±0.6, 5°.53N×88°.03E, h0km, mb3.9/16,*

mb1 4.1/18, mb1mx3.8/59, mbtmp3.9/18, ML4.1/2, MS3.3/13, Ms1 3.4/13, ms1mx3.0/88, Error ellipse: s-maj=21.3km s-min=14.4km az=45.0
*NEIC **20** 16:08:18.0±1.3, 5°.58N±0°.07×88°.07E±0°.06, h16km±4km, mb4.3/24, Error ellipse: s-maj=13.0km s-min=2.7km az=223.0*
ISC 20 16:08:15.9±0.5, 5°.46N±0°.07×88°.11E±0°.06, h10km, n79, σ1s77/61, mb4.3/28, MS3.3/10, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**7.58**	**284**	Pn	**Pn**	**16 10 07.1**	**+0.5**
	2.9nm,0.3s,baz=206,slow=12,SNR=25						
PALK				Sn	Sn	16 11 22.2	-11
	25nm,0.3s,baz=131,slow=17,SNR=38						
PALK				LR	LR	16 12 55.5	
	comp=Z,171nm,18.1s,baz=206,slow=38						
PALK	**Pallekele**	**7.58**	**284**		**Pn**	**16 10 06.6**	**0.0**
PBA	**Port Blair**	**7.67**	**36**		**Pn**	**16 10 07.0**	**-0.8**
PBA	**Port Blair**	**7.67**	**36**	*e*P	**Pn**	**16 10 10.2**	**+2.3**
PBA				*e*S	Sn	16 11 25.6	-9.3
PBA				IAML		16 11 35.7	
	comp=E,186nm,0.7s						
PBA				IAML		16 11 36.5	
	comp=N,271nm,0.3s						
DGPR	**DIGLIPUR**	**9.02**	**31**	*e*P	**Pn**	**16 10 27.3**	**+1.0**
DGPR				*ex*	x	16 11 51.2	
DGPR				IAML		16 12 02.3	
	comp=N,99nm,0.3s						
DGPR				IAML		16 12 02.3	
	comp=E,69nm,0.1s						
DGPR				IAML		16 12 03.8	
	comp=N,82nm,0.5s						
GSI	**Gunungsitoli**	**10.31**	**113**	Pn	**Pn**	**16 10 46.1**	**+2.1**
MDRS	**Chennai**	**10.83**	**315**	*e*P	**Pn**	**16 10 48.8**	**-2.3**
MDRS				*e*S	Sn	16 12 35.4	-17
PSI	**Prapat**	**11.10**	**103**	Sn	**Sn**	**16 12 55.9**	**-3.6**
	comp=N,0.8nm,0.3s,baz=172,slow=20,SNR=1.8						
PSI				LR	LR	16 15 15.5	
	comp=N,236nm,19.2s,baz=258,slow=38						
RPSI	**Rantau Prapat**	**11.13**	**104**		**Sn**	**16 12 55.9**	**-4.0**
KOD	**Kodaikanal**	**11.56**	**295**	*e*P	**Pn**	**16 11 02.1**	**+0.7**
KOD				*e*S	Sn	16 12 53.2	-18
SALM	**Salem**	**11.57**	**303**	*e*P	**Pn**	**16 11 02.1**	**+0.9**
SALM				*e*S	Sn	16 12 56.9	-14
VJD	**Vijayawada**	**13.20**	**327**	*e*P	**Pn**	**16 11 21.1**	**-2.5**
RAGD	**RAYAGADA**	**14.44**	**342**	*e*P	**Pn**	**16 11 39.2**	**-1.3**
RAGD				*ex*	x	16 14 06.8	
HYBB	**Hyderabad (bro**	**15.12**	**323**	*e*P	**Pn**	**16 11 49.1**	**-0.7**
HYBB				*e*		16 14 22.5	
HYBB				*e*S	**Sn**	**16 14 35.4**	**-2.2**
KAAM	**Kaadhehdhoo**	**15.88**	**252**	Pn	**Pn**	**16 11 59.2**	**-0.5**
KAAM				IAmb	IAmb	16 12 08.2	
	comp=Z,74nm,1.3s						
CMAR	**Chiang Mai Arr**	**16.70**	**38**	Pn	**Pn**	**16 12 10.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=232,slow=13,SNR=9.9						
CMAR				LR	LR	16 18 48.3	
	comp=Z,104nm,20.9s,baz=220,slow=38						
CHTO	**Chiang Mai**	**16.97**	**38**	P	**P**	**16 12 16.9**	**+1.4**
BOK	**Bokaro**	**18.36**	**354**	*e*P	**Pn**	**16 12 30.7**	**-0.1**
SHL	**Shillong**	**20.32**	**10**	P	**P**	**16 12 52.6**	**+0.1**
SHL				IAmb	IAmb	16 12 53.9	
	comp=Z,19nm,0.7s						
SHL	**Shillong**	**20.32**	**10**	*ex*	x	16 12 52.5	
BHPL	**Bhopal**	**20.46**	**331**	*ex*	x	16 13 03.1	
ODAN	**Odare**	**21.29**	**358**	*e*P	**P**	**16 13 04.3**	**+1.2**
	comp=Z,29nm,0.5s						
RAMN	**Ramite**	**21.42**	**356**	*e*P	**P**	**16 13 09.8**	**+5.3**
	comp=Z,36nm,0.5s						
TAPN	**Taplejung**	**21.77**	**359**	*e*P	**P**	**16 13 09.4**	**+1.1**
	comp=Z,38nm,0.8s						
JIRN	**Jiri**	**22.16**	**355**	*e*P	**P**	**16 13 15.9**	**+3.4**
DMN	**Daman**	**22.21**	**353**	*e*P	P	16 13 20.6	+7.6
	comp=Z,62nm,0.6s						
KOLN	**Koldanda**	**22.60**	**350**	*e*P	P	16 13 26.6	+10
	comp=Z,49nm,0.6s						
GKN	**Gorkha**	**22.66**	**352**	*e*P	**P**	**16 13 24.8**	**+7.1**
LEM	**Lembang**	**22.98**	**122**	LR	LR	16 22 19.1	
	comp=Z,44nm,18.3s,baz=171,slow=37						
PYUN	**Piuthan**	**23.04**	**348**	*e*P	P	16 13 32.1	+10
	comp=Z,106nm,0.8s						
KAPI	**Kappang**	**33.27**	**108**	LR	LR	16 27 47.4	
	comp=Z,43nm,21.4s,baz=275,slow=35						
BOOM	**Boomskoye usch**	**38.43**	**345**	P	**P**	**16 15 37.1**	**-0.9**
AAK	**Ala-Archa**	**38.95**	**344**	LR	LR	16 31 49.0	
	comp=Z,53nm,20.9s,baz=176,slow=36						
KKAR	**Karatay Array**	**40.59**	**340**	P	**P**	**16 15 56.0**	**+0.2**
MK31	**Makanchi Array**	**41.48**	**354**	P	**P**	**16 16 02.5**	**-0.7**
MKAR	**Makanchi Array**	**41.48**	**354**	P	**P**	**16 16 03.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=175,slow=9.2,SNR=7.4						
MKAR	**Makanchi Array**	**41.48**	**354**	P	**P**	**16 16 02.3**	**-0.8**
MAKZ	**Makanchi**	**41.53**	**354**	P	**P**	**16 16 03.0**	**-0.6**
JOW	**Kunigami**	**43.76**	**56**	LR	LR	16 36 59.4	
	comp=Z,29nm,18.3s,baz=271,slow=39						
FITZ	**Fitzroy Crossi**	**43.80**	**123**	P	**P**	**16 23.4**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=259,slow=9

SUR	**Sutherland**	**74.06**	**234**	P	**P**	**16 19 53.4 +0.7**
GERES	**GERESS Array B**	**75.66**	**319**	P	**P**	**16 20 00.2 -1.4**
	comp=Z,0.5nm,0.7s,baz=87,slow=6.8,SNR=6.7					
TOA0	**Torodi Ar. Sit**	**85.30**	**283**	P	**P**	**16 20 53.4 -0.5**
TOA0				IAmb	IAmb	16 20 54.0
	comp=Z,1.3nm,0.8s					
TORD	**Torodi Ar. Bea**	**85.30**	**283**	P	**P**	**16 20 53.5 -0.4**
	comp=Z,0.8nm,0.6s,baz=93,slow=5.1,SNR=4.9					
TORD	**Torodi Ar. Bea**	**85.30**	**283**	P	**P**	**16 20 53.1 -0.8**
TORD				IAmb	IAmb	16 20 54.3
	comp=Z,3.4nm,1.4s					

NOU 20 16:26:16.7, 17°36S × 167°69E, h0km, MLv4.2/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.60**	**128**	P	Pg	16 26 28.8	+0.6
RTV	**Rentapao**	**0.82**	**122**	P	Pg	16 26 31.6	-0.9
SANVU	**Saraoutou**	**1.96**	**346**	P	Pn	16 26 51.6	+0.4
KOUNC	**Koumac, New Ca**	**4.52**	**225**	P	Pn	16 27 26.0	-0.5
YATNC	**Mamie plateau,**	**4.74**	**189**	P	Pn	16 27 28.6	-0.8
DZM	**Mont Dzumac**	**4.83**	**194**	P	Pn	16 27 30.3	-0.5
OUENC	**Ouen Island, N**	**5.09**	**189**	P	Pn	16 27 34.6	+0.2
PINNC	**Pines Island,** 49nm,1.3s	**5.23**	**182**	P	Pn	16 27 36.9	+0.7

*IDC **20** 16:43:56.6±0.7, 20°05N × 155°97W, h0km, mb3.8/10, mb1 4.1/10, mb1mx3.8/40, mbtmp3.8/10, MS3.5/16, Ms1 3.5/16, ms1mx3.2/74, Error ellipse: s-maj=22.9km s-min=7.3km az=87.0*
*HVO **20** 16:43:59.6±5.5, 19°.85N±0°.04 × 155°.70W±0°.04, h32km±4km, ML4.6/17, mb4.4/45(NEIC), ML4.6/55(NEIC), Error ellipse: s-maj=7.0km s-min=2.1km az=220.0*
*NEIC **20** 16:43:59.8±3.1, 19°.82N±0°.03 × 155°.70W±0°.04, h24km±5km, Error ellipse: s-maj=6.6km s-min=3.0km az=63.0*

ISC 20 16:43:59.5±0.7, 19°81N±0°.04 × 155°68W±0°.04, h27km±5km, n121, σ1§31/100, mb4.3/33, MS3.6/18, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.15**	**111**		**Pb**	**16 44 05.3**	**+0.1**
HUH	**Hualalai**	**0.19**	**228**		**Pb**	**16 44 05.9**	**+0.3**
HUH				IAML		16 44 10.6	
	comp=N,125μm,0.6s						
HUH				IAML		16 44 10.8	
	comp=E,203μm,0.4s						
HPAH	**Hawaii Prepara**	**0.22**	**357**		**Pb**	**16 44 05.1**	**-0.6**
HPAH					**Sb**	**16 44 09.0**	**-0.8**
HPAH				IAML		16 44 09.3	
	comp=N,122μm,0.3s						
HPAH				IAML		16 44 09.4	
	comp=E,155μm,0.3s						
HMH	**Humu'ula Sheep**	**0.28**	**138**		**Pb**	**16 44 06.8**	**+0.1**
HMH				IAML		16 44 12.8	
	comp=N,69μm,0.4s						
HMH				IAML		16 44 12.8	
	comp=E,54μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.29**	**160**		**Pb**	**16 44 07.1**	**+0.1**
MLOA					**Sb**	**16 44 12.4**	**+0.4**
MLOA				IAML		16 44 12.7	
	comp=E,62μm,0.4s						
MLOA				IAML		16 44 13.0	
	comp=N,80μm,0.2s						
I59US	**HAWAII INFRASO**	**0.29**	**222**	Pg	**Pb**	**16 44 06.5**	**-0.2**
	baz=16,slow=73						
I59US				Lg	Lg	16 44 11.3	
	baz=16,slow=73						
KHLU	**Kahalu`u**	**0.29**	**222**		**Pb**	**16 44 06.4**	**-0.3**
KHLU					**Sb**	**16 44 11.2**	**-0.4**
KHLU				IAML		16 44 11.9	
	comp=N,97μm,0.5s						
MWH	**Moku'aweowe**	**0.34**	**166**		**Pb**	**16 44 07.3**	**-0.3**
MWH				IAML		16 44 19.1	
	comp=E,50μm,0.4s						
MWH				IAML		16 44 19.9	
	comp=N,45μm,0.3s						
MLH	**Mauna Loa**	**0.42**	**138**		**Pb**	**16 44 08.4**	**-0.4**
MLH					**Sb**	**16 44 14.6**	**-0.4**
AIN	**Ainahou**	**0.49**	**154**		**Pb**	**16 44 09.3**	**-0.5**
AIN				Sn	**Sb**	**16 44 16.1**	**-0.5**
RSD	**Rainshed**	**0.52**	**132**	Pn	**Pb**	**16 44 09.5**	**-0.7**
UWE	**Uwekahuna**	**0.54**	**136**		**Pb**	**16 44 09.6**	**-0.9**
WRMHI	**West Rim**	**0.54**	**138**		**Pb**	**16 44 09.5**	**-1.1**
WRMHI				IAML		16 44 25.8	
	comp=N,44μm,1.0s						
UWB	**Uwekahuna B**	**0.54**	**135**		**Pb**	**16 44 09.5**	**-1.1**
OBL	**Observatory Le**	**0.55**	**136**		**Pb**	**16 44 09.5**	**-1.1**
SBLHI	**Steaming Bluff**	**0.55**	**134**		**Pb**	**16 44 09.5**	**-1.2**
SBLHI				IAML		16 44 17.2	
	comp=E,49μm,0.4s						
SBLHI				IAML		16 44 17.4	
	comp=N,35μm,0.4s						
NPH	**North Pit**	**0.55**	**136**		**Pb**	**16 44 09.6**	**-1.2**
HATHI	**Halema'uma'u T**	**0.56**	**134**		**Pb**	**16 44 09.6**	**-1.2**
HATHI				IAML		16 44 20.0	
	comp=E,36μm,0.3s						
HATHI				IAML		16 44 24.2	
	comp=N,33μm,0.8s						
SDHHI	**Sand Hill**	**0.56**	**139**		**Pb**	**16 44 09.7**	**-1.1**
SDHHI				IAML		16 44 17.8	
	comp=E,33μm,0.9s						
SDHHI				IAML		16 44 17.8	
	comp=N,40μm,0.6s						
BYL	**Byron's Ledge**	**0.56**	**135**		**Pb**	**16 44 09.7**	**-1.2**
BYL				IAML		16 44 17.7	
	comp=E,24μm,0.4s						
RIM	**Rim**	**0.57**	**137**		**Pb**	**16 44 09.8**	**-1.2**
RIM				IAML		16 44 26.2	
	comp=E,22μm,0.8s						
RIM				IAML		16 44 29.4	
	comp=N,26μm,0.8s						
KKO	**Keanakako`i**	**0.57**	**136**		**Pb**	**16 44 09.8**	**-1.2**
KKO				IAML		16 44 30.7	
	comp=N,23μm,0.8s						
PUH	**Pauahi**	**0.62**	**135**		**Pb**	**16 44 10.4**	**-1.5**
HLP	**Hilina Pali**	**0.62**	**145**		**Pb**	**16 44 10.8**	**-1.1**
STCH	**Steam Cracks**	**0.68**	**129**		**Pb**	**16 44 11.2**	**-1.7**
NPOC	**North of Pu'u**	**0.68**	**128**		**Pb**	**16 44 11.2**	**-1.7**
NPOC				IAML		16 44 19.9	
	comp=E,27μm,0.6s						
NPOC				IAML		16 44 20.5	
	comp=N,36μm,0.3s						
JCUZ	**Jacuzzi**	**0.70**	**128**		**Pb**	**16 44 11.4**	**-1.7**
JCUZ				IAML		16 44 20.1	
	comp=E,24μm,0.7s						
HLK	**Haleakala**	**1.08**	**331**	Pn	**Pn**	**16 44 16.0**	**-3.1**
HLK				IAML		16 44 28.9	
	comp=N,11μm,0.8s						
KHLH	**Kahului Airpor**	**1.28**	**327**	Pn	**Pn**	**16 44 19.4**	**-2.3**
KHLH				IAML		16 44 35.9	
	comp=N,10μm,0.4s						
KIP	**Kipapa**	**2.71**	**307**	Pn	**Pn**	**16 44 38.2**	**-3.1**
KIP				IAML		16 45 09.4	
	comp=N,4μm,0.6s						
KIP				IAML		16 45 09.5	
	comp=N,4μm,0.6s						
OPA	**Opana**	**2.87**	**311**		**Pn**	**16 44 40.0**	**-3.5**
TAOE	**Nuku Hiva Isla**	**32.34**	**150**	*e*LR	LR	16 58 31.5	
	comp=N,201nm,26.2s						
TAOE	**Nuku Hiva Isla**	**32.34**	**150**	*e*T	T	17 23 43.7	
	comp=N,17nm,0.2s						
PMPB	**Monarch Peak**	**34.63**	**54**	P	**P**	**16 50 43.8**	**-2.9**
H11N3	**WAKE ISLAND Hy**	**35.16**	**276**	T	T	17 27 46.3	
	baz=83,slow=75,SNR=534						
H11N2	**WAKE ISLAND Hy**	**35.17**	**276**	T	T	17 27 43.5	
	baz=83,slow=75,SNR=519						
H11N1	**WAKE ISLAND Hy**	**35.17**	**276**	T	T	17 27 45.3	
	baz=83,slow=75,SNR=405						
PMOR	**Pomariorio Nee**	**35.44**	**167**	*e*T	T	17 27 36.8	
	comp=N,32nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**35.51**	**274**	T	T	17 28 09.4	
	baz=82,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**35.51**	**274**	T	T	17 28 10.0	
	baz=82,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**35.52**	**274**	T	T	17 28 11.4	
	baz=82,slow=75,SNR=19						
NVAR	**Mina Array Bea**	**37.23**	**52**	P	**P**	**16 51 10.6**	**+1.4**
	comp=N,0.5nm,0.6s,baz=246,slow=12,SNR=5.1						
NVAR				PcP	**PcP**	**16 53 29.5**	**+0.9**
	comp=N,0.2nm,0.6s,baz=226,slow=5.1,SNR=5.0						
NVAR	**Mina Array Bea**	**37.23**	**52**	P	**P**	**16 51 07.2**	**-1.9**
PPT2	**Papeete2**	**37.65**	**170**	*e*LR	LR	17 01 18.1	
	comp=N,189nm,25.2s						
PPT2	**Papeete2**	**37.65**	**170**	*e*T	T	17 30 24.3	
	comp=N,2.4nm,0.2s						
H02S1	**DAWSON INLET T**	**37.84**	**23**	T	T	17 31 00.2	
	SNR=89						
I07A	**Izee**	**38.62**	**43**	P	**P**	**16 51 22.2**	**+1.6**
I07A				IAmb	IAmb	16 51 34.3	
	comp=Z,5.2nm,1.3s						
BMN	**Battle Mountai**	**38.70**	**49**	P	**P**	**16 51 20.3**	**-1.1**
F10A	**Beach Ranch, E**	**40.92**	**41**	P	**P**	**16 51 41.6**	**+1.9**
F10A				IAmb	IAmb	16 51 42.3	
	comp=Z,4.2nm,0.9s						
PLID	**Pearl Lake**	**41.31**	**43**	P	**P**	**16 51 43.9**	**+0.8**
HLID	**Hailey**	**41.77**	**46**	P	**P**	**16 51 48.3**	**+1.4**
NEW	**Newport**	**42.05**	**38**	P	**P**	**16 51 47.6**	**-1.2**
LPIG	**La Paz**	**42.16**	**76**	LR	LR	17 06 30.9	
	comp=Z,43nm,19.1s,baz=239,slow=32						
HVU	**Hansel Valley**	**42.32**	**49**	P	**P**	**16 51 52.9**	**+1.6**
L19K	**White Mountain**	**42.34**	**1**	P	**P**	**16 51 52.3**	**+1.3**
L19K				IAmb	IAmb	16 52 10.3	
	comp=Z,9.3nm,1.2s						
BARN	**Barnard Glacie**	**42.38**	**10**	P	**P**	**16 51 54.0**	**+2.4**
BARN				IAmb	IAmb	16 52 08.5	
	comp=Z,15nm,1.3s						
SLBS	**Sierra La Lagu**	**42.52**	**76**	P	**P**	**16 51 54.9**	**+1.8**
SLBS				IAmb	IAmb	16 52 01.1	
	comp=Z,19nm,1.4s						
DLBC	**Dease Lake**	**42.87**	**20**	LR	LR	17 07 43.3	
	comp=Z,72nm,18.9s,baz=217,slow=33						
TTA	**Tatalina**	**43.08**	**360**	P	**P**	**16 51 57.5**	**+0.4**
TTA				IAmb	IAmb	16 52 17.2	
	comp=Z,12nm,1.4s						
PPLA	**Purkeypile**	**43.12**	**2**	P	**P**	**16 51 58.1**	**+0.6**
P17A	**Butcher Ranch,**	**43.19**	**53**	P	**P**	**16 51 59.8**	**+1.4**
SRU	**San Rafael Swe**	**43.27**	**54**	P	**P**	**16 52 00.5**	**+1.4**
SRU				IAmb	IAmb	16 52 02.3	
	comp=Z,5.4nm,0.9s						
MCMT	**McKenzie Canyo**	**43.28**	**45**	P	**P**	**16 52 00.4**	**+1.3**
KTH	**Kantishna Hill**	**43.83**	**3**	P	**P**	**16 52 03.9**	**+0.8**
TPAW	**Teton Pass**	**44.12**	**47**	P	**P**	**16 52 07.5**	**+1.5**
TPAW				IAmb	IAmb	16 52 08.4	
	comp=Z,5.2nm,1.0s						
L27K	**Beaver Creek,**	**44.25**	**9**	P	**P**	**16 52 08.1**	**+1.6**
BCAR	**Beaver Creek A**	**44.26**	**9**	P	**P**	**16 52 07.9**	**+1.4**
RDMU	**Red Mountain**	**44.32**	**52**	P	**P**	**16 52 09.2**	**+1.6**
RDMU				IAmb	IAmb	16 52 10.1	
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**44.36**	**44**	P	**P**	**16 52 10.0**	**+2.3**
PV13	**Radium Mtn., P**	**44.37**	**55**	P	**P**	**16 52 09.0**	**+0.9**
PV13				IAmb	IAmb	16 52 10.2	
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**44.89**	**49**	P	**P**	**16 52 13.1**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=238,slow=5.1,SNR=6.7						
WRH	**Wood River Hil**	**44.92**	**5**	P	**P**	**16 52 12.7**	**+1.0**
WRH				IAmb	IAmb	16 52 28.6	
	comp=Z,14nm,1.5s						
CCB	**Clear Creek Bu**	**45.12**	**5**	P	**P**	**16 52 13.8**	**+0.5**
LENM	**Lemitar**	**45.29**	**61**	P	**P**	**16 52 16.0**	**+0.6**
IL31		**45.32**	**5**	P	**P**	**16 52 14.8**	**0.0**
IL31				IAmb	IAmb	16 52 17.7	
	comp=Z,7.3nm,1.4s						
ILAR	**Eielson Array**	**45.32**	**5**	P	**P**	**16 52 15.2**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=198,slow=7.4,SNR=12						
ILAR				PcP	**PcP**	**16 53 55.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=210,slow=5.6,SNR=2.2						
ILAR				LR	LR	17 06 25.3	
	comp=Z,49nm,21.2s,baz=211,slow=30						
MDM	**Murphy Dome**	**45.39**	**4**	P	**P**	**16 52 16.2**	**+0.7**
MDM				IAmb	IAmb	16 52 17.1	
	comp=Z,6.6nm,1.0s						
MNTX	**Cornudas Mount**	**46.47**	**65**	P	**P**	**16 52 26.6**	**+2.1**
MNTX				IAmb	IAmb	16 52 27.2	
	comp=Z,2.4nm,0.7s						
N23A	**Red Feather La**	**47.08**	**52**	P	**P**	**16 52 30.7**	**+1.2**
FYU	**Fort Yukon**	**47.23**	**6**	P	**P**	**16 52 31.2**	**+1.4**
T25A	**Trinidad**	**47.68**	**57**	P	**P**	**16 52 36.1**	**+2.0**
T25A				IAmb	IAmb	16 52 40.8	
	comp=Z,2.5nm,0.9s						
TX31	**Lajitas Ar. Si**	**47.92**	**68**	P	**P**	**16 52 37.8**	**+1.9**
TX32	**Lajitas Array**	**47.92**	**68**	P	**P**	**16 52 37.9**	**+2.0**
TX32				IAmb	IAmb	16 52 38.7	
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**47.92**	**68**	P	**P**	**16 52 37.8**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=259,slow=8.7,SNR=21						
TXAR				PcP	**PcP**	**16 54 04.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=235,slow=2.9,SNR=1.2						
TXAR	**Lajitas Array**	**47.92**	**68**	P	**P**	**16 52 37.6**	**+1.7**
PETK	**Petropavlovsk-**	**48.80**	**324**	LR	LR	17 10 15.6	
	comp=Z,53nm,20.8s,baz=122,slow=33						
INK	**Inuvik**	**50.43**	**10**	P	**P**	**16 52 55.1**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=197,slow=6.1,SNR=6.4						
INK	**Inuvik**	**50.43**	**10**	IAmb	IAmb	16 52 55.8	
	comp=Z,6.5nm,1.2s						
YKA	**Yellowknife Ar**	**51.10**	**23**	P	**P**	**16 53 00.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=232,slow=7.3,SNR=3.8						
YKA				PcP	**PcP**	**16 54 14.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=72,slow=36,SNR=0.8						
BILL	**Bilibino**	**53.77**	**343**	P	**P**	**16 53 19.7**	**+0.5**
BILL				IAmb	IAmb	16 53 31.8	
	comp=Z,3.4nm,1.1s						
ECSD	**EROS Data Cent**	**54.34**	**50**	P	**P**	**16 53 23.6**	**-0.2**
ECSD				IAmb	IAmb	16 53 37.3	
	comp=Z,6.0nm,1.2s						
MA2	**Magadan**	**54.92**	**330**	LR	LR	17 12 35.1	
	comp=Z,36nm,21.3s,baz=102,slow=32						
ASAJ	**Asahikawa**	**56.29**	**310**	LR	LR	17 12 34.9	
	comp=Z,50nm,21.3s,baz=150,slow=31						
S39A	**Bolivar**	**56.52**	**57**	P	**P**	**16 53 40.2**	**+0.5**
U40A	**Yellville**	**56.91**	**59**	P	**P**	**16 53 42.5**	**0.0**
U40A				IAmb	IAmb	16 53 43.9	
	comp=Z,4.3nm,0.8s						
R40A	**Maddies Statio**	**57.35**	**57**	P	**P**	**16 53 45.6**	**+0.1**
JHJ	**Hachijo jima 2**	**58.47**	**297**	LR	LR	17 18 57.5	
	comp=Z,29nm,18.1s,baz=100,slow=36						
FCC	**Fort Churchill**	**58.60**	**32**	P	**P**	**16 53 53.9**	**+0.1**
FCC				IAmb	IAmb	16 54 03.1	
	comp=Z,3.4nm,1.1s						
N47A	**Urbana**	**62.36**	**54**	P	**P**	**16 54 19.5**	**-0.4**
SWET	**Sewanee**	**62.60**	**60**	P	**P**	**16 54 21.8**	**+0.2**
SWET				IAmb	IAmb	16 54 31.5	
	comp=Z,4.6nm,1.3s						
E46A	**Sault Ste Mari**	**63.17**	**47**	P	**P**	**16 54 24.8**	**-0.4**
TZTN	**Tazewell**	**64.38**	**58**	P	**P**	**16 54 33.8**	**+0.4**
RPN	**Rapa Nui**	**64.76**	**135**	LR	LR	17 16 29.6	
	comp=Z,76nm,21.9s,baz=112,slow=30						
KSRS	**Korea Array**	**67.65**	**303**	LR	LR	17 23 17.2	
	comp=Z,14nm,18.8s,baz=260,slow=35						
JTS	**Las Juntas de**	**68.56**	**86**	LR	LR	17 17 29.7	
	comp=Z,32nm,20.3s,baz=84,slow=29						
NJ2	**Nanjing**	**76.04**	**299**	*e*P	**P**	**16 55 43.4**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
SFJD	**Kangerlussuaq**	**77.66**	**23**	LR	LR	17 27 13.3	
	comp=Z,31nm,19.3s,baz=272,slow=34						
WRA	**Warramunga Arr**	**79.10**	**244**	P	**P**	**16 56 01.6**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=62,slow=5.6,SNR=3.3						
HHC	**Hu-ho-hao-te**	**79.32**	**310**	*e*P	**P**	**16 56 01.8**	**-1.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
SONM	**Songino Array**	**80.70**	**317**	P	**P**	**16 56 09.6**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=96,slow=6.0,SNR=4.1						
SONM				LR	LR	17 33 22.1	
	comp=Z,22nm,18.2s,baz=218,slow=37						
SONM	**Songino Array**	**80.70**	**317**	IAmb	IAmb	16 56 11.9	
	comp=Z,1.3nm,0.9s						
ASAR	**Alice Springs**	**81.09**	**241**	P	**P**	**16 56 13.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=63,slow=6.1,SNR=6.3						
SPITS	**Spitsbergen Ar**	**82.10**	**2**	LR	LR	17 29 47.1	
	comp=Z,42nm,18.4s,baz=197,slow=34						
SDV	**Santo Domingo**	**82.42**	**83**	P	**P**	**16 56 20.6**	**+0.4**
ZALV	**Zalesovo Beam**	**90.13**	**329**	P	**P**	**16 56 58.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=42,slow=4.6,SNR=6.4						
ZALV				LR	LR	17 35 07.8	
	comp=Z,34nm,20.9s,baz=48,slow=34						
H03N2	**Juan Fernandez**	**90.25**	**126**	T	T	18 36 28.1	
	baz=298,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**90.26**	**126**	T	T	18 36 28.1	
	baz=298,slow=76,SNR=19						
H03N1	**Juan Fernandez**	**90.27**	**126**	T	T	18 36 30.7	
	baz=298,slow=76						
WMQ	**Urumqi**	**94.18**	**320**	*e*P	**P**	**16 57 16.4**	**+0.1**
NOA	**NORSAR Array B**	**98.74**	**6**	LR	LR	17 41 11.3	
	comp=Z,9.9nm,20.0s,baz=90,slow=35						
ARU	**Arti**	**98.75**	**342**	LR	LR	17 43 00.5	
	comp=Z,26nm,21.2s,baz=110,slow=36						

*NDI **20** 16:54:09.6±3.3, 30°.58N × 93°.31E, h10km, mb4.8*
*IDC **20** 16:54:10.7±0.5, 29°.86N × 93°.22E, h0km, mb4.2/24, mb1 4.4/27, mb1mx4.3/44, mbtmp4.2/27, ML3.8/3, MS3.4/29, Ms1 3.4/29, ms1mx3.3/87, Error ellipse: s-maj=16.2km s-min=11.8km az=47.0*
*MOS **20** 16:54:10.6±0.9, 29°.86N × 93°.15E, h11km, mb4.7/20, Error ellipse: s-maj=7.4km s-min=4.5km az=115.7*
*BJI **20** 16:54:11.4±0.0, 29°.88N × 93°.17E, h7km, mb4.6/57, mB4.8/27, ML4.1/7, Ms4.2/51, Ms7 4.0/41*
*NEIC **20** 16:54:13.1±1.4, 29°.96N±0°.08 × 93°.20E±0°.06, h10km±1km, mb4.7/125, ML4.2(BJI), Error ellipse: s-maj=13.6km s-min=8.0km az=202.0*

ISC 20 16:54:12.4±0.3, 29°87N±0°.03 × 93°09E±0°.03, h10km, n363, σ1§38/367, mb4.7/128, MS3.5/35, 27C-14D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**1.70**	**265**	P	**Pn**	**16 54 42.9**	**+0.4**
LSA	**Lhasa**	**1.70**	**265**	Pn	**Pn**	**16 54 42.9**	**+0.4**
LSA	**Lhasa**	**1.70**	**265**	Pg	**Pn**	**16 54 43.1**	**+0.6**
LSA				Sg	**Sn**	**16 54 59.5**	**-5.0**
LSA				smax	smax		
	comp=N,2μm,0.7s						
LSA				smax	smax		
	comp=E,1μm,0.6s						
ITAN	**ITANAGAR**	**2.78**	**168**	*e*P	**Pb**	**16 55 02.4**	**+0.3**
DIBR	**DIBRUGARH**	**2.88**	**146**	*e*P	**Pb**	**16 55 03.8**	**-0.1**
TEZP	**TEZPUR**	**3.26**	**185**	*e*P	**Pb**	**16 55 09.2**	**-1.1**
TEZP				*e*S	**Sb**	**16 55 53.0**	**+3.0**
JORH	**JORHAT**	**3.28**	**162**	*e*P	**Pb**	**16 55 12.0**	**+1.2**
JORH				*e*S	**Sg**	**16 55 54.2**	**-3.7**
LKP	**Lekhapani**	**3.50**	**136**	*e*P	**Pn**	**16 55 09.2**	**+2.2**
GUWA	**GUWAHATI**	**3.87**	**199**	*e*P	**Pb**	**16 55 20.0**	**-0.8**
GUWA				*e*S	**Sg**	**16 56 12.2**	**-4.5**
SHL	**Shillong**	**4.42**	**194**	P	**Pn**	**16 55 21.6**	**+1.8**
SHL	**Shillong**	**4.42**	**194**	Pn	**Pn**	**16 55 21.6**	**+1.8**
SHL	**Shillong**	**4.42**	**194**	*e*P	**Pn**	**16 55 21.6**	**+1.8**
GTK	**Tadong**	**4.70**	**238**	*e*P	Pn	16 55 28.7	+5.2
TURI	**Tura**	**4.95**	**210**	*e*P	**Pb**	**16 55 35.2**	**-4.1**
TAPN	**Taplejung** 109nm,0.5s	**5.36**	**243**	*e*P	Pn	16 55 38.6	+5.9
ODAN	**Odare** 234nm,0.7s	**5.85**	**241**	*e*P	Pn	16 55 45.8	+6.3
RAMN	**Ramite** 42nm,0.4s	**6.42**	**245**	*e*P	Pn	16 55 52.5	+5.3
JIRN	**Jiri** 27nm,0.5s	**6.45**	**252**	*e*P	**Pn**	**16 55 51.0**	**+3.3**
GOMU	**GeErMu**	**6.47**	**12**	Pn	**Pn**	**16 55 51.0**	**+3.0**
GOMU				Sn	**Sn**	**16 56 58.3**	**-3.8**
GOMU				LR	LR		
	comp=N,980nm,5.6s						
GOMU				LR	LR		
	comp=E,440nm,7.8s						
GOMU				LR	LR		
	comp=Z,1μm,8.9s						
GUN	**Gumba** 24nm,0.3s	**6.62**	**255**	*e*P	**Pn**	**16 55 53.0**	**+2.9**
PKI	**Pulchoki** 25nm,0.5s	**7.13**	**253**	*e*P	**Pn**	**16 56 00.2**	**+3.2**
PKIN	**Phulchoki** 38nm,0.5s	**7.13**	**253**	*e*P	**Pn**	**16 55 59.9**	**+2.8**
KKN	**Kakani** 36nm,0.5s	**7.16**	**255**	*e*P	**Pn**	**16 55 59.9**	**+2.5**
DMN	**Daman** 39nm,0.6s	**7.37**	**254**	*e*P	**Pn**	**16 56 02.8**	**+2.5**
GKN	**Gorkha** 29nm,0.5s	**7.64**	**258**	*e*P	**Pn**	**16 56 05.4**	**+1.5**
DANN	**Dangsing** 63nm,0.6s	**8.30**	**262**	*e*P	**Pn**	**16 56 13.7**	**+0.5**
PZH	**PanZhiHua**	**8.34**	**112**	P	**Pn**	**16 56 14.4**	**+0.9**
PZH				sP	sPn	16 56 16.8	-2.2
PZH				S	**Sn**	**16 57 47.3**	**-0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,4.8s						
PZH				LR	LR		
	comp=N,290nm,6.6s						
PZH				LR	LR		
	comp=E,300nm,5.9s						
PZH				LR	LR		
	comp=Z,410nm,7.3s						
KOLN	**Koldanda**	**8.59**	**258**	*e*P	**Pn**	**16 56 18.9**	**+1.9**
BOK	**Bokaro**	**8.83**	**228**	*e*P	**Pn**	**16 56 22.7**	**+2.5**
PYUN	**Piuthan** 38nm,0.6s	**9.02**	**261**	*e*P	**Pn**	**16 56 23.8**	**+0.9**
CD2	**Chengdu**	**9.27**	**81**	P	**Pn**	**16 56 27.8**	**+1.6**
CD2				S	**Sn**	**16 58 13.1**	**+2.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,100nm,5.9s						
CD2				LR	LR		
	comp=N,220nm,10.8s						
CD2				LR	LR		
	comp=E,1μm,9.6s						
CD2				LR	LR		
	comp=Z,1μm,10.2s						
KMI	**Kunming**	**9.79**	**117**	⇓P	**Pn**	**16 56 36.4**	**+3.0**
KMI				sP		16 56 40.1	
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=N,450nm,6.8s						
KMI				LR	LR		
	comp=E,380nm,6.4s						
KMI				LR	LR		
	comp=Z,260nm,8.0s						
LZH	**Lanz

XAN LR LR
comp=Z,940nm,10.3s
XAN LR LR
comp=Z,530nm,13.4s
XAN LR LR
comp=Z,510nm,9.3s
ENH Enshi 14.21 84 Pn **Pn 16 57 30.2 -3.5**
WMQ Urumqi 14.57 344 *eP* **Pn 16 57 37.9 -0.8**
WMQ sP P 16 57 47.6 +2.4
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ LR LR
comp=Z,450nm,12.1s
WMQ LR LR
comp=Z,580nm,9.1s
BHPL Bhopal 15.49 248 *eP* **Pn 16 57 48.2 -2.8**
BHPL IAMs_20 IAMs_20 17 04 24.8
comp=Z,404nm,9.2s
KSH Kashi 17.03 309 P **P 16 58 14.8 +2.2**
KSH pP pP 16 58 17.8 +0.9
KSH sP sP 16 58 20.3 +1.5
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,580nm,14.8s
KSH LR LR
comp=Z,330nm,15.6s
KSH LR LR
comp=Z,340nm,16.7s
LYN LuoYang 17.04 69 *eP* **P 16 58 13.0 +0.4**
LYN S **Sn 17 01 24.6 +4.3**
LYN LR LR
comp=Z,430nm,10.6s
LYN LR LR
comp=Z,280nm,15.7s
LYN LR LR
comp=Z,300nm,11.2s
BTO Baotou 17.46 48 *eP* **Pn 16 58 14.0 -2.1**
BTO S **Sn 17 01 24.4 -6.1**
BTO LR LR
comp=Z,2µm,17.9s
BTO LR LR
comp=Z,1µm,13.1s
PBA Port Blair 18.13 181 P **P 16 58 27.1 +2.3**
UBPT Khong Chiam 18.46 139 **P 16 58 27.0 -1.4**
HHC Hu-ho-hao-te 18.59 49 *eP* **P 16 58 28.3 -1.5**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,190nm,4.6s
HHC LR LR
comp=Z,470nm,9.8s
HHC LR LR
comp=Z,490nm,9.8s
HHC LR LR
comp=Z,550nm,10.8s
QIZ Qiongzhong 18.66 122 P **P 16 58 29.9 -0.7**
QIZ Qiongzhong 18.66 122 P **P 16 58 27.3 -3.3**
QIZ S **Sn 17 01 56.0 -3.7**
QIZ LR LR
comp=Z,170nm,12.4s
QIZ LR LR
comp=Z,150nm,10.4s
QIZ LR LR
comp=Z,160nm,16.0s
BOOM Boomskoye usch 18.67 317 P **P 16 58 30.3 -0.4**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
BOOM Boomskoye usch 18.67 317 P **P 16 58 30.3 -0.4**
MK31 Makanchi Array 18.87 337*c iP* **P 16 58 33.0 +0.3**
MK31 Makanchi Array 18.87 337 P **P 16 58 32.6 -0.1**
MKAR Makanchi Array 18.87 337 P **P 16 58 33.1 +0.4**
comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=35
MKAR LR LR 17 05 40.5
comp=Z,78nm,21.0s,baz=150,slow=36
MKAR Makanchi Array 18.87 337 P **P 16 58 32.6 -0.1**
MAKZ Makanchi 18.99 336 P **P 16 58 34.3 +0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 18.99 336 P **P 16 58 34.3 +0.3**
HNS HongShan 19.48 62 ⇑P **Pn 16 58 44.8 +4.2**
HNS pmax pmax
comp=Z,22nm,0.7s
HNS LR LR
comp=Z,440nm,12.2s
HNS LR LR
comp=Z,180nm,10.4s
HNS LR LR
comp=Z,310nm,12.9s
AAK Ala-Archa 19.62 316 P **Pn 16 58 43.6 +1.1**
comp=Z,0.2nm,0.3s,baz=137,slow=9.5,SNR=11
AAK LR LR 17 07 50.6
comp=Z,141nm,21.1s,baz=118,slow=42
AAK Ala-Archa 19.62 316*ceP* **Pn 16 58 44.2 +1.7**
AAK Ala-Archa 19.62 316 P **P 16 58 41.5 +0.3**
HKPS Hong Kong Po S 20.35 107 P **P 16 58 48.5 -0.6**
SONM Songino Array 20.66 26 P **P 16 58 52.4 0.0**
comp=Z,9.9nm,0.7s,baz=211,slow=12,SNR=39
SONM Songino Array 20.66 26 P **P 16 58 51.7 -0.7**
SONM IAmb IAmb 16 59 00.7
comp=Z,30nm,1.2s
GAR Garm 20.83 302 P **P 16 58 54.6 +0.4**
GAR IAmb IAmb 16 59 00.6
comp=Z,42nm,1.1s
BTK Batken 20.84 305 P **P 16 58 55.2 +0.9**
BTK pmax pmax
comp=Z,21nm,0.8s
BTK Batken 20.84 305 P **P 16 58 55.2 +0.9**
BTK IAmb IAmb 16 59 09.8
comp=Z,22nm,0.8s
KBL Kabul 20.86 289 P **P 16 58 56.2 +1.5**
KBL pmax pmax
comp=Z,97nm,1.1s
KBL Kabul 20.86 289 P **P 16 58 56.2 +1.5**
ULN Ulaanbaatar 20.94 27*d iP* **P 16 58 54.6 -0.8**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 20.94 27 P **P 16 58 54.9 -0.5**
ULN IAmb IAmb 16 58 56.0
comp=Z,18nm,0.8s
TIA Tai'an 21.09 66 ⇑P **P 16 58 57.0 0.0**
TIA pmax pmax
comp=Z,11nm,0.9s
TIA LR LR
comp=Z,390nm,16.4s
TIA LR LR
comp=Z,270nm,12.3s
TIA LR LR
comp=Z,300nm,16.7s
BJT Baijiatuao 21.40 56 P **P 16 59 00.3 0.0**
BJT pmax pmax
comp=Z,10.0nm,0.7s
BJT Baijiatuao 21.40 56 P **P 16 59 00.2 0.0**
BJI Beijing 21.41 56 P **P 16 59 00.8 +0.4**
BJI pmax pmax
comp=Z,15nm,0.7s
BJI LR LR
comp=Z,770nm,14.3s
BJI LR LR
comp=Z,470nm,14.6s
BJI LR LR
comp=Z,670nm,8.8s
CHGR Chuyangaron 21.59 300 P **P 16 59 03.4 +1.0**
CHGR Chuyangaron 21.59 300 P **P 16 59 03.4 +1.0**
ZAK Zakamensk 21.88 18 *eP* **P 16 59 05.8 +0.4**
ZAK pmax pmax
comp=Z,30nm,1.5s
NJ2 Nanjing 22.18 78 *eP* **P 16 59 07.8 -0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
KKAR Karatay Array 22.36 312 P **P 16 59 09.2 -1.4**
KKAR Karatay Array 22.36 312 P **P 16 59 09.2 -1.4**
MOY Mondy 22.55 13 *eP* **P 16 59 14.2 +1.6**
MOY pmax pmax
comp=Z,21nm,1.7s
XLT XiLinHaoTe 23.01 46 *eP* **P 16 59 17.3 -0.2**
XLT pP pP 16 59 22.0 +0.4
XLT sP sP 16 59 23.8 +0.3
XLT S **S 17 03 21.4 -6.8**
XLT pmax pmax
comp=Z,24nm,1.3s
XLT LR LR
comp=Z,290nm,9.7s
XLT LR LR
comp=Z,380nm,11.8s
KURBB Kurchatov Arra 23.43 336 P **P 16 59 22.1 +0.4**
comp=Z,5.0nm,0.6s,baz=148,slow=9.6,SNR=46

KURK Kurchatov 23.48 337*c iP* **P 16 59 22.5 +0.4**
KURK pmax pmax
comp=Z,28nm,1.7s
KURK Kurchatov 23.48 337 P **P 16 59 21.8 -0.3**
KURK IAmb IAmb 16 59 23.8
comp=Z,12nm,0.8s
SSE Sheshan 24.22 80 P **P 16 59 28.1 -1.2**
SSE S **S 17 03 46.8 -1.0**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,73nm,5.3s
SSE LR LR
comp=Z,84nm,16.9s
SSE LR LR
comp=Z,190nm,16.2s
ZAA0 Zalesovo Array 24.80 348 P **P 16 59 34.4 +0.1**
ZAA0 IAmb IAmb 16 59 37.2
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 24.80 348 P **P 16 59 35.3 +1.0**
comp=Z,12nm,1.0s,baz=168,slow=7.6,SNR=30
ZALV LR LR 17 09 59.7
comp=Z,55nm,18.8s,baz=187,slow=38
ZALV Zalesovo Beam 24.80 348 *i* P **P 16 59 35.5 +1.1**
ZALV pmax pmax
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 24.80 348 P **P 16 59 34.2 -0.1**
PALK Pallekele 25.32 210 P **P 16 59 41.2 +1.7**
comp=Z,2.4nm,0.6s,baz=117,slow=10,SNR=4.1
PALK LR LR 17 11 32.8
comp=Z,64nm,18.9s,baz=142,slow=41
PALK Pallekele 25.32 210 P **P 16 59 41.2 +1.7**
PALK pmax pmax
comp=Z,12nm,1.4s
KULM Kulim 25.47 162 P **P 16 59 42.2 +1.4**
KULM IAmb IAmb 16 59 45.8
comp=Z,13nm,1.0s
SSLB Suanglung 25.55 97 P **P 16 59 41.6 0.0**
IPM Ipoh 26.35 162 P **P 16 59 49.2 +0.4**
HRA Herat 26.45 288 P **P 16 59 49.7 -0.1**
TSI Tuntungan 26.74 168 P **P 16 59 55.7 +3.5**
comp=Z,133nm,1.1s
PSI Prapat 27.49 167 LR LR 17 12 25.6
comp=Z,49nm,18.1s,baz=332,slow=40
HIA Hailar 28.00 39⇓*eP* **P 17 00 03.6 +0.2**
HIA pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 28.48 331 P **P 17 00 08.7 +1.1**
comp=Z,2.5nm,0.7s,baz=66,slow=22,SNR=13
BRVK Borovoye 28.55 331*d iP* **P 17 00 09.4 +1.2**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 28.55 331 P **P 17 00 08.7 +0.5**
GSI Gunungsitoli 28.73 171 P **P 17 00 11.0 +0.9**
GSI IAmb IAmb 17 00 19.2
comp=Z,14nm,0.9s
CN2 Changchun 29.18 53 *eP* **P 17 00 14.0 +0.1**
CN2 *ep*P sP 17 00 19.4 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,500nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
KSRS Korea Array 29.83 66 P **P 17 00 17.9 -1.8**
comp=Z,6.1nm,1.1s,baz=260,slow=8.1,SNR=14
KSRS LR LR 17 12 37.2
comp=Z,54nm,20.3s,baz=240,slow=37
KSRS Korea Array 29.83 66 P **P 17 00 18.0 -1.8**
GEYT Alibeck 29.99 295 LR LR 17 15 32.2
comp=Z,36nm,21.2s,baz=137,slow=43
JOW Kunigami 31.04 87 LR LR 17 13 54.5
comp=Z,93nm,18.7s,baz=310,slow=38
BNX BinXian 31.11 50 ⇑P **P 17 00 31.0 +0.1**
BNX pmax pmax
comp=Z,9.0nm,0.5s
BNX pmax pmax
comp=Z,290nm,5.9s
ABKAR Akbulak array 31.70 317 P **P 17 00 36.5 +0.5**
KKM Kota Kinabalu 32.20 133 P **P 17 00 41.6 +0.7**
KKM IAmb IAmb 17 01 10.4
comp=Z,23nm,1.2s
AKTO Aktyubinsk 33.32 318 LR LR 17 16 03.6
comp=Z,84nm,20.0s,baz=122,slow=39
USA0B Ussuriysk Arra 33.85 54 P **P 17 00 55.3 +0.3**
USA0B pmax pmax
comp=Z,8.0nm,1.4s
USA0B Ussuriysk Arra 33.85 54 P **P 17 00 55.3 +0.3**
USA0B IAmb IAmb 17 01 05.4
comp=Z,8.5nm,1.4s
USRK Ussuriysk Ar. 33.85 54 P **P 17 00 54.5 -0.5**
comp=Z,1.7nm,0.6s,baz=262,slow=6.3,SNR=8.7
USRK Ussuriysk Ar. 33.85 54 P **P 17 00 55.0 0.0**
ZEA Zeya 34.35 36 *eP* **P 17 01 00.2 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 35.23 329 *eP* **P 17 01 08.2 +1.5**
SVE pmax pmax
comp=Z,24nm,0.9s
ARU Arti 35.94 328 LR LR 17 16 40.2
comp=Z,68nm,21.9s,baz=116,slow=38
ARU Arti 35.94 328*d iP* **P 17 01 14.1 +1.2**
ARU 17 02 30.4
ARU 17 03 38.5
ARU S **S 17 06 48.4 -2.6**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 35.94 328 P **P 17 01 13.4 +0.5**
ARU IAmb IAmb 17 01 14.9
comp=Z,7.9nm,0.7s
MJAR Matsushiro Arr 38.06 68 P **P 17 01 30.2 -0.9**
comp=Z,1.7nm,0.8s,baz=280,slow=12,SNR=4.7
MJAR LR LR 17 18 54.7
comp=Z,17nm,21.3s,baz=194,slow=39
MJAR Matsushiro Arr 38.06 68 P **P 17 01 30.2 -0.9**
MJAR pmax pmax
comp=Z,7.0nm,1.5s
MJAR Matsushiro Arr 38.06 68 IAmb IAmb 17 01 34.2
comp=Z,6.5nm,1.4s
MAK Makhachkala 38.49 303 *eP* **P 17 01 32.4 -2.2**
MAK *eS* **S 17 07 25.5 -4.5**
MAK pmax pmax
comp=Z,279nm,1.2s
MAK MLR MLR
comp=Z,70nm,14.0s
NRIK Noril'sk 39.63 357 P **P 17 01 43.5 -0.4**
comp=Z,2.8nm,0.5s,baz=159,slow=6.5,SNR=11
NRIK LR LR 17 18 44.3
comp=Z,52nm,18.2s,baz=164,slow=37
NRIK Noril'sk 39.63 357 P **P 17 01 44.2 +0.3**
YAK Yakutsk 40.02 26*ceP* **P 17 01 47.3 +0.1**
YAK pmax pmax
comp=Z,16nm,1.7s
YAK Yakutsk 40.02 26 P **P 17 01 47.0 -0.1**
JMM Marumori 40.04 65 P **P 17 01 46.6 -1.1**
JMM IAmb IAmb 17 01 47.4
comp=Z,36nm,1.0s
GNI Garni 40.47 298 LR LR 17 22 30.2
comp=Z,41nm,20.5s,baz=116,slow=42
JEW Eniwo 40.51 58 P **P 17 01 49.4 -2.2**
KIRV Kirov 41.30 327 LR LR 17 20 35.1
comp=Z,43nm,21.7s,baz=106,slow=38
ASAJ Asahikawa 41.41 56 P **P 17 01 58.3 -0.6**
ASAJ pmax pmax
comp=Z,20nm,1.1s
JKA Kamikawa-asahi 41.41 56 P **P 17 01 58.3 -0.6**
JKA IAmb IAmb 17 02 07.5
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 41.74 52⇑*eP* **P 17 02 01.7 +0.1**
YSS pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 41.89 303 LR LR 17 22 07.3
comp=Z,75nm,21.1s,baz=95,slow=40
KIV Kislovodsk 42.05 304 *eP* **P 17 02 02.8 -1.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,30nm,16.0s
RAYN Ar Rayn 42.75 273 P **P 17 02 10.3 +0.1**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 42.75 273 P **P 17 02 10.3 +0.1**
KAPI Kappang 43.09 139 LR LR 17 22 12.0
comp=Z,57nm,18.7s,baz=281,slow=39

VRH Novokhopyorsk 43.42 314 *eP* **P 17 02 15.5 +0.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
PRGR Permogore 44.29 330 *eP* **P 17 02 21.8 -0.2**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
VORD Divnogorie 44.90 314 *eP* **P 17 02 26.2 -0.8**
VORD pmax pmax
comp=Z,6.0nm,0.7s
LPSR Galich'ya Gora 45.34 316 *eP* **P 17 02 30.0 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 46.11 15⇓*eP* **P 17 02 35.1 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 46.11 15 P **P 17 02 35.5 -0.8**
MOS Moscow 46.59 320 *eP* **P 17 02 40.8 +0.5**
KLMR Klimovskoe 46.79 327 *eP* **P 17 02 41.5 -0.3**
KLMR pmax pmax
comp=Z,25nm,0.9s
KLMR Klimovskoe 46.79 327 *eP* **P 17 02 41.5 -0.3**
KLMR AMP 17 02 43.6
comp=Z,25nm,0.9s
OBN Obninsk 47.09 319 LR LR 17 24 15.3
comp=Z,25nm,21.8s,baz=90,slow=38
OBN Obninsk 47.09 319⇑*eP* **P 17 02 45.0 +0.8**
OBN pmax pmax
comp=Z,9.0nm,1.4s
BNN Bunyan 47.43 297 P **P 17 02 48.1 +0.8**
MMAI Mount Meron Ar 48.79 289 LR LR 17 24 33.2
comp=Z,58nm,19.2s,baz=228,slow=37
BR131 Keskin Array S 49.01 298⇓*eP* **P 17 02 59.0 -0.6**
BRTR Keskin Array B 49.01 298 P **P 17 03 00.3 +0.7**
comp=Z,1.3nm,0.8s,baz=118,slow=7.0,SNR=6.7
BRTR PcP **PcP 17 04 23.4 0.0**
comp=Z,0.5nm,0.8s,baz=104,slow=6.1,SNR=1.9
BRTR Keskin Array B 49.01 298 P **P 17 02 59.6 0.0**
BRTR 17 04 23.4
BRTR Keskin Array B 49.01 298 P **P 17 02 59.6 0.0**
SEY Seymchan 49.94 31 P **P 17 03 05.5 -0.6**
comp=Z,1.8nm,0.7s,baz=270,slow=8.7,SNR=8.7
SEY PcP **PcP 17 04 26.1 -0.1**
comp=Z,2.5nm,0.3s,baz=240,slow=20,SNR=16
SEY Seymchan 49.94 31⇑*eP* **P 17 03 05.8 -0.3**
SEY pmax pmax
comp=Z,13nm,2.5s
AKASG Malin Array Be 51.26 313 P **P 17 03 16.2 -0.1**
comp=Z,4.9nm,0.7s,baz=79,slow=6.7,SNR=27
AKASG PcP **PcP 17 04 30.9 -0.4**
comp=Z,0.3nm,0.5s,baz=79,slow=5.9,SNR=0.9
AKASG LR LR 17 27 32.9
comp=Z,42nm,20.2s,baz=114,slow=39
AKASG Malin Array Be 51.26 313 P **P 17 03 16.0 -0.3**
AKBB Malin Array Si 51.26 313⇑*eP* **P 17 03 16.4 +0.1**
AKBB Malin Array Si 51.26 313 P **P 17 03 16.1 -0.2**
AKBB IAmb IAmb 17 03 17.1
comp=Z,6.7nm,0.8s
SORM Soroca 51.96 310 ⇓P **P 17 03 21.5 0.0**
MNK Minsk 52.05 318 *i* P **P 17 03 22.2 +0.1**
MNK *i* 17 04 33.8
MNK *i* 17 05 27.5
MNK *i* PPP PPP 17 06 22.1
MNK *i* S **S 17 10 47.2 +1.6**
MNK *i* SS **SS 17 14 26.4 +4.0**
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK Minsk 52.05 318 *i* P **P 17 03 22.2 +0.1**
comp=E,2.0nm,0.9s
MNK *i* P **P 17 03 22.2 +0.1**
comp=N,5.0nm,0.9s
MNK *i* P **P 17 03 22.2 +0.1**
comp=Z,21nm,0.9s,baz=90
MNK *i* PcP **PcP 17 04 33.8 -0.3**
MNK *i* PP **PP 17 05 27.6 +7.6**
MNK *i* PPP PPP 17 06 22.2
MNK *i* S **S 17 10 47.2 +1.6**
MNK *i* SS **SS 17 14 26.4 +4.0**
MNK *i* SSS SSS 17 15 52.8
MNK *i* LQ LQ 17 20 16.7
MNK *i* LR LR 17 22 39.8
TIRR Tirgusor 52.27 305 P **P 17 03 24.4 +0.5**
TIRR pmax pmax
comp=Z,66nm,1.4s
TIRR Tirgusor 52.27 305 P **P 17 03 24.4 +0.5**
CFR Carcaliu 52.38 306 ⇑P **P 17 03 25.2 +0.5**
ELL Elmali 52.41 295 P **P 17 03 25.3 0.0**
ELL pmax pmax
comp=Z,43nm,0.8s
ELL Elmali 52.41 295 P **P 17 03 25.3 0.0**
NACGM Naroch 52.69 318 *eP* **P 17 03 28.0 +1.2**
IDID Didziasalis 52.72 319 *eP* **P 17 03 27.9 +0.9**
VSU Vasula 52.79 323*ceP* **P 17 03 28.5 +1.0**
VSU pmax pmax
comp=Z,58nm,0.9s
VSU Vasula 52.79 323 *eP* **P 17 03 28.5 +1.0**
IIGN Ignalina 53.01 319 *eP* **P 17 03 30.0 +0.8**
ISAL Salakas 53.06 319 *eP* **P 17 03 30.6 +1.0**
VRI Vrincioaia 53.28 307 ⇑P **P 17 03 32.8 +1.3**
FIA1 FINESS Array S 53.30 327 P **P 17 03 31.9 +0.7**
FIA1 IAmb IAmb 17 03 52.3
comp=Z,10nm,1.1s
FINES FINESS Array B 53.30 327 P **P 17 03 32.0 +0.8**
comp=Z,4.4nm,0.6s,baz=92,slow=7.4,SNR=23
FINES LR LR 17 29 13.4
comp=Z,59nm,18.2s,baz=100,slow=39
FINES FINESS Array B 53.30 327 P **P 17 03 31.9 +0.6**
PLOR Plostina 53.34 307 ⇑P **P 17 03 33.5 +1.7**
MLR Muntele Rosu 53.88 307 ⇑P **P 17 03 37.6 +1.7**
MLR Muntele Rosu 53.88 307 LR LR 17 30 42.1
comp=Z,74nm,19.3s,baz=241,slow=41
MLR Muntele Rosu 53.88 307 P **P 17 03 36.8 +0.9**
MLR pmax pmax
comp=Z,12nm,0.9s
MLR Muntele Rosu 53.88 307 P **P 17 03 36.8 +0.9**
MLR IAmb IAmb 17 03 38.5
comp=Z,12nm,0.9s
MEF Metsahovi 54.06 325 *eP* **P 17 03 37.6 +0.9**
BURAR Bucovina Array 54.11 309 ⇑P **P 17 03 38.1 +0.6**
BURAR Bucovina Array 54.11 309 P **P 17 03 37.4 -0.1**
DOPR Dopca 54.20 307 ⇑P **P 17 03 39.0 +0.9**
PABE Paberze 54.29 319 P **P 17 03 39.1 +0.5**
MTSE Matsula 54.33 323 *eP* **P 17 03 39.6 +0.8**
VOIR 54.51 307 ⇓P **P 17 03 41.0 +0.5**
ARCES ARCESS Array B 54.52 336 P **P 17 03 40.5 +0.3**
comp=Z,5.9nm,0.9s,baz=98,slow=5.1,SNR=7.9
ARCES LR LR 17 28 35.3
comp=Z,36nm,20.1s,baz=326,slow=38
ARCES ARCESS Array B 54.52 336 P **P 17 03 40.4 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 54.52 336 P **P 17 03 40.4 +0.3**
SUW Suwalki 54.82 317 P **P 17 03 42.3 -0.1**
SUW pmax pmax
comp=Z,31nm,0.9s
SUW Suwalki 54.82 317 P **P 17 03 42.3 -0.1**
SUW Suwalki 54.82 317 *eP* **P 17 03 43.1 +0.7**
RAF Rauma 55.37 326 *eP* **P 17 03 47.2 +0.9**
TRPA Tarpa 55.83 310 ⇑P **P 17 03 51.2 +1.4**
DRGR 55.91 309 ⇑P **P 17 03 51.5 +1.0**
DRGR 55.91 309 P **P 17 03 51.6 +1.0**
DRGR pmax pmax
comp=Z,4.0nm,1.9s
VTS Vitosha 56.28 304 ⇑P **P 17 03 54.7 +1.3**
VTS Vitosha 56.28 304 P **P 17 03 52.9 -0.5**
VTS pmax pmax
comp=Z,5.0nm,1.0s
VTS Vitosha 56.28 304 P **P 17 03 52.9 -0.5**
BILL Bilibino 56.38 26⇓*eP* **P 17 03 54.1 +0.7**
BILL *i* 17 03 59.7
BILL pmax pmax
comp=Z,3.0nm,0.7s
BILL MLR MLR
comp=Z,49nm,13.0s
BILL Bilibino 56.38 26 P **P 17 03 53.4 0.0**
BILL IAmb IAmb 17 04 01.7
comp=Z,9.6nm,1.1s
IDI Anoyia 56.71 295 LR LR 17 32 14.9
comp=Z,18nm,20.2s,baz=100,slow=40
SIRR Siria 56.72 308 ⇑P **P 17 03 57.2 +0.9**
KNRA Kununurra 56.87 138 P **P 17 03 56.8 -0.7**

KNRA IAmb IAmb 17 04 06.0
comp=Z,8.0nm,1.0s
UPP Uppsala 57.46 325 *eP* **P 17 04 02.1 +0.9**
VIKU Vikbolandet 58.06 323 *eP* **P 17 04 05.9 +0.5**
DIVS Divibare 58.29 306 P **P 17 04 07.3 -0.2**
MORH Mrgy, Hungar 58.78 309 ⇑P **P 17 04 10.9 +0.2**
MORC Moravsky Berou 58.81 313 ⇑P **P 17 04 11.9 +0.9**
MORC Moravsky Berou 58.81 313 P **P 17 04 10.9 0.0**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 58.81 313 P **P 17 04 10.9 0.0**
MORC Moravsky Berou 58.81 313 *eP* **P 17 04 11.6 +0.7**
JAVC Velka Javorina 58.90 312 *eP* **P 17 04 13.4 +1.8**
DPC Dobruska-Polom 59.48 314 *eP* **P 17 04 16.4 +0.9**
DPC Dobruska-Polom 59.48 314 *eP* **P 17 04 16.4 +0.9**
OSTC Ostas 59.50 314 *eP* **P 17 04 16.7 +1.0**
VRAC Vranov 59.51 312 LR LR 17 33 43.0
comp=Z,60nm,18.8s,baz=72,slow=40
VRAC Vranov 59.51 312 *eP* **P 17 04 16.7 +1.0**
CHVC Chvalec 59.60 314 *eP* **P 17 04 16.7 +0.3**
UPC Upice 59.64 314 *eP* **P 17 04 17.9 +1.3**
UPC Upice 59.64 314 *eP* **P 17 04 17.9 +1.3**
KRUC Moravsky 59.69 312 *eP* **P 17 04 17.6 +0.7**
NC405 NORSAR Array S 60.23 326 P **P 17 04 20.5 0.0**
CONA Conrad Observa 60.27 311 *i* P **P 17 04 21.6 +0.5**
comp=Z,8.3nm,1.1s
NC602 NORSAR Array S 60.37 326 P **P 17 04 21.3 -0.2**
NC303 NORSAR Array S 60.38 327 P **P 17 04 21.6 +0.1**
NB201 NORSAR Array S 60.45 326 P **P 17 04 22.0 0.0**
NB2 NORSAR Subarra 60.48 326 P **P 17 04 22.6 +0.3**
comp=Z,3.4nm,0.6s,baz=81,slow=6.9
NOA NORSAR Array B 60.48 326 P **P 17 04 22.4 +0.2**
comp=Z,4.7nm,0.7s,baz=82,slow=6.7,SNR=18
NOA LR LR 17 30 57.5
comp=Z,34nm,20.6s,baz=85,slow=36
LODK Lodwar 60.51 256 P **P 17 04 23.0 -0.2**
NC204 NORSAR Array S 60.66 327 P **P 17 04 23.4 -0.1**
PRU Pruhonice 60.67 313 *eP* **P 17 04 24.8 +1.1**
PRU Pruhonice 60.67 313 *eP* **P 17 04 24.8 +1.1**
NAO01 NORSAR Array S 60.67 326 P **P 17 04 23.4 -0.2**
NBO00 NORSAR Array S 60.70 326 P **P 17 04 23.8 +0.1**
BRG Berggiesshubel 60.85 315 *eP* **P 17 04 25.8 +0.8**
BRG Amp 17 04 27.0
comp=Z,4.9nm,1.0s
BRG Berggiesshubel 60.85 315 *eP* **P 17 04 25.7 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.0s
CKRC Cesky Krumlov 61.08 312 *eP* **P 17 04 27.2 +0.7**
PBCC Pribram 61.08 313 *eP* **P 17 04 27.3 +0.8**
SOKA Soboth 61.11 310 *eP* **P 17 04 27.1 +0.3**
comp=Z,2.6nm,0.7s
MOA Molln 61.34 311 *i* P **P 17 04 28.6 +0.3**
comp=Z,4.4nm,1.1s
KMBO Kilima Mbogo 61.45 250⇑ *eP* **P 17 04 30.2 +0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
GEC2 GERESS Array S 61.47 312 P **P 17 04 29.4 +0.2**
GEC2 IAmb IAmb 17 04 30.8
comp=Z,10nm,1.2s
GERES GERESS Array B 61.47 312 P **P 17 04 29.3 +0.1**
comp=Z,2.5nm,0.9s,baz=69,slow=7.3,SNR=21
GERES LR LR 17 32 25.4
comp=Z,57nm,20.5s,baz=70,slow=37
GERES GERESS Array B 61.47 312 P **P 17 04 29.5 +0.2**
GERES GERESS Array B 61.47 312 P **P 17 04 29.4 +0.2**
KHC Kasperske Hory 61.48 313 *eP* **P 17 04 29.8 +0.6**
KHC Kasperske Hory 61.48 313 *eP* **P 17 04 29.8 +0.6**
KONO Kongsberg 61.52 325 P **P 17 04 29.3 +0.1**
KONO pmax pmax
comp=Z,17nm,1.4s
KONO Kongsberg 61.52 325 P **P 17 04 29.3 +0.1**
TRI Trieste 62.21 309 P **P 17 04 34.0 -0.1**
TRI pmax pmax
comp=Z,6.0nm,0.9s
TRI Trieste 62.21 309 P **P 17 04 34.0 -0.1**
TRI IAmb IAmb 17 04 35.5
comp=Z,6.3nm,0.9s
MOX Moxa 62.35 315 *eL* L 17 36 21.9
comp=Z,44nm,20.3s
ABTA Abfaltersbach 62.77 310 *eP* **P 17 04 37.2 -0.8**
comp=Z,3.0nm,1.0s
GRA1 Grafenberg Arr 62.83 314 P **P 17 04 38.8 +0.5**
GRA1 IAmb IAmb 17 04 40.3
comp=Z,12nm,1.2s
GRF Grafenberg Arr 62.83 314 P **P 17 04 38.8 +0.5**
GRF pmax pmax
comp=Z,12nm,1.2s
GRF Grafenberg Arr 62.83 314 *eP* **P 17 04 39.0 +0.7**
comp=Z,11nm,1.1s,baz=75,slow=5.9
GRF *eL* L 17 35 03.0
comp=Z,36nm,20.3s
GRFO Grafenberg 62.83 314 P **P 17 04 38.7 +0.4**
GRFO pmax pmax
comp=Z,13nm,1.3s
GRFO Grafenberg 62.83 314 P **P 17 04 38.6 +0.4**
GRFO IAmb IAmb 17 04 40.2
comp=Z,13nm,1.3s
WTTA Wattenberg 63.21 311 *eP* **P 17 04 40.8 -0.2**
comp=Z,2.7nm,0.7s
WB0 Warramunga Arr 63.39 136 P **P 17 04 41.5 -0.8**
WB0 IAmb IAmb 17 04 44.3
comp=Z,5.4nm,0.9s
NRCA Norcia 63.45 306 P **P 17 04 41.8 -0.8**
NRCA IAmb IAmb 17 04 44.8
comp=Z,4.3nm,0.9s
WRAB Tennant Creek 63.49 136⇑ *eP* **P 17 04 42.6 -0.3**
WRAB pmax pmax
comp=Z,13nm,1.7s
WRAB Tennant Creek 63.49 136 P **P 17 04 42.1 -0.8**
WRAB IAmb IAmb 17 04 43.4
comp=Z,7.4nm,1.1s
WRA Warramunga Arr 63.49 136 P **P 17 04 42.3 -0.6**
comp=Z,2.0nm,0.9s,baz=328,slow=7.3,SNR=14
WRA Warramunga Arr 63.49 136 P **P 17 04 42.6 -0.4**
WRA Warramunga Arr 63.49 136 P **P 17 04 42.6 -0.4**
SQTA Sankt Quirin 63.50 311 *eP* **P 17 04 42.4 -0.4**
comp=Z,3.1nm,0.7s
WB2 Warramunga Arr 63.50 136 P **P 17 04 42.4 -0.6**
WB2 IAmb IAmb 17 04 43.4
comp=Z,6.1nm,1.1s
MOTA Moosalm 63.53 311 *eP* **P 17 04 43.4 +0.3**
comp=Z,4.7nm,1.0s
CTI Castel Tesino 63.53 310 P **P 17 04 42.7 -0.4**
CTI pmax pmax
comp=Z,3.0nm,0.9s
CTI Castel Tesino 63.53 310 P **P 17 04 42.7 -0.4**
WR0 Warramunga Arr 63.63 136 P **P 17 04 43.1 -0.7**
WR0 IAmb IAmb 17 04 51.7
comp=Z,11nm,1.4s
RETA Reutte 63.72 311 *eP* **P 17 04 44.4 +0.1**
comp=Z,2.4nm,0.7s
FETA Feichten 63.87 311 *eP* **P 17 04 45.0 -0.4**
comp=Z,4.4nm,1.1s
DAVA Damuels 64.35 311 *eP* **P 17 04 48.5 0.0**
comp=Z,4.8nm,1.1s
DAVOX Davos/Dischmat 64.50 311 LR LR 17 35 52.3
comp=Z,77nm,21.6s,baz=65,slow=39
TUE Stuetta 64.94 311 P **P 17 04 52.5 +0.1**
TUE IAmb IAmb 17 05 02.8
comp=Z,4.1nm,0.9s
WLF Walferdange 65.99 315 *dP* **P 17 04 59.4 +0.4**
comp=Z,8.2nm,1.0s
AS31 Alice Springs 66.11 139 P **P 17 04 59.5 -0.5**
ASAR Alice Springs 66.11 139 P **P 17 04 59.7 -0.3**
comp=Z,2.5nm,0.6s,baz=322,slow=6.7,SNR=75
ASAR Alice Springs 66.11 139 P **P 17 04 59.4 -0.6**
BCLA Clavier 66.27 316 *dP* **P 17 05 00.8 +0.1**
comp=Z,4.6nm,1.0s
SENIN Lac Senin/Sane 66.32 311 P **P 17 05 01.1 -0.3**
SENIN IAmb IAmb 17 05 04.4
comp=Z,5.8nm,0.8s
BGES Gesves 66.42 316 *dP* **P 17 05 02.2 +0.6**
comp=Z,4.2nm,1.0s
BNI Bardonecchia 67.16 310 P **P 17 05 06.1 -0.6**
BNI pmax pmax
comp=Z,8.0nm,1.3s
BNI Bardonecchia 67.16 310 P **P 17 05 06.1 -0.6**
BNI IAmb IAmb 17 05 30.9
comp=Z,7.6nm,1.3s
ANM Nome 68.16 27 P **P 17 05 13.2 +0.8**
ANM pmax pmax
comp=Z,6.0nm,1.1s
ANM Nome 68.16 27 P **P 17 05 13.2 +0.8**
ANM IAmb IAmb 17 05 14.4
comp=Z,6.0nm,1.1s

ESK Eskdalemuir 69.38 323 P **P 17 05 20.5 +0.3**
ESK pmax pmax
comp=Z,19nm,1.1s
ESK Eskdalemuir 69.38 323 P **P 17 05 20.5 +0.3**
SCO Scoresbysund 69.93 341 P **P 17 05 23.9 +0.6**
SCO pmax pmax
comp=Z,7.0nm,1.1s
SCO Scoresbysund 69.93 341 P **P 17 05 23.9 +0.6**
SCO IAmb IAmb 17 05 29.7
comp=Z,6.6nm,1.1s
EUNU Eureka 70.30 360 P **P 17 05 26.4 +0.8**
TOLK Toolik Lake Re 71.64 20 P **P 17 05 34.1 +0.3**
TOLK IAmb IAmb 17 05 42.9
comp=Z,6.0nm,0.8s
H21K Melozitna Rive 72.30 23 P **P 17 05 38.3 +0.5**
H21K IAmb IAmb 17 05 39.6
comp=Z,12nm,1.4s
J20K Nowinta River 72.64 25 P **P 17 05 40.8 +0.9**
J20K IAmb IAmb 17 05 43.0
comp=Z,9.1nm,1.3s
I21K Tanana 72.86 24 P **P 17 05 40.8 -0.3**
TULEG Thule 73.24 356 P **P 17 05 42.7 -0.4**
TULEG IAmb IAmb 17 06 04.9
comp=Z,9.5nm,1.1s
CAST Castle Rocks 73.83 25 P **P 17 05 47.3 +0.4**
CAST IAmb IAmb 17 05 49.0
comp=Z,14nm,1.3s
BPAW Bear Paw Mtn. 73.83 24 P **P 17 05 47.5 +0.6**
BMAR Burnt Mountain 73.87 20 P **P 17 05 47.9 +0.8**
PPLA Purkeypile 74.09 26 P **P 17 05 49.0 +0.4**
PPLA IAmb IAmb 17 06 02.9
comp=Z,16nm,1.2s
MDM Murphy Dome 74.27 23 P **P 17 05 49.9 +0.4**
MDM IAmb IAmb 17 05 58.0
comp=Z,8.0nm,1.1s
MCK McKinley 74.78 24 P **P 17 05 52.8 +0.4**
MCK McKinley 74.78 24 P **P 17 05 52.8 +0.4**
MCK IAmb IAmb 17 06 20.5
comp=Z,8.2nm,1.2s
IL31 74.84 23 P **P 17 05 52.7 0.0**
IL31 IAmb IAmb 17 06 00.0
comp=Z,6.0nm,1.2s
ILAR Eielson Array 74.84 23 P **P 17 05 52.8 +0.1**
comp=Z,3.4nm,1.0s,baz=296,slow=4.9,SNR=19
ILAR Eielson Array 74.84 23 P **P 17 05 52.7 -0.1**
A36M Sachs Harbour 74.99 12 P **P 17 05 53.6 +0.2**
A36M IAmb IAmb 17 06 01.2
comp=Z,7.5nm,0.8s
DHY Denali Highway 75.74 24 P **P 17 05 58.3 +0.1**
DHY IAmb IAmb 17 06 27.3
comp=Z,9.8nm,1.2s
SML Sawmill 76.18 25 P **P 17 06 00.5 -0.1**
RIDG Independent Ri 76.19 23 P **P 17 06 00.3 -0.3**
RIDG IAmb IAmb 17 06 13.3
comp=Z,14nm,1.2s
INK Inuvik 76.22 16 P **P 17 06 00.1 -0.4**
comp=Z,2.0nm,0.8s,baz=29,slow=4.9,SNR=3.1
SCRK Sand Creek 76.32 22 P **P 17 06 01.4 0.0**
SCRK IAmb IAmb 17 06 02.1
comp=Z,5.1nm,0.8s
ESDC Sonseca Array 76.54 308 P **P 17 06 02.5 -0.5**
comp=Z,3.1nm,0.8s,baz=52,slow=6.1,SNR=22
ESDC LR LR 17 42 52.7
comp=Z,46nm,18.3s,baz=135,slow=38
ESDC Sonseca Array 76.54 308 P **P 17 06 02.8 -0.2**
SCM Sheep Creek Mo 76.54 25 P **P 17 06 03.0 +0.4**
SCM pmax pmax
comp=Z,42nm,1.4s
SCM Sheep Creek Mo 76.54 25 P **P 17 06 03.0 +0.4**
EGAK Eagle 76.68 21 P **P 17 06 03.0 -0.3**
EGAK IAmb IAmb 17 06 12.5
comp=Z,4.8nm,0.9s
STKA Stephens Creek 76.75 139 P **P 17 06 02.9 -1.1**
comp=Z,1.3nm,0.6s,baz=291,slow=11,SNR=4.4
PAB San Pablo 76.86 308 P **P 17 06 03.8 -1.1**
PAB pmax pmax
comp=Z,14nm,1.5s
PAB San Pablo 76.86 308 P **P 17 06 03.8 -1.1**
PAB IAmb IAmb 17 06 20.8
comp=Z,14nm,1.5s
L27K Beaver Creek, 77.65 22 P **P 17 06 09.8 +1.0**
L27K IAmb IAmb 17 06 19.5
comp=Z,15nm,1.4s
BCAR Beaver Creek A 77.66 22 P **P 17 06 09.7 +0.8**
N25K Chitina, Valde 77.68 24 P **P 17 06 09.8 +0.7**
N25K IAmb IAmb 17 06 10.6
comp=Z,11nm,0.9s
DAWY Dawson 77.73 21 P **P 17 06 09.4 +0.2**
M27K Edge Creek, AK 78.12 23 P **P 17 06 12.7 +1.2**
M27K IAmb IAmb 17 06 21.3
comp=Z,12nm,1.1s
MCARA McCarthy VSAT 78.39 24 P **P 17 06 13.8 +0.9**
TGL Tana Glacier 78.89 24 P **P 17 06 16.7 +0.9**
CTGM Chitina Glacie 79.27 24 P **P 17 06 19.0 +1.1**
GRNC Granite Creek 79.29 24 P **P 17 06 18.8 +0.7**
GRNC IAmb IAmb 17 06 25.0
comp=Z,13nm,1.1s
SFJD Kangerlussuaq 79.60 346 P **P 17 06 19.6 +0.2**
SFJD pmax pmax
comp=Z,10.0nm,1.0s
SFJD Kangerlussuaq 79.60 346 P **P 17 06 19.6 +0.2**
SFJD IAmb IAmb 17 06 19.6
comp=Z,9.6nm,0.9s
SFS San Fernando 79.62 306 P **P 17 06 19.3 -0.8**
SFS pmax pmax
comp=Z,171nm,0.9s
SFS San Fernando 79.62 306 P **P 17 06 19.2 -0.8**
PVAQ Vaqueiros 80.21 307 P **P 17 06 23.5 +0.3**
PVAQ IAmb IAmb 17 06 26.2
comp=Z,12nm,1.2s
M31M Drury Creek, Y 80.64 20 P **P 17 06 25.9 +0.7**
HYT Haines Junctio 80.69 23 P **P 17 06 26.5 +1.0**
HYT IAmb IAmb 17 06 33.4
comp=Z,8.2nm,1.1s
N31M Braeburn, Yuko 80.75 21 P **P 17 06 26.1 +0.4**
N31M IAmb IAmb 17 06 32.3
comp=Z,20nm,1.4s
ARMA Armidale 81.84 132 P **P 17 06 33.1 +1.1**
SKAG Skagway 82.43 23 P **P 17 06 36.1 +1.5**
SKAG IAmb IAmb 17 06 37.1
comp=Z,11nm,1.0s
TOO Toolangi 83.10 141 P **P 17 06 38.8 +0.5**
TOO pmax pmax
comp=Z,21nm,1.5s
TOO Toolangi 83.10 141 P **P 17 06 38.8 +0.5**
TOA0 Torodi Ar. Sit 84.76 282 P **P 17 06 46.8 -0.6**
TOA0 IAmb IAmb 17 06 48.4
comp=Z,5.3nm,0.9s
TORD Torodi Ar. Bea 84.76 282 P **P 17 06 47.2 -0.1**
comp=Z,3.7nm,0.8s,baz=48,slow=4.9,SNR=24
TORD Torodi Ar. Bea 84.76 282 P **P 17 06 46.8 -0.6**
TORD IAmb IAmb 17 06 48.4
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 85.30 13 P **P 17 06 48.4 -0.8**
comp=Z,3.3nm,0.8s,baz=323,slow=4.3,SNR=6.3
FRB Frobisher Bay 85.57 352 LR LR 17 47 16.3
comp=Z,37nm,18.4s,baz=340,slow=37

IDC ***20*** *17:02:29.1±0.7,51°.39N×174°.20W,h0km, mb3.9/24, mb1 4.1/25,mb1mx4.0/43,mbtmp3.9/25,ML4.5/1,MS3.4/5, Ms1 3.4/5,ms1mx2.7/97,Error ellipse: s-maj=21.3km s-min=13.1km az=169.0*
NEIC ***20*** *17:02:30.0±2.5,51°.29N±0°.05×174°.18W±0°.08,h10km±1km, mb4.1/48,ML3.6/18(AEIC),Error ellipse: s-maj=10.5km s-min=6.3km az=129.0*
AEIC ***20*** *17:02:33±2.1,51°.34N±0°.07×174°.22W±0°.09,h54km±6km, Error ellipse: s-maj=11.2km s-min=7.2km az=153.0*
ISC 20 17:02:30.5±0.6,51°.32N±0°.08×174°.14W±0°.04,h10km, n127,σ1⁄301/120,mb4.1/37,MS3.5/4,2D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
ATKA	**Atka Island**	**0.89**	**358**			**Pn**	**17**	**02**	**49.6**	**+0.7**
ATKA						**Sn**	**17**	**03**	**03.8**	**+2.0**
KOFP	**Korovin Flat P**	**0.96**	**2**			**Pn**	**17**	**02**	**51.2**	**+1.2**
GSMY	**Great Sitkin M**	**1.39**	**302**			**Pn**	**17**	**02**	**56.4**	**+0.5**
GSTR	**Great Sitkin T**	**1.42**	**304**	Pn		**Pb**	**17**	**02**	**57.1**	**+0.1**
GSCK	**Great Sitkin C**	**1.44**	**300**			**Pn**	**17**	**02**	**57.0**	**+0.4**
GSTD	**Great Sitkin T**	**1.45**	**301**			**Pn**	**17**	**02**	**57.3**	**+0.6**
ADK	**Adak**	**1.68**	**291**	Pn		**Pn**	**17**	**03**	**00.4**	**+0.5**
ADK	**Adak**	**1.68**	**291**			**Sn**	**17**	**03**	**21.2**	**-0.3**

KIWB Kanaga Island 1.95 287 Pn **Pn 17 03 04.2 +0.7**
KIKV Kanaga Island 1.97 288 **Pn 17 03 04.9 +1.0**
KIMD Kanaga Island 1.98 284 **Pn 17 03 04.5 +0.5**
TAPA Tanaga Point A 2.34 284 **Pn 17 03 10.1 +1.0**
TAFP Tanaga Falls P 2.46 285 **Pn 17 03 12.2 +1.5**
TAFP **Sn 17 03 41.9 +1.1**
TASE Tanaga Southea 2.48 284 **Pn 17 03 12.4 +1.5**
GANO Gareloi North 2.95 282 **Pn 17 03 18.8 +1.5**
NIKH Nikolski High 3.65 61 Pn **Pn 17 03 28.9 +2.0**
UNV Unalaska Valle 5.30 59 Pn **Pn 17 03 51.0 +1.5**
OHAK Old Harbor 13.52 56 Pn **Pn 17 05 40.1 -1.9**
KDAK Kodiak Island 14.05 54 Pn **Pn 17 05 47.9 -1.4**
0.4nm,0.3s,baz=235,slow=3.4,SNR=12
KDAK LR LR 17 12 23.6
comp=Z,92nm,18.7s,baz=254,slow=42
ANM Nome 14.05 16 P **P 17 05 55.0 -2.2**
TTA Tatalina 15.17 33 P **P 17 06 09.8 +0.1**
TTA IAmb IAmb 17 06 27.5
comp=Z,8.8nm,1.2s
BRLK Bradley Lake 15.57 48 **Pn 17 06 10.7 +0.9**
SPU Mount Spurr 15.67 42 **Pn 17 06 10.3 -0.9**
K20K Telida 16.12 34 Pn **Pn 17 06 16.3 -0.5**
K20K IAmb IAmb 17 06 36.4
comp=Z,17nm,1.3s
RC01 Rabbit Creek A 16.63 45 Pn **Pn 17 06 23.8 +0.4**
CAST Castle Rocks 16.86 36 **P 17 06 27.4 -1.0**
GHO Glory Hole Cre 17.28 43 Pn **Pn 17 06 31.3 -0.3**
GHO IAmb IAmb 17 06 32.6
comp=Z,18nm,1.2s
KNK Knik Glacier 17.33 44 Pn **Pn 17 06 30.0 -2.1**
KNK IAmb IAmb 17 06 32.7
comp=Z,24nm,1.2s
SML Sawmill 17.55 43 **Pn 17 06 34.7 -0.3**
SML IAmb IAmb 17 06 37.7
comp=Z,27nm,1.3s
TRF Thorofare Moun 17.55 37 **Pn 17 06 35.0 0.0**
SCM Sheep Creek Mo 17.99 44 **Pn 17 06 40.1 -0.3**
H21K Melozitna Rive 18.04 29 **P 17 06 42.1 +0.7**
RND Reindeer 18.08 38 **P 17 06 41.8 -0.1**
MCK McKinley 18.21 37 **Pn 17 06 42.9 -0.2**
KLU Klutina 18.48 46 P **P 17 06 45.9 -0.5**
KLU IAmb IAmb 17 07 02.4
comp=Z,23nm,1.4s
DHY Denali Highway 18.50 40 **P 17 06 46.4 -0.3**
I23K Minto, Yukon-K 18.84 33 P **Pn 17 06 50.2 -0.5**
I23K IAmb IAmb 17 06 54.8
comp=Z,22nm,1.1s
WRH Wood River Hil 18.92 36 P **P 17 06 50.2 -0.8**
SUCK Suckling Hills 19.07 51 P **P 17 06 52.0 -0.8**
CCB Clear Creek Bu 19.11 36 P **P 17 06 52.3 -0.8**
N25K Chitina, Valde 19.12 46 P **P 17 06 52.6 -0.7**
N25K IAmb IAmb 17 07 20.0
comp=Z,9.8nm,1.1s
MDM Murphy Dome 19.13 35 P **P 17 06 51.4 -2.0**
PAX Paxson 19.24 42 P **P 17 06 54.5 -0.2**
PAX IAmb IAmb 17 07 11.3
comp=Z,12nm,1.3s
BILL Bilibino 19.30 338 P **P 17 06 54.7 -0.4**
BILL IAmb IAmb 17 07 03.5
comp=Z,11nm,1.1s
HDA Harding Lake 19.31 37 P **P 17 06 54.2 -1.1**
HDA IAmb IAmb 17 06 56.4
comp=Z,9.3nm,0.8s
IL31 19.52 36 P **P 17 06 55.8 -1.8**
IL31 IAmb IAmb 17 07 00.0
comp=Z,5.3nm,0.5s
ILAR Eielson Array 19.52 36 P **P 17 06 55.8 -1.8**
comp=Z,1.3nm,0.3s,baz=248,slow=11,SNR=57
ILAR Eielson Array 19.52 36 P **P 17 06 55.9 -1.6**
TGL Tana Glacier 19.69 49 P **P 17 06 58.1 -1.5**
TGL IAmb IAmb 17 07 25.4
comp=Z,23nm,1.3s
H24K Noodor Dome 19.75 33 P **P 17 06 58.7 -1.4**
H24K IAmb IAmb 17 07 05.8
comp=Z,6.6nm,0.7s
RIDG Independent Ri 19.82 40 P **P 17 07 00.0 -1.0**
RIDG IAmb IAmb 17 07 21.2
comp=Z,13nm,1.2s
DOT Dot Lake 20.10 41 P **P 17 07 03.3 -0.6**
DOT IAmb IAmb 17 07 12.1
comp=Z,12nm,1.3s
L26K Log Cabin Wild 20.16 43 IAmb IAmb 17 07 08.7
comp=Z,4.1nm,0.5s
SCRK Sand Creek 20.27 40 P **P 17 07 05.4 -0.5**
SCRK IAmb IAmb 17 07 06.3
comp=Z,8.0nm,0.6s
CTGM Chitina Glacie 20.45 49 P **P 17 07 07.6 -0.4**
CTGM IAmb IAmb 17 07 34.1
comp=Z,15nm,1.1s
LOGN Logan Glacier 20.58 50 P **P 17 07 08.8 -0.6**
TOLK Toolik Lake Re 21.01 25 P **P 17 07 14.8 +1.0**
TOLK IAmb IAmb 17 07 15.6
comp=Z,9.4nm,0.8s
SEY Seymchan 21.28 316 P **P 17 07 17.8 +1.1**
comp=Z,2.9nm,0.9s,baz=98,slow=12,SNR=10
EGAK Eagle 21.71 39 P **P 17 07 22.1 +0.7**
DAWY Dawson 22.18 42 P **P 17 07 27.3 +0.8**
HYT Haines Junctio 22.27 51 P **P 17 07 27.0 -0.4**
HYT IAmb IAmb 17 07 50.1
comp=Z,8.8nm,1.2s
INK Inuvik 25.86 34 P **P 17 08 01.4 -0.3**
comp=Z,1.2nm,0.5s,baz=255,slow=9.9,SNR=4.1
INK Inuvik 25.86 34 P **P 17 08 01.8 +0.1**
INK IAmb IAmb 17 08 04.1
comp=Z,4.6nm,1.4s
A36M Sachs Harbour 29.74 28 P **P 17 08 36.7 +0.3**
TIXI Tiksi 32.14 330 P **P 17 08 57.2 -0.3**
comp=Z,0.5nm,0.4s,baz=272,slow=1.1,SNR=16
TIXI Tiksi 32.14 330 P **P 17 08 57.4 -0.1**
TIXI IAmb IAmb 17 09 23.6
comp=Z,5.1nm,1.5s
YKA Yellowknife Ar 33.15 47 P **P 17 09 06.7 +0.2**
comp=Z,0.2nm,0.4s,baz=272,slow=7.8,SNR=7.5
YKA PcP **PcP 17 11 49.8 +0.7**
comp=Z,0.5nm,0.7s,baz=283,slow=3.0,SNR=7.3
YKA LR LR 17 24 41.4
comp=Z,54nm,18.2s,baz=314,slow=40
YKA Yellowknife Ar 33.15 47 P **P 17 09 07.0 +0.6**
H11N2 WAKE ISLAND Hy 34.88 212 T T 17 47 11.1
baz=21,slow=74,SNR=3.0
H11N3 WAKE ISLAND Hy 34.89 212 T T 17 47 29.8
baz=21,slow=74
H11N1 WAKE ISLAND Hy 34.90 212 T T 17 47 09.9
baz=21
H11S1 WAKE ISLAND Hy 36.08 212 T T 17 48 49.0
baz=20,slow=76,SNR=20
H11S2 WAKE ISLAND Hy 36.10 212 T T 17 48 50.2
baz=20,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 36.10 212 T T 17 48 53.4
baz=20,slow=76,SNR=10
USRK Ussuriysk Ar. 36.19 280 P **P 17 09 32.2 -0.7**
comp=Z,4.2nm,0.7s,baz=56,slow=5.9,SNR=6.5
USRK Ussuriysk Ar. 36.19 280 P **P 17 09 31.3 -1.7**
MJAR Matsushiro Arr 36.67 265 P **P 17 09 37.4 +0.2**
comp=Z,2.3nm,0.9s,baz=49,slow=7.7,SNR=3.1
BNX BinXian 38.21 285 ⇓P **P 17 09 49.5 -0.6**
BNX pmax pmax
comp=Z,14nm,0.6s
BNX pmax pmax
comp=Z,390nm,4.2s
NVAR Mina Array Bea 40.65 86 P **P 17 10 12.3 +1.5**
comp=Z,0.2nm,0.4s,baz=270,slow=5.9,SNR=3.5
KSRS Korea Array 42.56 274 P **P 17 10 27.6 +1.4**
comp=Z,0.6nm,0.5s,baz=56,slow=8.3,SNR=3.0
PDAR Pinedale Array 43.52 75 P **P 17 10 35.0 +0.7**
comp=Z,0.6nm,0.5s,baz=307,slow=2.8,SNR=7.9
PDAR LR LR 17 27 40.4
comp=Z,32nm,21.1s,baz=301,slow=35
PDAR Pinedale Array 43.52 75 P **P 17 10 32.4 -1.9**
ULM Lac du Bonnet 47.24 59 P **P 17 11 03.7 +0.4**
comp=Z,1.8nm,0.5s,baz=287,slow=5.6,SNR=3.0
ULM Lac du Bonnet 47.24 59 P **P 17 11 00.9 -2.5**
SONM Songino Array 49.26 299 P **P 17 11 19.4 +0.4**
comp=Z,1.1nm,0.6s,baz=49,slow=6.8,SNR=5.5
SONM Songino Array 49.26 299 IAmb IAmb 17 11 20.0
comp=Z,1.5nm,0.9s
HHC Hu-ho-hao-te 50.49 289 *eP* **P 17 11 27.8 -0.7**
HNS HongShan 50.78 283 ⇓P **P 17 11 32.0 +1.5**
HNS pmax pmax
comp=Z,11nm,0.9s
TXAR Lajitas Array 55.76 85 P **P 17 12 07.8 +0.3**
comp=Z,0.3nm,0.6s,baz=300,slow=6.8,SNR=5.2
SCHQ Schefferville 58.20 41 P **P 17 12 24.2 -0.1**
comp=Z,2.9nm,0.8s,baz=297,slow=8.0,SNR=4.3
SCHQ Schefferville 58.20 41 P **P 17 12 23.9 -0.4**

GTA	**Gaotai**	**58.27**	**295**	*eP*	**P**	**17 12 25.0**	**-0.2**
GTA				pP	pwP	17 12 32.6	-0.5
GTA				sP	sP	17 12 36.0	+8.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.60**	**352**	P	**P**	**17 12 26.0**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=8.0,slow=7.4,SNR=14						
ARCES	**ARCESS Array B**	**58.60**	**352**	P	**P**	**17 12 25.4**	**-1.5**
WMQ	**Urumqi**	**61.79**	**306**	*eP*	**P**	**17 12 49.8**	**+0.6**
WMQ				pP	sP	17 12 54.3	+2.8
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**17 12 51.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=48,slow=5.9,SNR=30						
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	**17 12 51.7**	**-0.9**
PZH	**PanZhiHua**	**66.22**	**283**	P	**P**	**17 13 18.8**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,80nm,6.0s						
FINES	**FINESS Array B**	**66.43**	**350**	P	**P**	**17 13 18.3**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=1.9,slow=5.7,SNR=9.1						
NB2	**NORSAR Subarra**	**67.91**	**357**	P	**P**	**17 13 28.4**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=5.7,slow=6.9						
NOA	**NORSAR Array B**	**67.91**	**357**	P	**P**	**17 13 28.2**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=263,slow=3.5,SNR=7.3						
AKTO	**Aktyubinsk**	**69.37**	**327**	LR	LR	17 47 39.2	
	comp=Z,34nm,18.5s,baz=44,slow=39						
KSH	**Kashi**	**70.83**	**310**	P	**P**	**17 13 50.9**	**+3.6**
KSH				pP	pwP	17 13 55.8	+0.6
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.91**	**279**	P	**P**	**17 14 06.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=18,slow=7.4,SNR=5.4						
TAPN	**Taplejung**	**73.94**	**294**	*eP*	**P**	**17 14 06.8**	**+0.6**
	comp=Z,5.5nm,0.5s						
GUN	**Gumba**	**74.55**	**295**	*eP*	**P**	**17 14 10.7**	**+0.9**
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**74.88**	**294**	*eP*	**P**	**17 14 12.3**	**+0.7**
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**74.99**	**296**	*eP*	**P**	**17 14 12.8**	**+0.6**
PKIN	**Phulchoki**	**75.08**	**295**	*eP*	**P**	**17 14 13.5**	**+0.7**
GKN	**Gorkha**	**75.19**	**296**	*eP*	**P**	**17 14 13.9**	**+0.6**
DMN	**Daman**	**75.22**	**296**	*eP*	**P**	**17 14 14.1**	**+0.5**
DANN	**Dangsing**	**75.41**	**297**	*eP*	**P**	**17 14 15.4**	**+0.7**
KOLN	**Koldanda**	**75.95**	**297**	*eP*	**P**	**17 14 18.1**	**+0.4**
PYUN	**Piuthan**	**76.03**	**297**	*eP*	**P**	**17 14 18.8**	**+0.6**
	comp=Z,23nm,0.9s						
AKASG	**Malin Array Be**	**76.43**	**345**	P	**P**	**17 14 19.1**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=18,slow=6.1,SNR=10						
CLL	**Collm**	**77.57**	**355**	*i* P	**P**	**17 14 26.0**	**-0.2**
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**77.95**	**355**	*eP*	**P**	**17 14 28.6**	**+0.3**
BRG				Amp		17 14 29.6	
	comp=Z,2.8nm,0.7s						
GERES	**GERESS Array B**	**79.99**	**355**	P	**P**	**17 14 39.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=15,slow=5.7,SNR=10						
KBZ	**Khabaz**	**80.03**	**334**	LR	LR	17 55 31.0	
	comp=Z,36nm,18.4s,baz=92,slow=40						
WR0	**Warramunga Arr**	**83.99**	**228**	P	**P**	**17 14 60.0**	**-0.8**
WRAB	**Tennant Creek**	**84.05**	**228**	P	**P**	**17 15 00.2**	**-0.9**
WRA	**Warramunga Arr**	**84.07**	**228**	P	**P**	**17 15 00.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.9,SNR=7.0						
BRTR	**Keskin Array B**	**86.13**	**339**	P	**P**	**17 15 12.4**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=40,slow=2.0,SNR=4.8						
BRTR	**Keskin Array B**	**86.13**	**339**	P	**P**	**17 15 10.9**	**-0.7**
ASAR	**Alice Springs**	**87.49**	**226**	P	**P**	**17 15 18.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=20,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**87.49**	**226**	P	**P**	**17 15 17.9**	**-0.2**
ESDC	**Sonseca Array**	**88.98**	**8**	P	**P**	**17 15 25.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=342,slow=3.1,SNR=5.7						

*ATH **20** 17:09:28.3,39°.35N×26°.15E,h22km±1km,ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=219.0*
*DDA **20** 17:09:28.6±0.0,39°.31N×26°.12E,h7km±3km,ML2.3*
*ISK **20** 17:09:28.4,39°.33N×26°.14E,h14km,ML2.7/17*
*THE **20** 17:09:29.4,39°.33N×26°.12E,h13km,ML2.1/6, Error ellipse: s-maj=1.2km s-min=0.6km az=108.0*

ISC 20 17:09:28.8±0.8, 39°.34N±0°.02×26°.13E±0°.02, h16km±6km, n55, σ0°44/86, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.12**	**1**	PG	**Pg**	**17 09 32.2**	**-0.3**
GPNR				SG	**Sb**	**17 09 35.1**	**-0.2**
PRK	**Paraskevi**	**0.14**	**130**	P	**Pb**	**17 09 33.5**	**+0.4**
PRK				S	**Sb**	**17 09 36.0**	**+0.1**
PRK				AML	AML	17 09 36.2	
	comp=N,13692μm,0.2s						
PRK				AML	AML	17 09 36.6	
	comp=E,7269μm,0.3s						
PRK	**Paraskevi**	**0.14**	**130**	P	**Pb**	**17 09 33.5**	**+0.4**
PRK				S	**Sb**	**17 09 35.8**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.17**	**2**	P	**Pb**	**17 09 33.3**	**-0.2**
KOCA				*i* AML	AML	17 09 36.0	
	comp=E,1μm,0.4s						
KOCA				S	**Sb**	**17 09 36.3**	**-0.3**
KOCA				*i* AML	AML	17 09 37.0	
	comp=E,956nm,0.2s						
SIGR	**SIGRI**	**0.25**	**240**	P	**Pb**	**17 09 34.5**	**-0.4**
SIGR				S	**Sg**	**17 09 38.3**	**+0.3**
SIGR				AML	AML	17 09 38.6	
	comp=N,2651μm,0.4s						
SIGR				AML	AML	17 09 40.1	
	comp=E,1224μm,0.4s						
SIGR	**SIGRI**	**0.25**	**240**	P	**Pb**	**17 09 34.5**	**-0.4**
SIGR				S	**Sg**	**17 09 38.3**	**+0.3**
	comp=E,972nm,0.4s						
SIGR	**SIGRI**	**0.25**	**240**	PG	**Pg**	**17 09 34.3**	**0.0**
SIGR				SG	**Sg**	**17 09 38.4**	**+0.3**
AYVA	**Ayvalik**	**0.44**	**94**	P	**Pg**	**17 09 37.5**	**-0.1**
AYVA				S	**Sb**	**17 09 44.7**	**+0.3**
AYVA				*i* AML	AML	17 09 49.0	
	comp=E,92nm,0.3s						
AYVA				*i* AML	AML	17 09 50.0	
	comp=E,198nm,0.7s						
BOZC	**Bozcaada**	**0.51**	**353**	PG	**Pg**	**17 09 38.9**	**0.0**
BOZC	**Bozcaada**	**0.51**	**353**	P	**Pg**	**17 09 39.0**	**0.0**
BOZC				S	**Sg**	**17 09 44.0**	**-1.8**
BOZC				*i* AML	AML	17 09 49.0	
	comp=E,112nm,0.3s						
BOZC				*i* AML	AML	17 09 50.0	
	comp=E,125nm,0.2s						
EZN	**Ezine**	**0.51**	**17**	P	**Pg**	**17 09 39.0**	**-0.1**
EZN				S	**Sb**	**17 09 46.5**	**-0.1**
	comp=E,368nm,0.1s						
EZN	**Ezine**	**0.51**	**17**	PG	**Pg**	**17 09 38.9**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.52**	**38**	P	**Pg**	**17 09 38.8**	**-0.3**
BAYC				S	**Sg**	**17 09 46.1**	**0.0**
BAYC				*i* AML	AML	17 09 50.0	
	comp=E,328nm,0.2s						
BAYC				*i* AML	AML	17 09 50.0	
	comp=E,155nm,0.3s						
CAND	**Candarli**	**0.65**	**126**	PG	**Pg**	**17 09 41.3**	**-0.2**
DKL	**Dikili**	**0.66**	**114**	PG	**Pb**	**17 09 41.7**	**-0.2**
ECEA	**Canakkale, Ece**	**0.71**	**3**	P	**Pb**	**17 09 42.9**	**+0.1**
ECEA				S	**Sn**	**17 09 54.8**	**+0.2**
ECEA				*i* AML	AML	17 09 56.0	
	comp=E,134nm,0.1s						
ECEA				*i* AML	AML	17 09 56.0	
	comp=E,233nm,0.3s						
BUHA	**Balikesir, Bur**	**0.75**	**77**	P	**Pg**	**17 09 43.0**	**-0.5**
BUHA				S	**Sn**	**17 09 55.9**	**+0.1**
BUHA				*i* AML	AML	17 09 56.0	
	comp=E,196nm,0.4s						
BUHA				*i* AML	AML	17 09 57.0	
	comp=E,97nm,0.8s						
FOCM	**Foa**	**0.78**	**143**	PG	**Pb**	**17 09 43.9**	**0.0**
ZEDA	**zmir-Bergama**	**0.82**	**116**	P	**Pb**	**17 09 45.0**	**+0.3**
ZEDA				S	**Sb**	**17 09 56.3**	**+0.7**
ZEDA				*i* AML	AML	17 09 58.0	
	comp=E,71nm,0.1s						
ZEDA				*i* AML	AML	17 09 58.0	
	comp=E,69nm,0.4s						
GOKA	**anakkale-Gk**	**0.87**	**349**	P	**Pb**	**17 09 45.6**	**+0.1**
GOKA				S	**Sb**	**17 09 58.0**	**+1.1**
GOKA				*i* AML	AML	17 10 00.0	
	comp=E,166nm,0.3s						
GADA	**Gvkgeada**	**0.87**	**348**	P	**Pg**	**17 09 45.4**	**-0.4**
GADA				S	**Sn**	**17 09 58.8**	**+0.1**
GADA	**Gvkgeada**	**0.87**	**348**	PG	**Pg**	**17 09 45.3**	**-0.5**
PSRA	**Psara**	**0.91**	**209**	P	**Pn**	**17 09 47.2**	**+0.3**
LIA	**Limnos Island**	**0.92**	**308**	P	**Pg**	**17 09 46.8**	**+0.1**
LIA				S	**Sg**	**17 09 59.4**	**+0.5**
LIA				AML	AML	17 10 00.6	
	comp=E,315μm,0.4s						
LIA				AML	AML	17 10 01.1	
	comp=N,269μm,0.5s						
LIA	**Limnos Island**	**0.92**	**308**	P	**Pn**	**17 09 46.9**	**-0.2**
LIA				S	**Sn**	**17 10 00.0**	**+0.1**
	comp=N,148nm,0.5s						
CHOS	**Chios island**	**0.95**	**184**	P	**Pg**	**17 09 47.0**	**-0.2**
CHOS				S	**Sn**	**17 10 00.2**	**-0.6**
CHOS				AML	AML	17 10 03.1	
	comp=N,464μm,0.4s						
CHOS				AML	AML	17 10 05.1	
	comp=E,571μm,0.2s						
CHOS	**Chios island**	**0.95**	**184**	P	**Pg**	**17 09 47.0**	**-0.2**
CHOS				S	**Sn**	**17 10 00.2**	**-0.6**
	comp=E,295nm,0.4s						
CHOS	**Chios island**	**0.95**	**184**	PG	**Pg**	**17 09 47.1**	**-0.2**
URLA	**Izmir**	**1.04**	**159**	PG	**Pb**	**17 09 48.2**	**-0.2**
URLA	**Izmir**	**1.04**	**159**	P	**Pb**	**17 09 48.0**	**-0.4**
URLA				S	**Sn**	**17 10 02.6**	**-0.3**
URLA				*i* AML	AML	17 10 04.0	
	comp=E,144nm,0.5s						
URLA				*i* AML	AML	17 10 04.0	
	comp=E,145nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.09**	**14**	PN	**Pg**	**17 09 49.7**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.14**	**165**	P	**Pb**	**17 09 49.5**	**-0.5**
ZEYE				S	**Sb**	**17 10 04.6**	**+0.1**
ZEYE				*i* AML	AML	17 10 08.0	
	comp=E,96nm,0.6s						
ZEYE				*i* AML	AML	17 10 09.0	
	comp=E,132nm,0.3s						
BALY	**Balya**	**1.22**	**70**	P	**Pg**	**17 09 52.5**	**+0.1**
BALY				S	**Sg**	**17 10 09.0**	**+0.7**
BALY				*i* AML	AML	17 10 09.0	
	comp=E,78nm,0.2s						
BALY				*i* AML	AML	17 10 11.0	
	comp=E,42nm,0.2s						
SMTH	**Samothraki Isl**	**1.22**	**338**	P	**Pn**	**17 09 51.3**	**+0.1**
SMTH				AML	AML	17 10 09.7	
	comp=E,68μm,0.2s						
SMTH				AML	AML	17 10 10.6	
	comp=N,88μm,0.2s						
SMTH	**Samothraki Isl**	**1.22**	**338**	P	**Pn**	**17 09 51.4**	**+0.2**
SMTH				S	**Sn**	**17 10 07.8**	**+0.4**
	comp=N,40nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.23**	**88**	P	**Pg**	**17 09 51.9**	**-0.7**
STEP				S	**Sg**	**17 10 08.4**	**-0.3**
STEP				*i* AML	AML	17 10 12.0	
	comp=N,74nm,0.3s						
STEP				*i* AML	AML	17 10 15.0	
	comp=N,50nm,0.3s						
SKY	**Skiros Island**	**1.31**	**250**	P	**Pg**	**17 09 54.0**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.35**	**1**	P	**Pb**	**17 09 53.8**	**0.0**
CAVK				S	**Sg**	**17 10 12.2**	**-0.4**
CAVK				*i* AML	AML	17 10 18.0	
	comp=N,53nm,0.8s						
CAVK				*i* AML	AML	17 10 18.0	
	comp=N,46nm,1.2s						
ERIK	**Erikli-Kesan**	**1.36**	**12**	PN	**Pb**	**17 09 53.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.39**	**40**	PN	**Pn**	**17 09 53.8**	**+0.4**
GONE	**Gonen-Balikesi**	**1.39**	**59**	PN	**Pb**	**17 09 54.0**	**-0.4**
ENEZ	**Enez**	**1.40**	**1**	PN	**Pn**	**17 09 54.1**	**+0.5**
GMLD	**Gumuldur**	**1.40**	**154**	PN	**Pn**	**17 09 54.0**	**+0.4**
DGB	**zmir**	**1.41**	**155**	P	**Pn**	**17 09 53.9**	**+0.1**
DGB				S	**Sg**	**17 10 14.1**	**-0.2**
DGB				*i* AML	AML	17 10 17.0	
	comp=N,30nm,0.3s						
DGB				*i* AML	AML	17 10 18.0	
	comp=N,22nm,0.4s						
KESN	**Edirne-Kesan**	**1.55**	**16**	P	**Pn**	**17 09 56.6**	**+0.6**
KESN				S	**Sb**	**17 10 17.7**	**+0.9**
KESN				*i* AML	AML	17 10 18.0	
	comp=N,47nm,0.4s						
KESN				*i* AML	AML	17 10 22.0	
	comp=N,50nm,0.3s						
ALN	**Alexandroupoli**	**1.56**	**358**	P	**Pn**	**17 09 56.2**	**+0.3**
ALN	**Alexandroupoli**	**1.56**	**358**	P	**Pn**	**17 09 56.3**	**+0.5**
ALN				S	**Sb**	**17 10 16.7**	**-0.1**
	comp=N,28nm,0.3s						
ALN	**Alexandroupoli**	**1.56**	**358**	PN	**Pn**	**17 09 56.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.57**	**30**	PN	**Pn**	**17 09 56.5**	**+0.4**
SART	**Tekirdag**	**1.57**	**31**	P	**Pn**	**17 09 56.5**	**+0.3**
SART				S	**Sg**	**17 10 18.3**	**-1.2**
SART				*i* AML	AML	17 10 21.0	
	comp=N,35nm,0.6s						
SART				*i* AML	AML	17 10 21.0	
	comp=N,54nm,0.4s						
THAS	**Thassos island**	**1.67**	**320**	P	**Pn**	**17 09 57.8**	**+0.5**
SMG	**Samos**	**1.72**	**161**	P	**Pn**	**17 09 58.4**	**+0.3**
SMG				AML	AML	17 10 26.0	
	comp=N,195μm,0.3s						
SMG				AML	AML	17 10 26.1	
	comp=E,268μm,0.4s						
DURS	**Dursunbey**	**1.83**	**81**	P	**Pn**	**17 10 00.1**	**+0.4**
DURS				S	**Sn**	**17 10 22.6**	**0.0**
DURS				*i* AML	AML	17 10 23.0	
	comp=E,27nm,0.2s						
DURS				*i* AML	AML	17 10 23.0	
	comp=E,22nm,0.3s						
RDO	**Rodhopi**	**1.86**	**346**	P	**Pn**	**17 10 00.5**	**+0.5**
KAVA	**Kavala**	**2.07**	**324**	P	**Pn**	**17 10 03.3**	**+0.4**

JMA 20 17:14:01.0±0.1, 24°.90N×123°.40E, h27km±5km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.56**	**219**	P	Pb	17 14 12.0	-0.3
YOJ				S	Sb	17 14 19.8	-0.2
JYNG	**Yonagunijimaku**	**0.61**	**223**	P	Pb	17 14 13.0	-0.1
JYNG				S	Sb	17 14 21.0	-0.3
IRIF	**Iriomote-Funau**	**0.64**	**152**	P	Pb	17 14 13.3	-0.3
IRIF				S	Sb	17 14 22.4	+0.3
JIJ	**Ishigaki jima**	**0.86**	**128**	P	Pb	17 14 16.7	-0.7
JKRS	**Kuro-shima**	**0.86**	**140**	P	Pn	17 14 17.1	-0.2
JKRS				S	Sb	17 14 27.8	-0.7
JISG	**Ishigakijimahi**	**0.89**	**110**	P	Pn	17 14 17.5	-0.2
JISG				S	Sb	17 14 28.5	-0.7
HATJ	**Hateruma jima**	**0.92**	**156**	P	Pn	17 14 17.8	-0.3
HATJ				S	Sb	17 14 29.8	-0.3

TAP 20 17:14:07.6, 24°.23N×121°.83E, h19km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.12**	**316**	*eP*	Pg	17 14 11.6	0.0
	baz=317						
ETL	**Fush Village**	**0.20**	**250**	*eP*	Pg	17 14 13.0	+0.3
	baz=251						
ETL				*eS*	Sg	17 14 17.1	+0.9
	baz=251						
ENA	**Nanau**	**0.22**	**338**	*eP*	Pg	17 14 13.1	+0.2
	baz=340						
ENA				*eS*	Sg	17 14 17.1	+0.6
	baz=340						
NACB	**Ninganchiao**	**0.22**	**256**	*eP*	Pg	17 14 13.2	+0.3
	baz=257						
NACB				*eS*	Sg	17 14 17.5	+0.8
	baz=257						
TWD	**Chiawan**	**0.26**	**236**	*eS*	Sg	17 14 18.6	+0.9
	baz=241						
ETLH	**Xiulin Townshi**	**0.32**	**266**	*eP*	Pb	17 14 14.8	+0.1
	baz=267						
ETLH				*eS*	Sb	17 14 19.9	+0.5
	baz=267						
LATG	**Datong**	**0.41**	**318**	*eP*	Pb	17 14 16.7	+0.3
	baz=317						
LATG				*eS*	Sb	17 14 22.9	+0.5
	baz=317						
NDS	**Dongshan**	**0.42**	**346**	*eP*	Pb	17 14 16.7	+0.3
	baz=345						
NDS				*eS*	Sb	17 14 22.8	+0.4
	baz=345						
NNSB	**Datong**	**0.46**	**296**	*eP*	Pb	17 14 17.3	+0.2
	baz=296						
NNSB				*eS*	Sb	17 14 24.1	+0.6
	baz=296						
NNS	**Nan Shan**	**0.47**	**297**	*eS*	Sb	17 14 24.5	+0.6
	baz=297						
NDT	**Datong Townshi**	**0.47**	**322**	*eS*	Sb	17 14 24.7	+0.7
	baz=322						
ENTT	**Nioudou**	**0.48**	**330**	*eP*	Pb	17 14 17.9	+0.5
	baz=321						
ENTT				*eS*	Sb	17 14 24.9	+0.9
	baz=321						
TWE	**Neicheng**	**0.51**	**343**	*eS*	Sb	17 14 26.1	+1.1
	baz=344						
WHF	**Hehuan Shan**	**0.52**	**261**	*eS*	Sb	17 14 26.4	+0.7
	baz=261						
FUSS	**Fushou**	**0.54**	**272**	*eP*	Pb	17 14 18.0	-0.4
	baz=273						
FUSS				*eS*	Sb	17 14 25.4	-0.4
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.57**	**337**	*eS*	Sg	17 14 27.6	+0.7
	baz=329						
YHNB	**Yeheng**	**0.60**	**317**	*eS*	Sg	17 14 28.7	+0.9
	baz=316						
OWD	**Renai**	**0.66**	**246**	*eS*	Sg	17 14 30.6	+1.1
	baz=246						

*IDC **20** 17:16:07.6±3.5, 4°.66S×150°.28E, h249km±31km, mb2.9/4, mb1 3.2/6, mb1mx3.0/25, mbtmp3.7/6, Error ellipse: s-maj=70.3km s-min=26.7km az=127.0*

ISC 20 17:16:07.0±1.5, 4°.8S±0°.3×150°.6E±0°.4, h250km, n7, σ0°66/8, mb3.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.69**	**217**	P	**Pn**	**17 17 30.8**	**-0.5**
	2.7nm,0.3s,baz=139,slow=11,SNR=5.6						
PMG				S	**Sn**	**17 18 39.8**	**+1.1**
	0.4nm,0.3s,baz=159,slow=15,SNR=3.0						
CTA	**Charters Tower**	**15.75**	**195**	P	**P**	**17 19 35.0**	**-0.1**
	0.2nm,0.3s,baz=11,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**21.84**	**225**	P	**P**	**17 20 39.0**	**-0.6**
	0.7nm,0.5s,baz=45,slow=9.5,SNR=27						
ASAR	**Alice Springs**	**24.70**	**219**	P	**P**	**17 21 05.7**	**-0.1**
	0.2nm,0.4s,baz=50,slow=8.3,SNR=16						
FITZ	**Fitzroy Crossi**	**27.75**	**240**	P	**P**	**17 21 32.7**	**-0.2**
	0.6nm,0.4s,baz=58,slow=13,SNR=1.7						
ILAR	**Eielson Array**	**83.01**	**23**	P	**P**	**17 28 04.5**	**+0.5**
	0.3nm,0.7s,baz=255,slow=5.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.24**	**287**	PKPbc	**PKPbc**	**17 35 24.4**	**-0.1**
	0.4nm,0.7s,baz=84,slow=3.1,SNR=2.7						

*IDC **20** 17:22:23.6±5.6, 5°.68S×145°.58E, h73km±57km, mb3.3/5, mb1 3.6/7, mb1mx3.2/30, mbtmp3.7/7, ML2.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=39.9km s-min=27.4km az=137.0*

ISC 20 17:22:25.1±1.2, 5°.7S±0°.1×145°.6E±0°.2, h86km, n9, σ1°34/9, mb3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.01**	**157**	P	**Pn**	**17 23 24.3**	**0.0**
	9.4nm,0.3s,baz=3.7,slow=6.0,SNR=46						
PMG				S	**Sn**	**17 24 08.5**	**-1.7**
	14nm,0.3s,baz=126,slow=21,SNR=16						
CTA	**Charters Tower**	**14.33**	**177**	P	**Pn**	**17 25 45.6**	**+1.6**
	0.3nm,0.3s,baz=2.8,slow=14,SNR=17						
CTA				LR	LR	17 31 49.4	
	comp=Z,76nm,18.1s,baz=174,slow=40						
WRA	**Warramunga Arr**	**17.89**	**217**	P	**P**	**17 26 27.1**	**-0.8**
	0.1nm,0.3s,baz=41,slow=12,SNR=18						
ASAR	**Alice Springs**	**21.11**	**211**	P	**P**	**17 27 02.1**	**-0.9**
	0.9nm,0.9s,baz=41,slow=7.3,SNR=16						
FITZ	**Fitzroy Crossi**	**23.04**	**236**	P	**P**	**17 27 22.1**	**-1.2**
	1.0nm,0.8s,baz=51,slow=13,SNR=1.4						
STKA	**Stephens Creek**	**26.32**	**188**	P	**P**	**17 27 54.3**	**+1.4**
	1.3nm,0.5s,baz=14,slow=12,SNR=3.7						
URZ	**Urewera**	**42.25**	**143**	LR	LR	17 47 25.5	
	comp=Z,86nm,19.8s,baz=214,slow=35						
MKAR	**Makanchi Array**	**76.36**	**321**	P	**P**	**17 34 05.3**	**+0.3**
	0.2nm,0.4s,baz=98,slow=6.6,SNR=7.1						
ILAR	**Eielson Array**	**85.76**	**23**	P	**P**	**17 34 54.0**	**-0.5**
	0.3nm,0.6s,baz=253,slow=4.6,SNR=6.7						

*SLM **20** 17:23:04.2±0.7, 36°.127N±0°.008×89°.728W±0°.009, h9km±2km, Md2.6/26, mb_Lg2.2/3(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=149.0*

NEIC 20 17:23:04.1±0.5, 36°.124N±0°.009×89°.732W±0°.003, h16km±2km, Error ellipse: s-maj=1.3km s-min=0.4km az=167.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEBM	**Pemiscott Bayo**	**0.11**	**264**		Pg	17 23 07.2	-0.3
PEBM					Sg	17 23 09.6	-0.2
BRGM	**Braggadocio**	**0.13**	**308**		Pg	17 23 07.5	-0.3
BRGM					Sg	17 23 10.1	-0.2
CWPT	**Cottonwood Poi**	**0.14**	**143**		Pg	17 23 07.7	-0.3
CWPT					Sg	17 23 10.5	-0.1
CHNM	**Channel**	**0.18**	**243**		Pg	17 23 08.4	0.0
CHNM					Sg	17 23 11.6	+0.2
MIST	**Miston**	**0.19**	**76**		Pg	17 23 08.4	-0.2
MIST					Sg	17 23 11.8	0.0
LNXT	**Lenox**	**0.20**	**97**		Pg	17 23 08.6	-0.2
LNXT					Sg	17 23 12.0	+0.1
WAMM	**Wardell**	**0.25**	**348**		Pg	17 23 09.5	0.0
GSAR	**Gosnell High S**	**0.25**	**230**		Pg	17 23 09.7	+0.1
FPST	**Four Points**	**0.27**	**123**		Pg	17 23 09.9	0.0
FPST					Sg	17 23 14.2	+0.4
GNAR	**Gosnell**	**0.28**	**236**		Pg	17 23 10.3	+0.2
GNAR					Sg	17 23 14.7	+0.5
POBM	**Portage Bay**	**0.29**	**11**		Pg	17 23 10.2	0.0
EDIT	**Edith**	**0.30**	**151**		Pg	17 23 10.4	0.0
PPLM	**Point Pleasant**	**0.30**	**23**		Pg	17 23 10.5	0.0
PPLM					Sb	17 23 15.5	-0.4
PGVM	**Portageville**	**0.34**	**0**		Pg	17 23 11.1	0.0
PENMO	**Penman**	**0.34**	**15**		Pg	17 23 11.0	-0.1
ARPT	**Arp**	**0.37**	**173**		Pg	17 23 11.7	0.0
HALT	**Halls**	**0.38**	**124**		Pg	17 23 11.9	0.0
GLAT	**Glass**	**0

LBTB	Lobatse	27.87	13	LR	LR	17 47 21.7	
	comp=Z,73nm,19.0s,baz=160,slow=34						
TSUM	Tsumeb	33.21	358	LR	LR	17 50 13.0	
	comp=Z,95nm,18.4s,baz=157,slow=34						
QSPA	South Pole Qui	37.77	180	P	P	17 38 58.2	0.0
	8.8nm,1.0s,baz=261,slow=2.3,SNR=21						
QSPA				LR	LR	17 53 30.3	
	comp=Z,167nm,20.8s,baz=348,slow=35						
LSZ	Lusaka	37.82	15	LR	LR	17 53 07.7	
	comp=Z,81nm,18.2s,baz=170,slow=34						
H10S2	ASCENSION HYDR	51.25	315	T	T	18 36 05.0	
	baz=67,slow=74,SNR=4.3						
H10S3	ASCENSION HYDR	51.27	315	T	T	18 35 47.9	
	baz=153,slow=74,SNR=11						
MBAR	Mbarara	52.61	15	LR	LR	18 02 04.8	
	comp=Z,95nm,18.3s,baz=160,slow=35						
CPUP	Villa Florida	61.37	263	P	P	17 41 58.2	-0.1
	1.1nm,0.3s,baz=151,slow=7.4,SNR=3.6						
DBIC	Dimbokro	62.30	333	LR	LR	18 03 22.8	
	comp=Z,51nm,20.9s,baz=163,slow=30						
H01W2	Cape Leeuwin H	66.10	116	T	T	18 55 03.0	
	baz=221						
H01W3	Cape Leeuwin H	66.12	116	T	T	18 55 07.1	
	baz=221						
H01W1	Cape Leeuwin H	66.12	116	T	T	18 55 05.7	
	baz=221						
TORD	Torodi Ar. Bea	67.02	342	P	P	17 42 35.3	0.0
	0.5nm,0.9s,baz=185,slow=7.6,SNR=2.8						
ASAR	Alice Springs	85.47	123	P	P	17 44 20.4	+0.2
	0.9nm,0.9s,baz=202,slow=4.7,SNR=14						
WRA	Warramunga Arr	88.77	122	P	P	17 44 36.0	-0.3
	0.2nm,0.6s,baz=211,slow=4.7,SNR=1.6						
PDAR	Pinedale Array	144.66	275	PKP	PKPbc	17 51 17.1	-0.4
	2.4nm,0.7s,baz=126,slow=4.8,SNR=26						
TIXI	Tiksi	144.71	31	PKP	PKPdf	17 51 16.9	-0.6
	7.8nm,0.8s,baz=272,slow=23,SNR=45						
NVAR	Mina Array Bea	147.41	262	PKPbc	PKPbc	17 51 26.1	+0.1
	0.4nm,0.6s,baz=145,slow=5.5,SNR=4.1						
SEY	Seymchan	153.61	48	PKPbc	PKiKP	17 51 40.4	+0.5
	0.2nm,0.3s,baz=233,slow=2.8,SNR=3.5						
YKA	Yellowknife Ar	153.68	311	PKPbc	PKiKP	17 51 40.1	+0.1
	0.8nm,0.8s,baz=90,slow=2.2,SNR=9.8						

IDC ***20*** *17:49:04.5±2.0,5.42S×147.06E,h138km±22km,mb3.2/5, mb1 3.4/7,mb1mx3.2/39,mbtmp3.7/7,Error ellipse: s-maj=41.3km s-min=12.1km az=110.0*

ISC 20 17:49:05.7±1.2,5.46S±0.10×147.2E±0.2,h150km,n7, σ1§19/10,mb3.4/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.92	180	P	Pn	17 50 05.4	+0.5
	13nm,0.3s,baz=344,slow=6.0,SNR=72						
PMG				S	Sn	17 50 49.7	-1.2
	15nm,0.3s,baz=204,slow=20,SNR=25						
WRA	Warramunga Arr	19.04	220	P	P	17 53 17.0	+0.6
	0.3nm,0.3s,baz=45,slow=9.5,SNR=8.1						
WRA				S	S	17 56 43.4	-1.3
	0.0nm,0.3s,baz=37,slow=18,SNR=3.3						
ASAR	Alice Springs	22.15	214	P	P	17 53 49.8	+0.3
	0.8nm,0.6s,baz=43,slow=7.5,SNR=34						
ASAR				S	S	17 57 45.2	+2.2
	1.0nm,1.0s,baz=37,slow=21,SNR=7.1						
FITZ	Fitzroy Crossi	24.48	237	P	P	17 54 11.1	0.0
	0.7nm,0.4s,baz=54,slow=8.1,SNR=6.1						
MKAR	Makanchi Array	77.18	320	P	P	18 00 42.7	-0.3
	0.2nm,0.4s,baz=97,slow=8.7,SNR=7.8						
ZALV	Zalesovo Beam	78.64	328	P	P	18 00 49.8	-1.1
	0.5nm,0.4s,baz=117,slow=7.0,SNR=4.6						
ILAR	Eielson Array	84.93	23	P	P	18 01 23.9	+0.3
	0.3nm,0.7s,baz=234,slow=5.0,SNR=5.3						

IDC ***20*** *18:01:59.0±1.2,7.59S×120.05E,h538km±9km,mb2.9/4, mb1 3.0/8,mb1mx2.7/43,mbtmp3.8/8,Error ellipse: s-maj=60.9km s-min=11.6km az=61.0*

DJA ***20*** *18:02:00.5±0.7,7.8°S×12.0°E±°,h528km±8km,M3.6/14, mb3.8/2,mB4.2/2,MLv3.6/14,Mw(mB)3.3/2*

ISC 20 18:01:59.2±0.7,7.50S±0.08×120.26E±0.09,h550km,n27, σ1§32/35,mb3.3/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.36	10	P	P	18 03 06.0	-0.6
BKSI	Bulukumba	2.17	356	P	P	18 03 08.8	-1.0
MMRI	Maumere	2.26	120	P	P	18 03 08.6	-1.6
MMRI	Maumere	2.26	120	P	P	18 03 09.4	-0.8
WBSI	Waikabubak, Su	2.30	202	P	P	18 03 09.9	-0.5
WBSI				S	S	18 04 05.5	-2.8
KAPI	Kappang	2.52	348	P	P	18 03 11.9	+0.3
	17nm,0.3s,baz=154,slow=3.3,SNR=57						
KAPI				S	S	18 04 07.9	-2.3
	0.6nm,0.3s,baz=329,slow=21,SNR=1.1						
KAPI	Kappang	2.52	348	P	P	18 03 12.1	+0.6
BASI	Baing, Sumba	2.72	173	P	P	18 03 13.8	+1.2
BASI				S	S	18 04 10.6	-1.7
PLAI	Plampang	2.79	242	P	P	18 03 13.0	0.0
PLAI				S	S	18 04 10.7	-2.4
PLAI	Plampang	2.79	242	P	P	18 03 13.8	+0.8
BNSI	Bone	3.08	357	P	P	18 03 15.1	+0.3
SPSI	Sidrap Palu	3.54	352	P	P	18 03 17.8	-0.1
BATI	Baumata	4.31	129	P	P	18 03 23.4	-0.1
	12nm,0.3s,baz=293,slow=2.8,SNR=18						
BATI				S	S	18 04 29.1	-3.0
	5.0nm,0.3s,baz=305,slow=3.1,SNR=5.5						
BATI	Baumata	4.31	129	P	P	18 03 23.3	-0.1
IGBI	Denpasar	5.23	255	P	P	18 03 31.1	+0.1
JAGI	Jajag, Banyuwa	6.13	261	P	P	18 03 38.5	-0.6
SANI	Sanana	7.86	47	P	P	18 03 54.5	-1.2
TOLI2	Tolitoli	8.57	3	P	P	18 04 02.8	+0.1
	6.7nm,0.8s						
KNRA	Kununurra	11.63	135	P	P	18 04 35.0	+1.0
FITZ	Fitzroy Crossi	11.77	154	P	P	18 04 36.4	+1.0
	0.2nm,0.3s,baz=326,slow=8.3,SNR=7.0						
MTN	Manton Dam	11.95	117	P	P	18 04 37.0	-0.3
KKM	Kota Kinabalu	14.04	343	P	P	18 04 57.5	-1.6
WRA	Warramunga Arr	18.42	134	P	P	18 05 42.0	+1.0
	0.1nm,0.3s,baz=313,slow=11,SNR=11						
WRA				S	S	18 08 40.5	-0.9
	0.0nm,0.3s,baz=308,slow=16,SNR=2.7						
ASAR	Alice Springs	20.73	142	P	P	18 06 03.2	+1.1
	0.6nm,0.4s,baz=320,slow=8.4,SNR=36						
ASAR				S	S	18 09 18.7	+0.3
	0.1nm,0.6s,baz=313,slow=14,SNR=1.2						
ASAR				PcP	PcP	18 09 47.9	+0.6
	0.2nm,0.4s,baz=322,slow=1.5,SNR=7.9						
STKA	Stephens Creek	31.36	144	P	P	18 07 36.8	+1.4
	0.8nm,0.3s,baz=333,slow=7.8,SNR=6.6						
KLR	Kul'dur	57.38	9	P	P	18 10 57.8	+2.6
	0.3nm,0.3s,baz=204,slow=4.3,SNR=4.9						
MKAR	Makanchi Array	63.71	332	P	P	18 11 37.1	-0.1
	0.6nm,0.6s,baz=144,slow=7.7,SNR=8.3						

IDC ***20*** *18:15:06.6±2.3,44.07N×128.64W,h0km,mb3.3/4, mb1 3.7/9,mb1mx3.5/73,mbtmp3.5/9,ML3.3/5,MS3.1/9, Ms1 3.1/9,ms1mx2.9/30,Error ellipse: s-maj=42.2km s-min=15.0km az=54.0*

NEIC ***20*** *18:15:08.0±1.4,43.99N±0.10×128.7W±0.1,h10km±2km, ML3.4/46,Error ellipse: s-maj=18.4km s-min=9.7km az=212.0*

ISC 20 18:15:07.3±1.8,44.0N±0.1×128.8W±0.2,h10km,n78, σ0§95/68,mb3.4/3,MS3.1/4,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	Swisshome, OR	3.55	86	Pn	Pn	18 16 01.7	-0.8
I02E				IAML		18 17 02.8	
	comp=E,59nm,2.2s						
I02E	Swisshome, OR	3.55	86	P	Pn	18 16 01.6	-0.8
	baz=270,SNR=16						
J01E	Myrtle Point	3.61	102	Pn	Pn	18 16 01.5	-1.9
J01E	Myrtle Point	3.61	102	P	Pn	18 16 01.4	-1.9
	baz=285						
HEBO	Mount Hebo	3.79	69		Pn	18 16 03.5	-2.3
HEBO				IAML		18 18 16.1	
	comp=N,64nm,2.2s						
I03D	Drain, OR	3.93	92	P	Pn	18 16 07.1	-0.6
	baz=276,SNR=9.7						
K02D	Willamette Mer	3.94	107	P	Pn	18 16 05.8	-2.1
	baz=291						
COR	Corvallis	3.97	79	Pn	Pn	18 16 07.4	-0.8
COR				IAML		18 16 59.5	
	comp=N,61nm,0.7s						
DBO	Dodson Butte	4.11	100		Pn	18 16 09.0	-1.2
G03D	McMinnville, O	4.12	71		Pn	18 16 09.2	-1.1
G03D				IAML		18 17 00.2	
	comp=N,58nm,0.6s						
G03D				IAML		18 17 03.0	
	comp=E,51nm,0.6s						
G03D	McMinnville, O	4.12	71	P	Pn	18 16 09.3	-1.0
	baz=254,SNR=18						
BUCK	Buck Mountain	4.17	85		Pn	18 16 10.6	-0.5
BUCK				IAML		18 17 02.0	
	comp=N,40nm,2.9s						
BUCK				IAML		18 17 08.1	
	comp=E,52nm,2.5s						
L02E	Cave Junction	4.21	114	Pn	Pn	18 16 10.3	-1.2
L02E				IAML		18 16 52.1	
	comp=E,33nm,3.7s						
H04D	Lebanon	4.37	81	Pn	Pn	18 16 12.8	-0.8
H04D				IAML		18 17 08.4	
	comp=E,52nm,0.9s						
H04D				IAML		18 17 08.6	
	comp=N,45nm,1.0s						
H04D	Lebanon	4.37	81	P	Pn	18 16 13.8	+0.1
	baz=265,SNR=16						
HUMO	Hull Mountain	4.46	106	Pn	Pn	18 16 13.9	-1.2
E03A	Lebam	4.48	53		Pn	18 16 14.8	-0.3
E03A				IAML		18 17 09.1	
	comp=E,39nm,0.5s						
E03A				IAML		18 17 13.8	
	comp=N,36nm,3.5s						
F04D	Rainier, OR	4.59	61	P	Pn	18 16 16.6	-0.1
	baz=245,SNR=5.9						
I04A	Tendick Farm,	4.60	90	P	Pn	18 16 17.3	+0.3
	baz=275,SNR=8.1						
WISH	Wishkah	4.70	47		Pn	18 16 18.5	+0.3
WISH				IAML		18 18 14.6	
	comp=N,39nm,4.8s						
WISH				IAML		18 19 16.0	
	comp=E,43nm,4.7s						
H04A	Detroit Lake	4.77	79	Pn	Pn	18 16 19.4	+0.1
H04A				IAML		18 17 17.1	
	comp=E,26nm,0.5s						
NLWA	Neilton Lookou	4.83	44	Pn	Pn	18 16 19.9	-0.2
J04D	Umpqua Nationa	4.89	97		Pn	18 16 21.6	+0.4
J04D	Umpqua Nationa	4.89	97	P	Pn	18 16 21.9	+0.7
	baz=281,SNR=8.7						
F04A	Amboy	4.91	64	Pn	Pn	18 16 20.8	-0.3
C03A	Quillayute Air	4.92	35	Pn	Pn	18 16 20.6	-0.6
YBH	Yreka Blue Hor	4.99	115	Pn	Pn	18 16 21.8	-0.6
	comp=E,0.4nm,0.3s,baz=306,slow=12,SNR=6.6						
YBH				Sn	Sn	18 17 20.7	+0.5
	comp=E,0.1nm,0.3s,baz=302,slow=5.9,SNR=1.7						
L04D	Klamath Falls	5.05	108		Pn	18 16 23.4	+0.1
L04D				IAML		18 19 44.2	
	comp=N,25nm,4.5s						
L04D	Klamath Falls	5.05	108	P	Pn	18 16 25.4	+2.1
	baz=293						
E04D	Cinebar	5.07	57	Pn	Pn	18 16 23.4	0.0
E04D				IAML		18 19 18.4	
	comp=E,19nm,4.1s						
E04D				IAML		18 19 29.0	
	comp=N,18nm,5.0s						
E04D	Cinebar	5.07	57	P	Pn	18 16 23.4	0.0
	baz=242,SNR=9.0						
HOOD	Mount Hood Mea	5.25	73		Pn	18 16 26.0	+0.1
D04E	Lakebay	5.28	51	P	Pn	18 16 27.0	+0.8
	baz=235,SNR=5.8						
D03D	Eldon	5.33	46	P	Pn	18 16 26.5	-0.3
	baz=230,SNR=7.7						
OZB	Mount Ozzard	5.46	23	Pn	Pn	18 16 28.7	0.0
G05D	Wamic, OR	5.47	74	P	Pn	18 16 28.9	+0.1
	baz=259,SNR=16						
B04A	Port Angeles	5.48	40	Pn	Pn	18 16 29.0	+0.1
F05D	White Salmon	5.53	67		Pn	18 16 29.4	-0.3
PINE	Pine Mountain	5.66	89	Pn	Pn	18 16 30.2	-1.5
D05A	Enumclaw	5.73	54	Pn	Pn	18 16 33.4	+1.0
K05A	Summer Lake	5.88	100	Pn	Pn	18 16 34.2	-0.4
PGC	Sidney	5.94	36	Pn	Pn	18 16 34.3	-0.9
LTY	Liberty	6.55	57		Pn	18 16 44.1	+0.3
F07A	Phinny Hill Vi	6.56	70	Pn	Pn	18 16 43.1	-0.6
HOLB	Holberg	6.67	4	Pn	Pn	18 16 45.5	+0.3
I07A	Izee	6.68	86	Pn	Pn	18 16 46.0	+0.4
E07A	Sunnyside	6.79	65		Pn	18 16 48.1	+1.0
HAWA	Hanford	6.96	67	Pn	Pn	18 16 48.9	-0.3
ORV	Oroville	7.01	127	Pn	Pn	18 16 51.8	+1.8
G08A	Pilot Rock	7.12	76		Pn	18 16 51.2	-0.4
D08A	Wollman Farm,	7.57	63	Pn	Pn	18 16 57.1	-0.5
B08A	Colville Reser	7.87	53	Pn	Pn	18 17 01.5	-0.3
BBB	Bella Bella	8.21	3	Pn	Pn	18 17 06.9	+0.5
	comp=N,0.7nm,0.3s,baz=208,slow=4.7,SNR=11						
BBB	Bella Bella	8.21	3	Pn	Pn	18 17 06.7	+0.3
F10A	Beach Ranch, E	8.42	72	Pn	Pn	18 17 09.5	+0.1
NEW	Newport	9.15	58	Pn	Pn	18 17 18.6	-0.7
	comp=N,0.8nm,0.3s,baz=260,slow=12,SNR=10						
NEW				LR	LR	18 20 33.5	
	comp=N,143nm,18.1s,baz=244,slow=36						
NEW	Newport	9.15	58	Pn	Pn	18 17 17.8	-1.5
NEW	Newport	9.15	58	P	Pn	18 17 19.0	-0.3
	baz=246						
NVAR	Mina Array Bea	9.64	122	Pn	Pn	18 17 28.4	+2.0
	comp=N,0.1nm,0.3s,baz=283,slow=13,SNR=8.3						
NVAR				LR	LR	18 20 48.1	
	comp=N,31nm,20.1s,baz=208,slow=35						
NVAR	Mina Array Bea	9.64	122		Pn	18 17 25.4	-1.0
ELK	Elko	10.53	103	Pn	Pn	18 17 40.3	+1.9
	comp=N,0.1nm,0.3s,baz=269,slow=8.9,SNR=3.9						
WALA	Waterton Lakes	11.42	58	Pn	Pn	18 17 50.8	+0.3
LKWY	Lake	13.18	81	Pn	Pn	18 18 13.9	-0.8
PDAR	Pinedale Array	14.03	88	LR	LR	18 24 01.6	
	comp=N,112nm,21.7s,baz=277,slow=38						
PFO	Pinyon Flats O	14.11	133	LR	LR	18 22 46.9	
	comp=N,71nm,19.5s,baz=271,slow=33						
DLBC	Dease Lake	14.49	357	LR	LR	18 23 15.2	
	comp=N,116nm,19.8s,baz=138,slow=34						
YKA	Yellowknife Ar	20.29	19	P	P	18 19 42.4	-0.5
	comp=N,2.1nm,0.9s,baz=210,slow=10,SNR=10						
ILAR	Eielson Array	23.17	340	P	P	18 20 12.6	-1.1
	comp=N,0.6nm,0.9s,baz=147,slow=9.2,SNR=5.6						
ILAR				LR	LR	18 27 53.9	
	comp=N,62nm,19.3s,baz=131,slow=33						
TXAR	Lajitas Array	24.76	118	P	P	18 20 30.1	+0.9
	comp=N,0.7nm,0.8s,baz=304,slow=8.9,SNR=6.4						
TXAR				LR	LR	18 31 56.9	
	comp=N,28nm,19.3s,baz=302,slow=41						
RES	Resolute Bay	34.26	15	P	P	18 21 53.5	+0.5
	comp=N,0.8nm,0.9s,baz=211,slow=14,SNR=3.6						
TKL	Tuckaleechee C	35.18	88	LR	LR	18 37 15.9	
	comp=N,41nm,20.2s,baz=76,slow=38						
SJG	San Juan	58.03	95	LR	LR	18 51 47.8	
	comp=N,30nm,18.3s,baz=210,slow=38						
H11N3	WAKE ISLAND Hy	58.21	267	T	T	19 27 49.8	
	baz=49,slow=75,SNR=271						
H11N2	WAKE ISLAND Hy	58.21	267	T	T	19 27 48.5	
	baz=49,slow=75,SNR=285						
H11N1	WAKE ISLAND Hy	58.23	267	T	T	19 27 53.5	
	baz=49,slow=75,SNR=262						
H11S1	WAKE ISLAND Hy	59.14	266	T	T	19 28 56.8	
	baz=50,slow=75,SNR=57						
H11S2	WAKE ISLAND Hy	59.15	266	T	T	19 29 02.5	
	baz=50,slow=75,SNR=66						
H11S3	WAKE ISLAND Hy	59.16	266	T	T	19 28 56.5	
	baz=50,slow=75,SNR=60						

IDC ***20*** *18:15:34.8±0.9,21.72S×169.92E,h0km,mb4.4/14, mb1 4.5/15,mb1mx4.4/39,mbtmp4.4/15,ML4.1/1,MS4.2/41, Ms1 4.2/41,ms1mx4.1/51,Error ellipse: s-maj=33.0km s-min=17.5km az=152.0*

BJI ***20*** *18:15:36.0±0.0,21.70S×169.50E,h10km,mb4.8/25, mB5.3/16,Ms4.9/5,Ms7 4.4/6*

BGR ***20*** *18:15:36.1±0.0,21.28S×171.13E,h33km*

NOU ***20*** *18:15:37.6,21.64S×169.64E,h0km,MLv5.3/27, Southeast of Loyalty Islands*

NEIC ***20*** *18:15:40.2±2.1,21.59S±0.07×169.41E±0.07,h10km±1km, mb4.7/14,Error ellipse: s-maj=13.0km s-min=10.8km az=144.0*

GCMT ***20*** *18:15:44.2±0.2,21.67S±0.02×169.54E±0.02,h28km, MW5.1/84,Moment Tensor Solution. s61,c78; s84,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.56±.17; Mθθ-1.34±.14; Mϕϕ-3.22±.12; Mrθ0.55±.24; Mϕϕ2.10±.07; Mθr-2.96±.19; Best double couple: Mo5.47000×10^16 NP1:ϕs316.00000°,δ30.00000°,λ70.00000°. NP2: ϕs159.00000°,δ62.00000°,λ101.00000°. Principal axes:*

T 5.5620, Plg71.1000°, Azm94.0000°; N -0.1830, Plg10.0000°, Azm333.0000°; P -5.3790, Plg16.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 20 18:15:39.5±0.5,21.66S±0.06×169.64E±0.06,h21km,n230, σ1§40/190,mb4.7/33,MS4.3/44,2C-9D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.51	277		Pn	18 16 04.2	-1.1
MARNC	Mare, Loyalty	1.51	277	P	Pn	18 16 04.6	-0.7
PINNC	Pines Island,	2.24	245		Pn	18 16 14.1	-1.2
PINNC	Pines Island,	2.24	245	P	Pn	18 16 15.2	-0.2
LIFNC	LIFOU	2.41	291		Pn	18 16 15.1	-2.6
LIFNC	LIFOU	2.41	291	P	Pn	18 16 17.8	+0.2
YATNC	Mamie plateau,	2.58	261	P	Pn	18 16 19.9	-0.2
OUENC	Ouen Island, N	2.70	253		Pn	18 16 21.4	-0.3
OUENC	Ouen Island, N	2.70	253	P	Pn	18 16 22.2	+0.5
DZM	Mont Dzumac	3.00	262	Pn	Pn	18 16 25.5	-0.3
	22nm,0.3s,baz=122,slow=9.8,SNR=385						
DZM				Sn	Sn	18 17 01.1	-0.1
	38nm,0.3s,baz=343,slow=22,SNR=5.6						
DZM	Mont Dzumac	3.00	262	ePn	Pn	18 16 25.7	-0.2
	131nm,0.3s						
DZM				eSn	Sn	18 16 57.5	-3.7
	303nm,0.3s						
DZM				eLR	LR	18 17 01.4	
	comp=Z,8μm,25.0s						
DZM	Mont Dzumac	3.00	262		Pn	18 16 24.3	-1.6
DZM	Mont Dzumac	3.00	262	P	Pn	18 16 27.0	+1.1
ONTNC	Ouen Toro	3.02	257		Pn	18 16 25.5	-0.7
ONTNC	Ouen Toro	3.02	257	P	Pn	18 16 25.4	-0.7
NOUC	Port Laguerre	3.13	261	P	Pn	18 16 28.6	+1.0
RTV	Rentapao	4.02	343	P	Pn	18 16 41.0	+1.2
DVP	Devils Point	4.15	340	P	Pn	18 16 41.6	0.0
KOUNC	Koumac, New Ca	5.12	282	Pn	Pn	18 16 56.1	+1.1
KOUNC	Koumac, New Ca	5.12	282	P	Pn	18 16 56.3	+1.3
	293nm,1.1s						
SANVU	Saraoutou	6.60	339	Pn	Pn	18 17 15.0	-0.3
SANVU	Saraoutou	6.60	339	P	Pn	18 17 16.5	+1.1
	209nm,0.6s						
MSVF	Nonsavu	8.83	65	Pn	Pn	18 17 50.1	+4.0
	3.3nm,0.3s,baz=270,slow=15,SNR=20						
MSVF	Nonsavu	8.83	65	Pn	Pn	18 17 50.7	+4.6
EIDS	Eidsvold	17.41	254	P	P	18 19 46.7	+4.3
	baz=18,SNR=4.2						
EIDS	Eidsvold	17.41	254	P	Pn	18 19 39.3	-2.0
BKZ	Black Stump Fm	18.41	163	P	Pn	18 19 54.2	+0.8
BKZ				IAmb	IAmb	18 19 57.9	
	comp=Z,65nm,1.2s						
RMQ	Roma	19.66	252	P	Pn	18 20 10.7	+2.2
	baz=21,SNR=14						
TUWZ	Tuamarina	20.04	171	P	Pn	18 20 12.9	0.0
KHZ	Kahutara	20.95	172	P	Pn	18 20 21.9	-1.7
CTA	Charters Tower	21.91	270	P	P	18 20 33.1	+1.6
	comp=Z,12nm,1.2s,baz=98,slow=12,SNR=12						
CTA	Charters Tower	21.91	270	P	P	18 20 32.9	+1.4
CNB	Canberra Magne	22.36	228	P	P	18 20 37.9	+1.6
	baz=23,SNR=5.0						
CMSA	Cobar Meteorol	23.52	240	P	P	18 20 49.8	+1.6
	baz=24,SNR=36						
CMSA	Cobar Meteorol	23.52	240	P	P	18 20 50.3	+2.1
QLP	Quilpie	23.68	253	P	P	18 20 51.8	+2.0
	baz=25,SNR=15						
QLP	Quilpie	23.68	253	P	P	18 20 51.6	+1.8
MTSU	Mount Surprise	24.06	274	P	P	18 20 55.0	+1.5
	baz=25,SNR=8.6						
PMG	Port Moresby	24.81	296	P	P	18 21 02.3	+2.0
	comp=Z,34nm,0.9s,baz=121,slow=6.5,SNR=9.4						
PMG				LR	LR	18 28 53.3	
	comp=Z,632nm,20.4s,baz=125,slow=32						
PMG	Port Moresby	24.81	296	P	P	18 21 00.0	-0.3
TOO	Toolangi	26.20	227	P	P	18 21 14.4	+1.6
TOO				IAmb	IAmb	18 21 36.0	
	comp=Z,21nm,1.1s						
COEN	Coen	26.31	283	P	P	18 21 14.1	+0.2
COEN				IAmb	IAmb	18 21 25.4	
	comp=Z,30nm,1.4s						
STKA	Stephens Creek	26.96	242	P	P	18 21 20.9	+1.2
	comp=Z,9.1nm,1.0s,baz=83,slow=10,SNR=6.2						
STKA	Stephens Creek	26.96	242	P	P	18 21 21.2	+1.6
	baz=28,SNR=7.0						
STKA	Stephens Creek	26.96	242	P	P	18 21 20.2	+0.6
RAR	Rarotonga	28.45	95	LR	LR	18 32 43.7	
	comp=Z,186nm,18.1s,baz=270,slow=36						
LCRK	Leigh Creek	29.48	246	P	P	18 21 43.4	+1.2
HTT	Hallett	29.54	240	P	P	18 21 44.1	+1.3
	baz=30,SNR=5.4						
HTT	Hallett	29.54	240	P	P	18 21 43.8	+1.0
OOD	Oodnadatta	31.37	252	P	P	18 21 59.8	+0.9
WR0	Warramunga Arr	32.81	266	P	P	18 22 11.9	+0.2
WR0				IAmb	IAmb	18 22 28.5	
	comp=Z,8.8nm,1.1s						
WB0	Warramunga Arr	32.98	267	P	P	18 22 12.8	-0.4
WB0				IAmb	IAmb	18 22 18.2	
	comp=Z,12nm,1.1s						
AS31	Alice Springs	32.98	260	P	P	18 22 13.0	-0.2
ASAR	Alice Springs	32.98	260	P	P	18 22 13.1	-0.2
	comp=Z,3.7nm,0.8s,baz=88,slow=9.1,SNR=47						
ASAR				LR	LR	18 35 30.6	
	comp=Z,388nm,19.4s,baz=101,slow=36						
ASAR	Alice Springs	32.98	260	P	P	18 22 13.7	+0.4
WB2	Warramunga Arr	32.99	266	P	P	18 22 12.8	-0.5
WB2				IAmb	IAmb	18 22 33.6	
	comp=Z,14nm,1.2s						
WRAB	Tennant Creek	32.99	266	P	P	18 22 15.2	+1.9
WRA	Warramunga Arr	33.00	266	P	P	18 22 13.0	-0.4
	comp=Z,3.0nm,0

	comp=Z,182nm,18.1s,baz=122,slow=39							
JOW	**Kunigami**	**62.67**	**318**	LR	LR	18 50 29.9		
	comp=Z,72nm,21.9s,baz=118,slow=33							
MJAR	**Matsushiro Arr**	**65.06**	**332**	P	**P**	**18 26 17.0**	**-1.4**	
	comp=Z,2.9nm,0.6s,baz=173,slow=7.7,SNR=10.0							
MAJO	**Matsushiro**	**65.06**	**332**	P	**P**	**18 26 17.3**	**-1.1**	
QSPA	**South Pole Qui**	**68.40**	**180**	LR	LR	18 52 55.0		
	comp=Z,156nm,19.6s,baz=8.5,slow=33							
KSRS	**Korea Array**	**70.71**	**326**	P	**P**	**18 26 52.9**	**-1.0**	
	comp=Z,2.2nm,1.0s,baz=155,slow=6.4,SNR=7.6							
NJ2	**Nanjing**	**72.21**	**316**	*e*P	**P**	**18 27 05.6**	**+2.5**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
PSI	**Prapat**	**73.20**	**280**	LR	LR	19 04 05.8		
	comp=Z,179nm,18.0s,baz=126,slow=40							
USRK	**Ussuriysk Ar.**	**74.05**	**333**	P	**P**	**18 27 13.5**	**-0.2**	
	comp=Z,3.0nm,0.8s,baz=132,slow=2.8,SNR=6.4							
SHEM	**Shemya Is, Ala**	**74.18**	**3**	LR	LR	18 52 17.2		
	comp=Z,164nm,20.8s,baz=224,slow=30							
PETK	**Petropavlovsk-**	**75.18**	**353**	P	**P**	**18 27 19.9**	**-0.1**	
	comp=Z,3.4nm,0.6s,baz=119,slow=5.8,SNR=10							
MAW	**Mawson**	**76.34**	**202**	LR	LR	18 57 55.0		
	comp=Z,184nm,18.8s,baz=78,slow=33							
CN2	**Changchun**	**76.72**	**329**	*e*P	**P**	**18 27 27.4**	**-1.6**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BNX	**BinXian**	**77.27**	**331**	⇓P	**P**	**18 27 31.1**	**-1.0**	
BNX				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BNX				pmax	pmax			
	comp=Z,360nm,4.9s							
LYN	**LuoYang**	**77.93**	**315**	*e*P	**P**	**18 27 37.0**	**+0.9**	
LYN				pP	pP	18 27 41.4	-0.6	
LYN				S	**S**	**18 37 30.3**	**+1.9**	
LYN				LR	LR			
	comp=Z,130nm,17.9s							
KLR	**Kul'dur**	**78.22**	**336**	LR	LR	18 57 58.6		
	comp=Z,101nm,21.9s,baz=148,slow=32							
HNS	**HongShan**	**78.25**	**318**	⇑P	**P**	**18 27 37.8**	**+0.1**	
HNS				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**79.84**	**294**	P	**P**	**18 27 48.5**	**+1.6**	
CMAR				LR	LR	19 06 35.1		
	comp=Z,8.0nm,1.2s,baz=125,slow=4.0,SNR=27							
KMI	**Kunming**	**79.87**	**302**	⇑P	**P**	**18 27 48.4**	**+1.2**	
KMI				pmax	pmax			
	comp=Z,12nm,1.5s							
PZH	**PanZhiHua**	**81.33**	**303**	P	**P**	**18 27 55.9**	**+1.0**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
PZH				pmax	pmax			
	comp=Z,100nm,6.5s							
HHC	**Hu-ho-hao-te**	**82.30**	**319**	*e*P	**P**	**18 28 00.8**	**+1.1**	
HHC				pmax	pmax			
	comp=Z,16nm,0.8s							
HHC				pmax	pmax			
	comp=Z,190nm,4.9s							
MA2	**Magadan**	**82.41**	**350**	LR	LR	18 59 54.7		
	comp=Z,144nm,21.5s,baz=125,slow=32							
PMSA	**Palmer Station**	**84.52**	**160**	LR	LR	18 59 48.2		
	comp=Z,150nm,18.5s,baz=161,slow=31							
SEY	**Seymchan**	**85.41**	**352**	P	**P**	**18 28 14.7**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=262,slow=24,SNR=6.0							
SEY				LR	LR	19 04 29.3		
	comp=Z,179nm,18.8s,baz=127,slow=34							
TROLL	**Troll, Antarti**	**86.16**	**184**	P	**P**	**18 28 18.3**	**-0.6**	
SNAA	**Sanae**	**86.77**	**182**	P	**P**	**18 28 20.8**	**-1.1**	
VNA3	**Neumayer Olymp**	**87.34**	**180**	P	**P**	**18 28 23.5**	**-1.0**	
VNA2	**Neumayer--Watz**	**87.64**	**181**	P	**P**	**18 28 25.2**	**-0.8**	
	baz=193,slow=3.0							
VNA1	**Neumayer--Stat**	**87.93**	**181**	P	**P**	**18 28 27.0**	**-0.2**	
YBH	**Yreka Blue Hor**	**88.78**	**44**	LR	LR	19 02 36.2		
	comp=Z,119nm,19.2s,baz=240,slow=32							
USHA	**Ushuaia**	**89.16**	**151**	LR	LR	19 00 28.1		
	comp=Z,88nm,18.3s,baz=213,slow=30							
PFO	**Pinyon Flats O**	**89.25**	**53**	LR	LR	19 01 13.8		
	comp=Z,149nm,19.6s,baz=258,slow=31							
YAK	**Yakutsk**	**89.28**	**342**	LR	LR	19 09 01.3		
	comp=Z,124nm,18.3s,baz=96,slow=36							
SONM	**Songino Array**	**89.37**	**323**	P	**P**	**18 28 34.4**	**-0.1**	
	comp=Z,6.7nm,1.2s,baz=141,slow=5.8,SNR=12							
SONM				LR	LR	19 05 32.9		
	comp=Z,36nm,22.0s,baz=137,slow=34							
NVAR	**Mina Array Bea**	**90.12**	**48**	P	**P**	**18 28 36.9**	**-1.5**	
	comp=Z,0.5nm,0.6s,baz=229,slow=7.9,SNR=7.2							
NVAR				LR	LR	19 01 13.5		
	comp=Z,128nm,19.8s,baz=258,slow=30							
LPIG	**La Paz**	**90.12**	**64**	LR	LR	19 00 10.4		
	comp=Z,191nm,20.3s,baz=236,slow=30							
BBB	**Bella Bella**	**91.29**	**33**	LR	LR	19 01 28.1		
	comp=Z,94nm,20.4s,baz=236,slow=30							
PALK	**Pallekele**	**91.67**	**277**	LR	LR	19 12 50.1		
	comp=Z,170nm,19.0s,baz=227,slow=37							
ILAR	**Eielson Array**	**92.42**	**17**	P	**P**	**18 28 45.5**	**-2.7**	
	comp=Z,1.0nm,0.5s,baz=234,slow=5.2,SNR=15							
ILAR				LR	LR	19 06 49.9		
	comp=Z,112nm,18.4s,baz=245,slow=33							
ELK	**Elko**	**93.28**	**47**	LR	LR	19 02 48.2		
	comp=Z,76nm,20.4s,baz=264,slow=30							
DLBC	**Dease Lake**	**94.01**	**27**	LR	LR	19 04 09.4		
	comp=Z,111nm,19.8s,baz=260,slow=31							
NEW	**Newport**	**95.38**	**40**	LR	LR	19 05 01.8		
	comp=Z,59nm,19.6s,baz=278,slow=31							
PLCA	**Paso Flores**	**96.48**	**138**	LR	LR	19 02 46.0		
	comp=Z,77nm,21.8s,baz=216,slow=29							
ANMO	**Albuquerque**	**97.36**	**55**	LR	LR	19 07 14.4		
	comp=Z,96nm,18.4s,baz=289,slow=32							
TXAR	**Lajitas Array**	**97.59**	**62**	LR	LR	19 07 06.9		
	comp=Z,139nm,18.0s,baz=253,slow=32							
PDAR	**Pinedale Array**	**97.98**	**47**	LR	LR	19 06 02.2		
	comp=Z,53nm,21.5s,baz=275,slow=31							
INK	**Inuvik**	**98.72**	**18**	LR	LR	19 09 20.0		
	comp=Z,107nm,19.4s,baz=215,slow=33							
WMQ	**Urumqi**	**99.14**	**313**	*e*P	**Pdif**	**18 29 20.3**	**+0.9**	
WMQ				pP	sP	18 29 25.6	-1.4	
WMQ				pmax	pmax			
	comp=Z,11nm,0.9s							
YKA	**Yellowknife Ar**	**102.64**	**27**	P	**Pdif**	**18 29 32.6**	**-1.8**	
	comp=Z,0.2nm,0.8s,baz=268,slow=2.9,SNR=2.3							
ARU	**Arti**	**119.41**	**323**	PKP	**PKPdf**	**18 34 25.7**	**-1.3**	
	comp=Z,1.0nm,0.5s,baz=100,slow=4.2,SNR=3.1							
SPITS	**Spitsbergen Ar**	**122.04**	**354**	PKP	**PKPdf**	**18 34 29.7**	**-1.8**	
	comp=Z,14nm,1.0s,baz=46,slow=6.2,SNR=7.0							
BELG	**Belogornoye**	**126.32**	**320**	PKP	**PKPdf**	**18 34 39.6**	**-0.7**	
	comp=Z,6.3nm,0.6s,baz=279,slow=8.0,SNR=8.6							
ARCES	**ARCESS Array B**	**127.50**	**345**	PKP	**PKPdf**	**18 34 40.8**	**-1.4**	
	comp=Z,2.9nm,0.5s,baz=75,slow=1.5,SNR=34							
ARCES	**ARCESS Array B**	**127.50**	**345**		**PKPdf**	**18 34 41.1**	**-1.0**	
FINES	**FINESS Array B**	**132.96**	**337**	PKP	**PKPdf**	**18 34 51.1**	**-1.3**	
	comp=Z,1.6nm,0.5s,baz=26,slow=3.1,SNR=16							
FINES	**FINESS Array B**	**132.96**	**337**		**PKPdf**	**18 34 51.5**	**-1.2**	
NB2	**NORSAR Subarra**	**137.87**	**345**	PKP	**PKPdf**	**18 35 01.6**	**-0.4**	
	comp=Z,0.6nm,0.5s,baz=38,slow=2.9							
NOA	**NORSAR Array B**	**137.87**	**345**	PKP	**PKPdf**	**18 35 01.0**	**-1.0**	
	comp=Z,0.5nm,0.5s,baz=29,slow=2.1,SNR=4.7							
CRVS	**Cervenica-Dubn**	**142.88**	**325**	*e*PKP	**PKiKP**	**18 35 15.3**	**+0.7**	
KECS	**Kecovo**	**143.65**	**325**	*e*PKP	**PKiKP**	**18 35 18.5**	**+2.4**	
OSTC	**Ostas**	**144.42**	**331**	*e*PKP	PKPbc	18 35 12.3	-0.2	
PGB	**Panagyurishte**	**144.45**	**314**	P	PKPbc	18 35 12.5	-0.4	
CHVC	**Chvalec**	**144.47**	**331**	*e*PKP	PKPbc	18 35 11.8	-0.9	
DPC	**Dobruska-Polom**	**144.52**	**330**	*e*PKP	PKPbc	18 35 12.2	-0.7	
UPC	**Upice**	**144.55**	**331**	*e*PKP	PKPbc	18 35 12.3	-0.6	
JAVC	**Velka Javorina**	**144.87**	**327**	*e*PKP	**PKPdf**	**18 35 15.2**	**+0.3**	
VTS	**Vitosha**	**145.04**	**315**	P	**PKPdf**	**18 35 14.5**	**-1.1**	
VRAC	**Vranov**	**145.10**	**329**	*e*PKP	**PKPab**	**18 35 14.0**	**-0.8**	
FLTG	**Flechtingen**	**145.14**	**337**	*e*PKPbc	**PKPbc**	**18 35 13.2**	**-1.5**	
	baz=36,slow=2.9							
MMB	**Musomiste**	**145.15**	**313**	P	**PKPbc**	**18 35 14.3**	**-0.9**	
PVCC	**Panska Ves**	**145.18**	**332**	*e*PKP	**PKPdf**	**18 35 14.4**	**-0.9**	
BRG	**Berggiesshubel**	**145.19**	**333**	*i* PKP	**PKPbc**	**18 35 14.0**	**-1.0**	
BRG				Amp		18 35 15.4		
	comp=Z,18nm,0.7s							
BRG				*ex*	x	18 35 25.2		
BRG				Amp		18 35 26.5		
	comp=Z,16nm,1.3s							
BRG				*ex*	x	18 35 41.4		
BRG				Amp		18 35 43.5		
	comp=Z,9.7nm,0.9s							
BRG	**Berggiesshubel**	**145.19**	**333**	*e*PKPbc	**PKPbc**	**18 35 14.0**	**-1.0**	
	baz=36,slow=2.9							
LAWE	**Loch Awe, Argy**	**145.25**	**355**	*e*P	**PKPbc**	**18 35 13.2**	**-1.8**	
LAWE				IAmb	IAmb	18 35 13.8		
	comp=Z,47nm,1.4s							
CLL	**Collm**	**145.26**	**334**	*i* PKPbc	**PKPbc**	**18 35 13.9**	**-1.3**	
	comp=Z,18nm,0.6s							
CLL	**Collm**	**145.26**	**334**	*e*PKPbc	**PKPbc**	**18 35 13.9**	**-1.3**	
	baz=36,slow=2.9							
ESY	**Stoneypath**	**145.31**	**352**	*e*P	**PKPbc**	**18 35 13.6**	**-1.6**	
KRUC	**Moravsky**	**145.37**	**329**	*e*PKP	**PKPdf**	**18 35 14.8**	**-0.9**	
FBE	**Freiberg**	**145.41**	**333**	*e*PKPbc	**PKPdf**	**18 35 14.8**	**-0.9**	
	baz=36,slow=2.9							
KKB	**Krupnik**	**145.47**	**313**	P	**PKPab**	**18 35 15.5**	**-0.9**	
RETH	**Rethem/Aller,**	**145.47**	**339**	*e*PKPbc	**PKPbc**	**18 35 14.5**	**-1.3**	
	baz=36,slow=2.9							
EBL	**Broad Law**	**145.50**	**353**	*e*P	**PKPdf**	**18 35 14.0**	**-1.7**	
PRU	**Pruhonice**	**145.58**	**331**	*e*PKP	**PKPbc**	**18 35 15.3**	**-0.9**	
NEUB	**Neuenburg**	**145.83**	**335**	*e*PKPbc	**PKPbc**	**18 35 15.8**	**-1.1**	
	baz=36,slow=2.9							
CLZ	**Clausthal**	**145.85**	**337**	*e*PKPbc	**PKPdf**	**18 35 15.4**	**-1.1**	
	baz=36,slow=2.9							
EKA	**Eskdalemuir Ar**	**145.95**	**353**	PKPbc	**PKPdf**	**18 35 15.2**	**-1.2**	
	comp=Z,9.4nm,0.6s,baz=0.9,slow=2.5,SNR=94							
ESK	**Eskdalemuir**	**145.97**	**353**	*e*P	**PKPdf**	**18 35 15.1**	**-1.4**	
ESK				IAmb	IAmb	18 35 16.0		
	comp=Z,57nm,1.5s							
PBCC	**Pribram**	**146.04**	**331**	*e*PKP	**PKPbc**	**18 35 16.8**	**-0.9**	
STIP	**Stip**	**146.15**	**314**	*i* P	**PKPab**	**18 35 18.0**	**-1.0**	
TANN	**Tannenbergstha**	**146.16**	**334**	*e*PKPbc	**PKPbc**	**18 35 17.1**	**-1.0**	
	baz=36,slow=2.9							
PLN	**Plauen**	**146.23**	**334**	*e*PKPbc	**PKPbc**	**18 35 17.4**	**-0.8**	
	baz=36,slow=2.9							
GTTG	**Gottingen**	**146.24**	**337**	*e*PKPbc	**PKPbc**	**18 35 17.3**	**-0.9**	
	baz=36,slow=2.9							
GUNZ	**Gunzen**	**146.25**	**334**	*e*PKPbc	**PKPbc**	**18 35 17.6**	**-0.8**	
	baz=36,slow=2.9							
NEWG	**New Galloway**	**146.28**	**354**	*e*P	**PKPdf**	**18 35 16.1**	**-0.9**	
NEWG				IAmb	IAmb	18 35 17.4		
	comp=Z,15nm,0.6s							
EDMD	**Edmundbyers**	**146.28**	**351**	*e*P	**PKPdf**	**18 35 16.3**	**-0.8**	
EDMD				IAmb	IAmb	18 35 17.8		
	comp=Z,19nm,0.6s							
WERN	**Wernitzgruen**	**146.29**	**333**	*e*PKPbc	**PKPbc**	**18 35 17.8**	**-0.6**	
	baz=36,slow=2.9							
NKC	**Novy Kostel**	**146.31**	**333**	*e*PKP	**PKPdf**	**18 35 17.0**	**-0.3**	
IBBN	**Ibbenburen**	**146.36**	**340**	*e*PKPbc	**PKPbc**	**18 35 17.3**	**-1.2**	
	baz=36,slow=2.9							
CONA	**Conrad Observa**	**146.39**	**328**	*e*P	**PKPbc**	**18 35 18.3**	**-0.6**	
	comp=Z,12nm,1.4s,SNR=8.5							
SKO	**Skopje**	**146.52**	**315**	*i* P	**PKPbc**	**18 35 18.8**	**-0.6**	
CKRC	**Cesky Krumlov**	**146.53**	**330**	*e*PKP	**PKPbc**	**18 35 18.7**	**-0.5**	
GAL1	**Galloway**	**146.57**	**354**	*e*P	**PKPdf**	**18 35 17.0**	**-0.6**	
GAL1				IAmb	IAmb	18 35 18.0		
	comp=Z,19nm,0.7s							
KHC	**Kasperske Hory**	**146.64**	**331**	*e*PKP	**PKPbc**	**18 35 18.8**	**-0.7**	
MANZ	**Manzenberg**	**146.64**	**333**	*e*PKPbc	**PKPbc**	**18 35 18.7**	**-0.8**	
	baz=36,slow=2.9							
ROTZ	**Rotzenmuhle**	**146.76**	**333**	*e*PKPbc	**PKPbc**	**18 35 18.8**	**-1.0**	
	baz=36,slow=2.9							
GEC2	**GERESS Array S**	**146.79**	**331**	*e*PKPbc	**PKPbc**	**18 35 19.0**	**-1.0**	
	baz=36,slow=2.9							
GERES	**GERESS Array B**	**146.79**	**331**	PKPbc	**PKPbc**	**18 35 19.2**	**-0.8**	
	comp=Z,4.1nm,0.6s,baz=35,slow=4.9,SNR=44							
ARSA	**Arzberg**	**147.01**	**327**	*e*P	**PKPbc**	**18 35 19.4**	**-1.2**	
	comp=Z,5.0nm,1.1s							
KASTN	**Kahler Asten**	**147.07**	**338**	*e*PKPbc	**PKPbc**	**18 35 19.6**	**-1.0**	
	baz=36,slow=2.9							
IOMK	**Kirk Michael**	**147.16**	**354**	*e*P	**PKPbc**	**18 35 18.9**	**-1.8**	
IOMK				IAmb	IAmb	18 35 20.0		
	comp=Z,31nm,0.9s							
MOA	**Molln**	**147.23**	**329**	*e*P	**PKPbc**	**18 35 19.8**	**-1.5**	
	comp=Z,3.5nm,0.6s							
WIM	**Isle of Man**	**147.28**	**354**	*e*P	**PKPbc**	**18 35 19.4**	**-1.7**	
BIOA	**Bad Ischl, Aus**	**147.64**	**329**	*e*P	**PKPbc**	**18 35 21.0**	**-1.3**	
	comp=Z,11nm,1.6s							
SOKA	**Soboth**	**147.65**	**327**	*e*P	**PKPbc**	**18 35 21.6**	**-0.9**	
	comp=Z,3.9nm,0.7s,SNR=6.2							
TNS	**Taunus Mts**	**147.88**	**337**	*e*PKPbc	**PKPbc**	**18 35 22.0**	**-1.0**	
	baz=36,slow=2.9							
WME	**Myndd Eilian**	**147.98**	**353**	*e*P	**PKPbc**	**18 35 21.2**	**-1.8**	
CRES	**Cresnjev**	**147.98**	**325**	*i* PKPbc	**PKPbc**	**18 35 22.3**	**-1.1**	
OBKA	**Obir**	**148.01**	**327**	*e*P	**PKPbc**	**18 35 21.9**	**-1.6**	
	comp=Z,3.8nm,0.8s							
AHRW	**Bad Neuenahr-A**	**148.09**	**339**	*e*PKPbc	**PKPbc**	**18 35 22.5**	**-0.9**	
	baz=36,slow=2.9							
WLF1	**Llynfaes**	**148.10**	**353**	*e*P	**PKPbc**	**18 35 21.4**	**-1.9**	
WLF1				IAmb	IAmb	18 35 22.3		
	comp=Z,137nm,1.4s							
YRC	**Rhoscolyn**	**148.16**	**353**	*e*P	**PKPbc**	**18 35 21.4**	**-2.0**	
CWF	**Charnwood Fore**	**148.21**	**350**	*e*P	**PKPbc**	**18 35 21.2**	**-2.4**	
CWF				IAmb	IAmb	18 35 22.8		
	comp=Z,46nm,1.4s							
KBA	**Koelnbreinsper**	**148.22**	**329**	*e*P	**PKPbc**	**18 35 22.4**	**-1.7**	
	comp=Z,3.8nm,0.7s							
BOJS	**Bojanci**	**148.30**	**325**	*i* PKPbc	**PKPbc**	**18 35 23.3**	**-0.9**	
VISS	**Visnje**	**148.33**	**325**	*e*PKPbc	**PKPbc**	**18 35 23.1**	**-1.2**	
FOEL	**Foel Wylfa**	**148.34**	**352**	*e*P	**PKPbc**	**18 35 22.3**	**-1.7**	
FOEL				IAmb	IAmb	18 35 23.3		
	comp=Z,52nm,1.4s							
BTNL	**Ternell**	**148.36**	**340**	*d*PKPdf	**PKPbc**	**18 35 22.9**	**-1.2**	
MEM	**Membach**	**148.38**	**340**	*d*PKPdf	**PKPbc**	**18 35 22.7**	**-1.4**	
BHOU	**Houvegnez**	**148.60**	**340**	*d*PKPdf	**PKPbc**	**18 35 23.8**	**-1.0**	
BCLA	**Clavier**	**148.77**	**341**	*d*PKPdf	**PKPbc**	**18 35 23.8**	**-1.4**	
STU	**Stuttgart**	**148.77**	**335**	*e*PKPbc	**PKPbc**	**18 35 24.2**	**-1.1**	
	baz=36,slow=2.9							
ABTA	**Abfaltersbach**	**148.85**	**329**	*e*P	**PKPbc**	**18 35 23.7**	**-1.9**	
	comp=Z,12nm,1.3s							
WATA	**Walderalm**	**148.86**	**331**	*e*P	**PKPbc**	**18 35 24.3**	**-1.5**	
	comp=Z,4.4nm,0.6s,SNR=5.9							
WTTA	**Wattenberg**	**148.89**	**330**	*e*P	**PKPbc**	**18 35 24.8**	**-1.1**	
	comp=Z,6.7nm,0.7s,SNR=7.8							
RCHB	**Rochefort**	**149.02**	**340**	*d*PKPdf	**PKPbc**	**18 35 23.9**	**-1.9**	
BMRD	**Maredsous**	**149.03**	**341**	*d*PKPdf	**PKPbc**	**18 35 23.9**	**-2.0**	
MOTA	**Moosalm**	**149.07**	**331**	*e*P	**PKPbc**	**18 35 24.9**	**-1.3**	
	comp=Z,5.8nm,0.6s,SNR=6.9							
RETA	**Reutte**	**149.12**	**332**	*e*P	**PKPbc**	**18 35 25.1**	**-1.2**	
	comp=Z,3.8nm,0.6s							
SQTA	**Sankt Quirin**	**149.12**	**331**	*e*P	**PKPbc**	**18 35 25.3**	**-1.1**	
	comp=Z,7.0nm,0.5s,SNR=10							
WLF	**Walferdange**	**149.15**	**339**	*e*PKPbc	**PKPbc**	**18 35 25.8**	**-0.4**	
	baz=36,slow=2.9							
WLF	**Walferdange**	**149.15**	**339**	*d*PKPdf	**PKPbc**	**18 35 24.0**	**-2.1**	
UBR	**Ueberruh**	**149.25**	**332**	*e*PKPbc	**PKPbc**	**18 35 25.1**	**-1.5**	
	baz=36,slow=2.9							
DOU	**Dourbes**	**149.27**	**341**	*d*PKPdf	**PKPbc**	**18 35 25.1**	**-1.3**	
SWN1	**Swindon**	**149.47**	**349**	*e*P	**PKPbc**	**18 35 25.5**	**-1.4**	
SWN1				IAmb	IAmb	18 35 27.0		
	comp=Z,64nm,0.8s							
BFO	**Black Forest**	**149.47**	**335**	*e*PKPbc	**PKPbc**	**18 35 25.8**	**-1.3**	
	baz=36,slow=2.9							
FETA	**Fechten**	**149.48**	**331**	*e*P	**PKPbc**	**18 35 26.3**	**-1.0**	
	comp=Z,22nm,1.2s,SNR=10							
DAVA	**Damuels**	**149.66**	**332**	*e*P	**PKPbc**	**18 35 26.6**	**-1.2**	
	comp=Z,11nm,1.2s,SNR=5.9							
TORD	**Torodi Ar. Bea**	**165.72**	**236**	PKP	**PKPdf**	**18 35 42.3**	**-1.2**	
	comp=Z,1.4nm,1.1s,baz=213,slow=1.2,SNR=4.2							
TORD				PKPab	PKPab	**18 36 41.3**	**-1.4**	
	comp=Z,0.7nm,0.7s,baz=241,slow=1.8,SNR=3.8							

*NNC **20** 18:22:49.3±4.1,36°.81N×71°.03E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=40.6km s-min=21.7km az=159.0*
*MOS **20** 18:22:51.7±1.0,36°.45N×71°.48E, h229km, mb4.2/12, Error ellipse: s-maj=10.0km s-min=4.9km az=82.6*
*IDC **20** 18:22:53.9±2.1,36°.47N×71°.47E, h237km±19km, mb3.7/27, mb1 3.8/34, mb1mx3.6/69, mbtmp4.4/34, Error ellipse: s-maj=14.3km s-min=8.5km az=3.0*
*BJI **20** 18:22:54.3±0.0,36°.80N×71°.46E, h240km, mb4.3/23, mb4.6/14*
*NEIC **20** 18:22:55.2±1.5,36°.62N±0°.07×71°.4E±0°.1, h242km±6km, mb4.3/24, Error ellipse: s-maj=13.7km s-min=9.6km az=112.0*
ISC 20 18:22:55.1±0.4,36°.56N±0°.04×71°.45E±0°.04, h250km, n192, σ1s55/208, mb4.1/42, 20C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.60**	**340**		**Pn**	**18 23 42.3**	**-1.1**
CEP	**Cherat**	**2.76**	**172**	P	**Pn**	**18 23 45.2**	**0.0**
CEP				S	**S**	**18 24 23.0**	**-1.8**
CHGR	**Chuyangaron**	**2.77**	**320**	PN	**Pn**	**18 23 43.9**	**-1.3**
CHGR	**Chuyangaron**	**2.77**	**320**		**Pn**	**18 23 43.9**	**-1.3**
KBL	**Kabul**	**2.81**	**225**	PN	**Pn**	**18 23 45.7**	**-0.2**
KBL	**Kabul**	**2.81**	**225**	Pn	**Pn**	**18 23 45.7**	**-0.2**
DRK	**Karamyk**	**2.93**	**5**	Pn	**Pn**	**18 23 46.2**	**-0.8**
CHCP	**Chirah Chowk**	**3.25**	**152**	P	**Pn**	**18 23 51.0**	**+0.6**
BTK	**Batken**	**3.53**	**352**	PN	**Pn**	**18 23 53.3**	**-0.1**
BTK	**Batken**	**3.53**	**352**	Pn	**Pn**	**18 23 53.3**	**-0.1**
THW	**Thamme Wali**	**3.77**	**176**	P	**Pn**	**18 23 56.3**	**+0.1**
KSH	**Kashi**	**4.63**	**49**	P	Pn	18 24 00.1	-6.3
KSH				S	S	18 24 49.1	-14
KSH				smax	smax		
	comp=N,280nm,0.5s						
KSH				smax	smax		
	comp=E,190nm,0.5s						
SARP	**Sargodha**	**4.74**	**167**	P	**Pn**	**18 24 07.5**	**-0.2**
JMU	**Jammu**	**4.77**	**142**	*e*P	**Pn**	**18 24 07.0**	**-1.2**
THN	**Thein Dam**	**5.42**	**138**	*e*P	**Pn**	**18 24 16.1**	**+0.2**
THN				*e*S	**S**	**18 25 18.0**	**-2.6**
AML	**Almayashu**	**5.83**	**17**	P	**Pn**	**18 24 20.0**	**-1.3**
	SNR=299						
UCH	**Uchtor**	**6.13**	**22**	P	**Pn**	**18 24 24.1**	**-1.1**
	SNR=148						
EKS2	**Erkin-Say**	**6.35**	**16**	P	**Pn**	**18 24 26.6**	**-1.0**
	SNR=16						
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**18 24 28.7**	**-0.9**
	12nm,0.3s,baz=191,slow=6.4,SNR=192						
AAK				S	**S**	**18 25 42.1**	**-3.2**
	3.4nm,0.3s,baz=343,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**18 24 28.9**	**-0.7**
	SNR=34						
AAK	**Ala-Archa**	**6.51**	**20**	PN	**Pn**	**18 24 28.6**	**-1.0**
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**18 24 26.0**	**-3.6**
	22nm,0.4s						
KKAR	**Karatay Array**	**6.58**	**354**	PN	**Pn**	**18 24 28.9**	**-1.4**
KKAR	**Karatay Array**	**6.58**	**354**	Pn	**Pn**	**18 24 28.9**	**-1.4**
BHK	**Bhakra**	**6.58**	**140**	*e*P	**Pn**	**18 24 30.1**	**-0.4**
BHK				*e*S	**S**	**18 25 42.2**	**-4.8**
KK09	**Karatay Array**	**6.59**	**354**	⇓P	Pn	18 24 25.2	-5.3
	50nm,0.3s,baz=180,slow=13						
KK09				⇑S	**S**	**18 25 39.8**	**-7.3**
	35nm,0.5s,baz=189,slow=24						
KBK	**Karagaybulak**	**6.66**	**23**	P	**Pn**	**18 24 30.6**	**-0.9**
	SNR=22						
FRU1	**Bishkek**	**6.71**	**20**	PN	**Pn**	**18 24 31.4**	**-0.6**
FRU1	**Bishkek**	**6.71**	**20**		**Pn**	**18 24 31.4**	**-0.6**
ULHL	**Ulahol**	**6.78**	**32**	P	**Pn**	**18 24 31.7**	**-1.4**
	SNR=19						
BOOM	**Boomskoye usch**	**6.86**	**29**	PN	**Pn**	**18 24 33.0**	**-1.1**
BOOM	**Boomskoye usch**	**6.86**	**29**		**Pn**	**18 24 33.0**	**-1.1**
CHMS	**Chumysh**	**6.91**	**21**	P	**Pn**	**18 24 33.3**	**-1.3**
	SNR=23						
USP	**Ospenovka**	**7.09**	**18**	P	**Pn**	**18 24 35.3**	**-1.6**
	SNR=15						
TKM2	**Tokmak 2**	**7.11**	**25**	P	**Pn**	**18 24 36.2**	**-1.0**
	SNR=45		

comp=Z,10nm,0.3s,baz=135,slow=10.0,SNR=64
AKTO S **S** **18 29 37.7 -1.2**
comp=Z,0.2nm,0.3s,baz=305,slow=23,SNR=8.6
AKTO Aktyubinsk 16.91 329 ⇓P **Pn** **18 26 40.4 +2.8**
comp=Z,58nm,0.8s
WSAR Wadi Sarin 17.29 223 P **Pn** **18 26 43.5 +1.2**
comp=Z,0.5nm,0.3s,baz=75,slow=8.1,SNR=8.0
UOSS Minazif 17.46 233 P **P** **18 26 41.7 -0.1**
UOSS IAmb IAmb 18 26 43.4
comp=Z,7.1nm,0.8s
GOMU GeErMu 18.81 84 P **P** **18 26 51.0 -5.8**
GOMU pP Pn 18 26 55.1 -5.4
GOMU sP pP 18 26 59.3 -38
GOMU pmax pmax
comp=Z,76nm,4.5s
MAK Makhachkala 19.45 297 *eP* **P** **18 27 02.6 -0.5**
MAK *eS* **S** **18 30 28.6 -0.6**
MAK pmax pmax
comp=Z,256nm,1.6s
ZAA0 Zalesovo Array 19.71 24 P **P** **18 27 05.3 -0.4**
ZALV Zalesovo Beam 19.71 24 P **P** **18 27 05.5 -0.3**
comp=Z,11nm,0.3s,baz=220,slow=11,SNR=65
ZALV S **S** **18 30 31.4 -2.6**
comp=Z,0.4nm,0.3s,baz=204,slow=18,SNR=5.7
ZALV Zalesovo Beam 19.71 24 P **P** **18 27 05.3 -0.4**
ARU Arti 21.70 340 P **P** **18 27 26.6 +0.6**
comp=Z,1.8nm,0.5s,baz=139,slow=7.5,SNR=16
ARU Arti 21.70 340 *c iP* **P** **18 27 26.7 +0.8**
ARU S **S** **18 31 11.4 +3.4**
ARU pmax pmax
comp=Z,22nm,2.6s
ARU Arti 21.70 340 P **P** **18 27 26.3 +0.4**
ARU IAmb IAmb 18 27 27.9
comp=Z,5.1nm,0.7s
GTA Gaotai 22.50 74 ⇑P **P** **18 27 35.8 +2.1**
GTA pmax pmax
comp=Z,8.0nm,0.6s
KBZ Khabaz 22.90 297 P **P** **18 27 39.0 +2.0**
comp=Z,1.3nm,0.7s,baz=119,slow=13,SNR=2.1
BELG Belogornoye 23.07 321 P **P** **18 27 39.4 +0.9**
comp=Z,12nm,0.8s,baz=20,slow=1.6,SNR=6.8
KIV Kislovodsk 23.08 298 *eP* **P** **18 27 39.0 +0.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
MOY Mondy 25.81 45 *eP* **P** **18 28 05.2 +1.8**
ZAK Zakamensk 26.68 49 *eP* **P** **18 28 10.3 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PZH PanZhiHua 27.60 103 P **P** **18 28 22.4 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
SONM Songino Array 28.00 55 P **P** **18 28 24.4 +1.4**
comp=Z,1.9nm,0.7s,baz=250,slow=9.5,SNR=9.7
SONM Songino Array 28.00 55 P **P** **18 28 24.4 +1.4**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 28.00 55 P **P** **18 28 24.4 +1.4**
ULN Ulaanbaatar 28.44 55 *ceP* **P** **18 28 28.0 +1.1**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 28.44 55 P **P** **18 28 26.9 0.0**
ULN IAmb IAmb 18 28 33.9
comp=Z,6.9nm,1.1s
BRTR Keskin Array B 29.76 288 P **P** **18 28 40.2 +1.5**
comp=Z,0.8nm,0.7s,baz=105,slow=8.8,SNR=6.0
BRTR Keskin Array B 29.76 288 P **P** **18 28 39.5 +0.8**
HHC Hu-ho-hao-te 31.40 70 *eP* **P** **18 28 52.9 -0.1**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.8s
KLMR Klimovskoe 31.61 330 *eP* **P** **18 28 52.6 -1.7**
KLMR *e* 18 30 03.3
KLMR pmax pmax
comp=Z,10.0nm,1.4s
KLMR Klimovskoe 31.61 330 *eP* **P** **18 28 52.7 -1.6**
KLMR AMP 18 29 02.6
comp=Z,10.0nm,1.4s
KLMR *e*PP **PnPn** **18 30 03.4 -6.1**
AKASG Malin Array Be 33.19 309 P **P** **18 29 08.7 +0.4**
comp=Z,0.4nm,0.3s,baz=80,slow=7.1,SNR=7.5
NRIK Noril'sk 34.00 10 P **P** **18 29 16.1 +1.2**
comp=Z,6.9nm,0.5s,baz=197,slow=5.6,SNR=12
NRIK Noril'sk 34.00 10 *c iP* **P** **18 29 15.9 +1.0**
NRIK pmax pmax
comp=Z,7.0nm,0.6s
NRIK Noril'sk 34.00 10 P **P** **18 29 16.0 +1.1**
BOD Bodaibo 35.07 39 *eP* **P** **18 29 24.7 +0.5**
BOD pmax pmax
comp=Z,6.0nm,0.8s
IDI Anoyia 37.44 282 P **P** **18 29 45.2 +0.6**
FIA1 FINESS Array S 37.64 326 P **P** **18 29 46.7 +0.9**
FINES FINESS Array B 37.64 326 P **P** **18 29 46.6 +0.8**
comp=Z,1.9nm,0.6s,baz=118,slow=9.1,SNR=12
FINES FINESS Array B 37.64 326 P **P** **18 29 46.8 +1.0**
FINES FINESS Array B 37.64 326 P **P** **18 29 46.8 +1.0**
ARA0 ARCESS Array S 41.23 337 *eP* **P** **18 30 16.2 +0.9**
ARCES ARCESS Array B 41.23 337 P **P** **18 30 16.4 +1.1**
comp=Z,1.9nm,0.3s,baz=118,slow=8.5,SNR=65
ARCES ARCESS Array B 41.23 337 P **P** **18 30 16.6 +1.3**
ARCES pmax pmax
comp=Z,11nm,1.1s
ARCES ARCESS Array B 41.23 337 P **P** **18 30 16.6 +1.3**
ARCES IAmb IAmb 18 30 35.4
comp=Z,11nm,1.1s
CN2 Changchun 41.26 63 *eP* **P** **18 30 16.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KTK1 Kautokeino 41.71 336 *eP* **P** **18 30 19.8 +0.7**
ZEA Zeya 41.76 48 *eP* **P** **18 30 21.2 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
HAMF Hammerfest 42.30 338 *eP* **P** **18 30 25.2 +1.4**
JETT Jettan, Norway 42.85 336 *eP* **P** **18 30 30.1 +1.8**
HFS Hagfors 43.24 322 P **P** **18 30 32.2 +0.7**
comp=Z,3.9nm,0.7s,baz=133,slow=10,SNR=9.3
TRO Tromso 43.36 336 *eP* **P** **18 30 33.1 +0.8**
YAK Yakutsk 43.71 35 P **P** **18 30 35.2 0.0**
comp=Z,8.7nm,0.3s,baz=187,slow=0.4,SNR=12
YAK Yakutsk 43.71 35 *ceP* **P** **18 30 35.1 -0.1**
YAK pmax pmax
comp=Z,20nm,0.7s
MOR8 Moi Rana 43.94 331 *eP* **P** **18 30 37.3 +0.2**
STEI Steigen 44.08 333 *eP* **P** **18 30 39.3 +1.2**
NC602 NORSAR Array S 44.37 323 *eP* **P** **18 30 40.8 +0.3**
KS19 Wonju Array Si 44.46 71 P **P** **18 30 42.5 +0.9**
KSAR Wonju Array Be 44.49 71 P **P** **18 30 43.2 +1.4**
KSAR Wonju Array Be 44.49 71 P **P** **18 30 43.2 +1.4**
KSRS Korea Array 44.52 71 P **P** **18 30 42.5 +0.5**
comp=Z,2.1nm,0.5s,baz=273,slow=7.2,SNR=22
KONS Konsvik 44.54 331 *eP* **P** **18 30 42.6 +0.9**
NB2 NORSAR Subarra 44.55 323 P **P** **18 30 42.4 +0.4**
comp=Z,1.1nm,0.6s,baz=93,slow=7.9
NOA NORSAR Array B 44.55 323 P **P** **18 30 42.1 +0.1**
comp=Z,1.3nm,0.6s,baz=96,slow=7.7,SNR=10
LOF Lofoten 44.75 333 *eP* **P** **18 30 43.6 +0.2**
NC204 NORSAR Array S 44.79 323 P **P** **18 30 44.7 +0.8**
KLR Kul'dur 44.81 54 P **P** **18 30 44.6 +0.4**
comp=Z,3.0nm,0.6s,baz=280,slow=8.5,SNR=12
KONO Kongsberg 45.27 321 *eP* **P** **18 30 48.2 +0.7**
TIXI Tiksi 45.58 22 P **P** **18 30 50.2 +0.3**
comp=Z,9.0nm,0.3s,baz=274,slow=7.7,SNR=50
TIXI Tiksi 45.58 22 *ceP* **P** **18 30 50.0 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 45.58 22 P **P** **18 30 50.2 +0.3**
SPA0 Spitsbergen Ar 47.52 347 *eP* **P** **18 31 06.4 +1.6**
SPITS Spitsbergen Ar 47.52 347 P **P** **18 31 06.2 +1.5**
comp=Z,2.5nm,0.5s,baz=124,slow=10,SNR=20
SPITS Spitsbergen Ar 47.52 347 P **P** **18 31 06.4 +1.6**
SPITS pmax pmax
comp=Z,19nm,1.1s
JOW Kunigami 48.70 85 P **P** **18 31 15.7 +1.2**
comp=Z,4.3nm,0.4s,baz=265,slow=4.2,SNR=4.7
EKA Eskdalemuir Ar 52.50 316 P **P** **18 31 43.4 +1.1**
comp=Z,0.5nm,0.6s,baz=91,slow=7.8,SNR=4.8
NOR Nord 53.81 350 *eP* **P** **18 31 51.4 -0.1**
SEY Seymchan 54.16 34 ⇑*eP* **P** **18 31 55.2 +0.9**
SEY pmax pmax
comp=Z,6.0nm,1.3s
DAG Danmarks Havn 54.77 344 *i* P **P** **18 31 59.0 +0.5**
ESDC Sonseca Array 57.75 298 P **P** **18 32 21.1 +0.9**
comp=Z,0.2nm,0.7s,baz=59,slow=7.7,SNR=4.3
BILL Bilibino 58.39 26 ⇑*iP* **P** **18 32 25.4 +1.4**
BILL *i* *PP **PcP** **18 33 13.1 +1.2**
BILL *i* 18 34 39.1
BILL pmax pmax
comp=Z,5.0nm,1.7s
TORD Torodi Ar. Bea 66.08 269 P **P** **18 33 14.8 -0.9**
comp=Z,1.9nm,0.8s,baz=45,slow=5.7,SNR=11
BATI Baumata 67.59 123 P **P** **18 33 24.4 -0.7**
comp=Z,7.3nm,0.4s,baz=259,slow=2.2,SNR=2.8
RES Resolute Bay 68.66 356 P **P** **18 33 30.2 -0.7**
comp=Z,0.6nm,0.4s,baz=17,slow=9.5,SNR=7.3
TOLK Toolik Lake Re 70.77 15 P **P** **18 33 44.8 +1.0**
A36M Sachs Harbour 71.11 5 P **P** **18 33 46.5 +0.8**
COLD Coldfoot 71.81 16 P **P** **18 33 50.6 +0.5**
COLD IAmb IAmb 18 33 51.8
comp=Z,7.7nm,1.1s
H21K Melozitna Rive 72.50 18 P **P** **18 33 55.0 +0.8**
J20K Nowinta River 73.35 19 P **P** **18 34 00.2 +1.1**
J20K IAmb IAmb 18 34 01.0
comp=Z,5.5nm,0.7s
INK Inuvik 73.79 9 P **P** **18 34 02.2 +0.7**
comp=Z,5.0nm,0.6s,baz=353,slow=6.6,SNR=16
INK Inuvik 73.79 9 P **P** **18 34 02.2 +0.7**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 73.79 9 P **P** **18 34 02.2 +0.7**
INK IAmb IAmb 18 34 03.4
comp=Z,5.5nm,0.7s
ILAR Eielson Array 74.62 16 P **P** **18 34 06.5 0.0**
comp=Z,1.7nm,0.7s,baz=319,slow=5.2,SNR=19
ILAR Eielson Array 74.62 16 P **P** **18 34 05.8 -0.7**
DAWY Dawson 76.78 13 P **P** **18 34 19.4 +0.7**
DAWY IAmb IAmb 18 34 19.7
comp=Z,3.6nm,0.7s
BCAR Beaver Creek A 77.21 15 P **P** **18 34 22.1 +1.0**
YKA Yellowknife Ar 81.17 3 P **P** **18 34 43.0 +0.6**
comp=Z,4.2nm,0.4s,baz=350,slow=5.3,SNR=116
YKA Yellowknife Ar 81.17 3 P **P** **18 34 43.0 +0.6**
WRA Warramunga Arr 81.71 122 P **P** **18 34 45.4 -0.5**
comp=Z,2.8nm,0.7s,baz=325,slow=5.1,SNR=9.3
ASAR Alice Springs 83.99 125 P **P** **18 34 57.2 -0.3**
comp=Z,2.7nm,0.6s,baz=308,slow=4.7,SNR=10
PLCA Paso Flores 150.19 250 PKPbc **PKPbc** **18 42 16.6 +0.3**
comp=Z,1.9nm,1.0s,baz=27,slow=2.3,SNR=3.5

*IDC **20** 18:23:29.1±1.5,21°.57S×169°.74E,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.0/37,mbtmp4.0/11,ML3.9/1,MS3.7/1, Ms1 3.7/1,ms1mx3.0/55,Error ellipse: s-maj=60.9km s-min=20.3km az=153.0*
*NOU **20** 18:23:30.0,21°.71S×169°.70E,h0km,MLv4.8/15, Southeast of Loyalty Islands*
ISC 20 18:23:32.5±0.9,21°.7S±0°.1×169°.65E±0°.10,h21km,n41, σ0s86/40,mb4.0/10,MS3.6/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.52**	**278**	P		**Pn**	**18 23 58.2**	**-0.3**
PINNC	**Pines Island,**	**2.24**	**245**	P		**Pn**	**18 24 08.4**	**0.0**
YATNC	**Mamie plateau,**	**2.59**	**261**	P		**Pn**	**18 24 13.0**	**-0.2**
OUENC	**Ouen Island, N**	**2.71**	**254**	P		**Pn**	**18 24 15.6**	**+0.8**
DZM	**Mont Dzumac**	**3.00**	**262**	Pn		**Pn**	**18 24 19.0**	**+0.1**
	15nm,0.3s,baz=112,slow=2.3,SNR=315							
DZM				Sn		**Sn**	**18 24 53.8**	**-0.6**
	18nm,0.3s,baz=98,slow=21,SNR=7.3							
DZM	**Mont Dzumac**	**3.00**	**262**	*e*Pn		**Pn**	**18 24 19.0**	**+0.1**
	56nm,0.2s							
DZM				*e*Sn		**Sn**	**18 24 53.2**	**-1.2**
	221nm,0.3s							
DZM	**Mont Dzumac**	**3.00**	**262**	P		**Pn**	**18 24 19.8**	**+0.9**
ONTNC	**Ouen Toro**	**3.03**	**258**	P		**Pn**	**18 24 19.7**	**+0.5**
NOUC	**Port Laguerre**	**3.14**	**262**	P		**Pn**	**18 24 21.2**	**+0.5**
RTV	**Rentapao**	**4.05**	**343**	P		**Pn**	**18 24 34.1**	**+0.9**
DVP	**Devils Point**	**4.18**	**340**	P		**Pn**	**18 24 35.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.14**	**282**	P		**Pn**	**18 24 48.5**	**+0.3**
SANVU	**Saraoutou**	**6.63**	**339**	P		**Pn**	**18 25 08.6**	**-0.1**
CTA	**Charters Tower**	**21.92**	**270**	P		**P**	**18 28 26.0**	**+1.4**
	1.7nm,0.7s,baz=88,slow=12,SNR=2.7							
STKA	**Stephens Creek**	**26.95**	**242**	P		**P**	**18 29 14.1**	**+1.5**
	2.2nm,0.7s,baz=85,slow=8.6,SNR=6.9							
ASAR	**Alice Springs**	**32.99**	**260**	P		**P**	**18 30 06.7**	**+0.4**
	0.9nm,0.5s,baz=74,slow=8.3,SNR=26							
WRA	**Warramunga Arr**	**33.01**	**266**	P		**P**	**18 30 05.6**	**-0.8**
	1.9nm,1.0s,baz=100,slow=7.7,SNR=13							
PPT2	**Papeete2**	**38.54**	**91**	*e*LQ		LQ	18 39 47.4	
	410nm,34.5s							
PPT2				*e*LR		LR	18 41 23.7	
	comp=Z,67nm,22.8s							
PPT	**Papeete**	**38.54**	**91**	LR		LR	18 43 30.6	
	comp=Z,103nm,19.9s,baz=192,slow=31							
FITZ	**Fitzroy Crossi**	**41.44**	**267**	P		**P**	**18 31 18.4**	**+0.5**
	2.6nm,0.6s,baz=136,slow=8.7,SNR=8.3							
TAOE	**Nuku Hiva Isla**	**49.87**	**83**	*e*LR		LR	18 46 40.1	
	comp=Z,152nm,25.5s							
MJAR	**Matsushiro Arr**	**65.09**	**332**	P		**P**	**18 34 10.6**	**-1.0**
	1.7nm,0.7s,baz=170,slow=5.8,SNR=2.5							
CMAR	**Chiang Mai Arr**	**79.86**	**294**	P		**P**	**18 35 41.4**	**+1.4**
	1.6nm,1.0s,baz=133,slow=5.0,SNR=8.7							
SONM	**Songino Array**	**89.40**	**323**	P		**P**	**18 36 27.3**	**-0.4**
	0.6nm,0.7s,baz=150,slow=6.2,SNR=4.8							
NVAR	**Mina Array Bea**	**90.13**	**48**	P		**P**	**18 36 31.1**	**-0.3**
	0.2nm,0.5s,baz=214,slow=6.2,SNR=2.2							
ILAR	**Eielson Array**	**92.45**	**17**	P		**P**	**18 36 40.8**	**-0.5**
	0.3nm,0.5s,baz=241,slow=5.3,SNR=6.7							
ARCES	**ARCESS Array B**	**127.53**	**345**	PKP		**PKPdf**	**18 42 34.2**	**-1.0**
	1.9nm,0.6s,baz=80,slow=0.6,SNR=13							
FINES	**FINESS Array B**	**132.99**	**337**	PKP		**PKPdf**	**18 42 45.1**	**-0.7**
	1.7nm,0.9s,baz=48,slow=2.8,SNR=5.7							
NOA	**NORSAR Array B**	**137.90**	**345**	PKP		**PKPdf**	**18 42 54.4**	**-0.6**
	0.5nm,0.8s,baz=38,slow=2.8,SNR=1.5							
CLL	**Collm**	**145.29**	**334**	*i* PKP		**PKPbc**	**18 43 07.1**	**-1.1**
	comp=Z,6.0nm,0.6s							
CLL				*i* x		x	18 43 10.5	
	comp=Z,7.0nm,1.0s							
CLL				*e*x		x	18 46 22.0	
CONA	**Conrad Observa**	**146.42**	**328**	*e*P		**PKPbc**	**18 43 11.9**	**-0.1**
	comp=Z,5.7nm,1.3s							
GERES	**GERESS Array B**	**146.82**	**331**	PKPbc		**PKPbc**	**18 43 12.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=50,slow=7.2,SNR=14							
MOA	**Molln**	**147.26**	**329**	*e*P		**PKPbc**	**18 43 13.3**	**-0.9**
	comp=Z,3.4nm,1.2s							
SOKA	**Soboth**	**147.68**	**327**	*e*P		**PKPbc**	**18 43 15.3**	**-0.2**
	comp=Z,3.1nm,1.3s							
KBA	**Koelnbreinsper**	**148.25**	**329**	*e*P		**PKPbc**	**18 43 15.6**	**-1.6**
	comp=Z,2.3nm,0.8s							
ABTA	**Abfaltersbach**	**148.88**	**329**	*e*P		**PKPdf**	**18 43 16.6**	**+1.8**
	comp=Z,1.9nm,0.7s							
WATA	**Walderalm**	**148.89**	**331**	*e*P		**PKPbc**	**18 43 17.6**	**-1.2**
	comp=Z,2.0nm,0.6s							
WTTA	**Wattenberg**	**148.92**	**330**	*e*P		**PKPbc**	**18 43 18.6**	**-0.3**
	comp=Z,6.0nm,1.2s							
MOTA	**Moosalm**	**149.10**	**331**	*e*P		**PKPbc**	**18 43 18.9**	**-0.4**
	comp=Z,9.7nm,1.2s							
SQTA	**Sankt Quirin**	**149.15**	**331**	*e*P		**PKPbc**	**18 43 18.5**	**-0.9**
	comp=Z,2.4nm,0.5s							
FETA	**Feichten**	**149.51**	**331**	*e*P		**PKPbc**	**18 43 20.3**	**-0.1**
	comp=Z,7.6nm,1.2s							

*DJA **20** 18:26:45.5±0.8,10°.N±5°.×12°.6E±°.,h49km±7km,M4.9/29, mB5.3/6,mb4.7/29,MLv5.2/3,Mw(mB)4.7/6*
*MAN **20** 18:26:47.1,9°.92N×125°.95E,h29km,mb5.4,ML4.4,MS4.7*
*NEIC **20** 18:26:47.5±1.4,10°.1N±0°.1×126°.2E±0°.2,h71km±8km, mb4.4/21,Error ellipse: s-maj=24.0km s-min=13.3km az=72.0*
*IDC **20** 18:26:49.6±1.8,9°.94N×125°.91E,h92km±15km,mb3.9/19, mb1 4.0/22,mb1mx3.9/51,mbtmp4.3/22,MS3.5/5, Ms1 3.5/5,ms1mx2.9/82,Error ellipse: s-maj=25.8km s-min=8.8km az=73.0*
ISC 20 18:26:45.8±0.9,10°.01N±0°.04×126°.13E±0°.06,h57km±9km, n110,σ1s63/104,mb4.3/33,MS3.2/3,10C-17D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.23**	**181**	⇑*eP*		**Pn**	**18 26 54.3**	**-0.8**
BUTP	**Butuan**	**1.15**	**206**	⇑*eP*		**Pn**	**18 27 05.2**	**-0.6**
MSLP	**Maasin**	**1.26**	**276**	⇓*eP*		**Pn**	**18 27 06.6**	**-0.7**
MSLP				*e*S		**Sn**	**18 27 22.4**	**-0.8**
BESP	**Borongan**	**1.72**	**337**	⇓*eP*		**Pn**	**18 27 14.9**	**+1.5**
BIPH	**Bislig**	**1.83**	**173**	⇑*iP*		**Pn**	**18 27 15.6**	**+0.6**
BIPH				*i* S		**Sn**	**18 27 34.5**	**-2.6**
LLP	**Lapu-Lapu**	**2.15**	**278**	⇓*eP*		**Pn**	**18 27 19.2**	**-0.2**
LLP				*i* S		**Sn**	**18 27 43.9**	**-1.1**
TBP	**Tagbilaran**	**2.26**	**262**	⇓*iP*		**Pn**	**18 27 20.4**	**-0.5**
TBP				*i* S		**Sn**	**18 27 46.0**	**-1.6**
DAV	**Davao City (W)**	**2.98**	**191**	P		**Pn**	**18 27 33.3**	**+2.7**
	348nm,0.3s,baz=297,slow=2.5,SNR=29							
DAV				S		**Sn**	**18 28 07.7**	**+2.5**
	101nm,0.3s,baz=72,slow=21,SNR=5.5							
DAV				LR		LR	18 29 11.9	
	comp=Z,879nm,18.3s,baz=325,slow=50							
DAV	**Davao City (W)**	**2.98**	**191**	Pn		**Pn**	**18 27 33.1**	**+2.4**
MATI	**Mati**	**3.05**	**178**	⇓*eP*		**Pn**	**18 27 33.3**	**+1.6**
DCPH	**Dipolog City**	**3.09**	**243**	⇑*eP*		**Pn**	**18 27 31.7**	**-0.5**
DCPH				*i* S		**Sn**	**18 28 04.8**	**-3.1**
KCP	**Kidapawan**	**3.16**	**199**	⇑*eP*		**Pn**	**18 27 34.3**	**+1.1**
KCP				*i* S		**Sn**	**18 28 12.8**	**+3.1**
CTBH	**Cotabato--PC H**	**3.34**	**214**	⇓*iP*		**Pn**	**18 27 36.0**	**+0.4**
CTBH				*i* S		**Sn**	**18 28 18.6**	**+4.4**
CNOP	**Candoni, Negro**	**3.45**	**267**	⇓*eP*		**Pn**	**18 27 36.5**	**-0.5**
CNOP				*e*S		**Sn**	**18 28 13.8**	**-2.8**
CNOP	**Candoni, Negro**	**3.45**	**267**	⇓*eP*		**Pn**	**18 27 36.8**	**-0.3**
PAGZ	**Pagadian**	**3.47**	**232**	⇓*eP*		**Pn**	**18 27 37.5**	**+0.2**
GUIM	**Jordan**	**3.54**	**280**	⇓*eP*		**Pn**	**18 27 36.7**	**-1.7**
RCP	**Roxas**	**3.67**	**295**	⇓*eP*		**Pn**	**18 27 40.8**	**+0.7**
DDMP	**Don Marcelino,**	**3.91**	**186**	⇑*eP*		**Pn**	**18 27 44.5**	**+1.1**
PVCP	**Virac**	**4.05**	**332**	⇑*eP*		Pn	18 27 49.3	+3.9
GSPH	**General Santos**	**4.07**	**197**	⇓*iP*		**Pn**	**18 27 47.8**	**+2.0**
JAP	**San Jose, Anti**	**4.18**	**280**	⇓*eP*		**Pn**	**18 27 48.2**	**+1.1**
SCSP	**San Jose Seism**	**4.43**	**325**	⇓*eP*		Pn	18 28 01.2	+11
CUYO	**Cuyo Island**	**5.10**	**280**	⇑*eP*		**Pn**	**18 27 59.8**	**+0.1**
JCNP	**Jose Panganiba**	**5.42**	**322**	⇑*eP*		**Pn**	**18 28 04.5**	**+0.4**
BOAC	**Boac**	**5.42**	**310**	⇓*eP*		Pn	18 28 07.8	+3.7
LQP	**Lukban**	**6.06**	**313**	⇓*eP*		Pn	18 28 17.6	+4.4
SGSI	**Sangihe**	**6.32**	**185**	P		**Pn**	**18 28 17.6**	**+1.2**
	1.4nm200nm,0.5s							
BALP	**Baler**	**7.22**	**323**	⇑*eP*		**Pn**	**18 28 31.4**	**+2.6**
SMPP	**San Manuel, Pa**	**8.09**	**320**	⇓*eP*		**Pn**	**18 28 40.8**	**+0.1**
MYLDM	**Lahad Datu**	**8.96**	**238**	Pn		Pn	18 28 55.6	+2.9
TNTI	**Ternate**	**9.26**	**172**			**Pn**	**18 28 59.0**	**+2.2**
KMSI	**Cibinong**	**9.62**	**193**	P		**Pn**	**18 29 04.1**	**+2.4**
	72nm,1.1s							
GTOI	**Gorontalo**	**9.82**	**199**	P		**Pn**	**18 29 05.0**	**+0.6**
	516nm61nm,0.8s							
TOLI2	**Tolitoli**	**10.32**	**211**	Pn		Pn	18 29 14.4	+3.2
MRSI	**Marisa**	**10.35**	**204**	P		**Pn**	**18 29 14.5**	**+2.8**
	33nm,0.8s							
KKM	**Kota Kinabalu**	**10.58**	**249**	Pn		**Pn**	**18 29 17.0**	**+2.1**
LUWI	**Luwuk**	**11.48**	**197**	P		**Pn**	**18 29 30.0**	**+2.9**
	164nm,1.1s							
SIJI	**Sorong**	**11.96**	**154**	P		**Pn**	**18 29 36.3**	**+2.6**
	0.8nm,0.3s,baz=162,slow=21,SNR=4.1							
SIJI				S		**Sn**	**18 31 38.9**	**-6.7**
	0.6nm,0.3s,baz=270,slow=20,SNR=3.2							
SANI	**Sanana**	**11.98**	**181**	P		**Pn**	**18 29 31.9**	**-2.1**
	863nm69nm,0.7s							
TPUB	**Ta-pu**	**14.22**	**339**	P		**P**	**18 30 09.7**	**-0.4**
TTSI	**Tana Toraja**	**14.42**	**206**	P		**Pn**	**18 30 09.2**	**+2.3**
	48nm,1.4s							
SPSI	**Sidrap Palu**	**15.26**	**205**	P		**Pn**	**18 30 20.8**	**+2.8**
	24nm,1.0s							
BNSI	**Bone**	**15.53**	**203**	P		**P**	**18 30 24.4**	**-0.3**
	32nm,0.9s							
SBUM	**Sibu**	**15.73**	**242**	Pn		**Pn**	**18 30 25.8**	**+1.8**
KAPI	**Kappang**	**16.23**	**203**	P		**Pn**	**18 30 31.9**	**+1.7**
	baz=15,slow=4.8,SNR=11							
BKSI	**Bulukumba**	**16.37**	**202**	P		**P**	**18 30 34.8**	**+0.8**
	18nm,1.0s							
JOW	**Kunigami**	**16.85**	**7**	LR		LR	18 36 29.2	
	comp=Z,96nm,21.4s,baz=120,slow=34							
BATI	**Baumata**	**20.24**	**187**	P		**P**	**18 31 17.1**	**+0.5**
	91nm,1.0s,baz=178,slow=1.2,SNR=22							
BATI	**Baumata**	**20.24**	**187**	P		**P**	**18 31 18.1**	**+1.6**
	58nm,1.1s							
PLAI	**Plampang**	**20.48**	**204**	P		Pn	18 31 23.1	+1.3
	22nm,1.0s							
BWJI	**Bawean**	**20.70**	**221**	P		Pn	18 31 24.6	+0.2
	1µm76nm,1.2s							
UWJI	**Ujung Watu**	**22.25**	**223**	P		**P**	**18 31 39.9**	**+1.7**
	3µm56nm,1.0s							
MTN	**Manton Dam**	**23.25**	**168**	P		**P**	**18 31 48.5**	**0.0**
KNRA	**Kununurra**	**25.66**	**174**	P		**P**	**18 32 10.5**	**0.0**
KNRA				IAmb	IAmb	18 32 16.6		
	comp=Z,10nm,0.8s							
JHJ	**Hachijo jima 2**	**26.21**	**27**	LR		LR	18 40 35.9	
	comp=Z,51nm,21.1s,baz=124,slow=31							
CMAR	**Chiang Mai Arr**	**27.63**	**291**	P		**P**	**18 32 28.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=97,slow=7.8,SNR=6.7							
FITZ	**Fitzroy Crossi**	**27.94**	**181**	P		**P**	**18 32 31.1**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=21,slow=8.7,SNR=7.7							
FITZ	**Fitzroy Crossi**	**27.94**	**181**	P		**P**	**18 32 31.0**	**+0.1**
PZH	**PanZhiHua**	**28.29**	**309**	P		**P**	**18 32 34.3**	**0.0**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,4.7s							
MJAR	**Matsushiro Arr**	**28.59**	**21**	LR		LR	18 41 59.7	
	comp=Z,60nm,21.8s,baz=164,slow=32							
COEN	**Coen**	**29.21**	**144**	P		**P**	**18 32 42.2**	**-0.2**
COEN				IAmb	IAmb	18 32 53.1		
	comp=Z,9.3nm,1.1s							
WB0	**Warramunga Arr**	**30.69**	**165**	P		**P**	**18 32 54.4**	**-1.0**
WB0				IAmb	IAmb	18 32 55.7		
	comp=Z,6.9nm,0.8s							
WRA	**Warramunga Arr**	**30.84**	**165**	P		**P**	**18 32 56.2**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=341,slow=9.8,SNR=22							
WRA				PcP		**PcP**	**18 35 52.3**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=325,slow=3.1,SNR=2.5							
WRA	**Warramunga Arr**	**30.84**	**165**	P		**P**	**18 32 55.5**	**-1.3**
WB2	**Warramunga Arr**	**30.85**	**165**	P		**P**	**18 32 56.3**	**-0.5**
WB2				IAmb	IAmb	18 32 56.9		
	comp=Z,6.3nm,0.7s							
WR0	**Warramunga Arr**	**30.91**	**164**	P		**P**	**18 32 56.9**	**-0.5**
WR0				IAmb	IAmb

TOO	**Toolangi**	**50.69**	**160**	P	**P**	**18 35 40.4**	**+0.6**
MK31	**Makanchi Array**	**52.15**	**323**	P	**P**	**18 35 50.4**	**-0.2**
MK31				IAmb	IAmb	18 36 06.8	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**52.15**	**323**	P	**P**	**18 35 49.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=116,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**52.15**	**323**	P	**P**	**18 35 50.1**	**-0.5**
MAKZ	**Makanchi**	**52.34**	**323**	P	**P**	**18 35 50.8**	**-1.3**
MAKZ				IAmb	IAmb	18 36 10.0	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**54.78**	**331**	P	**P**	**18 36 08.4**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=128,slow=7.7,SNR=5.1						
KURK	**Kurchatov**	**56.20**	**326**	P	**P**	**18 36 18.9**	**-1.1**
KURK				IAmb	IAmb	18 36 36.0	
	comp=Z,3.2nm,0.8s						
TIXI	**Tiksi**	**61.61**	**1**	P	**P**	**18 36 58.3**	**+1.2**
TIXI				IAmb	IAmb	18 37 16.0	
	comp=Z,4.8nm,1.1s						
ABKAR	**Akbulak array**	**66.98**	**319**	P	**P**	**18 37 31.0**	**-1.7**
ARU	**Arti**	**69.36**	**327**	P	**P**	**18 37 45.9**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=90,slow=6.1,SNR=9.7						
ARU	**Arti**	**69.36**	**327**	P	**P**	**18 37 45.8**	**-1.6**
ARU				IAmb	IAmb	18 37 47.0	
	comp=Z,2.8nm,0.5s						
BELG	**Belogornoye**	**75.12**	**322**	P	**P**	**18 38 21.4**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=351,slow=3.3,SNR=3.7						
ILAR	**Eielson Array**	**79.73**	**26**	P	**P**	**18 38 48.4**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=249,slow=5.9,SNR=4.9						
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**18 39 11.1**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=47,slow=7.3,SNR=4.9						
BRTR	**Keskin Array B**	**85.59**	**309**	P	**P**	**18 39 17.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=75,slow=5.2,SNR=4.3						
FINES	**FINESS Array B**	**86.05**	**332**	P	**P**	**18 39 19.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=80,slow=4.5,SNR=16						
VNDA	**Vanda**	**89.69**	**173**	P	**P**	**18 39 36.4**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=330,slow=3.2,SNR=5.6						
YKA	**Yellowknife Ar**	**94.05**	**24**	P	**P**	**18 39 58.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=302,slow=4.2,SNR=3.9						
YKA				PKKPbc	**PKKPdf**	**18 56 58.4**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=112,slow=2.1,SNR=4.2						
LSZ	**Lusaka**	**100.17**	**256**	LR	LR	19 25 37.8	
	comp=Z,80nm,19.1s,baz=138,slow=35						
TORD	**Torodi Ar. Bea**	**120.23**	**292**	PKP	**PKPdf**	**18 45 30.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=48,slow=1.7,SNR=4.9						
PLCA	**Paso Flores**	**146.03**	**157**	PKPbc	**PKPdf**	**18 46 20.7**	**+1.8**
	comp=Z,2.6nm,0.9s,baz=190,slow=3.3,SNR=4.3						

*NEIC **20** 19:30:53.6±2.6, 38.87N±0.02×122.69W±0.03, h1km±8km, Error ellipse: s-maj=3.9km s-min=1.8km az=47.0*
NCEDC 20 19:30:53.2±1.9, 38.84N±0.02×122.76W±0.03, h1km±7km**, ML3.1**/45**, ML2.8**/36(NEIC)**, Error ellipse: s-maj=3.3km s-min=2.2km az=86.0, Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.04**	**218**	Pg	Pg	19 30 54.2	+0.2
GDXM				IAML		19 30 55.1	
	comp=E,18μm,0.2s						
GDXM				IAML		19 30 55.3	
	comp=N,16μm,0.2s						
GSGM	**Seigler Mounta**	**0.05**	**57**		Pg	19 30 54.7	+0.5
GCRM	**Castle Rock Sp**	**0.08**	**150**		Pg	19 30 54.8	+0.1
GPMM	**Pine Mountain**	**0.14**	**273**		Pg	19 30 56.5	+0.5
MNRC	**McLaughlin Min**	**0.25**	**81**		Pg	19 30 58.9	+0.8
MNRC					Sg	19 31 02.0	+0.7
HOPS	**Hopland Field**	**0.29**	**303**		Pg	19 30 59.5	+0.9
HOPS					Sg	19 31 02.5	+0.1
HOPS	**Hopland Field**	**0.29**	**303**	IAML		19 31 07.8	
	comp=N,2μm,0.7s						
CVS	**Carmenet Viney**	**0.55**	**154**		Pg	19 31 04.0	+0.3
CVS					Sg	19 31 07.2	-3.6
MCCM	**Marconi Confer**	**0.70**	**188**		Sg	19 31 11.0	-4.6
MCCM	**Marconi Confer**	**0.70**	**188**	Pg	Pg	19 31 06.2	-0.4
MCCM	**Marconi Confer**	**0.70**	**188**	IAML		19 31 21.3	
	comp=E,520nm,0.7s						
MCCM				IAML		19 31 23.3	
	comp=N,370nm,0.9s						
GASB	**Alder Springs**	**0.81**	**3**		Pn	19 31 12.8	+0.8
SUTB	**Sutter Butte**	**0.85**	**63**		Pb	19 31 10.7	-0.2
BRK	**Berkeley--Havi**	**1.04**	**158**		Pb	19 31 13.6	-0.4
BRK					Pn	19 31 16.3	+1.3
VAK	**Adit at Lawren**	**1.04**	**157**		Pg	19 31 13.0	-0.2
VAK					Pn	19 31 16.6	+1.6
BL67	**Building 67, L**	**1.04**	**157**		Pb	19 31 13.8	-0.3
BL67					Pn	19 31 16.6	+1.6
BKS	**Berkeley--Byer**	**1.05**	**156**		Pg	19 31 13.4	+0.1
BKS					Pn	19 31 16.7	+1.7
KCPM	**Cahto Peak**	**1.06**	**323**	Pg	Pg	19 31 13.5	0.0
KCPM				IAML		19 31 37.5	
	comp=N,289nm,0.6s						
BDM	**Black Diamond**	**1.13**	**141**		Pn	19 31 16.9	+0.7
ORV	**Oroville**	**1.21**	**54**		Pg	19 31 15.3	-1.1
ORV	**Oroville**	**1.21**	**54**		Pg	19 31 15.6	-0.9
ORV				IAML		19 31 24.9	
	comp=E,31nm,0.9s						
ORV				IAML		19 31 36.9	
	comp=N,29nm,1.0s						
O02D	**Mt. Diablo Mer**	**1.34**	**359**		Pg	19 31 18.2	-0.6
JRSC	**Jasper Ridge**	**1.49**	**164**		Pg	19 31 22.9	+1.1
KMRM	**Mail Ridge**	**1.56**	**332**	Pn	Pn	19 31 22.1	-0.1
KMRM				IAML		19 31 35.1	
	comp=E,159nm,0.7s						
KMRM				IAML		19 32 03.6	
	comp=N,154nm,1.9s						
O03E	**Paynes Creek**	**1.63**	**27**		Pn	19 31 21.8	-1.4
MHC	**Mount Hamilton**	**1.74**	**149**		Pg	19 31 26.4	0.0
GHS	**Gilroy Hot Spr**	**2.03**	**149**		Pn	19 31 29.2	+0.6
CMB	**Columbia Colle**	**2.03**	**113**		Pn	19 31 27.6	-1.1
CMB				IAML		19 32 05.1	
	comp=N,47nm,0.7s						
RUBR	**Rubicon Trail**	**2.04**	**83**		Pn	19 31 28.1	-0.8
EMB	**Emerald Bay**	**2.08**	**85**		Pn	19 31 29.1	-0.4
EMB				IAML		19 32 11.3	
	comp=N,85nm,0.9s						
BEKR	**Beckworth**	**2.13**	**60**	Pn	Pn	19 31 31.1	+1.0
MPK	**Martis Peak**	**2.18**	**77**	Pn	Pn	19 31 30.3	-0.6
SAO	**San Andreas Ge**	**2.32**	**153**	Pn	Pn	19 31 32.7	+0.1
PMPB	**Monarch Peak**	**3.05**	**149**	Pn	Pn	19 31 41.8	-0.8
PMPB				IAML		19 32 38.8	
	comp=N,42nm,3.1s						
PMPB				IAML		19 32 50.9	
	comp=E,41nm,2.8s						
OMMB	**Old Mammoth Mi**	**3.21**	**111**	Pn	Pn	19 31 45.0	0.0
OMMB				IAML		19 32 40.1	
	comp=N,20nm,0.9s						
OMMB				IAML		19 33 01.9	
	comp=E,17nm,1.1s						
RYN	**Ryan**	**3.32**	**92**		Pn	19 31 46.3	-0.2
RYN				IAML		19 32 44.5	
	comp=E,24nm,1.4s						
RYN				IAML		19 32 59.3	
	comp=N,21nm,1.9s						
PAGB	**Antelope Grade**	**3.69**	**146**		Pn	19 31 49.4	-2.0
PAGB				IAML		19 32 16.1	
	comp=N,20nm,4.8s						
PAGB				IAML		19 34 11.0	
	comp=E,19nm,3.5s						

IDC 20 19:38:20.3±2.5, 13.54N×147.30E, h0km**, mb3.1**/3**, mb1 3.4**/4**, mb1mx3.1**/48**, mbtmp3.2**/4**, ML3.8**/1**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/24**, Error ellipse: s-maj=46.9km s-min=30.7km az=53.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.36**	**272**	Pn	Pn	19 39 00.8	+0.4
	22nm,0.3s,baz=102,slow=9.3,SNR=10						
GUMO				Sn	Sn	19 39 30.0	-0.1
	46nm,0.3s,baz=1.5,slow=23,SNR=19						
WRA	**Warramunga Arr**	**35.63**	**201**	P	P	19 45 20.1	-0.1
	0.4nm,0.9s,baz=26,slow=9.3,SNR=6.3						
ASAR	**Alice Springs**	**39.23**	**200**	P	P	19 45 50.5	-0.2
	0.1nm,0.7s,baz=28,slow=6.7,SNR=1.4						
PETK	**Petropavlovsk-**	**40.33**	**10**	LR	LR	19 59 31.8	
	comp=Z,18nm,21.2s,baz=327,slow=32						
MKAR	**Makanchi Array**	**63.17**	**316**	P	P	19 48 50.2	-0.1
	0.2nm,0.8s,baz=91,slow=8.6,SNR=1.3						

*NOU **20** 19:56:43.9, 21.82S×169.86E, h0km, MLv4.5/10, Southeast of Loyalty Islands*
*IDC **20** 19:56:46.2±1.1, 21.15S×169.47E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML3.9/1, MS3.8/19, Ms1 3.8/19, ms1mx3.5/58, Error ellipse: s-maj=37.4km s-min=23.2km az=154.0*
ISC 20 19:56:46.0±1.1, 21.28S±0.1×169.7E±0.1, h10km**, n43, σ1s02/29, mb3.8/7, MS3.8/17, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.59**	**280**	P	**Pn**	**19 57 14.8**	**+0.5**
PINNC	**Pines Island,**	**2.26**	**248**	P	**Pn**	**19 57 24.3**	**+0.8**
LIFNC	**LIFOU**	**2.51**	**293**	P	**Pn**	**19 57 27.8**	**+0.9**
YATNC	**Mamie plateau,**	**2.64**	**263**	P	**Pn**	**19 57 28.6**	**-0.1**
OUENC	**Ouen Island, N**	**2.74**	**256**	P	**Pn**	**19 57 31.0**	**+0.9**
DZM	**Mont Dzumac**	**3.05**	**264**	Pn	**Pn**	**19 57 34.8**	**+0.4**
	16nm,0.3s,baz=126,slow=12,SNR=134						
DZM				Sn	**Sn**	**19 58 10.3**	**-0.8**
	38nm,0.3s,baz=67,slow=17,SNR=10						
DZM	**Mont Dzumac**	**3.05**	**264**	*e*Pn	**Pn**	**19 57 35.1**	**+0.7**
	72nm,0.3s						
DZM				*e*Sn	**Sn**	**19 58 09.1**	**-2.0**
	107nm,0.3s						
ONTNC	**Ouen Toro**	**3.07**	**259**	P	**Pn**	**19 57 35.2**	**+0.6**
NOUC	**Port Laguerre**	**3.18**	**263**	P	**Pn**	**19 57 37.0**	**+0.8**
RTV	**Rentapao**	**4.14**	**343**	P	**Pn**	**19 57 50.2**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.21**	**282**	P	**Pn**	**19 58 05.5**	**+1.5**
MSVF	**Nonsavu**	**8.82**	**64**	Pn	Pn	19 58 58.5	+4.8
	0.3nm,0.3s,baz=117,slow=23,SNR=5.2						
MSVF				LR	LR	20 01 30.6	
	comp=Z,731nm,18.8s,baz=266,slow=32						
URZ	**Urewera**	**17.63**	**160**	LR	LR	20 06 40.1	
	comp=Z,205nm,18.7s,baz=19,slow=32						
AFI	**Afiamalu**	**19.26**	**69**	LR	LR	20 07 26.0	
	comp=Z,79nm,21.5s,baz=50,slow=33						
CTA	**Charters Tower**	**21.97**	**270**	P	**P**	**20 01 39.6**	**-0.7**
	0.8nm,0.4s,baz=90,slow=11,SNR=2.1						
CTA				LR	LR	20 10 18.8	
	comp=Z,398nm,18.1s,baz=92,slow=37						
PMG	**Port Moresby**	**24.92**	**296**	LR	LR	20 10 24.9	
	comp=Z,174nm,19.5s,baz=172,slow=34						
STKA	**Stephens Creek**	**26.97**	**242**	P	**P**	**20 02 30.5**	**+2.5**
	1.3nm,0.5s,baz=98,slow=12,SNR=4.9						
STKA				LR	LR	20 12 29.2	
	comp=Z,285nm,19.4s,baz=44,slow=35						
ASAR	**Alice Springs**	**33.03**	**260**	P	**P**	**20 03 22.5**	**+0.7**
	1.3nm,0.7s,baz=75,slow=8.6,SNR=18						
ASAR				LR	LR	20 17 33.6	
	comp=Z,139nm,18.5s,baz=127,slow=38						
WRA	**Warramunga Arr**	**33.06**	**267**	P	**P**	**20 03 22.1**	**0.0**
	1.0nm,0.9s,baz=98,slow=8.2,SNR=7.3						
WRA				LR	LR	20 17 08.2	
	comp=Z,322nm,18.2s,baz=186,slow=37						
PPT2	**Papeete2**	**38.48**	**91**	*e*LR	LR	20 14 41.6	
	comp=Z,72nm,23.2s						
FITZ	**Fitzroy Crossi**	**41.49**	**267**	LR	LR	20 22 20.2	
	comp=Z,281nm,18.4s,baz=166,slow=37						
SIJI	**Sorong**	**42.82**	**294**	LR	LR	20 22 10.2	
	comp=Z,84nm,19.0s,baz=138,slow=36						
BATI	**Baumata**	**45.58**	**277**	LR	LR	20 24 41.9	
	comp=Z,239nm,18.9s,baz=149,slow=37						
KAPI	**Kappang**	**51.12**	**282**	LR	LR	20 29 53.8	
	comp=Z,49nm,18.2s,baz=127,slow=39						
VNDA	**Vanda**	**55.93**	**182**	P	P	20 06 30.2	+6.4
	1.2nm,0.6s,baz=42,slow=7.5,SNR=5.0						
LEM	**Lembang**	**61.61**	**274**	LR	LR	20 35 33.4	
	comp=Z,77nm,18.4s,baz=158,slow=38						
ASAJ	**Asahikawa**	**70.12**	**340**	LR	LR	20 33 25.3	
	comp=Z,53nm,22.0s,baz=166,slow=32						
PSI	**Prapat**	**73.28**	**280**	LR	LR	20 43 10.6	
	comp=Z,70nm,18.2s,baz=109,slow=38						
PETK	**Petropavlovsk-**	**75.29**	**353**	LR	LR	20 34 00.4	
	comp=Z,36nm,20.8s,baz=231,slow=30						
CMAR	**Chiang Mai Arr**	**79.95**	**294**	P	**P**	**20 08 56.3**	**+0.5**
	0.6nm,0.8s,baz=128,slow=3.0,SNR=4.5						
LPIG	**La Paz**	**90.11**	**64**	LR	LR	20 42 34.8	
	comp=Z,45nm,18.2s,baz=216,slow=30						
NVAR	**Mina Array Bea**	**90.14**	**48**	LR	LR	20 44 26.3	
	comp=Z,43nm,19.1s,baz=246,slow=32						
ILAR	**Eielson Array**	**92.50**	**17**	P	**P**	**20 09 56.6**	**-0.3**
	0.2nm,0.5s,baz=224,slow=5.0,SNR=1.9						
ILAR				LR	LR	20 51 24.8	
	comp=Z,23nm,18.6s,baz=237,slow=36						
ARCES	**ARCESS Array B**	**127.61**	**345**	PKP	**PKPdf**	**20 15 49.8**	**-1.0**
	3.9nm,1.0s,baz=29,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**133.08**	**337**	PKP	**PKPdf**	**20 16 01.3**	**-0.1**
	2.3nm,0.9s,baz=46,slow=4.0,SNR=3.7						
CONA	**Conrad Observa**	**146.52**	**328**	*e*P	**PKPab**	**20 16 28.1**	**-0.5**
	4.5nm,1.3s						
GERES	**GERESS Array B**	**146.91**	**331**	PKPbc	**PKPbc**	**20 16 28.1**	**-0.7**
	0.9nm,0.6s,baz=20,slow=4.4,SNR=12						
SOKA	**Soboth**	**147.77**	**326**	*e*P	**PKPbc**	**20 16 30.8**	**-0.4**
	2.1nm,0.9s						
MOTA	**Moosalm**	**149.20**	**331**	*e*P	**PKPbc**	**20 16 33.8**	**-1.2**
	5.6nm,1.1s						
RETA	**Reutte**	**149.24**	**332**	*e*P	**PKPbc**	**20 16 33.7**	**-1.3**
	2.6nm,1.2s						
SQTA	**Sankt Quirin**	**149.24**	**331**	*e*P	**PKPbc**	**20 16 34.1**	**-1.0**
	1.6nm,0.5s						
FETA	**Feichten**	**149.61**	**331**	*e*P	**PKPbc**	**20 16 34.9**	**-1.1**
	4.5nm,1.1s						
DAVA	**Damuels**	**149.78**	**332**	*e*P	**PKPbc**	**20 16 35.6**	**-0.9**
	1.8nm,0.7s						

*SJA **20** 20:01:53.2±0.7, 30.62S×71.59W, h56km±8km, ML4.1, MW4.1*
*IDC **20** 20:01:54.8±3.2, 30.67S×71.23W, h41km±28km, mb3.7/4, mb1 3.8/8, mb1mx3.6/25, mbtmp3.8/8, ML3.7/4, MS2.8/2, Ms1 2.9/2, ms1mx2.7/51, Error ellipse: s-maj=36.9km s-min=27.7km az=93.0*
*GUC **20** 20:01:54.5±0.7, 30.65S×71.33W, h44km±1km, ML4.4*
*NEIC **20** 20:01:55.3±2.5, 30.63S±0.04×71.57W±0.07, h35km±2km, mb4.3/3, ML4.4(GUC), Error ellipse: s-maj=10.5km s-min=5.4km az=63.0*
ISC 20 20:01:55.5±0.8, 30.62S±0.02×71.47W±0.04, h46km±7km**, n113, σ1s55/147, mb3.8/5, 7C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**250**		**Pn**	**20 02 03.7**	**+0.6**
CO06	**Fray Jorge**	**0.15**	**250**	*e*P	**Pn**	**20 02 03.5**	**+0.4**
CO06				*e*S	**Sn**	**20 02 09.7**	**+1.3**
CO02	**Combarbal**	**0.71**	**145**		**Pn**	**20 02 08.3**	**-1.0**
CO02	**Combarbal**	**0.71**	**145**	*e*P	**Pn**	**20 02 08.3**	**-1.0**
CO02				*e*S	**Sn**	**20 02 18.1**	**-1.2**
CO02				IAML		20 02 18.5	
	comp=N,59μm,0.2s						
CO02	**Combarbal**	**0.71**	**145**	*e*P	**Pn**	**20 02 08.2**	**-1.0**
CO02				*e*S	**Sn**	**20 02 20.9**	**+1.7**
CO02				IAML		20 02 21.1	
	comp=Z,8μm,0.1s						
CO03	**El Pedregal**	**0.71**	**108**		**Pn**	**20 02 08.1**	**-1.1**
CO03	**El Pedregal**	**0.71**	**108**	*e*P	**Pn**	**20 02 07.7**	**-1.5**
CO03				*i* S	**Sn**	**20 02 17.4**	**-1.8**
CO03				IAML		20 02 18.6	
	comp=N,23μm,0.5s						
CO03	**El Pedregal**	**0.71**	**108**	*e*P	**Pn**	**20 02 09.7**	**+0.4**
CO05	**La Serena**	**0.73**	**16**		**Pn**	**20 02 09.3**	**-0.1**
CO05	**La Serena**	**0.73**	**16**	*e*P	**Pn**	**20 02 09.3**	**-0.1**
CO05				*e*S	**Sn**	**20 02 20.2**	**+0.7**
GO04	**Tololo Observa**	**0.73**	**53**		**Pn**	**20 02 08.7**	**-1.0**
GO04	**Tololo Observa**	**0.73**	**53**	*e*P	**Pn**	**20 02 08.9**	**-0.9**
GO04				*e*S	**Sn**	**20 02 20.1**	**0.0**
GO04				IAML		20 02 20.4	
	comp=N,12μm,0.4s						
GO04	**Tololo Observa**	**0.73**	**53**	*e*P	**Pn**	**20 02 09.6**	**-0.2**
GO04				*e*S	**Sn**	**20 02 19.2**	**-0.9**
LCO	**Las Campanas**	**1.74**	**23**	Pn	**Pn**	**20 02 23.4**	**-0.1**
LCO	**Las Campanas**	**1.74**	**23**	*e*P	**Pn**	**20 02 23.2**	**-0.3**
LCO				*e*S	**Sn**	**20 02 45.1**	**+0.5**
LCO	**Las Campanas**	**1.74**	**23**	*e*P	**Pn**	**20 02 23.0**	**-0.5**
AROD	**Rodeo**	**1.79**	**76**	*e*P	Pn	20 02 19.9	-4.2
AROD				*e*P		20 02 25.6	
AROD				*e*S	**Sn**	**20 02 49.1**	**+3.3**
VA06	**Catapilco**	**1.94**	**176**	Pn	**Pn**	**20 02 26.2**	**+0.2**
VA06	**Catapilco**	**1.94**	**176**	*e*P	**Pn**	**20 02 26.0**	**+0.1**
VA06				*e*S	**Sn**	**20 02 51.4**	**+2.3**
VA06				IAML		20 02 56.9	
	comp=N,5μm,0.3s						
VA06				IAML		20 02 57.6	
	comp=E,6μm,0.4s						
ACCO	**Cerro Coronel**	**2.08**	**90**	*e*P	**Pn**	**20 02 29.9**	**+1.8**
ACCO				*e*P		20 02 30.0	
ACCO				*e*S	**Sn**	**20 02 59.0**	**+6.0**
ACDV	**Cuesta del Vie**	**2.08**	**78**	*e*P	**Pn**	**20 02 30.0**	**+1.9**
ACDV				*e*S	Sn	20 02 37.9	-15
RTLS	**Leoncito**	**2.20**	**123**	*e*P	**Pn**	**20 02 31.0**	**+1.2**
RTLS				*e*S	**Sn**	**20 02 59.4**	**+3.4**
RTLS				IAML		20 03 03.1	
	comp=Z,678nm,0.3s						
VA03	**San Esteban**	**2.27**	**160**		**Pn**	**20 02 30.9**	**+0.3**
VA03	**San Esteban**	**2.27**	**160**	*e*P	**Pn**	**20 02 31.0**	**+0.3**
VA03				*e*S	**Sn**	**20 02 59.5**	**+2.0**
VA03				IAML		20 03 03.8	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**2.27**	**160**	*e*P	**Pn**	**20 02 31.0**	**+0.3**
VA03				*e*S	**Sn**	**20 03 00.9**	**+3.4**
VA03				IAML		20 03 04.6	
	comp=Z,2μm,0.2s						
ROCH	**El Roble**	**2.38**	**171**	*e*P		20 02 32.5	
ROCH				*e*P	**Pn**	**20 02 30.4**	**-1.7**
ROCH				*e*S	**Sn**	**20 03 01.5**	**+1.3**
ROCH				*e*S		20 03 02.8	
ROCH				IAML		20 03 06.3	
	comp=N,2μm,0.3s						
ROCH				IAML		20 03 07.3	
	comp=N,3μm,0.4s						
ROC1	**El Roble**	**2.38**	**171**		**Pn**	**20 02 30.7**	**-1.5**
ROC1	**El Roble**	**2.38**	**171**	*e*P	**Pn**	**20 02 30.0**	**-2.2**
ROC1				*e*P		20 02 30.5	
ROC1				*e*S	**Sn**	**20 03 01.2**	**+0.9**
AUSP	**Uspallata**	**2.39**	**132**	*e*P	**Pn**	**20 02 34.0**	**+1.6**
VA01	**Torpederas**	**2.40**	**184**		**Pn**	**20 02 31.6**	**-0.6**
VA01	**Torpederas**	**2.40**	**184**	*e*P	**Pn**	**20 02 31.8**	**-0.4**
VA01				*e*S	**Sn**	**20 03 00.8**	**+0.4**
VA01				IAML		20 03 09.0	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**2.40**	**184**	*e*P	**Pn**	**20 02 32.0**	**-0.2**
VA01				*e*S	**Sn**	**20 03 00.4**	**+0.1**
VA01				IAML		20 03 08.9	
	comp=Z,1μm,0.6s						
AC04	**Llanos de Chal**	**2.43**	**8**	Pn	**Pn**	**20 02 33.3**	**+0.5**
AC04	**Llanos de Chal**	**2.43**	**8**	*e*P	**Pn**	**20 02 33.3**	**+0.5**
AC04				*e*S	**Sn**	**20 03 05.3**	**+4.0**
AC04				IAML		20 03 15.4	
	comp=E,846nm,0.5s						
AC04	**Llanos de Chal**	**2.43**	**8**	*e*P	**Pn**	**20 02 33.0**	**+0.2**
AC04				*e*S	**Sn**	**20 03 03.9**	**+2.6**
AC04				IAML		20 03 12.2	
	comp=Z,635nm,0.6s						
ZON	**Zonda**	**2.57**	**112**	Pn	**Pn**	**20 02 36.1**	**+1.5**
ZON	**Zonda**	**2.57**	**112**	*e*P	**Pn**	**20 02 36.4**	**+1.8**
ZON				*e*S	Sn	20 03 17.4	+13
ZON				IAML		20 03 25.5	
	comp=Z,353nm,0.8s						
PEL	**Peldehue**	**2.60**	**165**		**Pn**	**20 02 35.8**	**+0.8**
PEL	**Peldehue**	**2.60**	**165**	*e*P	**Pn**	**20 02 35.5**	**+0.5**
PEL				*e*S	**Sn**	**20 03 07.4**	**+1.9**
PEL	**Peldehue**	**2.60**	**165**	*e*P	**Pn**	**20 02 35.7**	**+0.6**
PEL				*e*S	**Sn**	**20 03 05.5**	**0.0**
MT02	**Curacav**	**2.64**	**174**		**Pn**	**20 02 35.5**	**-0.1**
MT02	**Curacav**	**2.64**	**174**	*e*P	**Pn**	**20 02 35.5**	**-0.1**
MT02				*e*S	**Sn**	**20 03 07.0**	**+0.6**
MT02				IAML		20 03 14.0	
	comp=E,780nm,0.4s						
MT02	**Curacav**	**2.64**	**174**	*e*P	**Pn**	**20 02 35.5**	**-0.1**
MT02				*e*S	**Sn**	**20 03 08.7**	**+2.2**
MT02				IAML		20 03 13.7	
	comp=Z,762nm,0.3s						
RTLL	**Cerro Villicun**	**2.67**	**106**	*e*P	Pn	20 02 32.0	-4.0
RTLL				*e*P		20 02 37.2	
RTLL				*e*S	**Sn**	**20 03 06.4**	**-0.7**
RTLL				*e*S		20 03 20.4	
MT05	**Renca**	**2.83**	**167**		**Pn**	**20 02 39.0**	**+0.8**
MT05	**Renca**	**2.83**	**167**	*e*P	**Pn**	**20 02 39.1**	**+0.8**
MT05				*e*S	**Sn**	**20 03 13.5**	**+2.3**
MT05				IAML		20 03 25.0	
	comp=E,3μm,0.4s						
MT05	**Renca**	**2.83**	**167**	*e*P	**Pn**	**20 02 38.9**	**+0.8**
MT05				*e*S	**Sn**	**20 03 11.4**	**+0.3**
MT05				IAML		20 03 23.5	
	comp=Z,659nm,0.2s						
FCH	**Farellones**	**2.88**	**160**	*e*P	**Pn**	**20 02 40.5**	**+1.3**
FCH				*e*S	**Sn**	**20 03 15.7**	**+3.0**
FCH				IAML		20 03 22.9	
	comp=N,795nm,0.7s						
MT03	**Universidad Ad**	**2.98**	**164**		**Pn**	**20 02 41.2**	**+0.9**
MT03	**Universidad Ad**	**2.98**	**164**	*e*P	**Pn**	**20 02 41.2**	**+0.9**
MT03				*e*S	**Sn**	**20 03 16.7**	**+1.8**
MT03				IAML		20 03 30.8	
	comp=E,2μm,0.4s						
MT03	**Universidad Ad**	**2.98**	**164**	*e*P	**Pn**	**20 02 41.0**	**+0.7**
MT03				*e*S	**Sn**	**20 03 15.5**	**+0.7**
MT03				IAML		20 03 31.8	

AC01	**Pan de Azucar**	**4.52**	**10**	*e*P		**Pn**	**20 03 00.0**	**-1.4**
AC01				*e*P		**Pn**	**20 03 00.0**	**-1.4**
AC01				*e*P		**Pn**	**20 03 00.0**	**-1.4**
AC01				IAML			20 04 16.7	
	comp=Z,143nm,0.6s							
RFA	**San Rafael**	**4.85**	**149**	*e*P		**Pn**	**20 03 06.4**	**+0.5**
RFA				*e*P		**Pn**	**20 03 06.4**	**+0.5**
RFA				*e*S		Sn	20 04 19.9	+19
MRA	**San Martin**	**5.23**	**112**	*e*P		**Pn**	**20 03 11.3**	**+0.1**
MRA				*e*S		Sn	20 04 00.9	-9.4
MRA				IAML			20 04 19.3	
	comp=Z,240nm,0.5s							
GO02	**Mina Guanaco**	**5.69**	**17**			**Pn**	**20 03 17.5**	**-0.3**
BI05	**Punta Hualpn**	**6.27**	**193**	Pn		**Pn**	**20 03 21.0**	**-4.4**
H03N1	**Juan Fernandez**	**6.91**	**244**	T		T	20 10 29.7	
	baz=72,slow=72,SNR=1448							
H03N2	**Juan Fernandez**	**6.93**	**244**	T		T	20 10 29.2	
	baz=72,slow=72,SNR=904							
H03N3	**Juan Fernandez**	**6.93**	**244**	T		T	20 10 28.8	
	baz=72,slow=72,SNR=1298							
PB15	**IPOC Station P**	**7.60**	**14**	Pn		**Pn**	**20 03 42.7**	**-1.1**
LC01	**Cunco**	**8.26**	**182**			**Pn**	**20 03 50.7**	**-2.0**
LC01	**Cunco**	**8.26**	**182**	*e*P		**Pn**	**20 03 51.0**	**-1.7**
LVC	**Limon Verde**	**8.30**	**17**	P		**Pn**	**20 03 51.9**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=256,slow=16,SNR=1.8							
PB04	**IPOC Station P**	**8.34**	**8**	Pn		**Pn**	**20 03 54.9**	**+0.9**
PLCA	**Paso Flores**	**10.12**	**176**	P		**Pn**	**20 04 16.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=352,slow=11,SNR=6.2							
PLCA				LR		LR	20 08 11.6	
	comp=Z,66nm,20.3s,baz=258,slow=38							
PLCA	**Paso Flores**	**10.12**	**176**	Pn		**Pn**	**20 04 17.8**	**-0.4**
LL04	**Puerto Octay**	**10.29**	**184**	Pn		**Pn**	**20 04 17.8**	**-2.7**
LPAZ	**La Paz**	**14.59**	**13**	P		**Pn**	**20 05 20.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=7,SNR=12							
LPAZ				LR		LR	20 12 16.6	
	comp=Z,36nm,20.9s,baz=103,slow=43							
LPAZ	**La Paz**	**14.59**	**13**	Pn		**Pn**	**20 05 21.0**	**+1.3**
SIV	**San Ignacio**	**17.40**	**35**	P		**Pn**	**20 05 54.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=219,slow=9.2,SNR=11							
BDFB	**Brasilia**	**26.15**	**61**	P		**P**	**20 07 23.5**	**-2.1**
	comp=Z,1.7nm,0.6s,baz=204,slow=10,SNR=4.0							
BELA	**Belgrano 2**	**50.12**	**170**	P		**P**	**20 10 48.0**	**+2.4**
BELA				IAmb		IAmb	20 10 49.4	
	comp=Z,6.4nm,0.9s							
TXAR	**Lajitas Array**	**67.05**	**330**	P		**P**	**20 12 44.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=155,slow=8.3,SNR=4.9							
DBIC	**Dimbokro**	**73.66**	**72**	P		**P**	**20 13 23.9**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=210,slow=3.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**20 14 13.1**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=262,slow=4.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P		**P**	**20 14 13.1**	**-1.1**
TORD				IAmb		IAmb	20 14 15.0	
	comp=Z,0.9nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**26.24**	**271**	T		T	22 39 47.2	
	baz=115,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**26.25**	**271**	T		T	22 39 53.2	
	baz=115,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**26.25**	**271**	T		T	22 39 46.7	
	baz=115,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**26.56**	**273**	T		T	22 40 14.7	
	baz=154,slow=74,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**26.58**	**273**	T		T	22 40 17.0	
	baz=120,slow=74,SNR=10							
ZALV	**Zalesovo Beam**	**151.09**	**29**	PKPbc		**PKPbc**	**20 21 42.4**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=305,slow=3.6,SNR=11							

*IDC **20** 20:07:56.3±2.5,37˚.10N×140˚.87E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.1/37,mbtmp3.1/3,ML2.4/1,Error ellipse: s-maj=44.2km s-min=35.8km az=36.0*

*JMA **20** 20:07:59.2,37˚.02N×140˚.67E,h9km±1km,M3.4 Broadband fault plane solution: P waves. NP1: φs105.00000°,δ58.00000°,λ-89.00000°. NP2: φs283.00000°,δ32.00000°,λ-92.00000°. Principal axes: T Plg13.0000°, Azm194.0000°; N Plg1.0000°, Azm284.0000°; P Plg77.0000°, Azm18.0000°;*

JMA Felt I J1.

ISC 20 20:07:58.2±0.9,37˚.04N±0˚.04×140˚.76E±0˚.06,h20km±3km, n18,σ1s08/21,8C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.07**	**25**	⇑P		**Pg**	**20 08 02.4**	**+0.4**
ONAJ				S		**Sg**	**20 08 04.6**	**0.0**
JFFD	**Fukushimafurud**	**0.17**	**289**	⇑P		**Pb**	**20 08 02.1**	**-0.5**
JFFD				S		**Sb**	**20 08 03.9**	**-1.7**
JFK	**Kawauchi**	**0.34**	**15**	⇑P		**Pn**	**20 08 06.7**	**-1.4**
JFK				S		**Sn**	**20 08 12.0**	**-2.5**
JHO	**Hitachi**	**0.45**	**200**	⇑P		**Pg**	**20 08 07.1**	**-0.4**
JHO				S		**Sg**	**20 08 12.9**	**-0.8**
JFT	**Otama**	**0.59**	**325**	⇑P		**Pn**	**20 08 10.4**	**-1.1**
JFT				*e*S		**Sg**	**20 08 18.0**	**0.0**
JSB	**Shiboa**	**0.68**	**265**	⇑P		**Pg**	**20 08 11.6**	**0.0**
JSB				*e*S		**Sb**	**20 08 20.0**	**-0.3**
JMM	**Marumori**	**0.83**	**2**	⇑P		**Pn**	**20 08 15.0**	**+0.2**
JMM				*e*S		**Sn**	**20 08 26.4**	**0.0**
JFY	**Yanaizu**	**0.92**	**294**	⇓P		**Pn**	**20 08 15.7**	**-0.3**
JFY				S		**Sb**	**20 08 26.9**	**-0.4**
JYT	**Yasato**	**0.93**	**210**	⇑P		**Pb**	**20 08 15.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.11**	**257**	Pn		**Pb**	**20 08 34.5**	**-1.2**
	1.2nm,0.3s,baz=74,slow=15,SNR=38							
MJAR				Sn		**Sb**	**20 09 01.8**	**+0.4**
	1.8nm,0.3s,baz=88,slow=27,SNR=21							
H11N2	**WAKE ISLAND Hy**	**28.60**	**120**	T		T	20 43 43.9	
	baz=312,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**28.61**	**120**	T		T	20 43 44.9	
	baz=312,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**28.62**	**120**	T		T	20 43 45.3	
	baz=312,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**29.30**	**122**	T		T	20 44 38.9	
	baz=314,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**29.30**	**122**	T		T	20 44 36.9	
	baz=314,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**29.32**	**122**	T		T	20 44 40.1	
	baz=314,slow=75,SNR=13							
MKAR	**Makanchi Array**	**43.67**	**302**	P		**P**	**20 16 02.8**	**+1.3**
	0.1nm,0.4s,baz=93,slow=8.7,SNR=5.4							
WRA	**Warramunga Arr**	**56.99**	**187**	P		**P**	**20 17 44.0**	**+1.6**
	0.3nm,0.8s,baz=2.8,slow=7.3,SNR=1.6							

*TIR **20** 20:13:45.7,42˚.27N×19˚.80E,h24km±1km,Md2.8,Ml2.6*
*PDG **20** 20:13:46.6±0.2,42˚.25N×19˚.75E,h0km±11km,MD2.9/3, ML2.4/14, Error ellipse: s-maj=0.3km s-min=0.3km az=90.0*
*RHSSO **20** 20:13:46.5±0.6,42˚.25N×19˚.83E,h4km±2km,ML2.6/10*
*BEO **20** 20:13:47.6±0.2,42˚.27N×19˚.81E,h3km±2km,ML2.3/17*

ISC 20 20:13:46.3±0.9,42˚.25N±0˚.01×19˚.77E±0˚.01,h10km±7km, n81,σ0s90/138,24C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BCI	**Bajram Curri**	**0.26**	**61**	P		**Pg**	**20 13 51.5**	**-0.1**
	baz=62							
BCI				S		**Sg**	**20 13 55.9**	**+0.8**
	baz=62							
BCI				AMP				
	comp=E,6.4nm,0.1s,baz=62							
SDA	**Shkodra**	**0.28**	**226**	P		**Pb**	**20 13 53.8**	**+0.5**
	baz=227							
SDA				S		**Sb**	**20 13 58.2**	**+0.2**
	baz=227							
PVY	**Plav**	**0.38**	**22**	⇑*i*Pg		**Pg**	**20 13 53.5**	**-0.4**
PVY				*i* Sg		**Sg**	**20 13 59.6**	**+0.7**
PDG	**Podgorica**	**0.42**	**296**	⇓P		**Pg**	**20 13 54.3**	**-0.4**
PDG				⇑S		**Sg**	**20 14 01.1**	**+0.9**
PDG	**Podgorica**	**0.42**	**296**	*e*Pg		**Pg**	**20 13 54.4**	**-0.2**
PDG				*e*Sg		**Sg**	**20 14 01.1**	**+0.9**
PDG	**Podgorica**	**0.42**	**296**	⇓*i*Pg		**Pg**	**20 13 54.2**	**-0.4**
PDG				*e*Sg		**Sg**	**20 14 01.0**	**+0.8**
TTG	**Podgorica**	**0.42**	**296**	⇑*i*Pg		**Pg**	**20 13 54.2**	**-0.4**
TTG				*i* Sg		**Sg**	**20 14 00.4**	**+0.2**
DRME	**Dracevica, Mon**	**0.44**	**263**	⇓*i*Pg		**Pg**	**20 13 54.8**	**-0.1**
DRME				*e*Sg		**Sb**	**20 14 02.2**	**-0.5**
DRME	**Dracevica, Mon**	**0.44**	**263**	⇑*i*Pg		**Pg**	**20 13 54.3**	**-0.6**
DRME				*i* Sg		**Sg**	**20 14 01.1**	**+0.5**
ULC	**Ulcinj**	**0.48**	**234**	⇑*i*Pg		**Pg**	**20 13 55.5**	**-0.2**
ULC				*e*Sg		**Sb**	**20 14 03.0**	**-0.9**
KOME	**Kolasin**	**0.63**	**343**	⇑*i*Pg		**Pg**	**20 13 58.2**	**-0.4**
KOME				*i* Sg		**Sg**	**20 14 07.6**	**+0.6**
IVA	**Berane**	**0.63**	**9**	⇑*i*Pg		**Pg**	**20 13 58.4**	**-0.3**
IVA				*i* Sg		**Sb**	**20 14 08.1**	**-0.4**
BUM	**Brajici-Budva**	**0.65**	**275**	⇑*i*Pg		**Pg**	**20 13 58.2**	**-0.7**
BUM				*i* Sg		**Sg**	**20 14 08.0**	**+0.5**
CEME	**Cevo**	**0.70**	**296**	⇑*i*Pg		**Pg**	**20 13 58.9**	**-0.9**
CEME				*i* Sg		**Sb**	**20 14 09.8**	**-0.5**
PHP	**Peshkopia**	**0.75**	**138**	P		**Pg**	**20 14 00.2**	**-0.7**
	baz=140							
PHP				S		**Sb**	**20 14 11.9**	**+0.1**
	baz=140							
PHP				AMP				
	comp=N,0.5nm,0.1s,baz=140							
NKME	**Niksic**	**0.80**	**311**	⇑*i*Pg		**Pg**	**20 14 01.0**	**-0.7**
NKME				*i* Sg		**Sb**	**20 14 13.3**	**+0.2**
NKY	**Niksic**	**0.81**	**315**	⇓*i*Pg		**Pg**	**20 14 01.1**	**-0.8**
NKY				*i* Sg		**Sb**	**20 14 13.6**	**+0.2**
TIR	**Tirane**	**0.90**	**175**	⇓P		**Pg**	**20 14 03.1**	**-0.6**
TIR				⇑S		**Sb**	**20 14 16.5**	**+0.5**
TIR	**Tirane**	**0.90**	**175**	*e*Pg		**Pg**	**20 14 03.3**	**-0.3**
TIR				*e*Sg		**Sn**	**20 14 17.0**	**-1.0**
TIR	**Tirane**	**0.90**	**175**	P		**Pg**	**20 14 03.2**	**-0.5**
	baz=177							
TIR				S		**Sn**	**20 14 17.3**	**-0.7**
	baz=177							
TIR				AMP				
	comp=E,0.6nm,0.3s,baz=177							
HCY	**Herceg Novi**	**0.96**	**283**	⇓*i*Pg		**Pg**	**20 14 04.1**	**-0.8**
HCY				*e*Sg		**Sn**	**20 14 18.9**	**-0.7**
HCY	**Herceg Novi**	**0.96**	**283**	⇑*i*Pg		**Pg**	**20 14 04.3**	**-0.6**
HCY				*i* Sg		**Sn**	**20 14 19.2**	**-0.4**
SJES	**Sjenica**	**1.03**	**9**	*e*Pg		**Pg**	**20 14 05.8**	**-0.3**
SJES				*e*Sg		**Sb**	**20 14 19.7**	**-0.1**
BRY	**Bratogost**	**1.12**	**306**	*e*Pg		**Pb**	**20 14 07.7**	**-0.1**
BRY				*e*Sg		**Sb**	**20 14 22.8**	**+0.3**
BRY	**Bratogost**	**1.12**	**306**	⇑*i*Pg		**Pb**	**20 14 07.0**	**-0.8**
BRY				*e*Sg		**Sn**	**20 14 24.3**	**+0.6**
PLE	**Pljevlja**	**1.12**	**346**	⇑*i*Pg		**Pb**	**20 14 07.1**	**-0.7**
PLE				*e*Sg		**Sn**	**20 14 24.4**	**+0.8**
TREB	**Trebinje**	**1.15**	**295**	*e*Pg		**Pg**	**20 14 08.4**	**0.0**
TREB				*e*Sg		**Sn**	**20 14 25.9**	**+1.7**
TREB	**Trebinje**	**1.15**	**295**	*e*Pg		**Pb**	**20 14 08.2**	**0.0**
TREB				*e*Sg		**Sn**	**20 14 24.9**	**+0.7**
UPM	**Unac-Piva**	**1.15**	**327**	*e*Pg		**Pb**	**20 14 07.9**	**-0.5**
UPM				*e*Sg		**Sg**	**20 14 23.9**	**+0.5**
UPM	**Unac-Piva**	**1.15**	**327**	⇑*i*Pg		**Pb**	**20 14 07.5**	**-0.9**
UPM				*i* Sg		**Sn**	**20 14 25.1**	**+0.6**
IVAS	**Ivanjica**	**1.36**	**12**	*e*Pg		**Pn**	**20 14 10.9**	**-0.5**
IVAS				*e*Sg		**Sg**	**20 14 30.1**	**0.0**
OHR	**Ohrid**	**1.37**	**145**	*e*Pg		**Pg**	**20 14 13.7**	**+1.0**
OHR				*e*Sg		**Sg**	**20 14 32.0**	**+1.5**
OHR	**Ohrid**	**1.37**	**145**	*i* Pn		**Pg**	**20 14 13.6**	**+1.0**
SELS	**Selova**	**1.39**	**45**	*e*Pg		**Pn**	**20 14 11.8**	**0.0**
SELS				*e*Sg		**Sg**	**20 14 31.1**	**-0.1**
RUDO	**Rudo**	**1.40**	**348**	*e*Pg		**Pn**	**20 14 11.5**	**-0.4**
RUDO				*e*Sg		**Sg**	**20 14 31.3**	**-0.2**
BARS	**Barje**	**1.62**	**69**	*e*Pn		**Pb**	**20 14 15.5**	**-0.8**
BARS	**Barje**	**1.62**	**69**	*e*Sn		**Sg**	**20 14 38.2**	**-0.2**
BBLS	**Lazići**	**1.64**	**351**	*e*Pn		**Pb**	**20 14 16.7**	**0.0**
BBLS				*e*Sn		**Sg**	**20 14 39.7**	**+0.6**
BBLS	**Lazići**	**1.64**	**351**	*e*Pn		**Pb**	**20 14 16.3**	**-0.4**
BBLS				*e*Sn		**Sb**	**20 14 37.9**	**+0.4**
STON	**Ston**	**1.65**	**293**	*e*Pn		**Pb**	**20 14 16.2**	**-0.6**
STON				*e*Sn		**Sg**	**20 14 38.6**	**-0.8**
STON	**Ston**	**1.65**	**293**	*e*Pn		**Pn**	**20 14 15.8**	**+0.5**
PRVS	**Prvonek**	**1.73**	**80**	*e*Pn		**Pn**	**20 14 16.6**	**+0.1**
PRVS				*e*Sn		**Sb**	**20 14 40.3**	**+0.3**
GRUS	**Gruza**	**1.78**	**23**	*e*Pn		**Pn**	**20 14 17.7**	**+0.5**
GRUS				*e*Sn		**Sb**	**20 14 42.0**	**+0.5**
KBN	**Korca**	**1.79**	**154**	P		**Pb**	**20 14 19.4**	**+0.1**
	baz=155							
KBN				S		**Sg**	**20 14 43.4**	**-0.6**
	baz=155							
KBN				AMP				
	comp=E,0.2nm,0.4s,baz=155							
DIVS	**Divibare**	**1.86**	**5**	*e*Pn		**Pb**	**20 14 20.7**	**+0.3**
DIVS				*e*Sn		**Sb**	**20 14 43.1**	**-0.7**
DIVS	**Divibare**	**1.86**	**5**	*e*Pn		**Pb**	**20 14 19.4**	**-1.0**
DIVS				*e*Sn		**Sb**	**20 14 43.0**	**-0.7**
STIP	**Stip**	**1.89**	**106**	*i* Pn		**Pg**	**20 14 23.3**	**+0.8**
FNA	**Florina**	**1.90**	**140**	P		**Pb**	**20 14 21.3**	**+0.3**
	baz=140							
FNA				S		**Sb**	**20 14 45.5**	**+0.7**
	baz=140							
BOSS	**Bosilegrad**	**2.03**	**82**	*e*Pn		**Pn**	**20 14 21.0**	**+0.5**
BOSS				*e*Sn		**Sb**	**20 14 47.1**	**-1.4**
TRUS	**Trudelj**	**2.03**	**13**	*e*Pn		**Pb**	**20 14 22.6**	**-0.7**
TRUS				*e*Sn		**Sb**	**20 14 47.8**	**-0.8**
LSTV	**Lastovo**	**2.19**	**285**	*e*Pn		**Pn**	**20 14 23.4**	**+0.7**
MAKA	**Makarska**	**2.27**	**298**	*e*Pn		**Pn**	**20 14 25.6**	**+1.7**
RICI	**Ricice**	**2.30**	**304**	*e*Pn		**Pb**	**20 14 26.4**	**-1.5**
ZAPS	**Zavoj**	**2.35**	**63**	*e*Pn		**Pb**	**20 14 27.2**	**-1.5**
ZAPS				*e*Sn		**Sn**	**20 14 54.8**	**+0.9**
SRN	**Sarande**	**2.37**	**176**	P		**Pb**	**20 14 26.9**	**-2.1**
	baz=176							
SRN				S		**Sb**	**20 14 56.9**	**-1.4**
	baz=176							
ZAGS	**Zajecar**	**2.39**	**48**	*e*Pn		**Pn**	**20 14 26.4**	**+0.9**
ZAGS				*e*Sn		**Sn**	**20 14 56.3**	**+1.4**
BLKB	**Belogradchik**	**2.54**	**56**	⇑S		**Sn**	**20 14 59.7**	**+1.0**
VTS	**Vitosha**	**2.59**	**81**	⇑P		**Pn**	**20 14 28.5**	**0.0**
VTS				⇓S		**Sn**	**20 14 58.9**	**-1.2**
HVAR	**Hvar**	**2.62**	**292**	*e*Pn		**Pn**	**20 14 28.7**	**+0.1**
HVAR				*e*Sn		**Sn**	**20 14 59.8**	**-0.6**
MATE	**Matera**	**2.80**	**236**	⇓P		**Pn**	**20 14 31.0**	**0.0**
MATE				⇑S		**Sn**	**20 15 04.7**	**-0.2**
MDVR	**Moldovita**	**2.91**	**29**	⇑P		**Pn**	**20 14 32.7**	**+0.1**
MDVR				⇑S		**Sn**	**20 15 07.0**	**-0.6**
FRGS	**Fruska Gora**	**2.91**	**1**	⇑P		**Pn**	**20 14 33.0**	**+0.4**
FRGS	**Fruska Gora**	**2.91**	**1**	*e*Pn		**Pn**	**20 14 34.3**	**+1.6**
FRGS	**Fruska Gora**	**2.91**	**1**	*e*Pn		**Pn**	**20 14 32.8**	**+0.1**
FRGS				*e*Sn		**Sn**	**20 15 09.0**	**+1.3**
KIJV	**Kijevo**	**3.02**	**307**	*e*Pn		**Pb**	**20 14 37.9**	**-2.4**
BLY	**Banja Luka**	**3.13**	**324**	*e*Pn		**Pn**	**20 14 37.8**	**+2.2**
BLY				*e*Sn		**Sn**	**20 15 14.2**	**+1.2**
HERR	**Herculane**	**3.26**	**35**	⇑P		**Pn**	**20 14 37.8**	**+0.3**
ZIRJ	**Zirje**	**3.34**	**296**	*e*Pn		**Pn**	**20 14 40.7**	**+2.2**
MORI	**Morici**	**3.39**	**300**	*e*Pn		**Pn**	**20 14 41.9**	**+2.8**
BZS	**Buzias**	**3.63**	**21**	⇓P		**Pn**	**20 14 42.6**	**+0.1**
UDBI	**Udbina**	**3.70**	**309**	*e*Pn		**Pn**	**20 14 46.8**	**+3.2**
GZR	**Gura Zlata**	**3.83**	**34**	⇑P		**Pn**	**20 14 45.6**	**+0.3**
VIRC	**Vir**	**4.00**	**302**	*e*Pn		**Pn**	**20 14 49.1**	**+1.4**
MORH	**Mrgy, Hungar**	**4.05**	**349**	⇓P		**Pn**	**20 14 48.7**	**+0.4**
MORH	**Mrgy, Hungar**	**4.05**	**349**	*e*Pn		**Pn**	**20 14 48.7**	**+0.4**
MORH				*e*Sn		**Sn**	**20 15 36.1**	**+0.4**
SIRR	**Siria**	**4.25**	**18**	⇑P		**Pn**	**20 14 50.7**	**-0.3**
NVLJ	**Novalja**	**4.25**	**305**	*e*Pn		**Pn**	**20 14 53.1**	**+2.0**
RABC	**Rab**	**4.41**	**306**	*e*Pn		**Pn**	**20 14 53.3**	**+0.2**
CRES	**Cresnjev**	**4.74**	**321**	*e*Pn		**Pn**	**20 14 59.1**	**+1.3**
CRES				*e*Sn		**Sn**	**20 15 53.1**	**+0.4**
CEY	**Cerknica**	**5.20**	**314**	*e*Pn		**Pn**	**20 15 05.4**	**+1.3**
CEY				*e*Sn		**Sn**	**20 16 03.5**	**-0.6**
SKDS	**Skadanscina**	**5.31**	**310**	*e*Sn		**Sn**	**20 16 06.3**	**-0.4**

*IDC **20** 20:14:55.9±1.4,3˚.00S×130˚.64E,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.5/33,mbtmp3.5/5,ML3.2/3,Error ellipse: s-maj=53.4km s-min=19.9km az=92.0*

ISC 20 20:15:00.7±1.1,3˚.04S±0˚.09×130˚.8E±0˚.3,h35km,n5, σ0s92/6,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**2.20**	**13**	Pn		**Pn**	**20 15 33.9**	**-0.9**
	2.1nm,0.3s,baz=52,slow=20,SNR=17							
SIJI				Sn		**Sn**	**20 16 02.1**	**+1.2**
	7.5nm,0.3s,baz=67,slow=23,SNR=23							
FITZ	**Fitzroy Crossi**	**15.80**	**198**	Pn		**Pn**	**20 18 41.0**	**+0.4**
	0.1nm,0.3s,baz=34,slow=14,SNR=1.5							
WRA	**Warramunga Arr**	**17.16**	**169**	P		**Pn**	**20 18 58.0**	**+0.2**
	0.1nm,0.3s,baz=348,slow=11,SNR=12							
ASAR	**Alice Springs**	**20.73**	**172**	P		**P**	**20 19 38.4**	**0.0**
	3.8nm,0.7s,baz=350,slow=11,SNR=53							
MKAR	**Makanchi Array**	**65.39**	**326**	P		**P**	**20 25 39.7**	**-0.1**
	0.1nm,0.4s,baz=109,slow=7.7,SNR=6.0							

*IDC **20** 20:36:35.4±1.8,21˚.60S×169˚.78E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/36,mbtmp3.8/9,ML3.2/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/54,Error ellipse: s-maj=72.1km s-min=23.9km az=151.0*

*NOU **20** 20:36:37.8,21˚.64S×169˚.67E,h0km,MLv4.5/10, Southeast of Loyalty Islands*

ISC 20 20:36:38.9±1.0,21˚.7S±0˚.1×169˚.7E±0˚.1,h21km,n35, σ0s92/33,mb3.8/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.56**	**277**	P		**Pn**	**20 37 06.1**	**+0.8**
YATNC	**Mamie plateau,**	**2.63**	**261**	P		**Pn**	**20 37 20.6**	**+0.5**
OUENC	**Ouen Island, N**	**2.74**	**254**	P		**Pn**	**20 37 23.0**	**+1.4**
DZM	**Mont Dzumac**	**3.04**	**262**	Pn		**Pn**	**20 37 26.6**	**+0.8**
	2.8nm,0.3s,baz=120,slow=12,SNR=55							
DZM				Sn		**Sn**	**20 38 00.9**	**-0.7**
	30nm,0.3s,baz=123,slow=22,SNR=17							
DZM				LR		LR	20 38 18.0	
	comp=Z,199nm,18.1s,baz=88,slow=33							
DZM	**Mont Dzumac**	**3.04**	**262**	*e*Pn		**Pn**	**20 37 26.8**	**+1.0**
	37nm,0.3s							
DZM				*e*Sn		**Sn**	**20 38 00.5**	**-1.1**
	102nm,0.2s							
ONTNC	**Ouen Toro**	**3.07**	**258**	P		**Pn**	**20 37 28.2**	**+2.1**
NOUC	**Port Laguerre**	**3.17**	**262**	P		**Pn**	**20 37 28.6**	**+1.0**
RTV	**Rentapao**	**4.05**	**343**	P		**Pn**	**20 37 41.0**	**+1.3**
DVP	**Devils Point**	**4.19**	**340**	P		**Pn**	**20 37 42.9**	**+1.4**
KOUNC	**Koumac, New Ca**	**5.17**	**282**	P		**Pn**	**20 37 55.1**	**+0.1**
URZ	**Urewera**	**17.71**	**160**	LR		LR	20 46 24.2	
	comp=Z,100nm,18.2s,baz=255,slow=33							
STKA	**Stephens Creek**	**26.99**	**242**	P		**P**	**20 42 20.8**	**+1.4**
	1.7nm,0.9s,baz=26,slow=7.2,SNR=3.3							
ASAR	**Alice Springs**	**33.03**	**260**	P		**P**	**20 43 13.0**	**0.0**
	0.7nm,0.7s,baz=96,slow=7.6,SNR=4.7							
ASAR				LR		LR	20 56 13.8	
	comp=Z,86nm,18.1s,baz=143,slow=36							
WRA	**Warramunga Arr**	**33.05**	**266**	P		**P**	**20 43 12.6**	**-0.6**
	0.6nm,0.9s,baz=96,slow=8.2,SNR=3.4							
KLR	**Kul'dur**	**78.26**	**336**	P		**P**	**20 48 37.3**	**+0.4**
	1.4nm,0.7s,baz=113,slow=4.9,SNR=5.3							
CMAR	**Chiang Mai Arr**	**79.89**	**294**	P		**P**	**20 48 47.4**	**+0.8**
	0.7nm,0.9s,baz=146,slow=3.9,SNR=6.7							
SONM	**Songino Array**	**89.42**	**323**	P		**P**	**20 49 34.0**	**-0.2**
	0.9nm,0.8s,baz=144,slow=4.4,SNR=4.5							
NVAR	**Mina Array Bea**	**90.10**	**48**	P		**P**	**20 49 37.9**	**+0.2**
	0.2nm,0.3s,baz=227,slow=6.0,SNR=2.2							
ILAR	**Eielson Array**	**92.43**	**17**	P		**P**	**20 49 45.8**	**-1.8**
	0.2nm,0.5s,baz=239,slow=5.3,SNR=4.5							
H03N3	**Juan Fernandez**	**94.70**	**129**	T		T	22 34 28.4	
	baz=239,slow=72,SNR=12							
H03N2	**Juan Fernandez**	**94.70**	**129**	T		T	22 34 27.2	
	baz=239,slow=72,SNR=6.4							
H03N1	**Juan Fernandez**	**94.72**	**129**	T		T	22 34 27.2	
	baz=239,slow=72,SNR=16							
ARCES	**ARCESS Array B**	**127.53**	**345**	PKP		**PKPdf**	**20 55 40.5**	**-1.1**
	2.9nm,0.8s,baz=38,slow=2.2,SNR=7.1							
CLL	**Collm**	**145.30**	**334**	*i* PKPbc		**PKPbc**

	comp=Z,36nm,0.8s					
CCM	**Cathedral Cave**	**5.32**	**69**	IAmb_Lg		20 56 48.3
	comp=Z,35nm,0.8s					
P40A	**Paris**	**5.41**	**52**	IAmb_Lg		20 56 55.7
	comp=Z,40nm,0.8s					
435B	**Jarrell**	**5.49**	**180**	IAmb_Lg		20 57 03.7
	comp=Z,16nm,0.7s					
T25A	**Trinidad**	**5.59**	**281**	IAmb_Lg		20 57 01.6
	comp=Z,21nm,1.1s					
N38A	**Joes South For**	**5.62**	**35**	IAmb_Lg		20 57 07.6
	comp=Z,34nm,0.8s					
PBMO	**Poplar Bluff**	**5.74**	**83**	IAmb_Lg		20 57 06.5
	comp=Z,46nm,0.7s					
L34A	**Svendsen Farm,**	**5.74**	**9**	IAmb_Lg		20 57 00.2
	comp=Z,23nm,0.7s					
OGNE	**Ogallala**	**5.84**	**324**	IAmb_Lg		20 57 14.7
	comp=Z,24nm,0.8s					
FVM	**French Village**	**5.92**	**71**	IAmb_Lg		20 57 10.3
	comp=Z,35nm,0.8s					
JCT	**Junction City**	**6.09**	**199**	IAmb_Lg		20 57 28.5
	comp=Z,22nm,0.8s					
SCIA	**State Center**	**6.54**	**30**	IAmb_Lg		20 57 45.4
	comp=Z,28nm,0.8s					
Q24A	**Divide**	**6.61**	**296**	IAmb_Lg		20 57 40.0
	comp=Z,13nm,0.9s					
N23A	**Red Feather La**	**8.04**	**307**	IAmb_Lg		20 58 25.3
	comp=Z,25nm,1.1s					
O44A	**Mansfield**	**8.11**	**59**	IAmb_Lg		20 58 21.9
	comp=Z,27nm,0.7s					
SUSD	**Miller**	**8.22**	**353**	IAmb_Lg		20 58 22.1
	comp=Z,13nm,0.8s					
JFWS	**Jewell Farm**	**8.68**	**38**	IAmb_Lg		20 58 46.9
	comp=Z,15nm,0.7s					
K22A	**Casper**	**9.42**	**315**	IAmb_Lg		20 59 19.6
	comp=Z,11nm,0.9s					

IDC ***20*** *20:54:32.1±3.1, 51°.45N×174°.27W, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, ML4.0/1, Error ellipse: s-maj=76.4km s-min=27.2km az=4.0*

NEIC ***20*** *20:54:35.0±1.7, 51°.2N±0°.1×174°.2W±0°.1, h24km±20km, mb4.0/19, ML3.2/18(AEIC), Error ellipse: s-maj=22.2km s-min=5.5km az=147.0*

AEIC ***20*** *20:54:36±2.1, 51°.29N±0°.05×174°.25W±0°.05, h23km±7km, Error ellipse: s-maj=7.1km s-min=4.7km az=195.0*

ISC 20 20:54:36.8±1.2, 51°.3N±0°.1×174°.15W±0°.08, h37km±3km, n42, σ0s98/46, mb3.8/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.92**	**358**		**Pn**	**20 54 52.5**	**-0.6**
ATKA					**Sn**	**20 55 06.6**	**+1.5**
KOFP	**Korovin Flat P**	**0.99**	**2**		**Pn**	**20 54 54.2**	**0.0**
GSMY	**Great Sitkin M**	**1.41**	**303**		**Pn**	**20 54 59.3**	**-0.6**
GSTR	**Great Sitkin T**	**1.44**	**305**		**Pn**	**20 54 60.0**	**-0.3**
GSCK	**Great Sitkin C**	**1.45**	**301**		**Pn**	**20 54 59.9**	**-0.5**
GSCK					**Sn**	**20 55 18.7**	**+0.5**
GSTD	**Great Sitkin T**	**1.46**	**303**		**Pn**	**20 55 00.1**	**-0.6**
GSTD					**Sn**	**20 55 19.3**	**+0.7**
ADK	**Adak**	**1.69**	**292**		**Pn**	**20 55 03.2**	**-0.5**
ADK					**Sn**	**20 55 24.1**	**0.0**
KIWB	**Kanaga Island**	**1.96**	**288**		**Pn**	**20 55 07.4**	**0.0**
KIKV	**Kanaga Island**	**1.98**	**289**		**Pn**	**20 55 07.8**	**+0.1**
KIMD	**Kanaga Island**	**1.99**	**285**		**Pn**	**20 55 07.5**	**-0.3**
TAPA	**Tanaga Point A**	**2.35**	**285**		**Pn**	**20 55 13.1**	**+0.3**
TAFP	**Tanaga Falls P**	**2.47**	**286**		**Pn**	**20 55 15.0**	**+0.5**
TAFP					**Sn**	**20 55 44.1**	**+0.8**
TASE	**Tanaga Southea**	**2.49**	**284**		**Pn**	**20 55 15.2**	**+0.5**
KDAK	**Kodiak Island**	**14.07**	**54**	Pn	**Pn**	**20 57 50.0**	**-3.2**
	0.2nm,0.3s,baz=314,slow=22,SNR=1.6						
KDAK	**Kodiak Island**	**14.07**	**54**	P	**Pn**	**20 57 54.2**	**+1.0**
CNPM	**China Poot**	**15.34**	**49**	Pn	**Pn**	**20 58 11.3**	**+1.0**
GHO	**Glory Hole Cre**	**17.30**	**43**		**Pn**	**20 58 35.2**	**0.0**
GHO				IAmb	IAmb	20 58 38.2	
	comp=Z,18nm,1.3s						
KNK	**Knik Glacier**	**17.35**	**44**		**P**	**20 58 36.3**	**-0.6**
KNK				IAmb	IAmb	20 59 02.7	
	comp=Z,19nm,1.4s						
KTH	**Kantishna Hill**	**17.40**	**36**	P	**P**	**20 58 39.3**	**+1.9**
SCM	**Sheep Creek Mo**	**18.02**	**44**		**Pn**	**20 58 43.4**	**-0.6**
KLU	**Klutina**	**18.51**	**46**	P	**Pn**	**20 58 50.5**	**+0.5**
CCB	**Clear Creek Bu**	**19.14**	**36**	P	**P**	**20 58 55.8**	**-0.6**
PAX	**Paxson**	**19.27**	**42**	P	**P**	**20 58 56.7**	**-1.3**
PAX				IAmb	IAmb	20 59 06.0	
	comp=Z,9.1nm,1.4s						
HDA	**Harding Lake**	**19.34**	**37**	P	**P**	**20 58 58.7**	**+0.1**
HDA				IAmb	IAmb	20 59 14.6	
	comp=Z,7.6nm,1.3s						
IL31		**19.55**	**36**	P	**P**	**20 58 59.2**	**-1.6**
ILAR	**Eielson Array**	**19.55**	**36**	P	**P**	**20 58 59.1**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=237,slow=9.4,SNR=24						
ILAR	**Eielson Array**	**19.55**	**36**	P	**P**	**20 59 00.5**	**-0.4**
H24K	**Noodor Dome**	**19.77**	**33**	P	**P**	**20 59 03.1**	**-0.2**
RIDG	**Independent Ri**	**19.85**	**40**	P	**P**	**20 59 03.7**	**-0.5**
RIDG				IAmb	IAmb	20 59 32.3	
	comp=Z,9.6nm,1.4s						
J25K	**Salcha River,**	**20.04**	**37**	P	**P**	**20 59 05.2**	**-1.0**
J25K				IAmb	IAmb	20 59 07.1	
	comp=Z,5.6nm,0.7s						
DOT	**Dot Lake**	**20.13**	**41**	P	**P**	**20 59 06.7**	**-0.5**
DOT				IAmb	IAmb	20 59 25.1	
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	**20.30**	**40**	P	**P**	**20 59 07.5**	**-1.6**
SCRK				IAmb	IAmb	20 59 28.3	
	comp=Z,7.3nm,1.2s						
M27K	**Edge Creek, AK**	**20.60**	**45**	P	**P**	**20 59 13.3**	**+0.8**
M27K				IAmb	IAmb	20 59 20.8	
	comp=Z,7.6nm,1.3s						
BCAR	**Beaver Creek A**	**20.87**	**43**	P	Pn	20 59 17.8	-0.1
TOLK	**Toolik Lake Re**	**21.04**	**25**	P	**P**	**20 59 17.4**	**+0.4**
TOLK				IAmb	IAmb	20 59 37.6	
	comp=Z,11nm,1.4s						
SEY	**Seymchan**	**21.31**	**316**	P	**P**	**20 59 19.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=104,slow=12,SNR=2.1						
EGAK	**Eagle**	**21.74**	**39**	P	**P**	**20 59 24.9**	**+0.4**
EGAK				IAmb	IAmb	20 59 26.8	
	comp=Z,3.7nm,0.7s						
YKA	**Yellowknife Ar**	**33.17**	**47**	P	**P**	**21 01 10.9**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=274,slow=7.5,SNR=2.5						
PDAR	**Pinedale Array**	**43.54**	**75**	P	**P**	**21 02 37.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=327,slow=7.6,SNR=2.4						
ARCES	**ARCESS Array B**	**58.63**	**352**	P	**P**	**21 04 28.5**	**-0.9**
	comp=Z,8.7nm,1.2s,baz=4.8,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**62.34**	**311**	P	**P**	**21 04 54.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=47,slow=6.0,SNR=12						
FINES	**FINESS Array B**	**66.46**	**350**	P	**P**	**21 05 21.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=20,slow=6.1,SNR=4.0						

IDC ***20*** *21:06:38.1±6.9, 62°.73N×151°.08W, h116km±58km, mb2.9/1, mb1 2.8/3, mb1mx2.6/41, mbtmp3.0/3, Error ellipse: s-maj=67.0km s-min=43.2km az=31.0*

AEIC ***20*** *21:06:42±0.7, 63°.10N±0°.04×150°.81W±0°.04, h130km±4km, ML2.5, ML2.6/96(NEIC), Error ellipse: s-maj=5.8km s-min=2.7km az=185.0*

NEIC ***20*** *21:06:42.1±0.6, 63°.12N±0°.03×150°.82W±0°.08, h134km±4km, Error ellipse: s-maj=5.5km s-min=4.7km az=129.0*

ISC 20 21:06:42.1±1.0, 63°.11N±0°.03×150°.84W±0°.03, h134km±6km, n90, σ0s57/78, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.42**	**36**		**Pn**	**21 07 01.6**	**+0.2**
TRF	**Thorofare Moun**	**0.42**	**36**		**Sn**	**21 07 15.9**	**-0.1**
TRF	**Thorofare Moun**	**0.42**	**36**	IAML		21 07 02.1	
	comp=N,194nm,0.3s						
TRF				IAML		21 07 02.3	
	comp=E,127nm,0.3s						
KTH	**Kantishna Hill**	**0.45**	**355**		**Pn**	**21 07 01.6**	**+0.2**
KTH	**Kantishna Hill**	**0.45**	**355**		**Sn**	**21 07 15.3**	**-0.7**
KTH	**Kantishna Hill**	**0.45**	**355**	IAML		21 07 02.0	
	comp=E,26nm,0.2s						
KTH				IAML		21 07 02.8	
	comp=N,25nm,0.5s						
CAST	**Castle Rocks**	**0.64**	**300**		**Pn**	**21 07 02.4**	**0.0**
CAST					**Sn**	**21 07 17.0**	**-0.9**
CAST	**Castle Rocks**	**0.64**	**300**	IAML		21 07 18.2	
	comp=E,162nm,1.4s						
PPLA	**Purkeypile**	**0.65**	**252**		**Pn**	**21 07 03.1**	**+0.4**
PPLA					**Sn**	**21 07 18.1**	**-0.1**
CUT	**Chulitna**	**0.75**	**159**		**Pn**	**21 07 03.4**	**+0.3**
CUT					**Sn**	**21 07 19.4**	**+0.3**
CUT	**Chulitna**	**0.75**	**159**	IAML		21 07 22.6	
	comp=N,423nm,0.6s						
RND	**Reindeer**	**0.95**	**71**		**Pn**	**21 07 04.8**	**0.0**
RND					**Sn**	**21 07 21.4**	**-0.8**
RND	**Reindeer**	**0.95**	**71**	IAML		21 07 24.4	
	comp=N,88nm,0.5s						
BPAW	**Bear Paw Mtn.**	**1.00**	**356**		**Pn**	**21 07 05.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**1.00**	**356**	IAML		21 07 22.3	
	comp=E,83nm,1.1s						
CHUM	**Lake Minchumin**	**1.02**	**320**		**Pn**	**21 07 05.7**	**+0.3**
CHUM					**Sn**	**21 07 22.6**	**-0.6**
MCK	**McKinley**	**1.06**	**53**		**Pn**	**21 07 06.0**	**+0.2**
MCK	**McKinley**	**1.06**	**53**	IAML		21 07 25.0	
	comp=N,101nm,0.5s						
MCK				IAML		21 07 25.5	
	comp=E,78nm,0.6s						
BWN	**Browne**	**1.23**	**29**		**Pn**	**21 07 08.2**	**+0.7**
BWN	**Browne**	**1.23**	**29**	IAML		21 07 28.1	
	comp=N,119nm,0.9s						
BWN				IAML		21 07 31.8	
	comp=E,73nm,0.6s						
M22K	**Willow**	**1.40**	**166**		**Pn**	**21 07 09.4**	**+0.2**
M22K					**Sn**	**21 07 30.4**	**+0.5**
M22K	**Willow**	**1.40**	**166**	IAML		21 07 42.0	
	comp=N,197nm,0.4s						
K20K	**Telida**	**1.48**	**281**		**Pn**	**21 07 10.4**	**+0.2**
WAT6	**Susitna Watana**	**1.52**	**109**		**Pn**	**21 07 10.3**	**-0.4**
L20K	**Farewell, AK**	**1.53**	**247**		**Pn**	**21 07 11.0**	**+0.3**
L20K					**Sn**	**21 07 32.4**	**-0.3**
DHY	**Denali Highway**	**1.58**	**90**		**Pn**	**21 07 11.5**	**+0.2**
GHO	**Glory Hole Cre**	**1.61**	**146**		**Pn**	**21 07 11.9**	**+0.2**
STLK	**Strandline Lak**	**1.68**	**196**		**Pn**	**21 07 12.8**	**+0.3**
NEA2	**Nenana**	**1.69**	**27**		**Pn**	**21 07 12.2**	**-0.3**
NEA2	**Nenana**	**1.69**	**27**	IAML		21 07 34.2	
	comp=E,37nm,0.6s						
PMR	**Palmer**	**1.72**	**152**		**Pn**	**21 07 12.7**	**-0.1**
PMR					**Sn**	**21 07 35.5**	**-0.8**
PMR	**Palmer**	**1.72**	**152**	IAML		21 07 36.1	
	comp=E,161nm,0.3s						
SML	**Sawmill**	**1.75**	**137**		**Pn**	**21 07 13.1**	**-0.1**
SML	**Sawmill**	**1.75**	**137**	IAML		21 07 37.9	
	comp=N,145nm,0.4s						
SML				IAML		21 07 38.0	
	comp=E,132nm,0.7s						
J20K	**Nowinta River**	**1.82**	**308**		**Pn**	**21 07 14.4**	**+0.3**
WRH	**Wood River Hil**	**1.83**	**40**		**Pn**	**21 07 14.1**	**0.0**
SPCG	**Spurr Capps Gl**	**1.90**	**197**		**Pn**	**21 07 15.6**	**+0.5**
MLY	**Manley**	**1.93**	**1**		**Pn**	**21 07 15.4**	**0.0**
SPU	**Mount Spurr**	**2.02**	**197**		**Pn**	**21 07 15.8**	**-0.6**
KNK	**Knik Glacier**	**2.03**	**146**		**Pn**	**21 07 16.8**	**+0.2**
KNK	**Knik Glacier**	**2.03**	**146**	IAML		21 07 44.2	
	comp=N,86nm,0.4s						
M19K	**Big River Lodg**	**2.04**	**235**		**Pn**	**21 07 16.9**	**+0.2**
M19K	**Big River Lodg**	**2.04**	**235**		**Sn**	**21 07 44.1**	**+0.9**
CCB	**Clear Creek Bu**	**2.05**	**40**		**Pn**	**21 07 16.6**	**0.0**
CCB	**Clear Creek Bu**	**2.05**	**40**	IAML		21 07 42.7	
	comp=E,28nm,0.7s						
SCM	**Sheep Creek Mo**	**2.07**	**127**		**Pn**	**21 07 17.0**	**-0.1**
SCM	**Sheep Creek Mo**	**2.07**	**127**	IAML		21 07 45.5	
	comp=N,95nm,0.5s						
L19K	**White Mountain**	**2.07**	**245**		**Pn**	**21 07 17.3**	**+0.2**
L19K	**White Mountain**	**2.07**	**245**	IAML		21 07 45.1	
	comp=E,21nm,1.1s						
L19K				IAML		21 07 58.9	
	comp=N,24nm,4.0s						
RC01	**Rabbit Creek A**	**2.09**	**165**		**Pn**	**21 07 17.4**	**+0.1**
I21K	**Tanana**	**2.14**	**347**	Pn	**Pn**	**21 07 17.5**	**-0.3**
I21K				IAML		21 07 46.5	
	comp=N,27nm,0.9s						
I21K				IAML		21 08 39.5	
	comp=E,20nm,3.2s						
I23K	**Minto, Yukon-K**	**2.15**	**17**		**Pn**	**21 07 17.2**	**-0.7**
I23K				IAML		21 07 45.6	
	comp=N,27nm,0.8s						
HDA	**Harding Lake**	**2.17**	**51**		**Pn**	**21 07 18.0**	**-0.2**
HDA				IAML		21 07 45.7	
	comp=N,42nm,0.5s						
HDA				IAML		21 07 48.5	
	comp=E,52nm,0.4s						
MDM	**Murphy Dome**	**2.19**	**31**		**Pn**	**21 07 18.5**	**+0.1**
COLA	**College**	**2.21**	**35**	Pn	**Pn**	**21 07 18.1**	**-0.6**
COLA	**College**	**2.21**	**35**	IAML		21 07 47.1	
	comp=E,56nm,0.6s						
COLA				IAML		21 07 48.7	
	comp=E,72nm,0.6s						
PS10	**TAPS Pump St10**	**2.31**	**80**		**Pn**	**21 07 21.5**	**+1.5**
PS10					**Sn**	**21 07 49.8**	**+0.5**
TTA	**Tatalina**	**2.37**	**268**		**Pn**	**21 07 20.9**	**+0.1**
TTA	**Tatalina**	**2.37**	**268**	IAML		21 07 50.8	
	comp=N,16nm,0.8s						
TTA				IAML		21 08 05.3	
	comp=E,16nm,3.8s						
TT01	**Tatalina**	**2.37**	**267**		**Pn**	**21 07 20.7**	**0.0**
M24K	**Tolsona, Glenn**	**2.38**	**113**		**Pn**	**21 07 20.9**	**0.0**
IL31		**2.42**	**44**		**Pn**	**21 07 21.3**	**+0.1**
ILAR	**Eielson Array**	**2.42**	**44**	P	**Pn**	**21 07 21.1**	**-0.2**
	comp=E,1.0nm,0.3s,baz=228,slow=12,SNR=44						
ILAR				S	**Sn**	**21 07 54.7**	**+3.3**
	comp=E,1.3nm,0.3s,baz=218,slow=17,SNR=4.5						
PAX	**Paxson**	**2.45**	**91**		**Pn**	**21 07 21.9**	**+0.1**
POKR	**Poker Flat Res**	**2.51**	**35**		**Pn**	**21 07 22.4**	**0.0**
PWL	**Port Wells**	**2.55**	**151**		**Pn**	**21 07 22.8**	**-0.2**
SLKM	**Skilak Lake**	**2.63**	**173**		**Pn**	**21 07 24.4**	**+0.5**
H21K	**Melozitna Rive**	**2.70**	**342**		**Pn**	**21 07 24.9**	**+0.1**
H21K	**Melozitna Rive**	**2.70**	**342**	IAML		21 07 59.0	
	comp=N,14nm,0.8s						
RIDG	**Independent Ri**	**2.77**	**74**		**Pn**	**21 07 26.2**	**+0.4**
RIDG	**Independent Ri**	**2.77**	**74**	IAML		21 08 06.1	
	comp=N,36nm,0.7s						
RIDG				IAML		21 08 08.5	
	comp=E,32nm,2.6s						
KLU	**Klutina**	**2.81**	**123**		**Pn**	**21 07 25.7**	**-0.6**
KLU	**Klutina**	**2.81**	**123**	IAML		21 08 00.6	
	comp=E,43nm,0.4s						
KLU				IAML		21 08 10.5	
	comp=N,51nm,0.4s						
J25K	**Salcha River,**	**2.85**	**56**		**Pn**	**21 07 26.7**	**-0.2**
J25K				IAML		21 08 01.3	
	comp=E,22nm,0.7s						
J25K				IAML		21 08 05.5	
	comp=N,25nm,0.5s						
DIV	**Divide**	**3.10**	**128**	Pn	**Pn**	**21 07 30.1**	**0.0**
DOT	**Dot Lake**	**3.10**	**77**		**Pn**	**21 07 29.7**	**-0.3**
SCRK	**Sand Creek**	**3.19**	**71**		**Pn**	**21 07 31.3**	**0.0**
SCRK	**Sand Creek**	**3.19**	**71**	IAML		21 08 13.8	
	comp=N,9.8nm,0.8s						
SCRK				IAML		21 08 13.9	
	comp=E,17nm,0.8s						
MENT	**Mentasta**	**3.25**	**90**		**Pn**	**21 07 31.8**	**-0.2**
MENT				IAML		21 08 26.5	
	comp=E,35nm,0.5s						
MENT				IAML		21 08 29.4	
	comp=N,35nm,0.5s						
PRP	**Porcupine Dome**	**3.35**	**41**	Pn	**Pn**	**21 07 33.2**	**-0.1**
PRP				IAML		21 08 26.9	
	comp=N,9.4nm,4.3s						
BRLK	**Bradley Lake**	**3.35**	**180**		**Pn**	**21 07 33.7**	**+0.3**
GLB	**Gilahina Butte**	**3.69**	**114**	Pn	**Pn**	**21 07 37.7**	**0.0**
VRDI	**Verde Repeater**	**3.94**	**115**	Pn	**Pn**	**21 07 40.6**	**-0.6**
VRDI				IAML		21 08 33.5	
	comp=E,17nm,3.1s						
L27K	**Beaver Creek,**	**4.10**	**87**		**Pn**	**21 07 42.2**	**-0.9**
L27K				IAML		21 08 31.5	
	comp=E,10.0nm,3.6s						
L27K				IAML		21 08 57.9	
	comp=N,7.5nm,1.5s						
FYU	**Fort Yukon**	**4.22**	**32**		**Pn**	**21 07 44.6**	**0.0**
EGAK	**Eagle**	**4.59**	**64**		**Pn**	**21 07 49.0**	**-0.5**
EGAK				IAML		21 09 10.3	
	comp=N,12nm,3.2s						
DAWY	**Dawson**	**5.20**	**74**		**Pn**	**21 07 57.5**	**-0.3**
YKA	**Yellowknife Ar**	**16.44**	**76**	P	**P**	**21 10 25.3**	**+0.4**
	comp=N,0.0nm,0.3s,baz=284,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**62.63**	**322**	P	**P**	**21 16 51.1**	**-0.7**
	comp=N,0.2nm,0.6s,baz=41,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**62.63**	**322**	P	**P**	**21 16 51.7**	**-0.1**

TUL ***20*** *21:08:10.9±0.8, 36°.29N±0°.01×97°.51W±0°.02, h5km±7km, ML2.6, mb_Lg2.3/22(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=55.0*

NEIC 20 21:08:10.8±0.9, 36°.29N±0°.01×97°.52W±0°.01, h2km±7km, Error ellipse: s-maj=2.1km s-min=0.7km az=223.0,

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	21 08 27.4	-0.1
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**	Pg	Pg	21 08 27.6	0.0
T35A	**Sooner Cattle**	**1.02**	**52**	Pg	Pg	21 08 30.4	0.0
FNO	**Franklin**	**1.03**	**175**	Pg	Pg	21 08 30.2	-0.3
U32A	**Winter Ranch,**	**1.20**	**275**	Pg	Pg	21 08 33.1	-0.7
W35A	**Tecumseh**	**1.25**	**155**	Pg	Pg	21 08 33.7	-0.9
TUL1	**Leonard**	**1.45**	**105**	Pn	Pn	21 08 37.1	-0.9
TUL1				IAmb_Lg		21 08 57.8	
	comp=Z,9.3nm,0.8s						
X34A	**Smith Ranch, M**	**1.70**	**189**		Pn	21 08 41.4	-0.1
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	21 08 43.9	+0.2
R32A	**Long Quarter,**	**2.33**	**336**	Pn	Pn	21 08 49.8	-0.5
X37A	**Clayton**	**2.44**	**133**	Pn	Pn	21 08 52.3	+0.7
X37A				IAmb_Lg		21 09 34.8	
	comp=Z,12nm,0.8s						
HHAR	**Hobbs**	**2.89**	**89**	Pn	Pn	21 08 57.4	-0.5
HHAR				IAmb_Lg		21 09 44.4	
	comp=Z,5.3nm,0.8s						
KSU1	**Kansas State U**	**2.90**	**14**	Pn	Pn	21 08 57.5	-0.4
CBKS	**Cedar Bluff**	**3.08**	**326**	Pn	Pn	21 09 00.3	-0.2
CBKS				IAmb_Lg		21 09 50.7	
	comp=Z,8.1nm,0.9s						
W39A	**Magazine**	**3.23**	**109**	Pn	Pn	21 09 01.9	-0.5
W39A				IAmb_Lg		21 09 58.2	
	comp=Z,16nm,0.9s						
S39A	**Bolivar**	**3.64**	**66**	Pn	Pn	21 09 07.8	-0.3
S39A				IAmb_Lg		21 10 14.5	
	comp=Z,9.4nm,1.1s						
U40A	**Yellville**	**3.77**	**88**	Pn	Pn	21 09 10.4	+0.5
U40A				IAmb_Lg		21 10 09.7	
	comp=Z,11nm,0.7s						
X40A	**Basin Creek Fa**	**4.23**	**114**	Pn	Pn	21 09 16.4	+0.2
FCAR	**Ozark Folk Cen**	**4.38**	**94**	IAmb_Lg		21 10 27.5	
	comp=Z,4.5nm,1.0s						
P40A	**Paris**	**5.40**	**52**	IAmb_Lg		21 11 05.7	
	comp=Z,6.3nm,0.7s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		21 11 12.0	
	comp=Z,7.0nm,0.7s						
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg		21 11 16.4	
	comp=Z,8.6nm,0.7s						
FVM	**French Village**	**5.91**	**71**	IAmb_Lg		21 11 19.7	
	comp=Z,6.3nm,0.9s						

IDC ***20*** *21:08:21.9±1.8, 5°.75S×151°.88E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/46, mbtmp3.7/6, ML1.7/1, Error ellipse: s-maj=80.0km s-min=22.0km az=128.0*

ISC 20 21:08:26.6±1.9, 6°.0S±0°.4×152°.1E±0°.4, h36km, n7, σ0s62/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**235**	Pn	**Pn**	**21 09 52.9**	**+0.7**
	1.2nm,0.3s,baz=36,slow=12,SNR=2.6						
PMG				Sn	**Sn**	**21 10 59.1**	**-0.2**
	3.7nm,0.3s,baz=37,slow=8.5,SNR=3.1						
WRA	**Warramunga Arr**	**22.15**	**230**	P	**P**	**21 13 19.6**	**+0.2**
	1.0nm,0.7s,baz=54,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.82**	**223**	P	**P**	**21 13 46.0**	**+0.4**
	1.5nm,0.9s,baz=56,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**28.48**	**243**	P	**P**	**21 14 17.6**	**-1.0**
	1.5nm,0.6s,baz=57,slow=6.3,SNR=8.2						
MKAR	**Makanchi Array**	**80.73**	**319**	P	**P**	**21 20 36.6**	**+0.4**
	0.1nm,0.6s,baz=108,slow=8.2,SNR=2.4						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**21 20 50.2**	**-0.1**
	0.9nm,0.8s,baz=253,slow=5.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**149.96**	**286**	PKPbc	**PKiKP**	**21 28 14.9**	**-0.2**
	0.5nm,0.6s,baz=79,slow=4.5,SNR=4.1						

IDC 20 21:10:45.2±5.7, 27°.90S×175°.99W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.6/32, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=133.7km s-min=59.6km az=126.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**231**	Pn	Pn	21 11 22.8	+0.2
	56nm,0.3s,baz=268,slow=24,SNR=1.4						
RAO				Sn	Sn	21 11 45.7	-4.5
	358nm,0.3s,baz=91,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**45.07**	**264**	P	P	21 19 02.9	-0.4
	0.3nm,0.5s,baz=105,slow=7.4,SNR=6.9						
WRA	**Warramunga Arr**	**45.84**	**269**	P	P	21 19 09.3	-0.1
	0.5nm,0.6s,baz=110,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**143.35**	**342**	PKP	PKPdf	21 30 20.6	-0.2
	0.7nm,0.7s,baz=42,slow=2.3,SNR=4.7						

IDC ***20*** *21:36:22.2±1.3, 13°.57N×91°.34W, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/43, mbtmp3.9/10, ML3.7/2, MS3.4/5, Ms1 3.3/5, ms1mx2.8/66, Error ellipse: s-maj=44.5km s-min=20.1km az=51.0*

SNET ***20*** *21:36:26.5±1.2, 13°.47N×91°.60W, h15km±14km, ML3.6*

UCR ***20*** *21:36:26.5±1.3, 13°.49N×91°.56W, h9km±15km, ML3.4, mb4.4(NEIC)*

NEIC ***20*** *21:36:29.4±

CMIG	**Matias Romero**	**4.72**	**319**	Pn		**Pn**	**21 37 35.0**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=154,slow=9.2,SNR=11							
CMIG				Sn		**Sn**	**21 38 28.4**	**-1.1**
	comp=Z,5.7nm,0.3s,baz=71,slow=14,SNR=4.4							
MATN	**Matagalpa**	**5.62**	**95**			**Pn**	**21 37 47.7**	**-0.4**
BOAB	**BOACO BROADBAN**	**6.94**	**100**			**Pn**	**21 37 52.2**	**-0.2**
ORTG	**Ortega, Santa**	**6.83**	**117**			**Pn**	**21 38 05.2**	**+0.5**
TLIG	**Tlapa**	**7.78**	**302**	Pn		**Pn**	**21 38 20.3**	**+2.6**
RIMA	**Rio Macho**	**8.50**	**115**			**Pn**	**21 38 30.1**	**+2.4**
SRBA	**San Rafael, Bu**	**9.18**	**117**	Pn		**Pn**	**21 38 38.3**	**+1.2**
DRKO	**Durika**	**9.27**	**116**			**Pn**	**21 38 39.9**	**+1.6**
BRU2	**Volcan**	**9.97**	**117**	Pn		**Pn**	**21 38 49.7**	**+1.8**
TXAR	**Lajitas Array**	**19.28**	**327**	P		**P**	**21 40 49.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=154,slow=11,SNR=14							
TXAR	**Lajitas Array**	**19.28**	**327**	P		**P**	**21 40 50.4**	**+1.5**
TX31	**Lajitas Ar. Si**	**19.28**	**327**			**P**	**21 40 50.6**	**+1.6**
TX32	**Lajitas Array**	**19.28**	**327**	P		**P**	**21 40 50.7**	**+1.7**
ABTX	**Abilene, Hawle**	**20.37**	**340**	P		**P**	**21 41 01.8**	**+1.0**
FPAL	**Fort Paine**	**21.64**	**14**	P		**P**	**21 41 13.8**	**-0.7**
MNTX	**Cornudas Mount**	**22.05**	**327**	P		**P**	**21 41 20.2**	**+1.4**
V48A	**Smith Brothers**	**22.56**	**10**	P		**P**	**21 41 24.5**	**+0.3**
V48A				IAmb	IAmb		21 41 48.7	
	comp=Z,12nm,1.1s							
MSTX	**Muleshoe**	**22.73**	**336**	P		**P**	**21 41 25.9**	**-0.3**
MSTX				IAmb	IAmb		21 41 35.5	
	comp=Z,13nm,0.8s							
AMTX	**Amarillo**	**23.13**	**339**	P		**P**	**21 41 30.6**	**+0.3**
AMTX				IAmb	IAmb		21 41 39.8	
	comp=Z,18nm,0.8s							
TKL	**Tuckaleechee C**	**23.17**	**17**	P		**P**	**21 41 30.4**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=178,slow=12,SNR=5.5							
TKL				LR	LR		21 50 35.9	
	comp=Z,64nm,21.7s,baz=212,slow=37							
TKL	**Tuckaleechee C**	**23.17**	**17**	P		**P**	**21 41 31.0**	**+0.5**
PBMO	**Poplar Bluff**	**23.19**	**3**	P		**P**	**21 41 29.5**	**-1.3**
PBMO				IAmb	IAmb		21 41 32.9	
	comp=Z,13nm,1.0s							
MGMO	**Mountain Grove**	**23.55**	**359**	P		**P**	**21 41 34.1**	**-0.3**
MGMO				IAmb	IAmb		21 41 35.9	
	comp=Z,15nm,1.2s							
T47A	**Sharon Grove**	**23.73**	**9**	P		**P**	**21 41 34.0**	**-2.0**
T47A				IAmb	IAmb		21 41 37.7	
	comp=Z,23nm,1.4s							
121A	**Cookes Peak, D**	**23.99**	**325**	P		**P**	**21 41 39.3**	**+0.5**
121A				IAmb	IAmb		21 41 46.3	
	comp=Z,9.0nm,0.9s							
319A	**Douglas**	**24.05**	**321**	P		**P**	**21 41 39.8**	**+0.5**
319A				IAmb	IAmb		21 41 58.4	
	comp=Z,13nm,1.1s							
S39A	**Bolivar**	**24.12**	**357**	P		**P**	**21 41 37.3**	**-2.4**
S44A	**Carbondale**	**24.18**	**5**	P		**P**	**21 41 38.2**	**-2.0**
S44A				IAmb	IAmb		21 41 42.3	
	comp=Z,14nm,0.8s							
SIUC	**Southern Illin**	**24.20**	**5**	P		**P**	**21 41 39.0**	**-1.4**
CCM	**Cathedral Cave**	**24.45**	**1**	P		**P**	**21 41 41.8**	**-0.9**
CCM				IAmb	IAmb		21 41 44.3	
	comp=Z,13nm,1.0s							
BNM	**Barren Site**	**24.63**	**329**	P		**P**	**21 41 44.7**	**0.0**
ANMO	**Albuquerque**	**25.18**	**330**	P		**P**	**21 41 52.4**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=161,slow=15,SNR=3.5							
ANMO	**Albuquerque**	**25.18**	**330**	P		**P**	**21 41 49.4**	**-0.2**
Q51A	**Peebles**	**26.45**	**15**	P		**P**	**21 42 00.1**	**-0.8**
Q51A				IAmb	IAmb		21 42 04.0	
	comp=Z,9.9nm,0.9s							
X16A	**Lo Mia Camp, P**	**27.46**	**323**	P		**P**	**21 42 10.4**	**+0.2**
PV13	**Radium Mtn., P**	**28.89**	**331**	P		**P**	**21 42 22.4**	**-0.7**
PV13				IAmb	IAmb		21 42 34.0	
	comp=Z,9.1nm,1.3s							
SADO	**Sadowa**	**32.93**	**17**	LR	LR	**P**	**21 56 52.3**	
	comp=Z,50nm,18.1s,baz=268,slow=38							
PDAR	**Pinedale Array**	**33.00**	**335**	P		**P**	**21 43 00.1**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=78,slow=41,SNR=2.4							
PDAR				LR	LR		21 57 45.0	
	comp=Z,32nm,18.6s,baz=270,slow=39							
PDAR	**Pinedale Array**	**33.00**	**335**	P		**P**	**21 42 58.2**	**-1.0**
HVU	**Hansel Valley**	**33.61**	**331**	P		**P**	**21 43 03.8**	**-0.6**
HVU				IAmb	IAmb		21 43 16.3	
	comp=Z,4.1nm,1.0s							
REDW	**Red Top Meadow**	**34.02**	**335**	P		**P**	**21 43 07.0**	**-1.1**
REDW				IAmb	IAmb		21 43 18.1	
	comp=Z,6.2nm,0.8s							
NV11	**Mina Array Sit**	**34.16**	**321**	P		**P**	**21 43 08.6**	**-0.7**
NV11				IAmb	IAmb		21 43 15.3	
	comp=Z,7.2nm,1.2s							
TPAW	**Teton Pass**	**34.17**	**335**	P		**P**	**21 43 07.9**	**-1.5**
TPAW				IAmb	IAmb		21 43 21.9	
	comp=Z,7.6nm,1.2s							
NVAR	**Mina Array Bea**	**34.25**	**321**	P		**P**	**21 43 11.9**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=144,slow=8.1,SNR=7.4							
NVAR	**Mina Array Bea**	**34.25**	**321**	P		**P**	**21 43 08.7**	**-1.5**
HLJD	**Hailey**	**35.76**	**331**	P		**P**	**21 43 22.6**	**-0.4**
MCMT	**McKenzie Canyo**	**36.05**	**334**	P		**P**	**21 43 25.3**	**-0.2**
J08A	**Circle Bar Ran**	**37.62**	**327**	P		**P**	**21 43 40.4**	**+1.5**
PLID	**Pearl Lake**	**37.66**	**331**	P		**P**	**21 43 38.0**	**-1.2**
PLID				IAmb	IAmb		21 43 49.1	
	comp=Z,6.6nm,1.2s							
F10A	**Beach Ranch, E**	**38.89**	**331**	P		**P**	**21 43 49.0**	**-0.4**
MDP	**Montagnes des**	**39.35**	**99**	LR	LR		22 00 19.9	
	comp=Z,78nm,18.3s,baz=328,slow=37							
SIV	**San Ignacio**	**42.12**	**133**	P		**P**	**21 44 14.9**	**-1.5**
	comp=Z,5.0nm,0.9s,baz=302,slow=8.4,SNR=19							
FCC	**Fort Churchill**	**45.20**	**358**	P		**P**	**21 44 39.6**	**-0.9**
FCC				IAmb	IAmb		21 44 48.0	
	comp=Z,3.6nm,0.8s							
SCHQ	**Schefferville**	**45.56**	**20**	P		**P**	**21 44 41.0**	**-2.6**
	comp=Z,4.1nm,0.8s,baz=229,slow=8.6,SNR=7.1							
SCHQ				LR	LR		22 06 03.6	
	comp=Z,57nm,18.1s,baz=121,slow=39							
SCHQ	**Schefferville**	**45.56**	**20**	P		**P**	**21 44 41.8**	**-1.8**
YKA	**Yellowknife Ar**	**51.57**	**347**	P		**P**	**21 45 30.0**	**+0.4**
	comp=Z,4.4nm,1.0s,baz=149,slow=7.6,SNR=23							
YKA	**Yellowknife Ar**	**51.57**	**347**	P		**P**	**21 45 29.7**	**+0.1**
PRP	**Porcupine Dome**	**63.25**	**338**	P		**P**	**21 46 52.7**	**+0.6**
IL31		**63.41**	**337**	P		**P**	**21 46 54.5**	**+1.6**
ILAR	**Eielson Array**	**63.41**	**337**	P		**P**	**21 46 53.8**	**+0.7**
	comp=Z,3.8nm,1.1s,baz=135,slow=3.8,SNR=12							
ILAR	**Eielson Array**	**63.41**	**337**	P		**P**	**21 46 54.2**	**+1.2**
H24K	**Noodor Dome**	**64.26**	**338**	P		**P**	**21 46 58.2**	**-0.5**
H24K				IAmb	IAmb		21 47 04.2	
	comp=Z,7.4nm,1.2s							
MLY	**Manley**	**65.01**	**336**	P		**P**	**21 47 03.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**146.55**	**342**	PKPbc		**PKPdf**	**21 56 05.8**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=346,slow=2.8,SNR=11							
CMAR	**Chiang Mai Arr**	**146.55**	**342**	PKPdf		**PKPdf**	**21 56 02.4**	**-2.1**

*DJA **20** 21:47:14.4±0.3,5°N±3°×12°6E±°, h181km±3km, M4.3/25, mB4.7/9, mb4.3/25, MLv4.7/13, Mw(mB)4.0/9*
*IDC **20** 21:47:14.6±0.6, 5.30N×125.36E, h184km±5km, mb3.7/19, mb1 3.9/21, mb1mx3.7/35, mbtmp4.3/21, Error ellipse: s-maj=17.2km s-min=7.5km az=80.0*
*MAN **20** 21:47:15.2, 5.40N×125.31E, h170km, mb5.2, ML4.1, MS4.3*
*NEIC **20** 21:47:15.1±1.1, 5.32N±0.07×125.47E±0.10, h182km±5km, mb4.4/37, Error ellipse: s-maj=14.7km s-min=9.4km az=75.0*

ISC 20 21:47:14.3±0.5,**5.32N**±0.04×**125.48E**±0.06,**h181**km±5km, **n109**,σ1§**07**/124,**mb4.2**/47,**4C-4D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.81**	**17**	‖	*eP*	**Pn**	**21 47 41.0**	**+0.1**
GSPH	**General Santos**	**0.92**	**325**	‖	*eP*	**Pn**	**21 47 41.6**	**-0.2**
GSPH					*eS*	**Sn**	**21 48 00.4**	**-2.6**
SGSI	**Sangihe**	**1.63**	**178**	P		**Pn**	**21 47 47.8**	**+0.1**
SGSI				S		**Sn**	**21 48 12.7**	**-0.9**
KCP	**Kidapawan**	**1.72**	**347**	‖	*eP*	**Pn**	**21 47 48.4**	**-0.3**
KCP					*i* S	**Sn**	**21 48 14.7**	**-0.7**
DAV	**Davao City (W)**	**1.74**	**3**	P		**Pn**	**21 47 50.2**	**+1.4**
	69nm,0.3s,baz=227,slow=5.4,SNR=1.9							
DAV				S		**Sn**	**21 48 17.3**	**+1.7**
	422nm,0.3s,baz=306,slow=22,SNR=19							
DAV				LR		LR	21 48 30.0	
	comp=Z,270nm,19.8s,baz=188,slow=43							
DAV	**Davao City (W)**	**1.74**	**3**			**Pn**	**21 47 49.5**	**+0.7**
DAV				Sn		**Sn**	**21 48 16.1**	**+0.4**
MATI	**Mati**	**1.79**	**26**	‖	*eP*	**Pn**	**21 47 49.1**	**-0.2**
CTBH	**Cotabato--PC H**	**2.25**	**327**	‖	*eP*	**Pn**	**21 47 54.5**	**+0.2**
CTBH					*i* S	**Sn**	**21 48 26.5**	**+1.2**
BIPH	**Bislig**	**2.98**	**17**	‖	*iP*	**Pn**	**21 48 04.3**	**+1.6**
BIPH					*i* S	**Sn**	**21 48 40.5**	**-0.1**
PAGZ	**Pagadian**	**3.26**	**320**	‖	*eP*	**Pn**	**21 48 04.7**	**-1.6**
GLSP	**General Luna,**	**4.48**	**8**	‖	*eP*	**Pn**	**21 48 23.0**	**+1.4**
TNTI	**Ternate**	**4.90**	**157**			**Pn**	**21 48 25.8**	**-1.2**
TNTI	**Ternate**	**4.90**	**157**	P		**Pn**	**21 48 26.2**	**-0.9**
GTOI	**Gorontalo**	**5.27**	**208**	P		**Pn**	**21 48 31.4**	**-0.4**
	0.2nm642nm62nm,1.2s							
MRSI	**Marisa**	**5.97**	**216**	P		**Pn**	**21 48 42.6**	**+1.6**
	0.2nm638nm64nm,1.0s							
LBMI	**Labuha**	**6.26**	**161**	P		**Pn**	**21 48 44.4**	**-0.4**
	0.5nm986nm32nm,0.5s							
TOLI2	**Tolitoli**	**6.28**	**228**			**Pn**	**21 48 44.3**	**-0.8**
LUWI	**Luwuk**	**6.88**	**203**	Pn		**Pn**	**21 48 54.7**	**+1.8**
MYLDM	**Lahad Datu**	**6.95**	**269**			**Pn**	**21 48 53.4**	**-0.5**
APSI	**Ampana**	**7.28**	**212**	P		**Pn**	**21 49 00.2**	**+2.0**
	0.1nm30nm,1.2s							
SANI	**Sanana**	**7.34**	**176**	P		**Pn**	**21 48 56.0**	**-3.0**
	0.4nm1µm34nm,0.8s							
MPSI	**Mapaga**	**7.45**	**229**	P		**Pn**	**21 49 03.6**	**+3.1**
	0.3nm16nm,0.9s							
SWI	**Sorong**	**8.43**	**137**	P		**Pn**	**21 49 11.9**	**-1.5**
	23nm,0.5s							
SIJI	**Sorong**	**8.44**	**137**	P		**Pn**	**21 49 14.6**	**+1.1**
	4.7nm,0.3s,baz=330,slow=15,SNR=13							
AAI	**Ambon**	**9.35**	**163**	P		**Pn**	**21 49 24.8**	**-0.7**
BNSI	**Bone**	**11.05**	**209**	P		**Pn**	**21 49 49.6**	**+2.0**
	13nm,0.7s							
SBUM	**Sibu**	**13.53**	**258**	P		**P**	**21 50 22.5**	**+0.2**
BBKI	**Banjar Baru**	**13.75**	**231**	P		**P**	**21 50 24.9**	**+0.2**
	17nm,1.0s							
STKI	**Sintang**	**14.92**	**250**	P		**P**	**21 50 38.5**	**+0.8**
BATI	**Baumata**	**15.53**	**187**	P		**Pn**	**21 50 44.9**	**+0.9**
	11nm,0.3s,baz=31,slow=2.8,SNR=11							
BATI	**Baumata**	**15.53**	**187**	P		**P**	**21 50 47.1**	**+2.6**
	22nm,0.5s							
KSM	**Kuching**	**15.62**	**256**	P		**Pn**	**21 50 44.7**	**-0.3**
KSM				IAmb		IAmb	21 50 51.0	
	comp=Z,10.0nm,0.8s							
JAGI	**Jajag, Banyuwa**	**17.76**	**220**	P		**P**	**21 51 07.5**	**-1.4**
JAGI				IAmb		IAmb	21 51 11.0	
	comp=Z,32nm,1.3s							
DLV	**T Lat**	**18.03**	**293**	P		**P**	**21 51 13.2**	**+1.1**
DLV				IAmb		IAmb	21 51 15.3	
	comp=Z,13nm,0.7s							
YULB	**Yu-li**	**18.41**	**348**	P		**P**	**21 51 16.7**	**+0.8**
YULB				IAmb		IAmb	21 51 43.9	
	comp=Z,21nm,1.2s							
TPUB	**Ta-pu**	**18.48**	**346**	P		**P**	**21 51 15.0**	**-1.7**
MTN	**Manton Dam**	**18.90**	**163**			**P**	**21 51 21.6**	**+0.3**
MTN				IAmb		IAmb	21 51 24.9	
	comp=Z,10.0nm,0.5s							
QIZ	**Qiongzhong**	**20.45**	**313**	P		**P**	**21 51 37.7**	**-0.2**
QIZ				IAmb		IAmb	21 51 42.0	
	comp=Z,18nm,1.3s							
KNRA	**Kununurra**	**21.12**	**171**	P		**P**	**21 51 45.2**	**+0.2**
KNRA				IAmb		IAmb	21 51 56.0	
	comp=Z,8.1nm,0.9s							
JOW	**Kunigami**	**21.56**	**7**	P		**P**	**21 51 51.9**	**+2.3**
DSRI	**Dabo**	**21.65**	**255**	P		**P**	**21 51 52.9**	**+2.1**
	comp=Z,22nm,1.3s							
UBPT	**Khong Chiam**	**22.01**	**298**	P		**P**	**21 51 54.4**	**+0.1**
UBPT				IAmb		IAmb	21 51 55.4	
	comp=Z,27nm,1.1s							
KLSI		**22.98**	**245**	P		**P**	**21 52 04.9**	**+1.5**
	comp=Z,22nm,1.0s							
FITZ	**Fitzroy Crossi**	**23.27**	**180**	P		**P**	**21 52 06.3**	**+0.5**
	comp=Z,3.8nm,0.4s,baz=349,slow=6.6,SNR=39							
FITZ	**Fitzroy Crossi**	**23.27**	**180**	P		**P**	**21 52 06.1**	**+0.2**
FITZ				IAmb		IAmb	21 52 06.6	
	comp=Z,15nm,1.4s							
LWLI	**Liwa**	**23.73**	**245**	P		**P**	**21 52 12.4**	**+2.1**
IPM	**Ipoh**	**24.38**	**269**	P		**P**	**21 52 17.0**	**+0.9**
IPM				IAmb		IAmb	21 52 19.0	
	comp=Z,12nm,0.6s							
KULM	**Kulim**	**24.72**	**271**	P		**P**	**21 52 19.8**	**+0.6**
PPI	**Padang Panjang**	**25.70**	**258**	P		**P**	**21 52 29.3**	**+1.3**
	comp=Z,17nm,0.6s							
SRIT	**Nakonsritamara**	**25.89**	**279**	P		**P**	**21 52 30.6**	**+0.9**
COEN	**Coen**	**25.99**	**138**	P		**P**	**21 52 31.4**	**+0.9**
COEN				IAmb		IAmb	21 52 37.3	
	comp=Z,12nm,1.2s							
WB0	**Warramunga Arr**	**26.43**	**161**	P		**P**	**21 52 34.2**	**-0.3**
WB0				IAmb		IAmb	21 52 50.8	
	comp=Z,8.2nm,1.4s							
WRA	**Warramunga Arr**	**26.58**	**161**	P		**P**	**21 52 35.7**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=331,slow=11,SNR=21							
WRA				pP		**pP**	**21 53 12.1**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=343,slow=10,SNR=3.8							
WRA				ScP		**ScP**	**21 59 18.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=341,slow=2.9,SNR=4.6							
WRA	**Warramunga Arr**	**26.58**	**161**	P		**P**	**21 52 35.2**	**-0.6**
WB2	**Warramunga Arr**	**26.58**	**161**	P		**P**	**21 52 35.6**	**-0.2**
PSI	**Prapat**	**26.60**	**266**	P		**P**	**21 52 36.1**	**-0.2**
	comp=Z,3.5nm,0.4s,baz=53,slow=2.7,SNR=5.2							
WR0	**Warramunga Arr**	**26.66**	**161**	P		**P**	**21 52 36.4**	**-0.1**
WR0				IAmb		IAmb	21 52 37.6	
	comp=Z,8.2nm,1.3s							
SISI	**Saibi**	**27.17**	**257**	P		**P**	**21 52 41.8**	**+0.6**
	comp=Z,25nm,0.5s							
PSA00	**Pilbara Seismi**	**27.29**	**191**	P		**P**	**21 52 41.7**	**-0.4**
PSA00				IAmb		IAmb	21 52 43.2	
	comp=Z,13nm,1.1s							
PSA00	**Pilbara Seismi**	**27.29**	**191**	P		**P**	**21 52 41.7**	**-0.4**
PSA00				IAmb		IAmb	21 52 42.7	
	comp=Z,4.7nm,0.9s							
GSI	**Gunungsitoli**	**28.14**	**263**	P		**P**	**21 52 48.8**	**-1.0**
LHMI	**Lhok Sumawe**	**28.41**	**271**	P		**P**	**21 52 52.5**	**+0.3**
CM31	**Chiang Mai Arr**	**29.00**	**299**	P		**P**	**21 52 58.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**29.00**	**299**	P		**P**	**21 52 57.6**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=127,slow=8.1,SNR=30							
CHTO	**Chiang Mai**	**29.15**	**300**	P		**P**	**21 52 59.6**	**+0.9**
AS31	**Alice Springs**	**29.96**	**164**	P		**P**	**21 53 05.4**	**-0.4**
ASAR	**Alice Springs**	**29.96**	**164**	P		**P**	**21 53 06.2**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=342,slow=6.9,SNR=22							
ASAR				pP		**pP**	**21 53 42.2**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=340,slow=7.0,SNR=3.9							
ASAR				PcP		**PcP**	**21 56 04.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=345,slow=2.7,SNR=7.3							
ASAR				ScP		**ScP**	**21 59 28.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=353,slow=3.0,SNR=5.7							
XAN	**Xi'an**	**32.44**	**334**	P		**P**	**21 53 26.4**	**-1.1**
XAN				pP		pP	21 53 30.6	-35
XAN				pmax		pmax		
	comp=Z,8.0nm,0.6s							
MJAR	**Matsushiro Arr**	**33.19**	**19**	P		**P**	**21 53 33.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=188,slow=8.6,SNR=2.2							
SHL	**Shillong**	**37.94**	**306**	P		**P**	**21 54 14.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**39.14**	**7**	P		**P**	**21 54 25.5**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=167,slow=6.3,SNR=5.9							
USRK	**Ussuriysk Ar.**	**39.14**	**7**	P		**P**	**21 54 25.0**	**+0.8**
STKA	**Stephens Creek**	**40.05**	**158**	P		**P**	**21 54 33.2**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=345,slow=8.6,SNR=4.6							
STKA	**Stephens Creek**	**40.05**	**158**	P		**P**	**21 54 31.9**	**0.0**
LSA	**Lhasa**	**40.46**	**311**	P		**P**	**21 54 36.0**	**+0.1**
LSA				IAmb		IAmb	21 54 38.9	
	comp=Z,4.9nm,0.5s							
ASAJ	**Asahikawa**	**41.47**	**19**	P		**P**	**21 54 44.0**	**+0.7**
	comp=Z,3.6nm,0.5s,baz=230,slow=5.8,SNR=4.7							
TAPN	**Taplejung**	**42.08**	**306**	*eP*		**P**	**21 54 48.6**	**-0.4**
	comp=Z,12nm,0.4s							
JIRN	**Jiri**	**43.44**	**305**	*eP*		**P**	**21 54 59.2**	**-0.8**
	comp=Z,24nm,0.5s							
GUN	**Gumba**	**43.79**	**305**	*eP*		**P**	**21 55 02.5**	**-0.3**
	comp=Z,35nm,0.5s							
PKI	**Pulchoki**	**44.04**	**305**	*eP*		**P**	**21 55 03.3**	**-1.4**
PKIN	**Phulchoki**	**44.05**	**305**	*eP*		**P**	**21 55 03.3**	**-1.5**
	comp=Z,3.8nm,0.4s							
KKN	**Kakani**	**44.23**	**305**	*eP*		**P**	**21 55 05.2**	**-0.9**
	comp=Z,6.8nm,0.4s							
DMN	**Daman**	**44.30**	**305**	*eP*		**P**	**21 55 07.3**	**+0.6**
	comp=Z,7.8nm,0.5s							
GKN	**Gorkha**	**44.84**	**305**	*eP*		**P**	**21 55 10.0**	**-0.8**
	comp=Z,5.1nm,0.4s							
KOLN	**Koldanda**	**45.60**	**304**	*eP*		**P**	**21 55 16.7**	**-0.2**
	comp=Z,24nm,0.4s							
DANN	**Dangsing**	**45.68**	**305**	*eP*		**P**	**21 55 17.2**	**-0.5**
	comp=Z,35nm,0.5s							
PYUN	**Piuthan**	**46.22**	**304**	*eP*		**P**	**21 55 21.6**	**-0.2**
	comp=Z,19nm,0.4s							
MK31	**Makanchi Array**	**55.54**	**325**	P		**P**	**21 56 30.6**	**-0.2**
MK31				IAmb		IAmb	21 56 32.0	
	comp=Z,6.0nm,1.4s							
MKAR	**Makanchi Array**	**55.54**	**325**	P		**P**	**21 56 30.3**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=120,slow=7.6,SNR=89							
MKAR				PcP		**PcP**	**21 57 28.1**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=108,slow=4.5,SNR=10.0							
MKAR	**Makanchi Array**	**55.54**	**325**	P		**P**	**21 56 30.9**	**0.0**
MKAR				PcP		**PcP**	**21 57 28.2**	**-0.3**
MAKZ	**Makanchi**	**55.73**	**325**	P		**P**	**21 56 32.0**	**-0.2**
MAKZ				IAmb		IAmb	21 56 33.0	
	comp=Z,5.4nm,1.3s							
KSH	**Kashi**	**56.04**	**315**	P		**P**	**21 56 35.8**	**+1.2**
KSH				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**58.35**	**318**	P		**P**	**21 56 50.5**	**-0.2**
ZALV	**Zalesovo Beam**	**58.61**	**333**	P		**P**	**21 56 51.1**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=131,slow=6.9,SNR=10							
KURK	**Kurchatov**	**59.74**	**328**	P		**P**	**21 56 59.2**	**-0.7**
KURK				IAmb		IAmb	21 57 00.4	
	comp=Z,9.7nm,1.4s							
GAR	**Garm**	**59.93**	**312**	P		**P**	**21 57 01.4**	**-0.3**
GAR				IAmb		IAmb	21 57 02.5	
	comp=Z,9.6nm,1.1s							
BRVK	**Borovoye**	**65.39**	**327**	P		**P**	**21 57 36.8**	**-0.5**
NRIK	**Noril'sk**	**68.60**	**346**	P		**P**	**21 57 57.6**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=102,slow=4.2,SNR=5.8							
NRIK	**Noril'sk**	**68.60**	**346**	P		**P**	**21 57 58.0**	**+0.8**
ILAR	**Eielson Array**	**84.21**	**25**	P		**P**	**21 59 25.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=255,slow=4.5,SNR=11							
ILAR				pP		**pP**	**22 00 09.1**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=249,slow=5.7,SNR=1.6							
BRTR	**Keskin Array B**	**88.05**	**310**	P		**P**	**21 59 43.0**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=137,slow=4.0,SNR=5.5							
KMBO	**Kilima Mbogo**	**88.34**	**269**	P		**P**	**21 59 46.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=73,slow=5.7,SNR=3.9							
ARCES	**ARCESS Array B**	**88.53**	**340**	P		**P**	**21 59 44.7**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=74,slow=6.4,SNR=6.2							
FINES	**FINESS Array B**	**89.85**	**332**	P		**P**	**21 59 50.2**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=48,slow=5.3,SNR=16							
NOA	**NORSAR Array B**	**96.81**	**333**	P		**P**	**22 00 22.2**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=66,slow=4.4,SNR=2.0							
YKA	**Yellowknife Ar**	**98.57**	**24**	P		**P**	**22 00 31.4**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=301,slow=5.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	**121.23**	**289**	PKP		**PKPdf**	**22 05 46.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=85,slow=1.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**121.23**	**289**			**PKPdf**	**22 05 46.2**	**-0.5**
TXAR	**Lajitas Array**	**121.59**	**51**	PKP		**PKiKP**	**22 05 48.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=48,slow=1.9,SNR=4.1							

*IDC **20** 22:03:28.1±1.3, 13.09N×125.17E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/43, Error ellipse: s-maj=79.8km s-min=22.9km az=74.0*
*MAN **20** 22:03:34.0, 13.10N×124.85E, h1km, mb4.8, ML3.7, MS3.7*

ISC 20 22:03:32.2±1.8,**13.4N**±0.1×**125.0E**±0.2,**h10**km,**n9,** σ0§**68**/6,**mb3.4**/4/4,**4D**,**Luzon**

| Code

VA06 IAML 22 30 51.8
comp=E,22μm,0.4s
CO03 El Pedregal 1.05 29 Pb 22 30 40.4 +0.5
CO03 Sn **Sn 22 30 54.2 +2.0**
CO03 El Pedregal 1.05 29 ǁ iP Pb 22 30 40.3 +0.5
CO03 *e*S **Sn 22 30 53.7 +1.5**
CO03 IAML 22 30 57.9
comp=E,9μm,0.2s
CO03 El Pedregal 1.05 29 *e*P **Pb 22 30 40.0 +0.1**
CO03 *e*S **Sn 22 30 54.6 +2.3**
CO03 IAML 22 30 55.1
comp=Z,4μm,0.3s
CO06 Fray Jorge 1.12 344 Pn 22 30 40.8 +1.1
CO06 Sn **Sn 22 30 56.3 +2.3**
CO06 Fray Jorge 1.12 344 *e*P **Pn 22 30 40.8 +1.1**
CO06 IAML 22 30 59.5
comp=N,6μm,0.3s
VA03 San Esteban 1.18 149 Pn 22 30 42.5 +2.1
VA03 San Esteban 1.18 149 *e*P **Pb 22 30 43.0 +0.9**
VA03 *e*S **Sb 22 30 58.8 +1.7**
VA03 IAML 22 31 02.3
comp=E,9μm,0.1s
VA03 San Esteban 1.18 149 *e*P **Pn 22 30 42.8 +2.3**
VA03 *e*S **Sb 22 30 58.7 +1.7**
VA03 IAML 22 31 01.3
comp=Z,3μm,0.1s
ROCH El Roble 1.23 169 *e*P 22 30 43.7
ROCH *e*P **Pn 22 30 41.7 +0.4**
ROCH *e*S **Sn 22 30 58.8 +1.9**
ROCH *e*S 22 31 00.1
ROCH IAML 22 31 04.3
comp=N,7μm,0.4s
ROC1 El Roble 1.23 170 Pn 22 30 41.5 +0.1
ROC1 El Roble 1.23 170 *e*P **Pn 22 30 42.0 +0.6**
VA01 Torpederas 1.30 194 Pn 22 30 44.4 +2.4
VA01 Torpederas 1.30 194 *e*P **Pn 22 30 44.4 +2.4**
VA01 Torpederas 1.30 194 *e*P **Pn 22 30 40.1 -1.9**
VA01 *e*S Sn 22 30 44.6 -14
PEL Peldehue 1.47 160 Pn 22 30 46.8 +2.3
PEL Peldehue 1.47 160 *e*P **Pn 22 30 47.0 +2.5**
PEL IAML 22 31 09.2
comp=E,4μm,0.3s
PEL Peldehue 1.47 160 *e*P **Pn 22 30 46.9 +2.5**
PEL *e*P 22 30 47.0
PEL *e*S **Sb 22 31 09.1 +3.8**
MT02 Curacav 1.50 175 Pn 22 30 47.4 +2.6
MT02 Curacav 1.50 175 *e*P **Pn 22 30 47.6 +2.7**
MT02 Curacav 1.50 175 *e*P **Pn 22 30 47.0 +2.2**
MT02 *e*S **Sb 22 31 08.1 +1.9**
MT02 IAML 22 31 09.3
comp=Z,2μm,0.3s
GO04 Tololo Observa 1.64 15 Pn 22 30 48.4 +1.5
GO04 Tololo Observa 1.64 15 *e*P **Pn 22 30 48.7 +1.8**
GO04 *e*S **Sb 22 31 09.7 -0.5**
GO04 Tololo Observa 1.64 15 *e*P **Pn 22 30 48.9 +2.0**
GO04 *e*S **Sb 22 31 09.8 -0.4**
GO04 *e*S 22 31 10.4
AUSP Uspallata 1.67 107 *e*P **Pb 22 30 52.0 +1.4**
AUSP *e*P **Pb 22 30 52.0 +1.4**
AUSP *e*S **Sn 22 31 09.3 +1.3**
RTLS Leoncito 1.69 92 *e*P **Pb 22 30 52.0 +1.2**
RTLS *e*S **Sn 22 31 07.1 -1.3**
MT05 Renca 1.69 164 Pn 22 30 49.7 +2.2
MT05 Renca 1.69 164 *e*P **Pn 22 30 50.1 +2.6**
MT05 IAML 22 31 17.3
comp=E,7μm,0.3s
MT05 Renca 1.69 164 *e*P **Pn 22 30 50.0 +2.5**
MT05 *e*S **Sn 22 31 04.0 -4.1**
MT05 IAML 22 31 17.0
comp=Z,2μm,0.2s
FCH Farellones 1.77 152 *e*P **Pn 22 30 51.6 +2.7**
FCH IAML 22 31 20.8
comp=E,1μm,0.2s
CO05 La Serena 1.83 1 Pn 22 30 51.1 +1.7
CO05 La Serena 1.83 1 *e*P **Pn 22 30 50.9 +1.5**
CO05 IAML 22 31 27.4
comp=N,2μm,0.4s
MT03 Universidad Ad 1.85 160 Pn 22 30 52.3 +2.6
MT03 Universidad Ad 1.85 160 *e*P **Pn 22 30 52.2 +2.5**
MT03 IAML 22 31 31.4
comp=E,5μm,0.3s
MT03 Universidad Ad 1.85 160 *e*P **Pn 22 30 52.0 +2.3**
MT03 *e*P 22 30 52.5
MT03 *e*S **Sn 22 31 06.6 -5.4**
MT03 IAML 22 31 08.2
comp=Z,4μm,0.2s
VA05 Santo Domingo 1.91 188 Pn **Pn 22 30 52.6 +2.1**
VA05 Santo Domingo 1.91 188 *e*P **Pn 22 30 52.7 +2.2**
VA05 IAML 22 31 23.7
comp=E,3μm,0.2s
MT09 Talagante 2.03 173 Pn 22 30 54.7 +2.5
MT09 Talagante 2.03 173 *e*P **Pn 22 30 55.0 +2.8**
MT09 IAML 22 31 33.8
comp=E,2μm,0.2s
MT01 Popeta 2.10 179 Pn 22 30 55.9 +2.8
MT01 Popeta 2.10 179 *e*P **Pn 22 30 55.8 +2.8**
MT01 IAML 22 31 30.0
comp=E,2μm,0.2s
MT01 Popeta 2.10 179 *e*P **Pn 22 30 56.0 +2.9**
MT01 *e*S Sn 22 31 12.0 -6.0
MT01 IAML 22 31 26.4
comp=Z,820nm,0.6s
AROD Rodeo 2.22 45 *e*P **Pb 22 30 59.0 -0.9**
ACCO Cerro Coronel 2.23 59 *e*P **Pb 22 31 00.0 0.0**
ACCO *e*S **Sb 22 31 32.3 +5.0**
ZON Zonda 2.23 85 *e*P **Pn 22 30 54.3 -0.6**
ZON *e*P 22 30 59.9
ZON *e*P 22 31 00.0
ZON *e*S **Sb 22 31 31.2 +4.2**
ZON IAML 22 31 35.8
comp=Z,590nm,0.4s
ASAL Salagasta 2.23 112 *e*P **Pb 22 31 00.0 +0.1**
ASAL *e*S **Sb 22 31 29.3 +2.1**
ARCO CERRO ARCO 2.26 119 *e*P **Pb 22 31 01.0 +0.5**
ARCO *e*S Sb 22 31 37.4 +9.3
ARCO IAML 22 31 39.4
comp=Z,762nm,0.7s
LMEL Las Melosas 2.27 157 Pn 22 30 58.8 +3.2
LMEL Las Melosas 2.27 157 *e*P **Pn 22 30 59.0 +3.5**
LMEL IAML 22 31 34.4
comp=N,2μm,0.1s
BO04 La Punta 2.29 166 Pn 22 30 58.6 +2.8
BO04 La Punta 2.29 166 *e*P **Pn 22 30 58.7 +2.8**
BO04 IAML 22 31 37.7
comp=N,1μm,0.4s
RTLL Cerro Villicun 2.43 81 *e*P **Pb 22 31 02.2 -1.1**
RTLL *e*S **Sb 22 31 32.3 -0.6**
RTLL *e*S 22 31 36.5
ACDV Cuesta del Vie 2.44 50 *e*P **Pn 22 30 58.7 +0.8**
ACDV *e*P 22 31 03.0
ACDV *e*S **Sb 22 31 38.9 +5.7**
AAGR Agrelo 2.46 123 *e*P **Pb 22 31 03.0 -0.8**
BO01 Tunca 2.63 176 Pn 22 31 03.1 +2.8
BO01 Tunca 2.63 176 *e*P **Pn 22 31 02.9 +2.5**
BO01 Tunca 2.63 176 *e*P **Pn 22 30 58.3 -2.0**
BO01 *e*P 22 31 03.0
BO01 *e*S Sn 22 31 20.8 -10
BO01 IAML 22 31 47.3
comp=Z,465nm,1.4s
LCO Las Campanas 2.78 11 Pn **Pn 22 31 04.6 +1.9**
LCO Las Campanas 2.78 11 *e*P **Pn 22 31 04.7 +1.9**
LCO Las Campanas 2.78 11 *e*P **Pn 22 31 05.0 +2.3**
BO03 Pichilemu 2.79 192 *e*P **Pn 22 31 03.8 +1.2**
BO02 Sierra Bellavi 3.05 172 Pn **Pn 22 31 09.2 +2.9**
BO02 Sierra Bellavi 3.05 172 *e*P **Pn 22 31 09.5 +3.2**
BO02 Sierra Bellavi 3.05 172 *e*P **Pn 22 31 09.8 +3.6**
BO02 IAML 22 32 01.7
comp=Z,591nm,0.2s
GO05 Huala 3.29 189 Pn **Pn 22 31 10.8 +1.3**
GO05 Huala 3.29 189 *e*P **Pn 22 31 10.7 +1.3**
GO05 Huala 3.29 189 *e*P **Pn 22 31 11.0 +1.6**
GO05 *e*S **Sn 22 31 48.8 +1.4**
GO05 *e*S 22 31 54.3
AC04 Llanos de Chal 3.55 3 Pn **Pn 22 31 14.0 +1.0**
AC04 Llanos de Chal 3.55 3 *e*P **Pn 22 31 14.0 +1.0**
AC04 IAML 22 32 11.9
comp=N,612nm,0.4s
AC04 Llanos de Chal 3.55 3 *e*S **Sn 22 31 58.3 +4.5**
AC04 IAML 22 32 08.7
comp=Z,638nm,0.5s
ACHE Chepes 3.99 83 *e*P **Pn 22 31 23.0 +3.8**
ACHE *e*S **Sb 22 32 16.1 -1.6**

ML02 Panimavida 4.00 182 Pn **Pn 22 31 21.4 +2.3**
ML02 Panimavida 4.00 182 *e*P **Pn 22 31 23.0 +3.9**
GO03 Copiap 4.25 13 *e*P **Pn 22 31 24.0 +1.3**
GO03 Copiap 4.25 13 *e*P **Pn 22 31 24.0 +1.3**
GO03 Copiap 4.25 13 *e*S **Sb 22 32 29.3 +4.2**
APLL PUNTA DE LOS L 4.30 73 *e*S **Sb 22 32 20.7 -5.8**
MRA San Martin 4.77 99 *e*P **Pn 22 31 33.0 +3.2**
MRA *e*S **Sn 22 32 29.3 +5.3**
BI05 Punta Hualpn 5.22 197 Pn **Pn 22 31 36.4 +0.5**
AC02 Maricunga 5.25 21 Pn **Pn 22 31 38.6 +1.7**
H03N1 Juan Fernandez 6.65 253 P **Pn 22 31 56.9 +1.5**
baz=82,slow=14,SNR=39
H03N3 Juan Fnandez 6.67 253 P **Pn 22 31 57.2 +1.6**
baz=82,slow=14,SNR=24
H03N2 Juan Fernandez 6.67 253 P **Pn 22 31 57.3 +1.7**
baz=82,slow=14,SNR=24
GO02 Mina Guanaco 6.74 13 Pn **Pn 22 31 56.4 -0.7**
H03S2 Juan Fernandez 6.76 250 T T 22 38 35.6
SNR=6.4
LC01 Cunco 7.14 184 Pn **Pn 22 32 03.1 +0.7**
PB15 IPOC Station P 8.67 11 Pn 22 32 22.1 -1.5
PLCA Paso Flores 8.97 176 P **Pn 22 32 29.1 +1.6**
comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=5.1
PLCA Paso Flores 8.97 176 Pn 22 32 29.3 +1.8
LVC Limon Verde 9.35 14 P **Pn 22 32 34.3 +1.2**
comp=Z,0.6nm,0.3s,baz=195,slow=7.8,SNR=7.1
LVC Limon Verde 9.35 14 Pn 22 32 33.9 +0.8
CPUP Villa Florida 13.35 70 P **Pn 22 33 27.6 +0.3**
comp=Z,0.2nm,0.3s,baz=295,slow=7.6,SNR=4.1
CPUP Villa Florida 13.35 70 Pn 22 33 28.8 +1.4
LPAZ La Paz 15.67 11 P **Pn 22 33 59.5 +0.4**
comp=Z,0.3nm,0.3s,baz=201,slow=7.4,SNR=14
LPAZ La Paz 15.67 11 Pn 22 33 59.2 0.0
SIV San Ignacio 18.24 33 P **Pn 22 34 30.5 -0.4**
comp=Z,0.7nm,0.3s,baz=213,slow=10.0,SNR=29
BDFB Brasilia 26.58 58 P **P 22 35 53.6 -2.0**
comp=Z,2.9nm,0.6s,baz=230,slow=7.7,SNR=8.3
BDFB Brasilia 26.58 58 P **P 22 35 54.1 -1.5**
BDFB IAmb IAmb 22 35 55.2
comp=Z,6.3nm,1.0s
SNAA Sanae 53.42 159 P **P 22 39 36.4 -0.1**
QSPA South Pole Qui 58.47 180 P **P 22 40 13.4 +0.6**
QSPA IAmb IAmb 22 40 22.6
comp=Z,5.0nm,1.4s
TXAR Lajitas Array 68.11 330 P **P 22 41 16.2 -0.7**
comp=Z,0.6nm,0.7s,baz=148,slow=7.6,SNR=7.2
TXAR pP **sP 22 41 29.9 -1.2**
comp=Z,0.3nm,0.8s,baz=148,slow=7.4,SNR=2.5
TXAR Lajitas Array 68.11 330 P **P 22 41 14.5 -2.4**
TORD Torodi Ar. Bea 82.84 70 P **P 22 42 40.9 -0.8**
comp=Z,2.3nm,0.8s,baz=259,slow=4.8,SNR=12
TORD pP **sP 22 42 56.2 +0.2**
comp=Z,0.5nm,0.6s,baz=277,slow=6.6,SNR=2.9
YKA Yellowknife Ar 100.15 341 P **Pdif 22 44 00.6 -1.4**
comp=Z,0.1nm,0.5s,baz=144,slow=4.0,SNR=2.5
WRA Warramunga Arr 123.03 209 PKP **PKPdf 22 49 12.0 -1.8**
comp=Z,0.3nm,0.3s,baz=160,slow=1.7,SNR=15
WRA pPKP **sPKPdf 22 49 27.2 -1.3**
comp=Z,0.4nm,0.6s,baz=172,slow=1.5,SNR=3.0
WRA Warramunga Arr 123.03 209 PKPdf **PKPdf 22 49 12.2 -1.7**
H11S2 WAKE ISLAND Hyl 26.42 270 T T 01 08 23.7
baz=117,slow=75,SNR=16
H11S1 WAKE ISLAND Hyl 26.43 270 T T 01 08 25.8
baz=117,slow=75,SNR=17
H11S3 WAKE ISLAND Hyl 26.44 270 T T 01 08 22.3
baz=117,slow=75,SNR=16
H11N3 WAKE ISLAND Hyl 26.78 272 T T 01 08 41.0
baz=120,slow=74,SNR=2.8
H11N2 WAKE ISLAND Hyl 26.79 272 T T 01 08 39.3
baz=154,slow=74,SNR=5.1
ZALV Zalesovo Beam 151.99 31 PKPbc **PKPbc 22 50 10.5 -0.9**
comp=Z,2.8nm,0.3s,baz=347,slow=3.2,SNR=16
ZALV pPKPbc **sPKPbc 22 50 26.6 +0.6**
comp=Z,1.3nm,0.5s,baz=312,slow=4.4,SNR=4.1
MKAR Makanchi Array 154.78 46 PKPbc **PKPbc 22 50 16.6 -1.2**
comp=Z,0.2nm,0.6s,baz=305,slow=1.7,SNR=4.0
MKAR pPKPbc **sPKPbc 22 50 31.9 -0.5**
comp=Z,0.8nm,0.7s,baz=293,slow=3.5,SNR=9.2

*IDC **20** 22:32:10.2±2.3,53.15N×160.36W,h0km,mb3.3/3, mb1 3.7/5,mb1mx3.4/50,mbtmp3.3/5,ML3.3/2,Error ellipse: s-maj=44.4km s-min=36.1km az=25.0*
*NEIC **20** 22:32:12.2±1.3,53.26N±0.08×160.4W±0.1,h26km±8km, mb3.8/1,Error ellipse: s-maj=11.9km s-min=9.8km az=201.0*
ISC 20 22:32:14.8±1.3,53.4N±0.1×160.3W±0.1,h35km,n27, σ1s30/29,mb3.3/4,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**2.01**	**357**	Pn	**Pn**	**Pn**	**22 32 46.3**	**+0.1**
SDPT				Sn	**Sn**	**Sn**	**22 33 11.0**	**+0.9**
CHGN	**Chignik**	**3.16**	**20**	Pn	**Pn**	**Pn**	**22 33 01.6**	**-0.4**
CHGN				Sn	**Sn**	**Sn**	**22 33 39.4**	**+1.0**
CHIR	**Chirikof Islan**	**3.69**	**46**	Pn	**Pn**	**Pn**	**22 33 07.5**	**-1.7**
UNV	**Unalaska Valle**	**3.73**	**280**	Pn	**Pn**	**Pn**	**22 33 07.6**	**-2.2**
SII	**Sitkinak Islan**	**4.78**	**45**	Pn	**Pn**	**Pn**	**22 33 23.3**	**-0.9**
OHAK	**Old Harbor**	**5.58**	**43**	Pn	**Pn**	**Pn**	**22 33 34.4**	**-0.8**
KDAK	**Kodiak Island**	**6.24**	**41**	Pn	**Pn**	**Pn**	**22 33 43.5**	**-0.8**
P18K	**Big Mountain,**	**6.68**	**23**	Pn	**Pn**	**Pn**	**22 33 48.8**	**-1.6**
BRLK	**Bradley Lake**	**8.27**	**35**	Pn	**Pn**	**Pn**	**22 34 11.0**	**-1.1**
GHO	**Glory Hole Cre**	**10.41**	**31**	Pn	**Pn**	**Pn**	**22 34 38.3**	**-3.2**
EYAK	**Cordova Ski Ar**	**10.72**	**42**	Pn	**Pn**	**Pn**	**22 34 45.1**	**-0.5**
SCM	**Sheep Creek Mo**	**10.97**	**34**	Pn	**Pn**	**Pn**	**22 34 49.6**	**+0.4**
KLU	**Klutina**	**11.24**	**38**	Pn	**Pn**	**Pn**	**22 34 52.9**	**+0.1**
GLB	**Gilahina Butte**	**12.01**	**41**	Pn	**Pn**	**Pn**	**22 35 03.4**	**+0.1**
GRNC	**Granite Creek**	**12.49**	**46**	Pn	**Pn**	**Pn**	**22 35 08.2**	**-1.8**
LOGN	**Logan Glacier**	**12.86**	**47**	Pn	**Pn**	**Pn**	**22 35 13.6**	**-1.4**
MDM	**Murphy Dome**	**13.16**	**23**	Pn	**Pn**	**Pn**	**22 35 17.2**	**-1.7**
ILAR	**Eielson Array**	**13.33**	**26**	Pn	**Pn**	**Pn**	**22 35 20.2**	**-1.1**
	0.1nm,0.3s,baz=211,slow=14,SNR=2.2							
ILAR	**Eielson Array**	**13.33**	**26**			**Pn**	**22 35 19.8**	**-1.5**
J25K	**Salcha River,**	**13.62**	**28**	Pn	**Pn**	**Pn**	**22 35 24.8**	**-0.6**
INK	**Inuvik**	**19.62**	**30**	P	**Pn**	**Pn**	**22 36 41.9**	**+0.6**
	0.2nm,0.3s,baz=232,slow=12,SNR=1.4							
A36M	**Sachs Harbour**	**24.04**	**26**	P		**P**	**22 37 25.1**	**-1.0**
A36M				IAmb	IAmb	IAmb	22 37 39.0	
	comp=Z,2.6nm,0.9s							
YKA	**Yellowknife Ar**	**25.41**	**51**	P		**P**	**22 37 39.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=262,slow=7.5,SNR=10							
YKA	**Yellowknife Ar**	**25.41**	**51**	P		**P**	**22 37 38.0**	**-0.6**
TXAR	**Lajitas Array**	**47.31**	**97**	P		**P**	**22 40 46.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=300,slow=5.5,SNR=7.9							
TXAR	**Lajitas Array**	**47.31**	**97**	P		**P**	**22 40 44.7**	**-0.3**
MKAR	**Makanchi Array**	**66.93**	**318**	P		**P**	**22 43 04.8**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=45,slow=8.2,SNR=1.8							

*CRAAG **20** 22:40:54.5,36.02N×0.91E,Ml3.4*
*LDG **20** 22:40:54.90.3,36.11N×0.78E,h2km,Ml2.7/10,Error ellipse: s-maj=7.1km s-min=3.4km az=163.0*
*MDD **20** 22:40:55.50.5,35.91N×0.91E,h1km±5km,Mb3.9/26, M_mb3.2/12,Error ellipse: s-maj=6.5km s-min=2.2km az=149.0,M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
*CNRM **20** 22:41:00.9,36.10N×0.57E,h33km,ml3.0*
ISC 20 22:40:56.2±1.3,36.04N±0.06×0.96E±0.04,h20km±6km, n75,σ2s24/103,22C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.14**	**129**	P		**Pg**	**22 41 00.1**	**-0.6**
OKGL	**Djebel Kef Gue**	**0.26**	**270**	P		**Pg**	**22 41 01.0**	**-1.3**
ECHA	**Ech Chlef**	**0.34**	**71**	P		**Pg**	**22 41 03.0**	**-0.7**
OJGS	**Djebel Guires**	**0.56**	**198**	P		**Pg**	**22 41 06.0**	**-1.6**
ODJA	**Bouhanifia**	**1.15**	**232**	P		**Pg**	**22 41 19.0**	**+0.4**
CART	**Cartagena**	**2.21**	**315**	P		**Pn**	**22 41 31.5**	**-0.3**
CART				S		**Sn**	**22 41 56.4**	**-2.0**
CART	**Cartagena**	**2.21**	**315**	P		**Pn**	**22 41 31.3**	**-0.4**
CART				S		**Sn**	**22 41 55.8**	**-2.7**
TLOR	**Lorca, Murcia**	**2.67**	**308**	P		**Pn**	**22 41 38.8**	**+0.6**
TLOR				S		**Sn**	**22 42 09.8**	**-0.1**
ENIJ	**Nijar**	**2.72**	**291**	P		**Pn**	**22 41 39.3**	**+0.5**
ENIJ					ǁ *i*Vmb_V		22 41 41.2	
	319nm,SNR=2.7							
ENIJ				S		**Sn**	**22 42 10.0**	**-1.1**
EZAR	**Zarzadilla de**	**2.81**	**312**	P		**Pn**	**22 41 40.0**	**-0.1**
EZAR				S		**Sn**	**22 42 13.2**	**-0.3**
AFON	**Font Roja**	**2.88**	**336**	P		**Pn**	**22 41 43.3**	**+2.1**
AFON					ǁ *i*Vmb_V		22 41 48.6	
	193nm,SNR=2.3							
AFON				S		**Sn**	**22 42 17.7**	**+2.4**

TAF Taforalt 3.02 247 P **Pn 22 41 43.0 0.0**
EBER Berja 3.22 287 P **Pn 22 41 45.7 -0.2**
EBER ǁ *i*Vmb_V 22 41 48.1
334nm,SNR=3.9
EBER S **Sn 22 42 23.2 -0.6**
EALB Alboran 3.24 269 P **Pn 22 41 45.2 -0.8**
EALB ǁ *i*Vmb_V 22 41 48.8
418nm,SNR=1.9
EALB S **Sn 22 42 23.3 -0.8**
ETOB Tobarra 3.28 323 P **Pn 22 41 48.0 +1.4**
ETOB ǁ *i*Vmb_V 22 41 50.6
305nm,SNR=3.6
ETOB S **Sn 22 42 25.0 -0.1**
GOG Mont Gurugu 3.33 257 P **Pn 22 41 46.0 -1.2**
GOG S **Sn 22 42 22.2 -4.1**
JBK JBK 3.35 241 P **Pn 22 41 47.2 -0.5**
EQUE Quentar 3.73 289 P **Pn 22 41 54.3 +1.5**
EQUE ǁ *i*Vmb_V 22 41 59.2
291nm,SNR=5.1
EQUE S **Sn 22 42 35.5 -0.6**
ELGU Los Guajares, 3.79 284 P **Pn 22 41 53.0 -0.6**
ELGU ǁ *i*Vmb_V 22 41 56.1
138nm,SNR=2.5
ELGU S **Sn 22 42 37.0 -0.7**
ECOL Islas Columbre 3.86 357 P **Pn 22 41 55.6 +1.2**
ECOL S **Sn 22 42 40.0 +0.8**
ECHE Chera 3.86 337 P **Pn 22 41 56.1 +1.5**
ECHE ǁ *i*Vmb_V 22 41 57.7
110nm,SNR=1.1
ECHE S **Sn 22 42 41.1 +1.8**
TDRA Tendrara 3.88 220 P **Pn 22 41 56.5 +1.5**
EGOR Sierra Gorda, 4.22 286 P **Pn 22 42 00.9 +1.4**
EGOR ǁ *i*Vmb_V 22 42 04.4
85nm,SNR=1.8
EGOR S **Sn 22 42 47.4 -1.0**
FIGM Figuig 4.31 206 P **Pn 22 42 03.6 +2.8**
EMOS Mosqueruela 4.46 346 P **Pn 22 42 05.1 +2.2**
EMOS ǁ *i*Vmb_V 22 42 07.9
94nm,SNR=1.5
EMOS S **Sn 22 42 54.5 +0.1**
EMIJ Mijas 4.66 278 P **Pn 22 42 04.1 -1.4**
EMIJ ǁ *i*Vmb_V 22 42 07.0
134nm,SNR=3.9
EMIJ S **Sn 22 42 57.6 -1.5**
EADA Adamuz 4.91 297 P **Pn 22 42 09.4 +0.4**
EADA ǁ *i*Vmb_V 22 42 14.2
38nm,SNR=0.7
EADA S **Sn 22 43 05.1 -0.1**
ERTA Horta de San J 4.93 354 P **Pn 22 42 11.8 +2.5**
ERTA ǁ *i*Vmb_V 22 42 15.3
68nm,SNR=1.4
ERTA S **Sn 22 43 06.0 +0.2**
EPOB Poblet 5.31 1 P **Pn 22 42 16.2 +1.8**
EPOB ǁ *i*Vmb_V 22 42 19.9
94nm,SNR=1.7
EPOB S **Sn 22 43 14.3 -0.8**
ESDC Sonseca Array 5.32 314 P **Pn 22 42 16.7 +2.0**
ESDC ǁ *i*Vmb_V 22 42 18.1
48nm,SNR=1.3
ESDC S **Sn 22 43 15.5 +0.1**
ETOR Torete 5.33 335 P **Pn 22 42 15.3 +0.6**
ETOR S **Sn 22 43 17.0 +1.4**
PAB San Pablo 5.47 311 P **Pn 22 42 18.6 +1.9**
PAB ǁ *i*Vmb_V 22 42 21.8
53nm,SNR=1.1
PAB S **Sn 22 43 17.3 -1.8**
ECAB El Cabril 5.49 294 P **Pn 22 42 17.0 0.0**
ECAB ǁ *i*Vmb_V 22 42 20.8
54nm,SNR=1.0
ECAB S **Sn 22 43 16.9 -2.7**
MDT Midelt 5.62 237 P **Pn 22 42 21.7 +2.9**
MD31 MD31 5.69 238 P **Pn 22 42 21.9 +2.2**
GUD Guadarrama 6.11 320 P **Pn 22 42 27.6 +2.1**
GUD ǁ *i*Vmb_V 22 42 31.0
45nm,SNR=1.0
GUD S **Sn 22 43 34.1 -0.7**
EMIN Mina Concepcio 6.36 288 P **Pn 22 42 29.1 +0.3**
EMIN ǁ *i*Vmb_V 22 42 33.0
29nm,SNR=0.5
EMIN S **Sn 22 43 38.6 -2.2**
PBAR Barrancos 6.74 291 *e*Pn **Pn 22 42 34.2 +0.1**
EBAD Badajoz 6.90 295 P **Pn 22 42 35.7 -0.6**
EBAD ǁ *i*Vmb_V 22 42 39.9
78nm,SNR=1.4
EBAD S **Sn 22 43 51.9 -2.4**
EGRO El Granado 6.94 285 P **Pn 22 42 36.0 -0.8**
EGRO ǁ *i*Vmb_V 22 42 38.3
77nm,SNR=1.0
ETSF Etsaut 6.95 351 *e*Pn **Pn 22 42 34.2 -2.8**
ETSF Etsaut 6.95 351 *e*P **Pn 22 42 39.8 +2.8**
ETSF *e*Sn **Sn 22 43 48.6 -6.9**
1.4nm,0.5s
EPF Esparros 7.00 356 *e*Pn Pn 22 42 34.5 -3.2
EPF Esparros 7.00 356 *e*P **Pn 22 42 41.0 +3.3**
EPF *e*Sn **Sn 22 43 50.4 -6.3**
1.1nm,0.3s
PVAQ Vaqueiros 7.10 284 *e*Pn **Pn 22 42 39.1 +0.1**
PBDV Barranco-do-Ve 7.25 282 *e*Pn **Pn 22 42 43.3 +2.2**
SJPF Ste Jean 7.26 347 *e*Pn **Pn 22 42 38.4 -2.9**
SJPF Ste Jean 7.26 347 *e*P **Pn 22 42 44.0 +2.8**
SJPF *e*Sn **Sn 22 43 56.3 -6.8**
1.2nm,0.5s
PBEJ Beja 7.33 288 *e*Pn **Pn 22 42 44.4 +2.2**
MTLF Montolieu 7.36 7 *e*Pn **Pn 22 42 41.0 -1.5**
MTLF Montolieu 7.36 7 *e*P **Pn 22 42 45.8 +3.3**
MTLF *e*Sn **Sn 22 43 59.8 -5.6**
0.4nm,0.3s
PESTR Estremoz 7.36 295 *e*Pn **Pn 22 42 44.8 +2.1**
PESTR Estremoz 7.36 295 P **Pn 22 42 41.4 -1.3**
PMRV Marv??o 7.43 300 *e*Sn **Sn 22 44 08.3 +1.0**
VSL Villasalto 7.50 60 P **Pn 22 42 45.7 +1.1**
VSL S **Sn 22 44 07.0 -2.1**
PCBR Castelo Branco 7.67 302 *e*Pn **Pn 22 42 48.1 +1.3**
PCBR *e*Sn **Sn 22 44 12.2 -0.9**
PNCL Nicolau / Gran 7.86 288 *e*Pn **Pn 22 42 49.3 -0.2**
ELAN Lanestosa 7.94 336 P **Pn 22 42 52.5 +2.0**
ELAN ǁ *i*Vmb_V 22 42 55.6
95nm,SNR=0.8
ELAN S **Sn 22 44 17.5 -2.3**
LASF Ste Croix 8.33 15 *e*P **Pn 22 42 58.2 +2.3**
LMR La Mourre 8.44 29 *e*Pn Pn 22 42 55.6 -1.8
LMR La Mourre 8.44 29 *e*P **Pn 22 42 59.7 +2.3**
FRF La Foret Royal 8.69 28 *e*Pn **Pn 22 42 59.2 -1.6**
FRF La Foret Royal 8.69 28 *e*P **Pn 22 43 03.9 +3.1**
FRF *e*Sn Sn 22 44 31.4 -6.8
0.7nm,0.3s
LFF La Frestale 8.89 359 *e*Pn Pn 22 43 00.3 -3.2
LFF La Frestale 8.89 359 *e*P **Pn 22 43 06.3 +2.8**
LFF *e*Sn Sn 22 44 35.3 -7.8
0.1nm,0.2s
CAF Calviac 8.92 5 *e*Pn **Pn 22 43 01.7 -2.2**
CAF Calviac 8.92 5 *e*P **Pn 22 43 07.7 +3.8**
PGF Pioggiola 9.00 41 *e*Pn Pn 22 43 03.1 -2.1
PGF *e*Sn Sn 22 44 39.2 -6.8
0.8nm,0.3s
SBF Sospel 9.26 30 *e*Pn **Pn 22 43 07.8 -0.8**
SBF *e*Sn Sn 22 44 43.9 -8.3
0.5nm,0.3s
RJF Les Rejaudoux 9.26 2 *e*Pn Pn 22 43 05.4 -3.3
RJF Les Rejaudoux 9.26 2 *e*P **Pn 22 43 11.8 +3.1**
ORIF Oris-en-Rattie 9.62 21 *e*P **Pn 22 43 17.3 +3.6**
LPG La Plagne 10.41 23 *e*P **Pn 22 43 28.6 +3.9**
LPL La Plagne 10.43 23 *e*P **Pn 22 43 27.6 +2.8**
BGF Bois d'Agland 10.60 7 *e*Pn Pn 22 43 23.4 -3.6

*IDC **20** 22:50:15.50.3,54.28N×162.76E,h0km,mb6.0/36, mb1 6.1/41,mb1mx6.1/45,mbtmp6.0/41,ML5.8/6,MS6.3/91, Ms1 6.3/91,ms1mx6.2/97,Error ellipse: s-maj=8.9km s-min=8.6km az=51.0*
*KRSC **20** 22:50:16.80.1,54.14N×163.14E,h42km±18km,ML6.7*
*BJI **20** 22:50:16.00.0,54.30N×162.90E,h30km,mb6.0/76, mB6.3/80,Ms6.7/97,Ms7 6.6/88*
*MOS **20** 22:50:20.71.2,54.23N×162.82E,h54km,mb6.6/44, MS6.3/86,Mw6.5,Error ellipse: s-maj=4.6km s-min=3.1km az=91.9 Broadband fault plane solution: P waves. M07.00000×1018 NP1:φs5.00000°,δ71.00000°, λ106.00000°. NP2:φs143.00000°,δ24.00000°,λ50.00000°. Principal axes: T Plg60.0000°, Azm299.0000°; N Plg15.0000°, Azm180.0000°; P Plg25.0000°,*

Azm83.0000°;

MOS Fault plane solution: P-wave C51, D29 . Felt (II-III) at Petropavlovsk-Kamchatskiy.

*NEIC **20** 22:50:20.9,54.34N×162.79E,h35km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.90; Mθθ-0.47; Mϕϕ-1.43; Mrθ0.46; Mrϕ0.38; Mθϕ1.60; Fault plane solution: M₀2.42000×10¹⁸ NP1:ϕs151.78000°, δ26.32000°,λ61.59000°. NP2:ϕs2.89000°,δ67.05000°, λ103.24000°. Principal axes: T 2.6500, Plg65.0000°, Azm296.0000°; N -0.5548, Plg12.0000°, Azm178.0000°; P -2.0953, Plg21.0000°, Azm83.0000°;*

*NEIC **20** 22:50:20.4±1.4,54.29N±0.03×162.81E±0.10,h30km±1km, mb6.3/973,Ms_20 6.4/456,Mwb6.2/107,Mwc6.4/92, Mww6.4 Error ellipse: s-maj=9.4km s-min=4.9km az=90.0*

*GCMT **20** 22:50:26.4±0.0,54.30N×163.15E,h38km,MW6.4/171, Moment Tensor Solution. s171,c428; s165,c679; Duration: 3s8 Moment tensor: Scale 10¹⁸Nm; Mrr3.20±.02; Mθθ-0.54±.01; Mϕϕ-2.66±.01; Mrθ0.81±.02; Mθϕ0.12±.01; Mrϕ3.75±.03; Best double couple: M₀4.82000×10¹⁸ NP1:ϕs171.00000°,δ19.00000°, λ74.00000°. NP2:ϕs9.00000°,δ71.00000°,λ96.00000°. Principal axes: T 5.1350, Plg63.0000°, Azm287.0000°; N -0.6340, Plg5.0000°, Azm187.0000°; P -4.5050, Plg26.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 22:50:27,54.27N×163.29E,h46km,Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10¹⁸Nm; Mrr3.27; Mθθ-1.01; Mϕϕ-2.26; Mrθ0.72; Mθϕ0.18; Mrϕ3.46; Fault plane solution: M₀4.57000×10¹⁸ NP1: ϕs172.00000°,δ20.00000°,λ75.00000°. NP2:ϕs7.00000°, δ71.00000°,λ95.00000°. Principal axes: T 5.0188, Plg64.0000°, Azm286.0000°; N -1.0850, Plg5.0000°, Azm186.0000°; P -3.9338, Plg26.0000°, Azm93.0000°;*

*BGR **20** 22:50:32.8±0.0,55.80N×162.17E,h33km,mb6.5, mB_BB7.0,Ms6.3*

*NEIC **20** 22:50:41.5,54.32N×162.93E,h42km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.59; Mθθ-1.03; Mϕϕ-2.56; Mrθ0.29; Mθϕ0.40; Mrϕ3.26; Fault plane solution: M₀4.51000×10¹⁸ NP1:ϕs163.22000°, δ22.54000°,λ75.12000°. NP2:ϕs359.27000°,δ68.26000°, λ96.08000°. Principal axes: T 5.0248, Plg66.0000°, Azm280.0000°; N -1.0338, Plg6.0000°, Azm177.0000°; P -3.9910, Plg23.0000°, Azm85.0000°;*

ISC 20 22:50:22.4±0.2,54°21N±0.0°02×162°78E±0.0°02,h47km±1km, h46km;pP-P,n2937,σ1s82/3103,mb6.3/799,MS6.4/416, 685C-551D,Fault plane solution: NP1:ϕs118.51209°, δ44.90983°,λ27.98168°. NP2:ϕs7.89197°,δ70.65568°, λ131.35819°. Principal axes: T Plg47.3082°, Azm321.4489°**;** N Plg38.5693°, Azm171.6352°**;** P Plg15.4597°, Azm68.8945°**; Fault plane solution: NP1:ϕs23.47091°,δ79.58678°,λ85.95507°. NP2: ϕs224.83826°,δ11.16315°,λ110.99861°. Principal axes:** T Plg55.2387°, Azm288.4521°**;** N Plg3.9782°, Azm24.2032°**;** P Plg34.4663°, Azm116.9393°**; Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**1.70**	**307**	*eP*	**Pn**	**22 50 49.5**	**-0.2**
TUMD				*eS*	**Sn**	**22 51 13.9**	**+3.7**
TUMR	**Tumrok**	**1.87**	**306**	PN	**Pn**	**22 50 52.3**	**+0.3**
TUMR	**Tumrok**	**1.87**	**306**	*eP*	**Pn**	**22 50 52.1**	**+0.1**
KII	**Karymskiy**	**1.97**	**266**	PN	**Pn**	**22 50 53.1**	**-0.2**
KII	**Karymskiy**	**1.97**	**266**	*eP*	**Pn**	**22 50 53.2**	**-0.1**
SPN	**Mys Shipunski**	**1.98**	**237**	PN	**Pn**	**22 50 52.5**	**-0.9**
SPN				S	**Sn**	**22 51 16.6**	**-0.4**
SPN	**Mys Shipunski**	**1.98**	**237**	*eP*	**Pn**	**22 50 52.3**	**-1.1**
SPN				*eS*	**Sn**	**22 51 16.4**	**-0.6**
KBTR	**Krutoberegovo**	**2.00**	**1**	PN	**Pn**	**22 50 51.0**	**-2.8**
KBTR	**Krutoberegovo**	**2.00**	**1**	*eP*	**Pn**	**22 50 50.9**	**-2.8**
KBG	**Krutoberegovo**	**2.05**	**359**	PN	**Pn**	**22 50 51.9**	**-2.5**
KBG				S	**Sn**	**22 51 16.7**	**-2.0**
KBG	**Krutoberegovo**	**2.05**	**359**	*eP*	**Pn**	**22 50 51.8**	**-2.6**
KBG				*eS*	**Sn**	**22 51 16.7**	**-2.0**
BKI	**Bering**	**2.10**	**60**	PN	**Pn**	**22 50 51.4**	**-3.7**
BKI				S	**Sn**	**22 51 14.0**	**-6.0**
BKI	**Bering**	**2.10**	**60**	*eP*	**Pn**	**22 50 51.4**	**-3.7**
BKI				*eS*	**Sn**	**22 51 13.6**	**-6.4**
BZGR	**Bezymyannyi-Gr**	**2.11**	**326**	PN	**Pn**	**22 50 54.8**	**-0.5**
BZGR				S	**Sn**	**22 51 23.4**	**+3.1**
BZGR	**Bezymyannyi-Gr**	**2.11**	**326**	*eP*	**Pn**	**22 50 54.8**	**-0.5**
BZGR				*eS*	**Sn**	**22 51 21.9**	**+1.6**
KMNR	**Kamenistaya**	**2.13**	**318**	PN	**Pn**	**22 50 55.8**	**+0.1**
KMNR	**Kamenistaya**	**2.13**	**318**	*i* P	**Pn**	**22 50 55.7**	**+0.1**
ZLN	**Zelenaya**	**2.14**	**329**	PN	**Pn**	**22 50 55.3**	**-0.4**
ZLN	**Zelenaya**	**2.14**	**329**	*eP*	**Pn**	**22 50 55.3**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.19**	**324**	PN	**Pn**	**22 50 56.1**	**-0.4**
BZWR	**Bezymyannyi-We**	**2.19**	**324**	*eP*	**Pn**	**22 50 56.1**	**-0.4**
LGNR	**Loginova**	**2.23**	**328**	PN	**Pn**	**22 50 56.7**	**-0.4**
LGNR	**Loginova**	**2.23**	**328**	*eP*	**Pn**	**22 50 56.7**	**-0.4**
CIRR	**Tsirk**	**2.24**	**329**	PN	**Pn**	**22 50 56.6**	**-0.5**
CIRR	**Tsirk**	**2.24**	**329**	*eP*	**Pn**	**22 50 56.6**	**-0.5**
KIRR	**Kirishev**	**2.24**	**322**	PN	**Pn**	**22 50 56.6**	**-0.5**
KIRR	**Kirishev**	**2.24**	**322**	*eP*	**Pn**	**22 50 56.7**	**-0.4**
NLC	**Nalytchevo**	**2.29**	**244**	PN	**Pn**	**22 50 57.2**	**-0.5**
NLC				S	**Sn**	**22 51 25.0**	**+0.3**
NLC	**Nalytchevo**	**2.29**	**244**	*eP*	**Pn**	**22 50 57.4**	**-0.3**
NLC				*eS*	**Sn**	**22 51 24.9**	**+0.3**
KPT	**Kopyto**	**2.29**	**321**	PN	**Pn**	**22 50 57.5**	**-0.3**
KPT	**Kopyto**	**2.29**	**321**	*eP*	**Pn**	**22 50 57.5**	**-0.3**
KRSR	**Krestovskiy**	**2.38**	**329**	PN	**Pn**	**22 50 58.0**	**-1.0**
KRSR	**Krestovskiy**	**2.38**	**329**	*eP*	**Pn**	**22 50 58.0**	**-1.0**
KLY	**Klyuchi**	**2.44**	**331**	PN	**Pn**	**22 50 57.8**	**-1.8**
KLY	**Klyuchi**	**2.44**	**331**	*eP*	**Pn**	**22 50 58.0**	**-1.6**
KLY				*eS*	**Sn**	**22 51 28.9**	**+0.8**
KOZ	**Kozyrevsk**	**2.49**	**319**	*eP*	**Pn**	**22 51 00.9**	**+0.4**
KOZ				*eS*	**Sn**	**22 51 33.7**	**+4.0**
SDLR	**Sedlovina**	**2.49**	**250**	PN	**Pn**	**22 51 00.6**	**0.0**
SDLR	**Sedlovina**	**2.49**	**250**	*eP*	**Pn**	**22 51 00.6**	**0.0**
SMKR	**Semkarok**	**2.49**	**343**	PN	**Pn**	**22 50 59.3**	**-1.2**
SMKR	**Semkarok**	**2.49**	**343**	*eP*	**Pn**	**22 50 59.3**	**-1.2**
BDR	**Baidarnaya**	**2.53**	**340**	PN	**Pn**	**22 51 00.3**	**-0.7**
BDR	**Baidarnaya**	**2.53**	**340**	*eP*	**Pn**	**22 51 00.4**	**-0.6**
SMAR	**Somma**	**2.55**	**250**	PN	**Pn**	**22 51 01.4**	**0.0**
SMAR	**Somma**	**2.55**	**250**	*eP*	**Pn**	**22 51 01.4**	**0.0**
UGLR	**Uglovaya**	**2.56**	**249**	PN	**Pn**	**22 51 01.6**	**+0.2**
UGLR	**Uglovaya**	**2.56**	**249**	*eP*	**Pn**	**22 51 01.6**	**+0.2**
KRER	**Koryakskii**	**2.56**	**251**	PN	**Pn**	**22 51 01.9**	**+0.4**
KRER	**Koryakskii**	**2.56**	**251**	*eP*	**Pn**	**22 51 01.9**	**+0.4**
AVH	**Avacha**	**2.58**	**250**	PN	**Pn**	**22 51 02.1**	**+0.4**
AVH	**Avacha**	**2.58**	**250**	*eP*	**Pn**	**22 51 02.1**	**+0.4**
SRKR	**Sorokina**	**2.62**	**340**	PN	**Pn**	**22 51 01.3**	**-0.9**
SRKR	**Sorokina**	**2.62**	**340**	*eP*	**Pn**	**22 51 01.4**	**-0.8**
KOK	**Koryaka**	**2.63**	**251**	PN	**Pn**	**22 51 02.6**	**+0.2**
KOK	**Koryaka**	**2.63**	**251**	*i* P	**Pn**	**22 51 02.7**	**+0.3**
DALK	**Dalny**	**2.67**	**245**	PN	**Pn**	**22 51 02.8**	**-0.1**
DALK	**Dalny**	**2.67**	**245**	*eP*	**Pn**	**22 51 03.0**	**+0.1**
DALK				*eS*	**Sn**	**22 51 34.8**	**+0.8**
PET	**Petropavlovsk**	**2.73**	**246**	*α i* PN	**Pn**	**22 51 03.5**	**-0.2**
PET				*i* S	**Sn**	**22 51 36.8**	**+1.4**
PET	comp=Z,24μm,7.3s			pmax	pmax		
PET	comp=Z,27μm,0.7s			smax	smax		
PET	comp=E,87μm,0.7s			smax	smax		
PET	comp=N,120μm,0.5s			MLR	MLR		
PET	comp=Z,713μm,17.0s			MLR	MLR		
PET	comp=Z,650μm,19.0s						
PET	**Petropavlovsk**	**2.73**	**246**	Pn	**Pn**	**22 51 03.3**	**-0.3**
PET				Sn	**Sn**	**22 51 35.7**	**+0.3**
PET	**Petropavlovsk**	**2.73**	**246**	⇑P	**Pn**	**22 51 03.6**	**0.0**
PET	**Petropavlovsk**	**2.73**	**246**	P	**Pn**	**22 51 04.5**	**+0.8**
PET	**Petropavlovsk**	**2.73**	**246**	P	**Pn**	**22 51 04.2**	**+0.6**
GNL	**Ganaly**	**2.91**	**262**	PN	**Pn**	**22 51 07.3**	**+1.1**
GNL	**Ganaly**	**2.91**	**262**	*eP*	**Pn**	**22 51 07.4**	**+1.2**
ESO	**Esso**	**2.91**	**308**	PN	**Pn**	**22 51 07.7**	**+1.5**
ESO				S	**Sn**	**22 51 45.1**	**+5.2**
ESO	**Esso**	**2.91**	**308**	*eP*	**Pn**	**22 51 07.9**	**+1.7**
ESO				*eS*	**Sn**	**22 51 45.4**	**+5.5**
KRMR	**Karymshinskiy**	**3.10**	**245**	PN	**Pn**	**22 51 09.2**	**+0.5**
KRMR				S	**Sn**	**22 51 47.3**	**+2.8**
KRMR	**Karymshinskiy**	**3.10**	**245**	*eP*	**Pn**	**22 51 09.3**	**+0.5**
KRMR				*eS*	**Sn**	**22 51 47.4**	**+2.9**
RUS	**Russkaya**	**3.12**	**237**	PN	**Pn**	**22 51 08.2**	**-0.7**
RUS	**Russkaya**	**3.12**	**237**	*eP*	**Pn**	**22 51 08.3**	**-0.7**
I44RU	**PETROPAVLOVSK-** baz=70,slow=23,SNR=0.8	**3.21**	**252**	Pn	**Pn**	**22 51 12.5**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.22**	**252**	*c i* PN	**Pn**	**22 51 11.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.22**	**252**		**Pn**	**22 51 11.1**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,638nm,0.3s,baz=243,slow=13,SNR=868	**3.22**	**252**	Pn	**Pn**	**22 51 09.5**	**-0.9**
PETK				Sn	**Sn**	**22 51 40.1**	**-7.4**
PETK	comp=Z,880nm,0.3s,baz=76,slow=32,SNR=6.5			LR	LR	22 52 24.9	
PETK	comp=Z,266μm,19.2s,baz=155,slow=40 **Petropavlovsk-**	**3.22**	**252**	Pn	**Pn**	**22 51 10.5**	**+0.1**
MTVR	**Mutnovka**	**3.25**	**240**	PN	**Pn**	**22 51 11.0**	**0.0**
MTVR	**Mutnovka**	**3.25**	**240**	*eP*	**Pn**	**22 51 11.0**	**0.0**
GRL	**Gorelyy**	**3.27**	**241**	PN	**Pn**	**22 51 11.8**	**+0.6**
GRL	**Gorelyy**	**3.27**	**241**	*eP*	**Pn**	**22 51 12.0**	**+0.8**
APC	**Apacha**	**3.59**	**251**	PN	**Pn**	**22 51 17.3**	**+1.8**
APC	**Apacha**	**3.59**	**251**	*eP*	**Pn**	**22 51 17.2**	**+1.8**
APC				*eS*	**Sn**	**22 52 00.8**	**+4.2**
KDTR	**Khodutka, Kamc**	**3.72**	**232**	PN	**Pn**	**22 51 16.8**	**-0.5**
KDTR				S	**Sn**	**22 51 59.2**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.72**	**232**	*eP*	**Pn**	**22 51 16.7**	**-0.5**
KDTR				*eS*	**Sn**	**22 51 59.2**	**-0.6**
MIPR	**Malaya Ipel'ka**	**4.10**	**244**	PN	**Pn**	**22 51 24.3**	**+1.7**
MIPR	**Malaya Ipel'ka**	**4.10**	**244**	*eP*	**Pn**	**22 51 24.2**	**+1.7**
PAU	**Pauzhetka**	**4.54**	**235**	PN	**Pn**	**22 51 29.3**	**+0.8**
PAU	**Pauzhetka**	**4.54**	**235**	*eP*	**Pn**	**22 51 29.4**	**+0.9**
OSSR	**Ossora**	**5.06**	**2**	PN	**Pn**	**22 51 33.6**	**-1.9**
OSSR	**Ossora**	**5.06**	**2**	*eP*	**Pn**	**22 51 33.6**	**-1.9**
PALN	**Palana**	**5.13**	**344**	PN	**Pn**	**22 51 34.9**	**-1.7**
SKR	**Severo-Kuril's**	**5.39**	**232**	*eP*	**Pn**	**22 51 40.0**	**-0.2**
SKR				*eS*	**Sn**	**22 52 41.1**	**+0.2**
SKR	comp=Z,3μm,0.6s			pmax	pmax		
SKR	comp=N,6μm,0.8s			smax	smax		
SKR	comp=E,10μm,0.8s			MLR	MLR		
SKR	comp=Z,113μm,14.0s			MLR	MLR		
SKR	comp=E,156μm,17.0s			MLR	MLR		
SKR	comp=Z,107μm,16.0s			MLR	MLR		
SKR	comp=E,122μm,13.0s						
SKR	**Severo-Kuril's**	**5.39**	**232**	*eP*	**Pn**	**22 51 39.8**	**-0.4**
TILK	**Tilichiki**	**6.51**	**15**	PN	**Pn**	**22 51 54.1**	**-1.4**
TILK	**Tilichiki**	**6.51**	**15**	*eP*	**Pn**	**22 51 55.1**	**-0.4**
TILK				*eS*	**Sn**	**22 53 07.5**	**-0.9**
SHEM	**Shemya Is, Ala** comp=E,711nm,0.3s,baz=138,slow=1.2,SNR=150	**6.92**	**98**	Pn	**Pn**	**22 51 57.9**	**-3.2**
SHEM				Sn	**Sn**	**22 53 11.7**	**-6.7**
SMY	comp=E,623nm,0.3s,baz=275,slow=18,SNR=21 **Shemya**	**6.92**	**98**	PN	**Pn**	**22 51 58.2**	**-2.9**
SMY	**Shemya**	**6.92**	**98**	Pn	**Pn**	**22 51 58.2**	**-2.9**
SMY	**Shemya**	**6.92**	**98**	⇓P	**Pn**	**22 51 57.9**	**-3.3**
SMY				⇑S	**Sn**	**22 53 13.1**	**-5.3**
KMSK	**Kamenskaya**	**8.47**	**11**	PN	**Pn**	**22 52 22.2**	**-0.1**
KMSK	**Kamenskaya**	**8.47**	**11**	*eP*	**Pn**	**22 52 22.2**	**-0.1**
KMSK				*eS*	**Sn**	**22 53 53.7**	**-2.8**
MA2	**Magadan** comp=E,9.0nm,0.3s,baz=107,slow=12,SNR=49	**8.49**	**314**	Pn	**Pn**	**22 52 22.5**	**-0.1**
MA2				LR	LR	22 56 14.0	
MA2	comp=E,335μm,19.4s,baz=125,slow=42 **Magadan**	**8.49**	**314**	*e*PN	**Pn**	**22 52 23.2**	**+0.6**
MA2	**Magadan**	**8.49**	**314**	⇑P	**Pn**	**22 52 23.8**	**+1.2**
MA2	**Magadan**	**8.49**	**314**	P	**Pn**	**22 52 24.1**	**+1.5**
MA2	**Magadan**	**8.49**	**314**	P	**Pn**	**22 52 24.1**	**+1.5**
SEY	**Seymchan** comp=E,1.9nm,0.3s,baz=131,slow=13,SNR=50	**10.28**	**332**	Pn	**Pn**	**22 52 46.0**	**-1.1**
SEY				LR	LR	22 57 20.6	
SEY	comp=E,178μm,18.4s,baz=149,slow=42 **Seymchan**	**10.28**	**332**	⇑*e*PN	**Pn**	**22 52 47.0**	**-0.1**
SEY	comp=Z,36nm,0.9s			pmax	pmax		
OKH	**Okha**	**11.73**	**275**	*c i* PN	**Pn**	**22 53 09.4**	**+2.5**
OKH	comp=Z,7μm,7.9s			pmax	pmax		
OKH	comp=E,248μm,18.0s			MLR	MLR		
OKH	comp=Z,213μm,18.0s			MLR	MLR		
OKH	comp=N,148μm,16.0s			MLR	MLR		
KIWB	**Kanaga Island**	**12.30**	**93**	Pn	**Pn**	**22 53 11.5**	**-3.3**
ADK	**Adak**	**12.57**	**92**	PN	**Pn**	**22 53 15.8**	**-2.5**
ADK	**Adak**	**12.57**	**92**	Pn	**Pn**	**22 53 15.2**	**-3.1**
ADK	**Adak**	**12.57**	**92**	⇑P	**Pn**	**22 53 14.9**	**-3.5**
ADK	**Adak**	**12.57**	**92**	P	**Pn**	**22 53 16.0**	**-2.3**
ADK	**Adak**	**12.57**	**92**	P	**Pn**	**22 53 15.2**	**-3.1**
TYV	**Tymovskoe**	**12.69**	**263**	*e*PN	**Pn**	**22 53 23.8**	**+3.8**
TYV				*eS*	Sn	22 55 49.5	+10
TYV	comp=Z,11μm,5.0s			pmax	pmax		
TYV	comp=Z,942nm,1.4s			pmax	pmax		
TYV	comp=N,130nm,1.6s			smax	smax		
TYV	comp=E,119nm,1.6s			smax	smax		
TYV	comp=N,4μm,7.6s			smax	smax		
TYV	comp=E,9μm,7.6s			smax	smax		
NKL	**Nikolayevsk**	**13.14**	**274**	*e*PN	**Pn**	**22 53 26.5**	**+0.4**
NKL	comp=N,7μm,0.8s			pmax	pmax		
NKL	comp=Z,988nm,1.1s			pmax	pmax		
NKL	comp=E,3.0nm,0.6s			pmax	pmax		
NKL	comp=Z,122μm,18.0s			MLR	MLR		
KUR	**Kuril'sk**	**13.16**	**233**	*ce*PN	**Pn**	**22 53 24.3**	**-2.1**
UGL	**Uglegorsk**	**13.83**	**257**	*e*P	**Pn**	**22 53 37.8**	**+2.3**
UGL				*e*S	**Sn**	**22 56 06.1**	**-1.3**
UGL	comp=Z,943nm,1.0s			pmax	pmax		
UGL	comp=Z,21μm,4.0s			pmax	pmax		
UGL	comp=N,30μm,7.5s			smax	smax		
UGL	comp=E,42μm,5.0s			smax	smax		
UGL	comp=E,150μm,18.0s			MLR	MLR		
ATKA	**Atka Island**	**13.93**	**89**	⇓P	**Pn**	**22 53 33.7**	**-3.2**
ATKA	**Atka Island**	**13.93**	**89**	P	**Pn**	**22 53 34.6**	**-2.3**
BILL	**Bilibino**	**13.98**	**5**	*c i* P	**Pn**	**22 53 38.6**	**+1.2**
BILL	comp=Z,1μm,1.1s			pmax	pmax		
BILL	comp=Z,53μm,16.0s			MLR	MLR		
BILL	**Bilibino**	**13.98**	**5**	Pn	**Pn**	**22 53 36.2**	**-1.2**
BILL	**Bilibino**	**13.98**	**5**	P	**Pn**	**22 53 38.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**14.61**	**248**	*ci* P	**Pn**	**22 53 46.3**	**+0.2**
YSS				*e*S	**Sn**	**22 56 25.1**	**-1.5**
YSS	comp=Z,6μm,6.6s			pmax	pmax		
YSS	comp=E,5μm,5.4s			pmax	pmax		
YSS	comp=Z,540nm,1.3s			pmax	pmax		
YSS	comp=N,400nm,1.2s			smax	smax		
YSS	comp=N,14μm,6.1s			smax	smax		
YSS	comp=Z,159μm,19.0s			MLR	MLR		
YSS	comp=N,71μm,17.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**14.61**	**248**	⇑P	**Pn**	**22 53 46.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**14.61**	**248**	P	**Pn**	**22 53 47.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**14.61**	**248**	P	**Pn**	**22 53 46.4**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**15.00**	**234**	*e*P	**Pn**	**22 53 48.0**	**-3.2**
YUK				*e*S	**Sn**	**22 56 30.8**	**-5.2**
YUK	comp=Z,6μm,0.8s			pmax	pmax		
YUK	comp=N,2μm,0.9s			pmax	pmax		
YUK	comp=N,2μm,0.4s			pmax	pmax		
YUK	comp=Z,6μm,1.3s			MLR	MLR		
YUK	comp=Z,159μm,22.0s			MLR	MLR		
YUK	comp=N,131μm,23.0s			MLR	MLR		
SPIA	comp=E,79μm,23.0s **Saint Paul Isl** baz=271	**15.45**	**68**	P	**Pn**	**22 53 56.1**	**-0.9**
SPIA	**Saint Paul Isl**	**15.45**	**68**	P	**Pn**	**22 53 56.8**	**-0.1**
GAMB	**Gambell** baz=246,SNR=261	**16.15**	**43**	P	**Pn**	**22 54 04.1**	**-1.7**
GAMB				S	**Sn**	**22 57 02.3**	**-1.2**
GRNR	baz=246 **Gornyy**	**16.38**	**269**	⇓*i*P	**P**	**22 54 12.4**	**+1.3**
GRNR	comp=E,210nm,0.9s			pmax	pmax		
GRNR	comp=N,120nm,1.1s			pmax	pmax		
GRNR	comp=Z,320nm,1.0s			pmax	pmax		
GRNR	comp=E,24μm,0.0s			MLR	MLR		
GRNR	comp=N,6μm,0.0s			MLR	MLR		
GRNR	comp=Z,26μm,0.0s			MLR	MLR		
JKA	**Kamikawa-asahi**	**16.56**	**241**	P	**Pn**	**22 54 11.3**	**+0.2**
JKA	comp=E,2μm,0.9s			IAmb	IAmb	22 54 25.4	
ASAJ	**Asahikawa** comp=Z,27nm,0.3s,baz=47,slow=11,SNR=78	**16.56**	**241**	Pn	**Pn**	**22 54 09.3**	**-1.8**
ASAJ				LR	LR	23 00 30.7	
ASAJ	comp=Z,160μm,20.3s,baz=44,slow=37 **Asahikawa**	**16.56**	**241**	P	**Pn**	**22 54 11.3**	**+0.2**
ASAJ	comp=Z,2μm,0.9s			pmax	pmax		
NIKH	**Nikolski High**	**16.84**	**83**	P	**Pn**	**22 54 13.4**	**-1.2**
NIKH	comp=Z,4μm,1.2s			IAmb	IAmb	22 54 16.6	
NIKH	**Nikolski High** baz=286,SNR=46	**16.84**	**83**	P	**Pn**	**22 54 13.9**	**-0.7**
NIKH	baz=286			S	**S**	**22 57 31.2**	**+2.0**
ERM	**Erimo**	**17.83**	**235**	*de*P	**Pn**	**22 54 23.0**	**-3.8**
ERM	comp=Z,374nm,0.6s			pmax	pmax		
ERM	**Erimo**	**17.83**	**235**	P	**Pn**	**22 54 23.6**	**-3.2**
ERM	**Erimo**	**17.83**	**235**	P	**P**	**22 54 27.5**	**+0.4**
ERM	**Erimo**	**17.83**	**235**	P	**Pn**	**22 54 23.3**	**-3.5**
UNV	**Unalaska Valle**	**17.98**	**79**	P	**Pn**	**22 54 26.9**	**-1.8**
UNV	comp=Z,2μm,1.1s			IAmb	IAmb	22 54 52.4	
UNV	**Unalaska Valle** baz=284,SNR=66	**17.98**	**79**	P	**Pn**	**22 54 26.8**	**-1.8**
UNV	baz=284			S	**S**	**22 57 54.4**	**+2.0**
UNV	**Unalaska Valle**	**17.98**	**79**	P	**Pn**	**22 54 27.4**	**-1.2**
JEW	**Eniwo**	**18.06**	**240**	P	**P**	**22 54 26.7**	**-2.9**
TNA	**Tin City**	**18.37**	**40**	P	**P**	**22 54 31.6**	**-1.2**
TNA	**Tin City**	**18.37**	**40**	⇓P	**P**	**22 54 32.0**	**-0.8**
TNA	**Tin City** baz=246,SNR=353	**18.37**	**40**	P	**P**	**22 54 32.1**	**-0.8**
TNA	baz=246			S	**Sn**	**22 57 55.4**	**-1.8**
YAK	**Yakutsk** comp=Z,4.9nm,0.3s,baz=91,slow=1.7,SNR=173	**18.97**	**308**	P	**P**	**22 54 36.0**	**-3.5**
YAK				LR	LR	23 02 45.0	
YAK	comp=Z,176μm,20.2s,baz=111,slow=40 **Yakutsk**	**18.97**	**308**	*eP*	**P**	**22 54 37.5**	**-1.9**
YAK				*eS*	**Sn**	**22 58 09.2**	**-2.5**
YAK	comp=Z,2μm,0.9s			pmax	pmax		
YAK	comp=E,1μm,1.1s			pmax	pmax		
YAK	comp=N,383nm,1.1s			pmax	pmax		
YAK	comp=Z,2μm,2.1s			pmax	pmax		
YAK	comp=N,420nm,1.7s			pmax	pmax		
YAK	comp=E,2μm,1.6s			smax	smax		
YAK	comp=E,4μm,1.7s			smax	smax		
YAK	comp=N,9μm,3.4s			MLR	MLR		
YAK	comp=Z,187μm,20.0s			MLR	MLR		
YAK	comp=N,24μm,17.0s			MLR	MLR		
YAK	comp=E,132μm,20.0s						
YAK	**Yakutsk**	**18.97**	**308**	P	**P**	**22 54 37.8**	**-1.6**
YAK	comp=Z,3μm,1.1s			IAmb	IAmb	22 54 41.0	
YAK	**Yakutsk**	**18.97**	**308**	⇑P	**P**	**22 54 35.6**	**-3.9**
YAK	**Yakutsk**	**18.97**	**308**	P	**P**	**22 54 36.4**	**-3.1**
ANM	**Nome**	**19.02**	**44**	P	**P**	**22 54 39.5**	**-0.5**
ANM	comp=Z,1μm,1.4s			pmax	pmax		
ANM	**Nome**	**19.02**	**44**	P	**P**	**22 54 39.5**	**-0.5**
ANM	**Nome** baz=252,SNR=403	**19.02**	**44**	P	**P**	**22 54 39.9**	**-0.1**
ANM	baz=252			S	**Sn**	**22 58 10.8**	**-2.1**
TEY	**Ternei**	**19.18**	**252**	⇑*i*P	**P**	**22 54 42.1**	**+0.2**
TEY				*e*S	**S**	**22 58 09.3**	**-7.4**
TEY	comp=N,90nm,0.7s			pmax	pmax		
TEY	comp=E,50nm,0.7s			pmax	pmax		
TEY	comp=Z,130nm,1.0s			pmax	pmax		
TEY	comp=N,18μm,14.0s			MLR	MLR		
TEY	comp=E,23μm,14.0s			MLR	MLR		
TEY	comp=Z,29μm,14.0s			MLR	MLR		
FALS	**False Pass**	**19.52**	**74**	P	**P**	**22 54 45.1**	**-0.4**
FALS	comp=Z,2μm,1.1s			IAmb	IAmb	22 54 50.5	
FALS	**False Pass** baz=282,SNR=15	**19.52**	**74**	P	**P**	**22 54 45.9**	**+0.4**
FALS	baz=282			S	**S**	**22 58 22.2**	**-1.0**
FALS	**False Pass**	**19.52**	**74**	P	**P**	**22 54 45.9**	**+0.4**
KLR	**Kul'dur** comp=Z,5.8nm,0.3s,baz=64,slow=9.2,SNR=86	**19.76**	**268**	P	**P**	**22 54 46.5**	**-1.7**
KLR				LR	LR	23 03 23.7	
KLR	comp=Z,124μm,18.9s,baz=62,slow=40 **Kul'dur**	**19.76**	**268**	⇑*e*P	**P**	**22 54 47.4**	**-0.8**
KLR	comp=Z,94nm,0.8s			pmax	pmax		
KLR	comp=Z,114μm,19.0s			MLR	MLR		
JTM	**Tenmabayashi**	**19.78**	**236**	⇑P	**P**	**22 54 44.5**	**-3.9**
ZEA	**Zeya**	**20.77**	**283**	*e*P	**P**	**22 54 57.2**	**-1.9**
ZEA				*e*S	S	22 58 37.0	-11
ZEA	comp=N,60nm,1.2s			pmax	pmax		
ZEA	comp=E,120nm,1.2s			pmax	pmax		
ZEA	comp=Z,280nm,1.3s			smax	smax		
ZEA	comp=N,9μm,3.7s			smax	smax		
SDPT	comp=E,9μm,6.7s **Sand Point**	**21.07**	**72**	P	**P**	**22 55 00.2**	**-2.1**
SDPT	comp=Z,3μm,1.3s			IAmb	IAmb	22 55 15.4	
SDPT	**Sand Point** baz=282,SNR=19	**21.07**	**72**	P	**P**	**22

baz=246
CHGN Chignik 22.02 69 P P 22 55 10.8 -1.6
baz=281,SNR=40
CHGN S S 22 59 14.0 +1.6
baz=281
JMM Marumori 22.22 232 P P 22 55 14.4 -0.3
JMM IAmb IAmb 22 55 41.3
comp=Z,1μm,1.0s
JMM Marumori 22.22 232 ⇑P P 22 55 14.3 -0.3
USA0B Ussuriysk Arra 22.30 256 P P 22 55 12.3 -3.3
USA0B pmax pmax
comp=Z,425nm,1.2s
USA0B Ussuriysk Arra 22.30 256 P P 22 55 12.3 -3.3
USRK Ussuriysk Ar. 22.30 256 P P 22 55 12.5 -3.1
comp=Z,46nm,0.8s,baz=52,slow=9.2,SNR=50
USRK LR LR 23 04 34.1
comp=Z,112μm,20.0s,baz=49,slow=38
USRK Ussuriysk Ar. 22.30 256 P P 22 55 12.0 -3.6
GCSA Galena City Sc 22.62 46 P P 22 55 17.0 -1.8
baz=262,SNR=72
GCSA S S 22 59 22.8 -0.2
baz=262
TIXI Tiksi 22.78 333 P P 22 55 18.9 -1.5
comp=Z,798nm,0.9s,baz=92,slow=23,SNR=474
TIXI LR LR 23 05 19.3
comp=Z,91μm,19.0s,baz=177,slow=40
TIXI Tiksi 22.78 333 *ce*P P **22 55 20.0 -0.4**
TIXI pmax pmax
comp=Z,1μm,1.0s
TIXI MLR MLR
comp=Z,82μm,18.0s
TIXI Tiksi 22.78 333 P P 22 55 18.5 -1.8
TIXI IAmb IAmb 22 55 23.2
comp=Z,1μm,1.0s
TIXI Tiksi 22.78 333 ⇑P P 22 55 18.6 -1.8
TIXI Tiksi 22.78 333 P P 22 55 19.9 -0.5
TTA Tatalina 22.81 51 P P 22 55 16.5 -4.4
TTA pmax pmax
comp=Z,3μm,2.0s
TTA Tatalina 22.81 51 P P 22 55 16.5 -4.4
TTA IAmb IAmb 22 55 25.4
comp=Z,3μm,2.0s
TTA Tatalina 22.81 51 P P 22 55 19.7 -1.2
baz=267,SNR=314
TTA S S 22 59 26.5 0.0
baz=267
SVW2 Sparrevohn 22.98 56 P P 22 55 20.6 -2.0
VLA Vladivostok 23.03 254 *ce*P P **22 55 20.7 -2.6**
VLA pmax pmax
comp=Z,122nm,0.9s
VLA MLR MLR
comp=Z,125μm,19.0s
P18K Big Mountain, 23.26 60 IAmb IAmb 22 55 28.8
comp=Z,1μm,1.1s
P18K IAMs_20 IAMs_20 23 03 52.9
comp=Z,111μm,21.0s
P18K Big Mountain, 23.26 60 P P 22 55 24.3 -1.2
baz=276
P18K S S **22 59 35.0 +1.0**
baz=276
JSD Sado 23.28 236 P P 22 55 25.5 -0.2
JSD Sado 23.28 236 ⇑P P 22 55 25.5 -0.2
L19K White Mountain 23.32 53 P P 22 55 24.9 -1.1
L19K IAmb IAmb 22 55 50.0
comp=Z,786nm,1.0s
L19K IAMs_20 IAMs_20 23 03 58.2
comp=Z,105μm,21.0s
L19K White Mountain 23.32 53 P P 22 55 24.9 -1.1
baz=270,SNR=118
L19K S S **22 59 35.4 +0.6**
baz=270
MDJ Mudanjiang 23.43 259 IAMs_20 IAMs_20 23 04 57.1
comp=Z,110μm,20.0s
MDJ Mudanjiang 23.43 259 P P 22 55 22.4 -4.7
MDJ pP pP 22 55 30.3 -7.7
MDJ sP pwP 22 55 33.9 -7.2
MDJ S S **22 59 34.5 -2.3**
MDJ sS sS 22 59 49.8 -5.5
MDJ pmax pmax
comp=Z,7μm,11.5s
MDJ LR LR
comp=Z,73μm,19.5s
MDJ LR LR
comp=Z,87μm,20.2s
MDJ LR LR
comp=Z,141μm,20.0s
MDJ Mudanjiang 23.43 259 P P 22 55 23.1 -4.1
N19K Bonanza Creek 23.53 56 P P 22 55 27.1 -0.9
N19K IAmb IAmb 22 55 31.8
comp=Z,1μm,1.1s
N19K IAMs_20 IAMs_20 23 03 41.8
comp=Z,127μm,22.0s
N19K Bonanza Creek 23.53 56 P P 22 55 27.2 -0.9
baz=273,SNR=214
N19K S S **22 59 42.8 +4.4**
baz=273
M19K Big River Lodg 23.54 54 IAMs_20 IAMs_20 23 04 05.0
comp=Z,98μm,20.0s
M19K Big River Lodg 23.54 54 P P 22 55 27.2 -0.9
baz=271
M19K S S **22 59 42.8 +4.5**
baz=271
O19K Port Alsworth 23.65 58 P P 22 55 26.8 -2.2
O19K IAMs_20 IAMs_20 23 04 17.0
comp=Z,137μm,20.0s
O19K Port Alsworth 23.65 58 P P 22 55 28.2 -0.8
baz=275,SNR=88
O19K S S **22 59 43.0 +3.0**
baz=275
CHIR Chirikof Islan 23.65 69 P P 22 55 27.4 -1.7
CHIR IAmb IAmb 22 55 29.9
comp=Z,1μm,1.0s
CHIR IAMs_20 IAMs_20 23 03 55.5
comp=Z,121μm,22.0s
CHIR Chirikof Islan 23.65 69 P P 22 55 28.6 -0.5
baz=284,SNR=21
CHIR S S **22 59 38.3 -2.0**
baz=284
K20K Telida 23.71 50 P P 22 55 28.4 -1.2
K20K IAmb IAmb 22 55 31.1
comp=Z,846nm,1.1s
K20K IAMs_20 IAMs_20 23 04 51.5
comp=Z,98μm,20.0s
K20K Telida 23.71 50 P P 22 55 28.6 -1.1
baz=268,SNR=416
K20K S S **22 59 42.4 +1.3**
baz=268
J20K Nowinta River 23.73 48 P P 22 55 28.6 -1.2
J20K IAmb IAmb 22 55 50.1
comp=Z,1μm,0.9s
J20K Nowinta River 23.73 48 P P 22 55 28.6 -1.2
baz=266,SNR=811
J20K S S **22 59 41.5 +0.2**
baz=266
L20K Farewell, AK 23.78 52 P P 22 55 29.1 -1.2
baz=270,SNR=79
L20K S S **22 59 42.0 -0.2**
baz=270
MSHR Mys Shultsa 23.79 254 ⇑ *e*P P **22 55 28.4 -2.1**
MSHR MLR MLR
comp=Z,97μm,21.0s
JYT Yasato 23.83 230 P P 22 55 30.8 -0.1
JYT IAmb IAmb 22 55 50.3
comp=Z,910nm,0.8s
JYT Yasato 23.83 230 ⇑P P 22 55 30.8 -0.1
BNX BinXian 24.06 264 ⇑P P 22 55 29.5 -3.5
BNX pmax pmax
comp=Z,120nm,1.2s
BNX pmax pmax
comp=Z,10μm,3.8s
BNX LR LR
comp=Z,74μm,13.5s
BNX LR LR
comp=Z,83μm,13.2s
BNX LR LR
comp=Z,144μm,17.7s
IMAR Indian Mountai 24.09 44 P P 22 55 31.5 -1.7
Q19K Cape Douglas, 24.13 61 IAmb IAmb 22 55 35.4
comp=Z,2μm,1.1s
Q19K Cape Douglas, 24.13 61 P P 22 55 32.3 -1.3
baz=278
SII Sitkinak Islan 24.27 67 P P 22 55 32.5 -2.3
SII Sitkinak Islan 24.27 67 P P 22 55 32.7 -2.1
baz=283,SNR=74
SII S S **22 59 48.9 -1.3**
baz=283
SII Sitkinak Islan 24.27 67 P P 22 55 33.7 -1.1

RSO Redoubt South 24.40 57 P P 22 55 35.9 -0.3
H21K Melozitna Rive 24.44 45 P P 22 55 33.6 -2.7
H21K IAmb IAmb 22 55 53.9
comp=Z,3μm,1.8s
H21K Melozitna Rive 24.44 45 P P 22 55 35.1 -1.2
baz=264,SNR=562
H21K S S **22 59 56.1 +3.3**
baz=264
MJB9 Matsu-Tunnel 24.50 234 P P 22 55 37.7 +0.6
MAJO Matsushiro 24.50 234 *c i*P P **22 55 37.6 +0.6**
MAJO pmax pmax
comp=Z,2μm,0.9s
MAJO MLR MLR
comp=Z,70μm,21.0s
MAJO Matsushiro 24.50 234 P P 22 55 37.3 +0.2
MAJO Matsushiro 24.50 234 ⇑P P 22 55 37.7 +0.6
MAJO Matsushiro 24.50 234 P P 22 55 38.4 +1.3
MAJO Matsushiro 24.50 234 P P 22 55 37.8 +0.7
MAJO pP **sP 22 55 53.0 -0.9**
MJAR Matsushiro Arr 24.50 234 P P 22 55 37.7 +0.6
comp=Z,924nm,0.8s,baz=23,slow=7.6,SNR=209
MJAR LR LR 23 05 46.7
comp=Z,72μm,21.4s,baz=24,slow=38
MJAR Matsushiro Arr 24.50 234 P P 22 55 37.5 +0.4
MJAR pmax pmax
comp=Z,3μm,1.5s
MJAR Matsushiro Arr 24.50 234 P P 22 55 37.5 +0.4
O20K Slope Mountain 24.50 58 P P 22 55 37.4 +0.4
baz=276,SNR=53
O20K S S **22 59 54.4 +0.4**
baz=276
CHUM Lake Minchumin 24.52 49 P P 22 55 36.4 -0.6
baz=268,SNR=716
CHUM S S **22 59 55.8 +1.9**
baz=268
A21K Barrow 24.52 30 P P 22 55 36.1 -0.8
A21K IAmb IAmb 22 55 40.3
comp=Z,1μm,1.1s
A21K Barrow 24.52 30 P P 22 55 35.8 -1.2
baz=247,SNR=44
A21K S S **22 59 55.1 +1.2**
baz=247
PPLA Purkeypile 24.56 51 P P 22 55 36.8 -0.8
PPLA Purkeypile 24.56 51 P P 22 55 37.1 -0.4
baz=270,SNR=260
PPLA S S **22 59 56.8 +1.8**
baz=270
OHAK Old Harbor 24.61 65 P P 22 55 35.1 -2.7
OHAK Old Harbor 24.61 65 P P 22 55 35.7 -2.2
baz=282,SNR=142
CAST Castle Rocks 24.61 50 P P 22 55 37.0 -0.8
CAST IAmb IAmb 22 55 41.0
comp=Z,999nm,1.0s
CAST IAMs_20 IAMs_20 23 05 28.2
comp=Z,96μm,20.0s
CAST Castle Rocks 24.61 50 P P 22 55 37.1 -0.8
baz=269,SNR=554
CAST S S **22 59 56.7 +1.2**
baz=269
SPCR Spurr Chakacha 24.61 55 P P 22 55 37.5 -0.5
baz=274,SNR=209
SPCR S S **22 59 57.8 +2.1**
baz=274
SPU Mount Spurr 24.68 55 P P 22 55 37.6 -1.0
I21K Tanana 24.73 46 P P 22 55 37.7 -1.3
I21K Tanana 24.73 46 P P 22 55 38.0 -1.0
baz=266,SNR=260
I21K S S **22 59 58.3 +0.8**
baz=266
KDAK Kodiak Island 24.87 64 P P 22 55 37.8 -2.4
comp=Z,932nm,1.0s,baz=322,slow=4.4,SNR=65
KDAK LR LR 23 05 13.7
comp=Z,74μm,21.0s,baz=250,slow=36
KDAK Kodiak Island 24.87 64 P P 22 55 37.8 -2.4
KDAK pmax pmax
comp=Z,2μm,1.4s
KDAK MLR MLR
comp=Z,74μm,21.0s
KDAK Kodiak Island 24.87 64 P P 22 55 37.8 -2.4
KDAK IAmb IAmb 22 55 43.3
comp=Z,2μm,1.4s
KDAK Kodiak Island 24.87 64 ⇓P P 22 55 37.6 -2.6
KDAK Kodiak Island 24.87 64 P P 22 55 39.3 -0.9
baz=281
KDAK S S **22 59 56.3 -3.4**
baz=281
KDAK Kodiak Island 24.87 64 P P 22 55 39.4 -0.9
HOM Homer 25.05 59 P P 22 55 41.1 -0.8
HOM IAMs_20 IAMs_20 23 05 09.9
comp=Z,109μm,20.0s
HOM Homer 25.05 59 P P 22 55 41.3 -0.5
baz=278,SNR=20
BPAW Bear Paw Mtn. 25.11 48 P P 22 55 41.3 -1.1
BPAW IAmb IAmb 22 56 02.6
comp=Z,1μm,1.0s
BPAW Bear Paw Mtn. 25.11 48 P P 22 55 41.5 -1.0
baz=269,SNR=236
BPAW S S **23 00 02.2 -1.3**
baz=269
KTH Kantishna Hill 25.13 50 P P 22 55 41.9 -0.8
KTH IAmb IAmb 22 56 02.6
comp=Z,1μm,1.0s
KTH IAMs_20 IAMs_20 23 06 04.0
comp=Z,95μm,20.0s
MLY Manley 25.25 46 P P 22 55 42.8 -0.9
baz=267
MLY S S **23 00 07.0 +1.2**
baz=267
CNPM China Poot 25.27 59 P P 22 55 41.5 -2.4
CNPM IAmb IAmb 22 55 48.1
comp=Z,1μm,1.2s
CNPM IAMs_20 IAMs_20 23 05 06.9
comp=Z,121μm,20.0s
BRLK Bradley Lake 25.41 59 P P 22 55 44.2 -1.0
BRLK IAMs_20 IAMs_20 23 05 22.5
comp=Z,120μm,20.0s
TRF Thorofare Moun 25.41 50 P P 22 55 43.8 -1.5
TRF IAmb IAmb 22 56 06.3
comp=Z,1μm,1.0s
TRF IAMs_20 IAMs_20 23 06 13.5
comp=Z,94μm,20.0s
TRF Thorofare Moun 25.41 50 P P 22 55 44.0 -1.3
baz=271,SNR=378
TRF S S **23 00 08.6 -0.1**
baz=271
CUT Chulitna 25.46 52 P P 22 55 43.6 -2.0
CUT Chulitna 25.46 52 P P 22 55 43.8 -1.7
baz=273,SNR=51
BRSE Bradley Lake S 25.49 59 P P 22 55 43.7 -2.2
baz=278,SNR=48
BRSE S S **23 00 10.0 +0.4**
baz=278
M22K Willow 25.57 54 P P 22 55 45.8 -0.7
M22K IAmb IAmb 22 56 11.8
comp=Z,650nm,0.9s
M22K IAMs_20 IAMs_20 23 05 20.7
comp=Z,96μm,21.0s
M22K Willow 25.57 54 P P 22 55 45.7 -0.8
baz=275
FIS Fire Island 25.57 55 P P 22 55 46.9 +0.3
FIS IAmb IAmb 22 56 14.1
comp=Z,1μm,1.2s
JGF Kuroka 25.66 234 P P 22 55 48.1 +0.4
JGF IAmb IAmb 22 56 10.7
comp=Z,1μm,1.1s
JGF Kuroka 25.66 234 ⇑P P 22 55 48.3 +0.6
COLD Coldfoot 25.66 41 P P 22 55 45.9 -1.4
COLD IAmb IAmb 22 56 13.3
comp=Z,1μm,1.0s
COLD Coldfoot 25.66 41 P P 22 55 46.0 -1.4
baz=263,SNR=459
COLD S S **23 00 12.7 +0.5**
baz=263
BWN Browne 25.78 48 P P 22 55 48.9 +0.4
RC01 Rabbit Creek A 25.81 55 P P 22 55 48.0 -0.8
RC01 IAMs_20 IAMs_20 23 05 08.2
comp=Z,107μm,22.0s
RC01 Rabbit Creek A 25.81 55 P P 22 55 48.4 -0.4
baz=276
RC01 S S **23 00 11.8 -2.9**
baz=276
I23K Minto, Yukon-K 25.84 46 P P 22 55 46.3 -2.7
I23K IAMs_20 IAMs_20 23 07 08.6
comp=Z,81μm,19.0s
I23K Minto, Yukon-K 25.84 46 P P 22 55 47.8 -1.1
baz=268,SNR=110

I23K S S **23 00 15.9 +1.0**
baz=268
O22K Cooper Landing 25.89 57 P P 22 55 49.0 -0.5
O22K IAmb IAmb 22 56 17.7
comp=Z,927nm,0.7s
O22K IAMs_20 IAMs_20 23 05 31.3
comp=Z,133μm,20.0s
O22K Cooper Landing 25.89 57 P P 22 55 49.0 -0.5
baz=278,SNR=26
O22K S S **23 00 17.1 +1.3**
baz=278
NEA2 Nenana 25.95 47 P P 22 55 48.8 -1.2
NEA2 IAmb IAmb 22 56 09.7
comp=Z,735nm,0.9s
NEA2 Nenana 25.95 47 P P 22 55 48.6 -1.4
baz=270,SNR=170
NEA2 S S **23 00 18.0 +1.2**
baz=270
MCK McKinley 26.02 49 P P 22 55 49.6 -1.1
MCK pmax pmax
comp=Z,740nm,1.0s
MCK MLR MLR
comp=Z,70μm,20.0s
MCK McKinley 26.02 49 P P 22 55 49.6 -1.1
MCK IAmb IAmb 22 56 18.5
comp=Z,740nm,1.0s
MCK McKinley 26.02 49 P P 22 55 48.9 -1.7
baz=272,SNR=222
MCK S S **23 00 16.5 -1.3**
baz=272
INU Inuyama 26.03 234 P P 22 55 51.1 +0.2
INU IAmb IAmb 22 56 13.4
comp=Z,1μm,1.0s
INU Inuyama 26.03 234 ⇓P P 22 55 51.4 +0.5
INU Inuyama 26.03 234 P P 22 55 52.2 +1.3
INU Inuyama 26.03 234 P P 22 55 51.0 0.0
INU pP **sP 22 56 11.1 +3.4**
PMR Palmer 26.05 54 P P 22 55 50.0 -0.9
PMR pmax pmax
comp=Z,223nm,0.9s
PMR Palmer 26.05 54 P P 22 55 50.0 -0.9
PMR Palmer 26.05 54 P P 22 55 48.9 -2.0
baz=276
PMR S S **23 00 16.5 -1.9**
baz=276
RND Reindeer 26.06 50 P P 22 55 49.4 -1.7
RND pmax pmax
comp=Z,1μm,1.1s
RND MLR MLR
comp=Z,92μm,20.0s
RND Reindeer 26.06 50 P P 22 55 49.4 -1.7
RND IAmb IAmb 22 56 10.0
comp=Z,1μm,1.1s
RND IAMs_20 IAMs_20 23 06 34.5
comp=Z,93μm,20.0s
SEW Seward 26.08 58 P P 22 55 49.1 -2.0
SEW IAmb IAmb 22 56 09.7
comp=Z,1μm,1.0s
SEW Seward 26.08 58 P P 22 55 50.4 -0.7
baz=279,SNR=63
SEW S S **23 00 17.8 -1.0**
baz=279
TOLK Toolik Lake Re 26.10 38 P P 22 55 50.1 -1.3
TOLK IAmb IAmb 22 56 12.6
comp=Z,569nm,0.8s
TOLK Toolik Lake Re 26.10 38 P P 22 55 50.2 -1.3
baz=261,SNR=361
TOLK S S **23 00 20.2 +1.0**
baz=261
GHO Glory Hole Cre 26.13 54 IAMs_20 IAMs_20 23 05 37.6
comp=Z,89μm,20.0s
CN2 Changchun 26.31 262 *e*P P **22 55 52.0 -1.5**
CN2 PcP **PcP 22 59 18.1 -0.3**
CN2 *e*S **S 23 00 20.9 -1.9**
CN2 pmax pmax
comp=Z,170nm,1.0s
CN2 pmax pmax
comp=Z,5μm,7.0s
CN2 LR LR
comp=Z,81μm,17.0s
CN2 LR LR
comp=Z,58μm,17.0s
CN2 LR LR
comp=Z,82μm,18.0s
MDM Murphy Dome 26.31 46 P P 22 55 52.2 -1.1
WRH Wood River Hil 26.37 48 P P 22 55 53.0 -0.8
WRH IAmb IAmb 22 56 14.0
comp=Z,2μm,1.0s
KNK Knik Glacier 26.39 54 IAMs_20 IAMs_20 23 05 26.5
comp=Z,125μm,22.0s
KNK Knik Glacier 26.39 54 P P 22 55 52.4 -1.7
baz=277,SNR=104
KNK S S **23 00 21.1 -2.8**
baz=277
SML Sawmill 26.41 54 P P 22 55 52.6 -1.6
SML IAmb IAmb 22 56 14.1
comp=Z,1μm,0.9s
SML IAMs_20 IAMs_20 23 05 47.0
comp=Z,86μm,21.0s
SML Sawmill 26.41 54 P P 22 55 52.7 -1.6
baz=276,SNR=94
SML S S **23 00 24.3 +0.1**
baz=276
TCOL CIGO, UAF Yank 26.47 47 P P 22 55 53.9 -0.8
TCOL IAmb IAmb 22 56 22.8
comp=Z,1μm,1.3s
TCOL CIGO, UAF Yank 26.47 47 P P 22 55 53.5 -1.1
baz=270,SNR=48
TCOL S S **23 00 25.2 +0.3**
baz=270
COLA College 26.48 47 P P 22 55 53.9 -0.8
COLA pmax pmax
comp=Z,2μm,1.4s
COLA MLR MLR
comp=Z,55μm,18.0s
COLA College 26.48 47 P P 22 55 53.9 -0.8
COLA IAmb IAmb 22 56 22.8
comp=Z,2μm,1.4s
COLA College 26.48 47 ⇓P P 22 55 53.6 -1.1
COLA College 26.48 47 S S 23 00 24.7 -0.3
baz=270
COLA College 26.48 47 P P 22 55 53.7 -1.0
H24K Noodor Dome 26.48 44 P P 22 55 54.0 -0.8
H24K IAmb IAmb 22 56 16.1
comp=Z,2μm,2.0s
H24K Noodor Dome 26.48 44 P P 22 55 53.8 -1.0
baz=268,SNR=110
H24K S S **23 00 25.8 +0.5**
baz=268
CCB Clear Creek Bu 26.50 47 P P 22 55 53.8 -1.1
CCB IAmb IAmb 22 56 17.9
comp=Z,1μm,1.1s
PWL Port Wells 26.52 56 P P 22 55 54.3 -0.9
PWL IAMs_20 IAMs_20 23 05 51.9
comp=Z,125μm,21.0s
PWL Port Wells 26.52 56 P P 22 55 54.0 -1.2
baz=278,SNR=117
PWL S S **23 00 22.3 -3.6**
baz=278
WAT6 Susitna Watana 26.62 52 P P 22 55 54.0 -2.2
baz=275,SNR=82
WAT6 S S **23 00 26.1 -1.6**
baz=275
JHJ2 Mitsune 26.63 227 P P 22 55 58.0 +1.6
JHJ Hachijo jima 2 26.63 227 LR LR 23 09 09.0
comp=Z,9μm,18.3s,baz=60,slow=42
POKR Poker Plat Res 26.65 46 P P 22 55 55.7 -0.6
POKR Poker Plat Res 26.65 46 P P 22 55 55.5 -0.9
baz=270,SNR=125
POKR S S **23 00 27.8 0.0**
baz=270
DHY Denali Highway 26.75 51 P P 22 55 56.1 -1.3
DHY IAmb IAmb 22 56 15.8
comp=Z,1μm,1.4s
DHY IAMs_20 IAMs_20 23 06 45.7
comp=Z,99μm,20.0s
DHY Denali Highway 26.75 51 P P 22 55 55.6 -1.8
baz=274,SNR=97
DHY S S **23 00 28.3 -1.4**
baz=274
HIA Hailar 26.78 277 IAMs_20 IAMs_20 23 07 23.1
comp=Z,143μm,20.0s
HIA Hailar 26.78 277 P P 22 55 55.3 -2.4
HDA Harding Lake 26.87 48 P P 22 55 56.4 -1.9
HDA Harding Lake 26.87 48 P P 22 55 56.2 -2.1
baz=272,SNR=77

HDA S **S** **23 00 28.8 -2.5**
baz=272
HDA S **S** **23 00 28.8 -2.5**
baz=272
SCM **Sheep Creek Mo** **26.88 53** P **P** **22 55 57.5 -1.0**
SCM pmax pmax
comp=Z,2µm,1.0s
SCM MLR MLR
comp=Z,75µm,20.0s
SCM **Sheep Creek Mo** **26.88 53** P **P** **22 55 57.5 -1.0**
SCM IAMs_20 IAMs_20 23 06 23.4
comp=Z,75µm,20.0s
SCM **Sheep Creek Mo** **26.88 53** P **P** **22 55 57.0 -1.5**
baz=277,SNR=98
SCM S **S** **23 00 32.1 +0.4**
baz=277
IL31 **26.89 47** P **P** **22 55 57.1 -1.3**
IL31 IAmb IAmb 22 56 18.0
comp=Z,737nm,1.1s
ILAR **Eielson Array** **26.89 47** P **P** **22 55 56.5 -1.9**
comp=Z,237nm,1.0s,baz=264,slow=7.6,SNR=195
ILAR LR LR 23 08 00.8
comp=Z,50µm,18.4s,baz=264,slow=40
ILAR P3KPbc 23 28 36.2
comp=Z,1.4nm,0.9s,baz=94,slow=3.6,SNR=8.8
ILAR **Eielson Array** **26.89 47** P **P** **22 55 57.4 -1.0**
ILAR **Eielson Array** **26.89 47** P **P** **22 55 57.4 -1.0**
BOD **Bodaibo** **27.02 298** *e*P **P** **22 55 56.1 -3.6**
BOD pmax pmax
comp=Z,492nm,1.8s
M24K **Tolsona, Glenn** **27.39 53** P **P** **22 56 02.5 -0.6**
M24K IAmb IAmb 22 56 30.3
comp=Z,1µm,1.1s
M24K IAMs_20 IAMs_20 23 06 47.8
comp=Z,78µm,20.0s
M24K **Tolsona, Glenn** **27.39 53** P **P** **22 56 02.2 -0.9**
baz=277,SNR=102
M24K S **S** **23 00 41.2 +1.6**
baz=277
PRP **Porcupine Dome** **27.45 45** P **P** **22 56 02.6 -1.1**
PRP IAmb IAmb 22 56 23.9
comp=Z,689nm,1.0s
PRP **Porcupine Dome** **27.45 45** P **P** **22 56 02.4 -1.2**
baz=271,SNR=95
PRP S **S** **23 00 42.1 +1.4**
baz=271
J25K **Salcha River,** **27.55 47** P **P** **22 56 01.7 -2.7**
baz=273
J25K S **S** **23 00 41.0 -1.1**
baz=273
FYU **Fort Yukon** **27.57 43** P **P** **22 56 03.7 -0.8**
FYU IAmb IAmb 22 56 25.2
comp=Z,991nm,1.0s
KLU **Klutina** **27.59 54** P **P** **22 56 03.7 -1.2**
KLU IAmb IAmb 22 56 24.9
comp=Z,911nm,1.2s
KLU IAMs_20 IAMs_20 23 06 15.2
comp=Z,103µm,22.0s
KLU **Klutina** **27.59 54** P **P** **22 56 03.5 -1.4**
baz=278,SNR=57
KLU S **S** **23 00 45.1 +2.2**
baz=278
HHU **Hamhung** **27.60 253** P **P** **22 56 06.7 +1.7**
HHU sP **pwP** **22 56 19.8 +0.7**
HHU S **S** **23 00 45.8 +2.7**
HHU AmB
comp=Z,2µm,2.2s
HHU AMS AMS
comp=N,115µm,25.6s
HHU AMS AMS
comp=E,103µm,23.0s
HHU AMS AMS
comp=Z,107µm,23.9s
PAX **Paxson** **27.62 51** P **P** **22 56 03.9 -1.3**
PAX pmax pmax
comp=Z,382nm,1.1s
PAX **Paxson** **27.62 51** P **P** **22 56 03.9 -1.3**
PAX **Paxson** **27.62 51** P **P** **22 56 03.1 -2.0**
baz=276,SNR=44
PAX S **S** **23 00 44.3 +0.9**
baz=276
DIV **Divide** **27.72 55** P **P** **22 56 04.9 -1.1**
Q23K **Middleton Isla** **27.74 58** P **P** **22 56 06.5 +0.4**
baz=282,SNR=5.3
Q23K S **S** **23 00 46.1 +1.0**
baz=282
MID **Middleton Isla** **27.75 58** P **P** **22 56 05.2 -0.9**
MID pmax pmax
comp=Z,1µm,1.0s
MID **Middleton Isla** **27.75 58** P **P** **22 56 05.2 -0.9**
MID IAmb IAmb 22 56 29.7
comp=Z,1µm,1.0s
EYAK **Cordova Ski Ar** **27.82 56** P **P** **22 56 06.5 -0.4**
EYAK **Cordova Ski Ar** **27.82 56** P **P** **22 56 06.9 0.0**
baz=280,SNR=23
EYAK S **S** **23 00 47.2 +0.9**
baz=280
HARP **HAARP** **27.83 52** P **P** **22 56 05.0 -2.0**
baz=277,SNR=24
HARP S **S** **23 00 49.7 +3.2**
baz=277
RIDG **Independent Ri** **27.83 49** P **P** **22 56 05.1 -1.9**
RIDG IAmb IAmb 22 56 25.5
comp=Z,728nm,1.1s
RIDG **Independent Ri** **27.83 49** P **P** **22 56 04.6 -2.4**
baz=275,SNR=148
RIDG S **S** **23 00 45.1 -1.5**
baz=275
BMAR **Burnt Mountain** **27.85 41** P **P** **22 56 05.7 -1.4**
SCRK **Sand Creek** **28.19 48** P **P** **22 56 08.4 -1.8**
SCRK IAmb IAmb 22 56 29.4
comp=Z,521nm,1.0s
SCRK **Sand Creek** **28.19 48** P **P** **22 56 07.8 -2.5**
baz=275,SNR=306
SCRK S **S** **23 00 49.8 -2.5**
baz=275
N25K **Chitina, Valde** **28.20 53** P **P** **22 56 09.4 -1.0**
N25K IAMs_20 IAMs_20 23 06 23.3
comp=Z,84µm,22.0s
N25K **Chitina, Valde** **28.20 53** P **P** **22 56 09.1 -1.2**
baz=279,SNR=23
N25K S **S** **23 00 53.7 +1.2**
baz=279
JHS **Saijyo** **28.22 239** P **P** **22 56 11.5 +0.8**
JHS IAmb IAmb 22 56 36.4
comp=Z,1µm,1.5s
JHS **Saijyo** **28.22 239** ⇑P **P** **22 56 10.9 +0.3**
J26L **Joseph Creek** **28.33 47** P **P** **22 56 10.0 -1.5**
baz=275,SNR=41
J26L S **S** **23 00 52.8 -1.7**
baz=275
RAGM **Ragged Mountai** **28.38 56** P **P** **22 56 11.8 -0.1**
RAGM IAmb IAmb 22 56 32.5
comp=Z,708nm,1.2s
MENT **Mentasta** **28.42 51** P **P** **22 56 11.8 -0.4**
L26K **Log Cabin Wild** **28.58 50** P **P** **22 56 11.9 -1.7**
L26K IAMs_20 IAMs_20 23 08 13.1
comp=Z,114µm,20.0s
L26K **Log Cabin Wild** **28.58 50** S **S** **23 00 58.6 +0.4**
baz=278
HMT **Hamilton** **28.59 56** P **P** **22 56 13.2 -0.5**
HMT IAMs_20 IAMs_20 23 07 28.6
comp=Z,119µm,21.0s
KAIM **Kayak Island** **28.60 57** P **P** **22 56 14.3 +0.5**
KAIM IAmb IAmb 22 56 34.0
comp=Z,635nm,0.9s
KAIM IAMs_20 IAMs_20 23 07 24.8
comp=Z,96µm,19.0s
KAIM **Kayak Island** **28.60 57** P **P** **22 56 14.7 +1.0**
baz=282
GLB **Gilahina Butte** **28.60 54** P **P** **22 56 13.0 -0.9**
GLB IAMs_20 IAMs_20 23 06 46.8
comp=Z,80µm,22.0s
SNY **Shenyang** **28.61 261** ⇑P **P** **22 56 13.8 -0.2**
SNY S **S** **23 00 58.6 -0.4**
SNY pmax pmax
comp=Z,99nm,0.9s
SNY pmax pmax
comp=Z,6µm,6.1s
SNY LR LR
comp=Z,101µm,17.6s
SNY LR LR
comp=Z,81µm,18.8s
SNY LR LR
comp=Z,167µm,18.6s
VRDI **Verde Repeater** **28.81 54** P **P** **22 56 14.4 -1.4**
VRDI IAMs_20 IAMs_20 23 07 06.3
comp=Z,82µm,22.0s
BERG **Berg Lake** **28.85 56** P **P** **22 56 15.2 -0.8**
BERG IAMs_20 IAMs_20 23 07 27.5
comp=Z,128µm,21.0s
JMN **Monobe** **28.85 237** P **P** **22 56 16.9 +0.6**
JMN IAmb IAmb 22 56 41.7
comp=Z,1µm,1.2s
JMN **Monobe** **28.85 237** ⇑P **P** **22 56 17.6 +1.3**
SUCK **Suckling Hills** **28.88 57** IAmb IAmb 22 56 42.1
comp=Z,662nm,1.1s
MCARA **McCarthy VSAT** **28.98 54** P **P** **22 56 16.2 -0.9**
MCARA IAMs_20 IAMs_20 23 06 59.9
comp=Z,86µm,22.0s
MCARA **McCarthy VSAT** **28.98 54** P **P** **22 56 16.6 -0.6**
baz=281,SNR=12
MCARA S **S** **23 01 06.8 +2.2**
baz=281
KS19 **Wonju Array Si** **29.11 249** P **P** **22 56 18.9 +0.4**
KSRS **Korea Array** **29.11 249** P **P** **22 56 18.8 +0.3**
comp=Z,158nm,0.7s,baz=44,slow=8.9,SNR=130
KSRS PcP **PcP** **22 59 24.2 -1.0**
comp=Z,54nm,1.1s,baz=21,slow=1.6,SNR=7.2
KSRS LR LR 23 08 07.6
comp=Z,71µm,20.0s,baz=45,slow=37
KSAR **Wonju Array Be** **29.14 249** P **P** **22 56 18.8 0.0**
KSAR **Wonju Array Be** **29.14 249** P **P** **22 56 18.8 0.0**
CIT **Chita** **29.15 286** *e*P **P** **22 56 17.8 -1.0**
CIT *e* 22 57 20.9
CIT *e* 22 57 29.2
CIT *e* 22 59 27.5
CIT pmax pmax
comp=Z,200nm,3.3s
PYAG **Pyongyang** **29.19 254** P **P** **22 56 19.8 +0.6**
PYAG pP **pwP** **22 56 34.1 +0.7**
PYAG S **S** **23 01 09.1 +0.9**
PYAG AmB
comp=Z,2µm,1.9s
PYAG AMS AMS
comp=N,9µm,13.5s
PYAG AMS AMS
comp=E,12µm,18.1s
PYAG AMS AMS
comp=Z,6µm,9.7s
TGL **Tana Glacier** **29.20 55** P **P** **22 56 18.7 -0.5**
SUJ **Sinuiju** **29.20 257** P **P** **22 56 20.3 +1.1**
SUJ sP **pwP** **22 56 32.9 -0.5**
SUJ S **S** **23 01 10.6 +2.3**
SUJ AmB
comp=Z,1µm,2.2s
SUJ AMS AMS
comp=N,320µm,19.5s
SUJ AMS AMS
comp=E,407µm,24.8s
SUJ AMS AMS
comp=Z,346µm,21.1s
WAX **Waxell Ridge** **29.25 56** P **P** **22 56 18.7 -0.9**
WAX IAMs_20 IAMs_20 23 07 40.1
comp=Z,121µm,22.0s
L27K **Beaver Creek,** **29.26 50** P **P** **22 56 18.6 -1.0**
L27K IAmb IAmb 22 56 40.5
comp=Z,670nm,0.8s
L27K IAMs_20 IAMs_20 23 08 33.1
comp=Z,101µm,20.0s
L27K **Beaver Creek,** **29.26 50** P **P** **22 56 19.1 -0.6**
baz=279,SNR=348
L27K S **S** **23 01 10.7 +1.7**
baz=279
BCAR **Beaver Creek A** **29.28 50** P **P** **22 56 18.9 -0.9**
SNH **Sunshine Point** **29.32 56** P **P** **22 56 20.2 0.0**
SNH IAMs_20 IAMs_20 23 08 13.8
comp=Z,93µm,19.0s
EGAK **Eagle** **29.34 47** P **P** **22 56 18.6 -1.7**
EGAK IAmb IAmb 22 56 39.4
comp=Z,341nm,0.8s
EGAK **Eagle** **29.34 47** P **P** **22 56 18.1 -2.2**
baz=276,SNR=120
EGAK S **S** **23 01 10.5 +0.4**
baz=276
M27K **Edge Creek, AK** **29.35 52** P **P** **22 56 17.4 -3.1**
M27K IAmb IAmb 22 56 41.6
comp=Z,603nm,1.0s
M27K IAMs_20 IAMs_20 23 08 20.5
comp=Z,83µm,20.0s
M27K **Edge Creek, AK** **29.35 52** P **P** **22 56 20.1 -0.5**
baz=280,SNR=83
M27K S **S** **23 01 13.5 +3.0**
baz=280
ISLE **Juniper Island** **29.46 55** P **P** **22 56 20.2 -1.4**
BARN **Barnard Glacie** **29.69 54** P **P** **22 56 22.4 -1.3**
BARN IAMs_20 IAMs_20 23 07 56.7
comp=Z,86µm,22.0s
GRNC **Granite Creek** **29.72 55** P **P** **22 56 22.0 -2.0**
GRNC IAMs_20 IAMs_20 23 07 56.4
comp=Z,125µm,21.0s
MIDW **Midway** **29.75 143** IAMs_20 IAMs_20 23 05 03.1
comp=Z,86µm,22.0s
BVCY **Beaver Creek** **29.80 51** P **P** **22 56 23.9 -0.5**
baz=280,SNR=75
BVCY S **S** **23 01 20.1 +2.6**
baz=280
INCN **Inchon** **29.80 251** P **P** **22 56 24.2 -0.5**
INCN pmax pmax
comp=Z,269nm,1.0s
INCN MLR MLR
comp=Z,49µm,22.0s
INCN **Inchon** **29.80 251** P **P** **22 56 24.2 -0.5**
INCN **Inchon** **29.80 251** P **P** **22 56 25.4 +0.7**
INCN **Inchon** **29.80 251** P **P** **22 56 24.8 +0.1**
INCN pP **sP** **22 56 47.0 +5.3**
YAH **Yahtse** **29.80 55** P **P** **22 56 23.1 -1.7**
YAH IAmb IAmb 22 56 45.0
comp=Z,561nm,0.8s
CTG **Chitna Glacier** **29.87 54** P **P** **22 56 24.5 -0.6**
baz=283,SNR=26
CTG S **S** **23 01 20.2 +1.4**
baz=283
CTGM **Chitina Glacie** **29.87 54** P **P** **22 56 24.4 -0.8**
CTGM IAMs_20 IAMs_20 23 08 02.3
comp=Z,101µm,22.0s
HJU **Haeju** **29.91 253** P **P** **22 56 25.3 -0.3**
HJU sP **sP** **22 56 45.1 +2.5**
HJU S **S** **23 01 20.2 +0.6**
HJU AmB
comp=Z,769nm,1.3s
HJU AMS AMS
comp=N,33µm,15.4s
HJU AMS AMS
comp=E,34µm,16.0s
HJU AMS AMS
comp=Z,31µm,14.6s
LOGN **Logan Glacier** **30.06 54** P **P** **22 56 25.9 -1.0**
LOGN IAmb IAmb 22 56 48.2
comp=Z,979nm,1.6s
LOGN IAMs_20 IAMs_20 23 07 56.4
comp=Z,101µm,22.0s
TABL **Table Mountain** **30.08 55** P **P** **22 56 26.3 -0.8**
TABL IAmb IAmb 22 56 47.0
comp=Z,333nm,0.9s
YUK3 **Moose Creek** **30.11 52** P **P** **22 56 26.3 -1.1**
baz=282,SNR=41
YUK3 S **S** **23 01 24.3 +1.6**
baz=282
DAWY **Dawson** **30.19 48** P **P** **22 56 27.2 -0.7**
DAWY **Dawson** **30.19 48** ⇓P **P** **22 56 26.6 -1.3**
DAWY **Dawson** **30.19 48** P **P** **22 56 26.5 -1.3**
baz=279,SNR=93
DAWY S **S** **23 01 25.9 +2.3**
baz=279
TJN **Taejon** **30.20 248** *ce*P **P** **22 56 28.6 +0.4**
TJN **Taejon** **30.20 248** P **P** **22 56 29.0 +0.8**
TJN **Taejon** **30.20 248** P **P** **22 56 29.6 +1.4**
I29M **Ogilvie Camp,** **30.47 45** P **P** **22 56 29.0 -1.3**
baz=277,SNR=16
I29M S **S** **23 01 27.0 -0.9**
baz=277
JTU **Tsushima** **30.51 243** P **P** **22 56 30.8 -0.1**
JTU **Tsushima** **30.51 243** ⇑P **P** **22 56 31.6 +0.7**
PINM **Pinnacle** **30.59 56** P **P** **22 56 30.6 -0.9**
baz=285
PINM S **S** **23 01 31.0 +1.1**
baz=285
J29M **Klondike Camp** **30.64 47** P **P** **22 56 30.1 -1.8**
baz=279
J29M S **S** **23 01 32.2 +1.6**
baz=279
JNU **Nakatsue** **30.84 240** P **P** **22 56 34.5 +0.6**
JNU IAmb IAmb 22 56 54.8
comp=Z,328nm,0.9s
JNU **Nakatsue** **30.84 240** ⇑P **P** **22 56 34.4 +0.5**
JNU **Nakatsue** **30.84 240** P **P** **22 56 35.0 +1.1**
BCPM **Bancas Point** **30.93 56** P **P** **22 56 33.5 -0.9**
BCPM IAmb IAmb 22 56 54.2
comp=Z,686nm,0.8s
JCJ **Chichijima** **31.04 217** P **P** **22 56 36.3 +0.7**
JCJ IAmb IAmb 22 57 00.9
comp=Z,812nm,1.1s
JCJ **Chichijima** **31.04 217** P **P** **22 56 37.9 +2.3**
YUK4 **Talbot Arm** **31.05 53** P **P** **22 56 34.7 -1.0**
baz=284,SNR=43
YUK4 S **S** **23 01 39.7 +2.3**
baz=284
PNL **Peninsula** **31.12 56** P **P** **22 56 34.2 -1.9**
baz=286,SNR=8.4
YUK6 **Outpost Mounta** **31.28 54** P **P** **22 56 37.0 -0.7**
baz=285,SNR=18
YUK6 S **S** **23 01 44.2 +3.1**
baz=285
M30M **Minto, Yukon** **31.62 50** P **P** **22 56 39.5 -0.9**
M30M IAMs_20 IAMs_20 23 10 15.6
comp=Z,78µm,19.0s
M30M **Minto, Yukon** **31.62 50** P **P** **22 56 40.2 -0.3**
baz=283,SNR=83
M30M S **S** **23 01 47.2 +1.3**
baz=283
DL2 **Dalian** **31.65 258** P **P** **22 56 37.3 -3.6**
DL2 PcP **PcP** **22 59 32.5 +0.6**
DL2 S **S** **23 01 43.6 -3.0**
DL2 pmax pmax
comp=Z,370nm,1.1s
DL2 pmax pmax
comp=Z,3µm,7.2s
DL2 LR LR
comp=Z,59µm,21.0s
DL2 LR LR
comp=Z,89µm,18.9s
DL2 LR LR
comp=Z,140µm,20.7s
HYT **Haines Junctio** **31.72 54** P **P** **22 56 40.1 -1.4**
HYT IAmb IAmb 22 57 02.0
comp=Z,385nm,1.0s
HYT **Haines Junctio** **31.72 54** P **P** **22 56 41.0 -0.5**
baz=285,SNR=66
HYT S **S** **23 01 49.1 +1.4**
baz=285
XLT **XiLinHaoTe** **31.74 271** ⇑P **P** **22 56 39.3 -2.5**
XLT pP pP 22 56 48.4 -5.2
XLT sP pwP 22 56 54.0 -1.9
XLT S **S** **23 01 42.9 -5.4**
XLT sS sS 23 02 00.3 -6.7
XLT pmax pmax
comp=Z,120nm,1.4s
XLT pmax pmax
comp=Z,4µm,10.3s
XLT LR LR
comp=Z,75µm,19.4s
XLT LR LR
comp=Z,103µm,19.8s
INK **Inuvik** **32.00 39** P **P** **22 56 41.4 -2.3**
comp=Z,60nm,0.5s,baz=275,slow=6.6,SNR=54
INK LR LR 23 10 20.9
comp=Z,34µm,21.9s,baz=267,slow=38
INK **Inuvik** **32.00 39** P **P** **22 56 42.7 -0.9**
INK **Inuvik** **32.00 39** ⇓P **P** **22 56 42.8 -0.8**
INK **Inuvik** **32.00 39** P **P** **22 56 42.9 -0.8**
baz=277,SNR=95
INK S **S** **23 01 52.5 +0.9**
baz=277
JSU **Suzuyama** **32.34 239** P **P** **22 56 46.6 -0.5**
JSU IAmb IAmb 22 56 52.6
comp=Z,450nm,0.9s
JSU **Suzuyama** **32.34 239** ⇑P **P** **22 56 47.9 +0.7**
JSU ⇑S S 23 02 06.8 +9.1
N31M **Braeburn, Yuko** **32.35 52** P **P** **22 56 46.2 -0.7**
N31M IAMs_20 IAMs_20 23 10 14.0
comp=Z,81µm,19.0s
N31M **Braeburn, Yuko** **32.35 52** P **P** **22 56 46.7 -0.2**
baz=286,SNR=34
N31M S **S** **23 02 01.7 +4.4**
baz=286
M31M **Drury Creek, Y** **32.80 50** P **P** **22 56 50.5 -0.2**
M31M IAmb IAmb 22 57 11.7
comp=Z,656nm,1.1s
M31M IAMs_20 IAMs_20 23 11 19.7
comp=Z,77µm,19.0s
M31M **Drury Creek, Y** **32.80 50** P **P** **22 56 50.8 0.0**
baz=285,SNR=140
M31M S **S** **23 02 08.6 +4.3**
baz=285
WHY **Whitehorse** **33.00 53** P **P** **22 56 52.8 +0.1**
WHY IAmb IAmb 22 57 13.7
comp=Z,581nm,1.1s
WHY **Whitehorse** **33.00 53** ⇓P **P** **22 56 52.6 -0.1**
WHY ⇓S **S** **23 02 15.1 +7.5**
WHY **Whitehorse** **33.00 53** P **P** **22 56 52.7 -0.1**
baz=287,SNR=98
WHY S **S** **23 02 11.4 +3.8**
baz=287
SKAG **Skagway** **33.16 55** P **P** **22 56 54.2 +0.4**
SKAG IAmb IAmb 22 57 15.1
comp=Z,338nm,1.0s
SKAG **Skagway** **33.16 55** ⇑P **P** **22 56 54.3 +0.4**
SKAG **Skagway** **33.16 55** P **P** **22 56 54.0 +0.1**
baz=289,SNR=37
SKAG S **S** **23 02 15.3 +5.5**
baz=289
FARO **Faro, Yukon** **33.26 50** P **P** **22 56 54.6 -0.2**
baz=286,SNR=96
FARO S **S** **23 02 15.7 +4.3**
baz=286
BESE **Bessie Mountai** **33.69 57** P **P** **22 56 58.6 0.0**
BESE IAmb IAmb 22 57 22.5
comp=Z,1µm,1.7s
SIT **Sitka** **34.00 60** P **P** **22 57 01.8 +0.5**
SIT pmax pmax
comp=Z,668nm,1.2s
SIT **Sitka** **34.00 60** P **P** **22 57 01.8 +0.5**
SIT IAmb IAmb 22 57 22.8
comp=Z,668nm,1.2s
SIT **Sitka** **34.00 60** P **P** **22 57 01.4 +0.1**
baz=292,SNR=19
SIT S **S** **23 02 28.9 +6.0**
baz=292
JIS **Juneau Island** **34.03 57** P **P** **22 57 01.0 -0.4**
BJI **Beijing** **34.06 265** P **P** **22 56 58.8 -3.2**
BJI PP **PnPn** **22 58 16.8 +0.4**
BJI PcP **PcP** **22 59 39.9 +1.3**
BJI S **S** **23 02 26.3 +2.1**
BJI PcS **PcS** **23 03 25.3 +0.6**
BJI pmax pmax
comp=Z,3µm,11.5s
BJI LR LR
comp=Z,70µm,18.7s
BJI LR LR
comp=Z,42µm,19.4s
BJI LR LR
comp=Z,85µm,17.5s
MMPY **Sheldon Lake,** **34.08 49** P **P** **22 57 02.2 +0.2**
baz=287,SNR=124
MMPY S **S** **23 02 28.4 +4.2**
baz=287
BJT **Baijiatuau** **34.08 265** IAMs_20 IAMs_20 23 12 39.9
comp=Z,72µm,18.0s
BJT **Baijiatuau** **34.08 265** P **P** **22 56 58.6 -3.5**
P33M **Teslin, Yukon** **34.12 53** P **P** **22 57 01.4 -0.9**
P33M IAmb IAmb 22 57 23.3
comp=Z,420nm,1.1s
P33M IAMs_20 IAMs_20 23 10 25.7
comp=Z,96µm,22.0s
P33M **Teslin, Yukon** **34.12 53** P **P** **22 57 02.0 -0.4**
baz=289,SNR=106
P33M S **S** **23 02 28.7 +3.9**
baz=289
IRK **Irkutsk** **34.22 291** *e*P **P** **22 57 01.4 -1.8**
IRK *e*S **S** **23 02 28.5 +2.1**
IRK pmax pmax
comp=Z,260nm,1.8s
A36M **Sachs Harbour** **34.34 32** P **P** **22 57 03.0 -1.0**
A36M IAmb IAmb 22 57 30.7
comp=Z,232nm,0.8s
A36M **Sachs Harbour** **34.34 32** P **P** **22 57 03.1 -0.9**
baz=278,SNR=185

A36M S S 23 02 29.8 +1.9
baz=278
H11N2 WAKE ISLAND Hy 34.56 173 T T 23 34 42.6
baz=281,slow=74,SNR=225
H11N3 WAKE ISLAND Hy 34.58 173 T T 23 34 39.7
baz=353,slow=74,SNR=269
H11N1 WAKE ISLAND Hy 34.58 173 T T 23 34 43.9
ULN Ulaanbaatar 34.81 283 ceP P 22 57 07.2 -1.3
ULN MLR MLR
comp=Z,91µm,18.0s
ULN Ulaanbaatar 34.81 283 P P 22 57 06.1 -2.5
ULN Ulaanbaatar 34.81 283 ⇑P P 22 57 07.2 -1.3
ULN Ulaanbaatar 34.81 283 P P 22 57 08.2 -0.3
SONM Songino Array 35.20 283 P P 22 57 09.8 -2.1
comp=Z,9.6nm,0.5s,baz=62,slow=8.2,SNR=33
SONM PcP PcP 22 59 42.7 +0.8
comp=Z,150nm,1.1s,baz=61,slow=1.9,SNR=14
SONM LR LR 23 12 49.6
comp=Z,97µm,19.8s,baz=62,slow=38
SONM Songino Array 35.20 283 P P 22 57 10.3 -1.6
SONM 22 59 42.6
SONM Songino Array 35.20 283 P P 22 57 10.3 -1.6
SONM PcP PcP 22 59 42.6 +0.7
ZAK Zakamensk 35.65 289 eP P 22 57 13.5 -2.2
ZAK e 22 59 44.0
ZAK pmax pmax
comp=Z,240nm,1.3s
WRAK Wrangell Islan 35.76 59 P P 22 57 16.1 -0.3
WRAK IAmb IAmb 22 57 38.3
comp=Z,376nm,1.1s
WRAK Wrangell Islan 35.76 59 IAMs_20 IAMs_20 23 11 42.5
comp=Z,57µm,20.0s
WRAK Wrangell Islan 35.76 59 P P 22 57 17.9 +1.5
baz=295,SNR=8.4
WRAK S S 23 02 56.6 +6.7
baz=295
TGTN Hyland Airport 35.77 50 P P 22 57 16.3 -0.2
baz=290,SNR=73
TGTN S S 23 02 53.4 +3.3
baz=290
CRAG Craig 35.77 61 P P 22 57 15.3 -1.1
CRAG IAmb IAmb 22 57 38.4
comp=Z,330nm,1.2s
CRAG Craig 35.77 61 P P 22 57 18.9 +2.4
baz=296
CRAG S S 23 02 54.4 +4.4
baz=296
NRIK Noril'sk 35.93 324 P P 22 57 16.3 -1.4
comp=Z,186nm,1.1s,baz=90,slow=11,SNR=118
NRIK LR LR 23 13 17.7
comp=Z,92µm,20.2s,baz=78,slow=38
NRIK Noril'sk 35.93 324 ceP P 22 57 16.5 -1.2
NRIK Noril'sk 35.93 324 P P 22 57 16.9 -0.8
WTLY Watson Lake, Y 36.03 52 P P 22 57 18.7 0.0
baz=292,SNR=9.9
WTLY S S 23 02 57.3 +3.1
baz=292
TIA Tai'an 36.09 259 ⇑P P 22 57 17.1 -2.4
TIA SS SS 23 05 23.8 -10
TIA ScS ScS 23 07 34.8 +2.3
TIA pmax pmax
comp=Z,4µm,12.0s
TIA LR LR
comp=Z,63µm,22.9s
TIA LR LR
comp=Z,76µm,18.6s
TIA LR LR
comp=Z,115µm,21.2s
DLBC Dease Lake 36.09 55 LR LR 23 12 41.5
comp=Z,41µm,21.3s,baz=312,slow=37
DLBC Dease Lake 36.09 55 P P 22 57 18.1 -1.2
DLBC IAmb IAmb 22 57 41.2
comp=Z,513nm,1.2s
HHC Hu-ho-hao-te 36.25 270 eP P 22 57 20.4 -0.5
HHC PP PP 22 58 45.0 +1.2
HHC S S 23 02 59.5 +1.5
HHC ScP ScP 23 03 24.9 -2.5
HHC pmax pmax
comp=Z,72nm,1.0s
HHC pmax pmax
comp=Z,3µm,7.7s
HHC LR LR
comp=Z,61µm,17.5s
HHC LR LR
comp=Z,65µm,18.4s
HHC LR LR
comp=Z,94µm,19.7s
MOY Mondy 36.28 292 eP P 22 57 18.7 -2.4
MOY pmax pmax
comp=Z,290nm,1.9s
HNS HongShan 36.67 263 ⇓P P 22 57 23.0 -1.4
HNS PcP PcP 22 59 48.6 +2.3
HNS S S 23 03 02.9 -1.4
HNS sS sS 23 03 23.1 0.0
HNS ScS ScS 23 07 36.0 +0.4
HNS pmax pmax
comp=Z,210nm,1.3s
HNS pmax pmax
comp=Z,4µm,11.2s
HNS LR LR
comp=Z,22µm,18.3s
HNS LR LR
comp=Z,88µm,17.6s
HNS LR LR
comp=Z,79µm,18.9s
DIB Dawson Inlet, 37.13 64 P P 22 57 27.4 -0.7
WRGLY Wrigley 37.26 46 S S 23 03 16.4 +3.8
baz=292
JOW Kunigami 37.26 237 LR LR 23 15 33.3
comp=Z,26µm,19.5s,baz=42,slow=41
JOW Kunigami 37.26 237 P P 22 57 29.7 +0.2
JOW Kunigami 37.26 237 ⇑P P 22 57 30.1 +0.6
JOW Kunigami 37.26 237 P P 22 57 30.6 +1.1
BTO Baotou 37.31 271 eP P 22 57 27.8 -2.2
BTO S S 23 03 12.3 -1.9
SSE Sheshan 37.55 249 P P 22 57 31.8 -0.1
SSE S S 23 03 19.3 +1.6
SSE pmax pmax
comp=Z,3µm,4.9s
SSE Sheshan 37.55 249 P P 22 57 32.1 +0.1
RUBB Prince Rupert 37.76 62 P P 22 57 32.5 -0.9
TIY Taiyuan 37.79 265 eP P 22 57 34.1 +0.1
TIY pP pP 22 57 43.3 -2.5
TIY PP PnPn 22 59 05.5 +3.3
TIY S S 23 03 28.3 +6.9
TIY pmax pmax
comp=Z,62nm,0.6s
TIY pmax pmax
comp=Z,3µm,6.9s
TIY LR LR
comp=Z,36µm,17.8s
TIY LR LR
comp=Z,39µm,19.0s
TIY LR LR
comp=Z,32µm,23.1s
NJ2 Nanjing 38.12 253 eP P 22 57 36.9 +0.2
NJ2 pP pP 22 57 47.3 -1.3
NJ2 sP pwP 22 57 49.3 -1.8
NJ2 PP PnPn 22 59 11.9 +5.7
NJ2 S S 23 03 27.4 +1.0
NJ2 sS sS 23 03 45.8 +0.5
NJ2 ScS ScS 23 07 47.0 +3.0
NJ2 pmax pmax
comp=Z,200nm,1.0s
NJ2 pmax pmax
comp=Z,6µm,5.9s
NJ2 LR LR
comp=Z,65µm,17.3s
NJ2 LR LR
comp=Z,45µm,15.9s
NJ2 LR LR
comp=Z,88µm,17.6s
GRNB Grenville Isla 38.15 62 P P 22 57 36.3 -0.4
GRNB IAmb IAmb 22 57 58.5
comp=Z,996nm,1.4s
HG4B Hotspring 38.26 65 P P 22 57 36.0 -1.7
HG4B IAmb IAmb 22 57 58.9
comp=Z,397nm,1.2s
BBB Bella Bella 39.94 64 LR LR 23 12 19.1
comp=Z,59µm,21.8s,baz=304,slow=33
BBB Bella Bella 39.94 64 P P 22 57 49.8 -1.9
BBB IAmb IAmb 22 58 13.2
comp=Z,583nm,1.4s
BBB Bella Bella 39.94 64 ⇓P P 22 57 51.7 0.0
LYN LuoYang 39.96 261 ⇑P P 22 57 50.4 -1.6

LYN PP PnPn 22 59 30.0 +2.0
LYN S S 23 03 50.5 -3.4
LYN SS SS 23 06 50.6 -1.2
LYN pmax pmax
comp=Z,260nm,1.1s
LYN pmax pmax
comp=Z,5µm,8.6s
LYN LR LR
comp=Z,39µm,19.8s
LYN LR LR
comp=Z,21µm,18.5s
LYN LR LR
comp=Z,47µm,21.2s
JMJ Miyako jima 2 40.42 239 P P 22 57 57.4 +1.5
EUNU Eureka 40.48 14 P P 22 57 55.4 -0.5
EUNU Eureka 40.48 14 ⇓P P 22 57 55.8 -0.1
HOLB Holberg 40.75 66 P P 22 57 57.3 -1.2
YKA Yellowknife Ar 41.25 44 P P 22 58 01.8 -0.6
comp=Z,33nm,0.7s,baz=299,slow=7.7,SNR=63
YKA PcP PcP 23 00 01.1 +0.9
comp=Z,54nm,1.0s,baz=312,slow=2.8,SNR=8.2
YKA LR LR 23 17 01.6
comp=Z,35µm,18.9s,baz=301,slow=39
YKA PKPPKP P'P'df 23 30 04.4 -15
comp=Z,2.6nm,0.9s,baz=156,slow=2.0,SNR=6.0
YKA Yellowknife Ar 41.25 44 P P 22 58 01.2 -1.1
ALE Alert 41.60 8 P P 22 58 05.4 +0.4
RES Resolute Bay 41.68 23 LR LR 23 17 53.2
comp=Z,7µm,19.5s,baz=308,slow=40
RES Resolute Bay 41.68 23 P P 22 58 05.1 -0.6
RES pmax pmax
comp=Z,252nm,1.2s
RES Resolute Bay 41.68 23 P P 22 58 05.1 -0.6
RES Resolute Bay 41.68 23 ⇑P P 22 58 05.2 -0.5
WHN Wuhan 41.80 256 ⇓P P 22 58 05.8 -1.4
WHN S S 23 04 15.9 -5.4
WHN pmax pmax
comp=Z,8µm,5.4s
WHN LR LR
comp=Z,100µm,16.0s
WHN LR LR
comp=Z,21µm,16.1s
WHN LR LR
comp=Z,106µm,28.4s
YOJ Yonaguni jima 41.87 241 P P 22 58 07.8 0.0
TATO Taipei 42.24 243 P P 22 58 11.3 +0.5
TATO IAmb IAmb 22 58 37.9
comp=Z,496nm,1.1s
TATO Taipei 42.24 243 IAMs_20 IAMs_20 23 14 48.7
comp=Z,50µm,22.0s
XAN Xi'an 42.39 264 P P 22 58 12.1 0.0
XAN pP pP 22 58 24.3 +0.2
XAN pmax pmax
comp=Z,140nm,1.5s
XAN LR LR
comp=Z,65µm,19.6s
XAN LR LR
comp=Z,91µm,19.0s
XAN LR LR
comp=Z,102µm,18.6s
XAN Xi'an 42.39 264 P P 22 58 10.5 -1.6
YHNB Yeheng 42.54 243 P P 22 58 14.0 +0.6
YHNB IAMs_20 IAMs_20 23 14 47.9
comp=Z,57µm,22.0s
YHNB Yeheng 42.54 243 P P 22 58 15.0 +1.6
CBB Campbell River 42.57 65 P P 22 58 12.6 -0.6
CBB IAmb IAmb 22 58 34.9
comp=Z,793nm,1.6s
NACB Ninganchiao 42.83 242 P P 22 58 15.5 -0.2
NACB IAMs_20 IAMs_20 23 15 21.7
comp=Z,48µm,22.0s
GUMO Guam 42.91 206 LR LR 23 14 24.1
comp=Z,11µm,20.6s,baz=24,slow=34
OZB Mount Ozzard 43.11 66 P P 22 58 16.6 -1.2
JOHN Johnston Islan 43.12 139 P P 22 58 17.6 -0.4
JOHN Johnston Islan 43.12 139 IAMs_20 IAMs_20 23 11 58.1
comp=Z,38µm,21.0s
JOHN Johnston Islan 43.12 139 P P 22 58 20.2 +2.2
SSLB Suanglung 43.48 243 P P 22 58 20.4 -0.6
SSLB IAmb IAmb 22 58 28.8
comp=Z,434nm,1.0s
SSLB IAMs_20 IAMs_20 23 15 29.9
comp=Z,61µm,22.0s
SSLB Suanglung 43.48 243 P P 22 58 22.6 +1.6
ZAA0 Zalesovo Array 43.52 303 P P 22 58 18.2 -2.7
ZALV Zalesovo Beam 43.52 303 P P 22 58 18.9 -2.0
comp=Z,24nm,0.6s,baz=56,slow=5.9,SNR=92
ZALV PcP PcP 23 00 08.3 +0.4
comp=Z,166nm,1.2s,baz=45,slow=4.8,SNR=6.6
ZALV S S 23 04 43.9 -2.1
comp=Z,18nm,0.9s,baz=56,slow=13,SNR=5.4
ZALV LR LR 23 18 18.2
comp=Z,154µm,18.6s,baz=58,slow=39
ZALV PKPPKP P'P'df 23 29 53.4 -23
comp=Z,1.1nm,0.7s,baz=197,slow=1.5,SNR=4.3
ZALV Zalesovo Beam 43.52 303 P P 22 58 18.0 -2.9
ZALV 23 00 08.0
ZALV Zalesovo Beam 43.52 303 P P 22 58 17.9 -2.9
ZALV PcP 23 00 08.0 0.0
YULB Yu-li 43.63 242 P P 22 58 21.1 -1.0
YULB IAmb IAmb 22 58 29.3
comp=Z,541nm,0.9s
YULB IAMs_20 IAMs_20 23 15 56.7
comp=Z,43µm,22.0s
QZH Quanzhou 43.80 246 ⇑iP P 22 58 23.8 +0.4
QZH PP PcP 23 00 08.3 -1.0
QZH S S 23 04 54.6 +3.9
QZH pmax pmax
comp=Z,430nm,1.6s
QZH pmax pmax
comp=Z,7µm,4.6s
QZH LR LR
comp=Z,12µm,17.1s
QZH LR LR
comp=Z,12µm,21.3s
QZH LR LR
comp=Z,16µm,20.4s
OPA Opana 43.89 122 P P 22 58 23.2 -1.1
OPA pmax pmax
comp=Z,712nm,1.2s
OPA Opana 43.89 122 P P 22 58 23.2 -1.1
OPA IAmb IAmb 22 58 28.1
comp=Z,712nm,1.2s
LZH Lanzhou 43.94 271 ⇓P P 22 58 23.4 -1.3
LZH pP pP 22 58 33.1 -3.7
LZH sP pwP 22 58 37.8 -1.5
LZH S S 23 04 51.9 -1.1
LZH sS sS 23 05 09.8 -2.4
LZH pmax pmax
comp=Z,280nm,1.5s
LZH pmax pmax
comp=Z,3µm,5.6s
LZH LR LR
comp=Z,66µm,17.9s
LZH LR LR
comp=Z,31µm,17.9s
LZH LR LR
comp=Z,60µm,16.3s
TPUB Ta-pu 44.05 243 P P 22 58 25.8 +0.2
TPUB IAMs_20 IAMs_20 23 16 22.9
comp=Z,42µm,21.0s
TPUB Ta-pu 44.05 243 P P 22 58 27.3 +1.7
GTA Gaotai 44.06 277 ⇑P P 22 58 23.4 -2.2
GTA pP pP 22 58 35.8 -1.9
GTA sP sP 22 58 42.5 -0.5
GTA PcP PcP 23 00 12.4 +2.1
GTA PcS PcS 23 04 04.8 +1.3
GTA S S 23 04 54.3 -0.4
GTA SS SS 23 08 04.4 -8.3
GTA pmax pmax
comp=Z,100nm,1.1s
GTA pmax pmax
comp=Z,5µm,7.9s
GTA LR LR
comp=Z,57µm,15.6s
GTA LR LR
comp=Z,50µm,17.8s
GTA LR LR
comp=Z,73µm,16.0s
LLLB Lillooet 44.07 62 P P 22 58 23.7 -1.7
LLLB IAmb IAmb 22 58 48.9
comp=Z,399nm,1.1s
KIP Kipapa 44.11 122 P P 22 58 26.0 0.0
KIP pmax pmax
comp=Z,635nm,0.8s

KIP MLR MLR
comp=Z,61µm,22.0s
KIP Kipapa 44.11 122 P P 22 58 26.0 0.0
KIP IAmb IAmb 22 58 30.2
comp=Z,635nm,0.8s
KIP Kipapa 44.11 122 IAMs_20 IAMs_20 23 12 16.8
comp=Z,61µm,22.0s
KIP Kipapa 44.11 122 P P 22 58 27.1 +1.1
KIP Kipapa 44.11 122 P P 22 58 27.3 +1.3
KIP Kipapa 44.11 122 P P 22 58 27.0 +1.1
C03A Quillayute Air 44.20 67 P P 22 58 26.6 +0.1
C03A IAmb IAmb 22 58 48.5
comp=Z,1µm,1.4s
TWG Pinlang 44.22 242 P P 22 58 27.2 +0.4
TWG IAmb IAmb 22 58 41.5
comp=Z,310nm,0.8s
KNMB Chin-men Tao 44.29 246 P P 22 58 27.2 -0.2
KNMB IAmb IAmb 22 58 31.7
comp=Z,418nm,1.0s
PGC Sidney 44.39 66 P P 22 58 27.2 -0.7
NOR Nord 44.43 360 ⇑iP P 22 58 28.3 +0.5
NOR IAmb IAmb 22 58 30.6
comp=Z,2µm,3.0s
B04A Port Angeles 44.71 66 P P 22 58 29.9 -0.6
B04A IAmb IAmb 22 58 52.0
comp=Z,934nm,1.6s
A04D Lummi Island 44.74 65 P P 22 58 31.4 +0.6
baz=307,SNR=8.4
A04D S S 23 05 07.0 +3.0
baz=307
ENH Enshi 44.79 260 IAmb IAmb 22 58 34.0
comp=Z,451nm,0.8s
ENH Enshi 44.79 260 P P 22 58 29.5 -1.9
NLWA Neilton Lookou 44.92 67 P P 22 58 31.7 -0.6
NLWA IAmb IAmb 22 58 53.0
comp=Z,580nm,1.1s
NLWA IAMs_20 IAMs_20 23 14 41.9
comp=Z,59µm,21.0s
NLWA Neilton Lookou 44.92 67 ⇑P P 22 58 32.7 +0.5
D03D Eldon 45.25 67 P P 22 58 34.7 -0.1
baz=308,SNR=39
D03D S S 23 05 14.9 +3.5
baz=308
B05A Bryant 45.34 65 P P 22 58 35.2 -0.3
baz=307,SNR=28
B05A S S 23 05 14.6 +1.9
baz=307
KHLH Kahului Airpor 45.35 121 P P 22 58 36.3 +0.5
KHLH IAmb IAmb 22 58 39.9
comp=Z,643nm,1.1s
KWAJ Kwajalein Atol 45.45 173 P P 22 58 37.2 +0.6
KWAJ pmax pmax
comp=Z,418nm,1.1s
KWAJ MLR MLR
comp=Z,22µm,20.0s
KWAJ Kwajalein Atol 45.45 173 P P 22 58 37.2 +0.6
KWAJ IAmb IAmb 22 58 41.5
comp=Z,418nm,1.1s
KWAJ Kwajalein Atol 45.45 173 P P 22 58 38.9 +2.3
TULEG Thule 45.47 15 iP P 22 58 33.0 -3.2
TULEG IAmb IAmb 22 58 39.2
comp=Z,135nm,1.0s
TULEG Thule 45.47 15 P P 22 58 35.7 -0.5
TULEG Thule 45.47 15 ⇑P P 22 58 35.4 -0.8
B06A Marblemount 45.51 65 P P 22 58 36.5 -0.4
B06A IAmb IAmb 22 58 57.7
comp=Z,602nm,1.4s
HLK Haleakala 45.55 121 P P 22 58 38.4 +0.6
HLK IAmb IAmb 22 58 41.5
comp=Z,614nm,1.1s
E03A Lebam 45.60 68 P P 22 58 37.2 -0.3
D04E Lakebay 45.64 67 P P 22 58 38.9 +1.0
baz=308,SNR=19
KBS Kingsbay 45.98 352 deP P 22 58 41.0 +0.8
KBS pmax pmax
comp=Z,567nm,1.0s
KBS MLR MLR
comp=Z,15µm,18.0s
KBS Kingsbay 45.98 352 ⇑iP P 22 58 40.6 +0.4
KBS IAmb IAmb 22 58 42.8
comp=Z,937nm,0.9s
KBS Kingsbay 45.98 352 P P 22 58 40.1 -0.1
KBS IAmb IAmb 22 58 44.3
comp=Z,578nm,1.1s
KBS Kingsbay 45.98 352 ⇑P P 22 58 40.7 +0.4
KBS Kingsbay 45.98 352 P P 22 58 40.7 +0.4
D05A Enumclaw 46.05 66 P P 22 58 41.2 0.0
D05A IAmb IAmb 22 59 02.0
comp=Z,646nm,1.1s
E04D Cinebar 46.13 67 P P 22 58 40.4 -1.4
E04D IAMs_20 IAMs_20 23 14 57.1
comp=Z,50µm,22.0s
E04D Cinebar 46.13 67 P P 22 58 42.3 +0.5
baz=308,SNR=37
E04D S S 23 05 27.4 +3.3
baz=308
F04D Rainier, OR 46.19 68 P P 22 58 43.1 +0.9
baz=309,SNR=6.8
F04D S S 23 05 28.3 +3.4
baz=309
C06D Leavenworth 46.19 65 P P 22 58 43.2 +0.9
baz=308,SNR=8.7
C06D S S 23 05 27.5 +2.5
baz=308
HEBO Mount Hebo 46.32 70 P P 22 58 42.8 -0.6
HEBO IAmb IAmb 22 59 04.0
comp=Z,569nm,1.1s
HPAH Hawaii Prepara 46.44 121 P P 22 58 44.4 -0.2
HPAH IAmb IAmb 22 58 47.3
comp=Z,633nm,1.1s
G03D McMinnville, O 46.59 69 P P 22 58 44.2 -1.2
G03D IAmb IAmb 22 59 06.8
comp=Z,398nm,1.2s
G03D IAMs_20 IAMs_20 23 15 00.3
comp=Z,36µm,21.0s
G03D McMinnville, O 46.59 69 P P 22 58 45.5 +0.1
baz=309,SNR=6.1
G03D S S 23 05 33.8 +3.1
baz=309
F04A Amboy 46.60 68 P P 22 58 45.3 -0.2
F04A IAmb IAmb 22 59 05.6
comp=Z,443nm,1.1s
HUH Hualalai 46.66 121 P P 22 58 46.0 -0.5
HUH IAmb IAmb 22 58 59.5
comp=Z,229nm,0.9s
KHLU Kahalu`u 46.71 121 P P 22 58 46.8 0.0
KHLU IAmb IAmb 22 58 50.3
comp=Z,276nm,1.0s
LTY Liberty 46.72 66 P P 22 58 46.1 -0.4
LTY IAmb IAmb 22 59 07.3
comp=Z,568nm,1.4s
B08A Colville Reser 46.75 64 P P 22 58 45.6 -1.0
B08A IAmb IAmb 22 59 07.5
comp=Z,839nm,1.5s
POHA Pohakuloa 46.76 121 P P 22 58 47.3 +0.1
POHA Pohakuloa 46.76 121 IAMs_20 IAMs_20 23 13 43.7
comp=Z,51µm,21.0s
POHA Pohakuloa 46.76 121 ⇑P P 22 58 47.7 +0.5
POHA Pohakuloa 46.76 121 P P 22 58 48.1 +0.9
POHA Pohakuloa 46.76 121 P P 22 58 47.9 +0.6
HOPEN Hopen 46.80 347 eP P 22 58 47.4 +0.8
HOPEN eS S 23 05 35.0 +2.0
HOPEN IVMs_BB IVMs_BB 23 20 03.7
comp=Z,12µm,17.0s
EDM Edmonton 46.81 55 P P 22 58 46.5 -0.6
EDM pmax pmax
comp=Z,2µm,1.5s
EDM Edmonton 46.81 55 P P 22 58 46.5 -0.6
HMH Humu'ula Sheep 46.91 121 P P 22 58 48.3 -0.2
HMH IAmb IAmb 22 58 52.1
comp=Z,570nm,1.1s
MLOA Mauna Loa Obse 46.92 121 P P 22 58 48.0 -0.7
MLOA IAmb IAmb 22 58 52.7
comp=Z,516nm,0.9s
MWH Moku'aweowe 46.95 121 P P 22 58 47.6 -1.5
COR Corvallis 46.97 70 P P 22 58 48.4 +0.1
COR pmax pmax
comp=Z,314nm,0.9s
COR MLR MLR
comp=Z,22µm,20.0s
COR Corvallis 46.97 70 P P 22 58 48.4 +0.1
COR IAmb IAmb 22 59 09.2
comp=Z,314nm,0.9s
COR Corvallis 46.97 70 ⇓P P 22 58 49.2 +0.8
I02E Swisshome, OR 46.97 71 P P 22 58 47.9 -0.4

I02E	**Swisshome, OR**	**46.97**	**71**	P	**P**	**22 58 49.6**	**+1.3**
	baz=310									
I02E				S	**S**	**23 05 41.5**	**+5.4**
	baz=310									
MLH	**Mauna Loa**	**47.05**	**121**	P	**P**	**22 58 49.6**	**+0.1**
AIN	**Ainahou**	**47.12**	**121**	P	**P**	**22 58 50.5**	**+0.5**
RSD	**Rainshed**	**47.13**	**121**	P	**P**	**22 58 50.2**	**+0.1**
F05D	**White Salmon**	**47.15**	**67**	P	**P**	**22 58 49.2**	**-0.6**
F05D				IAMs_20	IAMs_20	23 15 50.1	
	comp=Z,51µm,22.0s									
F05D	**White Salmon**	**47.15**	**67**	P	**P**	**22 58 49.8**	**0.0**
	baz=309,SNR=7.0									
F05D				S	**S**	**23 05 41.4**	**+2.6**
	baz=309									
UWE	**Uwekahuna**	**47.16**	**121**	P	**P**	**22 58 50.4**	**+0.1**
UWB	**Uwekahuna B**	**47.16**	**121**	P	**P**	**22 58 49.9**	**-0.3**
SBLHI	**Steaming Bluff**	**47.17**	**121**	P	**P**	**22 58 50.3**	**0.0**
SBLHI				IAmb	IAmb	22 59 04.5	
	comp=Z,472nm,1.0s									
HATHI	**Halema'uma'u T**	**47.17**	**121**	P	**P**	**22 58 50.5**	**+0.1**
HATHI				IAmb	IAmb	22 59 04.6	
	comp=Z,433nm,0.9s									
SDHHI	**Sand Hill**	**47.19**	**121**	P	**P**	**22 58 49.8**	**-0.6**
SDHHI				IAmb	IAmb	22 58 54.1	
	comp=Z,468nm,0.9s									
RIM	**Rim**	**47.19**	**121**	P	**P**	**22 58 51.1**	**+0.6**
KKO	**Keanakako`i**	**47.19**	**121**	P	**P**	**22 58 50.5**	**0.0**
KKO				IAmb	IAmb	22 58 54.6	
	comp=Z,430nm,0.8s									
PUH	**Pauahi**	**47.24**	**121**	P	**P**	**22 58 51.3**	**+0.4**
HLP	**Hilina Pali**	**47.26**	**121**	P	**P**	**22 58 51.0**	**0.0**
HLP				IAmb	IAmb	22 58 54.4	
	comp=Z,437nm,0.9s									
H04D	**Lebanon**	**47.32**	**70**	P	**P**	**22 58 50.4**	**-0.7**
H04D				IAmb	IAmb	22 59 11.6	
	comp=Z,380nm,1.1s									
H04D	**Lebanon**	**47.32**	**70**	P	**P**	**22 58 51.5**	**+0.4**
	baz=310,SNR=12									
H04D				S	**S**	**23 05 44.2**	**+3.1**
	baz=310									
ZSN	**Zaisan**	**47.33**	**295**	*i* P	**P**	**22 58 48.3**	**-2.8**
ZSN				*e*S	**S**	**23 05 39.7**	**-1.5**
ZSN	**Zaisan**	**47.33**	**295**	*i* P	**P**	**22 58 48.3**	**-2.8**
	baz=296									
ZSN				*e*S	**S**	**23 05 39.7**	**-1.5**
	baz=296									
PATS	**Pohnpei**	**47.37**	**186**	P	**P**	**22 58 51.0**	**-0.8**
PATS	**Pohnpei**	**47.37**	**186**	P	**P**	**22 58 53.7**	**+2.0**
BUCK	**Buck Mountain**	**47.39**	**70**	P	**P**	**22 58 50.5**	**-1.3**
HOOD	**Mount Hood Mea**	**47.40**	**68**	P	**P**	**22 58 50.2**	**-1.8**
HSPB	**Hornsund (broa**	**47.43**	**350**	*e*P	**P**	**22 58 52.0**	**+0.4**
HSPB				*e*S	**S**	**23 05 41.1**	**-0.9**
HSPB				*e*L	L	23 18 19.9	
	comp=Z,22µm,20.8s									
HSPB	**Hornsund (broa**	**47.43**	**350**	*e*P	**P**	**22 58 51.6**	**+0.1**
HSPB				*e*PP	**PP**	**23 00 42.7**	**0.0**
HSPB				*e*S	**S**	**23 05 42.9**	**+0.9**
HSPB				*e*ScS	**ScS**	**23 08 42.2**	**+1.9**
HSPB				IVMs_BB	IVMs_BB	23 21 21.0	
	comp=Z,8µm,16.8s									
I03D	**Drain, OR**	**47.51**	**71**	P	**P**	**22 58 53.0**	**+0.4**
	baz=310,SNR=5.7									
I03D				S	**S**	**23 05 48.6**	**+4.8**
	baz=310									
H04A	**Detroit Lake**	**47.52**	**69**	P	**P**	**22 58 50.8**	**-1.9**
J01E	**Myrtle Point**	**47.53**	**72**	P	**P**	**22 58 53.2**	**+0.5**
J01E				IAMs_20	IAMs_20	23 14 40.3	
	comp=Z,35µm,22.0s									
J01E	**Myrtle Point**	**47.53**	**72**	P	**P**	**22 58 53.6**	**+0.8**
	baz=311									
J01E				S	**S**	**23 05 48.1**	**+4.0**
	baz=311									
E07A	**Sunnyside**	**47.59**	**66**	P	**P**	**22 58 52.2**	**-1.0**
G05D	**Wamic, OR**	**47.64**	**68**	P	**P**	**22 58 53.9**	**+0.3**
	baz=310,SNR=16									
G05D				S	**S**	**23 05 47.5**	**+1.8**
	baz=310									
C09A	**Chrisman Ranch**	**47.65**	**64**	P	**P**	**22 58 52.6**	**-1.1**
C09A				IAmb	IAmb	22 59 14.3	
	comp=Z,393nm,1.1s									
CD2	**Chengdu**	**47.66**	**266**	⇑*i* P	**P**	**22 58 53.8**	**-0.2**
CD2				pP	pP	22 59 01.3	-4.9
CD2				sP	pwP	22 59 05.8	-2.8
CD2				S	**S**	**23 05 46.3**	**-0.1**
CD2				sS	sS	23 06 02.0	-3.7
CD2				pmax	pmax		
	comp=Z,70nm,0.7s									
CD2				pmax	pmax		
	comp=Z,7µm,8.8s									
CD2				LR	LR		
	comp=Z,63µm,20.2s									
CD2				LR	LR		
	comp=Z,77µm,19.8s									
D08A	**Wollman Farm,**	**47.78**	**65**	P	**P**	**22 58 53.7**	**-1.0**
D08A				IAmb	IAmb	22 59 15.2	
	comp=Z,700nm,1.6s									
HAWA	**Hanford**	**47.87**	**66**	P	**P**	**22 58 54.6**	**-0.7**
HAWA				IAmb	IAmb	22 59 16.2	
	comp=Z,896nm,1.6s									
HAWA				IAMs_20	IAMs_20	23 16 22.0	
	comp=Z,49µm,21.0s									
HAWA	**Hanford**	**47.87**	**66**	⇓P	**P**	**22 58 54.7**	**-0.7**
SEM	**Semipalatinsk**	**47.87**	**301**	*e*P	**P**	**22 58 52.2**	**-3.3**
SEM				*e*S	**S**	**23 05 46.3**	**-3.0**
SEM				pmax	pmax		
	comp=Z,184nm,1.2s									
SEM				MLR	MLR		
	comp=Z,38µm,20.0s									
SEM	**Semipalatinsk**	**47.87**	**301**	*e*P	**P**	**22 58 52.3**	**-3.3**
	comp=Z,184nm,1.2s,baz=301									
SEM				*e*S	**S**	**23 05 46.3**	**-3.0**
	baz=301									
SEM				LR	LR	23 19 25.3	
	comp=Z,38µm,19.6s,baz=301									
DBO	**Dodson Butte**	**47.94**	**71**	P	**P**	**22 58 54.7**	**-1.4**
DBO				IAmb	IAmb	22 59 17.0	
	comp=Z,262nm,1.1s									
NEW	**Newport**	**47.96**	**62**	LR	LR	23 16 59.9	
	comp=Z,60µm,21.7s,baz=301,slow=34									
NEW	**Newport**	**47.96**	**62**	P	**P**	**22 58 55.2**	**-0.9**
NEW	**Newport**	**47.96**	**62**	P	**P**	**22 58 55.2**	**-0.9**
NEW				IAmb	IAmb	22 59 16.8	
	comp=Z,436nm,1.4s									
NEW	**Newport**	**47.96**	**62**	P	**P**	**22 58 55.2**	**-0.9**
	baz=309,SNR=46									
NEW				S	**S**	**23 05 51.0**	**+0.7**
	baz=309									
I04A	**Tendick Farm,**	**47.97**	**70**	P	**P**	**22 58 56.3**	**+0.1**
	baz=310									
I04A				S	**S**	**23 05 53.3**	**+2.9**
	baz=310									
F07A	**Phinny Hill Vi**	**47.97**	**67**	P	**P**	**22 58 56.0**	**-0.1**
K02D	**Willamette Mer**	**47.98**	**72**	P	**P**	**22 58 56.9**	**+0.6**
	baz=311									
K02D				S	**S**	**23 05 54.5**	**+3.8**
	baz=311									
E08A	**Dider Farm, El**	**48.06**	**65**	P	**P**	**22 58 55.9**	**-0.9**
E08A				IAmb	IAmb	22 59 17.5	
	comp=Z,521nm,1.5s									
GULI	**GuiLin**	**48.07**	**255**	⇑P	**P**	**22 58 57.6**	**+0.5**
GULI				S	**S**	**23 05 49.4**	**-2.8**
GULI				SS	**SS**	**23 09 15.1**	**-6.3**
GULI				pmax	pmax		
	comp=Z,400nm,1.1s									
GULI				LR	LR		
	comp=Z,18µm,20.1s									
GULI				LR	LR		
	comp=Z,33µm,19.0s									
GULI				LR	LR		
	comp=Z,48µm,19.5s									
WMQ	**Urumqi**	**48.10**	**290**	P	**P**	**22 58 57.1**	**-0.2**
WMQ				sP	pwP	22 59 12.5	0.0
WMQ				PcP	**PcP**	**23 00 25.4**	**+1.2**
WMQ				PcS	**PcS**	**23 04 20.5**	**+0.5**
WMQ				S	**S**	**23 05 55.4**	**+3.0**
WMQ				SS	**SS**	**23 09 16.4**	**-4.9**
WMQ				pmax	pmax		
	comp=Z,880nm,1.1s									
WMQ				pmax	pmax		
	comp=Z,4µm,4.7s									
WMQ				LR	LR		
	comp=Z,73µm,19.3s									
WMQ				LR	LR		
	comp=Z,65µm,19.3s									
WMQ				LR	LR		
	comp=Z,53µm,18.5s									
WMQ	**Urumqi**	**48.10**	**290**	P	**P**	**22 58 56.8**	**-0.5**
GZH	**Guangzhou**	**48.14**	**250**	P	P	22 58 51.6	-6.1
GZH				pP	pP	22 59 05.8	-4.0
GZH				S	S	23 05 42.8	-10
GZH				LR	LR		
	comp=Z,42µm,18.3s									
GZH				LR	LR		
	comp=Z,21µm,16.9s									
I05D	**Terrebonne, OR**	**48.20**	**69**	P	**P**	**22 58 58.1**	**0.0**
	baz=310,SNR=15									
I05D				S	**S**	**23 05 57.7**	**+3.9**
	baz=310									
HKC	**Hong Kong Obse**	**48.31**	**248**	⇑P	**P**	**22 59 02.0**	**+3.0**
HKPS	**Hong Kong Po S**	**48.35**	**248**	P	**P**	**22 58 60.0**	**+0.7**
HKPS				IAMs_20	IAMs_20	23 20 49.5	
	comp=Z,30µm,19.0s									
L02E	**Cave Junction**	**48.37**	**73**	P	**P**	**22 58 58.9**	**-0.4**
L02E				IAmb	IAmb	22 59 20.9	
	comp=Z,587nm,1.4s									
L02E				IAMs_20	IAMs_20	23 16 49.5	
	comp=Z,49µm,20.0s									
L02E	**Cave Junction**	**48.37**	**73**	P	**P**	**22 59 00.7**	**+1.4**
	baz=311,SNR=7.1									
L02E				S	**S**	**23 05 59.9**	**+3.9**
	baz=311									
HUMO	**Hull Mountain**	**48.43**	**72**	P	**P**	**22 58 59.4**	**-0.4**
HUMO				IAmb	IAmb	22 59 21.5	
	comp=Z,859nm,1.8s									
HUMO				IAMs_20	IAMs_20	23 16 56.2	
	comp=Z,28µm,20.0s									
HUMO	**Hull Mountain**	**48.43**	**72**	⇑P	**P**	**22 59 00.2**	**+0.4**
J04D	**Umpqua Nationa**	**48.49**	**71**	P	**P**	**22 59 00.7**	**+0.3**
J04D				IAMs_20	IAMs_20	23 16 53.7	
	comp=Z,28µm,20.0s									
J04D	**Umpqua Nationa**	**48.49**	**71**	P	**P**	**22 59 00.2**	**-0.2**
	baz=311,SNR=21									
J04D				S	**S**	**23 06 01.5**	**+3.4**
	baz=311									
KURK	**Kurchatov**	**48.49**	**302**	*ce*P	**P**	**22 58 57.3**	**-2.7**
KURK				*i* *PP	**pwP**	**22 59 14.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,959nm,1.3s									
KURK				MLR	MLR		
	comp=Z,167µm,18.0s									
KURK	**Kurchatov**	**48.49**	**302**	P	**P**	**22 58 58.4**	**-1.7**
KURK	**Kurchatov**	**48.49**	**302**	⇑P	**P**	**22 58 57.4**	**-2.7**
KURK	**Kurchatov**	**48.49**	**302**	P	**P**	**22 58 57.5**	**-2.6**
E09A	**Wood Farm, Sta**	**48.53**	**65**	P	**P**	**22 58 59.7**	**-0.7**
KURBB	**Kurchatov Arra**	**48.60**	**302**	LR	LR	23 21 28.6	
	comp=Z,160µm,18.2s,baz=35,slow=39									
KURBB				PKPPKP		23 29 56.0	
	comp=Z,4.2nm,1.1s,baz=264,slow=2.5,SNR=6.2									
PINE	**Pine Mountain**	**48.78**	**69**	P	**P**	**22 59 02.5**	**-0.1**
KRPM	**Rodgers**	**48.79**	**74**	P	**P**	**22 59 03.8**	**+1.2**
KRPM				IAmb	IAmb	22 59 24.6	
	comp=Z,803nm,1.5s									
MCO	**Taipa Grande**	**48.80**	**249**	P	**P**	**22 59 06.0**	**+3.3**
G08A	**Pilot Rock**	**48.88**	**67**	P	**P**	**22 59 02.4**	**-0.9**
G08A				IAmb	IAmb	22 59 24.0	
	comp=Z,483nm,1.6s									
J05D	**Fort Rock, OR**	**48.95**	**70**	P	**P**	**22 59 03.9**	**+0.1**
	baz=311,SNR=65									
J05D				S	**S**	**23 06 08.9**	**+4.4**
	baz=311									
JCC	**Jacoby Creek,**	**49.01**	**74**	IAMs_20	IAMs_20	23 15 23.7	
	comp=Z,30µm,20.0s									
L04D	**Klamath Falls**	**49.05**	**72**	P	**P**	**22 59 04.1**	**-0.6**
L04D				IAMs_20	IAMs_20	23 15 27.6	
	comp=Z,37µm,22.0s									
L04D	**Klamath Falls**	**49.05**	**72**	P	**P**	**22 59 04.4**	**-0.3**
	baz=312,SNR=26									
L04D				S	**S**	**23 06 08.6**	**+2.7**
	baz=312									
K04D	**Chiloquin, OR**	**49.09**	**71**	P	**P**	**22 59 04.7**	**-0.2**
	baz=312,SNR=11									
K04D				S	**S**	**23 06 11.1**	**+4.6**
	baz=312									
MK31	**Makanchi Array**	**49.10**	**296**	*de*P	**P**	**22 59 02.1**	**-2.8**
MK31	**Makanchi Array**	**49.10**	**296**	P	**P**	**22 59 02.5**	**-2.4**
MKAR	**Makanchi Array**	**49.10**	**296**	P	**P**	**22 59 02.2**	**-2.7**
	comp=Z,198nm,0.9s,baz=58,slow=6.7,SNR=224									
MKAR				LR	LR	23 21 06.3	
	comp=Z,67µm,20.7s,baz=47,slow=38									
MKAR				PKPPKP	P'P'df	23 29 55.4	-13
	comp=Z,2.9nm,1.0s,baz=238,slow=1.1,SNR=5.9									
MKAR	**Makanchi Array**	**49.10**	**296**	P	**P**	**22 59 02.3**	**-2.6**
MKAR	**Makanchi Array**	**49.10**	**296**	P	**P**	**22 59 02.3**	**-2.6**
WALA	**Waterton Lakes**	**49.11**	**60**	P	**P**	**22 59 04.4**	**-0.7**
WALA	**Waterton Lakes**	**49.11**	**60**	⇓P	**P**	**22 59 04.2**	**-0.8**
KHMM	**Horse Mountain**	**49.14**	**74**	P	**P**	**22 59 05.2**	**-0.2**
GOMU	**GeErMu**	**49.15**	**278**	P	**P**	**22 59 03.3**	**-2.5**
GOMU				PcP	**PcP**	**23 00 28.9**	**+0.4**
GOMU				PP	**PP**	**23 00 57.3**	**-2.2**
GOMU				S	**S**	**23 06 05.3**	**-2.6**
GOMU				pmax	pmax		
	comp=Z,69nm,1.0s									
GOMU				LR	LR		
	comp=Z,22µm,20.9s									
GOMU				LR	LR		
	comp=Z,15µm,18.1s									
GOMU				LR	LR		
	comp=Z,12µm,21.6s									
YBH	**Yreka Blue Hor**	**49.15**	**72**	LR	LR	23 17 28.8	
	comp=Z,31µm,19.4s,baz=318,slow=33									
YBH	**Yreka Blue Hor**	**49.15**	**72**	P	**P**	**22 59 05.0**	**-0.4**
YBH				pmax	pmax		
	comp=Z,1µm,1.8s									
YBH				MLR	MLR		
	comp=Z,31µm,20.0s									
YBH	**Yreka Blue Hor**	**49.15**	**72**	P	**P**	**22 59 05.0**	**-0.4**
YBH				IAMs_20	IAMs_20	23 16 58.2	
	comp=Z,31µm,20.0s									
MAKZ	**Makanchi**	**49.26**	**296**	P	**P**	**22 59 03.4**	**-2.6**
MAKZ				pmax	pmax		
	comp=Z,371nm,1.0s									
MAKZ				MLR	MLR		
	comp=Z,80µm,20.0s									
MAKZ	**Makanchi**	**49.26**	**296**	P	**P**	**22 59 03.4**	**-2.6**
MAKZ				IAmb	IAmb	22 59 09.0	
	comp=Z,371nm,1.0s									
MAKZ	**Makanchi**	**49.26**	**296**	⇑P	**P**	**22 59 02.9**	**-3.1**
MAKZ	**Makanchi**	**49.26**	**296**	P	**P**	**22 59 03.1**	**-3.0**
DAG	**Danmarks Havn**	**49.28**	**0**	⇑*i* P	**P**	**22 59 06.4**	**+0.6**
DAG				IAmb	IAmb	22 59 25.6	
	comp=Z,256nm,0.9s									
DAG	**Danmarks Havn**	**49.28**	**0**	⇓P	**P**	**22 59 05.0**	**-0.8**
GYA	**Guiyang**	**49.29**	**259**	⇑*i* P	**P**	**22 59 06.8**	**+0.2**
GYA				sP	pwP	22 59 21.0	-0.4
GYA				PcP	**PcP**	**23 00 30.6**	**+1.7**
GYA				S	**S**	**23 06 07.5**	**-2.1**
GYA				pmax	pmax		
	comp=Z,310nm,1.0s									
GYA				pmax	pmax		
	comp=Z,6µm,4.4s									
GYA				LR	LR		
	comp=Z,48µm,18.5s									
GYA				LR	LR		
	comp=Z,48µm,22.8s									
GYA				LR	LR		
	comp=Z,95µm,20.7s									
M02C	**Callahan**	**49.29**	**73**	P	**P**	**22 59 06.9**	**+0.5**
M02C				IAmb	IAmb	22 59 28.7	
	comp=Z,614nm,1.5s									
M02C				IAMs_20	IAMs_20	23 15 53.0	
	comp=Z,29µm,21.0s									
M02C	**Callahan**	**49.29**	**73**	P	**P**	**22 59 06.9**	**+0.5**
	baz=312,SNR=16									
M02C				S	**S**	**23 06 14.3**	**+5.0**
	baz=312									
BJO1	**Bjornoya**	**49.30**	**348**	*e*P	**P**	**22 59 06.4**	**+0.5**
BJO1				IVmBBB		22 59 08.4	
	comp=Z,11µm,0.9s									
BJO1				*e*S	**S**	**23 06 08.8**	**+0.4**
BJO1				IVMs_BB	IVMs_BB	23 21 49.3	
	comp=Z,5µm,17.5s									
F10A	**Beach Ranch, E**	**49.37**	**65**	P	**P**	**22 59 05.3**	**-1.7**
F10A				IAmb	IAmb	22 59 27.7	
	comp=Z,874nm,1.9s									
F10A	**Beach Ranch, E**	**49.37**	**65**	⇓P	**P**	**22 59 06.0**	**-1.0**
I07A	**Izee**	**49.37**	**68**	P	**P**	**22 59 06.9**	**-0.1**
I07A				IAmb	IAmb	22 59 28.2	
	comp=Z,462nm,1.5s									
K05A	**Summer Lake**	**49.50**	**70**	P	**P**	**22 59 07.7**	**-0.4**
M04C	**Macdoel**	**49.60**	**72**	P	**P**	**22 59 08.1**	**-0.7**
M04C				IAMs_20	IAMs_20	23 17 43.1	
	comp=Z,32µm,19.0s									
M04C	**Macdoel**	**49.60**	**72**	P	**P**	**22 59 09.3**	**+0.4**
	baz=312,SNR=16									
M04C				S	**S**	**23 06 19.1**	**+5.5**
	baz=312									
N02D	**Trinity Center**	**49.66**	**73**	IAMs_20	IAMs_20	23 15 49.7	
	comp=Z,41µm,22.0s									
N02D	**Trinity Center**	**49.66**	**73**	P	**P**	**22 59 08.8**	**-0.4**
	baz=312,SNR=31									
N02D				S	**S**	**23 06 21.1**	**+6.7**
	baz=312									
WDC	**Whiskeytown Da**	**50.01**	**73**	IAmb	IAmb	22 59 32.6	
	comp=Z,303nm,1.1s									
WDC				IAMs_20	IAMs_20	23 15 59.1	
	comp=Z,33µm,22.0s									
WDC	**Whiskeytown Da**	**50.01**	**73**	⇑P	**P**	**22 59 12.2**	**+0.4**
KCPM	**Cahto Peak**	**50.03**	**75**	IAmb	IAmb	22 59 33.8	
	comp=Z,691nm,1.7s									
BMO	**Blue Mountains**	**50.06**	**66**	IAmb	IAmb	22 59 33.3	
	comp=Z,609nm,1.6s									
O02D	**Mt. Diablo Mer**	**50.15**	**74**	IAmb	IAmb	22 59 34.8	
	comp=Z,414nm,1.4s									
O02D				IAMs_20	IAMs_20	23 16 12.6	
	comp=Z,54µm,22.0s									
O02D	**Mt. Diablo Mer**	**50.15**	**74**	P	**P**	**22 59 13.2**	**+0.3**
	baz=313,SNR=23									
O02D				S	**S**	**23 06 27.1**	**+6.0**
	baz=313									
MOD	**Modoc Plateau**	**50.38**	**71**	IAMs_20	IAMs_20	23 18 05.6	
	comp=Z,32µm,21.0s									
UPNV	**Upernavik**	**50.47**	**14**	*i* P	**P**	**22 59 13.2**	**-1.7**
UPNV				IAmb	IAmb	22 59 17.7	
	comp=Z,244nm,0.7s									
MSO	**Missoula**	**50.54**	**62**	IAmb	IAmb	22 59 36.7	
	comp=Z,350nm,1.1s									
MSO				IAMs_20	IAMs_20	23 19 54.4	
	comp=Z,30µm,20.0s									
MSO	**Missoula**	**50.54**	**62**	P	**P**	**22 59 14.9**	**-0.9**
	baz=311,SNR=102									
MSO				S	**S**	**23 06 28.0**	**+1.5**
	baz=311									
PLID	**Pearl Lake**	**50.60**	**65**	IAmb	IAmb	22 59 37.2	
	comp=Z,1µm,1.9s									
PLID				IAMs_20	IAMs_20	23 18 08.2	
	comp=Z,49µm,21.0s									
O03E	**Paynes Creek**	**50.62**	**73**	P	**P**	**22 59 15.8**	**-0.7**
	baz=313,SNR=25									
O03E				S	**S**	**23 06 30.8**	**+3.1**
	baz=313									
HOPS	**Hopland Field**	**50.79**	**75**	IAmb	IAmb	22 59 39.1	
	comp=Z,640nm,1.4s									
HOPS				IAMs_20	IAMs_20	23 16 30.7	
	comp=Z,50µm,22.0s									
WVOR	**Wild Horse Val**	**50.94**	**69**	IAmb	IAmb	22 59 40.3	
	comp=Z,1µm,1.9s									
WVOR				IAMs_20	IAMs_20	23 18 50.4	
	comp=Z,29µm,20.0s									
WVOR	**Wild Horse Val**	**50.94**	**69**	⇓P	**P**	**22 59 18.6**	**-0.3**
BRVK	**Borovoye**	**50.97**	**309**	*ce*P	**P**	**22 59 16.9**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,385nm,1.0s									
BRVK				MLR	MLR		
	comp=Z,116µm,18.0s									
BRVK	**Borovoye**	**50.97**	**309**	P	**P**	**22 59 16.4**	**-2.4**
BRVK				IAmb	IAmb	22 59 22.3	
	comp=Z,513nm,1.1s									
BRVK	**Borovoye**	**50.97**	**309**	⇑P	**P**	**22 59 16.8**	**-2.1**
BRVK	**Borovoye**	**50.97**	**309**	P	**P**	**22 59 17.3**	**-1.6**
GDXM	**Geysers**	**51.07**	**75**	IAmb	IAmb	22 59 41.8	
	comp=Z,335nm,1.2s									
FFC	**Flin Flon**	**51.09**	**48**	P	**P**	**22 59 19.0**	**-0.8**
FFC				pmax	pmax		
	comp=Z,823nm,2.0s									
FFC				MLR	MLR		
	comp=Z,26µm,20.0s									
FFC	**Flin Flon**	**51.09**	**48**	P	**P**	**22 59 18.9**	**-0.8**
FFC				IAmb	IAmb	22 59 40.5	
	comp=Z,823nm,2.0s									
FFC	**Flin Flon**	**51.09**	**48**	IAMs_20	IAMs_20	23 22 38.3	
	comp=Z,26µm,20.0s									
FFC	**Flin Flon**	**51.09**	**48**	P	**P**	**22 59 18.6**	**-1.2**
ORV	**Oroville**	**51.29**	**74**	IAmb	IAmb	22 59 42.1	
	comp=Z,590nm,1.6s									
ORV				IAMs_20	IAMs_20	23 17 00.1	
	comp=Z,33µm,22.0s									
FCC	**Fort Churchill**	**51.60**	**40**	IAmb	IAmb	22 59 26.2	
	comp=Z,259nm,0.8s									
TGY	**Tagaytay City**	**51.65**	**236**	LR	LR	23 21 59.9	
	comp=Z,18µm,22.0s,baz=7.0,slow=37									
BEKR	**Beckworth**	**51.72**	**73**	IAmb	IAmb	22 59 46.1	
	comp=Z,768nm,1.5s									
DBG	**Daneborg**	**51.75**	**1**	⇑*i* P	**P**	**22 59 22.9**	**-1.5**
DBG				IAmb	IAmb	22 59 45.6	
	comp=Z,210nm,0.9s									
DBG	**Daneborg**	**51.75**	**1**	⇓P	**P**	**22 59 23.2**	**-1.2**
MFID	**Camas Ranch**	**51.81**	**66**	IAmb	IAmb	22 59 46.5	
	comp=Z,404nm,1.4s									
MFID				IAMs_20	IAMs_20	23 18 09.2	
	comp=Z,27µm,22.0s									
BRZS	**Berezniki**	**51.88**	**305**	*i* P	**P**	**22 59 22.9**	**-2.8**
BRZS				*e*S	**S**	**23 06 42.9**	**-1.7**
BRZS				pmax	pmax		
	comp=Z,244nm,1.3s									
BRZS	**Berezniki**	**51.88**	**305**	*i* P	**P**	**22 59 22.9**	**-2.8**
	comp=Z,244nm,1.3s,baz=305									
BRZS				*e*S	**S**	**23 06 43.0**	**-1.7**
	baz=305									
EGMT	**Eagleton**	**51.88**	**58**	IAmb	IAmb	22 59 46.5	
	comp=Z,807nm,1.9s									
EGMT	**Eagleton**	**51.88**	**58**	P	**P**	**22 59 24.7**	**-1.2**
	baz=312,SNR=58									
EGMT				S	**S**	**23 06 44.4**	**-0.5**
	baz=312									
NUUG	**Nuugaatsiaq**	**52.00**	**14**	*i* P	**P**	**22 59 25.5**	**-0.8**
NUUG				IAmb	IAmb	22 59 48.2	
	comp=Z,89nm,1.0s									
HAMF	**Hammerfest**	**52.05**	**344**	*e*P	**P**	**22 59 26.0**	**-0.7**
HAMF				*e*S	**S**	**23 06 46.7**	**+0.2**
PZH	**PanZhiHua**	**52.11**	**263**	P	**P**	**22 59 26.3**	**-1.6**
PZH				pP	**pP**	**22 59 38.8**	**-1.3**
PZH				PcP	**PcP**	**23 00 40.8**	**+1.5**
PZH				PP	**PP**

comp=Z,358nm,1.2s,baz=297
TDK *i* S **S** **23 06 49.9 -1.1**
baz=297
TDK LR LR 23 21 48.7
comp=Z,66µm,19.1s,baz=297
HLID **Hailey** **52.47 65** P **P** **22 59 29.8 -0.6**
baz=313,SNR=50
HLID S **S** **23 06 53.9 +0.7**
baz=313
EMB **Emerald Bay** **52.48 73** IAmb IAmb 22 59 52.2
comp=Z,950nm,1.7s
SVE **Sverdlovsk** **52.55 317** *de*P **P** **22 59 29.8 -0.8**
SVE *e* 23 01 31.4
SVE *e*S **S** **23 06 55.1 +1.5**
SVE *e*SS **SS** **23 10 31.1 -0.3**
SVE pmax pmax
comp=Z,938nm,1.0s
SVE pmax pmax
comp=Z,3µm,9.5s
SVE MLR MLR
comp=N,49µm,21.0s
SVE MLR MLR
comp=Z,120µm,20.0s
SVE MLR MLR
comp=E,64µm,19.0s
BOZ **Bozeman (W)** **52.56 62** IAmb IAmb 22 59 52.2
comp=Z,344nm,1.2s
BOZ IAMs_20 IAMs_20 23 21 06.7
comp=Z,36µm,22.0s
BOZ **Bozeman (W)** **52.56 62** P **P** **22 59 30.3 -0.7**
baz=313,SNR=50
BOZ S **S** **23 06 55.9 +1.5**
baz=313
KMI **Kunming** **52.58 261** ⇑P **P** **22 59 31.6 +0.1**
KMI pP pP 22 59 39.9 -3.8
KMI PcP **PcP** **23 00 43.0 +1.8**
KMI PP **PP** **23 01 31.6 +0.9**
KMI S **S** **23 06 53.3 -2.0**
KMI sS sS 23 07 13.3 -2.2
KMI ScS **ScS** **23 09 17.3 -0.1**
KMI SS **SS** **23 10 32.8 -0.9**
KMI pmax pmax
comp=Z,310nm,1.2s
KMI pmax pmax
comp=Z,7µm,4.9s
KMI LR LR
comp=Z,42µm,22.0s
KMI LR LR
comp=Z,38µm,23.8s
KMI LR LR
comp=Z,43µm,25.6s
KMI **Kunming** **52.58 261** P **P** **22 59 30.8 -0.7**
ARCES **ARCESS Array B** **52.71 343** P **P** **22 59 31.0 -0.7**
comp=Z,372nm,1.0s,baz=36,slow=6.3,SNR=128
ARCES PcP **PcP** **23 00 42.0 +1.3**
comp=Z,26nm,0.8s,baz=26,slow=3.1,SNR=3.6
ARCES LR LR 23 26 17.1
comp=Z,16µm,18.9s,baz=40,slow=41
ARCES **ARCESS Array B** **52.71 343** P **P** **22 59 30.4 -1.2**
ARCES IAmb IAmb 22 59 34.0
comp=Z,441nm,1.0s
ARCES **PcP** **23 00 41.1 +0.4**
APA **Apatity** **52.82 338** ⇓*i*P **P** **22 59 30.9 -1.5**
APA *i* 23 01 34.0
APA *i* S **S** **23 06 52.0 -5.1**
APA pmax pmax
comp=Z,272nm,0.9s
CMB **Columbia Colle** **52.97 74** IAmb IAmb 22 59 55.8
comp=Z,484nm,1.5s
CMB IAMs_20 IAMs_20 23 17 33.5
comp=Z,51µm,22.0s
BMN **Battle Mountai** **53.08 70** IAmb IAmb 22 59 56.7
comp=Z,1µm,1.6s
KPKS **Kokpek** **53.22 295** *e*P **P** **22 59 33.4 -2.4**
KPKS *e*S **S** **23 07 01.9 -1.4**
KPKS pmax pmax
comp=Z,175nm,1.2s
KPKS **Kokpek** **53.22 295** *e*P **P** **22 59 33.5 -2.4**
comp=Z,175nm,1.2s,baz=296
KPKS *e*S **S** **23 07 02.0 -1.4**
baz=296
SAO **San Andreas Ge** **53.26 76** IAMs_20 IAMs_20 23 17 25.2
comp=Z,48µm,22.0s
SAO **San Andreas Ge** **53.26 76** ⇓P **P** **22 59 36.8 +0.7**
UZB **Uzunbulak** **53.26 295** *i* P **P** **22 59 33.9 -2.3**
UZB *i* S **S** **23 07 02.4 -1.6**
UZB pmax pmax
comp=Z,119nm,1.1s
UZB **Uzunbulak** **53.26 295** *i* P **P** **22 59 34.0 -2.3**
comp=Z,118nm,1.1s,baz=295
UZB *i* S **S** **23 07 02.4 -1.6**
baz=295
QIZ **Qiongzhong** **53.33 250** IAMs_20 IAMs_20 23 23 18.3
comp=Z,30µm,19.0s
QIZ **Qiongzhong** **53.33 250** ⇑*i*P **P** **22 59 38.1 +1.3**
QIZ sP **sP** **22 59 54.3 +0.1**
QIZ S **S** **23 07 03.9 -1.2**
QIZ SS **SS** **23 10 46.0 +0.8**
QIZ pmax pmax
comp=Z,210nm,2.1s
QIZ pmax pmax
comp=Z,8µm,10.2s
QIZ LR LR
comp=Z,24µm,17.5s
QIZ LR LR
comp=Z,30µm,18.3s
QIZ LR LR
comp=Z,24µm,17.2s
QIZ **Qiongzhong** **53.33 250** P **P** **22 59 38.7 +1.9**
TARA **Tarawa** **53.34 167** P **P** **22 59 37.4 +0.6**
TARA IAmb IAmb 22 59 40.5
comp=Z,313nm,1.1s
TARA **Tarawa** **53.34 167** IAMs_20 IAMs_20 23 26 06.9
comp=Z,22µm,18.0s
TARA **Tarawa** **53.34 167** P **P** **22 59 39.2 +2.4**
YHH **Holmes Hill** **53.51 62** IAmb IAmb 22 59 59.5
comp=Z,606nm,1.8s
ZHN **Zhinishke** **53.56 295** *e*P **P** **22 59 37.1 -1.2**
ZHN **Zhinishke** **53.56 295** *e*P **P** **22 59 37.2 -1.2**
baz=295
KTK1 **Kautokeino** **53.56 343** *e*P **P** **22 59 37.1 -0.8**
KTK1 *e*PP **PP** **23 01 38.7 +0.3**
KTK1 *e*S **S** **23 07 05.9 -1.3**
KTK1 IVMs_BB IVMs_BB 23 29 42.0
comp=Z,8µm,17.0s
ARU **Arti** **53.65 318** LR LR 23 25 33.7
comp=Z,117µm,19.7s,baz=40,slow=40
ARU **Arti** **53.65 318** *c* *i*P **P** **22 59 37.9 -0.8**
ARU *PP **pwP** **22 59 52.2 -2.1**
ARU *SP **sP** **23 00 01.2 +5.3**
ARU 23 00 38.4
ARU PPP PPP 23 02 47.7
ARU S **S** **23 07 10.6 +2.0**
ARU *SS **sS** **23 07 35.3 +4.7**
ARU 23 09 25.5
ARU SS **SKiKP** **23 10 44.9 -3.5**
ARU pmax pmax
comp=Z,1µm,0.9s
ARU pmax pmax
comp=Z,4µm,7.5s
ARU MLR MLR
comp=Z,119µm,20.0s
ARU **Arti** **53.65 318** P **P** **22 59 36.8 -1.9**
ARU **Arti** **53.65 318** P **P** **22 59 37.3 -1.4**
SATY **Saty** **53.65 295** *i* P **P** **22 59 37.0 -2.0**
SATY *i* S **S** **23 07 07.9 -1.3**
SATY pmax pmax
comp=Z,132nm,1.0s
SATY **Saty** **53.65 295** *i* P **P** **22 59 37.0 -2.0**
comp=Z,132nm,1.0s,baz=295
SATY *i* S **S** **23 07 07.9 -1.3**
baz=295
YNR **Norris Junctio** **53.65 62** IAmb IAmb 23 00 05.4
comp=Z,815nm,1.9s
TRO **Tromso** **53.70 345** *e*P **P** **22 59 38.1 -0.7**
TRO *e*S **S** **23 07 10.6 +1.7**
TRO IVMs_BB IVMs_BB 23 29 49.0
comp=Z,5µm,15.0s
YFT **Old Faithful** **53.75 62** IAmb IAmb 23 00 04.5
comp=Z,204nm,0.9s
CHKK **Chushkaly** **53.85 297** *e*P **P** **22 59 37.1 -3.2**
baz=297
NVAR **Mina Array Bea** **53.87 73** P **P** **22 59 41.1 +0.3**
comp=Z,58nm,0.7s,baz=295,slow=7.3,SNR=73
NVAR LR LR 23 19 04.8
comp=Z,32µm,22.0s,baz=300,slow=32
NVAR P3KPbc 23 29 39.4
comp=Z,0.4nm,0.3s,baz=132,slow=5.2,SNR=4.1
NVAR PKPPKP **P'P'df** **23 29 58.4 -3.3**
comp=Z,2.4nm,0.8s,baz=145,slow=5.4,SNR=3.7
NVAR **Mina Array Bea** **53.87 73** P **P** **22 59 39.6 -1.3**
LKWY **Lake** **53.90 62** IAMs_20 IAMs_20 23 22 00.2
comp=Z,41µm,22.0s
YMP **Mirror Lake Pl** **53.90 62** IAmb IAmb 23 00 02.0
comp=Z,266nm,1.0s
H17A **Grant Village** **53.92 62** IAmb IAmb 23 00 04.0
comp=Z,783nm,1.7s
H17A **Grant Village** **53.92 62** P **P** **22 59 42.2 +1.0**
baz=314,SNR=134
H17A S **S** **23 07 20.5 +7.3**
baz=314
ELK **Elko** **53.95 69** LR LR 23 20 03.3
comp=Z,27µm,21.4s,baz=322,slow=33
ELK **Elko** **53.95 69** IAmb IAmb 23 00 02.4
comp=Z,280nm,1.2s
ELK IAMs_20 IAMs_20 23 19 41.1
comp=Z,28µm,21.0s
PMPB **Monarch Peak** **54.01 76** IAmb IAmb 23 00 07.0
comp=Z,421nm,1.3s
OMMB **Old Mammoth Mi** **54.05 74** IAmb IAmb 23 00 04.4
comp=Z,531nm,1.6s
FLWY **Flagg Ranch** **54.07 63** IAmb IAmb 23 00 04.5
comp=Z,243nm,0.9s
RLMT **Red Lodge** **54.10 61** IAMs_20 IAMs_20 23 23 49.5
comp=Z,39µm,20.0s
RLMT **Red Lodge** **54.10 61** P **P** **22 59 42.3 -0.1**
baz=314
RLMT S **S** **23 07 17.0 +1.5**
baz=314
MLAC **Mammoth, Mammo** **54.13 74** P **P** **22 59 43.7 +0.9**
baz=315
MLAC S **S** **23 07 22.3 +6.2**
baz=315
KUU **Kurty** **54.16 297** *i* P **P** **22 59 40.1 -2.5**
KUU *i* S **S** **23 07 13.9 -2.0**
KUU pmax pmax
comp=Z,362nm,1.3s
KUU MLR MLR
comp=Z,30µm,15.0s
KUU **Kurty** **54.16 297** *i* P **P** **22 59 40.1 -2.5**
comp=Z,362nm,1.3s,baz=297
KUU *i* S **S** **23 07 14.0 -2.0**
baz=297
KUU LR LR 23 23 30.3
comp=Z,30µm,15.5s,baz=297
MDOK **Medeo** **54.29 296** *i* P **P** **22 59 41.5 -2.3**
MDOK *i* S **S** **23 07 16.4 -1.6**
MDOK MLR MLR
comp=Z,14µm,16.0s
MDOK **Medeo** **54.29 296** *i* P **P** **22 59 41.5 -2.3**
baz=296
MDOK *i* S **S** **23 07 16.4 -1.6**
baz=296
MDOK LR LR 23 23 21.3
comp=Z,14µm,16.4s,baz=296
DGMT **Dagmar** **54.31 55** IAmb IAmb 23 00 03.7
comp=Z,347nm,1.2s
DGMT **Dagmar** **54.31 55** IAMs_20 IAMs_20 23 23 35.7
comp=Z,35µm,20.0s
DGMT **Dagmar** **54.31 55** P **P** **22 59 42.9 -0.7**
baz=314,SNR=55
DGMT S **S** **23 07 19.6 +1.8**
baz=314
AAA **Alma-Ata** **54.33 296** *e*P **P** **22 59 42.1 -1.9**
AAA *e*S **S** **23 07 17.6 -0.7**
AAA pmax pmax
comp=Z,250nm,1.0s
AAA MLR MLR
comp=Z,25µm,18.0s
AAA **Alma-Ata** **54.33 296** *e*P **P** **22 59 42.1 -1.9**
comp=Z,250nm,1.0s,baz=296
AAA *e*S **S** **23 07 17.7 -0.7**
baz=296
AAA *i* LR LR 23 23 20.4
comp=Z,25µm,17.8s,baz=296
PRGR **Permogore** **54.34 328** *e*P **P** **22 59 43.4 -0.2**
PRGR *e* 23 01 43.4
PRGR *e*S **S** **23 07 16.7 -1.0**
PRGR pmax pmax
comp=Z,72nm,0.6s
TPAW **Teton Pass** **54.35 63** IAmb IAmb 23 00 05.3
comp=Z,549nm,1.8s
ILULI **Ilulissat** **54.42 14** ⇑*i*P **P** **22 59 42.2 -1.8**
ILULI **Ilulissat** **54.42 14** IAmb IAmb 22 59 45.3
comp=Z,214nm,0.8s
TNSS **Tian-Shan** **54.44 296** *e*P **P** **22 59 42.8 -2.3**
baz=296
LOHW **Long Hollow** **54.45 63** IAmb IAmb 23 00 06.8
comp=Z,511nm,1.6s
REDW **Red Top Meadow** **54.49 63** IAmb IAmb 23 00 07.2
comp=Z,614nm,1.8s
LAO **LASA Array** **54.55 58** IAmb IAmb 23 00 06.1
comp=Z,497nm,1.1s
LAO **LASA Array** **54.55 58** P **P** **22 59 45.4 -0.1**
baz=314,SNR=125
LAO S **S** **23 07 23.9 +2.7**
baz=314
HVU **Hansel Valley** **54.57 66** IAmb IAmb 23 00 07.6
comp=Z,715nm,1.7s
PAGB **Antelope Grade** **54.67 76** IAmb IAmb 23 00 08.3
comp=Z,832nm,1.7s
VOG **Valley Oaks Go** **54.75 75** P **P** **22 59 46.6 -0.3**
baz=316
AHID **Auburn Hatcher** **54.77 64** IAMs_20 IAMs_20 23 20 46.6
comp=Z,37µm,21.0s
TIN **Tinemaha, Big** **54.88 74** P **P** **22 59 48.6 +0.5**
baz=315,SNR=28
JMIC **Jan Mayen** **54.95 357** LR LR 23 21 49.7
comp=Z,4µm,20.2s,baz=8.5,slow=34
SMMC **Simmler** **55.11 76** P **P** **22 59 50.0 +0.4**
baz=316,SNR=12
SMMC S **S** **23 07 33.6 +4.7**
baz=316
TKM2 **Tokmak 2** **55.23 297** P **P** **22 59 49.2 -1.4**
SNR=148
VES **Vestal, Richgr** **55.26 75** P **P** **22 59 50.1 -0.6**
baz=316,SNR=68
VES S **S** **23 07 34.8 +4.0**
baz=316
HWUT **Hardware Ranch** **55.34 65** IAMs_20 IAMs_20 23 20 37.6
comp=Z,35µm,22.0s
BOOM **Boomskoye usch** **55.35 296** IAmb IAmb 22 59 58.8
comp=Z,408nm,1.1s
SGDS **Sogindy** **55.36 298** *e*P **P** **22 59 51.2 -0.2**
SGDS pmax pmax
comp=Z,236nm,1.4s
SGDS **Sogindy** **55.36 298** *i* P **P** **22 59 49.5 -1.9**
comp=Z,210nm,1.3s,baz=298
SGDS *e*S **S** **23 07 30.4 -1.7**
baz=298
ULHL **Ulahol** **55.36 296** P **P** **22 59 51.9 +0.4**
SNR=12
CWC **Cottonwood Cre** **55.40 74** P **P** **22 59 51.9 +0.1**
baz=316
CWC S **S** **23 07 37.5 +4.4**
baz=316
GRAC **Grapevine Rang** **55.41 73** P **P** **22 59 52.3 +0.5**
baz=316
GRAC S **S** **23 07 38.0 +5.2**
baz=316
KIRV **Kirov** **55.43 324** LR LR 23 27 03.1
comp=Z,59µm,18.3s,baz=33,slow=40
R11A **Troy Canyon, C** **55.44 71** IAmb IAmb 23 00 13.8
comp=Z,634nm,1.4s
R11A **Troy Canyon, C** **55.44 71** P **P** **22 59 51.6 -0.5**
baz=315,SNR=75
R11A S **S** **23 07 36.6 +3.0**
baz=315
USP **Ospenovka** **55.56 298** P **P** **22 59 51.2 -1.6**
SNR=260
SCO **Scoresbysund** **55.56 2** *i* P **P** **22 59 52.0 -0.4**
SCO IAmb IAmb 22 59 55.4
comp=Z,10µm,4.4s
SCO **Scoresbysund** **55.56 2** ⇓P **P** **22 59 52.8 +0.4**
BW06 **Boulder Array** **55.59 63** IAmb IAmb 23 00 13.8
comp=Z,258nm,1.0s
BW06 **Boulder Array** **55.59 63** P **P** **22 59 52.9 -0.4**
baz=315,SNR=155
BW06 S **S** **23 07 37.5 +2.0**
baz=315
PD31 **Pinedale Array** **55.59 63** IAmb IAmb 23 00 13.8
comp=Z,254nm,1.1s
PD31 **Pinedale Array** **55.59 63** ⇓P **P** **22 59 52.9 -0.4**
PDAR **Pinedale Array** **55.59 63** P **P** **22 59 52.8 -0.4**
comp=Z,52nm,0.7s,baz=324,slow=3.2,SNR=126
PDAR PKPPKP **P'P'df** **23 29 52.8 -7.1**
comp=Z,3.0nm,1.0s,baz=87,slow=7.6,SNR=5.0
PDAR **Pinedale Array** **55.59 63** P **P** **22 59 52.6 -0.6**
CHMS **Chumysh** **55.62 297** P **P** **22 59 54.3 +1.2**
SNR=184
DUG **Dugway, Tooele** **55.66 67** P **P** **22 59 53.8 +0.2**
baz=315,SNR=168
DUG S **S** **23 07 40.8 +4.4**
baz=315
DAV **Davao City (W)** **55.71 227** LR LR 23 25 25.8
comp=Z,9µm,19.1s,baz=40,slow=38
DAV **Davao City (W)** **55.71 227** P **P** **22 59 54.3 +0.2**
DAV **Davao City (W)** **55.71 227** P **P** **22 59 57.0 +2.9**
DAV **Davao City (W)** **55.71 227** P **P** **22 59 54.8 +0.7**
DAV pP **sP** **23 00 13.6 +2.4**
ISA **Isabella, Lake** **55.73 75** IAmb IAmb 23 00 15.0
comp=Z,311nm,1.2s
ISA **Isabella, Lake** **55.73 75** P **P** **22 59 53.3 -0.8**
baz=316,SNR=55
ISA S **S** **23 07 40.5 +3.2**
baz=316
KBK **Karagaybulak** **55.75 297** P **P** **22 59 55.1 +0.7**
SNR=142
STEI **Steigen** **55.81 346** *e*P **P** **22 59 53.1 -1.0**
STEI *e*S **S** **23 07 38.7 +1.5**
STEI IVMs_BB IVMs_BB 23 25 44.4
comp=Z,4µm,21.8s
FRB **Frobisher Bay** **55.83 25** LR LR 23 27 33.4
comp=Z,11µm,18.6s,baz=310,slow=40
FRB **Frobisher Bay** **55.83 25** ⇓P **P** **22 59 52.5 -1.8**
LOF **Lofoten** **55.86 347** *e*P **P** **22 59 53.8 -0.6**
LOF *e*PP **PP** **23 01 58.9 +0.1**
LOF *e*S **S** **23 07 39.7 +1.8**
CTU **Camp Tracy** **55.88 66** IAmb IAmb 23 00 16.1
comp=Z,257nm,1.0s
SBC **Santa Barbara** **55.90 77** P **P** **22 59 57.1 +1.9**
baz=316,SNR=6.5
ARVC **Arvin** **55.91 76** P **P** **22 59 55.0 -0.4**
baz=316,SNR=11
ARVC S **S** **23 07 42.8 +3.3**
baz=316
ICESG **Greenland Ices** **55.92 10** ⇑*i*P **P** **22 59 54.9 -0.5**
ICESG IAmb IAmb 22 59 58.5
comp=Z,572nm,0.9s
ICESG **Greenland Ices** **55.92 10** ⇓P **P** **22 59 54.4 -1.0**
LSA **Lhasa** **55.94 275** IAmb IAmb 23 00 00.2
comp=Z,293nm,1.0s
LSA IAMs_20 IAMs_20 23 27 10.4
comp=Z,29µm,20.0s
LSA **Lhasa** **55.94 275** P **P** **22 59 55.8 -0.4**
LSA S **S** **23 07 32.6 -8.4**
LSA LR LR
comp=Z,25µm,18.4s
LSA LR LR
comp=Z,11µm,17.9s
LSA **Lhasa** **55.94 275** P **P** **22 59 55.2 -1.0**
LSA **Lhasa** **55.94 275** P **P** **22 59 55.6 -0.6**
AAK **Ala-Archa** **56.00 297** LR LR 23 25 23.8
comp=Z,81µm,20.4s,baz=43,slow=38
AAK **Ala-Archa** **56.00 297** P **P** **22 59 56.9 +0.8**
SNR=198
AAK **Ala-Archa** **56.00 297** *c* *i*P **P** **22 59 54.3 -1.8**
AAK pmax pmax
comp=Z,541nm,1.3s
AAK MLR MLR
comp=Z,71µm,19.0s
AAK **Ala-Archa** **56.00 297** P **P** **22 59 54.6 -1.5**
AAK IAmb IAmb 22 59 59.1
comp=Z,418nm,1.1s
AAK **Ala-Archa** **56.00 297** ⇑P **P** **22 59 54.4 -1.8**
AAK **Ala-Archa** **56.00 297** P **P** **22 59 54.5 -1.7**
AAK **Ala-Archa** **56.00 297** *i* P **P** **22 59 54.9 -1.2**
SNR=69
MPMC **Manual Prospec** **56.01 74** P **P** **22 59 56.3 +0.1**
baz=316,SNR=113
MPMC S **S** **23 07 45.0 +3.8**
baz=316
FURC **Furnace Creek,** **56.07 73** P **P** **22 59 56.9 +0.5**
baz=316,SNR=94
FURC S **S** **23 07 46.1 +4.6**
baz=316
TPNV **Topopah Spring** **56.07 72** IAmb IAmb 23 00 18.6
comp=Z,501nm,1.4s
TPNV IAMs_20 IAMs_20 23 20 29.3
comp=Z,26µm,21.0s
TPNV **Topopah Spring** **56.07 72** ⇓P **P** **22 59 56.7 +0.1**
TPNV **Topopah Spring** **56.07 72** P **P** **22 59 56.8 +0.1**
baz=316,SNR=54
TPNV S **S** **23 07 46.6 +4.7**
baz=316
UCH **Uchtor** **56.28 297** P **P** **22 59 59.6 +1.1**
SNR=59
FAUS **Fauske** **56.31 346** *e*P **P** **22 59 56.7 -1.0**
FAUS *e*PP **PP** **23 02 03.0 +0.1**
FAUS *e*S **S** **23 07 45.5 +1.5**
FAUS *e*ScS **ScS** **23 09 43.7 +1.5**
FAUS IVMs_BB IVMs_BB 23 33 14.4
comp=Z,6µm,12.7s
LRMC **Laurel Mtn Rad** **56.31 75** P **P** **22 59 58.6 +0.2**
baz=316,SNR=18
LRMC S **S** **23 07 48.5 +3.4**
baz=316
OSI **Osito Audit: C** **56.34 76** P **P** **22 59 59.0 +0.5**
baz=316,SNR=16
OSI S **S** **23 07 49.8 +4.4**
baz=316
CCAC **Calif City Air** **56.36 75** IAmb IAmb 23 00 19.8
comp=Z,583nm,1.6s
EKS2 **Erkin-Say** **56.36 298** P **P** **22 59 59.7 +1.1**
SNR=193
PRN **Pahroc Range** **56.41 71** ⇑P **P** **22 59 59.2 +0.1**
SFJD **Kangerlussuaq** **56.53 15** LR LR 23 25 45.6
comp=Z,10µm,21.3s,baz=340,slow=38
SFJD **Kangerlussuaq** **56.53 15** P **P** **22 59 57.9 -1.4**
SFJD pmax pmax
comp=Z,141nm,0.9s
SFJD MLR MLR
comp=Z,16µm,18.0s
SFJD **Kangerlussuaq** **56.53 15** *i* P **P** **22 59 57.2 -2.1**
SFJD IAmb IAmb 23 00 02.0
comp=Z,108nm,1.0s
SFJD **Kangerlussuaq** **56.53 15** P **P** **22 59 57.9 -1.4**
SFJD **Kangerlussuaq** **56.53 15** ⇑P **P** **22 59 58.0 -1.3**
SFJD **Kangerlussuaq** **56.53 15** P **P** **22 59 58.2 -1.1**
SFJD pP **sP** **23 00 15.0 -1.0**
EDW2 **Edwards Air Fo** **56.56 75** P **P** **23 00 00.0 -0.1**
baz=316,SNR=86
EDW2 S **S** **23 07 51.3 +3.0**
baz=316
KLMR **Klimovskoe** **56.77 331** *e*P **P** **22 59 58.6 -2.5**
KLMR *e*S **S** **23 07 47.8 -2.4**
KLMR *e*SS **SS** **23 11 38.5 +0.8**
KLMR pmax pmax
comp=Z,1µm,1.0s
KLMR MLR MLR
comp=Z,29µm,17.0s
KLMR **Klimovskoe** **56.77 331** *e*P **P** **22 59 58.7 -2.4**
KLMR AMP 23 00 03.8
comp=Z,1µm,1.0s
KLMR *e*S **S** **23 07 47.8 -2.4**
KLMR *e*S **S** **23 07 47.8 -2.4**
KLMR *e*SS **SS** **23 11 38.5 +0.8**
KLMR *e*SS **SS** **23 11 38.5 +0.8**
KLMR LQ LQ 23 19 52.3
KLMR LQ LQ 23 19 52.3
KLMR LR LR 23 25 03.3
KLMR AMP 23 27 52.4
comp=Z,29µm,16.6s
AML **Almayashu** **56.78 297** P **P** **23 00 03.4 +1.5**
SNR=95
AML **Almayashu** **56.78 297** *i* P **P** **23 00 01.4 -0.6**
SNR=47
DECC **Green Verdugo** **56.82 76** P **P** **23 00 01.9 0.0**
baz=317,SNR=39
DECC S **S** **23 07 55.5 +3.8**
baz=317
SNCC **San Nicolas Is** **56.87 78** IAmb IAmb 23 00 23.8
comp=Z,794nm,1.4s
SNCC **San Nicolas Is** **56.87 78** P **P** **23 00 02.4 +0.2**
baz=317
SNCC S **S** **23 07 56.9 +4.6**
baz=317
ULM **Lac du Bonnet** **56.89 49** P **P** **23 00 01.6 -0.4**
comp=Z,186nm,0.9s,baz=315,slow=7.2,SNR=47
ULM LR LR 23 24 59.4

comp=Z,58µm,21.5s,baz=309,slow=37
ULM Lac du Bonnet 56.89 49*d* iP P 23 00 01.3 -0.8
ULM Lac du Bonnet 56.89 49 ⇓P P 23 00 01.3 -0.8
MDND Maddock 56.93 53 P P 23 00 02.4 0.0
baz=316,SNR=92
MDND S S 23 07 55.3 +2.6
baz=316
GSC Goldstone, Bar 56.94 74 P P 23 00 02.8 +0.1
baz=317,SNR=148
GSC S S 23 07 57.4 +4.1
baz=317
TCRU Three Creeks R 56.98 69 IAmb IAmb 23 00 25.8
comp=Z,789nm,1.6s
SHPR Sheep Range 56.99 72 IAmb IAmb 23 00 25.3
comp=Z,674nm,1.7s
RRX Edison Barstow 57.13 75 P P 23 00 04.2 +0.2
baz=317,SNR=7.2
RRX S S 23 08 00.1 +4.3
baz=317
BFSC Mount Baldy Ra 57.22 76 P P 23 00 04.6 -0.2
baz=317,SNR=60
BFSC S S 23 07 59.9 +2.8
baz=317
FMP Fort Macarthur 57.24 77 P P 23 00 05.4 +0.6
baz=317
FMP S S 23 08 00.6 +3.6
baz=317
CCUT Cedar City 57.24 70 IAmb IAmb 23 00 27.1
comp=Z,294nm,1.1s
K22A Casper 57.24 61 IAmb IAmb 23 00 26.1
comp=Z,323nm,1.1s
K22A Casper 57.24 61 P P 23 00 04.5 -0.4
baz=316,SNR=31
K22A S S 23 08 00.2 +2.8
baz=316
P17A Butcher Ranch, 57.29 67 IAmb IAmb 23 00 27.4
comp=Z,583nm,1.3s
NBB13 Alf Garage 57.30 346 *e*P P 23 00 03.9 -0.8
TUQ Turquoise Moun 57.34 74 P P 23 00 05.7 0.0
baz=317,SNR=41
TUQ S S 23 08 02.9 +4.3
baz=317
SZCU Shurtz Canyon 57.36 70 IAmb IAmb 23 00 27.8
comp=Z,302nm,1.3s
CIS Catalina Islan 57.40 77 P P 23 00 05.5 -0.4
baz=317,SNR=16
CIS S S 23 08 02.9 +3.7
baz=317
KSH Kashi 57.44 294 P P 23 00 07.8 +1.5
KSH pP pP 23 00 17.9 -0.7
KSH sP sP 23 00 23.5 -0.2
KSH PcP **PcP** **23 01 01.6 +2.0**
KSH PP **PP** **23 02 20.3 +6.6**
KSH PcS **PcS** **23 05 00.9 +0.1**
KSH S S 23 08 02.6 +2.7
KSH pmax pmax
comp=Z,470nm,1.5s
KSH pmax pmax
comp=Z,8µm,4.8s
KSH LR LR
comp=Z,94µm,21.1s
KSH LR LR
comp=Z,49µm,19.0s
KSH LR LR
comp=Z,121µm,20.2s
KONS Konsvik 57.45 346 *e*P P 23 00 05.1 -0.7
KONS *e*S S 23 08 00.3 +1.4
SOEG Soedalen 57.45 6 *i* P P 23 00 05.2 -0.6
SOEG IAmb IAmb 23 00 25.8
comp=Z,268nm,1.1s
RSSD Black Hills 57.46 59 P P 23 00 05.7 -0.7
RSSD pmax pmax
comp=Z,361nm,1.1s
RSSD MLR MLR
comp=Z,66µm,20.0s
RSSD Black Hills 57.46 59 P P 23 00 05.7 -0.7
RSSD IAmb IAmb 23 00 26.8
comp=Z,361nm,1.1s
RSSD Black Hills 57.46 59 ⇓P P 23 00 05.8 -0.6
RSSD Black Hills 57.46 59 P P 23 00 06.0 -0.5
baz=316
RSSD S S 23 08 04.1 +4.0
baz=316
RSSD Black Hills 57.46 59 P P 23 00 06.0 -0.5
RSSD pP **pwP** **23 00 26.0 +1.8**
DZA Taraz 57.46 299 *e*P P 23 00 04.3 -1.9
DZA pmax pmax
comp=Z,150nm,1.1s
DZA Taraz 57.46 299 *e*P P 23 00 04.4 -1.9
comp=Z,150nm,1.1s,baz=300
MTPU Mount Pierson 57.54 69 IAmb IAmb 23 00 29.9
comp=Z,438nm,1.5s
HEC Hector,Ludlow 57.54 74 P P 23 00 07.0 -0.1
baz=317,SNR=39
HEC S S 23 08 05.0 +3.7
baz=317
MOR8 Moi Rana 57.56 345 *e*P P 23 00 04.5 -2.1
MOR8 IVmB_BB 23 00 07.6
comp=Z,7µm,0.9s
MOR8 *e*PP **PP** **23 02 12.7 -1.4**
MOR8 *e*S S 23 07 59.8 -0.7
MOR8 *e*SS SS 23 11 52.4 +2.4
MOR8 IVMs_BB IVMs_BB 23 32 43.9
comp=Z,6µm,15.9s
RWWY Rawlins 57.58 63 IAmb IAmb 23 00 26.8
comp=Z,374nm,1.1s
RWWY IAMs_20 IAMs_20 23 24 41.7
comp=Z,29µm,21.0s
STOK Stokkvaagen 57.62 346 *e*P P 23 00 06.6 -0.3
STOK *e*S S 23 08 03.7 +2.6
BBRC Big Bear Solar 57.62 75 P P 23 00 07.6 -0.2
baz=317
BBRC S S 23 08 06.6 +4.0
baz=317
SCI2 San Clemente I 57.63 77 P P 23 00 07.8 +0.3
baz=317,SNR=11
SCI2 S S 23 08 09.0 +6.8
baz=317
DY2G Dye2 57.65 13⇑ *i* P P 23 00 06.0 -1.5
DY2G IAmb IAmb 23 00 08.4
comp=Z,303nm,0.9s
SRU San Rafael Swe 57.67 67 IAmb IAmb 23 00 29.0
comp=Z,549nm,1.2s
LCMT Little Creek M 57.70 70 IAmb IAmb 23 00 30.4
comp=Z,711nm,1.5s
KKAR Karatay Array 57.73 300 P P 23 00 06.6 -1.5
KKAR Karatay Array 57.73 300 P P 23 00 06.6 -1.5
ELS Elsinore Mount 57.78 76 IAmb IAmb 23 00 30.2
comp=Z,300nm,1.0s
PKCU Pink Cliffs 57.90 69 IAmb IAmb 23 00 31.4
comp=Z,641nm,1.5s
MURC Murrieta 57.95 76 P P 23 00 09.5 -0.3
baz=317,SNR=45
MURC S S 23 08 09.8 +3.3
baz=317
GMRC Granite Mounta 57.96 74 P P 23 00 09.9 -0.1
baz=317,SNR=144
GMRC S S 23 08 11.0 +4.3
baz=317
O20A White River Ci 58.15 64 IAmb IAmb 23 00 32.2
comp=Z,573nm,1.1s
O20A White River Ci 58.15 64 P P 23 00 11.2 -0.2
baz=316,SNR=94
O20A S S 23 08 12.7 +3.4
baz=316
AKTO Aktyubinsk 58.23 313 LR LR 23 28 26.0
comp=Z,39µm,18.6s,baz=36,slow=39
ABKAR Akbulak array 58.27 311 P P 23 00 10.5 -1.3
ABKAR Akbulak array 58.27 311 IAmb IAmb 23 00 16.4
comp=Z,366nm,1.2s
ABKAR Akbulak array 58.27 311⇑P P 23 00 10.2 -1.6
AGMN Agassiz Nation 58.32 50 IAMs_20 IAMs_20 23 25 07.6
comp=Z,44µm,22.0s
AGMN Agassiz Nation 58.32 50 P P 23 00 11.2 -1.0
baz=318,SNR=86
AGMN S S 23 08 13.1 +2.2
baz=318
BELC Belle Mtn. Jos 58.34 75 P P 23 00 12.0 -0.7
baz=317,SNR=65
BELC S S 23 08 15.2 +3.4
baz=317
PFO Pinyon Flats O 58.36 75 LR LR 23 20 57.5
comp=Z,55µm,21.7s,baz=312,slow=32
PFO Pinyon Flats O 58.36 75*d* iP P 23 00 12.0 -0.8
PFO pmax pmax
comp=Z,58nm,0.8s
PFO Pinyon Flats O 58.36 75 P P 23 00 11.9 -0.9
baz=317,SNR=27
PFO S S 23 08 14.3 +2.3
baz=317
PFO Pinyon Flats O 58.36 75 P P 23 00 13.8 +1.0
PFO pP **pwP** **23 00 32.3 +1.3**
TPFO Pinon Flats 58.37 75 P P 23 00 12.2 -0.6
baz=317,SNR=37
109C Camp Elliot, M 58.52 76 IAmb IAmb 23 00 41.6
comp=Z,321nm,1.2s
109C Camp Elliot, M 58.52 76 P P 23 00 13.5 -0.3
baz=318,SNR=15
109C S S 23 08 17.5 +3.7
baz=318
NEE2 Needles Airpor 58.55 73 P P 23 00 14.2 +0.2
baz=317
NEE2 S S 23 08 18.9 +4.6
baz=317
SHL Shillong 58.60 271 *e*P P 23 00 14.3 -0.3
SHL IAmb IAmb 23 00 17.7
comp=Z,850nm,1.7s
SHL Shillong 58.60 271 P P 23 00 13.2 -1.5
SNR=260
U15A North Rim 58.64 70 IAmb IAmb 23 00 37.2
comp=Z,713nm,1.8s
D32A Dogwood Acres, 58.65 52 IAmb IAmb 23 00 35.2
comp=Z,383nm,0.9s
VALR Valaam 58.66 335*c e*P P 23 00 13.5 -0.8
VALR pmax pmax
comp=Z,3µm,1.0s
VALR MLR MLR
comp=Z,9µm,16.0s
IUG luzhnay 58.66 300 *i* P P 23 00 12.5 -2.3
IUG *i* S S 23 08 14.9 -0.8
IUG luzhnay 58.66 300 *i* P P 23 00 12.5 -2.3
baz=300
IUG *i* S S 23 08 15.0 -0.8
baz=300
IRM Iron Mountain 58.70 74 P P 23 00 15.2 +0.1
baz=317,SNR=81
IRM S S 23 08 20.7 +4.4
baz=317
W13A Hualapai Mount 58.73 72 IAmb IAmb 23 00 37.2
comp=Z,251nm,1.2s
UBPT Khong Chiam 58.79 252 P P 23 00 16.1 +0.2
UBPT Khong Chiam 58.79 252⇑P P 23 00 16.7 +0.9
N23A Red Feather La 58.81 62 IAmb IAmb 23 00 37.6
comp=Z,300nm,0.9s
N23A Red Feather La 58.81 62 P P 23 00 16.1 0.0
baz=317,SNR=137
N23A S S 23 08 22.0 +3.9
baz=317
RABL Rabaul 58.86 192 P P 23 00 15.6 -0.7
RABL Rabaul 58.86 192 P P 23 00 18.1 +1.8
BC3 Big Chuckawall 58.90 75 P P 23 00 16.1 -0.5
baz=318,SNR=45
BC3 S S 23 08 23.2 +4.3
baz=318
MONP2 Monument Peak 58.91 76 P P 23 00 16.4 -0.3
baz=318,SNR=24
MONP2 S S 23 08 22.4 +3.0
baz=318
BAR Barrett 58.92 76 IAmb IAmb 23 00 38.1
comp=Z,425nm,1.6s
PV23 Carpenter Ridg 58.96 66 IAmb IAmb 23 00 38.0
comp=Z,553nm,1.3s
PV10 Paradox Valley 59.00 66 IAmb IAmb 23 00 38.6
comp=Z,417nm,1.1s
TKX Tecate 59.04 76 IAmb IAmb 23 00 38.9
comp=Z,251nm,1.3s
PDMCI Parker Dam,Lak 59.16 73 P P 23 00 18.0 -0.2
baz=318,SNR=46
PDMCI S S 23 08 26.5 +4.3
baz=318
PV07 Paradox Valley 59.17 66 IAmb IAmb 23 00 41.2
comp=Z,455nm,1.5s
SWSC Sam W. Stewart 59.22 75 P P 23 00 18.2 -0.4
baz=318,SNR=21
SWSC S S 23 08 27.4 +4.5
baz=318
B35A Bob, Littlefor 59.23 49 IAmb IAmb 23 00 38.3
comp=Z,579nm,1.6s
IKP In-Ko-Pah, Jac 59.26 76 P P 23 00 18.8 -0.3
baz=318,SNR=28
IKP S S 23 08 27.7 +4.0
baz=318
PV15 Paradox Valley 59.33 66 IAmb IAmb 23 00 40.4
comp=Z,347nm,1.0s
BLYC Blythe 59.35 74 IAmb IAmb 23 00 41.5
comp=Z,278nm,1.0s
YUH Yuha Desert 59.37 76 IAmb IAmb 23 00 41.1
comp=Z,410nm,1.6s
ISOG Isortoq, Green 59.42 10⇑ *i* P P 23 00 17.4 -2.0
ISOG IAmb IAmb 23 00 38.4
comp=Z,488nm,1.1s
ISOG Isortoq, Green 59.42 10⇑P P 23 00 18.1 -1.3
JAY Jayapura 59.43 206 P P 23 00 22.4 +2.2
comp=Z,2µmcomp=Z,121nm,1.4s
SMPI Sarmi 59.46 208 P P 23 00 22.8 +2.4
comp=Z,12µmcomp=Z,5µmcomp=Z,279nm,1.4s
BAKI Biak 59.46 211 P P 23 00 21.4 +1.0
NSS Namsos 59.47 346 *e*P P 23 00 19.3 -0.6
NSS IVmB_BB 23 00 22.3
comp=Z,8µm,2.5s
NSS *e*S S 23 08 24.1 -1.1
NSS *e*SS SS 23 12 24.0 +4.2
NSS IVMs_BB IVMs_BB 23 27 47.8
comp=Z,4µm,20.5s
ANGG Ammassalik, Gr 59.49 10⇑ *i*P P 23 00 19.8 -0.2
ANGG IAmb IAmb 23 00 39.5
comp=Z,230nm,1.0s
ANGG Ammassalik, Gr 59.49 10 IAmb IAmb 23 00 40.0
comp=Z,241nm,1.0s
ANGG IAMs_20 IAMs_20 23 27 44.2
comp=Z,25µm,20.0s
ANGG Ammassalik, Gr 59.49 10 ⇓P P 23 00 18.9 -1.1
SMCO Snowmass 59.52 64 IAMs_20 IAMs_20 23 23 50.2
comp=Z,26µm,21.0s
SMCO Snowmass 59.52 64⇑P P 23 00 21.4 +0.2
CHTO Chiang Mai 59.68 260 P P 23 00 22.6 +0.6
CHTO pmax pmax
comp=Z,2µm,1.3s
CHTO MLR MLR
comp=Z,48µm,20.0s
CHTO Chiang Mai 59.68 260 P P 23 00 22.6 +0.6
CHTO Chiang Mai 59.68 260⇑P P 23 00 22.4 +0.4
CHTO Chiang Mai 59.68 260 P P 23 00 23.3 +1.3
CHTO Chiang Mai 59.68 260 P P 23 00 22.5 +0.6
DRK Karamyk 59.69 296 IAmb IAmb 23 00 25.4
comp=Z,316nm,1.0s
GLA Glamis 59.70 75 P P 23 00 22.0 0.0
baz=318,SNR=36
GLA S S 23 08 33.5 +4.3
baz=318
TAPN Taplejung 59.70 276 *e*Pg P 23 00 22.4 0.0
FINES FINESS Array B 59.71 338 P P 23 00 20.7 -0.9
comp=Z,826nm,0.9s,baz=34,slow=6.9,SNR=344
FINES LR LR 23 28 42.0
comp=Z,15µm,22.0s,baz=23,slow=39
FINES PKPPKP **P'P'df** **23 29 49.8 -5.0**
comp=Z,7.7nm,0.8s,baz=150,slow=4.2,SNR=7.1
FINES FINESS Array B 59.71 338 P P 23 00 21.0 -0.6
SUSD Miller 59.72 55 P P 23 00 20.9 -1.1
baz=318,SNR=30
SUSD S S 23 08 30.3 +1.1
baz=318
ISCO Idaho Springs 59.78 63 IAMs_20 IAMs_20 23 27 32.1
comp=Z,34µm,20.0s
ISCO Idaho Springs 59.78 63 P P 23 00 23.2 +0.4
baz=317,SNR=123
ISCO S S 23 08 35.5 +4.8
baz=317
WUAZ Wupatki 59.82 70 ⇓P P 23 00 23.3 +0.4
WUAZ Wupatki 59.82 70 P P 23 00 23.4 +0.4
baz=318,SNR=77
WUAZ S S 23 08 37.3 +6.4
baz=318
DLV T Lat 59.87 247 P P 23 00 24.8 +1.3
CMAR Chiang Mai Arr 59.97 260 P P 23 00 24.7 +0.8
comp=Z,652nm,1.1s,baz=24,slow=6.8,SNR=310
CMAR LR LR 23 28 51.9
comp=Z,48µm,20.1s,baz=35,slow=39
CMAR PKPPKP **P'P'df** **23 29 44.0 -5.6**
comp=Z,1.3nm,0.3s,baz=245,slow=5.1,SNR=5.4
CMAR Chiang Mai Arr 59.97 260 P P 23 00 24.3 +0.4
SRPI Serui, Papua 60.07 211 P P 23 00 27.9 +3.3
comp=Z,11µmcomp=Z,5µmcomp=Z,168nm,1.1s
Y14A Wickenburg 60.07 73 IAmb IAmb 23 00 46.5
comp=Z,425nm,1.5s
MVCO Mesa Verde 60.15 67 IAmb IAmb 23 00 46.0
comp=Z,430nm,1.4s
MVCO Mesa Verde 60.15 67 P P 23 00 25.1 -0.2
baz=318,SNR=36
MVCO S S 23 08 40.6 +5.3
baz=318
PUL Pulkovo 60.17 335⇑ *e*P P 23 00 23.6 -1.1
PUL pmax pmax
comp=Z,2µm,1.3s
PUL MLR MLR
comp=Z,24µm,17.0s
PUL Pulkovo 60.17 335 *e*P P 23 00 25.2 +0.6
PUL Pulkovo 60.17 335 ⇓P P 23 00 25.4 +0.6
ODAN Odare 60.26 275 *e*P P 23 00 25.7 -0.5
comp=Z,971nm,1.2s
GUN Gumba 60.35 277 *e*P P 23 00 27.0 +0.1
comp=Z,596nm,0.9s
JIRN Jiri 60.36 277 *e*P P 23 00 26.4 -0.6
comp=Z,930nm,1.2s
113A Mohawk Valley, 60.50 74 IAmb IAmb 23 00 49.1
comp=Z,386nm,1.5s
EYMN Ely 60.52 48 P P 23 00 26.3 -1.1
baz=320,SNR=51
EYMN S S 23 08 40.7 +1.4
baz=320
MYLDM Lahad Datu 60.56 233⇑P P 23 00 29.8 +1.8
X16A Lo Mia Camp, P 60.59 71 IAmb IAmb 23 00 49.7
comp=Z,252nm,1.3s
KNTN Kanton 60.62 150 P P 23 00 31.0 +2.7
KNTN IAmb IAmb 23 00 49.6
comp=Z,220nm,1.1s
KNTN Kanton 60.62 150 ⇓P P 23 00 30.9 +2.6
KNTN Kanton 60.62 150 P P 23 00 30.7 +2.4
Q24A Divide 60.64 63 P P 23 00 28.7 0.0
baz=318,SNR=9.5
Q24A S S 23 08 47.3 +5.6
baz=318
S22A 4UR Ranch, Cre 60.65 65 P P 23 00 29.3 +0.5
baz=318,SNR=105
S22A S S 23 08 48.3 +6.5
baz=318
RAMN Ramite 60.65 276 *e*P P 23 00 27.6 -1.3
comp=Z,691nm,0.4s
TNTI Ternate 60.69 222 IAmb IAmb 23 00 51.6
comp=Z,341nm,1.2s
TNTI Ternate 60.69 222 P P 23 00 30.4 +1.6
comp=Z,10µmcomp=Z,5µmcomp=Z,240nm,1.1s
TNTI Ternate 60.69 222 P P 23 00 30.2 +1.4
SWI Sorong 60.75 217 P P 23 00 30.0 +0.8
SIJI Sorong 60.76 217 LR LR 23 23 10.6
comp=Z,7µm,21.7s,baz=13,slow=32
OGNE Ogallala 60.78 60 IAMs_20 IAMs_20 23 27 27.4
comp=Z,23µm,20.0s
OGNE Ogallala 60.78 60 P P 23 00 29.3 -0.1
baz=318,SNR=29
OGNE S S 23 08 46.8 +3.8
baz=318
KKN Kakani 60.79 278 *e*P P 23 00 28.9 -0.9
comp=Z,1µm,1.2s
PKI Pulchoki 60.88 277 *e*P P 23 00 30.1 -0.4
comp=Z,2µm,1.1s
PKIN Phulchoki 60.88 277 *e*P P 23 00 30.0 -0.4
comp=Z,2µm,1.1s
BELG Belogornoye 60.89 321 LR LR 23 29 38.2
comp=Z,81µm,20.1s,baz=38,slow=39
KKM Kota Kinabalu 60.90 236⇑P P 23 00 31.7 +1.2
KKM Kota Kinabalu 60.90 236 P P 23 00 32.0 +1.6
TBLU Trondheim 60.93 346 *e*P P 23 00 28.8 -1.1
TBLU *e*S S 23 08 43.8 -0.2
GKN Gorkha 61.01 278 *e*P P 23 00 30.5 -0.6
comp=Z,1µm,1.1s
W18A Petrified Fore 61.01 69 IAmb IAmb 23 00 52.4
comp=Z,332nm,1.3s
W18A Petrified Fore 61.01 69 P P 23 00 31.3 +0.1
baz=318,SNR=55
W18A S S 23 08 52.4 +6.1
baz=318
RAF Rauma 61.02 340 *e*P P 23 00 30.3 -0.2
DMN Daman 61.03 278 *e*P P 23 00 30.8 -0.6
comp=Z,2µm,1.2s
K31A O'Neill 61.17 56 IAmb IAmb 23 00 56.1
comp=Z,380nm,1.0s
SFX San Felipe 61.17 76 IAmb IAmb 23 00 53.5
comp=Z,342nm,1.5s
MEF Metsahovi 61.19 338 *e*P P 23 00 32.2 +0.6
F36A Milaca 61.20 51 IAmb IAmb 23 00 52.7
comp=Z,725nm,1.9s
DANN Dangsing 61.26 279 *e*P P 23 00 32.1 -0.9
comp=Z,2µm,1.0s
XMAS Kiritimati 61.32 133 P P 23 00 32.1 -1.0
XMAS IAmb IAmb 23 00 36.9
comp=Z,367nm,1.1s
XMAS Kiritimati 61.32 133 IAMs_20 IAMs_20 23 21 19.4
comp=Z,24µm,22.0s
XMAS Kiritimati 61.32 133 P P 23 00 35.2 +2.1
X18A Snowflake 61.33 70 P P 23 00 33.6 +0.3
BORG Borgarnes 61.33 2 LR LR 23 29 26.6
comp=Z,7µm,18.4s,baz=344,slow=38
BORG Borgarnes 61.33 2 P P 23 00 33.6 +1.0
BORG pmax pmax
comp=Z,304nm,1.1s
BORG MLR MLR
comp=Z,8µm,20.0s
BORG Borgarnes 61.33 2 P P 23 00 33.6 +1.0
BORG IAmb IAmb 23 00 37.3
comp=Z,304nm,1.1s
BORG Borgarnes 61.33 2⇑P P 23 00 35.1 +2.6
SDCO Great Sand Dun 61.36 65 IAmb IAmb 23 00 55.5
comp=Z,561nm,1.6s
SDCO IAMs_20 IAMs_20 23 25 28.8
comp=Z,26µm,22.0s
SDCO Great Sand Dun 61.36 65 P P 23 00 33.7 +0.1
baz=318,SNR=78
SDCO S S 23 08 56.9 +6.1
baz=318
ECSD EROS Data Cent 61.37 54 IAMs_20 IAMs_20 23 26 48.6
comp=Z,33µm,22.0s
ECSD EROS Data Cent 61.37 54 P P 23 00 32.0 -1.2
baz=319,SNR=70
ECSD S S 23 08 50.8 +0.5
baz=319
E38A The Farm, Brul 61.52 49 IAmb IAmb 23 00 53.7
comp=Z,521nm,1.3s
MOS Moscow 61.57 328 *e*P P 23 00 30.4 -3.9
MOS *e**PP **pP** **23 00 45.9 -0.6**
MOS *e* 23 00 56.2
MOS *e*S S 23 08 50.4 -1.9
MOS *e**SS **sS** **23 09 14.6 +0.6**
MOS *e* 23 10 17.2
MOS *e*SS SS 23 12 48.9 -4.1
MOS pmax pmax
comp=Z,1µm,1.2s
MOS pmax pmax
comp=Z,6µm,2.2s
MOS smax smax
comp=N,12µm,7.8s
MOS smax smax
comp=E,10µm,5.8s
MOS MLR MLR
comp=N,36µm,20.0s
MOS MLR MLR
comp=E,27µm,20.0s
MOS MLR MLR
comp=Z,54µm,20.0s
214A Organ Pipe Nat 61.65 74 IAmb IAmb 23 00 57.1
comp=Z,465nm,1.3s
214A Organ Pipe Nat 61.65 74 P P 23 00 35.2 0.0
baz=319,SNR=64
214A S S 23 08 59.8 +5.7
baz=319
KOLN Koldanda 61.78 279 *e*P P 23 00 35.0 -1.4
comp=Z,1µm,1.1s
PYUN Piuthan 61.89 280 *e*P P 23 00 36.0 -1.2
comp=Z,3µm,1.1s
KSCO Kaye Shedlock' 61.92 62 IAmb IAmb 23 00 58.8
comp=Z,469nm,1.1s
KSCO Kaye Shedlock' 61.92 62 P P 23 00 36.9 -0.2
baz=319,SNR=20
KSCO S S 23 09 01.5 +3.9
baz=319
LBMI Labuha 61.93 221 P P 23 00 38.9 +1.7
comp=Z,12µmcomp=Z,5µmcomp=Z,306nm,1.2s
MOL Molde 61.95 347 *e*P P 23 00 37.1 +0.4
MOL *e*S S 23 08 58.8 +1.8
MOL *e*SS SS 23 13 02.7 +4.0

MOL IVMs_BB IVMs_BB 23 35 20.5
comp=Z,6µm,21.2s
VLK Valmikinagar 61.97 278 *eP* **P 23 00 38.2 +0.8**
SPMN Marine on St. 62.02 51 IAmb IAmb 23 00 59.3
comp=Z,196nm,0.9s
SPMN Marine on St. 62.02 51 P **P 23 00 36.4 -1.1**
baz=320,SNR=30
SPMN S **S 23 09 00.6 +2.3**
baz=320
AAL Aland 62.15 340 *eP* **P 23 00 38.0 -0.2**
VSU Vasula 62.21 336⇓ *eP* **P 23 00 38.4 -0.2**
VSU pmax pmax
comp=Z,2µm,0.8s
VSU MLR MLR
comp=Z,56µm,17.0s
VSU Vasula 62.21 336 *eP* **P 23 00 39.1 +0.6**
VSU Vasula 62.21 336 ⇓P **P 23 00 38.4 -0.2**
KMSI Cibinong 62.23 225 P **P 23 00 42.2 +2.9**
comp=Z,9µmcomp=Z,772nm,1.1s
DOMB Dombas 62.25 346 *eP* **P 23 00 38.0 -0.9**
DOMB IVmB_BB 23 00 41.1
comp=Z,7µm,2.8s
DOMB *eS* **S 23 09 01.9 +0.9**
DOMB *eS*cS **ScS 23 10 27.9 +1.4**
DOMB IVMs_BB IVMs_BB 23 35 00.7
comp=Z,6µm,16.6s
FAKI Fak Fak 62.33 215 IAmb IAmb 23 01 05.9
comp=Z,560nm,1.3s
FAKI Fak Fak 62.33 215 ⇑P **P 23 00 39.7 -0.2**
FAKI Fak Fak 62.33 215 P **P 23 00 40.7 +0.8**
BGNE Belgrade 62.38 57 P **P 23 00 39.1 -0.9**
baz=319,SNR=31
BGNE S **S 23 09 04.6 +1.5**
baz=319
T25A Trinidad 62.39 64 P **P 23 00 40.1 -0.2**
baz=319,SNR=59
T25A S **S 23 09 09.3 +5.7**
baz=319
PTH Pithoragarh 62.40 283 *eP* **P 23 00 40.5 0.0**
OBN Obninsk 62.42 328 LR LR 23 31 10.0
comp=Z,14µm,19.7s,baz=26,slow=39
OBN Obninsk 62.42 328*c* *eP* **P 23 00 38.5 -1.5**
OBN *e* 23 02 57.3
OBN *eS* **S 23 09 04.0 +1.0**
OBN *eSS* **SS 23 13 10.6 +4.3**
OBN pmax pmax
comp=Z,2µm,1.8s
OBN MLR MLR
comp=Z,56µm,20.0s
OBN Obninsk 62.42 328 P **P 23 00 38.6 -1.3**
OBN Obninsk 62.42 328 ⇑P **P 23 00 38.9 -1.1**
OBN Obninsk 62.42 328 P **P 23 00 38.8 -1.1**
D41A Chassel 62.47 47 IAmb IAmb 23 00 58.8
comp=Z,274nm,1.1s
TUC Tucson 62.52 72 P **P 23 00 39.3 -1.9**
TUC pmax pmax
comp=Z,261nm,1.4s
TUC MLR MLR
comp=Z,16µm,21.0s
TUC Tucson 62.52 72 P **P 23 00 39.3 -1.9**
TUC IAmb IAmb 23 01 03.1
comp=Z,261nm,1.4s
TUC Tucson 62.52 72 ⇓P **P 23 00 41.2 0.0**
TUC Tucson 62.52 72 P **P 23 00 41.2 0.0**
baz=319
TUC S **S 23 09 10.9 +5.7**
baz=319
TUC Tucson 62.52 72 P **P 23 00 41.5 +0.3**
TUC pP **pwP 23 00 59.6 +0.7**
GTOI Gorontalo 62.59 226 P **P 23 00 42.4 +0.8**
comp=Z,11µmcomp=Z,3µmcomp=Z,90nm,1.3s
MTSE Matsula 62.67 337 *eP* **P 23 00 42.5 +0.9**
THN Thein Dam 62.78 288 *eP* **P 23 00 43.3 +0.6**
NRS Narsarsuaq 62.82 15 *iP* **P 23 00 40.4 -2.2**
NRS IAmb IAmb 23 00 43.6
comp=Z,180nm,0.9s
NRS Narsarsuaq 62.82 15 IAmb IAmb 23 00 44.1
comp=Z,173nm,0.9s
NRS Narsarsuaq 62.82 15 ⇑P **P 23 00 42.5 -0.1**
NB2 NORSAR Subarra 62.90 345 P **P 23 00 42.4 -0.8**
comp=Z,583nm,1.0s,baz=18,slow=6.9
NB2 NORSAR Subarra 62.90 345 P **P 23 00 42.4 -0.8**
baz=18,slow=6.9
NOA NORSAR Array B 62.90 345 P **P 23 00 42.0 -1.2**
comp=Z,513nm,1.0s,baz=19,slow=6.6,SNR=382
NOA PKPPKP P'P'df 23 29 37.2 -13
comp=Z,6.2nm,1.1s,baz=167,slow=3.6,SNR=5.0
NOA NORSAR Array B 62.90 345 P **P 23 00 42.0 -1.2**
UPP Uppsala 62.91 341 *eP* **P 23 00 43.7 +0.5**
ANMO Albuquerque 62.93 67 LR LR 23 26 46.0
comp=Z,23µm,20.7s,baz=315,slow=35
ANMO Albuquerque 62.93 67*d* *iP* **P 23 00 44.0 0.0**
ANMO pmax pmax
comp=Z,75nm,1.3s
ANMO Albuquerque 62.93 67 P **P 23 00 43.1 -0.9**
ANMO IAmb IAmb 23 01 05.1
comp=Z,245nm,1.4s
ANMO Albuquerque 62.93 67 IAMs_20 IAMs_20 23 26 53.7
comp=Z,24µm,21.0s
ANMO Albuquerque 62.93 67 ⇓P **P 23 00 43.9 -0.2**
ANMO Albuquerque 62.93 67 S **S 23 09 18.3 +7.8**
baz=319
ANMO Albuquerque 62.93 67 P **P 23 00 44.2 +0.2**
ANMO pP **pwP 23 01 04.2 +2.4**
SMLA Simla 62.95 286 *eP* **P 23 00 42.5 -1.4**
COWI Conover 62.98 48 IAmb IAmb 23 01 03.4
comp=Z,440nm,1.5s
JMU Jammu 63.02 289 *eP* **P 23 00 44.6 +0.3**
DDI Dehra Dun 63.05 285 *eP* **P 23 00 44.7 0.0**
DDI IAmb IAmb 23 00 47.0
KAPO Kapuskasing 63.07 42 ⇑P **P 23 00 42.9 -1.6**
TOLI2 Tolitoli 63.12 229 IAmb IAmb 23 01 10.0
comp=Z,239nm,1.0s
TOLI2 Tolitoli 63.12 229 P **P 23 00 46.1 +0.9**
NAO01 NORSAR Array S 63.13 345 P **P 23 00 43.0 -1.7**
BHK Bhakra 63.15 287 *eP* **P 23 00 45.7 +0.4**
MRSI Marisa 63.19 227 P **P 23 00 46.4 +0.8**
comp=Z,20µmcomp=Z,9µmcomp=Z,478nm,1.2s
FOO Floro 63.20 348 *eP* **P 23 00 45.5 +0.4**
FOO *eS* **S 23 09 12.5 -0.1**
FOO *eSKSac* **ScS 23 10 38.8 +5.3**
FOO IVMs_BB IVMs_BB 23 36 18.1
comp=Z,4µm,16.3s
N33A J Bar K, Exete 63.23 57 IAmb IAmb 23 01 08.1
comp=Z,239nm,0.8s
Y22D IRIS PASSCAL I 63.34 68 IAMs_20 IAMs_20 23 27 28.4
comp=Z,28µm,20.0s
Y22D IRIS PASSCAL I 63.34 68 P **P 23 00 47.3 +0.6**
baz=319,SNR=6.4
Y22D S **S 23 09 22.6 +7.1**
baz=319
HFS Hagfors 63.36 343 LR LR 23 29 00.7
comp=Z,16µm,21.9s,baz=24,slow=37
HFS PKPPKP 23 29 42.9
comp=Z,10nm,1.2s,baz=195,slow=4.5,SNR=4.8
HNR Honiara 63.44 183 P **P 23 00 48.4 +1.2**
comp=Z,179nm,0.5s,baz=219,slow=5.7,SNR=4.5
HNR LR LR 23 23 53.8
comp=Z,37µm,21.9s,baz=16,slow=32
HNR Honiara 63.44 183 P **P 23 00 47.6 +0.5**
HNR Honiara 63.44 183 IAMs_20 IAMs_20 23 23 42.1
comp=Z,36µm,21.0s
HNR Honiara 63.44 183 P **P 23 00 49.4 +2.2**
BOK Bokaro 63.47 274 *eP* **P 23 00 47.3 -0.2**
BOK IAmb IAmb 23 00 50.9
comp=Z,1µm,1.7s
HYA Hoyanger 63.48 348 *eP* **P 23 00 46.3 -0.7**
HYA *ePP* **PP 23 03 06.4 +0.2**
HYA *eS* **S 23 09 19.2 +3.1**
CBKS Cedar Bluff 63.55 60 IAmb IAmb 23 01 10.9
comp=Z,223nm,0.9s
CBKS IAMs_20 IAMs_20 23 28 42.6
comp=Z,30µm,21.0s
CBKS Cedar Bluff 63.55 60 ⇓P **P 23 00 47.9 +0.1**
CBKS Cedar Bluff 63.55 60 P **P 23 00 46.5 -1.4**
baz=320,SNR=12
CBKS S **S 23 09 21.7 +3.8**
baz=320
SKAR Skarslia 63.67 346 *eP* **P 23 00 48.0 -0.2**
SKAR IVmBBB 23 00 51.4
comp=Z,6µm,1.0s
SKAR *ePP* **PP 23 03 08.6 +0.5**
SKAR *eS* **S 23 09 20.1 +1.4**
SKAR *eSS* **SS 23 13 28.3 +2.6**
SKAR IVMs_BB IVMs_BB 23 34 53.6
comp=Z,5µm,20.3s
F42A Maple Grove Fa 63.68 48 IAmb IAmb 23 01 08.4
comp=Z,299nm,1.2s
E43A Lone Tree Farm 63.68 46 IAmb IAmb 23 01 08.0
comp=Z,645nm,1.9s
SUE Sulen 63.76 348 *eP* **P 23 00 48.6 -0.2**
SUE *ePP* **PP 23 03 08.8 +0.1**
SUE *eS* **S 23 09 20.9 +1.3**
LPSR Galich'ya Gora 63.78 326 *eP* **P 23 00 49.0 -0.1**
LPSR *e* 23 03 05.4
LPSR *ePPP* PPP 23 04 42.4
LPSR *eS* **S 23 09 16.4 -3.8**
LPSR pmax pmax
comp=Z,1µm,1.1s
LPSR pmax pmax
comp=Z,2µm,1.3s
LPSR smax smax
comp=N,1µm,4.6s
LPSR MLR MLR
comp=Z,29µm,18.0s
SANI Sanana 63.81 222 ⇑P **P 23 00 48.5 -1.2**
SANI Sanana 63.81 222 P **P 23 00 49.5 -0.2**
SANI Sanana 63.81 222 P **P 23 00 49.5 -0.2**
MSAI Masohi 63.89 218 P **P 23 00 54.0 +3.8**
comp=Z,206nmcomp=Z,49nm,0.8s
SCHQ Schefferville 63.90 29 P **P 23 00 48.9 -1.1**
comp=Z,82nm,0.8s,baz=351,slow=7.0,SNR=66
SCHQ PKPPKP **P'P'df 23 29 42.6 -5.3**
comp=Z,12nm,1.0s,baz=131,slow=4.6,SNR=5.0
SCHQ LR LR 23 33 20.0
comp=Z,19µm,18.6s,baz=328,slow=40
SCHQ Schefferville 63.90 29 IAmb IAmb 23 01 09.6
comp=Z,150nm,0.8s
SCHQ Schefferville 63.90 29 ⇑P **P 23 00 48.8 -1.1**
VAR Varanasi 63.99 278 *eP* **P 23 00 50.5 -0.4**
VRH Novokhopyorsk 64.00 323 *eP* **P 23 00 49.6 -0.9**
VRH *e* 23 03 09.2
VRH *ePPP* PPP 23 04 40.5
VRH *eS* **S 23 09 21.2 -1.7**
VRH pmax pmax
comp=Z,1µm,1.0s
VRH pmax pmax
comp=Z,2µm,1.2s
VRH smax smax
comp=N,2µm,7.6s
VRH MLR MLR
comp=Z,29µm,16.0s
SLIT Slitere, Latvi 64.00 338 *eP* **P 23 00 50.2 -0.2**
SLIT Slitere, Latvi 64.00 338 ⇑P **P 23 00 49.4 -1.0**
K38A Parkersburg 64.02 53 IAmb IAmb 23 01 11.6
comp=Z,644nm,1.6s
FUNA Funafuti 64.02 162 P **P 23 00 53.5 +2.5**
KKR Kurukshetra 64.02 286 *eP* **P 23 00 51.2 +0.2**
121A Cookes Peak, D 64.02 70 P **P 23 00 51.0 -0.2**
baz=320,SNR=32
121A S **S 23 09 30.2 +6.1**
baz=320
N35A Tabor 64.02 56 IAmb IAmb 23 00 53.6
comp=Z,212nm,0.7s
OSL Oslo 64.03 345 *eP* **P 23 00 50.5 0.0**
OSL IVmB_BB 23 00 53.2
comp=Z,8µm,2.2s
OSL *eS* **S 23 09 24.0 +1.1**
OSL IVMs_BB IVMs_BB 23 34 29.0
comp=Z,8µm,18.0s
I40A Norwalk 64.04 50 IAmb IAmb 23 01 12.4
comp=Z,156nm,0.8s
LUWI Luwuk 64.20 226 P **P 23 00 51.0 -1.2**
LUWI IAmb IAmb 23 01 13.4
comp=Z,505nm,1.2s
LUWI Luwuk 64.20 226 ⇑P **P 23 00 50.6 -1.6**
LUWI Luwuk 64.20 226 P **P 23 00 52.7 +0.4**
LUWI Luwuk 64.20 226 P **P 23 00 52.9 +0.6**
MPSI Mapaga 64.20 229 P **P 23 00 53.1 +0.8**
comp=Z,20µmcomp=Z,5µmcomp=Z,173nm,1.2s
ASK Askoy 64.27 348 *eP* **P 23 00 52.0 -0.1**
ASK *ePP* **PP 23 03 15.7 +2.5**
ASK *eS* **S 23 09 28.2 +2.4**
ASK IVMs_BB IVMs_BB 23 36 33.0
comp=Z,14µm,21.3s
BER Bergen 64.35 348 *eP* **P 23 00 53.7 +1.1**
BER *eS* **S 23 09 29.1 +2.3**
VIKU Vikbolandet 64.35 341 *eP* **P 23 00 52.9 +0.2**
R32A Long Quarter, 64.37 59 IAmb IAmb 23 01 12.4
comp=Z,418nm,1.8s
SCIA State Center 64.38 53 P **P 23 00 52.4 -0.8**
baz=321,SNR=76
SCIA S **S 23 09 29.6 +1.7**
baz=321
ASOR Ausora 64.39 284 *eP* **P 23 00 54.3 +0.8**
KONO Kongsberg 64.47 345*ce* *eP* **P 23 00 53.3 -0.2**
KONO pmax pmax
comp=Z,610nm,1.3s
KONO Kongsberg 64.47 345 P **P 23 00 53.0 -0.4**
KONO Kongsberg 64.47 345 ⇓P **P 23 00 53.1 -0.4**
KONO Kongsberg 64.47 345 *eP* **P 23 00 54.3 +0.8**
KONO Kongsberg 64.47 345 P **P 23 00 54.6 +1.1**
VORR Voronezh 64.47 325 *eP* **P 23 00 54.2 +0.6**
VORR *eS* **S 23 09 31.9 +3.2**
VORR pmax pmax
comp=Z,760nm,1.3s
VORR pmax pmax
comp=Z,3µm,2.0s
VORR smax smax
comp=N,610nm,1.7s
AAI Ambon 64.47 219 P **P 23 00 56.0 +2.0**
comp=N,25µmcomp=N,8µmcomp=N,679nm,1.1s
APSI Ampana 64.56 227 P **P 23 00 55.9 +1.3**
comp=N,11µmcomp=N,4µmcomp=N,234nm,1.3s
BNDI Bandanaira 64.63 217 ⇑P **P 23 00 54.6 -0.4**
BNDI Bandanaira 64.63 217 P **P 23 00 56.9 +1.8**
ODD1 Odda 64.64 347 *eP* **P 23 00 54.4 -0.2**
ODD1 *eS* **S 23 09 32.2 +1.6**
ALBI Allahabad 64.69 279 *eP* **P 23 00 53.6 -1.9**
PMG Port Moresby 64.73 197 P **P 23 00 55.1 -0.6**
comp=N,172nm,1.0s,baz=358,slow=6.3,SNR=17
PMG LR LR 23 26 16.8
comp=N,4µm,19.9s,baz=1.0,slow=33
PMG Port Moresby 64.73 197‖ *eP* **P 23 00 55.0 -0.6**
PMG pmax pmax
comp=Z,332nm,1.1s
PMG MLR MLR
comp=Z,6µm,19.0s
PMG Port Moresby 64.73 197 P **P 23 00 54.8 -0.8**
PMG IAmb IAmb 23 01 00.2
comp=Z,581nm,1.4s
PMG Port Moresby 64.73 197 ⇑P **P 23 00 55.4 -0.3**
PMG Port Moresby 64.73 197 P **P 23 00 57.3 +1.6**
PMG Port Moresby 64.73 197 P **P 23 00 57.5 +1.8**
PMG Port Moresby 64.73 197 P **P 23 00 54.7 -1.0**
NDI New Delhi 64.76 284 *eP* **P 23 00 55.5 -0.4**
I42A Draeger Farm, 64.81 49 IAmb IAmb 23 01 15.4
comp=Z,337nm,1.4s
STRU Stroemstad 64.82 344 *i* P **P 23 00 56.1 +0.4**
KBL Kabul 64.84 294 P **P 23 00 54.4 -2.2**
KBL pmax pmax
comp=Z,964nm,1.0s
KBL Kabul 64.84 294 P **P 23 00 54.4 -2.2**
KBL Kabul 64.84 294 P **P 23 00 54.4 -2.2**
SNR=291
KBL Kabul 64.84 294 P **P 23 00 53.5 -3.1**
H43A Windswept, Lux 64.85 48 IAmb IAmb 23 01 15.8
comp=Z,486nm,1.5s
KSU1 Kansas State U 64.90 58 ⇑P **P 23 00 57.2 +0.6**
KSU1 Kansas State U 64.90 58 P **P 23 00 56.9 +0.2**
baz=321,SNR=9.0
KSU1 S **S 23 09 35.5 +1.1**
baz=321
ISAL Salakas 64.95 335 *eP* **P 23 00 57.6 +1.0**
AYAN Aya Nagar 64.97 284 *eP* **P 23 00 56.3 -0.9**
JFWS Jewell Farm 64.97 51 IAmb IAmb 23 01 16.0
comp=Z,422nm,1.6s
JFWS Jewell Farm 64.97 51 P **P 23 00 55.8 -1.2**
baz=322,SNR=14
JFWS S **S 23 09 35.8 +0.7**
baz=322
IDID Didziasalis 65.02 334 *eP* **P 23 00 57.6 +0.5**
VORD Divnogorie 65.04 324 *eP* **P 23 00 56.3 -1.0**
VORD *eS* **S 23 09 33.5 -2.2**
VORD pmax pmax
comp=Z,490nm,1.2s
VORD pmax pmax
comp=Z,500nm,1.1s
VORD smax smax
comp=N,290nm,3.8s
VORD MLR MLR
comp=Z,11µm,19.0s
IIGN Ignalina 65.12 334 *eP* **P 23 00 58.1 +0.3**
BLS5 Blasjo 65.13 347 *eP* **P 23 00 57.9 0.0**
BLS5 IVmB_BB 23 01 00.6
comp=Z,6µm,2.5s
BLS5 *ePP* **PP 23 03 21.8 +1.0**
BLS5 *eS* **S 23 09 38.3 +1.6**
BLS5 IVMs_BB IVMs_BB 23 36 17.3
comp=Z,5µm,13.5s
SONA Sohna 65.17 284 *eP* **P 23 00 58.1 -0.4**
N38A Joes South For 65.23 54 IAmb IAmb 23 01 20.2
comp=Z,264nm,1.0s
LRW Lerwick 65.28 351 *eP* **P 23 00 59.7 +0.9**
LRW IAmb IAmb 23 01 02.0
comp=Z,266nm,1.1s
EPT El Paso 65.30 70 IAMs_20 IAMs_20 23 28 04.8
comp=Z,20µm,20.0s
G45A Suttons Bay 65.31 47 IAmb IAmb 23 01 01.3
comp=Z,178nm,0.8s
NACGM Naroch 65.38 334⇑ *eP* **P 23 00 58.4 -1.0**
MNK Minsk 65.45 333 *i* P **P 23 00 56.8 -3.1**
MNK *i* *PP **pP 23 01 13.1 +0.8**
MNK *i* *SP **sP 23 01 21.6 +4.4**
MNK *i* 23 01 27.6
MNK *i* 23 03 22.9
MNK *i* PPP PPP 23 04 58.0
MNK *i* S **S 23 09 38.5 -2.1**
MNK *i* *SS **sS 23 10 06.6 +4.6**
MNK *i* 23 10 46.9
MNK *i* SS **SS 23 13 54.6 +1.2**
MNK pmax pmax
comp=N,691nm,0.9s
MNK pmax pmax
comp=E,64nm,0.9s
MNK pmax pmax
comp=Z,2µm,0.9s
MNK MLR MLR
comp=E,2µm,19.0s
MNK MLR MLR
comp=N,17µm,19.0s
MNK MLR MLR
comp=Z,32µm,19.0s
MNK Minsk 65.45 333 *i* P **P 23 00 56.8 -3.1**
comp=E,64nm,0.9s
MNK *i* P **P 23 00 56.8 -3.1**
comp=N,691nm,0.9s
MNK *i* P **P 23 00 56.8 -3.1**
comp=Z,2µm,0.9s,baz=27
MNK *i* pP **pP 23 01 13.1 +0.8**
MNK *i* sP **sP 23 01 21.7 +4.4**
MNK *i* PP **PP 23 03 22.9 -0.7**
MNK *i* PPP PPP 23 04 58.1
MNK *i* S **S 23 09 38.6 -2.1**
MNK *i* sS **sS 23 10 06.6 +4.6**
MNK *i* SS **SS 23 13 54.6 +1.2**
MNK *i* SSS SSS 23 17 02.4
MNK *i* LQ LQ 23 25 42.3
MNK *i* LR LR 23 29 54.7
MNK *i* LRM MLR 23 33 25.0
comp=N,17µm,19.0s
MNK *i* LRM MLR 23 33 29.1
comp=E,2µm,19.0s
MNK *i* LRM MLR 23 33 33.9
comp=Z,32µm,19.0s
SRIG Santa Rosalia 65.47 77 IAmb IAmb 23 01 22.0
comp=Z,595nm,1.5s
KMY Karmoy 65.50 348 *eP* **P 23 01 00.5 +0.4**
KMY *eS* **S 23 09 43.4 +2.4**
AMTX Amarillo 65.53 64 IAmb IAmb 23 01 22.3
comp=Z,774nm,1.9s
AMTX IAMs_20 IAMs_20 23 28 06.4
comp=Z,32µm,21.0s
AMTX Amarillo 65.53 64 P **P 23 01 00.5 -0.4**
baz=320
AMTX S **S 23 09 45.6 +3.1**
baz=320
PABE Paberze 65.54 336 IAMs_20 IAMs_20 23 33 46.9
comp=Z,25µm,18.0s
PBUR Paburge 65.55 337 *eP* **P 23 01 01.5 +1.0**
KUDL Kundal 65.59 285 *eP* **P 23 01 00.7 -0.5**
MSTX Muleshoe 65.65 65 P **P 23 01 01.0 -0.8**
baz=320,SNR=104
MSTX S **S 23 09 48.2 +4.2**
baz=320
TJOU Tjoern 65.70 344 *i* P **P 23 01 01.6 +0.2**
U32A Winter Ranch, 65.78 61 IAmb IAmb 23 01 23.2
comp=Z,655nm,1.9s
BORU Boraas 65.88 343 *i* P **P 23 01 02.5 -0.1**
GLMI Grayling 65.93 46 IAmb IAmb 23 01 27.9
comp=Z,188nm,0.8s
GLMI IAMs_20 IAMs_20 23 31 35.6
comp=Z,31µm,19.0s
GLMI Grayling 65.93 46 P **P 23 01 03.4 +0.2**
baz=324,SNR=11
GLMI S **S 23 09 46.8 0.0**
baz=324
HOMB Homborsund 65.96 345⇑ *iP* **P 23 01 03.7 +0.6**
HOMB Homborsund 65.96 345 *eP* **P 23 01 03.7 +0.6**
HOMB IVmB_BB 23 01 04.6
comp=Z,7µm,4.7s
HOMB *eS* **S 23 09 48.3 +1.6**
HOMB *eSS* **SS 23 14 05.2 +4.0**
HOMB IVMs_BB IVMs_BB 23 36 55.4
comp=Z,6µm,13.3s
SBUM Sibu 65.97 238 **sP 23 01 15.2 -5.9**
SBUM IAmb IAmb 23 01 30.7
comp=Z,635nm,1.6s
SBUM Sibu 65.97 238 ⇑P **P 23 01 04.9 +1.1**
MNTX Cornudas Mount 65.98 69 IAMs_20 IAMs_20 23 26 54.4
comp=Z,25µm,20.0s
MNTX Cornudas Mount 65.98 69 P **P 23 01 03.7 -0.1**
baz=320,SNR=165
MNTX S **S 23 09 54.0 +6.2**
baz=320
P38A Dawn 66.00 55 IAmb IAmb 23 01 23.3
comp=Z,272nm,1.1s
SNART Snartemo 66.08 346 *i* P **P 23 01 03.8 -0.1**
SNART Snartemo 66.08 346 *eP* **P 23 01 03.8 -0.1**
SNART *eS* **S 23 09 49.1 +0.9**
VLDQ Val d'Or 66.09 40 IAmb IAmb 23 01 21.9
comp=Z,284nm,1.1s
SMKI Samarinda 66.11 231 P **P 23 01 08.5 +3.8**
ONAU Onsala 66.26 343 *i* P **P 23 01 04.4 -0.7**
JHSG JHARSUGUGA 66.27 275 *eP* **P 23 01 05.7 0.0**
N41A Harden Midland 66.42 53 IAmb IAmb 23 01 25.9
comp=Z,497nm,1.1s
JHNI Jhansi 66.46 281 *eP* **P 23 01 05.7 -1.2**
FABU Falkenberg 66.50 343 *eP* **P 23 01 06.4 -0.2**
BLEU Blekinge 66.58 341 *eP* **P 23 01 06.8 -0.4**
L44A Lake County Fo 66.61 50 IAmb IAmb 23 01 26.8
comp=Z,280nm,1.0s
L44A Lake County Fo 66.61 50 P **P 23 01 07.5 -0.1**
baz=323,SNR=17
L44A S **S 23 09 54.3 -0.8**
baz=323
OVD Ostervraa, Den 66.61 344 *i* P **P 23 01 06.8 -0.6**
OVD IAmb IAmb 23 01 09.9
comp=Z,1µm,1.1s
OVD Ostervraa, Den 66.61 344 *i* P **P 23 01 07.8 +0.5**
P40A Paris 66.79 54 IAmb IAmb 23 01 28.4
comp=Z,466nm,1.2s
DEL Delary 66.79 342 *i* P **P 23 01 08.3 -0.2**
DEL Delary 66.79 342 *eP* **P 23 01 09.0 +0.5**
GOET G??ttrup 67.04 345⇑ *iP* **P 23 01 11.7 +1.6**
GOET IAmb IAmb 23 01 14.5
comp=Z,611nm,0.9s
GOET G??ttrup 67.04 345 *i* P **P 23 01 11.8 +1.7**
GOET IAmb IAmb 23 01 14.7
comp=Z,611nm,0.9s
SUW Suwalki 67.09 335 *eP* **P 23 01 10.4 -0.1**
SUW *eS* **S 23 10 03.0 +2.4**
SUW *eL* L 23 29 22.2
comp=Z,31µm,26.8s
SUW Suwalki 67.09 335 IAMs_20 IAMs_20 23 31 55.9
comp=Z,26µm,22.0s
SUW Suwalki 67.09 335 *eP* **P 23 01 10.3 -0.1**
SUW Suwalki 67.09 335 ⇑P **P 23 01 09.3 -1.1**
J47A Sunmer 67.12 47 IAmb IAmb 23 01 13.2
comp=Z,220nm,0.9s
BIGH Upper Bighouse 67.14 352 *eP* **P 23 01 11.6 +1.0**
BIGH IAMs_20 IAMs_20 23 37 19.2
comp=Z,18µm,21.0s
WMOK Wichita Mounta 67.17 62 IAmb IAmb 23 01 31.4
comp=Z,693nm,1.6s

WMOK Wichita Mounta 67.17 62 IAMs_20 IAMs_20 23 30 00.5
comp=Z,24µm,21.0s
WMOK Wichita Mounta 67.17 62 ⇓P **P** **P** **23 01 10.4 -0.9**
WMOK Wichita Mounta 67.17 62 P **P** **23 01 10.4 -0.9**
baz=321,SNR=210
WMOK S **S** **23 10 04.9 +2.8**
baz=321
M44A Midewin, Midew 67.18 50 IAmb IAmb 23 01 30.4
comp=Z,225nm,1.0s
TTSI Tana Toraja 67.26 228 P **P** **23 01 13.6 +1.6**
comp=Z,19µmcomp=Z,5µmcomp=Z,151nm,0.9s
HDIL Hopedale 67.27 52 P **P** **23 01 10.4 -1.4**
baz=323,SNR=68
HDIL S **S** **23 10 03.3 +0.2**
baz=323
MLA1 Latheron 67.28 352 *e*P **P** **23 01 12.3 +0.7**
OKCFA Oklahoma City 67.33 61 IAmb IAmb 23 01 32.2
comp=Z,684nm,1.8s
SAUI Saumlaki 67.39 214 ⇑P **P** **23 01 13.7 +0.9**
SAUI Saumlaki 67.39 214 P **P** **23 01 15.5 +2.8**
comp=Z,16µmcomp=Z,1µm,1.4s
SAUI Saumlaki 67.39 214 P **P** **23 01 15.7 +3.0**
JBP Jabalpur 67.40 278 *e*P **P** **23 01 10.7 -2.1**
JBP IAmb IAmb 23 01 15.7
comp=Z,1µm,1.1s
JBP *e*S **S** **23 10 02.5 -2.6**
I49A Point Hope 67.40 45 IAmb IAmb 23 01 31.9
comp=Z,298nm,1.1s
L46A Eue Claire 67.46 49 IAmb IAmb 23 01 15.0
comp=Z,137nm,0.8s
LINV Loch Inver, As 67.58 353 *e*P **P** **23 01 13.9 +0.5**
LINV IAmb IAmb 23 01 18.3
comp=Z,575nm,1.5s
MUD Monsted U'grnd 67.61 345 *i*P **P** **23 01 13.8 +0.2**
MUD IAmb IAmb 23 01 16.7
comp=Z,445nm,1.2s
MUD Monsted U'grnd 67.61 345 *i*P **P** **23 01 15.2 +1.5**
MUD IAmb IAmb 23 01 16.7
comp=Z,445nm,1.2s
MUD Monsted U'grnd 67.61 345 ⇑P **P** **23 01 14.2 +0.6**
S39A Bolivar 67.62 56 IAmb IAmb 23 01 32.6
comp=Z,343nm,1.8s
MTKI Muara Teweh, K 67.62 233 P **P** **23 01 16.3 +2.0**
comp=Z,15µmcomp=Z,13µmcomp=Z,354nm,1.7s
DGPR DIGLIPUR 67.64 261 *e*P **P** **23 01 14.5 +0.1**
R40A Maddies Statio 67.66 55 IAmb IAmb 23 01 33.6
comp=Z,684nm,1.6s
X34A Smith Ranch, M 67.76 62 IAmb IAmb 23 01 35.6
comp=Z,609nm,1.5s
KSM Kuching 67.77 239 ⇑P **P** **23 01 16.1 +0.9**
KSM Kuching 67.77 239 P **P** **23 01 17.3 +2.1**
TUL1 Leonard 67.78 59 IAmb IAmb 23 01 35.7
comp=Z,593nm,1.6s
TUL1 Leonard 67.78 59 P **P** **23 01 13.8 -1.3**
baz=322,SNR=27
TUL1 S **S** **23 10 08.5 -1.0**
baz=322
COP Copenhagen 67.80 342 ⇑*i*P **P** **23 01 15.6 +0.7**
COP IAmb IAmb 23 01 19.4
comp=Z,3µm,1.0s
COP Copenhagen 67.80 342 *i*P **P** **23 01 16.2 +1.3**
COP IAmb IAmb 23 01 19.4
comp=Z,3µm,1.0s
GEYT Alibeck 67.80 304 P **P** **23 01 14.6 -0.7**
comp=Z,782nm,0.9s,baz=40,slow=2.5,SNR=202
GEYT LR LR 23 33 58.5
comp=Z,121µm,18.3s,baz=52,slow=39
GEYT Alibeck 67.80 304 P **P** **23 01 14.8 -0.5**
BSD Bornholm Skovb 67.88 341 ⇑*i*P **P** **23 01 16.0 +0.6**
BSD IAmb IAmb 23 01 17.7
comp=Z,405nm,1.1s
BSD Bornholm Skovb 67.88 341 *i*P **P** **23 01 15.8 +0.5**
BSD IAmb IAmb 23 01 17.8
comp=Z,405nm,1.1s
BSD Bornholm Skovb 67.88 341 *e*P **P** **23 01 16.1 +0.7**
BSD Bornholm Skovb 67.88 341 ⇑P **P** **23 01 15.3 0.0**
P43A Skaggs, Pawnee 67.89 53 IAmb IAmb 23 01 17.9
comp=Z,185nm,0.8s
AJM Ajmer 67.91 285 *e*P **P** **23 01 15.0 -1.1**
O44A Mansfield 67.97 52 IAmb IAmb 23 01 35.5
comp=Z,660nm,1.8s
MCD Coleburn Disti 67.99 352 *e*P **P** **23 01 16.3 +0.2**
SPSI Sidrap Palu 68.10 227 P **P** **23 01 17.8 +0.5**
comp=Z,21µmcomp=Z,7µmcomp=Z,380nm,1.4s
LLD Lille Linde 68.17 342 *i*P **P** **23 01 16.4 -0.7**
LLD IAmb IAmb 23 01 21.5
comp=Z,420nm,0.9s
LLD Lille Linde 68.17 342 *i*P **P** **23 01 17.6 +0.4**
LLD IAmb IAmb 23 01 21.8
comp=Z,420nm,0.9s
MDO Dochfour 68.22 353 *e*P **P** **23 01 17.5 0.0**
SADO Sadowa 68.22 43 LR LR 23 33 08.1
comp=Z,22µm,19.3s,baz=352,slow=38
SADO Sadowa 68.22 43 ⇑P **P** **23 01 15.4 -2.3**
KAC Achnashellach 68.23 353 *e*P **P** **23 01 17.8 +0.2**
BBSI Bau Bau 68.30 224 P **P** **23 01 23.3 +4.8**
L48A N Adams 68.33 48 IAmb IAmb 23 01 38.0
comp=Z,570nm,1.5s
CCM Cathedral Cave 68.34 55 P **P** **23 01 17.1 -1.5**
CCM pmax pmax
comp=Z,433nm,1.4s
CCM MLR MLR
comp=Z,46µm,21.0s
CCM Cathedral Cave 68.34 55 P **P** **23 01 17.1 -1.5**
CCM IAmb IAmb 23 01 38.0
comp=Z,433nm,1.4s
CCM Cathedral Cave 68.34 55 ⇓P **P** **23 01 16.9 -1.7**
CCM Cathedral Cave 68.34 55 P **P** **23 01 18.1 -0.5**
baz=323
CCM S **S** **23 10 15.4 -0.6**
baz=323
CCM Cathedral Cave 68.34 55 P **P** **23 01 19.5 +0.9**
CCM pP **pwP** **23 01 36.4 -0.3**
BNSI Bone 68.35 227 P **P** **23 01 20.3 +1.5**
comp=Z,22µmcomp=Z,6µmcomp=Z,163nm,1.4s
ABTX Abilene, Hawle 68.36 64 IAmb IAmb 23 01 39.0
comp=Z,593nm,1.5s
ABTX Abilene, Hawle 68.36 64 P **P** **23 01 17.8 -1.0**
baz=322,SNR=52
ABTX S **S** **23 10 17.6 +1.2**
baz=322
AAM Ann Arbor 68.38 47 IAmb IAmb 23 01 21.2
comp=Z,188nm,0.8s
AAM IAMs_20 IAMs_20 23 31 30.6
comp=Z,30µm,22.0s
AAM Ann Arbor 68.38 47 P **P** **23 01 19.2 +0.5**
baz=325,SNR=22
AAM S **S** **23 10 16.2 -0.1**
baz=325
STKI Sintang 68.40 237 P **P** **23 01 20.1 +0.9**
comp=Z,8µmcomp=Z,271nm,1.9s
RAGD RAYAGADA 68.41 273 *e*P **P** **23 01 19.1 -0.2**
KPL Plockton 68.41 353 *e*P **P** **23 01 19.0 +0.4**
SFIN Lafayette 68.42 50 IAmb IAmb 23 01 38.2
comp=Z,379nm,1.7s
SFIN Lafayette 68.42 50 P **P** **23 01 18.5 -0.5**
baz=324,SNR=14
SFIN S **S** **23 10 15.3 -1.6**
baz=324
AKASG Malin Array Be 68.46 330 P **P** **23 01 17.7 -1.3**
comp=Z,462nm,0.8s,baz=30,slow=6.4,SNR=234
AKASG PKPPKP P'P'df 23 29 29.8 -10
comp=Z,3.3nm,0.9s,baz=215,slow=2.0,SNR=5.4
AKASG LR LR 23 36 49.9
comp=Z,21µm,18.1s,baz=20,slow=41
AKASG Malin Array Be 68.46 330 P **P** **23 01 17.8 -1.3**
AKASG pP **pP** **23 01 29.1 -2.4**
AKBB Malin Array Si 68.46 330 pP pP 23 01 29.2 -2.3
MAK Makhachkala 68.57 315*c* *i*P **P** **23 01 20.7 +0.8**
MAK *e* 23 03 53.2
MAK *e*PPP PPP 23 05 31.5
MAK *e*S **S** **23 10 22.0 +3.5**
MAK pmax pmax
comp=Z,2µm,1.1s
MAK pmax pmax
comp=Z,10µm,3.7s
MAK MLR MLR
comp=E,37µm,16.0s
MAK MLR MLR
comp=N,100µm,18.0s
MAK MLR MLR
comp=Z,48µm,17.0s
DRUM Mains of Drumt 68.59 351 *e*P **P** **23 01 19.5 -0.3**
DRUM IAMs_20 IAMs_20 23 40 26.5
comp=Z,10µm,16.7s
GOF Gofitskoye 68.63 319 ⇑*i*P **P** **23 01 20.0 -0.3**
GOF *e*S **S** **23 10 22.5 +3.3**
GOF pmax pmax
comp=Z,3µm,1.3s
GOF smax smax
comp=N,729nm,2.7s
GOF smax smax
comp=E,230nm,1.8s
Q44A Meyer Farm, Va 68.72 53 IAmb IAmb 23 01 40.5
comp=Z,594nm,1.6s
RGN Rugen 68.72 341 IAMs_20 IAMs_20 23 32 29.6
comp=Z,20µm,22.0s
RGN Rugen 68.72 341 *e*P **P** **23 01 21.7 +1.0**
RGN Rugen 68.72 341 *e*P **P** **23 01 21.6 +1.0**
comp=Z,1µm,1.1s,baz=17,slow=6.0
RGN Rugen 68.72 341 ⇑P **P** **23 01 20.8 +0.1**
TX32 Lajitas Array 68.74 69 IAmb IAmb 23 01 42.1
comp=Z,350nm,1.1s
TXAR Lajitas Array 68.74 69 P **P** **23 01 21.0 -0.3**
comp=Z,74nm,0.6s,baz=299,slow=4.6,SNR=439
TXAR PKPPKP **P'P'df** **23 29 33.8 -4.2**
comp=Z,8.7nm,1.2s,baz=140,slow=4.9,SNR=9.8
TXAR Lajitas Array 68.74 69 P **P** **23 01 21.0 -0.3**
TRQ Mont Tremblant 68.76 39 IAmb IAmb 23 01 39.9
comp=Z,323nm,1.2s
FVM French Village 68.78 54 IAmb IAmb 23 01 41.1
comp=Z,412nm,1.3s
BHPL Bhopal 68.82 281 *e*P **P** **23 01 20.4 -1.4**
GAC Glen Almond 68.85 40 ⇓P **P** **23 01 19.3 -2.3**
U40A Yellville 68.90 57 IAmb IAmb 23 01 41.3
comp=Z,215nm,1.1s
U40A Yellville 68.90 57 P **P** **23 01 20.3 -1.9**
baz=323,SNR=95
U40A S **S** **23 10 21.0 -1.8**
baz=323
PBA Port Blair 68.97 261 *e*P **P** **23 01 22.2 -0.6**
PBA IAmb IAmb 23 01 41.4
comp=Z,998nm,1.2s
PBA Port Blair 68.97 261 P **P** **23 01 24.0 +1.2**
SNR=75
PBA Port Blair 68.97 261 ⇑P **P** **23 01 21.9 -0.8**
P46A Rosedale 68.98 51 IAmb IAmb 23 01 24.6
comp=Z,202nm,0.8s
EDU Dundee 68.99 352 *e*P **P** **23 01 22.6 +0.3**
X37A Clayton 69.03 60 IAmb IAmb 23 01 42.9
comp=Z,301nm,1.6s
LPIG La Paz 69.05 78 LR LR 23 27 01.3
comp=Z,13µm,21.4s,baz=316,slow=32
KAPI Kappang 69.05 227*c* *i*P **P** **23 01 22.6 -0.6**
KAPI Kappang 69.05 227 P **P** **23 01 23.4 +0.2**
KAPI IAmb IAmb 23 01 48.3
comp=Z,500nm,1.4s
KAPI Kappang 69.05 227 ⇑P **P** **23 01 23.2 0.0**
KAPI ⇓P **P** **23 01 23.8 +0.6**
KAPI Kappang 69.05 227 P **P** **23 01 25.1 +1.9**
KAPI Kappang 69.05 227 P **P** **23 01 23.0 -0.1**
Z35A Perchaven, San 69.06 62 IAmb IAmb 23 01 42.5
comp=Z,263nm,1.2s
GROC Groznyy 69.08 316 *e*P **P** **23 01 22.2 -0.9**
GROC *e* 23 01 46.5
GROC *e*S **S** **23 10 26.2 +1.6**
GROC pmax pmax
comp=Z,1µm,1.2s
GROC MLR MLR
comp=Z,21µm,16.0s
GKP Gorka Klasztor 69.14 339 *e*P **P** **23 01 23.8 +0.5**
GKP *e*S **S** **23 10 30.8 +5.9**
GKP *e*L L 23 36 02.8
comp=Z,31µm,19.3s
GKP Gorka Klasztor 69.14 339 *e*P **P** **23 01 24.0 +0.8**
BKSI Bulukumba 69.17 226 P **P** **23 01 24.8 +0.9**
comp=Z,19µmcomp=Z,4µmcomp=Z,108nm,1.1s
N49A Columbus Grove 69.28 48 IAmb IAmb 23 01 43.7
comp=Z,405nm,1.4s
OLIL Olney 69.28 52 IAmb IAmb 23 01 43.9
comp=Z,636nm,1.6s
W39A Magazine 69.36 58 IAmb IAmb 23 01 44.8
comp=Z,762nm,1.7s
W39A Magazine 69.36 58 P **P** **23 01 23.6 -1.3**
baz=323,SNR=27
W39A S **S** **23 10 28.2 +0.1**
baz=323
O48B Farmland 69.39 49 P **P** **23 01 22.9 -2.1**
baz=325,SNR=73
O48B S **S** **23 10 28.3 0.0**
baz=325
EAB Aberfoyle 69.46 352 *e*P **P** **23 01 25.3 +0.1**
LAWE Loch Awe, Argy 69.47 353 *e*P **P** **23 01 25.7 +0.4**
LAWE IAmb IAmb 23 01 30.6
comp=Z,558nm,1.5s
SANVU Saraoutou 69.48 175 IAMs_20 IAMs_20 23 30 31.8
comp=Z,19µm,19.0s
SANVU Saraoutou 69.48 175 ⇓P **P** **23 01 25.8 +0.1**
SANVU Saraoutou 69.48 175 P **P** **23 01 26.3 +0.6**
HPIG 69.49 72 IAmb IAmb 23 01 46.8
comp=Z,499nm,1.7s
S44A Carbondale 69.57 54 IAmb IAmb 23 01 46.0
comp=Z,257nm,1.0s
SLBS Sierra La Lagu 69.58 78 P **P** **23 01 26.6 +0.1**
SLBS IAmb IAmb 23 01 47.9
comp=Z,391nm,1.4s
SLBS Sierra La Lagu 69.58 78 ⇑P **P** **23 01 27.1 +0.5**
ESY Stoneypath 69.58 351 *e*P **P** **23 01 25.9 -0.1**
EDI Edinburgh 69.63 352 *e*P **P** **23 01 26.5 +0.2**
EDI IAMs_20 IAMs_20 23 40 59.5
comp=Z,9µm,17.1s
FCAR Ozark Folk Cen 69.63 57 IAmb IAmb 23 01 45.7
comp=Z,258nm,1.2s
BLO Bloomington 69.65 51 IAmb IAmb 23 01 45.9
comp=Z,622nm,2.0s
KULM Kulim 69.66 250 P **P** **23 01 26.5 -0.5**
KULM IAmb IAmb 23 01 31.5
comp=Z,353nm,1.2s
KULM Kulim 69.66 250 ⇑P **P** **23 01 27.1 +0.1**
J54A Appleton 69.67 43 IAmb IAmb 23 01 45.8
comp=Z,241nm,0.9s
BEL Belsk 69.67 336 *e*P **P** **23 01 27.6 +1.0**
BEL *e*S **S** **23 10 38.6 +7.4**
BEL *e*L L 23 31 20.6
comp=Z,31µm,25.7s
BEL Belsk 69.67 336 ⇑P **P** **23 01 26.6 0.0**
JASL Jaisalmer 69.68 288 *e*P **P** **23 01 26.8 -0.2**
KIV Kislovodsk 69.69 318 *e*P **P** **23 01 26.7 -0.3**
KIV *e* 23 01 48.8
KIV *e* 23 04 01.9
KIV *e*PPP PPP 23 05 44.4
KIV *e*S **S** **23 10 32.6 +0.6**
KIV *e*SS **SS** **23 15 02.4 +2.6**
KIV pmax pmax
comp=Z,387nm,1.0s
KIV pmax pmax
comp=Z,2µm,3.8s
KIV MLR MLR
comp=Z,39µm,17.0s
KIV Kislovodsk 69.69 318 P **P** **23 01 26.6 -0.3**
KIV Kislovodsk 69.69 318 P **P** **23 01 26.8 -0.3**
KIV Kislovodsk 69.69 318 P **P** **23 01 28.1 +1.1**
MNTQ Montreal, Queb 69.71 39 ⇑P **P** **23 01 26.4 -0.6**
NCK Nalchik 69.72 317*d* *e*P **P** **23 01 27.7 +0.6**
NCK pmax pmax
comp=Z,848nm,1.0s
NCK MLR MLR
comp=Z,96µm,20.0s
PBMO Poplar Bluff 69.74 55 IAmb IAmb 23 01 47.0
comp=Z,500nm,1.4s
BSSI Bau Bau, Buton 69.75 225 P **P** **23 01 28.3 +0.8**
comp=Z,11µmcomp=Z,6µmcomp=Z,304nm,1.5s
EBL Broad Law 69.76 352 *e*P **P** **23 01 27.1 0.0**
KBZ Khabaz 69.80 318 P **P** **23 01 27.5 0.0**
comp=Z,747nm,1.0s,baz=64,slow=4.4,SNR=184
KBZ PKPPKP **P'P'df** **23 29 30.2 -7.1**
comp=Z,7.0nm,1.1s,baz=260,slow=8.1,SNR=5.6
KBZ LR LR 23 35 49.7
comp=Z,76µm,21.4s,baz=20,slow=39
KBZ Khabaz 69.80 318*c* *e*P **P** **23 01 27.8 +0.3**
KBZ pmax pmax
comp=Z,1µm,1.0s
KBZ MLR MLR
comp=Z,75µm,21.0s
O49A Covington 69.81 49 IAmb IAmb 23 01 46.9
comp=Z,408nm,1.4s
MEDO Medina 69.83 43 IAmb IAmb 23 01 46.8
comp=Z,294nm,0.9s
BSEG Bad Segeberg 69.84 343 *e*P **P** **23 01 28.5 +0.9**
comp=Z,396nm,1.1s,baz=17,slow=6.0
PGBU Glenifferbraes 69.84 352 *e*P **P** **23 01 27.9 +0.3**
PGBU IAmb IAmb 23 01 31.1
comp=Z,589nm,1.2s
BBKI Banjar Baru 69.86 232 P **P** **23 01 28.1 -0.1**
P48A Milroy 69.91 50 IAmb IAmb 23 01 47.2
comp=Z,208nm,0.9s
COEN Coen 69.92 200 IAmb IAmb 23 01 32.3
comp=Z,253nm,1.1s
COEN Coen 69.92 200 ⇑P **P** **23 01 28.0 -0.5**
COEN Coen 69.92 200 P **P** **23 01 29.8 +1.3**
JCT Junction City 69.94 66 IAmb IAmb 23 01 48.8
comp=Z,500nm,1.2s
JCT IAMs_20 IAMs_20 23 31 00.2
comp=Z,24µm,21.0s
JCT Junction City 69.94 66 ⇓P **P** **23 01 27.8 -0.9**
JCT Junction City 69.94 66 P **P** **23 01 27.7 -0.9**
baz=322,SNR=35
JCT S **S** **23 10 36.6 +1.4**
baz=322
M52A Chesterland 69.98 46 IAmb IAmb 23 01 56.1
comp=Z,160nm,0.8s
WHTX Lake Whitney, 70.00 63 IAmb IAmb 23 01 48.9
comp=Z,405nm,1.4s
WHTX Lake Whitney, 70.00 63 P **P** **23 01 28.2 -0.8**
baz=322
WHTX S **S** **23 10 36.4 +0.6**
baz=322
J55A Hilton 70.00 43 IAmb IAmb 23 01 47.5
comp=Z,212nm,1.1s
WHAR Wooly Hollow 70.02 57 IAmb IAmb 23 01 48.6
comp=Z,640nm,1.5s
N51A Ashland 70.06 47 IAmb IAmb 23 01 31.1
comp=Z,271nm,0.8s
ERPA Erie 70.08 45 IAmb IAmb 23 01 48.8
comp=Z,206nm,0.9s
ERPA Erie 70.08 45 P **P** **23 01 28.3 -1.0**
baz=326,SNR=19
USIN University of 70.10 52 IAmb IAmb 23 01 49.1
comp=Z,345nm,1.0s
LONY Lake Ozonia 70.11 40 IAMs_20 IAMs_20 23 33 44.9
comp=Z,26µm,21.0s
LONY Lake Ozonia 70.11 40 P **P** **23 01 28.4 -1.1**
baz=328,SNR=20
LONY S **S** **23 10 34.8 -1.9**
baz=328
IPM Ipoh 70.13 249 IAmb IAmb 23 01 33.6
comp=Z,260nm,1.1s
IPM Ipoh 70.13 249 P **P** **23 01 30.6 +0.7**
W41B Gary Mavity, V 70.14 57 IAmb IAmb 23 01 49.3
comp=Z,535nm,1.4s
W41B Gary Mavity, V 70.14 57 P **P** **23 01 28.2 -1.5**
baz=323,SNR=83
W41B S **S** **23 10 37.3 0.0**
baz=323
SEKA Sheki 70.14 314 P **P** **23 01 30.3 +0.5**
P49A Miami Univ. Ec 70.17 49 IAmb IAmb 23 01 48.9
comp=Z,260nm,1.1s
P49A Miami Univ. Ec 70.17 49 P **P** **23 01 28.3 -1.6**
baz=325,SNR=72
P49A S **S** **23 10 36.2 -1.4**
baz=325
ZEI Tsey 70.19 317 *e*P **P** **23 01 27.7 -2.5**
ZEI pmax pmax
comp=Z,1µm,1.4s
EKA Eskdalemuir Ar 70.21 352 LR LR 23 32 44.9
comp=Z,5µm,18.1s,baz=28,slow=36
GUDG Gudauri 70.23 316 P **P** **23 01 30.6 +0.1**
ESK Eskdalemuir 70.23 352 *e*P **P** **23 01 29.8 -0.1**
ESK IAMs_20 IAMs_20 23 41 16.1
comp=Z,11µm,18.5s
ESK Eskdalemuir 70.23 352 P **P** **23 01 29.5 -0.5**
ESK pmax pmax
comp=Z,306nm,1.1s
ESK MLR MLR
comp=Z,6µm,19.0s
ESK Eskdalemuir 70.23 352 P **P** **23 01 29.5 -0.5**
ESK IAmb IAmb 23 01 33.6
comp=Z,306nm,1.1s
ESK Eskdalemuir 70.23 352 ⇑P **P** **23 01 30.2 +0.2**
ESK Eskdalemuir 70.23 352 P **P** **23 01 30.6 +0.7**
NEY Neytrino 70.27 318*de* P **P** **23 01 31.6 +0.9**
NEY MLR MLR
comp=Z,41µm,20.0s
Z38A Mt. Pleasant 70.28 60 IAmb IAmb 23 01 50.4
comp=Z,869nm,1.9s
M53A WI Miller and 70.35 46 IAmb IAmb 23 01 50.5
comp=Z,368nm,1.0s
M53A WI Miller and 70.35 46 P **P** **23 01 30.5 -0.5**
baz=326,SNR=46
M53A S **S** **23 10 38.9 -0.7**
baz=326
ACSO Alum Creek Sta 70.36 48 IAmb IAmb 23 01 50.5
comp=Z,262nm,1.1s
ACSO Alum Creek Sta 70.36 48 P **P** **23 01 29.9 -1.1**
baz=326,SNR=48
ACSO S **S** **23 10 40.5 +0.7**
baz=326
X40A Basin Creek Fa 70.39 58 IAmb IAmb 23 01 51.0
comp=Z,304nm,1.4s
X40A Basin Creek Fa 70.39 58 P **P** **23 01 30.4 -0.9**
baz=323,SNR=36
X40A S **S** **23 10 42.5 +2.2**
baz=323
DDFL Dedoflistskaro 70.40 315 P **P** **23 01 33.2 +1.9**
ALLY Alegheny Colle 70.40 45 IAmb IAmb 23 01 50.6
comp=Z,330nm,1.0s
WVNY West Valley, N 70.40 44 IAmb IAmb 23 01 50.3
comp=Z,286nm,1.1s
MMNY Mt. Morris Dam 70.41 43 IAmb IAmb 23 01 50.1
comp=Z,248nm,0.9s
NEWG New Galloway 70.51 352 *e*P **P** **23 01 32.0 +0.3**
NEWG IAmb IAmb 23 01 34.9
comp=Z,2µm,2.6s
WCI Wyandotte Cave 70.52 51 P **P** **23 01 31.0 -1.0**
WCI pmax pmax
comp=Z,128nm,0.8s
WCI MLR MLR
comp=Z,47µm,20.0s
WCI Wyandotte Cave 70.52 51 P **P** **23 01 31.0 -1.0**
WCI Wyandotte Cave 70.52 51 ⇑P **P** **23 01 31.1 -1.0**
WCI Wyandotte Cave 70.52 51 P **P** **23 01 31.0 -1.0**
baz=325
WCI S **S** **23 10 41.3 -0.4**
baz=325
WCI Wyandotte Cave 70.52 51 P **P** **23 01 30.7 -1.4**
MNGR Mingechevir, A 70.55 313 P **P** **23 01 32.8 +0.7**
RUE Ruedersdorf 70.59 340 *e*P **P** **23 01 32.9 +0.7**
RUE Ruedersdorf 70.59 340 *e*P **P** **23 01 32.9 +0.7**
comp=Z,836nm,1.1s,baz=17,slow=6.0
EDMD Edmundbyers 70.60 351 *e*P **P** **23 01 32.0 -0.2**
EDMD IAmb IAmb 23 01 35.5
comp=Z,472nm,1.6s
EDMD IAMs_20 IAMs_20 23 41 20.1
comp=Z,9µm,17.2s
SEAG Tbilisi Sea 70.68 316 P **P** **23 01 34.7 +1.7**
CLGH Cloghs, Cushen 70.69 353 *e*P **P** **23 01 32.9 +0.2**
CLGH IAMs_20 IAMs_20 23 32 56.6
comp=Z,6µm,17.1s
LVV L'vov 70.70 333 *e*P **P** **23 01 34.0 +1.1**
LVV *e* 23 01 54.1
LVV *e* 23 04 06.4
LVV *e*S **S** **23 10 40.3 -3.1**
LVV *e*PS **PnS** **23 11 06.1 -10**
LVV pmax pmax
comp=Z,1µm,1.2s
LVV MLR MLR
comp=E,15µm,17.0s
LVV MLR MLR
comp=Z,30µm,17.0s
LVV MLR MLR
comp=N,30µm,18.0s
PBKI Pangkalan Bun 70.70 235 P **P** **23 01 35.1 +1.7**
comp=N,33µmcomp=N,15µmcomp=N,1µm,1.3s
M54A Oil Creek Stat 70.72 45 IAmb IAmb 23 01 52.4
comp=Z,191nm,0.8s
M54A Oil Creek Stat 70.72 45 P **P** **23 01 31.9 -1.3**
baz=327,SNR=32
M54A S **S** **23 10 41.1 -2.8**
baz=327
BATG Bathurst New B 70.77 33 IAmb IAmb 23 01 47.2
comp=Z,329nm,1.6s
GAL1 Galloway 70.80 352 *e*P **P** **23 01 33.1 -0.3**
GAL1 IAmb IAmb 23 01 36.6
comp=Z,1µm,2.3s
GAL1 IAMs_20 IAMs_20 23 39 56.6
comp=Z,9µm,18.5s
N53A Lisbon 70.81 46 IAmb IAmb 23 01 53.2
comp=Z,304nm,1.2s
MYKOM Kota Tinggi 70.84 245 IAmb IAmb 23 01 39.0

comp=Z,191nm,1.0s
MYKOM **Kota Tinggi** 70.84 245 ⇑P P 23 01 34.4 +0.2
435B **Jarrell** 70.88 64 IAmb IAmb 23 01 54.6
comp=Z,231nm,1.1s
435B **Jarrell** 70.88 64 P P 23 01 33.5 -0.8
baz=322
435B S S 23 10 47.2 +1.1
baz=322
J58A **Remsen** 70.91 41 IAmb IAmb 23 01 53.0
comp=Z,195nm,1.0s
KESW **Keswick, Cumbr** 70.94 351 eP P 23 01 34.9 +0.5
KESW IAmb IAmb 23 01 37.8
comp=Z,766nm,1.1s
P51A **Williamsport** 70.95 48 IAmb IAmb 23 01 53.7
comp=Z,377nm,1.9s
ANN **Anapa** 70.95 322 *i* P P 23 01 35.1 +0.6
ANN *e**PP sP 23 01 51.2 -0.7
ANN *e* 23 04 09.8
ANN *e*PPP PPP 23 05 55.6
ANN *i* S S 23 10 49.0 +2.6
ANN pmax pmax
comp=N,213nm,1.2s
ANN pmax pmax
comp=Z,525nm,1.1s
ANN pmax pmax
comp=E,165nm,1.1s
ANN MLR MLR
comp=E,15µm,21.0s
ANN MLR MLR
comp=Z,26µm,22.0s
ANN MLR MLR
comp=N,39µm,21.0s
O52A **Adamsville** 70.96 47 IAmb IAmb 23 01 54.0
comp=Z,403nm,0.9s
CHVG **Ch'k'valeri** 70.97 318 ⇑P P 23 01 35.5 +0.7
CHVG **Ch'k'valeri** 70.97 318 P P 23 01 35.4 +0.7
GANJ **Ganja** 70.97 314 P P 23 01 35.4 +0.6
R49A **Shelbyville** 70.98 50 IAmb IAmb 23 01 54.8
comp=Z,588nm,1.6s
SORM **Soroca** 71.01 330 ⇑P P 23 01 33.8 -1.0
AKL **Akola** 71.03 279 eP P 23 01 33.5 -1.9
VT1 **Waterbury** 71.03 39 IAMs_20 IAMs_20 23 34 26.6
comp=Z,24µm,21.0s
N54A **Moraine State** 71.04 45 P P 23 01 34.0 -1.2
baz=327,SNR=29
N54A S S 23 10 45.4 -2.3
baz=327
L56A **Greenwood** 71.05 43 IAmb IAmb 23 01 54.3
comp=Z,243nm,0.8s
O53A **New Philadelph** 71.11 47 IAmb IAmb 23 01 54.8
comp=Z,196nm,0.9s
O53A IAMs_20 IAMs_20 23 33 26.9
comp=Z,17µm,21.0s
O53A **New Philadelph** 71.11 47 P P 23 01 34.3 -1.4
baz=326,SNR=42
O53A S S 23 10 46.5 -2.1
baz=326
VSLR **Vesyoloye** 71.14 320 deP P 23 01 36.0 +0.3
RETH **Rethem/Aller,** 71.15 343 eP P 23 01 36.4 +0.8
comp=Z,342nm,1.1s,baz=17,slow=6.0
SOC **Sochi** 71.15 320 eP P 23 01 34.4 -1.4
SOC *e**PP pP 23 01 48.2 0.0
SOC *e**SP pwP 23 01 51.5 -0.7
SOC *e* 23 04 10.6
SOC *e*PPP PPP 23 05 55.1
SOC *e*S S 23 10 48.3 -0.5
SOC *e**SS SKiKP 23 11 11.7 -0.4
SOC pmax pmax
comp=Z,780nm,1.4s
SOC MLR MLR
comp=Z,44µm,22.0s
T47A **Sharon Grove** 71.15 53 IAmb IAmb 23 01 55.9
comp=Z,311nm,1.0s
FLTG **Flechtingen** 71.21 342 eP P 23 01 36.1 +0.1
comp=Z,353nm,1.1s,baz=17,slow=6.0
FLTG **Flechtingen** 71.21 342 P P 23 01 35.0 -0.9
KWP **Kalwaria Pacla** 71.22 334 eP P 23 01 37.0 +0.9
KWP *e*S S 23 10 54.1 +4.7
KWP *e*L L 23 36 40.1
comp=Z,33µm,18.7s
KWP **Kalwaria Pacla** 71.22 334 ⇑P P 23 01 35.7 -0.4
TPRI **Tanjung Pinang** 71.22 244 P P 23 01 39.3 +2.8
comp=Z,11µmcomp=Z,246nm,1.6s
P52A **Corning** 71.23 48 P P 23 01 34.3 -2.0
baz=326,SNR=26
P52A S S 23 10 48.0 -1.8
baz=326
AFI **Afiamalu** 71.23 154 P P 23 01 38.4 +1.9
comp=Z,101nm,1.0s,baz=155,slow=6.1,SNR=8.6
AFI LR LR 23 27 05.0
comp=Z,17µm,20.7s,baz=333,slow=31
AFI **Afiamalu** 71.23 154 P P 23 01 36.6 +0.1
AFI pmax pmax
comp=Z,128nm,1.0s
AFI MLR MLR
comp=Z,18µm,22.0s
AFI **Afiamalu** 71.23 154 P P 23 01 36.6 +0.1
AFI **Afiamalu** 71.23 154 IAMs_20 IAMs_20 23 25 49.7
comp=Z,18µm,22.0s
AFI **Afiamalu** 71.23 154 ⇑P P 23 01 38.8 +2.3
AFI **Afiamalu** 71.23 154 P P 23 01 38.1 +1.6
NRDL **Niedersach Rie** 71.26 343 eP P 23 01 36.9 +0.7
comp=Z,343nm,1.3s,baz=17,slow=6.0
MMRI **Maumere** 71.30 223 ⇑P P 23 01 35.9 -1.0
MMRI **Maumere** 71.30 223 P P 23 01 37.7 +0.8
comp=Z,19µmcomp=Z,13µmcomp=Z,564nm,1.6s
MMRI **Maumere** 71.30 223 P P 23 01 38.1 +1.2
R50A **Paris** 71.37 50 IAmb IAmb 23 01 56.9
comp=Z,672nm,1.9s
Z41A **Richland Creek** 71.39 59 P P 23 01 36.1 -1.2
Z41A IAmb IAmb 23 01 57.5
comp=Z,553nm,1.6s
Z41A **Richland Creek** 71.39 59 P P 23 01 38.6 +1.3
baz=323,SNR=6.4
Z41A S S 23 10 52.9 +1.1
baz=323
IOMK **Kirk Michael** 71.39 352 eP P 23 01 37.2 +0.2
IOMK IAmb IAmb 23 01 40.7
comp=Z,477nm,1.1s
OJC **Ojcow** 71.40 336 eP P 23 01 38.1 +1.0
OJC *e*S S 23 10 59.4 +7.8
OJC *e*L L 23 32 22.3
comp=Z,28µm,25.5s
OJC **Ojcow** 71.40 336 P P 23 01 37.2 0.0
OJC pmax pmax
comp=Z,758nm,1.1s
OJC **Ojcow** 71.40 336 P P 23 01 37.2 0.0
OJC **Ojcow** 71.40 336 ⇑P P 23 01 36.8 -0.4
H62A **Milan** 71.40 38 IAmb IAmb 23 01 58.0
comp=Z,250nm,0.8s
LBNH **Lisbon** 71.42 38 P P 23 01 37.1 -0.3
LBNH pmax pmax
comp=Z,118nm,0.9s
LBNH MLR MLR
comp=Z,22µm,18.0s
LBNH **Lisbon** 71.42 38 P P 23 01 37.1 -0.3
LBNH IAMs_20 IAMs_20 23 35 51.4
comp=Z,22µm,18.0s
LBNH **Lisbon** 71.42 38 P P 23 01 36.5 -0.9
baz=330,SNR=22
LBNH S S 23 10 50.5 -1.4
baz=330
HPK **Haverah Park** 71.43 350 eP P 23 01 37.9 +0.6
HPK IAmb IAmb 23 01 40.7
comp=Z,514nm,1.0s
HPK IAMs_20 IAMs_20 23 41 23.7
comp=Z,11µm,17.8s
KDU **Kakadu** 71.44 211 ⇑P P 23 01 37.2 -0.5
KDU **Kakadu** 71.44 211 P P 23 01 39.1 +1.4
DRBR **Darabani** 71.45 331 ⇓P P 23 01 37.0 -0.5
PKME **Peaks-Kenny Pk** 71.46 36 P P 23 01 38.0 +0.4
baz=331,SNR=19
PKME S S 23 10 51.8 -0.5
baz=331
DRLN **Deer Lake** 71.47 27 ⇑P P 23 01 37.6 0.0
ASSE **Asse, Remlinge** 71.51 342 eP P 23 01 38.6 +0.9
comp=Z,506nm,1.4s,baz=17,slow=6.0
WVT **Waverly** 71.51 54 P P 23 01 37.0 -1.0
WVT pmax pmax
comp=Z,140nm,0.8s
WVT MLR MLR
comp=Z,36µm,20.0s
WVT **Waverly** 71.51 54 P P 23 01 37.0 -1.0
WVT **Waverly** 71.51 54 ⇓P P 23 01 37.2 -0.9
WVT **Waverly** 71.51 54 P P 23 01 37.1 -1.0
baz=324
WVT S S 23 10 54.7 +1.6
baz=324
WVT **Waverly** 71.51 54 P P 23 01 37.1 -0.9
AKH **Akhalkalaki** 71.51 316 ⇓P P 23 01 38.8 +0.6
AKH **Akhalkalaki** 71.51 316 *i* P P 23 01 38.4 +0.2
LKRN **Lenkeran, Azer** 71.51 311 P P 23 01 38.2 +0.2
WIM **Isle of Man** 71.51 352 eP P 23 01 37.8 0.0
GMM **Mts of Mourne** 71.52 353 eP P 23 01 37.8 0.0
O54A **Avella** 71.52 46 IAmb IAmb 23 01 57.6
comp=Z,266nm,1.1s
KSP **Ksiaz** 71.62 338 eP P 23 01 40.2 +1.7
KSP *e*S S 23 11 02.4 +8.4
KSP *e*L L 23 27 59.5
comp=Z,16µm,34.0s
KSP **Ksiaz** 71.62 338 ⇑P P 23 01 38.1 -0.4
KSP ⇑P P 23 01 38.1 -0.4
BINY **Binghamton** 71.62 42 P P 23 01 37.1 -1.5
baz=328,SNR=13
BINY S S 23 10 50.3 -4.1
baz=328
NATX **Nacogdoches** 71.63 61 IAmb IAmb 23 01 59.2
comp=Z,513nm,1.4s
NATX **Nacogdoches** 71.63 61 P P 23 01 40.6 +1.7
baz=323,SNR=10.0
W45A **Hickory Valley** 71.64 55 IAmb IAmb 23 01 59.1
comp=Z,501nm,1.1s
P53A **Whipple** 71.67 47 IAmb IAmb 23 01 58.4
comp=Z,368nm,1.5s
Q52A **Bidwell** 71.72 48 IAmb IAmb 23 01 58.6
comp=Z,421nm,1.5s
HNH **Hanover** 71.74 39 IAMs_20 IAMs_20 23 34 58.1
comp=Z,25µm,21.0s
ILTH **Belurgan, Co L** 71.75 353 eP P 23 01 38.2 -1.0
LHMI **Lhok Sumawe** 71.77 253 IAMs_20 IAMs_20 23 32 46.9
comp=Z,19µm,22.0s
LHMI **Lhok Sumawe** 71.77 253 ⇑P P 23 01 40.2 +0.4
LHMI **Lhok Sumawe** 71.77 253 P P 23 01 43.1 +3.2
LHMI **Lhok Sumawe** 71.77 253 P P 23 01 41.8 +1.9
DVP **Devils Point** 71.79 175 P P 23 01 41.6 +1.9
STHS **Stebnicka Huta** 71.79 335 eP P 23 01 40.1 +0.5
STHS **Stebnicka Huta** 71.79 335 eP P 23 01 40.1 +0.5
IBBN **Ibbenburen** 71.83 344 eP P 23 01 40.4 +0.7
comp=Z,1µm,1.6s,baz=17,slow=6.0
IBBN **Ibbenburen** 71.83 344 ⇓P P 23 01 39.9 +0.2
CLZ **Clausthal** 71.84 342 eP P 23 01 40.0 +0.2
comp=Z,735nm,1.1s,baz=17,slow=6.0
833A **Chaparral WMA,** 71.85 67 IAmb IAmb 23 02 01.1
comp=Z,346nm,1.2s
833A **Chaparral WMA,** 71.85 67 P P 23 01 40.3 +0.1
baz=322,SNR=8.2
833A S S 23 11 00.6 +3.3
baz=322
CLL **Collm** 71.86 341 *i* P P 23 01 40.3 +0.4
CLL *e*S S 23 10 57.0 +0.3
CLL pmax pmax
comp=Z,832nm,1.1s
CLL MLR MLR
comp=Z,17µm,19.2s
CLL **Collm** 71.86 341 IAMs_20 IAMs_20 23 36 50.7
comp=Z,18µm,21.0s
CLL **Collm** 71.86 341 *i* P P 23 01 40.3 +0.4
comp=Z,832nm,1.1s
CLL *e*Pmax 23 01 44.0
CLL *e*Plp 23 01 47.0
comp=Z,3µm,28.1s
CLL *e*PcP PcP 23 01 59.0 +0.5
CLL *e*PP PP 23 04 21.0 +1.9
CLL *e*PPP PPP 23 06 06.0
CLL *e*S S 23 10 57.0 +0.3
comp=N,3µm,23.9s
CLL *e*S S 23 10 57.0 +0.3
comp=E,5µm,25.8s
CLL *e*PS PnS 23 11 31.0 +0.2
CLL *e*PPS PPS 23 11 41.0
CLL *e*SS SS 23 15 36.0 +3.7
CLL *e*SSS SSS 23 19 00.0
CLL *e*PKPPKPdiffPP'df 23 29 25.0 -9.3
CLL LmV 23 39 00.0
comp=Z,17µm,19.2s
CLL Lmax 23 39 00.0
CLL R2 01 15 00.0
comp=Z,800nm,22.0s
CLL R2 01 31 00.0
comp=Z,800nm,18.0s
CLL **Collm** 71.86 341 eP P 23 01 40.2 +0.4
comp=Z,832nm,1.1s,baz=17,slow=6.0
KIS **Kishinev** 71.89 329 ⇓P P 23 01 40.1 -0.1
OSTC **Ostas** 71.91 338 eP P 23 01 40.2 0.0
OSTC *e*S S 23 10 58.4 +1.0
RAC **Raciborz** 71.91 337 eP P 23 01 40.6 +0.4
RAC *e*S S 23 10 57.2 -0.1
RAC LMZ LR 23 37 49.9
comp=Z,33nm,18.9s
RAC **Raciborz** 71.91 337 eP P 23 01 40.6 +0.4
RAC *e*S S 23 10 57.2 -0.1
RAC MLR MLR
comp=Z,33µm,18.9s
CHVC **Chvalec** 71.91 338 eP P 23 01 40.2 -0.1
CHVC AMS AMS 23 37 30.0
comp=Z,23µm,18.8s
WVL **Waterville** 71.94 37 IAMs_20 IAMs_20 23 35 00.2
comp=Z,29µm,21.0s
MILM **Milestii Mici** 71.96 329 ⇑P P 23 01 39.3 -1.2
LBWR **Ladybower, Pea** 71.99 350 eP P 23 01 40.5 -0.2
LBWR IAmb IAmb 23 01 43.8
comp=Z,522nm,1.0s
SIM **Simferopol'** 71.99 324 *c* iP P 23 01 41.0 +0.2
SIM *e* 23 01 59.5
SIM *e*S S 23 10 55.3 -3.1
SIM *e*SS SS 23 15 35.5 +0.8
SIM *e*SSS SSS 23 18 46.0
SIM pmax pmax
comp=Z,581nm,1.1s
SIM MLR MLR
comp=Z,7µm,17.1s
UPC **Upice** 72.00 338 eP P 23 01 41.2 +0.4
UPC *e*S S 23 10 58.6 +0.2
UPC MLR MLR
comp=Z,24µm,18.7s
UPC **Upice** 72.00 338 eP P 23 01 41.2 +0.4
UPC *e*S S 23 10 58.6 +0.2
UPC AMS AMS 23 37 30.0
comp=Z,24µm,18.7s
MTN **Manton Dam** 72.00 213 ⇑P P 23 01 40.8 -0.3
MTN ⇑P P 23 01 40.8 -0.3
MTN **Manton Dam** 72.00 213 P P 23 01 42.4 +1.3
NIE **Niedzica** 72.02 335 eP P 23 01 42.9 +1.9
NIE *e*S SKiKP 23 11 07.3 -6.1
NIE *e*L L 23 32 46.5
comp=Z,15µm,25.6s
GNI **Garni** 72.05 315 LR LR 23 39 04.4
comp=Z,48µm,18.4s,baz=34,slow=41
GNI **Garni** 72.05 315 *i* P P 23 01 42.5 +1.0
GNI **Garni** 72.05 315 *c* iP P 23 01 42.2 +0.7
GNI pmax pmax
comp=Z,3µm,1.7s
GNI **Garni** 72.05 315 P P 23 01 41.7 +0.2
GNI **Garni** 72.05 315 ⇑P P 23 01 42.1 +0.6
GNI **Garni** 72.05 315 P P 23 01 42.1 +0.6
GNI **Garni** 72.05 315 P P 23 01 42.9 +1.4
OXF **Oxford** 72.06 56 IAmb IAmb 23 02 08.2
comp=Z,586nm,1.2s
OXF **Oxford** 72.06 56 P P 23 01 40.1 -1.3
baz=324,SNR=37
OXF S S 23 10 60.0 +0.5
baz=324
TRY **Troy** 72.06 40 IAMs_20 IAMs_20 23 34 11.7
comp=Z,24µm,21.0s
DPC **Dobruska-Polom** 72.08 338 eP P 23 01 39.6 -1.7
DPC MLR MLR
comp=Z,19µm,20.0s
DPC **Dobruska-Polom** 72.08 338 eP P 23 01 39.6 -1.7
DPC AMS AMS 23 38 10.0
comp=Z,19µm,20.0s
BRG **Berggiesshubel** 72.08 340 eP P 23 01 40.6 -0.6
BRG Amp 23 01 44.6
comp=Z,427nm,1.1s
BRG *ex* x 23 01 54.0
BRG Amp 23 01 59.2
comp=Z,213nm,1.1s
BRG **Berggiesshubel** 72.08 340 SS SS 23 15 31.0 -4.8
BRG PKPPKP 23 29 08.3
BRG Amp 23 29 26.5
comp=Z,18nm,1.5s
BRG Amp 23 38 55.0
comp=Z,26nm,17.3s
BRG Amp 23 38 57.0
comp=E,7.2nm,15.2s
BRG Amp 23 39 00.0
comp=N,19nm,16.7s
BRG **Berggiesshubel** 72.08 340 eP P 23 01 40.6 -0.6
BRG *e* 23 01 54.0
BRG S S 23 10 59.0 -0.3
BRG pmax pmax
comp=Z,427nm,1.1s
BRG MLR MLR
comp=Z,26µm,17.3s
BRG MLR MLR
comp=E,7µm,15.2s
BRG MLR MLR
comp=N,19µm,16.7s
BRG **Berggiesshubel** 72.08 340 eP P 23 01 41.7 +0.5
comp=N,430nm,1.1s,baz=17,slow=6.0
G65A **Princeton** 72.11 35 IAmb IAmb 23 01 55.3
comp=Z,327nm,1.4s
OKC **Ostrava-Krasne** 72.15 337 eP P 23 01 42.6 +0.9
OKC *e*S S 23 10 57.6 -2.5
OKC MLR MLR
comp=Z,25µm,17.3s
OKC **Ostrava-Krasne** 72.15 337 eP P 23 01 42.6 +0.9
OKC *e*S S 23 10 57.6 -2.5
OKC AMS AMS 23 37 40.0
comp=Z,25µm,17.3s
FBE **Freiberg** 72.16 340 eP P 23 01 42.5 +0.8
comp=Z,769nm,1.1s,baz=17,slow=6.0
BATI **Baumata** 72.17 221 LR LR 23 30 06.7
comp=Z,2µm,22.0s,baz=358,slow=33
BATI **Baumata** 72.17 221 P P 23 01 42.4 +0.2
T50A **Nancy** 72.17 51 IAmb IAmb 23 02 01.8
comp=Z,541nm,1.7s
FFD **Franklin Falls** 72.18 38 IAMs_20 IAMs_20 23 35 22.6
comp=Z,21µm,21.0s
SSPA **Standing Stone** 72.18 44 P P 23 01 41.1 -0.9
SSPA **Standing Stone** 72.18 44 ⇑P P 23 01 40.7 -1.4
SSPA **Standing Stone** 72.18 44 P P 23 01 41.7 -0.3
baz=328
SSPA S S 23 10 58.7 -2.1
baz=328
SSPA **Standing Stone** 72.18 44 P P 23 01 41.5 -0.6
MCWV **Mont Chateau** 72.19 46 IAmb IAmb 23 02 01.9
comp=Z,279nm,1.1s
MCWV **Mont Chateau** 72.19 46 P P 23 01 41.4 -0.7
baz=327,SNR=22
MCWV S S 23 11 00.1 -0.8
baz=327
NEUB **Neuenburg** 72.19 341 eP P 23 01 42.5 +0.6
comp=Z,450nm,1.2s,baz=17,slow=6.0
GTTG **Gottingen** 72.19 343 eP P 23 01 42.8 +0.9
comp=Z,351nm,1.2s,baz=17,slow=6.0
CRVS **Cervenica-Dubn** 72.21 334 eP P 23 01 42.4 +0.3
CRVS pmax pmax
comp=Z,338nm,1.1s
CRVS **Cervenica-Dubn** 72.21 334 eP P 23 01 42.4 +0.3
CRVS *e*S S 23 10 57.1 -3.8
CRVS *e*L L 23 32 41.9
O56A **Blue Knob Stat** 72.21 45 P P 23 01 41.4 -0.9
baz=327,SNR=13
O56A S S 23 11 00.8 -0.5
baz=327
WME **Myndd Eilian** 72.23 352 eP P 23 01 41.8 -0.3
KRLC **Kraliky** 72.23 338 eP P 23 01 42.4 +0.2
KRLC *e*S S 23 11 01.7 +0.5
KRLC MLR MLR
comp=Z,21µm,18.0s
KRLC **Kraliky** 72.23 338 eP P 23 01 42.4 +0.2
KRLC *e*S S 23 11 01.7 +0.5
KRLC AMS AMS 23 38 10.0
comp=Z,21µm,18.0s
WPS **Cemaes, Angles** 72.24 352 eP P 23 01 42.0 -0.1
WPS IAmb IAmb 23 01 45.7
comp=Z,176nm,1.1s
CLTN **Cedars of Leba** 72.24 53 IAmb IAmb 23 02 02.5
comp=Z,277nm,1.0s
UZH **Uzhgorod** 72.25 334 eP P 23 01 40.7 -1.6
UZH *e* 23 01 56.4
UZH *i* 23 02 03.8
UZH *i* 23 04 22.9
UZH *i* S S 23 10 58.2 -3.0
UZH *i* 23 11 25.5
UZH eSS SS 23 15 43.0 +4.6
UZH MLR MLR
comp=Z,4µm,17.0s
PVCC **Panska Ves** 72.28 339 eP P 23 01 42.5 +0.1
PVCC *e* 23 04 22.8
PVCC *e*S S 23 11 02.2 +0.6
PVCC MLR MLR
comp=Z,20µm,18.9s
PVCC **Panska Ves** 72.28 339 eP P 23 01 42.5 +0.1
PVCC *e*PP PP 23 04 22.8 +0.1
PVCC *e*S S 23 11 02.2 +0.6
PVCC AMS AMS 23 38 30.0
comp=Z,20µm,18.9s
735A **Kenedy** 72.28 65 IAmb IAmb 23 02 04.0
comp=Z,411nm,1.3s
TSI **Tuntungan** 72.29 251 P P 23 01 44.4 +1.4
comp=Z,23µmcomp=Z,9µmcomp=Z,756nm,1.0s
V48A **Smith Brothers** 72.30 53 IAmb IAmb 23 02 02.7
comp=Z,308nm,1.2s
PLAL **Pickwick Lake** 72.32 55 IAmb IAmb 23 02 02.6
comp=Z,420nm,1.2s
Q54A **Coxs Mills** 72.33 47 IAmb IAmb 23 02 02.5
comp=Z,388nm,1.4s
KARS **Kars** 72.34 316 *i* P P 23 01 43.8 +0.6
WLF1 **Llynfaes** 72.34 352 IAmb IAmb 23 01 45.6
comp=Z,2µm,2.4s
MORC **Moravsky Berou** 72.34 337 ⇑P P 23 01 42.8 -0.1
MORC **Moravsky Berou** 72.34 337 IAmb IAmb 23 01 46.6
comp=Z,403nm,1.0s
MORC **Moravsky Berou** 72.34 337 ⇑*i* P P 23 01 42.7 -0.1
MORC *e*S S 23 11 07.1 +4.7
MORC **Moravsky Berou** 72.34 337 ⇑P P 23 01 42.8 -0.1
STNC **Stoke** 72.34 351 eP P 23 01 43.4 +0.7
BUR08 **Bucovina Ar. S** 72.36 331 IAmb IAmb 23 01 46.2
comp=Z,438nm,1.1s
DSRI **Dabo** 72.38 243 P P 23 01 45.8 +2.4
comp=Z,13µmcomp=Z,4µmcomp=Z,162nm,1.6s
R53A **Hurricane** 72.38 48 IAmb IAmb 23 02 10.0
comp=Z,370nm,1.3s
BURAR **Bucovina Array** 72.39 331 ⇓P P 23 01 42.3 -0.9
BURAR **Bucovina Array** 72.39 331 P P 23 01 42.6 -0.6
YRC **Rhoscolyn** 72.39 352 eP P 23 01 42.3 -0.8
TASB **TASBURUN-IGDIR** 72.40 315 *i* P P 23 01 43.7 +0.2
WACR **West Acre** 72.40 349 eP P 23 01 43.5 +0.4
WACR IAmb IAmb 23 01 46.3
comp=Z,640nm,1.0s
HKT **Hockley** 72.46 63 *ce*P P 23 01 43.2 -0.6
HKT **Hockley** 72.46 63 P P 23 01 43.7 -0.1
HKT IAmb IAmb 23 02 04.4
comp=Z,434nm,1.5s
HKT **Hockley** 72.46 63 ⇑P P 23 01 43.6 -0.1
HKT **Hockley** 72.46 63 P P 23 01 43.6 -0.2
YLL **Llanberis** 72.47 352 eP P 23 01 43.7 +0.2
LANS **Liptovska Anna** 72.47 336 eP P 23 01 45.0 +1.3
LANS pmax pmax
comp=Z,486nm,1.0s
LANS **Liptovska Anna** 72.47 336 eP P 23 01 45.0 +1.3
VASR **Vaslui** 72.52 329 ⇓P P 23 01 43.9 0.0
LEOM **Leova** 72.53 329 ⇓P P 23 01 44.1 +0.2
143A **Socs Landing,** 72.53 58 IAmb IAmb 23 02 04.7
comp=Z,594nm,1.4s
IGLA **Glengowla, Co** 72.54 355 eP P 23 01 43.3 -0.6
NAX **Nakhchivan** 72.55 314 P P 23 01 44.6 +0.2
EMMW **East Machias** 72.57 35 IAmb IAmb 23 01 58.0
comp=Z,366nm,1.6s
EMMW IAMs_20 IAMs_20 23 35 36.9
comp=Z,15µm,20.0s
CWF **Charnwood Fore** 72.60 350 eP P 23 01 44.3 0.0
CWF IAMs_20 IAMs_20 23 41 56.1
comp=Z,9µm,18.8s
FOEL **Foel Wylfa** 72.63 351 eP P 23 01 44.8 +0.3
FOEL IAmb IAmb 23 01 49.1
comp=Z,349nm,1.1s
TRPA **Tarpa** 72.64 333 ⇑P P 23 01 44.7 +0.1
TRPA **Tarpa** 72.64 333 P P 23 01 44.5 -0.1
PSI **Prapat** 72.67 250 LR LR 23 34 44.7
comp=Z,8µm,20.4s,baz=16,slow=37
L61B **Northampton** 72.68 40 IAMs_20 IAMs_20 23 34 51.9
comp=Z,27µm,21.0s
L61B **Northampton** 72.68 40 P P 23 01 43.4 -1.6
baz=330

L61B S S 23 11 04.7 -1.7
baz=330
HYBB Hyderabad (bro 72.71 276 *e*P **P 23 01 44.7 -0.8**
HYBB IVmB_BB 23 01 48.3
comp=Z,6µm,1.6s
HYBB IVMs_BB IVMs_BB 23 36 45.9
comp=Z,5µm,17.7s
HYB Hyderabad 72.71 276 *e*P **P 23 01 44.0 -1.5**
HYB IAmb IAmb 23 01 48.2
comp=Z,443nm,0.8s
KCSI Kotacane, Aceh 72.72 251 P **P 23 01 46.1 +0.6**
comp=Z,3µmcomp=Z,63nm,1.2s
TPI Tanjungpandan 72.73 239 P **P 23 01 47.2 +1.6**
comp=Z,3µmcomp=Z,167nm,1.6s
MOX Moxa 72.76 341 *e*P **P 23 01 46.0 +0.7**
comp=Z,466nm,1.1s,baz=17,slow=6.0
MOX *e*L L 23 36 57.4
comp=Z,18µm,21.4s
KASTN Kahler Asten 72.79 343 *e*P **P 23 01 46.3 +0.8**
comp=Z,353nm,1.2s,baz=17,slow=6.0
N59A State Game Lan 72.80 43 IAMs_20 IAMs_20 23 35 47.9
comp=Z,17µm,19.0s
N59A State Game Lan 72.80 43 P **P 23 01 44.8 -0.9**
baz=328,SNR=15
N59A S **S 23 11 04.2 -3.6**
baz=328
PRU Pruhonice 72.80 339 *e*P **P 23 01 45.4 -0.1**
PRU *e* 23 04 28.2
PRU *e*S **S 23 11 09.1 +1.6**
PRU MLR MLR
comp=Z,20µm,17.6s
PRU Pruhonice 72.80 339 *e*P **P 23 01 45.4 -0.1**
PRU *e*PP **PP 23 04 28.2 +1.0**
PRU *e*S **S 23 11 09.1 +1.6**
PRU AMS AMS 23 38 30.0
comp=Z,20µm,17.6s
PLN Plauen 72.81 341 *e*P **P 23 01 46.4 +0.8**
comp=Z,416nm,1.1s,baz=17,slow=6.0
BMR Baia Mare 72.81 333 ⇑P **P 23 01 46.2 +0.6**
WERD Werda 72.81 341 *e*P **P 23 01 46.5 +0.8**
comp=Z,626nm,1.2s,baz=17,slow=6.0
TANN Tannenbergstha 72.81 341 *e*P **P 23 01 46.5 +0.8**
comp=Z,436nm,1.2s,baz=17,slow=6.0
KECS Kecovo 72.84 335 *e*P **P 23 01 46.5 +0.7**
KECS pmax pmax
comp=Z,358nm,1.1s
KECS Kecovo 72.84 335 *e*P **P 23 01 46.5 +0.7**
CHOM Cayeli-Rize 72.87 318 *i*P **P 23 01 45.3 -0.8**
UBBA Unterbreizbach 72.89 342 *e*P **P 23 01 46.7 +0.8**
comp=Z,619nm,1.4s,baz=17,slow=6.0
GUNZ Gunzen 72.89 341 *e*P **P 23 01 47.0 +0.9**
comp=Z,568nm,1.3s,baz=17,slow=6.0
BIR Birlad 72.91 329 ⇑P **P 23 01 47.0 +0.8**
QUA2 Belchertown 72.95 40 IAMs_20 IAMs_20 23 35 11.1
comp=Z,25µm,21.0s
WERN Wernitzgruen 72.95 341 *e*P **P 23 01 47.4 +0.9**
comp=Z,660nm,1.2s,baz=17,slow=6.0
IZAB Izabela 72.96 335 *e*P **P 23 01 47.4 +0.9**
IZAB pmax pmax
comp=Z,227nm,1.2s
HLM1 Long Mynd 72.97 351 *e*P **P 23 01 46.7 +0.1**
HLM1 IAMs_20 IAMs_20 23 42 24.4
comp=Z,10µm,17.6s
TESR Tescani 72.97 330 ⇑P **P 23 01 46.5 -0.2**
BWJI Bawean 72.98 233 P **P 23 01 49.8 +2.8**
comp=Z,12µmcomp=Z,7µmcomp=Z,300nm,1.6s
ELMS Elmsett, Ipswi 72.98 348 *e*P **P 23 01 46.6 +0.1**
ELMS IAMs_20 IAMs_20 23 43 00.8
comp=Z,9µm,18.3s
NKC Novy Kostel 72.99 341 *e*P **P 23 01 46.7 0.0**
NKC MLR MLR
comp=Z,22µm,17.9s
NKC Novy Kostel 72.99 341 *e*P **P 23 01 46.7 0.0**
NKC AMS AMS 23 39 40.0
comp=Z,22µm,17.9s
PPBI Pangkal Pinang 73.00 241 P **P 23 01 48.8 +1.7**
comp=Z,20µmcomp=Z,22µmcomp=Z,184nm,1.3s
VRAC Vranov 73.00 338 ⇑P **P 23 01 47.6 +0.9**
VRAC Vranov 73.00 338 LR LR 23 39 01.0
comp=Z,25µm,18.4s,baz=26,slow=40
VRAC Vranov 73.00 338 ⇑*i*P **P 23 01 47.0 +0.3**
VRAC *e*S **SKiKP 23 11 14.9 +0.1**
HRV Adam Dziewonsk 73.05 39 P **P 23 01 47.1 0.0**
HRV pmax pmax
comp=Z,95nm,0.9s
HRV MLR MLR
comp=Z,27µm,22.0s
HRV Adam Dziewonsk 73.05 39 P **P 23 01 47.1 0.0**
HRV Adam Dziewonsk 73.05 39 IAMs_20 IAMs_20 23 35 34.6
comp=Z,27µm,22.0s
HRV Adam Dziewonsk 73.05 39 ⇑P **P 23 01 47.3 +0.1**
HRV Adam Dziewonsk 73.05 39 P **P 23 01 45.2 -1.9**
baz=330
HRV S **S 23 11 09.6 -0.9**
baz=330
HRV Adam Dziewonsk 73.05 39 P **P 23 01 46.8 -0.3**
HRV pP **pP 23 01 58.9 -0.3**
CEI Carei 73.07 333 ⇑P **P 23 01 47.0 -0.2**
S54A Dingess, Beckl 73.11 48 IAmb IAmb 23 02 07.2
comp=Z,487nm,1.9s
342A Flagon Creek P 73.14 60 IAmb IAmb 23 02 08.6
comp=Z,331nm,1.2s
SWET Sewanee 73.14 53 IAmb IAmb 23 01 49.9
comp=Z,253nm,0.8s
VLDR Vladesti 73.15 329 ⇑P **P 23 01 47.8 +0.2**
TZTN Tazewell 73.15 50 IAmb IAmb 23 02 08.9
comp=Z,634nm,1.9s
TZTN Tazewell 73.15 50 P **P 23 01 47.1 -0.7**
baz=326,SNR=25
TZTN S **S 23 11 11.5 -0.5**
baz=326
GHRR 73.16 329 ⇓P **P 23 01 48.7 +1.0**
VARL Varlezi 73.17 329 ⇑P **P 23 01 48.1 +0.3**
JAVC Velka Javorina 73.17 337 ⇑*i*P **P 23 01 48.8 +0.9**
JAVC *e*S **SKiKP 23 11 18.3 +3.2**
JAVC *e* 23 29 16.6
PBCC Pribram 73.20 339 *e*P **P 23 01 49.6 +1.7**
VYHS Vyhne 73.24 336 *e*P **P 23 01 48.8 +0.6**
VYHS Vyhne 73.24 336 *e*P **P 23 01 48.8 +0.6**
WES Weston 73.24 39 IAMs_20 IAMs_20 23 35 41.7
comp=Z,27µm,21.0s
X48A Hartselle 73.24 54 IAmb IAmb 23 02 07.9
comp=Z,390nm,1.6s
CLDR Caldiran 73.24 315 *i*P **P 23 01 49.2 +0.5**
TREC Trest 73.25 338 *e*P **P 23 01 48.2 -0.1**
TREC MLR MLR
comp=Z,17µm,18.1s
TREC Trest 73.25 338 *e*P **P 23 01 48.2 -0.1**
TREC AMS AMS 23 38 10.0
comp=Z,17µm,18.1s
KOLL Kolacno 73.26 336 *e*P **P 23 01 49.0 +0.7**
KRUC Moravsky 73.27 338 ⇑*i*P **P 23 01 48.2 -0.2**
KRUC *e*S **SKiKP 23 11 15.2 0.0**
KRUC *e* 23 29 15.3
KVTX Kingsville 73.28 66 IAMs_20 IAMs_20 23 32 43.6
comp=Z,20µm,19.0s
MANZ Manzenberg 73.29 341 *e*P **P 23 01 49.2 +0.7**
comp=Z,108nm,1.1s,baz=17,slow=6.0
PLAI Plampang 73.31 227 P **P 23 01 48.3 -0.6**
PLAI Plampang 73.31 227 P **P 23 01 48.8 -0.1**
SCTR Scanteiesti 73.33 329 ⇑P **P 23 01 48.6 -0.1**
BCX Boston College 73.34 39 IAMs_20 IAMs_20 23 35 44.3
comp=Z,25µm,22.0s
KTUT Trabzon 73.35 319 ⇑P **P 23 01 48.3 -0.6**
KTUT Trabzon 73.35 319 *i*P **P 23 01 49.8 +0.9**
VBMS Vicksburg 73.36 58 IAmb IAmb 23 02 09.6
comp=Z,408nm,1.3s
VBMS Vicksburg 73.36 58 P **P 23 01 50.7 +1.5**
baz=324,SNR=6.8
VBMS S **SKiKP 23 11 15.9 +0.2**
baz=324
WBSI Waikabubak, Su 73.36 225 P **P 23 01 48.6 -0.7**
KOPR Koprukoy-ERZUR 73.37 317 *i*P **P 23 01 49.7 +0.4**
TATR Tatarca 73.38 329 ⇓P **P 23 01 49.2 +0.2**
V51A Loudon 73.39 51 IAmb IAmb 23 02 09.1
comp=Z,409nm,1.6s
BASI Baing, Sumba 73.40 224 P **P 23 01 50.0 +0.6**
comp=Z,10µmcomp=Z,15µmcomp=Z,1µm,1.6s
PANC Panciu 73.40 329 ⇑P **P 23 01 49.7 +0.6**
KMMI Kalianget 73.42 231 P **P 23 01 49.4 -0.2**
IWEX Carrickbyrne, 73.43 353 *e*P **P 23 01 49.4 +0.2**
GIUM Giurgiulesti 73.43 328 ⇓P **P 23 01 50.0 +0.7**
MESR Meseseni 73.44 333 ⇓P **P 23 01 50.1 +0.8**
PAL Palisades 73.45 41 IAMs_20 IAMs_20 23 36 19.5
comp=Z,26µm,19.0s
PAL Palisades 73.45 41 P **P 23 01 48.8 -0.7**
baz=329,SNR=11
PAL S **S 23 11 11.7 -3.5**
baz=329
SLCR Slobozia Conac 73.47 329 ⇑P **P 23 01 50.0 +0.5**
ROTZ Rotzenmuhle 73.48 341 *e*P **P 23 01 50.6 +1.0**
comp=Z,154nm,1.3s,baz=17,slow=6.0
LTVH Ltavrtes, Hu 73.50 333 ⇓P **P 23 01 50.5 +0.8**
LTVH Ltavrtes, Hu 73.50 333 P **P 23 01 49.9 +0.3**
MCH1 Michaelchurch 73.50 351 *e*P **P 23 01 49.4 -0.2**
MCH1 IAMs_20 IAMs_20 23 42 38.8
comp=Z,11µm,18.9s
TLCR 73.51 328 ⇑P **P 23 01 49.1 -0.7**
IZVR Izvoarele 73.51 329 ⇑P **P 23 01 50.0 +0.2**
PSZ Piszkesteto 73.52 335 ⇑P **P 23 01 50.6 +0.7**
PSZ Piszkesteto 73.52 335 IAmb IAmb 23 01 53.4
comp=Z,341nm,1.0s
PSZ Piszkesteto 73.52 335 ⇑P **P 23 01 50.1 +0.2**
PSZ Piszkesteto 73.52 335 P **P 23 01 50.2 +0.2**
GISR Galati 73.52 329 ⇑P **P 23 01 50.1 +0.3**
ODBI Odobesti 73.53 329 ⇓P **P 23 01 50.3 +0.4**
SCHL Schela 73.53 329 ⇑P **P 23 01 50.3 +0.4**
WSPT Westport, CT 73.53 41 IAMs_20 IAMs_20 23 36 21.6
comp=Z,22µm,19.0s
VRI Vrincioaia 73.53 330 ⇑P **P 23 01 49.5 -0.4**
VRI Vrincioaia 73.53 330 *i*P **P 23 01 49.7 -0.3**
SMOL Smolenice 73.55 337 *e*P **P 23 01 51.1 +1.1**
SMOL pmax pmax
comp=Z,206nm,1.1s
SMOL Smolenice 73.55 337 *e*P **P 23 01 51.1 +1.1**
YLE Yale 73.56 40 IAMs_20 IAMs_20 23 35 06.3
comp=Z,22µm,21.0s
BRYW Bryant College 73.56 39 IAMs_20 IAMs_20 23 35 50.4
comp=Z,25µm,21.0s
TGMR Targu Mures 73.57 331 ⇓P **P 23 01 51.4 +1.3**
PLOR Plostina 73.57 330 ⇓P **P 23 01 50.1 -0.1**
PLOR ⇑P pP 23 01 50.3 -12
BKNI Bangkinang 73.58 247 ⇑P **P 23 01 50.9 +0.3**
BKNI Bangkinang 73.58 247 P **P 23 01 52.6 +2.0**
comp=Z,24µmcomp=Z,11µmcomp=Z,588nm,1.2s
BKNI Bangkinang 73.58 247 P **P 23 01 52.3 +1.7**
OZUR 73.60 330 ⇑P **P 23 01 51.0 +0.6**
BEBN Eben Emael 73.62 345 *d*P **P 23 01 50.5 +0.2**
comp=Z,149nm,1.1s
BEBN *d*PP **PP 23 04 35.2 +1.1**
CBBR Cluj-Babes-Bol 73.62 332 ⇑P **P 23 01 50.5 0.0**
MONM Monmouth 73.64 351 *e*P **P 23 01 50.9 +0.5**
MONM IAmb IAmb 23 01 54.3
comp=Z,360nm,1.0s
STRD Stroud 73.64 350 *e*P **P 23 01 50.0 -0.5**
STRD IAmb IAmb 23 01 53.3
comp=Z,426nm,1.1s
ERZM Erzurum 73.64 317 *i*P **P 23 01 51.5 +0.5**
AHRW Bad Neuenahr-A 73.65 344 *e*P **P 23 01 51.4 +0.8**
comp=Z,680nm,1.7s,baz=17,slow=6.0
CJR Cluj-Napoca 73.66 332 ⇑P **P 23 01 50.6 -0.1**
RSBS Rosebush, Pemb 73.70 352 *e*P **P 23 01 51.0 +0.2**
RSBS IAmb IAmb 23 01 53.9
comp=Z,2µm,2.6s
COVR Voineasa-Covas 73.71 330 ⇓P **P 23 01 51.0 0.0**
V52A Sevierville 73.71 51 IAmb IAmb 23 02 11.2
comp=Z,340nm,1.5s
BAYT Aydıntepe-Bayb 73.71 318 *i*P **P 23 01 53.1 +1.8**
CFR Carcaliu 73.73 328 ⇑P **P 23 01 50.4 -0.7**
EJDE Erzurum, Palan 73.73 317 *i*P **P 23 01 49.6 -2.1**
TNS Taunus Mts 73.73 343 *e*P **P 23 01 51.8 +0.7**
comp=Z,492nm,1.4s,baz=17,slow=6.0
GRA1 Grafenberg Arr 73.74 341 IAMs_20 IAMs_20 23 37 26.6
comp=Z,17µm,21.0s
GRF Grafenberg Arr 73.74 341 *e*P **P 23 01 52.3 +1.2**
comp=Z,1µm,2.2s,baz=17,slow=6.0
GRF *e*L L 23 37 36.8
comp=Z,17µm,21.4s
GRFO Grafenberg 73.74 341 P **P 23 01 50.9 -0.2**
GRFO pmax pmax
comp=Z,939nm,1.0s
GRFO MLR MLR
comp=Z,17µm,21.0s
GRFO Grafenberg 73.74 341 P **P 23 01 50.9 -0.2**
GRFO IAMs_20 IAMs_20 23 37 25.6
comp=Z,17µm,21.0s
GRFO Grafenberg 73.74 341 P **P 23 01 51.3 +0.1**
MEM Membach 73.75 345 *d*P **P 23 01 50.6 -0.6**
comp=Z,507nm,1.0s
MEM *d*PP **PP 23 04 38.8 +3.6**
BTNL Ternell 73.75 345 *d*P **P 23 01 50.6 -0.6**
comp=Z,373nm,1.0s
BTNL *d*PP **PP 23 04 36.9 +1.6**
MTSU Mount Surprise 73.77 198 P **P 23 01 53.0 +1.5**
Z47A Carrollton 73.77 56 IAmb IAmb 23 01 53.8
comp=Z,304nm,0.8s
SRBI Singaraja 73.78 230 P **P 23 01 52.3 +0.7**
comp=Z,19µmcomp=Z,8µmcomp=Z,252nm,1.1s
TKL Tuckaleechee C 73.78 51 LR LR 23 36 24.3
comp=Z,33µm,19.0s,baz=326,slow=38
BORR Bors 73.80 333 ⇓P **P 23 01 52.6 +1.2**
UCC Uccle 73.81 346 *d*P **P 23 01 51.7 +0.3**
comp=Z,20nm,1.1s
UCC *d*PP **PP 23 04 37.2 +1.5**
KHC Kasperske Hory 73.81 340 *e*P **P 23 01 51.4 -0.2**
KHC *e* 23 02 02.5
KHC *e* 23 04 35.5
KHC *e*S **S 23 11 21.5 +2.4**
KHC MLR MLR
comp=Z,32µm,18.0s
KHC Kasperske Hory 73.81 340 *e*P **P 23 01 51.4 -0.2**
KHC *e*pP **pP 23 02 02.5 -1.5**
KHC *e*PP **PP 23 04 35.5 -0.4**
KHC *e*S **S 23 11 21.5 +2.4**
KHC AMS AMS 23 39 20.0
comp=Z,32µm,18.0s
KHC Kasperske Hory 73.81 340 IAmb IAmb 23 01 55.5
comp=Z,480nm,1.1s
KHC Kasperske Hory 73.81 340 ⇑P **P 23 01 51.5 -0.1**
MLAZ Malazgirt-MUS 73.81 316 *i*P **P 23 01 52.2 +0.3**
BISRR Bisoca 73.83 329 ⇓P **P 23 01 52.6 +0.8**
DRGR 73.83 333 ⇓P **P 23 01 51.8 0.0**
DOPR Dopca 73.83 331 ⇑P **P 23 01 52.5 +0.7**
JMBI JAMBI 73.84 243 P **P 23 01 55.8 +3.7**
BSTI Sart Tilman 73.84 345 κP **P 23 01 51.7 0.0**
comp=Z,60nm,1.2s
BSTI *d*PP **PP 23 04 38.3 +2.3**
GBN Guysborough 73.85 31 IAmb IAmb 23 02 06.1
comp=Z,415nm,1.3s
FPAL Fort Paine 73.85 53 IAmb IAmb 23 01 54.3
comp=Z,239nm,0.9s
SWN1 Swindon 73.86 350 *e*P **P 23 01 51.6 -0.2**
SWN1 IAmb IAmb 23 01 55.4
comp=Z,886nm,1.2s
JURR Jurilovca 73.87 328 ⇑P **P 23 01 51.8 -0.1**
344A Westbrook Farm 73.88 59 IAmb IAmb 23 02 13.2
comp=Z,386nm,1.2s
ELSH Elham, Standar 73.89 348 *e*P **P 23 01 52.5 +0.6**
ELSH IAmb IAmb 23 01 58.0
comp=Z,342nm,1.1s
ELSH IAMs_20 IAMs_20 23 40 27.1
comp=Z,16µm,18.8s
GRER 73.90 329 ⇑P **P 23 01 52.6 +0.5**
ZST Bratislava 73.93 337 *e*P **P 23 01 53.9 +1.7**
ZST pmax pmax
comp=Z,869nm,1.1s
ZST Bratislava 73.93 337 *e*P **P 23 01 53.8 +1.6**
ZST *e*S **S 23 11 23.8 +3.5**
VANB Van 73.93 315 *i*P **P 23 01 53.1 +0.6**
TPGR Topolog 73.93 328 ⇑P **P 23 01 52.0 -0.4**
WET Wettzell 73.94 340 *e*P **P 23 01 53.5 +1.2**
comp=Z,638nm,1.3s,baz=17,slow=6.0
CKRC Cesky Krumlov 73.95 339 *e*P **P 23 01 52.4 0.0**
CKRC *e*PP **PP 23 04 35.4 -1.7**
CKRC *e*S **S 23 11 21.0 +0.3**
CKRC AMS AMS 23 38 40.0
comp=Z,18µm,19.4s
ABJI Asem Bagus 73.96 231 P **P 23 01 54.3 +1.6**
comp=Z,23µmcomp=Z,8µmcomp=Z,170nm,1.7s
MDB Medias 73.96 331 ⇑P **P 23 01 53.1 +0.6**
MNSI Mandailing Nat 73.98 248 P **P 23 01 52.7 -0.2**
comp=Z,18µmcomp=Z,3µmcomp=Z,84nm,1.4s
BLA Blacksburg 73.98 48 P **P 23 01 51.8 -1.0**
baz=327,SNR=28
BLA S **S 23 11 21.1 -0.4**
baz=327
GRJI Gresik 73.99 233 P **P 23 01 57.2 +4.3**
BSZH Besenyszg 74.00 334 ⇓P **P 23 01 53.2 +0.6**
BSZH Besenyszg 74.00 334 P **P 23 01 53.7 +1.1**
BHOU Houvegnez 74.00 345 *d*P **P 23 01 52.6 0.0**
comp=Z,193nm,1.1s
BHOU *d*PP **PP 23 04 39.9 +2.6**
SRO Srobarova 74.00 336 *e*P **P 23 01 53.7 +1.1**
SRO pmax pmax
comp=Z,362nm,1.2s
SRO Srobarova 74.00 336 *e*P **P 23 01 53.7 +1.1**
SRO2 Moca 74.03 336 *e*P **P 23 01 52.6 -0.2**
SRO2 pmax pmax
comp=Z,359nm,1.1s
SRO2 Moca 74.03 336 *e*P **P 23 01 52.6 -0.2**
Y49A Blount Mountai 74.03 54 IAmb IAmb 23 02 12.6
comp=Z,499nm,1.7s
BCLA Clavier 74.04 345 *b*P **P 23 01 52.1 -0.7**
comp=Z,107nm,1.1s
BCLA *d*PP **PP 23 04 41.5 +3.8**
GEC2 GERESS Array S 74.06 339 IAmb IAmb 23 01 56.0
comp=Z,237nm,1.0s
GEC2 GERESS Array S 74.06 339 *e*P **P 23 01 53.9 +0.8**
comp=Z,286nm,1.1s,baz=17,slow=6.0
GERES GERESS Array B 74.06 339 P **P 23 01 53.0 0.0**
comp=Z,131nm,1.0s,baz=32,slow=6.3,SNR=237
GERES PKKPbc **PKKPbc 23 21 24.4 +3.1**
comp=Z,0.2nm,0.4s,baz=144,slow=2.5,SNR=4.4
GERES PKPPKP P'P'df 23 29 21.4 -9.1
comp=Z,1.5nm,0.9s,baz=90,slow=3.2,SNR=8.9
GERES LR LR 23 39 40.3
comp=Z,21µm,18.7s,baz=32,slow=40
GERES GERESS Array B 74.06 339 P **P 23 01 52.4 -0.7**
GERES GERESS Array B 74.06 339 P **P 23 01 52.4 -0.7**
NEHR Nehoiu 74.06 330 ⇓P **P 23 01 53.6 +0.5**
VAL Valentia 74.06 356 ⇓P **P 23 01 53.0 +0.2**
SNF Seneffe 74.11 346 *d*P **P 23 01 52.3 -0.9**
comp=Z,88nm,0.9s
SNF *d*PP **PP 23 04 40.4 +2.2**
MLR Muntele Rosu 74.11 330 ⇑P **P 23 01 53.5 0.0**
MLR Muntele Rosu 74.11 330 LR LR 23 39 16.1
comp=Z,52µm,18.7s,baz=30,slow=40
MLR Muntele Rosu 74.11 330 IAmb IAmb 23 01 59.4
comp=Z,401nm,0.9s
BGES Gesves 74.11 345 *d*P **P 23 01 52.9 -0.4**
comp=Z,95nm,1.2s
BUD Budapest 74.14 335 P **P 23 01 53.0 -0.5**
S57A Dark Hollow, R 74.16 47 IAmb IAmb 23 02 13.8
comp=Z,314nm,1.1s
X51A Calhoun 74.18 52 IAmb IAmb 23 02 21.5
comp=Z,426nm,1.4s
M65A Busby, Falmout 74.20 39 IAMs_20 IAMs_20 23 36 20.2
comp=Z,25µm,21.0s
TBJI Tambak Boyo 74.20 233 P **P 23 01 56.0 +1.8**
comp=Z,12µmcomp=Z,7µmcomp=Z,192nm,1.7s
BLJI Banyuglugur 74.21 231 P **P 23 01 56.8 +2.6**
comp=Z,11µmcomp=Z,4µmcomp=Z,72nm,0.9s
HARR Harsova 74.23 328 ⇑P **P 23 01 53.7 -0.4**
BMRD Maredsous 74.24 346 *d*P **P 23 01 53.0 -0.9**
comp=Z,135nm,0.9s
BMRD *d*PP **PP 23 04 43.6 +4.3**
VRTB Varto-Mus 74.24 316 *i*P **P 23 01 53.8 -0.6**
ISR Istrita 74.27 329 ⇓P **P 23 01 54.2 -0.2**
KARO Karliova-Bingo 74.28 317 *i*P **P 23 01 54.9 +0.2**
UWJI Ujung Watu 74.28 234 P **P 23 01 56.3 +1.7**
comp=Z,9µmcomp=Z,571nm,1.1s
TIRR Tirgusor 74.29 328 ⇑P **P 23 01 54.6 +0.2**
TIRR Tirgusor 74.29 328 ⇑P **P 23 01 53.7 -0.7**
DNP Denpasar 74.30 229 P **P 23 01 55.2 +0.5**
comp=Z,29µmcomp=Z,299nm,0.7s
GEVA Gevas 74.30 315 IAmb IAmb 23 01 59.4
comp=Z,603nm,1.1s
RCHB Rochefort 74.31 345 *d*P **P 23 01 54.4 0.0**
comp=Z,95nm,1.1s
RCHB *d*PP **PP 23 04 41.5 +1.5**
AKDM Akdamar-Van 74.32 315 *i*P **P 23 01 54.9 0.0**
PGOR Pogoanele 74.33 329 ⇓P **P 23 01 55.5 +0.9**
TLBR Topalu 74.33 328 ⇑P **P 23 01 54.7 +0.1**
PMBI Palembang 74.35 242 P **P 23 01 55.5 +0.5**
PMBI PP **PP 23 04 40.6 -1.1**
PMBI Palembang 74.35 242 P **P 23 01 58.5 +3.4**
PMBI Palembang 74.35 242 P **P 23 01 56.9 +1.8**
VOIR 74.42 331 ⇑P **P 23 01 55.9 +0.7**
LRAL Lakeview Retre 74.42 55 P **P 23 01 53.8 -1.5**
baz=325,SNR=39
LRAL S **S 23 11 24.8 -1.6**
baz=325
CSKK Cskako 74.43 336 P **P 23 01 55.9 +0.7**
SNSI Sinabang, Aceh 74.44 252 P **P 23 01 58.5 +2.9**
CBN Corbin Frederi 74.45 45 P **P 23 01 55.4 +0.1**
baz=328
CBN S **S 23 11 25.4 -1.0**
baz=328
IGBI Denpasar 74.46 229 P **P 23 01 54.6 -1.0**
CONA Conrad Observa 74.46 338 *i*P **P 23 01 55.8 +0.3**
comp=Z,176nm,1.0s,SNR=298
DOU Dourbes 74.46 346 *d*P **P 23 01 54.9 -0.3**
comp=Z,96nm,1.1s
DOU *d*PP **PP 23 04 44.9 +3.7**
KOUNC Koumac, New Ca 74.46 179 IAmb IAmb 23 02 01.0
comp=Z,711nm,1.3s
KOUNC IAMs_20 IAMs_20 23 35 19.9
comp=Z,23µm,18.0s
KOUNC Koumac, New Ca 74.46 179 ⇓P **P 23 01 57.2 +1.8**
KOUNC Koumac, New Ca 74.46 179 P **P 23 01 57.4 +2.0**
TSCT Constanta Port 74.48 328 ⇓P **P 23 01 56.0 +0.5**
SECR 74.48 330 ⇓P **P 23 01 55.2 -0.3**
AMRR Amara 74.49 329 ⇑P **P 23 01 55.4 -0.1**
CVDA Cernavoda 74.52 328 ⇓P **P 23 01 56.7 +1.0**
GURO Guroymak-BITLI 74.53 316 *i*P **P 23 01 56.3 +0.3**
GURO Guroymak-BITLI 74.53 316 IAmb IAmb 23 02 00.9
comp=Z,529nm,1.1s
SOP Sopron 74.53 337 P **P 23 01 56.4 +0.7**
MFTR Murfatlar 74.54 328 ⇑P **P 23 01 56.0 +0.2**
346A Big Creek Wild 74.56 58 P **P 23 01 56.2 0.0**
346A IAmb IAmb 23 01 59.3
comp=Z,248nm,0.9s
346A PP **PP 23 04 40.1 -2.6**
EFOR EFORIE 74.56 328 ⇑P **P 23 01 56.7 +0.8**
ERZN Erzincan 74.57 318 *i*P **P 23 01 58.6 +2.3**
POO Poona 74.57 280 *e*P **P 23 01 56.2 -0.2**
POO IAmb IAmb 23 02 00.4
comp=Z,450nm,0.8s
PPI Padang Panjang 74.58 247 P **P 23 01 58.6 +2.2**
comp=Z,457nmcomp=Z,30nm,1.4s
SIRR Siria 74.59 333 ⇓P **P 23 01 56.8 +0.6**
JAGI Jajag, Banyuwa 74.59 230 ⇑P **P 23 01 54.9 -1.6**
JAGI Jajag, Banyuwa 74.59 230 P **P 23 01 55.2 -1.2**
JAGI Jajag, Banyuwa 74.59 230 P **P 23 01 56.0 -0.4**
ARR Arges 74.60 331 ⇓P **P 23 01 56.8 +0.6**
EGYH Egyhazaskeszo 74.61 336 P **P 23 01 57.0 +0.8**
MTUR Matau 74.61 330 ⇑P **P 23 01 56.9 +0.6**
PLAR PLOIESTI 74.61 330 ⇑P **P 23 01 56.8 +0.6**
DEV Deva 74.61 332 ⇓P **P 23 01 56.3 +0.1**
HTL Hartland 74.63 352 *e*P **P 23 01 56.9 +0.7**
WLF Walferdange 74.65 344 IAmb IAmb 23 02 02.0
comp=Z,466nm,1.3s
WLF IAMs_20 IAMs_20 23 39 49.4
comp=Z,23µm,20.0s
WLF Walferdange 74.65 344 *e*P **P 23 01 57.3 +1.0**
comp=Z,511nm,1.3s,baz=17,slow=6.0
WLF Walferdange 74.65 344 ⇑P **P 23 01 56.5 +0.1**
WLF Walferdange 74.65 344 *d*P **P 23 01 57.1 +0.7**
comp=Z,140nm,1.2s
WLF *d*PP **PP 23 04 45.4 +2.5**
BZK Bozkurt 74.65 323 ⇑P **P 23 01 56.2 -0.3**
BZK Bozkurt 74.65 323 *i*P **P 23 01 55.5 -1.0**
GSI Gunungsitoli 74.66 250 IAMs_20 IAMs_20 23 39 24.6
comp=Z,17µm,19.0s
GSI Gunungsitoli 74.66 250 ⇑P **P 23 01 56.7 -0.2**
GSI Gunungsitoli 74.66 250 P **P 23 01 58.1 +1.2**
comp=Z,24µmcomp=Z,14µmcomp=Z,492nm,1.6s
GSI Gunungsitoli 74.66 250 P **P 23 01 58.0 +1.2**
KVT Kavak 74.68 321 *i*P **P 23 01 57.3 +0.5**
BNGB Bingl 74.70 317 *i*P **P 23 01 57.1 +0.1**
BG3 Lake Jocassee 74.71 51 IAmb IAmb 23 02 17.1
comp=Z,427nm,1.4s
GMJI Gumukmas 74.74 231 P **P 23 01 56.9 -0.4**
SULR 74.75 329 ⇑P **P 23 01 57.0 -0.1**
AMBH Ambrzfalva 74.76 334 ⇑P **P 23 01 57.8 +0.7**
AMBH Ambrzfalva 74.76 334 P **P 23 01 57.7 +0.7**
LEHL Lehliu 74.77 329 ⇑P **P 23 01 57.4 +0.2**
LOT Lotru 74.77 331 ⇑P **P 23 01 58.2 +0.8**
LOT Lotru 74.77 331 *i*P **P 23 01 58.1 +0.8**
LIFNC LIFOU 74.78 176 IAMs_20 IAMs_20 23 33 44.2
comp=Z,17µm,19.0s
LIFNC LIFOU 74.78 176 P **P 23 01 58.5 +1.3**
MPLH Magyarpolny 74.79 336 P **P 23 01 58.5 +1.3**

ICOR Ion Corvin 74.79 328 ⇑P P **23 01 57.7 +0.4**
RSDY Resadiye-TOKAT 74.80 320 *i* P P **23 01 57.6 +0.2**
MANR Mangalia 74.81 327 ⇓P P **23 01 58.0 +0.6**
MOA Molln 74.88 339 *i* P P **23 01 58.2 +0.4**
comp=Z,48nm,0.7s,SNR=93
RASA Rasa 74.90 329 ⇓P P **23 01 58.0 +0.1**
TIH Tihany 74.96 336 ⇑P P **23 01 57.6 -0.5**
STFAR Stefanesti-Arg 74.97 330 ⇑P P **23 01 58.6 +0.2**
CUKT Cukurca 74.97 314 *i* P P **23 01 58.3 -0.3**
STU Stuttgart 75.00 342 IAmb IAmb 23 02 01.7
comp=Z,316nm,1.1s
STU Stuttgart 75.00 342 *eP* P **23 01 59.1 +0.6**
comp=Z,801nm,1.1s,baz=17,slow=6.0
STU Stuttgart 75.00 342 ⇑P P **23 01 58.8 +0.3**
PSN Preselentsi 75.06 328 *i* P P **23 01 59.9 +1.0**
SMRI Semarang 75.07 234 IAmb IAmb 23 02 18.9
comp=Z,526nm,1.2s
SMRI Semarang 75.07 234 P P **23 02 00.7 +1.5**
comp=Z,25µmcomp=Z,12µmcomp=Z,384nm,1.2s
SMRI Semarang 75.07 234 P P **23 02 00.8 +1.5**
GZR Gura Zlata 75.10 332 ⇑P P **23 01 58.7 -0.4**
BUC1 Bucharest 75.12 329 ⇓P P **23 01 60.0 +0.8**
Y52A Lilburn 75.13 52 IAmb IAmb 23 02 19.4
comp=Z,325nm,1.4s
DYA Yadsworthy 75.13 351 *eP* P **23 01 59.7 +0.5**
DYA IAmb IAmb 23 02 02.2
comp=Z,395nm,1.2s
DYA IAMs_20 IAMs_20 23 38 44.1
comp=Z,7µm,18.5s
ILIC ilic-Erzincan 75.14 319 *i* P P **23 01 59.9 +0.3**
MDRS Chennai 75.16 272 *eP* P **23 01 59.7 -0.1**
MDRS IAmb IAmb 23 02 04.4
comp=Z,559nm,1.2s
TOKT Tokat 75.16 320 *i* P P **23 01 59.8 +0.2**
BIOA Bad Ischl, Aus 75.17 339 *i* P P **23 01 59.8 +0.3**
comp=Z,60nm,0.6s
ARSA Arzberg 75.18 338 *i* P P **23 01 59.9 +0.3**
comp=Z,79nm,1.0s,SNR=82
FUR Furstenfeldbru 75.19 341 *eP* P **23 02 00.5 +0.9**
comp=Z,685nm,1.1s,baz=17,slow=6.0
KURC Kurucasile-Bar 75.19 324 *i* P P **23 01 56.9 -2.7**
TIM Timisoara 75.20 333 ⇓P P **23 02 00.2 +0.6**
BZS Buzias 75.21 333 ⇓P P **23 01 59.4 -0.3**
SVAN Silvan-Diyarba 75.21 316 *i* P P **23 02 00.1 +0.2**
KALB Balgarevo 75.24 327 ⇓P P **23 02 00.6 +0.7**
SGRR Singureni 75.25 329 ⇑P P **23 01 59.6 -0.3**
HUMR Humele 75.27 330 ⇑P P **23 01 59.2 -0.8**
PWJI Pagerwojo 75.28 233 P P **23 02 00.2 -0.2**
RJOB Jochberg 75.30 340 *eP* P **23 02 01.4 +1.1**
comp=Z,484nm,1.1s,baz=17,slow=6.0
KMSC Kings Mountain 75.31 50 P P **23 01 59.3 -1.2**
baz=327,SNR=27
KMSC S S **23 11 35.5 -0.8**
baz=327
CTA Charters Tower 75.35 196 P P **23 02 00.1 -0.5**
comp=Z,221nm,1.0s,baz=8.6,slow=6.4,SNR=113
CTA LR LR 23 31 08.1
comp=Z,4µm,21.8s,baz=5.5,slow=32
CTA Charters Tower 75.35 196 P P **23 02 02.0 +1.4**
CTAO Charters Tower 75.35 196 P P **23 02 01.9 +1.3**
KRJI Kerinci 75.38 245 P P **23 02 02.4 +1.3**
comp=Z,22µmcomp=Z,19µmcomp=Z,844nm,1.3s
KNRA Kununurra 75.42 214 IAmb IAmb 23 02 25.3
comp=Z,497nm,1.1s
KNRA Kununurra 75.42 214 P P **23 02 02.7 +1.6**
CCA1 Carnmenellis 75.49 352 IAMs_20 IAMs_20 23 44 41.9
comp=Z,12µm,17.1s
MARNC Mare, Loyalty 75.51 175 ⇑p P **23 02 05.6 +4.2**
MARNC Mare, Loyalty 75.51 175 P P **23 02 04.4 +2.9**
ARPR Arapgir-MALATY 75.54 318 *i* P P **23 02 02.2 +0.3**
BANR Banloc 75.55 333 ⇓P P **23 02 02.4 +0.8**
COPA Copaceanca 75.56 330 ⇑P P **23 02 01.9 +0.2**
BFO Black Forest 75.58 343 P P **23 02 01.1 -0.7**
BFO pmax pmax
comp=Z,321nm,1.1s
BFO MLR MLR
comp=Z,13µm,22.0s
BFO Black Forest 75.58 343 P P **23 02 01.1 -0.7**
BFO IAmb IAmb 23 02 05.0
comp=Z,322nm,1.1s
BFO Black Forest 75.58 343 *eP* P **23 02 02.4 +0.6**
comp=Z,357nm,1.1s,baz=17,slow=6.0
BFO Black Forest 75.58 343 P P **23 02 01.0 -0.7**
BFO pP **pP** **23 02 14.1 -0.2**
BEHE Becsehely 75.62 336 ⇑*i*P P **23 02 02.1 0.0**
BEHE Becsehely 75.62 336 P P **23 02 02.7 +0.6**
250A Grady 75.64 55 IAmb IAmb 23 02 25.7
comp=Z,445nm,1.3s
SRE Strehaia 75.65 331 ⇑P P **23 02 02.4 +0.2**
HODGE Hodges 75.65 51 IAmb IAmb 23 02 22.4
comp=Z,407nm,1.7s
KOVH Kovagotottos 75.67 335 P P **23 02 01.9 -0.4**
HERR Herculane 75.67 332 ⇑P P **23 02 01.7 -0.6**
PCJI Pacitan 75.72 233 P P **23 02 03.8 +0.9**
comp=Z,14µmcomp=Z,5µmcomp=Z,251nm,1.5s
PRD Provadia 75.74 328 *i* P P **23 02 02.9 +0.2**
SVRC Sivrice-ELAZID 75.78 317 *i* P P **23 02 03.7 +0.4**
GOGA Godfrey 75.78 52 P P **23 02 02.2 -1.0**
baz=326,SNR=14
GOGA S S **23 11 41.0 -0.4**
baz=326
UGM Wanagama 75.79 234 P P **23 02 03.7 +0.4**
comp=Z,18µmcomp=Z,13µmcomp=Z,484nm,1.8s
UGM Wanagama 75.79 234 P P **23 02 03.3 0.0**
RMGR Halanga-Turnu 75.79 332 ⇑P P **23 02 03.0 -0.1**
YOGI Yogyakarta 75.81 234 P P **23 02 04.5 +1.0**
comp=Z,10µmcomp=Z,7µmcomp=Z,303nm,1.4s
KBA Koelnbreinsper 75.81 339 *i* P P **23 02 03.8 +0.5**
comp=Z,409nm,0.8s,SNR=882
SOKA Soboth 75.83 338 *i* P P **23 02 03.3 0.0**
comp=Z,371nm,1.1s,SNR=325
DJES Djerdap 75.84 332 ⇑P P **23 02 03.2 -0.1**
PERS Pernice 75.85 338 *i* P P **23 02 03.4 0.0**
MASI Maura Aman, Be 75.85 244 P P **23 02 04.4 +0.6**
comp=Z,12µmcomp=Z,567nm,1.6s
KLSI 75.87 241 P P **23 02 03.6 -0.2**
UBR Ueberruh 75.88 341 *eP* P **23 02 04.5 +0.9**
comp=Z,573nm,1.2s,baz=17,slow=6.0
ECH Echery 75.89 343 IAmb IAmb 23 02 07.3
comp=Z,446nm,1.1s
ECH IAMs_20 IAMs_20 23 39 47.3
comp=Z,13µm,20.0s
ECH Echery 75.89 343 ⇑P P **23 02 02.9 -0.7**
ECH Echery 75.89 343 P P **23 02 03.4 -0.1**
VLAD Vladila 75.92 330 ⇑P P **23 02 03.4 -0.4**
BRAL Brewton 75.93 56 IAmb IAmb 23 02 28.2
comp=Z,390nm,1.2s
BRAL Brewton 75.93 56 P P **23 02 05.8 +1.8**
baz=326,SNR=8.3
BRAL S S **23 11 45.3 +2.2**
baz=326
GROS Grobnik 75.93 337 *eP* P **23 02 03.7 -0.2**
GROS *i* 23 02 05.7
GROS eS S **23 11 44.2 +1.4**
GROS eSS **SS** **23 16 39.7 +5.2**
WATA Walderalm 75.93 340 *i* P P **23 02 04.0 +0.1**
comp=Z,416nm,1.1s,SNR=261
RETA Reutte 75.94 341 *i* P P **23 02 04.1 +0.2**
comp=Z,222nm,1.1s,SNR=176
ZIMR 75.95 330 ⇑P P **23 02 03.4 -0.5**
MDVR Moldovita 75.95 333 ⇓P P **23 02 03.5 -0.5**
KLI Kotabumi 75.95 240 P P **23 02 04.4 +0.1**
comp=Z,17µmcomp=Z,8µmcomp=Z,462nm,1.2s
CANT Cankiri 75.98 323 *i* P P **23 02 04.5 +0.2**
WTTA Wattenberg 75.99 340 *i* P P **23 02 04.3 0.0**
comp=Z,494nm,1.1s,SNR=322
CORM Corum 75.99 322 *i* P P **23 02 04.8 +0.4**
MOTA Moosalm 76.01 341 *i* P P **23 02 04.2 -0.2**
comp=Z,628nm,1.2s,SNR=314
SISI Saibi 76.01 247 P P **23 02 06.0 +1.4**
comp=Z,7µmcomp=Z,282nm,1.1s
KALN Kalnik 76.02 337 *i* P P **23 02 03.7 -0.7**
DZM Mont Dzumac 76.03 176 P P **23 02 05.3 +0.7**
comp=Z,396nm,1.1s,baz=325,slow=5.0,SNR=46
DZM LR LR 23 31 55.9
comp=Z,17µm,19.8s,baz=354,slow=33
DZM Mont Dzumac 76.03 176 *eP* P **23 02 06.0 +1.4**
comp=Z,2µm,1.4s
DZM *eS* S **23 11 43.4 -0.8**
comp=Z,19µm,28.7s
DZM Mont Dzumac 76.03 176 *eLQ* LQ 23 22 10.6
comp=Z,10µm,29.4s
DZM *eLR* LR 23 25 23.6
comp=Z,19µm,20.6s,baz=8.6
DZM Mont Dzumac 76.03 176 ⇓P P **23 02 06.5 +1.9**
DZM ⇑P pP 23 02 07.0 -10
DZM Mont Dzumac 76.03 176 P P **23 02 06.9 +2.3**
DZM Mont Dzumac 76.03 176 P P **23 02 05.8 +1.2**
DZM pP **sP** **23 02 19.1 -2.2**
YATNC Mamie plateau, 76.03 176 P P **23 02 06.5 +2.0**
KPJI Karang Pucung 76.05 236 P P **23 02 04.7 -0.1**
NOUC Port Laguerre 76.05 177 P P **23 02 06.8 +2.2**
NOUC Port Laguerre 76.05 177 P P **23 02 07.3 +2.7**
NOUC pP **sP** **23 02 19.1 -2.2**
PUNG Punghina 76.08 331 ⇑P P **23 02 04.2 -0.5**
LOBO Lobor 76.09 337 *i* P P **23 02 03.9 -0.8**
OBKA Obir 76.09 338 *i* P P **23 02 04.9 0.0**
comp=Z,552nm,1.1s,SNR=295
FRGS Fruska Gora 76.11 334 ⇓*i*P P **23 02 03.2 -1.7**
FRGS Fruska Gora 76.11 334 ⇑*i*P P **23 02 03.3 -1.6**
SQTA Sankt Quirin 76.11 340 *i* P P **23 02 05.1 +0.1**
comp=Z,524nm,1.1s,SNR=400
KDZE Karadeniz Ereo 76.11 324 ⇓P P **23 02 04.8 -0.2**
KDZE Karadeniz Ereo 76.11 324 *i* P P **23 02 05.6 +0.6**
SZH Strazhica 76.13 329 *i* P P **23 02 04.6 -0.4**
MYKA Terra Mystica 76.18 339 *i* P P **23 02 05.0 -0.3**
comp=Z,249nm,1.2s,SNR=128
BLSI Bandar Lampung 76.19 240 P P **23 02 06.3 +0.7**
comp=Z,4µmcomp=Z,155nm,0.7s
JSA Saint Aubin 76.20 350 *eP* P **23 02 05.0 -0.2**
JSA IAmb IAmb 23 02 08.4
comp=Z,326nm,1.0s
JSA IAMs_20 IAMs_20 23 41 21.5
comp=Z,9µm,18.2s
BAIL Bailesti 76.20 331 ⇑P P **23 02 05.6 +0.2**
LEM Lembang 76.25 237 LR LR 23 38 41.7
comp=Z,3µm,20.5s,baz=5.0,slow=38
ONTNC Ouen Toro 76.27 176 IAmb IAmb 23 02 11.5
comp=Z,718nm,1.3s
ONTNC Ouen Toro 76.27 176 P P **23 02 08.3 +2.5**
CBJI Citeko 76.28 238 P P **23 02 08.0 +1.9**
comp=Z,17µmcomp=Z,16µmcomp=Z,201nm,1.2s
ABTA Abfaltersbach 76.30 339 *i* P P **23 02 05.8 -0.2**
comp=Z,423nm,1.0s,SNR=327
DAVA Damuels 76.30 341 *i* P P **23 02 05.6 -0.5**
comp=Z,240nm,1.2s,SNR=93
PTJ Puntijarka 76.34 337 P P **23 02 06.2 -0.1**
PVL Pavlikeni 76.36 329 *i* P P **23 02 07.2 +0.9**
OUENC Ouen Island, N 76.39 176 IAmb IAmb 23 02 11.8
comp=Z,477nm,1.3s
OUENC Ouen Island, N 76.39 176 P P **23 02 08.8 +2.3**
FETA Feichten 76.40 341 *eP* P **23 02 06.6 0.0**
comp=Z,369nm,1.1s,SNR=367
ZAG Zagreb 76.42 337 ⇑*i*P P **23 02 06.8 +0.3**
ZAG Zagreb 76.42 337 P P **23 02 07.1 +0.6**
MOSL Moslavina 76.44 336 *i* P P **23 02 07.0 +0.3**
DBJI Dramaga 76.45 238 P P **23 02 07.4 +0.3**
comp=Z,214nm,1.3s
PTCC Patocco-Chiusa 76.45 339 ⇑P P **23 02 06.0 -0.9**
LWLI Liwa 76.50 241 P P **23 02 06.6 -0.9**
CRES Cresnjev 76.54 337 ⇑*i*P P **23 02 06.8 -0.5**
LJU Ljubljana 76.54 338 ⇑*i*P P **23 02 06.8 -0.5**
LJU Ljubljana 76.54 338 *eP* P **23 02 06.7 -0.5**
LJU *i* 23 02 08.6
ROBS Robic 76.57 339 *i* P P **23 02 06.8 -0.6**
BLJ Bijeljina 76.60 334 *eP* P **23 02 07.2 -0.4**
PINNC Pines Island, 76.61 176 IAmb IAmb 23 02 13.4
comp=Z,725nm,1.6s
PINNC Pines Island, 76.61 176 P P **23 02 08.9 +1.2**
154A Montrose 76.61 52 IAmb IAmb 23 02 31.9
comp=Z,396nm,1.1s
NIUE Niue 76.66 154 P P **23 02 10.0 +2.0**
JMB Yambol 76.66 328 *i* P P **23 02 09.0 +1.0**
X58A Rowland 76.69 49 IAmb IAmb 23 02 28.2
comp=Z,322nm,1.4s
352A Blakely 76.69 54 IAmb IAmb 23 02 28.3
comp=Z,511nm,1.6s
MPEP Malo Peshtene 76.70 331 *i* P P **23 02 09.4 +1.2**
KASI Kota Agung 76.70 240 P P **23 02 07.8 -0.7**
BNN Bunyan 76.70 320 *i* P P **23 02 08.0 -0.5**
OZLJ Ozalj 76.73 337 *i* P P **23 02 07.9 -0.4**
CNNC Cliffs of the 76.74 47 IAmb IAmb 23 02 28.7
comp=Z,239nm,1.1s
CNNC Cliffs of the 76.74 47 ⇑P P **23 02 09.3 +0.7**
CNNC Cliffs of the 76.74 47 P P **23 02 08.9 +0.3**
baz=328,SNR=14
CNNC S S **23 11 53.5 +1.6**
baz=328
BR131 Keskin Array S 76.75 322 *c* *i*P P **23 02 08.0 -0.7**
BRTR Keskin Array B 76.75 322 P P **23 02 08.2 -0.6**
comp=Z,685nm,1.2s,baz=56,slow=3.7,SNR=198
BRTR PKKPbc **PKKPbc** **23 21 17.9 +2.3**
comp=Z,0.4nm,0.4s,baz=198,slow=3.6,SNR=4.6
BRTR LR LR 23 42 35.1
comp=Z,16µm,18.1s,baz=44,slow=41
BRTR Keskin Array B 76.75 322 *i* P P **23 02 08.1 -0.8**
BRTR Keskin Array B 76.75 322 P P **23 02 07.9 -0.8**
KOZK Kozakli-Nevseh 76.75 321 *i* P P **23 02 09.3 +0.6**
DAVOX Davos/Dischmat 76.79 341 LR LR 23 42 51.1
comp=Z,20µm,18.0s,baz=18,slow=41
CLF Chambon-Foret 76.81 347 P P **23 02 09.6 +0.9**
CLF IAmb IAmb 23 02 13.2
comp=Z,488nm,1.2s
CLF PP **PP** **23 04 59.5 -1.6**
CLF IAMs_20 IAMs_20 23 42 33.6
comp=Z,18µm,20.0s
CLF Chambon-Foret 76.81 347 ⇓P P **23 02 09.7 +0.9**
CLF Chambon-Foret 76.81 347 P P **23 02 10.2 +1.5**
YUVA Yuva-Kibriscik 76.85 324 *i* P P **23 02 08.9 -0.4**
CEY Cerknica 76.85 336 ⇑*i*P P **23 02 08.3 -0.8**
SILT Sile 76.86 326 *i* P P **23 02 08.6 -0.6**
SARI SarD1z-Kayseri 76.88 319 *i* P P **23 02 09.7 +0.2**
CNJI Cibinong 76.91 237 P P **23 02 15.9 +6.3**
LOD Lodumlu 76.92 323 *i* P P **23 02 09.4 -0.2**
ANTO Ankara 76.93 323 *i* P P **23 02 09.2 -0.4**
ANTO Ankara 76.93 323 P P **23 02 08.9 -0.7**
ANTO pmax pmax
comp=Z,810nm,1.2s
ANTO Ankara 76.93 323 P P **23 02 08.9 -0.7**
SKJI Sukabumi 76.93 238 P P **23 02 13.4 +3.6**
MDUB Mudurnu 76.95 324 *i* P P **23 02 09.2 -0.6**
KLYT Kilyos 76.97 326 *i* P P **23 02 08.9 -0.9**
GOA Goa 76.99 278 *eP* P **23 02 08.2 -2.0**
GOA IAmb IAmb 23 02 13.7
comp=Z,720nm,0.8s
SAUV Serdivan-Sakar 77.01 325 *i* P P **23 02 09.2 -0.8**
BOVS Bovan 77.02 332 ⇑P P **23 02 09.2 -0.8**
TRI Trieste 77.03 338 P P **23 02 09.8 -0.2**
TRI PP **PP** **23 05 00.7 -2.2**
CGJI Cibinong 77.03 239 P P **23 02 08.9 -1.4**
KAMT Kaman 77.04 322 *i* P P **23 02 09.4 -0.9**
DIVS Divibare 77.05 333 IAmb IAmb 23 02 13.2
comp=Z,336nm,1.0s
DIVS Divibare 77.05 333 ⇑*i*P P **23 02 09.3 -0.9**
DIVS Divibare 77.05 333 ⇑P P **23 02 09.4 -0.9**
PRIJ Prijedor 77.05 336 *eP* P **23 02 09.2 -0.9**
QIS Mount Isa 77.08 202 P P **23 02 11.1 +0.6**
Y58A Scranton 77.09 49 IAmb IAmb 23 02 12.9
comp=Z,151nm,0.7s
PHSR Pinarhisar 77.12 327 *i* P P **23 02 12.1 +1.5**
SKDS Skadanscina 77.12 338 ⇑*i*P P **23 02 09.5 -1.1**
BGKT Bogazkoy 77.13 326 *i* P P **23 02 09.8 -0.8**
ISK Istanbul-Kandi 77.14 326 *i* P P **23 02 09.9 -0.8**
ISK Istanbul-Kandi 77.14 326 P P **23 02 11.5 +0.8**
KAVV Kandilli-Istan 77.14 326 *i* P P **23 02 10.4 -0.3**
CTI Castel Tesino 77.15 340 IAmb IAmb 23 02 13.2
comp=Z,247nm,0.9s
BLY Banja Luka 77.15 336 ⇑*i*P P **23 02 09.8 -0.9**
BLY Banja Luka 77.15 336 ⇑P P **23 02 09.9 -0.8**
ROSF Rostrenen 77.15 351 *eP* P **23 02 11.1 +0.5**
HRT Hereke 77.15 325 *i* P P **23 02 10.3 -0.6**
CTKS Kestanelik-??a 77.16 326 *i* P P **23 02 10.3 -0.5**
EDRB Edirne 77.17 328 *i* P P **23 02 10.0 -0.9**
EDRB Edirne 77.17 328 P P **23 02 10.0 -0.9**
TUE Stuetta 77.19 342 ⇑P P **23 02 11.2 0.0**
RIY Rijeka 77.23 338 ⇑*i*P P **23 02 12.4 +1.2**
RIY Rijeka 77.23 338 P P **23 02 10.7 -0.4**
SLVT Silivri 77.27 327 *i* P P **23 02 12.5 +1.1**
PGB Panagyurishte 77.31 330 *i* P P **23 02 12.8 +1.0**
TIGA Tifton 77.36 53 IAmb IAmb 23 02 36.4
comp=Z,287nm,0.9s
TIGA Tifton 77.36 53 P P **23 02 11.8 -0.3**
baz=327,SNR=15
TIGA S S **23 11 58.8 0.0**
baz=327
DIM Dimitrovgrad 77.36 329 *i* P P **23 02 13.3 +1.4**
Y59A Loris 77.37 49 IAmb IAmb 23 02 32.0
comp=Z,275nm,1.1s
PLIT Plitvice 77.39 337 *i* P P **23 02 11.8 -0.3**
BBLS Lazići 77.42 334 ⇑*i*P P **23 02 12.2 -0.1**
SERE Sereflikochisa 77.47 322 *i* P P **23 02 11.9 -0.8**
255A Hazlehurst 77.48 52 IAmb IAmb 23 02 36.7
comp=Z,344nm,1.0s
YLV Yalova 77.48 325 *i* P P **23 02 11.7 -1.0**
MGRS Mrkonjic Grad 77.48 336 *eP* P **23 02 13.3 +0.7**
SALM Salem 77.48 273 *eP* P **23 02 12.6 -0.4**
TRML Termal-Yalova 77.51 326 *i* P P **23 02 12.4 -0.4**
VTS Vitosha 77.52 331 ⇑P P **23 02 12.7 -0.4**
VTS Vitosha 77.52 331 ⇑P P **23 02 12.2 -0.9**
VTS Vitosha 77.52 331 *i* P P **23 02 13.7 +0.7**
NHSC New Hope 77.54 50 IAmb IAmb 23 02 36.8
comp=Z,297nm,1.1s
NHSC New Hope 77.54 50 P P **23 02 13.7 +0.7**
baz=328,SNR=7.3
PLD Plovdiv 77.56 329 *i* P P **23 02 12.1 -1.0**
SMRN Sveta Marina 77.58 338 *i* P P **23 02 11.8 -1.3**
WB0 Warramunga Arr 77.61 207 P P **23 02 12.8 -0.6**
WB0 IAmb IAmb 23 02 36.2
comp=Z,286nm,1.1s
RUDO Rudo 77.66 334 *eP* P **23 02 12.7 -0.9**
SENIN Lac Senin/Sane 77.66 343 P P **23 02 13.9 +0.1**
SENIN IAmb IAmb 23 02 19.6
comp=Z,268nm,1.2s
SENIN PP **PP** **23 05 10.4 +1.9**
GEMT Gemlik 77.66 326 *i* P P **23 02 12.4 -1.2**
UDBI Udbina 77.69 337 *i* P P **23 02 12.8 -1.0**
RABC Rab 77.71 337 *i* P P **23 02 13.0 -0.8**
BORA Eskisehir 77.73 324 *i* P P **23 02 13.2 -1.0**
BORA Eskisehir 77.73 324 IAmb IAmb 23 02 21.2
comp=Z,564nm,1.2s
SVRH Sivrihisar-ESK 77.75 323 *i* P P **23 02 13.7 -0.6**
AUSIV SIVRIHISAR 77.75 323 *i* P P **23 02 13.2 -1.1**
WR0 Warramunga Arr 77.75 207 P P **23 02 14.8 +0.6**
WR0 PP **PP** **23 05 13.6 +3.1**
WRAB Tennant Creek 77.78 207 *c* *i*P P **23 02 13.1 -1.2**
WRAB pmax pmax
comp=Z,146nm,1.1s
WRAB Tennant Creek 77.78 207 P P **23 02 14.1 -0.2**
WRAB Tennant Creek 77.78 207 P P **23 02 13.8 -0.6**
SALO Salr 77.78 340 IAmb IAmb 23 02 16.9
comp=Z,393nm,0.9s
WB2 Warramunga Arr 77.78 207 P P **23 02 13.7 -0.8**
WB2 IAmb IAmb 23 02 17.8
comp=Z,186nm,0.8s
WRA Warramunga Arr 77.79 207 P P **23 02 13.6 -0.8**
comp=Z,92nm,0.7s,baz=21,slow=6.0,SNR=200
WRA PKKPbc **PKKPbc** **23 21 15.6 +0.5**
comp=Z,1.1nm,0.7s,baz=209,slow=2.1,SNR=9.6
WRA PKPPKP **P'P'df** **23 29 17.7 +2.9**
comp=Z,4.3nm,1.0s,baz=194,slow=2.0,SNR=6.2
WRA LR LR 23 33 54.3
comp=Z,6µm,22.0s,baz=9.5,slow=34
WRA Warramunga Arr 77.79 207 P P **23 02 13.1 -1.3**
WRA PP **PP** **23 05 14.8 +4.0**
BRJN Brijuni 77.79 338 *i* P P **23 02 12.1 -2.2**
UKOP Uzunkopru-Edir 77.86 328 *i* P P **23 02 15.4 +0.7**
NVLJ Novalja 77.87 337 *i* P P **23 02 13.4 -1.3**
KOZT Kozan 77.91 319 *i* P P **23 02 15.1 0.0**
PLZ Pljevlja 77.92 334 ⇑*i*P P **23 02 15.0 -0.2**
RZN Rezhen 77.94 329 *i* P P **23 02 15.8 +0.4**
CIFT Cifteler, Eski 77.99 324 *i* P P **23 02 14.2 -1.4**
GZKV Gazikoy-Tekird 77.99 327 *i* P P **23 02 15.1 -0.3**
RK1H Rockhampton Ha 78.00 192 P P **23 02 17.7 +2.2**
MAR3 Marsite Statio 78.00 327 *i* P P **23 02 15.1 -0.4**
CHBY Cihanbeyli 78.03 322 *i* P P **23 02 14.7 -1.2**
KIJV Kijevo 78.03 336 *i* P P **23 02 14.9 -0.8**
MAR6 Marsite Statio 78.05 327 *i* P P **23 02 17.3 +1.5**
CMRD Camardi-Nigde 78.07 320 *i* P P **23 02 17.9 +1.8**
VIRC Vir 78.08 337 *i* P P **23 02 14.4 -1.5**
RKY Sarkoy-Tekirda 78.09 327 *i* P P **23 02 15.4 -0.7**
KIZT Kizilcal 78.13 323 *i* P P **23 02 15.6 -0.8**
UPM Unac-Piva 78.17 334 *eP* P **23 02 16.3 -0.3**
UPM Unac-Piva 78.17 334 ⇑*i*P P **23 02 16.1 -0.5**
EDC Edincik 78.18 326 *i* P P **23 02 15.8 -0.7**
RDO Rodhopi 78.19 328 *i* P P **23 02 16.3 -0.2**
RDO Rodhopi 78.19 328 P P **23 02 16.1 -0.4**
IVA Berane 78.22 333 ⇑*i*P P **23 02 16.2 -0.6**
ALN Alexandroupoli 78.25 328 *i* P P **23 02 15.8 -1.1**
ALN Alexandroupoli 78.25 328 P P **23 02 16.0 -0.9**
ALN Alexandroupoli 78.25 328 IAmb IAmb 23 02 20.1
comp=Z,476nm,1.1s
KKB Krupnik 78.26 330 *i* P P **23 02 18.0 +1.0**
ERIK Erikli-Kesan 78.31 328 *i* P P **23 02 16.5 -0.7**
KRBG Karabiga-Canak 78.32 327 *i* P P **23 02 16.7 -0.6**
MMB Musomiste 78.33 330 *i* P P **23 02 17.6 +0.2**
MORI Morici 78.33 336 *i* P P **23 02 16.7 -0.5**
KOME Kolasin 78.33 333 ⇑*i*P P **23 02 16.7 -0.8**
SHME Shamm 78.34 298 P P **23 02 18.8 +1.2**
SNR=41
SHME Shamm 78.34 298 *i* P P **23 02 16.7 -0.9**
SNR=98
RICI Ricice 78.34 335 *i* P P **23 02 16.1 -1.3**
CEYT Ceyhan 78.35 319 *i* P P **23 02 19.5 +2.0**
BANOM Banah 78.36 298 P P **23 02 19.0 +1.2**
SNR=57
BANOM Banah 78.36 298 *i* P P **23 02 17.5 -0.3**
SNR=119
DUGI Dugi Otok 78.36 337 *i* P P **23 02 16.4 -1.1**
ENEZ Enez 78.37 328 *i* P P **23 02 16.9 -0.6**
ENEZ Enez 78.37 328 P P **23 02 16.9 -0.6**
KARA Karaisali 78.40 320 *i* P P **23 02 17.9 +0.1**
PVY Plav 78.45 333 ⇑*i*P P **23 02 17.3 -0.9**
TVSB Tavsanli 78.45 325 *i* P P **23 02 17.0 -1.2**
NVR Nevrokopi 78.50 330 P P **23 02 17.7 -0.7**
NKY Niksic 78.51 334 ⇑*i*P P **23 02 17.9 -0.5**
BRY Bratogost 78.54 334 *eP* P **23 02 17.7 -1.0**
BRY Bratogost 78.54 334 ⇑*i*P P **23 02 17.2 -1.5**
ZIRJ Zirje 78.55 336 *i* P P **23 02 17.5 -1.0**
LADK Ladik-KONYA 78.56 322 *i* P P **23 02 17.9 -0.9**
NKME Niksic 78.56 334 ⇑*i*P P **23 02 17.4 -1.3**
MAKA Makarska 78.56 335 *i* P P **23 02 17.4 -1.2**
GELI Tayfur-Gelibol 78.58 327 *i* P P **23 02 17.5 -1.2**
SKO Skopje 78.63 332 *i* P P **23 02 19.2 +0.2**
KAVA Kavala 78.63 329 P P **23 02 18.4 -0.6**
BCI Bajram Curri 78.64 333 *i* P P **23 02 19.9 +0.8**
STIP Stip 78.67 331 *i* P P **23 02 17.8 -1.4**
456A Hilliard 78.69 53 P P **23 02 19.3 -0.2**
456A IAmb IAmb 23 02 40.1
comp=Z,395nm,1.4s
FITZ Fitzroy Crossi 78.73 216 LR LR 23 44 13.9
comp=Z,3µm,18.0s,baz=0.5,slow=41
TAHT Tahtakopru-Hat 78.74 319 *i* P P **23 02 21.6 +1.9**
TREB Trebinje 78.76 334 *eP* P **23 02 18.5 -1.2**
CEME Cevo 78.78 334 ⇑*i*P P **23 02 18.6 -1.3**
STON Ston 78.78 335 ⇑*i*P P **23 02 18.1 -1.7**
STON Ston 78.78 335 *i* P P **23 02 18.1 -1.7**
KONT Konya--Tatoy 78.79 322 *i* P P **23 02 19.2 -0.8**
PDG Podgorica 78.80 333 ⇑P P **23 02 19.0 -0.9**
PDG Podgorica 78.80 333 P P **23 02 18.9 -1.0**
PDG IAmb IAmb 23 02 22.1
comp=Z,425nm,0.9s
PDG Podgorica 78.80 333 ⇑*i*P P **23 02 18.8 -1.0**
PDG Podgorica 78.80 333 ⇑P P **23 02 18.8 -1.0**
TTG Podgorica 78.80 333 ⇑*i*P P **23 02 19.0 -0.9**
MONC Moncucco Torin 78.80 342 ⇓P P **23 02 19.0 -0.9**
SRS Serrai 78.80 330 P P **23 02 19.0 -1.0**
HVAR Hvar 78.80 336 *i* P P **23 02 18.8 -1.1**
SMTH Samothraki Isl 78.80 328 P P **23 02 18.8 -1.2**
BOB Bobbio (Coli) 78.81 341 ⇑P P **23 02 20.2 +0.2**
GEDZ Gediz 78.84 325 *i* P P **23 02 19.4 -0.9**
DBRK Dubrovnik 78.86 334 *i* P P **23 02 19.1 -1.2**
MASF Masafi 78.88 298 P P **23 02 21.7 +1.1**
SNR=43
SHUT Suhut-Afyon 78.89 324 *i* P P **23 02 20.2 -0.4**
MSFE Esma-Masafi 78.89 298 *i* P P **23 02 19.7 -1.0**
SNR=64
ZCCA Zocca 78.91 340 P P **23 02 20.1 -0.4**
THAS Thassos island 78.93 329 P P **23 02 19.4 -1.2**
TAOE Nuku Hiva Isla 78.94 122 *eS* S **23 12 14.7 -1.4**
comp=Z,8µm,27.6s
TAOE Nuku Hiva Isla 78.94 122 *eLR* LR 23 26 35.6
comp=Z,50µm,24.9s,baz=336
MERS Mersin 78.94 320 *i* P P **23 02 21.1 +0.2**
GADA Gvkgeada 78.94 328 *i* P P **23 02 19.3 -1.5**
GADA Gvkgeada 78.94 328 P P **23 02 19.2 -1.5**
SIMA Simav-Kutahya 78.95 325 *i* P P **23 02 19.6 -1.3**
KOKK Kokkinochori, 78.95 329 P P **23 02 19.3 -1.5**
KNT Kendrikon 78.96 330 *i* P P **23 02 20.4 -0.4**
KNT Kendrikon 78.96 330 P P **23 02 20.4 -0.4**
HCY Herceg Novi 78.98 334 *eP* P **23 02 19.7 -1.2**

HCY Herceg Novi 78.98 334⇑ *i*P P 23 02 20.0 -0.9
BUM Brajici-Budva 79.01 334⇑ *i*P P 23 02 19.9 -1.3
UMQ Umm Al-Quwin 79.01 298 P P 23 02 22.5 +1.2
SNR=24
UMQ Umm Al-Quwin 79.01 298 *i* P P 23 02 21.6 +0.3
SNR=29
BNI Bardonecchia 79.04 343 IAMs_20 IAMs_20 23 42 24.6
comp=Z,14μm,20.0s
DRME Dracevica, Mon 79.04 333⇑ *i*P P 23 02 20.4 -0.8
DRME Dracevica, Mon 79.04 333⇑ *i*P P 23 02 20.5 -0.8
YAYL Yayladag 79.07 319 *i* P P 23 02 23.2 +1.5
LSTV Lastovo 79.08 335 *i* P P 23 02 19.8 -1.6
UNM Universidad Na 79.12 72 IAMs_20 IAMs_20 23 33 38.0
comp=Z,22μm,22.0s
SOH Sokhos 79.14 330 P P 23 02 20.7 -1.2
EZN Ezine 79.14 327 *i* P P 23 02 20.7 -1.1
EZN Ezine 79.14 327 P P 23 02 20.7 -1.1
KRMN Karaman 79.14 321 *i* P P 23 02 20.8 -1.2
SSB Saint Sauveur 79.17 345 PP PP 23 05 23.5 +2.6
SSB Saint Sauveur 79.17 345 IAMs_20 IAMs_20 23 41 49.0
comp=Z,13μm,20.0s
SSB Saint Sauveur 79.17 345 ⇓P P 23 02 22.2 +0.3
SSB Saint Sauveur 79.17 345 P P 23 02 22.4 +0.4
PHP Peshkopia 79.17 332 P P 23 02 20.9 -1.1
PHP Peshkopia 79.17 332 *i* P P 23 02 21.9 -0.1
UOSS Minazif 79.20 298 P P 23 02 20.8 -1.6
UOSS Minazif 79.20 298 IAMs_20 IAMs_20 23 41 37.3
comp=Z,21μm,21.0s
UOSS Minazif 79.20 298 P P 23 02 20.8 -1.6
UOSS Minazif 79.20 298 *i* P P 23 02 21.2 -1.2
SNR=101
BOZC Bozcaada 79.21 328 *i* P P 23 02 20.7 -1.5
MSSA Maissana 79.23 341 P P 23 02 20.9 -1.5
ULC Ulcinj 79.23 333⇑ *i*P P 23 02 21.1 -1.2
GRG Griva 79.30 331 *i* P P 23 02 22.1 -0.6
GRG Griva 79.30 331 P P 23 02 22.1 -0.6
WSAR Wadi Sarin 79.31 295 LR LR 23 41 24.0
comp=Z,26μm,21.9s,baz=79,slow=39
HATD Hatta, Dubai 79.34 298 P P 23 02 24.0 +0.8
SNR=115
HATD Hatta, Dubai 79.34 298 *i* P P 23 02 22.3 -0.8
SNR=219
BIDO Bidbid 79.35 295 P P 23 02 24.0 +0.7
SNR=81
OUR Ouranopolis 79.40 329 *i* P P 23 02 22.1 -1.1
OUR Ouranopolis 79.40 329 P P 23 02 21.8 -1.4
HORT Hortiatis 79.42 330 *i* P P 23 02 22.0 -1.5
HORT Hortiatis 79.42 330 P P 23 02 22.3 -1.2
THE Thessaloniki 79.43 330 P P 23 02 22.7 -0.7
LIA Limnos Island 79.44 328 P P 23 02 22.3 -1.1
NAZ Nazwa, Dubai 79.45 298 P P 23 02 24.1 +0.4
SNR=66
NAZ Nazwa, Dubai 79.45 298 *i* P P 23 02 22.2 -1.5
SNR=49
SEYD Seydisehir-KON 79.46 322 *i* P P 23 02 22.9 -0.8
ASHO Ashiyiah 79.49 298 P P 23 02 24.0 -0.1
SNR=116
ASHO Ashiyiah 79.49 298 *i* P P 23 02 22.8 -1.2
SNR=108
PALK Pallekele 79.51 268 LR LR 23 40 50.9
comp=Z,19μm,21.1s,baz=139,slow=38
PALK Pallekele 79.51 268 P P 23 02 24.0 -0.2
PALK pmax pmax
comp=Z,449nm,1.2s
PALK MLR MLR
comp=Z,21μm,21.0s
PALK Pallekele 79.51 268 P P 23 02 24.0 -0.2
PALK IAmb IAmb 23 02 29.1
comp=Z,449nm,1.1s
PALK Pallekele 79.51 268 IAMs_20 IAMs_20 23 40 38.9
comp=Z,21μm,21.0s
PALK Pallekele 79.51 268 P P 23 02 23.7 -0.5
PLG Polygyros 79.53 330 P P 23 02 22.5 -1.5
ISP Isparta 79.55 323 *de*P P 23 02 24.0 -0.2
ISP pmax pmax
comp=Z,295nm,1.7s
ISP MLR MLR
comp=Z,21μm,25.0s
ISP Isparta 79.55 323 P P 23 02 22.3 -1.9
ISP IAmb IAmb 23 02 28.7
comp=Z,990nm,1.7s
ISP PP PP 23 05 26.2 +1.7
ISP IAMs_20 IAMs_20 23 43 01.9
comp=Z,16μm,20.0s
KULA Kula-Manisa 79.57 325 *i* P P 23 02 23.2 -1.1
KULA Kula-Manisa 79.57 325 P P 23 02 23.1 -1.2
656A Willston 79.59 54 P P 23 02 24.0 -0.4
656A IAmb IAmb 23 02 45.5
comp=Z,498nm,1.4s
OHR Ohrid 79.61 332 *i* P P 23 02 24.7 +0.3
HDMB Hadim 79.61 322 *i* P P 23 02 23.7 -1.0
KEBE Keben-Mersin 79.62 325 *i* P P 23 02 25.4 +0.8
MANT Manisa 79.62 325 P P 23 02 23.3 -1.4
MANT IAmb IAmb 23 02 30.1
comp=Z,428nm,1.1s
MANT PP PP 23 05 26.4 +1.2
MURB Monte Urbino 79.62 338 P P 23 02 25.5 +1.0
BASM Basmaki-Afyon 79.63 324 *i* P P 23 02 24.0 -0.6
TIR Tirane 79.64 333 P P 23 02 24.7 +0.1
TIR Tirane 79.64 333 P P 23 02 24.4 -0.2
TIR Tirane 79.64 333 P P 23 02 24.0 -0.5
TIR pmax pmax
comp=Z,664nm,1.2s
TIR MLR MLR
comp=Z,38μm,19.0s
TIR Tirane 79.64 333 P P 23 02 24.0 -0.5
TIR IAmb IAmb 23 02 29.4
comp=Z,664nm,1.2s
TIR Tirane 79.64 333 ⇑P P 23 02 24.0 -0.5
TIR ⇓P P 23 02 24.3 -0.2
TIR Tirane 79.64 333 *i* P P 23 02 25.9 +1.4
WBK Wadi Bani Khal 79.64 294 P P 23 02 26.0 +1.1
SNR=113
DKL Dikili 79.64 327 *i* P P 23 02 22.9 -1.6
OSSC Osservatorio P 79.65 339 P P 23 02 24.2 -0.4
OSSC IAmb IAmb 23 02 49.2
comp=Z,693nm,1.2s
FAQ Al Faqa, Dubai 79.69 298 P P 23 02 25.0 0.0
SNR=51
FAQ Al Faqa, Dubai 79.69 298 *i* P P 23 02 23.3 -1.7
SNR=118
PRK Paraskevi 79.69 327 P P 23 02 24.5 -0.3
SUTC Sutluce-Ispart 79.69 323 *i* P P 23 02 23.8 -1.2
TEVE Tevekalti-Mers 79.73 321 *i* P P 23 02 24.1 -1.1
HOQ Hoqain 79.73 296 P P 23 02 26.0 +0.6
SNR=166
FNA Florina 79.75 331 *i* P P 23 02 24.2 -1.0
FNA Florina 79.75 331 P P 23 02 24.1 -1.1
FNA Florina 79.75 331 P P 23 02 23.3 -1.9
FNA pmax pmax
comp=Z,307nm,1.1s
FNA Florina 79.75 331 P P 23 02 23.3 -1.9
FNA IAmb IAmb 23 02 27.9
comp=Z,306nm,1.1s
FNA Florina 79.75 331 *i* P P 23 02 24.4 -0.8
SMDO Samad 79.77 295 P P 23 02 26.0 +0.3
SNR=134
JLN Jalan Bani Buh 79.78 294 P P 23 02 26.0 +0.5
SNR=188
IKL Isikli 79.81 320 *i* P P 23 02 24.6 -0.9
BCK Bucak 79.85 323 *i* P P 23 02 24.4 -1.4
SIGR SIGRI 79.85 327 *i* P P 23 02 24.2 -1.5
SIGR SIGRI 79.85 327 P P 23 02 24.2 -1.5
PAIG Paliouri 79.87 329 P P 23 02 24.3 -1.5
BERE Bereket-Mersin 79.89 321 *i* P P 23 02 25.0 -1.1
EIDS Eidsvold 79.89 191 P P 23 02 26.6 +0.8
EIDS IAmb IAmb 23 02 30.1
comp=Z,269nm,1.1s
EIDS Eidsvold 79.89 191 P P 23 02 27.6 +1.8
NRCA Norcia 79.91 338 P P 23 02 26.2 +0.2
ASUD Al Ashush, Dub 79.92 298 P P 23 02 28.0 +1.7
SNR=52
ASUD Al Ashush, Dub 79.92 298 *i* P P 23 02 24.8 -1.5
SNR=114
AKKU Akkuyu-Mersin 79.94 320 *i* P P 23 02 24.8 -1.4
MGAB Montegabbione 80.05 339 ⇑P P 23 02 26.1 -0.6
MGAB ⇑P P 23 02 26.2 -0.6
LIT Litokhoron 80.06 330 P P 23 02 26.0 -0.8
LIT Litokhoron 80.06 330 P P 23 02 25.5 -1.3
LIT pmax pmax
comp=Z,187nm,1.0s
LIT Litokhoron 80.06 330 P P 23 02 25.5 -1.3
KBN Korca 80.06 332 P P 23 02 26.7 -0.2
KBN Korca 80.06 332 *i* P P 23 02 26.4 -0.5

KZN Kozani 80.08 331 P P 23 02 25.6 -1.4
TEKE Tekeli-Mersin 80.11 321 *i* P P 23 02 25.6 -1.5
AJN Ajban 80.15 298 P P 23 02 27.7 +0.2
SNR=11
AJN Ajban 80.15 298 *i* P P 23 02 26.2 -1.3
SNR=32
ALNE Al Ain 80.17 297 P P 23 02 26.7 -1.0
SNR=117
ALNE Al Ain 80.17 297 *i* P P 23 02 25.0 -2.7
SNR=162
NEST Nestorio 80.18 331 P P 23 02 26.8 -0.8
EREN Erenkoy 80.26 320 *i* P P 23 02 26.8 -1.1
AQU L'Aquila 80.30 337 P P 23 02 27.5 -0.6
AQU pmax pmax
comp=Z,557nm,1.0s
AQU MLR MLR
comp=Z,17μm,21.0s
AQU L'Aquila 80.30 337 P P 23 02 27.5 -0.6
AQU IAmb IAmb 23 02 42.3
comp=Z,557nm,1.0s
AQU IAMs_20 IAMs_20 23 43 03.2
comp=Z,17μm,21.0s
AQU L'Aquila 80.30 337⇑ *i*P P 23 02 28.1 0.0
AQU L'Aquila 80.30 337 ⇑P P 23 02 28.2 0.0
AQU ⇓P P 23 02 29.3 +1.2
JMDO Jabal Madar 80.30 295 P P 23 02 28.0 -0.4
SNR=318
SGRT San Giovanni R 80.32 336 P P 23 02 27.7 -0.6
SGRT IAmb IAmb 23 02 33.8
comp=Z,342nm,0.9s
SGRT San Giovanni R 80.32 336 *i* P P 23 02 27.9 -0.4
XMI Christmas Isla 80.32 237 P P 23 02 29.9 +1.5
GAZI Gazipasa 80.33 321 *i* P P 23 02 25.9 -2.4
ANTB Antalya 80.33 323 *i* P P 23 02 27.9 -0.4
KORT Korkueli 80.35 323 *i* P P 23 02 28.7 +0.1
ARQ Araqi 80.35 296 P P 23 02 29.0 +0.3
SNR=134
PENT Pentalofos 80.36 331 P P 23 02 28.6 0.0
XMIS Christmas Isla 80.37 237 IAmb IAmb 23 02 32.2
comp=Z,423nm,1.5s
XMIS Christmas Isla 80.37 237 P P 23 02 29.8 +1.1
URLA Izmir 80.39 326 *i* P P 23 02 27.1 -1.6
LATE Laterza 80.40 339 P P 23 02 28.1 -0.5
CASP Castiglione de 80.43 339 P P 23 02 28.3 -0.5
BSY Bisya 80.48 296 P P 23 02 29.0 -0.4
SNR=184
KPRO Kipourio 80.52 331 P P 23 02 28.2 -1.2
XOR Xorichti 80.53 329 P P 23 02 27.7 -1.7
CHOS Chios island 80.54 327 *i* P P 23 02 28.6 -0.9
CHOS Chios island 80.54 327 P P 23 02 28.1 -1.4
LSK Leskovik 80.56 332 *i* P P 23 02 30.6 +1.0
VLO Vlora 80.56 332 P P 23 02 31.1 +1.6
VLO Vlora 80.56 332 P P 23 02 28.3 -1.2
VLO pmax pmax
comp=Z,690nm,1.1s
VLO Vlora 80.56 332 P P 23 02 28.3 -1.2
VLO Vlora 80.56 332 *i* P P 23 02 31.6 +2.1
SKY Skiros Island 80.56 328 P P 23 02 30.4 +0.9
NEO Neokhori 80.58 329 P P 23 02 27.9 -1.7
HWQ Hawga 80.67 318 *e*P P 23 02 30.2 -0.2
PMOR Pomariorio Ree 80.69 132 *e*P P 23 02 31.4 +1.1
comp=Z,444nm,1.2s
PMOR Pomariorio Ree 80.69 132 *e*T T 00 29 58.6
comp=Z,23nm,0.2s
THL Klokotos Trika 80.69 330 P P 23 02 27.9 -2.3
TRD Trivandrum 80.72 272 IAmb IAmb 23 02 34.9
comp=Z,487nm,0.8s
LFK Lefkose 80.72 320 *i* P P 23 02 29.3 -1.2
ELL Elmali 80.73 323 *i* P P 23 02 29.5 -1.1
CAME Cameli-Denizli 80.76 324 *i* P P 23 02 29.5 -1.3
MRVN Minervino Murg 80.86 335 ⇑P P 23 02 30.3 -0.9
MRVN ⇓P P 23 02 30.8 -0.4
TLIG Tlapa 80.89 73 IAmb IAmb 23 02 53.8
comp=Z,1μm,2.0s
NOCI Noci 80.90 334 *i* P P 23 02 31.2 -0.1
SMG Samos 80.90 326 P P 23 02 31.4 0.0
KYMI Kymi, Euboea I 80.93 328 P P 23 02 30.0 -1.5
YER Yerkesik 80.94 325 *i* P P 23 02 30.2 -1.4
YER Yerkesik 80.94 325 P P 23 02 30.3 -1.4
JAN Janina 80.94 331 P P 23 02 30.4 -1.2
MLSB Milas 80.97 325 *i* P P 23 02 31.1 -0.7
SRN Sarande 80.97 332 P P 23 02 30.6 -1.1
SRN Sarande 80.97 332 *i* P P 23 02 31.5 -0.2
VAH Vaihoa 81.01 132 *e*P P 23 02 32.9 +0.9
comp=Z,297nm,1.1s
CSS Mathiatis 81.08 320 *i* P P 23 02 31.4 -1.0
CSS Mathiatis 81.08 320 IAMs_20 IAMs_20 23 43 08.0
comp=Z,15μm,21.0s
CSS Mathiatis 81.08 320 ⇑P P 23 02 31.4 -1.0
CSS ⇓P P 23 02 31.8 -0.6
DALY Dalyan (Mula) 81.10 324 *i* P P 23 02 31.9 -0.5
AGG Agios Georgios 81.10 330 *i* P P 23 02 31.1 -1.4
AGG Agios Georgios 81.10 330 P P 23 02 30.8 -1.7
BHL Bhannes 81.11 318 *e*P P 23 02 32.8 +0.1
FETY Fethiye 81.12 324 *i* P P 23 02 33.1 +0.5
FETY Fethiye 81.12 324 P P 23 02 32.3 -0.3
MATE Matera 81.12 335 ⇑P P 23 02 32.2 -0.3
MATE Matera 81.12 335 ⇑P P 23 02 31.8 -0.7
MATE ⇑P P 23 02 32.5 +0.1
DWPF Disney Wildern 81.17 54 P P 23 02 32.5 -0.3
DWPF Disney Wildern 81.17 54 ⇑P P 23 02 33.5 +0.6
DWPF ⇓P P 23 02 33.9 +1.0
MAKR Makrakomi, Fth 81.17 330 P P 23 02 32.8 0.0
KEK Kerkira 81.19 332 P P 23 02 31.7 -1.1
ATAL Atalanti 81.20 329 P P 23 02 30.8 -2.2
IGT Igoumenitsa 81.20 332 P P 23 02 31.8 -1.1
IGT Igoumenitsa 81.20 332 *i* P P 23 02 31.9 -1.1
SCTE Santa Cesarea 81.21 333 *i* P P 23 02 32.6 -0.3
LKR Lokris 81.25 329 P P 23 02 31.8 -1.4
RMQ Roma 81.27 193 P P 23 02 35.3 +2.1
TURN Turunc 81.28 325 *i* P P 23 02 32.1 -1.3
AKAS Kas 81.30 323 *i* P P 23 02 32.5 -1.2
AKAS Kas 81.30 323 IAmb IAmb 23 02 39.1
comp=Z,396nm,1.0s
BODT Bodrum 81.33 325 *i* P P 23 02 31.7 -2.0
BODT Bodrum 81.33 325 P P 23 02 33.0 -0.7
EVR Evrytania 81.35 330 P P 23 02 33.4 -0.5
KARY Karystos 81.38 328 P P 23 02 33.2 -0.7
KSL Kastellorizon 81.38 323 P P 23 02 34.3 +0.4
ASAR Alice Springs 81.45 207 P P 23 02 34.1 -0.1
comp=Z,99nm,0.9s,baz=16,slow=4.6,SNR=260
ASAR PKKPbc PKKPbc 23 21 07.5 +0.5
comp=Z,5.0nm,0.9s,baz=170,slow=2.7,SNR=4.4
ASAR PKPPKP P'P'df 23 29 12.3 +4.2
comp=Z,5.7nm,1.1s,baz=193,slow=1.9,SNR=12
ASAR LR LR 23 40 35.3
comp=Z,2μm,18.5s,baz=31,slow=37
ASAR Alice Springs 81.45 207 P P 23 02 34.3 0.0
ASAR Alice Springs 81.45 207 P P 23 02 34.3 0.0
DION Dionisos Attik 81.49 328 P P 23 02 32.5 -2.0
MHTO MHTO 81.50 294 P P 23 02 35.1 +0.3
SNR=267
PTL Penteli 81.54 328 P P 23 02 32.7 -2.1
DAT Datca 81.55 325 *i* P P 23 02 34.3 -0.6
DAT Datca 81.55 325 P P 23 02 33.8 -1.1
SHBL Chebaa 81.57 318 *e*P P 23 02 35.6 +0.4
VILL Villia 81.60 329 P P 23 02 33.9 -1.2
ANX Ano Chora 81.62 330 P P 23 02 34.2 -1.1
ATHU Athens Univers 81.64 328 P P 23 02 34.2 -1.1
ATH Athens Observa 81.65 328 P P 23 02 34.4 -0.9
RAR Rarotonga 81.72 145 LR LR 23 50 51.0
comp=Z,13μm,21.7s,baz=334,slow=30
RAR Rarotonga 81.72 145 IAMs_20 IAMs_20 23 30 40.4
comp=Z,17μm,22.0s
KOSK Kos Island 81.73 326 *i* P P 23 02 35.6 -0.2
KOSK Kos Island 81.73 326 P P 23 02 35.5 -0.2
VLY Voula,Athens 81.74 328 P P 23 02 33.4 -2.4
EFP Efpalio 81.78 330 P P 23 02 36.0 0.0
LKD2 Lefkada island 81.80 331 P P 23 02 34.9 -1.3
NYDR Nydri-Lefkada 81.86 331 P P 23 02 35.5 -0.9
APE Apeiranthos 81.91 327 *i* P P 23 02 35.4 -1.3
APE Apeiranthos 81.91 327 P P 23 02 35.4 -1.3
APE Apeiranthos 81.91 327 *ce*P P 23 02 35.5 -1.3
APE pmax pmax
comp=Z,121nm,1.1s
APE MLR MLR
comp=Z,13μm,21.0s
APE Apeiranthos 81.91 327 ⇑P P 23 02 33.9 -2.9
APE ⇓P P 23 02 36.1 -0.6
THAL Thalero 81.91 329 P P 23 02 35.3 -1.4
LAKA Lakka 81.93 330 P P 23 02 37.2 +0.4
EVGI Lefkada island 81.96 331 P P 23 02 35.8 -1.2

MMAI Mount Meron Ar 82.00 318 LR LR 23 45 08.7
comp=Z,11μm,18.5s,baz=183,slow=40
QLP Quilpie 82.04 197 P P 23 02 38.9 +1.7
KLV Kalavryta, Ach 82.06 330 P P 23 02 35.6 -2.0
ASF Jabal al Asfar 82.13 316 LR LR 23 45 13.6
comp=Z,36μm,19.7s,baz=37,slow=40
FSK Fiskardo 82.14 331 P P 23 02 39.1 +1.2
EPID Epidavros 82.17 329 P P 23 02 36.1 -2.0
MZR Muzera 82.21 299 P P 23 02 38.3 -0.2
SNR=174
MZR Muzera 82.21 299 *i* P P 23 02 36.6 -1.9
SNR=432
DID Didima 82.23 329 P P 23 02 35.1 -3.3
RLS Riolos of Patr 82.25 330 P P 23 02 37.6 -0.8
PPT Papeete 82.26 135 P P 23 02 39.7 +1.1
comp=Z,136nm,1.1s,baz=112,slow=3.4,SNR=7.2
PPT LR LR 23 34 29.5
comp=Z,21μm,19.0s,baz=305,slow=32
PPT2 Papeete2 82.28 135 *e*P P 23 02 39.9 +1.2
comp=Z,186nm,1.3s
PPT2 Papeete2 82.28 135 *e*S S 23 12 49.6 -1.1
comp=Z,7μm,24.8s
PPT2 Papeete2 82.28 135 *e*LQ LQ 23 24 39.3
comp=Z,11μm,26.0s
PPT2 *e*LR LR 23 28 15.5
comp=Z,69μm,28.5s,baz=333
DRO Drossia 82.28 330 P P 23 02 37.6 -1.0
PPTF Pamatai, Papee 82.28 135 P P 23 02 38.5 -0.3
PPTF IAmb IAmb 23 03 01.3
comp=Z,513nm,1.5s
PPTF IAMs_20 IAMs_20 23 31 30.8
comp=Z,22μm,20.0s
PPTF Pamatai, Papee 82.28 135 ⇓P P 23 02 42.1 +3.3
PPTF Pamatai, Papee 82.28 135 P P 23 02 40.2 +1.4
PAE Paea 82.34 135 *e*P P 23 02 39.9 +0.9
comp=Z,76nm,1.2s
KEF4 Livadi, Kephal 82.36 331 P P 23 02 38.8 -0.2
KRND KRANIDI 82.37 329 P P 23 02 37.9 -1.2
VLS Valsamata 82.39 331 P P 23 02 38.1 -1.1
DMLN Damoulianata-K 82.40 331 P P 23 02 46.8 +7.5
KEF3 Kipouria, Keph 82.44 331 P P 23 02 38.6 -0.8
PSDA Pessada-Kefalo 82.45 331 P P 23 02 38.2 -1.3
MMLI Mount Malkishu 82.50 317 *i* P P 23 02 39.8 -0.1
TVO Taravao 82.58 134 *e*P P 23 02 41.4 +1.1
comp=Z,0.3nm,1.0s
DQM DQM 82.59 294 P P 23 02 41.0 +0.5
SNR=44
KARP Karpathos 82.76 325 *i* P P 23 02 39.3 -1.9
KARP Karpathos 82.76 325 P P 23 02 39.7 -1.5
KARP Karpathos 82.76 325 ⇓P P 23 02 39.6 -1.6
KARP ⇓P P 23 02 40.1 -1.1
UJAP Al Uja 82.91 317 *i* P P 23 02 41.5 -0.4
ITM Ithomi 82.93 329 *i* P P 23 02 40.8 -1.2
ITM Ithomi 82.93 329 P P 23 02 41.2 -0.8
ITM Ithomi 82.93 329 IAmb IAmb 23 02 50.5
comp=Z,203nm,1.0s
VLI Velia 83.05 329 P P 23 02 39.6 -3.0
MNCY Minicoy 83.21 275 *e*P P 23 03 00.5 +17
MNCY IAmb IAmb 23 03 04.4
comp=Z,655nm,1.2s
PYL PYLOS 83.25 329 P P 23 02 42.8 -0.9
CMIG Matias Romero 83.32 70 LR LR 23 39 02.2
comp=Z,8μm,19.4s,baz=323,slow=35
KTHA Kythira Island 83.44 328 P P 23 02 44.1 -0.6
KTHR Kythira 83.45 328 P P 23 02 44.0 -0.7
ZKR Zakros 83.47 325 *i* P P 23 02 43.7 -1.2
ZKR Zakros 83.47 325 P P 23 02 43.7 -1.2
CEL Celeste 83.58 334 IAmb IAmb 23 02 49.5
comp=Z,186nm,0.9s
CEL IAMs_20 IAMs_20 23 45 05.4
comp=Z,18μm,20.0s
CEL Celeste 83.58 334 ⇑P P 23 02 43.9 -1.6
CEL ⇑P PcP 23 02 45.9 -3.8
CEL ⇓P pP 23 02 49.3 -8.7
HRKL Herakleio 83.66 326 *i* P P 23 02 43.9 -1.9
MBWA Marble Bar 83.67 220 P P 23 02 44.9 -0.9
KSTL Kastelli Herak 83.67 326 P P 23 02 45.4 -0.5
ANKY Antikythira Is 83.72 328 P P 23 02 44.9 -1.2
FRMA Ierapetra Chan 83.72 326 P P 23 02 45.8 -0.3
IDI Anoyia 83.75 327 LR LR 23 43 27.1
comp=Z,8μm,21.0s,baz=28,slow=38
IDI Anoyia 83.75 327 *i* P P 23 02 44.5 -1.9
IDI Anoyia 83.75 327 P P 23 02 44.2 -2.2
IDI Anoyia 83.75 327 ⇑P P 23 02 43.8 -2.5
IDI ⇓P P 23 02 44.0 -2.3
IDI ⇑P P 23 02 46.2 -0.1
INKA Innaminka 83.81 200 P P 23 02 47.9 +1.6
comp=Z,360nm,0.9s
VAM Vamos 83.86 327 P P 23 02 46.2 -0.6
IMMV Iera Moni Meta 83.88 327 *i* P P 23 02 46.1 -0.8
IMMV Iera Moni Meta 83.88 327 P P 23 02 46.1 -0.8
PGAV Gavieira, Arco 83.89 353 *e*P P 23 02 48.7 +1.7
comp=Z,339nm,1.5s
PGAV Gavieira, Arco 83.89 353 *e*S S 23 13 09.9 +3.0
PGAV Gavieira, Arco 83.89 353 *e*LR LR 23 30 25.3
comp=Z,5μm,22.0s
VSL Villasalto 83.90 340 IAmb IAmb 23 02 51.0
comp=Z,282nm,1.1s
PBRG Braganca 83.94 352 *e*P P 23 02 47.1 -0.1
comp=Z,359nm,1.7s
PBRG Braganca 83.94 352 *e*PP PP 23 05 59.1 -1.1
TMBK Timbaki Herakl 83.98 327 P P 23 02 47.1 -0.3
PSA00 Pilbara Seismi 84.00 220 P P 23 02 46.9 -0.6
PSA00 IAmb IAmb 23 03 08.4
comp=Z,449nm,1.8s
PSA00 Pilbara Seismi 84.00 220 P P 23 02 48.1 +0.6
SIVA Sivas 84.02 326 P P 23 02 47.9 +0.3
PCAB Cabril 84.13 353 *e*P P 23 02 49.6 +1.4
comp=Z,335nm,1.7s
PCAB Cabril 84.13 353 *e*PP PP 23 06 09.5 +7.7
KNDR Palaiochora Ch 84.18 327 *i* P P 23 02 47.2 -1.3
KNDR Palaiochora Ch 84.18 327 P P 23 02 47.6 -0.9
HMDM Hanimaadhoo 84.32 274 IAMs_20 IAMs_20 23 47 10.1
comp=Z,16μm,19.0s
HMDM Hanimaadhoo 84.32 274 P P 23 02 51.3 +1.8
SNR=40
WRKA Warakurna 84.34 211 P P 23 02 50.5 +1.3
GVDS Gavdos 84.41 327 P P 23 02 49.7 +0.1
GVD Gavdos 84.42 327 *i* P P 23 02 48.1 -1.6
GVD Gavdos 84.42 327 P P 23 02 49.8 +0.1
POLO Lamas de Olo 84.45 353 *e*P P 23 02 50.2 +0.3
comp=Z,159nm,2.0s
POLO Lamas de Olo 84.45 353 *e*PP PP 23 06 06.1 +1.7
BBSR BB Station 84.53 39 P P 23 02 49.0 -1.3
BBSR IAmb IAmb 23 03 11.4
comp=Z,155nm,0.8s
BBSR BB Station 84.53 39 IAMs_20 IAMs_20 23 41 22.7
comp=Z,13μm,21.0s
PVRL Vila Real 84.54 353 *e*P P 23 02 50.9 +0.6
comp=Z,556nm,1.7s
MVO Moncorvo 84.60 352 *e*P P 23 02 50.9 +0.3
comp=Z,349nm,1.3s
MVO Moncorvo 84.60 352 *e*PP PP 23 06 05.2 -0.4
MVO *e*S S 23 13 12.8 -1.1
MVO Moncorvo 84.60 352 *e*LR LR 23 31 35.2
comp=Z,7μm,18.0s
VAE Valguarnera 84.70 335 LR LR 23 46 17.3
comp=Z,16μm,18.3s,baz=20,slow=40
PTO Porto 84.74 353 *e*P P 23 02 51.7 +0.5
comp=Z,453nm,1.8s
RAO Raoul Island 84.78 163 LR LR 23 34 55.1
comp=Z,13μm,21.0s,baz=357,slow=32
RAO Raoul Island 84.78 163 IAMs_20 IAMs_20 23 35 03.7
comp=Z,14μm,20.0s
ARMA Armidale 84.83 190 IAmb IAmb 23 02 56.3
comp=Z,256nm,1.2s
ARMA Armidale 84.83 190 P P 23 02 53.5 +1.9
CLTB Caltabellotta 84.89 336 IAmb IAmb 23 02 55.6
comp=Z,272nm,1.2s
CLTB Caltabellotta 84.89 336 ⇑P P 23 02 50.0 -2.1
OOD Oodnadatta 84.96 204 P P 23 02 52.8 +0.6
UCM Universidad Co 85.09 349 P P 23 02 52.1 -1.0
UCM S S 23 13 20.9 +2.2
PVIS Viseu 85.11 353 *e*P P 23 02 53.5 +0.4
comp=Z,440nm,1.9s
EIL Elat 85.12 316 LR LR 23 46 57.6
comp=Z,35μm,19.9s,baz=36,slow=40
EIL Elat 85.12 316 *i* P P 23 02 52.3 -1.0
EIL Elat 85.12 316 ⇑P P 23 02 52.5 -0.8
EIL ⇓P PcP 23 02 53.0 -3.5
SHAO Shalim 85.18 294 PcP P 23 02 55.0 +1.2
SNR=18
SHAO Shalim 85.18 294 *i* P P 23 02 52.0 -1.7
SNR=26

MTE	Manteigas	85.40	353	*e*P		P		23 02 56.1	+1.5	
	comp=Z,320nm,1.4s									
MTE	Manteigas	85.40	353	*e*S		S		23 13 26.7	+4.9	
MTE	Manteigas	85.40	353	*e*LR		LR		23 31 52.3		
	comp=Z,8µm,18.0s									
MTE	Manteigas	85.40	353	IAmb		IAmb		23 02 59.3		
	comp=Z,290nm,1.0s									
LHI	Lord Howe Isla	85.44	183	P		P		23 02 57.4	+3.0	
DOK	Doka	85.49	296	P		P		23 02 54.0	-1.3	
	SNR=181									
COI	Coimbra	85.65	353	*e*P		P		23 02 57.2	+1.5	
	comp=Z,396nm,1.3s									
COI	Coimbra	85.65	353	*e*PP		PP		23 06 16.2	+2.1	
COI	Coimbra	85.65	353	IAmb		IAmb		23 03 18.3		
	comp=Z,353nm,1.0s									
H07N1	FLORES T-PHASE	85.71	11	*e*P		P		23 02 58.8	+2.7	
RAYN	Ar Rayn	85.75	305	P		P		23 02 55.0	-1.6	
RAYN				pmax		pmax				
	comp=Z,428nm,1.0s									
RAYN				MLR		MLR				
	comp=Z,44µm,18.0s									
RAYN	Ar Rayn	85.75	305	P		P		23 02 55.0	-1.6	
RAYN	Ar Rayn	85.75	305	P		P		23 02 55.4	-1.2	
RAYN	Ar Rayn	85.75	305	*i* P		P		23 02 55.1	-1.5	
	SNR=143									
ESBB	Sonseca Array	85.79	350	IAmb		IAmb		23 03 11.5		
	comp=Z,233nm,1.1s									
ESDC	Sonseca Array	85.80	350	P		P		23 02 57.3	+0.7	
	comp=Z,100nm,1.0s,baz=360,slow=4.9,SNR=226									
ESDC				PKKPbc		PKKPbc		23 20 57.1	+1.8	
	comp=Z,4.1nm,0.9s,baz=209,slow=1.2,SNR=17									
ESDC				PKPPKP		P'P'df		23 29 00.3	-8.7	
	comp=Z,2.7nm,1.0s,baz=165,slow=1.8,SNR=7.1									
ESDC	Sonseca Array	85.80	350	P		P		23 02 56.1	-0.5	
ESDC						pP		23 03 09.5	+0.2	
ESDC				IAmb		IAmb		23 03 11.5		
	comp=Z,244nm,1.1s									
DMTO	DMTO	85.80	295	P		P		23 02 57.0	+0.2	
	SNR=28									
PCAS	Casmilo, Conde	85.81	353	*e*P		P		23 02 57.6	+1.0	
	comp=Z,382nm,1.2s									
PCAS	Casmilo, Conde	85.81	353	*e*PP		PP		23 06 16.9	+1.5	
PCBR	Castelo Branco	85.95	352	*e*P		P		23 02 58.0	+0.8	
	comp=Z,375nm,1.4s									
PCBR	Castelo Branco	85.95	352	*e*PP		PP		23 06 17.9	+1.4	
PAB	San Pablo	85.96	350	P		P		23 02 56.6	-0.8	
PAB				pmax		pmax				
	comp=Z,316nm,1.4s									
PAB				MLR		MLR				
	comp=Z,16µm,20.0s									
PAB	San Pablo	85.96	350	P		P		23 02 56.6	-0.8	
PAB				IAmb		IAmb		23 03 02.0		
	comp=Z,316nm,1.4s									
PAB	San Pablo	85.96	350	IAMs_20		IAMs_20		23 48 47.6		
	comp=Z,16µm,20.0s									
PAB	San Pablo	85.96	350	P		P		23 02 58.4	+1.0	
PAB				pP		pP		23 03 09.1	-1.0	
PAB	San Pablo	85.96	350	P		P		23 02 57.9	+0.4	
H07S1	FLORES T-PHASE	86.01	11	*e*P		P		23 02 59.2	+1.6	
PETF	Flores	86.20	66	IAmb		IAmb		23 03 20.2		
	comp=Z,342nm,1.7s									
WHFO	Wadi Hawf	86.25	296	P		P		23 02 57.3	-1.8	
	SNR=336									
COCO	West Island	86.31	243	P		P		23 02 59.5	+0.3	
COCO				pmax		pmax				
	comp=Z,1µm,1.6s									
COCO				MLR		MLR				
	comp=Z,6µm,22.0s									
COCO	West Island	86.31	243	P		P		23 02 59.5	+0.3	
PMRV	Marv??o	86.35	352	*e*P		P		23 02 59.8	+0.5	
	comp=Z,199nm,1.9s									
PMRV	Marv??o	86.35	352	*e*PP		PP		23 06 23.1	+3.3	
PMRV				*e*S		S		23 13 33.6	+2.5	
PMRV	Marv??o	86.35	352	*e*LR		LR		23 32 13.7		
	comp=Z,8µm,18.0s									
PSBE	So Bento	86.37	353	*e*P		P		23 02 59.2	-0.2	
	comp=Z,324nm,2.0s									
RBK	Rabkut	86.37	295	P		P		23 02 59.0	-0.7	
	SNR=125									
SRBC	Serra Branca	86.66	8	*e*P		P		23 03 05.1	+4.3	
	comp=Z,258nm,1.8s									
CMSA	Cobar Meteorol	86.66	195	P		P		23 03 01.4	+0.9	
PGRA	Graciosa	86.67	8	*e*P		P		23 03 03.8	+3.0	
	comp=Z,110nm,1.0s									
PESTR	Estremoz	86.92	352	*e*P		P		23 03 02.2	+0.1	
	comp=Z,130nm,2.1s									
PESTR	Estremoz	86.92	352	*e*PP		PP		23 06 26.8	+2.4	
PESTR	Estremoz	86.92	352	P		P		23 03 02.3	+0.2	
LCRK	Leigh Creek	86.94	201	P		P		23 03 03.7	+1.8	
PMAFR	Mafra	86.95	354	*e*P		P		23 03 01.7	-0.5	
	comp=Z,179nm,1.2s									
PMAFR	Mafra	86.95	354	*e*PP		PP		23 06 26.4	+1.7	
ROSA	Rosais	86.96	9	*e*P		P		23 03 04.5	+2.3	
	comp=Z,353nm,1.1s									
ROSA	Rosais	86.96	9	IAmb		IAmb		23 03 05.5		
	comp=Z,182nm,1.0s									
ABTO	Aybut	86.97	296	P		P		23 03 02.0	-0.7	
	SNR=206									
PAGU	Agualva, Azore	87.00	8	*e*P		P		23 03 04.7	+2.3	
	comp=Z,123nm,1.0s									
PCED	Cedros	87.00	9	*e*P		P		23 03 05.3	+2.9	
	comp=Z,118nm,1.5s									
CALA	Caldeira	87.05	9	*e*P		P		23 03 04.2	+1.4	
	comp=Z,305nm,1.1s									
PMAN	Manadas	87.06	9	*e*P		P		23 03 05.8	+3.1	
	comp=Z,344nm,1.0s									
CMAH	Djebel Manchou	87.07	340	P		P		23 03 02.0	-0.9	
ADH	Angra Heroismo	87.11	8	*e*P		P		23 03 05.9	+3.0	
	comp=Z,266nm,1.1s									
PACT	Alcochete	87.11	353	*e*P		P		23 03 03.6	+0.7	
	comp=Z,503nm,1.7s									
PICO	Pico	87.16	9	*e*P		P		23 03 06.6	+3.3	
	comp=Z,205nm,1.1s									
GIRL	Giralia	87.16	224	P		P		23 03 05.2	+2.0	
PMST	Lisbon--Monsan	87.17	354	*e*P		P		23 03 04.5	+1.3	
	comp=Z,174nm,1.4s									
PMST	Lisbon--Monsan	87.17	354	*e*PP		PP		23 06 27.7	+1.4	
LIS	Lisbon	87.18	354	*e*P		P		23 03 03.2	-0.1	
LIS				*e*SKSac		SKSac		23 13 28.1	+1.5	
LIS				IAMs_20		IAMs_20		23 48 32.7		
	comp=Z,14µm,23.0s									
LIS	Lisbon	87.18	354	*e*P		P		23 03 03.2	-0.1	
LIS				*e*				23 13 28.0		
PCAN	Candelaria	87.19	9	*e*P		P		23 03 03.8	+0.4	
	comp=Z,191nm,1.1s									
PPNO	Prainha do Nor	87.20	9	*e*P		P		23 03 07.7	+4.2	
	comp=Z,189nm,1.0s									
NTLH	Newcastle Hard	87.28	189	P		P		23 03 05.2	+1.7	
EVO	Evora	87.29	353	P		P		23 03 04.6	+0.7	
EVO				*S*		S		23 13 40.4	+0.2	
EVO	Evora	87.29	353	*e*P		P		23 03 03.8	0.0	
	comp=Z,159nm,2.1s									
ABSA	Djebel Ababsia	87.39	340	P		P		23 03 04.0	-0.5	
CKFL	Kef-Lekhel	87.42	341	P		P		23 03 05.0	+0.3	
DFRA	Djebel Bou Aff	87.44	342	P		P		23 03 06.0	+1.3	
CART	Cartagena	87.51	347	P		P		23 03 02.0	-2.9	
CART				S		S		23 13 41.8	-0.4	
CART	Cartagena	87.51	347	P		P		23 03 06.2	+1.4	
KEST	Kesra	87.53	339	P		P		23 03 06.0	+0.8	
	comp=Z,64nm,1.1s,baz=107,slow=2.6,SNR=22									
KEST				LR		LR		23 49 59.7		
	comp=Z,10µm,18.1s,baz=330,slow=41									
KEST	Kesra	87.53	339	IAmb		IAmb		23 03 12.1		
	comp=Z,209nm,1.5s									
PBAR	Barrancos	87.57	352	*e*P		P		23 03 05.2	0.0	
	comp=Z,160nm,2.6s									
PBAR	Barrancos	87.57	352	*e*PP		PP		23 06 28.7	-0.9	
CASM	Ain Smara	87.60	341	P		P		23 03 08.0	+2.6	
MGCD	Mangrove Creek	87.64	190	P		P		23 03 07.9	+2.7	
STKA	Stephens Creek	87.67	198	P		P		23 03 06.1	+0.7	
	comp=Z,103nm,1.0s,baz=354,slow=6.6,SNR=78									
STKA				LR		LR		23 44 29.7		
	comp=Z,9µm,18.2s,baz=7.2,slow=37									
STKA	Stephens Creek	87.67	198	P		P		23 03 07.0	+1.6	
MULG	Mulgathing	87.73	205	P		P		23 03 07.1	+1.4	
PNCL	Nicolau / Gran	87.74	353	*e*P		P		23 03 06.7	+0.7	
	comp=Z,86nm,2.1s									
PNCL	Nicolau / Gran	87.74	353	*e*PP		PP		23 06 32.3	+1.3	
PBEJ	Beja	87.78	353	*e*P		P		23 03 07.2	+1.0	
	comp=Z,95nm,1.0s									
PBEJ	Beja	87.78	353	*e*PP		PP		23 06 32.0	+0.7	
SET	Setif	87.86	342	P		P		23 03 08.0	+1.3	
PSET	Sete Cidades	88.04	7	*e*P		P		23 03 06.8	-0.7	
	comp=Z,125nm,1.0s									
GRON	Grota Negra	88.11	7	*e*P		P		23 03 10.1	+2.3	
	comp=Z,95nm,1.2s									
CMLA	Cha da Macela	88.12	7	*e*P		P		23 03 08.8	+1.0	
	comp=Z,244nm,1.0s									
CMLA	Cha da Macela	88.12	7	P		P		23 03 07.3	-0.5	
CMLA				pmax		pmax				
	comp=Z,204nm,0.9s									
CMLA				MLR		MLR				
	comp=Z,8µm,21.0s									
CMLA	Cha da Macela	88.12	7	P		P		23 03 07.3	-0.5	
CMLA				IAmb		IAmb		23 03 12.2		
	comp=Z,204nm,0.9s									
CMLA	Cha da Macela	88.12	7	P		P		23 03 09.5	+1.7	
BART	Pico Bartolome	88.13	6	*e*P		P		23 03 08.9	+0.9	
	comp=Z,193nm,1.2s									
PCVE	Castro Verde	88.19	353	*e*P		P		23 03 09.3	+1.2	
	comp=Z,102nm,2.4s									
PCVE	Castro Verde	88.19	353	*e*PP		PP		23 06 34.8	+0.2	
SYDH	Sydney Hard Ro	88.23	190	P		P		23 03 10.5	+2.5	
PTEO	Sao Teotonio	88.32	353	*e*P		P		23 03 09.6	+0.9	
	comp=Z,96nm,2.2s									
PVAQ	Vaqueiros	88.39	352	*e*P		P		23 03 10.4	+1.3	
	comp=Z,139nm,1.5s									
PVAQ	Vaqueiros	88.39	352	*e*PP		PP		23 06 38.1	+1.9	
PVAQ				*e*S		S		23 13 56.0	+5.3	
PVAQ	Vaqueiros	88.39	352	*e*LR		LR		23 40 08.0		
	comp=Z,13µm,20.0s									
PVAQ	Vaqueiros	88.39	352	P		P		23 03 10.3	+1.3	
MTO3	Montecristo	88.54	67	IAmb		IAmb		23 03 31.0		
	comp=Z,192nm,1.5s									
MORF	Marmelete	88.55	353	*e*P		P		23 03 09.8	-0.2	
MORF				*e*SKSac		SKSac		23 13 36.5	+1.4	
MORF				IAMs_20		IAMs_20		23 51 43.3		
	comp=Z,13µm,23.0s									
MORF	Marmelete	88.55	353	*e*P		P		23 03 10.8	+0.9	
	comp=Z,125nm,1.1s									
MORF	Marmelete	88.55	353	*e*PP		PP		23 06 39.0	+1.4	
MORF	Marmelete	88.55	353	*e*P		P		23 03 09.7	-0.2	
MORF				*e*				23 13 36.4		
PBDV	Barranco-do-Ve	88.56	353	*e*P		P		23 03 10.5	+0.5	
	comp=Z,107nm,1.1s									
PBDV	Barranco-do-Ve	88.56	353	*e*PP		PP		23 06 40.5	+2.9	
ARNO	Arenosillo	88.61	352	P		P		23 03 13.6	+3.5	
ARNO				S		S		23 13 59.2	+6.5	
LIJA	Lijar	88.68	351	P		P		23 03 12.0	+1.4	
PFVI	Vila Bisbo	88.74	353	*e*P		P		23 03 11.5	+0.8	
	comp=Z,209nm,1.8s									
PFVI	Vila Bisbo	88.74	353	*e*PP		PP		23 06 40.5	+1.5	
PFVI	Vila Bisbo	88.74	353	IAmb		IAmb		23 03 13.4		
	comp=Z,136nm,1.0s									
PFVI	Vila Bisbo	88.74	353	P		P		23 03 11.8	+1.1	
PSMN	Pico do Norte,	88.90	6	*e*P		P		23 03 11.2	-0.3	
	comp=Z,131nm,1.5s									
PSMA	Santa Maria	88.91	6	*e*P		P		23 03 11.4	-0.1	
	comp=Z,139nm,1.4s									
MEEK	Meekatharra	89.07	219	P		P		23 03 12.4	+0.2	
SFS	San Fernando	89.19	351	P		P		23 03 10.9	-2.0	
SFS				S		S		23 14 03.0	+4.8	
SNET	Serv Nac Est T	89.20	68	IAMs_20		IAMs_20		23 39 10.6		
	comp=Z,16µm,22.0s									
KAAM	Kaadhehdhoo	89.48	270	IAmb		IAmb		23 03 41.1		
	comp=Z,282nm,1.4s									
KAAM				IAMs_20		IAMs_20		23 49 08.0		
	comp=Z,11µm,20.0s									
OUZ	Omahuta	89.55	171	IAMs_20		IAMs_20		23 40 06.5		
	comp=Z,14µm,20.0s									
WHYH	Whyalla	89.58	201	P		P		23 03 15.9	+1.6	
NAPP	Napperby	89.60	200	P		P		23 03 16.3	+1.8	
CEU	Ceuta	89.68	350	P		P		23 03 12.6	-2.5	
CEU				S		S		23 14 02.7	0.0	
HTT	Hallett	89.69	200	P		P		23 03 16.8	+1.9	
BBOO	Buckleboo	89.69	202	P		P		23 03 15.5	+0.6	
BBOO				IAmb		IAmb		23 03 18.9		
	comp=Z,172nm,1.3s									
BBOO	Buckleboo	89.69	202	P		P		23 03 16.1	+1.2	
FORT	Forrest	89.80	209	P		P		23 03 15.6	+0.2	
FORT				IAmb		IAmb		23 03 17.8		
	comp=Z,258nm,0.9s									
FORT	Forrest	89.80	209	P		P		23 03 17.0	+1.5	
SMIR	Smir Dam	89.89	350	P		P		23 03 18.0	+1.8	
CNB	Canberra Magne	89.91	191	P		P		23 03 17.9	+1.9	
TGUH	Tegucigalpa,Un	89.95	66	IAMs_20		IAMs_20		23 44 34.3		
	comp=Z,17µm,22.0s									
CAN	Canberra	89.96	191	IAmb		IAmb		23 03 21.2		
	comp=Z,404nm,1.3s									
CAN				IAMs_20		IAMs_20		23 40 17.4		
	comp=Z,12µm,20.0s									
CAN	Canberra	89.96	191	P		P		23 03 18.3	+2.1	
CAN	Canberra	89.96	191	P		P		23 03 16.4	+0.2	
GOG	Mont Gurugu	90.09	348	P		P		23 03 18.0	+0.8	
PALE	Palemas	90.20	349	P		P		23 03 18.0	+0.3	
PVLZ	Peæn de	90.28	349	P		P		23 03 14.9	-3.1	
PVLZ				S		S		23 14 09.9	+1.6	
TAF	Taforalt	90.42	348	P		P		23 03 20.0	+1.2	
CHEFC	Chefchaouen	90.46	350	P		P		23 03 20.0	+1.0	
SOCY	Socotra	90.88	292	IAmb		IAmb		23 03 24.9		
	comp=Z,348nm,1.2s									
SOCY				IAMs_20		IAMs_20		23 48 38.7		
	comp=Z,13µm,20.0s									
SOCY	Socotra	90.88	292	PcP		P		23 03 20.4	-0.8	
	SNR=36									
AKLM	AKL	90.89	349	P		P		23 03 21.0	0.0	
JBK	JBK	90.91	348	P		P		23 03 22.0	+0.8	
GTBY	Guantanamo Bay	91.12	53	IAmb		IAmb		23 03 51.1		
	comp=Z,311nm,1.4s									
TWOA	Tennyson Woods	91.31	200	P		P		23 03 23.8	+1.4	
LCRM	LCR	91.81	350	P		P		23 03 27.0	+1.6	
IFR	Ifrane	92.01	350	P		P		23 03 25.4	-0.9	
IFR				S		S		23 14 24.1	-0.5	
TDRA	Tendrara	92.12	347	P		P		23 03 28.0	+1.2	
MORW	Morawa	92.22	220	IAmb		IAmb		23 03 31.2		
	comp=Z,114nm,1.1s									
MXZ	Matakaoa Point	92.38	168	IAMs_20		IAMs_20		23 38 19.3		
	comp=Z,12µm,22.0s									
ARPS	Mount Arapiles	92.40	197	P		P		23 03 28.7	+1.3	
AVE	Averroes	92.44	352	P		P		23 03 24.6	-3.4	
AVE				S		S		23 14 27.8	-0.2	
AVE	Averroes	92.44	352	P		P		23 03 29.5	+1.5	
CZD	Col de Zad	92.48	350	P		P		23 03 30.0	+1.4	
TOO	Toolangi	92.62	194	P		P		23 03 30.4	+2.0	
MDT	Midelt	92.65	349	P		P		23 03 30.1	+0.9	
BRAT	Ballarat	92.83	195	P		P		23 03 31.4	+2.1	
FIGM	Figuig	92.91	346	P		P		23 03 31.0	+0.6	
URZ	Urewera	92.92	169	P		P		23 03 28.2	-1.6	
	comp=Z,34nm,1.0s,baz=336,slow=8.0,SNR=3.4									
URZ				LR		LR		23 45 03.4		
	comp=Z,3µm,18.0s,baz=18,slow=35									
HIZ	Hauiti	92.94	171	IAmb		IAmb		23 03 34.7		
	comp=Z,204nm,1.2s									
HIZ				IAMs_20		IAMs_20		23 41 29.1		
	comp=Z,14µm,20.0s									
PMOZ	Porto Moniz, M	93.33	360	*e*S		S		23 14 36.2	+0.1	
PMOZ	Porto Moniz, M	93.33	360	*e*LR		LR		23 35 37.9		
	comp=Z,4µm,18.0s									
BLDU	Ballidu	93.37	218	P		P		23 03 31.8	-0.2	
PMAR	Madeira	93.42	360	*e*P		P		23 03 34.4	+1.6	
	comp=Z,253nm,1.2s									
BKZ	Black Stump Fm	93.75	169	IAMs_20		IAMs_20		23 46 58.6		
	comp=Z,10µm,19.0s									
BKZ	Black Stump Fm	93.75	169	P		P		23 03 33.3	-0.3	
GOLM	Goulmima	93.78	350	P		P		23 03 36.0	+1.6	
KLBR	Kellerberrin	93.88	217	P		P		23 03 34.8	+0.5	
JTS	Las Juntas de	94.33	66	LR		LR		23 47 16.4		
	comp=Z,5µm,21.6s,baz=24,slow=36									
OUK	Oukaimeden	94.55	352	P		P		23 03 40.0	+1.7	
OUZM	OUZ	94.75	351	P		P		23 03 40.0	+1.1	
TZRR	Tazzarine	94.76	350	P		P		23 03 40.0	+1.1	
QRZ	Quartz Range	95.03	173	IAMs_20		IAMs_20		23 43 20.5		
	comp=Z,14µm,20.0s									
BFZ	Birch Farm	95.22	170	IAMs_20		IAMs_20		23 41 45.5		
	comp=Z,10µm,20.0s									
TTIG	Tmine Tigouga,	95.25	352	P		P		23 03 42.0	+0.8	
ZGR	Zagora	95.42	350	P		P		23 03 43.0	+1.0	
NNZ	Nelson	95.49	172	IAMs_20		IAMs_20		23 39 20.6		
	comp=Z,10µm,21.0s									
SNZO	South Karori	95.69	171	P		P		23 03 42.8	+0.4	
SNZO				IAmb		IAmb		23 03 44.3		
	comp=Z,163nm,1.5s									
SNZO	South Karori	95.69	171	IAMs_20		IAMs_20		23 42 35.0		
	comp=Z,12µm,21.0s									
THZ	Tophouse	95.99	172	IAMs_20		IAMs_20		23 45 12.9		
	comp=Z,10µm,20.0s									
KHZ	Kahutara	96.69	172	IAMs_20		IAMs_20		23 43 55.5		
	comp=Z,14µm,20.0s									
SJG	San Juan	96.72	46	LR		LR		23 50 24.8		
	comp=Z,10µm,19.2s,baz=303,slow=37									
SJG	San Juan	96.72	46	IAMs_20		IAMs_20		23 49 53.0		
	comp=Z,13µm,20.0s									
ATD	Arta Tunnel	97.27	301	LR		LR		23 53 25.0		
	comp=Z,59µm,19.8s,baz=28,slow=39									
ATD	Arta Tunnel	97.27	301	⇓*e*P		P		23 03 49.4	-1.0	
ATD				*e*S		PP		23 07 42.1	-4.7	
ATD	Arta Tunnel	97.27	301	*e*P		P		23 03 49.9	-0.5	
ATD				*e*S		PP		23 07 31.4	-15	
ATD	Arta Tunnel	97.27	301	P		P		23 03 49.6	-0.8	
ATD	Arta Tunnel	97.27	301	⇓*e*P		P		23 03 49.4	-1.0	
ATD				*e*S		PP		23 07 42.1	-4.7	
ATD	Arta Tunnel	97.27	301	*e*P		P		23 03 49.9	-0.5	
ATD				*e*S		PP		23 07 31.4	-15	
OXZ	Oxford	97.48	173	IAmb		IAmb		23 03 55.4		
	comp=Z,100nm,1.3s									
OXZ				IAMs_20		IAMs_20		23 44 36.4		
	comp=Z,15µm,20.0s									
RPZ	Rata Peaks	97.81	174	P		P		23 03 51.9	0.0	
	comp=Z,21nm,1.0s,baz=135,slow=1.4,SNR=4.2									
RPZ				LR		LR		23 41 44.2		
	comp=Z,15µm,21.9s,baz=349,slow=32									
RPZ	Rata Peaks	97.81	174	IAMs_20		IAMs_20		23 43 33.0		
	comp=Z,15µm,20.0s									
MACI	Morro de la Ar	97.88	359	P		P		23 03 51.3	-1.9	
MACI				IAmb		IAmb		23 03 55.4		
	comp=Z,109nm,1.0s									
MQZ	McQueen's Vall	97.91	173	IAMs_20		IAMs_20		23 47 03.6		
	comp=Z,12µm,19.0s									
TEND	Ethiopian Broa	97.96	303	⇓*e*P		Pdif		23 03 54.6	+1.0	
TEND				*e*S		PP		23 07 46.1	-6.0	
SMRT	St. Maarten	98.05	44	IAMs_20		IAMs_20		23 50 13.0		
	comp=Z,15µm,21.0s									
SEUS	St. Eustatius	98.59	44	IAMs_20		IAMs_20		23 50 59.3		
	comp=Z,12µm,21.0s									
ODZ	Otahua Downs	99.11	174	IAMs_20		IAMs_20		23 44 03.4		
	comp=Z,13µm,20.0s									
MLZ	Mavora Lakes	99.31	176	IAMs_20		IAMs_20		23 50 02.7		
	comp=Z,15µm,19.0s									
DCZ	Deep Cove	99.37	177	IAMs_20		IAMs_20		23 41 28.4		
	comp=Z,11µm,21.0s									
WHZ	Wether Hill Ro	99.82	176	IAMs_20		IAMs_20		23 42 14.4		
	comp=Z,11µm,21.0s									
PYZ	Puysegur Point	100.06	177	IAMs_20		IAMs_20		23 41 49.5		
	comp=Z,10µm,22.0s									
GDHS	Morne Mazeau,	100.18	43	IAMs_20		IAMs_20		23 53 57.4		
	comp=Z,15µm,19.0s									
ANKE	Ethiopia-Afar	100.48	303	⇓*e*P		Pdif		23 04 04.9	-0.3	
ANKE				*e*S		PP		23 08 08.0	-3.7	
ANKE	Ethiopia-Afar	100.48	303	⇓*e*P		Pdif		23 04 04.9	-0.3	
ANKE				*e*S		PP		23 08 08.0	-3.7	
ANKE	Ethiopia-Afar	100.48	303	*e*P		Pdif		23 04 06.4	+1.2	
ANKE				*e*S		SKSac		23 14 36.7	-4.0	
ANKE				IAMs_20		IAMs_20		23 15 12.5		
	comp=N,732nm,10.1s									
AAE	Adis Abeba	101.44	303	*e*P		Pdif		23 03 59.2	-10	
AAE				*e*S		PP		23 08 16.0	-2.9	
AAE	Adis Abeba	101.44	303	*e*P		Pdif		23 04 11.1	+1.7	
AAE	Adis Abeba	101.44	303	*e*P		Pdif		23 03 59.2	-10	
AAE				*e*S		PP		23 08 16.0	-2.9	
AAE	Adis Abeba	101.44	303	*e*P		Pdif		23 04 01.1	-8.3	
AAE				IAMs_20		IAMs_20		23 15 11.9		
	comp=E,2µm,26.1s									
AAE	Adis Abeba	101.44	303	*e*P		Pdif		23 04 11.1	+1.7	
FURI	Furi	101.60	303	⇓*e*P		Pdif		23 04 10.6	+0.5	
FURI				*e*S		PP		23 08 20.0	-0.1	
FURI	Furi	101.60	303	*e*P	

comp=Z,52nm,1.0s,baz=302,slow=0.8,SNR=12

RCBR	**Riachuelo**	**129.44**	**24**	PKP	**PKiKP**	**23 09 26.8**	**+0.1**
	comp=Z,84nm,1.1s,baz=146,slow=1.6,SNR=18						
RCBR	**Riachuelo**	**129.44**	**24**	PKIKP	**PKPdf**	**23 09 25.9**	**-0.1**
RCBR	**Riachuelo**	**129.44**	**24**	PKPdf	**PKPdf**	**23 09 25.9**	**-0.1**
RCBR	**Riachuelo**	**129.44**	**24**	*eP*	**PKPdf**	**23 09 26.2**	**+0.2**
SNDB	**Serra Nova Dou**	**130.01**	**46**	*eP*	**PKPdf**	**23 09 27.1**	**+0.1**
NBPV	**Pedro Velho**	**130.15**	**24**	*eP*	**PKiKP**	**23 09 28.4**	**+0.3**
NBMA	**Muriti-CE**	**130.16**	**28**	*eP*	**PKiKP**	**23 09 27.9**	**-0.2**
LVC	**Limon Verde**	**130.23**	**72**	PKIKP	**PKPdf**	**23 09 26.8**	**-0.8**
LVC	**Limon Verde**	**130.23**	**72**	PKPdf	**PKPdf**	**23 09 26.8**	**-0.8**
LVC	**Limon Verde**	**130.23**	**72**	*eP*	**PKiKP**	**23 09 28.3**	**-0.1**
PEXB	**Peixe**	**131.35**	**42**	*eP*	**PKPdf**	**23 09 29.1**	**-0.4**
VNDA	**Vanda**	**131.46**	**180**	PKhKP	PKPpre	23 09 18.7	
	comp=Z,3.9nm,1.0s,baz=279,slow=3.5,SNR=5.4						
VNDA				PKP	**PKiKP**	**23 09 28.9**	**+0.1**
	comp=Z,12nm,0.8s,baz=319,slow=4.8,SNR=18						
VNDA	**Vanda**	**131.46**	**180**	PKIKP	**PKPdf**	**23 09 27.9**	**+0.1**
VNDA	**Vanda**	**131.46**	**180**	PKPdf	**PKPdf**	**23 09 27.9**	**+0.1**
H03N2	**Juan Fernandez**	**132.58**	**90**	T	T	01 36 24.2	
	baz=314,slow=78,SNR=6.8						
H03N1	**Juan Fernandez**	**132.59**	**90**	T	T	01 36 25.8	
	baz=314,slow=78,SNR=9.4						
H03N3	**Juan Fernandez**	**132.60**	**90**	T	T	01 36 38.3	
	baz=314,slow=78,SNR=8.1						
NBAN	**Anadia - AL**	**133.04**	**26**	*eP*	**PKPdf**	**23 09 33.0**	**+0.2**
PP1B	**Ponte de Pedra**	**133.37**	**53**	*eP*	**PKPdf**	**23 09 33.4**	**+0.2**
ASCN	**Ascension**	**133.80**	**356**	IAMs_20	IAMs_20	00 14 41.8	
	comp=Z,6μm,19.0s						
LCO	**Las Campanas**	**134.16**	**79**	IAMs_20	IAMs_20	23 57 37.9	
	comp=Z,8μm,22.0s						
BDFB	**Brasilia**	**134.67**	**44**	PKhKP	PKPpre	23 09 22.9	
	comp=Z,6.2nm,0.9s,baz=357,slow=4.4,SNR=4.1						
BDFB				PKP	**PKPdf**	**23 09 35.6**	**-0.2**
	comp=Z,24nm,1.0s,baz=188,slow=5.2,SNR=11						
BDFB				PP	**PP**	**23 12 10.9**	**+1.8**
	comp=Z,14nm,1.0s,baz=50,slow=14,SNR=3.2						
TSUM	**Tsumeb**	**136.09**	**309**	PKPdf	**PKPdf**	**23 09 33.8**	**-4.6**
CRZF	**Crozet Islands**	**136.85**	**251**	IAMs_20	IAMs_20	00 03 42.8	
	comp=Z,6μm,22.0s						
PEL	**Peldehue**	**137.20**	**83**	IAMs_20	IAMs_20	00 01 06.9	
	comp=Z,5μm,21.0s						
BO02	**Sierra Bellavi**	**138.32**	**85**	PKPdf	**PKPdf**	**23 09 41.9**	**-0.1**
DIAM	**Diamantina, MG**	**138.78**	**40**	*eP*	**PKPdf**	**23 09 43.4**	**0.0**
TRCB	**Terra Rica**	**138.90**	**54**	*eP*	**PKPdf**	**23 09 43.3**	**-0.1**
CPUP	**Villa Florida**	**139.48**	**63**	PKhKP	PKPpre	23 09 36.1	
	comp=Z,13nm,1.0s,baz=337,slow=1.5,SNR=7.4						
CPUP				PKP	**PKPdf**	**23 09 44.7**	**+0.4**
	comp=Z,61nm,1.1s,baz=344,slow=3.3,SNR=16						
BOSA	**Boshof**	**140.04**	**292**	PKhKP	PKPpre	23 09 38.6	
	comp=Z,24nm,1.2s,baz=35,slow=4.1,SNR=9.1						
BOSA				PP	**PP**	**23 12 43.4**	**+0.5**
	comp=Z,23nm,0.9s,baz=55,slow=8.2,SNR=4.9						
SHEL	**Horse Pasture**	**140.80**	**342**	IAMs_20	IAMs_20	00 20 35.7	
	comp=Z,8μm,21.0s						
FRTB	**Fartura**	**140.81**	**51**	*eP*	**PKPdf**	**23 09 45.5**	**-1.3**
MAW	**Mawson**	**141.84**	**218**	PKhKP	PKPpre	23 09 43.0	
	comp=Z,22nm,1.0s,baz=33,slow=3.3,SNR=13						
PLCA	**Paso Flores**	**142.43**	**91**	PKhKP	PKPpre	23 09 44.2	
	comp=Z,25nm,1.0s,baz=321,slow=3.3,SNR=19						
ITQB	**Itaqui**	**142.52**	**65**	PKPdf	**PKPdf**	**23 09 49.4**	**-0.2**
TIJ01	**Guaruva-PR**	**142.76**	**52**	*eP*	**PKPdf**	**23 09 49.2**	**-1.1**
QSPA	**South Pole Qui**	**143.96**	**180**	IAMs_20	IAMs_20	00 02 18.0	
	comp=Z,7μm,21.0s						
COYC	**Coyhaique**	**144.44**	**99**	IAMs_20	IAMs_20	00 02 22.2	
	comp=Z,8μm,22.0s						
TER01	**Tubaro-SC**	**145.42**	**55**	*eP*	**PKPdf**	**23 09 54.4**	**-0.4**
PLTB	**Pedras Altas**	**145.77**	**64**	*eP*	**PKPdf**	**23 09 54.9**	**-0.4**
SYO	**Syowa Base**	**150.55**	**218**	⇓*e*PKPdf	**PKPdf**	**23 10 01.4**	**-0.5**
SYO	**Syowa Base**	**150.55**	**218**	⇓*i*PKPbc	**PKiKP**	**23 10 07.8**	**-0.2**
SYO	**Syowa Base**	**150.55**	**218**	⇑*i*PKPab	**PKPab**	**23 10 14.6**	**+0.3**
EFI	**East Falkland**	**155.50**	**101**	PKIKP	**PKPdf**	**23 10 08.2**	**-1.4**
EFI	**East Falkland**	**155.50**	**101**	PKPdf	**PKPdf**	**23 10 08.2**	**-1.4**
NVL	**N'lazarevskaya**	**159.02**	**207**	⇓*i*PKP2	**PKPab**	**23 10 57.6**	**+7.2**
NVL				pmax	pmax		
	comp=Z,108nm,1.1s						
TROLL	**Troll, Antarti**	**160.22**	**198**	PKPab	**PKPab**	**23 10 56.4**	**+0.6**
TROLL	**Troll, Antarti**	**160.22**	**198**	PKPdf	**PKPdf**	**23 10 12.7**	**-2.3**
SNAA	**Sanae**	**161.40**	**194**	PKPab	**PKPab**	**23 11 00.8**	**0.0**
SNAA	**Sanae**	**161.40**	**194**	PKPdf	**PKPdf**	**23 10 14.4**	**-1.8**
SNAA	**Sanae**	**161.40**	**194**	PKP	**PKPdf**	**23 10 15.0**	**-1.2**
SNAA				PKPab	**PKPab**	**23 11 01.2**	**+0.4**
	comp=Z,21nm,1.2s,baz=180,slow=6.8,SNR=3.0						
	comp=Z,69nm,1.1s,baz=204,slow=1.1,SNR=7.2						
SNAA	**Sanae**	**161.40**	**194**	PKPdf	**PKPdf**	**23 10 16.4**	**+0.2**
VNA3	**Neumayer Olymp**	**162.58**	**188**	PKPab	**PKPab**	**23 11 04.8**	**-1.1**
VNA3	**Neumayer Olymp**	**162.58**	**188**	PKPdf	**PKPdf**	**23 10 18.6**	**+1.3**
VNA2	**Neumayer--Watz**	**162.67**	**191**	PKPab	**PKPab**	**23 11 06.5**	**+0.2**
VNA2	**Neumayer--Watz**	**162.67**	**191**	PKPdf	**PKPdf**	**23 10 19.0**	**+1.6**
	baz=155,slow=3.0						
VNA1	**Neumayer--Stat**	**163.02**	**190**	PKPdf	**PKPdf**	**23 10 15.9**	**-1.8**

*NEIC **20** 23:03:07.0±2.0, 37.58N±0.04×140.63E±0.09, h90km±4km, mb4.5/47 Error ellipse: s-maj=10.7km s-min=6.2km az=105.0*

*JMA **20** 23:03:06.3, 37.58N×140.61E, h90km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs231.00000°, δ80.00000°, λ58.00000°. NP2: ϕs125.00000°, δ33.00000°, λ161.00000°. Principal axes: T Plg46.0000°, Azm109.0000°; N Plg31.0000°, Azm237.0000°; P Plg28.0000°, Azm346.0000°;*

JMA Felt II J1.

*IDC **20** 23:03:06.4±1.7, 37.61N×140.55E, h94km±16km, mb3.9/13, mb1 3.9/19, mb1mx3.7/57, mbtmp4.2/19 Error ellipse: s-maj=18.6km s-min=13.2km az=87.0*

ISC 20 23:03:06.4±0.6, **37.57N**±0.04×**140.63E**±0.05, **h90**km±5km, **n105**, σ0s94/121, **mb4.4**/36, **12C-3D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.24**	**257**	⇑P		**Pn**	**23 03 19.2**	**-0.4**
JFT				*e*S		**Sn**	**23 03 29.3**	**-0.1**
JMST	**Minamisoumatoc**	**0.26**	**53**	⇑P		**Pn**	**23 03 19.5**	**-0.1**
JMST				*e*S		**Sn**	**23 03 29.4**	**-0.1**
JFK	**Kawauchi**	**0.28**	**136**	⇓P		**Pn**	**23 03 19.8**	**-0.1**
JFK				S		**Sn**	**23 03 29.7**	**-0.1**
JMM	**Marumori**	**0.32**	**24**	⇑P		**Pn**	**23 03 19.8**	**-0.2**
JMM				S		**Sn**	**23 03 29.8**	**-0.3**
JMM	**Marumori**	**0.32**	**24**		Sn	**Pn**	**23 03 19.8**	**-0.2**
JMM					Sn	**Sn**	**23 03 29.7**	**-0.3**
JFY	**Yanaizu**	**0.75**	**258**	⇑P		**Pn**	**23 03 23.3**	**-0.2**
JFY				S		**Sn**	**23 03 35.8**	**-0.5**
JYS	**Shirataka**	**0.79**	**326**	⇑P		**Pn**	**23 03 23.8**	**0.0**
JYS				S		**Sn**	**23 03 37.0**	**+0.2**
JOU	**Okura**	**0.79**	**2**	⇑P		**Pn**	**23 03 24.0**	**+0.1**
JOU				S		**Sn**	**23 03 38.1**	**+1.1**
JIO	**Ouri**	**1.05**	**33**	⇑P		**Pn**	**23 03 26.5**	**-0.2**
JIO				S		**Sn**	**23 03 41.3**	**-0.6**
JNS	**Sasagawa**	**1.07**	**284**	⇑P		**Pn**	**23 03 26.6**	**-0.3**
JNS				*e*S		**Sn**	**23 03 41.6**	**-0.7**
JYA	**Atsumi**	**1.25**	**325**	⇑P		**Pn**	**23 03 29.1**	**0.0**
JYA				*e*S		**Sn**	**23 03 46.8**	**+0.7**
JYK	**Kaneyama**	**1.36**	**351**	⇓P		**Pn**	**23 03 30.7**	**+0.3**
JYK				S		**Sn**	**23 03 48.8**	**+0.3**
JKT	**Katashina**	**1.36**	**234**	⇑P		**Pn**	**23 03 31.1**	**+0.5**
JYT	**Yasato**	**1.39**	**195**			**Pn**	**23 03 30.6**	**-0.2**
JYT					Sn	**Sn**	**23 03 47.9**	**-1.2**
JAW	**Awa shima**	**1.40**	**309**	⇑P		**Pn**	**23 03 30.6**	**-0.3**
JAW				S		**Sn**	**23 03 49.1**	**-0.3**
JMK	**Ichinoseki**	**1.45**	**18**	⇓P		**Pn**	**23 03 31.8**	**+0.2**
JAG	**Ashikaga**	**1.48**	**220**	P		**Pn**	**23 03 32.4**	**+0.4**
JAG				S		**Sn**	**23 03 51.9**	**+0.6**
JIZZ	**Izumozaki**	**1.53**	**269**	⇑P		**Pn**	**23 03 32.9**	**+0.4**
JSD	**Sado**	**1.93**	**285**			**Pn**	**23 03 37.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.19**	**243**	P		**Pn**	**23 03 41.1**	**-0.1**
	1.9nm,0.3s,baz=81,slow=12,SNR=36							
MJAR	**Matsushiro Arr**	**2.19**	**243**			**Pn**	**23 03 41.7**	**+0.5**
MAJO	**Matsushiro**	**2.19**	**243**			**Pn**	**23 03 41.8**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.19**	**243**			**Pn**	**23 03 41.8**	**+0.6**
JTM	**Tenmabayashi**	**3.23**	**6**			**Pn**	**23 03 55.6**	**+0.6**
JGF	**Kuroka**	**3.29**	**234**			**Pn**	**23 03 56.7**	**+0.9**
INU	**Inuyama**	**3.66**	**234**	Pn		**Pn**	**23 04 02.4**	**+1.6**
JHJ	**Hachijo jima 2**	**4.50**	**189**	P		**Pn**	**23 04 11.6**	**-0.6**
	15nm,0.3s,baz=114,slow=22,SNR=7.0							
JHJ				S		**Sn**	**23 05 00.5**	**-2.8**
	43nm,0.3s,baz=131,slow=23,SNR=7.2							
JHJ2	**Mitsune**	**4.50**	**189**	Pn		**Pn**	**23 04 13.7**	**+1.5**
ERM	**Erimo**	**4.84**	**23**	Pn		**Pn**	**23 04 15.2**	**-1.7**
ERM				Sn		**Sn**	**23 05 08.4**	**-3.3**
ASAJ	**Asahikawa**	**6.71**	**12**	P		**Pn**	**23 04 40.0**	**-2.1**
	2.1nm,0.3s,baz=221,slow=26,SNR=5.1							

JKA	**Kamikawa-asahi**	**6.71**	**12**			**Pn**	**23 04 40.3**	**-1.8**
USA0B	**Ussuriysk Arra**	**9.30**	**318**	Pn		**Pn**	**23 05 19.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**9.30**	**318**	P		**Pn**	**23 05 17.1**	**-0.5**
	baz=130,slow=13,SNR=12							
USRK	**Ussuriysk Ar.**	**9.30**	**318**			**Pn**	**23 05 19.5**	**+1.9**
KSRS	**Korea Array**	**10.10**	**273**	P		**Pn**	**23 05 29.2**	**+0.8**
	0.3nm,0.3s,baz=87,slow=13,SNR=7.1							
MDJ	**Mudanjiang**	**10.90**	**314**	Pn		**Pn**	**23 05 41.8**	**+2.6**
KLR	**Kul'dur**	**13.31**	**334**	P		**Pn**	**23 06 10.9**	**-0.6**
	0.1nm,0.3s,baz=105,slow=13,SNR=1.4							
SONM	**Songino Array**	**26.97**	**303**	P		**P**	**23 08 38.5**	**-1.0**
	3.4nm,0.7s,baz=105,slow=7.6,SNR=5.6							
SONM	**Songino Array**	**26.97**	**303**	P		**P**	**23 08 39.2**	**-0.3**
ZALV	**Zalesovo Beam**	**41.09**	**312**	P		**P**	**23 10 39.8**	**-1.2**
	1.8nm,0.5s,baz=76,slow=7.8,SNR=5.8							
MK31	**Makanchi Array**	**43.30**	**301**	P		**P**	**23 10 58.5**	**-0.7**
MK31				IAmb	IAmb		23 11 12.3	
	comp=Z,5.2nm,1.1s							
MKAR	**Makanchi Array**	**43.30**	**301**	P		**P**	**23 10 57.6**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=83,slow=14,SNR=11							
MKAR	**Makanchi Array**	**43.30**	**301**	P		**P**	**23 10 58.4**	**-0.8**
MAKZ	**Makanchi**	**43.51**	**302**	P		**P**	**23 11 00.1**	**-0.7**
CHGN	**Chignik**	**44.02**	**45**	P		**P**	**23 11 05.5**	**+0.9**
KURK	**Kurchatov**	**45.11**	**308**	P		**P**	**23 11 12.4**	**-1.0**
SVW2	**Sparrevohn**	**45.48**	**38**	P		**P**	**23 11 17.1**	**+0.9**
SVW2				IAmb	IAmb		23 11 36.1	
	comp=Z,5.5nm,1.0s							
K20K	**Telida**	**46.24**	**35**	P		**P**	**23 11 23.7**	**+1.5**
PPLA	**Purkeypile**	**47.09**	**35**	P		**P**	**23 11 30.0**	**+1.1**
PPLA				IAmb	IAmb		23 11 46.0	
	comp=Z,9.4nm,1.2s							
KDAK	**Kodiak Island**	**47.12**	**42**	P		**P**	**23 11 29.1**	**0.0**
	comp=Z,7.2nm,0.5s,baz=324,slow=5.8,SNR=11							
CAST	**Castle Rocks**	**47.13**	**34**	P		**P**	**23 11 30.1**	**+0.9**
GHO	**Glory Hole Cre**	**48.65**	**37**	P		**P**	**23 11 41.3**	**+0.3**
GHO				IAmb	IAmb		23 11 51.0	
	comp=Z,9.8nm,1.2s							
BOOM	**Boomskoye usch**	**48.71**	**297**	P		**P**	**23 11 41.8**	**0.0**
BOOM				IAmb	IAmb		23 11 51.9	
	comp=Z,6.7nm,1.1s							
MDM	**Murphy Dome**	**48.80**	**32**	P		**P**	**23 11 43.1**	**+1.1**
WRH	**Wood River Hil**	**48.87**	**33**	P		**P**	**23 11 42.5**	**0.0**
SML	**Sawmill**	**48.93**	**37**	P		**P**	**23 11 43.3**	**+0.2**
ILAR	**Eielson Array**	**49.38**	**33**	P		**P**	**23 11 46.8**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=265,slow=5.3,SNR=5.4							
ILAR	**Eielson Array**	**49.38**	**33**	P		**P**	**23 11 46.4**	**+0.1**
SCM	**Sheep Creek Mo**	**49.41**	**36**	P		**P**	**23 11 46.9**	**+0.2**
AAK	**Ala-Archa**	**49.68**	**298**	P		**P**	**23 11 49.5**	**+0.3**
	comp=Z,10.0nm,1.2s,baz=87,slow=5.8,SNR=2.4							
AAK	**Ala-Archa**	**49.68**	**298**	P		**P**	**23 11 50.1**	**+0.9**
AAK				IAmb	IAmb		23 11 51.0	
	comp=Z,6.2nm,1.1s							
BRVK	**Borovoye**	**49.80**	**312**	P		**P**	**23 11 50.6**	**+0.8**
BRVK				IAmb	IAmb		23 11 51.2	
	comp=Z,8.6nm,1.1s							
KLU	**Klutina**	**50.11**	**37**	P		**P**	**23 11 52.1**	**0.0**
KLU				IAmb	IAmb		23 12 05.2	
	comp=Z,8.9nm,1.1s							
COEN	**Coen**	**51.31**	**177**	P		**P**	**23 12 01.5**	**0.0**
COEN				IAmb	IAmb		23 12 17.4	
	comp=Z,5.2nm,1.0s							
BERG	**Berg Lake**	**51.34**	**38**	P		**P**	**23 12 02.1**	**+0.9**
MCARA	**McCarthy VSAT**	**51.50**	**37**	P		**P**	**23 12 03.3**	**+0.8**
MCARA				IAmb	IAmb		23 12 21.9	
	comp=Z,4.2nm,0.9s							
L27K	**Beaver Creek,**	**51.78**	**34**	P		**P**	**23 12 05.8**	**+1.2**
L27K				IAmb	IAmb		23 12 13.2	
	comp=Z,3.3nm,1.1s							
BCAR	**Beaver Creek A**	**51.80**	**34**	P		**P**	**23 12 05.8**	**+1.1**
M27K	**Edge Creek, AK**	**51.88**	**35**	P		**P**	**23 12 06.8**	**+1.4**
M27K				IAmb	IAmb		23 12 09.7	
	comp=Z,4.6nm,1.1s							
GRNC	**Granite Creek**	**52.23**	**37**	P		**P**	**23 12 08.1**	**0.0**
KKAR	**Karatay Array**	**52.31**	**300**	P		**P**	**23 12 10.0**	**+1.2**
CTGM	**Chitina Glacie**	**52.38**	**37**	P		**P**	**23 12 09.6**	**+0.5**
HYT	**Haines Junctio**	**54.24**	**37**	P		**P**	**23 12 24.6**	**+1.9**
HYT				IAmb	IAmb		23 12 27.7	
	comp=Z,6.0nm,1.2s							
CHGR	**Chuyangaron**	**54.87**	**295**	P		**P**	**23 12 27.6**	**0.0**
M31M	**Drury Creek, Y**	**55.33**	**35**	P		**P**	**23 12 30.6**	**+0.2**
A36M	**Sachs Harbour**	**55.99**	**22**	P		**P**	**23 12 35.5**	**+0.6**
A36M				IAmb	IAmb		23 12 51.7	
	comp=Z,7.1nm,1.1s							
P33M	**Teslin, Yukon**	**56.64**	**37**	P		**P**	**23 12 40.9**	**+1.0**
KBL	**Kabul**	**56.64**	**290**	P		**P**	**23 12 41.6**	**+1.1**
KBL				IAmb	IAmb		23 12 46.5	
	comp=Z,3.3nm,0.9s							
ABKAR	**Akbulak array**	**57.11**	**310**	P		**P**	**23 12 42.4**	**-0.9**
ABKAR	**Akbulak array**	**57.11**	**310**	P		**P**	**23 12 43.0**	**-0.3**
ABKAR				IAmb	IAmb		23 12 51.9	
	comp=Z,1.4nm,0.7s							
WB0	**Warramunga Arr**	**57.33**	**187**	P		**P**	**23 12 44.5**	**-0.6**
WB0				IAmb	IAmb		23 12 44.9	
	comp=Z,3.4nm,0.6s							
WR0	**Warramunga Arr**	**57.51**	**187**	P		**P**	**23 12 45.6**	**-0.7**
WR0				IAmb	IAmb		23 13 01.0	
	comp=Z,4.4nm,1.0s							
WB2	**Warramunga Arr**	**57.51**	**187**	P		**P**	**23 12 45.7**	**-0.6**
WB2				IAmb	IAmb		23 12 46.4	
	comp=Z,3.7nm,0.9s							
WRA	**Warramunga Arr**	**57.51**	**187**	P		**P**	**23 12 45.6**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=1.9,slow=7.2,SNR=37							
WRA	**Warramunga Arr**	**57.51**	**187**	IAmb	IAmb		23 12 46.3	
	comp=Z,0.4nm,0.9s							
ASAR	**Alice Springs**	**61.24**	**187**	P		**P**	**23 13 12.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=8.6,slow=5.4,SNR=9.2							
ASAR	**Alice Springs**	**61.24**	**187**	P		**P**	**23 13 11.6**	**-0.4**
ARCES	**ARCESS Array B**	**63.27**	**339**	P		**P**	**23 13 23.6**	**-1.4**
	comp=Z,4.8nm,0.9s,baz=62,slow=2.9,SNR=4.9							
FIA1	**FINESS Array S**	**68.04**	**332**	P		**P**	**23 13 54.9**	**-0.8**
FIA1				IAmb	IAmb		23 14 13.4	
	comp=Z,3.8nm,1.0s							
FINES	**FINESS Array B**	**68.05**	**332**	P		**P**	**23 13 54.8**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=43,slow=8.6,SNR=10							
FORT	**Forrest**	**69.01**	**192**	P		**P**	**23 14 02.1**	**+0.1**
KIV	**Kislovodsk**	**70.08**	**310**	P		**P**	**23 14 08.7**	**-0.1**
KIV				IAmb	IAmb		23 14 23.2	
	comp=Z,5.8nm,1.1s							
NC405	**NORSAR Array S**	**73.23**	**337**	P		**P**	**23 14 27.2**	**-0.1**
NOA	**NORSAR Array B**	**73.45**	**337**	P		**P**	**23 14 28.0**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=53,slow=6.7,SNR=1.1							
AKASG	**Malin Array Be**	**73.49**	**322**	P		**P**	**23 14 27.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=47,slow=6.3,SNR=9.7							
AKBB	**Malin Array Si**	**73.49**	**322**	P		**P**	**23 14 27.9**	**-1.0**
AKBB				IAmb	IAmb		23 14 28.4	
	comp=Z,2.7nm,0.8s							
EGMT	**Eagleton**	**74.28**	**41**	P		**P**	**23 14 34.2**	**+0.4**
EGMT				IAmb	IAmb		23 14 35.9	
	comp=Z,6.9nm,1.0s							
KVN	**Kaiserville**	**74.93**	**52**	P		**P**	**23 14 38.4**	**+0.6**
QSM	**Queen of Sheba**	**77.56**	**54**	P		**P**	**23 14 52.9**	**+0.4**
PDAR	**Pinedale Array**	**77.73**	**45**	P		**P**	**23 14 53.5**	**-0.2**
PV23	**Carpenter Ridg**	**80.85**	**48**	P		**P**	**23 15 12.7**	**+1.9**
PV23				IAmb	IAmb		23 15 22.5	
	comp=Z,3.9nm,1.1s							
PV14	**Lion Creek, Pa**	**80.90**	**48**	P		**P**	**23 15 11.8**	**+0.8**
PV05	**Paradox Valley**	**81.05**	**49**	P		**P**	**23 15 12.2**	**+0.4**
SCHQ	**Schefferville**	**84.99**	**16**	P		**P**	**23 15 31.9**	**+0.4**
SCHQ				IAmb	IAmb		23 15 37.3	
	comp=Z,7.2nm,1.1s							
TXAR	**Lajitas Array**	**90.28**	**52**	P		**P**	**23 15 57.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=272,slow=2.2,SNR=5.0							

*SJA **20** 23:23:03.8±0.6, 31.44S×72.25W, h13km, ML4.8, MW4.5*

*IDC **20** 23:23:05.2±0.8, 31.47S×71.62W, h0km, mb4.7/9, mb1 4.5/14, mb1mx4.3/34, mbtmp4.5/14, ML4.2/5, Error ellipse: s-maj=27.9km s-min=18.1km az=92.0*

*VAO **20** 23:23:09.0±0.4, 31.45S×71.71W, h24km, mb4.7*

*NEIC **20** 23:23:09.9, 31.44S×71.78W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr5.66; Mθθ0.67; Mϕϕ-6.33; Mrθ1.18; Mϕϕ-0.27; Mrϕ-2.93; Fault plane solution: M06.81000×10^15 NP1:ϕs170.42000°, δ58.95000°, λ76.81000°. NP2:ϕs14.86000°, δ33.47000°, λ110.76000°. Principal axes: T 6.5888, Plg73.0000°, Azm48.0000°; N 0.4219, Plg11.0000°, Azm177.0000°; P -7.0107, Plg13.0000°, Azm270.0000°;*

*GUC **20** 23:23:10.5±0.8, 31.40S×71.64W, h29km±5km, ML4.7*

*NEIC **20** 23:23:10.4±1.5, 31.45S±0.03×71.78W±0.06, h29km±4km, mb4.7/28, Mwr4.5/64, ML4.7(GUC), Error ellipse: s-maj=8.2km s-min=3.8km az=104.0*

ISC 20 23:23:06.6±1.2, **31.45S**±0.02×**71.75W**±0.03, **h8**km±7km,

n229, σ1s38/270, **mb4.8**/19, **2C-3D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.69**	**69**			**Pn**	**23 23 23.1**	**+0.3**
CO02					Sg	**Sn**	**23 23 32.6**	**-1.1**
CO02	**Combarbal**	**0.69**	**69**	⇓*i*P		**Pn**	**23 23 23.1**	**+0.3**
CO02				*e*S		**Sn**	**23 23 32.1**	**-1.6**
CO02				IAML			23 23 36.6	
	comp=E,84μm,0.3s							
CO02	**Combarbal**	**0.69**	**69**	*e*P		**Pn**	**23 23 23.0**	**+0.3**
CO02				*e*S		**Sn**	**23 23 34.4**	**+0.7**
CO02				IAML			23 23 37.7	
	comp=Z,20μm,0.6s							
CO06	**Fray Jorge**	**0.78**	**7**			**Pn**	**23 23 25.2**	**+1.2**
CO06						**Sn**	**23 23 36.1**	**+0.3**
CO06	**Fray Jorge**	**0.78**	**7**	⇑*i*P		**Pn**	**23 23 25.1**	**+1.2**
CO06				*e*S		**Sn**	**23 23 35.6**	**-0.2**
CO06				IAML			23 23 38.8	
	comp=N,40μm,0.1s							
CO03	**El Pedregal**	**1.09**	**56**			**Pn**	**23 23 29.6**	**+1.2**
CO03					Sn	**Sn**	**23 23 44.5**	**+0.8**
CO03	**El Pedregal**	**1.09**	**56**	⇓*i*P		**Pn**	**23 23 29.4**	**+1.1**
CO03				*e*S		**Sn**	**23 23 44.2**	**+0.5**
CO03				IAML			23 23 46.6	
	comp=E,19μm,0.3s							
VA06	**Catapilco**	**1.17**	**161**			**Pn**	**23 23 30.1**	**+0.8**
VA06						**Sn**	**23 23 45.2**	**-0.3**
VA06	**Catapilco**	**1.17**	**161**	⇓*i*P		**Pn**	**23 23 30.0**	**+0.7**
VA06				*i* S		**Sb**	**23 23 44.5**	**+0.1**
VA06				IAML			23 23 48.6	
	comp=E,55μm,0.4s							
GO04	**Tololo Observa**	**1.51**	**33**			**Pg**	**23 23 36.4**	**+0.7**
GO04	**Tololo Observa**	**1.51**	**33**	⇑*i*P		**Pg**	**23 23 36.4**	**+0.7**
GO04				*i* S		**Sg**	**23 23 56.6**	**+1.3**
GO04	**Tololo Observa**	**1.51**	**33**	*e*P		**Pg**	**23 23 36.0**	**+0.3**
GO04				*e*S		**Sg**	**23 23 57.5**	**+2.2**
VA01	**Torpederas**	**1.57**	**177**			**Pb**	**23 23 36.0**	**0.0**
VA01	**Torpederas**	**1.57**	**177**	*e*P		**Pb**	**23 23 35.7**	**-0.2**
CO05	**La Serena**	**1.59**	**16**			**Pg**	**23 23 37.0**	**-0.1**
CO05	**La Serena**	**1.59**	**16**	*

AC04	**Llanos de Chal**	**3.29**	**10**	*eP*		**Pn**	**23 23 59.5**	**+1.1**
AC04	**Llanos de Chal**	**3.29**	**10**	*eP*		**Pn**	**23 24 00.0**	**+1.6**
AC04				*eS*		**Sn**	**23 24 36.3**	**-1.5**
AC04				IAML			23 24 59.1	
	comp=Z,1µm,1.6s							
BO02	**Sierra Bellavi**	**3.43**	**167**	Pn		**Pn**	**23 24 02.5**	**+2.1**
BO02	**Sierra Bellavi**	**3.43**	**167**	*eP*		**Pn**	**23 24 02.6**	**+2.1**
BO02	**Sierra Bellavi**	**3.43**	**167**	*eP*		**Pn**	**23 24 02.0**	**+1.5**
BO02				*eS*		**Sn**	**23 24 44.8**	**+3.4**
BO02				IAML			23 25 01.2	
	comp=Z,2µm,0.6s							
GO05	**Huala**	**3.55**	**182**			**Pn**	**23 24 02.3**	**+0.1**
GO05	**Huala**	**3.55**	**182**	*eP*		**Pn**	**23 24 02.2**	**+0.1**
GO05	**Huala**	**3.55**	**182**	*eP*		**Pn**	**23 24 02.0**	**-0.1**
GO05				*eS*		**Sn**	**23 24 44.8**	**+0.5**
GO03	**Copiap**	**4.06**	**19**			**Pn**	**23 24 11.7**	**+2.5**
GO03	**Copiap**	**4.06**	**19**	*eP*		**Pn**	**23 24 11.2**	**+2.0**
GO03	**Copiap**	**4.06**	**19**	*eP*		**Pn**	**23 24 06.3**	**-2.9**
GO03				*eP*		Pb	23 24 11.4	-7.1
GO03				*eS*		**Sb**	**23 25 02.8**	**-5.0**
VCA	**Vinchina**	**4.09**	**49**	*eP*		**Pn**	**23 24 09.8**	**+0.1**
VCA				*eP*		**Pb**	**23 24 15.0**	**-4.0**
VCA				*eS*		**Sb**	**23 25 06.3**	**-2.4**
VCA				IAML			23 25 31.2	
	comp=Z,2µm,0.8s							
RFA	**San Rafael**	**4.30**	**141**	*eP*		**Pn**	**23 24 10.8**	**-1.7**
ML02	**Panimavida**	**4.31**	**176**			**Pn**	**23 24 13.7**	**+1.2**
ML02	**Panimavida**	**4.31**	**176**	*eP*		**Pn**	**23 24 13.3**	**+0.8**
ACLC	**CERRO LA CRUZ**	**4.61**	**65**	*eP*		**Pn**	**23 24 20.4**	**+3.7**
ACLC				*eS*		**Sn**	**23 25 13.8**	**+3.2**
ACLC				IAML			23 25 24.2	
	comp=Z,2µm,0.5s							
AC02	**Maricunga**	**5.14**	**27**	Pn		**Pn**	**23 24 26.2**	**+1.9**
AC02	**Maricunga**	**5.14**	**27**	*eP*		**Pn**	**23 24 26.2**	**+1.9**
AC02	**Maricunga**	**5.14**	**27**	*eP*		**Pn**	**23 24 26.5**	**+2.2**
MRA	**San Martin**	**5.22**	**102**	*eP*		**Pn**	**23 24 28.2**	**+3.1**
AC01	**Pan de Azucar**	**5.38**	**11**	Pn		**Pn**	**23 24 28.5**	**+1.3**
BI05	**Punta Hualpn**	**5.42**	**192**			**Pn**	**23 24 27.6**	**-0.1**
PB14	**IPOC Station P**	**6.90**	**10**	Pn		**Pn**	**23 24 48.4**	**0.0**
FSA	**Cafayete**	**7.34**	**45**	*eP*		**Pn**	**23 24 58.0**	**+3.7**
LC02	**Puerto Saavedr**	**7.45**	**190**	Pn		**Pn**	**23 24 54.8**	**-0.8**
PB10	**IPOC Station P**	**7.98**	**8**	Pn		**Pn**	**23 25 04.2**	**+1.3**
LR03	**Panguipulli**	**8.18**	**183**	Pn		**Pn**	**23 25 06.8**	**+1.2**
PB15	**IPOC Station P**	**8.46**	**14**			**Pn**	**23 25 08.7**	**-0.9**
LR04	**Corral**	**8.52**	**189**	Pn		**Pn**	**23 25 10.3**	**0.0**
PB06	**IPOC Station P**	**8.92**	**13**	Pn		**Pn**	**23 25 16.0**	**0.0**
LVC	**Limon Verde**	**9.16**	**17**	Pn		**Pn**	**23 25 17.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=188,slow=5.5,SNR=2.3							
LVC	**Limon Verde**	**9.16**	**17**	Pn		**Pn**	**23 25 17.6**	**-1.9**
LVC	**Limon Verde**	**9.16**	**17**	*eP*		**Pn**	**23 25 17.8**	**-1.7**
PB04	**IPOC Station P**	**9.19**	**9**	Pn		**Pn**	**23 25 18.9**	**-0.9**
PLCA	**Paso Flores**	**9.31**	**174**	Pn		**Pn**	**23 25 21.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=336,slow=10,SNR=25							
PLCA	**Paso Flores**	**9.31**	**174**			**Pn**	**23 25 22.5**	**+1.3**
PLCA	**Paso Flores**	**9.31**	**174**	*eP*		**Pn**	**23 25 21.2**	**0.0**
PB09	**IPOC Station P**	**9.87**	**14**	Pn		**Pn**	**23 25 23.9**	**-0.2**
PB02	**IPOC Station P**	**10.22**	**10**	Pn		**Pn**	**23 25 34.2**	**+0.4**
PB01	**IPOC Station P**	**10.56**	**12**	Pn		**Pn**	**23 25 36.6**	**-1.8**
PATCX	**Punta Patache**	**10.68**	**8**	Pn		**Pn**	**23 25 39.8**	**-0.2**
ITQB	**Itaqui**	**13.15**	**86**	Pn		**Pn**	**23 26 15.2**	**+1.4**
ITQB	**Itaqui**	**13.15**	**86**	*eP*		**Pn**	**23 26 13.6**	**-0.2**
CPUP	**Villa Florida**	**13.62**	**72**	Pn		**Pn**	**23 26 19.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=251,slow=13,SNR=7.2							
CPUP	**Villa Florida**	**13.62**	**72**	Pn		**Pn**	**23 26 21.5**	**+1.4**
CPUP	**Villa Florida**	**13.62**	**72**	*eP*		**Pn**	**23 26 20.4**	**+0.3**
LPAZ	**La Paz**	**15.45**	**13**	Pn		**Pn**	**23 26 46.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=177,slow=6.7,SNR=9.5							
LPAZ	**La Paz**	**15.45**	**13**	Pn		**Pn**	**23 26 47.2**	**+1.7**
LPAZ	**La Paz**	**15.45**	**13**	*eP*		**Pn**	**23 26 45.0**	**-0.6**
PLTB	**Pedras Altas**	**15.46**	**96**	Pn		**Pn**	**23 26 43.4**	**-1.7**
PLTB	**Pedras Altas**	**15.46**	**96**	*eP*		**Pn**	**23 26 44.1**	**-1.0**
CPSB	**Cacapava Do Su**	**15.75**	**91**	*eP*		**Pn**	**23 26 48.0**	**-0.8**
ITAB	**Concordia**	**17.61**	**81**	P		**P**	**23 27 14.6**	**+1.2**
ITAB	**Concordia**	**17.61**	**81**	*eP*		**Pn**	**23 27 11.5**	**-0.9**
AQDB	**Aquidauana**	**18.08**	**57**	*eP*		**P**	**23 27 18.7**	**+0.1**
CNLB	**Canela**	**18.15**	**89**	*eP*		**Pn**	**23 27 18.7**	**-0.5**
SIV	**San Ignacio**	**18.21**	**35**	P		**Pn**	**23 27 19.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=218,slow=9.7,SNR=18							
PTGB	**Pitanga**	**18.61**	**74**	*eP*		**Pn**	**23 27 24.6**	**-0.2**
PTLB	**Pontes e Lacer**	**19.66**	**39**	*eP*		**P**	**23 27 36.2**	**+0.3**
TER01	**Tubaro-SC**	**19.80**	**87**	*eP*		**Pn**	**23 27 38.4**	**-0.7**
MG05	**Puerto Natales**	**20.22**	**181**	P		Pn	23 27 43.5	-0.2
MG05				IAmb		IAmb	23 27 44.9	
	comp=Z,39nm,1.1s							
PP1B	**Ponte de Pedra**	**20.59**	**52**	*eP*		**P**	**23 27 46.8**	**+0.5**
PCMB	**Pacaembu**	**20.75**	**67**	*eP*		**P**	**23 27 48.0**	**0.0**
TIJ01	**Guaruva-PR**	**20.90**	**79**	*eP*		**P**	**23 27 50.5**	**+0.8**
VILB	**Vilhena**	**21.26**	**33**	*eP*		**P**	**23 27 53.4**	**-0.1**
FRTB	**Fartura**	**21.26**	**73**	*eP*		**P**	**23 27 53.5**	**0.0**
SALV	**Santo Antonio**	**21.30**	**47**	*eP*		**P**	**23 27 53.5**	**-0.4**
MG02	**Cerro Sombrero**	**21.39**	**176**	P		**P**	**23 27 56.2**	**+1.6**
ETMB	**Extrema**	**22.13**	**15**	*eP*		**P**	**23 28 04.2**	**+1.4**
MG03	**Isla Dawson**	**22.40**	**178**	P		**P**	**23 28 06.4**	**+1.0**
MG03				IAmb		IAmb	23 28 20.5	
	comp=Z,37nm,1.1s							
ITRB	**Iturama**	**22.52**	**64**	*eP*		**P**	**23 28 06.0**	**-0.9**
EFI	**East Falkland**	**22.58**	**157**	P		**P**	**23 28 09.3**	**+2.0**
EFI				IAmb		IAmb	23 28 19.8	
	comp=Z,36nm,0.9s							
PET01	**Itanhaem-SP**	**22.75**	**78**	*eP*		**P**	**23 28 10.3**	**+0.9**
BB19B	**Bebedouro**	**23.20**	**69**	*eP*		**P**	**23 28 13.7**	**-0.5**
VAO	**Valinhos**	**23.55**	**75**	*eP*		**P**	**23 28 16.5**	**-1.1**
CZSB	**Cruzeiro do Su**	**23.62**	**358**	*eP*		**P**	**23 28 17.8**	**-0.4**
PDRB	**Porto dos Gac**	**24.13**	**38**	*eP*		**P**	**23 28 22.9**	**-0.3**
PARB	**Paraibuna**	**24.52**	**77**	*eP*		**P**	**23 28 25.7**	**-1.1**
IPMB	**Ipameri, GO**	**25.17**	**63**	*eP*		**P**	**23 28 31.5**	**-1.1**
CLDB	**Colider**	**25.25**	**39**	*eP*		**P**	**23 28 33.3**	**0.0**
MAN01	**Angra dos Reis**	**26.10**	**78**	*eP*		**P**	**23 28 39.9**	**-1.2**
BDFB	**Brasilia**	**26.76**	**59**	P		**P**	**23 28 45.7**	**-1.4**
	comp=Z,22nm,0.9s,baz=227,slow=7.3,SNR=27							
BDFB	**Brasilia**	**26.76**	**59**	P		**P**	**23 28 46.8**	**-0.3**
BDFB				IAmb		IAmb	23 29 00.9	
	comp=Z,25nm,1.0s							
VAS01	**Vassouras-RJ**	**26.79**	**77**	*eP*		**P**	**23 28 47.5**	**+0.2**
SNDB	**Serra Nova Dou**	**27.05**	**49**	*eP*		**P**	**23 28 49.0**	**-0.6**
TBTG	**Tabatinga, AM**	**27.18**	**4**	*eP*		**P**	**23 28 50.5**	**-0.2**
DUB01	**Friburgo-RJ**	**27.77**	**78**	*eP*		**P**	**23 28 56.4**	**+0.3**
CAM01	**Campos-RJ**	**28.48**	**78**	*eP*		**P**	**23 29 02.2**	**-0.1**
DIAM	**Diamantina, MG**	**28.55**	**69**	*eP*		**P**	**23 29 02.9**	**-0.2**
NPGB	**Novo Progresso**	**28.71**	**36**	*eP*		**P**	**23 29 03.5**	**-1.0**
PEXB	**Peixe**	**28.95**	**54**	*eP*		**P**	**23 29 06.5**	**-0.1**
ALF01	**Guarapari-ES**	**29.79**	**76**	*eP*		**P**	**23 29 14.8**	**+0.8**
JANB	**Januaria**	**29.91**	**63**	*eP*		**P**	**23 29 14.7**	**-0.5**
SJMB	**Sao Joao De Ma**	**30.34**	**73**	*eP*		**P**	**23 29 18.2**	**-0.7**
RIB01	**Linhares ES**	**30.68**	**74**	*eP*		**P**	**23 29 21.3**	**-0.7**
ITTB	**Itaituba**	**30.86**	**32**	*eP*		**P**	**23 29 22.4**	**-1.1**
SDBA	**SAO DESIDERIO**	**31.15**	**59**	*eP*		**P**	**23 29 25.6**	**-0.5**
NAN01	**Guarapari, ES**	**31.64**	**72**	*eP*		**P**	**23 29 29.5**	**-0.9**
SMTB	**Santa Maria do**	**31.78**	**50**	*eP*		**P**	**23 29 32.4**	**+0.8**
PRPB	**Parauapebas**	**32.47**	**44**	*eP*		**P**	**23 29 36.9**	**-0.8**
CMC01	**Camacan, BA**	**33.47**	**69**	*eP*		**P**	**23 29 46.3**	**-0.1**
NBIT	**Itapeh - BA**	**33.78**	**68**	*eP*		**P**	**23 29 49.6**	**+0.5**
GDU01	**Guandu, BA**	**34.37**	**66**	*eP*		**P**	**23 29 53.7**	**-0.6**
BOAV	**Boa Vista**	**35.31**	**20**	*eP*		**P**	**23 30 02.9**	**+0.5**
MCPB	**Macapa, AP**	**36.11**	**35**	*eP*		**P**	**23 30 08.9**	**-0.3**
ZARC	**Zaragoza, Cauc**	**38.84**	**355**	P		**P**	**23 30 33.4**	**+1.1**
NBMA	**Muriti-CE**	**39.00**	**59**	*eP*		**P**	**23 30 34.0**	**+0.2**
NBPS	**Pedro II - PI**	**39.17**	**53**	*eP*		**P**	**23 30 35.0**	**-0.3**
NBAN	**Anadia - AL**	**39.38**	**64**	*eP*		**P**	**23 30 35.9**	**-1.1**
NBPB	**Pedra_Branca-C**	**39.65**	**56**	*eP*		**P**	**23 30 39.0**	**-0.3**
SDV	**Santo Domingo**	**40.12**	**2**	P		**P**	**23 30 42.8**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=208,slow=3.6,SNR=3.6							
SDV	**Santo Domingo**	**40.12**	**2**	*eP*		**P**	**23 30 43.4**	**+0.2**
BCIP	**Isla Barro Col**	**41.12**	**348**	P		**P**	**23 30 52.1**	**+0.9**
BCIP				IAmb		IAmb	23 31 07.8	
	comp=Z,20nm,1.1s							
BIRV	**Birongo**	**42.02**	**8**	P		**P**	**23 30 59.6**	**+1.0**
BIRV				IAmb		IAmb	23 31 00.4	
	comp=Z,16nm,0.9s							
BELA	**Belgrano 2**	**49.34**	**170**	P		**P**	**23 31 56.7**	**+0.8**
BELA				IAmb		IAmb	23 31 58.1	
	comp=Z,8.3nm,0.9s							
SNAA	**Sanae**	**53.85**	**159**	P		**P**	**23 32 29.7**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=299,slow=8.1,SNR=4.7							
SNAA	**Sanae**	**53.85**	**159**	IAmb		IAmb	23 32 35.8	
	comp=Z,10nm,1.1s							
QSPA	**South Pole Qui**	**58.78**	**180**	P		**P**	**23 33 06.4**	**+1.3**
TXAR	**Lajitas Array**	**67.64**	**330**	P		**P**	**23 34 05.3**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=151,slow=8.0,SNR=3.4							
TXAR	**Lajitas Array**	**67.64**	**330**	P		**P**	**23 34 04.8**	**+0.6**
WVT	**Waverly**	**68.90**	**346**	P		**P**	**23 34 12.2**	**+0.4**
WMOK	**Wichita Mounta**	**70.58**	**337**	P		**P**	**23 34 20.5**	**-1.8**
LIC	**Lamto**	**73.75**	**72**	*eP*		**P**	**23 34 41.3**	**-0.4**
	comp=Z,35nm,1.0s							
TIC	**Toumodi**	**73.99**	**72**	*eP*		**P**	**23 34 42.7**	**-0.4**
KIC	**Kosan Boka**	**74.06**	**72**	*eP*		**P**	**23 34 43.2**	**-0.3**
	comp=Z,21nm,0.8s							
DBIC	**Dimbokro**	**74.14**	**72**	P		**P**	**23 34 43.9**	**-0.1**
	comp=Z,16nm,0.8s,baz=242,slow=6.4,SNR=16							
DBIC	**Dimbokro**	**74.14**	**72**	IAmb		IAmb	23 34 44.8	
	comp=Z,18nm,0.9s							
MAW	**Mawson**	**75.55**	**164**	P		**P**	**23 34 51.1**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=250,slow=6.0,SNR=4.3							
MAW	**Mawson**	**75.55**	**164**	P		**P**	**23 34 51.4**	**+0.1**
FRNY	**Flat Rock**	**75.94**	**359**	P		**P**	**23 34 54.6**	**+1.0**
FRNY				IAmb		IAmb	23 34 55.4	
	comp=Z,9.9nm,1.0s							
ECSD	**EROS Data Cent**	**78.21**	**342**	P		**P**	**23 35 06.3**	**-0.1**
ECSD				IAmb		IAmb	23 35 08.5	
	comp=Z,7.3nm,0.9s							
D62A	**Allapoint, All**	**78.21**	**2**	P		**P**	**23 35 07.1**	**+0.8**
BOSA	**Boshof**	**81.04**	**118**	P		**P**	**23 35 20.7**	**-1.9**
	comp=Z,6.9nm,0.9s,baz=230,slow=6.9,SNR=7.7							
BOSA	**Boshof**	**81.04**	**118**	P		**P**	**23 35 22.0**	**-0.6**
BOSA				IAmb		IAmb	23 35 23.3	
	comp=Z,8.2nm,0.9s							
TOA0	**Torodi Ar. Sit**	**83.11**	**70**	P		**P**	**23 35 33.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**23 35 33.2**	**-0.2**
	comp=Z,15nm,0.8s,baz=249,slow=4.2,SNR=83							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	**23 35 33.2**	**-0.2**
LBTB	**Lobatse**	**83.15**	**115**	P		**P**	**23 35 33.3**	**-0.4**
LBTB				IAmb		IAmb	23 35 34.1	
	comp=Z,7.3nm,0.8s							
ULM	**Lac du Bonnet**	**84.11**	**345**	P		**P**	**23 35 37.6**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=162,slow=5.4,SNR=3.8							
AKASG	**Malin Array Be**	**120.27**	**46**	PKP		**PKPdf**	**23 41 56.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=264,slow=2.8,SNR=8.5							
BRTR	**Keskin Array B**	**120.36**	**60**	PKP		**PKPdf**	**23 41 57.3**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=116,slow=2.9,SNR=3.8							
WRA	**Warramunga Arr**	**123.10**	**210**	PKP		**PKPdf**	**23 42 03.5**	**-1.0**
	comp=Z,1.6nm,1.1s,baz=170,slow=1.9,SNR=6.3							
H11S2	**WAKE ISLAND Hyd**	**126.02**	**271**	T		T	02 01 02.4	
	baz=116,slow=75,SNR=312							
H11S1	**WAKE ISLAND Hyd**	**126.03**	**271**	T		T	02 01 01.3	
	baz=116,slow=75,SNR=251							
H11S3	**WAKE ISLAND Hyd**	**126.03**	**271**	T		T	02 01 03.7	
	baz=116,slow=75,SNR=266							
H11N3	**WAKE ISLAND Hyd**	**126.37**	**272**	T		T	02 01 20.1	
	baz=117,slow=76,SNR=36							
H11N1	**WAKE ISLAND Hyd**	**126.38**	**272**	T		T	02 01 25.8	
	baz=117,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hyd**	**126.38**	**272**	T		T	02 01 30.3	
	baz=117,slow=76,SNR=89							
HYBB	**Hyderabad (bro**	**149.68**	**110**	*e*PKiKP		**PKPbc**	**23 42 57.5**	**-0.1**
EKS2	**Erkin-Say**	**150.49**	**58**	P		**PKiKP**	**23 42 59.6**	**-0.1**
	SNR=11							
AML	**Almayashu**	**150.52**	**59**	P		**PKiKP**	**23 43 00.1**	**0.0**
	SNR=7.8							
USP	**Ospenovka**	**150.89**	**57**	P		**PKPbc**	**23 43 00.1**	**+0.3**
	SNR=16							
UCH	**Uchtor**	**151.11**	**59**	P		**PKiKP**	**23 43 01.7**	**+0.3**
	SNR=13							
CHMS	**Chumysh**	**151.12**	**57**	P		**PKiKP**	**23 43 00.7**	**-0.1**
	SNR=6.2							
TKM2	**Tokmak 2**	**151.75**	**57**	P		**PKPbc**	**23 43 02.2**	**+0.2**
	SNR=6.8							
ZALV	**Zalesovo Beam**	**151.92**	**30**	PKPbc		**PKPbc**	**23 43 01.5**	**-0.2**
	comp=Z,32nm,0.7s,baz=318,slow=2.0,SNR=7.0							
ULHL	**Ulaho**	**152.36**	**58**	P		**PKiKP**	**23 43 04.1**	**+0.4**
	SNR=6.0							
MKAR	**Makanchi Array**	**154.85**	**45**	PKP		**PKPdf**	**23 42 59.3**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=347,slow=1.3,SNR=5.6							
MKAR				PKPbc		**PKPbc**	**23 43 08.0**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=308,slow=2.1,SNR=20							
MKAR				PKPab		**PKPab**	**23 43 23.4**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=290,slow=3.5,SNR=8.1							
WMQ	**Urumqi**	**159.63**	**47**	*eP*		**PKPdf**	**23 43 06.6**	**+0.7**
XLT	**XiLinHaoTe**	**166.12**	**336**	*eP*		**PKPdf**	**23 43 18.8**	**+6.6**
XLT				pmax		pmax		
	comp=Z,15nm,0.8s							
GTA	**Gaotai**	**169.50**	**39**	*eP*		**PKPdf**	**23 43 15.8**	**+1.0**
GTA				pP		sPKPdf	23 43 24.6	+6.2
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**170.25**	**345**	*eP*		**PKPdf**	**23 43 12.8**	**-2.4**
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,3µm,6.5s							
NJ2	**Nanjing**	**170.95**	**277**	*eP*		**PKPdf**	**23 43 15.8**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH	**PanZhiHua**	**172.46**	**129**	PKP		**PKPdf**	**23 43 13.3**	**-3.4**

*IDC **20** 23:50:40.8±2.4,21°.67S×178°.78W,h552km±25km, mb3.5/5, mb1 3.8/7,mb1mx3.3/26,mbtmp4.6/7,Error ellipse: s-maj=43.0km s-min=18.4km az=149.0*

*NEIC **20** 23:50:41.8±1.6,21°.6S±0°.1×178°.8W±0°.2, h563km±11km, mb4.4/31, Error ellipse: s-maj=21.4km s-min=14.1km az=114.0*

ISC 20 23:50:41.9±0.6,**21°.5S**±0°.1×**178°.9W**±0°.1,**h563km**,**n85**, σ0**99**/89,**mb4.3**/19,**18C-2D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.15**	**43**	P	**P**	**23 53 01.2**	**-0.5**
	7.1nm,0.3s,baz=262,slow=14,SNR=4.6						
AFI	**Afiamalu**	**10.15**	**43**	P	**P**	**23 52 59.7**	**-2.0**
DZM	**Mont Dzumac**	**13.67**	**265**	P	**P**	**23 53 39.1**	**+1.3**
OUZ	**Omahuta**	**15.15**	**204**	P	**P**	**23 53 55.0**	**+2.5**
WMGZ	**Waiomatatini S**	**16.39**	**188**	P	**P**	**23 54 05.1**	**+0.8**
HAZ	**Te Kaha**	**16.42**	**189**	P	**P**	**23 54 03.6**	**-1.0**
PKGZ	**Pakihiroa**	**16.50**	**189**	P	**P**	**23 54 07.0**	**+1.5**
RUGZ	**Raukumara Rang**	**16.64**	**190**	P	**P**	**23 54 06.1**	**-0.6**
PUZ	**Puketiti**	**16.66**	**188**	P	**P**	**23 54 06.1**	**-0.7**
TWGZ	**Tauwhareparae**	**16.80**	**189**	P	**P**	**23 54 08.8**	**+0.8**
TOZ	**Tahuroa Road**	**16.86**	**196**	P	**P**	**23 54 08.8**	**+0.3**
KARZ	**Kaharoa**	**16.96**	**193**	P	**P**	**23 54 12.2**	**+2.8**
URZ	**Urewera**	**17.02**	**191**	P	**P**	**23 54 08.5**	**-1.4**
	5.7nm,0.3s,baz=320,slow=1.8,SNR=20						
URZ	**Urewera**	**17.02**	**191**	P	**P**	**23 54 08.7**	**-1.2**
URZ	**Urewera**	**17.02**	**191**	P	**P**	**23 54 08.0**	**-2.0**
MWZ	**Matawai**	**17.02**	**190**	P	**P**	**23 54 10.2**	**+0.2**
RTZ	**Ruatahuna**	**17.39**	**191**	P	**P**	**23 54 12.3**	**-1.1**
NMHZ	**Naumai**	**17.89**	**191**	P	**P**	**23 54 17.8**	**-0.3**
BKZ	**Black Stump Fm**	**18.01**	**192**	P	**P**	**23 54 17.3**	**-1.8**
BKZ				IAmb	IAmb	23 54 25.3	
	comp=Z,8.0nm,0.9s						
BFZ	**Birch Farm**	**19.53**	**191**	P	**P**	**23 54 32.1**	**-0.8**
BFZ				IAmb	IAmb	23 54 33.6	
	comp=Z,17nm,0.9s						
MSWZ	**Moikau Station**	**20.43**	**193**	P	**P**	**23 54 40.5**	**-0.5**
SNZO	**South Karori**	**20.45**	**194**	P	**P**	**23 54 41.3**	**+0.2**
BHW	**Bunny Head**	**20.50**	**194**	P	**P**	**23 54 41.2**	**-0.5**
QRZ	**Quartz Range**	**20.57**	**199**	P	**P**	**23 54 42.7**	**+0.5**
PLWZ	**Palliser**	**20.58**	**193**	P	**P**	**23 54 41.6**	**-0.7**
NNZ	**Nelson**	**20.69**	**197**	P	**P**	**23 54 43.2**	**-0.1**
NNZ				IAmb	IAmb	23 54 44.5	
	comp=Z,10nm,0.6s						
TUWZ	**Tuamarina**	**20.74**	**195**	P	**P**	**23 54 45.2**	**+1.4**
BSWZ	**Blackbirch Sta**	**21.03**	**195**	P	**P**	**23 54 46.2**	**-0.1**
THZ	**Tophouse**	**21.32**	**197**	P	**P**	**23 54 49.3**	**+0.2**
KHZ	**Kahutara**	**21.77**	**195**	P	**P**	**23 54 52.2**	**-0.8**
KHZ				IAmb	IAmb	23 54 53.1	
	comp=Z,12nm,1.0s						
LTZ	**Lake Taylor**	**22.44**	**197**	P	**P**	**23 54 57.8**	**-1.4**
LTZ				IAmb	IAmb	23 55 01.4	
	comp=Z,8.7nm,0.7s						
MQZ	**McQueen's Vall**	**23.20**	**196**	P	**P**	**23 55 04.9**	**-0.9**
MQZ				IAmb	IAmb	23 55 23.9	
	comp=Z,19nm,1.1s						
RPZ	**Rata Peaks**	**23.65**	**198**	P	**P**	**23 55 10.1**	**+0.3**
RPZ				IAmb	IAmb	23 55 20.4	
	comp=Z,19nm,1.2s						
FOZ	**Fox Glacier**	**23.87**	**201**	P	**P**	**23 55 11.3**	**-0.4**
LBZ	**Lake Benmore**	**24.52**	**199**	P	**P**	**23 55 15.4**	**-2.1**
LBZ				IAmb	IAmb	23 55 20.9	
	comp=Z,5.3nm,1.2s						
MLZ	**Mavora Lakes**	**26.06**	**201**	P	**P**	**23 55 31.6**	**+0.5**
MLZ				IAmb	IAmb	23 55 36.4	
	comp=Z,3.1nm,0.7s						
WHZ	**Wether Hill Ro**	**26.58**	**201**	P	**P**	**23 55 37.1**	**+1.4**
EIDS	**Eidsvold**	**27.82**	**256**	P	**P**	**23 55 47.1**	**+0.3**
CTA	**Charters Tower**	**32.61**	**266**	P	**P**	**23 56 28.1**	**0.0**
	comp=Z,1.6nm,0.5s,baz=93,slow=10,SNR=9.0						
COEN	**Coen**	**36.88**	**275**	P	**P**	**23 57 04.1**	**+0.5**
WR0	**Warramunga Arr**	**43.49**	**263**	P	**P**	**23 57 55.7**	**-0.7**
AS31	**Alice Springs**	**43.52**	**258**	P	**P**	**23 57 56.7**	**+0.2**
ASAR	**Alice Springs**	**43.52**	**258**	P	**P**	**23 57 56.5**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=94,slow=7.9,SNR=56						
ASAR				PcP	**PcP**	**23 59 32.1**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=108,slow=3.7,SNR=5.8						
ASAR				S	**S**	**00 03 41.8**	**-3.5**
	comp=Z,1.5nm,0.8s,baz=94,slow=16,SNR=11						
ASAR	**Alice Springs**	**43.52**	**258**	P	**P**	**23 57 55.8**	**-0.8**
WB0	**Warramunga Arr**	**43.66**	**264**	P	**P**	**23 57 57.1**	**-0.6**
WB0				IAmb	IAmb	23 57 57.7	
	comp=Z,6.3nm,0.6s						
WB2	**Warramunga Arr**	**43.67**	**263**	P	**P**	**23 57 57.2**	**-0.6**
WB2				IAmb	IAmb	23 57 57.9	
	comp=Z,6.8nm,0.8s						
WRA	**Warramunga Arr**	**43.68**	**263**	P	**P**	**23 57 57.1**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=96,slow=7.6,SNR=77						
WRA				S	**S**	**00 03 45.5**	**-2.1**
	comp=Z,1.4nm,1.0s,baz=97,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**43.68**	**263**	P	**P**	**23 57 57.4**	**-0.5**
MTN	**Manton Dam**	**48.39**	**272**	P	**P**	**23 58 32.9**	**-0.7**
MTN				IAmb	IAmb	23 58 33.4	
	comp=Z,7.4nm,0.7s						
KNRA	**Kununurra**	**49.81**	**267**	P	**P**	**23 58 43.8**	**

NMR Nemuro--Hokkai 1.13 254⇑ *i*PN Pn 00 11 59.1 +0.1
NMR *i* S Sn 00 12 13.1 -0.5
NMR Nemuro--Hokkai 1.13 254 *i* P Pn 00 11 59.2 +0.1
NMR *i* S Sn 00 12 13.3 -0.3
GLVR Golovnino 1.23 272⇓ *i*PN Pn 00 12 01.3 +0.9
GLVR *i* S Sn 00 12 17.8 +1.8
GLVR pmax pmax
comp=Z,6µm,0.1s
GLVR smax smax
comp=N,104µm,0.3s
GLVR smax smax
comp=E,79µm,0.3s
GLVR Golovnino 1.23 272 *i* P Pn 00 12 01.3 +0.9
GLVR AMB AMB 00 12 03.3
comp=E,6µm,0.1s
GLVR *i* S Sn 00 12 17.8 +1.8
GLVR A A 00 12 18.3
comp=E,104µm,0.4s
GLVR A A 00 12 18.3
comp=E,79µm,0.4s
RUSJ Misakicho 1.48 287⇓ *i*PN Pn 00 12 05.2 +1.4
RUSJ *i* S Sn 00 12 24.6 +2.6
JRA Rausu 1.54 280 P Pn 00 12 05.7 +1.2
JRA eS Sn 00 12 24.9 +1.6
JNSB Nemuroshibetsu 1.60 274 P Pn 00 12 06.6 +1.1
JNSB eS Sn 00 12 26.8 +1.7
KUR Kuril'sk 1.60 17 *e*PN Pn 00 12 06.4 +0.9
KUR eS Sn 00 12 25.4 +0.4
KUR pmax pmax
comp=Z,1µm,0.7s
KUR smax smax
comp=N,6µm,0.2s
KUR smax smax
comp=E,6µm,0.2s
KUR Kuril'sk 1.60 17 *e*P Pn 00 12 06.4 +0.9
KUR AMB AMB 00 12 11.6
comp=E,480nm,0.2s
KUR eS Sn 00 12 25.6 +0.6
KUR A A 00 12 27.1
comp=E,6µm,0.2s
KUR A A 00 12 27.1
comp=E,6µm,0.2s
JKHN Kushirohamanak 1.62 248 P Pn 00 12 06.2 +0.5
JKHN eS Sn 00 12 25.6 +0.2
JNK Nakash 1.82 267 P Pn 00 12 09.0 +0.6
JNK eS Sn 00 12 31.0 +0.8
AKK Akkeshi 1.86 249 *e*P Pn 00 12 09.3 +0.4
AKK eS Sn 00 12 30.6 -0.7
JAK Akkeshi 1.97 250 P Pn 00 12 10.7 +0.3
JAK eS Sn 00 12 33.5 -0.4
JTKR Abashiri--Toko 2.41 278 P Pn 00 12 18.2 +1.8
JTKR eS Sn 00 12 48.3 +3.6
JAR Ashorobuto 2.54 262 P Pn 00 12 19.6 +1.4
JAR eS Sn 00 12 49.0 +1.0
JOB Onbets 2.59 253 P Pn 00 12 20.0 +1.0
JOB eS Sn 00 12 49.3 +0.1
JMP Maruseppu 2.81 278 P Pn 00 12 23.9 +2.0
JCH Churui 3.02 250 P Pn 00 12 25.4 +0.6
JCH eS Sn 00 12 59.3 -0.4
JKK2 Kamakawa 2 3.24 275 P Pn 00 12 30.1 +2.2
JKA Kamikawa-asahi 3.36 279 Pn Pn 00 12 31.7 +2.2
JKA Kamikawa-asahi 3.36 279 *e*P Pn 00 12 31.7 +2.2
ASAJ Asahikawa 3.36 279 P Pn 00 12 30.1 +0.5
comp=E,20nm,0.3s,baz=78,slow=12,SNR=84
ASAJ S Sn 00 13 19.2 +11
comp=E,105nm,0.3s,baz=60,slow=32,SNR=6.9
ASAJ Asahikawa 3.36 279 PN Pn 00 12 31.7 +2.2
ASAJ Asahikawa 3.36 279 P Pn 00 12 32.0 +2.5
JFR Furan 3.41 263 P Pn 00 12 32.3 +2.1
JFR eS Sn 00 13 11.4 +2.1
ERM Erimo 3.42 242 *ce*PN Pn 00 12 32.6 +2.2
ERM Erimo 3.42 242 Pn Pn 00 12 32.5 +2.1
ERM Sn Sn 00 13 10.9 +1.2
JEM Erimo 3.42 242 eS Sn 00 13 09.0 -0.7
JSE Soyaes 3.56 292 P Pn 00 12 34.2 +2.1
JNBK Urakawa-nobuka 3.57 248 P Pn 00 12 33.0 +0.7
JNBK eS Sn 00 13 12.3 -0.9
JEW Eniwo 4.30 260 Pn Pn 00 12 44.0 +1.6
YSS Yuzh-Sakhalins 4.53 318⇓ *i*PN Pn 00 12 47.5 +2.1
YSS eS Sn 00 13 38.2 +1.5
YSS pmax pmax
comp=Z,180nm,0.8s
YSS smax smax
comp=N,140nm,0.8s
YSS Yuzh-Sakhalins 4.53 318 Pn Pn 00 12 46.7 +1.3
YSS Yuzh-Sakhalins 4.53 318 *i* P Pn 00 12 47.5 +2.1
YSS AMB AMB 00 12 49.6
comp=N,150nm,0.5s
YSS eS Sn 00 13 38.4 +1.7
YSS A A 00 13 44.2
comp=N,140nm,0.4s
YSS A A 00 13 44.2
comp=N,80nm,0.4s
JTM Tenmabayashi 5.41 240 Pn Pn 00 12 58.2 +0.6
UGL Uglegorsk 6.45 328 *e*PN Pn 00 13 16.2 +4.4
UGL S Sn 00 14 29.1 +5.1
UGL pmax pmax
comp=Z,107nm,0.6s
UGL Uglegorsk 6.45 328 *e*P Pn 00 13 14.8 +3.0
UGL AMB AMB 00 13 26.0
comp=Z,110nm,0.6s
UGL eS Sn 00 14 26.9 +2.9
JMM Marumori 7.59 222 Pn Pn 00 13 27.0 -0.5
TYV Tymovskoe 7.81 338 *e*PN Pn 00 13 37.6 +7.2
TYV eS Sn 00 15 07.2 +10
TYV pmax pmax
comp=Z,35nm,0.9s
TYV pmax pmax
comp=Z,600nm,5.7s
TYV smax smax
comp=N,16nm,1.0s
TYV smax smax
comp=E,11nm,1.0s
TYV Tymovskoe 7.81 338 *e*P Pn 00 13 33.6 +3.2
TYV AMB AMB 00 13 35.0
comp=E,20nm,0.5s
TYV eS Sn 00 14 58.7 +1.4
TYV A A 00 15 12.5
comp=E,10.0nm,0.5s
TYV A A 00 15 12.5
comp=E,20nm,0.5s
JSD Sado 8.83 233 Pn 00 13 44.2 -0.2
JYT Yasato 9.20 218 Pn Pn 00 13 51.8 +2.4
SKR Severo-Kuril's 9.24 38⇑ *e*PN Pn 00 13 52.3 +2.3
SKR Severo-Kuril's 9.24 38 *e*P Pn 00 13 50.9 +0.9
SKR AMB AMB 00 13 53.9
comp=E,100nm,0.8s
MJB9 Matsu-Tunnel 9.93 227 Pn Pn 00 14 00.2 +0.7
MAJO Matsushiro 9.93 227 PN Pn 00 14 00.4 +0.9
MAJO Matsushiro 9.93 227 Pn Pn 00 14 00.3 +0.9
MJAR Matsushiro Arr 9.93 227 P Pn 00 13 59.3 -0.2
comp=E,0.3nm,0.3s,baz=28,slow=13,SNR=9.1
MJAR Matsushiro Arr 9.93 227 PN Pn 00 14 01.2 +1.7
MJAR Matsushiro Arr 9.93 227 Pn 00 14 01.2 +1.7
OKH Okha 10.26 346 *e*P Pn 00 14 07.2 +3.4
OKH AMB AMB 00 14 08.4
comp=E,20nm,0.3s
NKL Nikolayevsk 10.40 338 *e*P Pn 00 14 09.1 +3.3
NKL AMB AMB 00 14 10.3
comp=E,30nm,0.6s
USA0B Ussuriysk Arra 10.99 278 PN Pn 00 14 15.0 +1.0
USA0B Ussuriysk Arra 10.99 278 Pn Pn 00 14 15.0 +1.0
USRK Ussuriysk Ar. 10.99 278 P Pn 00 14 13.8 -0.2
baz=84,slow=13,SNR=12
USRK Ussuriysk Ar. 10.99 278 PN Pn 00 14 14.1 +0.1
USRK Ussuriysk Ar. 10.99 278 Pn 00 14 14.1 +0.1
JGF Kuroka 11.09 227 Pn Pn 00 14 16.8 +1.4
INU Inuyama 11.46 227 Pn Pn 00 14 21.6 +1.2
PEA0B Petropavlovsk- 11.70 33⇑ *e*PN Pn 00 14 23.6 0.0
PEA0B Petropavlovsk- 11.70 33 Pn 00 14 23.2 -0.4
PETK Petropavlovsk- 11.70 33 P Pn 00 14 22.4 -1.1
comp=E,1.4nm,0.3s,baz=186,slow=9.2,SNR=18
PETK Petropavlovsk- 11.70 33 PN Pn 00 14 23.2 -0.4
PETK Petropavlovsk- 11.70 33 Pn Pn 00 14 23.2 -0.4
MSHR Mys Shultsa 11.79 270⇑ *e*PN Pn 00 14 25.3 +0.5
MSHR pmax pmax
comp=Z,6.0nm,1.1s
KLR Kul'dur 12.01 303 P Pn 00 14 28.1 +0.4
comp=Z,0.2nm,0.3s,baz=111,slow=13,SNR=5.9
KLR Kul'dur 12.01 303⇑ *e*PN Pn 00 14 29.6 +1.8
KLR pmax pmax
comp=Z,56nm,2.5s
KLR Kul'dur 12.01 303 *e*P Pn 00 14 29.6 +1.8

PET Petropavlovsk 12.02 35 Pn Pn 00 14 26.6 -1.3
BNX BinXian 14.23 285⇓ P Pn 00 14 58.8 +0.8
BNX pmax pmax
comp=Z,12nm,0.7s
BNX pmax pmax
comp=Z,240nm,7.0s
KSRS Korea Array 15.92 254 P Pn 00 15 18.9 -0.9
comp=Z,0.2nm,0.3s,baz=66,slow=12,SNR=8.5
MA2 Magadan 16.05 7 P Pn 00 15 19.9 -1.4
baz=137,slow=8.7,SNR=6.2
MA2 Magadan 16.05 7⇑ *e*P Pn 00 15 21.1 -0.3
MA2 pmax pmax
comp=Z,55nm,1.7s
MA2 Magadan 16.05 7 P Pn 00 15 19.9 -1.4
MA2 Magadan 16.05 7 *e*P Pn 00 15 21.1 -0.3
ZEA Zeya 16.51 314 *e*P P 00 15 34.4 +5.3
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA Zeya 16.51 314 *e*P Pn 00 15 27.4 +0.2
SEY Seymchan 19.50 7 P P 00 15 59.9 -2.0
comp=Z,0.5nm,0.3s,baz=190,slow=9.3,SNR=29
SEY Seymchan 19.50 7⇑ *e*P P 00 16 00.5 -1.4
SEY pmax pmax
comp=Z,47nm,1.0s
HIA Hailar 19.66 296 P P 00 16 02.4 -1.4
HIA pmax pmax
comp=Z,8.0nm,0.4s
HIA Hailar 19.66 296 P 00 16 02.4 -1.4
SMY Shemya 19.96 54 P Pn 00 16 07.5 -1.5
SMY pmax pmax
comp=Z,168nm,1.1s
SMY Shemya 19.96 54 P Pn 00 16 07.5 -1.5
YAK Yakutsk 21.07 337 *e*P P 00 16 16.1 -2.7
YAK *e**PP **sP** 00 16 33.8 -3.9
YAK *e*S **S** 00 20 03.6 -6.4
YAK *e* 00 20 22.1
YAK *e**SS **sS** 00 20 29.9 +0.2
YAK *e* 00 27 33.4
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax smax
comp=E,69nm,1.5s
YAK smax smax
comp=N,50nm,1.5s
JOW Kunigami 22.77 229 P P 00 16 39.1 +1.8
JOW IAmb IAmb 00 16 57.3
comp=Z,48nm,1.1s
BJT Baijiatuao 23.34 272 P P 00 16 42.7 -0.3
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuao 23.34 272 P P 00 16 42.7 -0.3
TIA Tai'an 24.16 262 *e*P P 00 16 50.8 +0.3
TIA pmax pmax
comp=Z,20nm,0.9s
HNS HongShan 25.38 267 ⇑P P 00 17 02.4 +0.8
HNS pmax pmax
comp=Z,10.0nm,0.9s
GSTR Great Sitkin T 25.78 58 P P 00 17 07.1 +1.9
BILL Bilibino 26.40 16⇓ *i*P P 00 17 10.6 +0.1
BILL *e**PP **pP** 00 17 22.6 -1.4
BILL *e**SP **sP** 00 17 35.2 +4.8
BILL S S 00 21 29.0 -11
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 26.40 16 P P 00 17 10.2 -0.3
ULN Ulaanbaatar 28.09 293⇓ *e*P P 00 17 26.5 +0.4
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 28.09 293 P P 00 17 25.7 -0.4
LYN LuoYang 28.29 263 *e*P P 00 17 30.4 +2.6
LYN sP sP 00 17 51.8 +4.1
LYN pmax pmax
comp=Z,10.0nm,0.1s
SONM Songino Array 28.54 293 P P 00 17 29.5 -0.5
comp=Z,5.9nm,0.7s,baz=88,slow=8.7,SNR=21
SONM Songino Array 28.54 293 P P 00 17 29.9 -0.1
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 28.54 293 P P 00 17 29.9 -0.1
H11N2 WAKE ISLAND Hy 29.03 139 T T 00 48 33.5
baz=330,slow=76,SNR=2705
H11N1 WAKE ISLAND Hy 29.04 139 T T 00 48 26.9
baz=330,slow=76,SNR=1793
H11N3 WAKE ISLAND Hy 29.05 139 T T 00 48 29.9
baz=330,slow=76,SNR=1866
H11S1 WAKE ISLAND Hy 30.00 141 T T 00 49 37.4
baz=331,slow=76,SNR=2478
H11S3 WAKE ISLAND Hy 30.00 141 T T 00 49 29.4
baz=331,slow=76,SNR=2832
H11S2 WAKE ISLAND Hy 30.01 141 T T 00 49 24.7
baz=331,slow=76,SNR=1672
ZAK Zakamensk 30.32 298 *e*P P 00 17 43.5 -2.2
ZAK pmax pmax
comp=Z,4.0nm,1.3s
GAMB Gambell 30.72 35 P P 00 17 48.0 -0.9
GAMB Gambell 30.72 35 P P 00 17 49.1 +0.1
baz=249
XAN Xi'an 31.10 265 P P 00 17 59.3 +6.6
XAN pP pP 00 18 09.0 +2.6
XAN sP sP 00 18 14.3 +1.5
XAN pmax pmax
comp=Z,9.0nm,1.3s
TNA Tin City 32.87 33 P P 00 18 08.0 +0.2
TNA IAmb IAmb 00 18 09.8
comp=Z,24nm,1.0s
TNA Tin City 32.87 33 P P 00 18 08.2 +0.4
baz=251,SNR=17
ANM Nome 33.60 35 P P 00 18 14.8 +0.6
ANM pmax pmax
comp=Z,7.0nm,1.0s
ANM Nome 33.60 35 P P 00 18 14.8 +0.6
ANM Nome 33.60 35 P P 00 18 15.1 +0.8
baz=255,SNR=16
LZH Lanzhou 33.82 272 ⇑P P 00 18 10.4 +1.3
LZH pP pP 00 18 32.5 +2.1
LZH sP sP 00 18 37.0 +0.2
LZH pmax pmax
comp=Z,41nm,1.5s
GTA Gaotai 35.35 280 *e*P P 00 18 30.8 +1.0
GTA pP sP 00 18 46.4 -3.5
GTA sP pP 00 18 55.9 +12
GTA pmax pmax
comp=Z,4.0nm,0.9s
RDOG Red Dog Mine 35.55 30 P P 00 18 30.9 -0.1
RDOG IAmb IAmb 00 18 31.5
comp=Z,12nm,1.0s
RDOG Red Dog Mine 35.55 30 P P 00 18 30.8 -0.2
baz=253
GCSA Galena City Sc 37.22 36 P P 00 18 45.2 0.0
baz=263,SNR=12
TTA Tatalina 37.44 39 P P 00 18 47.7 +0.4
TTA pmax pmax
comp=Z,38nm,0.9s
TTA Tatalina 37.44 39 P P 00 18 47.7 +0.4
TTA Tatalina 37.44 39 P P 00 18 47.8 +0.6
baz=266,SNR=22
SVW2 Sparrevohn 37.57 42 P P 00 18 49.1 +0.8
P18K Big Mountain, 37.76 45 P P 00 18 50.1 +0.2
P18K Big Mountain, 37.76 45 P P 00 18 50.7 +0.7
baz=272
L19K White Mountain 37.94 40 P P 00 18 52.0 +0.6
L19K IAmb IAmb 00 18 54.2
comp=Z,16nm,1.1s
L19K White Mountain 37.94 40 P P 00 18 51.7 +0.2
baz=268,SNR=7.9
N19K Bonanza Creek 38.11 43 P P 00 18 53.2 +0.3
N19K IAmb IAmb 00 18 55.3
comp=Z,23nm,1.1s
N19K Bonanza Creek 38.11 43 P P 00 18 53.4 +0.5
baz=271
M19K Big River Lodg 38.15 41 P P 00 18 54.5 +1.3
M19K IAmb IAmb 00 18 57.5
comp=Z,18nm,0.9s
M19K Big River Lodg 38.15 41 P P 00 18 54.4 +1.2
baz=269

O19K Port Alsworth 38.20 44 P P 00 18 54.4 +0.9
O19K IAmb IAmb 00 19 06.5
comp=Z,24nm,1.1s
O19K Port Alsworth 38.20 44 P P 00 18 55.0 +1.5
baz=272
K20K Telida 38.34 38 P P 00 18 55.7 +0.9
K20K Telida 38.34 38 P P 00 18 55.7 +0.9
baz=268,SNR=18
J20K Nowinta River 38.35 37 P P 00 18 55.7 +0.9
J20K Nowinta River 38.35 37 P P 00 18 55.6 +0.9
baz=267,SNR=62
L20K Farewell, AK 38.40 40 P P 00 18 56.2 +0.8
baz=269,SNR=11
OHAK Old Harbor 38.93 48 P P 00 19 00.4 +0.7
RSO Redoubt South 38.97 43 P P 00 19 01.2 +1.0
H21K Melozitna Rive 39.02 35 P P 00 19 01.2 +0.7
baz=266,SNR=31
CHUM Lake Minchumin 39.15 38 P P 00 19 02.7 +1.3
baz=269,SNR=31
PPLA Purkeypile 39.19 39 P P 00 19 02.9 +0.9
PPLA Purkeypile 39.19 39 P P 00 19 03.3 +1.3
baz=270,SNR=14
SPCR Spurr Chakacha 39.21 42 P P 00 19 03.2 +1.1
baz=272,SNR=7.5
CAST Castle Rocks 39.24 38 P P 00 19 03.2 +0.9
CAST Castle Rocks 39.24 38 P P 00 19 03.6 +1.3
baz=269,SNR=47
KDAK Kodiak Island 39.25 47 P P 00 19 02.0 -0.3
comp=Z,44nm,0.9s,baz=295,slow=6.6,SNR=16
KDAK Kodiak Island 39.25 47⇑ *e*P P 00 19 02.4 0.0
KDAK Kodiak Island 39.25 47 P P 00 19 02.2 -0.2
KDAK Kodiak Island 39.25 47 P P 00 19 01.7 -0.6
baz=276
SPU Mount Spurr 39.28 42 P P 00 19 03.7 +1.0
NRIK Noril'sk 39.32 331 PcP PcP 00 21 10.7 +0.3
comp=Z,2.0nm,0.5s,baz=72,slow=4.3,SNR=4.4
I21K Tanana 39.34 36 P P 00 19 03.7 +0.7
I21K Tanana 39.34 36 P P 00 19 04.0 +0.9
baz=267,SNR=20
BPAW Bear Paw Mtn. 39.73 37 P P 00 19 06.6 +0.2
BPAW Bear Paw Mtn. 39.73 37 P P 00 19 07.2 +0.9
baz=270,SNR=12
CAPN Captain Cook N 39.74 42 P P 00 19 06.6 +0.2
CAPN Captain Cook N 39.74 42 P P 00 19 07.0 +0.6
baz=274
KTH Kantishna Hill 39.76 38 P P 00 19 07.5 +0.9
MLY Manley 39.86 36 P P 00 19 08.3 +0.9
MLY Manley 39.86 36 P P 00 19 08.4 +0.9
baz=269
BRSE Bradley Lake S 40.02 44 P P 00 19 09.5 +0.7
baz=275
TRF Thorofare Moun 40.05 38 P P 00 19 09.3 +0.2
TRF Thorofare Moun 40.05 38 P P 00 19 09.2 +0.1
baz=271,SNR=11
CUT Chulitna 40.08 40 P P 00 19 10.0 +0.7
CUT Chulitna 40.08 40 P P 00 19 10.3 +1.1
baz=272
COLD Coldfoot 40.17 32 IAmb IAmb 00 19 11.5
comp=Z,28nm,1.0s
COLD Coldfoot 40.17 32 P P 00 19 10.1 +0.2
baz=266,SNR=19
GOMU GeErMu 40.29 278 P P 00 19 12.3 +0.5
GOMU S S 00 25 12.8 -2.9
GOMU pmax pmax
comp=Z,13nm,0.7s
GOMU LR LR
comp=Z,320nm,14.9s
GOMU LR LR
comp=Z,470nm,14.1s
RC01 Rabbit Creek A 40.41 42 P P 00 19 11.8 -0.2
RC01 Rabbit Creek A 40.41 42 P P 00 19 12.0 0.0
baz=274
I23K Minto, Yukon-K 40.44 36 P P 00 19 13.1 +1.0
I23K Minto, Yukon-K 40.44 36 P P 00 19 12.8 +0.7
baz=270,SNR=15
O22K Cooper Landing 40.46 43 P P 00 19 12.3 -0.1
baz=275
TOLK Toolik Lake Re 40.51 30 IAmb IAmb 00 19 13.9
comp=Z,17nm,0.9s
TOLK Toolik Lake Re 40.51 30 P P 00 19 12.9 +0.1
baz=266,SNR=12
NEA2 Nenana 40.57 36 P P 00 19 13.8 +0.6
baz=271,SNR=30
MCK McKinley 40.65 38 P P 00 19 13.9 -0.1
baz=272,SNR=20
PMR Palmer 40.66 41 IAmb IAmb 00 19 15.6
comp=Z,16nm,1.0s
PMR Palmer 40.66 41 P P 00 19 14.0 0.0
baz=274
RND Reindeer 40.69 38 P P 00 19 14.3 -0.1
RND pmax pmax
comp=Z,38nm,0.8s
RND Reindeer 40.69 38 P P 00 19 14.3 -0.1
MDM Murphy Dome 40.92 36 P P 00 19 16.8 +0.6
WRH Wood River Hil 40.99 37 IAmb IAmb 00 19 22.5
comp=Z,27nm,1.0s
KNK Knik Glacier 41.00 41 P P 00 19 17.1 +0.2
KNK IAmb IAmb 00 19 21.6
comp=Z,32nm,1.0s
KNK Knik Glacier 41.00 41 P P 00 19 17.1 +0.2
baz=275
SML Sawmill 41.03 41 P P 00 19 17.6 +0.4
baz=275,SNR=12
H24K Noodor Dome 41.06 35 P P 00 19 18.6 +1.3
baz=270,SNR=30
ZAA0 Zalesovo Array 41.07 307 P P 00 19 16.9 -0.5
ZALV Zalesovo Beam 41.07 307 P P 00 19 16.4 -1.1
comp=Z,1.7nm,0.4s,baz=62,slow=7.1,SNR=12
ZALV pP pP 00 19 30.6 -0.9
comp=Z,1.0nm,0.4s,baz=84,slow=7.4,SNR=4.3
ZALV PcP PcP 00 21 16.3 +0.1
comp=Z,2.7nm,0.8s,baz=70,slow=3.0,SNR=7.3
ZALV Zalesovo Beam 41.07 307 P P 00 19 17.2 -0.2
ZALV PcP 00 21 16.5 +0.3
TCOL CIGO, UAF Yank 41.08 36 P P 00 19 17.9 +0.5
baz=272,SNR=10
COLA College 41.09 36 P P 00 19 18.3 +0.9
COLA pmax pmax
comp=Z,75nm,1.0s
COLA College 41.09 36 P P 00 19 18.3 +0.9
COLA College 41.09 36 P P 00 19 18.3 +0.9
baz=272
PWL Port Wells 41.11 42 P P 00 19 19.5 +1.7
baz=276
CCB Clear Creek Bu 41.11 36 IAmb IAmb 00 19 20.8
comp=Z,21nm,1.1s
WAT6 Susitna Watana 41.25 40 P P 00 19 19.0 0.0
baz=274,SNR=9.0
POKR Poker Plat Res 41.26 36 P P 00 19 20.0 +1.1
baz=272,SNR=32
DHY Denali Highway 41.38 39 P P 00 19 19.9 -0.2
baz=274,SNR=16
HDA Harding Lake 41.49 37 P P 00 19 20.3 -0.6
baz=273,SNR=24
SCM Sheep Creek Mo 41.50 41 P P 00 19 20.5 -0.5
SCM pmax pmax
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 41.50 41 P P 00 19 20.5 -0.5
SCM IAmb IAmb 00 19 24.6
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 41.50 41 P P 00 19 20.8 -0.2
baz=275
ILAR Eielson Array 41.50 36 P P 00 19 20.7 -0.2
comp=Z,20nm,0.8s,baz=264,slow=4.2,SNR=141
M24K Tolsona, Glenn 42.02 40 P P 00 19 26.0 +0.7
M24K Tolsona, Glenn 42.02 40 P P 00 19 26.7 +1.5
baz=276
PRP Porcupine Dome 42.04 35 P P 00 19 26.4 +0.9
PRP Porcupine Dome 42.04 35 P P 00 19 26.3 +0.8
baz=273,SNR=30
FYU Fort Yukon 42.12 33 P P 00 19 27.0 +1.1
J25K Salcha River, 42.16 36 IAmb IAmb 00 19 27.3
comp=Z,12nm,0.8s
J25K Salcha River, 42.16 36 P P 00 19 25.5 -0.8
baz=274
KLU Klutina 42.20 41 P P 00 19 27.1 +0.3
KLU IAmb IAmb 00 19 29.7
comp=Z,19nm,0.8s
KLU Klutina 42.20 41 P P 00 19 27.0 +0.3
baz=277,SNR=8.1
PAX Paxson 42.25 39 IAmb IAmb 00 19 29.8
comp=Z,19nm,1.1s
PAX Paxson 42.25 39 P P 00 19 27.0 -0.1
baz=276,SNR=8.8
DIV Divide 42.32 42 P P 00 19 28.6 +0.9
DIV IAmb IAmb 00 19 30.2

comp=Z,36nm,1.0s
BMAR Burnt Mountain 42.35 32 P **P** **00 19 29.0 +1.2**
HARP HAARP 42.46 40 P **P** **00 19 29.7 +0.9**
baz=277,SNR=8.4
RIDG Independent Ri 42.46 38 P **P** **00 19 28.5 -0.3**
baz=275,SNR=13
DOT Dot Lake 42.82 38 IAmb IAmb 00 19 32.3
comp=Z,16nm,0.8s
SCRK Sand Creek 42.82 37 P **P** **00 19 31.6 -0.2**
SCRK Sand Creek 42.82 37 P **P** **00 19 31.3 -0.4**
baz=276,SNR=31
N25K Chitina, Valde 42.82 41 P **P** **00 19 31.9 +0.2**
N25K Chitina, Valde 42.82 41 P **P** **00 19 32.5 +0.7**
baz=278
J26L Joseph Creek 42.95 36 P **P** **00 19 31.4 -1.4**
baz=276,SNR=16
MENT Mentasta 43.05 39 P **P** **00 19 34.5 +0.9**
MENT IAmb IAmb 00 19 42.7
comp=Z,14nm,0.9s
L26K Log Cabin Wild 43.21 39 P **P** **00 19 36.2 +1.3**
L26K Log Cabin Wild 43.21 39 P **P** **00 19 35.6 +0.8**
baz=277,SNR=28
GLB Gilahina Butte 43.22 41 P **P** **00 19 35.6 +0.6**
VRDI Verde Repeater 43.42 41 P **P** **00 19 37.8 +1.0**
VRDI IAmb IAmb 00 19 38.7
comp=Z,20nm,1.2s
BERG Berg Lake 43.44 42 P **P** **00 19 38.9 +2.2**
MCARA McCarthy VSAT 43.60 41 P **P** **00 19 39.5 +1.5**
MCARA IAmb IAmb 00 19 41.1
comp=Z,30nm,1.2s
TGL Tana Glacier 43.80 42 P **P** **00 19 40.4 +0.7**
TGL IAmb IAmb 00 19 41.8
comp=Z,36nm,1.2s
WAX Waxell Ridge 43.84 42 P **P** **00 19 41.0 +1.0**
L27K Beaver Creek, 43.89 38 IAmb IAmb 00 19 42.8
comp=Z,32nm,0.9s
L27K Beaver Creek, 43.89 38 P **P** **00 19 41.6 +1.3**
baz=279,SNR=35
BCAR Beaver Creek A 43.91 38 P **P** **00 19 41.4 +0.9**
EGAK Eagle 43.95 36 IAmb IAmb 00 19 41.9
comp=Z,33nm,0.9s
EGAK Eagle 43.95 36 P **P** **00 19 40.6 0.0**
baz=277,SNR=23
M27K Edge Creek, AK 43.98 39 P **P** **00 19 41.8 +0.7**
M27K IAmb IAmb 00 19 44.2
comp=Z,24nm,0.9s
M27K Edge Creek, AK 43.98 39 P **P** **00 19 42.4 +1.2**
baz=279,SNR=11
ISLE Juniper Island 44.06 42 P **P** **00 19 42.4 +0.5**
ISLE IAmb IAmb 00 19 45.9
comp=Z,23nm,1.0s
BARN Barnard Glacie 44.30 41 P **P** **00 19 44.7 +0.9**
BARN IAmb IAmb 00 19 46.0
comp=Z,20nm,1.0s
GRNC Granite Creek 44.32 42 P **P** **00 19 44.5 +0.4**
GRNC IAmb IAmb 00 19 45.9
comp=Z,25nm,0.8s
YAH Yahtse 44.40 42 P **P** **00 19 45.3 +0.7**
YAH IAmb IAmb 00 19 46.8
comp=Z,31nm,0.9s
BVCY Beaver Creek 44.44 39 P **P** **00 19 45.7 +1.0**
baz=280,SNR=5.2
CTG Chitna Glacier 44.48 41 P **P** **00 19 45.9 +0.8**
baz=281
CTGM Chitina Glacie 44.48 41 IAmb IAmb 00 19 47.2
comp=Z,32nm,1.1s
MK31 Makanchi Array 44.65 298 *i* P **P** **00 19 46.1 -0.5**
MK31 Makanchi Array 44.65 298 IAmb IAmb 00 19 47.5
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 44.65 298 P **P** **00 19 46.4 -0.3**
comp=Z,6.0nm,0.5s,baz=80,slow=9.4,SNR=145
MKAR Makanchi Array 44.65 298 P **P** **00 19 46.0 -0.6**
LOGN Logan Glacier 44.66 41 P **P** **00 19 48.0 +1.3**
YUK3 Moose Creek 44.74 40 P **P** **00 19 48.0 +0.7**
baz=281,SNR=5.8
DAWY Dawson 44.81 37 P **P** **00 19 48.0 +0.3**
baz=280,SNR=8.1
MAKZ Makanchi 44.85 298 P **P** **00 19 48.0 -0.2**
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
MAKZ Makanchi 44.85 298 P **P** **00 19 48.0 -0.2**
MAKZ IAmb IAmb 00 19 49.0
comp=Z,7.7nm,0.6s
I29M Ogilvie Camp, 45.06 35 P **P** **00 19 50.3 +0.7**
baz=279,SNR=32
PCA Pinnacle 45.18 42 P **P** **00 19 51.0 +0.3**
PCA IAmb IAmb 00 19 54.1
comp=Z,25nm,1.0s
KURK Kurchatov 45.60 304 P **P** **00 19 53.9 -0.1**
KURK 00 21 31.6
KURK Kurchatov 45.60 304 P **P** **00 19 53.3 -0.7**
KURK IAmb IAmb 00 19 55.6
comp=Z,5.9nm,0.5s
KURK Kurchatov 45.60 304 *eP* **P** **00 19 53.9 -0.1**
YUK4 Talbot Arm 45.67 40 P **P** **00 19 55.6 +0.9**
baz=283
KURBB Kurchatov Arra 45.68 304 P **P** **00 19 53.9 -0.8**
comp=Z,4.0nm,0.5s,baz=78,slow=8.9,SNR=45
KURBB PcP **PcP** **00 21 31.6 -0.3**
comp=Z,1.8nm,0.8s,baz=74,slow=3.6,SNR=5.4
YUK6 Outpost Mounta 45.90 41 P **P** **00 19 57.5 +0.9**
baz=284
LSA Lhasa 46.24 272 P **P** **00 20 00.3 +0.4**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 46.24 272 P **P** **00 20 00.3 +0.4**
LSA IAmb IAmb 00 20 02.5
comp=Z,8.3nm,0.7s
LSA Lhasa 46.24 272 *eP* **P** **00 20 00.3 +0.4**
M30M Minto, Yukon 46.25 38 IAmb IAmb 00 20 01.1
comp=Z,13nm,1.1s
M30M Minto, Yukon 46.25 38 P **P** **00 20 00.5 +1.4**
baz=283,SNR=9.2
HYT Haines Junctio 46.34 41 P **P** **00 20 00.8 +1.0**
HYT Haines Junctio 46.34 41 P **P** **00 20 01.4 +1.6**
baz=284,SNR=20
KKM Kota Kinabalu 46.35 225 P **P** **00 20 00.5 +0.2**
KKM IAmb IAmb 00 20 03.1
comp=Z,14nm,0.9s
INK Inuvik 46.42 30 P **P** **00 20 00.8 +0.5**
comp=Z,39nm,0.9s,baz=288,slow=7.2,SNR=113
INK Inuvik 46.42 30 P **P** **00 20 00.8 +0.5**
baz=280,SNR=58
N31M Braeburn, Yuko 46.98 40 P **P** **00 20 05.6 +0.8**
N31M IAmb IAmb 00 20 07.6
comp=Z,18nm,0.9s
N31M Braeburn, Yuko 46.98 40 P **P** **00 20 06.4 +1.6**
baz=285,SNR=5.3
M31M Drury Creek, Y 47.43 39 IAmb IAmb 00 20 10.6
comp=Z,18nm,1.1s
M31M Drury Creek, Y 47.43 39 P **P** **00 20 09.1 +0.8**
baz=285,SNR=12
CMAR Chiang Mai Arr 47.56 254 P **P** **00 20 10.6 +0.9**
comp=Z,2.6nm,0.3s,baz=31,slow=7.4,SNR=2.8
WHY Whitehorse 47.62 41 IAmb IAmb 00 20 12.2
comp=Z,10nm,0.9s
WHY Whitehorse 47.62 41 P **P** **00 20 10.5 +0.6**
baz=286,SNR=5.3
SKAG Skagway 47.75 42 P **P** **00 20 10.9 +0.2**
SKAG IAmb IAmb 00 20 14.1
comp=Z,12nm,1.1s
SKAG Skagway 47.75 42 P **P** **00 20 11.5 +0.8**
baz=287
FARO Faro, Yukon 47.89 38 P **P** **00 20 12.5 +0.7**
baz=286
BESE Bessie Mountai 48.25 43 P **P** **00 20 15.9 +1.2**
BESE IAmb IAmb 00 20 17.1
comp=Z,16nm,1.1s
A36M Sachs Harbour 48.40 25 P **P** **00 20 15.6 +0.1**
baz=284,SNR=21
JIS Juneau Island 48.58 44 P **P** **00 20 18.4 +1.3**
MMPY Sheldon Lake, 48.71 37 P **P** **00 20 19.5 +1.4**
baz=287,SNR=9.4
P33M Teslin, Yukon 48.73 41 P **P** **00 20 19.7 +1.3**
P33M Teslin, Yukon 48.73 41 P **P** **00 20 19.6 +1.2**
baz=288,SNR=12
MDOK Medeo 49.51 295 P **P** **00 20 24.5 -0.2**
BVAR Borovoye Array 49.57 309 P **P** **00 20 26.0 +1.2**
comp=Z,1.0nm,0.3s,baz=116,slow=3.2,SNR=12
BVAR Borovoye Array 49.57 309 P **P** **00 20 26.0 +1.2**
BRVK Borovoye 49.62 309 ‖ *eP* **P** **00 20 25.3 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 49.62 309 *eP* **P** **00 20 25.3 +0.1**
TARG Taragay, Kyrgy 49.65 293 P **P** **00 20 26.8 +0.7**
TARG IAmb IAmb 00 20 28.6
comp=Z,8.3nm,0.9s
OTUK Ortayu 50.32 303 P **P** **00 20 30.7 +0.1**
TGTN Hyland Airport 50.40 38 P **P** **00 20 32.2 +1.2**
baz=290
ULHL Ulahol 50.45 294 P **P** **00 20 33.2 +1.3**
SNR=6.3
TKM2 Tokmak 2 50.57 296 P **P** **00 20 33.6 +0.8**
SNR=28
TKM2 Tokmak 2 50.57 296 P **P** **00 20 32.6 -0.2**
DLBC Dease Lake 50.68 42 P **P** **00 20 34.1 +0.9**
DLBC IAmb IAmb 00 20 36.0
comp=Z,11nm,0.8s
CHMS Chumysh 51.09 296 P **P** **00 20 37.1 +0.6**
SNR=6.3
KBK Karagaybulak 51.12 295 P **P** **00 20 37.9 +1.0**
SNR=15
USP Ospenovka 51.13 296 P **P** **00 20 37.3 +0.6**
SNR=23
FRU1 Bishkek 51.25 296 P **P** **00 20 38.2 +0.4**
FRU1 pmax pmax
comp=Z,13nm,0.5s
FRU1 Bishkek 51.25 296 P **P** **00 20 38.2 +0.4**
AAK Ala-Archa 51.42 296 ⇑ *eP* **P** **00 20 39.7 +0.6**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 51.42 296 P **P** **00 20 39.6 +0.4**
AAK IAmb IAmb 00 20 40.9
comp=Z,7.5nm,0.5s
AAK Ala-Archa 51.42 296 *eP* **P** **00 20 39.7 +0.6**
EKS2 Erkin-Say 51.88 296 P **P** **00 20 43.6 +1.1**
SNR=9.3
KSH Kashi 51.92 291 P **P** **00 20 46.9 +4.0**
KSH pP sP 00 21 03.8 +0.3
KSH pmax pmax
comp=Z,11nm,0.9s
AML Almayashu 52.18 295 P **P** **00 20 46.0 +1.0**
SNR=16
EUNU Eureka 52.90 10 P **P** **00 20 48.7 -0.8**
SVE Sverdlovsk 53.21 317 *eP* **P** **00 20 51.8 -0.1**
ARU Arti 54.42 317 P **P** **00 21 00.5 -0.3**
comp=Z,2.7nm,0.4s,baz=79,slow=4.8,SNR=20
ARU Arti 54.42 317 *c i* P **P** **00 21 00.4 -0.3**
ARU *PP **pP** **00 21 15.7 +0.4**
ARU S **S** **00 28 34.2 -0.8**
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU Arti 54.42 317 P **P** **00 20 58.7 -2.0**
ARU IAmb IAmb 00 21 01.0
comp=Z,7.0nm,0.5s
DRK Karamyk 54.74 293 P **P** **00 21 04.3 +0.5**
KBS Kingsbay 54.84 350 P **P** **00 21 03.7 +0.2**
KBS pmax pmax
comp=Z,31nm,1.2s
KBS Kingsbay 54.84 350 P **P** **00 21 03.7 +0.2**
RES Resolute Bay 55.00 17 P **P** **00 21 03.4 -1.3**
comp=Z,12nm,0.8s,baz=319,slow=7.5,SNR=54
YKA Yellowknife Ar 55.82 34 P **P** **00 21 10.6 -0.1**
comp=Z,8.7nm,0.8s,baz=298,slow=6.7,SNR=123
AB31 Akbulak array 57.13 309 *eP* **P** **00 21 20.3 0.0**
ABKAR Akbulak array 57.13 309 P **P** **00 21 20.4 +0.1**
AKTO Aktyubinsk 57.61 311 P **P** **00 21 23.6 0.0**
comp=Z,2.8nm,0.5s,baz=87,slow=11,SNR=10
PRGR Permogore 57.64 326 *eP* **P** **00 21 22.1 -1.5**
PRGR pmax pmax
comp=Z,4.0nm,0.8s
KIRV Kirov 57.66 322 P **P** **00 21 23.4 -0.4**
comp=Z,6.6nm,0.4s,baz=49,slow=5.0,SNR=8.8
KIRV Kirov 57.66 322 ⇑ *eP* **P** **00 21 24.8 +1.0**
LLLB Lillooet 58.45 48 P **P** **00 21 30.4 +0.9**
LLLB IAmb IAmb 00 21 31.0
comp=Z,7.9nm,1.0s
NLWA Neilton Lookou 59.04 52 P **P** **00 21 34.6 +0.9**
KBL Kabul 59.25 290 P **P** **00 21 35.0 -0.6**
KBL pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 59.25 290 P **P** **00 21 35.0 -0.6**
ARCES ARCESS Array B 59.31 340 P **P** **00 21 35.0 -0.2**
comp=Z,0.6nm,0.3s,baz=45,slow=6.7,SNR=15
ARCES ARCESS Array B 59.31 340 IAmb IAmb 00 21 44.5
comp=Z,2.6nm,0.9s
D03D Eldon 59.41 52 P **P** **00 21 37.0 +0.8**
baz=303
B05A Bryant 59.58 51 P **P** **00 21 37.8 +0.5**
baz=303
D04E Lakelsay 59.78 52 P **P** **00 21 39.5 +0.8**
baz=303
D05A Enumclaw 60.23 52 P **P** **00 21 42.9 +1.1**
D05A IAmb IAmb 00 21 44.0
comp=Z,12nm,1.0s
E04D Cinebar 60.24 53 P **P** **00 21 42.2 +0.3**
E04D Cinebar 60.24 53 P **P** **00 21 42.6 +0.7**
baz=304
KLMR Klimovskoe 60.51 328 *eP* **P** **00 21 41.4 -2.0**
KLMR pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 60.51 328 *eP* **P** **00 21 41.5 -2.0**
KLMR AMP 00 21 44.4
comp=Z,9.0nm,1.0s
JETT Jettan, Norway 60.54 341 *eP* **P** **00 21 44.6 +1.0**
G03D McMinnville, O 60.58 54 P **P** **00 21 44.9 +0.6**
baz=304
F04A Amboy 60.67 53 P **P** **00 21 45.7 +0.8**
TRO Tromso 60.82 342 *eP* **P** **00 21 43.6 -1.9**
LTY Liberty 60.94 51 P **P** **00 21 46.7 -0.1**
LTY IAmb IAmb 00 21 47.4
comp=Z,8.2nm,1.1s
B08A Colville Reser 61.06 50 IAmb IAmb 00 21 48.8
comp=Z,11nm,1.1s
I03D Drain, OR 61.37 56 P **P** **00 21 51.0 +1.4**
baz=304
EDM Edmonton 61.41 42 P **P** **00 21 49.1 -0.7**
EDM pmax pmax
comp=Z,31nm,1.0s
EDM Edmonton 61.41 42 P **P** **00 21 49.1 -0.7**
HOOD Mount Hood Mea 61.46 53 P **P** **00 21 50.4 -0.1**
H04A Detroit Lake 61.51 54 P **P** **00 21 50.5 -0.1**
H04A IAmb IAmb 00 21 52.3
comp=Z,15nm,1.0s
E07A Sunnyside 61.79 51 P **P** **00 21 52.6 +0.1**
E07A IAmb IAmb 00 21 54.2
comp=Z,11nm,0.9s
I04A Tendick Farm, 61.88 55 P **P** **00 21 54.1 +1.0**
baz=305
C09A Chrisman Ranch 61.97 50 P **P** **00 21 53.6 0.0**
C09A IAmb IAmb 00 21 54.9
comp=Z,10.0nm,0.7s
BELG Belogornoye 61.97 317 P **P** **00 21 53.5 +0.1**
comp=Z,3.5nm,0.5s,baz=279,slow=2.0,SNR=6.9
D08A Wollman Farm, 62.03 51 P **P** **00 21 54.0 0.0**
D08A IAmb IAmb 00 21 55.3
comp=Z,5.9nm,0.9s
HAWA Hanford 62.07 51 IAmb IAmb 00 21 56.0
comp=Z,8.5nm,1.1s
I05D Terrebonne, OR 62.20 54 P **P** **00 21 55.9 +0.6**
baz=305
NEW Newport 62.33 49 IAmb IAmb 00 21 57.4
comp=Z,13nm,1.0s
NEW Newport 62.33 49 P **P** **00 21 56.3 +0.2**
baz=306,SNR=12
HYBB Hyderabad (bro 62.82 268 *eP* **P** **00 21 58.9 -0.8**
L04D Klamath Falls 62.85 57 P **P** **00 22 01.2 +1.5**
baz=306
J05D Fort Rock, OR 62.87 55 P **P** **00 22 00.8 +0.8**
baz=306
YBH Yreka Blue Hor 62.88 57 P **P** **00 21 60.0 0.0**
comp=Z,4.7nm,1.0s,baz=243,slow=4.9,SNR=6.2
YBH Yreka Blue Hor 62.88 57 P **P** **00 22 00.0 0.0**
M02C Callahan 62.99 58 P **P** **00 22 01.6 +0.9**
baz=306
STEI Steigen 63.00 342 *eP* **P** **00 21 57.7 -2.4**
N02D Trinity Center 63.33 58 IAmb IAmb 00 22 05.2
comp=Z,10nm,0.9s
N02D Trinity Center 63.33 58 P **P** **00 22 04.1 +1.3**
baz=306
M04C Macdoel 63.38 57 IAmb IAmb 00 22 05.3
comp=Z,12nm,0.9s
M04C Macdoel 63.38 57 P **P** **00 22 04.7 +1.4**
baz=306
WALA Waterton Lakes 63.58 47 IAmb IAmb 00 22 05.8
comp=Z,11nm,0.9s
WDC Whiskeytown Da 63.66 58 P **P** **00 22 05.5 +0.5**
WDC pmax pmax
comp=Z,10.0nm,1.1s
WDC Whiskeytown Da 63.66 58 P **P** **00 22 05.5 +0.5**
WDC IAmb IAmb 00 22 06.9
comp=Z,10nm,1.1s
O02D Mt. Diablo Mer 63.74 59 P **P** **00 22 06.2 +0.5**
O02D IAmb IAmb 00 22 07.7
comp=Z,6.2nm,0.8s
O02D Mt. Diablo Mer 63.74 59 P **P** **00 22 07.0 +1.4**
baz=306
HRA Herat 63.92 293 P **P** **00 22 07.2 +0.2**
HRA IAmb IAmb 00 22 08.8
comp=Z,10nm,1.0s
JTMT Jette 64.17 48 P **P** **00 22 08.8 +0.3**
JTMT IAmb IAmb 00 22 10.2
comp=Z,11nm,0.9s
WB0 Warramunga Arr 64.24 193 P **P** **00 22 09.7 +0.9**
O03E Paynes Creek 64.28 58 IAmb IAmb 00 22 11.0
comp=Z,18nm,1.0s
O03E Paynes Creek 64.28 58 P **P** **00 22 10.0 +0.8**
baz=307
WRAB Tennant Creek 64.41 193 ⇑ *eP* **P** **00 22 10.2 +0.2**
WRAB pmax pmax
comp=Z,4.0nm,0.9s
WB2 Warramunga Arr 64.42 193 P **P** **00 22 10.6 +0.6**
WB2 IAmb IAmb 00 22 27.3
comp=Z,9.7nm,1.1s
WRA Warramunga Arr 64.42 193 P **P** **00 22 10.2 +0.1**
comp=Z,3.6nm,1.0s,baz=9.9,slow=6.7,SNR=21
WRA pP **pP** **00 22 25.0 +0.6**
comp=Z,9.5nm,1.2s,baz=11,slow=6.6,SNR=11
WRA Warramunga Arr 64.42 193 P **P** **00 22 10.7 +0.6**
J08A Circle Bar Ran 64.46 54 P **P** **00 22 10.7 +0.4**
GEYT Alibeck 64.51 299 P **P** **00 22 10.8 +0.2**
comp=Z,3.4nm,0.5s,baz=321,slow=2.1,SNR=8.3
GEYT Alibeck 64.51 299 P **P** **00 22 11.3 +0.7**
GYA0B ALIBECK ARRAY 64.51 299 P **P** **00 22 10.6 0.0**
GYA0B IAmb IAmb 00 22 12.1
comp=Z,11nm,1.1s
MOR8 Moi Rana 64.60 341 *eP* **P** **00 22 07.9 -2.8**
PLID Pearl Lake 64.84 51 IAmb IAmb 00 22 14.1
comp=Z,11nm,0.9s
ORV Oroville 64.91 59 IAmb IAmb 00 22 14.1
comp=Z,6.5nm,0.9s
WVOR Wild Horse Val 64.91 55 IAmb IAmb 00 22 15.0
comp=Z,8.7nm,1.1s
MSO Missoula 64.92 49 IAmb IAmb 00 22 14.6
comp=Z,18nm,1.1s
MSO Missoula 64.92 49 P **P** **00 22 13.3 +0.1**
baz=308,SNR=14
FINES FINESS Array B 64.94 333 P **P** **00 22 11.5 -1.5**
comp=Z,5.0nm,0.5s,baz=46,slow=7.9,SNR=48
OBN Obninsk 65.39 324 P **P** **00 22 15.3 -0.6**
comp=Z,2.4nm,0.6s,baz=178,slow=12,SNR=4.9
OBN Obninsk 65.39 324 ‖ *P* **P** **00 22 15.9 -0.1**
OBN *PP **pP** **00 22 32.0 +1.2**
OBN *SP **sP** **00 22 38.0 +1.1**
OBN 00 22 44.0
OBN *e* 00 31 33.7
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,477nm,17.0s
OBN Obninsk 65.39 324 P **P** **00 22 15.8 -0.1**
OBN IAmb IAmb 00 22 17.6
comp=Z,17nm,1.1s
OBN Obninsk 65.39 324 *eP* **P** **00 22 15.9 -0.1**
BEKR Beckworth 65.42 58 P **P** **00 22 17.1 +0.4**
BEKR IAmb IAmb 00 22 18.0
comp=Z,12nm,0.9s
FFC Flin Flon 65.71 37 P **P** **00 22 18.3 +0.2**
FFC pmax pmax
comp=Z,19nm,1.1s
FFC Flin Flon 65.71 37 P **P** **00 22 18.3 +0.2**
FFC IAmb IAmb 00 22 19.3
comp=Z,19nm,1.1s
MFID Camas Ranch 65.95 52 P **P** **00 22 20.4 +0.3**
MPK Martis Peak 65.97 58 P **P** **00 22 20.1 -0.3**
FCC Fort Churchill 66.04 30 IAmb IAmb 00 22 20.4
comp=Z,12nm,0.9s
PAHR Pah Rah Range 66.12 57 P **P** **00 22 21.2 0.0**
PAHR IAmb IAmb 00 22 22.7
comp=Z,10nm,1.0s
PNTR Pine Nut 66.36 58 P **P** **00 22 22.8 -0.1**
PNTR IAmb IAmb 00 22 24.6
comp=Z,14nm,0.9s
EGMT Eagleton 66.39 46 P **P** **00 22 22.8 +0.1**
baz=310,SNR=13
MEF Metsahovi 66.41 333 *eP* **P** **00 22 21.7 -0.8**
VORR Voronezh 66.48 320 *eP* **P** **00 22 24.8 +1.7**
VORR pmax pmax
comp=Z,20nm,0.4s
CMB Columbia Colle 66.52 59 P **P** **00 22 23.8 +0.1**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 66.52 59 P **P** **00 22 23.8 +0.1**
CMB IAmb IAmb 00 22 25.1
comp=Z,8.1nm,0.9s
DLMT Dillon 66.56 49 P **P** **00 22 24.6 +0.7**
DLMT IAmb IAmb 00 22 26.1
comp=Z,11nm,1.0s
RAF Rauma 66.64 334 *eP* **P** **00 22 22.7 -1.2**
HLID Hailey 66.67 52 P **P** **00 22 24.9 +0.3**
HLID Hailey 66.67 52 P **P** **00 22 25.0 +0.3**
baz=309,SNR=6.8
MCMT McKenzie Canyo 66.76 50 P **P** **00 22 25.5 +0.2**
BCYI Bear Canyon 66.77 50 P **P** **00 22 25.7 +0.3**
VSU Vasula 66.90 330 ⇑ *eP* **P** **00 22 25.0 -0.6**
VSU pmax pmax
comp=Z,39nm,1.1s
VSU Vasula 66.90 330 *eP* **P** **00 22 25.1 -0.6**
BOZ Bozeman (W) 66.94 48 P **P** **00 22 26.6 +0.3**
BOZ pmax pmax
comp=Z,12nm,0.8s
BOZ Bozeman (W) 66.94 48 P **P** **00 22 26.6 +0.3**
BOZ IAmb IAmb 00 22 27.8
comp=Z,12nm,0.8s
BOZ Bozeman (W) 66.94 48 P **P** **00 22 26.8 +0.5**
baz=310,SNR=11
BMN Battle Mountai 66.98 56 IAmb IAmb 00 22 28.4
comp=Z,8.9nm,1.0s
KVN Kaiserville 67.30 57 IAmb IAmb 00 22 30.5
comp=Z,16nm,0.9s
RYN Ryan 67.31 58 P **P** **00 22 29.3 +0.5**
RYN IAmb IAmb 00 22 30.4
comp=Z,10.0nm,0.9s
LHV Little Huntoon 67.55 58 P **P** **00 22 30.7 +0.7**
NVAR Mina Array Bea 67.57 58 P **P** **00 22 31.1 +0.6**
comp=Z,8.0nm,0.8s,baz=285,slow=7.0,SNR=27
OMMB Old Mammoth Mi 67.64 59 P **P** **00 22 31.0 -0.1**
NV11 Mina Array Sit 67.66 58 IAmb IAmb 00 22 32.6
comp=Z,7.5nm,1.0s
MTSE Matsula 67.74 332 *eP* **P** **00 22 29.9 -1.0**
GCMT Greycliff 67.87 47 P **P** **00 22 32.2 0.0**
YHH Holmes Hill 67.88 49 P **P** **00 22 32.9 +0.4**
YHH IAmb IAmb 00 22 34.0
comp=Z,8.3nm,0.9s
YMR Madison River 67.89 49 P **P** **00 22 33.1 +0.6**
YMR IAmb IAmb 00 22 34.2
comp=Z,11nm,0.9s
YNR Norris Junctio 68.02 49 P **P** **00 22 33.7 +0.5**
YNR IAmb IAmb 00 22 35.5
comp=Z,8.6nm,1.1s
PAGB Antelope Grade 68.03 61 P **P** **00 22 32.5 -0.7**
PAGB IAmb IAmb 00 22 34.9
comp=Z,11nm,1.1s
YFT Old Faithful 68.11 49 P **P** **00 22 35.2 +1.4**
YFT IAmb IAmb 00 22 36.7
comp=Z,9.7nm,0.9s
ASAR Alice Springs 68.14 193 P **P** **00 22 34.6 +0.8**
comp=Z,1.6nm,1.0s,baz=17,slow=5.7,SNR=7.4
ASAR pP **pP** **00 22 49.5 +1.2**
comp=Z,3.0nm,0.9s,baz=13,slow=5.4,SNR=9.8
LKWY Lake 68.27 49 P **P** **00 22 36.1 +1.3**
LKWY pmax pmax
comp=Z,11nm,1.1s
LKWY Lake 68.27 49 P **P** **00 22 36.1 +1.3**
LKWY IAmb IAmb 00 22 38.0
comp=Z,11nm,1.1s
H17A Grant Village 68.28 49 P **P** **00 22 36.5 +1.5**
H17A IAmb IAmb 00 22 38.2
comp=Z,19nm,1.1s
H17A Grant Village 68.28 49 P **P** **00 22 36.3 +1.4**
baz=310,SNR=14
FLWY Flagg Ranch 68.42 49 P **P** **00 22 36.4 +0.6**
FLWY IAmb IAmb 00 22 38.2
comp=Z,8.6nm,0.9s
TPH Tonopah 68.45 58 P **P** **00 22 36.2 +0.2**
TPH pmax pmax
comp=Z,48nm,0.9s

TPH Tonopah 68.45 58 P P 00 22 36.2 +0.2
RLMT Red Lodge 68.52 48 P P 00 22 36.6 +0.2
RLMT Red Lodge 68.52 48 P P 00 22 36.8 +0.5
baz=311
MOOW Moose Ponds 68.61 50 IAmb IAmb 00 22 39.1
comp=Z,11nm,1.0s
TPAW Teton Pass 68.66 50 IAmb IAmb 00 22 38.6
comp=Z,19nm,1.0s
LCH Last Change Ra 68.72 59 P P 00 22 37.8 +0.1
HVU Hansel Valley 68.74 52 P P 00 22 38.0 +0.3
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 68.74 52 P P 00 22 38.0 +0.3
LOHW Long Hollow 68.78 50 P P 00 22 38.3 +0.3
SNOW Snow King Moun 68.79 50 P P 00 22 39.0 +0.8
SNOW IAmb IAmb 00 22 40.3
comp=Z,9.9nm,0.9s
REDW Red Top Meadow 68.80 50 P P 00 22 38.6 +0.5
REDW IAmb IAmb 00 22 40.2
comp=Z,14nm,1.1s
UPP Uppsala 68.83 335 eP P 00 22 36.5 -1.2
DGMT Dagmar 68.90 43 P P 00 22 38.5 0.0
DGMT Dagmar 68.90 43 P P 00 22 38.4 0.0
baz=313,SNR=7.0
GOF Gofitskoye 68.91 313⇑ eP P 00 22 39.3 +0.8
CWC Cottonwood Cre 68.95 59 P P 00 22 39.2 +0.1
baz=309
AHID Auburn Hatcher 69.05 51 P P 00 22 39.9 +0.2
BCW Bitter Crk WRg 69.06 61 P P 00 22 40.4 +0.7
LAO LASA Array 69.08 45 P P 00 22 40.1 +0.5
baz=312,SNR=8.9
BGU Big Grassy Mou 69.14 53 P P 00 22 40.3 +0.1
FRB Frobisher Bay 69.22 16 P P 00 22 38.6 -1.4
comp=Z,14nm,0.8s,baz=330,slow=6.8,SNR=30
IDID Didziasalis 69.23 328 eP P 00 22 40.1 -0.2
R11A Troy Canyon, C 69.27 57 P P 00 22 40.8 -0.3
R11A Troy Canyon, C 69.27 57 P P 00 22 41.6 +0.5
baz=310
ISAL Salakas 69.28 329 eP P 00 22 40.2 -0.4
DOMB Dombas 69.36 340⇑ eP P 00 22 41.1 0.0
MNK Minsk 69.39 327 i P P 00 22 38.4 -2.9
MNK i *PP pP 00 22 54.8 -1.5
MNK i *SP sP 00 23 01.8 -0.5
MNK i 00 25 12.3
MNK i PPP PPP 00 26 53.7
MNK i S S 00 31 41.1 -2.8
MNK i *SS SKSac 00 32 35.4 -1.2
MNK i SS SS 00 36 10.8 +0.1
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK Minsk 69.39 327 i P P 00 22 38.5 -2.9
comp=E,1.0nm,0.7s
MNK i P P 00 22 38.5 -2.9
comp=N,7.0nm,0.7s
MNK i P P 00 22 38.5 -2.9
comp=Z,14nm,0.7s,baz=222
MNK i pP pP 00 22 54.9 -1.5
MNK i sP sP 00 23 01.8 -0.5
MNK i PP PP 00 25 12.3 -2.2
MNK i PPP PPP 00 26 53.7
MNK i S S 00 31 41.1 -2.8
MNK i sS SKSac 00 32 35.4 -1.2
MNK i SS SS 00 36 10.8 +0.1
MNK i SSS SSS 00 39 28.6
MNK i LQ LQ 00 44 52.4
MNK i LR LR 00 49 31.2
MNK i LRM MLR 00 51 56.2
comp=Z,855nm,17.4s
MNK i LRM MLR 00 51 58.8
comp=N,394nm,19.4s
MNK i LRM MLR 00 52 00.1
comp=E,41nm,17.4s
IIGN Ignalina 69.40 328 eP P 00 22 41.2 -0.2
NC303 NORSAR Array S 69.47 339 P P 00 22 42.2 +0.5
NACGM Naroch 69.52 328 eP P 00 22 42.2 +0.2
MPMC Manual Prospec 69.56 59 P P 00 22 43.1 +0.1
baz=310,SNR=7.7
NC204 NORSAR Array S 69.59 339 IAmb IAmb 00 22 42.6
comp=Z,12nm,0.6s
S11A Rachel 69.62 57 P P 00 22 43.8 +0.5
S11A IAmb IAmb 00 22 45.0
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 69.67 339 P P 00 22 42.0 -1.0
comp=Z,3.4nm,0.4s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.67 339 P P 00 22 42.0 -1.0
baz=31,slow=6.5
NOA NORSAR Array B 69.67 339 P P 00 22 42.0 -1.0
comp=Z,3.0nm,0.5s,baz=37,slow=5.9,SNR=57
NOA NORSAR Array B 69.67 339 P P 00 22 42.0 -1.0
FURC Furnace Creek, 69.69 59 P P 00 22 43.9 +0.5
baz=310,SNR=7.0
DUG Dugway, Tooele 69.73 54 P P 00 22 44.2 +0.3
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG Dugway, Tooele 69.73 54 P P 00 22 44.1 +0.3
DUG IAmb IAmb 00 22 45.5
comp=Z,9.6nm,0.9s
DUG Dugway, Tooele 69.73 54 P P 00 22 44.5 +0.6
baz=311,SNR=9.4
TPNV Topopah Spring 69.76 58 P P 00 22 43.9 -0.2
TPNV pmax pmax
comp=Z,14nm,1.1s
TPNV Topopah Spring 69.76 58 P P 00 22 43.9 -0.2
TPNV IAmb IAmb 00 22 45.7
comp=Z,14nm,1.1s
TPNV Topopah Spring 69.76 58 P P 00 22 44.7 +0.6
baz=310
NBO00 NORSAR Array S 69.79 339 P P 00 22 42.8 -0.9
NBO00 IAmb IAmb 00 22 45.3
comp=Z,24nm,1.1s
KIV Kislovodsk 69.83 312 eP P 00 22 45.3 +1.0
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 69.83 312 P P 00 22 44.8 +0.5
KIV IAmb IAmb 00 22 49.0
comp=Z,21nm,1.1s
KIV Kislovodsk 69.83 312 eP P 00 22 45.3 +1.0
KBZ Khabaz 69.87 312 P P 00 22 45.5 +1.1
comp=Z,8.9nm,0.6s,baz=106,slow=2.9,SNR=44
KBZ Khabaz 69.87 312⇑ eP P 00 22 45.7 +1.3
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 69.87 312 eP P 00 22 45.7 +1.3
BW06 Boulder Array 69.91 50 P P 00 22 44.8 -0.2
baz=311,SNR=9.7
PDAR Pinedale Array 69.91 50 P P 00 22 45.0 0.0
comp=Z,6.0nm,0.9s,baz=282,slow=2.9,SNR=29
NAO01 NORSAR Array S 69.92 339 eP P 00 22 44.2 -0.2
ZEI Tsey 69.94 310 eP P 00 22 44.1 -1.1
ZEI pmax pmax
comp=Z,7.0nm,0.9s
GWY Greenwater Val 69.99 59 P P 00 22 45.8 +0.2
GWY IAmb IAmb 00 22 46.9
comp=Z,9.0nm,1.0s
EDW2 Edwards Air Fo 69.99 61 P P 00 22 46.0 +0.6
baz=310
QSM Queen of Sheba 70.01 59 P P 00 22 45.9 +0.4
QSM IAmb IAmb 00 22 46.9
comp=Z,14nm,1.0s
CTU Camp Tracy 70.03 53 P P 00 22 45.9 +0.2
PABE Paberze 70.13 330 P P 00 22 45.4 -0.3
PABE IAmb IAmb 00 22 46.5
comp=Z,13nm,0.7s
PSUT Pine Spring 70.19 55 P P 00 22 47.0 +0.2
PRN Pahroc Range 70.20 57 P P 00 22 47.2 +0.4
VIKU Vikbolandet 70.21 335 eP P 00 22 45.2 -1.1
ONI Oni 70.32 310 P P 00 22 48.2 +0.9
ONI pmax pmax
comp=Z,8.0nm,0.8s
ONI Oni 70.32 310 P P 00 22 48.2 +0.9
ONI IAmb IAmb 00 22 50.2
comp=Z,8.2nm,0.8s
NLU North Lily Min 70.32 53 P P 00 22 47.9 +0.3
GSC Goldstone, Bar 70.47 60 P P 00 22 47.7 -0.7
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC Goldstone, Bar 70.47 60 P P 00 22 47.7 -0.7
GSC Goldstone, Bar 70.47 60 P P 00 22 48.9 +0.5
baz=310
BFSC Mount Baldy Ra 70.62 61 P P 00 22 50.1 +0.7
baz=310
SKAR Skarslia 70.72 340 eP P 00 22 49.9 +0.5
TUQ Turquoise Moun 70.94 59 P P 00 22 52.0 +0.7
baz=311
HEC Hector,Ludlow 71.07 60 P P 00 22 52.9 +0.8
baz=311
ELS Elsinore Mount 71.14 61 pP 00 23 06.3 -1.2
MSU Marysvale 71.21 55 P P 00 22 53.1 +0.1
MSU Marysvale 71.21 55 P P 00 22 53.1 +0.1
TMUT Trail Mountain 71.26 53 P P 00 22 53.7 +0.3
MURC Murrieta 71.32 61 P P 00 22 53.8 +0.3
baz=311
RDMU Red Mountain 71.36 52 P P 00 22 54.1 +0.3
P17A Butcher Ranch, 71.41 53 P P 00 22 54.4 +0.2
P17A IAmb IAmb 00 22 55.8
comp=Z,13nm,1.0s
MTPU Mount Pierson 71.51 55 P P 00 22 55.4 +0.4
ULM Lac du Bonnet 71.51 37 P P 00 22 52.7 -1.6
comp=Z,2.4nm,0.6s,baz=320,slow=5.6,SNR=4.7
ULM Lac du Bonnet 71.51 37⇓ eP P 00 22 54.0 -0.4
ULM Lac du Bonnet 71.51 37 P P 00 22 53.9 -0.4
GMRC Granite Mounta 71.52 59 P P 00 22 55.3 +0.5
baz=311
Q16A Castle Valley 71.53 54 P P 00 22 54.9 0.0
MDND Maddock 71.55 41 P P 00 22 54.9 +0.3
baz=316
LCMT Little Creek M 71.55 56 P P 00 22 55.0 0.0
SUW Suwalki 71.57 329 eP P 00 22 55.9 +1.4
P18A Preston Nutter 71.60 53 P P 00 22 55.5 +0.1
K22A Casper 71.64 48 P P 00 22 55.2 -0.3
K22A IAmb IAmb 00 22 56.7
comp=Z,22nm,1.2s
K22A Casper 71.64 48 P P 00 22 55.6 +0.1
baz=313
AKASG Malin Array Be 71.65 324 P P 00 22 54.7 -0.4
comp=Z,2.5nm,0.4s,baz=39,slow=6.1,SNR=38
AKBB Malin Array Si 71.65 324 P P 00 22 55.0 -0.1
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 71.65 324 P P 00 22 55.0 -0.1
AKBB IAmb IAmb 00 22 56.2
comp=Z,12nm,0.9s
SRU San Rafael Swe 71.78 53 P P 00 22 56.1 -0.2
SRU San Rafael Swe 71.78 53 P P 00 22 56.1 -0.2
SRU IAmb IAmb 00 22 58.1
comp=Z,12nm,0.9s
KNB Kanab 71.81 56 P P 00 22 57.0 +0.5
KNB pmax pmax
comp=Z,11nm,1.1s
KNB Kanab 71.81 56 P P 00 22 57.0 +0.5
KNB IAmb IAmb 00 22 58.7
comp=Z,11nm,1.1s
BELC Belle Mtn. Jos 71.82 60 P P 00 22 56.2 -0.4
baz=311
KARS Kars 71.84 309 P P 00 22 57.0 +0.3
KARS pmax pmax
comp=Z,39nm,0.8s
KARS Kars 71.84 309 P P 00 22 57.0 +0.3
RWWY Rawlins 71.92 49 P P 00 22 56.6 -0.7
RWWY IAmb IAmb 00 22 57.4
comp=Z,12nm,1.0s
E28A Huff 71.93 42 P P 00 22 56.9 0.0
RSSD Black Hills 71.96 46 P P 00 22 57.6 +0.2
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 71.96 46 P P 00 22 57.6 +0.2
RSSD IAmb IAmb 00 22 58.3
comp=Z,12nm,0.9s
RSSD Black Hills 71.96 46 P P 00 22 57.2 -0.2
baz=314
IRM Iron Mountain 72.25 60 P P 00 22 59.6 +0.5
baz=311
BC3 Big Chuckawall 72.39 60 P P 00 23 00.8 +0.8
baz=311
O20A White River Ci 72.40 51 P P 00 22 59.9 -0.2
baz=313,SNR=6.1
W13A Hualapai Mount 72.42 58 P P 00 23 00.7 +0.4
U15A North Rim 72.51 56 P P 00 23 00.7 -0.2
SWSC Sam W. Stewart 72.64 61 P P 00 23 02.4 +1.1
baz=311
PDMCI Parker Dam,Lak 72.78 59 P P 00 23 02.5 +0.3
baz=312
BLYC Blythe 72.91 60 P P 00 23 02.8 -0.1
AGMN Agassiz Nation 72.95 39 IAmb IAmb 00 23 03.3
comp=Z,17nm,1.1s
AGMN Agassiz Nation 72.95 39 P P 00 23 02.2 -0.7
baz=318,SNR=6.9
PV21 Cone Mtn., Par 73.04 53 P P 00 23 04.2 +0.2
PV23 Carpenter Ridg 73.10 53 IAmb IAmb 00 23 05.7
comp=Z,17nm,1.1s
PV10 Paradox Valley 73.13 53 P P 00 23 05.0 +0.4
PV14 Lion Creek, Pa 73.14 53 P P 00 23 04.5 0.0
PV14 IAmb IAmb 00 23 05.9
comp=Z,11nm,1.1s
N23A Red Feather La 73.16 49 P P 00 23 04.2 -0.5
N23A IAmb IAmb 00 23 06.5
comp=Z,11nm,0.9s
N23A Red Feather La 73.16 49 P P 00 23 04.9 +0.3
baz=314,SNR=5.1
GLA Glamis 73.18 60 P P 00 23 04.5 -0.1
GLA pmax pmax
comp=Z,8.0nm,0.9s
GLA Glamis 73.18 60 P P 00 23 04.5 -0.1
GLA Glamis 73.18 60 P P 00 23 05.2 +0.6
baz=312
PV20 West Nyswonger 73.20 53 P P 00 23 04.6 -0.3
PV20 IAmb IAmb 00 23 06.2
comp=Z,13nm,1.0s
PV04 Paradox Valley 73.20 53 P P 00 23 05.1 +0.3
PV04 IAmb IAmb 00 23 06.3
comp=Z,12nm,1.1s
PV19 Morning Glory 73.21 53 P P 00 23 04.4 -0.6
PV19 IAmb IAmb 00 23 06.3
comp=Z,16nm,1.1s
PV17 East Wray Mesa 73.24 53 P P 00 23 05.7 +0.6
PV17 IAmb IAmb 00 23 06.5
comp=Z,18nm,1.0s
PV16 Nyswonger Mesa 73.25 53 P P 00 23 05.4 +0.3
PV16 IAmb IAmb 00 23 06.5
comp=Z,13nm,1.1s
D32A Dogwood Acres, 73.28 40 P P 00 23 04.5 -0.3
D32A IAmb IAmb 00 23 05.3
comp=Z,21nm,0.9s
PV11 David Mesa, Pa 73.28 53 P P 00 23 05.3 0.0
PV11 IAmb IAmb 00 23 07.4
comp=Z,12nm,1.0s
PV18 Skein Mesa, Pa 73.30 53 P P 00 23 05.1 -0.3
PV18 IAmb IAmb 00 23 06.8
comp=Z,14nm,1.0s
PV05 Paradox Valley 73.30 53 P P 00 23 05.8 +0.3
PV05 IAmb IAmb 00 23 07.0
comp=Z,22nm,1.1s
PV12 Saucer Basin, 73.31 53 P P 00 23 05.9 +0.4
PV07 Paradox Valley 73.32 53 P P 00 23 06.2 +0.7
PV03 Paradox Valley 73.33 53 P P 00 23 05.9 +0.3
PV03 IAmb IAmb 00 23 07.0
comp=Z,13nm,1.1s
PV13 Radium Mtn., P 73.41 53 P P 00 23 06.1 0.0
PV13 IAmb IAmb 00 23 07.5
comp=Z,14nm,1.0s
PV02 Paradox Valley 73.42 53 P P 00 23 05.6 -0.6
PV01 Paradox Valley 73.57 53 P P 00 23 06.5 -0.6
WUAZ Wupatki 73.67 56 P P 00 23 08.2 +0.6
WUAZ Wupatki 73.67 56 P P 00 23 08.5 +0.8
baz=312
Y14A Wickenburg 73.73 59 P P 00 23 08.4 +0.6
SMCO Snowmass 73.77 51 P P 00 23 08.0 -0.4
GURO Guroymak-BITLI 73.84 308 P P 00 23 09.0 +0.4
B35A Bob, Littlefor 73.86 37 P P 00 23 07.4 -0.9
SORM Soroca 73.94 322 ⇑P P 00 23 08.0 -0.7
SORM Soroca 73.94 322 ⇑P P 00 23 08.0 -0.7
ISCO Idaho Springs 74.10 50 P P 00 23 10.3 +0.1
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO Idaho Springs 74.10 50 P P 00 23 10.3 +0.1
ISCO IAmb IAmb 00 23 12.0
comp=Z,10nm,1.1s
ISCO Idaho Springs 74.10 50 P P 00 23 10.4 +0.1
baz=314,SNR=9.0
MVCO Mesa Verde 74.24 54 P P 00 23 11.4 +0.4
baz=313
GKP Gorka Klasztor 74.31 331 eP P 00 23 11.0 +0.3
SUSD Miller 74.31 43 P P 00 23 11.0 0.0
X16A Lo Mia Camp, P 74.37 57 P P 00 23 12.0 +0.3
LVV L'vov 74.49 326 eP P 00 23 12.6 +0.7
SFX San Felipe 74.50 62 P P 00 23 11.6 -0.7
F33A 5 Mile Ranch, 74.57 40 IAmb IAmb 00 23 13.2
comp=Z,12nm,1.0s
MILM Milestii Mici 74.65 321 ⇑P P 00 23 12.3 -0.5
MILM Milestii Mici 74.65 321 ⇑P P 00 23 12.3 -0.5
S22A 4UR Ranch, Cre 74.83 52 P P 00 23 14.7 +0.2
S22A 4UR Ranch, Cre 74.83 52 P P 00 23 15.1 +0.6
baz=314,SNR=7.4
W18A Petrified Fore 74.93 56 P P 00 23 15.2 +0.3
W18A Petrified Fore 74.93 56 P P 00 23 16.1 +1.1
baz=313
Q24A Divide 74.94 50 P P 00 23 14.8 -0.3
Q24A Divide 74.94 50 P P 00 23 15.7 +0.6
baz=314,SNR=5.5
EYMN Ely 75.14 36 IAmb IAmb 00 23 15.6
comp=Z,11nm,1.1s
EYMN Ely 75.14 36 P P 00 23 15.5 -0.2
baz=320
KWP Kalwaria Pacla 75.18 326 eP P 00 23 16.7 +0.8
X18A Snowflake 75.20 56 P P 00 23 16.5 0.0
OGNE Ogallala 75.24 47 P P 00 23 17.0 +0.4
baz=316
VASR Vaslui 75.32 322 ⇑P P 00 23 16.5 -0.3
SDCO Great Sand Dun 75.59 51 P P 00 23 18.8 -0.1
baz=314
BUR08 Bucovina Ar. S 75.69 324 IAmb IAmb 00 23 20.5
comp=Z,11nm,0.9s
BURAR Bucovina Array 75.71 324 ⇑P P 00 23 18.9 -0.2
BURAR Bucovina Array 75.71 324 ⇑P P 00 23 18.9 -0.2
BURAR Bucovina Array 75.71 324 P P 00 23 19.3 +0.2
BURAR IAmb IAmb 00 23 20.5
comp=Z,11nm,0.8s
K31A O'Neill 75.73 44 P P 00 23 18.6 -0.6
VLDR Vladesti 75.79 321 ⇑P P 00 23 20.2 +0.7
F36A Milaca 75.83 39 P P 00 23 18.9 -0.8
OJC Ojcow 75.85 328 eP P 00 23 20.4 +0.6
OJC Ojcow 75.85 328 P P 00 23 19.4 -0.3
OJC pmax pmax
comp=Z,15nm,1.1s
OJC Ojcow 75.85 328 P P 00 23 19.4 -0.3
OJC IAmb IAmb 00 23 20.9
comp=Z,15nm,1.1s
TESR Tescani 75.93 322 ⇑P P 00 23 20.0 -0.2
GHRR 75.93 321 ⇑P P 00 23 20.3 +0.1
TLCR 75.95 320 ⇑P P 00 23 20.7 +0.4
TLCR 75.95 320 ⇑P P 00 23 20.7 +0.4
ECSD EROS Data Cent 75.97 42 P P 00 23 19.8 -0.8
ECSD IAmb IAmb 00 23 21.3
comp=Z,17nm,1.1s
ECSD EROS Data Cent 75.97 42 P P 00 23 20.0 -0.6
baz=318,SNR=11
UZH Uzhgorod 76.13 326 eP P 00 23 23.1 +1.8
UZH i 00 23 33.1
UZH e 00 23 39.4
E38A The Farm, Brul 76.15 37 P P 00 23 20.6 -0.9
E38A IAmb IAmb 00 23 21.6
comp=Z,12nm,0.9s
PANC Panciu 76.19 321 ⇑P P 00 23 23.1 +1.3
TUC Tucson 76.20 59 P P 00 23 22.3 +0.1
TUC pmax pmax
comp=Z,1.0nm,1.0s
TUC Tucson 76.20 59 P P 00 23 22.3 +0.1
TUC Tucson 76.20 59 P P 00 23 22.5 +0.3
baz=313
CRVS Cervenica-Dubn 76.25 327 eP P 00 23 22.4 +0.3
CRVS Cervenica-Dubn 76.25 327 eP P 00 23 22.4 +0.3
CFR Carcaliu 76.27 320 ⇑P P 00 23 22.3 +0.1
CFR Carcaliu 76.27 320 ⇑P P 00 23 22.3 +0.1
KSCO Kaye Shedlock' 76.30 49 P P 00 23 22.6 -0.1
KSCO IAmb IAmb 00 23 24.3
comp=Z,21nm,1.1s
NIE Niedzica 76.30 327 eP P 00 23 23.9 +1.5
ODBI Odobesti 76.32 321 ⇑P P 00 23 23.6 +1.2
TPGR Topolog 76.38 320 ⇑P P 00 23 23.2 +0.3
VRI Vrincioaia 76.39 322 ⇑P P 00 23 22.1 -0.8
VRI Vrincioaia 76.39 322 ⇑P P 00 23 22.1 -0.8
TRPA Tarpa 76.43 325 ⇑P P 00 23 23.7 +0.7
PLOR Plostina 76.44 322 ⇑P P 00 23 17.6 -5.6
PLOR Plostina 76.44 322 ⇑P P 00 23 17.6 -5.6
ILGA Ilgaz 76.61 315 P P 00 23 24.1 -0.3
ILGA IAmb IAmb 00 23 26.4
comp=Z,17nm,0.9s
OZUR 76.63 322 ⇑P P 00 23 25.3 +1.0
KSP Ksiaz 76.64 331 eP P 00 23 24.5 +0.3
T25A Trinidad 76.64 51 P P 00 23 24.7 -0.1
T25A IAmb IAmb 00 23 26.0
comp=Z,11nm,1.1s
T25A Trinidad 76.64 51 P P 00 23 24.6 -0.1
baz=315,SNR=6.3
COVR Voineasa-Covas 76.64 322 ⇑P P 00 23 25.0 +0.7
SPMN Marine on St. 76.65 39 P P 00 23 24.1 -0.2
SPMN IAmb IAmb 00 23 24.8
comp=Z,9.8nm,1.0s
SPMN Marine on St. 76.65 39 P P 00 23 23.8 -0.6
baz=320
HARR Harsova 76.74 320 ⇑P P 00 23 24.8 0.0
HARR Harsova 76.74 320 ⇑P P 00 23 24.8 0.0
OKC Ostrava-Krasne 76.78 329 AMS AMS 01 13 00.0
comp=Z,700nm,20.0s
TLBR Topalu 76.79 320 ⇑P P 00 23 25.4 +0.2
LANS Liptovska Anna 76.84 328 eP P 00 23 26.6 +1.2
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 76.84 328 eP P 00 23 26.6 +1.2
MFTR Murfatlar 76.89 320 ⇑P P 00 23 24.2 -1.6
OSTC Ostas 76.90 330 eP P 00 23 26.2 +0.5
OSTC AMS AMS 01 16 50.0
comp=Z,1μm,18.5s
NEHR Nehoiu 76.92 322 ⇑P P 00 23 26.5 +0.6
BGNE Belgrade 76.93 45 P P 00 23 25.0 -1.0
BGNE Belgrade 76.93 45 P P 00 23 25.8 -0.2
baz=318
CHVC Chvalec 76.93 330 eP P 00 23 25.7 -0.2
CHVC AMS AMS 01 16 40.0
comp=Z,1μm,22.2s
ANMO Albuquerque 76.99 54⇓ eP P 00 23 27.7 +1.0
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 76.99 54 P P 00 23 26.6 -0.2
ANMO Albuquerque 76.99 54 P P 00 23 27.5 +0.7
baz=315
UPC Upice 77.01 330 eP P 00 23 26.6 +0.3
UPC MLR MLR
comp=Z,900nm,20.2s
UPC Upice 77.01 330 eP P 00 23 26.6 +0.3
UPC AMS AMS 01 15 40.0
comp=Z,900nm,20.2s
MLR Muntele Rosu 77.03 322 ⇑P P 00 23 27.6 +0.9
MLR Muntele Rosu 77.03 322 ⇑P P 00 23 27.6 +0.9
MLR Muntele Rosu 77.03 322 P P 00 23 27.2 +0.5
DPC Dobruska-Polom 77.03 330 eP P 00 23 26.7 +0.2
DPC MLR MLR
comp=Z,1μm,24.3s
DPC Dobruska-Polom 77.03 330 eP P 00 23 26.7 +0.2
DPC AMS AMS 01 16 10.0
comp=Z,1μm,24.3s
ISR Istrita 77.05 321 ⇑P P 00 23 27.2 +0.5
ISR Istrita 77.05 321 ⇑P P 00 23 27.2 +0.5
MORC Moravsky Berou 77.06 329 ⇑P P 00 23 27.2 +0.6
MORC Moravsky Berou 77.06 329 ⇑P P 00 23 27.2 +0.6
MORC Moravsky Berou 77.06 329 IAmb IAmb 00 23 28.0
comp=Z,6.7nm,0.8s
MORC Moravsky Berou 77.06 329 eP P 00 23 26.8 +0.2
BNN Bunyan 77.07 312 P P 00 23 27.1 0.0
BNN IAmb IAmb 00 23 28.7
comp=Z,14nm,0.9s
D41A Chassel 77.08 35 P P 00 23 26.5 -0.2
KRLC Kraliky 77.09 330 eP P 00 23 27.1 +0.3
KRLC MLR MLR
comp=Z,500nm,19.9s
KRLC Kraliky 77.09 330 eP P 00 23 27.1 +0.3
KRLC AMS AMS 01 15 00.0
comp=Z,500nm,19.9s
CJR Cluj-Napoca 77.10 324 ⇑P P 00 23 28.3 +1.3
CJR Cluj-Napoca 77.10 324 ⇑P P 00 23 28.3 +1.3
ICOR Ion Corvin 77.23 320 ⇑P P 00 23 28.4 +0.8
LENM Lemitar 77.23 55 P P 00 23 28.9 +0.8
CLL Collm 77.38 333 i P P 00 23 27.7 -0.6
CLL i *PP sP 00 23 45.5 -4.1
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 77.38 333 IAmb IAmb 00 23 28.8
comp=Z,13nm,0.9s
CLL Collm 77.38 333 i P P 00 23 27.7 -0.6
comp=Z,14nm,0.9s

CLL *i* pP **sP** **00 23 45.5 -4.1**
CLL *es*P **pP** **00 23 50.0 +6.4**
CLL *i* (pPcP) 00 23 57.5
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 77.43 332 *e*P **P** **00 23 28.4 -0.3**
BRG Amp 00 23 30.2
comp=Z,4.6nm,1.0s
BRG Berggiesshubel 77.43 332 *e*P **P** **00 23 28.3 -0.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BNM Barren Site 77.45 55 P **P** **00 23 29.3 -0.1**
VOIR 77.47 322 ⇑P **P** **00 23 29.3 +0.2**
VOIR 77.47 322 ⇑P **P** **00 23 29.3 +0.2**
PVCC Panska Ves 77.50 331 *e*P **P** **00 23 30.0 +0.9**
PVCC MLR MLR
comp=Z,2µm,19.1s
PVCC Panska Ves 77.50 331 *e*P **P** **00 23 30.0 +0.9**
PVCC AMS AMS 01 24 50.0
comp=Z,2µm,19.1s
COWI Conover 77.60 36 IAmb IAmb 00 23 44.8
comp=Z,8.4nm,1.1s
BR131 Keskin Array S 77.61 314‖ *e*P **P** **00 23 30.4 +0.3**
BR131 Keskin Array S 77.61 314 P **P** **00 23 29.8 -0.2**
BRTR Keskin Array B 77.61 314 P **P** **00 23 30.6 +0.5**
comp=Z,1.9nm,0.7s,baz=83,slow=3.4,SNR=14
BRTR Keskin Array B 77.61 314 P **P** **00 23 29.1 -0.9**
VYHS Vyhne 77.61 328 *e*P **P** **00 23 30.6 +0.9**
VYHS Vyhne 77.61 328 *e*P **P** **00 23 30.6 +0.9**
SCHQ Schefferville 77.65 19 P **P** **00 23 30.3 +0.5**
comp=Z,12nm,1.1s,baz=325,slow=5.3,SNR=7.2
SCHQ Schefferville 77.65 19 P **P** **00 23 30.0 +0.1**
PSZ Piszkesteto 77.67 327 ⇑P **P** **00 23 30.8 +0.7**
PSZ Piszkesteto 77.67 327 ⇑P **P** **00 23 30.8 +0.7**
PSZ Piszkesteto 77.67 327 P **P** **00 23 30.6 +0.5**
PSZ IAmb IAmb 00 23 31.5
comp=Z,7.9nm,1.1s
ARR Arges 77.71 323 ⇑P **P** **00 23 31.6 +1.2**
KOLL Kolacno 77.71 328 *e*P **P** **00 23 31.2 +0.9**
JAVC Velka Javorina 77.76 329 *e*P **P** **00 23 31.8 +1.2**
319A Douglas 77.77 58 P **P** **00 23 30.7 -0.4**
319A IAmb IAmb 00 23 32.7
comp=Z,12nm,1.1s
G40A Rib Lake 77.78 38 P **P** **00 23 30.2 -0.5**
G40A IAmb IAmb 00 23 30.7
comp=Z,11nm,1.1s
VRAC Vranov 77.80 329 ⇑P **P** **00 23 31.2 +0.5**
VRAC Vranov 77.80 329 ⇑P **P** **00 23 31.2 +0.5**
VRAC Vranov 77.80 329 *e*P **P** **00 23 31.0 +0.3**
MORW Morawa 77.85 208 P **P** **00 23 32.3 +1.3**
121A Cookes Peak, D 77.88 57 P **P** **00 23 31.9 +0.1**
121A IAmb IAmb 00 23 33.8
comp=Z,10nm,1.1s
121A Cookes Peak, D 77.88 57 P **P** **00 23 32.7 +1.0**
baz=314
ANTO Ankara 77.95 314 P **P** **00 23 30.6 -1.2**
ANTO pmax pmax
comp=Z,7.0nm,0.7s
ANTO Ankara 77.95 314 P **P** **00 23 30.6 -1.2**
ANTO IAmb IAmb 00 23 34.0
comp=Z,7.1nm,0.7s
PRU Pruhonice 77.97 331 *e*P **P** **00 23 31.7 +0.1**
PRU MLR MLR
comp=Z,1µm,20.4s
PRU Pruhonice 77.97 331 *e*P **P** **00 23 31.7 +0.1**
PRU AMS AMS 01 24 50.0
comp=Z,1µm,20.4s
KRUC Moravsky 78.07 329 *e*P **P** **00 23 32.4 +0.2**
SMOL Smolenice 78.14 329 *e*P **P** **00 23 33.3 +0.6**
SMOL pmax pmax
comp=Z,5.0nm,1.2s
SMOL Smolenice 78.14 329 *e*P **P** **00 23 33.2 +0.6**
TREC Trest 78.21 330 AMS AMS 01 14 40.0
comp=Z,1µm,23.8s
MDUB Mudurnu 78.32 316 P **P** **00 23 34.7 +0.8**
SRO Srobarova 78.37 328 *e*P **P** **00 23 35.0 +1.1**
SRO pmax pmax
comp=Z,12nm,1.1s
SRO Srobarova 78.37 328 *e*P **P** **00 23 35.0 +1.1**
SRO2 Moca 78.38 328 *e*P **P** **00 23 33.6 -0.4**
SRO2 pmax pmax
comp=Z,6.0nm,0.8s
SRO2 Moca 78.38 328 *e*P **P** **00 23 33.6 -0.4**
COPA Copaceanca 78.41 321 ⇑P **P** **00 23 33.9 -0.3**
NKC Novy Kostel 78.48 332 *e*P **P** **00 23 34.2 -0.3**
NKC MLR MLR
comp=Z,1µm,19.7s
NKC Novy Kostel 78.48 332 *e*P **P** **00 23 34.2 -0.3**
NKC AMS AMS 01 14 40.0
comp=Z,1µm,19.7s
GZR Gura Zlata 78.49 324 ⇑P **P** **00 23 34.5 -0.2**
GZR Gura Zlata 78.49 324 ⇑P **P** **00 23 34.5 -0.2**
ZST Bratislava 78.52 329 *e*P **P** **00 23 35.7 +1.0**
ZST Bratislava 78.52 329 *e*P **P** **00 23 35.6 +0.9**
N35A Tabor 78.60 44 P **P** **00 23 34.7 -0.6**
N35A IAmb IAmb 00 23 35.9
comp=Z,14nm,0.8s
SRIG Santa Rosalia 78.69 63 P **P** **00 23 36.0 +0.1**
SRIG IAmb IAmb 00 23 36.7
comp=Z,8.4nm,1.0s
BZS Buzias 78.81 324 ⇑P **P** **00 23 35.5 -0.9**
BZS Buzias 78.81 324 ⇑P **P** **00 23 35.5 -0.9**
SCIA State Center 78.99 41 P **P** **00 23 37.0 -0.4**
SCIA State Center 78.99 41 P **P** **00 23 37.2 -0.3**
baz=320
KHC Kasperske Hory 79.03 331 *e*P **P** **00 23 37.6 0.0**
KHC MLR MLR
comp=Z,1µm,20.6s
KHC Kasperske Hory 79.03 331 *e*P **P** **00 23 37.6 0.0**
KHC AMS AMS 01 23 40.0
comp=Z,1µm,20.6s
KHC Kasperske Hory 79.03 331 IAmb IAmb 00 23 38.8
comp=Z,8.1nm,0.9s
CKRC Cesky Krumlov 79.03 330 *e*P **P** **00 23 37.2 -0.4**
HERR Herculane 79.06 324 ⇑P **P** **00 23 37.3 -0.4**
BORA Eskisehir 79.14 316 P **P** **00 23 39.4 +0.9**
CONA Conrad Observa 79.21 329 *e*P **P** **00 23 39.2 +0.6**
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 79.23 331 P **P** **00 23 38.4 -0.3**
GERES GERESS Array B 79.23 331 P **P** **00 23 38.5 -0.3**
comp=Z,1.3nm,0.5s,baz=35,slow=6.7,SNR=17
GRA1 Grafenberg Arr 79.36 333 P **P** **00 23 39.4 +0.1**
GRA1 IAmb IAmb 00 23 40.7
comp=Z,17nm,1.0s
GRF Grafenberg Arr 79.36 333 P **P** **00 23 39.4 +0.1**
GRF pmax pmax
comp=Z,17nm,1.0s
GRF Grafenberg Arr 79.36 333 *e*P **P** **00 23 39.6 +0.3**
comp=Z,18nm,1.0s,baz=31,slow=4.7
GRF epP **pP** **00 23 53.4 -1.2**
GRFO Grafenberg 79.36 333 P **P** **00 23 39.4 +0.1**
GRFO pmax pmax
comp=Z,16nm,1.0s
GRFO Grafenberg 79.36 333 P **P** **00 23 39.4 +0.1**
GRFO IAmb IAmb 00 23 40.6
comp=Z,16nm,1.0s
KSU1 Kansas State U 79.43 45 IAmb IAmb 00 23 39.2
comp=Z,11nm,0.9s
KSU1 Kansas State U 79.43 45 P **P** **00 23 39.2 -0.7**
baz=319
I42A Draeger Farm, 79.44 38 P **P** **00 23 39.3 -0.5**
I42A IAmb IAmb 00 23 40.2
comp=Z,9.8nm,0.9s
H43A Windswept, Lux 79.48 37 P **P** **00 23 39.6 -0.4**
H43A IAmb IAmb 00 23 56.8
comp=Z,16nm,1.1s
JFWS Jewell Farm 79.60 39 P **P** **00 23 40.6 -0.2**
JFWS pmax pmax
comp=Z,4.0nm,0.9s
JFWS Jewell Farm 79.60 39 P **P** **00 23 40.6 -0.2**
JFWS Jewell Farm 79.60 39 P **P** **00 23 40.3 -0.4**
baz=322
AMTX Amarillo 79.79 51 P **P** **00 23 41.7 -0.3**
AMTX Amarillo 79.79 51 P **P** **00 23 42.3 +0.3**
baz=317
L40A Anamosa 79.82 40 IAmb IAmb 00 23 42.0
comp=Z,16nm,1.1s
MSTX Muleshoe 79.83 53 P **P** **00 23 41.8 -0.5**
N38A Joes South For 79.84 42 P **P** **00 23 41.5 -0.6**
N38A IAmb IAmb 00 23 42.6
comp=Z,15nm,0.8s
MOA Molln 79.86 330 *e*P **P** **00 23 42.3 +0.1**
comp=Z,2.7nm,0.9s
G45A Suttons Bay 79.92 35 P **P** **00 23 41.6 -0.8**
G45A IAmb IAmb 00 23 58.3
comp=Z,14nm,0.9s
MNTX Cornudas Mount 79.92 56 P **P** **00 23 43.0 +0.3**
MNTX Cornudas Mount 79.92 56 P **P** **00 23 42.8 +0.2**
baz=316,SNR=8.0
FRGS Fruska Gora 79.94 325 ⇑P **P** **00 23 41.4 -1.2**
BIOA Bad Ischl, Aus 80.23 330 *e*P **P** **00 23 44.4 +0.3**
comp=Z,12nm,1.4s
BOVS Bovan 80.36 323 ⇑P **P** **00 23 43.9 -0.9**
VLDQ Val d'Or 80.49 29 IAmb IAmb 00 23 44.9
comp=Z,21nm,1.0s
VTS Vitosha 80.49 322 ⇓P **P** **00 23 46.5 +0.8**
VTS Vitosha 80.49 322 ⇓P **P** **00 23 46.5 +0.8**
VTS Vitosha 80.49 322 IAmb IAmb 00 23 47.3
comp=Z,9.3nm,1.0s
ALN Alexandroupoli 80.54 319 P **P** **00 23 45.9 +0.1**
ALN pmax pmax
comp=Z,12nm,1.2s
ALN Alexandroupoli 80.54 319 P **P** **00 23 45.9 +0.1**
ALN IAmb IAmb 00 23 47.1
comp=Z,12nm,1.2s
SOKA Soboth 80.57 329 *e*P **P** **00 23 46.0 0.0**
comp=Z,4.7nm,0.8s,SNR=5.9
P38A Dawn 80.59 43 P **P** **00 23 45.8 -0.3**
P38A IAmb IAmb 00 23 46.8
comp=Z,11nm,0.9s
ISP Isparta 80.66 314 P **P** **00 23 46.1 -0.5**
ISP pmax pmax
comp=Z,10.0nm,1.1s
ISP Isparta 80.66 314 P **P** **00 23 46.1 -0.5**
ISP IAmb IAmb 00 23 47.7
comp=Z,10nm,1.1s
DIVS Divibare 80.72 324 P **P** **00 23 46.2 -0.7**
KBA Koelnbreinsper 80.85 330 *i* P **P** **00 23 47.5 -0.1**
comp=Z,12nm,0.9s,SNR=7.5
OBKA Obir 80.89 329 *e*P **P** **00 23 47.8 +0.1**
comp=Z,2.1nm,0.8s
N41A Harden Midland 81.05 41 P **P** **00 23 48.0 -0.6**
N41A IAmb IAmb 00 23 49.1
comp=Z,14nm,0.9s
T35A Sooner Cattle 81.12 47 P **P** **00 23 48.7 -0.4**
T35A IAmb IAmb 00 23 50.6
comp=Z,16nm,1.1s
MANT Manisa 81.16 316 P **P** **00 23 49.0 -0.5**
WATA Walderalm 81.26 331 *i* P **P** **00 23 50.0 +0.2**
comp=Z,3.8nm,0.5s,SNR=6.3
WTTA Wattenberg 81.30 331 *e*P **P** **00 23 50.1 +0.1**
comp=Z,4.6nm,0.5s,SNR=6.1
P40A Paris 81.39 42 IAmb IAmb 00 23 51.9
comp=Z,7.9nm,0.8s
RETA Reutte 81.41 332 *e*P **P** **00 23 50.0 -0.4**
comp=Z,4.9nm,1.1s
MOTA Moosalm 81.42 332 *e*P **P** **00 23 50.5 0.0**
comp=Z,8.4nm,0.9s,SNR=8.2
BFO Black Forest 81.49 334 P **P** **00 23 50.4 -0.4**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 81.49 334 P **P** **00 23 50.4 -0.4**
SQTA Sankt Quirin 81.49 331 *e*P **P** **00 23 51.0 +0.1**
comp=Z,3.0nm,0.6s
WMOK Wichita Mounta 81.52 50 P **P** **00 23 51.1 -0.1**
WMOK pmax pmax
comp=Z,5.0nm,1.1s
WMOK Wichita Mounta 81.52 50 P **P** **00 23 51.1 -0.1**
WMOK Wichita Mounta 81.52 50 P **P** **00 23 51.1 -0.1**
baz=318
OKCFA Oklahoma City 81.74 48 P **P** **00 23 52.2 -0.1**
OKCFA IAmb IAmb 00 23 53.5
comp=Z,19nm,1.0s
M44A Midewin, Midew 81.81 39 P **P** **00 23 51.8 -0.7**
FETA Feichten 81.83 332 *e*P **P** **00 23 52.9 +0.1**
comp=Z,6.8nm,1.1s
HDIL Hopedale 81.90 40 P **P** **00 23 52.6 -0.4**
baz=322
RAYN Ar Rayn 82.06 295 ⇑P **P** **00 23 54.6 +0.3**
RAYN Ar Rayn 82.06 295 P **P** **00 23 53.8 -0.5**
X34A Smith Ranch, M 82.14 49 P **P** **00 23 54.0 -0.4**
X34A IAmb IAmb 00 23 55.9
comp=Z,20nm,1.2s
S39A Bolivar 82.18 44 IAmb IAmb 00 23 54.5
comp=Z,9.3nm,0.9s
R40A Maddies Statio 82.24 43 P **P** **00 23 54.2 -0.6**
R40A IAmb IAmb 00 23 54.7
comp=Z,8.0nm,0.9s
W35A Tecumseh 82.25 48 P **P** **00 23 54.2 -0.8**
W35A IAmb IAmb 00 23 55.5
comp=Z,12nm,1.1s
TUL1 Leonard 82.26 47 P **P** **00 23 54.5 -0.5**
TUL1 IAmb IAmb 00 23 55.3
comp=Z,8.1nm,0.9s
CTI Castel Tesino 82.34 331 P **P** **00 23 54.8 -0.6**
CTI pmax pmax
comp=Z,4.0nm,0.8s
CTI Castel Tesino 82.34 331 P **P** **00 23 54.8 -0.6**
PDG Podgorica 82.39 324 P **P** **00 23 55.5 -0.1**
PDG IAmb IAmb 00 23 57.4
comp=Z,9.5nm,0.8s
P43A Skaggs, Pawnee 82.52 41 P **P** **00 23 56.0 -0.2**
P43A IAmb IAmb 00 23 58.8
comp=Z,6.9nm,0.4s
ABTX Abilene, Hawle 82.60 51 P **P** **00 23 56.5 -0.4**
TX31 Lajitas Ar. Si 82.64 56 P **P** **00 23 57.2 0.0**
TX32 Lajitas Array 82.64 56 P **P** **00 23 57.1 -0.2**
TXAR Lajitas Array 82.64 56 P **P** **00 23 57.5 +0.3**
comp=Z,5.9nm,0.9s,baz=294,slow=4.3,SNR=42
TXAR pP **pP** **00 24 12.0 -0.5**
comp=Z,3.1nm,0.6s,baz=290,slow=2.9,SNR=14
SLBS Sierra La Lagu 82.69 64 P **P** **00 23 57.0 -0.6**
FNA Florina 82.79 322 P **P** **00 23 57.4 -0.4**
FNA pmax pmax
comp=Z,7.0nm,1.2s
FNA Florina 82.79 322 P **P** **00 23 57.4 -0.4**
CCM Cathedral Cave 82.93 43 P **P** **00 23 58.1 -0.4**
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 82.93 43 P **P** **00 23 58.1 -0.4**
CCM IAmb IAmb 00 23 59.1
comp=Z,8.3nm,0.9s
CCM Cathedral Cave 82.93 43 P **P** **00 23 57.9 -0.5**
baz=322
L48A N Adams 82.95 36 P **P** **00 23 58.4 -0.1**
AAM Ann Arbor 82.99 35 P **P** **00 23 59.0 +0.3**
AAM pmax pmax
comp=Z,10.0nm,0.8s
AAM Ann Arbor 82.99 35 P **P** **00 23 59.0 +0.3**
AAM IAmb IAmb 00 24 14.8
comp=Z,10nm,0.8s
K50A Casco 83.03 35 P **P** **00 23 59.2 +0.4**
SFIN Lafayette 83.05 39 P **P** **00 23 58.7 -0.4**
baz=324
TRQ Mont Tremblant 83.11 28 IAmb IAmb 00 23 59.6
comp=Z,10nm,0.9s
HPIG 83.13 59 P **P** **00 23 59.5 -0.5**
KBN Korca 83.19 322 P **P** **00 24 00.0 +0.2**
KBN pmax pmax
comp=Z,10.0nm,1.1s
KBN Korca 83.19 322 P **P** **00 24 00.0 +0.2**
KBN IAmb IAmb 00 24 04.9
comp=Z,9.6nm,1.1s
N47A Urbana 83.27 38 IAmb IAmb 00 24 00.5
comp=Z,16nm,0.9s
LMQ La Malbaie 83.29 25 IAmb IAmb 00 24 00.5
comp=Z,20nm,1.1s
Q44A Meyer Farm, Va 83.34 41 P **P** **00 24 00.3 -0.2**
Q44A IAmb IAmb 00 24 01.3
comp=Z,11nm,1.0s
FVM French Village 83.39 42 P **P** **00 24 00.0 -0.8**
FVM pmax pmax
comp=Z,5.0nm,0.7s
FVM French Village 83.39 42 P **P** **00 24 00.0 -0.8**
FVM IAmb IAmb 00 24 01.0
comp=Z,4.8nm,0.7s
Z35A Perchaven, San 83.41 50 P **P** **00 24 00.3 -0.7**
Z35A IAmb IAmb 00 24 02.4
comp=Z,8.1nm,0.8s
U40A Yellville 83.44 45 P **P** **00 24 00.3 -0.9**
U40A IAmb IAmb 00 24 01.0
comp=Z,7.6nm,0.9s
U40A Yellville 83.44 45 P **P** **00 24 00.3 -0.9**
baz=321,SNR=7.1
P46A Rosedale 83.61 39 P **P** **00 24 01.6 -0.4**
W39A Magazine 83.86 46 P **P** **00 24 02.7 -0.6**
baz=320
O48B Farmland 84.02 38 P **P** **00 24 03.3 -0.7**
baz=325
JCT Junction City 84.09 53 P **P** **00 24 04.4 -0.2**
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT Junction City 84.09 53 P **P** **00 24 04.4 -0.2**
JCT IAmb IAmb 00 24 05.6
comp=Z,8.4nm,0.9s
JCT Junction City 84.09 53 P **P** **00 24 04.6 0.0**
baz=318
S44A Carbondale 84.18 42 P **P** **00 24 05.1 +0.2**
S44A IAmb IAmb 00 24 05.8
comp=Z,15nm,0.9s
SIUC Southern Illin 84.18 42 P **P** **00 24 04.9 0.0**
SIUC IAmb IAmb 00 24 05.8
comp=Z,14nm,0.9s
PECO Prince Edward 84.24 30 P **P** **00 24 04.3 -0.7**
PBMO Poplar Bluff 84.33 43 IAmb IAmb 00 24 06.0
comp=Z,11nm,1.1s
MURB Monte Urbino 84.41 329 P **P** **00 24 07.1 +1.0**
MURB IAmb IAmb 00 24 08.3
comp=Z,8.3nm,0.9s
NRCA Norcia 84.55 328 P **P** **00 24 06.5 -0.2**
NRCA IAmb IAmb 00 24 07.9
comp=Z,9.7nm,0.9s
WHAR Wooly Hollow 84.56 45 IAmb IAmb 00 24 07.5
comp=Z,17nm,1.1s
ERPA Erie 84.64 33 P **P** **00 24 06.1 -1.1**
ERPA IAmb IAmb 00 24 07.7
comp=Z,10nm,0.8s
ERPA Erie 84.64 33 P **P** **00 24 06.8 -0.4**
baz=328
W41B Gary Mavity, V 84.67 45 P **P** **00 24 07.3 -0.1**
W41B Gary Mavity, V 84.67 45 P **P** **00 24 07.5 +0.1**
baz=321
P49A Miami Univ. Ec 84.80 38 IAmb IAmb 00 24 08.5
comp=Z,14nm,1.1s
P49A Miami Univ. Ec 84.80 38 P **P** **00 24 07.7 -0.3**
baz=325
X40A Basin Creek Fa 84.90 46 P **P** **00 24 08.6 0.0**
X40A Basin Creek Fa 84.90 46 P **P** **00 24 08.7 +0.1**
baz=321
M53A WI Miller and 84.94 34 P **P** **00 24 08.1 -0.5**
M53A IAmb IAmb 00 24 09.1
comp=Z,14nm,1.0s
M53A WI Miller and 84.94 34 P **P** **00 24 08.3 -0.4**
baz=327
ALLY Allegheny Colle 84.98 34 P **P** **00 24 08.5 -0.4**
ACSO Alum Creek Sta 84.98 36 P **P** **00 24 08.2 -0.7**
ACSO IAmb IAmb 00 24 09.3
comp=Z,13nm,1.1s
ACSO Alum Creek Sta 84.98 36 P **P** **00 24 08.8 -0.1**
baz=326
WCI Wyandotte Cave 85.15 39 P **P** **00 24 09.6 -0.2**
baz=324
M54A Oil Creek Stat 85.29 33 P **P** **00 24 10.2 -0.2**
baz=328
IDI Anoyia 85.49 316 ⇑P **P** **00 24 09.8 -1.9**
N54A Moraine State 85.62 34 P **P** **00 24 11.9 -0.2**
baz=328
O53A New Philadelph 85.72 35 P **P** **00 24 12.3 -0.2**
baz=327
T47A Sharon Grove 85.77 41 P **P** **00 24 13.0 +0.1**
T47A IAmb IAmb 00 24 13.8
comp=Z,8.2nm,0.8s
Q51A Peebles 85.82 37 P **P** **00 24 12.7 -0.4**
P52A Corning 85.84 36 P **P** **00 24 12.4 -0.8**
baz=327
BINY Binghamton 86.11 31 P **P** **00 24 13.2 -1.3**
baz=330
WVT Waverly 86.12 42 P **P** **00 24 14.3 -0.3**
baz=324
OXF Oxford 86.63 44 P **P** **00 24 17.1 0.0**
baz=323
SSPA Standing Stone 86.73 33 P **P** **00 24 16.9 -0.7**
baz=329
MCWV Mont Chateau 86.78 34 P **P** **00 24 17.8 0.0**
baz=328
O56A Blue Knob Stat 86.78 33 P **P** **00 24 17.8 0.0**
baz=329
V48A Smith Brothers 86.92 41 IAmb IAmb 00 24 18.7
comp=Z,7.1nm,1.0s
L61B Northampton 87.07 28 P **P** **00 24 19.0 -0.1**
baz=332
SWET Sewanee 87.76 41 P **P** **00 24 22.0 -0.6**
KEST Kesra 92.14 327 P **P** **00 24 43.6 +0.4**
comp=Z,0.7nm,0.5s,baz=331,slow=5.1,SNR=4.7
ESDC Sonseca Array 93.02 338 P **P** **00 24 46.1 -1.0**
comp=Z,1.2nm,0.9s,baz=27,slow=3.0,SNR=5.5
TORD Torodi Ar. Bea 115.27 322 PKP **PKiKP** **00 30 13.7 -1.5**
comp=Z,0.2nm,0.4s,baz=359,slow=1.4,SNR=2.0
H03N2 Juan Fernandez 142.92 90 T T 03 10 10.2
baz=305,slow=77,SNR=7.3
H03N3 Juan Fernandez 142.93 90 T T 03 10 12.9
baz=305,slow=77,SNR=8.0
H03N1 Juan Fernandez 142.93 90 T T 03 10 07.3
baz=305,slow=77,SNR=7.9
PEXB Peixe 145.79 28 *e*P **PKPbc** **00 31 13.9 +1.0**
SDBA SAO DESIDERIO 147.12 22 *e*P **PKPdf** **00 31 16.4 +1.8**
PP1B Ponte de Pedra 147.98 43 *e*P **PKPbc** **00 31 18.9 -0.2**
BDFB Brasilia 149.17 30 PKPbc **PKPbc** **00 31 21.4 -0.8**
comp=Z,5.4nm,1.0s,baz=79,slow=5.0,SNR=7.1
BDFB Brasilia 149.17 30 **PKPbc** **00 31 22.6 +0.3**
GDU01 Guandu, BA 149.56 13 *e*P **PKPdf** **00 31 21.6 +3.1**
JANB Januaria 149.81 23 *e*P **PKPdf** **00 31 22.5 +3.5**
AQDB Aquidauana 149.97 47 *e*P **PKPdf** **00 31 21.0 +2.0**
IPMB Ipameri, GO 151.25 32 *e*P **PKPdf** **00 31 24.4 +3.2**
PLCA Paso Flores 152.03 97 PKPbc **PKPbc** **00 31 27.6 -0.7**
comp=Z,5.6nm,0.9s,baz=232,slow=3.7,SNR=8.6
PLCA Paso Flores 152.03 97 **PKPbc** **00 31 28.6 +0.2**
CPUP Villa Florida 153.61 57 *e*P **PKPdf** **00 31 27.4 +3.1**
FRTB Fartura 155.44 40 *e*P **PKPdf** **00 31 29.7 +2.7**
CPSB Cacapava Do Su 158.91 58 *e*P **PKPdf** **00 31 34.8 +3.6**

NEIC 21 00:22:33.5±0.4, 36°.466N±0°.009×98°.75W±0°.01, h4km±4km, ML2.1/24, Error ellipse: s-maj=1.7km s-min=0.8km az=133.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.22**	**247**	Pg	Pg	00 22 37.7	-0.1
U32A				Sg	Sg	00 22 41.3	+0.7

NEIC 21 00:25:57.0±0.7, 37°.60N±0°.02×97°.84W±0°.04, h5km±2km, mb_Lg2.8/51, Error ellipse: s-maj=5.8km s-min=3.1km az=119.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**1.07**	**320**		Pb	00 26 18.0	-0.1
T35A	**Sooner Cattle**	**1.26**	**122**	Pn	Pg	00 26 20.2	-0.9
U32A	**Winter Ranch,**	**1.53**	**218**	Pn	Pn	00 26 25.0	-0.1
KSU1	**Kansas State U**	**1.78**	**32**	Pn	Pn	00 26 29.2	+0.7
CBKS	**Cedar Bluff**	**1.93**	**310**		Pn	00 26 31.2	+0.7
OKCFA	**Oklahoma City**	**2.20**	**172**		Pn	00 26 33.4	-0.9
OKCSW	**OKLAHOMA CITY**	**2.21**	**172**		Pn	00 26 34.2	-0.2
TUL1	**Leonard**	**2.35**	**135**	Pn	Pn	00 26 35.2	-1.1
FNO	**Franklin**	**2.36**	**171**		Pn	00 26 36.1	-0.4
W35A	**Tecumseh**	**2.56**	**162**		Pn	00 26 41.3	+2.1
X34A	**Smith Ranch, M**	**2.99**	**180**	Pg	Pg	00 26 53.2	-1.1
U38A	**Gravette**	**3.00**	**112**	Pn	Pn	00 26 44.0	-1.2
HHAR	**Hobbs**	**3.39**	**112**	Pn	Pn	00 26 51.6	+1.1
S39A	**Bolivar**	**3.58**	**87**	Pn	Pn	00 26 54.9	+1.7
X37A	**Clayton**	**3.61**	**146**		Pb	00 27 02.8	+1.5
X37A				IAmb_Lg		00 27 53.6	
comp=Z,16nm,0.8s							
N35A	**Tabor**	**3.68**	**27**		Pg	00 27 05.5	-1.9
BGNE	**Belgrade**	**3.81**	**356**	Pn	Pn	00 26 57.3	+0.9
BGNE				IAmb_Lg		00 28 07.0	
comp=Z,18nm,0.7s							
P38A	**Dawn**	**3.93**	**58**		Pb	00 27 09.5	+2.7
P38A				IAmb_Lg		00 28 02.1	
comp=Z,16nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.02**	**292**	Pn	Pn	00 26 59.2	-0.1
KSCO				Pg	Pb	00 27 09.7	+1.3
KSCO				IAmb_Lg		00 28 14.8	
comp=Z,17nm,0.8s							
W39A	**Magazine**	**4.05**	**125**	IAmb_Lg		00 28 09.9	
comp=Z,34nm,0.9s							
AMTX	**Amarillo**	**4.12**	**230**	Pg	Pb	00 27 13.0	+2.9
AMTX				IAmb_Lg		00 28 15.4	
comp=Z,17nm,0.7s							
U40A	**Yellville**	**4.18**	**106**		Pn	00 27 01.7	+0.3
R40A	**Maddies Statio**	**4.46**	**79**		Pn	00 27 06.4	+1.2
R40A				IAmb_Lg		00 28 22.7	
comp=Z,11nm,0.8s							

MGMO	**Mountain Grove**	**4.46**	**94**			Pn		00 27 05.7	+0.4
MGMO				IAmb_Lg				00 28 18.3	
	comp=Z,23nm,0.8s								
L34A	**Svendsen Farm,**	**4.50**	**14**			Pn		00 27 06.0	+0.1
OGNE	**Ogallala**	**4.67**	**317**	IAmb_Lg				00 28 37.3	
	comp=Z,26nm,0.9s								
N38A	**Joes South For**	**4.79**	**47**	IAmb_Lg				00 28 37.7	
	comp=Z,15nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.89**	**109**	IAmb_Lg				00 28 30.1	
	comp=Z,14nm,0.8s								
Z38A	**Mt. Pleasant**	**4.92**	**151**	Pn		Pn		00 27 11.5	0.0
Z38A				IAmb_Lg				00 28 35.1	
	comp=Z,25nm,0.8s								
P40A	**Paris**	**4.93**	**65**	Pn		Pn		00 27 11.4	-0.4
P40A				Pg		Pg		00 27 28.6	-2.8
P40A				IAmb_Lg				00 28 42.2	
	comp=Z,13nm,1.0s								
K31A	**O'Neill**	**5.07**	**352**	Pn		Pn		00 27 13.2	-0.4
K31A				Pg		Pg		00 27 32.1	-1.9
X40A	**Basin Creek Fa**	**5.11**	**126**	IAmb_Lg				00 28 40.8	
	comp=Z,18nm,0.7s								
W41B	**Gary Mavity, V**	**5.12**	**117**	IAmb_Lg				00 28 38.9	
	comp=Z,15nm,0.8s								
CCM	**Cathedral Cave**	**5.24**	**83**	Pn		Pn		00 27 16.6	+0.6
CCM				IAmb_Lg				00 28 47.4	
	comp=Z,8.7nm,0.7s								
T25A	**Trinidad**	**5.26**	**267**	Pg		Pg		00 27 35.7	-2.0
T25A				IAmb_Lg				00 28 53.2	
	comp=Z,25nm,1.2s								
WLAR	**White Oak Lake**	**5.48**	**134**	IAmb_Lg				00 29 01.6	
	comp=Z,18nm,0.7s								
SCIA	**State Center**	**5.58**	**38**	IAmb_Lg				00 29 05.9	
	comp=Z,18nm,0.8s								
P43A	**Skaggs, Pawnee**	**6.82**	**70**	IAmb_Lg				00 29 39.9	
	comp=Z,14nm,0.9s								
N23A	**Red Feather La**	**7.10**	**300**	IAmb_Lg				00 29 47.1	
	comp=Z,13nm,0.7s								
JCT	**Junction City**	**7.29**	**193**	IAmb_Lg				00 30 03.1	
	comp=Z,8.1nm,1.0s								
L42A	**Oliver, Polo**	**7.67**	**52**	IAmb_Lg				00 30 01.8	
	comp=Z,13nm,0.9s								
JFWS	**Jewell Farm**	**7.86**	**45**	IAmb_Lg				00 30 12.4	
	comp=Z,10nm,0.8s								
E28A	**Huff**	**9.22**	**348**	IAmb_Lg				00 31 16.3	
	comp=Z,12nm,0.8s								

DJA ***21*** *00:34:47.8±0.2, 1°N±2°×12°3E±°, h10km, M4.7/21, mb5.1/16, mB5.2/13, MLv4.9/21, Mw(mB)4.5/13*
BJI ***21*** *00:34:48.7±0.0, 1°13N×122°64E, h43km, mb4.6/39, mB5.1/17, Ms4.7/5, Ms7 4.5/5*
IDC ***21*** *00:34:49.3±0.7, 1°15N×122°84E, h38km±6km, mb4.1/18, mb1 4.3/21, mb1mx4.0/46, mbtmp4.4/21, ML4.6/3, MS4.5/3, Ms1 4.5/3, ms1mx3.7/78, Error ellipse: s-maj=20.6km s-min=10.6km az=70.0*
NEIC ***21*** *00:34:50.8±1.9, 1°25N±0°06×122°65E±0°05, h42km±2km, mb4.8/71, Error ellipse: s-maj=8.4km s-min=7.6km az=208.0*

ISC 21 00:34:48.4±0.5, 1°18N±0°04×122°72E±0°05, h30km±3km, h29km; pP-P, n168, σ1§32/162, mb4.7/66, MS4.5/4, 9C-8D,
Fault plane solution: NP1:φs259.97040°, δ68.41724°, λ69.25324°. **NP2:**φs125.81115°, δ29.58910°, λ131.84416°.
Principal axes: T Plg61.0447°, Azm138.8128°; N Plg19.2325°, Azm267.9029°; P Plg20.7804°, Azm5.5105°;
Fault plane solution: NP1:φs343.33698°, δ15.24804°, λ-33.18099°. **NP2:**φs105.58432°, δ81.72438°, λ-102.85188°. **Principal axes:** T Plg35.4813°, Azm206.7210°; N Plg12.7158°, Azm107.4651°; P Plg51.6275°, Azm0.9075°; **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.61**	**151**	P	**Pb**	**00 34 58.9**	**-1.8**
GTOI				S	**Sb**	**00 35 06.7**	**-2.4**
MRSI	**Marisa**	**1.04**	**228**	P	**Pb**	**00 35 07.3**	**-0.5**
KMSI	**Cibinong**	**1.40**	**115**	P	**Pn**	**00 35 14.4**	**+2.5**
TOLI2	**Tolitoli**	**1.93**	**268**	Pn	**Pn**	**00 35 18.4**	**-0.8**
TOLI2				Sn	**Sn**	**00 35 41.5**	**-1.1**
LUWI	**Luwuk**	**2.20**	**179**	Pn	**Pb**	**00 35 25.7**	**-1.9**
LUWI	**Luwuk**	**2.20**	**179**	P	**Pb**	**00 35 26.5**	**-1.1**
APSI	**Ampana**	**2.33**	**207**	P	**Pn**	**00 35 26.7**	**+2.0**
MPSI	**Mapaga**	**2.94**	**254**	P	**Pn**	**00 35 34.1**	**+1.1**
SANI	**Sanana**	**4.58**	**134**	P	**Pn**	**00 35 56.4**	**+0.8**
TNTI	**Ternate**	**4.67**	**95**	Pn	**Pn**	**00 35 57.9**	**+1.0**
TTSI	**Tana Toraja**	**5.09**	**215**	P	**Pn**	**00 36 05.3**	**+2.6**
	1.4nm4μm320nm,0.6s						
LBMI	**Labuha**	**5.11**	**111**	P	**Pn**	**00 36 04.9**	**+1.9**
	0.8nm1μm129nm,1.1s						
GSPH	**General Santos**	**5.36**	**24**	↑*eP*	**Pn**	**00 36 06.1**	**-0.5**
MYLDM	**Lahad Datu**	**5.79**	**313**	Pn	**Pn**	**00 36 12.7**	**+0.4**
SPSI	**Sidrap Palu**	**5.89**	**210**	P	**Pn**	**00 36 17.0**	**+3.3**
	1.1nm3μm360nm,0.9s						
BNSI	**Bone**	**6.12**	**205**	P	Pn	00 36 21.5	+4.7
	1.4nm4μm457nm,0.8s						
CTBH	**Cotabato--PC H**	**6.20**	**14**	↑*iP*	**Pn**	**00 36 16.8**	**-1.1**
BKB	**Balikpapan**	**6.30**	**247**	Pn	**Pn**	**00 36 19.3**	**0.0**
DAV	**Davao City (W)**	**6.51**	**26**	Pn	**Pn**	**00 36 22.3**	**0.0**
	86nm,0.3s,baz=153,slow=2.4,SNR=13						
DAV	**Davao City (W)**	**6.51**	**26**	Pn	**Pn**	**00 36 23.6**	**+1.4**
BBSI	**Bau Bau**	**6.62**	**181**	P	Pn	00 36 28.5	+4.8
	0.1nm316nm36nm,0.8s						
PAGZ	**Pagadian**	**6.66**	**6**	↑*eP*	**Pn**	**00 36 23.1**	**-1.2**
KAPI	**Kappang**	**6.82**	**206**	Pn	**Pn**	**00 36 28.4**	**+1.9**
	3.2nm,0.3s,baz=17,slow=8.4,SNR=17						
KAPI				LR	LR	00 39 41.4	
	comp=Z,1μm,19.2s,baz=30,slow=43						
KAPI	**Kappang**	**6.82**	**206**	Pn	**Pn**	**00 36 29.3**	**+2.8**
BKSI	**Bulukumba**	**6.96**	**202**	P	**Pn**	**00 36 31.8**	**+3.5**
	0.4nm1μm131nm,0.8s						
AAI	**Ambon**	**7.30**	**131**	P	Pn	00 36 38.3	+5.2
	0.5nm2μm141nm,1.1s						
BSSI	**Bau Bau, Buton**	**7.60**	**197**	P	**Pn**	**00 36 41.7**	**+4.5**
	0.4nm901nm126nm,0.8s						
MSAI	**Masohi**	**7.67**	**126**	P	**Pn**	**00 36 41.7**	**+3.6**
	0.1nm780nm25nm,0.7s						
KKM	**Kota Kinabalu**	**8.09**	**307**	Pn	**Pn**	**00 36 44.4**	**+0.4**
MTKI	**Muara Teweh, K**	**8.10**	**255**	P	**Pn**	**00 36 46.6**	**+2.6**
	5μm52nm,0.6s						
GUIM	**Jordan**	**9.39**	**359**	↓*iP*	Pn	00 36 48.8	-13
MMRI	**Maumere**	**9.76**	**183**	Pn	**Pn**	**00 37 10.4**	**+3.6**
FAKI	**Fak Fak**	**10.36**	**113**	Pn	**Pn**	**00 37 16.3**	**+1.2**
SBUM	**Sibu**	**10.57**	**277**	Pn	**Pn**	**00 37 18.5**	**+0.7**
KSM	**Kuching**	**12.41**	**272**	Pn	**Pn**	**00 37 43.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**12.83**	**222**	Pn	**Pn**	**00 37 50.9**	**+2.0**
LQP	**Lukban**	**12.91**	**355**	↓*eP*	Pn	00 37 55.1	+5.0
SMRI	**Semarang**	**14.72**	**236**	Pn	**Pn**	**00 38 16.1**	**+1.4**
MTN	**Manton Dam**	**16.24**	**149**	P	**Pn**	**00 38 35.7**	**+1.3**
	baz=16,SNR=6.8						
MTN	**Manton Dam**	**16.24**	**149**	Pn	**Pn**	**00 38 35.8**	**+1.3**
DLV	**T Lat**	**17.71**	**308**		**P**	**00 38 53.1**	**-0.7**
KNRA	**Kununurra**	**17.78**	**161**	P	**P**	**00 38 55.9**	**+1.6**
	baz=18,SNR=9.2						
KNRA	**Kununurra**	**17.78**	**161**		**P**	**00 38 56.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.37**	**172**	P	**P**	**00 39 11.8**	**0.0**
	1.0nm,0.3s,baz=360,slow=7.3,SNR=34						
FITZ	**Fitzroy Crossi**	**19.37**	**172**	P	**P**	**00 39 11.8**	**0.0**
	baz=20						
FITZ	**Fitzroy Crossi**	**19.37**	**172**	P	**P**	**00 39 12.2**	**+0.4**
TWG	**Pinlang**	**21.57**	**356**	P	**P**	**00 39 35.9**	**+0.2**
TWG				IAmb	IAmb	00 39 51.3	
	comp=Z,75nm,1.5s						
QIZ	**Qiongzhong**	**21.77**	**325**	P	**P**	**00 39 35.3**	**-2.6**
QIZ				IAmb	IAmb	00 39 41.0	
	comp=Z,27nm,1.3s						
IPM	**Ipoh**	**21.91**	**279**	P	**P**	**00 39 38.0**	**-1.4**
IPM				IAmb	IAmb	00 39 56.5	
	comp=Z,20nm,1.0s						
TPUB	**Ta-pu**	**22.09**	**355**	P	**P**	**00 39 41.8**	**+0.6**
TPUB				IAmb	IAmb	00 39 49.4	
	comp=Z,42nm,0.9s						
YULB	**Yu-li**	**22.13**	**357**	P	**P**	**00 39 41.9**	**+0.3**
YULB				IAmb	IAmb	00 39 57.6	
	comp=Z,20nm,0.8s						
KULM	**Kulim**	**22.40**	**281**	P	**P**	**00 39 45.4**	**+0.7**
SSLB	**Suanglung**	**22.54**	**356**	P	**P**	**00 39 46.0**	**-0.1**
SSLB				IAmb	IAmb	00 39 53.2	
	comp=Z,25nm,0.8s						
WB0	**Warramunga Arr**	**23.76**	**152**	P	**P**	**00 39 57.3**	**-1.1**
WB0				IAmb	IAmb	00 39 59.2	
	comp=Z,33nm,1.0s						
RPSI	**Rantau Prapat**	**23.82**	**274**	P	**P**	**00 39 60.0**	**+0.9**
PSI	**Prapat**	**23.83**	**274**	P	**P**	**00 39 60.0**	**+0.7**
	comp=Z,7.6nm,0.4s,baz=104,slow=5.8,SNR=9.5						
WRAB	**Tennant Creek**	**23.88**	**152**	P	**P**	**00 39 59.2**	**-0.4**
WRAB				IAmb	IAmb	00 40 00.4	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**23.88**	**152**	P	**P**	**00 39 58.4**	**-1.2**
	comp=Z,13nm,0.7s,baz=330,slow=10,SNR=108						
WRA	**Warramunga Arr**	**23.88**	**152**	P	**P**	**00 39 58.1**	**-1.5**
WB2	**Warramunga Arr**	**23.89**	**152**	P	**P**	**00 39 59.0**	**-0.7**
	baz=24						
WB2	**Warramunga Arr**	**23.89**	**152**	P	**P**	**00 39 58.8**	**-0.8**
WB2				IAmb	IAmb	00 40 00.4	
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	**23.99**	**152**	P	**P**	**00 39 59.8**	**-0.8**
WR0				IAmb	IAmb	00 40 17.2	
	comp=Z,16nm,0.9s						
SRIT	**Nakonsritamara**	**24.16**	**289**	P	**P**	**00 40 01.0**	**-1.3**
SRIT				IAmb	IAmb	00 40 17.4	
	comp=Z,24nm,1.2s						
MANU	**Manus Island**	**24.85**	**97**	P	**P**	**00 40 08.2**	**-0.3**
MANU				IAmb	IAmb	00 40 14.1	
	comp=Z,53nm,1.5s						
GIRL	**Giralia**	**25.08**	**199**	P	**P**	**00 40 10.4**	**0.0**
GSI	**Gunungsitoli**	**25.13**	**271**	P	**P**	**00 40 09.6**	**-1.4**
GSI				IAmb	IAmb	00 40 11.4	
	comp=Z,25nm,0.6s						
JOW	**Kunigami**	**26.06**	**11**	P	**P**	**00 40 17.4**	**-1.9**
JOW				IAmb	IAmb	00 40 20.1	
	comp=Z,39nm,1.0s						
AS31	**Alice Springs**	**26.98**	**157**	P	**P**	**00 40 27.4**	**-0.3**
ASAR	**Alice Springs**	**26.98**	**157**	P	**P**	**00 40 26.5**	**-1.2**
	baz=24						
	comp=Z,2.0nm,0.8s,baz=348,slow=17,SNR=23						
ASAR	**Alice Springs**	**26.98**	**157**	P	**P**	**00 40 27.4**	**-0.3**
QIS	**Mount Isa**	**27.21**	**143**	P	**P**	**00 40 29.9**	**+0.1**
	baz=27,SNR=6.7						
MEEK	**Meekatharra**	**27.93**	**188**	P	**P**	**00 40 34.5**	**-1.7**
	baz=28,SNR=5.0						
CMAR	**Chiang Mai Arr**	**28.97**	**308**	P	**P**	**00 40 46.3**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=123,slow=6.6,SNR=1.9						
CMAR	**Chiang Mai Arr**	**28.97**	**308**	P	**P**	**00 40 45.9**	**+0.4**
CHTO	**Chiang Mai**	**29.16**	**308**	P	**P**	**00 40 47.5**	**+0.3**
MORW	**Morawa**	**30.74**	**191**	P	**P**	**00 40 59.7**	**-1.3**
MORW				IAmb	IAmb	00 41 00.6	
	comp=Z,15nm,0.9s						
NJ2	**Nanjing**	**30.93**	**354**	*eP*	**P**	**00 41 04.4**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CTA	**Charters Tower**	**31.29**	**134**	P	**P**	**00 41 04.8**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=329,slow=11,SNR=3.8						
FORT	**Forrest**	**32.18**	**171**	P	**P**	**00 41 12.8**	**-1.0**
FORT				IAmb	IAmb	00 41 13.7	
	comp=Z,25nm,0.8s						
PZH	**PanZhiHua**	**32.26**	**323**	P	**P**	**00 41 17.4**	**+2.7**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
JTU	**Tsushima**	**33.76**	**10**	P	**P**	**00 41 27.7**	**+0.3**
CD2	**Chengdu**	**34.60**	**331**	P	**P**	**00 41 35.3**	**+0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
JHS	**Saijyo**	**35.02**	**15**	P	**P**	**00 41 39.1**	**+0.7**
JHS				IAmb	IAmb	00 41 51.0	
	comp=Z,25nm,1.4s						
XAN	**Xi'an**	**35.15**	**340**	P	**P**	**00 41 39.8**	**+0.2**
XAN				pP	sP	00 41 51.4	+0.2
XAN				sP	pwP	00 41 57.3	+6.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				LR	LR		
	comp=Z,870nm,18.6s						
XAN				LR	LR		
	comp=Z,520nm,20.6s						
XAN				LR	LR		
	comp=Z,870nm,18.6s						
KSAR	**Wonju Array Be**	**36.40**	**7**	P	**P**	**00 41 50.3**	**+0.1**
KSRS	**Korea Array**	**36.42**	**7**	P	**P**	**00 41 49.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=185,slow=8.9,SNR=6.6						
STKA	**Stephens Creek**	**37.43**	**153**	P	**P**	**00 41 58.5**	**-0.5**
	comp=Z,16nm,0.8s,baz=324,slow=9.2,SNR=25						
STKA	**Stephens Creek**	**37.43**	**153**	P	**P**	**00 41 59.2**	**+0.2**
	baz=38,SNR=16						
HTT	**Hallett**	**37.66**	**158**	P	**P**	**00 42 00.9**	**-0.1**
	baz=38,SNR=19						
SHL	**Shillong**	**38.36**	**312**	P	**P**	**00 42 06.3**	**-0.9**
SHL				IAmb	IAmb	00 42 18.8	
	comp=Z,21nm,1.0s						
JYT	**Yasato**	**38.46**	**23**	P	**P**	**00 42 06.7**	**-0.9**
BJI	**Beijing**	**39.14**	**352**	P	**P**	**00 42 13.4**	**+0.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMSA	**Cobar Meteorol**	**39.16**	**148**	P	**P**	**00 42 14.3**	**+0.7**
	baz=39,SNR=5.9						
HHC	**Hu-ho-hao-te**	**40.76**	**347**	*eP*	**P**	**00 42 28.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
ARPS	**Mount Arapiles**	**41.73**	**157**	P	**P**	**00 42 35.3**	**+0.6**
	baz=42,SNR=20						
PALK	**Pallekele**	**42.31**	**279**	P	**P**	**00 42 42.3**	**+2.4**
	comp=Z,3.8nm,0.7s,baz=196,slow=6.2,SNR=3.7						
PALK	**Pallekele**	**42.31**	**279**	P	**P**	**00 42 39.0**	**-1.0**
ODAN	**Odare**	**42.45**	**310**	*eP*	P	00 42 52.2	+11
TAPN	**Taplejung**	**42.46**	**311**	*eP*	P	00 42 51.3	+10
	comp=Z,17nm,0.8s						
XLT	**XiLinHaoTe**	**42.95**	**353**	*eP*	**P**	**00 42 43.4**	**-1.3**
XLT				pP	sP	00 43 00.0	+3.6
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,350nm,6.0s						
RAMN	**Ramite**	**43.10**	**310**	*eP*	P	00 42 57.5	+11
GOMU	**GeErMu**	**43.39**	**327**	P	P	00 43 00.6	+12
GOMU				pP	pwP	00 43 04.5	+4.0
GOMU				sP	sP	00 43 08.3	+8.1
GOMU				S	S	00 49 37.3	+22
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU				LR	LR		
	comp=N,370nm,18.2s						
GOMU				LR	LR		
	comp=E,210nm,18.4s						
GOMU				LR	LR		
	comp=Z,130nm,17.7s						
GTA	**Gaotai**	**43.42**	**334**	↑P	**P**	**00 42 50.1**	**+1.5**
GTA				pP	sP	00 43 01.8	+1.7
GTA				sP	pwP	00 43 07.0	+6.6
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.63**	**10**	P	**P**	**00 42 49.9**	**-0.1**
JIRN	**Jiri**	**43.78**	**310**	*eP*	P	00 43 02.2	+10
TOO	**Toolangi**	**43.94**	**154**	P	**P**	**00 42 53.4**	**+0.7**
TOO				IAmb	IAmb	00 42 55.6	
	comp=Z,32nm,1.4s						
GUN	**Gumba**	**44.14**	**310**	*eP*	P	00 43 04.1	+9.2
	comp=Z,28nm,0.8s						
BNX	**BinXian**	**44.57**	**5**	↓P	**P**	**00 42 58.3**	**+0.7**
BNX				pmax	pmax		
	comp=Z,20nm,1.2s						
BNX				pmax	pmax		
	comp=Z,320nm,4.9s						
KOLN	**Koldanda**	**45.83**	**309**	*eP*	P	00 43 18.9	+11
	comp=Z,57nm,0.9s						
DANN	**Dangsing**	**45.98**	**310**	*eP*	P	00 43 18.4	+8.9
	comp=Z,58nm,0.8s						
ASAJ	**Asahikawa**	**46.27**	**20**	LR	LR	01 01 48.9	
	comp=Z,515nm,19.0s,baz=276,slow=35						
PYUN	**Piuthan**	**46.46**	**309**	*eP*	P	00 43 23.9	+11
	comp=Z,50nm,0.9s						
HIA	**Hailar**	**47.98**	**357**	P	**P**	**00 43 24.0**	**-0.4**
HIA				pP	**pP**	**00 43 34.8**	**+2.0**
HIA				IAmb	IAmb	00 43 36.4	
	comp=Z,6.3nm,0.8s						
ULN	**Ulaanbaatar**	**48.45**	**346**	P	**P**	**00 43 28.1**	**-0.1**
ULN				pP	**sP**	**00 43 39.6**	**-0.4**
ULN				IAmb	IAmb	00 43 43.2	
	comp=Z,6.2nm,0.9s						
KLR	**Kul'dur**	**48.50**	**8**	P	**P**	**00 43 27.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=217,slow=5.9,SNR=4.4						
DZM	**Mont Dzumac**	**48.51**	**121**	P	**P**	**00 43 30.5**	**+1.5**
DZM				IAmb	IAmb	00 43 41.6	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**48.58**	**345**	P	**P**	**00 43 29.8**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=163,slow=8.6,SNR=13						
SONM				pP	**sP**	**00 43 40.4**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=164,slow=9.6,SNR=8.1						
SONM	**Songino Array**	**48.58**	**345**	P	**P**	**00 43 29.1**	**-0.1**
SONM				pP	**pP**	**00 43 39.2**	**+1.6**
SONM				IAmb	IAmb	00 43 42.0	
	comp=Z,5.5nm,1.0s						
LIFNC	**LIFOU**	**48.72**	**119**	P	**P**	**00 43 31.4**	**+0.9**
OUENC	**Ouen Island, N**	**48.98**	**121**	P	**P**	**00 43 33.3**	**+0.8**
WMQ	**Urumqi**	**52.65**	**328**	*eP*	**P**	**00 44 01.5**	**+1.6**
AIS	**Amsterdam Isla**	**56.90**	**222**	P	**P**	**00 44 30.0**	**-0.6**
KSH	**Kashi**	**57.12**	**318**	P	**P**	**00 44 34.3**	**+1.9**
KSH				pP	sP	00 44 48.9	+4.9
KSH				PcP	**PcP**	**00 45 27.8**	**+0.8**
KSH				PP	**PP**	**00 46 41.4**	**+1.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**57.47**	**328**	P	**P**	**00 44 34.4**	**-0.3**
MK31				IAmb	IAmb	00 44 52.3	
	comp=Z,4.5nm,0.9s						
MKAR	**Makanchi Array**	**57.47**	**328**	P	**P**	**00 44 35.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=125,slow=8.1,SNR=24						
MKAR				pP	**sP**	**00 44 46.0**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=122,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**57.47**	**328**	P	**P**	**00 44 34.6**	**0.0**
MAKZ	**Makanchi**	**57.65**	**328**	P	**P**	**00 44 36.2**	**+0.3**
MAKZ				IAmb	IAmb	00 44 54.0	
	comp=Z,7.9nm,1.4s						
BOOM	**Boomskoye usch**	**58.66**	**321**	P	**P**	**00 44 43.6**	**+0.3**
BOOM				IAmb	IAmb	00 44 57.7	
	comp=Z,7.2nm,1.4s						
PETK	**Petropavlovsk-**	**59.33**	**24**	P	**P**	**00 44 47.5**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=140,slow=7.7,SNR=3.6						
AAK	**Ala-Archa**	**59.65**	**320**	P	**P**	**00 44 49.7**	**-0.4**
AAK				IAmb	IAmb	00 45 05.6	
	comp=Z,3.8nm,0.8s						
KBL	**Kabul**	**59.97**	**310**	P	**P**	**00 44 52.1**	**-0.4**
KBL				IAmb	IAmb	00 45 06.1	
	comp=Z,8.1nm,0.9s						
GAR	**Garm**	**60.78**	**315**	P	**P**	**00 44 58.2**	**+0.3**
PYZ	**Puysegur Point**	**60.96**	**147**	P	**P**	**00 44 58.0**	**-0.7**
ZAA0	**Zalesovo Array**	**61.13**	**336**	P	**P**	**00 44 59.9**	**+0.2**
ZALV	**Zalesovo Beam**	**61.13**	**336**	P	**P**	**00 45 01.1**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=118,slow=5.4,SNR=5.2						
ZALV				pP	**pwP**	**00 45 12.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=137,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**61.13**	**336**	P	**P**	**00 45 00.3**	**+0.6**
FOZ	**Fox Glacier**	**61.25**	**143**	P	**P**	**00 45 02.6**	**+1.9**
CHGR	**Chuyangaron**	**61.47**	**314**	P	**P**	**00 45 02.1**	**-0.3**
KURK	**Kurchatov**	**61.82**	**330**	P	**P**	**00 45 04.2**	**-0.3**
KURK				IAmb	IAmb	00 45 22.1	
	comp=Z,9.1nm,0.8s						
RPZ	**Rata Peaks**	**62.10**	**142**	P	**P**	**00 45 06.8**	**+0.2**
	comp=Z,23nm,0.9s,baz=236,slow=7.3,SNR=8.4						
RPZ	**Rata Peaks**	**62.10**	**142**	P	**P**	**00 45 07.5**	**+0.9**
THZ	**Tophouse**	**62.27**	**140**	P	**P**	**00 45 08.2**	**+0.4**
THZ				IAmb	IAmb	00 45 17.4	
	comp=Z,15nm,1.1s						
KKAR	**Karatay Array**	**62.44**	**319**	P	**P**	**00 45 09.4**	**+0.5**
BKZ	**Black Stump Fm**	**63.48**	**136**	P	**P**	**00 45 16.5**	**+0.6**
BKZ				IAmb	IAmb	00 45 16.8	
	comp=Z,22nm,1.4s						
SMY	**Shemya**	**66.69**	**31**	P	**P**	**00 45 35.1**	**-1.3**
BRVK	**Borovoye**	**67.41**	**329**	P	**P**	**00 45 41.2**	**+0.3**
NIUE	**Niue**	**69.06**	**111**	P	**P**	**00 45 53.4**	**+1.5**
GEYT	**Alibeck**	**69.41**	**310**	LR	LR	01 22 12.9	
	comp=Z,2μm,20.9s,baz=242,slow=41						
TIXI	**Tiksi**	**70.48**	**2**	P	**P**	**00 45 59.3**	**-0.3**
ABKAR	**Akbulak array**	**71.63**	**322**	P	**P**	**00 46 07.1**	**0.0**
ABKAR	**Akbulak array**	**71.63**	**322**	P	**P**	**00 46 07.7**	**+0.6**
NRIK	**Noril'sk**	**71.99**	**348**	P	**P**	**00 46 09.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=170,slow=6.1,SNR=1.5						
ARU	**Arti**	**74.98**	**329**	P	**P**	**00 46 25.7**	**-1.0**
ARU				IAmb	IAmb	00 46 41.1	
	comp=Z,7.9nm,1.1s						
UNV	**Unalaska Valle**	**77.79**	**35**	P	**P**	**00 46 43.9**	**+1.2**
RAYN	**Ar Rayn**	**77.81**	**294**	P	**P**	**00 46 42.1**	**-1.4**
RAR	**Rarotonga**	**78.79**	**112**	P	**P**	**00 46 48.7**	**-0.2**
KIP	**Kipapa**	**79.58**	**69**	P	**P**	**00 46 52.4**	**-0.8**
XMAS	**Kiritimati**	**79.81**	**88**	P	**P**	**00 46 55.1**	**+0.5**
MAW	**Mawson**	**80.00**	**200**	P	**P**	**00 46 54.9**	**+0.4**
VNDA	**Vanda**	**81.44**	**172**	P	**P**	**00 47 01.5**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=320,slow=5.8,SNR=18						
VNDA	**Vanda**	**81.44**	**172**	P	**P**	**00 47 01.9**	**-0.2**
VNDA				IAmb	IAmb	00 47 04.1	
	comp=Z,9.7nm,1.1s

STIP			*i* Sg	Sg	00 38 49.9	-5.0
STIP			*e*Lg	Lg	00 38 50.5	
	comp=E,3.8nm,0.2s					
STIP	**Stip**	**0.42 267**	*i* Pg	Pg	00 38 45.4	-3.9
STIP			*i* Sg	Sg	00 38 49.8	-5.1
STIP			*e*Lg	Lg	00 38 50.1	
	comp=N,6.6nm,0.2s					
KNT	**Kendrikon**	**0.57 169**	*i* Pg	Pg	00 38 51.8	-0.3
KNT			*i* Sg	Sg	00 39 00.1	+0.6
KNT	**Kendrikon**	**0.57 169**	*i* Pg	Pg	00 38 51.8	-0.3
KNT			*i* Sg	Sg	00 39 00.1	+0.6
SOH	**Sokhos**	**1.01 153**	*e*Pg	Pg	00 38 59.4	-1.1
SOH	**Sokhos**	**1.01 153**	*i* Pg	Pg	00 38 59.4	-1.1
SOH			*i* Sg	Sg	00 39 13.0	-0.6

*KRSC **21** 00:57:33.2±1.4,54.˚11N×163.˚13E,h61km,s32km,ML4.1*
*IDC **21** 00:57:35.0±2.0,54.˚76N×162.˚34E,h0km,mb3.2/4,*
mb1 3.4/5,mb1mx3.2/44,mbtmp3.2/5,ML2.5/1,Error
ellipse: s-maj=67.9km s-min=20.1km az=149.0
ISC 21 00:57:35.3±1.3,54.˚09N±0.˚05×163.˚23E±0.˚06,h56km±21km,
n31,σ1°11/44,mb3.1/5,Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.95**	**54**	*e*P	**Pn**	**00 58 07.5**	**+1.6**
BKI				*e*S	**Sn**	**00 58 29.0**	**-0.2**
KBTR	**Krutoberegovo**	**2.13**	**354**	*e*P	**Pn**	**00 58 07.8**	**-0.6**
KBTR				*e*S	**Sn**	**00 58 32.1**	**-1.6**
TUMR	**Tumrok**	**2.15**	**305**	*e*P	**Pn**	**00 58 10.0**	**+1.2**
SPN	**Mys Shipunski**	**2.15**	**244**	*e*P	**Pn**	**00 58 08.5**	**-0.2**
SPN				*e*S	**Sn**	**00 58 32.1**	**-2.2**
KBG	**Krutoberegovo**	**2.19**	**352**	*e*P	**Pn**	**00 58 08.6**	**-0.6**
KBG				*e*S	**Sn**	**00 58 33.6**	**-1.4**
KII	**Karymskiy**	**2.23**	**270**	*e*P	**Pn**	**00 58 09.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.35**	**323**	*e*P	**Pn**	**00 58 12.1**	**+0.5**
BZGR				*e*S	**Sn**	**00 58 39.2**	**-0.2**
KMNR	**Kamenistaya**	**2.40**	**315**	*e*S	**Sn**	**00 58 41.8**	**+1.4**
CIRR	**Tsirk**	**2.48**	**326**	*e*P	**Pn**	**00 58 14.3**	**+1.0**
KRSR	**Krestovskiy**	**2.62**	**325**	*e*P	**Pn**	**00 58 15.8**	**+0.6**
SMKR	**Semkarok**	**2.69**	**339**	*e*P	**Pn**	**00 58 16.4**	**+0.3**
BDR	**Baidarnaya**	**2.73**	**336**	*e*P	**Pn**	**00 58 17.3**	**+0.5**
SMAR	**Somma**	**2.76**	**254**	*e*S	**Sn**	**00 58 49.1**	**-0.3**
UGLR	**Uglovaya**	**2.77**	**253**	*e*P	**Pn**	**00 58 18.0**	**+0.8**
UGLR				*e*S	**Sn**	**00 58 49.3**	**-0.1**
KRER	**Koryakskii**	**2.78**	**255**	*e*P	**Pn**	**00 58 18.5**	**+1.1**
KRER				*e*S	**Sn**	**00 58 49.4**	**-0.4**
AVH	**Avacha**	**2.79**	**255**	*e*P	**Pn**	**00 58 18.9**	**+1.3**
AVH				*e*S	**Sn**	**00 58 50.4**	**+0.3**
KOK	**Koryaka**	**2.84**	**255**	*e*P	**Pn**	**00 58 19.2**	**+0.9**
KOK				*e*S	**Sn**	**00 58 51.2**	**-0.1**
DALK	**Dalny**	**2.87**	**250**	*e*P	**Pn**	**00 58 19.1**	**+0.6**
DALK				*e*S	**Sn**	**00 58 50.2**	**-1.6**
PET	**Petropavlovsk**	**2.93**	**250**	*e*P	**Pn**	**00 58 20.0**	**+0.7**
PET				*e*S	**Sn**	**00 58 51.8**	**-1.5**
GNL	**Ganaly**	**3.15**	**265**	*e*P	**Pn**	**00 58 24.0**	**+1.5**
RUS	**Russkaya**	**3.28**	**241**	*e*P	**Pn**	**00 58 24.5**	**+0.3**
RUS				*e*S	**Sn**	**00 59 00.6**	**-1.3**
KRMR	**Karymshinskiy**	**3.30**	**249**	*e*P	**Pn**	**00 58 25.7**	**+1.3**
KRMR				*e*S	**Sn**	**00 59 02.3**	**0.0**
MTVR	**Mutnovka**	**3.43**	**244**	*e*P	**Pn**	**00 58 27.6**	**+1.3**
MTVR				*e*S	**Sn**	**00 59 04.6**	**-1.2**
PETK	**Petropavlovsk-**	**3.44**	**256**	Pn	**Pn**	**00 58 27.6**	**+1.3**
	2.7nm,0.3s,baz=81,slow=19,SNR=26						
PETK				Sn	**Sn**	**00 59 07.0**	**+1.3**
	5.9nm,0.3s,baz=123,slow=24,SNR=9.9						
GRL	**Gorelyy**	**3.45**	**246**	*e*P	**Pn**	**00 58 28.2**	**+1.6**
GRL				*e*S	**Sn**	**00 59 06.4**	**+0.1**
KDTR	**Khodutka, Kamc**	**3.86**	**236**	*e*P	**Pn**	**00 58 32.8**	**+0.7**
KDTR				*e*S	**Sn**	**00 59 13.7**	**-2.5**
ILAR	**Eielson Array**	**26.78**	**47**	P	P	01 03 15.7	+6.2
	0.3nm,0.6s,baz=254,slow=8.7,SNR=6.1						
YKA	**Yellowknife Ar**	**41.15**	**44**	P	P	01 05 18.8	+5.3
	0.1nm,0.7s,baz=300,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**49.39**	**297**	P	**P**	**01 06 18.7**	**-0.3**
	0.1nm,0.5s,baz=51,slow=6.6,SNR=2.1						
FINES	**FINESS Array B**	**59.92**	**338**	P	P	01 07 37.7	+2.8
	1.0nm,0.6s,baz=34,slow=5.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**60.20**	**260**	P	P	01 07 41.6	+4.2
	1.8nm,0.3s,baz=43,slow=6.8,SNR=4.2						

*DSN **21** 00:58:40.2±1.1,26.˚11N×54.˚43E,h10km,ML3.0/4,Error*
ellipse: s-maj=13.9km s-min=5.5km az=157.0
*OMAN **21** 00:58:43.7±0.5,26.˚07N×54.˚53E,h21km±15km,ml2.7/14,*
Mwp5.0/5,Error ellipse: s-maj=17.6km s-min=3.5km
az=321.0
ISC 21 00:58:41.5±3.1,26.˚10N±0.˚09×54.˚47E±0.˚10,h16km±13km,
n21,σ0°68/43,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UMQ	**Umm Al-Quwin**	**1.22**	**118**	P	**Pb**	**00 59 04.4**	**+0.3**
UMQ				S	**Sg**	**00 59 22.2**	**+1.2**
SHME	**Shamm**	**1.51**	**92**	P	**Pn**	**00 59 08.5**	**+0.7**
	SNR=9.2						
SHME				P	**Pn**	**00 59 08.5**	**+0.7**
	SNR=9.2						
SHME				S	**Sg**	**00 59 29.3**	**-0.9**
SHME				S	**Sg**	**00 59 29.3**	**-0.9**
SHME	**Shamm**	**1.51**	**92**	P	**Pn**	**00 59 08.0**	**+0.1**
SHME				S	**Sb**	**00 59 29.0**	**+1.1**
NAZ	**Nazwa, Dubai**	**1.55**	**135**	P	**Pb**	**00 59 09.8**	**0.0**
	SNR=7.9						
NAZ				S	**Sb**	**00 59 28.9**	**-0.1**
AJN	**Ajban**	**1.60**	**163**	P	**Pb**	**00 59 10.3**	**-0.4**
AJN				S	**Sn**	**00 59 29.1**	**-0.4**
BANOM	**Banah**	**1.66**	**96**	P	**Pn**	**00 59 10.4**	**+0.5**
	SNR=12						
BANOM				S	**Sb**	**00 59 32.3**	**-0.1**
BANOM	**Banah**	**1.66**	**96**	P	**Pn**	**00 59 09.4**	**-0.6**
BANOM				S	**Sb**	**00 59 32.2**	**-0.2**
ASUD	**Al Ashush, Dub**	**1.66**	**152**	P	**Pn**	**00 59 10.6**	**+0.6**
	SNR=14						
ASUD				S	**Sn**	**00 59 31.7**	**+0.8**
FAQ	**Al Faqa, Dubai**	**1.69**	**143**	P	**Pn**	**00 59 11.3**	**+0.9**
	SNR=5.8						
FAQ				S	**Sn**	**00 59 31.9**	**+0.2**
MASF	**Masafi**	**1.69**	**115**	P	**Pn**	**00 59 11.7**	**+1.3**
MASF				S	**Sb**	**00 59 32.9**	**-0.4**
MSFE	**Esma-Masafi**	**1.70**	**115**	P	**Pn**	**00 59 11.0**	**+0.5**
UOSS	**Minazif**	**1.95**	**126**	P	**Pn**	**00 59 14.1**	**+0.3**
UOSS				S	**Sn**	**00 59 38.0**	**0.0**
UOSS	**Minazif**	**1.95**	**126**	P	**Pn**	**00 59 13.6**	**-0.3**
HATD	**Hatta, Dubai**	**1.97**	**130**	P	**Pn**	**00 59 15.1**	**+0.9**
HATD				P	**Pn**	**00 59 15.1**	**+0.9**
HATD				S	**Sn**	**00 59 38.7**	**+0.2**
HATD				S	**Sn**	**00 59 38.7**	**+0.2**
HATD	**Hatta, Dubai**	**1.97**	**130**	P	**Pn**	**00 59 14.2**	**-0.1**
ASHO	**Ashiyiah**	**2.02**	**134**	P	**Pn**	**00 59 15.6**	**+0.7**
ASHO				S	**Sn**	**00 59 40.5**	**+0.8**
UMZA	**Um Al Zommool**	**3.43**	**169**	P	**Pn**	**00 59 34.4**	**+0.2**
UMZA				P	**Pn**	**00 59 34.4**	**+0.2**
HOQ	**Hoqain**	**3.60**	**134**	P	**Pn**	**00 59 36.5**	**-0.2**
HOQ				P	**Pn**	**00 59 36.5**	**-0.2**
HOQ				S	**Sn**	**01 00 17.2**	**-1.6**
HOQ				S	**Sn**	**01 00 17.2**	**-1.6**
BSY	**Bisya**	**4.17**	**143**	P	**Pn**	**00 59 44.0**	**-0.4**
SMDO	**Samad**	**4.45**	**132**	P	**Pn**	**00 59 48.4**	**0.0**
SMDO				P	**Pn**	**00 59 48.4**	**0.0**
MHTO	**MHTO**	**6.02**	**147**	P	**Pn**	**01 00 10.0**	**+0.1**
	SNR=6.0						

*IDC **21** 01:24:30.5±1.9,5.˚54N×92.˚76E,h0km,mb3.6/5,mb1 3.8/7,*
mb1mx3.5/45,mbtmp3.7/7,ML4.2/2,MS3.9/1,Ms1 3.9/1,
ms1mx3.3/72,Error ellipse: s-maj=72.3km s-min=22.3km
az=54.0
ISC 21 01:24:34.2±1.6,6.˚1N±0.˚2×93.˚4E±0.˚2,h10km,n10,σ0°99/8,
mb3.6/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.41**	**120**	Pn	**Pn**	**01 26 10.1**	**+1.2**
	1.0nm,0.3s,baz=315,slow=10,SNR=6.6						
PSI				Sn	**Sn**	**01 27 21.6**	**-0.8**
	2.2nm,0.3s,baz=31,slow=9.9,SNR=6.9						
PSI				LR	LR	01 28 59.5	
	comp=Z,988nm,21.1s,baz=214,slow=40						
CMAR	**Chiang Mai Arr**	**13.46**	**23**	Pn	**P**	**01 27 54.3**	**-0.5**
	1.3nm,0.3s,baz=230,slow=14,SNR=6.4						
H08S3	**Diego Garcia H**	**24.89**	**237**	T	T	01 55 34.6	
	baz=57,slow=75,SNR=53						
H08S2	**Diego Garcia H**	**24.89**	**237**	T	T	01 55 35.8	
	baz=57,slow=75,SNR=40						
H08S1	**Diego Garcia H**	**24.91**	**237**	T	T	01 55 38.0	
	baz=57,slow=75,SNR=49						
MKAR	**Makanchi Array**	**41.68**	**349**	P	**P**	**01 32 23.8**	**+0.7**
	0.2nm,0.6s,baz=174,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**47.87**	**124**	P	**P**	**01 33 12.5**	**-0.3**
	0.3nm,0.5s,baz=301,slow=8.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**48.24**	**353**	P	**P**	**01 33 16.1**	**+1.0**
	0.3nm,0.4s,baz=141,slow=7.4,SNR=2.1						
ASAR	**Alice Springs**	**49.37**	**128**	P	**P**	**01 33 23.7**	**-0.7**
	0.3nm,0.5s,baz=318,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**73.95**	**333**	P	**P**	**01 36 08.8**	**-0.8**
	3.4nm,1.1s,baz=150,slow=5.8,SNR=2.9						

*IDC **21** 01:43:02.4±6.0,17.˚53S×178.˚75W,h568km±71km,*
mb3.5/10,mb1 3.8/10,mb1mx3.5/24,mbtmp4.4/10,Error
ellipse: s-maj=47.8km s-min=22.4km az=146.0
*NEIC **21** 01:43:04.±1.2,17.˚7S±0.˚2×178.˚6W±0.˚2,h588km±8km,*
mb4.4/20,Error ellipse: s-maj=31.7km s-min=12.8km
az=143.0
ISC 21 01:43:03.9±0.7,17.˚9S±0.˚2×178.˚5W±0.˚1,h600km,n46,
σ0°81/49,mb4.3/23,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.58**	**59**	P	**P**	**01 44 58.7**	**-0.8**
MARNC	**Mare, Loyalty**	**13.18**	**252**	P	**P**	**01 45 53.3**	**-1.3**
SANVU	**Saraoutou**	**13.93**	**278**		**P**	**01 46 02.7**	**+0.5**
PINNC	**Pines Island,**	**14.00**	**248**		**P**	**01 46 02.4**	**-0.4**
OUENC	**Ouen Island, N**	**14.48**	**250**	P	**P**	**01 46 06.6**	**-0.8**
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**01 46 09.4**	**-0.6**
ONTNC	**Ouen Toro**	**14.80**	**250**	P	**P**	**01 46 11.0**	**+0.7**
KNTN	**Kanton**	**16.44**	**25**		**P**	**01 46 24.2**	**-1.2**
EIDS	**Eidsvold**	**29.20**	**250**	P	**P**	**01 48 18.9**	**0.0**
EIDS				IAmb	IAmb	01 48 19.0	
	comp=Z,5.0nm,0.7s						
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**01 48 25.4**	**+0.6**
ARMA				IAmb	IAmb	01 48 28.2	
	comp=Z,13nm,1.1s						
COEN	**Coen**	**37.03**	**270**	P	**P**	**01 49 25.5**	**+0.8**
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**01 49 25.9**	**+0.8**
TOO				IAmb	IAmb	01 49 30.3	
	comp=Z,6.7nm,0.9s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 49 36.8**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=73,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 49 37.4**	**+0.5**
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**01 50 14.5**	**-0.1**
BBOO				IAmb	IAmb	01 50 14.8	
	comp=Z,6.1nm,0.6s						
HMH	**Humu'ula Sheep**	**43.59**	**32**	P	**P**	**01 50 17.2**	**+0.2**
WR0	**Warramunga Arr**	**44.37**	**260**	P	**P**	**01 50 21.6**	**-1.1**
WR0				IAmb	IAmb	01 50 46.3	
	comp=Z,4.8nm,1.1s						
WB0	**Warramunga Arr**	**44.52**	**260**	P	**P**	**01 50 23.1**	**-0.8**
WB0				IAmb	IAmb	01 50 23.9	
	comp=Z,7.9nm,0.5s						
WB0				PcP	**PcP**	**01 51 53.6**	**-0.2**
WB2	**Warramunga Arr**	**44.55**	**260**		**P**	**01 50 23.3**	**-0.8**
WB2				IAmb	IAmb	01 50 24.1	
	comp=Z,7.5nm,0.6s						
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**01 50 23.3**	**-0.9**
	comp=Z,4.7nm,0.5s,baz=95,slow=7.1,SNR=248						
WRA	**Warramunga Arr**	**44.56**	**260**		**P**	**01 50 23.3**	**-0.9**
WRA				PcP	**PcP**	**01 51 54.0**	**0.0**
AS31	**Alice Springs**	**44.72**	**254**	P	**P**	**01 50 25.1**	**-0.3**
AS31				IAmb	IAmb	01 50 26.2	
	comp=Z,9.5nm,0.5s						
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**01 50 24.8**	**-0.7**
	comp=Z,29nm,0.6s,baz=88,slow=8.6,SNR=85						
ASAR				PcP	**PcP**	**01 51 54.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=105,slow=3.6,SNR=4.1						
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**01 50 25.4**	**0.0**
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**01 50 55.2**	**-0.3**
MTN				IAmb	IAmb	01 50 55.5	
	comp=Z,9.6nm,0.8s						
FORT	**Forrest**	**49.94**	**245**	P	**P**	**01 51 03.4**	**-0.8**
KNRA	**Kununurra**	**50.41**	**264**	P	**P**	**01 51 07.5**	**-0.3**
KNRA				IAmb	IAmb	01 51 08.1	
	comp=Z,8.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	**P**	**01 51 26.2**	**+0.2**
PSA00	**Pilbara Seismi**	**57.83**	**255**	P	**P**	**01 51 59.5**	**-0.3**
MORW	**Morawa**	**60.41**	**246**	P	**P**	**01 52 16.1**	**-0.8**
UGM	**Wanagama**	**69.57**	**268**	P	**P**	**01 53 14.5**	**0.0**
SHEM	**Shemya Is, Ala**	**70.63**	**355**	P	**P**	**01 53 18.5**	**-1.3**
	comp=Z,28nm,0.8s,baz=244,slow=3.0,SNR=6.8						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**01 54 10.8**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=235,slow=10,SNR=5.3						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**01 54 10.0**	**+0.4**
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**01 54 40.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=218,slow=5.7,SNR=6.4						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**01 54 40.9**	**-0.1**
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**01 54 44.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=219,slow=5.8,SNR=16						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**01 54 44.2**	**+1.6**
XAN	**Xi'an**	**86.20**	**307**	P	**P**	**01 54 44.6**	**+1.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**87.22**	**314**	*e*P	**P**	**01 54 48.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.5s						
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**01 54 49.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=218,slow=3.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**88.81**	**290**	P	**P**	**01 54 56.8**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=94,slow=3.6,SNR=4.2						
PZH	**PanZhiHua**	**89.09**	**298**	P	**P**	**01 54 57.9**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**01 55 19.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=240,slow=4.9,SNR=2.8						
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	**PKPab**	**02 01 34.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=55,slow=5.5,SNR=2.6						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPbc**	**02 01 41.1**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=55,slow=3.7,SNR=2.3						

*SOME **21** 02:23:13.5,44.˚05N×85.˚42E,h0km*
*NNC **21** 02:23:13.8±2.4,44.˚23N×85.˚52E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=18.1km s-min=8.8km az=118.0
ISC 21 02:23:14.7±2.2,44.˚10N±0.˚08×85.˚43E±0.˚10,h10km,n22,
σ2°51/34,8C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.38**	**353**	*e*P	**Pg**	**02 24 19.3**	**0.0**
	3.8nm,0.2s						
ZSN				*e*S	**Sg**	**02 25 06.3**	**+3.3**
	10nm,0.4s						
ZSN	**Zaisan**	**3.38**	**353**	Pg	**Pb**	**02 24 11.2**	**-3.4**
	5.5nm,0.4s						
ZSN				Lg	Lg	02 24 51.5	
	9.7nm,0.3s						
MK31	**Makanchi Array**	**3.48**	**322**	⇓Pn	**Pn**	**02 24 09.4**	**+0.4**
	baz=137,slow=15,SNR=60						
MK31				⇑Pg	**Pg**	**02 24 18.5**	**-2.9**
	1.9nm,0.5s,baz=131,slow=16,SNR=7.7						
MK31				Lg	Lg	02 25 05.1	
	9.4nm,0.3s,baz=134,slow=30,SNR=14						
MAKZ	**Makanchi**	**3.64**	**319**	⇑Pn	**Pn**	**02 24 11.3**	**+0.2**
	0.5nm,0.5s						
MAKZ				⇓Pg	**Pb**	**02 24 19.1**	**0.0**
	3.6nm,1.0s						
MAKZ				⇑Sn	**Sn**	**02 24 55.9**	**+1.8**
	2.5nm,0.3s						
MAKZ				⇑Lg	Lg	02 25 09.7	
	8.7nm,0.7s						
KTMS	**Ketmen**	**3.74**	**262**	*e*P	**Pg**	**02 24 24.3**	**-1.9**
	2.7nm,0.4s						
KTMS				*e*S	**Sg**	**02 25 15.1**	**+0.4**
	5.4nm,0.3s						
KTMS	**Ketmen**	**3.74**	**262**	Pg	**Pb**	**02 24 23.2**	**+2.4**
	2.7nm,0.4s						
KTMS				Lg	Lg	02 25 12.2	
	5.4nm,0.3s						
DJR	**Jarkent**	**4.06**	**275**	*e*P	**Pb**	**02 24 29.1**	**+2.8**
	3.6nm,0.4s						
DJR				*e*S	**Sg**	**02 25 22.4**	**-2.7**
	17nm,0.4s						
DJR	**Jarkent**	**4.06**	**275**	Pg	**Pb**	**02 24 29.1**	**+2.8**
	3.6nm,0.4s						
DJR				Lg	Lg	02 25 22.4	
	17nm,0.4s						
PDGK	**Podgornoye**	**4.38**	**262**	⇑Pn	**Pn**	**02 24 21.7**	**+0.4**
	2.2nm,0.9s						
PDGK				⇑Pg	**Pb**	**02 24 34.0**	**+2.3**
	1.7nm,0.6s						
PDGK				⇑Sn	**Sn**	**02 25 16.1**	**+3.7**
	3.6nm,0.7s						
PDGK				⇑Lg	Lg	02 25 35.2	
	8.4nm,0.8s						
KAPS	**Kapalarasan**	**4.49**	**287**	*e*P	**Pg**	**02 24 39.4**	**-1.2**
	1.6nm,0.3s						
KAPS				*e*S	**Sg**	**02 25 41.4**	**+2.6**
	5.6nm,0.4s						
KAPS	**Kapalarasan**	**4.49**	**287**	Pg	**Pb**	**02 24 35.0**	**+1.3**
	1.3nm,0.2s						
KAPS				Lg	Lg	02 25 32.6	
UZB	**Uzynbulak**	**4.75**	**261**	*e*P	**Pg**	**02 24 43.2**	**-2.5**
	4.3nm,0.2s						
UZB				*e*S	**Sg**	**02 25 46.2**	**-0.9**
	4.5nm,0.4s						
UZB	**Uzynbulak**	**4.75**	**261**	Pg	**Pg**	**02 24 43.2**	**-2.5**
	4.3nm,0.2s						
UZB				Lg	Lg	02 25 46.2	
	4.5nm,0.4s						
KPKS	**Kokpek**	**4.93**	**265**	*e*P	**Pg**	**02 24 46.5**	**-2.5**
	2.5nm,0.1s						
KPKS				*e*S	**Sg**	**02 25 52.1**	**-0.7**
	11nm,0.2s						
KOTS	**Kotyrbulak**	**6.10**	**265**	*e*P	**Pg**	**02 25 09.0**	**-2.4**
	1.7nm,0.4s						
KOTS				*e*S	**Sg**	**02 26 30.9**	**+0.5**
	8.5nm,0.5s						
KOTS	**Kotyrbulak**	**6.10**	**265**	Pg	**Pg**	**02 25 09.0**	**-2.4**
	1.7nm,0.4s						
KOTS				Lg	Lg	02 26 30.9	
	8.5nm,0.5s						
KTBS	**Karatobe**	**6.33**	**270**	*e*P	**Pg**	**02 25 12.1**	**-3.8**
	1.7nm,0.5s						
KTBS				*e*S	**Sg**	**02 26 35.8**	**-2.1**
	6.2nm,0.4s						
KTBS	**Karatobe**	**6.33**	**270**	Pg	**Pg**	**02 25 12.1**	**-3.8**
	1.7nm,0.5s						
KTBS				Lg	Lg	02 26 35.8	
	6.2nm,0.4s						
KUU	**Kurty**	**6.56**	**271**	*e*P	**Pg**	**02 25 16.4**	**-3.9**
	1.1nm,0.3s						
KUU				*e*S	**Sg**	**02 26 43.4**	**-1.8**
	3.1nm,0.3s						
KUU	**Kurty**	**6.56**	**271**	Pg	**Pg**	**02 25 16.4**	**-3.9**
	1.1nm,0.3s						
KUU				Lg	Lg	02 26 43.4	
	3.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.03**	**327**	⇓Lg	Lg	02 27 27.3	
	6.9nm,0.6s						
KURK	**Kurchatov**	**8.07**	**328**	⇓Lg	Lg	02 27 26.6	
	6.2nm,0.9s						

*IDC **21** 02:24:60.0±0.6,6.˚06S×105.˚36E,h0km,mb4.3/17,*
mb1 4.5/18,mb1mx4.2/41,mbtmp4.3/18,ML3.5/1,Error
ellipse: s-maj=26.9km s-min=11.7km az=50.0
*DJA **21** 02:25:02.3±0.3,6.˚S±3.˚×10.˚5E±.˚,h10km,M4.6/20,mb4.8/5,*
mB5.6/2,MLv4.5/20,Mw(mB)5.0/2
*NEIC **21** 02:25:07.5±2.2,6.˚38S±0.˚06×105.˚21E±0.˚07,h68km±3km,*
mb4.6/38,Error ellipse: s-maj=10.6km s-min=8.6km
az=61.0
ISC 21 02:25:04.8±0.4,6.˚26S±0.˚05×105.˚26E±0.˚06,h35km,n135,
σ1°70/137,mb4.6/38,MS4.1/3,14C-2D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.56**	**129**	P	**Pn**	**02 25 12.9**	**-3.3**
BLSI	**Bandar Lampung**	**0.89**	**359**	P	**Pn**	**02 25 16.7**	**-4.1**
KASI	**Kota Agung**	**1.05**	**314**	P	**Pn**	**02 25 21.9**	**-1.2**
TNG	**Tangerang**	**1.39**	**86**	P	**Pn**	**02 25 25.0**	**-2.6**
TNG				P		02 25 27.6	
KLI	**Kotabumi**	**1.45**	**344**	P	**Pn**	**02 25 27.6**	**-0.9**
SKJI	**Sukabumi**	**1.49**	**120**	P	**Pn**	**02 25 28.3**	**-0.8**
DBJI	**Dramaga**	**1.51**	**101**	P	**Pn**	**02 25 27.7**	**-1.7**
CBJI	**Citeko**	**1.59**	**96**	P	**Pn**	**02 25 31.5**	**+1.0**
KLSI		**1.65**	**341**	P	**Pn**	**02 25 30.9**	**-0.4**
LWLI	**Liwa**	**1.72**	**316**	P	**Pn**	**02 25 32.9**	**+0.6**
MDSI	**Maura Dua**	**2.06**	**329**	P	**Pn**	**02 25 37.6**	**+0.6**
CNJI	**Cibinong**	**2.13**	**119**	P	**Pn**	**02 25 37.3**	**-0.6**
LEM	**Lembang**	**2.41**	**104**	Pn	**Pn**	**02 25 41.9**	**0.0**
	11nm,0.4s,baz=204,slow=12,SNR=20

comp=Z,7.1nm,1.1s
WR0 Warramunga Arr 31.53 118 P **P** 02 31 22.6 -1.3
WR0 lAmb lAmb 02 31 24.3
comp=Z,11nm,1.1s
ASAR Alice Springs 32.52 125 P **P** 02 31 33.2 +0.5
comp=Z,4.1nm,0.9s,baz=294,slow=8.1,SNR=30
ASAR PcP **PcP** 02 34 20.2 +1.2
comp=Z,2.0nm,1.0s,baz=312,slow=2.4,SNR=6.6
ASAR S **S** 02 36 46.6 +0.8
comp=Z,0.7nm,0.8s,baz=300,slow=15,SNR=5.5
ASAR Alice Springs 32.52 125 P **P** 02 31 32.5 -0.1
AS31 Alice Springs 32.53 125 P **P** 02 31 32.1 -0.5
H08S2 Diego Garcia H 32.55 266 T T 03 05 50.0
baz=90,slow=75,SNR=4.3
H08S3 Diego Garcia H 32.56 266 T T 03 05 54.5
baz=90,slow=75,SNR=3.5
H08S1 Diego Carcia H 32.56 266 T T 03 05 52.8
baz=90,slow=75,SNR=2.7
PZH PanZhiHua 32.75 354 P P 02 31 40.8 +6.2
PZH pmax pmax
comp=Z,11nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.7s
COEN Coen 38.06 105 P **P** 02 32 18.5 -1.9
XAN Xi'an 40.23 5 P **P** 02 32 40.9 +2.6
XAN pP sP 02 32 55.6 +2.9
XAN pmax pmax
comp=Z,8.0nm,1.0s
NJ2 Nanjing 40.25 18 *e*P P 02 32 43.8 +5.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CTA Charters Tower 42.08 113 P **P** 02 32 53.3 -0.4
comp=Z,5.9nm,1.0s,baz=278,slon=8.1,SNR=6.6
STKA Stephens Creek 42.42 132 P **P** 02 32 56.3 0.0
comp=Z,12nm,0.8s,baz=289,slow=7.4,SNR=11
GTA Gaotai 45.72 354 *e*P **P** 02 33 23.1 +0.4
GTA pP pP 02 33 32.8 -0.1
GTA sP sP 02 33 37.6 +0.7
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA pmax pmax
comp=Z,87nm,5.1s
GTA LR LR
comp=N,150nm,16.7s
GTA LR LR
comp=E,180nm,16.7s
GTA LR LR
comp=Z,140nm,17.1s
HHC Hu-ho-hao-te 47.24 7 *e*P P 02 33 40.8 +6.2
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.5s
KSRS Korea Array 48.36 24 P **P** 02 33 42.8 -0.4
comp=Z,2.6nm,1.0s,baz=193,slow=9.8,SNR=8.3
WMQ Urumqi 52.32 344 *e*P P 02 34 18.0 +4.9
KSH Kashi 52.98 332 P P 02 34 24.8 +6.6
SONM Songino Array 53.87 1 P **P** 02 34 23.8 -0.7
comp=Z,1.9nm,0.9s,baz=186,slow=9.6,SNR=8.6
SONM Songino Array 53.87 1 P **P** 02 34 23.9 -0.7
ULN Ulaanbaatar 53.92 1 P **P** 02 34 24.4 -0.6
BNX BinXian 55.43 19 ⇓P **P** 02 34 34.8 -0.9
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,350nm,5.8s
GAR Garm 55.45 327 P **P** 02 34 35.8 -0.4
GAR lAmb lAmb 02 34 36.9
comp=Z,14nm,1.4s
USA0B Ussuriysk Arra 55.72 23 P **P** 02 34 36.3 -1.5
USA0B lAmb lAmb 02 34 40.1
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 55.72 23 P **P** 02 34 36.7 -1.1
comp=Z,5.0nm,0.9s,baz=222,slow=7.4,SNR=8.1
USRK Ussuriysk Ar. 55.72 23 P **P** 02 34 36.6 -1.2
CHGR Chuyangaron 55.84 326 P **P** 02 34 37.7 -1.2
CHGR lAmb lAmb 02 34 40.0
comp=Z,11nm,1.0s
MK31 Makanchi Array 56.62 341 P **P** 02 34 42.1 -2.2
MKAR Makanchi Array 56.62 341 P **P** 02 34 42.5 -1.8
comp=Z,1.7nm,0.9s,baz=146,slow=8.8,SNR=9.1
MKAR PcP **PcP** 02 35 40.2 -0.1
comp=Z,1.1nm,1.0s,baz=141,slow=5.5,SNR=4.1
MKAR Makanchi Array 56.62 341 P **P** 02 34 40.9 -3.4
MAKZ Makanchi 56.74 341 P **P** 02 34 43.6 -1.5
KKAR Karatay Array 58.37 331 P **P** 02 34 56.4 -0.2
KURK Kurchatov 61.23 341 P **P** 02 35 15.8 -0.4
KURK lAmb lAmb 02 35 19.7
comp=Z,4.6nm,1.3s
GEYT Alibeck 62.07 319 P **P** 02 35 21.4 -0.8
comp=Z,4.3nm,0.9s,baz=182,slow=19,SNR=5.6
GEYT Alibeck 62.07 319 P **P** 02 35 19.4 -2.8
GEYT lAmb lAmb 02 35 26.3
comp=Z,11nm,1.2s
GYA0B ALIBECK ARRAY 62.07 319 P **P** 02 35 19.8 -2.4
ZAA0 Zalesovo Array 62.40 347 P **P** 02 35 21.8 -2.2
ZAA0 lAmb lAmb 02 35 25.8
comp=Z,5.3nm,1.1s
ZALV Zalesovo Beam 62.40 347 P **P** 02 35 22.0 -2.0
comp=Z,5.1nm,1.0s,baz=158,slow=4.8,SNR=10
ZALV Zalesovo Beam 62.40 347 P **P** 02 35 21.0 -3.0
ABKAR Akbulak array 67.90 330 P **P** 02 35 58.4 -1.4
MARD Mardin 73.97 312 P **P** 02 36 34.2 -2.9
MARD lAmb lAmb 02 36 41.5
comp=Z,16nm,1.3s
KBZ Khabaz 74.95 318 P **P** 02 36 43.5 +1.1
comp=Z,5.0nm,0.9s,baz=127,slow=2.8,SNR=7.3
VNDA Vanda 77.01 169 P **P** 02 36 55.5 +2.0
comp=Z,3.6nm,1.0s,baz=328,slow=6.4,SNR=6.9
BRTR Keskin Array B 80.05 312 P **P** 02 37 11.8 +0.6
comp=Z,1.8nm,0.9s,baz=138,slow=7.1,SNR=8.9
BRTR Keskin Array B 80.05 312 P **P** 02 37 10.9 -0.3
MDUB Mudurnu 82.05 312 P **P** 02 37 20.2 -1.6
OBN Obninsk 83.17 327 P **P** 02 37 26.1 -1.0
KLMR Klimovskoe 83.94 333 *e*P **P** 02 37 30.6 -0.4
KLMR AMP 02 37 34.5
comp=Z,14nm,1.4s
MILM Milestii Mici 85.36 318 ⇑P **P** 02 37 40.7 +2.3
SORM Soroca 85.96 319 ⇑P **P** 02 37 40.2 -1.2
AKASG Malin Array Be 86.05 322 P **P** 02 37 41.1 -0.7
comp=Z,3.9nm,1.0s,baz=89,slow=4.9,SNR=13
AKBB Malin Array Si 86.05 322 P **P** 02 37 42.1 +0.3
AKBB lAmb lAmb 02 37 45.0
comp=Z,9.0nm,1.3s
VRI Vrincioaia 86.52 317 ⇑P **P** 02 37 45.0 +0.7
PLOR Plostina 86.57 317 ⇑P **P** 02 37 48.3 +3.7
NEHR Nehoiu 86.73 316 ⇑P **P** 02 37 46.7 +1.3
COVR Voineasa-Covas 86.88 317 ⇑P **P** 02 37 45.1 -1.0
MLR Muntele Rosu 86.98 316 ⇑P **P** 02 37 47.8 +1.1
MLR Muntele Rosu 86.98 316 P **P** 02 37 45.1 -1.6
DOPR Dopca 87.46 317 ⇑P **P** 02 37 51.5 +2.6
MNK Minsk 87.78 325 *i* P **P** 02 37 50.7 +0.6
comp=E,1.0nm,0.9s
MNK *i* P **P** 02 37 50.7 +0.6
comp=N,4.0nm,0.9s
MNK *i* P **P** 02 37 50.7 +0.6
comp=Z,14nm,0.9s,baz=104
MNK *i* pP sP 02 38 13.1 +8.1
MNK *i* sP pP 02 38 21.2 +20
MNK *i* PP **PP** 02 41 18.4 +2.2
MNK *i* PPP PPP 02 43 14.5
MNK *i* S **SKSac** 02 48 11.5 -4.1
MNK *i* sS **sS** 02 48 50.3 +2.3
MNK *i* SS **SS** 02 54 20.1 +2.6
MNK *i* SSS SSS 02 58 00.3
MNK *i* LQ LQ 03 06 44.4
MNK *i* LR LR 03 13 18.6
MNK *i* LRM MLR 03 19 10.3
comp=E,3.0nm,17.9s
MNK *i* LRM MLR 03 19 10.9
comp=N,41nm,17.9s
MNK *i* LRM MLR 03 19 12.8
comp=Z,110nm,17.9s
ARR Arges 87.86 316 ⇑P **P** 02 37 50.1 -0.8
BURAR Bucovina Array 87.91 318 ⇑P **P** 02 37 52.4 +1.2
BURAR Bucovina Array 87.91 318 P **P** 02 37 52.3 +1.2
BUR08 Bucovina Ar. S 87.92 318 P **P** 02 37 50.8 -0.3
BUR08 lAmb lAmb 02 37 55.9
comp=Z,6.9nm,0.9s
VTS Vitosha 88.35 313 ⇑P **P** 02 37 52.2 -1.2
VTS Vitosha 88.35 313 P **P** 02 37 52.7 -0.7
VTS lAmb lAmb 02 38 01.0
comp=Z,8.3nm,1.5s
IDID Didziasalis 88.61 326 *e*P **P** 02 37 55.4 +1.4
CJR Cluj-Napoca 88.82 317 ⇑P **P** 02 37 56.4 +1.0
comp=E,25nm,1.8s
CELP Cerrillos 3.13 251 ⇓*e*P **Pn** 02 52 12.6 +1.2
CELP Cerrillos 3.13 251 *e*S **Sn** 02 52 47.8 +0.2
CELP Cerrillos 3.13 251 Pn **Pn** 02 52 12.1 +0.7
CELP Sn **Sn** 02 52 46.4 -1.2
CELP lAML 02 53 05.0
comp=E,14nm,3.6s
CELP lAML 02 54 02.6
comp=N,17nm,2.6s
OBIP Obispado Ponce 3.17 251 Pn **Pn** 02 52 11.8 -0.1
OBIP lAML 02 52 55.2
comp=N,19nm,3.6s

IIGN Ignalina 88.91 326 *e*P **P** 02 37 56.0 +0.6
ISAL Salakas 89.01 326 *e*P **P** 02 37 56.6 +0.7
GZR Gura Zlata 89.15 316 ⇓P **P** 02 37 58.4 +1.4
HERR Herculane 89.32 315 ⇑P **P** 02 37 60.0 +2.3
VSU Vasula 89.32 329 *e*P **P** 02 37 59.3 +2.0
TRPA Tarpa 89.77 318 ⇑P **P** 02 38 00.6 +0.9
FINES FINESS Array B 90.31 332 P **P** 02 38 02.2 +0.4
comp=Z,4.8nm,1.0s,baz=142,slow=7.0,SNR=5.6
YKA Yellowknife Ar 116.76 19 PKP **PKiKP** 02 43 44.9 -0.2
comp=Z,1.2nm,1.1s,baz=305,slow=2.6,SNR=6.3
YKA Yellowknife Ar 116.76 19 PKP **PKPdf** 02 43 43.2 -2.0
PDAR Pinedale Array 132.40 35 PKP **PKiKP** 02 44 17.9 +0.7
comp=Z,0.1nm,0.3s,baz=318,slow=2.0,SNR=4.3
TXAR Lajitas Array 144.35 46 PKP **PKPdf** 02 44 37.2 -0.9
comp=Z,3.3nm,1.0s,baz=294,slow=0.8,SNR=13
TXAR Lajitas Array 144.35 46 PKPdf **PKPab** 02 44 35.0 -1.2
BDFB Brasilia 145.73 230 PKPbc **PKiKP** 02 44 43.8 -1.1
comp=Z,3.7nm,0.8s,baz=142,slow=3.7,SNR=7.0

*IDC **21** 02:43:33.5±1.0,3°.19S×130°.49E, h0km, mb4.0/5, mb1 4.0/8, mb1mx3.8/41, mbtmp3.9/8, ML3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/66, Error ellipse: s-maj=55.6km s-min=13.2km az=79.0*
*DJA **21** 02:43:39.6±0.3,3°.5±5°×13°.1E±°, h61km±12km, M3.9/7, mb4.2/6, mB5.3/1, MLv3.7/7, Mw(mB)4.8/1*
ISC 21 02:43:37.1±0.7,3°.14S±0°.06×130°.67E±0°.08, h24km, n16, σ2s06/19, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.75**	**263**	P	**Pb**	**02 44 09.7**	**+1.1**
SIJI	**Sorong**	**2.33**	**15**	Pn	**Pn**	**02 44 13.9**	**-0.2**
SIJI	9.5nm,0.3s,baz=132,slow=22,SNR=20			Sn	**Sn**	**02 44 40.4**	**-1.5**
	37nm,0.3s,baz=72,slow=23,SNR=21						
SIJI				LR	LR	02 45 12.4	
	comp=Z,189nm,21.2s,baz=338,slow=41						
SWI	**Sorong**	**2.33**	**15**	P	**Pn**	**02 44 13.8**	**-0.3**
AAI	**Ambon**	**2.53**	**258**	P	**Pn**	**02 44 19.1**	**+2.3**
LBMI	**Labuha**	**4.03**	**308**	P	**Pn**	**02 44 37.5**	**+0.1**
SANI	**Sanana**	**4.80**	**283**	P	**Pn**	**02 44 48.0**	**0.0**
BAKI	**Biak**	**5.76**	**71**	P	**Pn**	**02 45 03.3**	**+2.0**
APSI	**Ampana**	**9.29**	**284**	P	**Pn**	**02 45 49.7**	**+0.1**
	28nm,1.1s						
PLAI	**Plampang**	**14.01**	**246**	P	**Pn**	**02 46 55.9**	**+1.6**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.66**	**198**	Pn	**Pn**	**02 47 14.5**	**-1.9**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.1						
FITZ				Sn	**Sn**	**02 50 03.5**	**-5.9**
	0.2nm,0.3s,baz=108,slow=15,SNR=1.4						
WRA	**Warramunga Arr**	**17.08**	**168**	Pn	**Pn**	**02 47 31.8**	**-2.8**
	0.3nm,0.3s,baz=348,slow=14,SNR=25						
WRA				Sn	Sn	02 50 34.9	-9.0
	0.4nm,0.3s,baz=353,slow=24,SNR=3.2						
ASAR	**Alice Springs**	**20.64**	**172**	P	**P**	**02 48 16.6**	**+1.4**
	18nm,0.6s,baz=350,slow=11,SNR=157						
ASAR				S	**S**	**02 52 06.2**	**+1.2**
	0.7nm,0.8s,baz=351,slow=24,SNR=3.5						
STKA	**Stephens Creek**	**30.38**	**161**	P	**P**	**02 49 48.9**	**+1.5**
	2.1nm,0.8s,baz=4.9,slow=4.4,SNR=3.6						
SONM	**Songino Array**	**55.04**	**340**	P	**P**	**02 53 06.6**	**-0.4**
	0.3nm,0.4s,baz=155,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**65.41**	**326**	P	**P**	**02 54 17.7**	**-0.2**
	0.5nm,0.3s,baz=111,slow=8.6,SNR=14						
ZALV	**Zalesovo Beam**	**68.46**	**333**	P	**P**	**02 54 36.9**	**-0.2**
	0.5nm,0.3s,baz=132,slow=2.2,SNR=4.2						

MEX 21 02:48:30.8±0.6, 16°.53N×98°.46W, h22km±26km, MD3.4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**113**	*i* P	Pb	02 48 36.6	-1.8
PNIG				*i* S	Sb	02 48 42.2	-1.4
CRIG	**Cruz Grande**	**0.67**	**288**	*e*P	Pb	02 48 41.6	-2.3
CRIG				*i* S	Sb	02 48 50.7	-2.1
YOIG	**Yosondua**	**0.94**	**70**	*e*P	Pb	02 48 45.9	-2.6
YOIG				*e*S	Sb	02 48 58.0	-2.8
TXIG	**Tlaxiaco**	**0.98**	**43**	*e*P	Pb	02 48 45.9	-3.4
TXIG				*e*S	Sb	02 48 58.2	-3.7
PEIG	**Puerto Escondi**	**1.37**	**112**	*e*P	Pn	02 48 52.1	-2.5
PEIG				*i* S	Sn	02 49 08.4	-3.7
FTIG	**Fresnillo de T**	**1.41**	**13**	*e*P	Pn	02 48 51.8	-3.5
FTIG				*e*S	Sn	02 49 09.4	-3.8
HLIG	**Huajuapan de L**	**1.44**	**26**	*e*P	Pn	02 48 52.5	-3.3
HLIG				*e*S	Sn	02 49 10.7	-3.4

MEX 21 02:48:43.9±0.6, 17°.20N×100°.23W, h55km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**194**	*i* P	Pn	02 48 51.1	-1.5
CAIG				*i* S	Sn	02 48 57.0	-1.8
ATYC	**Atoyac**	**0.20**	**273**	*e*P	Pn	02 48 51.0	-1.8
ATYC				*e*S	Sn	02 48 57.0	-2.1
ACP2	**Acapulco**	**0.46**	**135**	*e*P	Pn	02 48 53.5	-1.6
ACP2				*e*S	Sn	02 49 01.6	-1.5
VNTA	**La Mica**	**0.48**	**126**	*e*P	Pn	02 48 55.0	-0.4
VNTA				*i* S	Sn	02 49 01.8	-1.8
DAIG	**Los Arroyos**	**0.58**	**108**	*e*P	Pn	02 48 54.9	-1.5
DAIG				*i* S	Sn	02 49 03.5	-2.0
DAIG	**Los Arroyos**	**0.58**	**108**	*i* P	Pn	02 48 54.9	-1.5
DAIG				*i* S	Sn	02 49 03.5	-2.0
MEIG	**Mezcala**	**0.92**	**39**	*e*P	Pn	02 48 58.9	-1.9
MEIG				*i* S	Sn	02 49 10.6	-2.7
ARIG	**Puente Sto Nin**	**1.08**	**354**	*e*P	Pn	02 49 01.5	-1.3
ARIG				*i* S	Sn	02 49 15.3	-1.6
CRIG	**Cruz Grande**	**1.15**	**114**	*e*P	Pn	02 49 03.5	-0.2
CRIG				*i* S	Sn	02 49 16.9	-1.6
ZIIG	**Zihuatanejo**	**1.25**	**289**	*e*P	Pn	02 49 05.4	+0.4
ZIIG				*e*S	Sn	02 49 20.0	-0.9
PLIG	**Platanillo**	**1.37**	**30**	*e*P	Pn	02 49 05.7	-1.1
PLIG				*e*S	Sn	02 49 22.3	-1.7
TLIG	**Tlapa**	**1.62**	**77**	*e*P	Pn	02 49 09.8	-0.6
TLIG				*i* S	Sn	02 49 28.9	-1.4

*RSPR **21** 02:51:26.7, 19°.15N×63°.54W, h58km±10km, MD3.3/4*
*NEIC **21** 02:51:27.0±1.2, 19°.1N±0°.1×63°.64W±0°.06, h52km±57km, Error ellipse: s-maj=19.5km s-min=4.7km az=158.0*
ISC 21 02:51:24.5±2.2, 19°.1N±0°.2×63°.47W±0°.05, h41km, n22, σ1s02/28, 4C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.61**	**242**	⇑*e*P	**Pn**	**02 51 51.1**	**+0.7**
STVI	**Saint Thomas**	**1.61**	**242**		**Pn**	**02 51 51.0**	**+0.6**
CDVI	**St. Croix**	**1.84**	**222**	⇑*e*P	**Pn**	**02 51 55.0**	**+1.4**
CDVI	**St. Croix**	**1.84**	**222**	*e*S	**Sn**	**02 52 16.6**	**+0.8**
CDVI	**St. Croix**	**1.84**	**222**	Pn	**Pn**	**02 52 54.4**	**+0.7**
CDVI					**Sn**	**02 52 14.3**	**-1.4**
CUPR	**Culebra, Puert**	**1.91**	**245**	⇑*e*P	**Pn**	**02 51 55.3**	**+0.8**
CUPR	**Culebra, Puert**	**1.91**	**245**	*e*S	**Sn**	**02 52 17.9**	**+0.6**
CUPR	**Culebra, Puert**	**1.91**	**245**	Pn	**Pn**	**02 51 54.7**	**+0.2**
CUPR				Sn	**Sn**	**02 52 15.9**	**-1.4**
SKI	**Saint Kitts**	**1.91**	**159**	*e*S	**Sn**	**02 52 15.8**	**-1.7**
ANWB	**Willy Bob**	**2.15**	**132**	*e*P	**Pn**	**02 51 58.6**	**+0.6**
ANWB				*e*S	**Sn**	**02 52 22.8**	**-0.7**
MTP	**Monte Pirata**	**2.23**	**243**	⇑*e*P	**Pn**	**02 51 59.8**	**+0.8**
MTP	**Monte Pirata**	**2.23**	**243**	Pn	**Pn**	**02 51 58.6**	**-0.3**
MTP				IAML		02 52 28.1	
	comp=N,21nm,0.6s						
MTP				IAML		02 52 28.3	
	comp=E,20nm,0.2s						
HUMP	**Col San Antoni**	**2.46**	**247**	Pn	**Pn**	**02 52 02.5**	**+0.3**
HUMP				IAML		02 53 07.4	
	comp=N,13nm,2.9s						
GCPR	**Guaynabo City**	**2.61**	**252**	⇓*e*P	**Pn**	**02 52 04.9**	**+0.7**
GCPR	**Guaynabo City**	**2.61**	**252**	*e*S	**Sn**	**02 52 35.0**	**+0.2**
GCPR	**Guaynabo City**	**2.61**	**252**	Pn	**Pn**	**02 52 03.5**	**-0.8**
GCPR				Sn	**Sn**	**02 52 32.7**	**-2.0**
GCPR				IAML		02 52 46.0	
	comp=E,13nm,4.2s						
GCPR				IAML		02 52 47.7	
	comp=N,15nm,1.9s						
ANBD	**Bethesda, Anti**	**2.62**	**142**	*e*P	**Pn**	**02 52 05.6**	**+1.2**
ANBD				*e*S	**Sn**	**02 52 33.8**	**-1.3**
PDPR	**Patillas Dam,**	**2.66**	**246**	Pn	**Pn**	**02 52 05.9**	**+0.9**
PDPR				IAML		02 53 06.4	

*BJI **21** 03:29:30.6±0.0, 40°.37N×98°.27E, h15km, mb4.5/47, mB4.6/30, ML5.2/17, Ms4.7/63, Ms7 4.2/54*
*IDC **21** 03:29:30.5±0.5, 40°.20N×98°.18E, h0km, mb4.1/30, mb1 4.3/35, mb1mx4.1/59, mbtmp4.2/35, ML3.9/4, MS3.8/32, Ms1 3.8/32, ms1mx3.6/91, Error ellipse: s-maj=13.7km s-min=9.5km az=40.0*
*MOS **21** 03:29:30.8±0.9, 40°.19N×98°.22E, h11km, mb4.8/30, Error ellipse: s-maj=8.2km s-min=5.9km az=40.4*
*NEIC **21** 03:29:33.5±1.9, 40°.21N±0°.08×98°.2E±0°.1, h15km±4km, mb4.8/70, ML5.1(BJI), Error ellipse: s-maj=11.5km s-min=10.8km az=221.0*
ISC 21 03:29:32.6±0.4, 40°.25N±0°.03×98°.23E±0°.03, h14km±2km, h14km:pP-P, n257, σ1s92/240, mb4.6/80, MS3.9/36, 10C-16D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**1.48**	**124**	⇑Pg	**Pg**	**03 29 59.8**	**-1.3**
GTA				Sg	**Sg**	**03 30 20.3**	**0.0**
GTA				smax	smax		
	comp=N,30μm,0.6s						
GTA				smax	smax		
	comp=E,25μm,0.7s						
GOMU	**GeErMu**	**4.86**	**215**	Pn	**Pn**	**03 30 46.6**	**+1.0**
GOMU				Pg	**Pg**	**03 31 02.9**	**-2.7**
GOMU				Sn	**Sn**	**03 31 41.4**	**-0.4**
GOMU				Sg	**Sg**	**03 32 08.5**	**-0.1**
GOMU				smax	smax		
	comp=N,570nm,0.5s						
GOMU				smax	smax		
	comp=E,520nm,0.7s						
GOMU				LR	LR		
	comp=N,2μm,10.0s						
GOMU				LR	LR		
	comp=E,2μm,9.9s						
GOMU				LR	LR		
	comp=Z,2μm,10.9s						
LZH	**Lanzhou**	**6.07**	**131**	Pn	**Pn**	**03 31 03.3**	**+1.2**
LZH				Sg	**Sg**	**03 32 43.3**	**-4.1**
LZH				smax	smax		
	comp=N,860nm,1.5s						
LZH				smax	smax		
	comp=E,1μm,1.5s						
LZH				LR	LR		
	comp=N,2μm,5.4s						
LZH				LR	LR		
	comp=E,3μm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,5.4s						
WMQ	**Urumqi**	**8.61**	**298**	*e*P	**Pn**	**03 31 37.6**	**+0.7**
WMQ				pP		03 31 43.3	
WMQ				sP		03 31 48.8	
WMQ				S	**Sn**	**03 33 17.8**	**+3.9**
WMQ				smax	smax		
	comp=N,1μm,0.9s						
WMQ				smax	smax		
	comp=E,1μm,0.9s						
WMQ				LR	LR		
	comp=Z,660nm,16.9s						
BTO	**Baotou**	**9.00**	**84**	*e*P	**Pn**	**03 31 41.1**	**-1.1**
BTO				S	**Sn**	**03 33 18.1**	**-5.3**
BTO				LR	LR		
	comp=N,5μm,7.3s						
BTO				LR	LR		
	comp=E,5μm,5.5s						
SONM	**Songino Array**	**9.59**	**35**	Pn	**Pn**	**03 31 51.2**	**+0.9**
	22nm,0.3s,baz=218,slow=15,SNR=445						
SONM				Sn	**Sn**	**03 33 40.4**	**+2.5**
	9.5nm,0.3s,baz=216,slow=27,SNR=5.7						
SONM				Lg	Lg	03 34 31.9	
	11nm,0.3s,baz=213,slow=30,SNR=8.9						
SONM				LR	LR	03 36 01.0	
	comp=Z,524nm,20.3s,baz=216,slow=40						
SONM	**Songino Array**	**9.59**	**35**	Pn	Pn	03 31 52.1	+1.8
ULN	**Ulaanbaatar**	**9.91**	**37**	*c* *i*P	Pn	03 31 56.2	+1.5
ULN				pmax	pmax		
	comp=Z,17nm,0.6s						
ULN	**Ulaanbaatar**	**9.91**	**37**	Pn	Pn	03 31 56.2	+1.5
HHC	**Hu-ho-hao-te**	**10.17**	**82**	*e*P	Pn	03 32 02.9	+4.7
HHC				sP		03 32 09.5	
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,130nm,4.3s						
HHC				LR	LR		
	comp=Z,3μm,6.8s						
HHC				LR	LR		
	comp=Z,2μm,6.4s						
HHC				LR	LR		
	comp=Z,720nm,6.1s						
CD2	**Chengdu**	**10.35**	**153**	P	**Pn**	**03 32 04.1**	**+3.5**
CD2				S	**Sn**	**03 34 01.0**	**+4.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,100nm,7.6s						
CD2				LR	LR		
	comp=Z,5μm,12.1s						
CD2				LR	LR		
	comp=Z,5μm,8.5s						
XAN	**Xi'an**	**10.54**	**123**	P	**Pn**	**03 32 01.4**	**-1.9**
XAN				S	**Sn**	**03 33 58.4**	**-2.8**
XAN				LR	LR		
	comp=Z,640nm,8.9s						
XAN				LR	LR		
	comp=Z,2μm,10.3s						
XAN				LR	LR		
	comp=Z,1μm,11.7s						
TIY	**Taiyuan**	**11.34**	**98**	*e*P	**Pn**	**03 32 13.5**	**-0.8**
TIY				LR	LR		
	comp=Z,940nm,6.3s						
TIY				LR	LR		
	comp=Z,790nm,9.4s						
TIY				LR	LR		
	comp=Z,700nm,7.9s						
MOY	**Mondy**	**11.58**	**9**	*e*P	Pn	03 32 30.7	+13
MOY				*e*S	**Sn**	**03 34 30.1**	**+3.5**
LYN	**LuoYang**	**12.66**	**112**	⇓P	**Pn**	**03 32 30.6**	**-1.7**
LYN				pP	P	03 32 33.8	-10
LYN				PP	**PnPn**	**03 32 40.9**	**+0.9**
LYN				S	**Sn**	**03 34 52.6**	**-0.5**
LYN				pmax	pmax		
	comp=Z,30nm,0.9s						
LYN				pmax	pmax		
	comp=Z,150nm,4.7s						
LYN				LR	LR		
	comp=Z,620nm,11.6s						
LYN				LR	LR		
	comp=Z,770nm,12.5s						
LYN				LR	LR		
	comp=Z,810nm,12.9s						
IRK	**Irkutsk**	**12.70**	**17**	*e*P	P	03 32 38.6	-5.3
IRK				pmax	pmax		
	comp=Z,291nm,0.1s						
HNS	**HongShan**	**13.16**	**97**	⇓P	**Pn**	**03 32 37.9**	**-1.1**
HNS				S	**Sn**	**03 35 07.5**	**+2.3**
HNS				pmax	pmax		
	comp=Z,28nm,0.9s						
HNS				LR	LR		
	comp=Z,1μm,11.5s						
HNS				LR	LR		
	comp=Z,620nm,9.9s						
HNS				LR	LR		
	comp=Z,570nm,11.4s						
MK31	**Makanchi Array**	**13.28**	**305**	*d* *i*P	**Pn**	**03 32 38.7**	**-1.9**
MK31	**Makanchi Array**	**13.28**	**305**	Pn	**Pn**	**03 32 38.7**	**-1.9**
MKAR	**Makanchi Array**	**13.28**	**305**	Pn	**Pn**	**03 32 37.7**	**-2.9**
	comp=Z,2.0nm,0.3s,baz=112,slow=14,SNR=88						
MKAR				Sn	**Sn**	**03 35 08.7**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=102,slow=19,SNR=1.6						

MKAR Lg Lg 03 36 33.6
comp=Z,0.9nm,0.3s,baz=107,slow=32,SNR=2.2
MKAR LR LR 03 37 26.7
comp=Z,197nm,18.2s,baz=115,slow=36
MKAR Makanchi Array 13.28 305 P **Pn** **03 32 38.9 -1.8**
MKAR Makanchi Array 13.28 305 Pn **Pn** **03 32 38.9 -1.8**
MAKZ Makanchi 13.48 304 P **Pn** **03 32 41.5 -1.9**
MAKZ Makanchi 13.48 304 Pn **Pn** **03 32 41.5 -1.9**
ENH Enshi 13.54 134 Pn **Pn** **03 32 42.9 -1.4**
BJT Baijiatuau 13.73 85 P P 03 32 48.6 -6.8
BJT Baijiatuau 13.73 85 Pn P 03 32 48.6 -6.8
BJI Beijing 13.73 85 P P 03 32 50.1 -5.4
BJI S **Sn** **03 35 20.3 +1.2**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI LR LR
comp=Z,650nm,10.0s
BJI LR LR
comp=Z,690nm,13.6s
XLT XiLinHaoTe 13.75 69 *e*P **Pn** **03 32 44.3 -2.9**
XLT sP P 03 32 51.0 -4.8
XLT PP **PnPn** **03 32 53.8 -1.2**
XLT S **Sn** **03 35 14.6 -5.1**
XLT SS **SnSn** **03 35 32.3 +0.5**
XLT pmax pmax
comp=Z,10.0nm,0.6s
XLT pmax pmax
comp=Z,100nm,4.9s
PZH PanZhiHua 14.02 167 P **Pn** **03 32 52.4 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,4.8s
UZB Uzynbulak 14.64 288 *e*P **Pn** **03 32 59.6 +0.2**
TIA Ta'an 15.38 99 *e*P **Pn** **03 33 07.4 -1.8**
TIA pmax pmax
comp=Z,14nm,0.9s
TIA pmax pmax
comp=Z,130nm,4.8s
TIA LR LR
comp=Z,570nm,13.1s
TIA LR LR
comp=Z,570nm,11.8s
TIA LR LR
comp=Z,700nm,13.3s
GYA Guiyang 15.44 150 ⇓P **P** **03 33 15.5 +0.8**
GYA S **Sn** **03 36 06.8 +5.7**
GYA pmax pmax
comp=Z,57nm,1.0s
GYA pmax pmax
comp=Z,78nm,3.5s
GYA LR LR
comp=Z,1μm,4.2s
GYA LR LR
comp=Z,650nm,3.8s
GYA LR LR
comp=Z,1μm,8.9s
TARG Taragay, Kyrgy 15.50 282 Pn **Pn** **03 33 08.7 -2.4**
TARG IAmb IAmb 03 33 23.9
comp=Z,42nm,1.2s
TAPN Taplejung 15.54 217 *e*P **P** **03 33 16.1 +0.2**
KMI Kunming 15.55 165 ⇑P **P** **03 33 16.5 +0.5**
KMI sP sP 03 33 22.0 -0.2
KMI pmax pmax
comp=Z,13nm,0.6s
KMI LR LR
comp=Z,2μm,6.9s
KMI LR LR
comp=Z,3μm,6.7s
KMI LR LR
comp=Z,1μm,7.0s
SHL Shillong 15.57 202 P **Pn** **03 33 07.0 -4.9**
SHL pmax pmax
comp=Z,16nm,0.8s
SHL Shillong 15.57 202 Pn **Pn** **03 33 07.0 -4.9**
GUN Gumba 15.98 223 *e*P **P** **03 33 21.1 +0.2**
comp=Z,66nm,0.5s
JIRN Jiri 16.02 222 *e*P **P** **03 33 21.8 +0.4**
comp=Z,153nm,0.6s
ODAN Odare 16.10 217 *e*P **P** **03 33 22.7 +0.6**
comp=Z,80nm,0.7s
WHN Wuhan 16.30 121 ⇓P **Pn** **03 33 20.1 -1.0**
WHN sP **pP** **03 33 25.5 -2.8**
WHN S **Sn** **03 36 21.8 0.0**
WHN LR LR
comp=Z,1μm,8.2s
WHN LR LR
comp=Z,1μm,10.9s
WHN LR LR
comp=Z,1μm,13.9s
KKN Kakani 16.40 225 *e*P **P** **03 33 26.0 +0.6**
comp=Z,93nm,0.7s
RAMN Ramite 16.40 220 *e*P **P** **03 33 26.5 +1.0**
comp=Z,44nm,0.6s
ZAA0 Zalesovo Array 16.43 331 Pn **P** **03 33 21.3 -3.9**
ZALV Zalesovo Beam 16.43 331 Pn **P** **03 33 21.0 -4.2**
comp=Z,0.7nm,0.3s,baz=140,slow=12,SNR=11
ZALV Lg Lg 03 38 13.2
comp=Z,0.3nm,0.3s,baz=154,slow=25,SNR=7.1
ZALV LR LR 03 39 49.6
comp=Z,525nm,19.4s,baz=141,slow=38
ZALV Zalesovo Beam 16.43 331 *e*P **P** **03 33 24.7 -0.6**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 16.43 331 Pn **P** **03 33 21.2 -4.1**
DMN Daman 16.64 225 *e*P **P** **03 33 28.9 +0.8**
DANN Dangsing 16.82 230 *e*P **P** **03 33 31.0 +0.9**
BOOM Boomskoye usch 16.88 285 P **Pn** **03 33 25.5 -3.0**
BOOM pmax pmax
comp=Z,24nm,0.9s
BOOM Boomskoye usch 16.88 285 **Pn** **03 33 25.5 -3.0**
KSH Kashi 17.10 275 P **P** **03 33 33.3 +0.3**
KSH S **Sn** **03 36 43.6 +2.4**
KSH pmax pmax
comp=Z,13nm,0.9s
KSH LR LR
comp=Z,650nm,11.0s
KSH LR LR
comp=Z,470nm,10.6s
TKM2 Tokmak 2 17.14 286 P **Pn** **03 33 28.7 -3.1**
SNR=12
KURK Kurchatov 17.23 314 *de*P **P** **03 33 31.7 -2.5**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 17.23 314 Pn **P** **03 33 31.7 -2.5**
KURBB Kurchatov Arra 17.23 314 P **P** **03 33 31.4 -2.8**
comp=Z,0.3nm,0.3s,baz=119,slow=12,SNR=20
KURBB LR LR 03 39 21.0
comp=Z,260nm,21.8s,baz=98,slow=34
PYUN Piuthan 17.46 231 *e*P **P** **03 33 37.5 +0.4**
comp=Z,37nm,0.8s
KBK Karagaybulak 17.61 285 P **P** **03 33 36.8 -1.9**
SNR=14
CHMS Chumysh 17.76 287 P **P** **03 33 39.7 -0.5**
SNR=8.2
FRU1 Bishkek 17.84 286 P **P** **03 33 42.0 +0.9**
FRU1 pmax pmax
comp=Z,37nm,1.1s
FRU1 Bishkek 17.84 286 **P** **03 33 42.0 +0.9**
SGDS Sogindy 17.86 288 *e*P **P** **03 33 41.5 +0.2**
AAK Ala-Archa 17.94 285 P **P** **03 33 40.7 -1.6**
comp=Z,0.6nm,0.3s,baz=107,slow=7.6,SNR=21
AAK LR LR 03 41 51.3
comp=Z,266nm,20.2s,baz=108,slow=41
AAK Ala-Archa 17.94 285 *ce*P **P** **03 33 41.8 -0.6**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 17.94 285 Pn **P** **03 33 40.4 -2.0**
USP Ospenovka 17.95 287 P **P** **03 33 43.4 +1.2**
SNR=19
GULI GuiLin 18.04 142 ⇓P **P** **03 33 42.0 -1.4**
GULI S **Sn** **03 37 04.6 +0.5**
GULI pmax pmax
comp=Z,20nm,1.5s
GULI LR LR
comp=Z,2μm,4.8s
GULI LR LR
comp=Z,950nm,4.6s
GULI LR LR
comp=Z,670nm,9.3s
EKS2 Erkin-Say 18.47 285 P **Pn** **03 33 50.5 +2.3**
SNR=8.3
NJ2 Nanjing 18.53 110 *e*P **Pn** **03 33 50.4 +1.6**
NJ2 sP **sP** **03 33 53.6 -1.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,190nm,3.9s
NJ2 LR LR
comp=Z,440nm,11.2s
NJ2 LR LR
comp=Z,620nm,10.8s
NJ2 LR LR
comp=Z,720nm,13.6s
AML Almayashu 18.55 284 P **Pn** **03 33 48.0 -1.4**
SNR=15
SNY Shenyang 19.17 77 ⇑P **Pn** **03 33 56.9 +0.4**
SNY S **S** **03 37 30.5 -2.0**
SNY pmax pmax
comp=Z,17nm,0.7s
SNY pmax pmax
comp=Z,150nm,4.1s
SNY LR LR
comp=Z,780nm,5.0s
SNY LR LR
comp=Z,650nm,6.0s
DRK Karamyk 20.28 276 P Pn 03 34 09.6 -0.5
DRK IAmb IAmb 03 34 16.3
comp=Z,34nm,0.8s
BOD Bodaibo 20.31 25 *e*P Pn 03 34 09.6 -0.3
BOD pmax pmax
comp=Z,45nm,1.8s
BRZS Berezniki 20.40 307 *e*P Pn 03 34 10.4 -0.7
CN2 Changchun 20.49 71 *e*P Pn 03 34 09.0 -3.2
CN2 e**p**P s**P** 03 34 19.9 +3.6
CN2 e**S** **S** **03 37 50.0 -8.9**
CN2 e**s**S p**S** 03 38 06.4 -3.8
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,550nm,14.0s
CN2 LR LR
comp=Z,790nm,14.0s
SSE Sheshan 20.72 109 P Pn 03 34 13.9 -1.1
SSE S Sn 03 38 07.0 -1.5
SSE pmax pmax
comp=Z,17nm,1.0s
SSE pmax pmax
comp=Z,33nm,3.5s
SSE LR LR
comp=Z,210nm,11.0s
SSE LR LR
comp=Z,320nm,13.7s
KKAR Karatay Array 20.86 287 P Pn 03 34 14.7 -1.9
KKAR Karatay Array 20.86 287 P Pn 03 34 14.7 -1.9
BTK Batken 20.93 278 P Pn 03 34 15.1 -2.3
BTK pmax pmax
comp=Z,16nm,0.9s
BTK Batken 20.93 278 P Pn 03 34 15.1 -2.3
IUG Iuzhnay 21.27 284 *e*P **P** **03 34 19.6 +1.0**
CHTO Chiang Mai 21.37 178 P **P** **03 34 20.0 +0.3**
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO Chiang Mai 21.37 178 P **P** **03 34 20.0 +0.3**
CHTO IAmb IAmb 03 34 31.7
comp=Z,25nm,0.9s
GAR Garm 21.51 276 P **P** **03 34 20.9 -0.3**
GAR IAmb IAmb 03 34 27.9
comp=Z,37nm,0.9s
CM31 Chiang Mai Arr 21.73 178 P **P** **03 34 25.3 +1.8**
CM31 IAmb IAmb 03 34 31.6
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 21.73 178 P **P** **03 34 24.4 +0.9**
comp=Z,12nm,0.8s,baz=354,slow=9.4,SNR=22
CMAR Chiang Mai Arr 21.73 178 P **P** **03 34 27.1 +3.6**
CMAR Chiang Mai Arr 21.73 178 P **P** **03 34 27.1 +3.6**
TAS Tashkent 21.90 282 P **P** **03 34 26.2 +1.0**
TAS pmax pmax
comp=Z,61nm,0.8s
TAS Tashkent 21.90 282 P **P** **03 34 26.2 +1.0**
BNX BinXian 21.96 66 ⇑P **P** **03 34 29.6 +3.7**
BNX p**P** **sP** **03 34 30.9 -1.2**
BNX s**P** **pP** **03 34 34.4 +4.2**
BNX pmax pmax
comp=Z,15nm,0.9s
BNX pmax pmax
comp=Z,200nm,7.0s
BNX LR LR
comp=Z,900nm,7.9s
BNX LR LR
comp=Z,1μm,6.0s
BNX LR LR
comp=Z,2μm,7.0s
CHGR Chuyangaron 22.46 275 P **P** **03 34 31.0 -0.4**
BVAR Borovoye Array 22.82 313 P **P** **03 34 36.3 +1.3**
comp=Z,1.1nm,0.4s,baz=193,slow=16,SNR=6.1
BRVK Borovoye 22.89 313 *de*P **P** **03 34 37.5 +1.8**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 22.89 313 P **P** **03 34 36.2 +0.5**
BRVK IAmb IAmb 03 34 43.9
comp=Z,18nm,0.8s
TJN Taejon 23.14 90 ⇓*e*P **P** **03 34 39.8 +1.5**
KS19 Wonju Array Si 23.19 87 P **P** **03 34 40.1 +1.2**
KS19 IAmb IAmb 03 34 41.5
comp=Z,10nm,0.8s
KSAR Wonju Array Be 23.22 87 P **P** **03 34 39.6 +0.4**
KSAR Wonju Array Be 23.22 87 P **P** **03 34 39.6 +0.4**
KSRS Korea Array 23.24 87 P **P** **03 34 40.2 +0.8**
comp=Z,8.3nm,0.7s,baz=281,slow=10,SNR=34
QIZ Qiongzhong 23.39 151 P **P** **03 34 41.0 0.0**
QIZ S **S** **03 38 54.4 +0.7**
QIZ pmax pmax
comp=Z,15nm,1.0s
QIZ LR LR
comp=Z,900nm,15.9s
QIZ LR LR
comp=Z,2μm,16.3s
QIZ LR LR
comp=Z,630nm,9.8s
MDJ Mudanjiang 23.47 69 P **P** **03 34 43.8 +2.1**
MDJ pmax pmax
comp=Z,2.0nm,1.0s
MDJ pmax pmax
comp=Z,62nm,3.6s
MDJ LR LR
comp=Z,780nm,5.7s
MDJ LR LR
comp=Z,630nm,8.9s
MDJ LR LR
comp=Z,1μm,15.0s
ZEA Zeya 23.75 46 *e*P P 03 34 53.8 +10
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=E,700nm,9.0s
ZEA MLR MLR
comp=Z,700nm,9.0s
KBL Kabul 23.82 265 P **P** **03 34 46.1 +0.7**
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 23.82 265 P **P** **03 34 46.1 +0.7**
KBL IAmb IAmb 03 35 03.1
comp=Z,20nm,0.8s
USRK Ussuriysk Ar. 25.20 70 P **P** **03 34 59.8 +2.1**
comp=Z,4.6nm,0.9s,baz=241,slow=11,SNR=6.1
USRK Ussuriysk Ar. 25.20 70 P **P** **03 34 57.3 -0.4**
KLR Kul'dur 25.27 58 P **P** **03 34 59.4 +1.1**
comp=Z,4.0nm,0.6s,baz=270,slow=10.0,SNR=17
KLR Kul'dur 25.27 58 ⇓*e*P **P** **03 35 00.0 +1.7**
KLR pmax pmax
comp=Z,9.0nm,1.7s
JNU Nakatsue 27.02 95 P **P** **03 35 14.7 +0.4**
JNU IAmb IAmb 03 35 25.1
comp=Z,38nm,1.4s
ABKAR Akbulak array 28.38 301 P **P** **03 35 27.3 +1.1**
NRIK Noril'sk 29.70 352 P **P** **03 35 38.8 +1.0**
comp=Z,4.3nm,0.7s,baz=152,slow=9.1,SNR=6.8
NRIK LR LR 03 47 58.0
comp=Z,173nm,18.6s,baz=181,slow=37
NRIK Noril'sk 29.70 352 P **P** **03 35 38.3 +0.5**
AKTO Aktyubinsk 29.71 304 P **P** **03 35 38.1 +0.1**
comp=Z,1.2nm,0.5s,baz=78,slow=9.8,SNR=5.6
AKTO LR LR 03 48 32.7
comp=Z,156nm,18.4s,baz=97,slow=38
ARU Arti 30.41 316 LR LR 03 48 51.3
comp=Z,152nm,18.2s,baz=104,slow=38
ARU Arti 30.41 316 *c i*P **P** **03 35 44.9 +0.7**
ARU 03 36 38.4
ARU 03 38 41.0
ARU S **S** **03 40 46.0 +1.7**
ARU SS **SnSn** **03 42 18.0 -1.5**
ARU pmax pmax
comp=Z,4.0nm,0.7s
GEYT Alibeck 31.04 279 P **P** **03 35 50.9 +0.9**
comp=Z,5.9nm,0.9s,baz=73,slow=12,SNR=6.8
GEYT LR LR 03 50 37.9
comp=Z,109nm,18.5s,baz=56,slow=41
GEYT Alibeck 31.04 279 P **P** **03 35 51.7 +1.7**
GEYT IAmb IAmb 03 35 58.7
comp=Z,12nm,1.0s
GYA0B ALIBECK ARRAY 31.04 279 P **P** **03 35 51.2 +1.2**
GYA0B IAmb IAmb 03 35 58.6
comp=Z,15nm,1.0s
TIXI Tiksi 35.01 16 P **P** **03 36 24.1 -0.1**
comp=Z,1.0nm,0.3s,baz=274,slow=20,SNR=3.9
KIRV Kirov 35.69 317 LR LR 03 51 08.8
comp=Z,140nm,19.0s,baz=97,slow=36
BELG Belogornoye 36.27 307 P **P** **03 36 34.6 -0.6**
comp=Z,4.8nm,0.8s,baz=315,slow=1.4,SNR=8.0
BELG Belogornoye 36.27 307 *de*P **P** **03 36 35.6 +0.4**
BELG pmax pmax
comp=Z,1.0nm,0.9s
WSAR Wadi Sarin 37.35 255 P **P** **03 36 44.5 -0.2**
comp=Z,5.9nm,0.8s,baz=63,slow=9.0,SNR=4.0
WSAR LR LR 03 52 46.6
comp=Z,47nm,21.6s,baz=127,slow=37
MAK Makhachkala 37.56 291 *e*P **P** **03 36 42.4 -3.9**
MAK e**S** **S** **03 42 30.1 -5.0**
MAK e**SS** **SnSn** **03 45 06.5 -6.7**
MAK pmax pmax
comp=Z,182nm,1.5s
MAK MLR MLR
comp=Z,260nm,16.0s
GROC Groznyy 38.72 292 *e*P **P** **03 36 57.5 +1.4**
GROC *e* 03 39 09.5
GROC pmax pmax
comp=Z,29nm,1.1s
SEY Seymchan 38.98 36 P **P** **03 36 59.2 +1.1**
comp=Z,0.7nm,0.4s,baz=276,slow=14,SNR=4.2
SEY Seymchan 38.98 36 ⇑*e*P P 03 37 00.4 +2.3
SEY pmax pmax
comp=Z,2.0nm,1.0s
MYLDM Lahad Datu 39.39 147 P **P** **03 37 03.7 +1.8**
SBUM Sibu 39.71 158 P **P** **03 37 06.4 +1.8**
VRH Novokhopyorsk 40.01 305 *e*P P 03 37 12.1 +5.4
VRH pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 40.17 292 *e*P P 03 37 13.3 +4.8
ZEI pmax pmax
comp=Z,7.0nm,1.1s
GNI Garni 40.32 288 LR LR 03 56 46.4
comp=Z,78nm,18.2s,baz=68,slow=41
GNI Garni 40.32 288 ⇓*e*P P 03 37 13.4 +3.6
GNI pmax pmax
comp=Z,7.0nm,1.1s
ONI Oni 40.54 292 P **P** **03 37 12.5 +1.1**
ONI pmax pmax
comp=Z,13nm,1.0s
ONI Oni 40.54 292 P **P** **03 37 12.5 +1.1**
ONI IAmb IAmb 03 37 21.8
comp=Z,13nm,1.0s
KBZ Khabaz 40.63 294 P **P** **03 37 12.2 +0.2**
comp=Z,1.1nm,0.6s,baz=108,slow=5.8,SNR=5.4
KBZ LR LR 03 56 05.3
comp=Z,186nm,19.8s,baz=72,slow=39
KIV Kislovodsk 40.72 294 *e*P **P** **03 37 13.8 +0.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,81nm,16.0s
KLMR Klimovskoe 40.91 320 *e*P P 03 37 19.4 +5.3
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 40.91 320 *e*P P 03 37 19.4 +5.3
KLMR AMP 03 37 35.5
comp=Z,22nm,1.1s
VORR Voronezh 41.51 306 *e*P P 03 37 24.0 +4.9
VORR pmax pmax
comp=Z,70nm,0.4s
LPSR Galich'ya Gora 41.55 308 *e*P P 03 37 24.5 +5.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 41.56 305 *e*P P 03 37 24.1 +4.6
VORD pmax pmax
comp=Z,10.0nm,0.7s
MOS Moscow 41.99 313 *e*P P 03 37 26.8 +3.8
GEVA Gevas 42.17 286 P **P** **03 37 26.7 +1.8**
GEVA IAmb IAmb 03 37 34.4
comp=Z,24nm,0.9s
OBN Obninsk 42.65 312 ⇓*e*P P 03 37 32.1 +3.7
OBN *PP sP 03 37 34.0 -0.9
OBN *SP pP 03 37 35.0 +1.9
OBN S **S** **03 43 46.0 -4.8**
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,47nm,14.0s
SOC Sochi 42.89 294 *e*P **P** **03 37 27.7 -2.8**
SOC *e* 03 39 09.5
SOC e**P**PP PPP 03 39 40.1
SOC e**S** **S** **03 43 50.3 -4.5**
SOC e**SS** **SS** **03 47 05.0 -1.0**
SOC e**SSS** SSS 03 47 44.0
SOC MLR MLR
comp=Z,104nm,19.0s
MARD Mardin 44.21 285 P **P** **03 37 42.8 +1.4**
BILL Bilibino 45.25 29 ⇑*e*P **P** **03 37 50.5 +1.4**
BILL *PP **sP** **03 37 55.0 -0.7**
BILL *SP **pP** **03 37 58.0 +4.1**
BILL 03 39 28.0
BILL S S 03 44 50.0 +21
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,121nm,15.0s
BILL Bilibino 45.25 29 P P 03 37 51.2 +2.0
BILL IAmb IAmb 03 38 00.9
comp=Z,4.1nm,0.7s
ARCES ARCESS Array B 46.97 333 P **P** **03 38 03.0 +0.4**
comp=Z,3.8nm,0.9s,baz=69,slow=6.8,SNR=5.5
ARCES LR LR 03 58 24.4
comp=Z,170nm,18.9s,baz=24,slow=37
ARCES ARCESS Array B 46.97 333 *e*P **P** **03 38 03.6 +1.0**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 47.09 266 P **P** **03 38 04.9 +0.7**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
RAYN Ar Rayn 47.09 266 P **P** **03 38 04.9 +0.7**
FIA1 FINESS Array S 47.38 322 P **P** **03 38 06.0 +0.1**
FIA1 IAmb IAmb 03 38 18.3
comp=Z,10nm,1.1s
FINES FINESS Array B 47.38 322 P **P** **03 38 05.8 -0.1**
comp=Z,2.3nm,0.8s,baz=83,slow=7.7,SNR=9.4
FINES LR LR 03 59 32.3
comp=Z,128nm,19.4s,baz=88,slow=38
FINES FINESS Array B 47.38 322 P **P** **03 38 06.5 +0.6**
FINES FINESS Array B 47.38 322 P **P** **03 38 06.5 +0.6**
AKASG Malin Array Be 47.85 307 P **P** **03 38 09.4 -0.3**
comp=Z,0.7nm,0.5s,baz=64,slow=8.4,SNR=5.2
AKASG LR LR 03 58 46.3
comp=Z,209nm,19.7s,baz=72,slow=37
AKASG Malin Array Be 47.85 307 *e*P **P** **03 38 10.4 +0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 47.85 307 P **P** **03 38 09.8 +0.1**
AKBB Malin Array Si 47.85 307 P **P** **03 38 10.5 +0.8**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 47.85 307 P **P** **03 38 10.5 +0.8**
AKBB IAmb IAmb 03 38 15.7
comp=Z,4.7nm,0.8s
NACGM Naroch 48.24 313 *e*P P 03 38 16.9 +4.2
IIGN Ignalina 48.45 313 *e*P **P** **03 38 15.7 +1.4**
BR131 Keskin Array S 48.47 291 *de*P **P** **03 38 15.8 +0.9**
BR131 Keskin Array S 48.47 291 P **P** **03 38 15.2 +0.3**
BR131 IAmb IAmb 03 38 22.7
comp=Z,7.2nm,0.9s
BRTR Keskin Array B 48.47 291 P **P** **03 38 14.7 -0.2**
comp=Z,1.5nm,0.8s,baz=90,slow=8.6,SNR=8.9
BRTR LR LR 04 02 50.6
comp=Z,41nm,18.5s,baz=56,slow=41
BRTR Keskin Array B 48.47 291 *e*P **P** **03 38 16.1 +1.2**
BRTR pmax pmax

comp=Z,2.0nm,0.8s
BRTR Keskin Array B 48.47 291 P P 03 38 15.4 +0.5
GUMO Guam 48.60 110 LR LR 04 00 14.3
comp=Z,60nm,18.2s,baz=112,slow=38
KAPI Kappang 49.20 151 P P 03 38 19.8 -0.6
comp=Z,9.7nm,0.8s,baz=340,slow=4.7,SNR=6.7
KAPI Kappang 49.20 151 P P **03 38 20.2 -0.2**
KAPI pmax pmax
comp=Z,14nm,1.0s
KAPI Kappang 49.20 151 P P 03 38 20.2 -0.2
KAPI IAmb IAmb 03 38 21.4
comp=Z,14nm,1.0s
MMAI Mount Meron Ar 50.01 283 LR LR 04 01 21.8
comp=Z,44nm,21.0s,baz=216,slow=38
SUW Suwalki 50.50 312 *eP* **P 03 38 31.3 +1.4**
BUR08 Bucovina Ar. S 51.30 304 P P 03 38 37.1 +0.8
BURAR Bucovina Array 51.30 304 P P 03 38 37.5 +1.2
ISP Isparta 51.47 291‖ *eP* **P 03 38 37.4 -0.3**
ISP pmax pmax
comp=Z,12nm,1.3s
MLR Muntele Rosu 51.59 301 LR LR 04 03 30.3
comp=Z,125nm,19.4s,baz=279,slow=40
UPP Uppsala 51.78 321 *eP* **P 03 38 41.0 +1.6**
ELL Elmali 52.38 290 P P 03 38 45.4 +0.9
ELL pmax pmax
comp=Z,50nm,1.0s
ELL Elmali 52.38 290 P P 03 38 45.4 +0.9
VIKU Vikbolandet 52.63 319 *eP* **P 03 38 47.2 +1.4**
OJC Ojcow 53.71 309 P P 03 38 55.0 +1.0
OJC pmax pmax
comp=Z,7.0nm,0.7s
OJC Ojcow 53.71 309 P P 03 38 55.0 +1.0
OJC IAmb IAmb 03 39 03.7
comp=Z,7.0nm,0.7s
NC405 NORSAR Array S 54.18 323 P P 03 38 57.4 +0.2
NB2 NORSAR Subarra 54.44 323 P P 03 38 58.7 -0.4
comp=Z,3.6nm,1.0s,baz=66,slow=7.4
NOA NORSAR Array B 54.44 323 P P 03 38 58.8 -0.4
comp=Z,0.5nm,0.7s,baz=76,slow=7.7,SNR=2.2
NOA LR LR 04 01 05.0
comp=Z,154nm,20.9s,baz=60,slow=35
MORC Moravsky Berou 55.23 309 *eP* P 03 39 09.5 +4.5
OSTC Ostas 55.70 310 *eP* P 03 39 13.9 +5.5
DPC Dobruska-Polom 55.72 310 *eP* **P 03 39 09.5 +0.9**
DPC Dobruska-Polom 55.72 310 *eP* **P 03 39 09.5 +0.9**
CHVC Chvalec 55.78 310 *eP* P 03 39 14.4 +5.4
UPC Upice 55.84 310 *eP* P 03 39 15.6 +6.2
UPC Upice 55.84 310 *ep*P pP 03 39 15.6 +1.4
VRAC Vranov 55.98 309 LR LR 04 04 00.7
comp=Z,129nm,19.3s,baz=76,slow=37
IDI Anoyia 56.66 290 LR LR 04 09 23.5
comp=Z,32nm,19.1s,baz=44,slow=42
CLL Collm 57.25 312 *eP* **P 03 39 21.0 +1.6**
CLL Collm 57.25 312 *eP* **P 03 39 21.0 +1.6**
CLL *ep*P **sP 03 39 25.0 -1.0**
comp=Z,4.0nm,0.7s
CKRC Cesky Krumlov 57.55 309 *eP* **P 03 39 22.6 +1.0**
KHC Kasperske Hory 57.85 309 *ep*P pP 03 39 30.1 +1.6
GERES GERESS Array B 57.90 309 P **P 03 39 24.4 +0.3**
comp=Z,0.4nm,0.8s,baz=69,slow=7.3,SNR=4.7
TOLK Toolik Lake Re 60.47 23 P P **03 39 42.9 +1.4**
TOLK IAmb IAmb 03 40 06.3
comp=Z,6.7nm,1.1s
NRCA Norcia 61.06 303 P **P 03 39 47.2 +1.3**
NRCA IAmb IAmb 03 40 05.8
comp=Z,7.0nm,1.0s
DAVOX Davos/Dischmat 61.14 308 LR LR 04 07 24.8
comp=Z,88nm,18.4s,baz=58,slow=37
H21K Melozitna Rive 61.15 27 P **P 03 39 47.2 +1.1**
H21K IAmb IAmb 03 40 08.7
comp=Z,8.7nm,1.4s
TUE Stuetta 61.61 308 P **P 03 39 50.6 +0.8**
TUE IAmb IAmb 03 40 03.0
comp=Z,6.4nm,1.0s
ZCCA Zocca 61.66 305 P P 03 39 52.6 +2.6
ZCCA IAmb IAmb 03 40 19.2
comp=Z,8.2nm,0.8s
KNRA Kununurra 62.47 147 P **P 03 39 55.8 +0.3**
BMAR Burnt Mountain 62.70 23 P P 03 39 58.6 +2.0
KTH Kantishna Hill 63.03 28 P **P 03 39 60.0 +1.1**
FITZ Fitzroy Crossi 63.41 151 P **P 03 40 02.0 +0.2**
comp=Z,5.6nm,0.8s,baz=341,slow=6.4,SNR=16
FITZ Fitzroy Crossi 63.41 151 P **P 03 40 01.6 -0.1**
FITZ IAmb IAmb 03 40 02.7
comp=Z,7.4nm,1.0s
MCK McKinley 63.63 27 P P 03 40 04.6 +1.8
MCK pmax pmax
comp=Z,8.0nm,1.4s
MCK McKinley 63.63 27 P P 03 40 04.6 +1.9
MCK IAmb IAmb 03 40 13.0
comp=Z,7.8nm,1.4s
ILAR Eielson Array 63.67 26 P **P 03 40 02.8 -0.2**
comp=Z,0.1nm,0.4s,baz=290,slow=6.4,SNR=1.9
EKA Eskdalemuir Ar 63.78 321 LR LR 04 08 51.3
comp=Z,138nm,18.1s,baz=53,slow=37
BNI Bardonecchia 63.94 308 P **P 03 40 05.9 +0.6**
BNI pmax pmax
comp=Z,7.0nm,1.1s
BNI Bardonecchia 63.94 308 P **P 03 40 05.9 +0.6**
BNI IAmb IAmb 03 40 25.8
comp=Z,7.3nm,1.1s
A36M Sachs Harbour 63.97 14 P **P 03 40 05.5 +0.6**
A36M IAmb IAmb 03 40 28.6
comp=Z,7.8nm,0.8s
DHY Denali Highway 64.59 27 P **P 03 40 09.8 +0.6**
DHY IAmb IAmb 03 40 33.1
comp=Z,12nm,1.4s
PSA00 Pilbara Seismi 64.72 158 P **P 03 40 09.9 -0.5**
PSA00 IAmb IAmb 03 40 11.2
comp=Z,6.8nm,0.9s
CLF Chambon-Foret 64.94 313 P **P 03 40 12.0 +0.4**
SML Sawmill 65.05 29 P **P 03 40 12.6 +0.4**
SCM Sheep Creek Mo 65.40 28 P **P 03 40 15.0 +0.5**
SCM pmax pmax
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 65.40 28 P **P 03 40 15.0 +0.5**
M24K Tolsona, Glenn 65.64 28 P **P 03 40 15.7 -0.3**
KDAK Kodiak Island 65.88 34 LR LR 04 11 51.3
comp=Z,126nm,19.7s,baz=303,slow=38
MCARA McCarthy VSAT 67.24 27 P **P 03 40 27.3 +1.1**
COEN Coen 68.18 132 P **P 03 40 32.2 -0.4**
COEN IAmb IAmb 03 40 34.0
comp=Z,11nm,1.1s
WB0 Warramunga Arr 68.56 143 P **P 03 40 34.5 -0.3**
WB0 IAmb IAmb 03 40 35.4
comp=Z,5.8nm,0.7s
WRAB Tennant Creek 68.68 143 *ce*P **P 03 40 35.4 -0.3**
WRAB pmax pmax
comp=Z,11nm,2.5s
WRA Warramunga Arr 68.68 143 P **P 03 40 35.3 -0.4**
comp=Z,6.0nm,0.9s,baz=343,slow=6.3,SNR=36
WRA Warramunga Arr 68.68 143 P **P 03 40 35.2 -0.5**
WB2 Warramunga Arr 68.69 143 P **P 03 40 35.4 -0.3**
WR0 Warramunga Arr 68.79 143 P **P 03 40 35.7 -0.6**
WR0 IAmb IAmb 03 40 36.4
comp=Z,5.2nm,0.6s
KMBO Kilima Mbogo 68.98 249‖ *eP* **P 03 40 37.4 -0.6**
SFJD Kangerlussuaq 70.47 348 LR LR 04 15 19.3
comp=Z,106nm,18.5s,baz=28,slow=39
AS31 Alice Springs 71.75 146 P **P 03 40 54.7 +0.3**
ASAR Alice Springs 71.75 146 P **P 03 40 54.4 0.0**
comp=Z,3.0nm,0.6s,baz=331,slow=6.0,SNR=27
ASAR Alice Springs 71.75 146 P **P 03 40 54.3 -0.1**
ESDC Sonseca Array 73.47 308 P **P 03 41 05.0 +0.3**
comp=Z,0.9nm,0.6s,baz=44,slow=5.7,SNR=16
ESDC LR LR 04 17 15.5
comp=Z,60nm,21.6s,baz=43,slow=39
ESDC Sonseca Array 73.47 308 P **P 03 41 04.6 -0.1**
YKA Yellowknife Ar 74.25 15 P **P 03 41 08.5 -0.2**
comp=Z,0.4nm,0.8s,baz=344,slow=5.8,SNR=5.0
CTA Charters Tower 74.85 134 P **P 03 41 12.6 -0.1**
comp=Z,1.6nm,0.6s,baz=6.7,slow=6.8,SNR=4.5
FRB Frobisher Bay 75.81 354 LR LR 04 19 15.6
comp=Z,42nm,18.5s,baz=62,slow=39
MDT Midelt 78.23 303 LR LR 04 18 01.3
comp=Z,30nm,18.1s,baz=168,slow=37
BBOO Buckleboo 80.68 148 P **P 03 41 44.4 -0.6**
BBOO IAmb IAmb 03 41 52.7
comp=Z,13nm,1.2s
STKA Stephens Creek 82.23 144 P **P 03 41 52.4 -0.8**
comp=Z,2.6nm,0.6s,baz=333,slow=9.9,SNR=7.8
STKA Stephens Creek 82.23 144 *eP* **P 03 41 52.8 -0.4**
STKA pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 82.23 144 P **P 03 41 52.6 -0.6**

SCHQ Schefferville 84.43 351 P **P 03 42 03.8 -0.6**
comp=Z,3.5nm,0.9s,baz=30,slow=7.9,SNR=4.1
SCHQ LR LR 04 21 33.0
comp=Z,59nm,19.6s,baz=104,slow=37
SCHQ Schefferville 84.43 351 P **P 03 42 03.9 -0.6**
SCHQ IAmb IAmb 03 42 31.5
comp=Z,12nm,1.4s
TORD Torodi Ar. Bea 86.53 284 P **P 03 42 14.7 -0.9**
comp=Z,0.7nm,0.7s,baz=34,slow=4.9,SNR=6.1
SADO Sadowa 95.33 358 LR LR 04 26 58.8
comp=Z,79nm,20.8s,baz=32,slow=36

*MOS **21** 03:35:50.0±1.0,29.°50N×101.°99E, h14km, mb4.7/5, Error ellipse: s-maj=10.8km s-min=8.0km az=99.9*
*IDC **21** 03:35:50.1±0.5,29.°52N×102.°04E, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.2/58, mbtmp4.2/25, ML4.2/2, MS3.8/6, Ms1 3.8/6, ms1mx3.1/87, Error ellipse: s-maj=18.2km s-min=10.7km az=57.0*
*BJI **21** 03:35:51.1±0.0,29.°61N×101.°99E, h18km, mb4.3/1, ML4.1/15*
*NEIC **21** 03:35:51.8±1.8,29.°62N±0.°08×101.°96E±0.°06, h10km±1km, mb4.8/30, ML4.0(BJI), Error ellipse: s-maj=14.4km s-min=8.6km az=351.0*

ISC 21 03:35:51.6±0.3,29.°60N±0.°04×101.°95E±0.°04, h10km, n101, σ1§61/107, mb4.5/41, MS3.6/5, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.04**	**50**	Pg	**Pn**	**03 36 26.1**	**0.0**
CD2				Sg	**Sb**	**03 36 53.1**	**-1.2**
CD2				smax	smax		
	comp=N,320nm,1.4s						
PZH	**PanZhiHua**	**3.09**	**183**	Pg	**Pb**	**03 36 45.0**	**-1.7**
PZH				Sg	**Sb**	**03 37 26.6**	**+2.1**
PZH				smax	smax		
	comp=N,1μm,1.3s						
PZH				smax	smax		
	comp=E,1μm,1.2s						
KMI	**Kunming**	**4.51**	**171**	⇑Pg	**Pn**	**03 37 03.8**	**+3.6**
KMI				Sg	**Sn**	**03 37 59.8**	**+6.9**
KMI				smax	smax		
	comp=N,210nm,1.4s						
KMI				smax	smax		
	comp=E,220nm,1.1s						
KMI				LR	LR		
	comp=N,2μm,5.5s						
KMI				LR	LR		
	comp=E,3μm,5.5s						
KMI				LR	LR		
	comp=Z,1μm,6.4s						
GYA	**Guiyang**	**5.21**	**126**	⇓Pn	**Pn**	**03 37 09.1**	**-0.7**
GYA				Sn	**Sn**	**03 38 12.0**	**+2.0**
GYA				smax	smax		
	comp=Z,240nm,0.7s						
GYA				smax	smax		
	comp=Z,220nm,0.9s						
ENH	**Enshi**	**6.58**	**82**		**Pn**	**03 37 28.2**	**-0.3**
XAN	**Xi'an**	**7.40**	**52**	Pg	Pb	03 38 05.3	+5.1
XAN				Sn	**Sn**	**03 39 05.5**	**+1.6**
XAN				Sg	**Sb**	**03 39 36.8**	**+8.2**
XAN				smax	smax		
	comp=Z,350nm,1.0s						
XAN				smax	smax		
	comp=Z,350nm,1.1s						
GULI	**GuiLin**	**8.62**	**118**	P	**Pn**	**03 37 56.4**	**-0.1**
GULI				smax	smax		
	comp=Z,70nm,1.0s						
GULI				smax	smax		
	comp=Z,50nm,0.9s						
GOMU	**GeErMu**	**8.90**	**320**	P	**Pn**	**03 37 59.1**	**-1.5**
GOMU				S	**Sn**	**03 39 40.9**	**-0.2**
GOMU				pmax	pmax		
	comp=Z,14nm,1.2s						
LSA	**Lhasa**	**9.39**	**273**	P	**Pn**	**03 38 06.6**	**-0.9**
LSA	**Lhasa**	**9.39**	**273**	Pn	**Pn**	**03 38 06.6**	**-0.9**
SHL	**Shillong**	**9.79**	**248**	P	**Pn**	**03 38 13.1**	**+0.5**
SHL	**Shillong**	**9.79**	**248**	Pn	**Pn**	**03 38 13.1**	**+0.5**
LYN	**LuoYang**	**10.20**	**58**	*eP*	**Pn**	**03 38 19.8**	**+1.8**
WHN	**Wuhan**	**10.79**	**82**	P	**Pn**	**03 38 26.5**	**+0.4**
WHN				S	**Sn**	**03 40 24.1**	**-2.9**
CHTO	**Chiang Mai**	**11.08**	**195**	P	**Pn**	**03 38 31.2**	**+1.0**
CHTO	**Chiang Mai**	**11.08**	**195**	Pn	**Pn**	**03 38 31.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.43**	**195**	Pn	**Pn**	**03 38 33.2**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=8.0,slow=14,SNR=1.4						
CMAR	**Chiang Mai Arr**	**11.43**	**195**	P	**Pn**	**03 38 33.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**11.43**	**195**	Pn	**Pn**	**03 38 33.5**	**-1.4**
QIZ	**Qiongzhong**	**12.74**	**144**	P	**Pn**	**03 38 53.1**	**+0.2**
QIZ				S	**Sn**	**03 41 13.8**	**-1.1**
UBPT	**Khong Chiam**	**14.62**	**166**	Pn	**Pn**	**03 39 19.4**	**+0.8**
NJ2	**Nanjing**	**14.73**	**76**	*eP*	**Pn**	**03 39 18.8**	**-1.3**
WMQ	**Urumqi**	**18.18**	**326**	*eP*	**Pn**	**03 40 03.8**	**-0.3**
SONM	**Songino Array**	**18.53**	**9**	P	**Pn**	**03 40 09.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=191,slow=10,SNR=4.7						
SONM				LR	LR	03 47 56.8	
	comp=Z,717nm,20.1s,baz=186,slow=39						
SONM	**Songino Array**	**18.53**	**9**	P	**P**	**03 40 06.7**	**-1.6**
SRIT	**Nakonsritamara**	**21.01**	**186**	P	**P**	**03 40 36.6**	**+1.2**
KS19	**Wonju Array Si**	**22.95**	**63**	P	**P**	**03 40 53.9**	**-2.2**
KS19				IAmb	IAmb	03 41 04.2	
	comp=Z,35nm,1.3s						
KSAR	**Wonju Array Be**	**22.95**	**63**	P	**P**	**03 40 54.2**	**-1.8**
KSAR	**Wonju Array Be**	**22.95**	**63**	P	**P**	**03 40 54.2**	**-1.8**
KSRS	**Korea Array**	**22.98**	**63**	P	**P**	**03 40 55.8**	**-0.5**
	comp=Z,11nn,0.9s,baz=253,slow=9.5,SNR=19						
KSRS				LR	LR	03 51 00.4	
	comp=Z,234nm,18.5s,baz=250,slow=40						
MK31	**Makanchi Array**	**22.99**	**324**	P	**P**	**03 40 56.4**	**0.0**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**22.99**	**324**	P	**P**	**03 40 56.4**	**0.0**
MKAR	**Makanchi Array**	**22.99**	**324**	P	**P**	**03 40 59.3**	**+2.9**
	comp=Z,2.9nm,0.8s,baz=141,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**22.99**	**324**	P	**P**	**03 40 56.1**	**-0.3**
HYBB	**Hyderabad (bro**	**24.59**	**246**	*eP*	**P**	**03 41 08.2**	**-3.9**
IPM	**Ipoh**	**25.00**	**182**	P	**P**	**03 41 14.5**	**-1.2**
IPM				IAmb	IAmb	03 41 18.8	
	comp=Z,19nm,1.0s						
MDJ	**Mudanjiang**	**26.50**	**48**	P	**P**	**03 41 29.3**	**+0.2**
MDJ				IAmb	IAmb	03 41 34.1	
	comp=Z,14nm,1.3s						
ZALV	**Zalesovo Beam**	**27.33**	**338**	P	**P**	**03 41 37.7**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=147,slow=8.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**27.33**	**338**	P	**P**	**03 41 36.3**	**-0.2**
KURBB	**Kurchatov Arra**	**27.39**	**327**	P	**P**	**03 41 37.9**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=149,slow=6.0,SNR=1.6						
KURK	**Kurchatov**	**27.41**	**327**	P	**P**	**03 41 37.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**27.91**	**50**	P	**P**	**03 41 40.2**	**-1.6**
USRK	**Ussuriysk Ar.**	**27.91**	**50**	P	**P**	**03 41 40.2**	**-1.6**
SBUM	**Sibu**	**28.71**	**158**	P	**P**	**03 41 48.4**	**-0.7**
SBUM				IAmb	IAmb	03 41 51.0	
	comp=Z,6.3nm,0.7s						
MYLDM	**Lahad Datu**	**28.89**	**144**	P	**P**	**03 41 51.0**	**+0.3**
KSM	**Kuching**	**29.08**	**163**	P	**P**	**03 41 53.8**	**+1.4**
KSM				IAmb	IAmb	03 41 55.9	
	comp=Z,14nm,1.1s						
KLR	**Kul'dur**	**29.95**	**41**	P	**P**	**03 41 59.8**	**0.0**
	comp=Z,5.0nm,0.9s,baz=269,slow=11,SNR=8.4						
KLR				LR	LR	03 54 60.0	
	comp=Z,149nm,19.0s,baz=241,slow=38						
TOLI2	**Tolitoli**	**33.53**	**144**	P	**P**	**03 42 30.9**	**-0.6**
TOLI2				IAmb	IAmb	03 42 35.2	
	comp=Z,17nm,1.2s						
GEYT	**Alibeck**	**37.09**	**295**	P	**P**	**03 43 04.3**	**+2.1**
	comp=Z,7.1nm,0.8s,baz=145,slow=5.4,SNR=8.2						
GEYT	**Alibeck**	**37.09**	**295**	P	**P**	**03 43 01.1**	**-1.1**
GEYT				IAmb	IAmb	03 43 08.2	
	comp=Z,6.5nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**37.09**	**295**	P	**P**	**03 43 02.3**	**+0.1**
GYA0B				IAmb	IAmb	03 43 08.1	
	comp=Z,8.7nm,0.8s						
KAPI	**Kappang**	**38.43**	**151**	P	**P**	**03 43 13.6**	**+0.1**
	comp=Z,5.4nm,0.4s,baz=315,slow=8.6,SNR=7.1						
KAPI	**Kappang**	**38.43**	**151**	P	**P**	**03 43 12.2**	**-1.3**
KAPI				IAmb	IAmb	03 43 14.0	
	comp=Z,12nm,0.9s						
ARU	**Arti**	**40.51**	**324**	P	**P**	**03 43 32.3**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=70,slow=9.8,SNR=4.6						
NRIK	**Noril'sk**	**40.64**	**352**	P	**P**	**03 43 32.5**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=173,slow=11,SNR=5.0						
NRIK				LR	LR	04 01 07.3	
	comp=Z,94nm,21.0s,baz=208,slow=37						
MMRI	**Maumere**	**42.74**	**150**	P	**P**	**03 43 48.7**	**-0.5**

TIXI Tiksi 44.59 12 P **P 03 44 03.0 -0.5**
comp=Z,1.2nm,0.4s,baz=91,slow=23,SNR=4.1
SOEI Soe 44.65 148 P **P 03 44 03.4 -1.4**
SOEI IAmb IAmb 03 44 23.0
comp=Z,26nm,0.9s
ZEI Tsey 47.78 303 *eP* **P 03 44 30.4 +1.1**
ZEI pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 48.59 304 *eP* **P 03 44 37.1 +1.7**
KIV pmax pmax
comp=Z,13nm,1.0s
KNRA Kununurra 51.92 146 P **P 03 44 58.5 -2.1**
KNRA IAmb IAmb 03 45 02.2
comp=Z,21nm,0.8s
FITZ Fitzroy Crossi 52.64 151 P **P 03 45 04.3 -1.7**
comp=Z,5.1nm,0.9s,baz=330,slow=6.3,SNR=12
FITZ Fitzroy Crossi 52.64 151 P **P 03 45 04.8 -1.2**
FITZ IAmb IAmb 03 45 07.5
comp=Z,6.1nm,0.9s
BRTR Keskin Array B 55.87 300 P **P 03 45 30.6 +0.9**
comp=Z,1.1nm,0.8s,baz=109,slow=7.7,SNR=5.7
SHEM Shemya Is, Ala 56.47 44 LR LR 04 09 52.5
comp=Z,59nm,22.0s,baz=158,slow=36
AKASG Malin Array Be 57.06 314 P **P 03 45 38.3 +0.6**
comp=Z,1.3nm,0.7s,baz=68,slow=6.8,SNR=5.5
AKASG Malin Array Be 57.06 314 P **P 03 45 37.8 0.0**
WB0 Warramunga Arr 58.20 144 P **P 03 45 45.0 -1.1**
PMG Port Moresby 58.29 125 P **P 03 45 46.2 -0.6**
comp=Z,24nm,0.8s,baz=260,slow=2.9,SNR=4.8
WRAB Tennant Creek 58.31 144 P **P 03 45 46.5 -0.4**
WRAB pmax pmax
comp=Z,56nm,0.9s
WRAB Tennant Creek 58.31 144 P **P 03 45 46.5 -0.4**
WRA Warramunga Arr 58.32 144 P **P 03 45 46.6 -0.3**
comp=Z,36nm,0.8s,baz=333,slow=7.7,SNR=222
WRA Warramunga Arr 58.32 144 P **P 03 45 46.0 -0.9**
WB2 Warramunga Arr 58.32 144 P **P 03 45 45.9 -1.1**
WR0 Warramunga Arr 58.44 144 P **P 03 45 46.4 -1.4**
COEN Coen 58.79 132 P **P 03 45 49.5 -0.8**
COEN IAmb IAmb 03 45 51.0
comp=Z,12nm,0.8s
AS31 Alice Springs 61.23 146 P **P 03 46 06.4 -0.5**
ASAR Alice Springs 61.23 146 P **P 03 46 06.8 -0.2**
comp=Z,7.8nm,0.8s,baz=326,slow=6.4,SNR=35
ASAR Alice Springs 61.23 146 P **P 03 46 06.6 -0.3**
NB2 NORSAR Subarra 64.92 327 P **P 03 46 30.6 -0.4**
comp=Z,1.2nm,0.8s,baz=74,slow=6.9
NOA NORSAR Array B 64.92 327 P **P 03 46 31.1 +0.1**
comp=Z,1.6nm,1.0s,baz=75,slow=6.8,SNR=3.8
FORT Forrest 64.99 155 P **P 03 46 31.9 +0.2**
CTA Charters Tower 65.29 134 P **P 03 46 33.7 -0.2**
comp=Z,12nm,0.9s,baz=322,slow=6.9,SNR=24
GERES GERESS Array B 67.26 314 P **P 03 46 45.6 -0.8**
comp=Z,0.3nm,0.6s,baz=52,slow=8.6,SNR=4.1
KMBO Kilima Mbogo 68.74 256 P **P 03 46 56.3 -0.1**
comp=Z,0.6nm,0.4s,baz=44,slow=8.6,SNR=4.1
IMAR Indian Mountai 68.88 25 P **P 03 46 56.3 +0.2**
PPLA Purkeypile 70.87 28 P **P 03 47 08.6 +0.1**
PPLA IAmb IAmb 03 47 19.6
comp=Z,18nm,1.4s
BMAR Burnt Mountain 71.37 22 P **P 03 47 11.4 0.0**
STKA Stephens Creek 71.81 145 P **P 03 47 12.8 -1.5**
comp=Z,2.9nm,0.8s,baz=345,slow=6.3,SNR=6.8
STKA Stephens Creek 71.81 145 P **P 03 47 13.1 -1.3**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 71.81 145 P **P 03 47 13.1 -1.3**
ILAR Eielson Array 71.99 25 P **P 03 47 15.8 +0.7**
comp=Z,0.9nm,1.1s,baz=284,slow=5.9,SNR=5.1
EIDS Eidsvold 72.18 134 P **P 03 47 16.6 -0.1**
EIDS IAmb IAmb 03 47 19.1
comp=Z,17nm,1.1s
SML Sawmill 72.97 28 P **P 03 47 21.0 -0.1**
SML IAmb IAmb 03 47 29.1
comp=Z,26nm,1.4s
INK Inuvik 74.18 19 LR LR 04 25 27.0
comp=Z,72nm,18.1s,baz=358,slow=40
BCAR Beaver Creek A 74.81 25 P **P 03 47 31.8 -0.1**
YKA Yellowknife Ar 83.66 16 P **P 03 48 20.4 +0.3**
comp=Z,0.4nm,0.7s,baz=326,slow=4.7,SNR=6.3
TORD Torodi Ar. Bea 92.29 286 P **P 03 49 03.3 +0.7**
comp=Z,0.9nm,1.0s,baz=35,slow=3.4,SNR=3.7
TXAR Lajitas Array 116.50 25 PKP **PKPdf 03 54 35.1 -1.2**
comp=Z,0.3nm,0.9s,baz=224,slow=1.9,SNR=3.6
TXAR Lajitas Array 116.50 25 PKIKP **PKPdf 03 54 35.8 -0.5**
TXAR Lajitas Array 116.50 25 PKPdf **PKPdf 03 54 35.8 -0.5**

IDC 21 03:42:01.4±7.0,49.°25N×150.°72E, h384km±33km, mb2.8/4, mb1 2.9/5, mb1mx2.6/42, mbtmp3.6/5, Error ellipse: s-maj=164.8km s-min=28.9km az=166.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.84**	**46**	P	Pn	03 43 31.4	-0.1
	0.3nm,0.3s,baz=224,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**44.41**	**294**	P	P	03 49 35.5	0.0
	0.7nm,0.7s,baz=64,slow=8.0,SNR=6.3						
KURBB	**Kurchatov Arra**	**44.77**	**301**	P	P	03 49 38.0	-0.1
	0.6nm,0.3s,baz=66,slow=8.1,SNR=4.4						
YKA	**Yellowknife Ar**	**49.89**	**37**	P	P	03 50 17.1	+0.2
	0.2nm,0.6s,baz=300,slow=6.8,SNR=2.7						
FINES	**FINESS Array B**	**61.09**	**333**	P	P	03 51 35.3	-0.3
	0.4nm,0.3s,baz=26,slow=9.0,SNR=6.7						

IDC 21 04:06:31.0±3.4,53.°73N×88.°32E, h0km, mb1 2.7/3, mb1mx2.7/44, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=28.3km s-min=18.3km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.08**	**278**	*i*		04 20 00.0	
	baz=91,slow=328,SNR=2.8						
ZALV	**Zalesovo Beam**	**2.08**	**278**	Pn	Pb	04 07 08.6	-1.1
	0.9nm,0.3s,baz=102,slow=13,SNR=12						
ZALV				Lg	Lg	04 07 36.2	
	3.6nm,0.3s,baz=95,slow=28,SNR=20						
KURBB	**Kurchatov Arra**	**6.77**	**247**	Pn	Pn	04 08 12.7	+1.1
	0.1nm,0.3s,baz=57,slow=14,SNR=1.4						
KURBB				Lg	Lg	04 10 05.1	
	baz=56,slow=31,SNR=1.1						
MKAR	**Makanchi Array**	**7.94**	**211**	Pn	Pn	04 08 27.8	+0.2
	0.1nm,0.3s,baz=30,slow=13,SNR=1.7						
MKAR				Sn	Sn	04 09 57.9	-0.2
	0.1nm,0.3s,baz=32,slow=26,SNR=1.9						
MKAR				Lg	Lg	04 10 42.3	
	baz=31,slow=26,SNR=1.3						

IDC 21 04:10:21.6±3.4,53.°72N×88.°12E, h0km, mb1 2.8/2, mb1mx2.7/35, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=29.4km s-min=17.4km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**278**	*i*		04 24 05.0	
	baz=90,slow=328,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.97**	**278**	Pn	Pb	04 10 57.6	-0.7
	0.6nm,0.3s,baz=94,slow=11,SNR=18						
ZALV				Lg	Lg	04 11 24.1	
	1.7nm,0.3s,baz=98,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	Pn	04 12 00.2	-0.5
	0.1nm,0.3s,baz=63,slow=14,SNR=1.9						
MKAR	**Makanchi Array**	**7.88**	**211**	Pn	Pn	04 12 18.9	+1.6
	0.0nm,0.3s,baz=29,slow=10,SNR=1.4						
MKAR				Sn	Sn	04 13 46.4	-0.7
	0.0nm,0.3s,baz=32,slow=23,SNR=2.1						
MKAR				Lg	Lg	04 14 31.1	
	0.0nm,0.3s,baz=23,slow=30,SNR=2.3						

*IDC **21** 04:14:27.5±2.1,23.°47S×179.°98W, h529km±21km, mb3.6/6, mb1 3.8/6, mb1mx3.3/26, mbtmp4.5/6, Error ellipse: s-maj=31.4km s-min=17.2km az=170.0*
*NEIC **21** 04:14:28.5±1.2,23.°59S±0.°07×179.°9W±0.°2, h537km±10km, mb4.3/28, Error ellipse: s-maj=23.4km s-min=7.3km az=69.0*

ISC 21 04:14:29.1±0.8,23.°64S±0.°09×179.°9W±0.°1, h550km, n63, σ1§37/83, mb4.2/19, South of Fiji Islands

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

MARNC	Mare, Loyalty	11.38 279	P	P	04 17 00.2	-1.0
OUZ	Omahuta	12.86 205	P	P	04 17 18.0	+1.6
URZ	Urewera	14.80 189	P	P	04 17 35.8	-0.5
HIZ	Hauiti	15.49 196	P	P	04 17 43.4	0.0
NMHZ	Naumai	15.67 190	P	P	04 17 44.4	-0.8
NMHZ			S	S	04 20 24.7	-1.2
BKZ	Black Stump Fm	15.79 190	P	P	04 17 44.5	-1.9
NTVZ	North Tongarir	15.87 193	P	P	04 17 48.5	+1.1
TMVZ	Te Maari	15.88 193	P	P	04 17 46.9	-0.5
ETVZ	East Tongariro	15.90 193	P	P	04 17 47.1	-0.5
OTVZ	Oturere	15.94 193	P	P	04 17 46.2	-1.9
OTVZ			S	S	04 20 31.5	+1.0
SNVZ	South Ngauruho	15.96 193	P	P	04 17 48.2	-0.1
KWHZ	Kaweka Forest	16.05 190	P	P	04 17 47.2	-1.8
KWHZ			S	S	04 20 29.5	-2.7
WNVZ	Wahianoa	16.11 193	P	P	04 17 48.3	-1.4
WNVZ			S	S	04 20 32.6	-0.7
BHHZ	Black Hill Sta	16.18 191	P	P	04 17 48.0	-2.1
BHHZ			S	S	04 20 29.3	-4.9
BFZ	Birch Farm	17.31 190	P	P	04 17 58.6	-1.8
BFZ			S	S	04 20 52.0	-0.7
MRZ	Mangatainoka R	17.40 192	P	P	04 17 59.4	-1.9
MRZ			S	S	04 20 51.8	-2.4
OGWZ	Otaki Gorge	17.63 192	P	P	04 18 02.1	-1.3
OGWZ			S	S	04 20 57.0	-0.9
HOWZ	Holdsworth Sta	17.64 192	P	P	04 18 02.4	-1.1
HOWZ			S	S	04 20 57.3	-0.9
KIW	Kapiti Island	17.72 193	P	P	04 18 03.0	-1.3
TRWZ	Traveller	18.10 191	P	P	04 18 07.3	-0.3
TRWZ			S	S	04 21 07.8	+2.2
TCW	Tory Channel	18.20 194	P	P	04 18 08.9	+0.4
TCW			S	S	04 21 08.9	+1.7
SNZO	South Karori	18.20 193	P	P	04 18 08.0	-0.5
TUWZ	Tuamarina	18.48 195	P	P	04 18 10.1	-1.1
KHZ	Kahutara	19.51 195	P	P	04 18 19.9	-0.5
LTZ	Lake Taylor	20.17 197	P	P	04 18 25.7	-0.9
LTZ	Lake Taylor	20.17 197	P	P	04 18 23.9	-2.7
INZ	Inchbonnie	20.35 199	P	P	04 18 27.6	-0.6
OXZ	Oxford	20.74 197	P	P	04 18 32.1	+0.4
RPZ	Rata Peaks	21.37 198	P	P	04 18 37.1	-0.3
	6.4nm,0.5s,baz=22,slow=3.2,SNR=5.3					
RPZ	Rata Peaks	21.37 198	P	P	04 18 37.2	-0.1
RPZ			IAmb	IAmb	04 19 01.9	
	comp=Z,13nm,1.0s					
ARMA	Armidale	26.22 249	P	P	04 19 22.0	+1.2
ARMA			IAmb	IAmb	04 19 24.6	
	comp=Z,12nm,1.1s					
EIDS	Eidsvold	26.46 260	P	P	04 19 23.7	+0.9
CAN	Canberra	29.37 240	P	P	04 19 49.3	+1.2
TOO	Toolangi	32.68 237	P	P	04 20 16.4	-0.1
TOO			IAmb	IAmb	04 20 17.9	
	comp=Z,3.9nm,0.6s					
STKA	Stephens Creek	34.92 248	P	P	04 20 35.6	+0.3
	comp=Z,6.0nm,0.6s,baz=95,slow=10,SNR=20					
STKA	Stephens Creek	34.92 248	P	P	04 20 36.0	+0.7
COEN	Coen	36.18 279	P	P	04 20 46.5	+0.6
COEN			IAmb	IAmb	04 20 47.5	
	comp=Z,5.7nm,1.1s					
BBOO	Buckleboo	39.65 247	P	P	04 21 13.6	-0.3
BBOO			IAmb	IAmb	04 21 14.1	
	comp=Z,7.5nm,0.7s					
AS31	Alice Springs	42.19 260	P	P	04 21 34.2	-0.1
AS31			IAmb	IAmb	04 21 35.2	
	comp=Z,3.5nm,0.4s					
ASAR	Alice Springs	42.19 260	P	P	04 21 34.2	-0.1
	comp=Z,9.4nm,0.8s,baz=96,slow=8.0,SNR=72					
ASAR			PcP	PcP	04 23 14.7	-1.0
	comp=Z,0.9nm,0.8s,baz=81,slow=5.9,SNR=4.4					
ASAR			ScP	ScP	04 26 17.6	+3.4
	comp=Z,1.0nm,0.9s,baz=103,slow=4.2,SNR=5.1					
ASAR			S	S	04 27 14.9	-0.1
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=4.7					
ASAR	Alice Springs	42.19 260	P	P	04 21 33.5	-0.8
WR0	Warramunga Arr	42.35 266	P	P	04 21 34.8	-0.7
WR0			IAmb	IAmb	04 21 35.5	
	comp=Z,5.8nm,0.9s					
WB2	Warramunga Arr	42.52 266	P	P	04 21 36.4	-0.5
WB2			IAmb	IAmb	04 21 36.9	
	comp=Z,12nm,0.8s					
WB0	Warramunga Arr	42.53 266	P	P	04 21 36.0	-0.9
WB0			IAmb	IAmb	04 21 36.9	
	comp=Z,12nm,0.7s					
WRAB	Tennant Creek	42.53 266	P	P	04 21 35.9	-1.1
WRAB			IAmb	IAmb	04 21 36.9	
	comp=Z,11nm,0.8s					
WRA	Warramunga Arr	42.54 266	P	P	04 21 35.8	-1.3
	comp=Z,9.5nm,0.7s,baz=92,slow=8.4,SNR=8.7					
WRA			PcP	PcP	04 23 17.1	+0.2
	comp=Z,0.7nm,0.9s,baz=97,slow=5.6,SNR=3.1					
WRA			ScP	ScP	04 26 18.9	+3.4
	comp=Z,0.8nm,0.9s,baz=96,slow=4.1,SNR=5.0					
WRA			S	S	04 27 18.0	-2.0
	comp=Z,0.4nm,0.9s,baz=99,slow=14,SNR=3.1					
WRA	Warramunga Arr	42.54 266	P	P	04 21 36.0	-1.0
FORT	Forrest	46.51 249	P	P	04 22 07.1	-0.3
MTN	Manton Dam	47.55 274	P	P	04 22 14.7	-0.7
MTN			IAmb	IAmb	04 22 20.7	
	comp=Z,8.0nm,1.0s					
FITZ	Fitzroy Crossi	50.96 265	P	P	04 22 41.0	+0.5
FITZ			IAmb	IAmb	04 22 41.5	
	comp=Z,4.7nm,0.7s					
PSA00	Pilbara Seismi	55.32 259	P	P	04 23 10.7	-0.8
PSA00			PcP	PcP	04 24 03.1	-0.8
MORW	Morawa	57.07 250	P	P	04 23 22.9	-0.5
MORW			IAmb	IAmb	04 23 23.8	
	comp=Z,6.4nm,0.6s					
GIRL	Giralia	60.08 257	P	P	04 23 44.8	+1.0
CASY	Casey	60.40 206	P	P	04 23 45.3	+0.3
CASY			PcP	PcP	04 24 24.4	+1.2
TOLI2	Tolitoli	62.62 284	P	P	04 24 00.9	+0.4
TOLI2			IAmb	IAmb	04 24 01.1	
	comp=Z,5.8nm,0.8s					
QSPA	South Pole Qui	66.44 180	P	P	04 24 25.6	+1.6
MAW	Mawson	78.03 200	P	P	04 25 31.6	+1.0
	comp=Z,2.6nm,0.7s,baz=140,slow=7.9,SNR=1.8					
MAW	Mawson	78.03 200	P	P	04 25 31.8	+1.1
TXAR	Lajitas Array	90.20 58	P	P	04 26 31.1	-0.4
	comp=Z,0.5nm,0.8s,baz=230,slow=6.7,SNR=5.9					
TXAR	Lajitas Array	90.20 58	P	P	04 26 31.4	-0.1
AKASG	Malin Array Be	144.81 328	PKP	PKPdf	04 33 02.4	-1.0
	comp=Z,0.7nm,0.5s,baz=43,slow=3.8,SNR=6.1					
BRTR	Keskin Array B	147.51 308	PKPbc	PKPbc	04 33 11.0	-0.9
	comp=Z,0.7nm,0.6s,baz=82,slow=3.8,SNR=2.2					
BRTR	Keskin Array B	147.51 308	PKPab	PKPab	04 33 16.0	0.0

*RSPR **21** 04:36:27.2, 19.°68N×64.°22W, h51km±17km, MD3.6/4*
*NEIC **21** 04:36:28.9±1.7, 19.°47N±0.°05×64.°31W±0.°07, h31km±12km, Error ellipse: s-maj=12.5km s-min=2.7km az=126.0*
ISC 21 04:36:28.7±3.7, 19.°6N±0.°1×64.°3W±0.°2, h35km, n24, σ1ᵖ18/28, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.37 207		eP		Pn		04 36 50.5	-0.8
STVI	Saint Thomas	1.37 207		eS		Sn		04 37 08.6	+0.4
STVI	Saint Thomas	1.37 207				Pn		04 36 50.4	-0.9
STVI						Sn		04 37 08.4	+0.2
CUPR	Culebra, Puert	1.57 217		eP		Pn		04 36 53.2	-0.9
CUPR	Culebra, Puert	1.57 217		eS		Sn		04 37 14.2	+1.0
CUPR	Culebra, Puert	1.57 217				Pn		04 36 52.6	-1.5
CUPR						Sn		04 37 13.3	+0.2
CDVI	St. Croix	1.87 194		eP		Pn		04 36 58.1	-0.2
CDVI	St. Croix	1.87 194				Pn		04 36 58.2	0.0
CDVI				IAML				04 37 31.4	
	comp=N,74nm,0.5s								
MTP	Monte Pirata	1.89 219		eP		Pn		04 36 58.1	-0.5
MTP	Monte Pirata	1.89 219		eS		Sn		04 37 22.4	+1.2
MTP	Monte Pirata	1.89 219				Pn		04 36 57.9	-0.7
MTP						Sn		04 37 23.0	+1.9
MTP				IAML				04 37 28.0	
	comp=E,23nm,0.2s								
MTP				IAML				04 37 39.9	
	comp=N,18nm,2.0s								
HUMP	Col San Antoni	2.05 226		eP		Pn		04 37 00.1	-0.6
HUMP	Col San Antoni	2.05 226		eS		Sn		04 37 25.9	+0.9
HUMP	Col San Antoni	2.05 226				Pn		04 36 59.5	-1.1
HUMP						Sn		04 37 25.6	+0.6
HUMP				IAML				04 37 28.8	
	comp=N,17nm,1.4s								
GCPR	Guaynabo City	2.11 234		Pn		Pn		04 37 01.3	-0.2
PDPR	Patillas Dam,	2.25 227		Pn		Pn		04 37 02.6	-0.9
PDPR				IAML				04 37 32.7	
	comp=E,31nm,2.4s								
SJG	San Juan	2.28 231		Pn		Pn		04 37 03.4	-0.5
SJG				IAML				04 37 21.7	
	comp=E,12nm,1.9s								
SJG				IAML				04 38 22.0	
	comp=E,16nm,0.1s								
IGPR	InterUniversit	2.34 227		eP		Pn		04 37 04.2	-0.5
IGPR	InterUniversit	2.34 227		eS		Sn		04 37 33.2	+0.8
AOPR	Arecibo Observ	2.62 243		Pn		Pn		04 37 07.5	-1.2
AOPR				IAML				04 37 51.8	
	comp=N,26nm,0.8s								
CELP	Cerrillos	2.62 236		Pn		Pn		04 37 06.0	-2.6
CELP				IAML				04 38 27.9	
	comp=N,17nm,3.0s								
CELP				IAML				04 38 41.6	
	comp=E,14nm,3.3s								
OBIP	Obispado Ponce	2.67 235		Pn		Pn		04 37 06.2	-3.0
OBIP				IAML				04 38 02.4	
	comp=N,17nm,1.9s								
AGPR	Aguadilla, PR	2.88 248		Pn		Pn		04 37 11.5	-0.6
SDDR	Presa de Saban	6.63 266		Pn		Pn		04 38 04.6	+0.9

*SFS **21** 04:38:00.0, 35.°62N×3.°61W, h18km, ML2.6, ALBORAN SUR*
*CNRM **21** 04:38:00.3, 35.°66N×3.°68W, h30km, ml2.9*
*MDD **21** 04:38:00.3±0.4, 35.°64N×3.°62W, h14km±3km, mb_Lg2.6/18, Error ellipse: s-maj=3.3km s-min=2.0km az=155.0*
ISC 21 04:37:59.3±1.1, 35.°65N±0.°02×3.°67W±0.°02, h23km±13km, n47, σ1ᵖ49/82, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	Palemas	0.49	207	P		Pb		04 38 09.8	+0.6
PALE				S		Sb		04 38 16.4	+0.5
EALB	Alboran	0.59	61	Pg		Pb		04 38 11.0	+0.1
EALB				Sg		Sb		04 38 18.9	0.0
EALB				*i* Vmb_Lg				04 38 20.4	
EMEL	Melilla	0.68	121	Pg		Pb		04 38 12.1	-0.3
EMEL				Sg		Sb		04 38 21.1	-0.3
PVLZ	Peæn de	0.70	228	P		Pb		04 38 12.8	-0.1
PVLZ				S		Sb		04 38 17.2	-4.9
AKLM	AKL	1.15	188	P		Pn		04 38 21.0	+0.9
ELGU	Los Guajares,	1.21	2	Pg		Pn		04 38 20.4	-0.6
ELGU				Sg		Sb		04 38 37.1	+0.2
ELGU				*i* Vmb_Lg				04 38 40.6	
EMAL	Malaga-Limoner	1.27	331	P		Pn		04 38 21.3	-0.3
EMAL				S		Sn		04 38 37.1	-0.8
EMIJ	Mijas	1.28	316	Pn		Pn		04 38 21.6	-0.1
EMIJ				Sn		Sn		04 38 38.1	-0.1
EMIJ				*i* Vmb_Lg				04 38 40.3	
TAF	Taforalt	1.32	129	P		Pn		04 38 22.1	-0.3
TAF				S		Sn		04 38 39.8	+0.4
EBER	Berja	1.39	27	Pn		Pn		04 38 23.0	-0.5
EBER				Sn		Sn		04 38 41.0	-0.2
EBER				*i* Vmb_Lg				04 38 49.3	
SMIR	Smir Dam	1.40	272	P		Pn		04 38 22.3	-1.0
SMIR				S		Sn		04 38 38.7	-2.4
CEU	Ceuta	1.41	281	P		Pn		04 38 22.0	-1.5
CEU				S		Sn		04 38 38.7	-2.7
CHEFC	Chefchaouen	1.47	249	P		Pn		04 38 25.6	+1.2
EGOR	Sierra Gorda,	1.50	346	Pn		Pn		04 38 25.7	+0.8
EGOR				Sn		Sn		04 38 44.8	+1.0
EGOR				*i* Vmb_Lg				04 38 54.4	
EQUE	Quentar	1.56	7	Pn		Pn		04 38 27.3	+1.5
EQUE				Sn		Sn		04 38 45.8	+0.5
EQUE				*i* Vmb_Lg				04 38 56.0	
JBK	JBK	1.59	145	P		Pn		04 38 26.2	-0.1
JBK				S		Sn		04 38 44.9	-1.3
EJIF	Jimena Fronter	1.66	299	Pn		Pn		04 38 27.9	+0.9
EJIF				Sn		Sn		04 38 47.3	-0.4
ENIJ	Nijar	1.77	41	Pn		Pn		04 38 27.9	-0.6
ENIJ				Sn		Sn		04 38 48.7	-1.6
ENIJ				*i* Vmb_Lg				04 38 50.0	
SICH	Sidi Chahed	2.06	222	P		Pb		04 38 36.6	+0.7
ESPR	Espera	2.15	305	Pn		Pn		04 38 35.1	+1.4
ESPR				Sn		Sn		04 38 60.0	+0.4
ESPR				*i* Vmb_Lg				04 39 08.5	
LCRM	LCR	2.19	207	P		Pn		04 38 36.1	+1.6
IFR	Ifrane	2.45	210	P		Pn		04 38 39.0	+1.0
IFR				S		Sn		04 39 07.3	+0.1
TLOR	Lorca, Murcia	2.56	38	Pn		Pn		04 38 40.5	+1.2
TLOR				Sn		Sn		04 39 08.7	-1.1
EADA	Adamuz	2.62	344	Pn		Pn		04 38 41.6	+1.4
EADA				Sn		Sn		04 39 11.8	+0.6
EADA				*i* Vmb_Lg				04 39 19.2	
EZAR	Zarzadilla de	2.73	35	Pn		Pn		04 38 42.2	+0.5
EZAR				Sn		Sn		04 39 13.6	-0.5
ECAB	El Cabril	2.80	330	Pn		Pn		04 38 44.1	+1.5
ECAB				Sn		Sn		04 39 16.2	+0.5
ECAB				*i* Vmb_Lg				04 39 26.4	
CZD	Col de Zad	2.85	204	P		Pn		04 38 45.8	+2.2
CZD				S		Sn		04 39 20.1	+2.8
MD31	MD31	2.92	198	P		Pn		04 38 46.6	+2.1
MDT	Midelt	2.94	196	P		Pn		04 38 47.2	+2.6
TDRA	Tendrara	2.94	152	P		Pn		04 38 45.5	+0.7
EMIN	Mina Concepcio	3.21	312	Pn		Pn		04 38 49.4	+1.1
EMIN				Sn		Sn		04 39 25.2	-0.5
EMIN				*i* Vmb_Lg				04 39 27.8	
ETOB	Tobarra	3.43	29	Pn		Pn		04 38 54.2	+2.7
ETOB				Sn		Sn		04 39 31.2	-0.2
ETOB				*i* Vmb_Lg				04 40 06.0	
EGRO	El Granado	3.60	303	Pn		Pn		04 38 54.9	+1.2
EGRO				Sn		Sn		04 39 34.9	-0.6
EGRO				*i* Vmb_Lg				04 39 38.8	
PVAQ	Vaqueiros	3.70	299	P		Pn		04 38 56.2	+1.3
PAB	San Pablo	3.92	352	Pn		Pn		04 38 60.0	+1.7
PAB				Sn		Sn		04 39 43.7	+0.1
PAB				*i* Vmb_Lg				04 40 10.1	
ESDC	Sonseca Array	4.02	357	Pn		Pn		04 39 01.6	+2.1
ESDC				Sn		Sn		04 39 46.0	0.0
FIGM	Figuig	4.04	150	P		Pn		04 38 60.0	+0.1
EBAD	Badajoz	4.09	320	Pn		Pn		04 39 01.6	+1.2
EBAD				Sn		Sn		04 39 48.2	+0.6
EBAD				*i* Vmb_Lg				04 39 49.7	
PFVI	Vila Bisbo	4.42	291	P		Pn		04 39 06.7	+1.9
PFVI				S		Sn		04 39 53.0	-2.6
PESTR	Estremoz	4.48	317	P		Pn		04 39 08.0	+2.2
EVO	Evora	4.51	311	P		Pn		04 39 07.7	+1.6
EVO				S		Sn		04 39 56.2	-1.7
UCM	Universidad Co	4.66	4	P		Pn		04 39 09.3	+1.0
UCM				S		Sn		04 39 59.0	-2.6
EPLA	Plasencia	4.80	337	Pn		Pn		04 39 12.3	+2.1
EPLA				Sn		Sn		04 40 05.0	-0.1
ETOR	Torete	5.31	13	Pn		Pn		04 39 18.0	+0.7
ETOR				Sn		Sn		04 40 14.6	-3.2
OUK	Oukaimeden	5.65	220	P		Pn		04 39 23.4	+1.2
EAH	EAH	6.35	233	P		Pn		04 39 32.3	+0.8
ELOB	Lobios	7.09	332	Pn		Pn		04 39 43.6	+1.9
ELOB				Sn		Sn		04 40 58.6	-3.0

*ISN **21** 04:46:35.7±0.9, 32.°01N×47.°80E, h5km±26km, ML3.4*
*TEH **21** 04:46:46.4, 32.°24N×47.°43E, h22km, ML3.2*
ISC 21 04:46:46.8±1.1, 32.°23N±0.°05×47.°35E±0.°04, h10km, n29, σ1ᵖ49/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAFI	Al-Rafai	1.17	245	ePn		Pn		04 47 04.0	-5.2
RAFI				eSn		Sg		04 47 26.0	+1.6
RAFI				AML		AML		04 47 44.5	
	comp=E,740nm,0.7s								
IKFM	Kafar-mosalman	1.35	18	ePg		Pn		04 47 10.7	-1.1
IKFM				eSg		Sg		04 47 31.0	+0.5
IKFM				*e*				04 47 33.1	
	comp=Z,6μm,0.4s								
IBDR	Badra	1.48	307	ePn		Pn		04 47 11.0	-2.6
IBDR				eSn		Sg		04 47 36.0	+1.4
IBDR				AML		AML		04 47 37.8	
	comp=N,364nm,0.5s								
IBDR				AML		AML		04 47 43.1	
	comp=E,400nm,0.4s								
BMDN	Meydan	1.90	40	ePg		Pn		04 47 19.1	-0.4
BMDN				*e*				04 47 23.5	
	comp=Z,1μm,0.2s								
KER	Kermanshah	2.15	355	ePg		Pb		04 47 25.4	-0.7
HSAM	Samen	2.24	28	*e*		Pg		04 47 29.6	-0.1
	comp=Z,606nm,0.4s								
IDHR	Dehrash	2.59	342	ePn		Pn		04 47 28.2	-0.8
IDHR				*e*				04 48 10.2	
	comp=Z,2μm,0.4s								
KHMZ	Khomeyn	2.66	55	ePn		Pn		04 47 29.5	-0.5
BHD	Baghdad	2.71	293	ePn		Pn		04 47 28.0	-2.4
BHD				eSn		Sn		04 48 06.0	+2.7
HAGD	Aghdareh	2.98	30	ePn		Pn		04 47 33.8	-0.7
HAGD				*e*				04 47 42.2	
	comp=Z,544nm,0.2s								
SHK1	Shahrekord	2.99	87	ePn		Pn		04 47 33.0	-1.6
SHK1				*e*				04 48 16.8	
	comp=Z,511nm,0.4s								
IPIR	Pirpir	3.03	80	ePn		Pn		04 47 34.2	-0.9
IPIR				*e*				04 48 24.6	
	comp=Z,729nm,0.4s								
ASAO	Ashtian	3.22	43	ePn		Pn		04 47 37.6	-0.1
IKLH	Kolahrood	3.72	72	ePn		Pn		04 47 43.2	-1.4
IKLH				*e*				04 47 57.1	
	comp=Z,273nm,0.3s								
KLNJ	Kolanjah	3.82	108	ePn		Pn		04 47 44.4	-1.6
KLNJ				*e*				04 49 02.0	
	comp=Z,408nm,0.6s								
IRAZ	Razeghan	3.82	33	ePn		Pn		04 47 46.0	0.0
IRAZ				*e*				04 47 59.9	
	comp=Z,438nm,0.3s								
IGAR	Gharneh	3.98	86	ePn		Pn		04 47 46.9	-1.2
IGAR				*e*				04 48 34.7	
	comp=Z,380nm,0.2s								
GHVR	GHOM	3.99	55	ePn		Pn		04 47 47.1	-1.1
IKRK	Kirkuk	4.03	322	ePn		Pn		04 47 46.0	-2.7
IKRK				eSn		Sn		04 48 37.0	+1.0
IQOM	Qom	4.05	49	ePn		Pn		04 47 47.9	-1.3
IQOM				*e*				04 47 50.2	
	comp=Z,610nm,0.1s								
IZEF	Zefreh	4.25	80	ePn		Pn		04 47 51.0	-1.0
IZEF				*e*				04 47 55.2	
	comp=Z,148nm,0.1s								
IRAM	Ramesheh	4.29	94	ePn		Pn		04 47 50.8	-1.7
IRAM				*e*				04 49 17.4	
	comp=Z,140nm,0.5s								
KRSH	Karshahi	4.37	65	ePn		Pn		04 47 52.5	-1.0
KRSH				*e*				04 48 08.8	
	comp=Z,198nm,0.7s								
ZNJK	Zanjan	4.56	14	ePn		Pn		04 47 58.1	+1.9
IVRN	Varamin	4.58	52	ePn		Pn		04 47 55.2	-1.0
AHBU	AHRAM	4.78	134	ePn		Pn		04 48 00.2	+1.3
DAMV	Damavand	5.12	47	ePn		Pn		04 48 02.5	-1.4
ANAR	Anarak	5.46	78	ePn		Pn		04 48 06.5	-1.9
YZKH	Yazd	6.13	87	ePn		Pn		04 48 16.2	-1.4

*TUL **21** 04:51:16.6±0.7, 36.°52N±0.°01×98.°98W±0.°03, h5km±3km, ML2.4, mb_Lg2.6/25(NEIC), Error ellipse: s-maj=3.6km s-min=1.9km az=92.0*
NEIC 21 04:51:17.6±0.8, 36.°52N±0.°02×98.°96W±0.°03, h2km±4km, Error ellipse: s-maj=3.6km s-min=2.6km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.15	193	Pg		Pg		04 51 19.8	-0.6
U32A				Sg		Sg		04 51 22.2	-0.1
OKCFA	Oklahoma City	1.65	132	Pn		Pn		04 51 46.4	-1.1
OKCFA				IAmb_Lg				04 52 08.5	
	comp=Z,18nm,1.2s								
WMOK	Wichita Mounta	1.79	175	Pn		Pn		04 51 48.2	-1.2
FNO	Franklin	1.79	135	Pn		Pn		04 51 48.9	-0.5
FNO				IAmb_Lg				04 52 15.5	
	comp=Z,31nm,0.8s								
R32A	Long Quarter,	1.91	6	Pn		Pn		04 51 50.9	-0.2
T35A	Sooner Cattle	2.00	78	IAmb_Lg				04 52 22.5	
	comp=Z,34nm,1.2s								
X34A	Smith Ranch, M	2.13	154	IAmb_Lg				04 52 24.5	
	comp=Z,19nm,0.7s								
W35A	Tecumseh	2.18	128	Pn		Pn		04 51 53.9	-0.9
AMTX	Amarillo	2.75	234	Pn		Pn		04 52 02.4	-0.4
AMTX				IAmb_Lg				04 52 47.6	
	comp=Z,21nm,1.0s								
X37A	Clayton	3.50	122	Pn		Pn		04 52 12.0	-1.0
X37A				IAmb_Lg				04 53 16.3	
	comp=Z,19nm,0.8s								
KSCO	Kaye Shedlock'	3.82	312	IAmb_Lg				04 53 18.6	
	comp=Z,12nm,0.7s								
ABTX	Abilene, Hawle	3.93	188	Pn		Pn		04 52 17.4	-1.6
W39A	Magazine	4.41	106	IAmb_Lg				04 53 46.6	
	comp=Z,12nm,0.9s								
T25A	Trinidad	4.42	280	IAmb_Lg				04 53 43.4	
	comp=Z,12nm,1.1s								
S39A	Bolivar	4.65	74	Pn		Pn		04 52 28.0	-0.8
P38A	Dawn	5.28	52	Pn		Pn		04 52 36.6	-0.9
P38A				IAmb_Lg				04 54 11.1	
	comp=Z,12nm,1.2s								
X40A	Basin Creek Fa	5.39	110	Pn		Pn		04 52 38.2	-0.7
Q24A	Divide	5.48	298	IAmb_Lg				04 54 08.6	
	comp=Z,11nm,1.0s								
FCAR	Ozark Folk Cen	5.56	95	IAmb_Lg				04 54 18.8	
	comp=Z,5.8nm,1.0s								
ISCO	Idaho Springs	6.18	304	Pn		Pn		04 52 49.3	-0.8
P40A	Paris	6.23	59	Pn		Pn		04 52 49.5	-0.9
SIUC	Southern Illin	7.87	78	IAmb_Lg				04 55 28.4	
	comp=Z,7.3nm,0.9s								
TX31	Lajitas Ar. Si	8.19	210	Pn		Pn		04 53 15.7	-1.8
TX32	Lajitas Array	8.19	210	Pn		Pn		04 53 15.1	-2.4
TXAR	Lajitas Array	8.19	210	Pn		Pn		04 53 16.1

CMAR	**Chiang Mai Arr**	**28.60**	**107**	LR	LR	05 17 20.9			
	comp=Z,17nm,20.4s,baz=180,slow=38								
SONM	**Songino Array**	**33.23**	**47**	P	**P**	**05 05 56.8**	**+1.3**		
	0.1nm,0.3s,baz=231,slow=8.7,SNR=1.4								
USRK	**Ussuriysk Ar.**	**50.44**	**55**	LR	LR	05 33 14.8			
	comp=Z,38nm,18.7s,baz=30,slow=40								
WRA	**Warramunga Arr**	**79.19**	**120**	P	**P**	**05 11 23.3**	**-0.4**		
	0.1nm,0.4s,baz=321,slow=5.4,SNR=4.8								

IDC 21 04:59:24.1±1.6,3°.07S×130°.74E,h0km,mb3.6/2, mb1 3.7/5,mb1mx3.3/48,mbtmp3.5/5,ML3.2/3,MS3.9/1, Ms1 3.9/1,ms1mx2.6/53,Error ellipse: s-maj=65.3km s-min=20.6km az=91.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.25**	**14**	Pn	Pn	05 00 03.6	+1.0
	2.1nm,0.3s,baz=197,slow=19,SNR=1.9						
SIJI				Sn	Sn	05 00 30.4	-0.7
	2.5nm,0.3s,baz=245,slow=5.8,SNR=5.8						
FITZ	**Fitzroy Crossi**	**15.75**	**198**	Pn	Pn	05 03 07.6	+0.1
	0.0nm,0.3s,baz=16,slow=15,SNR=1.5						
FITZ				Sn	Sn	05 05 58.9	-4.0
	0.0nm,0.3s,baz=172,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**17.14**	**168**	P	Pn	05 03 23.3	-1.9
	0.2nm,0.3s,baz=351,slow=12,SNR=14						
WRA				S	Sn	05 06 22.2	-14
	0.0nm,0.3s,baz=352,slow=24,SNR=1.2						
ASAR	**Alice Springs**	**20.70**	**172**	P	P	05 04 06.9	+0.7
	2.7nm,0.4s,baz=350,slow=11,SNR=43						
RPZ	**Rata Peaks**	**53.93**	**145**	LR	LR	05 31 28.7	
	comp=Z,104nm,18.3s,baz=120,slow=36						
MKAR	**Makanchi Array**	**65.39**	**326**	P	P	05 10 08.5	-0.1
	0.1nm,0.3s,baz=116,slow=6.6,SNR=2.7						

*IDC **21** 04:59:59.7±1.1,22°.90S×114°.56W,h0km,mb4.0/6, mb1 4.3/6,mb1mx4.0/26,mbtmp4.0/6,MS3.7/24, Ms1 3.7/24,ms1mx3.6/55,Error ellipse: s-maj=43.4km s-min=27.6km az=34.0*
*NEIC **21** 05:00:02.2±2.0,23°.2S±0°.1×114°.2W±0°.1,h10km±1km, mb4.6/27,Error ellipse: s-maj=26.1km s-min=17.3km az=215.0*
ISC 21 05:00:01.3±0.6,23°.2S±0°.1×114°.3W±0°.1,h10km,n77, σ1§18/43,mb4.5/19,MS3.7/25,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**5.90**	**133**	Pn	**Pn**	**05 01 28.8**	**-0.1**
RPN	**Rapa Nui**	**5.95**	**132**	LR	LR	05 03 19.2	
	comp=Z,866nm,18.4s,baz=309,slow=31						
PTCN	**Pitcairn Islan**	**14.52**	**260**	Pn	**Pn**	**05 03 28.1**	**+1.1**
TAOE	**Nuku Hiva Isla**	**28.58**	**296**	*e*LR	LR	05 12 42.0	
	comp=Z,533nm,25.6s						
H03N2	**Juan Fernandez**	**32.62**	**116**	T	T	05 41 36.3	
	baz=282,slow=75						
H03N3	**Juan Fernandez**	**32.63**	**116**	T	T	05 41 40.6	
	baz=282,slow=75						
H03N1	**Juan Fernandez**	**32.64**	**116**	T	T	05 41 36.1	
	baz=282,slow=75						
PPT2	**Papeete2**	**33.47**	**273**	*e*LQ	LQ	05 13 39.1	
	279nm,25.8s						
PPT2				*e*LR	LR	05 14 55.8	
	comp=Z,146nm,25.2s						
PPT	**Papeete**	**33.47**	**273**	LR	LR	05 15 45.8	
	comp=Z,165nm,20.3s,baz=98,slow=28						
NNA	**Nana**	**37.32**	**79**	LR	LR	05 19 09.4	
	comp=Z,78nm,18.1s,baz=243,slow=31						
LL05	**Los Muermos**	**38.56**	**128**	P	**P**	**05 07 22.5**	**-1.8**
PLCA	**Paso Flores**	**40.55**	**126**	LR	LR	05 20 20.0	
	comp=Z,203nm,21.0s,baz=234,slow=30						
TA01	**Diego Aracena**	**40.92**	**95**	P	**P**	**05 07 45.7**	**+1.5**
PB07	**IPOC Station P**	**40.96**	**97**	P	**P**	**05 07 44.1**	**-0.6**
LVC	**Limon Verde**	**41.69**	**98**	LR	LR	05 20 42.5	
	comp=Z,72nm,21.4s,baz=250,slow=30						
RAR	**Rarotonga**	**42.00**	**264**	LR	LR	05 19 31.8	
	comp=Z,97nm,21.0s,baz=12,slow=28						
CAO2	**Cobano, Puntar**	**43.45**	**44**	P	**P**	**05 08 06.6**	**+1.8**
LPAZ	**La Paz**	**43.87**	**90**	P	**P**	**05 08 11.8**	**+2.9**
	3.2nm,0.9s,baz=223,slow=5.3,SNR=12						
LPAZ	**La Paz**	**43.87**	**90**	P	**P**	**05 08 09.6**	**+0.7**
JTS	**Las Juntas de**	**44.00**	**44**	LR	LR	05 21 54.5	
	comp=Z,98nm,19.8s,baz=273,slow=30						
CMIG	**Matias Romero**	**44.35**	**27**	LR	LR	05 21 54.3	
	comp=Z,30nm,20.4s,baz=206,slow=30						
LPIG	**La Paz**	**47.21**	**5**	LR	LR	05 23 37.5	
	comp=Z,72nm,18.9s,baz=344,slow=30						
ROSC	**El Rosal**	**47.98**	**60**	LR	LR	05 24 19.2	
	comp=Z,128nm,18.9s,baz=279,slow=30						
SIV	**San Ignacio**	**50.44**	**92**	LR	LR	05 26 03.0	
	comp=Z,58nm,18.5s,baz=114,slow=31						
CPUP	**Villa Florida**	**51.48**	**106**	LR	LR	05 27 01.3	
	comp=Z,88nm,19.3s,baz=224,slow=31						
HSIG		**52.05**	**4**	P	**P**	**05 09 13.0**	**+1.7**
TX31	**Lajitas Ar. Si**	**53.26**	**12**	P	**P**	**05 09 20.4**	**+0.1**
TXAR	**Lajitas Array**	**53.26**	**12**	P	**P**	**05 09 19.2**	**-1.2**
	0.2nm,0.6s,baz=196,slow=9.4,SNR=2.4						
SDV	**Santo Domingo**	**53.33**	**58**	LR	LR	05 27 56.0	
	comp=Z,93nm,18.7s,baz=253,slow=31						
214A	**Organ Pipe Nat**	**54.90**	**2**	P	**P**	**05 09 31.8**	**-0.4**
AFI	**Afiamalu**	**54.96**	**269**	LR	LR	05 26 06.1	
	comp=Z,65nm,21.4s,baz=71,slow=29						
JCT	**Junction City**	**55.19**	**15**	P	**P**	**05 09 34.6**	**+0.2**
JCT				IAmb	IAmb	05 09 36.6	
	comp=Z,18nm,1.4s						
MNTX	**Cornudas Mount**	**55.29**	**9**	P	**P**	**05 09 35.0**	**-0.1**
MNTX				IAmb	IAmb	05 09 36.6	
	comp=Z,6.1nm,1.3s						
TUC	**Tucson**	**55.33**	**4**	P	**P**	**05 09 35.7**	**+0.3**
X16A	**Lo Mia Camp, P**	**57.40**	**3**	P	**P**	**05 09 50.5**	**+0.3**
ANMO	**Albuquerque**	**58.34**	**8**	LR	LR	05 29 46.7	
	comp=Z,55nm,20.6s,baz=201,slow=31						
SHPR	**Sheep Range**	**59.42**	**359**	P	**P**	**05 10 04.0**	**-0.3**
SHPR				IAmb	IAmb	05 10 10.1	
	comp=Z,6.3nm,1.0s						
URZ	**Urewera**	**59.58**	**238**	LR	LR	05 30 60.0	
	comp=Z,77nm,21.4s,baz=210,slow=31						
PRN	**Pahroc Range**	**60.32**	**359**	P	**P**	**05 10 10.6**	**+0.1**
PRN				IAmb	IAmb	05 10 12.5	
	comp=Z,7.2nm,1.3s						
CCUT	**Cedar City**	**60.47**	**1**	P	**P**	**05 10 11.6**	**0.0**
CCUT				IAmb	IAmb	05 10 15.3	
	comp=Z,3.9nm,1.1s						
SDCO	**Great Sand Dun**	**61.22**	**8**	P	**P**	**05 10 17.0**	**+0.2**
SDCO				IAmb	IAmb	05 10 20.0	
	comp=Z,5.1nm,1.3s						
PSUT	**Pine Spring**	**61.44**	**0**	P	**P**	**05 10 18.9**	**+0.7**
PSUT				IAmb	IAmb	05 10 34.3	
	comp=Z,4.1nm,1.0s						
NV11	**Mina Array Sit**	**61.45**	**357**	P	**P**	**05 10 18.8**	**+0.7**
NV11				IAmb	IAmb	05 10 20.1	
	comp=Z,7.2nm,1.4s						
NVAR	**Mina Array Bea**	**61.45**	**356**	P	**P**	**05 10 15.9**	**-2.3**
	comp=Z,1.8nm,0.8s,baz=178,slow=9.1,SNR=8.7						
NVAR	**Mina Array Bea**	**61.45**	**356**	P	**P**	**05 10 19.3**	**+1.1**
BDFB	**Brasilia**	**62.53**	**96**	P	**P**	**05 10 26.6**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=244,slow=9.8,SNR=5.5						
BDFB	**Brasilia**	**62.53**	**96**	IAmb	IAmb	05 10 29.4	
	comp=Z,4.4nm,1.0s						
DUG	**Dugway, Tooele**	**63.12**	**1**	P	**P**	**05 10 28.3**	**-0.9**
DUG				IAmb	IAmb	05 10 31.4	
	comp=Z,5.4nm,1.2s						
YBH	**Yreka Blue Hor**	**65.10**	**353**	LR	LR	05 32 49.7	
	comp=Z,112nm,20.5s,baz=212,slow=30						
TKL	**Tuckaleechee C**	**65.32**	**27**	LR	LR	05 36 53.1	
	comp=Z,57nm,18.5s,baz=200,slow=34						
WVOR	**Wild Horse Val**	**65.46**	**356**	P	**P**	**05 10 43.8**	**-0.7**
WVOR				IAmb	IAmb	05 10 46.9	
	comp=Z,7.9nm,1.3s						
PDAR	**Pinedale Array**	**65.82**	**4**	P	**P**	**05 10 44.6**	**-2.3**
	comp=Z,0.8nm,1.0s,baz=172,slow=7.3,SNR=4.7						
BIRD	**Birdtown, Kers**	**65.93**	**30**	P	**P**	**05 10 47.0**	**-0.6**
K22A	**Casper**	**65.95**	**6**	P	**P**	**05 10 47.8**	**+0.1**
K22A				IAmb	IAmb	05 10 50.3	
	comp=Z,9.0nm,1.2s						
TPAW	**Teton Pass**	**66.46**	**3**	P	**P**	**05 10 50.9**	**-0.3**
TPAW				IAmb	IAmb	05 10 52.3	
	comp=Z,4.2nm,1.2s						
HLID	**Hailey**	**66.47**	**360**	P	**P**	**05 10 50.4**	**-0.7**
HLID				IAmb	IAmb	05 10 56.7	
	comp=Z,5.7nm,1.2s						
NEW	**Newport**	**71.21**	**358**	LR	LR	05 37 41.9	
	comp=Z,77nm,18.8s,baz=236,slow=32						
SADO	**Sadowa**	**74.91**	**25**	LR	LR	05 42 03.3	
	comp=Z,32nm,20.6s,baz=26,slow=34						

YKA	**Yellowknife Ar**	**85.43**	**360**	P	**P**	**05 12 36.0**	**-2.6**		
	comp=Z,3.4nm,1.1s,baz=176,slow=4.8,SNR=17								
KDAK	**Kodiak Island**	**86.81**	**341**	LR	LR	05 41 53.4			
	comp=Z,56nm,21.1s,baz=180,slow=29								
H11S2	**WAKE ISLAND Hy**	**87.52**	**291**	T	T	06 48 37.5			
	baz=116,slow=75								
H11S1	**WAKE ISLAND Hy**	**87.53**	**291**	T	T	06 48 44.8			
	baz=116,slow=75								
H11S3	**WAKE ISLAND Hy**	**87.54**	**291**	T	T	06 48 38.7			
	baz=116,slow=75								
SCHQ	**Schefferville**	**87.72**	**25**	LR	LR	05 49 48.6			
	comp=Z,37nm,20.6s,baz=122,slow=34								
H11N3	**WAKE ISLAND Hy**	**87.87**	**292**	T	T	06 49 05.4			
	baz=117,slow=74								
H11N1	**WAKE ISLAND Hy**	**87.89**	**292**	T	T	06 49 11.3			
	baz=117,slow=74								
H11N2	**WAKE ISLAND Hy**	**87.89**	**292**	T	T	06 49 06.6			
	baz=117								
FRB	**Frobisher Bay**	**93.78**	**19**	LR	LR	05 51 25.9			
	comp=Z,28nm,21.4s,baz=242,slow=33								
PMG	**Port Moresby**	**94.06**	**258**	LR	LR	05 48 56.2			
	comp=Z,40nm,20.1s,baz=92,slow=31								
ZALV	**Zalesovo Beam**	**146.11**	**340**	PKPbc	**PKPdf**	**05 19 39.5**	**-1.0**		
	comp=Z,1.2nm,0.5s,baz=25,slow=4.8,SNR=7.2								
ZALV	**Zalesovo Beam**	**146.11**	**340**		**PKPdf**	**05 19 41.3**	**+0.8**		
BRTR	**Keskin Array B**	**148.32**	**51**	PKPbc	**PKPdf**	**05 19 46.1**	**+1.3**		
	comp=Z,1.9nm,0.9s,baz=292,slow=1.7,SNR=8.0								
CMAR	**Chiang Mai Arr**	**148.60**	**268**	PKPbc	**PKPbc**	**05 19 48.8**	**-0.6**		
	comp=Z,1.5nm,0.3s,baz=79,slow=0.5,SNR=5.9								
CMAR	**Chiang Mai Arr**	**148.60**	**268**	PKPbc	**PKPbc**	**05 19 48.9**	**-0.5**		
KURBB	**Kurchatov Arra**	**150.88**	**343**	PKP	**PKPdf**	**05 19 48.2**	**-0.2**		
KURBB	comp=Z,1.1nm,0.8s,baz=23,slow=1.9,SNR=2.9			PKPbc	**sPKPdf**	**05 19 53.0**	**+1.6**		
	comp=Z,2.1nm,0.9s,baz=22,slow=1.9,SNR=4.5								
MKAR	**Makanchi Array**	**152.96**	**334**	PKP	**PKPdf**	**05 19 50.3**	**-1.4**		
	comp=Z,0.5nm,0.9s,baz=114,slow=3.6,SNR=4.2								
MKAR				PKPbc	**PKPbc**	**05 19 58.3**	**-0.6**		
	comp=Z,1.2nm,0.8s,baz=33,slow=2.3,SNR=11								
MKAR	**Makanchi Array**	**152.96**	**334**	PKPab	**PKPab**	**05 20 11.0**	**+0.9**		

*IDC **21** 05:02:41.7±1.4,32°.83N×138°.90E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.2/48,mbtmp3.6/3,ML2.4/1,Error ellipse: s-maj=23.4km s-min=16.3km az=122.0*
*JMA **21** 05:02:42.4±0.2,33°.50N×140°.95E,h54km,M3.1*
*NEIC **21** 05:02:43.3±1.1,32°.9N±0°.1×138°.76E±0°.07,h10km±2km, mb4.2/6,Error ellipse: s-maj=19.5km s-min=8.4km az=164.0*
ISC 21 05:02:42.4±2.0,33°.43N±0°.06×141°.0E±0°.1,h46km±23km, n26,σ0°77/27,mb4.1/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.03**	**253**	P	**Pn**	**05 03 00.8**	**+0.4**
JHJ2				S	**Sn**	**05 03 14.2**	**+0.5**
JHJ2	**Mitsune**	**1.03**	**253**	Pg	**Pn**	**05 03 00.9**	**+0.5**
JHJ	**Hachijo jima 2**	**1.05**	**253**	Pn	**Pn**	**05 03 00.8**	**+0.1**
	209nm,0.3s,baz=252,slow=20,SNR=58						
JHJ				Sn	**Sn**	**05 03 13.9**	**-0.4**
	174nm,0.3s,baz=247,slow=22,SNR=22						
JHCJ	**Hachijojimakas**	**1.06**	**251**	P	**Pn**	**05 03 01.1**	**+0.3**
BSO1	**Boso 1**	**1.23**	**360**	P	**Pn**	**05 03 02.7**	**+0.1**
JMKN	**Mikurajimanish**	**1.25**	**292**	P	**Pn**	**05 03 03.4**	**-0.1**
JMKN				S	**Sn**	**05 03 18.7**	**-0.5**
BSO3	**Boso 3**	**1.43**	**344**	P	**Pn**	**05 03 05.5**	**-0.2**
BSO4	**Boso 4**	**1.65**	**341**	P	**Pn**	**05 03 09.1**	**+0.2**
BSO4				*e*S	**Sn**	**05 03 28.3**	**-0.5**
JIM2	**Oshima 3**	**1.82**	**315**	P	**Pn**	**05 03 10.7**	**-0.7**
JIM2				*e*S	**Sn**	**05 03 32.2**	**-1.1**
JIZS	**Izushimoda**	**2.17**	**307**	P	**Pn**	**05 03 16.4**	**+0.3**
JIZS				*e*S	**Sn**	**05 03 41.3**	**-0.5**
JOD2	**Odawara 2**	**2.41**	**320**	P	**Pn**	**05 03 19.1**	**-0.3**
JOD2				*e*S	**Sn**	**05 03 47.3**	**-0.5**
JYT	**Yasato**	**2.87**	**347**	Pn	Pn	05 03 35.5	+10
JGF	**Kuroka**	**3.70**	**307**	Pn	Pn	05 03 29.6	-7.5
MJAR	**Matsushiro Arr**	**3.86**	**325**	Pn	**Pn**	**05 03 40.4**	**+1.1**
	0.3nm,0.3s,baz=160,slow=12,SNR=6.1						
MJAR				Sn	**Sn**	**05 04 24.9**	**+1.6**
	0.2nm,0.3s,baz=300,slow=21,SNR=4.1						
MAJO	**Matsushiro**	**3.86**	**325**	Pn	**Pn**	**05 03 40.8**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.86**	**325**	Pn	**Pn**	**05 03 40.9**	**+1.6**
H11N2	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	05 37 13.9	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	05 37 16.1	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**26.81**	**114**	T	T	05 37 15.8	
	baz=306						
PPLA	**Purkeypile**	**50.35**	**33**	P	P	05 11 50.7	+16
WB0	**Warramunga Arr**	**53.27**	**188**	P	**P**	**05 11 55.5**	**-1.0**
WB0				IAmb	IAmb	05 12 21.5	
	comp=Z,2.6nm,1.4s						
J25K	**Salcha River,**	**53.40**	**31**	P	P	05 12 11.6	+14
J25K				IAmb	IAmb	05 12 16.8	
	comp=Z,3.4nm,1.4s						
WR0	**Warramunga Arr**	**53.44**	**188**	P	**P**	**05 11 57.7**	**-0.1**
WR0				IAmb	IAmb	05 12 19.6	
	comp=Z,5.3nm,1.2s						
WB2	**Warramunga Arr**	**53.45**	**188**	P	**P**	**05 11 57.7**	**-0.2**
WB2				IAmb	IAmb	05 11 57.7	
	comp=Z,5.6nm,1.5s						
WRA	**Warramunga Arr**	**53.45**	**188**	P	**P**	**05 11 57.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=4.6,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**57.17**	**188**	P	**P**	**05 12 24.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=8.9,slow=7.3,SNR=4.9						

*IDC **21** 05:16:26.4±3.1,50°.06S×115°.33E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/30,mbtmp3.8/3,MS3.5/5,Ms1 3.5/5, ms1mx3.1/48,Error ellipse: s-maj=136.3km s-min=61.7km az=129.0*
*NEIC **21** 05:16:28.0±1.9,50°.15S±0°.09×115°.5E±0°.3,h10km±1km, mb4.7/14,Error ellipse: s-maj=31.7km s-min=15.0km az=271.0*
ISC 21 05:16:27.7±1.1,50°.1S±0°.1×115°.6E±0°.2,h10km,n27, σ0§84/17,mb4.6/11,MS3.6/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.25**	**356**	T	T	05 35 35.3	
	baz=176,slow=74						
H01W1	**Cape Leeuwin H**	**15.25**	**356**	T	T	05 35 31.7	
	baz=176,slow=74						
H01W3	**Cape Leeuwin H**	**15.26**	**356**	T	T	05 35 35.8	
	baz=176,slow=74						
CASY	**Casey**	**16.41**	**187**	Pn	**Pn**	**05 20 17.6**	**-0.1**
TAU	**Tasmania Unive**	**22.90**	**84**	P	**P**	**05 21 30.0**	**-1.3**
TOO	**Toolangi**	**24.79**	**71**	P	**P**	**05 21 49.6**	**0.0**
TOO				IAmb	IAmb	05 21 51.1	
	comp=Z,31nm,1.8s						
MCQ	**Macquarie Isla**	**26.57**	**116**	P	**P**	**05 22 05.3**	**-0.2**
STKA	**Stephens Creek**	**26.59**	**57**	P	**P**	**05 22 06.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=210,slow=13,SNR=3.6						
STKA	**Stephens Creek**	**26.59**	**57**	IAmb	IAmb	05 22 08.6	
	comp=Z,0.8nm,1.0s						
PSA00	**Pilbara Seismi**	**28.69**	**8**	P	**P**	**05 22 24.4**	**-0.3**
PSA00				IAmb	IAmb	05 22 26.1	
	comp=Z,11nm,1.1s						
ASAR	**Alice Springs**	**30.05**	**35**	P	**P**	**05 22 37.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=207,slow=7.7,SNR=5.3						
SBA	**Scott Base**	**33.56**	**163**	P	**P**	**05 23 06.5**	**-0.7**
WRA	**Warramunga Arr**	**33.62**	**33**	P	**P**	**05 23 08.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=212,slow=8.9,SNR=5.9						
WRA	**Warramunga Arr**	**33.62**	**33**	IAmb	IAmb	05 23 17.3	
	comp=Z,1.3nm,1.9s						
WB2	**Warramunga Arr**	**33.62**	**33**	P	**P**	**05 23 09.1**	**+0.9**
WB2				IAmb	IAmb	05 23 12.1	
	comp=Z,15nm,1.8s						
WR0	**Warramunga Arr**	**33.67**	**34**	P	**P**	**05 23 07.0**	**-1.7**
WR0				IAmb	IAmb	05 23 39.0	
	comp=Z,20nm,1.8s						
WB0	**Warramunga Arr**	**33.80**	**33**	P	**P**	**05 23 09.4**	**-0.4**
WB0				IAmb	IAmb	05 23 34.2	
	comp=Z,22nm,1.9s						
KNRA	**Kununurra**	**35.99**	**22**	P	**P**	**05 23 28.2**	**-0.5**
KNRA				IAmb	IAmb	05 23 39.9	
	comp=Z,20nm,1.5s						
MQZ	**McQueen's Vall**	**38.70**	**103**	P	**P**	**05 23 52.2**	**+0.8**
MQZ				IAmb	IAmb	05 24 26.2	
	comp=Z,38nm,1.3s						
QSPA	**South Pole Qui**	**40.01**	**180**	P	**P**	**05 24 02.7**	**+0.3**
QSPA				IAmb	IAmb	05 25 31.3	
	comp=Z,19nm,1.8s						
BATI	**Baumata**	**40.36**	**12**	LR	LR	05 41 13.1	

	comp=Z,78nm,18.2s,baz=232,slow=37								
LEM	**Lembang**	**43.66**	**349**	LR	LR	05 40 15.8			
	comp=Z,39nm,18.1s,baz=164,slow=33								
TSUM	**Tsumeb**	**80.45**	**252**	LR	LR	06 00 47.2			
	comp=Z,27nm,20.4s,baz=158,slow=33								
PLCA	**Paso Flores**	**89.37**	**175**	LR	LR	06 05 14.8			
	comp=Z,35nm,21.6s,baz=212,slow=33								
SONM	**Songino Array**	**97.89**	**354**	LR	LR	06 13 14.4			
	comp=Z,22nm,21.5s,baz=74,slow=35								
YKA	**Yellowknife Ar**	**150.38**	**46**	PKPbc	**PKPbc**	**05 36 18.1**	**+0.3**		
	comp=Z,0.6nm,0.8s,baz=275,slow=2.2,SNR=11								
YKA	**Yellowknife Ar**	**150.38**	**46**	PKPab	**PKPab**	**05 36 25.5**	**+1.0**		

*IDC **21** 05:32:24.3±0.8,37°.78N×72°.66E,h0km,mb3.9/15, mb1 4.1/22,mb1mx3.9/52,mbtmp3.9/22,ML3.4/7,MS3.4/28, Ms1 3.4/28,ms1mx3.2/89,Error ellipse: s-maj=16.0km s-min=14.3km az=170.0*
*MOS **21** 05:32:24.7±1.3,37°.78N×72°.36E,h8km,mb4.3/22,Error ellipse: s-maj=9.1km s-min=5.1km az=90.6*
*NEIC **21** 05:32:27.5±2.4,37°.78N±0°.06×72°.51E±0°.06,h10km±1km, mb4.3/27,Error ellipse: s-maj=10.8km s-min=6.9km az=150.0*
*BJI **21** 05:32:32.0±0.0,38°.10N×72°.30E,h80km,mb3.9/19, mB4.3/7,Ms3.9/10,Ms7 3.6/9*
*SOME **21** 05:32:32.7,38°.70N×72°.45E,h5km*
*NNC **21** 05:32:34.5±1.3,38°.54N×72°.58E,h0km,mb4.6,mpv4.4, Error ellipse: s-maj=10.3km s-min=6.3km az=178.0*
ISC 21 05:32:27.4±0.4,37°.86N±0°.03×72°.36E±0°.04,h10km,n216, σ2§21/219,mb4.2/36,MS3.4/27,21C-11D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.68**	**345**	Pn	**Pn**	**05 32 55.4**	**-1.7**
GAR	**Garm**	**1.97**	**306**		**Pn**	**05 33 03.5**	**+2.6**
BTK	**Batken**	**2.50**	**332**	PN	**Pn**	**05 33 11.4**	**+3.2**
BTK	**Batken**	**2.50**	**332**	Pn	**Pn**	**05 33 11.4**	**+3.2**
CHGR	**Chuyangaron**	**2.64**	**289**	Pn	**Pb**	**05 33 14.9**	**+0.1**
KSH	**Kashi**	**3.28**	**59**	P	**Pn**	**05 33 14.3**	**-4.7**
KSH				S	Sn	05 33 47.4	-11
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,930nm,0.8s						
CEP	**Cherat**	**4.04**	**185**	P	**Pb**	**05 33 36.5**	**-2.3**
TAS	**Tashkent**	**4.19**	**327**	PN	**Pn**	**05 33 34.1**	**+2.7**
TAS	**Tashkent**	**4.19**	**327**	Pn	**Pn**	**05 33 34.1**	**+2.7**
CHCP	**Chirah Chowk**	**4.26**	**170**	P	**Pb**	**05 33 38.5**	**-3.9**
KBL	**Kabul**	**4.26**	**220**	PN	**Pn**	**05 33 32.9**	**+0.3**
KBL	**Kabul**	**4.26**	**220**	Pn	**Pn**	**05 33 32.9**	**+0.3**
IUG	**Iuzhnay**	**4.64**	**338**	*e*P	Pn	05 33 44.5	+6.9
	334nm,0.3s						
IUG				*e*S	**Sn**	**05 34 35.9**	**+4.3**
	431nm,0.7s						
IUG	**Iuzhnay**	**4.64**	**338**	Pg	Pn	05 33 44.5	+6.9
	4μm,0.3s						
IUG				Lg	Lg	05 34 35.9	
	431nm,0.7s						
MRKS	**Merke**	**4.92**	**7**	*e*P	**Pn**	**05 33 45.6**	**+4.0**
	14nm,0.4s						
MRKS				*e*S	**Sn**	**05 34 38.0**	**-0.7**
	65nm,0.6s						
MRKS	**Merke**	**4.92**	**7**	Pg	**Pn**	**05 33 45.6**	**+4.0**
	24nm,0.5s						
MRKS				Lg	Lg	05 34 38.0	
	65nm,0.6s						
CHM	**Chimkent**	**4.93**	**335**	*e*P	Pb	05 33 50.4	-3.4
	5.3nm,0.3s						
CHM				*e*S	**Sn**	**05 34 45.9**	**+7.2**
	374nm,0.3s						
AAK	**Ala-Archa**	**5.04**	**18**	Pn	**Pn**	**05 33 45.1**	**+1.9**
	1.6nm,0.3s,baz=194,slow=8.6,SNR=26						
AAK				Sn	**Sn**	**05 34 35.6**	**-6.1**
	2.8nm,0.3s,baz=349,slow=23,SNR=4.7						
AAK				Lg	Lg	05 34 50.8	
	0.9nm,0.3s,baz=150,slow=20,SNR=3.3						
AAK				LR	LR	05 35 52.0	
	comp=Z,368nm,20.9s,baz=208,slow=41						
AAK	**Ala-Archa**	**5.04**	**18**	Pn	**Pn**	**05 33 44.6**	**+1.3**
THW	**Thamme Wali**	**5.08**	**186**	P	Pn	05 33 48.5	+4.9
DZA	**Taraz**	**5.09**	**351**	*e*P	Pn	05 33 50.7	+7.0
	90nm,0.1s						
DZA				*e*S

KRBS eS **Sb** **05 35 35.5 +1.4**
30nm,0.4s
KRBS Karabastau 6.35 22 Pg **Pb** **05 34 19.1 +1.0**
16nm,0.5s
KRBS Lg Lg 05 35 35.5
30nm,0.4s
AAA Alma-Ata 6.37 32 *e*P **Pb** **05 34 18.8 +0.4**
32nm,0.2s
AAA eS **Sb** **05 35 35.3 +0.7**
89nm,0.5s
AAA Alma-Ata 6.37 32 Pg **Pb** **05 34 18.8 +0.4**
32nm,0.2s
AAA Lg Lg 05 35 35.3
89nm,0.5s
MDOK Medeo 6.39 33 *e*P **Pb** **05 34 18.7 -0.1**
16nm,0.6s
MDOK eS **Sb** **05 35 35.0 -0.3**
90nm,1.4s
MDOK Medeo 6.39 33 ⇑Pn **Pn** **05 34 01.7 0.0**
11nm,1.0s
MDOK ⇓Pg **Pb** **05 34 18.7 -0.1**
30nm,0.9s
MDOK ⇑Lg Lg 05 35 39.6
105nm,1.2s
MDOK Medeo 6.39 33 Pg **Pb** **05 34 18.7 -0.1**
16nm,0.6s
MDOK Lg Lg 05 35 35.0
90nm,1.4s
KNDC Almaty 6.40 32 ⇑Lg Lg 05 35 40.7
195nm,0.8s
KOTS Kotyrbulak 6.47 32 *e*P **Pb** **05 34 20.8 +0.6**
27nm,0.6s
KOTS eS **Sb** **05 35 38.1 +0.4**
74nm,0.6s
KOTS Kotyrbulak 6.47 32 Pg **Pb** **05 34 20.8 +0.6**
27nm,0.6s
KOTS Lg Lg 05 35 38.1
74nm,0.6s
KTBS Karatobe 6.70 28 *e*P **Pb** **05 34 23.4 -0.7**
14nm,0.5s
KTBS eS **Sb** **05 35 42.4 -1.8**
75nm,1.1s
KTBS Karatobe 6.70 28 Pg **Pb** **05 34 23.4 -0.7**
14nm,0.5s
KTBS Lg Lg 05 35 42.4
75nm,1.1s
KUU Kurty 6.74 25 *e*P **Pb** **05 34 24.9 +0.3**
11nm,0.7s
KUU eS **Sb** **05 35 45.7 +0.5**
79nm,0.6s
KUU Kurty 6.74 25 Pg **Pb** **05 34 24.9 +0.3**
11nm,0.7s
KUU Lg Lg 05 35 45.7
79nm,0.6s
CHKK Chushkaly 6.94 29 *e*P **Pb** **05 34 28.9 +0.8**
11nm,0.5s
CHKK eS **Sb** **05 35 52.5 +1.6**
27nm,0.5s
CHKK Chushkaly 6.94 29 Pg **Pb** **05 34 28.9 +0.8**
11nm,0.5s
CHKK Lg Lg 05 35 52.5
27nm,0.5s
SATY Saty 6.94 40 *e*P **Pb** **05 34 30.4 +2.2**
26nm,0.9s
SATY eS **Sb** **05 35 55.4 +4.2**
70nm,0.9s
SATY Saty 6.94 40 Pg **Pb** **05 34 30.4 +2.2**
26nm,0.9s
SATY Lg Lg 05 35 55.4
70nm,0.9s
KURS Kuram 7.15 36 *e*P **Pb** **05 34 32.6 +1.0**
18nm,1.2s
KURS eS **Sb** **05 35 59.1 +2.1**
17nm,0.8s
KURS Kuram 7.15 36 Pg **Pb** **05 34 32.6 +1.0**
18nm,1.2s
KURS Lg Lg 05 35 59.1
17nm,0.8s
BHK Bhakra 7.25 151 *e*P **Pn** **05 34 16.4 +3.1**
BHK *e*S **Sn** **05 35 39.0 +3.3**
BHK *i* Lg Lg 05 36 18.1
UZB Uzynbulak 7.33 42 *e*P **Pb** **05 34 36.9 +2.2**
13nm,0.3s
UZB eS **Sb** **05 36 05.7 +3.5**
22nm,0.7s
UZB Uzynbulak 7.33 42 Pg **Pb** **05 34 36.8 +2.2**
13nm,0.3s
UZB Lg Lg 05 36 05.7
22nm,0.7s
KPKS Kokpek 7.38 39 *e*P **Pb** **05 34 36.2 +0.6**
18nm,0.6s
KPKS eS **Sb** **05 36 05.0 +1.3**
36nm,0.7s
PDGK Podgornoye 7.70 43 ⇑Pn **Pn** **05 34 19.8 +0.1**
18nm,0.8s
PDGK ⇓Lg Lg 05 36 22.5
52nm,1.2s
BLB Baldybastay 7.76 35 *e*P **Pb** **05 34 44.3 +2.2**
29nm,0.5s
BLB eS **Sb** **05 36 19.1 +4.4**
24nm,0.9s
BLB Baldybastay 7.76 35 Pg **Pb** **05 34 44.3 +2.2**
29nm,0.5s
BLB Lg Lg 05 36 19.1
24nm,0.9s
SMLA Simla 7.80 148 *e*P **Pn** **05 34 23.8 +2.8**
SMLA *ex* **Sn** **05 35 46.5 -2.8**
SMLA IAML 05 35 51.3
comp=E,118nm,0.4s
SMLA IAML 05 35 52.3
comp=N,91nm,0.7s
KTMS Ketmen 8.25 45 *e*P **Pb** **05 34 53.9 +3.5**
comp=N,5.2nm,0.8s
KTMS eS Sb 05 36 35.3 +6.6
comp=N,8.9nm,0.5s
KTMS Ketmen 8.25 45 Pg **Pb** **05 34 53.9 +3.5**
comp=N,5.2nm,0.8s
KTMS Lg Lg 05 36 35.3
comp=N,8.9nm,0.5s
TDK Taldyqorghan 8.46 31 *e*P **Pb** **05 34 56.8 +2.9**
comp=N,60nm,0.2s
TDK eS Sb 05 36 40.3 +5.8
comp=N,103nm,1.2s
TDK Taldyqorghan 8.46 31 Pg **Pb** **05 34 56.8 +2.9**
comp=N,60nm,0.2s
TDK Lg Lg 05 36 40.3
comp=N,103nm,1.2s
DJR Jarkent 8.56 39 *e*P Pg 05 34 59.7 -11
comp=N,6.3nm,0.8s
DJR eS Sg 05 36 45.6 -16
comp=N,20nm,0.8s
DJR Jarkent 8.56 39 Pg Pg 05 34 59.7 -11
comp=N,6.3nm,0.8s
DJR Lg Lg 05 36 45.6
comp=N,20nm,0.8s
HRA Herat 8.88 250 Pn **Pn** **05 34 37.7 +1.6**
KAPS Kapalarasan 9.08 33 *e*P Pn 05 35 09.5 +31
comp=N,10nm,0.7s
KAPS eS Sn 05 37 02.3 +41
comp=N,18nm,1.6s
KAPS Kapalarasan 9.08 33 Pg Pn 05 35 09.5 +31
comp=N,10nm,0.7s
KAPS Lg Lg 05 37 02.3
comp=N,18nm,1.6s
NDI New Delhi 10.01 155 *e*P **Pn** **05 34 53.0 +1.7**
NDI *e*S **Sn** **05 36 40.0 -3.7**
KUDL Kundal 10.29 159 *e*P **Pn** **05 34 56.1 +1.0**
OTUK Ortayu 10.38 360 ⇑Pn **Pn** **05 34 55.8 -0.5**
comp=N,4.9nm,0.8s
OTUK ⇓Lg Lg 05 37 43.8
comp=N,45nm,1.1s
GEYT Alibeck 11.26 275 Pn **Pn** **05 35 10.2 +1.8**
comp=N,0.8nm,0.3s,baz=90,slow=17,SNR=3.1
GEYT Sn **Sn** **05 37 10.5 -3.7**
comp=N,0.4nm,0.3s,baz=86,slow=32,SNR=4.2
GEYT LR LR 05 40 46.7
comp=N,172nm,19.4s,baz=137,slow=44
GEYT Alibeck 11.26 275 Pn **Pn** **05 35 09.2 +0.9**
GYA0B ALIBECK ARRAY 11.26 275 Pn **Pn** **05 35 10.0 +1.6**
MAKZ Makanchi 11.42 35 P **Pn** **05 35 11.3 +0.8**
MAKZ Makanchi 11.42 35 Pn **Pn** **05 35 11.3 +0.8**
MAKZ Makanchi 11.42 35 ⇓Pn **Pn** **05 35 09.9 -0.6**
comp=N,9.3nm,1.1s
MAKZ ⇑Lg Lg 05 38 18.6
comp=N,12nm,1.5s
AJM Ajmer 11.51 170 *e*P **Pn** **05 35 13.7 +1.8**
MK31 Makanchi Array 11.55 36 P **Pn** **05 35 13.5 +1.1**
MK31 Makanchi Array 11.55 36 **Pn** **05 35 13.5 +1.1**

MK31 Makanchi Array 11.55 36 ⇑Pn **Pn** **05 35 13.1 +0.7**
comp=N,2.3nm,0.8s,baz=218,slow=15,SNR=19
MK31 ⇑Lg Lg 05 38 22.3
comp=N,9.7nm,1.2s,baz=218,slow=28,SNR=3.8
MKAR Makanchi Array 11.55 36 Pn **Pn** **05 35 11.4 -1.0**
comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=19
MKAR Lg Lg 05 38 25.4
comp=N,0.0nm,0.3s,baz=231,slow=26,SNR=2.0
MKAR LR LR 05 39 24.6
comp=N,79nm,18.7s,baz=224,slow=37
MKAR Makanchi Array 11.55 36 *i* P **Pn** **05 35 14.5 +2.1**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 11.55 36 Pn **Pn** **05 35 13.2 +0.8**
BRZS Berezniki 12.12 1 Pg Pn 05 36 05.1 +45
comp=Z,2.4nm,0.4s
BRZS Lg Lg 05 38 38.2
comp=Z,7.2nm,0.5s
PYUN Piuthan 13.20 134 *e*P **Pn** **05 35 32.1 -3.0**
comp=Z,24nm,0.4s
PYUN *e*S Sn 05 37 47.4 -15
DANN Dangsing 13.45 131 *e*P **Pn** **05 35 35.4 -3.3**
comp=Z,18nm,0.4s
KURBB Kurchatov Arra 13.50 17 Pn **Pn** **05 35 36.1 -2.7**
comp=Z,0.0nm,0.3s,baz=206,slow=12,SNR=16
KURBB Lg Lg 05 39 26.9
baz=205,slow=31,SNR=5.0
KURBB LR LR 05 41 04.1
comp=Z,138nm,20.8s,baz=211,slow=38
KURBB Kurchatov Arra 13.50 17 ⇓Pn **Pn** **05 35 38.8 -0.1**
comp=Z,8.3nm,1.0s
KURBB ⇓Lg Lg 05 39 23.3
comp=Z,20nm,0.8s
KURK Kurchatov 13.61 17 P **Pn** **05 35 40.5 +0.2**
KURK Kurchatov 13.61 17 Pn **Pn** **05 35 40.5 +0.2**
KOLN Koldanda 13.79 134 *e*P **Pn** **05 35 40.5 -2.7**
comp=Z,13nm,0.4s
GKN Gorkha 14.23 130 *e*P **Pn** **05 35 45.9 -3.3**
comp=Z,14nm,0.4s
AB31 Akbulak array 14.49 326 Pn **Pn** **05 35 50.7 -1.8**
comp=Z,3.3nm,0.5s,baz=137,slow=12,SNR=108
AB31 ⇓Sn **Sn** **05 38 29.1 -4.1**
comp=Z,10nm,1.1s,baz=146,slow=21,SNR=5.5
ABKAR Akbulak array 14.49 326 Pn **Pn** **05 35 50.0 -2.5**
PKIN Phulchoki 15.00 129 *e*P **Pn** **05 35 56.6 -3.2**
comp=Z,14nm,0.5s
PKI Pulchoki 15.02 129 *e*P **Pn** **05 35 56.8 -3.2**
BVAR Borovoye Array 15.23 355 Pn **Pn** **05 36 00.1 -2.3**
comp=Z,0.3nm,0.3s,baz=201,slow=19,SNR=9.1
BVAR Lg Lg 05 40 26.7
comp=Z,0.3nm,0.3s,baz=108,slow=23,SNR=3.0
BRVK Borovoye 15.27 355 P **Pn** **05 36 01.2 -1.7**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 15.27 355 Pn **Pn** **05 36 01.2 -1.7**
BRVK Borovoye 15.27 355 ⇓Pn **Pn** **05 36 01.2 -1.7**
comp=Z,7.9nm,0.9s
RAMN Ramite 16.20 128 *e*P **Pn** **05 36 12.0 -3.3**
comp=Z,56nm,0.5s
AKTO Aktyubinsk 16.21 325 Pn **Pn** **05 36 13.7 -1.4**
comp=Z,0.2nm,0.3s,baz=127,slow=16,SNR=7.3
AKTO Sn **Sn** **05 39 08.7 -6.1**
comp=Z,0.2nm,0.3s,baz=66,slow=20,SNR=2.1
AKTO LR LR 05 42 34.8
comp=Z,99nm,19.3s,baz=139,slow=37
AKTO Aktyubinsk 16.21 325 ⇑Pn **Pn** **05 36 18.1 +3.0**
comp=Z,24nm,1.0s
AKTO ⇑Sn **Sn** **05 39 15.6 +0.7**
comp=Z,12nm,1.1s
GOMU GeErMu 18.00 88 P **P** **05 36 39.5 +0.9**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,62nm,4.1s
ZAA0 Zalesovo Array 18.23 24 **Pn** **05 36 39.2 -1.2**
ZALV Zalesovo Beam 18.23 24 P **Pn** **05 36 36.8 -3.6**
comp=Z,0.4nm,0.3s,baz=220,slow=11,SNR=17
ZALV Lg Lg 05 41 57.0
comp=Z,0.1nm,0.3s,baz=218,slow=20,SNR=1.8
ZALV LR LR 05 43 56.3
comp=Z,133nm,20.0s,baz=218,slow=38
ZALV Zalesovo Beam 18.23 24 P **Pn** **05 36 39.1 -1.3**
ZALV Zalesovo Beam 18.23 24 **Pn** **05 36 39.1 -1.3**
MAK Makhachkala 19.57 293 *e*P P 05 36 49.6 -5.7
MAK *e*S S 05 40 26.1 -10
MAK pmax pmax
comp=Z,164nm,1.4s
MAK MLR MLR
comp=Z,94nm,10.0s
SHL Shillong 20.59 121 P **P** **05 37 05.7 -1.2**
SHL pmax pmax
comp=Z,14nm,1.3s
SHL Shillong 20.59 121 P **P** **05 37 05.7 -1.2**
SHL IAmb IAmb 05 37 22.8
comp=Z,14nm,1.3s
ARU Arti 20.74 338 P **P** **05 37 07.4 -0.5**
comp=Z,1.2nm,0.3s,baz=162,slow=5.4,SNR=8.3
ARU Lg Lg 05 43 24.6
comp=Z,0.7nm,0.3s,baz=149,slow=19,SNR=1.4
ARU LR LR 05 45 42.4
comp=Z,140nm,20.0s,baz=146,slow=38
ARU Arti 20.74 338 *d* P **P** **05 37 08.4 +0.4**
ARU S **S** **05 41 01.7 +2.4**
ARU SS **SnSn** **05 41 21.4 +2.5**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 20.74 338 P **P** **05 37 07.9 0.0**
ARU IAmb IAmb 05 37 13.3
comp=Z,26nm,1.3s
GTA Gaotai 21.48 77 *e*P **P** **05 37 17.4 +1.2**
GTA pP sP 05 37 30.8 +8.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,92nm,4.4s
GTA LR LR
comp=Z,150nm,14.9s
GTA LR LR
comp=Z,140nm,14.9s
GTA LR LR
comp=Z,100nm,15.6s
GNI Garni 21.55 285 LR LR 05 47 20.8
comp=Z,56nm,19.2s,baz=96,slow=41
GNI Garni 21.55 285 *i* P **P** **05 37 15.0 -2.1**
GNI pmax pmax
comp=Z,16nm,1.6s
ZEI Tsey 22.19 292 *e*P P 05 37 33.9 +10
ZEI pmax pmax
comp=Z,9.0nm,1.5s
NCK Nalchik 22.46 294 *i* P **P** **05 37 25.0 -1.7**
NCK pmax pmax
comp=Z,7.0nm,0.8s
ONI Oni 22.51 291 P **P** **05 37 27.2 -0.1**
ONI pmax pmax
comp=Z,10.0nm,0.7s
ONI Oni 22.51 291 P **P** **05 37 27.1 -0.1**
ONI IAmb IAmb 05 37 43.7
comp=Z,10nm,0.7s
BELG Belogornoye 22.56 318 P **P** **05 37 27.4 -0.1**
comp=Z,11nm,0.9s,baz=18,slow=3.2,SNR=2.5
BELG LR LR 05 47 45.8
comp=Z,34nm,19.6s,baz=169,slow=40
KBZ Khabaz 22.99 294 P **P** **05 37 33.0 +0.8**
comp=Z,0.5nm,0.3s,baz=94,slow=18,SNR=1.8
KBZ LR LR 05 48 30.9
comp=Z,102nm,19.0s,baz=102,slow=42
KBZ Khabaz 22.99 294 P **P** **05 37 33.0 +0.8**
NEY Neytrino 23.08 293 *i* P **P** **05 37 31.2 -2.1**
NEY pmax pmax
comp=Z,2.0nm,1.2s
KIV Kislovodsk 23.16 295 *e*P **P** **05 37 31.0 -3.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,48nm,14.0s
LZH Lanzhou 25.16 84 *e*P **P** **05 37 52.1 -0.9**
LZH pmax pmax
comp=Z,14nm,1.5s
LZH LR LR
comp=Z,260nm,13.0s
LZH LR LR
comp=Z,150nm,15.6s
ZAK Zakamensk 25.29 50 *e*P **P** **05 37 53.7 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
KIRV Kirov 25.52 332 LR LR 05 47 41.1
comp=Z,57nm,19.4s,baz=140,slow=36

KIRV Kirov 25.52 332 *i* P **P** **05 37 54.8 -1.0**
SONM Songino Array 26.68 57 P **P** **05 38 04.5 -2.2**
comp=Z,3.2nm,1.0s,baz=260,slow=9.3,SNR=6.9
SONM LR LR 05 48 52.3
comp=Z,72nm,20.2s,baz=150,slow=37
SONM Songino Array 26.68 57 *e*P **P** **05 38 11.4 +4.8**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 26.68 57 P **P** **05 38 07.2 +0.5**
VORR Voronezh 27.02 311 *e*P P 05 38 16.6 +7.2
VORR pmax pmax
comp=Z,60nm,0.4s
ULN Ulaanbaatar 27.12 57 ⇓*e*P **P** **05 38 11.9 +1.3**
ULN pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 29.64 317 ⇑*e*P **P** **05 38 33.2 +0.4**
OBN *e**SP **pP** **05 38 36.8 -0.5**
OBN *e* 05 39 29.8
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,52nm,13.0s
BRTR Keskin Array B 30.08 286 P **P** **05 38 37.3 +0.2**
comp=Z,0.3nm,0.6s,baz=106,slow=9.5,SNR=2.2
BRTR LR LR 05 52 54.8
comp=Z,30nm,21.9s,baz=100,slow=41
MMAI Mount Meron Ar 30.36 272 LR LR 05 54 42.0
comp=Z,29nm,18.4s,baz=238,slow=44
PALK Pallekele 31.38 164 LR LR 05 50 47.9
comp=Z,97nm,18.7s,baz=203,slow=35
EIL Elat 31.98 266 LR LR 05 54 28.6
comp=Z,64nm,20.0s,baz=82,slow=41
NRIK Noril'sk 32.60 10 LR LR 05 53 51.6
comp=Z,95nm,18.7s,baz=136,slow=39
NRIK Noril'sk 32.60 10 *i* P **P** **05 38 58.5 -0.2**
NRIK pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 32.97 307 P **P** **05 39 02.9 +0.7**
comp=Z,0.2nm,0.3s,baz=80,slow=7.4,SNR=3.0
AKASG LR LR 05 55 58.1
comp=Z,42nm,20.1s,baz=45,slow=43
AKASG Malin Array Be 32.97 307 *e*P P 05 39 07.6 +5.5
AKASG pmax pmax
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 35.09 298 P **P** **05 39 19.8 -1.0**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 35.09 298 P **P** **05 39 19.8 -1.0**
MLR IAmb IAmb 05 39 29.4
comp=Z,6.1nm,1.0s
BUR08 Bucovina Ar. S 35.49 301 P **P** **05 39 22.9 -1.3**
FIA1 FINESS Array S 36.98 325 P **P** **05 39 37.9 +1.3**
FIA1 IAmb IAmb 05 40 03.8
comp=Z,7.3nm,1.1s
FINES FINESS Array B 36.98 325 P **P** **05 39 36.9 +0.3**
comp=Z,1.0nm,0.4s,baz=119,slow=8.7,SNR=3.0
FINES LR LR 05 55 41.1
comp=Z,111nm,20.0s,baz=100,slow=38
FINES FINESS Array B 36.98 325 *e*P P 05 39 41.7 +5.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 36.98 325 P **P** **05 39 37.4 +0.8**
SUW Suwalki 36.99 312 P **P** **05 39 36.0 -0.8**
SUW pmax pmax
comp=Z,13nm,1.1s
SUW Suwalki 36.99 312 P **P** **05 39 36.0 -0.8**
ARCES ARCESS Array B 40.31 337 P **P** **05 40 04.3 -0.2**
comp=Z,3.2nm,0.8s,baz=112,slow=9.8,SNR=2.0
ARCES LR LR 05 58 02.1
comp=Z,76nm,20.9s,baz=188,slow=38
ARCES ARCESS Array B 40.31 337 P **P** **05 40 04.8 +0.2**
ARCES pmax pmax
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 40.31 337 P **P** **05 40 04.8 +0.2**
ARCES IAmb IAmb 05 40 06.5
comp=Z,9.8nm,1.1s
VRAC Vranov 41.10 305 LR LR 05 58 30.1
comp=Z,51nm,19.9s,baz=80,slow=38
GERES GERESS Array B 43.05 304 LR LR 06 02 30.1
comp=Z,40nm,20.4s,baz=50,slow=42
KLR Kul'dur 43.47 55 LR LR 06 00 45.7
comp=Z,63nm,19.2s,baz=230,slow=39
KLR Kul'dur 43.47 55 *i* P **P** **05 40 26.6 -4.0**
NC405 NORSAR Array S 43.72 322 P **P** **05 40 33.7 +1.3**
NC602 NORSAR Array S 43.78 322 P **P** **05 40 34.5 +1.5**
NC303 NORSAR Array S 43.90 322 P **P** **05 40 33.5 -0.3**
NB2 NORSAR Subarra 43.96 322 P **P** **05 40 34.4 0.0**
comp=Z,0.9nm,0.6s,baz=93,slow=7.9
NOA NORSAR Array B 43.96 322 P **P** **05 40 34.1 -0.3**
comp=Z,0.6nm,0.6s,baz=110,slow=5.9,SNR=2.2
NOA LR LR 05 59 58.2
comp=Z,72nm,18.0s,baz=105,slow=37
NOA NORSAR Array B 43.96 322 *e*P **P** **05 40 37.5 +3.1**
NOA pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 44.11 22 ⇑*e*P **P** **05 40 34.3 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 44.11 22 P **P** **05 40 34.2 -1.1**
TIXI IAmb IAmb 05 40 38.1
comp=Z,2.5nm,0.8s
USRK Ussuriysk Ar. 44.57 62 LR LR 06 00 56.9
comp=Z,56nm,18.6s,baz=144,slow=39
DAVOX Davos/Dischmat 45.95 302 LR LR 06 02 57.5
comp=Z,49nm,21.7s,baz=80,slow=40
BILL Bilibino 56.91 27 ⇑*e*P **P** **05 42 11.6 -0.6**
BILL 05 43 10.0
BILL pmax pmax
comp=Z,4.0nm,1.5s
BILL MLR MLR
comp=Z,44nm,15.0s
ESDC Sonseca Array 57.78 298 P **P** **05 42 20.2 +1.4**
comp=Z,1.2nm,0.8s,baz=48,slow=7.1,SNR=6.6
ESDC Sonseca Array 57.78 298 IAmb IAmb 05 42 23.9
comp=Z,2.7nm,1.1s
KAPI Kappang 61.27 123 ⇓*e*P P 05 42 51.2 +8.2
KAPI pmax pmax
comp=Z,3.0nm,1.1s
TORD Torodi Ar. Bea 66.83 269 P **P** **05 43 19.0 -0.7**
comp=Z,1.0nm,0.5s,baz=53,slow=5.3,SNR=6.0
TORD Torodi Ar. Bea 66.83 269 P **P** **05 43 21.1 +1.4**
TORD IAmb IAmb 05 43 25.1
comp=Z,5.9nm,1.5s
SFJD Kangerlussuaq 66.88 339 LR LR 06 12 26.3
comp=Z,34nm,18.9s,baz=339,slow=36
ANM Nome 68.36 23 P **P** **05 43 29.2 +0.6**
ANM pmax pmax
comp=Z,3.0nm,1.0s
ANM Nome 68.36 23 P **P** **05 43 29.2 +0.6**
ANM IAmb IAmb 05 43 31.8
comp=Z,2.6nm,1.0s
TOLK Toolik Lake Re 69.33 15 P **P** **05 43 34.6 -0.1**
A36M Sachs Harbour 69.75 6 P **P** **05 43 37.6 +0.5**
COLD Coldfoot 70.37 16 P **P** **05 43 41.1 +0.1**
COLD IAmb IAmb 05 43 45.9
comp=Z,4.1nm,1.0s
IMAR Indian Mountai 70.55 18 P **P** **05 43 41.9 -0.2**
J20K Nowinta River 71.89 20 P **P** **05 43 51.0 +0.7**
J20K IAmb IAmb 05 43 55.1
comp=Z,2.6nm,0.9s
IL31 73.17 16 P **P** **05 43 57.4 -0.5**
IL31 IAmb IAmb 05 43 59.3
comp=Z,2.7nm,1.0s
ILAR Eielson Array 73.17 16 P **P** **05 43 56.1 -1.8**
comp=Z,0.8nm,0.8s,baz=318,slow=5.2,SNR=8.9
ILAR Eielson Array 73.17 16 *e*P **P** **05 43 58.8 +0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 73.17 16 P **P** **05 43 57.6 -0.3**
J25K Salcha River, 73.64 16 P **P** **05 44 01.6 +0.8**
J25K IAmb IAmb 05 44 04.5
comp=Z,2.4nm,1.0s
YKA Yellowknife Ar 79.83 3 P **P** **05 44 34.3 -1.4**
comp=Z,1.2nm,0.9s,baz=350,slow=5.5,SNR=18
YKA Yellowknife Ar 79.83 3 *ce*P **P** **05 44 37.7 +2.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 79.83 3 P **P** **05 44 35.4 -0.3**
SCHQ Schefferville 81.26 338 LR LR 06 20 18.6
comp=Z,44nm,18.4s,baz=110,slow=35
WRA Warramunga Arr 81.80 123 P **P** **05 44 44.4 -2.4**
comp=Z,1.7nm,0.7s,baz=324,slow=5.0,SNR=21
WRA Warramunga Arr 81.80 123 P **P** **05 44 45.6 -1.2**
WRA Warramunga Ar 81.80 123 P **P** **05 44 45.6 -1.2**
ASAR Alice Springs 84.16 126 P **P** **05 44 55.7 -3.2**
comp=Z,1.0nm,0.8s,baz=297,slow=5.1,SNR=2.6

ASAR	**Alice Springs**	**84.16 126**	P		**P**	**05 44 56.6**	**-2.3**
ASAR	**Alice Springs**	**84.16 126**	P		**P**	**05 44 56.6**	**-2.3**

IDC 21 06:08:16.3±1.5, 29°40N×101°96E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/39, mbtmp3.6/4, ML3.6/1, MS2.5/1, Ms1 2.7/1, ms1mx2.2/87, Error ellipse: s-maj=83.43km s-min=24.7km az=66.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.23**	**195**	LR	LR	06 15 45.4	
	comp=Z,20nm,18.1s,baz=175,slow=40						
SONM	**Songino Array**	**18.73**	**9**	P		06 12 36.4	-0.3
	0.2nm,0.3s,baz=193,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**23.16**	**324**	P		06 13 24.4	+0.1
	0.3nm,0.8s,baz=122,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**58.15**	**144**	P		06 18 11.8	-0.3
	2.3nm,0.6s,baz=333,slow=7.7,SNR=64						
ASAR	**Alice Springs**	**61.05**	**146**	P		06 18 32.3	+0.2
	0.8nm,0.8s,baz=328,slow=6.8,SNR=8.5						

*MOS **21** 06:14:36.1±1.3, 43°.15N×147°.40E, h47km, mb4.5/12, Error ellipse: s-maj=9.5km s-min=7.0km az=116.5*
*SKHL **21** 06:14:37.2±0.2, 43°.20N×147°.40E, h57km±6km, mb4.9/5*
*IDC **21** 06:14:37.3±2.9, 43°.13N×147°.39E, h42km±25km, mb3.8/17, mb1 4.0/19, mb1mx3.8/50, mbtmp4.0/19, ML3.5/2, MS2.8/4, Ms1 2.9/4, ms1mx2.5/87, Error ellipse: s-maj=21.6km s-min=14.7km az=170.0*
*JMA **21** 06:14:37.1±0.2, 43°.21N×147°.30E, h39km, M4.3*
*NIED **21** 06:14:37.1, 43°.21N×147°.30E, h39km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr6.31; Mθθ-2.38; Mφφ-3.93; Mrθ-0.19; Mθφ-4.74; Mφr-5.13; Fault plane solution: M0 8.90000×10^14^ NP1: φs198.00000°, δ64.00000°, λ66.00000°. NP2:φs64.00000°, δ35.00000°, λ130.00000°.*
*NEIC **21** 06:14:38.8±1.1, 43°.36N±0°.08×147°.3E±0°.1, h43km±8km, mb4.3/45 Error ellipse: s-maj=14.6km s-min=11.3km az=119.0*

ISC 21 06:14:37.4±0.6, 43°22N±0°.06×147°38E±0°.06, h39km±3km, n153, σθ95/168, mb4.2/45, 5C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.76**	**329**	*d* *i* PN	**Pn**	**06 14 51.6**	**-0.1**
SHO				*e* S	**Sn**	**06 15 01.9**	**0.0**
SHO				pmax	pmax		
	comp=E,1μm,0.2s						
SHO				pmax	pmax		
	comp=Z,4μm,0.2s						
SHO				pmax	pmax		
	comp=N,582nm,0.1s						
SHO				smax	smax		
	comp=N,8μm,0.2s						
SHO				smax	smax		
	comp=E,3μm,0.2s						
SHO	**Shikotan**	**0.76**	**329**	*i* P	**Pn**	**06 14 51.7**	**0.0**
SHO				AMB	AMB	06 14 51.8	
	comp=E,400nm,0.2s						
SHO				*e* S	**Sn**	**06 15 02.0**	**0.0**
SHO				A	A	06 15 02.1	
	comp=E,8μm,0.3s						
SHO				A	A	06 15 02.1	
	comp=E,3μm,0.3s						
NEM2	**Nemuro 2**	**1.20**	**278**	P	**Pn**	**06 14 57.2**	**-0.5**
NEM2				*e* S	**Sn**	**06 15 12.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.21**	**278**	⇓ *i* PN	**Pn**	**06 14 57.3**	**-0.5**
NMR				*e* S	**Sn**	**06 15 11.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.21**	**278**	*i* P	**Pn**	**06 14 57.3**	**-0.5**
NMR				*e* S	**Sn**	**06 15 11.8**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.37**	**307**	*d* *i* PN	**Pn**	**06 14 59.4**	**-0.5**
YUK				*e* S	**Sn**	**06 15 15.9**	**-1.0**
YUK				pmax	pmax		
	comp=N,374nm,0.2s						
YUK				pmax	pmax		
	comp=E,582nm,0.2s						
YUK				pmax	pmax		
	comp=Z,4μm,0.2s						
YUK				smax	smax		
	comp=E,6μm,0.5s						
YUK				smax	smax		
	comp=N,3μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**307**	*i* P	**Pn**	**06 14 59.5**	**-0.5**
YUK				AMB	AMB	06 15 00.0	
	comp=N,400nm,0.2s						
YUK				*e* S	**Sn**	**06 15 16.1**	**-0.8**
YUK				A	A	06 15 16.6	
	comp=N,3μm,0.6s						
YUK				A	A	06 15 16.6	
	comp=N,6μm,0.6s						
GLVR	**Golovnino**	**1.45**	**292**	⇓ *i* PN	**Pn**	**06 15 00.7**	**-0.4**
GLVR				*e* S	**Sn**	**06 15 18.3**	**-0.5**
GLVR				pmax	pmax		
	comp=Z,446nm,0.2s						
GLVR				pmax	pmax		
	comp=E,194nm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR	**Golovnino**	**1.45**	**292**	*i* P	**Pn**	**06 15 00.7**	**-0.4**
GLVR				AMB	AMB	06 15 06.5	
	comp=E,450nm,0.2s						
GLVR				*e* S	**Sn**	**06 15 18.3**	**-0.5**
GLVR				A	A	06 15 23.7	
	comp=E,3μm,0.3s						
GLVR				A	A	06 15 23.7	
	comp=E,1μm,0.3s						
JKHN	**Kushirohamanak**	**1.63**	**266**	P	**Pn**	**06 15 03.8**	**+0.3**
JKHN				*e* S	**Sn**	**06 15 23.1**	**-0.1**
RUSJ	**Misakicho**	**1.78**	**301**	⇓ *i* PN	**Pn**	**06 15 05.7**	**+0.1**
RUSJ				*e* S	**Sn**	**06 15 28.8**	**+1.8**
JRA	**Rausu**	**1.79**	**294**	P	**Pn**	**06 15 05.7**	**0.0**
JRA				*e* S	**Sn**	**06 15 27.0**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.81**	**289**	P	**Pn**	**06 15 06.1**	**0.0**
JNSB				*e* S	**Sn**	**06 15 27.5**	**-0.3**
AKK	**Akkeshi**	**1.87**	**265**	*e* P	**Pn**	**06 15 06.7**	**-0.1**
AKK				*e* S	**Sn**	**06 15 27.6**	**-1.5**
JNK	**Nakash**	**1.97**	**282**	P	**Pn**	**06 15 07.8**	**-0.5**
JNK				*e* S	**Sn**	**06 15 30.8**	**-0.9**
JAK	**Akkeshi**	**1.98**	**264**	P	**Pn**	**06 15 08.2**	**-0.1**
JAK				*e* S	**Sn**	**06 15 30.6**	**-1.2**
KUR	**Kuril'sk**	**2.04**	**10**	PN	Pn	06 15 14.4	+5.1
KUR				*e* S	**Sn**	**06 15 32.2**	**-1.3**
KUR				smax	smax		
	comp=E,777nm,0.3s						
KUR				smax	smax		
	comp=N,320nm,0.2s						
KUR	**Kuril'sk**	**2.04**	**10**	*e* P	**Pn**	**06 15 10.2**	**+0.9**
KUR				AMB	AMB	06 15 12.0	
	comp=N,80nm,0.3s						
KUR				*e* S	**Sn**	**06 15 32.5**	**-1.0**
KUR				A	A	06 15 36.8	
	comp=N,320nm,0.3s						
KUR				A	A	06 15 36.8	
	comp=N,780nm,0.3s						
JOB	**Onbets**	**2.62**	**264**	P	**Pn**	**06 15 17.5**	**+0.4**
JOB				*e* S	**Sn**	**06 15 46.0**	**-1.6**
JTKR	**Abashiri--Toko**	**2.63**	**288**	P	**Pn**	**06 15 18.1**	**+0.8**
JTKR				*e* S	**Sn**	**06 15 48.4**	**+0.5**
JAR	**Ashorobuto**	**2.64**	**273**	P	**Pn**	**06 15 17.6**	**+0.2**
JAR				*e* S	**Sn**	**06 15 47.6**	**-0.5**
JCH	**Churui**	**3.01**	**260**	P	**Pn**	**06 15 22.7**	**+0.2**
JCH				*e* S	**Sn**	**06 15 56.4**	**-0.9**
JMP	**Maruseppu**	**3.02**	**286**	P	**Pn**	**06 15 23.7**	**+1.0**
ERM	**Erimo**	**3.34**	**250**	*ce* PN	**Pn**	**06 15 29.4**	**+2.4**
ERM				pmax	pmax		
	comp=Z,106nm,1.0s						
ERM	**Erimo**	**3.34**	**250**	Pn	**Pn**	**06 15 28.4**	**+1.3**
JKK2	**Kamakawa 2**	**3.43**	**283**	P	**Pn**	**06 15 29.6**	**+1.3**
JFR	**Furan**	**3.50**	**271**	P	**Pn**	**06 15 30.4**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.53**	**256**	P	**Pn**	**06 15 30.2**	**+0.5**
JNBK				*e* S	**Sn**	**06 16 07.9**	**-2.3**
JKA	**Kamikawa-asahi**	**3.58**	**286**	Pn	**Pn**	**06 15 29.9**	**-0.4**
JKA	**Kamikawa-asahi**	**3.58**	**286**	*e* P	**Pn**	**06 15 32.0**	**+1.6**
ASAJ	**Asahikawa**	**3.58**	**286**	P	**Pn**	**06 15 32.0**	**+1.6**
	comp=Z,6.0nm,0.3s,baz=112,slow=8.0,SNR=18						
ASAJ				S	**Sn**	**06 16 12.8**	**+1.3**
	baz=128,slow=28,SNR=1.4						
ASAJ				LR	LR	06 17 12.9	
	comp=Z,139nm,18.7s,baz=71,slow=43						
JSE	**Soyaes**	**3.87**	**298**	P	**Pn**	**06 15 35.4**	**+1.1**
JEW	**Eniwo**	**4.36**	**267**	Pn	**Pn**	**06 15 41.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.97**	**320**	⇑ *e* PN	**Pn**	**06 15 50.8**	**+1.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.97**	**320**		**Pn**	**06 15 48.2**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.97**	**320**	*e* P	**Pn**	**06 15 50.8**	**+1.4**
YSS				AMB	AMB	06 15 51.8	
	comp=Z,20nm,0.7s						
YSS				*e* S	**Sn**	**06 16 45.1**	**-0.4**
YSS				A	A	06 16 54.4	
	comp=Z,90nm,0.4s						
YSS				A	A	06 16 54.4	
	comp=Z,30nm,0.4s						
JMM	**Marumori**	**7.33**	**225**	Pn	**Pn**	**06 16 22.2**	**+0.4**
TYV	**Tymovskoe**	**8.30**	**339**	*e* P	**Pn**	**06 16 36.3**	**+1.2**
TYV				AMB	AMB	06 16 37.1	
SKR	**Severo-Kuril's**	**9.56**	**36**	*i* PN	**Pn**	**06 16 52.7**	**+0.4**
SKR	**Severo-Kuril's**	**9.56**	**36**	*e* P	**Pn**	**06 16 52.7**	**+0.4**
SKR				AMB	AMB	06 16 55.1	
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**11.19**	**280**	LR	LR	06 21 25.2	
	comp=Z,53nm,18.5s,baz=261,slow=36						
PETK	**Petropavlovsk-**	**12.04**	**31**	P	**Pn**	**06 17 25.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=1.3						
JWT	**Wachi**	**12.20**	**233**	Pn	**Pn**	**06 17 31.0**	**+2.5**
KLR	**Kul'dur**	**12.37**	**304**	*i* PN	**Pn**	**06 17 32.8**	**+2.0**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KLR	**Kul'dur**	**12.37**	**304**	*e* P	**Pn**	**06 17 32.3**	**+1.5**
JHS	**Saijyo**	**13.77**	**238**	Pn	**Pn**	**06 17 51.5**	**+1.5**
BNX	**BinXian**	**14.48**	**287**	⇓ P	**Pn**	**06 17 58.1**	**-1.4**
BNX				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,240nm,4.3s						
KSRS	**Korea Array**	**15.90**	**255**	LR	LR	06 24 29.7	
	comp=Z,30nm,19.1s,baz=105,slow=37						
ZEA	**Zeya**	**16.93**	**315**	*e* P	**Pn**	**06 18 28.4**	**-2.8**
ZEA				AMB	AMB	06 18 30.5	
ULN	**Ulaanbaatar**	**28.39**	**294**	*i* P	**P**	**06 20 27.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.39**	**294**	P	**P**	**06 20 27.6**	**-0.4**
ULN				IAmb	IAmb	06 20 29.2	
	comp=Z,3.7nm,0.8s						
ULN	**Ulaanbaatar**	**28.39**	**294**	*e* P	**P**	**06 20 27.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.59**	**139**	T	T	06 51 18.4	
	baz=330,slow=76,SNR=199						
H11N1	**WAKE ISLAND Hy**	**28.60**	**139**	T	T	06 51 19.3	
	baz=330,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.61**	**139**	T	T	06 51 19.8	
	baz=330,slow=76,SNR=35						
SONM	**Songino Array**	**28.83**	**294**	P	**P**	**06 20 32.1**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=94,slow=8.7,SNR=19						
SONM	**Songino Array**	**28.83**	**294**	*e* P	**P**	**06 20 32.5**	**+0.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**28.83**	**294**	P	**P**	**06 20 31.0**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**29.55**	**140**	T	T	06 52 32.7	
	baz=331,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.56**	**140**	T	T	06 52 32.7	
	baz=331,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**29.57**	**140**	T	T	06 52 33.2	
	baz=331,slow=76,SNR=29						
J20K	**Nowinta River**	**38.66**	**37**	P	**P**	**06 21 57.4**	**+0.6**
J20K				IAmb	IAmb	06 21 58.4	
	comp=Z,3.8nm,0.8s						
IMAR	**Indian Mountai**	**38.99**	**34**	P	**P**	**06 21 59.9**	**+0.4**
H21K	**Melozitna Rive**	**39.35**	**34**	P	**P**	**06 22 03.5**	**+0.9**
CAST	**Castle Rocks**	**39.54**	**38**	P	**P**	**06 22 04.8**	**+0.6**
CAST				IAmb	IAmb	06 22 08.0	
	comp=Z,5.6nm,1.3s						
TRF	**Thorofare Moun**	**40.35**	**38**	P	**P**	**06 22 10.4**	**-0.7**
TRF				IAmb	IAmb	06 22 28.6	
	comp=Z,7.7nm,1.3s						
TOLK	**Toolik Lake Re**	**40.86**	**30**	P	**P**	**06 22 15.9**	**+0.9**
TOLK				IAmb	IAmb	06 22 16.0	
	comp=Z,5.7nm,1.5s						
PMR	**Palmer**	**40.95**	**41**	P	**P**	**06 22 13.9**	**-1.9**
PMR	**Palmer**	**40.95**	**41**	P	**P**	**06 22 13.9**	**-1.9**
MCK	**McKinley**	**40.95**	**37**	P	**P**	**06 22 16.3**	**+0.4**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MCK	**McKinley**	**40.95**	**37**	P	**P**	**06 22 16.3**	**+0.4**
MCK				IAmb	IAmb	06 22 43.4	
	comp=Z,5.2nm,1.2s						
GHO	**Glory Hole Cre**	**41.04**	**40**	P	**P**	**06 22 17.0**	**+0.4**
KNK	**Knik Glacier**	**41.28**	**41**	P	**P**	**06 22 18.9**	**+0.3**
WRH	**Wood River Hil**	**41.31**	**36**	P	**P**	**06 22 18.9**	**+0.2**
WRH				IAmb	IAmb	06 22 45.5	
	comp=Z,7.3nm,1.4s						
SML	**Sawmill**	**41.31**	**40**	P	**P**	**06 22 19.4**	**+0.5**
H24K	**Noodor Dome**	**41.39**	**34**	P	**P**	**06 22 20.7**	**+1.3**
ZAA0	**Zalesovo Array**	**41.45**	**308**	P	**P**	**06 22 18.0**	**-2.0**
ZALV	**Zalesovo Beam**	**41.45**	**308**	P	**P**	**06 22 19.4**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=91,slow=7.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.45**	**308**	P	**P**	**06 22 19.1**	**-1.0**
POKR	**Poker Flat Res**	**41.58**	**35**	P	**P**	**06 22 19.8**	**-1.2**
POKR				IAmb	IAmb	06 22 22.8	
	comp=Z,6.1nm,0.8s						
DHY	**Denali Highway**	**41.68**	**38**	P	**P**	**06 22 21.2**	**-0.8**
DHY				IAmb	IAmb	06 22 29.9	
	comp=Z,6.3nm,1.3s						
SCM	**Sheep Creek Mo**	**41.79**	**40**	P	**P**	**06 22 23.8**	**+1.0**
SCM				pmax	pmax		
	comp=Z,19nm,1.4s						
SCM	**Sheep Creek Mo**	**41.79**	**40**	P	**P**	**06 22 23.8**	**+1.0**
HDA	**Harding Lake**	**41.81**	**36**	P	**P**	**06 22 22.6**	**-0.2**
IL31		**41.82**	**36**	P	**P**	**06 22 22.9**	**+0.1**
ILAR	**Eielson Array**	**41.82**	**36**	P	**P**	**06 22 22.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=262,slow=7.2,SNR=8.9						
M24K	**Tolsona, Glenn**	**42.31**	**40**	P	**P**	**06 22 27.9**	**+0.9**
KLU	**Klutina**	**42.49**	**41**	P	**P**	**06 22 29.1**	**+0.6**
KLU				IAmb	IAmb	06 22 40.8	
	comp=Z,4.4nm,0.9s						
BMAR	**Burnt Mountain**	**42.70**	**32**	P	**P**	**06 22 31.0**	**+0.9**
SCRK	**Sand Creek**	**43.13**	**37**	P	**P**	**06 22 33.5**	**-0.2**
MENT	**Mentasta**	**43.35**	**38**	P	**P**	**06 22 34.8**	**-0.6**
MENT				IAmb	IAmb	06 22 37.7	
	comp=Z,8.4nm,1.4s						
BCAR	**Beaver Creek A**	**44.21**	**38**	P	**P**	**06 22 43.4**	**+1.0**
EGAK	**Eagle**	**44.27**	**36**	P	**P**	**06 22 43.1**	**+0.5**
MK31	**Makanchi Array**	**44.98**	**298**	P	**P**	**06 22 48.2**	**-0.5**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**44.98**	**298**	P	**P**	**06 22 48.2**	**-0.5**
MK31				IAmb	IAmb	06 22 49.2	
	comp=Z,5.1nm,0.8s						
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**06 22 48.4**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=80,slow=8.7,SNR=57						
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**06 22 48.8**	**+0.1**
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**06 22 48.8**	**+0.1**
MKAR	**Makanchi Array**	**44.98**	**298**	*e* P	**P**	**06 22 48.8**	**+0.1**
MAKZ	**Makanchi**	**45.18**	**298**	P	**P**	**06 22 49.8**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**45.18**	**298**	P	**P**	**06 22 49.8**	**-0.4**
MAKZ				IAmb	IAmb	06 22 50.8	
	comp=Z,5.3nm,0.8s						
KURK	**Kurchatov**	**45.97**	**304**	*ce* P	**P**	**06 22 56.4**	**+0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KURK	**Kurchatov**	**45.97**	**304**	P	**P**	**06 22 56.0**	**-0.3**
KURK				IAmb	IAmb	06 22 57.9	
	comp=Z,2.7nm,0.9s						
KURK	**Kurchatov**	**45.97**	**304**	*e* P	**P**	**06 22 56.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**47..54**	**254**	LR	LR	06 44 21.6	
	comp=Z,12nm,18.5s,baz=50,slow=38						
BRVK	**Borovoye**	**50.02**	**310**	*ce* P	**P**	**06 23 27.2**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**50.02**	**310**	P	**P**	**06 23 27.1**	**-0.6**
BRVK				IAmb	IAmb	06 23 28.2	
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**50.02**	**310**	*e* P	**P**	**06 23 27.2**	**-0.4**
KDJ	**Kajisay**	**50.19**	**294**	P	**P**	**06 23 29.4**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KDJ	**Kajisay**	**50.19**	**294**	P	**P**	**06 23 29.4**	**+0.1**
BOOM	**Boomskoye usch**	**50.85**	**295**	P	**P**	**06 23 34.2**	**-0.1**
BOOM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOOM	**Boomskoye usch**	**50.85**	**295**	P	**P**	**06 23 34.2**	**-0.1**
BOOM				IAmb	IAmb	06 23 39.6	
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**51.74**	**296**	*ce* P	**P**	**06 23 42.5**	**+1.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**51.74**	**296**	*e* P	**P**	**06 23 42.5**	**+1.6**
KSH	**Kashi**	**52.21**	**292**	P	**P**	**06 23 48.3**	**+3.8**
EUNU	**Eureka**	**53.35**	**10**	P	**P**	**06 23 51.9**	**-0.4**
EUNU				IAmb	IAmb	06 24 13.9	
	comp=Z,3.4nm,1.1s						
KKAR	**Karatay Array**	**54.11**	**298**	P	**P**	**06 23 57.8**	**-0.5**
KKAR	**Karatay Array**	**54.11**	**298**	P	**P**	**06 23 57.8**	**-0.5**
RES	**Resolute Bay**	**55.43**	**17**	P	**P**	**06 24 07.4**	**+0.1**
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RES	**Resolute Bay**	**55.43**	**17**	P	**P**	**06 24 07.3**	**+0.1**
RES				IAmb	IAmb	06 24 07.5	
	comp=Z,2.1nm,0.6s						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**06 24 12.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=298,slow=6.7,SNR=18						
ABKAR	**Akbulak array**	**57.53**	**309**	P	**P**	**06 24 22.5**	**-0.1**
ABKAR				IAmb	IAmb	06 24 24.0	
	comp=Z,2.7nm,0.6s						
KEV	**Kevo**	**59.27**	**340**	P	**P**	**06 24 33.7**	**-0.7**
KEV				pmax	pmax		
	comp=Z,43nm,1.3s						
KEV	**Kevo**	**59.27**	**340**	P	**P**	**06 24 33.7**	**-0.7**
ARCES	**ARCESS Array B**	**59.80**	**340**	P	**P**	**06 24 37.9**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=41,slow=7.2,SNR=2.3						
WRA	**Warramunga Arr**	**63.98**	**194**	P	**P**	**06 25 05.4**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=9.1,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**65.42**	**333**	P	**P**	**06 25 14.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=35,slow=7.0,SNR=7.7						
FINES	**FINESS Array B**	**65.42**	**333**	*e* P	**P**	**06 25 15.8**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FCC	**Fort Churchill**	**66.40**	**30**	P	**P**	**06 25 21.8**	**-0.1**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FCC	**Fort Churchill**	**66.40**	**30**	P	**P**	**06 25 21.8**	**-0.1**
FCC				IAmb	IAmb	06 25 22.2	
	comp=Z,1.7nm,0.7s						
BOZ	**Bozeman (W)**	**67.17**	**48**	P	**P**	**06 25 27.8**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BOZ	**Bozeman (W)**	**67.17**	**48**	P	**P**	**06 25 27.8**	**+0.5**
BOZ				IAmb	IAmb	06 25 45.9	
	comp=Z,3.6nm,1.5s						
KVN	**Kaiserville**	**67.47**	**57**	P	**P**	**06 25 29.8**	**+0.4**
KVN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KVN	**Kaiserville**	**67.47**	**57**	P	**P**	**06 25 29.8**	**+0.4**
KVN				IAmb	IAmb	06 25 31.0	
	comp=Z,2.9nm,1.0s						
ASAR	**Alice Springs**	**67.70**	**193**	P	**P**	**06 25 28.8**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=5.7,slow=11,SNR=4.7						
NVAR	**Mina Array Bea**	**67.72**	**58**	P	**P**	**06 25 31.8**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=295,slow=6.9,SNR=9.2						
TPH	**Tonopah**	**68.61**	**58**	P	**P**	**06 25 36.9**	**+0.3**
TPH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TPH	**Tonopah**	**68.61**	**58**	P	**P**	**06 25 36.9**	**+0.3**
NC405	**NORSAR Array S**	**69.96**	**339**	P	**P**	**06 25 43.4**	**-1.0**
NC204	**NORSAR Array S**	**70.08**	**339**	P	**P**	**06 25 44.9**	**-0.2**
NC204				IAmb	IAmb	06 25 51.1	
	comp=Z,3.0nm,0.9s						
PD31	**Pinedale Array**	**70.13**	**50**	P	**P**	**06 25 45.1**	**-0.8**
PDAR	**Pinedale Array**	**70.13**	**50**	P	**P**	**06 25 44.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=264,slow=1.9,SNR=5.6						
PDAR	**Pinedale Array**	**70.13**	**50**	P	**P**	**06 25 46.1**	**+0.2**
NB201	**NORSAR Array S**	**70.13**	**339**	P	**P**	**06 25 45.0**	**-0.4**
NB2	**NORSAR Subarra**	**70.16**	**339**	P	**P**	**06 25 45.0**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**70.16**	**339**	P	**P**	**06 25 44.8**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=32,slow=6.5,SNR=7.7						
NOA	**NORSAR Array B**	**70.16**	**339**	*e* P	**P**	**06 25 45.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**70.28**	**312**	P	**P**	**06 25 47.4**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=18,slow=9.6,SNR=4.4						
AKASG	**Malin Array Be**	**72.11**	**324**	P	**P**	**06 25 57.6**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=40,slow=6.1,SNR=9.9						
AKASG	**Malin Array Be**	**72.11**	**324**	*e* P	**P**	**06 25 58.5**	**+1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**78.03**	**314**	P	**P**	**06 26 33.7**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=40,slow=2.5,SNR=3.8						
SCHQ	**Schefferville**	**78.07**	**19**	P	**P**	**06 26 30.9**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=0.0,slow=8.1,SNR=2.3						
TXAR	**Lajitas Array**	**82.81**	**56**	P	**P**	**06 26 58.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=296,slow=3.8,SNR=24						

IDC 21 06:23:30.2±9.5, 32°.87S×179°.92W, h209km±98km, mb3.2/2, mb1 3.4/3, mb1mx3.2/26, mbtmp3.7/3, Error ellipse: s-maj=99.7km s-min=47.2km az=2.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.89**	**203**	P	Pn

SJCC	**San Jacinto, C**	**4.47**	**277**	*eP*	**Pn**	**06 56 21.6 +2.1**
SJCC				*eS*	**Sn**	**06 57 13.6 +1.4**
PTBC	**PUERTO BERRIO,**	**4.71**	**233**	*eP*	**Pn**	**06 56 24.9 +2.1**
PTBC				*eS*	**Sn**	**06 57 14.4 -3.6**
MOTC	**Monteria, Cord**	**4.97**	**263**	*eP*	**Pn**	**06 56 27.8 +1.4**

*NNC **21** 07:04:58.8±0.2, 49.99N×78.72E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=2.3km s-min=1.3km az=75.0, Suspected Mining explosion.*

*IDC **21** 07:05:00.9±1.1, 50.07N×78.71E, h0km, mb1 2.6/2, mb1mx2.6/36, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=17.7km s-min=6.6km az=68.0*

ISC 21 07:04:59.7±0.9, 50.11N±0.03×78.82E±0.04, h0km, n27, σ1ŝ19/40, 19C-14D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.52**	**338**	⇑P		**Pb**	**07 05 10.9**	**-0.7**
KUR07				⇑S		**Sb**	**07 05 19.8**	**+0.1**
KUR14	**Kurchatov Arra**	**0.53**	**344**	⇓P		**Pb**	**07 05 11.0**	**-0.8**
KUR14				⇓S		**Sb**	**07 05 19.9**	**-0.2**
KUR06	**Kurchatov Arra**	**0.53**	**339**	⇑P		**Pb**	**07 05 11.1**	**-0.8**
KUR06				⇑S		**Sb**	**07 05 20.8**	**+0.7**
KUR15	**Kurchatov Arra**	**0.54**	**342**	⇓P		**Pb**	**07 05 11.2**	**-0.8**
KUR15				⇓S		**Sb**	**07 05 20.6**	**+0.2**
KURBB	**Kurchatov Arra** 1.2nm,0.3s,baz=166,slow=19,SNR=71	**0.55**	**340**	Pg		**Pb**	**07 05 11.8**	**-0.5**
KURBB	2.5nm,0.3s,baz=176,slow=31,SNR=17			Lg		Lg	07 05 20.6	
KURBB	**Kurchatov Arra** 22nm,0.6s	**0.55**	**340**	⇓P		**Pb**	**07 05 11.4**	**-0.8**
KURBB				⇓S		**Sb**	**07 05 21.2**	**+0.6**
KUR16	**Kurchatov Arra**	**0.56**	**338**	⇑P		**Pb**	**07 05 11.7**	**-0.7**
KUR16				⇑S		**Sb**	**07 05 20.8**	**-0.2**
KUR05	**Kurchatov Arra**	**0.57**	**341**	⇑P		**Pb**	**07 05 11.7**	**-0.9**
KUR05				⇑S		**Sb**	**07 05 21.1**	**0.0**
KUR17	**Kurchatov Arra**	**0.57**	**337**	⇑P		**Pb**	**07 05 11.8**	**-0.8**
KUR17				⇑S		**Sb**	**07 05 21.5**	**+0.1**
KUR04	**Kurchatov Arra**	**0.58**	**342**	⇑P		**Pb**	**07 05 12.1**	**-0.8**
KUR04				⇑S		**Sb**	**07 05 21.7**	**0.0**
KURK	**Kurchatov** 9.0nm,0.5s	**0.62**	**348**	⇑P		**Pb**	**07 05 12.9**	**-0.5**
KURK	9.8nm,0.5s			⇑S		**Sb**	**07 05 22.6**	**-0.2**
SEM	**Semipalatinsk** 3.7nm,0.1s	**0.96**	**71**	P		**Pb**	**07 05 18.8**	**-0.7**
SEM	44nm,0.3s			S		**Sn**	**07 05 34.6**	**-0.7**
MAKZ	**Makanchi** 2.4nm,1.1s	**3.91**	**146**	⇓Pn		**Pn**	**07 05 58.8**	**-2.3**
MAKZ	2.4nm,0.7s			⇑Pg		**Pb**	**07 06 09.2**	**-0.4**
MAKZ	12nm,0.7s			⇓Lg		Lg	07 07 01.2	
BRZS	**Berezniki** 3.0nm,0.2s	**3.96**	**271**	Pg		**Pb**	**07 06 07.8**	**-2.6**
BRZS	3.1nm,0.7s			Lg		Lg	07 06 59.1	
MK31	**Makanchi Array** baz=322,slow=10.0,SNR=34	**4.04**	**144**	⇑Pn		**Pn**	**07 06 02.2**	**-0.6**
MK31	0.2nm,0.2s,baz=336,slow=14,SNR=16			Pg		**Pb**	**07 06 12.2**	**+0.5**
MK31	14nm,0.7s,baz=329,slow=25,SNR=30			⇓Lg		Lg	07 07 05.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=321,slow=10.0,SNR=33	**4.04**	**144**	Pn		**Pn**	**07 06 03.8**	**+1.0**
MKAR	0.4nm,0.3s,baz=318,slow=16,SNR=16			Pg		**Pb**	**07 06 12.7**	**+0.9**
MKAR	1.1nm,0.3s,baz=330,slow=24,SNR=19			Lg		Lg	07 07 03.9	
OTUK	**Ortayu** 0.4nm,0.2s	**4.64**	**249**	⇑Pn		**Pn**	**07 06 09.6**	**-1.6**
OTUK	3.4nm,0.9s			⇓Pg		**Pb**	**07 06 22.3**	**+0.2**
OTUK	0.4nm,0.1s			⇓Sn		**Sn**	**07 07 04.1**	**-1.6**
OTUK	4.0nm,0.6s			⇓Lg		Lg	07 07 22.8	
ZSN	**Zaisan** 1.3nm,0.3s	**4.80**	**121**	Pg		**Pb**	**07 06 21.6**	**-3.0**
ZSN	7.6nm,0.4s			Lg		Lg	07 07 22.9	
KAPS	**Kapalarasan** 1.8nm,0.3s	**4.84**	**176**	Pg		**Pb**	**07 06 25.1**	**-0.3**
KAPS	11nm,0.5s			Lg		Lg	07 07 28.8	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=231,slow=13,SNR=7.3	**5.34**	**42**	Pn		**Pn**	**07 06 23.8**	**+3.2**
ZALV	0.2nm,0.3s,baz=238,slow=27,SNR=2.6			Lg		Lg	07 07 50.3	
I46RU	**ZALESOVO INFRA** baz=225,slow=323,SNR=4.8	**5.34**	**42**	*i*			07 37 50.0	
BLB	**Baldybastay** 3.2nm,0.1s	**6.02**	**182**	Pg		**Pb**	**07 06 47.0**	**+1.5**
BLB	14nm,0.8s			Lg		Lg	07 08 06.3	
BRVK	**Borovoye** 3.0nm,0.6s	**6.09**	**302**	⇑Sn		**Sn**	**07 07 41.7**	**+0.5**
BRVK	5.3nm,1.2s			⇑Lg		Lg	07 08 12.5	
KUU	**Kurty** 0.7nm,0.1s	**6.44**	**196**	Pg		**Pb**	**07 06 53.3**	**+0.6**
KUU	12nm,0.3s			Lg		Lg	07 08 17.4	
KTBS	**Karatobe** 1.5nm,0.4s	**6.56**	**194**	Pg		**Pb**	**07 06 56.0**	**+1.2**
KTBS	9.4nm,0.4s			Lg		Lg	07 08 22.0	
PDGK	**Podgornoye** 6.4nm,0.8s	**6.80**	**176**	⇓Lg		Lg	07 08 30.2	
TKM2	**Tokmak 2** 2.9nm,0.7s	**7.52**	**198**	⇑Lg		Lg	07 08 51.4	

KRSC 21 07:26:27.4±2.0, 50.40N×157.60E, h63km±28km, ML4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**287**	*eP*		Pn	07 26 45.3	0.0
SKR				*eS*		Sn	07 26 57.3	-1.4
PAU	**Pauzhetka**	**1.18**	**335**	*eP*		Pn	07 26 49.1	+1.2
PAU				*eS*		Sn	07 27 04.4	+1.3
KDTR	**Khodutka, Kamc**	**1.44**	**12**	*eP*		Pn	07 26 54.1	+2.7
KDTR				*eS*		Sn	07 27 12.6	+3.2
RUS	**Russkaya**	**2.12**	**15**	*eP*		Pn	07 27 02.6	+2.2
RUS				*eS*		Sn	07 27 27.7	+2.1
MTVR	**Mutnovka**	**2.12**	**10**	*eP*		Pn	07 27 03.2	+2.6
MTVR				*eS*		Sn	07 27 28.8	+2.9
GRL	**Gorelyy**	**2.18**	**8**	*eP*		Pn	07 27 04.3	+2.9
GRL				*eS*		Sn	07 27 30.5	+3.2
KRMR	**Karymshinskiy**	**2.46**	**8**	*eP*		Pn	07 27 08.4	+3.3
KRMR				*eS*		Sn	07 27 37.2	+3.3
APC	**Apacha**	**2.54**	**354**	*eP*		Pn	07 27 08.2	+2.0
PET	**Petropavlovsk**	**2.71**	**14**	*eP*		Pn	07 27 11.2	+2.7
PET				*eS*		Sn	07 27 42.2	+2.1
UGLR	**Uglovaya**	**2.92**	**15**	*eP*		Pn	07 27 14.6	+3.2
AVH	**Avacha**	**2.96**	**13**	*eP*		Pn	07 27 15.6	+3.7
SMAR	**Somma**	**2.96**	**14**	*eP*		Pn	07 27 15.2	+3.0
KOK	**Koryaka**	**2.97**	**12**	*eP*		Pn	07 27 15.8	+3.7
KOK				*eS*		Sn	07 27 50.8	+4.2
NLC	**Nalytchevo**	**2.98**	**21**	*eP*		Pn	07 27 13.9	+1.7
NLC				*eS*		Sn	07 27 46.8	+0.1
KRER	**Koryakskii**	**3.00**	**13**	*eP*		Pn	07 27 15.9	+3.3
SPN	**Mys Shipunski**	**3.09**	**28**	*eP*		Pn	07 27 16.8	+3.1
SPN				*eS*		Sn	07 27 51.5	+2.0
GNL	**Ganaly**	**3.31**	**4**	*eP*		Pn	07 27 19.4	+2.6
KII	**Karymskiy**	**3.82**	**17**	*eP*		Pn	07 27 28.0	+4.3
TUMD	**Tumrok D**	**5.10**	**18**	*eP*		Pn	07 27 46.8	+5.6
TUMR	**Tumrok**	**5.13**	**17**	*eP*		Pn	07 27 47.2	+5.5
KMNR	**Kamenistaya**	**5.60**	**15**	*eP*		Pn	07 27 52.3	+4.3
BZWR	**Bezymyannyi-We**	**5.84**	**16**	*eP*		Pn	07 27 54.9	+3.5
KBTR	**Krutoberegovo**	**6.61**	**26**	*eP*		Pn	07 28 03.5	+1.8
BKI	**Bering**	**6.99**	**43**	*eP*		Pn	07 28 09.6	+2.6

*REN **21** 07:37:10.5±1.9, 38.48N±0.03×118.37W±0.04, h10km±4km, ML4.3/39, mb4.1/6(NEIC), ML4.1/92(NEIC), Mwr4.1/116(NEIC), Error ellipse: s-maj=5.9km s-min=2.7km az=222.0*

*ANF **21** 07:37:10.9±0.5, 38.46N×118.34W, h0km±3km, ML4.4/35, Error ellipse: s-maj=2.9km s-min=2.5km az=57.0*

*NEIC **21** 07:37:10.6±1.8, 38.48N±0.02×118.39W±0.03, h6km±5km, Error ellipse: s-maj=4.2km s-min=2.6km az=117.0*

*NEIC **21** 07:37:10.5, 38.48N×118.37W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.09; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$0.96; $M_{r\theta}$0.03; $M_{r\phi}$1.11; $M_{\theta\phi}$0.07; Fault plane solution: $M_0$1.50000×10^{15} NP1:ϕ_s338.99000°, δ87.73000°, λ177.56000°. NP2:ϕ_s69.09000°, δ87.56000°, λ2.28000°. Principal axes: T 1.4574, Plg3.0000°, Azm294.0000°; N 0.0867, Plg87.0000°, Azm116.0000°; P -1.5440, Plg0.0000°, Azm24.0000°;*

*IDC **21** 07:37:11.3±0.6, 38.49N×118.32W, h0km, mb3.4/3, mb1 3.8/11, mb1mx3.7/46, mbtmp3.6/11, ML3.5/8, MS3.4/22, Ms1 3.4/22, ms1mx3.3/39 Error ellipse: s-maj=9.6km s-min=4.5km az=88.0*

ISC 21 07:37:10.6±0.9, 38.48N±0.02×118.36W±0.02, h8km±6km, n221, σ1ŝ49/219, mb3.9/6, MS3.4/14, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea** 5µm,0.3s,baz=303,slow=19	**0.07**	**135**	Pg		**Pg**	**07 37 12.5**	**-0.3**
NVAR	10µm,0.3s,baz=63,slow=13,SNR=15			Lg		Lg	07 37 16.9	
NVAR	**Mina Array Bea**	**0.07**	**135**			**Pg**	**07 37 12.8**	**0.0**
NV11	**Mina Array Sit**	**0.17**	**105**			**Pg**	**07 37 14.6**	**+0.4**
RYN	**Ryan**	**0.20**	**320**			**Pg**	**07 37 15.2**	**+0.4**
RYN	comp=N,66µm,0.7s			IAML			07 37 20.5	
LHV	**Little Huntoon**	**0.25**	**207**			**Pg**	**07 37 16.1**	**+0.5**
LHV	comp=E,43µm,0.6s			IAML			07 37 21.8	
LHV	comp=N,35µm,0.5s			IAML			07 37 23.8	
KVN	**Kaiserville**	**0.61**	**20**			**Pg**	**07 37 22.5**	**0.0**
LUL	**Lundy Lake**	**0.77**	**237**			**Pg**	**07 37 25.7**	**+0.2**
BENR	**Benton**	**0.78**	**192**			**Pg**	**07 37 25.7**	**+0.1**
YERR	**Yerington**	**0.85**	**307**			**Pg**	**07 37 26.9**	**-0.2**
YERR	comp=E,6µm,0.4s			IAML			07 37 42.0	
YERR	comp=N,9µm,0.7s			IAML			07 37 44.0	
ORC	**Owens River**	**0.87**	**196**			**Pg**	**07 37 27.5**	**+0.1**
MLNR	**Milner Canyon**	**0.88**	**179**			**Pg**	**07 37 27.7**	**+0.1**
MLAC	**Mammoth, Mammo** baz=23	**0.92**	**204**	P		**Pg**	**07 37 28.6**	**+0.2**
MLAC	baz=23			Sn		**Sn**	**07 37 45.7**	**+2.0**
TPH	**Tonopah**	**0.98**	**114**			**Pg**	**07 37 29.6**	**+0.1**
TPH	**Tonopah**	**0.98**	**114**			**Sb**	**07 37 43.3**	**+0.1**
Q09A	**Carvers**	**0.99**	**68**	Pg		**Pb**	**07 37 30.0**	**-0.1**
OMMB	**Old Mammoth Mi**	**1.00**	**211**			**Pg**	**07 37 29.7**	**-0.1**
RCCR	**Rock Creek Can**	**1.03**	**196**			**Pg**	**07 37 30.3**	**-0.1**
POCCA	**Poleta Canyon**	**1.11**	**177**			**Pg**	**07 37 31.9**	**-0.1**
PNTR	**Pine Nut**	**1.15**	**303**			**Pg**	**07 37 32.2**	**-0.5**
SCHCA	**Scheelite**	**1.15**	**193**			**Pg**	**07 37 32.4**	**-0.2**
DSP	**Deep Springs**	**1.15**	**164**			**Pg**	**07 37 32.8**	**+0.1**
VCNR	**Virginia City**	**1.30**	**310**			**Pn**	**07 37 34.9**	**-0.3**
VCNR	comp=N,5µm,0.6s			IAML			07 38 00.2	
LCH	**Last Change Ra**	**1.36**	**155**			**Pn**	**07 37 36.7**	**+0.6**
LCH	comp=E,3µm,0.9s			IAML			07 38 03.4	
LCH	comp=N,2µm,0.8s			IAML			07 38 07.4	
KCC	**Kaiser Creek**	**1.38**	**214**			**Pn**	**07 37 36.5**	**+0.3**
TIN	**Tinemaha, Big** baz=356	**1.42**	**176**	P		**Pb**	**07 37 37.9**	**+0.5**
TIN	baz=356			S		**Sg**	**07 37 57.8**	**+1.4**
EMB	**Emerald Bay**	**1.45**	**291**			**Pn**	**07 37 37.8**	**+0.5**
EMB	comp=E,4µm,0.8s			IAML			07 38 03.7	
PAHR	**Pah Rah Range**	**1.46**	**327**			**Pn**	**07 37 37.6**	**+0.1**
PAHR	comp=N,3µm,0.7s			IAML			07 38 03.4	
PAHR	comp=E,2µm,0.9s			IAML			07 38 05.3	
RUBR	**Rubicon Trail**	**1.52**	**293**			**Pn**	**07 37 38.8**	**+0.5**
RUBR	comp=E,3µm,0.9s			IAML			07 38 03.9	
RUBR	comp=N,3µm,1.0s			IAML			07 38 05.2	
MPK	**Martis Peak**	**1.54**	**303**			**Pn**	**07 37 39.0**	**+0.4**
CMB	**Columbia Colle**	**1.65**	**255**			**Pn**	**07 37 40.3**	**+0.3**
CMB	comp=N,2µm,1.0s			IAML			07 38 05.7	
GRAC	**Grapevine Rang**	**1.68**	**152**			**Pn**	**07 37 41.1**	**+0.9**
GRAC	comp=N,3µm,1.3s			IAML			07 38 12.0	
GRAC	**Grapevine Rang** baz=332	**1.68**	**152**	P		**Pn**	**07 37 41.2**	**+0.9**
GRAC	baz=332			Sg		**Sg**	**07 38 06.1**	**+1.7**
PEAR	**Peavine Mounta**	**1.68**	**313**			**Pn**	**07 37 40.9**	**+0.4**
DONR	**Donner Summit**	**1.76**	**300**			**Pn**	**07 37 42.0**	**+0.4**
BABR	**Babbit Peak**	**1.76**	**310**			**Pb**	**07 37 43.5**	**+0.1**
KBF	**Kyburz Flat**	**1.77**	**306**			**Pn**	**07 37 42.4**	**+0.6**
LOY	**Loyalton**	**1.88**	**310**			**Pn**	**07 37 43.7**	**+0.5**
CWC	**Cottonwood Cre** baz=354	**2.04**	**174**	P		**Pn**	**07 37 46.3**	**+0.8**
CWC	baz=354			S		**Sn**	**07 38 12.9**	**+1.7**
BEKR	**Beckworth**	**2.08**	**312**			**Pn**	**07 37 46.7**	**+0.7**
BMN	**Battle Mountai**	**2.14**	**24**			**Pn**	**07 37 46.8**	**-0.1**
R11A	**Troy Canyon, C**	**2.19**	**92**	Pn		**Pn**	**07 37 47.2**	**-0.2**
R11A	comp=E,1µm,0.9s			IAML			07 38 23.4	
R11A	**Troy Canyon, C** baz=274	**2.19**	**92**	P		**Pn**	**07 37 47.3**	**-0.2**
R11A	baz=274			Sb		**Sg**	**07 38 20.2**	**-0.6**
S11A	**Rachel**	**2.22**	**111**			**Pn**	**07 37 48.4**	**+0.5**
TPNV	**Topopah Spring**	**2.27**	**132**			**Pn**	**07 37 49.2**	**+0.8**
TPNV	comp=E,1µm,0.8s			IAML			07 38 31.5	
TPNV	comp=E,970nm,1.0s			IAML			07 38 39.4	
TPNV	**Topopah Spring** baz=313	**2.27**	**132**	P		**Pn**	**07 37 49.0**	**+0.5**
TPNV	baz=313			Sg		**Sg**	**07 38 25.3**	**+1.9**
VOG	**Valley Oaks Go** baz=20	**2.30**	**201**	Pb		**Pb**	**07 37 53.1**	**+0.8**
VOG	baz=20			Sb		**Sg**	**07 38 24.0**	**-0.5**
FURC	**Furnace Creek,** baz=330	**2.33**	**149**	P		**Pn**	**07 37 50.0**	**+0.8**
FURC	baz=330			Sb		**Sg**	**07 38 24.0**	**-1.6**
MPMC	**Manual Prospec** baz=344	**2.51**	**164**	P		**Pn**	**07 37 52.7**	**+0.7**
MPMC	baz=344			Sb		**Sg**	**07 38 30.1**	**-1.2**
GWY	**Greenwater Val**	**2.65**	**149**			**Pn**	**07 37 54.5**	**+0.7**
ORV	**Oroville**	**2.67**	**295**	Pn		**Pn**	**07 37 54.6**	**+0.6**
VES	**Vestal, Richgr** baz=12	**2.69**	**193**	Pb		**Pb**	**07 37 59.8**	**+0.7**
VES	baz=12			Sb		**Sg**	**07 38 35.7**	**-1.4**
QSM	**Queen of Sheba**	**2.77**	**154**			**Pn**	**07 37 56.0**	**+0.7**
ISA	**Isabella, Lake**	**2.81**	**182**			**Pn**	**07 37 55.7**	**-0.2**
ISA	comp=N,364nm,0.6s			IAML			07 38 40.1	
ISA	comp=E,472nm,0.8s			IAML			07 38 43.4	
ISA	**Isabella, Lake** baz=1.7	**2.81**	**182**	Pb		**Pb**	**07 38 02.0**	**+0.9**
ISA	baz=1.7			Sb		**Sg**	**07 38 38.9**	**-2.0**
Q12A	**Willow Creek R**	**2.82**	**77**			**Pn**	**07 37 56.8**	**+0.7**
PRN	**Pahroc Range**	**2.83**	**111**			**Pn**	**07 37 56.6**	**+0.4**
PMPB	**Monarch Peak**	**2.98**	**221**	Pn		**Pn**	**07 37 59.1**	**+0.9**
SAO	**San Andreas Ge**	**2.99**	**236**			**Pn**	**07 37 59.7**	**+1.4**
PAGB	**Antelope Grade**	**3.13**	**209**			**Pn**	**07 37 58.7**	**-1.6**
SHPR	**Sheep Range**	**3.22**	**127**	Pn		**Pn**	**07 38 02.3**	**+0.7**
O03E	**Paynes Creek**	**3.23**	**305**	Pn		**Pn**	**07 38 00.5**	**-1.1**
O03E	comp=N,347nm,1.3s			IAML			07 38 59.6	
O03E	comp=E,613nm,1.2s			IAML			07 39 09.1	
O03E	**Paynes Creek** baz=123,SNR=33	**3.23**	**305**	P		**Pn**	**07 38 03.1**	**+1.5**
O03E				Sb		**Sb**	**07 38 51.5**	**+3.9**
ELK	**Elko** comp=E,22nm,0.3s,baz=252,slow=11,SNR=378	**3.31**	**46**	Pn		**Pn**	**07 38 03.4**	**+0.4**
ELK	comp=E,50nm,0.3s,baz=194,slow=9.1,SNR=3.3			Sn		**Sn**	**07 38 43.3**	**+0.7**
ELK	comp=E,63nm,0.3s,baz=316,slow=23,SNR=4.9			Lg		Lg	07 38 54.1	
ELK	comp=E,498nm,18.3s,baz=230,slow=45			LR		LR	07 39 39.9	
ELK	**Elko**	**3.31**	**46**			**Pn**	**07 38 03.5**	**+0.6**
ELK	comp=E,266nm,0.8s			IAML			07 39 00.2	
ELK	comp=E,278nm,0.7s			IAML			07 39 00.3	
ARVC	**Arvin** baz=6.2	**3.36**	**187**	Pb		**Pb**	**07 38 10.9**	**+0.4**
ARVC	baz=6.2			Sb		**Sg**	**07 38 56.0**	**-2.7**
GSC	**Goldstone, Bar**	**3.41**	**158**			**Pn**	**07 38 05.2**	**+1.1**
GSC	comp=E,490nm,1.4s			IAML			07 39 04.1	
GSC	comp=N,329nm,1.2s			IAML			07 39 15.2	
GSC	**Goldstone, Bar** baz=339	**3.41**	**158**	P		**Pn**	**07 38 05.0**	**+0.9**
SMMC	**Simmler** baz=22	**3.42**	**203**	P		**Pn**	**07 38 05.6**	**+1.4**
GDXM	**Geysers**	**3.49**	**277**			**Pn**	**07 38 05.9**	**+0.7**
PSUT	**Pine Spring**	**3.54**	**88**			**Pn**	**07 38 06.0**	**-0.1**
MCCM	**Marconi Confer**	**3.57**	**266**	Pn		**Pn**	**07 38 05.2**	**-1.0**
MCCM	comp=E,365nm,2.2s			IAML			07 39 05.0	
MCCM	comp=N,273nm,1.6s			IAML			07 39 16.4	
EDW2	**Edwards Air Fo** baz=355	**3.60**	**175**	Pb		**Pb**	**07 38 16.2**	**+1.6**
EDW2	baz=355			Sb		**Sg**	**07 39 03.0**	**-3.3**
TUQ	**Turquoise Moun** baz=328	**3.61**	**146**	P		**Pn**	**07 38 07.8**	**+0.9**
TUQ	baz=328			S		**Sn**	**07 38 51.3**	**+1.5**
BCW	**Bitter Crk WRg**	**3.63**	**194**			**Pn**	**07 38 06.8**	**-0.4**
BCW	comp=N,483nm,1.2s			IAML			07 39 07.5	
HOPS	**Hopland Field**	**3.72**	**279**			**Pn**	**07 38 07.6**	**-0.8**
MOD	**Modoc Plateau**	**3.73**	**337**			**Pn**	**07 38 10.3**	**+1.6**
MOD	comp=N,282nm,0.9s			IAML			07 39 10.9	
MOD	comp=E,425nm,1.1s			IAML			07 39 16.7	
ICU	**Indian Springs**	**3.76**	**109**			**Pn**	**07 38 09.4**	**+0.5**
RRX	**Edison Barstow** baz=344	**3.76**	**163**	P		**Pn**	**07 38 10.1**	**+1.2**
O02D	**Mt. Diablo Mer**	**3.83**	**298**			**Pn**	**07 38 08.9**	**-1.1**
O02D	**Mt. Diablo Mer** baz=115,SNR=10	**3.83**	**298**	Pb		**Pb**	**07 38 19.0**	**+0.5**
WDC	**Whiskeytown Da**	**3.85**	**304**			**Pn**	**07 38 09.9**	**-0.2**
OSI	**Osito Audit: C** baz=4.1	**3.87**	**184**	Pb		**Pb**	**07 38 19.6**	**+0.5**
V12A	**Nelson**	**3.92**	**133**			**Pn**	**07 38 12.7**	**+1.4**
WVOR	**Wild Horse Val**	**3.96**	**357**			**Pn**	**07 38 10.2**	**-1.6**
WVOR	comp=E,190nm,1.1s			IAML			07 39 18.5	
HEC	**Hector,Ludlow** baz=336	**3.99**	**155**	P		**Pn**	**07 38 13.2**	**+1.1**
CCUT	**Cedar City**	**4.05**	**102**	Pn		**Pn**	**07 38 13.5**	**+0.3**
SBC	**Santa Barbara** baz=15	**4.17**	**196**	Pb		**Pb**	**07 38 24.5**	**+0.2**
N02D	**Trinity Center**	**4.18**	**308**			**Pn**	**07 38 14.0**	**-0.7**
N02D	comp=E,176nm,1.1s			IAML			07 39 36.4	
N02D	comp=N,157nm,1.1s			IAML			07 39 42.8	
N02D	**Trinity Center** baz=125	**4.18**	**308**	P		**Pn**	**07 38 15.7**	**+1.0**
KCPM	**Cahto Peak**	**4.24**	**288**	Pn		**Pn**	**07 38 15.1**	**-0.5**
M04C	**Macdoel**	**4.24**	**322**			**Pn**	**07 38 14.9**	**-0.8**
M04C	**Macdoel** baz=140,SNR=16	**4.24**	**322**	P		**Pn**	**07 38 18.1**	**+2.4**
SZCU	**Shurtz Canyon**	**4.26**	**100**			**Pn**	**07 38 13.7**	**-2.2**
BFSC	**Mount Baldy Ra** baz=353	**4.27**	**172**	P		**Pn**	**07 38 17.6**	**+1.6**
GMRC	**Granite Mounta** baz=330	**4.28**	**149**	P		**Pn**	**07 38 17.0**	**+0.8**
PASC	**Pasadena Art C**	**4.30**	**178**	Pn		**Pn**	**07 38 15.5**	**-0.8**
PASC	comp=E,113nm,1.6s			IAML			07 39 43.3	
LCMT	**Little Creek M**	**4.31**	**108**			**Pn**	**07 38 16.8**	**+0.2**
KMRM	**Mail Ridge**	**4.50**	**294**	Pn		**Pn**	**07 38 17.2**	**-1.9**
M02C	**Callahan** baz=129,SNR=9.7	**4.52**	**312**	P		**Pn**	**07 38 21.9**	**+2.5**
KNB	**Kanab**	**4.63**	**107**	Pn		**Pn**	**07 38 21.3**	**+0.3**
DUG	**Dugway, Tooele**	**4.63**	**67**			**Pn**	**07 38 21.8**	**+0.8**
DUG	**Dugway, Tooele** baz=250	**4.63**	**67**	P		**Pn**	**07 38 22.2**	**+1.2**
TCRU	**Three Creeks R**	**4.64**	**87**			**Pn**	**07 38 20.7**	**-0.5**
YBH	**Yreka Blue Hor** comp=E,1.0nm,0.3s,baz=143,slow=7.5,SNR=24	**4.66**	**316**	Pn		**Pn**	**07 38 23.9**	**+2.6**
YBH	comp=E,0.7nm,0.3s,baz=326,slow=11,SNR=2.1			Lg		Lg	07 39 37.1	
YBH	comp=E,558nm,19.1s,baz=155,slow=42			LR		LR	07 40 26.2	
YBH	**Yreka Blue Hor**	**4.66**	**316**	Pn		**Pn**	**07 38 21.8**	**+0.5**
K05A	**Summer Lake**	**4.66**	**336**			**Pn**	**07 38 22.7**	**+1.2**
BGU	**Big Grassy Mou**	**4.79**	**58**			**Pn**	**07 38 23.6**	**+0.5**
L04D	**Klamath Falls**	**4.80**	**322**			**Pn**	**07 38 22.8**	**-0.5**
L04D	comp=E,149nm,0.9s			IAML			07 39 47.0	
L04D	comp=N,100nm,1.1s			IAML			07 39 47.3	
L04D	**Klamath Falls** baz=140,SNR=20	**4.80**	**322**	P		**Pn**	**07 38 26.2**	**+2.9**
MSU	**Marysvale**	**4.85**	**88**			**Pn**	**07 38 24.2**	**+0.1**
BELC	**Belle Mtn. Jos** baz=338	**4.86**	**156**	P		**Pn**	**07 38 25.5**	**+1.3**
ELS	**Elsinore Mount**	**4.88**	**171**			**Pn**	**07 38 23.7**	**-0.7**
J08A	**Circle Bar Ran**	**4.88**	**359**			**Pn**	**07 38 24.4**	**+0.1**
MTPU	**Mount Pierson**	**4.88**	**93**			**Pn**	**07 38 23.6**	**-1.0**
K04D	**Chiloquin, OR** baz=147,SNR=6.3	**4.88**	**329**	P		**Pn**	**07 38 27.9**	**+3.5**
PKCU	**Pink Cliffs**	**4.89**	**100**	Pn		**Pn**	**07 38 24.1**	**-0.7**
W13A	**Hualapai Mount**	**4.93**	**132**	Pn		**Pn**	**07 38 25.9**	**+0.8**
IRM	**Iron Mountain** baz=330	**5.03**	**148**	P		**Pn**	**07 38 28.3**	**+1.8**
PFO	**Pinyon Flats O** comp=N,0.6nm,0.3s,baz=358,slow=11,SNR=6.0	**5.09**	**162**	Pn		**Pn**	**07 38 29.0**	**+1.7**
PFO	comp=N,0.6nm,0.3s,baz=177,slow=4.8,SNR=1.6			Sn		**Sn**	**07 39 24.8**	**-1.6**
PFO	comp=N,36nm,19.0s,baz=14,slow=31			LR		LR	07 39 49.9	
PFO	comp=N,0.9nm,0.3s,baz=248,slow=20,SNR=4.8			Lg		Lg	07 39 50.5	
PFO	**Pinyon Flats O**	**5.09**	**162**			**Pn

Y14A	**Wickenburg**	**6.26**	**135**	Pn		**Pn**	**07 38 43.6**	**+0.2**
I05D	**Terrebonne, OR**	**6.27**	**340**	P		**Pn**	**07 38 48.2**	**+4.8**
	baz=158,SNR=14							
CBX	**Cerro Bola**	**6.30**	**167**	Pn		**Pn**	**07 38 43.4**	**-0.5**
WUAZ	**Wupatki**	**6.32**	**116**	Pn		**Pn**	**07 38 43.9**	**-0.4**
WUAZ	**Wupatki**	**6.32**	**116**	P		**Pn**	**07 38 47.1**	**+2.8**
	baz=300							
BMO	**Blue Mountains**	**6.42**	**7**	Pn		**Pn**	**07 38 46.6**	**+1.1**
I03D	**Drain, OR**	**6.43**	**326**	P		Pn	07 38 51.5	+5.9
	baz=143,SNR=8.7							
113A	**Mohawk Valley,**	**6.81**	**145**	Pn		**Pn**	**07 38 51.2**	**+0.3**
G08A	**Pilot Rock**	**6.82**	**356**	Pn		**Pn**	**07 38 49.9**	**-1.1**
H04A	**Detroit Lake**	**6.83**	**336**	Pn		**Pn**	**07 38 49.9**	**-1.2**
PLID	**Pearl Lake**	**6.84**	**14**			**Pn**	**07 38 48.8**	**-2.6**
H04D	**Lebanon**	**6.88**	**333**	Pn		**Pn**	**07 38 52.1**	**+0.5**
X16A	**Lo Mia Camp, P**	**6.89**	**124**	Pn		**Pn**	**07 38 51.1**	**-1.0**
BCYI	**Bear Canyon**	**6.92**	**31**	Pn		**Pn**	**07 38 49.6**	**-2.9**
AHID	**Auburn Hatcher**	**6.99**	**50**	Pn		**Pn**	**07 38 50.6**	**-2.8**
ECR	**Eagle Creek**	**7.00**	**47**	Pn		**Pn**	**07 38 51.1**	**-2.6**
RDMU	**Red Mountain**	**7.11**	**70**	Pn		**Pn**	**07 38 53.0**	**-2.1**
SNOW	**Snow King Moun**	**7.61**	**47**	Pn		**Pn**	**07 39 02.1**	**+0.1**
MOOW	**Moose Ponds**	**7.80**	**45**	Pn		**Pn**	**07 39 03.8**	**-0.7**
X18A	**Snowflake**	**7.83**	**118**	Pn		**Pn**	**07 39 04.1**	**-0.9**
MVCO	**Mesa Verde**	**7.91**	**96**	Pn		**Pn**	**07 39 05.1**	**-1.0**
MVCO	**Mesa Verde**	**7.91**	**96**	P		**Pn**	**07 39 07.0**	**+1.0**
	baz=282							
214A	**Organ Pipe Nat**	**7.93**	**143**	Pn		**Pn**	**07 39 05.4**	**-0.9**
214A	**Organ Pipe Nat**	**7.93**	**143**	P		**Pn**	**07 39 09.4**	**+3.2**
	baz=327							
BW06	**Boulder Array**	**7.95**	**55**	Pn		**Pn**	**07 39 05.3**	**-1.3**
BW06	**Boulder Array**	**7.95**	**55**	P		**Pn**	**07 39 10.8**	**+4.2**
	baz=240							
PD31	**Pinedale Array**	**7.95**	**55**	Pn		**Pn**	**07 39 04.3**	**-2.3**
PDAR	**Pinedale Array**	**7.95**	**55**	Pn		**Pn**	**07 39 09.9**	**+3.3**
	comp=N,0.5nm,0.3s,baz=238,slow=14,SNR=26							
PDAR				Lg		Lg	07 41 17.6	
	comp=N,1.0nm,0.3s,baz=218,slow=32,SNR=3.0							
PDAR				LR		LR	07 42 07.4	
	comp=N,107nm,21.9s,baz=246,slow=37							
PDAR	**Pinedale Array**	**7.95**	**55**	Pn		**Pn**	**07 39 06.7**	**0.0**
HAWA	**Hanford**	**7.96**	**354**	Pn		**Pn**	**07 39 03.9**	**-2.7**
O20A	**White River Ci**	**8.02**	**75**	Pn		**Pn**	**07 39 07.1**	**-0.5**
O20A	**White River Ci**	**8.02**	**75**	P		Pn	07 39 13.9	+6.3
	baz=261							
FLWY	**Flagg Ranch**	**8.04**	**43**	Pn		**Pn**	**07 39 08.8**	**+1.0**
DLMT	**Dillon**	**8.11**	**30**	Pn		**Pn**	**07 39 08.6**	**-0.2**
QLMT	**Earthquake Lak**	**8.20**	**37**	Pn		**Pn**	**07 39 09.0**	**-1.0**
YMR	**Madison River**	**8.30**	**39**	Pn		**Pn**	**07 39 09.8**	**-1.7**
YNR	**Norris Junctio**	**8.48**	**40**	Pn		**Pn**	**07 39 14.1**	**+0.1**
LRM	**Limekiln Ridge**	**8.55**	**29**	Pn		**Pn**	**07 39 16.0**	**+1.1**
D08A	**Wollman Farm,**	**8.59**	**357**	Pn		**Pn**	**07 39 13.7**	**-1.4**
TUC	**Tucson**	**8.72**	**133**			**Pn**	**07 39 15.3**	**-1.9**
TUC	**Tucson**	**8.72**	**133**	P		**Pn**	**07 39 18.8**	**+1.7**
	baz=317							
MSO	**Missoula**	**8.96**	**20**	P		**Pn**	**07 39 23.6**	**+3.3**
	baz=203							
D05A	**Enumclaw**	**9.10**	**344**	Pn		**Pn**	**07 39 19.4**	**-2.8**
GCMT	**Greycliff**	**9.75**	**39**	Pn		**Pn**	**07 39 29.6**	**-1.7**
NEW	**Newport**	**9.83**	**5**	Pn		**Pn**	**07 39 35.3**	**+3.2**
	comp=N,0.1nm,0.3s,baz=175,slow=13,SNR=6.7							
NEW				LR		LR	07 43 37.7	
	comp=N,226nm,18.8s,baz=186,slow=39							
NEW	**Newport**	**9.83**	**5**	P		**Pn**	**07 39 35.8**	**+3.6**
	baz=186							
K22A	**Casper**	**9.92**	**61**	Pn		**Pn**	**07 39 34.4**	**+0.7**
ANMO	**Albuquerque**	**10.19**	**107**	Pn		**Pn**	**07 39 39.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=289,slow=9.1,SNR=1.9							
ANMO				Lg		Lg	07 42 33.7	
	comp=N,0.1nm,0.3s,baz=193,slow=20,SNR=3.1							
ANMO				LR		LR	07 43 55.8	
	comp=N,265nm,18.9s,baz=298,slow=40							
ANMO	**Albuquerque**	**10.19**	**107**			**Pn**	**07 39 36.3**	**-1.0**
WALA	**Waterton Lakes**	**11.05**	**15**	Pn		**Pn**	**07 39 47.4**	**-1.7**
T25A	**Trinidad**	**11.12**	**93**	Pn		**Pn**	**07 39 49.7**	**-0.4**
EDM	**Edmonton**	**15.15**	**12**	Pn		**Pn**	**07 40 44.5**	**-0.3**
EDM				IAmb		IAmb	07 40 52.6	
	comp=Z,11nm,1.0s							
TX31	**Lajitas Ar. Si**	**15.21**	**122**	Pn		**Pn**	**07 40 45.7**	**-0.1**
TX32	**Lajitas Array**	**15.21**	**122**	Pn		**Pn**	**07 40 45.5**	**-0.4**
TXAR	**Lajitas Array**	**15.22**	**122**	Pn		**P**	**07 40 49.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=304,slow=8.9,SNR=12							
TXAR				LR		LR	07 47 17.3	
	comp=Z,250nm,19.6s,baz=303,slow=40							
TXAR	**Lajitas Array**	**15.22**	**122**	Pn		**Pn**	**07 40 45.3**	**-0.6**
LPIG	**La Paz**	**15.88**	**152**	LR		LR	07 47 21.3	
	comp=Z,187nm,19.9s,baz=30,slow=38							
ULM	**Lac du Bonnet**	**19.84**	**46**	P		**Pn**	**07 41 43.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=249,slow=9.2,SNR=3.3							
ULM				LR		LR	07 49 47.1	
	comp=Z,60nm,20.4s,baz=244,slow=38							
ULM	**Lac du Bonnet**	**19.84**	**46**	IAmb		IAmb	07 41 50.7	
	comp=Z,17nm,1.4s							
DLBC	**Dease Lake**	**21.36**	**343**	P		**P**	**07 41 59.6**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=155,slow=19,SNR=1.7							
DLBC	**Dease Lake**	**21.36**	**343**	IAmb		IAmb	07 42 00.2	
	comp=Z,8.0nm,1.4s							
YKA	**Yellowknife Ar**	**24.16**	**4**	P		**P**	**07 42 28.5**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=181,slow=9.1,SNR=18							
YKA				LR		LR	07 52 03.9	
	comp=Z,99nm,19.9s,baz=256,slow=37							
FCC	**Fort Churchill**	**25.62**	**30**	P		**P**	**07 42 39.0**	**-1.2**
FCC				IAmb		IAmb	07 42 44.8	
	comp=Z,4.4nm,0.9s							
TKL	**Tuckaleechee C**	**27.65**	**85**	LR		LR	07 54 38.5	
	comp=Z,81nm,19.3s,baz=300,slow=38							
KDAK	**Kodiak Island**	**29.44**	**322**	LR		LR	07 53 10.3	
	comp=Z,95nm,20.3s,baz=166,slow=33							
CMIG	**Matias Romero**	**29.60**	**130**	LR		LR	07 56 03.0	
	comp=Z,67nm,18.7s,baz=300,slow=38							
SADO	**Sadowa**	**29.77**	**65**	LR		LR	07 57 21.0	
	comp=Z,52nm,20.4s,baz=200,slow=41							
INK	**Inuvik**	**31.03**	**349**	LR		LR	07 56 30.3	
	comp=Z,80nm,19.3s,baz=151,slow=37							
ILAR	**Eielson Array**	**31.20**	**337**	P		**P**	**07 43 32.8**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=146,slow=7.2,SNR=5.2							
RES	**Resolute Bay**	**37.94**	**10**	LR		LR	07 59 16.6	
	comp=Z,45nm,20.1s,baz=282,slow=35							
SCHQ	**Schefferville**	**38.01**	**47**	LR		LR	08 00 50.9	
	comp=Z,76nm,19.1s,baz=90,slow=37							
FRB	**Frobisher Bay**	**38.72**	**33**	LR		LR	08 00 58.4	
	comp=Z,134nm,19.0s,baz=313,slow=37							
JTS	**Las Juntas de**	**40.99**	**124**	LR		LR	08 04 18.2	
	comp=Z,36nm,18.9s,baz=34,slow=40							
SFJD	**Kangerlussuaq**	**46.64**	**30**	LR		LR	08 05 36.9	
	comp=Z,69nm,19.1s,baz=251,slow=37							
BORG	**Borgarnes**	**58.77**	**30**	LR		LR	08 12 02.0	
	comp=Z,60nm,19.9s,baz=310,slow=36							
YAK	**Yakutsk**	**65.92**	**331**	LR		LR	08 18 31.4	
	comp=Z,36nm,18.0s,baz=244,slow=38							
NOA	**NORSAR Array B**	**72.67**	**23**	LR		LR	08 22 13.5	
	comp=Z,12nm,18.5s,baz=345,slow=37							
HHC	**Hu-ho-hao-te**	**88.83**	**325**	*eP*		**P**	**07 50 02.8**	**-2.5**
HHC				pmax		pmax		
	comp=Z,11nm,0.9s							
HHC				pmax		pmax		
	comp=Z,83nm,6.3s							
WMQ	**Urumqi**	**94.75**	**341**	*eP*		**P**	**07 50 29.8**	**-2.9**
WMQ				pmax		pmax		
	comp=Z,14nm,0.9s							

IDC 21 07:43:21.0±1.7, 3°11'S×130°57'E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.3/33, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=73.6km s-min=24.8km az=86.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.33**	**17**	Pn		07 44 00.7	+0.1
	5.3nm,0.3s,baz=180,slow=20,SNR=6.5						
SIJI				Sn	Sn	07 44 28.2	-1.8
	4.8nm,0.3s,baz=68,slow=23,SNR=7.9						
WRA	**Warramunga Arr**	**17.13**	**168**	P		07 47 20.2	-1.9
	0.1nm,0.3s,baz=348,slow=11,SNR=2.1						
WRA				S		Sn 07 50 20.7	-13
	0.1nm,0.3s,baz=356,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**20.69**	**171**	P		P 07 48 03.5	+0.6
	2.7nm,0.5s,baz=351,slow=11,SNR=55						
MKAR	**Makanchi Array**	**65.33**	**326**	P		P 07 54 05.1	0.0
	0.1nm,0.3s,baz=116,slow=7.8,SNR=2.3						

*IDC **21** 07:51:44.5±1.3, 17°.75N×120°.88E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/43, mbtmp3.3/4, MS2.5/1, Ms1 2.7/1, ms1mx2.3/40, Error ellipse: s-maj=88.5km s-min=26.4km az=67.0*

*MAN **21** 07:51:48.7, 18°.07N×120°.66E, h27km, mb4.3, ML3.2, MS2.9*

ISC 21 07:51:48.8±1.2, 17°.9N±0°.1×120°.8E±0°.1, h28km, n7, σ1s45/7, mb3.2/4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.32**	**283**	‖*eP*		**Pn** 07 51 56.7	**-0.9**
SIPP				*eS*		**Sn** 07 52 03.6	**+0.2**
SMPP	**San Manuel, Pa**	**1.70**	**184**	‖*eP*		**Pb** 07 52 20.4	**+1.1**
CMAR	**Chiang Mai Arr**	**20.77**	**275**	LR		LR 08 05 15.5	
	comp=Z,13nm,18.7s,baz=175,slow=39						
WRA	**Warramunga Arr**	**39.84**	**160**	P		**P** 07 59 17.7	**-2.3**
	0.2nm,0.6s,baz=332,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**42.82**	**321**	P		**P** 07 59 45.1	**+0.8**
	0.5nm,0.8s,baz=106,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**43.21**	**162**	P		**P** 07 59 47.4	**-0.2**
	0.1nm,0.3s,baz=339,slow=7.4,SNR=4.3						
YKA	**Yellowknife Ar**	**88.93**	**22**	P		**P** 08 04 41.0	**+0.5**
	0.1nm,0.5s,baz=308,slow=4.4,SNR=4.1						

*UCR **21** 07:51:47.1±1.7, 8°.93N×84°.23W, h5km, MW3.6*
*INET **21** 07:51:51.0±0.9, 9°.13N×83°.97W, h24km±16km, ML2.6*

ISC 21 07:51:48.9±1.6, 9°.06N±0°.06×84°.15W±0°.05, h24km±15km, n18, σ0s56/20, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.34**	**55**	*eP*		**Pb** 07 51 56.7	**+0.3**
PEZE	**Perez Zeledon,**	**0.57**	**55**	*eP*		**Pn** 07 52 00.4	**-1.1**
PEZE	**Perez Zeledon,**	**0.57**	**55**	*eP*		**Pn** 07 52 00.2	**-1.3**
CDM	**Cerro de Muert**	**0.62**	**38**	*eP*		**Pb** 07 52 01.5	**0.0**
CDM	**Cerro de Muert**	**0.62**	**38**	*eP*		**Pb** 07 52 01.4	**0.0**
EDPN	**Palmar Norte**	**0.69**	**98**	*eP*		**Pb** 07 52 02.3	**+0.1**
EDPN				*eS*		**Sn** 07 52 14.0	**+0.8**
LCR2	**La Lucha 2**	**0.69**	**12**	*eP*		**Pb** 07 52 02.6	**+0.1**
RIOS	**Rincon, Osa**	**0.72**	**119**	*eP*		**Pb** 07 52 02.7	**-0.1**
RIMA	**Rio Macho**	**0.76**	**22**	*eP*		**Pb** 07 52 03.5	**-0.1**
RIMA	**Rio Macho**	**0.76**	**22**	*eP*		**Pb** 07 52 03.5	**-0.1**
RIMA				IAML		07 52 18.8	
	comp=E,293nm,0.2s						
JACO	**JACO, Garabito**	**0.78**	**320**	*eP*		**Pb** 07 52 03.8	**-0.1**
SRBA	**San Rafael, Bu**	**0.80**	**77**	*eP*		**Pn** 07 52 04.5	**-0.3**
EDBA	**Buenos Aires**	**0.87**	**83**	*eP*		**Pn** 07 52 05.5	**-0.2**
EDBA				*eS*		**Sn** 07 52 18.4	**+0.8**
DRK0	**Durika**	**0.92**	**77**	*eP*		**Pn** 07 52 06.5	**+0.1**
HDC3	**Heredia 3**	**0.94**	**2**	*eP*		**Pb** 07 52 07.0	**+0.4**
PIRO	**Carate, Puerto**	**1.03**	**129**	*eP*		**Pb** 07 52 07.9	**-0.2**
LAFE	**Finca La Fe, P**	**1.06**	**315**	*eP*		**Pn** 07 52 07.8	**-0.5**
JTS	**Las Juntas de**	**1.46**	**327**	*eP*		**Pn** 07 52 13.8	**0.0**

IDC 21 07:56:09.4±385.0, 53°.91N×100°.85E, h0km, Error ellipse: s-maj=183.1km s-min=150.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**9.46**	**277**	*i*		08 56 40.0	
	baz=82,slow=330,SNR=3.4						
I45RU	**USSURIYSK INFR**	**22.43**	**103**	*i*		10 13 20.0	
	baz=302,slow=325,SNR=0.5						
I18DK	**QAANAAQ INFRAS**	**48.74**	**357**	*i*		12 53 30.0	
	baz=9.4,slow=343,SNR=1.7						

IDC 21 08:01:13.2±3.8, 6°.97S×132°.27E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.2/28, mbtmp3.1/3, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/25, Error ellipse: s-maj=231.1km s-min=34.9km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.05**	**171**	Pn		Pn 08 04 19.4	-0.6
	0.1nm,0.3s,baz=352,slow=10,SNR=5.0						
WRA				Sn		Sn 08 06 39.0	-7.1
	0.1nm,0.3s,baz=331,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**16.67**	**175**	Pn		Pn 08 05 09.1	+0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=1.9						
JOW	**Kunigami**	**33.83**	**354**	LR		LR 08 20 42.2	
	comp=Z,14nm,20.9s,baz=100,slow=35						
MKAR	**Makanchi Array**	**69.45**	**326**	P		P 08 12 23.5	0.0
	0.2nm,0.5s,baz=116,slow=7.4,SNR=2.1						

*IDC **21** 08:01:48.1±3.0, 22°.43S×179°.53W, h580km±30km, mb3.4/5, mb1 3.5/7, mb1mx3.2/27, mbtmp4.4/7, Error ellipse: s-maj=29.7km s-min=29.3km az=84.0*

ISC 21 08:01:47.9±1.4, 22°.5S±0°.2×179°.5W±0°.2, h579km, n8, σ0s93/10, mb4.2/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.07**	**269**	P		**P** 08 04 39.1	**+1.4**
	1.0nm,0.3s,baz=120,slow=16,SNR=10						
URZ	**Urewera**	**15.98**	**190**	P		**P** 08 05 05.8	**0.0**
	1.0nm,0.3s,baz=270,slow=3.2,SNR=9.9						
URZ				S		**S** 08 07 47.2	**0.0**
	0.2nm,0.3s,baz=132,slow=15,SNR=2.1						
HNR	**Honiara**	**23.65**	**300**	P		**P** 08 06 15.3	**-0.1**
	95nm,0.3s,baz=290,slow=2.6,SNR=5.6						
CTA	**Charters Tower**	**32.01**	**268**	P		**P** 08 07 27.4	**-0.6**
	6.5nm,0.4s,baz=90,slow=9.7,SNR=28						
STKA	**Stephens Creek**	**35.73**	**246**	P		**P** 08 07 59.4	**+0.4**
	3.3nm,0.5s,baz=97,slow=10,SNR=21						
ASAR	**Alice Springs**	**42.78**	**259**	P		**P** 08 08 55.0	**-0.8**
	7.6nm,0.8s,baz=98,slow=8.1,SNR=69						
WRA	**Warramunga Arr**	**43.02**	**264**	P		**P** 08 08 56.1	**-1.6**
	1.9nm,0.4s,baz=95,slow=8.0,SNR=144						
WRA				ScP		**ScP** 08 13 31.7	**+0.6**
	0.5nm,0.8s,baz=95,slow=4.1,SNR=3.8						
TXAR	**Lajitas Array**	**89.26**	**58**	P		**P** 08 13 43.5	**+0.2**
	0.3nm,0.8s,baz=214,slow=6.1,SNR=2.6						

IDC 21 08:18:57.6±4.6, 55°.37N×86°.12E, h0km, mb1 2.5/1, mb1mx2.5/29, mbtmp2.5/1, ML2.6/1, 3C-1D, Error ellipse: s-maj=31.1km s-min=24.3km az=25.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**208**	*i*		08 30 55.0	
	baz=26,slow=328,SNR=14						
ZAA0	**Zalesovo Array**	**1.61**	**208**	⇑P		Pn 08 19 25.6	-1.7
	0.5nm,0.3s						
ZAA0				⇑S		Sg 08 19 51.2	+1.9
	1.3nm,0.3s						
ZALV	**Zalesovo Beam**	**1.61**	**208**	Pg		Pn 08 19 25.9	-1.4
	3.1nm,0.3s,baz=29,slow=17,SNR=40						
ZALV				Lg		Lg 08 19 49.7	
	2.3nm,0.3s,baz=27,slow=30,SNR=10						
KURBB	**Kurchatov Arra**	**6.60**	**227**	⇓Pn		Pn 08 20 35.9	+0.1
	1.1nm,0.7s,baz=43,slow=13						
KURBB				⇑Lg		Lg 08 22 32.8	
	5.1nm,0.8s						
MKAR	**Makanchi Array**	**8.92**	**197**	Pn		Pn 08 21 08.5	+0.9
	0.1nm,0.3s,baz=18,slow=14,SNR=2.3						
MKAR				Sn		Sn 08 22 45.5	-3.2
	0.0nm,0.3s,baz=18,slow=23,SNR=2.3						
MKAR				Lg		Lg 08 23 39.8	
	0.1nm,0.3s,baz=19,slow=32,SNR=4.3						

*IDC **21** 08:31:09.9±0.7, 5°.38S×77°.90W, h0km, mb4.1/10, mb1 4.2/17, mb1mx4.1/37, mbtmp4.1/17, ML3.6/6, MS3.7/23, Ms1 3.7/23, ms1mx3.4/63, Error ellipse: s-maj=29.9km s-min=13.8km az=68.0*
*NEIC **21** 08:31:15.7±1.7, 5°.36S±0°.05×77°.72W±0°.09, h35km±1km, mb4.6/120, Error ellipse: s-maj=16.5km s-min=5.7km az=66.0*
*VAO **21** 08:31:18.2±0.4, 5°.31S×77°.65W, h48km, mb4.3*

ISC 21 08:31:11.7±0.4, 5°.41S±0°.04×77°.90W±0°.06, h10km, n298, σ1s18/254, mb4.5/56, MS3.7/18, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**5.64**	**354**	Pn		**Pn** 08 32 38.7	**+2.6**
OTAV	**Otavalo**	**5.64**	**354**	*eP*		**Pn** 08 32 37.6	**+1.5**
OTAV				*eS*		**Sg** 08 34 12.3	**-0.7**
OTAV	**Otavalo**	**5.64**	**354**	*eP*		**Pn** 08 32 38.3	**+2.2**
CZSB	**Cruzeiro do Su**	**5.65**	**114**	*eP*		**Pn** 08 32 36.4	**+0.5**
CUSE	**Cuicocha Este**	**5.70**	**355**	*eP*		**Pn** 08 32 41.5	**+4.6**
PAC1	**Pacto, Paraso**	**5.71**	**351**	*eP*		**Pn** 08 32 41.0	**+4.2**
PTLC	**Puerto Leguiza**	**6.35**	**29**	*eP*		Pn 08 32 40.8	-4.8
PTLC				*eS*		**Sb** 08 34 19.9	**+1.3**
GCUF	**Volcan Galeras**	**6.62**	**5**	*eP*		**Pn** 08 32 51.1	**+1.5**
GCUF				*eS*		Sn 08 34 16.4	+11
GCUF				*i*		08 35 01.8	
	comp=Z,31nm,0.5s						
NNA	**Nana**	**6.62**	**171**	Pn		**Pn** 08 32 48.9	**-0.3**
	comp=Z,7.8nm,0.3s,baz=337,slow=12,SNR=32						
NNA				Sn		**Sn** 08 34 06.1	**+1.3**
	comp=Z,7.6nm,0.3s,baz=328,slow=23,SNR=7.3						
NNA				LR		LR 08 35 32.3	
	comp=Z,1μm,19.6s,baz=334,slow=40						
NNA	**Nana**	**6.62**	**171**	Pn		**Pn** 08 32 50.6	**+1.5**
FLOC	**Florencia**	**7.30**	**18**	*eP*		**Pn** 08 32 56.6	**-2.0**
FLOC				*eS*		**Sn** 08 34 17.0	**-4.7**
FLOC				*i*		08 35 15.3	
	comp=Z,94nm,0.6s						
CFLOR	**Florencia**	**7.30**	**18**	*eP*		**Pn** 08 32 57.1	**-1.6**
GARC	**Garzon, Huila**	**7.92**	**18**	*eP*		**Pn** 08 33 06.1	**-1.2**
POPC	**Popayan, Colom**	**7.99**	**9**	*eP*		**Pn** 08 33 10.5	**+2.3**
TBTG	**Tabatinga, AM**	**8.06**	**82**	*eP*		**Pn** 08 33 07.9	**-1.1**
TBTG	**Tabatinga, AM**	**8.06**	**82**	*eP*		**Pn** 08 33 08.7	**-0.3**
YOTC	**Yotoco, Valle**	**9.46**	**9**	*eP*		**Pn** 08 33 28.4	**0.0**
GUVC	**San Jose del G**	**9.50**	**34**	*eP*		**Pn** 08 33 28.3	**-0.5**
GUVC				*eS*		**Sn** 08 35 24.4	**+8.7**
VILC	**Villavicencio,**	**10.35**	**24**	*eP*		**Pn** 08 33 39.4	**-1.2**
PLMC	**San Jos del P**	**10.38**	**9**	*eP*		**Pn** 08 33 41.0	**+0.2**
ROSC	**El Rosal**	**10.79**	**19**	Pn		**Pn** 08 33 46.7	**-0.1**
	comp=Z,0.5nm,0.3s,baz=174,slow=22,SNR=1.4						
ROSC				Lg		Lg 08 36 49.0	
	comp=Z,0.9nm,0.3s,baz=119,slow=23,SNR=1.7						
ROSC				LR		LR 08 39 14.4	
	comp=Z,1μm,18.8s,baz=224,slow=45						
ROSC	**El Rosal**	**10.79**	**19**	Pn		**Pn** 08 33 44.5	**-2.3**
GUY2C	**Guyana, Caldas**	**10.87**	**14**	*eP*		**Pn** 08 33 51.1	**+3.3**
RUSC	**La Rusia**	**12.22**	**23**	*eP*		**Pn** 08 33 07.9	**+1.5**
PTBC	**PUERTO BERRIO,**	**12.36**	**16**	*eP*		**Pn** 08 34 07.5	**-0.5**
ZARC	**Zaragoza, Cauc**	**13.17**	**13**	Pn		**Pn** 08 34 17.8	**-1.3**
ZARC	**Zaragoza, Cauc**	**13.17**	**13**	*eP*		**Pn** 08 34 18.6	**-0.4**
OCAC	**Ocana**	**14.31**	**19**	Pn		**Pn** 08 34 34.0	**-0.8**
OCAC	**Ocana**	**14.31**	**19**	*eP*		**P** 08 34 41.5	**-0.5**
LPAZ	**La Paz**	**14.45**	**139**	Pn		**Pn** 08 34 35.8	**-1.2**
	comp=Z,0.1nm,0.3s,baz=332,slow=10,SNR=6.0						
LPAZ	**La Paz**	**14.45**	**139**	*eP*		**Pn** 08 34 38.3	**+1.3**
BCIP	**Isla Barro Col**	**14.61**	**352**	Pn		**Pn** 08 34 37.5	**-1.2**
BRU2	**Volcan**	**14.90**	**341**	Pn		**Pn** 08 34 45.0	**+2.2**
RIOS	**Rincon, Osa**	**15.09**	**338**	Pn		**Pn** 08 34 46.9	**+1.6**
RIOS				IAmb		IAmb 08 34 55.8	
	comp=Z,38nm,1.4s						
PB16	**IPOC Station P**	**15.24**	**148**	Pn		**Pn** 08 34 46.4	**-1.3**
SJCC	**San Jacinto, C**	**15.45**	**10**	Pn		**Pn** 08 34 50.1	**+0.1**
DRK0	**Durika**	**15.52**	**340**	Pn		**Pn** 08 34 50.2	**-0.9**
DRK0				IAmb		IAmb 08 35 13.6	
	comp=Z,29nm,0.9s						
SRBA	**San Rafael, Bu**	**15.53**	**339**	Pn		**Pn** 08 34 51.5	**+0.4**
SDV	**Santo Domingo**	**15.95**	**27**	Pn		**Pn** 08 34 55.7	**-0.9**
	comp=Z,0.3nm,0.3s,baz=140,slow=20,SNR=2.1						
SDV				LR		LR 08 41 34.3	
	comp=Z,174nm,21.9s,baz=200,slow=39						
SDV	**Santo Domingo**	**15.95**	**27**	Pn		**Pn** 08 34 54.9	**-1.7**
SDV	**Santo Domingo**	**15.95**	**27**	*eP*		**Pn** 08 34 57.4	**+0.6**
RIMA	**Rio Macho**	**16.21**	**338**	Pn		**Pn** 08 35 00.4	**-0

T57A	Hurt	42.21 358	P	P	08 39 05.3	+0.4	
MIAR	Mount Ida	42.41 341	P	P	08 39 07.5	+0.9	
	baz=156						
BLA	Blacksburg	42.47 357	P	P	08 39 07.0	-0.1	
	baz=176						
TX31	Lajitas Ar. Si	42.50 326	P	P	08 39 08.0	+0.4	
TX31			IAmb	IAmb	08 39 35.6		
	comp=Z,15nm,1.4s						
TX32	Lajitas Array	42.50 326	P	P	08 39 08.1	+0.5	
TXAR	Lajitas Array	42.50 326	P	P	08 39 07.3	-0.3	
	comp=Z,0.8nm,0.6s,baz=144,slow=9.6,SNR=12						
TXAR	Lajitas Array	42.50 326	P	P	08 39 07.9	+0.3	
W41B	Gary Mavity, V	42.57 343	P	P	08 39 08.6	+0.7	
	baz=158						
Z35A	Perchaven, San	42.68 336	P	P	08 39 07.5	-1.3	
X37A	Clayton	43.07 339		P	08 39 11.9	-0.1	
X37A			IAmb	IAmb	08 39 13.7		
	comp=Z,8.8nm,0.9s						
W39A	Magazine	43.07 341	P	P	08 39 12.2	+0.2	
W39A			IAmb	IAmb	08 39 14.6		
	comp=Z,11nm,1.2s						
W39A	Magazine	43.07 341	P	P	08 39 12.4	+0.4	
	baz=156						
ABTX	Abilene, Hawle	43.10 333	P	P	08 39 12.8	+0.5	
ABTX	Abilene, Hawle	43.10 333	P	P	08 39 12.8	+0.5	
	baz=147						
FCAR	Ozark Folk Cen	43.20 343	P	P	08 39 12.6	-0.4	
X34A	Smith Ranch, M	44.02 336		P	08 39 19.4	-0.2	
WCI	Wyandotte Cave	44.11 350	P	P	08 39 20.9	+0.6	
	baz=168						
W35A	Tecumseh	44.12 338		P	08 39 20.7	+0.2	
W35A			IAmb	IAmb	08 39 21.2		
	comp=Z,14nm,1.0s						
TUL1	Leonard	44.40 339	P	P	08 39 22.9	+0.2	
TUL1			IAmb	IAmb	08 39 24.4		
	comp=Z,17nm,1.1s						
TUL1	Leonard	44.40 339	P	P	08 39 22.8	0.0	
	baz=154,SNR=5.2						
FNO	Franklin	44.42 337		P	08 39 22.8	-0.1	
WMOK	Wichita Mounta	44.52 335	P	P	08 39 24.0	+0.2	
	baz=150						
MNTX	Cornudas Mount	45.26 326	P	P	08 39 30.0	+0.4	
MNTX			IAmb	IAmb	08 39 30.7		
	comp=Z,5.2nm,1.0s						
MNTX	Cornudas Mount	45.26 326	P	P	08 39 29.6	0.0	
	baz=140,SNR=9.0						
MSTX	Muleshoe	45.69 331	P	P	08 39 32.4	-0.7	
MSTX	Muleshoe	45.69 331	P	P	08 39 34.5	+1.4	
	baz=144						
U32A	Winter Ranch,	46.03 336		P	08 39 35.3	-0.4	
N54A	Moraine State	46.19 358	P	P	08 39 38.6	+1.8	
	baz=177						
121A	Cookes Peak, D	47.23 325	P	P	08 39 46.8	+1.4	
121A			IAmb	IAmb	08 39 47.7		
	comp=Z,11nm,1.1s						
121A	Cookes Peak, D	47.23 325	P	P	08 39 45.1	-0.2	
	baz=137,SNR=5.7						
319A	Douglas	47.27 323	P	P	08 39 46.5	+0.9	
KSU1	Kansas State U	47.55 340	P	P	08 39 47.2	-0.3	
	baz=154						
R32A	Long Quarter,	47.70 338	P	P	08 39 48.6	-0.1	
ANMO	Albuquerque	48.32 328	P	P	08 39 53.4	-0.4	
ANMO			IAmb	IAmb	08 39 57.0		
	comp=Z,5.8nm,0.9s						
ANMO	Albuquerque	48.32 328	P	P	08 39 54.5	+0.7	
	baz=140						
TUC	Tucson	48.84 322	P	P	08 39 57.0	-0.7	
TUC			IAmb	IAmb	08 39 59.2		
	comp=Z,5.4nm,0.8s						
TUC	Tucson	48.84 322	P	P	08 39 58.3	+0.6	
	baz=134						
T25A	Trinidad	49.03 332	P	P	08 39 59.2	-0.1	
T25A			IAmb	IAmb	08 40 06.7		
	comp=Z,8.8nm,1.2s						
T25A	Trinidad	49.03 332	P	P	08 39 59.9	+0.6	
	baz=144,SNR=6.4						
KSCO	Kaye Shedlock'	49.77 335	P	P	08 40 05.6	+0.8	
	baz=147						
214A	Organ Pipe Nat	49.86 320	P	P	08 40 06.2	+0.7	
214A			IAmb	IAmb	08 40 08.5		
	comp=Z,9.1nm,1.0s						
214A	Organ Pipe Nat	49.86 320	P	P	08 40 06.0	+0.5	
	baz=132,SNR=11						
SADO	Sadowa	49.97 359	LR	LR	09 02 02.0		
	comp=Z,27nm,19.1s,baz=198,slow=37						
SDCO	Great Sand Dun	50.03 331	P	P	08 40 07.4	+0.5	
SDCO			IAmb	IAmb	08 40 08.5		
	comp=Z,5.2nm,1.1s						
SDCO	Great Sand Dun	50.03 331	P	P	08 40 07.5	+0.5	
	baz=143,SNR=8.6						
W18A	Petrified Fore	50.23 326	P	P	08 40 07.8	-0.6	
W18A	Petrified Fore	50.23 326	P	P	08 40 08.9	+0.5	
	baz=137						
SFX	San Felipe	50.59 318	P	P	08 40 10.5	-0.4	
S22A	4UR Ranch, Cre	50.68 330	P	P	08 40 11.4	-0.5	
S22A	4UR Ranch, Cre	50.68 330	P	P	08 40 12.5	+0.6	
	baz=141						
X16A	Lo Mia Camp, P	50.70 324	P	P	08 40 12.8	+0.8	
Q24A	Divide	50.85 333	P	P	08 40 14.0	+0.9	
	baz=144						
MVCO	Mesa Verde	51.11 329	P	P	08 40 16.1	+1.0	
	baz=139						
I37A	Lemond, Waseca	51.15 346	P	P	08 40 14.2	-0.7	
K31A	O'Neill	51.43 340	P	P	08 40 16.0	-1.1	
WUAZ	Wupatki	51.44 325	P	P	08 40 17.6	+0.1	
WUAZ	Wupatki	51.44 325	P	P	08 40 18.1	+0.6	
	baz=135,SNR=10						
ECSD	EROS Data Cent	51.76 343	P	P	08 40 18.1	-1.4	
ECSD	EROS Data Cent	51.76 343	P	P	08 40 19.3	-0.2	
	baz=156						
BC3	Big Chuckawall	52.65 320	P	P	08 40 27.0	+0.5	
	baz=130						
IRM	Iron Mountain	52.78 321	P	P	08 40 28.1	+0.8	
	baz=131,SNR=6.7						
BELC	Belle Mtn. Jos	53.22 320	P	P	08 40 31.5	+0.8	
	baz=130						
O20A	White River Ci	53.23 331	P	P	08 40 31.4	+0.6	
	baz=141						
TPFO	Pinon Flats	53.26 320	P	P	08 40 31.8	+0.8	
	baz=129						
GMRC	Granite Mounta	53.51 321	P	P	08 40 33.8	+1.0	
	baz=131						
LCMT	Little Creek M	53.56 325	IAmb	IAmb	08 40 35.7		
	comp=Z,6.5nm,1.1s						
SRU	San Rafael Swe	53.59 329	P	P	08 40 33.5	0.0	
SRU			IAmb	IAmb	08 40 34.5		
	comp=Z,6.8nm,1.2s						
Q16A	Castle Valley	53.79 328	P	P	08 40 34.2	-0.7	
HEC	Hector,Ludlow	53.96 321	P	P	08 40 36.8	+0.7	
	baz=130						
P17A	Butcher Ranch,	53.97 329	P	P	08 40 36.2	+0.1	
P17A			IAmb	IAmb	08 40 37.4		
	comp=Z,5.2nm,1.0s						
CCUT	Cedar City	54.01 325	P	P	08 40 36.4	-0.1	
CCUT			IAmb	IAmb	08 40 38.8		
	comp=Z,6.3nm,1.0s						
MSU	Marysvale	54.03 327	P	P	08 40 35.6	-1.1	
TUQ	Turquoise Moun	54.10 322	P	P	08 40 37.5	+0.3	
	baz=131,SNR=6.2						
RDMU	Red Mountain	54.21 330	P	P	08 40 38.1	+0.1	
RDMU			IAmb	IAmb	08 40 39.0		
	comp=Z,5.8nm,0.9s						
SHPR	Sheep Range	54.34 323	P	P	08 40 38.3	-0.6	
SHPR			IAmb	IAmb	08 40 44.3		
	comp=Z,7.7nm,1.5s						
GSC	Goldstone, Bar	54.56 321	P	P	08 40 40.8	+0.3	
GSC			IAmb	IAmb	08 40 42.4		
	comp=Z,6.7nm,0.9s						
GSC	Goldstone, Bar	54.56 321	P	P	08 40 41.0	+0.6	
	baz=130,SNR=6.1						
RSSD	Black Hills	54.64 337	P	P	08 40 41.7	+0.7	
RSSD			IAmb	IAmb	08 40 43.9		
	comp=Z,9.4nm,1.1s						
RSSD	Black Hills	54.64 337	P	P	08 40 41.7	+0.7	
	baz=147						
PSUT	Pine Spring	54.97 326	P	P	08 40 44.4	+0.9	
PSUT			IAmb	IAmb	08 40 45.3		
	comp=Z,4.8nm,1.0s						
EDW2	Edwards Air Fo	55.05 320	P	P	08 40 44.4	+0.4	
	baz=128						
TPNV	Topopah Spring	55.29 323	P	P	08 40 46.7	+0.9	
	baz=131						
MPMC	Manual Prospec	55.47 321	P	P	08 40 47.5	+0.4	
	baz=130						
DUG	Dugway, Tooele	55.59 328	IAmb	IAmb	08 40 49.5		
	comp=Z,4.8nm,1.0s						
DUG	Dugway, Tooele	55.59 328	P	P	08 40 48.7	+0.8	
	baz=136						
AGMN	Agassiz Nation	55.76 346	P	P	08 40 49.2	+0.5	
	baz=158						
ISA	Isabella, Lake	55.84 320	P	P	08 40 50.3	+0.6	
	baz=128						
BW06	Boulder Array	55.90 332	P	P	08 40 49.7	-0.4	
BW06	Boulder Array	55.90 332	P	P	08 40 50.4	+0.3	
	baz=141						
PDAR	Pinedale Array	55.90 332	P	P	08 40 49.5	-0.7	
	comp=Z,1.4nm,1.0s,baz=134,slow=8.5,SNR=7.1						
PDAR			PcP	PcP	08 41 47.9	-0.9	
	comp=Z,0.4nm,0.6s,baz=160,slow=4.7,SNR=3.8						
SBC	Santa Barbara	55.91 318	P	P	08 40 51.1	+1.1	
	baz=127						
HWUT	Hardware Ranch	55.98 330	P	P	08 40 50.5	-0.2	
HWUT			IAmb	IAmb	08 40 55.8		
	comp=Z,9.4nm,1.3s						
CWC	Cottonwood Cre	56.08 321	P	P	08 40 52.4	+0.9	
	baz=129						
VES	Vestal, Richgr	56.34 320	P	P	08 40 54.2	+1.1	
	baz=128						
ELK	Elko	57.28 327	P	P	08 41 00.4	+0.4	
NV11	Mina Array Sit	57.40 323	P	P	08 41 01.5	+0.7	
NV11			IAmb	IAmb	08 41 02.5		
	comp=Z,5.1nm,1.2s						
NVAR	Mina Array Bea	57.49 323	P	P	08 41 01.8	+0.2	
	comp=Z,1.9nm,0.7s,baz=134,slow=7.7,SNR=6.4						
ULM	Lac du Bonnet	57.58 346	P	P	08 41 01.3	-0.3	
	comp=Z,2.0nm,0.6s,baz=180,slow=3.1,SNR=3.6						
ULM			LR	LR	09 07 47.1		
	comp=Z,47nm,18.7s,baz=213,slow=38						
YHH	Holmes Hill	58.05 333	IAmb	IAmb	08 41 34.8		
	comp=Z,5.0nm,1.4s						
BMN	Battle Mountai	58.17 325	IAmb	IAmb	08 41 07.4		
	comp=Z,6.1nm,1.0s						
GCMT	Greycliff	58.31 334	P	P	08 41 07.1	+0.1	
BCY1	Bear Canyon	58.89 331	P	P	08 41 11.4	+0.2	
BOZ	Bozeman (W)	59.03 333	P	P	08 41 11.4	-0.7	
BOZ			IAmb	IAmb	08 41 13.7		
	comp=Z,6.3nm,1.1s						
BOZ	Bozeman (W)	59.03 333	P	P	08 41 11.9	-0.1	
	baz=140,SNR=6.9						
MFID	Camas Ranch	59.46 329	IAmb	IAmb	08 41 16.5		
	comp=Z,7.0nm,0.9s						
BEKR	Beckworth	59.63 323	P	P	08 41 16.0	-0.4	
BEKR			IAmb	IAmb	08 41 22.3		
	comp=Z,8.3nm,1.4s						
HRY	Holter Researc	59.97 334	P	P	08 41 17.6	-0.9	
EGMT	Eagleton	60.12 336	P	P	08 41 19.0	-0.5	
EGMT			IAmb	IAmb	08 41 20.8		
	comp=Z,9.4nm,1.2s						
EGMT	Eagleton	60.12 336	P	P	08 41 19.4	0.0	
	baz=143						
ORV	Oroville	60.13 322	P	P	08 41 20.5	+0.9	
WVOR	Wild Horse Val	60.30 326	P	P	08 41 21.0	+0.2	
SCHQ	Schefferville	60.73 7	LR	LR	09 08 00.5		
	comp=Z,49nm,21.1s,baz=104,slow=36						
MSO	Missoula	61.01 332	P	P	08 41 26.1	+0.5	
MSO			IAmb	IAmb	08 41 26.8		
	comp=Z,7.7nm,1.1s						
MSO	Missoula	61.01 332	P	P	08 41 25.8	+0.2	
	baz=138,SNR=6.7						
M04C	Macdoel	61.70 324	P	P	08 41 30.6	+0.2	
	baz=128						
F10A	Beach Ranch, E	61.97 330	P	P	08 41 32.7	+0.6	
F10A			IAmb	IAmb	08 41 33.5		
	comp=Z,7.9nm,1.2s						
K04D	Chiloquin, OR	62.18 325	P	P	08 41 34.5	+0.9	
	baz=129						
J05D	Fort Rock, OR	62.30 326	P	P	08 41 34.6	+0.2	
	baz=129						
G08A	Pilot Rock	62.38 328	P	P	08 41 34.8	-0.1	
G08A			IAmb	IAmb	08 41 44.0		
	comp=Z,4.5nm,1.3s						
NEW	Newport	63.53 332	P	P	08 41 42.4	0.0	
NEW			IAmb	IAmb	08 41 47.0		
	comp=Z,7.6nm,1.3s						
NEW	Newport	63.53 332	P	P	08 41 42.7	+0.2	
	baz=135						
EDM	Edmonton	65.62 337	P	P	08 41 55.3	-0.7	
FRB	Frobisher Bay	69.33 4	LR	LR	09 16 49.4		
	comp=Z,49nm,18.0s,baz=228,slow=40						
PPT	Papeete	70.93 253	LR	LR	09 07 06.0		
	comp=Z,44nm,21.6s,baz=175,slow=30						
YKA	Yellowknife Ar	73.28 343	P	P	08 42 42.2	-0.8	
	comp=Z,0.8nm,0.8s,baz=133,slow=6.5,SNR=13						
CRAG	Craig	75.74 331	P	P	08 42 57.5	+0.1	
	baz=122						
DLBC	Dease Lake	76.00 335	LR	LR	09 18 29.1		
	comp=Z,46nm,18.2s,baz=204,slow=37						
TGTN	Hyland Airport	77.17 338	P	P	08 43 06.1	+0.5	
	baz=128						
P33M	Teslin, Yukon	78.19 335	P	P	08 43 11.5	+0.1	
	baz=124						
MMPY	Sheldon Lake,	78.95 338	P	P	08 43 16.0	+0.6	
	baz=125						
FARO	Faro, Yukon	79.53 337	P	P	08 43 18.5	-0.1	
	baz=126						
RES	Resolute Bay	80.64 355	LR	LR	09 22 16.2		
	comp=Z,35nm,18.4s,baz=80,slow=38						
YUK6	Outpost Mounta	80.92 335	P	P	08 43 27.0	+0.7	
	baz=119						
M30M	Minto, Yukon	81.08 336	P	P	08 43 27.9	+0.9	
	baz=120						
TOA0	Torodi Ar. Sit	81.14 76	P	P	08 43 25.6	-2.6	
TOA0			IAmb	IAmb	08 43 30.1		
	comp=Z,5.4nm,1.2s						
TORD	Torodi Ar. Bea	81.14 76	P	P	08 43 26.9	-1.4	
	comp=Z,1.9nm,0.9s,baz=288,slow=5.8,SNR=7.1						
TORD	Torodi Ar. Bea	81.14 76	P	P	08 43 27.3	-0.9	
ESDC	Sonseca Array	81.20 49	LR	LR	09 17 36.7		
	comp=Z,26nm,18.5s,baz=159,slow=34						
YUK4	Talbot Arm	81.23 335	P	P	08 43 29.0	+1.1	
	baz=118						
YUK3	Moose Creek	82.20 335	P	P	08 43 33.5	+0.4	
	baz=117						
DAWY	Dawson	82.83 337	P	P	08 43 36.4	+0.3	
	baz=118						
EPYK	Eagle Plains	82.99 340	P	P	08 43 36.2	-0.7	
	baz=121						
INK	Inuvik	82.99 342	P	P	08 43 36.4	-0.3	
	comp=Z,0.8nm,0.4s,baz=97,slow=9.1,SNR=5.9						
INK	Inuvik	82.99 342	IAmb	IAmb	08 43 41.2		
	comp=Z,1.8nm,0.8s						
INK	Inuvik	82.99 342	P	P	08 43 37.2	+0.4	
	baz=124						
I29M	Ogilvie Camp,	83.05 338	P	P	08 43 37.2	0.0	
	baz=119						
M27K	Edge Creek, AK	83.06 335	P	P	08 43 37.0	-0.4	
	baz=116						
A36M	Sachs Harbour	83.06 347	P	P	08 43 36.3	-0.7	
A36M			IAmb	IAmb	08 43 37.5		
	comp=Z,5.9nm,0.9s						
A36M	Sachs Harbour	83.06 347	P	P	08 43 36.0	-1.0	
	baz=132						
MCARA	McCarthy VSAT	83.14 334	P	P	08 43 38.0	+0.3	
	baz=114						
L27K	Beaver Creek,	83.34 336	IAmb	IAmb	08 43 40.0		
	comp=Z,3.7nm,1.0s						
L27K	Beaver Creek,	83.34 336	P	P	08 43 38.9	+0.1	
	baz=116						
EGAK	Eagle	83.84 337	P	P	08 43 41.3	0.0	
EGAK	Eagle	83.84 337	P	P	08 43 40.9	-0.4	
	baz=116						
SCRK	Sand Creek	84.61 336	P	P	08 43 45.1	-0.2	
	baz=114						
J26L	Joseph Creek	84.66 337	P	P	08 43 45.9	+0.4	
	baz=114						
M24K	Tolsona, Glenn	84.80 334	P	P	08 43 46.2	-0.1	
	baz=112						
PAX	Paxson	84.82 335	P	P	08 43 46.2	-0.2	
	baz=112						
J25K	Salcha River,	85.42 336	P	P	08 43 49.2	-0.1	
	baz=113						
WAT6	Susitna Watana	85.65 334	P	P	08 43 50.6	0.0	
	baz=110						
ILAR	Eielson Array	86.08 336	P	P	08 43 52.0	-0.5	
	comp=Z,1.0nm,1.0s,baz=124,slow=4.0,SNR=6.4						
ILAR			PP	PP	08 47 14.2	+1.3	
	comp=Z,1.2nm,1.2s,baz=123,slow=6.7,SNR=5.5						
MCK	McKinley	86.56 335	P	P	08 43 55.3	+0.3	
	baz=109						
CAPN	Captain Cook N	86.61 332	P	P	08 43 55.4	+0.3	
	baz=107						
OHAK	Old Harbor	86.67 328	P	P	08 43 55.4	-0.1	
	baz=105						
H24K	Noodor Dome	86.85 337	P	P	08 43 56.1	-0.3	
	baz=110						
NEA2	Nenana	86.90 336	P	P	08 43 55.9	-0.7	
	baz=109						
MLY	Manley	87.71 336	P	P	08 43 59.7	-0.9	
	baz=108						
CAST	Castle Rocks	87.80 334	P	P	08 44 00.5	-0.5	
CAST	Castle Rocks	87.80 334	P	P	08 44 00.1	-0.9	
	baz=106						
CHUM	Lake Minchumin	88.03 335	P	P	08 44 00.8	-1.2	
	baz=106						
N19K	Bonanza Creek	88.19 332	P	P	08 44 03.3	+0.3	
	baz=104						
COLD	Coldfoot	88.19 338	P	P	08 44 02.6	-0.2	
	baz=108						
L20K	Farewell, AK	88.33 333	P	P	08 44 03.4	-0.1	
	baz=105						
TOLK	Toolik Lake Re	88.42 340	P	P	08 44 03.6	-0.2	
	baz=109						
JMIC	Jan Mayen	88.49 18	LR	LR	09 20 39.2		
	comp=Z,17nm,21.3s,baz=104,slow=34						
H21K	Melozitna Rive	88.73 336	P	P	08 44 05.4	+0.1	
	baz=106						
J20K	Nowinta River	88.89 335	P	P	08 44 05.4	-0.7	
	baz=105						
GCSA	Galena City Sc	90.17 335	P	P	08 44 11.9	-0.1	
	baz=102						
VNDA	Vanda	91.01 191	LR	LR	09 19 51.6		
	comp=Z,147nm,21.8s,baz=50,slow=32						
A21K	Barrow	91.48 342	P	P	08 44 17.9	-0.1	
	baz=102						
DAVOX	Davos/Dischmat	92.38 43	LR	LR	09 25 04.8		
	comp=Z,34nm,18.6s,baz=256,slow=35						
NOA	NORSAR Array B	94.27 29	LR	LR	09 26 23.5		
	comp=Z,15nm,19.1s,baz=265,slow=35						
SUR	Sutherland	94.46 123	LR	LR	09 24 00.1		
	comp=Z,70nm,19.4s,baz=172,slow=34						
HFS	Hagfors	95.45 30	LR	LR	09 23 20.9		
	comp=Z,33nm,21.6s,baz=276,slow=33						
GAMB	Gambell	96.50 334	P	P	08 44 40.3	-0.9	
	baz=89						
URZ	Urewera	98.33 230	LR	LR	09 21 40.5		
	comp=Z,68nm,18.4s,baz=212,slow=31						
ZALV	Zalesovo Beam	129.61 13	PKP	PKPdf	08 50 20.1	-0.9	
	comp=Z,2.9nm,0.9s,baz=304,slow=3.4,SNR=7.1						
KURK	Kurchatov	130.76 20	PKP	PKPdf	08 50 22.3	-1.0	
KURBB	Kurchatov Arra	130.81 20	PKP	PKPdf	08 50 23.4	0.0	
	comp=Z,1.7nm,0.9s,baz=318,slow=2.4,SNR=8.2						
MKAR	Makanchi Array	135.37 19	PKP	PKPdf	08 50 31.6	-0.7	
	comp=Z,1.3nm,0.9s,baz=357,slow=2.6,SNR=6.4						
MKAR	Makanchi Array	135.37 19		PKPdf	08 50 31.2	-1.0	
ASAR	Alice Springs	137.59 226	PKhKP	PKPpre	08 50 29.1		
	comp=Z,0.4nm,0.8s,baz=123,slow=2.8,SNR=2.6						
ASAR			PKP	PKPdf	08 50 36.5	-0.5	
	comp=Z,1.4nm,1.0s,baz=141,slow=2.0,SNR=7.2						
ASAR	Alice Springs	137.59 226		PKPdf	08 50 35.8	-1.2	
WRA	Warramunga Arr	139.50 231	PKhKP	PKPpre	08 50 32.8		
	comp=Z,0.9nm,0.8s,baz=127,slow=1.6,SNR=5.7						
WRA			PKP	PKPdf	08 50 41.1	+0.5	
	comp=Z,0.6nm,0.9s,baz=115,slow=2.1,SNR=10						
WMQ	Urumqi	139.70 16	ePP	PKPdf	08 50 39.6	-0.7	
GTA	Gaotai	146.09 3	ePKPbc	PKPdf	08 50 51.9	+0.1	
XAN	Xi'an	150.82 348	PKPbc	PKPdf	08 51 04.0	+4.4	
XAN			pPKP	pPKPbc	08 51 13.5	+4.4	
PZH	PanZhiHua	159.02 1	PKP	PKPdf	08 51 09.8	-1.3	

IDC 21 08:34:39.5±1.7, 15°12S×174°92W, h243km±39km, mb3.3/4, mb1 3.6/5, mb1mx3.2/34, mbtmp3.9/5, Error ellipse: s-maj=159.3km s-min=19.8km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.27	69	P	Pn	08 35 35.5	+0.8
	5.6nm,0.3s,baz=166,slow=2.3,SNR=10.0						
AFI				S	S	08 36 18.2	0.0
	2.9nm,0.3s,baz=66,slow=18,SNR=1.7						
WRA	Warramunga Arr	48.48	257	P	P	08 42 58.0	-0.3
	0.3nm,0.3s,baz=86,slow=8.0,SNR=14						
ASAR	Alice Springs	48.81	252	P	P	08 43 00.8	0.0
	5.4nm,0.5s,baz=87,slow=7.9,SNR=120						
ILAR	Eielson Array	82.46	12	P	P	08 46 34.4	0.0
	0.2nm,0.4s,baz=214,slow=5.3,SNR=5.6						
PDAR	Pinedale Array	83.04	42	P	P	08 46 38.2	+0.1
	0.3nm,0.5s,baz=211,slow=1.1,SNR=4.2						

IDC 21 08:37:02.8±59.0, 19°32S×176°95W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/34, mbtmp3.8/3, MS3.9/3, Ms1 3.9/3, ms1mx3.0/58, Error ellipse: s-maj=1094.0km s-min=170.2km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	24.41	290	LR	LR	08 50 39.2	
	comp=Z,892nm,21.1s,baz=168,slow=33						
STKA	Stephens Creek	39.20	243	P	P	08 44 32.5	-0.3
	0.9nm,0.5s,baz=109,slow=11,SNR=3.4						
WRA	Warramunga Arr	45.75	261	P	P	08 45 26.2	-0.2
	0.4nm,0.2s,baz=96,slow=8.1,SNR=27						
ASAR	Alice Springs	45.76	255	P	P	08 45 26.4	0.0
	1.0nm,0.8s,baz=86,slow=8.5,SNR=10.0						
PSI	Prapat	85.38	275	LR	LR	09 32 02.1	
	comp=Z,12nm,18.3s,baz=156,slow=39						
SNAA	Sanae	89.16	178	LR	LR	09 28 40.9	
	comp=Z,77nm,19.4s,baz=183,slow=35						

*KRSC **21** 08:41:20.2±1.2, 54°20N×163°12E, h45km±29km, ML4.0*
*IDC **21** 08:41:26.5±5.8, 55°26N×161°25E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.3/43, mbtmp3.7/4, ML1.9/1, MS3.5/3, Ms1 3.5/3, ms1mx2.5/93, Error ellipse: s-maj=145.4km s-min=27.5km az=119.0*

ISC 21 08:41:22.9±1.3, 54°21N±0°.04×163°19E±0°.05, h44km±15km, n36, σ0°97/48, mb3.8/4, MS3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMD	Tumrok D	1.90	303	eP	Pn	08 41 52.6	-0.1
TUMD				eS	Sn	08 42 14.4	-1.0
BKI	Bering	1.90	57	eP	Pn	08 41 53.8	+1.1
BKI				eS	Sn	08 42 15.3	-0.1
KBTR	Krutoberegovo	2.01	354	eP	Pn	08 41 53.4	-0.9
KBTR				eS	Sn	08 42 16.8	-1.4
TUMR	Tumrok	2.06	303	eP	Pn	08 41 55.4	+0.3
KBG	Krutoberegovo	2.07	353	eP	Pn	08 41 54.3	-0.7
KBG				eS	Sn	08 42 18.7	-0.8
SPN	Mys Shipunski	2.19	241	eS	Sn	08 42 20.4	-2.1
KII	Karymskiy	2.21	267	eP	Pn	08 41 57.2	+0.2
BZGR	Bezymyannyi-Gr	2.25	321	eP	Pn	08 41 57.9	+0.3
BZGR				eS	Sn	08 42 24.3	+0.1
KMNR	Kamenistaya	2.30	314	eP	Pn	08 41 58.7	+0.4
KMNR				eS	Sn	08 42 24.8	-0.6
BZWR	Bezymyannyi-We	2.34	320

3.3nm,0.3s,baz=112,slow=18,SNR=8.8
MTVR Mutnovka 3.46 242 *e*S **Sn 08 42 53.0 -1.1**
MKAR Makanchi Array 49.31 297 P **P 08 50 05.3 -1.9**
0.2nm,0.4s,baz=53,slow=8.1,SNR=3.7
ARU Arti 53.80 318 LR LR 09 13 04.7
comp=Z,25nm,19.3s,baz=224,slow=36
FINES FINESS Array B 59.80 338 P **P 08 51 23.9 +1.0**
0.4nm,0.4s,baz=30,slow=8.8,SNR=4.9
BORG Borgarnes 61.32 2 LR LR 09 16 38.1
comp=Z,35nm,21.8s,baz=233,slow=35
NOA NORSAR Array B 62.96 345 P **P 08 51 45.3 +0.9**
0.7nm,0.7s,baz=18,slow=6.7,SNR=3.9
AKASG Malin Array Be 68.57 331 P **P 08 52 20.8 +0.3**
0.2nm,0.3s,baz=27,slow=6.1,SNR=2.2
EIL Elat 85.28 317 LR LR 09 39 19.9
comp=Z,45nm,18.4s,baz=341,slow=42

IDC 21 08:42:19.6±464.0, 56°.85N×19°.50E, h0km, Error ellipse: s-maj=149.6km s-min=63.6km az=0.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.74**	**206**	*i*		09 38 30.0	
	baz=24,slow=338,SNR=0.3						
I43RU	**DUBNA INFRASON**	**9.72**	**83**	*i*		09 43 10.0	
	baz=278,slow=325,SNR=0.7						
I37NO	**I37NO**	**12.28**	**358**	*i*		09 58 00.0	
	baz=178,slow=336,SNR=0.8						

*TUL **21** 08:46:17±1.0, 36°.302N±0°.007×97°.69W±0°.01, h5km±6km, ML2.5,mb_Lg2.4/14(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=121.0*
NEIC 21 08:46:17.1±0.9, 36°.303N±0°.010×97°.69W±0°.02, h7km±5km, Error ellipse: s-maj=1.9km s-min=1.4km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKCFA	**Oklahoma City**	**0.91**	**168**		Pg	08 46 34.4	-0.1
OKCSW	**OKLAHOMA CITY**	**0.92**	**167**	Pg	Pg	08 46 34.5	-0.2
U32A	**Winter Ranch,**	**1.06**	**275**	Pg	Pg	08 46 36.9	-0.6
FNO	**Franklin**	**1.07**	**167**	Pg	Pg	08 46 37.1	-0.5
T35A	**Sooner Cattle**	**1.13**	**57**	Pg	Pg	08 46 38.2	-0.5
W35A	**Tecumseh**	**1.32**	**150**	Pn	Pn	08 46 41.3	-0.8
TUL1	**Leonard**	**1.58**	**104**		Pn	08 46 45.5	-0.2
TUL1				IAmb_Lg		08 47 09.2	
	comp=Z,21nm,0.8s						
X34A	**Smith Ranch, M**	**1.70**	**184**	Pn	Pb	08 46 48.4	-0.3
WMOK	**Wichita Mounta**	**1.80**	**210**	Pn	Pn	08 46 48.8	+0.2
R32A	**Long Quarter,**	**2.27**	**339**	Pn	Pn	08 46 54.6	-0.4
R32A					Pb	08 46 58.6	+0.2
HHAR	**Hobbs**	**3.03**	**89**	IAmb_Lg		08 47 59.6	
	comp=Z,4.5nm,0.7s						
W39A	**Magazine**	**3.36**	**108**	IAmb_Lg		08 48 10.4	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.55**	**248**	Pn	Pn	08 47 12.3	-0.4
AMTX				IAmb_Lg		08 48 14.1	
	comp=Z,7.9nm,0.8s						
S39A	**Bolivar**	**3.76**	**67**	Pn	Pn	08 47 15.2	-0.3
MIAR	**Mount Ida**	**3.79**	**116**	Pn	Pn	08 47 17.5	+1.5
U40A	**Yellville**	**3.90**	**88**	Pn	Pn	08 47 17.4	-0.2
U40A				IAmb_Lg		08 48 20.1	
	comp=Z,8.1nm,0.8s						
R40A	**Maddies Statio**	**4.75**	**64**	Pn	Pn	08 47 31.1	+1.9
CCM	**Cathedral Cave**	**5.43**	**69**	IAmb_Lg		08 49 16.8	
	comp=Z,9.2nm,1.1s						
PBMO	**Poplar Bluff**	**5.86**	**83**	IAmb_Lg		08 49 25.7	
	comp=Z,6.1nm,0.8s						
Q24A	**Divide**	**6.49**	**296**	IAmb_Lg		08 49 44.3	
	comp=Z,4.7nm,1.1s						

*IDC **21** 08:51:01.2±1.3, 33°.80S×72°.17W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.8/24, mbtmp3.8/6, ML3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/45, Error ellipse: s-maj=50.1km s-min=26.3km az=95.0*
*GUC **21** 08:51:05.9±0.8, 33°.85S×72°.07W, h27km±14km, ML3.8*
ISC 21 08:51:03.8±1.9, 33°.84S±0°.03×72°.10W±0°.06, h17km±12km, n39, σ0°.76/45, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA05	**Santo Domingo**	**0.44**	**66**	⇓*i*P	**Pn**	**08 51 14.8**	**-0.5**
VA05				*i* S	**Sb**	**08 51 20.9**	**+1.4**
VA05				IAML		08 51 23.9	
	comp=N,23μm,0.2s						
BO03	**Pichilemu**	**0.66**	**170**	⇓*i*P	**Pn**	**08 51 18.3**	**-0.2**
BO03				*i* S	**Sb**	**08 51 27.3**	**+1.4**
BO03				IAML		08 51 29.9	
	comp=E,6μm,0.6s						
MT01	**Popeta**	**0.71**	**92**	⇓*i*P	**Pn**	**08 51 18.8**	**-0.3**
MT01				*i* S	**Sb**	**08 51 27.7**	**+0.6**
MT01				IAML		08 51 30.0	
	comp=N,4μm,0.3s						
VA01	**Torpederas**	**0.90**	**25**	*e*P	**Pn**	**08 51 22.2**	**+0.6**
VA01				*i* S	**Sn**	**08 51 34.2**	**0.0**
VA01				IAML		08 51 35.3	
	comp=E,3μm,0.4s						
MT09	**Talagante**	**0.93**	**86**	*i* P	**Pb**	**08 51 22.2**	**+0.7**
MT09				*i* S	**Sb**	**08 51 34.8**	**+1.2**
MT09				IAML		08 51 35.6	
	comp=N,4μm,0.2s						
MT02	**Curacav**	**0.99**	**54**	⇓*i*P	**Pn**	**08 51 23.1**	**+0.2**
MT02				*i* S	**Sg**	**08 51 35.8**	**-0.2**
MT02				IAML		08 51 40.0	
	comp=E,4μm,0.2s						
BO01	**Tunca**	**1.01**	**123**	*e*P	**Pb**	**08 51 22.9**	**+0.1**
GO05	**Huala**	**1.18**	**173**	*e*P	**Pb**	**08 51 26.1**	**+0.5**
GO05				*i* S	**Sb**	**08 51 41.4**	**+0.7**
GO05				IAML		08 51 46.3	
	comp=E,2μm,0.5s						
MT05	**Renca**	**1.22**	**69**	⇑*e*P	**Pb**	**08 51 26.7**	**+0.2**
MT05				*i* S	**Sg**	**08 51 44.5**	**+1.1**
MT05				IAML		08 51 49.5	
	comp=E,4μm,0.5s						
BO04	**La Punta**	**1.25**	**97**	⇓*i*P	**Pb**	**08 51 27.4**	**+0.5**
BO04				IAML		08 51 52.1	
	comp=N,2μm,0.6s						
ROCH	**El Roble**	**1.26**	**47**	*e*P	**Pb**	**08 51 27.5**	**+0.4**
ROCH				*i* S	**Sg**	**08 51 44.2**	**-0.3**
ROCH				IAML		08 51 51.0	
	comp=N,7μm,0.3s						
MT03	**Universidad Ad**	**1.37**	**76**	*i* P	**Pb**	**08 51 29.3**	**+0.3**
MT03				*i* S	**Sb**	**08 51 47.1**	**+0.8**
MT03				IAML		08 51 49.0	
	comp=E,4μm,0.1s						
PEL	**Peldehue**	**1.37**	**60**	*e*P	**Pb**	**08 51 29.5**	**+0.5**
PEL				*i* S	**Sg**	**08 51 48.0**	**-0.1**
PEL				IAML		08 51 54.6	
	comp=N,6μm,0.4s						
VA06	**Catapilco**	**1.44**	**28**	*e*P	**Pn**	**08 51 29.7**	**+0.5**
VA06				*i* S	**Sn**	**08 51 48.1**	**+0.4**
VA06				IAML		08 51 56.3	
	comp=E,7μm,0.6s						
BO02	**Sierra Bellavi**	**1.45**	**131**	*e*P	**Pn**	**08 51 27.4**	**-1.8**
BO02				*i* S	**Sg**	**08 51 50.2**	**-0.3**
BO02				IAML		08 51 56.4	
	comp=N,3μm,0.4s						
LMEL	**Las Melosas**	**1.58**	**91**	*e*P	**Pb**	**08 51 32.5**	**-0.1**
LMEL				*i* S	**Sb**	**08 51 53.4**	**+1.1**
LMEL				IAML		08 52 00.5	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**1.59**	**72**	*i* P	**Pb**	**08 51 33.0**	**0.0**
FCH				*i* S	**Sb**	**08 51 53.3**	**+0.4**
FCH				IAML		08 51 59.9	
	comp=E,2μm,0.3s						
VA03	**San Esteban**	**1.68**	**51**	⇑*i*P	**Pb**	**08 51 34.3**	**-0.1**
VA03				*i* S	**Sb**	**08 51 56.1**	**+0.7**
ML02	**Panimavida**	**2.00**	**164**	*e*P	**Pb**	**08 51 40.0**	**+0.3**
ML02				*i* S	**Sb**	**08 52 05.1**	**+0.8**
ML02				IAML		08 52 14.7	
	comp=N,3μm,0.3s						
H03S1	**Juan Fernandez**	**5.66**	**268**	T	T	08 58 21.7	
	baz=86						
H03S3	**Juan Fernandez**	**5.67**	**268**	T	T	08 58 24.7	
	baz=86						
H03S2	**Juan Fernandez**	**5.68**	**268**	T	T	08 58 22.4	
	baz=86						
H03N1	**Juan Fernandez**	**5.70**	**272**	T	T	08 58 31.1	
	baz=98,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**5.71**	**272**	T	T	08 58 32.9	
	baz=98,slow=74,SNR=16						
H03N2	**Juan Fernandez**	**5.71**	**272**	T	T	08 58 34.1	
	baz=98,slow=74,SNR=17						
PLCA	**Paso Flores**	**6.99**	**170**	Pn	**Pn**	**08 52 46.3**	**+0.9**
	comp=N,0.5nm,0.3s,baz=334,slow=11,SNR=26						
PLCA				Lg	Lg	08 54 39.4	
	comp=N,0.2nm,0.3s,baz=264,slow=20,SNR=2.9						
PLCA				LR	LR	08 55 43.4	
	comp=N,189nm,20.0s,baz=78,slow=40						
LVC	**Limon Verde**	**11.54**	**15**	Pn	**Pn**	**08 53 45.9**	**-2.2**
	comp=N,0.3nm,0.3s,baz=254,slow=14,SNR=1.9						
LVC				LR	LR	08 58 39.5	
	comp=N,171nm,19.2s,baz=214,slow=40						
CPUP	**Villa Florida**	**14.81**	**64**	LR	LR	09 00 47.1	
	comp=N,165nm,19.1s,baz=216,slow=40						
LPAZ	**La Paz**	**17.84**	**13**	P	**P**	**08 55 12.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=194,slow=8.5,SNR=16						
SIV	**San Ignacio**	**20.36**	**32**	P	**P**	**08 55 39.5**	**-0.1**
	comp=N,1.8nm,0.7s,baz=204,slow=11,SNR=9.0						
MDP	**Montagnes des**	**42.88**	**29**	LR	LR	09 18 42.1	
	comp=N,84nm,18.8s,baz=234,slow=39						
TXAR	**Lajitas Array**	**69.57**	**331**	P	**P**	**09 02 11.7**	**-0.3**
	comp=N,0.1nm,0.6s,baz=153,slow=7.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	**P**	**09 03 34.6**	**0.0**
	comp=N,1.8nm,0.7s,baz=265,slow=4.3,SNR=10						
WRA	**Warramunga Arr**	**120.88**	**209**	PKP	**PKPdf**	**09 09 55.3**	**-0.4**
	comp=N,0.2nm,0.7s,baz=156,slow=1.4,SNR=1.7						
H11S2	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	11 29 08.2	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**25.73**	**269**	T	T	11 29 06.5	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**25.74**	**269**	T	T	11 29 04.3	
	baz=117						
ZALV	**Zalesovo Beam**	**154.12**	**32**	PKPbc	**PKiKP**	**09 11 02.9**	**+0.7**
	comp=N,1.5nm,0.6s,baz=304,slow=2.1,SNR=6.4						
MKAR	**Makanchi Array**	**156.70**	**49**	PKPab	**PKPab**	**09 11 27.6**	**+0.4**
	comp=N,0.4nm,0.6s,baz=298,slow=4.7,SNR=4.6						

IDC 21 09:31:05.8±1.9, 2°.01N×127°.71E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, Error ellipse: s-maj=111.0km s-min=23.9km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.09**	**186**	P	P	09 35 41.6	+0.5
	0.7nm,0.5s,baz=5.7,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**22.77**	**164**	P	P	09 36 10.4	+0.4
	1.1nm,0.4s,baz=344,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.23**	**167**	P	P	09 36 42.0	-0.6
	0.8nm,0.5s,baz=345,slow=7.5,SNR=26						
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	09 41 11.0	+0.1
	0.2nm,0.4s,baz=121,slow=7.4,SNR=6.5						

IDC 21 09:49:21.8±311.0, 53°.82N×42°.62E, h0km, Error ellipse: s-maj=136.3km s-min=65.5km az=147.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.25**	**315**	*i*		10 16 20.0	
	baz=129,slow=337,SNR=5.8						
I31KZ	**AKTYUBINSK INF**	**10.08**	**104**	*i*		10 54 00.0	
	baz=296,slow=331,SNR=6.6						
I37NO	**I37NO**	**18.91**	**333**	*i*		11 49 40.0	
	baz=133,slow=333,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**24.61**	**72**	*i*		12 18 40.0	
	baz=287,slow=324,SNR=1.0						
I45RU	**USSURIYSK INFR**	**55.65**	**61**	*i*		15 30 00.0	
	baz=310,slow=330,SNR=1.8						

IDC 21 09:56:06.5±3.3, 54°.59N×86°.27E, h0km, mb1 2.6/2, mb1mx2.6/58, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=24.5km s-min=14.4km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**233**	*i*		10 03 30.0	
	baz=53,slow=328,SNR=9.3						
ZALV	**Zalesovo Beam**	**1.07**	**233**	Pg	Pg	09 56 25.4	-1.5
	0.7nm,0.3s,baz=51,slow=17,SNR=8.9						
ZALV				Lg	Lg	09 56 41.7	
	1.8nm,0.3s,baz=54,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.17**	**233**	Pn	Pn	09 57 39.4	+0.8
	0.1nm,0.3s,baz=52,slow=14,SNR=5.2						
KURBB				Lg	Lg	09 59 22.7	
	0.0nm,0.3s,baz=50,slow=32,SNR=1.7						
MKAR	**Makanchi Array**	**8.21**	**199**	Pn	Pn	09 58 07.4	+0.7
	0.1nm,0.3s,baz=23,slow=14,SNR=4.2						
MKAR				Sn	Sn	09 59 40.6	+0.5
	0.1nm,0.3s,baz=28,slow=26,SNR=5.5						

*KOLA **21** 10:03:23.6, 64°.70N×30°.78E, h0km, ML2.0*
*IDC **21** 10:03:24.2±2.9, 64°.65N×31°.11E, h0km, mb1 3.1/3, mb1mx2.9/47, mbtmp3.0/3, ML1.8/3, Error ellipse: s-maj=45.7km s-min=10.6km az=106.0*
*HEL **21** 10:03:24.3±0.1, 64°.79N×30°.69E, h0km, ML1.9, Explosion*
*UPP **21** 10:03:27.8±3.2, 64°.84N×30°.13E, h0km, ML1.8, Suspected explosion*
ISC 21 10:03:24.1±1.1, 64°.83N±0°.03×30°.72E±0°.05, h0km, n41, σ1s70/62, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.25**	**344**	PG	**Pg**	**10 03 47.3**	**-0.7**
	baz=163						
KU6				MSG		10 04 03.2	
	comp=Z,5.8nm,0.2s						
KU6				SB	**Sg**	**10 04 04.4**	**+0.3**
MSF	**Maaselka**	**1.29**	**328**	PG	**Pg**	**10 03 47.9**	**-1.0**
	baz=143						
MSF				SG	**Sg**	**10 04 05.2**	**-0.4**
OLKF	**Oulanka, Finla**	**1.59**	**340**	PG	**Pn**	**10 03 53.4**	**-0.1**
OLKF				SN	**Sg**	**10 04 15.9**	**+0.7**
OUL	**Oulu**	**2.07**	**279**	PB	**Pn**	**10 04 00.1**	**+0.1**
OUL				SG	**Sn**	**10 04 26.7**	**+0.3**
OUF	**Merijarvi**	**2.62**	**262**	PN	**Pn**	**10 04 07.5**	**-0.1**
	baz=81						
OUF				MSG		10 04 41.0	
	comp=Z,12nm,0.2s						
OUF				SB	**Sn**	**10 04 42.6**	**+2.5**
RNF	**Rovaniemi**	**2.64**	**315**	PB	**Pn**	**10 04 09.1**	**+1.3**
	baz=131						
RNF				SG	**Sb**	**10 04 44.5**	**-0.6**
OBF0	**Syolatti, Pyha**	**2.81**	**266**	PB	**Pn**	**10 04 12.4**	**+2.2**
OBF0				SN	**Sn**	**10 04 41.1**	**-3.5**
APA0	**Apatity Array**	**2.94**	**17**	S	**Sn**	**10 04 50.1**	**+2.4**
SUF	**Sumiainen**	**2.94**	**226**	PN	**Pn**	**10 04 12.4**	**+0.5**
	baz=43						
SUF				SB	**Sn**	**10 04 49.5**	**+1.7**
SUF				MSG		10 04 49.5	
	comp=Z,4.0nm,0.2s						
TOF	**Tornio**	**2.95**	**298**	PB	**Pb**	**10 04 16.0**	**-1.4**
	baz=113						
TOF				MSG	**Sn**	**10 04 51.1**	**+3.0**
	comp=Z,3.5nm,0.2s						
TOF				SB	**Sn**	**10 04 51.1**	**+3.0**
VRF	**Varrio**	**2.96**	**352**	PB	**Pn**	**10 04 14.1**	**+1.7**
	baz=173						
VRF				MSG		10 04 52.7	
	comp=Z,2.1nm,0.2s						
SGF	**Sodankyl**	**3.13**	**329**	PN	**Pn**	**10 04 15.3**	**+0.8**
SGF				SB	**Sb**	**10 04 57.6**	**-1.5**
KALU	**Kalix**	**3.26**	**292**	P	**Pn**	**10 04 16.9**	**+0.6**
KALU	**Kalix**	**3.26**	**292**	SG	**Sb**	**10 05 04.0**	**+1.2**
KAF	**Kangasniemi**	**3.37**	**218**	PN	**Pn**	**10 04 18.8**	**+0.9**
LVZ	**Lovozero**	**3.46**	**25**	P	**Pn**	**10 04 19.9**	**+0.7**
LVZ				S	**Sn**	**10 05 00.1**	**-0.7**
KLF	**Kolari**	**3.66**	**314**	PN	**Pn**	**10 04 22.1**	**+0.2**
KLF				SG	**Sg**	**10 05 18.7**	**-2.9**
KEF	**Keuruu**	**3.75**	**227**	PN	**Pn**	**10 04 23.3**	**+0.2**
PAJU	**Pajala**	**3.82**	**309**	P	**Pn**	**10 04 24.0**	**0.0**
PAJU	**Pajala**	**3.82**	**309**	PN	**Pn**	**10 04 24.0**	**0.0**
	baz=121						
PAJU				SG	**Sb**	**10 05 21.1**	**+2.2**
SJUU	**Sjulsmark**	**3.91**	**284**	P	**Pn**	**10 04 25.2**	**0.0**
VAF	**Vilstaro**	**3.98**	**247**	PG	**Pb**	**10 04 35.2**	**+0.2**
	baz=61						
FIA0	**FINESS Array S**	**4.00**	**214**	PN	**Pn**	**10 04 25.6**	**-0.9**
	baz=34						
FIA0				SG	**Sb**	**10 05 26.2**	**+2.0**
FINES	**FINESS Array B**	**4.00**	**214**	Pn	**Pn**	**10 04 25.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=2.5						
FINES				Pg	**Pb**	**10 04 33.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=31,slow=16,SNR=5.4						
FINES				Lg	Lg	10 05 25.8	
	comp=Z,0.7nm,0.3s,baz=35,slow=28,SNR=10						
HARU	**Harads**	**4.28**	**293**	P	**Pn**	**10 04 31.1**	**+0.8**
MASU	**Masugnsbyn**	**4.42**	**311**	P	**Pn**	**10 04 33.5**	**+1.2**
UMAU	**Umeaa**	**4.47**	**262**	PN	**Pn**	**10 04 31.3**	**-1.6**
UMAU				SG	**Sb**	**10 05 40.6**	**+3.0**
HEF	**Hetta**	**4.56**	**325**	PN	**Pn**	**10 04 34.8**	**+0.6**
HEF				SG	**Sb**	**10 05 44.0**	**+3.7**
LILU	**Lilltraesk**	**4.63**	**281**	P	**Pn**	**10 04 34.4**	**-0.8**
DUNU	**Dundret**	**4.74**	**304**	P	**Pn**	**10 04 37.6**	**+0.8**
DUNU				S	**Sn**	**10 05 27.5**	**-4.9**
LANU	**Lannavaara**	**4.76**	**317**	P	**Pn**	**10 04 37.1**	**0.0**
LANU	**Lannavaara**	**4.76**	**317**	PN	**Pn**	**10 04 37.0**	**0.0**
LANU				SG	**Sb**	**10 05 51.3**	**+5.1**
PRVG	**Vayda Guba**	**4.97**	**6**	P	**Pn**	**10 04 39.7**	**-0.1**
PRVG				S	**Sn**	**10 05 37.6**	**-0.3**
ARCES	**ARCESS Array B**	**5.14**	**339**	Pn	**Pn**	**10 04 42.5**	**+0.3**
	baz=155,slow=12,SNR=23						
ARCES				Lg	Lg	10 06 03.6	
	baz=149,slow=31,SNR=11						
ARCES	**ARCESS Array B**	**5.14**	**339**	P	**Pn**	**10 04 42.2**	**0.0**
ARCES				S	**Sn**	**10 05 41.0**	**-1.1**
RATU	**Laukkuluspa**	**5.39**	**309**	P	**Pn**	**10 04 46.3**	**+0.6**
KOVU	**Salmi**	**5.42**	**314**	P	**Pn**	**10 04 46.1**	**+0.1**
SALU	**Saltoluokta**	**5.58**	**303**	P	**Pn**	**10 04 48.5**	**+0.3**
NIKU	**Nikkaluokta**	**5.60**	**308**	P	**Pn**	**10 04 48.0**	**-0.5**
I37NO	**I37NO**	**6.38**	**317**	*i*		10 44 50.0	
	baz=132,slow=338,SNR=3.1						
NOA	**NORSAR Array B**	**9.65**	**256**	Pn	**Pn**	**10 05 42.8**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=59,slow=11,SNR=2.2						

IDC 21 10:04:02.2±463.0, 56°.93N×19°.53E, h0km, Error ellipse: s-maj=148.7km s-min=48.1km az=179.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.82**	**206**	*i*		10 58 50.0	
	baz=22,slow=329,SNR=0.5						
I43RU	**DUBNA INFRASON**	**9.70**	**84**	*i*		11 04 50.0	
	baz=280,slow=324,SNR=1.0						
I37NO	**I37NO**	**12.20**	**358**	*i*		11 21 40.0	
	baz=178,slow=337,SNR=1.0						

*IDC **21** 10:09:04.7±3.1, 53°.57N×87°.74E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=29.2km s-min=15.7km az=52.0*
*NNC **21** 10:09:06.2±1.6, 53°.44N×87°.51E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=15.1km s-min=6.2km az=58.0, Suspected Mining explosion.*
ISC 21 10:09:06.2±3.6, 53°.5N±0°.1×87°.5E±0°.2, h0km, n7, σ1s04/9, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**286**	*i*		10 20 00.0	
	baz=100,slow=331,SNR=3.2						
ZAA0	**Zalesovo Array**	**1.64**	**286**	⇑P	**Pn**	**10 09 36.3**	**+0.1**
	0.3nm,0.3s						
ZAA0				⇓S	**Sg**	**10 09 59.4**	**+0.6**
	4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**1.64**	**286**	Pg	**Pb**	**10 09 36.8**	**-0.5**
	2.1nm,0.3s,baz=97,slow=16,SNR=30						
ZALV				Lg	Lg	10 10 01.3	
	1.8nm,0.3s,baz=110,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**6.23**	**246**	Pn	**Pn**	**10 10 40.6**	**+1.3**
	0.1nm,0.3s,baz=62,slow=14,SNR=1.5						
KURBB				Lg	Lg	10 12 26.4	
	0.1nm,0.3s,baz=62,slow=32,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.23**	**246**	⇑Pn	**Pn**	**10 10 39.5**	**+0.2**
	0.5nm,0.3s						
KURBB				⇑Lg	Lg	10 12 23.2	
	10nm,0.8s						
MK31	**Makanchi Array**	**7.51**	**208**	⇓Pn	**Pn**	**10 10 56.7**	**-0.1**
	0.6nm,0.7s,baz=28,slow=13,SNR=14						
MK31				⇓Sn	**Sn**	**10 12 22.3**	**-0.4**
	1.0nm,0.8s,baz=31,slow=26,SNR=2.5						
MK31				⇑Lg	Lg	10 13 02.1	
	3.7nm,1.1s,baz=33,slow=31,SNR=5.0						
MKAR	**Makanchi Array**	**7.51**	**208**	Pn	**Pn**	**10 10 58.3**	**+1.5**
	0.2nm,0.3s,baz=28,slow=14,SNR=14						
MKAR				Sn	**Sn**	**10 12 21.3**	**-1.4**
	0.0nm,0.3s,baz=32,slow=27,SNR=4.7						
MKAR				Lg	Lg	10 13 04.5	
	0.0nm,0.3s,baz=18,slow=29,SNR=8.3						

*JMA **21** 10:18:06.6±0.2, 29°.28N×128°.22E, h269km±3km, M4.5*
*NIED **21** 10:18:06.7, 29°.28N×128°.22E, h269km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.88; Mθθ0.22; Mφφ1.67; Mrθ0.58; Mrφ-0.82; Mθφ0.23; Fault plane solution: M0 2.06000×10^15 NP1: φs319.00000°, δ48.00000°, λ-114.00000°. NP2: φs173.00000°, δ47.00000°, λ-65.00000°.*
*IDC **21** 10:18:07.1±1.1, 29°.42N×128°.06E, h269km±11km, mb3.5/16, mb1 3.7/21, mb1mx3.6/43, mbtmp4.1/21 Error ellipse: s-maj=15.7km s-min=8.6km az=80.0*
ISC 21 10:18:06.2±0.6, 29°.34N±0°.05×128°.15E±0°.07, h265km±6km, n52, σ1s52/78, mb3.7/17, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.94**	**101**	P	**Pn**	**10 18 43.6**	**+1.1**
JTAJ				*e*S	**S**	**10 19 12.0**	**+0.9**
JAMN	**Amaminishikomi**	**1.41**	**140**	P	**Pn**	**10 18 45.8**	**+0.5**
JAMN				*e*S	**S**	**10 19 15.2**	**-1.0**
JAM	**Amami Oshima**	**1.57**	**125**	P	**Pn**	**10 18 47.1**	**+0.6**
JAM				*e*S	**S**	**10 19 18.1**	**-0.2**
JNN	**Nakanoshima**	**1.58**	**71**	P	**Pn**	**10 18 47.4**	**+0.9**
JNN				*e*S	**S**	**10 19 17.8**	**-0.6**
JTK	**Tokunoshima**	**1.70**	**155**	P	**Pn**	**10 18 48.0**	**+0.5**
JTK				*e*S	**S**	**10 19 19.3**	**-0.8**
JZK	**Kikaishima**	**1.89**	**122**	P	**Pn**	**10 18 51.2**	**+

baz=183,slow=9.8,SNR=5.1
ASAJ Asahikawa 18.71 34 P **P** **10 22 04.9 -0.5**
0.7nm,0.3s,baz=231,slow=13,SNR=8.7
SONM Songino Array 24.96 324 P **P** **10 23 07.0 +1.2**
2.3nm,0.7s,baz=142,slow=9.8,SNR=10
MKAR Makanchi Array 39.47 309 P **P** **10 25 10.8 -0.4**
0.9nm,0.6s,baz=95,slow=10,SNR=13
MKAR PcP **PcP** **10 27 13.7 +0.5**
1.4nm,0.7s,baz=80,slow=3.3,SNR=11
MKAR ScP **ScP** **10 30 35.1 -1.1**
0.5nm,0.8s,baz=76,slow=5.1,SNR=5.2
BATI Baumata 39.55 187 P **P** **10 25 12.4 +0.4**
56nm,0.5s,baz=0.0,slow=1.0,SNR=2.0
ZALV Zalesovo Beam 39.77 321 P **P** **10 25 12.6 -0.8**
1.2nm,0.5s,baz=112,slow=8.2,SNR=6.0
ZALV PcP **PcP** **10 27 13.5 -0.4**
1.1nm,0.7s,baz=92,slow=4.3,SNR=5.3
ZALV ScP **ScP** **10 30 35.6 -1.5**
0.9nm,0.6s,baz=103,slow=4.7,SNR=4.5
KURBB Kurchatov Arra 42.60 314 P **P** **10 25 35.8 -0.6**
1.7nm,0.4s,baz=100,slow=8.9,SNR=5.4
KURBB PcP **PP** **10 27 22.5 +1.4**
0.3nm,0.4s,baz=102,slow=3.9,SNR=4.5
NRIK Noril'sk 46.29 341 PcP **PcP** **10 27 35.5 -0.2**
1.9nm,0.7s,baz=124,slow=3.6,SNR=4.2
WRA Warramunga Arr 49.35 172 P **P** **10 26 30.3 +1.1**
3.1nm,0.6s,baz=352,slow=8.1,SNR=60
WRA PcP **PcP** **10 27 48.4 +1.0**
1.0nm,0.8s,baz=348,slow=3.9,SNR=5.8
ASAR Alice Springs 52.99 173 P **P** **10 26 57.6 +1.6**
5.1nm,0.5s,baz=1.7,slow=14,SNR=105
ASAR PcP **PcP** **10 28 02.1 +1.2**
0.8nm,0.7s,baz=353,slow=3.0,SNR=6.1
ILAR Eielson Array 61.76 29 P **P** **10 27 56.4 -0.1**
0.7nm,0.8s,baz=281,slow=9.5,SNR=10
STKA Stephens Creek 62.20 167 P **P** **10 28 01.0 +1.2**
5.1nm,0.5s,baz=346,slow=5.4,SNR=14
FINES FINESS Array B 70.14 330 P **P** **10 28 48.9 -0.8**
1.1nm,0.6s,baz=65,slow=8.2,SNR=5.4
AKASG Malin Array Be 73.14 319 P **P** **10 29 06.4 -1.4**
0.2nm,0.3s,baz=59,slow=5.9,SNR=4.3
BRTR Keskin Array B 75.09 307 P **P** **10 29 18.8 -0.6**
0.4nm,0.6s,baz=61,slow=3.6,SNR=2.4
YKA Yellowknife Ar 75.75 25 P **P** **10 29 23.2 +0.6**
13nm,1.2s,baz=299,slow=5.5,SNR=34
NOA NORSAR Array B 76.51 334 P **P** **10 29 26.0 -0.9**
0.8nm,0.9s,baz=45,slow=5.0,SNR=2.7
NVAR Mina Array Bea 88.41 46 P **P** **10 30 27.8 -1.0**
0.3nm,0.3s,baz=303,slow=8.5,SNR=2.4
PDAR Pinedale Array 90.79 39 P **P** **10 30 40.2 +0.4**
0.5nm,0.6s,baz=21,slow=0.9,SNR=6.6
ULM Lac du Bonnet 91.68 27 P **P** **10 30 43.2 -0.3**
2.7nm,0.6s,baz=280,slow=5.0,SNR=5.7
ROSC El Rosal 139.75 36 PKP **PKPdf** **10 37 05.1 +1.3**
8.9nm,0.4s,baz=193,slow=21,SNR=2.2

DJA 21 10:23:05.5±0.4,5°S±7°×10°5E±°, h207km±4km, M4.0/12, mb4.2/5, MLv4.0/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLSI		**0.14**	**34**	P	Pn	10 23 33.6	+1.0
KLI	**Kotabumi**	**0.21**	**104**	S	S	10 23 54.9	+1.1
MDSI	**Maura Dua**	**0.57**	**304**	P	Pn	10 23 34.7	+1.0
MDSI				S	S	10 23 56.1	+0.5
KASI	**Kota Agung**	**0.72**	**192**	P	Pn	10 23 36.5	+2.1
KASI				S	S	10 23 58.1	+1.1
MNAI	**Manna**	**1.75**	**285**	P	Pn	10 23 43.9	+1.8
CGJI	**Cibinong**	**2.07**	**150**	P	Pn	10 23 46.2	+0.9
SKJI	**Sukabumi**	**2.89**	**139**	P	Pn	10 23 54.5	+0.2
CNJI	**Cibinong**	**3.50**	**135**	P	Pn	10 24 01.4	0.0
CMJI	**Cimerak**	**4.79**	**128**	P	Pn	10 24 17.2	-0.3
PPSI	**Pulau Pagai**	**5.06**	**294**	P	Pn	10 24 21.0	+0.2
	0.7nm169nm,1.5s						
SISI	**Saibi**	**6.54**	**302**	P	Pn	10 24 38.6	-1.3
	0.2nm29nm,1.5s						
UGM	**Wanagama**	**6.60**	**118**	P	Pn	10 24 41.3	+0.6
	0.4nm60nm,1.3s						
PCJI	**Pacitan**	**7.30**	**118**	P	Pn	10 24 49.0	-0.8

*REN **21** 10:46:49.9±0.6,38°.48N±0°.02×118°.38W±0°.02, h6km±7km, ML3.3/16, ML3.2/46(NEIC), Error ellipse: s-maj=2.7km s-min=2.4km az=130.0*
NEIC 21 10:46:50.2±0.7, 38°.48N±0°.02×118°.38W±0°.02, h5km±8km, Error ellipse: s-maj=2.7km s-min=2.4km az=129.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.08**	**126**		Pg	10 46 51.4	-0.6
NV11	**Mina Array Sit**	**0.18**	**104**		Pg	10 46 54.0	+0.2
NV11				IAML		10 46 57.2	
	comp=N,4μm,0.7s						
RYN	**Ryan**	**0.19**	**324**		Pg	10 46 54.5	+0.5
RYN				IAML		10 46 59.4	
	comp=N,9μm,0.3s						
LHV	**Little Huntoon**	**0.24**	**203**		Pg	10 46 55.4	+0.5
LHV				IAML		10 47 01.9	
	comp=N,3μm,0.3s						
LHV				IAML		10 47 02.3	
	comp=E,4μm,0.5s						
KVN	**Kaiserville**	**0.62**	**21**		Pg	10 47 01.8	-0.2
LUL	**Lundy Lake**	**0.76**	**236**		Pg	10 47 05.0	+0.3
BENR	**Benton**	**0.77**	**191**		Pg	10 47 05.0	0.0
YERR	**Yerington**	**0.84**	**307**		Pg	10 47 06.3	-0.1
YERR				IAML		10 47 23.1	
	comp=N,1μm,0.7s						
YERR				IAML		10 47 24.3	
	comp=E,1μm,0.3s						
ORC	**Owens River**	**0.87**	**195**		Pg	10 47 06.7	-0.1
MLNR	**Milner Canyon**	**0.88**	**178**		Pg	10 47 07.1	0.0
OMMB	**Old Mammoth Mi**	**0.99**	**210**	Pg	Pg	10 47 09.0	-0.1
TPH	**Tonopah**	**1.00**	**113**		Pg	10 47 09.0	-0.3
Q09A	**Carvers**	**1.01**	**69**		Pg	10 47 09.4	-0.1
PNTR	**Pine Nut**	**1.13**	**303**	Pg	Pg	10 47 11.5	-0.3
PNTR				IAML		10 47 33.4	
	comp=N,790nm,0.8s						
VCNR	**Virginia City**	**1.28**	**310**		Pg	10 47 14.3	-0.5
VCNR				IAML		10 47 39.6	
	comp=N,643nm,0.6s						
KCC	**Kaiser Creek**	**1.37**	**213**		Pn	10 47 15.8	-0.3
KCC					Sg	10 47 33.5	-0.7
LCH	**Last Change Ra**	**1.37**	**155**		Pn	10 47 15.9	-0.2
LCH				IAML		10 47 38.0	
	comp=E,250nm,0.6s						
EMB	**Emerald Bay**	**1.44**	**291**		Pn	10 47 17.1	0.0
EMB				IAML		10 47 42.0	
	comp=N,459nm,0.7s						
EMB				IAML		10 47 42.9	
	comp=E,344nm,0.8s						
PAHR	**Pah Rah Range**	**1.46**	**328**		Pn	10 47 16.9	-0.4
PAHR				IAML		10 47 42.6	
	comp=N,212nm,0.7s						
PAHR				IAML		10 47 45.0	
	comp=E,183nm,1.1s						
RUBR	**Rubicon Trail**	**1.50**	**293**		Pn	10 47 18.2	+0.2
RUBR				IAML		10 47 43.0	
	comp=E,251nm,0.5s						
RUBR				IAML		10 47 44.4	
	comp=N,295nm,0.8s						
MPK	**Martis Peak**	**1.52**	**303**		Pn	10 47 18.5	+0.1
MPK				IAML		10 47 42.5	
	comp=N,485nm,0.6s						
MPK				IAML		10 47 44.9	
	comp=E,384nm,0.6s						
CMB	**Columbia Colle**	**1.64**	**255**		Pn	10 47 19.8	+0.1
CMB				IAML		10 47 43.7	
	comp=E,146nm,0.4s						
CMB				IAML		10 47 44.8	
	comp=N,250nm,0.9s						
GRAC	**Grapevine Rang**	**1.68**	**151**		Pn	10 47 20.6	+0.2
GRAC				IAML		10 47 48.0	
	comp=N,285nm,0.3s						
BEKR	**Beckworth**	**2.07**	**313**		Pn	10 47 25.9	0.0
BMN	**Battle Mountai**	**2.15**	**24**		Pn	10 47 26.1	-0.8
S11A	**Rachel**	**2.24**	**111**		Pn	10 47 27.7	-0.4
TPNV	**Topopah Spring**	**2.28**	**131**	Pn	Pn	10 47 28.4	-0.2
TPNV				IAML		10 48 10.8	
	comp=N,69nm,0.7s						
ORV	**Oroville**	**2.66**	**295**		Pn	10 47 34.1	+0.4
QSM	**Queen of Sheba**	**2.78**	**154**		Pn	10 47 35.5	0.0
PRN	**Pahroc Range**	**2.84**	**111**		Pn	10 47 36.0	-0.4
SAO	**San Andreas Ge**	**2.97**	**236**	Pn	Pb	10 47 43.1	-0.6
SHPR	**Sheep Range**	**3.23**	**127**		Pn	10 47 42.2	+0.5
ELK	**Elko**	**3.32**	**46**		Pn	10 47 42.6	-0.4
KNB	**Kanab**	**4.64**	**107**	Pn	Pn	10 48 01.5	+0.4

*IDC **21** 10:56:29.8±1.0, 12°.56N×145°.52E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/52, mbtmp3.8/9, MS3.5/1, Ms1 3.6/1, ms1mx2.5/75, Error ellipse: s-maj=34.9km s-min=19.5km az=85.0*
*NEIC **21** 10:56:36.8±2.0, 12°.56N±0°.09×145°.34E±0°.09, h46km±8km, mb4.4/18, Error ellipse: s-maj=16.2km s-min=7.4km az=222.0*
ISC 21 10:56:34.7±0.7, 12°.5N±0°.1×145°.5E±0°.1, h35km, n36, σ1s10/37, mb4.3/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.21**	**330**	Pn	**Pn**	**10 56 54.9**	**-0.3**
	138nm,0.3s,baz=161,slow=18,SNR=32						
GUMO				Sn	**Sn**	**10 57 08.9**	**-1.5**
	200nm,0.3s,baz=36,slow=21,SNR=6.9						
GUMO				LR	LR	10 57 33.2	
	comp=Z,232nm,18.8s,baz=92,slow=53						
GUMO	**Guam**	**1.21**	**330**	Pn	**Pn**	**10 56 55.0**	**-0.1**
GUMO				Sn	**Sn**	**10 57 09.7**	**-0.7**
PATS	**Pohnpei**	**13.84**	**113**	Pn	**Pn**	**10 59 46.7**	**-1.8**
KSRS	**Korea Array**	**29.38**	**331**	P	**P**	**11 02 34.2**	**-0.3**
	0.9nm,0.7s,baz=146,slow=12,SNR=4.1						
WRAB	**Tennant Creek**	**34.07**	**199**	P	**P**	**11 03 15.9**	**-0.1**
WRAB				IAmb	IAmb	11 03 38.3	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**34.08**	**199**	P	**P**	**11 03 16.9**	**+0.8**
WB2				IAmb	IAmb	11 03 37.7	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**34.09**	**199**	P	**P**	**11 03 16.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=24,slow=9.8,SNR=7.3						
WRA	**Warramunga Arr**	**34.09**	**199**	IAmb	IAmb	11 03 24.8	
	comp=Z,0.2nm,1.4s						
ASAR	**Alice Springs**	**37.72**	**198**	P	**P**	**11 03 47.8**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=20,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**37.72**	**198**	P	**P**	**11 03 46.6**	**-0.6**
ANM	**Nome**	**61.94**	**22**	P	**P**	**11 06 51.8**	**+1.1**
ANM				IAmb	IAmb	11 07 18.3	
	comp=Z,2.1nm,1.0s						
MKAR	**Makanchi Array**	**62.67**	**316**	P	**P**	**11 06 56.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=87,slow=8.0,SNR=6.7						
MKAR	**Makanchi Array**	**62.67**	**316**	P	**P**	**11 06 55.1**	**-0.8**
TTA	**Tatalina**	**64.84**	**26**	P	**P**	**11 07 10.6**	**+0.6**
TTA				IAmb	IAmb	11 07 21.4	
	comp=Z,6.6nm,1.4s						
KURK	**Kurchatov**	**65.78**	**320**	P	**P**	**11 07 16.3**	**+0.1**
KURBB	**Kurchatov Arra**	**65.82**	**320**	P	**P**	**11 07 16.3**	**-0.2**
	comp=Z,1.2nm,0.2s,baz=99,slow=5.7,SNR=2.7						
BRLK	**Bradley Lake**	**66.08**	**30**	P	**P**	**11 07 18.6**	**+0.6**
PPLA	**Purkeypile**	**66.46**	**26**	P	**P**	**11 07 21.9**	**+1.4**
KTH	**Kantishna Hill**	**67.22**	**26**	P	**P**	**11 07 25.5**	**+0.2**
TRF	**Thorofare Moun**	**67.45**	**26**	P	**P**	**11 07 27.0**	**+0.2**
TRF				IAmb	IAmb	11 07 54.4	
	comp=Z,4.9nm,1.2s						
PWL	**Port Wells**	**67.60**	**29**	P	**P**	**11 07 28.4**	**+0.8**
ILAR	**Eielson Array**	**69.26**	**25**	P	**P**	**11 07 38.1**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=247,slow=6.0,SNR=26						
ILAR				LR	LR	11 41 18.6	
	comp=Z,27nm,18.0s,baz=321,slow=39						
ILAR	**Eielson Array**	**69.26**	**25**	P	**P**	**11 07 37.9**	**0.0**
TOLK	**Toolik Lake Re**	**69.38**	**21**	P	**P**	**11 07 40.3**	**+1.6**
PAX	**Paxson**	**69.43**	**27**	P	**P**	**11 07 40.8**	**+1.7**
PAX				IAmb	IAmb	11 08 02.2	
	comp=Z,6.9nm,1.3s						
BMAR	**Burnt Mountain**	**70.84**	**23**	P	**P**	**11 07 49.7**	**+2.1**
L27K	**Beaver Creek,**	**71.08**	**27**	P	**P**	**11 07 50.0**	**+0.8**
BCAR	**Beaver Creek A**	**71.09**	**27**	P	**P**	**11 07 50.7**	**+1.4**
BVAR	**Borovoye Array**	**71.13**	**322**	P	**P**	**11 07 50.4**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=341,slow=31,SNR=5.1						
EGAK	**Eagle**	**71.66**	**26**	P	**P**	**11 07 54.7**	**+2.1**
EGAK				IAmb	IAmb	11 08 21.2	
	comp=Z,3.7nm,1.1s						
DAWY	**Dawson**	**72.31**	**26**	P	**P**	**11 07 58.3**	**+1.7**
DAWY				IAmb	IAmb	11 08 25.2	
	comp=Z,4.8nm,1.4s						
EPYK	**Eagle Plains**	**73.71**	**24**	P	**P**	**11 08 06.4**	**+1.6**
EPYK				IAmb	IAmb	11 08 28.9	
	comp=Z,8.1nm,1.5s						
YKA	**Yellowknife Ar**	**83.51**	**27**	P	**P**	**11 09 00.1**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=286,slow=5.2,SNR=5.4						
FINES	**FINESS Array B**	**92.37**	**335**	P	**P**	**11 09 41.5**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=67,slow=5.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**135.96**	**304**	PKP	**PKiKP**	**11 15 53.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=22,slow=4.3,SNR=1.7						
DBIC	**Dimbokro**	**144.89**	**301**	PKP	**PKPab**	**11 16 07.3**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=68,slow=5.7,SNR=2.2						

*IDC **21** 11:10:59.4±0.9, 51°.39N×174°.20W, h0km, mb3.8/18, mb1 4.0/20, mb1mx3.9/42, mbtmp3.8/20, MLS.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/94, Error ellipse: s-maj=26.2km s-min=15.4km az=171.0*
*NEIC **21** 11:11:01.1±2.4, 51°.26N±0°.05×174°.22W±0°.08, h10km±1km, mb4.0/36, ML3.4(AEIC), Error ellipse: s-maj=9.0km s-min=8.8km az=183.0*
*AEIC **21** 11:11:02±3.3, 51°.30N±0°.05×174°.30W±0°.08, h9km±5km, Error ellipse: s-maj=8.1km s-min=7.3km az=156.0*
ISC 21 11:11:00.6±0.6, 51°.23N±0°.07×174°.20W±0°.04, h10km, n87, σ1s16/90, mb3.9/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.98**	**0**		**Pb**	**11 11 19.9**	**+0.2**
ATKA					**Sn**	**11 11 33.8**	**-0.5**
KOFP	**Korovin Flat P**	**1.05**	**3**		**Pn**	**11 11 21.4**	**-0.1**
KOKL	**Mount Kliuchef**	**1.10**	**360**		**Pn**	**11 11 22.1**	**0.0**
GSMY	**Great Sitkin M**	**1.42**	**306**		**Pn**	**11 11 26.4**	**0.0**
GSTR	**Great Sitkin T**	**1.45**	**308**		**Pn**	**11 11 27.2**	**+0.3**
GSCK	**Great Sitkin C**	**1.46**	**304**		**Pn**	**11 11 27.0**	**0.0**
GSTD	**Great Sitkin T**	**1.47**	**305**		**Pn**	**11 11 27.3**	**+0.1**
GSTD					**Sg**	**11 11 47.3**	**-0.6**
ADK	**Adak**	**1.69**	**294**	Pn	**Pn**	**11 11 30.4**	**+0.3**
ADK	**Adak**	**1.69**	**294**		**Sn**	**11 11 50.9**	**-0.9**
KIWB	**Kanaga Island**	**1.95**	**290**		**Pn**	**11 11 34.3**	**+0.6**
KIKV	**Kanaga Island**	**1.97**	**291**		**Pn**	**11 11 34.5**	**+0.5**
KIMD	**Kanaga Island**	**1.97**	**287**		**Pn**	**11 11 34.6**	**+0.5**
TAPA	**Tanaga Point A**	**2.33**	**286**		**Pn**	**11 11 40.1**	**+1.0**
TAFP	**Tanaga Falls P**	**2.46**	**287**		**Pn**	**11 11 41.9**	**+1.1**
TAFP					**Sn**	**11 12 11.1**	**+0.3**
TASE	**Tanaga Southea**	**2.48**	**286**		**Pn**	**11 11 42.4**	**+1.4**
NIKH	**Nikolski High**	**3.73**	**60**	Pn	**Pn**	**11 11 58.8**	**+0.6**
UNV	**Unalaska Valle**	**5.38**	**58**	Pn	**Pn**	**11 12 21.6**	**+0.8**
SPIA	**Saint Paul Isl**	**6.40**	**20**	Pn	**Pn**	**11 12 37.9**	**+3.2**
SHEM	**Shemya Is, Ala**	**7.39**	**286**	LR	LR	11 15 55.3	
	comp=Z,92nm,18.7s,baz=86,slow=40						
GAMB	**Gambell**	**12.65**	**5**	Pn	**Pn**	**11 14 03.5**	**+3.1**
SII	**Sitkinak Islan**	**12.93**	**58**	Pn	**Pn**	**11 14 03.5**	**-0.8**
ANM	**Nome**	**14.15**	**16**		**Pn**	**11 14 24.4**	**+3.6**
SVW2	**Sparrevohn**	**14.27**	**39**		**Pn**	**11 14 24.5**	**+2.0**
N19K	**Bonanza Creek**	**14.56**	**41**		**Pn**	**11 14 26.4**	**-0.1**
L19K	**White Mountain**	**15.20**	**36**		**Pn**	**11 14 37.5**	**+2.4**
L19K				IAmb	IAmb	11 14 43.6	
	comp=Z,6.3nm,0.9s						
M19K	**Big River Lodg**	**15.21**	**38**		**Pn**	**11 14 37.3**	**+2.1**
M19K				IAmb	IAmb	11 14 53.3	
	comp=Z,16nm,1.4s						
TTA	**Tatalina**	**15.26**	**33**	P	**P**	**11 14 41.9**	**+1.0**
TTA				IAmb	IAmb	11 14 44.3	
	comp=Z,12nm,1.3s						
CNPM	**China Poot**	**15.40**	**48**		**P**	**11 14 40.9**	**-1.5**
BRLK	**Bradley Lake**	**15.66**	**48**	P	**Pn**	**11 14 43.4**	**+2.3**
K20K	**Telida**	**16.21**	**34**		**P**	**11 14 50.1**	**-1.2**
K20K				IAmb	IAmb	11 14 51.5	
	comp=Z,11nm,1.3s						
SEW	**Seward**	**16.46**	**48**	P	**Pn**	**11 14 49.7**	**-1.6**
O22K	**Cooper Landing**	**16.48**	**46**	P	**Pn**	**11 14 52.3**	**+0.8**
PPLA	**Purkeypile**	**16.62**	**37**	P	**P**	**11 14 57.1**	**+1.1**
PPLA				IAmb	IAmb	11 14 58.9	
	comp=Z,11nm,1.2s						
J20K	**Nowinta River**	**16.72**	**31**	P	**P**	**11 14 57.8**	**+0.8**
CAST	**Castle Rocks**	**16.96**	**35**		**P**	**11 14 59.1**	**-0.6**
PETK	**Petropavlovsk-**	**17.30**	**287**	P	**Pn**	**11 15 02.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=89,slow=10,SNR=1.8						
MLY	**Manley**	**18.40**	**32**	P	**P**	**11 15 17.5**	**+2.0**
MLY				IAmb	IAmb	11 15 19.2	
	comp=Z,8.8nm,1.2s						
I23K	**Minto, Yukon-K**	**18.94**	**33**	P	**P**	**11 15 21.7**	**+0.4**
I23K				IAmb	IAmb	11 15 25.1	
	comp=Z,7.8nm,0.8s						
HMT	**Hamilton**	**18.99**	**50**	P	**P**	**11 15 21.8**	**-0.2**
WRH	**Wood River Hil**	**19.01**	**36**	P	**P**	**11 15 20.8**	**-1.4**
CCB	**Clear Creek Bu**	**19.21**	**36**	P	**P**	**11 15 23.1**	**-1.2**
CCB				IAmb	IAmb	11 15 26.3	
	comp=Z,4.1nm,0.5s						
MDM	**Murphy Dome**	**19.23**	**34**	P	**P**	**11 15 23.7**	**-0.9**
PAX	**Paxson**	**19.34**	**42**	P	**P**	**11 15 24.9**	**-0.9**
BILL	**Bilibino**	**19.38**	**338**	P	**Pn**	**11 15 27.5**	**+0.2**
BILL				IAmb	IAmb	11 15 33.7	
	comp=Z,7.2nm,1.0s						
HDA	**Harding Lake**	**19.41**	**37**	P	**P**	**11 15 25.5**	**-1.1**
HDA				IAmb	IAmb	11 15 27.1	
	comp=Z,8.9nm,1.1s						
IL31		**19.61**	**36**	P	**P**	**11 15 27.5**	**-1.2**
IL31				IAmb	IAmb	11 15 30.3	
	comp=Z,3.5nm,0.5s						
ILAR	**Eielson Array**	**19.61**	**36**	P	**P**	**11 15 26.1**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=243,slow=10.0,SNR=63						
ILAR	**Eielson Array**	**19.61**	**36**	P	**P**	**11 15 28.3**	**-0.5**
TGL	**Tana Glacier**	**19.78**	**49**		**P**	**11 15 30.9**	**+0.1**
TGL				IAmb	IAmb	11 15 56.8	
	comp=Z,15nm,1.3s						
H24K	**Noodor Dome**	**19.84**	**33**	P	**P**	**11 15 31.4**	**+0.1**
H24K				IAmb	IAmb	11 15 36.0	
	comp=Z,5.6nm,0.8s						
RIDG	**Independent Ri**	**19.91**	**40**	P	**P**	**11 15 30.2**	**-1.9**
RIDG				IAmb	IAmb	11 15 48.5	
	comp=Z,12nm,1.4s						
J25K	**Salcha River,**	**20.10**	**37**	P	**P**	**11 15 32.7**	**-1.5**
DOT	**Dot Lake**	**20.20**	**40**	P	**P**	**11 15 34.6**	**-0.5**
DOT				IAmb	IAmb	11 15 40.1	
	comp=Z,3.6nm,0.7s						
L26K	**Log Cabin Wild**	**20.25**	**42**	P	**P**	**11 15 36.1**	**+0.3**
SCRK	**Sand Creek**	**20.36**	**40**	P	**P**	**11 15 35.9**	**-1.2**
SCRK				IAmb	IAmb	11 15 36.6	
	comp=Z,6.5nm,0.6s						
M27K	**Edge Creek, AK**	**20.67**	**45**	P	**P**	**11 15 39.1**	**-1.2**
M27K				IAmb	IAmb	11 15 52.0	
	comp=Z,5.4nm,1.1s						
L27K	**Beaver Creek,**	**20.91**	**43**	P	**P**	**11 15 43.2**	**+0.3**
BCAR	**Beaver Creek A**	**20.93**	**43**	P	**P**	**11 15 42.6**	**-0.5**
TOLK	**Toolik Lake Re**	**21.11**	**25**	P	**P**	**11 15 45.0**	**+0.1**
TOLK				IAmb	IAmb	11 15 45.9	
	comp=Z,5.7nm,0.8s						
SEY	**Seymchan**	**21.33**	**316**	P	**P**	**11 15 47.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=122,slow=24,SNR=6.6						
EGAK	**Eagle**	**21.81**	**39**	P	**P**	**11 15 52.2**	**-0.3**
BMAR	**Burnt Mountain**	**21.83**	**31**	P	**P**	**11 15 53.1**	**+0.4**
DAWY	**Dawson**	**22.27**	**41**	P	**P**	**11 15 57.2**	**-0.4**
HYT	**Haines Junctio**	**22.35**	**50**	P	**P**	**11 15 57.9**	**-0.6**
INK	**Inuvik**	**25.96**	**34**	P	**P**	**11 16 32.4**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=284,slow=4.5,SNR=3.4						
YKA	**Yellowknife Ar**	**33.23**	**47**	P	**P**	**11 17 36.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=275,slow=8.0,SNR=7.1						
YKA				PcP	**PcP**	**11 20 20.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=285,slow=3.2,SNR=6.9						
YKA	**Yellowknife Ar**	**33.23**	**47**	P	**P**	**11 17 38.5**	**+1.1**
KLR	**Kul'dur**	**33.99**	**288**	P	**P**	**11 17 43.9**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=75,slow=7.1,SNR=20						
RES	**Resolute Bay**	**38.68**	**25**	LR	LR	11 36 50.5	
	comp=Z,27nm,19.3s,baz=81,slow=40						
KSRS	**Korea Array**	**42.53**	**274**	P	**P**	**11 18 57.9**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=49,slow=7.6,SNR=2.1						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**11 19 05.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=294,slow=3.7,SNR=5.8						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**11 19 04.8**	**-0.1**
SONM	**Songino Array**	**49.27**	**299**	P	**P**	**11 19 49.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=47,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**55.81**	**84**	P	**P**	**11 20 38.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=289,slow=3.8,SNR=3.5						
TXAR	**Lajitas Array**	**55.81**	**84**	P	**P**	**11 20 37.6**	**-0.3**
SCHQ	**Schefferville**	**58.29**	**40**	P	**P**	**11 20 54.3**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=316,slow=5.9,SNR=3.7						
SCHQ	**Schefferville**	**58.29**	**40**	P	**P**	**11 20 54.4**	**-0.7**
ARCES	**ARCESS Array B**	**58.69**	**352**	P	**P**	**11 20 56.3**	**-1.4**
	comp=Z,4.8nm,0.9s,baz=9.9,slow=7.8,SNR=11						
ARCES				PcP	**PcP**	**11 21 47.3**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=40,slow=4.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.28**	**316**	P	**P**	**11 21 15.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=43,slow=6.9,SNR=2.6						
MKAR	**Makanchi Array**	**62.35**	**311**	P	**P**	**11 21 22.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=44,slow=5.9,SNR=9.5						
FINES	**FINESS Array B**	**66.52**	**350**	PcP	**PcP**	**11 22 18.0**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=38,slow=2.5,SNR=4.6						
NOA	**NORSAR Array B**	**68.00**	**357**	P	**P**	**11 21 58.4**	**-1.1**
	comp=Z,0.

	baz=323									
WUSB	**Renai**	**0.60**	**301**	P		**Pb**	12 04 02.9	-0.8		
	baz=302									
WUSB				*e*S		**Sb**	12 04 10.5	-1.5		
	baz=302									
CHKT	**Chengkung**	**0.65**	**207**	P		**Pn**	12 04 04.4	-0.1		
	baz=190									
CHKT				S		**Sn**	12 04 14.1	+0.5		
	baz=190									
SSLB	**Suanglung**	**0.68**	**279**	*e*P		**Pb**	12 04 03.7	-1.1		
	baz=282									
SSLB				*e*S		**Sb**	12 04 11.7	-2.2		
	baz=282									
FUSS	**Fushou**	**0.69**	**325**	*e*P		**Pb**	12 04 03.3	-1.9		
	baz=326									
FUSS				*e*S		**Sb**	12 04 12.0	-2.6		
	baz=326									
YUS	**Yu-Shan**	**0.70**	**254**	P		**Pb**	12 04 04.9	-0.5		
	baz=251									
YUS				*e*S		**Sb**	12 04 13.2	-1.8		
	baz=251									
TWT	**Tachien**	**0.74**	**321**	*e*P		**Pb**	12 04 05.3	-0.6		
	baz=321									
TWT				*e*S		**Sb**	12 04 14.2	-1.5		
	baz=321									
SMLT	**Sun Moon Lake**	**0.75**	**286**	*e*P		**Pb**	12 04 05.1	-0.9		
	baz=285									
ENA	**Nanau**	**0.75**	**4**	*e*P		**Pb**	12 04 05.6	-0.3		
	baz=18									
ENA				*e*S		**Sb**	12 04 15.2	-0.7		
	baz=18									
EWUT	**Wuta**	**0.77**	**6**	*e*P		**Pb**	12 04 05.8	-0.5		
	baz=10.0									
EWUT				*e*S		**Sb**	12 04 16.1	-0.3		
	baz=10.0									
ELDTW	**Lidau**	**0.78**	**232**	*e*P		**Pb**	12 04 05.2	-1.4		
	baz=228									
ELDTW				*e*S		**Sb**	12 04 15.6	-1.4		
	baz=228									
EDH	**Donghe**	**0.79**	**206**	*e*P		**Pb**	12 04 06.1	-0.5		
	baz=193									
EDH				*e*S		**Sn**	12 04 17.5	+0.4		
	baz=193									
TYC	**Yuchr**	**0.79**	**287**	*e*P		**Pb**	12 04 05.8	-0.8		
	baz=290									
TYC				*e*S		**Sb**	12 04 15.8	-1.2		
	baz=290									
NNSB	**Datong**	**0.80**	**340**	P		**Pb**	12 04 06.0	-0.8		
	baz=342									
NNSB				*e*S		**Sb**	12 04 15.9	-1.4		
	baz=342									
WCS	**Beigang Elemen**	**0.80**	**298**	*e*P		**Pb**	12 04 06.0	-0.8		
	baz=298									
NNS	**Nan Shan**	**0.81**	**340**	P		**Pb**	12 04 06.4	-0.7		
	baz=342									
NNS				S		**Sb**	12 04 15.6	-2.2		
	baz=342									
ALS	**Alishan**	**0.82**	**258**	P		**Pb**	12 04 07.1	-0.4		
	baz=255									
ALS				*e*S		**Sb**	12 04 17.4	-0.9		
	baz=255									
LATG	**Datong**	**0.86**	**350**	*e*P		**Pb**	12 04 07.2	-0.8		
	baz=342									
LATG				*e*S		**Sb**	12 04 17.9	-1.5		
	baz=342									
WJS	**Zhushan**	**0.89**	**279**	*e*P		**Pn**	12 04 08.4	+0.6		
	baz=278									
WJS				*e*S		**Sn**	12 04 19.9	+0.3		
	baz=278									
WHP	**Taichung City**	**0.90**	**312**	*e*P		**Pb**	12 04 07.9	-0.7		
	baz=312									
WHP				*e*S		**Sb**	12 04 19.1	-1.2		
	baz=312									
LONT	**Longtian**	**0.92**	**214**	*e*P		**Pb**	12 04 07.1	-1.8		
	baz=197									
NDT	**Datong Townshi**	**0.93**	**350**	*e*P		**Pb**	12 04 08.2	-0.8		
	baz=344									
NDT				*e*S		**Sb**	12 04 20.7	-0.4		
	baz=344									
WNT	**Mingjian**	**0.94**	**282**	*e*P		**Pn**	12 04 09.1	+0.7		
	baz=281									
WNT				*e*S		**Sn**	12 04 21.7	+0.8		
	baz=281									
TWC	**Suao**	**0.94**	**9**	*e*P		**Pn**	12 04 09.0	+0.5		
	baz=12									
TWC				*e*S		**Sn**	12 04 21.3	+0.5		
	baz=12									
NDS	**Dongshan**	**0.95**	**2**	*e*P		**Pn**	12 04 09.1	+0.4		
	baz=350									
NDS				*e*S		**Sn**	12 04 21.7	+0.5		
	baz=350									
ENTT	**Nioudou**	**0.96**	**354**	*e*P		**Pb**	12 04 08.7	-0.9		
	baz=345									
ENTT				*e*S		**Sb**	12 04 21.6	-0.4		
	baz=345									
STYH	**Taoyuan**	**0.98**	**239**	*e*P		**Pb**	12 04 08.8	-0.9		
	baz=237									
STYH				*e*S		**Sb**	12 04 21.7	-0.6		
	baz=237									
LDUT	**Ludao**	**1.02**	**191**	*e*S		**Sb**	12 04 22.9	-0.7		
	baz=181									
TWGBT	**Beinan**	**1.02**	**213**	*e*P		**Pb**	12 04 08.2	-2.4		
	baz=197									
TWG	**Pinlang**	**1.02**	**213**	*e*P		**Pb**	12 04 08.3	-2.3		
	baz=212									
TWG				*e*S		**Sb**	12 04 23.0	-0.7		
	baz=212									
YHNB	**Yeheng**	**1.02**	**344**	*e*P		**Pb**	12 04 09.9	-0.8		
	baz=345									
YHNB				*e*S		**Sb**	12 04 22.5	-1.4		
	baz=345									
TCU	**Taichung**	**1.03**	**297**	*e*P		**Pn**	12 04 11.1	+1.3		
	baz=297									
NSK	**Sanguang**	**1.04**	**343**	*e*P		**Pb**	12 04 09.9	-0.9		
	baz=344									
NSK				*e*S		**Sb**	12 04 22.6	-1.5		
	baz=344									
TWE	**Neicheng**	**1.04**	**359**	*e*P		**Pb**	12 04 09.8	-1.0		
	baz=351									
TWE				*e*S		**Sn**	12 04 24.2	+0.8		
	baz=351									
TPUB	**Ta-pu**	**1.04**	**249**	*e*P		**Pn**	12 04 10.4	+0.5		
	baz=247									
TPUB				*e*S		**Sn**	12 04 24.3	+0.9		
	baz=247									
WDLH	**Douliu**	**1.05**	**271**	*e*P		**Pn**	12 04 10.5	+0.5		
	baz=268									
WDLH				*e*S		**Sn**	12 04 24.1	+0.5		
	baz=268									
CHN4	**Tsaushan**	**1.05**	**252**	*e*P		**Pn**	12 04 10.9	+0.8		
	baz=250									
CHN4				*e*S		**Sn**	12 04 25.3	+1.6		
	baz=250									
TWQ1	**Liyutan**	**1.07**	**309**	*e*P		**Pn**	12 04 11.0	+0.7		
	baz=308									
TWQ1				*e*S		**Sn**	12 04 25.6	+1.5		
	baz=308									
WTP	**Ta-pu**	**1.07**	**247**	*e*P		**Pn**	12 04 11.1	+0.7		
	baz=244									
WTP				*e*S		**Sn**	12 04 25.7	+1.4		
	baz=244									
FUSB	**Fushanzhiwuyua**	**1.08**	**355**	*e*P		**Pb**	12 04 10.4	-1.2		
	baz=347									
FUSB				*e*S		**Sb**	12 04 23.5	-1.9		
	baz=347									
WCHH	**Zhanghua**	**1.10**	**291**	*e*P		**Pb**	12 04 12.0	+0.1		
	baz=290									
WCHH				*e*S		**Sn**	12 04 27.1	+2.1		
	baz=290									
NWLT	**Wulai**	**1.11**	**351**	*e*P		**Pb**	12 04 11.5	-0.5		
	baz=344									
NWLT				*e*S		**Sb**	12 04 24.4	-1.7		
	baz=344									
NSY	**Sanyi**	**1.12**	**311**	*e*P		**Pb**	12 04 12.1	0.0		
	baz=311									
NSY				*e*S		**Sn**	12 04 27.3	+1.9		
	baz=311									
NSTT	**Nanjuang**	**1.13**	**327**	*e*P		**Pb**	12 04 12.0	-0.4		
	baz=327									
NSTT				*e*S		**Sb**	12 04 25.9	-0.9		
	baz=327									
LIOB	**Emei**	**1.14**	**328**	*e*P		**Pb**	12 04 12.2	-0.3		
	baz=327									
LIOB				*e*S		**Sb**	12 04 26.2	-0.8		
	baz=327									
CHN1	**Nanshi**	**1.17**	**245**	*e*P		**Pb**	12 04 12.7	-0.4		
	baz=245									
CHN1				*e*S		**Sn**	12 04 28.6	+2.0		
	baz=245									
CHY	**Chiayi**	**1.17**	**261**	*e*P		**Pb**	12 04 12.6	-0.4		
	baz=259									
CHY				*e*S		**Sn**	12 04 27.8	+1.2		
	baz=259									
TWK	**Hsinying**	**1.17**	**250**	*e*P		**Pb**	12 04 12.7	-0.4		
	baz=248									
TWK				*e*S		**Sn**	12 04 28.3	+1.5		
	baz=248									
SGST	**Jiashian**	**1.17**	**240**	*e*P		**Pn**	12 04 11.7	0.0		
	baz=231									
SGST				*e*S		**Sn**	12 04 28.1	+1.4		
	baz=231									
SLGT	**Liugui**	**1.17**	**235**	*e*P		**Pb**	12 04 12.8	-0.4		
	baz=233									
SLGT				*e*S		**Sn**	12 04 30.0	+3.3		
	baz=233									
SNST	**Tainan City**	**1.18**	**247**	*e*P		**Pb**	12 04 12.7	-0.6		
	baz=247									
SNST				*e*S		**Sn**	12 04 28.4	+1.5		
	baz=247									
WTK	**Tuku**	**1.19**	**271**	*e*P		**Pb**	12 04 12.8	-0.6		
	baz=269									
WTK				*e*S		**Sb**	12 04 27.7	-0.6		
	baz=269									
WRL	**Guolierlin Hig**	**1.22**	**281**	*e*P		**Pb**	12 04 13.0	-0.8		
	baz=269									
WRL				*e*S		**Sn**	12 04 28.6	+0.8		
	baz=269									
TIPB	**Shuangxi**	**1.29**	**6**	*e*P		**Pn**	12 04 14.1	+0.6		
	baz=354									
TIPB				*e*S		**Sb**	12 04 31.1	-0.4		
	baz=354									
SCST	**Cishan**	**1.35**	**234**	*e*P		**Pb**	12 04 16.3	+0.2		
	baz=248									
SCST				*e*S		**Sb**	12 04 34.6	+1.7		
	baz=248									
JYNG	**Yonagunijimaku**	**1.39**	**56**	P		**Pb**	12 04 15.6	-1.1		
JYNG				*e*S		**Sb**	12 04 33.4	-0.6		
NWF	**Wu-fen Shan**	**1.39**	**4**	*e*P		**Pb**	12 04 15.7	-1.1		
	baz=349									
NWF				*e*S		**Sn**	12 04 32.8	+0.6		
	baz=349									
SXI1	**Grass Mountain**	**1.42**	**7**	*e*P		**Pn**	12 04 16.1	+0.9		
	baz=353									
MASBT	**Mashibuluo**	**1.44**	**223**	*e*P		**Pb**	12 04 17.2	-0.3		
	baz=220									
MASBT				*e*S		**Sb**	12 04 35.7	+0.3		
	baz=220									
YOJ	**Yonaguni jima**	**1.44**	**57**	P		**Pb**	12 04 16.4	-1.2		
YOJ				*e*S		**Sb**	12 04 35.3	-0.3		
SSPT	**Xinbi**	**1.57**	**221**	*e*P		**Pb**	12 04 19.3	-0.5		
	baz=221									
SCZT	**Fangliau**	**1.63**	**217**	*e*P		**Pb**	12 04 19.9	-0.9		
	baz=205									
SCZT				*e*S		**Sb**	12 04 40.3	-0.7		
	baz=205									
SLIU	**Shizi**	**1.67**	**209**	*e*P		**Pn**	12 04 19.8	+1.2		
	baz=199									
LYUB	**Lan-yu**	**1.67**	**183**	*e*P		**Pn**	12 04 17.7	-0.9		
	baz=177									
LYUB				*e*S		**Sn**	12 04 39.0	+0.1		
	baz=177									
PHUB	**P'eng-hu**	**1.94**	**266**	*e*S		**Sn**	12 04 46.1	+0.4		
	baz=251									
PNG	**Penghu**	**1.96**	**267**	*e*P		**Pn**	12 04 22.8	+0.3		
	baz=253									
PNG				*e*S		**Sn**	12 04 46.5	+0.5		
	baz=253									
HATJ	**Hateruma jima**	**1.98**	**79**	*e*S		**Sn**	12 04 47.9	+1.4		
IRIF	**Iriomote-Funau**	**1.98**	**70**	P		**Pn**	12 04 24.3	+1.5		
IRIF				*e*S		**Sb**	12 04 48.9	-2.2		
VCHM	**Qimei**	**2.12**	**258**	*e*P		**Pn**	12 04 25.3	+0.5		
	baz=257									
VCHM				*e*S		**Sn**	12 04 50.1	0.0		
	baz=257									
JKRS	**Kuro-shima**	**2.20**	**75**	P		**Pn**	12 04 25.9	+0.1		
JKRS				*e*S		**Sn**	12 04 53.6	+1.6		
JJJ	**Ishigaki jima**	**2.35**	**73**	P		**Pn**	12 04 28.7	+0.8		
VWUC	**VWUC**	**2.42**	**303**	*e*P		**Pn**	12 04 29.9	+1.0		
	baz=300									
VWUC				*e*S		**Sn**	12 04 58.2	+0.7		
	baz=300									
JISG	**Ishigakijimahi**	**2.56**	**69**	P		**Pn**	12 04 31.6	+0.7		
JISG				*e*S		**Sn**	12 05 02.1	+1.1		
PTMZ	**Houxiangcun**	**2.70**	**301**	*e*P		**Pn**	12 04 33.8	+1.1		
	baz=297									
PTMZ				*e*S		**Sn**	12 05 05.4	+1.0		
	baz=297									
JTJ	**Tarama**	**2.92**	**70**	*e*S		**Sn**	12 05 12.1	+2.3		
MATB	**Ma-tsu**	**2.92**	**328**	*e*P		**Pn**	12 04 37.2	+1.4		
	baz=322									
MATB				*e*S		**Sn**	12 05 11.2	+1.3		
	baz=322									
JIRB	**Irabujima**	**3.38**	**70**	*e*S		**Sn**	12 05 23.0	+1.7		

NIED ***21*** *12:22:41.6, 24.2°N × 121.0°E, h0 km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14} Nm; M_{rr}=1.68; $M_{\theta\theta}$=0.97; $M_{\phi\phi}$=0.71; $M_{r\theta}$=4.92; $M_{\theta\phi}$=-7.89; $M_{\phi r}$=1.95; Fault plane solution: M_0=9.58000×10^{14} NP1: ϕ_s=273.00000°, δ=78.00000°, λ=-148.00000°. NP2: ϕ_s=175.00000°, δ=59.00000°, λ=-14.00000°.*

JMA ***21*** *12:22:41.6±0.1, 24.2°N × 121.0°E, h0 km, M3.7*

TAP ***21*** *12:22:42.5, 24.4°N × 121.1°E, h5 km, ML4.1, C*

IDC ***21*** *12:22:48.6±5.2, 24.2°N × 121.3°E, h46 km±54 km, mb3.3/7, mb1 3.5/9, mb1mx3.3/55, mbtmp3.6/9, ML3.4/2, MS3.2/6, Ms1 3.2/6, ms1mx2.8/43, Error ellipse: s-maj=55.4km s-min=18.7km az=67.0*

ISC 21 12:22:43.3±0.8, 24.2°N±0.1°, 121.0°E±0.1°, h6 km±6 km, n157, s0/78/242, mb3.4/7, MS3.3/4, 41C-28D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
TWT	**Tachien**	**0.10**	**71**	⇑*i*P			**Pg**	**12**	**22**	**45.2**	**-0.5**
	baz=86										
TWT				*i* S			**Sg**	12	22	46.8	-0.5
	baz=86										
WHP	**Taichung City**	**0.13**	**296**	⇑*i*P			**Pg**	12	22	45.4	-0.7
	baz=290										
WHP				*i* S			**Sg**	12	22	47.2	-0.7
	baz=290										
FUSS	**Fushou**	**0.16**	**80**	⇓*i*P			**Pg**	12	22	46.8	+0.1
	baz=88										
FUSS				*i* S			**Sg**	12	22	49.3	+0.4
	baz=88										
CHGB	**Renai**	**0.18**	**150**	⇓*i*P			**Pg**	12	22	47.5	+0.4
	baz=149										
CHGB				*i* S			**Sg**	12	22	50.6	+1.0
	baz=149										
WHF	**Hehuan Shan**	**0.19**	**113**	⇓*i*P			**Pg**	12	22	48.0	+0.7
	baz=116										
WHF				*i* S			**Sg**	12	22	52.0	+2.0
	baz=116										
WCS	**Beigang Elemen**	**0.22**	**222**	⇑*i*P			**Pg**	12	22	47.5	-0.1
	baz=215										
WCS				*i* S			**Sg**	12	22	50.7	+0.2
	baz=215										
DPDB	**Guoxing**	**0.23**	**216**	⇑*i*P			**Pg**	12	22	47.8	0.0
	baz=209										
DPDB				*e*S			**Sg**	12	22	52.2	+1.3
	baz=209										
WUSB	**Renai**	**0.23**	**170**	⇓*i*P			**Pg**	12	22	48.1	+0.2
	baz=167										
WUSB				*i* S			**Sg**	12	22	51.3	+0.3
	baz=167										
WPL	**Puli Township**	**0.23**	**207**	⇑*i*P			**Pg**	12	22	47.8	-0.1
	baz=203										
WPL				*e*S			**Sg**	12	22	51.3	+0.3
	baz=203										
OWD	**Renai**	**0.28**	**160**	⇓*i*P			**Pg**	12	22	49.1	+0.3
	baz=159										
OWD				*i* S			**Sg**	12	22	53.0	+0.4
	baz=159										
TWQ1	**Liyutan**	**0.30**	**295**	⇑*i*P			**Pg**	12	22	49.3	+0.1
	baz=292										
TWQ1				*e*S			**Sg**	12	22	53.9	+0.7
	baz=292										
NSY	**Sanyi**	**0.34**	**305**	⇓*i*P			**Pg**	12	22	50.5	+0.5
	baz=304										
NSY				*e*S			**Sg**	12	22	56.0	+1.4
	baz=304										
NNS	**Nan Shan**	**0.35**	**51**	⇑*i*P			**Pg**	12	22	50.0	-0.2
	baz=57										
NNS				*e*S			**Sg**	12	22	54.3	-0.6
	baz=57										
NNSB	**Datong**	**0.35**	**54**	⇑*i*P			**Pg**	12	22	49.8	-0.4
	baz=58										
NNSB				*e*S			**Sg**	12	22	54.0	-0.9
	baz=58										
TCU	**Taichung**	**0.37**	**259**	⇑P			**Pb**	12	22	51.4	-0.8
	baz=254										
TCU				*e*S			**Sb**	12	22	57.7	-0.5
	baz=254										
TYC	**Yuchr**	**0.37**	**212**	⇑*i*P			**Pg**	12	22	50.4	-0.1
	baz=207										
TYC				*i* S			**Sg**	12	22	55.9	+0.6
	baz=207										
ETLH	**Xiulin Townshi**	**0.38**	**92**	⇓*i*P			**Pg**	12	22	51.1	+0.5
	baz=95										
ETLH				S			**Sg**	12	22	56.5	+0.9
	baz=95										
WWF	**Wufeng**	**0.38**	**243**	⇑P			**Pb**	12	22	51.7	-0.8
	baz=238										
WWF				*e*S			**Sb**	12	22	59.6	+0.9
	baz=238										
NMLH	**Miaoli**	**0.41**	**321**	⇓*i*P			**Pg**	12	22	51.8	+0.6
	baz=321										
NMLH				*e*S			**Sg**	12	22	57.6	+1.1
	baz=321										
NFF	**Wufeng Townshi**	**0.41**	**6**	⇑*i*P			**Pg**	12	22	50.8	-0.5
	baz=9.0										
NFF				*e*S			**Sg**	12	22	56.9	+0.2
	baz=9.0										
NSTT	**Nanjuang**	**0.41**	**351**	⇓*i*P			**Pg**	12	22	51.2	-0.2
	baz=354										
NSTT				*i* S			**Sg**	12	22	56.7	-0.1
	baz=354										
WDJ	**Dajia District**	**0.41**	**288**	⇑P			**Pb**	12	22	52.2	-0.8
	baz=286										
LIOB	**Emei**	**0.43**	**353**	⇓*i*P			**Pg**	12	22	51.6	0.0
	baz=355										
LIOB				S			**Sg**	12	22	57.6	+0.4
	baz=355										
SSLB	**Suanglung**	**0.44**	**194**	⇓*i*P			**Pg**	12	22	51.4	-0.5
	baz=191										
SSLB				*e*S			**Sg**	12	22	57.1	-0.6
	baz=191										
ETM	**Tongmen**	**0.46**	**123**	⇓*e*P			**Pg**	12	22	52.8	+0.6
	baz=124										
ETM				*e*S			**Sb**	12	22	59.4	-1.4
	baz=124										
VWDT	**VWDT**	**0.47**	**172**	⇓*i*P			**Pg**	12	22	52.5	+0.1
	baz=171										
VWDT				*e*S			**Sg**	12	22	58.3	-0.1
	baz=171										
WNT1	**Nantou City**	**0.47**	**229**	*e*P			**Pb**	12	22	54.0	0.0
	baz=226										
NACB	**Ninganchiao**	**0.48**	**95**	⇓P			**Pg**	12	22	53.0	+0.4
	baz=98										
NACB				S			**Sg**	12	22	59.7	+0.9
	baz=98										
WCHH	**Zhanghua**	**0.49**	**253**	⇑*e*P			**Pb**	12	22	54.1	-0.2
	baz=250										
WCHH				*e*S			**Sb**	12	23	03.5	+1.8
	baz=250										
WNT	**Mingjian**	**0.49**	**226**	⇑*e*P			**Pb**	12	22	53.9	-0.4
	baz=222										
WNT				*e*S			**Sb**	12	23	02.2	+0.4
	baz=222										
NJN	**Zhunan**	**0.50**	**338**	*e*P			**Pg**	12	22	53.6	+0.7
	baz=339										
NJN				*e*S			**Sg**	12	23	00.6	+1.2
	baz=339										
TWD	**Chiawan**	**0.50**	**106**	⇓P			**Pg**	12	22	53.5	+0.6
	baz=108										
TWD				*e*S			**Sb**	12	23	00.7	-1.2
	baz=108										
WJS	**Zhushan**	**0.51**	**218**	*e*P			**Pb**	12	22	53.6	-1.0
	baz=215										
WJS				*e*S			**Sb**	12	23	02.8	+0.6
	baz=215										
ETL	**Fush Village**	**0.51**	**97**	⇓*e*P			**Pg**	12	22	53.5	+0.4
	baz=99										
ETL				*e*S			**Sb**	12	23	01.0	-1.2
	baz=99										
NJD	**Zhudong**	**0.51**	**2**	*e*P			**Pg**	12	22	53.5	+0.3
	baz=4.0										
WYL	**Yuanlin Townsh**	**0.52**	**240**	*e*P			**Pb**	12	22	54.9	+0.1
	baz=237										
LATG	**Datong**	**0.52**	**53**	⇑P			**Pg**	12	22	52.9	-0.5
	baz=56										
LATG				*e*S			**Sg**	12	22	59.7	-0.4
	baz=56										
ESL	**Shilin**	**0.52**	**141**	⇓P			**Pb**	12	22	54.0	-0.8
	baz=140										
ESL				*e*S			**Sg**	12	23	00.8	+0.6
	baz=140										
NSK	**Sanguang**	**0.52**	**30**	⇑P			**Pg**	12	22	52.8	-0.6
	baz=34										
NSK				*e*S			**Sg**	12	23	00.1	-0.1
	baz=34										
YHNB	**Yeheng**	**0.53**	**32**	⇑P			**Pg**	12	22	52.8	-0.7
	baz=35										
YHNB				*e*S			**Sg**	12	23	00.2	-0.2
	baz=35										
HWA	**Hwalien**	**0.54**	**116**	⇓*e*P			**Pb**	12	22	54.8	-0.4
	baz=117										
HWA				*e*S			**Sb**	12	23	03.1	-0.1
	baz=117										
NDT	**Datong Townshi**	**0.55**	**47**	⇑P			**Pg**	12	22	53.3	-0.7
	baz=49										
NDT				*e*S			**Sg**	12	23	00.0	-1.2
	baz=49										
HSN1	**Hsinchu**	**0.56**	**355**	*e*P			**Pg**	12	22	54.8	+0.7
	baz=357										
HSN1				*e*S			**Sb**	12	23	02.9	-0.8
	baz=357										
SBCB	**Hsinchu**	**0.57**	**352**	*e*P			**Pg**	12	22	55.2	+0.8
	baz=354										
SBCB				*e*S			**Sg**	12	23	03.3	+1.4
	baz=354										
HSN	**Hsinchu**	**0.59**	**351**	*e*P			**Pb**	12	22	56.2	+0.2
	baz=357										
TEYL	**Yanliau Villag**	**0.60**	**126**	⇓*e*P			**Pb**	12	22	55.3	-0.8
	baz=124									

YUS				eS	Sn	12 23 10.4	-2.0
	baz=187						
EHY	Hungye	0.75	162⇓	eP	Pg	12 22 57.7	0.0
	baz=161						
EHY				eS	Sb	12 23 08.7	-0.4
	baz=161						
ALS	Alishan	0.75	199	eP	Pg	12 22 57.8	+0.1
	baz=197						
ALS				eS	Sn	12 23 11.2	-1.2
	baz=197						
NCUH	Zhongli	0.75	8	eP	Pb	12 22 58.7	0.0
	baz=9.0						
NCU	National Centr	0.75	8	eP	Pb	12 22 58.9	+0.1
	baz=10.0						
NHW	Xinwu Township	0.78	358	eP	Pb	12 22 59.4	+0.1
	baz=360						
HGSD	Ruisui	0.79	156⇓	eP	Pb	12 22 59.0	-0.4
	baz=156						
HGSD				eS	Sb	12 23 10.2	-0.2
	baz=156						
NTY	Taoyuan	0.80	15	eP	Pb	12 23 00.1	+0.4
NTY				eS	Sb	12 23 10.4	-0.3
	baz=16						
WTCT	Ta-ch'eng	0.81	244	eP	Pb	12 22 59.6	0.0
	baz=242						
WTCT				eS	Sn	12 23 11.7	-1.7
	baz=242						
TWC	Suao	0.81	61⇑	eP	Pg	12 22 58.2	-0.6
	baz=64						
TWC				eS	Sg	12 23 09.2	-0.1
	baz=64						
WTK	Tuku	0.82	230	eP	Pb	12 22 59.6	-0.3
	baz=228						
WTK				eS	Sb	12 23 10.7	-0.5
	baz=228						
ILA	Ilan	0.82	48	eP	Pg	12 22 58.7	-0.4
	baz=51						
TATO	Taipei	0.84	27⇑	eP	Pg	12 22 59.4	-0.1
	baz=29						
NHDH	Xindian Distri	0.85	29⇑	eP	Pg	12 22 59.1	-0.4
	baz=31						
NHDH				eS	Sb	12 23 12.3	+0.3
	baz=31						
YULB	Yu-li	0.85	166⇓	eP	Pg	12 22 59.3	-0.3
	baz=165						
YULB				eS	Sb	12 23 11.9	-0.2
	baz=165						
CHN2	Minshiung	0.88	219	eP	Pn	12 23 01.2	-0.9
	baz=217						
TWA	Mucha	0.89	32	eP	Pg	12 22 59.9	-0.5
	baz=34						
TWF1	Yuli	0.89	167⇓	eP	Pg	12 23 00.1	-0.3
	baz=165						
TWF1				eS	Sb	12 23 13.2	0.0
	baz=165						
EYUL	Yuli	0.90	165⇓	eP	Pg	12 23 00.3	-0.3
	baz=165						
EYUL				eS	Sb	12 23 13.4	-0.1
	baz=165						
TAP	Taipei	0.91	26	eP	Pg	12 23 01.2	+0.5
	baz=28						
TWS1	Kuangyinshan	0.93	20⇑	eP	Pb	12 23 02.1	+0.3
	baz=22						
TWS1				eS	Sn	12 23 15.8	-0.7
	baz=22						
NHY	Taipei	0.93	29	eP	Pb	12 23 02.1	+0.2
	baz=31						
CHY	Chiayi	0.93	220	eP	Pb	12 23 01.7	-0.1
	baz=217						
NTC	Toucheng	0.94	47⇑	eP	Pg	12 23 00.2	-1.0
	baz=49						
NTC				eS	Sn	12 23 15.8	-0.8
	baz=49						
ECBN	Changbin	0.96	159	eP	Pn	12 23 02.9	-0.4
	baz=158						
CHN4	Tsaushan	0.97	207	eP	Pb	12 23 02.3	-0.2
	baz=205						
WSF	Szhu	0.97	233	eP	Pg	12 23 01.8	-0.1
	baz=231						
EGS		1.00	51	eP	Pg	12 23 02.0	-0.5
	baz=54						
EGS				eS	Sn	12 23 17.5	-0.7
	baz=54						
NTST	Danshui	1.00	20	eP	Pb	12 23 03.2	+0.2
	baz=21						
TPUB	Ta-pu	1.00	204	eP	Pb	12 23 02.9	-0.1
	baz=202						
TPUB				eS	Sn	12 23 17.4	-0.8
	baz=202						
TIPB	Shuangxi	1.01	42⇑	eP	Pg	12 23 01.9	-0.9
	baz=44						
TIPB				eS	Sg	12 23 15.3	-0.7
	baz=44						
YM01	YM01	1.03	26⇑	eP	Pg	12 23 03.2	+0.2
	baz=28						
YM01				eS	Sn	12 23 18.7	-0.2
	baz=28						
ELDTW	Lidau	1.03	183⇓	eP	Pg	12 23 01.6	-1.4
	baz=181						
ELDTW				eS	Sn	12 23 18.3	-0.7
	baz=181						
ANP	Anpu	1.04	23⇑	eP	Pg	12 23 03.7	+0.4
	baz=25						
ANP				eS	Sn	12 23 18.9	-0.6
	baz=25						
WTP	Ta-pu	1.06	203	eP	Pb	12 23 03.7	-0.3
	baz=202						
WTP				eS	Sn	12 23 20.0	+0.3
	baz=202						
NWF	Wu-fen Shan	1.06	37⇑	eP	Pg	12 23 03.4	-0.4
	baz=39						
NWF				eS	Sn	12 23 19.8	-0.2
	baz=39						
WFSB	Wu-fen Shan	1.06	37⇑	eP	Pg	12 23 03.4	-0.4
	baz=39						
WFSB				eS	Sn	12 23 19.8	-0.1
	baz=39						
YM08	YM08	1.07	26⇑	eP	Pg	12 23 03.8	-0.1
	baz=27						
YM08				eS	Sb	12 23 18.7	+0.1
	baz=27						
STYH	Taoyuan	1.08	195⇓	eP	Pg	12 23 03.3	-0.7
	baz=193						
STYH				eS	Sn	12 23 19.6	-0.6
	baz=193						
TWK	Hsinying	1.09	210⇑	eP	Pn	12 23 04.5	-0.6
	baz=208						
TWK				eS	Sn	12 23 20.3	-0.3
	baz=208						
STYT	Tauyuan	1.09	195	eP	Pg	12 23 03.9	-0.4
	baz=194						
STYT				eS	Sn	12 23 20.5	-0.1
	baz=194						
NWRT	Kuosheng	1.11	29	eP	Pg	12 23 04.9	+0.2
	baz=30						
ICHU	Yijhu	1.12	220	eP	Pb	12 23 04.7	-0.4
	baz=219						
ICHU				eS	Sn	12 23 20.5	-0.8
	baz=219						
TNOU	National Taiwa	1.12	34	eP	Pg	12 23 04.4	-0.4
	baz=36						
SNST	Tainan City	1.13	208	eP	Pn	12 23 05.0	-0.6
	baz=207						
ECS	Chishang	1.13	173	eP	Pb	12 23 04.9	-0.3
	baz=172						
SXI1	Grass Mountain	1.14	40⇑	eP	Pg	12 23 04.5	-0.6
	baz=41						
SXI1				eS	Sn	12 23 21.7	0.0
	baz=41						
CHN1	Nanshi	1.15	206	eP	Pb	12 23 05.2	-0.3
	baz=205						
TWB1	Santiao Chiao	1.15	47⇑	eP	Pg	12 23 04.1	-1.2
	baz=48						
TWB1				eS	Sn	12 23 21.5	-0.3
	baz=48						
CHKT	Chengkung	1.15	166	eP	Pn	12 23 05.4	-0.4
	baz=166						
TWY	Chenhua	1.16	24	eP	Pg	12 23 05.6	+0.1
	baz=26						
CHN8	Yiju	1.18	222	eP	Pb	12 23 05.6	-0.3
	baz=220						
CHN8				eS	Sn	12 23 22.9	+0.4
	baz=220						
SGST	Jiashian	1.22	202	eP	Pb	12 23 06.3	-0.5
	baz=200						
EDH	Donghe	1.26	170	eP	Pn	12 23 06.8	-0.6
	baz=170						
SLGT	Liugui	1.28	198	eP	Pg	12 23 08.6	+0.7
	baz=197						
LONT	Longtian	1.31	178	eP	Pg	12 23 08.2	-0.2
	baz=177						
LONT				eS	Sn	12 23 28.3	+2.4
	baz=177						
CHN3	Shinhua	1.31	210	eP	Pg	12 23 09.3	+0.9
	baz=209						
SCLT	Jiali	1.32	218	eP	Pg	12 23 08.2	-0.3
	baz=216						
SHHT	Tainan City	1.37	209	eP	Pg	12 23 10.1	+0.6
	baz=208						
TWG	Pinlang	1.39	180	eP	Pn	12 23 08.6	-0.6
	baz=179						
TWGBT	Beinan	1.40	180	eP	Pn	12 23 08.6	-0.7
	baz=179						
TWM1	Shoushan	1.51	203	eP	Pg	12 23 13.0	+0.6
	baz=202						
SSD	Sandimen	1.52	195	eP	Pg	12 23 12.4	-0.1
	baz=194						
PNG	Penghu	1.53	245	eP	Pn	12 23 10.0	-1.1
	baz=244						
PHUB	P'eng-hu	1.54	243	eP	Pn	12 23 10.2	-1.1
	baz=242						
TSMG	Majia	1.56	195	eP	Pb	12 23 12.3	-0.3
	baz=194						
LDUT	Ludao	1.58	167	eP	Pn	12 23 11.2	-0.7
	baz=166						
WDGT	Dungji	1.61	234	eP	Pn	12 23 11.7	-0.5
	baz=232						
ECL	Taimali	1.62	184	eP	Pb	12 23 13.1	-0.4
	baz=183						
MASBT	Mashibuluo	1.65	194	eP	Pb	12 23 13.9	-0.2
	baz=193						
VWUC	VWUC	1.66	298	eP	Pn	12 23 11.2	-1.8
	baz=297						
PCYT	Pengchaiyu	1.67	33	eP	Pn	12 23 13.0	-0.1
	baz=34						
JYNG	Yonagunijimaku	1.72	82	P	Pn	12 23 14.4	+0.6
JYNG				eS	Sb	12 23 37.5	+0.2
YOJ	Yonaguni jima	1.79	82	P	Pn	12 23 15.1	+0.5
YOJ				eS	Sb	12 23 38.9	-0.1
YOJ	Yonaguni jima	1.79	82	eP	Pn	12 23 15.2	+0.6
	baz=83						
VCHM	Qimei	1.81	237	eP	Pn	12 23 14.5	-0.5
	baz=235						
SLIU	Shizi	2.01	187	eP	Pn	12 23 18.1	+0.3
	baz=187						
MATB	Ma-tsu	2.18	332	eP	Pn	12 23 18.6	-1.4
	baz=332						
LAY	Lan-yu	2.22	168	eP	Pn	12 23 19.9	-0.7
	baz=168						
IRIF	Iriomote-Funau	2.43	87	P	Pb	12 23 25.5	-1.9
HATJ	Hateruma jima	2.50	93	eS	Sn	12 23 56.6	+1.3
JKRS	Kuro-shima	2.68	89	P	Pn	12 23 27.8	+0.8
JKRS				eS	Sn	12 24 01.8	+2.1
JIJ	Ishigaki jima	2.81	86	P	Pn	12 23 29.1	+0.4
JIJ				S	Sn	12 24 02.7	-0.1
JISG	Ishigakijimahi	2.98	82	P	Pn	12 23 31.8	+0.8
JISG				eS	Sn	12 24 07.7	+0.7
JTJ	Tarama	3.33	82	eS	Sn	12 24 18.6	+2.7
JIRB	Irabujima	3.78	80	eS	Sn	12 24 29.0	+2.1
JOW	Kunigami	7.01	67	P	Pn	12 24 26.9	+0.5
	2.1nm,0.3s,baz=194,slow=11,SNR=11						
KSRS	Korea Array	14.44	22	P	Pn	12 26 08.8	+0.7
	0.1nm,0.3s,baz=207,slow=15,SNR=2.1						
KSRS				LR	LR	12 32 07.4	
	comp=Z,34nm,21.3s,baz=215,slow=39						
MJAR	Matsushiro Arr	19.18	46	LR	LR	12 35 07.9	
	comp=Z,55nm,21.0s,baz=190,slow=39						
SONM	Songino Array	26.30	337	P	P	12 28 20.2	+0.5
	0.3nm,0.4s,baz=141,slow=9.3,SNR=2.1						
SONM				LR	LR	12 39 47.7	
	comp=Z,72nm,18.5s,baz=166,slow=38						
KLR	Kul'dur	26.34	16	LR	LR	12 39 32.6	
	comp=Z,50nm,20.8s,baz=249,slow=38						
MKAR	Makanchi Array	38.24	316	P	P	12 30 06.2	+2.1
	0.5nm,0.8s,baz=108,slow=10,SNR=4.0						
WRA	Warramunga Arr	45.76	162	P	P	12 31 03.4	-2.2
	0.5nm,0.6s,baz=344,slow=8.8,SNR=5.9						
ASAR	Alice Springs	49.20	164	P	P	12 31 31.5	-1.0
	0.3nm,0.8s,baz=342,slow=5.6,SNR=4.9						
AKTO	Aktyubinsk	54.68	316	LR	LR	12 57 49.7	
	comp=Z,25nm,20.0s,baz=150,slow=38						
STKA	Stephens Creek	59.13	160	P	P	12 32 43.8	-1.0
	1.4nm,0.6s,baz=355,slow=12,SNR=1.7						
FINES	FINESS Array B	71.36	330	P	P	12 34 05.9	+2.2
	1.9nm,0.9s,baz=92,slow=7.4,SNR=2.2						
NOA	NORSAR Array B	78.14	332	LR	LR	13 12 26.3	
	comp=Z,41nm,19.5s,baz=50,slow=38						
YKA	Yellowknife Ar	82.97	23	P	P	12 35 08.0	-1.0
	0.2nm,0.8s,baz=314,slow=4.6,SNR=2.7						

*NOU **21** 12:29:08.6, 41.76S×174.71E, h39km, MLv3.9/7, Cook Strait, New Zealand*

*WEL **21** 12:29:10.1, 42°S±3°×17°5E±°, h45km±4km, M3.0/12, ML3.2/12, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=114.4*

ISC 21 12:29:08.2±1.4, 41.69S±0.04×174.56E±0.04, h65km±8km, n102, σ1.00/108, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.27	256	P	Pn	12 29 19.4	+0.8
CMWZ				S	Sn	12 29 26.8	+0.5
BHW	Baring Head	0.36	40	P	Pn	12 29 19.9	+0.6
BHW				S	Sn	12 29 26.9	-0.5
SNZO	South Karori	0.39	16	P	Pn	12 29 20.0	+0.5
WEL	Wellington	0.43	21	P	Pn	12 29 20.4	+0.5
WEL				S	Sn	12 29 27.9	-0.6
BSWZ	Blackbirch Sta	0.52	266	P	Pn	12 29 21.1	+0.3
BSWZ				S	Sn	12 29 29.2	-0.7
TCW	Tory Channel	0.52	336	P	Pn	12 29 20.6	-0.2
TCW				S	Sn	12 29 27.8	-2.3
TUWZ	Tuamarina	0.53	299	P	Pn	12 29 20.6	-0.3
PLWZ	Palliser	0.53	78	P	Pn	12 29 22.3	+1.3
MSWZ	Moikau Station	0.58	63	P	Pn	12 29 22.6	+1.1
MSWZ				S	Sn	12 29 31.9	+0.7
CAW	Cannon Point	0.69	33	P	Pn	12 29 23.4	+0.7
CAW				S	Sn	12 29 33.3	0.0
PAWZ	Paruwai Farm	0.72	65	P	Pn	12 29 24.0	+1.0
KIW	Kapiti Island	0.86	18	P	Pn	12 29 25.5	+0.7
KIW				S	Sn	12 29 36.2	-0.8
MTW	Mount Morrison	0.88	54	P	Pn	12 29 25.8	+0.8
TRWZ	Traveller	0.89	72	P	Pn	12 29 26.4	+1.3
OGWZ	Otaki Gorge	0.98	28	P	Pn	12 29 27.0	+0.8
NNZ	Nelson	1.00	297	P	Pn	12 29 26.6	+0.1
DUWZ	D'Urville Isla	1.01	331	P	Pn	12 29 26.9	+0.3
KHZ	Kahutara	1.05	226	P	Pn	12 29 28.4	+1.3
KHZ	Kahutara	1.05	226	P	Pn	12 29 28.5	+1.4
HOWZ	Holdsworth Sta	1.07	43	P	Pn	12 29 27.9	+0.6
TMWZ	Te Maipa	1.15	60	P	Pn	12 29 29.3	+0.8
THZ	Tophouse	1.24	266	P	Pn	12 29 30.0	+0.3
MRZ	Mangatainoka R	1.28	37	P	Pn	12 29 30.8	+0.7
TIWZ	Tintock	1.35	48	P	Pn	12 29 31.5	+0.5
TKNZ	Takaka Hill	1.37	298	P	Pn	12 29 31.8	+0.5
MRNZ	Matariki Terra	1.39	281	P	Pn	12 29 32.0	+0.5
CPWZ	Castlepoint	1.46	58	P	Pn	12 29 33.4	+0.9
PRWZ	Pori Road	1.55	44	P	Pn	12 29 34.3	+0.6
POWZ	Post Office Ro	1.58	36	P	Pn	12 29 34.7	+0.5
OHWZ	Ohakea	1.58	21	P	Pn	12 29 36.0	+1.9
BFZ	Birch Farm	1.62	52	P	Pn	12 29 34.8	+0.2
GVZ	Greta Valley S	1.71	221	P	Pn	12 29 36.9	+1.1
QRZ	Quartz Range	1.76	299	P	Pn	12 29 37.3	+0.8
QRZ	Quartz Range	1.76	299	P	Pn	12 29 37.7	+1.2
DVHZ	Dannevirke	1.84	42	P	Pn	12 29 37.6	0.0
TSZ	Takapari Road	1.94	34	P	Pn	12 29 39.4	+0.4
WAZ	Wanganui	1.96	10	P	Pn	12 29 41.5	+2.4
LTZ	Lake Taylor	2.02	236	P	Pn	12 29 40.9	+0.8
AMCZ	Amberley	2.06	223	P	Pn	12 29 41.2	+0.7
DSZ	Denniston Nort	2.06	267	P	Pn	12 29 41.3	+0.7
PRHZ	Porangahau	2.12	49	P	Pn	12 29 41.1	-0.2
WPHZ	Waipukurau	2.16	42	P	Pn	12 29 42.0	+0.2
PNHZ	Pukenui	2.16	36	P	Pn	12 29 42.1	+0.1
OKCZ	Okains Bay	2.32	208	P	Pn	12 29 44.7	+0.6
PXZ	Pawanui	2.40	47	P	Pn	12 29 44.5	-0.7
NEZ	North Egmont	2.44	351	P	Pn	12 29 49.7	+4.0
MOVZ	Moawhango	2.45	22	P	Pn	12 29 46.7	+0.8
KRHZ	Kereru	2.46	35	P	Pn	12 29 46.0	0.0
MQZ	McQueen's Vall	2.46	214	P	Pn	12 29 45.8	-0.1
NBEZ	Newall Road No	2.47	347	P	Pn	12 29 50.3	+4.2
BHHZ	Black Hill Sta	2.47	28	P	Pn	12 29 46.7	+0.5
OXZ	Oxford	2.48	228	P	Pn	12 29 46.1	-0.2
WNVZ	Wahianoa	2.48	19	P	Pn	12 29 48.0	+1.5
TRVZ	Turoa	2.50	18	P	Pn	12 29 48.4	+1.7
AKCZ	Akaroa Harbour	2.50	209	P	Pn	12 29 47.0	+0.5
WHVZ	Whangaehu Hut	2.52	18	P	Pn	12 29 48.6	+1.6
INZ	Inchbonnie	2.54	245	P	Pn	12 29 47.6	+0.5
FWVZ	Far West T-bar	2.54	18	P	Pn	12 29 48.8	+1.4
TUVZ	Tukino	2.56	19	P	Pn	12 29 48.9	+1.5
VRZ	Vera Road	2.56	3	P	Pn	12 29 49.5	+2.1
KAHZ	Kahuranaki	2.58	44	P	Pn	12 29 47.3	-0.4
NGZ	Ngauruhoe	2.63	18	P	Pn	12 29 50.1	+1.6
SNVZ	South Ngauruho	2.63	19	P	Pn	12 29 48.3	-0.2
OTVZ	Oturere	2.66	19	P	Pn	12 29 50.2	+1.4
KWHZ	Kaweka Forest	2.67	33	P	Pn	12 29 48.7	-0.1
NNVZ	North Ngauruho	2.67	18	P	Pn	12 29 50.9	+1.8
ETVZ	East Tongariro	2.69	19	P	Pn	12 29 50.5	+1.3
RACZ	Rakaia	2.71	220	P	Pn	12 29 49.2	-0.1
TMVZ	Te Maari	2.71	19	P	Pn	12 29 50.7	+1.2
NTVZ	North Tongarir	2.72	19	P	Pn	12 29 51.1	+1.4
MCHZ	McNeill Hill	2.77	37	P	Pn	12 29 50.0	-0.2
BKZ	Black Stump Fm	2.92	31	P	Pn	12 29 51.9	-0.4
WACZ	Wakanui South	3.02	221	P	Pn	12 29 53.6	0.0
ARHZ	Aropaoanui	3.05	38	P	Pn	12 29 53.5	-0.5
NMHZ	Naumai	3.10	34	P	Pn	12 29 54.4	-0.4
WVZ	Waitaha Valley	3.16	243	P	Pn	12 29 55.8	+0.4
HIZ	Hauiti	3.18	4	P	Pn	12 29 57.9	+2.1
HIZ	Hauiti	3.18	4	P	Pn	12 29 58.1	+2.3
MRHZ	Matea Rd	3.18	27	P	Pn	12 29 55.6	-0.3
RPZ	Rata Peaks	3.29	231	P	Pn	12 29 57.3	+0.1
RPZ	Rata Peaks	3.29	231	P	Pn	12 29 57.5	+0.3
ARCZ	Arundel	3.36	227	P	Pn	12 29 58.7	+0.4
RAHZ	Arahi	3.37	36	P	Pn	12 29 57.5	-1.0
TLZ	Tolley Road	3.44	13	P	Pn	12 30 00.3	+1.0
KNZ	Kokohu	3.57	43	P	Pn	12 29 59.7	-1.3
RTZ	Ruatahuna	3.58	32	P	Pn	12 30 00.5	-0.8
SNGZ	Shannon Statio	3.60	37	P	Pn	12 30 00.4	-1.1
MUGZ	Murupara	3.62	29	P	Pn	12 30 01.2	-0.7
TMZ	Timaru	3.75	223	P	Pn	12 30 03.7	+0.2
RIGZ	Rimuhau	3.85	41	P	Pn	12 30 03.5	-1.5
URZ	Urewera	3.94	31	P	Pn	12 30 04.7	-1.4
URZ	Urewera	3.94	31	P	Pn	12 30 05.9	-0.3
FOZ	Fox Glacier	3.96	241	P	Pn	12 30 06.6	+0.2
MWZ	Matawai	4.05	35	P	Pn	12 30 05.8	-1.9
LBZ	Lake Benmore	4.19	228	P	Pn	12 30 10.0	+0.4
ODZ	Otahua Downs	4.41	219	P	Pn	12 30 12.3	-0.2
ODZ	Otahua Downs	4.41	219	P	Pn	12 30 13.1	+0.6
RUGZ	Raukumara Rang	4.42	34	P	Pn	12 30 11.5	-1.3
HAZ	Te Kaha	4.64	33	P	Pn	12 30 14.8	-1.0
EAZ	Earnscleugh	5.21	225	P	Pn	12 30 22.6	-0.9
TUZ	Tuapeka	5.56	218	P	Pn	12 30 27.4	-0.9
CTZ	Chatham Island	6.81	110	P	Pn	12 30 47.3	+1.9

TAP 21 12:33:21.9, 24.24N×121.06E, h5km, ML3.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWT	Tachien	0.10	84	P	Pg	12 33 24.5	+0.3
	baz=87						
TWT				S	Sg	12 33 26.1	+0.4
	baz=87						
WHP	Taichung City	0.11	288	P	Pg	12 33 24.8	+0.5
	baz=288						
WHP				eS	Sg	12 33 27.0	+1.0
	baz=288						
CHGB	Renai	0.21	151	P	Pg	12 33 26.8	+0.8
	baz=150						
CHGB				S	Sg	12 33 29.8	+1.0
	baz=150						
WHF	Hehuan Shan	0.21	118	P	Pg	12 33 27.4	+1.2
	baz=118						
WHF				S	Sg	12 33 31.0	+2.1
	baz=118						
WCS	Beigang Elemen	0.23	217	eP	Pg	12 33 27.1	+0.6
	baz=206						
WUSB	Renai	0.26	169	P	Pg	12 33 27.4	+0.5
	baz=167						
WUSB				S	Sg	12 33 30.8	+0.5
	baz=167						
TWQ1	Liyutan	0.28	292	eP	Pb	12 33 28.9	-0.6
	baz=291						
TWQ1				eS	Sb	12 33 33.9	-0.8
	baz=291						
OWD	Renai	0.30	160	P	Pg	12 33 28.6	+0.7
	baz=160						
OWD				S	Sg	12 33 32.5	+0.5
	baz=160						
NSY	Sanyi	0.33	302	eP	Pb	12 33 29.9	-0.4
	baz=302						
NNS	Nan Shan	0.34	55	eP	Pg	12 33 29.4	+0.7
	baz=57						
NNS				eS	Sg	12 33 34.7	+1.5
	baz=57						
NNSB	Datong	0.34	58	P	Pg	12 33 29.1	+0.5
	baz=58						
NNSB				S	Sg	12 33 33.5	+0.3
	baz=58						
TCU	Taichung	0.37	255	eP	Pb	12 33 30.7	-0.3
	baz=253						
TCU				eS	Sb	12 33 37.3	+0.4
	baz=253						
ETLH	Xiulin Townshi	0.38	95	eP	Pg	12 33 30.5	-0.7
	baz=96						
ETLH				eS	Sb	12 33 36.0	-1.5
	baz=96						
NMLH	Miaoli	0.38	320	eP	Pb	12 33 31.2	0.0
	baz=320						
NMLH				eS	Sb	12 33 37.3	-0.2
	baz=320						
TYC	Yuchr	0.39	209	eP	Pg	12 33 29.8	+0.4
	baz=206						
TYC				eS	Sb	12 33 36.3	-1.2
	baz=206						
SMLT	Sun Moon Lake	0.39	203	eP	Pg	12 33 30.2	+0.7
	baz=200						
SMLT				eS	Sb	12 33 36.2	-1.5
	baz=200						
NFF	Wufeng Townshi	0.39	7	eP	Pg	12 33 30.1	+0.6
	baz=23						
NFF				eS	Sg	12 33 36.1	+1.4
	baz=23						
NSTT	Nanjuang	0.39	352	eP	Pb	12 33 30.7	-0.6
	baz=353						
NSTT				eS	Sb	12 33 36.6	-1.1
	baz=353						
WDJ	Dajia District	0.40	285	eP	Pb	12 33 31.6	+0.1
	baz=284						
WDJ				eS	Sb	12 33 37.6	-0.4
	baz=284						
LIOB	Emei	0.40	354	eP	Pb	12 33 31.0	-0.6
	baz=356						
LIOB				eS	Sb	12 33 37.2	-0.9
	baz=356						
SSLB	Suanglung	0.46	193	eP	Pg	12 33 30.9	0.0
	baz=181						
SSLB				eS	Sb	12 33 38.6	-1.2
	baz=181						
NACB	Ninganchiao	0.49	98	P	Pb	12 33 32.5	-0.6
	baz=99						
NACB				S	Sb	12 33 39.3	-1.2
	baz=99						
WCHH	Zhanghua	0.49	251	eP	Pb	12 33 33.4	+0.4
	baz=248						
WCHH				eS	Sb	12 33 39.8	-0.7
	baz=248						
VWDT	VWDT	0.49	172	eP	Pg	12 33 31.7	+0.3
	baz=170						
VWDT				eS	Sb	12 33 37.7	-0.1
	baz=170						
WNT	Mingjian	0.50	224	eP	Pb	12 33 33.6	+0.4
	baz=212						
WNT				eS	Sb	12 33 41.8	+1.0
	baz=212						
NSK	Sanguang	0.51	32	eP	Pg	12 33 32.2	+0.5
	baz=36						
NSK				eS	Sb	12 33 39.9	-1.2
	baz=36						
YHNB	Yeheng	0.51	34	P	Pg	12 33 32.1	+0.3
	baz=37						
YHNB				eS	Sg	12 33 38.6	+0.1
	baz=37						
LATG	Datong	0.51	55	P	Pg	12 33 32.2	+0.4
	baz=47						
LATG				S	Sg	12 33 38.9	+0.4
	baz=47						
TWD	Chiawan	0.51	108	P	Pb	12 33 32.9	-0.5

	baz=101										
TWD					S		Sb	12 33 40.0	-1.1		
	baz=101										
ETL	**Fush Village**	**0.52**	**99**		P		Pb	12 33 32.9	-0.6		
	baz=92										
ETL					S		Sg	12 33 39.6	+0.9		
	baz=92										
WJS	**Zhushan**	**0.52**	**216**		*eP*		Pb	12 33 33.5	0.0		
	baz=209										
WJS					*eS*		Sb	12 33 41.7	+0.3		
	baz=209										
ESL	**Shilin**	**0.54**	**142**		*eP*		Pb	12 33 33.4	-0.6		
	baz=141										
ESL					*eS*		Sg	12 33 40.2	+0.7		
	baz=141										
NDT	**Datong Townshi**	**0.54**	**49**		*eP*		Pg	12 33 32.8	+0.4		
	baz=52										
NDT					*eS*		Sg	12 33 39.6	+0.1		
	baz=52										
SBCB	**Hsinchu**	**0.55**	**353**		*eP*		Pb	12 33 34.5	+0.4		
	baz=354										
SBCB					*eS*		Sb	12 33 42.4	+0.1		
	baz=354										
HWA	**Hwalien**	**0.56**	**118**		*eP*		Pb	12 33 34.1	-0.2		
	baz=131										
HWA					*eS*		Sb	12 33 42.3	-0.2		
	baz=131										
HSN	**Hsinchu**	**0.56**	**351**		*eP*		Pb	12 33 34.1	-0.2		
	baz=13										
HSN					*eS*		Sb	12 33 43.3	+0.7		
	baz=13										
ENTT	**Nioudou**	**0.60**	**49**		P		Pg	12 33 34.0	+0.4		
	baz=41										
ENTT					*eS*		Sg	12 33 42.5	+1.1		
	baz=41										
ENA	**Nanau**	**0.64**	**73**		P		Pg	12 33 35.0	+0.6		
	baz=75										
ENA					*eS*		Sb	12 33 44.0	-0.9		
	baz=75										
EGFH	**Guangfu**	**0.66**	**150**		*eP*		Pg	12 33 34.9	+0.3		
	baz=149										
EGFH					*eS*		Sg	12 33 43.8	+0.5		
	baz=149										
NWLT	**Wulai**	**0.67**	**37**		*eP*		Pg	12 33 34.9	+0.2		
	baz=50										
NWLT					*eS*		Sg	12 33 43.4	0.0		
	baz=50										
EWUT	**Wuta**	**0.68**	**73**		*eP*		Pg	12 33 35.2	+0.1		
	baz=74										
EWUT					*eS*		Sg	12 33 44.1	+0.2		
	baz=74										
FUSB	**Fushanzhiwuyua**	**0.70**	**43**		*eP*		Pg	12 33 35.5	+0.1		
	baz=45										
FUSB					*eS*		Sg	12 33 44.3	-0.2		
	baz=45										
NDS	**Dongshan**	**0.71**	**57**		P		Pg	12 33 35.9	+0.3		
	baz=59										
NDS					S		Sg	12 33 45.6	+0.8		
	baz=59										
WRL	**Guolierlin Hig**	**0.71**	**242**		*eP*		Pb	12 33 37.4	+0.6		
	baz=239										
WRL					*eS*		Sb	12 33 46.9	-0.1		
	baz=239										
TWE	**Neicheng**	**0.73**	**49**		P		Pg	12 33 36.4	+0.5		
	baz=43										
TWE					*eS*		Sb	12 33 46.4	-0.9		
	baz=43										
NCUH	**Zhongli**	**0.73**	**9**		*eP*		Pb	12 33 37.5	+0.4		
	baz=11										
NCUH					*eS*		Sn	12 33 49.0	-1.5		
	baz=11										
NCU	**National Centr**	**0.73**	**9**		*eP*		Pn	12 33 38.3	-0.7		
	baz=11										
NCU					*eS*		Sn	12 33 49.0	-1.5		
	baz=11										
WDLH	**Douliu**	**0.73**	**221**		*eP*		Pb	12 33 37.5	+0.4		
	baz=219										
WDLH					*eS*		Sn	12 33 49.0	-1.4		
	baz=219										
YUS	**Yu-Shan**	**0.76**	**188**		*eP*		Pg	12 33 36.5	0.0		
	baz=178										
YUS					*eS*		Sb	12 33 47.5	-1.1		
	baz=178										
ALS	**Alishan**	**0.77**	**198**		*eP*		Pg	12 33 37.2	+0.5		
	baz=188										
ALS					*eS*		Sb	12 33 48.1	-0.6		
	baz=188										
EHY	**Hungye**	**0.77**	**162**		*eP*		Pg	12 33 37.0	+0.3		
	baz=161										
EHY					*eS*		Sb	12 33 48.1	-0.5		
	baz=161										
TWC	**Suao**	**0.80**	**63**		*eP*		Pg	12 33 37.8	+0.5		
	baz=65										
TWC					*eS*		Sg	12 33 48.4	+0.6		
	baz=65										
ILA	**Ilan**	**0.81**	**50**		*eP*		Pg	12 33 37.6	+0.1		
	baz=45										
ILA					*eS*		Sb	12 33 49.4	-0.4		
	baz=45										
HGSD	**Ruisui**	**0.82**	**156**		*eP*		Pg	12 33 37.8	+0.2		
	baz=163										
HGSD					*eS*		Sb	12 33 49.7	-0.2		
	baz=163										
WTK	**Tuku**	**0.83**	**228**		*eP*		Pg	12 33 37.9	+0.1		
	baz=226										
WTK					*eS*		Sb	12 33 50.3	+0.1		
	baz=226										
NHDH	**Xindian Distri**	**0.83**	**30**		*eP*		Pg	12 33 38.2	+0.4		
	baz=40										
NHDH					*eS*		Sb	12 33 49.9	-0.4		
	baz=40										
TWA	**Mucha**	**0.87**	**33**		*eP*		Pb	12 33 39.3	-0.3		
	baz=44										
TWA					*eS*		Sb	12 33 51.0	-0.5		
	baz=44										
YULB	**Yu-li**	**0.87**	**166**		*eP*		Pg	12 33 38.5	-0.2		
	baz=156										
YULB					*eS*		Sb	12 33 51.0	-0.5		
	baz=156										
CHN2	**Minshiung**	**0.89**	**217**		*eP*		Pn	12 33 40.5	-0.6		
	baz=215										
CHN2					*eS*		Sn	12 33 54.2	-0.1		
	baz=215										
TWS1	**Kuangyinshan**	**0.91**	**21**		*eP*		Pn	12 33 41.5	0.0		
	baz=34										
TWS1					*eS*		Sn	12 33 54.0	-0.9		
	baz=34										
EYUL	**Yuli**	**0.92**	**165**		*eP*		Pg	12 33 39.6	0.0		
	baz=164										
EYUL					*eS*		Sb	12 33 52.5	-0.4		
	baz=164										
NTC	**Toucheng**	**0.93**	**49**		*eP*		Pg	12 33 39.7	0.0		
	baz=41										
NTC					*eS*		Sb	12 33 52.4	-0.7		
	baz=41										
CHY	**Chiayi**	**0.94**	**218**		*eP*		Pb	12 33 41.1	+0.3		
	baz=215										
CHY					*eS*		Sn	12 33 55.0	-0.7		
	baz=215										
WSF	**Szhu**	**0.98**	**232**		*eP*		Pb	12 33 41.5	+0.2		
	baz=229										
WSF					*eS*		Sn	12 33 56.0	-0.5		
	baz=229										
NTST	**Danshui**	**0.98**	**21**		*eP*		Pn	12 33 42.7	+0.4		
	baz=25										
NTST					*eS*		Sn	12 33 56.5	-0.1		
	baz=25										
CHN4	**Tsaushan**	**0.99**	**206**		*eP*		Pn	12 33 42.4	-0.1		
	baz=189										
CHN4					*eS*		Sn	12 33 57.3	+0.6		
	baz=189										
EGS		**0.99**	**53**		*eP*		Pg	12 33 40.9	-0.1		
	baz=56										
EGS					*eS*		Sb	12 33 55.1	+0.1		
	baz=56										
TIPB	**Shuangxi**	**1.00**	**44**		*eP*		Pg	12 33 41.2	0.0		
	baz=46										
TIPB					*eS*		Sg	12 33 52.5	-1.7		
	baz=46										
YM01	**YM01**	**1.01**	**27**		*eP*		Pn	12 33 42.8	0.0		
	baz=41										
YM01					*eS*		Sn	12 33 57.5	+0.1		
	baz=41										
TPUB	**Ta-pu**	**1.02**	**203**		*eP*		Pb	12 33 42.2	+0.1		
	baz=200										
TPUB					*eS*		Sb	12 33 56.5	+0.8		
	baz=200										
ANP	**Anpu**	**1.03**	**24**		*eP*		Pn	12 33 43.1	0.0		
	baz=29										
ANP					*eS*		Sn	12 33 57.3	-0.6		
	baz=29										
ELDTW	**Lidau**	**1.05**	**182**		*eP*		Pg	12 33 41.3	-0.8		
	baz=174										
ELDTW					*eS*		Sb	12 33 56.4	-0.4		
	baz=174										
NWF	**Wu-fen Shan**	**1.05**	**38**		*eP*		Pb	12 33 42.8	+0.1		
	baz=53										
NWF					*eS*		Sb	12 33 56.7	-0.1		
	baz=53										
WTP	**Ta-pu**	**1.07**	**203**		*eP*		Pn	12 33 43.5	-0.2		
	baz=200										
WTP					*eS*		Sn	12 33 59.0	0.0		
	baz=200										
STYH	**Taoyuan**	**1.10**	**194**		*eP*		Pg	12 33 42.4	-0.6		
	baz=186										
STYH					*eS*		Sb	12 33 58.1	0.0		
	baz=186										
TWK	**Hsinying**	**1.11**	**209**		*eP*		Pn	12 33 44.0	-0.1		
	baz=205										
TWK					*eS*		Sn	12 34 00.8	+1.0		
	baz=205										
SXI1	**Grass Mountain**	**1.12**	**41**		*eP*		Pb	12 33 44.0	+0.1		
	baz=44										
SXI1					*eS*		Sg	12 33 57.6	-0.5		
	baz=44										
ICHU	**Yijhu**	**1.14**	**219**		*eP*		Pn	12 33 44.3	-0.1		
	baz=230										
ICHU					*eS*		Sn	12 34 00.8	+0.4		
	baz=230										
TWB1	**Santiao Chiao**	**1.14**	**48**		*eP*		Pg	12 33 43.4	-0.3		
	baz=43										
TWB1					*eS*		Sg	12 33 57.9	-0.6		
	baz=43										
TWY	**Chenhua**	**1.14**	**25**		*eP*		Pn	12 33 45.1	+0.6		
	baz=30										
TWY					*eS*		Sb	12 33 59.4	+0.2		
	baz=30										
SNST	**Tainan City**	**1.14**	**207**		*eP*		Pn	12 33 45.1	+0.6		
	baz=204										
SNST					*eS*		Sn	12 34 01.9	+1.3		
	baz=204										
CHN1	**Nanshi**	**1.16**	**205**		*eP*		Pn	12 33 45.1	+0.2		
	baz=202										
CHN1					*eS*		Sn	12 34 01.4	+0.3		
	baz=202										
CHKT	**Chengkung**	**1.17**	**166**		*eP*		Pn	12 33 45.1	+0.2		
	baz=150										
CHKT					*eS*		Sn	12 34 02.5	+1.2		
	baz=150										
CHN8	**Yiju**	**1.19**	**221**		*eP*		Pn	12 33 45.0	-0.1		
	baz=218										
CHN8					*eS*		Sn	12 34 02.6	+1.0		
	baz=218										
SGST	**Jiashian**	**1.24**	**201**		*eP*		Pn	12 33 46.0	+0.1		
	baz=198										
SGST					*eS*		Sn	12 34 04.1	+1.1		
	baz=198										
EDH	**Donghe**	**1.28**	**170**		*eP*		Pb	12 33 46.7	+0.1		
	baz=152										
EDH					*eS*		Sn	12 34 05.5	+1.5		
	baz=152										
SLGT	**Liugui**	**1.30**	**197**		*eP*		Pg	12 33 48.1	+1.2		
	baz=182										
SLGT					*eS*		Sn	12 34 06.5	+1.9		
	baz=182										
CHN3	**Shinhua**	**1.33**	**209**		*eP*		Pg	12 33 49.0	+1.6		
	baz=219										
CHN3					*eS*		Sn	12 34 08.8	+3.7		
	baz=219										
SCLT	**Jiali**	**1.33**	**217**		*eP*		Pg	12 33 47.9	+0.5		
	baz=226										
SCLT					*eS*		Sn	12 34 08.1	+2.9		
	baz=226										
LONT	**Longtian**	**1.33**	**177**		*eP*		Pg	12 33 47.5	+0.1		
	baz=169										
LONT					*eS*		Sg	12 34 04.6	-0.2		
	baz=169										
SHHT	**Tainan City**	**1.38**	**209**		*eP*		Pg	12 33 49.7	+1.3		
	baz=205										
SHHT					*eS*		Sn	12 34 10.9	+4.4		
	baz=205										
TWG	**Pinlang**	**1.42**	**180**		*eP*		Pg	12 33 49.1	0.0		
	baz=172										
TWG					*eS*		Sb	12 34 07.1	-0.1		
	baz=172										
TWGBT	**Beinan**	**1.42**	**179**		*eP*		Pb	12 33 48.7	-0.1		
	baz=172										
TWGBT					*eS*		Sb	12 34 07.2	-0.1		
	baz=172										
SCST	**Cishan**	**1.45**	**201**		*eP*		Pg	12 33 49.7	0.0		
	baz=197										
SCST					*eS*		Sg	12 34 10.6	+2.1		
	baz=197										
TWM1	**Shoushan**	**1.53**	**203**		*eP*		Pg	12 33 51.2	0.0		
	baz=201										
PNG	**Penghu**	**1.54**	**244**		*eP*		Pb	12 33 50.5	-0.4		
	baz=228										
PNG					*eS*		Sg	12 34 11.1	-0.2		
	baz=228										
SSD	**Sandimen**	**1.54**	**195**		*eP*		Pg	12 33 51.4	-0.1		
	baz=191										
SSD					*eS*		Sg	12 34 13.2	+1.7		
	baz=191										
PHUB	**P'eng-hu**	**1.55**	**242**		*eP*		Pn	12 33 50.0	-0.1		
	baz=226										
PHUB					*eS*		Sg	12 34 11.6	-0.1		
	baz=226										
TSMG	**Majia**	**1.58**	**194**		*eP*		Pg	12 33 52.3	+0.1		
	baz=191										
TSMG					*eS*		Sg	12 34 14.4	+1.8		
	baz=191										
LDUT	**Ludao**	**1.61**	**167**		*eP*		Pn	12 33 51.1	+0.1		
	baz=152										
WDGT	**Dungji**	**1.62**	**233**		*eP*		Pn	12 33 51.6	+0.5		
	baz=241										
WDGT					*eS*		Sb	12 34 12.9	-0.1		
	baz=241										
ECL	**Taimali**	**1.64**	**184**		*eP*		Pb	12 33 53.0	+0.3		
	baz=166										
ECL					*eS*		Sg	12 34 14.7	0.0		
	baz=166										
VWUC	**VWUC**	**1.65**	**297**		*eP*		Pn	12 33 50.7	-0.8		
	baz=296										
VWUC					*eS*		Sn	12 34 12.2	-0.9		
	baz=296										
PCYT	**Pengchaiyu**	**1.66**	**33**		*eP*		Pn	12 33 52.1	+0.4		
	baz=24										
PCYT					*eS*		Sn	12 34 12.2	-1.1		
	baz=24										
MASBT	**Mashibuluo**	**1.67**	**194**		*eP*		Pb	12 33 53.2	0.0		
	baz=189										
MASBT					*eS*		Sg	12 34 17.4	+1.7		
	baz=189										
YOJ	**Yonaguni jima**	**1.79**	**83**		*eP*		Pb	12 33 54.7	-0.5		
	baz=83										
YOJ					*eS*		Sg	12 34 18.8	-0.7		
	baz=83										
SSPT	**Xinbi**	**1.81**	**195**		*eP*		Pb	12 33 55.8	+0.3		
	baz=193										
VCHM	**Qimei**	**1.82**	**236**		*eP*		Pb	12 33 55.1	-0.5		
	baz=232										
VCHM					*eS*		Sb	12 34 19.2	+0.5		
	baz=232										
EAST	**Anshuo**	**1.86**	**186**		*eP*		Pb	12 33 56.3	-0.2		
	baz=175										
TAWH	**Dawu Township**	**1.90**	**185**		*eP*		Pn	12 33 55.7	+0.7		
	baz=166										
SCZT	**Fangliau**	**1.91**	**192**		*eP*		Pb	12 33 57.4	+0.2		
	baz=188										
SCZT					*eS*		Sg	12 34 22.4	-0.8		
	baz=188										
PTMZ	**Houxiangcun**	**1.94**	**295**		*eP*		Pn	12 33 56.2	+0.7		
	baz=293										
PTMZ					*eS*		Sb	12 34 21.4	-0.9		
	baz=293										
SLIU	**Shizi**	**2.03**	**187**		*eP*		Pb	12 33 59.7	+0.3		
	baz=200										
SLIU					*eS*		Sg	12 34 27.3	0.0		
	baz=200										
MATB	**Ma-tsu**	**2.15**	**332**		*eP*		Pn	12 33 59.3	+0.9		
	baz=334										
MATB					*eS*		Sn	12 34 26.2	+0.7		
	baz=334										
LAY	**Lan-yu**	**2.24**	**168**		*eP*		Pn	12 33 59.6	-0.1		
	baz=155										
LAY					*eS*		Sn	12 34 28.1	+0.3		
	baz=155										
LYUB	**Lan-yu**	**2.28**	**168**		*eP*		Pn	12 33 59.2	-1.0		
	baz=155										
LYUB					*eS*		Sn	12 34 27.7	-1.0		
	baz=155										
TWKBT	**Hengchun**	**2.30**	**186**		*eP*		Pb	12 34 02.6	-1.3		
	baz=198										
TWKBT					*eS*		Sb	12 34 32.1	-0.6		
	baz=198										
KNM	**Kinmen**	**2.41**	**275**		*eP*		Pb	12 34 04.8	-0.9		
	baz=272										
KNM					*eS*		Sb	12 34 36.2	+0.5		
	baz=272										
KNMB	**Chin-men Tao**	**2.45**	**276**		*eP*		Pn	12 34 03.9	+1.3		
	baz=273										
KNMB					*eS*		Sn	12 34 34.8	+1.9		
	baz=273										
LYJJ	**Jianjiangzhen**	**2.58**	**333**		*eP*		Pn	12 34 05.6	+1.2		
	baz=336										
LYJJ					*eS*		Sn	12 34 37.4	+1.2		
	baz=336										
MHZQ	**Yeshan**	**2.61**	**316**		*eP*		Pn	12 34 05.8	+1.1		
	baz=315										
MHZQ					*eS*		Sn	12 34 37.7	+0.9		
	baz=315										
XPSS	**Dashiqiu**	**2.79**	**344**		*eP*		Pn	12 34 08.7	+1.4		
	baz=348										
XPSS					*eS*		Sn	12 34 42.4	+1.1		
	baz=348										
AXDP	**Jialang**	**2.89**	**284**		*eP*		Pn	12 34 09.8	+1.2		
	baz=281										
AXDP					*eS*		Sn	12 34 45.3	+1.5		
	baz=281										
ZPLA	**Ao Xicun**	**3.04**	**265**		*eP*		Pn	12 34 12.6	+1.9		
	baz=276										
ZPLA					*eS*		Sn	12 34 49.7	+2.2		
	baz=276										
SXFK	**Yanhouchang**	**3.77**	**305**		*eS*		Sn	12 35 06.8	+1.3		
	baz=304										

*IDC **21** 12:35:30.2±1.1,14°.87N×122°.88E,h0km,mb3.5/8, mb1 3.7/8,mb1mx3.5/47,mbtmp3.6/8,ML4.7/1,MS3.1/4, Ms1 3.1/4,ms1mx2.6/65,Error ellipse: s-maj=25.6km s-min=19.5km az=67.0*

*MAN **21** 12:35:32.6,14°.98N×122°.58E,h1km,mb4.6,ML3.5,MS3.4*

*NEIC **21** 12:35:37.6±0.6,14°.6N±0°.1×122°.4E±0°.2,h52km±9km, mb4.4/13,Error ellipse: s-maj=32.7km s-min=14.4km az=63.0*

ISC 21 12:35:37.1±1.2,14°.86N±0°.06×122°.60E±0°.05,h59km±11km, n44,σ1°.95/44,mb4.0/15,3C-4D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.96**	**189**	↑*eP*			**Pn**	**12 35 52.8**	**-1.8**
GQP				*eS*			**Sn**	**12 36 06.9**	**-0.6**
LQP	**Lukban**	**1.27**	**234**	↓*eP*			**Pn**	**12 35 58.2**	**-0.7**
LQP				*i* S			**Sn**	**12 36 17.6**	**+2.4**
PCPH	**Palayan**	**1.61**	**296**	↓*eP*			**Pn**	**12 36 01.1**	**-2.2**
PCPH				*eS*			**Sn**	**12 36 22.4**	**-0.7**
TGY	**Tagaytay City**	**1.78**	**245**	Pn			**Pn**	**12 36 07.0**	**+1.3**
	283nm,0.3s,baz=68,slow=2.3,SNR=6.1								
TGY				Sn			**Sn**	**12 36 32.2**	**+4.9**
	307nm,0.3s,baz=157,slow=22,SNR=13								
TGY	**Tagaytay City**	**1.78**	**245**	*eP*			**Pn**	**12 36 01.9**	**-3.7**
TGY				*eS*			**Sn**	**12 36 31.8**	**+4.5**
PVCP	**Virac**	**1.96**	**130**	↓*eP*			**Pn**	**12 36 07.7**	**-0.3**
PVCP				*eS*			**Sn**	**12 36 36.0**	**+4.5**
PGP	**Puerto Galera**	**2.09**	**230**	↓*eP*			**Pn**	**12 36 09.0**	**-0.8**
PGP				*i* S			**Sn**	**12 36 34.5**	**-0.3**
SMPP	**San Manuel, Pa**	**2.25**	**305**	↑*eP*			**Pn**	**12 36 10.9**	**-1.2**
SMPP				*eS*			**Sn**	**12 36 38.5**	**-0.3**
LUBP	**Lubang**	**2.54**	**244**	↑*eP*			**Pn**	**12 36 19.0**	**+3.1**
LUBP				*eS*			**Sn**	**12 36 45.5**	**-0.3**
DAV	**Davao City (W)**	**8.27**	**159**	LR			LR	12 41 20.2	
	comp=Z,133nm,19.8s,baz=316,slow=43								
YULB	**Yu-li**	**8.58**	**352**	Pn			Pn	12 37 41.6	+3.0
KAPI	**Kappang**	**19.95**	**188**	LR			LR	12 47 19.2	
	comp=Z,39nm,20.2s,baz=260,slow=36								
CMAR	**Chiang Mai Arr**	**22.94**	**282**	P			**P**	**12 40 38.5**	**+2.0**
	1.9nm,0.8s,baz=91,slow=7.6,SNR=18								
CMAR				LR			LR	12 50 02.0	
	comp=Z,25nm,18.4s,baz=125,slow=38								
CMAR	**Chiang Mai Arr**	**22.94**	**282**	P			**P**	**12 40 35.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**32.88**	**175**	P			**P**	**12 42 04.2**	**-1.4**
COEN	**Coen**	**35.13**	**144**	P			**P**	**12 42 23.8**	**-1.4**
COEN				IAmb			IAmb	12 42 31.4	
	comp=Z,10nm,1.4s								
SONM	**Songino Array**	**35.52**	**341**	P			**P**	**12 42 29.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=139,slow=11,SNR=2.1								
SONM				LR			LR	12 56 06.1	
	comp=Z,56nm,19.3s,baz=198,slow=35								
PSA00	**Pilbara Seismi**	**36.31**	**184**	P			**P**	**12 42 33.0**	**-2.2**
WB0	**Warramunga Arr**	**36.31**	**161**	P			**P**	**12 42 34.2**	**-1.0**
WB0				IAmb			IAmb	12 42 40.7	
	comp=Z,2.9nm,1.1s								
WRA	**Warramunga Arr**	**36.46**	**161**	P			**P**	**12 42 35.8**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=344,slow=9.0,SNR=2.2								
WB2	**Warramunga Arr**	**36.46**	**161**	P			**P**	**12 42 35.5**	**-1.0**
WB2				IAmb			IAmb	12 42 42.5	
	comp=Z,3.5nm,0.9s								
WR0	**Warramunga Arr**	**36.54**	**161**	P			**P**	**12 42 36.4**	**-0.8**
WR0				IAmb			IAmb	12 42 57.7	
	comp=Z,6.8nm,1.4s								
AS31	**Alice Springs**	**39.85**	**164**	P			**P**	**12 43 04.0**	**-1.1**
ASAR	**Alice Springs**	**39.85**	**164**	P			**P**	**12 43 05.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=340,slow=8.0,SNR=6.2								
ASAR	**Alice Springs**	**39.85**	**164**	P			**P**	**12 43 03.8**	**-1.3**
H11S3	**WAKE ISLAND Hy 42.31**	**79**		T			T	13 28 24.8	
	baz=271,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy 42.32**	**79**		T			T	13 28 37.9	
	baz=271,slow=75,SNR=21								
H11S2	**WAKE ISLAND Hy 42.33**	**79**		T			T	13 28 28.5	
	baz=271,slow=75,SNR=21								
H11N1	**WAKE ISLAND Hy 42.47**	**77**		T			T	13 28 46.4	
	baz=275,slow=76,SNR=8.8								
H11N2	**WAKE ISLAND Hy 42.48**	**77**		T			T	13 28 45.3	
	baz=275,slow=76,SNR=9.4								
H11N3	**WAKE ISLAND Hy 42.49**	**77**		T			T	13 28 55.1	
	baz=275,slow=76,SNR=8.5								
MK31	**Makanchi Array**	**46.23**	**322**	P			**P**	**12 43 57.6**	**+1.2**
MKAR	**Makanchi Array**	**46.23**	**322**	P			**P**	**12 43 58.3**	**+1.9**
	comp=Z,0.9nm,0.9s,ba

TWD	**Chiawan**	**0.58**	**330**	*e*P	Pn	12 46 22.5	-0.9
	baz=331							
TWD				*e*S	Sn	12 46 36.3	+0.4
	baz=331							
EYUL	**Yuli**	**0.59**	**247**	*e*S	Sn	12 46 36.6	+0.6
	baz=257							
NACB	**Ninganchiao**	**0.66**	**334**	P	Pn	12 46 23.7	-0.4
	baz=334							
CHKT	**Chengkung**	**0.69**	**227**	P	Pn	12 46 24.9	+0.6
	baz=226							
CHKT				*i* S	Sn	12 46 36.5	-1.0
	baz=226							
VWDT	**VWDT**	**0.73**	**284**	*e*P	Pn	12 46 24.6	0.0
	baz=284							
ETLH	**Xiulin Townshi**	**0.74**	**328**	*e*S	Sn	12 46 36.8	-1.7
	baz=321							
OWD	**Renai**	**0.77**	**299**	*e*P	Pn	12 46 25.2	0.0
	baz=303							
OWD				*e*S	Sn	12 46 39.7	+0.6
	baz=303							
EDH	**Donghe**	**0.82**	**223**	*e*S	Sn	12 46 40.6	+1.0
	baz=221							
WHF	**Hehuan Shan**	**0.82**	**314**	S	Sn	12 46 39.1	-1.3
	baz=314							
CHGB	**Renai**	**0.83**	**306**	S	Sn	12 46 39.7	-0.5
	baz=308							
WUSB	**Renai**	**0.84**	**300**	S	Sn	12 46 41.1	+0.9
	baz=302							
ENA	**Nanau**	**0.86**	**350**	*e*S	Sn	12 46 39.0	-1.4
	baz=347							
EWUT	**Wuta**	**0.88**	**352**	*e*S	Sn	12 46 39.5	-1.1
	baz=357							
SSLB	**Suanglung**	**0.90**	**284**	P	Pn	12 46 28.0	+1.7
	baz=284							
FUSS	**Fushou**	**0.91**	**318**	*e*P	Pn	12 46 27.1	+0.5
	baz=319							
SMLT	**Sun Moon Lake**	**0.97**	**289**	*e*S	Sn	12 46 43.7	+1.1
	baz=290							
NNSB	**Datong**	**0.98**	**331**	*e*S	Sn	12 46 41.9	-0.8
	baz=335							
NNS	**Nan Shan**	**0.99**	**330**	P	Pn	12 46 27.1	-0.3
	baz=335							
NNS				S	Sn	12 46 42.6	-0.3
	baz=335							
LATG	**Datong**	**1.02**	**340**	*e*P	Pn	12 46 26.9	-0.7
	baz=340							
LATG				*e*S	Sn	12 46 42.8	-0.7
	baz=340							
ENTT	**Nioudou**	**1.11**	**344**	P	Pn	12 46 28.3	-0.2
	baz=338							

TAP 21 12:46:11.3, 24.75N×121.09E, h30km, ML2.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJD	**Zhudong**	**0.02**	**188**	*e*P	Pb	12 46 17.3	+0.9
	baz=186						
NJD				*e*S	Sb	12 46 20.6	+0.7
	baz=186						
HSN	**Hsinchu**	**0.12**	**294**	*e*P	Pn	12 46 17.2	0.0
	baz=316						
HSN				S	Sb	12 46 21.4	+0.7
	baz=316						
NFF	**Wufeng Townshi**	**0.12**	**169**	*e*P	Pn	12 46 18.4	+1.1
	baz=168						
NFF				*e*S	Sb	12 46 21.6	+0.8
	baz=168						
LIOB	**Emei**	**0.13**	**212**	*i* P	Pn	12 46 18.0	+0.7
	baz=212						
LIOB				S	Sn	12 46 21.6	+0.8
	baz=212						
NSTT	**Nanjuang**	**0.15**	**214**	P	Pn	12 46 17.4	-0.2
	baz=210						
NSTT				S	Sn	12 46 21.5	+0.2
	baz=210						
NJN	**Zhunan**	**0.21**	**251**	*e*P	Pb	12 46 18.0	+0.3
	baz=250						
NJN				*e*S	Sb	12 46 22.4	+0.3
	baz=250						
NCUH	**Zhongli**	**0.23**	**22**	*e*P	Pb	12 46 18.1	+0.2
	baz=21						
NCU	**National Centr**	**0.23**	**22**	*e*P	Pb	12 46 18.3	+0.3
	baz=24						
NCU				*e*S	Sn	12 46 23.7	+0.3
	baz=24						
NHW	**Xinwu Township**	**0.26**	**351**	*e*P	Pn	12 46 18.9	-0.2
	baz=351						
NHW				*e*S	Sn	12 46 23.7	-0.2
	baz=351						
NSK	**Sanguang**	**0.26**	**108**	*i* P	Pn	12 46 19.2	+0.1
	baz=107						
NSK				*i* S	Sb	12 46 23.5	+0.4
	baz=107						
YHNB	**Yeheng**	**0.27**	**108**	P	Pb	12 46 18.8	+0.2
	baz=107						
YHNB				S	Sn	12 46 25.0	+0.5
	baz=107						
NNS	**Nan Shan**	**0.41**	**141**	*i* P	Pn	12 46 21.4	+0.2
	baz=139						
NNS				S	Sn	12 46 28.2	+0.4
	baz=139						
NDT	**Datong Townshi**	**0.41**	**111**	*e*P	Pn	12 46 28.1	+7.0
	baz=340						
NDT	**Datong Townshi**	**0.41**	**111**	*i* P	Pn	12 46 20.9	-0.3
	baz=111						
NDT				S	Sn	12 46 28.6	+0.8
	baz=111						
NNSB	**Datong**	**0.42**	**141**	P	Pn	12 46 21.4	0.0
	baz=140						
NNSB				S	Sb	12 46 26.8	-0.2
	baz=140						
NNSB	**Datong**	**0.42**	**141**	P	Pn	12 46 26.9	+5.5
	baz=335						
ENTT	**Nioudou**	**0.45**	**105**	*i* P	Pb	12 46 20.5	-0.5
	baz=104						
ENTT				*i* S	Sn	12 46 29.1	+0.4
	baz=104						
FUSB	**Fushanzhiwuyua**	**0.45**	**89**	*e*S	Sb	12 46 27.8	+0.1
	baz=89						
NSY	**Sanyi**	**0.45**	**222**	*e*S	Sn	12 46 28.6	-0.2
	baz=220						
LATG	**Datong**	**0.45**	**119**	P	Pn	12 46 21.7	-0.1
	baz=118						
LATG				S	Sn	12 46 28.9	0.0
	baz=118						
TWS1	**Kuangyinshan**	**0.46**	**41**	*e*P	Pn	12 46 21.9	+0.1
	baz=41						
TWS1				*e*S	Sn	12 46 28.7	-0.2
	baz=41						
TAP	**Taipei**	**0.47**	**53**	*e*P	Pn	12 46 21.9	-0.1
	baz=53						
TAP				*e*S	Sn	12 46 28.9	-0.4
	baz=53						
WHP	**Taichung City**	**0.49**	**196**	P	Pb	12 46 21.8	+0.1
	baz=195						
WHP				*e*S	Sn	12 46 29.4	-0.5
	baz=195						
TWQ1	**Liyutan**	**0.50**	**216**	P	Pb	12 46 22.0	+0.3
	baz=215						
TWQ1				S	Sb	12 46 29.1	+0.2
	baz=215						
TWT	**Tachien**	**0.50**	**171**	*e*P	Pn	12 46 22.5	-0.1
	baz=172						
TWT				*e*S	Sn	12 46 29.9	-0.5
	baz=172						
FUSS	**Fushou**	**0.52**	**165**	*e*P	Pn	12 46 23.5	+0.6
	baz=164						
FUSS				*e*S	Sn	12 46 31.1	+0.2
	baz=164						
TWE	**Neicheng**	**0.53**	**93**	*e*P	Pn	12 46 24.1	+1.4
	baz=93						
TWE				S	Sn	12 46 31.2	+0.6
	baz=93						
ANP	**Anpu**	**0.58**	**42**	*e*P	Pb	12 46 23.2	+0.1
	baz=43						
ANP				*e*S	Sn	12 46 32.6	+0.5
	baz=43						
NDS	**Dongshan**	**0.58**	**102**	*e*P	Pb	12 46 23.1	0.0
	baz=101						
NDS				*e*S	Sn	12 46 32.3	+0.3
	baz=101						
WHF	**Hehuan Shan**	**0.63**	**165**	P	Pn	12 46 25.5	+1.0
	baz=164						
WHF				S	Sn	12 46 33.7	0.0
	baz=164						
WHF	**Hehuan Shan**	**0.63**	**165**	P	Pn	12 46 25.8	+1.3
	baz=314						
ETLH	**Xiulin Townshi**	**0.65**	**147**	P	Pn	12 46 25.4	+0.9
	baz=146						
ETLH				*e*S	Sn	12 46 33.9	0.0
	baz=146						
ETLH	**Xiulin Townshi**	**0.65**	**147**	*e*P	Pn	12 46 25.2	+0.7
	baz=321						
CHGB	**Renai**	**0.69**	**174**	P	Pn	12 46 26.0	+0.7
	baz=173						
CHGB				S	Sn	12 46 35.4	+0.3
	baz=173						
CHGB	**Renai**	**0.69**	**174**	P	Pn	12 46 26.1	+0.9
	baz=308						
TWY	**Chenhua**	**0.69**	**42**	*e*S	Sn	12 46 35.7	+0.9
	baz=42						
EWUT	**Wuta**	**0.70**	**116**	*e*P	Pb	12 46 24.6	-0.4
	baz=116						
EWUT	**Wuta**	**0.70**	**116**	*e*P	Pn	12 46 25.1	0.0
	baz=357						
NWF	**Wu-fen Shan**	**0.70**	**63**	*e*P	Pb	12 46 25.1	-0.1
	baz=63						
NWF				*e*S	Sn	12 46 35.5	+0.4
	baz=63						
WCS	**Beigang Elemen**	**0.71**	**193**	*e*P	Pb	12 46 25.1	-0.2
	baz=193						
NACB	**Ninganchiao**	**0.74**	**141**	*e*P	Pb	12 46 26.5	+0.8
	baz=141						
NACB				*e*S	Sn	12 46 36.8	+0.9
	baz=141						
NACB	**Ninganchiao**	**0.74**	**141**	S	Sn	12 46 36.5	+0.6
	baz=334						
WUSB	**Renai**	**0.76**	**178**	P	Pb	12 46 26.1	0.0
	baz=178						
WUSB				*e*S	Sn	12 46 37.2	+0.7
	baz=178						
WUSB	**Renai**	**0.76**	**178**	P	Pb	12 46 26.1	0.0
	baz=302						
SXI1	**Grass Mountain**	**0.79**	**64**	*e*P	Pb	12 46 26.8	+0.2
	baz=64						
SXI1				*e*S	Sn	12 46 38.5	+1.2
	baz=64						
OWD	**Renai**	**0.80**	**174**	*e*P	Pb	12 46 26.9	+0.1
	baz=174						
OWD				*e*S	Sn	12 46 37.8	+0.2
	baz=174						
TWD	**Chiawan**	**0.81**	**145**	*e*P	Pn	12 46 26.3	-0.4
	baz=145						
TWD				*e*S	Sn	12 46 38.6	+0.9
	baz=145						
ETM	**Tongmen**	**0.87**	**155**	P	Pb	12 46 29.3	+1.4
	baz=154						
TYC	**Yuchr**	**0.87**	**194**	*e*P	Pn	12 46 27.2	-0.3
	baz=193						
TYC				*e*S	Sb	12 46 39.5	+0.3
	baz=193						
SMLT	**Sun Moon Lake**	**0.88**	**191**	*e*P	Pn	12 46 27.5	-0.3
	baz=190						
SMLT				*e*S	Sb	12 46 40.1	+0.4
	baz=190						
SMLT	**Sun Moon Lake**	**0.88**	**191**	*e*P	Pn	12 46 27.8	+0.1
	baz=290						
SSLB	**Suanglung**	**0.97**	**187**	*e*P	Pn	12 46 29.2	+0.3
	baz=187						
SSLB				*e*S	Sb	12 46 42.6	+0.5
	baz=187						
SSLB	**Suanglung**	**0.97**	**187**	S	Sb	12 46 42.9	+0.8
	baz=284						
WJS	**Zhushan**	**0.98**	**200**	*e*S	Sb	12 46 42.8	+0.3
	baz=199						
VWDT	**VWDT**	**1.00**	**177**	*e*P	Pn	12 46 29.7	-0.3
	baz=177						
VWDT				*e*S	Sn	12 46 42.5	+0.2
	baz=177						
EHY	**Hungye**	**1.26**	**170**	S	Pb	12 46 34.8	+0.3
	baz=271						
EHY	**Hungye**	**1.26**	**170**	*e*P	Pb	12 46 34.5	0.0
	baz=170						
EHY				*e*S	Sb	12 46 50.0	-0.4
	baz=170						
ALS	**Alishan**	**1.27**	**192**	*e*P	Pn	12 46 32.3	-0.9
	baz=191						
YULB	**Yu-li**	**1.37**	**172**	S	Pb	12 46 35.2	-1.1
	baz=260						
YULB	**Yu-li**	**1.37**	**172**	*e*P	Pn	12 46 35.2	+0.9
	baz=172						

*NEIC **21** 13:01:59.4±1.4, 8.74S±0.09×75.67W±0.09, h132km±5km, mb4.4/16, Error ellipse: s-maj=14.6km s-min=11.3km az=133.0*
*IDC **21** 13:01:59.3±2.5, 8.88S×75.70W, h146km±30km, mb3.3/4, mb1 3.4/9, mb1mx3.3/38, mbtmp3.8/9, Error ellipse: s-maj=28.8km s-min=22.4km az=32.0*
*VAO **21** 13:02:14.2±0.7, 9.00S×74.26W, h113km, mb4.0*
ISC 21 13:01:56.6±0.6, 8.74S±0.06×75.85W±0.08, h100km, n45, σ1§94/41, mb4.4/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.27**	**72**	*e*P	**Pn**	**13 02 46.5**	**+0.5**
NNA	**Nana**	**3.37**	**197**	P	**Pn**	**13 02 51.5**	**+4.1**
	4.6nm,0.3s,baz=3.4,slow=3.5,SNR=7.7						
NNA				S	**Sn**	**13 03 29.8**	**+3.2**
	32nm,0.3s,baz=202,slow=18,SNR=8.2						
TBTG	**Tabatinga, AM**	**7.43**	**53**	*e*P	**Pn**	**13 03 47.0**	**+4.6**
OTAV	**Otavalo**	**9.29**	**344**	Pn	**Pn**	**13 04 11.4**	**+3.3**
OTAV	**Otavalo**	**9.29**	**344**	*e*P	Pn	13 04 36.3	+28
ETMB	**Extrema**	**9.57**	**97**	*e*P	Pn	13 04 07.1	-4.4
LPAZ	**La Paz**	**10.63**	**136**	P	**Pn**	**13 04 25.7**	**-0.8**
	0.1nm,0.3s,baz=338,slow=13,SNR=1.9						
LPAZ	**La Paz**	**10.63**	**136**	*e*P	**Pn**	**13 04 27.0**	**+0.5**
AP01	**Chacalluta**	**10.97**	**151**	Pn	**Pn**	**13 04 30.0**	**-0.5**
LVC	**Limon Verde**	**15.32**	**155**	P	**Pn**	**13 05 24.9**	**-2.8**
	0.2nm,0.3s,baz=333,slow=10,SNR=1.6						
VILB	**Vilhena**	**15.93**	**107**	*e*P	**Pn**	**13 05 32.5**	**-2.6**
MACA	**Manacapuru-AM**	**16.06**	**71**	*e*P	**Pn**	**13 05 37.1**	**+0.3**
SIV	**San Ignacio**	**16.13**	**118**	P	**Pn**	**13 05 35.4**	**-2.2**
	0.8nm,0.3s,baz=294,slow=13,SNR=12						
ZARC	**Zaragoza, Cauc**	**16.15**	**4**	P	**Pn**	**13 05 39.4**	**+1.5**
PTLB	**Pontes e Lacer**	**17.64**	**114**	*e*P	**P**	**13 05 54.6**	**-1.1**
SDV	**Santo Domingo**	**18.26**	**17**	P	**P**	**13 06 02.7**	**0.0**
	0.5nm,0.3s,baz=232,slow=10,SNR=5.4						
PDRB	**Porto dos Gac**	**19.03**	**100**	*e*P	**P**	**13 06 10.3**	**-0.7**
CLDB	**Colider**	**19.87**	**98**	*e*P	**P**	**13 06 19.2**	**-0.9**
NPGB	**Novo Progresso**	**20.37**	**87**	*e*P	**P**	**13 06 25.6**	**+0.1**
ITTB	**Itaituba**	**20.45**	**79**	*e*P	**P**	**13 06 26.8**	**+0.5**
SALV	**Santo Antonio**	**20.93**	**112**	*e*P	**P**	**13 06 31.2**	**-0.3**
MCPB	**Macapa, AP**	**25.11**	**72**	*e*P	**P**	**13 07 15.0**	**+2.6**
PCMB	**Pacaembu**	**26.91**	**121**	*e*P	**P**	**13 07 30.9**	**+2.3**
PEXB	**Peixe**	**27.29**	**99**	*e*P	**P**	**13 07 33.7**	**+1.6**
SMTB	**Santa Maria do**	**27.93**	**92**	*e*P	**P**	**13 07 39.6**	**+1.9**
SDBA	**SAO DESIDERIO**	**30.63**	**100**	*e*P	**P**	**13 08 03.3**	**+1.6**
RCBR	**Riachuelo**	**39.72**	**89**	P	**P**	**13 09 17.9**	**-1.8**
RCBR				IAmb	IAmb	13 09 43.1	
	comp=Z,10nm,1.1s						
TXAR	**Lajitas Array**	**46.38**	**326**	P	**P**	**13 10 13.2**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=150,slow=8.5,SNR=2.2						
SDCO	**Great Sand Dun**	**53.91**	**331**	P	**P**	**13 11 10.0**	**-0.2**
PKME	**Peaks-Kenny Pk**	**54.08**	**6**	P	**P**	**13 11 10.0**	**-0.8**
PKME				IAmb	IAmb	13 11 10.5	
	comp=Z,9.1nm,0.9s						
G65A	**Princeton**	**54.21**	**7**	P	**P**	**13 11 10.9**	**-0.9**
ECSD	**EROS Data Cent**	**55.52**	**342**	P	**P**	**13 11 19.9**	**-1.5**
DRLN	**Deer Lake**	**59.95**	**14**	P	**P**	**13 11 50.3**	**-2.0**
DBIC	**Dimbokro**	**72.40**	**80**	P	**P**	**13 13 10.1**	**-2.5**
	comp=Z,5.0nm,1.1s,baz=260,slow=8.4,SNR=4.3						
DBIC	**Dimbokro**	**72.40**	**80**	IAmb	IAmb	13 13 31.9	
	comp=Z,9.7nm,1.4s						
YKA	**Yellowknife Ar**	**77.04**	**343**	P	P	13 13 36.4	-1.9
	comp=Z,0.2nm,0.4s,baz=141,slow=6.0,SNR=7.4						
TORD	**Tordii Ar. Bea**	**80.00**	**75**	P	P	13 13 52.3	-3.4
	comp=Z,0.5nm,0.6s,baz=260,slow=4.9,SNR=3.9						
M27K	**Edge Creek, AK**	**86.92**	**335**	P	**P**	**13 14 29.4**	**-0.9**
M27K				IAmb	IAmb	13 14 51.0	
	comp=Z,5.4nm,1.2s						
BCAR	**Beaver Creek A**	**87.18**	**335**	P	**P**	**13 14 30.7**	**-0.7**
L27K	**Beaver Creek,**	**87.20**	**335**	P	**P**	**13 14 30.4**	**-1.1**
L27K				IAmb	IAmb	13 14 36.5	
	comp=Z,5.5nm,1.4s						
SCRK	**Sand Creek**	**88.46**	**336**	P	**P**	**13 14 36.7**	**-0.9**
SEW	**Seward**	**89.47**	**331**	P	**P**	**13 14 40.9**	**-1.2**
SML	**Sawmill**	**89.51**	**333**	P	**P**	**13 14 41.3**	**-1.2**
SML				IAmb	IAmb	13 14 45.5	
	comp=Z,10nm,1.2s						
ASAR	**Alice Springs**	**136.61**	**221**	PKP	**PKPdf**	**13 21 04.6**	**-3.4**
	comp=Z,0.2nm,0.5s,baz=125,slow=1.9,SNR=5.7						
WRA	**Warramunga Arr**	**138.82**	**226**	PKP	**PKPdf**	**13 21 10.4**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=118,slow=2.1,SNR=7.1						

IDC 21 13:07:20.2±10.0, 31.89N×140.40E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/50, mbtmp3.3/3, Error ellipse: s-maj=402.9km s-min=34.4km az=65.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.31**	**306**	P	P	13 15 47.6	-0.1
	0.2nm,0.9s,baz=84,slow=5.9,SNR=3.5						
WRA	**Warramunga Arr**	**51.86**	**187**	P	P	13 16 30.2	-0.2
	0.2nm,0.3s,baz=5.2,slow=7.6,SNR=9.8						
ASAR	**Alice Springs**	**55.59**	**187**	P	P	13 16 57.7	0.0
	0.1nm,0.4s,baz=8.8,slow=7.1,SNR=6.6						

*IDC **21** 13:16:52.0±1.2, 26.15N×125.48E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/50, mbtmp3.3/6, ML2.5/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/42, Error ellipse: s-maj=28.5km s-min=24.3km az=87.0*
*JMA **21** 13:16:53.6±0.3, 26.07N×124.84E, h29km, M3.2*
ISC 21 13:16:54.6±1.1, 26.13N±0.07×124.9E±0.1, h35km, n17, σ1§50/16, mb3.4/4, MS2.9/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.24**	**166**	P	**Pn**	**13 17 14.4**	**-1.0**
JIKM				S	**Sn**	**13 17 29.9**	**-1.0**
JIRB	**Irabujima**	**1.32**	**170**	P	**Pn**	**13 17 16.2**	**-0.3**
JIRB				S	**Sn**	**13 17 32.5**	**-0.3**
JMJ2	**Miyako jima3**	**1.43**	**165**	P	**Pn**	**13 17 17.5**	**-0.6**
JMJ2				*e*S	**Sn**	**13 17 35.0**	**-0.7**
JOGS	**Gusukube**	**1.44**	**162**	P	**Pn**	**13 17 17.7**	**-0.4**
JOGS				*e*S	**Sn**	**13 17 34.3**	**-1.4**
JISG	**Ishigakijimahi**	**1.64**	**200**	P	**Pn**	**13 17 20.0**	**-0.9**
JKE	**Kume jima 2**	**1.68**	**83**	P	**Pn**	**13 17 23.2**	**+1.7**
JIJ	**Ishigaki jima**	**1.90**	**202**	P	**Pn**	**13 17 23.3**	**-1.2**
JOW	**Kunigami**	**3.08**	**76**	Pn	**Pn**	**13 17 37.3**	**-3.4**
	1.1nm,0.3s,baz=275,slow=29,SNR=1.3						
JOW				Sn	Sn	13 18 07.7	-8.7
	3.1nm,0.3s,baz=243,slow=16,SNR=2.6						
KSRS	**Korea Array**	**11.57**	**12**	Pn	**Pn**	**13 19 36.6**	**-0.5**
	0.1nm,0.3s,baz=215,slow=13,SNR=1.8						
KSRS				LR	LR	13 24 21.2	
	comp=Z,27nm,20.9s,baz=230,slow=39						
KLR	**Kul'dur**	**23.66**	**11**	LR	LR	13 32 39.7	
	comp=Z,30nm,18.2s,baz=89,slow=40						
SONM	**Songino Array**	**26.11**	**331**	LR	LR	13 32 42.8	
	comp=Z,48nm,21.7s,baz=191,slow=36						
YAK	**Yakutsk**	**36.03**	**4**	LR	LR	13 39 05.8	
	comp=Z,18nm,18.2s,baz=266,slow=37						
MKAR	**Makanchi Array**	**39.40**	**313**	P	P	13 24 27.0	+6.1
	0.4nm,0.7s,baz=101,slow=10.0,SNR=5.2						
WRA	**Warramunga Arr**	**46.70**	**168**	P	**P**	**13 25 21.7**	**+1.6**
	0.4nm,0.9s,baz=351,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**50.26**	**169**	P	**P**	**13 25 49.7**	**+2.1**
	0.3nm,0.7s,baz=354,slow=10,SNR=6.8						
NOA	**NORSAR Array B**	**78.07**	**333**	LR	LR	14 05 06.3	
	comp=Z,7.9nm,18.6s,baz=300,slow=37						
YKA	**Yellowknife Ar**	**79.84**	**24**	P	**P**	**13 28 59.6**	**+0.4**
	0.1nm,0.5s,baz=301,slow=4.0,SNR=3.6						

*REN **21** 13:18:09.8±1.1, 38.47N±0.02×118.36W±0.04, h4km±7km, ML3.4/10, ML3.2/70(NEIC), Error ellipse: s-maj=4.5km s-min=2.7km az=98.0*
NEIC 21 13:18:10.1±1.1, 38.47N±0.02×118.37W±0.03, h9km±6km, Error ellipse: s-maj=3.8km s-min=2.5km az=105.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**0.07**	**127**	Pg	Pg	13 18 10.2	-2.1
NV11	**Mina Array Sit**	**0.17**	**103**		Pg	13 18 13.6	-0.2
NV11				Sg	Sg	13 18 15.9	-0.5
NV11				IAML		13 18 16.8	
	comp=N,8μm,0.5s						
NV11				IAML		13 18 16.9	
	comp=E,7μm,0.5s						
RYN	**Ryan**	**0.20**	**323**		Pg	13 18 14.2	0.0
RYN				Sg	Sg	13 18 17.1	-0.1
LHV	**Little Huntoon**	**0.24**	**206**		Pg	13 18 15.1	+0.2
LHV				Sg	Sg	13 18 18.5	+0.2
LHV				IAML		13 18 20.8	
	comp=E,7μm,0.6s						
LHV				IAML		13 18 23.0	
	comp=N,7μm,0.4s						
KVN	**Kaiserville**	**0.62**	**20**		Pg	13 18 21.5	-0.6
LUL	**Lundy Lake**	**0.76**	**237**		Pg	13 18 25.0	+0.2
BENR	**Benton**	**0.77**	**192**		Pg	13 18 24.8	-0.1
YERR	**Yerington**	**0.85**	**307**		Pg	13 18 26.0	-0.5
YERR				Sg	Sg	13 18 37.0	-0.7
ORV	**Owens River**	**0.86**	**195**		Pg	13 18 26.0	-0.1
MLNR	**Milner Canyon**	**0.88**	**179**		Pg	13 18 26.9	-0.1
TPH	**Tonopah**	**0.98**	**113**		Pg	13 18 28.6	-0.4
OMMB	**Old Mammoth Mi**	**0.99**	**210**		Pg	13 18 28.6	-0.5
Q09A	**Carvers**	**1.00**	**68**		Pg	13 18 28.9	-0.4
RCCR	**Rock Creek Can**	**1.02**	**196**		Pg	13 18 29.6	-0.1
POCCA	**Poleta Canyon**	**1.11**	**176**		Pg	13 18 31.1	-0.2
DSP	**Deep Springs**	**1.14**	**164**		Pb	13 18 31.8	-0.1
PNTR	**Pine Nut**	**1.14**	**303**		Pg	13 18 31.2	-0.8
PNTR				IAML		13 18 53.8	
	comp=E,976nm,0.7s						
PNTR				IAML		13 18 54.1	
	comp=N,754nm,0.6s						
VCNR	**Virginia City**	**1.30**	**310**		Pn	13 18 34.0	-0.6
LCH	**Last Change Ra**	**1.36**	**155**		Pn	13 18 35.6	+0.2
LCH				IAML		13 19 02.8	
	comp=E,334nm,0.7s						
KCC	**Kaiser Creek**	**1.37**	**214**		Pb	13 18 35.7	-0.2
EMB	**Emerald Bay**	**1.45**	**291**		Pn	13 18 36.8	+0.1
EMB				IAML		13 19 01.8	
	comp=N,392nm,0.5s						
EMB				IAML		13 19 04.0	
	comp=E,261nm,0.6s						
PAHR	**Pah Rah Range**	**1.47**	**328**		Pn	13 18 36.5	-0.3
PAHR				IAML		13 19 00.7	
	comp=N,233nm,0.5s						
PAHR				IAML		13 19 00.7	
	comp=E,252nm,0.4s						
RUBR	**Rubicon Trail**	**1.51**	**293**		Pn	13 18 37.6	+0.1
RUBR				IAML		13 19 04.2	
	comp=N,274nm,0.7s						
RUBR				IAML		13 19 04.7	
	comp=E,254nm,0.9s						
MPK	**Martis Peak**	**1.54**	**303**		Pn	13 18 37.7	-0.2
CMB	**Columbia Colle**	**1.65**	**255**		Pn	13 18 39.5	+0.3
CMB	**Columbia Colle**	**1.65**	**255**	Pn	Pn	13 18 39.2	0.0
CMB	**Columbia Colle**	**1.65**	**255**	IAML		13 19 03.8	
	comp=E,159nm,0.4s						
CMB				IAML		13 19 04.8	
	comp=N,234nm,0.8s						
GRAC	**Grapevine Rang**	**1.67**	**151**		Pn	13 18 39.9	+0.3
GRAC				IAML		13 19 08.0	
	comp=N,378nm,0.3s						

comp=E,53nm,1.4s
ELK Elko 3.32 46 Pn Pn 13 19 02.3 -0.1
GSC Goldstone, Bar 3.40 158 Pn Pn 13 19 01.9 -1.5
GSC IAML 13 20 26.8
comp=E,44nm,0.1s
PSUT Pine Spring 3.54 88 Pn Pn 13 19 05.7 +0.2
ICU Indian Springs 3.76 109 13 19 09.1 +0.7
O02D Mt. Diablo Mer 3.83 298 Pn Pn 13 19 10.3 +1.0
O02D IAML 13 20 10.5
comp=E,24nm,3.0s
O02D IAML 13 20 15.9
comp=N,22nm,4.0s
WDC Whiskeytown Da 3.85 304 Pn Pn 13 19 10.0 +0.5
WVOR Wild Horse Val 3.96 357 Pn Pn 13 19 11.3 +0.1
WVOR IAML 13 20 17.5
comp=N,23nm,1.1s
CCUT Cedar City 4.06 102 Pn Pn 13 19 12.0 -0.6
N02D Trinity Center 4.17 308 Pn Pn 13 19 14.1 0.0
N02D IAML 13 20 24.6
comp=N,25nm,3.4s
N02D IAML 13 20 43.2
comp=E,26nm,3.4s
M04C Macdoel 4.25 322 Pn Pn 13 19 14.3 -0.7
M04C IAML 13 20 33.9
comp=N,42nm,3.8s
M04C IAML 13 22 02.3
comp=E,46nm,4.1s
LCMT Little Creek M 4.32 108 Pn Pn 13 19 16.2 +0.2
M02C Callahan 4.52 312 Pn Pn 13 19 19.3 +0.6
M02C IAML 13 20 52.7
comp=N,17nm,3.1s
M02C IAML 13 22 18.9
comp=E,23nm,4.0s
KNB Kanab 4.63 107 Pn Pn 13 19 21.2 +0.9
DUG Dugway, Tooele 4.64 66 Pn Pn 13 19 21.2 +0.7
YBH Yreka Blue Hor 4.66 316 Pn Pn 13 19 21.4 +0.7
YBH IAML 13 20 37.0
comp=N,23nm,4.4s
YBH IAML 13 21 27.0
comp=E,20nm,5.0s
K05A Summer Lake 4.67 336 Pn Pn 13 19 20.7 -0.2
BGU Big Grassy Mou 4.79 58 Pn Pn 13 19 23.2 +0.6
MSU Marysvale 4.86 88 Pn Pn 13 19 22.9 -0.6
ELS Elsinore Mount 4.87 171 Pn Pn 13 19 23.1 -0.5
HVU Hansel Valley 5.41 51 Pn Pn 13 19 30.3 -0.8
SRU San Rafael Swe 6.16 82 Pn Pn 13 19 40.2 -1.2

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*EAF **21** 13:34:50.9±20.0, 12°.29N×44°.68E, h0km±9.999km*
*IDC **21** 13:34:55.9±7.4, 11°.97N×44°.23E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/45, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/70, Error ellipse: s-maj=155.6km s-min=44.7km az=35.0*
ISC 21 13:34:57.3±1.0, 12°.0N±0°.2×44°.11E±0°.09, h10km, n12, σ3°73/16, mb3.7/6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.34**	**248**	*eP*	**Pn**	**13 35 17.8**	**-4.4**
ATD				*eS*	**Sn**	**13 35 34.9**	**-5.2**
ATD	**Arta Tunnel**	**1.34**	**248**	*eP*	**Pn**	**13 35 18.9**	**-3.3**
ATD				*eS*	**Sn**	**13 35 32.9**	**-7.2**
TEND	**Ethiopian Broa**	**3.05**	**266**	*eP*	**Pn**	**13 35 47.1**	**+1.4**
TEND				*eS*	**Sg**	**13 36 36.0**	**+0.5**
ANKE	**Ethiopia-Afar**	**4.94**	**241**	*eP*	**Pb**	**13 36 23.5**	**-0.8**
ANKE				*eS*	**Sb**	**13 37 27.6**	**+3.6**
ANKE	**Ethiopia-Afar**	**4.94**	**241**	*eP*	**Pn**	**13 36 15.9**	**+3.8**
ANKE				*eS*	**Sn**	**13 37 15.6**	**+6.0**
MBAR	**Mbarara**	**18.28**	**228**	LR	LR	13 46 07.9	
	comp=Z,55nm,20.1s,baz=72,slow=37						
BRTR	**Keskin Array B**	**29.09**	**343**	P	**P**	**13 40 59.5**	**+1.2**
	0.6nm,0.7s,baz=174,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**47.23**	**35**	P	**P**	**13 43 29.9**	**-0.7**
	0.9nm,0.9s,baz=230,slow=6.3,SNR=7.2						
KURBB	**Kurchatov Arra**	**47.63**	**29**	P	**P**	**13 43 34.6**	**+1.0**
	0.9nm,1.0s,baz=230,slow=8.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**52.73**	**29**	P	**P**	**13 44 11.1**	**-1.1**
	0.4nm,0.5s,baz=220,slow=3.8,SNR=2.2						
CMAR	**Chiang Mai Arr**	**53.12**	**76**	P	**P**	**13 44 15.1**	**-0.6**
	0.7nm,0.9s,baz=276,slow=7.5,SNR=4.9						
SONM	**Songino Array**	**62.63**	**42**	P	**P**	**13 45 22.7**	**+0.6**
	0.2nm,0.3s,baz=265,slow=6.7,SNR=2.9						

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*IDC **21** 13:38:52.7±1.5, 11°.77N×44°.09E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/44, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=37.1km s-min=13.5km az=156.0*
ISC 21 13:38:54.4±1.1, 11°.9N±0°.2×43°.9E±0°.2, h10km, n6, σ0°55/6, mb3.7/4, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.12**	**252**	Pg	**Pn**	**13 39 16.2**	**0.0**
	baz=52,slow=17,SNR=1.0						
ATD				Lg	Lg	13 39 33.3	
	139nm,0.3s,baz=80,slow=23,SNR=3.6						
KMBO	**Kilima Mbogo**	**14.53**	**208**	Pn	**Pn**	**13 42 20.5**	**0.0**
	0.1nm,0.3s,baz=109,slow=23,SNR=1.3						
MKAR	**Makanchi Array**	**47.46**	**35**	P	**P**	**13 47 29.1**	**-0.4**
	0.6nm,0.8s,baz=236,slow=7.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**47.85**	**29**	P	**P**	**13 47 32.8**	**+0.4**
	0.1nm,0.4s,baz=234,slow=8.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**52.95**	**29**	P	**P**	**13 48 10.2**	**-0.7**
	0.5nm,0.5s,baz=204,slow=3.2,SNR=1.8						
SONM	**Songino Array**	**62.86**	**42**	P	**P**	**13 49 21.1**	**+0.3**
	0.5nm,0.6s,baz=272,slow=6.8,SNR=3.6						

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*IDC **21** 13:45:21.0±1.4, 11°.84N×44°.05E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/41, mbtmp3.7/9, MS3.3/5, Ms1 3.3/5, ms1mx2.7/79, Error ellipse: s-maj=40.2km s-min=11.2km az=158.0*
ISC 21 13:45:21.4±1.4, 11°.8N±0°.2×44°.0E±0°.1, h4km, n15, σ0°93/10, mb3.8/9, MS3.2/3, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.19**	**257**	Pg	**Pg**	**13 45 44.1**	**-0.2**
	86nm,0.3s,baz=59,slow=12,SNR=14						
ATD				Lg	Lg	13 46 00.7	
	115nm,0.3s,baz=73,slow=19,SNR=18						
KMBO	**Kilima Mbogo**	**14.50**	**208**	LR	LR	13 54 22.3	
	comp=Z,129nm,18.2s,baz=90,slow=37						
WSAR	**Wadi Sarin**	**17.96**	**49**	LR	LR	13 57 22.2	
	comp=Z,68nm,18.5s,baz=242,slow=40						
GNI	**Garni**	**28.24**	**1**	LR	LR	14 03 39.8	
	comp=Z,25nm,19.6s,baz=136,slow=39						
BRTR	**Keskin Array B**	**29.30**	**343**	P	**P**	**13 51 26.6**	**+1.4**
	0.8nm,0.4s,baz=160,slow=13,SNR=4.3						
MATP	**Matopo**	**35.48**	**206**	LR	LR	14 06 21.7	
	comp=Z,107nm,18.4s,baz=134,slow=36						
AKTO	**Aktyubinsk**	**40.20**	**14**	LR	LR	14 13 15.7	
	comp=Z,34nm,18.8s,baz=239,slow=42						
AKASG	**Malin Array Be**	**40.64**	**346**	P	**P**	**13 53 02.0**	**-0.5**
	0.2nm,0.3s,baz=182,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	**41.33**	**277**	P	**P**	**13 53 09.2**	**+0.5**
	0.5nm,1.0s,baz=62,slow=6.7,SNR=2.6						
GERES	**GERESS Array B**	**44.70**	**332**	P	**P**	**13 53 35.0**	**-0.7**
	0.4nm,0.6s,baz=101,slow=5.6,SNR=4.0						
MKAR	**Makanchi Array**	**47.48**	**35**	P	**P**	**13 53 57.2**	**-0.3**
	1.5nm,0.9s,baz=235,slow=9.3,SNR=7.7						
KURBB	**Kurchatov Arra**	**47.88**	**29**	P	**P**	**13 54 00.4**	**-0.2**
	0.5nm,0.6s,baz=231,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**52.98**	**29**	P	**P**	**13 54 37.4**	**-1.7**
	0.6nm,0.4s,baz=224,slow=8.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**53.26**	**76**	P	**P**	**13 54 42.0**	**+0.2**
	0.4nm,0.5s,baz=279,slow=7.6,SNR=5.8						
SONM	**Songino Array**	**62.86**	**42**	P	**P**	**13 55 49.2**	**+0.4**
	0.8nm,0.7s,baz=256,slow=6.0,SNR=6.4						

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*IDC **21** 13:47:34.4±1.1, 27°.65N×66°.34E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.3/45, mbtmp3.5/7, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/58, Error ellipse: s-maj=29.9km s-min=25.9km az=130.0*
ISC 21 13:47:35.7±1.1, 27°.5N±0°.2×66°.1E±0°.1, h10km, n9, σ2°88/8, mb3.6/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**7.98**	**240**	Pn	**Pn**	**13 49 33.3**	**+1.6**
	0.3nm,0.3s,baz=313,slow=9.6,SNR=6.6						
WSAR				Sn	**Sn**	**13 50 58.1**	**-4.0**
	1.1nm,0.3s,baz=318,slow=17,SNR=4.6						
GEYT	**Alibeck**	**12.39**	**329**	LR	LR	13 55 55.5	
	comp=Z,32nm,19.3s,baz=118,slow=40						
AAK	**Ala-Archa**	**16.58**	**22**	LR	LR	13 58 54.2	
	comp=Z,43nm,20.2s,baz=239,slow=42						
MKAR	**Makanchi Array**	**23.10**	**29**	P	**P**	**13 52 37.9**	**-3.7**
	0.2nm,0.6s,baz=210,slow=9.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**24.97**	**19**	P	**P**	**13 52 57.2**	**-2.0**
	0.8nm,0.7s,baz=210,slow=8.7,SNR=7.4						
FINES	**FINESS Array B**	**43.16**	**333**	P	**P**	**13 55 37.9**	**+1.7**
	1.5nm,0.9s,baz=122,slow=10,SNR=1.8						
TORD	**Torodi Ar. Bea**	**61.48**	**271**	P	**P**	**13 57 54.3**	**+1.3**
	0.3nm,0.6s,baz=78,slow=6.6,SNR=2.4						
WRA	**Warramunga Arr**	**81.12**	**118**	P	**P**	**13 59 52.4**	**+0.8**
	0.1nm,0.6s,baz=311,slow=4.9,SNR=1.5						
ASAR	**Alice Springs**	**82.84**	**121**	P	**P**	**14 00 00.6**	**0.0**
	0.3nm,0.6s,baz=315,slow=5.3,SNR=8.0						

IDC 21 13:49:58.2±2.2, 11°.01N×44°.17E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/39, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=42.7km s-min=17.4km az=6.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.40**	**292**	Pg	Pn	13 50 25.1	0.0
	24nm,0.3s,baz=187,slow=8.1,SNR=6.2						
ATD				Lg	Lg	13 50 42.5	
	26nm,0.3s,baz=63,slow=23,SNR=8.8						
KMBO	**Kilima Mbogo**	**13.88**	**210**	Pn	Pn	13 53 16.0	-0.6
	0.3nm,0.3s,baz=75,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**48.04**	**35**	P	P	13 58 38.3	-1.1
	0.6nm,1.0s,baz=231,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**53.60**	**29**	P	P	13 59 21.7	+0.6
	0.5nm,0.4s,baz=228,slow=5.6,SNR=1.9						

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*MAN **21** 14:05:31.2, 9°.84N×126°.24E, h15km, mb4.7, ML3.5, MS3.4*
*NEIC **21** 14:05:38.0±1.2, 9°.84N±0°.08×126°.19E±0°.05, h111km±9km, mb4.3/21, Error ellipse: s-maj=11.6km s-min=7.2km az=175.0*
*IDC **21** 14:05:40.8±2.3, 9°.72N×125°.94E, h140km±21km, mb3.7/11, mb1 3.8/14, mb1mx3.5/51, mbtmp4.2/14, MS3.7/2, Ms1 3.7/2, ms1mx2.7/73, Error ellipse: s-maj=47.7km s-min=13.6km az=74.0*
ISC 21 14:05:34.0±1.1, 9°.90N±0°.04×126°.25E±0°.06, h74km±11km, n60, σ1°83/64, mb4.3/19, 7C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bisli**	**1.71**	**176**	⇑*iP*	**Pn**	**14 05 57.9**	**-4.1**
BIPH				*i* S	**Sn**	**14 06 20.8**	**-2.2**
BESP	**Borongan**	**1.87**	**335**	⇓*iP*	**Pn**	**14 06 01.1**	**-2.9**
BESP				*eS*	**Sn**	**14 06 28.7**	**+2.0**
LLP	**Lapu-Lapu**	**2.29**	**281**	⇓*iP*	**Pn**	**14 06 09.0**	**-0.6**
LLP				*i* S	**Sn**	**14 06 39.1**	**+2.2**
TBP	**Tagbilaran**	**2.37**	**265**	*eP*	**Pn**	**14 06 09.3**	**-1.4**
TBP				*i* S	**Sn**	**14 06 38.2**	**-0.6**
DAV	**Davao City (W)**	**2.89**	**193**	P	Pn	14 06 24.6	+6.8
	52nm,0.3s,baz=278,slow=2.1,SNR=1.7						
DAV				S	**Sn**	**14 06 56.6**	**+5.0**
	66nm,0.3s,baz=270,slow=20,SNR=4.1						
DAV	**Davao City (W)**	**2.89**	**193**	Pn	**Pn**	**14 06 21.0**	**+3.1**
MATI	**Mati**	**2.94**	**180**	⇓*eP*	**Pn**	**14 06 19.1**	**+0.6**
MATI				*eS*	**Sn**	**14 06 54.4**	**+1.7**
SNPH	**Sibulan**	**3.03**	**260**	⇓*eP*	**Pn**	**14 06 18.6**	**-1.1**
SNPH				*i* S	**Sn**	**14 06 58.1**	**+3.2**
KCP	**Kidapawan**	**3.10**	**202**	⇓*iP*	**Pn**	**14 06 20.2**	**-0.5**
KCP				*eS*	**Sn**	**14 06 54.0**	**-2.7**
DCPH	**Dipolog City**	**3.15**	**246**	⇓*eP*	**Pn**	**14 06 20.2**	**-1.1**
DCPH				*eS*	**Sn**	**14 06 58.8**	**+1.0**
CTBH	**Cotabato--PC H**	**3.32**	**217**	⇑*iP*	**Pn**	**14 06 23.2**	**-0.4**
PAGZ	**Pagadian**	**3.50**	**234**	⇑*eP*	**Pn**	**14 06 25.7**	**-0.3**
PAGZ				*eS*	**Sn**	**14 07 06.6**	**+0.4**
GUIM	**Jordan**	**3.68**	**282**	⇑*eP*	**Pn**	**14 06 28.5**	**0.0**
GUIM				*eS*	**Sn**	**14 07 05.8**	**-4.9**
RCP	**Roxas**	**3.82**	**296**	⇓*eP*	**Pn**	**14 06 30.1**	**-0.3**
PVCP	**Virac**	**4.21**	**331**	⇑*eP*	**Pn**	**14 06 34.5**	**-1.2**
PVCP				*eS*	**Sn**	**14 07 23.9**	**+0.3**
JAP	**San Jose, Anti**	**4.32**	**282**	⇑*eP*	**Pn**	**14 06 38.6**	**+1.3**
SMPP	**San Manuel, Pa**	**8.25**	**319**	⇓*eP*	**Pn**	**14 07 29.6**	**-1.3**
MYLDM	**Lahad Datu**	**9.01**	**239**	Pn	**Pn**	**14 07 44.3**	**+3.0**
KKM	**Kota Kinabalu**	**10.65**	**250**	Pn	**Pn**	**14 08 05.3**	**+1.4**
LUWI	**Luwuk**	**11.41**	**198**	Pn	**Pn**	**14 08 15.9**	**+1.7**
YULB	**Yu-li**	**14.23**	**341**	Pn	**P**	**14 08 55.2**	**-1.9**
TPUB	**Ta-pu**	**14.37**	**339**	Pn	**P**	**14 08 56.6**	**-2.1**
SBUM	**Sibu**	**15.79**	**243**		**P**	**14 09 13.9**	**-0.6**
KAPI	**Kappang**	**16.17**	**204**	LR	LR	14 16 16.3	
	comp=Z,70nm,18.7s,baz=359,slow=40						
JOW	**Kunigami**	**16.95**	**6**	P	**P**	**14 09 31.4**	**+4.2**
	0.8nm,0.3s,baz=144,slow=17,SNR=2.0						
JOW	**Kunigami**	**16.95**	**6**	P	**P**	**14 09 30.6**	**+3.4**
JOW				IAmb	IAmb	14 09 59.2	
	comp=Z,26nm,1.2s						
GUMO	**Guam**	**18.59**	**77**	P	**P**	**14 09 45.6**	**+0.3**
BATI	**Baumata**	**20.14**	**187**	P	**P**	**14 10 03.5**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=309,slow=3.6,SNR=2.5						
MTN	**Manton Dam**	**23.11**	**168**	P	**P**	**14 10 33.0**	**-0.8**
MTN				IAmb	IAmb	14 10 49.3	
	comp=Z,12nm,1.2s						
KNRA	**Kununurra**	**25.54**	**174**	P	**P**	**14 10 55.7**	**-0.2**
KNRA				IAmb	IAmb	14 11 05.4	
	comp=Z,7.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.83**	**181**	P	**P**	**14 11 14.6**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=349,slow=5.2,SNR=1.9						
FITZ	**Fitzroy Crossi**	**27.83**	**181**	P	**P**	**14 11 15.5**	**-1.0**
FITZ				IAmb	IAmb	14 11 27.9	
	comp=Z,4.3nm,1.1s						
MAJO	**Matsushiro**	**28.65**	**20**	P	**P**	**14 11 24.7**	**+1.0**
MAJO				IAmb	IAmb	14 11 31.6	
	comp=Z,8.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**28.65**	**20**	P	**P**	**14 11 24.6**	**+0.9**
MJB9				IAmb	IAmb	14 11 31.6	
	comp=Z,8.9nm,1.1s						
WRA	**Warramunga Arr**	**30.71**	**165**	P	**P**	**14 11 41.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=342,slow=9.2,SNR=8.1						
WB2	**Warramunga Arr**	**30.71**	**165**	P	**P**	**14 11 41.0**	**-1.1**
WR0	**Warramunga Arr**	**30.78**	**165**	P	**P**	**14 11 41.8**	**-0.8**
WR0				IAmb	IAmb	14 12 06.1	
	comp=Z,7.1nm,1.4s						
AS31	**Alice Springs**	**34.19**	**167**	P	**P**	**14 12 11.6**	**-0.9**
ASAR	**Alice Springs**	**34.19**	**167**	P	**P**	**14 12 11.7**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=351,slow=7.1,SNR=45						
GIRL	**Girlia**	**34.42**	**200**	P	**P**	**14 12 14.3**	**-0.1**
HNR	**Honiara**	**38.65**	**119**	LR	LR	14 28 38.3	
	comp=Z,317nm,20.4s,baz=204,slow=36						
H11N1	**WAKE ISLAND Hy**	**40.39**	**71**	T	T	14 56 20.9	
	baz=263,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hy**	**40.39**	**71**	T	T	14 56 20.7	
	baz=263,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy**	**40.40**	**71**	T	T	14 56 22.9	
	baz=263,slow=74,SNR=32						
FORT	**Forrest**	**40.49**	**178**	P	**P**	**14 13 06.8**	**+1.2**
BBOO	**Buckleboo**	**43.49**	**168**	P	**P**	**14 13 30.2**	**+0.1**
BBOO				IAmb	IAmb	14 13 47.4	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**44.06**	**161**	P	**P**	**14 13 34.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=305,slow=9.4,SNR=3.6						
MKAR	**Makanchi Array**	**52.31**	**323**	P	**P**	**14 14 37.8**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=140,slow=6.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**54.94**	**331**	P	**P**	**14 14 56.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=120,slow=9.7,SNR=2.3						
KURK	**Kurchatov**	**56.36**	**326**	P	**P**	**14 15 06.5**	**-0.9**
KURK	**Kurchatov**	**56.36**	**326**	IAmb	IAmb	14 15 14.1	
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**56.36**	**326**	P	**P**	**14 15 06.5**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=125,slow=6.8,SNR=5.4						
TIXI	**Tiksi**	**61.72**	**1**	P	**P**	**14 15 43.7**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=91,slow=23,SNR=3.2						
TIXI	**Tiksi**	**61.72**	**1**	IAmb	IAmb	14 15 49.8	
	comp=Z,2.9nm,0.5s						
ABKAR	**Akbulak array**	**67.14**	**319**	P	**P**	**14 16 19.0**	**-0.9**
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**14 17 58.5**	**-0.1**
	comp=Z,7.8nm,1.2s,baz=64,slow=8.2,SNR=4.2						
FIA1	**FINESS Array S**	**86.20**	**332**	P	**P**	**14 18 06.7**	**-0.3**
FIA1				IAmb	IAmb	14 18 08.1	
	comp=Z,8.1nm,1.1s						
FINES	**FINESS Array B**	**86.20**	**332**	P	**P**	**14 18 06.9**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=68,slow=4.7,SNR=7.6						
BESE	**Bessie Mountai**	**86.23**	**31**	P	**P**	**14 18 06.7**	**-0.7**
YKA	**Yellowknife Ar**	**94.10**	**24**	P	**P**	**14 18 45.5**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=299,slow=4.4,SNR=8.3						

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*IDC **21** 14:06:02.7±0.5, 35°.62N×99°.36E, h0km, mb4.4/29, mb1 4.5/32, mb1mx4.4/57, mbtmp4.4/32, ML4.0/3, MS3.8/24, Ms1 3.8/24, ms1mx3.5/86, Error ellipse: s-maj=14.5km s-min=10.9km az=35.0*
*BJI **21** 14:06:03.7±0.0, 35°.72N×99°.18E, h9km, mb4.6/45, mB4.8/25, ML4.5/18, Ms4.4/63, Ms7 4.3/56*
*MOS **21** 14:06:04.1±1.3, 35°.61N×99°.25E, h20km, mb4.9/28, Error ellipse: s-maj=7.6km s-min=4.8km az=122.4*
*NEIC **21** 14:06:05.1±1.6, 35°.71N±0°.08×99°.27E±0°.09, h15km±4km, mb4.9/61, Error ellipse: s-maj=11.4km s-min=11.0km az=190.0*
ISC 21 14:06:04.0±0.3, 35°.72N±0°.03×99°.22E±0°.03, h10km, n271, σ2°32/296, mb4.7/82, MS3.8/28, 12C-7D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**3.60**	**279**	Pn	**Pn**	**14 07 02.3**	**+2.1**
GOMU				Sn	**Sn**	**14 07 43.6**	**+0.5**
GOMU				smax	smax		
	comp=N,1μm,0.9s						
GOMU				smax	smax		
	comp=E,1μm,0.7s						
GTA	**Gaotai**	**3.71**	**7**	*e*Pn	**Pn**	**14 07 03.4**	**+1.9**
GTA				Pg	**Pb**	**14 07 11.4**	**+1.6**
GTA				Sn	**Sn**	**14 07 49.0**	**+3.6**
GTA				Sg	**Sg**	**14 07 59.0**	**-4.3**
GTA				smax	smax		
	comp=N,400nm,0.9s						
GTA				smax	smax		
	comp=E,400nm,1.5s						
GTA				LR	LR		
	comp=N,2μm,9.1s						
GTA				LR	LR		
	comp=Z,1μm,8.7s						
LZH	**Lanzhou**	**3.77**	**83**	Pn	**Pn**	**14 07 04.5**	**+2.1**
LZH				Pg	**Pg**	**14 07 15.0**	**-1.3**
LZH				Sn	**Sn**	**14 07 50.3**	**+3.4**
LZH				Sg	**Sb**	**14 08 01.3**	**+4.7**
LZH				smax	smax		
	comp=N,1μm,1.5s						
LZH				smax	smax		
	comp=E,2μm,1.5s						
LZH				LR	LR		
	comp=N,9μm,6.0s						
LZH				LR	LR		
	comp=E,8μm,6.5s						
LZH				LR	LR		
	comp=Z,4μm,5.4s						
CD2	**Chengdu**	**6.12**	**140**	Pn	**Pn**	**14 07 33.4**	**-1.1**
CD2				Pg	**Pg**	**14 07 56.9**	**-4.3**
CD2				Sg	**Sg**	**14 09 14.8**	**-5.6**
CD2				smax	smax		
	comp=E,130nm,1.2s						
XAN	**Xi'an**	**8.15**	**99**	P	**Pn**	**14 08 01.1**	**-1.2**
XAN				S	**Sn**	**14 09 35.0**	**+0.5**
XAN				smax	smax		
	comp=N,310nm,1.2s						
XAN				smax	smax		
	comp=E,250nm,1.3s						
XAN				LR	LR		
	comp=N,5μm,11.8s						
XAN				LR	LR		
	comp=E,2μm,13.3s						
XAN				LR	LR		
	comp=Z,6μm,11.0s						
LSA	**Lhasa**	**9.07**	**231**	P	**Pn**	**14 08 16.3**	**+1.0**
LSA	**Lhasa**	**9.07**	**231**	Pn	**Pn**	**14 08 16.3**	**+1.0**
PZH	**PanZhiHua**	**9.44**	**166**	P	**Pn**	**14 08 23.8**	**+3.7**
PZH				sP		14 08 28.5	
PZH				S	**Sn**	**14 10 08.5**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
PZH				LR	LR		
	comp=N,940nm,7.3s						
PZH				LR	LR		
	comp=E,340nm,7.9s						
PZH				LR	LR		
	comp=Z,660nm,7.7s						
ITAN	**ITANAGAR**	**9.75**	**210**	*e*P	**Pn**	**14 08 25.7**	**+1.4**
BTO	**Baotou**	**9.80**	**57**	*e*P	**Pn**	**14 08 25.6**	**+0.5**
BTO				S	**Sn**	**14 10 12.6**	**-2.6**
BTO				LR	LR		
	comp=E,3μm,6.7s						
ENH	**Enshi**	**10.19**	**119**	Pn	**Pn**	**14 08 30.4**	**0.0**
TIY	**Taiyuan**	**10.79**	**75**	*e*P	**Pn**	**14 08 37.5**	**-1.1**
TIY				S	**Sn**	**14 10 36.0**	**-3.5**
KOHI	**KOHIMA**	**10.89**	**205**	*e*P	**Pn**	**14 08 39.8**	**-0.3**
KOHI				*e*S	**Sn**	**14 10 41.4**	**-0.7**
LYN	**LuoYang**	**10.91**	**92**	⇓P	**Pn**	**14 08 38.5**	**-1.7**
LYN				S	**Sn**	**14 10 38.8**	**-3.5**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.4s						
LYN				pmax	pmax		
	comp=Z,60nm,3.9s						
LYN				LR	LR		
	comp=N,1μm,10.3s						
LYN				LR	LR		
	comp=E,1μm,8.3s						
LYN				LR	LR		
	comp=Z,1μm,7.2s						
HHC	**Hu-ho-hao-te**	**10.97**	**58**	*e*P	**Pn**	**14 08 41.1**	**+0.1**
HHC				S	**Sn**	**14 10 40.9**	**-2.9**
HHC				pmax	pmax		
	comp=Z,40nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,4.1s						
HHC				LR	LR		
	comp=Z,1μm,9.4s						
HHC				LR	LR		
	comp=Z,2μm,12.0s						
KMI	**Kunming**	**10.99**	**163**	⇑P	**Pn**	**14 08 43.6**	**+2.1**
KMI				pP		14 08 46.3	
KMI				PP	**PnPn**	**14 08 51.8**	**+2.5**
KMI				S	**Sn**	**14 10 51.5**	**+6.9**
KMI				pmax	pmax		
	comp=Z,20nm,0.8s						
KMI				L

SONM Songino Array 13.23 22 Pn **Pn** **14 09 12.2 +0.3**
comp=Z,0.7nm,0.3s,baz=204,slow=14,SNR=20
SONM Sn **Sn** **14 11 31.1 -7.9**
comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=1.9
SONM Lg Lg 14 13 01.5
baz=244,slow=37,SNR=1.4
SONM Songino Array 13.23 22 P **Pn** **14 09 12.6 +0.7**
SONM Songino Array 13.23 22 Pn **Pn** **14 09 12.6 +0.7**
ODAN Odare 13.42 232 *eP* **Pn** **14 09 14.4 -0.3**
comp=Z,96nm,0.8s
ULN Ulaanbaatar 13.46 23 *ce*P **Pn** **14 09 17.9 +2.8**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 13.46 23 Pn **Pn** **14 09 13.5 -1.6**
WHN Wuhan 13.69 108 ⇓P **Pn** **14 09 17.1 -1.0**
WHN S **Sn** **14 11 52.9 +2.7**
WHN pmax pmax
comp=Z,72nm,0.8s
WHN LR LR
comp=Z,3μm,10.4s
WHN LR LR
comp=Z,3μm,9.5s
WHN LR LR
comp=Z,4μm,17.8s
GUN Gumba 13.75 239 *eP* **Pn** **14 09 17.0 -2.3**
comp=Z,68nm,0.8s
BJI Beijing 14.07 67 P **Pn** **14 09 22.5 -0.8**
BJI S **Sn** **14 11 54.0 -5.4**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI LR LR
comp=Z,620nm,10.3s
BJI LR LR
comp=Z,850nm,11.8s
BJI LR LR
comp=Z,1μm,10.5s
KKN Kakani 14.24 240 *eP* **Pn** **14 09 23.3 -2.6**
comp=Z,38nm,0.6s
PKI Pulchoki 14.29 239 *eP* **Pn** **14 09 24.0 -2.6**
PKIN Phulchoki 14.29 239 *eP* **Pn** **14 09 24.1 -2.5**
comp=Z,41nm,0.7s
DMN Daman 14.47 240 *eP* **Pn** **14 09 26.4 -2.8**
TIA Tai'an 14.51 83 ⇑P **Pn** **14 09 27.9 -1.5**
TIA pmax pmax
comp=Z,8.0nm,0.8s
TIA LR LR
comp=Z,780nm,4.4s
TIA LR LR
comp=Z,1μm,12.8s
GKN Gorkha 14.57 242 *eP* **Pn** **14 09 27.9 -2.6**
comp=Z,63nm,0.9s
ZAK Zakamensk 14.95 10 *eP* **P** **14 09 38.9 -2.1**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
DANN Dangsing 15.02 245 *eP* **Pn** **14 09 33.7 -2.9**
comp=Z,92nm,0.9s
XLT XiLinHaoTe 15.30 53⇑ *i*P **Pn** **14 09 40.8 +0.8**
XLT S **Sn** **14 12 29.5 0.0**
XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,170nm,4.4s
XLT LR LR
comp=Z,56nm,8.0s
XLT LR LR
comp=Z,530nm,8.0s
XLT LR LR
comp=Z,800nm,9.6s
KOLN Koldanda 15.46 244 *eP* **Pn** **14 09 39.8 -2.5**
comp=Z,38nm,0.8s
PYUN Piuhan 15.72 246 *eP* **Pn** **14 09 43.3 -2.5**
comp=Z,46nm,0.8s
ZSN Zaisan 15.87 322 *eP* **Pn** **14 09 47.9 +0.6**
ZSN Zaisan 15.87 322 *eP* **Pn** **14 09 47.9 +0.6**
baz=322
MOY Mondy 15.99 4 *eP* **P** **14 09 55.1 +2.5**
MOY pmax pmax
comp=Z,31nm,1.5s
NJ2 Nanjing 16.71 97 *eP* **Pn** **14 09 56.8 -1.3**
NJ2 S **Sn** **14 13 00.4 -3.3**
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,210nm,4.4s
NJ2 LR LR
comp=Z,800nm,10.4s
NJ2 LR LR
comp=Z,930nm,10.8s
NJ2 LR LR
comp=Z,920nm,13.6s
MK31 Makanchi Array 16.83 316 *i*P **Pn** **14 09 58.9 -0.7**
MK31 Makanchi Array 16.83 316 Pn **Pn** **14 09 55.5 -4.1**
MK31 IAmb IAmb 14 10 06.8
comp=Z,56nm,0.9s
MKAR Makanchi Array 16.83 316 Pn **Pn** **14 09 57.5 -2.1**
comp=Z,1.8nm,0.3s,baz=118,slow=15,SNR=59
MKAR Sn **Sn** **14 12 57.3 -9.2**
comp=Z,0.2nm,0.3s,baz=116,slow=16,SNR=2.9
MKAR LR LR 14 17 06.2
comp=Z,635nm,20.7s,baz=126,slow=39
MKAR Makanchi Array 16.83 316 Pn **Pn** **14 09 55.2 -4.4**
CHTO Chiang Mai 16.84 181 P **Pn** **14 09 58.7 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 16.84 181 Pn **Pn** **14 09 58.7 -1.2**
PDGK Podgornoye 16.99 303 P **Pn** **14 09 58.2 -3.6**
MAKZ Makanchi 17.01 316 P **Pn** **14 09 58.2 -3.7**
MAKZ Makanchi 17.01 316 Pn **Pn** **14 09 58.0 -3.9**
CMAR Chiang Mai Arr 17.20 181 P **Pn** **14 10 04.1 -0.3**
comp=Z,0.1nm,0.3s,baz=354,slow=11,SNR=22
CMAR LR LR 14 17 19.5
comp=Z,142nm,20.9s,baz=350,slow=40
CMAR Chiang Mai Arr 17.20 181 *ce*P **P** **14 10 08.1 +2.1**
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CMAR Chiang Mai Arr 17.20 181 **Pn** **14 10 03.3 -1.1**
UZB Uzynbulak 17.25 302 *eP* **P** **14 10 05.4 -1.2**
UZB Uzynbulak 17.25 302 *eP* **P** **14 10 05.5 -1.2**
baz=302
KPKS Kokpek 17.59 302 *eP* **P** **14 10 09.9 -0.3**
KPKS Kokpek 17.59 302 *eP* **P** **14 10 10.0 -0.3**
baz=302
TDK Taldyqorghan 18.33 307 *eP* **P** **14 10 18.8 +0.5**
TDK pmax pmax
comp=Z,24nm,0.6s
TDK Taldyqorghan 18.33 307 *eP* **P** **14 10 18.9 +0.5**
comp=Z,24nm,0.6s,baz=307
MDOK Medeo 18.64 300 *eP* **Pn** **14 10 21.7 -0.4**
MDOK Medeo 18.64 300 *eP* **Pn** **14 10 21.8 -0.4**
baz=300
TNSS Tian-Shan 18.67 300 *eP* **Pn** **14 10 22.6 -0.3**
baz=300
KSH Kashi 18.79 289 P **Pn** **14 10 26.6 +2.6**
KSH pP sP 14 10 32.8 +3.3
KSH sP pP 14 10 35.1 +7.5
KSH S **S** **14 13 56.0 -1.4**
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=Z,320nm,10.7s
KSH LR LR
comp=Z,290nm,11.3s
KSH LR LR
comp=Z,650nm,11.0s
CHKK Chushkaly 18.88 302 *eP* **Pn** **14 10 24.9 0.0**
baz=302
SSE Sheshan 18.90 98 P **P** **14 10 24.8 +0.1**
SSE S **Sn** **14 13 56.8 0.0**
SSE pmax pmax
comp=Z,15nm,0.6s
SSE pmax pmax
comp=Z,120nm,6.1s
SSE LR LR
comp=Z,180nm,12.2s
SSE LR LR
comp=Z,380nm,9.8s
SMLA Simla 18.96 262 *eP* **P** **14 10 22.9 -2.4**
SMLA IAmb IAmb 14 10 28.2
comp=Z,17nm,0.6s
QIZ Qiongzhong 19.09 148 P **Pn** **14 10 27.9 +0.3**
QIZ S **Sn** **14 14 01.3 -0.3**
QIZ LR LR
comp=Z,630nm,11.2s
QIZ LR LR
comp=Z,350nm,8.0s
QIZ LR LR
comp=Z,620nm,10.4s
BOOM Boomskoye usch 19.26 298 P **Pn** **14 10 29.4 -0.3**
BOOM pmax pmax
comp=Z,12nm,0.9s
BOOM Boomskoye usch 19.26 298 P **Pn** **14 10 29.4 -0.3**
KUU Kurty 19.34 302 *i* P **P** **14 10 29.3 -0.1**
KUU pmax pmax
comp=Z,20nm,1.2s
KUU Kurty 19.34 302 *i* P **P** **14 10 29.4 -0.1**
comp=Z,20nm,1.2s,baz=302
TKM2 Tokmak 2 19.60 299 P **Pn** **14 10 33.5 -0.4**
SNY Shenyang 19.91 65 ⇑P **P** **14 10 30.3 -5.4**
SNY S S 14 14 08.5 -11
SNY pmax pmax
comp=Z,14nm,0.5s
SNY pmax pmax
comp=Z,51nm,3.5s
SNY LR LR
comp=N,520nm,10.8s
SNY LR LR
comp=E,470nm,13.9s
SNY LR LR
comp=Z,630nm,11.4s
SEM Semipalatinsk 20.10 323 *eP* **P** **14 10 38.1 +0.2**
SEM pmax pmax
comp=Z,19nm,0.7s
SEM Semipalatinsk 20.10 323 *eP* **P** **14 10 38.2 +0.2**
comp=Z,19nm,0.7s,baz=323
BLSP Bilaspur 20.13 232 *eP* **P** **14 10 37.5 -0.7**
AAK Ala-Archa 20.33 297 P Pn 14 10 42.1 -0.4
comp=Z,6.8nm,0.7s,baz=120,slow=4.3,SNR=20
AAK LR LR 14 20 24.2
comp=Z,633nm,18.7s,baz=103,slow=42
AAK Ala-Archa 20.33 297 P **P** **14 10 40.1 -0.4**
SGDS Sogindy 20.41 300 *eP* Pn 14 10 41.8 -1.5
baz=300
ZAA0 Zalesovo Array 20.82 336 P **P** **14 10 44.9 -0.5**
ZAA0 IAmb IAmb 14 10 51.2
comp=Z,43nm,0.6s
ZALV Zalesovo Beam 20.82 336 P Pn 14 10 47.2 -0.6
comp=Z,22nm,0.6s,baz=146,slow=11,SNR=76
ZALV Lg Lg 14 17 01.2
comp=Z,0.3nm,0.3s,baz=146,slow=19,SNR=1.6
ZALV LR LR 14 19 00.4
comp=Z,334nm,18.2s,baz=147,slow=37
ZALV Zalesovo Beam 20.82 336 P **P** **14 10 44.9 -0.5**
KURBB Kurchatov Arra 21.10 321 P **P** **14 10 50.2 +1.8**
comp=Z,18nm,0.6s,baz=126,slow=12,SNR=79
KURBB LR LR 14 19 16.4
comp=Z,348nm,20.1s,baz=122,slow=37
KURBB Kurchatov Arra 21.10 321 P **P** **14 10 47.5 -1.0**
KURK Kurchatov 21.11 322 P **P** **14 10 50.2 +1.6**
KURK Kurchatov 21.11 322 P **P** **14 10 47.6 -0.9**
KURK IAmb IAmb 14 10 55.8
comp=Z,54nm,0.9s
CN2 Changchun 21.65 60 *eP* **P** **14 10 51.5 -3.0**
CN2 *es*P pP 14 10 58.5 -0.2
CN2 *eS* **S** **14 14 45.5 -8.7**
CN2 LR LR
comp=N,490nm,10.0s
CN2 LR LR
comp=E,550nm,10.0s
CN2 LR LR
comp=Z,910nm,11.0s
TJN Taejon 22.74 80 *ce*P **P** **14 11 06.1 -0.1**
TJN Taejon 22.74 80 P **P** **14 11 05.5 -0.7**
KS19 Wonju Array Si 23.03 77 P **P** **14 11 09.2 0.0**
KS19 IAmb IAmb 14 11 14.7
comp=Z,65nm,1.5s
KSAR Wonju Array Be 23.05 77 P **P** **14 11 09.3 -0.1**
KSAR Wonju Array Be 23.05 77 P **P** **14 11 09.3 -0.1**
KSRS Korea Array 23.08 77 P **P** **14 11 09.3 -0.3**
comp=Z,12nm,0.8s,baz=269,slow=9.1,SNR=43
GAR Garm 23.16 287 P **P** **14 11 11.2 +0.4**
KKAR Karatay Array 23.30 297 P **P** **14 11 11.5 -0.4**
KKAR Karatay Array 23.30 297 P **P** **14 11 11.5 -0.4**
BNX BinXian 23.48 56 ⇓P **P** **14 11 14.0 +0.3**
BNX pmax pmax
comp=Z,26nm,0.9s
BNX pmax pmax
comp=Z,440nm,3.6s
BRZS Berezniki 23.96 315 *eP* **P** **14 11 18.8 +0.5**
BRZS pmax pmax
comp=Z,8.0nm,0.8s
BRZS Berezniki 23.96 315 *eP* **P** **14 11 18.9 +0.5**
comp=Z,7.5nm,0.8s,baz=315
CHGR Chuyangaron 24.08 286 P **P** **14 11 19.1 -0.5**
BOD Bodaibo 24.21 19 *eP* **P** **14 11 21.8 +1.3**
BOD pmax pmax
comp=Z,8.0nm,1.9s
KBL Kabul 24.67 276 P **P** **14 11 25.0 -0.2**
KBL pmax pmax
comp=Z,24nm,0.9s
KBL Kabul 24.67 276 P **P** **14 11 24.9 -0.2**
KBL IAmb IAmb 14 11 35.1
comp=Z,24nm,0.8s
MDJ Mudanjiang 24.74 60 P **P** **14 11 25.1 -0.3**
MDJ IAmb IAmb 14 11 32.4
comp=Z,30nm,1.5s
MDJ Mudanjiang 24.74 60 P **P** **14 11 25.8 +0.3**
MDJ PP **PnPn** **14 11 58.4 +1.1**
MDJ S **S** **14 15 47.6 +0.2**
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,220nm,4.7s
MDJ LR LR
comp=Z,610nm,16.4s
MDJ LR LR
comp=Z,520nm,16.4s
MDJ LR LR
comp=Z,420nm,11.4s
DLV T Lat 25.11 158 P **P** **14 11 29.1 -0.1**
DLV IAmb IAmb 14 11 32.1
comp=Z,29nm,1.0s
ZEA Zeya 26.59 39 *eP* **P** **14 11 43.6 +1.5**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
BVAR Borovoye Array 26.64 319 P **P** **14 11 44.4 +1.8**
comp=Z,7.6nm,0.9s,baz=67,slow=24,SNR=16
BRVK Borovoye 26.71 319 P **P** **14 11 45.4 +2.1**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 26.71 319 P **P** **14 11 45.4 +2.1**
KLR Kul'dur 27.29 50 P **P** **14 11 49.0 +0.5**
comp=Z,5.5nm,1.0s,baz=261,slow=13,SNR=3.9
AB31 Akbulak array 31.59 308 *i* P **P** **14 12 26.8 +0.1**
ABKAR Akbulak array 31.59 308 P **P** **14 12 26.6 0.0**
YAK Yakutsk 32.51 26 P **P** **14 12 37.0 +2.4**
comp=Z,7.8nm,0.3s,baz=219,slow=2.3,SNR=4.2
YAK LR LR 14 26 27.7
comp=Z,148nm,20.1s,baz=244,slow=38
YAK Yakutsk 32.51 26 *eP* **P** **14 12 37.7 +3.1**
YAK *e* 14 13 40.4
YAK *e*PPP PPP 14 14 06.1
YAK *e* 14 15 24.2
YAK *eS* **S** **14 17 54.0 +4.6**
YAK *eSS* **SnSn** **14 19 48.6 +5.9**
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,143nm,4.3s
YAK pmax pmax
comp=N,45nm,4.3s
YAK pmax pmax
comp=E,86nm,4.7s
YAK smax smax
comp=E,110nm,5.4s
YAK smax smax
comp=N,64nm,4.3s
YAK MLR MLR
comp=Z,90nm,15.0s
YAK Yakutsk 32.51 26 IAmb IAmb 14 12 40.3
comp=Z,14nm,0.6s
GEYT Alibeck 32.79 286 P **P** **14 12 38.9 +1.5**
comp=Z,13nm,0.9s,baz=87,slow=10,SNR=13
GEYT LR LR 14 29 05.2
comp=Z,183nm,20.0s,baz=89,slow=42
GEYT Alibeck 32.79 286 P **P** **14 12 37.1 -0.2**
GEYT IAmb IAmb 14 12 42.7
comp=Z,14nm,0.9s
GYA0 ALIBECK ARRAY 32.79 286 P **P** **14 12 38.9 +1.5**
GYA0B ALIBECK ARRAY 32.79 286 P **P** **14 12 37.2 -0.1**
GYA0B IAmb IAmb 14 12 42.6
comp=Z,18nm,0.9s
PALK Pallekele 33.01 215 LR LR 14 29 08.0
comp=Z,54nm,18.0s,baz=158,slow=42
AKTO Aktyubinsk 33.03 309 LR LR 14 26 26.3
comp=Z,114nm,19.8s,baz=120,slow=37
AKTO Aktyubinsk 33.03 309 P **P** **14 12 40.2 +0.9**
SVE Sverdlovsk 33.36 321 *eP* **P** **14 12 45.4 +3.3**
SVE pmax pmax
comp=Z,27nm,1.2s
ASAJ Asahikawa 33.98 62 P **P** **14 12 47.6 0.0**
comp=Z,8.9nm,0.9s,baz=113,slow=18,SNR=2.9
ARU Arti 34.29 320 LR LR 14 27 49.6
comp=Z,276nm,19.6s,baz=110,slow=38
ARU Arti 34.29 320 *d iP* **P** **14 12 52.5 +2.4**
ARU 14 14 01.9
ARU 14 15 25.1
ARU S **S** **14 18 21.4 +4.4**
ARU SS **SnSn** **14 20 23.8 -2.1**
ARU pmax pmax
comp=Z,29nm,0.7s
ARU MLR MLR
comp=Z,241nm,17.0s
ARU Arti 34.29 320 P **P** **14 12 51.2 +1.1**
NRIK Noril'sk 34.29 353 P **P** **14 12 51.9 +2.0**
comp=Z,4.2nm,0.6s,baz=152,slow=7.4,SNR=8.7
NRIK Noril'sk 34.29 353 *ce*P **P** **14 12 52.1 +2.1**
NRIK pmax pmax
comp=Z,19nm,2.0s
MYLDM Lahad Datu 35.20 145 P **P** **14 12 59.5 +1.1**
SBUM Sibu 35.23 157 P **P** **14 12 58.9 +0.3**
SBUM IAmb IAmb 14 13 01.2
comp=Z,6.6nm,0.8s
KSM Kuching 35.60 161 P **P** **14 13 01.7 -0.1**
KSM IAmb IAmb 14 13 03.9
comp=Z,16nm,1.2s
WSAR Wadi Sarin 37.21 262 P **P** **14 13 17.8 +2.2**
comp=Z,14nm,1.1s,baz=32,slow=7.2,SNR=4.0
WSAR LR LR 14 30 26.9
comp=Z,105nm,21.1s,baz=118,slow=39
STKI Sintang 37.27 159 P **P** **14 13 18.0 +1.9**
PPBI Pangkal Pinang 38.24 169 P **P** **14 13 25.7 +1.5**
KIRV Kirov 39.63 321 LR LR 14 31 07.4
comp=Z,158nm,18.5s,baz=122,slow=38
KIRV Kirov 39.63 321 *ce*P **P** **14 13 38.4 +2.9**
BELG Belogornoye 39.73 311 P **P** **14 13 38.0 +1.6**
comp=Z,20nm,0.8s,baz=91,slow=3.3,SNR=12
BELG LR LR 14 31 05.8
comp=Z,126nm,18.9s,baz=144,slow=38
BELG Belogornoye 39.73 311 *i* P **P** **14 13 39.1 +2.7**
BELG pmax pmax
comp=Z,4.0nm,0.9s
MAK Makhachkala 40.11 297 *eP* **P** **14 13 35.7 -4.0**
MAK *e* 14 15 10.0
MAK *eS* **S** **14 19 40.5 -5.4**
MAK *eSS* **SS** **14 22 39.0 -4.2**
MAK pmax pmax
comp=Z,163nm,1.0s
MA2 Magadan 40.72 38 LR LR 14 31 44.0
comp=Z,129nm,19.7s,baz=152,slow=38
PRGR Permogore 42.16 325 *eP* **P** **14 13 53.7 -2.6**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
GNI Garni 42.63 293 LR LR 14 34 34.9
comp=Z,121nm,21.7s,baz=79,slow=40
GNI Garni 42.63 293 *ce*P **P** **14 14 04.5 +3.8**
GNI pmax pmax
comp=Z,14nm,1.1s
GNI Garni 42.63 293 P **P** **14 14 00.3 -0.4**
ZEI Tsey 42.76 297 *eP* **P** **14 14 05.1 +3.4**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 43.32 298 P **P** **14 14 07.2 +1.1**
comp=Z,3.6nm,0.8s,baz=112,slow=4.7,SNR=6.8
KBZ LR LR 14 34 13.3
comp=Z,92nm,18.9s,baz=74,slow=39
KIV Kislovodsk 43.44 299 *eP* **P** **14 14 08.3 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,112nm,16.0s
PETK Petropavlovsk- 43.93 48 P **P** **14 14 10.2 -0.6**
comp=Z,6.3nm,0.9s,baz=251,slow=11,SNR=1.4
KAPI Kappang 44.87 150 P **P** **14 14 18.2 -0.5**
KAPI pmax pmax
comp=Z,11nm,1.1s
KAPI Kappang 44.87 150 P **P** **14 14 18.2 -0.5**
KAPI IAmb IAmb 14 14 19.7
comp=Z,11nm,1.1s
KLMR Klimovskoe 44.94 323 *eP* **P** **14 14 16.8 -2.0**
KLMR *e* 14 16 01.5
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 44.94 323 *eP* **P** **14 14 16.9 -1.9**
KLMR AMP 14 14 22.1
comp=Z,19nm,1.0s
KLMR *e*PP **PP** **14 16 01.6 -1.9**
MOS Moscow 45.71 316 *eP* **P** **14 14 25.8 +0.9**
OBN Obninsk 46.33 315 LR LR 14 34 47.4
comp=Z,75nm,20.1s,baz=1.5,slow=37
OBN Obninsk 46.33 315 ⇓*eP* **P** **14 14 31.9 +2.1**
OBN *e* 14 14 37.3
OBN 14 16 08.0
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,270nm,18.0s
MARD Mardin 46.34 290 P **P** **14 14 30.5 +0.2**
MARD IAmb IAmb 14 14 36.1
comp=Z,13nm,0.9s
GUMO Guam 46.46 106 LR LR 14 33 48.9
comp=Z,82nm,19.4s,baz=312,slow=36
BILL Bilibino 48.86 27 *de*P **P** **14 14 52.0 +2.7**
BILL *e**SP **sP** **14 14 58.6 +2.9**
BILL *e* 14 16 11.5
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL MLR MLR
comp=Z,54nm,15.0s
BILL Bilibino 48.86 27 P **P** **14 14 48.5 -0.9**
BR131 Keskin Array S 50.99 295 *i* P **P** **14 15 07.0 +0.9**
BR131 Keskin Array S 50.99 295 P **P** **14 15 05.7 -0.4**
BR131 IAmb IAmb 14 15 09.9
comp=Z,14nm,0.8s
BRTR Keskin Array B 50.99 295 P **P** **14 15 06.5 +0.4**
comp=Z,7.2nm,0.7s,baz=101,slow=7.1,SNR=25
BRTR Keskin Array B 50.99 295 *i* P **P** **14 15 09.3 +3.2**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 50.99 295 P **P** **14 15 05.9 -0.2**
AKASG Malin Array Be 51.27 310 P **P** **14 15 09.5 +1.6**
comp=Z,2.0nm,0.7s,baz=67,slow=7.0,SNR=8.3
AKASG LR LR 14 39 40.9
comp=Z,64nm,19.9s,baz=68,slow=39
AKASG Malin Array Be 51.27 310 *i* P **P** **14 15 09.8 +1.9**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 51.37 334 P **P** **14 15 10.1 +1.8**
comp=Z,1.9nm,0.8s,baz=79,slow=6.0,SNR=9.6
ARCES LR LR 14 38 33.6
comp=Z,81nm,18.8s,baz=77,slow=38
ARCES ARCESS Array B 51.37 334 P **P** **14 15 10.2 +1.9**
ARCES pmax pmax
comp=Z,34nm,1.5s
ARCES ARCESS Array B 51.37 334 P **P** **14 15 10.2 +1.9**
FIA1 FINESS Array S 51.45 324 P **P** **14 15 09.3 +0.3**
FIA1 IAmb IAmb 14 15 12.3
comp=Z,15nm,1.0s
FINES FINESS Array B 51.45 324 P **P** **14 15 10.9 +1.8**
comp=Z,5.9nm,0.7s,baz=97,slow=8.3,SNR=14
FINES LR LR 14 38 37.2
comp=Z,73nm,21.1s,baz=95,slow=38
FINES FINESS Array B 51.45 324 *i* P **P** **14 15 11.8 +2.8**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 51.45 324 P **P** **14 15 09.6 +0.5**
NACGM Naroch 51.95 316 *eP* **P** **14 15 16.4 +3.5**
PABE Paberze 53.43 317 P **P** **14 15 24.1 +0.4**

SHEM	**Shemya Is, Ala**	**53.81**	**47**	LR	LR	14 40 05.0	
	comp=Z,50nm,18.7s,baz=144,slow=38						
ISP	**Isparta**	**53.91**	**294**	P	**P**	**14 15 28.4**	**+0.6**
ISP				pmax	pmax		
	comp=Z,34nm,0.7s						
ISP	**Isparta**	**53.91**	**294**	P	**P**	**14 15 28.4**	**+0.6**
JAY	**Jayapura**	**54.29**	**125**	LR	LR	14 36 50.9	
	comp=Z,71nm,20.5s,baz=300,slow=34						
BUR08	**Bucovina Ar. S**	**54.57**	**307**	P	**P**	**14 15 32.9**	**+0.5**
KNRA	**Kununurra**	**58.27**	**146**	P	**P**	**14 15 58.9**	**0.0**
KNRA				IAmb	IAmb	14 16 03.2	
	comp=Z,11nm,1.1s						
NC405	**NORSAR Array S**	**58.31**	**325**	P	**P**	**14 15 59.9**	**+1.1**
VYHS	**Vyhne**	**58.37**	**310**	*eP*	**P**	**14 16 02.8**	**+3.4**
VYHS	**Vyhne**	**58.37**	**310**	*eP*	**P**	**14 16 02.8**	**+3.4**
NC303	**NORSAR Array S**	**58.44**	**325**	P	**P**	**14 15 57.9**	**-1.7**
NC303				IAmb	IAmb	14 16 19.4	
	comp=Z,14nm,1.5s						
NC602	**NORSAR Array S**	**58.50**	**325**	P	**P**	**14 16 00.7**	**+0.7**
MANU	**Manus Island**	**58.53**	**119**	P	**P**	**14 15 58.8**	**-2.0**
MANU				IAmb	IAmb	14 16 19.3	
	comp=Z,14nm,0.9s						
NB2	**NORSAR Subarra**	**58.56**	**325**	P	**P**	**14 16 01.9**	**+1.4**
	comp=Z,7.4nm,1.2s,baz=71,slow=7.4						
NOA	**NORSAR Array B**	**58.56**	**325**	P	**P**	**14 16 01.8**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=72,slow=7.0,SNR=8.0						
KOLL	**Kolacno**	**58.61**	**310**	*eP*	**P**	**14 16 04.6**	**+3.6**
MORC	**Moravsky Berou**	**58.74**	**311**	*eP*	**P**	**14 16 05.1**	**+3.1**
JAVC	**Velka Javorina**	**58.97**	**310**	*eP*	**P**	**14 16 07.9**	**+4.3**
IDI	**Anoyia**	**59.06**	**293**	P	**P**	**14 16 04.2**	**-0.2**
DPC	**Dobruska-Polom**	**59.28**	**312**	*eP*	**P**	**14 16 08.9**	**+3.2**
DPC	**Dobruska-Polom**	**59.28**	**312**	*eP*	**P**	**14 16 08.9**	**+3.2**
CHVC	**Chvalec**	**59.36**	**313**	*eP*	**P**	**14 16 09.0**	**+2.8**
UPC	**Upice**	**59.42**	**313**	*eP*	**P**	**14 16 09.9**	**+3.3**
UPC	**Upice**	**59.42**	**313**	*eP*	**P**	**14 16 09.9**	**+3.3**
AGG	**Agios Georgios**	**59.45**	**298**	P	**P**	**14 16 07.8**	**+0.8**
AGG				pmax	pmax		
	comp=Z,11nm,0.9s						
AGG	**Agios Georgios**	**59.45**	**298**		**P**	**14 16 07.8**	**+0.8**
AGG				IAmb	IAmb	14 16 09.3	
	comp=Z,11nm,0.9s						
VRAC	**Vranov**	**59.48**	**311**	*eP*	**P**	**14 16 09.6**	**+2.5**
KRUC	**Moravsky**	**59.69**	**311**	*eP*	**P**	**14 16 07.6**	**-0.9**
CONA	**Conrad Observa**	**60.43**	**310**	*eP*	**P**	**14 16 17.1**	**+3.4**
	comp=Z,4.7nm,0.8s						
PRU	**Pruhonice**	**60.48**	**312**	*eP*	**P**	**14 16 17.0**	**+3.1**
PRU	**Pruhonice**	**60.48**	**312**	*eP*	**P**	**14 16 17.0**	**+3.1**
BRG	**Berggiesshubel**	**60.52**	**314**	*i* P	**P**	**14 16 16.9**	**+2.8**
BRG				Amp		14 16 19.4	
	comp=Z,6.7nm,0.8s						
BRG	**Berggiesshubel**	**60.52**	**314**	*i* P	**P**	**14 16 16.9**	**+2.8**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ANM	**Nome**	**60.59**	**30**	P	**P**	**14 16 14.5**	**+0.1**
ANM				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ANM	**Nome**	**60.59**	**30**	P	**P**	**14 16 14.4**	**+0.1**
ARSA	**Arzberg**	**60.90**	**309**	*eP*	**P**	**14 16 19.7**	**+2.9**
	comp=Z,6.2nm,1.2s						
CLL	**Collm**	**60.91**	**314**	*eP*	**P**	**14 16 19.0**	**+2.2**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CLL	**Collm**	**60.91**	**314**	*eP*	**P**	**14 16 19.0**	**+2.2**
	comp=Z,9.0nm,1.2s						
CLL				*e*PP	**PP**	**14 18 34.0**	**+3.4**
CLL				Lm	MLR	14 43 00.0	
	comp=Z,200nm,20.7s						
CKRC	**Cesky Krumlov**	**61.06**	**311**	*eP*	**P**	**14 16 21.4**	**+3.5**
KHC	**Kasperske Hory**	**61.39**	**312**	*eP*	**P**	**14 16 24.4**	**+4.3**
KHC	**Kasperske Hory**	**61.39**	**312**	*eP*	**P**	**14 16 24.4**	**+4.3**
GERES	**GERESS Array B**	**61.42**	**311**	P	**P**	**14 16 21.9**	**+1.6**
	comp=Z,3.2nm,1.0s,baz=52,slow=8.6,SNR=15						
GERES	**GERESS Array B**	**61.42**	**311**	P	**P**	**14 16 22.0**	**+1.6**
GERES	**GERESS Array B**	**61.42**	**311**		**P**	**14 16 21.7**	**+1.2**
SOKA	**Soboth**	**61.43**	**309**	*eP*	**P**	**14 16 23.2**	**+2.7**
	comp=Z,5.3nm,0.7s						
OBKA	**Obir**	**61.80**	**309**	*eP*	P	14 16 27.7	+4.7
	comp=Z,9.9nm,1.3s						
BIOA	**Bad Ischl, Aus**	**61.91**	**310**	*eP*	**P**	**14 16 27.4**	**+3.8**
	comp=Z,3.1nm,0.5s						
JMIC	**Jan Mayen**	**62.10**	**339**	LR	LR	14 46 24.4	
	comp=Z,65nm,18.6s,baz=92,slow=39						
KBA	**Koelnbreinsper**	**62.33**	**310**	*eP*	**P**	**14 16 30.5**	**+3.8**
	comp=Z,3.8nm,0.9s						
GRA1	**Grafenberg Arr**	**62.58**	**313**	P	**P**	**14 16 27.8**	**-0.3**
GRF	**Grafenberg Arr**	**62.58**	**313**	P	**P**	**14 16 27.8**	**-0.3**
GRF				pmax	pmax		
	comp=Z,13nm,0.7s						
GRFO	**Grafenberg**	**62.59**	**313**	P	**P**	**14 16 27.5**	**-0.6**
GRFO				pmax	pmax		
	comp=Z,11nm,0.7s						
GRFO	**Grafenberg**	**62.59**	**313**	P	**P**	**14 16 27.5**	**-0.6**
ABTA	**Abfaltersbach**	**62.99**	**310**	*eP*	**P**	**14 16 33.1**	**+2.1**
	comp=Z,2.9nm,0.6s						
WTTA	**Wattenberg**	**63.32**	**310**	*eP*	**P**	**14 16 36.0**	**+2.7**
	comp=Z,6.5nm,0.7s						
WATA	**Walderalm**	**63.33**	**310**	*eP*	**P**	**14 16 36.0**	**+2.7**
	comp=Z,5.4nm,0.8s						
SQTA	**Sankt Quirin**	**63.61**	**310**	*eP*	**P**	**14 16 37.9**	**+2.8**
	comp=Z,5.0nm,0.5s						
MOTA	**Moosalm**	**63.62**	**311**	*eP*	**P**	**14 16 37.8**	**+2.6**
	comp=Z,11nm,1.0s						
FETA	**Feichten**	**63.99**	**310**	*eP*	**P**	**14 16 40.2**	**+2.6**
	comp=Z,6.2nm,0.9s						
NRCA	**Norcia**	**64.25**	**305**	P	**P**	**14 16 40.7**	**+1.4**
NRCA				IAmb	IAmb	14 16 43.3	
	comp=Z,6.8nm,0.8s						
WB0	**Warramunga Arr**	**64.47**	**143**	P	**P**	**14 16 40.2**	**-0.7**
WB0				IAmb	IAmb	14 16 41.3	
	comp=Z,6.7nm,0.9s						
COEN	**Coen**	**64.57**	**132**	P	**P**	**14 16 41.1**	**-0.4**
COEN				IAmb	IAmb	14 16 44.1	
	comp=Z,7.0nm,1.2s						
WRAB	**Tennant Creek**	**64.59**	**143**	*ce*P	**P**	**14 16 42.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,18nm,2.5s						
WRA	**Warramunga Arr**	**64.59**	**143**	P	**P**	**14 16 40.6**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=340,slow=7.2,SNR=25						
WRA	**Warramunga Arr**	**64.59**	**143**	*i* P	**P**	**14 16 41.2**	**-0.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**64.59**	**143**	P	**P**	**14 16 40.4**	**-1.2**
WB2	**Warramunga Arr**	**64.60**	**143**	P	**P**	**14 16 41.0**	**-0.7**
WB2				IAmb	IAmb	14 16 42.3	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**64.70**	**143**	P	**P**	**14 16 41.6**	**-0.7**
WR0				IAmb	IAmb	14 16 43.2	
	comp=Z,5.1nm,1.1s						
TUE	**Stuetta**	**65.08**	**310**	P	**P**	**14 16 46.5**	**+1.6**
TUE				IAmb	IAmb	14 16 57.0	
	comp=Z,10nm,1.1s						
MORW	**Morawa**	**66.36**	**164**	P	**P**	**14 16 52.4**	**-0.5**
BMAR	**Burnt Mountain**	**66.58**	**22**	P	**P**	**14 16 54.0**	**0.0**
AS31	**Alice Springs**	**67.57**	**146**	P	**P**	**14 17 00.3**	**-0.4**
ASAR	**Alice Springs**	**67.57**	**146**	P	**P**	**14 17 00.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=332,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**67.57**	**146**	P	**P**	**14 17 00.4**	**-0.4**
A36M	**Sachs Harbour**	**68.18**	**14**	P	**P**	**14 17 04.0**	**+0.1**
A36M				IAmb	IAmb	14 17 12.9	
	comp=Z,8.9nm,0.8s						
KMBO	**Kilima Mbogo**	**68.22**	**252**	P	**P**	**14 17 06.5**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=40,slow=8.6,SNR=4.4						
KMBO	**Kilima Mbogo**	**68.22**	**252**	*i* P	**P**	**14 17 07.0**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	**Kilima Mbogo**	**68.22**	**252**	P	**P**	**14 17 05.0**	**-0.3**
INK	**Inuvik**	**69.12**	**18**	P	**P**	**14 17 09.8**	**0.0**
	comp=Z,2.7nm,0.7s,baz=326,slow=7.8,SNR=5.4						
INK	**Inuvik**	**69.12**	**18**	IAmb	IAmb	14 17 14.1	
	comp=Z,10nm,1.5s						
CTA	**Charters Tower**	**71.17**	**133**	P	**P**	**14 17 22.9**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=351,slow=5.7,SNR=2.3						
ESDC	**Sonseca Array**	**76.92**	**310**	P	**P**	**14 17 57.2**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=45,slow=5.3,SNR=20						
ESDC	**Sonseca Array**	**76.92**	**310**	P	**P**	**14 17 56.4**	**-0.2**
STKA	**Stephens Creek**	**78.11**	**144**	P	**P**	**14 18 02.4**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=335,slow=3.1,SNR=3.5						
YKA	**Yellowknife Ar**	**78.41**	**15**	P	**P**	**14 18 03.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=326,slow=4.8,SNR=9.9						
TORD	**Torodi Ar. Bea**	**88.42**	**285**	P	**P**	**14 18 58.0**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=42,slow=5.2,SNR=8.6						
TORD	**Torodi Ar. Bea**	**88.42**	**285**	P	**P**	**14 18 55.6**	**-1.1**
TORD				IAmb	IAmb	14 19 08.4	
	comp=Z,5.7nm,1.4s						
BDFB	**Brasilia**	**144.59**	**296**	PKP	PKPbc	14 25 40.2	+0.1
	comp=Z,7.3nm,0.8s,baz=128,slow=1.9,SNR=10						
BDFB	**Brasilia**	**144.59**	**296**		PKPbc	14 25 39.9	-0.2

*IDC **21** 14:14:55.4±2.1,53.47N×161.79W,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/63,mbtmp3.6/4,Error ellipse: s-maj=76.1km s-min=29.7km az=15.0*
*AEIC **21** 14:14:57±1.3,53.77N±0.08×160.94W±0.09,h20km±9km, Error ellipse: s-maj=12.9km s-min=6.3km az=156.0*
*NEIC **21** 14:14:58.6±1.0,53.92N±0.06×161.14W±0.07, h25km±10km,ML3.0/6,ML3.2(AEIC),Error ellipse: s-maj=8.7km s-min=5.5km az=198.0*

ISC 21 14:14:59.7±1.2,54.03N±0.08×161.17W±0.06,h29km,n30, σ0s99/26,mb3.8/4,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	**Dutton Round H**	**1.26**	**330**		**Pn**	**14 15 21.5**	**+0.1**
HAG	**Hague Volcano**	**1.36**	**342**		**Pb**	**14 15 23.9**	**-0.7**
HAG					**Sb**	**14 15 42.7**	**+1.1**
PS4A	**Pavlof South-4**	**1.38**	**343**		**Pb**	**14 15 24.0**	**-0.8**
SDPT	**Sand Point**	**1.39**	**17**		**Pb**	**14 15 23.4**	**-1.5**
SDPT					**Sb**	**14 15 41.6**	**-0.5**
SDPT	**Sand Point**	**1.39**	**17**	IAML		14 15 54.1	
	comp=E,166nm,0.5s						
PVV	**Pavlof Volcano**	**1.40**	**345**		**Pb**	**14 15 24.3**	**-0.8**
BALA	**Baldy Mountain**	**1.50**	**322**		**Pb**	**14 15 26.5**	**-0.4**
FALS	**False Pass**	**1.56**	**303**		**Pn**	**14 15 24.8**	**-0.6**
FALS					**Sb**	**14 15 49.2**	**+2.2**
SSLN	**Shishaldin Nor**	**1.83**	**297**		**Pn**	**14 15 29.4**	**+0.2**
SSLN					**Sb**	**14 15 55.0**	**+0.1**
WESE	**West Dahl East**	**2.06**	**284**		**Pn**	**14 15 31.8**	**-0.5**
WECS	**Westdahl Cape**	**2.18**	**285**		**Pn**	**14 15 33.8**	**-0.2**
AKSA	**Akutan Strait**	**2.67**	**274**		**Pn**	**14 15 40.4**	**-0.3**
AKUT	**Akutan**	**2.71**	**274**	Pn	**Pn**	**14 15 40.6**	**-0.6**
AKUT				IAML		14 16 53.5	
	comp=E,127nm,3.6s						
AHB	**Akutan Harbor**	**2.74**	**274**		**Pn**	**14 15 41.5**	**-0.2**
CHGN	**Chignik**	**2.77**	**34**	Pn	**Pn**	**14 15 42.2**	**+0.2**
CHGN				IAML		14 16 31.8	
	comp=N,51nm,2.0s						
CHGN				IAML		14 16 34.0	
	comp=E,52nm,0.9s						
UNV	**Unalaska Valle**	**3.16**	**269**		**Pn**	**14 15 46.2**	**-1.2**
MSW	**Makushin Switc**	**3.32**	**270**		**Pn**	**14 15 49.1**	**-0.5**
OKSP	**Okmok Steeple**	**4.31**	**263**		**Pn**	**14 16 02.5**	**-0.7**
NIKH	**Nikolski High**	**4.71**	**260**	Pn	**Pn**	**14 16 07.7**	**-1.0**
ADK	**Adak**	**9.61**	**263**	Pn	**Pn**	**14 17 15.2**	**-0.7**
PETK	**Petropavlovsk-**	**24.21**	**285**	P	**P**	**14 20 12.2**	**-1.3**
	comp=E,2.8nm,0.6s,baz=82,slow=12,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**42.05**	**228**	T	T	15 07 44.8	
	baz=27,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**42.05**	**228**	T	T	15 07 42.0	
	baz=27,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**42.06**	**228**	T	T	15 07 39.8	
	baz=27,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**43.21**	**227**	T	T	15 09 12.8	
	baz=27,slow=74						
H11S2	**WAKE ISLAND Hy**	**43.22**	**227**	T	T	15 09 12.3	
	baz=27,slow=74						
H11S3	**WAKE ISLAND Hy**	**43.23**	**227**	T	T	15 09 12.9	
	baz=27						
TXAR	**Lajitas Array**	**47.91**	**97**	P	**P**	**14 23 37.5**	**+2.3**
	comp=E,0.4nm,0.7s,baz=300,slow=5.7,SNR=4.4						
FINES	**FINESS Array B**	**64.73**	**356**	P	P	14 25 38.8	+4.3
	comp=E,0.9nm,0.6s,baz=15,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**66.08**	**318**	P	**P**	**14 25 43.5**	**-0.1**
	comp=E,0.1nm,0.3s,baz=38,slow=4.9,SNR=4.3						

IDC 21 14:16:48.4±1.9,11.02S×166.20E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.6/37,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=56.1km s-min=30.3km az=131.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.99**	**179**	Pn	Pn	14 19 27.4	+0.3
	0.2nm,0.3s,baz=267,slow=21,SNR=1.8						
CTA	**Charters Tower**	**21.20**	**242**	P	P	14 21 37.0	+1.2
	0.6nm,0.5s,baz=72,slow=10,SNR=0.9						
WRA	**Warramunga Arr**	**31.91**	**250**	P	P	14 23 15.9	0.0
	0.2nm,0.4s,baz=82,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**33.20**	**243**	P	P	14 23 26.4	-0.8
	0.3nm,0.6s,baz=68,slow=9.9,SNR=6.8						
ILAR	**Eielson Array**	**83.35**	**18**	P	P	14 29 17.1	+0.1
	0.3nm,0.6s,baz=226,slow=5.4,SNR=5.2						

*IDC **21** 14:39:05.1±1.1,10.01N×126.06E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/54,mbtmp3.4/5,Error ellipse: s-maj=59.0km s-min=21.7km az=72.0*
*MAN **21** 14:39:12.3,9.89N×126.19E,h32km,mb4.2,ML3.0,MS2.7*
ISC 21 14:39:10.9±0.9,9.91N±0.06×126.32E±0.09,h35km,n13, σ2s08/13,mb3.6/6,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.72**	**179**	⇓*i* P	**Pn**	**14 39 41.2**	**+2.9**
BIPH				*i* S	**Sn**	**14 39 59.0**	**-0.1**
BESP	**Borongan**	**1.89**	**333**	⇓*i* P	**Pn**	**14 39 42.8**	**+2.1**
BESP				*e*S	**Sn**	**14 40 06.9**	**+3.6**
TBP	**Tagbilaran**	**2.44**	**265**	*e*P	**Pn**	**14 39 49.0**	**+0.8**
TBP				*i* S	**Sn**	**14 40 17.9**	**+1.0**
RCP	**Roxas**	**3.88**	**295**	⇑*e*P	**Pn**	**14 40 09.4**	**+1.3**
WRA	**Warramunga Arr**	**30.70**	**165**	P	**P**	**14 45 23.7**	**+1.1**
	0.2nm,0.8s,baz=343,slow=9.2,SNR=1.5						
ASAR	**Alice Springs**	**34.19**	**168**	P	**P**	**14 45 53.4**	**+0.2**
	0.2nm,0.6s,baz=345,slow=7.2,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	15 30 03.7	
	baz=263,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	15 29 58.3	
	baz=263,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.34**	**71**	T	T	15 30 07.2	
	baz=263,slow=75,SNR=19						
PETK	**Petropavlovsk-**	**49.94**	**24**	P	**P**	**14 48 00.5**	**-0.7**
	12nm,1.0s,baz=230,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**52.34**	**323**	P	**P**	**14 48 17.0**	**-2.4**
	0.5nm,0.7s,baz=120,slow=8.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**56.40**	**325**	P	**P**	**14 48 46.8**	**-1.9**
	0.3nm,0.5s,baz=123,slow=5.5,SNR=3.5						
FINES	**FINESS Array B**	**86.23**	**332**	P	**P**	**14 51 46.9**	**-1.8**
	0.4nm,0.3s,baz=74,slow=5.9,SNR=4.5						

*BGR **21** 14:48:47.3±0.0,26.49N×65.63E,h10km,mb5.3,Ms5.2*
*IDC **21** 14:48:49.6±0.4,27.75N×66.12E,h0km,mb4.9/42, mb1 4.9/44,mb1mx4.9/46,mbtmp4.9/44,ML4.1/2,MS5.4/71, Ms1 5.4/71,ms1mx5.3/86,Error ellipse: s-maj=10.8km s-min=9.0km az=23.0*
*MOS **21** 14:48:50.9±1.2,27.88N×66.16E,h18km,mb5.5/91, MS5.4/49,Error ellipse: s-maj=4.5km s-min=3.0km az=91.3*
*NEIC **21** 14:48:51.3±1.1,27.77N±0.07×66.10E±0.07,h10km±1km, mb5.3/226,Ms_20 5.6/341,Mwb5.6/51,Error ellipse: s-maj=11.5km s-min=10.6km az=134.0*
*NEIC **21** 14:48:51.3,27.77N×66.09E,h17km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.25; Mθθ0.45; Mϕϕ-0.70; Mrθ0.52; Mθϕ-2.54; Mϕr-0.00; Fault plane solution: M0 2.66000×10^17^ NP1:ϕs83.26000°, δ87.24000°,λ,168.48000°. NP2:ϕs173.82000°,δ78.49000°, λ2.81000°. Principal axes: T 2.5475, Plg10.0000°, Azm38.0000°; N 0.2171, Plg78.0000°, Azm250.0000°; P -2.7646, Plg6.0000°, Azm129.0000°;*
*GCMT **21** 14:48:52.3±0.1,27.62N±0.01×66.13E±0.01,h17km, MW5.7/141,Moment Tensor Solution. s119,c188; s141,c266; Duration: 1s7 Moment tensor: Scale 10^17^ Nm; Mrr0.49±.05; Mθθ0.12±.05; Mϕϕ-0.61±.05; Mrθ-0.97±.13; Mθϕ-3.48±.04; Mϕr-2.29±.17; Best double couple: M0 4.17300×10^17^ NP1:ϕs90.00000°,δ58.00000°, λ-176.00000°. NP2:ϕs358.00000°,δ87.00000°, λ-32.00000°. Principal axes: T 3.5380, Plg19.0000°, Azm49.0000°; N 1.2690, Plg58.0000°, Azm173.0000°; P -4.8070, Plg24.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 14:48:54.1±0.0,28.05N×66.53E,h15km,mb5.2/79, mB5.4/61,Ms5.9/89,Ms7 5.6/84*

ISC 21 14:48:51.8±0.3,27.75N±0.03×66.14E±0.02,h15km±1km, h15km:pP-P,n1219,σ2s20/1297,mb5.3/332,MS5.6/302, 98C-69D,Fault plane solution: NP1:ϕs174.30733°, δ88.48872°,λ27.67635°. NP2:ϕs83.51482°,δ62.33411°, λ178.29358°. Principal axes: T Plg20.3021°, Azm42.4189°; N Plg62.2857°, Azm177.1860°; P Plg18.0394°, Azm305.4987°; **Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JASL	**Jaisalmer**	**4.32**	**100**	*eP*	**Pn**	**14 49 58.1**	**+1.2**
THW	**Thamme Wali**	**6.98**	**43**	P	**Pn**	**14 50 33.5**	**-0.1**
SARP	**Sargodha**	**7.04**	**52**	P	**Pn**	**14 50 33.6**	**-0.7**
KBL	**Kabul**	**7.21**	**19**	P	**Pn**	**14 50 37.1**	**+0.2**
KBL	**Kabul**	**7.21**	**19**	Pn	**Pn**	**14 50 37.1**	**+0.2**
KBL	**Kabul**	**7.21**	**19**	P	**Pn**	**14 50 37.9**	**+1.0**
KBL				P	**Pn**	**14 50 37.9**	**+1.0**
KBL				S	**Sn**	**14 52 04.5**	**+5.8**
KBL				S	**Sn**	**14 52 04.5**	**+5.8**
HRA	**Herat**	**7.41**	**334**	Pn	**Pn**	**14 50 40.1**	**+0.4**
AJM	**Ajmer**	**7.68**	**98**	*eP*	**Pn**	**14 50 42.6**	**-0.6**
AJM				*e*S	**Sn**	**14 52 05.8**	**-4.2**
AJM				*i* x	x	14 53 11.5	
CEP	**Cherat**	**7.83**	**38**	P	**Pn**	**14 50 44.7**	**-0.6**
CEP				S	**Sn**	**14 52 11.0**	**-2.7**
WSAR	**Wadi Sarin**	**8.13**	**238**	Pn	**Pn**	**14 50 48.4**	**-1.0**
	9.9nm,0.3s,baz=85,slow=10,SNR=78						
WSAR				Sn	**Sn**	**14 52 12.8**	**-8.3**
	76nm,0.3s,baz=328,slow=19,SNR=9.0						
WSAR				LR	LR	14 54 51.1	
	comp=Z,23μm,20.2s,baz=88,slow=44						
JLN	**Jalan Bani Buh**	**8.27**	**229**	P	**Pn**	**14 50 48.7**	**-2.5**
	SNR=18						
JLN				P	**Pn**	**14 50 48.7**	**-2.5**
	SNR=18						
JLN				S	**Sn**	**14 52 18.9**	**-5.4**
JLN				S	**Sn**	**14 52 18.9**	**-5.4**
WBK	**Wadi Bani Khal**	**8.27**	**233**	P	**Pn**	**14 50 48.7**	**-2.5**
	SNR=30						
WBK				P	**Pn**	**14 50 48.7**	**-2.5**
	SNR=30						
WBK				P	**Pn**	**14 50 48.7**	**-2.5**
	SNR=30						
WBK				S	**Sn**	**14 52 18.5**	**-5.9**
WBK				S	**Sn**	**14 52 18.5**	**-5.9**
WBK				S	**Sn**	**14 52 18.5**	**-5.9**
BIDO	**Bidbid**	**8.37**	**242**	P	**Pn**	**14 50 51.8**	**-0.7**
	SNR=10						
BIDO				P	**Pn**	**14 50 51.8**	**-0.7**
	SNR=10						
BIDO				S	**Sn**	**14 52 21.3**	**-5.5**
BIDO				S	**Sn**	**14 52 21.3**	**-5.5**
CHCP	**Chirah Chowk**	**8.50**	**44**	P	**Pn**	**14 50 54.0**	**-0.4**
SMDO	**Samad**	**8.68**	**239**	P	**Pn**	**14 50 56.5**	**-0.4**
	SNR=21						
SMDO				P	**Pn**	**14 50 56.5**	**-0.4**
	SNR=21						
SMDO				P	**Pn**	**14 50 56.5**	**-0.4**
	SNR=21						
SMDO				S	**Sn**	**14 52 28.1**	**-6.5**
SMDO				S	**Sn**	**14 52 28.1**	**-6.5**
SMDO				S	**Sn**	**14 52 28.1**	**-6.5**
BANOM	**Banah**	**8.97**	**261**	P	**Pn**	**14 51 00.2**	**-0.7**
	SNR=351						
BANOM				P	**Pn**	**14 51 00.2**	**-0.7**
	SNR=351						
BANOM				S	**Sn**	**14 52 35.7**	**-6.1**
BANOM				S	**Sn**	**14 52 35.7**	**-6.1**
BANOM	**Banah**	**8.97**	**261**	*i* P	**Pn**	**14 51 00.2**	**-0.7**
	SNR=357						
BANOM				S	**Sn**	**14 52 34.2**	**-7.7**
HOQ	**Hoqain**	**8.98**	**244**	P	**Pn**	**14 50 59.6**	**-1.4**
	SNR=25						
HOQ				P	**Pn**	**14 50 59.6**	**-1.4**
	SNR=25						
HOQ				P	**Pn**	**14 50 59.6**	**-1.4**
	SNR=25						
HOQ				S	**Sn**	**14 52 33.9**	**-8.0**
HOQ				S	**Sn**	**14 52 33.9**	**-8.0**
HOQ				S	**Sn**	**14 52 33.9**	**-8.0**
JMDO	**Jabal Madar**	**9.04**	**235**	P	**Pn**	**14 51 00.7**	**-1.1**
	SNR=42						
JMDO				P	**Pn**	**14 51 00.7**	**-1.1**
	SNR=42						
JMDO				S	**Sn**	**14 52 39.2**	**-4.2**
JMDO				S	**Sn**	**14 52 39.2**	**-4.2**
JMU	**Jammu**	**9.05**	**55**	*eP*	**Pn**	**14 51 01.5**	**-0.4**
SHME	**Shamm**	**9.09**	**262**	P	**Pn**	**14 51 03.2**	**+0.8**
	SNR=212						
SHME				P	**Pn**	**14 51 03.2**	**+0.8**
	SNR=212						
SHME				S	**Sn**	**14 52 40.5**	**-4.0**
SHME				S	**Sn**	**14 52 40.5**	**-4.0**
SHME	**Shamm**	**9.09**	**262**	*i* P	**Pn**	**14 51 02.6**	**+0.1**
	SNR=212						
KUDL	**Kundal**	**9.16**

SNR=75
FAQ P Pn 14 51 16.4 +2.4
SNR=75
FAQ S Sn 14 53 01.2 -4.0
FAQ S Sn 14 53 01.2 -4.0
FAQ S Sn 14 53 01.2 -4.0
FAQ Al Faqa, Dubai 9.93 255 *i* P **Pn 14 51 16.0 +2.0**
SNR=76
MHTO MHTO 10.04 230 P **Pn 14 51 17.8 +2.3**
MHTO P Pn 14 51 17.8 +2.3
MHTO P Pn 14 51 17.8 +2.3
MHTO S Sn 14 53 00.8 -7.0
MHTO S Sn 14 53 00.8 -7.0
MHTO S Sn 14 53 00.8 -7.0
ALNE Al Ain 10.05 251 P **Pn 14 51 17.2 +1.5**
SNR=135
ALNE S Sn 14 53 04.1 -4.1
ALNE Al Ain 10.05 251 *i* P **Pn 14 51 16.5 +0.8**
SNR=17
SMLA Simla 10.19 68 *eP* **Pn 14 51 16.6 -0.8**
SMLA *i x* x 14 51 20.9
SMLA *eS* Sn 14 53 05.0 -6.4
SMLA IAMs_20 IAMs_20 14 59 10.8
comp=Z,24µm,8.6s
ASUD Al Ashush, Dub 10.19 255 *i* P **Pn 14 51 19.8 +2.1**
SNR=26
AJN Ajban 10.51 255 P **Pn 14 51 23.2 +1.3**
SNR=13
AJN P Pn 14 51 23.2 +1.3
SNR=13
AJN P Pn 14 51 23.2 +1.3
SNR=13
AJN S Sn 14 53 12.7 -6.8
AJN S Sn 14 53 12.7 -6.8
AJN S Sn 14 53 12.7 -6.8
AJN Ajban 10.51 255 *i* P **Pn 14 51 22.7 +0.8**
SNR=14
DDI Dehra Dun 10.74 73 *eP* **Pn 14 51 24.4 -0.7**
DDI *ex* Sn 14 53 19.6 -5.6
DQM DQM 11.06 227 P **Pn 14 51 28.4 -1.2**
DQM P Pn 14 51 28.4 -1.2
UMZA Um Al Zommool 11.13 246 P **Pn 14 51 30.9 +0.4**
UMZA P Pn 14 51 30.9 +0.4
UMZA S Sn 14 53 29.3 -5.3
UMZA S Sn 14 53 29.3 -5.3
BHPL Bhopal 11.13 111 *eP* **Pn 14 51 29.2 -1.3**
CHGR Chuyangaron 11.17 12 Pn **Pn 14 51 30.2 -0.8**
POO Poona 11.59 141 *eP* **Pn 14 51 36.1 -0.7**
POO IAmb IAmb 14 51 38.7
comp=Z,69nm,0.9s
MZWR Madinat Zayed 11.74 253 P **Pn 14 51 40.2 +1.4**
MZWR P Pn 14 51 40.2 +1.4
MZWR P Pn 14 51 40.2 +1.4
GAR Garm 11.75 16 **Pn 14 51 37.9 -1.1**
AKL Akola 12.15 123 *eP* **Pn 14 51 43.9 -0.5**
GEYT Alibeck 12.18 328 Pn **Pn 14 51 45.6 +0.8**
comp=Z,0.2nm,0.3s,baz=198,slow=19,SNR=11
GEYT Sn **Sn 14 54 00.4 -0.1**
comp=Z,0.5nm,0.3s,baz=218,slow=18,SNR=1.4
GEYT Lg Lg 14 55 10.2
comp=Z,0.3nm,0.3s,baz=315,slow=17,SNR=2.1
GEYT LR LR 14 56 20.3
comp=Z,11µm,18.2s,baz=154,slow=37
GEYT Alibeck 12.18 328 **Pn 14 51 45.0 +0.1**
GYA0B ALIBECK ARRAY 12.18 328 **Pn 14 51 45.6 +0.7**
JRN Qarnain Island 12.24 260 P **Pn 14 51 45.2 -0.5**
JRN S Sn 14 53 53.9 -8.0
MZR Muzera 12.38 250 P **Pn 14 51 47.9 +0.3**
SNR=28
MZR P Pn 14 51 47.9 +0.3
SNR=28
MZR Muzera 12.38 250 *i* P **Pn 14 51 47.3 -0.3**
SNR=28
PTH Pithoragarh 12.49 78 *eP* **Pn 14 51 48.2 -1.1**
LGTI Lohaghat 12.51 79 *eP* **Pn 14 51 45.2 -4.1**
GHWR Ruwais 12.52 255 P **Pn 14 51 49.8 +0.3**
GHWR P Pn 14 51 49.8 +0.3
GHWR P Pn 14 51 49.8 +0.3
GHWR S Sn 14 54 00.9 -7.8
GHWR S Sn 14 54 00.9 -7.8
GHWR S Sn 14 54 00.9 -7.8
DRK Karamyk 12.61 20 **Pn 14 51 50.6 -0.3**
KAD Karad 12.77 143 *eP* **Pn 14 51 52.1 -0.8**
BTK Batken 12.88 16 P **Pn 14 51 53.4 -0.9**
BTK Batken 12.88 16 **Pn 14 51 53.4 -0.9**
KHOR Al-Khor Airpor 13.25 264 P **Pn 14 52 00.7 +1.3**
KHOR S Sn 14 54 14.5 -12
JBP Jabalpur 13.31 107 *eP* **Pn 14 51 57.1 -3.1**
JBP IAmb IAmb 14 52 00.4
comp=Z,136nm,0.7s
JBP ⇓*ex* **Sn 14 54 32.9 +4.8**
SLWR Sila 13.51 258 P **Pn 14 52 04.2 +1.3**
SLWR P Pn 14 52 04.2 +1.3
SLWR S Sn 14 54 22.5 -10
SLWR S Sn 14 54 22.5 -10
SHAO Shalim 13.69 227 P **Pn 14 52 06.1 +0.7**
SHAO P Pn 14 52 06.1 +0.7
SHAO S Sn 14 54 47.9 +11
SHAO S Sn 14 54 47.9 +11
TRNA Turayna 13.73 261 P **Pn 14 52 06.0 0.0**
TRNA S Sn 14 54 26.5 -12
TAS Tashkent 13.79 10 P **Pn 14 52 06.1 -0.7**
TAS Tashkent 13.79 10 Pn **Pn 14 52 06.1 -0.7**
SAKB Bahrain 14.04 266 P **Pn 14 52 10.6 +0.4**
SMRA Abu-Samra 14.07 261 P **Pn 14 52 10.5 0.0**
GOA Goa 14.13 148 *eP* **Pn 14 52 12.4 +0.9**
GOA IAmb IAmb 14 52 14.5
comp=Z,97nm,1.2s
ALBI Allahabad 14.24 96 *eP* **Pn 14 52 09.8 -3.2**
DOK Doka 14.29 233 P **Pn 14 52 14.5 +0.7**
SNR=41
DOK P Pn 14 52 14.5 +0.7
SNR=41
KSH Kashi 14.30 32 P Pn 14 52 06.3 -7.6
KSH sP P 14 52 14.3 -6.7
KSH S Sn 14 54 36.3 -16
KSH pmax pmax
comp=Z,140nm,0.8s
KSH LR LR
comp=Z,66µm,13.9s
KSH LR LR
comp=Z,65µm,13.1s
KSH LR LR
comp=Z,52µm,14.9s
DMTO DMTO 14.35 228 P **Pn 14 52 14.2 -0.3**
SNR=8.6
DMTO P **Pn 14 52 14.2 -0.3**
SNR=8.6
DMTO P Pn 14 52 14.2 -0.3
SNR=8.6
IUG Iuzhnay 14.71 11*c* *i*P **Pn 14 52 17.7 -1.8**
IUG *eS* **Sn 14 55 00.8 -1.5**
IUG Iuzhnay 14.71 11⇑*i*P **Pn 14 52 17.7 -1.8**
baz=11
IUG *eS* **Sn 14 55 00.8 -1.5**
baz=11
PYUN Piuthan 14.90 85 *eP* **Pn 14 52 18.9 -3.3**
PYUN *eS* Sn 14 54 56.9 -10
RBK Rabkut 15.00 230 P **Pn 14 52 23.4 0.0**
SNR=25
RBK P **Pn 14 52 23.4 0.0**
SNR=25
WHFO Wadi Hawf 15.01 232 P **Pn 14 52 22.8 -0.8**
SNR=41
WHFO P Pn 14 52 22.8 -0.8
SNR=41
WHFO P Pn 14 52 22.8 -0.8
SNR=41
HYBB Hyderabad (bro 15.38 129 *eP* **Pn 14 52 25.1 -3.4**
HYBB *e* 14 55 11.7
HYBB *eS* **Sn 14 55 19.2 +0.4**
HYBB IVMs_BB IVMs_BB 15 00 31.6
comp=Z,5µm,8.2s
HYB Hyderabad 15.39 129 *eP* **Pn 14 52 26.6 -1.9**
HYB IAmb IAmb 14 52 29.4
comp=Z,46nm,0.7s
KOLN Koldanda 15.46 86 *eP* **Pn 14 52 26.0 -3.6**
BLSP Bilaspur 15.54 108 *eP* **Pn 14 52 28.0 -2.5**
DANN Dangsing 15.57 84 *eP* **Pn 14 52 27.9 -3.2**
AML Almayashu 15.62 21 P **Pn 14 52 30.2 -1.6**
SNR=8.3
AML Almayashu 15.62 21 P **Pn 14 52 28.8 -3.0**
AML S Sn 14 55 17.0 -7.7
AML Almayashu 15.62 21 *i* P **Pn 14 52 29.3 -2.4**
SNR=13
DZA Taraz 15.69 14 *eP* **Pn 14 52 29.7 -2.6**
DZA pmax pmax
comp=Z,150nm,1.0s
DZA Taraz 15.69 14 *eP* **Pn 14 52 29.8 -2.6**
comp=Z,150nm,1.0s,baz=14
ABTO Aybut 15.73 232 P **Pn 14 52 33.5 +0.6**
SNR=23
ABTO P **Pn 14 52 33.5 +0.6**
SNR=23
KKAR Karatay Array 15.73 12 P **Pn 14 52 30.0 -2.8**
KKAR Karatay Array 15.73 12 Pn **Pn 14 52 30.0 -2.8**
VLK Valmikinagar 15.73 87 *eP* **Pn 14 52 33.7 +0.8**
UCH Uchtor 15.98 23 P **Pn 14 52 34.1 -2.4**
SNR=245
EKS2 Erkin-Say 16.12 21 P **Pn 14 52 37.9 -0.1**
SNR=6.0
AAK Ala-Archa 16.34 22 Pn **Pn 14 52 38.2 -2.5**
comp=Z,2.1nm,0.3s,baz=207,slow=12,SNR=80
AAK Sn **Sn 14 55 32.5 -9.3**
comp=Z,0.5nm,0.3s,baz=175,slow=15,SNR=1.8
AAK LR LR 14 59 39.4
comp=Z,11µm,18.6s,baz=218,slow=40
AAK Ala-Archa 16.34 22*ce*P **Pn 14 52 37.8 -3.0**
AAK pmax pmax
comp=Z,190nm,1.7s
AAK Ala-Archa 16.34 22 Pn **Pn 14 52 37.4 -3.3**
AAK IAmb IAmb 14 52 52.3
comp=Z,241nm,1.3s
AAK Ala-Archa 16.34 22 P **Pn 14 52 38.5 -2.2**
AAK P **Pn 14 52 38.5 -2.2**
AAK S **Sn 14 55 32.3 -10**
AAK S **Sn 14 55 32.3 -10**
AAK Ala-Archa 16.34 22 *i* P **Pn 14 52 38.7 -2.1**
SNR=47
GKN Gorkha 16.36 85 *eP* **Pn 14 52 37.7 -3.5**
KBK Karagaybulak 16.51 23 P **Pn 14 52 41.1 -1.8**
SNR=34
FRU1 Bishkek 16.54 22 P **Pn 14 52 40.2 -3.0**
FRU1 pmax pmax
comp=Z,419nm,1.4s
FRU1 Bishkek 16.54 22 P **Pn 14 52 40.2 -3.0**
FRU1 IAmb IAmb 14 53 06.9
comp=Z,419nm,1.4s
ULHL Ulahol 16.64 27 P **Pn 14 52 41.8 -3.0**
SNR=10
BOOM Boomskoye usch 16.73 26 P **Pn 14 52 42.4 -3.4**
BOOM pmax pmax
comp=Z,256nm,1.2s
BOOM Boomskoye usch 16.73 26 P **Pn 14 52 42.4 -3.4**
BOOM IAmb IAmb 14 53 04.7
comp=Z,256nm,1.1s
CHMS Chumysh 16.74 22 P **Pn 14 52 43.0 -2.8**
SNR=56
DMN Daman 16.80 86 *eP* **Pn 14 52 43.1 -3.8**
KDJ Kajisay 16.94 29 P **Pn 14 52 44.8 -3.7**
KDJ pmax pmax
comp=Z,173nm,1.2s
KDJ Kajisay 16.94 29 P **Pn 14 52 44.8 -3.7**
KKN Kakani 16.94 85 *eP* **Pn 14 52 44.6 -4.0**
comp=Z,237nm,0.7s
TKM2 Tokmak 2 16.97 24 P **Pn 14 52 45.0 -3.9**
SNR=93
TKM2 Tokmak 2 16.97 24 P **P 14 52 50.0 -0.8**
PKIN Phulchoki 17.06 86 *eP* **Pn 14 52 46.0 -4.2**
comp=Z,182nm,0.5s
PKI Pulchoki 17.07 86 *eP* **Pn 14 52 46.2 -4.2**
JHSG JHARSUGUGA 17.08 107 *eP* **Pn 14 52 47.3 -2.8**
SGDS Sogindy 17.11 21⇑*i*P **Pn 14 52 48.5 -1.9**
comp=Z,136nm,1.1s,baz=21
VJD Vijayawada 17.46 127 *eP* **Pn 14 52 53.9 -1.0**
GUN Gumba 17.46 85 *eP* **Pn 14 52 51.4 -3.8**
comp=Z,858nm,0.7s
TNSS Tian-Shan 17.59 27 *i* P **Pn 14 52 54.2 -2.6**
baz=27
AAA Alma-Ata 17.72 27 *eP* **Pn 14 52 56.2 -1.9**
AAA Alma-Ata 17.72 27 *eP* **Pn 14 52 55.9 -2.2**
comp=Z,295nm,0.8s,baz=27
AAA LR LR 14 59 39.9
comp=Z,16µm,9.3s,baz=27
MDOK Medeo 17.74 27 *i* P **Pn 14 52 56.5 -1.8**
MDOK MLR MLR
comp=Z,15µm,15.0s
MDOK Medeo 17.74 27 *i* P **Pn 14 52 56.6 -1.8**
baz=27
MDOK LR LR 14 59 36.0
comp=Z,15µm,15.0s,baz=27
KNDC Almaty 17.75 27 P **Pn 14 52 56.3 -2.1**
JIRN Jiri 17.76 86 *eP* **Pn 14 52 55.1 -3.8**
comp=Z,355nm,0.5s
RAGD RAYAGADA 17.98 114 *eP* **Pn 14 52 59.1 -2.2**
KUU Kurty 18.09 24*c* *i*P **Pn 14 52 58.9 -3.5**
KUU pmax pmax
comp=Z,270nm,1.5s
KUU MLR MLR
comp=Z,4µm,8.0s
KUU Kurty 18.09 24⇑*i*P **Pn 14 52 59.0 -3.5**
comp=Z,270nm,1.5s,baz=24
KUU LR LR 14 59 55.6
comp=Z,4µm,7.8s,baz=24
RAMN Ramite 18.20 88 *eP* **Pn 14 53 00.7 -3.5**
BOK Bokaro 18.21 98 *eP* **Pn 14 52 59.4 -4.8**
BOK IAmb IAmb 14 53 27.2
comp=Z,140nm,0.4s
BOK *ex* x 14 56 11.6
SATY Saty 18.23 30 *eP* **Pn 14 53 00.8 -3.5**
SATY Saty 18.23 30 *eP* **Pn 14 53 00.9 -3.5**
baz=30
CHKK Chushkaly 18.30 26 *eP* **Pn 14 53 02.1 -2.9**
baz=26
ZHN Zhinishke 18.33 30 *i* P **Pn 14 53 03.9 -1.6**
ZHN Zhinishke 18.33 30 *i* P **Pn 14 53 03.9 -1.6**
baz=30
BTLS Baital 18.38 18*c* *i*P **P 14 53 04.5 -1.5**
BTLS Baital 18.38 18⇑*i*P **P 14 53 04.6 -1.5**
baz=18
UZB Uzynbulak 18.57 31 *eP* **P 14 53 06.6 -1.7**
UZB Uzynbulak 18.57 31 *eP* **P 14 53 06.6 -1.7**
baz=31
KPKS Kokpek 18.67 30*c* *i*P **P 14 53 07.3 -2.1**
KPKS pmax pmax
comp=Z,175nm,1.4s
KPKS Kokpek 18.67 30⇑*i*P **P 14 53 07.4 -2.1**
comp=Z,175nm,1.4s,baz=30
ODAN Odare 18.91 88 *eP* **P 14 53 09.6 -2.6**
comp=Z,510nm,0.7s
PDGK Podgornoye 18.93 31 P **P 14 53 10.2 -2.0**
RAYN Ar Rayn 19.07 262 P **P 14 53 12.9 -1.0**
RAYN pmax pmax
comp=Z,153nm,1.3s
RAYN Ar Rayn 19.07 262 P **P 14 53 12.9 -1.0**
RAYN Ar Rayn 19.07 262 P **Pn 14 53 15.9 +1.3**
RAYN Ar Rayn 19.07 262 *i* P **Pn 14 53 14.5 -0.2**
SNR=36
TAPN Taplejung 19.13 86 *eP* **P 14 53 12.8 -2.0**
comp=Z,190nm,0.6s
SOCY Socotra 19.21 219 P **P 14 53 13.7 -1.8**
SNR=8.4
SOCY S **Sn 14 56 51.3 -0.4**
SALM Salem 19.61 142 *eP* **P 14 53 19.2 -0.4**
MDRS Chennai 19.67 135 *eP* **Pn 14 53 21.5 -0.3**
MDRS IAmb IAmb 14 53 25.2
comp=Z,103nm,1.0s
TDK Taldyqorghan 19.81 26*c* *i*P **P 14 53 20.2 -1.5**
TDK pmax pmax
comp=Z,264nm,1.4s
TDK MLR MLR
comp=Z,13µm,13.0s
TDK Taldyqorghan 19.81 26⇑*i*P **P 14 53 20.3 -1.5**
comp=Z,264nm,1.4s,baz=26
TDK LR LR 15 01 02.1
comp=Z,13µm,13.5s,baz=26
OTUK Ortayu 21.02 12 P **P 14 53 34.7 -0.2**
MAK Makhachkala 21.41 320 *eP* **P 14 53 38.9 -0.1**
MAK *eS* **S 14 57 35.4 -0.7**
MAK *eSS* **SnSn 14 57 59.5 +0.3**
MAK pmax pmax
comp=Z,212nm,0.9s
GNI Garni 21.57 310 P **P 14 53 40.9 -0.1**
comp=Z,155nm,1.0s,baz=146,slow=2.0,SNR=25
GNI S **S 14 57 41.3 +1.5**
comp=Z,5.5nm,0.7s,baz=223,slow=20,SNR=1.1
GNI Garni 21.57 310*ce*P **P 14 53 41.7 +0.7**
GNI pmax pmax
comp=Z,333nm,1.7s
GNI Garni 21.57 310 P **P 14 53 41.2 +0.2**
GNI Garni 21.57 310 P **P 14 53 42.0 +1.0**
TRD Trivandrum 21.70 150 *eP* **P 14 53 42.4 +0.1**
TRD IAmb IAmb 14 53 45.3
comp=Z,52nm,1.0s
HMDM Hanimaadhoo 21.90 161 P **P 14 53 46.1 +1.6**
HMDM IAmb IAmb 14 53 52.4
comp=Z,122nm,0.9s
HMDM Hanimaadhoo 21.90 161 P **P 14 53 46.5 +1.9**
GEVA Gevas 21.98 305 P **P 14 53 45.6 +0.2**
GEVA IAmb IAmb 14 53 59.7
comp=Z,166nm,1.2s
AB31 Akbulak array 22.00 349 *i* P **P 14 53 45.4 +0.1**
ABKAR Akbulak array 22.00 349 P **P 14 53 45.4 +0.1**
ABKAR Akbulak array 22.00 349 P **P 14 53 45.5 +0.1**
ABKAR IAmb IAmb 14 53 53.6
comp=Z,163nm,0.9s
LSA Lhasa 22.01 79 P **P 14 53 46.5 +0.4**
LSA pmax pmax
comp=Z,276nm,0.9s
LSA MLR MLR
comp=Z,6µm,21.0s
LSA Lhasa 22.01 79 P **P 14 53 46.5 +0.4**
LSA Lhasa 22.01 79 P **P 14 53 48.2 +2.1**
LSA Lhasa 22.01 79 P **P 14 53 48.5 +2.4**
GROC Groznyy 22.55 318 *eP* **P 14 53 52.7 +1.5**
GROC *e* 14 54 14.4
GROC *eS* **S 14 58 00.1 +2.2**
GROC pmax pmax
comp=Z,442nm,1.0s
MAKZ Makanchi 22.74 29 P **P 14 53 52.0 -1.3**
MAKZ pmax pmax
comp=Z,200nm,1.0s
MAKZ MLR MLR
comp=Z,14µm,20.0s
MAKZ Makanchi 22.74 29 P **P 14 53 52.0 -1.3**
BRZS Berezniki 22.76 11 *eP* **P 14 53 51.7 -1.8**
BRZS pmax pmax
comp=Z,85nm,1.6s
BRZS Berezniki 22.76 11 *eP* **P 14 53 51.7 -1.8**
comp=Z,85nm,1.6s,baz=11
GURO Guroymak-BITLI 22.82 304 P **P 14 53 54.0 -0.4**
GURO IAmb IAmb 14 54 08.6
comp=Z,201nm,1.4s
MK31 Makanchi Array 22.87 29*c* *i*P **P 14 53 53.6 -1.0**
MK31 Makanchi Array 22.87 29 P **P 14 53 53.3 -1.3**
MK31 IAmb IAmb 14 54 22.4
comp=Z,111nm,0.9s
MKAR Makanchi Array 22.87 29 P **P 14 53 53.4 -1.2**
comp=Z,108nm,1.0s,baz=214,slow=9.9,SNR=96
MKAR S **S 14 58 01.7 -2.0**
comp=Z,3.3nm,0.9s,baz=9.1,slow=18,SNR=1.4
MKAR LR LR 15 04 42.7
comp=Z,21µm,21.3s,baz=216,slow=42
KARS Kars 22.92 310 P **P 14 53 54.6 -0.8**
KARS pmax pmax
comp=Z,691nm,1.3s
KARS Kars 22.92 310 P **P 14 53 54.5 -0.8**
SHL Shillong 23.10 89 P **P 14 53 57.0 -0.4**
SHL pmax pmax
comp=Z,347nm,1.4s
SHL Shillong 23.10 89 P **P 14 53 57.0 -0.4**
SHL Shillong 23.10 89 *eP* **P 14 53 57.6 +0.2**
SHL IAmb IAmb 14 53 59.7
comp=Z,160nm,1.1s
MARD Mardin 23.35 301 P **P 14 53 59.0 -0.8**
ZEI Tsey 23.46 316 *eP* **P 14 53 59.7 -1.2**
ZEI pmax pmax
comp=Z,57nm,0.7s
AKTO Aktyubinsk 23.49 347 P **P 14 54 01.3 +0.5**
comp=Z,18nm,0.4s,baz=155,slow=10,SNR=42
AKTO S **S 14 58 14.9 +0.9**
comp=Z,5.7nm,1.0s,baz=48,slow=12,SNR=1.4
AKTO LR LR 15 04 32.2
comp=Z,13µm,18.5s,baz=156,slow=40
WMQ Urumqi 23.62 42⇑*i*P **P 14 54 03.5 +1.2**
WMQ sP sP 14 54 11.3 +2.0
WMQ PP pP 14 54 36.3 +29
WMQ S **S 14 58 16.4 0.0**
WMQ sS pS 14 58 20.4 -1.1
WMQ pmax pmax
comp=Z,350nm,1.1s
WMQ pmax pmax
comp=Z,2µm,3.9s
WMQ LR LR
comp=Z,33µm,17.3s
WMQ LR LR
comp=Z,15µm,17.3s
WMQ LR LR
comp=Z,7µm,20.9s
ONI Oni 23.63 315 P **P 14 54 01.8 -0.6**
ONI pmax pmax
comp=Z,165nm,1.3s
ONI Oni 23.63 315 P **P 14 54 01.8 -0.6**
ONI IAmb IAmb 14 54 17.4
comp=Z,165nm,1.3s
NCK Nalchik 24.03 317 *i* P **P 14 54 08.2 +2.0**
NCK pmax pmax
comp=Z,124nm,1.3s
NEY Neytrino 24.43 315 *i* P **P 14 54 12.4 +2.3**
NEY pmax pmax
comp=Z,21nm,1.2s
ZSN Zaisan 24.52 32*c* *i*P **P 14 54 09.3 -1.4**
ZSN Zaisan 24.52 32⇑*i*P **P 14 54 09.3 -1.4**
baz=32
KBZ Khabaz 24.58 317 P **P 14 54 12.2 +1.0**
comp=Z,66nm,1.1s,baz=107,slow=9.2,SNR=31
KBZ S **S 14 58 28.7 -2.9**
comp=Z,3.3nm,0.9s,baz=175,slow=21,SNR=1.1
PALK Pallekele 24.60 143 P **P 14 54 12.8 +1.2**
comp=Z,22nm,0.8s,baz=68,slow=13,SNR=18
PALK S **S 14 58 27.6 -4.7**
comp=Z,7.3nm,1.1s,baz=18,slow=8.6,SNR=1.8
PALK LR LR 15 04 22.1
comp=Z,4µm,19.2s,baz=73,slow=38
PALK Pallekele 24.60 143 P **P 14 54 12.7 +1.1**
PALK Pallekele 24.60 143 P **P 14 54 13.1 +1.5**
PALK P P 14 54 13.1 +1.5
PALK S **S 14 58 40.4 +8.0**
PALK S **S 14 58 40.4 +8.0**
KURBB Kurchatov Arra 24.71 19 P **P 14 54 12.8 +0.5**
comp=Z,116nm,0.8s,baz=211,slow=8.6,SNR=120
KURBB S **S 14 58 32.3 -1.3**
comp=Z,1.4nm,0.8s,baz=241,slow=14,SNR=1.1
KURBB LR LR 15 05 16.3
comp=Z,19µm,21.2s,baz=190,slow=40
KURBB Kurchatov Arra 24.71 19 P **P 14 54 12.1 -0.2**
KURK Kurchatov 24.82 19*ce*P **P 14 54 13.8 +0.5**
KURK pmax pmax
comp=Z,167nm,1.0s
KURK Kurchatov 24.82 19 P **P 14 54 13.6 +0.3**
KURK Kurchatov 24.82 19 IAMs_20 IAMs_20 15 04 54.3
comp=Z,22µm,21.0s
KURK Kurchatov 24.82 19 P **P 14 54 14.0 +0.7**
KURK P **P 14 54 14.0 +0.7**
KURK P **P 14 54 14.0 +0.7**
KURK S **S 14 58 45.2 +10**
KURK S **S 14 58 45.2 +10**
KURK S **S 14 58 45.2 +10**
KIV Kislovodsk 24.83 317 *eP* **P 14 54 14.9 +1.3**
KIV *eS* **S 14 58 38.7 +2.8**
KIV pmax pmax
comp=Z,334nm,4.4s
KIV pmax pmax
comp=Z,134nm,1.1s
KIV Kislovodsk 24.83 317 P **P 14 54 14.9 +1.3**
KIV P **P 14 54 14.9 +1.3**
SEM Semipalatinsk 25.06 22*c* *i*P **P 14 54 15.0 -0.6**
SEM pmax pmax
comp=Z,121nm,0.9s
SEM MLR MLR
comp=Z,4µm,10.0s
SEM Semipalatinsk 25.06 22⇑*i*P **P 14 54 15.0 -0.6**
comp=Z,121nm,0.9s,baz=22
SEM LR LR 15 04 12.1
comp=Z,4µm,9.9s,baz=22
GOF Gofitskoye 25.24 319⇑*e*P **P 14 54 17.8 +0.7**
GOF pmax pmax
comp=Z,74nm,0.9s
BVAR Borovoye Array 25.45 6 P **P 14 54 19.5 +0.6**
comp=Z,43nm,0.7s,baz=213,slow=19,SNR=84
BRVK Borovoye 25.47 6*ce*P **P 14 54 20.3 +1.2**
BRVK pmax pmax
comp=Z,141nm,1.0s
BRVK Borovoye 25.47 6 P **P 14 54 19.6 +0.4**
BRVK Borovoye 25.47 6 P **P 14 54 20.6 +1.5**

BRVK P **P** **14 54 20.6 +1.5**
BRVK S **S** **14 58 56.1 +10**
BRVK S **S** **14 58 56.1 +10**
GOMU GeErMu 25.67 64 P **P** **14 54 22.9 +1.3**
GOMU sP sP 14 54 29.9 +1.3
GOMU pmax pmax
comp=Z,40nm,1.0s
GOMU LR LR
comp=Z,25µm,17.1s
GOMU LR LR
comp=Z,4µm,16.9s
GOMU LR LR
comp=Z,5µm,17.8s
ASF Jabal al Asfar 25.68 287 P **P** **14 54 22.6 +1.2**
comp=Z,91nm,1.2s,baz=97,slow=2.4,SNR=11
ASF S **S** **14 58 59.0 +10**
comp=Z,11nm,0.9s,baz=46,slow=16,SNR=1.4
SOC Sochi 26.50 314 *eP* **P** **14 54 26.5 -2.1**
SOC *e* 14 55 08.2
SOC *e*PPP PPP 14 55 16.2
SOC *e*S **S** **14 59 00.9 -1.2**
SOC *e*SS **SnSn** **15 00 10.9 +7.1**
SOC *e*SSS SSS 15 00 19.5
SOC pmax pmax
comp=Z,86nm,0.8s
MMAI Mount Meron Ar 26.98 289 P **P** **14 54 33.4 +0.3**
comp=Z,3.0nm,0.7s,baz=147,slow=20,SNR=4.8
MMAI S **S** **14 59 15.8 +5.8**
comp=Z,0.7nm,0.3s,baz=74,slow=30,SNR=1.1
MMAI LR LR 15 06 40.5
comp=Z,4µm,19.8s,baz=259,slow=40
ATD Arta Tunnel 27.15 238 S **S** **14 59 02.8 -10**
comp=Z,4.8nm,0.3s,baz=252,slow=22,SNR=1.1
ATD LR LR 15 06 47.1
comp=Z,3µm,18.0s,baz=49,slow=40
ATD Arta Tunnel 27.15 238 P **P** **14 54 34.2 -0.6**
EIL Elat 27.38 281 P **P** **14 54 37.9 +1.2**
comp=Z,5.0nm,0.6s,baz=182,slow=4.2,SNR=3.9
EIL S **S** **14 59 19.1 +2.7**
comp=Z,6.2nm,0.9s,baz=261,slow=23,SNR=1.3
EIL LR LR 15 08 38.7
comp=Z,22µm,18.2s,baz=104,slow=44
TOKA Tokat 27.46 305 P **P** **14 54 37.4 0.0**
TOKA IAmb IAmb 14 54 49.6
comp=Z,45nm,1.0s
BNN Bunyan 27.52 302 P **P** **14 54 37.4 -0.6**
BNN IAmb IAmb 14 55 00.1
comp=Z,79nm,1.0s
BELG Belogornoye 28.24 336 P **P** **14 54 43.9 -0.1**
comp=Z,184nm,0.9s,baz=28,slow=1.0,SNR=34
BELG LR LR 15 08 31.4
comp=Z,7µm,19.8s,baz=116,slow=42
BELG Belogornoye 28.24 336 *i* P **P** **14 54 44.4 +0.4**
BELG pmax pmax
comp=Z,34nm,0.9s
ANN Anapa 28.52 314 *eP* **P** **14 54 46.6 0.0**
ANN *eS* **S** **14 59 38.6 +4.7**
ANN pmax pmax
comp=Z,115nm,1.0s
ANN MLR MLR
comp=Z,2µm,13.0s
DGPR DIGLIPUR 28.90 115 *ex* **P** **14 54 53.6 +3.3**
DGPR IAmb IAmb 14 54 57.1
comp=Z,34nm,1.1s
ARU Arti 29.17 351 P **P** **14 54 52.3 0.0**
comp=Z,6.8nm,0.5s,baz=145,slow=2.2,SNR=22
ARU S **S** **14 59 43.2 -0.7**
comp=Z,0.6nm,0.5s,baz=303,slow=22,SNR=0.9
ARU LR LR 15 07 55.7
comp=Z,13µm,18.8s,baz=162,slow=39
ARU Arti 29.17 351 *d iP* **P** **14 54 53.5 +1.2**
ARU PPP PPP 14 55 50.7
ARU 14 57 55.6
ARU S **S** **14 59 47.8 +3.9**
ARU SS **SnSn** **15 01 08.1 -0.6**
ARU SSS SSS 15 01 25.9
ARU pmax pmax
comp=Z,44nm,1.2s
ARU MLR MLR
comp=Z,10µm,15.0s
ARU Arti 29.17 351 P **P** **14 54 51.9 -0.4**
ARU IAMs_20 IAMs_20 15 07 31.6
comp=Z,14µm,20.0s
SVE Sverdlovsk 29.33 354 *eP* **P** **14 54 55.0 +1.3**
SVE *eS* **S** **14 59 52.3 +6.0**
SVE pmax pmax
comp=Z,49nm,1.4s
SVE MLR MLR
comp=Z,11µm,16.0s
BR131 Keskin Array S 29.39 302 *i* P **P** **14 54 55.4 +0.7**
BR131 Keskin Array S 29.39 302 P **P** **14 54 54.0 -0.6**
BRTR Keskin Array B 29.39 302 P **P** **14 54 54.1 -0.6**
comp=Z,6.3nm,1.1s,baz=104,slow=5.2,SNR=20
BRTR S **S** **14 59 52.0 +3.9**
comp=Z,0.4nm,0.7s,baz=119,slow=29,SNR=1.5
BRTR Keskin Array B 29.39 302 *i* P **P** **14 54 54.9 +0.2**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 29.39 302 P **P** **14 54 53.6 -1.1**
ZAA0 Zalesovo Array 29.56 23 P **P** **14 54 54.8 -1.0**
ZAA0 IAmb IAmb 14 55 04.0
comp=Z,43nm,0.7s
ZALV Zalesovo Beam 29.56 23 P **P** **14 54 56.5 +0.7**
comp=Z,9.7nm,0.5s,baz=218,slow=9.3,SNR=48
ZALV S **S** **14 59 43.0 -7.0**
comp=Z,1.7nm,0.9s,baz=68,slow=28,SNR=1.1
ZALV LR LR 15 08 01.5
comp=Z,16µm,18.2s,baz=219,slow=39
ZALV Zalesovo Beam 29.56 23 P **P** **14 54 55.3 -0.4**
PBA Port Blair 29.62 117 P **P** **14 54 57.1 +0.4**
PBA IAmb IAmb 14 55 24.7
comp=Z,59nm,0.9s
PBA Port Blair 29.62 117 *eP* **P** **14 54 58.8 +2.1**
PBA IAmb IAmb 14 55 02.3
comp=Z,28nm,0.7s
VRH Novokhopyorsk 29.81 328 *eP* **P** **14 54 59.4 +1.4**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,6µm,13.0s
GTA Gaotai 30.20 59 ⇑P **P** **14 55 03.6 +1.8**
GTA sP sP 14 55 13.4 +4.5
GTA PcP **PcP** **14 58 03.1 +0.4**
GTA S **S** **15 00 02.6 +1.8**
GTA sS pS 15 00 06.6 +0.3
GTA pmax pmax
comp=Z,33nm,1.2s
GTA pmax pmax
comp=Z,430nm,5.1s
GTA LR LR
comp=Z,24µm,19.6s
GTA LR LR
comp=Z,8µm,20.7s
GTA LR LR
comp=Z,9µm,19.3s
VORD Divnogorie 30.82 326 *eP* P 14 55 14.5 +7.6
VORD pmax pmax
comp=Z,30nm,0.5s
VORR Voronezh 31.30 327 *eP* **P** **14 55 12.1 +0.9**
VORR pmax pmax
comp=Z,54nm,0.5s
CHTO Chiang Mai 31.34 99 P **P** **14 55 11.3 -0.6**
CHTO pmax pmax
comp=Z,29nm,0.7s
CHTO MLR MLR
comp=Z,4µm,19.0s
CHTO Chiang Mai 31.34 99 P **P** **14 55 11.3 -0.6**
CHTO IAmb IAmb 14 55 17.7
comp=Z,29nm,0.7s
CHTO Chiang Mai 31.34 99 P **P** **14 55 12.2 +0.3**
CHTO S **S** **15 00 19.6 +0.9**
CHTO Chiang Mai 31.34 99 P **P** **14 55 12.6 +0.7**
ISP Isparta 31.42 298 P **P** **14 55 10.9 -1.7**
ISP pmax pmax
comp=Z,67nm,0.8s
ISP MLR MLR
comp=Z,6µm,21.0s
ISP Isparta 31.42 298 P **P** **14 55 10.9 -1.7**
CM31 Chiang Mai Arr 31.48 100 P **P** **14 55 12.6 -0.5**
CM31 IAmb IAmb 14 55 22.3
comp=Z,35nm,0.9s
CMAR Chiang Mai Arr 31.48 100 P **P** **14 55 13.8 +0.6**
comp=Z,5.9nm,0.5s,baz=300,slow=7.2,SNR=40
CMAR LR LR 15 09 10.1
comp=Z,3µm,19.2s,baz=295,slow=39

CMAR Chiang Mai Arr 31.48 100 P **P** **14 55 13.0 -0.1**
PZH PanZhiHua 31.65 84 P **P** **14 55 15.4 +0.7**
PZH pP **pP** **14 55 19.8 +0.1**
PZH S **S** **15 00 23.0 -0.6**
PZH pmax pmax
comp=Z,50nm,1.2s
PZH pmax pmax
comp=Z,130nm,5.6s
PZH LR LR
comp=Z,14µm,13.1s
PZH LR LR
comp=Z,10µm,14.3s
PZH LR LR
comp=Z,10µm,15.1s
ELL Elmali 31.78 296 P **P** **14 55 15.2 -0.5**
ELL pmax pmax
comp=Z,366nm,1.2s
ELL Elmali 31.78 296 P **P** **14 55 15.2 -0.5**
LPSR Galich'ya Gora 32.03 328 *eP* **P** **14 55 19.0 +1.4**
LPSR pmax pmax
comp=Z,90nm,1.4s
KMI Kunming 32.80 86 ⇓P **P** **14 55 26.1 +1.1**
KMI sP sP 14 55 34.9 +2.8
KMI PP **PnPn** **14 56 33.3 -0.1**
KMI S **S** **15 00 41.3 -0.6**
KMI SS SS 15 02 31.9 -31
KMI pmax pmax
comp=Z,26nm,0.9s
KMI pmax pmax
comp=Z,220nm,3.5s
KMI LR LR
comp=Z,7µm,19.4s
KMI LR LR
comp=Z,7µm,20.1s
KMI LR LR
comp=Z,9µm,17.4s
CD2 Chengdu 32.85 75 P **P** **14 55 26.3 +1.2**
CD2 PP **PnPn** **14 56 36.3 +2.5**
CD2 S **S** **15 00 42.3 +0.2**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,140nm,6.8s
CD2 LR LR
comp=Z,4µm,21.6s
CD2 LR LR
comp=Z,7µm,19.2s
CD2 LR LR
comp=Z,9µm,15.1s
LZH Lanzhou 32.91 66 ⇓P **P** **14 55 27.6 +1.9**
LZH pP sP 14 55 33.5 +0.7
LZH sP pP 14 55 36.8 +6.1
LZH PP **PnPn** **14 56 35.3 +0.8**
LZH S **S** **15 00 44.6 +1.5**
LZH sS sS 15 00 52.0 +0.6
LZH pmax pmax
comp=Z,21nm,1.4s
LZH LR LR
comp=Z,18µm,17.3s
LZH LR LR
comp=Z,4µm,17.3s
LZH LR LR
comp=Z,6µm,16.8s
KIRV Kirov 32.95 344 LR LR 15 10 53.3
comp=Z,10µm,18.2s,baz=150,slow=40
KIRV Kirov 32.95 344 *ceP* **P** **14 55 26.0 +0.4**
MANT Manisa 33.05 299 P **P** **14 55 26.1 -0.9**
MSEY Mahe Island 33.83 199 P **P** **14 55 34.9 +1.1**
MSEY pmax pmax
comp=Z,23nm,1.2s
MSEY MLR MLR
comp=Z,7µm,18.0s
MSEY Mahe Island 33.83 199 P **P** **14 55 34.9 +1.1**
KARP Karpathos 33.91 293 P **P** **14 55 34.2 -0.1**
JURR Jurilovca 34.16 310 ⇑P **P** **14 55 37.0 +0.8**
TIRR Tirgusor 34.39 309 ⇑P **P** **14 55 38.6 +0.3**
TIRR Tirgusor 34.39 309 P **P** **14 55 37.7 -0.5**
TIRR pmax pmax
comp=Z,229nm,1.5s
TIRR MLR MLR
comp=Z,4µm,22.0s
TIRR Tirgusor 34.39 309 P **P** **14 55 37.7 -0.5**
TPGR Topolog 34.49 310 ⇑P **P** **14 55 38.8 -0.4**
MOS Moscow 34.68 332 *eP* **P** **14 55 40.4 -0.2**
MOS pmax pmax
comp=Z,113nm,1.5s
MOS pmax pmax
comp=Z,800nm,3.0s
MOS MLR MLR
comp=Z,6µm,13.0s
ICOR Ion Corvin 34.72 308 ⇑P **P** **14 55 40.6 -0.5**
OBN Obninsk 34.72 330 P **P** **14 55 40.0 -1.0**
comp=Z,6.5nm,0.4s,baz=188,slow=22,SNR=7.4
OBN LR LR 15 13 26.5
comp=Z,1µm,19.1s,baz=106,slow=42
OBN Obninsk 34.72 330 ⇓*eP* **P** **14 55 40.8 -0.2**
OBN *e**PP **pP** **14 55 44.2 -1.8**
OBN *i* *SP **sP** **14 55 46.8 -1.2**
OBN PPP PPP 14 57 12.0
OBN *e*S **S** **15 01 07.4 -3.0**
OBN pmax pmax
comp=Z,78nm,1.7s
OBN MLR MLR
comp=Z,9µm,16.0s
OBN Obninsk 34.72 330 IAmb IAmb 14 55 47.4
comp=Z,76nm,1.1s
OBN IAMs_20 IAMs_20 15 12 02.1
comp=Z,4µm,21.0s
HARR Harsova 34.78 309 ⇑P **P** **14 55 41.1 -0.5**
MILM Milestii Mici 34.88 313 ⇑P **P** **14 55 42.3 -0.2**
VLDR Vladesti 35.02 311 ⇑P **P** **14 55 45.0 +1.3**
MOY Mondy 35.38 38 *eP* **P** **14 55 48.9 +2.0**
MOY pmax pmax
comp=Z,85nm,1.7s
GHRR 35.53 311 ⇑P **P** **14 55 49.2 +1.0**
PANC Panciu 35.65 311 ⇑P **P** **14 55 49.8 +0.7**
IDI Anoyia 35.76 293 P **P** **14 55 48.8 -1.5**
ISR Istrita 35.85 310 ⇑P **P** **14 55 51.6 +0.7**
VRI Vrincioaia 35.93 311 ⇑P **P** **14 55 52.0 +0.4**
PLOR Plostina 35.98 311 ⇓P **P** **14 55 53.2 +1.2**
GYA Guiyang 35.98 82 ⇓P **P** **14 55 52.9 +0.5**
GYA PP **PP** **14 57 15.5 +1.3**
GYA PcP **PcP** **14 58 20.8 +1.8**
GYA S **S** **15 01 31.5 +0.7**
GYA pmax pmax
comp=Z,21nm,1.0s
GYA pmax pmax
comp=Z,200nm,3.5s
GYA LR LR
comp=Z,14µm,14.9s
GYA LR LR
comp=Z,3µm,13.9s
GYA LR LR
comp=Z,4µm,20.8s
ZAK Zakamensk 36.09 41 *eP* **P** **14 55 53.7 +0.7**
ZAK pmax pmax
comp=Z,49nm,1.4s
AKASG Malin Array Be 36.10 320 P **P** **14 55 51.5 -1.4**
comp=Z,16nm,0.9s,baz=111,slow=7.4,SNR=34
AKASG S **S** **15 01 24.6 -7.1**
comp=Z,0.2nm,0.4s,baz=64,slow=27,SNR=1.3
AKASG Malin Array Be 36.10 320 *i* P **P** **14 55 52.4 -0.5**
AKASG pmax pmax
comp=Z,17nm,0.8s
AKASG Malin Array Be 36.10 320 P **P** **14 55 51.3 -1.6**
AKASG IAmb IAmb 14 55 59.5
comp=Z,45nm,1.1s
AKBB Malin Array Si 36.10 320 P **P** **14 55 51.5 -1.4**
AKBB pmax pmax
comp=Z,55nm,1.0s
AKBB Malin Array Si 36.10 320 P **P** **14 55 51.5 -1.4**
AKBB IAmb IAmb 14 55 59.4
comp=Z,55nm,0.9s
NEHR Nehoiu 36.10 310 ⇑P **P** **14 55 53.6 +0.6**
TESR Tescani 36.17 312 ⇓P **P** **14 55 53.8 +0.2**
COVR Voineasa-Covas 36.27 311 ⇑P **P** **14 55 54.7 +0.2**
MLR Muntele Rosu 36.35 310 P **P** **14 55 56.6 +1.3**
comp=Z,63nm,0.9s,baz=130,slow=2.1,SNR=5.5
MLR S **S** **15 01 29.4 -6.6**
comp=Z,1.7nm,0.7s,baz=196,slow=4.9,SNR=1.6
MLR Muntele Rosu 36.35 310 P **P** **14 55 55.1 -0.2**
PRGR Permogore 36.55 344 *eP* **P** **14 55 55.8 -0.8**
PRGR pmax pmax
comp=Z,15nm,0.8s
DOPR Dopca 36.85 311 ⇑P **P** **14 56 00.3 +0.8**

SRIT Nakonsritamara 36.87 115 P **P** **14 56 01.1 +1.1**
MTUR Matau 36.89 309 ⇑P **P** **14 56 00.2 +0.4**
XAN Xi'an 37.04 69 ⇑P **P** **14 56 01.6 +0.3**
XAN pP sP 14 56 07.4 -1.0
XAN sP pP 14 56 10.1 +3.8
XAN S **S** **15 01 44.6 -2.0**
XAN SS **SnSn** **15 04 12.3 -8.0**
XAN pmax pmax
comp=Z,57nm,1.0s
XAN pmax pmax
comp=Z,260nm,4.2s
XAN LR LR
comp=Z,13µm,17.9s
XAN LR LR
comp=Z,9µm,17.9s
XAN LR LR
comp=Z,14µm,17.9s
SONM Songino Array 37.06 46 P **P** **14 56 02.3 +0.9**
comp=Z,41nm,1.0s,baz=249,slow=8.1,SNR=103
SONM S **S** **15 01 45.5 -1.4**
comp=Z,0.5nm,0.5s,baz=44,slow=45,SNR=1.1
SONM LR LR 15 13 57.0
comp=Z,9µm,19.2s,baz=244,slow=41
SONM Songino Array 37.06 46 P **P** **14 56 02.2 +0.8**
BURAR Bucovina Array 37.43 313 ⇑P **P** **14 56 05.2 +0.8**
BURAR Bucovina Array 37.43 313 P **P** **14 56 03.9 -0.5**
BURAR IAmb IAmb 14 56 10.4
comp=Z,42nm,0.7s
BUR08 Bucovina Ar. S 37.45 313 P **P** **14 56 03.9 -0.7**
BUR08 IAmb IAmb 14 56 10.3
comp=Z,35nm,0.8s
IRK Irkutsk 37.45 39 *eP* **P** **14 56 05.4 +1.0**
IRK pmax pmax
comp=Z,101nm,2.5s
ULN Ulaanbaatar 37.50 46 *ceP* **P** **14 56 06.1 +1.0**
ULN pmax pmax
comp=Z,44nm,1.1s
ULN Ulaanbaatar 37.50 46 P **P** **14 56 05.3 +0.2**
ULN IAmb IAmb 14 56 17.0
comp=Z,44nm,1.1s
ULN Ulaanbaatar 37.50 46 P **P** **14 56 05.9 +0.8**
KLMR Klimovskoe 37.65 339 *eP* **P** **14 56 04.8 -1.2**
KLMR *e* 14 57 31.4
KLMR *eS* **S** **15 01 51.6 -3.6**
KLMR *eSS* **SnSn** **15 04 30.4 -3.9**
KLMR pmax pmax
comp=Z,139nm,1.0s
KLMR MLR MLR
comp=Z,11µm,14.0s
KLMR Klimovskoe 37.65 339 *eP* **P** **14 56 04.9 -1.1**
KLMR AMP 14 56 10.3
comp=Z,139nm,1.0s
KLMR *e*PP **PP** **14 57 31.5 -0.4**
KLMR *eS* **S** **15 01 51.6 -3.6**
KLMR *eS* **S** **15 01 51.6 -3.6**
KLMR *eSS* **SnSn** **15 04 30.4 -3.9**
KLMR *eSS* **SnSn** **15 04 30.4 -3.9**
KLMR LQ LQ 15 09 03.9
KLMR LQ LQ 15 09 03.9
KLMR LR LR 15 12 33.0
KLMR AMP 15 13 43.5
comp=Z,11µm,13.9s
VTS Vitosha 37.66 305 P **P** **14 56 05.9 -0.7**
VTS pmax pmax
comp=Z,20nm,1.1s
VTS Vitosha 37.66 305 P **P** **14 56 05.9 -0.7**
ENH Enshi 37.83 76 P **P** **14 56 07.8 -0.2**
ARCR ARCALIA 37.84 312 ⇑P **P** **14 56 08.4 +0.6**
LIT Litokhoron 37.90 300 P **P** **14 56 07.5 -1.0**
LIT pmax pmax
comp=Z,10.0nm,0.8s
LIT Litokhoron 37.90 300 P **P** **14 56 07.5 -1.0**
VAY Valandovo 37.97 302 *i* P **P** **14 56 09.7 +0.8**
BTO Baotou 38.13 59 *eP* **P** **14 56 11.8 +1.3**
BTO S **S** **15 02 04.3 +1.2**
BTO LR LR
comp=Z,22µm,14.7s
BTO LR LR
comp=Z,23µm,18.6s
ITM Ithomi 38.18 296 P **P** **14 56 08.3 -2.5**
ITM IAmb IAmb 14 56 38.3
comp=Z,63nm,1.2s
STIP Stip 38.30 303 *i* P **P** **14 56 10.0 -1.8**
UBPT Khong Chiam 38.47 101 P **P** **14 56 13.2 -0.3**
MNK Minsk 38.55 325 *i* P **P** **14 56 11.4 -2.2**
MNK *i* 14 57 39.6
MNK *i* 14 58 24.2
MNK *i* S **S** **15 02 07.9 -0.9**
MNK *i* SS **SnSn** **15 04 52.5 -3.4**
MNK pmax pmax
comp=N,18nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,23nm,0.7s
MNK MLR MLR
comp=Z,3µm,12.0s
MNK MLR MLR
comp=N,5µm,12.0s
MNK MLR MLR
comp=E,548nm,12.0s
MNK Minsk 38.55 325 *i* P **P** **14 56 11.4 -2.2**
comp=E,2.0nm,0.7s
MNK *i* P **P** **14 56 11.4 -2.2**
comp=N,18nm,0.7s
MNK *i* P **P** **14 56 11.4 -2.2**
comp=Z,23nm,0.7s,baz=298
MNK *i* PP **PP** **14 57 39.7 -2.1**
MNK *i* PPP PPP 14 57 59.5
MNK *i* S **S** **15 02 07.9 -0.9**
MNK *i* SS **SnSn** **15 04 52.6 -3.4**
MNK *i* LQ LQ 15 09 19.9
MNK *i* LR LR 15 12 18.1
MNK *i* LRM MLR 15 15 26.1
comp=E,548nm,12.1s
MNK *i* LRM MLR 15 15 26.5
comp=N,5µm,12.1s
MNK *i* LRM MLR 15 15 26.5
comp=Z,3µm,12.1s
HERR Herculane 38.64 308 ⇑P **P** **14 56 14.4 -0.2**
FNA Florina 38.81 301 P **P** **14 56 14.9 -1.3**
FNA pmax pmax
comp=Z,30nm,1.0s
FNA Florina 38.81 301 P **P** **14 56 14.9 -1.3**
LVV L'vov 38.85 316 *eP* **P** **14 56 14.6 -1.7**
LVV *e* 14 57 45.8
LVV *e*PPP PPP 14 58 08.9
LVV *eS* **S** **15 02 09.6 -4.1**
LVV *e*SSS SSS 15 05 30.5
SKO Skopje 38.89 303 *i* P **P** **14 56 16.8 0.0**
BOVS Bovan 38.93 306 ⇑P **P** **14 56 17.0 +0.1**
MDVR Moldovita 39.12 308 ⇓P **P** **14 56 18.6 0.0**
KBN Korca 39.25 301 P **P** **14 56 18.4 -1.4**
KBN pmax pmax
comp=Z,90nm,1.3s
KBN Korca 39.25 301 P **P** **14 56 18.4 -1.4**
KBN IAmb IAmb 14 56 48.1
comp=Z,90nm,1.3s
NACGM Naroch 39.30 325 *eP* **P** **14 56 20.2 +0.2**
TRPA Tarpa 39.30 313 P **P** **14 56 20.4 +0.4**
HHC Hu-ho-hao-te 39.32 59 *eP* **P** **14 56 22.4 +1.9**
HHC sP sP 14 56 29.8 +2.2
HHC PP **PnPn** **14 57 57.4 +4.0**
HHC S **S** **15 02 25.3 +4.2**
HHC pmax pmax
comp=Z,55nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.0s
HHC LR LR
comp=Z,7µm,15.5s
HHC LR LR
comp=Z,6µm,17.9s
HHC LR LR
comp=Z,6µm,19.0s
BZS Buzias 39.34 309 ⇓P **P** **14 56 20.4 0.0**
SIRR Siria 39.44 310 ⇑P **P** **14 56 22.6 +1.3**
GULI GuiLin 39.49 83 ⇓P **P** **14 56 21.9 -0.1**
GULI S **S** **15 02 19.3 -4.5**
GULI LR LR
comp=Z,10µm,16.3s
GULI LR LR
comp=Z,4µm,19.5s
GULI LR LR
comp=Z,6µm,16.6s

IDID	Didziasalis	39.51	325		*e*P		P	14 56 23.1	+1.4
UZH	Uzhgorod	39.59	314		*e*P		P	14 56 22.2	-0.3
UZH					*e*			14 56 30.0	
UZH					*e*S		S	15 02 21.2	-3.6
KWP	Kalwaria Pacla	39.62	315		*e*P		P	14 56 23.0	+0.3
KWP	Kalwaria Pacla	39.62	315		P		P	14 56 21.0	-1.7
KWP					MLR	MLR			
	comp=Z,15µm,19.0s								
KWP	Kalwaria Pacla	39.62	315		P		P	14 56 21.0	-1.7
KULM	Kulim	39.67	118		P		P	14 56 23.2	-0.3
IIGN	Ignalina	39.79	325		*e*P		P	14 56 24.8	+0.8
TIY	Taiyuan	39.85	63		*e*P		P	14 56 26.5	+1.7
TIY					PP		PnPn	14 58 01.3	+1.7
TIY					S		S	15 02 27.4	-1.6
TIY					pmax	pmax			
	comp=Z,19nm,0.7s								
TIY					LR	LR			
	comp=Z,18µm,18.4s								
TIY					LR	LR			
	comp=Z,3µm,18.0s								
TIY					LR	LR			
	comp=Z,5µm,16.1s								
KMBO	Kilima Mbogo	39.93	229		P		P	14 56 27.1	+1.1
	comp=Z,2.4nm,0.7s,baz=25,slow=12,SNR=5.9								
KMBO					S		S	15 02 33.2	+2.3
	comp=Z,0.8nm,0.3s,baz=59,slow=18,SNR=1.3								
KMBO					LR	LR		15 14 08.8	
	comp=Z,3µm,18.4s,baz=46,slow=38								
KMBO	Kilima Mbogo	39.93	229	*i*	P		P	14 56 28.1	+2.2
KMBO					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KMBO	Kilima Mbogo	39.93	229		P		P	14 56 26.5	+0.5
KMBO	Kilima Mbogo	39.93	229	*i*	P		P	14 56 30.6	+4.6
	SNR=5.7								
PSI	Prapat	39.94	123		P		P	14 56 26.1	+0.3
	comp=Z,21nm,0.6s,baz=324,slow=6.8,SNR=21								
PSI					S		S	15 02 25.4	-5.4
	comp=Z,2.1nm,0.4s,baz=210,slow=9.6,SNR=1.7								
PSI					LR	LR		15 14 24.3	
	comp=Z,4µm,20.9s,baz=297,slow=38								
ISAL	Salakas	39.94	325		*e*P		P	14 56 26.4	+1.2
LYN	LuoYang	39.95	68	⇑	*i*P		P	14 56 27.3	+1.7
LYN					sP		sP	14 56 34.6	+1.8
LYN					S		S	15 02 31.8	+1.3
LYN					pmax	pmax			
	comp=Z,30nm,0.9s								
LYN					pmax	pmax			
	comp=Z,220nm,6.0s								
LYN					LR	LR			
	comp=Z,17µm,17.1s								
LYN					LR	LR			
	comp=Z,6µm,16.7s								
LYN					LR	LR			
	comp=Z,6µm,16.7s								
GSI	Gunungsitoli	39.96	126		P		P	14 56 27.9	+2.0
GSI					IAmb	IAmb		14 56 29.5	
	comp=Z,77nm,0.7s								
GSI	Gunungsitoli	39.96	126		P		P	14 56 28.8	+2.9
	comp=Z,107nm,0.7s								
GSI	Gunungsitoli	39.96	126		P		P	14 56 28.5	+2.6
RPSI	Rantau Prapat	40.01	123		P		P	14 56 26.1	-0.1
CRVS	Cervenica-Dubn	40.20	314		*e*P		P	14 56 28.5	+1.0
CRVS					pmax	pmax			
	comp=Z,82nm,1.4s								
CRVS	Cervenica-Dubn	40.20	314		*e*P		P	14 56 28.5	+1.0
CRVS					*e*S		S	15 02 39.1	+5.2
CRVS					*e*L		L	15 21 18.5	
DIVS	Divibare	40.22	306		P		P	14 56 27.4	-0.5
DIVS	Divibare	40.22	306		*e*P		P	14 56 29.9	+2.0
PUL	Pulkovo	40.26	333		*ce*P		P	14 56 30.6	+2.7
PUL					pmax	pmax			
	comp=Z,212nm,0.8s								
KIBK	Kibwezi	40.32	227		P		P	14 56 30.4	+1.4
IPM	Ipoh	40.47	119		P		P	14 56 30.3	+0.2
IPM	Ipoh	40.47	119		P		P	14 56 31.4	+1.2
FRGS	Fruska Gora	40.51	308		*e*P		P	14 56 31.9	+1.7
DRME	Dracevica, Mon	40.58	303		*e*P		P	14 56 29.8	-1.0
RUDO	Rudo	40.60	306		*e*P		P	14 56 29.8	-1.2
BBLS	Lazići	40.61	306		*e*P		P	14 56 31.1	0.0
TEKS	Tekeris	40.62	307		*e*P		P	14 56 29.9	-1.2
SUW	Suwalki	40.83	322		*e*P		P	14 56 33.1	+0.5
SUW	Suwalki	40.83	322		P		P	14 56 32.3	-0.4
SUW					pmax	pmax			
	comp=Z,103nm,1.0s								
SUW					MLR	MLR			
	comp=Z,4µm,20.0s								
SUW	Suwalki	40.83	322		P		P	14 56 32.2	-0.4
SUW	Suwalki	40.83	322		*e*P		P	14 56 32.2	-0.4
QIZ	Qiongzhong	40.87	93		P		P	14 56 31.4	-2.0
QIZ					S		S	15 02 42.6	-1.9
QIZ					LR	LR			
	comp=Z,6µm,20.7s								
QIZ					LR	LR			
	comp=Z,3µm,17.5s								
QIZ					LR	LR			
	comp=Z,3µm,17.5s								
PSZ	Piszkesteto	40.98	312		P		P	14 56 33.4	-0.6
PSZ					pmax	pmax			
	comp=Z,37nm,1.1s								
PSZ					MLR	MLR			
	comp=Z,2µm,19.0s								
PSZ	Piszkesteto	40.98	312		P		P	14 56 33.4	-0.6
PSZ	Piszkesteto	40.98	312		P		P	14 56 34.1	0.0
PABE	Paberze	41.01	324		P		P	14 56 33.4	-0.7
PABE					IAmb	IAmb		14 56 39.7	
	comp=Z,68nm,0.9s								
VALR	Valaam	41.02	335	*i*	P		P	14 56 35.1	+1.0
VALR					pmax	pmax			
	comp=Z,142nm,1.0s								
NIE	Niedzica	41.07	315		*e*P		P	14 56 37.1	+2.4
VSU	Vasula	41.07	329	*i*	P		P	14 56 34.3	-0.2
VSU					pmax	pmax			
	comp=Z,154nm,0.7s								
VSU	Vasula	41.07	329		*e*P		P	14 56 34.5	0.0
IZAB	Izabela	41.24	313		*e*P		P	14 56 40.1	+4.0
TREB	Trebinje	41.25	304		*e*P		P	14 56 34.3	-2.0
MORH	Mrgy, Hungar	41.49	309		*e*P		P	14 56 37.9	-0.3
MORH	Mrgy, Hungar	41.49	309		P		P	14 56 38.0	-0.1
LANS	Liptovska Anna	41.53	314		*e*P		P	14 56 39.6	+1.0
LANS					pmax	pmax			
	comp=Z,7.0nm,1.0s								
LANS	Liptovska Anna	41.53	314		*e*P		P	14 56 39.6	+1.0
OJC	Ojcow	41.59	316		*e*P		P	14 56 39.3	+0.3
OJC	Ojcow	41.59	316		P		P	14 56 38.5	-0.5
OJC					pmax	pmax			
	comp=Z,17nm,0.8s								
OJC	Ojcow	41.59	316		P		P	14 56 38.5	-0.5
HNS	HongShan	41.65	64	⇓	P		P	14 56 41.8	+2.1
HNS					S		S	15 03 00.3	+4.5
HNS					pmax	pmax			
	comp=Z,30nm,0.9s								
HNS					pmax	pmax			
	comp=Z,400nm,6.5s								
HNS					LR	LR			
	comp=Z,13µm,18.4s								
HNS					LR	LR			
	comp=Z,5µm,20.3s								
HNS					LR	LR			
	comp=Z,8µm,21.0s								
MNSI	Mandailing Nat	41.76	124		P		P	14 56 41.8	+1.0
	comp=Z,73nm,0.9s								
VYHS	Vyhne	41.79	313		*e*P		P	14 56 41.9	+1.2
VYHS	Vyhne	41.79	313		*e*P		P	14 56 41.9	+1.2
KOVH	Kovagotottos	41.84	309		P		P	14 56 41.1	0.0
CSKK	Cskako	41.95	311		P		P	14 56 44.0	+2.1
WHN	Wuhan	41.95	74	⇑	P		P	14 56 43.5	+1.3
WHN					pP		pP	14 56 48.0	+0.7
WHN					PP		PP	14 58 20.1	+0.9
WHN					S		S	15 03 01.4	+1.1
WHN					pmax	pmax			
	comp=Z,160nm,0.9s								
WHN					LR	LR			
	comp=Z,34µm,16.0s								
WHN					LR	LR			
	comp=Z,13µm,16.5s								
WHN					LR	LR			
	comp=Z,11µm,15.6s								
KOLL	Kolacno	42.09	313		*e*P		P	14 56 43.7	+0.6
PBUR	Paburge	42.28	324		*e*P		P	14 56 44.9	+0.4
BLY	Banja Luka	42.30	307		*e*P		P	14 56 45.4	+0.5
MPLH	Magyarpolny	42.40	311		P		P	14 56 46.1	+0.5
MTSE	Matsula	42.52	329		*e*P		P	14 56 47.0	+0.6
OKC	Ostrava-Krasne	42.52	315		*e*P		P	14 56 47.5	+0.9
OKC					MLR	MLR			
	comp=Z,2µm,14.5s								
OKC	Ostrava-Krasne	42.52	315		*e*P		P	14 56 47.5	+0.9
OKC					AMS	AMS		15 20 50.0	
	comp=Z,2µm,14.5s								
DLV	T Lat	42.59	103		P		P	14 56 47.4	-0.3
DLV	T Lat	42.59	103		P		P	14 56 50.3	+2.6
JAVC	Velka Javorina	42.62	313		*e*P		P	14 56 48.7	+1.2
MOSL	Moslavina	42.71	308		*i* P		P	14 56 47.0	-1.2
SMOL	Smolenice	42.71	313		*e*P		P	14 56 49.8	+1.6
SMOL					pmax	pmax			
	comp=Z,16nm,1.3s								
SMOL	Smolenice	42.71	313		*e*P		P	14 56 49.8	+1.6
CIT	Chita	42.72	42		*e*P		P	14 56 48.6	+0.4
CIT					*e*			14 58 27.4	
CIT					*e*			15 03 06.6	
CIT					pmax	pmax			
	comp=Z,139nm,3.3s								
SLIT	Slitere, Latvi	42.76	327		*e*P		P	14 56 47.6	-0.7
BJT	Baijiatuau	42.79	60		P		P	14 56 49.7	+0.8
BJT					pmax	pmax			
	comp=Z,46nm,1.0s								
BJT					MLR	MLR			
	comp=Z,6µm,19.0s								
BJT	Baijiatuau	42.79	60		P		P	14 56 49.7	+0.8
BJT					IAmb	IAmb		14 56 53.0	
	comp=Z,46nm,1.0s								
BJT	Baijiatuau	42.79	60		IAMs_20	IAMs_20		15 17 21.0	
	comp=Z,6µm,19.0s								
BJI	Beijing	42.79	60		P		P	14 56 50.8	+1.9
BJI					pP		pP	14 56 53.9	-0.1
BJI					PP		PP	14 58 26.3	-1.9
BJI					S		S	15 03 15.6	+3.1
BJI					pmax	pmax			
	comp=Z,32nm,1.0s								
BJI					pmax	pmax			
	comp=Z,320nm,6.2s								
BJI					LR	LR			
	comp=Z,7µm,14.3s								
BJI					LR	LR			
	comp=Z,4µm,15.7s								
BJI					LR	LR			
	comp=Z,7µm,15.5s								
BEHE	Becsehely	42.81	309		*e*P		P	14 56 50.0	+1.0
BEHE	Becsehely	42.81	309		P		P	14 56 49.5	+0.5
ZST	Bratislava	42.87	312		*e*S		S	15 03 13.9	+0.5
SISI	Saibi	42.87	127		P		P	14 56 51.4	+1.6
	comp=Z,57nm,0.7s								
MORC	Moravsky Berou	42.89	314		P		P	14 56 49.4	-0.3
MORC					pmax	pmax			
	comp=Z,19nm,0.9s								
MORC	Moravsky Berou	42.89	314		P		P	14 56 49.4	-0.3
MORC	Moravsky Berou	42.89	314		*e*P		P	14 56 49.2	-0.5
XLT	XiLinHaoTe	42.92	54	⇑	*i*P		P	14 56 51.9	+1.9
XLT					pP		pP	14 56 55.4	+0.3
XLT					sP		sP	14 56 58.5	+1.4
XLT					S		S	15 03 19.1	+4.6
XLT					SS		SS	15 06 19.3	-6.6
XLT					pmax	pmax			
	comp=Z,87nm,1.0s								
XLT					pmax	pmax			
	comp=Z,390nm,3.5s								
XLT					LR	LR			
	comp=Z,740nm,16.0s								
XLT					LR	LR			
	comp=Z,5µm,14.6s								
XLT					LR	LR			
	comp=Z,3µm,17.3s								
FIA1	FINESS Array S	42.94	333		P		P	14 56 49.3	-0.4
FIA1					IAmb	IAmb		14 56 54.1	
	comp=Z,41nm,0.8s								
FINES	FINESS Array B	42.94	333		P		P	14 56 49.9	+0.1
	comp=Z,20nm,0.5s,baz=120,slow=7.5,SNR=44								
FINES					LR	LR		15 17 26.5	
	comp=Z,4µm,18.2s,baz=114,slow=40								
FINES	FINESS Array B	42.94	333	*i*	P		P	14 56 51.0	+1.2
FINES					pmax	pmax			
	comp=Z,20nm,0.5s								
FINES	FINESS Array B	42.94	333		P		P	14 56 49.4	-0.4
MEF	Metsahovi	42.99	331		*e*P		P	14 56 52.1	+1.9
SGRT	San Giovanni R	43.11	302		P		P	14 56 51.1	-0.5
SOP	Sopron	43.14	311		P		P	14 56 53.2	+1.6
KOGS	Kog	43.16	309	*i*	P		P	14 56 51.6	-0.2
KOGS					*ep*P		pP	14 56 56.5	-0.4
KOGS					*e*S		S	15 03 19.2	+1.4
PPI	Padang Panjang	43.21	125		P		P	14 56 53.5	+1.0
UDBI	Udbina	43.28	307	*i*	P		P	14 56 53.4	+0.5
VRAC	Vranov	43.40	314		LR	LR		15 18 49.8	
	comp=Z,2µm,18.8s,baz=101,slow=42								
VRAC	Vranov	43.40	314		*e*P		P	14 56 53.1	-0.7
PLIT	Plitvice	43.42	307	*i*	P		P	14 56 54.0	0.0
KRLC	Kraliky	43.44	315		*e*P		P	14 56 54.6	+0.5
KRLC					MLR	MLR			
	comp=Z,4µm,13.8s								
KRLC	Kraliky	43.44	315		*e*P		P	14 56 54.6	+0.5
KRLC					AMS	AMS		15 21 10.0	
	comp=Z,4µm,13.8s								
NRIK	Noril'sk	43.46	11		P		P	14 56 54.6	+0.7
	comp=Z,21nm,0.8s,baz=197,slow=5.2,SNR=13								
NRIK					S		S	15 03 19.2	-2.4
	comp=Z,1.8nm,0.7s,baz=10,slow=22,SNR=1.6								
NRIK					LR	LR		15 19 30.8	
	comp=Z,4µm,18.3s,baz=206,slow=42								
NRIK	Noril'sk	43.46	11		P		P	14 56 54.2	+0.3
NRIK					IAmb	IAmb		14 57 15.0	
	comp=Z,51nm,0.9s								
KRUC	Moravsky	43.49	313		*e*P		P	14 56 53.5	-0.9
CRES	Cresnjev	43.63	308		*e*P		P	14 56 53.4	-2.3
CONA	Conrad Observa	43.64	311		*e*P		P	14 56 55.9	+0.1
	comp=Z,15nm,1.3s								
TIA	Tai'an	43.65	66	⇓	P		P	14 56 57.8	+1.9
TIA					S		S	15 03 28.4	+3.3
TIA					ScS		ScS	15 06 57.3	+2.1
TIA					pmax	pmax			
	comp=Z,43nm,1.0s								
TIA					pmax	pmax			
	comp=Z,270nm,3.5s								
TIA					LR	LR			
	comp=Z,19µm,22.0s								
TIA					LR	LR			
	comp=Z,6µm,19.0s								
TIA					LR	LR			
	comp=Z,3µm,17.3s								
BOJS	Bojanci	43.74	308		*e*P		P	14 56 54.4	-2.2
BOJS					*e*S		S	15 03 23.8	-2.5
BOJS					*e*			15 06 42.8	
BOJS					*e*			15 06 51.0	
DUGI	Dugi Otok	43.75	306	*i*	P		P	14 56 57.0	+0.4
ARSA	Arzberg	43.77	310	*i*	P		P	14 56 57.3	+0.5
	comp=Z,19nm,1.4s,SNR=14								
VIRC	Vir	43.77	306	*i*	P		P	14 56 56.4	-0.3
DPC	Dobruska-Polom	43.78	315		*e*P		P	14 56 57.0	+0.1
DPC					MLR	MLR			
	comp=Z,5µm,15.0s								
DPC	Dobruska-Polom	43.78	315		*e*P		P	14 56 57.0	+0.1
DPC					AMS	AMS		15 21 20.0	
	comp=Z,5µm,15.0s								
OSTC	Ostas	43.89	315		*e*P		P	14 56 58.3	+0.6
OSTC					AMS	AMS		15 21 20.0	
	comp=Z,4µm,14.6s								
KSP	Ksiaz	43.91	316		*e*P		P	14 56 57.6	-0.2
NVLJ	Novalja	43.92	307	*i*	P		P	14 56 57.2	-0.8
CHVC	Chvalec	44.00	315		*e*P		P	14 56 58.8	+0.2
CHVC					AMS	AMS		15 21 30.0	
	comp=Z,5µm,12.9s								
UPC	Upice	44.01	315		*e*P		P	14 56 58.5	-0.1
UPC					MLR	MLR			
	comp=Z,5µm,12.9s								
UPC	Upice	44.01	315		*e*P		P	14 56 58.5	-0.1
UPC					AMS	AMS		15 21 30.0	
	comp=Z,5µm,12.9s								
SOKA	Soboth	44.03	310		*e*P		P	14 56 59.2	+0.3
	comp=Z,11nm,1.0s								
TREC	Trest	44.11	313		AMS	AMS		15 20 40.0	
	comp=Z,3µm,19.0s								
MBAR	Mbarara	44.15	236		*ce*P		P	14 57 06.5	+6.2
MBAR					pmax	pmax			
	comp=Z,12nm,1.7s								
VAE	Valguarnera	44.17	296		LR	LR		15 18 04.3	
	comp=Z,1µm,18.4s,baz=72,slow=40								
LJU	Ljubljana	44.30	309		*e*P		P	14 57 01.4	+0.4
OBKA	Obir	44.34	309		*e*P		P	14 57 01.6	+0.2
	comp=Z,28nm,1.2s								
MYKOM	Kota Tinggi	44.34	119		P		P	14 57 01.6	-0.1
MYKOM					IAmb	IAmb		14 57 04.2	
	comp=Z,48nm,0.7s								
CEY	Cerknica	44.34	308		*e*P		P	14 57 00.0	-1.4
CEY	Cerknica	44.34	308		*e*P		P	14 57 01.2	-0.2
LVZ	Lovozero	44.38	344		*i* P		P	14 57 03.2	+1.8
LVZ					pmax	pmax			
	comp=Z,44nm,0.9s								
LVZ	Lovozero	44.38	344		P		P	14 57 01.8	+0.4
LVZ					IAMs_20	IAMs_20		15 17 36.6	
	comp=Z,9µm,18.0s								
APA	Apatity	44.46	343	⇓	*i* P		P	14 57 03.2	+1.3
APA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
SMRN	Sveta Marina	44.47	307		*i* P		P	14 57 00.7	-1.6
RAF	Rauma	44.52	331		*e*P		P	14 57 01.7	-0.8
SKDS	Skadanscina	44.61	308		*e*P		P	14 57 01.0	-2.5
MOA	Molln	44.69	311		*e*P		P	14 57 05.0	+0.9
	comp=Z,6.6nm,0.8s								
BRJN	Brijuni	44.75	307		*i* P		P	14 57 04.6	+0.1
CKRC	Cesky Krumlov	44.80	312		*e*P		P	14 57 04.6	-0.4
TRI	Trieste	44.80	308		P		P	14 57 03.9	-1.1
TRI					pmax	pmax			
	comp=Z,24nm,0.8s								
TRI	Trieste	44.80	308		P		P	14 57 03.9	-1.1
TRI					IAmb	IAmb		14 57 19.0	
	comp=Z,24nm,0.8s								
BOD	Bodaibo	44.81	34		*e*P		P	14 57 04.6	-0.3
BOD					pmax	pmax			
	comp=Z,42nm,1.8s								
PRU	Pruhonice	44.84	314		*e*P		P	14 57 05.0	-0.2
PRU					MLR	MLR			
	comp=Z,5µm,14.2s								
PRU	Pruhonice	44.84	314		*e*P		P	14 57 05.0	-0.2
PRU					AMS	AMS		15 22 00.0	
	comp=Z,5µm,14.2s								
AQU	L'Aquila	44.88	303		P		P	14 57 04.9	-0.8
AQU					pmax	pmax			
	comp=Z,46nm,0.9s								
AQU	L'Aquila	44.88	303		P		P	14 57 04.9	-0.8
AQU					IAmb	IAmb		14 57 26.9	
	comp=Z,46nm,0.9s								
AQU	L'Aquila	44.88	303		*e*P		P	14 57 06.5	+0.8
PVCC	Panska Ves	44.92	315		*e*P		P	14 57 11.7	+5.8
PVCC					MLR	MLR			
	comp=Z,5µm,13.3s								
PVCC	Panska Ves	44.92	315		*e*P		P	14 57 11.7	+5.8
PVCC					AMS	AMS		15 22 10.0	
	comp=Z,5µm,13.3s								
AAL	Aland	44.92	329		*e*P		P	14 57 07.5	+1.8
MYKA	Terra Mystica	44.97	309		*e*P		P	14 57 06.4	-0.1
	comp=Z,3.5nm,0.6s								
BIOA	Bad Ischl, Aus	45.09	311		*e*P		P	14 57 07.9	+0.5
	comp=Z,14nm,1.0s								
KRJI	Kerinci	45.10	125		P		P	14 57 08.6	+0.8
	comp=Z,3µmcomp=Z,271nm,0.8s								
NRCA	Norcia	45.10	304		P		P	14 57 07.0	-0.5
GEC2	GERESS Array S	45.20	312		P		P	14 57 07.4	-0.9
GEC2					IAmb	IAmb		14 57 32.8	
	comp=Z,47nm,1.4s								
GEC2	GERESS Array S	45.20	312		*e*P		P	14 57 07.6	-0.7
	comp=Z,63nm,1.5s,baz=98,slow=7.8								
GERES	GERESS Array B	45.20	312		P		P	14 57 07.8	-0.5
	comp=Z,2.3nm,0.5s,baz=81,slow=8.2,SNR=26								
GERES					S		S	15 03 43.5	-4.2
	comp=Z,0.2nm,0.3s,baz=286,slow=32,SNR=1.5								
GERES	GERESS Array B	45.20	312		P		P	14 57 07.3	-0.9
KBA	Koelnbreinsper	45.22	310	*i*	P		P	14 57 08.4	-0.2
	comp=Z,12nm,0.6s,SNR=14								
KHC	Kasperske Hory	45.32	313	*i*	P		P	14 57 08.7	-0.5
KHC					pmax	pmax			
	comp=Z,22nm,0.9s								
KHC	Kasperske Hory	45.32	313		*e*P		P	14 57 08.0	-1.2
KHC					AMS	AMS		15 20 50.0	
	comp=Z,4µm,17.2s								
KHC	Kasperske Hory	45.32	313		P		P	14 57 08.3	-0.9
BRG	Berggiesshubel	45.37	315		*e*P		P	14 57 09.9	+0.5
BRG					Amp			14 57 12.2	
	comp=Z,19nm,1.1s								
BRG				*i*	x		x	14 57 15.1	
BRG					Amp			14 57 16.7	
	comp=Z,43nm,1.2s								
BRG	Berggiesshubel	45.37	315		SS		SS	15 07 07.0	-5.8
BRG					Amp			15 22 29.0	
	comp=N,1.2nm,12.3s								
BRG					Amp			15 22 45.0	
	comp=Z,6.5nm,14.1s								
BRG					Amp			15 22 49.0	
	comp=E,4.3nm,13.9s								
BRG	Berggiesshubel	45.37	315		*e*P		P	14 57 09.9	+0.5
BRG				*i*				14 57 15.1	
BRG					S		S	15 03 49.0	-0.8
BRG				*e*				15 07 07.0	
BRG					pmax	pmax			
	comp=Z,19nm,1.1s								
BRG	Berggiesshubel	45.37	315		*e*P		P	14 57 09.8	+0.3
	comp=Z,107nm,1.7s,baz=98,slow=7.8								
NJ2	Nanjing	45.53	71		*e*P		P	14 57 12.3	+1.3
NJ2					pP		pP	14 57 15.6	-0.5
NJ2					sP		sP	14 57 18.6	+0.5
NJ2					S		S	15 03 52.6	0.0
NJ2					sS		pS	15 03 58.8	+0.2
NJ2					pmax	pmax			
	comp=Z,37nm,0.9s								
NJ2					pmax	pmax			
	comp=Z,220nm,5.4s								
NJ2					LR	LR			
	comp=Z,20µm,21.5s								
NJ2					LR	LR			
	comp=Z,3µm,20.6s								
NJ2					LR	LR			
	comp=Z,4µm,20.6s								
MURB	Monte Urbino	45.55	305		P		P	14 57 10.8	-0.3
BLEU	Blekinge	45.58	323	*i*	P		P	14 57 10.6	-0.4
RJOB	Jochberg	45.66	311		*e*P		P	14 57 11.3	-0.6
	comp=Z,31nm,1.2s,baz=98,slow=7.8								
BSD	Bornholm Skovb	45.74	321		*e*P		P	14 57 15.3	+3.0
BSD	Bornholm Skovb	45.74	321		*e*P		P	14 57 11.4	-0.8
FBE	Freiberg	45.75	315		*e*P		P	14 57 13.0	+0.6
	comp=Z,109nm,1.6s,baz=98,slow=7.8								
ABTA	Abfaltersbach	45.76	309	*i*	P		P	14 57 12.5	-0.2
	comp=Z,22nm,1.2s,SNR=9.7								
VIKU	Vikbolandet	45.84	326		*e*P		P	14 57 13.3	+0.3
UPP	Uppsala	45.88	328		*e*P		P	14 57 15.3	+2.0
HIA	Hailar	46.02	47		P		P	14 57 14.8	+0.2
HIA					pmax	pmax			
	comp=Z,34nm,1.0s								
HIA

comp=Z,31nm,1.2s
GUNZ Gunzen 46.30 314 *e*P **P** **14 57 16.8 0.0**
comp=Z,27nm,1.6s,baz=98,slow=7.8
WERD Werda 46.33 314 *e*P **P** **14 57 17.1 0.0**
comp=Z,27nm,1.5s,baz=98,slow=7.8
MASI Maura Aman, Be 46.38 126 P P 14 57 23.3 +5.4
comp=Z,210nm,1.2s
MANZ Manzenberg 46.39 314 *e*P **P** **14 57 17.7 +0.1**
comp=Z,7.2nm,1.1s,baz=98,slow=7.8
WTTA Wattenberg 46.40 310 *e*P **P** **14 57 17.2 -0.7**
comp=Z,21nm,1.2s
PLN Plauen 46.43 315 *e*P **P** **14 57 17.8 0.0**
comp=Z,28nm,1.4s,baz=98,slow=7.8
WATA Walderalm 46.45 310 *e*P **P** **14 57 18.1 0.0**
comp=Z,16nm,1.1s
DEL Delary 46.67 323 *i* P **P** **14 57 20.0 +0.5**
DEL Delary 46.67 323 *e*P **P** **14 57 21.4 +1.8**
SQTA Sankt Quirin 46.69 310 *e*P **P** **14 57 19.1 -1.0**
comp=Z,7.0nm,0.9s
ZCCA Zocca 46.70 306 P **P** **14 57 18.9 -1.1**
MOTA Moosalm 46.77 310 *i* P **P** **14 57 18.7 -2.0**
comp=Z,13nm,1.2s,SNR=5.3
MOX Moxa 46.80 315 *e*P **P** **14 57 20.9 +0.2**
comp=Z,91nm,1.6s,baz=98,slow=7.8
MOX *e*L L 15 22 50.7
comp=Z,2µm,21.8s
GRA1 Grafenberg Arr 46.92 313 P **P** **14 57 21.2 -0.5**
GRA1 IAmb IAmb 14 57 30.9
comp=Z,27nm,0.8s
GRF Grafenberg Arr 46.92 313 P **P** **14 57 21.2 -0.5**
GRF pmax pmax
comp=Z,27nm,0.8s
GRF MLR MLR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 46.92 313 *e*P **P** **14 57 21.7 0.0**
comp=Z,102nm,1.7s,baz=98,slow=7.8
GRF *e*L L 15 22 09.7
comp=Z,4µm,18.2s
GRFO Grafenberg 46.92 313 P **P** **14 57 21.6 -0.1**
GRFO pmax pmax
comp=Z,26nm,0.8s
GRFO MLR MLR
comp=Z,2µm,20.0s
GRFO Grafenberg 46.92 313 P **P** **14 57 21.6 -0.1**
GRFO IAmb IAmb 14 57 30.8
comp=Z,26nm,0.8s
FETA Feichten 47.00 310 *i* P **P** **14 57 21.5 -1.0**
comp=Z,6.7nm,0.8s,SNR=24
RETA Reutte 47.01 310 *e*P **P** **14 57 21.4 -1.2**
comp=Z,12nm,0.8s
DL2 Dalian 47.04 61 P **P** **14 57 24.8 +2.0**
DL2 PP **PP** **14 59 17.4 +4.1**
DL2 S **S** **15 04 16.6 +2.5**
DL2 pmax pmax
comp=Z,47nm,1.2s
DL2 pmax pmax
comp=Z,180nm,6.4s
DL2 LR LR
comp=Z,5µm,16.6s
DL2 LR LR
comp=Z,5µm,20.4s
DL2 LR LR
comp=Z,9µm,15.3s
SALO Salr 47.06 308 P **P** **14 57 22.4 -0.5**
SALO IAmb IAmb 14 57 38.3
comp=Z,27nm,0.7s
FLTG Flechtingen 47.28 317 *e*P **P** **14 57 23.7 -0.7**
comp=Z,34nm,0.7s,baz=98,slow=7.8
FABU Falkenberg 47.42 323 *i* P **P** **14 57 28.0 +2.6**
UBR Ueberruh 47.47 310 *e*P **P** **14 57 24.8 -1.3**
comp=Z,30nm,1.0s,baz=98,slow=7.8
BORU Boraas 47.56 324 *i* P **P** **14 57 28.0 +1.5**
DAVOX Davos/Dischmat 47.57 309 S **S** **15 04 15.1 -6.7**
comp=Z,1.3nm,0.6s,baz=282,slow=21,SNR=1.6
DAVA Damuels 47.59 310 *i* P **P** **14 57 26.2 -1.0**
comp=Z,16nm,1.0s,SNR=16
SSE Sheshan 47.66 72 P **P** **14 57 23.3 -4.3**
SSE S **S** **15 04 22.9 -0.1**
SSE pmax pmax
comp=Z,14nm,0.8s
SSE pmax pmax
comp=Z,100nm,6.7s
SSE LR LR
comp=N,9µm,21.9s
SSE LR LR
comp=E,520nm,22.1s
KEV Kevo 47.66 343 P **P** **14 57 27.6 +0.5**
KEV pmax pmax
comp=Z,46nm,0.9s
KEV MLR MLR
comp=Z,13µm,18.0s
KEV Kevo 47.66 343 P **P** **14 57 27.6 +0.5**
CLZ Clausthal 47.74 316 *e*P **P** **14 57 27.1 -1.0**
comp=Z,53nm,1.3s,baz=98,slow=7.8
MNAI Manna 47.74 126 P **P** **14 57 28.7 +0.2**
MSSA Maissana 47.74 306 P **P** **14 57 28.1 -0.2**
MSSA IAmb IAmb 14 57 42.3
comp=Z,41nm,1.2s
HFS Hagfors 47.83 328 P **P** **14 57 29.0 +0.4**
comp=Z,21nm,0.7s,baz=54,slow=7.7,SNR=21
HFS LR LR 15 21 36.8
comp=Z,4µm,19.0s,baz=100,slow=41
HFS Hagfors 47.83 328 P **P** **14 57 29.0 +0.4**
UBBA Unterbreizbach 47.84 315 *e*P **P** **14 57 29.0 +0.3**
comp=Z,78nm,2.0s,baz=98,slow=7.8
TUE Stuetta 47.92 309 P **P** **14 57 28.9 -0.9**
ARA0 ARCESS Array S 47.93 342 *e*P **P** **14 57 29.7 +0.5**
ARCES ARCESS Array B 47.93 342 P **P** **14 57 28.4 -0.8**
comp=Z,22nm,0.7s,baz=120,slow=4.8,SNR=28
ARCES LR LR 15 19 56.3
comp=Z,10µm,18.4s,baz=124,slow=39
ARCES ARCESS Array B 47.93 342 P **P** **14 57 28.9 -0.3**
ARCES pmax pmax
comp=Z,58nm,1.0s
ARCES ARCESS Array B 47.93 342 P **P** **14 57 28.9 -0.3**
ONAU Onsala 47.94 324 *i* P **P** **14 57 32.2 +2.7**
GTTG Gottingen 47.95 316 *e*P **P** **14 57 30.0 +0.4**
comp=Z,42nm,0.9s,baz=98,slow=7.8
VSL Villasalto 47.99 299 P **P** **14 57 30.0 -0.2**
NRDL Niedersach Rie 47.99 317 *e*P **P** **14 57 30.1 +0.3**
comp=Z,43nm,1.3s,baz=98,slow=7.8
BSEG Bad Segeberg 48.10 319 *e*P **P** **14 57 30.8 +0.1**
comp=Z,41nm,1.1s,baz=98,slow=7.8
KTK1 Kautokeino 48.25 341 *e*P **P** **14 57 31.6 -0.1**
TJOU Tjoern 48.25 325 *i* P **P** **14 57 32.8 +0.9**
SNY Shenyang 48.38 57 ⇓P **P** **14 57 33.9 +0.8**
SNY S **S** **15 04 33.5 +0.5**
SNY pmax pmax
comp=Z,25nm,0.9s
SNY pmax pmax
comp=Z,350nm,3.5s
SNY LR LR
comp=Z,6µm,14.5s
SNY LR LR
comp=Z,6µm,13.9s
SNY LR LR
comp=Z,9µm,17.3s
KEST Kesra 48.38 294 P **P** **14 57 33.1 -0.2**
comp=Z,16nm,0.7s,baz=285,slow=0.9,SNR=9.8
KEST S **S** **15 04 35.2 +1.8**
comp=Z,2.1nm,0.8s,baz=302,slow=21,SNR=1.2
KEST LR LR 15 21 41.4
comp=Z,3µm,19.8s,baz=46,slow=41
KEST Kesra 48.38 294 P **P** **14 57 33.7 +0.4**
RETH Rethem/Aller, 48.48 317 *e*P **P** **14 57 33.5 -0.2**
comp=Z,30nm,1.2s,baz=98,slow=7.8
PPBI Pangkal Pinang 48.61 121 P **P** **14 57 35.7 +0.5**
comp=Z,25nm,0.7s
BFO Black Forest 48.70 311 P **P** **14 57 34.3 -1.2**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO MLR MLR
comp=Z,2µm,21.0s
BFO Black Forest 48.70 311 P **P** **14 57 34.3 -1.2**
BFO Black Forest 48.70 311 *e*P **P** **14 57 34.0 -1.6**
comp=Z,17nm,1.3s,baz=98,slow=7.8
STRU Stroemstad 48.73 326 *i* P **P** **14 57 38.7 +3.2**
TNS Taunus Mts 48.76 314 *e*P **P** **14 57 36.5 +0.5**
comp=Z,60nm,1.5s,baz=98,slow=7.8
KASTN Kahler Asten 48.87 315 *e*P **P** **14 57 36.8 0.0**
comp=Z,24nm,1.4s,baz=98,slow=7.8
LWLI Liwa 48.98 126 P **P** **14 57 37.4 -0.8**
comp=Z,129nm,0.7s
NC602 NORSAR Array S 49.03 328 P **P** **14 57 37.4 -0.4**
NC405 NORSAR Array S 49.06 328 P **P** **14 57 37.6 -0.5**
HAMF Hammerfest 49.11 343 *e*P **P** **14 57 37.9 -0.3**

SUJ Sinuiju 49.17 60 P **P** **14 57 40.6 +1.4**
SSLB Suanglung 49.19 82 IAMs_20 IAMs_20 15 21 31.3
comp=Z,6µm,19.0s
OSL Oslo 49.20 327 *e*P **P** **14 57 39.5 +0.4**
NB201 NORSAR Array S 49.24 328 P **P** **14 57 39.0 -0.4**
NB201 IAmb IAmb 14 58 05.8
comp=Z,56nm,1.1s
KLSI 49.24 125 P **P** **14 57 43.5 +3.5**
comp=Z,6.1nm,1.1s
NC303 NORSAR Array S 49.26 329 P **P** **14 57 39.3 -0.3**
NB2 NORSAR Subarra 49.27 328 P **P** **14 57 39.0 -0.7**
comp=Z,22nm,0.8s,baz=107,slow=7.9
NB2 NORSAR Subarra 49.27 328 P **P** **14 57 39.0 -0.7**
baz=107,slow=7.9
NOA NORSAR Array B 49.27 328 P **P** **14 57 39.1 -0.7**
comp=Z,14nm,0.9s,baz=108,slow=7.5,SNR=35
NOA LR LR 15 22 19.1
comp=Z,3µm,19.4s,baz=125,slow=41
YHNB Yeheng 49.31 80 IAMs_20 IAMs_20 15 21 12.4
comp=Z,5µm,18.0s
SENIN Lac Senin/Sane 49.33 309 P **P** **14 57 39.3 -1.4**
SENIN IAmb IAmb 14 57 49.7
comp=Z,17nm,0.7s
NAO01 NORSAR Array S 49.37 328 P **P** **14 57 40.0 -0.5**
NAO01 IAmb IAmb 14 57 50.8
comp=Z,54nm,1.1s
NAO01 NORSAR Array S 49.37 328 *e*P **P** **14 57 40.9 +0.4**
JETT Jettan, Norway 49.39 341 *e*P **P** **14 57 41.6 +1.1**
NBO00 NORSAR Array S 49.48 328 P **P** **14 57 41.2 -0.1**
NBO00 IAmb IAmb 14 57 49.7
comp=Z,51nm,1.0s
ECH Echery 49.48 311 P **P** **14 57 40.9 -0.6**
ECH pmax pmax
comp=Z,26nm,1.0s
ECH MLR MLR
comp=Z,2µm,22.0s
ECH Echery 49.48 311 P **P** **14 57 40.9 -0.6**
ECH IAmb IAmb 14 57 46.8
comp=Z,26nm,1.0s
NC204 NORSAR Array S 49.55 329 P **P** **14 57 41.6 -0.3**
OPO Ambohidratompo 49.57 204 LR LR 15 16 41.2
comp=Z,3µm,18.3s,baz=171,slow=34
TWG Pinlang 49.58 83 IAMs_20 IAMs_20 15 20 23.9
comp=Z,4µm,19.0s
NACB Ninganchiao 49.64 81 IAMs_20 IAMs_20 15 21 27.2
comp=Z,5µm,20.0s
KASI Kota Agung 49.64 126 P **P** **14 57 44.9 +1.8**
comp=Z,70nm,0.8s
KSM Kuching 49.66 114 P **P** **14 57 42.5 -0.7**
KSM IAmb IAmb 14 57 53.8
comp=Z,48nm,1.2s
KSM Kuching 49.66 114 P **P** **14 57 43.7 +0.5**
AHRW Bad Neuenahr-A 49.66 314 *e*P **P** **14 57 43.2 +0.4**
comp=Z,40nm,1.2s,baz=98,slow=7.8
KONO Kongsberg 49.68 326 *ce*P **P** **14 57 43.5 +0.8**
KONO pmax pmax
comp=Z,18nm,0.8s
KONO Kongsberg 49.68 326 P **P** **14 57 42.3 -0.4**
KONO IAmb IAmb 14 57 52.6
comp=Z,28nm,0.9s
KONO Kongsberg 49.68 326 *e*P **P** **14 57 43.5 +0.8**
CN2 Changchun 49.69 55 *e*P **P** **14 57 40.8 -2.3**
CN2 *e*S **S** **15 04 47.3 -4.1**
CN2 *e*SS **SS** **15 08 15.6 -7.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,3µm,14.0s
CN2 LR LR
comp=Z,7µm,14.0s
CN2 LR LR
comp=Z,8µm,15.0s
MOR8 Moi Rana 49.73 335 *e*P **P** **14 57 42.5 -0.7**
BNI Bardonecchia 49.77 307 P **P** **14 57 42.3 -1.6**
BNI pmax pmax
comp=Z,31nm,0.8s
BNI MLR MLR
comp=Z,2µm,21.0s
BNI Bardonecchia 49.77 307 P **P** **14 57 42.2 -1.6**
BNI IAmb IAmb 14 57 52.6
comp=Z,31nm,0.8s
TRO Tromso 49.87 340 *e*P **P** **14 57 44.1 +0.1**
HOMB Homborsund 49.92 324 *i* P **P** **14 57 48.3 +3.7**
HOMB Homborsund 49.92 324 *e*P **P** **14 57 46.7 +2.1**
FAUS Fauske 49.95 337 *e*P **P** **14 57 47.0 +2.3**
NSS Namsos 50.07 333 *e*P **P** **14 57 44.9 -0.8**
TPI Tanjungpandan 50.15 120 P **P** **14 57 47.0 +0.1**
comp=Z,228nmcomp=Z,22nm,0.7s
WLF Walferdange 50.20 313 P **P** **14 57 46.6 -0.3**
WLF pmax pmax
comp=Z,33nm,1.1s
WLF MLR MLR
comp=Z,2µm,18.0s
WLF Walferdange 50.20 313 P **P** **14 57 46.6 -0.3**
WLF IAmb IAmb 14 58 00.8
comp=Z,33nm,1.1s
WLF Walferdange 50.20 313 *e*P **P** **14 57 47.2 +0.2**
comp=Z,31nm,1.1s,baz=98,slow=7.8
WLF Walferdange 50.20 313 *d*P **P** **14 57 47.7 +0.7**
STEI Steigen 50.21 338 *e*P **P** **14 57 46.2 -0.5**
PYAG Pyongyang 50.24 61 P **P** **14 57 48.5 +1.1**
BTNL Ternell 50.27 314 *d*P **P** **14 57 47.9 +0.4**
HJU Haeju 50.32 62 P **P** **14 57 48.3 +0.3**
HJU pP **pP** **14 57 52.2 -1.0**
HJU S **S** **15 05 02.0 +1.6**
HJU AmB
comp=Z,378nm,1.3s
HJU AMS AMS
comp=N,1µm,19.9s
HJU AMS AMS
comp=E,429nm,6.9s
HJU AMS AMS
comp=Z,193nm,3.1s
BHOU Houvegnez 50.33 314 *d*P **P** **14 57 49.5 +1.6**
MEM Membach 50.34 314 *d*P **P** **14 57 48.6 +0.6**
MEM *dx* x 14 57 53.1
KONS Konsvik 50.35 335 *e*P **P** **14 57 48.0 +0.2**
DOMB Dombas 50.54 329 *e*P **P** **14 57 49.8 +0.4**
SKAR Skarslia 50.55 327 *e*P **P** **14 57 51.9 +2.5**
SNART Snartemo 50.60 324 *i* P **P** **14 57 54.3 +4.5**
SNART Snartemo 50.60 324 *e*P **P** **14 57 49.4 -0.4**
SBUM Sibu 50.66 111 P **P** **14 57 51.1 +0.3**
BCLA Clavier 50.78 314 *d*P **P** **14 57 52.6 +1.3**
BCLA *dp*P **pP** **14 57 55.2 -1.3**
BCLA *ds*P **sP** **14 57 58.2 -0.3**
RCHB Rochefort 50.82 314 *d*P **P** **14 57 52.5 +0.9**
LOF Lofoten 50.87 337 *e*P **P** **14 57 52.9 +1.2**
BGES Gesves 50.92 314 *d*P **P** **14 57 53.6 +1.2**
BGES *dp*P **pP** **14 57 56.1 -1.4**
BNX BinXian 51.02 52 ⇑P **P** **14 57 54.1 +0.9**
BNX pP **pP** **14 57 59.3 +0.9**
BNX sP **sP** **14 58 00.4 0.0**
BNX PP **PP** **14 59 52.6 +3.0**
BNX S **S** **15 05 10.3 +0.4**
BNX pmax pmax
comp=Z,80nm,1.1s
BNX pmax pmax
comp=Z,590nm,4.6s
BNX LR LR
comp=Z,7µm,12.8s
BNX LR LR
comp=Z,18µm,13.5s
BNX LR LR
comp=Z,25µm,14.8s
INCN Inchon 51.11 63 P **P** **14 57 51.8 -2.2**
INCN pmax pmax
comp=Z,93nm,1.5s
INCN MLR MLR
comp=Z,4µm,20.0s
INCN Inchon 51.11 63 P **P** **14 57 51.8 -2.2**
INCN IAmb IAmb 14 58 08.6
comp=Z,93nm,1.5s
INCN Inchon 51.11 63 IAMs_20 IAMs_20 15 20 59.1
comp=Z,4µm,20.0s
INCN Inchon 51.11 63 P **P** **14 57 55.9 +1.9**
BMRD Maredsous 51.12 314 *d*P **P** **14 57 53.2 -0.7**
ZEA Zeya 51.18 42 *e*P **P** **14 57 55.6 +1.4**
ZEA *e* 14 59 50.9
ZEA *e*S **S** **15 05 17.6 +5.8**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA pmax pmax
comp=Z,100nm,4.0s
ZEA pmax pmax
comp=Z,100nm,6.9s
ZEA smax smax
comp=E,300nm,13.5s
ZEA MLR MLR
comp=E,3µm,15.0s
ZEA MLR MLR
comp=N,1µm,13.0s
ZEA MLR MLR
comp=Z,5µm,15.0s
BLS5 Blasjo 51.19 326 *e* **P** **14 57 58.4 +4.1**
ODD1 Odda 51.20 326 *e*P **P** **14 57 56.3 +1.9**
DOU Dourbes 51.23 313 *d*P **P** **14 57 55.8 +1.1**
DOU *dp*P **pP** **14 57 58.7 -1.1**
CGJI Cibinong 51.25 126 P **P** **14 57 53.9 -1.3**
SSB Saint Sauveur 51.27 307 P **P** **14 57 52.9 -2.3**
SSB pmax pmax
comp=Z,29nm,1.0s
SSB Saint Sauveur 51.27 307 P **P** **14 57 52.9 -2.3**
SSB IAmb IAmb 14 58 07.8
comp=Z,29nm,1.0s
STKI Sintang 51.43 115 P **P** **14 57 57.7 +1.1**
comp=Z,7µmcomp=Z,30nm,1.0s
SNF Seneffe 51.44 314 *d*P **P** **14 57 56.7 +0.5**
HHU Hamhung 51.51 60 P **P** **14 57 56.4 -0.5**
AKN Aaknes 51.52 329 *e*P **P** **14 57 57.2 +0.6**
HYA Hoyanger 51.67 328 *e*P **P** **14 57 59.1 +1.4**
TJN Taejon 51.84 64 P **P** **14 57 59.0 -0.5**
TJN pmax pmax
comp=Z,213nm,1.0s
TJN Taejon 51.84 64 P **P** **14 57 59.0 -0.5**
TJN Taejon 51.84 64 P **P** **14 58 00.1 +0.6**
BER Bergen 51.93 327 *e*P **P** **14 58 02.4 +2.7**
KS19 Wonju Array Si 52.08 63 P **P** **14 58 00.6 -0.6**
KS19 IAmb IAmb 14 58 07.9
comp=Z,29nm,0.7s
KSAR Wonju Array Be 52.10 63 P **P** **14 58 01.3 -0.1**
KSAR Wonju Array Be 52.10 63 P **P** **14 58 01.2 -0.1**
KKM Kota Kinabalu 52.11 105 P **P** **14 58 01.8 0.0**
KKM IAmb IAmb 14 58 24.7
comp=Z,84nm,1.4s
KSRS Korea Array 52.13 63 P **P** **14 58 01.7 +0.2**
comp=Z,22nm,0.8s,baz=271,slow=7.6,SNR=70
KSRS S **S** **15 05 18.9 -6.5**
comp=Z,0.8nm,0.8s,baz=109,slow=34,SNR=2.1
KSRS LR LR 15 22 26.9
comp=Z,6µm,18.4s,baz=270,slow=39
BJO1 Bjornoya 52.54 346 *e*P **P** **14 58 04.5 +0.4**
TGY Tagaytay City 52.56 93 LR LR 15 22 56.0
comp=Z,2µm,20.7s,baz=292,slow=39
MDJ Mudanjiang 52.62 54 P **P** **14 58 04.7 -0.4**
MDJ IAMs_20 IAMs_20 15 23 45.9
comp=Z,6µm,20.0s
MDJ Mudanjiang 52.62 54 P **P** **14 58 04.6 -0.5**
MDJ PcP **PcP** **14 59 15.4 +0.3**
MDJ S **S** **15 05 31.5 -0.4**
MDJ pmax pmax
comp=Z,2.0nm,0.3s
MDJ pmax pmax
comp=Z,290nm,6.5s
MDJ LR LR
comp=Z,8µm,13.5s
MDJ LR LR
comp=Z,5µm,19.2s
MDJ LR LR
comp=Z,8µm,17.8s
MDJ Mudanjiang 52.62 54 P **P** **14 58 06.3 +1.2**
HOPEN Hopen 52.63 349 *e* **P** **14 58 06.3 +1.6**
CLF Chambon-Foret 52.76 311 P **P** **14 58 05.6 -0.5**
CLF IAmb IAmb 14 58 17.4
comp=Z,39nm,1.1s
VOI Vohitsoka 52.79 203 P **P** **14 58 07.3 +0.7**
LEM Lembang 52.79 124 LR LR 15 22 56.6
comp=Z,3µm,19.3s,baz=311,slow=39
YAK Yakutsk 53.52 32 LR LR 15 23 17.3
comp=Z,9µm,19.2s,baz=264,slow=39
YAK Yakutsk 53.52 32 *c* *i*P **P** **14 58 11.0 -0.4**
YAK *e**PP **pP** **14 58 15.9 -0.7**
YAK *e* 14 59 17.6
YAK *e* 15 00 09.5
YAK *e*PPP PPP 15 01 17.8
YAK *e*S **S** **15 05 44.0 +0.4**
YAK *e**SS **sS** **15 05 55.5 +3.3**
YAK pmax pmax
comp=Z,88nm,1.3s
YAK pmax pmax
comp=Z,212nm,4.0s
YAK pmax pmax
comp=N,93nm,4.2s
YAK pmax pmax
comp=E,106nm,2.9s
YAK smax smax
comp=E,300nm,3.5s
YAK smax smax
comp=N,106nm,2.5s
YAK MLR MLR
comp=Z,6µm,17.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK MLR MLR
comp=E,3µm,17.0s
YAK Yakutsk 53.52 32 P **P** **14 58 10.1 -1.3**
KLR Kul'dur 53.87 48 LR LR 15 24 20.5
comp=E,7µm,19.3s,baz=268,slow=40
KLR Kul'dur 53.87 48 *ce*P **P** **14 58 14.5 +0.3**
KLR pmax pmax
comp=Z,32nm,0.6s
MSHR Mys Shultsa 53.94 56 *ce*P **P** **14 58 15.2 +0.4**
MSHR pmax pmax
comp=Z,59nm,1.3s
USRK Ussuriysk Ar. 54.37 54 P **P** **14 58 18.8 +0.8**
comp=Z,7.6nm,0.9s,baz=302,slow=5.9,SNR=7.2
USRK LR LR 15 23 04.9
comp=Z,6µm,19.8s,baz=262,slow=38
USRK Ussuriysk Ar. 54.37 54 P **P** **14 58 18.1 +0.2**
MYLDM Lahad Datu 54.51 104 P **P** **14 58 20.6 +1.3**
MYLDM IAMs_20 IAMs_20 15 25 03.9
comp=Z,5µm,20.0s
HSPB Hornsund 54.66 348 *e*P **P** **14 58 20.3 +0.7**
JOW Kunigami 54.68 75 LR LR 15 22 34.8
comp=Z,4µm,20.1s,baz=256,slow=37
UWJI Ujung Watu 55.01 121 P **P** **14 58 22.8 -0.1**
comp=Z,77nm,0.7s
JNU Nakatsue 55.30 67 P **P** **14 58 26.3 +1.3**
JNU Nakatsue 55.30 67 P **P** **14 58 27.1 +2.1**
EDMD Edmundbyers 55.32 319 *e*P **P** **14 58 24.5 -0.2**
EDMD IAmb IAmb 14 58 32.2
comp=Z,66nm,0.8s
JSU Suzuyama 55.32 69 P **P** **14 58 25.3 +0.2**
JSU IAmb IAmb 14 58 42.4
comp=Z,66nm,1.4s
TIXI Tiksi 55.40 20 LR LR 15 24 15.5
comp=Z,6µm,18.4s,baz=185,slow=38
TIXI Tiksi 55.40 20 *i* P **P** **14 58 24.8 -0.1**
TIXI pmax pmax
comp=Z,33nm,1.0s
TIXI Tiksi 55.40 20 P **P** **14 58 24.4 -0.5**
TIXI IAmb IAmb 14 58 36.1
comp=Z,23nm,0.9s
TIXI IAMs_20 IAMs_20 15 23 56.4
comp=Z,6µm,19.0s
ESY Stoneypath 55.70 321 *e*P **P** **14 58 27.7 +0.3**
MONM Monmouth 55.89 316 *e*P **P** **14 58 28.6 -0.2**
MONM IAmb IAmb 14 58 34.2
comp=Z,46nm,1.1s
HLM1 Long Mynd 55.91 316 *e*P **P** **14 58 27.8 -1.2**
BWJI Bawean 55.95 119 P **P** **14 58 30.0 +0.2**
comp=Z,4µmcomp=Z,44nm,0.7s
KESW Keswick, Cumbr 55.99 319 *e*P **P** **14 58 28.6 -0.8**
MCH1 Michaelchurch 56.00 316 *e*P **P** **14 58 28.9 -0.7**
MCH1 IAmb IAmb 14 58 30.6
comp=Z,48nm,1.4s
EKA Eskdalemuir Ar 56.01 320 P **P** **14 58 29.2 -0.4**
comp=Z,3.0nm,0.4s,baz=103,slow=7.9,SNR=20
EKA LR LR 15 25 54.9
comp=Z,2µm,19.6s,baz=86,slow=40
ESK Eskdalemuir 56.03 320 *e*P **P** **14 58 28.8 -1.0**
ESK Eskdalemuir 56.03 320 P **P** **14 58 29.3 -0.5**
ESK pmax pmax
comp=Z,65nm,1.5s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 56.03 320 P **P** **14 58 29.3 -0.5**
ESK IAmb IAmb 14 58 41.0
comp=Z,65nm,1.5s

MCD Coleburn Disti 56.07 323 *e*P P **14 58 30.3 +0.3**
FOEL Foel Wylfa 56.09 317 *e*P P **14 58 30.6 +0.4**
BBKI Banjar Baru 56.21 116 P P **14 58 31.1 -0.5**
comp=Z,2µmcomp=Z,42nm,1.1s
CART Cartagena 56.30 298 P P **14 58 31.5 -0.5**
CART IAmb IAmb 14 58 39.3
comp=Z,23nm,0.8s
KBS Kingsbay 56.32 349 *ce*P P **14 58 34.0 +2.5**
KBS pmax pmax
comp=Z,74nm,1.3s
KBS Kingsbay 56.32 349 *i* P P **14 58 32.9 +1.4**
KBS Kingsbay 56.32 349 P P **14 58 33.1 +1.6**
KBS Kingsbay 56.32 349 IAMs_20 IAMs_20 15 26 29.8
comp=Z,3µm,18.0s
KBS Kingsbay 56.32 349 *e*P P **14 58 33.7 +2.2**
LSZ Lusaka 56.41 225 LR LR 15 25 31.5
comp=Z,2µm,18.1s,baz=45,slow=39
NEWG New Galloway 56.62 320 *e*P P **14 58 33.1 -0.8**
NEWG IAmb IAmb 14 58 36.8
comp=Z,50nm,1.2s
DYA Yadsworthy 56.69 314 *e*P P **14 58 33.2 -1.3**
DYA IAmb IAmb 14 58 42.0
comp=Z,52nm,0.8s
JHS Saijyo 56.70 65 P P **14 58 35.9 +0.9**
JHS IAmb IAmb 14 58 43.5
comp=Z,27nm,1.0s
WLF1 Llynfaes 56.79 317 *e*P P **14 58 35.2 -0.1**
GRNR Gornyy 56.79 46 ‖ *i*P P **14 58 36.1 +0.8**
GRNR pmax pmax
comp=E,10.0nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR MLR MLR
comp=E,3µm,17.0s
GRNR MLR MLR
comp=N,2µm,15.0s
GRNR MLR MLR
comp=Z,5µm,15.0s
YRC Rhoscolyn 56.90 317 *e*P P **14 58 36.1 +0.2**
WIM Isle of Man 56.92 318 *e*P P **14 58 35.8 -0.3**
RSBS Rosebush, Pemb 57.09 316 *e*P P **14 58 36.7 -0.6**
KAC Achnashellach 57.17 322 *e*P P **14 58 37.1 -0.7**
KPL Plockton 57.37 322 *e*P P **14 58 38.3 -0.9**
KPL IAmb IAmb 14 58 44.4
comp=Z,33nm,0.7s
JMN Monobe 57.60 66 P P **14 58 42.0 +0.6**
GMM Mts of Mourne 57.66 319 *e*P P **14 58 40.6 -0.8**
KMMI Kailanget 57.72 120 P P **14 58 40.2 -2.0**
comp=Z,27nm,1.3s
ESBB Sonseca Array 58.18 301 P P **14 58 44.6 -0.7**
ESBB IAmb IAmb 14 58 47.0
comp=Z,32nm,1.3s
ESDC Sonseca Array 58.18 301 P P **14 58 44.7 -0.7**
comp=Z,14nm,1.1s,baz=64,slow=6.5,SNR=40
ESDC S S **15 06 39.4 -7.1**
comp=Z,0.5nm,0.5s,baz=62,slow=22,SNR=2.1
ESDC Sonseca Array 58.18 301 P P **14 58 44.5 -0.9**
MPSI Mapaga 58.22 108 P P **14 58 46.4 +0.6**
comp=Z,382nmcomp=Z,25nm,1.4s
ABJI Asem Bagus 58.39 120 P P **14 58 46.1 -0.9**
comp=Z,51nm,1.2s
PAB San Pablo 58.49 301 P P **14 58 46.6 -1.0**
PAB pmax pmax
comp=Z,37nm,1.2s
PAB MLR MLR
comp=Z,1µm,20.0s
PAB San Pablo 58.49 301 P P **14 58 46.6 -1.0**
PAB IAmb IAmb 14 58 49.9
comp=Z,37nm,1.2s
TOLI2 Tolitoli 58.55 107 P P **14 58 48.0 -0.2**
JAGI Jajag, Banyuwa 58.75 121 P P **14 58 52.4 +2.9**
comp=Z,29nm,1.0s
JAGI Jajag, Banyuwa 58.75 121 P P **14 58 50.6 +1.1**
JMIC Jan Mayen 59.04 338 LR LR 15 25 43.9
comp=Z,2µm,19.0s,baz=92,slow=38
SRBI Singaraja 59.32 120 P P **14 58 52.0 -1.5**
comp=Z,38nm,1.3s
INU Inuyama 59.73 63 P P **14 58 56.2 +0.1**
INU Inuyama 59.73 63 P P **14 58 57.6 +1.5**
DAV Davao City (W) 59.74 98 LR LR 15 25 28.7
comp=Z,2µm,21.9s,baz=300,slow=37
PBRG Braganca 59.83 304 *e*P P **14 58 56.8 +0.1**
comp=Z,36nm,2.0s
MRSI Marisa 59.87 107 P P **14 58 57.4 +0.1**
comp=Z,638nmcomp=Z,35nm,0.6s
BLWY Bulawayo 59.88 221 *i* P P **14 58 58.9 +1.6**
BLWY Bulawayo 59.88 221 *i* P P **14 58 58.9 +1.6**
MATP Matopo 60.16 221 LR LR 15 24 06.9
comp=Z,1µm,19.5s,baz=48,slow=35
MATP Matopo 60.16 221 *i* P P **14 59 00.6 +1.3**
MATP Matopo 60.16 221 *i* P P **14 59 00.6 +1.3**
MVO Moncorvo 60.17 304 *e*P P **14 58 59.8 +0.7**
comp=Z,48nm,1.3s
MVO *e*S S **15 07 17.1 +4.8**
MVO Moncorvo 60.17 304 *e*LR LR 15 19 38.8
comp=Z,1µm,18.0s
MDT Midelt 60.27 294 LR LR 15 31 25.9
comp=Z,3µm,18.6s,baz=97,slow=42
APSI Ampana 60.36 109 P P 14 59 07.9 +7.2
MAJO Matsushiro 60.38 62 *i* P P **14 59 01.4 +0.9**
MAJO pmax pmax
comp=Z,21nm,1.0s
MAJO Matsushiro 60.38 62 P P **14 59 00.3 -0.2**
MAJO IAmb IAmb 14 59 05.4
comp=Z,25nm,1.1s
MAJO Matsushiro 60.38 62 P P **14 59 02.4 +1.9**
MJAR Matsushiro Arr 60.38 62 P P **14 59 01.1 +0.5**
comp=Z,9.4nm,1.0s,baz=268,slow=8.8,SNR=14
MJAR LR LR 15 25 55.3
comp=Z,3µm,21.2s,baz=284,slow=37
UGL Uglegorsk 60.62 47 *e*P P **14 59 02.9 +1.0**
UGL pmax pmax
comp=Z,70nm,1.3s
UGL MLR MLR
comp=E,5µm,17.0s
UGL MLR MLR
comp=N,10µm,15.0s
UGL MLR MLR
comp=Z,6µm,15.0s
POLO Lamas de Olo 60.69 304 *e*P P **14 59 04.0 +1.3**
comp=Z,18nm,1.2s
GTOI Gorontalo 60.70 106 P P **14 59 01.8 -1.1**
comp=Z,12nm,0.7s
TYV Tymovskoe 60.71 45 *e*P P **14 59 03.1 +0.6**
TYV *e*S S **15 07 22.2 +3.5**
TYV pmax pmax
comp=Z,24nm,1.5s
TYV pmax pmax
comp=Z,500nm,5.6s
TYV smax smax
comp=N,300nm,9.5s
TYV smax smax
comp=E,300nm,9.5s
TYV MLR MLR
comp=Z,6µm,15.0s
MTE Manteigas 60.72 303 *e*P P **14 59 02.4 -0.5**
comp=Z,60nm,1.2s
MTE *e*S S **15 07 20.4 +1.1**
MTE Manteigas 60.72 303 *e*LR LR 15 27 34.5
comp=Z,1µm,18.0s
MTE Manteigas 60.72 303 P P **14 59 01.8 -1.1**
PCAB Cabril 60.79 304 *e*P P **14 59 03.7 +0.4**
comp=Z,68nm,1.7s
PCBR Castelo Branco 60.79 302 *e*P P **14 59 03.5 +0.2**
comp=Z,55nm,1.4s
PMRV Marv??o 60.82 302 *e*P P **14 59 04.0 +0.5**
comp=Z,29nm,1.6s
PBAR Barrancos 60.84 300 *e*P P **14 59 03.7 0.0**
comp=Z,78nm,1.7s
PVIS Viseu 60.91 303 *e*P P **14 59 04.3 +0.2**
comp=Z,66nm,1.8s
PGAV Gavieira, Arco 60.91 305 *e*P P **14 59 04.6 +0.4**
comp=Z,67nm,1.3s
PGAV *e*S S **15 07 26.3 +4.5**
PGAV Gavieira, Arco 60.91 305 *e*LR LR 15 19 33.4
comp=Z,1µm,18.0s
KAPI Kappang 61.08 114 LR LR 15 27 50.9
comp=Z,1µm,20.5s,baz=298,slow=38
PESTR Estremoz 61.10 301 *e*P P **14 59 06.3 +0.9**
comp=Z,28nm,1.7s
PESTR Estremoz 61.10 301 P P **14 59 04.6 -0.9**
JEW Eniwo 61.38 54 P P **14 59 07.8 +0.6**
YSS Yuzh-Sakhalins 61.45 49 *e*P P **14 59 08.8 +1.2**
YSS *e* 14 59 57.0
YSS *e*S S **15 07 28.8 +0.6**
YSS *e*SS SS **15 11 23.7 -5.0**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=Z,400nm,3.1s
YSS MLR MLR
comp=E,5µm,18.0s
YSS Yuzh-Sakhalins 61.45 49 P P **14 59 06.8 -0.8**
YSS Yuzh-Sakhalins 61.45 49 P P **14 59 10.0 +2.4**
EVO Evora 61.50 301 *e*P P **14 59 08.0 -0.1**
comp=E,46nm,1.3s
TOA0 Torodi Ar. Sit 61.50 270 P P **14 59 07.8 -0.6**
TORD Torodi Ar. Bea 61.50 270 P P **14 59 08.3 -0.2**
comp=E,10.0nm,0.5s,baz=57,slow=5.6,SNR=37
TORD Torodi Ar. Bea 61.50 270 P P **14 59 08.0 -0.4**
TORD IAmb IAmb 14 59 22.1
comp=Z,31nm,0.8s
PBEJ Beja 61.51 300 *e*P P **14 59 10.1 +1.9**
comp=Z,31nm,1.7s
PVAQ Vaqueiros 61.55 300 *e*S S **15 07 33.2 +3.3**
PVAQ Vaqueiros 61.55 300 *e*LR LR 15 20 41.5
comp=Z,1µm,18.0s
BKSI Bulukumba 61.56 114 P P **14 59 10.9 +2.1**
comp=Z,425nmcomp=Z,27nm,1.0s
NOR Nord 61.68 350 *i* P P **14 59 07.5 -1.2**
NOR IAmb IAmb 14 59 13.4
comp=Z,33nm,1.3s
PCVE Castro Verde 61.74 300 *e*P P **14 59 10.8 +1.0**
comp=Z,50nm,1.5s
PLAI Plampang 61.77 118 P P **14 59 11.8 +1.6**
comp=Z,39nm,1.2s
PLAI Plampang 61.77 118 P P **14 59 10.9 +0.7**
ASAJ Asahikawa 61.92 53 LR LR 15 27 29.6
comp=Z,5µm,19.8s,baz=291,slow=38
PNCL Nicolau / Gran 62.00 301 *e*P P **14 59 12.4 +0.9**
comp=Z,52nm,1.7s
JYT Yasato 62.01 62 P P **14 59 11.4 -0.2**
DAG Danmarks Havn 62.02 345 *i* P P **14 59 10.0 -1.0**
DAG IAmb IAmb 14 59 15.2
comp=Z,27nm,0.8s
JMM Marumori 62.05 60 P P **14 59 12.0 +0.2**
JHJ Hachijo jima 2 62.53 65 LR LR 15 29 58.9
comp=Z,3µm,18.4s,baz=282,slow=40
DBG Daneborg 62.55 342 *i* P P **14 59 15.0 +0.4**
DBG IAmb IAmb 14 59 15.4
comp=Z,19nm,1.0s
ERM Erimo 62.79 55 P P **14 59 16.7 0.0**
ERM pmax pmax
comp=Z,28nm,1.0s
ERM MLR MLR
comp=Z,6µm,19.0s
ERM Erimo 62.79 55 P P **14 59 16.7 0.0**
ERM IAmb IAmb 14 59 17.0
comp=Z,28nm,0.9s
SCO Scoresbysund 63.51 338 *i* P P **14 59 24.1 +3.1**
SCO Scoresbysund 63.51 338 IAMs_20 IAMs_20 15 27 43.9
comp=Z,3µm,19.0s
WBSI Waikabubak, Su 63.52 118 P P **14 59 19.6 -2.4**
MA2 Magadan 63.84 34 LR LR 15 29 11.9
comp=Z,5µm,18.6s,baz=272,slow=38
MA2 Magadan 63.84 34 P P **14 59 23.7 +0.3**
MA2 pmax pmax
comp=Z,34nm,1.0s
MA2 MLR MLR
comp=Z,6µm,20.0s
MA2 Magadan 63.84 34 P P **14 59 23.7 +0.3**
MA2 IAmb IAmb 14 59 30.2
comp=Z,34nm,1.0s
MA2 Magadan 63.84 34 P P **14 59 24.4 +1.0**
SEY Seymchan 64.00 31 LR LR 15 30 34.2
comp=Z,7µm,20.9s,baz=285,slow=39
SEY Seymchan 64.00 31 *ce*P P **14 59 25.2 +0.9**
SEY pmax pmax
comp=Z,46nm,1.3s
BORG Borgarnes 64.20 332 LR LR 15 29 37.9
comp=Z,8µm,18.9s,baz=74,slow=38
TNTI Ternate 64.36 104 P P **14 59 27.2 -0.2**
comp=Z,48nm,1.6s
TNTI Ternate 64.36 104 P P **14 59 30.1 +2.7**
SANI Sanana 64.63 107 P P **14 59 28.4 -0.8**
comp=Z,513nmcomp=Z,33nm,1.5s
SANI Sanana 64.63 107 P P **14 59 28.7 -0.5**
MMRI Maumere 65.18 115 P P **14 59 30.0 -2.8**
MMRI Maumere 65.18 115 P P **14 59 29.8 -3.0**
comp=Z,40nm,0.9s
LBMI Labuha 65.19 105 P P **14 59 33.6 +0.7**
comp=Z,721nmcomp=Z,64nm,0.8s
LBTB Lobatse 65.40 220 P P **14 59 35.0 +0.9**
LBTB Lobatse 65.40 220 P P **14 59 35.0 +0.9**
LBTB IAmb IAmb 14 59 40.0
comp=Z,22nm,0.8s
LBTB Lobatse 65.40 220 *i* P P 14 59 22.7 -11
LBTB Lobatse 65.40 220 *i* P P 14 59 22.7 -11
KOWA Kowa 66.01 274 P P **14 59 38.6 +0.4**
KOWA IAmb IAmb 14 59 45.9
comp=Z,22nm,0.9s
KOWA IAMs_20 IAMs_20 15 31 06.5
comp=Z,4µm,19.0s
TSUM Tsumeb 66.23 231 P P **14 59 40.4 +0.8**
comp=Z,9.2nm,0.8s,baz=12,slow=9.5
TSUM LR LR 15 30 12.1
comp=Z,2µm,18.8s,baz=44,slow=38
TSUM Tsumeb 66.23 231 P P **14 59 39.8 +0.2**
TSUM IAmb IAmb 14 59 48.6
comp=Z,19nm,0.9s
ALE Alert 67.25 354 IAMs_20 IAMs_20 15 31 44.9
comp=Z,3µm,20.0s
SOEI Soe 67.46 115 P P **14 59 46.8 -0.7**
SOEI Soe 67.46 115 P P **14 59 47.0 -0.6**
comp=Z,1µmcomp=Z,102nm,0.8s
SOEI Soe 67.46 115 P P **14 59 46.9 -0.6**
BILL Bilibino 68.26 23 *d* iP P **14 59 52.2 +0.6**
BILL *i* *PP **pP** **14 59 57.0 +0.1**
BILL *i* *SP **sP** **14 59 59.1 +0.2**
BILL *e* 15 00 20.7
BILL S S **15 08 58.0 +6.6**
BILL *e* 15 09 30.7
BILL MLR MLR
comp=Z,5µm,18.0s
BILL Bilibino 68.26 23 P P **14 59 52.7 +1.1**
BILL IAmb IAmb 15 00 14.4
comp=Z,26nm,1.0s
GIRL Giralia 68.31 132 P P **14 59 53.6 +1.1**
BOSA Boshof 68.38 218 P P **14 59 52.9 -0.1**
comp=Z,3.4nm,0.6s,baz=27,slow=9.2,SNR=3.9
BOSA LR LR 15 28 47.5
comp=Z,3µm,19.8s,baz=48,slow=35
BOSA Boshof 68.38 218 P P **14 59 52.4 -0.6**
BOSA IAmb IAmb 14 59 58.1
comp=Z,14nm,0.8s
BOSA Boshof 68.38 218 *i* P P **14 59 54.4 +1.4**
BOSA Boshof 68.38 218 *i* P P **14 59 54.4 +1.4**
PEA0B Petropavlovsk- 69.21 40 P P **14 59 58.3 +0.5**
PEA0B pmax pmax
comp=Z,52nm,1.2s
PEA0B Petropavlovsk- 69.21 40 P P **14 59 58.3 +0.5**
PETK Petropavlovsk- 69.21 40 P P **14 59 57.6 -0.2**
comp=Z,8.4nm,0.9s,baz=325,slow=1.8,SNR=3.1
PETK LR LR 15 32 26.8
comp=Z,7µm,19.7s,baz=291,slow=38
PETK Petropavlovsk- 69.21 40 P P **14 59 56.3 -1.5**
ICESG Greenland Ices 69.78 338 *e*P P **15 00 00.2 -1.2**
PET Petropavlovsk 69.78 40 *e*P P 15 00 06.2 +4.9
PET *e*S S **15 09 10.3 +0.4**
PET MLR MLR
comp=Z,7µm,17.0s
PET MLR MLR
comp=Z,7µm,18.0s
DBIC Dimbokro 70.12 267 P P **15 00 03.2 -0.8**
comp=Z,4.7nm,0.7s,baz=46,slow=5.2,SNR=15
DBIC S S **15 09 14.7 -0.3**
comp=Z,1.8nm,0.9s,baz=67,slow=20,SNR=1.7
DBIC LR LR 15 33 11.7
comp=Z,2µm,19.9s,baz=67,slow=38
DBIC Dimbokro 70.12 267 P P **15 00 02.6 -1.5**
DBIC IAmb IAmb 15 00 24.8
comp=Z,27nm,1.2s
KIC Kosan Boka 70.15 267 *e*PKP1 P **15 00 05.6 +1.3**
comp=Z,23nm,0.6s
TIC Toumodi 70.27 267 *e*PKP1 P **15 00 05.7 +0.7**
LIC Lamto 70.47 267 *e*PKP1 P **15 00 06.7 +0.5**
comp=Z,53nm,0.8s
EUNU Eureka 71.38 355 P P **15 00 11.1 +0.4**
EUNU IAmb IAmb 15 00 23.2
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 71.40 128 P P **15 00 11.1 -0.4**
PSA00 Pilbara Seismi 71.40 128 P P **15 00 14.5 +2.9**
TULEG Thule 72.33 350 P P **15 00 16.3 -0.1**
TULEG IAmb IAmb 15 00 43.5
comp=Z,26nm,1.0s
DY2G Dye2 73.23 337 *i* P P **15 00 22.3 +0.1**
ILULI Ilulissat 73.28 341 IAMs_20 IAMs_20 15 33 35.1
comp=Z,3µm,20.0s
FITZ Fitzroy Crossi 73.45 121 LR LR 15 35 28.1
comp=Z,1µm,19.2s,baz=316,slow=38
FITZ Fitzroy Crossi 73.45 121 P P **15 00 23.9 +0.1**
FITZ IAmb IAmb 15 00 29.5
comp=Z,31nm,1.1s
SUR Sutherland 73.72 219 LR LR 15 31 17.1
comp=Z,3µm,20.2s,baz=40,slow=35
SUR Sutherland 73.72 219 IAMs_20 IAMs_20 15 30 49.1
comp=Z,3µm,21.0s
MEEK Meekatharra 73.94 132 P P **15 00 28.3 +1.7**
GUMO Guam 73.94 83 LR LR 15 35 39.0
comp=Z,1µm,19.6s,baz=304,slow=38
MORW Morawa 73.98 136 P P **15 00 26.4 -0.4**
MORW IAmb IAmb 15 00 30.8
comp=Z,32nm,1.4s
MORW Morawa 73.98 136 P P **15 00 29.0 +2.2**
SFJD Kangerlussuaq 74.39 339 LR LR 15 35 09.4
comp=Z,2µm,18.8s,baz=43,slow=37
SFJD Kangerlussuaq 74.39 339 P P **15 00 29.3 +0.6**
SFJD pmax pmax
comp=Z,25nm,1.4s
SFJD Kangerlussuaq 74.39 339 P P **15 00 29.3 +0.6**
KNRA Kununurra 74.44 117 P P **15 00 29.9 +0.1**
KNRA Kununurra 74.44 117 P P **15 00 30.4 +0.7**
MTN Manton Dam 74.75 114 P P **15 00 31.6 +0.1**
MTN IAmb IAmb 15 00 36.5
comp=Z,16nm,0.7s
MTN Manton Dam 74.75 114 P P **15 00 31.9 +0.4**
BLDU Ballidu 75.49 137 P P **15 00 35.8 +0.3**
KDU Kakadu 75.75 113 P P **15 00 37.4 +0.1**
A21K Barrow 76.78 13 P P **15 00 41.4 -0.8**
baz=322
RES Resolute Bay 77.07 355 LR LR 15 39 03.8
comp=Z,2µm,18.6s,baz=24,slow=39
RES Resolute Bay 77.07 355 P P **15 00 43.6 -0.3**
RES pmax pmax
comp=Z,12nm,1.5s
RES Resolute Bay 77.07 355 P P **15 00 43.6 -0.3**
MBO M'Bour 77.43 280 IAMs_20 IAMs_20 15 41 16.9
comp=Z,3µm,18.0s
RDOG Red Dog Mine 77.83 17 P P **15 00 47.5 -0.8**
RDOG IAmb IAmb 15 00 54.6
comp=Z,42nm,1.4s
RDOG Red Dog Mine 77.83 17 P P **15 00 48.1 -0.2**
baz=317
GAMB Gambell 78.15 23 P P **15 00 50.1 +0.1**
GAMB IAmb IAmb 15 00 57.0
comp=Z,27nm,1.3s
GAMB IAMs_20 IAMs_20 15 39 31.0
comp=Z,2µm,20.0s
GAMB Gambell 78.15 23 P P **15 00 49.7 -0.4**
baz=310
TNA Tin City 78.19 20 P P **15 00 49.2 -1.0**
TNA Tin City 78.19 20 P P **15 00 50.1 -0.2**
baz=313
SHEM Shemya Is, Ala 78.38 36 LR LR 15 38 20.5
comp=Z,2µm,19.0s,baz=300,slow=38
WRKA Warakurna 79.60 125 P P **15 00 59.1 +0.4**
ANM Nome 79.66 20 P P **15 00 58.4 0.0**
ANM pmax pmax
comp=Z,26nm,1.1s
ANM Nome 79.66 20 P P **15 00 58.4 0.0**
ANM IAmb IAmb 15 01 06.4
comp=Z,26nm,1.1s
ANM IAMs_20 IAMs_20 15 41 10.7
comp=Z,3µm,20.0s
ANM Nome 79.66 20 P P **15 00 58.6 +0.2**
baz=315,SNR=19
A36M Sachs Harbour 80.22 4 P P **15 01 01.3 +0.1**
A36M IAmb IAmb 15 01 28.3
comp=Z,35nm,0.9s
A36M Sachs Harbour 80.22 4 P P **15 01 01.2 -0.1**
baz=350
TOLK Toolik Lake Re 80.37 13 P P **15 01 02.5 +0.2**
TOLK IAMs_20 IAMs_20 15 38 27.0
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 80.37 13 P P **15 01 02.5 +0.2**
baz=328
WB0 Warramunga Arr 81.17 118 P P **15 01 07.0 -0.2**
WRA Warramunga Arr 81.22 118 P P **15 01 07.2 -0.2**
comp=Z,23nm,0.7s,baz=317,slow=4.8,SNR=276
WRA Warramunga Arr 81.22 118 *i* P P **15 01 07.4 -0.1**
WRA pmax pmax
comp=Z,23nm,0.7s
WRA Warramunga Arr 81.22 118 P P **15 01 07.3 -0.1**
WRAB Tennant Creek 81.22 118 P P **15 01 07.2 -0.3**
WRAB pmax pmax
comp=Z,58nm,0.8s
WRAB MLR MLR
comp=Z,900nm,20.0s
WRAB Tennant Creek 81.22 118 P P **15 01 07.2 -0.3**
WRAB Tennant Creek 81.22 118 P P **15 01 07.8 +0.3**
WB2 Warramunga Arr 81.23 118 P P **15 01 07.1 -0.5**
WR0 Warramunga Arr 81.39 118 P P **15 01 07.9 -0.5**
WR0 IAmb IAmb 15 01 14.3
comp=Z,48nm,1.1s
COLD Coldfoot 81.45 13 P P **15 01 07.8 -0.1**
COLD IAmb IAmb 15 01 17.7
comp=Z,27nm,0.9s
COLD Coldfoot 81.45 13 P P **15 01 08.5 +0.5**
baz=328
IMAR Indian Mountai 81.71 15 P P **15 01 08.8 -0.6**
GCSA Galena City Sc 81.93 17 P P **15 01 10.5 0.0**
baz=322
FRB Frobisher Bay 82.09 341 LR LR 15 40 15.5
comp=Z,2µm,18.1s,baz=37,slow=38
H21K Melozitna Rive 82.20 15 P P **15 01 11.8 -0.1**
H21K IAmb IAmb 15 01 19.4
comp=Z,29nm,1.1s
H21K IAMs_20 IAMs_20 15 42 09.5
comp=Z,3µm,20.0s
H21K Melozitna Rive 82.20 15 P P **15 01 12.1 +0.1**
baz=326,SNR=21
BMAR Burnt Mountain 82.35 11 P P **15 01 13.2 +0.5**
I21K Tanana 82.79 15 P P **15 01 15.2 +0.2**
I21K IAMs_20 IAMs_20 15 44 12.1
comp=Z,3µm,19.0s
I21K Tanana 82.79 15 P P **15 01 14.9 0.0**
baz=327
FORT Forrest 82.92 130 P P **15 01 15.9 -0.3**
FORT Forrest 82.92 130 P P **15 01 16.9 +0.8**
ASAR Alice Springs 82.95 121 P P **15 01 16.5 0.0**
comp=Z,25nm,0.7s,baz=308,slow=5.4,SNR=431
ASAR LR LR 15 41 02.3
comp=Z,1µm,19.4s,baz=308,slow=38
ASAR Alice Springs 82.95 121 P P **15 01 16.1 -0.4**
AS31 Alice Springs 82.95 121 P P **15 01 16.1 -0.4**
FYU Fort Yukon 83.00 12 IAMs_20 IAMs_20 15 44 24.6
comp=Z,2µm,19.0s
J20K Nowinta River 83.09 17 P P **15 01 16.3 -0.3**
J20K IAmb IAmb 15 01 25.7
comp=Z,12nm,0.8s
J20K Nowinta River 83.09 17 P P **15 01 17.0 +0.4**
baz=325,SNR=13
H24K Noodor Dome 83.13 13 P P **15 01 16.5 -0.3**
H24K IAmb IAmb 15 01 32.8
comp=Z,15nm,0.8s
H24K IAMs_20 IAMs_20 15 44 06.9
comp=Z,2µm,19.0s
H24K Noodor Dome 83.13 13 P P **15 01 17.2 +0.4**
baz=330,SNR=15
INK Inuvik 83.13 7 LR LR 15 43 16.4
comp=Z,1µm,20.9s,baz=339,slow=39
INK Inuvik 83.13 7 P P **15 01 16.3 -0.4**
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 83.13 7 P P **15 01 16.3 -0.4**
INK IAmb IAmb 15 01 41.7
comp=Z,15nm,0.9s
INK Inuvik 83.13 7 P P **15 01 17.3 +0.6**
baz=343
MLY Manley 83.20 15 IAMs_20 IAMs_20 15 45 06.9
comp=Z,3µm,21.0s
I23K Minto, Yukon-K 83.41 14 P P **15 01 18.2 +0.1**
I23K IAmb IAmb 15 01 39.7
comp=Z,21nm,1.1s
I23K IAMs_20 IAMs_20 15 44 44.4
comp=Z,2µm,19.0s
I23K Minto, Yukon-K 83.41 14 P P **15 01 18.2 +0.1**

baz=329
ADK Adak 83.54 34 IAMs_20 IAMs_20 15 41 46.3
comp=Z,2µm,20.0s
TTA Tatalina 83.62 18 P **P** **15 01 18.8 -0.6**
TTA pmax pmax
comp=Z,15nm,1.3s
TTA Tatalina 83.62 18 P **P** **15 01 18.8 -0.6**
TTA Tatalina 83.62 18 P **P** **15 01 19.6 +0.2**
baz=323
K20K Telida 83.79 17 P **P** **15 01 20.1 -0.1**
K20K IAmb IAmb 15 01 27.8
comp=Z,25nm,1.2s
K20K Telida 83.79 17 P **P** **15 01 20.3 +0.1**
baz=325,SNR=13
CHUM Lake Minchumin 83.79 16 P **P** **15 01 20.1 -0.1**
baz=326
MDM Murphy Dome 83.82 14 P **P** **15 01 20.0 -0.3**
MDM IAmb IAmb 15 01 32.6
comp=Z,36nm,1.2s
MDM IAMs_20 IAMs_20 15 41 19.1
comp=Z,3µm,22.0s
POKR Poker Plat Res 83.85 14 P **P** **15 01 20.6 +0.1**
POKR IAmb IAmb 15 01 28.1
comp=Z,30nm,1.1s
POKR Poker Plat Res 83.85 14 P **P** **15 01 20.9 +0.5**
baz=330,SNR=14
PRP Porcupine Dome 83.88 13 IAMs_20 IAMs_20 15 39 35.8
comp=Z,2µm,22.0s
PRP Porcupine Dome 83.88 13 P **P** **15 01 20.6 -0.2**
baz=332
BPAW Bear Paw Mtn. 83.93 15 IAMs_20 IAMs_20 15 45 17.3
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 83.93 15 P **P** **15 01 20.7 -0.2**
baz=328
NEA2 Nenana 83.95 14 P **P** **15 01 20.2 -0.8**
NEA2 IAmb IAmb 15 01 32.9
comp=Z,21nm,1.1s
NEA2 IAMs_20 IAMs_20 15 43 27.7
comp=Z,2µm,19.0s
NEA2 Nenana 83.95 14 P **P** **15 01 20.7 -0.3**
baz=329,SNR=10
TCOL CIGO, UAF Yank 83.97 14 IAMs_20 IAMs_20 15 44 10.2
comp=Z,3µm,21.0s
COLA College 83.97 14 IAMs_20 IAMs_20 15 44 10.2
comp=Z,3µm,21.0s
CCB Clear Creek Bu 84.18 14 IAMs_20 IAMs_20 15 41 28.8
comp=Z,3µm,21.0s
BWN Browne 84.22 15 P **P** **15 01 23.2 +0.8**
BWN IAmb IAmb 15 01 32.4
comp=Z,26nm,1.1s
BWN IAMs_20 IAMs_20 15 42 27.0
comp=Z,3µm,22.0s
CAST Castle Rocks 84.24 16 P **P** **15 01 22.4 -0.2**
CAST IAmb IAmb 15 01 29.7
comp=Z,32nm,1.0s
CAST Castle Rocks 84.24 16 P **P** **15 01 22.6 +0.1**
baz=327,SNR=17
IL31 84.26 14 P **P** **15 01 22.6 0.0**
IL31 IAmb IAmb 15 01 34.0
comp=Z,28nm,1.5s
ILAR Eielson Array 84.26 14 P **P** **15 01 22.2 -0.3**
comp=Z,1.8nm,0.6s,baz=317,slow=4.1,SNR=28
ILAR LR LR 15 44 30.3
comp=Z,4µm,20.0s,baz=325,slow=40
ILAR Eielson Array 84.26 14 P **P** **15 01 22.1 -0.5**
WRH Wood River Hil 84.27 14 P **P** **15 01 22.0 -0.6**
WRH IAMs_20 IAMs_20 15 45 09.2
comp=Z,2µm,18.0s
KTH Kantishna Hill 84.41 16 P **P** **15 01 23.9 +0.4**
KTH IAmb IAmb 15 01 35.8
comp=Z,17nm,1.0s
KTH IAMs_20 IAMs_20 15 44 55.0
comp=Z,2µm,19.0s
L19K White Mountain 84.54 18 IAMs_20 IAMs_20 15 46 27.5
comp=Z,3µm,19.0s
L19K White Mountain 84.54 18 P **P** **15 01 22.7 -1.4**
baz=324
L20K Farewell, AK 84.56 17 P **P** **15 01 23.9 -0.3**
baz=325
HDA Harding Lake 84.57 14 P **P** **15 01 24.1 0.0**
HDA IAMs_20 IAMs_20 15 41 06.1
comp=Z,2µm,20.0s
HDA Harding Lake 84.57 14 P **P** **15 01 23.9 -0.2**
baz=331
EPYK Eagle Plains 84.57 9 P **P** **15 01 25.5 +1.3**
EPYK IAmb IAmb 15 01 50.9
comp=Z,22nm,1.2s
EPYK Eagle Plains 84.57 9 P **P** **15 01 23.9 -0.3**
baz=340
TRF Thorofare Moun 84.65 16 P **P** **15 01 25.0 +0.2**
TRF IAMs_20 IAMs_20 15 45 02.3
comp=Z,3µm,18.0s
TRF Thorofare Moun 84.65 16 P **P** **15 01 24.7 -0.1**
baz=328
PPLA Purkeypile 84.65 17 P **P** **15 01 25.1 +0.3**
PPLA IAmb IAmb 15 01 53.2
comp=Z,32nm,1.4s
PPLA Purkeypile 84.65 17 P **P** **15 01 24.7 -0.1**
baz=327
J25K Salcha River, 84.71 13 P **P** **15 01 24.9 0.0**
J25K IAMs_20 IAMs_20 15 45 16.9
comp=Z,3µm,19.0s
J25K Salcha River, 84.71 13 P **P** **15 01 24.1 -0.9**
baz=332,SNR=6.4
MCK McKinley 84.72 15 P **P** **15 01 25.3 +0.3**
MCK pmax pmax
comp=Z,42nm,1.5s
MCK McKinley 84.72 15 P **P** **15 01 25.3 +0.3**
MCK IAmb IAmb 15 01 37.6
comp=Z,42nm,1.5s
MCK IAMs_20 IAMs_20 15 43 40.2
comp=Z,2µm,20.0s
MCK McKinley 84.72 15 P **P** **15 01 24.6 -0.4**
baz=329
M19K Big River Lodg 84.89 18 P **P** **15 01 25.1 -0.8**
M19K IAMs_20 IAMs_20 15 45 22.9
comp=Z,2µm,18.0s
M19K Big River Lodg 84.89 18 P **P** **15 01 26.4 +0.6**
baz=325
RND Reindeer 85.02 15 P **P** **15 01 26.5 0.0**
RND pmax pmax
comp=Z,31nm,1.3s
RND MLR MLR
comp=Z,3µm,22.0s
RND Reindeer 85.02 15 P **P** **15 01 26.5 0.0**
RND IAmb IAmb 15 01 38.9
comp=Z,31nm,1.3s
RND IAMs_20 IAMs_20 15 43 14.1
comp=Z,3µm,22.0s
J26L Joseph Creek 85.17 12 P **P** **15 01 27.1 -0.1**
baz=334,SNR=20
I29M Ogilvie Camp, 85.28 10 P **P** **15 01 27.1 -0.6**
I29M IAMs_20 IAMs_20 15 45 24.8
comp=Z,2µm,21.0s
I29M Ogilvie Camp, 85.28 10 P **P** **15 01 26.9 -0.9**
baz=338
COEN Coen 85.29 108 P **P** **15 01 27.9 -0.7**
COEN IAmb IAmb 15 01 34.9
comp=Z,29nm,1.2s
COEN Coen 85.29 108 P **P** **15 01 30.3 +1.7**
EGAK Eagle 85.36 11 IAMs_20 IAMs_20 15 46 12.7
comp=Z,2µm,20.0s
CUT Chulitna 85.55 16 IAMs_20 IAMs_20 15 45 50.0
comp=Z,2µm,18.0s
SCRK Sand Creek 85.56 13 P **P** **15 01 29.2 -0.1**
SCRK IAmb IAmb 15 01 58.8
comp=Z,13nm,0.8s
SCRK IAMs_20 IAMs_20 15 45 23.1
comp=Z,3µm,18.0s
SCRK Sand Creek 85.56 13 P **P** **15 01 28.9 -0.4**
baz=334,SNR=13
RIDG Independent Ri 85.60 13 P **P** **15 01 29.2 -0.2**
baz=333
DHY Denali Highway 85.64 15 P **P** **15 01 29.9 +0.1**
DHY IAMs_20 IAMs_20 15 44 19.5
comp=Z,2µm,20.0s
DHY Denali Highway 85.64 15 P **P** **15 01 29.9 +0.1**
baz=331
QIS Mount Isa 85.72 116 P **P** **15 01 31.0 +0.4**
N19K Bonanza Creek 85.76 19 P **P** **15 01 30.1 -0.2**
N19K IAmb IAmb 15 01 38.8
comp=Z,21nm,1.0s
N19K Bonanza Creek 85.76 19 P **P** **15 01 30.5 +0.2**
baz=325
WAT6 Susitna Watana 85.99 15 P **P** **15 01 31.2 -0.3**
baz=330
M22K Willow 86.14 16 IAMs_20 IAMs_20 15 46 29.7
comp=Z,2µm,18.0s
M22K Willow 86.14 16 P **P** **15 01 32.6 +0.6**
baz=328
PAX Paxson 86.15 14 P **P** **15 01 32.1 -0.1**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 86.15 14 P **P** **15 01 32.1 -0.1**
PAX Paxson 86.15 14 P **P** **15 01 32.4 +0.2**
baz=332,SNR=7.1
DAWY Dawson 86.31 11 P **P** **15 01 32.8 -0.1**
DAWY IAmb IAmb 15 01 45.2
comp=Z,20nm,1.1s
DAWY Dawson 86.31 11 P **P** **15 01 32.9 0.0**
baz=338,SNR=15
GHO Glory Hole Cre 86.42 16 IAMs_20 IAMs_20 15 47 26.0
comp=Z,2µm,19.0s
NIKH Nikolski High 86.48 30 P **P** **15 01 34.1 +0.3**
baz=313
PMG Port Moresby 86.48 102 LR LR 15 47 54.4
comp=Z,307nm,18.2s,baz=289,slow=41
PMG Port Moresby 86.48 102 P **P** **15 01 35.2 +0.7**
PMG pmax pmax
comp=Z,36nm,0.9s
PMG Port Moresby 86.48 102 P **P** **15 01 35.2 +0.7**
PMG Port Moresby 86.48 102 P **P** **15 01 35.9 +1.4**
PMG Port Moresby 86.48 102 P **P** **15 01 36.0 +1.4**
PMR Palmer 86.52 16 P **P** **15 01 33.9 0.0**
baz=329
SML Sawmill 86.53 16 P **P** **15 01 34.0 -0.1**
SML IAMs_20 IAMs_20 15 46 08.0
comp=Z,3µm,18.0s
SML Sawmill 86.53 16 P **P** **15 01 34.9 +0.9**
baz=330
RSO Redoubt South 86.53 18 P **P** **15 01 34.5 +0.2**
L26K Log Cabin Wild 86.54 13 P **P** **15 01 34.6 +0.5**
L26K IAMs_20 IAMs_20 15 44 57.1
comp=Z,3µm,21.0s
L26K Log Cabin Wild 86.54 13 P **P** **15 01 34.4 +0.4**
baz=334
MENT Mentasta 86.54 13 P **P** **15 01 34.7 +0.7**
OOD Oodnadatta 86.59 124 P **P** **15 01 34.8 +0.1**
P18K Big Mountain, 86.70 20 IAMs_20 IAMs_20 15 45 35.8
comp=Z,2µm,18.0s
P18K Big Mountain, 86.70 20 P **P** **15 01 35.4 +0.5**
baz=324
CAPN Captain Cook N 86.71 17 P **P** **15 01 34.7 -0.1**
baz=328
HARP HAARP 86.73 14 P **P** **15 01 35.3 +0.4**
baz=333
SCM Sheep Creek Mo 86.74 15 P **P** **15 01 35.8 +0.7**
SCM pmax pmax
comp=Z,39nm,1.4s
SCM Sheep Creek Mo 86.74 15 P **P** **15 01 35.8 +0.7**
SCM IAmb IAmb 15 01 42.9
comp=Z,39nm,1.4s
SCM Sheep Creek Mo 86.74 15 P **P** **15 01 35.1 0.0**
baz=331
M24K Tolsona, Glenn 86.76 15 IAMs_20 IAMs_20 15 45 43.1
comp=Z,2µm,18.0s
M24K Tolsona, Glenn 86.76 15 P **P** **15 01 35.0 -0.2**
baz=332
MULG Mulgathing 86.80 127 P **P** **15 01 35.8 +0.1**
RC01 Rabbit Creek A 86.80 17 P **P** **15 01 35.4 +0.1**
RC01 IAmb IAmb 15 01 47.0
comp=Z,34nm,1.3s
RC01 IAMs_20 IAMs_20 15 44 44.3
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 86.80 17 P **P** **15 01 36.4 +1.1**
baz=329
L27K Beaver Creek, 86.80 12 P **P** **15 01 36.1 +0.8**
baz=336,SNR=7.5
BCAR Beaver Creek A 86.81 12 P **P** **15 01 35.4 +0.1**
KNK Knik Glacier 86.84 16 P **P** **15 01 36.2 +0.7**
KNK IAmb IAmb 15 02 01.6
comp=Z,20nm,1.0s
KNK IAMs_20 IAMs_20 15 46 09.2
comp=Z,2µm,20.0s
KNK Knik Glacier 86.84 16 P **P** **15 01 35.3 -0.2**
baz=330
UNV Unalaska Valle 86.88 28 P **P** **15 01 35.5 -0.3**
baz=315
O22K Cooper Landing 87.33 17 IAMs_20 IAMs_20 15 46 55.2
comp=Z,3µm,19.0s
O22K Cooper Landing 87.33 17 P **P** **15 01 37.7 -0.1**
baz=329
PWL Port Wells 87.35 16 IAMs_20 IAMs_20 15 47 27.8
comp=Z,2µm,20.0s
PWL Port Wells 87.35 16 P **P** **15 01 38.4 +0.4**
baz=330
KLU Klutina 87.36 15 IAMs_20 IAMs_20 15 46 01.0
comp=Z,3µm,19.0s
KLU Klutina 87.36 15 P **P** **15 01 37.6 -0.5**
baz=332
M27K Edge Creek, AK 87.44 13 P **P** **15 01 39.2 +0.6**
M27K IAmb IAmb 15 02 09.3
comp=Z,30nm,1.4s
M27K IAMs_20 IAMs_20 15 46 40.8
comp=Z,2µm,19.0s
M27K Edge Creek, AK 87.44 13 P **P** **15 01 39.3 +0.8**
baz=335
HOM Homer 87.51 18 P **P** **15 01 38.5 -0.2**
baz=327
Q19K Cape Douglas, 87.55 19 IAMs_20 IAMs_20 15 45 36.3
comp=Z,3µm,20.0s
N25K Chitina, Valde 87.56 14 P **P** **15 01 38.6 -0.4**
N25K IAmb IAmb 15 01 59.8
comp=Z,28nm,1.5s
N25K IAMs_20 IAMs_20 15 48 09.1
comp=Z,2µm,18.0s
N25K Chitina, Valde 87.56 14 P **P** **15 01 38.1 -1.0**
baz=333
BVCY Beaver Creek 87.58 12 P **P** **15 01 39.8 +0.7**
baz=336
BRLK Bradley Lake 87.63 18 P **P** **15 01 38.8 -0.6**
BRLK IAmb IAmb 15 01 46.1
comp=Z,19nm,0.8s
SEW Seward 87.72 17 P **P** **15 01 39.0 -0.7**
baz=329
GLB Gilahina Butte 87.87 14 IAMs_20 IAMs_20 15 45 00.4
comp=Z,2µm,22.0s
MCARA McCarthy VSAT 88.09 14 IAMs_20 IAMs_20 15 46 29.2
comp=Z,3µm,20.0s
MCARA McCarthy VSAT 88.09 14 P **P** **15 01 40.9 -0.6**
baz=334
M30M Minto, Yukon 88.13 10 P **P** **15 01 42.4 +0.6**
M30M IAMs_20 IAMs_20 15 47 37.1
comp=Z,2µm,19.0s
M30M Minto, Yukon 88.13 10 P **P** **15 01 42.1 +0.3**
baz=340
VRDI Verde Repeater 88.14 14 IAMs_20 IAMs_20 15 45 19.5
comp=Z,2µm,22.0s
EYAK Cordova Ski Ar 88.24 15 P **P** **15 01 43.4 +1.2**
baz=332
YUK3 Moose Creek 88.24 12 P **P** **15 01 42.6 +0.1**
baz=337
MTSU Mount Surprise 88.31 111 P **P** **15 01 44.7 +1.4**
SCHQ Schefferville 88.38 335 P **P** **15 01 43.8 +0.7**
comp=Z,2.8nm,0.8s,baz=44,slow=5.0,SNR=7.7
SCHQ LR LR 15 43 41.9
comp=Z,3µm,19.1s,baz=42,slow=37
SCHQ Schefferville 88.38 335 IAmb IAmb 15 02 09.9
comp=Z,19nm,1.2s
BARN Barnard Glacie 88.66 13 IAMs_20 IAMs_20 15 46 26.3
comp=Z,2µm,20.0s
TGL Tana Glacier 88.70 14 IAMs_20 IAMs_20 15 48 30.3
comp=Z,2µm,18.0s
CTG Chitna Glacier 88.81 13 P **P** **15 01 45.7 +0.5**
baz=336
CTGM Chitina Glacie 88.82 13 IAMs_20 IAMs_20 15 47 17.3
comp=Z,2µm,20.0s
M31M Drury Creek, Y 88.86 9 IAMs_20 IAMs_20 15 46 10.2
comp=Z,2µm,20.0s
M31M Drury Creek, Y 88.86 9 P **P** **15 01 45.1 0.0**
baz=342
MMPY Sheldon Lake, 88.88 8 P **P** **15 01 45.6 +0.3**
baz=345
ISLE Juniper Island 88.94 14 IAMs_20 IAMs_20 15 48 55.7
comp=Z,2µm,18.0s
GRNC Granite Creek 88.94 13 IAMs_20 IAMs_20 15 47 05.7
comp=Z,2µm,20.0s
WAX Waxell Ridge 88.97 14 P **P** **15 01 44.7 -1.1**
WAX IAmb IAmb 15 01 54.4
comp=Z,18nm,1.2s
WAX IAMs_20 IAMs_20 15 45 44.5
comp=Z,3µm,20.0s
YUK4 Talbot Arm 88.97 12 P **P** **15 01 46.1 +0.1**
baz=338
FARO Faro, Yukon 88.98 9 P **P** **15 01 45.7 0.0**
baz=343
LOGN Logan Glacier 89.01 13 P **P** **15 01 46.1 0.0**
LOGN IAmb IAmb 15 02 10.2
comp=Z,16nm,1.0s
LOGN IAMs_20 IAMs_20 15 47 14.5
comp=Z,3µm,20.0s
OHAK Old Harbor 89.07 20 P **P** **15 01 46.3 +0.1**
baz=326
SNH Sunshine Point 89.22 14 IAMs_20 IAMs_20 15 47 31.1
comp=Z,2µm,20.0s
YAH Yahtse 89.28 13 IAMs_20 IAMs_20 15 46 33.8
comp=Z,3µm,22.0s
N31M Braeburn, Yuko 89.33 10 P **P** **15 01 47.4 0.0**
N31M IAmb IAmb 15 02 14.6
comp=Z,13nm,0.8s
N31M IAMs_20 IAMs_20 15 48 21.6
comp=Z,2µm,19.0s
N31M Braeburn, Yuko 89.33 10 P **P** **15 01 47.9 +0.5**
baz=341
TABL Table Mountain 89.33 13 IAMs_20 IAMs_20 15 46 37.0
comp=Z,2µm,20.0s
YUK6 Outpost Mounta 89.40 12 P **P** **15 01 48.6 +0.6**
baz=338
BBOO Buckleboo 89.63 128 P **P** **15 01 49.0 -0.1**
BBOO Buckleboo 89.63 128 P **P** **15 01 49.4 +0.3**
HYT Haines Junctio 89.66 11 P **P** **15 01 48.6 -0.5**
HYT IAmb IAmb 15 02 01.4
comp=Z,20nm,1.2s
HYT Haines Junctio 89.66 11 P **P** **15 01 49.3 +0.2**
baz=339
LCRK Leigh Creek 89.88 125 P **P** **15 01 51.5 +1.2**
YKA Yellowknife Ar 90.07 0 P **P** **15 01 50.8 0.0**
comp=Z,2.7nm,0.7s,baz=349,slow=4.7,SNR=23
YKA LR LR 15 46 46.9
comp=Z,3µm,19.7s,baz=354,slow=39
YKA Yellowknife Ar 90.07 0 P **P** **15 01 51.1 +0.3**
YKA Yellowknife Ar 90.07 0 P **P** **15 01 51.0 +0.3**
BCPM Bancas Point 90.08 13 IAMs_20 IAMs_20 15 48 06.7
comp=Z,2µm,20.0s
WHY Whitehorse 90.25 10 P **P** **15 01 51.9 0.0**
WHY Whitehorse 90.25 10 P **P** **15 01 51.3 -0.5**
baz=342
TGTN Hyland Airport 90.28 7 P **P** **15 01 52.9 +1.0**
baz=347
INKA Innaminka 90.34 121 P **P** **15 01 54.0 +1.5**
CTA Charters Tower 90.87 112 LR LR 15 47 30.1
comp=Z,609nm,20.1s,baz=296,slow=39
P33M Teslin, Yukon 90.99 9 P **P** **15 01 54.8 -0.5**
P33M IAmb IAmb 15 02 07.4
comp=Z,23nm,1.3s
P33M Teslin, Yukon 90.99 9 P **P** **15 01 55.9 +0.6**
baz=343
JIS Juneau Island 92.60 11 IAMs_20 IAMs_20 15 51 27.3
comp=Z,2µm,18.0s
DLBC Dease Lake 93.09 8 LR LR 15 47 52.1
comp=Z,1µm,21.1s,baz=336,slow=38
STKA Stephens Creek 93.10 124 P **P** **15 02 04.5 -0.7**
comp=Z,6.4nm,0.8s,baz=310,slow=5.4,SNR=16
STKA LR LR 15 48 05.1
comp=Z,1µm,18.9s,baz=285,slow=38
STKA Stephens Creek 93.10 124 P **P** **15 02 05.1 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA Stephens Creek 93.10 124 P **P** **15 02 05.1 -0.2**
STKA Stephens Creek 93.10 124 P **P** **15 02 06.4 +1.2**
WRAK Wrangell Islan 94.71 10 IAMs_20 IAMs_20 15 51 56.9
comp=Z,2µm,20.0s
MAW Mawson 95.09 181 LR LR 15 37 03.2
comp=Z,1µm,21.3s,baz=5.0,slow=30
CRAG Craig 95.49 11 P **P** **15 02 16.0 +0.1**
baz=343
RMQ Roma 95.93 117 P **P** **15 02 20.0 +1.6**
EMMW East Machias 96.38 329 IAMs_20 IAMs_20 15 48 21.4
comp=Z,2µm,18.0s
FFC Flin Flon 97.23 353 IAMs_20 IAMs_20 15 49 58.2
comp=Z,2µm,20.0s
SYO Syowa Base 98.41 189 LapPdiff Pdif 15 02 33.1 +4.6
LBNH Lisbon 98.74 331 IAMs_20 IAMs_20 15 49 37.7
comp=Z,2µm,19.0s
VT1 Waterbury 99.02 331 IAMs_20 IAMs_20 15 49 37.3
comp=Z,2µm,18.0s
FFD Franklin Falls 99.23 330 IAMs_20 IAMs_20 15 49 52.9
comp=Z,2µm,18.0s
HNH Hanover 99.32 331 IAMs_20 IAMs_20 15 51 33.2
comp=Z,2µm,19.0s
BBB Bella Bella 99.44 9 LR LR 15 55 24.1
comp=Z,1µm,18.0s,baz=353,slow=40
LONY Lake Ozonia 99.54 333 IAMs_20 IAMs_20 15 53 22.9
comp=Z,2µm,20.0s
M65A Busby, Falmout 100.29 329 IAMs_20 IAMs_20 15 52 38.9
comp=Z,2µm,20.0s
QUA2 Belchertown 100.50 330 IAMs_20 IAMs_20 15 51 03.2
comp=Z,2µm,18.0s
L61B Northampton 100.50 330 IAMs_20 IAMs_20 15 48 23.4
comp=Z,1µm,20.0s
TRY Troy 100.70 331 IAMs_20 IAMs_20 15 54 09.7
comp=Z,2µm,19.0s
EYMN Ely 102.02 345 IAMs_20 IAMs_20 15 54 49.9
comp=Z,2µm,20.0s
BINY Binghamton 102.12 332 IAMs_20 IAMs_20 15 51 04.0
comp=Z,2µm,18.0s
GLMI Grayling 103.00 339 IAMs_20 IAMs_20 15 51 42.1
comp=Z,2µm,18.0s
COWI Conover 103.15 343 IAMs_20 IAMs_20 15 55 05.0
comp=Z,2µm,20.0s
RCBR Riachuelo 103.34 270 IAMs_20 IAMs_20 15 51 51.0
comp=Z,2µm,20.0s
DGMT Dagmar 103.64 353 IAMs_20 IAMs_20 15 53 56.7
comp=Z,2µm,20.0s
M54A Oil Creek Stat 104.17 334 IAMs_20 IAMs_20 15 51 43.3
comp=Z,2µm,20.0s
SSPA Standing Stone 104.21 333 IAMs_20 IAMs_20 15 52 28.3
comp=Z,2µm,18.0s
NEW Newport 104.28 2 IAMs_20 IAMs_20 15 53 16.8
comp=Z,3µm,22.0s
EGMT Eagleton 104.49 357 IAMs_20 IAMs_20 15 56 45.2
comp=Z,1µm,19.0s
M53A WI Miller and 104.62 335 IAMs_20 IAMs_20 15 51 26.0
comp=Z,2µm,22.0s
NLWA Neilton Lookou 104.67 7 IAMs_20 IAMs_20 15 58 53.2
comp=Z,2µm,19.0s
O56A Blue Knob Stat 104.79 333 IAMs_20 IAMs_20 15 51 31.9
comp=Z,1µm,21.0s
AAM Ann Arbor 104.93 337 IAMs_20 IAMs_20 15 52 57.3
comp=Z,2µm,19.0s
LAO LASA Array 105.59 355 IAMs_20 IAMs_20 15 54 29.4
comp=Z,2µm,20.0s
MCWV Mont Chateau 105.83 333 IAMs_20 IAMs_20 15 52 55.2
comp=Z,2µm,22.0s
O53A New Philadelph 105.85 335 IAMs_20 IAMs_20 15 52 14.7
comp=Z,2µm,21.0s
CBN Corbin Frederi 106.03 331 IAMs_20 IAMs_20 15 55 05.7
comp=Z,2µm,20.0s
F05D White Salmon 106.39 6 IAMs_20 IAMs_20 16 00 32.8
comp=Z,2µm,20.0s
JFWS Jewell Farm 106.40 342 IAMs_20 IAMs_20 15 54 27.0
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 106.52 336 IAMs_20 IAMs_20 15 53 48.5
comp=Z,2µm,20.0s
P52A Corning 106.73 335 IAMs_20 IAMs_20 15 52 53.1
comp=Z,2µm,20.0s
BOZ Bozeman (W) 106.98 358 IAMs_20 IAMs_20 15 55 12.1
comp=Z,2µm,21.0s
ECSD EROS Data Cent 107.13 347 IAMs_20 IAMs_20 15 56 42.1
comp=Z,2µm,19.0s
DLMT Dillon 107.23 359 IAMs_20 IAMs_20 15 58 07.8
comp=Z,2µm,19.0s
RLMT Red Lodge 107.36 357 IAMs_20 IAMs_20 15 56 05.2
comp=Z,2µm,20.0s
BMO Blue Mountains 107.68 3 IAMs_20 IAMs_20 15 55 43.8
comp=Z,2µm,22.0s
RSSD Black Hills 107.92 353 IAMs_20 IAMs_20 15 53 37.9
comp=Z,2µm,22.0s
DZM Mont Dzumac 108.67 106 eLR LR 15 39 20.2
comp=Z,1µm,26.6s
MOOW Moose Ponds 108.80 358 IAMs_20 IAMs_20 15 56 36.2
comp=Z,2µm,21.0s
FXWY Fox Creek 108.92 358 IAMs_20 IAMs_20 15 46 59.4
comp=Z,1µm,21.0s
LOHW Long Hollow 108.93 358 IAMs_20 IAMs_20 15 56 40.7
comp=Z,2µm,21.0s
TPAW Teton Pass 109.06 358 IAMs_20 IAMs_20 15 56 53.2
comp=Z,2µm,20.0s
SNOW Snow King Moun 109.08 358 IAMs_20 IAMs_20 15 56 45.8
comp=Z,2µm,21.0s
MFID Camas Ranch 109.17 2 IAMs_20 IAMs_20 16 00 55.0
comp=Z,2µm,19.0s

REDW	**Red Top Meadow**	**109.19**	**358**	IAMs_20	IAMs_20	15 56 47.5		
	comp=Z,2µm,20.0s							
WCI	**Wyandotte Cave**	**109.47**	**337**	IAMs_20	IAMs_20	15 56 09.5		
	comp=Z,2µm,20.0s							
BW06	**Boulder Array**	**109.72**	**357**	IAMs_20	IAMs_20	15 59 45.7		
	comp=Z,2µm,19.0s							
PDAR	**Pinedale Array**	**109.72**	**357**	PKiKP	**PKiKP**	**15 07 24.2**	**+1.6**	
	comp=Z,0.1nm,0.5s,baz=69,slow=10.0,SNR=2.2							
AHID	**Auburn Hatcher**	**109.79**	**358**	IAMs_20	IAMs_20	15 58 44.5		
	comp=Z,1µm,20.0s							
MOD	**Modoc Plateau**	**110.44**	**5**	IAMs_20	IAMs_20	16 00 51.0		
	comp=Z,2µm,19.0s							
RWWY	**Rawlins**	**110.64**	**355**	IAMs_20	IAMs_20	15 58 50.9		
	comp=Z,2µm,18.0s							
OGNE	**Ogallala**	**110.78**	**350**	IAMs_20	IAMs_20	15 56 48.7		
	comp=Z,2µm,22.0s							
PHWY	**Pilot Hill**	**110.86**	**353**	IAMs_20	IAMs_20	16 01 08.8		
	comp=Z,2µm,20.0s							
HWUT	**Hardware Ranch**	**110.96**	**358**	IAMs_20	IAMs_20	16 00 05.5		
	comp=Z,1µm,20.0s							
CCM	**Cathedral Cave**	**111.20**	**341**	IAMs_20	IAMs_20	15 56 22.9		
	comp=Z,2µm,20.0s							
KSU1	**Kansas State U**	**111.57**	**346**	IAMs_20	IAMs_20	15 59 29.8		
	comp=Z,2µm,20.0s							
CBKS	**Cedar Bluff**	**112.48**	**348**	IAMs_20	IAMs_20	16 01 32.7		
	comp=Z,2µm,21.0s							
ABD	**La Joyeuse, An**	**112.87**	**304**	IAMs_20	IAMs_20	15 59 13.1		
	comp=Z,2µm,20.0s							
PLAL	**Pickwick Lake**	**113.02**	**337**	IAMs_20	IAMs_20	15 57 40.3		
	comp=Z,2µm,20.0s							
CBE	**Ff, Capester**	**113.22**	**304**	IAMs_20	IAMs_20	15 59 21.5		
	comp=Z,2µm,21.0s							
TDBA	**Terre de Bas,**	**113.38**	**304**	IAMs_20	IAMs_20	16 01 05.6		
	comp=Z,1µm,20.0s							
OXF	**Oxford**	**113.89**	**338**	IAMs_20	IAMs_20	15 59 06.5		
	comp=Z,2µm,21.0s							
MVCO	**Mesa Verde**	**115.19**	**355**	IAMs_20	IAMs_20	16 01 49.4		
	comp=Z,2µm,20.0s							
TPNV	**Topopah Spring**	**115.61**	**2**	IAMs_20	IAMs_20	16 04 32.6		
	comp=Z,1µm,19.0s							
GRTK	**Grand Turk**	**115.94**	**315**	IAMs_20	IAMs_20	16 01 41.4		
	comp=Z,1µm,20.0s							
WMOK	**Wichita Mounta**	**116.24**	**346**	IAMs_20	IAMs_20	16 01 19.2		
	comp=Z,2µm,19.0s							
DWPF	**Disney Wildern**	**116.34**	**328**	IAMs_20	IAMs_20	15 59 03.2		
	comp=Z,2µm,20.0s							
WUAZ	**Wupatki**	**117.03**	**358**	IAMs_20	IAMs_20	16 03 28.2		
	comp=Z,2µm,19.0s							
QSPA	**South Pole Qui**	**117.58**	**180**	PKP	**PKPdf**	**15 07 35.6**	**-0.8**	
	comp=Z,1.5nm,0.8s,baz=253,slow=1.0,SNR=7.1							
SDDR	**Presa de Saban**	**117.90**	**314**	IAMs_20	IAMs_20	15 59 04.4		
	comp=Z,2µm,20.0s							
NATX	**Nacogdoches**	**118.06**	**341**	IAMs_20	IAMs_20	16 02 04.6		
	comp=Z,2µm,21.0s							
GTBY	**Guantanamo Bay**	**119.57**	**317**	IAMs_20	IAMs_20	15 59 22.3		
	comp=Z,1µm,19.0s							
435B	**Jarrell**	**119.76**	**344**	IAMs_20	IAMs_20	16 03 50.5		
	comp=Z,2µm,19.0s							
TUC	**Tucson**	**120.20**	**357**	IAMs_20	IAMs_20	16 04 18.1		
	comp=Z,2µm,19.0s							
MNTX	**Cornudas Mount**	**120.33**	**352**	IAMs_20	IAMs_20	16 07 25.6		
	comp=Z,2µm,20.0s							
EPT	**El Paso**	**120.40**	**353**	IAMs_20	IAMs_20	16 04 05.3		
	comp=Z,1µm,21.0s							
MTDJ	**Mount Denham**	**122.32**	**318**	IAMs_20	IAMs_20	16 07 17.3		
	comp=Z,1µm,20.0s							
TXAR	**Lajitas Array**	**122.41**	**349**	PKP	**PKiKP**	**15 07 47.3**	**0.0**	
	comp=Z,0.4nm,0.5s,baz=70,slow=4.5,SNR=4.3							
CPUP	**Villa Florida**	**130.01**	**258**	PKP	**PKiKP**	**15 08 02.2**	**0.0**	
	comp=Z,2.7nm,0.7s,baz=121,slow=5.9,SNR=1.9							
UNM	**Universidad Na**	**131.09**	**341**	IAMs_20	IAMs_20	16 15 36.7		
	comp=Z,876nm,18.0s							
LPAZ	**La Paz**	**136.32**	**275**	PKP	**PKPdf**	**15 08 15.1**	**+0.8**	
	comp=Z,0.5nm,0.4s,baz=32,slow=2.5,SNR=2.5							
PLCA	**Paso Flores**	**142.29**	**238**	PKP	**PKPdf**	**15 08 23.9**	**0.0**	
	comp=Z,3.0nm,0.8s,baz=70,slow=12,SNR=4.2							
PPT	**Papeete**	**145.63**	**81**	PKPbc	**PKPab**	**15 08 31.4**	**+0.6**	
	comp=Z,13nm,0.5s,baz=33,slow=6.4,SNR=2.2							
PPT2	**Papeete2**	**145.64**	**81**	*e*PKPbc	**PKPdf**	**15 08 27.5**	**-2.8**	
	comp=Z,81nm,1.4s							
PPT2	**Papeete2**	**145.64**	**81**	*e*LR	LR	15 56 25.3		
	comp=Z,1µm,21.8s							
PMOR	**Pomariorio Ree**	**145.99**	**75**	*e*PKPbc	**PKPdf**	**15 08 28.1**	**-2.8**	
	comp=Z,198nm,1.3s							
VAH	**Vaihoa**	**146.32**	**75**	*e*PKPbc	**PKPdf**	**15 08 28.7**	**-2.7**	
	comp=Z,83nm,1.1s							
TAOE	**Nuku Hiva Isla**	**148.88**	**58**	*e*LR	LR	15 57 45.4		
	comp=Z,2µm,25.5s							

MAN 21 14:51:57.6, 19.16N×120.99E, h31km, mb4.5, ML3.4, MS3.2, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.32**	**202**	*e*P	Pn	14 52 17.1	-2.9
SIPP				*e*S	Sb	14 52 38.9	+0.5
SMPP	**San Manuel, Pa**	**3.00**	**186**	*e*P	Pn	14 52 43.6	+0.5
SMPP				*e*S	Sn	14 53 13.4	-4.6
PCPH	**Palayan**	**3.58**	**178**	*e*P	Pn	14 52 53.1	+2.2
LQP	**Lukban**	**5.04**	**174**	*e*P	Pb	14 53 22.5	-2.8

TAP 21 14:54:12.7, 23.15N×120.53E, h16km, ML0.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN1	**Nanshi**	**0.03**	**0**	*i* P	Pg	14 54 16.0	+0.4
CHN1				*i* S	Sg	14 54 18.3	+0.8
SNST	**Tainan City**	**0.07**	**337**	*i* P	Pg	14 54 16.3	+0.4
	baz=336						
SNST				*i* S	Sg	14 54 18.8	+0.8
	baz=336						
SGST	**Jiashian**	**0.09**	**144**	*i* P	Pg	14 54 15.9	0.0
	baz=141						
SGST				*i* S	Sg	14 54 19.0	+0.9
	baz=141						
TWK	**Hsinying**	**0.12**	**342**	P	Pb	14 54 16.9	+0.2
	baz=346						
TWK				S	Sb	14 54 19.8	+0.6
	baz=346						
WTP	**Ta-pu**	**0.12**	**41**	*i* P	Pb	14 54 16.8	+0.1
	baz=43						
WTP				*i* S	Sb	14 54 19.9	+0.6
	baz=43						
TPUB	**Ta-pu**	**0.17**	**32**	P	Pb	14 54 17.4	-0.2
	baz=32						
TPUB				S	Sb	14 54 20.8	-0.1
	baz=32						
CHN4	**Tsaushan**	**0.21**	**17**	P	Pb	14 54 18.0	-0.1
	baz=16						
CHN4				S	Sb	14 54 21.9	+0.2
	baz=16						
STYT	**Tauyuan**	**0.21**	**87**	*i* P	Pb	14 54 18.6	+0.4
	baz=87						
STYT				*i* S	Sb	14 54 22.7	+0.8
	baz=87						
STYH	**Taoyuan**	**0.23**	**86**	P	Pb	14 54 18.8	+0.4
	baz=83						
STYH				S	Sb	14 54 22.9	+0.5
	baz=83						

*IDC **21** 14:55:07.7±0.7, 27.78N×66.22E, h0km, mb4.0/27, mb1 4.1/29, mb1mx4.0/68, mbtmp4.0/29, ML3.8/2, Error ellipse: s-maj=17.4km s-min=14.3km az=8.0*
*NEIC **21** 14:55:09.8±1.6, 27.79N±0.09×66.2E±0.1, h10km±1km, mb4.4/23, Error ellipse: s-maj=17.6km s-min=12.2km az=127.0*

ISC 21 14:55:09.3±0.6, 27.78N±0.09×66.25E±0.06, h10km, n63, σ1s10/61, mb4.2/36, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**7.15**	**19**	Pn	**Pn**	**14 56 56.7**	**+2.5**
HRA	**Herat**	**7.43**	**333**	Pn	**Pn**	**14 56 57.6**	**-0.3**
WSAR	**Wadi Sarin**	**8.23**	**238**	Pn	**Pn**	**14 57 07.3**	**-1.6**
	1.2nm,0.3s,baz=307,slow=9.8,SNR=2.2						
WSAR				Sn	Sn	14 58 30.6	-11
	1.1nm,0.3s,baz=10,slow=7.3,SNR=1.7						
JMU	**Jammu**	**8.95**	**55**	*e*P	**Pn**	**14 57 18.9**	**+0.2**
THN	**Thein Dam**	**9.42**	**58**	*e*P	**Pn**	**14 57 27.6**	**+2.6**
THN				*e*S	**Sn**	**14 59 08.0**	**-3.0**
UOSS	**Minazif**	**9.44**	**255**	Pn	**Pn**	**14 57 23.7**	**-1.7**
BHK	**Bhakra**	**9.56**	**65**	*e*P	**Pn**	**14 57 26.8**	**-0.3**
BHK				*e*S	Sn	14 59 06.6	-8.1
SMLA	**Simla**	**10.08**	**68**	*e*P	**Pn**	**14 57 34.6**	**+0.4**
SMLA				*e*S	**Sn**	**14 59 24.3**	**-3.0**
SMLA				IAML		14 59 27.4	
	comp=N,215nm,0.4s						
SMLA				IAML		14 59 30.8	
	comp=E,194nm,1.0s						
KKAR	**Karatay Array**	**15.67**	**12**	P	**P**	**14 58 55.5**	**+1.2**
AAK	**Ala-Archa**	**16.27**	**22**	Pn	**Pn**	**14 58 57.2**	**-0.8**
	comp=E,0.3nm,0.3s,baz=299,slow=22,SNR=1.6						
AAK	**Ala-Archa**	**16.27**	**22**	Pn	**Pn**	**14 58 58.1**	**+0.1**
AAK				IAmb	IAmb	14 59 10.2	
	comp=Z,36nm,1.4s						
GNI	**Garni**	**21.63**	**310**	P	**P**	**14 59 58.3**	**-1.5**
	comp=Z,6.1nm,0.8s,baz=89,slow=18,SNR=1.3						
GNI	**Garni**	**21.63**	**310**	IAmb	IAmb	15 00 17.9	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**21.99**	**349**	P	**P**	**15 00 03.6**	**+0.2**
ABKAR				IAmb	IAmb	15 00 20.7	
	comp=Z,22nm,1.2s						
MAKZ	**Makanchi**	**22.66**	**29**	P	**P**	**15 00 10.8**	**+0.1**
MAKZ				IAmb	IAmb	15 00 12.1	
	comp=Z,20nm,1.1s						
MKAR	**Makanchi Array**	**22.79**	**29**	P	**P**	**15 00 11.9**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=215,slow=9.8,SNR=7.6						
AKTO	**Aktyubinsk**	**23.48**	**347**	P	**P**	**15 00 18.1**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=28,slow=17,SNR=1.1						
KBZ	**Khabaz**	**24.62**	**316**	P	**P**	**15 00 30.6**	**+0.7**
	comp=Z,6.0nm,0.9s,baz=122,slow=7.8,SNR=4.3						
KURBB	**Kurchatov Arra**	**24.65**	**19**	P	**P**	**15 00 29.8**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=212,slow=8.5,SNR=10						
KURK	**Kurchatov**	**24.76**	**19**	P	**P**	**15 00 31.6**	**+0.6**
KURK				IAmb	IAmb	15 00 39.7	
	comp=Z,16nm,1.1s						
BVAR	**Borovoye Array**	**25.41**	**6**	P	**P**	**15 00 37.5**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=211,slow=18,SNR=5.3						
BRVK	**Borovoye**	**25.43**	**6**	P	**P**	**15 00 37.6**	**+0.6**
BRVK				IAmb	IAmb	15 00 46.4	
	comp=Z,22nm,1.2s						
BRTR	**Keskin Array B**	**29.46**	**302**	P	**P**	**15 01 13.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=80,slow=3.2,SNR=2.8						
ZAA0	**Zalesovo Array**	**29.49**	**22**	P	**P**	**15 01 13.3**	**-0.1**
ZAA0				IAmb	IAmb	15 01 19.1	
	comp=Z,12nm,1.3s						
ZALV	**Zalesovo Beam**	**29.49**	**22**	P	**P**	**15 01 13.8**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=233,slow=9.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**31.39**	**100**	P	**P**	**15 01 32.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=282,slow=13,SNR=2.4						
AKASG	**Malin Array Be**	**36.13**	**320**	P	**P**	**15 02 09.8**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=113,slow=7.3,SNR=2.8						
AKASG	**Malin Array Be**	**36.13**	**320**	IAmb	IAmb	15 02 14.2	
	comp=Z,3.3nm,1.3s						
MLR	**Muntele Rosu**	**36.41**	**310**	P	**P**	**15 02 13.5**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=144,slow=7.3,SNR=2.3						
SONM	**Songino Array**	**36.97**	**46**	P	**P**	**15 02 19.7**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=254,slow=10,SNR=2.7						
SONM	**Songino Array**	**36.97**	**46**	IAmb	IAmb	15 02 34.0	
	comp=Z,5.6nm,1.4s						
BURAR	**Bucovina Array**	**37.48**	**313**	P	**P**	**15 02 22.1**	**-1.0**
FINES	**FINESS Array B**	**42.95**	**333**	P	**P**	**15 03 07.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=126,slow=9.7,SNR=3.8						
GERES	**GERESS Array B**	**45.25**	**312**	P	**P**	**15 03 26.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=55,slow=7.3,SNR=2.9						
HFS	**Hagfors**	**47.85**	**328**	P	**P**	**15 03 46.8**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=155,slow=14,SNR=2.0						
ARCES	**ARCESS Array B**	**47.92**	**342**	P	**P**	**15 03 47.3**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=124,slow=7.5,SNR=6.7						
ARCES	**ARCESS Array B**	**47.92**	**342**	IAmb	IAmb	15 03 50.2	
	comp=Z,37nm,1.5s						
NOA	**NORSAR Array B**	**49.30**	**328**	P	**P**	**15 03 57.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=50,slow=13,SNR=2.9						
KSRS	**Korea Array**	**52.02**	**63**	P	**P**	**15 04 18.3**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=276,slow=7.4,SNR=3.6						
EKA	**Eskdalemuir Ar**	**56.05**	**320**	P	**P**	**15 04 49.6**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=105,slow=6.4,SNR=2.1						
ESDC	**Sonseca Array**	**58.24**	**301**	P	**P**	**15 05 05.0**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=66,slow=7.0,SNR=6.8						
ESDC	**Sonseca Array**	**58.24**	**301**	P	**P**	**15 05 03.9**	**-0.2**
MATP	**Matopo**	**60.25**	**221**	P	**P**	**15 05 18.9**	**+0.7**
	comp=Z,3.7nm,1.0s,baz=352,slow=2.1,SNR=3.0						
MDT	**Midelt**	**60.35**	**294**	P	**P**	**15 05 18.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=74,slow=4.3,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**61.60**	**270**	P	**P**	**15 05 28.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**61.60**	**270**	P	**P**	**15 05 26.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=62,slow=6.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**61.60**	**270**	P	**P**	**15 05 28.6**	**+1.2**
TORD				IAmb	IAmb	15 05 49.9	
	comp=Z,3.9nm,1.1s						
SCO	**Scoresbysund**	**63.51**	**338**	P	**P**	**15 05 40.1**	**+0.8**
KNRA	**Kununurra**	**74.37**	**117**	P	**P**	**15 06 48.4**	**+0.7**
SFJD	**Kangerlussuaq**	**74.40**	**339**	P	**P**	**15 06 47.0**	**0.0**
TOLK	**Toolik Lake Re**	**80.31**	**13**	P	**P**	**15 07 20.7**	**+0.4**
TOLK				IAmb	IAmb	15 07 25.4	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**81.15**	**118**	P	**P**	**15 07 24.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=318,slow=4.2,SNR=4.0						
WRA	**Warramunga Arr**	**81.15**	**118**	P	**P**	**15 07 25.1**	**-0.3**
WB2	**Warramunga Arr**	**81.16**	**118**	P	**P**	**15 07 25.4**	**-0.1**
WB2				IAmb	IAmb	15 07 31.7	
	comp=Z,5.4nm,1.1s						
WR0	**Warramunga Arr**	**81.32**	**118**	P	**P**	**15 07 25.9**	**-0.4**
WR0				IAmb	IAmb	15 07 31.2	
	comp=Z,3.8nm,1.1s						
IMAR	**Indian Mountai**	**81.65**	**15**	P	**P**	**15 07 27.7**	**+0.3**
H21K	**Melozitna Rive**	**82.14**	**15**	P	**P**	**15 07 32.2**	**+2.2**
H21K				IAmb	IAmb	15 07 42.1	
	comp=Z,3.2nm,1.1s						
BMAR	**Burnt Mountain**	**82.30**	**12**	P	**P**	**15 07 30.8**	**-0.1**
AS31	**Alice Springs**	**82.89**	**121**	P	**P**	**15 07 34.7**	**+0.1**
ASAR	**Alice Springs**	**82.89**	**121**	P	**P**	**15 07 34.5**	**0.0**
	comp=Z,2.3nm,0.8s,baz=308,slow=5.1,SNR=12						
ASAR	**Alice Springs**	**82.89**	**121**	P	**P**	**15 07 35.4**	**+0.8**
ILAR	**Eielson Array**	**84.21**	**14**	P	**P**	**15 07 41.1**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=327,slow=5.2,SNR=2.0						
YKA	**Yellowknife Ar**	**90.04**	**0**	P	**P**	**15 08 07.8**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=353,slow=4.6,SNR=2.4						

IDC 21 15:05:48.8±418.0, 43.88N×9.03E, h0km, Error ellipse: s-maj=150.8km s-min=108.5km az=24.0, Corsica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**5.94**	**31**	*i*		15 39 40.0	
	baz=216,slow=331,SNR=1.6						
I48TN	**KESRA INFRASON**	**8.07**	**178**	*i*		15 55 30.0	
	baz=0.5,slow=327,SNR=0.8						
I43RU	**DUBNA INFRASON**	**21.93**	**44**	*i*		17 22 20.0	
	baz=245,slow=328,SNR=1.4						

*TAP **21** 15:10:16.6, 24.24N×121.06E, h2km, ML3.7, C*
*JMA **21** 15:10:16.5±0.1, 24.19N×121.01E, h4km±3km, M3.3*

ISC 21 15:10:17.4±0.8, 24.23N±0.01×121.05E±0.01, h9km±6km, n106, σ082/195, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHP	**Taichung City**	**0.11**	**297**	*i* P	**Pg**	**15 10 19.7**	**-0.4**
	baz=288						
WHP				S	**Sg**	**15 10 22.0**	**0.0**
	baz=288						
TWT	**Tachien**	**0.11**	**77**	P	**Pg**	**15 10 19.4**	**-0.8**
	baz=85						
FUSS	**Fushou**	**0.17**	**83**	*i* P	**Pg**	**15 10 20.9**	**-0.2**
	baz=88						
FUSS				S	**Sg**	**15 10 23.6**	**-0.2**
	baz=88						
CHGB	**Renai**	**0.20**	**147**	P	**Pg**	**15 10 21.6**	**0.0**
	baz=150						
CHGB				S	**Sg**	**15 10 25.1**	**+0.7**
	baz=150						
WHF	**Hehuan Shan**	**0.21**	**113**	*i* P	**Pg**	**15 10 22.1**	**+0.3**
	baz=117						
WHF				*i* S	**Sg**	**15 10 26.2**	**+1.3**
	baz=117						
WCS	**Beigang Elemen**	**0.21**	**218**	P	**Pg**	**15 10 21.9**	**+0.2**
	baz=216						
WCS				S	**Sg**	**15 10 25.0**	**+0.3**
	baz=216						
DPDB	**Guoxing**	**0.23**	**211**	P	**Pg**	**15 10 22.2**	**+0.2**
	baz=210						
WPL	**Puli Township**	**0.23**	**203**	P	**Pg**	**15 10 22.2**	**+0.1**
	baz=202						
WUSB	**Renai**	**0.24**	**166**	P	**Pg**	**15 10 22.4**	**0.0**
	baz=167						
WUSB				S	**Sg**	**15 10 25.7**	**+0.1**
	baz=167						
TWQ1	**Liyutan**	**0.28**	**295**	*i* P	**Pg**	**15 10 22.7**	**-0.4**
	baz=292						
TWQ1				*i* S	**Sb**	**15 10 28.8**	**-0.8**
	baz=292						
OWD	**Renai**	**0.29**	**158**	*i* P	**Pb**	**15 10 23.4**	**-1.6**
	baz=159						
OWD				*i* S	**Sg**	**15 10 27.4**	**+0.2**
	baz=159						
NSY	**Sanyi**	**0.33**	**305**	*i* P	**Pb**	**15 10 24.9**	**-0.5**
	baz=303						
NSY				*i* S	**Sb**	**15 10 31.0**	**+0.1**
	baz=303						
TCU	**Taichung**	**0.35**	**257**	*i* P	**Pb**	**15 10 25.8**	**-0.1**
	baz=254						
TCU				*i* S	**Sb**	**15 10 32.8**	**+1.2**
	baz=254						
NNS	**Nan Shan**	**0.36**	**54**	*i* P	**Pg**	**15 10 24.1**	**-0.4**
	baz=57						
NNS				*i* S	**Sg**	**15 10 28.4**	**-0.9**
	baz=57						
NNSB	**Datong**	**0.36**	**56**	P	**Pg**	**15 10 24.0**	**-0.5**
	baz=58						
NNSB				*e*S	**Sg**	**15 10 29.9**	**+0.6**
	baz=58						
TYC	**Yuchr**	**0.37**	**209**	*i* P	**Pb**	**15 10 24.9**	**-1.2**
	baz=206						
TYC				S	**Sb**	**15 10 30.2**	**-1.8**
	baz=206						
SMLT	**Sun Moon Lake**	**0.37**	**202**	*i* P	**Pb**	**15 10 25.2**	**-1.0**
	baz=200						
WWF	**Wufeng**	**0.37**	**241**	P	**Pb**	**15 10 26.3**	**+0.1**
	baz=223						
ETLH	**Xiulin Townshi**	**0.39**	**93**	P	**Pb**	**15 10 25.5**	**-1.1**
	baz=96						
ETLH				S	**Sg**	**15 10 31.0**	**+0.8**
	baz=96						
NMLH	**Miaoli**	**0.39**	**322**	P	**Pb**	**15 10 26.1**	**-0.4**
	baz=320						
NMLH				S	**Sb**	**15 10 32.3**	**-0.4**
	baz=320						
WDJ	**Dajia District**	**0.40**	**288**	*i* P	**Pb**	**15 10 26.6**	**0.0**
	baz=285						
WDJ				S	**Sb**	**15 10 33.9**	**+1.1**
	baz=285						
NSTT	**Nanjuang**	**0.41**	**353**	*i* P	**Pb**	**15 10 25.6**	**-1.2**
	baz=354						
NSTT				*i* S	**Sg**	**15 10 31.1**	**+0.4**
	baz=354						
NFF	**Wufeng Townshi**	**0.41**	**8**	P	**Pg**	**15 10 25.2**	**-0.2**
	baz=27						
NFF				S	**Sg**	**15 10 31.2**	**+0.4**
	baz=27						
LIOB	**Emei**	**0.42**	**355**	*i* P	**Pb**	**15 10 25.9**	**-1.1**
	baz=356						
LIOB				*i* S	**Sb**	**15 10 32.2**	**-1.3**
	baz=356						
SSLB	**Suanglung**	**0.45**	**192**	P	**Pb**	**15 10 26.1**	**-1.4**
	baz=178						
SSLB				S	**Sg**	**15 10 31.2**	**-0.8**
	baz=178						
WNT1	**Nantou City**	**0.47**	**227**	P	**Pn**	**15 10 28.6**	**-1.7**
	baz=212						
WNT1				*e*S	**Sb**	**15 10 37.0**	**+2.2**
	baz=212						
WCHH	**Zhanghua**	**0.48**	**252**	*i* P	**Pb**	**15 10 28.6**	**+0.6**
	baz=250						
ETM	**Tongmen**	**0.48**	**123**	P	**Pb**	**15 10 27.1**	**-0.9**
	baz=133						
VWDT	**VWDT**	**0.48**	**170**	P	**Pb**	**15 10 26.7**	**-1.3**
	baz=170						
VWDT				S	**Sg**	**15 10 32.9**	**0.0**
	baz=170						
NJN	**Zhunan**	**0.48**	**340**	P	**Pb**	**15 10 28.1**	**0.0**
	baz=340						
NJN				S	**Sb**	**15 10 35.1**	**-0.3**
	baz=340						
WNT	**Mingjian**	**0.48**	**224**	*i* P	**Pb**	**15 10 28.4**	**+0.3**
	baz=209						
WNT				*i* S	**Sb**	**15 10 36.7**	**+1.4**
	baz=209						
NACB	**Ninganchiao**	**0.50**	**96**	P	**Pg**	**15 10 27.2**	**+0.2**
	baz=99						
NACB				S	**Sg**	**15 10 33.9**	**+0.4**
	baz=99						
WJS	**Zhushan**	**0.50**	**217**	*i* P	**Pb**	**15 10 28.5**	**+0.1**
	baz=206						
WJS				*i* S	**Sb**	**15 10 37.5**	**+1.7**
	baz=206						
NJD	**Zhudong**	**0.51**	**3**	P	**Pb**	**15 10 28.1**	**-0.5**
	baz=20						
NJD				S	**Sb**	**15 10 35.5**	**-0.5**
	baz=20						
WYL	**Yuanlin Townsh**	**0.51**	**239**	P	**Pn**	**15 10 29.3**	**-1.6**
	baz=235						
WYL				*e*S	**Sb**	**15 10 38.1**	**+2.1**
	baz=235						
TWD	**Chiawan**	**0.52**	**106**	*i* P	**Pb**	**15 10 27.7**	**-0.9**
	baz=108						
TWD				*i* S	**Sg**	**15 10 33.8**	**-0.4**
	baz=108						
ETL	**Fush Village**	**0.52**	**97**	P	**Pb**	**15 10 27.9**	**-0.9**
	baz=100						
ETL				S	**Sg**	**15 10 35.2**	**+0.8**
	baz=100						
NSK	**Sanguang**	**0.53**	**32**	*i* P	**Pg**	**15 10 27.3**	**-0.4**

WDLH				*i*	S		**Sn**	15 10 44.5	-0.3
	baz=219								
FUSB	**Fushanzhiwuyua**	**0.72**	**42**		P		**Pg**	15 10 30.7	-0.6
	baz=45								
FUSB					S		**Sg**	15 10 39.4	-1.3
	baz=45								
NDS	**Dongshan**	**0.73**	**56**		P		**Pg**	15 10 30.8	-0.6
	baz=50								
NDS					S		**Sg**	15 10 40.8	-0.1
	baz=50								
YUS	**Yu-Shan**	**0.74**	**187**	*i*	P		**Pg**	15 10 31.2	-0.5
	baz=176								
YUS				*e*	S		**Sb**	15 10 42.0	-1.2
	baz=176								
TWE	**Neicheng**	**0.74**	**48**	*i*	P		**Pg**	15 10 31.5	-0.2
	baz=41								
TWE					S		**Sg**	15 10 41.8	+0.4
	baz=41								
NCUH	**Zhongli**	**0.75**	**9**	*i*	P		**Pb**	15 10 32.9	+0.3
	baz=11								
NCUH					S		**Sn**	15 10 44.9	-0.8
	baz=11								
ALS	**Alishan**	**0.75**	**198**	*i*	P		**Pb**	15 10 32.9	+0.1
	baz=186								
ALS					S		**Sn**	15 10 45.0	-1.1
	baz=186								
NCU	**National Centr**	**0.75**	**9**	*i*	P		**Pb**	15 10 32.3	-0.4
	baz=11								
NCU					S		**Sb**	15 10 44.4	+1.4
	baz=11								
EHY	**Hungye**	**0.76**	**161**	*i*	P		**Pb**	15 10 31.9	-0.8
	baz=161								
EHY					S		**Sb**	15 10 42.2	-1.0
	baz=161								
NHW	**Xinwu Township**	**0.78**	**360**		P		**Pn**	15 10 34.2	-0.4
	baz=1.0								
NHW				*e*	S		**Sb**	15 10 44.0	+0.2
	baz=1.0								
WTCT	**Ta-ch'eng**	**0.79**	**243**		P		**Pn**	15 10 33.5	-1.2
	baz=240								
WTCT				*e*	S		**Sn**	15 10 46.5	-0.3
	baz=240								
HGSD	**Ruisui**	**0.81**	**155**		P		**Pb**	15 10 33.5	-0.1
	baz=165								
HGSD					S		**Sb**	15 10 44.8	+0.2
	baz=165								
WTK	**Tuku**	**0.81**	**229**	*i*	P		**Pn**	15 10 34.3	-0.7
	baz=226								
WTK					S		**Sn**	15 10 45.8	-1.4
	baz=226								
TWC	**Suao**	**0.82**	**62**	*i*	P		**Pg**	15 10 32.7	-0.4
	baz=65								
TWC				*i*	S		**Sg**	15 10 44.3	+0.5
	baz=65								
ILA	**Ilan**	**0.83**	**50**	*i*	P		**Pg**	15 10 33.1	-0.3
	baz=52								
NHDH	**Xindian Distri**	**0.85**	**30**	*i*	P		**Pg**	15 10 33.7	0.0
	baz=42								
NHDH				*e*	S		**Sg**	15 10 45.4	+0.6
	baz=42								
YULB	**Yu-li**	**0.86**	**165**		P		**Pb**	15 10 33.5	-1.0
	baz=154								
YULB					S		**Sg**	15 10 44.8	-0.3
	baz=154								
TWA	**Mucha**	**0.89**	**33**	*i*	P		**Pg**	15 10 34.4	-0.1
	baz=46								
TWA				*i*	S		**Sg**	15 10 46.1	0.0
	baz=46								
TWF1	**Yuli**	**0.90**	**166**		P		**Pb**	15 10 34.5	-0.7
	baz=165								
TWF1				*e*	S		**Sn**	15 10 48.3	-1.1
	baz=165								
TAP	**Taipei**	**0.91**	**27**		P		**Pb**	15 10 35.2	-0.1
	baz=30								
EYUL	**Yuli**	**0.91**	**164**	*i*	P		**Pb**	15 10 34.8	-0.6
	baz=164								
EYUL				*e*	S		**Sb**	15 10 46.6	-0.9
	baz=164								
CHY	**Chiayi**	**0.93**	**219**	*i*	P		**Pn**	15 10 36.4	-0.2
	baz=215								
CHY				*i*	S		**Sn**	15 10 50.4	+0.3
	baz=215								
TWS1	**Kuangyinshan**	**0.93**	**21**	*i*	P		**Pn**	15 10 36.4	-0.2
	baz=32								
TWS1					S		**Sb**	15 10 48.8	+0.6
	baz=32								
NTC	**Toucheng**	**0.94**	**48**	*i*	P		**Pg**	15 10 34.9	-0.7
	baz=39								
NTC				*e*	S		**Sg**	15 10 48.2	+0.5
	baz=39								
WSF	**Szhu**	**0.96**	**233**	*i*	P		**Pn**	15 10 36.4	-0.7
	baz=229								
WSF				*i*	S		**Sn**	15 10 50.5	-0.4
	baz=229								
NTST	**Danshui**	**1.00**	**21**	*i*	P		**Pn**	15 10 37.7	+0.1
	baz=25								
NTST					S		**Sn**	15 10 52.5	+0.7
	baz=25								
TPUB	**Ta-pu**	**1.00**	**203**		P		**Pn**	15 10 37.2	-0.4
	baz=200								
TPUB					S		**Sn**	15 10 52.9	+1.0
	baz=200								
EGS		**1.01**	**52**	*i*	P		**Pb**	15 10 37.0	-0.1
	baz=55								
TIPB	**Shuangxi**	**1.02**	**43**	*i*	P		**Pg**	15 10 36.3	-0.7
	baz=46								
YM01	**YM01**	**1.03**	**27**		P		**Pb**	15 10 37.8	+0.3
	baz=30								
YM01					S		**Sn**	15 10 52.6	0.0
	baz=30								
ELDTW	**Lidau**	**1.03**	**182**	*i*	P		**Pg**	15 10 36.2	-1.0
	baz=172								
ELDTW				*i*	S		**Sn**	15 10 52.6	-0.2
	baz=172								
ANP	**Anpu**	**1.04**	**24**	*i*	P		**Pb**	15 10 38.0	+0.3
	baz=39								
ANP					S		**Sb**	15 10 52.1	+0.6
	baz=39								
WTP	**Ta-pu**	**1.06**	**203**	*i*	P		**Pn**	15 10 38.4	-0.1
	baz=200								
WTP				*i*	S		**Sn**	15 10 54.2	+0.9
	baz=200								
NWF	**Wu-fen Shan**	**1.07**	**38**	*i*	P		**Pb**	15 10 38.0	-0.1
	baz=53								
STYH	**Taoyuan**	**1.08**	**194**		P		**Pn**	15 10 38.8	+0.1
	baz=184								
STYH					S		**Sn**	15 10 54.1	+0.3
	baz=184								
TWK	**Hsinying**	**1.09**	**209**	*i*	P		**Pn**	15 10 38.9	0.0
	baz=205								
TWK					S		**Sn**	15 10 55.1	+1.0
	baz=205								
STYT	**Tauyuan**	**1.09**	**194**		P		**Pn**	15 10 39.3	+0.3
	baz=192								
STYT				*e*	S		**Sn**	15 10 55.3	+1.0
	baz=192								
ICHU	**Yijhu**	**1.12**	**220**	*i*	P		**Pn**	15 10 39.9	+0.7
	baz=217								
ICHU				*i*	S		**Sn**	15 10 56.2	+1.5
	baz=217								
SNST	**Tainan City**	**1.12**	**207**	*i*	P		**Pn**	15 10 39.9	+0.5
	baz=204								
SNST				*i*	S		**Sn**	15 10 57.3	+2.4
	baz=204								
SXI1	**Grass Mountain**	**1.14**	**41**		P		**Pb**	15 10 39.2	-0.1
	baz=44								
SXI1					S		**Sg**	15 10 53.4	-0.8
	baz=44								
CHN1	**Nanshi**	**1.14**	**205**	*i*	P		**Pn**	15 10 40.3	+0.7
	baz=202								
CHN1				*i*	S		**Sn**	15 10 56.8	+1.4
	baz=202								
TWB1	**Santiao Chiao**	**1.15**	**47**	*i*	P		**Pg**	15 10 38.6	-0.9
	baz=41								
TWB1				*e*	S		**Sg**	15 10 53.6	-0.9
	baz=41								
TWY	**Chenhua**	**1.16**	**25**	*i*	P		**Pn**	15 10 39.9	+0.2
	baz=44								
TWY				*e*	S		**Sb**	15 10 54.9	+0.2
	baz=44								
CHKT	**Chengkung**	**1.16**	**166**	*i*	P		**Pn**	15 10 39.6	-0.2
	baz=148								
CHKT				*i*	S		**Sn**	15 10 57.8	+2.0
	baz=148								
JYNG	**Yonagunijimaku**	**1.74**	**82**		P		**Pb**	15 10 48.8	-0.7
JYNG				*e*	S		**Sb**	15 11 11.6	+0.1
YOJ	**Yonaguni jima**	**1.80**	**82**		P		**Pb**	15 10 49.7	-0.8
YOJ					S		**Sb**	15 11 13.2	0.0
IRIF	**Iriomote-Funau**	**2.44**	**87**		P		**Pn**	15 10 58.2	+0.7
IRIF					S		**Sn**	15 11 28.6	+1.1
HATJ	**Hateruma jima**	**2.52**	**93**	*e*	S		**Sn**	15 11 31.2	+1.9
JKRS	**Kuro-shima**	**2.70**	**89**		P		**Pn**	15 11 02.4	+1.4
JKRS					S		**Sn**	15 11 35.7	+1.9
JIJ	**Ishigaki jima**	**2.82**	**87**		P		**Pn**	15 11 03.8	+1.1
JIJ					S		**Sn**	15 11 38.0	+1.2
JISG	**Ishigakijimahi**	**2.99**	**82**		P		**Pn**	15 11 06.0	+1.0
JISG					S		**Sn**	15 11 41.2	+0.2

*IDC **21** 15:18:26.1±0.9,27.61N×66.21E,h0km,mb3.7/10, mb1 3.8/12,mb1mx3.5/77,mbtmp3.7/12,ML3.7/2, Error ellipse: s-maj=23.0km s-min=21.7km az=129.0*

ISC 21 15:18:28.9±0.6,27.51N±0.10×66.16E±0.07,h25km,n36, σ2s23/42,mb3.8/10,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.15**	**41**	P		P	**Pn**	**15 20 10.5**	**-1.4**
CEP	**Cherat**	**8.01**	**37**	P		P	**Pn**	**15 20 22.1**	**-1.7**
WSAR	**Wadi Sarin**	**8.03**	**240**	Pn		Pn	**Pn**	**15 20 25.6**	**+1.6**
	1.7nm,0.3s,baz=79,slow=5.2,SNR=19								
WSAR				Sn			**Sn**	**15 21 49.5**	**-4.5**
	baz=90,slow=19,SNR=1.6								
JLN	**Jalan Bani Buh**	**8.13**	**230**	P		P	**Pn**	**15 20 26.8**	**+1.5**
JLN				S		S	**Sn**	**15 21 53.8**	**-2.6**
WBK	**Wadi Bani Khal**	**8.14**	**235**	P		P	**Pn**	**15 20 27.2**	**+1.7**
	SNR=7.8								
WBK				S			**Sn**	**15 21 53.5**	**-3.3**
BIDO	**Bidbid**	**8.27**	**243**	P		P	**Pn**	**15 20 29.7**	**+2.4**
SMDO	**Samad**	**8.57**	**241**	P		P	**Pn**	**15 20 33.0**	**+1.5**
SMDO				S		S	**Sn**	**15 22 04.6**	**-3.0**
CHCP	**Chirah Chowk**	**8.66**	**43**	P		P	**Pn**	**15 20 32.4**	**-0.2**
HOQ	**Hoqain**	**8.90**	**246**	P		P	**Pn**	**15 20 36.8**	**+0.9**
HOQ				S		S	**Sn**	**15 22 11.6**	**-3.8**
JMDO	**Jabal Madar**	**8.92**	**237**	P		P	**Pn**	**15 20 40.0**	**+3.7**
	SNR=5.6								
BANOM	**Banah**	**8.96**	**262**	P		P	**Pn**	**15 20 37.7**	**+1.0**
	SNR=25								
SHME	**Shamm**	**9.07**	**263**	P		P	**Pn**	**15 20 39.7**	**+1.5**
	SNR=15								
MASF	**Masafi**	**9.21**	**259**	P		P	**Pn**	**15 20 43.9**	**+3.6**
UOSS	**Minazif**	**9.30**	**256**	P		P	**Pn**	**15 20 41.6**	**+0.2**
BSY	**Bisya**	**9.40**	**242**	P		P	**Pn**	**15 20 45.7**	**+2.8**
	SNR=11								
ASHO	**Ashiyiah**	**9.51**	**255**	P		P	**Pn**	**15 20 47.7**	**+3.4**
ASHO				S		S	**Sn**	**15 22 28.2**	**-2.2**
ARQ	**Araqi**	**9.65**	**247**	P		P	**Pn**	**15 20 50.4**	**+4.1**
	SNR=16								
FAQ	**Al Faqa, Dubai**	**9.89**	**256**	P		P	**Pn**	**15 20 53.1**	**+3.6**
PYUN	**Piuthan**	**14.91**	**84**	*e*P		P	**Pn**	**15 21 56.9**	**-1.3**
	20nm,0.6s								
KOLN	**Koldanda**	**15.46**	**85**	*e*P		P	**Pn**	**15 22 05.2**	**-0.4**
DANN	**Dangsing**	**15.58**	**83**	*e*P		P	**Pn**	**15 22 05.6**	**-1.6**
AAK	**Ala-Archa**	**16.55**	**22**	Pn		Pn	**Pn**	**15 22 17.5**	**-1.9**
	0.2nm,0.3s,baz=201,slow=11,SNR=5.5								
PKIN	**Phulchoki**	**17.06**	**85**	*e*P		P	**Pn**	**15 22 25.4**	**-0.7**
	9.4nm,0.6s								
GUN	**Gumba**	**17.47**	**84**	*e*P		P	**Pn**	**15 22 29.7**	**-1.5**
JIRN	**Jiri**	**17.76**	**85**	*e*P		P	**Pn**	**15 22 33.5**	**-1.3**
	14nm,0.5s								
RAMN	**Ramite**	**18.19**	**87**	*e*P		P	**Pn**	**15 22 38.8**	**-1.2**
	18nm,0.5s								
MKAR	**Makanchi Array**	**23.06**	**29**	P		P	**P**	**15 23 30.9**	**-1.5**
	0.9nm,0.6s,baz=217,slow=11,SNR=10								
KURBB	**Kurchatov Arra**	**24.93**	**19**	P		P	**P**	**15 23 50.1**	**+0.2**
	0.4nm,0.6s,baz=212,slow=8.6,SNR=8.8								
SONM	**Songino Array**	**37.22**	**46**	P		P	**P**	**15 25 39.0**	**+0.7**
	0.2nm,0.5s,baz=241,slow=11,SNR=2.5								
FINES	**FINESS Array B**	**43.16**	**333**	P		P	**P**	**15 26 27.7**	**+0.5**
	1.5nm,0.8s,baz=124,slow=9.5,SNR=5.7								
HFS	**Hagfors**	**48.04**	**328**	P		P	**P**	**15 27 07.8**	**+2.0**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=4.0								
ARCES	**ARCESS Array B**	**48.16**	**342**	P		P	**P**	**15 27 06.3**	**-0.3**
	5.5nm,1.1s,baz=139,slow=8.4,SNR=6.0								
TORD	**Torodi Ar. Bea**	**61.52**	**271**	P		P	**P**	**15 28 44.8**	**+0.6**
	0.6nm,0.6s,baz=56,slow=6.4,SNR=4.5								
SEY	**Seymchan**	**64.19**	**30**	P		P	**P**	**15 29 02.4**	**+1.2**
	0.6nm,0.8s,baz=190,slow=10,SNR=1.6								
WRA	**Warramunga Arr**	**81.09**	**118**	P		P	**P**	**15 30 43.8**	**+1.5**
	0.5nm,0.6s,baz=316,slow=5.0,SNR=5.9								
ASAR	**Alice Springs**	**82.81**	**121**	P		P	**P**	**15 30 52.6**	**+1.3**
	1.0nm,0.8s,baz=303,slow=5.4,SNR=16								

*IDC **21** 15:20:40.7±2.8,7.69S×123.33E,h213km±29km,mb2.7/1, mb1 3.2/5,mb1mx2.8/60,mbtmp3.7/5,Error ellipse: s-maj=77.1km s-min=24.2km az=53.0*

*DJA **21** 15:20:41.2±0.5,8.3°S±5.5°×12.3°E±°,h238km±5km,M3.5/9, mb3.9/5,MLv3.3/9*

ISC 21 15:20:41.7±1.1,8.02S±0.08×123.0E±0.1,h250km,n13, σ1s55/18,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.00**	**232**	P		P	**Pn**	**15 21 15.9**	**-0.8**
SOEI	**Soe**	**2.12**	**145**	P		P	**Pn**	**15 21 25.0**	**-0.4**
SOEI				S		S	**S**	**15 21 57.9**	**-2.0**
BATI	**Baumata**	**2.27**	**164**	P		P	**Pn**	**15 21 26.9**	**+0.2**
	16nm,0.3s,baz=343,slow=0.8,SNR=26								
BATI				S			**S**	**15 22 01.2**	**-1.2**
	22nm,0.3s,baz=343,slow=21,SNR=16								
BATI	**Baumata**	**2.27**	**164**	P		P	**Pn**	**15 21 27.3**	**+0.6**
BATI				S		S	**S**	**15 22 01.1**	**-1.2**
BBSI	**Bau Bau**	**2.55**	**350**	P		P	**Pn**	**15 21 28.2**	**-1.4**
BASI	**Baing, Sumba**	**3.27**	**228**	P		P	**Pn**	**15 21 37.2**	**+0.1**
WBSI	**Waikabubak, Su**	**3.94**	**246**	P		P	**Pn**	**15 21 43.7**	**-1.2**
PLAI	**Plampang**	**5.26**	**261**	P		P	**Pn**	**15 22 00.5**	**-0.2**
	0.1nm16nm,0.5s								
FITZ	**Fitzroy Crossi**	**10.34**	**166**	P		P	**Pn**	**15 23 07.1**	**+2.5**
	0.3nm,0.3s,baz=2.9,slow=12,SNR=8.3								
FITZ				S			**S**	**15 24 57.5**	**-3.3**
	0.4nm,0.3s,baz=117,slow=11,SNR=3.8								
PCJI	**Pacitan**	**11.74**	**268**	P		P	**Pn**	**15 23 21.9**	**-0.3**
WRA	**Warramunga Arr**	**16.14**	**138**	P		P	**Pn**	**15 24 16.3**	**+0.7**
	0.6nm,0.3s,baz=315,slow=12,SNR=45								
WRA				S			**S**	**15 27 12.8**	**+2.0**
	0.2nm,0.3s,baz=323,slow=25,SNR=6.4								
ASAR	**Alice Springs**	**18.73**	**147**	P		P	**Pn**	**15 24 45.4**	**-0.7**
	0.5nm,0.3s,baz=330,slow=14,SNR=47								
MKAR	**Makanchi Array**	**65.49**	**330**	P		P	**P**	**15 30 59.9**	**+1.6**
	0.2nm,0.6s,baz=140,slow=7.5,SNR=1.9								

*NEIC **21** 15:23:31.9±1.3,22.33N±0.08×143.5E±0.1,h110km±7km, mb4.5/105,Error ellipse: s-maj=15.6km s-min=12.0km az=97.0*

*JMA **21** 15:23:34.7±0.1,23.04N×144.55E,h146km*

*IDC **21** 15:23:38.4±2.8,22.27N×143.52E,h180km±25km, mb3.9/34,mb1 3.9/34,mb1mx3.7/67,mbtmp4.4/34,Error ellipse: s-maj=15.4km s-min=9.5km az=90.0*

ISC 21 15:23:32.2±0.5,22.33N±0.06×143.55E±0.08,h118km, n175,σ1s24/166,mb4.5/81,1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.46**	**344**	P		P	**Pn**	**15 24 37.8**	**-0.1**
JHH2				*e*S			**Sn**	**15 25 26.4**	**-2.5**
JCJ	**Chichijima**	**4.90**	**346**	Pn		Pn	**Pn**	**15 24 43.0**	**-0.8**
JOD2	**Odawara 2**	**13.46**	**344**	P		P	**Pn**	**15 26 36.2**	**-2.3**
JYT	**Yasato**	**14.15**	**349**				**P**	**15 26 51.0**	**-0.2**
INU	**Inuyama**	**14.17**	**338**	Pn		Pn	**Pn**	**15 26 47.2**	**-0.4**
JMN	**Monobe**	**14.20**	**325**	P		P	**P**	**15 26 53.0**	**+1.2**
JAG	**Ashikaga**	**14.49**	**347**	P		P	**Pn**	**15 26 47.8**	**-3.8**
JOW	**Kunigami**	**14.60**	**291**				**Pn**	**15 26 54.1**	**+1.1**
JSU	**Suzuyama**	**14.82**	**311**	Pn		Pn	**Pn**	**15 26 55.2**	**-0.6**
MAJO	**Matsushiro**	**14.90**	**343**	Pn		Pn	**Pn**	**15 26 55.6**	**-1.2**
JHS	**Saijyo**	**15.58**	**326**	P		P	**P**	**15 27 07.7**	**+0.7**
JMM	**Marumori**	**15.67**	**352**	Pn		Pn	**Pn**	**15 27 06.0**	**-0.3**
JMM				lAmb		lAmb	lAmb	15 27 18.7	
	comp=Z,21nm,0.8s								
JTU	**Tsushima**	**17.37**	**317**	P		P	**P**	**15 27 24.1**	**-2.7**
JTU				lAmb		lAmb	lAmb	15 27 39.3	
	comp=Z,77nm,1.5s								
JTM	**Tenmabayashi**	**18.52**	**354**	Pn		Pn	**Pn**	**15 27 42.0**	**+1.0**
ERM	**Erimo**	**19.63**	**359**	P		P	**P**	**15 27 52.1**	**+0.7**
ERM				lAmb		lAmb	lAmb	15 28 16.5	
	comp=Z,54nm,1.2s								
KSRS	**Korea Array**	**20.22**	**322**	P		P	**P**	**15 27 58.1**	**+0.3**
	comp=Z,12nm,0.5s,baz=134,slow=11,SNR=7.0								
YHNB	**Yeheng**	**20.47**	**281**	P		P	**P**	**15 28 00.8**	**+0.1**
YHNB				lAmb		lAmb	lAmb	15 28 12.2	
	comp=Z,40nm,1.2s								
JEW	**Eniwo**	**20.53**	**356**	P		P	**P**	**15 28 01.0**	**-0.1**
YULB	**Yu-li**	**20.53**	**277**	P		Pn		15 28 03.1	-1.6
YULB				lAmb		lAmb		15 28 21.6	
	comp=Z,40nm,1.5s								
SSLB	**Suanglung**	**20.84**	**278**	P		Pn		15 28 06.5	-1.8
TPUB	**Ta-pu**	**21.15**	**277**	P		P	**P**	**15 28 09.6**	**+1.6**
JKA	**Kamikawa-asahi**	**21.74**	**358**	P		P	**P**	**15 28 16.6**	**+2.5**
JKA	**Kamikawa-asahi**	**21.74**	**358**	lAmb		lAmb		15 28 41.9	
	comp=Z,49nm,1.5s								
ASAJ	**Asahikawa**	**21.74**	**358**	P		P	**P**	**15 28 16.6**	**+2.5**
	comp=Z,4.6nm,0.6s,baz=252,slow=9.0,SNR=6.1								
H11N1	**WAKE ISLAND Hy**	**21.94**	**92**	T		T		15 50 45.9	
	baz=283								
H11N2	**WAKE ISLAND Hy**	**21.94**	**92**	T		T		15 50 46.5	
	baz=283								
H11N3	**WAKE ISLAND Hy**	**21.96**	**92**	T		T		15 50 48.3	
	baz=283								
H11S3	**WAKE ISLAND Hy**	**22.01**	**96**	T		T		15 50 52.5	
	baz=283,slow=75,SNR=8.8								
H11S1	**WAKE ISLAND Hy**	**22.02**	**96**	T		T		15 50 52.9	
	baz=283,slow=75,SNR=6.5								
H11S2	**WAKE ISLAND Hy**	**22.03**	**96**	T		T		15 50 53.3	
	baz=283,slow=75,SNR=6.4								
USRK	**Ussuriysk Ar.**	**23.81**	**339**	P		P	**P**	**15 28 36.4**	**+2.2**
	comp=Z,9.4nm,0.8s,baz=154,slow=11,SNR=6.9								
USRK	**Ussuriysk Ar.**	**23.81**	**339**	P		P	**P**	**15 28 35.4**	**+1.3**
NJ2	**Nanjing**	**23.96**	**299**	*e*P		P	**P**	**15 28 37.3**	**+1.7**
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
YSS	**Yuzh-Sakhalins**	**24.58**	**359**	P		P	**P**	**15 28 41.2**	**+0.2**
YSS				lAmb		lAmb		15 29 09.3	
	comp=Z,36nm,1.4s								
BNX	**BinXian**	**26.81**	**334**	⇓P		P	**P**	**15 29 00.6**	**-0.6**
BNX				pmax		pmax			
	comp=Z,29nm,0.7s								
BNX				pmax		pmax			
	comp=Z,2μm,10.0s								
KLR	**Kul'dur**	**28.43**	**344**	P		P	**P**	**15 29 16.6**	**+0.9**
	comp=Z,20nm,0.6s,baz=160,slow=7.6,SNR=71								
HHC	**Hu-ho-hao-te**	**32.66**	**312**	*e*P		P	**P**	**15 29 54.6**	**+1.4**
HHC				pmax		pmax			
	comp=Z,11nm,0.9s								
HHC				pmax		pmax			
	comp=Z,450nm,6.0s								
HIA	**Hailar**	**32.83**	**331**	P		P	**P**	**15 29 54.6**	**+0.2**
SBUM	**Sibu**	**36.27**	**241**	P		P	**P**	**15 30 26.8**	**+2.4**
PZH	**PanZhiHua**	**38.17**	**285**	P		P	**P**	**15 30 42.1**	**+1.5**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.2s								
ULN	**Ulaanbaatar**	**38.70**	**320**	P		P	**P**	**15 30 44.7**	**0.0**
ULN				lAmb		lAmb	lAmb	15 30 46.0	
	comp=Z,4.4nm,0.7s								
SONM	**Songino Array**	**39.07**	**320**	P		P	**P**	**15 30 48.3**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=132,slow=7.2,SNR=20								
SONM	**Songino Array**	**39.07**	**320**	P		P	**P**	**15 30 47.8**	**0.0**
YAK	**Yakutsk**	**40.80**	**350**	P		P	**P**	**15 31 01.7**	**0.0**
	comp=Z,2.3nm,0.3s,baz=42,slow=1.0,SNR=6.0								
YAK	**Yakutsk**	**40.80**	**350**	lAmb		lAmb	lAmb	15 31 02.3	
	comp=Z,13nm,0.8s								
SEY	**Seymchan**	**41.02**	**6**	P		P	**P**	**15 31 04.5**	**+1.1**
	comp=Z,3.2nm,0.3s,baz=180,slow=10,SNR=29								
CTA	**Charters Tower**	**42.24**	**176**	P		P	**P**	**15 31 13.8**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=3.4,slow=8.7,SNR=3.9								
WB0	**Warramunga Arr**	**42.78**	**193**	P		P	**P**	**15 31 17.6**	**-0.7**
WR0	**Warramunga Arr**	**42.94**	**192**	P		P	**P**	**15 31 18.8**	**-0.7**
WRAB	**Tennant Creek**	**42.95**	**193**	P		P	**P**	**15 31 19.1**	**-0.6**
WRAB				lAmb		lAmb	lAmb	15 31 19.4	
	comp=Z,8.2nm,1.4s								
WB2	**Warramunga Arr**	**42.96**	**193**	P		P	**P**	**15 31 18.9**	**-0.8**
WB2				lAmb		lAmb	lAmb	15 31 45.8	
	comp=Z,13nm,1.4s								
WRA	**Warramunga Arr**	**42.97**	**193**	P		P	**P**	**15 31 18.8**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=14,slow=8.4,SNR=17								
WRA				ScP		**ScP**	**P**	**15 36 39.9**	**-8.6**
	comp=Z,0.2nm,0.8s,baz=6.7,slow=3.9,SNR=1.7								
WRA	**Warramunga Arr**	**42.97**	**193**	P		P	**P**	**15 31 18.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**43.83**	**205**	P		P	**P**	**15 31 27.1**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=17,slow=8.2,SNR=7.3								
FITZ	**Fitzroy Crossi**	**43.83**	**205**	P		P	**P**	**15 31 26.6**	**-0.1**
UGM	**Wanagama**	**44.16**	**231**	P		P	**P**	**15 31 28.3**	**-1.2**
GOMU	**GeErMu**	**44.27**	**299**	P		P	**P**	**15 31 32.0**	**+1.4**
GOMU				S		S		15 38 05.3	+9.4
GOMU				pmax		pmax			
	comp=Z,8.0nm,0.7s								
GOMU				pmax		pmax			
	comp=Z,250nm,10.6s								
GOMU				LR		LR			
	comp=N,260nm,14.

KSH	**Kashi**	**59.16**	**304**	P	**P**	**15 33 24.3**	**+3.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
I21K	**Tanana**	**59.28**	**26**	P	**P**	**15 33 22.3**	**+1.3**
I21K				IAmb	IAmb	15 33 23.3	
	comp=Z,4.4nm,0.9s						
KTH	**Kantishna Hill**	**59.37**	**28**	P	**P**	**15 33 22.3**	**+0.4**
KTH				IAmb	IAmb	15 33 23.8	
	comp=Z,7.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	**59.45**	**28**	P	**P**	**15 33 23.0**	**+0.6**
BPAW				IAmb	IAmb	15 33 33.6	
	comp=Z,4.1nm,0.6s						
RC01	**Rabbit Creek A**	**59.47**	**31**	P	**P**	**15 33 22.4**	**0.0**
TRF	**Thorofare Moun**	**59.63**	**28**	P	**P**	**15 33 23.5**	**-0.3**
TRF				IAmb	IAmb	15 33 36.6	
	comp=Z,9.2nm,1.4s						
AAK	**Ala-Archa**	**60.05**	**307**	P	**P**	**15 33 27.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=113,slow=5.3,SNR=10						
AAK	**Ala-Archa**	**60.05**	**307**	P	**P**	**15 33 26.9**	**-0.2**
BWN	**Browne**	**60.12**	**28**	P	**P**	**15 33 27.9**	**+1.0**
SML	**Sawmill**	**60.24**	**31**	P	**P**	**15 33 28.3**	**+0.4**
MCK	**McKinley**	**60.27**	**28**	P	**P**	**15 33 28.0**	**0.0**
MCK				IAmb	IAmb	15 33 28.6	
	comp=Z,4.8nm,1.2s						
SCM	**Sheep Creek Mo**	**60.72**	**31**	P	**P**	**15 33 31.7**	**+0.7**
SCM				IAmb	IAmb	15 33 32.3	
	comp=Z,7.2nm,0.9s						
MDM	**Murphy Dome**	**60.79**	**27**	P	**P**	**15 33 32.5**	**+1.1**
DHY	**Denali Highway**	**60.86**	**29**	P	**P**	**15 33 32.1**	**0.0**
DHY				IAmb	IAmb	15 33 35.2	
	comp=Z,4.6nm,1.1s						
TOLK	**Toolik Lake Re**	**61.01**	**23**	P	**P**	**15 33 33.4**	**+0.5**
H24K	**Noodor Dome**	**61.09**	**26**	P	**P**	**15 33 34.4**	**+0.9**
M24K	**Tolsona, Glenn**	**61.29**	**30**	P	**P**	**15 33 34.4**	**-0.5**
ILAR	**Eielson Array**	**61.32**	**27**	P	**P**	**15 33 34.0**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=258,slow=5.5,SNR=14						
ILAR	**Eielson Array**	**61.32**	**27**	P	**P**	**15 33 33.7**	**-1.3**
EYAK	**Cordova Ski Ar**	**61.34**	**32**	P	**P**	**15 33 35.3**	**+0.2**
KLU	**Klutina**	**61.35**	**31**	P	**P**	**15 33 35.6**	**+0.3**
KLU				IAmb	IAmb	15 33 35.8	
	comp=Z,9.9nm,1.3s						
N25K	**Chitina, Valde**	**61.99**	**31**	P	**P**	**15 33 40.5**	**+0.8**
N25K				IAmb	IAmb	15 34 06.0	
	comp=Z,10nm,1.5s						
BVAR	**Borovoye Array**	**62.41**	**319**	P	**P**	**15 33 42.7**	**+0.2**
	comp=Z,6.9nm,0.4s,baz=205,slow=6.6,SNR=56						
BRVK	**Borovoye**	**62.48**	**319**	P	**P**	**15 33 42.7**	**-0.2**
SCRK	**Sand Creek**	**62.48**	**28**	P	**P**	**15 33 42.8**	**-0.2**
VRDI	**Verde Repeater**	**62.51**	**31**	P	**P**	**15 33 43.4**	**+0.2**
VRDI				IAmb	IAmb	15 33 44.0	
	comp=Z,5.9nm,1.1s						
BMAR	**Burnt Mountain**	**62.63**	**24**	P	**P**	**15 33 45.3**	**+1.5**
MCARA	**McCarthy VSAT**	**62.73**	**31**	P	**P**	**15 33 45.2**	**+0.7**
SNH	**Sunshine Point**	**62.76**	**33**	P	**P**	**15 33 44.4**	**-0.3**
WAX	**Waxell Ridge**	**62.76**	**32**	P	**P**	**15 33 45.1**	**+0.3**
TGL	**Tana Glacier**	**62.79**	**32**	P	**P**	**15 33 45.5**	**+0.5**
TGL				IAmb	IAmb	15 33 46.0	
	comp=Z,10nm,1.2s						
KKAR	**Karatay Array**	**62.93**	**308**	P	**P**	**15 33 46.3**	**+0.1**
ISLE	**Juniper Island**	**63.02**	**32**	P	**P**	**15 33 46.8**	**+0.2**
ISLE				IAmb	IAmb	15 34 03.9	
	comp=Z,11nm,1.2s						
GRNC	**Granite Creek**	**63.31**	**32**	P	**P**	**15 33 48.4**	**-0.3**
GRNC				IAmb	IAmb	15 34 16.6	
	comp=Z,9.0nm,1.3s						
M27K	**Edge Creek, AK**	**63.32**	**30**	P	**P**	**15 33 48.5**	**-0.1**
M27K				IAmb	IAmb	15 33 51.6	
	comp=Z,10nm,1.4s						
L27K	**Beaver Creek,**	**63.38**	**29**	P	**P**	**15 33 48.9**	**+0.1**
BCAR	**Beaver Creek A**	**63.40**	**29**	P	**P**	**15 33 48.7**	**-0.2**
CTGM	**Chitina Glacie**	**63.53**	**32**	P	**P**	**15 33 50.3**	**+0.4**
CTGM				IAmb	IAmb	15 33 53.7	
	comp=Z,7.9nm,1.1s						
GAR	**Garm**	**63.58**	**304**	P	**P**	**15 33 50.8**	**+0.1**
GAR				IAmb	IAmb	15 33 51.6	
	comp=Z,6.1nm,0.7s						
TABL	**Table Mountain**	**63.61**	**32**	P	**P**	**15 33 50.9**	**+0.4**
CHGR	**Chuyangaron**	**64.53**	**303**	P	**P**	**15 33 56.8**	**0.0**
KBL	**Kabul**	**65.33**	**299**	P	**P**	**15 34 02.1**	**-0.1**
KBL				IAmb	IAmb	15 34 03.0	
	comp=Z,7.4nm,0.7s						
WHY	**Whitehorse**	**66.70**	**32**	P	**P**	**15 34 11.6**	**+1.3**
WHY				IAmb	IAmb	15 34 34.0	
	comp=Z,7.2nm,1.5s						
INK	**Inuvik**	**66.85**	**24**	P	**P**	**15 34 11.3**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=263,slow=7.0,SNR=4.8						
INK	**Inuvik**	**66.85**	**24**	IAmb	IAmb	15 34 12.1	
	comp=Z,5.1nm,1.1s						
BESE	**Bessie Mountai**	**66.88**	**34**	P	**P**	**15 34 12.7**	**+1.2**
ARU	**Arti**	**68.96**	**324**	P	**P**	**15 34 24.0**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=127,slow=3.6,SNR=14						
ARU	**Arti**	**68.96**	**324**	P	**P**	**15 34 23.6**	**-0.9**
ARU				IAmb	IAmb	15 34 24.9	
	comp=Z,8.4nm,0.8s						
A36M	**Sachs Harbour**	**69.33**	**19**	P	**P**	**15 34 26.9**	**+0.4**
ABKAR	**Akbulak array**	**69.33**	**316**	P	**P**	**15 34 26.1**	**-0.8**
AKTO	**Aktyubinsk**	**70.33**	**317**	P	**P**	**15 34 32.2**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=71,slow=6.8,SNR=5.2						
BBB	**Bella Bella**	**71.69**	**40**	P	**P**	**15 34 42.1**	**+1.0**
EUNU	**Eureka**	**74.43**	**8**	P	**P**	**15 34 57.2**	**+0.3**
YKA	**Yellowknife Ar**	**75.74**	**28**	P	**P**	**15 35 04.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=291,slow=5.5,SNR=14						
YKA	**Yellowknife Ar**	**75.74**	**28**	P	**P**	**15 35 04.8**	**+0.2**
BELG	**Belogornoye**	**76.12**	**321**	P	**P**	**15 35 06.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=329,slow=6.1,SNR=4.8						
RES	**Resolute Bay**	**76.38**	**13**	P	**P**	**15 35 08.1**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=345,slow=5.4,SNR=8.2						
RES	**Resolute Bay**	**76.38**	**13**	P	**P**	**15 35 08.7**	**+0.7**
KLMR	**Klimovskoe**	**77.32**	**331**	*eP*	**P**	**15 35 10.2**	**-3.3**
KLMR				AMP		15 35 19.3	
	comp=Z,11nm,1.2s						
KEV	**Kevo**	**77.87**	**341**	P	**P**	**15 35 16.7**	**+0.3**
B08A	**Colville Reser**	**78.17**	**43**	P	**P**	**15 35 19.2**	**+0.6**
ARCES	**ARCESS Array B**	**78.43**	**342**	P	**P**	**15 35 19.4**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=81,slow=7.9,SNR=9.2						
ARCES	**ARCESS Array B**	**78.43**	**342**	P	**P**	**15 35 19.4**	**-0.2**
ARCES				IAmb	IAmb	15 35 38.5	
	comp=Z,20nm,1.4s						
O02D	**Mt. Diablo Mer**	**78.61**	**51**	P	**P**	**15 35 22.3**	**+1.1**
O02D				IAmb	IAmb	15 35 34.8	
	comp=Z,14nm,1.4s						
BEKR	**Beckworth**	**80.47**	**51**	P	**P**	**15 35 31.8**	**+0.3**
BMO	**Blue Mountains**	**80.74**	**45**	P	**P**	**15 35 33.1**	**+0.4**
KBZ	**Khabaz**	**82.18**	**314**	P	**P**	**15 35 40.3**	**+0.2**
	comp=Z,6.4nm,0.9s,baz=140,slow=3.0,SNR=11						
NVAR	**Mina Array Bea**	**82.49**	**52**	P	**P**	**15 35 43.0**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=289,slow=2.8,SNR=4.8						
FIA1	**FINESS Array S**	**82.76**	**335**	P	**P**	**15 35 41.5**	**-1.3**
FIA1				IAmb	IAmb	15 35 44.8	
	comp=Z,7.7nm,1.1s						
FINES	**FINESS Array B**	**82.76**	**335**	P	**P**	**15 35 41.6**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=67,slow=4.7,SNR=28						
FINES	**FINESS Array B**	**82.76**	**335**	P	**P**	**15 35 41.3**	**-1.4**
FFC	**Flin Flon**	**85.11**	**32**	P	**P**	**15 35 55.5**	**+0.7**
FFC				IAmb	IAmb	15 35 56.2	
	comp=Z,3.4nm,0.8s						
PSUT	**Pine Spring**	**85.64**	**50**	P	**P**	**15 35 58.3**	**+0.2**
DUG	**Dugway, Tooele**	**85.66**	**48**	P	**P**	**15 35 58.7**	**+0.6**
DUG				IAmb	IAmb	15 35 59.4	
	comp=Z,2.0nm,0.5s						
NLU	**North Lily Min**	**86.28**	**48**	P	**P**	**15 36 01.4**	**+0.1**
FCC	**Fort Churchill**	**86.33**	**26**	P	**P**	**15 36 00.7**	**-0.1**
PDAR	**Pinedale Array**	**86.71**	**45**	P	**P**	**15 36 03.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=207,slow=1.8,SNR=2.5						
PDAR	**Pinedale Array**	**86.71**	**45**	P	**P**	**15 36 03.7**	**+0.4**
AKASG	**Malin Array Be**	**87.19**	**325**	P	**P**	**15 36 03.4**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=52,slow=4.9,SNR=9.6						
AKBB	**Malin Array Si**	**87.19**	**325**	P	**P**	**15 36 03.9**	**-1.3**
AKBB				IAmb	IAmb	15 36 06.0	
	comp=Z,5.0nm,1.4s						
SRU	**San Rafael Swe**	**87.73**	**48**	P	**P**	**15 36 08.5**	**+0.3**
NC405	**NORSAR Array S**	**88.26**	**339**	P	**P**	**15 36 08.6**	**-1.5**
HFS	**Hagfors**	**88.28**	**337**	P	**P**	**15 36 08.0**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=160,slow=4.6,SNR=3.4						
NB2	**NORSAR Subarra**	**88.48**	**339**	P	**P**	**15 36 09.4**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=43,slow=5.1						
NOA	**NORSAR Array B**	**88.48**	**339**	P	**P**	**15 36 09.1**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=44,slow=4.9,SNR=3.6						
BRTR	**Keskin Array B**	**90.16**	**314**	P	**P**	**15 36 18.8**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=92,slow=4.3,SNR=2.7						

*IDC **21** 15:23:28.4±1.0,29.47N×101.96E,h0km,mb4.1/7, mb1 4.3/8,mb1mx3.6/81,mbtmp4.1/8,ML3.6/1,Error ellipse: s-maj=39.3km s-min=16.7km az=60.0*
*NEIC **21** 15:23:30.2±1.0,29.61N±0.09×102.10E±0.09,h10km±1km, mb4.4/15,Error ellipse: s-maj=17.9km s-min=7.3km az=320.0*

ISC 21 15:23:33.7±0.7,29.58N±0.08×102.1E±0.1,h35km,n31, σ0 83/31,mb4.2/16,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.43**	**82**	Pn	**Pn**	**15 25 06.4**	**+0.3**
CM31	**Chiang Mai Arr**	**11.45**	**195**	Pn	**Pn**	**15 26 15.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**11.45**	**195**	Pn	**Pn**	**15 26 15.7**	**+0.9**
	0.1nm,0.3s,baz=13,slow=12,SNR=1.8						
UBPT	**Khong Chiam**	**14.57**	**167**	P	**P**	**15 27 03.4**	**0.0**
SONM	**Songino Array**	**18.52**	**9**	P	**Pn**	**15 27 48.0**	**+0.5**
	0.2nm,0.3s,baz=194,slow=13,SNR=17						
ULN	**Ulaanbaatar**	**18.65**	**10**	P	**Pn**	**15 27 48.5**	**-0.7**
KSRS	**Korea Array**	**22.85**	**63**	P	**P**	**15 28 34.8**	**+0.8**
	2.4nm,0.8s,baz=249,slow=9.4,SNR=6.4						
MK31	**Makanchi Array**	**23.09**	**324**	P	**P**	**15 28 35.5**	**-0.8**
MK31				IAmb	IAmb	15 28 44.9	
	comp=Z,3.4nm,1.3s						
MKAR	**Makanchi Array**	**23.09**	**324**	P	**P**	**15 28 36.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=136,slow=9.5,SNR=7.2						
MKAR	**Makanchi Array**	**23.09**	**324**	P	**P**	**15 28 35.3**	**-1.0**
KKM	**Kota Kinabalu**	**26.93**	**148**	P	**P**	**15 29 10.9**	**-1.1**
KKM				IAmb	IAmb	15 29 26.0	
	comp=Z,21nm,1.3s						
ZAA0	**Zalesovo Array**	**27.40**	**338**	P	**P**	**15 29 14.0**	**-1.8**
ZAA0				IAmb	IAmb	15 29 18.4	
	comp=Z,2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**27.40**	**338**	P	**P**	**15 29 15.7**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=151,slow=9.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**27.40**	**338**	P	**P**	**15 29 14.2**	**-1.6**
KURBB	**Kurchatov Arra**	**27.48**	**326**	P	**P**	**15 29 16.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=132,slow=9.7,SNR=7.2						
KURK	**Kurchatov**	**27.50**	**327**	P	**P**	**15 29 15.0**	**-1.7**
KURK				IAmb	IAmb	15 29 20.6	
	comp=Z,1.7nm,0.9s						
KNRA	**Kununurra**	**51.83**	**147**	P	**P**	**15 32 37.8**	**-0.7**
KNRA				IAmb	IAmb	15 32 39.1	
	comp=Z,5.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.56**	**151**	P	**P**	**15 32 43.2**	**-0.7**
ARCES	**ARCESS Array B**	**57.94**	**336**	P	**P**	**15 33 23.6**	**+1.5**
ARCES				IAmb	IAmb	15 33 30.7	
	comp=Z,26nm,1.5s						
WB0	**Warramunga Arr**	**58.10**	**144**	P	**P**	**15 33 23.3**	**-0.6**
WB0				IAmb	IAmb	15 33 25.5	
	comp=Z,8.6nm,0.9s						
WRAB	**Tennant Creek**	**58.22**	**144**	P	**P**	**15 33 24.0**	**-0.7**
WRA	**Warramunga Arr**	**58.22**	**144**	P	**P**	**15 33 24.4**	**-0.2**
	comp=Z,9.3nm,0.5s,baz=333,slow=7.7,SNR=80						
WRA	**Warramunga Arr**	**58.22**	**144**	P	**P**	**15 33 23.8**	**-0.9**
WB2	**Warramunga Arr**	**58.22**	**144**	P	**P**	**15 33 24.5**	**-0.2**
WR0	**Warramunga Arr**	**58.34**	**144**	P	**P**	**15 33 25.1**	**-0.4**
COEN	**Coen**	**58.67**	**132**	P	**P**	**15 33 27.8**	**-0.1**
COEN				IAmb	IAmb	15 33 28.3	
	comp=Z,26nm,1.5s						
AS31	**Alice Springs**	**61.13**	**147**	P	**P**	**15 33 44.5**	**-0.2**
AS31				IAmb	IAmb	15 33 45.2	
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**61.13**	**147**	P	**P**	**15 33 44.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=330,slow=7.0,SNR=40						
ASAR	**Alice Springs**	**61.13**	**147**	P	**P**	**15 33 44.5**	**-0.2**
CTA	**Charters Tower**	**65.17**	**134**	P	**P**	**15 34 11.5**	**-0.1**
	comp=Z,7.7nm,1.1s,baz=322,slow=6.8,SNR=3.7						
STKA	**Stephens Creek**	**71.71**	**145**	P	**P**	**15 34 52.1**	**-0.1**

*IDC **21** 15:32:27.9±1.0,51.39N×174.12W,h0km,mb3.7/14, mb1 3.9/16,mb1mx3.7/59,mbtmp3.7/16,ML3.4/2,Error ellipse: s-maj=28.4km s-min=18.6km az=175.0*
*NEIC **21** 15:32:30.0±1.9,51.35N±0.07×174.14W±0.05,h10km±1km, mb4.0/53,ML3.6(AEIC),Error ellipse: s-maj=11.7km s-min=5.6km az=189.0*
*AEIC **21** 15:32:31±3.1,51.40N±0.05×174.31W±0.07,h4km±4km, Error ellipse: s-maj=6.7km s-min=5.9km az=194.0*

ISC 21 15:32:29.5±0.7,51.32N±0.08×174.13W±0.05,h10km, n100,σ0 89/97,mb4.0/19,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.89**	**357**		**Pb**	**15 32 47.7**	**+0.7**
ATKA					**Sn**	**15 33 01.5**	**+0.5**
KOFP	**Korovin Flat P**	**0.96**	**1**		**Pn**	**15 32 49.5**	**+0.3**
KOKL	**Mount Kliuchef**	**1.01**	**358**		**Pn**	**15 32 50.1**	**+0.3**
GSMY	**Great Sitkin M**	**1.40**	**302**		**Pn**	**15 32 55.2**	**0.0**
GSTR	**Great Sitkin T**	**1.43**	**304**		**Pn**	**15 32 56.0**	**+0.5**
GSCK	**Great Sitkin C**	**1.45**	**300**		**Pn**	**15 32 55.7**	**0.0**
GSTD	**Great Sitkin T**	**1.46**	**301**		**Pn**	**15 32 56.1**	**+0.1**
GSTD					**Sn**	**15 33 15.4**	**+0.2**
ADK	**Adak**	**1.69**	**291**		**Pn**	**15 32 59.4**	**+0.3**
ADK					**Sn**	**15 33 20.7**	**0.0**
KIWB	**Kanaga Island**	**1.96**	**287**		**Pn**	**15 33 03.6**	**+0.8**
KIKV	**Kanaga Island**	**1.98**	**288**		**Pn**	**15 33 03.7**	**+0.6**
KIMD	**Kanaga Island**	**1.99**	**284**		**Pn**	**15 33 03.9**	**+0.7**
KICM	**Kanaga Island**	**2.00**	**289**		**Pn**	**15 33 04.2**	**+0.8**
TAPA	**Tanaga Point A**	**2.35**	**284**		**Pn**	**15 33 09.1**	**+0.8**
TAFP	**Tanaga Falls P**	**2.47**	**285**		**Pn**	**15 33 11.3**	**+1.4**
TAFP					**Sn**	**15 33 41.1**	**+0.9**
TASE	**Tanaga Southea**	**2.49**	**284**		**Pn**	**15 33 11.6**	**+1.4**
GAEA	**Gareloi East**	**2.92**	**281**		**Pn**	**15 33 17.9**	**+1.9**
GALAA	**Gareloi Lava P**	**2.93**	**281**		**Pn**	**15 33 17.9**	**+1.7**
GANO	**Gareloi North**	**2.96**	**282**		**Pn**	**15 33 18.1**	**+1.5**
MRFP	**Makushin Rep't**	**5.15**	**58**		**Pn**	**15 33 49.0**	**+2.3**
UNV	**Unalaska Valle**	**5.29**	**58**		**Pn**	**15 33 50.8**	**+2.2**
CHGN	**Chignik**	**10.54**	**56**	Pn	**Pn**	**15 35 01.8**	**+1.3**
GAMB	**Gambell**	**12.56**	**5**	Pn	**Pn**	**15 35 29.7**	**+1.6**
SVW2	**Sparrevohn**	**14.18**	**39**	P	**P**	**15 35 57.8**	**+0.1**
M19K	**Big River Lodg**	**15.11**	**38**	Pn	**Pn**	**15 36 04.3**	**+1.5**
M19K				IAmb	IAmb	15 36 17.7	
	comp=Z,9.6nm,1.2s						
TTA	**Tatalina**	**15.17**	**33**	P	**P**	**15 36 09.5**	**+0.8**
TTA				IAmb	IAmb	15 36 33.2	
	comp=Z,13nm,1.5s						
CNPM	**China Poot**	**15.31**	**49**	Pn	**Pn**	**15 36 06.1**	**+0.5**
BRLK	**Bradley Lake**	**15.57**	**48**	Pn	**Pn**	**15 36 08.8**	**-0.1**
SPU	**Mount Spurr**	**15.67**	**42**	Pn	**Pn**	**15 36 11.4**	**+0.8**
SEW	**Seward**	**16.36**	**48**	Pn	**Pn**	**15 36 20.1**	**+1.0**
SEW				IAmb	IAmb	15 36 28.8	
	comp=Z,26nm,1.3s						
J20K	**Nowinta River**	**16.62**	**32**	P	**P**	**15 36 25.0**	**+0.2**
PWL	**Port Wells**	**17.16**	**46**	Pn	**Pn**	**15 36 27.8**	**-1.4**
PWL				IAmb	IAmb	15 36 34.4	
	comp=Z,9.6nm,1.1s						
GHO	**Glory Hole Cre**	**17.27**	**43**		**P**	**15 36 31.3**	**-0.8**
GHO				IAmb	IAmb	15 36 45.9	
	comp=Z,14nm,1.4s						
PETK	**Petropavlovsk-**	**17.31**	**287**	P	**Pn**	**15 36 32.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=1.4						
KNK	**Knik Glacier**	**17.32**	**44**	Pn	**Pn**	**15 36 30.7**	**-0.6**
KNK				IAmb	IAmb	15 36 51.1	
	comp=Z,6.7nm,0.8s						
KTH	**Kantishna Hill**	**17.37**	**36**	P	**P**	**15 36 33.7**	**+0.6**
SML	**Sawmill**	**17.54**	**43**	Pn	**Pn**	**15 36 33.6**	**-0.3**
SML				IAmb	IAmb	15 36 34.9	
	comp=Z,16nm,1.4s						
TRF	**Thorofare Moun**	**17.55**	**37**		**P**	**15 36 34.8**	**-0.5**
TRF				IAmb	IAmb	15 36 55.0	
	comp=Z,12nm,1.5s						
SCM	**Sheep Creek Mo**	**17.99**	**44**		**Pn**	**15 36 38.8**	**-0.7**
SCM				IAmb	IAmb	15 36 49.5	
	comp=Z,21nm,1.3s						
RND	**Reindeer**	**18.08**	**38**		**P**	**15 36 40.6**	**-0.3**
MCK	**McKinley**	**18.21**	**37**	P	**Pn**	**15 36 41.9**	**-0.3**
BWN	**Browne**	**18.25**	**36**		**P**	**15 36 44.6**	**+1.8**
BWN				IAmb	IAmb	15 36 58.5	
	comp=Z,12nm,1.0s						
MLY	**Manley**	**18.30**	**32**		**P**	**15 36 45.0**	**+1.6**
KLU	**Klutina**	**18.48**	**46**	P	**P**	**15 36 44.8**	**-0.6**
KLU				IAmb	IAmb	15 36 54.3	
	comp=Z,17nm,1.5s						
DHY	**Denali Highway**	**18.50**	**40**		**Pn**	**15 36 47.1**	**+1.2**
M24K	**Tolsona, Glenn**	**18.60**	**44**	P	**Pn**	**15 36 47.5**	**+0.5**
NEA2	**Nenana**	**18.63**	**35**	P	**P**	**15 36 46.2**	**-0.7**
HMT	**Hamilton**	**18.90**	**50**	P	**P**	**15 36 48.9**	**-1.0**
WRH	**Wood River Hil**	**18.92**	**36**	P	**P**	**15 36 48.4**	**-1.7**
CCB	**Clear Creek Bu**	**19.11**	**36**	P	**P**	**15 36 50.5**	**-1.7**
CCB				IAmb	IAmb	15 37 10.2	
	comp=Z,9.6nm,1.4s						
N25K	**Chitina, Valde**	**19.12**	**46**	P	**P**	**15 36 51.5**	**-0.9**
N25K				IAmb	IAmb	15 37 18.1	
	comp=Z,14nm,1.5s						
MDM	**Murphy Dome**	**19.13**	**35**	P	**P**	**15 36 51.7**	**-0.7**
BERG	**Berg Lake**	**19.18**	**50**	P	**P**	**15 36 52.4**	**-0.6**
HDA	**Harding Lake**	**19.31**	**37**	P	**P**	**15 36 53.7**	**-0.7**
HDA				IAmb	IAmb	15 37 10.5	
	comp=Z,5.2nm,0.9s						
GLB	**Gilahina Butte**	**19.42**	**47**	P	**P**	**15 36 56.0**	**+0.3**
IL31		**19.52**	**36**	P	**P**	**15 36 56.2**	**-0.4**
ILAR	**Eielson Array**	**19.52**	**36**	P	**P**	**15 36 56.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=238,slow=9.7,SNR=31						
VRDI	**Verde Repeater**	**19.52**	**48**	P	**Pn**	**15 36 58.1**	**-0.1**
H24K	**Noodor Dome**	**19.74**	**33**	P	**P**	**15 36 59.0**	**-0.2**
H24K				IAmb	IAmb	15 37 17.3	
	comp=Z,5.1nm,0.8s						
MCARA	**McCarthy VSAT**	**19.77**	**47**	P	**P**	**15 36 59.3**	**-0.1**
MCARA				IAmb	IAmb	15 37 24.8	
	comp=Z,19nm,1.4s						
RIDG	**Independent Ri**	**19.82**	**40**	P	**P**	**15 36 59.2**	**-0.8**
RIDG				IAmb	IAmb	15 37 24.7	
	comp=Z,5.2nm,0.9s						
DOT	**Dot Lake**	**20.10**	**41**	P	**P**	**15 37 03.1**	**0.0**
DOT				IAmb	IAmb	15 37 31.9	
	comp=Z,16nm,1.5s						
GRNC	**Granite Creek**	**20.20**	**50**	P	**P**	**15 37 04.5**	**+0.2**
GRNC				IAmb	IAmb	15 37 24.3	
	comp=Z,8.0nm,1.0s						
SCRK	**Sand Creek**	**20.27**	**40**	P	**P**	**15 37 03.9**	**-1.0**
SCRK				IAmb	IAmb	15 37 25.2	
	comp=Z,5.5nm,0.7s						
CTGM	**Chitina Glacie**	**20.45**	**49**	P	**P**	**15 37 05.2**	**-1.8**
CTGM				IAmb	IAmb	15 37 33.1	
	comp=Z,11nm,1.4s						
L27K	**Beaver Creek,**	**20.82**	**43**	P	**P**	**15 37 11.1**	**+0.2**
BCAR	**Beaver Creek A**	**20.84**	**43**	P	**P**	**15 37 11.8**	**+0.7**
TOLK	**Toolik Lake Re**	**21.01**	**25**	P	**P**	**15 37 12.9**	**+0.1**
TOLK				IAmb	IAmb	15 37 23.4	
	comp=Z,6.3nm,0.8s						
SEY	**Seymchan**	**21.29**	**316**	P	**P**	**15 37 16.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=86,slow=14,SNR=5.8						
EGAK	**Eagle**	**21.71**	**39**	P	**P**	**15 37 20.3**	**-0.1**
KLR	**Kul'dur**	**34.00**	**288**	P	**P**	**15 39 13.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=67,slow=6.5,SNR=13						
H11N2	**WAKE ISLAND Hy**	**34.88**	**212**	T	T	16 17 08.0	
	baz=18,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**34.89**	**212**	T	T	16 17 25.9	
	baz=18						
H11N1	**WAKE ISLAND Hy**	**34.90**	**212**	T	T	16 17 05.5	
	baz=18						
H11S1	**WAKE ISLAND Hy**	**36.08**	**212**	T	T	16 18 49.3	
	baz=20,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**36.10**	**212**	T	T	16 18 50.2	
	baz=20,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**36.10**	**212**	T	T	16 18 32.4	
	baz=20,slow=76,SNR=7.5						
USRK	**Ussuriysk Ar.**	**36.20**	**280**	P	**P**	**15 39 32.0**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=43,slow=9.7,SNR=6.5						
PDAR	**Pinedale Array**	**43.52**	**75**	P	**P**	**15 40 32.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=262,slow=5.4,SNR=2.9						
TULEG	**Thule**	**44.11**	**19**	P	**P**	**15 40 36.3**	**-1.0**
ULN	**Ulaanbaatar**	**48.89**	**299**	P	**P**	**15

Q19K	**Cape Douglas,**	**13.88**	**49**	Pn	**Pn**	**15 47 00.7**	**+1.2**	
Q19K	**Cape Douglas,** baz=246	**13.88**	**49**	P	**Pn**	**15 47 02.0**	**+2.5**	
ANM	**Nome** baz=204	**13.94**	**16**	P	**Pn**	**15 47 03.9**	**+3.6**	
N19K	**Bonanza Creek** baz=238	**14.39**	**42**	P	**Pn**	**15 47 07.2**	**+0.7**	
TNA	**Tin City** baz=196	**14.52**	**10**	P	**Pn**	**15 47 09.9**	**+1.8**	
O20K	**Slope Mountain** baz=244	**14.84**	**46**	P	**Pn**	**15 47 11.7**	**-0.9**	
L19K	**White Mountain**	**15.02**	**37**	P	**P**	**15 47 19.1**	**-0.8**	
L19K	comp=Z,11nm,0.9s			IAmb	IAmb	15 47 46.7		
L19K	**White Mountain** baz=233	**15.02**	**37**	P	**Pn**	**15 47 16.3**	**+1.4**	
M19K	**Big River Lodg**	**15.04**	**38**	P	**P**	**15 47 19.3**	**-0.8**	
M19K	comp=Z,11nm,0.8s			IAmb	IAmb	15 47 28.1		
M19K	**Big River Lodg** baz=235	**15.04**	**38**	P	**Pn**	**15 47 14.1**	**-1.0**	
TTA	**Tatalina**	**15.08**	**33**	P	**P**	**15 47 20.8**	**+0.2**	
TTA	comp=Z,10.0nm,0.9s			pmax	pmax			
TTA	**Tatalina**	**15.08**	**33**		**P**	**15 47 20.8**	**+0.2**	
TTA	comp=Z,10.0nm,0.9s			IAmb	IAmb	15 47 37.8		
TTA	**Tatalina** baz=229	**15.08**	**33**	P	**Pn**	**15 47 16.5**	**+0.7**	
CNPM	**China Poot**	**15.26**	**49**	Pn	**Pn**	**15 47 18.1**	**+0.1**	
CNPM	comp=Z,47nm,1.4s			IAmb	IAmb	15 47 19.3		
BRLK	**Bradley Lake**	**15.51**	**48**	Pn	**Pn**	**15 47 20.6**	**-0.7**	
BRLK	comp=Z,15nm,0.8s			IAmb	IAmb	15 47 36.9		
L20K	**Farewell, AK** baz=234	**15.56**	**37**	P	**Pn**	**15 47 22.4**	**+0.4**	
BRSE	**Bradley Lake S** baz=248	**15.57**	**49**	P	**Pn**	**15 47 22.7**	**+0.5**	
SPU	**Mount Spurr**	**15.60**	**43**	Pn	**Pn**	**15 47 23.6**	**+1.1**	
K20K	**Telida**	**16.03**	**34**	Pn	**Pn**	**15 47 28.9**	**+0.9**	
K20K	**Telida** baz=231	**16.03**	**34**	P	**P**	**15 47 29.3**	**-1.8**	
GCSA	**Galena City Sc** baz=222	**16.09**	**27**	P	**P**	**15 47 31.2**	**-0.4**	
SEW	**Seward**	**16.31**	**48**	Pn	**Pn**	**15 47 31.4**	**-0.1**	
SEW	comp=Z,42nm,1.4s			IAmb	IAmb	15 47 34.4		
O22K	**Cooper Landing**	**16.32**	**47**	Pn	**Pn**	**15 47 31.5**	**-0.2**	
O22K	**Cooper Landing** baz=247	**16.32**	**47**	P	**P**	**15 47 32.9**	**-1.4**	
PPLA	**Purkeypile**	**16.45**	**37**	P	**P**	**15 47 36.4**	**+0.6**	
PPLA	**Purkeypile** baz=236	**16.45**	**37**	P	**P**	**15 47 34.3**	**-1.5**	
J20K	**Nowinta River**	**16.53**	**32**		**P**	**15 47 37.7**	**+1.1**	
J20K	**Nowinta River** baz=229	**16.53**	**32**	P	**Pn**	**15 47 34.1**	**-0.2**	
RC01	**Rabbit Creek A**	**16.57**	**45**	Pn	**Pn**	**15 47 34.8**	**+0.1**	
RC01	comp=Z,24nm,1.4s			IAmb	IAmb	15 48 02.9		
RC01	**Rabbit Creek A** baz=245	**16.57**	**45**	P	**P**	**15 47 35.6**	**-1.4**	
CAST	**Castle Rocks**	**16.78**	**36**	P	**P**	**15 47 41.3**	**+1.9**	
CAST	**Castle Rocks** baz=235	**16.78**	**36**	P	**P**	**15 47 38.4**	**-1.0**	
CHUM	**Lake Minchumin** baz=233	**16.97**	**34**	P	**Pn**	**15 47 39.0**	**-0.8**	
PWL	**Port Wells**	**17.10**	**47**	Pn	**Pn**	**15 47 40.5**	**-1.0**	
PWL	comp=Z,32nm,1.4s			IAmb	IAmb	15 48 09.2		
GHO	**Glory Hole Cre**	**17.21**	**43**	Pn	**Pn**	**15 47 43.0**	**+0.1**	
PEA0B	**Petropavlovsk-**	**17.24**	**287**	P	**P**	**15 47 43.4**	**-1.1**	
PEA0B	comp=Z,71nm,1.4s			pmax	pmax			
PEA0B	**Petropavlovsk-**	**17.24**	**287**		**P**	**15 47 43.4**	**-1.1**	
PEA0B	comp=Z,71nm,1.4s			IAmb	IAmb	15 48 01.8		
PETK	**Petropavlovsk-**	**17.24**	**287**	P	**P**	**15 47 43.8**	**-0.8**	
KNK	comp=Z,0.5nm,0.3s,baz=91,slow=12,SNR=6.2 **Knik Glacier**	**17.26**	**45**	Pn	**Pn**	**15 47 42.7**	**-0.8**	
KNK	**Knik Glacier** baz=246	**17.26**	**45**	P	**Pn**	**15 47 43.0**	**-0.5**	
KTH	**Kantishna Hill**	**17.29**	**37**		**P**	**15 47 44.3**	**-0.7**	
TRF	**Thorofare Moun**	**17.47**	**37**		**P**	**15 47 47.0**	**-0.2**	
TRF	**Thorofare Moun** baz=238	**17.47**	**37**	P	**Pn**	**15 47 45.0**	**-1.2**	
SML	**Sawmill**	**17.48**	**44**	Pn	**Pn**	**15 47 45.1**	**-1.1**	
SML	**Sawmill** baz=245	**17.48**	**44**	P	**Pn**	**15 47 46.1**	**-0.1**	
BPAW	**Bear Paw Mtn.** baz=235	**17.57**	**35**	P	**Pn**	**15 47 46.8**	**-0.5**	
I21K	**Tanana** baz=230,SNR=6.0	**17.89**	**31**	P	**Pn**	**15 47 50.7**	**-0.6**	
SCM	**Sheep Creek Mo**	**17.93**	**44**	P	**Pn**	**15 47 50.8**	**-0.9**	
SCM	comp=Z,19nm,0.8s			pmax	pmax			
SCM	**Sheep Creek Mo**	**17.93**	**44**		**Pn**	**15 47 50.8**	**-0.9**	
SCM	comp=Z,19nm,0.8s			IAmb	IAmb	15 48 06.1		
SCM	**Sheep Creek Mo** baz=247	**17.93**	**44**	P	**Pn**	**15 47 50.4**	**-1.4**	
H21K	**Melozitna Rive**	**17.95**	**29**	P	**P**	**15 47 53.2**	**+0.9**	
H21K	**Melozitna Rive** baz=228,SNR=6.1	**17.95**	**29**	P	**Pn**	**15 47 51.5**	**-0.5**	
WAT6	**Susitna Watana** baz=244	**18.06**	**42**	P	**Pn**	**15 47 52.4**	**-1.1**	
MCK	**McKinley**	**18.14**	**38**	P	**P**	**15 47 54.0**	**-0.3**	
MCK	comp=Z,11nm,0.8s			pmax	pmax			
MCK	**McKinley**	**18.14**	**38**	P	**P**	**15 47 54.0**	**-0.3**	
MCK	**McKinley** baz=239	**18.14**	**38**	P	**Pn**	**15 47 53.2**	**-1.0**	
BWN	**Browne**	**18.17**	**36**	P	**Pn**	**15 47 56.4**	**+1.7**	
BWN	comp=Z,23nm,1.1s			IAmb	IAmb	15 48 16.4		
EYAK	**Cordova Ski Ar** baz=253	**18.20**	**49**	P	**Pn**	**15 47 56.3**	**+1.3**	
MLY	**Manley**	**18.21**	**33**	P	**Pn**	**15 47 56.1**	**+0.9**	
MLY	comp=Z,14nm,0.6s			IAmb	IAmb	15 48 12.0		
MLY	**Manley** baz=233	**18.21**	**33**	P	**Pn**	**15 47 57.3**	**+2.1**	
KLU	**Klutina**	**18.42**	**46**	P	**Pn**	**15 47 58.3**	**+0.5**	
KLU	**Klutina** baz=250	**18.42**	**46**	P	**P**	**15 47 55.7**	**-1.8**	
DHY	**Denali Highway**	**18.43**	**41**	P	**Pn**	**15 47 58.5**	**+0.5**	
DHY	**Denali Highway** baz=243	**18.43**	**41**	P	**P**	**15 47 57.3**	**-0.4**	
M24K	**Tolsona, Glenn**	**18.53**	**44**	P	**Pn**	**15 47 59.4**	**+0.3**	
M24K	comp=Z,16nm,0.7s			IAmb	IAmb	15 48 16.8		
M24K	**Tolsona, Glenn** baz=248	**18.53**	**44**	P	**P**	**15 47 57.8**	**-0.9**	
NEA2	**Nenana**	**18.54**	**35**	P	**Pn**	**15 47 58.8**	**-0.4**	
NEA2	**Nenana** baz=237	**18.54**	**35**	P	**P**	**15 47 57.9**	**-0.9**	
I23K	**Minto, Yukon-K**	**18.75**	**34**	P	**Pn**	**15 48 01.4**	**-0.3**	
I23K	comp=Z,18nm,0.8s			IAmb	IAmb	15 48 09.4		
I23K	**Minto, Yukon-K** baz=235,SNR=5.5	**18.75**	**34**	P	**P**	**15 48 00.5**	**-0.5**	
WRH	**Wood River Hil**	**18.84**	**36**	P	**P**	**15 48 00.8**	**-1.1**	
HMT	**Hamilton**	**18.85**	**50**	P	**P**	**15 48 01.9**	**-0.3**	
HMT	comp=Z,15nm,0.8s			IAmb	IAmb	15 48 18.7		
SUCK	**Suckling Hills**	**19.02**	**51**	P	**P**	**15 48 01.7**	**-2.3**	
CCB	**Clear Creek Bu**	**19.03**	**36**	P	**P**	**15 48 02.4**	**-1.7**	
CCB	comp=Z,11nm,0.6s			IAmb	IAmb	15 48 18.4		
MDM	**Murphy Dome**	**19.05**	**35**	P	**P**	**15 48 02.8**	**-1.6**	
N25K	**Chitina, Valde**	**19.06**	**46**	P	**P**	**15 48 03.8**	**-0.7**	
N25K	**Chitina, Valde** baz=251	**19.06**	**46**	P	**P**	**15 48 03.1**	**-1.5**	
HARP	**HAARP** baz=248	**19.09**	**44**	P	**P**	**15 48 04.5**	**-0.3**	
BERG	**Berg Lake**	**19.13**	**50**	P	**P**	**15 48 04.7**	**-0.5**	
BERG	comp=Z,16nm,0.6s			IAmb	IAmb	15 48 23.1		
TCOL	**CIGO, UAF Yank** baz=238	**19.13**	**35**	P	**Pn**	**15 48 05.5**	**-0.7**	
COLA	**College** baz=238	**19.14**	**35**	P	**Pn**	**15 48 06.0**	**-0.3**	
PAX	**Paxson**	**19.17**	**42**	P	**P**	**15 48 05.4**	**-0.4**	
PAX	comp=Z,5.0nm,0.7s			pmax	pmax			
PAX	**Paxson**	**19.17**	**42**	P	**P**	**15 48 05.4**	**-0.4**	
	baz=246							
BILL	**Bilibino**	**19.18**	**337**	⇓*e*P	**Pn**	**15 48 08.2**	**+1.4**	
BILL				S	**Sn**	**15 51 34.0**	**-6.3**	
BILL	comp=Z,2.0nm,0.4s			pmax	pmax			
BILL	comp=Z,307nm,15.0s			MLR	MLR			
BILL	**Bilibino**	**19.18**	**337**		**P**	**15 48 05.8**	**+0.1**	
BILL	comp=Z,14nm,1.0s			IAmb	IAmb	15 48 29.3		
HDA	**Harding Lake**	**19.23**	**37**	P	**P**	**15 48 06.2**	**-0.1**	
HDA	comp=Z,30nm,1.2s			IAmb	IAmb	15 48 19.8		
HDA	**Harding Lake** baz=240	**19.23**	**37**	P	**P**	**15 48 06.3**	**0.0**	
POKR	**Poker Plat Res** baz=238	**19.42**	**35**	P	**P**	**15 48 08.3**	**0.0**	
IL31		**19.44**	**36**	P	**P**	**15 48 07.8**	**-0.6**	
IL31	comp=Z,8.5nm,0.6s			IAmb	IAmb	15 48 22.5		
ILAR	**Eielson Array**	**19.44**	**36**	P	**P**	**15 48 08.3**	**-0.3**	
	comp=Z,0.7nm,0.3s,baz=236,slow=10,SNR=39							
ILAR	**Eielson Array**	**19.44**	**36**	P	**P**	**15 48 08.4**	**-0.1**	
ILAR	**Eielson Array**	**19.44**	**36**	P	**P**	**15 48 08.4**	**-0.1**	
VRDI	**Verde Repeater**	**19.47**	**48**	P	**P**	**15 48 09.2**	**+0.1**	
WAX	**Waxell Ridge**	**19.55**	**50**	P	**P**	**15 48 10.0**	**0.0**	
WAX	comp=Z,13nm,0.9s			IAmb	IAmb	15 48 29.4		
TGL	**Tana Glacier**	**19.64**	**50**	P	**P**	**15 48 10.6**	**-0.3**	
TGL	comp=Z,12nm,1.0s			IAmb	IAmb	15 48 27.1		
H24K	**Noodor Dome**	**19.66**	**33**	P	**P**	**15 48 11.2**	**+0.2**	
H24K	comp=Z,18nm,0.8s			IAmb	IAmb	15 48 18.7		
H24K	**Noodor Dome** baz=236,SNR=20	**19.66**	**33**	P	**Pn**	**15 48 11.7**	**-0.9**	
MCARA	**McCarthy VSAT**	**19.71**	**48**	P	**P**	**15 48 11.8**	**+0.2**	
MCARA	**McCarthy VSAT** baz=254	**19.71**	**48**	P	**P**	**15 48 11.3**	**-0.2**	
RIDG	**Independent Ri**	**19.75**	**40**	P	**P**	**15 48 12.1**	**+0.1**	
RIDG	comp=Z,13nm,0.6s			IAmb	IAmb	15 48 26.4		
RIDG	**Independent Ri** baz=245	**19.75**	**40**	P	**P**	**15 48 12.0**	**0.0**	
COLD	**Coldfoot** baz=229,SNR=5.9	**19.78**	**28**	P	**P**	**15 48 12.1**	**-0.2**	
ISLE	**Juniper Island**	**19.83**	**50**	P	**Pn**	**15 48 13.9**	**-0.9**	
MENT	**Mentasta**	**19.90**	**43**	P	**Pn**	**15 48 14.2**	**-1.2**	
J25K	**Salcha River,**	**19.93**	**38**	P	**P**	**15 48 12.6**	**-1.4**	
J25K	**Salcha River,** baz=242,SNR=26	**19.93**	**38**	P	**P**	**15 48 13.5**	**-0.5**	
DOT	**Dot Lake**	**20.03**	**41**	P	**P**	**15 48 14.4**	**-0.6**	
DOT	comp=Z,13nm,0.9s			IAmb	IAmb	15 48 32.9		
YAH	**Yahtse**	**20.07**	**51**	P	**P**	**15 48 16.1**	**+0.3**	
YAH	comp=Z,17nm,1.0s			IAmb	IAmb	15 48 39.7		
L26K	**Log Cabin Wild** baz=249	**20.09**	**43**	P	**P**	**15 48 14.7**	**-1.0**	
GRNC	**Granite Creek**	**20.14**	**50**	P	**P**	**15 48 15.5**	**-1.0**	
GRNC	comp=Z,9.0nm,0.8s			IAmb	IAmb	15 48 35.4		
SCRK	**Sand Creek**	**20.19**	**40**			**15 48 15.6**	**-1.3**	
SCRK	comp=Z,19nm,0.6s			IAmb	IAmb	15 48 23.6		
SCRK	**Sand Creek** baz=246,SNR=14	**20.19**	**40**	P	**P**	**15 48 15.8**	**-1.1**	
BARN	**Barnard Glacie**	**20.26**	**49**	P	**P**	**15 48 16.9**	**-0.9**	
BARN	comp=Z,18nm,1.5s			IAmb	IAmb	15 48 46.4		
PRP	**Porcupine Dome** baz=240	**20.31**	**35**	P	**P**	**15 48 15.8**	**-2.4**	
TABL	**Table Mountain**	**20.38**	**51**	P	**P**	**15 48 18.7**	**-0.4**	
TABL	comp=Z,14nm,0.9s			IAmb	IAmb	15 48 41.0		
CTG	**Chitna Glacier** baz=257	**20.39**	**49**	P	Pn	15 48 19.8	-1.6	
CTGM	**Chitina Glacie**	**20.40**	**49**	P	**P**	**15 48 17.9**	**-1.3**	
CTGM	comp=Z,8.1nm,0.7s			IAmb	IAmb	15 48 37.2		
M27K	**Edge Creek, AK**	**20.51**	**45**	P	**P**	**15 48 20.3**	**-0.1**	
M27K	comp=Z,9.6nm,0.8s			IAmb	IAmb	15 48 32.2		
M27K	**Edge Creek, AK** baz=253	**20.51**	**45**	P	**P**	**15 48 19.5**	**-0.9**	
LOGN	**Logan Glacier**	**20.52**	**50**	P	**P**	**15 48 20.0**	**-0.5**	
LOGN	comp=Z,12nm,0.9s			IAmb	IAmb	15 48 40.7		
J26L	**Joseph Creek** baz=245,SNR=20	**20.58**	**39**	P	**P**	**15 48 20.0**	**-1.1**	
PINM	**Pinnacle** baz=260	**20.75**	**52**	P	**P**	**15 48 21.4**	**-1.5**	
L27K	**Beaver Creek,**	**20.75**	**43**	P	**P**	**15 48 23.5**	**+0.6**	
L27K	**Beaver Creek,** baz=251	**20.75**	**43**	P	**P**	**15 48 23.5**	**+0.6**	
BCAR	**Beaver Creek A**	**20.77**	**43**	P	**P**	**15 48 23.2**	**+0.1**	
TOLK	**Toolik Lake Re**	**20.91**	**25**	P	**P**	**15 48 25.1**	**+0.6**	
TOLK	comp=Z,15nm,0.8s			IAmb	IAmb	15 48 31.9		
TOLK	**Toolik Lake Re** baz=227	**20.91**	**25**	P	**P**	**15 48 25.5**	**+0.9**	
BVCY	**Beaver Creek** baz=254	**20.98**	**46**	P	**P**	**15 48 26.4**	**+1.0**	
YUK3	**Moose Creek** baz=256	**21.00**	**47**	P	**P**	**15 48 26.3**	**+0.5**	
SEY	**Seymchan**	**21.17**	**316**	P	**P**	**15 48 28.9**	**+1.5**	
	comp=Z,2.4nm,0.5s,baz=93,slow=11,SNR=15							
A21K	**Barrow** baz=211	**21.48**	**15**	P	**P**	**15 48 30.0**	**-0.5**	
EGAK	**Eagle**	**21.64**	**39**	P	**P**	**15 48 31.9**	**-0.4**	
EGAK	**Eagle** baz=248	**21.64**	**39**	P	**P**	**15 48 32.6**	**+0.3**	
BMAR	**Burnt Mountain**	**21.64**	**31**	P	**P**	**15 48 33.3**	**+0.9**	
DAWY	**Dawson**	**22.11**	**42**	P	**P**	**15 48 36.6**	**-0.9**	
DAWY	comp=Z,7.4nm,0.7s			IAmb	IAmb	15 48 53.6		
DAWY	**Dawson** baz=252	**22.11**	**42**	P	**P**	**15 48 36.8**	**-0.6**	
HYT	**Haines Junctio**	**22.21**	**51**	P	**P**	**15 48 38.0**	**-0.6**	
HYT	comp=Z,6.5nm,0.8s			IAmb	IAmb	15 48 57.4		
HYT	**Haines Junctio** baz=262	**22.21**	**51**	P	**P**	**15 48 38.6**	**0.0**	
I29M	**Ogilvie Camp,** baz=250	**22.98**	**39**	P	**P**	**15 48 46.1**	**-0.5**	
WHY	**Whitehorse** baz=265	**23.47**	**52**	P	**P**	**15 48 52.6**	**+0.9**	
M31M	**Drury Creek, Y** baz=262	**23.89**	**48**	P	**P**	**15 48 56.1**	**+0.6**	
EPYK	**Eagle Plains** baz=250	**23.94**	**37**	P	**P**	**15 48 55.7**	**-0.2**	
P33M	**Teslin, Yukon** baz=268	**24.46**	**53**	P	**P**	**15 49 03.0**	**+2.2**	
MMPY	**Sheldon Lake,** baz=264	**25.39**	**47**	P	**P**	**15 49 10.2**	**+1.0**	
INK	**Inuvik**	**25.77**	**34**	P	**P**	**15 49 13.5**	**+1.0**	
	comp=Z,3.6nm,0.8s,baz=269,slow=9.8,SNR=4.5							
INK	**Inuvik** baz=250	**25.77**	**34**	P	**P**	**15 49 13.6**	**+1.1**	
DLBC	**Dease Lake**	**25.91**	**57**	P	**P**	**15 49 14.6**	**+0.6**	
	comp=Z,1.9nm,0.9s,baz=211,slow=5.9,SNR=2.2							
TGTN	**Hyland Airport** baz=269	**26.72**	**50**	P	**P**	**15 49 22.3**	**+1.0**	
ASAJ	**Asahikawa**	**29.59**	**273**	P	**P**	**15 49 47.6**	**+0.7**	
	comp=Z,4.3nm,1.0s,baz=252,slow=13,SNR=4.9							
TIXI	**Tiksi**	**32.02**	**330**	*i* P	**P**	**15 50 07.6**	**-0.4**	
TIXI	comp=Z,1.0nm,1.0s			pmax	pmax			
YKA	**Yellowknife Ar**	**33.08**	**47**	P	**P**	**15 50 17.2**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=275,slow=9.6,SNR=6.3							
YKA				PcP	**PcP**	**15 53 00.1**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=290,slow=2.9,SNR=5.2							
YKA	**Yellowknife Ar**	**33.08**	**47**	P	**P**	**15 50 17.7**	**+0.2**	
YKA						15 53 00.1		
YKA	**Yellowknife Ar**	**33.08**	**47**	P	**P**	**15 50 17.7**	**+0.2**	
KLR	**Kul'dur**	**33.92**	**288**	*i* P	**P**	**15 50 24.7**	**-0.2**	
KLR	comp=Z,3.0nm,0.5s			pmax	pmax			
H11N2	**WAKE ISLAND Hy** baz=20,slow=76,SNR=12	**34.97**	**212**	T	T	16 28 21.6		
H11N3	**WAKE ISLAND Hy** baz=20,slow=76,SNR=8.2	**34.97**	**212**	T	T	16 28 22.2		
H11N1	**WAKE ISLAND Hy** baz=20,slow=76,SNR=8.9	**34.98**	**212**	T	T	16 28 12.1		
G05D	**Wamic, OR**	**35.03**	**79**	P	**P**	**15 50 35.6**	**+1.0**	
	baz=300							
USA0B	**Ussuriysk Arra**	**36.14**	**280**	P	**P**	**15 50 43.3**	**-0.7**	
USA0B	comp=Z,8.0nm,0.7s			pmax	pmax			
USA0B	**Ussuriysk Arra**	**36.14**	**280**	P	**P**	**15 50 43.3**	**-0.7**	
USRK	**Ussuriysk Ar.**	**36.14**	**280**	P	**P**	**15 50 43.6**	**-0.4**	
	comp=Z,8.1nm,0.6s,baz=55,slow=8.6,SNR=16							
NEW	**Newport** baz=297	**36.14**	**72**	P	**P**	**15 50 43.4**	**-0.6**	
H11S1	**WAKE ISLAND Hy** baz=20,slow=75,SNR=45	**36.17**	**212**	T	T	16 30 06.7		
H11S2	**WAKE ISLAND Hy** baz=20,slow=75,SNR=18	**36.19**	**212**	T	T	16 29 59.7		
H11S3	**WAKE ISLAND Hy** baz=20,slow=75,SNR=6.3	**36.19**	**212**	T	T	16 29 59.9		
RES	**Resolute Bay**	**38.48**	**25**	P	**P**	**15 51 04.1**	**+0.6**	
	comp=Z,0.5nm,0.5s,baz=328,slow=4.9,SNR=4.5							
RES	**Resolute Bay** comp=Z,1.0nm,0.8s	**38.48**	**25**	IAmb	IAmb	15 51 11.8		
MSO	**Missoula** baz=300	**38.72**	**72**	P	**P**	**15 51 05.5**	**-0.5**	
HLID	**Hailey** baz=303	**40.13**	**77**	P	**P**	**15 51 17.5**	**-0.4**	
EGMT	**Eagleton** baz=300	**40.59**	**69**	P	**P**	**15 51 21.0**	**-0.5**	
BOZ	**Bozeman (W)**	**40.73**	**73**	P	**P**	**15 51 24.1**	**+1.3**	
BOZ	comp=Z,3.0nm,0.7s			pmax	pmax			
BOZ	**Bozeman (W)**	**40.73**	**73**	P	**P**	**15 51 24.1**	**+1.3**	
BOZ	**Bozeman (W)** baz=302	**40.73**	**73**	P	**P**	**15 51 21.7**	**-1.1**	
YHH	**Holmes Hill**	**41.62**	**73**	P	**P**	**15 51 29.7**	**-0.6**	
YHH	comp=Z,3.8nm,0.7s			IAmb	IAmb	15 51 45.1		
H17A	**Grant Village** baz=303	**42.00**	**74**	P	**P**	**15 51 30.8**	**-2.6**	
KSRS	**Korea Array**	**42.52**	**274**	P	**P**	**15 51 37.8**	**+0.5**	
	comp=Z,1.7nm,0.6s,baz=52,slow=8.2,SNR=8.8							
KSRS	**Korea Array**	**42.52**	**274**	*e*P	**P**	**15 51 39.9**	**+2.6**	
KSRS	comp=Z,2.0nm,0.6s			pmax	pmax			
BW06	**Boulder Array**	**43.52**	**75**	P	**P**	**15 51 45.6**	**-0.1**	
BW06	comp=Z,5.2nm,0.9s			IAmb	IAmb	15 52 00.7		
BW06	**Boulder Array** baz=305	**43.52**	**75**	P	**P**	**15 51 43.6**	**-2.1**	
PD31	**Pinedale Array**	**43.52**	**75**	P	**P**	**15 51 45.5**	**-0.2**	
PD31	comp=Z,4.2nm,0.9s			IAmb	IAmb	15 52 00.7		
PDAR	**Pinedale Array**	**43.52**	**75**	P	**P**	**15 51 45.7**	**0.0**	
	comp=Z,0.8nm,0.6s,baz=317,slow=3.6,SNR=9.1							
PDAR	**Pinedale Array**	**43.52**	**75**	P	**P**	**15 51 45.4**	**-0.3**	
GSC	**Goldstone, Bar** baz=310	**43.56**	**89**	P	**P**	**15 51 46.1**	**+0.2**	
FCC	**Fort Churchill**	**43.81**	**48**	P	**P**	**15 51 47.7**	**+0.3**	
FCC	comp=Z,3.0nm,1.1s			pmax	pmax			
FCC	**Fort Churchill**	**43.81**	**48**	P	**P**	**15 51 47.7**	**+0.3**	
HEC	**Hector,Ludlow** baz=310	**44.16**	**89**	P	**P**	**15 51 52.8**	**+2.1**	
NRIK	**Noril'sk**	**45.79**	**331**	P	**P**	**15 52 03.1**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=58,slow=10,SNR=3.8							
NRIK	**Noril'sk**	**45.79**	**331**	*e*P	**P**	**15 52 03.5**	**+0.4**	
NRIK	comp=Z,1.0nm,0.5s			pmax	pmax			
O20A	**White River Ci** baz=307	**45.87**	**77**	P	**P**	**15 52 02.3**	**-2.1**	
MDND	**Maddock** baz=304	**46.49**	**64**	P	**P**	**15 52 06.6**	**-2.3**	
N23A	**Red Feather La** baz=307	**46.81**	**75**	P	**P**	**15 52 08.5**	**-3.3**	
MVCO	**Mesa Verde** baz=309	**47.52**	**81**	P	**P**	**15 52 15.5**	**-1.8**	
ISCO	**Idaho Springs** baz=308	**47.67**	**76**	P	**P**	**15 52 16.9**	**-1.7**	
S22A	**4UR Ranch, Cre** baz=309	**48.21**	**79**	P	**P**	**15 52 22.7**	**-0.1**	
AGMN	**Agassiz Nation** baz=305	**48.31**	**61**	P	**P**	**15 52 22.5**	**-0.5**	
ULN	**Ulaanbaatar**	**48.79**	**299**	*ce*P	**P**	**15 52 27.2**	**+0.3**	
ULN	comp=Z,6.0nm,1.2s			pmax	pmax			
SDCO	**Great Sand Dun** baz=310	**49.02**	**78**	P	**P**	**15 52 29.4**	**+0.4**	
SONM	**Songino Array**	**49.17**	**299**	P	**P**	**15 52 30.1**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=51,slow=9.4,SNR=13							
SONM	**Songino Array**	**49.17**	**299**	*e*P	**P**	**15 52 30.7**	**+0.9**	
SONM	comp=Z,2.0nm,0.6s			pmax	pmax			
SONM	**Songino Array** comp=Z,2.1nm,0.8s	**49.17**	**299**	IAmb	IAmb	15 52 30.9		
ZAK	**Zakamensk**	**49.36**	**303**	*e*P	**P**	**15 52 31.5**	**+0.3**	
ZAK				*e*		15 53 54.5		
ZAK	comp=Z,9.0nm,1.2s			pmax	pmax			
ZAK	comp=Z,5.0nm,1.1s			pmax	pmax			
TIA	**Tai'an**	**50.00**	**280**	⇓P	P	15 52 50.0	+14	
TIA	comp=Z,10.0nm,0.7s			pmax	pmax			
GUMO	**Guam**	**50.07**	**236**	LR	LR	16 10 49.7		
	comp=Z,95nm,20.2s,baz=3.5,slow=33							
T25A	**Trinidad** baz=310	**50.08**	**78**	P	**P**	**15 52 35.2**	**-1.8**	
ECSD	**EROS Data Cent** baz=308	**50.59**	**66**	P	**P**	**15 52 38.4**	**-2.1**	
HNS	**HongShan**	**50.72**	**283**	⇑P	**P**	**15 52 42.6**	**+1.1**	
HNS	comp=Z,21nm,1.0s			pmax	pmax			
EYMN	**Ely** baz=307	**50.89**	**59**	P	**P**	**15 52 40.1**	**-2.6**	
WMOK	**Wichita Mounta** baz=312	**55.09**	**76**	P	**P**	**15 53 11.0**	**-2.9**	
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	**15 53 18.6**	**-0.4**	
	comp=Z,0.3nm,0.7s,baz=302,slow=7.2,SNR=4.1							
ZALV	**Zalesovo Beam**	**56.04**	**316**	P	**P**	**15 53 20.2**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=61,slow=6.3,SNR=2.3							
ZALV				PcP	**PcP**	**15 54 18.8**	**+0.6**	
	comp=Z,0.7nm,0.4s,baz=43,slow=5.9,SNR=2.7							
SSLB	**Suanglung**	**56.19**	**266**	P	**P**	**15 53 21.7**	**-0.2**	
S39A	**Bolivar**	**56.38**	**70**	P	**P**	**15 53 23.6**	**+0.6**	
XAN	**Xi'an**	**56.46**	**284**	P	**P**	**15 53 23.8**	**+0.1**	
XAN				sP	pwP	15 53 38.8	-0.2	
XAN	comp=Z,8.0nm,1.4s			pmax	pmax			
SCHQ	**Schefferville**	**58.12**	**41**	P	**P**	**15 53 35.6**	**+0.5**	
SCHQ	comp=Z,11nm,1.4s			IAmb	IAmb	15 53 39.4		
KEV	**Kevo**	**58.13**	**351**	P	**P**	**15 53 34.7**	**-0.2**	
KEV	comp=Z,40nm,1.3s			pmax	pmax			
KEV	**Kevo**	**58.13**	**351**	P	**P**	**15 53 34.6**	**-0.2**	
SFIN	**Lafayette** baz=313	**58.16**	**64**	P	**P**	**15 53 32.6**	**-2.9**	
GTA	**Gaotai**	**58.19**	**295**	⇑P	**P**	**15 53 35.8**	**-0.2**	
GTA				sP	sP	15 53 48.3	-0.3	
GTA	comp=Z,4.0nm,0.7s			pmax	pmax			
ARCES	**ARCESS Array B**	**58.48**	**352**	P	**P**	**15 53 36.9**	**-0.5**	
	comp=Z,2.3nm,0.7s,baz=27,slow=8.2,SNR=8.1							
ARCES	**ARCESS Array B**	**58.48**	**352**	*e*P	**P**	**15 53 37.3**	**0.0**	
ARCES	comp=Z,2.0nm,0.7s			pmax	pmax			
O48B	**Farmland** baz=313	**59.33**	**63**	P	**P**	**15 53 41.9**	**-1.8**	
**TRQ

comp=Z,1.0nm,0.3s
MKAR Makanchi Array 62.21 311 P **P** 15 54 02.5 -0.8
MAKZ Makanchi 62.35 311 P **P** 15 54 04.1 -0.1
MAKZ pmax pmax
comp=Z,2.0nm,1.3s
MAKZ Makanchi 62.35 311 P **P** 15 54 04.0 -0.1
MAKZ IAmb IAmb 15 54 17.1
comp=Z,2.4nm,1.2s
J58A Remsen 62.42 54 P **P** 15 54 05.1 +0.5
NCB Newcomb 62.52 53 P **P** 15 54 05.5 +0.2
BRVK Borovoye 62.67 322 P **P** 15 54 06.0 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 62.67 322 P **P** 15 54 06.0 -0.1
BRVK IAmb IAmb 15 54 32.5
comp=Z,1.9nm,0.7s
J59A Piesco 62.75 54 P **P** 15 54 06.7 -0.1
BINY Binghamton 62.90 56 P **P** 15 54 09.1 +1.2
baz=316
GOMU GeErMu 63.27 295 P **P** 15 54 11.4 +0.6
GOMU pP pP 15 54 15.3 -4.7
GOMU sP sP 15 54 18.9 -4.7
GOMU S **S** **16 02 36.6 -3.8**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,170nm,5.3s
GOMU LR LR
comp=N,130nm,11.4s
GOMU LR LR
comp=E,100nm,11.6s
GOMU LR LR
comp=Z,150nm,12.0s
L59A Walton 63.39 55 P **P** 15 54 11.8 +0.7
G62A West of Eustis 63.43 50 P **P** 15 54 11.5 +0.2
N59A State Game Lan 63.94 57 P **P** 15 54 14.9 +0.2
baz=316
PKME Peaks-Kenny Pk 63.99 49 P **P** 15 54 16.5 +1.6
baz=318
F64A Sherman 63.99 48 P **P** 15 54 14.7 -0.3
ARU Arti 64.02 331 P **P** 15 54 15.2 +0.2
ARU IAmb IAmb 15 54 28.8
comp=Z,3.8nm,1.0s
BLA Blacksburg 64.10 62 P **P** 15 54 16.6 +0.7
baz=316
KMSC Kings Mountain 65.08 64 P **P** 15 54 25.8 +3.5
baz=316
FINES FINESS Array B 66.30 350 P **P** 15 54 28.7 -1.0
comp=Z,0.6nm,0.4s,baz=9.9,slow=12,SNR=6.2
FINES FINESS Array B 66.30 350 *eP* P 15 54 36.2 +6.5
FINES pmax pmax
comp=Z,1.0nm,0.7s
NC204 NORSAR Array S 67.56 357 P **P** 15 54 37.2 -0.6
NC303 NORSAR Array S 67.59 357 P **P** 15 54 37.8 -0.2
NC405 NORSAR Array S 67.70 357 P **P** 15 54 38.3 -0.3
NB201 NORSAR Array S 67.77 357 P **P** 15 54 39.0 -0.1
NOA NORSAR Array B 67.79 357 P **P** 15 54 39.2 0.0
comp=Z,0.2nm,0.6s,baz=263,slow=3.5,SNR=4.9
TARG Taragay, Kyrgy 68.14 310 P **P** 15 54 43.2 +1.0
TARG pmax pmax
comp=Z,2.0nm,0.6s
TARG Taragay, Kyrgy 68.14 310 P **P** 15 54 43.2 +1.0
TARG IAmb IAmb 15 54 45.3
comp=Z,2.2nm,0.6s
BOOM Boomskoye usch 68.43 312 P **P** 15 54 43.2 -0.6
BOOM pmax pmax
comp=Z,2.0nm,0.6s
BOOM Boomskoye usch 68.43 312 P **P** 15 54 43.2 -0.6
BOOM IAmb IAmb 15 54 45.1
comp=Z,2.3nm,0.6s
HFS Hagfors 68.60 356 P **P** 15 54 43.8 -0.5
comp=Z,1.3nm,0.5s,baz=116,slow=3.4,SNR=3.3
AAK Ala-Archa 68.99 313 P **P** 15 54 47.8 +0.6
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 68.99 313 P **P** 15 54 47.8 +0.6
AAK IAmb IAmb 15 55 05.9
comp=Z,2.8nm,0.9s
PMG Port Moresby 69.17 221 LR LR 16 20 22.4
comp=Z,108nm,19.9s,baz=16,slow=32
ABKAR Akbulak array 69.58 325 P **P** 15 54 50.3 -0.1
KKAR Karatay Array 70.42 315 P **P** 15 54 55.3 -0.5
KKAR Karatay Array 70.42 315 P **P** 15 54 55.3 -0.5
KSH Kashi 70.73 310 P **P** 15 55 02.0 +4.1
KSH sP PcP 15 55 15.8 -2.8
KSH pmax pmax
comp=Z,7.0nm,0.5s
GAR Garm 73.80 313 P **P** 15 55 16.6 +0.3
TAPN Taplejung 73.86 294 *eP* **P** 15 55 17.9 +0.9
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 73.86 279 P **P** 15 55 18.1 +1.4
comp=Z,1.5nm,0.3s,baz=25,slow=7.2,SNR=11
CMAR Chiang Mai Arr 73.86 279 *eP* **P** 15 55 19.6 +2.9
CMAR pmax pmax
comp=Z,2.0nm,0.3s
GUN Gumba 74.47 295 *eP* **P** 15 55 21.6 +1.0
comp=Z,31nm,0.6s
JIRN Jiri 74.49 295 *eP* **P** 15 55 21.7 +1.0
RAMN Ramite 74.80 294 *eP* **P** 15 55 23.2 +0.8
comp=Z,15nm,0.4s
KKN Kakani 74.91 296 *eP* **P** 15 55 23.7 +0.8
PKI Pulchoki 75.00 295 *eP* **P** 15 55 24.2 +0.6
PKIN Phulchoki 75.00 295 *eP* **P** 15 55 24.1 +0.5
GKN Gorkha 75.10 296 *eP* **P** 15 55 24.6 +0.6
DMN Daman 75.14 296 *eP* **P** 15 55 25.2 +0.8
DANN Dangsing 75.33 297 *eP* **P** 15 55 26.3 +0.8
KOLN Koldanda 75.86 297 *eP* **P** 15 55 29.1 +0.7
PYUN Piuthan 75.95 297 *eP* **P** 15 55 29.5 +0.6
AKASG Malin Array Be 76.31 345 P **P** 15 55 29.6 -0.6
comp=Z,0.9nm,0.4s,baz=18,slow=6.0,SNR=6.4
AKASG Malin Array Be 76.31 345 *eP* **P** 15 55 31.8 +1.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 76.31 345 *ceP* **P** 15 55 30.5 +0.2
CLL Collm 77.44 355 P **P** 15 55 36.4 -0.3
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 77.44 355 P **P** 15 55 36.4 -0.3
CLL IAmb IAmb 15 55 37.5
comp=Z,3.2nm,0.6s
OSTC Ostas 77.99 353 *eP* **P** 15 55 41.4 +1.6
KBL Kabul 78.02 311 P **P** 15 55 39.5 -1.0
KBL pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 78.02 311 P **P** 15 55 39.5 -1.0
KBL IAmb IAmb 15 55 40.9
comp=Z,6.0nm,0.8s
DPC Dobruska-Polom 78.19 353 *eP* **P** 15 55 41.6 +0.7
DPC Dobruska-Polom 78.19 353 *eP* **P** 15 55 41.6 +0.7
KRLC Kraliky 78.43 353 *eP* **P** 15 55 42.9 +0.6
KRLC Kraliky 78.43 353 *eP* **P** 15 55 42.9 +0.6
KHC Kasperske Hory 79.59 355 *eP* **P** 15 55 49.5 +0.9
KHC Kasperske Hory 79.59 355 *eP* **P** 15 55 49.5 +0.9
MTN Manton Dam 79.59 234 P **P** 15 55 48.0 -0.9
MTN IAmb IAmb 15 56 06.4
comp=Z,8.0nm,1.1s
GERES GERESS Array B 79.86 355 P **P** 15 55 50.3 +0.1
comp=Z,1.0nm,0.7s,baz=18,slow=4.8,SNR=10.0
GERES GERESS Array B 79.86 355 P **P** 15 55 49.9 -0.3
BUR08 Bucovina Ar. S 79.90 347 P **P** 15 55 50.3 -0.1
BUR08 IAmb IAmb 15 56 15.3
comp=Z,5.1nm,1.4s
BURAR Bucovina Array 79.92 347 P **P** 15 55 49.9 -0.6
BURAR IAmb IAmb 15 55 51.6
comp=Z,1.6nm,0.7s
MLR Muntele Rosu 81.89 346 P **P** 15 56 02.8 +1.7
comp=Z,1.9nm,0.6s,baz=316,slow=21,SNR=4.2
MLR Muntele Rosu 81.89 346 IAmb IAmb 15 56 03.5
comp=Z,2.2nm,0.7s
DAVOX Davos/Dischmat 82.09 357 P **P** 15 56 02.7 +0.5
comp=Z,1.1nm,0.5s,baz=345,slow=20,SNR=3.7
TIRR Tirgusor 82.49 344 P **P** 15 56 05.0 +0.9
TIRR pmax pmax
comp=Z,19nm,1.1s
TIRR Tirgusor 82.49 344 P **P** 15 56 05.0 +0.9
WB0 Warramunga Arr 83.95 228 P **P** 15 56 10.3 -1.5
WB0 IAmb IAmb 15 56 27.1
comp=Z,3.1nm,1.0s
WR0 Warramunga Arr 84.05 228 P **P** 15 56 10.7 -1.5
WR0 IAmb IAmb 15 56 30.2
comp=Z,3.6nm,1.2s
WRA Warramunga Arr 84.13 228 P **P** 15 56 11.4 -1.2
comp=Z,0.5nm,0.6s,baz=33,slow=5.8,SNR=8.7
WRA Warramunga Arr 84.13 228 *eP* **P** 15 56 11.7 -1.0
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 84.13 228 P **P** 15 56 10.9 -1.8
BRTR Keskin Array B 86.01 339 P **P** 15 56 22.9 +0.6
comp=Z,0.9nm,0.8s,baz=18,slow=2.5,SNR=5.0
BRTR Keskin Array B 86.01 339 *eP* **P** 15 56 23.5 +1.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 86.01 339 P **P** 15 56 22.4 +0.2
FITZ Fitzroy Crossi 86.83 236 P **P** 15 56 25.9 -0.3
AS31 Alice Springs 87.55 226 P **P** 15 56 29.0 -0.6
ASAR Alice Springs 87.55 226 P **P** 15 56 29.2 -0.3
comp=Z,1.0nm,0.8s,baz=20,slow=5.2,SNR=16
ESDC Sonseca Array 88.86 8 P **P** 15 56 36.0 +0.1
comp=Z,1.2nm,0.9s,baz=321,slow=5.1,SNR=4.8
ESDC Sonseca Array 88.86 8 IAmb IAmb 15 56 51.4
comp=Z,3.1nm,1.4s
MATP Matopo 144.31 322 PKP **PKPdf** 16 03 16.4 -1.4
comp=Z,7.2nm,0.8s,baz=12,slow=3.2,SNR=14
LBTB Lobatse 149.57 323 PKPbc **PKiKP** 16 03 31.2 -0.9
comp=Z,2.7nm,0.5s,baz=348,slow=1.6,SNR=6.8

IDC 21 15:45:42.9±4.9,5.69S×149.65E,h0km,mb2.8/3, mb1 3.1/4,mb1mx3.1/37,mbtmp3.0/4,ML1.5/1,Error ellipse: s-maj=142.5km s-min=34.1km az=104.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.44**	**214**	Pn	Pn	15 46 52.0	+0.4
	1.7nm,0.3s,baz=24,slow=12,SNR=9.6						
PMG				Sn	Sn	15 47 32.1	-12
	1.0nm,0.3s,baz=1.3,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**20.55**	**225**	P	P	15 50 23.3	-0.1
	0.1nm,0.3s,baz=51,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**23.44**	**219**	P	P	15 50 54.1	0.0
	0.1nm,0.5s,baz=52,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**78.96**	**320**	P	P	15 57 48.6	0.0
	0.1nm,0.4s,baz=117,slow=9.1,SNR=2.3						

*NEIC **21** 15:51:17.5±2.0,30.56S×0.05×72.07W×0.03,h3km±5km, mb4.4/5,ML4.0(GUC),Error ellipse: s-maj=7.6km s-min=2.3km az=209.0*
*GUC **21** 15:51:19.5±0.7,30.58S×71.91W,h26km±4km,ML4.0*
*IDC **21** 15:51:30.9±3.0,31.19S×71.13W,h99km±23km,mb3.9/2, mb1 3.7/5,mb1mx3.5/32,mbtmp3.9/5,Error ellipse: s-maj=56.7km s-min=22.7km az=99.0*
ISC 21 15:51:17.6±1.9,30.59S±0.03×72.10W±0.07,h11km±10km, n78,σ1s09/82,mb4.3/3,5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.41**	**102**		**Pg**	**15 51 26.5**	**+0.7**
CO06				Sg	**Sg**	**15 51 31.4**	**+0.1**
CO06	**Fray Jorge**	**0.41**	**102**	*i* Pg	**Pg**	**15 51 26.7**	**+0.9**
CO06				*eS*	**Sg**	**15 51 31.4**	**+0.1**
CO06				IAML		15 51 33.0	
	comp=N,10μm,0.2s						
CO05	**La Serena**	**1.00**	**48**		**Pb**	**15 51 36.5**	**-0.5**
CO05	**La Serena**	**1.00**	**48**	*i* P	**Pb**	**15 51 36.5**	**-0.5**
CO05				*eS*	**Sb**	**15 51 49.2**	**-1.0**
CO05				IAML		15 51 52.0	
	comp=E,7μm,0.7s						
CO02	**Combarbal**	**1.13**	**123**		**Pb**	**15 51 38.4**	**-0.9**
CO02				Sg	**Sb**	**15 51 52.3**	**-1.7**
CO02	**Combarbal**	**1.13**	**123**	*i* P	**Pb**	**15 51 38.4**	**-0.9**
CO02				*eS*	**Sb**	**15 51 51.6**	**-2.5**
CO02				IAML		15 51 56.0	
	comp=N,11μm,0.2s						
GO04	**Tololo Observa**	**1.20**	**70**	Pn	**Pb**	**15 51 39.6**	**-1.0**
GO04	**Tololo Observa**	**1.20**	**70**	*i* P	**Pb**	**15 51 39.5**	**-1.0**
GO04				*eS*	**Sb**	**15 51 55.1**	**-1.1**
CO03	**El Pedregal**	**1.24**	**102**	Pn	**Pn**	**15 51 39.8**	**-1.3**
CO03	**El Pedregal**	**1.24**	**102**	*i* P	**Pn**	**15 51 39.8**	**-1.3**
CO03				*eS*	**Sb**	**15 51 56.1**	**-1.2**
CO03				IAML		15 52 03.0	
	comp=E,3μm,0.6s						
LCO	**Las Campanas**	**1.99**	**38**	*i* P	**Pn**	**15 51 51.1**	**-0.4**
LCO				*eS*	**Sn**	**15 52 16.8**	**+0.2**
VA06	**Catapilco**	**2.08**	**161**	Pn	**Pn**	**15 51 52.7**	**+0.1**
VA06	**Catapilco**	**2.08**	**161**	*eP*	**Pn**	**15 51 52.6**	**+0.1**
VA06				*eS*	**Sn**	**15 52 17.8**	**-0.7**
VA06				IAML		15 52 28.0	
	comp=N,2μm,0.5s						
VA01	**Torpederas**	**2.46**	**171**		**Pn**	**15 51 57.9**	**+0.2**
AC04	**Llanos de Chal**	**2.54**	**21**	Pn	**Pn**	**15 51 57.6**	**-1.2**
AC04	**Llanos de Chal**	**2.54**	**21**	*eP*	**Pn**	**15 51 57.7**	**-1.2**
AC04				IAML		15 52 49.6	
	comp=E,306nm,0.5s						
VA03	**San Esteban**	**2.54**	**149**		**Pn**	**15 51 59.0**	**+0.1**
VA03	**San Esteban**	**2.54**	**149**	*eP*	**Pn**	**15 52 00.1**	**+1.1**
VA03				*eS*	**Sn**	**15 52 30.2**	**+0.3**
VA03				IAML		15 52 40.3	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**2.55**	**159**	*eP*	Pb	15 51 59.5	-4.1
ROCH				*eP*	**Pn**	**15 51 57.5**	**-1.7**
ROCH				IAML		15 52 48.1	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**2.55**	**159**		**Pn**	**15 51 57.6**	**-1.6**
MT02	**Curacav**	**2.79**	**163**		**Pn**	**15 52 02.7**	**+0.5**
MT02	**Curacav**	**2.79**	**163**	*eP*	**Pn**	**15 52 03.4**	**+1.2**
PEL	**Peldehue**	**2.82**	**155**		**Pn**	**15 52 03.4**	**+0.7**
PEL	**Peldehue**	**2.82**	**155**	*eP*	**Pn**	**15 52 05.1**	**+2.3**
PEL				*eS*	**Sn**	**15 52 37.5**	**+0.8**
PEL				IAML		15 52 55.2	
	comp=E,450nm,0.5s						
MT05	**Renca**	**3.03**	**158**	Pn	**Pn**	**15 52 06.7**	**+1.1**
MT05	**Renca**	**3.03**	**158**	*eP*	**Pb**	**15 52 09.5**	**-2.1**
MT05				*eS*	**Sn**	**15 52 43.6**	**+1.7**
MT05				IAML		15 52 59.9	
	comp=E,838nm,0.5s						
VA05	**Santo Domingo**	**3.09**	**172**		**Pn**	**15 52 08.1**	**+1.8**
VA05	**Santo Domingo**	**3.09**	**172**	*eP*	**Pn**	**15 52 05.3**	**-1.1**
VA05				IAML		15 53 00.9	
	comp=E,440nm,0.4s						
FCH	**Farellones**	**3.13**	**151**	*eP*	**Pn**	**15 52 08.9**	**+1.6**
FCH				IAML		15 53 04.1	
	comp=E,183nm,0.6s						
MT03	**Universidad Ad**	**3.20**	**155**		**Pn**	**15 52 09.4**	**+1.5**
MT03	**Universidad Ad**	**3.20**	**155**	*eP*	**Pn**	**15 52 09.4**	**+1.5**
MT03				IAML		15 53 02.0	
	comp=E,785nm,0.3s						
MT09	**Talagante**	**3.32**	**164**		**Pn**	**15 52 10.6**	**+1.0**
MT09	**Talagante**	**3.32**	**164**	*eP*	**Pn**	**15 52 10.9**	**+1.3**
MT09				IAML		15 53 06.7	
	comp=E,356nm,0.4s						
MT01	**Popeta**	**3.34**	**168**		**Pn**	**15 52 10.2**	**+0.2**
MT01	**Popeta**	**3.34**	**168**	*eP*	**Pn**	**15 52 10.1**	**+0.1**
GO03	**Copiap**	**3.40**	**29**		**Pn**	**15 52 11.0**	**+0.2**
GO03	**Copiap**	**3.40**	**29**	*eP*	**Pn**	**15 52 09.9**	**-0.8**
GO03				IAML		15 53 10.7	
	comp=E,376nm,0.3s						
AC06	**Mina Casimiro**	**3.57**	**26**		**Pn**	**15 52 12.1**	**-0.8**
BO04	**La Punta**	**3.62**	**160**		**Pn**	**15 52 14.8**	**+1.1**
BO04	**La Punta**	**3.62**	**160**	*eP*	**Pn**	**15 52 15.2**	**+1.5**
BO04				IAML		15 53 15.0	
	comp=E,235nm,0.6s						
LMEL	**Las Melosas**	**3.63**	**154**		**Pn**	**15 52 15.0**	**+1.1**
LMEL	**Las Melosas**	**3.63**	**154**	*eP*	**Pn**	**15 52 15.5**	**+1.6**
LMEL				IAML		15 53 12.7	
	comp=N,209nm,0.4s						
BO01	**Tunca**	**3.89**	**167**	Pn	**Pn**	**15 52 18.6**	**+1.3**
BO01	**Tunca**	**3.89**	**167**	*eP*	**Pn**	**15 52 18.2**	**+0.8**
BO03	**Pichilemu**	**3.90**	**178**	*eP*	**Pn**	**15 52 16.4**	**-1.1**
BO02	**Sierra Bellavi**	**4.34**	**165**	Pn	**Pn**	**15 52 24.7**	**+1.1**
BO02	**Sierra Bellavi**	**4.34**	**165**	*eP*	**Pn**	**15 52 24.8**	**+1.1**
AC02	**Maricunga**	**4.56**	**36**		**Pn**	**15 52 27.1**	**0.0**
AC01	**Pan de Azucar**	**4.62**	**17**	Pn	**Pn**	**15 52 25.0**	**-2.4**
ML02	**Panimavida**	**5.19**	**174**	Pn	**Pn**	**15 52 34.9**	**-0.4**
GO02	**Mina Guanaco**	**5.84**	**23**	Pn	**Pn**	**15 52 42.6**	**-1.9**
H03N1	**Juan Fernandez**	**6.44**	**242**	T	T	15 59 50.1	
	baz=72,slow=72,SNR=1146						
H03N2	**Juan Fernandez**	**6.46**	**242**	T	T	15 59 50.9	
	baz=72,slow=72,SNR=896						
H03N3	**Juan Fernandez**	**6.46**	**242**	T	T	15 59 49.6	
	baz=72,slow=72,SNR=1158						
LC01	**Cunco**	**8.29**	**179**	Pn	**Pn**	**15 53 17.9**	**+0.1**
LVC	**Limon Verde**	**8.44**	**21**	P	Pb	15 53 36.1	-8.0
	comp=N,1.1nm,0.3s,baz=195,slow=9.3,SNR=4.9						
LVC				S	Sb	15 55 12.1	-13
	comp=N,0.5nm,0.6s,baz=204,slow=15,SNR=2.0						
LR04	**Corral**	**9.33**	**186**	Pn	**Pn**	**15 53 32.6**	**+0.5**
PLCA	**Paso Flores**	**10.20**	**173**	P	**Pn**	**15 53 45.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=357,slow=12,SNR=3.4						
PLCA	**Paso Flores**	**10.20**	**173**	Pn	**Pn**	**15 53 44.4**	**+0.4**
LPAZ	**La Paz**	**14.69**	**15**	P	P	15 55 00.2	+7.8
	comp=N,0.1nm,0.3s,baz=190,slow=11,SNR=4.6						
SIV	**San Ignacio**	**17.70**	**37**	P	**P**	**15 55 25.1**	**0.0**
	comp=N,0.3nm,0.3s,baz=225,slow=12,SNR=23						
BDFB	**Brasilia**	**26.61**	**61**	P	**P**	**15 56 55.7**	**-0.6**
	comp=N,3.0nm,0.5s,baz=206,slow=10,SNR=5.0						
BDFB	**Brasilia**	**26.61**	**61**	IAmb	IAmb	15 56 56.3	
	comp=Z,6.9nm,1.1s						
SNAA	**Sanae**	**54.77**	**159**	P	**P**	**16 00 47.8**	**+0.8**
SNAA				IAmb	IAmb	16 00 50.4	
	comp=Z,4.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**83.11**	**70**	P	**P**	**16 03 44.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**16 03 43.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=246,slow=4.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**16 03 44.4**	**+0.4**
TORD				IAmb	IAmb	16 03 52.8	
	comp=Z,3.0nm,1.2s						
H11S2	**WAKE ISLAND Hyd**	**25.69**	**272**	T	T	18 29 03.1	
	baz=115,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hyd**	**25.70**	**272**	T	T	18 29 02.3	
	baz=115,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hyd**	**25.71**	**272**	T	T	18 29 02.8	
	baz=115,slow=75,SNR=18						
KURBB	**Kurchatov Arra**	**150.35**	**39**	PKPbc	**PKiKP**	**16 11 09.6**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=304,slow=3.1,SNR=8.7						
KURK	**Kurchatov**	**150.35**	**39**		**PKiKP**	**16 11 09.6**	**+0.1**
AAK	**Ala-Archa**	**150.80**	**56**	PKPbc	**PKiKP**	**16 11 11.6**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=155,slow=2.9,SNR=9.6						
AAK	**Ala-Archa**	**150.80**	**56**		**PKiKP**	**16 11 11.2**	**+0.3**
ZALV	**Zalesovo Beam**	**151.32**	**29**	PKPbc	**PKiKP**	**16 11 11.9**	**+0.5**
	comp=Z,9.7nm,0.7s,baz=293,slow=3.0,SNR=41						
ZALV	**Zalesovo Beam**	**151.32**	**29**		**PKiKP**	**16 11 11.3**	**0.0**
MKAR	**Makanchi Array**	**154.45**	**44**	PKPbc	**PKiKP**	**16 11 18.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=289,slow=3.7,SNR=4.4						
MKAR				PKPab	**PKPab**	**16 11 33.5**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=290,slow=5.1,SNR=3.5						
PZH	**PanZhiHua**	**173.23**	**125**	PKP	**PKPdf**	**16 11 26.9**	**-0.7**

*JMA **21** 15:55:43.8±0.3,22.27N×121.01E,h0km,M3.7*
*TAP **21** 15:55:47.8,22.18N×121.06E,h27km,ML3.6,B*
ISC 21 15:55:47.9±0.9,22.19N±0.02×121.08E±0.02,h29km±6km, n123,σ1s09/191,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAWH	**Dawu Township**	**0.23**	**309**	*i* P	**Pb**	**15 55 54.3**	**-0.1**
	baz=320						
TAWH				*eS*	**Sb**	**15 55 58.6**	**-0.2**
	baz=320						
TAW	**Tawu**	**0.23**	**314**	*i* P	**Pb**	**15 55 54.4**	**-0.1**
	baz=326						
TAW				S	**Sb**	**15 55 58.9**	**0.0**
	baz=326						
SLIU	**Shizi**	**0.26**	**275**	*i* P	**Pb**	**15 55 54.4**	**-0.4**
	baz=278						
SLIU				*i* S	**Sb**	**15 55 58.7**	**-0.8**
	baz=278						
SMST	**Manzhou Townsh**	**0.28**	**233**	*i* P	**Pb**	**15 55 54.7**	**-0.4**
	baz=227						
SMST				*eS*	**Sb**	**15 55 59.6**	**-0.4**
	baz=227						
EAST	**Anshuo**	**0.28**	**311**	*i* P	**Pb**	**15 55 55.1**	**-0.1**
	baz=317						
EAST				S	**Sb**	**15 55 59.8**	**-0.2**
	baz=317						
TSEB	**Hengchuen, Pin**	**0.34**	**210**	P	**Pb**	**15 55 55.9**	**+0.1**
	baz=214						
TSEB				S	**Sb**	**15 56 01.8**	**+0.7**
	baz=214						
TWKBT	**Hengchun**	**0.35**	**225**	*i* P	**Pb**	**15 55 55.6**	**-0.4**
	baz=219						
TWKBT				*eS*	**Sb**	**15 56 01.1**	**-0.5**
	baz=219						
TWK1	**Hengchun**	**0.36**	**226**	*i* P	**Pb**	**15 55 55.7**	**-0.5**
	baz=219						
TWK1				S	**Sb**	**15 56 01.2**	**-0.4**
	baz=219						
HEN	**Hengchun**	**0.37**	**239**	*i* P	**Pb**	**15 55 56.1**	**-0.2**
	baz=239						
HEN				S	**Sb**	**15 56 01.9**	**0.0**
	baz=239						
SNW	**Nanwan**	**0.39**	**233**	*eP*	**Pb**	**15 55 56.7**	**+0.2**
	baz=233						
SNW				*eS*	**Sb**	**15 56 03.3**	**+1.0**
	baz=233						
ECL	**Taimali**	**0.42**	**344**	*i* P	**Pb**	**15 55 56.5**	**-0.5**
	baz=348						
ECL				S	**Sb**	**15 56 02.6**	**-0.6**
	baz=348						
SCZT	**Fangliau**	**0.46**	**293**	P	**Pb**	**15 55 57.7**	**0.0**
	baz=301						
SCZT				*eS*	**Sn**	**15 56 04.2**	**-1.6**
	baz=301						
LAY	**Lan-yu**	**0.46**	**109**	*i* P	**Pb**	**15 55 57.5**	**-0.3**
	baz=97						
LAY				*eS*	**Sb**	**15 56 04.7**	**+0.3**
	baz=97						
LYUB	**Lan-yu**	**0.51**	**112**	*i* P	**Pb**	**15 55 56.9**	**-1.5**
	baz=100						
LYUB				*eS*	**Sb**	**15 56 03.4**	**-2.2**
	baz=100						
SSPT	**Xinbi**	**0.55**	**301**	*i* P	**Pn**	**15 55 59.9**	**0.0**
	baz=311						
TTN	**Taitung**	**0.56**	**6**	*eP*	**Pn**	**15 55 59.9**	**0.0**
	baz=9.0						
TTN				*eS*	**Sn**	**15 56 10.7**	**+2.4**
	baz=9.0						
MASBT	**Mashibuluo**	**0.59**	**315**	*i* P	**Pn**	**15 55 59.7**	**-0.6**
	baz=325						
LDUT	**Ludao**	**0.60**	**37**	*i* P	**Pb**	**15 55 59.6**	**-0.3**
	baz=28						
LDUT				*i* S	**Sb**	**15 56 08.4**	**+0.3**
	baz=28						
TWGBT	**Beinan**	**0.62**	**0**	P	**Pb**	**15 55 59.3**	**-1.0**
	baz=2.0						
TWG	**Pinlang**	**0.62**	**359**	*i* P	**Pb**	**15 55 59.3**	**-1.1**
	baz=2.0						
TWG				*eS*	**Sb**	**15 56 05.1**	**-3.8**
	baz=2.0						
TSMG	**Majia**	**0.65**	**322**	P	**Pb**	**15 56 00.6**	**-0.2**
	baz=326						
TSMG				*eS*	**Sn**	**15 56 11.8**	**+1.3**
	baz=326						
WLCH	**Liuqiu**	**0.67**	**284**	P	**Pn**	**15 56 03.2**	**+1.7**
	baz=286						
SSD	**Sandimen**	**0.69**	**323**	*i* P	**Pb**	**15 56 01.2**	**-0.3**
	baz=326						
SSD				*eS*	**Sn**	**15 56 13.6**	**+2.1**
	baz=326						
LONT	**Longtian**	**0.71**	**4**	*i* P	**Pb**	**15 56 00.7**	**-1.1**
	baz=358						
SGLT	**Jiouru**	**0.76**	**314**	*eP*	**Pn**	**15 56 03.9**	**+1.2**
	baz=321						
EDH	**Donghe**	**0.80**	**15**	P	**Pb**	**15 56 02.4**	**-0.9**
	baz=23						
EDH				S	**Sb**	**15 56 13.8**	**-0.1**
	baz=23						
TWM1	**Shoushan**	**0.87**	**316**	*eP*	**Pn**	**15 56 06.4**	**+2.1**
	baz=319						
SCST	**Cishan**	**0.88**	**322**	P	**Pn**	**15 56 05.8**	**+1.5**
	baz=324						
SLGT	**Liugui**	**0.89**	**333**	*i* P	**Pn**	**15 56 05.2**	**+0.6**
	baz=339						
CHKT	**Chengkung**	**0.94**	**16**	*i* P	**Pb**	**15 56 04.6**	**-1.1**
	baz=18						
CHKT				*i* S	**Sb**	**15 56 17.1**	**-0.7**
	baz=18						
ELDTW	**Lidau**	**0.99**	**357**	P	**Pb**	**15 56 05.0**	**-1.6**
	baz=5.0						
SGST	**Jiashian**	**1.00**	**333**	*eP*	**Pn**	**15 56 06.5**	**+0

	baz=12							
EYUL				eS	Sn	15 56 24.3	+0.9	
	baz=12							
TPUB	**Ta-pu**	**1.18**	**339**	P	Pb	15 56 09.8	+0.1	
	baz=341							
TWK	**Hsinying**	**1.20**	**333**	P	Pb	15 56 10.1	+0.1	
	baz=336							
YULB	**Yu-li**	**1.21**	**10**	P	Pn	15 56 07.4	-1.5	
	baz=11							
CHN4	**Tsaushan**	**1.24**	**339**	P	Pb	15 56 10.7	+0.1	
	baz=342							
SCLT	**Jiali**	**1.27**	**320**	eP	Pn	15 56 10.0	+0.3	
	baz=323							
EHY	**Hungye**	**1.32**	**10**	eP	Pn	15 56 09.2	-1.3	
	baz=22							
HGSD	**Ruisui**	**1.33**	**14**	eP	Pn	15 56 10.3	-0.2	
	baz=16							
ALS	**Alishan**	**1.33**	**349**	P	Pb	15 56 12.1	-0.5	
	baz=352							
ICHU	**Yijhu**	**1.38**	**328**	eP	Pb	15 56 12.0	-1.0	
	baz=331							
CHY	**Chiayi**	**1.43**	**335**	eP	Pb	15 56 13.2	-0.7	
	baz=338							
CHY				eS	Sb	15 56 32.1	+0.3	
	baz=338							
EGFH	**Guangfu**	**1.50**	**12**	eP	Pn	15 56 13.9	+0.9	
	baz=14							
VWDT	**VWDT**	**1.55**	**2**	eP	Pn	15 56 14.1	+0.5	
	baz=15							
WDLH	**Douliu**	**1.57**	**342**	eP	Pb	15 56 15.2	-1.1	
	baz=344							
WDLH				eS	Sb	15 56 36.0	+0.2	
	baz=344							
SSLB	**Suanglung**	**1.59**	**356**	P	Pn	15 56 15.5	+1.3	
	baz=13							
WTK	**Tuku**	**1.62**	**337**	P	Pn	15 56 15.3	+0.8	
	baz=340							
WTK				eS	Sb	15 56 36.3	-0.9	
	baz=340							
WSF	**Szhu**	**1.64**	**331**	eP	Pn	15 56 15.6	+0.8	
	baz=334							
WSF				eS	Sb	15 56 36.7	-1.1	
	baz=334							
ESL	**Shilin**	**1.65**	**11**	eP	Pn	15 56 15.5	+0.6	
	baz=22							
WJS	**Zhushan**	**1.65**	**349**	eP	Pb	15 56 16.9	-0.9	
	baz=335							
WJS				eS	Sb	15 56 39.5	+1.3	
	baz=335							
WDGT	**Dungji**	**1.69**	**309**	eP	Pn	15 56 15.1	-0.4	
	baz=312							
WDGT				eS	Sn	15 56 35.1	-1.0	
	baz=312							
SMLT	**Sun Moon Lake**	**1.69**	**354**	eP	Pb	15 56 17.8	-0.7	
	baz=357							
SMLT				eS	Sb	15 56 41.0	+1.7	
	baz=357							
TYC	**Yuchr**	**1.71**	**353**	eP	Pb	15 56 18.1	-0.7	
	baz=356							
TYC				eS	Sb	15 56 41.3	+1.4	
	baz=356							
WNT	**Mingjian**	**1.71**	**348**	eP	Pb	15 56 18.0	-0.8	
	baz=335							
WNT				eS	Sb	15 56 40.3	+0.3	
	baz=335							
OWD	**Renai**	**1.75**	**3**	eP	Pn	15 56 17.2	+0.6	
	baz=18							
OWD				eS	Sn	15 56 38.0	0.0	
	baz=18							
WUSB	**Renai**	**1.79**	**1**	P	Pn	15 56 18.1	+1.1	
	baz=18							
WRL	**Guolierlin Hig**	**1.82**	**339**	eP	Pn	15 56 18.0	+0.8	
	baz=342							
WRL				eS	Sb	15 56 41.5	-1.4	
	baz=342							
VCHM	**Qimei**	**1.83**	**304**	eP	Pn	15 56 16.6	-0.8	
	baz=306							
VCHM				eS	Sn	15 56 38.5	-1.1	
	baz=306							
HWA	**Hwalien**	**1.84**	**15**	eS	Sn	15 56 40.6	+0.8	
	baz=17							
CHGB	**Renai**	**1.86**	**3**	eP	Pn	15 56 18.9	+0.9	
	baz=6.0							
CHGB				eS	Sn	15 56 41.2	+0.5	
	baz=6.0							
WCS	**Beigang Elemen**	**1.86**	**355**	eP	Pb	15 56 19.8	-1.5	
	baz=358							
WCS				eS	Sb	15 56 43.9	-0.3	
	baz=358							
PHUB	**P'eng-hu**	**1.91**	**314**	P	Pn	15 56 18.0	-0.6	
	baz=316							
PHUB				S	Sn	15 56 40.7	-0.9	
	baz=316							
WHF	**Hehuan Shan**	**1.95**	**5**	eP	Pn	15 56 19.8	+0.3	
	baz=19							
WHF				eS	Sn	15 56 43.4	+0.2	
	baz=19							
PNG	**Penghu**	**1.96**	**314**	eP	Pn	15 56 19.1	-0.2	
	baz=317							
PNG				eS	Sn	15 56 42.5	-0.4	
	baz=317							
TCU	**Taichung**	**1.98**	**349**	eP	Pn	15 56 21.0	+1.5	
	baz=338							
NACB	**Ninganchiao**	**2.03**	**13**	eP	Pn	15 56 20.4	+0.3	
	baz=16							
ETLH	**Xiulin Townshi**	**2.04**	**10**	eP	Pn	15 56 21.2	+0.8	
	baz=22							
FUSS	**Fushou**	**2.05**	**4**	eP	Pn	15 56 20.3	-0.4	
	baz=17							
WHP	**Taichung City**	**2.08**	**357**	eP	Pb	15 56 23.3	-1.8	
	baz=4.0							
WHP				eS	Sb	15 56 50.9	+0.4	
	baz=4.0							
TWQ1	**Liyutan**	**2.16**	**353**	eP	Pb	15 56 24.4	-2.0	
	baz=342							
TWQ1				eS	Sb	15 56 53.4	+0.5	
	baz=342							
WDJ	**Dajia District**	**2.18**	**349**	eS	Sb	15 56 53.0	-0.3	
	baz=338							
NSY	**Sanyi**	**2.23**	**353**	eS	Sb	15 56 55.3	+0.5	
	baz=342							
NNSB	**Datong**	**2.24**	**7**	eP	Pn	15 56 24.2	+1.0	
	baz=19							
NNSB				eS	Sn	15 56 49.6	-0.3	
	baz=19							
NNS	**Nan Shan**	**2.25**	**7**	eP	Pn	15 56 24.5	+1.1	
	baz=19							
NNS				eS	Sn	15 56 51.1	+0.9	
	baz=19							
ENA	**Nanau**	**2.31**	**15**	eP	Pn	15 56 26.8	+2.8	
	baz=18							
ENA				eS	Sn	15 56 50.5	-0.9	
	baz=18							
EWUT	**Wuta**	**2.33**	**16**	eP	Pn	15 56 25.6	+1.3	
	baz=18							
EWUT				eS	Sn	15 56 51.4	-0.6	
	baz=18							
LATG	**Datong**	**2.37**	**10**	eP	Pn	15 56 25.4	+0.5	
	baz=22							
NFF	**Wufeng Townshi**	**2.43**	**1**	eP	Pn	15 56 28.1	+2.4	
	baz=5.0							
NFF				eS	Sn	15 56 56.7	+2.3	
	baz=5.0							
NDT	**Datong Townshi**	**2.43**	**9**	eP	Pn	15 56 26.9	+1.3	
	baz=22							
LIOB	**Emei**	**2.44**	**359**	eP	Pn	15 56 28.0	+2.2	
	baz=2.0							
ENTT	**Nioudou**	**2.48**	**10**	eP	Pn	15 56 27.1	+0.7	
	baz=22							
YHNB	**Yeheng**	**2.48**	**6**	eP	Pn	15 56 28.0	+1.5	
	baz=356							
YHNB				eS	Sn	15 56 56.7	+0.9	
	baz=356							
NSK	**Sanguang**	**2.48**	**6**	eP	Pn	15 56 28.1	+1.6	
	baz=22							
NSK				eS	Sn	15 56 56.8	+0.9	
	baz=22							
NDS	**Dongshan**	**2.50**	**13**	eP	Pn	15 56 27.8	+1.2	
	baz=16							
TWC	**Suao**	**2.51**	**16**	eP	Pn	15 56 28.5	+1.7	
	baz=8.0							
TWC				eS	Sn	15 56 57.7	+1.4	
	baz=8.0							
TWE	**Neicheng**	**2.57**	**12**	eP	Pb	15 56 31.4	-2.0	
	baz=22							
TWE				eS	Sn	15 56 58.2	+0.2	
	baz=22							
FUSB	**Fushanzhiwuyua**	**2.60**	**10**	eP	Pn	15 56 29.0	+0.9	
	baz=22							
NWLT	**Wulai**	**2.60**	**9**	eP	Pn	15 56 29.6	+1.5	
	baz=21							
NWLT				eS	Sn	15 56 59.3	+0.6	
	baz=21							
NHDH	**Xindian Distri**	**2.79**	**8**	eS	Sn	15 57 04.4	+1.2	
	baz=21							
TWA	**Mucha**	**2.81**	**9**	eS	Sn	15 57 05.2	+1.3	
	baz=21							
JYNG	**Yonagunijimaku**	**2.83**	**37**	P	Pn	15 56 31.1	0.0	
JYNG				S	Sn	15 57 05.3	+1.1	
TIPB	**Shuangxi**	**2.85**	**14**	eP	Pn	15 56 33.0	+1.5	
	baz=17							
TIPB				eS	Sn	15 57 05.5	+0.7	
	baz=17							
YOJ	**Yonaguni jima**	**2.87**	**38**	P	Pn	15 56 31.9	+0.2	
YOJ				S	Sn	15 57 07.7	+2.4	
YOJ	**Yonaguni jima**	**2.87**	**38**	eP	Pn	15 56 32.5	+0.7	
	baz=43							
YOJ				eS	Sn	15 57 06.5	+1.1	
	baz=43							
TWS1	**Kuangyinshan**	**2.91**	**6**	eS	Sn	15 57 09.1	+2.8	
	baz=355							
TWB1	**Santiao Chiao**	**2.92**	**16**	eP	Pn	15 56 33.7	+1.2	
	baz=19							
TWB1				eS	Sn	15 57 08.4	+1.8	
	baz=19							
NWF	**Wu-fen Shan**	**2.94**	**13**	eP	Pn	15 56 34.0	+1.3	
	baz=15							
NWF				eS	Sn	15 57 08.1	+1.1	
	baz=15							
YM01	**YM01**	**2.97**	**9**	eP	Pn	15 56 34.3	+1.1	
	baz=22							
SXI1	**Grass Mountain**	**2.98**	**14**	eP	Pn	15 56 34.7	+1.4	
	baz=17							
HATJ	**Hateruma jima**	**3.12**	**53**	P	Pn	15 56 35.9	+0.8	
HATJ				S	Sn	15 57 11.3	-0.1	
VWUC	**VWUC**	**3.16**	**332**	eP	Pn	15 56 36.0	+0.3	
	baz=336							
VWUC				eS	Sn	15 57 10.8	-1.7	
	baz=336							
IRIF	**Iriomote-Funau**	**3.24**	**48**	P	Pn	15 56 37.9	+1.1	
IRIF				eS	Sn	15 57 16.7	+2.4	
KNM	**Kinmen**	**3.29**	**313**	eP	Pn	15 56 38.9	+1.4	
	baz=315							
KNM				eS	Sn	15 57 16.2	+0.6	
	baz=315							
KNMB	**Chin-men Tao**	**3.35**	**313**	eP	Pn	15 56 38.7	+0.4	
	baz=317							
JKRS	**Kuro-shima**	**3.38**	**52**	P	Pn	15 56 39.6	+0.9	
JKRS				S	Sn	15 57 18.0	+0.2	
ZPLA	**Ao Xicun**	**3.52**	**300**	eP	Pn	15 56 40.0	-0.7	
	baz=303							
ZPLA				eS	Sn	15 57 19.4	-1.9	
	baz=303							
JIJ	**Ishigaki jima**	**3.55**	**52**	P	Pn	15 56 41.7	+0.6	
JISG	**Ishigakijimahi**	**3.81**	**51**	P	Pn	15 56 45.1	+0.5	
JISG				S	Sn	15 57 29.9	+1.5	
AXDP	**Jialang**	**3.92**	**314**	eP	Pn	15 56 46.2	0.0	
	baz=319							
MATB	**Ma-tsu**	**4.07**	**345**	eP	Pn	15 56 48.5	+0.2	
	baz=350							
MATB				eS	Sn	15 57 34.9	-0.1	
	baz=350							
JTJ	**Tarama**	**4.12**	**53**	P	Pn	15 56 49.8	+0.8	
JTJ				S	Sn	15 57 35.7	-0.5	
MHZQ	**Yeshan**	**4.32**	**335**	eP	Pn	15 56 52.0	+0.4	
	baz=339							
LYJJ	**Jianjiangzhen**	**4.50**	**345**	eP	Pn	15 56 54.3	+0.2	
	baz=348							
JIRB	**Irabujima**	**4.58**	**54**	P	Pn	15 56 55.9	+0.6	
JIRB				S	Sn	15 57 47.3	-0.2	
XPSS	**Dashiqiu**	**4.78**	**350**	eP	Pn	15 56 58.6	+0.6	
	baz=356							
XPSS				eS	Sn	15 57 52.2	-0.3	
	baz=356							
SXFK	**Yanhouchang**	**5.23**	**324**	eP	Pn	15 57 04.3	+0.1	
	baz=329							

*IDC **21** 15:57:36.3±0.9,27.68N×66.33E,h0km,mb3.8/15, mb1 3.9/17,mb1mx3.7/63,mbtmp3.8/17,ML3.4/2,Error ellipse: s-maj=19.5km s-min=18.2km az=2.0*

ISC 21 15:57:37.7±0.8,27.7N±0.1×66.33E±0.08,h10km,n25, σ0s93/26,mb3.9/15,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**6.91**	**41**	P	Pn	15 59 19.0	0.0
CEP	**Cherat**	**7.77**	**37**	P	Pn	15 59 30.9	0.0
CEP				S	Sn	16 00 58.0	-1.0
WSAR	**Wadi Sarin**	**8.25**	**239**	Pn	Pn	15 59 36.5	-1.0
	0.3nm,0.3s,baz=117,slow=18,SNR=2.3						
WSAR				Sn	Sn	16 01 00.5	-10
	0.9nm,0.3s,baz=288,slow=18,SNR=2.0						
PYUN	**Piuthan**	**14.74**	**85**	eP	Pn	16 01 07.8	+1.3
	7.2nm,0.5s						
KOLN	**Koldanda**	**15.29**	**86**	eP	Pn	16 01 14.7	+0.8
DANN	**Dangsing**	**15.41**	**83**	eP	Pn	16 01 16.1	+0.6
AAK	**Ala-Archa**	**16.32**	**22**	Pn	Pn	16 01 26.3	-0.8
	0.2nm,0.3s,baz=199,slow=6.9,SNR=11						
PKIN	**Phulchoki**	**16.90**	**86**	eP	Pn	16 01 32.7	-1.9
	1.5nm,0.2s						
PKI	**Pulchoki**	**16.91**	**86**	eP	Pn	16 01 33.5	-1.3
	2.3nm,0.3s						
GUN	**Gumba**	**17.30**	**85**	eP	Pn	16 01 37.7	-2.0
	3.6nm,0.4s						
MKAR	**Makanchi Array**	**22.83**	**29**	P	P	16 02 40.2	-0.6
	1.4nm,0.7s,baz=207,slow=11,SNR=16						
AKTO	**Aktyubinsk**	**23.58**	**347**	P	P	16 02 48.5	+0.2
	1.4nm,0.7s,baz=153,slow=6.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**24.71**	**19**	P	P	16 02 59.7	+0.9
	1.8nm,0.6s,baz=210,slow=8.7,SNR=16						
KBZ	**Khabaz**	**24.73**	**316**	P	P	16 03 00.3	+1.1
	2.5nm,0.8s,baz=131,slow=4.1,SNR=6.0						
BVAR	**Borovoye Array**	**25.48**	**6**	P	P	16 03 06.4	+0.5
	0.8nm,0.5s,baz=77,slow=13,SNR=6.4						
ZALV	**Zalesovo Beam**	**29.54**	**22**	P	P	16 03 42.7	+0.5
	1.0nm,0.6s,baz=232,slow=8.9,SNR=4.9						
AKASG	**Malin Array Be**	**36.24**	**320**	P	P	16 04 40.8	0.0
	0.8nm,0.6s,baz=116,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**36.98**	**46**	P	P	16 04 48.2	+0.9
	0.5nm,0.7s,baz=262,slow=10,SNR=4.2						
FINES	**FINESS Array B**	**43.06**	**333**	P	P	16 05 37.4	0.0
	2.7nm,1.0s,baz=119,slow=11,SNR=5.1						
GERES	**GERESS Array B**	**45.36**	**312**	P	P	16 05 56.2	0.0
	0.2nm,0.5s,baz=88,slow=8.0,SNR=1.9						
ARCES	**ARCESS Array B**	**48.03**	**342**	P	P	16 06 15.8	-0.9
	1.1nm,0.6s,baz=64,slow=2.8,SNR=4.2						
ESDC	**Sonseca Array**	**58.35**	**301**	P	P	16 07 33.4	+0.1
	1.2nm,1.0s,baz=81,slow=8.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**61.67**	**270**	P	P	16 07 56.8	+0.5
	1.3nm,0.7s,baz=67,slow=7.0,SNR=7.5						
WRA	**Warramunga Arr**	**81.05**	**118**	P	P	16 09 53.6	+0.3
	1.3nm,1.0s,baz=318,slow=4.3,SNR=9.9						
ASAR	**Alice Springs**	**82.78**	**121**	P	P	16 10 02.4	0.0
	0.5nm,0.5s,baz=308,slow=5.1,SNR=25						

MAN 21 16:06:41.1,18.08N×121.36E,h29km,mb3.8,ML2.5, MS2.0,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**2.03**	**199**	eP	Pn	16 07 13.1	-0.3
SMPP				eS	Sn	16 07 39.4	+1.5

IDC 21 16:14:57.3±1.7,27.82N×65.68E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.1/59,mbtmp3.3/4,ML2.8/1,Error ellipse: s-maj=54.7km s-min=28.0km az=136.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.83**	**236**	Pn	Pn	16 16 52.8	+0.2
	0.1nm,0.3s,baz=86,slow=19,SNR=1.4						
WSAR				Sn	Sn	16 18 22.4	+0.3
	0.6nm,0.3s,baz=297,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**23.00**	**30**	P	P	16 20 03.8	0.0
	0.5nm,0.7s,baz=211,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**81.61**	**118**	P	P	16 27 17.5	-0.1
	0.2nm,0.8s,baz=315,slow=5.0,SNR=2.0						
ASAR	**Alice Springs**	**83.34**	**121**	P	P	16 27 26.7	+0.1
	0.3nm,0.9s,baz=316,slow=5.5,SNR=5.0						

IDC 21 16:22:39.4±2.0,2.46S×126.14E,h0km,mb3.1/2, mb1 3.3/3,mb1mx2.9/47,mbtmp3.2/3,ML3.3/1,Error ellipse: s-maj=164.4km s-min=28.3km az=64.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.13**	**156**	P	P	16 27 04.3	0.0
	0.1nm,0.3s,baz=334,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**22.38**	**161**	P	P	16 27 39.3	-0.2
	0.1nm,0.3s,baz=344,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**62.35**	**328**	P	P	16 33 04.0	+0.1
	0.5nm,1.0s,baz=140,slow=6.3,SNR=2.7						

*IDC **21** 16:28:41.8±1.7,5.16S×146.04E,h127km±17km,mb3.7/15, mb1 3.7/18,mb1mx3.6/48,mbtmp4.0/18,Error ellipse: s-maj=19.2km s-min=10.7km az=101.0*
*NEIC **21** 16:28:42.5±1.5,5.16S±0.08×146.02E±0.07,h127km±7km, mb4.3/53,Error ellipse: s-maj=14.1km s-min=7.8km az=217.0*

ISC 21 16:28:43.8±0.5,5.23S±0.06×146.00E±0.09,h150km,n75, σ1s06/77,mb4.2/40,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.31**	**165**	P	Pn	16 29 47.2	-0.9
	4.4nm,0.3s,baz=4.4,slow=5.1,SNR=22						
PMG				S	Sn	16 30 35.9	-2.4
	8.0nm,0.3s,baz=308,slow=2.5,SNR=6.2						
PMG	**Port Moresby**	**4.31**	**165**	Pn	Pn	16 29 46.7	-1.4
JAY	**Jayapura**	**5.93**	**297**	P	Pn	16 30 07.4	-2.4
	6.3nm,0.3s,baz=161,slow=7.3,SNR=27						
COEN	**Coen**	**9.11**	**198**		Pn	16 30 53.2	+1.0
MTN	**Manton Dam**	**16.51**	**242**	P	P	16 32 25.7	-1.2
WB0	**Warramunga Arr**	**18.35**	**217**	P	Pn	16 32 47.8	-1.0
WR0	**Warramunga Arr**	**18.41**	**216**	P	Pn	16 32 48.4	-1.2
WB2	**Warramunga Arr**	**18.51**	**217**	P	Pn	16 32 49.8	-1.0
WRA	**Warramunga Arr**	**18.52**	**217**	P	Pn	16 32 49.8	-1.0
	0.4nm,0.3s,baz=34,slow=11,SNR=21						
WRA				S	S	16 36 15.8	+3.4
	0.0nm,0.3s,baz=44,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**18.52**	**217**	P	Pn	16 32 49.4	-1.4
KNRA	**Kununurra**	**19.86**	**237**	P	P	16 33 02.2	-1.2
KNRA				IAmb	IAmb	16 33 10.2	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**21.73**	**211**	P	P	16 33 24.1	+0.8
ASAR	**Alice Springs**	**21.73**	**211**	P	P	16 33 24.1	+0.7
	comp=Z,1.0nm,0.6s,baz=42,slow=7.3,SNR=26						
ASAR	**Alice Springs**	**21.73**	**211**	P	P	16 33 24.0	+0.6
SOEI	**Soe**	**22.01**	**257**	P	P	16 33 26.4	-0.1
SOEI				IAmb	IAmb	16 33 40.3	
	comp=Z,14nm,1.1s						
BATI	**Baumata**	**22.68**	**256**	P	P	16 33 33.5	+0.7
	comp=Z,23nm,0.6s,baz=108,slow=2.6,SNR=3.5						
FITZ	**Fitzroy Crossi**	**23.65**	**236**	P	P	16 33 42.0	+0.3
	comp=Z,4.5nm,0.3s,baz=66,slow=10,SNR=8.6						
MMRI	**Maumere**	**23.83**	**261**	P	P	16 33 42.7	-0.7
STKA	**Stephens Creek**	**26.83**	**188**	P	P	16 34 11.9	+1.6
	comp=Z,1.1nm,0.4s,baz=356,slow=8.1,SNR=7.0						
TARA	**Tarawa**	**27.67**	**77**	P	P	16 34 17.3	-0.8
JMZ	**Minamidaito 2**	**34.03**	**336**	P	P	16 35 13.1	-0.6
YULB	**Yu-li**	**37.30**	**321**	P	P	16 35 41.8	+0.1
JNU	**Nakatsue**	**40.75**	**340**	P	P	16 36 09.9	-0.4
MJAR	**Matsushiro Arr**	**42.19**	**351**	P	P	16 36 21.3	-0.6
	comp=Z,1.0nm,0.5s,baz=172,slow=9.8,SNR=2.0						
MAJO	**Matsushiro**	**42.19**	**351**	P	P	16 36 20.8	-1.1
MAJO				IAmb	IAmb	16 36 49.0	
	comp=Z,3.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**42.19**	**351**	P	P	16 36 20.8	-1.1
MJB9				IAmb	IAmb	16 36 48.9	
	comp=Z,4.0nm,1.1s						
KSRS	**Korea Array**	**45.68**	**340**	P	P	16 36 49.5	-0.2
	comp=Z,1.8nm,0.8s,baz=152,slow=8.3,SNR=5.3						
KSAR	**Wonju Array Be**	**45.69**	**340**	P	P	16 36 49.8	+0.1
USA0B	**Ussuriysk Arra**	**50.79**	**347**	P	P	16 37 29.3	+0.5
USA0B				IAmb	IAmb	16 37 43.9	
	comp=Z,7.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**50.79**	**347**	P	P	16 37 29.3	+0.6
	comp=Z,1.9nm,0.6s,baz=159,slow=6.8,SNR=13						
CMAR	**Chiang Mai Arr**	**52.01**	**298**	P	P	16 37 38.6	+0.2
	comp=Z,0.5nm,0.4s,baz=119,slow=7.7,SNR=5.8						
PETK	**Petropavlovsk-**	**58.95**	**8**	P	P	16 38 28.3	+1.0
	comp=Z,4.0nm,1.0s,baz=126,slow=7.5,SNR=4.4						
SONM	**Songino Array**	**63.25**	**331**	P	P	16 38 56.7	+0.2
	comp=Z,0.3nm,0.5s,baz=145,slow=6.5,SNR=3.3						
CASY	**Casey**	**65.74**	**195**	P	P	16 39 13.2	+1.0
SEY	**Seymchan**	**68.14**	**3**	P	P	16 39 27.9	+0.6
	comp=Z,1.1nm,0.7s,baz=122,slow=15,SNR=6.3						
MK31	**Makanchi Array**	**76.27**	**321**	P	P	16 40 15.7	-0.4
MKAR	**Makanchi Array**	**76.27**	**321**	P	P	16 40 15.9	-0.2
	comp=Z,0.5nm,0.4s,baz=106,slow=6.9,SNR=10						
MAKZ	**Makanchi**	**76.48**	**321**	P	P	16 40 17.0	-0.2
ZALV	**Zalesovo Beam**	**77.83**	**328**	P	P	16 40 23.6	-0.9
	comp=Z,0.4nm,0.4s,baz=108,slow=9.3,SNR=1.9						
BOOM	**Boomskoye usch**	**79.03**	**315**	P	P	16 40 31.8	+0.2
BOOM				IAmb	IAmb	16 40 32.4	
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**80.02**	**323**	P	P	16 40 36.3	-0.3
	comp=Z,0.3nm,0.4s,baz=100,slow=7.0,SNR=2.4						
L19K	**White Mountain**	**80.81**	**24**	P	P	16 40 42.2	+1.6
L19K				IAmb	IAmb	16 40 52.1	
	comp=Z,9.7nm,1.5s						
M19K	**Big River Lodg**	**80.86**	**24**	P	P	16 40 42.5	+1.6
M19K				IAmb	IAmb	16 40 49.1	
	comp=Z,6.9nm,1.2s						
CNPM	**China Poot**	**81.11**	**27**	P	P	16 40 42.8	+0.6
K20K	**Telida**	**81.71**	**23**	P	P	16 40 46.6	+1.3
K20K				IAmb	IAmb	16 40 49.2	
	comp=Z,7.5nm,1.4s						
J20K	**Nowinta River**	**82.08**	**22**	P	P	16 40 48.5	+1.3
RC01	**Rabbit Creek A**	**82.47**	**26**	P	P	16 40 49.8	+0.6
PWL	**Port Wells**	**82.99**	**27**	P	P	16 40 52.5	+0.5
KTH	**Kantishna Hill**	**83.05**	**24**	P	P	16 40 52.4	+0.1
KTH				IAmb	IAmb	16 41 18.3	
	comp=Z,8.2nm,1.4s						
IMAR	**Indian Mountai**	**83.12**	**21**	P	P	16 40 53.9	+1.4
SML	**Sawmill**	**83.38**	**26**	P	P	16 40 54.8	+0.7
MLY	**Manley**	**83.78**	**22**	P	P	16 40 57.0	+0.9
MLY				IAmb	IAmb	16 40 57.6	
	comp=Z,3.1nm,0.6s						
RND	**Reindeer**	**83.82**	**24**	P	P	16 40 56.2	-0.1
RND				IAmb	IAmb	16 40 56.7	
	comp=Z,5.8nm,0.9s						
MCK	**McKinley**	**83.93**	**24**	P	P	16 40 56.9	+0.1
MCK				IAmb	IAmb	16 40 57.0	
	comp=Z,3.5nm,1.0s					

M27K					IAmb	IAmb	16 41 11.8			
	comp=Z,2.6nm,0.7s									
L27K	**Beaver Creek,**	**86.66**	**26**	P	**P**	**16 41 11.7**	**+1.4**			
L27K					IAmb	IAmb	16 41 15.2			
	comp=Z,3.6nm,1.4s									
BCAR	**Beaver Creek A**	**86.68**	**26**	P	**P**	**16 41 11.7**	**+1.2**			
BMAR	**Burnt Mountain**	**87.04**	**21**	P	**P**	**16 41 13.6**	**+1.5**			
HYT	**Haines Junctio**	**87.99**	**28**	P	**P**	**16 41 18.5**	**+1.6**			
HYT					IAmb	IAmb	16 41 39.4			
	comp=Z,7.3nm,1.5s									

*IDC **21** 16:36:28.2±1.1,27.62N×66.43E,h0km,mb3.6/6, mb1 3.7/8,mb1mx3.5/46,mbtmp3.6/8,ML3.2/2,Error ellipse: s-maj=33.8km s-min=23.1km az=131.0*

ISC 21 16:36:32.7±0.9,27.7N±0.2×66.0E±0.1,h35km,n13, σ2.553/15,mb3.6/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.04**	**238**	Pn	**Pn**	**16 38 28.7**	**+1.6**
	0.4nm,0.3s,baz=47,slow=5.2,SNR=9.1						
WSAR				Sn	**Sn**	**16 39 52.5**	**-4.3**
	0.7nm,0.3s,baz=297,slow=14,SNR=4.5						
BANOM	**Banah**	**8.87**	**261**	P	**Pn**	**16 38 38.4**	**0.0**
BANOM				S	**Sn**	**16 40 13.6**	**-3.7**
SHME	**Shamm**	**8.98**	**262**	P	**Pn**	**16 38 41.3**	**+1.3**
UOSS	**Minazif**	**9.24**	**255**	P	**Pn**	**16 38 44.3**	**+0.8**
HATD	**Hatta, Dubai**	**9.34**	**254**	P	**Pn**	**16 38 49.0**	**+4.1**
ASHO	**Ashiyiah**	**9.45**	**254**	P	**Pn**	**16 38 48.4**	**+2.0**
AAK	**Ala-Archa**	**16.39**	**23**	Pn	**Pn**	**16 40 18.7**	**-1.4**
	0.1nm,0.3s,baz=206,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**22.93**	**30**	P	**P**	**16 41 32.7**	**-0.9**
	0.7nm,0.6s,baz=214,slow=9.5,SNR=10.0						
KURBB	**Kurchatov Arra**	**24.76**	**19**	P	**P**	**16 41 51.5**	**+0.7**
	0.5nm,0.3s,baz=212,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**37.15**	**46**	P	**P**	**16 43 39.5**	**-0.7**
	0.2nm,0.7s,baz=261,slow=8.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**61.40**	**270**	P	**P**	**16 46 49.5**	**+3.8**
	0.7nm,0.9s,baz=73,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**81.30**	**118**	P	**P**	**16 48 44.9**	**-0.8**
	0.6nm,0.3s,baz=315,slow=4.5,SNR=6.3						
ASAR	**Alice Springs**	**83.03**	**121**	P	**P**	**16 48 53.9**	**-0.9**
	0.4nm,0.6s,baz=306,slow=5.4,SNR=5.8						

*IDC **21** 16:38:08.0±1.2,21.61S×169.95E,h0km,mb4.1/12, mb1 4.3/13,mb1mx4.2/26,mbtmp4.1/13,ML4.2/1,MS3.7/4, Ms1 3.7/4,ms1mx3.2/58,Error ellipse: s-maj=42.9km s-min=18.4km az=150.0*

*NEIC **21** 16:38:09.9±1.7,21.72S±0.08×169.86E±0.09,h10km±1km, mb4.6/28,Error ellipse: s-maj=14.8km s-min=12.7km az=95.0*

*NOU **21** 16:38:09.1,21.75S×169.87E,h4km,MLv4.9/16, Southeast of Loyalty Islands*

ISC 21 16:38:09.3±0.5,21.74S±0.06×169.84E±0.07,h10km,n101, σ0.991/101,mb4.5/23,MS4.0/3,1C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.71**	**278**	Pn	**Pn**	**16 38 38.2**	**-1.0**
MARNC	**Mare, Loyalty**	**1.71**	**278**	P	**Pn**	**16 38 39.7**	**+0.6**
PINNC	**Pines Island,**	**2.38**	**248**		**Pn**	**16 38 48.0**	**-0.5**
PINNC	**Pines Island,**	**2.38**	**248**	P	**Pn**	**16 38 48.9**	**+0.4**
LIFNC	**LIFOU**	**2.61**	**291**		**Pn**	**16 38 49.4**	**-2.2**
LIFNC	**LIFOU**	**2.61**	**291**	P	**Pn**	**16 38 51.1**	**-0.5**
YATNC	**Mamie plateau,**	**2.70**	**262**	P	**Pn**	**16 38 54.0**	**+0.3**
OUENC	**Ouen Island, N**	**2.87**	**256**		**Pn**	**16 38 54.6**	**-0.4**
OUENC	**Ouen Island, N**	**2.87**	**256**	P	**Pn**	**16 38 56.0**	**+0.9**
DZM	**Mont Dzumac**	**3.17**	**263**	Pn	**Pn**	**16 39 00.3**	**+0.9**
	28nm,0.3s,baz=102,slow=18,SNR=192						
DZM				Sn	**Sn**	**16 39 36.0**	**-1.5**
	73nm,0.3s,baz=46,slow=22,SNR=17						
DZM				LR	LR	16 39 40.8	
	comp=Z,538nm,20.3s,baz=80,slow=28						
DZM	**Mont Dzumac**	**3.17**	**263**	*e*Pn	**Pn**	**16 39 00.0**	**+0.6**
	99nm,0.3s						
DZM				*e*Sn	**Sn**	**16 39 35.3**	**-2.1**
	297nm,0.3s						
DZM	**Mont Dzumac**	**3.17**	**263**		**Pn**	**16 38 59.9**	**+0.4**
DZM	**Mont Dzumac**	**3.17**	**263**	P	**Pn**	**16 39 00.6**	**+1.2**
ONTNC	**Ouen Toro**	**3.19**	**259**		**Pn**	**16 38 59.8**	**+0.2**
ONTNC	**Ouen Toro**	**3.19**	**259**	P	**Pn**	**16 39 00.5**	**+0.9**
NOUC	**Port Laguerre**	**3.31**	**263**	P	**Pn**	**16 39 02.1**	**+0.9**
RTV	**Rentapao**	**4.15**	**341**	P	**Pn**	**16 39 14.6**	**+1.9**
DVP	**Devils Point**	**4.29**	**338**	P	**Pn**	**16 39 16.2**	**+1.5**
KOUNC	**Koumac, New Ca**	**5.32**	**282**		**Pn**	**16 39 30.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.32**	**282**	P	**Pn**	**16 39 30.9**	**+2.0**
SANVU	**Saraoutou**	**6.74**	**338**		**Pn**	**16 39 47.4**	**-1.1**
SANVU	**Saraoutou**	**6.74**	**338**	P	**Pn**	**16 39 47.8**	**-0.6**
AFI	**Afiamalu**	**19.14**	**69**	P	**Pn**	**16 42 34.5**	**+0.7**
	1.2nm,0.3s,baz=173,slow=9.0,SNR=3.4						
AFI	**Afiamalu**	**19.14**	**69**	IAmb	IAmb	16 42 43.0	
	comp=Z,28nm,0.8s						
TUWZ	**Tuamarina**	**19.93**	**171**	P	**P**	**16 42 41.0**	**-0.3**
KHZ	**Kahutara**	**20.85**	**172**	P	**P**	**16 42 50.2**	**-1.0**
KHZ				IAmb	IAmb	16 43 07.9	
	comp=Z,39nm,1.4s						
CTA	**Charters Tower**	**22.09**	**270**	P	**P**	**16 43 07.3**	**+2.5**
	comp=Z,1.9nm,0.7s,baz=96,slow=16,SNR=1.3						
COEN	**Coen**	**26.51**	**283**	P	**P**	**16 43 47.8**	**+0.5**
COEN				IAmb	IAmb	16 43 56.7	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**27.09**	**242**	P	**P**	**16 43 54.7**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=80,slow=10,SNR=4.0						
BBOO	**Buckleboo**	**31.86**	**243**	P	**P**	**16 44 35.3**	**+0.6**
BBOO				IAmb	IAmb	16 44 45.5	
	comp=Z,16nm,1.2s						
WR0	**Warramunga Arr**	**33.00**	**267**	P	**P**	**16 44 45.2**	**+0.4**
AS31	**Alice Springs**	**33.16**	**260**	P	**P**	**16 44 46.3**	**+0.1**
ASAR	**Alice Springs**	**33.16**	**260**	P	**P**	**16 44 46.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=87,slow=9.1,SNR=35						
ASAR				PcP	**PcP**	**16 47 29.8**	**+0.6**
	comp=Z,1.2nm,1.1s,baz=105,slow=4.0,SNR=4.1						
ASAR	**Alice Springs**	**33.16**	**260**	P	**P**	**16 44 46.3**	**+0.1**
WB0	**Warramunga Arr**	**33.17**	**267**	P	**P**	**16 44 46.6**	**+0.3**
WB0				IAmb	IAmb	16 45 02.7	
	comp=Z,4.7nm,0.9s						
WB2	**Warramunga Arr**	**33.18**	**267**	P	**P**	**16 44 46.6**	**+0.3**
WB2				IAmb	IAmb	16 45 05.2	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**33.19**	**267**	P	**P**	**16 44 46.5**	**0.0**
	comp=Z,0.5nm,0.6s,baz=98,slow=7.9,SNR=10						
MTN	**Manton Dam**	**37.92**	**277**	P	**P**	**16 45 27.1**	**-0.1**
MTN				IAmb	IAmb	16 45 51.2	
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**39.29**	**272**	P	**P**	**16 45 38.7**	**0.0**
KNRA				IAmb	IAmb	16 45 49.7	
	comp=Z,9.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.62**	**267**	P	**P**	**16 45 58.8**	**+0.9**
	baz=109,slow=8.0						
FITZ	**Fitzroy Crossi**	**41.62**	**267**	P	**P**	**16 45 58.4**	**+0.5**
TOLI2	**Tolitoli**	**52.99**	**289**	P	**P**	**16 47 26.7**	**+0.1**
TOLI2				IAmb	IAmb	16 47 47.6	
	comp=Z,7.3nm,0.9s						
KSM	**Kuching**	**62.50**	**284**	P	**P**	**16 48 34.3**	**+0.7**
KSM				IAmb	IAmb	16 48 34.9	
	comp=Z,4.9nm,0.7s						
MJAR	**Matsushiro Arr**	**65.22**	**332**	P	**P**	**16 48 50.0**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=162,slow=7.2,SNR=6.4						
MAJO	**Matsushiro**	**65.22**	**332**	P	**P**	**16 48 50.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**65.22**	**332**	P	**P**	**16 48 50.0**	**-1.1**
TPUB	**Ta-pu**	**65.57**	**310**	P	**P**	**16 48 53.3**	**-0.3**
JNU	**Nakatsue**	**66.02**	**325**	LR	LR	17 14 41.6	
	comp=Z,46nm,20.4s,baz=112,slow=33						
JHS	**Saijyo**	**66.33**	**328**	P	**P**	**16 48 58.8**	**+0.6**
QSPA	**South Pole Qui**	**68.33**	**180**	P	**P**	**16 49 11.8**	**+1.2**
KSRS	**Korea Array**	**70.88**	**326**	P	**P**	**16 49 27.1**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=152,slow=5.7,SNR=6.1						
USA0B	**Ussuriysk Arra**	**74.21**	**333**	P	**P**	**16 49 45.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**74.21**	**333**	P	**P**	**16 49 46.3**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=134,slow=3.6,SNR=7.3						
PETK	**Petropavlovsk-**	**75.28**	**352**	P	**P**	**16 49 52.9**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=163,slow=10,SNR=2.1						
MAW	**Mawson**	**76.34**	**202**	P	**P**	**16 49 57.0**	**-1.3**
BELA	**Belgrano 2**	**79.57**	**175**	P	**P**	**16 50 16.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**80.05**	**294**	P	**P**	**16 50 20.8**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=129,slow=4.0,SNR=13						
CMAR	**Chiang Mai Arr**	**80.05**	**294**	P	**P**	**16 50 20.5**	**+0.9**
CHTO	**Chiang Mai**	**80.20**	**295**	P	**P**	**16 50 21.0**	**+0.5**
CHTO				IAmb	IAmb	16 50 23.2	
	comp=Z,4.7nm,1.0s						

GAMB	**Gambell**	**86.45**	**8**	P	**P**	**16 50 51.7**	**+0.1**			
GAMB				IAmb	IAmb	16 50 54.9				
	comp=Z,3.8nm,1.0s									
SNAA	**Sanae**	**86.70**	**182**	P	**P**	**16 50 52.4**	**-0.7**			
TTA	**Tatalina**	**88.59**	**15**	P	**P**	**16 51 03.1**	**+1.0**			
TTA				IAmb	IAmb	16 51 29.4				
	comp=Z,8.2nm,1.5s									
YAK	**Yakutsk**	**89.42**	**342**	LR	LR	17 31 37.6				
	comp=Z,48nm,18.4s,baz=86,slow=36									
SONM	**Songino Array**	**89.55**	**323**	P	**P**	**16 51 07.1**	**0.0**			
	comp=Z,2.5nm,1.0s,baz=126,slow=3.8,SNR=16									
SONM	**Songino Array**	**89.55**	**323**	P	**P**	**16 51 07.3**	**+0.3**			
SONM				IAmb	IAmb	16 51 08.2				
	comp=Z,5.0nm,1.2s									
NVAR	**Mina Array Bea**	**90.03**	**48**	P	**P**	**16 51 09.1**	**-0.5**			
	comp=Z,0.9nm,0.3s,baz=246,slow=8.7,SNR=12									
ILAR	**Eielson Array**	**92.44**	**17**	P	**P**	**16 51 17.9**	**-2.0**			
	comp=Z,0.4nm,0.5s,baz=238,slow=4.9,SNR=4.8									
ANMO	**Albuquerque**	**97.25**	**55**	LR	LR	17 29 26.5				
	comp=Z,48nm,18.2s,baz=236,slow=32									
YKA	**Yellowknife Ar**	**102.62**	**27**	P	**Pdif**	**16 52 05.6**	**-0.3**			
	comp=Z,0.3nm,0.7s,baz=262,slow=4.3,SNR=3.7									
MKAR	**Makanchi Array**	**103.91**	**315**	Pdiff	**Pdif**	**16 52 13.6**	**+1.5**			
	comp=Z,0.2nm,0.5s,baz=91,slow=7.3,SNR=3.9									
MKAR				PKiKP	**PP**	**16 56 29.2**	**-0.4**			
	comp=Z,0.2nm,0.6s,baz=216,slow=1.4,SNR=2.9									
MKAR	**Makanchi Array**	**103.91**	**315**	Pdif	**Pdif**	**16 52 11.4**	**-0.7**			
ARCES	**ARCESS Array B**	**127.62**	**345**	PKP	**PKPdf**	**16 57 13.7**	**-0.4**			
	comp=Z,2.1nm,0.5s,baz=76,slow=1.5,SNR=19									
FINES	**FINESS Array B**	**133.10**	**337**	PKP	**PKPdf**	**16 57 24.4**	**-0.3**			
	comp=Z,1.8nm,0.6s,baz=10.0,slow=2.0,SNR=14									
AKASG	**Malin Array Be**	**137.83**	**323**	PKP	**PKPdf**	**16 57 34.4**	**+0.6**			
	comp=Z,1.3nm,0.7s,baz=53,slow=2.2,SNR=4.9									
NOA	**NORSAR Array B**	**138.00**	**345**	PKP	**PKiKP**	**16 57 34.5**	**-1.4**			
	comp=Z,0.4nm,0.5s,baz=30,slow=2.1,SNR=2.0									
MORC	**Moravsky Berou**	**144.49**	**329**	*e*PKP	**PKPab**	**16 57 43.4**	**-0.9**			
DPC	**Dobruska-Polom**	**144.68**	**330**	*e*PKP	**PKPdf**	**16 57 45.5**	**-0.7**			
JAVC	**Velka Javorina**	**145.04**	**327**	*e*PKP	**PKiKP**	**16 57 48.6**	**-2.2**			
VRAC	**Vranov**	**145.27**	**329**	*e*PKP	**PKPbc**	**16 57 46.4**	**-0.6**			
PVCC	**Panska Ves**	**145.34**	**332**	*e*PKP	**PKPdf**	**16 57 47.6**	**+0.3**			
CLL	**Collm**	**145.41**	**334**	*i*PKPbc	**PKPab**	**16 57 47.1**	**-0.4**			
	comp=Z,15nm,0.6s									
KRUC	**Moravsky**	**145.53**	**329**	*e*PKP	**PKPab**	**16 57 47.8**	**-0.2**			
PRU	**Pruhonice**	**145.74**	**331**	*e*PKP	**PKPab**	**16 57 48.4**	**-0.4**			
NKC	**Novy Kostel**	**146.46**	**333**	*e*PKP	**PKPab**	**16 57 51.1**	**-0.4**			
CONA	**Conrad Observa**	**146.56**	**328**	*i* P	**PKPab**	**16 57 51.6**	**-0.5**			
	comp=Z,15nm,1.5s,SNR=7.4									
CKRC	**Cesky Krumlov**	**146.69**	**330**	*e*PKP	**PKPbc**	**16 57 51.2**	**-0.1**			
KHC	**Kasperske Hory**	**146.79**	**331**	*e*PKP	**PKPbc**	**16 57 51.7**	**0.0**			
GERES	**GERESS Array B**	**146.95**	**331**	PKPbc	**PKPbc**	**16 57 52.3**	**+0.1**			
	comp=Z,5.8nm,0.8s,baz=23,slow=4.4,SNR=49									
ARSA	**Arzberg**	**147.18**	**327**	*e*P	**PKiKP**	**16 57 55.0**	**-0.2**			
	comp=Z,4.4nm,0.9s									
MOA	**Molln**	**147.39**	**329**	*e*P	**PKPbc**	**16 57 53.5**	**+0.2**			
	comp=Z,2.6nm,0.6s									
SOKA	**Soboth**	**147.82**	**327**	*e*P	**PKPbc**	**16 57 53.3**	**-1.3**			
	comp=Z,8.0nm,1.2s									
KBA	**Koelnbreinsper**	**148.38**	**329**	*e*P	**PKPbc**	**16 57 55.6**	**-0.7**			
	comp=Z,10nm,1.1s									
MYKA	**Terra Mystica**	**148.55**	**328**	*e*P	**PKPbc**	**16 57 55.8**	**-0.7**			
	comp=Z,5.1nm,0.7s									
ABTA	**Abfaltersbach**	**149.02**	**329**	*e*P	**PKPbc**	**16 57 56.7**	**-1.0**			
	comp=Z,7.0nm,0.8s									
WATA	**Walderalm**	**149.02**	**331**	*e*P	**PKPbc**	**16 57 57.5**	**-0.3**			
	comp=Z,9.6nm,1.1s									
WTTA	**Wattenberg**	**149.05**	**331**	*i* P	**PKPbc**	**16 57 57.6**	**-0.3**			
	comp=Z,18nm,1.3s,SNR=5.5									
MOTA	**Moosalm**	**149.23**	**331**	*i* P	**PKPbc**	**16 57 57.8**	**-0.5**			
	comp=Z,13nm,0.9s,SNR=5.3									
RETA	**Reutte**	**149.27**	**332**	*e*P	**PKPbc**	**16 57 58.1**	**-0.3**			
	comp=Z,5.5nm,0.8s									
SQTA	**Sankt Quirin**	**149.28**	**331**	*i* P	**PKPbc**	**16 57 58.4**	**0.0**			
	comp=Z,12nm,0.7s,SNR=6.7									
FETA	**Feichten**	**149.64**	**331**	*i* P	**PKPbc**	**16 57 59.1**	**-0.3**			
	comp=Z,15nm,1.0s,SNR=8.2									
DAVA	**Damuels**	**149.81**	**332**	*e*P	**PKPbc**	**16 57 59.6**	**-0.2**			
	comp=Z,13nm,1.1s									

DDA 21 16:46:25.3±0.0,41.55N×32.43E,h12km±1km,ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTIN	**Bartın**	**0.16**	**305**	P	Pg	16 46 29.3	+0.3
BTIN				P	Pb	16 46 29.4	-0.9
BTIN				S	Sg	16 46 32.0	+0.3
BTIN				*i* AML	AML	16 46 32.0	
	comp=E,430nm,0.4s						
BTIN				*i* AML	AML	16 46 32.0	
	comp=E,415nm,0.4s						
BTIN				S		16 46 32.6	
BTIN				*i* AML	AML	16 46 33.0	
	comp=Z,304nm,0.5s						
BTIN				*i* AML	AML	16 46 33.0	
	comp=Z,321nm,0.5s						
BTIN				*i* AML	AML	16 46 33.0	
	comp=N,483nm,0.5s						
BTIN				*i* AML	AML	16 46 37.0	
	comp=N,3μm,2.1s						
KBUK	**KARABUK-Merkez**	**0.34**	**154**	P	Pg	16 46 32.7	+0.5
KBUK				S	Sg	16 46 37.7	+0.9
KBUK				*i* AML	AML	16 46 38.0	
	comp=N,136nm,0.3s						
KBUK				*i* AML	AML	16 46 38.0	
	comp=E,134nm,0.3s						
CIDE	**Kastamonu/Cide**	**0.52**	**49**	P	Pg	16 46 35.4	0.0
CIDE				S	Sg	16 46 42.4	+0.2
CIDE				*i* AML	AML	16 46 43.0	
	comp=N,201nm,0.2s						
CIDE				*i* AML	AML	16 46 43.0	
	comp=E,166nm,0.2s						
DEVR	**Zonguldak/Devr**	**0.53**	**220**	P	Pb	16 46 36.2	-0.3
DEVR				S	Sb	16 46 43.6	-0.4
PELI	**Kastamonı-Ara**	**0.71**	**110**	P	Pg	16 46 38.2	-0.9
PELI				S	Sg	16 46 47.5	-0.9
BCAM	**Yenicaga**	**0.78**	**201**	P	Pn	16 46 41.8	-0.4
BCAM				S	Sb	16 46 51.2	-0.2
YIGI	**Dzce**	**0.94**	**232**	P	Pb	16 46 43.6	+0.1
YIGI				S	Sg	16 46 55.2	-0.4
ILGA	**Ilgaz**	**1.09**	**116**	P	Pg	16 46 46.3	0.0
KIBS	**BOLU**	**1.21**	**201**	P	Pg	16 46 49.2	+0.7
KIBS				S	Sn	16 47 05.5	+1.1
ELDT	**Eldivan**	**1.30**	**144**	P	Pg	16 46 50.6	+0.3
ELDT				*i* AML	AML	16 47 39.0	
	comp=E,36nm,1.4s						
SAHE	**Sakarya_HENDEK**	**1.37**	**240**	P	Pb	16 46 51.2	+0.2
SAHE				S	Sb	16 47 09.0	+0.5
SAHE	**Sakarya_HENDEK**	**1.37**	**240**	P	Pb	16 46 51.2	+0.3
SAHE				S	Sb	16 47 08.7	+0.3
KAYN	**Sakarya, Kayna**	**1.68**	**250**	P	Pb	16 46 55.8	-0.2
GEYV	**SAKARYA_Geyve**	**1.93**	**237**	P	Pb	16 47 01.2	+0.9
GEYV				S	Sn	16 47 17.1	-5.0
GEYV				*i* AML	AML	16 47 31.0	
	comp=N,16nm,0.5s						
GEYV				*i* AML	AML	16 47 32.0	
	comp=E,14nm,0.9s						

*DDA **21** 16:46:36.8±0.0,39.77N×28.98E,h7km,2km,ML2.0*

ISK 21 16:46:36.3,39.76N×28.96E,h0km,ML2.2/15,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.29**	**350**	PG	Pg	16 46 42.4	+0.5
ORLT				SG	Sg	16 46 46.5	+0.8
DST	**Dursunbey**	**0.31**	**240**	PG	Pg	16 46 42.6	+0.4
DST				SG	Sg	16 46 47.3	+1.2
ULDT	**Uludag**	**0.41**	**19**	P	Pg	16 46 44.9	+0.8
ULDT				S	Sg	16 46 49.9	+0.5
ULDT	**Uludag**	**0.41**	**19**	P	Pg	16 46 44.9	+0.8
ULDT				S	Sg	16 46 50.1	+0.8
DURS	**Dursunbey**	**0.41**	**247**	P	Pg	16 46 45.0	+0.9
DURS				S	Sg	16 46 50.7	+1.3
DURS				*i* AML	AML	16 46 52.0	
	comp=N,134nm,0.3s						
DURS				*i* AML	AML	16 46 53.0	
	comp=E,125nm,0.2s						
STBT	**Saitabat**	**0.44**	**29**	P	Pg	16 46 45.4	+0.7
STBT				S	Sg	16 46 51.1	+0.7
STBT	**Saitabat**	**0.44**	**29**	P	Pg	16 46 45.3	+0.6
STBT				*i* AML	AML	16 46 51.0	
	comp=E,199nm,0.2s						
STBT				S	S	16 46 51.0	+0.6
STBT				*i* AML	AML	16 46 52.0	
	comp=N,250nm,0.1s						
TVSB	**Tavsanli**	**0.49**	**129**	PG	Pg	16 46 46.4	+0.6
TVSB				SG	Sg	16 46 53.4	+1.2
IGD	**Bursa**	**0.54**	**20**	P	Pg	16 46 47.1	+0.5
IGD				S	Sg	16 46 54.2	+0.6
IGD	**Bursa**	**0.54**	**20**	P	Pg	16 46 47.2	+0.6
IGD				S	Sg	16 46 53.9	+0.4
YYLC	**Yaylacik**	**0.56**	**348**	P	Pg	16 46 47.8	+0.8
YYLC				S	Sg	16 46 54.9	+0.7
YYLC				*i* AML	AML	16 47 01.0	
	comp=N,87nm,0.2s						
AVDN	**Avdancik/Bursa**	**0.56**	**16**	P	Pg	16 46 47.6	+0.7
AVDN				S	Sg	16 46 54.7	+0.5
AVDN	**Avdancik/Bursa**	**0.56**	**16**	P	Pg	16 46 47.7	+0.7
AVDN				S	Sg	16 46 54.7	+0.5
SIMA	**Simav-Kutahya**	**0.68**	**179**	PG	Pg	16 46 49.9	+0.7
GEMT	**Gemlik**	**0.70**	**14**	PG	Pg	16 46 50.5	+0.8
DEMI	**Demirci**	**0.74**	**195**	P	Pg	16 46 50.8	+0.3
DEMI				S	Sb	16 47 02.9	+0.1
DEMI				*i* AML	AML	16 47 06.0	
	comp=N,52nm,0.1s						
DEMI				*i* AML	AML	16 47 06.0	
	comp=E,58nm,0.2s						
SHAP	**Saphane-Kutahy**	**0.76**	**165**	PG	Pb	16 46 52.2	-0.3
ANDZ	**Kutahya, Merke**	**0.77**	**109**	P	Pg	16 46 51.2	+0.3
ANDZ				S	Sg	16 47 00.6	-0.3
ANDZ	**Kutahya, Merke**	**0.77**	**109**	P	Pg	16 46 51.5	+0.5
ANDZ				S	Sg	16 47 00.4	-0.5
GDZ	**Gediz**	**0.78**	**149**	P	Pb	16 46 52.5	-0.3
GDZ				S	Sg	16 47 01.7	+0.3
BILE	**Bilecik/Merkez**	**0.81**	**60**	P	Pg	16 46 52.0	+0.2
BILE				S	Sg	16 47 03.1	+0.8
BILE	**Bilecik/Merkez**	**0.81**	**60**	P	Pg	16 46 52.2	+0.4
BILE				S	Sg	16 47 03.1	+0.8
KURT	**Yalova, Merkez**	**0.85**	**13**	P	Pg	16 46 53.2	+0.6
KURT				S	Sb	16 47 05.2	-0.8
KURT	**Yalova, Merkez**	**0.85**	**13**	P	Pg	16 46 53.1	+0.5
KURT				S	Sg	16 47 04.8	+1.1
KURT				*i* AML	AML	16 47 08.0	
	comp=N,48nm,0.4s						
KURT				*i* AML	AML	16 47 08.0	
	comp=E,54nm,0.5s						
TRML	**Termal-Yalova**	**0.86**	**11**	PG	Pg	16 46 53.2	+0.3
YLV	**Yalova**	**0.87**	**21**	PG	Pb	16 46 53.6	-0.7
ESNK	**Esenkﾂﾠ**	**0.87**	**1**	P	Pg	16 46 52.4	-0.6
GONE	**Gonen-Balikesi**	**1.02**	**287**	PG	Pb	16 46 56.8	-0.1
EDC	**Edincik**	**1.03**	**305**	PG	Pb	16 46 56.6	-0.4
BALY	**Balya**	**1.03**	**269**	P	Pb	16 46 56.8	-0.4
BALY				S	Sg	16 47 09.6	+0.1
TUZL	**Tuzla-Istanbul**	**1.08**	**12**	P	Pg	16 46 57.4	+0.4
BORA	**Eskisehir**	**1.16**	**84**	PN	Pg	16 46 58.3	-0.1
BORA	**Eskisehir**	**1.16**	**84**	P	Pg	16 46 58.2	-0.3
BORA				S	Sg	16 47 14.1	+0.6
BORA	**Eskisehir**	**1.16**	**84**	P	Pg	16 46 58.0	-0.5
BORA				S	Sb	16 47 14.4	-0.4
HRT	**Hereke**	**1.19**	**27**	PN	Pg	16 46 59.2	+0.1
KULA	**Kula-Manisa**	**1.27**	**191**	PN	Pb	16 47 00.9	-0.2
KAVV	**Kandilli-Istan**	**1.30**	**3**	PN	Pb	16 47 01.6	-0.1
ISK	**Istanbul-Kandi**	**1.31**	**3**	PN	Pg	16 47 01.5	+0.1
SRCK	**Saricakaya, Es**	**1.31**	**77**	PN	Pb	16 47 01.8	0.0
KRBG	**Karabiga-Canak**	**1.43**	**297**	PN	Pn	16 47 03.4

WRA	**Warramunga Arr**	**33.10**	**266**	P		**P**		**16 54 46.8**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=96,slow=8.3,SNR=9.0								
WRA				LR		LR		17 08 35.1	
	comp=Z,442nm,19.2s,baz=132,slow=37								
WRA	**Warramunga Ar**	**33.10**	**266**	P		**P**		**16 54 46.5**	**-1.0**
MTN	**Manton Dam**	**37.83**	**277**	P		**P**		**16 55 27.3**	**-0.8**
KNRA	**Kununurra**	**39.20**	**272**	P		**P**		**16 55 39.6**	**-0.1**
KNRA				IAmb		IAmb		16 55 57.8	
	comp=Z,12nm,1.0s								
FITZ	**Fitzroy Crossi**	**41.53**	**267**	LR		LR		17 13 47.0	
	comp=Z,492nm,18.1s,baz=106,slow=37								
FITZ	**Fitzroy Crossi**	**41.53**	**267**	P		**P**		**16 55 59.7**	**+0.8**
FITZ				IAmb		IAmb		16 56 16.6	
	comp=Z,15nm,1.4s								
BATI	**Baumata**		**45.60 277**	LR		LR		17 15 16.1	
	comp=Z,424nm,20.9s,baz=142,slow=36								
KAPI	**Kappang**		**51.14 281**	LR		LR		17 21 19.7	
	comp=Z,58nm,18.3s,baz=132,slow=39								
TOLI2	**Tolitoli**		**52.89 289**	P		**P**		**16 57 28.1**	**+0.5**
TOLI2				IAmb		IAmb		16 57 43.5	
	comp=Z,5.8nm,0.7s								
SBA	**Scott Base**		**56.22 181**	P		**P**		**16 57 52.9**	**+2.1**
SBA				IAmb		IAmb		16 58 11.7	
	comp=Z,13nm,1.2s								
KSM	**Kuching**		**62.40 284**	P		**P**		**16 58 35.2**	**+0.5**
KSM				IAmb		IAmb		16 58 47.5	
	comp=Z,6.4nm,0.9s								
MAJO	**Matsushiro**		**65.15 332**	P		**P**		**16 58 52.1**	**-0.2**
MJB9	**Matsu-Tunnel**		**65.15 332**	P		**P**		**16 58 52.0**	**-0.2**
SSLB	**Suanglung**		**65.56 311**	P		**P**		**16 58 54.9**	**-0.3**
JNU	**Nakatsue**		**65.94 325**	P		**P**		**16 58 58.0**	**+0.5**
JHS	**Saijyo**		**66.25 328**	P		**P**		**16 58 59.8**	**+0.4**
JHS				IAmb		IAmb		16 59 19.6	
	comp=Z,15nm,1.1s								
QSPA	**South Pole Qui**		**68.36 180**	P		**P**		**16 59 13.2**	**+0.6**
	comp=Z,7.2nm,1.0s,baz=5.3,slow=3.4,SNR=8.8								
QSPA	**South Pole Qui**		**68.36 180**	P		**P**		**16 59 12.8**	**+0.2**
QSPA				IAmb		IAmb		16 59 15.8	
	comp=Z,12nm,1.1s								
KSRS	**Korea Array**		**70.80 326**	P		**P**		**16 59 27.8**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=130,slow=6.8,SNR=7.7								
YSS	**Yuzh-Sakhalins**		**72.55 341**	P		**P**		**16 59 39.0**	**+1.0**
PSI	**Prapat**		**73.31 280**	LR		LR		17 34 47.4	
	comp=Z,77nm,18.1s,baz=123,slow=38								
USA0B	**Ussuriysk Arra**		**74.14 333**	P		**P**		**16 59 47.4**	**-0.1**
USA0B				IAmb		IAmb		16 59 50.0	
	comp=Z,5.7nm,0.9s								
USRK	**Ussuriysk Ar.**		**74.14 333**	P		**P**		**16 59 47.8**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=142,slow=4.7,SNR=10								
PETK	**Petropavlovsk-**		**75.23 353**	P		**P**		**16 59 53.8**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=160,slow=4.7,SNR=4.2								
MDJ	**Mudanjiang**		**75.51 332**	P		**P**		**16 59 55.0**	**-0.4**
MDJ				IAmb		IAmb		16 59 56.7	
	comp=Z,11nm,1.0s								
BELA	**Belgrano 2**		**79.61 175**	P		**P**		**17 00 17.1**	**-1.0**
BELA				IAmb		IAmb		17 00 24.8	
	comp=Z,4.4nm,0.7s								
CMAR	**Chiang Mai Arr**		**79.95 294**	P		**P**		**17 00 21.8**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=135,slow=4.0,SNR=11								
P18K	**Big Mountain,**	**85.77**	**17**	P		**P**		**17 00 49.4**	**-0.7**
P18K				IAmb		IAmb		17 00 54.2	
	comp=Z,9.9nm,1.1s								
GAMB	**Gambell**		**86.42 8**	P		**P**		**17 00 52.9**	**-0.3**
GAMB				IAmb		IAmb		17 00 56.4	
	comp=Z,5.4nm,0.9s								
SNAA	**Sanae**		**86.73 182**	P		**P**		**17 00 54.3**	**-0.7**
O02D	**Mt. Diablo Mer**	**87.89**	**45**	P		**P**		**17 01 01.4**	**+0.4**
M19K	**Big River Lodg**	**88.11**	**16**	P		**P**		**17 01 00.8**	**-0.7**
M19K				IAmb		IAmb		17 01 29.1	
	comp=Z,10.0nm,1.5s								
TTA	**Tatalina**	**88.58**	**15**	P		**P**		**17 01 03.0**	**-0.7**
TTA				IAmb		IAmb		17 01 07.2	
	comp=Z,7.3nm,1.4s								
YBH	**Yreka Blue Hor**	**88.73**	**44**	LR		LR		17 31 43.0	
	comp=Z,57nm,20.3s,baz=236,slow=30								
PFO	**Pinyon Flats O**	**89.19**	**53**	LR		LR		17 33 40.1	
	comp=Z,82nm,19.5s,baz=244,slow=31								
BEKR	**Beckworth**	**89.35**	**46**	P		**P**		**17 01 08.3**	**+0.3**
BEKR				IAmb		IAmb		17 01 34.1	
	comp=Z,4.4nm,1.1s								
SONM	**Songino Array**		**89.47 323**	P		**P**		**17 01 08.5**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=132,slow=7.2,SNR=16								
SONM	**Songino Array**		**89.47 323**	P		**P**		**17 01 08.2**	**-0.1**
SONM				IAmb		IAmb		17 01 09.4	
	comp=Z,5.0nm,1.1s								
PNTR	**Pine Nut**	**89.49**	**47**	P		**P**		**17 01 09.2**	**+0.4**
LPIG	**La Paz**	**90.05**	**64**	LR		LR		17 33 58.8	
	comp=Z,76nm,18.6s,baz=216,slow=31								
NVAR	**Mina Array Bea**	**90.07**	**48**	P		**P**		**17 01 12.1**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=229,slow=8.2,SNR=1.2								
PALK	**Pallekele**		**91.77 277**	LR		LR		17 46 02.1	
	comp=Z,85nm,18.5s,baz=263,slow=38								
ILAR	**Eielson Array**	**92.43**	**17**	P		**P**		**17 01 19.3**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=227,slow=5.0,SNR=10								
DAWY	**Dawson**	**94.13**	**20**	P		**P**		**17 01 28.2**	**-1.2**
DAWY				IAmb		IAmb		17 01 28.9	
	comp=Z,6.2nm,1.4s								
NEW	**Newport**	**95.34**	**40**	LR		LR		17 37 34.2	
	comp=Z,35nm,18.7s,baz=222,slow=31								
TXAR	**Lajitas Array**	**97.51**	**62**	LR		LR		17 38 26.8	
	comp=Z,69nm,18.9s,baz=267,slow=31								
MKAR	**Makanchi Array**		**103.82 315**	Pdiff		**Pdif**		**17 02 14.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=7.2,SNR=4.1								
MKAR				PKIKP		**PP**		**17 06 30.2**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=207,slow=0.5,SNR=4.0								
ARCES	**ARCESS Array B**		**127.56 345**	PKP		**PKPdf**		**17 07 14.6**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=64,slow=1.4,SNR=25								
KLMR	**Klimovskoe**		**127.92 332**	*e*PKPdf		**PKPdf**		**17 07 13.6**	**-3.0**
KLMR				AMP				17 07 16.3	
	comp=Z,7.0nm,0.9s								
FINES	**FINESS Array B**		**133.03 337**	PKP		**PKPdf**		**17 07 25.9**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=36,slow=2.5,SNR=16								
AKASG	**Malin Array Be**		**137.75 323**	PKP		**PKiKP**		**17 07 36.2**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=54,slow=2.4,SNR=5.8								
NB2	**NORSAR Subarra**		**137.94 345**	PKPdf		**PKPdf**		**17 07 35.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=31,slow=1.9								
NOA	**NORSAR Array B**		**137.94 345**	PKP		**PKPdf**		**17 07 35.2**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=33,slow=2.0,SNR=4.1								
KRLC	**Kraliky**		**144.58 330**	*e*PKP		**PKPab**		**17 07 45.6**	**-0.7**
DPC	**Dobruska-Polom**		**144.60 330**	*e*PKP		**PKPab**		**17 07 45.5**	**-0.8**
JAVC	**Velka Javorina**		**144.96 327**	*e*PKP		**PKPdf**		**17 07 50.0**	**+1.5**
VRAC	**Vranov**		**145.19 329**	*e*PKP		**PKPbc**		**17 07 47.6**	**-0.8**
FLTG	**Flechtingen**		**145.22 337**	*e*PKPbc		**PKPbc**		**17 07 47.4**	**-0.9**
	baz=36,slow=2.8								
PVCC	**Panska Ves**		**145.26 332**	*e*PKP		**PKPab**		**17 07 48.5**	**-0.2**
BRG	**Berggiesshubel**		**145.28 333**	*e*PKPbc		**PKPbc**		**17 07 48.2**	**-0.4**
	baz=36,slow=2.8								
LAWE	**Loch Awe, Argy**		**145.30 355**	*e*P		**PKPbc**		**17 07 47.0**	**-1.4**
CLL	**Collm**		**145.34 334**	*i* PKPbc		**PKPbc**		**17 07 48.1**	**-0.6**
	comp=Z,29nm,1.1s								
CLL	**Collm**		**145.34 334**	*e*PKPbc		**PKPbc**		**17 07 48.2**	**-0.6**
	baz=36,slow=2.8								
KRUC	**Moravsky**		**145.45 329**	*e*PKP		**PKPbc**		**17 07 49.0**	**-0.2**
FBE	**Freiberg**		**145.49 333**	*e*PKPbc		**PKPdf**		**17 07 49.0**	**-0.2**
	baz=36,slow=2.8								
EBL	**Broad Law**		**145.55 353**	*e*P		**PKPdf**		**17 07 48.0**	**-1.3**
PRU	**Pruhonice**		**145.66 331**	*e*PKP		**PKPdf**		**17 07 49.1**	**-0.5**
CLZ	**Clausthal**		**145.93 337**	*e*PKPbc		**PKPdf**		**17 07 49.5**	**-0.5**
	baz=36,slow=2.8								
ESK	**Eskdalemuir**		**146.02 353**	*e*P		**PKPdf**		**17 07 49.5**	**-0.5**
TANN	**Tannenbergstha**		**146.24 334**	*e*PKPbc		**PKPbc**		**17 07 51.2**	**-0.6**
	baz=36,slow=2.8								
WERD	**Werda**		**146.28 334**	*e*PKPbc		**PKPbc**		**17 07 51.6**	**-0.2**
	baz=36,slow=2.8								
PLN	**Plauen**		**146.31 334**	*e*PKPbc		**PKPbc**		**17 07 51.6**	**-0.2**
	baz=36,slow=2.8								
GTTG	**Gottingen**		**146.32 337**	*e*PKPbc		**PKPbc**		**17 07 51.5**	**-0.3**
	baz=36,slow=2.8								
NEWG	**New Galloway**		**146.33 354**	*e*P		**PKPdf**		**17 07 50.2**	**-0.3**
EDMD	**Edmundbyers**		**146.34 351**	*e*P		**PKPdf**		**17 07 50.0**	**-0.6**
GUNZ	**Gunzen**		**146.34 334**	*e*PKPbc		**PKPbc**		**17 07 51.7**	**-0.3**
	baz=36,slow=2.8								
WERN	**Wernitzgruen**		**146.38 334**	*e*PKPbc		**PKPbc**		**17 07 51.8**	**-0.3**
	baz=36,slow=2.8								
NKC	**Novy Kostel**		**146.39 333**	*e*PKP		**PKPbc**		**17 07 52.0**	**-0.1**
MOX	**Moxa**		**146.41 335**	*e*PKPbc		**PKPbc**		**17 07 51.5**	**-0.7**
	baz=36,slow=2.8								
IBBN	**Ibbenburen**		**146.43 340**	*e*PKPbc		**PKPbc**		**17 07 51.5**	**-0.6**
	baz=36,slow=2.8								
CONA	**Conrad Observa**		**146.48 328**	*i* P		**PKPbc**		**17 07 52.5**	**0.0**
	comp=Z,8.6nm,0.8s,SNR=7.2								
CKRC	**Cesky Krumlov**		**146.61 330**	*e*PKP		**PKPbc**		**17 07 52.0**	**-0.8**
GAL1	**Galloway**		**146.62 354**	*e*P		**PKPdf**		**17 07 51.4**	**+0.3**
MANZ	**Manzenberg**		**146.72 333**	*e*PKPbc		**PKPbc**		**17 07 52.8**	**-0.3**
	baz=36,slow=2.8								
KHC	**Kasperske Hory**		**146.72 331**	*e*PKP		**PKPbc**		**17 07 52.9**	**-0.2**
ROTZ	**Rotzenmuhle**		**146.84 333**	*e*PKPbc		**PKPbc**		**17 07 53.0**	**-0.4**
	baz=36,slow=2.8								
GEC2	**GERESS Array S**		**146.87 331**	*e*PKPbc		**PKPbc**		**17 07 53.2**	**-0.4**
	baz=36,slow=2.8								
GERES	**GERESS Array B**		**146.87 331**	PKPbc		**PKPbc**		**17 07 53.5**	**-0.2**
	comp=Z,8.6nm,0.8s,baz=26,slow=3.4,SNR=44								
UBBA	**Unterbreizbach**		**146.89 336**	*e*PKPbc		**PKPbc**		**17 07 53.0**	**-0.3**
	baz=36,slow=2.8								
WET	**Wettzell**		**147.02 332**	*e*PKPbc		**PKPbc**		**17 07 53.7**	**-0.3**
	baz=36,slow=2.8								
ARSA	**Arzberg**		**147.10 327**	*e*P		**PKPbc**		**17 07 54.7**	**+0.4**
	comp=Z,4.2nm,1.0s								
GRF	**Grafenberg Arr**		**147.31 334**	*e*PKPbc		**PKPbc**		**17 07 54.5**	**-0.2**
	baz=36,slow=2.8								
MOA	**Molln**		**147.31 329**	*e*P		**PKPbc**		**17 07 54.4**	**-0.4**
	comp=Z,3.2nm,0.5s								
SOKA	**Soboth**		**147.74 327**	*e*P		**PKPbc**		**17 07 55.4**	**-0.7**
	comp=Z,7.2nm,1.0s								
TNS	**Taunus Mts**		**147.95 337**	*e*PKPbc		**PKPbc**		**17 07 56.0**	**-0.6**
	baz=36,slow=2.8								
WME	**Myndd Eilian**		**148.03 353**	*e*P		**PKPbc**		**17 07 55.3**	**-1.2**
RJOB	**Jochberg**		**148.09 330**	*e*PKPbc		**PKPbc**		**17 07 56.0**	**-1.0**
	baz=36,slow=2.8								
OBKA	**Obir**		**148.10 327**	*e*P		**PKPbc**		**17 07 56.4**	**-0.7**
	comp=Z,4.7nm,0.9s								
WLF1	**Llynfaes**		**148.15 353**	*e*P		**PKPbc**		**17 07 55.6**	**-1.2**
YRC	**Rhoscolyn**		**148.21 354**	*e*P		**PKPbc**		**17 07 55.7**	**-1.3**
KBA	**Koelnbreinsper**		**148.30 329**	*i* P		**PKPbc**		**17 07 56.5**	**-1.3**
	comp=Z,10nm,0.9s,SNR=6.1								
FOEL	**Foel Wylfa**		**148.40 352**	*e*P		**PKPbc**		**17 07 56.7**	**-0.9**
MYKA	**Terra Mystica**		**148.47 328**	*e*P		**PKPbc**		**17 07 57.1**	**-1.0**
	comp=Z,5.4nm,0.6s								
HLM1	**Long Mynd**		**148.72 351**	*e*P		**PKPbc**		**17 07 56.9**	**-1.5**
ABTA	**Abfaltersbach**		**148.94 329**	*i* P		**PKPbc**		**17 07 58.1**	**-1.2**
	comp=Z,12nm,0.8s,SNR=6.2								
WATA	**Walderalm**		**148.95 331**	*e*P		**PKPbc**		**17 07 58.8**	**-0.6**
	comp=Z,10.0nm,1.1s								
WTTA	**Wattenberg**		**148.97 330**	*i* P		**PKPbc**		**17 07 59.0**	**-0.5**
	comp=Z,22nm,1.3s,SNR=6.1								
MOTA	**Moosalm**		**149.15 331**	*i* P		**PKPbc**		**17 07 59.0**	**-0.8**
	comp=Z,19nm,0.8s,SNR=8.4								
RETA	**Reutte**		**149.20 332**	*e*P		**PKPbc**		**17 07 59.5**	**-0.4**
	comp=Z,3.2nm,0.4s								
SQTA	**Sankt Quirin**		**149.20 331**	*i* P		**PKPbc**		**17 07 59.3**	**-0.7**
	comp=Z,17nm,0.8s,SNR=8.1								
WLF	**Walferdange**		**149.22 339**	*e*PKPbc		**PKPbc**		**17 07 59.6**	**-0.1**
	baz=36,slow=2.8								
UBR	**Ueberruh**		**149.34 333**	*e*PKPbc		**PKPbc**		**17 07 59.3**	**-0.9**
	baz=36,slow=2.8								
MONM	**Monmouth**		**149.37 351**	*e*P		**PKPbc**		**17 07 58.6**	**-1.5**
RSBS	**Rosebush, Pemb**		**149.50 353**	*e*P		**PKPbc**		**17 07 59.0**	**-1.4**
BFO	**Black Forest**		**149.55 335**	*e*PKPbc		**PKPbc**		**17 07 59.6**	**-1.0**
	baz=36,slow=2.8								
FETA	**Feichten**		**149.57 331**	*i* P		**PKPbc**		**17 08 00.3**	**-0.6**
	comp=Z,19nm,0.9s,SNR=9.7								
DAVA	**Damuels**		**149.74 332**	*e*P		**PKPbc**		**17 08 00.6**	**-0.7**
	comp=Z,8.4nm,0.8s								
DYA	**Yadsworthy**		**150.90 352**	*e*P		**PKPbc**		**17 08 02.5**	**-1.2**

TAP ***21*** *16:55:52.0,24.˚06N×122.˚33E,h22km,ML3.1,D*
JMA ***21*** *16:55:52.5±0.1,24.˚15N×122.˚29E,h39km±3km,M2.9*
ISC 21 16:55:49.9±1.0,23.˚98N±0.˚02×122.˚38E±0.˚02,h15km±8km,
n87,σ0.960/156,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.67**	**300**	*e*P		**Pn**	**16 56 04.3**	**-0.5**
	baz=295							
EHP				*e*S		**Sb**	**16 56 13.5**	**+1.0**
	baz=295							
JYNG	**Yonagunijimaku**	**0.70**	**47**	P		**Pn**	**16 56 05.3**	**+0.1**
JYNG				S		**Sn**	**16 56 14.8**	**-0.9**
HWA	**Hwalien**	**0.71**	**270**	*e*P		**Pb**	**16 56 04.3**	**+0.4**
	baz=248							
ETL	**Fush Village**	**0.72**	**285**	P		**Pn**	**16 56 05.2**	**-0.2**
	baz=264							
ETL				S		**Sb**	**16 56 14.5**	**+0.7**
	baz=264							
EWUT	**Wuta**	**0.72**	**310**	P		**Pb**	**16 56 04.3**	**+0.2**
	baz=316							
EWUT				*e*S		**Sg**	**16 56 13.4**	**-0.1**
	baz=316							
TEYL	**Yanliau Villag**	**0.73**	**262**	P		**Pn**	**16 56 05.2**	**-0.3**
	baz=245							
TEYL				*e*S		**Sb**	**16 56 14.4**	**+0.4**
	baz=245							
TWD	**Chiawan**	**0.73**	**278**	P		**Pg**	**16 56 03.9**	**-0.1**
	baz=273							
TWD				S		**Sb**	**16 56 14.4**	**+0.5**
	baz=273							
ENA	**Nanau**	**0.74**	**308**	*i* P		**Pb**	**16 56 04.6**	**+0.2**
	baz=314							
ENA				S		**Sb**	**16 56 14.2**	**-0.1**
	baz=314							
NACB	**Ninganchiao**	**0.75**	**285**	P		**Pn**	**16 56 05.5**	**-0.3**
	baz=264							
NACB				S		**Sb**	**16 56 15.5**	**+1.0**
	baz=264							
YOJ	**Yonaguni jima**	**0.75**	**50**	P		**Pn**	**16 56 06.5**	**+0.6**
YOJ				S		**Sn**	**16 56 16.3**	**-0.7**
YOJ	**Yonaguni jima**	**0.75**	**50**	P		**Pn**	**16 56 06.8**	**+0.9**
	baz=55							
YOJ				S		**Sn**	**16 56 16.7**	**-0.3**
	baz=55							
TWC	**Suao**	**0.80**	**322**	⇓ *i*P		**Pb**	**16 56 05.3**	**-0.1**
	baz=321							
TWC				*i* S		**Sg**	**16 56 14.7**	**-1.2**
	baz=321							
ETM	**Tongmen**	**0.81**	**269**	P		**Pb**	**16 56 06.1**	**+0.4**
	baz=253							
ETM				S		**Sb**	**16 56 16.8**	**+0.3**
	baz=253							
TEGC	**Jichi Village**	**0.82**	**251**	P		**Pn**	**16 56 06.8**	**0.0**
	baz=245							
TEGC				*e*S		**Sn**	**16 56 18.1**	**-0.5**
	baz=245							
ETLH	**Xiulin Townshi**	**0.85**	**286**	P		**Pn**	**16 56 07.3**	**-0.1**
	baz=268							
ETLH				S		**Sb**	**16 56 18.1**	**+0.3**
	baz=268							
ESL	**Shilin**	**0.88**	**260**	P		**Pb**	**16 56 07.0**	**+0.1**
	baz=244							
ESL				*e*S		**Sb**	**16 56 19.0**	**+0.5**
	baz=244							
NDS	**Dongshan**	**0.89**	**317**	P		**Pb**	**16 56 07.4**	**+0.3**
	baz=321							
NDS				S		**Sg**	**16 56 18.5**	**-0.4**
	baz=321							
EGFH	**Guangfu**	**0.93**	**251**	*e*P		**Pn**	**16 56 08.5**	**+0.1**
	baz=246							
EGFH				*e*S		**Sb**	**16 56 20.5**	**+0.8**
	baz=246							
EGS		**0.96**	**335**	P		**Pn**	**16 56 08.8**	**+0.1**
	baz=325							
EGS				S		**Sg**	**16 56 20.4**	**-0.6**
	baz=325							
LATG	**Datong**	**0.96**	**306**	P		**Pn**	**16 56 09.0**	**+0.1**
	baz=302							
ILA	**Ilan**	**0.97**	**324**	*e*P		**Pn**	**16 56 09.5**	**+0.5**
	baz=322							
ILA				*e*S		**Sg**	**16 56 21.3**	**-0.2**
	baz=322							
TWE	**Neicheng**	**0.99**	**319**	*i* P		**Pg**	**16 56 09.0**	**0.0**
	baz=317							
TWE				S		**Sb**	**16 56 21.4**	**0.0**
	baz=317							
ENTT	**Nioudou**	**0.99**	**312**	*i* P		**Pn**	**16 56 09.5**	**+0.2**
	baz=316							
ENTT				*i* S		**Sg**	**16 56 22.3**	**+0.1**
	baz=316							
HGSD	**Ruisui**	**1.00**	**241**	P		**Pg**	**16 56 09.2**	**0.0**
	baz=237							
HGSD				S		**Sg**	**16 56 22.6**	**+0.2**
	baz=237							
NDT	**Datong Townshi**	**1.01**	**308**	*i* P		**Pn**	**16 56 10.1**	**+0.6**
	baz=317							
NDT				*i* S		**Sg**	**16 56 22.6**	**0.0**
	baz=317							
NTC	**Toucheng**	**1.01**	**330**	*e*P		**Pn**	**16 56 09.7**	**+0.3**
	baz=329							
NTC				*e*S		**Sg**	**16 56 22.3**	**-0.3**
	baz=329							
NNSB	**Datong**	**1.02**	**296**	P		**Pn**	**16 56 10.0**	**+0.3**
	baz=293							
NNSB				S		**Sg**	**16 56 22.8**	**-0.1**
	baz=293							
NNS	**Nan Shan**	**1.03**	**297**	*i* P		**Pn**	**16 56 10.0**	**+0.1**
	baz=293							
NNS				S		**Sg**	**16 56 23.5**	**+0.1**
	baz=293							
WHF	**Hehuan Shan**	**1.03**	**279**	*i* P		**Pb**	**16 56 10.0**	**+0.3**
	baz=263							
WHF				*i* S		**Sb**	**16 56 23.8**	**+0.6**
	baz=263							
FUSB	**Fushanzhiwuyua**	**1.06**	**317**	P		**Pn**	**16 56 10.5**	**+0.2**
	baz=315							
FUSB				S		**Sg**	**16 56 24.2**	**-0.2**
	baz=315							
FUSS	**Fushou**	**1.07**	**285**	*e*P		**Pb**	**16 56 10.0**	**-0.3**
	baz=281							
FUSS				S		**Sb**	**16 56 24.2**	**0.0**
	baz=281							
EHY	**Hungye**	**1.08**	**244**	P		**Pn**	**16 56 10.5**	**+0.1**
	baz=240							
EHY				S		**Sg**	**16 56 24.7**	**-0.1**
	baz=240							
TWB1	**Santiao Chiao**	**1.09**	**341**	*e*P		**Pg**	**16 56 10.8**	**-0.1**
	baz=326							
TWB1				S		**Sb**	**16 56 24.5**	**+0.1**
	baz=326							
OWD	**Renai**	**1.10**	**269**	*i* P		**Pn**	**16 56 11.3**	**+0.4**
	baz=265							
OWD				*i* S		**Sb**	**16 56 25.1**	**+0.1**
	baz=265							
CHGB	**Renai**	**1.11**	**274**	P		**Pn**	**16 56 11.2**	**+0.1**
	baz=259							
CHGB				S		**Sg**	**16 56 25.8**	**-0.1**
	baz=259							
TIPB	**Shuangxi**	**1.11**	**333**	*i* P		**Pg**	**16 56 11.7**	**+0.3**
	baz=332							
TIPB				*i* S		**Sb**	**16 56 24.6**	**-0.5**
	baz=332							
NWLT	**Wulai**	**1.13**	**315**	*e*P		**Pg**	**16 56 11.8**	**+0.1**
	baz=313							
NWLT				*e*S		**Sb**	**16 56 25.1**	**-0.5**
	baz=313							
YHNB	**Yeheng**	**1.15**	**307**	P		**Pg**	**16 56 12.1**	**0.0**
	baz=304							
YULB	**Yu-li**	**1.15**	**240**	P		**Pg**	**16 56 11.8**	**-0.3**
	baz=253							
YULB				S		**Sg**	**16 56 26.7**	**-0.5**
	baz=253							
WUSB	**Renai**	**1.16**	**271**	P		**Pn**	**16 56 11.8**	**+0.2**
	baz=267							
VWDT	**VWDT**	**1.16**	**259**	P		**Pg**	**16 56 12.1**	**-0.2**
	baz=255							
VWDT				S		**Sb**	**16 56 26.4**	**0.0**
	baz=255							
EYUL	**Yuli**	**1.16**	**237**	P		**Pg**	**16 56 12.1**	**-0.2**
	baz=234							
EYUL				S		**Sg**	**16 56 27.2**	**-0.2**
	baz=234							
NSK	**Sanguang**	**1.16**	**307**	P		**Pg**	**16 56 12.2**	**-0.2**
	baz=304							
NSK				S		**Sb**	**16 56 26.7**	**0.0**
	baz=304							
SXI1	**Grass Mountain**	**1.20**	**338**	P		**Pn**	**16 56 12.3**	**+0.1**
	baz=336							
SXI1				S		**Sb**	**16 56 27.2**	**-0.6**
	baz=336							
NWF	**Wu-fen Shan**	**1.22**	**333**	*i* P		**Pb**	**16 56 12.7**	**0.0**
	baz=331							
NWF				*i* S		**Sn**	**16 56 29.0**	**+0.3**
	baz=331							
TWA	**Mucha**	**1.23**	**324**	*e*P		**Pg**	**16 56 14.1**	**+0.4**
	baz=322							
TWA				*e*S		**Sg**	**16 56 30.1**	**+0.3**
	baz=322							
NHDH	**Xindian Distri**	**1.25**	**322**	*i* P		**Pg**	**16 56 14.6**	**+0.6**
	baz=320							
NHDH				S		**Sg**	**16 56 31.0**	**+0.6**
	baz=320							
CHKT	**Chengkung**	**1.28**	**227**	P		**Pn**	**16 56 12

	baz=266								
WRL					*e*S		**Sb**	**16 56 45.9**	**0.0**
	baz=266								
WTK	**Tuku**	**1.85**	**261**		*e*P		**Pb**	**16 56 23.7**	**+0.4**
	baz=259								
WTK					*e*S		**Sb**	**16 56 45.8**	**-0.5**
	baz=259								
JISG	**Ishigakijimahi**	**1.86**	**71**		P		**Pb**	**16 56 22.6**	**-1.0**
JISG					S		**Sb**	**16 56 46.2**	**-0.5**
TWK	**Hsinying**	**1.88**	**248**		*e*P		**Pb**	**16 56 24.4**	**+0.5**
	baz=246								
TWK					*e*S		**Sb**	**16 56 47.9**	**+0.8**
	baz=246								
SNST	**Tainan City**	**1.89**	**247**		*e*P		**Pb**	**16 56 24.7**	**+0.7**
	baz=245								
SNST					*e*S		**Sb**	**16 56 48.1**	**+0.7**
	baz=245								
WSF	**Szhu**	**2.01**	**261**		*e*P		**Pn**	**16 56 24.4**	**+1.2**
	baz=258								
TSMG	**Majia**	**2.04**	**232**		*e*P		**Pb**	**16 56 26.5**	**-0.1**
	baz=220								
JTJ	**Tarama**	**2.22**	**72**		P		**Pb**	**16 56 28.8**	**-0.8**
JTJ					*e*S		**Sb**	**16 56 56.4**	**-0.5**
JIRB	**Irabujima**	**2.68**	**71**		P		**Pb**	**16 56 35.1**	**-2.5**
JIRB					*e*S		**Sn**	**16 57 06.5**	**+1.8**

*IDC **21** 17:12:21.5±0.8, 35.˚80N×99.˚31E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.6/53, mbtmp3.6/13, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/83, Error ellipse: s-maj=27.2km s-min=16.8km az=49.0*

*NEIC **21** 17:12:23.9±1.9, 35.˚65N±0.˚09×99.˚4E±0.˚1, h10km±1km, mb4.2/18, Error ellipse: s-maj=18.0km s-min=12.7km az=40.0*

*BJI **21** 17:12:24.8±0.0, 35.˚72N×99.˚19E, h9km, mb4.5/17, mB4.6/9, ML3.7/18, Ms3.7/18, Ms7 3.5/15*

ISC 21 17:12:23.6±0.4, 35.˚70N±0.˚04×99.˚11E±0.˚03, h10km, n54, σ2ᵎ90/68, mb3.9/14, MS3.1/3, 1C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GOMU	**GeErMu**	**3.52**	**279**	Pn		Pn	17 13 23.9	+5.3
GOMU				Sn		**Sb**	**17 14 09.3**	**+0.2**
GOMU				Sg		**Sg**	**17 14 14.4**	**-2.2**
GOMU				*s*max		*s*max		
	comp=N,270nm,0.3s							
GOMU				*s*max		*s*max		
	comp=E,170nm,0.4s							
GTA	**Gaotai**	**3.74**	**8**	*e*Pn		**Pn**	**17 13 24.9**	**+3.4**
GTA				Pg		**Pb**	**17 13 32.1**	**+2.3**
GTA				Sn		**Sn**	**17 14 09.3**	**+3.6**
GTA				Sg		**Sb**	**17 14 19.8**	**+4.5**
GTA				*s*max		*s*max		
	comp=N,93nm,0.8s							
GTA				*s*max		*s*max		
	comp=E,100nm,1.0s							
GTA				LR		LR		
	comp=N,250nm,9.1s							
GTA				LR		LR		
	comp=E,1μm,10.9s							
LZH	**Lanzhou**	**3.87**	**83**	Pn		**Pn**	**17 13 25.5**	**+2.3**
LZH				Pg		**Pg**	**17 13 35.8**	**-1.8**
LZH				Sn		**Sn**	**17 14 10.8**	**+2.0**
LZH				Sg		**Sb**	**17 14 22.1**	**+3.2**
LZH				*s*max		*s*max		
	comp=N,500nm,1.5s							
LZH				*s*max		*s*max		
	comp=E,970nm,1.4s							
LZH				LR		LR		
	comp=N,910nm,4.9s							
LZH				LR		LR		
	comp=E,1μm,5.4s							
LZH				LR		LR		
	comp=Z,610nm,5.4s							
CD2	**Chengdu**	**6.17**	**140**	Pn		**Pn**	**17 13 58.0**	**+3.3**
CD2				Pg		**Pg**	**17 14 21.4**	**-0.3**
CD2				Sn		**Sn**	**17 15 06.9**	**+1.6**
CD2				Sg		**Sg**	**17 15 46.4**	**+4.9**
CD2				*s*max		*s*max		
	comp=N,10.0nm,1.6s							
CD2				*s*max		*s*max		
	comp=E,30nm,1.1s							
CD2	**Chengdu**	**6.17**	**140**	Pn		**Pn**	**17 13 52.8**	**-1.9**
CD2				Pg		Pg	17 14 17.1	-4.6
CD2				Sn		**Sn**	**17 15 00.3**	**-5.0**
CD2				Sg		**Sg**	**17 15 35.1**	**-6.4**
CD2				*s*max		*s*max		
	comp=E,10.0nm,1.6s							
CD2				*s*max		*s*max		
	comp=E,30nm,1.1s							
XAN	**Xi'an**	**8.23**	**99**	P		**Pn**	**17 14 24.6**	**+1.4**
XAN				*s*max		*s*max		
	comp=E,55nm,1.2s							
XAN				*s*max		*s*max		
	comp=E,40nm,1.4s							
XAN				LR		LR		
	comp=E,860nm,11.6s							
XAN				LR		LR		
	comp=E,400nm,13.7s							
XAN				LR		LR		
	comp=E,710nm,12.4s							
PZH	**PanZhiHua**	**9.45**	**165**	P		**Pn**	**17 14 43.9**	**+4.1**
PZH				*p*max		*p*max		
	comp=E,20nm,0.9s							
PZH				*p*max		*p*max		
	comp=E,110nm,4.7s							
ENH	**Enshi**	**10.26**	**119**	Pn		Pn	17 14 46.6	-4.3
KMI	**Kunming**	**11.00**	**162**	⇑P		**Pn**	**17 15 00.9**	**-0.3**
KMI				*p*max		*p*max		
	comp=E,9.0nm,0.5s							
KMI				LR		LR		
	comp=E,170nm,9.7s							
KMI				LR		LR		
	comp=E,130nm,9.2s							
KMI				LR		LR		
	comp=E,97nm,6.1s							
HHC	**Hu-ho-hao-te**	**11.05**	**59**	*e*P		**Pn**	**17 15 05.0**	**+3.2**
HHC				*p*max		*p*max		
	comp=E,28nm,0.8s							
HHC				*p*max		*p*max		
	comp=E,82nm,4.8s							
HHC				LR		LR		
	comp=E,210nm,9.4s							
HHC				LR		LR		
	comp=E,220nm,9.6s							
HHC				LR		LR		
	comp=E,210nm,9.5s							
GYA	**Guiyang**	**11.26**	**143**	⇓P		**Pn**	**17 15 06.5**	**+1.8**
GYA				S		**Sn**	**17 17 12.8**	**+2.1**
GYA				*p*max		*p*max		
	comp=E,10.0nm,0.6s							
GYA				LR		LR		
	comp=E,200nm,6.5s							
GYA				LR		LR		
	comp=E,110nm,3.8s							
GYA				LR		LR		
	comp=E,310nm,10.2s							
SHL	**Shillong**	**11.86**	**214**	Pn		**Pn**	**17 15 12.0**	**-1.0**
WMQ	**Urumqi**	**11.94**	**316**	*e*P		**Pn**	**17 15 16.3**	**+2.4**
WMQ				*p*P			17 15 26.3	
WMQ				S		**Sn**	**17 17 27.8**	**+0.6**
WMQ				*p*max		*p*max		
	comp=E,84nm,0.7s							
WMQ				*p*max		*p*max		
	comp=E,140nm,4.1s							
SONM	**Songino Array**	**13.28**	**22**	Pn		**Pn**	**17 15 30.8**	**-1.4**
	comp=E,0.1nm,0.3s,baz=116,slow=44,SNR=3.3							
SONM				Sn		**Sn**	**17 17 51.3**	**-8.6**
	comp=E,0.1nm,0.3s,baz=190,slow=26,SNR=2.5							
ULN	**Ulaanbaatar**	**13.51**	**23**			**Pn**	**17 15 35.3**	**-0.1**
GUN	**Gumba**	**13.66**	**239**	*e*P		**Pn**	**17 15 38.0**	**+0.3**
	comp=E,10nm,0.6s							
PKI	**Pulchoki**	**14.20**	**239**	*e*P		**Pn**	**17 15 44.6**	**-0.5**
	comp=E,7.6nm,0.5s							
PKIN	**Phulchoki**	**14.20**	**239**	*e*P		**Pn**	**17 15 44.7**	**-0.4**
	comp=E,10nm,0.6s							
GKN	**Gorkha**	**14.49**	**242**	*e*P		**Pn**	**17 15 48.7**	**-0.2**
	comp=E,6.7nm,0.4s							
DANN	**Dangsing**	**14.93**	**245**	*e*P		**Pn**	**17 15 54.1**	**-0.9**
	comp=E,11nm,0.5s							
PYUN	**Piuthan**	**15.63**	**246**	*e*P		**Pn**	**17 16 02.2**	**-2.0**
	comp=E,6.2nm,0.5s							
MK31	**Makanchi Array**	**16.77**	**316**	Pn		**Pn**	**17 16 18.6**	**0.0**
MK31				IAmb		IAmb	17 16 27.8	
	comp=Z,16nm,1.1s							
MKAR	**Makanchi Array**	**16.77**	**316**	Pn		**Pn**	**17 16 17.9**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=120,slow=14,SNR=28							
MKAR				Sn		**Sn**	**17 19 17.9**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=139,slow=19,SNR=4.6							
MKAR	**Makanchi Array**	**16.77**	**316**	Pn		**Pn**	**17 16 18.6**	**0.0**
MAKZ	**Makanchi**	**16.96**	**316**	Pn		**Pn**	**17 16 19.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**17.18**	**181**	P		**Pn**	**17 16 24.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=357,slow=12,SNR=5.9							
KDJ	**Kajisay**	**18.21**	**297**	P		**Pn**	**17 16 34.9**	**-1.7**
BOOM	**Boomskoye usch**	**19.18**	**298**	Pn		**Pn**	**17 16 51.7**	**+3.3**
AAK	**Ala-Archa**	**20.26**	**297**	P		**P**	**17 16 59.9**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=87,slow=12,SNR=2.5							
AAK				LR		LR	17 25 57.7	
	comp=Z,96nm,21.5s,baz=114,slow=40							
ZAA0	**Zalesovo Array**	**20.80**	**336**	P		Pn	17 17 07.8	+0.6
ZAA0				IAmb		IAmb	17 17 11.8	
	comp=Z,9.1nm,0.6s							
ZALV	**Zalesovo Beam**	**20.80**	**336**	P		**P**	**17 17 05.3**	**+0.6**
	comp=Z,11nm,0.5s,baz=143,slow=12,SNR=25							
ZALV				LR		LR	17 25 32.4	
	comp=Z,53nm,20.6s,baz=18,slow=38							
ZALV	**Zalesovo Beam**	**20.80**	**336**	P		**P**	**17 17 06.6**	**+1.8**
KURBB	**Kurchatov Arra**	**21.05**	**321**	P		**P**	**17 17 08.1**	**+0.5**
	comp=Z,4.1nm,0.5s,baz=126,slow=12,SNR=33							
KURK	**Kurchatov**	**21.06**	**322**			**P**	**17 17 09.4**	**+1.7**
KURK				IAmb		IAmb	17 17 15.8	
	comp=Z,15nm,1.1s							
CN2	**Changchun**	**21.74**	**60**	*e*P		**P**	**17 17 18.9**	**+3.8**
CN2				*e*S		**S**	**17 21 05.8**	**-10**
CN2				LR		LR		
	comp=Z,130nm,17.0s							
CN2				LR		LR		
	comp=Z,170nm,17.0s							
CN2				LR		LR		
	comp=Z,210nm,17.0s							
GAR	**Garm**	**23.08**	**287**	P		**P**	**17 17 32.1**	**+2.6**
GAR				IAmb		IAmb	17 17 37.3	
	comp=Z,8.3nm,0.9s							
KSRS	**Korea Array**	**23.17**	**77**	P		**P**	**17 17 26.2**	**-4.0**
	comp=Z,2.0nm,0.9s,baz=259,slow=9.3,SNR=5.9							
KKAR	**Karatay Array**	**23.22**	**297**	P		**P**	**17 17 30.6**	**-0.2**
CHGR	**Chuyangaron**	**23.99**	**286**	P		**P**	**17 17 39.5**	**+1.0**
KBL	**Kabul**	**24.58**	**276**	P		**P**	**17 17 44.1**	**+0.1**
KBL				IAmb		IAmb	17 17 55.6	
	comp=Z,4.6nm,1.0s							
USA0B	**Ussuriysk Arra**	**26.46**	**61**	P		**P**	**17 17 58.5**	**-2.1**
USA0B				IAmb		IAmb	17 18 18.1	
	comp=Z,5.0nm,0.8s							
ABKAR	**Akbulak array**	**31.53**	**308**	P		**P**	**17 18 47.5**	**+1.8**
ABKAR	**Akbulak array**	**31.53**	**308**	P		**P**	**17 18 47.7**	**+2.0**
ABKAR				IAmb		IAmb	17 18 51.8	
	comp=Z,1.6nm,0.8s							
ARU	**Arti**	**34.24**	**320**	P		**P**	**17 19 10.0**	**+0.7**
BR131	**Keskin Array S**	**50.91**	**295**	P		**P**	**17 21 27.1**	**+1.9**
BR131				IAmb		IAmb	17 21 32.0	
	comp=Z,4.9nm,1.0s							
BRTR	**Keskin Array B**	**50.91**	**295**	P		**P**	**17 21 23.9**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=105,slow=1.2,SNR=5.4							
BRTR	**Keskin Array B**	**50.91**	**295**	P		**P**	**17 21 27.2**	**+2.0**
FINES	**FINESS Array B**	**51.41**	**324**	P		**P**	**17 21 27.0**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=1.3							
WRA	**Warramunga Arr**	**64.63**	**143**	P		**P**	**17 23 00.4**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=340,slow=6.9,SNR=4.5							
WRA	**Warramunga Arr**	**64.63**	**143**	IAmb		IAmb	17 23 07.3	
	comp=Z,0.1nm,1.1s							
ILAR	**Eielson Array**	**67.48**	**25**	P		**P**	**17 23 16.6**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=315,slow=5.8,SNR=1.5							
ASAR	**Alice Springs**	**67.61**	**146**	P		**P**	**17 23 21.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=331,slow=6.5,SNR=10							
ESDC	**Sonseca Array**	**76.86**	**309**	P		**P**	**17 24 15.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=46,slow=7.3,SNR=3.1							
YKA	**Yellowknife Ar**	**78.45**	**15**	P		**P**	**17 24 24.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=332,slow=6.2,SNR=3.4							

DJA 21 17:35:15.2±1.1, 9.˚3S×13.˚1×11.˚6E±.˚, h108km±8km, M3.6/7, mb3.7/2, MLv3.6/7, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGBI	**Denpasar**	**0.68**	**324**	P		Pn	17 35 34.5	+1.3
IGBI				S		Sn	17 35 47.9	+1.2
DNP	**Denpasar**	**0.77**	**334**	P		Pn	17 35 35.6	+1.6
DNP				S		Sn	17 35 50.8	+2.7
SRBI	**Singaraja**	**1.32**	**345**	P		Pn	17 35 39.8	0.0
PLAI	**Plampang**	**2.26**	**76**	P		Pn	17 35 52.1	+0.6
BSSI	**Bau Bau, Buton**	**5.85**	**57**	P		Pn	17 36 39.6	0.0
	0.0nm10nm,0.9s							
BKSI	**Bulukumba**	**6.06**	**49**	P		Pn	17 36 42.6	+0.2

KRSC 21 17:43:48.1±2.5, 49.˚80N×157.˚07E, h40km±28km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.08**	**326**	*e*P		Pn	17 44 05.5	-1.1
SKR				*e*S		Sn	17 44 19.1	-1.2
KDTR	**Khodutka, Kamc**	**2.11**	**17**	*e*S		Sn	17 44 49.2	+3.4
MTVR	**Mutnovka**	**2.78**	**14**	*e*P		Pn	17 44 33.5	+3.4
RUS	**Russkaya**	**2.79**	**18**	*e*P		Pn	17 44 32.8	+2.7
RUS				*e*S		Sn	17 45 07.1	+4.6
GRL	**Gorelyy**	**2.83**	**12**	*e*P		Pn	17 44 34.8	+4.0
KRMR	**Karymshinskiy**	**3.11**	**12**	*e*P		Pn	17 44 38.8	+4.3
PET	**Petropavlovsk**	**3.38**	**16**	*e*P		Pn	17 44 42.0	+3.8
PET				*e*S		Sn	17 45 23.1	+6.1
DALK	**Dalny**	**3.40**	**17**	*e*P		Pn	17 44 42.2	+3.6
DALK				*e*S		Sn	17 45 23.5	+5.9
UGLR	**Uglovaya**	**3.58**	**17**	*e*P		Pn	17 44 46.0	+4.8
AVH	**Avacha**	**3.62**	**16**	*e*P		Pn	17 44 46.2	+4.5
KOK	**Koryaka**	**3.63**	**15**	*e*P		Pn	17 44 46.7	+4.9
SMAR	**Somma**	**3.63**	**17**	*e*P		Pn	17 44 44.9	+3.0
KRER	**Koryakskii**	**3.66**	**16**	*e*P		Pn	17 44 47.4	+5.1
KBTR	**Krutoberegovo**	**7.29**	**26**	*e*P		Pn	17 45 35.0	+3.1

*IDC **21** 17:54:43.1±2.5, 10.˚78S×123.˚46E, h0km, mb3.3/1, mb1 3.1/3, mb1mx3.0/26, mbtmp3.0/3, ML2.8/2, Error ellipse: s-maj=209.8km s-min=35.3km az=52.0*

*DJA **21** 17:54:48.2±1.9, 10.˚S±16.˚×12.˚4E±.˚, h10km, M2.5/5, MLv2.5/5*

ISC 21 17:54:45.2±1.1, 10.˚6S±0.˚1×123.˚8E±0.˚2, h27km, n6, σ2ᵎ23/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**0.41**	**343**	P		**Pb**	**17 54 53.9**	**-0.2**
BATI				S		**Sb**	**17 54 59.6**	**-0.6**
SOEI	**Soe**	**0.97**	**30**	P		**Pn**	**17 55 02.4**	**-0.8**
MMRI	**Maumere**	**2.48**	**322**	P		**Pb**	**17 55 27.8**	**-1.3**
WRA	**Warramunga Arr**	**13.78**	**134**	Pn		**Pn**	**17 58 00.7**	**+1.8**
	0.1nm,0.3s,baz=303,slow=14,SNR=1.6							
WRA				Sn		**Sn**	**18 00 30.9**	**-0.2**
	0.1nm,0.3s,baz=305,slow=26,SNR=1.6							
ASAR	**Alice Springs**	**16.18**	**145**	Pn		**P**	**17 58 33.5**	**-0.5**
	0.1nm,0.3s,baz=321,slow=12,SNR=4.5							
ASAR				Sn		**Sn**	**18 01 25.4**	**-4.4**
	0.0nm,0.3s,baz=310,slow=20,SNR=1.2							
MKAR	**Makanchi Array**	**68.09**	**331**	P		**P**	**18 05 44.8**	**+2.2**
	0.2nm,0.5s,baz=151,slow=7.7,SNR=2.7							

*BJI **21** 18:34:49.2±0.0, 22.˚17N×121.˚15E, h6km, mb4.0/13, mB4.5/10, ML3.7/4, Ms3.9/9, Ms7 3.8/9*

*IDC **21** 18:34:49.6±0.7, 22.˚18N×121.˚15E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/49, mbtmp3.9/14, ML3.4/1, MS3.6/13, Ms1 3.6/13, ms1mx3.1/92, Error ellipse: s-maj=24.7km s-min=14.8km az=71.0*

*NEIC **21** 18:34:50.8±1.7, 22.˚21N±0.˚04×121.˚13E±0.˚08, h4km±5km, mb4.1/9, Error ellipse: s-maj=10.8km s-min=5.5km az=90.0*

*NIED **21** 18:34:51.2, 22.˚31N×121.˚28E, h0km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.57; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$0.97; $M_{r\theta}$2.21; $M_{r\phi}$-0.16; $M_{\theta\phi}$1.58; Fault plane solution: $M_0$3.02000×10^{15} NP1:φ54.00000°, δ83.00000°, λ68.00000°. NP2:φ307.00000°, δ23.00000°, λ162.00000°.*

*JMA **21** 18:34:51.1±0.4, 22.˚31N×121.˚28E, h0km, M4.2*

*ASIES **21** 18:34:52.9, 22.˚35N×120.˚99E, h16km, MW4.0*

*TAP **21** 18:34:52.6, 22.˚32N×120.˚99E, h12km, ML4.3, C*

ISC 21 18:34:51.5±0.9, 22.˚30N±0.˚02×121.˚12E±0.˚02, h11km±6km, n203, σ1ᵎ18/253, mb4.0/17, MS3.7/14, 18C-19D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAW	**Tawu**	**0.21**	**286**	⇓*i*P		**Pg**	**18 34 56.0**	**0.0**
	baz=297							
TAW				*i* S		**Sg**	**18 34 58.2**	**-0.8**
	baz=297							
TAWH	**Dawu Township**	**0.21**	**280**	⇓*i*P		**Pg**	**18 34 56.1**	**0.0**
	baz=284							
TAWH				*i* S		**Sg**	**18 34 58.5**	**-0.6**
	baz=284							
EAST	**Anshuo**	**0.26**	**288**	⇓*i*P		**Pg**	**18 34 56.8**	**-0.1**
	baz=298							
EAST				S		**Sg**	**18 35 00.1**	**-0.4**
	baz=298							
SLIU	**Shizi**	**0.30**	**254**	⇓*i*P		**Pg**	**18 34 57.8**	**+0.1**
	baz=240							
SLIU				*i* S		**Sg**	**18 35 01.2**	**-0.6**
	baz=240							
ECL	**Taimali**	**0.33**	**333**	⇓*i*P		**Pg**	**18 34 58.5**	**+0.3**
	baz=356							
ECL				*i* S		**Sb**	**18 35 03.7**	**-1.0**
	baz=356							
SMST	**Manzhou Townsh**	**0.38**	**223**	⇑*i*P		**Pb**	**18 35 00.1**	**-0.2**
	baz=204							
SMST				*e*S		**Sb**	**18 35 06.2**	**0.0**
	baz=204							
TSEB	**Hengchuen, Pin**	**0.45**	**207**	⇑*i*P		**Pb**	**18 35 02.4**	**+1.0**
	baz=194							
TSEB				*i* S		**Sb**	**18 35 09.8**	**+1.7**
	baz=194							
TTN	**Taitung**	**0.45**	**4**	⇑*i*P		**Pn**	**18 35 02.8**	**-1.2**
	baz=25							
TTN				S		**Sb**	**18 35 12.8**	**+4.5**
	baz=25							
TWKBT	**Hengchun**	**0.46**	**218**	⇑*i*P		**Pb**	**18 35 01.7**	**+0.1**
	baz=201							
TWKBT				S		**Sb**	**18 35 08.4**	**0.0**
	baz=201							
HEN	**Hengchun**	**0.46**	**230**	⇑*i*P		**Pb**	**18 35 01.6**	**0.0**
	baz=213							
HEN				S		**Sb**	**18 35 08.5**	**+0.1**
	baz=213							
TWK1	**Hengchun**	**0.46**	**219**	⇑*i*P		**Pb**	**18 35 01.7**	**+0.1**
	baz=201							
TWK1				S		**Sb**	**18 35 08.7**	**+0.3**
	baz=201							
SCZT	**Fangliau**	**0.46**	**279**	⇓*i*P		**Pg**	**18 35 00.4**	**-0.2**
	baz=279							
SCZT				*i* S		**Sg**	**18 35 05.6**	**-1.2**
	baz=279							
SNW	**Nanwan**	**0.48**	**225**	*e*P		**Pb**	**18 35 02.6**	**+0.6**
	baz=209							
SNW				*e*S		**Sb**	**18 35 10.4**	**+1.3**
	baz=209							
LAY	**Lan-yu**	**0.48**	**123**	*e*P		**Pn**	**18 35 03.4**	**-1.0**
	baz=101							
LDUT	**Ludao**	**0.49**	**41**	⇑P		**Pn**	**18 35 03.8**	**-0.8**
	baz=39							
LDUT				S		**Sb**	**18 35 12.1**	**+2.6**
	baz=39							
TWGBT	**Beinan**	**0.52**	**356**	⇑*i*P		**Pb**	**18 35 02.2**	**-0.4**
	baz=14							
TWGBT				*i* S		**Sb**	**18 35 10.6**	**+0.5**
	baz=14							
TWG	**Pinlang**	**0.52**	**356**			**Pb**	**18 35 02.2**	**-0.5**
TWG				Sg		**Sb**	**18 35 10.2**	**-0.1**
TWG	**Pinlang**	**0.52**	**356**	⇑*i*P		**Pb**	**18 35 02.2**	**-0.5**
	baz=14							
TWG				*i* S		**Sb**	**18 35 10.7**	**+0.5**
	baz=14							
LYUB	**Lan-yu**	**0.53**	**124**	⇓P		**Pb**	**18 35 02.8**	**0.0**
	baz=102							
SSPT	**Xinbi**	**0.54**	**290**	⇓*i*P		**Pg**	**18 35 02.4**	**+0.4**
	baz=293							
SSPT				*i* S		**Sg**	**18 35 09.0**	**-0.2**
	baz=293							
MASBT	**Mashibuluo**	**0.54**	**305**	⇓*i*P		**Pg**	**18 35 01.9**	**-0.2**
	baz=319							
MASBT				S		**Sg**	**18 35 07.8**	**-1.5**
	baz=319							
TSMG	**Majia**	**0.59**	**313**	⇓*i*P		**Pg**	**18 35 02.8**	**-0.3**
	baz=328							
TSMG				S		**Sg**	**18 35 10.1**	**-0.8**
	baz=328							
LONT	**Longtian**	**0.60**	**1**	⇑P		**Pb**	**18 35 03.6**	**-0.5**
	baz=16							
LONT				*e*S		**Sb**	**18 35 12.8**	**+0.1**
	baz=16							
SSD	**Sandimen**	**0.63**	**315**	⇓*i*P		**Pg**	**18 35 03.4**	**-0.4**
	baz=330							
SSD				*i* S		**Sg**	**18 35 11.4**	**-0.7**
	baz=330							
TSPT	**Pingtung City**	**0.68**	**303**	*e*P		**Pb**	**18 35 05.4**	**-0.1**
	baz=317							
WLCH	**Liuqiu**	**0.68**	**274**	P		**Pn**	**18 35 07.3**	**+0.2**
	baz=280							
EDH	**Donghe**	**0.69**	**15**	*e*P		**Pb**	**18 35 05.6**	**0.0**
	baz=28							
EDH				*e*S		**Sb**	**18 35 16.1**	**+1.0**
	baz=28							
TWP	**Hsiaoliuchiu**	**0.70**	**274**	⇑P		**Pn**	**18 35 07.7**	**+0.3**
	baz=281							
SGLT	**Jiouru**	**0.71**	**306**	⇓*i*P		**Pb**	**18 35 06.0**	**0.0**
	baz=321							
SGLT				*i* S		**Sb**	**18 35 16.0**	**+0.2**
	baz=321							
KAU	**Kaohsiung**	**0.79**	**290**	⇑P		**Pn**	**18 35 09.6**	**+0.9**
	baz=292							
ECS	**Chishang**	**0.80**	**7**	P		**Pg**	**18 35 06.8**	**-0.1**
	baz=20							
ECS				*e*S		**Sb**	**18 35 18.4**	**+0.2**
	baz=20							
SLGT	**Liugui**	**0.81**	**328**	⇓P		**Pb**	**18 35 07.5**	**-0.2**
	baz=337							
SCST	**Cishan**	**0.82**	**316**	⇓P		**Pb**	**18 35 08.1**	**+0.4**
	baz=329							
SCST				S		**Sb**	**18 35 19.1**	**+0.3**
	baz=329							
TWM1	**Shoushan**	**0.82**	**309**	⇓*i*P		**Pn**	**18 35 08.6**	**-0.5**
	baz=324							
TWM1				S		**Sn**	**18 35 21.5**	**+0.2**
	baz=324							
CHKT	**Chengkung**	**0.83**	**16**	*e*P		**Pg**	**18 35 07.5**	**0.0**
	baz=15							
CHKT				*e*S		**Sb**	**18 35 19.2**	**+0.1**
	baz=15							
SNJT	**Kaohsiung City**	**0.85**	**302**	*e*P		**Pn**	**18 35 09.7**	**+0.3**
	baz=309							
ELDTW	**Lidau**	**0.89**	**354**	⇑P		**Pg**	**18 35 07.9**	**-0.8**

	baz=19						
TAI1	Yung-k'ang	1.10	312	*e*P	Pn	18 35 13.6	+0.8
	baz=321						
TAI1				*e*S	Sn	18 35 29.6	+1.6
	baz=321						
TWK	Hsinying	1.12	329	P	Pn	18 35 13.9	+0.6
	baz=352						
TWK				*e*S	Sn	18 35 30.8	+2.1
	baz=352						
YUS	Yu-Shan	1.19	353	*e*P	Pg	18 35 13.4	-1.1
	baz=14						
EHY	Hungye	1.21	9	*e*P	Pg	18 35 14.6	-0.3
	baz=34						
SCLT	Jiali	1.22	316	*e*P	Pg	18 35 15.0	0.0
	baz=325						
SCLT				S	Sn	18 35 33.6	+2.6
	baz=325						
HGSD	Ruisui	1.22	13	*e*P	Pn	18 35 13.2	-1.3
	baz=24						
ALS	Alishan	1.24	347	P	Pn	18 35 14.7	-0.3
	baz=7.0						
ICHU	Yijhu	1.31	324	*e*P	Pg	18 35 16.3	-0.3
	baz=335						
ICHU				*e*S	Sg	18 35 34.9	+1.3
	baz=335						
CHN8	Yiju	1.33	321	P	Pb	18 35 16.4	-0.2
	baz=332						
CHN8				S	Sg	18 35 36.5	+2.0
	baz=332						
CHY	Chiayi	1.35	332	P	Pg	18 35 17.8	+0.3
	baz=344						
CHY				S	Sg	18 35 37.1	+2.0
	baz=344						
CHN2	Minshiung	1.36	334	P	Pg	18 35 17.7	0.0
	baz=347						
CHN2				S	Sg	18 35 38.6	+3.2
	baz=347						
EGFH	Guangfu	1.39	12	*e*P	Pg	18 35 18.5	+0.2
	baz=22						
VWDT	VWDT	1.45	1	*e*P	Pn	18 35 17.5	-0.1
	baz=16						
WDLH	Douliu	1.48	339	P	Pb	18 35 19.4	+0.3
	baz=352						
WDLH				*e*S	Sg	18 35 39.9	+0.7
	baz=352						
SSLB	Suanglung	1.49	354		Pn	18 35 18.1	-0.1
SSLB	Suanglung	1.49	354	*e*P	Pn	18 35 18.6	+0.3
	baz=22						
SSLB	Suanglung	1.49	354	P	Pg	18 35 20.0	-0.1
ESL	Shilin	1.53	11	*e*P	Pn	18 35 18.9	+0.1
	baz=34						
WTK	Tuku	1.53	334	*e*P	Pb	18 35 19.5	-0.5
	baz=347						
WTK				*e*S	Sg	18 35 41.5	+0.6
	baz=347						
WJS	Zhushan	1.56	347	*e*P	Pg	18 35 21.1	-0.3
	baz=360						
WSF	Szhu	1.56	328	P	Pn	18 35 19.5	+0.2
	baz=340						
WSF				*e*S	Sg	18 35 41.3	-0.6
	baz=340						
SMLT	Sun Moon Lake	1.59	353	*e*P	Pb	18 35 21.2	+0.2
	baz=19						
TYC	Yuchr	1.61	352	⇑P	Pb	18 35 21.7	+0.4
	baz=20						
TYC				*e*S	Sg	18 35 45.4	+1.9
	baz=20						
WNT	Mingjian	1.62	346	P	Pb	18 35 21.7	+0.3
	baz=359						
OWD	Renai	1.65	2	*e*P	Pg	18 35 23.4	+0.2
	baz=23						
WDGT	Dungji	1.65	306	⇑*i*P	Pn	18 35 19.4	-1.0
	baz=313						
WUSB	Renai	1.68	0	*e*P	Pg	18 35 23.6	-0.3
	baz=19						
WRL	Guolierlin Hig	1.73	337	*e*P	Pn	18 35 21.9	+0.3
	baz=350						
CHGB	Renai	1.75	2	*e*P	Pg	18 35 24.8	-0.3
	baz=25						
CHGB				*e*S	Sg	18 35 47.9	0.0
	baz=25						
VCHM	Qimei	1.80	300	*e*P	Pn	18 35 20.8	-1.7
	baz=306						
TWD	Chiawan	1.82	14	*e*P	Pn	18 35 23.5	+0.6
	baz=24						
WHF	Hehuan Shan	1.84	4	*e*P	Pn	18 35 23.1	-0.4
	baz=29						
WCHH	Zhanghua	1.84	344	*e*S	Sb	18 35 49.4	+1.1
	baz=356						
PHUB	P'eng-hu	1.87	311	*e*P	Pn	18 35 22.2	-1.3
	baz=319						
TCU	Taichung	1.88	348	*e*P	Pb	18 35 25.8	-0.1
	baz=1.0						
PNG	Penghu	1.91	312	*e*P	Pn	18 35 23.0	-1.0
	baz=320						
NACB	Ninganchiao	1.92	13		Pn	18 35 24.0	-0.1
NACB	Ninganchiao	1.92	13	*e*P	Pn	18 35 24.5	+0.3
	baz=34						
ETLH	Xiulin Townshi	1.93	10	*e*P	Pb	18 35 26.6	-0.2
	baz=34						
FUSS	Fushou	1.94	3	*e*P	Pb	18 35 26.8	-0.3
	baz=27						
TWT	Tachien	1.94	2	*e*P	Pb	18 35 26.9	-0.2
	baz=12						
WHP	Taichung City	1.97	356	*e*P	Pb	18 35 27.3	-0.3
	baz=14						
WHP				*e*S	Sb	18 35 53.1	+0.9
	baz=14						
TWQ1	Liyutan	2.06	351	*e*P	Pb	18 35 28.6	-0.4
	baz=4.0						
TWQ1				*e*S	Sb	18 35 55.8	+1.1
	baz=4.0						
WDJ	Dajia District	2.08	348	*e*P	Pb	18 35 28.8	-0.5
	baz=1.0						
WDJ				*e*S	Sg	18 35 57.3	-1.2
	baz=1.0						
NSY	Sanyi	2.13	351	P	Pb	18 35 30.0	-0.2
	baz=4.0						
NSY				*e*S	Sb	18 35 58.0	+1.3
	baz=4.0						
NNSB	Datong	2.13	7	*e*P	Pb	18 35 29.6	-0.7
	baz=34						
NNS	Nan Shan	2.14	6	P	Pb	18 35 30.2	-0.3
	baz=34						
ENA	Nanau	2.19	15	*e*P	Pn	18 35 28.8	+0.8
	baz=37						
EWUT	Wuta	2.22	16	*e*P	Pn	18 35 29.5	+1.2
	baz=37						
NMLH	Miaoli	2.25	352	*e*P	Pb	18 35 31.5	-0.6
	baz=5.0						
LATG	Datong	2.26	10	*e*P	Pn	18 35 30.2	+1.3
	baz=32						
NDT	Datong Townshi	2.32	9	*e*P	Pb	18 35 31.5	-1.9
	baz=32						
NFF	Wufeng Townshi	2.32	0	*e*P	Pb	18 35 33.3	-0.1
	baz=13						
NSTT	Nanjuang	2.32	357	*e*P	Pb	18 35 32.7	-0.7
	baz=10.0						
LIOB	Emei	2.34	358	*e*P	Pb	18 35 32.7	-1.0
	baz=10.0						
ENTT	Nioudou	2.37	10	*e*P	Pn	18 35 30.8	+0.5
	baz=32						
YHNB	Yeheng	2.37	6		Pn	18 35 31.0	+0.5
YHNB	Yeheng	2.37	6	*e*P	Pn	18 35 32.2	+1.8
	baz=1.0						
YHNB	Yeheng	2.37	6	P	Pb	18 35 32.4	-1.9
NSK	Sanguang	2.38	5	*e*P	Pb	18 35 33.6	-0.8
	baz=1.0						
NDS	Dongshan	2.39	13	*e*P	Pb	18 35 32.9	-1.7
	baz=34						
TWC	Suao	2.39	16	*e*P	Pn	18 35 32.2	+1.5
	baz=37						
TWE	Neicheng	2.46	12	*e*P	Pn	18 35 33.6	+2.0
	baz=34						
FUSB	Fushanzhiwuyua	2.49	10	*e*P	Pb	18 35 34.7	-1.6
	baz=31						
NWLT	Wulai	2.49	8	*e*P	Pb	18 35 34.2	-2.2
	baz=32						
NTC	Toucheng	2.62	14	*e*P	Pb	18 35 37.1	-1.5
	baz=34						
TATO	Taipei	2.68	7		Pn	18 35 35.9	+1.2
TWA	Mucha	2.70	9	*e*P	Pb	18 35 38.3	-1.6
	baz=32						
JYNG	Yonagunijimaku	2.72	38	P	Pn	18 35 35.9	+0.7
JYNG				*e*S	Sn	18 36 08.8	+0.7
TIPB	Shuangxi	2.74	14	*e*P	Pn	18 35 37.2	+1.7
	baz=33						
YOJ	Yonaguni jima	2.77	39	P	Pn	18 35 36.6	+0.8
YOJ				*e*S	Sn	18 36 10.3	+1.0
YOJ	Yonaguni jima	2.77	39		Pn	18 35 36.7	+0.9
YOJ	Yonaguni jima	2.77	39	*e*P	Pn	18 35 36.6	+0.8
	baz=48						
YOJ	Yonaguni jima	2.77	39	P	Pn	18 35 37.1	+1.3
TWB1	Santiao Chiao	2.81	16	*e*P	Pn	18 35 37.8	+1.4
	baz=26						
NWF	Wu-fen Shan	2.82	12	*e*P	Pb	18 35 40.1	-1.9
	baz=32						
YM01	YM01	2.86	8	*e*P	Pn	18 35 37.2	+0.1
	baz=34						
SXI1	Grass Mountain	2.87	14	*e*P	Pn	18 35 39.0	+1.8
	baz=24						
ANP	Anpu	2.90	7	*e*P	Pb	18 35 41.4	-1.9
	baz=5.0						
HATJ	Hateruma jima	3.03	54	*e*S	Sn	18 36 16.3	+0.6
VWUC	VWUC	3.08	331	*e*P	Pn	18 35 40.1	-0.1
	baz=343						
IRIF	Iriomote-Funau	3.14	49	P	Pn	18 35 41.9	+0.9
IRIF				*e*S	Sn	18 36 19.6	+1.1
KNM	Kinmen	3.24	311	*e*P	Pn	18 35 42.9	+0.6
	baz=319						
JKRS	Kuro-shima	3.29	54	P	Pn	18 35 43.5	+0.5
JKRS				*e*S	Sn	18 36 22.7	+0.6
KNMB	Chin-men Tao	3.30	311		Pn	18 35 42.3	-0.9
KNMB	Chin-men Tao	3.30	311	*e*P	Pn	18 35 42.4	-0.8
	baz=321						
JIJ	Ishigaki jima	3.46	53	P	Pn	18 35 46.0	+0.7
JIJ				S	Sn	18 36 25.6	-0.7
ZPLA	Ao Xicun	3.50	298	*e*P	Pn	18 35 44.5	-1.3
	baz=303						
QZH	Quanzhou	3.50	319	⇓*i*Pn	Pn	18 35 45.8	-0.1
QZH				Sn	Sn	18 36 22.8	-4.6
QZH				smax	smax		
	comp=N,79nm,0.6s						
QZH				smax	smax		
	comp=E,82nm,0.9s						
JISG	Ishigakijimahi	3.71	52	P	Pn	18 35 49.5	+0.7
JISG				S	Sn	18 36 31.8	-0.8
AXDP	Jialang	3.88	312	*e*P	Pn	18 35 50.5	-0.6
	baz=323						
MATB	Ma-tsu	3.98	345	*e*P	Pn	18 35 52.4	-0.1
	baz=359						
JTJ	Tarama	4.03	54	P	Pn	18 35 54.2	+1.0
JTJ				*e*S	Sn	18 36 40.9	+0.4
MHZQ	Yeshan	4.23	334	*e*P	Pn	18 35 55.9	-0.1
	baz=347						
LYJJ	Jianjiangzhen	4.41	344	*e*P	Pn	18 35 58.4	0.0
	baz=358						
JIRB	Irabujima	4.49	55	P	Pn	18 36 00.8	+1.2
JIRB				*e*S	Sn	18 36 51.1	-0.7
JMJ2	Miyako jima3	4.57	57	P	Pn	18 36 02.0	+1.4
JMJ2				*e*S	Sn	18 36 54.4	+0.8
JMJ	Miyako jima 2	4.58	56	P	Pn	18 36 02.1	+1.4
JIKM	Ikemajima	4.60	55	P	Pn	18 36 03.2	+2.1
JIKM				*e*S	Sn	18 36 55.4	+0.9
JOGS	Gusukube	4.64	57	P	Pn	18 36 03.1	+1.6
JOGS				*e*S	Sn	18 36 56.6	+1.2
XPSS	Dashiqiu	4.69	350	*e*P	Pn	18 36 02.2	0.0
	baz=4.0						
SXFK	Yanhouchang	5.16	323	*e*P	Pn	18 36 08.2	-0.6
	baz=329						
SMPP	San Manuel, Pa	6.13	184	⇑*e*P	Pn	18 36 25.9	+3.7
HKPS	Hong Kong Po S	6.46	271	Pn	Pn	18 36 23.6	-3.0
JOW	Kunigami	7.92	54	Pn	Pn	18 36 46.8	0.0
	1.2nm,0.3s,baz=223,slow=19,SNR=5.7						
JOW	Kunigami	7.92	54	Pn	Pn	18 36 45.2	-1.6
JOW	Kunigami	7.92	54	P	Pn	18 36 47.2	+0.5
QIZ	Qiongzhong	11.04	255	Pn	Pn	18 37 29.3	-0.2
XAN	Xi'an	15.87	320	P	Pn	18 38 36.0	+1.0
XAN				sP	sP	18 38 43.5	+0.7
XAN				LR	LR		
	comp=N,300nm,14.4s						
XAN				LR	LR		
	comp=E,250nm,13.7s						
XAN				LR	LR		
	comp=Z,470nm,13.7s						
KSRS	Korea Array	16.21	20	Pn	P	18 38 43.0	+0.7
	0.2nm,0.3s,baz=199,slow=11,SNR=6.3						
KSRS				LR	LR	18 45 29.8	
	comp=Z,75nm,19.7s,baz=195,slow=39						
MJAR	Matsushiro Arr	20.52	42	P	Pn	18 39 31.3	-0.7
	1.0nm,0.5s,baz=251,slow=11,SNR=1.7						
MJAR				LR	LR	18 47 25.8	
	comp=Z,29nm,22.0s,baz=164,slow=37						
CMAR	Chiang Mai Arr	21.13	264	P	P	18 39 36.7	+0.1
	0.3nm,0.3s,baz=66,slow=7.0,SNR=1.8						
CN2	Changchun	21.74	8	*e*P	P	18 39 41.0	-1.9
CN2				*e*PP	PnPn	18 40 06.1	+2.1
CN2				*e*S	S	18 43 36.6	-6.8
CN2				LR	LR		
	comp=N,210nm,16.0s						
CN2				LR	LR		
	comp=E,160nm,16.0s						
CN2				LR	LR		
	comp=Z,210nm,16.0s						
GTA	Gaotai	24.91	318	*e*P	P	18 40 15.8	+1.1
GTA				pP	pP	18 40 25.4	+7.7
GTA				sP	sP	18 40 29.3	+10
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,80nm,5.1s						
GTA				LR	LR		
	comp=N,100nm,13.8s						
GTA				LR	LR		
	comp=E,100nm,16.0s						
GTA				LR	LR		
	comp=Z,120nm,14.9s						
SONM	Songino Array	28.08	339	P	P	18 40 44.3	+1.1
	1.0nm,0.7s,baz=151,slow=9.4,SNR=9.3						
SONM				LR	LR	18 53 10.7	
	comp=Z,201nm,19.3s,baz=178,slow=39						
SONM	Songino Array	28.08	339	P	P	18 40 43.7	+0.4
KLR	Kul'dur	28.17	15	LR	LR	18 52 35.6	
	comp=Z,75nm,19.4s,baz=200,slow=38						
MK31	Makanchi Array	39.66	318	P	P	18 42 24.4	+0.9
MKAR	Makanchi Array	39.66	318	P	P	18 42 24.5	+1.0
	1.7nm,0.8s,baz=112,slow=9.7,SNR=19						
MKAR				PcP	PcP	18 44 30.4	+0.1
	0.3nm,0.7s,baz=76,slow=6.1,SNR=2.8						
MKAR				LR	LR	19 00 26.9	
	comp=Z,55nm,18.1s,baz=141,slow=39						
MKAR	Makanchi Array	39.66	318	P	P	18 42 23.8	+0.3
MAKZ	Makanchi	39.86	317	P	P	18 42 26.6	+1.4
MAKZ				IAmb	IAmb	18 42 27.2	
	comp=Z,2.9nm,0.9s						
YAK	Yakutsk	40.14	6	LR	LR	19 00 12.7	
	comp=Z,62nm,19.8s,baz=264,slow=38						
FITZ	Fitzroy Crossi	40.39	173	P	P	18 42 27.1	-2.7
	comp=Z,3.0nm,1.0s,baz=332,slow=12,SNR=1.6						
FITZ	Fitzroy Crossi	40.39	173	IAmb	IAmb	18 42 29.3	
	comp=Z,7.4nm,1.2s						
ZAA0	Zalesovo Array	41.80	328	P	P	18 42 40.6	-0.4
ZAA0				IAmb	IAmb	18 42 42.3	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	41.80	328	P	P	18 42 41.2	+0.2
	comp=Z,0.9nm,0.3s,baz=110,slow=9.0,SNR=8.6						
ZALV	Zalesovo Beam	41.80	328	P	P	18 42 40.9	0.0
H11N1	WAKE ISLAND Hy	42.69	85	T	T	19 28 31.2	
	baz=282,slow=75,SNR=55						
H11N2	WAKE ISLAND Hy	42.69	85	T	T	19 28 34.4	
	baz=282,slow=75,SNR=168						
H11N3	WAKE ISLAND Hy	42.71	85	T	T	19 28 34.6	
	baz=282,slow=75,SNR=90						
H11S3	WAKE ISLAND Hy	42.76	87	T	T	19 28 38.1	
	baz=283,slow=75,SNR=379						
H11S1	WAKE ISLAND Hy	42.77	86	T	T	19 28 40.9	
	baz=283,slow=75,SNR=261						
H11S2	WAKE ISLAND Hy	42.78	87	T	T	19 28 39.5	
	baz=283,slow=75,SNR=135						
KURK	Kurchatov	43.50	321	P	P	18 42 55.4	+0.5
KURK				IAmb	IAmb	18 42 56.8	
	comp=Z,3.4nm,1.0s						
KURBB	Kurchatov Arra	43.52	321	P	P	18 42 55.9	+0.9
	comp=Z,1.9nm,0.7s,baz=121,slow=7.0,SNR=21						
AAK	Ala-Archa	43.62	309	LR	LR	19 00 55.9	
	comp=Z,38nm,18.6s,baz=122,slow=36						
WRA	Warramunga Arr	43.93	162	P	P	18 42 57.5	-1.1
	comp=Z,1.7nm,0.7s,baz=344,slow=8.9,SNR=14						
WRA				PcP	PcP	18 44 44.2	-0.4
	comp=Z,0.4nm,0.7s,baz=338,slow=3.5,SNR=1.5						
WRA				LR	LR	19 01 45.7	
	comp=Z,83nm,18.0s,baz=61,slow=37						
GAR	Garm	46.17	303	P	P	18 43 16.7	+0.2
KKAR	Karatay Array	46.58	309	P	P	18 43 18.5	-1.1
ASAR	Alice Springs	47.35	164	P	P	18 43 25.0	-0.8
	comp=Z,0.7nm,0.3s,baz=346,slow=6.7,SNR=7.2						
ASAR				PcP	PcP	18 44 55.6	-0.9
	comp=Z,0.3nm,0.5s,baz=337,slow=3.1,SNR=1.8						
NRIK	Noril'sk	51.20	345	P	P	18 43 54.2	-0.4
	comp=Z,0.9nm,0.4s,baz=152,slow=4.7,SNR=1.9						
NRIK	Noril'sk	51.20	345	IAmb	IAmb	18 43 57.3	
	comp=Z,5.8nm,1.4s						
ABKAR	Akbulak array	54.72	315	P	P	18 44 22.1	+1.3
ABKAR	Akbulak array	54.72	315	P	P	18 44 22.0	+1.1
ABKAR				IAmb	IAmb	18 44 22.8	
	comp=Z,3.1nm,1.3s						
ILAR	Eielson Array	70.91	27	P	P	18 46 09.3	+0.8
	comp=Z,0.1nm,0.5s,baz=256,slow=7.1,SNR=1.6						
FINES	FINESS Array B	73.03	330	P	P	18 46 21.8	+0.5
	comp=Z,1.2nm,0.8s,baz=79,slow=7.2,SNR=2.4						
EIL	Elat	76.13	297	LR	LR	19 21 40.0	
	comp=Z,57nm,18.6s,baz=259,slow=37						
HFS	Hagfors	79.17	331	LR	LR	19 24 09.0	
	comp=Z,52nm,18.6s,baz=68,slow=37						
NOA	NORSAR Array B	79.85	332	LR	LR	19 25 46.8	
	comp=Z,60nm,19.9s,baz=100,slow=38						
YKA	Yellowknife Ar	84.72	23	P	P	18 47 24.9	-0.5
	comp=Z,0.6nm,0.8s,baz=314,slow=4.6,SNR=7.2						
BORG	Borgarnes	88.52	345	LR	LR	19 30 35.8	
	comp=Z,40nm,19.4s,baz=25,slow=38						
EKA	Eskdalemuir Ar	89.33	332	LR	LR	19 31 27.0	
	comp=Z,74nm,18.6s,baz=14,slow=38						

MAN 21 18:35:10.8, 13°.69N×120°.34E, h1km, mb4.0, ML2.7, MS2.3, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.10	298	⇑*e*P	Pg	18 35 12.6	-0.2
LUBP				*e*S	Sg	18 35 15.4	+1.2
PGP	Puerto Galera	0.62	107	⇑*e*P	Pg	18 35 22.9	+0.1
PGP				*i* S	Sb	18 35 32.8	-1.1
SMPP	San Manuel, Pa	2.47	8	⇑*e*P	Pb	18 35 54.5	-1.7

*IDC **21** 18:36:03.9±0.8, 6°.11S×101°.86E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.1/53, mbtmp4.3/24, ML4.2/2, MS3.5/6, Ms1 3.5/6, ms1mx2.9/80, Error ellipse: s-maj=22.2km s-min=10.7km az=37.0*

*DJA **21** 18:36:04.0±1.4, 6°S±4°×10°2E±°, h14km±9km, M4.7/35, mb4.8/35, mB5.2/10, MLv4.8/23, Mw(mB)4.6/10*

*NEIC **21** 18:36:06.5±2.0, 6°.00S±0°.08×101°.87E±0°.08, h10km±1km, mb4.6/40, Error ellipse: s-maj=15.2km s-min=10.2km az=227.0*

ISC 21 18:36:04.8±0.5**, 6°.18S**±0°.06×**101°.75E**±0°.06**, h10km, n151, σ1s.39**/149**, mb4.6**/56**, MS4.0**/15**, 2C-3D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	Manna	2.17	34	Pn	Pn	18 36 40.3	-0.8
MNAI	Manna	2.17	34	P	Pn	18 36 40.9	-0.1
LWLI	Liwa	2.57	64	P	Pn	18 36 47.0	+0.3
KASI	Kota Agung	2.81	77	P	Pn	18 36 49.5	-0.4
MASI	Maura Aman, Be	3.06	9	P	Pn	18 36 53.4	+0.1
KLSI		3.32	64	P	Pn	18 36 57.4	+0.6
KLI	Kotabumi	3.36	67	P	Pn	18 36 57.7	+0.3
BLSI	Bandar Lampung	3.57	77	P	Pn	18 36 59.9	-0.5
CGJI	Cibinong	3.95	97	P	Pn	18 37 04.7	-0.8
KRJI	Kerinci	4.07	356	P	Pn	18 37 07.3	0.0
PMBI	Palembang	4.42	43	Pn	Pn	18 37 11.4	-0.6
PMBI	Palembang	4.42	43	P	Pn	18 37 13.2	+1.2
SKJI	Sukabumi	4.85	100	P	Pn	18 37 17.5	-0.4
TNG	Tangerang	4.87	90	P	Pn	18 37 18.5	+0.3
JMBI	JAMBI	4.89	23	P	Pn	18 37 19.2	+0.7
	0.6nm2µm208nm,0.9s						
DBJI	Dramaga	4.99	95	P	Pn	18 37 19.2	-0.6
	0.4nm5µm64nm,0.5s						
CBJI	Citeko	5.08	93	P	Pn	18 37 23.2	+2.1
	2.9nm10µm812nm,0.8s						
CNJI	Cibinong	5.46	102	P	Pn	18 37 25.1	-1.3
	1.0nm3µm282nm,0.8s						
SISI	Saibi	5.50	331	P	Pn	18 37 27.1	+0.3
	0.6nm208nm,0.8s						
XMIS	Christmas Isla	5.76	138	Pn	Pn	18 37 25.4	-5.1
PPI	Padang Panjang	5.84	347	P	Pn	18 37 31.0	-0.5
	1µm142nm,0.8s						
LEM	Lembang	5.87	97	Pn	Pn	18 37 32.9	+0.8
	13nm,0.3s,baz=221,slow=6.4,SNR=27						
LEM				Sn	Sn	18 38 37.2	-2.4
	3.5nm,0.3s,baz=29,slow=24,SNR=0.9						
LEM	Lembang	5.87	97	P	Pn	18 37 33.3	+1.2
	0.5nm1µm128nm,0.6s						
PPBI	Pangkal Pinang	5.92	48	P	Pn	18 37 32.9	+0.2
	0.4nm48nm,0.9s						
DSRI	Dabo	6.33	27	P	Pn	18 37 38.7	+0.5
	0.1nm21nm,1.1s						
TPI	Tanjungpandan	6.80	60	P	Pn	18 37 45.6	+0.9
	8.0nm,0.8s						
CMJI	Cimerak	6.84	104	P	Pn	18 37 43.2	-2.1
	0.5nm2µm130nm,0.6s						
KPJI	Karang Pucung	7.23	100	P	Pn	18 37 50.7	+0.1
	0.4nm102nm,0.9s						
MNSI	Mandailing Nat	7.25	343	P	Pn	18 37 50.3	-0.7
	0.3nm86nm,0.8s						
COCO	West Island	7.69	219		Pn	18 37 54.9	-2.1
GSI	Gunungsitoli	8.52	331	Pn	Pn	18 38 08.8	+0.4
GSI	Gunungsitoli	8.52	331	P	Pn	18 38 07.6	-0.7
	80nm,0.9s						
SMRI	Semarang	8.68	96	P	Pn	18 38 11.4	+0.8
	73nm,0.9s						
UGM	Wanagama	8.88	102	Pn	Pn	18 38 12.9	-0.5
UGM	Wanagama	8.88	102	P	Pn	18 38 12.2	-1.1
	115nm,1.0s						
RPSI	Rantau Prapat	9.25	342		Pn	18 38 19.0	+0.6
RPSI					Sn	18 39 59.7	-3.0
PSI	Prapat	9.35	342	Pn	Pn	18 38 19.0	-0.9
	1.1nm,0.3s,baz=146,slow=8.6,SNR=5.5						
PSI				Sn	Sn	18 39 59.7	-5.6
	0.9nm,0.3s,baz=45,slow=15,SNR=1.5						
PCJI	Pacitan	9.57	103	P	Pn	18 38 20.4	-2.4
	76nm,1.0s						
STKI	Sintang	11.52	58	P	Pn	18 38 51.3	+1.7
	25nm,1.0s						
KMMI	Kalianget	12.17	95	P	Pn	18 38 56.4	-2.0
	26nm,1.1s						
ABJI	Asem Bagus	12.50	98	P	Pn	18 39 03.1	+0.2
	58nm,0.9s						
JAGI	Jajag, Banyuwa	12.51	101	Pn	Pn	18 39 03.4	+0.2
JAGI	Jajag, Banyuwa	12.51	101	P	Pn	18 39 03.9	+0.8
	28nm,0.9s						
SRBI	Singaraja	13.50	99	P	Pn	18 39 17.4	+0.9
	23nm,0.8s						
SBUM	Sibu	13.52	51	Pn	Pn	18 39 18.8	+2.0
PLAI	Plampang	16.11	100	P	Pn	18 39 52.3	+0.7
	55nm,1.1s						
BKSI	Bulukumba	18.30	88	P	P	18 40 18.0	-1.2
	14nm,1.1s						
KKM	Kota Kinabalu	18.87	50	P	P	18 40 25.6	+0.1
DLV	T Lat	19.21	20		P	18 40 28.1	-1.3
MPSI	Mapaga	19.24	71	P	P	18 40 29.6	+0.1
	578nm38nm,1.3s						
MYLDM	Lahad Datu	20.18	56	P	P	18 40 40.3	+0.6
TOLI2	Tolitoli	20.34	70	P	P	18 40 41.1	-0.3
TOLI2				IAmb	IAmb	18 40 56.1	
	comp=Z,19nm,0.8s						
MMRI	Maumere	20.47	98	P	P	18 40 41.0	-1.9
MMRI	Maumere	20.47	98	P	P	18 40 41.5	-1.4
	comp=Z,98nm,0.8s						
UBPT	Khong Chiam	21.64	10	P	P	18 40 54.4	-1.0
UBPT				IAmb	IAmb	18 41 09.3	
	comp=Z,15nm,0.9s						
BATI	Baumata	22.06	102	P	P	18 41 00.3	+0.2
	comp=Z,89nm,0.9s,baz=323,slow=1.6,SNR=14						
BATI				S	S	18 45 04.3	+0.7
	comp=Z,12nm,0.8s,baz=288,slow=20,SNR=1.5						
BATI	Baumata	22.06	102	P	P	18 41 00.5	+0.4
	comp=Z,894nmcomp=Z,120nm,1.0s						
SOEI	Soe	22.58	101	P	P	18 41 03.5	-2.3
SOEI	Soe	22.58	101	P	P	18 41 03.8	-2.0
	comp=Z,109nm,1.2s						
CM31	Chiang Mai Arr	24.63	354	P	P	18 41 26.3	+0.6
CM31				IAmb	IAmb	18 41 32.4	
	comp=Z,18nm,0.9s						
CMAR	Chiang Mai Arr	24.63	354	P	P	18 41 26.6	+0.9
	comp=Z,7.3nm,0.8s,baz=186,slow=8.4,SNR=54						
CMAR				LR	LR	18 51 37.4	
	comp=Z,54nm,18.3s,baz=160,slow=38						

CMAR	**Chiang Mai Arr**	**24.63**	**354**	P	**P**	**18 41 26.2**	**+0.5**
CHTO	**Chiang Mai**	**24.98**	**354**	P	**P**	**18 41 29.0**	**+0.1**
CHTO				IAmb	IAmb	18 41 54.0	
	comp=Z,9.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**26.15**	**119**	P	**P**	**18 41 39.9**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=294,slow=8.5,SNR=4.7						
FITZ	**Fitzroy Crossi**	**26.15**	**119**	P	**P**	**18 41 39.2**	**-0.3**
H08S2	**Diego Garcia H**	**29.07**	**265**	T	T	19 13 54.4	
	baz=87,slow=75,SNR=8.7						
H08S3	**Diego Garcia H**	**29.08**	**265**	T	T	19 14 07.5	
	baz=87,slow=75,SNR=15						
H08S1	**Diego Carcia H**	**29.09**	**265**	T	T	19 13 50.1	
	baz=87,slow=75,SNR=9.2						
H01W3	**Cape Leeuwin H**	**30.77**	**160**	T	T	19 15 28.4	
	baz=338,slow=76,SNR=7.0						
H01W2	**Cape Leeuwin H**	**30.78**	**160**	T	T	19 15 34.1	
	baz=338,slow=76,SNR=8.2						
H01W1	**Cape Leeuwin H**	**30.79**	**160**	T	T	19 15 25.4	
	baz=338,slow=76,SNR=6.2						
KMI	**Kunming**	**31.13**	**2**	⇓P	**P**	**18 42 26.6**	**+2.6**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=Z,220nm,11.7s						
KMI				LR	LR		
	comp=Z,220nm,12.6s						
KMI				LR	LR		
	comp=Z,250nm,11.2s						
PZH	**PanZhiHua**	**32.48**	**360**	P	**P**	**18 42 39.8**	**+3.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
WB0	**Warramunga Arr**	**34.47**	**116**	P	**P**	**18 42 53.4**	**+0.2**
WB0				IAmb	IAmb	18 43 04.9	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**34.48**	**116**	P	**P**	**18 42 53.1**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=287,slow=12,SNR=15						
WRA	**Warramunga Arr**	**34.48**	**116**	P	**P**	**18 42 53.2**	**-0.2**
WB2	**Warramunga Arr**	**34.49**	**116**	P	**P**	**18 42 53.8**	**+0.4**
WR0	**Warramunga Arr**	**34.67**	**116**	P	**P**	**18 42 54.8**	**-0.1**
WR0				IAmb	IAmb	18 43 23.6	
	comp=Z,7.5nm,1.1s						
ASAR	**Alice Springs**	**35.47**	**123**	P	**P**	**18 43 01.4**	**-0.4**
	comp=Z,2.1nm,1.1s,baz=289,slow=8.1,SNR=9.9						
ASAR	**Alice Springs**	**35.47**	**123**	P	**P**	**18 43 01.7**	**-0.1**
ODAN	**Odare**	**35.66**	**338**	*eP*	**P**	**18 43 05.5**	**+1.9**
TAPN	**Taplejung**	**35.99**	**338**	*eP*	**P**	**18 43 08.6**	**+2.1**
	comp=Z,43nm,1.0s						
JIRN	**Jiri**	**36.85**	**337**	*eP*	**P**	**18 43 15.8**	**+1.9**
CD2	**Chengdu**	**36.93**	**3**	P	**P**	**18 43 14.4**	**+0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=Z,310nm,13.7s						
CD2				LR	LR		
	comp=Z,320nm,13.3s						
ENH	**Enshi**	**36.99**	**11**	P	**P**	**18 43 14.3**	**-0.3**
ENH				IAmb	IAmb	18 43 15.8	
	comp=Z,16nm,1.0s						
GUN	**Gumba**	**37.19**	**336**	*eP*	**P**	**18 43 18.6**	**+1.8**
KOLN	**Koldanda**	**38.03**	**333**	*eP*	**P**	**18 43 25.6**	**+1.9**
	comp=Z,20nm,0.9s						
WHN	**Wuhan**	**38.46**	**18**	P	**P**	**18 43 28.8**	**+1.8**
XAN	**Xi'an**	**40.57**	**9**	⇑P	**P**	**18 43 44.8**	**+0.1**
XAN				pP	pwP	18 43 53.9	+1.5
XAN				sP	sP	18 43 58.5	+11
XAN				pmax	pmax		
	comp=Z,32nm,1.0s						
XAN				LR	LR		
	comp=Z,290nm,15.1s						
XAN				LR	LR		
	comp=Z,280nm,14.4s						
XAN				LR	LR		
	comp=Z,490nm,15.1s						
NJ2	**Nanjing**	**41.37**	**22**	*eP*	**P**	**18 43 52.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN	**LuoYang**	**41.76**	**13**	⇓*i*P	**P**	**18 43 55.9**	**+1.6**
LYN				sP	pwP	18 44 04.9	+2.8
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN				LR	LR		
	comp=Z,210nm,14.3s						
LYN				LR	LR		
	comp=Z,130nm,17.5s						
LZH	**Lanzhou**	**42.09**	**3**	*eP*	**P**	**18 43 57.5**	**+0.3**
LZH				sP	pwP	18 44 04.8	-0.7
LZH				pmax	pmax		
	comp=Z,14nm,1.5s						
LZH				LR	LR		
	comp=Z,280nm,14.5s						
LZH				LR	LR		
	comp=Z,220nm,14.1s						
LZH				LR	LR		
	comp=Z,350nm,15.2s						
GOMU	**GeErMu**	**42.65**	**352**	P	**P**	**18 44 02.3**	**+0.2**
GOMU				pP	sP	18 44 05.9	+1.7
GOMU				sP	pwP	18 44 09.9	-0.4
GOMU				S	**S**	**18 50 17.6**	**-8.0**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,65nm,4.3s						
GOMU				LR	LR		
	comp=Z,39nm,10.1s						
GOMU				LR	LR		
	comp=Z,49nm,10.2s						
GOMU				LR	LR		
	comp=Z,35nm,10.4s						
PMG	**Port Moresby**	**45.08**	**97**	P	**P**	**18 44 21.9**	**+0.3**
PMG				IAmb	IAmb	18 44 23.0	
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**45.12**	**130**	P	**P**	**18 44 21.7**	**0.0**
	comp=Z,2.2nm,0.9s,baz=319,slow=12,SNR=2.4						
GTA	**Gaotai**	**45.39**	**358**	⇑P	**P**	**18 44 24.8**	**+1.0**
GTA				pP	pwP	18 44 34.1	+2.0
GTA				sP	sP	18 44 37.8	+12
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,54nm,5.5s						
GTA				LR	LR		
	comp=Z,130nm,16.0s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,120nm,17.5s						
BTO	**Baotou**	**47.17**	**9**	*eP*	**P**	**18 44 40.3**	**+2.6**
BTO				S	**S**	**18 51 30.9**	**+0.4**
BTO				LR	LR		
	comp=Z,1μm,15.1s						
BTO				LR	LR		
	comp=Z,680nm,12.0s						
HHC	**Hu-ho-hao-te**	**47.66**	**10**	*eP*	**P**	**18 44 43.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.7s						
BJI	**Beijing**	**47.88**	**15**	P	**P**	**18 44 44.3**	**+1.3**
BJI				pmax	pmax		
	comp=Z,12nm,0.8s						
JNU	**Nakatsue**	**47.88**	**33**	P	**P**	**18 44 41.8**	**-1.5**
	comp=Z,12nm,0.9s,baz=191,slow=5.3,SNR=6.4						
JNU	**Nakatsue**	**47.88**	**33**	P	**P**	**18 44 41.9**	**-1.4**
KSAR	**Wonju Array Be**	**49.78**	**27**	P	**P**	**18 44 57.4**	**-0.3**
KSRS	**Korea Array**	**49.81**	**27**	P	**P**	**18 44 56.5**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=222,slow=7.9,SNR=7.3						
KSRS				LR	LR	19 04 36.2	
	comp=Z,17nm,21.2s,baz=225,slow=34						
KSH	**Kashi**	**51.33**	**334**	P	**P**	**18 45 08.3**	**-1.3**
KSH				sP	pwP	18 45 15.4	-2.4
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMQ	**Urumqi**	**51.36**	**347**	*eP*	**P**	**18 45 11.8**	**+2.1**
WMQ				pP	pwP	18 45 16.6	-1.3
WMQ				sP	sP	18 45 20.8	+8.9
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
KDJ	**Kajisay**	**53.04**	**337**	P	**P**	**18 45 23.2**	**+0.9**
KDJ				IAmb	IAmb	18 45 24.9	
	comp=Z,11nm,0.9s						
DRK	**Karamyk**	**53.20**	**331**	P	**P**	**18 45 24.1**	**+0.4**
DRK				IAmb	IAmb	18 45 41.1	
	comp=Z,17nm,1.5s						
BOOM	**Boomskoye usch**	**53.83**	**336**	P	**P**	**18 45 28.6**	**+0.4**
BOOM				IAmb	IAmb	18 45 43.0	
	comp=Z,6.6nm,1.1s						
SONM	**Songino Array**	**53.94**	**4**	P	**P**	**18 45 29.8**	**+1.0**
	comp=Z,7.8nm,0.8s,baz=182,slow=8.5,SNR=58						
SONM	**Songino Array**	**53.94**	**4**	P	**P**	**18 45 29.8**	**+1.0**
SONM				IAmb	IAmb	18 45 31.3	
	comp=Z,10nm,1.0s						
ULN	**Ulaanbaatar**	**54.01**	**4**	P	**P**	**18 45 30.5**	**+1.1**
ULN				IAmb	IAmb	18 45 31.8	
	comp=Z,7.9nm,1.0s						
BTK	**Batken**	**54.12**	**331**	P	**P**	**18 45 29.8**	**-0.4**
CN2	**Changchun**	**54.16**	**21**	*eP*	**P**	**18 45 30.3**	**0.0**
CN2				*e*PP	**PP**	**18 47 33.9**	**+1.7**
CN2				*e*S	**S**	**18 53 06.6**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=Z,60nm,12.0s						
CN2				LR	LR		
	comp=Z,100nm,12.0s						
CN2				LR	LR		
	comp=Z,90nm,12.0s						
MJAR	**Matsushiro Arr**	**54.51**	**36**	P	**P**	**18 45 33.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=229,slow=8.1,SNR=1.4						
AAK	**Ala-Archa**	**54.54**	**335**	P	**P**	**18 45 34.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=174,slow=14,SNR=3.6						
AAK	**Ala-Archa**	**54.54**	**335**	P	**P**	**18 45 33.8**	**+0.5**
MK31	**Makanchi Array**	**55.50**	**344**	P	**P**	**18 45 40.5**	**+0.5**
MK31				IAmb	IAmb	18 45 41.7	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**55.50**	**344**	P	**P**	**18 45 41.0**	**+1.0**
	comp=Z,6.4nm,0.8s,baz=145,slow=8.6,SNR=52						
MKAR	**Makanchi Array**	**55.50**	**344**	P	**P**	**18 45 40.2**	**+0.3**
MAKZ	**Makanchi**	**55.60**	**344**	P	**P**	**18 45 40.8**	**+0.1**
MAKZ				IAmb	IAmb	18 45 42.4	
	comp=Z,9.3nm,1.4s						
BNX	**BinXian**	**56.54**	**21**	⇓P	**P**	**18 45 49.3**	**+1.9**
BNX				pmax	pmax		
	comp=Z,59nm,1.2s						
BNX				pmax	pmax		
	comp=Z,180nm,5.0s						
KKAR	**Karatay Array**	**56.64**	**333**	P	**P**	**18 45 48.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**57.08**	**26**	P	**P**	**18 45 50.3**	**-1.0**
	comp=Z,4.7nm,0.8s,baz=224,slow=8.0,SNR=5.1						
USRK	**Ussuriysk Ar.**	**57.08**	**26**	P	**P**	**18 45 50.0**	**-1.3**
GEYT	**Alibeck**	**59.76**	**321**	P	**P**	**18 46 10.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=148,slow=10,SNR=4.0						
GEYT	**Alibeck**	**59.76**	**321**	P	**P**	**18 46 10.4**	**+0.2**
GEYT				IAmb	IAmb	18 46 18.9	
	comp=Z,3.2nm,1.0s						
KURBB	**Kurchatov Arra**	**60.02**	**343**	P	**P**	**18 46 12.3**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=161,slow=6.4,SNR=38						
KURK	**Kurchatov**	**60.08**	**343**	P	**P**	**18 46 12.2**	**+0.2**
KLR	**Kul'dur**	**61.07**	**22**	P	**P**	**18 46 18.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=239,slow=4.8,SNR=6.7						
KLR				LR	LR	19 14 06.2	
	comp=Z,44nm,18.8s,baz=219,slow=37						
ZAA0	**Zalesovo Array**	**61.57**	**349**	P	**P**	**18 46 22.4**	**+0.3**
ZALV	**Zalesovo Beam**	**61.57**	**349**	P	**P**	**18 46 22.7**	**+0.6**
	comp=Z,13nm,0.9s,baz=174,slow=4.5,SNR=47						
ZALV	**Zalesovo Beam**	**61.57**	**349**	P	**P**	**18 46 22.3**	**+0.1**
BRVK	**Borovoye**	**64.74**	**340**	P	**P**	**18 46 43.1**	**-0.2**
BRVK				IAmb	IAmb	18 46 44.4	
	comp=Z,4.1nm,0.9s						
ABKAR	**Akbulak array**	**66.12**	**331**	P	**P**	**18 46 52.4**	**+0.2**
ABKAR	**Akbulak array**	**66.12**	**331**	P	**P**	**18 46 52.2**	**-0.1**
MAW	**Mawson**	**66.71**	**195**	LR	LR	19 09 59.4	
	comp=Z,71nm,21.9s,baz=224,slow=30						
YAK	**Yakutsk**	**71.34**	**13**	LR	LR	19 22 25.1	
	comp=Z,40nm,18.0s,baz=278,slow=39						
YAK	**Yakutsk**	**71.34**	**13**	P	**P**	**18 47 23.4**	**-1.1**
ARU	**Arti**	**71.71**	**336**	P	**P**	**18 47 27.0**	**+0.2**
ARU				IAmb	IAmb	18 47 28.6	
	comp=Z,8.4nm,1.0s						
MATP	**Matopo**	**72.19**	**251**	P	**P**	**18 47 33.0**	**+2.2**
	comp=Z,2.7nm,1.0s,baz=68,slow=16,SNR=2.5						
KBZ	**Khabaz**	**72.59**	**319**	P	**P**	**18 47 33.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=103,slow=9.3,SNR=2.6						
LBTB	**Lobatse**	**74.88**	**246**	LR	LR	19 14 42.8	
	comp=Z,43nm,19.8s,baz=141,slow=31						
NRIK	**Noril'sk**	**75.98**	**355**	P	**P**	**18 47 51.2**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=221,slow=4.2,SNR=4.8						
NRIK	**Noril'sk**	**75.98**	**355**	P	**P**	**18 47 51.5**	**-0.2**
NRIK				IAmb	IAmb	18 47 53.0	
	comp=Z,6.3nm,1.1s						
BRTR	**Keskin Array B**	**77.42**	**313**	P	**P**	**18 47 59.8**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=99,slow=9.3,SNR=2.9						
TIXI	**Tiksi**	**79.69**	**8**	P	**P**	**18 48 11.4**	**-0.9**
TIXI				IAmb	IAmb	18 48 12.8	
	comp=Z,7.6nm,1.1s						
KLMR	**Klimovskoe**	**82.32**	**334**	*eP*	**P**	**18 48 26.3**	**-0.2**
KLMR				AMP		18 48 30.9	
	comp=Z,16nm,1.4s						
AKASG	**Malin Array Be**	**83.83**	**322**	P	**P**	**18 48 34.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=90,slow=5.6,SNR=1.7						
TXAR	**Lajitas Array**	**146.75**	**43**	PKPbc	**PKPab**	**18 55 48.9**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=305,slow=1.3,SNR=23						
TXAR	**Lajitas Array**	**146.75**	**43**		**PKPbc**	**18 55 47.9**	**-0.1**
LPAZ	**La Paz**	**155.53**	**204**	PKP	**PKPdf**	**18 56 01.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=162,slow=3.2,SNR=2.4						

IDC 21 18:47:52.1±3.4, 33.00S×178.30W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/41, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=77.7km s-min=37.8km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.44**	**214**	Pn	Pn	18 49 28.2	0.0
	0.9nm,0.3s,baz=335,slow=12,SNR=9.1						
URZ				Sn	Sn	18 50 42.2	-0.2
	0.7nm,0.3s,baz=342,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**42.78**	**270**	P	P	18 55 51.5	-0.2
	0.2nm,0.7s,baz=108,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**44.01**	**275**	P	P	18 56 01.6	0.0
	0.4nm,0.4s,baz=115,slow=7.6,SNR=9.7						
FINES	**FINESS Array B**	**147.48**	**338**	PKPbc	PKPbc	19 07 36.5	-0.8
	1.8nm,1.0s,baz=37,slow=3.4,SNR=1.5						

*IDC **21** 18:49:11.3±0.8, 38.52S×46.54E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/39, mbtmp4.0/7, MS3.1/3, Ms1 3.1/3, ms1mx2.7/66, Error ellipse: s-maj=87.3km s-min=18.6km az=23.0*

*NEIC **21** 18:49:13.6±0.9, 38.4S×0.2×46.5E×0.2, h10km±1km, mb4.0/8, Error ellipse: s-maj=35.6km s-min=13.2km az=30.0*

ISC 21 18:49:13.0±0.8, 38.3S×0.2×46.6E×0.2, h10km, n26, σ1°09/17, mb4.1/6, MS2.9/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.23**	**292**	P	**P**	**18 53 48.2**	**-0.1**
	3.0nm,0.9s,baz=134,slow=15,SNR=2.0						
BOSA				LR	LR	18 59 48.4	
	comp=Z,51nm,19.0s,baz=180,slow=31						
BOSA	**Boshof**	**20.23**	**292**	IAmb	IAmb	18 53 55.8	
	comp=Z,7.3nm,1.2s						
SUR	**Sutherland**	**21.82**	**278**	P	**P**	**18 54 05.1**	**-0.5**
	comp=Z,10nm,1.0s,baz=130,slow=16,SNR=2.8						
SUR	**Sutherland**	**21.82**	**278**	IAmb	IAmb	18 54 08.9	
	comp=Z,39nm,1.4s						
LBTB	**Lobatse**	**22.19**	**300**	P	**P**	**18 54 09.1**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=156,slow=12,SNR=1.8						
LBTB				LR	LR	19 01 41.0	
	comp=Z,36nm,20.7s,baz=174,slow=34						
LBTB	**Lobatse**	**22.19**	**300**	IAmb	IAmb	18 54 10.0	
	comp=Z,7.3nm,1.1s						
TSUM	**Tsumeb**	**31.57**	**299**	LR	LR	19 07 29.8	
	comp=Z,47nm,18.2s,baz=169,slow=35						
H08S1	**Diego Carcia H**	**38.42**	**44**	T	T	19 38 04.0	
	baz=205,slow=75						
H08S2	**Diego Garcia H**	**38.43**	**44**	T	T	19 38 07.3	
	baz=205,slow=75						
H08S3	**Diego Garcia H**	**38.44**	**44**	T	T	19 38 04.5	
	baz=205,slow=75						
BELA	**Belgrano 2**	**51.07**	**196**	P	**P**	**18 58 14.6**	**-0.4**
H01W2	**Cape Leeuwin H**	**53.22**	**109**	T	T	19 56 00.4	
	baz=244,slow=75,SNR=5.3						
H01W3	**Cape Leeuwin H**	**53.23**	**108**	T	T	19 56 01.1	
	baz=244,slow=75,SNR=5.3						
H01W1	**Cape Leeuwin H**	**53.24**	**109**	T	T	19 56 01.5	
	baz=244,slow=75,SNR=6.1						
VNDA	**Vanda**	**58.05**	**167**	P	**P**	**18 59 07.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**66.21**	**311**	P	**P**	**19 00 03.0**	**+1.8**
	comp=Z,1.0nm,1.1s,baz=134,slow=4.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**66.21**	**311**	IAmb	IAmb	19 00 03.8	
	comp=Z,1.7nm,1.1s						
ASAR	**Alice Springs**	**73.72**	**107**	P	**P**	**19 00 47.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=238,slow=6.0,SNR=12						
STKA	**Stephens Creek**	**74.57**	**118**	P	**P**	**19 00 51.7**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=288,slow=2.2,SNR=6.6						
STKA	**Stephens Creek**	**74.57**	**118**	P	**P**	**19 00 51.7**	**-0.5**
STKA				IAmb	IAmb	19 00 55.2	
	comp=Z,2.1nm,1.5s						
WRA	**Warramunga Arr**	**76.20**	**105**	P	**P**	**19 01 02.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=225,slow=5.0,SNR=12						
WRA	**Warramunga Arr**	**76.20**	**105**	P	**P**	**19 01 02.0**	**+0.2**
ILAR	**Eielson Array**	**152.30**	**12**	PKPbc	**PKiKP**	**19 09 08.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=320,slow=3.6,SNR=4.0						
YKA	**Yellowknife Ar**	**153.18**	**341**	PKPbc	**PKiKP**	**19 09 09.6**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=32,slow=2.5,SNR=2.8						
TXAR	**Lajitas Array**	**153.83**	**259**	PKPbc	**PKiKP**	**19 09 12.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=126,slow=4.6,SNR=3.8						
TXAR	**Lajitas Array**	**153.83**	**259**		**PKPbc**	**19 09 10.1**	**-2.6**

*NEIC **21** 18:53:48.4±1.2, 52.1N±0.2×178.43E±0.10, h100km±10km, mb4.1/36, ML3.4(AEIC), Error ellipse: s-maj=23.8km s-min=8.4km az=181.0*

*IDC **21** 18:53:48.4±0.8, 51.99N×178.41E, h116km±6km, mb3.5/17, mb1 3.6/20, mb1mx3.5/52, mbtmp3.9/20, MS2.5/1, Ms1 2.5/1, ms1mx2.1/72, Error ellipse: s-maj=17.8km s-min=11.9km az=164.0*

*AEIC **21** 18:53:49±2.8, 52.2N±0.1×178.45E±0.10, h108km±5km, Error ellipse: s-maj=19.3km s-min=8.1km az=191.0*

ISC 21 18:53:48.2±0.5, 52.1N±0.1×178.40E±0.05, h113km, n92, σ1°11/98, mb4.1/37, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.73**	**100**		**Pn**	**18 54 17.2**	**-0.8**
GANO	**Gareloi North**	**1.75**	**98**		**Pn**	**18 54 17.6**	**-0.7**
GALAA	**Gareloi Lava P**	**1.78**	**100**		**Pn**	**18 54 18.2**	**-0.4**
GAEA	**Gareloi East**	**1.79**	**99**		**Pn**	**18 54 18.5**	**-0.2**
TASE	**Tanaga Southea**	**2.22**	**95**		**Pn**	**18 54 23.6**	**-0.5**
TAFP	**Tanaga Falls P**	**2.25**	**94**		**Pn**	**18 54 23.6**	**-0.9**
TAPA	**Tanaga Point A**	**2.36**	**95**		**Pn**	**18 54 25.3**	**-0.6**
SHEM	**Shemya Is, Ala**	**2.71**	**285**	P	**Pn**	**18 54 30.5**	**+0.1**
	30nm,0.3s,baz=31,slow=4.4,SNR=10						
SHEM				S	**Sn**	**18 55 02.5**	**-0.3**
	74nm,0.3s,baz=53,slow=20,SNR=13						
SHEM				LR	LR	18 55 32.7	
	comp=Z,96nm,21.4s,baz=155,slow=38						
SMY	**Shemya**	**2.71**	**285**		**Pn**	**18 54 30.4**	**+0.1**
KIMD	**Kanaga Island**	**2.72**	**95**		**Pn**	**18 54 30.0**	**-0.6**
KICM	**Kanaga Island**	**2.73**	**92**		**Pn**	**18 54 30.1**	**-0.6**
KIKV	**Kanaga Island**	**2.75**	**93**		**Pn**	**18 54 30.4**	**-0.6**
KIWB	**Kanaga Island**	**2.76**	**93**	Pn	**Pn**	**18 54 30.3**	**-0.8**
ADK	**Adak**	**3.05**	**92**		**Pn**	**18 54 34.0**	**-0.9**
GSCK	**Great Sitkin C**	**3.36**	**89**		**Pn**	**18 54 38.3**	**-0.7**
GSTD	**Great Sitkin T**	**3.37**	**89**		**Pn**	**18 54 38.0**	**-1.2**
ATKA	**Atka Island**	**4.56**	**86**		**Pn**	**18 54 54.6**	**-0.5**
NIKH	**Nikolski High**	**7.83**	**79**	Pn	**Pn**	**18 55 37.5**	**-1.7**
UNV	**Unalaska Valle**	**9.28**	**73**	Pn	**Pn**	**18 56 00.1**	**+1.3**
PETK	**Petropavlovsk-**	**12.62**	**283**	P	**Pn**	**18 56 44.8**	**+1.3**
	0.3nm,0.3s,baz=106,slow=16,SNR=2.1						
PETK				S	**Sn**	**18 58 59.4**	**-2.9**
	0.3nm,0.3s,baz=68,slow=27,SNR=1.6						
CHGN	**Chignik**	**14.18**	**64**		**Pn**	**18 57 03.7**	**0.0**
P18K	**Big Mountain,**	**16.46**	**53**		**P**	**18 57 32.9**	**-0.1**
P18K				IAmb	IAmb	18 58 03.6	
	comp=Z,28nm,1.5s						
BILL	**Bilibino**	**17.04**	**344**	P	**Pn**	**18 57 35.2**	**-4.0**
SEY	**Seymchan**	**17.55**	**318**	P	**Pn**	**18 57 46.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=138,slow=15,SNR=2.0						
CNPM	**China Poot**	**18.48**	**54**	P	**P**	**18 57 55.4**	**+0.3**
J20K	**Nowinta River**	**18.68**	**39**	P	**Pn**	**18 57 59.4**	**+0.5**
J20K				IAmb	IAmb	18 58 17.7	
	comp=Z,19nm,1.8s						
BRLK	**Bradley Lake**	**18.70**	**54**	P	**P**	**18 57 57.9**	**+0.4**
PPLA	**Purkeypile**	**18.95**	**44**		**P**	**18 58 00.4**	**0.0**
IMAR	**Indian Mountai**	**19.72**	**35**	Pn	**Pn**	**18 58 11.1**	**+0.1**
KTH	**Kantishna Hill**	**19.73**	**43**		**P**	**18 58 09.3**	**+0.6**
H21K	**Melozitna Rive**	**19.89**	**36**	P	**P**	**18 58 10.9**	**+0.6**
H21K				IAmb	IAmb	18 58 11.5	
	comp=Z,16nm,1.9s						
GHO	**Glory Hole Cre**	**20.07**	**48**	P	**P**	**18 58 12.8**	**+0.4**
GHO				IAmb	IAmb	18 58 48.5	
	comp=Z,9.2nm,1.1s						
SML	**Sawmill**	**20.35**	**49**	P	**P**	**18 58 16.6**	**+1.2**
SML				IAmb	IAmb	18 59 00.7	
	comp=Z,18nm,1.3s						
SCM	**Sheep Creek Mo**	**20.82**	**49**	P	**P**	**18 58 21.2**	**+0.8**
NEA2	**Nenana**	**20.87**	**41**		sP	18 58 49.1	-6.2
MDM	**Murphy Dome**	**21.34**	**40**	P	**P**	**18 58 28.2**	**+2.3**
ILAR	**Eielson Array**	**21.81**	**41**	P	**P**	**18 58 31.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=251,slow=8.8,SNR=7.2						
ILAR				PcP	**PcP**	**19 02 23.9**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=280,slow=2.7,SNR=2.2						
ILAR				ScP	**ScP**	**19 05 51.2**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=290,slow=2.6,SNR=2.8						
RAGM	**Ragged Mountai**	**21.87**	**53**	P	**P**	**18 58 34.3**	**+2.7**
N25K	**Chitina, Valde**	**22.06**	**50**	P	**P**	**18 58 33.7**	**+0.1

PDAR	**Pinedale Array**	**47.74**	**71**	P		**P**	**19 02 13.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**52.26**	**312**	PcP		**PcP**	**19 03 57.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=46,slow=4.5,SNR=6.9							
ARCES	**ARCESS Array B**	**57.07**	**349**	P		**P**	**19 03 21.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=32,slow=8.6,SNR=3.6							
MKAR	**Makanchi Array**	**58.21**	**307**	P		**P**	**19 03 30.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=51,slow=5.9,SNR=20							
MKAR				PcP		**PcP**	**19 04 21.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=52,slow=5.7,SNR=3.5							
TXAR	**Lajitas Array**	**60.25**	**80**	P		**P**	**19 03 44.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=307,slow=4.8,SNR=5.3							
TXAR				pP		**pP**	**19 04 12.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=316,slow=5.0,SNR=2.2							
SCHQ	**Schefferville**	**60.50**	**37**	P		**P**	**19 03 46.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=316,slow=11,SNR=3.7							
FINES	**FINESS Array B**	**64.68**	**346**	P		**P**	**19 04 14.3**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=25,slow=6.0,SNR=6.9							
CMAR	**Chiang Mai Arr**	**69.22**	**274**	P		**P**	**19 04 42.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=31,slow=8.8,SNR=4.8							
GUN	**Gumba**	**69.97**	**290**	*e*P		**P**	**19 04 48.6**	**+0.8**
	comp=Z,19nm,0.4s							
JIRN	**Jiri**	**69.98**	**289**	*e*P		**P**	**19 04 48.7**	**+0.8**
	comp=Z,11nm,0.6s							
RAMN	**Ramite**	**70.27**	**289**	*e*P		**P**	**19 04 48.9**	**-0.6**
	comp=Z,9.8nm,0.4s							
KKN	**Kakani**	**70.41**	**290**	*e*P		**P**	**19 04 51.0**	**+0.7**
PKI	**Pulchoki**	**70.50**	**290**	*e*P		**P**	**19 04 51.6**	**+0.6**
	comp=Z,9.9nm,0.6s							
PKIN	**Phulchoki**	**70.50**	**290**	*e*P		**P**	**19 04 51.4**	**+0.5**
	comp=Z,11nm,0.5s							
GKN	**Gorkha**	**70.62**	**291**	*e*P		**P**	**19 04 52.1**	**+0.6**
	comp=Z,9.9nm,0.6s							
DANN	**Dangsing**	**70.86**	**292**	*e*P		**P**	**19 04 53.9**	**+0.8**
	comp=Z,14nm,0.6s							
KOLN	**Koldanda**	**71.39**	**291**	*e*P		**P**	**19 04 56.7**	**+0.5**
PYUN	**Piuthan**	**71.49**	**292**	*e*P		**P**	**19 04 57.3**	**+0.5**
	comp=Z,12nm,0.7s							
AKASG	**Malin Array Be**	**74.30**	**340**	P		**P**	**19 05 11.5**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=23,slow=5.8,SNR=5.2							
GEYT	**Alibeck**	**76.36**	**315**	P		**P**	**19 05 23.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=31,slow=17,SNR=2.0							
WRA	**Warramunga Arr**	**81.36**	**221**	P		**P**	**19 05 51.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=32,slow=6.0,SNR=18							
WRA				pP		**pP**	**19 06 20.9**	**-0.1**
	comp=Z,0.5nm,1.1s,baz=33,slow=5.5,SNR=1.7							
BRTR	**Keskin Array B**	**83.54**	**333**	P		**P**	**19 06 04.9**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=44,slow=4.4,SNR=3.3							
ASAR	**Alice Springs**	**84.88**	**220**	P		**P**	**19 06 09.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=21,slow=5.2,SNR=14							
STKA	**Stephens Creek**	**89.62**	**211**	P		**P**	**19 06 33.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=307,slow=5.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	**114.96**	**356**	PKP		**PKiKP**	**19 12 14.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=347,slow=2.5,SNR=1.9							
BOSA	**Boshof**	**149.19**	**309**	PKPbc		**PKPbc**	**19 13 23.9**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=41,slow=2.0,SNR=10							

*KRSC **21** 19:03:13.5±1.9, 48°.38N×156°.60E, h19km±28km, ML4.2*
*IDC **21** 19:03:17.3±5.4, 49°.20N×153°.62E, h146km±40km, mb2.9/5, mb1 3.2/6, mb1mx2.9/41, mbtmp3.3/6, MS2.6/1, Ms1 2.6/1, ms1mx2.1/14, Error ellipse: s-maj=77.5km s-min=22.1km az=161.0*

ISC 21 19:03:17.0±1.4, 49°.1N±0°.2×153°.9E±0°.2, h150km, n17, σ1§69/18, mb3.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.12**	**41**	*e*P			**Pn**	**19 03 51.7**	**-1.7**
SKR				*e*S			**Sn**	**19 04 20.0**	**-1.4**
PAU	**Pauzhetka**	**2.99**	**37**	*e*P			**Pn**	**19 04 04.2**	**0.0**
PAU				*e*S			**Sn**	**19 04 41.6**	**+0.8**
KDTR	**Khodutka, Kamc**	**3.78**	**43**	*e*S			**Sn**	**19 04 55.2**	**-3.7**
MTVR	**Mutnovka**	**4.32**	**37**	*e*P			**Pn**	**19 04 21.5**	**0.0**
MTVR				*e*S			**Sn**	**19 05 11.6**	**-0.1**
GRL	**Gorelyy**	**4.33**	**36**	*e*P			**Pn**	**19 04 22.7**	**+1.1**
GRL				*e*S			**Sn**	**19 05 13.7**	**+1.8**
RUS	**Russkaya**	**4.42**	**40**	*e*P			**Pn**	**19 04 21.3**	**-1.3**
RUS				*e*S			**Sn**	**19 05 10.5**	**-3.2**
PETK	**Petropavlovsk-**	**4.65**	**29**	P			**Pn**	**19 04 26.1**	**+0.4**
	0.6nm,0.3s,baz=201,slow=16,SNR=7.2								
KLR	**Kul'dur**	**14.50**	**279**	P			**P**	**19 06 37.4**	**-0.1**
	0.2nm,0.3s,baz=93,slow=12,SNR=4.9								
KSRS	**Korea Array**	**22.11**	**248**	LR		LR		19 16 47.4	
	comp=Z,14nm,19.5s,baz=200,slow=37								
H11S1	**WAKE ISLAND Hy**	**32.23**	**157**	T		T		19 42 59.9	
	baz=344,slow=76,SNR=6.8								
H11S3	**WAKE ISLAND Hy**	**32.24**	**157**	T		T		19 43 08.9	
	baz=344								
H11S2	**WAKE ISLAND Hy**	**32.25**	**157**	T		T		19 43 09.6	
	baz=344,slow=76,SNR=4.6								
ILAR	**Eielson Array**	**34.38**	**41**	P			**P**	**19 09 50.8**	**+1.6**
	0.2nm,0.5s,baz=261,slow=7.3,SNR=5.4								
MKAR	**Makanchi Array**	**46.37**	**296**	P			**P**	**19 11 26.4**	**-1.6**
	0.4nm,0.6s,baz=64,slow=8.7,SNR=6.0								
YKA	**Yellowknife Ar**	**48.71**	**38**	P			**P**	**19 11 47.1**	**+1.4**
	0.2nm,0.4s,baz=298,slow=6.8,SNR=3.0								
CMAR	**Chiang Mai Arr**	**53.48**	**255**	P			**P**	**19 12 21.6**	**-0.2**
	0.3nm,0.8s,baz=20,slow=8.1,SNR=2.8								
TXAR	**Lajitas Array**	**75.87**	**62**	P			**P**	**19 14 47.6**	**+0.7**
	0.2nm,0.6s,baz=312,slow=4.6,SNR=2.6								

*NOU **21** 19:23:10.0, 21°.12S×167°.62E, h0km, MLv2.8/7, Loyalty Islands*

IDC 21 19:22:32.0±25.0, 18°.95S×169°.07E, h285km±40km, mb3.2/4, mb1 3.3/5, mb1mx2.9/32, mbtmp3.9/5, Error ellipse: s-maj=401.5km s-min=87.5km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.50**	**223**		P		Pn	19 23 19.5	-2.2
MARNC	**Mare, Loyalty**	**2.70**	**201**		P		Pn	19 23 20.2	-3.4
YATNC	**Mamie plateau,**	**3.70**	**213**		P		Pn	19 23 31.7	-2.4
DZM	**Mont Dzumac**	**3.96**	**218**		P		Pn	19 23 37.1	0.0
	2.7nm,0.3s,baz=52,slow=19,SNR=28								
DZM	**Mont Dzumac**	**3.96**	**218**		P		Pn	19 23 36.9	-0.1
OUENC	**Ouen Island, N**	**4.03**	**211**		P		Pn	19 23 36.9	-0.8
NOUC	**Port Laguerre**	**4.07**	**219**		P		Pn	19 23 38.4	+0.3
ONTNC	**Ouen Toro**	**4.14**	**216**		P		Pn	19 23 38.6	-0.3
STKA	**Stephens Creek**	**27.86**	**237**		P		P	19 27 55.5	-0.4
	0.8nm,0.4s,baz=58,slow=11,SNR=5.4								
WRA	**Warramunga Arr**	**32.73**	**262**		P		P	19 28 38.2	-0.4
	0.2nm,0.3s,baz=89,slow=8.5,SNR=6.2								
ASAR	**Alice Springs**	**33.04**	**256**		P		P	19 28 41.0	-0.3
	2.4nm,0.6s,baz=84,slow=9.2,SNR=34								
FITZ	**Fitzroy Crossi**	**41.11**	**264**		P		P	19 29 49.7	+0.8
	0.6nm,0.4s,baz=99,slow=8.9,SNR=6.6								

IDC 21 19:43:49.5±1.4, 7°.48S×137°.00E, h491km±22km, mb3.2/2, mb1 3.5/7, mb1mx3.0/37, mbtmp4.3/7, Error ellipse: s-maj=32.1km s-min=15.0km az=87.0, Near south coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.16**	**37**		P		P	19 45 26.7	-0.4
	3.3nm,0.3s,baz=217,slow=5.8,SNR=12								
JAY					S		S	19 46 42.4	-4.4
	0.7nm,0.3s,baz=277,slow=22,SNR=1.9								
SIJI	**Sorong**	**8.71**	**319**		P		P	19 45 53.1	0.0
	6.2nm,0.3s,baz=105,slow=9.7,SNR=19								
WRA	**Warramunga Arr**	**12.65**	**192**		P		P	19 46 36.1	+1.1
	1.3nm,0.3s,baz=13,slow=11,SNR=96								
WRA					S		S	19 48 49.8	-1.8
	2.0nm,0.3s,baz=11,slow=20,SNR=32								
FITZ	**Fitzroy Crossi**	**15.29**	**225**		P		P	19 47 03.3	+0.4
	0.7nm,0.3s,baz=45,slow=8.6,SNR=73								
FITZ					S		S	19 49 40.3	-2.3
	0.2nm,0.3s,baz=188,slow=2.3,SNR=5.7								
ASAR	**Alice Springs**	**16.37**	**190**		P		P	19 47 15.2	+0.9
	2.5nm,0.3s,baz=15,slow=10,SNR=125								
ASAR					S		S	19 50 03.0	+0.2
	0.3nm,0.3s,baz=11,slow=22,SNR=43								
STKA	**Stephens Creek**	**24.65**	**171**		P		P	19 48 30.1	-0.2
	1.1nm,0.3s,baz=352,slow=6.7,SNR=8.5								
MKAR	**Makanchi Array**	**72.57**	**324**		P		P	19 54 26.2	0.0
	1.4nm,0.7s,baz=112,slow=7.7,SNR=17								

*IDC **21** 19:53:35.5±0.9, 33°.35S×177°.50W, h0km, mb4.3/4, mb1 4.4/7, mb1mx4.1/36, mbtmp4.3/7, ML3.8/3, MS3.6/6, Ms1 3.6/6, ms1mx3.0/57, Error ellipse: s-maj=32.4km s-min=24.5km az=145.0*
*NEIC **21** 19:53:38.7±2.0, 33°.3S±0°.1×177°.7W±0°.1, h10km±1km, mb4.4/10, Error ellipse: s-maj=24.0km s-min=18.7km az=36.0*
*WEL **21** 19:53:39.6±0.8, 33°.S±8°×17°8W±1°.8, h33km, M4.6/13, mB4.9/8, ML4.9/14, MLv5.1/13, Mw(mB)4.2/8, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*

ISC 21 19:53:37.0±0.8, 33°.30S±0°.08×177°.5W±0°.1, h10km, n65, σ1§13/81, mb4.4/9, MS3.7/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.04**	**354**	P			Pn	19 54 31.9	-7.0
GLKZ				S			Sn	19 55 14.1	-12
MXZ	**Matakaoa Point**	**5.49**	**218**	P			**Pn**	**19 54 58.6**	**-0.2**
MXZ	**Matakaoa Point**	**5.49**	**218**	S			**Sn**	**19 56 02.8**	**+0.9**
WMGZ	**Waiomatatini S**	**5.63**	**216**	P			**Pn**	**19 55 01.0**	**+0.3**
WMGZ				S			**Sn**	**19 56 06.5**	**+1.0**
PKGZ	**Pakihiroa**	**5.85**	**217**	P			**Pn**	**19 55 04.0**	**+0.2**
PKGZ				S			**Sn**	**19 56 11.4**	**+0.4**
RUGZ	**Raukumara Rang**	**6.12**	**219**	P			**Pn**	**19 55 08.6**	**+1.0**
RUGZ				S			**Sn**	**19 56 19.3**	**+1.7**
TWGZ	**Tauwhareparae**	**6.12**	**216**	P			**Pn**	**19 55 09.2**	**+1.6**
TWGZ				S			**Sn**	**19 56 19.1**	**+1.4**
CNGZ	**Carnagh Statio**	**6.26**	**213**	P			**Pn**	**19 55 10.1**	**+0.7**
CNGZ				S			**Sn**	**19 56 24.4**	**+3.4**
TKGZ	**Te Karaka**	**6.39**	**215**	P			**Pn**	**19 55 11.9**	**+0.8**
TKGZ				S			**Sn**	**19 56 24.4**	**+0.1**
MWZ	**Matawai**	**6.47**	**218**	P			**Pn**	**19 55 12.9**	**+0.5**
MWZ				S			**Sn**	**19 56 26.1**	**-0.1**
URZ	**Urewera**	**6.64**	**220**	Pn			**Pn**	**19 55 13.6**	**-1.0**
	1.7nm,0.3s,baz=286,slow=4.9,SNR=10								
URZ				Sn			**Sn**	**19 56 29.8**	**-0.5**
	28nm,0.3s,baz=145,slow=22,SNR=23								
URZ	**Urewera**	**6.64**	**220**	P			**Pn**	**19 55 17.1**	**+2.6**
URZ				S			**Sn**	**19 56 29.5**	**-0.7**
RAGZ	**Rawiri**	**6.65**	**217**	S			**Sn**	**19 56 31.1**	**+0.3**
SNGZ	**Shannon Statio**	**6.91**	**216**	P			**Pn**	**19 55 19.3**	**+1.0**
SNGZ				S			**Sn**	**19 56 37.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**6.94**	**211**	P			**Pn**	**19 55 18.3**	**-0.4**
MHGZ				S			**Sn**	**19 56 36.2**	**-1.6**
RTZ	**Ruatahuna**	**6.97**	**219**	P			**Pn**	**19 55 19.8**	**+0.6**
RTZ				S			**Sn**	**19 56 38.5**	**0.0**
MUGZ	**Murupara**	**6.98**	**221**	P			**Pn**	**19 55 19.9**	**+0.6**
MUGZ				S			**Sn**	**19 56 37.1**	**-1.6**
MTHZ	**Maungataniwha**	**7.22**	**218**	P			**Pn**	**19 55 23.4**	**+0.9**
MTHZ				S			**Sn**	**19 56 45.1**	**+0.5**
BKZ	**Black Stump Fm**	**7.63**	**218**	Pn			**Pn**	**19 55 26.6**	**-1.6**
BKZ	**Black Stump Fm**	**7.63**	**218**	P			**Pn**	**19 55 29.5**	**+1.3**
BKZ				S			**Sn**	**19 56 53.1**	**-1.8**
OUZ	**Omahuta**	**7.66**	**253**	Pn			**Pn**	**19 55 27.7**	**-0.9**
KWHZ	**Kaweka Forest**	**7.86**	**217**	P			**Pn**	**19 55 31.8**	**+0.4**
KWHZ				S			**Sn**	**19 56 59.2**	**-1.3**
TMVZ	**Te Maari**	**8.02**	**222**	P			**Pn**	**19 55 36.0**	**+2.3**
TMVZ				S			**Sn**	**19 57 03.1**	**-1.4**
NTVZ	**North Tongarir**	**8.02**	**222**	P			**Pn**	**19 55 35.8**	**+2.1**
NTVZ				S			**Sn**	**19 57 02.9**	**-1.6**
BFZ	**Birch Farm**	**8.93**	**213**	Pn			**Pn**	**19 55 45.7**	**-0.3**
MSWZ	**Moikau Station**	**9.97**	**214**	Pn			**Pn**	**19 55 58.6**	**-1.6**
QRZ	**Quartz Range**	**10.97**	**224**	Pn			**Pn**	**19 56 15.1**	**+1.1**
THZ	**Tophouse**	**11.40**	**219**	Pn			**Pn**	**19 56 20.8**	**+0.9**
KHZ	**Kahutara**	**11.55**	**215**	Pn			**Pn**	**19 56 21.1**	**-0.8**
RPZ	**Rata Peaks**	**13.74**	**217**	Pn			**Pn**	**19 56 51.4**	**-0.4**
	0.9nm,0.3s,baz=15,slow=18,SNR=1.7								
RPZ				Sn			Sn	19 59 11.3	-13
	2.1nm,0.3s,baz=312,slow=23,SNR=12								
RPZ				LR			LR	20 02 17.6	
	comp=Z,76nm,21.9s,baz=32,slow=38								
RPZ	**Rata Peaks**	**13.74**	**217**				**Pn**	**19 56 50.8**	**-1.0**
FOZ	**Fox Glacier**	**14.27**	**221**	Pn			**Pn**	**19 56 58.6**	**-0.4**
ODZ	**Otahua Downs**	**14.91**	**215**	Pn			**Pn**	**19 57 06.7**	**-1.1**
DZM	**Mont Dzumac**	**18.10**	**304**	P			**P**	**19 57 49.3**	**+0.3**
	0.2nm,0.3s,baz=95,slow=12,SNR=5.3								
DZM				LR			LR	20 03 03.7	
	comp=Z,202nm,19.1s,baz=78,slow=31								
DZM	**Mont Dzumac**	**18.10**	**304**	*e*Pn			**P**	**19 57 49.2**	**+0.2**
	16nm,0.7s								
DZM				*e*LR			LR	20 01 36.4	
	comp=Z,217nm,29.4s								
DZM	**Mont Dzumac**	**18.10**	**304**	IAmb		IAmb		19 58 02.4	
	comp=Z,17nm,0.9s								
STKA	**Stephens Creek**	**34.38**	**261**	LR		LR		20 14 32.4	
	comp=Z,195nm,18.0s,baz=192,slow=37								
CTA	**Charters Tower**	**34.81**	**283**	P			**P**	**20 00 28.6**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=120,slow=10,SNR=9.8								
CTA				LR			LR	20 12 22.7	
	comp=Z,79nm,19.0s,baz=149,slow=32								
AS31	**Alice Springs**	**43.49**	**270**	P			**P**	**20 01 40.0**	**-0.7**
ASAR	**Alice Springs**	**43.49**	**270**	P			**P**	**20 01 40.1**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=110,slow=7.4,SNR=26								
ASAR				PcP			**PcP**	**20 03 28.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=115,slow=4.0,SNR=2.1								
ASAR				LR			LR	20 19 50.6	
	comp=Z,71nm,18.2s,baz=144,slow=36								
WR0	**Warramunga Arr**	**44.56**	**275**	P			**P**	**20 01 47.9**	**-1.4**
WR0				IAmb		IAmb		20 02 00.5	
	comp=Z,4.5nm,1.0s								
WB2	**Warramunga Arr**	**44.73**	**275**	P			**P**	**20 01 49.5**	**-1.1**
WB2				IAmb		IAmb		20 02 01.9	
	comp=Z,7.7nm,0.9s								
WRAB	**Tennant Creek**	**44.74**	**275**	P			**P**	**20 01 49.1**	**-1.6**
WRAB				IAmb		IAmb		20 01 50.2	
	comp=Z,6.8nm,0.8s								
WRA	**Warramunga Arr**	**44.74**	**275**	P			**P**	**20 01 49.5**	**-1.2**
	comp=Z,2.4nm,0.4s,baz=113,slow=7.9,SNR=67								
WRA				PcP			**PcP**	**20 03 33.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=124,slow=3.1,SNR=3.2								
WRA	**Warramunga Arr**	**44.74**	**275**	P			**P**	**20 01 47.5**	**-3.3**
WB0	**Warramunga Arr**	**44.78**	**275**	P			**P**	**20 01 49.6**	**-1.4**
WB0				IAmb		IAmb		20 02 02.1	
	comp=Z,8.4nm,0.9s								
KNRA	**Kununurra**	**51.44**	**276**	P			**P**	**20 02 42.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.87**	**272**	P			**P**	**20 02 53.2**	**0.0**
FITZ				IAmb		IAmb		20 03 19.8	
	comp=Z,3.1nm,1.1s								
BATI	**Baumata**	**58.52**	**279**	LR		LR		20 28 55.8	
	comp=Z,84nm,19.2s,baz=224,slow=36								
TOLI2	**Tolitoli**	**67.32**	**287**	P			**P**	**20 04 33.8**	**+1.4**
H03N1	**Juan Fernandez**	**78.71**	**123**	T			T	21 35 00.8	
	SNR=5.7								
KSRS	**Korea Array**	**86.85**	**319**	P			**P**	**20 06 22.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=132,slow=3.9,SNR=5.3								
MKAR	**Makanchi Array**	**119.97**	**309**	PKP			**PKPdf**	**20 12 27.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=128,slow=0.6,SNR=9.1								
MKAR	**Makanchi Array**	**119.97**	**309**				**PKPdf**	**20 12 27.1**	**-0.4**
ZALV	**Zalesovo Beam**	**120.49**	**317**	PKP			**PKPdf**	**20 12 27.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=115,slow=6.5,SNR=2.4								
ARCES	**ARCESS Array B**	**141.51**	**347**	PKhKP			PKPpre	20 13 01.4	
	comp=Z,4.6nm,0.9s,baz=14,slow=5.2,SNR=2.5								
KBZ	**Khabaz**	**147.05**	**300**	PKPbc			**PKPbc**	**20 13 20.7**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=140,slow=3.5,SNR=10.0								
FINES	**FINESS Array B**	**148.01**	**339**	PKPbc			**PKPbc**	**20 13 22.0**	**+0.1**
	comp=Z,9.3nm,0.8s,baz=48,slow=3.2,SNR=38								
NB2	**NORSAR Array B**	**151.68**	**351**	PKP			**PKPbc**	**20 13 31.3**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=15,slow=2.5								
NOA	**NORSAR Array B**	**151.68**	**351**	PKPbc			**PKPbc**	**20 13 31.1**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=14,slow=4.1,SNR=15								
DBIC	**Dimbokro**	**152.63**	**164**	PKPbc			**PKPbc**	**20 13 34.6**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=188,slow=1.5,SNR=4.5								
AKASG	**Malin Array Be**	**153.84**	**320**	PKPbc			**PKPbc**	**20 13 35.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=64,slow=2.2,SNR=2.2								
AKASG				PKPab			**PKPab**	**20 13 48.5**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=49,slow=3.7,SNR=5.8								
BRTR	**Keskin Array B**	**154.29**	**293**	PKPbc			**PKPbc**	**20 13 37.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=103,slow=5.3,SNR=7.0								
BRTR				PKPab			**PKPab**	**20 13 50.9**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=133,slow=4.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**159.93**	**178**	PKP			**PKPdf**	**20 13 37.1**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=250,slow=1.6,SNR=3.6								
GERES	**GERESS Array B**	**162.37**	**335**	PKPab			**PKPab**	**20 14 25.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=359,slow=5.3,SNR=4.3								

IDC 21 20:04:32.1±5.5, 7°.17S×123°.55E, h187km±61km, mb2.8/1, mb1 2.8/5, mb1mx2.5/36, mbtmp3.2/5, Error ellipse: s-maj=144.3km s-min=30.0km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.02**	**178**	P			Pn	20 05 21.6	+0.3
	2.8nm,0.3s,baz=126,slow=4.2,SNR=8.3								
BATI				S			Sn	20 05 55.8	-4.1
	7.9nm,0.3s,baz=316,slow=20,SNR=11								
FITZ	**Fitzroy Crossi**	**11.05**	**170**	P			Pn	20 07 03.8	-1.4
	0.1nm,0.3s,baz=0.0,slow=12,SNR=1.7								
FITZ				S			Sn	20 08 54.8	-13
	0.1nm,0.3s,baz=31,slow=12,SNR=2.8								
WRA	**Warramunga Arr**	**16.46**	**142**	P			Pn	20 08 13.0	+0.3
	0.1nm,0.3s,baz=316,slow=12,SNR=2.3								
WRA				S			S	20 11 08.6	-5.8
	baz=314,slow=18,SNR=2.1								
ASAR	**Alice Springs**	**19.18**	**150**	P			P	20 08 42.0	+0.2
	0.1nm,0.3s,baz=335,slow=15,SNR=5.2								
MKAR	**Makanchi Array**	**65.01**	**330**	P			P	20 14 52.1	-0.1
	0.3nm,0.8s,baz=139,slow=6.8,SNR=2.4								

WEL 21 20:06:05.1±1.0, 38°.5±8°×17°.6E±°, h142km±7km, M2.2/6, MLv2.2/6, Error ellipse: s-maj=0.0km s-min=0.0km az=155.5, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.50**	**133**		P		Pn	20 06 26.2	+0.7
MUGZ					S		Sn	20 06 41.9	+0.8
TLZ	**Tolley Road**	**0.64**	**252**		P		Pn	20 06 27.1	+0.8
TLZ					S		Sn	20 06 46.5	+4.0
URZ	**Urewera**	**0.64**	**101**		P		Pn	20 06 25.8	-0.5
URZ					S		Sn	20 06 43.6	+1.2
RTZ	**Ruatahuna**	**0.71**	**132**		P		Pn	20 06 27.4	+0.5
RTZ					S		Sn	20 06 44.8	+1.3
MTHZ	**Maungataniwha**	**0.83**	**150**		P		Pn	20 06 28.2	+0.5
MTHZ					S		Sn	20 06 45.6	+0.6
MWZ	**Matawai**	**0.98**	**102**		P		Pn	20 06 29.9	+1.0
MWZ					S		Sn	20 06 48.1	+1.0
SNGZ	**Shannon Statio**	**1.03**	**129**		P		Pn	20 06 30.4	+1.0
SNGZ					S		Sn	20 06 49.8	+1.9
TMVZ	**Te Maari**	**1.08**	**206**		P		Pn	20 06 30.0	0.0
TMVZ					S		Sn	20 06 49.1	+0.1
RUGZ	**Raukumara Rang**	**1.09**	**81**		P		Pn	20 06 30.3	+0.2
RUGZ					S		Sn	20 06 49.2	+0.1
ETVZ	**East Tongariro**	**1.10**	**205**		P		Pn	20 06 29.1	-1.0
ETVZ					S		Sn	20 06 49.3	+0.1
OTVZ	**Oturere**	**1.14**	**206**		P		Pn	20 06 30.6	0.0
HIZ	**Hauiti**	**1.20**	**251**		P		Pn	20 06 31.2	+0.3
KWHZ	**Kaweka Forest**	**1.29**	**176**		P		Pn	20 06 31.9	0.0
WNVZ	**Wahianoa**	**1.31**	**205**		P		Pn	20 06 31.8	-0.4
MCHZ	**McNeill Hill**	**1.34**	**167**		P		Pn	20 06 32.8	+0.5
MHGZ	**Mahia Peninsul**	**1.61**	**129**		P		Pn	20 06 35.8	+0.5
CKHZ	**Cape

AAK	**Ala-Archa**	**1.47**	**86**	⇑P		**Pn**	**20 43 39.2**	**-0.3**
	7.9nm,0.2s							
ARLS	**Aral**	**1.51**	**117**	⇓*iP*		**Pn**	**20 43 39.8**	**-0.3**
	baz=15							
ARLS				⇓*iS*		**Sn**	**20 43 59.5**	**-0.9**
	baz=15							
UCH	**Uchtor**	**1.52**	**102**	⇑P		**Pn**	**20 43 39.8**	**-0.6**
	2.0nm,0.1s,SNR=12							
UCH				⇓S		**Sb**	**20 44 01.2**	**+0.3**
	6.9nm,0.2s							
UCH	**Uchtor**	**1.52**	**102**	⇓*iP*		**Pn**	**20 43 40.0**	**-0.4**
	baz=0.0							
UCH				⇓*iS*		**Sn**	**20 44 00.0**	**-1.0**
	baz=0.0							
KK02	**Karatay Array**	**1.57**	**291**	⇓P		**Pb**	**20 43 41.0**	**-0.6**
	0.7nm,0.2s,baz=112,slow=16							
KK02				⇓S		**Sn**	**20 44 00.2**	**-1.4**
	5.5nm,0.3s,baz=116,slow=30							
FRU1	**Bishkek**	**1.58**	**80**	⇑*iP*		**Pn**	**20 43 41.1**	**+0.1**
	baz=77							
FRU1				⇑*iS*		**Sb**	**20 44 02.1**	**-0.3**
	baz=77							
CHMS	**Chumysh**	**1.71**	**74**	⇑P		**Pn**	**20 43 43.0**	**+0.4**
	5.2nm,0.1s,SNR=9.3							
CHMS	**Chumysh**	**1.71**	**74**	⇑*eP*		**Pn**	**20 43 43.3**	**+0.6**
	baz=73							
CHMS				⇑*iS*		**Sb**	**20 44 06.1**	**+0.2**
	baz=73							
SGDS	**Sogindy**	**1.80**	**59**	*eP*		**Pb**	**20 43 45.7**	**+0.2**
	3.7nm,0.1s							
SGDS				*eS*		**Sb**	**20 44 08.5**	**+0.1**
	13nm,0.1s							
KBK	**Karagaybulak**	**1.80**	**86**	⇑P		**Pb**	**20 43 45.3**	**-0.4**
	4.0nm,0.1s,SNR=14							
KBK				⇑S		**Sg**	**20 44 10.5**	**+0.7**
	10nm,0.2s							
KBK	**Karagaybulak**	**1.80**	**86**	⇑*iP*		**Pb**	**20 43 45.0**	**-0.7**
	baz=84							
KBK				⇑*iS*		**Sb**	**20 44 08.7**	**-0.1**
	baz=84							
IUG	**luzhnay**	**1.88**	**258**	*eP*		**Pg**	**20 43 48.9**	**+0.9**
	253nm,0.3s							
IUG				*eS*		**Sg**	**20 44 13.8**	**+1.4**
	24nm,0.4s							
IUG	**luzhnay**	**1.88**	**258**	Pg		**Pg**	**20 43 50.1**	**+2.2**
	253nm,0.3s							
IUG				Lg		Lg	20 44 16.9	
	24nm,0.4s							
TKM2	**Tokmak 2**	**2.30**	**80**	⇓P		**Pb**	**20 43 53.2**	**-1.1**
	3.7nm,0.3s							
TKM2	**Tokmak 2**	**2.30**	**80**	⇑*iP*		**Pn**	**20 43 52.2**	**+1.2**
	baz=79							
TKM2				⇑*iS*		**Sn**	**20 44 20.9**	**+0.9**
	baz=79							
TKM2	**Tokmak 2**	**2.30**	**80**	⇑Pn		**Pb**	**20 43 52.9**	**-1.4**
	2.4nm,0.4s							
TKM2				⇑Sn		**Sb**	**20 44 24.6**	**+1.4**
	3.4nm,0.3s							
DGS	**Degeres**	**2.49**	**73**	*eP*		**Pb**	**20 43 56.5**	**-1.0**
	2.1nm,0.2s							
DGS				*eS*		**Sb**	**20 44 27.1**	**-1.4**
	8.7nm,0.4s							
DGS	**Degeres**	**2.49**	**73**	Pg		**Pb**	**20 43 56.5**	**-1.0**
	2.1nm,0.2s							
DGS				Lg		Lg	20 44 27.7	
	8.7nm,0.4s							
KRBS	**Karabastau**	**2.58**	**63**	*eP*		**Pb**	**20 43 57.6**	**-1.3**
	1.9nm,0.1s							
KRBS				*eS*		**Sb**	**20 44 29.5**	**-1.6**
	7.4nm,0.5s							
KRBS	**Karabastau**	**2.58**	**63**	Pg		**Pb**	**20 43 57.6**	**-1.3**
	1.9nm,0.1s							
KRBS				Lg		Lg	20 44 29.5	
	7.4nm,0.5s							
KST	**Kastek**	**2.59**	**78**	*eP*		**Pb**	**20 43 59.5**	**+0.4**
	2.2nm,0.2s							
KST				*eS*		**Sb**	**20 44 32.7**	**+1.4**
	12nm,0.5s							
KST	**Kastek**	**2.59**	**78**	Pg		**Pb**	**20 43 59.5**	**+0.4**
	2.2nm,0.2s							
KST				Lg		Lg	20 44 32.7	
	12nm,0.5s							
BTLS	**Baital**	**2.73**	**24**	*eP*		**Pb**	**20 44 00.7**	**-0.6**
	0.6nm,0.4s							
BTLS				*eS*		**Sb**	**20 44 35.3**	**+0.2**
	8.4nm,0.2s							
BTLS	**Baital**	**2.73**	**24**	Pg		**Pn**	**20 43 56.2**	**-0.4**
	0.8nm,0.3s							
BTLS				Lg		Lg	20 44 27.5	
	8.4nm,0.2s							
MTBS	**Maitube**	**2.94**	**77**	*eP*		**Pg**	**20 44 07.2**	**-1.0**
	0.7nm,0.1s							
MTBS				*eS*		**Sg**	**20 44 45.6**	**-0.7**
	3.2nm,0.2s							
MTBS	**Maitube**	**2.94**	**77**	Pg		**Pg**	**20 44 07.2**	**-1.0**
	0.7nm,0.1s							
MTBS				Lg		Lg	20 44 45.6	
	3.2nm,0.2s							
KUU	**Kurty**	**3.10**	**63**	*eP*		**Pb**	**20 44 08.0**	**+0.2**
	1.0nm,0.3s							
KUU				*eS*		**Sb**	**20 44 46.8**	**+0.8**
	3.4nm,0.3s							
KUU	**Kurty**	**3.10**	**63**	Pg		**Pb**	**20 44 08.0**	**+0.2**
	1.0nm,0.3s							
KUU				Lg		Lg	20 44 46.8	
	3.4nm,0.3s							
KTBS	**Karatobe**	**3.27**	**68**	*eP*		**Pb**	**20 44 11.6**	**+1.0**
	0.8nm,0.4s							
KTBS				*eS*		**Sb**	**20 44 53.0**	**+2.2**
	4.1nm,0.4s							
KTBS	**Karatobe**	**3.27**	**68**	Pg		**Pb**	**20 44 11.5**	**+1.0**
	0.8nm,0.4s							
KTBS				Lg		Lg	20 44 53.0	
	4.1nm,0.4s							
TNSS	**Tian-Shan**	**3.30**	**80**	*eP*		**Pb**	**20 44 12.7**	**+1.3**
	1.0nm,0.3s							
TNSS				*eS*		**Sb**	**20 44 55.1**	**+3.0**
	1.5nm,0.5s							
TNSS	**Tian-Shan**	**3.30**	**80**	Pg		**Pb**	**20 44 12.7**	**+1.3**
	1.0nm,0.3s							
TNSS				Lg		Lg	20 44 55.1	
	1.5nm,0.5s							
MDOK	**Medeo**	**3.39**	**78**	*eP*		**Pb**	**20 44 14.1**	**+1.3**
	1.1nm,0.3s							
MDOK				*eS*		**Sb**	**20 44 57.4**	**+2.9**
	1.4nm,0.2s							
MDOK	**Medeo**	**3.39**	**78**	Pg		**Pg**	**20 44 16.2**	**-0.7**
	2.3nm,1.0s							
MDOK				⇑Lg		Lg	20 45 02.7	
	2.3nm,0.7s							
MDOK	**Medeo**	**3.39**	**78**	Pg		**Pb**	**20 44 14.1**	**+1.3**
	1.1nm,0.3s							
MDOK				Lg		Lg	20 44 57.4	
	1.4nm,0.2s							

*IDC **21** 20:54:38.4±9.1,6˚.22S×154˚.97E,h273km±98km,mb3.2/7, mb1 3.4/9,mb1mx3.2/36,mbtmp3.9/9,Error ellipse: s-maj=43.2km s-min=21.0km az=168.0*

ISC 21 20:54:36.1±1.0,6˚.1S±0˚.1×155˚.0E±0˚.2,h250km,n10, σ0s55/10,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.25**	**211**	P	**P**	**20 58 09.9**	**+0.1**
	0.3nm,0.3s,baz=34,slow=12,SNR=4.5						
DZM	**Mont Dzumac**	**19.33**	**146**	P	**P**	**20 58 43.3**	**+0.1**
	1.1nm,0.3s,baz=245,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**24.29**	**234**	P	**P**	**20 59 31.2**	**0.0**
	1.3nm,0.3s,baz=57,slow=9.9,SNR=46						
ASAR	**Alice Springs**	**26.73**	**227**	P	**P**	**20 59 52.5**	**-0.5**
	0.7nm,0.4s,baz=58,slow=9.3,SNR=15						
CMAR	**Chiang Mai Arr**	**60.40**	**295**	P	**P**	**21 04 20.3**	**+0.5**
	0.3nm,0.5s,baz=124,slow=4.8,SNR=2.3						
SONM	**Songino Array**	**68.61**	**327**	P	**P**	**21 05 12.5**	**+0.1**
	0.3nm,0.5s,baz=138,slow=5.0,SNR=5.8						
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**21 06 31.2**	**+0.2**
	0.4nm,0.8s,baz=234,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**82.75**	**319**	P	**P**	**21 06 32.6**	**+0.4**
	0.9nm,0.7s,baz=100,slow=5.5,SNR=14						
ZALV	**Zalesovo Beam**	**83.46**	**326**	P	**P**	**21 06 34.5**	**-1.1**
	0.6nm,0.5s,baz=106,slow=4.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**152.77**	**287**	PKPbc	**PKPbc**	**21 14 04.0**	**-0.4**
	0.4nm,0.8s,baz=100,slow=2.2,SNR=2.4						

WEL 21 21:13:28.9±0.6,32˚S±5˚×17˚8E±˚,h33km,M4.3/25,
mB4.8/18,ML5.1/33,MLv4.8/25,Mw(mB)4.1/18,Error ellipse: s-maj=0.0km s-min=0.0km az=113.6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.01**	**56**	P	Pn	21 14 25.8	-2.2
GLKZ				S	Sn	21 15 13.7	-0.2
HAZ	**Te Kaha**	**6.21**	**183**	P	Pn	21 14 59.2	+1.1
HAZ				S	Sn	21 16 11.9	+4.0
WMGZ	**Waiomatatini S**	**6.26**	**179**	P	Pn	21 15 00.9	+2.0
WMGZ				S	Sn	21 16 12.0	+2.7
PKGZ	**Pakihiroa**	**6.33**	**181**	P	Pn	21 15 01.0	+1.1
PKGZ				S	Sn	21 16 14.6	+3.5
RUGZ	**Raukumara Rang**	**6.42**	**184**	P	Pn	21 15 02.0	+0.7
PUZ	**Puketiti**	**6.51**	**180**	P	Pn	21 15 03.3	+0.9
PUZ				S	Sn	21 16 16.0	+0.5
TWGZ	**Tauwhareparae**	**6.62**	**182**	P	Pn	21 15 06.5	+2.7
URZ	**Urewera**	**6.76**	**188**	P	Pn	21 15 06.7	+0.9
MWZ	**Matawai**	**6.80**	**185**	P	Pn	21 15 07.1	+0.7
TKGZ	**Te Karaka**	**6.89**	**183**	P	Pn	21 15 07.4	-0.1
RAGZ	**Rawiri**	**6.97**	**185**	P	Pn	21 15 07.6	-1.1
MUGZ	**Murupara**	**7.02**	**190**	P	Pn	21 15 09.9	+0.6
RTZ	**Ruatahuna**	**7.13**	**188**	P	Pn	21 15 10.8	-0.2
RIGZ	**Rimuhau**	**7.16**	**183**	P	Pn	21 15 12.1	+0.9
RIGZ				S	Sn	21 16 31.1	-0.3
SNGZ	**Shannon Statio**	**7.26**	**186**	P	Pn	21 15 13.4	+0.8
SNGZ				S	Sn	21 16 34.2	+0.3
MTHZ	**Maungataniwha**	**7.38**	**189**	P	Pn	21 15 15.0	+0.7
MTHZ				S	Sn	21 16 36.7	-0.3
RAHZ	**Arahi**	**7.42**	**187**	P	Pn	21 15 14.5	-0.3
RAHZ				S	Sn	21 16 38.4	+0.6
KNZ	**Kokohu**	**7.47**	**183**	P	Pn	21 15 14.2	-1.4
KNZ				S	Sn	21 16 37.4	-1.7
MHGZ	**Mahia Peninsul**	**7.60**	**182**	P	Pn	21 15 16.0	-1.2
MHGZ				S	Sn	21 16 41.5	-0.6
NMHZ	**Naumai**	**7.63**	**189**	P	Pn	21 15 17.7	-0.1
NMHZ				S	Sn	21 16 45.2	+2.1
BKZ	**Black Stump Fm**	**7.74**	**190**	P	Pn	21 15 19.3	+0.1
BKZ				S	Sn	21 16 46.2	+0.5
NTVZ	**North Tongarir**	**7.83**	**195**	P	Pn	21 15 22.6	+2.1
TMVZ	**Te Maari**	**7.83**	**195**	P	Pn	21 15 22.5	+1.8
TMVZ				S	Sn	21 16 53.6	+5.4
ETVZ	**East Tongariro**	**7.85**	**195**	P	Pn	21 15 22.2	+1.3
WTVZ	**West Tongariro**	**7.86**	**195**	P	Pn	21 15 27.1	+6.1
NNVZ	**North Ngauruho**	**7.87**	**195**	P	Pn	21 15 24.9	+3.7
OTVZ	**Oturere**	**7.89**	**195**	P	Pn	21 15 22.4	+1.0
NGZ	**Ngauruhoe**	**7.92**	**195**	P	Pn	21 15 24.1	+2.4
MCHZ	**McNeill Hill**	**7.98**	**189**	P	Pn	21 15 22.4	-0.2
MCHZ				S	Sn	21 16 51.9	+0.2
FWVZ	**Far West T-bar**	**8.00**	**195**	P	Pn	21 15 24.0	+1.0
KWHZ	**Kaweka Forest**	**8.00**	**190**	P	Pn	21 15 21.2	-1.7
KWHZ				S	Sn	21 16 51.4	-0.8
WHVZ	**Whangaehu Hut**	**8.02**	**195**	P	Pn	21 15 24.2	+0.9
TRVZ	**Turoa**	**8.04**	**195**	P	Pn	21 15 24.6	+1.0
WNVZ	**Wahianoa**	**8.06**	**195**	P	Pn	21 15 24.5	+0.7
BHHZ	**Black Hill Sta**	**8.12**	**192**	P	Pn	21 15 23.2	-1.3
CKHZ	**Cape Kidnapper**	**8.15**	**186**	P	Pn	21 15 23.3	-1.5
KRHZ	**Kereru**	**8.22**	**190**	P	Pn	21 15 24.0	-1.9
KAHZ	**Kahuranaki**	**8.31**	**187**	P	Pn	21 15 24.5	-2.5
PNHZ	**Pukenui**	**8.52**	**191**	P	Pn	21 15 26.8	-3.1
PXZ	**Pawanui**	**8.54**	**187**	P	Pn	21 15 27.6	-2.5
PRHZ	**Porangahau**	**8.80**	**188**	P	Pn	21 15 29.7	-4.0
DVHZ	**Dannevirke**	**8.90**	**190**	P	Pn	21 15 31.6	-3.5
LTZ	**Lake Taylor**	**12.18**	**201**	S	Sn	21 18 23.4	-11

*IDC **21** 21:13:48.8±2.8,50˚.43N×160˚.23E,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.3/57,mbtmp3.3/5,ML2.4/1,Error ellipse: s-maj=74.2km s-min=30.9km az=14.0*

*KRSC **21** 21:13:51.5±1.5,50˚.80N×160˚.50E,h49km±29km,ML3.8*

ISC 21 21:13:55.3±1.2,50˚.76N±0˚.08×160˚.38E±0˚.07,h35km,n28, σ1s02/33,mb3.4/4,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.79**	**307**	*eP*	**Pn**	**21 14 22.8**	**-0.8**
KDTR				*eS*	**Sn**	**21 14 44.1**	**-0.9**
RUS	**Russkaya**	**2.04**	**326**	*eP*	**Pn**	**21 14 25.9**	**-1.2**
RUS				*eS*	**Sn**	**21 14 50.6**	**-0.7**
MTVR	**Mutnovka**	**2.20**	**322**	*eP*	**Pn**	**21 14 28.6**	**-0.9**
MTVR				*eS*	**Sn**	**21 14 54.9**	**-0.6**
GRL	**Gorelyy**	**2.30**	**322**	*eP*	**Pn**	**21 14 30.4**	**-0.4**
SPN	**Mys Shipunski**	**2.35**	**355**	*eS*	**Sn**	**21 14 57.1**	**-1.9**
DALK	**Dalny**	**2.49**	**337**	*eP*	**Pn**	**21 14 32.9**	**-0.3**
DALK				*eS*	**Sn**	**21 15 01.6**	**-0.7**
KRMR	**Karymshinskiy**	**2.50**	**327**	*eP*	**Pn**	**21 14 32.6**	**-0.8**
KRMR				*eS*	**Sn**	**21 15 02.5**	**-0.1**
PET	**Petropavlovsk**	**2.51**	**335**	*eP*	**Pn**	**21 14 33.0**	**-0.5**
PET				*eS*	**Sn**	**21 15 02.8**	**0.0**
AVH	**Avacha**	**2.71**	**339**	*eP*	**Pn**	**21 14 36.3**	**0.0**
AVH				*eS*	**Sn**	**21 15 08.8**	**+1.0**
SKR	**Severo-Kuril's**	**2.71**	**270**	*eP*	**Pn**	**21 14 34.8**	**-1.5**
MIPR	**Malaya Ipel'ka**	**2.72**	**305**	*eP*	**Pn**	**21 14 36.5**	**0.0**
KOK	**Koryaka**	**2.75**	**338**	*eP*	**Pn**	**21 14 37.0**	**0.0**
PETK	**Petropavlovsk-**	**2.88**	**326**	Pn	**Pn**	**21 14 38.0**	**-0.6**
	2.2nm,0.3s,baz=131,slow=18,SNR=30						
PETK				Sn	**Sn**	**21 15 13.0**	**+1.1**
	3.9nm,0.3s,baz=131,slow=18,SNR=3.1						
APC	**Apacha**	**2.95**	**319**	*eP*	**Pn**	**21 14 40.7**	**+1.2**
APC				*eS*	**Sn**	**21 15 16.3**	**+2.7**
GNL	**Ganaly**	**3.30**	**334**	*eP*	**Pn**	**21 14 44.9**	**+0.4**
TUMD	**Tumrok D**	**4.45**	**0**	*eP*	**Pn**	**21 14 59.6**	**-0.6**
TUMD				*eS*	**Sn**	**21 15 48.7**	**-2.1**
TUMR	**Tumrok**	**4.53**	**358**	*eP*	**Pn**	**21 15 01.7**	**+0.3**
TUMR				*eS*	**Sn**	**21 15 52.8**	**-0.1**
KBTR	**Krutoberegovo**	**5.65**	**14**	*eP*	**Pn**	**21 15 15.5**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**31.39**	**168**	T	T	21 53 05.0	
	baz=352,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**31.41**	**168**	T	T	21 53 09.7	
	baz=352,slow=76,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**31.41**	**168**	T	T	21 53 08.8	
	baz=352,slow=76,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**32.57**	**169**	T	T	21 54 38.1	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**32.58**	**169**	T	T	21 54 40.3	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**32.59**	**169**	T	T	21 54 44.7	
	baz=352						
YKA	**Yellowknife Ar**	**44.79**	**41**	P	**P**	**21 22 05.6**	**+0.6**
	0.1nm,0.3s,baz=290,slow=7.7,SNR=2.1						
MKAR	**Makanchi Array**	**49.36**	**298**	P	**P**	**21 22 40.1**	**-0.8**
	0.3nm,0.9s,baz=56,slow=6.8,SNR=2.7						
PDAR	**Pinedale Array**	**58.53**	**60**	P	**P**	**21 23 49.4**	**+1.2**
	0.4nm,0.8s,baz=311,slow=10,SNR=2.7						
TXAR	**Lajitas Array**	**71.40**	**66**	P	**P**	**21 25 12.2**	**+0.3**
	0.2nm,0.4s,baz=308,slow=5.5,SNR=4.1						

*IDC **21** 21:18:26.5±1.2,13˚.01N×144˚.77E,h52km±9km,mb3.5/10, mb1 3.7/10,mb1mx3.5/49,mbtmp3.7/10,MS3.1/4, Ms1 3.1/4,ms1mx2.7/43,Error ellipse: s-maj=32.8km s-min=16.4km az=103.0*

*NEIC **21** 21:18:27.7±1.0,12˚.96N±0˚.05×144˚.8E±0˚.2,h50km±8km, mb4.3/26,Error ellipse: s-maj=22.9km s-min=3.9km az=104.0*

ISC 21 21:18:27.5±0.9,13˚.0N±0˚.1×144˚.8E±0˚.2,h57km,n53, σ1s28/45,mb4.2/23,MS2.9/4,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.61**	**2**	P	**Pn**	**21 18 40.2**	**-0.3**
	1μm,0.3s,baz=155,slow=19,SNR=356						
GUMO				S	**Sn**	**21 18 49.8**	**-0.1**
	828nm,0.3s,baz=165,slow=23,SNR=11						
JHJ	**Hachijo jima 2**	**20.58**	**348**	LR	LR	21 29 54.0	
	comp=Z,56nm,18.4s,baz=74,slow=34						
JOW	**Kunigami**	**20.77**	**314**	LR	LR	21 29 16.4	
	comp=Z,50nm,21.7s,baz=150,slow=31						
H11S3	**WAKE ISLAND Hy**	**21.72**	**73**	T	T	21 45 53.0	
	baz=259,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**21.74**	**73**	T	T	21 45 56.4	
	baz=259,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**21.74**	**73**	T	T	21 45 52.5	
	baz=259,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**22.18**	**70**	T	T	21 46 24.7	
	baz=256,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**22.19**	**69**	T	T	21 46 30.3	
	baz=256,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**22.20**	**70**	T	T	21 46 14.4	
	baz=256,slow=75,SNR=13						
MJAR	**Matsushiro Arr**	**24.21**	**347**	P	**P**	**21 23 38.6**	**-0.2**
	1.9nm,0.8s,baz=46,slow=2.9,SNR=5.4						
MJAR				LR	LR	21 31 57.6	
	comp=Z,31nm,19.1s,baz=164,slow=34						
YULB	**Yu-li**	**24.62**	**298**	P	**P**	**21 23 48.1**	**+5.4**
KSAR	**Wonju Array Be**	**28.70**	**331**	P	**P**	**21 24 19.3**	**+0.2**
WB0	**Warramunga Arr**	**34.12**	**198**	P	**P**	**21 25 07.3**	**+0.3**
WB0				IAmb	IAmb	21 25 33.1	
	comp=Z,6.6nm,1.5s						
WR0	**Warramunga Arr**	**34.26**	**197**	P	**P**	**21 25 08.4**	**+0.2**
WR0				IAmb	IAmb	21 25 33.0	
	comp=Z,6.1nm,1.4s						
WB2	**Warramunga Arr**	**34.30**	**198**	P	**P**	**21 25 08.3**	**-0.3**
WB2				IAmb	IAmb	21 25 09.1	
	comp=Z,5.1nm,1.4s						
WRA	**Warramunga Arr**	**34.30**	**198**	P	**P**	**21 25 08.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=21,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**34.30**	**198**	P	**P**	**21 25 08.2**	**-0.5**
ASAR	**Alice Springs**	**37.95**	**196**	P	**P**	**21 25 39.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=24,slow=10,SNR=5.7						
CMAR	**Chiang Mai Arr**	**44.43**	**283**	P	**P**	**21 26 32.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=76,slow=7.5,SNR=1.5						
SONM	**Songino Array**	**47.22**	**325**	P	**P**	**21 26 52.4**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=132,slow=6.0,SNR=1.5						
YAK	**Yakutsk**	**50.19**	**351**	LR	LR	21 47 51.2	
	comp=Z,41nm,19.2s,baz=258,slow=35						
MK31	**Makanchi Array**	**61.91**	**316**	P	**P**	**21 28 41.4**	**+0.2**
MKAR	**Makanchi Array**	**61.91**	**316**	P	**P**	**21 28 40.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=92,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**61.91**	**316**	P	**P**	**21 28 39.9**	**-1.3**
MAKZ	**Makanchi**	**61.93**	**316**	P	**P**	**21 28 43.4**	**+0.7**
TTA	**Tatalina**	**64.72**	**26**	P	**P**	**21 28 60.0**	**+0.4**
TTA				IAmb	IAmb	21 29 19.1	
	comp=Z,7.8nm,1.4s						
L19K	**White Mountain**	**64.94**	**27**	P	**P**	**21 29 02.6**	**+1.7**
L19K				IAmb	IAmb	21 29 11.0	
	comp=Z,6.7nm,1.3s						
KURK	**Kurchatov**	**65.04**	**320**	P	**P**	**21 29 01.9**	**+0.2**
J20K	**Nowinta River**	**65.96**	**25**	P	**P**	**21 29 09.3**	**+1.9**
J20K				IAmb	IAmb	21 29 18.9	
	comp=Z,2.7nm,1.2s						
PPLA	**Purkeypile**	**66.35**	**26**	P	**P**	**21 29 11.2**	**+1.0**
PWL	**Port Wells**	**67.52**	**29**	P	**P**	**21 29 18.0**	**+0.5**
MDM	**Murphy Dome**	**68.63**	**25**	P	**P**	**21 29 26.1**	**+1.8**
MDM				IAmb	IAmb	21 29 52.3	
	comp=Z,4.2nm,1.4s						
IL31		**69.13**	**25**	P	**P**	**21 29 27.1**	**-0.4**
IL31				IAmb	IAmb	21 29 53.7	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**69.13**	**25**	P	**P**	**21 29 26.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=248,slow=6.2,SNR=17						
ILAR	**Eielson Array**	**69.13**	**25**	P	**P**	**21 29 26.4**	**-1.1**
VRDI	**Verde Repeater**	**69.92**	**29**	P	**P**	**21 29 33.6**	**+1.0**
VRDI				IAmb	IAmb	21 29 52.8	
	comp=Z,8.5nm,1.2s						
GAR	**Garm**	**69.97**	**307**	P	**P**	**21 29 32.4**	**-1.0**
GAR				IAmb	IAmb	21 29 44.0	
	comp=Z,5.6nm,1.5s						
MCARA	**McCarthy VSAT**	**70.15**	**29**	P	**P**	**21 29 34.5**	**+0.7**
L26K	**Log Cabin Wild**	**70.29**	**27**	P	**P**	**21 29 35.9**	**+1.2**
L26K				IAmb	IAmb	21 29 36.1	
	comp=Z,2.3nm,0.7s						
ISLE	**Juniper Island**	**70.36**	**30**	P	**P**	**21 29 35.9**	**+0.6**
GRNC	**Granite Creek**	**70.67**	**30**	P	**P**	**21 29 37.8**	**+0.5**
BMAR	**Burnt Mountain**	**70.68**	**23**	P	**P**	**21 29 38.0**	**+1.0**
BARN	**Barnard Glacie**	**70.76**	**30**	P	**P**	**21 29 38.9**	**+1.1**
BARN				IAmb	IAmb	21 30 03.0	
	comp=Z,5.5nm,1.2s						
M27K	**Edge Creek, AK**	**70.84**	**28**	P	**P**	**21 29 39.5**	**+1.2**
M27K				IAmb	IAmb	21 29 53.4	
	comp=Z,5.6nm,1.3s						
BCAR	**Beaver Creek A**	**71.00**	**27**	P	**P**	**21 29 40.1**	**+1.1**
M30M	**Minto, Yukon**	**73.22**	**28**	P	**P**	**21 29 53.8**	**+1.5**
M31M	**Drury Creek, Y**	**74.31**	**29**	P	**P**	**21 29 59.8**	**+1.1**
ABKAR	**Akbulak array**	**76.98**	**318**	P	**P**	**21 30 14.5**	**+0.4**
YKA	**Yellowknife Ar**	**83.42**	**27**	P	**P**	**21 30 48.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=288,slow=5.3,SNR=10.0						
YKA	**Yellowknife Ar**	**83.42**	**27**	P	**P**	**21 30 49.0**	**+0.5**
RES	**Resolute Bay**	**85.15**	**13**	P	**P**	**21 30 57.0**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=347,slow=3.3,SNR=7.6						
RES	**Resolute Bay**	**85.15**	**13**	P	**P**	**21 30 57.7**	**+0.6**
RES				IAmb	IAmb	21 31 08.9	
	comp=Z,2.9nm,1.4s					

KMI pP pP 21 34 34.0 -6.9
KMI pmax pmax
comp=Z,7.0nm,0.8s
TOLI2 Tolitoli 22.93 94 P **P** **21 34 26.6 -0.5**
TOLI2 Tolitoli 22.93 94 P **P** **21 34 26.6 -0.5**
PLAI Plampang 23.07 121 P **P** **21 34 27.7 -0.8**
SHL Shillong 23.07 346 P **P** **21 34 27.7 -0.8**
KAPI Kappang 23.25 110 P **P** **21 34 30.7 +0.6**
comp=Z,6.2nm,0.3s,baz=344,slow=6.1,SNR=5.4
KAPI LR LR 21 45 35.6
comp=Z,40nm,18.6s,baz=248,slow=42
PZH PanZhiHua 23.55 9 P **P** **21 34 34.8 +1.9**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.7s
BKSI Bulukumba 23.70 111 P **P** **21 34 35.7 +1.5**
comp=Z,574nmcomp=Z,78nm,0.7s
HYBB Hyderabad (bro 23.74 308 *eP* **P** **21 34 35.8 +1.2**
TEZP TEZPUR 23.89 349 *eP* **P** **21 34 34.5 -1.2**
ITAN ITANAGAR 24.24 351 *eP* **P** **21 34 38.1 -0.8**
TAPN Taplejung 26.01 339 *eP* **P** **21 34 55.0 -0.4**
comp=Z,5.8nm,0.4s
PKI Pulchoki 27.11 335 *eP* **P** **21 35 04.1 -1.2**
comp=Z,5.9nm,0.6s
GUN Gumba 27.21 336 *eP* **P** **21 35 05.6 -0.6**
comp=Z,12nm,0.3s
GKN Gorkha 27.82 334 *eP* **P** **21 35 10.9 -0.5**
comp=Z,5.6nm,0.2s
DAV Davao City (W) 27.82 81 LR LR 21 46 24.6
comp=Z,34nm,21.7s,baz=117,slow=37
KOLN Koldanda 28.08 332 *eP* **P** **21 35 13.5 -0.3**
PYUN Piuthan 28.65 332 *eP* **P** **21 35 19.5 +0.7**
comp=Z,6.1nm,0.2s
YULB Yu-li 30.30 46 P **P** **21 35 34.2 +0.9**
YULB IAmb IAmb 21 35 49.7
comp=Z,29nm,1.3s
XAN Xi'an 32.44 17 ⇑P **P** **21 35 50.6 -1.4**
XAN pP pP 21 36 13.3 -1.0
XAN sP sP 21 36 24.3 -1.4
XAN pmax pmax
comp=Z,11nm,0.5s
SMLA Simla 34.06 327 *eP* **P** **21 36 05.8 -0.3**
NJ2 Nanjing 34.88 32 *eP* **P** **21 36 15.6 +2.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
SAUI Saumlaki 35.07 108 P **P** **21 36 17.1 +2.1**
GTA Gaotai 36.18 2 *eP* **P** **21 36 22.9 -1.4**
GTA pP pP 21 36 46.4 -0.7
GTA sP sP 21 36 59.9 +1.3
GTA PcP **PcP** **21 38 49.3 +1.4**
GTA ScP **ScP** **21 42 26.3 +0.8**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,57nm,4.7s
GTA LR LR
comp=N,60nm,14.2s
GTA LR LR
comp=E,64nm,15.3s
GTA LR LR
comp=Z,61nm,15.6s
MUN Mundaring 38.98 155 P **P** **21 36 49.8 +1.9**
KLBR Kellerberin 39.33 153 P **P** **21 36 52.1 +1.3**
HHC Hu-ho-hao-te 39.54 16 *eP* **P** **21 36 53.6 +1.0**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.4s
BJI Beijing 40.31 22 P **P** **21 36 59.1 +0.3**
BJI pmax pmax
comp=Z,12nm,0.5s
KBL Kabul 41.22 323 P **P** **21 37 07.0 +0.3**
KBL IAmb IAmb 21 37 08.7
comp=Z,8.1nm,1.0s
KSH Kashi 41.36 334 P **P** **21 37 05.3 -2.3**
KSH pmax pmax
comp=Z,5.0nm,0.4s
WMQ Urumqi 41.55 349 *eP* **P** **21 37 10.1 +1.1**
WMQ pmax pmax
comp=Z,13nm,0.9s
WB0 Warramunga Arr 42.42 124 P **P** **21 37 15.6 -0.9**
WRA Warramunga Arr 42.46 124 P **P** **21 37 15.8 -0.9**
comp=Z,2.3nm,0.6s,baz=301,slow=9.2,SNR=39
WRA PcP **PcP** **21 39 08.1 0.0**
comp=Z,0.2nm,0.5s,baz=313,slow=2.4,SNR=1.5
WRA ScP **ScP** **21 42 50.2 +0.1**
comp=Z,1.4nm,1.1s,baz=311,slow=2.9,SNR=5.9
WRA S **S** **21 43 25.7 -6.0**
comp=Z,2.0nm,0.9s,baz=294,slow=16,SNR=10
WRA Warramunga Ar 42.46 124 P **P** **21 37 15.8 -0.9**
WRAB Tennant Creek 42.47 124 P **P** **21 37 16.4 -0.4**
WB2 Warramunga Arr 42.47 124 P **P** **21 37 16.1 -0.7**
WB2 IAmb IAmb 21 37 41.9
comp=Z,8.4nm,1.3s
WR0 Warramunga Arr 42.64 124 P **P** **21 37 17.6 -0.5**
WR0 IAmb IAmb 21 37 20.0
comp=Z,3.6nm,0.7s
KDJ Kajisay 43.06 337 P **P** **21 37 21.1 -0.4**
KDJ IAmb IAmb 21 37 22.8
comp=Z,6.9nm,0.8s
MSEY Mahe Island 43.10 260 P **P** **21 37 22.6 +0.5**
MSEY IAmb IAmb 21 37 25.9
comp=Z,11nm,1.2s
DRK Karamyk 43.28 330 P **P** **21 37 23.5 +0.1**
GAR Garm 43.68 328 P **P** **21 37 25.8 -0.6**
GAR IAmb IAmb 21 37 28.2
comp=Z,6.8nm,0.5s
BOOM Boomskoye usch 43.85 336 P **P** **21 37 27.2 -0.7**
KSRS Korea Array 43.88 35 P **P** **21 37 26.4 -1.5**
comp=Z,2.8nm,0.6s,baz=222,slow=9.3,SNR=9.6
KSRS LR LR 21 55 50.7
comp=Z,16nm,19.3s,baz=210,slow=36
ASAR Alice Springs 44.00 129 P **P** **21 37 28.2 -0.8**
comp=Z,0.7nm,0.4s,baz=298,slow=8.0,SNR=12
ASAR ScP **ScP** **21 42 56.2 -0.1**
comp=Z,0.9nm,0.8s,baz=316,slow=4.2,SNR=8.5
ASAR S **S** **21 43 50.1 -4.0**
comp=Z,0.4nm,0.7s,baz=316,slow=16,SNR=3.8
ASAR Alice Springs 44.00 129 P **P** **21 37 27.9 -1.2**
AS31 Alice Springs 44.00 129 P **P** **21 37 29.5 +0.4**
CHGR Chuyangaron 44.04 327 P **P** **21 37 28.0 -1.3**
CHGR IAmb IAmb 21 37 28.9
comp=Z,24nm,1.3s
BTK Batken 44.21 330 P **P** **21 37 31.2 +0.6**
BTK IAmb IAmb 21 37 33.1
comp=Z,4.4nm,0.6s
UCH Uchtor 44.22 335 P **P** **21 37 30.9 -0.2**
SNR=8.4
FORT Forrest 44.29 142 P **P** **21 37 30.9 -0.3**
FORT IAmb IAmb 21 37 52.8
comp=Z,12nm,0.8s
FORT Forrest 44.29 142 P **P** **21 37 31.5 +0.3**
KBK Karagaybulak 44.40 336 P **P** **21 37 32.1 0.0**
SNR=7.7
AML Almayashu 44.49 334 P **P** **21 37 32.9 -0.3**
SNR=8.0
AAK Ala-Archa 44.57 335 P **P** **21 37 33.1 -0.4**
EKS2 Erkin-Say 44.89 335 P **P** **21 37 35.8 -0.2**
SNR=5.3
USP Ospenovka 45.09 336 P **P** **21 37 36.8 -0.7**
SNR=12
SONM Songino Array 45.16 8 P **P** **21 37 36.6 -1.4**
comp=Z,2.9nm,0.4s,baz=190,slow=9.6,SNR=32
SONM PcP **PcP** **21 39 17.3 +0.5**
comp=Z,2.6nm,0.4s,baz=200,slow=4.0,SNR=17
SONM ScP **ScP** **21 43 00.5 -0.2**
comp=Z,0.9nm,0.8s,baz=197,slow=4.3,SNR=4.9
SONM Songino Array 45.16 8 P **P** **21 37 37.5 -0.5**
ULN Ulaanbaatar 45.28 9 P **P** **21 37 38.7 -0.3**
JHS Saijyo 45.52 42 P **P** **21 37 40.9 -0.1**
JHS IAmb IAmb 21 37 41.5
comp=Z,15nm,1.0s
MK31 Makanchi Array 45.59 345 P **P** **21 37 40.4 -0.9**
MK31 IAmb IAmb 21 37 42.0
comp=Z,4.7nm,0.7s
MKAR Makanchi Array 45.59 345 P **P** **21 37 40.2 -1.2**
comp=Z,5.3nm,0.4s,baz=158,slow=8.6,SNR=142
MKAR PcP **PcP** **21 39 18.8 +0.6**
comp=Z,0.6nm,0.4s,baz=159,slow=3.3,SNR=2.2
MKAR Makanchi Array 45.59 345 P **P** **21 37 40.4 -0.9**
MAKZ Makanchi 45.68 345 P **P** **21 37 40.9 -1.2**
MAKZ IAmb IAmb 21 37 42.2
comp=Z,6.6nm,0.4s
KKAR Karatay Array 46.70 332 P **P** **21 37 49.2 -0.9**

QIS Mount Isa 47.15 122 P **P** **21 37 54.4 +0.4**
OOD Oodnadatta 47.60 133 P **P** **21 37 57.2 -0.1**
MULG Mulgathing 47.89 137 P **P** **21 37 59.6 +0.1**
COEN Coen 47.97 112 P **P** **21 38 00.0 -0.3**
COEN IAmb IAmb 21 38 25.1
comp=Z,10nm,1.2s
COEN Coen 47.97 112 P **P** **21 38 01.2 +0.9**
BNX BinXian 49.67 27 ⇑P **P** **21 38 12.0 -0.9**
BNX pmax pmax
comp=Z,9.0nm,0.5s
BNX pmax pmax
comp=Z,270nm,4.9s
MJAR Matsushiro Arr 49.81 43 P **P** **21 38 13.2 -1.0**
comp=Z,0.6nm,0.4s,baz=204,slow=6.4,SNR=4.8
KURK Kurchatov 50.16 344 P **P** **21 38 15.5 -1.0**
KURK IAmb IAmb 21 38 17.5
comp=Z,6.5nm,0.9s
GEYT Alibeck 50.24 319 P **P** **21 38 17.1 -0.3**
comp=Z,8.7nm,0.6s,baz=128,slow=9.6,SNR=19
GEYT Alibeck 50.24 319 P **P** **21 38 18.6 +1.2**
GEYT IAmb IAmb 21 38 19.1
comp=Z,9.2nm,0.7s
GYA0B ALIBECK ARRAY 50.24 319 P **P** **21 38 18.8 +1.3**
BBOO Buckleboo 50.77 138 P **P** **21 38 20.9 -0.6**
BBOO IAmb IAmb 21 38 36.0
comp=Z,7.6nm,1.0s
BBOO Buckleboo 50.77 138 P **P** **21 38 21.1 -0.3**
USRK Ussuriysk Ar. 50.78 31 P **P** **21 38 20.4 -0.8**
comp=Z,2.5nm,0.8s,baz=220,slow=6.6,SNR=4.3
ZAA0 Zalesovo Array 51.81 350 P **P** **21 38 27.9 -0.9**
ZALV Zalesovo Beam 51.81 350 P **P** **21 38 27.7 -1.1**
comp=Z,13nm,0.4s,baz=171,slow=6.7,SNR=91
ZALV PcP **PcP** **21 39 39.0 -1.5**
comp=Z,1.6nm,0.5s,baz=158,slow=3.7,SNR=1.4
ZALV Zalesovo Beam 51.81 350 P **P** **21 38 27.9 -0.9**
STKA Stephens Creek 54.11 134 P **P** **21 38 46.0 -0.2**
comp=Z,2.4nm,0.6s,baz=318,slow=11,SNR=6.4
STKA Stephens Creek 54.11 134 P **P** **21 38 46.1 0.0**
BRVK Borovoye 54.77 340 P **P** **21 38 49.5 -1.0**
BRVK IAmb IAmb 21 38 50.3
comp=Z,8.1nm,0.7s
VOI Vohitsoka 55.80 241 P **P** **21 39 00.2 +1.5**
VOI IAmb IAmb 21 39 15.0
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 56.20 331 P **P** **21 39 00.1 -0.7**
EIDS Eidsvold 58.75 122 P **P** **21 39 22.2 +3.0**
EIDS IAmb IAmb 21 39 29.1
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 60.79 267 P **P** **21 39 34.2 +0.6**
comp=Z,0.8nm,0.4s,baz=57,slow=13,SNR=3.6
GEVA Gevas 60.97 313 P **P** **21 39 35.0 +0.7**
GEVA IAmb IAmb 21 39 37.4
comp=Z,2.4nm,0.6s
ARU Arti 61.73 336 P **P** **21 39 38.0 -0.9**
MARD Mardin 62.33 311 P **P** **21 39 44.1 +0.7**
MARD IAmb IAmb 21 39 45.7
comp=Z,11nm,0.7s
KBZ Khabaz 63.13 318 P **P** **21 39 48.0 -0.4**
comp=Z,5.7nm,0.8s,baz=114,slow=6.7,SNR=14
NRIK Noril'sk 66.49 356 P **P** **21 40 08.3 -1.5**
comp=Z,2.0nm,0.4s,baz=166,slow=7.8,SNR=4.7
NRIK Noril'sk 66.49 356 P **P** **21 40 08.7 -1.1**
NRIK IAmb IAmb 21 40 09.4
comp=Z,3.9nm,0.7s
BNN Bunyan 66.50 311 P **P** **21 40 11.8 +1.1**
BR131 Keskin Array S 68.38 312 P **P** **21 40 22.4 -0.1**
BR131 IAmb IAmb 21 40 24.4
comp=Z,7.2nm,0.8s
BRTR Keskin Array B 68.38 312 P **P** **21 40 22.1 -0.5**
comp=Z,3.8nm,0.7s,baz=131,slow=6.7,SNR=21
BRTR Keskin Array B 68.38 312 P **P** **21 40 22.3 -0.2**
BZK Bozkurt 68.70 314 P **P** **21 40 24.2 0.0**
MDUB Mudurnu 70.38 312 P **P** **21 40 34.5 -0.3**
ELL Elmali 70.59 308 P **P** **21 40 36.1 -0.1**
KLMR Klimovskoe 72.36 334 *eP* **P** **21 40 44.2 -1.9**
KLMR AMP 21 40 46.0
comp=Z,8.0nm,0.8s
KARP Karpathos 72.57 306 P **P** **21 40 49.0 +1.0**
TIRR Tirgusor 73.27 316 ⇑P **P** **21 40 51.3 -0.5**
MILM Milestii Mici 73.55 318 ⇑P **P** **21 40 53.3 -0.1**
VLDR Vladesti 73.80 317 ⇑P **P** **21 40 54.9 0.0**
SORM Soroca 74.13 319 ⇑P **P** **21 40 56.6 -0.2**
AKASG Malin Array Be 74.20 322 P **P** **21 40 56.2 -0.9**
comp=Z,2.0nm,0.3s,baz=88,slow=4.8,SNR=14
AKASG Malin Array Be 74.20 322 P **P** **21 40 56.6 -0.5**
AKBB Malin Array Si 74.20 322 P **P** **21 40 56.5 -0.7**
AKBB IAmb IAmb 21 40 57.5
comp=Z,5.4nm,0.7s
IDI Anoyia 74.37 306 P **P** **21 40 58.7 +0.2**
IDI IAmb IAmb 21 41 15.3
comp=Z,13nm,1.2s
BISRR Bisoca 74.68 316 ⇓P **P** **21 41 00.1 0.0**
MAW Mawson 74.72 193 P **P** **21 41 00.7 +0.9**
VRI Vrincioaia 74.73 317 ⇑P **P** **21 41 01.2 +0.8**
PLOR Plostina 74.78 317 ⇑P **P** **21 41 01.4 +0.8**
TESR Tescani 74.91 317 ⇑P **P** **21 41 01.7 +0.3**
MLR Muntele Rosu 75.19 316 ⇑P **P** **21 41 04.2 +1.0**
LBTB Lobatse 75.38 243 P **P** **21 41 06.1 +1.5**
LBTB IAmb IAmb 21 41 07.1
comp=Z,11nm,0.9s
COPA Copaceanca 75.46 315 ⇓P **P** **21 41 04.9 +0.4**
HUMR Humele 75.69 315 ⇑P **P** **21 41 05.9 0.0**
VOIR 75.80 316 ⇑P **P** **21 41 06.7 +0.1**
MNK Minsk 75.96 326 *i* P P 21 41 03.0 -4.2
comp=E,1.0nm,0.7s
MNK *i* P P 21 41 03.0 -4.2
comp=N,2.0nm,0.7s
MNK *i* P P 21 41 03.0 -4.2
comp=Z,9.0nm,0.8s,baz=104
MNK *i* pP pP 21 41 27.8 -5.2
MNK *i* sP sP 21 41 39.5 -4.4
MNK *i* PP **PP** **21 43 54.5 -4.3**
MNK *i* PPP PPP 21 45 41.7
MNK *i* S **S** **21 50 38.4 -3.7**
MNK *i* sS sS 21 51 23.0 -3.6
MNK *i* SS **SS** **21 55 33.6 -3.1**
MNK *i* SSS SSS 21 58 57.7
MNK *i* LQ LQ 22 07 56.9
MNK *i* LR LR 22 09 40.6
MNK *i* LRM MLR 22 14 28.4
comp=E,14nm,19.3s
MNK *i* LRM MLR 22 14 30.4
comp=N,107nm,19.3s
MNK *i* LRM MLR 22 14 36.2
comp=Z,132nm,19.3s
ARR Arges 76.08 316 ⇑P **P** **21 41 07.9 -0.2**
BURAR Bucovina Array 76.08 318 ⇑P **P** **21 41 09.2 +1.0**
BURAR Bucovina Array 76.08 318 P **P** **21 41 09.2 +1.0**
BURAR IAmb IAmb 21 41 10.8
comp=Z,7.0nm,0.7s
BUR08 Bucovina Ar. S 76.10 318 P **P** **21 41 09.4 +1.1**
BUR08 IAmb IAmb 21 41 11.1
comp=Z,5.5nm,0.8s
BOSA Boshof 76.35 240 P **P** **21 41 11.5 +1.3**
comp=Z,3.8nm,0.5s,baz=81,slow=4.3,SNR=13
BOSA Boshof 76.35 240 P **P** **21 41 11.4 +1.3**
BOSA IAmb IAmb 21 41 38.4
comp=Z,25nm,1.4s
VTS Vitosha 76.65 313 ⇓P **P** **21 41 10.9 -0.6**
VTS Vitosha 76.65 313 P **P** **21 41 11.6 0.0**
VTS IAmb IAmb 21 41 13.9
comp=Z,4.9nm,1.1s
IDID Didziasalis 76.80 326 *eP* **P** **21 41 12.6 +0.7**
AGG Agios Georgios 76.86 309 P **P** **21 41 11.7 -1.0**
AGG IAmb IAmb 21 41 39.0
comp=Z,20nm,1.5s
IIGN Ignalina 77.10 326 *eP* **P** **21 41 14.4 +0.8**
BMR Baia Mare 77.24 318 ⇑P **P** **21 41 14.6 +0.1**
LVZ Lovozero 77.30 340 P **P** **21 41 14.0 -0.6**
HERR Herculane 77.55 315 ⇑P **P** **21 41 17.1 +0.8**
VSU Vasula 77.58 329 *eP* **P** **21 41 16.0 -0.2**
DRGR 77.63 317 ⇑P **P** **21 41 17.7 +0.8**
BOVS Bovan 77.89 314 ⇑P **P** **21 41 17.6 -0.7**
TRPA Tarpa 77.95 318 ⇑P **P** **21 41 19.3 +0.8**
BZS Buzias 78.21 316 ⇑P **P** **21 41 19.9 -0.1**
SIRR Siria 78.27 317 ⇑P **P** **21 41 20.9 +0.6**
PABE Paberze 78.39 326 P **P** **21 41 21.3 +0.6**
PABE IAmb IAmb 21 41 21.5
comp=Z,12nm,0.8s
SUW Suwalki 78.55 324 *eP* **P** **21 41 21.6 0.0**
FIA1 FINESS Array S 78.66 332 P **P** **21 41 22.0 -0.1**
FIA1 IAmb IAmb 21 41 22.3
comp=Z,6.5nm,0.5s
FINES FINESS Array B 78.66 332 P **P** **21 41 21.9 -0.1**
comp=Z,4.9nm,0.4s,baz=102,slow=5.3,SNR=101
MTSE Matsula 79.13 329 *eP* **P** **21 41 24.6 0.0**
MEF Metsahovi 79.16 331 *eP* **P** **21 41 24.6 -0.2**
PDG Podgorica 79.55 312 ⇑P **P** **21 41 26.1 -1.2**
MORH Mrgy, Hungar 80.34 316 ⇓P **P** **21 41 30.6 -0.9**
RAF Rauma 80.60 331 *eP* **P** **21 41 32.4 -0.1**
SUR Sutherland 80.80 237 P **P** **21 41 37.0 +2.4**
ARCES ARCESS Array B 81.00 340 P **P** **21 41 33.6 -1.0**
comp=Z,3.5nm,0.5s,baz=94,slow=5.8,SNR=50
ARCES ARCESS Array B 81.00 340 P **P** **21 41 34.1 -0.5**
AAL Aland 81.32 330 *eP* **P** **21 41 35.7 -0.7**
MORC Moravsky Berou 81.42 320 P **P** **21 41 37.4 +0.1**
MORC Moravsky Berou 81.42 320 *eP* **P** **21 41 38.7 +1.4**
SYO Syowa Base 82.03 198 ⇑eX **P** **21 41 39.2 -0.7**
DPC Dobruska-Polom 82.25 320 *eP* **P** **21 41 42.5 +0.8**
OSTC Ostas 82.34 320 *eP* **P** **21 41 44.3 +2.2**
CONA Conrad Observa 82.38 318 *eP* **P** **21 41 43.9 +1.4**
comp=Z,2.8nm,0.9s
CHVC Chvalec 82.44 320 *eP* **P** **21 41 43.5 +0.9**
UPP Uppsala 82.45 330 *eP* **P** **21 41 42.4 0.0**
VIKU Vikbolandet 82.77 328 *eP* **P** **21 41 44.3 +0.2**
SOKA Soboth 82.87 316 *eP* **P** **21 41 46.3 +1.3**
comp=Z,4.8nm,1.3s
CKRC Cesky Krumlov 83.47 319 *eP* **P** **21 41 49.3 +1.4**
MYKA Terra Mystica 83.82 316 *eP* **P** **21 41 51.6 +1.7**
comp=Z,2.2nm,0.8s
GEC2 GERESS Array S 83.87 319 P **P** **21 41 50.7 +0.7**
GERES GERESS Array B 83.87 319 P **P** **21 41 50.0 0.0**
comp=Z,0.7nm,0.4s,baz=99,slow=6.0,SNR=13
GERES GERESS Array B 83.87 319 P **P** **21 41 49.7 -0.4**
KHC Kasperske Hory 83.96 319 *eP* **P** **21 41 51.0 +0.5**
KBA Koelnbreinsper 84.04 317 *eP* **P** **21 41 52.3 +1.2**
comp=Z,0.8nm,0.3s
DEL Delary 84.13 326 *eP* **P** **21 41 51.4 +0.3**
CLL Collm 84.41 321 *eP* **P** **21 41 53.0 +0.4**
WTTA Wattenberg 85.21 317 *eP* **P** **21 41 57.2 +0.2**
comp=Z,2.1nm,0.3s
WATA Walderalm 85.25 317 *eP* **P** **21 41 57.7 +0.5**
comp=Z,0.9nm,0.3s
SQTA Sankt Quirin 85.50 317 *eP* **P** **21 41 58.6 +0.2**
comp=Z,0.7nm,0.3s
MOTA Moosalm 85.58 317 *eP* **P** **21 41 58.2 -0.5**
comp=Z,3.4nm,0.8s
NB2 NORSAR Subarra 85.70 331 P **P** **21 41 58.7 -0.2**
comp=Z,0.5nm,0.4s,baz=97,slow=5.6
NOA NORSAR Array B 85.70 331 P **P** **21 41 58.5 -0.4**
comp=Z,0.5nm,0.4s,baz=94,slow=6.2,SNR=4.9
RETA Reutte 85.81 317 *eP* **P** **21 42 00.2 +0.4**
comp=Z,1.4nm,0.3s
TNA Tin City 88.92 25 P **P** **21 42 14.5 +0.3**
TNA IAmb IAmb 21 42 15.1
comp=Z,3.7nm,0.8s
IMAR Indian Mountai 94.56 23 P **P** **21 42 41.3 +0.9**
H21K Melozitna Rive 95.03 23 P **P** **21 42 43.4 +0.8**
H21K IAmb IAmb 21 42 44.2
comp=Z,4.6nm,0.7s
K20K Telida 95.23 26 P **P** **21 42 43.5 0.0**
I21K Tanana 95.51 23 P **P** **21 42 46.0 +1.3**
BPAW Bear Paw Mtn. 96.28 24 P **P** **21 42 48.2 -0.1**
ESDC Sonseca Array 97.15 310 P **P** **21 42 52.2 -0.6**
comp=Z,0.3nm,0.9s,baz=80,slow=4.0,SNR=1.4
ILAR Eielson Array 97.67 23 P **P** **21 42 53.6 -1.0**
comp=Z,0.4nm,0.8s,baz=297,slow=4.0,SNR=4.3
SCHQ Schefferville 120.90 350 PKPdf **PKiKP** **21 48 13.9 +1.8**
RYN Ryan 126.56 35 PKPdf **PKPdf** **21 48 22.5 -1.0**
PDAR Pinedale Array 128.02 26 PKP **PKPdf** **21 48 26.6 +0.3**
comp=Z,0.3nm,0.6s,baz=90,slow=0.9,SNR=4.3
PDAR Pinedale Array 128.02 26 **PKPdf** **21 48 25.3 -1.0**
TXAR Lajitas Array 141.68 31 PKhKP PKPpre 21 48 37.4
comp=Z,0.4nm,0.9s,baz=265,slow=2.6,SNR=2.5
TXAR PKP **PKPdf** **21 48 50.4 -1.5**
comp=Z,0.3nm,0.4s,baz=252,slow=0.9,SNR=7.0
BO02 Sierra Bellavi 146.77 197 PKPbc **PKPbc** **21 49 03.1 +0.7**
CPUP Villa Florida 146.88 223 PKPbc **PKPbc** **21 49 03.1 +0.3**
comp=Z,2.1nm,0.7s,baz=84,slow=4.3,SNR=4.7
MT01 Popeta 147.77 197 PKPbc **PKPdf** **21 49 04.5 +2.4**
MT09 Talagante 147.78 197 PKPbc **PKPbc** **21 49 05.2 -0.1**
MT02 Curacav 148.30 198 PKPbc **PKPdf** **21 49 05.7 +2.6**
VA06 Catapilco 149.00 198 PKPbc **PKPbc** **21 49 08.3 0.0**
CO03 El Pedregal 150.39 200 PKPbc **PKPbc** **21 49 12.2 +0.3**

IDC ***21*** *21:50:50.6±2.7, 15°.52S×174°.25W, h91km±26km, mb4.0/10, mb1 4.2/11, mb1mx3.9/36, mbtmp4.3/11 Error ellipse: s-maj=29.8km s-min=16.5km az=136.0*
NEIC ***21*** *21:50:50.4±1.9, 15°.65S±0°.10×174°.2W±0°.1, h81km±7km, mb4.5/21, Error ellipse: s-maj=18.8km s-min=13.6km az=99.0*

ISC 21 21:50:50.8±0.5,**15°.60S**±0°.08×**174°.12W**±0°.09,**h94**km,**n64,**
σ0**99**/56,**mb4.4**/21,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.82**	**54**	P		P	**Pn**	**21 51 35.0**	**+1.0**
	142nm,0.3s,baz=183,slow=1.6,SNR=60								
AFI				S		**Sn**		**21 52 04.4**	**-2.9**
	463nm,0.3s,baz=33,slow=18,SNR=24								
NIUE	**Niue**	**5.29**	**131**			**Pn**		**21 52 07.8**	**+0.4**
URZ	**Urewera**	**23.86**	**197**	P		P		**21 55 55.4**	**-0.1**
	5.1nm,0.4s,baz=336,slow=0.2,SNR=5.3								
URZ	**Urewera**	**23.86**	**197**	P		P		**21 55 56.1**	**+0.6**
BKZ	**Black Stump Fm**	**24.89**	**198**	P		P		**21 56 05.1**	**+0.2**
QRZ	**Quartz Range**	**27.69**	**202**	P		P		**21 56 29.2**	**-0.8**
THZ	**Tophouse**	**28.38**	**201**	P		P		**21 56 34.2**	**-2.0**
THZ				IAmb		IAmb		21 56 42.5	
	comp=Z,28nm,1.4s								
WHZ	**Wether Hill Ro**	**33.74**	**203**	P		P		**21 57 23.1**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**38.78**	**330**	T		T		22 38 50.1	
	baz=146,slow=75,SNR=9.4								
H11S3	**WAKE ISLAND Hy**	**38.80**	**330**	T		T		22 38 52.3	
	baz=146,slow=75,SNR=8.3								
H11S1	**WAKE ISLAND Hy**	**38.80**	**330**	T		T		22 39 20.5	
	baz=146,slow=75,SNR=9.7								
H11N3	**WAKE ISLAND Hy**	**39.75**	**331**	T		T		22 40 57.4	
	baz=145								
H11N1	**WAKE ISLAND Hy**	**39.75**	**331**	T		T		22 40 57.4	
	baz=145								
H11N2	**WAKE ISLAND Hy**	**39.76**	**331**	T		T		22 41 06.9	
	baz=145								
COEN	**Coen**	**41.28**	**266**	P		P		**21 58 28.2**	**+0.9**
COEN				IAmb		IAmb		21 58 28.7	
	comp=Z,5.4nm,0.7s								
STKA	**Stephens Creek**	**43.34**	**240**	P		P		**21 58 44.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=60,slow=9.6,SNR=5.2								
STKA	**Stephens Creek**	**43.34**	**240**	P		P		**21 58 44.2**	**+0.4**
BBOO	**Buckleboo**	**48.12**	**240**	P		P		**21 59 20.6**	**-0.9**
BBOO				IAmb		IAmb		21 59 22.8	
	comp=Z,6.3nm,0.8s								
WB0	**Warramunga Arr**	**49.09**	**257**	P		P		**21 59 28.5**	**-0.5**
WB0				IAmb		IAmb		21 59 29.6	
	comp=Z,3.0nm,0.7s								
WB2	**Warramunga Arr**	**49.12**	**257**	P		P		**21 59 28.3**	**-0.9**
WB2				IAmb		IAmb		21 59 29.1	
	comp=Z,3.0nm,0.6s								
WRA	**Warramunga Arr**	**49.13**	**257**	P		P		**21 59 27.9**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=92,slow=7.8,SNR=17								
WRA	**Warramunga Arr**	**49.13**	**257**	P		P		**21 59 28.3**	**-1.0**
AS31	**Alice Springs**	**49.39**	**252**	P		P		**21 59 29.9**	**-1.4**
AS31				IAmb		IAmb		21 59 32.6	
	comp=Z,2.6nm,0.5s								
ASAR	**Alice Springs**	**49.40**	**252**	P		P		**21 59 30.3**	**-1.1**
	comp=Z,6.7nm,0.5s,baz=87,slow=8.0,SNR=46								
ASAR	**Alice Springs**	**49.40**	**252**	P		P		**21 59 29.9**	**-1.5**
FORT	**Forrest**	**54.71**	**243**	P		P		**22 00 09.6**	**-1.0**
SIJI	**Sorong**	**55.81**	**280**	P		P		**22 00 18.0**	**-0.8**
	comp=Z,9.8nm,0.6s,baz=79,slow=8.0,SNR=6.1								
SBA	**Scott Base**	**63.00**	**184**	P		P		**22 01 08.4**	**+1.2**
VNDA	**Vanda**	**63.11**	**186**	P		P		**22 01 08.9**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=12,slow=6.2,SNR=5.2								
VNDA	**Vanda**	**63.11**	**186**	P		P		**22 01 09.1**	**+1.1**
GIRL	**Giralia**	**67.51**	**252**	P		P		**22 01 37.4**	**+0.1**
JHS	**Saijyo**	**70.97**	**316**	P		P		**22 01 59.7**	**+1.3**
JHS				IAmb		IAmb		22 02 02.8	
	comp=Z,7.5nm,0.9s								
JNU	**Nakatsue**	**71.43**	**314**	P		P		**22 02 00.9**	**-0.4**
JNU				IAmb		IAmb		22 02 26.2	
	comp=Z,12nm,1.4s								
QSPA	**South Pole Qui**	**74.45**	**180**	P		P		**22 02 18.8**	**+0.1**
QSPA				IAmb		IAmb		22 02 19.8	
	comp=Z,4.1nm,0.8s								
HUMO	**Hull Mountain**	**74.58**	**37**	P		P		**22 02 21.0**	**+1.4**
HUMO				IAmb		IAmb		22 02 42.7	
	comp=Z,10nm,1.3s								
TXAR	**Lajitas Array**	**81.29**	**56**	P		P		**22 02 57.4**	**+0.2**

comp=Z,0.3nm,0.8s,baz=214,slow=9.6,SNR=3.0
BCAR Beaver Creek A 82.36 14 P **P** 22 03 03.4 +1.4
IMAR Indian Mountai 82.76 8 P **P** 22 03 04.6 +0.7
ILAR Eielson Array 82.77 11 P **P** 22 03 03.5 -0.5
comp=Z,1.2nm,0.6s,baz=230,slow=6.0,SNR=13
ILAR Eielson Array 82.77 11 P **P** 22 03 03.8 -0.2
DAWY Dawson 83.78 15 P **P** 22 03 09.4 +0.2
DAWY IAmb IAmb 22 03 10.7
comp=Z,3.1nm,1.1s
YKA Yellowknife Ar 90.55 24 P **P** 22 03 41.3 -0.6
comp=Z,0.3nm,0.7s,baz=245,slow=4.2,SNR=4.8
CMAR Chiang Mai Arr 92.02 288 P **P** 22 03 50.1 +0.3
comp=Z,0.9nm,0.3s,baz=96,slow=0.9,SNR=5.3
CHVC Chvalec 144.14 349 *e*PKP **PKiKP** 22 10 21.3 +2.1
OSTC Ostas 144.14 349 *e*PKP PKPbc 22 10 13.5 -0.4
DPC Dobruska-Polom 144.32 349 *e*PKP PKPbc 22 10 14.3 -0.1
KMBO Kilima Mbogo 144.83 245 PKP **PKPdf** 22 10 18.1 -0.1
comp=Z,0.9nm,0.6s,baz=98,slow=2.2,SNR=3.5
PRU Pruhonice 144.99 350 *e*PKP PKPbc 22 10 16.3 -0.2
BRTR Keskin Array B 145.87 320 PKPbc **PKPbc** 22 10 19.4 -0.5
comp=Z,2.4nm,0.7s,baz=87,slow=2.7,SNR=19
BRTR Keskin Array B 145.87 320 **PKPbc** 22 10 19.5 -0.3
KHC Kasperske Hory 145.97 351 *e*PKP **PKPab** 22 10 20.2 -0.1
CKRC Cesky Krumlov 146.16 350 *e*PKP **PKPbc** 22 10 20.0 -0.2
GERES GERESS Array B 146.23 351 PKPbc **PKPbc** 22 10 20.2 -0.3
comp=Z,0.4nm,0.6s,baz=343,slow=4.2,SNR=5.8
GERES GERESS Array B 146.23 351 **PKPbc** 22 10 19.8 -0.7
CONA Conrad Observa 146.72 348 *e*P **PKPbc** 22 10 21.8 -0.1
comp=Z,3.7nm,0.9s
ARSA Arzberg 147.44 348 *e*P **PKPbc** 22 10 24.0 +0.1
comp=Z,4.2nm,1.1s
RETA Reutte 147.95 354 *e*P **PKPdf** 22 10 22.5 +0.2
comp=Z,6.2nm,1.6s
KBA Koelnbreinsper 148.00 350 *e*P **PKPbc** 22 10 25.0 -0.7
comp=Z,4.7nm,1.2s
MOTA Moosalm 148.05 353 *e*P **PKPbc** 22 10 25.0 -0.7
comp=Z,6.5nm,1.3s
WTTA Wattenberg 148.07 353 *e*P **PKPbc** 22 10 25.4 -0.4
comp=Z,2.0nm,0.5s
SQTA Sankt Quirin 148.16 353 *e*P **PKPdf** 22 10 21.5 -1.1
comp=Z,4.6nm,1.5s
DAVA Damuels 148.23 355 *e*P **PKPbc** 22 10 24.4 -1.8
comp=Z,2.5nm,0.8s
FETA Feichten 148.41 354 *e*P **PKPbc** 22 10 26.5 -0.2
comp=Z,2.8nm,1.1s
ABTA Abfaltersbach 148.45 351 *e*P **PKPbc** 22 10 25.2 -1.5
comp=Z,2.9nm,1.0s

*IDC **21** 21:54:14.1±1.7,6.06S×128.85E,h257km±25km,mb1 3.7/4, mb1mx3.1/33,mbtmp4.3/4, Error ellipse: s-maj=31.8km s-min=17.8km az=90.0*

ISC 21 21:54:13.2±0.9,6.08S±0.07×128.9E±0.1,h264km,n6, σ2§54/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.71**	**25**	P	**Pn**	**21 55 38.9**	**+0.8**
	5.7nm,0.3s,baz=192,slow=20,SNR=41						
SIJI				S	**S**	**21 56 42.5**	**-3.7**
	8.3nm,0.3s,baz=244,slow=24,SNR=24						
BATI	**Baumata**	**6.57**	**231**	P	**Pn**	**21 55 50.7**	**+2.0**
	4.6nm,0.3s,baz=45,slow=5.7,SNR=6.1						
BATI				S	**S**	**21 57 02.4**	**-3.1**
	6.9nm,0.3s,baz=152,slow=4.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**12.35**	**194**	P	**Pn**	**21 57 01.3**	**+0.5**
	0.6nm,0.3s,baz=16,slow=13,SNR=24						
FITZ				S	**S**	**21 59 15.2**	**-3.1**
	0.2nm,0.3s,baz=270,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**14.78**	**159**	P	**P**	**21 57 30.6**	**+0.7**
	1.2nm,0.3s,baz=337,slow=12,SNR=56						
WRA				S	**S**	**22 00 14.0**	**+0.9**
	0.1nm,0.3s,baz=334,slow=21,SNR=2.7						
ASAR	**Alice Springs**	**18.15**	**165**	P	**P**	**21 58 08.9**	**+2.2**
	5.3nm,0.3s,baz=346,slow=11,SNR=309						
ASAR				S	**S**	**22 01 18.0**	**-2.6**
	baz=348,slow=22,SNR=8.0						
MKAR	**Makanchi Array**	**66.83**	**327**	P	**P**	**22 04 37.8**	**+0.9**
	0.1nm,0.3s,baz=137,slow=6.5,SNR=2.5						

*VAO **21** 22:12:20.0±1.9,24.3°30S×70.38W,h10km,mb4.3*
*NEIC **21** 22:13:04.8±2.2,24.20S±0.08×67.4W±0.1,h209km±8km, mb4.1/4,Md3.9(SJA),ML4.2(GUC), Error ellipse: s-maj=19.1km s-min=11.2km az=90.0*
*IDC **21** 22:13:04.5±2.0,24.05S×67.07W,h179km±15km,mb3.4/4, mb1 3.7/8,mb1mx3.5/19,mbtmp4.0/8, Error ellipse: s-maj=28.9km s-min=18.4km az=173.0*
*GUC **21** 22:13:05.9±0.7,24.14S×67.53W,h214km±9km,ML4.2*

ISC 21 22:13:03.9±0.7,24.14S±0.04×67.32W±0.07,h198km±8km, n93,σ1§47/112,mb3.8/6,10C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.11**	**316**	P	**Pn**	**22 13 45.4**	**+1.6**
	77nm,0.3s,baz=123,slow=7.4,SNR=532						
LVC				S	**S**	**22 14 15.1**	**+0.3**
	63nm,0.3s,baz=302,slow=19,SNR=24						
LVC	**Limon Verde**	**2.11**	**316**	↑*i*P	**Pn**	**22 13 45.3**	**+1.5**
LVC				*i* S	**S**	**22 14 15.3**	**+0.4**
PB15	**IPOC Station P**	**2.18**	**295**	P	**Pn**	**22 13 46.2**	**+1.8**
PB15	**IPOC Station P**	**2.18**	**295**	↑*i*P	**Pn**	**22 13 46.2**	**+1.8**
PB15				*e*S	**S**	**22 14 16.6**	**+0.7**
GO02	**Mina Guanaco**	**2.30**	**243**	Pn	**Pn**	**22 13 47.3**	**+1.4**
GO02	**Mina Guanaco**	**2.30**	**243**	↑*i*P	**Pn**	**22 13 47.2**	**+1.4**
GO02				*e*S	**S**	**22 14 19.0**	**+0.6**
GO02				IAML		22 14 20.5	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**2.51**	**304**		**Pn**	**22 13 49.8**	**+1.7**
PB06	**IPOC Station P**	**2.51**	**304**	↑*i*P	**Pn**	**22 13 49.7**	**+1.7**
PB06				*e*S	**S**	**22 14 22.5**	**+0.2**
PB06				IAML		22 14 24.2	
	comp=E,648nm,0.1s						
PB14	**IPOC Station P**	**2.85**	**260**	Pn	**Pn**	**22 13 53.3**	**+1.2**
PB14	**IPOC Station P**	**2.85**	**260**	↑*i*P	**Pn**	**22 13 53.3**	**+1.2**
PB14				*e*S	**S**	**22 14 28.7**	**-0.9**
PB14				IAML		22 14 30.6	
	comp=E,201nm,0.4s						
PB09	**IPOC Station P**	**2.93**	**322**		**Pn**	**22 13 54.8**	**+1.9**
PB09	**IPOC Station P**	**2.93**	**322**	↑*i*P	**Pn**	**22 13 54.7**	**+1.9**
PB09				*e*S	**S**	**22 14 31.6**	**+0.6**
PB09				IAML		22 14 33.5	
	comp=E,296nm,0.4s						
PB10	**IPOC Station P**	**3.03**	**281**	Pn	**Pn**	**22 13 55.3**	**+1.5**
PB10	**IPOC Station P**	**3.03**	**281**	↑*i*P	**Pn**	**22 13 55.6**	**+1.8**
PB10				*e*S	**S**	**22 14 31.8**	**-0.9**
PB10				IAML		22 14 36.6	
	comp=E,253nm,0.2s						
AC02	**Maricunga**	**3.14**	**211**	Pn	**Pn**	**22 13 56.8**	**+1.1**
PB04	**IPOC Station P**	**3.16**	**304**		**Pn**	**22 13 56.9**	**+1.3**
PB04	**IPOC Station P**	**3.16**	**304**	*i* P	**Pn**	**22 13 56.8**	**+1.2**
PB04				*e*S	**S**	**22 14 35.2**	**-0.7**
PB04				IAML		22 14 44.2	
	comp=N,335nm,0.2s						
PB07	**IPOC Station P**	**3.37**	**315**		**Pn**	**22 13 59.4**	**+1.2**
PB07	**IPOC Station P**	**3.37**	**315**	↑*i*P	**Pn**	**22 13 59.4**	**+1.2**
PB07				*e*S	**S**	**22 14 39.5**	**-1.0**
AC01	**Pan de Azucar**	**3.58**	**235**	Pn	**Pn**	**22 14 00.7**	**+0.2**
AC01	**Pan de Azucar**	**3.58**	**235**	↑*i*P	**Pn**	**22 14 00.7**	**+0.2**
AC01				*e*S	**S**	**22 14 43.2**	**-1.6**
PB01	**IPOC Station P**	**3.68**	**327**		**Pn**	**22 14 02.4**	**+0.7**
PB01	**IPOC Station P**	**3.68**	**327**	↑*i*P	**Pn**	**22 14 02.4**	**+0.7**
PB01				*e*S	**S**	**22 14 46.2**	**-0.8**
PB02	**IPOC Station P**	**3.68**	**319**	Pn	**Pn**	**22 14 02.6**	**+0.8**
PB02	**IPOC Station P**	**3.68**	**319**	*i* P	**Pn**	**22 14 02.6**	**+0.8**
PB02				*e*S	**S**	**22 14 45.3**	**-1.9**
AC06	**Mina Casimiro**	**4.21**	**220**		**Pn**	**22 14 08.1**	**-0.2**
AC06	**Mina Casimiro**	**4.21**	**220**	*e*P	**Pn**	**22 14 08.0**	**-0.3**
AC06				*e*S	**S**	**22 14 57.4**	**-1.6**
PATCX	**Punta Patache**	**4.22**	**321**	Pn	**Pn**	**22 14 09.6**	**+1.1**
PATCX	**Punta Patache**	**4.22**	**321**	*e*P	**Pn**	**22 14 08.6**	**+0.1**
PATCX				*e*S	**S**	**22 14 56.2**	**-3.0**
GO03	**Copiap**	**4.33**	**217**		**Pn**	**22 14 09.2**	**-0.5**
GO03	**Copiap**	**4.33**	**217**	*e*P	**Pn**	**22 14 09.1**	**-0.7**
GO03				*i* S	**S**	**22 14 59.5**	**-2.0**
PB08	**IPOC Station P**	**4.33**	**337**		**Pn**	**22 14 11.4**	**+1.3**
PB08	**IPOC Station P**	**4.33**	**337**	*i* P	**Pn**	**22 14 11.5**	**+1.3**
PB08				*e*S	**S**	**22 15 01.0**	**-1.2**
TA01	**Diego Aracena**	**4.43**	**323**	Pn	**Pn**	**22 14 11.8**	**+0.6**
TA01	**Diego Aracena**	**4.43**	**323**	*e*P	**Pn**	**22 14 11.4**	**+0.3**
TA01				*e*S	**S**	**22 15 01.1**	**-2.9**
HMBC	**Humberstone**	**4.52**	**328**	*e*P	**Pn**	**22 14 11.9**	**-0.5**
HMBC				*e*S	**S**	**22 15 03.3**	**-2.8**
TA02	**Huaiquique**	**4.65**	**325**	*e*P	**Pn**	**22 14 14.2**	**+0.4**
GO01	**Chusmiza**	**4.78**	**338**		**Pn**	**22 14 16.9**	**+0.9**
GO01	**Chusmiza**	**4.78**	**338**	*e*P	**Pn**	**22 14 17.3**	**+1.3**
GO01				*e*S	**S**	**22 15 12.5**	**-0.1**
PB11	**IPOC Station P**	**4.87**	**333**	Pn	**Pn**	**22 14 16.3**	**-0.5**
PB11	**IPOC Station P**	**4.87**	**333**	*e*P	**Pn**	**22 14 16.6**	**-0.3**
PB11				*e*S	**S**	**22 15 11.3**	**-2.9**
AC04	**Llanos de Chal**	**5.27**	**219**	Pn	**Pn**	**22 14 20.4**	**-1.3**
AC04	**Llanos de Chal**	**5.27**	**219**	*e*P	**Pn**	**22 14 20.3**	**-1.4**
LCO	**Las Campanas**	**5.72**	**211**	Pn	**Pn**	**22 14 26.7**	**-1.1**
LCO	**Las Campanas**	**5.72**	**211**	*e*P	**Pn**	**22 14 26.5**	**-1.2**
PB12	**IPOC Station P**	**6.17**	**332**	Pn	**Pn**	**22 14 32.4**	**-1.1**
GO04	**Tololo Observa**	**6.76**	**207**	Pn	**Pn**	**22 14 40.3**	**-0.9**
CO03	**El Pedregal**	**7.31**	**203**	Pn	**Pn**	**22 14 48.1**	**-0.1**
CO06	**Fray Jorge**	**7.55**	**210**	Pn	**Pn**	**22 14 49.5**	**-1.8**
LPAZ	**La Paz**	**7.85**	**354**	P	**Pn**	**22 14 57.1**	**+1.2**
	comp=N,2.3nm,0.3s,baz=169,slow=8.3,SNR=16						
LPAZ				S	**S**	**22 16 23.7**	**-1.1**
	baz=265,slow=7.4,SNR=1.6						
LPAZ	**La Paz**	**7.85**	**354**		**Pn**	**22 14 56.9**	**+1.0**
SIV	**San Ignacio**	**10.01**	**37**	P	**Pn**	**22 15 21.1**	**-2.4**
	comp=N,0.6nm,0.3s,baz=214,slow=13,SNR=10.0						
SIV				S	S	22 17 00.4	-15
	baz=322,slow=19,SNR=1.6						
BI05	**Punta Hualpn**	**13.54**	**201**	Pn	**Pn**	**22 16 07.1**	**-1.1**
TRCB	**Terra Rica**	**13.55**	**87**	P	**P**	**22 16 11.5**	**+0.5**
TRCB	**Terra Rica**	**13.55**	**87**	*e*P	**Pn**	**22 16 09.4**	**+0.9**
PTGB	**Pitanga**	**13.91**	**95**	*e*P	**P**	**22 16 16.2**	**+1.1**
ITAB	**Concordia**	**14.04**	**106**		**Pn**	**22 16 15.8**	**+1.3**
ITAB	**Concordia**	**14.04**	**106**	*e*P	**Pn**	**22 16 15.6**	**+1.2**
PLTB	**Pedras Altas**	**14.29**	**125**	*e*P	Pn	22 16 12.4	-5.3
PCMB	**Pacaembu**	**15.02**	**84**	*e*P	**P**	**22 16 28.1**	**+0.8**
CNLB	**Canela**	**15.59**	**113**	*e*P	**P**	**22 16 32.0**	**-1.5**
PDRB	**Porto dos Gac**	**16.01**	**41**	*e*P	P	22 16 30.9	-7.4
FRTB	**Fartura**	**16.28**	**91**	*e*P	**Pn**	**22 16 42.3**	**+0.4**
ITRB	**Iturama**	**16.34**	**78**	*e*P	**P**	**22 16 42.8**	**+0.8**
TER01	**Tubaro-SC**	**16.88**	**109**	*e*P	**P**	**22 16 47.6**	**-0.1**
CLDB	**Colider**	**17.16**	**42**	*e*P	**P**	**22 16 45.6**	**-5.2**
BB19B	**Bebedouro**	**17.62**	**84**	*e*P	**P**	**22 16 55.7**	**-0.2**
PET01	**Itanhaem-SP**	**18.29**	**95**	*e*P	**P**	**22 17 02.9**	**-0.2**
IPMB	**Ipameri, GO**	**18.85**	**75**	*e*P	**P**	**22 17 09.3**	**0.0**
SNDB	**Senhora Dou**	**19.43**	**54**	*e*P	**P**	**22 17 14.2**	**-1.4**
PARB	**Paraibuna**	**19.88**	**92**	*e*P	**P**	**22 17 21.4**	**+1.0**
BDFB	**Brasilia**	**20.01**	**69**	P	**P**	**22 17 21.5**	**-0.4**
	comp=N,1.2nn,0.3s,baz=242,slow=11,SNR=22						
BDFB	**Brasilia**	**20.01**	**69**	P	**P**	**22 17 21.6**	**-0.2**
NPGB	**Novo Progresso**	**20.51**	**36**	*e*P	P	22 17 18.7	-8.3
PEXB	**Peixe**	**21.65**	**60**	*e*P	**P**	**22 17 37.4**	**-1.7**
VAS01	**Vassouras-RJ**	**22.02**	**90**	*e*P	**P**	**22 17 42.6**	**-0.1**
DIAM	**Diamantina, MG**	**22.78**	**80**	*e*P	**P**	**22 17 49.7**	**-0.2**
DUB01	**Friburgo-RJ**	**23.03**	**90**	*e*P	**P**	**22 17 51.0**	**-1.0**
JANB	**Januaria**	**23.45**	**72**	*e*P	**P**	**22 17 55.2**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.23**	**65**	*e*P	**P**	**22 18 01.1**	**-1.9**
ESPN	**Las Esperanzas**	**39.74**	**333**	P	**P**	**22 20 14.7**	**-2.8**
ESPN				IAmb	IAmb	22 20 39.4	
	comp=Z,14nm,1.1s						
TXAR	**Lajitas Array**	**63.62**	**325**	P	**P**	**22 23 17.4**	**+3.3**
	comp=Z,0.1nm,0.4s,baz=144,slow=6.7,SNR=4.0						
TXAR	**Lajitas Array**	**63.62**	**325**	P	**P**	**22 23 12.0**	**-2.1**
TOA0	**Tordi Ar. Sit**	**76.89**	**69**	P	**P**	**22 24 36.1**	**+1.3**
TOA0				IAmb	IAmb	22 25 05.2	
	comp=Z,1.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.89**	**69**	P	**P**	**22 24 35.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=254,slow=5.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.89**	**69**	P	**P**	**22 24 36.3**	**+1.6**
ULM	**Lac du Bonnet**	**78.27**	**342**	P	**P**	**22 24 43.7**	**+2.1**
	comp=Z,1.3nm,0.5s,baz=166,slow=4.2,SNR=2.3						
YKA	**Yellowknife Ar**	**94.16**	**340**	P	**P**	**22 26 02.6**	**+3.0**
	comp=Z,0.6nm,0.7s,baz=133,slow=4.5,SNR=10						
ASAR	**Alice Springs**	**128.21**	**205**	PKP	**PKiKP**	**22 31 50.0**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=130,slow=1.2,SNR=6.3						
ASAR	**Alice Springs**	**128.21**	**205**		**PKiKP**	**22 31 49.6**	**+1.6**
WRA	**Warramunga Arr**	**131.37**	**208**	PKP	**PKiKP**	**22 31 56.7**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=151,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP	**PKPdf**	**22 32 16.3**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=310,slow=3.3,SNR=4.1						
MKAR	**Makanchi Array**	**146.82**	**39**	PKPbc	**PKPab**	**22 32 24.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=302,slow=3.4,SNR=12						

IDC 21 22:17:59.2±1.7,5.80S×130.47E,h0km,mb3.5/1, mb1 3.8/5,mb1mx3.5/28,mbtmp3.6/5,ML3.7/4,Error ellipse: s-maj=69.2km s-min=24.3km az=86.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.96**	**9**	Pn	Pn	22 19 16.0	+1.0
	3.9nm,0.3s,baz=233,slow=20,SNR=52						
SIJI				Sn	Sn	22 20 05.8	-7.3
	3.2nm,0.3s,baz=242,slow=22,SNR=12						
FITZ	**Fitzroy Crossi**	**13.11**	**201**	Pn	Pn	22 21 08.7	+2.0
	0.3nm,0.3s,baz=29,slow=13,SNR=15						
FITZ				Sn	Sn	22 23 26.6	-6.8
	0.2nm,0.3s,baz=33,slow=4.8,SNR=2.1						
WRA	**Warramunga Arr**	**14.56**	**165**	Pn	Pn	22 21 24.7	-1.9
	0.4nm,0.3s,baz=348,slow=13,SNR=21						
WRA				Sn	Sn	22 23 58.1	-11
	0.3nm,0.3s,baz=357,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**18.07**	**170**	P	P	22 22 12.3	-0.1
	0.3nm,0.3s,baz=355,slow=14,SNR=10						
MKAR	**Makanchi Array**	**67.48**	**326**	P	P	22 28 56.7	-0.4
	0.2nm,0.4s,baz=116,slow=7.1,SNR=7.0						

*IDC **21** 22:39:27.1±1.1,29.45S×176.00W,h0km,mb4.3/6, mb1 4.4/8,mb1mx4.1/39,mbtmp4.3/8,ML3.9/2,MS3.8/4, Ms1 3.8/4,ms1mx2.2/9,58, Error ellipse: s-maj=35.7km s-min=23.6km az=153.0*
*NEIC **21** 22:39:29.2±2.2,29.6S±0.2×176.01W±0.05,h10km±2km, mb4.4/13,Error ellipse: s-maj=26.5km s-min=8.4km az=358.0*

ISC 21 22:39:29.2±0.8,29.51S±0.09×176.17W±0.09,h10km,n40, σ1§48/41,mb4.3/10,MS3.7/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.54**	**279**	Pn	**Pg**	**22 39 59.2**	**+0.3**
	369nm,0.3s,baz=72,slow=20,SNR=2.4						
RAO				Sn	**Sn**	**22 40 12.6**	**-4.3**
	1μm,0.3s,baz=78,slow=19,SNR=12						
RAO	**Raoul Island**	**1.54**	**279**		**Pg**	**22 39 58.8**	**-0.1**
URZ	**Urewera**	**10.36**	**211**	Pn	**Pn**	**22 41 56.9**	**-0.9**
	0.4nm,0.3s,baz=347,slow=22,SNR=2.0						
URZ				Sn	**Sn**	**22 43 53.0**	**-0.9**
	1.3nm,0.3s,baz=194,slow=21,SNR=2.0						
URZ	**Urewera**	**10.36**	**211**	Pn	**Pn**	**22 41 59.0**	**+1.2**
BKZ	**Black Stump Fm**	**11.38**	**210**	Pn	**Pn**	**22 42 10.2**	**-1.6**
THZ	**Tophouse**	**15.09**	**213**	Pn	**Pn**	**22 43 02.8**	**+0.3**
THZ				IAmb	IAmb	22 43 17.6	
	comp=Z,15nm,0.8s						
KHZ	**Kahutara**	**15.32**	**210**	Pn	**Pn**	**22 43 04.0**	**-1.4**
KHZ				IAmb	IAmb	22 43 27.9	
	comp=Z,20nm,1.0s						
DZM	**Mont Dzumac**	**17.31**	**291**	P	**P**	**22 43 35.1**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=115,slow=11,SNR=2.7						
DZM				LR	LR	22 48 39.4	
	comp=Z,199nm,18.8s,baz=95,slow=32						
DZM	**Mont Dzumac**	**17.31**	**291**	*e*Pn	**P**	**22 43 36.5**	**+3.9**
	comp=Z,8.6nm,0.7s						
DZM				*e*LR	LR	22 47 33.4	
	comp=Z,164nm,27.9s						
DZM	**Mont Dzumac**	**17.31**	**291**	P	**P**	**22 43 34.9**	**+2.4**
DZM				IAmb	IAmb	22 43 35.9	
	comp=Z,28nm,1.3s						
RPZ	**Rata Peaks**	**17.47**	**212**	P	**Pn**	**22 43 32.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=113,slow=21,SNR=2.5						
PPT2	**Papeete2**	**27.04**	**70**	*e*LR	LR	22 51 41.8	
	comp=Z,106nm,26.5s						
CTA	**Charters Tower**	**35.25**	**277**	P	**P**	**22 46 25.3**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=110,slow=9.0,SNR=5.7						
CTA				LR	LR	23 00 11.1	
	comp=Z,116nm,18.1s,baz=95,slow=35						
STKA	**Stephens Creek**	**36.23**	**255**	P	**P**	**22 46 34.8**	**+2.3**
	comp=Z,2.0nm,0.5s,baz=95,slow=9.6,SNR=9.9						
STKA	**Stephens Creek**	**36.23**	**255**	P	**P**	**22 46 35.1**	**+2.6**
COEN	**Coen**	**40.58**	**284**	P	**P**	**22 47 09.3**	**+0.1**
COEN				IAmb	IAmb	22 47 31.9	
	comp=Z,14nm,1.4s						
BBOO	**Buckleboo**	**40.74**	**253**	P	**P**	**22 47 11.5**	**+1.1**
AS31	**Alice Springs**	**44.75**	**265**	P	**P**	**22 47 43.0**	**-0.1**
ASAR	**Alice Springs**	**44.75**	**265**	P	**P**	**22 47 42.8**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=101,slow=7.2,SNR=24						
ASAR				LR	LR	23 06 17.0	
	comp=Z,147nm,18.1s,baz=146,slow=36						
ASAR	**Alice Springs**	**44.75**	**265**	P	**P**	**22 47 43.7**	**+0.6**
WR0	**Warramunga Arr**	**45.48**	**270**	P	**P**	**22 47 47.9**	**-1.1**
WR0				IAmb	IAmb	22 47 49.7	
	comp=Z,4.6nm,1.2s						
WB2	**Warramunga Ar**	**45.65**	**270**	P	**P**	**22 47 49.3**	**-1.0**
WB2				IAmb	IAmb	22 47 52.0	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Ar**	**45.66**	**270**	P	**P**	**22 47 49.3**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=110,slow=7.6,SNR=15						
WRA	**Warramunga Ar**	**45.66**	**270**	P	**P**	**22 47 49.3**	**-1.1**
WB0	**Warramunga Arr**	**45.68**	**271**	P	**P**	**22 47 49.5**	**-1.0**
WB0				IAmb	IAmb	22 47 52.1	
	comp=Z,5.2nm,1.0s						
FORT	**Forrest**	**47.81**	**254**	P	**P**	**22 48 07.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.96**	**268**	P	**P**	**22 48 53.4**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=108,slow=6.4,SNR=3.0						
FITZ	**Fitzroy Crossi**	**53.96**	**268**	P	**P**	**22 48 53.6**	**+0.1**
MORW	**Morawa**	**58.31**	**252**	P	**P**	**22 49 24.7**	**+0.2**
BATI	**Baumata**	**59.12**	**276**	LR	LR	23 13 22.7	
	comp=Z,73nm,21.1s,baz=229,slow=34						
ILAR	**Eielson Array**	**96.72**	**12**	P	**P**	**22 52 57.4**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=215,slow=5.7,SNR=4.1						
MKAR	**Makanchi Array**	**118.42**	**310**	PKP	**PKPdf**	**22 58 16.1**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=89,slow=2.4,SNR=3.4						
FINES	**FINESS Array B**	**144.83**	**342**	PKP	**PKPab**	**22 59 03.7**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=56,slow=2.5,SNR=13						
FINES	**FINESS Array B**	**144.83**	**342**		**PKPab**	**22 59 04.2**	**-0.5**
NB2	**NORSAR Subarra**	**148.09**	**353**	PKP	**PKPbc**	**22 59 14.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=8.8,slow=2.9						
NOA	**NORSAR Array B**	**148.09**	**353**	PKPbc	**PKPbc**	**22 59 14.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=13,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**151.52**	**325**	PKPbc	**PKPbc**	**22 59 22.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=46,slow=2.5,SNR=5.5						
AKASG				PKPab	**PKPab**	**22 59 30.6**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=46,slow=3.0,SNR=7.0						
AKASG	**Malin Array Be**	**151.52**	**325**		**PKPbc**	**22 59 22.6**	**-0.6**
BRTR	**Keskin Array B**	**153.54**	**301**	PKPab	**PKPab**	**22 59 41.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=114,slow=3.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**163.60**	**173**	PKPab	**PKPab**	**23 00 25.1**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=204,slow=3.2,SNR=2.8						

*TUL **21** 22:41:17.2±0.7,36.37N±0.01×98.45W±0.02,h7km±4km, ML3.1,mb_Lg2.8/44(NEIC),Error ellipse: s-maj=2.0km s-min=1.9km az=80.0*

NEIC 21 22:41:17.9±0.6,36.38N±0.01×98.439W±0.008,h4km±4km, Error ellipse: s-maj=1.9km s-min=0.7km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.45**	**271**	Pg	Pg	22 41 26.1	-0.5
U32A				Sg	Sg	22 41 32.6	+0.1
OKCFA	**Oklahoma City**	**1.25**	**140**	Pg	Pg	22 41 40.4	-1.5
OKCFA				Sg	Sg	22 41 57.0	-1.0
OKCSW	**OKLAHOMA CITY**	**1.27**	**140**	Pg	Pg	22 41 40.8	-1.4
OKCSW				Sg	Sg	22 41 58.2	-0.4
FNO	**Franklin**	**1.40**	**143**		Pn	22 41 43.2	-1.1
T35A	**Sooner Cattle**	**1.64**	**70**	Pn	Pn	22 41 47.2	-0.4
WMOK	**Wichita Mounta**	**1.66**	**190**	Pn	Pn	22 41 46.6	-1.3
WMOK				IAmb_Lg		22 42 10.4	
	comp=Z,67nm,1.1s						
W35A	**Tecumse

OKCSW	**OKLAHOMA CITY**	**1.61**	**155**	Pn	Pn	23 36 00.1	0.0
FNO	**Franklin**	**1.76**	**156**	Pn	Pn	23 36 02.7	+0.6
W35A	**Tecumseh**	**2.06**	**146**	Pn	Pn	23 36 07.1	+0.9
WMOK	**Wichita Mounta**	**2.18**	**191**	Pn	Pn	23 36 08.5	+0.7
TUL1	**Leonard**	**2.21**	**115**	Pn	Pn	23 36 09.1	+0.8
TUL1	comp=Z,32nm,1.1s			lAmb_Lg		23 36 43.9	
CBKS	**Cedar Bluff**	**2.26**	**329**	Pn	Pn	23 36 08.9	0.0
X34A	**Smith Ranch, M**	**2.30**	**171**	Pn	Pn	23 36 09.1	-0.4
KSU1	**Kansas State U**	**2.57**	**30**	Pn	Pn	23 36 13.3	+0.1
KSU1	comp=Z,27nm,0.7s			lAmb_Lg		23 36 56.2	
X37A	**Clayton**	**3.28**	**133**		Pn	23 36 23.6	+0.6
AMTX	**Amarillo**	**3.42**	**235**		Pb	23 36 33.3	+1.3
HHAR	**Hobbs**	**3.53**	**98**	Pn	Pn	23 36 26.8	+0.4
S39A	**Bolivar**	**4.02**	**77**		Pn	23 36 33.5	+0.4
S39A	comp=Z,11nm,1.0s			lAmb_Lg		23 37 40.5	
KSCO	**Kaye Shedlock'**	**4.05**	**303**		Pb	23 36 45.6	+2.8
KSCO	comp=Z,8.7nm,0.7s			lAmb_Lg		23 37 42.3	
U40A	**Yellville**	**4.38**	**95**	lAmb_Lg		23 37 52.0	
MGMO	comp=Z,14nm,0.7s **Mountain Grove**	**4.80**	**85**	lAmb_Lg		23 38 02.6	
T25A	comp=Z,8.8nm,0.8s **Trinidad**	**4.93**	**275**	lAmb_Lg		23 38 07.8	
FCAR	comp=Z,8.4nm,1.0s **Ozark Folk Cen**	**5.05**	**99**	lAmb_Lg		23 38 12.0	
N38A	comp=Z,12nm,0.9s **Joes South For**	**5.54**	**44**	lAmb_Lg		23 38 31.1	
PBMO	comp=Z,12nm,0.9s **Poplar Bluff**	**6.28**	**89**	lAmb_Lg		23 38 52.2	
ECSD	comp=Z,12nm,0.7s **EROS Data Cent**	**6.96**	**10**	lAmb_Lg		23 39 23.9	
K22A	comp=Z,5.2nm,0.8s **Casper**	**8.58**	**315**	lAmb_Lg		23 40 11.4	
	comp=Z,5.7nm,0.8s						

*KRSC **21** 23:42:54.0±0.9,54°.28N×163°.08E, h42km±25km, ML3.9*
*IDC **21** 23:42:54.6±1.9,54°.64N×162°.52E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.5/38, mbtmp3.5/9, ML2.5/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/83, Error ellipse: s-maj=51.5km s-min=23.1km az=165.0*

ISC 21 23:42:58.1±0.8, 54°.36N±0°.05×163°.00E±0°.05, h35km, n48, σ1§17/47, mb3.6/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**1.73**	**300**	*eP*	**Pn**	**23 43 24.6**	**-1.0**
KBTR	**Krutoberegovo**	**1.85**	**357**	*eP*	**Pn**	**23 43 25.5**	**-1.8**
KBTR				*eS*	**Sn**	**23 43 48.4**	**-1.0**
TUMR	**Tumrok**	**1.89**	**300**	*eP*	**Pn**	**23 43 27.7**	**-0.3**
KBG	**Krutoberegovo**	**1.90**	**355**	*eP*	**Pn**	**23 43 26.4**	**-1.6**
BKI	**Bering**	**1.92**	**63**	*eP*	**Pn**	**23 43 27.3**	**-0.8**
BKI				*eS*	**Sn**	**23 43 49.7**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**2.06**	**321**	*eP*	**Pn**	**23 43 29.9**	**-0.4**
ZLN	**Zelenaya**	**2.08**	**324**	*eP*	**Pn**	**23 43 30.0**	**-0.6**
KII	**Karymskiy**	**2.11**	**262**	*eP*	**Pn**	**23 43 30.0**	**-1.0**
KMNR	**Kamenistaya**	**2.12**	**312**	*eP*	**Pn**	**23 43 31.0**	**0.0**
BZWR	**Bezymyannyi-We**	**2.15**	**319**	*eP*	**Pn**	**23 43 32.0**	**+0.4**
SPN	**Mys Shipunski**	**2.18**	**236**	*eS*	**Sn**	**23 43 56.0**	**-1.5**
KIRR	**Kirishev**	**2.21**	**317**	*eP*	**Pn**	**23 43 32.6**	**+0.3**
KPT	**Kopyto**	**2.22**	**316**	*eP*	**Pn**	**23 43 33.4**	**+0.4**
KRSR	**Krestovskiy**	**2.32**	**324**	*eP*	**Pn**	**23 43 33.5**	**-0.4**
KLY	**Klyuchi**	**2.37**	**326**	*eP*	**Pn**	**23 43 33.9**	**-0.5**
SMKR	**Semkarok**	**2.39**	**339**	*eP*	**Pn**	**23 43 34.2**	**-0.5**
BDR	**Baidarnaya**	**2.43**	**336**	*eP*	**Pn**	**23 43 35.7**	**+0.3**
NLC	**Nalytchevo**	**2.48**	**243**	*eS*	**Sn**	**23 44 03.5**	**-1.3**
SRKR	**Sorokina**	**2.52**	**336**	*eP*	**Pn**	**23 43 37.7**	**+1.1**
SMAR	**Somma**	**2.72**	**248**	*eP*	**Pn**	**23 43 38.8**	**-0.7**
KRER	**Koryakskii**	**2.73**	**249**	*eP*	**Pn**	**23 43 39.2**	**-0.4**
UGLR	**Uglovaya**	**2.73**	**247**	*eP*	**Pn**	**23 43 38.9**	**-0.6**
AVH	**Avacha**	**2.76**	**248**	*eP*	**Pn**	**23 43 39.9**	**+0.1**
KOK	**Koryaka**	**2.80**	**249**	*eP*	**Pn**	**23 43 40.0**	**-0.4**
DALK	**Dalny**	**2.86**	**244**	*eS*	**Sn**	**23 44 13.5**	**-0.7**
PET	**Petropavlovsk**	**2.91**	**244**	*eP*	**Pn**	**23 43 41.2**	**-0.7**
ESO	**Esso**	**2.92**	**304**	*eP*	**Pn**	**23 43 42.7**	**+0.7**
GNL	**Ganaly**	**3.06**	**259**	*eP*	**Pn**	**23 43 44.4**	**+0.4**
KRMR	**Karymshinskiy**	**3.28**	**244**	*eP*	**Pn**	**23 43 46.8**	**-0.2**
RUS	**Russkaya**	**3.31**	**236**	*eP*	**Pn**	**23 43 46.5**	**-0.8**
RUS				*eS*	**Sn**	**23 44 23.6**	**-1.8**
PETK	**Petropavlovsk-**	**3.39**	**250**	Pn	**Pn**	**23 43 47.8**	**-0.7**
PETK	2.8nm,0.3s,baz=78,slow=15,SNR=38			Sn	**Sn**	**23 44 30.3**	**+2.9**
MTVR	2.7nm,0.3s,baz=86,slow=28,SNR=5.7 **Mutnovka**	**3.44**	**239**	*eP*	**Pn**	**23 43 48.9**	**-0.4**
MTVR				*eS*	**Sn**	**23 44 27.4**	**-1.5**
GRL	**Gorelyy**	**3.46**	**240**	*eP*	**Pn**	**23 43 49.6**	**+0.1**
APC	**Apacha**	**3.76**	**250**	*eP*	**Pn**	**23 43 54.9**	**+1.3**
SHEM	**Shemya Is, Ala**	**6.81**	**99**	LR	LR	23 47 07.2	
MA2	comp=Z,51nm,21.0s,baz=28,slow=35 **Magadan**	**8.47**	**313**	LR	LR	23 48 42.8	
ILAR	comp=Z,71nm,19.1s,baz=236,slow=43 **Eielson Array**	**26.69**	**47**	P	**P**	**23 48 35.1**	**+1.7**
H11N2	0.4nm,0.9s,baz=269,slow=7.8,SNR=4.1 **WAKE ISLAND Hy**	**34.70**	**174**	T	T	00 27 07.7	
H11N3	baz=356,slow=74 **WAKE ISLAND Hy**	**34.72**	**174**	T	T	00 27 09.8	
H11N1	baz=356 **WAKE ISLAND Hy**	**34.72**	**174**	T	T	00 27 09.0	
YKA	baz=356,slow=74 **Yellowknife Ar**	**41.05**	**44**	P	**P**	**23 50 39.3**	**+1.7**
MKAR	0.1nm,0.6s,baz=295,slow=7.4,SNR=2.3 **Makanchi Array**	**49.15**	**296**	P	**P**	**23 51 38.9**	**-3.2**
AKTO	0.3nm,0.8s,baz=52,slow=8.5,SNR=3.1 **Aktyubinsk**	**58.22**	**313**	LR	LR	00 20 04.8	
FINES	comp=Z,16nm,20.1s,baz=157,slow=39 **FINESS Array B**	**59.62**	**338**	P	**P**	**23 52 57.4**	**-0.5**
NOA	1.3nm,0.5s,baz=40,slow=7.1,SNR=9.0 **NORSAR Array B**	**62.78**	**345**	P	**P**	**23 53 19.2**	**-0.2**
TXAR	0.5nm,0.8s,baz=19,slow=6.9,SNR=1.7 **Lajitas Array**	**68.56**	**69**	P	**P**	**23 53 59.7**	**+2.5**
KBZ	0.3nm,0.7s,baz=283,slow=5.5,SNR=2.9 **Khabaz**	**69.77**	**318**	P	**P**	**23 54 04.5**	**+0.2**
BRTR	1.8nm,0.9s,baz=56,slow=7.3,SNR=4.9 **Keskin Array B**	**76.71**	**322**	P	**P**	**23 54 45.3**	**-0.2**
	0.5nm,0.7s,baz=24,slow=4.7,SNR=2.6						

*IDC **21** 23:43:55.9±2.9, 2°.06N×93°.03E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=82.7km s-min=29.2km az=46.0*
*NEIC **21** 23:43:58.3±0.8, 2°.1N±0°.1×93°.0E±0°.1, h10km±2km, mb4.1/6, Error ellipse: s-maj=20.9km s-min=17.1km az=221.0*

ISC 21 23:43:57.7±1.0, 2°.1N±0°.1×93°.0E±0°.1, h10km, n18, σ0§42/17, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.60**	**100**	Pn	**Pn**	**23 45 07.7**	**+0.3**
LHMI	**Lhok Sumawe**	**4.99**	**51**	Pn	**Pn**	**23 45 13.0**	**+0.3**
RPSI	**Rantau Prapat**	**5.91**	**84**		**Pn**	**23 45 25.5**	**+0.1**
PSI	**Prapat**	**5.92**	**83**	Pn	**Pn**	**23 45 25.5**	**-0.2**
KULM	4.7nm,0.3s,baz=261,slow=13,SNR=10 **Kulim**	**8.23**	**67**	Pn	**Pn**	**23 45 57.0**	**-0.3**
IPM	**Ipoh**	**8.32**	**73**	Pn	**Pn**	**23 45 59.3**	**+0.8**
PALK	**Pallekele**	**13.33**	**293**	Sn	Sn	23 49 23.5	-12
FITZ	0.6nm,0.3s,baz=276,slow=7.2,SNR=4.7 **Fitzroy Crossi**	**37.85**	**123**	P	**P**	**23 51 14.3**	**-0.7**
FITZ	comp=Z,2.8nm,1.1s			lAmb	lAmb	23 51 26.1	
BTK	**Batken**	**42.84**	**335**	P	**P**	**23 51 56.3**	**+0.1**
MKAR	**Makanchi Array**	**45.51**	**350**	P	**P**	**23 52 17.4**	**+0.1**
MKAR	comp=Z,0.4nm,0.5s,baz=171,slow=9.5,SNR=5.9 **Makanchi Array**	**45.51**	**350**	P	**P**	**23 52 17.1**	**-0.3**
KKAR	**Karatay Array**	**45.52**	**337**	P	**P**	**23 52 17.5**	**0.0**
WB0	**Warramunga Arr**	**46.02**	**120**	P	**P**	**23 52 22.3**	**+0.4**
WB0	comp=Z,2.1nm,1.1s			lAmb	lAmb	23 52 34.0	
WRA	**Warramunga Arr**	**46.05**	**120**	P	**P**	**23 52 21.4**	**-0.6**
WB2	comp=Z,0.2nm,0.5s,baz=301,slow=8.6,SNR=4.9 **Warramunga Arr**	**46.06**	**120**	P	**P**	**23 52 22.6**	**+0.4**
WB2	comp=Z,2.4nm,1.0s			lAmb	lAmb	23 52 24.9	
WR0	**Warramunga Arr**	**46.23**	**120**	P	**P**	**23 52 23.5**	**0.0**
WR0	comp=Z,3.4nm,1.1s			lAmb	lAmb	23 52 34.0	
VOI	**Vohitsoka**	**51.07**	**240**	P	**P**	**23 53 01.1**	**+0.2**
ZALV	**Zalesovo Beam**	**52.13**	**354**	P	**P**	**23 53 07.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=164,slow=6.6,SNR=2.1						

GEDZ	**Gediz**	**2.79**	**5**	PN	**Pn**	**23 54 26.9**	**+0.6**
AKHS	**Akhisar**	**2.80**	**339**	P	**Pn**	**23 54 25.4**	**-0.9**
SIMA	**Simav-Kutahya**	**2.82**	**359**	PN	**Pn**	**23 54 26.7**	**0.0**
HDMB	**Hadim**	**2.83**	**75**	PN	**Pn**	**23 54 26.9**	**0.0**
GDZ	**Gediz**	**2.84**	**6**	P	**Pn**	**23 54 27.1**	**+0.1**
URLA	**Izmir**	**2.88**	**317**	PN	**Pn**	**23 54 28.1**	**+0.6**
AKMS	**Akamas**	**2.93**	**114**	P	**Pn**	**23 54 26.4**	**-1.7**
AKMS	0.4nm,0.3s			AML	AML	23 54 57.7	
AKMS	0.4nm,0.3s			AML	AML	23 54 58.3	
ALFC	**Alefka**	**3.07**	**110**	P	**Pn**	**23 54 28.2**	**-1.9**
ALFC	0.3nm,0.7s			AML	AML	23 55 03.1	
ALFC	0.3nm,0.3s			AML	AML	23 55 05.9	
ERMK	**Ermenek**	**3.12**	**82**	P	**Pn**	**23 54 31.1**	**+0.3**
KONT	**Konya--Tatoy**	**3.12**	**56**	PN	**Pn**	**23 54 31.4**	**+0.7**
KONT	**Konya--Tatoy**	**3.12**	**56**	P	**Pn**	**23 54 32.2**	**+1.5**
ZEDA	**zmir-Bergama**	**3.14**	**330**	P	**Pn**	**23 54 32.2**	**+1.4**
TVSB	**Tavsanli**	**3.20**	**5**	PN	**Pn**	**23 54 32.0**	**+0.1**
NATA	**Nata**	**3.21**	**116**	P	**Pn**	**23 54 30.3**	**-1.6**
NATA	0.6nm,0.3s			AML	AML	23 55 07.1	
NATA	0.4nm,0.3s			AML	AML	23 55 07.7	
CHOS	**Chios island**	**3.21**	**312**	PN	**Pn**	**23 54 32.1**	**+0.1**
KKBE	**Karaman, Kazim**	**3.25**	**72**	P	**Pn**	**23 54 33.4**	**+0.9**
LADK	**Ladik-KONYA**	**3.26**	**53**	PN	**Pn**	**23 54 33.3**	**+0.5**
TEKE	**Tekeli-Mersin**	**3.27**	**91**	PN	**Pn**	**23 54 31.9**	**-0.8**
OSC1	**CSNet OBS 1**	**3.29**	**146**	P	**Pn**	**23 54 31.0**	**-2.1**
DKL	**Dikili**	**3.29**	**329**	PN	**Pn**	**23 54 34.2**	**+1.1**
ANDZ	**Kutahya, Merke**	**3.31**	**11**	P	**Pn**	**23 54 33.6**	**+0.2**
KDHN	**Kadinhani**	**3.31**	**46**	P	**Pn**	**23 54 34.2**	**+0.8**
BERE	**Bereket-Mersin**	**3.35**	**87**	PN	**Pn**	**23 54 34.4**	**+0.4**
HRKL	**Herakleio**	**3.37**	**255**	PN	**Pn**	**23 54 34.5**	**+0.4**
DURS	**Dursunbey**	**3.37**	**352**	P	**Pn**	**23 54 34.0**	**-0.2**
SZAC	**Souni**	**3.45**	**115**	P	**Pn**	**23 54 33.2**	**-2.1**
SZAC	0.4nm,0.3s			AML	AML	23 55 13.1	
SZAC	0.3nm,0.2s			AML	AML	23 55 13.6	
KRMN	**Karaman**	**3.49**	**74**	PN	**Pn**	**23 54 36.4**	**+0.6**
TEVE	**Tevekalti-Mers**	**3.53**	**86**	PN	**Pn**	**23 54 36.6**	**+0.2**
BUHA	**Balikesir, Bur**	**3.60**	**335**	P	**Pn**	**23 54 38.6**	**+1.2**
AKKU	**Akkuyu-Mersin**	**3.62**	**90**	PN	**Pn**	**23 54 37.8**	**+0.3**
CSS	**Mathiatis**	**3.70**	**109**	PN	**Pn**	**23 54 38.0**	**-0.7**
CSS	**Mathiatis**	**3.70**	**109**	P	**Pn**	**23 54 36.9**	**-1.8**
ASGA	**Asgata**	**3.71**	**112**	P	**Pn**	**23 54 36.7**	**-2.0**
KEBE	**Keben-Mersin**	**3.75**	**86**	PN	**Pn**	**23 54 40.1**	**+0.7**
LFK	**Lefkose**	**3.75**	**104**	PN	**Pn**	**23 54 39.3**	**-0.1**
BORA	**Eskisehir**	**3.78**	**16**	PN	**Pn**	**23 54 38.8**	**-1.0**
MVOU	**Mavrovouni**	**3.91**	**107**	P	**Pn**	**23 54 40.8**	**-0.8**
SRCK	**Saricakaya, Es**	**3.97**	**17**	PN	**Pn**	**23 54 43.4**	**+1.0**
YESY	**Yesilyurt**	**4.03**	**66**	PN	**Pn**	**23 54 44.4**	**+1.1**
OSC2	**CSNet OBS 4**	**4.12**	**139**	P	**Pn**	**23 54 44.0**	**-0.5**
IMMV	**Iera Moni Meta**	**4.21**	**261**	PN	**Pn**	**23 54 47.0**	**+1.3**
GVD	**Gavdhos**	**4.31**	**252**	PN	**Pn**	**23 54 48.2**	**+1.2**
RODP	**Rodopos**	**4.37**	**262**	PN	**Pn**	**23 54 49.2**	**+1.3**
KNDR	**Palaiochora Ch**	**4.50**	**258**	PN	**Pn**	**23 54 51.6**	**+1.9**
YUVA	**Yuva-Kibriscik**	**4.61**	**26**	PN	**Pn**	**23 54 52.9**	**+1.6**
GELI	**Tayfur-Gelibol**	**4.61**	**334**	PN	**Pn**	**23 54 52.9**	**+1.7**
GADA	**Gvkgeada**	**4.66**	**328**	PN	**Pn**	**23 54 53.5**	**+1.7**
SLUM	**Salum** baz=220	**5.74**	**215**	P	**Pn**	**23 55 06.4**	**-0.3**
HMYD	**Mayadein** baz=165	**6.60**	**167**	P	**Pn**	**23 55 16.0**	**-2.6**
KOT	**Kottamia** baz=157	**6.72**	**159**	P	**Pn**	**23 55 18.1**	**-2.1**
HNAT	**Natroun** baz=167	**6.73**	**168**	P	**Pn**	**23 55 18.1**	**-2.3**
HNAT	baz=167			S	Sn	23 56 21.4	-15
HHAG	**Hagoal** baz=155	**6.78**	**157**	P	**Pn**	**23 55 18.9**	**-2.1**
HSAF	**As Saff** baz=160	**6.94**	**162**	P	**Pn**	**23 55 21.0**	**-2.2**
GLL	**Jalalah** baz=159	**7.02**	**161**	P	**Pn**	**23 55 22.2**	**-2.1**
RYAN	**Fayoum** baz=171	**7.23**	**172**	P	**Pn**	**23 55 24.5**	**-2.6**
SWA2	baz=208	**7.63**	**205**	P	**Pn**	**23 55 31.0**	**-1.6**
SWA2	baz=208			S	Sn	23 56 45.3	-14
NBNS	**Bani Suef** baz=164	**7.84**	**166**	P	**Pn**	**23 55 32.1**	**-3.5**
TAMRE	**El Minia** baz=168	**8.69**	**169**	P	**Pn**	**23 55 44.2**	**-3.0**
HFRF	**Wahat Farafira** baz=185	**9.11**	**184**	P	**Pn**	**23 55 50.2**	**-2.7**

*TUL **22** 00:06:58.6±0.7, 35°.93N±0°.01×96°.74W±0°.02, h4km±4km, ML2.4, mb_Lg2.6/10(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=139.0*

NEIC 22 00:06:59.0±0.9, 35°.94N±0°.01×96°.74W±0°.02, h6km±1km, Error ellipse: s-maj=2.0km s-min=1.8km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	**Leonard**	**0.77**	**92**		Pg	00 07 13.4	-0.4
TUL1				Sg	Sg	00 07 23.7	-0.1
OKCSW	**OKLAHOMA CITY**	**0.78**	**227**	Pg	Pg	00 07 13.9	-0.2
OKCFA	**Oklahoma City**	**0.78**	**228**	Pg	Pg	00 07 13.4	-0.7
W35A	**Tecumseh**	**0.80**	**188**	Pg	Pg	00 07 13.5	-0.8
FNO	**Franklin**	**0.87**	**218**		Pg	00 07 14.3	-1.5
T35A	**Sooner Cattle**	**0.99**	**11**		Pg	00 07 17.6	-0.4
X34A	**Smith Ranch, M**	**1.61**	**214**		Pn	00 07 27.4	-0.7
X37A	**Clayton**	**1.75**	**140**	Pn	Pn	00 07 30.4	+0.4
X37A	comp=Z,20nm,0.9s			lAmb_Lg		00 07 58.0	
U32A	**Winter Ranch,**	**1.88**	**284**	Pn	Pn	00 07 31.9	+0.1
WMOK	**Wichita Mounta**	**2.06**	**235**	Pn	Pn	00 07 34.3	+0.1
HHAR	**Hobbs**	**2.29**	**81**	Pn	Pn	00 07 38.0	+0.5
W39A	**Magazine**	**2.52**	**106**		Pn	00 07 40.8	+0.2
WHAR	**Wooly Hollow**	**3.68**	**99**	Pn	Pn	00 07 56.8	+0.3
MGMO	**Mountain Grove** comp=Z,13nm,0.8s	**3.80**	**70**	lAmb_Lg		00 09 02.8	
P38A	**Dawn** comp=Z,7.7nm,1.1s	**4.47**	**34**	lAmb_Lg		00 09 31.3	
S44A	**Carbondale** comp=Z,9.3nm,0.7s	**6.25**	**72**	lAmb_Lg		00 10 20.3	
K31A	**O'Neill** comp=Z,11nm,0.8s	**6.85**	**347**	lAmb_Lg		00 10 32.7	

*DJA **22** 00:07:05.2±0.5, 11°.5S±4°×11°.4E±°, h10km, M4.1/8, mb4.9/1, MLv3.7/8*
*IDC **22** 00:07:06.0±3.4, 11°.07S×113°.80E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.1/30, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=169.0km s-min=27.6km az=45.0*

ISC 22 00:07:06.3±1.1, 10°.9S±0°.1×113°.83E±0°.08, h10km, n13, σ1§36/13, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.45**	**8**	P	**Pn**	**00 07 45.3**	**-1.1**
IGBI	**Denpasar**	**2.46**	**32**	P	**Pn**	**00 07 45.6**	**-0.8**
GMJI	**Gumukmas**	**2.65**	**352**	P	**Pn**	**00 07 47.9**	**-1.2**
ABJI	**Asem Bagus**	**3.13**	**7**	P	**Pn**	**00 07 54.1**	**-1.5**
SRBI	**Singaraja**	**3.13**	**26**	P	**Pn**	**00 07 56.0**	**+0.3**
PWJI	**Pagerwojo**	**3.50**	**325**	P	**Pn**	**00 07 59.9**	**-0.9**
PCJI	**Pacitan**	**3.76**	**316**	P	**Pn**	**00 08 03.2**	**-1.2**
PLAI	**Plampang**	**4.41**	**62**	P	**Pn**	**00 08 12.8**	**-0.5**
UGM	**Wanagama**	**4.42**	**312**	P	**Pn**	**00 08 12.9**	**-0.6**
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=307,slow=10,SNR=1.0	**13.48**	**123**	Pn	**Pn**	**00 10 15.9**	**-1.8**
FITZ	0.1nm,0.3s,baz=288,slow=7.3,SNR=2.0			Sn	Sn	00 12 32.1	-16
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=290,slow=11,SNR=6.2	**21.69**	**117**	P	**P**	**00 11 58.8**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=304,slow=9.6,SNR=7.6	**22.95**	**126**	P	**P**	**00 12 11.7**	**+0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=149,slow=8.3,SNR=2.1	**63.99**	**336**	P	**P**	**00 17 42.2**	**+2.2**

*NEIC **22** 00:24:13.1±1.7, 21°.8S±0°.2×177°.52W±0°.06, h399km±13km, mb4.1/21, Error ellipse: s-maj=24.1km s-min=4.9km az=166.0*

*IDC **22** 00:24:22.6±32.0, 21°.34S×178°.49W, h457km±299km, mb3.1/3, mb1 3.3/3, mb1mx3.0/21, mbtmp4.0/3, Error ellipse: s-maj=191.9km s-min=115.9km az=79.0*

ISC 22 00:24:12.6±0.7, 21°.9S±0°.2×177°.51W±0°.09, h400km, n33, σ1§26/34, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.38**	**183**	Pn	Pn	00 25 50.3	-10
NIUE	**Niue**	**7.63**	**70**	**P**	**P**	**00 26 04.3**	**+0.4**
NIUE				Sn	**S**	**00 27 32.8**	**-1.2**
DZM	**Mont Dzumac**	**14.89**	**266**	P	**P**	**00 27 23.3**	**-0.8**
BKZ	**Black Stump Fm**	**18.00**	**195**	P	**P**	**00 27 58.0**	**+0.9**
BKZ				IAmb	IAmb	00 28 10.9	
	comp=Z,19nm,1.2s						
BFZ	**Birch Farm**	**19.50**	**194**	P	**P**	**00 28 13.1**	**+0.8**
MSWZ	**Moikau Station**	**20.44**	**196**	P	**P**	**00 28 21.0**	**0.0**
PLWZ	**Palliser**	**20.58**	**196**	P	**P**	**00 28 23.5**	**+1.2**
THZ	**Tophouse**	**21.43**	**200**	P	**P**	**00 28 33.1**	**+3.1**
THZ				IAmb	IAmb	00 28 48.5	
	comp=Z,21nm,1.3s						
KHZ	**Kahutara**	**21.83**	**198**	P	**P**	**00 28 36.3**	**+2.7**
OXZ	**Oxford**	**23.11**	**200**	P	**P**	**00 28 42.8**	**-2.4**
WKZ	**Wanaka**	**25.46**	**203**	P	**P**	**00 29 06.4**	**+0.2**
ARMA	**Armidale**	**28.92**	**246**	P	**P**	**00 29 38.4**	**+1.3**
ARMA				IAmb	IAmb	00 29 52.7	
	comp=Z,17nm,1.3s						
TOO	**Toolangi**	**35.49**	**235**	P	**P**	**00 30 33.7**	**+0.3**
TOO				IAmb	IAmb	00 30 40.6	
	comp=Z,19nm,1.4s						
MCQ	**Macquarie Isla**	**37.12**	**203**	P	**P**	**00 30 44.5**	**-2.2**
STKA	**Stephens Creek**	**37.63**	**246**	P	**P**	**00 30 52.4**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=86,slow=9.3,SNR=6.4						
STKA	**Stephens Creek**	**37.63**	**246**	P	**P**	**00 30 52.2**	**+0.8**
COEN	**Coen**	**38.14**	**275**	P	**P**	**00 30 55.4**	**-0.4**
COEN				IAmb	IAmb	00 31 14.5	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**42.37**	**245**	P	**P**	**00 31 29.7**	**-0.1**
BBOO				IAmb	IAmb	00 31 58.4	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**44.67**	**258**	P	**P**	**00 31 48.2**	**+0.2**
ASAR	**Alice Springs**	**44.67**	**258**	P	**P**	**00 31 47.7**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=93,slow=8.1,SNR=22						
ASAR				PcP	**PcP**	**00 33 23.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=87,slow=3.2,SNR=2.1						
ASAR	**Alice Springs**	**44.67**	**258**	P	**P**	**00 31 48.7**	**+0.7**
WR0	**Warramunga Arr**	**44.69**	**263**	P	**P**	**00 31 47.4**	**-0.8**
WR0				IAmb	IAmb	00 32 04.3	
	comp=Z,8.5nm,1.4s						
WB0	**Warramunga Arr**	**44.87**	**264**	P	**P**	**00 31 48.7**	**-0.8**
WB0				IAmb	IAmb	00 32 05.7	
	comp=Z,5.7nm,1.4s						
WB2	**Warramunga Arr**	**44.87**	**263**	P	**P**	**00 31 48.7**	**-0.8**
WRA	**Warramunga Arr**	**44.88**	**263**	P	**P**	**00 31 47.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.88**	**263**	P	**P**	**00 31 48.4**	**-1.3**
KNRA	**Kununurra**	**51.04**	**267**	P	**P**	**00 32 35.6**	**-0.6**
KNRA				IAmb	IAmb	00 32 41.8	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.31**	**263**	P	**P**	**00 32 52.5**	**-0.2**
MORW	**Morawa**	**59.75**	**248**	P	**P**	**00 33 37.4**	**+0.1**
MORW				IAmb	IAmb	00 33 56.2	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**80.45**	**200**	P	**P**	**00 35 40.7**	**0.0**
MAW				IAmb	IAmb	00 36 03.0	
	comp=Z,2.9nm,1.2s						
MKAR	**Makanchi Array**	**112.45**	**313**	PKiKP	**PKiKP**	**00 42 04.0**	**+2.1**
	comp=Z,1.1nm,0.4s,baz=94,slow=2.0,SNR=4.8						
AKASG	**Malin Array Be**	**144.41**	**331**	PKP	**PKPdf**	**00 43 01.8**	**0.0**
	comp=Z,1.5nm,0.4s,baz=40,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**148.08**	**311**	PKPbc	**PKiKP**	**00 43 14.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=138,slow=4.1,SNR=7.9						

*IDC **22** 00:27:53.6±2.1, 20°.10S×177°.76W, h467km±24km, mb3.5/10, mb1 3.8/13, mb1mx3.7/24, mbtmp4.4/13, Error ellipse: s-maj=25.5km s-min=13.2km az=142.0*
*NEIC **22** 00:27:55.5±2.2, 20°.12S±0°.1×177°.6W±0°.1, h486km±8km, mb4.2/103, Error ellipse: s-maj=17.7km s-min=12.8km az=118.0*

ISC 22 00:27:52.4±0.4, 20°.06S±0°.06×177°.75W±0°.06, h450km, n197, σ1§62/194, mb4.2/63, 14C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.44**	**84**	P	**P**	**00 29 43.9**	**+2.0**
NIUE	**Niue**	**7.44**	**84**	P	**S**	**00 31 15.9**	**+4.4**
AFI	**Afiamalu**	**8.37**	**44**	P	**P**	**00 29 53.0**	**+1.0**
	20nm,0.3s,baz=211,slow=1.1,SNR=11						
AFI				S	**S**	**00 31 26.0**	**-4.1**
	13nm,0.3s,baz=220,slow=23,SNR=10						
AFI	**Afiamalu**	**8.37**	**44**	P	**P**	**00 29 53.8**	**+1.8**
AFI				S	**S**	**00 31 28.7**	**-1.3**
AFI	**Afiamalu**	**8.37**	**44**	P	**S**	**00 31 27.8**	**-2.2**
RAO	**Raoul Island**	**9.15**	**181**	P	**P**	**00 30 03.1**	**+3.0**
FUNA	**Funafuti**	**11.84**	**345**	P	**P**	**00 30 32.9**	**+3.3**
MARNC	**Mare, Loyalty**	**13.38**	**261**	P	**P**	**00 30 50.2**	**+4.1**
PINNC	**Pines Island,**	**14.03**	**257**	P	**P**	**00 30 57.0**	**+3.9**
LIFNC	**LIFOU**	**14.09**	**264**	P	P	00 30 43.7	-10
OUENC	**Ouen Island, N**	**14.56**	**258**	P	**P**	**00 31 01.4**	**+2.5**
DZM	**Mont Dzumac**	**14.89**	**259**	P	**P**	**00 31 05.1**	**+2.6**
	0.9nm,0.3s,baz=90,slow=18,SNR=11						
DZM	**Mont Dzumac**	**14.89**	**259**	P	**P**	**00 31 06.2**	**+3.7**
SANVU	**Saraoutou**	**15.05**	**285**	P	**P**	**00 31 09.2**	**+5.1**
SANVU	**Saraoutou**	**15.05**	**285**	P	**P**	**00 31 11.0**	**+6.9**
	38nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.86**	**265**	P	**P**	**00 31 27.8**	**+4.6**
OUZ	**Omahuta**	**16.92**	**205**	P	**P**	**00 31 27.2**	**+3.5**
OUZ	**Omahuta**	**16.92**	**205**	P	P	00 31 15.1	-8.6
HAZ	**Te Kaha**	**18.06**	**193**	P	**P**	**00 31 36.0**	**+0.5**
RUGZ	**Raukumara Rang**	**18.28**	**192**	P	**P**	**00 31 39.7**	**+1.8**
TOZ	**Tahuroa Road**	**18.56**	**197**	P	**P**	**00 31 42.3**	**+1.9**
URZ	**Urewera**	**18.68**	**193**	P	**P**	**00 31 40.0**	**-1.5**
	2.9nm,0.3s,baz=303,slow=5.2,SNR=12						
URZ				S	**S**	**00 34 43.3**	**-5.4**
	0.6nm,0.3s,baz=38,slow=10,SNR=1.8						
URZ	**Urewera**	**18.68**	**193**	P	**P**	**00 31 40.9**	**-0.5**
URZ	**Urewera**	**18.68**	**193**	P	**P**	**00 31 40.5**	**-1.0**
URZ	**Urewera**	**18.68**	**193**	P	**P**	**00 31 40.4**	**-1.0**
HSRZ	**Hossack Road**	**18.92**	**195**	P	**P**	**00 31 40.8**	**-3.0**
HRRZ	**Handcock Road**	**18.99**	**195**	P	**P**	**00 31 41.2**	**-3.2**
RTZ	**Ruatahuna**	**19.05**	**193**	P	**P**	**00 31 41.5**	**-3.5**
BKZ	**Black Stump Fm**	**19.68**	**193**	P	**P**	**00 31 49.8**	**-0.9**
BKZ	**Black Stump Fm**	**19.68**	**193**	P	**P**	**00 31 49.5**	**-1.3**
TMVZ	**Te Maari**	**19.82**	**195**	P	**P**	**00 31 51.9**	**-0.1**
ETVZ	**East Tongariro**	**19.83**	**195**	P	**P**	**00 31 52.1**	**-0.1**
NNVZ	**North Ngauruho**	**19.85**	**195**	P	**P**	**00 31 53.3**	**+0.9**
BFZ	**Birch Farm**	**21.19**	**193**	P	**P**	**00 32 03.1**	**-1.3**
BFZ	**Birch Farm**	**21.19**	**193**	P	**P**	**00 32 03.3**	**-1.1**
MSWZ	**Moikau Station**	**22.11**	**194**	P	**P**	**00 32 13.2**	**+0.5**
SNZO	**South Karori**	**22.14**	**195**	P	**P**	**00 32 12.4**	**-0.6**
BHW	**Baring Head**	**22.19**	**195**	P	**P**	**00 32 12.4**	**-1.0**
PLWZ	**Palliser**	**22.25**	**194**	P	**P**	**00 32 13.0**	**-1.1**
QRZ	**Quartz Range**	**22.30**	**200**	P	**P**	**00 32 15.2**	**+0.7**
QRZ	**Quartz Range**	**22.30**	**200**	P	**P**	**00 32 10.9**	**-3.6**
NNZ	**Nelson**	**22.40**	**198**	P	**P**	**00 32 15.8**	**+0.4**
NNZ				IAmb	IAmb	00 32 19.9	
	comp=Z,12nm,1.2s						
TUWZ	**Tuamarina**	**22.44**	**197**	P	**P**	**00 32 15.3**	**-0.4**
BSWZ	**Blackbirch Sta**	**22.73**	**196**	P	**P**	**00 32 19.6**	**+1.2**
THZ	**Tophouse**	**23.04**	**198**	P	**P**	**00 32 21.5**	**+0.2**
TARA	**Tarawa**	**23.16**	**336**	P	**P**	**00 32 23.9**	**+1.3**
KHZ	**Kahutara**	**23.47**	**196**	P	**P**	**00 32 24.6**	**-0.4**
KHZ				IAmb	IAmb	00 32 43.4	
	comp=Z,7.6nm,0.9s						
KHZ	**Kahutara**	**23.47**	**196**	P	**P**	**00 32 23.4**	**-1.6**
LTZ	**Lake Taylor**	**24.16**	**198**	P	**P**	**00 32 30.2**	**-1.1**
MQZ	**McQueen's Vall**	**24.91**	**197**	P	**P**	**00 32 37.4**	**-0.4**
MQZ				IAmb	IAmb	00 32 44.0	
	comp=Z,8.1nm,0.9s						
RPZ	**Rata Peaks**	**25.38**	**199**	P	**P**	**00 32 42.3**	**+0.3**
	comp=Z,5.7nm,0.5s,baz=344,slow=2.9,SNR=5.4						
RPZ	**Rata Peaks**	**25.38**	**199**	P	**P**	**00 32 42.4**	**+0.3**
FOZ	**Fox Glacier**	**25.62**	**201**	P	**P**	**00 32 45.1**	**+1.0**
LBZ	**Lake Benmore**	**26.26**	**200**	P	**P**	**00 32 49.3**	**-0.5**
ODZ	**Otahua Downs**	**26.71**	**199**	P	**P**	**00 32 53.6**	**-0.1**
ODZ				IAmb	IAmb	00 33 08.2	
	comp=Z,11nm,1.1s						
WKZ	**Wanaka**	**27.03**	**201**	P	**P**	**00 32 58.2**	**+1.6**
MLZ	**Mavora Lakes**	**27.81**	**202**	P	**P**	**00 33 05.3**	**+1.8**
MLZ				IAmb	IAmb	00 33 12.4	
	comp=Z,12nm,1.1s						
DCZ	**Deep Cove**	**28.24**	**203**	P	**P**	**00 33 07.2**	**+0.1**
DCZ				IAmb	IAmb	00 33 07.5	
	comp=Z,15nm,0.9s						
WHZ	**Wether Hill Ro**	**28.33**	**201**	P	**P**	**00 33 09.4**	**+1.4**
EIDS	**Eidsvold**	**29.19**	**254**	P	**P**	**00 33 17.0**	**+1.2**
ARMA	**Armidale**	**29.47**	**243**	P	**P**	**00 33 19.6**	**+1.2**
ARMA				IAmb	IAmb	00 33 20.1	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**36.35**	**233**	P	**P**	**00 34 17.3**	**+0.5**
COEN	**Coen**	**37.79**	**273**	P	**P**	**00 34 29.9**	**+0.9**
COEN				IAmb	IAmb	00 34 30.7	
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**38.19**	**244**	P	**P**	**00 34 32.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=78,slow=9.9,SNR=4.7						
STKA	**Stephens Creek**	**38.19**	**244**	P	**P**	**00 34 33.0**	**+0.9**
BBOO	**Buckleboo**	**42.95**	**243**	P	**P**	**00 35 10.6**	**+0.2**
WR0	**Warramunga Arr**	**44.71**	**262**	P	**P**	**00 35 23.9**	**-0.3**
AS31	**Alice Springs**	**44.85**	**256**	P	**P**	**00 35 25.5**	**+0.2**
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**00 35 25.2**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=86,slow=8.7,SNR=67						
ASAR				S	**S**	**00 41 24.4**	**-4.8**
	comp=Z,0.8nm,0.6s,baz=93,slow=16,SNR=6.3						
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**00 35 25.0**	**-0.3**
WB0	**Warramunga Arr**	**44.87**	**262**	P	**P**	**00 35 25.3**	**-0.2**
WB0				IAmb	IAmb	00 35 25.7	
	comp=Z,3.7nm,0.6s						
WB2	**Warramunga Arr**	**44.88**	**262**	P	**P**	**00 35 25.4**	**-0.2**
WB2				IAmb	IAmb	00 35 25.7	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**00 35 25.0**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=98,slow=7.8,SNR=60						
WRA				S	**S**	**00 41 24.4**	**-5.5**
	comp=Z,0.4nm,0.8s,baz=102,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**00 35 25.3**	**-0.4**
MTN	**Manton Dam**	**49.40**	**270**	P	**P**	**00 35 59.7**	**-0.2**
MTN				IAmb	IAmb	00 36 05.7	
	comp=Z,11nm,1.0s						
FORT	**Forrest**	**49.69**	**246**	P	**P**	**00 36 01.6**	**-0.2**
FORT				IAmb	IAmb	00 36 01.8	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**50.92**	**266**	P	**P**	**00 36 11.2**	**+0.1**
KNRA				IAmb	IAmb	00 36 12.0	
	comp=Z,8.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	P	**P**	**00 36 28.7**	**+0.3**
PSA00	**Pilbara Seismi**	**58.00**	**257**	P	**P**	**00 37 00.7**	**-0.4**
PSA00				IAmb	IAmb	00 37 18.6	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**60.21**	**247**	P	**P**	**00 37 15.9**	**0.0**
MORW				IAmb	IAmb	00 37 25.6	
	comp=Z,10nm,1.1s						
GIRL	**Giralia**	**62.90**	**254**	P	**P**	**00 37 33.4**	**-0.3**
CASY	**Casey**	**64.46**	**205**	P	**P**	**00 37 42.6**	**-0.3**
CASY				IAmb	IAmb	00 37 50.1	
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**70.01**	**180**	P	**P**	**00 38 17.6**	**+0.2**
QSPA				IAmb	IAmb	00 38 20.2	
	comp=Z,4.7nm,0.7s						
PETK	**Petropavlovsk-**	**75.91**	**345**	P	**P**	**00 38 51.6**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=208,slow=2.8,SNR=2.3						
SII	**Sitkinak Islan**	**78.86**	**13**	P	**P**	**00 39 06.8**	**-0.6**
CMB	**Columbia Colle**	**78.98**	**43**	P	**P**	**00 39 08.8**	**+0.3**
ORV	**Oroville**	**79.19**	**41**	P	**P**	**00 39 09.4**	**-0.1**
OHAK	**Old Harbor**	**79.67**	**13**	P	**P**	**00 39 11.4**	**-0.2**
YBH	**Yreka Blue Hor**	**79.80**	**39**	P	**P**	**00 39 14.0**	**+1.2**
BEKR	**Beckworth**	**80.08**	**41**	P	**P**	**00 39 15.2**	**+0.7**
HUMO	**Hull Mountain**	**80.20**	**38**	P	**P**	**00 39 15.2**	**+0.3**
HUMO				IAmb	IAmb	00 39 20.0	
	comp=Z,8.0nm,1.1s						
LCH	**Last Change Ra**	**80.30**	**45**	P	**P**	**00 39 16.2**	**+0.6**
L04D	**Klamath Falls**	**80.34**	**38**	P	**P**	**00 39 16.2**	**+0.4**
L04D				IAmb	IAmb	00 39 17.4	
	comp=Z,13nm,0.9s						
NVAR	**Mina Array Bea**	**80.54**	**43**	P	**P**	**00 39 17.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=231,slow=9.6,SNR=7.1						
MOD	**Modoc Plateau**	**81.33**	**40**	P	**P**	**00 39 20.8**	**-0.1**
MOD				IAmb	IAmb	00 39 22.4	
	comp=Z,3.9nm,0.7s						
K05A	**Summer Lake**	**81.47**	**39**	P	**P**	**00 39 22.2**	**+0.5**
MAW	**Mawson**	**82.06**	**200**	P	**P**	**00 39 23.7**	**-0.3**
PINE	**Pine Mountain**	**82.09**	**38**	P	**P**	**00 39 26.2**	**+1.4**
PINE				IAmb	IAmb	00 39 26.9	
	comp=Z,7.9nm,0.8s						
PRN	**Pahroc Range**	**82.12**	**46**	P	**P**	**00 39 26.4**	**+1.4**
PRN				IAmb	IAmb	00 39 27.0	
	comp=Z,5.5nm,0.9s						
CNPM	**China Poot**	**82.22**	**13**	P	**P**	**00 39 24.0**	**-0.9**
BMN	**Battle Mountai**	**82.37**	**42**	P	**P**	**00 39 26.0**	**-0.3**
BMN				IAmb	IAmb	00 39 27.7	
	comp=Z,5.2nm,0.9s						
TUC	**Tucson**	**82.52**	**52**	P	**P**	**00 39 27.4**	**+0.2**
TUC				IAmb	IAmb	00 39 29.6	
	comp=Z,5.9nm,0.9s						
F04A	**Amboy**	**82.59**	**35**	P	**P**	**00 39 27.2**	**+0.2**
F04A				IAmb	IAmb	00 39 27.9	
	comp=Z,13nm,1.0s						
HG4B	**Hotspring**	**82.65**	**27**	P	**P**	**00 39 23.7**	**-3.5**
NLWA	**Neilton Lookou**	**82.74**	**34**	P	**P**	**00 39 27.9**	**0.0**
NLWA				IAmb	IAmb	00 39 27.9	
	comp=Z,6.8nm,1.1s						
C03A	**Quillayute Air**	**82.74**	**33**	P	**P**	**00 39 27.3**	**-0.5**
N19K	**Bonanza Creek**	**82.75**	**11**	P	**P**	**00 39 26.4**	**-1.2**
N19K				IAmb	IAmb	00 39 41.7	
	comp=Z,7.0nm,1.1s						
X16A	**Lo Mia Camp, P**	**83.08**	**50**	P	**P**	**00 39 30.0**	**-0.1**
X16A				IAmb	IAmb	00 39 32.2	
	comp=Z,8.1nm,1.2s						
I07A	**Izee**	**83.10**	**38**	P	**P**	**00 39 30.4**	**+0.5**
I07A				IAmb	IAmb	00 39 31.5	
	comp=Z,6.7nm,0.9s						
319A	**Douglas**	**83.20**	**53**	P	**P**	**00 39 30.4**	**-0.2**
319A				IAmb	IAmb	00 39 33.0	
	comp=Z,8.7nm,0.8s						
J08A	**Circle Bar Ran**	**83.28**	**39**	P	**P**	**00 39 30.6**	**-0.2**
J08A				IAmb	IAmb	00 39 31.7	
	comp=Z,3.5nm,0.6s						
CCUT	**Cedar City**	**83.33**	**46**	P	**P**	**00 39 30.2**	**-1.1**
CAPN	**Captain Cook N**	**83.36**	**13**	P	**P**	**00 39 30.0**	**-0.5**
KNB	**Kanab**	**83.43**	**47**	P	**P**	**00 39 31.2**	**-0.5**
KNB				IAmb	IAmb	00 39 33.6	
	comp=Z,4.6nm,0.9s						
GAMB	**Gambell**	**83.69**	**3**	P	**P**	**00 39 32.1**	**0.0**
GAMB				IAmb	IAmb	00 39 33.0	
	comp=Z,4.1nm,0.8s						
M19K	**Big River Lodg**	**83.79**	**11**	P	**P**	**00 39 31.7**	**-1.0**
M19K				IAmb	IAmb	00 39 40.7	
	comp=Z,5.0nm,1.1s						
ELK	**Elko**	**83.80**	**43**	P	**P**	**00 39 33.0**	**-0.6**
L19K	**White Mountain**	**83.96**	**11**	P	**P**	**00 39 33.2**	**-0.4**
L19K				IAmb	IAmb	00 39 35.1	
	comp=Z,4.3nm,0.9s						
PWL	**Port Wells**	**84.06**	**14**	P	**P**	**00 39 33.4**	**-0.8**
PWL				IAmb	IAmb	00 39 34.6	
	comp=Z,5.9nm,1.0s						
G08A	**Pilot Rock**	**84.12**	**37**	P	**P**	**00 39 34.7**	**-0.2**
G08A				IAmb	IAmb	00 39 36.3	
	comp=Z,4.0nm,0.7s						
TTA	**Tatalina**	**84.47**	**10**	P	**P**	**00 39 35.9**	**-0.3**
GHO	**Glory Hole Cre**	**84.74**	**13**	P	**P**	**00 39 37.1**	**-0.4**
BMO	**Blue Mountains**	**84.83**	**38**	P	**P**	**00 39 38.8**	**+0.4**
F10A	**Beach Ranch, E**	**85.51**	**38**	P	**P**	**00 39 42.2**	**+0.5**
F10A				IAmb	IAmb	00 39 42.6	
	comp=Z,9.6nm,0.8s						
TMUT	**Trail Mountain**	**85.68**	**46**	P	**P**	**00 39 44.0**	**+1.0**
TMUT				IAmb	IAmb	00 39 44.6	
	comp=Z,3.1nm,0.7s						
PLID	**Pearl Lake**	**85.72**	**39**	P	**P**	**00 39 43.3**	**+0.3**
TRF	**Thorofare Moun**	**85.97**	**12**	IAmb	IAmb	00 39 43.7	
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	**86.22**	**13**	P	**P**	**00 39 44.0**	**-0.7**
MNTX	**Cornudas Mount**	**86.31**	**54**	P	**P**	**00 39 46.3**	**+0.5**
MNTX				IAmb	IAmb	00 39 47.5	
	comp=Z,5.1nm,1.0s						
MCK	**McKinley**	**86.49**	**12**	P	**P**	**00 39 44.6**	**-1.3**
MCK				IAmb	IAmb	00 39 46.0	
	comp=Z,9.2nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.62**	**57**	P	**P**	**00 39 48.2**	**+0.7**
TX31				IAmb	IAmb	00 39 49.3	
	comp=Z,9.0nm,0.9s						
TX32	**Lajitas Array**	**86.62**	**57**	P	**P**	**00 39 48.0**	**+0.6**
TXAR	**Lajitas Array**	**86.62**	**57**	P	**P**	**00 39 48.5**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=218,slow=6.7,SNR=28						
TXAR	**Lajitas Array**	**86.62**	**57**	P	**P**	**00 39 48.0**	**+0.5**
ANMO	**Albuquerque**	**86.95**	**51**	P	**P**	**00 39 48.5**	**-0.4**
MCMT	**McKenzie Canyo**	**87.47**	**40**	P	**P**	**00 39 52.3**	**+1.0**
HDA	**Harding Lake**	**87.50**	**13**	IAmb	IAmb	00 39 50.5	
	comp=Z,4.5nm,0.6s						
MDM	**Murphy Dome**	**87.73**	**12**	IAmb	IAmb	00 39 51.4	
	comp=Z,4.7nm,0.8s						
ILAR	**Eielson Array**	**87.83**	**13**	P	**P**	**00 39 50.9**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=218,slow=5.7,SNR=14						
S22A	**4UR Ranch, Cre**	**87.95**	**49**	P	**P**	**00 39 52.9**	**-0.9**
S22A				IAmb	IAmb	00 39 55.1	
	comp=Z,2.8nm,0.9s						
TROLL	**Troll, Antarti**	**88.17**	**180**	P	**P**	**00 39 53.7**	**-0.3**
LOHW	**Long Hollow**	**88.23**	**42**	P	**P**	**00 39 55.1**	**+0.3**
SNAA	**Sanae**	**88.44**	**178**	P	**P**	**00 39 54.5**	**-0.7**
M30M	**Minto, Yukon**	**88.48**	**18**	IAmb	IAmb	00 39 56.0	
	comp=Z,5.5nm,0.8s						
PD31	**Pinedale Array**	**88.48**	**43**	P	**P**	**00 39 55.8**	**-0.2**
PD31				IAmb	IAmb	00 39 56.6	
	comp=Z,2.1nm,0.7s						
PDAR	**Pinedale Array**	**88.48**	**43**	P	**P**	**00 39 56.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=211,slow=3.3,SNR=22						
YHL	**Hebgen Lake**	**88.49**	**41**	P	**P**	**00 39 57.0**	**+0.9**
YHL				IAmb	IAmb	00 39 58.2	
	comp=Z,5.7nm,0.9s						
VNA3	**Neumayer Olymp**	**88.56**	**176**	P	**P**	**00 39 54.5**	**-1.2**
BOZ	**Bozeman (W)**	**88.60**	**40**	P	**P**	**00 39 56.0**	**-0.4**
BOZ				IAmb	IAmb	00 39 57.9	
	comp=Z,4.3nm,0.9s						
DAWY	**Dawson**	**88.97**	**16**	IAmb	IAmb	00 39 58.3	
	comp=Z,3.8nm,0.8s						
VNA2	**Neumayer--Watz**	**89.01**	**177**	P	**P**	**00 39 56.9**	**-0.9**
	baz=192,slow=1.2						
EGAK	**Eagle**	**89.12**	**15**	IAmb	IAmb	00 39 58.8	
	comp=Z,5.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**89.22**	**314**	*e*P	**P**	**00 39 57.8**	**-1.5**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.2s						
PZH	**PanZhiHua**	**90.71**	**298**	P	**P**	**00 40 06.6**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
YKA	**Yellowknife Ar**	**96.02**	**25**	P	**P**	**00 40 28.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=241,slow=4.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**110.30**	**321**	PKiKP	**PKiKP**	**00 45 29.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=2.9,slow=2.9,SNR=1.8						
MKAR	**Makanchi Array**	**111.07**	**314**	PKiKP	**PKiKP**	**00 45 31.7**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=207,slow=0.8,SNR=7.7						
ARCES	**ARCESS Array B**	**128.53**	**350**	PKP	**PKPdf**	**00 46 05.4**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=24,slow=1.5,SNR=7.0						
FINES	**FINESS Array B**	**135.42**	**344**	PKP	**PKPdf**	**00 46 19.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=86,slow=1.8,SNR=1.8						
NOA	**NORSAR Array B**	**138.57**	**353**	PKP	**PKPdf**	**00 46 24.5**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=16,slow=3.5,SNR=1.4						
AKASG	**Malin Array Be**	**142.74**	**332**	PKhKP	PKPpre	00 46 28.7	
	comp=Z,1.0nm,0.4s,baz=42,slow=4.6,SNR=11						
SORM	**Soroca**	**144.95**	**329**	⇑P	**PKPdf**	**00 46 35.3**	**-1.9**
VLDR	**Vladesti**	**146.65**	**326**	⇑P	**PKPdf**	**00 46 39.5**	**-0.7**
BRTR	**Keskin Array B**	**146.72**	**313**	PKPbc	**PKPbc**	**00 46 42.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=142,slow=5.0,SNR=8.8						
BURAR	**Bucovina Array**	**146.79**	**331**	⇑P	**PKPbc**	**00 46 42.9**	**-0.2**
GHRR		**146.85**	**327**

az=166.0
*JSN **22** 00:43:33.3±1.0, 18°.11N×75°.89W, h6km±9km, MD3.9*
*SSNC **22** 00:43:33.5±2.1, 18°.23N×75°.91W, h5km±12km, MD3.6, ML3.6, MW3.2*
*IDC **22** 00:43:36.5±1.8, 17°.91N×75°.50W, h0km, mb3.4/2, mb1 4.0/4, mb1mx3.5/37, mbtmp3.8/4, ML2.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/42, Error ellipse: s-maj=83.0km s-min=27.6km az=64.0*

ISC 22 00:43:30.9±1.3, 18°.26N±0°.04×75°.91W±0°.03, h13km±10km, n56, σ1§36/63, 4C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJ	**Castle Mountai**	**0.46**	**254**	⇑ *i* P	**Pn**	**00 43 42.4**	**-0.8**
GWJ	**Greenwich**	**0.80**	**256**	*i* P	**Pb**	**00 43 47.3**	**+0.5**
HOJ	**Hope**	**0.84**	**252**	⇓ *i* P	**Pg**	**00 43 47.9**	**+0.7**
STH	**Stony Hill**	**0.88**	**258**	⇑ *i* P	**Pg**	**00 43 48.6**	**+0.7**
BBJ	**Bamboo Saint A**	**1.29**	**275**	⇑ *i* P	**Pg**	**00 43 56.7**	**+0.9**
MTDJ	**Mount Denham**	**1.54**	**269**		**Pb**	**00 43 59.6**	**+0.1**
MTDJ				*eS* Sn	**Sb**	**00 44 20.1**	**+1.1**
MTDJ	**Mount Denham**	**1.54**	**269**	*i* P	**Pb**	**00 43 59.9**	**+0.4**
MTDJ				*eS*	**Sb**	**00 44 20.2**	**+1.2**
MTDJ				IAML		00 44 22.8	
	comp=Z,3μm,0.4s						
MTDJ				IAML		00 44 23.2	
	3μm,0.4s						
CVJ	**Coleyville**	**1.54**	**269**	⇑ *i* P	**Pb**	**00 43 59.9**	**+0.4**
MCJ	**Malvern**	**1.72**	**259**	⇓ *i* P	**Pb**	**00 44 02.8**	**+0.3**
MCJ				*i* S	**Sb**	**00 44 24.0**	**-0.2**
RCC	**Rio Carpintero**	**1.73**	**7**	*eP*	**Pb**	**00 44 02.9**	**+0.3**
RCC				*eS*	**Sb**	**00 44 25.4**	**+1.1**
RCC				IAML		00 44 31.1	
	comp=N,162nm,0.3s						
RCC				IAML		00 44 31.5	
	comp=E,122nm,0.3s						
GTBY	**Guantanamo Bay**	**1.82**	**24**		**Pb**	**00 44 04.3**	**+0.2**
GTBY				IAML		00 44 31.5	
	comp=E,387nm,0.3s						
GTBY	**Guantanamo Bay**	**1.82**	**24**	*eP*	**Pg**	**00 44 06.7**	**+0.8**
GTBY	**Guantanamo Bay**	**1.82**	**24**	*i* P	**Pg**	**00 44 06.8**	**+1.0**
GTBY				*eS*	**Sg**	**00 44 28.5**	**-1.0**
GTBY				IAML		00 44 32.7	
	comp=Z,272nm,0.5s						
LMGC	**Las Mercedes**	**2.07**	**330**	*eP*	**Pn**	**00 44 06.2**	**+0.9**
LMGC				*eS*	**Sn**	**00 44 30.4**	**-0.6**
LMGC				IAML		00 44 33.0	
	comp=E,226nm,0.1s						
LMGC				IAML		00 44 33.2	
	comp=N,332nm,0.1s						
MASC	**Masc**	**2.48**	**40**	*eP*	**Pb**	**00 44 14.5**	**-0.8**
MASC				*eS*	**Sb**	**00 44 45.1**	**-0.6**
MASC				IAML		00 44 50.9	
	comp=N,290nm,0.2s						
MASC				IAML		00 44 51.5	
	comp=E,604nm,0.3s						
MOAC	**Moa**	**2.55**	**20**	*eP*	**Pn**	**00 44 13.6**	**+1.6**
MOAC				IAML		00 44 54.9	
	comp=N,228nm,0.6s						
MOAC				IAML		00 44 56.0	
	comp=E,103nm,0.4s						
HLGC	**Holguin**	**2.62**	**357**	*eP*	**Pb**	**00 44 16.9**	**-0.9**
HLGC				*eS*	**Sn**	**00 44 47.0**	**+2.4**
HLGC				IAML		00 44 51.6	
	comp=E,202nm,0.5s						
HLGC				IAML		00 44 51.8	
	comp=N,221nm,0.4s						
LGNH	**Logne**	**3.15**	**85**		**Pn**	**00 44 20.7**	**+0.4**
LGNH				IAML		00 45 22.3	
	comp=E,250nm,0.6s						
LGNH				IAML		00 45 23.0	
	comp=N,337nm,1.0s						
LGNH	**Logne**	**3.15**	**85**	*eP*	**Pn**	**00 44 21.9**	**+1.6**
LGNH	**Logne**	**3.15**	**85**	*i* P	**Pn**	**00 44 21.7**	**+1.5**
JAKH	**Jacmel**	**3.22**	**90**		**Pn**	**00 44 21.9**	**+0.6**
JAKH				IAML		00 45 30.0	
	comp=E,437nm,0.6s						
JAKH	**Jacmel**	**3.22**	**90**	*i* P	**Pn**	**00 44 22.1**	**+0.9**
JAKH				*eS*	**Sb**	**00 45 04.1**	**-3.2**
JAKH				IAML		00 45 34.1	
	comp=Z,71nm,0.8s						
CCCC	**Cccc**	**3.40**	**329**	*eP*	**Pn**	**00 44 24.2**	**+0.4**
CCCC				*eS*	**Sn**	**00 45 01.0**	**-3.0**
CCCC				IAML		00 45 11.3	
	comp=N,25nm,0.3s						
CCCC				IAML		00 45 15.3	
	comp=E,32nm,0.5s						
PAPH	**Port-au-Prince**	**3.44**	**85**	*i* P	**Pn**	**00 44 25.9**	**+1.7**
PAPH				IAML		00 45 36.4	
	comp=Z,86nm,1.6s						
CBCY	**The Bluff, Cay**	**3.92**	**293**	Pn	**Pn**	**00 44 29.2**	**-1.8**
LOPE2	**Hotel El Peder**	**3.97**	**93**	*i* P	**Pn**	**00 44 32.2**	**+0.7**
LCCY	**Blossom Villag**	**4.19**	**290**	Pn	**Pn**	**00 44 32.8**	**-1.8**
LONE2	**Loma La Sidra**	**4.22**	**85**	*i* P	**Pn**	**00 44 36.9**	**+1.7**
LONE2				IAML		00 45 52.6	
	comp=Z,80nm,0.7s						
SDDR	**Presa de Saban**	**4.44**	**80**		**Pn**	**00 44 39.1**	**+1.0**
SDDR				IAML		00 45 56.4	
	comp=Z,104nm,0.8s						
SDDR				IAML		00 46 15.8	
	comp=Z,89nm,1.3s						
SDDR	**Presa de Saban**	**4.44**	**80**	*eP*	**Pn**	**00 44 38.7**	**+0.6**
SDDR	**Presa de Saban**	**4.44**	**80**	*i* P	**Pn**	**00 44 39.0**	**+0.9**
SDDR				*eS*	**Sn**	**00 45 34.3**	**+4.6**
SDDR				IAML		00 46 13.0	
	comp=Z,35nm,0.6s						
LOBA2	**Hotel Casa Bon**	**4.58**	**92**	*i* P	**Pn**	**00 44 41.2**	**+1.3**
FSCY	**Frank Sound, G**	**5.10**	**283**	Pn	**Pn**	**00 44 46.4**	**-0.7**
BANI	**BANI**	**5.28**	**88**		**Pn**	**00 44 51.6**	**+2.0**
BANI	**BANI**	**5.28**	**88**	*i* P	**Pn**	**00 44 51.6**	**+2.0**
DR12	**Loma Pena Alta**	**6.22**	**84**		**Pn**	**00 45 03.8**	**+1.2**
PRVC	**Isla de Provid**	**7.15**	**228**	Pn	**Pn**	**00 45 15.4**	**0.0**
SJCC	**San Jacinto, C**	**8.35**	**175**	Pn	**Pn**	**00 45 31.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**8.37**	**90**	Pn	**Pn**	**00 45 31.2**	**-0.9**
MLPR	**Magueyes Islan**	**8.44**	**91**	Pn	**Pn**	**00 45 31.9**	**-1.0**
OBIP	**Obispado Ponce**	**8.85**	**90**	Pn	**Pn**	**00 45 37.3**	**-1.3**
CELP	**Cerrillos**	**8.87**	**90**	Pn	**Pn**	**00 45 38.6**	**-0.3**
PDPR	**Patillas Dam,**	**9.40**	**90**		**Pn**	**00 45 46.3**	**0.0**
BCIP	**Isla Barro Col**	**9.81**	**203**	Pn	**Pn**	**00 45 49.2**	**-2.7**
MTP	**Monte Pirata**	**9.85**	**89**		**Pn**	**00 45 52.7**	**+0.4**
SDV	**Santo Domingo**	**10.64**	**151**	Pn	**Pn**	**00 46 02.7**	**-0.7**
SDV	comp=Z,0.6nm,0.3s,baz=19,slow=7.3,SNR=5.8			*eS* Sn	Sn	00 47 52.6	-10
	comp=Z,2.9nm,0.3s,baz=240,slow=17,SNR=5.5						
SDV	**Santo Domingo**	**10.64**	**151**		**Pn**	**00 46 01.9**	**-1.5**
ZARC	**Zaragoza, Cauc**	**10.76**	**174**		**Pn**	**00 46 03.9**	**-0.9**
ROSC	**El Rosal**	**13.43**	**173**	Pn	**Pn**	**00 46 42.3**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=38,slow=22,SNR=2.2						
ROSC				*eS* Sn	Sn	00 49 01.1	-10
	comp=Z,1.3nm,0.3s,baz=127,slow=20,SNR=2.1						
ROSC	**El Rosal**	**13.43**	**173**		**Pn**	**00 46 41.4**	**-0.3**
TXAR	**Lajitas Array**	**27.61**	**299**	P	P	00 49 29.9	+12
	comp=Z,0.4nm,0.8s,baz=113,slow=8.9,SNR=4.5						
NNA	**Nana**	**30.07**	**182**	LR	LR	01 04 10.0	
	comp=Z,30nm,18.1s,baz=250,slow=42						
YKA	**Yellowknife Ar**	**51.67**	**338**	P	P	00 52 48.0	+11
	comp=Z,0.4nm,0.9s,baz=129,slow=8.2,SNR=5.3						
BBB	**Bella Bella**	**52.84**	**322**	LR	LR	01 16 49.4	
	comp=Z,24nm,18.4s,baz=189,slow=37						
WRA	**Warramunga Arr**	**151.38**	**262**	PKPbc	**PKPab**	**01 03 34.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=80,slow=2.4,SNR=2.0						
ASAR	**Alice Springs**	**151.68**	**254**	PKPbc	**PKPab**	**01 03 35.6**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=105,slow=3.3,SNR=2.1						

*SKO **22** 00:45:58.0, 41°.83N×22°.81E, h15km*

BEO 22 00:46:25.2±1.1, 41°.84N×22°.83E, h1km±5km, ML1.5/6, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.50**	**253**	*i* Pg	Pg	00 46 29.6	-5.2
STIP				*i* Sg	Sg	00 46 34.1	-7.3
STIP				*eLg*	Lg	00 46 34.4	
	comp=N,41nm,0.2s						
VAY	**Valandovo**	**0.55**	**201**	*i* Pg	Pg	00 46 34.9	-0.9
VAY				*i* Sg	Sg	00 46 41.8	-1.1
VAY				*eLg*	Lg	00 46 42.0	
	comp=E,27nm,0.3s						
BOSS	**Bosilegrad**	**0.70**	**339**	*ePg*	Pg	00 46 37.8	-0.9
BOSS				*eSg*	Sg	00 46 47.9	0.0
VTS	**Vitosha**	**0.83**	**21**	⇓ P	Sg	00 46 50.8	-1.2
VTS	**Vitosha**	**0.83**	**21**	*ePg*	Pg	00 46 39.5	-1.7
VTS				*eSg*	Sg	00 46 50.9	-1.1
VTS	**Vitosha**	**0.83**	**21**	*i* Pg	Pg	00 46 39.3	-1.9
VTS				*i* Sg	Sg	00 46 50.6	-1.4
PRVS	**Prvonek**	**0.87**	**320**	*ePg*	Pg	00 46 40.7	-1.2
PRVS				*eSg*	Sg	00 46 53.1	-0.1
BARS	**Barje**	**1.23**	**323**	*ePg*	Pg	00 46 47.7	-1.1
BARS				*eSg*	Sg	00 47 04.2	-0.6
BARS	**Barje**	**1.23**	**323**	*i* Pn	Pg	00 46 47.0	-1.8
BARS				*i* Sn	Sg	00 47 04.4	-0.4
ZAPS	**Zavoj**	**1.44**	**354**	*ePg*	Pn	00 46 51.2	-1.3
ZAPS				*eSg*	Sg	00 47 11.0	-0.5
SELS	**Selova**	**1.87**	**318**	*ePn*	Pn	00 46 58.7	+0.3
SELS				*eSn*	Sn	00 47 22.5	-0.2
VLAD	**Vladila**	**2.45**	**28**	⇓ P	Pb	00 47 10.0	0.0
IVAS	**Ivanjica**	**2.63**	**312**	*ePn*	Pn	00 47 08.2	-0.6

*IDC **22** 01:01:43.0±3.0, 48°.23N×153°.84E, h92km±28km, mb3.1/7, mb1 3.4/9, mb1mx3.2/42, mbtmp3.5/9, MS2.8/2, Ms1 2.8/2, ms1mx2.3/22, Error ellipse: s-maj=32.0km s-min=17.9km az=129.0*

ISC 22 01:01:40.4±1.0, 48°.1N±0°.2×154°.1E±0°.1, h64km, n20, σ1§39/10, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.49**	**24**	P	**Pn**	**01 03 01.4**	**+1.8**
	0.6nm,0.3s,baz=188,slow=14,SNR=11						
ASAJ	**Asahikawa**	**8.91**	**247**	P	**Pn**	**01 03 48.2**	**+1.8**
	0.7nm,0.3s,baz=278,slow=34,SNR=3.1						
KLR	**Kudur**	**14.77**	**283**	P	**P**	**01 05 10.3**	**+0.3**
	0.1nm,0.3s,baz=147,slow=24,SNR=1.9						
KLR				LR	LR	01 10 46.9	
	comp=Z,25nm,18.9s,baz=358,slow=37						
H11N2	**WAKE ISLAND Hy**	**30.18**	**155**	T	T	01 40 01.6	
	baz=342,slow=76,SNR=96						
H11N1	**WAKE ISLAND Hy**	**30.20**	**155**	T	T	01 40 11.2	
	baz=342,slow=76,SNR=172						
H11N3	**WAKE ISLAND Hy**	**30.20**	**155**	T	T	01 39 59.5	
	baz=342,slow=76,SNR=95						
H11S1	**WAKE ISLAND Hy**	**31.29**	**156**	T	T	01 41 37.5	
	baz=343,slow=76,SNR=490						
H11S3	**WAKE ISLAND Hy**	**31.30**	**156**	T	T	01 41 45.0	
	baz=343,slow=76,SNR=443						
H11S2	**WAKE ISLAND Hy**	**31.31**	**156**	T	T	01 41 15.4	
	baz=343,slow=76,SNR=283						
SONM	**Songino Array**	**31.50**	**288**	LR	LR	01 22 58.8	
	comp=Z,27nm,18.8s,baz=182,slow=41						
ILAR	**Eielson Array**	**35.07**	**40**	P	**P**	**01 08 26.8**	**-0.1**
	0.3nm,0.9s,baz=280,slow=5.2,SNR=1.9						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**01 10 02.3**	**-1.8**
	0.2nm,0.6s,baz=45,slow=5.1,SNR=2.4						
YKA	**Yellowknife Ar**	**49.43**	**38**	P	**P**	**01 10 23.2**	**-0.2**
	0.3nm,0.7s,baz=298,slow=7.0,SNR=5.9						
FINES	**FINESS Array B**	**63.06**	**335**	P	**P**	**01 11 58.9**	**-1.5**
	0.4nm,0.3s,baz=39,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	**70.03**	**200**	P	**P**	**01 12 44.3**	**-1.0**
	0.2nm,0.5s,baz=14,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**73.73**	**199**	P	**P**	**01 13 07.7**	**+0.3**
	0.2nm,0.5s,baz=13,slow=5.4,SNR=4.1						
TXAR	**Lajitas Array**	**76.26**	**61**	P	**P**	**01 13 22.3**	**+0.1**
	0.8nm,1.0s,baz=303,slow=5.8,SNR=5.9						
H03N2	**Juan Fernandez**	**138.11**	**89**	T	T	03 54 21.8	
	baz=309,slow=77,SNR=9.2						
H03N1	**Juan Fernandez**	**138.12**	**89**	T	T	03 54 22.8	
	baz=309,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**138.12**	**89**	T	T	03 54 25.2	
	baz=309,slow=77,SNR=11						

*IDC **22** 01:10:33.7±4.4, 21°.08S×169°.51E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.4/23, mbtmp3.3/3, ML3.4/1, MS3.6/2, Ms1 3.5/2, ms1mx3.0/22, Error ellipse: s-maj=227.3km s-min=31.1km az=153.0*
*NOU **22** 01:10:34.8, 21°.71S×169°.66E, h3km, MLv4.2/12, Southeast of Loyalty Islands*

ISC 22 01:10:34.0±1.7, 21°.3S±0°.1×169°.6E±0°.1, h10km, n17, σ0§89/18, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.50**	**264**	P	**Pg**	**01 11 02.4**	**-0.3**
LIFNC	**LIFOU**	**2.30**	**283**	P	**Pb**	**01 11 14.5**	**-1.0**
PINNC	**Pines Island,**	**2.40**	**327**	P	**Pn**	**01 11 12.2**	**-1.1**
YATNC	**Mamie plateau,**	**2.65**	**253**	P	**Pn**	**01 11 17.2**	**+0.4**
OUENC	**Ouen Island, N**	**2.81**	**247**	P	**Pn**	**01 11 19.6**	**+0.6**
DZM	**Mont Dzumac**	**3.05**	**255**	Pn	**Pn**	**01 11 23.6**	**+1.1**
	5.1nm,0.3s,baz=130,slow=8.9,SNR=204						
DZM				*e*Sn	**Sn**	**01 11 59.1**	**0.0**
	21nm,0.3s,baz=102,slow=20,SNR=15						
DZM	**Mont Dzumac**	**3.05**	**255**	*e*Pn	**Pn**	**01 11 23.7**	**+1.3**
	34nm,0.2s						
DZM				*e*Sn	**Sn**	**01 11 58.9**	**-0.2**
	70nm,0.3s						
DZM	**Mont Dzumac**	**3.05**	**255**	P	**Pn**	**01 11 24.0**	**+1.6**
ONTNC	**Ouen Toro**	**3.11**	**251**	P	**Pn**	**01 11 23.7**	**+0.6**
NOUC	**Port Laguerre**	**3.19**	**255**	P	**Pn**	**01 11 25.3**	**+1.1**
RTV	**Rentapao**	**3.69**	**342**	P	**Pb**	**01 11 38.5**	**-0.8**
DVP	**Devils Point**	**3.83**	**339**	P	**Pb**	**01 11 41.0**	**-0.7**
STKA	**Stephens Creek**	**27.11**	**241**	LR	LR	01 26 15.2	
	comp=Z,128nm,19.3s,baz=185,slow=35						
WRA	**Warramunga Arr**	**33.01**	**266**	P	**P**	**01 17 10.1**	**+0.4**
	0.2nm,0.6s,baz=96,slow=8.2,SNR=1.7						
ASAR	**Alice Springs**	**33.04**	**259**	P	**P**	**01 17 10.4**	**+0.6**
	0.3nm,0.5s,baz=85,slow=9.1,SNR=5.2						
ASAR				LR	LR	01 29 44.1	
	comp=Z,71nm,18.1s,baz=142,slow=35						
ARCES	**ARCESS Array B**	**127.17**	**345**	PKP	**PKPdf**	**01 29 37.8**	**-0.2**
	8.2nm,1.3s,baz=90,slow=2.7,SNR=1.7						
GERES	**GERESS Array B**	**146.49**	**331**	PKPbc	**PKPbc**	**01 30 15.9**	**+0.3**
	1.1nm,0.7s,baz=27,slow=4.5,SNR=10						

IDC 22 01:49:15.4±2.4, 21°.19S×169°.49E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/25, mbtmp3.7/4, ML3.7/1, MS3.7/8, Ms1 3.7/8, ms1mx3.2/57, Error ellipse: s-maj=117.5km s-min=25.6km az=150.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.96**	**252**	Pn	Pn	01 50 02.5	-1.3
	9.6nm,0.3s,baz=90,slow=19,SNR=17						
DZM				Sn	Sn	01 50 40.1	-0.1
	28nm,0.3s,baz=148,slow=16,SNR=6.9						
DZM	**Mont Dzumac**	**2.96**	**252**	*e*Sn	Sn	01 50 40.7	+0.6
	60nm,0.2s						
AFI	**Afiamalu**	**19.27**	**71**	LR	LR	01 59 18.6	
	comp=Z,114nm,19.9s,baz=92,slow=31						
CTA	**Charters Tower**	**21.77**	**269**	LR	LR	02 02 20.1	
	comp=Z,199nm,18.1s,baz=89,slow=36						
PMG	**Port Moresby**	**24.48**	**295**	LR	LR	02 02 21.9	
	comp=Z,76nm,18.2s,baz=134,slow=32						
STKA	**Stephens Creek**	**27.05**	**241**	P	P	01 54 59.9	+0.3
	1.5nm,0.6s,baz=94,slow=12,SNR=4.6						
STKA				LR	LR	02 04 57.9	
	comp=Z,205nm,18.2s,baz=35,slow=35						
WRA	**Warramunga Arr**	**32.89**	**266**	P	P	01 55 51.6	+0.1
	0.4nm,0.9s,baz=97,slow=8.0,SNR=5.9						
WRA				LR	LR	02 09 48.8	
	comp=Z,108nm,18.5s,baz=81,slow=38						
ASAR	**Alice Springs**	**32.93**	**259**	P	P	01 55 52.4	+0.5
	0.7nm,0.6s,baz=83,slow=8.8,SNR=6.8						
ASAR				LR	LR	02 08 13.7	
	comp=Z,110nm,18.9s,baz=138,slow=35						
FITZ	**Fitzroy Crossi**	**41.31**	**266**	LR	LR	02 15 00.6	
	comp=Z,125nm,18.1s,baz=119,slow=37						
BATI	**Baumata**	**45.30**	**277**	LR	LR	02 17 43.3	
	comp=Z,203nm,18.2s,baz=270,slow=38						
ARCES	**ARCESS Array B**	**127.01**	**345**	PKP	PKPdf	02 08 19.1	-1.7
	1.5nm,0.7s,baz=29,slow=2.8,SNR=4.1						
EKA	**Eskdalemuir Ar**	**145.47**	**353**	PKPbc	PKPbc	02 08 54.1	-1.0
	2.9nm,0.5s,baz=357,slow=2.7,SNR=23						
GERES	**GERESS Array B**	**146.31**	**331**	PKPbc	PKPbc	02 08 58.2	+0.1
	2.1nm,0.8s,baz=35,slow=4.9,SNR=17						

*MAN **22** 02:19:37.0, 12°.03N×123°.90E, h1km, mb4.6, ML3.5, MS3.4*
MAN INTENSITY IV - PALANAS, MASBATE; INTENSITY III - CATAINGAN, MASBATE; INTENSITY II - DIMASALANG, MASBATE.
*IDC **22** 02:19:38.1±1.4, 12°.00N×124°.09E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/52, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/58, Error ellipse: s-maj=167.0km s-min=22.5km az=68.0*

ISC 22 02:19:38.5±1.7, 12°.07N±0°.04×123°.87E±0°.09, h1km±11km, n14, σ1§18/21, mb3.5/4, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.37**	**320**	⇓ *i* P	**Pg**	**02 19 46.0**	**+0.4**
MMPH				*i* S	**Sg**	**02 19 51.7**	**+1.2**
RCP	**Roxas**	**1.21**	**245**	⇑ *e*P	**Pg**	**02 20 01.8**	**+0.1**
RCP				*e*S	**Sn**	**02 20 19.6**	**0.0**
KALP	**Kalibo**	**1.55**	**255**	*e*P	**Pg**	**02 20 09.0**	**+0.8**
LLP	**Lapu-Lapu**	**1.75**	**177**	⇑ *i* P	**Pn**	**02 20 10.1**	**+0.2**
LLP				*i* S	**Sg**	**02 20 34.4**	**-0.3**
GQP	**Guinayangan**	**2.29**	**323**	⇓ *e*P	**Pn**	**02 20 16.7**	**-0.7**
GQP				*e*S	**Sb**	**02 20 49.9**	**+0.4**
TBP	**Tagbilaran**	**2.37**	**180**	*e*P	**Pb**	**02 20 21.8**	**-0.2**
TBP				*i* S	**Sn**	**02 20 50.8**	**+2.6**
SNPH	**Sibulan**	**2.78**	**193**	⇑ *i* P	**Pn**	**02 20 24.7**	**+0.4**
SNPH				*i* S	**Sg**	**02 21 07.0**	**-1.0**
LQP	**Lukban**	**3.04**	**312**	⇑ *e*P	**Pn**	**02 20 27.4**	**-0.6**
LQP				*i* S	**Sg**	**02 21 14.8**	**-1.6**
BATI	**Baumata**	**22.14**	**181**	LR	LR	02 33 13.9	
	comp=Z,77nm,20.2s,baz=272,slow=37						
KSRS	**Korea Array**	**25.54**	**8**	LR	LR	02 34 13.4	
	comp=Z,18nm,20.2s,baz=205,slow=34						
WRA	**Warramunga Arr**	**33.44**	**162**	P	**P**	**02 26 17.5**	**-1.7**
	0.5nm,0.6s,baz=343,slow=8.9,SNR=5.0						
WRA				PcP	**PcP**	**02 28 58.9**	**-1.8**
	0.3nm,0.9s,baz=347,slow=3.7,SNR=2.1						
ASAR	**Alice Springs**	**36.85**	**165**	P	**P**	**02 26 47.4**	**-1.2**
	1.0nm,0.7s,baz=336,slow=7.1,SNR=9.0						
ASAR				PcP	**PcP**	**02 29 10.6**	**0.0**
	0.1nm,0.3s,baz=336,slow=2.0,SNR=1.8						
SONM	**Songino Array**	**38.54**	**341**	P	**P**	**02 27 03.9**	**+1.1**
	0.3nm,0.4s,baz=142,slow=7.3,SNR=1.1						
MKAR	**Makanchi Array**	**49.18**	**323**	P	**P**	**02 28 29.1**	**+0.8**
	0.3nm,0.7s,baz=116,slow=8.5,SNR=4.2						

MAN 22 02:20:29.2, 16°.83N×120°.08E, h34km, mb3.8, ML2.5, MS2.0, Luzon

*IDC **22** 02:24:00.8±0.5, 14°.67N×52°.39E, h0km, mb4.3/31, mb1 4.4/33, mb1mx4.3/53, mbtmp4.3/33, ML4.6/2, MS4.2/71, Ms1 4.2/71, ms1mx4.2/79, Error ellipse: s-maj=14.1km s-min=10.6km az=118.0*
*GCMT **22** 02:24:01.5±0.2, 14°.70N±0°.01×52°.23E±0°.01, h12km, MW5.1/123, Moment Tensor Solution. s62,c86; s123,c211; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.11±.08; Mθθ 3.37±.08; Mϕϕ 0.73±.09; Mrθ 2.28±.22; Mθϕ -1.88±.06; Mϕr 1.45±.27; Best double couple: M=4.97800×10^16 NP1:ϕ138.00000°, δ40.00000°, λ-53.00000°. NP2:ϕ273.00000°, δ59.00000°, λ-117.00000°. Principal axes: T 4.5900, Plg10.0000°, Azm23.0000°; N 0.7730, Plg23.0000°, Azm288.0000°; P -5.3660, Plg64.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 02:24:02.5±1.5, 14°.58N±0°.08×52°.45E±0°.08, h10km±1km, mb4.8/49 Error ellipse: s-maj=15.2km s-min=11.4km az=33.0*
*DSN **22** 02:24:07.6±2.0, 15°.44N×52°.34E, h10km, mb6.0/1, ML4.3/3, Error ellipse: s-maj=24.7km s-min=15.8km az=155.0*
*OMAN **22** 02:24:08.0±0.1, 15°.13N×52°.36E, h112km±2km, mb5.3/14, ml4.3/6, Mwp5.3/10, Error ellipse: s-maj=5.0km s-min=3.0km az=326.0*

ISC 22 02:24:02.4±0.4, 14°.82N±0°.05×52°.37E±0°.05, h10km, n292, σ2§31/295, mb4.6/84, MS4.2/74, 17C-9D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**2.67**	**19**	P	**Pn**	**02 24 45.2**	**-0.5**
	SNR=41						
ABTO				P	**Pn**	**02 24 45.2**	**-0.5**
	SNR=41						
ABTO				S	**Sn**	**02 25 15.8**	**-2.3**
ABTO				S	**Sn**	**02 25 15.8**	**-2.3**
SOCY	**Socotra**	**3.05**	**149**	Pn	Pn	02 24 43.9	-7.0
SOCY				Sn	Sn	02 25 14.3	-13
RBK	**Rabkut**	**3.20**	**33**	P	**Pn**	**02 24 53.0**	**+0.1**
	SNR=228						
RBK				P	**Pn**	**02 24 53.0**	**+0.1**
	SNR=228						
RBK				S	**Sn**	**02 25 29.3**	**-1.8**
RBK				S	**Sn**	**02 25 29.3**	**-1.8**
WHFO	**Wadi Hawf**	**3.36**	**23**	P	**Pn**	**02 24 54.9**	**-0.2**
	SNR=59						
WHFO				P	**Pn**	**02 24 54.9**	**-0.2**
	SNR=59						
WHFO				S	**Sn**	**02 25 33.5**	**-1.7**
WHFO				S	**Sn**	**02 25 33.5**	**-1.7**
DMTO	**DMTO**	**3.80**	**40**	P	**Pn**	**02 25 01.5**	**+0.4**
	SNR=20						
DMTO				P	**Pn**	**02 25 01.5**	**+0.4**
	SNR=20						
DMTO	

ASUD Al Ashush, Dub 10.15 15 P **Pn** 02 26 25.6 -2.7
BIDO Bidbid 10.22 31 P **Pn** 02 26 29.0 -0.3
SNR=11
BIDO S **Sn** 02 28 18.4 -5.6
WSAR Wadi Sarin 10.25 34 Pn **Pn** 02 26 29.4 -0.4
1.8nm,0.3s,baz=248,slow=13,SNR=21
WSAR Sn **Sn** 02 28 20.5 -4.3
1.8nm,0.3s,baz=318,slow=16,SNR=2.0
FAQ Al Faqa, Dubai 10.33 17 P **Pn** 02 26 29.8 -1.0
HATD Hatta, Dubai 10.56 19 P **Pn** 02 26 30.7 -3.4
NAZ Nazwa, Dubai 10.58 16 P **Pn** 02 26 32.7 -1.5
UOSS Minazif 10.70 19 Pn **Pn** 02 26 35.0 -0.8
UOSS Minazif 10.70 19 P **Pn** 02 26 34.2 -1.7
UOSS S **Sn** 02 28 30.5 -5.3
UOSS Minazif 10.70 19 P **Pn** 02 26 32.7 -3.1
RAYN Ar Rayn 10.82 324 Pn **Pn** 02 26 34.9 -2.7
RAYN Ar Rayn 10.82 324 P **Pn** 02 26 36.5 -1.0
RAYN Ar Rayn 10.82 324 P Pn 02 26 34.1 -3.4
MSFE Esma-Masafi 11.07 18 P **Pn** 02 26 38.3 -2.7
MASF Masafi 11.09 18 P **Pn** 02 26 40.0 -1.2
TEND Ethiopian Broa 11.47 256 *eP* Pn 02 26 51.5 +5.1
BANOM Banah 11.64 18 P **Pn** 02 26 47.6 -1.3
SNR=8.3
BANOM S **Sn** 02 28 53.1 -5.9
BANOM Banah 11.64 18 P **Pn** 02 26 46.7 -2.1
BANOM S **Sn** 02 28 52.2 -6.8
SHME Shamm 11.72 17 P **Pn** 02 26 49.8 0.0
ANKE Ethiopia-Afar 13.40 249 *eP* **Pn** 02 27 11.4 -1.7
ANKE Ethiopia-Afar 13.40 249 *eP* Pn 02 27 11.4 -1.7
AAE Adis Abeba 14.50 248 *eP* **Pn** 02 27 27.3 -0.8
AAE Adis Abeba 14.50 248 *eP* **Pn** 02 27 31.5 +3.3
AAE Adis Abeba 14.50 248 *eP* **Pn** 02 27 27.3 -0.8
FURI Furi 14.63 248 *eP* **Pn** 02 27 29.3 -0.7
FURI Furi 14.63 248 *eP* **Pn** 02 27 28.2 -1.8
FURI Furi 14.63 248 *eP* **Pn** 02 27 29.3 -0.7
DILA Dilla 16.15 240 *eP* **Pn** 02 27 49.3 -0.6
DILA Dilla 16.15 240 *eP* Pn 02 27 49.3 -0.6
LODK Lodwar 20.23 238 *eP* **P** 02 28 35.1 -2.9
LODK Lodwar 20.23 238 *eP* **P** 02 28 35.2 -2.8
LODK Lodwar 20.23 238 *eP* **P** 02 28 35.1 -2.9
HRA Herat 21.43 23 P **P** 02 28 51.6 +0.7
HRA IAmb IAmb 02 29 00.2
comp=Z,26nm,0.9s
KMBO Kilima Mbogo 21.79 225 P **P** 02 28 53.2 -1.8
comp=Z,3.9nm,0.9s,baz=29,slow=11,SNR=8.5
KMBO LR LR 02 36 59.1
comp=Z,2µm,18.0s,baz=57,slow=36
KMBO Kilima Mbogo 21.79 225 P **P** 02 28 51.4 -3.7
KMBO Kilima Mbogo 21.79 225 *eP* **P** 02 28 51.1 -4.0
KMBO Kilima Mbogo 21.79 225 *eP* **P** 02 28 51.1 -4.0
EIL Elat 21.83 316 P **P** 02 28 55.8 +0.7
comp=Z,10.0nm,1.0s,baz=136,slow=7.8,SNR=4.6
EIL LR LR 02 37 21.2
comp=Z,346nm,20.2s,baz=138,slow=36
KIBK Kibwezi 22.18 221 P **P** 02 28 55.5 -3.5
ASF Jabal al Asfar 22.31 323 P **P** 02 29 02.6 +2.3
comp=Z,10nm,1.0s,baz=44,slow=4.8,SNR=3.7
GHAJ Ghor Haditha 22.50 320 P **P** 02 29 04.3 +2.1
GHAJ IAmb IAmb 02 29 13.1
comp=Z,76nm,1.4s
GEYT Alibeck 23.58 11 P **P** 02 29 14.4 +1.1
comp=Z,4.7nm,0.8s,baz=101,slow=4.7,SNR=6.0
GEYT LR LR 02 40 22.4
comp=Z,3µm,19.0s,baz=194,slow=41
GEYT Alibeck 23.58 11 P **P** 02 29 13.3 0.0
GEYT IAmb IAmb 02 29 36.0
comp=Z,23nm,1.1s
GYA0B ALIBECK ARRAY 23.58 11 P **P** 02 29 13.1 -0.2
GYA0B IAmb IAmb 02 29 35.9
comp=Z,24nm,1.1s
MMAI Mount Meron Ar 23.79 323 LR LR 02 38 25.3
comp=Z,464nm,19.0s,baz=302,slow=36
MARD Mardin 24.66 337 P **P** 02 29 26.6 +3.0
MARD IAmb IAmb 02 29 35.8
comp=Z,24nm,1.1s
KBL Kabul 24.73 34 P **P** 02 29 26.2 +1.8
GEVA Gevas 24.81 342 P **P** 02 29 28.1 +3.2
GEVA IAmb IAmb 02 29 31.6
comp=Z,23nm,1.0s
HYBB Hyderabad (bro 25.28 81 *eP* **P** 02 29 28.4 -0.9
GNI Garni 26.11 347 P **P** 02 29 39.3 +2.7
comp=Z,14nm,0.9s,baz=176,slow=15,SNR=13
GNI LR LR 02 40 56.1
comp=Z,908nm,19.5s,baz=158,slow=39
GNI Garni 26.11 347 P **P** 02 29 39.1 +2.5
GNI Garni 26.11 347 P **P** 02 29 39.1 +2.5
MBAR Mbarara 26.32 236 LR LR 02 39 01.4
comp=Z,529nm,19.6s,baz=44,slow=34
KARS Kars 26.96 344 P **P** 02 29 47.3 +2.9
CHGR Chuyangaron 27.98 29 P **P** 02 29 55.3 +1.7
BNN Bunyan 28.02 332 P **P** 02 29 55.8 +1.9
ONI Oni 28.72 346 P **P** 02 30 03.8 +3.7
PALK Pallekele 28.77 102 LR LR 02 38 54.8
comp=Z,447nm,21.6s,baz=30,slow=31
GAR Garm 28.81 30 P **P** 02 29 59.2 -1.6
GAR IAmb IAmb 02 30 12.3
comp=Z,16nm,0.8s
ELL Elmali 29.63 322 P **P** 02 30 08.5 +0.3
BRTR Keskin Array B 29.75 330 P **P** 02 30 10.1 +0.7
comp=Z,3.3nm,1.0s,baz=151,slow=8.4,SNR=12
BRTR PcP **PcP** 02 33 13.1 0.0
comp=Z,0.5nm,0.6s,baz=99,slow=4.5,SNR=3.2
BRTR LR LR 02 43 24.5
comp=Z,587nm,20.4s,baz=140,slow=39
BRTR Keskin Array B 29.75 330 P **P** 02 30 09.0 -0.3
BR131 Keskin Array S 29.75 330 P **P** 02 30 10.3 +1.0
BR131 IAmb IAmb 02 30 19.3
comp=Z,20nm,1.5s
BTK Batken 29.88 29 P **P** 02 30 11.9 +1.5
BTK IAmb IAmb 02 30 28.8
comp=Z,18nm,1.1s
KBZ Khabaz 29.93 346 P **P** 02 30 13.1 +2.5
comp=Z,5.5nm,0.9s,baz=163,slow=4.7,SNR=14
KBZ LR LR 02 45 05.7
comp=Z,1µm,19.4s,baz=164,slow=42
KIV Kislovodsk 30.20 346 P **P** 02 30 15.0 +1.9
KIV IAmb IAmb 02 30 23.9
comp=Z,23nm,1.0s
BR231 Keskin MP Arra 30.27 329 P **P** 02 30 16.3 +2.5
BR231 IAmb IAmb 02 30 18.5
comp=Z,18nm,0.8s
ANTO Ankara 30.28 329 P **P** 02 30 16.2 +2.3
ANTO IAmb IAmb 02 30 19.0
comp=Z,25nm,1.1s
PYUN Piuthan 31.31 60 *eP* **P** 02 30 25.8 +2.5
comp=Z,76nm,1.1s
KOLN Koldanda 31.72 61 *eP* **P** 02 30 29.4 +2.5
comp=Z,85nm,1.1s
DANN Dangsing 32.03 60 *eP* **P** 02 30 32.1 +2.4
comp=Z,113nm,1.1s
KSH Kashi 32.15 36 P **P** 02 30 30.9 +0.4
KSH sP pwP 02 30 37.6 +1.4
KSH S **S** 02 35 43.1 -0.2
KSH LR LR
comp=N,410nm,24.0s
KSH LR LR
comp=E,410nm,21.3s
KSH LR LR
comp=Z,1µm,24.1s
KKAR Karatay Array 32.20 25 P **P** 02 30 31.9 +1.2
GKN Gorkha 32.66 61 *eP* **P** 02 30 37.1 +2.0
comp=Z,76nm,1.0s
DMN Daman 32.95 62 *eP* **P** 02 30 40.2 +2.4
KKN Kakani 33.15 62 *eP* **P** 02 30 41.4 +1.9
comp=Z,73nm,1.0s
PKIN Phulchoki 33.19 62 *eP* **P** 02 30 41.2 +1.3
PKI Pulchoki 33.20 62 *eP* **P** 02 30 41.5 +1.5
comp=Z,50nm,1.1s
OPO Ambohidratompo 33.57 189 PcP **PcP** 02 33 26.0 +2.4
comp=Z,2.6nm,0.8s,baz=4.6,slow=5.5,SNR=3.0
OPO LR LR 02 41 42.2
comp=Z,345nm,21.7s,baz=177,slow=32
AAK Ala-Archa 33.63 30 P **P** 02 30 45.9 +2.5
comp=Z,0.7nm,0.4s,baz=210,slow=8.1,SNR=2.5
AAK LR LR 02 46 42.2
comp=Z,712nm,20.7s,baz=243,slow=40
AAK Ala-Archa 33.63 30 P **P** 02 30 44.4 +1.0
AAK IAmb IAmb 02 30 58.7
comp=Z,14nm,1.2s
GUN Gumba 33.69 62 *eP* **P** 02 30 46.1 +1.7
comp=Z,181nm,1.1s
JIRN Jiri 33.89 62 *eP* **P** 02 30 47.0 +0.9
comp=Z,53nm,1.0s
RAMN Ramite 34.07 64 *eP* **P** 02 30 49.1 +1.6
comp=Z,5.4nm,0.4s

BOOM Boomskoye usch 34.24 32 P **P** 02 30 49.5 +0.8
BOOM IAmb IAmb 02 30 59.2
comp=Z,13nm,1.4s
TARG Taragay, Kyrgy 34.68 34 P **P** 02 30 53.3 +0.4
TARG IAmb IAmb 02 31 16.0
comp=Z,10nm,1.0s
ODAN Odare 34.73 64 *eP* **P** 02 30 54.1 +0.8
comp=Z,43nm,1.3s
ABKAN Akbulak array 34.90 9 P **P** 02 30 55.8 +1.8
TAPN Taplejung 35.12 63 *eP* **P** 02 30 57.5 +0.8
AKTO Aktyubinsk 35.82 6 P **P** 02 31 03.9 +1.9
comp=Z,3.8nm,0.8s,baz=193,slow=9.6,SNR=12
AKTO LR LR 02 49 08.9
comp=Z,2µm,18.4s,baz=175,slow=42
TLBR Topalu 36.12 330 ⇓P **P** 02 31 06.1 +1.5
TPGR Topolog 36.17 331 ⇑P **P** 02 31 06.2 +1.1
HARR Harsova 36.28 330 ⇑P **P** 02 31 07.8 +1.8
VLDR Vladesti 37.07 332 ⇑P **P** 02 31 13.5 +0.8
VARL Varlezi 37.22 331 ⇑P **P** 02 31 16.1 +2.2
COPA Copaceanca 37.25 327 ⇓P **P** 02 31 16.1 +1.8
VTS Vitosha 37.34 324 ⇑P **P** 02 31 16.7 +1.4
BISRR Bisoca 37.49 330 ⇓P **P** 02 31 17.3 +0.9
GHRR 37.54 331 ⇑P **P** 02 31 19.5 +2.8
NEHR Nehoiu 37.61 330 ⇓P **P** 02 31 19.7 +2.3
BELG Belogornoye 37.68 355 LR LR 02 50 25.1
comp=Z,378nm,19.7s,baz=156,slow=42
VRI Vrincioaia 37.72 330 ⇑P **P** 02 31 20.8 +2.5
PLOR Plostina 37.74 330 ⇑P **P** 02 31 21.2 +2.7
MLR Muntele Rosu 37.83 329 ⇓P **P** 02 31 21.1 +1.8
MLR Muntele Rosu 37.83 329 LR LR 02 47 53.8
comp=Z,309nm,21.6s,baz=150,slow=38
MLR Muntele Rosu 37.83 329 P **P** 02 31 19.9 +0.6
MLR IAmb IAmb 02 31 30.5
comp=Z,12nm,1.0s
COVR Voineasa-Covas 37.95 330 ⇑P **P** 02 31 22.2 +1.9
TESR Tescani 38.23 331 ⇑P **P** 02 31 24.3 +1.8
VOIR 38.24 329 ⇓P **P** 02 31 24.7 +1.9
LSZ Lusaka 38.28 220 P **P** 02 31 22.8 -0.6
comp=Z,3.9nm,0.8s,baz=50,slow=9.0,SNR=10
LSZ LR LR 02 48 20.5
comp=Z,662nm,18.1s,baz=51,slow=38
ARR Arges 38.40 328 ⇑P **P** 02 31 26.0 +1.9
DOPR Dopca 38.44 329 ⇑P **P** 02 31 26.1 +1.7
SORM Soroca 38.70 334 ⇑P **P** 02 31 26.9 +0.5
LOT Lotru 38.90 328 ⇑P **P** 02 31 30.3 +1.9
HERR Herculane 39.24 326 ⇑P **P** 02 31 33.0 +1.9
BURAR Bucovina Array 39.70 331 ⇑P **P** 02 31 37.5 +2.5
BUR08 Bucovina Ar. S 39.73 331 P **P** 02 31 35.7 +0.5
ARCR ARCALIA 39.74 330 ⇓P **P** 02 31 37.5 +2.3
CJR Cluj-Napoca 39.85 329 ⇑P **P** 02 31 39.0 +2.8
MAKZ Makanchi 40.33 32 P **P** 02 31 41.4 +1.2
AKASG Malin Array Be 40.39 337 P **P** 02 31 41.5 +1.0
comp=Z,5.3nm,0.8s,baz=142,slow=7.4,SNR=15
AKASG LR LR 02 51 36.5
comp=Z,264nm,18.2s,baz=148,slow=41
AKBB Malin Array Si 40.39 337 P **P** 02 31 42.0 +1.5
AKBB IAmb IAmb 02 31 50.8
comp=Z,33nm,1.4s
VAE Valguarnera 40.48 311 LR LR 02 49 26.1
comp=Z,56nm,18.9s,baz=120,slow=38
MK31 Makanchi Array 40.48 32 P **P** 02 31 42.2 +0.8
MKAR Makanchi Array 40.48 32 P **P** 02 31 42.3 +0.9
comp=Z,2.1nm,0.7s,baz=221,slow=7.2,SNR=18
MKAR PcP **PcP** 02 33 44.1 +0.1
comp=Z,0.1nm,0.4s,baz=283,slow=3.8,SNR=1.8
SIRR Siria 40.55 327 ⇓P **P** 02 31 44.6 +2.6
BRVK Borovoye 40.70 17 P **P** 02 31 44.5 +1.4
TRPA Tarpa 41.35 330 ⇓P **P** 02 31 50.4 +2.0
TRPA Tarpa 41.35 330 P **P** 02 31 50.6 +2.2
KURK Kurchatov 41.62 25 P **P** 02 31 51.7 +1.1
ARU Arti 41.80 5 P **P** 02 31 52.5 +0.5
baz=180,slow=8.1
ARU LR LR 02 52 16.9
comp=Z,781nm,21.4s,baz=202,slow=40
ARU Arti 41.80 5 P **P** 02 31 53.1 +1.1
OBN Obninsk 42.04 346 LR LR 02 52 55.8
comp=Z,109nm,18.4s,baz=167,slow=41
MATP Matopo 42.16 214 P **P** 02 31 54.1 -1.4
comp=Z,6.9nm,0.7s,baz=31,slow=9.6,SNR=18
MATP LR LR 02 49 06.9
comp=Z,452nm,20.4s,baz=44,slow=36
KOVH Kovagotottos 42.38 324 P **P** 02 31 59.7 +2.7
CRVS Cervenica-Dubn 42.40 330 *eP* **P** 02 32 01.8 +4.7
KECS Kecovo 42.60 329 *eP* **P** 02 32 03.4 +4.7
CSKK Cskako 43.05 326 P P 02 32 08.7 +6.3
NIE Niedzica 43.31 330 *eP* P 02 32 14.3 +10
GOMU GeErMu 43.39 53 P **P** 02 32 07.8 +2.1
GOMU pP pwP 02 32 11.0 -0.5
GOMU sP sP 02 32 14.9 +5.9
GOMU S **S** 02 38 29.9 -4.2
GOMU SS **SnSn** 02 41 57.8 -7.7
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,43nm,3.9s
GOMU LR LR
comp=N,170nm,12.3s
GOMU LR LR
comp=E,110nm,12.4s
GOMU LR LR
comp=Z,180nm,12.2s
VYHS Vyhne 43.45 328 *eP* **P** 02 32 08.7 +3.1
LANS Liptovska Anna 43.55 329 *eP* **P** 02 32 09.7 +3.3
KEST Kesra 43.70 307 LR LR 02 51 24.7
comp=Z,145nm,19.6s,baz=192,slow=38
KIRV Kirov 43.75 358 LR LR 02 53 45.6
comp=Z,425nm,21.3s,baz=180,slow=41
MNK Minsk 43.96 340 *i* P **P** 02 32 06.3 -3.3
comp=E,1.0nm,1.1s
MNK *i* P **P** 02 32 06.3 -3.3
comp=N,8.0nm,1.1s,baz=145
MNK *i* P **pP** 02 32 08.6 -3.4
comp=Z,7.0nm,1.1s
MNK *i* PP **PP** 02 33 51.5 -0.5
MNK *i* PPP PPP 02 34 26.2
MNK *i* S **S** 02 38 40.1 -1.2
MNK *i* SS **SS** 02 41 59.7 +1.8
MNK *i* SSS SSS 02 42 39.4
MNK *i* LQ LQ 02 47 20.4
MNK *i* LR LR 02 50 44.3
MNK *i* LRM MLR 02 52 45.5
comp=E,22nm,20.6s
MNK *i* LRM MLR 02 52 45.5
comp=N,163nm,16.1s
MNK *i* LRM MLR 02 52 50.4
comp=Z,170nm,15.2s
JAVC Velka Javorina 44.28 327 *eP* **P** 02 32 15.9 +3.6
SOKA Soboth 44.46 323 *eP* **P** 02 32 17.4 +3.5
comp=Z,7.7nm,1.6s
ARSA Arzberg 44.50 324 *eP* **P** 02 32 16.2 +2.2
comp=Z,7.0nm,1.4s
OBKA Obir 44.65 323 *eP* P 02 32 21.6 +6.2
comp=Z,11nm,1.7s
NACGM Naroch 44.66 339 *i* P **P** 02 32 16.7 +1.5
CMAR Chiang Mai Arr 44.68 79 P **P** 02 32 16.6 +0.7
comp=Z,10nm,1.0s,baz=275,slow=8.8,SNR=25
CMAR LR LR 02 50 55.5
comp=Z,173nm,20.0s,baz=270,slow=36
CMAR Chiang Mai Ar 44.68 79 P **P** 02 32 14.7 -1.2
CONA Conrad Observa 44.69 325 *eP* **P** 02 32 19.4 +3.7
comp=Z,13nm,1.6s
MORC Moravsky Berou 44.91 328 P **P** 02 32 18.5 +1.2
MORC IAmb IAmb 02 32 26.8
comp=Z,17nm,1.5s
MORC Moravsky Berou 44.91 328 *eP* **P** 02 32 18.6 +1.2
IDID Didziasalis 45.01 340 *eP* **P** 02 32 20.5 +2.6
KRUC Moravsky 45.07 327 *eP* **P** 02 32 20.8 +2.2
VRAC Vranov 45.12 327 LR LR 02 52 22.2
comp=Z,117nm,21.3s,baz=123,slow=38
VRAC Vranov 45.12 327 *eP* **P** 02 32 21.3 +2.3
IIGN Ignalina 45.21 339 *eP* **P** 02 32 21.8 +2.2
MYKA Terra Mystica 45.24 323 *eP* **P** 02 32 23.5 +3.4
comp=Z,6.5nm,0.8s
SUW Suwalki 45.29 336 *eP* P 02 32 28.6 +8.3
ISAL Salakas 45.42 339 *eP* **P** 02 32 23.6 +2.3
MOA Molln 45.54 324 *eP* **P** 02 32 26.0 +3.7
comp=Z,7.6nm,1.4s
KBA Koelnbreinsper 45.65 323 *eP* **P** 02 32 26.5 +3.1
comp=Z,4.6nm,1.1s
BIOA Bad Ischl, Aus 45.81 324 *eP* **P** 02 32 26.3 +1.8
comp=Z,4.4nm,0.7s
DPC Dobruska-Polom 45.89 328 *eP* **P** 02 32 25.8 +0.7
CKRC Cesky Krumlov 46.05 326 *eP* **P** 02 32 26.7 +0.3
OSTC Ostas 46.07 328 *eP* **P** 02 32 27.6 +1.1

CHVC Chvalec 46.17 328 *eP* **P** 02 32 28.2 +0.9
KSP Ksiaz 46.20 329 *eP* P 02 32 36.0 +8.5
GERES GERESS Array B 46.40 325 P **P** 02 32 30.3 +1.1
comp=Z,0.9nm,0.9s,baz=127,slow=11,SNR=5.4
GERES LR LR 02 53 12.8
comp=Z,149nm,21.7s,baz=118,slow=38
GERES GERESS Array B 46.40 325 P **P** 02 32 30.1 +0.8
ZAA0 Zalesovo Array 46.57 26 P **P** 02 32 31.1 +0.8
ZAA0 IAmb IAmb 02 32 39.1
comp=Z,17nm,1.3s
ZALV Zalesovo Beam 46.57 26 P **P** 02 32 30.9 +0.6
comp=Z,2.9nm,0.5s,baz=233,slow=7.9,SNR=15
KHC Kasperske Hory 46.63 326 *eP* **P** 02 32 31.3 +0.4
KHC *ex* x 02 33 08.5
WTTA Wattenberg 46.75 322 *eP* **P** 02 32 34.9 +2.8
comp=Z,14nm,1.2s
WATA Walderalm 46.82 322 *eP* **P** 02 32 32.4 -0.2
comp=Z,3.7nm,0.8s
KLMR Klimovskoe 46.91 351 *eP* **P** 02 32 33.4 +0.6
KLMR AMP 02 32 43.7
comp=Z,74nm,1.4s
SQTA Sankt Quirin 46.98 322 *eP* **P** 02 32 34.6 +0.8
comp=Z,1.8nm,0.5s
MOTA Moosalm 47.10 322 *eP* **P** 02 32 34.7 -0.1
comp=Z,6.1nm,1.1s
FETA Feichten 47.17 322 *eP* **P** 02 32 36.7 +1.4
comp=Z,2.3nm,1.0s
RETA Reutte 47.38 322 *eP* **P** 02 32 36.3 -0.6
comp=Z,6.1nm,1.5s
PSI Prapat 47.41 100 LR LR 02 52 08.3
comp=Z,142nm,18.2s,baz=284,slow=36
LBTB Lobatse 47.43 214 P **P** 02 32 37.3 -0.1
comp=Z,12nm,0.7s,baz=27,slow=8.4,SNR=15
LBTB LR LR 02 51 52.6
comp=Z,365nm,20.8s,baz=34,slow=35
LBTB Lobatse 47.43 214 P **P** 02 32 37.4 -0.1
DAVOX Davos/Dischmat 47.57 321 LR LR 02 54 26.2
comp=Z,115nm,21.1s,baz=98,slow=38
DAVA Damuels 47.80 322 *eP* **P** 02 32 39.9 -0.4
comp=Z,2.4nm,0.8s
TSUM Tsumeb 48.12 226 LR LR 02 53 02.4
comp=Z,942nm,19.8s,baz=46,slow=36
CLL Collm 48.15 328 *eP* **P** 02 32 44.0 +1.3
CLL *i* x x 02 32 51.8
comp=Z,36nm,2.1s
CLL *eS* **S** 02 39 44.0 +2.4
CLL *eSS* SS 02 43 28.0 +17
CLL *eSSSS* 02 44 37.0
CLL LmV 02 56 00.0
comp=Z,100nm,20.1s
TORD Torodi Ar. Bea 49.12 275 P **P** 02 32 49.7 -1.0
comp=Z,1.2nm,0.8s,baz=86,slow=8.6,SNR=8.4
TORD PcP **PcP** 02 34 14.1 -0.1
comp=Z,0.9nm,0.8s,baz=83,slow=4.4,SNR=3.0
TORD Torodi Ar. Bea 49.12 275 P **P** 02 32 49.9 -0.9
BFO Black Forest 49.22 322 P **P** 02 32 53.4 +2.4
BFO IAmb IAmb 02 33 13.0
comp=Z,12nm,1.1s
FINES FINESS Array B 50.24 344 P **P** 02 32 59.2 +0.7
comp=Z,3.2nm,0.6s,baz=146,slow=7.3,SNR=18
FINES PcP **PcP** 02 34 16.6 -0.9
comp=Z,1.7nm,0.9s,baz=126,slow=7.1,SNR=1.3
FINES LR LR 02 58 05.9
comp=Z,286nm,19.6s,baz=145,slow=41
BOSA Boshof 50.52 211 P **P** 02 33 01.1 -0.1
comp=Z,4.1nm,1.1s,baz=26,slow=13,SNR=1.7
BOSA LR LR 02 54 45.8
comp=Z,304nm,18.4s,baz=41,slow=37
VIKU Vikbolandet 51.04 337 *eP* **P** 02 33 07.1 +2.5
UPP Uppsala 51.65 338 *eP* **P** 02 33 11.4 +2.3
CLF Chambon-Foret 52.79 320 P **P** 02 33 19.3 +1.4
HFS Hagfors 53.28 337 LR LR 02 58 38.7
comp=Z,196nm,21.1s,baz=132,slow=39
XAN Xi'an 54.25 59 P **P** 02 33 32.6 +3.7
XAN sP pwP 02 33 40.6 +5.9
XAN S **S** 02 41 06.8 +0.2
XAN Xi'an 54.25 59 SS **SS** 02 44 53.8 +5.3
XAN pmax pmax
comp=Z,7.0nm,1.0s
XAN LR LR
comp=N,220nm,17.2s
XAN LR LR
comp=Z,220nm,17.9s
MDT Midelt 54.49 300 LR LR 02 58 19.2
comp=Z,391nm,18.9s,baz=156,slow=38
NB2 NORSAR Subarra 54.80 337 P **P** 02 33 32.0 -0.4
comp=Z,4.8nm,1.1s,baz=124,slow=7.4
NOA NORSAR Array B 54.80 337 P **P** 02 33 32.4 0.0
comp=Z,1.1nm,0.8s,baz=121,slow=7.8,SNR=5.8
NOA LR LR 02 59 34.9
comp=Z,181nm,20.9s,baz=125,slow=39
ESDC Sonseca Array 54.87 308 P **P** 02 33 33.2 -0.2
comp=Z,3.2nm,0.8s,baz=88,slow=6.5,SNR=18
ESDC LR LR 02 58 35.3
comp=Z,61nm,18.8s,baz=114,slow=38
ESDC Sonseca Array 54.87 308 P **P** 02 33 33.7 +0.3
SONM Songino Array 55.21 42 P **P** 02 33 36.7 +1.0
comp=Z,1.8nm,0.8s,baz=242,slow=6.6,SNR=13
SONM LR LR 03 00 23.9
comp=Z,329nm,21.2s,baz=234,slow=40
SONM Songino Array 55.21 42 P **P** 02 33 37.3 +1.6
SONM IAmb IAmb 02 33 45.4
comp=Z,9.9nm,1.3s
SUR Sutherland 55.81 212 LR LR 02 57 41.9
comp=Z,325nm,19.1s,baz=28,slow=36
DBIC Dimbokro 56.68 268 LR LR 02 57 26.6
comp=Z,205nm,19.0s,baz=80,slow=35
ARCES ARCESS Array B 57.23 349 P **P** 02 33 48.5 -1.1
comp=Z,2.3nm,0.8s,baz=160,slow=3.9,SNR=5.4
ARCES LR LR 03 02 15.9
comp=Z,361nm,19.6s,baz=140,slow=40
EKA Eskdalemuir Ar 58.58 326 LR LR 03 02 36.7
comp=Z,58nm,19.6s,baz=94,slow=39
NRIK Noril'sk 58.79 14 P **P** 02 34 01.2 +0.7
comp=Z,4.2nm,0.7s,baz=198,slow=4.7,SNR=4.3
NRIK LR LR 03 04 19.2
comp=Z,712nm,19.2s,baz=222,slow=41
NRIK Noril'sk 58.79 14 P **P** 02 34 01.4 +0.9
NRIK IAmb IAmb 02 34 10.1
comp=Z,14nm,1.1s
LEM Lembang 58.84 108 LR LR 02 57 12.2
comp=Z,135nm,18.1s,baz=244,slow=34
JAGI Jajag, Banyuwa 65.47 107 P **P** 02 34 43.7 -2.5
JAGI Jajag, Banyuwa 65.47 107 P **P** 02 34 44.4 -1.9
comp=Z,30nm,1.2s
SRBI Singaraja 66.32 106 P **P** 02 34 50.3 -1.5
comp=Z,25nm,1.1s
JMIC Jan Mayen 66.77 342 LR LR 03 07 38.8
comp=Z,161nm,18.4s,baz=39,slow=39
CN2 Changchun 67.72 48 *eP* **P** 02 35 01.3 +1.1
CN2 *eS* **S** 02 43 59.4 +1.4
KAPI Kappang 69.60 101 LR LR 03 05 54.0
comp=Z,43nm,18.2s,baz=284,slow=36
KAPI Kappang 69.60 101 P **P** 02 35 09.9 -2.5
KSRS Korea Array 69.76 55 P **P** 02 35 12.7 -0.4
comp=Z,1.2nm,0.7s,baz=260,slow=7.8,SNR=2.3
WBSI Waikabubak, Su 70.73 106 P **P** 02 35 17.5 -1.9
SCO Scoresbysund 70.90 340 *i* P **P** 02 35 20.3 +0.9
SCO IAmb IAmb 02 35 23.1
comp=Z,2.0nm,0.7s
JOW Kunigami 71.06 66 LR LR 03 06 24.3
comp=Z,89nm,19.4s,baz=117,slow=36
YAK Yakutsk 71.08 29 LR LR 03 09 50.7
comp=Z,177nm,19.8s,baz=268,slow=39
DBG Daneborg 71.14 344 *i* P **P** 02 35 21.5 +0.7
DBG IAmb IAmb 02 35 22.8
comp=Z,2.3nm,0.7s
DAG Danmarks Havn 71.35 347 *i* P **P** 02 35 22.0 -0.1
DAG IAmb IAmb 02 35 24.7
comp=Z,2.6nm,0.7s
TIXI Tiksi 71.78 19 LR LR 03 11 30.7
comp=Z,331nm,19.2s,baz=193,slow=40
TIXI Tiksi 71.78 19 P **P** 02 35 25.5 +0.8
TIXI IAmb IAmb 02 35 33.9
comp=Z,11nm,1.2s
KLR Kul'dur 72.01 43 LR LR 03 10 53.8
comp=Z,194nm,19.7s,baz=258,slow=39
DAV Davao City (W) 72.04 87 LR LR 03 07 08.9
comp=Z,96nm,20.0s,baz=348,slow=36
USRK Ussuriysk Ar. 72.42 48 P **P** 02 35 28.6 -0.5
comp=Z,0.9nm,0.6s,baz=256,slow=4.3,SNR=2.5
USRK LR LR 03 09 14.4
comp=Z,136nm,21.3s,baz=316,slow=37
USRK Ussuriysk Ar. 72.42 48 P **P** 02 35 28.4 -0.8
BATI Baumata 74.89 105 LR LR 03 07 06.1
comp=Z,101nm,21.5s,baz=272,slow=34

PSA00	**Pilbara Seismi**	**75.40**	**117**	P		**P**	**02 35 45.0**	**-1.9**
PSA00				IAmb		IAmb	02 35 47.0	
	comp=Z,9.0nm,1.1s							
MJAR	**Matsushiro Arr**	**78.04**	**55**	P		**P**	**02 36 01.6**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=282,slow=8.2,SNR=1.9							
MJAR				LR		LR	03 11 53.1	
	comp=Z,61nm,19.2s,baz=274,slow=37							
JHJ	**Hachijo jima 2**	**79.93**	**58**	LR		LR	03 15 12.3	
	comp=Z,57nm,18.0s,baz=39,slow=38							
ASAJ	**Asahikawa**	**80.00**	**47**	LR		LR	03 13 38.8	
	comp=Z,116nm,21.9s,baz=91,slow=37							
SEY	**Seymchan**	**81.43**	**27**	LR		LR	03 16 54.3	
	comp=Z,269nm,20.5s,baz=323,slow=39							
SFJD	**Kangerlussuaq**	**81.48**	**337**	P		**P**	**02 36 21.1**	**+1.5**
	comp=Z,7.0nm,0.9s,baz=131,slow=6.4,SNR=3.6							
SFJD				LR		LR	03 15 29.3	
	comp=Z,122nm,19.9s,baz=62,slow=38							
SFJD	**Kangerlussuaq**	**81.48**	**337**	*i* P		**P**	**02 36 20.5**	**+0.9**
SFJD				IAmb		IAmb	02 36 21.3	
	comp=Z,3.9nm,0.8s							
MA2	**Magadan**	**81.55**	**31**	LR		LR	03 15 49.7	
	comp=Z,207nm,20.9s,baz=294,slow=38							
MAW	**Mawson**	**82.55**	**176**	LR		LR	03 07 42.7	
	comp=Z,119nm,18.3s,baz=36,slow=32							
EUNU	**Eureka**	**82.89**	**353**	P		**P**	**02 36 28.3**	**+1.3**
EUNU				IAmb		IAmb	02 36 37.6	
	comp=Z,7.2nm,1.1s							
PETK	**Petropavlovsk-**	**87.21**	**36**	LR		LR	03 20 05.4	
	comp=Z,97nm,16.5s,baz=280,slow=38							
WRA	**Warramunga Arr**	**87.65**	**111**	P		**P**	**02 36 50.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=301,slow=3.8,SNR=21							
WRA				LR		LR	03 12 35.4	
	comp=Z,71nm,18.2s,baz=128,slow=33							
WRA	**Warramunga Arr**	**87.65**	**111**	P		**P**	**02 36 49.8**	**-2.0**
ASAR	**Alice Springs**	**88.33**	**115**	P		**P**	**02 36 54.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=289,slow=4.5,SNR=15							
ASAR				LR		LR	03 13 54.6	
	comp=Z,52nm,18.1s,baz=178,slow=34							
RES	**Resolute Bay**	**88.35**	**352**	LR		LR	03 22 39.0	
	comp=Z,114nm,19.1s,baz=50,slow=40							
GUMO	**Guam**	**88.95**	**76**	LR		LR	03 15 51.3	
	comp=Z,42nm,20.1s,baz=121,slow=35							
FRB	**Frobisher Bay**	**89.62**	**338**	LR		LR	03 19 15.1	
	comp=Z,103nm,20.3s,baz=34,slow=37							
RCBR	**Riachuelo**	**89.81**	**264**	LR		LR	03 16 19.5	
	comp=Z,66nm,18.2s,baz=245,slow=35							
SNAA	**Sanae**	**93.81**	**195**	LR		LR	03 11 17.8	
	comp=Z,128nm,20.2s,baz=360,slow=30							
SHEM	**Shemya Is, Ala**	**96.17**	**31**	LR		LR	03 25 57.6	
	comp=Z,97nm,19.8s,baz=292,slow=39							
INK	**Inuvik**	**96.99**	**2**	LR		LR	03 29 11.6	
	comp=Z,88nm,20.2s,baz=12,slow=40							
CTA	**Charters Tower**	**98.53**	**109**	LR		LR	03 20 40.9	
	comp=Z,68nm,18.8s,baz=259,slow=34							
ILAR	**Eielson Array**	**99.31**	**8**	LR		LR	03 27 56.7	
	comp=Z,142nm,21.8s,baz=3.0,slow=39							
PDAR	**Pinedale Array**	**120.34**	**345**	PKP		**PKPdf**	**02 42 54.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=71,slow=3.4,SNR=6.8							
PDAR	**Pinedale Array**	**120.34**	**345**			**PKPdf**	**02 42 53.5**	**-1.1**
LPAZ	**La Paz**	**122.84**	**260**	PKP		**PKPdf**	**02 43 00.2**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=96,slow=10,SNR=1.9							
LPAZ	**La Paz**	**122.84**	**260**			**PKPdf**	**02 42 57.0**	**-3.5**
NVAR	**Mina Array Bea**	**126.32**	**351**	PKP		**PKPdf**	**02 43 06.9**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=127,slow=0.8,SNR=6.7							
NVAR	**Mina Array Bea**	**126.32**	**351**			**PKPdf**	**02 43 01.9**	**-4.4**
TXAR	**Lajitas Array**	**130.38**	**332**	PKP		**PKPdf**	**02 43 14.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=113,slow=1.6,SNR=7.4							

*MDD **22** 02:26:44.4±0.6,35°.51N×3°.79W,h0km,mb_Lg2.1/5,Error ellipse: s-maj=5.3km s-min=3.3km az=15.0*
*SFS **22** 02:26:44.0,35°.51N×3°.79W,ML2.0,ALBORAN SUR*
*CNRM **22** 02:26:47.2,35°.46N×3°.89W,h24km,ml2.7*

ISC 22 02:26:41.9±1.3,35°.48N±0°.03×3°.89W±0°.03,h1km±11km, n17,σ1°78/32,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMEL	**Melilla**	**0.78**	**103**	Pg		**Pg**	**02 26 56.9**	**0.0**
EMEL				Sg		**Sg**	**02 27 06.3**	**-0.8**
EALB	**Alboran**	**0.83**	**57**	Pg		**Pb**	**02 26 58.4**	**-0.7**
EALB				Sg		**Sb**	**02 27 09.5**	**-1.3**
EALB				*i*	Vmb_Lg		02 27 10.1	
CEU	**Ceuta**	**1.28**	**289**	P		**Pn**	**02 27 06.0**	**-0.9**
CEU				S		**Sb**	**02 27 19.6**	**-4.1**
EMIJ	**Mijas**	**1.29**	**327**	Pg		**Pg**	**02 27 08.3**	**+1.6**
EMIJ				Sg		**Sn**	**02 27 26.2**	**+1.0**
EMIJ				*i*	Vmb_Lg		02 27 29.3	
EMAL	**Malaga-Limoner**	**1.35**	**341**	P		**Pg**	**02 27 08.7**	**+0.9**
EMAL				S		**Sg**	**02 27 27.1**	**+1.9**
ELGU	**Los Guajares,**	**1.40**	**9**	Pg		**Pb**	**02 27 08.0**	**-0.9**
ELGU				Sg		**Sg**	**02 27 27.6**	**+0.7**
ELGU				*i*	Vmb_Lg		02 27 30.0	
EBER	**Berja**	**1.63**	**30**	Pg		**Pb**	**02 27 11.3**	**-1.5**
EBER				Sg		**Sn**	**02 27 31.4**	**-2.2**
EBER				*i*	Vmb_Lg		02 27 37.9	
EGOR	**Sierra Gorda,**	**1.63**	**354**	Pg		**Pg**	**02 27 13.1**	**-0.1**
EGOR				Sg		**Sb**	**02 27 32.8**	**-1.3**
EGOR				*i*	Vmb_Lg		02 27 42.3	
IFR	**Ifrane**	**2.21**	**208**	P		**Pb**	**02 27 21.3**	**-1.5**
IFR				S		**Sn**	**02 27 48.3**	**+0.4**
MD31	**MD31**	**2.71**	**196**	P		**Pb**	**02 27 29.2**	**-2.0**
MD31				S		**Sn**	**02 28 01.8**	**+1.7**
MDT	**Midelt**	**2.73**	**193**	P		**Pb**	**02 27 30.2**	**-1.3**
MDT				S		**Sn**	**02 28 01.6**	**+1.0**
EADA	**Adamuz**	**2.73**	**349**	Pn		**Pb**	**02 27 28.7**	**-2.9**
ECAB	**El Cabril**	**2.86**	**335**	Pn		**Pn**	**02 27 30.0**	**+1.3**
ECAB				Sn		**Sb**	**02 28 07.5**	**-1.9**
TDRA	**Tendrara**	**2.88**	**147**	P		**Pn**	**02 27 31.3**	**+2.2**
TDRA				S		**Sn**	**02 28 06.0**	**+1.4**
PVAQ	**Vaqueiros**	**3.63**	**303**	P		**Pn**	**02 27 41.1**	**+1.9**
PVAQ				S		**Sn**	**02 28 25.5**	**+2.7**
ETOB	**Tobarra**	**3.67**	**30**	Pn		**Pn**	**02 27 41.6**	**+1.7**
EBAD	**Badajoz**	**4.11**	**324**	Pn		**Pn**	**02 27 47.5**	**+1.6**
EBAD				Sn		**Sn**	**02 28 35.9**	**+1.3**

*IDC **22** 02:26:54.9±0.8,6°.76N×72°.98W,h167km±11km,mb3.1/2, mb1 3.6/4,mb1mx3.1/33,mbtmp3.8/4,Error ellipse: s-maj=37.9km s-min=8.0km az=131.0*
*RSNC **22** 02:26:55.1±1.1,6°.85N×73°.15W,h152km±4km,ML3.5, Mw3.8,Fault plane solution: NP1:φ=0.00000°,δ=25.00000°, λ=-42.00000°.*

ISC 22 02:26:54.1±0.9,6°.83N±0°.03×73°.12W±0°.03,h159km±6km, n43,σ1°41/81,6C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**194**	↓*i* P		**Pn**	**02 27 15.8**	**-0.1**
BARC				*eS*		**Sn**	**02 27 31.1**	**-1.5**
BARC				*i*			02 27 32.4	
	comp=Z,873nm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**40**	↑*i* P		**Pn**	**02 27 18.6**	**+0.8**
PAMC				*eS*		**Sn**	**02 27 35.5**	**-0.6**
PAMC				*i*			02 27 38.0	
	comp=Z,417nm,0.5s							
RUSC	**La Rusia**	**0.94**	**178**	↓*i* P		**Pn**	**02 27 19.7**	**-0.1**
RUSC				*eS*		**Sn**	**02 27 38.5**	**-1.0**
RUSC				*i*			02 27 39.5	
	comp=Z,280nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*eP*		**Pn**	**02 27 22.3**	**-0.6**
PTBC				*eS*		**Sn**	**02 27 43.6**	**-1.4**
PTBC				*i*			02 27 50.2	
	comp=Z,218nm,0.2s							
TAMC	**Tame, Arauca**	**1.38**	**107**	↑*eP*		**Pn**	**02 27 24.2**	**+1.0**
TAMC				*i*			02 27 45.1	
	comp=Z,165nm,0.4s							
TAMC				*eS*		**Sn**	**02 27 45.8**	**+0.3**
OCAC	**Ocana**	**1.41**	**352**	↑*eP*		**Pn**	**02 27 23.9**	**+0.3**
OCAC				*eS*		**Sn**	**02 27 46.1**	**-0.3**
OCAC				*i*			02 27 49.4	
	comp=Z,587nm,0.2s							
SPBC	**San Pablo de B**	**1.50**	**219**	*eP*		**Pn**	**02 27 24.7**	**+0.2**
SPBC				*eS*		**Sn**	**02 27 47.1**	**-0.8**
SPBC				*i*			02 27 51.5	
	comp=Z,555nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*		**Pn**	**02 27 28.2**	**+0.2**
ZARC				*eS*		**Sn**	**02 27 53.7**	**-0.3**
ZARC				*i*			02 27 59.0	
	comp=Z,423nm,0.3s							
NORC	**Norcasia**	**2.15**	**234**	*eP*		**Pn**	**02 27 31.8**	**+0.3**
NORC				*eS*		**Sn**	**02 27 59.1**	**-1.3**
NORC				*i*			02 28 09.2	
	comp=Z,139nm,0.3s							
CHIC	**Chingaza**	**2.27**	**195**	*eP*		**Pn**	**02 27 34.0**	**+0.6**
CHIC				*eS*		**Sn**	**02 28 02.9**	**-0.7**
CHIC				*i*			02 28 06.8	
	comp=Z,226nm,0.6s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**02 27 35.7**	**+1.9**
	comp=Z,38nm,0.3s,baz=83,slow=16,SNR=108							
ROSC				S		**Sn**	**02 28 06.7**	**+2.3**
	comp=Z,110nm,0.3s,baz=24,slow=20,SNR=19							
ROSC	**El Rosal**	**2.31**	**211**	*eP*		**Pn**	**02 27 35.6**	**+1.9**
ROSC				*eS*		**Sn**	**02 28 05.3**	**+0.9**
ROSC				*i*			02 28 10.5	
	comp=Z,618nm,0.4s							
HELC	**Santa Helena**	**2.47**	**255**	*eP*		**Pn**	**02 27 35.9**	**+0.2**
HELC				*eS*		**Sn**	**02 28 07.8**	**+0.1**
HELC				*i*			02 28 13.9	
	comp=Z,157nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*		**Pn**	**02 27 35.6**	**-0.7**
UREC				*eS*		**Sn**	**02 28 06.1**	**-3.0**
UREC				*i*			02 28 14.9	
	comp=Z,163nm,0.2s							
SOCV	**Socops**	**2.67**	**57**	↑*eP*		**Pn**	**02 27 37.7**	**-0.1**
SOCV				*eS*		**Sn**	**02 28 09.7**	**-1.9**
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*eP*		**Pn**	**02 27 40.6**	**+2.2**
LL1C				*eS*		**Sn**	**02 28 16.3**	**+3.5**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*eP*		**Pn**	**02 27 39.9**	**+0.8**
GUY2C				*eS*		**Sn**	**02 28 14.1**	**+0.2**
GUY2C				*i*			02 28 22.1	
	comp=Z,204nm,0.4s							
VILC	**Villavicencio,**	**2.76**	**192**	*eP*		**Pn**	**02 27 39.2**	**+0.2**
VILC				*eS*		**Sn**	**02 28 13.3**	**-0.5**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	↓*iP*		**Pn**	**02 27 39.0**	**-0.3**
PTGC				*eS*		**Sn**	**02 28 12.0**	**-2.3**
PTGC				*i*			02 28 15.1	
	comp=Z,117nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.89**	**357**	↑*eP*		**Pn**	**02 27 40.3**	**-0.1**
LL6C				*eS*		**Sn**	**02 28 15.3**	**-1.1**
LL6C				*i*			02 28 21.9	
	comp=Z,97nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	*eP*		**Pn**	**02 27 43.1**	**+0.7**
CBOC				*eS*		**Sn**	**02 28 19.3**	**-0.4**
CBOC				*i*			02 28 30.8	
	comp=Z,41nm,0.3s							
DBBC	**Dabeiba**	**3.07**	**274**	*eP*		**Pn**	**02 27 43.0**	**+0.2**
DBBC				*eS*		**Sn**	**02 28 19.7**	**-0.8**
DBBC				*i*			02 28 23.7	
	comp=Z,421nm,0.3s							
MOTC	**Monteria, Cord**	**3.17**	**308**	*eP*		**Pn**	**02 27 42.9**	**-1.1**
MOTC				*eS*		**Sn**	**02 28 21.4**	**-1.4**
MOTC				*i*			02 28 36.8	
	comp=Z,107nm,0.4s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**02 27 45.2**	**+0.7**
	comp=Z,38nm,0.3s,baz=238,slow=13,SNR=201							
SDV				S		**Sn**	**02 28 24.0**	**+0.3**
	comp=Z,13nm,0.3s,baz=252,slow=20,SNR=7.7							
SDV	**Santo Domingo**	**3.20**	**50**	*eP*		**Pn**	**02 27 45.3**	**+0.7**
SDV				*eS*		**Sn**	**02 28 22.9**	**-0.7**
SDV				*i*			02 28 26.0	
	comp=Z,33nm,0.4s							
ANIL	**Santa Ana**	**3.25**	**224**	*eP*		**Pn**	**02 27 46.2**	**+1.0**
ANIL				*eS*		**Sn**	**02 28 25.1**	**+0.2**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*		**Pn**	**02 27 49.9**	**+0.6**
ORTC				*eS*		**Sn**	**02 28 32.1**	**-0.3**
ORTC				*i*			02 28 37.2	
	comp=Z,126nm,0.3s							
ELOV	**Elorza**	**3.62**	**87**	*eP*		**Pn**	**02 27 50.1**	**+0.4**
ELOV				*eS*		**Sn**	**02 28 31.4**	**-1.4**
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*		**Pn**	**02 27 49.5**	**-0.8**
SJCC				*eS*		**Sn**	**02 28 30.9**	**-3.1**
SJCC				*i*			02 28 45.6	
	comp=Z,62nm,0.6s							
PLMC	**San Jos del P**	**3.68**	**239**	↑*eP*		**Pn**	**02 27 51.2**	**+0.7**
PLMC				*eS*		**Sn**	**02 28 32.6**	**-1.8**
PLMC				*i*			02 28 46.4	
	comp=Z,38nm,0.2s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eS*		**Sn**	**02 28 35.4**	**-1.5**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*		**Pn**	**02 27 55.8**	**-1.0**
CRJC				*eS*		**Sn**	**02 28 43.4**	**-2.4**
CRJC				*i*			02 28 51.2	
	comp=Z,104nm,0.2s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*		**Pn**	**02 27 58.4**	**+0.1**
YOTC				*eS*		**Sn**	**02 28 50.5**	**+2.1**
GUVC	**San Jose del G**	**4.29**	**173**	*eP*		**Pn**	**02 27 57.5**	**-0.9**
GUVC				*eS*		**Sn**	**02 28 46.9**	**-1.7**
GUVC				*i*			02 28 54.6	
	comp=Z,85nm,0.3s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*		**Pn**	**02 28 00.3**	**0.0**
SMRC				*eS*		**Sn**	**02 28 48.3**	**-3.8**
SMRC				*i*			02 28 51.3	
	comp=Z,44nm,0.4s							
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*		**Pn**	**02 28 02.6**	**-1.3**
MACC				*eS*		**Sn**	**02 28 54.3**	**-4.2**
MACC				*i*			02 29 27.9	
	comp=Z,36nm,0.6s							
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**02 28 10.0**	**-0.3**
GARC				*eS*		**Sn**	**02 29 08.6**	**-1.4**
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*		**Pn**	**02 28 15.5**	**+0.5**
POPC				*eS*		**Sn**	**02 29 16.1**	**-2.3**
FLOC	**Florencia**	**5.79**	**206**	*eP*		**Pn**	**02 28 16.6**	**-1.5**
FLOC				*eS*		**Sn**	**02 29 25.4**	**+1.3**
FLOC				*i*			02 29 29.8	
	comp=Z,12nm,0.4s							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**02 33 45.2**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=131,slow=9.5,SNR=4.5							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**02 37 06.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=133,slow=6.6,SNR=22							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**02 46 23.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=108,slow=4.3,SNR=2.0							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**02 46 27.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=105,slow=2.8,SNR=8.9							

*IDC **22** 02:42:01.0±1.0,51°.57N×174°.17W,h0km,mb3.8/18, mb1 4.0/19,mb1mx3.8/53,mbtmp3.8/19,ML4.0/1,MS3.9/2, Ms1 3.9/2,ms1mx2.7/97,Error ellipse: s-maj=31.6km s-min=15.5km az=170.0*
*NEIC **22** 02:42:02.7±1.9,51°.35N±0°.04×174°.00W±0°.04,h10km±1km, mb3.9/14,ML3.4(AEIC),Error ellipse: s-maj=6.9km s-min=3.8km az=26.0*
*AEIC **22** 02:42:06±3.6,51°.48N±0°.08×174°.14W±0°.09,h17km±5km, Error ellipse: s-maj=11.8km s-min=7.1km az=156.0*

ISC 22 02:42:02.3±2.1,51°.35N±0°.09×174°.15W±0°.06, h14km±12km,n58,σ0°94/57,mb3.8/18,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATKA	**Atka Island**	**0.85**	**358**			**Pn**	**02 42 20.0**	**+0.1**
ATKA						**Sb**	**02 42 30.5**	**+0.4**
KOVFP	**Korovin Flat P**	**0.92**	**2**			**Pn**	**02 42 21.6**	**+0.6**
KOKL	**Mount Kliuchef**	**0.97**	**358**			**Pn**	**02 42 22.5**	**+0.9**
GSMY	**Great Sitkin M**	**1.37**	**301**			**Pg**	**02 42 29.1**	**+0.4**
GSMY						**Sg**	**02 42 46.3**	**-0.2**
GSTR	**Great Sitkin T**	**1.40**	**303**			**Pg**	**02 42 29.5**	**+0.2**
GSCK	**Great Sitkin C**	**1.42**	**299**			**Pg**	**02 42 29.6**	**+0.1**
GSTD	**Great Sitkin T**	**1.43**	**300**			**Pg**	**02 42 30.0**	**+0.3**
GSTD						**Sg**	**02 42 50.5**	**+2.2**
ADK	**Adak**	**1.67**	**290**	Pn		**Pg**	**02 42 33.7**	**-0.6**
ADK				Sn		**Sg**	**02 42 55.4**	**-0.5**
KIWB	**Kanaga Island**	**1.94**	**286**	Pn		**Pb**	**02 42 36.7**	**-0.7**
KIKV	**Kanaga Island**	**1.96**	**287**			**Pb**	**02 42 37.8**	**+0.1**
KIMD	**Kanaga Island**	**1.97**	**283**			**Pb**	**02 42 38.1**	**+0.2**
TAFP	**Tanaga Falls P**	**2.45**	**284**			**Pb**	**02 42 45.4**	**-0.8**
TAFP						**Sb**	**02 43 16.7**	**+0.5**
TASE	**Tanaga Southea**	**2.47**	**283**			**Pb**	**02 42 46.0**	**-0.5**
GANO	**Gareloi North**	**2.94**	**281**			**Pb**	**02 42 52.4**	**-2.1**
UNV	**Unalaska Valle**	**5.29**	**59**	Pn		**Pn**	**02 43 20.9**	**+0.1**
CAST	**Castle Rocks**	**16.84**	**36**	P		**P**	**02 45 58.7**	**-0.8**
I21K	**Tanana**	**17.96**	**31**	P		**P**	**02 46 11.2**	**-0.5**
I21K				IAmb		IAmb	02 46 21.1	
	comp=Z,5.9nm,1.0s							
MLY	**Manley**	**18.27**	**33**	P		**P**	**02 46 15.8**	**+0.5**
HDA	**Harding Lake**	**19.29**	**37**	P		**P**	**02 46 24.8**	**-1.6**
HDA				IAmb		IAmb	02 46 38.3	
	comp=Z,8.6nm,1.4s							
IL31		**19.49**	**36**	P		**P**	**02 46 28.3**	**-0.3**
ILAR	**Eielson Array**	**19.49**	**36**	P		**P**	**02 46 26.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=220,slow=9.2,SNR=24							
ILAR	**Eielson Array**	**19.49**	**36**	P		**P**	**02 46 28.6**	**0.0**
H24K	**Noodor Dome**	**19.72**	**33**	P		**P**	**02 46 30.7**	**-0.5**
H24K				IAmb		IAmb	02 46 38.3	
	comp=Z,5.2nm,1.1s							
J25K	**Salcha River,**	**19.98**	**37**	P		**P**	**02 46 32.0**	**-2.1**
J25K				IAmb		IAmb	02 46 45.5	
	comp=Z,8.4nm,0.7s							
L26K	**Log Cabin Wild**	**20.14**	**43**	P		**P**	**02 46 36.3**	**+0.6**
L26K				IAmb		IAmb	02 46 40.8	
	comp=Z,7.2nm,1.3s							
TOLK	**Toolik Lake Re**	**20.98**	**25**	P		**P**	**02 46 43.8**	**-1.0**
TOLK				IAmb		IAmb	02 46 45.6	
	comp=Z,5.0nm,0.7s							
SEY	**Seymchan**	**21.25**	**316**	P		**P**	**02 46 45.5**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=87,slow=11,SNR=1.5							
EGAK	**Eagle**	**21.69**	**39**	P		**P**	**02 46 51.7**	**-0.7**
INK	**Inuvik**	**25.83**	**34**	P		**P**	**02 47 32.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=308,slow=7.0,SNR=3.9							
INK	**Inuvik**	**25.83**	**34**	P		**P**	**02 47 32.2**	**-0.6**
INK				IAmb		IAmb	02 47 52.2	
	comp=Z,2.1nm,1.0s							
DLBC	**Dease Lake**	**25.94**	**57**	P		**P**	**02 47 35.0**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=229,slow=6.5,SNR=3.1							
DLBC	**Dease Lake**	**25.94**	**57**	P		**P**	**02 47 34.5**	**+0.6**
DLBC				IAmb		IAmb	02 47 54.7	
	comp=Z,4.0nm,1.1s							
YKA	**Yellowknife Ar**	**33.12**	**47**	P		**P**	**02 48 36.7**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=271,slow=8.2,SNR=5.4							
YKA				PcP		**PcP**	**02 51 20.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=282,slow=3.0,SNR=4.2							
YKA	**Yellowknife Ar**	**33.12**	**47**	P		**P**	**02 48 37.1**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**34.91**	**212**	T		T	03 26 58.8	
	baz=20							
H11N3	**WAKE ISLAND Hy**	**34.91**	**212**	T		T	03 26 48.7	
	baz=20							
H11N1	**WAKE ISLAND Hy**	**34.92**	**212**	T		T	03 26 58.0	
	baz=20							
H11S1	**WAKE ISLAND Hy**	**36.11**	**212**	T		T	03 28 17.5	
	baz=312,slow=74							
H11S2	**WAKE ISLAND Hy**	**36.12**	**212**	T		T	03 28 18.7	
	baz=18,slow=74							
H11S3	**WAKE ISLAND Hy**	**36.13**	**212**	T		T	03 28 18.2	
USRK	**Ussuriysk Ar.**	**36.18**	**280**	P		**P**	**02 49 05.2**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=54,slow=10.0,SNR=10.0							
USRK	**Ussuriysk Ar.**	**36.18**	**280**	P		**P**	**02 49 04.2**	**0.0**
EDM	**Edmonton**	**36.26**	**63**	P		**P**	**02 49 05.1**	**+0.3**
KSRS	**Korea Array**	**42.55**	**274**	P		**P**	**02 49 59.1**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=66,slow=8.1,SNR=2.6							
JNU	**Nakatsue**	**43.47**	**267**	LR		LR	03 10 49.7	
	comp=Z,45nm,19.3s,baz=320,slow=40							
PDAR	**Pinedale Array**	**43.52**	**75**	P		**P**	**02 50 05.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=316,slow=4.1,SNR=3.7							
SONM	**Songino Array**	**49.23**	**299**	P		**P**	**02 50 50.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=54,slow=7.8,SNR=9.6							
TXAR	**Lajitas Array**	**55.77**	**85**	P		**P**	**02 51 40.3**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=292,slow=3.9,SNR=2.2							
ARCES	**ARCESS Array B**	**58.57**	**352**	P		**P**	**02 51 57.5**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=23,slow=7.2,SNR=0.9							
ARCES				PcP		**PcP**	**02 52 48.9**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=29,slow=5.5,SNR=5.1							
MKAR	**Makanchi Array**	**62.29**	**311**	P		**P**	**02 52 23.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=48,slow=5.2,SNR=13							
FINES	**FINESS Array B**	**66.39**	**350**	P		**P**	**02 52 49.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=39,slow=9.0,SNR=4.8							
CMAR	**Chiang Mai Arr**	**73.90**	**279**	P		**P**	**02 53 36.8**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=39,slow=5.8,SNR=1.1							
AKASG	**Malin Array Be**	**76.40**	**345**	P		**P**	**02 53 50.0**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=17,slow=6.5,SNR=4.1							
GERES	**GERESS Array B**	**79.95**	**355**	P		**P**	**02 54 10.2**	**-0.5**

mb1 4.1/4,**mb1mx3.7**/42,**mbtmp4.0**/4,**Error ellipse: s-maj=530.3km s-min=163.1km az=75.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.74**	**261**	P	P	03 10 44.0	+1.3
	1.7nm,0.6s,baz=96,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**41.37**	**243**	P	P	03 11 21.6	+0.1
	0.9nm,0.5s,baz=80,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**47.90**	**260**	P	P	03 12 13.2	-0.6
	0.6nm,0.3s,baz=97,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**47.94**	**255**	P	P	03 12 13.5	-0.6
	1.7nm,0.5s,baz=87,slow=8.6,SNR=23						

*IDC **22** 03:04:04.4±1.4,39.°18N×141.°07E,h0km,mb3.4/5, mb1 3.5/8,mb1mx3.3/55,mbtmp3.4/8,ML2.1/2,Error ellipse: s-maj=30.1km s-min=24.7km az=89.0*
*JMA **22** 03:04:07.1,39.°05N×140.°88E,h8km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕs358.00000°,δ81.00000°,λ90.00000°. NP2: ϕs178.00000°,δ9.00000°,λ90.00000°. Principal axes: T Plg54.0000°, Azm268.0000°; N Plg0.0000°, Azm178.0000°; P Plg36.0000°, Azm88.0000°;*
JMA Felt I J1.

ISC 22 03:04:06.5±1.3,39.°08N±0.°05×140.°93E±0.°04,h11km±10km, n22,σ1ϕ05/24,mb3.5/5,1C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.26**	**118**	⇓P	**Pb**	**03 04 12.7**	**-0.5**
JMK				S	**Sb**	**03 04 16.7**	**-1.0**
JRG	**Rokugo**	**0.39**	**325**	P	**Pb**	**03 04 15.0**	**-0.5**
JRG				S	**Sb**	**03 04 20.9**	**-0.7**
JYK	**Kaneyama**	**0.47**	**251**	⇓P	**Pg**	**03 04 15.5**	**-0.2**
JYK				S	**Sg**	**03 04 21.3**	**-0.6**
JOM	**Ohasama**	**0.49**	**36**	⇓P	**Pb**	**03 04 17.3**	**+0.1**
JOM				S	**Sb**	**03 04 24.2**	**-0.1**
JKMT	**Kesennumamotoy**	**0.50**	**122**	⇓P	**Pb**	**03 04 17.0**	**-0.4**
JKMT				S	**Sb**	**03 04 24.2**	**-0.5**
OFUJ	**Ofunato**	**0.58**	**89**	P	**Pb**	**03 04 18.8**	**+0.1**
OFUJ				S	**Sb**	**03 04 27.3**	**+0.4**
JIO	**Ouri**	**0.70**	**152**	⇓P	**Pg**	**03 04 20.2**	**+0.1**
JIO				S	**Sg**	**03 04 29.8**	**+0.5**
JOU	**Okura**	**0.74**	**196**	⇑P	**Pg**	**03 04 20.6**	**-0.2**
JOU				S	**Sg**	**03 04 29.9**	**-0.5**
MJAR	**Matsushiro Arr**	**3.32**	**221**	Pn	**Pn**	**03 04 59.9**	**+1.5**
	0.3nm,0.3s,baz=29,slow=13,SNR=5.6						
USRK	**Ussuriysk Ar.**	**8.42**	**310**	Pn	**Pn**	**03 06 08.4**	**0.0**
	baz=122,slow=13,SNR=2.0						
KSRS	**Korea Array**	**10.35**	**265**	Pn	**Pn**	**03 06 38.4**	**+3.5**
	0.5nm,0.3s,baz=76,slow=14,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**29.55**	**123**	T	T	03 40 39.3	
	baz=317,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**29.56**	**123**	T	T	03 40 42.2	
	baz=317,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**29.57**	**123**	T	T	03 40 40.7	
	baz=317,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**30.32**	**125**	T	T	03 41 42.7	
	baz=319,slow=76,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**30.32**	**125**	T	T	03 41 45.2	
	baz=319,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**30.34**	**125**	T	T	03 41 40.6	
	baz=319,slow=76,SNR=9.9						
ZALV	**Zalesovo Beam**	**40.27**	**311**	P	**P**	**03 11 42.3**	**-1.1**
	0.4nm,0.4s,baz=93,slow=7.7,SNR=1.8						
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**03 12 02.3**	**-1.3**
	0.2nm,0.6s,baz=79,slow=9.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**44.46**	**306**	P	**P**	**03 12 17.5**	**0.0**
	0.2nm,0.3s,baz=83,slow=8.6,SNR=4.6						
ILAR	**Eielson Array**	**47.99**	**33**	P	**P**	**03 12 43.9**	**-1.1**
	0.5nm,0.8s,baz=252,slow=6.5,SNR=5.1						
WRA	**Warramunga Arr**	**59.03**	**187**	P	**P**	**03 14 06.6**	**+0.2**
	0.2nm,0.5s,baz=3.4,slow=7.6,SNR=8.3						

*IDC **22** 03:36:21.2±4.8,36.°44N×70.°99E,h110km±33km,mb3.4/3, mb1 3.3/10,mb1mx3.1/47,mbtmp3.7/10,Error ellipse: s-maj=52.9km s-min=19.2km az=151.0*
*NNC **22** 03:36:25.7±6.4,37.°04N×70.°62E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=52.9km s-min=39.7km az=166.0*

ISC 22 03:36:27.4±1.5,36.°81N±0.°10×70.°76E±0.°09,h150km,n20, σ1ϕ45/25,mb3.2/3,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**22**	P	**Pn**	**03 37 49.8**	**-1.4**
	SNR=69						
UCH	**Uchtor**	**6.12**	**27**	P	**Pn**	**03 37 55.9**	**-0.2**
	SNR=21						
EKS2	**Erkin-Say**	**6.27**	**21**	P	**Pn**	**03 37 56.0**	**-1.7**
	SNR=6.9						
KK08	**Karatay Array**	**6.27**	**358**	⇓P	**Pn**	**03 37 58.0**	**+0.3**
	3.2nm,0.3s						
KK08				⇓S	**Sn**	**03 39 09.4**	**+1.0**
	3.1nm,0.5s						
AAK	**Ala-Archa**	**6.47**	**25**	P	**Pn**	**03 37 59.1**	**-1.3**
	3.9nm,0.3s,baz=200,slow=4.5,SNR=26						
AAK				S	**Sn**	**03 39 12.9**	**-0.5**
	0.8nm,0.3s,baz=127,slow=22,SNR=1.9						
AAK	**Ala-Archa**	**6.47**	**25**	P	**Pn**	**03 38 00.2**	**-0.3**
	SNR=11						
CHMS	**Chumysh**	**6.88**	**25**	P	**Pn**	**03 38 05.5**	**-0.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**7.13**	**30**	⇑P	**Pn**	**03 38 10.4**	**+1.1**
	2.9nm,0.5s						
TKM2				⇓S	**Sn**	**03 39 29.2**	**+0.1**
	3.8nm,0.6s						
GEYT	**Alibeck**	**10.12**	**280**	P	**Pn**	**03 38 47.3**	**-1.8**
	0.5nm,0.3s,baz=79,slow=15,SNR=1.9						
GEYT				S	**Sn**	**03 40 41.8**	**+0.6**
	0.6nm,0.3s,baz=94,slow=20,SNR=4.6						
MKAR	**Makanchi Array**	**13.14**	**37**	P	**Pn**	**03 39 26.4**	**-1.9**
	0.0nm,0.3s,baz=225,slow=15,SNR=3.1						
AB31	**Akbulak array**	**14.70**	**331**	P	**P**	**03 39 50.7**	**+0.6**
	0.5nm,0.3s,baz=149,slow=12,SNR=47						
AB31				⇑S	**Sn**	**03 42 28.5**	**-2.5**
	0.8nm,0.5s,baz=147,slow=24,SNR=5.9						
KURBB	**Kurchatov Arra**	**14.87**	**20**	P	**Pn**	**03 39 49.8**	**-0.2**
	0.0nm,0.3s,baz=207,slow=9.9,SNR=3.3						
BVAR	**Borovoye Array**	**16.20**	**359**	P	**Pn**	**03 40 06.3**	**0.0**
	0.3nm,0.3s,baz=186,slow=13,SNR=3.0						
AKTO	**Aktyubinsk**	**16.40**	**330**	P	**P**	**03 40 08.8**	**-0.1**
	0.3nm,0.3s,baz=149,slow=8.4,SNR=9.8						
AKTO	**Aktyubinsk**	**16.40**	**330**	⇑P	**P**	**03 40 12.2**	**+3.3**
	2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**19.69**	**25**	P	**P**	**03 40 44.1**	**-0.7**
	0.6nm,0.3s,baz=216,slow=9.7,SNR=7.6						
ARCES	**ARCESS Array B**	**40.77**	**338**	P	**P**	**03 43 55.6**	**+2.3**
	5.8nm,1.2s,baz=109,slow=9.6,SNR=2.1						
NB2	**NORSAR Subarra**	**44.00**	**323**	P	**P**	**03 44 21.1**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**44.00**	**323**	P	**P**	**03 44 21.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=102,slow=7.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.54**	**268**	P	**P**	**03 46 53.9**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=47,slow=6.0,SNR=5.7						

*MDD **22** 03:43:56.5±1.0,35.°63N×3.°61W,h23km±7km,mb_Lg2.4/4, Error ellipse: s-maj=8.3km s-min=7.4km az=165.0*
*CNRM **22** 03:44:00.7,35.°76N×3.°64W,h28km,ml2.6*

ISC 22 03:43:56.0±1.1,35.°64N±0.°03×3.°57W±0.°04,h30km±14km, n11,σ1ϕ21/21,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.53**	**55**	Pg	**Pn**	**03 44 07.5**	**+0.1**
EALB				Sg	**Sn**	**03 44 14.2**	**-1.1**
EALB				*i* Vmb_Lg		03 44 17.0	
EMEL	**Melilla**	**0.60**	**124**	Pg	**Pn**	**03 44 08.9**	**+0.4**
EMEL				Sg	**Sn**	**03 44 16.9**	**-0.3**
EMEL				*i* Vmb_Lg		03 44 19.9	
ELGU	**Los Guajares,**	**1.23**	**358**	Pg	**Pb**	**03 44 18.7**	**0.0**
ELGU				Sg	**Sb**	**03 44 36.0**	**+1.9**
ELGU				*i* Vmb_Lg		03 44 38.7	
EMAL	**Malaga-Limoner**	**1.32**	**328**	P	**Pn**	**03 44 16.9**	**-1.5**
EMAL				S	**Sb**	**03 44 37.3**	**+0.6**
EMIJ	**Mijas**	**1.34**	**314**	Pg	**Pb**	**03 44 19.1**	**-1.5**
EMIJ				Sg	**Sn**	**03 44 35.6**	**0.0**
EMIJ				*i* Vmb_Lg		03 44 37.9	
EBER	**Berja**	**1.37**	**23**	Pg	**Pb**	**03 44 20.0**	**-1.1**
EBER				Sg	**Sb**	**03 44 37.8**	**-0.5**
EGOR	**Sierra Gorda,**	**1.53**	**344**	Pg	**Pb**	**03 44 24.0**	**+0.2**
EGOR				Sg	**Sb**	**03 44 44.5**	**+1.6**
TDRA	**Tendrara**	**2.89**	**153**	P	**Pb**	**03 44 47.1**	**+0.1**
TDRA				S	**Sb**	**03 45 23.3**	**+1.3**
MD31	**MD31**	**2.94**	**200**	P	**Pb**	**03 44 46.7**	**-1.0**
MD31				S	**Sb**	**03 45 23.3**	**0.0**
MDT	**Midelt**	**2.95**	**197**	P	**Pb**	**03 44 46.9**	**-1.0**
MDT				S	**Sb**	**03 45 24.2**	**+0.7**
PVAQ	**Vaqueiros**	**3.78**	**299**	P	Pb	03 44 56.2	-5.7
PVAQ				S	**Sn**	**03 45 38.2**	**+2.6**

JMA 22 03:51:40.4±0.2,37.°98N×144.°05E,h37km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.06**	**280**	S	Sn	03 52 38.1	+1.2
OFUJ	**Ofunato**	**2.17**	**301**	*e*S	Sn	03 52 41.5	+2.0
JIO	**Ouri**	**2.18**	**283**	S	Sn	03 52 41.4	+1.6
JKMT	**Kesennumamotoy**	**2.19**	**293**	*e*S	Sn	03 52 41.8	+1.8
JMK	**Ichinoseki**	**2.42**	**294**	*e*S	Sn	03 52 48.5	+2.7
JOM	**Ohasama**	**2.62**	**306**	S	Sn	03 52 53.4	+2.7
JFT	**Otama**	**2.98**	**262**	*e*S	Sn	03 53 01.4	+1.8
JANG	**Nango**	**3.10**	**321**	*e*S	Sn	03 53 03.6	+1.2
JRY	**Ryogami san**	**4.56**	**246**	P	Pn	03 52 47.1	+0.2
JRY				*e*S	Sn	03 53 37.7	-0.9
JCH	**Churui**	**4.66**	**354**	P	Pn	03 52 48.4	+0.3
JCH				*e*S	Sn	03 53 38.9	-2.0
JTKR	**Abashiri--Toko**	**5.99**	**359**	P	Pn	03 53 06.3	0.0
JTKR				*e*S	Sn	03 54 11.3	-2.3

*IDC **22** 03:57:40.3±11.0,30.°38S×173.°61W,h54km±101km, mb3.5/2,mb1 3.8/3,mb1mx3.5/20,mbtmp3.8/3,ML3.2/1, MS3.4/2,Ms1 3.4/2,ms1mx2.9/31,Error ellipse: s-maj=105.4km s-min=51.3km az=167.0*

ISC 22 03:57:37.8±1.8,30.°2S±0.°3×173.°6W±0.°4,h35km,n9, σ0ϕ58/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.11**	**221**	P	**Pn**	**04 00 14.4**	**+0.3**
	0.2nm,0.3s,baz=37,slow=20,SNR=0.8						
URZ				S	**Sn**	**04 02 16.6**	**-0.4**
	1.4nm,0.3s,baz=59,slow=24,SNR=8.4						
DZM	**Mont Dzumac**	**19.68**	**290**	LR	LR	04 08 02.0	
	comp=Z,80nm,18.7s,baz=157,slow=32						
PPT	**Papeete**	**25.24**	**65**	LR	LR	04 12 13.0	
	comp=Z,94nm,18.4s,baz=306,slow=34						
ASAR	**Alice Springs**	**46.94**	**265**	P	**P**	**04 06 05.7**	**+0.3**
	0.6nm,0.5s,baz=97,slow=7.0,SNR=6.4						
WRA	**Warramunga Arr**	**47.92**	**270**	P	**P**	**04 06 13.0**	**-0.1**
	0.9nm,0.5s,baz=110,slow=7.3,SNR=9.9						
MKAR	**Makanchi Array**	**120.62**	**309**	PKP	**PKPdf**	**04 16 25.1**	**-0.5**
	0.2nm,0.7s,baz=54,slow=5.9,SNR=2.8						
FINES	**FINESS Array B**	**146.21**	**343**	PKPbc	**PKPdf**	**04 17 12.5**	**-0.2**
	1.3nm,0.6s,baz=38,slow=2.5,SNR=6.1						
NOA	**NORSAR Array B**	**149.03**	**355**	PKPbc	**PKiKP**	**04 17 23.7**	**+0.8**
	1.0nm,0.9s,baz=12,slow=2.5,SNR=3.5						
AKASG	**Malin Array Be**	**153.39**	**327**	PKPbc	**PKPbc**	**04 17 31.4**	**-0.6**
	1.1nm,0.5s,baz=45,slow=2.6,SNR=6.7						

*IDC **22** 04:29:05.6±3.6,7.°47S×125.°02E,h355km±42km,mb3.3/3, mb1 3.4/6,mb1mx3.0/39,mbtmp4.1/6,Error ellipse: s-maj=82.8km s-min=13.1km az=61.0*
*DJA **22** 04:29:07.9±0.8,8.°5S×12.°5E,°,h358km±7km,M4.0/9, mb3.9/7,mB4.7/4,MLv4.0/9,Mw(mB)3.9/4*

ISC 22 04:29:07.7±0.7,7.°61S±0.°08×125.°0E±0.°1,h371km,n33, σ1ϕ13/35,mb4.0/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.24**	**198**	P	**Pn**	**04 30 02.9**	**+0.2**
SOEI	**Soe**	**2.24**	**198**	P	**Pn**	**04 30 02.2**	**-0.5**
MMRI	**Maumere**	**2.88**	**249**	P	**Pn**	**04 30 07.1**	**-0.6**
MMRI	**Maumere**	**2.88**	**249**	P	**Pn**	**04 30 08.5**	**+0.8**
BSSI	**Bau Bau, Buton**	**4.67**	**288**	P	**Pn**	**04 30 24.9**	**0.0**
BASI	**Baing, Sumba**	**5.05**	**239**	P	**Pn**	**04 30 27.9**	**-0.9**
BNSI	**Bone**	**5.79**	**303**	P	**Pn**	**04 30 37.7**	**+0.8**
	0.1nm12nm,0.9s						
WBSI	**Waikabubak, Su**	**5.87**	**250**	P	**Pn**	**04 30 37.1**	**-0.7**
	0.3nm1μm28nm,0.6s						
SPSI	**Sidrap Palu**	**6.31**	**305**	P	**Pn**	**04 30 43.5**	**+0.7**
	0.0nm8.4nm,2.1s						
PLAI	**Plampang**	**7.21**	**260**	P	**Pn**	**04 30 51.9**	**-1.2**
	0.1nm12nm,0.6s						
GTOI	**Gorontalo**	**8.42**	**347**	P	**P**	**04 31 11.0**	**+2.3**
	297nm25nm,0.7s						
MRSI	**Marisa**	**8.58**	**339**	P	**Pn**	**04 31 09.4**	**+0.3**
KNRA	**Kununurra**	**8.84**	**155**	P	**Pn**	**04 31 11.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.44**	**176**	P	**P**	**04 31 31.1**	**-0.1**
	2.5nm,0.3s,baz=5.7,slow=12,SNR=87						
WRAB	**Tennant Creek**	**15.26**	**144**	P	**P**	**04 32 23.2**	**-1.0**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**15.26**	**144**	P	**P**	**04 32 23.1**	**-1.1**
	1.0nm,0.3s,baz=308,slow=12,SNR=54						
WRA				S	**S**	**04 35 08.4**	**+1.3**
	0.2nm,0.3s,baz=317,slow=21,SNR=11						
WRKA	**Warakurna**	**17.62**	**170**	P	**P**	**04 32 49.5**	**-0.1**
	8.1nm,2.4s						
ASAR	**Alice Springs**	**18.12**	**153**	P	**P**	**04 32 54.8**	**-0.2**
	1.1nm,0.3s,baz=331,slow=9.5,SNR=28						
ASAR				S	**S**	**04 36 05.4**	**+2.1**
	0.1nm,0.3s,baz=330,slow=21,SNR=4.1						
GIRL	**Giralia**	**18.16**	**213**	P	**P**	**04 32 57.7**	**+2.4**
	74nm,1.5s						
QIS	**Mount Isa**	**19.14**	**134**	P	**P**	**04 33 04.0**	**-1.8**
	8.3nm,1.6s						
MEEK	**Meekatharra**	**19.86**	**197**	P	**P**	**04 33 12.3**	**-0.6**
	14nm,0.8s						
OOD	**Oodnadatta**	**22.50**	**154**	P	**P**	**04 33 36.5**	**-0.4**
	9.2nm,1.5s						
FORT	**Forrest**	**23.23**	**173**	P	**P**	**04 33 42.9**	**-0.6**
	18nm,1.9s						
MULG	**Mulgathing**	**24.11**	**160**	P	**P**	**04 33 50.9**	**-0.6**
	4.8nm,1.5s						
BLDU	**Ballidu**	**24.15**	**198**	P	**P**	**04 33 53.8**	**+2.0**
	18nm,1.9s						
LCRK	**Leigh Creek**	**25.89**	**153**	P	**P**	**04 34 07.2**	**-0.2**
	10.0nm,1.5s						
BBOO	**Buckleboo**	**27.11**	**159**	P	**P**	**04 34 17.4**	**-0.7**
	15nm,2.1s						
STKA	**Stephens Creek**	**28.69**	**150**	P	**P**	**04 34 32.1**	**0.0**
	2.2nm,0.5s,baz=325,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**28.69**	**150**	P	**P**	**04 34 31.7**	**-0.4**
	0.8nm,2.4s						
HTT	**Hallett**	**28.76**	**155**	P	**P**	**04 34 32.8**	**+0.1**
	7.8nm,0.9s						
CMSA	**Cobar Meteorol**	**30.67**	**144**	P	**P**	**04 34 49.3**	**-0.1**
SONM	**Songino Array**	**57.60**	**345**	P	**P**	**04 38 17.6**	**-2.6**
	0.4nm,0.7s,baz=157,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**66.10**	**329**	P	**P**	**04 39 15.3**	**-0.8**
	1.4nm,0.5s,baz=128,slow=7.9,SNR=26						

IDC 22 04:37:18.6±1.8,20.°01S×178.°30E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.6/27,mbtmp3.9/4,Error ellipse: s-maj=155.9km s-min=30.1km az=159.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.89**	**243**	P	P	04 44 12.0	0.0
	0.4nm,0.3s,baz=63,slow=9.0,SNR=1.7						
WRA	**Warramunga Arr**	**41.22**	**262**	P	P	04 45 05.4	-0.2
	0.7nm,0.3s,baz=98,slow=7.8,SNR=36						
ASAR	**Alice Springs**	**41.24**	**257**	P	P	04 45 05.7	-0.1
	1.6nm,0.5s,baz=92,slow=7.8,SNR=23						
TXAR	**Lajitas Array**	**89.75**	**59**	P	P	04 50 19.3	-0.1
	0.5nm,0.6s,baz=210,slow=5.2,SNR=7.9						

*TUL **22** 04:37:38.1±0.7,35.°99N±0.°01×96.°76W±0.°01,h4km±2km, ML2.6,mb_Lg2.1/20(NEIC),Error ellipse: s-maj=1.9km s-min=1.7km az=162.0*

NEIC 22 04:37:38.7±0.5,36.°00N±0.°01×96.°749W±0.°007,h1km±6km, Error ellipse: s-maj=2.2km s-min=0.6km az=168.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	**Leonard**	**0.78**	**96**		Pg	04 37 53.1	-0.6
TUL1				Sg	Sg	04 38 03.6	-0.2
OKCFA	**Oklahoma City**	**0.81**	**225**	Pg	Pg	04 37 53.4	-0.9
OKCFA				Sg	Sg	04 38 04.6	-0.3
W35A	**Tecumseh**	**0.85**	**187**	Pg	Pg	04 37 53.9	-1.0
W35A				lAmb_Lg		04 38 05.4	
	comp=Z,14nm,0.8s						
W35A				Sg	Sg	04 38 05.9	0.0
FNO	**Franklin**	**0.91**	**216**	Pg	Pg	04 37 54.9	-1.2
FNO				Sg	Sg	04 38 07.6	-0.3
T35A	**Sooner Cattle**	**0.94**	**12**		Pg	04 37 55.9	-0.7
T35A				Sg	Sg	04 38 08.1	-0.7
X34A	**Smith Ranch, M**	**1.65**	**213**		Pn	04 38 08.4	-0.4
X34A				lAmb_Lg		04 38 33.8	
	comp=Z,13nm,0.7s						
X37A	**Clayton**	**1.80**	**141**	Pn	Pn	04 38 10.3	-0.6
X37A				lAmb_Lg		04 38 36.3	
	comp=Z,12nm,1.2s						
WMOK	**Wichita Mounta**	**2.08**	**233**	Pn	Pn	04 38 14.7	0.0
WMOK				lAmb_Lg		04 38 42.5	
	comp=Z,6.1nm,0.9s						
W39A	**Magazine**	**2.54**	**107**	Pn	Pn	04 38 20.7	-0.4
U40A	**Yellville**	**3.17**	**82**	Pn	Pn	04 38 26.9	-2.8
U40A				lAmb_Lg		04 39 24.4	
	comp=Z,10nm,1.0s						
WHAR	**Wooly Hollow**	**3.70**	**100**	Pn	Pn	04 38 36.1	-0.8
FCAR	**Ozark Folk Cen**	**3.75**	**90**	Pn	Pn	04 38 36.8	-0.9
W41B	**Gary Mavity, V**	**3.76**	**101**	Pn	Pn	04 38 37.3	-0.4
R40A	**Maddies Statio**	**4.25**	**56**	lAmb_Lg		04 39 52.9	
	comp=Z,6.7nm,0.9s						
P38A	**Dawn**	**4.43**	**34**	Pn	Pn	04 38 46.5	-0.5
P38A				lAmb_Lg		04 39 58.9	
	comp=Z,7.4nm,0.8s						

*NEIC **22** 04:48:55.3±1.3,20.°1S±0.°1×179.°0W±0.°1,h661km±8km, mb4.5/77,Error ellipse: s-maj=17.3km s-min=14.6km az=133.0*
*NOU **22** 04:48:56.1,20.°34S×178.°95W,h683km,mb4.8/56,Fiji Islands Region*
*IDC **22** 04:48:56.9±1.4,20.°15S×179.°19W,h684km±16km, mb3.8/22,mb1 4.0/23,mb1mx3.8/35,mbtmp4.8/23,Error ellipse: s-maj=12.7km s-min=9.9km az=148.0*

ISC 22 04:48:54.9±0.3,20.°14S±0.°07×178.°97W±0.°06,h665km, n236,σ1ϕ13/249,mb4.5/76,2C-7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.59**	**84**	P	**P**	**04 51 02.3**	**+0.5**
	baz=8.6,SNR=7.9						
NIUE				S	S	04 52 59.3	+14
	baz=8.6						
NIUE	**Niue**	**8.59**	**84**	P	**P**	**04 51 02.5**	**+0.7**
NIUE	**Niue**	**8.59**	**84**	P	**P**	**04 51 03.8**	**+2.0**
AFI	**Afiamalu**	**9.26**	**49**	P	**P**	**04 51 07.1**	**-1.0**
	5.0nm,0.3s,baz=70,slow=22,SNR=6.9						
AFI				S	**S**	**04 52 52.8**	**-4.3**
	1.9nm,0.3s,baz=216,slow=18,SNR=2.2						
AFI	**Afiamalu**	**9.26**	**49**	P	**P**	**04 51 07.4**	**-0.7**
FUNA	**Funafuti**	**11.69**	**351**	P	**P**	**04 51 35.0**	**+4.3**
	166nm,0.8s						
RTV	**Rentapao**	**12.15**	**279**	P	**P**	**04 51 37.0**	**+2.1**
DVP	**Devils Point**	**12.39**	**279**	P	**P**	**04 51 38.7**	**+1.6**
PINNC	**Pines Island,**	**12.89**	**257**	P	**P**	**04 51 42.4**	**+0.8**
LIFNC	**LIFOU**	**12.95**	**265**	P	**P**	**04 51 40.5**	**-1.5**
YATNC	**Mamie plateau,**	**13.34**	**259**	P	**P**	**04 51 47.2**	**+1.5**
OUENC	**Ouen Island, N**	**13.42**	**258**	P	**P**	**04 51 49.3**	**+2.9**
DZM	**Mont Dzumac**	**13.75**	**259**	P	**P**	**04 51 50.9**	**+1.4**
	7.2nm,0.3s,baz=121,slow=19,SNR=80						
DZM				S	**S**	**04 54 12.7**	**+0.8**
	baz=294,slow=14,SNR=3.6						
DZM	**Mont Dzumac**	**13.75**	**259**	*e*P	**P**	**04 51 50.9**	**+1.4**
	90nm,1.1s						
DZM	**Mont Dzumac**	**13.75**	**259**	P	**P**	**04 51 49.9**	**+0.3**
DZM	**Mont Dzumac**	**13.75**	**259**	P	**P**	**04 51 52.4**	**+2.9**
NOUC	**Port Laguerre**	**13.88**	**259**	P	**P**	**04 51 52.5**	**+1.9**
SANVU	**Saraoutou**	**13.97**	**287**	P	**P**	**04 51 50.6**	**-0.9**
SANVU	**Saraoutou**	**13.97**	**287**	P	**P**	**04 51 53.4**	**+1.9**
NFK	**Norfolk Island**	**14.83**	**231**	P	**P**	**04 51 59.0**	**-0.2**
KOUNC	**Koumac, New Ca**	**15.71**	**266**	P	**P**	**04 52 07.4**	**+0.1**
KOUNC	**Koumac, New Ca**	**15.71**	**266**	P	**P**	**04 52 09.5**	**+2.1**
OUZ	**Omahuta**	**16.39**	**202**	P	**P**	**04 52 16.3**	**+3.0**
OUZ				lAmb	lAmb	04 52 35.5	
	comp=Z,57nm,1.2s						
OUZ	**Omahuta**	**16.39**	**202**	P	**P**	**04 52 14.0**	**+0.7**
URZ	**Urewera**	**18.37**	**190**	P	**P**	**04 52 29.2**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=264,slow=3.0,SNR=10.0						
URZ	**Urewera**	**18.37**	**190**	P	**P**	**04 52 29.3**	**-1.9**
URZ				lAmb	lAmb	04 52 31.5	
	comp=Z,18nm,1.0s						
URZ	**Urewera**	**18.37**	**190**	P	**P**	**04 52 29.4**	**-1.8**
BKZ	**Black Stump Fm**	**19.36**	**191**	P	**P**	**04 52 39.2**	**-1.0**
QRZ	**Quartz Range**	**21.86**	**198**	P	**P**	**04 53 03.8**	**+1.5**
KHZ	**Kahutara**	**23.09**	**194**	P	**P**	**04 53 11.5**	**-1.7**
KHZ				lAmb	lAmb	04 53 14.3	
	comp=Z,16nm,1.0s						
KHZ	**Kahutara**	**23.09

BBOO	Buckleboo	41.90	243	P		P	04 55 51.1	+0.6
OOD	Oodnadatta	41.94	251	P		P	04 55 52.4	+1.5
MULG	Mulgathing	43.42	247	P		P	04 56 02.4	+0.1
WR0	Warramunga Arr	43.56	262	P		P	04 56 02.9	-0.6
WR0				IAmb		IAmb	04 56 04.3	
	comp=Z,37nm,1.1s							
AS31	Alice Springs	43.72	256	P		P	04 56 04.7	-0.1
AS31				IAmb		IAmb	04 56 06.2	
	comp=Z,18nm,0.5s							
ASAR	Alice Springs	43.72	256	P		P	04 56 04.6	-0.1
	comp=Z,36nm,0.5s,baz=91,slow=8.4,SNR=635							
ASAR				PcP		PcP	04 57 36.0	-0.1
	comp=Z,2.2nm,0.6s,baz=109,slow=3.8,SNR=2.7							
ASAR				ScP		ScP	05 00 26.0	+0.1
	comp=Z,1.2nm,0.8s,baz=113,slow=4.7,SNR=4.9							
ASAR				S		S	05 01 44.3	-5.3
	comp=Z,12nm,0.8s,baz=93,slow=16,SNR=52							
ASAR	Alice Springs	43.72	256	P		P	04 56 04.9	+0.2
ASAR				PcP		PcP	04 57 35.7	-0.3
WC3	Warramunga Arr	43.72	262	P		P	04 56 04.3	-0.4
	baz=44							
WB0	Warramunga Arr	43.73	262	P		P	04 56 04.0	-0.8
WB2	Warramunga Arr	43.74	262	P		P	04 56 04.3	-0.6
WRAB	Tennant Creek	43.74	262	P		P	04 56 04.3	-0.6
WRAB	Tennant Creek	43.74	262	P		P	04 56 04.6	-0.3
WRA	Warramunga Arr	43.75	262	P		P	04 56 04.1	-0.9
	comp=Z,28nm,0.5s,baz=98,slow=6.9,SNR=816							
WRA				ScP		ScP	05 00 26.4	+0.4
	comp=Z,0.5nm,0.6s,baz=119,slow=6.8,SNR=3.0							
WRA				S		S	05 01 46.4	-3.6
	comp=Z,2.6nm,0.8s,baz=94,slow=14,SNR=14							
WRA	Warramunga Arr	43.75	262	P		P	04 56 03.0	-2.0
KDU	Kakadu	47.03	271	P		P	04 56 29.2	-0.6
	baz=47,SNR=30							
KDU	Kakadu	47.03	271	P		P	04 56 29.8	0.0
MTN	Manton Dam	48.25	271	P		P	04 56 38.1	-0.7
	baz=48,SNR=36							
MTN	Manton Dam	48.25	271	P		P	04 56 38.1	-0.7
MTN	Manton Dam	48.25	271	P		P	04 56 38.7	-0.1
FORT	Forrest	48.60	246	P		P	04 56 40.5	-0.6
	baz=48,SNR=26							
FORT	Forrest	48.60	246	P		P	04 56 40.6	-0.6
FORT	Forrest	48.60	246	P		P	04 56 41.7	+0.5
WRKA	Warakurna	48.69	254	P		P	04 56 41.7	-0.3
	baz=49,SNR=38							
WRKA	Warakurna	48.69	254	P		P	04 56 41.9	-0.1
KNRA	Kununurra	49.78	266	P		P	04 56 49.5	-0.4
	baz=50,SNR=22							
KNRA	Kununurra	49.78	266	P		P	04 56 49.6	-0.4
KNRA				IAmb		IAmb	04 56 50.3	
	comp=Z,28nm,0.7s							
KNRA	Kununurra	49.78	266	P		P	04 56 51.1	+1.2
SWI	Sorong	52.28	285	P		P	04 57 07.6	-0.3
	comp=Z,2μmcomp=Z,200nm,0.8s							
SOEI	Soe	55.58	272	P		P	04 57 32.3	+1.2
SOEI	Soe	55.58	272	P		P	04 57 31.9	+0.8
SOEI	Soe	55.58	272	P		P	04 57 31.2	+0.1
PSA00	Pilbara Seismi	56.86	257	P		P	04 57 38.9	-0.7
PSA00				IAmb		IAmb	04 57 39.6	
	comp=Z,37nm,0.8s							
PSA00	Pilbara Seismi	56.86	257	P		P	04 57 39.2	-0.4
MEEK	Meekatharra	57.18	251	P		P	04 57 40.7	-1.0
	baz=57,SNR=24							
MEEK	Meekatharra	57.18	251	P		P	04 57 41.2	-0.5
KLBR	Kellerberrin	57.38	245	P		P	04 57 42.4	-0.5
	baz=57,SNR=8.4							
KLBR	Kellerberrin	57.38	245	P		P	04 57 42.3	-0.7
	comp=Z,79nm,0.7s							
MMRI	Maumere	57.83	272	P		P	04 57 45.3	-0.9
SBA	Scott Base	58.17	184	P		P	04 57 49.6	+2.3
VNDA	Vanda	58.19	185	P		P	04 57 48.1	+0.6
	comp=Z,2.1nm,0.5s,baz=359,slow=6.8,SNR=30							
VNDA	Vanda	58.19	185	P		P	04 57 48.4	+0.9
BLDU	Ballidu	58.37	246	P		P	04 57 49.1	-0.5
	baz=58,SNR=22							
BLDU	Ballidu	58.37	246	P		P	04 57 49.5	-0.1
MUN	Mundaring	58.66	244	P		P	04 57 51.3	-0.2
	comp=Z,25nm,2.8s							
MORW	Morawa	59.12	248	P		P	04 57 54.0	-0.7
	baz=59,SNR=7.7							
MORW	Morawa	59.12	248	P		P	04 57 53.7	-0.9
MORW	Morawa	59.12	248	P		P	04 57 53.4	-1.2
	comp=Z,20nm,1.0s							
BKSI	Bulukumba	60.90	275	P		P	04 58 05.4	-1.0
	comp=Z,16nm,0.9s							
MRSI	Marisa	61.33	282	P		P	04 58 08.3	-1.0
	comp=Z,22nm,1.0s							
KAPI	Kappang	61.35	275	P		P	04 58 09.1	-0.3
SPSI	Sidrap Palu	61.69	276	P		P	04 58 10.2	-1.4
	comp=Z,19nm,0.9s							
GIRL	Giralia	61.77	255	P		P	04 58 12.7	+0.7
	baz=62,SNR=13							
GIRL	Giralia	61.77	255	P		P	04 58 12.6	+0.7
GIRL				IAmb		IAmb	04 58 22.6	
	comp=Z,40nm,1.1s							
GIRL	Giralia	61.77	255	P		P	04 58 12.0	0.0
	comp=Z,120nm,1.5s							
PLAI	Plampang	61.96	271	P		P	04 58 11.4	-2.0
	comp=Z,807nmcomp=Z,77nm,0.9s							
PLAI	Plampang	61.96	271	P		P	04 58 13.3	-0.1
TOLI2	Tolitoli	62.64	282	P		P	04 58 17.5	-0.2
TOLI2				IAmb		IAmb	04 58 18.0	
	comp=Z,24nm,0.9s							
TOLI2	Tolitoli	62.64	282	P		P	04 58 19.8	+2.1
MPSI	Mapaga	63.16	281	P		P	04 58 20.0	-1.0
	comp=Z,606nmcomp=Z,48nm,0.8s							
CASY	Casey	63.90	205	P		P	04 58 24.7	0.0
JAGI	Jajag, Banyuwa	65.48	270	P		P	04 58 34.0	-1.5
JAGI				IAmb		IAmb	04 58 34.7	
	comp=Z,27nm,0.8s							
JAGI	Jajag, Banyuwa	65.48	270	P		P	04 58 33.7	-1.9
	comp=Z,36nm,0.8s							
JHJ	Hachijo jima 2	66.00	323	P		P	04 58 38.3	0.0
	comp=Z,100nm,0.6s,baz=121,slow=19,SNR=2.2							
PCJI	Pacitan	68.36	269	P		P	04 58 52.0	-1.1
	comp=Z,146nm,0.6s							
KKM	Kota Kinabalu	68.79	285	P		P	04 58 55.8	0.0
KKM				IAmb		IAmb	04 58 56.6	
	comp=Z,22nm,0.8s							
UGM	Wanagama	69.06	269	P		P	04 58 57.0	-0.4
UGM	Wanagama	69.06	269	P		P	04 58 57.5	+0.1
JOW	Kunigami	69.24	310	P		P	04 58 57.6	-0.5
	comp=Z,12nm,0.4s,baz=183,slow=3.4,SNR=2.9							
MJAR	Matsushiro Arr	69.39	324	P		P	04 58 58.1	-0.6
	comp=Z,6.9nm,0.6s,baz=165,slow=5.5,SNR=11							
MJAR	Matsushiro Arr	69.39	324	P		P	04 58 58.6	-0.2
QSPA	South Pole Qui	69.92	180	P		P	04 59 02.4	+0.8
QSPA				IAmb		IAmb	04 59 02.8	
	comp=Z,18nm,0.7s							
JHS	Saijyo	71.25	320	P		P	04 59 10.2	+0.5
JHS				IAmb		IAmb	04 59 10.6	
	comp=Z,18nm,0.7s							
JNU	Nakatsue	71.40	317	P		P	04 59 09.8	-0.9
	comp=Z,12nm,0.8s,baz=86,slow=5.0,SNR=11							
JNU	Nakatsue	71.40	317	P		P	04 59 10.5	-0.1
JNU				IAmb		IAmb	04 59 11.9	
	comp=Z,16nm,0.8s							
ADK	Adak	71.74	1	P		P	04 59 11.9	-0.2
KSM	Kuching	72.46	278	P		P	04 59 17.6	+0.4
KSM				IAmb		IAmb	04 59 18.2	
	comp=Z,20nm,0.6s							
NACB	Ninganchiao	72.73	305	P		P	04 59 17.6	-0.8
ASAJ	Asahikawa	72.98	332	P		P	04 59 20.6	+1.2
	comp=Z,11nm,0.7s,baz=230,slow=6.0,SNR=4.8							
SSLB	Suanglung	73.02	304	P		P	04 59 18.9	-1.2
TPUB	Ta-pu	73.02	303	P		P	04 59 19.6	-0.5
PETK	Petropavlovsk-	75.70	346	P		P	04 59 34.3	0.0
	comp=Z,9.3nm,0.7s,baz=98,slow=11,SNR=1.8							
KSRS	Korea Array	76.02	319	P		P	04 59 37.4	+0.9
	comp=Z,3.1nm,0.6s,baz=133,slow=6.0,SNR=12							
USRK	Ussuriysk Ar.	78.16	326	P		P	04 59 48.4	+0.6
	comp=Z,7.0nm,0.7s,baz=155,slow=17,SNR=12							
CMB	Columbia Colle	79.82	43	P		P	04 59 57.5	+0.7
SLBS	Sierra La Lagu	80.12	60	P		P	04 59 59.7	+1.1
BEKR	Beckworth	80.90	42	P		P	05 00 03.2	+0.7
PNTR	Pine Nut	80.93	43	P		P	05 00 03.5	+0.9
PNTR				IAmb		IAmb	05 00 05.0	
	comp=Z,15nm,0.8s							
YERR	Yerington	81.10	43	P		P	05 00 04.3	+0.8
GWY	Greenwater Val	81.25	46	P		P	05 00 04.9	+0.6
NVAR	Mina Array Bea	81.39	44	P		P	05 00 05.8	+0.8
	comp=Z,3.2nm,0.7s,baz=223,slow=7.8,SNR=14							
NVAR	Mina Array Bea	81.39	44	P		P	05 00 05.4	+0.3
NV11	Mina Array Sit	81.49	44	P		P	05 00 05.5	0.0
BNX	BinXian	81.61	325	⇑P		P	05 00 05.6	-0.1
BNX				pmax		pmax		
	comp=Z,30nm,0.5s							
BNX				pmax		pmax		
	comp=Z,220nm,3.7s							
KLR	Kul'dur	81.76	330	P		P	05 00 06.6	+0.2
	comp=Z,2.3nm,0.8s,baz=141,slow=3.8,SNR=7.8							
214A	Organ Pipe Nat	81.80	52	P		P	05 00 07.8	+0.7
KVN	Kaiserville	81.87	43	P		P	05 00 07.4	0.0
KVN				IAmb		IAmb	05 00 09.3	
	comp=Z,8.0nm,1.0s							
TPH	Tonopah	81.91	45	P		P	05 00 07.8	+0.1
MOD	Modoc Plateau	82.13	40	P		P	05 00 09.3	+0.7
MOD				IAmb		IAmb	05 00 10.6	
	comp=Z,6.1nm,0.8s							
KULM	Kulim	82.82	278	P		P	05 00 12.8	+0.3
KULM				IAmb		IAmb	05 00 13.7	
	comp=Z,12nm,0.7s							
319A	Douglas	84.17	54	P		P	05 00 19.5	+0.7
319A				IAmb		IAmb	05 00 21.7	
	comp=Z,16nm,0.9s							
HNS	HongShan	84.64	313	⇓P		P	05 00 21.4	+0.6
HNS				pmax		pmax		
	comp=Z,11nm,0.8s							
SEY	Seymchan	85.83	347	P		P	05 00 25.4	-0.4
	comp=Z,3.1nm,0.4s,baz=118,slow=6.7,SNR=7.8							
D08A	Wollman Farm,	85.93	36	P		P	05 00 27.7	+0.9
D08A				IAmb		IAmb	05 00 28.8	
	comp=Z,4.6nm,1.0s							
F10A	Beach Ranch, E	86.28	38	P		P	05 00 29.1	+0.5
F10A				IAmb		IAmb	05 00 30.0	
	comp=Z,9.0nm,0.8s							
B08A	Colville Reser	86.46	35	P		P	05 00 30.1	+0.8
B08A				IAmb		IAmb	05 00 30.5	
	comp=Z,4.7nm,0.9s							
PLID	Pearl Lake	86.51	39	P		P	05 00 30.1	+0.3
HLID	Hailey	86.65	41	P		P	05 00 30.9	+0.3
HLID				IAmb		IAmb	05 00 32.8	
	comp=Z,5.9nm,0.9s							
XAN	Xi'an	87.20	308	P		P	05 00 33.4	+0.3
XAN				pmax		pmax		
	comp=Z,16nm,1.2s							
MNTX	Cornudas Mount	87.29	55	P		P	05 00 34.1	+0.6
MNTX				IAmb		IAmb	05 00 35.8	
	comp=Z,4.7nm,0.9s							
TX31	Lajitas Ar. Si	87.63	58	P		P	05 00 36.2	+0.9
TX32	Lajitas Array	87.63	58	P		P	05 00 36.9	+1.6
TX32				IAmb		IAmb	05 00 37.9	
	comp=Z,7.6nm,1.1s							
TXAR	Lajitas Array	87.63	58	P		P	05 00 36.7	+1.4
	comp=Z,4.2nm,0.8s,baz=217,slow=6.2,SNR=48							
TXAR	Lajitas Array	87.63	58	P		P	05 00 36.4	+1.1
PV13	Radium Mtn., P	87.66	48	P		P	05 00 36.5	+1.1
TROLL	Troll, Antarti	88.08	180	P		P	05 00 35.9	-0.8
ILAR	Eielson Array	88.17	13	P		P	05 00 36.1	-0.8
	comp=Z,0.4nm,0.4s,baz=222,slow=5.7,SNR=9.8							
MCMT	McKenzie Canyo	88.27	41	P		P	05 00 38.4	+0.3
AHID	Auburn Hatcher	88.33	43	P		P	05 00 38.5	+0.1
AHID				IAmb		IAmb	05 00 41.0	
	comp=Z,7.1nm,1.1s							
KMI	Kunming	88.38	297	⇑P		P	05 00 37.3	-1.7
KMI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
SNAA	Sanae	88.39	179	P		P	05 00 35.3	-2.8
HHC	Hu-ho-hao-te	88.46	315	eP		P	05 00 40.6	+1.7
HHC				pmax		pmax		
	comp=Z,11nm,0.8s							
HHC				pmax		pmax		
	comp=Z,110nm,7.2s							
HHC				LR		LR		
	comp=N,130nm,15.2s							
HHC				LR		LR		
	comp=E,170nm,15.0s							
HHC				LR		LR		
	comp=Z,250nm,15.2s							
VNA3	Neumayer Olymp	88.55	177	P		P	05 00 37.4	-1.3
REDW	Red Top Meadow	88.78	43	P		P	05 00 40.8	+0.2
REDW				IAmb		IAmb	05 00 42.5	
	comp=Z,5.5nm,1.0s							
S22A	4UR Ranch, Cre	88.87	49	P		P	05 00 41.1	-0.1
S22A				IAmb		IAmb	05 00 43.2	
	comp=Z,4.5nm,1.1s							
O20A	White River Ci	88.97	46	P		P	05 00 41.8	+0.4
O20A				IAmb		IAmb	05 00 43.1	
	comp=Z,7.2nm,0.8s							
VNA2	Neumayer--Watz	88.98	177	P		P	05 00 39.1	-1.6
	baz=194,slow=4.0							
LOHW	Long Hollow	89.06	42	P		P	05 00 42.2	+0.4
CMAR	Chiang Mai Arr	89.14	290	P		P	05 00 43.3	+0.8
	comp=Z,3.6nm,0.3s,baz=128,slow=2.9,SNR=28							
VNA1	Neumayer--Stat	89.22	177	P		P	05 00 40.8	-1.0
CHTO	Chiang Mai	89.27	290	P		P	05 00 42.6	-0.4
CHTO				IAmb		IAmb	05 00 44.7	
	comp=Z,11nm,0.8s							
BW06	Boulder Array	89.33	44	P		P	05 00 42.8	-0.2
BW06				IAmb		IAmb	05 00 44.4	
	comp=Z,3.6nm,0.9s							
PD31	Pinedale Array	89.33	44	P		P	05 00 42.9	-0.1
PDAR	Pinedale Array	89.33	44	P		P	05 00 43.4	+0.3
	comp=Z,2.2nm,0.7s,baz=202,slow=3.2,SNR=19							
BOZ	Bozeman (W)	89.40	40	P		P	05 00 43.7	+0.5
PZH	PanZhiHua	89.74	298	P		P	05 00 45.3	+0.1
PZH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.7s							
LC01	Cunco	90.08	132	P		P	05 00 47.1	+0.6
LC01				IAmb		IAmb	05 00 49.4	
	comp=Z,6.7nm,0.9s							
PLCA	Paso Flores	90.17	134	P		P	05 00 47.7	+0.7
	comp=Z,3.2nm,0.8s,baz=217,slow=8.5,SNR=8.8							
SONM	Songino Array	94.89	319	P		P	05 01 07.8	-0.5
	comp=Z,0.6nm,0.8s,baz=114,slow=5.3,SNR=4.0							
YKA	Yellowknife Ar	96.57	25	PKKPbc		PKKPbc	05 17 54.5	-3.1
	comp=Z,0.1nm,0.5s,baz=42,slow=2.6,SNR=4.9							
MKAR	Makanchi Array	110.30	314	Pdiff		Pdif	05 02 19.9	+3.1
	comp=Z,0.1nm,0.5s,baz=80,slow=3.8,SNR=4.1							
MKAR				PKKPbc		PKKPbc	05 17 15.3	-1.6
	comp=Z,0.3nm,0.6s,baz=256,slow=4.9,SNR=3.9							
MKAR				PKKP		PKKPab	05 17 29.8	+0.9
	comp=Z,0.1nm,0.5s,baz=254,slow=3.1,SNR=4.0							
BVAR	Borovoye Array	118.22	320	PKP		PKPdf	05 06 27.3	-1.0
	comp=Z,0.8nm,0.4s,baz=37,slow=1.8,SNR=5.2							
ARCES	ARCESS Array B	128.41	349	PKP		PKPdf	05 06 47.1	-0.3
	comp=Z,2.6nm,0.8s,baz=48,slow=2.7,SNR=1.9							
FINES	FINESS Array B	135.17	343	PKP		PKPdf	05 07 01.0	+0.7
	comp=Z,1.6nm,0.8s,baz=84,slow=4.3,SNR=1.1							
FINES				SKPbc		SKPbc	05 09 29.9	-0.6
	comp=Z,4.3nm,1.1s,baz=108,slow=4.2,SNR=3.2							
NB2	NORSAR Subarra	138.51	353	PKP		SKPbc	05 09 40.8	+0.5
	comp=Z,0.6nm,0.7s,baz=5.1,slow=2.7							
LODK	Lodwar	142.64	248			PKPdf	05 07 13.3	-2.2
BNN	Bunyan	144.71	310	PKPdf		PKPdf	05 07 17.4	-1.0
BRTR	Keskin Array B	145.93	312	PKPbc		PKPbc	05 07 21.8	-0.8
	comp=Z,2.8nm,0.7s,baz=128,slow=4.3,SNR=17							
BRTR	Keskin Array B	145.93	312			PKPdf	05 07 21.5	+1.0
CRVS	Cervenica-Dubn	146.95	335	ePKP		PKPab	05 07 28.7	+0.1
CLL	Collm	147.50	346	ePKSbc		PKSbc	05 11 02.0	-2.8
CLL	Collm	147.50	346	i PKPbc		PKPbc	05 07 25.9	-0.3
	comp=Z,6.0nm,0.6s							
CLL	Collm	147.50	346	eSKPbc		SKPbc	05 10 00.0	-2.2
VYHS	Vyhne	148.28	337	eP		PKPdf	05 07 22.6	-1.3
VYHS	Vyhne	148.28	337	e		PKPab	05 07 34.4	+0.3
VYHS	Vyhne	148.28	337	ePKP		PKPdf	05 07 22.6	-1.3
VYHS	Vyhne	148.28	337	e		PKPab	05 07 34.4	+0.3
VYHS	Vyhne	148.28	337	e		PKPbc	05 07 28.0	-0.2
SMOL	Smolenice	148.76	339	ePKP		PKPdf	05 07 25.4	+0.8
MEM	Membach	149.34	354	dPKPdf		PKPdf	05 07 24.7	-0.8
MEM				dPKiKP		PKPbc	05 07 30.6	-0.1
BTNL	Ternell	149.35	354	dPKPdf		PKPdf	05 07 25.4	-0.1
BTNL				dPKiKP		PKPbc	05 07 30.9	+0.1
BMRD	Maredsous	149.76	355	dPKPdf		PKPdf	05 07 26.9	+0.8
BMRD				dPKiKP		PKiKP	05 07 32.6	+0.3
LIT	Litokhoron	152.92	322			PKPab	05 07 53.6	-0.3
TORD	Torodi Ar. Bea	173.01	185	PKP		PKPdf	05 07 49.2	-1.3
	comp=Z,0.6nm,0.7s,baz=130,slow=1.3,SNR=4.2							
TORD				PKPab		PKPab	05 09 22.2	-0.3
	comp=Z,0.6nm,0.5s,baz=166,slow=5.0,SNR=3.6							

*ARE **22** 04:52:46.2±2.9, 3.˚56S±0.˚07×80.˚2W±0.˚1, h60km±8km, Error ellipse: s-maj=0.0km s-min=0.0km az=161.0*
*IGQ **22** 04:52:49±0.3, 3.˚S±2.˚×8.˚0W±.˚, h29km*
*NEIC **22** 04:52:50.7±1.4, 3.˚46S±0.˚09×79.˚8W±0.˚1, h94km±19km, mb4.0/9, ML4.6(ARE), Error ellipse: s-maj=15.9km s-min=12.7km az=91.0*
*VAO **22** 04:52:58.4±0.7, 2.˚98S×78.˚23W, h10km, mb4.4*
ISC 22 04:52:48.6±0.7, **3.˚52S**±0.˚04×**79.˚97W**±0.˚05, **h50**km, **n114**, σ1**§56**/121, **Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	ISC
ARNL	Arenillas	0.10	255	P		Pn	04 52 56.0	-0.5	
ARNL				S		Sn	04 53 01.0	-1.0	
ACH1	Ecuador-Univer	0.24	14	P		Pn	04 52 56.0	-1.3	
ACH1				S		Sn	04 53 03.0	-0.4	
ACH2	Ecuador-Machal	0.30	32	P		Pn	04 52 57.0	-0.8	
ACH2				S		Sn	04 53 03.0	-1.3	
ISPG	Isla Puna-Puer	0.58	340	P		Pn	04 53 01.0	0.0	
ISPG				S		Sn	04 53 11.0	+1.1	
MCRA	Macar, Loja	0.84	179	P		Pn	04 53 04.0	-0.4	
GONZ	Gonzanam	0.91	141	P		Pn	04 53 06.0	+0.4	
ACUE	Ecuador-Cuenca	1.18	59	P		Pn	04 53 10.0	+0.9	
ACUE				S		Sn	04 53 26.0	+1.8	
COHC	Cochancay	1.27	34	P		Pn	04 53 09.0	-1.0	
COHC				S		Sn	04 53 27.0	+1.1	
GYE3	Ecuador-Guayaq	1.36	3	P		Pn	04 53 10.0	-1.3	
GYE3				S		Sn	04 53 27.0	-1.2	
AMIL	Milagro (Trans	1.43	15	P		Pn	04 53 11.0	-1.2	
AMIL				S		Sn	04 53 30.0	+0.2	
AGUAY	Guayaquil	1.46	1	P		Pn	04 53 15.0	+2.4	
AGUAY				S		Sn	04 53 32.0	+1.4	
BOSC	San Juan Bosco	1.52	76	P		Pn	04 53 15.0	+1.5	
BOSC	San Juan Bosco	1.52	76	S		Sn	04 53 35.0	+2.8	
ALIBE	La Libertad	1.54	325	P		Pn	04 53 15.0	+1.2	
ZUMB	Zumba	1.57	148	P		Pn	04 53 16.0	+1.8	
LOJ1	Universidad t	1.67	106	P		Pn	04 53 06.0	-10	
CHSH	Refugio Sur-Vo	2.29	29	P		Pn	04 53 23.0	-1.6	
TAMH	Tambohuasha Ch	2.30	31	P		Pn	04 53 24.0	-0.5	
PORT	Chimborazo Vol	2.37	30	P		Pn	04 53 25.0	-0.6	
IGUA	Igualata	2.42	33	P		Pn	04 53 26.0	-0.2	
APO2	Ecuador-Portov	2.49	349	P		Pn	04 53 26.0	-0.7	
BMAS	Trigal station	2.50	37	P		Pn	04 53 28.0	+0.8	
ARRY	Arrayan	2.51	37	P		Pn	04 53 27.0	-0.3	
BPAT	Tungurahua Vol	2.52	37	P		Pn	04 53 28.0	+0.4	
BBIL	Ulba Tungurahu	2.53	36	P		Pn	04 53 28.0	+0.3	
RETU	Refugio	2.56	37	P		Pn	04 53 29.0	+0.9	
JUI6	Juive	2.57	36	P		Pn	04 53 29.0	+0.9	
BRUN	Tungurahua Vol	2.60	37	P		Pn	04 53 29.0	+0.4	
PUYO	Puyo, Santa Ro	2.80	44	P		Pn	04 53 31.0	-0.1	
PIAT	Ana Tenorio	3.03	34	P		Pn	04 53 35.0	+0.5	
ILLI	Illinizas Sur	3.05	24	P		Pn	04 53 35.0	+0.1	
SRAM	San Ramn-Vol	3.09	27	P		Pn	04 53 36.0	+0.7	
BRRN	Barrancas-Volc	3.10	29	P		Pn	04 53 36.0	+0.4	
PAST	Pastocalle	3.10	25	P		Pn	04 53 36.0	+0.4	
VCES	Cotopaxi	3.13	30	P		Pn	04 53 36.0	0.0	
SLOR	San Lorenzo -	3.14	28	P		Pn	04 53 36.0	-0.1	
FLF1	Flavio Alfaro-	3.15	2	P		Pn	04 53 35.0	-0.8	
CAB1	Cabo Pasado-Ma	3.15	352	P		Pn	04 53 35.0	-0.8	
BMOR	Cotopaxi Volca	3.16	29	P		Pn	04 53 37.0	+0.6	
CAMI	Rancho Maria	3.18	27	P		Pn	04 53 37.0	+0.3	
BNAS	Cotopaxi Volca	3.20	28	P		Pn	04 53 37.0	+0.1	
BREF	Cotopaxi Volca	3.22	28	P		Pn	04 53 38.0	+0.7	
SUCR	Mariscal Sucre	3.22	27	P		Pn	04 53 38.0	+0.8	
NAS2	Nasa	3.23	28	P		Pn	04 53 38.0	+0.7	
TAMB	Tambo	3.23	30	P		Pn	04 53 38.0	+0.6	
BTAM	Cotopaxi Volca	3.23	29	P		Pn	04 53 38.0	+0.5	
BVC2	Cotopaxi Volca	3.24	29	P		Pn	04 53 38.0	+0.4	
VC1	Cotopaxi 1	3.26	29	P		Pn	04 53 38.0	+0.2	
ASDO	Santo Domingo	3.34	15	P		Pn	04 53 37.0	-1.5	
TOMA	Boca Toma-Volc	3.37	27	P		Pn	04 53 40.0	+0.8	
MAG1	Magdalena	3.43	3	P		Pn	04 53 38.0	-1.7	
ANTG	Antisana-Guama	3.45	30	P		Pn	04 53 41.0	+0.6	
ANTS	Antisana-Sarah	3.50	31

TUMD	**Tumrok D**	**1.85**	**303**	*eP*	**Pn**	**04 56 24.3**	**-0.2**
TUMD				*eS*	**Sn**	**04 56 46.2**	**-0.5**
BKI	**Bering**	**1.93**	**58**	*eS*	**Sn**	**04 56 45.5**	**-3.1**
KBTR	**Krutoberegovo**	**2.00**	**355**	PN	**Pn**	**04 56 24.7**	**-1.8**
KBTR	**Krutoberegovo**	**2.00**	**355**	*eP*	**Pn**	**04 56 24.7**	**-1.8**
TUMR	**Tumrok**	**2.02**	**303**	PN	**Pn**	**04 56 27.3**	**+0.4**
TUMR				S	**Sn**	**04 56 51.4**	**+0.5**
TUMR	**Tumrok**	**2.02**	**303**	*eP*	**Pn**	**04 56 27.3**	**+0.4**
TUMR				*eS*	**Sn**	**04 56 51.4**	**+0.5**
KBG	**Krutoberegovo**	**2.05**	**354**	PN	**Pn**	**04 56 25.7**	**-1.5**
KBG				S	**Sn**	**04 56 49.7**	**-1.8**
KBG	**Krutoberegovo**	**2.05**	**354**	*eP*	**Pn**	**04 56 25.7**	**-1.5**
KBG				S	**Sn**	**04 56 49.7**	**-1.8**
SPN	**Mys Shipunski**	**2.15**	**240**	PN	**Pn**	**04 56 27.8**	**-0.8**
SPN				S	**Sn**	**04 56 51.9**	**-2.2**
SPN	**Mys Shipunski**	**2.15**	**240**	*eP*	**Pn**	**04 56 27.8**	**-0.8**
SPN				*eS*	**Sn**	**04 56 51.9**	**-2.2**
KII	**Karymskiy**	**2.16**	**266**	PN	**Pn**	**04 56 28.5**	**-0.3**
KII				S	**Sn**	**04 56 53.7**	**-0.7**
KII	**Karymskiy**	**2.16**	**266**	*eP*	**Pn**	**04 56 28.5**	**-0.3**
KII				*eS*	**Sn**	**04 56 53.7**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**2.21**	**322**	PN	**Pn**	**04 56 29.3**	**-0.2**
BZGR				S	**Sn**	**04 56 55.3**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**2.21**	**322**	*eP*	**Pn**	**04 56 29.3**	**-0.2**
BZGR				*eS*	**Sn**	**04 56 55.3**	**-0.3**
ZLN	**Zelenaya**	**2.23**	**325**	PN	**Pn**	**04 56 29.8**	**0.0**
ZLN				S	**Sn**	**04 56 55.2**	**-1.0**
ZLN	**Zelenaya**	**2.23**	**325**	*eP*	**Pn**	**04 56 29.8**	**0.0**
ZLN				*eS*	**Sn**	**04 56 55.2**	**-1.0**
KMNR	**Kamenistaya**	**2.26**	**314**	PN	**Pn**	**04 56 30.3**	**+0.2**
KMNR				S	**Sn**	**04 56 57.8**	**+1.0**
KMNR	**Kamenistaya**	**2.26**	**314**	*eP*	**Pn**	**04 56 30.3**	**+0.2**
KMNR				S	**Sn**	**04 56 57.8**	**+1.0**
KPT	**Kopyto**	**2.41**	**318**	PN	**Pn**	**04 56 32.6**	**+0.4**
KPT				S	**Sn**	**04 57 00.8**	**+0.3**
KPT	**Kopyto**	**2.41**	**318**	*eP*	**Pn**	**04 56 32.6**	**+0.4**
KPT				S	**Sn**	**04 57 00.8**	**+0.3**
NLC	**Nalytchevo**	**2.47**	**246**	PN	**Pn**	**04 56 32.8**	**-0.1**
NLC				S	**Sn**	**04 57 00.7**	**-1.2**
NLC	**Nalytchevo**	**2.47**	**246**	*eP*	**Pn**	**04 56 32.8**	**-0.1**
NLC				S	**Sn**	**04 57 00.7**	**-1.2**
KRSR	**Krestovskiy**	**2.47**	**325**	PN	**Pn**	**04 56 32.4**	**-0.7**
KRSR				S	**Sn**	**04 57 01.2**	**-0.9**
KRSR	**Krestovskiy**	**2.47**	**325**	P	**Pn**	**04 56 32.4**	**-0.7**
KRSR				S	**Sn**	**04 57 01.2**	**-0.9**
KLY	**Klyuchi**	**2.52**	**327**	PN	**Pn**	**04 56 32.5**	**-1.1**
KLY				S	**Sn**	**04 57 00.5**	**-2.6**
KLY	**Klyuchi**	**2.52**	**327**	*eP*	**Pn**	**04 56 32.5**	**-1.1**
KLY				S	**Sn**	**04 57 00.5**	**-2.6**
SMKR	**Semkarok**	**2.54**	**339**	PN	**Pn**	**04 56 33.7**	**-0.3**
SMKR				S	**Sn**	**04 57 03.1**	**-0.6**
SMKR	**Semkarok**	**2.54**	**339**	P	**Pn**	**04 56 33.7**	**-0.3**
SMKR				S	**Sn**	**04 57 03.1**	**-0.6**
BDR	**Baidarnaya**	**2.59**	**336**	PN	**Pn**	**04 56 34.7**	**+0.1**
BDR	**Baidarnaya**	**2.59**	**336**	P	**Pn**	**04 56 34.7**	**+0.1**
KOZ	**Kozyrevsk**	**2.61**	**316**	PN	**Pn**	**04 56 35.2**	**+0.3**
KOZ				S	**Sn**	**04 57 05.6**	**+0.2**
KOZ	**Kozyrevsk**	**2.61**	**316**	P	**Pn**	**04 56 35.2**	**+0.3**
KOZ				S	**Sn**	**04 57 05.6**	**+0.2**
SRKR	**Sorokina**	**2.67**	**336**	PN	**Pn**	**04 56 35.8**	**0.0**
SRKR	**Sorokina**	**2.67**	**336**	*eP*	**Pn**	**04 56 35.8**	**0.0**
SMAR	**Somma**	**2.73**	**251**	PN	**Pn**	**04 56 36.7**	**0.0**
SMAR				S	**Sn**	**04 57 08.1**	**-0.5**
SMAR	**Somma**	**2.73**	**251**	*eP*	**Pn**	**04 56 36.7**	**0.0**
SMAR				*eS*	**Sn**	**04 57 08.1**	**-0.5**
UGLR	**Uglovaya**	**2.74**	**250**	*eS*	**Sn**	**04 57 09.0**	**+0.3**
KRER	**Koryakskii**	**2.75**	**252**	PN	**Pn**	**04 56 37.3**	**+0.4**
KRER				S	**Sn**	**04 57 08.4**	**-0.5**
KRER	**Koryakskii**	**2.75**	**252**	*eP*	**Pn**	**04 56 37.3**	**+0.4**
KRER				*eS*	**Sn**	**04 57 08.4**	**-0.5**
AVH	**Avacha**	**2.77**	**251**	PN	**Pn**	**04 56 37.6**	**+0.5**
AVH				S	**Sn**	**04 57 09.5**	**+0.3**
AVH	**Avacha**	**2.77**	**251**	*eP*	**Pn**	**04 56 37.6**	**+0.5**
AVH				*eS*	**Sn**	**04 57 09.5**	**+0.3**
KOK	**Koryaka**	**2.81**	**252**	PN	**Pn**	**04 56 38.0**	**+0.3**
KOK				S	**Sn**	**04 57 10.1**	**-0.3**
KOK	**Koryaka**	**2.81**	**252**	*eP*	**Pn**	**04 56 38.0**	**+0.3**
KOK				*eS*	**Sn**	**04 57 10.1**	**-0.3**
DALK	**Dalny**	**2.85**	**247**	PN	**Pn**	**04 56 38.2**	**0.0**
DALK				S	**Sn**	**04 57 10.1**	**-1.2**
DALK	**Dalny**	**2.85**	**247**	*eP*	**Pn**	**04 56 38.2**	**0.0**
DALK				*eS*	**Sn**	**04 57 10.1**	**-1.2**
PET	**Petropavlovsk**	**2.91**	**247**	⇓ *i* PN	**Pn**	**04 56 38.9**	**-0.1**
PET				*eS*	**Sn**	**04 57 11.9**	**-0.8**
PET				pmax	pmax		
	comp=Z,381nm,0.7s						
PET				smax	smax		
	comp=E,2µm,1.6s						
PET				smax	smax		
	comp=E,1µm,0.6s						
PET				smax	smax		
	comp=N,1µm,0.6s						
PET				MLR	MLR		
	comp=Z,2µm,14.0s						
PET				MLR	MLR		
	comp=Z,2µm,14.0s						
PET	**Petropavlovsk**	**2.91**	**247**	Pn	**Pn**	**04 56 38.6**	**-0.4**
PET				Sn	**Sn**	**04 57 11.2**	**-1.5**
PET	**Petropavlovsk**	**2.91**	**247**	*eP*	**Pn**	**04 56 39.2**	**+0.2**
PET				*eS*	**Sn**	**04 57 11.6**	**-1.1**
ESO	**Esso**	**3.05**	**306**	PN	**Pn**	**04 56 42.1**	**+1.1**
ESO	**Esso**	**3.05**	**306**	*eP*	**Pn**	**04 56 42.1**	**+1.1**
GNL	**Ganaly**	**3.10**	**262**	PN	**Pn**	**04 56 42.5**	**+0.9**
GNL	**Ganaly**	**3.10**	**262**	*eP*	**Pn**	**04 56 42.5**	**+0.9**
KRMR	**Karymshinskiy**	**3.28**	**247**	PN	**Pn**	**04 56 44.4**	**+0.3**
KRMR				S	**Sn**	**04 57 21.6**	**-0.2**
KRMR	**Karymshinskiy**	**3.28**	**247**	*eP*	**Pn**	**04 56 44.4**	**+0.3**
KRMR				*eS*	**Sn**	**04 57 21.6**	**-0.2**
RUS	**Russkaya**	**3.29**	**239**	PN	**Pn**	**04 56 44.0**	**-0.1**
RUS				S	**Sn**	**04 57 19.9**	**-2.0**
RUS	**Russkaya**	**3.29**	**239**	*eP*	**Pn**	**04 56 44.0**	**-0.1**
RUS				*eS*	**Sn**	**04 57 19.9**	**-2.0**
PEA0B	**Petropavlovsk-**	**3.40**	**253**	*ce*PN	**Pn**	**04 56 46.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.40**	**253**		**Pn**	**04 56 46.2**	**+0.4**
PETK	**Petropavlovsk-**	**3.40**	**253**	P	**Pn**	**04 56 45.7**	**-0.1**
	comp=Z,33nm,0.3s,baz=83,slow=17,SNR=168						
PETK				S	**Sn**	**04 57 27.2**	**+2.4**
	comp=Z,35nm,0.3s,baz=93,slow=25,SNR=2.0						
PETK				LR	LR	04 57 55.8	
	comp=Z,492nm,20.3s,baz=107,slow=36						
MTVR	**Mutnovka**	**3.43**	**241**	PN	**Pn**	**04 56 46.5**	**+0.3**
MTVR				S	**Sn**	**04 57 24.6**	**-1.0**
MTVR	**Mutnovka**	**3.43**	**241**	*eP*	**Pn**	**04 56 46.5**	**+0.3**
MTVR				*eS*	**Sn**	**04 57 24.6**	**-1.0**
GRL	**Gorelyy**	**3.45**	**243**	PN	**Pn**	**04 56 47.4**	**+0.9**
GRL	**Gorelyy**	**3.45**	**243**	*eP*	**Pn**	**04 56 47.4**	**+0.9**
APC	**Apacha**	**3.78**	**252**	PN	**Pn**	**04 56 52.2**	**+1.4**
APC				S	**Sn**	**04 57 35.9**	**+1.9**
APC	**Apacha**	**3.78**	**252**	*eP*	**Pn**	**04 56 52.2**	**+1.4**
APC				*eS*	**Sn**	**04 57 35.9**	**+1.9**
KDTR	**Khodutka, Kamc**	**3.88**	**233**	PN	**Pn**	**04 56 52.1**	**-0.2**
KDTR	**Khodutka, Kamc**	**3.88**	**233**	*eP*	**Pn**	**04 56 52.1**	**-0.2**
PAU	**Pauzhetka**	**4.71**	**237**	PN	**Pn**	**04 57 04.7**	**+1.1**
PAU	**Pauzhetka**	**4.71**	**237**	*eP*	**Pn**	**04 57 04.7**	**+1.1**
OSSR	**Ossora**	**5.04**	**360**	PN	**Pn**	**04 57 07.5**	**-0.6**
OSSR	**Ossora**	**5.04**	**360**	*eP*	**Pn**	**04 57 07.5**	**-0.6**
PALN	**Palana**	**5.18**	**342**	PN	**Pn**	**04 57 13.6**	**+3.6**
PALN	**Palana**	**5.18**	**342**	*eP*	**Pn**	**04 57 13.6**	**+3.6**
TILK	**Tilichiki**	**6.45**	**14**	PN	**Pn**	**04 57 28.2**	**+0.7**
TILK	**Tilichiki**	**6.45**	**14**	*eP*	**Pn**	**04 57 28.2**	**+0.7**
SHEM	**Shemya Is, Ala**	**6.73**	**98**	P	**Pn**	**04 57 31.0**	**-0.3**
	comp=Z,17nm,0.3s,baz=271,slow=2.3,SNR=22						
SHEM				S	**Sn**	**04 58 42.4**	**-4.2**
	comp=Z,12nm,0.3s,baz=318,slow=20,SNR=12						
SHEM				LR	LR	05 00 15.5	
	comp=Z,515nm,20.0s,baz=300,slow=37						
SMY	**Shemya**	**6.73**	**98**	PN	**Pn**	**04 57 31.2**	**-0.2**
SMY	**Shemya**	**6.73**	**98**	Pn	**Pn**	**04 57 31.2**	**-0.2**
KMSK	**Kamenskaya**	**8.43**	**10**	PN	**Pn**	**04 57 55.5**	**+1.0**
KMSK	**Kamenskaya**	**8.43**	**10**	P	**Pn**	**04 57 55.5**	**+1.0**
MA2	**Magadan**	**8.62**	**313**	P	**Pn**	**04 57 55.8**	**-1.3**
	baz=101,slow=15,SNR=1.5						
MA2				LR	LR	05 01 35.4	
	comp=Z,547nm,19.7s,baz=122,slow=40						
SEY	**Seymchan**	**10.36**	**332**	P	**Pn**	**04 58 21.9**	**+1.0**
	baz=66,slow=19,SNR=1.3						
SEY				LR	LR	05 02 51.1	
	comp=Z,319nm,18.6s,baz=174,slow=41						
SEY	**Seymchan**	**10.36**	**332**	*ce*PN	**Pn**	**04 58 21.2**	**+0.3**
SEY				pmax	pmax		
	comp=Z,6.0nm,2.5s						

ADK	**Adak**	**12.38**	**93**	PN	**Pn**	**04 58 48.0**	**-0.6**
ADK	**Adak**	**12.38**	**93**	Pn	**Pn**	**04 58 48.0**	**-0.6**
BILL	**Bilibino**	**13.95**	**5**	*de*P	**Pn**	**04 59 12.3**	**+2.5**
BILL				pmax	pmax		
	comp=Z,17nm,1.0s						
BILL				MLR	MLR		
	comp=Z,92nm,13.0s						
BILL	**Bilibino**	**13.95**	**5**	Pn	**Pn**	**04 59 11.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**14.80**	**249**	*eP*	**Pn**	**04 59 21.0**	**-0.3**
YSS				*eS*	**Sn**	**05 02 03.0**	**-0.8**
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
GAMB	**Gambell**	**16.01**	**43**		**P**	**04 59 38.5**	**-1.1**
GAMB	**Gambell**	**16.01**	**43**	P	**Pn**	**04 59 37.6**	**+0.8**
	baz=246						
GRNR	**Gornyy**	**16.57**	**269**	⇓ *i* P	**P**	**04 59 46.9**	**+0.9**
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,630nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,150nm,11.0s						
JKA	**Kamikawa-asahi**	**16.73**	**241**	P	**Pn**	**04 59 46.6**	**+0.5**
JKA				IAmb	IAmb	04 59 48.5	
	comp=Z,52nm,1.1s						
ASAJ	**Asahikawa**	**16.73**	**241**	P	**Pn**	**04 59 46.5**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=6.2,slow=3.3,SNR=6.6						
ASAJ				LR	LR	05 06 02.5	
	comp=Z,251nm,19.8s,baz=186,slow=36						
ASAJ	**Asahikawa**	**16.73**	**241**	P	**Pn**	**04 59 46.6**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,52nm,1.1s						
UNV	**Unalaska Valle**	**17.79**	**79**		**P**	**05 00 00.0**	**+0.7**
UNV				IAmb	IAmb	05 00 27.8	
	comp=Z,104nm,1.4s						
UNV	**Unalaska Valle**	**17.79**	**79**	P	**P**	**05 00 01.3**	**+1.9**
	baz=284						
ERM	**Erimo**	**17.99**	**235**	*i* P	**Pn**	**05 00 00.8**	**-0.8**
ERM	**Erimo**	**17.99**	**235**	Pn	**Pn**	**04 59 58.2**	**-3.4**
TNA	**Tin City**	**18.23**	**40**	P	**P**	**05 00 04.0**	**-0.2**
TNA	**Tin City**	**18.23**	**40**	P	**Pn**	**05 00 05.2**	**+0.8**
	baz=246						
ANM	**Nome**	**18.87**	**44**	P	**Pn**	**05 00 12.1**	**-0.1**
ANM				pmax	pmax		
	comp=Z,23nm,1.4s						
ANM	**Nome**	**18.87**	**44**	P	**Pn**	**05 00 12.1**	**-0.1**
YAK	**Yakutsk**	**19.11**	**308**	P	**P**	**05 00 11.9**	**-1.8**
	baz=78,slow=1.4,SNR=7.8						
YAK				S	**S**	**05 03 44.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=12,slow=20,SNR=6.6						
YAK				LR	LR	05 08 06.3	
	comp=Z,282nm,20.3s,baz=86,slow=39						
YAK	**Yakutsk**	**19.11**	**308**	*eP*	**P**	**05 00 11.5**	**-2.3**
YAK				*eS*	**S**	**05 03 43.3**	**-4.4**
YAK				pmax	pmax		
	comp=Z,44nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,11nm,0.9s						
YAK				smax	smax		
	comp=N,26nm,1.0s						
YAK				smax	smax		
	comp=E,36nm,1.0s						
YAK	**Yakutsk**	**19.11**	**308**	P	**P**	**05 00 11.7**	**-2.1**
YAK				IAmb	IAmb	05 00 12.7	
	comp=Z,55nm,0.7s						
KLR	**Kul'dur**	**19.95**	**268**	LR	LR	05 08 56.0	
	comp=Z,197nm,18.8s,baz=54,slow=39						
CHGN	**Chignik**	**21.84**	**69**	P	**P**	**05 00 44.2**	**+1.0**
	baz=281						
USRK	**Usuriysk Ar.**	**22.49**	**256**	LR	LR	05 09 34.3	
	comp=Z,205nm,21.7s,baz=56,slow=36						
TTA	**Tatalina**	**22.65**	**51**	P	**P**	**05 00 50.5**	**-1.6**
TTA				pmax	pmax		
	comp=Z,11nm,0.9s						
TTA	**Tatalina**	**22.65**	**51**	P	**P**	**05 00 50.5**	**-1.6**
TTA	**Tatalina**	**22.65**	**51**	P	**P**	**05 00 52.5**	**+0.4**
	baz=267,SNR=8.2						
TIXI	**Tiksi**	**22.85**	**333**	P	**P**	**05 00 51.5**	**-2.5**
	comp=Z,5.2nm,0.6s,baz=91,slow=23,SNR=9.6						
TIXI				LR	LR	05 10 58.5	
	comp=Z,168nm,18.1s,baz=185,slow=40						
TIXI	**Tiksi**	**22.85**	**333**	*ce*P	**P**	**05 00 52.6**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI	**Tiksi**	**22.85**	**333**	P	**P**	**05 00 52.2**	**-1.7**
P18K	**Big Mountain,**	**23.09**	**60**	P	**P**	**05 00 56.5**	**0.0**
	baz=276						
N19K	**Bonanza Creek**	**23.36**	**56**	P	**P**	**05 01 00.0**	**+0.8**
	baz=273						
M19K	**Big River Lodg**	**23.38**	**54**	P	**P**	**05 01 00.1**	**+0.8**
M19K				IAmb	IAmb	05 01 01.4	
	comp=Z,12nm,0.8s						
M19K	**Big River Lodg**	**23.38**	**54**	P	**P**	**05 01 00.0**	**+0.8**
	baz=271						
K20K	**Telida**	**23.56**	**50**	P	**P**	**05 01 01.5**	**+0.6**
K20K				IAmb	IAmb	05 01 03.1	
	comp=Z,20nm,1.3s						
K20K	**Telida**	**23.56**	**50**	P	**P**	**05 01 01.6**	**+0.6**
	baz=268,SNR=6.9						
J20K	**Nowinta River**	**23.58**	**48**	P	**P**	**05 01 01.5**	**+0.3**
J20K				IAmb	IAmb	05 01 03.9	
	comp=Z,19nm,0.9s						
J20K	**Nowinta River**	**23.58**	**48**	P	**P**	**05 01 01.8**	**+0.6**
	baz=266,SNR=17						
L20K	**Farewell, AK**	**23.62**	**52**	P	**P**	**05 01 02.3**	**+0.7**
	baz=270						
IMAR	**Indian Mountai**	**23.95**	**44**	P	**P**	**05 01 03.8**	**-0.8**
SII	**Sitkinak Islan**	**24.09**	**67**	P	**P**	**05 01 06.0**	**+0.1**
BNX	**BinXian**	**24.25**	**264**	⇑ P	**P**	**05 01 05.8**	**-1.7**
BNX				pmax	pmax		
	comp=Z,26nm,0.9s						
BNX				pmax	pmax		
	comp=Z,310nm,4.3s						
H21K	**Melozitna Rive**	**24.29**	**45**	P	**P**	**05 01 06.2**	**-1.5**
H21K	**Melozitna Rive**	**24.29**	**45**	P	**P**	**05 01 08.4**	**+0.7**
	baz=264,SNR=6.1						
PPLA	**Purkeypile**	**24.40**	**51**	P	**P**	**05 01 08.9**	**0.0**
PPLA				IAmb	IAmb	05 01 16.8	
	comp=Z,32nm,1.3s						
PPLA	**Purkeypile**	**24.40**	**51**	P	**P**	**05 01 08.6**	**-0.3**
	baz=270						
OHAK	**Old Harbor**	**24.43**	**65**	P	**P**	**05 01 09.2**	**+0.2**
OHAK				IAmb	IAmb	05 01 11.8	
	comp=Z,17nm,0.8s						
OHAK	**Old Harbor**	**24.43**	**65**	P	**P**	**05 01 09.1**	**+0.2**
	baz=282						
SPCR	**Spurr Chakacha**	**24.44**	**55**	P	**P**	**05 01 09.9**	**+0.6**
	baz=274						
CAST	**Castle Rocks**	**24.45**	**50**	P	**P**	**05 01 10.0**	**+0.8**
	baz=269,SNR=14						
I21K	**Tanana**	**24.59**	**46**	P	**P**	**05 01 11.0**	**+0.6**
	baz=265,SNR=8.9						
MJB9	**Matsu-Tunnel**	**24.66**	**234**	P	**P**	**05 01 11.7**	**+0.4**
MAJO	**Matsushiro**	**24.66**	**234**	P	**P**	**05 01 11.5**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,38nm,0.9s						
MAJO	**Matsushiro**	**24.66**	**234**	P	**P**	**05 01 11.5**	**+0.1**
MJAR	**Matsushiro Arr**	**24.66**	**234**	P	**P**	**05 01 12.7**	**+1.4**
	comp=Z,21nm,0.9s,baz=20,slow=9.0,SNR=29						
MJAR				LR	LR	05 11 08.0	
	comp=Z,112nm,20.9s,baz=27,slow=37						
MJAR	**Matsushiro Arr**	**24.66**	**234**	P	**P**	**05 01 10.7**	**-0.7**
BPAW	**Bear Paw Mtn.**	**24.95**	**48**	P	**P**	**05 01 14.6**	**+0.8**
BPAW				IAmb	IAmb	05 01 32.6	
	comp=Z,24nm,1.1s						
BPAW	**Bear Paw Mtn.**	**24.95**	**48**	P	**P**	**05 01 14.6**	**+0.8**
	baz=269,SNR=7.5						
KTH	**Kantishna Hill**	**24.98**	**50**	P	**P**	**05 01 14.5**	**+0.5**
KTH				IAmb	IAmb	05 01 33.5	
	comp=Z,15nm,1.0s						
MLY	**Manley**	**25.10**	**46**	P	**P**	**05 01 14.3**	**-0.9**
MLY					**PcP**	**05 04 49.3**	**+1.3**
MLY	**Manley**	**25.10**	**46**	P	**P**	**05 01 15.5**	**+0.3**
	baz=267						
BRLK	**Bradley Lake**	**25.24**	**59**	P	**P**	**05 01 17.4**	**+0.9**
BRLK				IAmb	IAmb	05 01 31.8	
	comp=Z,22nm,1.1s						
TRF	**Thorofare Moun**	**25.26**	**50**	P	**P**	**05 01 17.7**	**+0.9**
TRF				IAmb	IAmb	05 01 20.3	
	comp=Z,22nm,0.9s						
TRF	**Thorofare Moun**	**25.26**	**50**	P	**P**	**05 01 17.4**	**+0.7**
	baz=271,SNR=14						
BRSE	**Bradley Lake S**	**25.32**	**59**	P	**P**	**05 01 17.6**	**+0.5**
	baz=278						

COLD	**Coldfoot**	**25.53**	**41**	P	**P**	**05 01 20.4**	**+1.4**
COLD	**Coldfoot**	**25.53**	**41**	P	**P**	**05 01 19.3**	**+0.3**
	baz=263,SNR=9.3						
I23K	**Minto, Yukon-K**	**25.69**	**46**	P	**P**	**05 01 20.6**	**+0.2**
	baz=268						
O22K	**Cooper Landing**	**25.72**	**57**	P	**P**	**05 01 21.6**	**+0.9**
	baz=277						
NEA2	**Nenana**	**25.80**	**47**	P	**P**	**05 01 21.7**	**+0.3**
NEA2	**Nenana**	**25.80**	**47**	P	**P**	**05 01 22.3**	**+0.8**
	baz=269						
MCK	**McKinley**	**25.86**	**49**	P	**P**	**05 01 23.2**	**+1.2**
MCK				pmax	pmax		
	comp=Z,23nm,1.4s						
MCK	**McKinley**	**25.86**	**49**	P	**P**	**05 01 23.2**	**+1.2**
MCK				IAmb	IAmb	05 01 50.2	
	comp=Z,23nm,1.4s						
MCK	**McKinley**	**25.86**	**49**	P	**P**	**05 01 22.3**	**+0.3**
	baz=271						
RND	**Reindeer**	**25.91**	**50**	P	**P**	**05 01 22.3**	**-0.2**
RND				pmax	pmax		
	comp=Z,18nm,1.2s						
RND	**Reindeer**	**25.91**	**50**	P	**P**	**05 01 22.2**	**-0.2**
RND				IAmb	IAmb	05 01 49.6	
	comp=Z,18nm,1.2s						
SEW	**Seward**	**25.91**	**58**	P	**P**	**05 01 23.4**	**+1.1**
	baz=278						
TOLK	**Toolik Lake Re**	**25.98**	**38**	P	**P**	**05 01 23.8**	**+0.8**
TOLK				IAmb	IAmb	05 01 41.8	
	comp=Z,12nm,0.8s						
TOLK	**Toolik Lake Re**	**25.98**	**38**	P	**P**	**05 01 23.9**	**+0.9**
	baz=261,SNR=12						
MDM	**Murphy Dome**	**26.16**	**46**	P	**P**	**05 01 25.3**	**+0.6**
WRH	**Wood River Hil**	**26.22**	**48**	P	**P**	**05 01 26.6**	**+1.3**
WRH				IAmb	IAmb	05 01 44.9	
	comp=Z,12nm,1.0s						
KNK	**Knik Glacier**	**26.23**	**55**	P	**P**	**05 01 25.9**	**+0.5**
KNK				IAmb	IAmb	05 01 53.8	
	comp=Z,32nm,1.4s						
KNK	**Knik Glacier**	**26.23**	**55**	P	**P**	**05 01 25.6**	**+0.3**
	baz=276						
SML	**Sawmill**	**26.25**	**54**	P	**P**	**05 01 26.2**	**+0.6**
SML				IAmb	IAmb	05 01 47.7	
	comp=Z,25nm,1.4s						
SML	**Sawmill**	**26.25**	**54**	P	**P**	**05 01 25.7**	**+0.1**
	baz=276						
H24K	**Noodor Dome**	**26.34**	**44**	P	**P**	**05 01 27.1**	**+0.8**
PWL	**Port Wells**	**26.35**	**56**	P	**P**	**05 01 26.9**	**+0.5**
PWL				IAmb	IAmb	05 01 30.2	
	comp=Z,34nm,1.0s						
PWL	**Port Wells**	**26.35**	**56**	P	**P**	**05 01 26.4**	**0.0**
	baz=278,SNR=6.2						
DHY	**Denali Highway**	**26.59**	**51**	P	**P**	**05 01 28.3**	**-0.4**
	baz=274						
HDA	**Harding Lake**	**26.72**	**48**	P	**P**	**05 01 29.7**	**0.0**
HDA	**Harding Lake**	**26.72**	**48**	P	**P**	**05 01 30.7**	**+1.0**
	baz=272						
SCM	**Sheep Creek Mo**	**26.72**	**53**	P	**P**	**05 01 30.8**	**+1.0**
SCM				pmax	pmax		
	comp=Z,23nm,1.0s						
SCM	**Sheep Creek Mo**	**26.72**	**53**	P	**P**	**05 01 30.8**	**+1.0**
SCM				IAmb	IAmb	05 01 34.7	
	comp=Z,23nm,1.0s						
SCM	**Sheep Creek Mo**	**26.72**	**53**	P	**P**	**05 01 29.8**	**-0.1**
	baz=276						
IL31		**26.74**	**47**	P	**P**	**05 01 30.1**	**+0.3**
ILAR	**Eielson Array**	**26.74**	**47**	P	**P**	**05 01 30.0**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=256,slow=9.1,SNR=30						
ILAR				PcP	**PcP**	**05 04 51.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=288,slow=3.7,SNR=6.7						
ILAR				LR	LR	05 13 12.3	
	comp=Z,94nm,18.2s,baz=282,slow=39						
ILAR	**Eielson Array**	**26.74**	**47**	P	**P**	**05 01 30.3**	**+0.4**
M24K	**Tolsona, Glenn**	**27.23**	**53**	P	**P**	**05 01 34.6**	**+0.2**
	baz=277						
J25K	**Salcha River,**	**27.39**	**47**	P	**P**	**05 01 35.3**	**-0.5**
KLU	**Klutina**	**27.43**	**54**	P	**P**	**05 01 37.1**	**+0.9**
	baz=278						
HARP	**HAARP**	**27.67**	**52**	P	**P**	**05 01 38.8**	**+0.5**
	baz=277						
RIDG	**Independent Ri**	**27.68**	**49**	P	**P**	**05 01 39.7**	**+1.3**
RIDG	**Independent Ri**	**27.68**	**49**	P	**P**	**05 01 38.7**	**+0.3**
	baz=275						
BMAR	**

HNS LR LR
comp=Z,300nm,19.4s
HNS LR LR
comp=Z,230nm,18.6s
NJ2 Nanjing 38.31 253 *e*P **P** **05 03 12.1 +1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BBB Bella Bella 39.77 64 LR LR 05 17 59.8
comp=Z,104nm,20.4s,baz=306,slow=33
EUNU Eureka 40.41 15 P **P** **05 03 29.1 +0.9**
YKA Yellowknife Ar 41.11 44 P **P** **05 03 34.5 +0.6**
comp=Z,1.0nm,0.7s,baz=297,slow=8.1,SNR=13
YKA PcP **PcP** **05 05 33.7 +1.1**
comp=Z,0.8nm,0.8s,baz=299,slow=3.4,SNR=6.5
YKA LR LR 05 22 40.2
comp=Z,69nm,18.2s,baz=282,slow=39
YKA Yellowknife Ar 41.11 44 P **P** **05 03 35.0 +1.0**
RES Resolute Bay 41.59 23 P **P** **05 03 37.4 -0.3**
comp=Z,0.8nm,0.8s,baz=350,slow=9.8,SNR=5.1
RES PcP **PcP** **05 05 34.8 +0.9**
comp=Z,1.9nm,0.8s,baz=236,slow=3.5,SNR=4.8
RES Resolute Bay 41.59 23 P **P** **05 03 38.8 +1.0**
ZALV Zalesovo Beam 43.67 303 P **P** **05 03 52.5 -2.3**
comp=Z,0.6nm,0.3s,baz=51,slow=12,SNR=3.6
ZALV PcP **PcP** **05 05 41.4 +0.2**
comp=Z,1.1nm,0.6s,baz=99,slow=7.7,SNR=3.9
ZALV LR LR 05 23 49.7
comp=Z,242nm,18.6s,baz=80,slow=38
ZALV Zalesovo Beam 43.67 303 P **P** **05 03 53.8 -1.1**
LZH Lanzhou 44.13 271 *e*P **P** **05 03 57.6 -1.4**
LZH pP pP 05 04 08.3 -2.4
LZH sP pwP 05 04 14.5 -0.9
LZH pmax pmax
comp=Z,19nm,1.4s
LZH LR LR
comp=Z,200nm,14.1s
LZH LR LR
comp=Z,110nm,13.0s
LZH LR LR
comp=Z,180nm,13.0s
GTA Gaotai 44.25 277 *e*P **P** **05 03 59.5 -0.4**
GTA pP pP 05 04 09.6 -2.1
GTA PcP **PP** **05 05 42.6 -0.9**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,52nm,5.1s
GTA LR LR
comp=Z,110nm,18.9s
GTA LR LR
comp=Z,270nm,20.7s
GTA LR LR
comp=Z,170nm,18.9s
A04D Lummi Island 44.56 65 P **P** **05 04 02.0 -0.1**
baz=307
ENH Enshi 44.98 260 P **P** **05 04 05.5 -0.2**
ENH IAmb IAmb 05 04 06.4
comp=Z,14nm,0.8s
D05A Enumclaw 45.87 67 P **P** **05 04 14.6 +2.1**
B08A Colville Reser 46.57 64 P **P** **05 04 20.8 +2.8**
B08A IAmb IAmb 05 04 36.8
comp=Z,5.9nm,1.1s
NEW Newport 47.79 63 LR LR 05 24 33.4
comp=Z,90nm,18.7s,baz=284,slow=36
WMQ Urumqi 48.27 290 *e*P **P** **05 04 32.5 +1.1**
WMQ pP pP 05 04 44.9 +1.6
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,230nm,20.5s
WMQ LR LR
comp=Z,240nm,20.9s
WMQ LR LR
comp=Z,220nm,19.1s
KURK Kurchatov 48.65 303 P **P** **05 04 32.9 -1.1**
KURK 05 05 59.3
KURK Kurchatov 48.65 303 P **P** **05 04 32.7 -1.4**
KURK IAmb IAmb 05 04 33.3
comp=Z,6.9nm,1.0s
KURBB Kurchatov Arra 48.75 302 P **P** **05 04 32.9 -1.9**
comp=Z,2.5nm,0.5s,baz=56,slow=8.1,SNR=20
KURBB PcP **PcP** **05 05 59.3 +0.2**
comp=Z,0.7nm,0.4s,baz=69,slow=2.5,SNR=3.1
KURBB LR LR 05 27 00.2
comp=Z,265nm,18.1s,baz=24,slow=38
L04D Klamath Falls 48.87 72 P **P** **05 04 38.4 +2.4**
YBH Yreka Blue Hor 48.96 73 LR LR 05 23 06.8
comp=Z,74nm,19.0s,baz=268,slow=33
MK31 Makanchi Array 49.27 296 P **P** **05 04 36.9 -2.0**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 49.27 296 P **P** **05 04 36.9 -2.0**
MKAR Makanchi Array 49.27 296 P **P** **05 04 36.6 -2.2**
comp=Z,2.0nm,0.6s,baz=57,slow=7.4,SNR=21
MKAR PcP **PcP** **05 06 01.0 -0.1**
comp=Z,0.8nm,0.7s,baz=56,slow=3.7,SNR=2.2
MKAR LR LR 05 26 27.2
comp=Z,107nm,20.8s,baz=44,slow=37
MKAR Makanchi Array 49.27 296 P **P** **05 04 37.0 -1.9**
DAG Danmarks Havn 49.27 1 *i* P **P** **05 04 36.8 -1.7**
DAG IAmb IAmb 05 04 38.7
comp=Z,2.8nm,0.6s
GOMU GeErMu 49.34 278 P **P** **05 04 38.5 -1.4**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,100nm,4.4s
GOMU LR LR
comp=Z,82nm,10.9s
GOMU LR LR
comp=Z,76nm,11.9s
GOMU LR LR
comp=Z,120nm,10.8s
MOD Modoc Plateau 50.19 71 P **P** **05 04 48.2 +2.1**
MOD IAmb IAmb 05 05 06.2
comp=Z,6.6nm,0.9s
PLID Pearl Lake 50.42 65 P **P** **05 04 49.4 +1.5**
BVAR Borovoye Array 51.08 309 P **P** **05 04 51.7 -0.8**
comp=Z,1.9nm,0.5s,baz=60,slow=7.7,SNR=11
BVAR PcP **PcP** **05 06 08.1 +0.5**
comp=Z,1.5nm,0.6s,baz=174,slow=4.1,SNR=3.3
BRVK Borovoye 51.10 309 P **P** **05 04 51.9 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 51.10 309 P **P** **05 04 51.9 -0.7**
BRVK IAmb IAmb 05 04 53.2
comp=Z,5.5nm,0.7s
FCC Fort Churchill 51.47 41 P **P** **05 04 55.8 +0.6**
FCC pmax pmax
comp=Z,5.0nm,0.9s
FCC Fort Churchill 51.47 41 P **P** **05 04 55.8 +0.6**
FCC IAmb IAmb 05 05 24.7
comp=Z,4.8nm,0.8s
DBG Daneborg 51.73 1 *i* P **P** **05 04 55.7 -1.4**
DBG IAmb IAmb 05 04 57.3
comp=Z,2.6nm,0.8s
PZH PanZhiHua 52.30 264 P **P** **05 05 03.8 +1.7**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.6s
BOZ Bozeman (W) 52.38 62 P **P** **05 05 02.4 -0.1**
baz=313
ARCES ARCESS Array B 52.76 343 P **P** **05 05 04.0 -0.7**
comp=Z,5.1nm,0.7s,baz=30,slow=9.8,SNR=9.0
ARCES ARCESS Array B 52.76 343 P **P** **05 05 04.5 -0.2**
ARCES pmax pmax
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 52.76 343 P **P** **05 05 04.5 -0.2**
ARCES IAmb IAmb 05 05 08.9
comp=Z,9.9nm,1.1s
KVN Kaiserville 53.36 72 P **P** **05 05 12.0 +2.2**
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 53.36 72 P **P** **05 05 12.0 +2.2**
KVN IAmb IAmb 05 05 29.8
comp=Z,6.3nm,0.9s
NVAR Mina Array Bea 53.68 73 P **P** **05 05 13.7 +1.5**
comp=Z,0.6nm,0.5s,baz=299,slow=6.7,SNR=5.1
NVAR pP **pwP** **05 05 31.9 +0.9**
comp=Z,3.8nm,0.8s,baz=292,slow=7.0,SNR=9.0
NVAR LR LR 05 27 47.8
comp=Z,44nm,18.1s,baz=272,slow=36
ARU Arti 53.76 318 P **P** **05 05 11.6 -0.6**
comp=Z,5.1nm,0.6s,baz=35,slow=4.2,SNR=21
ARU LR LR 05 30 55.0
comp=Z,187nm,19.6s,baz=47,slow=39
ARU Arti 53.76 318*c i*P **P** **05 05 11.9 -0.4**
ARU *PP **pP** **05 05 25.5 +1.4**
ARU S **S** **05 12 43.2 +0.3**
ARU pmax pmax
comp=Z,16nm,0.7s
ARU MLR MLR
comp=Z,202nm,20.0s
ARU Arti 53.76 318 P **P** **05 05 12.2 0.0**
PRGR Permogore 54.42 329 *e*P P 05 05 11.3 -5.7
TPH Tonopah 54.54 72 P **P** **05 05 20.2 +1.8**
TPH pmax pmax
comp=Z,36nm,0.9s
TPH Tonopah 54.54 72 P **P** **05 05 20.2 +1.8**
KDJ Kajisay 55.11 295 P **P** **05 05 22.3 -0.2**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 55.11 295 P **P** **05 05 22.3 -0.2**
KDJ IAmb IAmb 05 05 23.0
comp=Z,3.7nm,0.8s
BW06 Boulder Array 55.41 63 P **P** **05 05 24.5 -0.2**
baz=315
PDAR Pinedale Array 55.41 63 P **P** **05 05 25.8 +1.1**
comp=Z,2.1nm,0.9s,baz=332,slow=1.9,SNR=10.0
PDAR LR LR 05 30 03.5
comp=Z,43nm,18.6s,baz=294,slow=37
PDAR Pinedale Array 55.41 63 P **P** **05 05 26.1 +1.4**
BOOM Boomskoye usch 55.51 296 P **P** **05 05 24.6 -0.8**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 55.51 296 P **P** **05 05 24.6 -0.8**
KIRV Kirov 55.53 324 *ce*P **P** **05 05 24.3 -0.7**
comp=Z,16nm,0.9s,baz=333,slow=1.8,SNR=6.3
KIRV LR LR 05 32 25.3
comp=Z,103nm,19.1s,baz=23,slow=40
KIRV Kirov 55.53 324 *ce*P **P** **05 05 25.4 +0.4**
FRB Frobisher Bay 55.74 25 LR LR 05 32 51.0
comp=Z,44nm,18.7s,baz=314,slow=40
DAV Davao City (W) 55.86 227 LR LR 05 28 46.1
comp=Z,33nm,20.9s,baz=150,slow=35
ICESG Greenland Ices 55.87 10 *i* P **P** **05 05 25.7 -2.1**
ICESG IAmb IAmb 05 05 28.0
comp=Z,6.5nm,0.6s
AAK Ala-Archa 56.17 297 P **P** **05 05 29.3 -0.8**
comp=Z,4.1nm,0.7s,baz=111,slow=2.7,SNR=10.0
AAK LR LR 05 31 04.3
comp=Z,125nm,18.6s,baz=54,slow=38
AAK Ala-Archa 56.17 297 P **P** **05 05 28.9 -1.2**
AAK IAmb IAmb 05 05 32.1
comp=Z,5.8nm,0.9s
SFJD Kangerlussuaq 56.47 15 LR LR 05 29 46.9
comp=Z,26nm,21.4s,baz=312,slow=36
ULM Lac du Bonnet 56.73 49 P **P** **05 05 35.7 +1.9**
comp=Z,3.9nm,1.0s,baz=324,slow=5.9,SNR=3.5
ULM LR LR 05 30 59.9
comp=Z,107nm,19.2s,baz=312,slow=37
KLMR Klimovskoe 56.85 331 *e*P **P** **05 05 32.0 -2.3**
KLMR pmax pmax
comp=Z,17nm,0.8s
KLMR Klimovskoe 56.85 331 *e*P **P** **05 05 32.1 -2.3**
KLMR AMP 05 05 35.3
comp=Z,17nm,0.8s
KSH Kashi 57.61 294 P **P** **05 05 43.3 +3.1**
KSH pP sP 05 05 58.5 +1.2
KSH sP pwP 05 06 02.9 +5.8
KSH pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 57.88 300 P **P** **05 05 40.6 -1.4**
KKAR Karatay Array 57.88 300 P **P** **05 05 40.6 -1.4**
BELC Belle Mtn. Jos 58.15 75 P **P** **05 05 44.9 +0.8**
baz=317
PFO Pinyon Flats O 58.17 76 LR LR 05 26 27.6
comp=Z,98nm,21.4s,baz=284,slow=31
AKTO Aktyubinsk 58.36 314 P **P** **05 05 44.7 -0.5**
comp=Z,3.1nm,0.7s,baz=351,slow=4.7,SNR=10
AKTO PcP **PcP** **05 06 35.6 0.0**
comp=Z,3.2nm,0.9s,baz=1.6,slow=6.5,SNR=3.8
AKTO LR LR 05 33 04.7
comp=Z,80nm,21.9s,baz=33,slow=38
ABKAR Akbulak array 58.41 311 P **P** **05 05 44.4 -1.2**
VALR Valaam 58.72 335 *i* P **P** **05 05 48.1 +0.6**
VALR pmax pmax
comp=Z,39nm,0.8s
FIA1 FINESS Array S 59.77 338 P **P** **05 05 55.1 +0.4**
FINES FINESS Array B 59.77 338 P **P** **05 05 54.5 -0.2**
comp=Z,21nm,0.7s,baz=34,slow=8.8,SNR=82
FINES FINESS Array B 59.77 338 *i* P **P** **05 05 55.2 +0.4**
FINES pmax pmax
comp=Z,21nm,0.7s
FINES FINESS Array B 59.77 338 P **P** **05 05 55.0 +0.2**
CHTO Chiang Mai 59.87 260 P **P** **05 05 57.0 +1.0**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 59.87 260 P **P** **05 05 57.0 +1.0**
TAPN Taplejung 59.89 276 *e*P **P** **05 05 56.8 +0.3**
BTK Batken 59.94 298 P **P** **05 05 55.6 -0.8**
BTK pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 59.94 298 P **P** **05 05 55.6 -0.8**
BTK IAmb IAmb 05 05 57.6
comp=Z,9.8nm,1.1s
CM31 Chiang Mai Arr 60.16 260 P **P** **05 05 59.6 +1.7**
CMAR Chiang Mai Arr 60.16 260 P **P** **05 05 59.4 +1.4**
comp=Z,7.8nm,0.7s,baz=19,slow=7.2,SNR=38
CMAR LR LR 05 34 43.3
comp=Z,80nm,18.6s,baz=60,slow=39
CMAR Chiang Mai Arr 60.16 260 *i* P **P** **05 05 59.9 +1.9**
CMAR pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 60.16 260 P **P** **05 05 57.6 -0.4**
ODAN Odare 60.45 276 *e*P **P** **05 05 59.6 -0.6**
GUN Gumba 60.54 278 *e*P **P** **05 06 00.8 -0.2**
comp=Z,18nm,0.6s
JIRN Jiri 60.55 277 *e*P **P** **05 06 01.5 +0.5**
RAMN Ramite 60.84 276 *e*P **P** **05 06 02.5 -0.4**
comp=Z,22nm,0.4s
SIJI Sorong 60.88 217 P **P** **05 06 04.0 +1.0**
comp=Z,11nm,0.4s,baz=9.7,slow=8.8,SNR=4.9
KKN Kakani 60.98 278 *e*P **P** **05 06 04.0 +0.2**
GAR Garm 60.98 297 P **P** **05 06 02.6 -1.0**
BELG Belogornoye 61.00 321 LR LR 05 35 08.8
comp=Z,128nm,19.9s,baz=82,slow=39
BELG Belogornoye 61.00 321 *i* P **P** **05 06 02.9 -0.3**
BELG pmax pmax
comp=Z,7.0nm,0.9s
PKI Pulchoki 61.07 278 *e*P **P** **05 06 04.5 0.0**
PKIN Phulchoki 61.07 278 *e*P **P** **05 06 04.4 -0.1**
RAF Rauma 61.07 340 *e*P **P** **05 06 03.8 +0.2**
GKN Gorkha 61.19 279 *e*P **P** **05 06 05.1 -0.1**
DMN Daman 61.22 278 *e*P **P** **05 06 05.8 +0.4**
MEF Metsahovi 61.24 338 *e*P **P** **05 06 05.4 +0.6**
DANN Dangsing 61.44 280 *e*P **P** **05 06 07.1 +0.1**
comp=Z,31nm,0.9s
MOS Moscow 61.65 328 *e*P **P** **05 06 06.8 -0.8**
CHGR Chuyangaron 61.84 298 P **P** **05 06 08.3 -1.0**
CHGR pmax pmax
comp=Z,22nm,0.7s
CHGR Chuyangaron 61.84 298 P **P** **05 06 08.3 -1.0**
KOLN Koldanda 61.97 279 *e*P **P** **05 06 10.3 -0.2**
PYUN Piuthan 62.08 280 *e*P **P** **05 06 10.9 -0.3**
comp=Z,49nm,1.0s
AAL Aland 62.20 340 *e*P **P** **05 06 10.9 -0.3**
VSU Vasula 62.28 336 *e*P **P** **05 06 12.6 +0.8**
OBN Obninsk 62.51 329 LR LR 05 36 31.1
comp=Z,25nm,19.9s,baz=56,slow=39
OBN Obninsk 62.51 329 *de*P **P** **05 06 13.6 +0.3**
OBN *e*PP **sP** **05 06 29.9 -0.2**
OBN *e* 05 06 51.9
OBN *e* 05 08 30.5
OBN *e*PPP PPP 05 09 58.1
OBN pmax pmax
comp=Z,23nm,0.9s
OBN MLR MLR
comp=Z,83nm,20.0s
OBN Obninsk 62.51 329 P **P** **05 06 13.3 0.0**
MTSE Matsula 62.73 337 *e*P **P** **05 06 15.4 +0.7**
NC303 NORSAR Array S 62.73 345 P **P** **05 06 14.3 -0.5**
ANMO Albuquerque 62.75 68 LR LR 05 32 37.0
comp=Z,46nm,19.7s,baz=299,slow=35
NC204 NORSAR Array S 62.78 345 P **P** **05 06 15.4 +0.2**
NC405 NORSAR Array S 62.79 345 P **P** **05 06 15.4 +0.2**
NB201 NORSAR Array S 62.91 345 P **P** **05 06 15.9 -0.1**
NB2 NORSAR Subarra 62.93 345 P **P** **05 06 15.8 -0.4**
comp=Z,3.7nm,0.7s,baz=20,slow=6.9
NOA NORSAR Array B 62.93 345 P **P** **05 06 15.6 -0.6**
comp=Z,7.6nm,0.8s,baz=19,slow=6.7,SNR=32
HFS Hagfors 63.40 343 LR LR 05 34 41.5
comp=Z,39nm,20.4s,baz=46,slow=37
SCHQ Schefferville 63.80 30 P **P** **05 06 22.3 +0.4**
comp=Z,1.4nm,0.6s,baz=311,slow=7.9,SNR=4.5
LPSR Galich'ya Gora 63.88 326 *e*P **P** **05 06 21.8 -0.7**
LPSR pmax pmax
comp=Z,20nm,0.7s
VRH Novokhopyorsk 64.10 323 *e*P **P** **05 06 19.9 -4.0**
VRH pmax pmax
comp=Z,20nm,0.5s
KBL Kabul 65.01 295 P **P** **05 06 29.1 -1.3**
KBL pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 65.01 295 P **P** **05 06 29.1 -1.3**
KBL IAmb IAmb 05 06 29.9
comp=Z,13nm,1.2s
IDID Didziasalis 65.09 334 *e*P **P** **05 06 31.0 +0.6**
VORD Divnogorie 65.14 325 *e*P **P** **05 06 29.3 -1.4**
VORD pmax pmax
comp=Z,10.0nm,0.6s
IIGN Ignalina 65.19 335 *e*P **P** **05 06 31.7 +0.7**
NACGM Naroch 65.45 334⇑ *e*P **P** **05 06 29.0 -3.6**
MNK Minsk 65.52 333 *i* P **P** **05 06 33.4 +0.3**
MNK *i* *PP **sP** **05 06 49.5 -0.6**
MNK *i* 05 08 57.4
MNK *i* PPP PPP 05 10 32.4
MNK *i* S **S** **05 15 14.9 +0.7**
MNK *i* *SS sS 05 15 42.7 +7.8
MNK *i* SS **SS** **05 19 30.1 +2.8**
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,19nm,0.8s
MNK MLR MLR
comp=Z,117nm,15.0s
MNK MLR MLR
comp=N,117nm,21.0s
MNK MLR MLR
comp=E,19nm,20.0s
MNK Minsk 65.52 333 *i* P **P** **05 06 33.4 +0.3**
comp=E,3.0nm,0.8s
MNK *i* P **P** **05 06 33.4 +0.3**
comp=N,19nm,0.8s
MNK *i* P **P** **05 06 33.4 +0.3**
comp=Z,24nm,0.8s,baz=27
MNK *i* pP **sP** **05 06 49.5 -0.6**
MNK *i* PP **PP** **05 08 57.4 +0.4**
MNK *i* PPP PPP 05 10 32.5
MNK *i* S **S** **05 15 14.9 +0.7**
MNK *i* sS sS 05 15 42.8 +7.9
MNK *i* SS **SS** **05 19 30.1 +2.8**
MNK *i* SSS SSS 05 22 37.1
MNK *i* LQ LQ 05 30 39.8
MNK *i* LR LR 05 33 58.5
MNK *i* LRM MLR 05 35 45.5
comp=Z,117nm,15.3s
MNK *i* LRM MLR 05 36 06.6
comp=N,117nm,21.1s
MNK *i* LRM MLR 05 36 09.1
comp=E,19nm,20.4s
PABE Paberze 65.61 336 P **P** **05 06 32.9 -0.8**
SUW Suwalki 67.16 336 *e*P **P** **05 06 43.5 -0.1**
SUW Suwalki 67.16 336 P **P** **05 06 43.5 -0.1**
SUW pmax pmax
comp=Z,24nm,0.9s
SUW Suwalki 67.16 336 P **P** **05 06 43.5 -0.1**
SUW Suwalki 67.16 336 *e*P **P** **05 06 43.5 -0.1**
GEYT Alibeck 67.95 304 P **P** **05 06 49.0 0.0**
comp=Z,12nm,0.7s,baz=336,slow=6.5,SNR=12
GEYT LR LR 05 39 20.9
comp=Z,225nm,18.4s,baz=15,slow=38
GEYT Alibeck 67.95 304 P **P** **05 06 48.9 0.0**
GYA0B ALIBECK ARRAY 67.95 304 P **P** **05 06 49.1 +0.2**
SADO Sadowa 68.08 43 LR LR 05 38 37.8
comp=Z,36nm,18.7s,baz=330,slow=38
AKASG Malin Array Be 68.54 330 P **P** **05 06 52.2 -0.2**
comp=Z,12nm,0.7s,baz=28,slow=6.2,SNR=37
AKASG pP **sP** **05 07 09.3 0.0**
comp=Z,6.3nm,0.4s,baz=43,slow=4.2,SNR=24
AKASG LR LR 05 40 30.0
comp=Z,36nm,18.6s,baz=27,slow=39
AKASG Malin Array Be 68.54 330 P **P** **05 06 52.0 -0.3**
AKASG IAmb IAmb 05 07 10.3
comp=Z,6.6nm,1.2s
AKBB Malin Array Si 68.54 330 P **P** **05 06 52.3 -0.1**
AKBB pmax pmax
comp=Z,12nm,0.7s
AKBB Malin Array Si 68.54 330 P **P** **05 06 52.3 -0.1**
TX31 Lajitas Ar. Si 68.55 69 P **P** **05 06 52.5 -0.5**
TX31 IAmb IAmb 05 07 12.5
comp=Z,14nm,1.0s
TX32 Lajitas Array 68.55 69 P **P** **05 06 54.8 +1.9**
TX32 IAmb IAmb 05 07 12.5
comp=Z,4.8nm,1.0s
TXAR Lajitas Array 68.55 69 P **P** **05 06 54.2 +1.3**
comp=Z,1.3nm,0.7s,baz=300,slow=4.2,SNR=20
TXAR pP **pwP** **05 07 12.5 +0.4**
comp=Z,2.0nm,0.7s,baz=302,slow=4.1,SNR=8.8
TXAR Lajitas Array 68.55 69 P **P** **05 06 53.7 +0.8**
HRA Herat 68.68 299 P **P** **05 06 53.6 -0.2**
KIV Kislovodsk 69.81 318 *e*P **P** **05 07 01.4 +0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,61nm,17.0s
KBZ Khabaz 69.92 318 P **P** **05 07 01.6 +0.6**
comp=Z,13nm,0.8s,baz=62,slow=3.0,SNR=31
KBZ LR LR 05 41 41.6
comp=Z,118nm,19.6s,baz=22,slow=39
KBZ Khabaz 69.92 318*ce*P **P** **05 07 02.0 +1.0**
KBZ pmax pmax
comp=Z,20nm,0.9s
LONY Lake Ozonia 69.97 40 P **P** **05 07 01.1 -0.3**
baz=328
EKA Eskdalemuir Ar 70.22 352 LR LR 05 38 31.3
comp=Z,16nm,18.1s,baz=360,slow=36
ZEI Tsey 70.31 317 *e*P **P** **05 07 03.2 -0.5**
ZEI pmax pmax
comp=Z,11nm,0.9s
ANN Anapa 71.06 322 *e*P **P** **05 07 04.6 -3.3**
ANN *e**PP **pP** **05 07 20.5 +0.5**
ANN *eS **S** **05 16 17.0 -3.3**
ANN pmax pmax
comp=Z,40nm,0.9s
SORM Soroca 71.09 330⇑ P **P** **05 07 08.0 -0.1**
SORM Soroca 71.09 330⇑ P **P** **05 07 08.0 -0.1**
AFI Afiamalu 71.16 154 LR LR 05 33 26.7
comp=Z,139nm,21.7s,baz=356,slow=32
KWP Kalwaria Pacla 71.29 334 *e*P **P** **05 07 10.5 +1.2**
KWP Kalwaria Pacla 71.29 334 P **P** **05 07 09.9 +0.6**
KWP Kalwaria Pacla 71.29 334 P **P** **05 07 09.9 +0.6**
OJC Ojcow 71.47 336 *e*P **P** **05 07 11.8 +1.5**
OJC Ojcow 71.47 336 P **P** **05 07 11.0 +0.6**
OJC pmax pmax
comp=Z,17nm,1.1s
OJC Ojcow 71.47 336 P **P** **05 07 11.0 +0.6**
OJC IAmb IAmb 05 07 12.3
comp=Z,17nm,1.1s
AKH Akhalkalaki 71.63 316⇑ P **P** **05 07 13.8 +2.1**
KSP Ksiaz 71.68 339 *e*P **P** **05 07 12.6 +1.0**
CLL Collm 71.91 341⇑ *i*P **P** **05 07 13.3 +0.4**
CLL *i* *PP **pP** **05 07 24.6 -0.4**
CLL *e* *SP **sP** **05 07 30.0 +0.3**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 71.91 341 P **P** **05 07 12.6 -0.4**
CLL IAmb IAmb 05 07 31.2
comp=Z,11nm,1.0s
CLL Collm 71.91 341⇑ *i*P **P** **05 07 13.3 +0.4**
comp=Z,16nm,1.2s
CLL *i* pP **pP** **05 07 24.6 -0.4**
CLL *es* P **sP** **05 07 30.0 +0.3**
CLL *e* PP **PP** **05 09 56.0 +3.7**
CLL *ep* PP 05 10 03.0
OSTC Ostas 71.96 339 *e*P **P** **05 07 13.9 +0.6**
OSTC *ex* x 05 07 26.2
CHVC Chvalec 71.97 339 *e*P **P** **05 07 13.7 +0.3**
UPC Upice 72.05 339 *e*P **P** **05 07 15.1 +1.2**
UPC Upice 72.05 339 *e*P **P** **05 07 15.1 +1.2**
O56A Blue Knob Stat 72.06 45 P **P** **05 07 14.3 +0.2**
baz=327
MTN Manton Dam 72.12 213 P **P** **05 07 14.8 +0.3**

DPC	**Dobruska-Polom**	**72.13 338**	*e*P		**P**	**05 07 14.1**	**-0.3**
DPC			*e*			05 07 26.7	
DPC	**Dobruska-Polom**	**72.13 338**	*e*P		**P**	**05 07 14.1**	**-0.3**
DPC			*e*pP		**pP**	**05 07 26.7**	**+0.3**
BRG	**Berggiesshubel**	**72.14 340**	*e*PKP		**P**	**05 07 15.2**	**+0.9**
BRG			Amp			05 07 18.3	
	comp=Z,5.0nm,1.0s						
BRG			*ex*		x	05 07 25.4	
BRG			Amp			05 07 32.1	
	comp=Z,4.8nm,0.9s						
BRG	**Berggiesshubel**	**72.14 340**	*e*P		**P**	**05 07 15.2**	**+0.9**
BRG			*e*			05 07 25.4	
BRG			pmax		pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**72.18 315**	LR		LR	05 44 27.0	
	comp=Z,78nm,18.8s,baz=12,slow=40						
GNI	**Garni**	**72.18 315**	*ce*P		**P**	**05 07 16.9**	**+1.9**
GNI			pmax		pmax		
	comp=Z,31nm,1.4s						
GNI	**Garni**	**72.18 315**	P		**P**	**05 07 15.8**	**+0.8**
UZH	**Uzhgorod**	**72.32 334**	*e*P		P	05 07 24.0	+8.6
UZH			*i*			05 07 30.5	
MORC	**Moravsky Berou**	**72.40 337**	⇑P		**P**	**05 07 15.1**	**-0.9**
MORC	**Moravsky Berou**	**72.40 337**	P		**P**	**05 07 15.4**	**-0.6**
MORC			pmax		pmax		
	comp=Z,11nm,1.1s						
MORC	**Moravsky Berou**	**72.40 337**	P		**P**	**05 07 15.4**	**-0.6**
MORC			IAmb		IAmb	05 07 18.2	
	comp=Z,11nm,1.1s						
MORC	**Moravsky Berou**	**72.40 337**	*e*P		**P**	**05 07 16.4**	**+0.4**
BUR08	**Bucovina Ar. S**	**72.44 332**	P		**P**	**05 07 16.2**	**-0.1**
BUR08			IAmb		IAmb	05 07 17.8	
	comp=Z,7.9nm,0.8s						
BURAR	**Bucovina Array**	**72.46 332**	⇑P		**P**	**05 07 16.9**	**+0.4**
BURAR	**Bucovina Array**	**72.46 332**	⇑P		**P**	**05 07 16.9**	**+0.4**
BURAR	**Bucovina Array**	**72.46 332**	P		**P**	**05 07 16.5**	**0.0**
BURAR			IAmb		IAmb	05 07 17.8	
	comp=Z,11nm,0.7s						
TRPA	**Tarpa**	**72.72 334**	⇑P		**P**	**05 07 19.1**	**+1.3**
PRU	**Pruhonice**	**72.85 339**	*e*P		**P**	**05 07 19.4**	**+0.8**
PRU	**Pruhonice**	**72.85 339**	*e*P		**P**	**05 07 19.4**	**+0.8**
NKC	**Novy Kostel**	**73.04 341**	*e*P		**P**	**05 07 20.3**	**+0.6**
NKC	**Novy Kostel**	**73.04 341**	*e*P		**P**	**05 07 20.3**	**+0.6**
VRAC	**Vranov**	**73.06 338**	LR		LR	05 44 21.2	
	comp=Z,40nm,18.9s,baz=26,slow=40						
VRAC	**Vranov**	**73.06 338**	*e*P		**P**	**05 07 20.3**	**+0.5**
TESR	**Tescani**	**73.06 330**	⇑P		**P**	**05 07 19.5**	**-0.4**
JAVC	**Velka Javorina**	**73.23 337**	*e*P		**P**	**05 07 22.6**	**+1.6**
KRC	**Moravsky**	**73.33 338**	*e*P		**P**	**05 07 22.2**	**+0.7**
PSZ	**Piszkesteto**	**73.58 335**	P		**P**	**05 07 23.1**	**0.0**
PSZ			pmax		pmax		
	comp=Z,7.0nm,0.9s						
PSZ	**Piszkesteto**	**73.58 335**	P		**P**	**05 07 23.1**	**0.0**
PSZ			IAmb		IAmb	05 07 25.4	
	comp=Z,6.9nm,0.9s						
VRI	**Vrincioaia**	**73.62 330**	⇑P		**P**	**05 07 24.4**	**+1.2**
VRI	**Vrincioaia**	**73.62 330**	⇑P		**P**	**05 07 24.4**	**+1.2**
TKL	**Tuckaleechee C**	**73.62 51**	LR		LR	05 42 03.4	
	comp=Z,70nm,18.2s,baz=340,slow=38						
COVR	**Voineasa-Covas**	**73.79 330**	⇓P		**P**	**05 07 25.2**	**+0.9**
KHC	**Kasperske Hory**	**73.86 340**	*i* P		**P**	**05 07 25.5**	**+0.9**
KHC			pmax		pmax		
	comp=Z,11nm,1.1s						
KHC	**Kasperske Hory**	**73.86 340**	*e*P		**P**	**05 07 25.3**	**+0.6**
KHC			*ep*P		**PcP**	**05 07 38.6**	**-1.3**
KHC	**Kasperske Hory**	**73.86 340**	P		**P**	**05 07 25.3**	**+0.6**
KHC			IAmb		IAmb	05 07 27.0	
	comp=Z,11nm,1.2s						
DOPR	**Dopca**	**73.92 331**	⇑P		**P**	**05 07 25.6**	**+0.6**
CKRC	**Cesky Krumlov**	**74.01 339**	*e*P		**P**	**05 07 25.2**	**-0.3**
CKRC			*ex*		x	05 07 31.1	
TPGR	**Topolog**	**74.02 328**	⇑P		**P**	**05 07 23.6**	**-2.0**
GERES	**GERESS Array B**	**74.11 340**	P		**P**	**05 07 26.5**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=18,slow=5.9,SNR=17						
GERES			LR		LR	05 44 41.9	
	comp=Z,45nm,18.7s,baz=58,slow=40						
MLR	**Muntele Rosu**	**74.19 330**	⇑P		**P**	**05 07 27.3**	**+0.6**
MLR	**Muntele Rosu**	**74.19 330**	LR		LR	05 44 55.9	
	comp=Z,86nm,18.3s,baz=154,slow=40						
MLR	**Muntele Rosu**	**74.19 330**	⇑P		**P**	**05 07 27.3**	**+0.6**
MLR	**Muntele Rosu**	**74.19 330**	P		**P**	**05 07 26.1**	**-0.6**
MLR			IAmb		IAmb	05 07 28.8	
	comp=Z,8.0nm,0.7s						
HARR	**Harsova**	**74.32 329**	⇑P		**P**	**05 07 24.9**	**-2.4**
HARR	**Harsova**	**74.32 329**	⇑P		**P**	**05 07 24.9**	**-2.4**
VOIR		**74.50 331**	⇑P		**P**	**05 07 27.9**	**-0.5**
VOIR		**74.50 331**	⇑P		**P**	**05 07 27.9**	**-0.5**
CONA	**Conrad Observa**	**74.52 338**	*e*P		**P**	**05 07 30.1**	**+1.6**
	comp=Z,7.5nm,1.1s						
GURO	**Guroymak-BITLI**	**74.65 316**	P		**P**	**05 07 29.9**	**+0.4**
GURO			IAmb		IAmb	05 07 32.5	
	comp=Z,6.2nm,1.0s						
SIRR	**Siria**	**74.67 333**	⇑P		**P**	**05 07 29.3**	**-0.1**
MOA	**Molln**	**74.94 339**	*e*P		**P**	**05 07 31.9**	**+1.0**
	comp=Z,3.3nm,1.0s						
GZR	**Gura Zlata**	**75.17 332**	⇑P		**P**	**05 07 29.9**	**-2.4**
GZR	**Gura Zlata**	**75.17 332**	⇑P		**P**	**05 07 29.9**	**-2.4**
ARSA	**Arzberg**	**75.23 338**	*e*P		**P**	**05 07 33.7**	**+1.1**
	comp=Z,5.2nm,1.1s						
BZS	**Buzias**	**75.28 333**	⇑P		**P**	**05 07 31.0**	**-1.9**
BZS	**Buzias**	**75.28 333**	⇑P		**P**	**05 07 31.0**	**-1.9**
TOKA	**Tokat**	**75.29 321**	P		**P**	**05 07 33.8**	**+0.7**
TOKA			IAmb		IAmb	05 07 35.3	
	comp=Z,12nm,1.0s						
CTA	**Charters Tower**	**75.41 196**	P		**P**	**05 07 34.6**	**+0.9**
	comp=Z,5.7nm,0.8s,baz=29,slow=4.7,SNR=6.7						
HERR	**Herculane**	**75.75 332**	⇑P		**P**	**05 07 31.3**	**-4.2**
KBA	**Koelnbreinsper**	**75.87 339**	*e*P		**P**	**05 07 37.9**	**+1.5**
	comp=Z,12nm,0.8s						
SOKA	**Soboth**	**75.89 338**	*e*P		**P**	**05 07 37.4**	**+1.0**
	comp=Z,5.3nm,1.0s						
ECH	**Echery**	**75.93 344**	P		**P**	**05 07 36.6**	**0.0**
ECH			pmax		pmax		
	comp=Z,13nm,1.3s						
ECH	**Echery**	**75.93 344**	P		**P**	**05 07 36.6**	**0.0**
ECH			IAmb		IAmb	05 07 38.3	
	comp=Z,12nm,1.3s						
WATA	**Walderalm**	**75.98 340**	*e*P		**P**	**05 07 38.5**	**+1.5**
	comp=Z,12nm,1.2s						
RETA	**Reute**	**75.99 341**	*e*P		**P**	**05 07 37.8**	**+0.8**
	comp=Z,6.5nm,1.5s						
DZM	**Mont Dzumac**	**76.03 177**	LR		LR	05 37 40.1	
	comp=Z,65nm,20.9s,baz=141,slow=33						
WTTA	**Wattenberg**	**76.04 340**	*e*P		**P**	**05 07 37.6**	**+0.3**
	comp=Z,14nm,1.5s						
MOTA	**Moosalm**	**76.06 341**	*e*P		**P**	**05 07 38.7**	**+1.2**
	comp=Z,10nm,1.1s						
OBKA	**Obir**	**76.15 338**	*e*P		**P**	**05 07 39.1**	**+1.1**
	comp=Z,11nm,0.9s						
SQTA	**Sankt Quirin**	**76.16 341**	*e*P		**P**	**05 07 39.3**	**+1.3**
	comp=Z,18nm,1.2s						
MYKA	**Terra Mystica**	**76.23 339**	*e*P		**P**	**05 07 40.4**	**+2.0**
	comp=Z,5.0nm,0.9s						
ABTA	**Abfaltersbach**	**76.36 340**	*e*P		**P**	**05 07 40.2**	**+1.1**
	comp=Z,11nm,1.1s						
FETA	**Feichten**	**76.44 341**	*e*P		**P**	**05 07 40.2**	**+0.6**
	comp=Z,8.9nm,1.1s						
BNN	**Bunyan**	**76.81 320**	P		**P**	**05 07 41.3**	**-0.5**
DAVOX	**Davos/Dischmat**	**76.84 341**	LR		LR	05 45 42.9	
	comp=Z,39nm,18.4s,baz=12,slow=39						
BR131	**Keskin Array S**	**76.86 322**	P		**P**	**05 07 41.7**	**-0.4**
BR131	**Keskin Array S**	**76.86 322**	P		**P**	**05 07 41.7**	**-0.4**
BR131			IAmb		IAmb	05 07 43.6	
	comp=Z,8.4nm,1.0s						
BRTR	**Keskin Array B**	**76.86 322**	P		**P**	**05 07 42.5**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=54,slow=5.0,SNR=11						
BRTR			LR		LR	05 44 06.2	
	comp=Z,43nm,19.7s,baz=41,slow=38						
BRTR	**Keskin Array B**	**76.86 322**	P		**P**	**05 07 42.0**	**-0.1**
TUE	**Stuetta**	**77.23 342**	P		**P**	**05 07 44.4**	**+0.2**
TUE			IAmb		IAmb	05 07 46.4	
	comp=Z,8.3nm,0.9s						
VTS	**Vitosha**	**77.60 331**	P		**P**	**05 07 45.2**	**-1.0**
VTS			pmax		pmax		
	comp=Z,5.0nm,0.7s						
VTS	**Vitosha**	**77.60 331**	P		**P**	**05 07 45.2**	**-1.0**
VTS			IAmb		IAmb	05 07 47.4	
	comp=Z,5.3nm,0.7s						
WB0	**Warramunga Arr**	**77.71 208**	P		**P**	**05 07 46.3**	**-0.4**
WB0			IAmb		IAmb	05 07 47.8	
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**77.88 208**	*ce*P		**P**	**05 07 48.6**	**+0.9**
WRAB			pmax		pmax		
	comp=Z,10.0nm,2.5s						
WB2	**Warramunga Arr**	**77.89 208**	P		**P**	**05 07 47.6**	**-0.1**
WB2			IAmb		IAmb	05 07 48.9	
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**77.89 208**	P		**P**	**05 07 48.3**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=20,slow=6.0,SNR=22						
WRA	**Warramunga Arr**	**77.89 208**	P		**P**	**05 07 47.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**78.85 216**	P		**P**	**05 07 54.1**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=5.5,slow=4.5,SNR=11						
FITZ	**Fitzroy Crossi**	**78.85 216**	P		**P**	**05 07 52.5**	**-0.5**
PALK	**Pallekele**	**79.70 268**	LR		LR	05 45 39.4	
	comp=Z,38nm,21.7s,baz=177,slow=38						
NRCA	**Norcia**	**79.96 338**	P		**P**	**05 07 58.2**	**-0.9**
ASAR	**Alice Springs**	**81.55 207**	P		**P**	**05 08 08.5**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=16,slow=5.3,SNR=26						
ASAR			pP		**pwP**	**05 08 25.9**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=11,slow=5.0,SNR=5.3						
ASAR	**Alice Springs**	**81.55 207**	P		**P**	**05 08 08.3**	**+0.8**
RAR	**Rarotonga**	**81.62 145**	LR		LR	05 37 29.1	
	comp=Z,50nm,21.7s,baz=234,slow=30						
PPT	**Papeete**	**82.13 135**	LR		LR	05 34 32.6	
	comp=Z,64nm,21.1s,baz=23,slow=28						
IDI	**Anoyia**	**83.84 327**	LR		LR	05 48 57.4	
	comp=Z,19nm,20.3s,baz=53,slow=38						
EIL	**Elat**	**85.24 317**	LR		LR	05 53 34.5	
	comp=Z,58nm,18.3s,baz=44,slow=41						
ESDC	**Sonseca Array**	**85.81 350**	P		**P**	**05 08 29.4**	**0.0**
	comp=Z,2.3nm,0.9s,baz=356,slow=5.0,SNR=14						
ESDC	**Sonseca Array**	**85.81 350**	P		**P**	**05 08 29.1**	**-0.3**
ESDC			IAmb		IAmb	05 08 31.0	
	comp=Z,3.2nm,1.1s						
RAYN	**Ar Rayn**	**85.90 305**	P		**P**	**05 08 29.4**	**-0.7**
RAYN			pmax		pmax		
	comp=Z,5.0nm,0.9s						
RAYN	**Ar Rayn**	**85.90 305**	P		**P**	**05 08 29.4**	**-0.7**
RAYN			IAmb		IAmb	05 08 30.7	
	comp=Z,5.2nm,0.8s						
STKA	**Stephens Creek**	**87.74 198**	P		**P**	**05 08 38.7**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=344,slow=8.7,SNR=8.1						
SJG	**San Juan**	**96.57 46**	LR		LR	05 56 04.1	
	comp=Z,12nm,18.3s,baz=302,slow=37						
LPAZ	**La Paz**	**125.36 67**	PKP		**PKiKP**	**05 14 52.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=352,slow=5.9,SNR=3.9						
PLCA	**Paso Flores**	**142.24 92**	PKP		**PKiKP**	**05 15 23.5**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=248,slow=5.4,SNR=5.3						

MDD ***22*** *05:17:35.2±0.4, 35.71N×3.72W, h0km, mb_Lg2.1/11, Error ellipse: s-maj=3.3km s-min=2.7km az=22.0*
CNRM ***22*** *05:17:36.4, 35.78N×3.60W, h66km, ml2.7*

ISC 22 05:17:34.4±1.2, 35.73N±0.02×3.70W±0.03, h6km±10km, n20, σ0.80/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EALB	**Alboran**	**0.58**	**68**	Pg		**Pb**	**05 17 47.1**	**+0.1**
EALB				Sg		**Sb**	**05 17 56.1**	**+0.6**
EALB				*i* Vmb_Lg			05 17 57.4	
EMEL	**Melilla**	**0.74**	**125**	Pg		**Pg**	**05 17 48.3**	**-0.4**
EMEL				Sg		**Sg**	**05 17 57.8**	**-0.5**
ELGU	**Los Guajares,**	**1.14**	**3**	Pg		**Pg**	**05 17 56.3**	**0.0**
ELGU				Sg		**Sb**	**05 18 11.6**	**-0.2**
ELGU				*i* Vmb_Lg			05 18 15.3	
EMAL	**Malaga-Limoner**	**1.19**	**331**	P		**Pg**	**05 17 56.9**	**-0.3**
EMAL				S		**Sn**	**05 18 13.9**	**-0.2**
EMIJ	**Mijas**	**1.21**	**314**	Pg		**Pb**	**05 17 57.2**	**-0.4**
EMIJ				Sg		**Sg**	**05 18 13.5**	**+0.3**
EMIJ				*i* Vmb_Lg			05 18 14.9	
EBER	**Berja**	**1.34**	**29**	Pn		**Pg**	**05 17 59.8**	**-0.4**
EBER				Pg		**Pb**	**05 18 01.5**	**+1.4**
EBER				Sn		**Sb**	**05 18 16.7**	**-0.9**
EBER				Sg		**Sn**	**05 18 18.0**	**-0.1**
EBER				*i* Vmb_Lg			05 18 19.5	
EGOR	**Sierra Gorda,**	**1.42**	**347**	Pn		**Pn**	**05 18 01.0**	**+0.1**
EGOR				Sn		**Sb**	**05 18 19.3**	**-0.6**
EGOR				*i* Vmb_Lg			05 18 30.0	
EQUE	**Quentar**	**1.49**	**8**	Pn		**Pg**	**05 18 02.8**	**-0.2**
EQUE				Sn		**Sb**	**05 18 21.5**	**-0.3**
EQUE				*i* Vmb_Lg			05 18 30.2	
ESPR	**Espera**	**2.08**	**304**	Pn		**Pn**	**05 18 10.5**	**+0.6**
ESPR				Sn		**Sn**	**05 18 35.7**	**-0.4**
ESPR				*i* Vmb_Lg			05 18 48.6	
LCRM	**LCR**	**2.25**	**205**	P		**Pn**	**05 18 14.1**	**+1.9**
LCRM				S		**Sb**	**05 18 44.6**	**+1.0**
EADA	**Adamuz**	**2.54**	**344**	Pn		**Pn**	**05 18 17.9**	**+1.7**
EADA				Pg		**Pb**	**05 18 21.3**	**+1.0**
EADA				Sn		**Sn**	**05 18 47.8**	**+0.5**
EADA				Sg		**Sg**	**05 18 55.6**	**-0.2**
EADA				*i* Vmb_Lg			05 18 56.0	
ECAB	**El Cabril**	**2.72**	**330**	Pn		**Pn**	**05 18 19.4**	**+0.8**
ECAB				Sn		**Sn**	**05 18 51.0**	**-0.9**
ECAB				Sg		**Sg**	**05 19 00.8**	**-0.9**
ECAB				*i* Vmb_Lg			05 19 01.1	
MD31	**MD31**	**2.98**	**197**	P		**Pn**	**05 18 22.4**	**0.0**
MD31				S		**Sn**	**05 18 58.7**	**+0.2**
MDT	**Midelt**	**3.00**	**195**	P		**Pn**	**05 18 23.2**	**+0.6**
MDT				S		**Sn**	**05 18 58.7**	**-0.3**
TDRA	**Tendrara**	**3.02**	**152**	P		**Pn**	**05 18 22.6**	**-0.3**
TDRA				S		**Sn**	**05 18 57.6**	**-1.8**
EMIN	**Mina Concepcio**	**3.14**	**311**	Pn		**Pn**	**05 18 25.0**	**+0.6**
EMIN				Sn		**Sn**	**05 19 01.2**	**-0.9**
EGRO	**El Granado**	**3.54**	**302**	Pn		**Pn**	**05 18 30.2**	**+0.3**
EGRO				Sn		**Sn**	**05 19 10.8**	**-1.2**
PVAQ	**Vaqueiros**	**3.64**	**299**	P		**Pn**	**05 18 31.4**	**+0.1**
PVAQ				S		**Sn**	**05 19 13.2**	**-1.3**
PAB	**San Pablo**	**3.85**	**353**	Pn		**Pn**	**05 18 35.0**	**+0.8**
PAB				Sn		**Sn**	**05 19 19.3**	**-0.5**
EBAD	**Badajoz**	**4.01**	**320**	Pn		**Pn**	**05 18 36.9**	**+0.5**
EBAD				Sn		**Sn**	**05 19 23.1**	**-0.8**
EBAD				*i* Vmb_Lg			05 19 26.9	

IDC ***22*** *05:33:50.8±8.4, 37.24N×71.55E, h128km±59km, mb3.4/3, mb1 3.3/8, mb1mx3.0/55, mbtmp3.7/8, MS3.4/2, Ms1 3.4/2, ms1mx2.4/67, Error ellipse: s-maj=74.6km s-min=48.1km az=166.0*
NNC ***22*** *05:33:54.6±15.0, 37.69N×71.52E, h145km±233km, mb2.7, mpv3.3, Error ellipse: s-maj=147.8km s-min=76.4km az=5.0*

ISC 22 05:33:55.2±2.1, 37.7N±0.2×71.5E±0.1, h150km, n15, σ1.276/16, mb3.6/3, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AAK	**Ala-Archa**	**5.47**	**24**	P		**Pn**	**05 35 15.3**	**+0.4**
	1.6nm,0.3s,baz=216,slow=7.1,SNR=8.3							
AAK				S		**Sn**	**05 36 21.5**	**+4.3**
	1.3nm,0.3s,baz=339,slow=23,SNR=12							
KK08	**Karatay Array**	**5.50**	**352**	⇑P		**Pn**	**05 35 14.6**	**-0.7**
	1.4nm,0.4s,baz=177,slow=13							
KK08				⇓S		**Sn**	**05 36 18.1**	**+0.2**
	2.6nm,0.5s,baz=177,slow=23							
TKM2	**Tokmak 2**	**6.11**	**29**	⇓P		**Pn**	**05 35 23.2**	**-0.3**
	2.0nm,0.5s							
TKM2				⇓S		**Sn**	**05 36 28.7**	**-3.8**
	3.3nm,0.9s							
MKAR	**Makanchi Array**	**12.11**	**38**	P		**Pn**	**05 36 42.3**	**-0.5**
	baz=229,slow=13,SNR=2.9							
KURBB	**Kurchatov Arra**	**13.89**	**19**	P		**P**	**05 37 08.8**	**-0.1**
	0.1nm,0.3s,baz=206,slow=10,SNR=7.9							
AB31	**Akbulak array**	**14.31**	**328**	P		**Pn**	**05 37 08.9**	**-2.0**
	0.2nm,0.3s,baz=159,slow=10,SNR=22							
AKTO	**Aktyubinsk**	**16.02**	**327**	P		**P**	**05 37 32.6**	**+0.1**
	0.2nm,0.3s,baz=123,slow=13,SNR=6.4							
AKTO	**Aktyubinsk**	**16.02**	**327**	⇓P		**Pn**	**05 37 32.0**	**0.0**
	1.5nm,0.7s							
WSAR	**Wadi Sarin**	**18.14**	**221**	LR		LR	05 46 45.3	
	comp=Z,60nm,21.4s,baz=62,slow=43							
ZALV	**Zalesovo Beam**	**18.69**	**25**	P		**P**	**05 38 02.5**	**+0.8**
	0.3nm,0.3s,baz=217,slow=10,SNR=4.4							
FINES	**FINESS Array B**	**36.78**	**325**	P		**P**	**05 40 48.1**	**+0.1**
	0.7nm,0.6s,baz=98,slow=10.0,SNR=1.7							
ARCES	**ARCESS Array B**	**40.25**	**337**	P		**P**	**05 41 18.1**	**+1.2**
	5.8nm,1.2s,baz=90,slow=7.8,SNR=5.4							
NB2	**NORSAR Subarra**	**43.73**	**322**	P		**P**	**05 41 45.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**43.73**	**322**	P		**P**	**05 41 45.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.7,SNR=3.7							
MBAR	**Mbarara**	**53.53**	**234**	LR		LR	06 07 14.7	
	comp=Z,63nm,18.1s,baz=34,slow=38							

IDC ***22*** *05:34:19.9±0.5, 36.79N×140.51E, h0km, mb4.5/33, mb1 4.6/37, mb1mx4.5/56, mbtmp4.4/37, ML3.8/5, MS3.5/36, Ms1 3.5/36, ms1mx3.3/91, Error ellipse: s-maj=12.4km s-min=10.6km az=110.0*
BJI ***22*** *05:34:20.0±0.0, 36.71N×140.79E, h25km, mb4.5/45, mB4.8/22, Ms4.0/20, Ms7 3.6/18*
MOS ***22*** *05:34:20.9±0.9, 36.78N×140.55E, h19km, mb4.9/23, Error ellipse: s-maj=9.0km s-min=5.6km az=100.4*
NIED ***22*** *05:34:21.9, 36.78N×140.57E, h7km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=4.65; Mθθ1.53; Mφφ3.12; Mrθ-1.15; Mrφ-1.57; Mθφ2.36; Fault plane solution: M₀5.09000×10¹⁵ NP1: φs151.00000°, δ60.00000°, λ-88.00000°. NP2: φs326.00000°, δ30.00000°, λ-94.00000°.*
JMA ***22*** *05:34:21.8, 36.78N×140.57E, h7km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs151.00000°, δ49.00000°, λ-81.00000°. NP2: φs317.00000°, δ42.00000°, λ-101.00000°. Principal axes: T Plg4.0000°, Azm234.0000°; N Plg7.0000°, Azm324.0000°; P Plg82.0000°, Azm115.0000°;*
JMA Felt IV J1.
NEIC ***22*** *05:34:22.0±2.5, 36.82N±0.05×140.61E±0.08, h10km±1km, mb4.8/195 Error ellipse: s-maj=11.3km s-min=8.5km az=112.0*

ISC 22 05:34:22.4±0.6, 36.79N±0.02×140.55E±0.03, h16km±3km, n427, σ1.925/346, mb4.8/156, MS3.6/39, 21C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JHO	**Hitachi**	**0.18**	**175**	⇑P		**Pg**	**05 34 25.3**	**-1.6**
JHO				S		**Sg**	**05 34 27.7**	**-2.2**
JFFD	**Fukushimafurud**	**0.30**	**2**	⇑P		**Pb**	**05 34 28.0**	**-1.3**
JFFD				*e*S		**Sg**	**05 34 32.2**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.37**	**33**	⇑P		**Pb**	**05 34 29.1**	**-1.4**
ONAJ				S		**Sg**	**05 34 34.3**	**-0.9**
JSB	**Shiboa**	**0.53**	**289**	⇑P		**Pb**	**05 34 33.2**	**-0.2**
JSB				S		**Sb**	**05 34 41.0**	**+0.2**
JFK	**Kawauchi**	**0.63**	**24**	⇑P		**Pb**	**05 34 33.7**	**-1.3**
JFK				S		**Sg**	**05 34 42.2**	**-1.0**
JYT	**Yasato**	**0.63**	**207**	⇑P		**Pb**	**05 34 33.8**	**-1.2**
JYT				S		**Sb**	**05 34 42.3**	**-1.3**
JYT	**Yasato**	**0.63**	**207**	Pg		**Pb**	**05 34 33.9**	**-1.2**
JFT	**Otama**	**0.74**	**347**	⇑P		**Pb**	**05 34 36.4**	**-0.5**
JFT				S		**Sb**	**05 34 46.5**	**-0.3**
JFY	**Yanaizu**	**0.91**	**312**	P		**Pb**	**05 34 39.6**	**-0.2**
JFY				S		**Sb**	**05 34 51.9**	**+0.2**
JAG	**Ashikaga**	**0.96**	**248**	⇑P		**Pg**	**05 34 39.4**	**-1.5**
JAG				S		**Sb**	**05 34 52.8**	**-0.1**
JMM	**Marumori**	**1.09**	**10**	Pg		**Pb**	**05 34 41.9**	**-0.9**
MJAR	**Matsushiro Arr**	**1.90**	**263**	Pn		**Pn**	**05 34 54.7**	**+0.6**
	30nm,0.3s,baz=83,slow=13,SNR=742							
MJAR				Sn		**Sb**	**05 35 20.4**	**+0.4**
	50nm,0.3s,baz=20,slow=9.5,SNR=4.6							
MJAR				LR		LR	05 35 45.4	
	comp=Z,925nm,20.2s,baz=90,slow=46							
MJAR	**Matsushiro Arr**	**1.90**	**263**	P		**Pb**	**05 34 55.1**	**-1.5**
MJAR	**Matsushiro Arr**	**1.90**	**263**			**Pb**	**05 34 55.1**	**-1.5**
MAJO	**Matsushiro**	**1.90**	**263**	P		**Pb**	**05 34 55.4**	**-1.3**
MAJO	**Matsushiro**	**1.90**	**263**			**Pb**	**05 34 55.4**	**-1.3**
MJB9	**Matsu-Tunnel**	**1.90**	**263**			**Pb**	**05 34 55.3**	**-1.4**
JSD	**Sado**	**2.21**	**305**			**Pn**	**05 34 59.1**	**+0.8**
JGF	**Kuroka**	**2.84**	**246**			**Pn**	**05 35 09.0**	**+1.9**
INU	**Inuyama**	**3.20**	**244**			**Pn**	**05 35 13.9**	**+1.9**
JHJ	**Hachijo jima 2**	**3.72**	**190**	Pn		**Pn**	**05 35 19.1**	**-0.1**
	69nm,0.3s,baz=266,slow=4.9,SNR=12							
JHJ				Sn		**Sn**	**05 36 04.5**	**+1.9**
	100nm,0.3s,baz=253,slow=23,SNR=6.4							
JHJ				LR		LR	05 36 25.4	
	comp=Z,295nm,21.0s,baz=74,slow=34							
JHJ2	**Mitsune**	**3.72**	**190**	Pn		**Pn**	**05 35 19.1**	**0.0**
JTM	**Tennabayashi**	**4.01**	**6**			**Pn**	**05 35 25.5**	**+2.4**
ERM	**Erimo**	**5.59**	**20**	*ce*P		**Pn**	**05 35 46.6**	**+1.8**

ZEA Zeya 19.30 336 *e*P **Pn 05 38 53.0 +5.5**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=Z,200nm,19.0s
BJI Beijing 19.36 287 P **P 05 38 45.6 -1.5**
BJI pmax pmax
comp=Z,2.0nm,0.6s
XLT XiLinHaoTe 19.91 298 *e*P **P 05 38 51.8 -1.5**
XLT S **S 05 42 31.5 -5.3**
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,100nm,4.3s
XLT LR LR
comp=Z,34nm,13.6s
XLT LR LR
comp=Z,190nm,10.5s
XLT LR LR
comp=Z,190nm,16.3s
PETK Petropavlovsk- 20.25 31 P Pn 05 38 57.3 -1.4
comp=Z,10nm,1.1s,baz=218,slow=6.1,SNR=4.0
PETK LR LR 05 46 21.2
comp=Z,123nm,20.2s,baz=219,slow=36
HNS HongShan 20.61 279 ⇑P **P 05 39 00.3 -0.4**
HNS *e*S **S 05 42 46.8 -3.7**
HNS pmax pmax
comp=Z,21nm,1.0s
HNS LR LR
comp=Z,420nm,16.5s
HNS LR LR
comp=Z,410nm,16.9s
HNS LR LR
comp=Z,190nm,12.9s
WHN Wuhan 22.64 262 ⇓P **P 05 39 20.8 -1.9**
HHC Hu-ho-hao-te 22.89 289 *e*P **P 05 39 24.3 -1.1**
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,90nm,4.8s
MA2 Magadan 23.74 13 P **P 05 39 34.2 +0.7**
comp=Z,14nm,0.7s,baz=198,slow=9.3,SNR=9.5
MA2 LR LR 05 49 23.6
comp=Z,80nm,18.5s,baz=166,slow=38
MA2 Magadan 23.74 13 P **P 05 39 33.5 0.0**
MA2 IAmb IAmb 05 39 37.9
comp=Z,28nm,0.9s
XAN Xi'an 25.86 273 P **P 05 39 54.4 +1.1**
XAN pP sP 05 40 02.3 +1.8
XAN pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 26.16 348 LR LR 05 50 14.0
comp=Z,120nm,18.8s,baz=98,slow=36
YAK Yakutsk 26.16 348 *e*P **P 05 39 55.2 -0.4**
YAK *e**PP **sP 05 40 06.3 +3.4**
YAK *e* 05 43 21.4
YAK *e*S **S 05 44 24.6 -1.8**
YAK *e*SS **SnSn 05 45 26.9 +1.7**
YAK *e*SSS SSS 05 45 47.4
YAK *e* 05 50 46.9
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,23nm,2.5s
YAK pmax pmax
comp=E,36nm,2.6s
YAK smax smax
comp=N,51nm,2.2s
YAK smax smax
comp=E,32nm,2.3s
ENH Enshi 26.62 265 P **P 05 40 00.7 +0.6**
ENH IAmb IAmb 05 40 03.1
comp=Z,23nm,1.1s
ULN Ulaanbaatar 26.92 305 *ce*P **P 05 40 02.9 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 26.92 305 P **P 05 40 02.6 -0.2**
SEY Seymchan 27.16 12 P **P 05 40 04.1 -0.5**
comp=Z,11nm,1.1s,baz=199,slow=8.3,SNR=15
SEY LR LR 05 51 24.7
comp=Z,110nm,19.7s,baz=102,slow=38
SEY Seymchan 27.16 12 *i* P **P 05 40 04.2 -0.4**
SONM Songino Array 27.35 305 P **P 05 40 05.8 -0.9**
comp=Z,7.9nm,0.9s,baz=108,slow=7.9,SNR=27
SONM ScP **ScP 05 47 05.9 +0.6**
comp=Z,0.4nm,0.8s,baz=349,slow=0.8,SNR=3.7
SONM Songino Array 27.35 305 P **P 05 40 06.5 -0.2**
BOD Bodaibo 27.37 329 *e*P **P 05 40 06.1 -0.4**
BOD pmax pmax
comp=Z,7.0nm,1.3s
SHEM Shemya Is, Ala 28.33 45 LR LR 05 49 19.1
comp=Z,65nm,20.4s,baz=274,slow=32
H11N2 WAKE ISLAND Hy 28.63 119 T T 06 10 04.7
baz=312,slow=75,SNR=1553
H11N1 WAKE ISLAND Hy 28.64 119 T T 06 10 05.0
baz=312,slow=75,SNR=1517
H11N3 WAKE ISLAND Hy 28.64 119 T T 06 10 05.8
baz=312,slow=75,SNR=1446
H11S1 WAKE ISLAND Hy 29.32 121 T T 06 10 55.2
baz=314,slow=76,SNR=3418
H11S3 WAKE ISLAND Hy 29.32 121 T T 06 10 55.8
baz=314,slow=76,SNR=2479
H11S2 WAKE ISLAND Hy 29.33 121 T T 06 10 56.4
baz=314,slow=76,SNR=1789
LZH Lanzhou 29.43 280 *e*P **P 05 40 23.3 -2.0**
LZH pmax pmax
comp=Z,14nm,1.5s
LZH LR LR
comp=Z,270nm,13.0s
LZH LR LR
comp=Z,210nm,14.6s
LZH LR LR
comp=Z,250nm,14.6s
GYA Guiyang 30.50 260 ⇓P **P 05 40 38.3 +3.5**
GYA pmax pmax
comp=Z,18nm,0.9s
GTA Gaotai 31.97 287 *e*P **P 05 40 49.3 +1.6**
GTA pP sP 05 40 56.8 +1.8
GTA sP pP 05 41 01.3 +8.4
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.7s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,290nm,14.9s
GTA LR LR
comp=Z,96nm,17.1s
KMI Kunming 34.24 261 ⇑P **P 05 41 11.0 +3.2**
KMI pmax pmax
comp=Z,20nm,1.2s
PZH PanZhiHua 34.39 264 P **P 05 41 10.8 +1.9**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.8s
BILL Bilibino 34.45 17 *e*P **P 05 41 09.0 +0.1**
BILL *e* 05 42 24.7
BILL *e*PPP PPP 05 42 38.9
BILL pmax pmax
comp=Z,15nm,1.3s
BILL MLR MLR
comp=Z,61nm,21.0s
BILL Bilibino 34.45 17 P **P 05 41 08.6 -0.3**
BILL IAmb IAmb 05 41 10.3
comp=Z,9.3nm,0.9s
TIXI Tiksi 35.45 354 P **P 05 41 17.1 -0.2**
comp=Z,2.4nm,0.6s,baz=270,slow=22,SNR=8.4
TIXI LR LR 05 55 13.3
comp=Z,63nm,20.5s,baz=190,slow=35
TIXI Tiksi 35.45 354 *ce*P **P 05 41 17.2 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 35.45 354 P **P 05 41 16.2 -1.2**
GOMU GeErMu 36.50 283 P **P 05 41 27.9 +0.6**
GOMU pP sP 05 41 31.1 -3.5
GOMU sP pP 05 41 34.8 +2.3
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,58nm,4.4s
GOMU LR LR
comp=Z,80nm,5.6s
GOMU LR LR
comp=Z,39nm,5.5s
GOMU LR LR
comp=Z,90nm,6.0s
DLV T Lat 37.97 238 P **P 05 41 40.9 +1.2**
DLV IAmb IAmb 05 41 43.3
comp=Z,20nm,1.1s
WMQ Urumqi 40.33 297 *e*P **P 05 42 00.8 +1.7**
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ LR LR
comp=Z,71nm,21.3s
CMAR Chiang Mai Arr 40.77 255 P **P 05 42 03.0 +0.2**
comp=Z,1.3nm,0.3s,baz=114,slow=26,SNR=1.7
CMAR PcP **PcP 05 44 05.5 +1.5**
comp=Z,0.9nm,0.3s,baz=25,slow=3.1,SNR=6.1
CMAR LR LR 06 00 07.3
comp=Z,60nm,18.6s,baz=55,slow=38
TNA Tin City 41.40 30 P **P 05 42 07.9 +0.5**
baz=252
ZAA0 Zalesovo Array 41.57 313 P **P 05 42 08.3 -0.7**
ZALV Zalesovo Beam 41.57 313 P **P 05 42 08.4 -0.6**
comp=Z,9.1nm,0.8s,baz=99,slow=6.5,SNR=16
ZALV PcP **PcP 05 44 07.1 +1.1**
comp=Z,1.6nm,0.4s,baz=86,slow=4.6,SNR=3.9
ZALV Zalesovo Beam 41.57 313 P **P 05 42 08.6 -0.4**
NRIK Noril'sk 43.20 336 LR LR 06 01 44.9
comp=Z,91nm,18.2s,baz=112,slow=38
NRIK Noril'sk 43.20 336 *ce*P **P 05 42 21.7 -0.4**
NRIK pmax pmax
comp=Z,6.0nm,1.5s
MK31 Makanchi Array 43.66 302 P **P 05 42 26.4 +0.2**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 43.66 302 P **P 05 42 26.4 +0.2**
MKAR Makanchi Array 43.66 302 P **P 05 42 26.5 +0.4**
comp=Z,2.1nm,0.7s,baz=90,slow=10,SNR=22
KURK Kurchatov 45.54 308 P **P 05 42 41.3 +0.3**
KURK Kurchatov 45.54 308 P **P 05 42 40.0 -1.0**
KURK IAmb IAmb 05 42 44.1
comp=Z,18nm,1.1s
KURBB Kurchatov Arra 45.60 308 P **P 05 42 41.3 -0.3**
comp=Z,6.2nm,0.5s,baz=83,slow=8.1,SNR=54
KAPI Kappang 45.91 210 P **P 05 42 43.8 -0.4**
comp=Z,21nm,0.9s,baz=4.1,slow=10.0,SNR=11
KAPI LR LR 06 02 40.7
comp=Z,40nm,18.2s,baz=53,slow=37
KAPI Kappang 45.91 210 P **P 05 42 44.6 +0.3**
KAPI pmax pmax
comp=Z,21nm,1.0s
KAPI Kappang 45.91 210 P **P 05 42 44.6 +0.3**
TTA Tatalina 46.01 35 P **P 05 42 45.7 +0.9**
baz=266
RAMN Ramite 46.33 274 *e*P **P 05 42 46.1 -1.8**
comp=Z,19nm,0.5s
JIRN Jiri 46.35 275 *e*P **P 05 42 48.4 +0.2**
comp=Z,14nm,0.5s
GUN Gumba 46.49 275 *e*P **P 05 42 49.5 +0.2**
K20K Telida 46.92 34 IAmb IAmb 05 42 57.6
comp=Z,7.7nm,0.8s
K20K Telida 46.92 34 P **P 05 42 52.6 +0.9**
baz=268
J20K Nowinta River 46.92 33 IAmb IAmb 05 42 54.6
comp=Z,7.9nm,1.0s
J20K Nowinta River 46.92 33 P **P 05 42 52.7 +0.9**
baz=267,SNR=6.0
L20K Farewell, AK 46.98 35 P **P 05 42 52.1 -0.2**
baz=269
GKN Gorkha 47.44 276 *e*P **P 05 42 56.5 0.0**
H21K Melozitna Rive 47.58 31 P **P 05 42 57.3 +0.4**
baz=267
PPLA Purkeypile 47.76 35 P **P 05 42 58.8 +0.4**
baz=270
SPCR Spurr Chakacha 47.77 37 P **P 05 42 59.1 +0.7**
baz=271
CAST Castle Rocks 47.81 34 P **P 05 42 58.3 -0.4**
baz=269
TARG Taragay, Kyrgy 47.89 296 IAmb IAmb 05 43 05.4
comp=Z,8.1nm,0.9s
I21K Tanana 47.90 32 P **P 05 42 59.7 +0.4**
baz=268
DANN Dangsing 47.99 277 *e*P **P 05 43 01.4 +0.5**
KTH Kantishna Hill 48.33 34 IAmb IAmb 05 43 06.1
comp=Z,13nm,1.1s
MLY Manley 48.42 32 P **P 05 43 03.5 +0.1**
baz=269
TRF Thorofare Moun 48.62 34 P **P 05 43 05.0 -0.1**
baz=271
PYUN Piuthan 48.71 277 *e*P **P 05 43 06.5 +0.1**
comp=Z,38nm,0.9s
SOEI Soe 48.77 202 P **P 05 43 07.5 +0.8**
TOLK Toolik Lake Re 49.00 27 P **P 05 43 08.7 +0.8**
baz=267,SNR=5.5
I23K Minto, Yukon-K 49.00 32 P **P 05 43 07.5 -0.3**
baz=270
NEA2 Nenana 49.13 33 IAmb IAmb 05 43 11.4
comp=Z,12nm,1.2s
NEA2 Nenana 49.13 33 P **P 05 43 08.8 -0.1**
baz=271
MCK McKinley 49.22 34 IAmb IAmb 05 43 13.2
comp=Z,10.0nm,1.1s
MCK McKinley 49.22 34 P **P 05 43 10.5 +0.9**
baz=272
PMR Palmer 49.23 36 P **P 05 43 09.3 -0.2**
baz=274
GHO Glory Hole Cre 49.32 36 IAmb IAmb 05 43 37.1
comp=Z,15nm,1.1s
MDM Murphy Dome 49.49 32 IAmb IAmb 05 43 17.1
comp=Z,9.4nm,1.0s
H24K Noodor Dome 49.61 31 P **P 05 43 14.3 +1.7**
H24K Noodor Dome 49.61 31 P **P 05 43 12.6 0.0**
baz=271,SNR=5.4
PWL Port Wells 49.67 37 P **P 05 43 12.8 -0.2**
baz=275
POKR Poker Plat Res 49.82 32 IAmb IAmb 05 43 19.9
comp=Z,16nm,1.1s
POKR Poker Plat Res 49.82 32 P **P 05 43 14.6 +0.5**
baz=272,SNR=7.1
KSH Kashi 49.87 294 P **P 05 43 19.0 +4.0**
KSH pP sP 05 43 23.3 +0.9
KSH pmax pmax
comp=Z,2.0nm,0.8s
DHY Denali Highway 49.95 34 IAmb IAmb 05 43 17.1
comp=Z,15nm,1.3s
DHY Denali Highway 49.95 34 P **P 05 43 14.5 -0.8**
baz=274
AAK Ala-Archa 49.99 298 P **P 05 43 16.5 +0.6**
comp=Z,2.7nm,0.6s,baz=76,slow=3.9,SNR=8.3
AAK LR LR 06 05 39.4
comp=Z,73nm,18.7s,baz=83,slow=38
AAK Ala-Archa 49.99 298 P **P 05 43 14.2 -1.7**
HDA Harding Lake 50.06 33 P **P 05 43 15.7 -0.2**
baz=273,SNR=5.5
ILAR Eielson Array 50.07 32 P **P 05 43 15.8 -0.2**
comp=Z,4.5nm,0.9s,baz=270,slow=6.4,SNR=30
ILAR LR LR 06 06 19.1
comp=Z,36nm,18.1s,baz=296,slow=38
ILAR Eielson Array 50.07 32 P **P 05 43 16.4 +0.4**
ILAR Eielson Array 50.07 32 P **P 05 43 16.4 +0.4**
SCM Sheep Creek Mo 50.07 36 P **P 05 43 15.1 -1.0**
baz=275
BVAR Borovoye Array 50.22 312 P **P 05 43 17.2 -0.1**
comp=Z,2.8nm,0.8s,baz=56,slow=25,SNR=14
BRVK Borovoye 50.28 312 *ce*P **P 05 43 16.8 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 50.28 312 P **P 05 43 16.8 -0.9**
BRVK IAmb IAmb 05 43 21.2
comp=Z,7.4nm,0.9s
J25K Salcha River, 50.73 32 P **P 05 43 20.3 -0.7**
baz=274
KLU Klutina 50.77 36 P **P 05 43 21.0 -0.4**
baz=276
EYAK Cordova Ski Ar 50.97 38 P **P 05 43 22.6 -0.2**
baz=277
RIDG Independent Ri 51.03 33 P **P 05 43 23.5 +0.2**
baz=276
PSI Prapat 51.08 239 LR LR 06 05 26.0
comp=Z,65nm,18.1s,baz=40,slow=36
SCRK Sand Creek 51.39 33 P **P 05 43 27.1 +1.1**
SCRK IAmb IAmb 05 43 27.8
comp=Z,10nm,1.1s
SCRK Sand Creek 51.39 33 P **P 05 43 25.8 -0.3**
baz=276,SNR=6.4
L26K Log Cabin Wild 51.78 34 IAmb IAmb 05 43 34.6
comp=Z,10.0nm,0.8s
L26K Log Cabin Wild 51.78 34 P **P 05 43 28.8 -0.1**
baz=277
MCARA McCarthy VSAT 52.16 36 P **P 05 43 32.7 +0.9**
baz=279
L27K Beaver Creek, 52.46 34 P **P 05 43 32.6 -1.4**
baz=279,SNR=13
EGAK Eagle 52.51 32 P **P 05 43 34.3 0.0**
baz=278
M27K Edge Creek, AK 52.55 35 IAmb IAmb 05 43 40.5
comp=Z,8.0nm,0.8s
M27K Edge Creek, AK 52.55 35 P **P 05 43 34.8 0.0**
baz=279,SNR=6.2
KKAR Karatay Array 52.65 300 P **P 05 43 35.5 -0.1**
KKAR Karatay Array 52.65 300 P **P 05 43 35.5 -0.1**
BVCY Beaver Creek 53.01 35 P **P 05 43 38.5 +0.5**
baz=280
CTG Chitna Glacier 53.04 37 P **P 05 43 38.5 +0.1**
baz=281
YUK3 Moose Creek 53.31 36 P **P 05 43 40.7 +0.3**
baz=281
KNRA Kununurra 53.36 194 P **P 05 43 41.7 +0.7**
DAWY Dawson 53.38 33 P **P 05 43 40.7 -0.1**
baz=280
I29M Ogilvie Camp, 53.61 31 IAmb IAmb 05 43 47.5
comp=Z,10.0nm,0.9s
I29M Ogilvie Camp, 53.61 31 P **P 05 43 43.6 +1.2**
baz=280
EPYK Eagle Plains 54.08 30 P **P 05 43 46.1 +0.3**
baz=280,SNR=9.0
YUK4 Talbot Arm 54.24 36 P **P 05 43 48.0 +0.7**
baz=282
PNL Peninsula 54.25 38 P **P 05 43 46.8 -0.3**
baz=283
M30M Minto, Yukon 54.83 34 P **P 05 43 53.8 +2.5**
M30M Minto, Yukon 54.83 34 P **P 05 43 51.3 0.0**
baz=283
SVE Sverdlovsk 54.87 319 *e*P **P 05 43 52.3 +0.7**
HYT Haines Junctio 54.90 36 IAmb IAmb 05 43 55.5
comp=Z,12nm,1.1s
HYT Haines Junctio 54.90 36 P **P 05 43 51.8 -0.2**
baz=284,SNR=5.7
INK Inuvik 54.91 27 P **P 05 43 52.6 +0.9**
comp=Z,3.1nm,0.7s,baz=273,slow=9.7,SNR=9.4
INK LR LR 06 08 42.9
comp=Z,48nm,19.0s,baz=301,slow=38
INK Inuvik 54.91 27 P **P 05 43 52.0 +0.3**
baz=282,SNR=5.1
N31M Braeburn, Yuko 55.55 35 IAmb IAmb 05 44 02.3
comp=Z,8.0nm,0.8s
N31M Braeburn, Yuko 55.55 35 P **P 05 43 56.7 +0.1**
baz=285
M31M Drury Creek, Y 56.00 34 P **P 05 43 59.5 -0.2**
baz=285
ARU Arti 56.08 318 P **P 05 43 59.8 -0.6**
comp=Z,1.7nm,0.4s,baz=113,slow=4.9,SNR=11
ARU Arti 56.08 318 *c i* P **P 05 43 59.8 -0.6**
ARU 05 44 54.4
ARU S **S 05 51 49.5 +1.3**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 56.08 318 P **P 05 43 59.4 -1.0**
ARU IAmb IAmb 05 44 03.6
comp=Z,11nm,0.9s
WHY Whitehorse 56.19 36 P **P 05 44 00.8 -0.5**
baz=286
SKAG Skagway 56.31 38 IAmb IAmb 05 44 08.3
comp=Z,13nm,1.2s
SKAG Skagway 56.31 38 P **P 05 44 01.9 -0.1**
baz=286
WRAB Tennant Creek 56.72 187 *ce*P **P 05 44 04.3 -1.0**
WRAB pmax pmax
comp=Z,21nm,1.3s
WR0 Warramunga Arr 56.73 187 IAmb IAmb 05 44 08.3
comp=Z,11nm,0.8s
WB2 Warramunga Arr 56.73 187 P **P 05 44 04.3 -1.0**
WRA Warramunga Arr 56.73 187 P **P 05 44 04.7 -0.6**
comp=Z,12nm,0.8s,baz=2.4,slow=7.4,SNR=50
WRA PcP **PcP 05 45 03.0 +1.8**
comp=Z,2.1nm,0.6s,baz=359,slow=4.4,SNR=4.9
WRA LR LR 06 06 14.6
comp=Z,43nm,20.2s,baz=126,slow=34
WRA Warramunga Arr 56.73 187 P **P 05 44 04.8 -0.6**
MMPY Sheldon Lake, 57.28 33 P **P 05 44 07.8 -1.1**
baz=288
P33M Teslin, Yukon 57.30 36 IAmb IAmb 05 44 12.8
comp=Z,7.3nm,1.1s
P33M Teslin, Yukon 57.30 36 P **P 05 44 08.0 -1.1**
baz=288,SNR=6.5
ABKAR Akbulak array 57.56 310 IAmb IAmb 05 44 13.7
comp=Z,9.5nm,0.8s
AKTO Aktyubinsk 58.32 312 P **P 05 44 15.6 -0.8**
comp=Z,4.0nm,0.9s,baz=85,slow=12,SNR=11
TGTN Hyland Airport 58.97 34 P **P 05 44 21.2 +0.5**
baz=291
DLBC Dease Lake 59.24 38 LR LR 06 13 05.3
comp=Z,27nm,18.1s,baz=294,slow=39
DLBC Dease Lake 59.24 38 IAmb IAmb 05 44 26.2
comp=Z,7.1nm,1.1s
KIRV Kirov 60.02 323 P **P 05 44 28.3 +0.4**
comp=Z,8.6nm,0.5s,baz=67,slow=23,SNR=5.0
ASAR Alice Springs 60.46 187 P **P 05 44 31.1 -0.2**
comp=Z,8.0nm,1.0s,baz=9.7,slow=6.4,SNR=34
ASAR Alice Springs 60.46 187 P **P 05 44 30.8 -0.5**
NOR Nord 61.25 356 *i* P **P 05 44 35.9 -0.1**
NOR IAmb IAmb 05 44 39.5
comp=Z,2.0nm,0.7s
PALK Pallekele 61.64 257 LR LR 06 12 43.6
comp=Z,47nm,20.1s,baz=206,slow=37
BBB Bella Bella 62.72 44 LR LR 06 10 56.0
comp=Z,26nm,19.8s,baz=301,slow=35
RES Resolute Bay 63.00 14 P **P 05 44 48.2 +0.4**
RES pmax pmax
comp=Z,8.0nm,1.3s
RES Resolute Bay 63.00 14 P **P 05 44 48.1 +0.4**
RES IAmb IAmb 05 44 52.4
comp=Z,8.0nm,1.2s
KLMR Klimovskoe 63.59 328 *e*P **P 05 44 49.6 -2.3**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 63.59 328 *e*P **P 05 44 49.7 -2.2**
KLMR AMP 05 44 55.9
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 63.98 339 P **P 05 44 53.9 -0.5**
comp=Z,8.9nm,1.2s,baz=35,slow=6.6,SNR=6.9
ARCES LR LR 06 15 48.8
comp=Z,29nm,21.0s,baz=14,slow=39
YKA Yellowknife Ar 64.36 30 P **P 05 44 57.2 +0.2**
comp=Z,1.6nm,0.7s,baz=300,slow=6.4,SNR=20
YKA PcP **PcP 05 45 32.5 +1.2**
comp=Z,1.4nm,0.8s,baz=302,slow=3.8,SNR=9.4
DAG Danmarks Havn 65.95 355 *i* P **P 05 45 05.8 -1.3**
DAG IAmb IAmb 05 45 10.4
comp=Z,2.4nm,0.7s
VALR Valaam 66.89 330 *i* P **P 05 45 12.9 -0.4**
VALR pmax pmax
comp=Z,9.0nm,0.9s
MOS Moscow 67.03 323 *e*P **P 05 45 13.1 -1.2**
MOS pmax pmax
comp=Z,33nm,0.9s
D03D Eldon 67.77 47 P **P 05 45 19.3 +0.2**
baz=301
OBN Obninsk 67.87 323 *e*P **P 05 45 20.3 +0.7**
OBN pmax pmax
comp=Z,7.0nm,1.1s
OBN MLR MLR
comp=Z,58nm,15.0s
MAK Makhachkala 68.06 308 *e*P P 05 45 15.2 -5.8
MAK *e*S S 05 54 09.1 -11
MAK pmax pmax
comp=Z,76nm,0.4s
MAK MLR MLR
comp=Z,86nm,16.0s
FORT Forrest 68.23 192 P **P 05 45 22.6 +0.6**
STKA Stephens Creek 68.32 179 P **P 05 45 21.7 -0.9**
comp=Z,4.0nm,0.8s,baz=347,slow=5.7,SNR=10
STKA Stephens Creek 68.32 179 P **P 05 45 23.0 +0.4**
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 68.32 179 P **P 05 45 23.0 +0.4**
E04D Cinebar 68.58 47 P **P 05 45 25.1 +0.9**
baz=301
FINES FINESS Array B 68.70 332 P **P 05 45 24.2 -0.5**
comp=Z,3.7nm,0.8s,baz=40,slow=6.2,SNR=8.2
FINES FINESS Array B 68.70 332 *i* P **P 05 45 24.8 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.7s

B08A	**Colville Reser**	**69.50**	**45**	IAmb	IAmb	05 45 31.8	
	comp=Z,10nm,1.4s						
EDM	**Edmonton**	**69.96**	**38**	P	**P**	**05 45 33.7**	**+0.9**
EDM				pmax	pmax		
	comp=Z,17nm,1.3s						
EDM	**Edmonton**	**69.96**	**38**	P	**P**	**05 45 33.6**	**+0.9**
WSAR	**Wadi Sarin**	**70.26**	**285**	LR	LR	06 20 39.0	
	comp=Z,34nm,18.8s,baz=150,slow=40						
C09A	**Chrisman Ranch**	**70.39**	**45**	IAmb	IAmb	05 45 37.9	
	comp=Z,11nm,1.1s						
D08A	**Wollman Farm,**	**70.43**	**46**	IAmb	IAmb	05 45 38.1	
	comp=Z,7.4nm,1.0s						
I05D	**Terrebonne, OR**	**70.48**	**49**	P	**P**	**05 45 36.2**	**+0.1**
	baz=303						
KBZ	**Khabaz**	**70.53**	**310**	P	**P**	**05 45 36.1**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=213,slow=1.7,SNR=7.1						
KIV	**Kislovodsk**	**70.54**	**311**	*e*P	**P**	**05 45 37.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
E08A	**Dider Farm, El**	**70.66**	**46**	IAmb	IAmb	05 45 39.6	
	comp=Z,7.2nm,1.0s						
NEW	**Newport**	**70.78**	**44**	IAmb	IAmb	05 45 40.3	
	comp=Z,5.2nm,0.9s						
NEW	**Newport**	**70.78**	**44**	P	**P**	**05 45 38.6**	**+0.7**
	baz=304						
L04D	**Klamath Falls**	**71.03**	**51**	P	**P**	**05 45 41.2**	**+1.7**
L04D	**Klamath Falls**	**71.03**	**51**	P	**P**	**05 45 40.3**	**+0.7**
	baz=303						
J05D	**Fort Rock, OR**	**71.12**	**50**	P	**P**	**05 45 40.4**	**+0.3**
	baz=303						
M02C	**Callahan**	**71.13**	**52**	P	**P**	**05 45 39.9**	**-0.3**
	baz=303						
GNI	**Garni**	**71.29**	**306**	LR	LR	06 20 13.1	
	comp=Z,18nm,18.4s,baz=78,slow=39						
M04C	**Macdoel**	**71.56**	**51**	P	**P**	**05 45 43.7**	**+0.9**
	baz=303						
O02D	**Mt. Diablo Mer**	**71.83**	**53**	P	**P**	**05 45 44.6**	**+0.2**
	baz=303						
F10A	**Beach Ranch, E**	**72.01**	**46**	IAmb	IAmb	05 45 49.9	
	comp=Z,7.8nm,1.1s						
WALA	**Waterton Lakes**	**72.08**	**42**	IAmb	IAmb	05 45 48.8	
	comp=Z,9.0nm,1.1s						
MNK	**Minsk**	**72.30**	**326**	*i* P	**P**	**05 45 42.6**	**-4.2**
MNK				*i*		05 48 24.8	
MNK				*i* PPP	PPP	05 50 07.7	
MNK				*i* S	**S**	**05 55 05.2**	**-3.8**
MNK				*i* SS	**SS**	**05 59 44.7**	**-1.4**
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,13nm,0.8s						
MNK				pmax	pmax		
	comp=Z,11nm,1.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,17.0s						
MNK				MLR	MLR		
	comp=Z,57nm,15.0s						
MNK				MLR	MLR		
	comp=N,38nm,14.0s						
MNK	**Minsk**	**72.30**	**326**	*i* P	**P**	**05 45 42.6**	**-4.2**
	comp=E,2.0nm,0.8s						
MNK				*i* P	**P**	**05 45 42.6**	**-4.2**
	comp=N,13nm,0.8s						
MNK				*i* P	**P**	**05 45 42.6**	**-4.2**
	comp=Z,11nm,1.0s,baz=51						
MNK				*i* PP	**PP**	**05 48 24.9**	**-2.1**
MNK				*i* PPP	PPP	05 50 07.8	
MNK				*i* S	**S**	**05 55 05.2**	**-3.8**
MNK				*i* SS	**SS**	**05 59 44.8**	**-1.4**
MNK				*i* SSS	SSS	06 03 07.3	
MNK				*i* LQ	LQ	06 12 31.1	
MNK				*i* LR	LR	06 17 46.4	
MNK				*i* LRM	MLR	06 19 55.8	
	comp=E,7.0nm,16.6s						
MNK				*i* LRM	MLR	06 19 55.8	
	comp=Z,57nm,15.3s						
MNK				*i* LRM	MLR	06 20 16.5	
	comp=N,38nm,14.4s						
NACGM	**Naroch**	**72.54**	**326**	*e*P	**P**	**05 45 49.0**	**+0.8**
BMO	**Blue Mountains**	**72.60**	**47**	IAmb	IAmb	05 45 52.1	
	comp=Z,9.1nm,1.1s						
JTMT	**Jette**	**72.64**	**43**	IAmb	IAmb	05 45 51.9	
	comp=Z,12nm,1.2s						
J08A	**Circle Bar Ran**	**72.75**	**49**	IAmb	IAmb	05 45 52.9	
	comp=Z,7.8nm,1.1s						
ORV	**Oroville**	**73.00**	**53**	IAmb	IAmb	05 45 53.3	
	comp=Z,7.1nm,1.1s						
WVOR	**Wild Horse Val**	**73.18**	**49**	IAmb	IAmb	05 45 55.2	
	comp=Z,9.4nm,1.2s						
MSO	**Missoula**	**73.37**	**44**	P	**P**	**05 45 53.8**	**+0.3**
	baz=306,SNR=6.3						
BEKR	**Beckworth**	**73.55**	**52**	IAmb	IAmb	05 45 57.1	
	comp=Z,9.8nm,1.0s						
HFS	**Hagfors**	**74.02**	**335**	LR	LR	06 21 09.7	
	comp=Z,42nm,19.9s,baz=55,slow=38						
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**05 45 56.7**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=48,slow=6.2,SNR=17						
AKASG				LR	LR	06 22 55.8	
	comp=Z,20nm,20.6s,baz=42,slow=39						
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**05 45 56.6**	**-0.7**
AKBB	**Malin Array Si**	**74.06**	**322**	*ce*P	**P**	**05 45 57.3**	**0.0**
AKBB	**Malin Array Si**	**74.06**	**322**	P	**P**	**05 45 56.7**	**-0.6**
AKBB				IAmb	IAmb	05 45 59.4	
	comp=Z,5.6nm,0.8s						
NB2	**NORSAR Subarra**	**74.14**	**337**	P	**P**	**05 45 57.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.14**	**337**	P	**P**	**05 45 57.1**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=40,slow=5.8,SNR=7.0						
NOA				LR	LR	06 21 36.1	
	comp=Z,38nm,19.1s,baz=35,slow=38						
PAHR	**Pah Rah Range**	**74.26**	**52**	IAmb	IAmb	05 46 01.4	
	comp=Z,8.1nm,0.9s						
FFC	**Flin Flon**	**74.28**	**32**	P	**P**	**05 45 58.7**	**+0.2**
FFC				pmax	pmax		
	comp=Z,11nm,1.2s						
FFC	**Flin Flon**	**74.28**	**32**	P	**P**	**05 45 58.7**	**+0.2**
FFC				IAmb	IAmb	05 46 02.2	
	comp=Z,11nm,1.2s						
MFID	**Camas Ranch**	**74.30**	**47**	IAmb	IAmb	05 46 01.6	
	comp=Z,12nm,1.2s						
FCC	**Fort Churchill**	**74.52**	**26**	P	**P**	**05 45 59.1**	**-0.7**
FCC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
FCC	**Fort Churchill**	**74.52**	**26**	P	**P**	**05 45 59.1**	**-0.7**
FCC				IAmb	IAmb	05 46 00.7	
	comp=Z,10nm,1.1s						
CMB	**Columbia Colle**	**74.57**	**54**	P	**P**	**05 46 01.2**	**+0.6**
CMB				pmax	pmax		
	comp=Z,13nm,1.1s						
CMB	**Columbia Colle**	**74.57**	**54**	P	**P**	**05 46 01.2**	**+0.6**
CMB				IAmb	IAmb	05 46 03.1	
	comp=Z,13nm,1.1s						
EGMT	**Eagleton**	**74.91**	**41**	P	**P**	**05 46 02.5**	**+0.1**
	baz=309,SNR=8.9						
HLID	**Hailey**	**75.04**	**47**	P	**P**	**05 46 03.1**	**-0.2**
	baz=307,SNR=6.6						
BMN	**Battle Mountai**	**75.20**	**50**	IAmb	IAmb	05 46 07.2	
	comp=Z,12nm,1.0s						
BOZ	**Bozeman (W)**	**75.39**	**44**	IAmb	IAmb	05 46 07.8	
	comp=Z,11nm,1.1s						
BOZ	**Bozeman (W)**	**75.39**	**44**	P	**P**	**05 46 05.8**	**+0.5**
	baz=308,SNR=16						
NVAR	**Mina Array Bea**	**75.69**	**53**	P	**P**	**05 46 07.5**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=289,slow=5.9,SNR=35						
NV11	**Mina Array Sit**	**75.78**	**53**	IAmb	IAmb	05 46 10.5	
	comp=Z,15nm,1.4s						
SFJD	**Kangerlussuaq**	**76.18**	**4**	LR	LR	06 21 27.8	
	comp=Z,29nm,19.2s,baz=347,slow=37						
YMR	**Madison River**	**76.34**	**44**	IAmb	IAmb	05 46 13.7	
	comp=Z,12nm,1.3s						
YNR	**Norris Junctio**	**76.47**	**44**	IAmb	IAmb	05 46 15.0	
	comp=Z,8.1nm,1.1s						
VES	**Vestal, Richgr**	**76.69**	**55**	P	**P**	**05 46 12.9**	**+0.2**
	baz=306						
LKWY	**Lake**	**76.72**	**44**	IAmb	IAmb	05 46 17.9	
	comp=Z,6.1nm,0.9s						
H17A	**Grant Village**	**76.72**	**44**	P	**P**	**05 46 13.3**	**+0.2**
	baz=309,SNR=15						
YMP	**Mirror Lake Pl**	**76.74**	**44**	IAmb	IAmb	05 46 29.6	
	comp=Z,6.8nm,1.0s						
FLWY	**Flagg Ranch**	**76.85**	**44**	IAmb	IAmb	05 46 17.5	
	comp=Z,12nm,1.1s						
DY2G	**Dye2**	**76.92**	**3**	*i* P	**P**	**05 46 17.4**	**+3.7**
RLMT	**Red Lodge**	**76.99**	**43**	IAmb	IAmb	05 46 17.4	
	comp=Z,11nm,1.3s						
RLMT	**Red Lodge**	**76.99**	**43**	P	**P**	**05 46 14.9**	**+0.4**
	baz=310						
MOOW	**Moose Ponds**	**77.03**	**45**	IAmb	IAmb	05 46 17.9	
	comp=Z,7.6nm,1.1s						
TPAW	**Teton Pass**	**77.08**	**45**	IAmb	IAmb	05 46 19.5	
	comp=Z,9.3nm,1.1s						
HVU	**Hansel Valley**	**77.08**	**47**	IAmb	IAmb	05 46 17.8	
	comp=Z,8.9nm,0.9s						
GRAC	**Grapevine Rang**	**77.13**	**53**	P	**P**	**05 46 15.4**	**+0.2**
	baz=306						
FRB	**Frobisher Bay**	**77.16**	**13**	LR	LR	06 22 47.0	
	comp=Z,40nm,19.2s,baz=352,slow=38						
ISA	**Isabella, Lake**	**77.19**	**55**	P	**P**	**05 46 15.6**	**0.0**
	baz=306						
SNOW	**Snow King Moun**	**77.21**	**45**	IAmb	IAmb	05 46 19.4	
	comp=Z,7.3nm,1.1s						
REDW	**Red Top Meadow**	**77.22**	**45**	IAmb	IAmb	05 46 18.9	
	comp=Z,7.1nm,1.1s						
ARVC	**Arvin**	**77.27**	**56**	P	**P**	**05 46 16.8**	**+0.8**
	baz=306						
R11A	**Troy Canyon, C**	**77.45**	**51**	IAmb	IAmb	05 46 19.9	
	comp=Z,12nm,1.1s						
R11A	**Troy Canyon, C**	**77.45**	**51**	P	**P**	**05 46 17.7**	**+0.5**
	baz=307,SNR=19						
DGMT	**Dagmar**	**77.46**	**38**	P	**P**	**05 46 16.8**	**0.0**
	baz=312						
MPMC	**Manual Prospec**	**77.60**	**54**	P	**P**	**05 46 17.9**	**-0.2**
	baz=307						
LAO	**LASA Array**	**77.61**	**40**	P	**P**	**05 46 17.1**	**-0.6**
	baz=311,SNR=8.3						
FURC	**Furnace Creek,**	**77.77**	**54**	P	**P**	**05 46 19.1**	**+0.5**
	baz=307						
TPNV	**Topopah Spring**	**77.87**	**53**	IAmb	IAmb	05 46 23.8	
	comp=Z,9.3nm,1.1s						
TPNV	**Topopah Spring**	**77.87**	**53**	P	**P**	**05 46 19.8**	**+0.3**
	baz=307,SNR=6.5						
HWUT	**Hardware Ranch**	**77.90**	**47**	IAmb	IAmb	05 46 22.5	
	comp=Z,12nm,1.0s						
EDW2	**Edwards Air Fo**	**77.97**	**55**	P	**P**	**05 46 21.1**	**+1.1**
	baz=307						
DUG	**Dugway, Tooele**	**78.03**	**49**	IAmb	IAmb	05 46 23.2	
	comp=Z,13nm,1.1s						
DUG	**Dugway, Tooele**	**78.03**	**49**	P	**P**	**05 46 19.9**	**-0.4**
	baz=308,SNR=10						
BW06	**Boulder Array**	**78.33**	**45**	P	**P**	**05 46 22.0**	**0.0**
	baz=310,SNR=6.7						
PDAR	**Pinedale Array**	**78.33**	**45**	P	**P**	**05 46 23.0**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=270,slow=2.7,SNR=26						
PRN	**Pahroc Range**	**78.36**	**52**	IAmb	IAmb	05 46 25.0	
	comp=Z,9.2nm,1.0s						
CTU	**Camp Tracy**	**78.36**	**48**	IAmb	IAmb	05 46 24.7	
	comp=Z,5.7nm,0.9s						
PSUT	**Pine Spring**	**78.42**	**50**	IAmb	IAmb	05 46 25.2	
	comp=Z,9.3nm,0.9s						
BRTR	**Keskin Array B**	**78.49**	**311**	P	**P**	**05 46 22.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=90,slow=3.7,SNR=5.9						
BRTR	**Keskin Array B**	**78.49**	**311**	*i* P	**P**	**05 46 25.7**	**+2.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GSC	**Goldstone, Bar**	**78.50**	**55**	P	**P**	**05 46 23.5**	**+0.5**
	baz=307						
BFSC	**Mount Baldy Ra**	**78.58**	**56**	P	**P**	**05 46 23.6**	**+0.2**
	baz=307						
JLU	**Jordanelle**	**78.60**	**48**	IAmb	IAmb	05 46 46.1	
	comp=Z,8.7nm,0.9s						
NLU	**Nh Lily Min**	**78.63**	**48**	IAmb	IAmb	05 46 26.4	
	comp=Z,8.3nm,1.0s						
SCI2	**San Clemente I**	**78.73**	**57**	P	**P**	**05 46 24.3**	**+0.2**
	baz=307						
SHPR	**Sheep Range**	**78.84**	**53**	P	**P**	**05 46 26.4**	**+1.5**
SHPR				IAmb	IAmb	05 46 27.7	
	comp=Z,8.8nm,1.0s						
MLR	**Muntele Rosu**	**79.12**	**319**	P	**P**	**05 46 25.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=127,slow=11,SNR=3.7						
MLR				LR	LR	06 23 28.6	
	comp=Z,29nm,20.3s,baz=39,slow=37						
MURC	**Murrieta**	**79.27**	**56**	P	**P**	**05 46 27.9**	**+0.8**
	baz=307						
GMRC	**Granite Mounta**	**79.56**	**54**	P	**P**	**05 46 28.7**	**-0.1**
	baz=308						
PFO	**Pinyon Flats O**	**79.75**	**56**	LR	LR	06 15 13.4	
	comp=Z,65nm,20.4s,baz=252,slow=31						
PFO	**Pinyon Flats O**	**79.75**	**56**	P	**P**	**05 46 29.5**	**-0.3**
	baz=308						
TPFO	**Pinon Flats**	**79.75**	**56**	P	**P**	**05 46 29.3**	**-0.5**
	baz=308						
BELC	**Belle Mtn. Jos**	**79.82**	**55**	P	**P**	**05 46 30.7**	**+0.5**
	baz=308						
P18A	**Preston Nutter**	**79.93**	**48**	IAmb	IAmb	05 46 37.0	
	comp=Z,11nm,0.8s						
KNB	**Kanab**	**80.00**	**51**	IAmb	IAmb	05 46 34.4	
	comp=Z,13nm,1.0s						
ULM	**Lac du Bonnet**	**80.08**	**33**	P	**P**	**05 46 30.9**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=330,slow=8.8,SNR=4.4						
ULM				LR	LR	06 25 03.9	
	comp=Z,32nm,19.2s,baz=320,slow=38						
ULM	**Lac du Bonnet**	**80.08**	**33**	IAmb	IAmb	05 46 31.8	
	comp=Z,13nm,1.4s						
K22A	**Casper**	**80.10**	**44**	IAmb	IAmb	05 46 33.0	
	comp=Z,11nm,1.2s						
K22A	**Casper**	**80.10**	**44**	P	**P**	**05 46 31.8**	**+0.2**
	baz=312						
MONP2	**Monument Peak**	**80.21**	**56**	P	**P**	**05 46 32.6**	**+0.2**
	baz=308						
IRM	**Iron Mountain**	**80.28**	**55**	P	**P**	**05 46 31.8**	**-0.8**
	baz=308						
DPC	**Dobruska-Polom**	**80.29**	**327**	*e*P	**P**	**05 46 33.3**	**+1.0**
DPC	**Dobruska-Polom**	**80.29**	**327**	*e*P	**P**	**05 46 33.3**	**+1.0**
RWWY	**Rawlins**	**80.35**	**45**	IAmb	IAmb	05 46 35.2	
	comp=Z,10nm,1.0s						
BC3	**Big Chuckawall**	**80.39**	**55**	P	**P**	**05 46 32.9**	**-0.4**
	baz=308						
RSSD	**Black Hills**	**80.47**	**41**	P	**P**	**05 46 33.8**	**+0.1**
	baz=313						
IKP	**In-Ko-Pah, Jac**	**80.56**	**56**	P	**P**	**05 46 34.0**	**-0.2**
	baz=308						
SWSC	**Sam W. Stewart**	**80.59**	**56**	P	**P**	**05 46 34.5**	**+0.3**
	baz=308						
U15A	**North Rim**	**80.70**	**51**	IAmb	IAmb	05 46 38.1	
	comp=Z,9.6nm,1.0s						
O20A	**White River Ci**	**80.78**	**46**	IAmb	IAmb	05 46 39.7	
	comp=Z,10nm,0.8s						
O20A	**White River Ci**	**80.78**	**46**	P	**P**	**05 46 36.0**	**+0.6**
	baz=311,SNR=5.8						
PDMCI	**Parker Dam,Lak**	**80.84**	**54**	P	**P**	**05 46 35.7**	**+0.2**
	baz=308,SNR=6.2						
BLYC	**Blythe**	**80.94**	**55**	IAmb	IAmb	05 46 38.6	
	comp=Z,6.5nm,0.7s						
CLL	**Collm**	**80.96**	**330**	*i* P	**P**	**05 46 35.4**	**-0.4**
CLL				*i*		05 46 38.2	
CLL				pmax	pmax		
	comp=Z,13nm,1.5s						
CLL	**Collm**	**80.96**	**330**	*i* P	**P**	**05 46 35.4**	**-0.4**
	comp=Z,13nm,1.5s						
CLL				*i* x	x	05 46 38.2	
	comp=Z,7.0nm,0.8s						
AGMN	**Agassiz Nation**	**81.53**	**34**	P	**P**	**05 46 39.2**	**+0.2**
	baz=318						
N23A	**Red Feather La**	**81.59**	**45**	IAmb	IAmb	05 46 42.6	
	comp=Z,12nm,1.1s						
N23A	**Red Feather La**	**81.59**	**45**	P	**P**	**05 46 38.7**	**-1.1**
	baz=312,SNR=5.9						
PV07	**Paradox Valley**	**81.64**	**48**	IAmb	IAmb	05 46 42.5	
	comp=Z,9.2nm,1.2s						
PV15	**Paradox Valley**	**81.81**	**48**	IAmb	IAmb	05 46 42.9	
	comp=Z,8.1nm,1.0s						
WUAZ	**Wupatki**	**81.85**	**52**	IAmb	IAmb	05 46 46.2	
	comp=Z,11nm,0.8s						
WUAZ	**Wupatki**	**81.85**	**52**	P	**P**	**05 46 41.4**	**+0.3**
	baz=310,SNR=5.6						
CKRC	**Cesky Krumlov**	**82.31**	**327**	*e*P	**P**	**05 46 43.3**	**+0.3**
KHC	**Kasperske Hory**	**82.38**	**328**	*e*P	**P**	**05 46 43.6**	**+0.1**
KHC				*e*		05 46 45.9	
KHC	**Kasperske Hory**	**82.38**	**328**	*e*P	**P**	**05 46 43.6**	**+0.1**
KHC				*ep*P	**pP**	**05 46 45.9**	**-3.2**
B35A	**Bob, Littlefor**	**82.43**	**33**	IAmb	IAmb	05 46 48.0	
	comp=Z,13nm,1.4s						
X16A	**Lo Mia Camp, P**	**82.51**	**52**	IAmb	IAmb	05 46 47.5	
	comp=Z,6.7nm,1.0s						
ISCO	**Idaho Springs**	**82.51**	**45**	P	**P**	**05 46 44.8**	**+0.1**
	baz=312						
MVCO	**Mesa Verde**	**82.53**	**49**	IAmb	IAmb	05 46 47.3	
	comp=Z,10nm,1.1s						
MVCO	**Mesa Verde**	**82.53**	**49**	P	**P**	**05 46 44.5**	**-0.2**
	baz=311,SNR=5.8						
GERES	**GERESS Array B**	**82.55**	**328**	P	**P**	**05 46 44.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=33,slow=5.1,SNR=7.7						
SUSD	**Miller**	**82.86**	**38**	P	**P**	**05 46 46.3**	**+0.3**
	baz=316						
S22A	**4UR Ranch, Cre**	**83.18**	**47**	P	**P**	**05 46 48.4**	**+0.3**
	baz=312,SNR=7.5						
214A	**Organ Pipe Nat**	**83.18**	**55**	P	**P**	**05 46 48.5**	**+0.6**
	baz=309						
Q24A	**Divide**	**83.34**	**46**	IAmb	IAmb	05 46 51.2	
	comp=Z,4.6nm,0.8s						
Q24A	**Divide**	**83.34**	**46**	P	**P**	**05 46 49.2**	**+0.2**
	baz=313						
X18A	**Snowflake**	**83.38**	**52**	IAmb	IAmb	05 46 51.8	
	comp=Z,8.5nm,1.1s						
EYMN	**Ely**	**83.71**	**32**	P	**P**	**05 46 50.9**	**+0.5**
	baz=321						
SDCO	**Great Sand Dun**	**83.96**	**47**	IAmb	IAmb	05 46 54.7	
	comp=Z,5.2nm,1.0s						
SDCO	**Great Sand Dun**	**83.96**	**47**	P	**P**	**05 46 52.8**	**+0.6**
	baz=313,SNR=6.2						
TUC	**Tucson**	**84.28**	**54**	P	**P**	**05 46 54.5**	**+0.9**
TUC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TUC	**Tucson**	**84.28**	**54**	P	**P**	**05 46 54.5**	**+0.9**
TUC				IAmb	IAmb	05 46 56.1	
	comp=Z,5.5nm,0.9s						
TUC	**Tucson**	**84.28**	**54**	P	**P**	**05 46 54.0**	**+0.4**
	baz=310						
ECSD	**EROS Data Cent**	**84.53**	**38**	IAmb	IAmb	05 46 58.6	
	comp=Z,6.6nm,0.8s						
ECSD	**EROS Data Cent**	**84.53**	**38**	P	**P**	**05 46 54.8**	**+0.2**
	baz=318						
LIT	**Litokhoron**	**84.66**	**317**	P	**P**	**05 46 55.0**	**-0.3**
LIT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LIT	**Litokhoron**	**84.66**	**317**	P	**P**	**05 46 55.0**	**-0.3**
T25A	**Trinidad**	**85.01**	**47**	P	**P**	**05 46 58.0**	**+0.6**
	baz=313,SNR=7.4						
PPT	**Papeete**	**85.15**	**116**	LR	LR	06 15 43.8	
	comp=Z,28nm,21.4s,baz=5.0,slow=29						
BFO	**Black Forest**	**85.17**	**330**	P	**P**	**05 46 56.9**	**-0.9**
BFO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BFO	**Black Forest**	**85.17**	**330**	P	**P**	**05 46 56.9**	**-0.9**
BFO				IAmb	IAmb	05 47 00.7	
	comp=Z,6.1nm,0.9s						
ANMO	**Albuquerque**	**85.27**	**49**	P	**P**	**05 46 58.5**	**-0.2**
	baz=312						
121A	**Cookes Peak, D**	**86.05**	**52**	IAmb	IAmb	05 47 05.3	
	comp=Z,7.1nm,0.9s						
121A	**Cookes Peak, D**	**86.05**	**52**	P	**P**	**05 47 03.6**	**+1.0**
	baz=312						
KSU1	**Kansas State U**	**87.94**	**41**	P	**P**	**05 47 11.9**	**+0.5**
	baz=318						
MNTX	**Cornudas Mount**	**88.12**	**51**	P	**P**	**05 47 12.3**	**-0.1**
	baz=313						
MSTX	**Muleshoe**	**88.16**	**48**	P	**P**	**05 47 12.8**	**0.0**
	baz=314						
JFWS	**Jewell Farm**	**88.17**	**35**	P	**P**	**05 47 12.6**	**+0.1**
	baz=322						
WMOK	**Wichita Mounta**	**89.94**	**45**	P	**P**	**05 47 20.6**	**-0.4**
	baz=316						
HDIL	**Hopedale**	**90.47**	**36**	P	**P**	**05 47 22.4**	**-0.8**
	baz=322						
S39A	**Bolivar**	**90.71**	**40**	IAmb	IAmb	05 47 28.0	
	comp=Z,3.6nm,0.8s						
TUL1	**Leonard**	**90.74**	**43**	P	**P**	**05 47 23.8**	**-0.8**
	baz=318						
TX32	**Lajitas Array**	**90.81**	**52**	IAmb	IAmb	05 47 26.9	
	comp=Z,3.8nm,0.8s						
TXAR	**Lajitas Array**	**90.81**	**52**	P	**P**	**05 47 26.5**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=295,slow=3.3,SNR=43						
TXAR				LR	LR	06 22 20.0	
	comp=Z,30nm,22.0s,baz=248,slow=32						
ABTX	**Abilene, Hawle**	**90.96**	**47**	P	**P**	**05 47 25.4**	**-0.3**
	baz=316						
CCM	**Cathedral Cave**	**91.48**	**38**	P	**P**	**05 47 27.4**	**-0.6**
	baz=321						
SFIN	**Lafayette**	**91.62**	**34**	P	**P**	**05 47 27.6**	**-1.0**
	baz=324						
U40A	**Yellville**	**91.97**	**40**	P	**P**	**05 47 30.4**	**0.0**
	baz=320						
W39A	**Magazine**	**92.36**	**42**	P	**P**	**05 47 32.6**	**+0.4**
	baz=319						
JCT	**Junction City**	**92.40**	**49**	P	**P**	**05 47 32.1**	**-0.4**
	baz=316						
O48B	**Farmland**	**92.59**	**33**	P	**P**	**05 47 33.0**	**-0.1**
	baz=325						
WVT	**Waverly**	**94.68**	**37**	P	**P**	**05 47 42.3**	**-0.5**
	baz=323						
O56A	**Blue Knob Stat**	**95.31**	**29**	P	**P**	**05 47 45.6**	**-0.1**
	baz=330						
PAL	**Palisades**	**96.38**	**26**	P	**P**	**05 47 50.5**	**+0.1**
	baz=333						
ESDC	**Sonseca Array**	**97.19**	**333**	LR	LR	06 34 51.0	
	comp=Z,18nm,18.1s,baz=86,slow=37						
LRAL	**Lakeview Retre**	**97.56**	**39**	P	Pdif	05 47 56.3	+0.3
	baz=324						
KMSC	**Kings Mountain**	**98.52**	**34**	P	Pdif	05 48 00.5	+0.2
	baz=327						
LPAZ	**La Paz**	**147.41**	**59**	PKPbc	**PKPbc**	**05 54 06.7**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=3.3,slow=4.9,SNR=19						
LPAZ	**La Paz**	**147.41**	**59**		**PKPdf**	**05 54 05.0**	**+0.8**
H03N2	**Juan Fernandez**	**147.70**	**96**	T	T	08 39 04.8	
	baz=291,slow=76,SNR=29						
H03N3	**Juan Fernandez**	**147.70**	**96**	T	T	08 39 04.2	
	baz=291,slow=76,SNR=32						
H03N1	**Juan Fernandez**	**147.70**	**96**	T	T	08 39 07.2	
	baz=291,slow=76,SNR=42						

WEL ***22*** *05:34:57.0, 42°S×173°E, h24km, 8km, M3.8/91, ML3.7/19, MLv3.8/91, Error ellipse: s-maj=0.0km s-min=0.0km az=47.4*

NOU ***22*** *05:34:57.4, 42.35S×173.04E, h12km, MLv4.1/9, South Island, New Zealand*

ISC 22 05:34:57.1±0.8, 42.32S±0.03×173.05E±0.03, h15km, n99, σ1.45/103, South Island

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FOZ	Fox Glacier	2.67	242	P	Pn	05 35 40.9	+1.4
OHWZ	Ohakea	2.72	40	P	Pb	05 35 43.6	-1.8
POWZ	Post Office Ro	2.81	48	P	Pn	05 35 41.3	-0.2
PRWZ	Pori Road	2.82	52	P	Pn	05 35 41.6	0.0
BFZ	Birch Farm	2.91	57	P	Pn	05 35 43.2	+0.4
BFZ	Birch Farm	2.91	57	P	Pn	05 35 44.2	+1.4
LBZ	Lake Benmore	2.94	224	P	Pn	05 35 44.1	+0.8
WAZ	Wanganui	2.95	30	P	Pn	05 35 45.9	+2.5
NMEZ	Namu Road	2.97	12	P	Pb	05 35 47.4	-2.3
LREZ	Lake Rotokare	3.04	20	P	Pn	05 35 45.9	+1.3
PREZ	Palmer Road	3.09	16	P	Pb	05 35 48.6	-3.2
DVHZ	Dannevirke	3.10	50	P	Pb	05 35 52.6	+0.7
KHEZ	Kahui Hut	3.11	14	P	Pn	05 35 48.5	+2.8
NBEZ	Newall Road No	3.11	12	P	Pn	05 35 48.3	+2.7
NEZ	North Egmont	3.15	15	P	Pn	05 35 49.8	-3.1
TSZ	Takapari Road	3.15	45	P	Pn	05 35 45.6	-0.7
PKE	Pukeiti	3.20	13	P	Pn	05 35 49.9	+3.0
ODZ	Otahua Downs	3.23	212	P	Pn	05 35 46.8	-0.5
ODZ	Otahua Downs	3.23	212	P	Pn	05 35 47.2	-0.1
DREZ	Durham Road	3.25	16	P	Pn	05 35 50.5	+2.9
PNHZ	Pukenui	3.38	46	P	Pn	05 35 48.6	-0.9
VRZ	Vera Road	3.45	23	P	Pn	05 35 52.9	+2.6
MOVZ	Moawhango	3.56	36	P	Pn	05 35 54.5	+2.7
WNVZ	Wahianoa	3.56	34	P	Pn	05 35 53.2	+1.2
TRVZ	Turoa	3.56	33	P	Pn	05 35 53.2	+1.2
JCZ	Jackson Bay	3.58	239	P	Pn	05 35 54.5	+2.4
DRZ	Dome Shelter	3.59	33	P	Pb	05 35 59.7	-0.7
WHVZ	Whangaehu Hut	3.59	33	P	Pn	05 35 54.6	+2.1
FWVZ	Far West T-bar	3.60	33	P	Pn	05 35 54.1	+1.5
TUVZ	Tukino	3.63	34	P	Pb	05 35 57.3	-3.8
KRHZ	Kereru	3.67	44	P	Pb	05 35 59.7	-2.0
NGZ	Ngauruhoe	3.69	33	P	Pb	05 35 56.7	+2.9
OTVZ	Oturere	3.73	33	P	Pn	05 35 55.4	+1.1
NNVZ	North Ngauruho	3.73	32	P	Pn	05 35 57.0	+2.6
WTVZ	West Tongariro	3.74	32	P	Pn	05 35 56.3	+1.9
ETVZ	East Tongariro	3.77	33	P	Pn	05 35 56.7	+1.9
TMVZ	Te Maari	3.78	33	P	Pn	05 35 56.0	+1.0
NTVZ	North Tongarir	3.79	33	P	Pn	05 35 56.5	+1.5
KWHZ	Kaweka Forest	3.86	43	P	Pn	05 35 59.7	+3.7
EAZ	Earnscleugh	3.98	222	P	Pn	05 35 57.1	-0.4
HHSZ	Highcliff Hill	3.98	206	P	Pn	05 35 57.1	-0.5
HIZ	Hauiti	4.04	21	P	Pn	05 35 60.0	+1.5
HIZ	Hauiti	4.04	21	P	Pn	05 35 59.8	+1.3
BKZ	Black Stump Fm	4.09	41	P	Pn	05 35 59.6	+0.4
NMHZ	Naumai	4.30	43	P	Pn	05 36 05.0	+2.9
TUZ	Tuapeka	4.39	213	P	Pn	05 36 03.0	-0.1
TLZ	Tolley Road	4.42	26	P	Pn	05 36 05.9	+2.3
RTZ	Ruatahuna	4.76	40	P	Pn	05 36 10.5	+2.1
TOZ	Tahuroa Road	4.95	23	P	Pn	05 36 12.1	+1.1
SYZ	Scrubby Hill	5.06	212	P	Pn	05 36 12.5	+0.1
AWAZ	Awhitu Peninsu	5.39	14	P	Pn	05 36 18.8	+1.9
MKAZ	Moumakai	5.46	18	P	Pn	05 36 19.3	+1.4
APZ	The Paps	5.78	217	P	Pn	05 36 22.5	+0.2
OUZ	Omahuta	7.10	4	P	Pn	05 36 41.2	+0.7

*IDC **22** 05:36:45.4±2.3,8.6′64N×92.09′2E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/51, mbtmp3.9/6, ML4.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/89, Error ellipse: s-maj=67.2km s-min=28.0km az=60.0*

ISC 22 05:36:49.5±1.9,**8.7N**±0.2×**92.2E**±0.3,**h24**km,**n7**,σ**0**§**30**/6,
mb3.9/5,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**33**	Pn	**Pn**	**05 39 34.9**	**+0.1**
	1.2nm,0.3s,baz=234,slow=14,SNR=8.3						
MKAR	**Makanchi Array**	**38.89**	**349**	P	**P**	**05 44 13.1**	**0.0**
	1.4nm,0.5s,baz=165,slow=8.7,SNR=10						
SONM	**Songino Array**	**40.80**	**15**	P	**P**	**05 44 28.8**	**-0.3**
	0.7nm,0.6s,baz=194,slow=9.8,SNR=5.9						
KURBB	**Kurchatov Arra**	**43.30**	**347**	P	**P**	**05 44 49.7**	**+0.4**
	1.0nm,0.5s,baz=177,slow=7.0,SNR=9.4						
KURBB				LR	LR	06 05 47.7	
	comp=Z,41nm,18.8s,baz=34,slow=40						
ZALV	**Zalesovo Beam**	**45.51**	**354**	P	**P**	**05 45 06.7**	**-0.2**
	0.8nm,0.4s,baz=158,slow=8.6,SNR=2.2						
WRA	**Warramunga Arr**	**50.28**	**125**	P	**P**	**05 45 44.5**	**0.0**
	0.6nm,0.5s,baz=300,slow=9.9,SNR=4.7						
ASAR	**Alice Springs**	**51.90**	**129**	LR	LR	06 09 43.0	
	comp=Z,46nm,18.3s,baz=146,slow=38						

*MDD **22** 05:38:23.2±0.8, 35.60′N×3.79′W, h0km, mb_Lg2.4/3, Error ellipse: s-maj=7.5km s-min=3.6km az=32.0*
*CNRM **22** 05:38:24.2, 35.68′N×3.78′W, h8km, ml2.8*

ISC 22 05:38:21.8±1.5,**35.61N**±0.03×**3.79W**±0.04,**h7**km±13km,
n15,σ1§**34**/29,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.70**	**61**	Pg	**Pb**	**05 38 35.8**	**-0.6**
EALB				Sg	**Sb**	**05 38 46.8**	**+0.6**
EALB				*i* Vmb_Lg		05 38 48.8	
EMEL	**Melilla**	**0.74**	**114**	Pg	**Pb**	**05 38 37.5**	**+0.4**
EMEL				Sg	**Sb**	**05 38 46.7**	**-0.8**
EMIJ	**Mijas**	**1.25**	**320**	Pg	**Pn**	**05 38 44.7**	**-1.1**
EMIJ				Sg	**Sb**	**05 39 01.6**	**-0.4**
EMIJ				*i* Vmb_Lg		05 39 02.7	
EMAL	**Malaga-Limoner**	**1.27**	**336**	P	**Pn**	**05 38 45.0**	**-1.0**
EMAL				S	**Sb**	**05 39 02.2**	**-0.3**
ELGU	**Los Guajares,**	**1.27**	**6**	Pg	**Pn**	**05 38 45.5**	**-0.5**
ELGU				Sg	**Sb**	**05 39 02.0**	**-0.6**
ELGU				*i* Vmb_Lg		05 39 05.5	
EBER	**Berja**	**1.48**	**29**	Pn	**Pn**	**05 38 48.8**	**-0.3**
EBER				Sn	**Sg**	**05 39 09.9**	**+0.5**
EGOR	**Sierra Gorda,**	**1.52**	**350**	Pn	**Pn**	**05 38 49.5**	**-0.2**
EGOR				Sn	**Sb**	**05 39 09.7**	**-0.4**
LCRM	**LCR**	**2.11**	**205**	P	**Pg**	**05 39 02.4**	**+0.1**
LCRM				S	**Sg**	**05 39 31.6**	**+2.1**
EADA	**Adamuz**	**2.63**	**346**	Sn	**Sn**	**05 39 37.9**	**+0.9**
ECAB	**El Cabril**	**2.79**	**333**	Pn	**Pn**	**05 39 08.0**	**+1.0**
ECAB				Sn	**Sb**	**05 39 43.6**	**-2.9**
MD31	**MD31**	**2.85**	**197**	P	**Pb**	**05 39 10.7**	**-2.3**
MD31				S	**Sb**	**05 39 48.3**	**+0.1**
MDT	**Midelt**	**2.87**	**194**	P	**Pb**	**05 39 11.2**	**-2.1**
MDT				S	**Sb**	**05 39 49.4**	**+0.7**
TDRA	**Tendrara**	**2.94**	**150**	P	**Pb**	**05 39 13.7**	**-1.1**
TDRA				S	**Sb**	**05 39 48.9**	**-2.1**
PVAQ	**Vaqueiros**	**3.64**	**301**	P	**Pn**	**05 39 20.3**	**+1.8**
PVAQ				S	**Sn**	**05 40 04.1**	**+2.3**
EBAD	**Badajoz**	**4.06**	**322**	Pn	**Pn**	**05 39 25.0**	**+0.6**
EBAD				Sn	**Sn**	**05 40 12.8**	**+0.6**

*IDC **22** 05:45:07.4±1.2, 19.21′N×94.02′E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/47, mbtmp3.5/8, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/72, Error ellipse: s-maj=48.6km s-min=19.2km az=50.0*

ISC 22 05:45:12.6±1.3,**19.2N**±0.2×**94.1E**±0.2,**h35**km,**n9**,σ1§**09**/8,
mb3.5/7,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.67**	**99**	Pn	**Pn**	**05 46 20.9**	**+0.2**
	2.3nm,0.3s,baz=280,slow=14,SNR=21						
MKAR	**Makanchi Array**	**29.14**	**343**	P	**P**	**05 51 09.4**	**-0.9**
	0.2nm,0.5s,baz=147,slow=9.6,SNR=0.9						
SONM	**Songino Array**	**30.24**	**17**	P	**P**	**05 51 20.0**	**-0.1**
	0.2nm,0.4s,baz=134,slow=6.4,SNR=4.0						
JOW	**Kunigami**	**32.30**	**70**	LR	LR	06 05 32.9	
	comp=Z,70nm,20.2s,baz=142,slow=38						
KURBB	**Kurchatov Arra**	**33.67**	**342**	P	**P**	**05 51 49.5**	**-0.5**
	0.3nm,0.6s,baz=147,slow=9.1,SNR=3.1						
AKTO	**Aktyubinsk**	**42.25**	**326**	P	**P**	**05 53 03.6**	**+1.3**
	1.1nm,0.6s,baz=141,slow=0.9,SNR=4.6						
WRA	**Warramunga Arr**	**55.44**	**132**	P	**P**	**05 54 45.0**	**+1.1**
	0.4nm,0.8s,baz=318,slow=7.5,SNR=9.5						
ASAR	**Alice Springs**	**57.68**	**136**	P	**P**	**05 54 58.5**	**-1.4**
	0.3nm,0.5s,baz=320,slow=7.4,SNR=1.9						
GERES	**GERESS Array B**	**69.50**	**316**	P	**P**	**05 56 17.6**	**-0.1**
	0.5nm,0.5s,baz=69,slow=7.3,SNR=4.9						

ASRS 22 05:50:06.5±0.5,**49°N**±3°×**9°5E**±°,**h5**km,**MLh4.2**/12,**Error ellipse: s-maj=6.4km s-min=2.7km az=176.3,confirmed, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**2.39**	**36**	Pg	Pg	05 50 56.7	+4.4
KNGR				Sg	Sg	05 51 30.4	+7.1
KZLR	**Kyzyl**	**3.07**	**350**	Pg	Pg	05 51 08.6	+3.4
KZLR				Sg	Sg	05 51 50.0	+5.1
MOY	**Mondy**	**4.71**	**49**	Pg	Pg	05 51 35.9	-0.8
MOY				Sg	Sg	05 52 39.6	+1.9
CUR	**Chagan-Uzun**	**4.76**	**290**	Pn	Pb	05 51 25.6	-4.8
CUR				Pg	Pg	05 51 38.2	+0.7
CUR				Sg	Sg	05 52 42.6	+3.4
DJOS	**Djoyskaya Sosn**	**4.80**	**330**	Sg	Sg	05 52 43.9	+3.3
CERR	**Cheremushki**	**4.85**	**331**	Pg	Pg	05 51 40.8	+1.5
CERR				Sg	Sg	05 52 44.2	+2.3
DJO	**Djoy, Khakassi**	**4.85**	**329**	Pn	Pb	05 51 27.9	-4.0
DJO				Pg	Pg	05 51 40.5	+1.1
DJO				Sg	Sg	05 52 44.7	+2.5
ULGR	**Ulagan, Altay**	**5.15**	**295**	Pg	Pg	05 51 46.4	+1.3
ULGR				Sg	Sg	05 52 56.0	+4.3
AKAR	**Aktash**	**5.27**	**291**	Pn	Pb	05 51 32.8	-6.3
AKAR				Pg	Pg	05 51 48.7	+1.4
AKAR				Sg	Sg	05 52 59.5	+4.0
CHBI	**Chibit, Altay**	**5.34**	**291**	Pn	Pb	05 51 35.2	-5.0
CHBI				Pg	Pg	05 51 50.7	+2.0
CHBI				Sg	Sg	05 53 03.5	+5.6
ZAK	**Zakamensk**	**5.46**	**69**	Pg	Pg	05 51 49.1	-1.8
ZAK				Sg	Sg	05 53 01.4	-0.2
ARTR	**Artybash**	**6.02**	**304**	Pg	Pg	05 52 01.3	-0.3
ARTR				Sg	Sg	05 53 21.1	+1.6
TASR	**Tashtagol**	**6.23**	**314**	Sg	Sg	05 53 26.9	+0.4
MINR	**Mina**	**6.26**	**354**	Pg	Pg	05 52 06.8	+0.5
MINR				Sg	Sg	05 53 30.1	+2.9
LUZB	**Luzhba, Kemero**	**6.40**	**323**	Pg	Pg	05 52 09.1	+0.1
LUZB				Sg	Sg	05 53 32.1	+0.2
SHRR	**Shira**	**6.64**	**333**	Sg	Sg	05 53 39.3	-0.1
UKR	**Ust'-Kan**	**7.18**	**292**	Pg	Pg	05 52 22.9	-1.0
UKR				Sg	Sg	05 53 59.6	+2.8

IDC 22 05:55:35.0±60.0,**19.67S**×**179.04W**,**h0**km,**mb3.7**/3,
mb1 3.9/3,**mb1mx3.4**/33,**mbtmp3.7**/3,**Error ellipse: s-maj=1096.0km s-min=156.4km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.28**	**243**	P	P	06 02 48.0	-0.9
	1.0nm,0.4s,baz=86,slow=9.5,SNR=4.4						
WRA	**Warramunga Arr**	**43.75**	**261**	P	P	06 03 42.7	+0.1
	0.3nm,0.3s,baz=94,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**43.76**	**256**	P	P	06 03 42.9	+0.2
	0.4nm,0.4s,baz=97,slow=8.0,SNR=7.5						

KRSC 22 06:06:44.7±1.0,**49.68N**×**156.92E**,**h46**km±19km,**ML3.7,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.13**	**333**	P	Pn	06 07 05.1	+1.0
SKR				S	Sn	06 07 19.8	+1.3
PAU	**Pauzhetka**	**1.79**	**358**	P	Pn	06 07 15.6	+2.5
PAU				S	Sn	06 07 38.0	+3.3
KDTR	**Khodutka, Kamc**	**2.26**	**18**	P	Pn	06 07 22.0	+2.5
KDTR				S	Sn	06 07 48.9	+2.9
MIPR	**Malaya Ipel'ka**	**2.60**	**358**	P	Pn	06 07 26.9	+2.6
MTVR	**Mutnovka**	**2.92**	**15**	P	Pn	06 07 32.4	+3.7
MTVR				S	Sn	06 08 06.7	+4.1
RUS	**Russkaya**	**2.94**	**19**	P	Pn	06 07 31.6	+2.8
RUS				S	Sn	06 08 05.7	+2.9
GRL	**Gorelyy**	**2.97**	**14**	P	Pn	06 07 33.2	+3.8
GRL				S	Sn	06 08 07.4	+3.6
KRMR	**Karymshinskiy**	**3.25**	**13**	P	Pn	06 07 36.9	+3.9
KRMR				S	Sn	06 08 15.0	+4.6
KOK	**Koryaka**	**3.78**	**16**	P	Pn	06 07 44.4	+4.0
TUMR	**Tumrok**	**5.95**	**18**	P	Pn	06 08 13.9	+3.7

*IDC **22** 06:13:36.2±2.0, 51.32′N×176.31′W, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/57, mbtmp3.5/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/59, Error ellipse: s-maj=63.0km s-min=22.2km az=7.0*
*AEIC **22** 06:13:42.1±1.0, 51.48N±0.07′×176.12W±0.06, h31km±5km, ML3.4/23, Error ellipse: s-maj=9.6km s-min=4.7km az=167.0*
*NEIC **22** 06:13:43.0±0.6, 51.48N±0.06′×176.14W±0.06, h41km±8km, Error ellipse: s-maj=9.2km s-min=5.0km az=159.0*

ISC 22 06:13:44.0±0.9,**51.6N**±0.1×**176.18W**±0.04,**h47**km,**n33,**
σ0§**76**/31,**mb3.6**/6,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.31**	**334**		**Pn**	**06 13 52.4**	**-0.5**
ETKA					**Sn**	**06 13 59.6**	**+0.3**
GSCK	**Great Sitkin C**	**0.43**	**2**		**Pn**	**06 13 54.3**	**+0.1**
ADK	**Adak**	**0.43**	**314**	Pn	**Pn**	**06 13 53.8**	**-0.4**
GSIG	**Igitkin Island**	**0.43**	**22**		**Pn**	**06 13 54.0**	**-0.3**
GSMY	**Great Sitkin M**	**0.47**	**10**		**Pn**	**06 13 54.8**	**+0.2**
GSTD	**Great Sitkin T**	**0.47**	**3**		**Pn**	**06 13 55.0**	**+0.2**
GSTD					**Sn**	**06 14 02.8**	**+0.2**
KIWB	**Kanaga Island**	**0.66**	**295**		**Pn**	**06 13 56.8**	**-0.2**
KIMD	**Kanaga Island**	**0.68**	**286**		**Pn**	**06 13 56.8**	**-0.5**
KIKV	**Kanaga Island**	**0.68**	**296**		**Pn**	**06 13 57.1**	**-0.2**
KINC	**Kanaga Island**	**0.68**	**301**		**Pn**	**06 13 57.3**	**-0.1**
KINC					**Sn**	**06 14 08.2**	**+1.2**
KICM	**Kanaga Island**	**0.71**	**299**		**Pn**	**06 13 57.8**	**0.0**
TAPA	**Tanaga Point A**	**1.04**	**284**		**Pn**	**06 14 02.1**	**-0.1**
TAFP	**Tanaga Falls P**	**1.16**	**287**		**Pn**	**06 14 04.0**	**+0.2**
TAFP					**Sn**	**06 14 19.1**	**+0.6**
TASE	**Tanaga Southea**	**1.18**	**283**		**Pn**	**06 14 04.3**	**+0.3**
ATKA	**Atka Island**	**1.39**	**62**		**Pn**	**06 14 05.5**	**-1.2**
KOFP	**Korovin Flat P**	**1.47**	**61**		**Pn**	**06 14 07.5**	**-0.5**
GAEA	**Gareloi East**	**1.61**	**278**		**Pn**	**06 14 10.6**	**+0.7**
GALAA	**Gareloi Lava P**	**1.62**	**277**		**Pn**	**06 14 10.8**	**+0.7**
UNV	**Unalaska Valle**	**6.30**	**65**	Pn	**Pn**	**06 15 17.0**	**+2.8**
ILAR	**Eielson Array**	**20.07**	**38**	P	**P**	**06 18 13.9**	**+0.9**
	0.6nm,0.4s,baz=214,slow=10,SNR=18						
YKA	**Yellowknife Ar**	**33.90**	**47**	P	**P**	**06 20 21.3**	**-0.5**
	0.1nm,0.6s,baz=276,slow=9.2,SNR=2.2						
YKA				PcP	**PcP**	**06 22 59.5**	**+0.2**
	0.2nm,0.5s,baz=282,slow=3.2,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**35.67**	**209**	T	T	06 58 33.6	
	baz=18,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**35.68**	**209**	T	T	06 58 28.0	
	baz=18,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**35.68**	**209**	T	T	06 58 32.1	
	baz=18,slow=76,SNR=18						
JHJ	**Hachijo jima 2**	**36.73**	**257**	LR	LR	06 34 03.2	
	comp=Z,48nm,21.6s,baz=92,slow=34						
PDAR	**Pinedale Array**	**44.69**	**74**	P	**P**	**06 21 51.8**	**-0.5**
	0.5nm,0.6s,baz=279,slow=3.0,SNR=4.5						
TXAR	**Lajitas Array**	**57.01**	**83**	P	**P**	**06 23 24.6**	**-0.3**
	0.1nm,0.3s,baz=314,slow=5.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**60.16**	**315**	P	**P**	**06 23 46.0**	**-0.4**
	1.0nm,0.4s,baz=42,slow=6.7,SNR=12						
MKAR	**Makanchi Array**	**61.17**	**310**	P	**P**	**06 23 52.3**	**-1.1**
	0.2nm,0.4s,baz=49,slow=6.1,SNR=7.4						
BVAR	**Borovoye Array**	**61.77**	**321**	P	**P**	**06 23 57.7**	**+0.3**
	0.6nm,0.3s,baz=32,slow=6.2,SNR=6.7						
H03N2	**Juan Fernandez**	**119.64**	**107**	T	T	08 43 53.5	
	baz=317,slow=77,SNR=22						
H03N1	**Juan Fernandez**	**119.65**	**107**	T	T	08 43 45.4	
	baz=317,slow=77,SNR=24						
H03N3	**Juan Fernandez**	**119.65**	**107**	T	T	08 43 50.0	
	baz=317,slow=77,SNR=27						

*IDC **22** 06:15:36.6±2.5, 54.16′N×86.46E, h0km, mb1 3.1/2, mb1mx3.0/47, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=20.2km s-min=12.7km az=57.0*
*NNC **22** 06:15:37.1±3.6, 54.24′N×86.34E, h0km, mb3.5, mpv2.7, Error ellipse: s-maj=30.0km s-min=17.4km az=5.0, Suspected Mining explosion.*

ISC 22 06:15:35.6±3.6,**54.3N**±0.2×**86.4E**±0.1,**h0**km,**n8**,σ1§**69**/11,
6C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**248**	*i*		06 22 29.3	
	baz=78,slow=335,SNR=5.6						
ZAA0	**Zalesovo Array**	**1.00**	**248**	⇑P	**Pb**	**06 15 54.2**	**-1.6**
	0.2nm,0.3s						
ZAA0				⇑S	**Sg**	**06 16 08.4**	**+0.7**
	0.1nm,0.2s						
ZALV	**Zalesovo Beam**	**1.00**	**248**	Pg	**Pg**	**06 15 54.0**	**-0.8**
	1.4nm,0.3s,baz=76,slow=17,SNR=14						
ZALV				Lg	Lg	06 16 09.7	
	2.1nm,0.3s,baz=77,slow=28,SNR=11						
ZALV				Rg	Rg	06 16 14.8	
	65nm,1.2s,baz=75,slow=27,SNR=11						
KURK	**Kurchatov**	**5.97**	**236**	⇑Pn	**Pn**	**06 17 07.4**	**+2.3**
	1.0nm,0.6s						
KURK				⇓Sn	**Sn**	**06 18 12.6**	**-1.5**
	0.4nm,0.5s						
KURK				⇑Lg	Lg	06 18 47.4	
	3.7nm,1.0s						
KURBB	**Kurchatov Arra**	**6.07**	**235**	Pn	**Pn**	**06 17 07.8**	**+1.2**
	0.2nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Lg	Lg	06 18 48.7	
	0.0nm,0.3s,baz=52,slow=33,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.07**	**235**	⇓Pn	**Pn**	**06 17 07.4**	**+0.8**
	2.1nm,0.6s						
KURBB				⇑Sn	**Sn**	**06 18 19.0**	**+2.3**
	1.2nm,0.5s						
KURBB				⇓Lg	Lg	06 18 48.6	
	3.7nm,0.8s						
MK31	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**	**06 17 34.9**	**+2.0**
	0.4nm,0.6s,baz=24,slow=13,SNR=11						
MK31				⇓Sn	**Sn**	**06 19 03.2**	**-0.7**
	0.6nm,0.7s						
MK31				⇑Lg	Lg	06 19 41.8	
	0.1nm,0.2s,baz=18,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**	**06 17 32.9**	**0.0**
	0.2nm,0.3s,baz=22,slow=13,SNR=11						
MKAR				Lg	Lg	06 19 42.0	
	0.0nm,0.3s,baz=23,slow=30,SNR=9.4						

*IDC **22** 06:17:18.6±1.3, 9.47′N×84.02′W, h0km, mb3.5/5, mb1 4.0/5, mb1mx3.7/33, mbtmp3.5/5, Error ellipse: s-maj=59.3km s-min=15.5km az=47.0*
*UCR **22** 06:17:21.7±1.6, 9.03′N×85.08′W, h20km±4km, MW4.2*
*INET **22** 06:17:21.6±1.2, 9.05′N×85.10′W, h15km±20km, MW3.5*

ISC 22 06:17:21.1±1.9,**9.05N**±0.06×**85.07W**±0.05,**h11**km±11km,
n42,σ0§**91**/50,**mb3.5**/5,**2C-2D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO2	**Cobano, Puntar**	**0.63**	**356**	*e*P	**Pg**	**06 17 33.6**	**+0.2**
JACO	**JACO, Garabito**	**0.73**	**34**	*e*P	**Pg**	**06 17 35.5**	**+0.3**
JACO				*e*S	**Sb**	**06 17 46.8**	**+1.1**
LAFE	**Finca La Fe, P**	**0.77**	**12**	*e*P	**Pb**	**06 17 35.8**	**-0.7**
LAFE	**Finca La Fe, P**	**0.77**	**12**	⇑*i*P	**Pb**	**06 17 35.7**	**-0.7**
SRA1	**San Ramn**	**1.18**	**29**	*e*P	**Pn**	**06 17 42.5**	**-1.1**
EDDO	**Dominical**	**1.21**	**80**	*e*P	**Pn**	**06 17 43.0**	**-0.8**
EDDO				*e*S	**Sb**	**06 17 59.1**	**-0.4**
JTS	**Las Juntas de**	**1.24**	**5**	Pg	**Pn**	**06 17 42.8**	**-1.5**
	16nm,0.3s,baz=154,slow=15,SNR=19						
JTS				Lg	Lg	06 17 58.2	
	50nm,0.3s,baz=28,slow=23,SNR=7.1						
JTS	**Las Juntas de**	**1.24**	**5**	*e*P	**Pn**	**06 17 42.8**	**-1.5**
JTS	**Las Juntas de**	**1.24**	**5**	*i* P	**Pn**	**06 17 42.8**	**-1.5**
LCR2	**La Lucha 2**	**1.25**	**57**	*e*P	**Pn**	**06 17 43.9**	**-0.8**
HDC3	**Heredia 3**	**1.33**	**45**	*e*P	**Pn**	**06 17 45.3**	**-0.5**
ORTG	**Ortega, Santa**	**1.36**	**344**	⇑*i*P	**Pn**	**06 17 44.2**	**-1.9**
CDM	**Cerro de Muert**	**1.38**	**69**	*e*P	**Pn**	**06 17 46.1**	**-0.5**
CDM	**Cerro de Muert**	**1.38**	**69**	*e*P	**Pn**	**06 17 46.5**	**-0.1**
CDM				*e*S	**Sn**	**06 18 04.7**	**-0.4**
RIMA	**Rio Macho**	**1.39**	**59**	*e*P	**Pn**	**06 17 46.0**	**-0.5**
RIMA	**Rio Macho**	**1.39**	**59**	*e*P	**Pn**	**06 17 46.0**	**-0.5**
RIMA				*e*S	**Sn**	**06 18 04.8**	**-0.1**
PEZE	**Perez Zeledon,**	**1.41**	**76**	*e*P	**Pn**	**06 17 45.9**	**-0.9**
ARE1	**Arenal 1**	**1.44**	**14**	*e*P	**Pn**	**06 17 47.0**	**-0.1**
CEDE	**Laguna Cedeo**	**1.47**	**14**	*i* P	**Pn**	**06 17 48.0**	**+0.4**
ACAL	**Aguas Claras**	**1.57**	**1**	*i* P	**Pn**	**06 17 48.3**	**-0.7**
ACAL				*i* S	**Sn**	**06 18 09.2**	**-0.1**
EDPN	**Palmar Norte**	**1.59**	**93**	*e*P	**Pn**	**06 17 48.8**	**-0.3**
EDPN				*e*S	**Sn**	**06 18 08.5**	**-1.3**
CUI	**Cuipilapa**	**1.60**	**357**	*i* P	**Pn**	**06 17 48.8**	**-0.6**
CUI				*i* S	**Sn**	**06 18 10.2**	**+0.3**
COLC	**Colonia**	**1.61**	**355**	*i* P	**Pn**	**06 17 48.8**	**-0.7**
GUAB	**Guayabo de Bag**

AKS	**Akhisar**	**0.04**	**317**	PG	**Pg**	**07 12 18.2**	**-0.2**
AKS				SG	**Sg**	**07 12 19.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.53**	**349**	P	**Pg**	**07 12 27.1**	**+0.4**
STEP				S	**Sb**	**07 12 34.7**	**-0.6**
STEP				*i* AML	AML	07 12 35.0	
	comp=N,133nm,0.3s						
ZEDA	**zmir-Bergama**	**0.61**	**281**	P	**Pb**	**07 12 28.8**	**-0.1**
ZEDA				S	**Sb**	**07 12 37.1**	**-0.3**
ZEDA				*i* AML	AML	07 12 38.0	
	comp=N,119nm,0.6s						
MANT	**Manisa**	**0.66**	**123**	P	**Pb**	**07 12 30.0**	**+0.1**
DEMI	**Demirci**	**0.70**	**74**	P	**Pg**	**07 12 29.8**	**-0.1**
DEMI				S	**Sg**	**07 12 38.3**	**-0.9**
DEMI				*i* AML	AML	07 12 40.0	
	comp=N,48nm,0.3s						
KULA	**Kula-Manisa**	**0.72**	**118**	PG	**Pg**	**07 12 30.1**	**-0.1**
DKL	**Dikili**	**0.77**	**287**	PG	**Pb**	**07 12 31.6**	**+0.1**
DKL				SG	**Sb**	**07 12 42.0**	**+0.1**
BUHA	**Balikesir, Bur**	**0.88**	**318**	P	**Pb**	**07 12 33.7**	**+0.2**
BUHA				S	**Sb**	**07 12 46.5**	**+1.2**
BALY	**Balya**	**0.90**	**349**	P	**Pg**	**07 12 33.3**	**-0.4**
BALY				S	**Sg**	**07 12 45.8**	**+0.2**
BALY				*i* AML	AML	07 12 48.0	
	comp=N,39nm,0.3s						
SIMA	**Simav-Kutahya**	**0.92**	**75**	PG	**Pb**	**07 12 34.4**	**+0.2**
DST	**Dursunbey**	**0.96**	**38**	PG	**Pb**	**07 12 35.6**	**+0.7**
DST				SG	**Sn**	**07 12 49.8**	**+0.4**
AYVA	**Ayvalik**	**1.01**	**297**	P	**Pg**	**07 12 34.9**	**-0.7**
AYVA				S	**Sg**	**07 12 48.7**	**-0.1**
AYVA				*i* AML	AML	07 12 52.0	
	comp=N,53nm,0.7s						
BAYC	**CANAKKALE_Bayr**	**1.34**	**312**	P	**Pn**	**07 12 41.0**	**+0.1**
BAYC				S	**Sb**	**07 12 57.8**	**-0.7**
BAYC				*i* AML	AML	07 13 02.0	
	comp=N,12nm,0.3s						
TVSB	**Tavsanli**	**1.39**	**64**	PN	**Pg**	**07 12 43.1**	**+0.1**
CHOS	**Chios island**	**1.48**	**252**	PN	**Pb**	**07 12 44.2**	**+0.5**
YLV	**Yalova**	**2.08**	**34**	PN	**Pb**	**07 12 53.2**	**-0.8**

BEO ***22*** *07:14:03.8±0.5, 40°.95N×20°.10E, h2km±1km, ML3.0/18*
ATH ***22*** *07:14:04.0, 41°.16N×20°.17E, h36km±6km, ML3.2/13, Error ellipse: s-maj=6.8km s-min=1.1km az=324.0*
TIR ***22*** *07:14:04.2, 41°.09N×20°.18E, h20km±33km, Md3.5, Ml3.4*
SKO ***22*** *07:14:05.3, 41°.08N×20°.14E, h1km*
THE ***22*** *07:14:05.2, 41°.09N×20°.21E, h0km±1km, ML3.1/8, Error ellipse: s-maj=1.8km s-min=0.6km az=1.0*
PDG ***22*** *07:14:05.3±0.5, 41°.13N×20°.15E, h6km, ML3.4/12, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*

ISC 22 07:14:05.0±1.0, **41°.08N**±0°.01×**20°.17E**±0°.02, **h6**km±9km, **n140,** σ1§**05**/198, **16C-6D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TIR	**Tirane**	**0.35**	**319**	⇓	S	**Sg**	**07 14 17.5**	**+1.0**
TIR	**Tirane**	**0.35**	**319**	*e*	Pg	**Pg**	**07 14 11.6**	**-0.3**
TIR				*e*	Sg	**Sb**	**07 14 18.1**	**-1.5**
TIR	**Tirane**	**0.35**	**319**		P	**Pg**	**07 14 11.8**	**-0.1**
TIR					S	**Sg**	**07 14 17.4**	**+1.0**
TIR					AML	AML	07 14 21.2	
	comp=E,11818μm,0.2s							
TIR					AML	AML	07 14 21.2	
	comp=N,11824μm,0.2s							
TIR	**Tirane**	**0.35**	**319**		P	**Pg**	**07 14 11.8**	**-0.1**
TIR					S	**Sg**	**07 14 17.9**	**+1.4**
	comp=N,2μm,0.3s							
TIR	**Tirane**	**0.35**	**319**	⇑	*i* Pg	**Pg**	**07 14 11.8**	**-0.1**
TIR	**Tirane**	**0.35**	**319**		P	**Pg**	**07 14 11.6**	**-0.3**
	baz=313							
TIR					S	**Sg**	**07 14 17.6**	**+1.0**
	baz=313							
TIR					AMP			
	comp=N,9.6nm,0.1s,baz=313							
TIR	**Tirane**	**0.35**	**319**	⇑	P	**Pg**	**07 14 12.3**	**+0.5**
OHR	**Ohrid**	**0.47**	**86**	*e*	Pg	**Pg**	**07 14 14.7**	**+0.5**
OHR				*e*	Sg	**Sb**	**07 14 22.9**	**-0.3**
OHR	**Ohrid**	**0.47**	**86**	*i*	Pg	**Pg**	**07 14 14.6**	**+0.5**
OHR				*i*	Sg	**Sb**	**07 14 22.8**	**-0.3**
OHR				*e*	Lg	Lg	07 14 23.0	
	comp=N,2μm,0.3s							
DURR	**Durres**	**0.59**	**294**		P	**Pn**	**07 14 19.0**	**-0.9**
	baz=293							
PHP	**Peshkopia**	**0.64**	**18**		P	**Pg**	**07 14 16.8**	**-0.4**
PHP					S	**Sb**	**07 14 26.8**	**-1.0**
PHP	**Peshkopia**	**0.64**	**18**		P	**Pg**	**07 14 16.8**	**-0.4**
	baz=18							
PHP					S	**Sg**	**07 14 26.1**	**+0.5**
	baz=18							
PHP					AMP			
	comp=N,12nm,0.2s,baz=18							
PHP	**Peshkopia**	**0.64**	**18**		P	**Pg**	**07 14 16.8**	**-0.4**
	baz=15							
PHP					S	**Sg**	**07 14 25.7**	**+0.1**
	baz=15							
PHP					AMP			
	comp=N,12nm,0.2s,baz=15							
KBN	**Korca**	**0.65**	**134**		P	**Pg**	**07 14 17.0**	**-0.6**
KBN					S	**Sb**	**07 14 27.3**	**-0.9**
	comp=N,5μm,0.6s							
KBN	**Korca**	**0.65**	**134**		P	**Pg**	**07 14 16.9**	**-0.6**
	baz=135							
KBN					S	**Sb**	**07 14 27.4**	**-0.8**
	baz=135							
KBN					AMP			
	comp=N,17nm,0.4s,baz=135							
KBN	**Korca**	**0.65**	**134**		P	**Pg**	**07 14 16.9**	**-0.6**
	baz=138							
KBN					S	**Sg**	**07 14 26.5**	**+0.5**
	baz=138							
KBN					AMP			
	comp=N,17nm,0.4s,baz=138							
LACI	**Lac**	**0.66**	**328**		P	**Pg**	**07 14 18.0**	**+0.4**
	baz=328							
LACI					S	**Sg**	**07 14 26.4**	**+0.3**
	baz=328							
VLO	**Vlora**	**0.80**	**220**		P	**Pb**	**07 14 21.0**	**-0.3**
	baz=222							
NEST	**Nestorio**	**0.94**	**135**		P	**Pg**	**07 14 21.8**	**-1.2**
NEST					AML	AML	07 14 42.8	
	comp=E,2111μm,0.5s							
NEST					AML	AML	07 14 48.5	
	comp=N,1841μm,0.5s							
NEST	**Nestorio**	**0.94**	**135**		P	**Pg**	**07 14 21.9**	**-1.2**
FNA	**Florina**	**0.96**	**108**		P	**Pg**	**07 14 22.6**	**-0.8**
FNA					S	**Sg**	**07 14 36.2**	**+0.4**
FNA					AML	AML	07 14 41.1	
	comp=N,3222μm,0.4s							
FNA					AML	AML	07 14 42.9	
	comp=E,5661μm,0.4s							
FNA	**Florina**	**0.96**	**108**		P	**Pg**	**07 14 22.6**	**-0.8**
FNA					S	**Sb**	**07 14 36.4**	**-0.7**
	comp=E,2μm,0.4s							
FNA	**Florina**	**0.96**	**108**		P	**Pg**	**07 14 22.6**	**-0.8**
	baz=109							
FNA					S	**Sb**	**07 14 36.4**	**-0.7**
	baz=109							
LSK	**Leskovik**	**0.98**	**161**		P	**Pg**	**07 14 23.1**	**-0.8**
	baz=163							
LSK					S	**Sb**	**07 14 38.5**	**+0.7**
	baz=163							
LSK					AMP			
	comp=E,5.2nm,0.6s,baz=163							
KKS	**Kukesi**	**1.01**	**10**		P	**Pg**	**07 14 23.4**	**-1.0**
	baz=8.0							
KKS					S	**Sb**	**07 14 38.1**	**-0.4**
	baz=8.0							
SDA	**Shkodra**	**1.09**	**333**		P	**Pg**	**07 14 25.1**	**-0.9**
	baz=333							
ULC	**Ulcinj**	**1.12**	**322**	*i*	Pg	**Pg**	**07 14 25.2**	**-1.4**
ULC	**Ulcinj**	**1.12**	**322**	⇑	*i* Pg	**Pg**	**07 14 25.1**	**-1.4**
ULC				*i*	Sg	**Sb**	**07 14 42.1**	**+0.3**
PENT	**Pentalofos**	**1.15**	**140**		P	**Pg**	**07 14 25.4**	**-1.7**
PENT	**Pentalofos**	**1.15**	**140**		P	**Pg**	**07 14 25.8**	**-1.2**
PENT					S	**Sn**	**07 14 43.8**	**0.0**
SRN	**Sarande**	**1.21**	**186**		P	**Sb**	**07 14 27.8**	**-0.4**
SRN					S	**Sn**	**07 14 46.4**	**+1.4**
	comp=E,425nm,0.5s							
SRN	**Sarande**	**1.21**	**186**		P	**Pb**	**07 14 28.0**	**-0.2**
	baz=187							
SRN					S	**Sg**	**07 14 43.6**	**-0.1**
	baz=187							
SRN					AMP			
	comp=N,1.5nm,0.4s,baz=187							
SRN	**Sarande**	**1.21**	**186**		P	**Pb**	**07 14 28.0**	**-0.2**
	baz=189							
SRN					S	**Sn**	**07 14 45.8**	**+0.7**
	baz=189							
SRN					AMP			
	comp=N,1.5nm,0.4s,baz=189							
BCI	**Bajram Curri**	**1.29**	**357**		P	**Pn**	**07 14 28.6**	**-1.0**
	baz=355							
BCI					S	**Sn**	**07 14 47.1**	**-0.1**
	baz=355							
SKO	**Skopje**	**1.30**	**46**	*e*	Pg	**Pn**	**07 14 29.1**	**-0.7**
SKO				*e*	Sg	**Sn**	**07 14 47.8**	**+0.2**
SKO	**Skopje**	**1.30**	**46**	*i*	Pg	**Pn**	**07 14 28.9**	**-0.9**
SKO				*i*	Sg	**Sn**	**07 14 47.6**	**0.0**
DRME	**Dracevica, Mon**	**1.33**	**327**	*e*	Pn	**Pn**	**07 14 28.9**	**-1.3**
DRME	**Dracevica, Mon**	**1.33**	**327**	⇑	*i* Pg	**Pn**	**07 14 28.7**	**-1.5**
DRME				*i*	Sg	**Sn**	**07 14 48.9**	**+0.7**
KASA	**Kassiopi**	**1.34**	**188**		P	**Pb**	**07 14 30.6**	**0.0**
KASA					S	**Sg**	**07 14 48.4**	**+0.2**
KASA					AML	AML	07 14 54.9	
	comp=N,1255μm,0.5s							
KASA					AML	AML	07 14 57.2	
	comp=E,1610μm,0.4s							
KEK	**Kerkira**	**1.40**	**192**		P	**Pn**	**07 14 31.0**	**0.0**
KEK					S	**Sb**	**07 14 49.4**	**-0.1**
KEK					AML	AML	07 14 56.7	
	comp=E,1536μm,0.5s							
KEK					AML	AML	07 14 58.6	
	comp=N,1222μm,0.6s							
KEK	**Kerkira**	**1.40**	**192**		P	**Pb**	**07 14 31.4**	**-0.1**
KEK					S	**Sg**	**07 14 52.3**	**+2.5**
	comp=N,692nm,0.5s							
KZN	**Kozani**	**1.44**	**122**		P	**Pn**	**07 14 31.6**	**-0.1**
KZN					S	**Sb**	**07 14 49.9**	**-1.0**
KZN					AML	AML	07 14 54.8	
	comp=N,1620μm,0.6s							
KZN					AML	AML	07 14 55.0	
	comp=E,1917μm,0.6s							
KZN	**Kozani**	**1.44**	**122**		P	**Pn**	**07 14 31.6**	**-0.1**
KZN					S	**Sg**	**07 14 52.4**	**+1.1**
	comp=E,885nm,0.6s							
KPRO	**Kipourio**	**1.45**	**141**		P	**Pn**	**07 14 31.0**	**-0.8**
KPRO					AML	AML	07 15 01.6	
	comp=N,1067μm,0.6s							
KPRO					AML	AML	07 15 07.8	
	comp=E,1750μm,0.5s							
KPRO	**Kipourio**	**1.45**	**141**		P	**Pn**	**07 14 31.2**	**-0.6**
KPRO					S	**Sg**	**07 14 51.7**	**+0.3**
	comp=E,705nm,0.5s							
JAN	**Janina**	**1.51**	**160**		P	**Pn**	**07 14 31.6**	**-1.0**
JAN					AML	AML	07 15 03.4	
	comp=E,1467μm,0.5s							
JAN					AML	AML	07 15 04.2	
	comp=N,1255μm,0.5s							
PDG	**Podgorica**	**1.51**	**333**	⇑	P	**Pb**	**07 14 33.0**	**-0.5**
PDG	**Podgorica**	**1.51**	**333**	*e*	Pg	**Pn**	**07 14 32.6**	**0.0**
PDG				*e*	Sg	**Sg**	**07 14 55.2**	**+1.6**
PDG	**Podgorica**	**1.51**	**333**	*e*	Pn	**Pn**	**07 14 32.2**	**-0.4**
PDG	**Podgorica**	**1.51**	**333**	*i*	Pn	**Pn**	**07 14 32.4**	**-0.2**
TTG	**Podgorica**	**1.51**	**333**	⇓	*i* Pg	**Pn**	**07 14 32.1**	**-0.5**
TTG				*i*	Sg	**Sg**	**07 14 55.5**	**+1.9**
PVY	**Plav**	**1.52**	**354**	⇑	*i* Pg	**Pn**	**07 14 32.4**	**-0.5**
PVY				*i*	Sg	**Sg**	**07 14 55.6**	**+1.7**
IGT	**Igoumenitsa**	**1.55**	**175**		P	**Pn**	**07 14 33.2**	**0.0**
IGT					AML	AML	07 15 00.6	
	comp=E,901μm,0.8s							
IGT					AML	AML	07 15 03.1	
	comp=N,854μm,0.6s							
IGT	**Igoumenitsa**	**1.55**	**175**		P	**Pb**	**07 14 33.8**	**-0.3**
IGT					S	**Sg**	**07 14 55.0**	**+0.2**
	comp=N,438nm,0.6s							
IGT	**Igoumenitsa**	**1.55**	**175**		P	**Pb**	**07 14 34.3**	**+0.2**
	baz=177							
IGT					S	**Sg**	**07 14 57.1**	**+2.3**
	baz=177							
BUM	**Brajici-Budva**	**1.55**	**322**	⇑	*i* Pg	**Pn**	**07 14 32.9**	**-0.3**
BUM				*i*	Sg	**Sg**	**07 14 57.0**	**+2.2**
STIP	**Stip**	**1.64**	**67**	*i*	Pn	**Pg**	**07 14 36.8**	**+0.5**
GRG	**Griva**	**1.69**	**93**		P	**Pn**	**07 14 34.6**	**-0.5**
GRG					AML	AML	07 15 05.7	
	comp=N,654μm,0.6s							
GRG					AML	AML	07 15 06.2	
	comp=E,642μm,0.5s							
GRG	**Griva**	**1.69**	**93**		P	**Pn**	**07 14 35.3**	**+0.2**
CEME	**Cevo**	**1.74**	**328**	⇑	*i* Pn	**Pn**	**07 14 36.4**	**+0.6**
CEME				*i*	Sn	**Sg**	**07 15 00.9**	**0.0**
IVA	**Berane**	**1.80**	**353**	⇓	*i* Pn	**Pb**	**07 14 37.6**	**-0.9**
IVA				*i*	Sn	**Sg**	**07 15 02.4**	**-0.5**
VAY	**Valandovo**	**1.83**	**82**	*e*	Pn	**Pn**	**07 14 37.4**	**+0.5**
VAY				*e*	Sn	**Sb**	**07 15 02.3**	**+0.4**
KOME	**Kolasin**	**1.84**	**345**	⇓	*i* Pn	**Pn**	**07 14 37.5**	**+0.3**
KOME				*i*	Sn	**Sg**	**07 15 03.3**	**-0.7**
HCY	**Herceg Novi**	**1.86**	**318**	*e*	Pn	**Pn**	**07 14 37.9**	**+0.5**
HCY	**Herceg Novi**	**1.86**	**318**	⇑	*i* Pn	**Pn**	**07 14 37.9**	**+0.5**
HCY				*i*	Sn	**Sg**	**07 15 04.1**	**-0.5**
NKME	**Niksic**	**1.92**	**332**	*e*	Pn	**Pn**	**07 14 38.7**	**+0.5**
NKME				*i*	Sn	**Sb**	**07 15 04.8**	**+0.2**
PRVS	**Prvonek**	**2.02**	**44**	*e*	Pn	**Pn**	**07 14 39.9**	**+0.3**
PRVS				*e*	Sn	**Sg**	**07 15 09.1**	**-0.6**
LIT	**Litokhoron**	**2.02**	**118**		P	**Pn**	**07 14 39.7**	**+0.1**
LIT	**Litokhoron**	**2.02**	**118**		P	**Pn**	**07 14 40.2**	**+0.6**
KNT	**Kendrikon**	**2.06**	**87**		P	**Pn**	**07 14 39.7**	**-0.5**
THL	**Klokotos Trika**	**2.07**	**136**		P	**Pn**	**07 14 41.1**	**+0.9**
THL					AML	AML	07 15 15.9	
	comp=E,322μm,0.9s							
THL					AML	AML	07 15 16.1	
	comp=N,450μm,0.6s							
THL	**Klokotos Trika**	**2.07**	**136**		P	**Pn**	**07 14 41.0**	**+0.8**
BARS	**Barje**	**2.12**	**35**	*e*	Pn	**Pb**	**07 14 43.2**	**-0.7**
BARS	**Barje**	**2.12**	**35**	*e*	Pn	Pg	07 14 57.2	+11
BARS				*e*	Sn	**Sb**	**07 15 10.7**	**+0.1**
BARS				*e*	Sn	Sg	07 15 39.2	+26
BARS	**Barje**	**2.12**	**35**	*i*	Pn	**Pb**	**07 14 43.3**	**-0.6**
TREB	**Trebinje**	**2.13**	**321**	*e*	Pn	**Pn**	**07 14 40.6**	**-0.5**
TREB				*e*	Sn	**Sb**	**07 15 09.4**	**-1.2**
TREB	**Trebinje**	**2.13**	**321**	*e*	Pn	**Pn**	**07 14 41.2**	**+0.1**
SJES	**Sjenica**	**2.19**	**356**	*e*	Pn	**Pb**	**07 14 44.5**	**-0.5**
SJES				*e*	Sn	**Sb**	**07 15 12.4**	**0.0**
BRY	**Bratogost**	**2.19**	**327**	*e*	Pn	**Pb**	**07 14 43.5**	**-1.6**
BRY	**Bratogost**	**2.19**	**327**	⇑	*i* Pn	**Pn**	**07 14 43.0**	**+0.9**
BRY				*i*	Sn	**Sb**	**07 15 13.2**	**+0.6**
BOSS	**Bosilegrad**	**2.23**	**50**	*e*	Pn	**Pn**	**07 14 42.8**	**+0.2**
BOSS				*e*	Sn	**Sb**	**07 15 13.2**	**-0.5**
SELS	**Selova**	**2.25**	**18**	*e*	Pn	**Pn**	**07 14 43.8**	**+1.0**
SELS				*e*	Sn	**Sb**	**07 15 14.8**	**+0.6**
LKD2	**Lefkada island**	**2.32**	**171**		P	**Pn**	**07 14 44.6**	**+0.9**
LKD2	**Lefkada island**	**2.32**	**171**		P	**Pn**	**07 14 44.7**	**+1.0**
PLE	**Pljevlja**	**2.32**	**346**	⇑	*i* Pn	**Pn**	**07 14 44.6**	**+0.7**
PLE				*i*	Sn	**Sb**	**07 15 16.4**	**0.0**
KKB	**Krupnik**	**2.33**	**69**	*i*	P	**Pb**	**07 14 47.0**	**-0.3**
NYDR	**Nydri-Lefkada**	**2.40**	**170**		P	**Pn**	**07 14 45.5**	**+0.7**
EVGI	**Lefkada island**	**2.48**	**171**		P	**Pn**	**07 14 46.5**	**+0.5**
IVAS	**Ivanjica**	**2.50**	**360**	*e*	Pn	**Pn**	**07 14 47.2**	**+1.0**
IVAS				*e*	Sn	**Sb**	**07 15 19.5**	**-1.8**
EVR	**Evrytania**	**2.50**	**149**		P	**Pb**	**07 14 48.5**	**-1.9**
EVR					AML	AML	07 15 29.8	
	comp=E,317μm,0.7s							
EVR					AML	AML	07 15 38.6	
	comp=N,443μm,0.8s							
MAKR	**Makrakomi, Fth**	**2.55**	**143**		P	**Pn**	**07 14 48.9**	**+1.9**
MAKR					AML	AML	07 15 30.4	
	comp=E,330μm,0.6s							
MAKR					AML	AML	07 15 36.2	
	comp=N,369μm,0.9s							
STON	**Ston**	**2.57**	**315**	*e*	Pn	**Pn**	**07 14 46.6**	**-0.5**
STON	**Ston**	**2.57**	**315**	*e*	Pn	**Pn**	**07 14 46.7**	**-0.4**
RUDO	**Rudo**	**2.60**	**347**	*e*	Pn	**Pb**	**07 14 50.9**	**-1.2**
AGG	**Agios Georgios**	**2.64**	**140**		P	**Pn**	**07 14 49.4**	**+1.2**
MATE	**Matera**	**2.66**	**262**	⇑	P	**Pb**	**07 14 52.8**	**-0.3**
VTS	**Vitosha**	**2.76**	**55**	⇑	P	**Pn**	**07 14 50.4**	**+0.4**
VTS	**Vitosha**	**2.76**	**55**	*e*	Pn	**Pn**	**07 14 49.4**	**-0.5**
VTS				*e*	Sn	**Sn**	**07 15 24.1**	**+0.5**
VTS	**Vitosha**	**2.76**	**55**	*i*	Pn	**Pn**	**07 14 50.5**	**+0.6**
VTS	**Vitosha**	**2.76**	**55**	*i*	P	**Pn**	**07 14 50.3**	**+0.4**
BOVS	**Bovan**	**2.79**	**23**	⇓	P	**Pn**	**07 14 51.5**	**+1.3**
BOVS	**Bovan**	**2.79**	**23**	*e*	Pn	**Pn**	**07 14 51.6**	**+1.3**
ANX	**Ano Chora**	**2.83**	**151**		P	**Pb**	**07 14 53.4**	**-2.5**
GRUS	**Gruza**	**2.84**	**8**	*e*	Pn	**Pn**	**07 14 51.6**	**+0.8**
BBLS	**Lazići**	**2.84**	**349**	*e*	Pn	**Pn**	**07 14 52.8**	**+1.8**
BBLS				*e*	Sn	**Sn**	**07 15 27.7**	**+2.1**
BBLS	**Lazići**	**2.84**	**349**	*e*	Pn	**Pb**	**07 14 54.0**	**-2.2**
ZAPS	**Zavoj**	**2.86**	**39**	*e*	Pn	**Pn**	**07 14 52.8**	**+1.7**
ZAPS				*e*	Sn	**Sb**	**07 15 29.4**	**-2.2**
LSTV	**Lastovo**	**2.97**	**306**	*e*	Pn	**Pn**	**07 14 51.7**	**-1.0**
DIVS	**Divibare**	**3.02**	**358**	*e*	Pn	**Pn**	**07 14 53.3**	**-0.1**
DIVS				*e*	Sn	**Sn**	**07 15 31.7**	**+1.7**
DIVS	**Divibare**	**3.02**	**358**	*e*	Pn	**Pn**	**07 14 54.2**	**+0.8**
ZAGS	**Zajecar**	**3.13**	**28**	*e*	Pn	**Pn**	**07 14 55.1**	**+0.3**
ZAGS				*e*	Sn	**Sn**	**07 15 34.4**	**+1.9**
TRUS	**Trudelj**	**3.15**	**3**	*e*	Pn	**Pn**	**07 14 56.8**	**+1.7**
RICI	**Ricice**	**3.30**	**318**	*e*	Pn	**Pn**	**07 14 57.2**	**-0.1**
HVAR	**Hvar**	**3.47**	**308**	*e*	Pn	**Pn**	**07 14 58.4**	**-1.2**
RZN	**Rozhen**	**3.47**	**78**	*i*	P	**Pn**	**07 15 03.1**	**+3.3**
KUBS	**Kucevo**	**3.51**	**18**	*e*	Pn	**Pn**	**07 15 00.6**	**+0.5**
MDVR	**Moldovita**	**3.87**	**16**	⇑	P	**Pn**	**07 15 06.1**	**+1.0**
KIJV	**Kijevo**	**4.04**	**318**	*e*	Pn	**Pn**	**07 15 07.5**	**+0.2**
MGRS	**Mrkonjic Grad**	**4.04**	**327**	*e*	Pn	**Pn**	**07 15 09.1**	**+1.7**
FRGS	**Fruska Gora**	**4.08**	**356**	*e*	Pn	**Pn**	**07 15 08.7**	**+0.7**
FRGS	**Fruska Gora**	**4.08**	**356**	*e*	Pn	**Pn**	**07 15 08.6**	**+0.6**
HERR	**Herculane**	**4.14**	**23**	⇑	P	**Pn**	**07 15 09.1**	**+0.4**
ZIRJ	**Zirje**	**4.23**	**309**	*e*	Pn	**Pn**	**07 15 09.8**	**-0.1**
BLY	**Banja Luka**	**4.27**	**330**	*e*	Pn	**Pn**	**07 15 14.6**	**+4.0**
MORI	**Morici**	**4.32**	**312**	*e*	Pn	**Pn**	**07 15 11.2**	**0.0**
A050A	**Klekovaca**	**4.33**	**323**	*e*	Pn	**Pn**	**07 15 11.1**	**-0.3**
A051A	**Mrakovica**	**4.60**	**330**	*e*	Pn	**Pn**	**07 15 14.4**	**-0.8**
BZS	**Buzias**	**4.66**	**13**	⇑	P	**Pn**	**07 15 16.3**	**+0.4**
GZR	**Gura Zlata**	**4.71**	**23**	⇓	P	**Pn**	**07 15 16.7**	**+0.1**
UDBI	**Udbina**	**4.73**	**318**	*e*	Pn	**Pn**	**07 15 18.5**	**+1.5**
DUGI	**Dugi Otok**	**4.77**	**309**	*e*	Pn	**Pn**	**07 15 17.0**	**-0.4**
VIRC	**Vir**	**4.95**	**312**	*e*	Pn	**Pn**	**07 15 19.8**	**-0.1**
NVLJ	**Novalja**	**5.23**	**314**	*e*	Pn	**Pn**	**07 15 23.4**	**-0.3**
MORH	**Mrgy, Hungar**	**5.25**	**348**	*e*	Pn	**Pn**	**07 15 26.6**	**+2.6**
RABC	**Rab**	**5.40**	**315**	*e*	Pn	**Pn**	**07 15 25.9**	**-0.1**
CRES	**Cresnjev**	**5.85**	**326**	*e*	Pn	**Pn**	**07 15 33.2**	**+0.9**
CEY	**Cerknica**	**6.26**	**320**	*e*	Pn	**Pn**	**07 15 37.9**	**0.0**
SKDS	**Skadanscina**	**6.33**	**317**	*e*	Pn	**Pn**	**07 15 36.8**	**-2.1**
SOKA	**Soboth**	**6.71**	**328**	*e*	Pn	**Pn**	**07 15 48.4**	**+4.2**
	comp=N,1.0nm,0.2s							
OBKA	**Obir**	**6.78**	**325**	*e*	Pn	**Pn**	**07 15 45.8**	**+0.7**
	comp=N,0.8nm,0.2s							

DJA ***22*** *07:24:56.8±0.5, 5°.5S×6°×15°.1E±1°.0, h68km±7km, M4.7/8, mB5.1/1, mb4.4/8, MLv4.9/2, Mw(mB)4.4/1*
NEIC ***22*** *07:24:57.2±1.4, 5°.49S×0°.10×151°.7E±0°.1, h53km±6km, mb4.3/22, Error ellipse: s-maj=22.1km s-min=7.4km az=125.0*
IDC ***22*** *07:24:57.5±1.2, 5°.57S×151°.86E, h69km±10km, mb3.9/10, mb1 4.2/13, mb1mx3.9/42, mbtmp4.3/13, MS3.6/8, Ms1 3.6/8, ms1mx3.2/53, Error ellipse: s-maj=22.9km s-min=10.6km az=111.0*

ISC 22 07:24:56.4±0.5, **5°.51S**±0°.07×**151°.71E**±0°.09, **h57**km, **n62,** σ1§**42**/59, **mb4.2**/21, **MS3.5**/7, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KRVT	**Keravat (AS076**	**1.24**	**15**		P	**Pn**	**07 25 17.6**	**+0.1**
	5.3nm,0.3s,baz=349,slow=23,SNR=29							
KRVT					S	**Sn**	**07 25 35.8**	**+2.6**
	11nm,0.3s,baz=136,slow=24,SNR=45							
RABL	**Rabaul**	**1.39**	**19**		Pn	**Pn**	**07 25 19.6**	**0.0**
RABL					Sn	**Sn**	**07 25 37.5**	**+0.6**
RABL	**Rabaul**	**1.39**	**19**		P	**Pn**	**07 25 19.1**	**-0.4**
PMG	**Port Moresby**	**5.95**	**229**		P	**Pn**	**07 26 23.5**	**+1.6**
	2.3nm,0.3s,baz=32,slow=9.2,SNR=30							
PMG					S	**Sn**	**07 27 30.0**	**+1.3**
	7.3nm,0.3s,baz=312,slow=20,SNR=10							
PMG	**Port Moresby**	**5.95**	**229**			**Pn**	**07 26 22.9**	**+1.0**
PMG					Sn	**Sn**	**07 27 28.2**	**-0.6**
PMG	**Port Moresby**	**5.95**	**229**		P	**Pn**	**07 26 24.7**	**+2.8**
HNR	**Honiara**	**9.04**	**116**		P	**Pn**	**07 27 02.8**	**-1.6**
	14nm,0.3s,baz=325,slow=4.6,SNR=4.1							
JAY	**Jayapura**	**11.38**	**285**		LR	LR	07 32 41.2	
	comp=Z,284nm,18.7s,baz=114,slow=40					

BBB	**Bella Bella**	**88.31**	**37**	LR	LR	08 13 12.4			
	comp=Z,42nm,18.4s,baz=279,slow=33								
NVAR	**Mina Array Bea**	**93.37**	**52**	P	**P**	**07 38 06.0**	**+0.1**		
	comp=Z,1.3nm,0.8s,baz=258,slow=6.0,SNR=6.8								
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**07 38 18.6**	**-1.1**		
	comp=Z,0.7nm,1.0s,baz=271,slow=4.6,SNR=6.5								
PDAR	**Pinedale Array**	**100.12**	**48**	P	**Pdif**	**07 38 36.2**	**-0.2**		
	comp=Z,0.9nm,0.8s,baz=230,slow=3.7,SNR=7.2								
GERES	**GERESS Array B**	**124.08**	**328**	PKP	**PKiKP**	**07 43 49.0**	**0.0**		
	comp=Z,0.6nm,0.8s,baz=48,slow=2.0,SNR=6.9								
TORD	**Torodi Ar. Bea**	**149.48**	**287**	PKPbc	**PKiKP**	**07 44 40.5**	**-0.9**		
	comp=Z,8.9nm,0.7s,baz=72,slow=2.8,SNR=52								
BDFB	**Brasilia**	**151.31**	**137**	PKPbc	**PKPbc**	**07 44 44.9**	**+0.1**		
	comp=Z,0.7nm,0.3s,baz=241,slow=6.1,SNR=4.4								

NEIC ***22*** *07:27:06.9±1.3, 5.°60S±0.°07×151.°9E±0.°1, h44km±2km, mb4.4/25, Error ellipse: s-maj=17.4km s-min=7.6km az=115.0*

IDC ***22*** *07:27:09.5±1.2, 5.°46S×151.°67E, h74km±10km, mb3.8/10, mb1 4.1/12, mb1mx3.8/41, mbtmp4.1/12, MS3.7/7, Ms1 3.7/7, ms1mx3.2/54, Error ellipse: s-maj=31.6km s-min=11.4km az=118.0*

ISC 22 07:27:06.0±0.5, 5.°59S±0.°06×151.°90E±0.°10, h45km, n62, σ1§34/64, mb4.3/22, MS3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.28**	**6**	P	**Pn**	**07 27 28.8**	**+1.3**
	8.1nm,0.3s,baz=342,slow=24,SNR=5.6						
KRVT				S	**Sn**	**07 27 46.9**	**+3.4**
	42nm,0.3s,baz=196,slow=24,SNR=13						
RABL	**Rabaul**	**1.41**	**11**	Pn	**Pn**	**07 27 30.1**	**+0.9**
RABL				Sn	**Sn**	**07 27 48.2**	**+1.5**
PMG	**Port Moresby**	**6.04**	**231**	P	**Pn**	**07 28 34.2**	**+1.3**
	2.3nm,0.3s,baz=5.9,slow=9.1,SNR=3.8						
PMG				S	**Sn**	**07 29 43.6**	**+2.9**
	4.0nm,0.3s,baz=339,slow=11,SNR=3.6						
PMG	**Port Moresby**	**6.04**	**231**		**Pn**	**07 28 33.4**	**+0.5**
PMG	**Port Moresby**	**6.04**	**231**	Sn	**Sn**	**07 29 42.9**	**+2.1**
COEN	**Coen**	**11.96**	**225**	Pn	**Pn**	**07 29 51.7**	**-2.3**
COEN				Sn	**Sn**	**07 32 03.7**	**-2.4**
CTA	**Charters Tower**	**15.43**	**200**	P	**P**	**07 30 44.2**	**-0.3**
	0.1nm,0.3s,baz=26,slow=13,SNR=4.6						
EIDS	**Eidsvold**	**19.69**	**182**	P	**P**	**07 31 32.5**	**+1.0**
LIFNC	**LIFOU**	**21.20**	**137**	P	**P**	**07 31 48.4**	**+0.5**
DZM	**Mont Dzumac**	**21.60**	**141**	LR	LR	07 39 17.5	
	comp=Z,161nm,20.1s,baz=234,slow=33						
MTN	**Manton Dam**	**21.72**	**249**	P	**P**	**07 31 52.1**	**-1.4**
MTN				IAmb	IAmb	07 32 14.9	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**22.11**	**229**	P	**P**	**07 31 56.8**	**-0.9**
WB0				IAmb	IAmb	07 32 23.9	
	comp=Z,22nm,1.5s						
WR0	**Warramunga Arr**	**22.12**	**228**	P	**P**	**07 31 57.6**	**-0.2**
WR0				IAmb	IAmb	07 32 20.1	
	comp=Z,22nm,1.4s						
WRAB	**Tennant Creek**	**22.24**	**229**	P	**P**	**07 31 58.8**	**-0.4**
WRAB				IAmb	IAmb	07 32 02.5	
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**22.25**	**229**	P	**P**	**07 31 59.6**	**+0.3**
WRA	**Warramunga Arr**	**22.26**	**229**	P	**P**	**07 31 59.7**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=52,slow=10,SNR=8.2						
WRA	**Warramunga Arr**	**22.26**	**229**	P	**P**	**07 31 58.8**	**-0.6**
KNRA	**Kununurra**	**24.82**	**244**	P	**P**	**07 32 24.9**	**+0.6**
AS31	**Alice Springs**	**24.97**	**222**	P	**P**	**07 32 27.1**	**+1.6**
ASAR	**Alice Springs**	**24.97**	**222**	P	**P**	**07 32 26.6**	**+1.0**
	comp=Z,7.9nm,0.7s,baz=59,slow=8.6,SNR=18						
ASAR				LR	LR	07 41 49.4	
	comp=Z,167nm,20.0s,baz=110,slow=35						
STKA	**Stephens Creek**	**27.88**	**199**	P	**P**	**07 32 52.9**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=41,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**27.88**	**199**	P	**P**	**07 32 52.4**	**+0.7**
BATI	**Baumata**	**28.34**	**259**	LR	LR	07 46 40.7	
	comp=Z,270nm,18.4s,baz=127,slow=42						
FITZ	**Fitzroy Crossi**	**28.50**	**242**	P	**P**	**07 32 56.0**	**-1.3**
	comp=Z,8.3nm,0.9s,baz=79,slow=8.5,SNR=6.5						
FITZ	**Fitzroy Crossi**	**28.50**	**242**	P	**P**	**07 32 57.7**	**+0.4**
FITZ				IAmb	IAmb	07 33 01.4	
	comp=Z,9.4nm,0.9s						
FORT	**Forrest**	**33.62**	**219**	P	**P**	**07 33 42.1**	**-0.2**
MORW	**Morawa**	**41.16**	**231**	P	**P**	**07 34 46.7**	**+0.5**
RPZ	**Rata Peaks**	**41.55**	**159**	LR	LR	07 50 30.5	
	comp=Z,241nm,18.2s,baz=220,slow=34						
MJAR	**Matsushiro Arr**	**43.83**	**344**	LR	LR	07 52 25.5	
	comp=Z,70nm,18.3s,baz=164,slow=35						
KSRS	**Korea Array**	**48.31**	**334**	LR	LR	07 56 00.7	
	comp=Z,29nm,18.5s,baz=155,slow=36						
XAN	**Xi'an**	**56.58**	**317**	P	**P**	**07 36 44.3**	**-0.1**
XAN				pP	sP	07 37 00.9	-1.7
XAN				sP	pP	07 37 08.3	+11
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**66.52**	**328**	P	**P**	**07 37 50.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=135,slow=5.6,SNR=8.4						
SONM	**Songino Array**	**66.52**	**328**	P	**P**	**07 37 52.2**	**+0.9**
SONM				IAmb	IAmb	07 37 52.3	
	comp=Z,4.9nm,1.4s						
CASY	**Casey**	**67.01**	**197**	P	**P**	**07 37 54.3**	**+0.4**
VNDA	**Vanda**	**72.08**	**178**	P	**P**	**07 38 26.4**	**+1.3**
L19K	**White Mountain**	**78.81**	**23**	P	**P**	**07 39 05.2**	**+1.3**
L19K				IAmb	IAmb	07 39 33.7	
	comp=Z,7.9nm,1.2s						
MKAR	**Makanchi Array**	**80.33**	**319**	P	**P**	**07 39 11.0**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=107,slow=6.5,SNR=7.1						
MKAR	**Makanchi Array**	**80.33**	**319**	P	**P**	**07 39 12.5**	**0.0**
SML	**Sawmill**	**81.20**	**25**	P	**P**	**07 39 17.8**	**+0.9**
SML				IAmb	IAmb	07 39 27.0	
	comp=Z,5.7nm,1.0s						
IMAR	**Indian Mountai**	**81.42**	**20**	P	**P**	**07 39 18.7**	**+0.8**
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**07 39 26.0**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=249,slow=5.6,SNR=9.2						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**07 39 27.2**	**-0.1**
BOOM	**Boomskoye usch**	**83.48**	**314**	P	**P**	**07 39 29.9**	**+0.5**
BOOM				IAmb	IAmb	07 39 30.4	
	comp=Z,2.5nm,0.8s						
J25K	**Salcha River,**	**83.72**	**23**	P	**P**	**07 39 30.5**	**+0.5**
J25K				IAmb	IAmb	07 39 31.6	
	comp=Z,3.3nm,1.0s						
KURK	**Kurchatov**	**83.84**	**322**	P	**P**	**07 39 31.0**	**+0.3**
KURK				IAmb	IAmb	07 39 31.5	
	comp=Z,3.8nm,1.3s						
KURBB	**Kurchatov Arra**	**83.87**	**322**	P	**P**	**07 39 29.5**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=113,slow=4.1,SNR=6.4						
M27K	**Edge Creek, AK**	**84.17**	**25**	P	**P**	**07 39 33.1**	**+0.7**
M27K				IAmb	IAmb	07 39 57.9	
	comp=Z,6.9nm,1.4s						
QSPA	**South Pole Qui**	**84.38**	**180**	P	**P**	**07 39 34.7**	**+1.3**
BCAR	**Beaver Creek A**	**84.49**	**25**	P	**P**	**07 39 35.6**	**+1.7**
BMAR	**Burnt Mountain**	**85.29**	**20**	P	**P**	**07 39 39.4**	**+1.6**
EGAK	**Eagle**	**85.43**	**23**	P	**P**	**07 39 39.9**	**+1.4**
EGAK				IAmb	IAmb	07 39 44.8	
	comp=Z,3.6nm,1.1s						
DAWY	**Dawson**	**85.87**	**24**	P	**P**	**07 39 41.2**	**+0.4**
NVAR	**Mina Array Bea**	**93.27**	**52**	P	**P**	**07 40 17.8**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=259,slow=6.7,SNR=6.0						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**07 40 30.7**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=270,slow=4.5,SNR=3.8						
LPIG	**La Paz**	**99.36**	**67**	LR	LR	08 17 32.2	
	comp=Z,32nm,19.3s,baz=312,slow=30						
PDAR	**Pinedale Array**	**100.04**	**48**	P	**Pdif**	**07 40 46.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=318,slow=2.0,SNR=5.3						
GERES	**GERESS Array B**	**124.25**	**328**	PKP	**PKPdf**	**07 46 00.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=48,slow=2.0,SNR=5.0						
GERES	**GERESS Array B**	**124.25**	**328**		**PKPdf**	**07 45 59.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**149.69**	**286**	PKPbc	**PKPbc**	**07 46 51.8**	**-0.2**
	comp=Z,7.3nm,0.7s,baz=73,slow=2.8,SNR=25						
TORD	**Torodi Ar. Bea**	**149.69**	**286**	PKPdf	**PKPdf**	**07 46 45.1**	**-2.1**
TORD					**PKPbc**	**07 46 50.6**	**-1.3**
TORD				PKPab	**PKPab**	**07 46 56.4**	**-0.8**
BDFB	**Brasilia**	**151.12**	**137**	PKPbc	**PKPbc**	**07 46 55.8**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=254,slow=4.1,SNR=4.1						
BDFB	**Brasilia**	**151.12**	**137**		**PKPdf**	**07 46 46.2**	**-3.4**
BDFB				PKPbc	**PKPbc**	**07 46 53.0**	**-2.5**
BDFB				PKPab	**PKPab**	**07 47 00.9**	**-2.2**

IDC ***22*** *07:55:30.1±4.2, 58.°16S×22.°95W, h0km, mb4.3/2, mb1 4.2/2, mb1mx3.8/17, mbtmp4.3/2, Error ellipse: s-maj=220.5km s-min=69.0km az=90.0*

NEIC ***22*** *07:55:32.3±1.7, 58.°52S±0.°10×23.°7W±0.°2, h24km±5km, mb4.4/10, Error ellipse: s-maj=14.4km s-min=13.4km az=137.0*

ISC 22 07:55:29.9±0.7, 58.°4S±0.°1×23.°6W±0.°1, h10km, n21, σ0§68/21, mb4.4/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.26**	**294**	Pn	**Pn**	**07 57 29.8**	**+0.2**
VNA1	**Neumayer--Stat**	**13.88**	**158**	P	**Pn**	**07 58 47.3**	**+1.0**
VNA3	**Neumayer Olymp**	**14.12**	**161**	P	**Pn**	**07 58 50.3**	**+0.7**
VNA2	**Neumayer--Watz**	**14.27**	**158**	P	**Pn**	**07 58 52.3**	**+0.7**
	baz=326,slow=15						
SNAA	**Sanae**	**15.79**	**156**	P	**Pn**	**07 59 12.5**	**+0.5**
SNAA	**Sanae**	**15.79**	**156**	Pn	**Pn**	**07 59 12.5**	**+0.5**
TROLL	**Troll, Antarti**	**17.25**	**153**	P	**P**	**07 59 32.8**	**+0.6**
EFI	**East Falkland**	**20.69**	**274**	P	**P**	**08 00 09.8**	**0.0**
QSPA	**South Pole Qui**	**31.84**	**180**	P	**P**	**08 01 53.4**	**-1.2**
QSPA				IAmb	IAmb	08 02 16.6	
	comp=Z,6.8nm,1.4s						
VNDA	**Vanda**	**44.29**	**182**	P	**P**	**08 03 38.4**	**-0.6**
LPAZ	**La Paz**	**53.32**	**303**	P	**P**	**08 04 50.7**	**+0.9**
LPAZ				IAmb	IAmb	08 05 05.5	
	comp=Z,4.0nm,1.4s						
DBIC	**Dimbokro**	**66.60**	**20**	P	**P**	**08 06 19.6**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=169,slow=5.2,SNR=3.6						
DBIC	**Dimbokro**	**66.60**	**20**	P	**P**	**08 06 20.2**	**-0.1**
DBIC				IAmb	IAmb	08 06 39.4	
	comp=Z,10nm,1.2s						
TOA0	**Torodi Ar. Sit**	**74.25**	**26**	P	**P**	**08 07 07.4**	**+0.5**
TOA0				IAmb	IAmb	08 07 07.7	
	comp=Z,2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.25**	**26**	P	**P**	**08 07 06.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=204,slow=6.2,SNR=13						
TORD	**Torodi Ar. Bea**	**74.25**	**26**	P	**P**	**08 07 07.0**	**+0.2**
TORD				IAmb	IAmb	08 07 07.3	
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	**139.23**	**315**	PKP	**PKiKP**	**08 14 57.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=126,slow=1.6,SNR=2.7						
YKA	**Yellowknife Ar**	**139.23**	**315**		**PKiKP**	**08 14 56.8**	**-0.9**
SONM	**Songino Array**	**148.90**	**88**	PKPbc	**PKPbc**	**08 15 17.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=224,slow=3.1,SNR=7.3						
SONM	**Songino Array**	**148.90**	**88**		**PKPdf**	**08 15 12.1**	**-0.8**
M19K	**Big River Lodg**	**155.75**	**299**		**PKPdf**	**08 15 22.9**	**+0.4**

IDC ***22*** *08:21:53.5±2.3, 7.°95S×115.°44E, h225km±19km, mb3.4/7, mb1 3.6/9, mb1mx3.1/44, mbtmp4.0/9, Error ellipse: s-maj=41.7km s-min=9.8km az=52.0*

NEIC ***22*** *08:21:54.8±1.5, 7.°9S±0.°1×115.°67E±0.°09, h229km±7km, mb4.3/21, Error ellipse: s-maj=16.3km s-min=12.1km az=197.0*

DJA ***22*** *08:21:54.7±0.4, 8.°S±9.°×11.°6E±.°, h229km±4km, M4.3/6, mb4.3/3, mB4.7/1, MLv4.3/6, Mw(mB)3.9/1*

ISC 22 08:21:54.9±0.6, 7.°95S±0.°07×115.°69E±0.°05, h230km±5km, n75, σ1§55/84, mb4.2/17, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.49**	**254**	P	**Pn**	**08 22 26.3**	**+0.9**
SRBI				S	**S**	**08 22 49.9**	**+0.6**
DNP	**Denpasar**	**0.86**	**213**	P	**Pn**	**08 22 30.1**	**+3.1**
IGBI	**Denpasar**	**1.02**	**212**	P	**Pn**	**08 22 27.8**	**-0.1**
IGBI				S	**S**	**08 22 51.2**	**-2.6**
ABJI	**Asem Bagus**	**1.45**	**276**	P	**Pn**	**08 22 31.8**	**+0.9**
ABJI				S	**S**	**08 23 01.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**1.60**	**251**		**Pn**	**08 22 31.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.60**	**251**	P	**Pn**	**08 22 31.8**	**-0.4**
JAGI				S	**S**	**08 22 58.5**	**-2.8**
KMMI	**Kalianget**	**1.93**	**298**	P	**Pn**	**08 22 36.5**	**+1.5**
BLJI	**Banyuglugur**	**2.08**	**275**	P	**Pn**	**08 22 37.7**	**+1.2**
GMJI	**Gumukmas**	**2.24**	**262**	P	**Pn**	**08 22 37.9**	**-0.2**
PLAI	**Plampang**	**2.24**	**113**	P	**Pn**	**08 22 37.8**	**-0.3**
PLAI				S	**S**	**08 23 10.5**	**-1.4**
PLAI	**Plampang**	**2.24**	**113**	P	**Pn**	**08 22 38.2**	**+0.1**
GRJI	**Gresik**	**3.34**	**288**	P	**Pn**	**08 22 51.8**	**+1.7**
PWJI	**Pagerwojo**	**3.85**	**269**	P	**Pn**	**08 22 56.0**	**0.0**
WBSI	**Waikabubak, Su**	**4.03**	**115**	P	**Pn**	**08 22 55.1**	**-3.1**
WBSI				S	**S**	**08 23 43.2**	**-5.0**
PCJI	**Pacitan**	**4.47**	**267**	P	**Pn**	**08 23 04.0**	**+0.4**
KAPI	**Kappang**	**4.98**	**54**	P	**Pn**	**08 23 12.2**	**+2.3**
	6.0nm,0.3s,baz=215,slow=12,SNR=7.9						
UGM	**Wanagama**	**5.12**	**270**		**Pn**	**08 23 11.5**	**0.0**
UGM	**Wanagama**	**5.12**	**270**	P	**Pn**	**08 23 12.0**	**+0.4**
BKSI	**Bulukumba**	**5.12**	**60**	P	**Pn**	**08 23 14.2**	**+2.6**
	0.1nm23nm,0.7s						
SMRI	**Semarang**	**5.28**	**279**	P	**Pn**	**08 23 15.5**	**+1.9**
	0.6nm164nm,0.7s						
KPJI	**Karang Pucung**	**6.72**	**275**	P	**Pn**	**08 23 32.7**	**+0.8**
CMJI	**Cimerak**	**7.17**	**271**	P	**Pn**	**08 23 36.4**	**-1.2**
SOEI	**Soe**	**8.67**	**103**	Pn	**Pn**	**08 23 56.2**	**-0.7**
MNAI	**Manna**	**13.15**	**285**	P	**Pn**	**08 24 53.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**13.98**	**137**	P	**P**	**08 25 04.7**	**0.0**
	0.8nm,0.3s,baz=341,slow=11,SNR=7.1						
FITZ				S	**S**	**08 27 37.5**	**-0.8**
	0.7nm,0.3s,baz=190,slow=21,SNR=7.1						
FITZ	**Fitzroy Crossi**	**13.98**	**137**	P	**Pn**	**08 25 04.1**	**+0.5**
PSA00	**Pilbara Seismi**	**14.13**	**164**	P	**Pn**	**08 25 03.9**	**-1.4**
PSA00	**Pilbara Seismi**	**14.13**	**164**	P	**P**	**08 25 07.5**	**+1.3**
	11nm,1.0s						
GIRL	**Giralia**	**14.68**	**185**	P	**P**	**08 25 12.4**	**+0.1**
GIRL	**Giralia**	**14.68**	**185**	P	**Pn**	**08 25 11.8**	**-0.2**
	92nm,1.5s						
KNRA	**Kununurra**	**14.92**	**122**	P	**P**	**08 25 15.2**	**+0.2**
KNRA	**Kununurra**	**14.92**	**122**	P	**P**	**08 25 18.6**	**+3.5**
MTN	**Manton Dam**	**15.95**	**109**	P	**P**	**08 25 26.6**	**+0.2**
MTN	**Manton Dam**	**15.95**	**109**	P	**Pn**	**08 25 28.8**	**+1.5**
FAKI	**Fak Fak**	**17.22**	**74**	P	**P**	**08 25 41.1**	**+0.7**
FAKI				IAmb	IAmb	08 26 00.1	
	comp=Z,25nm,1.3s						
MEEK	**Meekatharra**	**18.79**	**172**	P	**P**	**08 25 58.7**	**+1.3**
WRKA	**Warakurna**	**20.83**	**146**	P	**P**	**08 26 19.5**	**+0.4**
MORW	**Morawa**	**21.01**	**179**	P	**P**	**08 26 21.1**	**+0.2**
WB0	**Warramunga Arr**	**21.60**	**125**	P	**P**	**08 26 26.8**	**-0.1**
WB0				IAmb	IAmb	08 26 27.4	
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**21.65**	**125**	P	**P**	**08 26 27.3**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=312,slow=13,SNR=78						
WRA				S	**S**	**08 30 11.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=290,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**21.65**	**125**	P	**P**	**08 26 27.1**	**-0.3**
WRAB	**Tennant Creek**	**21.65**	**125**	P	**P**	**08 26 27.4**	**+0.1**
WRAB				IAmb	IAmb	08 26 28.4	
	comp=Z,7.0nm,0.6s						
WRAB	**Tennant Creek**	**21.65**	**125**	P	**P**	**08 26 27.7**	**+0.3**
WB2	**Warramunga Arr**	**21.66**	**125**	P	**P**	**08 26 27.4**	**-0.1**
WB2				IAmb	IAmb	08 26 28.0	
	comp=Z,7.5nm,0.9s						
WR0	**Warramunga Arr**	**21.82**	**125**	P	**P**	**08 26 29.2**	**+0.3**
BLDU	**Ballidu**	**22.57**	**178**	P	**P**	**08 26 36.4**	**+0.7**
AS31	**Alice Springs**	**23.44**	**134**	P	**P**	**08 26 44.5**	**+0.8**
AS31				IAmb	IAmb	08 26 46.3	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**23.44**	**134**	P	**P**	**08 26 44.5**	**+0.8**
	comp=Z,5.6nm,0.6s,baz=306,slow=8.8,SNR=88						
ASAR				S	**S**	**08 30 46.1**	**+6.3**
	comp=Z,0.8nm,0.8s,baz=321,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**23.44**	**134**	P	**P**	**08 26 44.1**	**+0.4**
FORT	**Forrest**	**25.49**	**155**	P	**P**	**08 27 03.1**	**+1.0**
FORT	**Forrest**	**25.49**	**155**	P	**P**	**08 27 03.9**	**+1.7**
QIS	**Mount Isa**	**26.30**	**121**	P	**P**	**08 27 10.8**	**+1.1**
OOD	**Oodnadatta**	**27.34**	**139**	P	**P**	**08 27 19.5**	**+0.8**
COEN	**Coen**	**27.62**	**105**	P	**P**	**08 27 21.4**	**-0.1**
COEN				IAmb	IAmb	08 27 24.4	
	comp=Z,9.6nm,1.5s						
COEN	**Coen**	**27.62**	**105**	P	**P**	**08 27 20.3**	**-1.1**
MULG	**Mulgathing**	**28.11**	**145**	P	**P**	**08 27 26.2**	**+0.7**
BBOO	**Buckleboo**	**31.12**	**145**	P	**P**	**08 27 53.0**	**+1.0**
BBOO				IAmb	IAmb	08 27 53.1	
	comp=Z,6.3nm,1.0s						
STKA	**Stephens Creek**	**33.88**	**138**	P	**P**	**08 28 16.9**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=324,slow=7.9,SNR=11						
STKA	**Stephens Creek**	**33.88**	**138**	P	**P**	**08 28 16.5**	**+0.5**
ARMA	**Armidale**	**40.36**	**128**	P	**P**	**08 29 12.2**	**+1.5**
ARMA				IAmb	IAmb	08 29 18.2	
	comp=Z,29nm,1.5s						
USRK	**Ussuriysk Ar.**	**53.96**	**14**	P	**P**	**08 30 52.8**	**-2.1**
SONM	**Songino Array**	**56.15**	**352**	P	**P**	**08 31 10.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=169,slow=9.6,SNR=13						
SONM	**Songino Array**	**56.15**	**352**	P	**P**	**08 31 10.8**	**+0.1**
MKAR	**Makanchi Array**	**62.07**	**335**	P	**P**	**08 31 49.2**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=146,slow=6.6,SNR=5.9						
MKAR	**Makanchi Array**	**62.07**	**335**	P	**P**	**08 31 50.1**	**-1.1**
BKZ	**Black Stump Fm**	**62.48**	**130**	P	**P**	**08 31 53.6**	**-0.5**
SOCY	**Socotra**	**64.51**	**288**	P	**P**	**08 32 06.6**	**-1.3**
SOCY				IAmb	IAmb	08 32 30.1	
	comp=Z,9.0nm,1.2s						
KURBB	**Kurchatov Arra**	**66.61**	**335**	P	**P**	**08 32 19.4**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=144,slow=5.7,SNR=1.8						
KURK	**Kurchatov**	**66.65**	**335**	P	**P**	**08 32 21.2**	**+0.6**
ZALV	**Zalesovo Beam**	**66.94**	**341**	P	**P**	**08 32 20.4**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=145,slow=4.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**66.94**	**341**	P	**P**	**08 32 21.3**	**-1.1**
MAW	**Mawson**	**69.13**	**199**	P	**P**	**08 32 36.4**	**+0.6**
VNDA	**Vanda**	**73.54**	**171**	P	**P**	**08 33 02.4**	**+0.3**
VNDA				IAmb	IAmb	08 33 18.6	
	comp=Z,2.6nm,0.9s						
ABKAR	**Akbulak array**	**74.84**	**326**	P	**P**	**08 33 08.4**	**-1.6**
QSPA	**South Pole Qui**	**82.04**	**180**	P	**P**	**08 33 49.5**	**+0.3**
QSPA				IAmb	IAmb	08 33 59.8	
	comp=Z,10nm,1.5s						

IDC ***22*** *08:37:39.8±1.1, 32.°26N×142.°42E, h0km, mb3.4/7, mb1 3.7/10, mb1mx3.4/54, mbtmp3.5/10, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/50, Error ellipse: s-maj=30.1km s-min=20.8km az=68.0*

JMA ***22*** *08:37:47.8±0.3, 32.°60N×142.°02E, h61km, M3.9*

ISC 22 08:37:45.9±1.0, 32.°46N±0.°08×142.°21E±0.°08, h39km, n24, σ1§41/27, mb3.4/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.12**	**289**	P	**Pn**	**08 38 19.2**	**+0.4**
JHCJ	**Hachijojimakas**	**2.12**	**287**	P	**Pn**	**08 38 19.0**	**+0.1**
JHCJ				*e*S	**Sn**	**08 38 41.7**	**-2.4**
JHJ	**Hachijo jima 2**	**2.15**	**289**	Pn	**Pn**	**08 38 19.6**	**+0.3**
	13nm,0.3s,baz=45,slow=23,SNR=9.8						
JHJ				Sn	**Sn**	**08 38 43.9**	**-0.8**
	63nm,0.3s,baz=252,slow=22,SNR=8.1						
BSO1	**Boso 1**	**2.42**	**335**	P	**Pn**	**08 38 22.9**	**+0.4**
JMKN	**Mikurajimanish**	**2.62**	**304**	*e*S	**Sn**	**08 38 53.6**	**-2.8**
BSO3	**Boso 3**	**2.74**	**329**	P	**Pn**	**08 38 27.7**	**+0.6**
BSO4	**Boso 4**	**2.97**	**329**	P	**Pn**	**08 38 31.4**	**+1.0**
JOD2	**Odawara 2**	**3.82**	**318**	P	**Pn**	**08 38 41.8**	**-0.4**
JHU	**Hanno**	**4.17**	**325**	P	**Pn**	**08 38 47.7**	**+0.7**
JHO	**Hitachi**	**4.36**	**342**	P	**Pn**	**08 38 49.3**	**-0.3**
JHO				*e*S	**Sn**	**08 39 37.8**	**-1.4**
JRY	**Ryogami san**	**4.49**	**323**	P	**Pn**	**08 38 52.3**	**+0.9**
JAG	**Ashikaga**	**4.57**	**331**	P	**Pn**	**08 38 52.4**	**-0.1**
JFK	**Kawauchi**	**5.02**	**348**	P	**Pn**	**08 38 57.4**	**-1.3**
MJAR	**Matsushiro Arr**	**5.25**	**322**	Pn	**Pn**	**08 39 02.1**	**+0.3**
	0.4nm,0.3s,baz=148,slow=11,SNR=15						
JFT	**Otama**	**5.28**	**344**	P	**Pn**	**08 39 02.5**	**+0.2**
JFT				*e*S	**Sn**	**08 39 59.9**	**-1.9**
ASAJ	**Asahikawa**	**11.65**	**1**	Pn	**Pn**	**08 40 27.7**	**-1.8**
	0.8nm,0.3s,baz=198,slow=11,SNR=7.4						
KLR	**Kul'dur**	**18.50**	**338**	LR	LR	08 51 04.7	
	comp=Z,24nm,19.0s,

	comp=E,7μm,0.3s								
SLRCX	**San Luis Rio C**	**0.47**	**40**	*e*P		**Pb**	**09 31 57.6**	**+0.8**	
SLRCX				*e*S		**Sb**	**09 32 05.1**	**+1.7**	
SLRCX				⇑*e*			09 32 06.0		
SLRCX				IAML			09 32 06.0		
	comp=N,2μm,0.2s								
SLRCX				⇓*e*			09 32 06.0		
SLRCX				IAML			09 32 06.0		
	comp=E,2μm,0.3s								
YUCAX	**Ej. Yucatjn**	**0.51**	**357**	⇓*i*P		**Pg**	**09 31 57.9**	**+0.5**	
YUCAX				*i* S		**Sn**	**09 32 07.0**	**-0.7**	
ALAMX	**Rancho Alamar**	**0.56**	**261**	⇑*i*P		**Pb**	**09 31 57.8**	**-0.5**	
ALAMX				*e*S		**Sg**	**09 32 06.7**	**+0.9**	
ALAMX				IAML			09 32 07.3		
	comp=E,2μm,0.3s								
ALAMX				⇑*e*			09 32 07.3		
UABX	**UABC, Campus M**	**0.62**	**329**	Pg		**Pg**	**09 31 59.7**	**+0.3**	
UABX	**UABC, Campus M**	**0.62**	**329**	⇓*i*P		**Pg**	**09 31 59.7**	**+0.3**	
YMD	**Yuma Desert**	**0.63**	**44**	⇑*i*P		**Pb**	**09 31 59.9**	**+0.3**	
EMSC	**East Mesa**	**0.64**	**5**	⇓*i*P		**Pb**	**09 32 00.0**	**+0.3**	
EMSC				⇓*e*P		**Pb**	**09 32 00.0**	**+0.3**	
EMSC				*i* S		**Sn**	**09 32 10.1**	**-0.9**	
ICBC	**Inst. de Cultu**	**0.66**	**328**	*e*P		**Pb**	**09 32 00.2**	**+0.1**	
CEAO	**Mexicali**	**0.76**	**317**	*e*P		**Pb**	**09 32 00.4**	**-1.4**	
COA	**Coachella**	**0.77**	**356**	⇓*i*P		**Pb**	**09 32 01.6**	**-0.3**	
COA				*i* S		**Sg**	**09 32 13.1**	**+0.9**	
DREC	**Desert Rsrch C**	**0.78**	**335**	*e*P		**Pb**	**09 32 02.2**	**+0.1**	
SGL	**Mount Signal**	**0.79**	**314**	⇓*i*P		**Pb**	**09 32 02.0**	**-0.2**	
YUH	**Yuha Desert**	**0.91**	**307**	Pg		**Pb**	**09 32 03.4**	**-1.0**	
YUH				IAML			09 32 16.6		
	comp=E,358nm,0.4s								
YUH				IAML			09 32 17.0		
	comp=N,247nm,0.4s								
YUH2	**Yuha Desert**	**0.91**	**307**	*e*P		**Pb**	**09 32 03.4**	**-1.0**	
COK2	**Cook Ranch 2**	**0.94**	**323**	*e*P		**Pb**	**09 32 04.1**	**-0.7**	
GLA	**Glamis**	**0.97**	**12**			**Pb**	**09 32 04.5**	**-0.9**	
GLA				IAML			09 32 26.0		
	comp=E,512nm,0.6s								
GLA				IAML			09 32 30.9		
	comp=N,361nm,0.7s								
GLA	**Glamis**	**0.97**	**12**	P		**Pb**	**09 32 04.5**	**-0.9**	
	baz=192								
GLA				S		**Sb**	**09 32 18.1**	**+0.1**	
	baz=192								
RMX	**La Rumorosa**	**1.00**	**300**	Pg		**Pb**	**09 32 04.1**	**-1.9**	
RMX				IAML			09 32 17.8		
	comp=E,558nm,0.4s								
RMX				IAML			09 32 17.8		
	comp=N,771nm,0.5s								
RMX	**La Rumorosa**	**1.00**	**300**	*e*P		**Pb**	**09 32 04.4**	**-1.6**	
IKP	**In-Ko-Pah, Jac**	**1.05**	**302**	*e*P		**Pb**	**09 32 06.2**	**-0.5**	
IKP	**In-Ko-Pah, Jac**	**1.05**	**302**	P		**Pb**	**09 32 06.6**	**-0.2**	
	baz=121								
IKP				S		**Sb**	**09 32 20.0**	**-0.1**	
	baz=121								
SWSC	**Sam W. Stewart**	**1.05**	**324**	P		**Pb**	**09 32 06.2**	**-0.6**	
	baz=143								
SFX	**San Felipe**	**1.07**	**170**			**Pb**	**09 32 06.9**	**-0.2**	
SFX				IAML			09 32 22.9		
	comp=E,452nm,0.4s								
SFX				IAML			09 32 23.0		
	comp=N,412nm,0.2s								
SFX	**San Felipe**	**1.07**	**170**	*e*P		**Pb**	**09 32 07.0**	**-0.2**	
CRR	**Carrizo Plain**	**1.10**	**316**	*e*P		**Pn**	**09 32 06.6**	**-1.0**	
SPIG	**San Pedro Mart**	**1.11**	**198**			**Pn**	**09 32 08.1**	**+0.1**	
SPIG						**Sn**	**09 32 22.9**	**0.0**	
SPIG	**San Pedro Mart**	**1.11**	**198**	*i* P		**Pn**	**09 32 08.1**	**+0.1**	
SPIG				*e*S		**Sn**	**09 32 22.9**	**0.0**	
113A	**Mohawk Valley,**	**1.28**	**58**	Pn		**Pn**	**09 32 09.7**	**-0.4**	
CBX	**Cerro Bola**	**1.38**	**279**	Pn		**Pn**	**09 32 11.2**	**-0.4**	
CBX				IAML			09 32 32.5		
	comp=E,290nm,0.6s								
CBX				IAML			09 32 33.0		
	comp=N,255nm,0.4s								
CBX	**Cerro Bola**	**1.38**	**279**	*e*P		**Pn**	**09 32 11.2**	**-0.4**	
CBX				*i* S		**Sn**	**09 32 29.3**	**-0.1**	
CCX	**Cicese**	**1.39**	**261**	Pn		**Pn**	**09 32 11.2**	**-0.3**	
CCX				IAML			09 32 31.2		
	comp=N,395nm,0.4s								
CCX				IAML			09 32 31.6		
	comp=E,364nm,0.3s								
MONP2	**Monument Peak**	**1.40**	**305**	S		**Sn**	**09 32 30.2**	**+0.1**	
	baz=124								
TJIG	**Tijuana**	**1.41**	**284**			**Pn**	**09 32 11.4**	**-0.5**	
TJIG						**Sn**	**09 32 29.4**	**-0.6**	
TJIG	**Tijuana**	**1.41**	**284**	*e*P		**Pn**	**09 32 11.4**	**-0.5**	
TJIG				*i* S		**Sn**	**09 32 29.4**	**-0.6**	
BAR	**Barrett**	**1.48**	**293**			**Pn**	**09 32 12.4**	**-0.5**	
BAR				IAML			09 32 34.8		
	comp=E,344nm,0.2s								
BAR	**Barrett**	**1.48**	**293**	*e*P		**Pn**	**09 32 12.6**	**-0.3**	
BC3	**Big Chuckawall**	**1.59**	**348**	P		**Pn**	**09 32 13.4**	**-1.0**	
	baz=168								
BLYC	**Blythe**	**1.71**	**15**	Pn		**Pn**	**09 32 16.1**	**+0.1**	
BLYC				IAML			09 33 01.9		
	comp=E,90nm,0.6s								
TJX	**Tijuana**	**1.74**	**284**	Pn		**Pn**	**09 32 14.8**	**-1.6**	
109C	**Camp Elliot, M**	**1.90**	**295**	Pn		**Pn**	**09 32 17.6**	**-1.1**	
109C	**Camp Elliot, M**	**1.90**	**295**	Pb		**Pb**	**09 32 21.2**	**-0.1**	
	baz=114								
109C				Sb		**Sb**	**09 32 45.0**	**+0.3**	
	baz=114								
TPFO	**Pinon Flats**	**1.91**	**322**	P		**Pn**	**09 32 17.7**	**-1.2**	
	baz=142								
214A	**Organ Pipe Nat**	**1.91**	**94**	Pn		**Pn**	**09 32 18.2**	**-0.7**	
214A				IAML			09 33 01.6		
	comp=E,96nm,0.4s								
214A	**Organ Pipe Nat**	**1.91**	**94**	*e*P		**Pn**	**09 32 18.0**	**-0.9**	
214A	**Organ Pipe Nat**	**1.91**	**94**	P		**Pn**	**09 32 18.2**	**-0.7**	
	baz=275								
PFO	**Pinyon Flats O**	**1.92**	**322**	Pn		**Pn**	**09 32 17.8**	**-1.2**	
PFO	**Pinyon Flats O**	**1.92**	**322**	P		**Pn**	**09 32 17.8**	**-1.2**	
	baz=142								
MURC	**Murrieta**	**2.34**	**310**	Sb		**Sb**	**09 32 60.0**	**+2.6**	
	baz=129								
Y14A	**Wickenburg**	**2.52**	**43**	Pn		**Pn**	**09 32 25.5**	**-1.7**	
ELS	**Elsinore Mount**	**2.52**	**308**	Pn		**Pn**	**09 32 26.8**	**-0.5**	
ELS				IAML			09 33 08.1		
	comp=N,38nm,0.6s								
ELS				IAML			09 33 11.0		
	comp=E,53nm,0.5s								
BFSC	**Mount Baldy Ra**	**3.05**	**315**	Sb		**Sb**	**09 33 21.1**	**+3.2**	
	baz=134								
CIS	**Catalina Islan**	**3.11**	**296**	Sb		**Sb**	**09 33 22.2**	**+2.6**	
	baz=114								
GSC	**Goldstone, Bar**	**3.51**	**336**	Pn		**Pn**	**09 32 38.1**	**-2.7**	
GSC				IAML			09 34 12.3		
	comp=E,21nm,2.0s								
X16A	**Lo Mia Camp, P**	**3.81**	**52**	Pn		**Pn**	**09 32 46.4**	**+1.3**	
WUAZ	**Wupatki**	**4.58**	**41**	Pn		**Pn**	**09 32 53.8**	**-1.9**	
WUAZ				IAML			09 34 34.4		
	comp=E,21nm,1.0s								
WUAZ				IAML			09 34 37.5		
	comp=E,24nm,1.2s								
U15A	**North Rim**	**4.89**	**27**	Pn		**Pn**	**09 32 59.0**	**-1.0**	
TPNV	**Topopah Spring**	**4.94**	**349**	Pn		**Pn**	**09 32 58.1**	**-2.5**	
TPNV				IAML			09 34 48.5		
	comp=E,6.0nm,4.6s								
319A	**Douglas**	**4.97**	**97**	Pn		**Pn**	**09 32 56.9**	**-4.1**	
LCMT	**Little Creek M**	**5.12**	**16**	Pn		**Pn**	**09 33 00.5**	**-2.6**	
CCUT	**Cedar City**	**5.62**	**14**	Pn		**Pn**	**09 33 08.4**	**-1.5**	
MSU	**Marysvale**	**6.82**	**19**	Pn		**Pn**	**09 33 26.3**	**-0.1**	

IDC ***22*** *09:42:37.1±2.7,3˚.59S×101˚.04E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.2/74,mbtmp3.5/4,Error ellipse: s-maj=114.1km s-min=25.4km az=57.0*
DJA ***22*** *09:43:01.5±0.4,3˚.5±6˚×10˚.2E±˚,h172km±6km,M3.9/11, mb4.2/3,mB5.4/1,MLv3.8/11,Mw(mB)4.8/1*
ISC 22 09:43:00.8±0.8,23°.39S±0°.10×102°.7E±0°.1,h150km,n14, σ1s50/16,mb3.3/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.86**	**210**	P		**Pn**	**09 43 26.7**	**+2.2**
KRJI	**Kerinci**	**1.24**	**284**	P		**Pn**	**09 43 30.9**	**+3.0**
MNAI	**Manna**	**1.98**	**172**	P		**Pn**	**09 43 36.5**	**+0.8**
MNAI				S		**Sn**	**09 44 03.3**	**+0.7**
MDSI	**Maura Dua**	**2.57**	**144**	P		**Pn**	**09 43 44.4**	**+1.6**
PPSI	**Pulau Pagai**	**2.68**	**262**	P		**Pn**	**09 43 44.2**	**0.0**
KASI	**Kota Agung**	**3.61**	**150**	P		**Pn**	**09 43 56.6**	**+0.6**
SISI	**Saibi**	**3.73**	**286**	P		**Pn**	**09 43 58.1**	**+0.6**
GSI	**Gunungsitoli**	**6.28**	**306**	P		**Pn**	**09 44 31.0**	**-0.2**
	0.3nm5μm64nm,0.6s							

KCSI	**Kotacane, Aceh**	**7.64**	**320**	P		**Pn**	**09 44 49.9**	**+0.4**
	0.1nm11nm,0.7s							
PCJI	**Pacitan**	**10.25**	**125**	P		**Pn**	**09 45 24.5**	**+0.4**
WRA	**Warramunga Arr**	**35.51**	**122**	P		**P**	**09 49 41.7**	**-1.8**
	0.1nm,0.3s,baz=285,slow=12,SNR=6.7							
ASAR	**Alice Springs**	**36.89**	**128**	P		**P**	**09 49 53.8**	**-1.5**
	0.3nm,0.6s,baz=299,slow=8.1,SNR=7.5							
ASAR				PcP		**PcP**	**09 52 11.9**	**-1.8**
	0.2nm,0.4s,baz=312,slow=2.9,SNR=5.6							
SONM	**Songino Array**	**50.12**	**3**	P		**P**	**09 51 42.1**	**+1.3**
	0.6nm,0.7s,baz=183,slow=10,SNR=4.2							
MKAR	**Makanchi Array**	**52.16**	**342**	P		**P**	**09 51 55.6**	**-0.3**
	0.3nm,0.4s,baz=167,slow=8.8,SNR=2.0							

IDC ***22*** *09:46:24.2±3.7,37˚.05N×141˚.41E,h52km±31km,mb3.1/3, mb1 3.3/5,mb1mx3.0/78,mbtmp3.4/5,ML3.0/2,MS2.1/1, Ms1 2.1/1,ms1mx1.9/21,Error ellipse: s-maj=33.7km s-min=21.8km az=135.0*
JMA ***22*** *09:46:24.6±0.1,37˚.06N×141˚.20E,h50km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φ±15.00000°,δ77.00000°,λ88.00000°. NP2:φ±204.00000°, δ13.00000°,λ98.00000°. Principal axes: T Plg58.0000°, Azm283.0000°; N Plg2.0000°, Azm16.0000°; P Plg32.0000°, Azm107.0000°;*
JMA Felt II J1.
ISC 22 09:46:23.4±1.3,37°.02N±0°.07×141°.4E±0°.1,h39km±7km, n16,σ0s85/24,mb3.4/3,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**280**	⇓P		**Pn**	**09 46 33.9**	**+0.5**
ONAJ				S		**Sn**	**09 46 40.4**	**-0.2**
JFK	**Kawauchi**	**0.51**	**312**	⇓P		**Pn**	**09 46 34.6**	**+0.3**
JFK				S		**Sn**	**09 46 41.4**	**-0.6**
JFFD	**Fukushimafurud**	**0.64**	**276**	⇓P		**Pn**	**09 46 36.0**	**0.0**
JFFD				*e*S		**Sn**	**09 46 43.8**	**-1.2**
JHO	**Hitachi**	**0.75**	**237**	⇓P		**Pn**	**09 46 37.6**	**+0.1**
JHO				S		**Sn**	**09 46 46.7**	**-1.0**
JFT	**Otama**	**0.95**	**302**	⇓P		**Pn**	**09 46 41.0**	**+0.8**
JFT				S		**Sn**	**09 46 52.2**	**-0.4**
JMM	**Marumori**	**0.95**	**332**	P		**Pn**	**09 46 40.1**	**-0.1**
JMM				S		**Sn**	**09 46 51.9**	**-0.7**
JFY	**Yanaizu**	**1.37**	**287**	P		**Pn**	**09 46 46.3**	**+0.3**
JIO	**Ouri**	**1.43**	**360**	⇓P		**Pn**	**09 46 47.5**	**+0.7**
JIO				S		**Sn**	**09 47 03.7**	**-0.6**
JOU	**Okura**	**1.45**	**338**	P		**Pn**	**09 46 47.8**	**+0.7**
JYS	**Shirataka**	**1.57**	**320**	⇓P		**Pn**	**09 46 49.6**	**+0.8**
JAG	**Ashikaga**	**1.64**	**249**	⇓P		**Pn**	**09 46 49.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.57**	**260**	P		**Pn**	**09 47 03.3**	**+0.8**
	0.8nm,0.3s,baz=83,slow=15,SNR=18							
MJAR				S		**Sn**	**09 47 34.9**	**+2.4**
	0.7nm,0.3s,baz=53,slow=23,SNR=5.1							
MJAR				LR		LR	09 48 12.6	
	comp=Z,36nm,19.3s,baz=116,slow=41							
ASAJ	**Asahikawa**	**7.15**	**7**	P		**Pn**	**09 48 06.0**	**+0.7**
	0.4nm,0.3s,baz=202,slow=11,SNR=6.8							
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	**09 54 27.7**	**+0.2**
	0.1nm,0.5s,baz=79,slow=7.8,SNR=1.5							
KURBB	**Kurchatov Arra**	**45.97**	**308**	P		**P**	**09 54 41.4**	**-1.0**
	0.6nm,0.5s,baz=83,slow=7.9,SNR=4.5							
WRA	**Warramunga Arr**	**57.04**	**188**	P		**P**	**09 56 05.4**	**0.0**
	0.4nm,1.0s,baz=5.2,slow=7.3,SNR=1.6							

GUC 22 09:48:31.1±0.8,31°.47S×71°.17W,h64km±2km,ML3.5, 5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO02	**Combarbal**	**0.31**	**28**	⇑*i*P		Pn	09 48 41.5	-0.4
CO02				*i* S		Sn	09 48 49.1	-0.6
CO02				IAML			09 48 50.0	
	comp=E,11μm,0.2s							
CO03	**El Pedregal**	**0.76**	**33**	⇑*i*P		Pn	09 48 46.5	+0.2
CO03				*i* S		Sn	09 48 57.9	+0.3
CO03				IAML			09 48 58.9	
	comp=N,5μm,0.2s							
CO06	**Fray Jorge**	**0.89**	**333**	⇑*i*P		Pn	09 48 48.1	+0.2
CO06				*i* S		Sn	09 49 01.1	+0.7
CO06				IAML			09 49 03.3	
	comp=E,2μm,0.1s							
VA06	**Catapilco**	**1.09**	**186**	*e*P		Pn	09 48 50.4	0.0
VA06				*i* S		Sn	09 49 05.2	+0.3
VA06				IAML			09 49 09.5	
	comp=E,2μm,0.4s							
GO04	**Tololo Observa**	**1.34**	**14**	*e*P		Pn	09 48 54.7	+0.7
GO04				*i* S		Sn	09 49 12.0	+1.0
VA03	**San Esteban**	**1.39**	**158**	⇑*i*P		Pn	09 48 54.6	+0.1
VA03				*i* S		Sn	09 49 13.0	+0.9
VA03				IAML			09 49 14.1	
	comp=E,1μm,0.2s							
ROCH	**El Roble**	**1.50**	**175**	*e*P		Pn	09 48 56.3	
ROCH				*e*P		Pn	09 48 53.7	-2.4
ROCH				IAML			09 49 18.4	
	comp=N,500nm,0.4s							
ROCH				IAML			09 49 20.5	
	comp=N,681nm,0.1s							
CO05	**La Serena**	**1.55**	**358**	*e*P		Pn	09 48 56.5	-0.1
CO05				*i* S		Sn	09 49 16.0	+0.2
CO05				IAML			09 49 27.9	
	comp=E,499nm,0.6s							
VA01	**Torpederas**	**1.60**	**195**	IAML			09 49 21.9	
	comp=E,366nm,0.2s							
PEL	**Peldehue**	**1.71**	**166**	⇓*i*P		Pn	09 48 59.5	+0.6
PEL				*i* S		Sn	09 49 20.6	+0.8
PEL				IAML			09 49 28.4	
	comp=N,339nm,0.1s							
MT02	**Curacav**	**1.78**	**179**	⇓*i*P		Pn	09 48 59.6	-0.1
MT02				*e*S		Sn	09 49 21.7	+0.4
MT02				IAML			09 49 24.1	
	comp=N,269nm,0.4s							
MT05	**Renca**	**1.95**	**169**	*e*P		Pn	09 49 03.0	+1.0
MT05				*i* S		Sn	09 49 27.6	+2.1
MT05				IAML			09 49 35.3	
	comp=E,625nm,0.5s							
FCH	**Farellones**	**1.99**	**158**	*e*P		Pn	09 49 03.7	+0.9
FCH				*i* S		Sn	09 49 28.6	+1.7
FCH				IAML			09 49 37.7	
	comp=E,239nm,0.2s							
MT03	**Universidad Ad**	**2.09**	**165**	*e*P		Pn	09 49 04.6	+0.6
MT03				*i* S		Sn	09 49 30.4	+1.4
MT03				IAML			09 49 36.3	
	comp=E,748nm,0.2s							
VA05	**Santo Domingo**	**2.21**	**190**	*e*P		Pn	09 49 05.4	-0.1
VA05				*i* S		Sn	09 49 32.8	+1.1
VA05				IAML			09 49 41.0	
	comp=E,616nm,0.8s							
MT09	**Talagante**	**2.30**	**176**	⇓*i*P		Pn	09 49 07.5	+0.6
MT09				*i* S		Sn	09 49 35.4	+1.2
MT09				IAML			09 49 40.7	
	comp=N,378nm,0.2s							
MT01	**Popeta**	**2.38**	**182**	*e*P		Pn	09 49 08.2	+0.4
MT01				IAML			09 49 45.6	
	comp=E,269nm,0.1s							
LCO	**Las Campanas**	**2.49**	**9**	*e*P		Pn	09 49 10.1	+0.6
LCO				*i* S		Sn	09 49 39.3	+0.4
LMEL	**Las Melosas**	**2.50**	**161**	*e*P		Pn	09 49 11.7	+2.1
LMEL				*i* S		Sn	09 49 41.0	+1.8
LMEL				IAML			09 49 48.2	
	comp=N,352nm,0.1s							
BO04	**La Punta**	**2.55**	**169**	*e*P		Pn	09 49 11.0	+0.8
BO04				*i* S		Sn	09 49 40.7	+0.6
BO04				IAML			09 49 46.6	
	comp=E,183nm,0.3s							
BO01	**Tunca**	**2.91**	**179**	*e*P		Pn	09 49 15.2	+0.2
BO01				IAML			09 49 58.3	
	comp=E,80nm,0.6s							
BO03	**Pichilemu**	**3.09**	**192**	*e*P		Pn	09 49 16.7	-0.7
BO03				IAML			09 50 14.6	
	comp=E,42nm,0.6s							
AC04	**Llanos de Chal**	**3.26**	**1**	*e*P		Pn	09 49 20.1	+0.3
AC04				IAML			09 50 13.2	
	comp=E,218nm,0.5s							
BO02	**Sierra Bellavi**	**3.33**	**174**	*e*P		Pn	09 49 21.5	+0.7
BO02				IAML			09 50 14.2	
	comp=E,148nm,0.3s							
GO05	**Huala**	**3.58**	**190**	*e*P		Pn	09 49 23.3	-1.0
GO03	**Copiap**	**3.95**	**12**	*e*P		Pn	09 49 29.9	+0.6
GO03				*i* S		Sn	09 50 14.9	+0.4
AC06	**Mina Casimiro**	**4.16**	**10**	*e*P		Pn	09 49 32.6	+0.4
AC02	**Maricunga**	**4.95**	**22**	⇑*e*P		Pn	09 49 45.0	+1.6

NEIC 22 09:49:04.8±0.6,36°.12N±0°.01×97°.061W±0°.008,h6km±4km, mb_Lg2.1/5,Error ellipse: s-maj=1.8km s-min=0.9km az=179.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.48**	**193**	Pg		Pg	09 49 13.7	-0.3
OKCFA	**Oklahoma City**	**0.77**	**204**	Pg		Pg	09 49 18.9	-0.7
OKCSW	**OKLAHOMA CITY**	**0.78**	**203**	Pg		Pg	09 49 19.1	-0.6
FNO	**Franklin**	**0.91**	**198**	Pg		Pg	09 49 20.9	-1.3
FNO				Sg		Sg	09 49 33.7	-0.3
T35A	**Sooner Cattle**	**0.91**	**29**	Pg		Pg	09 49 21.3	-1.0
T35A				Sg		Sg	09 49 33.3	-0.7
W35A	**Tecumseh**	**0.98**	**171**	Pg		Pg	09 49 22.1	-1.5
W35A				Sg		Sg	09 49 35.5	-0.8
TUL1	**Leonard**	**1.05**	**101**	Pg		Pg	09 49 23.4	-1.6
TUL1				Sg		Sg	09 49 37.8	-0.8
U32A	**Winter Ranch,**	**1.59**	**280**	Pg		Pn	09 49 32.0	-1.5
WMOK	**Wichita Mounta**	**1.97**	**226**	Pn		Pn	09 49 37.4	-1.3
X37A	**Clayton**	**2.06**	**137**	Pn		Pn	09 49 40.2	+0.2
R32A	**Long Quarter,**	**2.65**	**331**	IAmb_Lg			09 50 28.5	
	comp=Z,12nm,1.3s							
U40A	**Yellville**	**3.41**	**85**	IAmb_Lg			09 50 55.9	
	comp=Z,5.0nm,0.9s							
X40A	**Basin Creek Fa**	**3.82**	**114**	Pn		Pn	09 50 02.1	-2.1
WHAR	**Wooly Hollow**	**3.97**	**101**	Pn		Pn	09 50 05.1	-1.1
P40A	**Paris**	**5.23**	**48**	IAmb_Lg			09 52 00.8	
	comp=Z,2.9nm,0.9s							

SKHL ***22*** *09:56:22.5±0.5,44˚.90N×149˚.80E,h36km±4km,mb4.4/3*
NIED ***22*** *09:56:23.0,45˚.11N×149˚.55E,h30km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.31; Mθθ-0.51; Mφφ-1.80; Mrθ0.20; Mrφ-1.43; Mθφ3.15; Fault plane solution: M₀4.05000×10¹⁴ NP1:φs11.00000°, δ72.00000°,λ73.00000°. NP2:φs235.00000°,δ24.00000°, λ131.00000°.*
JMA ***22*** *09:56:22.9±0.9,45˚.11N×149˚.55E,h30km,M3.8*
ISC 22 09:56:22.7±4.3,44°.8N±0°.1×149°.7E±0°.2,h35km,n21, σ2s15/32,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.39**	**289**	*i* P		**Pn**	**09 56 44.1**	**-1.5**
KUR				AMB		AMB	09 56 45.3	
	110nm,0.2s							
KUR				*e*S		**Sn**	**09 57 00.1**	**-2.6**
KUR				A		A	09 57 01.9	
	510nm,0.2s							
KUR				A		A	09 57 01.9	
	300nm,0.2s							
SHO	**Shikotan**	**2.29**	**247**	*e*P		**Pn**	**09 56 58.3**	**+0.5**
SHO				AMB		AMB	09 57 02.4	
	30nm,0.3s							
SHO				*e*S		**Sn**	**09 57 25.2**	**+0.5**
SHO				A		A	09 57 31.1	
	130nm,0.3s							
SHO				A		A	09 57 31.1	
	130nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.88**	**256**	*e*P		**Pn**	**09 57 07.5**	**+1.5**
YUK				AMB		AMB	09 57 09.2	
	40nm,0.2s							
YUK				*e*S		**Sn**	**09 57 40.9**	**+1.5**
YUK				A		A	09 57 48.5	
	180nm,0.4s							
YUK				A		A	09 57 48.5	
	170nm,0.4s							
GLVR	**Golovnino**	**3.21**	**252**	*e*P		**Pn**	**09 57 12.2**	**+1.6**
GLVR				*e*S		**Sn**	**09 57 50.0**	**+2.4**
GLVR				A		A	09 57 57.8	
	230nm,0.6s							
GLVR				A		A	09 57 57.8	
	350nm,0.6s							
NEM2	**Nemuro 2**	**3.22**	**245**	P		**Pn**	**09 57 10.3**	**-0.4**
NEM2				*e*S		**Sn**	**09 57 45.3**	**-2.4**
NMR	**Nemuro--Hokkai**	**3.23**	**245**	*e*P		**Pn**	**09 57 11.4**	**+0.6**
NMR				*e*S		**Sn**	**09 57 47.6**	**-0.3**
JNK	**Nakash**	**3.81**	**253**	P		**Pn**	**09 57 20.0**	**+1.2**
JNK				*e*S		**Sn**	**09 58 00.9**	**-1.4**
AKK	**Akkeshi**	**3.96**	**245**	*e*P		**Pn**	**09 57 22.3**	**+1.4**
AKK				*e*S		**Sn**	**09 58 05.9**	**-0.2**
JAK	**Akkeshi**	**4.07**	**245**	P		**Pn**	**09 57 22.6**	**+0.3**
JAK				*e*S		**Sn**	**09 58 06.8**	**-1.9**
JTKR	**Abashiri--Toko**	**4.26**	**261**	P		**Pn**	**09 57 27.2**	**+2.2**
JAR	**Ashorobuto**	**4.56**	**253**	P		**Pn**	**09 57 31.3**	**+2.2**
JAR				*e*S		**Sn**	**09 58 21.7**	**+0.9**
JMP	**Maruseppu**	**4.64**	**262**	P		**Pn**	**09 57 32.4**	**+2.2**
JKK2	**Kamakawa 2**	**5.10**	**262**	P		**Pn**	**09 57 39.1**	**+2.6**
JCH	**Churui**	**5.11**	**247**	P		**Pn**	**

PAHR	**Pah Rah Range**	**1.13**	**335**	IAML		10 01 24.4	
	comp=E,2µm,0.5s						
PAHR				IAML		10 01 25.6	
	comp=N,3µm,0.9s						
MLNR	**Milner Canyon**	**1.14**	**163**		**Pb**	**10 01 06.8**	**-1.5**
RUBR	**Rubicon Trail**	**1.15**	**289**	Pn	**Pb**	**10 01 07.2**	**-1.2**
RUBR				IAML		10 01 26.4	
	comp=N,6µm,0.8s						
RUBR				IAML		10 01 27.0	
	comp=E,4µm,0.6s						
MPK	**Martis Peak**	**1.16**	**302**	Pn	**Pb**	**10 01 07.5**	**-1.1**
MPK				IAML		10 01 31.9	
	comp=E,6µm,0.9s						
Q09A	**Carvers**	**1.25**	**83**	Pn	**Pg**	**10 01 09.5**	**-0.7**
PEAR	**Peavine Mounta**	**1.31**	**315**		**Pn**	**10 01 10.4**	**-0.5**
TPH	**Tonopah**	**1.35**	**116**		**Pn**	**10 01 10.5**	**-1.0**
POCCA	**Poleta Canyon**	**1.37**	**164**		**Pn**	**10 01 10.9**	**-0.9**
DONR	**Donner Summit**	**1.39**	**299**		**Pn**	**10 01 11.2**	**-0.7**
BABR	**Babbit Peak**	**1.39**	**312**		**Pn**	**10 01 11.6**	**-0.5**
KBF	**Kyburz Flat**	**1.40**	**307**		**Pb**	**10 01 12.1**	**-0.5**
KCC	**Kaiser Creek**	**1.43**	**198**		**Pn**	**10 01 11.4**	**-1.0**
CMB	**Columbia Colle**	**1.43**	**244**	Pn	**Pn**	**10 01 11.5**	**-0.9**
CMB				IAML		10 01 33.4	
	comp=N,2µm,0.5s						
CMB				IAML		10 01 33.7	
	comp=E,2µm,0.7s						
DSP	**Deep Springs**	**1.45**	**154**		**Pn**	**10 01 12.3**	**-0.4**
TIN	**Tinemaha, Big**	**1.68**	**165**	Pb	**Pb**	**10 01 16.7**	**-0.7**
	baz=345						
TIN				S	**Sb**	**10 01 38.1**	**-0.5**
	baz=345						
LCH	**Last Change Ra**	**1.70**	**148**		**Pn**	**10 01 15.4**	**-0.7**
BEKR	**Beckworth**	**1.71**	**314**	Pn	**Pn**	**10 01 15.8**	**-0.6**
BEKR				IAML		10 01 45.2	
	comp=E,947nm,0.8s						
GRAC	**Grapevine Rang**	**2.02**	**146**		**Pn**	**10 01 20.0**	**-0.4**
GRAC				IAML		10 01 54.0	
	comp=N,1µm,0.5s						
GRAC				IAML		10 01 54.0	
	comp=E,1µm,0.5s						
GRAC	**Grapevine Rang**	**2.02**	**146**	P	**Pn**	**10 01 20.2**	**-0.2**
	baz=326						
GRAC				Sb	**Sg**	**10 01 49.7**	**-1.4**
	baz=326						
BMN	**Battle Mountai**	**2.11**	**34**	Pn	**Pn**	**10 01 20.9**	**-0.9**
BMN				IAML		10 01 55.2	
	comp=E,1µm,0.4s						
BMN				IAML		10 01 56.1	
	comp=N,1µm,0.4s						
ORV	**Oroville**	**2.30**	**293**	Pn	**Pn**	**10 01 24.2**	**-0.1**
ORV				IAML		10 01 58.4	
	comp=E,578nm,0.8s						
CWC	**Cottonwood Cre**	**2.31**	**166**	P	**Pn**	**10 01 24.2**	**-0.3**
	baz=346						
CWC				Sb	**Sb**	**10 01 57.5**	**+0.8**
	baz=346						
VOG	**Valley Oaks Go**	**2.41**	**192**	Pb	**Pb**	**10 01 29.2**	**-0.6**
	baz=11						
VOG				Sb	**Sb**	**10 02 00.2**	**+0.7**
	baz=11						
R11A	**Troy Canyon, C**	**2.51**	**97**	Pn	**Pn**	**10 01 26.1**	**-1.3**
R11A				IAML		10 02 06.6	
	comp=E,712nm,0.9s						
R11A	**Troy Canyon, C**	**2.51**	**97**	P	**Pn**	**10 01 26.2**	**-1.2**
	baz=278						
R11A				Sb	**Sg**	**10 02 05.1**	**-2.0**
	baz=278						
WENL	**Wente Vineyard**	**2.59**	**247**		**Pn**	**10 01 28.5**	**+0.2**
S11A	**Rachel**	**2.59**	**113**		**Pn**	**10 01 27.8**	**-0.7**
TPNV	**Topopah Spring**	**2.64**	**130**		**Pn**	**10 01 28.5**	**-0.7**
TPNV	**Topopah Spring**	**2.64**	**130**	P	**Pn**	**10 01 28.4**	**-0.7**
	baz=311						
FURC	**Furnace Creek,**	**2.68**	**145**	P	**Pn**	**10 01 29.3**	**-0.1**
	baz=326						
BBGB	**Big Mountain B**	**2.77**	**221**		**Pn**	**10 01 31.3**	**+0.4**
MPMC	**Manual Prospec**	**2.81**	**158**	P	**Pn**	**10 01 31.0**	**-0.5**
	baz=339						
MPMC				Sb	**Sb**	**10 02 13.2**	**+1.9**
	baz=339						
O03E	**Paynes Creek**	**2.85**	**305**		**Pn**	**10 01 31.7**	**-0.2**
O03E				IAML		10 02 16.2	
	comp=N,524nm,0.5s						
O03E				IAML		10 02 26.3	
	comp=E,611nm,0.6s						
O03E	**Paynes Creek**	**2.85**	**305**	P	**Pn**	**10 01 32.5**	**+0.6**
	baz=124,SNR=58						
O03E				Sb	**Sg**	**10 02 15.3**	**-2.5**
	baz=124						
VES	**Vestal, Richgr**	**2.85**	**185**	Pb	**Pb**	**10 01 36.8**	**-0.5**
	baz=4.8						
VES				Sb	**Sb**	**10 02 13.6**	**+1.4**
	baz=4.8						
SAO	**San Andreas Ge**	**2.87**	**229**		**Pn**	**10 01 31.8**	**-0.3**
PMPB	**Monarch Peak**	**2.95**	**214**		**Pn**	**10 01 35.6**	**+2.3**
PMPB				IAML		10 02 27.9	
	comp=E,794nm,0.7s						
GWY	**Greenwater Val**	**3.00**	**146**		**Pn**	**10 01 33.4**	**-0.6**
GWY				IAML		10 02 28.2	
	comp=E,296nm,0.9s						
ISA	**Isabella, Lake**	**3.02**	**176**		**Pn**	**10 01 34.9**	**+0.6**
ISA				IAML		10 02 20.1	
	comp=N,411nm,0.3s						
ISA				IAML		10 02 21.3	
	comp=E,440nm,0.4s						
ISA	**Isabella, Lake**	**3.02**	**176**	Sb	**Sb**	**10 02 18.7**	**+1.4**
	baz=355						
Q12A	**Willow Creek R**	**3.09**	**82**		**Pn**	**10 01 35.2**	**-0.1**
QSM	**Queen of Sheba**	**3.11**	**150**		**Pn**	**10 01 34.1**	**-1.3**
GDXM	**Geysers**	**3.15**	**273**		**Pn**	**10 01 36.3**	**+0.1**
PRN	**Pahroc Range**	**3.20**	**112**		**Pn**	**10 01 36.1**	**-0.6**
PRN				IAML		10 02 32.4	
	comp=E,577nm,0.5s						
MCCM	**Marconi Confer**	**3.28**	**262**	Pn	**Pn**	**10 01 36.9**	**-0.9**
MCCM				IAML		10 02 24.1	
	comp=N,473nm,0.9s						
MCCM				IAML		10 02 32.7	
	comp=E,377nm,1.1s						
HOPS	**Hopland Field**	**3.38**	**277**	Pn	**Pn**	**10 01 39.2**	**0.0**
HOPS				IAML		10 02 42.8	
	comp=N,201nm,2.1s						
ELK	**Elko**	**3.41**	**52**	Pn	**Pn**	**10 01 39.4**	**-0.4**
	comp=N,10nm,0.3s,baz=251,slow=11,SNR=70						
ELK				Pg	**Pg**	**10 01 49.2**	**-2.5**
	comp=N,42nm,0.3s,baz=252,slow=15,SNR=26						
ELK				Lg	Lg	10 02 33.9	
	comp=N,220nm,0.3s,baz=354,slow=11,SNR=32						
ELK				LR	LR	10 02 42.4	
	comp=N,71nm,20.4s,baz=222,slow=34						
ELK	**Elko**	**3.41**	**52**		**Pn**	**10 01 39.5**	**-0.3**
ELK				IAML		10 02 38.1	
	comp=N,324nm,0.4s						
ELK				IAML		10 02 38.7	
	comp=N,318nm,0.5s						
MOD	**Modoc Plateau**	**3.42**	**340**	Pn	**Pn**	**10 01 39.7**	**-0.2**
MOD				IAML		10 02 40.4	
	comp=E,343nm,0.9s						
MOD				IAML		10 02 41.1	
	comp=N,281nm,1.1s						
O02D	**Mt. Diablo Mer**	**3.46**	**297**	Pn	**Pn**	**10 01 40.6**	**+0.4**
O02D	**Mt. Diablo Mer**	**3.46**	**297**	Pb	**Pb**	**10 01 47.0**	**-0.6**
	baz=115,SNR=27						
O02D				Sb	**Sb**	**10 02 32.6**	**+2.9**
	baz=115						
SMMC	**Simmler**	**3.51**	**197**	Sb	**Sb**	**10 02 31.9**	**+0.8**
	baz=16						
ARVC	**Arvin**	**3.55**	**181**	Pb	**Pb**	**10 01 48.6**	**-0.6**
	baz=0.6						
ARVC				Sb	**Sb**	**10 02 34.6**	**+2.2**
	baz=0.6						
SHPR	**Sheep Range**	**3.59**	**126**		**Pn**	**10 01 42.0**	**-0.3**
SHPR				IAML		10 02 42.6	
	comp=E,173nm,0.4s						
GSC	**Goldstone, Bar**	**3.72**	**155**		**Pn**	**10 01 42.0**	**-2.0**
WVOR	**Wild Horse Val**	**3.75**	**1**		**Pn**	**10 01 44.5**	**+0.2**
BCW	**Bitter Crk WRg**	**3.77**	**188**		**Pn**	**10 01 42.7**	**-2.0**
BCW				IAML		10 02 47.7	
	comp=N,205nm,0.8s						
BCW				IAML		10 03 01.3	
	comp=E,213nm,0.9s						
N02D	**Trinity Center**	**3.80**	**308**		**Pn**	**10 01 42.4**	**-2.6**
N02D	**Trinity Center**	**3.80**	**308**	P	**Pn**	**10 01 45.4**	**+0.4**
	baz=126,SNR=7.7						
N02D				Sb	**Sg**	**10 02 44.2**	**-4.2**
	baz=126						
EDW2	**Edwards Air Fo**	**3.85**	**171**	Sb	**Sb**	**10 02 43.6**	**+2.6**
	baz=351						
PSUT	**Pine Spring**	**3.85**	**91**		**Pn**	**10 01 45.1**	**-0.7**
KCPM	**Cahto Peak**	**3.88**	**286**	Pn	**Pn**	**10 01 45.2**	**-0.9**
KCPM				IAML		10 03 03.3	
	comp=E,140nm,2.3s						
M04C	**Macdoel**	**3.89**	**324**	P	**Pn**	**10 01 48.5**	**+2.2**
	baz=142,SNR=9.8						
OSI	**Osito Audit: C**	**4.06**	**180**	Sb	**Sb**	**10 02 50.4**	**+3.3**
	baz=359						
ICU	**Indian Springs**	**4.12**	**110**		**Pn**	**10 01 49.3**	**-0.2**
KMRM	**Mail Ridge**	**4.12**	**293**	Pn	**Pn**	**10 01 47.5**	**-2.0**
KMRM				IAML		10 03 17.4	
	comp=E,129nm,1.8s						
KMRM				IAML		10 03 20.5	
	comp=N,114nm,1.4s						
M02C	**Callahan**	**4.14**	**312**		**Pn**	**10 01 51.5**	**+1.8**
M02C	**Callahan**	**4.14**	**312**	P	**Pn**	**10 01 51.2**	**+1.5**
	baz=130,SNR=14						
YBH	**Yreka Blue Hor**	**4.29**	**316**	Pn	**Pn**	**10 01 53.7**	**+1.9**
	comp=N,1.5nm,0.3s,baz=140,slow=7.4,SNR=30						
YBH				Lg	Lg	10 02 58.8	
	comp=N,1.2nm,0.3s,baz=197,slow=23,SNR=1.0						
YBH				LR	LR	10 03 39.9	
	comp=N,179nm,21.6s,baz=170,slow=41						
YBH	**Yreka Blue Hor**	**4.29**	**316**	Pn	**Pn**	**10 01 53.4**	**+1.7**
K05A	**Summer Lake**	**4.35**	**339**	Pn	**Pn**	**10 01 51.4**	**-1.3**
K05A				IAML		10 03 07.1	
	comp=E,125nm,1.0s						
K05A				IAML		10 03 08.1	
	comp=N,137nm,0.6s						
CCUT	**Cedar City**	**4.41**	**103**		**Pn**	**10 01 52.9**	**-0.5**
CCUT				IAML		10 03 05.6	
	comp=E,160nm,0.5s						
CCUT				IAML		10 03 06.5	
	comp=N,256nm,0.5s						
KHMM	**Horse Mountain**	**4.41**	**301**	Pn	**Pn**	**10 01 52.4**	**-1.0**
L04D	**Klamath Falls**	**4.45**	**324**	P	**Pn**	**10 01 55.8**	**+1.9**
	baz=142,SNR=36						
JCC	**Jacoby Creek,**	**4.58**	**299**	Pn	**Pn**	**10 01 54.6**	**-1.0**
JCC				IAML		10 03 04.3	
	comp=N,99nm,2.5s						
JCC				IAML		10 03 14.9	
	comp=E,103nm,2.8s						
SZCU	**Shurtz Canyon**	**4.60**	**102**	Pn	**Pn**	**10 01 54.7**	**-1.5**
J08A	**Circle Bar Ran**	**4.67**	**3**	Pn	**Pn**	**10 01 57.1**	**0.0**
LCMT	**Little Creek M**	**4.68**	**109**		**Pn**	**10 01 55.8**	**-1.3**
KRPM	**Rodgers**	**4.74**	**303**	Pn	**Pn**	**10 01 55.7**	**-2.2**
DUG	**Dugway, Tooele**	**4.85**	**70**	Pn	**Pn**	**10 01 58.0**	**-1.5**
DUG	**Dugway, Tooele**	**4.85**	**70**	P	**Pn**	**10 01 59.6**	**+0.2**
	baz=253						
TCRU	**Three Creeks R**	**4.95**	**89**	Pn	**Pn**	**10 01 59.5**	**-1.4**
BGU	**Big Grassy Mou**	**4.95**	**61**		**Pn**	**10 02 01.2**	**+0.4**
BGU				IAML		10 03 25.1	
	comp=N,132nm,0.8s						
BGU				IAML		10 03 26.2	
	comp=E,173nm,0.8s						
J05D	**Fort Rock, OR**	**4.96**	**339**	P	**Pn**	**10 02 03.3**	**+2.2**
	baz=157						
KNB	**Kanab**	**4.99**	**108**		**Pn**	**10 02 01.0**	**-0.4**
KNB				IAML		10 03 23.8	
	comp=E,155nm,0.9s						
KNB				IAML		10 03 26.2	
	comp=N,97nm,0.8s						
L02E	**Cave Junction**	**5.07**	**315**	P	**Pn**	**10 02 05.5**	**+3.2**
	baz=132						
MSU	**Marysvale**	**5.16**	**90**	Pn	**Pn**	**10 02 05.7**	**+1.8**
BELC	**Belle Mtn. Jos**	**5.18**	**154**	P	**Pn**	**10 02 03.4**	**-0.6**
	baz=335						
J04D	**Umpqua Nationa**	**5.21**	**332**	Pn	**Pn**	**10 02 04.8**	**+0.3**
J04D	**Umpqua Nationa**	**5.21**	**332**	P	**Pn**	**10 02 07.0**	**+2.5**
	baz=150						
W13A	**Hualapai Mount**	**5.30**	**131**		**Pn**	**10 02 05.4**	**-0.3**
NLU	**North Lily Min**	**5.34**	**74**	Pn	**Pn**	**10 02 08.1**	**+1.8**
NLU				IAML		10 03 38.0	
	comp=E,114nm,0.5s						
PINE	**Pine Mountain**	**5.36**	**343**	Pn	**Pn**	**10 02 08.7**	**+2.1**
PFO	**Pinyon Flats O**	**5.39**	**159**	Pn	**Pn**	**10 02 07.3**	**+0.3**
	comp=E,0.6nm,0.3s,baz=333,slow=14,SNR=12						
PFO	**Pinyon Flats O**	**5.39**	**159**	Pn	**Pn**	**10 02 06.4**	**-0.5**
PFO	**Pinyon Flats O**	**5.39**	**159**	P	**Pn**	**10 02 06.5**	**-0.5**
	baz=340						
I07A	**Izee**	**5.42**	**354**	Pn	**Pn**	**10 02 09.7**	**+2.4**
HVU	**Hansel Valley**	**5.53**	**54**		**Pn**	**10 02 07.3**	**-1.5**
U15A	**North Rim**	**5.61**	**112**	Pn	**Pn**	**10 02 09.4**	**-0.7**
CTU	**Camp Tracy**	**5.77**	**67**	Pn	**Pn**	**10 02 11.8**	**-0.3**
I04A	**Tendick Farm,**	**5.80**	**333**	P	**Pn**	**10 02 15.6**	**+3.2**
	baz=151,SNR=5.1						
HLID	**Hailey**	**5.88**	**33**		**Pn**	**10 02 12.0**	**-1.6**
TMUT	**Trail Mountain**	**5.92**	**82**	Pn	**Pn**	**10 02 14.8**	**+0.5**
Q16A	**Castle Valley**	**5.93**	**85**		**Pn**	**10 02 13.0**	**-1.4**
JLU	**Jordanelle**	**5.96**	**69**	Pn	**Pn**	**10 02 14.2**	**-0.6**
I05D	**Terrebonne, OR**	**5.97**	**342**	P	**Pn**	**10 02 18.8**	**+4.0**
	baz=160						
BLYC	**Blythe**	**6.00**	**144**	Pn	**Pn**	**10 02 15.6**	**+0.5**
BAR	**Barrett**	**6.23**	**164**	Pn	**Pn**	**10 02 16.4**	**-1.9**
HWUT	**Hardware Ranch**	**6.24**	**60**	Pn	**Pn**	**10 02 19.0**	**+0.4**
P17A	**Butcher Ranch,**	**6.29**	**80**	Pn	**Pn**	**10 02 19.9**	**+0.6**
TKX	**Tecate**	**6.35**	**163**	Pn	**Pn**	**10 02 19.8**	**-0.2**
H04A	**Detroit Lake**	**6.52**	**338**	Pn	**Pn**	**10 02 23.5**	**+1.2**
Y14A	**Wickenburg**	**6.63**	**134**	Pn	**Pn**	**10 02 22.8**	**-1.1**
113A	**Mohawk Valley,**	**7.17**	**144**	Pn	**Pn**	**10 02 30.4**	**-0.7**
X16A	**Lo Mia Camp, P**	**7.27**	**124**	Pn	**Pn**	**10 02 30.2**	**-2.5**
RDMU	**Red Mountain**	**7.34**	**72**		**Pn**	**10 02 33.0**	**-0.8**
F10A	**Beach Ranch, E**	**7.37**	**8**	Pn	**Pn**	**10 02 34.7**	**+0.6**
TPAW	**Teton Pass**	**7.60**	**48**	Pn	**Pn**	**10 02 36.0**	**-1.4**
PV10	**Paradox Valley**	**7.63**	**89**	Pn	**Pn**	**10 02 34.0**	**-3.7**
PV23	**Carpenter Ridg**	**7.64**	**89**	Pn	**Pn**	**10 02 39.3**	**+1.4**
PV11	**David Mesa, Pa**	**7.77**	**90**	Pn	**Pn**	**10 02 41.0**	**+1.4**
LOHW	**Long Hollow**	**7.88**	**49**	Pn	**Pn**	**10 02 37.3**	**-3.9**
PV15	**Paradox Valley**	**8.07**	**89**	Pn	**Pn**	**10 02 46.8**	**+3.0**
BW06	**Boulder Array**	**8.09**	**57**	Pn	**Pn**	**10 02 42.5**	**-1.6**
PD31	**Pinedale Array**	**8.09**	**57**	Pn	**Pn**	**10 02 41.0**	**-3.1**
PDAR	**Pinedale Array**	**8.09**	**57**	Pn	**Pn**	**10 02 47.1**	**+3.1**
	comp=E,0.3nm,0.3s,baz=245,slow=11,SNR=13						
PDAR				Lg	Lg	10 04 59.3	
	comp=E,0.8nm,0.3s,baz=240,slow=27,SNR=6.0						
PDAR				LR	LR	10 05 27.0	
	comp=E,24nm,20.5s,baz=240,slow=34						
PDAR	**Pinedale Array**	**8.09**	**57**	Pn	**Pn**	**10 02 43.0**	**-1.0**
X18A	**Snowflake**	**8.21**	**118**	Pn	**Pn**	**10 02 42.5**	**-3.2**
MVCO	**Mesa Verde**	**8.24**	**97**	Pn	**Pn**	**10 02 43.0**	**-3.2**
NEW	**Newport**	**9.65**	**7**	LR	LR	10 06 51.8	
	comp=E,50nm,18.6s,baz=184,slow=38						
ANMO	**Albuquerque**	**10.55**	**107**	Pg	Pg	10 03 59.2	
	comp=E,0.1nm,0.3s,baz=295,slow=16,SNR=4.0						
ANMO				Lg	Lg	10 06 14.9	
	comp=E,0.1nm,0.3s,baz=164,slow=15,SNR=1.7						
ANMO				LR	LR	10 07 54.1	
	comp=E,93nm,18.8s,baz=300,slow=40						
TX31	**Lajitas Ar. Si**	**15.59**	**122**	P	**Pn**	**10 04 27.4**	**+1.1**
TX31				IAmb	IAmb	10 04 49.9	
	comp=Z,7.4nm,1.3s						
TX32	**Lajitas Array**	**15.59**	**122**	P	**Pn**	**10 04 27.3**	**+1.0**
TXAR	**Lajitas Array**	**15.59**	**122**	Pn	**P**	**10 04 30.6**	**0.0**
	comp=Z,0.0nm,0.3s,baz=289,slow=8.8,SNR=6.4						
TXAR	**Lajitas Array**	**15.59**	**122**	P	**Pn**	**10 04 26.9**	**+0.6**
ABTX	**Abilene, Hawle**	**16.66**	**105**	Pn	**Pn**	**10 04 37.5**	**-2.5**
ULM	**Lac du Bonnet**	**19.92**	**47**	P	**Pn**	**10 05 19.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=1.8						
ULM	**Lac du Bonnet**	**19.92**	**47**	IAmb	IAmb	10 05 36.8	
	comp=Z,14nm,1.5s						
DLBC	**Dease Lake**	**21.07**	**343**	P	**P**	**10 05 31.9**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=231,slow=24,SNR=2.2						
YKA	**Yellowknife Ar**	**23.97**	**5**	P	**P**	**10 06 02.5**	**+1.8**
	comp=Z,1.5nm,1.0s,baz=186,slow=9.2,SNR=14						
CMIG	**Matias Romero**	**29.97**	**129**	LR	LR	10 20 17.4	
	comp=Z,33nm,18.9s,baz=252,slow=39						
ILAR	**Eielson Array**	**30.88**	**337**	P	**P**	**10 07 04.5**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=167,slow=6.7,SNR=4.2						
WMQ	**Urumqi**	**94.45**	**341**	*eP*	**P**	**10 14 06.8**	**+0.1**
ASAR	**Alice Springs**	**117.53**	**261**	PKP	**PKiKP**	**10 19 32.4**	**-0.3**
	comp=Z,0.6nm,1.1s,baz=60,slow=4.4,SNR=2.1						

*MAN **22** 10:04:19.4, 9.°17N×126.°32E, h15km, mb4.9, ML3.8, MS3.8*
*IDC **22** 10:04:26.4±2.1, 9.°07N×126.°17E, h117km±20km, mb3.7/9, mb1 3.9/11, mb1mx3.4/38, mbtmp4.1/11, MS2.8/4, Ms1 2.8/4, ms1mx2.5/79, Error ellipse: s-maj=40.1km s-min=13.7km az=80.0*
*NEIC **22** 10:04:27.2±1.3, 9.°2N±0.°1×126.°2E±0.°2, h116km±10km, mb4.3/15, Error ellipse: s-maj=26.0km s-min=14.6km az=83.0*
ISC 22 10:04:14.1±1.8, **9.°33N**±0.°05×**126.°27E**±0.°06, **h10**km±11km, **n42**, σ1≧**51**/41, **mb4.2**/18, **4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.15**	**176**	*iP*	**Pn**	**10 04 36.0**	**-0.3**
BIPH				*i* S	**Sg**	**10 04 48.8**	**-2.2**
CGP	**Cagayan de Oro**	**1.79**	**241**	*eP*	**Pg**	**10 04 50.8**	**+2.4**
CGP				*eS*	**Sg**	**10 05 11.1**	**-0.4**
DAV	**Davao City (W)**	**2.35**	**197**	P	**Pg**	**10 05 02.6**	**+3.4**
	107nm,0.3s,baz=280,slow=10,SNR=3.5						
DAV				S	**Sg**	**10 05 27.0**	**-2.7**
	78nm,0.3s,baz=338,slow=22,SNR=7.5						
DAV				LR	LR	10 06 01.1	
	comp=Z,406nm,19.8s,baz=14,slow=46						
TBP	**Tagbilaran**	**2.40**	**279**	*eP*	**Pg**	**10 04 59.4**	**-0.8**
TBP				*eS*	**Sb**	**10 05 26.6**	**-0.6**
LLP	**Lapu-Lapu**	**2.47**	**293**	*iP*	**Pg**	**10 05 01.7**	**+0.2**
LLP				*i* S	**Sg**	**10 05 33.1**	**-0.6**
KCP	**Kidapawan**	**2.59**	**207**	*eP*	**Pb**	**10 04 59.6**	**-1.1**
KCP				*i* S	**Sn**	**10 05 29.0**	**+1.3**
SNPH	**Sibulan**	**3.00**	**270**	*iP*	**Pb**	**10 05 08.6**	**+1.0**
SNPH				*i* S	**Sb**	**10 05 45.5**	**+1.1**
RCP	**Roxas**	**4.12**	**303**	*eP*	**Pb**	**10 05 25.2**	**-1.5**
LQP	**Lukban**	**6.64**	**316**	*eP*	Pb	10 06 01.4	-8.4
KAPI	**Kappang**	**15.66**	**205**	LR	LR	10 14 12.6	
	comp=Z,52nm,19.3s,baz=338,slow=38						
BATI	**Baumata**	**19.58**	**188**	P	**Pn**	**10 08 44.0**	**+0.1**
	0.7nm,0.3s,baz=252,slow=1.5,SNR=5.4						
JNU	**Nakatsue**	**24.05**	**10**	LR	LR	10 20 40.2	
	comp=Z,7.1nm,18.9s,baz=136,slow=40						
KNRA	**Kununurra**	**24.97**	**174**	P	**P**	**10 09 36.9**	**-1.2**
KNRA				IAmb	IAmb	10 09 39.4	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.26**	**181**	P	**P**	**10 09 58.0**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=346,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**27.26**	**181**	P	**P**	**10 09 58.5**	**-0.3**
KSRS	**Korea Array**	**28.04**	**3**	P	**P**	**10 10 07.9**	**+2.3**
	comp=Z,0.7nm,0.4s,baz=181,slow=10,SNR=3.2						
COEN	**Coen**	**28.58**	**144**	P	**P**	**10 10 10.9**	**+0.3**
COEN				IAmb	IAmb	10 10 28.6	
	comp=Z,8.6nm,1.4s						
MJAR	**Matsushiro Arr**	**29.18**	**20**	LR	LR	10 22 02.9	
	comp=Z,24nm,18.3s,baz=159,slow=36						
WRAB	**Tennant Creek**	**30.15**	**165**	P	**P**	**10 10 23.0**	**-1.5**
WRAB				IAmb	IAmb	10 10 34.8	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**30.16**	**165**	P	**P**	**10 10 22.7**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=343,slow=8.1,SNR=15						
WRA	**Warramunga Arr**	**30.16**	**165**	P	**P**	**10 10 23.8**	**-0.8**
WB2	**Warramunga Arr**	**30.16**	**165**	IAmb	IAmb	10 10 23.3	
	comp=Z,3.9nm,1.0s						
WB2				P	**P**	**10 10 23.8**	**-0.9**
WR0	**Warramunga Arr**	**30.23**	**164**	P	**P**	**10 10 24.1**	**-1.1**
WR0				IAmb	IAmb	10 10 28.2	
	comp=Z,3.0nm,1.1s						
PSA00	**Pilbara Seismi**	**31.35**	**192**	P	**P**	**10 10 34.9**	**-0.2**
PSA00				IAmb	IAmb	10 10 55.5	
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**33.63**	**167**	P	**P**	**10 10 54.5**	**-0.7**
AS31				IAmb	IAmb	10 10 56.3	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**33.63**	**167**	P	**P**	**10 10 53.6**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=347,slow=7.5,SNR=28						
FORT	**Forrest**	**39.92**	**178**	P	**P**	**10 11 48.5**	**0.0**
H11S3	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	10 54 52.9	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.21**	**72**	T	T	10 54 48.9	
	baz=262,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**40.21**	**72**	T	T	10 54 51.9	
	baz=262,slow=75,SNR=15						
BBOO	**Buckleboo**	**42.93**	**168**	P	**P**	**10 12 13.1**	**-0.2**
STKA	**Stephens Creek**	**43.52**	**161**	P	**P**	**10 12 16.9**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=340,slow=8.8,SNR=8.4						
STKA	**Stephens Creek**	**43.52**	**161**	IAmb	IAmb	10 12 20.4	
	comp=Z,1.9nm,1.4s						
TOO	**Toolangi**	**50.01**	**160**	P	**P**	**10 13 08.8**	**-0.1**
TOO				IAmb	IAmb	10 13 14.5	
	comp=Z,13nm,1.4s						
PETK	**Petropavlovsk-**	**50.49**	**24**	P	**P**	**10 13 14.5**	**+2.2**
	comp=Z,2.4nm,0.6s,baz=224,slow=4.2,SNR=5.2						
MK31	**Makanchi Array**	**52.77**	**323**	P	**P**	**10 13 30.2**	**+0.7**
MKAR	**Makanchi Array**	**52.77**	**323**	P	**P**	**10 13 30.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.1,SNR

TUL1				IAmb_Lg			10 12 16.8		
	comp=Z,23nm,0.8s								
W35A	**Tecumseh**	**1.74**	**159**	Pn	Pn		10 11 52.9	+0.4	
R32A	**Long Quarter,**	**1.85**	**333**	Pn	Pn		10 11 53.8	-0.3	
X34A	**Smith Ranch, M**	**2.18**	**184**	Pn	Pn		10 11 59.5	+0.9	
X34A				IAmb_Lg			10 12 31.4		
	comp=Z,11nm,1.1s								
WMOK	**Wichita Mounta**	**2.24**	**205**	Pn	Pn		10 11 59.6	+0.1	
X37A	**Clayton**	**2.86**	**139**	Pn	Pn		10 12 08.7	+0.9	
X37A				IAmb_Lg			10 12 53.8		
	comp=Z,22nm,1.2s								
HHAR	**Hobbs**	**3.01**	**98**		Pn		10 12 10.5	+0.4	
Z35A	**Perchaven, San**	**3.46**	**175**	Pn	Pn		10 12 16.9	+0.7	
W39A	**Magazine**	**3.50**	**116**	Pn	Pn		10 12 18.0	+1.3	
S39A	**Bolivar**	**3.56**	**74**	Pn	Pn		10 12 19.0	+1.5	
AMTX	**Amarillo**	**3.80**	**241**	IAmb_Lg			10 13 24.8		
	comp=Z,12nm,0.7s								
Z38A	**Mt. Pleasant**	**4.13**	**148**	IAmb_Lg			10 13 42.2		
	comp=Z,11nm,0.7s								
P38A	**Dawn**	**4.30**	**47**	IAmb_Lg			10 13 36.8		
	comp=Z,6.2nm,0.8s								
CCM	**Cathedral Cave**	**5.24**	**74**	IAmb_Lg			10 14 12.9		
	comp=Z,8.4nm,0.8s								

IDC ***22*** *10:21:03.0±1.1,2.41N×125.58E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/46,mbtmp3.7/7,Error ellipse: s-maj=126.1km s-min=17.4km az=69.0*

ISC 22 10:21:08.0±1.1,2.4N±0.2×125.5E±0.6,h35km,n7,σ1.1§13/7, mb3.9/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.33**	**180**	P	**P**	**10 25 40.2**	**-1.1**
	0.6nm,0.8s,baz=21,slow=10.0,SNR=2.2						
WRA	**Warramunga Arr**	**23.80**	**159**	P	**P**	**10 26 17.8**	**0.0**
	3.9nm,0.6s,baz=336,slow=11,SNR=40						
ASAR	**Alice Springs**	**27.13**	**163**	P	**P**	**10 26 49.1**	**+1.1**
	0.7nm,0.5s,baz=349,slow=7.4,SNR=26						
STKA	**Stephens Creek**	**37.31**	**157**	P	**P**	**10 28 17.1**	**0.0**
	1.8nm,0.4s,baz=333,slow=9.4,SNR=12						
SONM	**Songino Array**	**48.22**	**343**	P	**P**	**10 29 44.8**	**-0.6**
	0.5nm,0.6s,baz=153,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**58.00**	**326**	P	**P**	**10 30 58.7**	**+1.4**
	0.2nm,0.3s,baz=120,slow=8.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**61.27**	**334**	P	**P**	**10 31 19.1**	**-0.5**
	0.4nm,0.4s,baz=142,slow=7.3,SNR=2.2						

TUL ***22*** *10:26:44.6±0.5,35.873N×0.008×97.31W±0.01,h6km±3km, ML2.6,mb_Lg2.6/29(NEIC), Error ellipse: s-maj=1.6km s-min=0.3km az=132.0*

NEIC 22 10:26:45.2±0.5,35.876N±0.009×97.314W±0.008, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.5km az=149.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.24**	**156**	Pg	Pg	10 26 49.8	-0.2
OK005				Sg	Sg	10 26 53.5	+0.3
OK009	**Oakdale Elemen**	**0.31**	**197**	Pg	Pg	10 26 51.0	-0.2
OK001	**Jones High Sch**	**0.31**	**176**	Pg	Pg	10 26 51.1	-0.2
OKCFA	**Oklahoma City**	**0.47**	**194**		Pg	10 26 54.0	-0.3
OKCFA				Sg	Sg	10 27 00.8	+0.3
OKCSW	**OKLAHOMA CITY**	**0.48**	**192**	Pg	Pg	10 26 54.0	-0.5
OKCSW				Sg	Sg	10 27 01.1	+0.4
FNO	**Franklin**	**0.62**	**187**	Pg	Pg	10 26 56.6	-0.6
FNO				Sg	Sg	10 27 05.4	+0.2
W35A	**Tecumseh**	**0.81**	**153**	Pg	Pg	10 26 59.5	-1.2
W35A				Sg	Sg	10 27 10.6	-0.5
T35A	**Sooner Cattle**	**1.22**	**32**	Pg	Pg	10 27 07.1	-1.6
TUL1	**Leonard**	**1.24**	**88**		Pg	10 27 06.9	-2.0
X34A	**Smith Ranch, M**	**1.34**	**199**		Pn	10 27 09.7	-0.9
U32A	**Winter Ranch,**	**1.46**	**291**		Pn	10 27 10.9	-1.4
WMOK	**Wichita Mounta**	**1.65**	**227**	Pn	Pn	10 27 13.9	-1.0
X37A	**Clayton**	**2.04**	**128**	Pn	Pn	10 27 19.8	-0.5
X37A				IAmb_Lg		10 27 54.4	
	comp=Z,32nm,0.7s						
HHAR	**Hobbs**	**2.76**	**81**	Pn	Pn	10 27 29.4	-0.8
R32A	**Long Quarter,**	**2.78**	**337**	Pn	Pn	10 27 29.4	-1.0
W39A	**Magazine**	**2.96**	**102**	Pn	Pn	10 27 32.4	-0.5
W39A				IAmb_Lg		10 28 23.6	
	comp=Z,14nm,0.8s						
Z38A	**Mt. Pleasant**	**3.24**	**143**	IAmb_Lg		10 28 29.8	
	comp=Z,14nm,0.8s						
KSU1	**Kansas State U**	**3.27**	**10**	IAmb_Lg		10 28 35.3	
	comp=Z,14nm,0.9s						
U40A	**Yellville**	**3.64**	**81**	Pn	Pn	10 27 40.6	-1.7
AMTX	**Amarillo**	**3.70**	**256**	IAmb_Lg		10 28 50.8	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**3.92**	**109**	Pn	Pn	10 27 45.3	-0.8
X40A				IAmb_Lg		10 28 54.6	
	comp=Z,21nm,0.9s						
WHAR	**Wooly Hollow**	**4.14**	**97**	Pn	Pn	10 27 47.6	-1.4
W41B	**Gary Mavity, V**	**4.19**	**98**	Pn	Pn	10 27 48.5	-1.3
FCAR	**Ozark Folk Cen**	**4.21**	**88**	Pn	Pn	10 27 48.3	-1.8
FCAR				IAmb_Lg		10 29 00.1	
	comp=Z,11nm,0.8s						
MGMO	**Mountain Grove**	**4.26**	**71**	IAmb_Lg		10 28 58.2	
	comp=Z,16nm,0.8s						
R40A	**Maddies Statio**	**4.70**	**58**	Pn	Pn	10 27 55.9	-0.9
P38A	**Dawn**	**4.79**	**38**	Pn	Pn	10 27 56.3	-1.8
P38A				IAmb_Lg		10 29 14.8	
	comp=Z,8.7nm,0.8s						
CCAR	**Cane Creek**	**4.96**	**112**	Pn	Pn	10 28 00.2	-0.1
KSCO	**Kaye Shedlock'**	**5.26**	**308**	IAmb_Lg		10 29 40.4	
	comp=Z,8.7nm,0.7s						
P40A	**Paris**	**5.54**	**47**	IAmb_Lg		10 29 44.0	
	comp=Z,15nm,0.7s						
PBMO	**Poplar Bluff**	**5.63**	**79**	IAmb_Lg		10 29 56.9	
	comp=Z,6.6nm,0.8s						
JCT	**Junction City**	**5.77**	**202**	IAmb_Lg		10 29 54.0	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**5.85**	**285**	IAmb_Lg		10 29 57.7	
	comp=Z,8.9nm,0.9s						
S44A	**Carbondale**	**6.72**	**72**	IAmb_Lg		10 30 23.4	
	comp=Z,8.6nm,0.8s						

HEL ***22*** *10:27:29.5,67.80N×20.25E,h0km,ML1.5,Explosion*

HEL 22 10:27:29.1±0.1,67.84N±0.22E,h0km,ML1.5, ML0.9(UPP),Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.24**	**267**	*i* P	Pg	10 27 33.0	-0.6
RATU				*i* S	Sg	10 27 36.8	0.0
KOVU	**Salmi**	**0.39**	**357**	*i* P	Pg	10 27 35.9	-0.6
KOVU				*i* S	Sg	10 27 41.2	-0.3
NIKU	**Nikkaluokta**	**0.45**	**274**	*i* P	Pg	10 27 36.8	-0.9
NIKU				*i* S	Sg	10 27 43.6	+0.1
LANU	**Lannavaara**	**0.70**	**72**	*e*PB	Pg	10 27 42.3	-0.2
LANU				*e*S	Sg	10 27 51.0	-0.5
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	10 27 51.3	-0.6
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PN	Pb	10 27 52.6	+0.1
KIF				*e*S	Sg	10 28 07.4	+0.1
KIF				MSG		10 28 07.6	
	comp=Z,3.5nm,0.2s						
PAJU	**Pajala**	**1.39**	**125**	*e*PG	Pg	10 27 54.3	-1.3
	baz=307						
PAJU				*e*SN	Sg	10 28 13.7	+0.2
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	10 27 54.6	-1.4
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	10 27 54.9	-1.1
HEF				MSG		10 28 12.0	
	comp=Z,4.2nm,0.2s						
HEF				*e*SN	Sn	10 28 17.8	+2.5
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PN	Pn	10 27 56.8	-0.4
	baz=331						
ERTU				*e*SN	Sn	10 28 17.8	+0.3
KLF	**Kolari**	**1.56**	**111**	*e*PN	Pn	10 27 58.2	+0.1
KLF				*e*SN	Sg	10 28 19.4	+0.2
KALU	**Kalix**	**2.34**	**147**	*e*PB	Pn	10 28 10.3	+1.5
	baz=330						
TOF	**Tornio**	**2.39**	**136**	*e*PB	Pn	10 28 10.7	+1.2
	baz=317						
TOF				MSG		10 28 39.2	
	comp=Z,2.7nm,0.2s						
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pb	10 28 14.2	-1.8
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*PB	Pn	10 28 13.5	+1.5
	baz=228						
ARA0				*e*SB	Sn	10 28 46.1	+2.1
KEV	**Kevo**	**3.13**	**49**	*e*S	Sn	10 28 58.5	+0.9
KEV				MSG		10 29 01.7	
	comp=Z,1.0nm,0.2s						
OUF	**Merijarvi**	**3.94**	**150**	*e*PB	Pb	10 28 36.5	-2.8
OUF	**Merijarvi**	**3.94**	**150**	*e*SN	Pb	10 28 36.7	-2.6

HEL 22 10:27:41.8±0.0,62.71N×25.74E,h0km,ML1.0, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.19**	**86**	*e*P	Pg	10 27 45.1	-0.3
SUF				*e*S	Sg	10 27 47.6	-0.3
KAF	**Kangasniemi**	**0.65**	**156**	*e*P	Pg	10 27 53.6	-0.7
KAF				*e*S	Sg	10 28 01.7	-1.0
KEF	**Keuruu**	**0.68**	**217**	*e*P	Pg	10 27 53.9	-0.8
KEF				*e*S	Sg	10 28 02.5	-0.9
FIA0	**FINESS Array S**	**1.28**	**173**	*e*PB	Pg	10 28 05.0	-1.3
FIA0				*e*SB	Sg	10 28 21.7	-1.1
VAF	**Ylistaro**	**1.44**	**285**	*e*PN	Pn	10 28 08.8	-0.4
VAF				MSG		10 28 25.4	
	comp=Z,0.8nm,0.2s						
OUF	**Merijarvi**	**1.73**	**345**	*e*PN	Pg	10 28 15.0	+0.1
OUF				MSG		10 28 33.4	
	comp=Z,0.8nm,0.2s						
OBF0	**Syolatti, Pyha**	**1.92**	**340**	*e*SG	Sg	10 28 43.4	0.0
ARBE	**Arbavere**	**3.28**	**178**	*e*P	Pn	10 28 31.9	-2.6
KALU	**Kalix**	**3.33**	**343**	*e*PG	Pb	10 28 41.6	0.0
KALU	**Kalix**	**3.33**	**343**	*e*SG	Pb	10 28 41.6	0.0
TOF	**Tornio**	**3.44**	**350**	*e*PG	Pb	10 28 43.7	+0.1
TOF	**Tornio**	**3.44**	**350**	*e*SG	Pb	10 28 43.6	+0.1
RNF	**Rovaniemi**	**3.92**	**2**	*e*PB	Pb	10 28 47.9	-3.8
RNF	**Rovaniemi**	**3.92**	**2**	*e*SG	Pb	10 28 47.9	-3.8

ISK ***22*** *10:28:37.9,36.38N×35.93E,h2km,ML2.7/16*
DDA ***22*** *10:28:38.1±0.0,36.37N×35.94E,h6km±2km,ML2.7*

ISC 22 10:28:38.5±1.0,36.37N±0.03×35.92E±0.02,h7km±10km, n32,σ0.971/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	**Tahtakopru-Hat**	**0.21**	**88**	PG	**Pg**	**10 28 43.0**	**+0.2**
TAHT				SG	**Sg**	**10 28 46.9**	**+1.3**
YAYL	**Yayladag**	**0.36**	**156**	P	**Pg**	**10 28 45.2**	**-0.4**
YAYL				*i* AML	AML	10 28 51.0	
	comp=N,1μm,0.4s						
YAYL				S	**Sg**	**10 28 51.0**	**+0.6**
CEYT	**Ceyhan**	**0.66**	**348**	PG	**Pb**	**10 28 51.4**	**-0.9**
KUZU	**Kuzuini**	**1.01**	**66**	P	**Pg**	**10 28 57.3**	**-0.6**
KUZU				S	**Sb**	**10 29 11.4**	**-0.5**
KUZU				*i* AML	AML	10 29 13.0	
	comp=E,470nm,0.5s						
KUZU				*i* AML	AML	10 29 17.0	
	comp=N,399nm,0.4s						
KAMA	**Osmaniye**	**1.01**	**36**	P	**Pb**	**10 28 57.8**	**-0.7**
KAMA				S	**Sg**	**10 29 10.3**	**-0.8**
DED	**Mersin**	**1.08**	**304**	P	**Pb**	**10 28 59.2**	**-0.4**
DED				S	**Sb**	**10 29 14.5**	**+0.6**
DED				*i* AML	AML	10 29 18.0	
	comp=N,67nm,0.3s						
DED				*i* AML	AML	10 29 18.0	
	comp=E,75nm,0.6s						
KOZT	**Kozan**	**1.11**	**356**	PN	**Pb**	**10 29 00.0**	**-0.1**
KOZT				SN	**Sn**	**10 29 16.2**	**+0.1**
KARA	**Karaisali**	**1.13**	**322**	PN	**Pn**	**10 29 00.5**	**-0.3**
KARA				SN	**Sn**	**10 29 16.9**	**+0.4**
MERS	**Mersin**	**1.23**	**294**	PN	**Pg**	**10 29 01.7**	**-0.5**
MERS				SN	**Sn**	**10 29 20.4**	**+1.3**
ANDN	**Andirin**	**1.26**	**15**	P	**Pn**	**10 29 03.3**	**+0.8**
ANDN				S	**Sn**	**10 29 19.8**	**0.0**
ANDN				*i* AML	AML	10 29 25.0	
	comp=E,78nm,0.6s						
GULE	**Gulek**	**1.30**	**315**	P	**Pb**	**10 29 03.1**	**-0.2**
GULE				S	**Sn**	**10 29 21.1**	**+0.3**
GULE				*i* AML	AML	10 29 23.0	
	comp=N,116nm,0.4s						
GULE				*i* AML	AML	10 29 24.0	
	comp=E,159nm,0.5s						
CMRD	**Camardi-Nigde**	**1.49**	**330**	PN	**Pb**	**10 29 06.5**	**-0.1**
CMRD				SN	**Sg**	**10 29 27.5**	**+1.0**
SLFK	**Silifke-Mersin**	**1.60**	**271**	PN	**Pb**	**10 29 08.2**	**-0.1**
SLFK				SN	**Sg**	**10 29 30.2**	**+0.4**
SILI	**Silifke-Mersin**	**1.61**	**271**	PN	**Pb**	**10 29 08.4**	**-0.2**
GZT	**Gaziantep**	**1.64**	**53**	P	**Pg**	**10 29 09.9**	**-0.2**
GZT				S	**Sg**	**10 29 30.6**	**-0.8**
GZT				*i* AML	AML	10 29 34.0	
	comp=E,157nm,0.4s						
GZT				*i* AML	AML	10 29 37.0	
	comp=N,83nm,0.4s						
EREN	**Erenkoy**	**1.65**	**240**	PN	**Pb**	**10 29 08.9**	**-0.3**
KERG	**Konya-Eregli**	**1.78**	**306**	P	**Pb**	**10 29 11.0**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**1.78**	**346**	P	**Pg**	**10 29 12.1**	**-0.5**
YAHY				S	**Sb**	**10 29 33.8**	**-0.3**
KEBE	**Keben-Mersin**	**1.79**	**273**	PN	**Pn**	**10 29 10.1**	**+0.3**
IKL	**Isikli**	**1.81**	**267**	PN	**Pb**	**10 29 11.2**	**-0.8**
TISA	**Tisan-Mersin**	**1.83**	**264**	PN	**Pb**	**10 29 11.5**	**-0.7**
NIDE	**Nigde/Merkez-G**	**1.87**	**331**	P	**Pb**	**10 29 12.7**	**-0.4**
NIDE				*i* AML	AML	10 29 43.0	
	comp=E,58nm,0.3s						
AKKU	**Akkuyu-Mersin**	**1.93**	**264**	PN	**Pn**	**10 29 12.4**	**+0.7**
GULN	**MERSIN_Gulnar**	**1.93**	**265**	P	**Pn**	**10 29 11.9**	**+0.2**
GULN				S	**Sb**	**10 29 37.8**	**-0.5**
TEVE	**Tevekalti-Mers**	**2.00**	**273**	PN	**Pb**	**10 29 14.1**	**-1.2**
SARI	**SarD1z-Kayseri**	**2.07**	**11**	PN	**Pn**	**10 29 14.6**	**+0.7**
BERE	**Bereket-Mersin**	**2.18**	**270**	PN	**Pb**	**10 29 16.9**	**-1.5**
ATAB	**Bozova**	**2.19**	**59**	P	**Pg**	**10 29 20.4**	**-0.2**
SURC	**SANLIURFA_SURC**	**2.22**	**76**	P	**Pb**	**10 29 18.6**	**-0.4**
SURC				*i* AML	AML	10 29 50.0	
	comp=E,70nm,0.6s						
SURC				*i* AML	AML	10 29 54.0	
	comp=N,50nm,0.3s						
LFK	**Lefkose**	**2.23**	**241**	PN	**Pb**	**10 29 17.6**	**-1.5**
YESY	**Yesilyurt**	**2.24**	**310**	PN	**Pn**	**10 29 16.9**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.28**	**265**	PN	**Pn**	**10 29 17.9**	**+1.3**

BJI ***22*** *10:56:14.3±0.0,4.44S×35.26E,h19km,mb4.5/25, mB5.0/16,Ms4.8/5,Ms7 4.5/2*
EAF ***22*** *10:56:16.7±6.0,4.42S×36.02E,h23km±20km,MD4.5*
IDC ***22*** *10:56:16.0±0.4,4.42S×36.10E,h0km,mb4.5/25, mb1 4.6/28,mb1mx4.4/51,mbtmp4.5/28,ML4.4/4,MS3.8/40, Ms1 3.8/40,ms1mx3.6/75,Error ellipse: s-maj=12.1km s-min=9.1km az=95.0*
GCMT ***22*** *10:56:16.4±0.4,4.31S±0.04×35.96E±0.02,h19km±1km, MW4.8/73,Moment Tensor Solution. s20,c22; s73,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.12±.17; Mθθ-0.08±.09; Mϕϕ2.20±.12; Mrθ0.28±.23; Mθϕ-0.47±.06; Mϕr-0.13±.20; Best double couple: M◎2.22900×10^16 NP1:ϕs176.00000°,δ43.00000°,λ-79.00000°. NP2: ϕs342.00000°,δ48.00000°,λ-100.00000°. Principal axes: T 2.2980, Plg2.0000°, Azm79.0000°; N -0.1400, Plg7.0000°, Azm348.0000°; P -2.1600, Plg82.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *10:56:17.4±1.8,4.40S±0.06×35.97E±0.08,h10km±1km, mb4.8/46 Error ellipse: s-maj=13.4km s-min=10.3km az=109.0*

ISC 22 10:56:17.3±0.3,4.40S±0.03×35.96E±0.04,h10km,n207, σ2.908/194,mb4.7/64,MS3.8/39,1C-9D,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAT	**Babati**	**0.28**	**314**	*i* P	**Pg**	**10 56 23.9**	**+0.9**
BBAT				*i* S	**Sg**	**10 56 29.0**	**+2.2**
KOND	**Kondoa**	**0.53**	**198**	*i* P	**Pg**	**10 56 26.5**	**-1.3**
KOND				*i* S	**Sg**	**10 56 33.5**	**-1.3**
SINGT	**Singida**	**1.28**	**251**	*i* P	**Pn**	**10 56 41.0**	**-0.4**
SINGT				*i* S	**Sg**	**10 56 58.7**	**0.0**
KIBK	**Kibwezi**	**2.92**	**46**	Pn	**Pn**	**10 57 03.1**	**-0.8**
I32KE	**NAIROBI INFRAS**	**3.25**	**15**	Pg	**Pg**	**10 57 17.1**	**-2.6**
	baz=185,slow=29,SNR=0.8						
I32KE				Lg	Lg	10 57 55.0	
	baz=197,slow=42						
KMBO	**Kilima Mbogo**	**3.50**	**22**	Pn	**Pn**	**10 57 11.5**	**-0.5**
	25nm,0.3s,baz=193,slow=15,SNR=116			Pg			
KMBO					**Pb**	**10 57 19.9**	**+0.4**
	98nm,0.3s,baz=202,slow=19,SNR=27						
KMBO				Sn	**Sn**	**10 57 52.4**	**-1.2**
	156nm,0.3s,baz=81,slow=24,SNR=4.0						
KMBO				Lg	Lg	10 58 02.4	
	153nm,0.3s,baz=268,slow=9.7,SNR=14						
KMBO	**Kilima Mbogo**	**3.50**	**22**		**Pn**	**10 57 11.3**	**-0.6**
KMBO	**Kilima Mbogo**	**3.50**	**22**	*e*P	**Pn**	**10 57 13.0**	**+1.0**
KMBO				*e*S	**Sn**	**10 57 49.2**	**-4.4**
KMBO	**Kilima Mbogo**	**3.50**	**22**	*e*P	**Pn**	**10 57 12.2**	**+0.2**
KMBO	**Kilima Mbogo**	**3.50**	**22**	*e*P	**Pn**	**10 57 12.2**	**+0.2**
KMBO	**Kilima Mbogo**	**3.50**	**22**	*e*P	**Pn**	**10 57 13.0**	**+1.0**
KMBO				*e*S	**Sn**	**10 57 49.2**	**-4.4**
MBAR	**Mbarara**	**6.44**	**306**	Pn	**Pn**	**10 57 52.5**	**+0.1**
	65nm,0.3s,baz=30,slow=24,SNR=132						
MBAR				Sn	**Sn**	**10 59 02.8**	**-3.2**
	143nm,0.3s,baz=160,slow=22,SNR=7.8						
MBAR				Lg	Lg	10 59 38.8	
	258nm,0.3s,baz=202,slow=23,SNR=22						
MBAR	**Mbarara**	**6.44**	**306**	Pn	**Pn**	**10 57 51.7**	**-0.7**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 51.8**	**-0.5**
MBAR				*e*S	**Sn**	**10 59 00.8**	**-5.2**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 51.4**	**-1.0**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 52.1**	**-0.2**
MBAR				*e*S	**Sn**	**10 59 00.8**	**-5.2**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 51.4**	**-1.0**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 51.8**	**-0.5**
MBAR				*e*S	**Sn**	**10 59 00.8**	**-5.2**
MBAR	**Mbarara**	**6.44**	**306**	*e*P	**Pn**	**10 57 50.0**	**-2.4**
LODK	**Lodwar**	**7.79**	**356**	Pn	**Pn**	**10 58 10.9**	**0.0**
LODK	**Lodwar**	**7.79**	**356**	*e*P	**Pn**	**10 58 07.8**	**-3.1**
LODK				*e*S	Sb	10 59 51.5	-14
LODK	**Lodwar**	**7.79**	**356**	*e*P	**Pn**	**10 58 08.0**	**-2.9**
LODK	**Lodwar**	**7.79**	**356**	*e*P	**Pn**	**10 58 08.0**	**-2.9**
LODK	**Lodwar**	**7.79**	**356**	*e*P	**Pn**	**10 58 07.8**	**-3.1**
LODK				*e*S	Sb	10 59 51.5	-14
LODK	**Lodwar**	**7.79**	**356**	*e*P	**Pn**	**10 58 11.1**	**+0.2**
DILA	**Dilla**	**11.01**	**12**	*e*P	**Pn**	**10 58 58.3**	**+3.1**
DILA	**Dilla**	**11.01**	**12**	*e*P	**Pn**	**10 58 58.3**	**+3.1**
CLK	**Chileka**	**11.25**	**185**	*i* P	**Pn**	**10 58 55.8**	**-2.5**
CLK				S	Sn	11 00 54.8	-10
CLK	**Chileka**	**11.25**	**185**	*i* P	**Pn**	**10 58 55.8**	**-2.5**
CLK				S	Sn	11 00 54.8	-10
LSZ	**Lusaka**	**13.24**	**215**	Pn	**Pn**	**10 59 23.7**	**-1.9**
	2.4nm,0.3s,baz=37,slow=13,SNR=15						
LSZ				Sn	Sn	11 01 43.7	-9.4
	2.9nm,0.3s,baz=316,slow=17,SNR=2.5						
LSZ				Lg	Lg	11 03 07.0	
	15nm,0.3s,baz=300,slow=22,SNR=12						
FURI	**Furi**	**13.48**	**12**	*e*P	**Pn**	**10 59 31.7**	**+2.6**
FURI	**Furi**	**13.48**	**12**	*e*P	**Pn**	**10 59 31.7**	**+2.6**
FURI	**Furi**	**13.48**	**12**	*e*P	**Pn**	**10 59 26.8**	**-2.3**
AAE	**Adis Abeba**	**13.63**	**12**	*e*P	P	10 59 45.7	+5.6
AAE	**Adis Abeba**	**13.63**	**12**	*e*P	P	10 59 45.7	+5.6
AAE	**Adis Abeba**	**13.63**	**12**	*e*P	**P**	**10 59 35.6**	**-4.5**
ANKE	**Ethiopia-Afar**	**14.40**	**15**	*e*P	**P**	**10 59 49.6**	**+0.9**
ANKE	**Ethiopia-Afar**	**14.40**	**15**	*e*P	**P**	**10 59 49.6**	**+0.9**
SBV	**Sambava**	**16.46**	**124**	P	**P**	**11 00 15.4**	**+4.2**
TEND	**Ethiopian Broa**	**16.85**	**17**	*e*P	**P**	**11 00 21.5**	**+5.9**
BLWY	**Bulawayo**	**17.21**	**204**	*e*P	**Pn**	**11 00 14.2**	**-3.9**
BLWY				IAmb	IAmb	11 00 17.7	
	comp=Z,1μm,2.8s						
BLWY	**Bulawayo**	**17.21**	**204**	*i* P	**P**	**11 00 24.8**	**+5.1**
BLWY	**Bulawayo**	**17.21**	**204**	*i* P	**P**	**11 00 24.8**	**+5.1**
ATD	**Arta Tunnel**	**17.24**	**23**	P	**P**	**11 00 19.0**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=238,slow=19,SNR=1.3						
ATD				Lg	Lg	11 05 13.2	
	comp=Z,1.3nm,0.3s,baz=208,slow=23,SNR=2.2						
ATD				LR	LR	11 07 29.4	
	comp=Z,190nm,18.9s,baz=154,slow=39						
ATD	**Arta Tunnel**	**17.24**	**23**	IAmb	IAmb	11 00 26.8	
	comp=Z,31nm,1.2s						
ATD	**Arta Tunnel**	**17.24**	**23**	*e*P	**P**	**11 00 23.5**	**+3.5**
ATD	**Arta Tunnel**	**17.24**	**23**	*e*P	**P**	**11 00 23.5**	**+3.5**
ATD	**Arta Tunnel**	**17.24**	**23**	*e*P	**P**	**11 00 23.8**	**+3.8**
MATP	**Matopo**	**17.51**	**204**	P	**Pn**	**11 00 19.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=23,slow=16,SNR=8.7						
MATP				S	**Sn**	**11 03 39.5**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=312,slow=20,SNR=1.4						
MATP				Lg	Lg	11 05 17.5	
	comp=Z,2.3nm,0.3s,baz=76,slow=1.5,SNR=5.8						
MATP	**Matopo**	**17.51**	**204**	*i* P	**P**	**11 00 26.0**	**+3.0**
MATP	**Matopo**	**17.51**	**204**	*i* P	**P**	**11 00 26.0**	**+3.0**
OPO	**Ambohidratompo**	**17.86**	**143**	P	**Pn**	**11 00 25.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=316,slow=13,SNR=15						
OPO				S	**Sn**	**11 03 44.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=234,slow=23,SNR=1.8

comp=Z,62nm,1.6s
KEIM Keimoes 28.05 209 *e*P **P 11 02 05.0 -4.1**
SUR Sutherland 31.24 205 LR LR 11 15 25.4
comp=Z,270nm,19.8s,baz=32,slow=37
EIL Elat 33.89 358 LR LR 11 16 08.2
comp=Z,78nm,19.0s,baz=360,slow=35
WSAR Wadi Sarin 35.27 38 LR LR 11 16 52.4
comp=Z,174nm,19.8s,baz=238,slow=35
TORD Torodi Ar. Bea 38.23 298 P **P 11 03 38.0 +0.2**
comp=Z,1.6nm,1.1s,baz=112,slow=4.5,SNR=7.4
DBIC Dimbokro 42.20 285 P **P 11 04 10.8 0.0**
comp=Z,6.2nm,1.0s,baz=98,slow=14,SNR=3.0
DBIC LR LR 11 21 19.0
comp=Z,129nm,19.9s,baz=116,slow=36
BORA Eskisehir 44.35 354 P **P 11 04 28.4 +0.5**
BORA IAmb IAmb 11 04 31.8
comp=Z,16nm,1.1s
MDUB Mudurnu 44.86 355 P **P 11 04 31.5 -0.5**
GNI Garni 45.06 10 LR LR 11 24 37.4
comp=Z,113nm,18.3s,baz=172,slow=38
PALK Pallekele 46.13 76 P **P 11 04 40.9 -1.5**
comp=Z,6.1nm,0.9s,baz=233,slow=5.1,SNR=2.4
PALK LR LR 11 20 57.7
comp=Z,105nm,19.6s,baz=14,slow=32
GEYT Alibeck 46.87 24 LR LR 11 24 17.7
comp=Z,97nm,18.1s,baz=224,slow=36
GEYT Alibeck 46.87 24 P **P 11 04 46.3 -1.5**
GYA0B ALIBECK ARRAY 46.87 24 P **P 11 04 46.1 -1.7**
GYA0B IAmb IAmb 11 05 05.0
comp=Z,4.3nm,0.5s
KEST Kesra 47.08 330 P **P 11 04 50.6 +1.1**
comp=Z,14nm,1.1s,baz=187,slow=12,SNR=4.3
KEST LR LR 11 27 55.1
comp=Z,132nm,18.4s,baz=232,slow=40
KEST Kesra 47.08 330 P **P 11 04 48.9 -0.7**
MLR Muntele Rosu 50.47 351 P **P 11 05 17.7 +2.3**
comp=Z,0.8nm,0.3s,baz=194,slow=12,SNR=3.3
AQU L'Aquila 50.85 338 P **P 11 05 16.6 -1.7**
BURAR Bucovina Array 52.65 351 P **P 11 05 30.4 -1.3**
BUR08 Bucovina Ar. S 52.68 351 P **P 11 05 30.9 -1.0**
BUR08 IAmb IAmb 11 05 40.6
comp=Z,7.3nm,1.2s
CHGR Chuyangaron 52.71 33 P **P 11 05 31.9 -0.4**
CHGR IAmb IAmb 11 05 36.4
comp=Z,9.6nm,1.1s
MDT Midelt 53.36 317 LR LR 11 30 44.3
comp=Z,84nm,21.0s,baz=156,slow=39
PSZ Piszkesteto 53.98 347 P **P 11 05 41.8 +0.4**
PSZ IAmb IAmb 11 05 47.2
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 54.57 348 *e*P **P 11 05 49.2 +3.5**
CTI Castel Tesino 54.68 339 P **P 11 05 46.5 -0.1**
CTI IAmb IAmb 11 05 48.6
comp=Z,13nm,1.3s
AKASG Malin Array Be 55.19 355 P **P 11 05 50.9 +0.8**
comp=Z,5.6nm,0.9s,baz=178,slow=6.3,SNR=24
AKASG Malin Array Be 55.19 355 P **P 11 05 50.7 +0.6**
AKBB Malin Array Si 55.19 355 P **P 11 05 50.6 +0.5**
AKBB IAmb IAmb 11 05 52.0
comp=Z,14nm,1.2s
LANS Liptovska Anna 55.23 347 *e*P P 11 05 56.1 +5.6
BNI Bardonecchia 55.76 335 P **P 11 05 55.6 +1.1**
TUE Stuetta 55.87 338 P **P 11 05 53.4 -2.0**
TUE IAmb IAmb 11 06 03.8
comp=Z,7.3nm,1.0s
KRUC Moravsky 55.90 345 *e*P **P 11 05 55.8 +0.5**
VRAC Vranov 56.08 345 P **P 11 05 56.9 +0.3**
comp=Z,1.8nm,0.3s,baz=147,slow=5.8,SNR=5.6
VRAC Vranov 56.08 345 *e*P **P 11 05 57.1 +0.5**
CKRC Cesky Krumlov 56.27 343 *e*P **P 11 05 58.9 +1.0**
MORC Moravsky Berou 56.27 346 P **P 11 05 56.8 -1.2**
MORC IAmb IAmb 11 06 00.1
comp=Z,11nm,1.3s
MORC Moravsky Berou 56.27 346 *e*P **P 11 05 58.8 +0.8**
GEC2 GERESS Array S 56.47 343 P **P 11 05 58.1 -1.4**
GEC2 IAmb IAmb 11 06 01.4
comp=Z,18nm,1.2s
GERES GERESS Array B 56.47 343 P **P 11 06 00.4 +1.0**
comp=Z,4.1nm,1.0s,baz=130,slow=5.4,SNR=22
GERES GERESS Array B 56.47 343 *e*P **P 11 05 59.0 -0.5**
KKAR Karatay Array 56.66 30 P **P 11 06 00.6 -0.3**
KHC Kasperske Hory 56.76 343 *e*P **P 11 06 01.8 +0.3**
KHC Kasperske Hory 56.76 343 P **P 11 06 00.8 -0.7**
KHC IAmb IAmb 11 06 03.0
comp=Z,12nm,1.2s
SSB Saint Sauveur 56.85 334 P **P 11 06 01.2 -1.0**
SSB IAmb IAmb 11 06 05.4
comp=Z,16nm,1.3s
DPC Dobruska-Polom 57.10 345 *e*P **P 11 06 04.5 +0.6**
ESDC Sonseca Array 57.20 324 P **P 11 06 06.2 +1.4**
comp=Z,4.4nm,1.0s,baz=134,slow=5.8,SNR=14
ESDC LR LR 11 32 54.8
comp=Z,151nm,18.8s,baz=137,slow=38
ESDC Sonseca Array 57.20 324 P **P 11 06 05.3 +0.5**
ABKAR Akbulak array 57.36 18 P **P 11 06 05.7 0.0**
CHVC Chvalec 57.39 348 *e*P **P 11 06 06.9 +1.0**
BELG Belogorsk 57.44 8 LR LR 11 32 02.0
comp=Z,61nm,18.7s,baz=340,slow=37
BFO Black Forest 57.81 339 P **P 11 06 09.9 +1.0**
BFO IAmb IAmb 11 06 24.0
comp=Z,13nm,1.5s
AKTO Aktyubinsk 57.83 16 LR LR 11 32 12.6
comp=Z,48nm,21.1s,baz=202,slow=37
ECH Echery 58.15 338 P **P 11 06 10.6 -0.7**
ECH IAmb IAmb 11 06 13.2
comp=Z,15nm,1.4s
AAK Ala-Archa 58.39 33 LR LR 11 32 18.8
comp=Z,61nm,18.9s,baz=239,slow=37
AAK Ala-Archa 58.39 33 P **P 11 06 12.3 -0.9**
AAK IAmb IAmb 11 06 19.8
comp=Z,6.5nm,1.2s
CLL Collm 58.87 343 *e*P **P 11 06 17.0 +0.8**
comp=Z,7.0nm,1.0s
SUW Suwalki 59.18 351 P **P 11 06 19.8 +1.5**
NACGM Naroch 59.58 354‖ *e*P **P 11 06 20.2 -0.8**
BHOU Houvegnez 60.34 338 *d*P **P 11 06 28.3 +2.0**
PABE Paberze 60.51 352 P **P 11 06 27.7 +0.3**
BCLA Clavier 60.65 338 *d*P **P 11 06 29.5 +1.0**
DOU Dourbes 60.66 337 *d*P **P 11 06 27.4 -1.1**
BGES Gesves 60.70 338 *d*P **P 11 06 29.5 +0.7**
BGES *d*PcP **PcP 11 07 11.9 -1.0**
BMRD Maredsous 60.76 338 *d*P **P 11 06 27.8 -1.4**
BMRD *d*PcP **PcP 11 07 12.7 -0.4**
PSI Prapat 63.32 85 LR LR 11 32 54.2
comp=Z,85nm,18.2s,baz=212,slow=35
ARU Arti 63.38 14 LR LR 11 37 19.6
comp=Z,66nm,19.0s,baz=188,slow=39
ARU Arti 63.38 14 P **P 11 06 46.1 -0.6**
SYO Syowa Base 64.56 179‖ *e*P **P 11 06 54.0 -0.2**
KLMR Klimovskoe 65.12 2 *e*P **P 11 06 56.9 -1.1**
KLMR AMP 11 07 00.4
comp=Z,17nm,1.5s
MAKZ Makanchi 65.15 33 P **P 11 06 58.9 +0.4**
MAKZ IAmb IAmb 11 07 04.5
comp=Z,11nm,1.4s
MK31 Makanchi Array 65.31 33 P **P 11 06 59.0 -0.6**
MK31 IAmb IAmb 11 07 03.0
comp=Z,3.9nm,1.1s
MKAR Makanchi Array 65.31 33 P **P 11 06 59.4 -0.2**
comp=Z,2.9nm,1.0s,baz=226,slow=6.5,SNR=13
MKAR LR LR 11 36 49.7
comp=Z,40nm,18.2s,baz=233,slow=37
MKAR Makanchi Array 65.31 33 P **P 11 06 59.2 -0.5**
MAW Mawson 65.73 169 P **P 11 07 02.1 +0.3**
comp=Z,6.8nm,0.7s,baz=305,slow=12,SNR=5.6
MAW Mawson 65.73 169 P **P 11 07 02.6 +0.7**
KURK Kurchatov 65.96 28 P **P 11 07 03.3 -0.4**
KURK IAmb IAmb 11 07 07.5
comp=Z,6.4nm,1.3s
CMAR Chiang Mai Arr 66.05 68 P **P 11 07 04.2 -0.7**
comp=Z,2.5nm,0.8s,baz=259,slow=7.6,SNR=12
CMAR Chiang Mai Arr 66.05 68 P **P 11 07 05.1 +0.2**
FINES FINESS Array B 66.10 355 P **P 11 07 05.1 +0.8**
comp=Z,7.9nm,1.0s,baz=114,slow=4.6,SNR=7.5
FINES FINESS Array B 66.10 355 P **P 11 07 04.7 +0.4**
FIA1 FINESS Array S 66.10 355 P **P 11 07 04.4 +0.1**
HFS Hagfors 66.68 348 P **P 11 07 08.4 +0.3**
comp=Z,2.7nm,0.8s,baz=126,slow=7.5,SNR=4.2
WMQ Urumqi 66.77 38 *e*P **P 11 07 12.0 +2.9**
NB2 NORSAR Subarra 68.03 347 P **P 11 07 16.9 +0.2**
comp=Z,0.9nm,0.8s,baz=156,slow=6.2
NOA NORSAR Array B 68.03 347 P **P 11 07 17.3 +0.6**
comp=Z,2.9nm,1.0s,baz=156,slow=6.0,SNR=5.1
GOMU GeErMu 68.14 48 P **P 11 07 19.9 +1.6**
GOMU pP sP 11 07 23.8 +0.5
GOMU sP pP 11 07 27.1 +5.1
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,76nm,5.2s
PZH PanZhiHua 70.57 60 P **P 11 07 35.6 +2.3**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.5s
CMLA Cha da Macela 70.68 312 P **P 11 07 32.8 -0.8**
ZAA0 Zalesovo Array 70.95 28 P **P 11 07 34.7 -0.2**
ZALV Zalesovo Beam 70.95 28 P **P 11 07 34.9 0.0**
comp=Z,1.4nm,0.7s,baz=222,slow=4.0,SNR=5.4
ZALV LR LR 11 41 14.8
comp=Z,61nm,18.2s,baz=213,slow=38
ZALV Zalesovo Beam 70.95 28 P **P 11 07 34.5 -0.4**
LEM Lembang 71.30 96 LR LR 11 36 59.9
comp=Z,58nm,18.2s,baz=258,slow=34
RCBR Riachuelo 71.55 265 LR LR 11 35 11.9
comp=Z,84nm,19.6s,baz=290,slow=33
GTA Gaotai 73.01 47 *e*P **P 11 07 48.4 +0.7**
GTA pP PcP 11 07 59.0 -5.6
GTA sP sP 11 08 03.0 +10
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,46nm,5.1s
GTA LR LR
comp=Z,78nm,16.4s
GTA LR LR
comp=Z,110nm,17.5s
STKI Sintang 75.57 89 P **P 11 08 03.0 0.0**
comp=Z,13nm,0.4s
XAN Xi'an 78.45 54 P **P 11 08 18.9 0.0**
XAN pmax pmax
comp=Z,7.0nm,1.2s
SRBI Singaraja 78.77 97 P **P 11 08 20.1 -0.8**
comp=Z,22nm,1.3s
SONM Songino Array 80.29 40 P **P 11 08 29.9 +1.2**
comp=Z,3.6nm,0.9s,baz=246,slow=4.0,SNR=7.8
SONM LR LR 11 45 59.8
comp=Z,57nm,21.5s,baz=260,slow=37
SONM Songino Array 80.29 40 IAmb IAmb 11 08 33.9
comp=Z,5.5nm,1.0s
BORG Borgarnes 80.66 339 LR LR 11 46 49.3
comp=Z,34nm,18.6s,baz=149,slow=38
NRIK Noril'sk 81.45 16 LR LR 11 47 56.3
comp=Z,42nm,18.8s,baz=216,slow=38
HHC Hu-ho-hao-te 82.04 48 *e*P **P 11 08 38.9 +0.7**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.8s
KAPI Kappang 83.45 95 P **P 11 08 45.9 0.0**
comp=Z,4.8nm,0.8s,baz=278,slow=2.4,SNR=6.7
KAPI LR LR 11 41 08.0
comp=Z,42nm,19.5s,baz=250,slow=32
HNS HongShan 83.75 52 ⍐P **P 11 08 49.0 +2.1**
HNS pmax pmax
comp=Z,14nm,0.7s
BKSI Bulukumba 83.80 95 P **P 11 08 46.6 -1.1**
comp=Z,12nm,1.5s
BNSI Bone 83.85 94 P **P 11 08 48.0 +0.1**
comp=Z,2μmcomp=Z,4.7nm,0.4s
NJ2 Nanjing 86.30 58 *e*P **P 11 09 00.8 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BATI Baumata 86.98 100 P **P 11 09 03.6 0.0**
comp=Z,24nm,0.8s,baz=272,slow=4.4,SNR=7.9
BATI LR LR 11 42 42.7
comp=Z,131nm,19.0s,baz=258,slow=32
BATI Baumata 86.98 100 P **P 11 09 03.6 0.0**
comp=Z,17nm,1.2s
SOEI Soe 87.60 100 P **P 11 09 05.8 -1.0**
FITZ Fitzroy Crossi 88.35 108 P **P 11 09 09.7 -0.4**
comp=Z,7.8nm,0.9s,baz=258,slow=4.7,SNR=12
FITZ LR LR 11 41 39.9
comp=Z,96nm,21.2s,baz=264,slow=31
DAV Davao City (W) 90.16 83 LR LR 11 47 07.6
comp=Z,19nm,20.5s,baz=296,slow=34
CPUP Villa Florida 91.02 244 LR LR 11 46 34.6
comp=Z,34nm,18.5s,baz=165,slow=33
VNDA Vanda 93.03 170 LR LR 11 48 00.1
comp=Z,59nm,20.6s,baz=218,slow=33
JOW Kunigami 94.03 64 LR LR 11 54 08.9
comp=Z,30nm,19.0s,baz=182,slow=37
KSRS Korea Array 94.20 53 LR LR 11 52 02.1
comp=Z,25nm,20.7s,baz=280,slow=36
TIXI Tiksi 95.06 19 LR LR 11 57 31.9
comp=Z,38nm,18.2s,baz=220,slow=39
ASAR Alice Springs 95.51 114 P **P 11 09 42.4 -0.8**
comp=Z,1.2nm,0.9s,baz=265,slow=4.6,SNR=9.3
YAK Yakutsk 95.61 28 LR LR 11 55 44.8
comp=Z,46nm,18.6s,baz=290,slow=37
WRA Warramunga Arr 96.36 111 P **P 11 09 46.3 -0.9**
comp=Z,1.3nm,0.8s,baz=269,slow=3.1,SNR=12
WRA LR LR 11 48 53.2
comp=Z,61nm,18.4s,baz=218,slow=33
WRA Warramunga Arr 96.36 111 P **P 11 09 46.1 -1.1**
KLR Kul'dur 97.09 41 LR LR 11 58 56.6
comp=Z,29nm,18.1s,baz=242,slow=39
PLCA Paso Flores 99.54 228 LR LR 11 46 56.4
comp=Z,67nm,20.7s,baz=141,slow=30
TXAR Lajitas Array 134.46 308 PKP **PKiKP 11 15 37.9 -0.1**
comp=Z,1.0nm,0.9s,baz=118,slow=3.5,SNR=7.7

*IDC **22** 11:01:23.5±1.8,5°.59S×147°.37E,h198km±17km,mb3.6/8, mb1 3.7/11,mb1mx3.4/29,mbtmp4.1/11,MS3.2/2, Ms1 3.3/2,ms1mx2.6/43,Error ellipse: s-maj=27.3km s-min=10.8km az=112.0*
ISC 22 11:01:20.6±0.9,5°.54S±0°.08×147°.4E±0°.2,h170km,n13, σ1°31/15,mb3.8/8,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.85**	**183**	P	**Pn**	**11 02 21.1**	**+1.6**
PMG	29nm,0.3s,baz=10.0,slow=9.8,SNR=86			S	**Sn**	**11 03 04.3**	**-1.2**
CTA	13nm,0.3s,baz=280,slow=23,SNR=7.0 **Charters Tower**	**14.50**	**184**	P	**P**	**11 04 39.8**	**-0.2**
WRA	0.3nm,0.3s,baz=342,slow=9.6,SNR=2.8 **Warramunga Arr**	**19.11**	**220**	P	**P**	**11 05 31.7**	**+1.1**
WRA	0.7nm,0.3s,baz=48,slow=12,SNR=50			S	**S**	**11 08 56.1**	**-2.4**
WRA	0.1nm,0.3s,baz=41,slow=21,SNR=11			LR	LR	11 12 39.8	
ASAR	comp=Z,69nm,19.0s,baz=136,slow=36 **Alice Springs**	**22.20**	**214**	P	**P**	**11 06 04.4**	**+1.1**
ASAR	1.8nm,0.5s,baz=49,slow=8.4,SNR=56			S	**S**	**11 09 53.8**	**-1.6**
BATI	2.1nm,0.8s,baz=34,slow=16,SNR=14 **Baumata**	**23.91**	**257**	P	**P**	**11 06 20.1**	**+1.0**
FITZ	9.6nm,0.4s,baz=98,slow=11,SNR=3.6 **Fitzroy Crossi**	**24.61**	**238**	P	**P**	**11 06 26.4**	**+1.0**
CMAR	3.7nm,0.4s,baz=69,slow=7.7,SNR=26 **Chiang Mai Arr**	**53.35**	**298**	LR	LR	11 35 11.9	
SONM	comp=Z,23nm,18.9s,baz=270,slow=38 **Songino Array**	**64.18**	**331**	P	**P**	**11 11 38.1**	**+0.9**
VNDA	0.7nm,0.6s,baz=151,slow=4.8,SNR=2.4 **Vanda**	**72.35**	**177**	P	**P**	**11 12 27.5**	**+0.2**
MKAR	0.5nm,0.4s,baz=358,slow=7.8,SNR=5.4 **Makanchi Array**	**77.37**	**320**	P	**P**	**11 12 56.7**	**0.0**
ZALV	0.4nm,0.3s,baz=98,slow=8.1,SNR=11 **Zalesovo Beam**	**78.81**	**328**	P	**P**	**11 13 03.1**	**-1.4**
ILAR	1.4nm,0.7s,baz=93,slow=7.0,SNR=4.3 **Eielson Array**	**84.92**	**23**	P	**P**	**11 13 35.2**	**-0.9**
TORD	0.5nm,0.6s,baz=252,slow=5.1,SNR=5.6 **Torodi Ar. Bea**	**145.32**	**285**	PKPbc	**PKPdf**	**11 20 38.3**	**-0.9**
	1.1nm,0.6s,baz=70,slow=4.3,SNR=9.1						

IDC 22 11:23:34.4±6.5,30°.26S×177°.99W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.6/18,mbtmp3.5/2,MS3.1/1,Ms1 3.1/1, ms1mx2.6/34,Error ellipse: s-maj=251.7km s-min=63.4km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.13**	**267**	P	P	11 31 36.5	-0.2
WRA	0.2nm,0.4s,baz=105,slow=7.3,SNR=3.7 **Warramunga Arr**	**44.10**	**272**	P	P	11 31 44.4	-0.3
GUMO	0.8nm,0.7s,baz=112,slow=7.6,SNR=15 **Guam**	**56.39**	**315**	LR	LR	11 56 39.4	
FINES	comp=Z,14nm,18.2s,baz=160,slow=35 **FINESS Array B**	**145.01**	**340**	PKPbc	PKPbc	11 43 11.7	-0.6

0.6nm,0.6s,baz=48,slow=2.1,SNR=1.8

WEL 22 11:31:42.1,43°S±2°×17°3E±°,h7km±2km,M2.6/16,ML2.4/5, MLv2.6/16,Error ellipse: s-maj=0.0km s-min=0.0km az=38.9,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.23**	**185**	P	Pg	11 31 48.0	+1.2
MQZ				S	Sg	11 31 51.8	+1.8
AMCZ	**Amberley**	**0.30**	**356**	P	Pb	11 31 49.8	+0.1
AMCZ				S	Sb	11 31 54.9	+0.1
OKCZ	**Okains Bay**	**0.37**	**132**	P	Pg	11 31 49.8	+0.4
OKCZ				S	Sg	11 31 55.2	+0.8
AKCZ	**Akaroa Harbour**	**0.43**	**157**	P	Pg	11 31 51.3	+0.7
RACZ	**Rakaia**	**0.47**	**237**	P	Pb	11 31 53.8	+1.2
OXZ	**Oxford**	**0.49**	**287**	P	Pb	11 31 54.0	+0.9
OXZ				S	Sb	11 32 01.6	+1.2
LTZ	**Lake Taylor**	**0.75**	**336**	P	Pn	11 31 58.5	-0.7
LTZ				S	Sb	11 32 09.3	+1.4
WACZ	**Wakanui South**	**0.77**	**232**	P	Pn	11 31 59.4	0.0
WACZ				S	Sn	11 32 11.0	-0.2
INZ	**Inchbonnie**	**1.17**	**309**	P	Pn	11 32 06.3	+1.4
ARCZ	**Arundel**	**1.19**	**246**	P	Pn	11 32 05.3	+0.1
ARCZ				S	Sn	11 32 21.2	-0.3
RPZ	**Rata Peaks**	**1.21**	**258**	P	Pn	11 32 05.5	+0.2
KHZ	**Kahutara**	**1.23**	**31**	P	Pb	11 32 04.6	-1.1
TMZ	**Timaru**	**1.51**	**232**	P	Pn	11 32 09.8	+0.2
THZ	**Tophouse**	**1.72**	**6**	P	Pn	11 32 11.4	-1.1
ODZ	**Otahua Downs**	**2.15**	**222**	P	Pn	11 32 18.2	-0.1
EAZ	**Earnscleugh**	**2.99**	**233**	P	Pn	11 32 30.0	+0.1

*ISK **22** 11:38:40.5,38°.31N×26°.56E,h6km,ML2.7/9*
*DDA **22** 11:38:40.7±0.0,38°.29N×26°.54E,h13km,ML2.1*
ISC 22 11:38:40.7±0.9,38°.30N±0°.03×26°.54E±0°.03,h15km±5km, n19,σ0°.40/31,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.07**	**207**	P	**Pg**	**11 38 43.5**	**-0.1**
ZEYE				*i* AML	AML	11 38 45.0	
ZEYE	comp=N,3μm,0.2s			*i* AML	AML	11 38 45.0	
ZEYE	comp=E,2μm,0.1s			S	**Sg**	**11 38 45.6**	**+0.1**
URLA	**Izmir**	**0.08**	**34**	P	**Pg**	**11 38 43.6**	**-0.2**
URLA				S	**Sg**	**11 38 45.8**	**0.0**
URLA	comp=N,2μm,0.5s			*i* AML	AML	11 38 46.0	
URLA	comp=E,2μm,0.5s			*i* AML	AML	11 38 46.0	
DGB	**zmir**	**0.36**	**132**	P	**Pg**	**11 38 48.0**	**-0.2**
DGB				S	**Sg**	**11 38 53.4**	**+0.2**
DGB	comp=N,127nm,0.3s			*i* AML	AML	11 38 54.0	
DGB	comp=E,228nm,0.2s			*i* AML	AML	11 38 54.0	
CHOS	**Chios island**	**0.39**	**283**	PG	**Pg**	**11 38 48.9**	**+0.2**
CHOS				SG	**Sb**	**11 38 55.2**	**-0.1**
FOCM	**Foa**	**0.44**	**20**	PG	**Pg**	**11 38 49.2**	**-0.3**
FOCM				SG	**Sg**	**11 38 55.8**	**+0.3**
ZEDA	**zmir-Bergama**	**0.79**	**32**	P	**Pg**	**11 38 55.6**	**-0.4**
ZEDA				S	**Sb**	**11 39 06.9**	**+0.2**
ZEDA	comp=N,59nm,0.3s			*i* AML	AML	11 39 10.0	
DKL	**Dikili**	**0.82**	**20**	PG	**Pg**	**11 38 56.6**	**-0.1**
DKL				SG	**Sb**	**11 39 08.1**	**+0.5**
AYVA	**Ayvalik**	**1.02**	**7**	P	**Pn**	**11 39 00.7**	**+0.2**
AYVA				S	**Sn**	**11 39 14.8**	**+0.4**
AYVA	comp=E,30nm,0.3s			*i* AML	AML	11 39 17.0	
AYVA	comp=N,45nm,0.7s			*i* AML	AML	11 39 18.0	
SIGR	**SIGRI**	**1.06**	**330**	PG	**Pn**	**11 39 01.1**	**+0.1**
AKS	**Akhisar**	**1.15**	**59**	PN	**Pb**	**11 39 02.6**	**+0.2**
GOMA	**Golmarmara-Man**	**1.16**	**69**	PN	**Pb**	**11 39 02.6**	**+0.2**
AYDN	**Tasoluk**	**1.23**	**121**	P	**Pg**	**11 39 04.5**	**0.0**
BUHA	**Balikesir, Bur**	**1.27**	**19**	P	**Pn**	**11 39 03.8**	**-0.2**
BUHA				S	**Sg**	**11 39 21.4**	**-0.4**
BUHA	comp=N,25nm,0.5s			*i* AML	AML	11 39 25.0	
BUHA	comp=E,26nm,0.4s			*i* AML	AML	11 39 25.0	
BODT	**Bodrum**	**1.38**	**153**	PN	**Pg**	**11 39 06.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.42**	**40**	P	**Pb**	**11 39 07.0**	**+0.1**
STEP				S	**Sg**	**11 39 27.4**	**+1.0**
STEP	comp=E,17nm,0.7s			*i* AML	AML	11 39 30.0	
STEP	comp=N,18nm,0.4s			*i* AML	AML	11 39 35.0	
BAYC	**CANAKKALE_Bayr**	**1.44**	**0**	P	**Pn**	**11 39 05.6**	**-0.7**
BAYC				S	**Sn**	**11 39 24.2**	**-0.8**
EZN	**Ezine**	**1.54**	**354**	PN	**Pb**	**11 39 08.9**	**0.0**
MANT	**Manisa**	**1.60**	**82**	P	**Pg**	**11 39 11.2**	**-0.3**
MANT				S	**Sb**	**11 39 30.8**	**+0.7**
MANT	comp=N,24nm,0.2s			*i* AML	AML	11 39 33.0	
MANT	comp=E,29nm,0.3s			*i* AML	AML	11 39 33.0	
KULA	**Kula-Manisa**	**1.68**	**82**	PN	**Pb**	**11 39 10.9**	**-0.5**

*NDI **22** 11:48:46.3±3.9,26°.30N×96°.39E,h7km±108km,ML4.0*
*IDC **22** 11:48:49.4±3.7,26°.46N×96°.70E,h122km±41km,mb3.3/7, mb1 3.4/8,mb1mx3.1/45,mbtmp3.7/8,MS3.5/2,Ms1 3.5/2, ms1mx2.5/53,Error ellipse: s-maj=54.0km s-min=15.9km az=67.0*
ISC 22 11:48:47.7±0.8,26°.48N±0°.08×96°.33E±0°.07,h100km,n33, σ2°.59/54,mb3.7/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**0.95**	**333**	*e*P	**Pn**	**11 49 08.7**	**+1.1**
LKP				*e*S	**Sn**	**11 49 25.6**	**+3.0**
LKP	comp=E,3μm,0.2s			IAML		11 49 29.4	
DIBR	**DIBRUGARH**	**1.60**	**308**	*e*S	**Sn**	**11 49 39.3**	**+3.3**
DIBR				IAML		11 49 41.3	
DIBR	comp=E,2μm,0.0s			IAML		11 49 41.4	
JORH	comp=N,2μm,0.1s **JORHAT**	**1.88**	**279**	*e*S	**Sn**	**11 49 46.2**	**+3.9**
KOHI	**KOHIMA**	**2.13**	**250**	*e*P	**Pn**	**11 49 25.4**	**+3.3**
KOHI				*e*S	**Sn**	**11 49 53.6**	**+5.2**
ITAN	**ITANAGAR**	**2.42**	**286**	*ex*	**Sn**	**11 49 57.5**	**+2.6**
ITAN				*e*S	**Sn**	**11 49 59.5**	**+4.6**
TEZP	**TEZPUR**	**3.16**	**273**	*e*P	**Pn**	**11 49 37.3**	**+1.8**
TEZP				*e*S	**Sn**	**11 50 14.6**	**+2.1**
TEZP	comp=E,1μm,0.1s			IAML		11 50 16.1	
TEZP	comp=N,1μm,0.2s			IAML		11 50 17.8	
SHL	**Shillong**	**4.10**	**258**	*e*P	**Pn**	**11 49 49.1**	**+0.8**
SHL				*e*S	**Sn**	**11 50 35.1**	**-0.3**
SHL	comp=E,287nm,0.2s			IAML		11 50 40.9	
SHL	comp=N,379nm,0.2s			IAML		11 50 40.9	
GUWA	**GUWAHATI**	**4.17**	**267**	*e*P	**Pn**	**11 49 49.7**	**+0.6**
GUWA				*e*S	**Sn**	**11 50 37.0**	**+0.2**
TURI	**Tura**	**5.47**	**262**	*e*P	**Pn**	**11 50 10.7**	**+3.9**
TURI				*e*S	**Sn**	**11 51 10.5**	**+2.1**
DHUB	**DHUBRI**	**5.70**	**267**	*e*P	**Pn**	**11 50 11.7**	**+1.8**
DHUB				*e*S	**Sn**	**11 51 14.6**	**+0.6**
GTK	**Tadong**	**6.95**	**279**	*e*P	**Pn**	**11 50 27.7**	**+0.7**
GTK				*e*S	**Sn**	**11 51 44.4**	**-0.2**
TAPN	**Taplejung**	**7.74**	**278**	*e*Pn	**Pn**	**11 50 38.5**	**+0.6**
TAPN				*e*Sn	**Sn**	**11 52 03.3**	**-0.8**
TAPN	comp=N,69nm,0.4s						
ODAN	**Odare**	**8.00**	**275**	*e*Pn	**Pn**	**11 50 42.4**	**+1.0**
ODAN				*e*Sn	**Sn**	**11 52 11.0**	**+0.6**
ODAN	comp=N,136nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.34**	**163**	P	**Pn**	**11 50 46.0**	**+0.2**
RAMN	comp=N,1.2nm,0.3s,baz=338,slow=13,SNR=36 **Ramite**	**8.71**	**275**	*e*Pn	**Pn**	**11 50 51.9**	**+0.8**
RAMN				*e*Sn	**Sn**	**11 52 28.0**	**+0.3**
RAMN	comp=N,50nm,0.4s						
JIRN	**Jiri**	**9.11**	**280**	*e*Pn	**Pn**	**11 50 57.2**	**+0.6**
JIRN				*e*Sn	**Sn**	**11 52 35.7**	**-1.9**
GUN	**Gumba**	**9.41**	**281**	*e*Pn	**Pn**	**11 51 01.2**	**+0.5**
GUN				*e*Sn	**Sn**	**11 52 41.2**	**-3.6**

comp=N,39nm,0.3s
PKI **Pulchoki** **9.79** **279** *e*Pn **Pn** **11 51 05.7 -0.2**
PKI *e*Sn **Sn** **11 52 50.8 -3.4**
PKIN **Phulchoki** **9.81** **279** *e*Pn **Pn** **11 51 05.7 -0.3**
PKIN *e*Sn **Sn** **11 52 51.4 -3.0**
KKN **Kakani** **9.93** **280** *e*Pn **Pn** **11 51 07.5 -0.1**
KKN *e*Sn **Sn** **11 52 52.9 -4.3**
comp=N,99nm,0.5s
DMN **Daman** **10.07** **279** *e*Sn **Sn** **11 52 58.3 -2.4**
GKN **Gorkha** **10.51** **281** *e*Pn **Pn** **11 51 13.8 -1.7**
GKN *e*Sn **Sn** **11 53 07.6 -3.8**
DANN **Dangsing** **11.32** **282** *e*Pn **Pn** **11 51 24.8 -1.7**
DANN *e*Sn **Sn** **11 53 24.6 -6.6**
KOLN **Koldanda** **11.41** **279** *e*Pn **Pn** **11 51 27.2 -0.5**
KOLN *e*Sn **Sn** **11 53 28.8 -4.5**
comp=N,27nm,0.4s
PYUN **Piuthan** **11.97** **281** *e*Pn **Pn** **11 51 32.8 -2.4**
PYUN *e*Sn **Sn** **11 53 42.7 -4.2**
comp=N,20nm,0.4s
SONM **Songino Array** **22.74** **18** P **P** **11 53 40.5 -0.9**
comp=N,0.4nm,0.4s,baz=200,slow=9.9,SNR=6.5
MKAR **Makanchi Array** **23.12** **335** P **P** **11 53 45.7 +0.7**
comp=N,2.5nm,0.5s,baz=141,slow=9.9,SNR=38
KURBB **Kurchatov Arra** **27.69** **335** P **P** **11 54 27.8 +1.6**
comp=N,0.5nm,0.5s,baz=154,slow=8.3,SNR=6.1
KURBB pP **pP** **11 54 53.0 +4.3**
comp=N,1.9nm,0.6s,baz=148,slow=9.8,SNR=12
ZALV **Zalesovo Beam** **28.73** **346** P **P** **11 54 36.4 +0.9**
comp=N,0.9nm,0.4s,baz=167,slow=10.0,SNR=5.8
TIXI **Tiksi** **48.70** **13** P **P** **11 57 20.4 -1.1**
comp=N,1.1nm,0.3s,baz=289,slow=16,SNR=5.6
TIXI LR LR 12 20 50.0
comp=N,33nm,18.5s,baz=190,slow=40
JAY **Jayapura** **51.63** **117** LR LR 12 21 14.0
comp=N,62nm,18.3s,baz=181,slow=38
WRA **Warramunga Arr** **59.07** **138** P **P** **11 58 34.7 -2.9**
comp=N,0.2nm,0.4s,baz=327,slow=7.1,SNR=4.7
ASAR **Alice Springs** **61.69** **141** P **P** **11 58 54.1 -1.4**
comp=N,0.1nm,0.3s,baz=322,slow=5.9,SNR=1.3

IDC ***22*** *12:05:02.5±9.7, 19°.20N×120°.89E, h141km±79km, mb2.9/4, mb1 3.0/4, mb1mx2.8/40, mbtmp3.3/4, Error ellipse: s-maj=244.3km s-min=20.5km az=63.0*
MAN ***22*** *12:05:49.5, 13°.68N×120°.63E, h178km, mb4.4, ML3.2, MS3.0*
ISC 22 12:05:50.1±1.6, 13°.5N±0°.2×122°.0E±0°.2, h150km, n11, σ0§54/6, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LQP	**Lukban**	**0.77**	**321**	‖ *e*P		**Pn**	**12 06 13.5**	**+0.1**
PGP	**Puerto Galera**	**1.05**	**270**	‖ *e*P		**Pn**	**12 06 15.4**	**0.0**
PGP				*i* S		**Sn**	**12 06 34.7**	**0.0**
TGY	**Tagaytay City**	**1.22**	**299**	P		**Pn**	**12 06 16.9**	**-0.1**
	93nm,0.3s,baz=180,slow=13,SNR=5.1							
WRA	**Warramunga Arr**	**35.37**	**160**	P		**P**	**12 12 30.9**	**-0.7**
	0.2nm,1.0s,baz=344,slow=8.6,SNR=1.1							
ASAR	**Alice Springs**	**38.72**	**162**	P		**P**	**12 13 00.5**	**+0.6**
	0.2nm,0.4s,baz=336,slow=6.8,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**43.13**	**77**	T		T	13 00 07.2	
	baz=283,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**43.14**	**77**	T		T	13 00 07.9	
	baz=283,slow=75,SNR=8.7							
H11S2	**WAKE ISLAND Hy**	**43.14**	**77**	T		T	13 00 08.5	
	baz=283,slow=75,SNR=7.8							
H11N1	**WAKE ISLAND Hy**	**43.33**	**76**	T		T	13 00 08.1	
	baz=282							
H11N2	**WAKE ISLAND Hy**	**43.34**	**76**	T		T	13 00 07.4	
	baz=282							
H11N3	**WAKE ISLAND Hy**	**43.35**	**76**	T		T	13 00 07.6	
	baz=282							

JMA ***22*** *12:31:58.6±0.1, 28°.86N×139°.99E, h491km, M3.5*
IDC ***22*** *12:31:59.2±0.8, 28°.83N×139°.67E, h461km±15km, mb2.6/5, mb1 2.8/8, mb1mx2.6/37, mbtmp3.6/8, Error ellipse: s-maj=39.0km s-min=14.8km az=70.0*
ISC 22 12:31:59.7±0.8, 28°.9N±0°.1×140°.3E±0°.2, h500km, n17, σ1§24/20, mb3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**2.46**	**138**	P		**P**	**12 33 06.9**	**-0.5**
CBIJ				S		**S**	**12 34 00.6**	**-1.6**
JCJ	**Chichijima**	**2.46**	**138**	P		**P**	**12 33 06.7**	**-0.7**
	39nm,0.3s,baz=299,slow=8.8,SNR=4.2							
JCJ				S		**S**	**12 33 60.0**	**-2.2**
	48nm,0.3s,baz=288,slow=21,SNR=4.7							
JIE	**Ise**	**6.25**	**331**	P		**P**	**12 33 38.0**	**-0.3**
JKN2	**Miekihoku**	**6.32**	**328**	P		**P**	**12 33 37.2**	**-1.7**
JNY	**Yasuok**	**6.73**	**343**	P		**P**	**12 33 42.5**	**-0.6**
JHU	**Hanno**	**6.95**	**353**	P		**P**	**12 33 45.4**	**+0.2**
JRY	**Ryogami san**	**7.16**	**351**	P		**P**	**12 33 47.5**	**+0.1**
JAG	**Ashikaga**	**7.50**	**355**	P		**P**	**12 33 50.5**	**-0.3**
JHO	**Hitachi**	**7.65**	**1**	P		**P**	**12 33 53.5**	**+1.2**
JHO				S		**S**	**12 35 24.3**	**-0.5**
MJAR	**Matsushiro Arr**	**7.79**	**347**	P		**P**	**12 33 52.5**	**-1.3**
	0.2nm,0.3s,baz=186,slow=9.8,SNR=5.9							
JOW	**Kunigami**	**10.87**	**262**	P		P	12 34 19.7	-6.6
	0.9nm,0.3s,baz=90,slow=11,SNR=2.2							
SONM	**Songino Array**	**32.26**	**315**	P		**P**	**12 37 45.4**	**-1.0**
	0.3nm,0.6s,baz=132,slow=9,SNR=4.2							
MKAR	**Makanchi Array**	**48.05**	**308**	P		**P**	**12 39 52.1**	**-0.8**
	0.3nm,0.5s,baz=90,slow=9.0,SNR=6.2							
MKAR				PcP		**PcP**	**12 41 12.9**	**+1.6**
	0.1nm,0.4s,baz=93,slow=5.0,SNR=2.1							
WRA	**Warramunga Arr**	**48.94**	**187**	P		**P**	**12 40 00.7**	**+0.9**
	0.2nm,0.3s,baz=3.8,slow=7.8,SNR=9.4							
KURBB	**Kurchatov Arra**	**50.59**	**313**	P		**P**	**12 40 11.2**	**-0.3**
	baz=92,slow=8.3							
ASAR	**Alice Springs**	**52.67**	**187**	P		**P**	**12 40 28.1**	**+1.1**
	0.2nm,0.9s,baz=0.8,slow=7.3,SNR=1.7							
FINES	**FINESS Array B**	**75.57**	**333**	P		**P**	**12 42 54.3**	**+2.1**
	0.4nm,0.3s,baz=62,slow=6.8,SNR=5.6							

IDC 22 12:40:32.0±2.0, 39°.41N×111°.22E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/45, mbtmp3.7/5, ML2.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/92, Error ellipse: s-maj=43.5km s-min=28.2km az=94.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array**	**9.12**	**339**	Pn		Pn	12 42 45.7	+0.7
	0.1nm,0.3s,baz=157,slow=12,SNR=15							
SONM				Sn		Sn	12 44 23.7	-4.7
	0.0nm,0.3s,baz=169,slow=23,SNR=2.8							
SONM				Lg		Lg	12 45 16.1	
	0.1nm,0.3s,baz=167,slow=27,SNR=2.8							
MKAR	**Makanchi Array**	**22.29**	**299**	P		P	12 45 30.4	-0.4
	2.7nm,1.0s,baz=97,slow=9,SNR=17							
CMAR	**Chiang Mai Arr**	**23.43**	**210**	P		P	12 45 43.0	+0.1
	1.7nm,0.4s,baz=11,slow=9.5,SNR=11							
KURBB	**Kurchatov Arra**	**25.48**	**307**	P		P	12 46 01.8	+0.1
	1.0nm,0.2s,baz=104,slow=9.7,SNR=6.8							
AAK	**Ala-Archa**	**27.75**	**289**	LR		LR	12 59 23.2	
	comp=Z,33nm,18.2s,baz=160,slow=41							
YKA	**Yellowknife Ar**	**71.98**	**20**	P		P	12 51 57.0	-0.1
	0.1nm,0.6s,baz=318,slow=5.2,SNR=1.5							

KRSC ***22*** *12:48:11.6±1.6, 51°.62N×158°.34E, h101km±16km, ML4.8*
MOS ***22*** *12:48:13.0±1.1, 51°.83N×157°.76E, h117km, mb4.4/32, Error ellipse: s-maj=7.6km s-min=3.6km az=79.2*
NEIC ***22*** *12:48:15.3±1.5, 51°.96N±0°.09×157°.7E±0°.1, h115km±6km, mb4.4/141, Error ellipse: s-maj=13.5km s-min=10.9km az=145.0*
IDC ***22*** *12:48:16.5±0.8, 52°.01N×157°.61E, h128km±5km, mb3.9/31, mb1 4.0/36, mb1mx3.9/64, mbtmp4.3/36, MS2.8/4, Ms1 2.8/4, ms1mx2.4/92, Error ellipse: s-maj=13.0km s-min=9.0km az=150.0*
ISC 22 12:48:13.5±0.5, 51°.74N±0°.04×157°.93E±0°.04, h109km±4km, n367, σ1§30/391, mb4.4/142, 13C-8D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDTR	**Khodutka, Kamc**	**0.11**	**53**	PN		**Pn**	**12 48 27.5**	**-1.1**
KDTR				S		**Sn**	**12 48 37.6**	**-2.3**
KDTR	**Khodutka, Kamc**	**0.11**	**53**	*e*P		**Pn**	**12 48 27.5**	**-1.1**
KDTR				*e*S		**Sn**	**12 48 37.6**	**-2.3**
PAU	**Pauzhetka**	**0.75**	**249**	PN		**Pn**	**12 48 32.5**	**+0.3**
PAU	**Pauzhetka**	**0.75**	**249**	*e*P		**Pn**	**12 48 32.5**	**+0.3**
RUS	**Russkaya**	**0.78**	**27**	PN		**Pn**	**12 48 31.6**	**-0.8**
RUS				S		**Sn**	**12 48 45.0**	**-1.7**
RUS	**Russkaya**	**0.78**	**27**	*e*P		**Pn**	**12 48 31.6**	**-0.8**
RUS				*e*S		**Sn**	**12 48 45.0**	**-1.7**
GRL	**Gorelyy**	**0.81**	**6**	PN		**Pn**	**12 48 32.9**	**0.0**
GRL				S		**Sn**	**12 48 48.5**	**+0.9**
GRL	**Gorelyy**	**0.81**	**6**	*e*P		**Pn**	**12 48 32.9**	**0.0**
GRL				*e*S		**Sn**	**12 48 48.5**	**+0.9**
MIPR	**Malaya Ipel'ka**	**0.90**	**307**	PN		**Pn**	**12 48 34.0**	**+0.4**
MIPR	**Malaya Ipel'ka**	**0.90**	**307**	*e*P		**Pn**	**12 48 34.0**	**+0.4**
KRMR	**Karymshinskiy**	**1.10**	**6**	PN		**Pn**	**12 48 35.7**	**+0.1**
KRMR	**Karymshinskiy**	**1.10**	**6**	*e*P		**Pn**	**12 48 35.7**	**+0.1**
APC	**Apacha**	**1.28**	**338**	PN		**Pn**	**12 48 38.2**	**+0.6**
APC				S		**Sn**	**12 48 56.4**	**+0.5**
APC	**Apacha**	**1.28**	**338**	*e*P		**Pn**	**12 48 38.2**	**+0.6**
APC				*e*S		**Sn**	**12 48 56.4**	**+0.5**
PET	**Petropavlovsk**	**1.36**	**19**	‖ *i*PN		**Pn**	**12 48 38.3**	**-0.2**
PET				*i* S		**Sn**	**12 48 56.9**	**-0.6**
PET				pmax	pmax			
	comp=Z,262nm,0.5s							
PET				pmax	pmax			
	comp=Z,300nm,0.5s							
PET				smax	smax			
	comp=N,3μm,1.0s							
PET				smax	smax			
	comp=N,5μm,0.5s							
PET	**Petropavlovsk**	**1.36**	**19**	Pn		**Pn**	**12 48 38.4**	**-0.1**
PET	**Petropavlovsk**	**1.36**	**19**	*e*P		**Pn**	**12 48 38.4**	**-0.1**
PET				*e*S		**Sn**	**12 48 56.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**1.38**	**354**	PN		**Pn**	**12 48 39.3**	**+0.5**
PEA0B	**Petropavlovsk-**	**1.38**	**354**			**Pn**	**12 48 39.3**	**+0.5**
PETK	**Petropavlovsk-**	**1.38**	**354**	P		**Pn**	**12 48 38.3**	**-0.5**
	comp=N,128nm,0.3s,baz=154,slow=14,SNR=2492							
PETK				S		**Sn**	**12 48 58.9**	**+0.9**
	comp=N,64nm,0.3s,baz=127,slow=6.5,SNR=8.7							
DALK	**Dalny**	**1.39**	**21**	PN		**Pn**	**12 48 38.7**	**-0.1**
DALK				S		**Sn**	**12 48 57.7**	**-0.4**
DALK	**Dalny**	**1.39**	**21**	*e*P		**Pn**	**12 48 38.7**	**-0.1**
DALK				*e*S		**Sn**	**12 48 57.7**	**-0.4**
SKR	**Severo-Kuril's**	**1.56**	**228**	PN		**Pn**	**12 48 41.3**	**+0.4**
SKR				S		**Sn**	**12 49 02.0**	**+0.3**
SKR	**Severo-Kuril's**	**1.56**	**228**	*e*P		**Pn**	**12 48 41.3**	**+0.4**
SKR				*e*S		**Sn**	**12 49 02.0**	**+0.3**
UGLR	**Uglovaya**	**1.57**	**20**	PN		**Pn**	**12 48 41.6**	**+0.5**
UGLR				S		**Sn**	**12 49 02.0**	**-0.2**
UGLR	**Uglovaya**	**1.57**	**20**	*e*P		**Pn**	**12 48 41.6**	**+0.5**
UGLR				*e*S		**Sn**	**12 49 02.0**	**-0.2**
AVH	**Avacha**	**1.60**	**18**	PN		**Pn**	**12 48 42.5**	**+1.0**
AVH				S		**Sn**	**12 49 04.2**	**+1.3**
AVH	**Avacha**	**1.60**	**18**	*e*P		**Pn**	**12 48 42.5**	**+1.0**
AVH				*e*S		**Sn**	**12 49 04.2**	**+1.3**
KOK	**Koryaka**	**1.61**	**15**	PN		**Pn**	**12 48 42.6**	**+0.9**
KOK				S		**Sn**	**12 49 05.0**	**+1.9**
KOK	**Koryaka**	**1.61**	**15**	*e*P		**Pn**	**12 48 42.6**	**+0.9**
KOK				*e*S		**Sn**	**12 49 05.0**	**+1.9**
SMAR	**Somma**	**1.61**	**19**	PN		**Pn**	**12 48 42.1**	**+0.3**
SMAR				S		**Sn**	**12 49 03.0**	**-0.3**
SMAR	**Somma**	**1.61**	**19**	*e*P		**Pn**	**12 48 42.1**	**+0.3**
SMAR				*e*S		**Sn**	**12 49 03.0**	**-0.3**
KRER	**Koryakskii**	**1.64**	**17**	PN		**Pn**	**12 48 43.0**	**+0.9**
KRER				S		**Sn**	**12 49 04.9**	**+1.0**
KRER	**Koryakskii**	**1.64**	**17**	*e*P		**Pn**	**12 48 43.0**	**+0.9**
KRER				*e*S		**Sn**	**12 49 04.9**	**+1.0**
NLC	**Nalytchevo**	**1.67**	**31**	PN		**Pn**	**12 48 40.9**	**-1.4**
NLC				S		**Sn**	**12 49 01.3**	**-2.9**
NLC	**Nalytchevo**	**1.67**	**31**	*e*P		**Pn**	**12 48 40.9**	**-1.4**
NLC				*e*S		**Sn**	**12 49 01.3**	**-2.9**
SPN	**Mys Shipunski**	**1.87**	**42**	PN		**Pn**	**12 48 44.1**	**-0.6**
SPN				S		**Sn**	**12 49 06.0**	**-2.5**
SPN	**Mys Shipunski**	**1.87**	**42**	*e*P		**Pn**	**12 48 44.1**	**-0.6**
SPN				*e*S		**Sn**	**12 49 06.0**	**-2.5**
GNL	**Ganaly**	**1.96**	**0**	PN		**Pn**	**12 48 46.5**	**+0.5**
GNL	**Ganaly**	**1.96**	**0**	*e*P		**Pn**	**12 48 46.5**	**+0.5**
KII	**Karymskiy**	**2.47**	**21**	PN		**Pn**	**12 48 53.2**	**+0.6**
KII				S		**Sn**	**12 49 24.6**	**+2.0**
KII	**Karymskiy**	**2.47**	**21**	*e*P		**Pn**	**12 48 53.2**	**+0.6**
KII				*e*S		**Sn**	**12 49 24.6**	**+2.0**
TUMD	**Tumrok D**	**3.77**	**22**	*e*P		**Pn**	**12 49 10.2**	**+0.6**
TUMD				*e*S		**Sn**	**12 49 52.8**	**-0.3**
TUMR	**Tumrok**	**3.79**	**20**	PN		**Pn**	**12 49 10.2**	**+0.2**
TUMR				S		**Sn**	**12 49 52.8**	**-0.9**
TUMR	**Tumrok**	**3.79**	**20**	*e*P		**Pn**	**12 49 11.5**	**+1.5**
ESO	**Esso**	**4.21**	**6**	PN		**Pn**	**12 49 17.3**	**+1.7**
ESO	**Esso**	**4.21**	**6**	*e*P		**Pn**	**12 49 17.3**	**+1.7**
KMNR	**Kamenistaya**	**4.25**	**18**	PN		**Pn**	**12 49 18.4**	**+2.3**
KMNR	**Kamenistaya**	**4.25**	**18**	*e*P		**Pn**	**12 49 18.4**	**+2.3**
KPT	**Kopyto**	**4.44**	**17**	PN		**Pn**	**12 49 20.9**	**+2.1**
KPT	**Kopyto**	**4.44**	**17**	*e*P		**Pn**	**12 49 20.9**	**+2.1**
KIRR	**Kirishev**	**4.45**	**18**	PN		**Pn**	**12 49 21.0**	**+2.0**
KIRR	**Kirishev**	**4.45**	**18**	*e*P		**Pn**	**12 49 21.0**	**+2.0**
KLY	**Klyuchi**	**4.85**	**18**	PN		**Pn**	**12 49 25.9**	**+1.7**
KLY	**Klyuchi**	**4.85**	**18**	*e*P		**Pn**	**12 49 25.9**	**+1.7**
KBTR	**Krutoberegovo**	**5.32**	**31**	PN		**Pn**	**12 49 29.7**	**-0.8**
KBTR	**Krutoberegovo**	**5.32**	**31**	*e*P		**Pn**	**12 49 29.7**	**-0.8**
KBG	**Krutoberegovo**	**5.33**	**30**	PN		**Pn**	**12 49 30.0**	**-0.5**
KBG				S		**Sn**	**12 50 26.2**	**-4.4**
KBG	**Krutoberegovo**	**5.33**	**30**	*e*P		**Pn**	**12 49 30.0**	**-0.5**
KBG				*e*S		**Sn**	**12 50 26.2**	**-4.4**
BKI	**Bering**	**5.92**	**51**	PN		**Pn**	**12 49 37.3**	**-1.3**
BKI	**Bering**	**5.92**	**51**	*e*P		**Pn**	**12 49 37.3**	**-1.3**
BKI				*e*S		Sn	12 50 36.8	-8.2
OSSR	**Ossora**	**8.06**	**19**	PN		**Pn**	**12 50 10.4**	**+2.8**
OSSR	**Ossora**	**8.06**	**19**	*e*P		**Pn**	**12 50 10.4**	**+2.8**
MA2	**Magadan**	**8.83**	**336**	P		**Pn**	**12 50 18.1**	**+0.1**
	comp=N,1.4nm,0.3s,baz=144,slow=9.3,SNR=17							
MA2				LR		LR	12 53 56.1	
	comp=N,16nm,21.9s,baz=121,slow=40							
MA2	**Magadan**	**8.83**	**336**	‖ *e*PN		**Pn**	**12 50 18.6**	**+0.6**
MA2	**Magadan**	**8.83**	**336**			**Pn**	**12 50 17.8**	**-0.2**
KUR	**Kuril'sk**	**9.33**	**230**	PN		**Pn**	**12 50 24.8**	**0.0**
KUR				S		**Sn**	**12 52 07.0**	**-0.8**
SHEM	**Shemya Is, Ala**	**9.97**	**78**	P		**Pn**	**12 50 33.7**	**+0.2**
	comp=N,3.4nm,0.3s,baz=320,slow=17,SNR=1.4							
SHEM				S		Sn	12 52 17.3	-6.0
	comp=N,8.6nm,0.3s,baz=207,slow=23,SNR=14							
SMY	**Shemya**	**9.97**	**78**	PN		**Pn**	**12 50 35.1**	**+1.6**
SMY	**Shemya**	**9.97**	**78**	Pn		**Pn**	**12 50 35.1**	**+1.6**
SHO	**Shikotan**	**10.84**	**228**	*e*PN		Pn	12 50 40.2	-5.2
SHO				pmax	pmax			
	comp=Z,10.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**10.99**	**250**	‖ *e*PN		**Pn**	**12 50 49.2**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**11.18**	**231**	*ce*PN		**Pn**	**12 50 49.4**	**-0.5**
RUSJ	**Misakicho**	**11.43**	**233**	*e*PN		**Pn**	**12 50 54.2**	**+1.0**
RUSJ				S		**Sn**	**12 53 00.3**	**+1.6**
GLVR	**Golovnino**	**11.56**	**231**	*e*PN		**Pn**	**12 50 53.5**	**-1.5**
SEY	**Seymchan**	**11.61**	**347**	P		**Pn**	**12 50 54.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=15,SNR=5.8							
SEY	**Seymchan**	**11.61**	**347**	‖ *e*PN		**Pn**	**12 50 56.3**	**+0.8**
NMR	**Nemuro--Hokkai**	**11.74**	**229**	*e*PN		Pn	12 50 52.3	-5.1
JKA	**Kamikawa-asahi**	**12.79**	**239**	Pn		**Pn**	**12 51 12.3**	**+1.1**
ASAJ	**Asahikawa**	**12.79**	**239**	P		**Pn**	**12 51 12.2**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=65,slow=16,SNR=18							
ASAJ	**Asahikawa**	**12.79**	**239**	PN		**Pn**	**12 51 12.3**	**+1.1**
GRNR	**Gornyy**	**13.50**	**274**	‖ *i*PN		**P**	**12 51 27.7**	**+2.0**
GRNR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
GRNR				MLR	MLR			
	comp=E,2μm,20.0s							
GRNR				MLR	MLR			
	comp=N,370nm,15.0s							
GRNR				MLR	MLR			
	comp=Z,130nm,14.0s							
ERM	**Erimo**	**14.00**	**232**	‖ *e*P		Pn	12 51 23.6	-3.3
ADK	**Adak**	**15.68**	**79**	P		**Pn**	**12 51 50.3**	**+2.3**
ADK				pmax	pmax			
	comp=Z,45nm,1.2s							
ADK	**Adak**	**15.68**	**79**	Pn		**Pn**	**12 51 50.3**	**+2.3**
KLR	**Kul'dur**	**16.82**	**272**	P		**P**	**12 52 03.5**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=66,slow=12,SNR=14							
KLR				LR		LR	12 57 49.8	
	comp=Z,25nm,19.8s,baz=50,slow=34							
BILL	**Bilibino**	**16.84**	**11**	*e*P		**P**	**12 52 01.9**	**-0.7**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BILL				MLR	MLR			
	comp=Z,21nm,8.0s							
BILL	**Bilibino**	**16.84**	**11**	P		**P**	**12 52 01.8**	**-0.8**
YAK	**Yakutsk**	**18.39**	**315**	P		**P**	**12 52 17.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=86,slow=0.2,SNR=11							
YAK	**Yakutsk**	**18.39**	**315**	*e*P		**P**	**12 52 17.5**	**-2.1**
YAK				*e*S		**S**	**12 55 38.9**	**-4.9**
YAK				pmax	pmax			
	comp=Z,32nm,0.8s							
YAK				pmax	pmax			
	comp=E,9.0nm,0.9s							
YAK				smax	smax			
	comp=N,23nm,2.6s							
YAK				smax	smax			
	comp=E,29nm,2.8s							
YAK	**Yakutsk**	**18.39**	**315**	P		**P**	**12 52 18.4**	**-1.2**
ZEA	**Zeya**	**18.61**	**288**	*e*P		**P**	**12 52 21.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**18.87**	**257**	LR		LR	13 00 00.4	
	comp=E,39nm,20.4s,baz=343,slow=38							
GAMB	**Gambell**	**19.95**	**41**	P		**P**	**12 52 37.0**	**+0.6**
JYT	**Yasato**	**20.00**	**226**	P		**P**	**12 52 38.1**	**+0.8**
JYT				IAmb	IAmb		12 52 41.6	
	comp=Z,26nm,1.3s							
MJB9	**Matsu-Tunnel**	**20.67**	**230**	P		**P**	**12 52 46.2**	**+1.7**
MJB9				IAmb	IAmb		12 52 57.2	
	comp=Z,16nm,1.1s							
MAJO	**Matsushiro**	**20.67**	**230**	P		**P**	**12 52 46.0**	**+1.5**
MAJO				pmax	pmax			
	comp=Z,18nm,1.2s							
MAJO	**Matsushiro**	**20.67**	**230**	P		**P**	**12 52 46.0**	**+1.5**
MAJO				IAmb	IAmb		12 52 57.2	
	comp=Z,18nm,1.2s							
MJAR	**Matsushiro Arr**	**20.67**	**230**	P		**P**	**12 52 45.9**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=29,slow=7.2,SNR=9.0							
JGF	**Kuroka**	**21.83**	**230**	P		**P**	**12 52 58.2**	**+1.2**
JGF				IAmb	IAmb		12 53 02.3	
	comp=Z,24nm,1.5s							
TNA	**Tin City**	**22.14**	**38**	P		**P**	**12 52 59.5**	**-0.3**
ANM	**Nome**	**22.82**	**42**	P		**P**	**12 53 07.4**	**+0.7**
ANM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ANM	**Nome**	**22.82**	**42**	P		**P**	**12 53 07.4**	**+0.7**
TIXI	**Tiksi**	**23.79**	**338**	P		**P**	**12 53 13.7**	**-1.9**
	comp=Z,10nm,0.6s,baz=90,slow=23,SNR=39							
TIXI	**Tiksi**	**23.79**	**338**	‖ *i*P		**P**	**12 53 14.4**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,11nm,0.7s							
TIXI	**Tiksi**	**23.79**	**338**	P		**P**	**12 53 13.6**	**-1.9**
TIXI				IAmb	IAmb		12 53 16.2	
	comp=Z,11nm,0.6s							
HIA	**Hailar**	**24.23**	**279**	P		**P**	**12 53 17.8**	**-2.1**
HIA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HIA	**Hailar**	**24.23**	**279**	P		**P**	**12 53 17.8**	**-2.1**
HIA				IAmb	IAmb		12 53 45.0	
	comp=Z,9.5nm,0.8s							
RDOG	**Red Dog Mine**	**24.91**	**34**	P		**P**	**12 53 25.4**	**-0.4**
RDOG				IAmb	IAmb		12 53 28.2	
	comp=Z,7.3nm,0.7s							
KSRS	**Korea Array**	**25.48**	**248**	P		**P**	**12 53 32.4**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=47,slow=9.2,SNR=4.9							
CHGN	**Chignik**	**25.71**	**62**	P		**P**	**12 53 33.4**	**+0.3**
CHGN				IAmb	IAmb		12 53 38.3	
	comp=Z,17nm,1.4s							
TTA	**Tatalina**	**26.64**	**47**	P		**P**	**12 53 42.1**	**+0.5**
TTA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TTA	**Tatalina**	**26.64**	**47**	P		**P**	**12 53 42.0**	**+0.5**
JNU	**Nakatsue**	**27.05**	**237**	P		**P**	**12 53 47.4**	**+1.9**
	comp=Z,8.1nm,0.9s,baz=104,slow=5.8,SNR=2.4							
JNU	**Nakatsue**	**27.05**	**237**	P		**P**	**12 53 47.5**	**+2.0**
JNU				IAmb	IAmb		12 53 52.1	
	comp=Z,12nm,0.9s							
L19K	**White Mountain**	**27.15**	**49**	P		**P**	**12 53 46.7**	**+0.6**
CHIR	**Chirikof Islan**	**27.33**	**63**	P		**P**	**12 53 48.1**	**+0.3**
M19K	**Big River Lodg**	**27.37**	**50**	P		**P**	**12 53 49.0**	**+1.0**
M19K				IAmb	IAmb		12 54 07.9	
	comp=Z,14nm,1.5s							
K20K	**Telida**	**27.54**	**46**	P		**P**	**12 53 51.0**	**+1.4**
J20K	**Nowinta River**	**27.55**	**

BCPM IAmb IAmb 12 54 55.3
comp=Z,6.7nm,0.8s
HYT Haines Junctio 35.55 50 P **P** **12 55 01.4 +1.6**
INK Inuvik 35.74 36 P **P** **12 55 01.9 +0.7**
comp=Z,1.0nm,0.3s,baz=302,slow=10,SNR=14
INK Inuvik 35.74 36 P **P** **12 55 02.1 +0.9**
INK pmax pmax
comp=Z,6.0nm,1.5s
INK Inuvik 35.74 36 P **P** **12 55 02.1 +0.9**
INK IAmb IAmb 12 55 08.3
comp=Z,6.4nm,1.4s
M31M Drury Creek, Y 36.63 47 P **P** **12 55 10.6 +1.8**
M31M IAmb IAmb 12 55 13.1
comp=Z,4.9nm,1.2s
WHY Whitehorse 36.84 49 P **P** **12 55 12.4 +1.7**
WHY IAmb IAmb 12 55 12.8
comp=Z,3.9nm,0.8s
SKAG Skagway 36.99 51 P **P** **12 55 13.9 +2.1**
SKAG IAmb IAmb 12 55 14.6
comp=Z,3.7nm,0.8s
BESE Bessie Mountai 37.51 52 P **P** **12 55 18.1 +1.7**
BESE IAmb IAmb 12 55 44.5
comp=Z,6.7nm,1.1s
JIS Juneau Island 37.84 53 P **P** **12 55 21.3 +2.3**
JIS IAmb IAmb 12 55 21.7
comp=Z,5.2nm,0.8s
P33M Teslin, Yukon 37.95 49 P **P** **12 55 21.4 +1.4**
P33M IAmb IAmb 12 55 22.4
comp=Z,4.9nm,1.1s
A36M Sachs Harbour 37.96 30 P **P** **12 55 20.6 +0.7**
A36M IAmb IAmb 12 55 21.5
comp=Z,3.1nm,0.6s
GRNB Grenville Isla 41.92 58 P **P** **12 55 54.9 +2.1**
HG4B Hotspring 41.99 60 P **P** **12 55 55.6 +2.1**
ZALV Zalesovo Beam 42.40 303 P **P** **12 55 54.3 -2.4**
comp=Z,0.4nm,0.3s,baz=49,slow=6.5,SNR=2.0
ZALV PcP **PcP** **12 57 47.5 -0.3**
comp=Z,0.7nm,0.4s,baz=36,slow=3.1,SNR=4.3
EUNU Eureka 43.57 13 P **P** **12 56 06.4 +0.5**
HOLB Holberg 44.48 61 P **P** **12 56 15.1 +1.5**
YKA Yellowknife Ar 45.05 41 P **P** **12 56 18.3 +0.5**
comp=Z,1.0nm,0.7s,baz=297,slow=7.7,SNR=11
YKA PcP **PcP** **12 57 56.5 -0.1**
comp=Z,0.1nm,0.3s,baz=310,slow=3.6,SNR=1.9
RES Resolute Bay 45.07 21 P **P** **12 56 18.4 +0.7**
RES pmax pmax
comp=Z,3.0nm,1.5s
RES Resolute Bay 45.07 21 P **P** **12 56 18.4 +0.7**
WMQ Urumqi 46.17 289 *eP* **P** **12 56 28.3 +1.4**
KURK Kurchatov 47.32 302 P **P** **12 56 34.7 -1.0**
KURK Kurchatov 47.32 302 P **P** **12 56 33.6 -2.1**
KURK IAmb IAmb 12 57 02.9
comp=Z,3.8nm,0.8s
KURBB Kurchatov Arra 47.42 302 P **P** **12 56 34.7 -1.8**
comp=Z,1.7nm,0.3s,baz=62,slow=7.8,SNR=7.2
MK31 Makanchi Array 47.55 296 P **P** **12 56 35.9 -1.7**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 47.55 296 P **P** **12 56 35.9 -1.7**
MKAR Makanchi Array 47.55 296 P **P** **12 56 35.9 -1.7**
comp=Z,2.5nm,0.5s,baz=58,slow=7.1,SNR=37
MKAR PcP **PcP** **12 58 04.5 -1.2**
comp=Z,0.2nm,0.3s,baz=54,slow=5.0,SNR=1.2
MKAR Makanchi Array 47.55 296 P **P** **12 56 36.0 -1.6**
MAKZ Makanchi 47.71 296 P **P** **12 56 36.8 -2.1**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 47.71 296 P **P** **12 56 36.8 -2.1**
PZH PanZhiHua 48.88 261 P **P** **12 56 48.3 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.3s
KMI Kunming 49.28 259 ⇓P **P** **12 56 52.4 +1.1**
KMI pmax pmax
comp=Z,13nm,0.8s
BVAR Borovoye Array 50.19 308 P **P** **12 56 55.4 -2.3**
comp=Z,1.2nm,0.4s,baz=280,slow=1.6,SNR=15
BVAR PcP **PcP** **12 58 14.8 -0.4**
comp=Z,1.0nm,0.4s,baz=234,slow=9.5,SNR=5.1
BRVK Borovoye 50.22 308 P **P** **12 56 55.7 -2.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.22 308 P **P** **12 56 55.7 -2.1**
BRVK IAmb IAmb 12 56 56.3
comp=Z,3.2nm,0.7s
LTY Liberty 50.45 61 P **P** **12 57 00.6 +0.9**
LTY IAmb IAmb 12 57 00.9
comp=Z,3.4nm,0.6s
B08A Colville Reser 50.51 59 P **P** **12 57 01.0 +0.9**
B08A IAmb IAmb 12 57 01.4
comp=Z,4.0nm,0.7s
EDM Edmonton 50.64 51 P **P** **12 57 02.0 +0.9**
EDM pmax pmax
comp=Z,11nm,0.6s
EDM Edmonton 50.64 51 P **P** **12 57 02.0 +0.9**
DAG Danmarks Havn 51.74 359 *i* P **P** **12 57 07.0 -1.9**
DAG IAmb IAmb 12 57 08.6
comp=Z,7.0nm,0.6s
HUMO Hull Mountain 52.05 67 P **P** **12 57 13.8 +2.1**
HUMO IAmb IAmb 12 57 16.6
comp=Z,7.8nm,1.1s
J04D Umpqua Nationa 52.13 66 P **P** **12 57 13.7 +1.1**
L04D Klamath Falls 52.67 67 P **P** **12 57 17.4 +0.9**
WALA Waterton Lakes 52.91 56 P **P** **12 57 18.8 +0.7**
K05A Summer Lake 53.15 66 P **P** **12 57 22.2 +2.2**
M04C Macdoel 53.21 67 P **P** **12 57 22.1 +1.7**
KDJ Kajisay 53.29 294 IAmb IAmb 12 57 20.6
comp=Z,3.3nm,0.7s
LVZ Lovozero 53.43 337 ⇓*i* P **P** **12 57 20.1 -1.4**
LVZ pmax pmax
comp=Z,93nm,1.8s
ARU Arti 53.49 317 P **P** **12 57 19.8 -2.2**
comp=Z,1.6nm,0.2s,baz=48,slow=6.0,SNR=4.3
ARU Arti 53.49 317 *c i* P **P** **12 57 20.0 -2.0**
ARU 12 58 24.9
ARU 12 59 19.2
ARU S **S** **13 04 44.6 -1.3**
ARU pmax pmax
comp=Z,7.0nm,1.4s
ARU Arti 53.49 317 IAmb IAmb 12 57 20.2
comp=Z,10nm,1.4s
BOOM Boomskoye usch 53.76 295 P **P** **12 57 23.7 -0.8**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 53.76 295 P **P** **12 57 23.7 -0.8**
BMO Blue Mountains 53.78 61 IAmb IAmb 12 57 26.2
comp=Z,2.8nm,0.6s
MOD Modoc Plateau 54.01 66 P **P** **12 57 28.3 +2.0**
ARCES ARCESS Array B 54.15 341 P **P** **12 57 24.2 -2.5**
comp=Z,1.2nm,0.7s,baz=35,slow=7.6,SNR=6.9
ARCES PcP **PcP** **12 58 30.6 +0.7**
comp=Z,3.3nm,0.8s,baz=35,slow=4.4,SNR=7.2
DBG Daneborg 54.23 359 *eP* **P** **12 57 25.4 -1.8**
DBG IAmb IAmb 12 57 26.5
comp=Z,3.3nm,0.6s
PLID Pearl Lake 54.34 60 P **P** **12 57 30.2 +1.5**
AAK Ala-Archa 54.48 296 P **P** **12 57 28.3 -1.3**
comp=Z,1.8nm,0.6s,baz=158,slow=5.0,SNR=6.7
AAK Ala-Archa 54.48 296 P **P** **12 57 28.5 -1.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 54.48 296 P **P** **12 57 28.5 -1.1**
BEKR Beckworth 55.31 68 P **P** **12 57 37.2 +1.4**
BEKR IAmb IAmb 12 57 38.6
comp=Z,6.4nm,1.1s
FCC Fort Churchill 55.36 37 P **P** **12 57 35.8 +0.3**
FCC pmax pmax
comp=Z,7.0nm,1.4s
FCC Fort Churchill 55.36 37 P **P** **12 57 35.8 +0.3**
FCC IAmb IAmb 12 57 39.0
comp=Z,6.9nm,1.4s
HRY Holter Researc 55.49 57 P **P** **12 57 37.5 +0.7**
HLID Hailey 56.20 61 P **P** **12 57 43.9 +1.9**
MCMT McKenzie Canyo 56.20 59 P **P** **12 57 43.0 +0.9**
BCYI Bear Canyon 56.24 60 P **P** **12 57 43.4 +1.0**
CHTO Chiang Mai 56.32 257 P **P** **12 57 43.5 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 56.32 257 P **P** **12 57 43.5 +0.6**
BOZ Bozeman (W) 56.33 58 P **P** **12 57 44.0 +1.1**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 56.33 58 P **P** **12 57 44.0 +1.1**
BOZ IAmb IAmb 12 57 45.1
comp=Z,4.6nm,0.8s
CM31 Chiang Mai Arr 56.60 257 P **P** **12 57 46.7 +1.8**
CMAR Chiang Mai Arr 56.60 257 P **P** **12 57 46.2 +1.3**
comp=Z,3.5nm,0.6s,baz=30,slow=7.1,SNR=19
BMN Battle Mountai 56.73 65 P **P** **12 57 47.7 +1.9**
BMN pmax pmax
comp=Z,4.0nm,0.7s
BMN Battle Mountai 56.73 65 P **P** **12 57 47.7 +1.9**
BMN IAmb IAmb 12 57 48.1
comp=Z,3.5nm,0.7s
QLMT Earthquake Lak 56.95 58 P **P** **12 57 49.2 +1.8**
TAPN Taplejung 56.97 273 *eP* **P** **12 57 47.3 -0.5**
comp=Z,7.2nm,0.5s
YHL Hebgen Lake 57.07 58 P **P** **12 57 49.8 +1.5**
YHL IAmb IAmb 12 57 51.8
comp=Z,2.2nm,0.7s
GCMT Greycliff 57.22 56 P **P** **12 57 50.5 +1.4**
YHH Holmes Hill 57.28 58 P **P** **12 57 50.9 +1.1**
YHH IAmb IAmb 12 57 52.2
comp=Z,4.1nm,0.7s
YMR Madison River 57.30 58 P **P** **12 57 51.3 +1.5**
YMR IAmb IAmb 12 57 52.4
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 57.46 68 P **P** **12 57 52.6 +1.5**
comp=Z,2.8nm,0.6s,baz=296,slow=7.4,SNR=6.4
ELK Elko 57.63 64 P **P** **12 57 53.8 +1.6**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 57.63 64 P **P** **12 57 53.8 +1.6**
ELK IAmb IAmb 12 57 54.9
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 57.65 310 P **P** **12 57 49.2 -2.7**
ABKAR IAmb IAmb 12 57 50.4
comp=Z,2.3nm,0.8s
LKWY Lake 57.67 58 P **P** **12 57 54.4 +1.9**
LKWY pmax pmax
comp=Z,4.0nm,0.8s
LKWY Lake 57.67 58 P **P** **12 57 54.4 +1.9**
LKWY IAmb IAmb 12 57 56.2
comp=Z,4.2nm,0.8s
YMP Mirror Lake Pl 57.68 57 IAmb IAmb 12 57 55.8
comp=Z,6.1nm,1.1s
H17A Grant Village 57.69 58 P **P** **12 57 55.5 +2.9**
H17A IAmb IAmb 12 57 56.6
comp=Z,5.8nm,0.9s
JIRN Jiri 57.69 275 *eP* **P** **12 57 52.2 -0.8**
comp=Z,4.6nm,0.3s
GUN Gumba 57.71 275 *eP* **P** **12 57 52.2 -0.8**
comp=Z,4.4nm,0.3s
AKTO Aktyubinsk 57.75 312 P **P** **12 57 50.4 -2.2**
comp=Z,0.9nm,0.6s,baz=350,slow=10,SNR=3.6
AKTO PcP **PcP** **12 58 43.5 -0.6**
comp=Z,0.6nm,0.4s,baz=63,slow=4.5,SNR=2.2
FLWY Flagg Ranch 57.84 58 P **P** **12 57 55.8 +2.1**
FLWY IAmb IAmb 12 57 56.4
comp=Z,4.0nm,0.8s
RLMT Red Lodge 57.88 57 P **P** **12 57 55.7 +1.8**
RLMT IAmb IAmb 12 57 56.7
comp=Z,4.4nm,0.8s
RAMN Ramite 57.95 274 *eP* **P** **12 57 53.8 -0.8**
comp=Z,20nm,0.4s
MOOW Moose Ponds 58.04 59 P **P** **12 57 56.3 +1.2**
MOOW IAmb IAmb 12 57 58.1
comp=Z,6.5nm,1.4s
SCO Scoresbysund 58.08 360 *i* P **P** **12 57 54.0 -0.6**
SCO IAmb IAmb 12 57 55.3
comp=Z,2.1nm,0.7s
TPAW Teton Pass 58.11 59 P **P** **12 57 56.6 +1.0**
TPAW IAmb IAmb 12 57 57.8
comp=Z,7.5nm,1.2s
KKN Kakani 58.16 276 *eP* **P** **12 57 55.6 -0.5**
comp=Z,11nm,0.4s
LOHW Long Hollow 58.21 59 P **P** **12 57 58.6 +2.4**
LOHW IAmb IAmb 12 57 58.8
comp=Z,3.1nm,0.8s
PKI Pulchoki 58.24 275 *eP* **P** **12 57 55.9 -0.8**
comp=Z,3.6nm,0.3s
PKIN Phulchoki 58.24 275 *eP* **P** **12 57 56.1 -0.6**
comp=Z,5.1nm,0.3s
REDW Red Top Meadow 58.25 59 P **P** **12 57 58.6 +2.1**
REDW IAmb IAmb 12 57 59.4
comp=Z,4.8nm,0.9s
BTK Batken 58.26 296 P **P** **12 57 55.5 -0.9**
BTK pmax pmax
comp=Z,4.0nm,0.8s
BTK Batken 58.26 296 P **P** **12 57 55.5 -0.9**
BTK IAmb IAmb 12 57 55.8
comp=Z,3.7nm,0.8s
DMN Daman 58.40 275 *eP* **P** **12 57 57.5 -0.3**
comp=Z,9.7nm,0.5s
GKN Gorkha 58.41 276 *eP* **P** **12 57 57.0 -0.7**
comp=Z,6.6nm,0.3s
LCH Last Change Ra 58.66 68 IAmb IAmb 12 58 01.5
comp=Z,5.7nm,1.3s
DANN Dangsing 58.70 277 *eP* **P** **12 57 59.6 -0.3**
comp=Z,5.6nm,0.3s
ICESG Greenland Ices 58.79 7 *i* P **P** **12 57 59.5 -0.5**
ICESG IAmb IAmb 12 58 02.4
comp=Z,7.5nm,0.6s
HWUT Hardware Ranch 59.07 61 P **P** **12 58 03.8 +1.6**
HWUT IAmb IAmb 12 58 04.8
comp=Z,3.7nm,0.7s
KOLN Koldanda 59.22 277 *eP* **P** **12 58 02.5 -0.9**
BW06 Boulder Array 59.35 59 P **P** **12 58 05.6 +1.5**
BW06 IAmb IAmb 12 58 06.3
comp=Z,4.2nm,0.8s
PD31 Pinedale Array 59.35 59 P **P** **12 58 05.3 +1.2**
PD31 IAmb IAmb 12 58 06.3
comp=Z,3.8nm,0.8s
PDAR Pinedale Array 59.35 59 P **P** **12 58 05.5 +1.4**
comp=Z,3.8nm,0.6s,baz=318,slow=2.4,SNR=48
PDAR Pinedale Array 59.35 59 P **P** **12 58 04.9 +0.8**
DUG Dugway, Tooele 59.36 63 P **P** **12 58 05.9 +1.8**
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 59.36 63 P **P** **12 58 05.9 +1.8**
DUG IAmb IAmb 12 58 06.7
comp=Z,3.4nm,0.8s
PYUN Piuthan 59.36 277 *eP* **P** **12 58 03.6 -0.7**
TPNV Topopah Spring 59.66 68 P **P** **12 58 08.1 +1.8**
TPNV pmax pmax
comp=Z,3.0nm,1.0s
TPNV Topopah Spring 59.66 68 P **P** **12 58 08.1 +1.8**
TPNV IAmb IAmb 12 58 08.7
comp=Z,3.1nm,1.0s
NLU North Lily Min 59.93 63 IAmb IAmb 12 58 10.7
comp=Z,2.7nm,0.9s
DY2G Dye2 60.68 11 *i* P **P** **12 58 12.3 -0.5**
DY2G IAmb IAmb 12 58 13.1
comp=Z,3.5nm,0.7s
FINES FINESS Array B 60.82 336 P **P** **12 58 12.2 -1.3**
comp=Z,2.0nm,0.4s,baz=38,slow=7.6,SNR=16
BELG Belogornoye 60.88 319 ⇑*eP* **P** **12 58 12.0 -2.0**
BELG pmax pmax
comp=Z,1.0nm,0.9s
RSSD Black Hills 61.26 54 P **P** **12 58 17.9 +0.8**
RSSD pmax pmax
comp=Z,7.0nm,0.6s
RSSD Black Hills 61.26 54 P **P** **12 58 17.9 +0.8**
OBN Obninsk 62.93 327 *eP* **P** **12 58 26.7 -1.0**
OBN *e**PP **pP** **12 58 55.4 +0.8**
OBN *e* 12 59 06.2
OBN pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 63.54 59 P **P** **12 58 34.2 +1.8**
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO Idaho Springs 63.54 59 P **P** **12 58 34.2 +1.8**
ISCO IAmb IAmb 12 58 35.1
comp=Z,7.7nm,1.4s
MVCO Mesa Verde 63.85 63 P **P** **12 58 35.6 +1.2**
MVCO IAmb IAmb 12 58 36.5
comp=Z,3.4nm,0.8s
NB2 NORSAR Subarra 64.45 343 P **P** **12 58 37.3 -0.4**
comp=Z,1.0nm,0.5s,baz=25,slow=6.9
NOA NORSAR Array B 64.45 343 P **P** **12 58 37.5 -0.2**
comp=Z,0.1nm,0.3s,baz=20,slow=6.7,SNR=11
ECSD EROS Data Cent 65.20 50 P **P** **12 58 43.1 +0.3**
ECSD IAmb IAmb 12 58 43.8
comp=Z,4.3nm,1.0s
SCHQ Schefferville 67.45 26 P **P** **12 58 57.1 +0.1**
comp=Z,1.4nm,0.4s,baz=27,slow=2.0,SNR=1.5
AKASG Malin Array Be 69.07 328 P **P** **12 59 05.1 -2.0**
comp=Z,1.1nm,0.3s,baz=31,slow=6.5,SNR=6.7
AKASG Malin Array Be 69.07 328 *i* P **P** **12 59 05.6 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 69.07 328 ⇑*eP* **P** **12 59 05.7 -1.4**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 69.50 316 *eP* **P** **12 59 08.1 -1.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 69.59 316 P **P** **12 59 09.0 -1.4**
comp=Z,1.2nm,0.7s,baz=47,slow=9.4,SNR=3.9
KBZ Khabaz 69.59 316 ⇓*eP* **P** **12 59 09.8 -0.6**
KBZ pmax pmax
comp=Z,10.0nm,3.5s
ESK Eskdalemuir 72.16 349 P **P** **12 59 25.8 0.0**
ESK pmax pmax
comp=Z,7.0nm,0.7s
ESK Eskdalemuir 72.16 349 P **P** **12 59 25.8 0.0**
TX31 Lajitas Ar. Si 72.40 65 P **P** **12 59 29.2 +1.5**
TX32 Lajitas Array 72.40 65 P **P** **12 59 29.1 +1.4**
TX32 IAmb IAmb 12 59 29.8
comp=Z,6.0nm,1.0s
TXAR Lajitas Array 72.40 65 P **P** **12 59 29.1 +1.4**
comp=Z,3.3nm,0.4s,baz=298,slow=5.1,SNR=93
BUR08 Bucovina Ar. S 73.04 329 P **P** **12 59 30.9 -0.4**
BURAR Bucovina Array 73.06 329 ⇑P **P** **12 59 30.5 -0.9**
BURAR Bucovina Array 73.06 329 P **P** **12 59 31.1 -0.3**
CLL Collm 73.12 338 *i* P **P** **12 59 30.9 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 73.12 338 *i* P **P** **12 59 30.9 -0.6**
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 73.19 335 *eP* **P** **12 59 32.5 +0.5**
DPC Dobruska-Polom 73.19 335 *eP* **P** **12 59 32.5 +0.5**
MORC Moravsky Berou 73.39 334 ⇑P **P** **12 59 32.4 -0.8**
MORC Moravsky Berou 73.39 334 P **P** **12 59 33.3 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 73.39 334 P **P** **12 59 33.3 +0.1**
MORC IAmb IAmb 12 59 33.8
comp=Z,3.3nm,0.6s
LANS Liptovska Anna 73.43 333 *eP* **P** **12 59 34.4 +0.9**
LANS pmax pmax
comp=Z,7.0nm,0.5s
LANS Liptovska Anna 73.43 333 *eP* **P** **12 59 34.4 +0.9**
WRAB Tennant Creek 74.30 203 P **P** **12 59 40.8 +2.2**
WRAB pmax pmax
comp=Z,2.0nm,1.0s
WRAB Tennant Creek 74.30 203 P **P** **12 59 40.8 +2.2**
WRA Warramunga Arr 74.31 203 P **P** **12 59 39.8 +1.1**
comp=Z,0.3nm,0.4s,baz=17,slow=5.9,SNR=5.8
WRA Warramunga Arr 74.31 203 IAmb IAmb 12 59 40.3
comp=Z,0.5nm,1.5s
MLR Muntele Rosu 74.69 327 ⇑P **P** **12 59 41.6 +0.7**
MLR Muntele Rosu 74.69 327 P **P** **12 59 41.6 +0.7**
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 74.69 327 P **P** **12 59 41.6 +0.7**
KHC Kasperske Hory 75.01 337 ⇓*eP* **P** **12 59 42.6 0.0**
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 75.01 337 *eP* **P** **12 59 42.0 -0.6**
VOIR 75.03 328 ⇑P **P** **12 59 42.8 0.0**
FITZ Fitzroy Crossi 75.04 212 LR LR 13 37 19.6
comp=Z,17nm,18.1s,baz=121,slow=39
GEC2 GERESS Array S 75.24 336 P **P** **12 59 44.3 +0.3**
GEC2 IAmb IAmb 12 59 44.5
comp=Z,3.5nm,0.5s
GERES GERESS Array B 75.24 336 P **P** **12 59 43.8 -0.2**
comp=Z,2.3nm,0.5s,baz=37,slow=7.1,SNR=18
GERES GERESS Array B 75.24 336 P **P** **12 59 44.2 +0.2**
GERES GERESS Array B 75.24 336 P **P** **12 59 44.2 +0.2**
CONA Conrad Observa 75.53 335 *eP* **P** **12 59 46.1 +0.4**
comp=Z,2.0nm,0.5s
GZR Gura Zlata 75.81 329 ⇑P **P** **12 59 45.3 -1.9**
PALK Pallekele 76.42 264 P **P** **12 59 51.3 +0.2**
comp=Z,5.2nm,0.5s,baz=106,slow=5.7,SNR=6.2
PALK Pallekele 76.42 264 IAmb IAmb 12 59 52.7
comp=Z,8.8nm,1.0s
BRTR Keskin Array B 76.80 319 P **P** **12 59 51.7 -1.3**
comp=Z,0.5nm,0.6s,baz=46,slow=4.2,SNR=2.3
SOKA Soboth 76.91 335 *i* P **P** **12 59 53.6 +0.2**
comp=Z,2.6nm,0.5s
KBA Koelnbreinsper 76.97 336 *eP* **P** **12 59 54.7 +0.7**
comp=Z,11nm,0.6s
WATA Walderalm 77.17 337 *eP* **P** **12 59 55.2 +0.2**
comp=Z,4.0nm,0.5s
OBKA Obir 77.19 335 *i* P **P** **12 59 55.1 0.0**
comp=Z,5.3nm,0.9s
RETA Reutte 77.22 338 *eP* **P** **12 59 54.6 -0.5**
comp=Z,1.6nm,0.3s
WTTA Wattenberg 77.22 337 *eP* **P** **12 59 55.4 +0.1**
comp=Z,4.6nm,0.5s
MOTA Moosalm 77.27 338 *eP* **P** **12 59 55.5 -0.1**
comp=Z,6.2nm,0.7s
SQTA Sankt Quirin 77.36 337 *i* P **P** **12 59 56.6 +0.5**
comp=Z,4.3nm,0.5s
ABTA Abfaltersbach 77.49 336 *eP* **P** **12 59 56.7 -0.1**
comp=Z,5.4nm,0.8s
DAVA Damuels 77.61 338 *eP* **P** **12 59 58.0 +0.5**
comp=Z,12nm,1.0s
FETA Feichten 77.67 338 *eP* **P** **12 59 58.2 +0.4**
comp=Z,5.8nm,0.6s,SNR=4.9
ASAR Alice Springs 77.99 202 P **P** **13 00 01.5 +2.0**
comp=Z,0.5nm,0.5s,baz=16,slow=5.3,SNR=9.5
ESDC Sonseca Array 87.50 346 P **P** **13 00 48.8 -0.4**
comp=Z,1.5nm,0.7s,baz=5.7,slow=4.6,SNR=9.0
KEST Kesra 88.64 335 P **P** **13 00 54.6 +0.4**
comp=Z,7.7nm,0.5s,baz=11,slow=1.7,SNR=11
H03N2 Juan Fernandez 135.54 89 T T 15 38 01.3
baz=314,slow=78,SNR=248
H03N1 Juan Fernandez 135.56 89 T T 15 38 02.6
baz=314,slow=78,SNR=303
H03N3 Juan Fernandez 135.56 89 T T 15 38 01.9
baz=314,slow=78,SNR=283
PLCA Paso Flores 145.31 91 PKPbc **PKPdf** **13 07 38.2 +0.4**
comp=Z,1.9nm,0.9s,baz=327,slow=3.0,SNR=6.1

IDC ***22*** *13:16:54.1±3.8, 11.76N×125.65E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/63, mbtmp3.2/3, Error ellipse: s-maj=306.5km s-min=26.8km az=65.0*

MAN 22 13:16:47.4, 12.35N×126.17E, h2km, mb4.4, ML3.2, MS2.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**3.44**	**257**	⇑*eP*		Pb		13 17 47.9	-1.2
WRA	**Warramunga Arr**	**33.08**	**166**	P		P		13 23 26.4	+1.6
	0.1nm,0.4s,baz=344,slow=8.1,SNR=1.9								
ASAR	**Alice Springs**	**36.58**	**168**	P		P		13 23 59.0	+4.0
	0.1nm,0.3s,baz=348,slow=6.9,SNR=5.6								
MKAR	**Makanchi Array**	**50.33**	**322**	P		P		13 25 53.9	+8.1
	0.7nm,0.7s,baz=120,slow=8.3,SNR=9.4								

ISK ***22*** *13:25:15.6, 35.65N×31.72E, h73km, ML4.7/59*

MOS ***22*** *13:25:16.9±1.1, 35.80N×31.69E, h68km, mb4.6/28, Error ellipse: s-maj=6.1km s-min=3.6km az=88.1*

IDC ***22*** *13:25:16.9±1.1, 35.76N×31.79E, h59km±10km, mb4.1/27, mb1 4.2/38, mb1mx4.2/48, mbtmp4.4/38, MS3.3/35, Ms1 3.3/35, ms1mx3.2/88, Error ellipse: s-maj=9.9km s-min=8.2km az=56.0*

DDA ***22*** *13:25:16.5±0.0, 35.76N×31.83E, h43km, MW4.6*

GII ***22*** *13:25:17.6±0.3, 35.65N×31.77E, h60km, mb4.5/9, MD4.4/9, Mm4.2/9*

MED_RC ***22*** *13:25:17.0±0.3, 35.66N×31.76E, h68km, MW4.5/15, Moment Tensor Solution. Mantle waves: s15,c20; Duration: Ts0 Moment tensor: Scale 1015Nm; Mrr-2.77±.46; Mθθ5.07±.66; Mφφ-2.30±.51; Mrθ1.15±.32; Mrφ0.47±.64; Mθφ-4.07±.22; Best double couple: Ms5.98000×1015 NP1:φs303.00000°, δ66.00000°, λ-43.00000°. NP2:φs54.00000°, δ52.00000°, λ-149.00000°. Principal axes: T 5.2400, Plg9.0000°, Azm1.0000°; N 1.4900, Plg42.0000°, Azm99.0000°; P -6.7300, Plg47.0000°, Azm262.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

NIC ***22*** *13:25:17.3±0.0, 35.78N×31.85E, h34km±45km, Md4.7/5, Ml4.8/11*

HLW ***22*** *13:25:17.6, 35.60N×31.56E, h17km±32km, Md4.2*

NEIC ***22*** *13:25:18.3±1.5, 35.76N±0.01×31.73E±0.07, h63km±7km, mb4.5/83, ML4.7(ISK), Error ellipse: s-maj=8.3km s-min=0.8km az=76.0*

THE ***22*** *13:25:19.4, 35°.79N × 31°.69E, h48km ± 2km, ML4.6/5, Error ellipse: s-maj=2.5km s-min=1.3km az=14.0*

ISC 22 13:25:17.6 ±0.6, **35.70N** ±0.03 × **31.73E** ±0.02, **h66** km ± 5km, **n523**, σ1 **s53**/597, **mb4.5**/95, **35C-30D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
AKMS	**Akamas**	**0.84**	**144**	⇓*iP*	**Pn**	**13 25 33.6**	**-0.3**
AKMS				S	**Sn**	**13 25 45.5**	**-0.5**
AKMS				AML	AML	13 25 52.0	
	305nm,0.6s						
AKMS				AML	AML	13 25 52.0	
	305nm,0.6s						
AKMS				AML	AML	13 25 52.5	
	309nm,0.4s						
AKMS				AML	AML	13 25 52.5	
	309nm,0.4s						
AKMS				AMd		13 29 43.2	
AKMS				AMd		13 29 43.2	
ALFC	**Alefka**	**0.90**	**127**	⇓*iP*	**Pn**	**13 25 33.5**	**-1.2**
ALFC				S	**Sn**	**13 25 44.4**	**-2.8**
ALFC				AML	AML	13 25 47.8	
	110nm,0.4s						
ALFC				AML	AML	13 25 47.8	
	110nm,0.4s						
ALFC				AML	AML	13 25 51.7	
	157nm,0.4s						
ALFC				AML	AML	13 25 51.7	
	157nm,0.4s						
ALFC				AMd		13 27 55.9	
ALFC				AMd		13 27 55.9	
ALFC				AMd		13 30 14.9	
ALFC				AMd		13 30 14.9	
AKDN	**Akdeniz- Kıbrı**	**1.09**	**111**	PG	**Pn**	**13 25 36.8**	**-0.2**
AKDN				SG	**Sn**	**13 25 51.1**	**-0.4**
NATA	**Nata**	**1.15**	**143**	⇑P	**Pn**	**13 25 38.4**	**+0.5**
NATA				S	**Sn**	**13 25 59.2**	**+6.3**
NATA				AML	AML	13 26 05.0	
	436nm,0.5s						
NATA				AML	AML	13 26 05.0	
	436nm,0.5s						
NATA				AML	AML	13 26 05.9	
	423nm,0.7s						
NATA				AML	AML	13 26 05.9	
	423nm,0.7s						
NATA				AMd		13 29 38.9	
NATA				AMd		13 29 38.9	
TEKE	**Tekeli-Mersin**	**1.21**	**68**	PN	**Pn**	**13 25 37.5**	**-1.1**
AKUM	**Antalya-Kumluc**	**1.28**	**299**	P	**Pn**	**13 25 39.9**	**+0.4**
AKUM				S	**Sn**	**13 26 01.8**	**+5.8**
KEMT	**Kemer-ANTALYA**	**1.31**	**314**	PN	**Pn**	**13 25 39.4**	**-0.5**
SZAC	**Souni**	**1.33**	**134**	⇑*iP*	**Pn**	**13 25 40.8**	**+0.5**
SZAC				S	**Sn**	**13 26 02.6**	**+5.3**
SZAC				AML	AML	13 26 05.5	
	116nm,0.7s						
SZAC				AML	AML	13 26 05.5	
	116nm,0.7s						
SZAC				AML	AML	13 26 08.5	
	124nm,1.0s						
SZAC				AML	AML	13 26 08.5	
	124nm,1.0s						
SZAC				AMd		13 29 39.2	
SZAC				AMd		13 29 39.2	
BERE	**Bereket-Mersin**	**1.38**	**61**	P	**Pn**	**13 25 40.1**	**-0.9**
BERE				SN	**Sn**	**13 25 58.4**	**-0.1**
HDMB	**Hadim**	**1.41**	**26**	PN	**Pn**	**13 25 40.9**	**-0.5**
HDMB				SN	**Sn**	**13 25 59.5**	**+0.3**
YORU	**Yoruktepe-Mers**	**1.44**	**71**	PN	**Pn**	**13 25 40.7**	**-0.9**
YORU				SN	**Sn**	**13 25 59.7**	**0.0**
ATHAL	**Athalassa**	**1.47**	**112**	⇓P	**Pn**	**13 25 41.3**	**-0.8**
ATHAL				S	**Sn**	**13 25 59.3**	**-1.2**
ATHAL				AML	AML	13 26 00.0	
	102nm,0.4s						
ATHAL				AML	AML	13 26 00.0	
	102nm,0.4s						
ATHAL				AML	AML	13 26 13.6	
	92nm,0.8s						
ATHAL				AML	AML	13 26 13.6	
	92nm,0.8s						
ANTB	**Antalya**	**1.48**	**325**	PN	**Pn**	**13 25 41.3**	**-0.9**
OREN	**Orenkoy-Mersin**	**1.50**	**70**	PN	**Pn**	**13 25 41.3**	**-1.1**
CSS	**Mathiatis**	**1.50**	**119**	PN	**Pn**	**13 25 41.4**	**-1.1**
CSS	**Mathiatis**	**1.50**	**119**	Pn	**Pn**	**13 25 41.1**	**-1.4**
CSS	**Mathiatis**	**1.50**	**119**	⇓*iP*	**Pn**	**13 25 41.3**	**-1.2**
CSS				S	**Sn**	**13 25 59.0**	**-2.3**
CSS				AML	AML	13 26 10.8	
	17nm,0.8s						
CSS				AML	AML	13 26 10.8	
	17nm,0.8s						
CSS				AML	AML	13 26 12.3	
	19nm,0.9s						
CSS				AML	AML	13 26 12.3	
	19nm,0.9s						
LFK	**Lefkose**	**1.53**	**105**	PN	**Pn**	**13 25 41.9**	**-1.1**
AKK1	**Akkuyu-Mersin**	**1.54**	**73**	PN	**Pn**	**13 25 42.5**	**-0.5**
ASGA	**Asgata**	**1.54**	**126**	⇓P	**Pn**	**13 25 43.0**	**0.0**
ASGA				S	**Sn**	**13 26 03.6**	**+1.4**
ASGA				AML	AML	13 26 12.2	
	72nm,0.6s						
ASGA				AML	AML	13 26 12.2	
	72nm,0.6s						
ASGA				AML	AML	13 26 14.7	
	79nm,0.5s						
ASGA				AML	AML	13 26 14.7	
	79nm,0.5s						
AKK2	**Akkuyu-Mersin**	**1.54**	**73**	PN	**Pn**	**13 25 42.1**	**-0.9**
AKKU	**Akkuyu-Mersin**	**1.55**	**72**	PN	**Pn**	**13 25 42.4**	**-0.7**
AKKU				SN	**Sn**	**13 26 02.4**	**0.0**
GULN	**MERSIN_Gulnar**	**1.55**	**71**	P	**Pn**	**13 25 42.4**	**-0.8**
GULN				S	**Sn**	**13 26 01.5**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.57**	**62**	PN	**Pn**	**13 25 43.1**	**-0.4**
TEVE				SN	**Sn**	**13 26 03.1**	**0.0**
AKIN	**Akıncılar- Kıb**	**1.58**	**115**	PN	**Pn**	**13 25 42.4**	**-1.1**
TISA	**Tisan-Mersin**	**1.65**	**73**	PN	**Pn**	**13 25 44.1**	**-0.4**
IKL	**Isikli**	**1.68**	**71**	PN	**Pn**	**13 25 44.5**	**-0.3**
KARG	**Kargicak-Mersi**	**1.69**	**72**	PN	**Pn**	**13 25 44.8**	**-0.2**
MVOU	**Mavrovouni**	**1.70**	**113**	⇓*iP*	**Pn**	**13 25 43.7**	**-1.4**
MVOU				S	**Sn**	**13 26 02.8**	**-3.1**
MVOU				AML	AML	13 26 03.8	
	42nm,0.4s						
MVOU				AML	AML	13 26 03.8	
	42nm,0.4s						
MVOU				AML	AML	13 26 04.0	
	28nm,0.4s						
MVOU				AML	AML	13 26 04.0	
	28nm,0.4s						
SEYD	**Seydisehir-KON**	**1.71**	**3**	PN	**Pn**	**13 25 45.4**	**0.0**
SEDI	**Konya, Seydise**	**1.75**	**1**	P	**Pn**	**13 25 46.7**	**+0.8**
SEDI				S	**Sn**	**13 26 09.0**	**+1.6**
KEBE	**Keben-Mersin**	**1.78**	**65**	PN	**Pn**	**13 25 46.3**	**+0.1**
KSL	**Kastellorizon**	**1.80**	**285**	P	**Pn**	**13 25 46.0**	**-0.4**
KSL				S	**Sn**	**13 26 07.9**	**-0.3**
	4μm,0.9s						
KSL	**Kastellorizon**	**1.80**	**285**	⇓*iP*	**Pn**	**13 25 46.2**	**-0.2**
AKAS	**Kas**	**1.80**	**288**		**Pn**	**13 25 45.9**	**-0.8**
ELL	**Elmali**	**1.80**	**306**	P	**Pn**	**13 25 47.3**	**+0.6**
ELL	**Elmali**	**1.80**	**306**	PN	**Pn**	**13 25 46.1**	**-0.6**
ELL	**Elmali**	**1.80**	**306**	Pn	**Pn**	**13 25 47.2**	**+0.6**
ELL	**Elmali**	**1.80**	**306**	P	**Pn**	**13 25 47.2**	**+0.6**
ELL				S	**Sn**	**13 26 12.3**	**+3.7**
KKBE	**Karaman, Kazim**	**1.81**	**32**	P	**Pn**	**13 25 47.3**	**+0.6**
KKBE				S	**Sn**	**13 26 07.7**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.87**	**342**	PN	**Pn**	**13 25 47.4**	**-0.1**
SILI	**Silifke-Mersin**	**1.90**	**69**	PN	**Pn**	**13 25 47.7**	**-0.2**
KRMN	**Karaman**	**1.93**	**40**	PN	**Pn**	**13 25 48.2**	**-0.1**
SLFK	**Silifke-Mersin**	**1.93**	**68**	PN	**Pn**	**13 25 48.0**	**-0.2**
BCK	**Bucak**	**1.98**	**333**	PN	**Pn**	**13 25 48.9**	**-0.1**
EREN	**Erenkoy**	**2.00**	**94**	PN	**Pn**	**13 25 48.4**	**-0.7**
EREN	**Erenkoy**	**2.00**	**94**	P	**Pn**	**13 25 48.4**	**-0.7**
EREN				S	**Sn**	**13 26 10.7**	**-2.5**
PARAL	**Paralimni**	**2.02**	**110**	P	**Pn**	**13 25 49.7**	**+0.3**
PARAL				S	**Sn**	**13 26 21.8**	**+8.1**
PARAL				AML	AML	13 26 28.5	
	58nm,0.6s						
PARAL				AML	AML	13 26 28.5	
	58nm,0.6s						
PARAL				AML	AML	13 26 28.5	
	47nm,0.7s						
PARAL				AML	AML	13 26 28.5	
	47nm,0.7s						
PARAL				AMd		13 29 31.3	
PARAL				AMd		13 29 31.3	
OSC1	**CSNet OBS 1**	**2.22**	**190**	⇑*iP*	**Pn**	**13 25 52.6**	**+0.4**
OSC1				S	**Sn**	**13 26 17.8**	**-0.8**
OSC1				AML	AML	13 26 22.8	
	1.8nm,0.3s						
OSC1				AML	AML	13 26 22.8	
	1.8nm,0.3s						
OSC1				AML	AML	13 26 27.3	
	1.7nm,0.3s						
OSC1				AML	AML	13 26 27.3	
	1.7nm,0.3s						
KONT	**Konya--Tatoy**	**2.30**	**13**	PN	**Pn**	**13 25 53.7**	**+0.4**
KONT	**Konya--Tatoy**	**2.30**	**13**	P	**Pn**	**13 25 54.4**	**+1.1**
KONT				S	**Sn**	**13 26 21.4**	**+0.8**
ISP	**Isparta**	**2.33**	**336**	*ce*P	**Pn**	**13 25 53.2**	**-0.6**
ISP	**Isparta**	**2.33**	**336**	PN	**Pn**	**13 25 53.8**	**0.0**
ISP	**Isparta**	**2.33**	**336**	Pn	**Pn**	**13 25 53.0**	**-0.7**
FETY	**Fethiye**	**2.33**	**294**	P	**Pn**	**13 25 54.0**	**+0.3**
FETY				S	**Sn**	**13 26 20.1**	**-1.3**
FETY	**Fethiye**	**2.33**	**294**	PN	**Pn**	**13 25 53.5**	**-0.2**
FETY	**Fethiye**	**2.33**	**294**	P	**Pn**	**13 25 54.1**	**+0.4**
FETY				S	**Sn**	**13 26 20.0**	**-1.3**
BRDR	**BURDUR-Merkez**	**2.40**	**327**	P	**Pn**	**13 25 55.5**	**+0.8**
BRDR				S	**Sn**	**13 26 24.0**	**+0.9**
DOGA	**KONYA_Doganhis**	**2.40**	**359**	P	**Pn**	**13 25 55.3**	**+0.5**
DOGA				S	**Sn**	**13 26 25.2**	**+2.0**
CAEL	**Denizli, Camel**	**2.41**	**307**	P	**Pn**	**13 25 56.5**	**+1.6**
CAEL				S	**Sn**	**13 26 31.4**	**+8.1**
MERS	**Mersin**	**2.54**	**62**	PN	**Pn**	**13 25 56.6**	**0.0**
LADK	**Ladik-KONYA**	**2.55**	**11**	PN	**Pn**	**13 25 57.3**	**+0.5**
BASM	**Basmaki-Afyon**	**2.59**	**329**	PN	**Pn**	**13 25 57.8**	**+0.5**
YESY	**Yesilyurt**	**2.64**	**37**	PN	**Pn**	**13 25 58.1**	**+0.1**
OSC2	**CSNet OBS 4**	**2.66**	**170**	⇑P	**Pn**	**13 25 59.2**	**+1.1**
OSC2				S	**Sn**	**13 26 31.6**	**+2.5**
OSC2				AML	AML	13 26 43.3	
	3.0nm,0.4s						
OSC2				AML	AML	13 26 43.3	
	3.0nm,0.4s						
OSC2				AML	AML	13 26 47.6	
	4.1nm,1.0s						
OSC2				AML	AML	13 26 47.6	
	4.1nm,1.0s						
DALY	**Dalyan (Mula)**	**2.72**	**295**	PN	**Pn**	**13 25 58.4**	**-0.6**
DED	**Mersin**	**2.78**	**62**	P	**Pn**	**13 26 01.2**	**+1.4**
DED				S	**Sn**	**13 26 30.5**	**-1.9**
GULE	**Gulek**	**2.92**	**56**	P	**Pn**	**13 26 03.7**	**+1.8**
GULE				S	**Sn**	**13 26 37.1**	**+1.1**
SHUT	**Suhut-Afyon**	**3.00**	**342**	PN	**Pn**	**13 26 03.2**	**+0.3**
CHBY	**Cihanbeyli**	**3.03**	**18**	PN	**Pn**	**13 26 03.7**	**+0.5**
CHBY				SN	**Sn**	**13 26 38.9**	**+0.6**
KARA	**Karaisali**	**3.10**	**59**	PN	**Pn**	**13 26 05.1**	**+0.9**
YER	**Yerkesik**	**3.12**	**298**	P	**Pn**	**13 26 04.9**	**+0.4**
YER				S	**Sn**	**13 26 39.4**	**-1.3**
YER	**Yerkesik**	**3.12**	**298**	PN	**Pn**	**13 26 05.0**	**+0.4**
KIZT	**Kizilcal**	**3.18**	**2**	PN	**Pn**	**13 26 05.9**	**+0.6**
CMRD	**Camardi-Nigde**	**3.28**	**52**	PN	**Pn**	**13 26 07.0**	**+0.3**
KULU	**Kulu**	**3.49**	**17**	PN	**Pn**	**13 26 09.9**	**+0.1**
CEYT	**Ceyhan**	**3.50**	**67**	PN	**Pn**	**13 26 09.7**	**+0.1**
DAT	**Datca**	**3.51**	**288**	P	**Pn**	**13 26 09.7**	**-0.1**
DAT				S	**Sn**	**13 26 49.0**	**-1.1**
DAT	**Datca**	**3.51**	**288**	PN	**Pn**	**13 26 10.0**	**+0.2**
MLSB	**Milas**	**3.56**	**298**	PN	**Pn**	**13 26 11.3**	**+0.9**
SERE	**Sereflikochisa**	**3.56**	**24**	PN	**Pn**	**13 26 11.1**	**+0.6**
BHL	**Bhannes**	**3.69**	**118**	*e*P	**Pn**	**13 26 12.5**	**+0.2**
CIFT	**Cifteler, Eski**	**3.69**	**352**	PN	**Pn**	**13 26 13.2**	**+0.9**
KARP	**Karpathos**	**3.72**	**269**	P	**Pn**	**13 26 13.0**	**+0.3**
KARP				S	**Sn**	**13 26 55.2**	**-0.1**
	4μm,0.7s						
KARP	**Karpathos**	**3.72**	**269**	Pn	**Pn**	**13 26 12.9**	**+0.3**
KULA	**Kula-Manisa**	**3.73**	**320**	PN	**Pn**	**13 26 13.4**	**+0.6**
DQRL	**Deir Qamar**	**3.74**	**121**	*e*P	**Pn**	**13 26 13.3**	**+0.3**
HWQ	**Hawqa**	**3.74**	**111**	*e*P	**Pn**	**13 26 13.4**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.75**	**358**	PN	**Pn**	**13 26 13.5**	**+0.5**
KOZT	**Kozan**	**3.75**	**60**	PN	**Pn**	**13 26 13.5**	**+0.5**
MANT	**Manisa**	**3.77**	**319**	Pn	**Pn**	**13 26 13.0**	**-0.4**
BODT	**Bodrum**	**3.81**	**292**	P	**Pn**	**13 26 13.7**	**-0.2**
BODT				S	**Sn**	**13 26 55.8**	**-1.7**
GEDZ	**Gediz**	**3.81**	**332**	PN	**Pn**	**13 26 14.7**	**+0.7**
HNTI	**Hanita**	**3.87**	**131**	Pn	**Pn**	**13 26 13.9**	**-0.7**
HNTI				Sn	**Sn**	**13 26 57.5**	**-1.3**
ESKT	**Eskisehir**	**3.88**	**350**	PN	**Pn**	**13 26 14.9**	**0.0**
AFSR	**Afar-Bala (An**	**3.89**	**16**	PN	**Pn**	**13 26 15.9**	**+0.9**
QRWL	**Qaraoun**	**3.91**	**122**	*e*P	**Pn**	**13 26 15.0**	**-0.2**
KAMT	**Kaman**	**3.99**	**23**	PN	**Pn**	**13 26 16.8**	**+0.4**
SIMA	**Simav-Kutahya**	**4.02**	**328**	PN	**Pn**	**13 26 17.6**	**+0.8**
SMAA	**Simav-Kutahya**	**4.04**	**328**	PN	**Pn**	**13 26 17.7**	**+0.7**
RCY	**Rachaya**	**4.04**	**122**	*e*P	**Pn**	**13 26 16.7**	**-0.4**
MMA0B	**Mount Meron ar**	**4.05**	**130**	Pn	**Pn**	**13 26 17.1**	**-0.1**
MMA0B				Sn	**Sn**	**13 27 02.3**	**-1.2**
MMAI	**Mount Meron Ar**	**4.05**	**130**	P	**Pn**	**13 26 16.1**	**-1.1**
	112nm,0.3s,baz=350,slow=29,SNR=98						
MMAI				S	**Sn**	**13 27 02.3**	**-1.2**
	204nm,0.3s,baz=274,slow=13,SNR=9.0						
MMAI				LR	LR	13 28 20.2	
	comp=Z,583nm,19.4s,baz=114,slow=45						
SHBL	**Chebaa**	**4.06**	**124**	*e*P	**Pn**	**13 26 17.6**	**+0.2**
OFRI	**`Ofer**	**4.09**	**138**	Pn	**Pn**	**13 26 17.4**	**-0.3**
OFRI				Sn	**Sn**	**13 27 02.6**	**-1.7**
GEM	**Giv'at Ha'Em**	**4.09**	**126**	Pn	**Pn**	**13 26 17.3**	**-0.4**
GEM				Sn	**Sn**	**13 27 02.5**	**-1.8**
NAU	**Neve Ativ**	**4.11**	**125**	Pn	**Pn**	**13 26 17.6**	**-0.3**
BLGI	**Bet Lehem HaGe**	**4.12**	**135**	Pn	**Pn**	**13 26 18.1**	**0.0**
BLGI				Sn	**Sn**	**13 27 03.7**	**-1.4**
TVSB	**Tavsanli**	**4.15**	**335**	PN	**Pn**	**13 26 18.8**	**+0.2**
BR231	**Keskin MP Arra**	**4.22**	**11**		**Pn**	**13 26 19.5**	**-0.1**
ANTO	**Ankara**	**4.25**	**11**	P	**Pn**	**13 26 19.8**	**-0.1**
ANTO	**Ankara**	**4.25**	**11**	PN	**Pn**	**13 26 20.7**	**+0.8**
ANTO	**Ankara**	**4.25**	**11**		**Pn**	**13 26 19.8**	**-0.1**
LOD	**Lodumlu**	**4.26**	**11**	PN	**Pn**	**13 26 21.2**	**+1.1**
BORA	**Eskisehir**	**4.29**	**347**	Pn	**Pn**	**13 26 20.4**	**-0.1**
BR131	**Keskin Array S**	**4.30**	**20**	*c iP*	**Pn**	**13 26 20.5**	**-0.1**
BR131	**Keskin Array S**	**4.30**	**20**		**Pn**	**13 26 20.4**	**-0.3**
BRTR	**Keskin Array B**	**4.30**	**20**	P	**Pn**	**13 26 20.6**	**-0.1**
	17nm,0.3s,baz=189,slow=16,SNR=146						
BRTR				S	**Sn**	**13 27 06.2**	**-3.3**
	7.1nm,0.3s,baz=190,slow=13,SNR=4.2						
BRTR				LR	LR	13 28 17.4	
	comp=Z,869nm,20.6s,baz=193,slow=43						
BRTR	**Keskin Array B**	**4.30**	**20**	PN	**Pn**	**13 26 20.7**	**+0.1**
BRTR	**Keskin Array B**	**4.30**	**20**	Pn	**Pn**	**13 26 20.4**	**-0.3**
SMG	**Samos**	**4.41**	**299**	P	**Pn**	**13 26 21.3**	**-0.7**
SMG				S	**Sn**	**13 27 10.4**	**-1.7**
	1μm,0.4s						
SLTI	**Sal'it**	**4.41**	**140**	Pn	**Pn**	**13 26 21.8**	**-0.3**
SLTI				Sn	**Sn**	**13 27 11.0**	**-1.2**
SRCK	**Saricakaya, Es**	**4.42**	**349**	PN	**Pn**	**13 26 23.0**	**+0.8**
MMLI	**Mount Malkishu**	**4.47**	**136**	Pn	**Pn**	**13 26 22.7**	**-0.2**
MMLI				Sn	**Sn**	**13 27 12.2**	**-1.5**
ZKR	**Zakros**	**4.54**	**264**	P	**Pn**	**13 26 24.1**	**+0.3**
ZKR				S	**Sn**	**13 27 14.9**	**-0.3**
	1μm,0.5s						
BNN	**Bunyan**	**4.55**	**45**	PN	**Pn**	**13 26 24.5**	**+0.4**
BNN	**Bunyan**	**4.55**	**45**	Pn	**Pn**	**13 26 24.0**	**-0.1**
HMDT	**Nahal Hemdat**	**4.67**	**136**	Pn	**Pn**	**13 26 25.8**	**+0.2**
HMDT				Sn	**Sn**	**13 27 17.4**	**-1.0**
YUVA	**Yuva-Kibriscik**	**4.69**	**360**	PN	**Pn**	**13 26 26.7**	**+0.8**
MDUB	**Mudurnu**	**4.78**	**355**	PN	**Pn**	**13 26 27.8**	**+0.6**
MDUB	**Mudurnu**	**4.78**	**355**	Pn	**Pn**	**13 26 27.4**	**+0.2**
AMAZ	**Amatzia**	**4.93**	**146**	Pn	**Pn**	**13 26 29.0**	**-0.3**
AMAZ				Sn	**Sn**	**13 27 23.5**	**-1.5**
CORM	**Corum**	**5.03**	**26**	PN	**Pn**	**13 26 31.1**	**+0.5**
THR8	**Santorini-Mono**	**5.11**	**280**	P	**Pn**	**13 26 31.1**	**-0.5**
DSI	**Dead Sea**	**5.12**	**142**	Sn	**Sn**	**13 27 28.3**	**-1.3**
SAUV	**Serdivan-Sakar**	**5.15**	**348**	PN	**Pn**	**13 26 32.8**	**+0.6**
YTIR	**Yattir**	**5.17**	**146**	Pn	**Pn**	**13 26 32.4**	**-0.1**
YTIR				Sn	**Sn**	**13 27 29.3**	**-1.6**
THR6	**Thira Island,**	**5.17**	**279**	P	**Pn**	**13 26 32.2**	**-0.2**
THR3	**Thira Island,**	**5.17**	**280**	P	**Pn**	**13 26 32.6**	**+0.2**
CMBO	**Columbo, Santo**	**5.18**	**280**	P	**Pn**	**13 26 32.3**	**-0.2**
APE	**Apeiranthos**	**5.18**	**287**	⇓P	**Pn**	**13 26 33.2**	**+0.6**
APE	**Apeiranthos**	**5.18**	**287**	P	**Pn**	**13 26 32.5**	**-0.1**
APE	**Apeiranthos**	**5.18**	**287**	*c iP*	**Pn**	**13 26 32.6**	**-0.1**
THR9	**Santorini-Faro**	**5.20**	**279**	P	**Pn**	**13 26 33.6**	**+0.7**
THR5	**Thira Island,**	**5.22**	**280**	P	**Pn**	**13 26 33.6**	**+0.5**
CHOS	**Chios island**	**5.27**	**302**	P	**Pn**	**13 26 33.7**	**-0.2**
KZIT	**Kziot**	**5.28**	**154**	Pn	**Pn**	**13 26 33.9**	**0.0**
KZIT				Sn	**Sn**	**13 27 31.9**	**-1.5**
GHAJ	**Ghor Haditha**	**5.43**	**143**		**Pn**	**13 26 37.0**	**+0.9**
ASF	**Jabal al Asfar**	**5.55**	**128**	P	**Pn**	**13 26 38.8**	**+1.0**
	9.2nm,0.3s,baz=244,slow=23,SNR=24						
ASF				S	**Sn**	**13 27 38.3**	**-2.0**
	8.5nm,0.3s,baz=51,slow=3.4,SNR=3.7						
ILGA	**Ilgaz**	**5.57**	**16**		**Pn**	**13 26 38.4**	**+0.3**
IDI	**Anoyia**	**5.59**	**268**	⇓P	**Pn**	**13 26 37.9**	**-0.3**
IDI	**Anoyia**	**5.59**	**268**	P	**Pn**	**13 26 37.7**	**-0.6**
	38nm,0.3s,baz=80,slow=16,SNR=89						
IDI				S	**Sn**	**13 27 35.5**	**-5.6**
	18nm,0.3s,baz=298,slow=22,SNR=1.8						
IDI	**Anoyia**	**5.59**	**268**	P	**Pn**	**13 26 37.6**	**-0.6**
IDI	**Anoyia**	**5.59**	**268**	Pn	**Pn**	**13 26 37.4**	**-0.9**
PRK	**Paraskevi**	**5.60**	**311**	P	**Pn**	**13 26 37.9**	**-0.4**
KDZE	**Karadeniz Ereo**	**5.61**	**358**	⇑P	**Pn**	**13 26 39.6**	**+1.1**
HHAG	**Hagoal**	**5.74**	**177**	P	**Pn**	**13 26 41.0**	**+0.8**
	baz=175						
MATC	**Matruh**	**5.74**	**222**	P	**Pn**	**13 26 41.5**	**+1.3**
	baz=222						
KOT	**Kottamia**	**5.75**	**179**	P	**Pn**	**13 26 40.7**	**+0.2**
	baz=177						
KOT				S	**Sn**	**13 27 41.3**	**-3.9**
	baz=177						
ZFRI	**Zfri**	**5.89**	**150**	Pn	**Pn**	**13 26 41.9**	**-0.4**
ZFRI				Sn	**Sn**	**13 27 46.7**	**-1.7**
SUZ	**Suez**	**5.92**	**171**	P	**Pn**	**13 26 43.3**	**+0.6**
	baz=169						
HMYD	**Mayadein**	**5.94**	**188**	P	**Pn**	**13 26 44.5**	**+1.5**
	baz=187						
EZN	**Ezine**	**5.94**	**316**	P	**Pn**	**13 26 42.8**	**-0.1**
PRNI	**Paran**	**6.00**	**152**	Pn	**Pn**	**13 26 43.2**	**-0.7**
PRNI				Sn	**Sn**	**13 27 49.8**	**-1.4**
HSAF	**As Saff**	**6.06**	**181**	P	**Pn**	**13 26 44.9**	**+0.2**
	baz=181						
GLL	**Jalalah**	**6.10**	**180**	P	**Pn**	**13 26 45.7**	**+0.4**
	baz=178						
HNAT	**Natroun**	**6.12**	**189**	P	**Pn**	**13 26 47.0**	**+1.5**
	baz=188						
VAM	**Vamos**	**6.14**	**269**	P	**Pn**	**13 26 45.3**	**-0.4**
HRFI	**Mount Harif**	**6.29**	**153**	Pn	**Pn**	**13 26 47.7**	**-0.2**
HRFI				Sn	**Sn**	**13 27 57.1**	**-1.3**
GVD	**Gavdhos**	**6.31**	**264**	P	**Pn**	**13 26 47.6**	**-0.4**
IMMV	**Iera Moni Meta**	**6.32**	**270**	P	**Pn**	**13 26 48.4**	**+0.3**
ZAF	**Zafarana**	**6.43**	**174**	P	**Pn**	**13 26 49.7**	**-0.1**
	baz=172						
MBRI	**Mt Berech**	**6.47**	**155**	Pn	**Pn**	**13 26 50.2**	**-0.1**
MBRI				Sn	**Sn**	**13 28 01.5**	**-1.3**
RODP	**Rodopos**	**6.49**	**271**	P	**Pn**	**13 26 51.2**	**+0.7**
BZK	**Bozkurt**	**6.50**	**15**	⇑P	**Pn**	**13 26 52.3**	**+1.7**
BZK	**Bozkurt**	**6.50**	**15**	Pn	**Pn**	**13 26 50.5**	**-0.1**
KNDR	**Palaiochora Ch**	**6.58**	**268**	P	**Pn**	**13 26 52.5**	**+0.8**
EIL	**Elat**	**6.60**	**155**	P	**Pn**	**13 26 51.8**	**-0.2**
	10nm,0.3s,baz=305,slow=2.4,SNR=36						
EIL				S	**Sn**	**13 28 02.0**	**-3.8**
	12nm,0.3s,baz=20,slow=9.9,SNR=1.9						
EIL				LR	LR	13 30 22.5	
	comp=Z,168nm,21.2s,baz=285,slow=46						
EIL	**Elat**	**6.60**	**155**	Pn	**Pn**	**13 26 51.7**	**-0.3**
RYAN	**Fayoum**	**6.71**	**191**	P	**Pn**	**13 26 54.5**	**+0.9**
	baz=190						
RYAN				S	**Sn**	**13 28 04.5**	**-4.0**
	baz=190						
ALN	**Alexandroupoli**	**6.85**	**321**	P	**Pn**	**13 26 55.1**	**-0.2**
ALN	**Alexandroupoli**	**6.85**	**321**	Pn	**Pn**	**13 26 55.1**	**-0.2**
SLUM	**Salum**	**6.86**	**234**	P	**Pn**	**13 26 55.1**	**-0.5**
	baz=235						
SLUM				S	**Sn**	**13 28 05.3**	**-7.0**
	baz=235						
NBNS	**Bani Suef**	**7.06**	**183**	P	**Pn**	**13 26 58.5**	**+0.1**
	baz=182						
KTHR	**Kythira**	**7.09**	**277**	P	**Pn**	**13 26 58.7**	**-0.1**
KTHR				S	**Sn**	**13 28 16.5**	**-1.4**
	282nm,0.4s						
VLI	**Veliai**	**7.18**	**281**	P	**Pn**	**13 26 59.6**	**-0.3**
HKAT	**Jabal Katrina**	**7.41**	**164**	P	**Pn**	**13 27 02.8**	**-0.5**
	baz=163						
GRB	**Gharib**	**7.46**	**173**	P	**Pn**	**13 27 03.0**	**-0.9**
	baz=171						
MARD	**Mardin**	**7.47**	**75**	Pn	**Pn**	**

MORH Mrgy, Hungar 14.40 321 PN **P** **13 28 44.3 +1.2**
KOVH Kovagotottos 14.60 319 PN **P** **13 28 46.5 +1.2**
UZH Uzhgorod 14.68 335 *eP* **Pn** **13 28 39.0 -2.5**
CLTB Caltabellotta 14.98 283 Pn **Pn** **13 28 45.3 -0.3**
PSZ Piszkesteto 15.04 328 ⇓P **P** **13 28 50.2 0.0**
PSZ Piszkesteto 15.04 328 P **P** **13 28 51.0 +0.8**
PSZ Piszkesteto 15.04 328 P **P** **13 28 51.0 +0.8**
PSZ Piszkesteto 15.04 328 PN **P** **13 28 52.5 +2.2**
AKASG Malin Array Be 15.11 354 P **Pn** **13 28 46.0 -1.1**
comp=Z,8.0nm,0.3s,baz=176,slow=9.6,SNR=36
AKASG S **Sn** **13 31 26.4 -6.8**
comp=Z,0.6nm,0.3s,baz=178,slow=34,SNR=1.9
AKASG LR LR 13 35 34.6
comp=Z,66nm,18.4s,baz=214,slow=41
AKASG Malin Array Be 15.11 354 P **P** **13 28 49.8 -1.0**
AKASG pmax pmax
comp=Z,27nm,0.7s
AKASG Malin Array Be 15.11 354 P **P** **13 28 49.8 -1.0**
AKASG IAmb IAmb 13 28 56.1
comp=Z,26nm,0.7s
AKBB Malin Array Si 15.11 354⇑ *eP* **Pn** **13 28 46.7 -0.3**
AKBB pmax pmax
comp=Z,38nm,0.8s
AKBB Malin Array Si 15.11 354 P **P** **13 28 49.9 -0.9**
AKBB IAmb IAmb 13 28 56.1
comp=Z,36nm,0.7s
CRVS Cervenica-Dubn 15.20 333 *eP* **P** **13 28 54.9 +2.9**
CRVS Cervenica-Dubn 15.20 333 *eP* **P** **13 28 54.9 +2.9**
MPLH Magyarpolny 15.61 322 PN **P** **13 28 58.4 +1.9**
AQU L'Aquila 15.70 301 P **Pn** **13 28 54.8 +0.1**
AQU pmax pmax
comp=Z,62nm,1.0s
AQU L'Aquila 15.70 301 Pn **Pn** **13 28 54.8 +0.1**
NRCA Norcia 16.06 302 P **P** **13 29 01.8 +0.2**
NRCA IAmb IAmb 13 29 02.1
comp=Z,30nm,1.1s
VORD Divnogorie 16.21 17 *eP* **P** **13 29 03.0 0.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
MURB Monte Urbino 16.62 303 P **P** **13 29 08.6 +0.9**
MURB IAmb IAmb 13 29 09.7
comp=Z,35nm,1.0s
SOKA Soboth 16.64 316 *eP* **P** **13 29 09.0 +1.0**
comp=Z,10.0nm,1.2s
ARSA Arzberg 16.71 319 *eP* **P** **13 29 10.0 +1.2**
comp=Z,2.7nm,0.6s
OBKA Obir 16.82 315 *eP* **P** **13 29 11.1 +1.1**
comp=Z,14nm,1.1s
CONA Conrad Observa 16.96 321 *eP* **P** **13 29 11.8 +0.2**
comp=Z,2.4nm,0.7s
VRH Novokhopyorsk 17.09 22 *eP* **Pn** **13 29 10.5 -1.4**
VRH pmax pmax
comp=Z,30nm,1.0s
MYKA Terra Mystica 17.41 314 *eP* **P** **13 29 17.5 +1.0**
MORC Moravsky Berou 17.46 328 ⇓P **P** **13 29 19.6 +2.6**
MORC Moravsky Berou 17.46 328 P **P** **13 29 17.9 +0.9**
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 17.46 328 P **P** **13 29 17.9 +0.9**
MORC Moravsky Berou 17.46 328 *eP* **P** **13 29 18.3 +1.3**
KRUC Moravsky 17.46 325 *eP* **P** **13 29 18.3 +1.3**
VRAC Vranov 17.55 325 P **P** **13 29 18.0 +0.1**
comp=Z,0.4nm,0.3s,baz=116,slow=12,SNR=2.6
VRAC Vranov 17.55 325 P **P** **13 29 18.0 +0.1**
VRAC Vranov 17.55 325 *eP* **P** **13 29 18.7 +0.8**
CASP Castiglione de 17.62 300 **P** **13 29 18.6 -0.1**
CASP IAmb IAmb 13 29 21.6
comp=Z,32nm,1.1s
LPSR Galich'ya Gora 17.66 15 *eP* **Pn** **13 29 17.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
KBA Koelnbreinsper 17.83 315 *eP* **P** **13 29 22.4 +1.2**
comp=Z,15nm,0.6s
BIOA Bad Ischl, Aus 18.00 317 *eP* **Pn** **13 29 23.5 +0.2**
comp=Z,9.0nm,0.9s
VSL Villasalto 18.10 289 P **Pn** **13 29 24.8 +0.3**
VSL IAmb IAmb 13 29 28.3
comp=Z,72nm,1.3s
KEST Kesra 18.17 277 P **Pn** **13 29 26.2 +0.8**
comp=Z,1.5nm,0.3s,baz=0.0,slow=2.5,SNR=27
KEST Kesra 18.17 277 **Pn** **13 29 26.1 +0.6**
KEST IAmb IAmb 13 29 29.4
comp=Z,37nm,0.7s
CTI Castel Tesino 18.32 310 P **Pn** **13 29 27.0 -0.2**
CTI pmax pmax
comp=Z,16nm,0.6s
CTI Castel Tesino 18.32 310 P **Pn** **13 29 27.0 -0.2**
CTI IAmb IAmb 13 29 32.4
comp=Z,16nm,0.6s
CKRC Cesky Krumlov 18.33 321 *eP* **Pn** **13 29 29.4 +2.2**
DPC Dobruska-Polom 18.42 327 *eP* **Pn** **13 29 29.7 +1.5**
DPC Dobruska-Polom 18.42 327 *eP* **Pn** **13 29 29.7 +1.5**
OSTC Ostas 18.61 328 *eP* **Pn** **13 29 32.2 +1.6**
GERES GERESS Array B 18.66 320 P **Pn** **13 29 30.5 -0.7**
comp=Z,0.6nm,0.3s,baz=119,slow=11,SNR=21
GERES GERESS Array B 18.66 320 P **P** **13 29 30.2 0.0**
UPC Upice 18.67 327 *eP* **Pn** **13 29 33.0 +1.8**
UPC Upice 18.67 327 *eP* **Pn** **13 29 33.0 +1.8**
CHVC Chvalec 18.71 328 *eP* **Pn** **13 29 32.1 +0.4**
KHC Kasperske Hory 18.90 321*ceP* **Pn** **13 29 33.5 -0.5**
KHC pmax pmax
comp=Z,26nm,0.9s
KHC Kasperske Hory 18.90 321 *eP* **P** **13 29 32.4 -0.3**
KHC Kasperske Hory 18.90 321 P **P** **13 29 32.5 -0.3**
WTTA Wattenberg 18.91 314 *eP* **Pn** **13 29 34.2 -0.1**
comp=Z,22nm,1.1s,SNR=8.7
PRU Pruhonice 18.98 324 *eP* **Pn** **13 29 37.8 +2.9**
PRU Pruhonice 18.98 324 *eP* **Pn** **13 29 37.8 +2.9**
WATA Walderalm 18.99 314 *eP* **Pn** **13 29 34.8 -0.3**
comp=Z,20nm,0.6s
MNK Minsk 18.99 353 *i* P **P** **13 29 31.9 -1.7**
MNK *i* S **S** **13 33 03.6 -2.1**
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,25nm,1.0s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK MLR MLR
comp=E,11nm,16.0s
MNK MLR MLR
comp=Z,68nm,18.0s
MNK MLR MLR
comp=N,144nm,21.0s
MNK Minsk 18.99 353 *i* P **P** **13 29 31.9 -1.7**
MNK comp=E,3.0nm,1.0s *i* P **P** **13 29 31.9 -1.7**
comp=N,25nm,1.0s,baz=170
MNK *i* P **Pn** **13 29 32.0 -3.0**
comp=Z,29nm,0.8s
MNK *i* S **S** **13 33 03.6 -2.1**
MNK *i* SS **SnSn** **13 33 21.6 -0.5**
MNK *i* LR LR 13 36 50.4
MNK *i* LRM MLR 13 38 29.4
comp=E,11nm,16.0s
MNK *i* LRM MLR 13 38 32.6
comp=Z,68nm,17.9s
MNK *i* LRM MLR 13 39 21.8
comp=N,144nm,21.1s
SQTA Sankt Quirin 19.14 313 *eP* **P** **13 29 35.9 +0.4**
comp=N,29nm,0.8s
MOTA Moosalm 19.27 313 *eP* **Pn** **13 29 37.6 -0.9**
comp=N,32nm,0.6s,SNR=14
FETA Feichten 19.34 312 *i* P **Pn** **13 29 38.9 -0.4**
comp=N,28nm,1.6s,SNR=8.5
NACGM Naroch 19.51 351⇓ *eP* **P** **13 29 38.1 -1.2**
RETA Reutte 19.54 313 *eP* **P** **13 29 40.4 +0.5**
comp=N,15nm,0.6s,SNR=12
OBN Obninsk 19.70 8 P **P** **13 29 40.8 -0.5**
comp=N,1.0nm,0.3s,baz=210,slow=23,SNR=3.2
OBN LR LR 13 38 50.9
comp=N,13nm,21.4s,baz=171,slow=42
OBN Obninsk 19.70 8*deP* **Pn** **13 29 41.8 -1.6**
OBN pmax pmax
comp=Z,58nm,2.5s
BRG Berggiesshubel 19.86 325 *eP* **Pn** **13 29 44.1 -1.3**
BRG Amp 13 29 47.4
comp=Z,9.3nm,0.7s
BRG *ex* x 13 30 02.5
BRG Amp 13 30 05.0
comp=Z,11nm,0.9s
BRG Berggiesshubel 19.86 325 *eP* **Pn** **13 29 44.0 -1.3**
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG pmax pmax
comp=Z,11nm,0.9s
IDID Didziasalis 19.92 352 *eP* **P** **13 29 43.7 0.0**
TUE Stuetta 19.94 310 P **P** **13 29 44.7 +0.3**
DAVA Damuels 19.97 312 *eP* **P** **13 29 44.9 +0.2**
comp=Z,19nm,0.5s,SNR=14
IIGN Ignalina 20.02 351 *eP* **P** **13 29 44.9 0.0**
BELG Belogornoye 20.15 29 P **P** **13 29 45.2 -1.1**
comp=Z,26nm,0.5s,baz=159,slow=0.8,SNR=22
BELG LR LR 13 38 38.0
comp=Z,36nm,18.2s,baz=323,slow=40
BELG Belogornoye 20.15 29*d iP* **P** **13 29 45.7 -0.6**
BELG pmax pmax
comp=Z,14nm,1.3s
ISAL Salakas 20.24 351 *eP* **P** **13 29 46.9 -0.4**
GKP Gorka Klasztor 20.31 334 *eP* **Pn** 13 29 49.0 -1.6
MOS Moscow 20.45 10 *eP* **P** **13 29 47.7 -1.8**
MOS *e* 13 30 09.2
MOS *e* 13 30 29.5
PABE Paberze 20.51 347 P **P** **13 29 48.8 -1.3**
CLL Collm 20.59 325 *eP* Pn 13 29 53.0 -0.9
CLL *e**SP sP 13 30 14.0 +1.7
CLL pmax pmax
comp=Z,32nm,1.8s
CLL Collm 20.59 325 *eP* Pn 13 29 53.0 -0.9
comp=Z,32nm,1.8s
CLL *es*P sP 13 30 14.0 +1.7
CLL *eS* **S** **13 33 36.0 -1.5**
CLL *eP*cS **PcS** **13 37 37.0 +0.1**
SENIN Lac Senin/Sane 21.20 308 P **P** **13 29 56.8 -1.2**
SENIN IAmb IAmb 13 30 21.5
comp=Z,18nm,0.8s
GEYT Alibeck 21.23 76 P **P** **13 29 59.0 +0.9**
comp=Z,8.4nm,0.8s,baz=265,slow=12,SNR=12
GEYT LR LR 13 40 07.8
comp=Z,55nm,18.1s,baz=292,slow=42
GEYT Alibeck 21.23 76 P **P** **13 29 58.4 +0.3**
GEYT IAmb IAmb 13 30 06.6
comp=Z,14nm,0.8s
GYA0 ALIBECK ARRAY 21.23 76 P **P** **13 30 01.6 +3.5**
GYA0B ALIBECK ARRAY 21.23 76 P **P** **13 29 58.4 +0.3**
GYA0B IAmb IAmb 13 30 06.5
comp=Z,18nm,0.8s
BFO Black Forest 21.38 313 P **P** **13 29 58.8 -0.8**
BFO pmax pmax
comp=Z,56nm,1.5s
BFO Black Forest 21.38 313 P **P** **13 29 58.8 -0.8**
BFO IAmb IAmb 13 30 03.0
comp=Z,56nm,1.5s
ECH Echery 22.03 312 P **P** **13 30 05.4 -1.2**
ECH pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 22.03 312 P **P** **13 30 05.4 -1.2**
VSU Vasula 23.01 353⇑ *eP* **P** **13 30 16.1 -0.7**
VSU pmax pmax
comp=Z,43nm,0.6s
VSU Vasula 23.01 353 *eP* **P** **13 30 18.9 +2.1**
MTSE Matsula 23.61 350 *eP* **P** **13 30 21.2 -1.2**
AKTO Aktyubinsk 24.04 44 P **P** **13 30 26.1 -0.2**
comp=Z,5.3nm,0.7s,baz=238,slow=10,SNR=16
DEL Delary 24.05 335 *eP* **P** **13 30 27.1 +0.7**
AB31 Akbulak array 24.66 48 *i* P **P** **13 30 32.1 +0.1**
ABKAR Akbulak array 24.66 48 P **P** **13 30 31.0 -1.0**
ABKAR Akbulak array 24.66 48 P **P** **13 30 31.1 -1.0**
VIKU Vikbolandet 24.89 341 *eP* **P** **13 30 35.1 +1.1**
MEF Metsahovi 24.99 351 *eP* **P** **13 30 33.7 -1.1**
KLMR Klimovskoe 25.66 9 *eP* **P** **13 30 38.8 -2.2**
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 25.66 9 *eP* **P** **13 30 38.8 -2.2**
KLMR AMP 13 30 43.9
comp=Z,14nm,0.8s
VALR Valaam 25.69 359⇑ *eP* **P** **13 30 40.4 -0.8**
VALR pmax pmax
comp=Z,34nm,1.1s
KIRV Kirov 25.70 22 P **P** **13 30 39.3 -2.1**
comp=Z,18nm,0.4s,baz=250,slow=4.4,SNR=5.0
KIRV S **S** **13 35 00.4 -4.8**
comp=Z,10nm,0.7s,baz=3.4,slow=22,SNR=8.1
KIRV LR LR 13 42 03.9
comp=Z,52nm,19.2s,baz=220,slow=39
KIRV Kirov 25.70 22⇑ *iP* **P** **13 30 40.8 -0.6**
FINES FINESS Array B 26.02 354 P **P** **13 30 42.9 -1.3**
comp=Z,14nm,0.4s,baz=158,slow=11,SNR=140
FINES S **S** **13 35 03.9 -6.1**
comp=Z,1.6nm,0.8s,baz=75,slow=22,SNR=3.2
FINES LR LR 13 42 44.6
comp=Z,62nm,20.2s,baz=159,slow=40
FINES FINESS Array B 26.02 354 P **P** **13 30 42.5 -1.7**
FIA1 FINESS Array S 26.02 354 P **P** **13 30 42.5 -1.7**
RAF Rauma 26.13 349 *eP* **P** **13 30 46.6 +1.4**
WSAR Wadi Sarin 26.42 111 LR LR 13 42 52.6
comp=Z,68nm,20.2s,baz=322,slow=40
HFS Hagfors 27.09 340 P **P** **13 30 52.9 -1.0**
comp=Z,1.8nm,0.6s,baz=35,slow=31,SNR=6.6
HFS LR LR 13 43 30.2
comp=Z,56nm,19.0s,baz=147,slow=40
PRGR Permogore 27.41 14 *eP* **P** **13 30 54.0 -2.7**
PRGR *eS* **S** **13 35 27.2 -4.8**
PRGR pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 27.56 33 P **P** **13 30 57.5 -0.6**
comp=Z,2.8nm,0.3s,baz=248,slow=6.8,SNR=17
ARU Arti 27.56 33*d iP* **P** **13 30 58.0 -0.1**
ARU *PP **pwP** **13 31 13.6 -2.5**
ARU 13 31 45.6
ARU S **S** **13 35 34.9 +0.4**
ARU SS **SnSn** **13 36 49.9 -1.3**
ARU pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 27.56 33 P **P** **13 30 57.3 -0.8**
ARU IAmb IAmb 13 30 59.2
comp=Z,17nm,1.1s
KONO Kongsberg 27.95 336⇓ *eP* **P** **13 31 02.4 +0.9**
KONO pmax pmax
comp=Z,13nm,1.3s
KONO Kongsberg 27.95 336 P **P** **13 31 01.5 -0.1**
KONO IAmb IAmb 13 31 25.9
comp=Z,10nm,1.1s
ESBB Sonseca Array 28.40 289 P **P** **13 31 06.7 +0.8**
ESBB IAmb IAmb 13 31 07.5
comp=Z,8.5nm,0.7s
ESDC Sonseca Array 28.40 289 P **P** **13 31 06.2 +0.3**
comp=Z,8.7nm,0.8s,baz=80,slow=9.3,SNR=48
ESDC ScP **ScP** **13 37 52.5 +0.3**
comp=Z,0.7nm,1.0s,baz=79,slow=2.7,SNR=5.4
ESDC LR LR 13 42 46.7
comp=Z,46nm,19.1s,baz=122,slow=37
ESDC Sonseca Array 28.40 289 P **P** **13 31 06.3 +0.4**
NC405 NORSAR Array S 28.45 340 P **P** **13 31 05.5 -0.5**
NAO01 NORSAR Array S 28.48 339 P **P** **13 31 04.8 -1.4**
NB201 NORSAR Array S 28.52 339 P **P** **13 31 05.4 -1.3**
NOA NORSAR Array B 28.54 339 P **P** **13 31 05.8 -1.0**
comp=Z,1.6nm,0.6s,baz=142,slow=8.8,SNR=9.7
NOA LR LR 13 44 59.8
comp=Z,55nm,18.9s,baz=140,slow=42
NC303 NORSAR Array S 28.64 339 P **P** **13 31 06.6 -1.1**
NC303 IAmb IAmb 13 31 29.3
comp=Z,7.3nm,0.8s
NBO00 NORSAR Array S 28.66 339 P **P** **13 31 06.1 -1.8**
PAB San Pablo 28.71 289 P **P** **13 31 08.0 -0.6**
PAB pmax pmax
comp=Z,6.0nm,0.8s
PAB San Pablo 28.71 289 P **P** **13 31 08.0 -0.6**
SVE Sverdlovsk 28.72 34 *eP* **P** **13 31 09.2 +0.8**
SVE pmax pmax
comp=Z,10.0nm,0.9s
NC204 NORSAR Array S 28.86 339 P **P** **13 31 08.9 -0.8**
NC204 IAmb IAmb 13 31 29.2
comp=Z,26nm,1.4s
SKAR Skarslia 29.16 336 *eP* **P** **13 31 12.2 -0.1**
ODD1 Odda 29.17 334 *eP* **P** **13 31 13.2 +0.8**
DOMB Dombas 29.96 339 *eP* **P** **13 31 19.9 +0.4**
PBRG Braganca 30.43 293 *eP* **P** **13 31 24.2 +0.4**
comp=Z,11nm,1.3s
KKAR Karatay Array 30.66 64 P **P** **13 31 26.6 +0.8**
KKAR Karatay Array 30.66 64 P **P** **13 31 26.6 +0.8**
MVO Moncorvo 30.66 292 *eP* **P** **13 31 26.5 +0.6**
comp=Z,14nm,0.9s
PBAR Barrancos 30.93 286 *eP* **P** **13 31 28.9 +0.7**
comp=Z,25nm,1.1s
PMRV Marv??o 31.06 289 *eP* **P** **13 31 29.8 +0.4**
comp=Z,16nm,1.5s
PCBR Castelo Branco 31.09 290 *eP* **P** **13 31 29.7 +0.1**
comp=Z,17nm,1.1s
MTE Manteigas 31.10 291 P **P** **13 31 30.2 +0.5**
MTE IAmb IAmb 13 31 31.1
comp=Z,9.9nm,0.9s
POLO Lamas de Olo 31.23 293 *eP* **P** **13 31 31.6 +0.7**
comp=Z,13nm,1.0s
PESTR Estremoz 31.28 288 *eP* **P** **13 31 31.2 -0.1**
comp=Z,15nm,0.7s
PESTR Estremoz 31.28 288 P **P** **13 31 31.3 0.0**
PESTR IAmb IAmb 13 31 32.3
comp=Z,7.2nm,0.8s
PVIS Viseu 31.34 291 *eP* **P** **13 31 33.2 +1.3**
comp=Z,23nm,1.2s
PGAV Gavieira, Arco 31.56 294 *eP* **P** **13 31 34.9 +1.0**
comp=Z,16nm,1.4s
PVAQ Vaqueiros 31.58 285 *eP* **P** **13 31 34.5 +0.6**
comp=Z,28nm,1.5s
PVAQ Vaqueiros 31.58 285 P **P** **13 31 34.1 +0.2**
PMTG Montargil 31.75 288 *eP* **P** **13 31 36.0 +0.6**
comp=Z,18nm,1.5s
PBDV Barranco-do-Ve 31.77 285 *eP* **P** **13 31 35.8 +0.2**
comp=Z,25nm,1.0s
PCAS Casmilo, Conde 31.86 290 *eP* **P** **13 31 37.4 +1.1**
comp=Z,21nm,1.8s
BRVK Borovoye 32.08 45⇑ *eP* **P** **13 31 38.7 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
MOR8 Moi Rana 32.16 347 *eP* **P** **13 31 39.6 +1.0**
FAUS Fauske 33.10 348 *eP* **P** **13 31 47.0 +0.2**
AAK Ala-Archa 33.59 65 LR LR 13 47 35.2
comp=Z,40nm,19.6s,baz=274,slow=40
AAK Ala-Archa 33.59 65⇓ *eP* **P** **13 31 53.1 +1.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 33.59 65 P **P** **13 31 52.4 +0.7**
AAK IAmb IAmb 13 32 10.1
comp=Z,5.0nm,0.7s
KTK1 Kautokeino 33.70 354 *eP* **P** **13 31 50.7 -1.4**
ARA0 ARCESS Array S 34.06 356 *eP* **P** **13 31 55.0 -0.2**
ARCES ARCESS Array B 34.06 356 P **P** **13 31 54.5 -0.7**
comp=Z,4.4nm,0.5s,baz=166,slow=8.7,SNR=54
ARCES LR LR 13 46 45.3
comp=Z,51nm,20.0s,baz=337,slow=38
ARCES ARCESS Array B 34.06 356 P **P** **13 31 54.5 -0.7**
JETT Jettan, Norway 34.48 353 *eP* **P** **13 31 57.9 -1.0**
TRO Tromso 34.71 352 *eP* **P** **13 32 01.8 +1.0**
TOA0 Torodi Ar. Sit 35.14 238 P **P** **13 32 06.5 +1.4**
TORD Torodi Ar. Bea 35.14 238 P **P** **13 32 06.1 +1.0**
comp=Z,8.2nm,0.8s,baz=41,slow=8.6,SNR=43
TORD PP **PnPn** **13 33 25.0 +0.4**
comp=Z,1.8nm,0.8s,baz=35,slow=11,SNR=3.6
TORD ScP **ScP** **13 38 15.3 +0.2**
comp=Z,0.1nm,0.4s,baz=42,slow=5.5,SNR=3.5
TORD Torodi Ar. Bea 35.14 238 P **P** **13 32 06.6 +1.5**
TORD IAmb IAmb 13 32 07.8
comp=Z,8.4nm,0.9s
MBAR Mbarara 36.12 182 LR LR 13 50 39.1
comp=Z,50nm,18.0s,baz=271,slow=42
KURBB Kurchatov Arra 36.61 51 LR LR 13 49 58.2
comp=Z,59nm,20.6s,baz=234,slow=41
KURK Kurchatov 36.68 51⇓ *eP* **P** **13 32 19.1 +1.2**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 36.68 51 P **P** **13 32 17.8 -0.1**
KURK IAmb IAmb 13 32 40.6
comp=Z,3.5nm,0.7s
KOWA Kowa 38.34 246 P **P** **13 32 33.8 +1.5**
MAKZ Makanchi 38.77 58 P **P** **13 32 36.2 +0.6**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 38.77 58 P **P** **13 32 36.2 +0.6**
MAKZ IAmb IAmb 13 32 54.6
comp=Z,5.5nm,0.9s
MK31 Makanchi Array 38.98 58*c iP* **P** **13 32 38.0 +0.6**
MK31 Makanchi Array 38.98 58 P **P** **13 32 37.7 +0.3**
MK31 IAmb IAmb 13 32 55.9
comp=Z,6.9nm,0.9s
MKAR Makanchi Array 38.98 58 P **P** **13 32 38.0 +0.6**
comp=Z,5.7nm,0.7s,baz=275,slow=6.9,SNR=55
MKAR ScP **ScP** **13 38 27.7 -1.4**
comp=Z,0.9nm,0.9s,baz=282,slow=2.8,SNR=4.5
MKAR LR LR 13 51 06.8
comp=Z,60nm,21.1s,baz=266,slow=40
MKAR Makanchi Array 38.98 58 P **P** **13 32 37.8 +0.3**
ZAA0 Zalesovo Array 40.76 46 P **P** **13 32 51.8 -0.2**
ZAA0 IAmb IAmb 13 32 55.4
comp=Z,2.9nm,0.5s
ZALV Zalesovo Beam 40.76 46 P **P** **13 32 50.3 -1.7**
comp=Z,3.3nm,0.5s,baz=264,slow=9.0,SNR=12
ZALV LR LR 13 54 02.8
comp=Z,22nm,18.2s,baz=294,slow=42
ZALV Zalesovo Beam 40.76 46 *i* P **P** **13 32 53.9 +1.9**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 40.76 46 P **P** **13 32 51.7 -0.3**
WMQ Urumqi 43.07 61 *eP* **P** **13 33 13.1 +2.0**
PYUN Piuthan 43.77 85 *eP* **P** **13 33 21.1 +4.0**
comp=Z,9.9nm,0.6s
DBIC Dimbokro 44.25 238 P **P** **13 33 21.6 +0.8**
comp=Z,8.3nm,0.6s,baz=61,slow=9.7,SNR=3.9
DBIC LR LR 13 55 57.7
comp=Z,37nm,18.4s,baz=136,slow=42
DBIC Dimbokro 44.25 238 P **P** **13 33 21.2 +0.5**
DBIC IAmb IAmb 13 33 22.8
comp=Z,12nm,0.9s
DANN Dangsing 44.30 84 *eP* **P** **13 33 22.8 +1.4**
comp=Z,7.2nm,0.4s
TIC Toumodi 44.38 238 *eP*KP1 **P** **13 33 22.2 +0.4**
KIC Kosan Boka 44.39 238 *eP*KP1 **P** **13 33 22.4 +0.5**
comp=Z,22nm,0.8s
LIC Lamto 44.69 238 *eP*KP1 **P** **13 33 23.1 -1.1**
comp=Z,40nm,0.9s
SCO Scoresbysund 44.83 337 P **P** **13 33 25.4 +0.7**
SCO pmax pmax
comp=Z,7.0nm,1.2s
SCO Scoresbysund 44.83 337 P **P** **13 33 25.4 +0.7**
SCO IAmb IAmb 13 33 29.5
comp=Z,6.9nm,1.2s
GKN Gorkha 45.14 84 *eP* **P** **13 33 28.9 +0.9**
NRIK Noril'sk 45.14 24 P **P** **13 33 27.4 +0.3**
comp=Z,3.7nm,0.3s,baz=212,slow=3.3,SNR=5.2
NRIK Noril'sk 45.14 24*deP* **P** **13 33 27.9 +0.7**
NRIK pmax pmax
comp=Z,14nm,2.3s
NRIK Noril'sk 45.14 24 P **P** **13 33 27.9 +0.7**
NRIK IAmb IAmb 13 33 29.2
comp=Z,4.7nm,0.4s
DMN Daman 45.68 85 *eP* **P** **13 33 34.3 +2.0**
PKIN Phulchoki 45.93 84 *eP* **P** **13 33 36.0 +1.7**
comp=Z,1.6nm,0.3s
GUN Gumba 46.19 84 *eP* **P** **13 33 36.0 -0.4**
JIRN Jiri 46.54 84 *eP* **P** **13 33 40.0 +0.8**
comp=Z,3.9nm,0.4s
ZAK Zakamensk 52.33 50 *eP* P 13 34 28.5 +5.8
ZAK pmax pmax
comp=Z,5.0nm,1.2s
PALK Pallekele 52.91 110 LR LR 14 01 32.4
comp=Z,55nm,18.1s,baz=18,slow=41
GTA Gaotai 52.94 64 *eP* **P** **13 34 29.3 +1.9**
GTA pP pP 13 34 41.8 -1.8
GTA sP pwP 13 34 45.6 -1.3
GTA pmax pmax
comp=Z,1.0nm,0.8s
SFJD Kangerlussuaq 54.77 332 P **P** **13 34 39.9 -0.2**
SFJD pmax pmax
comp=Z,17nm,1.4s
SFJD Kangerlussuaq 54.77 332 P **P** **13 34 39.9 -0.2**
SONM Songino Array 54.95 53 P **P** **13 34 42.4 +0.4**
comp=Z,0.8nm,0.5s,baz=279,slow=7.7,SNR=9.4
SONM LR LR 14 01 06.7
comp=Z,84nm,20.6s,baz=312,slow=39
SONM Songino Array 54.95 53 P **P** **13 34 42.8 +0.9**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 54.95 53 P **P** **13 34 42.8 +0.9**
TSUM Tsumeb 56.22 196 LR LR 14 04 13.0
comp=Z,42nm,18.2s,baz=150,slow=42
TULEG Thule 58.01 344 P **P** **13 35 02.6 -0.4**
TIXI Tiksi 58.74 22 LR LR 14 03 01.1
comp=Z,49nm,19.4s,baz=188,slow=39
TIXI Tiksi 58.74 22⇓ *eP* **P** **13 35 08.8 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 58.74 22 P **P** **13 35 07.8 -0.3**
TIXI IAmb IAmb 13 35 11.1
comp=Z,3.0nm,0.5s
PZH PanZhiHua 59.53 78 P **P** **13 35 15.6 +1.1**
PZH pmax pmax

comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.5s
EUNU Eureka 59.65 350 P P 13 35 14.2 -0.3
HHC Hu-ho-hao-te 60.83 59 *eP* P 13 35 23.4 +0.2
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,91nm,6.0s
KMI Kunming 60.97 79 ⇓P P 13 35 27.3 +2.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 61.19 87 P P 13 35 24.7 -1.0
comp=Z,1.2nm,0.3s,baz=295,slow=8.1,SNR=8.8
CMAR LR LR 14 07 05.9
comp=Z,20nm,18.0s,baz=305,slow=41
CMAR Chiang Mai Arr 61.19 87 *i* P P 13 35 26.2 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
XAN Xi'an 61.74 67 P P 13 35 32.3 +2.9
XAN pP pP 13 35 39.9 -6.0
XAN pmax pmax
comp=Z,4.0nm,1.1s
YAK Yakutsk 62.66 32 LR LR 14 07 48.4
comp=Z,22nm,18.5s,baz=268,slow=41
FRB Frobisher Bay 62.89 331 LR LR 14 03 20.4
comp=Z,31nm,18.7s,baz=205,slow=36
BOSA Boshof 64.26 186 P P 13 35 46.6 +0.6
comp=Z,3.0nm,0.8s,baz=35,slow=11,SNR=3.3
BOSA Boshof 64.26 186 P P 13 35 47.1 +1.2
BOSA pmax pmax
comp=Z,17nm,1.4s
BOSA Boshof 64.26 186 P P 13 35 47.1 +1.2
RES Resolute Bay 64.47 346 P P 13 35 47.7 +1.0
RES pmax pmax
comp=Z,2.0nm,1.2s
RES Resolute Bay 64.47 346 P P 13 35 47.7 +1.0
SCHQ Schefferville 66.19 321 P P 13 35 57.3 -0.8
comp=Z,6.9nm,0.6s,baz=64,slow=4.6,SNR=13
SCHQ Schefferville 66.19 321 P P 13 35 57.5 -0.6
CN2 Changchun 68.75 51 *eP* P 13 36 15.3 +0.8
CN2 pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 69.77 43 P P 13 36 20.0 -0.7
comp=Z,0.8nm,0.7s,baz=59,slow=3.3,SNR=2.7
KLR LR LR 14 09 37.7
comp=Z,30nm,19.2s,baz=245,slow=38
KLR Kul'dur 69.77 43 ⇓*eP* P 13 36 22.4 +1.7
KLR pmax pmax
comp=Z,7.0nm,1.8s
PSI Prapat 69.92 101 P P 13 36 23.6 +1.3
comp=Z,1.5nm,0.4s,baz=220,slow=13,SNR=1.5
NJ2 Nanjing 70.04 64 *eP* P 13 36 21.5 -1.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
SEY Seymchan 70.93 25 ⇓*eP* P 13 36 28.5 +1.0
BILL Bilibino 71.12 16 *eP* P 13 36 28.9 +0.3
BILL *e* 13 36 52.6
BILL *e* 13 39 04.7
BILL pmax pmax
comp=Z,1.0nm,0.9s
A36M Sachs Harbour 71.39 353 P P 13 36 30.4 +0.3
A36M IAmb IAmb 13 36 36.1
comp=Z,6.3nm,0.8s
USRK Ussuriysk Ar. 72.58 48 P P 13 36 36.9 -0.9
comp=Z,0.7nm,0.3s,baz=292,slow=5.5,SNR=4.9
MA2 Magadan 72.61 28 LR LR 14 13 07.9
comp=Z,23nm,18.3s,baz=304,slow=40
KSRS Korea Array 73.63 56 P P 13 36 43.6 -0.4
comp=Z,1.8nm,0.8s,baz=301,slow=5.0,SNR=7.0
KSRS LR LR 14 13 00.4
comp=Z,30nm,19.6s,baz=330,slow=39
INK Inuvik 75.72 354 P P 13 36 55.7 +0.1
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 75.72 354 P P 13 36 55.7 +0.1
TOLK Toolik Lake Re 75.97 0 P P 13 36 58.4 +1.3
BMAR Burnt Mountain 77.15 359 P P 13 37 05.0 +1.2
COLD Coldfoot 77.38 1 P P 13 37 05.0 0.0
YKA Yellowknife Ar 78.46 345 P P 13 37 10.9 -0.1
comp=Z,0.6nm,0.6s,baz=32,slow=5.2,SNR=9.5
IMAR Indian Mountai 78.56 2 P P 13 37 11.9 +0.4
ASAJ Asahikawa 78.81 43 P P 13 37 13.1 -0.3
comp=Z,7.0nm,1.0s,baz=20,slow=20,SNR=2.1
ASAJ LR LR 14 14 21.0
comp=Z,45nm,18.7s,baz=356,slow=37
H21K Melozitna Rive 78.91 2 P P 13 37 13.9 +0.4
H21K IAmb IAmb 13 37 20.7
comp=Z,6.8nm,1.4s
L56A Greenwood 79.14 314 P P 13 37 14.9 -0.4
ANM Nome 79.16 7 P P 13 37 14.9 0.0
ANM pmax pmax
comp=Z,5.0nm,1.0s
ANM Nome 79.16 7 P P 13 37 14.9 0.0
ANM IAmb IAmb 13 37 34.3
comp=Z,4.9nm,1.0s
MDM Murphy Dome 79.67 360 P P 13 37 18.3 +0.6
MDM IAmb IAmb 13 37 37.0
comp=Z,5.9nm,1.2s
EGAK Eagle 79.70 357 P P 13 37 18.7 +0.9
ILAR Eielson Array 79.86 359 P P 13 37 18.2 -0.4
comp=Z,0.4nm,0.6s,baz=336,slow=5.6,SNR=7.5
PETK Petropavlovsk- 79.91 30 LR LR 14 20 15.8
comp=Z,18nm,18.7s,baz=295,slow=41
WRH Wood River Hil 80.16 360 P P 13 37 20.6 +0.3
DAWY Dawson 80.32 356 P P 13 37 21.1 -0.1
J20K Nowinta River 80.35 3 P P 13 37 22.0 +0.7
J20K IAmb IAmb 13 37 40.7
comp=Z,14nm,1.4s
RIDG Independent Ri 80.86 358 P P 13 37 25.1 +0.9
MJAR Matsushiro Arr 80.89 51 LR LR 14 15 21.3
comp=Z,48nm,18.0s,baz=237,slow=37
DOT Dot Lake 80.93 358 P P 13 37 25.7 +1.3
KTH Kantishna Hill 81.06 1 P P 13 37 25.9 +0.7
KTH IAmb IAmb 13 37 45.0
comp=Z,14nm,1.4s
CAST Castle Rocks 81.17 2 P P 13 37 27.2 +1.4
CAST IAmb IAmb 13 37 28.6
comp=Z,4.3nm,0.8s
K20K Telida 81.17 3 P P 13 37 26.2 +0.4
TRF Thorofare Moun 81.17 1 P P 13 37 26.1 +0.1
TRF IAmb IAmb 13 37 46.9
comp=Z,6.1nm,1.0s
BCAR Beaver Creek A 81.44 357 P P 13 37 28.5 +1.3
TTA Tatalina 81.51 4 P P 13 37 29.2 +1.6
TTA pmax pmax
comp=Z,4.0nm,1.2s
TTA Tatalina 81.51 4 P P 13 37 29.2 +1.6
DHY Denali Highway 81.56 360 P P 13 37 28.9 +0.9
DHY IAmb IAmb 13 37 32.9
comp=Z,3.4nm,0.8s
MENT Mentasta 81.63 358 P P 13 37 29.2 +0.9
MENT IAmb IAmb 13 37 57.4
comp=Z,4.6nm,1.1s
PPLA Purkeypile 81.69 2 P P 13 37 29.3 +0.7
PPLA IAmb IAmb 13 37 50.5
comp=Z,7.8nm,1.0s
M27K Edge Creek, AK 82.15 357 P P 13 37 32.2 +1.1
M27K IAmb IAmb 13 37 59.7
comp=Z,6.0nm,1.3s
N31M Braeburn, Yuko 82.63 354 P P 13 37 33.7 +0.2
N31M IAmb IAmb 13 37 57.0
comp=Z,9.1nm,1.5s
SML Sawmill 82.84 0 P P 13 37 35.7 +1.1
SML IAmb IAmb 13 38 04.2
comp=Z,6.9nm,1.0s
RC01 Rabbit Creek A 83.55 1 P P 13 37 38.3 +0.1
V52A Sevierville 86.80 313 P P 13 37 55.6 +0.7
TKL Tuckaleechee C 87.03 313 P P 13 37 57.0 +1.0
TKL pmax pmax
comp=Z,7.0nm,0.8s
TKL Tuckaleechee C 87.03 313 P P 13 37 57.0 +1.0
PDAR Pinedale Array 94.28 332 P P 13 38 28.6 -1.4
comp=Z,0.1nm,0.4s,baz=46,slow=7.8,SNR=1.9

*IDC **22** 13:31:16.1±6.2,20.°30S×177.°47W,h534km±51km, mb2.8/2, mb1 3.1/3,mb1mx2.5/24, mbtmp3.9/3,Error ellipse: s-maj=217.2km s-min=31.2km az=154.0*
*NEIC **22** 13:31:16.1±1.7,20.°35S±0.2×177.°5W±0.2,h523km±12km, mb4.0/14,Error ellipse: s-maj=25.9km s-min=20.0km az=147.0*
ISC 22 13:31:16.8±0.7,20.°1S±0.1×177.°5W±0.1,h550km,n22, σ1§45/23,mb3.8/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.20**	**43**	P	**P**	**13 33 17.2**	**+0.5**
	1.1nm,0.3s,baz=303,slow=17,SNR=1.8						
AFI				S	**S**	**13 34 51.4**	**-3.5**
	2.0nm,0.3s,baz=143,slow=22,SNR=1.4						
RAR	**Rarotonga**	**16.62**	**97**	P	**P**	**13 34 41.1**	**-1.1**
LBZ	**Lake Benmore**	**26.35**	**200**	P	**P**	**13 36 06.8**	**-2.4**
LBZ				IAmb	IAmb	13 36 35.6	
	comp=Z,14nm,1.1s						
ARMA	**Armidale**	**29.69**	**244**	P	**P**	**13 36 36.6**	**-2.2**
TOO	**Toolangi**	**36.55**	**233**	P	**P**	**13 37 36.2**	**-0.2**
TOO				IAmb	IAmb	13 37 42.5	
	comp=Z,12nm,1.3s						
BBOO	**Buckleboo**	**43.17**	**243**	P	**P**	**13 38 28.7**	**-0.9**
BBOO				IAmb	IAmb	13 38 33.4	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**44.95**	**262**	P	**P**	**13 38 44.0**	**+0.5**
WR0				IAmb	IAmb	13 39 09.0	
	comp=Z,3.9nm,1.3s						
AS31	**Alice Springs**	**45.09**	**256**	P	**P**	**13 38 45.2**	**+0.8**
ASAR	**Alice Springs**	**45.09**	**256**	P	**P**	**13 38 44.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=87,slow=8.2,SNR=23						
ASAR				PcP	**PcP**	**13 40 13.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=98,slow=5.1,SNR=2.1						
ASAR	**Alice Springs**	**45.09**	**256**	P	**P**	**13 38 44.4**	**-0.1**
WB0	**Warramunga Arr**	**45.12**	**262**	P	**P**	**13 38 44.0**	**-0.7**
WB0				IAmb	IAmb	13 38 53.3	
	comp=Z,5.5nm,1.5s						
WB2	**Warramunga Arr**	**45.13**	**261**	P	**P**	**13 38 44.8**	**0.0**
WB2				IAmb	IAmb	13 38 45.6	
	comp=Z,1.6nm,0.9s						
WRAB	**Tennant Creek**	**45.13**	**262**	P	**P**	**13 38 44.6**	**-0.3**
WRAB				IAmb	IAmb	13 38 46.9	
	comp=Z,1.5nm,1.1s						
WRA	**Warramunga Arr**	**45.14**	**261**	P	**P**	**13 38 44.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=100,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**45.14**	**261**	IAmb	IAmb	13 38 45.3	
	comp=Z,0.1nm,1.2s						
FORT	**Forrest**	**49.91**	**246**	P	**P**	**13 39 19.7**	**-0.7**
CASY	**Casey**	**64.57**	**205**	P	**P**	**13 41 00.3**	**+0.5**
QSPA	**South Pole Qui**	**70.01**	**180**	P	**P**	**13 41 35.1**	**+1.8**
MAW	**Mawson**	**82.14**	**200**	P	**P**	**13 42 40.5**	**+0.6**
RIDG	**Independent Ri**	**87.31**	**14**	P	**P**	**13 43 06.9**	**+1.9**
RIDG				IAmb	IAmb	13 43 29.3	
	comp=Z,9.3nm,1.4s						
BCAR	**Beaver Creek A**	**87.47**	**15**	P	**P**	**13 43 08.3**	**+2.6**
AKASG	**Malin Array Be**	**142.85**	**332**	PKP	**PKPdf**	**13 49 48.9**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=45,slow=4.0,SNR=7.0						

IDC 22 13:39:25.1±2.7,4.°10S×129.°74E,h0km,mb3.4/1, mb1 3.2/3,mb1mx3.1/39,mbtmp3.0/3,ML2.7/2,MS3.2/1, Ms1 3.1/1,ms1mx2.3/38,Error ellipse: s-maj=198.3km s-min=30.0km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.37**	**164**	Pn	Pn	13 43 16.5	0.0
	0.0nm,0.3s,baz=348,slow=13,SNR=1.2						
ASAR	**Alice Springs**	**19.86**	**169**	P	P	13 43 58.0	0.0
	0.1nm,0.3s,baz=346,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**29.79**	**159**	LR	LR	13 59 25.8	
	comp=Z,38nm,18.6s,baz=144,slow=40						
MKAR	**Makanchi Array**	**65.68**	**326**	P	P	13 50 11.4	0.0
	0.1nm,0.3s,baz=122,slow=6.9,SNR=5.2						

*JMA **22** 14:00:39.3±0.3,23.°45N×120.°82E,h0km,M3.3*
*TAP **22** 14:00:39.3,23.°55N×120.°73E,h9km,ML3.5,B*
*IASPEI **22** 14:00:40.1±0.8,23.°54N±0.°01×120.°74E±0.°01,h13km±5km, Error ellipse: s-maj=2.0km s-min=1.6km az=107.9,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISC 22 14:00:40.2±0.8,23.°53N±0.°01×120.°74E±0.°01,h15km±5km, n127,σ1§03/223,16C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALS	**Alishan**	**0.06**	**106**	⇓*i*P	**Pg**	**14 00 42.3**	**-1.1**
	baz=119						
ALS				*i* S	**Sg**	**14 00 44.6**	**-0.9**
	baz=119						
YUS	**Yu-Shan**	**0.20**	**101**	⇓*i*P	**Pg**	**14 00 44.9**	**-0.3**
	baz=108						
YUS				*i* S	**Sg**	**14 00 48.8**	**+0.3**
	baz=108						
WGK	**Gukeng**	**0.23**	**314**	⇓*i*P	**Pg**	**14 00 44.6**	**-0.7**
	baz=312						
WGK				*i* S	**Sg**	**14 00 48.9**	**+0.3**
	baz=312						
CHN2	**Minshiung**	**0.24**	**271**	⇓*i*P	**Pg**	**14 00 45.4**	**-0.1**
	baz=265						
CHN2				*i* S	**Sb**	**14 00 50.2**	**-0.3**
	baz=265						
WDLH	**Douliu**	**0.24**	**311**	⇓*i*P	**Pg**	**14 00 45.1**	**-0.4**
	baz=307						
WDLH				S	**Sg**	**14 00 49.6**	**+0.5**
	baz=307						
TPUB	**Ta-pu**	**0.25**	**204**	⇓*i*P	**Pg**	**14 00 45.5**	**-0.1**
	baz=194						
TPUB				S	**Sg**	**14 00 49.9**	**+0.7**
	baz=194						
CHY	**Chiayi**	**0.29**	**264**	P	**Pg**	**14 00 46.3**	**0.0**
	baz=258						
CHY				*e*S	**Sb**	**14 00 51.7**	**-0.2**
	baz=258						
WJS	**Zhushan**	**0.29**	**358**	⇓*i*P	**Pg**	**14 00 46.1**	**-0.3**
WJS				*i* S	**Sg**	**14 00 51.2**	**+0.7**
SSLB	**Suanglung**	**0.33**	**37**	P	**Pg**	**14 00 46.2**	**-0.7**
	baz=51						
SSLB				S	**Sg**	**14 00 50.9**	**-0.7**
	baz=51						
TWK	**Hsinying**	**0.35**	**222**	⇑*i*P	**Pb**	**14 00 47.5**	**-0.7**
	baz=216						
TWK				*i* S	**Sb**	**14 00 53.9**	**+0.3**
	baz=216						
WNT	**Mingjian**	**0.35**	**352**	⇓*i*P	**Pg**	**14 00 47.3**	**-0.1**
	baz=354						
WNT				S	**Sg**	**14 00 53.0**	**+0.6**
	baz=354						
STYH	**Taoyuan**	**0.36**	**175**	⇓*i*P	**Pb**	**14 00 47.3**	**-1.0**
	baz=166						
STYH				S	**Sb**	**14 00 53.2**	**-0.5**
	baz=166						
WTK	**Tuku**	**0.36**	**296**	⇓*i*P	**Pg**	**14 00 47.4**	**-0.1**
	baz=293						
SNST	**Tainan City**	**0.38**	**216**	P	**Pb**	**14 00 48.1**	**-0.5**
	baz=212						
SNST				S	**Sb**	**14 00 54.7**	**+0.4**
	baz=212						
WNT1	**Nantou City**	**0.38**	**352**	P	**Pg**	**14 00 47.9**	**-0.1**
	baz=353						
WNT1				S	**Sg**	**14 00 54.0**	**+0.8**
	baz=353						
SMLT	**Sun Moon Lake**	**0.38**	**22**	⇑*i*P	**Pg**	**14 00 47.8**	**-0.3**
	baz=35						
SMLT				S	**Sb**	**14 00 54.8**	**+0.2**
	baz=35						
TYC	**Yuchr**	**0.39**	**16**	⇑*i*P	**Pg**	**14 00 47.9**	**-0.2**
	baz=28						
TYC				*i* S	**Sb**	**14 00 54.4**	**-0.3**
	baz=28						
CHN1	**Nanshi**	**0.39**	**210**	⇑*i*P	**Pb**	**14 00 48.2**	**-0.7**
	baz=206						
CHN1				S	**Sb**	**14 00 55.3**	**+0.5**
	baz=206						
ELDTW	**Lidau**	**0.42**	**143**	⇓*i*P	**Pb**	**14 00 48.9**	**-0.6**
	baz=137						
ELDTW				*i* S	**Sb**	**14 00 55.1**	**-0.6**
	baz=137						
VWDT	**VWDT**	**0.43**	**58**	⇓*i*P	**Pb**	**14 00 48.8**	**-0.8**
	baz=70						
VWDT				S	**Sb**	**14 00 54.7**	**-1.2**
	baz=70						
ICHU	**Yijhu**	**0.46**	**249**	P	**Pb**	**14 00 49.6**	**-0.4**
	baz=244						
ICHU				S	**Sb**	**14 00 57.9**	**+1.4**
	baz=244						
WYL	**Yuanlin Townsh**	**0.46**	**341**	P	**Pg**	**14 00 49.4**	**+0.1**
	baz=342						
WYL				S	**Sg**	**14 00 56.5**	**+1.0**
	baz=342						
SGST	**Jiashian**	**0.47**	**198**	⇑*i*P	**Pg**	**14 00 48.8**	**-0.7**
	baz=194						
SGST				*i* S	**Sb**	**14 00 57.2**	**+0.3**
	baz=194						
WSF	**Szhu**	**0.49**	**283**	⇓*i*P	**Pg**	**14 00 49.5**	**-0.4**
	baz=280						
WSF				S	**Sg**	**14 00 57.3**	**+0.9**
	baz=280						
WRL	**Guolierlin Hig**	**0.50**	**318**	P	**Pg**	**14 00 49.4**	**-0.7**
	baz=317						
WRL				S	**Sg**	**14 00 56.5**	**-0.3**
	baz=317						
WWF	**Wufeng**	**0.51**	**356**	⇓*i*P	**Pg**	**14 00 50.4**	**0.0**
	baz=357						
WWF				*e*S	**Sb**	**14 00 58.7**	**+0.4**
	baz=357						
CHN8	**Yiju**	**0.52**	**250**	⇑P	**Pb**	**14 00 50.6**	**-0.4**
	baz=245						
CHN8				*i* S	**Sb**	**14 00 59.4**	**+1.1**
	baz=245						
WPL	**Puli Township**	**0.52**	**22**	P	**Pg**	**14 00 50.2**	**-0.3**
	baz=25						
YULB	**Yu-li**	**0.53**	**105**	⇓*i*P	**Pb**	**14 00 50.6**	**-0.6**
	baz=113						
YULB				S	**Sb**	**14 00 57.9**	**-0.8**
	baz=113						
DPDB	**Guoxing**	**0.53**	**19**	*e*P	**Pg**	**14 00 50.4**	**-0.3**
	baz=21						
DPDB				*e*S	**Sb**	**14 00 59.8**	**+0.9**
	baz=21						
EHY	**Hungye**	**0.54**	**92**	*e*P	**Pb**	**14 00 50.9**	**-0.4**
	baz=101						
EHY				*e*S	**Sb**	**14 00 58.3**	**-0.6**
	baz=101						
WTCT	**Ta-ch'eng**	**0.54**	**309**	P	**Pg**	**14 00 50.2**	**-0.6**
	baz=308						
WTCT				S	**Sg**	**14 00 58.4**	**+0.4**
	baz=308						
SLGT	**Liugui**	**0.54**	**189**	*e*P	**Pb**	**14 00 51.6**	**+0.2**
	baz=186						
SLGT				*e*S	**Sb**	**14 01 00.1**	**+1.2**
	baz=186						
TWF1	**Yuli**	**0.54**	**109**	⇓*i*P	**Pb**	**14 00 51.1**	**-0.4**
	baz=116						
TWF1				S	**Sb**	**14 00 59.0**	**-0.1**
	baz=116						
WMLT	**Mailiao**	**0.55**	**300**	*e*P	**Pg**	**14 00 50.4**	**-0.6**
	baz=299						
WMLT				*e*S	**Sg**	**14 00 58.7**	**+0.4**
	baz=299						
WCS	**Beigang Elemen**	**0.55**	**17**	*e*P	**Pg**	**14 00 48.0**	**-3.0**
	baz=18						
EYUL	**Yuli**	**0.56**	**109**	*e*P	**Pb**	**14 00 51.2**	**-0.5**
	baz=111						
CHN3	**Shinhua**	**0.57**	**218**	*e*P	**Pb**	**14 00 52.4**	**+0.6**
	baz=215						
CHN3				*e*S	**Sn**	**14 01 02.8**	**-0.1**
	baz=215						
WCHH	**Zhanghua**	**0.57**	**343**	P	**Pg**	**14 00 51.1**	**-0.4**
	baz=343						
WCHH				S	**Sg**	**14 00 59.6**	**+0.5**
	baz=343						
WUSB	**Renai**	**0.58**	**37**	⇓*i*P	**Pg**	**14 00 51.0**	**-0.6**
	baz=40						
WUSB				S	**Sb**	**14 00 59.5**	**-0.7**
	baz=40						
OWD	**Renai**	**0.58**	**43**	P	**Pg**	**14 00 51.3**	**-0.4**
	baz=52						
OWD				S	**Sg**	**14 00 59.4**	**-0.1**
	baz=52						
SCLT	**Jiali**	**0.61**	**235**	*e*P	**Pb**	**14 00 52.7**	**+0.1**
	baz=231						
SCLT				*e*S	**Sb**	**14 01 03.3**	**+2.2**
	baz=231						
ECS	**Chishang**	**0.62**	**134**	*i* P	**Pb**	**14 00 53.0**	**+0.2**
	baz=135						
SHHT	**Tainan City**	**0.62**	**216**	*e*P	**Pn**	**14 00 53.9**	**-0.6**
	baz=213						
SHHT				*e*S	**Sn**	**14 01 04.8**	**+0.6**
	baz=213						
TCU	**Taichung**	**0.62**	**355**	*e*P	**Pg**	**14 00 52.1**	**-0.3**
	baz=356						
HGSD	**Ruisui**	**0.63**	**93**	*e*P	**Pb**	**14 00 52.9**	**0.0**
	baz=96						
HGSD				*e*S	**Sb**	**14 01 02.1**	**+0.5**
	baz=96						
EGFH	**Guangfu**	**0.65**	**77**	*e*P	**Pb**	**14 00 52.8**	**-0.5**
	baz=73						
EGFH				*e*S	**Sb**	**14 01 00.9**	**-1.1**
	baz=73						
CHGB	**Renai**	**0.66**	**37**	P	**Pg**	**14 00 52.5**	**-0.7**
	baz=39						
CHGB				S	**Sg**	**14 01 02.0**	**0.0**
	baz=39						
SCST	**Cishan**	**0.68**	**200**	*e*P	**Pb**	**14 00 54.4**	**+0.6**
	baz=198						
ESL	**Shilin**	**0.70**	**66**	*e*P	**Pb**	**14 00 53.6**	**-0.5**
	baz=78						
LONT	**Longtian**	**0.71**	**150**	*e*P	**Pb**	**14 00 54.5**	**+0.1**
	baz=150						
CHKT	**Chengkung**	**0.72**	**126**	P	**Pn**	**14 00 55.2**	**-0.6**
	baz=132						
CHKT				S	**Sn**	**14 01 06.2**	**-0.4**
	baz=132						
EDH	**Donghe**	**0.76**	**137**	P	**Pn**	**14 00 55.8**	**-0.6**
	baz=145						
EDH				S	**Sn**	**14 01 07.4**	**-0.2**
	baz=145						
TWM1	**Shoushan**	**0.76**	**203**	⇑*i*P	**Pn**	**14 00 56.7**	**+0.2**
	baz=200						
TWG	**Pinlang**	**0.77**	**156**	⇑*i*P	**Pn**	**14 00 55.3**	**+0.1**
	baz=156						
TWG				S	**Sb**	**14 01 06.3**	**+0.8**
	baz=156						
WHP	**Taichung City**	**0.77**	**14**	⇓P	**Pg**	**14 00 54.9**	**-0.3**
	baz=15						
WHP				S	**Sb**	**14 01 05.8**	**0.0**
	baz=15						
TWGBT	**Beinan**	**0.77**	**156**	P	**Pb**	**14 00 55.3**	**-0.1**
	baz=156						
TWGBT				S	**Sb**	**14 01 05.8**	**0.0**
	baz=156						
WHF	**Hehuan Shan**	**0.78**	**38**	⇑P	**Pb**	**14 00 55.2**	**-0.6**
	baz=51						
WHF				S	**Sb**	**14 01 06.5**	**+0.2**
	baz=51						
SSD	**Sandimen**	**0.78**	**187**	⇑*i*P	**Pb**	**14 00 55.7**	**+0.2**
	baz=185						
SSD				S	**Sn**	**14 01 07.4**	**-0.8**
	baz=185						
TWQ1	**Liyutan**	**0.82**	**2**	⇑*i*P	**Pg**	**14 00 55.7**	**-0.4**
	baz=4.0						
TWQ1				*i* S	**Sb**	**14 01 07.8**	**+0.7**
	baz=4.0						
WDJ	**Dajia District**	**0.82**	**354**	P	**Pg**	**14 00 55.8**	**-0.3**
	baz=354						
WDJ				S	**Sb**	**14 01 07.6**	**+0.5**
	baz=354						
TSMG	**Majia**	**0.82**	**186**	*e*P	**Pb**	**14 00 56.4**	**+0.2**
	baz=184						
TSMG				*e*S	**Sb**	**14 01 08.0**	**+0.8**
	baz=184						
TWT	**Tachien**	**0.82**	**29**	*e*P	**Pg**	**14 00 55.5**	**-0.8**
	baz=30						
SGLT	**Jiouru**	**0.83**	**196**	*e*P	**Pn**	**14 00 57.0**	**-0.4**
	baz=193						
FUSS	**Fushou**	**0.85**	**33**	*e*P	**Pg**	**14 00 55.2**	**-1.6**
	baz=35						
FUSS				*e*S	**Sg**	**14 01 06.8**	**-1.3**
	baz=35						
TTN	**Taitung**	**0.86**	**154**	*e*P	**Pn**	**14 00 59.1**	**+1.3**
	baz=154						
TTN				*e*S	**Sn**	**14 01 11.9**	**+1.9**
	baz=154						
NSY	**Sanyi**	**0.89**	**1**	⇓P	**Pb**	**14 00 57.2**	**-0.1**
	baz=3.0						
NSY				S	**Sb**	**14 01 09.9**	**+0.9**
	baz=3.0						
HWA	**Hwalien**	**0.91**	**60**	*e*P	**Pn**	**14 00 58.2**	**-0.3**
	baz=74						
HWA				*e*S	**Sn**	**14 01 12.2**	**+0.8**
	baz=74						
MASBT	**Mashibuluo**	**0.92**	**186**	P	**Pn**	**14 00 58.0**	**-0.6**
	baz=184						
MASBT				*e*S	**Sb**	**14 01 10.4**	**+0.5**
	baz=184						
ECL	**Taimali**	**0.95**	**168**	P	**Pn**	**14 00 58.7**	**-0.3**
	baz=156						

ECL					*e*S		**Sn**	14 01 13.2	+0.9
	baz=156								
ETLH	**Xiulin Townshi**	**0.96**	**45**	P			**Pb**	14 00 58.3	-0.3
	baz=42								
ETLH					*e*S		**Sb**	14 01 12.0	+0.8
	baz=42								
TWD	**Chiawan**	**0.96**	**55**	P			**Pb**	14 00 58.6	+0.1
	baz=58								
TWD					S		**Sb**	14 01 12.2	+1.1
	baz=58								
NMLH	**Miaoli**	**1.01**	**3**	*e*P			**Pg**	14 00 58.9	-0.8
	baz=349								
NMLH					S		**Sb**	14 01 13.2	+0.8
	baz=349								
NACB	**Ninganchiao**	**1.01**	**50**	P			**Pb**	14 00 59.1	-0.4
	baz=53								
NACB					S		**Sb**	14 01 13.0	+0.4
	baz=53								
ETL	**Fush Village**	**1.02**	**52**	*e*P			**Pb**	14 00 59.8	+0.1
	baz=55								
ETL					*e*S		**Sb**	14 01 14.0	+1.0
	baz=55								
WDGT	**Dungji**	**1.03**	**255**	⇑*i*P			**Pg**	14 00 58.6	-1.5
	baz=252								
WDGT					*i* S		**Sg**	14 01 12.6	-0.9
	baz=252								
SSPT	**Xinbi**	**1.05**	**189**	*e*P			**Pn**	14 01 01.7	+1.2
	baz=176								
SSPT					*e*S		**Sn**	14 01 18.6	+3.7
	baz=176								
NNSB	**Datong**	**1.07**	**33**	⇑P			**Pg**	14 00 60.0	-1.0
	baz=44								
NNSB					*e*S		**Sb**	14 01 14.8	+0.3
	baz=44								
PHUB	**P'eng-hu**	**1.07**	**269**	P			**Pg**	14 00 58.9	-2.0
	baz=268								
PHUB					S		**Sg**	14 01 13.3	-1.6
	baz=268								
NNS	**Nan Shan**	**1.08**	**32**	⇑P			**Pg**	14 01 00.1	-1.0
	baz=44								
NNS					*e*S		**Sg**	14 01 13.8	-1.3
	baz=44								
LDUT	**Ludao**	**1.08**	**142**	P			**Pn**	14 01 01.2	+0.3
	baz=142								
LDUT					*e*S		**Sn**	14 01 17.3	+1.6
	baz=142								
PNG	**Penghu**	**1.09**	**272**	⇓P			**Pg**	14 00 59.1	-2.1
	baz=270								
PNG					S		**Sg**	14 01 13.8	-1.7
	baz=270								
NSTT	**Nanjuang**	**1.12**	**12**	P			**Pg**	14 01 00.6	-1.3
	baz=1.0								
NSTT					S		**Sg**	14 01 16.2	-0.4
	baz=1.0								
LIOB	**Emei**	**1.14**	**13**	P			**Pg**	14 01 01.3	-1.0
	baz=1.0								
LIOB					*e*S		**Sg**	14 01 16.9	-0.3
	baz=1.0								
EAST	**Anshuo**	**1.14**	**175**	⇑*i*P			**Pn**	14 01 02.5	+0.8
	baz=164								
EAST					S		**Sn**	14 01 18.9	+1.7
	baz=164								
NFF	**Wufeng Townshi**	**1.15**	**17**	*e*P			**Pg**	14 01 01.3	-1.1
	baz=2.0								
NFF					*e*S		**Sg**	14 01 16.7	-0.9
	baz=2.0								
SCZT	**Fangliau**	**1.16**	**186**	⇑*i*P			**Pn**	14 01 02.3	+0.5
	baz=183								
SCZT					S		**Sn**	14 01 19.2	+1.7
	baz=183								
TAW	**Tawu**	**1.17**	**173**	⇓P			**Pn**	14 01 03.2	+1.1
	baz=163								
TAW					*e*S		**Sn**	14 01 19.8	+1.9
	baz=163								
TAWH	**Dawu Township**	**1.19**	**173**	*e*P			**Pn**	14 01 02.9	+0.5
	baz=164								
TAWH					*e*S		**Sn**	14 01 19.2	+0.9
	baz=164								
WLCH	**Liuqiu**	**1.22**	**196**	*e*P			**Pn**	14 01 04.7	+1.9
	baz=216								
LATG	**Datong**	**1.23**	**35**	*e*P			**Pg**	14 01 02.6	-1.4
	baz=37								
LATG					*e*S		**Sb**	14 01 19.7	+0.6
	baz=37								
VCHM	**Qimei**	**1.25**	**255**	*e*P			**Pg**	14 01 01.8	-2.4
	baz=253								
VCHM					*e*S		**Sg**	14 01 18.6	-1.9
	baz=253								
NSK	**Sanguang**	**1.27**	**26**	P			**Pg**	14 01 03.5	-1.3
	baz=16								
NSK					*e*S		**Sn**	14 01 21.4	+0.9
	baz=16								
YHNB	**Yeheng**	**1.28**	**27**	*e*P			**Pg**	14 01 03.5	-1.3
	baz=38								
SBCB	**Hsinchu**	**1.28**	**10**	*e*P			**Pn**	14 01 03.4	-0.2
	baz=9.0								
SBCB					*e*S		**Sg**	14 01 21.0	-0.6
	baz=9.0								
ENA	**Nanau**	**1.28**	**45**	⇓P			**Pb**	14 01 04.2	+0.1
	baz=48								
ENA					*e*S		**Sn**	14 01 22.6	+2.0
	baz=48								
NDT	**Datong Townshi**	**1.28**	**33**	*e*P			**Pg**	14 01 03.6	-1.3
	baz=25								
NDT					*e*S		**Sn**	14 01 21.8	+1.2
	baz=25								
SLIU	**Shizi**	**1.31**	**178**	*e*P			**Pb**	14 01 04.6	+0.1
	baz=176								
SLIU					*e*S		**Sn**	14 01 23.2	+2.0
	baz=176								
EWUT	**Wuta**	**1.32**	**46**	*e*P			**Pn**	14 01 04.2	+0.1
	baz=48								
EWUT					*e*S		**Sn**	14 01 22.5	+1.0
	baz=48								
ENTT	**Nioudou**	**1.34**	**34**	P			**Pn**	14 01 04.7	+0.2
	baz=26								
ENTT					*e*S		**Sn**	14 01 23.8	+1.7
	baz=26								
NDS	**Dongshan**	**1.42**	**39**	*e*P			**Pg**	14 01 06.6	-0.9
	baz=40								
NDS					*e*S		**Sn**	14 01 26.1	+2.1
	baz=40								
FUSB	**Fushanzhiwuyua**	**1.45**	**32**	*e*P			**Pn**	14 01 06.5	+0.5
	baz=33								
TWE	**Neicheng**	**1.46**	**35**	*e*P			**Pb**	14 01 07.1	0.0
	baz=37								
TWE					*e*S		**Sg**	14 01 27.1	-0.2
	baz=37								
TWC	**Suao**	**1.48**	**43**	*e*P			**Pg**	14 01 07.5	-1.1
	baz=45								
TWC					*e*S		**Sg**	14 01 27.8	-0.1
	baz=45								
HEN	**Hengchun**	**1.52**	**180**	*e*P			**Pg**	14 01 08.1	-1.2
	baz=170								
TWK1	**Hengchun**	**1.58**	**178**	*e*P			**Pg**	14 01 10.4	-0.2
	baz=176								
TWKBT	**Hengchun**	**1.58**	**178**	*e*P			**Pb**	14 01 08.8	-0.3
	baz=176								
TWA	**Mucha**	**1.64**	**28**	*e*P			**Pb**	14 01 10.3	+0.2
	baz=39								
NTC	**Toucheng**	**1.65**	**37**	*e*P			**Pn**	14 01 09.7	+1.0
	baz=20								
LAY	**Lan-yu**	**1.66**	**153**	*e*P			**Pb**	14 01 09.6	-0.9
	baz=153								
LYUB	**Lan-yu**	**1.71**	**153**	*e*P			**Pn**	14 01 08.8	-0.6
	baz=153								
TIPB	**Shuangxi**	**1.75**	**34**	*e*P			**Pg**	14 01 12.6	-1.2
	baz=18								
YM01	**YM01**	**1.78**	**25**	*e*P			**Pn**	14 01 11.7	+1.1
	baz=25								
ANP	**Anpu**	**1.80**	**23**	*e*P			**Pg**	14 01 14.4	-0.4
	baz=23								
NWF	**Wu-fen Shan**	**1.81**	**32**	*e*P			**Pg**	14 01 14.0	-0.9
	baz=10.0								
NWF					*e*S		**Sg**	14 01 38.4	0.0
	baz=10.0								
TWB1	**Santiao Chiao**	**1.86**	**37**	*e*P			**Pn**	14 01 12.6	+1.0
	baz=15								
TWB1					*e*S		**Sg**	14 01 38.5	-1.6
	baz=15								
SXI1	**Grass Mountain**	**1.87**	**33**	*e*P			**Pb**	14 01 14.7	+0.5
	baz=17								
VWUC	**VWUC**	**1.87**	**321**	*e*P			**Pn**	14 01 09.5	-2.3
	baz=321								
JYNG	**Yonagunijimaku**	**2.22**	**65**	P			**Pb**	14 01 19.0	-1.0
JYNG					S		**Sb**	14 01 45.9	-1.4
YOJ	**Yonaguni jima**	**2.28**	**65**	P			**Pb**	14 01 19.0	-2.0
YOJ					*e*S		**Sb**	14 01 47.3	-1.7
KNMB	**Chin-men Tao**	**2.34**	**294**	*e*P			**Pn**	14 01 16.0	-2.2
	baz=294								
IRIF	**Iriomote-Funau**	**2.85**	**73**	P			**Pn**	14 01 26.9	+1.7
IRIF					*e*S		**Sn**	14 02 01.9	+2.6
HATJ	**Hateruma jima**	**2.86**	**79**	*e*S			**Sn**	14 02 01.3	+1.9
AXDP	**Jialang**	**2.87**	**299**	*e*P			**Pn**	14 01 23.7	-1.8
	baz=299								
JKRS	**Kuro-shima**	**3.08**	**76**	P			**Pn**	14 01 30.0	+1.7
JKRS					*e*S		**Sn**	14 02 08.0	+3.2
JIJ	**Ishigaki jima**	**3.22**	**74**	P			**Pn**	14 01 31.2	+0.9
JIJ					S		**Sn**	14 02 09.8	+1.3
JISG	**Ishigakijimahi**	**3.43**	**71**	S			**Sn**	14 02 15.3	+1.7

*TRN **22** 14:09:34.8, 17.˝31N×61.˝65W, h37km, MD4.6*
TRN Felt in Antigua MMI IV, III.
*NEIC **22** 14:09:35.5±1.4, 17.˚32N±0.˚04×61.˚61W±0.˚06, h38km±6km, mb4.7/149, Error ellipse: s-maj=9.1km s-min=3.8km az=65.0*
*IDC **22** 14:09:37.4±0.8, 17.˚24N×61.˚72W, h66km±8km, mb4.0/18, mb1 4.2/21,mb1mx4.0/50,mbtmp4.3/21,MS3.4/29, Ms1 3.4/29,ms1mx3.2/77,Error ellipse: s-maj=11.9km s-min=8.0km az=45.0*
ISC 22 14:09:35.3±0.7, 17.˚32N±0.˚03×61.˚64W±0.˚04, h43km±6km, n425,σ1§00/437, mb4.6/84, MS3.4/25, 11C-22D, Fault plane solution: NP1:φ=9.91690°, δ=28.43499°, λ=18.50329°. **NP2:**φ=263.51852°, δ=81.30850°, λ=117.18029°.
Principal axes: T Plg46.7737°, Azm201.6577°; N Plg26.8429°, Azm79.0815°; P Plg30.9939°, Azm331.3830°; **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANDO	**Antigua, Disas**	**0.27**	**221**	*e*P			**Pn**	**14 09 44.2**	**+0.8**
ANDO					*e*S		**Sn**	**14 09 50.3**	**+1.1**
ANBD	**Bethesda, Anti**	**0.29**	**203**	*e*P			**Pn**	**14 09 44.4**	**+0.7**
ANBD					*e*S		**Sn**	**14 09 50.7**	**+1.2**
ANWB	**Willy Bob**	**0.38**	**339**				**Pn**	**14 09 44.3**	**-0.3**
ANWB						Sn	**Sn**	**14 09 50.5**	**-0.6**
ANWB	**Willy Bob**	**0.38**	**339**	⇑*i*P			**Pn**	**14 09 44.4**	**-0.3**
ANWB					*e*S		**Sn**	**14 09 52.7**	**+1.5**
MBFL	**Flemmings, Mon**	**0.79**	**224**	⇓*i*P			**Pn**	**14 09 50.5**	**+0.6**
MBFL					*e*S		**Sn**	**14 10 01.7**	**+1.1**
MLYT	**Lee's Yard**	**0.79**	**222**	⇓*i*P			**Pn**	**14 09 50.9**	**+0.9**
MLYT					*e*S		**Sn**	**14 10 02.1**	**+1.3**
ABD	**La Joyeuse, An**	**0.85**	**170**				**Pn**	**14 09 51.3**	**+0.4**
ABD						Sn	**Sn**	**14 10 02.2**	**+0.1**
ABD	**La Joyeuse, An**	**0.85**	**170**	*e*P			**Pn**	**14 09 51.4**	**+0.5**
ABD					*e*S		**Sn**	**14 10 03.2**	**+1.0**
NVDO	**Nevis, Disaste**	**0.95**	**258**	*e*P			**Pn**	**14 09 53.1**	**+0.9**
NVDO					*e*S		**Sn**	**14 10 05.7**	**+1.0**
SKOC	**St. Kitts, UWI**	**1.04**	**269**	*e*P			**Pn**	**14 09 54.4**	**+1.0**
SKOC					*e*S		**Sn**	**14 10 08.8**	**+2.0**
GDHS	**Morne Mazeau,**	**1.04**	**186**				**Pn**	**14 09 53.7**	**+0.2**
GDHS						Sn	**Sn**	**14 10 06.6**	**-0.4**
SKI	**Saint Kitts**	**1.05**	**271**				**Pn**	**14 09 55.0**	**+1.5**
SKI	**Saint Kitts**	**1.05**	**271**	*e*P			**Pn**	**14 09 54.5**	**+1.0**
SKI					*e*S		**Sn**	**14 10 09.4**	**+2.5**
GDSD	**La Dsirade Is**	**1.14**	**151**				**Pn**	**14 09 54.5**	**-0.4**
H05N1	**Guadeloupe/Mar**	**1.14**	**150**	P			**Pn**	**14 09 55.2**	**+0.4**
H05N1					S		**Sn**	**14 10 12.2**	**+2.9**
	SNR=832								
CBE	**Ff, Capester**	**1.24**	**178**				**Pn**	**14 09 56.6**	**+0.4**
CBE						Sn	**Sn**	**14 10 12.0**	**+0.2**
CBE	**Ff, Capester**	**1.24**	**178**	*e*P			**Pn**	**14 09 56.9**	**+0.7**
CBE					*e*S		**Sn**	**14 10 13.3**	**+1.5**
SEUS	**St. Eustatius**	**1.29**	**278**				**Pn**	**14 09 57.9**	**+1.1**
SEUS	**St. Eustatius**	**1.29**	**278**	*e*P			**Pn**	**14 09 58.0**	**+1.2**
SEUS					*e*S		**Sn**	**14 10 15.7**	**+2.8**
MAGL	**Barre de l'ile**	**1.40**	**166**				**Pn**	**14 09 59.2**	**+0.7**
MAGL	**Barre de l'ile**	**1.40**	**166**	*e*P			**Pn**	**14 09 59.3**	**+0.9**
MAGL					*e*S		**Sn**	**14 10 17.9**	**+2.2**
TBG	**Guadaloupe-3**	**1.46**	**180**	*e*P			**Pn**	**14 09 59.8**	**+0.6**
TBG					*e*S		**Sn**	**14 10 19.3**	**+2.3**
TDBA	**Terre de Bas,**	**1.46**	**180**				**Pn**	**14 09 59.7**	**+0.5**
TDBA	**Terre de Bas,**	**1.46**	**180**	*e*P			**Pn**	**14 09 59.9**	**+0.7**
TDBA					*e*S		**Sn**	**14 10 18.9**	**+1.8**
SMRT	**St. Maarten**	**1.55**	**298**				**Pn**	**14 10 01.3**	**+1.0**
SMRT	**St. Maarten**	**1.55**	**298**	*e*P			**Pn**	**14 10 01.3**	**+1.0**
SMRT					*e*S		**Sn**	**14 10 21.5**	**+2.2**
DSLB	**Salisbury**	**1.88**	**173**	*e*P			**Pn**	**14 10 06.2**	**+1.2**
DSLB					*e*S		**Sn**	**14 10 29.7**	**+2.2**
MDN	**Morne-Daniel**	**2.00**	**173**	*e*P			**Pn**	**14 10 08.6**	**+1.9**
MDN					*e*S		**Sn**	**14 10 32.5**	**+2.0**
DLPL	**La Plaine**	**2.01**	**169**	Pn			**Pn**	**14 10 07.2**	**+0.4**
DLPL	**La Plaine**	**2.01**	**169**	*e*P			**Pn**	**14 10 08.1**	**+1.4**
DLPL					*e*S		**Sn**	**14 10 31.8**	**+1.1**
SVN	**Savane Anatole**	**2.50**	**169**				**Pn**	**14 10 14.5**	**+0.9**
SVN	**Savane Anatole**	**2.50**	**169**	*e*P			**Pn**	**14 10 15.7**	**+2.2**
PCM	**Pelee Case Pet**	**2.52**	**170**	*e*P			**Pn**	**14 10 15.5**	**+1.7**
BAMF	**Morne Balai**	**2.53**	**169**	*e*P			**Pn**	**14 10 15.7**	**+1.7**
CXM	**Morne La Croix**	**2.53**	**170**	*e*P			**Pn**	**14 10 15.5**	**+1.4**
GBMF	**Grand Be**	**2.55**	**170**	*e*P			**Pn**	**14 10 15.2**	**+1.0**
FDF	**Fort de France**	**2.61**	**169**				**Pn**	**14 10 15.6**	**+0.5**
FDF	**Fort de France**	**2.61**	**169**	*e*P			**Pn**	**14 10 16.5**	**+1.4**
FDF					*e*S		**Sn**	**14 10 47.0**	**+1.4**
ILAM	**Ilet Lapin Mar**	**2.63**	**164**				**Pn**	**14 10 15.6**	**+0.2**
ILAM	**Ilet Lapin Mar**	**2.63**	**164**	*e*P			**Pn**	**14 10 17.0**	**+1.7**
ILAM					*e*S		**Sn**	**14 10 46.3**	**+0.2**
ZAM	**Aeronautique**	**2.79**	**168**	*e*P			**Pn**	**14 10 18.6**	**+1.2**
LPMF	**Morne Lapointe**	**2.80**	**166**	*e*P			**Pn**	**14 10 18.7**	**+1.0**
TRMF	**Trois Ilets**	**2.82**	**168**	*e*P			**Pn**	**14 10 19.6**	**+1.7**
BIM	**Bigot**	**2.84**	**169**	Pn			**Pn**	**14 10 19.0**	**+0.8**
BIM	**Bigot**	**2.84**	**169**	*e*P			**Pn**	**14 10 20.0**	**+1.8**
BIM					*e*S		**Sn**	**14 10 52.6**	**+1.5**
MVM	**Montagne Vaucl**	**2.84**	**165**	*e*P			**Pn**	**14 10 19.5**	**+1.3**
MPOM	**Morne Pois Mar**	**2.95**	**165**				**Pn**	**14 10 20.4**	**+0.7**
MPOM	**Morne Pois Mar**	**2.95**	**165**	*e*P			**Pn**	**14 10 21.0**	**+1.3**
MPOM					*e*S		**Sn**	**14 10 55.2**	**+1.3**
H05S1	**Guadeloupe/Mar**	**2.98**	**165**	P			**Pn**	**14 10 21.4**	**+1.3**
H05S1					S		**Sn**	**14 10 57.2**	**+2.7**
	SNR=945								
CDVI	**St. Croix**	**3.01**	**279**	Pn			**Pn**	**14 10 21.7**	**+1.3**
CDVI	**St. Croix**	**3.01**	**279**	*e*P			**Pn**	**14 10 22.0**	**+1.5**
CDVI					*e*S		**Sn**	**14 10 56.4**	**+1.1**
STVI	**Saint Thomas**	**3.32**	**289**	Pn			**Pn**	**14 10 25.4**	**+0.8**
SLBI	**Saint Lucia, B**	**3.34**	**169**	*e*P			**Pn**	**14 10 26.9**	**+1.9**
SLBI					*e*S		**Sn**	**14 11 04.0**	**+0.5**
CUPR	**Culebra, Puert**	**3.60**	**286**	Pn			**Pn**	**14 10 29.5**	**+0.9**
MCLT	**Moule a Chique**	**3.65**	**169**	Pn			**Pn**	**14 10 29.9**	**+0.6**
MCLT	**Moule a Chique**	**3.65**	**169**	*e*P			**Pn**	**14 10 30.8**	**+1.5**
MCLT					*e*S		**Sn**	**14 11 11.5**	**+0.3**
SVV	**Soufriere Volc**	**4.00**	**174**	*e*P			**Pn**	**14 10 35.9**	**+1.8**
SVV					*e*S		**Sn**	**14 11 20.1**	**+0.4**
SVB	**Belmont**	**4.04**	**175**	*e*			**Pn**	**14 10 37.0**	**+2.3**
HUMP	**Col San Antoni**	**4.09**	**282**				**Pn**	**14 10 36.6**	**+1.2**
CBYP	**Canovanas**	**4.12**	**284**				**Pn**	**14 10 37.2**	**+1.4**
PDPR	**Patillas Dam,**	**4.23**	**280**				**Pn**	**14 10 38.7**	**+1.5**
GCMP	**Guaynabo City**	**4.34**	**284**	Pn			**Pn**	**14 10 40.1**	**+1.3**
SJG	**San Juan**	**4.37**	**281**	P			**Pn**	**14 10 41.0**	**+1.9**
	36nm,0.3s,baz=101,slow=12,SNR=55								
SJG					S		**Sn**	**14 11 30.2**	**+1.4**
	94nm,0.3s,baz=290,slow=14,SNR=8.1								
SJG					LR		LR	14 12 37.3	
	comp=Z,786nm,19.9s,baz=73,slow=42								
SJG	**San Juan**	**4.37**	**281**				**Pn**	**14 10 40.7**	**+1.5**
SJG	**San Juan**	**4.37**	**281**	*e*P			**Pn**	**14 10 41.1**	**+2.0**
BBGH	**Gun Hill**	**4.61**	**154**	*e*			**Pn**	**14 10 46.6**	**+4.0**
CELP	**Cerrillos**	**4.76**	**280**				**Pn**	**14 10 45.7**	**+1.1**
OBIP	**Obispado Ponce**	**4.79**	**279**				**Pn**	**14 10 45.4**	**+0.6**
EMPR	**Esperanza - Ma**	**4.79**	**285**				**Pn**	**14 10 46.0**	**+1.1**
GCMP	**Grenada, Carri**	**4.81**	**177**	*e*P			**Pn**	**14 10 46.5**	**+1.4**
AOPR	**Arecibo Observ**	**4.97**	**283**				**Pn**	**14 10 48.6**	**+1.1**
GRGR	**Grenville**	**5.16**	**180**				**Pn**	**14 10 50.7**	**+0.8**
GRGR	**Grenville**	**5.16**	**180**	*e*P			**Pn**	**14 10 50.8**	**+0.8**
MLPR	**Magueyes Islan**	**5.19**	**278**	Pn			**Pn**	**14 10 51.5**	**+1.1**
GRFF	**Grenada Fort F**	**5.24**	**181**	*e*			**Pn**	**14 10 53.7**	**+2.6**
CRPR	**Cabo Rojo, PR**	**5.26**	**278**	Pn			**Pn**	**14 10 52.5**	**+1.1**
PRSN	**Puerto Rico Se**	**5.32**	**281**				**Pn**	**14 10 53.7**	**+1.5**
AGPR	**Aguadilla, PR**	**5.33**	**283**				**Pn**	**14 10 54.2**	**+1.8**
TOSP	**Speyside**	**6.08**	**170**	*e*			Pn	14 11 07.8	+5.1
TRN	**Trinidad (W)**	**6.63**	**178**	*e*			**Pn**	**14 11 13.5**	**+3.2**
DR12	**Loma Pena Alta**	**7.50**	**282**				**Pn**	**14 11 23.4**	**+1.1**
BIRV	**Birongo**	**8.15**	**214**	Pn			**Pn**	**14 11 30.7**	**-0.4**
HATO	**Hato, Curacao**	**8.72**	**235**	Pn			**Pn**	**14 11 40.2**	**+1.2**
SDDR	**Presa de Saban**	**9.32**	**282**				**Pn**	**14 11 46.8**	**-0.4**
SDDR	**Presa de Saban**	**9.32**	**282**	*e*P			**Pn**	**14 11 47.5**	**+0.3**
GRTK	**Grand Turk**	**9.88**	**296**	Pn			**Pn**	**14 11 51.3**	**-3.5**
SDV	**Santo Domingo**	**12.12**	**227**	P			**Pn**	**14 12 25.8**	**+0.3**
	0.3nm,0.3s,baz=62,slow=22,SNR=1.4								
SDV					S		**Sn**	**14 14 37.8**	**-1.7**
	0.5nm,0.3s,baz=344,slow=14,SNR=1.3								
SDV					LR		LR	14 17 27.9	
	comp=Z,106nm,21.5s,baz=58,slow=39								
ELOV	**Elorza**	**12.79**	**218**	*e*P			**Pn**	**14 12 35.2**	**+0.5**
OCAC	**Ocana**	**14.52**	**233**				**Pn**	**14 12 58.7**	**+0.4**
OCAC	**Ocana**	**14.52**	**233**	*e*P			**P**	**14 13 01.9**	**-2.2**
PAMC	**Pamplona, Colo**	**14.65**	**229**	*e*P			**P**	**14 13 03.7**	**-2.2**
MDP	**Montagnes des**	**15.00**	**143**	LR			LR	14 18 59.8	
	comp=Z,65nm,21.3s,baz=78,slow=38								
SJCC	**San Jacinto, C**	**15.08**	**242**	Pn			**Pn**	**14 13 04.7**	**-0.9**
SJCC	**San Jacinto, C**	**15.08**	**242**	*e*P			**P**	**14 13 10.3**	**+0.1**
MTDJ	**Mount Denham**	**15.16**	**276**	P			**P**	**14 13 12.2**	**+1.0**
BARC	**Barichara**	**15.51**	**228**	*e*P			**Pn**	**14 13 12.4**	**+0.9**
RUSC	**La Rusia**	**15.94**	**226**	*e*P			**P**	**14 13 19.6**	**-0.7**
ZARC	**Zaragoza, Cauc**	**16.17**	**234**				**P**	**14 13 22.5**	**+0.2**
PTBC	**PUERTO BERRIO,**	**16.48**	**231**	*e*P			**Pn**	**14 13 23.8**	**+0.3**
CHIC	**Chingaza**	**17.30**	**225**	*e*P			**P**	**14 13 35.7**	**+0.4**
CBCY	**The Bluff, Cay**	**17.35**	**281**	P			**P**	**14 13 35.9**	**+0.6**
NORC	**Norcasia**	**17.43**	**229**	*e*P			**Pn**	**14 13 36.0**	**+0.5**
ROSC	**El Rosal**	**17.55**	**226**	P			**Pn**	**14 13 36.2**	**-1.1**
	2.3nm,0.3s,baz=96,slow=20,SNR=2.7								
ROSC					LR		LR	14 21 52.9	
	comp=Z,128nm,18.2s,baz=41,slow=42								
ROSC	**El Rosal**	**17.55**	**226**				**Pn**	**14 13 37.0**	**-0.2**
ROSC					IAmb		IAmb	14 13 44.4	
	comp=Z,28nm,0.7s								
ROSC	**El Rosal**	**17.55**	**226**	*e*P			**Pn**	**14 13 36.9**	**-0.4**
LCCY	**Blossom Villag**	**17.64**	**280**				**Pn**	**14 13 38.5**	**+0.5**
GUY2C	**Guyana, Caldas**	**18.02**	**230**	*e*P			**P**	**14 13 44.0**	**+0.7**
CBOC	**Ciudad Bolivar**	**18.08**	**233**	*e*P			**Pn**	**14 13 41.8**	**-1.9**
ORTC	**Ortega, Tolima**	**18.85**	**227**	*e*P			**P**	**14 13 51.1**	**-0.9**
PLMC	**San Jos del P**	**18.91**	**231**	*e*P			**P**	**14 13 51.6**	**-1.0**
MACC	**Macarena, Meta**	**19.27**	**220**	*e*P			**P**	**14 13 56.9**	**+0.4**
BCIP	**Isla Barro Col**	**19.46**	**248**	P			**P**	**14 13 58.6**	**0.0**
BCIP					IAmb		IAmb	14 14 17.5	
	comp=Z,52nm,1.0s								
GARC	**Garzon, Huila**	**20.28**	**224**	*e*P			**P**	**14 14 07.9**	**+0.1**
SOR	**Soroa**	**20.79**	**289**	P			**P**	**14 14 12.9**	**0.0**
SOR					IAmb		IAmb	14 14 29.1	
	comp=Z,53nm,1.4s								
POPC	**Popayan, Colom**	**20.82**	**227**	*e*P			**P**	**14 14 10.3**	**-3.4**
PTLC	**Puerto Leguiza**	**21.40**	**219**	*e*P			**P**	**14 14 23.8**	**+4.2**
OTAV	**Otavalo**	**23.70**	**226**	P			**P**	**14 14 43.2**	**-0.7**
KMSC	**Kings Mountain**	**24.96**	**319**	P			**P**	**14 14 55.0**	**+0.2**
	baz=130								
GOGA	**Godfrey**	**25.33**	**313**	P			**P**	**14 14 58.6**	**+0.5**
	baz=124								
S57A	**Dark Hollow, R**	**25.42**	**327**	P			**P**	**14 14 58.9**	**-0.1**
S57A					IAmb		IAmb	14 15 00.2	
	comp=Z,19nm,1.2s								
PAL	**Palisades**	**25.87**	**338**	P			**P**	**14 15 02.9**	**-0.1**
	baz=152								
250A	**Grady**	**26.63**	**308**	P			**P**	**14 15 10.4**	**+0.4**
TKL	**Tuckaleechee C**	**26.84**	**317**	LR			LR	14 24 35.1	
	comp=Z,67nm,21.8s,baz=173,slow=33								
TZTN	**Tazewell**	**27.24**	**319**	P			**P**	**14 15 16.0**	**+0.6**
TZTN	**Tazewell**	**27.24**	**319**	P			**P**	**14 15 16.3**	**+0

KSCO **Kaye Shedlock'** **41.65 310** P **P** **14 17 19.7 -0.1**
baz=110
OGNE **Ogallala** **41.90 313** P **P** **14 17 21.9 +0.1**
baz=112
MNTX **Cornudas Mount** **42.01 298** P **P** **14 17 22.2 -0.5**
MNTX **Cornudas Mount** **42.01 298** P **P** **14 17 22.7 -0.1**
baz=99
T25A **Trinidad** **42.42 306** P **P** **14 17 25.6 -0.6**
T25A IAmb IAmb 14 17 27.5
comp=Z,8.3nm,0.8s
T25A **Trinidad** **42.42 306** P **P** **14 17 26.7 +0.5**
baz=106
ULM **Lac du Bonnet** **42.79 328** P **P** **14 17 28.0 -0.7**
comp=Z,6.5nm,0.4s,baz=136,slow=8.6,SNR=8.1
ULM LR LR 14 34 39.2
comp=Z,34nm,21.7s,baz=117,slow=35
ULM **Lac du Bonnet** **42.79 328** P **P** **14 17 28.0 -0.7**
ULM IAmb IAmb 14 17 29.1
comp=Z,8.1nm,0.8s
SDCO **Great Sand Dun** **43.42 307** P **P** **14 17 34.5 +0.1**
SDCO **Great Sand Dun** **43.42 307** P **P** **14 17 34.6 +0.2**
baz=106
MDND **Maddock** **43.45 323** P **P** **14 17 33.9 -0.2**
baz=121
BNM **Barren Site** **43.48 302** P **P** **14 17 34.9 +0.1**
Q24A **Divide** **43.50 309** P **P** **14 17 34.3 -0.7**
baz=107
ANMO **Albuquerque** **43.50 303** LR LR 14 39 00.2
comp=Z,16nm,19.2s,baz=141,slow=40
ANMO **Albuquerque** **43.50 303** P **P** **14 17 35.3 +0.4**
ANMO **Albuquerque** **43.50 303** P **P** **14 17 35.8 +0.9**
baz=102
CPUP **Villa Florida** **43.59 174** P **P** **14 17 34.0 -1.4**
comp=Z,2.2nm,0.7s,baz=308,slow=1.9,SNR=4.5
CPUP PcP **PcP** **14 19 22.1 -0.3**
comp=Z,0.7nm,0.3s,baz=342,slow=3.2,SNR=2.9
CPUP **Villa Florida** **43.59 174** P **P** **14 17 34.7 -0.7**
ISCO **Idaho Springs** **44.09 310** P **P** **14 17 40.1 +0.4**
ISCO **Idaho Springs** **44.09 310** P **P** **14 17 40.2 +0.4**
baz=108
121A **Cookes Peak, D** **44.16 299** P **P** **14 17 40.3 +0.1**
121A **Cookes Peak, D** **44.16 299** P **P** **14 17 41.3 +1.0**
baz=99
S22A **4UR Ranch, Cre** **44.44 307** P **P** **14 17 42.6 +0.1**
S22A **4UR Ranch, Cre** **44.44 307** P **P** **14 17 42.8 +0.3**
baz=105
PHWY **Pilot Hill** **44.45 312** P **P** **14 17 42.7 +0.1**
AC02 **Maricunga** **44.49 190** P **P** **14 17 41.2 -1.9**
AC02 IAmb IAmb 14 17 42.4
comp=Z,7.4nm,0.9s
RSSD **Black Hills** **44.49 316** P **P** **14 17 43.0 +0.3**
RSSD **Black Hills** **44.49 316** P **P** **14 17 43.1 +0.3**
baz=113
N23A **Red Feather La** **44.67 311** P **P** **14 17 43.4 -0.9**
baz=108
SLBS **Sierra La Lagu** **45.52 286** P **P** **14 17 51.2 +0.1**
MVCO **Mesa Verde** **45.60 305** P **P** **14 17 51.8 0.0**
baz=103
K22A **Casper** **45.65 313** P **P** **14 17 51.9 -0.1**
baz=110
PV15 **Paradox Valley** **45.84 307** P **P** **14 17 53.9 +0.2**
PV15 IAmb IAmb 14 17 55.4
comp=Z,11nm,0.8s
PV07 **Paradox Valley** **45.99 307** P **P** **14 17 55.0 +0.2**
PV07 IAmb IAmb 14 17 56.2
comp=Z,6.9nm,0.6s
PV13 **Radium Mtn., P** **46.06 307** P **P** **14 17 55.9 +0.6**
O20A **White River Ci** **46.12 309** P **P** **14 17 55.8 0.0**
baz=106
PV11 **David Mesa, Pa** **46.13 307** P **P** **14 17 55.7 -0.2**
W18A **Petrified Fore** **46.17 302** P **P** **14 17 56.7 +0.5**
W18A IAmb IAmb 14 17 58.0
comp=Z,11nm,0.9s
W18A **Petrified Fore** **46.17 302** P **P** **14 17 57.3 +1.0**
baz=100
X18A **Snowflake** **46.25 301** P **P** **14 17 57.6 +0.8**
X18A IAmb IAmb 14 17 58.8
comp=Z,5.2nm,0.8s
DGMT **Dagmar** **46.44 322** P **P** **14 17 58.1 +0.2**
DGMT **Dagmar** **46.44 322** P **P** **14 17 57.8 -0.1**
baz=117
FRB **Frobisher Bay** **46.63 356** LR LR 14 35 14.8
comp=Z,32nm,21.6s,baz=290,slow=33
TUC **Tucson** **46.64 298** P **P** **14 18 00.2 +0.3**
baz=96
X16A **Lo Mia Camp, P** **47.45 301** P **P** **14 18 06.9 +0.7**
P18A **Preston Nutter** **47.48 308** P **P** **14 18 07.0 +0.5**
P18A IAmb IAmb 14 18 09.2
comp=Z,6.6nm,0.9s
SRU **San Rafael Swe** **47.58 307** P **P** **14 18 07.6 +0.4**
SRU IAmb IAmb 14 18 08.5
comp=Z,7.1nm,0.6s
FCC **Fort Churchill** **47.73 338** P **P** **14 18 07.4 -0.3**
FCC IAmb IAmb 14 18 08.4
comp=Z,4.4nm,0.7s
BW06 **Boulder Array** **47.81 312** P **P** **14 18 09.1 +0.2**
BW06 IAmb IAmb 14 18 10.2
comp=Z,7.2nm,0.8s
BW06 **Boulder Array** **47.81 312** P **P** **14 18 09.6 +0.6**
baz=107
PD31 **Pinedale Array** **47.81 312** P **P** **14 18 09.0 +0.1**
PD31 IAmb IAmb 14 18 10.2
comp=Z,6.3nm,0.8s
PDAR **Pinedale Array** **47.81 312** P **P** **14 18 09.2 +0.3**
comp=Z,4.5nm,0.6s,baz=116,slow=9.3,SNR=53
PDAR PcP **PcP** **14 19 37.4 0.0**
comp=Z,1.3nm,0.7s,baz=110,slow=5.4,SNR=4.4
PDAR LR LR 14 41 05.0
comp=Z,22nm,18.0s,baz=125,slow=40
PDAR **Pinedale Array** **47.81 312** P **P** **14 18 09.1 +0.1**
P17A **Butcher Ranch,** **47.82 308** P **P** **14 18 09.8 +0.7**
P17A IAmb IAmb 14 18 10.3
comp=Z,6.8nm,0.6s
Q16A **Castle Valley** **48.03 307** P **P** **14 18 11.1 +0.5**
Q16A IAmb IAmb 14 18 13.3
comp=Z,8.5nm,1.3s
RLMT **Red Lodge** **48.34 316** P **P** **14 18 13.3 +0.3**
RLMT IAmb IAmb 14 18 14.1
comp=Z,5.0nm,0.8s
RLMT **Red Lodge** **48.34 316** P **P** **14 18 12.9 -0.1**
baz=109
U15A **North Rim** **48.44 304** P **P** **14 18 14.8 +0.8**
U15A IAmb IAmb 14 18 16.2
comp=Z,7.5nm,0.9s
JLU **Jordanelle** **48.61 309** P **P** **14 18 15.9 +0.7**
MTPU **Mount Pierson** **48.63 306** P **P** **14 18 16.7 +1.1**
MTPU IAmb IAmb 14 18 18.1
comp=Z,5.1nm,0.8s
MSU **Marysvale** **48.72 306** P **P** **14 18 16.4 +0.4**
LOHW **Long Hollow** **48.78 313** P **P** **14 18 16.8 +0.4**
CTU **Camp Tracy** **48.85 309** P **P** **14 18 17.1 +0.2**
REDW **Red Top Meadow** **48.89 313** P **P** **14 18 17.5 +0.2**
REDW IAmb IAmb 14 18 39.5
comp=Z,5.8nm,1.1s
AHID **Auburn Hatcher** **48.90 312** P **P** **14 18 17.5 +0.2**
MOOW **Moose Ponds** **48.92 313** P **P** **14 18 17.9 +0.4**
NLU **North Lily Min** **48.93 308** P **P** **14 18 18.4 +0.8**
NLU IAmb IAmb 14 18 19.4
comp=Z,5.7nm,1.1s
HWUT **Hardware Ranch** **48.93 310** P **P** **14 18 17.7 +0.1**
TPAW **Teton Pass** **48.99 313** P **P** **14 18 17.6 -0.5**
TPAW IAmb IAmb 14 18 18.5
comp=Z,6.2nm,0.9s
YHH **Holmes Hill** **49.30 315** P **P** **14 18 21.3 +0.8**
DUG **Dugway, Tooele** **49.54 308** P **P** **14 18 23.0 +0.8**
DUG **Dugway, Tooele** **49.54 308** P **P** **14 18 22.9 +0.8**
baz=102
EGMT **Eagleton** **49.65 319** P **P** **14 18 23.3 +0.5**
baz=111
BGU **Big Grassy Mou** **49.85 309** P **P** **14 18 25.2 +0.7**
HVU **Hansel Valley** **49.85 310** P **P** **14 18 24.8 +0.3**
PSUT **Pine Spring** **50.01 306** P **P** **14 18 27.1 +1.2**
BOZ **Bozeman (W)** **50.07 315** P **P** **14 18 26.7 +0.6**
baz=107
SFJD **Kangerlussuaq** **50.17 6** LR LR 14 40 03.5
comp=Z,35nm,19.2s,baz=195,slow=36
SFJD **Kangerlussuaq** **50.17 6** P **P** **14 18 27.0 +0.8**
SFJD IAmb IAmb 14 18 43.2
comp=Z,6.7nm,1.1s
HRY **Holter Researc** **50.54 317** P **P** **14 18 30.3 +0.7**
MCMT **McKenzie Canyo** **50.67 314** P **P** **14 18 31.3 +0.5**
BC3 **Big Chuckawall** **50.68 300** P **P** **14 18 31.4 +0.6**
baz=95
LRM **Limekiln Ridge** **50.68 316** P **P** **14 18 31.4 +0.5**
R11A **Troy Canyon, C** **51.33 305** P **P** **14 18 36.4 +0.6**
baz=98
HLID **Hailey** **51.44 312** P **P** **14 18 37.1 +0.5**
HLID IAmb IAmb 14 18 38.3
comp=Z,4.5nm,0.8s
HLID **Hailey** **51.44 312** P **P** **14 18 37.1 +0.5**
baz=104
ELK **Elko** **51.46 309** LR LR 14 42 06.7
comp=Z,43nm,19.0s,baz=252,slow=38
ELK **Elko** **51.46 309** P **P** **14 18 37.1 +0.3**
ELK IAmb IAmb 14 18 40.1
comp=Z,5.1nm,0.8s
PFO **Pinyon Flats O** **51.51 299** LR LR 14 44 17.0
comp=Z,22nm,18.6s,baz=186,slow=40
TPNV **Topopah Spring** **51.66 304** P **P** **14 18 39.0 +0.7**
baz=97
GWY **Greenwater Val** **51.91 303** P **P** **14 18 40.5 +0.3**
GWY IAmb IAmb 14 18 41.8
comp=Z,3.5nm,0.7s
MFID **Camas Ranch** **52.41 312** P **P** **14 18 44.0 +0.3**
MFID IAmb IAmb 14 18 46.3
comp=Z,11nm,1.4s
MPMC **Manual Prospec** **52.56 302** P **P** **14 18 44.8 -0.1**
baz=95
H10N3 **ASCENSION HYDR** **52.87 114** T T 15 15 58.9
baz=299,slow=75,SNR=340
EDW2 **Edwards Air Fo** **52.87 301** P **P** **14 18 47.2 0.0**
baz=94
H10N2 **ASCENSION HYDR** **52.88 114** T T 15 15 59.4
baz=299,slow=75,SNR=270
H10N1 **ASCENSION HYDR** **52.89 114** T T 15 16 00.5
baz=299,slow=75,SNR=296
BMN **Battle Mountai** **52.89 308** P **P** **14 18 47.0 -0.3**
PLID **Pearl Lake** **52.91 314** P **P** **14 18 47.0 -0.4**
PLID IAmb IAmb 14 18 48.3
comp=Z,4.8nm,0.8s
CWC **Cottonwood Cre** **53.07 303** P **P** **14 18 49.8 +1.1**
baz=95
H10S3 **ASCENSION HYDR** **53.26 116** T T 15 16 27.1
baz=293,slow=74,SNR=62
H10S2 **ASCENSION HYDR** **53.28 116** T T 15 16 29.6
baz=287,slow=74,SNR=51
NV11 **Mina Array Sit** **53.34 305** P **P** **14 18 50.6 0.0**
NV11 IAmb IAmb 14 18 52.4
comp=Z,8.0nm,1.1s
KVN **Kaiserville** **53.37 306** P **P** **14 18 51.1 +0.1**
NVAR **Mina Array Bea** **53.45 305** P **P** **14 18 51.8 +0.3**
comp=Z,3.7nm,0.7s,baz=96,slow=7.3,SNR=6.3
NVAR PcP **PcP** **14 19 59.6 +1.3**
comp=Z,1.3nm,0.7s,baz=104,slow=3.8,SNR=0.9
NVAR **Mina Array Bea** **53.45 305** P **P** **14 18 51.7 +0.1**
BMO **Blue Mountains** **53.76 313** P **P** **14 18 52.8 -0.7**
J08A **Circle Bar Ran** **54.30 311** P **P** **14 18 57.6 +0.1**
J08A IAmb IAmb 14 18 58.6
comp=Z,11nm,1.0s
NEW **Newport** **54.42 317** LR LR 14 42 15.4
comp=Z,30nm,19.7s,baz=109,slow=36
NEW **Newport** **54.42 317** P **P** **14 18 58.0 -0.2**
NEW IAmb IAmb 14 18 59.0
comp=Z,6.9nm,0.7s
NEW **Newport** **54.42 317** P **P** **14 18 58.2 -0.1**
baz=105
BORG **Borgarnes** **54.57 20** LR LR 14 37 25.8
comp=Z,20nm,21.3s,baz=322,slow=30
I07A **Izee** **55.16 312** P **P** **14 19 03.8 +0.1**
I07A IAmb IAmb 14 19 05.0
comp=Z,10nm,0.9s
BEKR **Beckworth** **55.20 307** P **P** **14 19 04.0 -0.2**
MOD **Modoc Plateau** **55.41 309** P **P** **14 19 05.7 +0.1**
MOD IAmb IAmb 14 19 07.3
comp=Z,4.3nm,0.7s
K05A **Summer Lake** **55.95 310** P **P** **14 19 10.0 +0.4**
ORV **Oroville** **56.05 306** P **P** **14 19 10.7 +0.7**
ORV IAmb IAmb 14 19 11.6
comp=Z,8.9nm,0.9s
J05D **Fort Rock, OR** **56.28 311** P **P** **14 19 12.0 +0.2**
baz=98
O03E **Paynes Creek** **56.35 307** P **P** **14 19 12.9 +0.6**
baz=96
DBIC **Dimbokro** **56.37 93** LR LR 14 38 52.8
comp=Z,38nm,21.9s,baz=276,slow=31
I05D **Terrebonne, OR** **56.50 312** P **P** **14 19 13.7 +0.5**
baz=98
M04C **Macdoel** **56.53 309** P **P** **14 19 14.1 +0.4**
M04C **Macdoel** **56.53 309** P **P** **14 19 14.3 +0.6**
baz=96
K04D **Chiloquin, OR** **56.57 310** P **P** **14 19 14.1 +0.3**
baz=97
G05D **Wamic, OR** **56.62 313** P **P** **14 19 13.4 -0.7**
baz=99
J04D **Umpqua Nationa** **56.90 311** P **P** **14 19 16.8 +0.5**
J04D **Umpqua Nationa** **56.90 311** P **P** **14 19 16.7 +0.4**
baz=97
L04D **Klamath Falls** **56.92 309** P **P** **14 19 16.6 +0.2**
L04D **Klamath Falls** **56.92 309** P **P** **14 19 16.8 +0.4**
baz=96
O02D **Mt. Diablo Mer** **57.09 307** P **P** **14 19 16.6 -1.0**
O02D **Mt. Diablo Mer** **57.09 307** P **P** **14 19 17.0 -0.6**
baz=95
N02D **Trinity Center** **57.10 308** P **P** **14 19 16.7 -0.9**
N02D IAmb IAmb 14 19 25.2
comp=Z,4.4nm,0.7s
N02D **Trinity Center** **57.10 308** P **P** **14 19 17.7 +0.1**
baz=95
YBH **Yreka Blue Hor** **57.17 309** LR LR 14 46 22.5
comp=Z,43nm,18.2s,baz=86,slow=39
YBH **Yreka Blue Hor** **57.17 309** P **P** **14 19 17.1 -1.0**
YBH IAmb IAmb 14 19 40.2
comp=Z,14nm,1.4s
M02C **Callahan** **57.25 308** P **P** **14 19 18.1 -0.6**
M02C **Callahan** **57.25 308** P **P** **14 19 18.3 -0.4**
baz=96
HUMO **Hull Mountain** **57.45 310** P **P** **14 19 19.8 -0.2**
HUMO IAmb IAmb 14 19 21.4
comp=Z,4.6nm,0.8s
H04D **Lebanon** **57.52 312** P **P** **14 19 20.4 0.0**
baz=98
KCPM **Cahto Peak** **57.66 306** P **P** **14 19 21.9 +0.3**
KMRM **Mail Ridge** **57.80 307** P **P** **14 19 23.3 +0.8**
L02E **Cave Junction** **57.88 309** P **P** **14 19 22.6 -0.4**
YKA **Yellowknife Ar** **58.05 334** P **P** **14 19 23.1 -0.7**
comp=Z,4.7nm,0.7s,baz=107,slow=7.4,SNR=53
YKA LR LR 14 45 43.7
comp=Z,48nm,18.6s,baz=266,slow=37
J01E **Myrtle Point** **58.22 310** P **P** **14 19 25.9 +0.6**
I02E **Swisshome, OR** **58.26 311** P **P** **14 19 26.3 +0.7**
PLCA **Paso Flores** **58.34 188** P **P** **14 19 24.1 -2.0**
comp=Z,2.0nm,0.8s,baz=19,slow=7.8,SNR=5.4
PLCA **Paso Flores** **58.34 188** P **P** **14 19 25.3 -0.8**
RES **Resolute Bay** **60.17 350** P **P** **14 19 40.0 +1.7**
TORD **Torodi Ar. Bea** **61.03 84** P **P** **14 19 44.0 -1.1**
comp=Z,0.9nm,0.9s,baz=288,slow=5.3,SNR=3.8
SET **Setif** **61.62 58** P **P** **14 19 53.0 +4.1**
BBB **Bella Bella** **62.10 320** LR LR 14 46 20.1
comp=Z,38nm,20.4s,baz=74,slow=36
TGTN **Hyland Airport** **63.82 331** P **P** **14 20 03.2 +0.2**
baz=102,SNR=6.1
DLBC **Dease Lake** **64.11 327** P **P** **14 20 05.9 +0.8**
DLBC IAmb IAmb 14 20 06.9
comp=Z,4.6nm,0.9s
A36M **Sachs Harbour** **65.59 342** P **P** **14 20 13.5 -0.8**
A36M IAmb IAmb 14 20 15.6
comp=Z,5.7nm,0.8s
A36M **Sachs Harbour** **65.59 342** P **P** **14 20 13.8 -0.5**
baz=110
P33M **Teslin, Yukon** **65.78 329** P **P** **14 20 16.8 +0.9**
P33M **Teslin, Yukon** **65.78 329** P **P** **14 20 16.2 +0.3**
baz=98
NB2 **NORSAR Subarra** **66.70 30** P **P** **14 20 22.7 +0.9**
comp=Z,1.2nm,0.7s,baz=264,slow=6.5
NOA **NORSAR Array B** **66.70 30** P **P** **14 20 22.6 +0.8**
comp=Z,1.2nm,0.8s,baz=262,slow=6.1,SNR=4.5
M31M **Drury Creek, Y** **66.79 331** P **P** **14 20 23.2 +1.0**
M31M IAmb IAmb 14 20 24.4
comp=Z,6.8nm,0.9s
M31M **Drury Creek, Y** **66.79 331** P **P** **14 20 22.5 +0.3**
baz=97,SNR=6.9
INK **Inuvik** **67.35 337** P **P** **14 20 25.1 -0.5**
INK IAmb IAmb 14 20 26.1
comp=Z,6.0nm,0.9s
INK **Inuvik** **67.35 337** P **P** **14 20 25.3 -0.3**
baz=100
N31M **Braeburn, Yuko** **67.36 330** P **P** **14 20 26.5 +0.5**
N31M IAmb IAmb 14 20 27.3
comp=Z,4.4nm,0.8s
N31M **Braeburn, Yuko** **67.36 330** P **P** **14 20 25.8 -0.1**
baz=95
HFS **Hagfors** **67.84 32** LR LR 14 44 02.8
comp=Z,25nm,21.7s,baz=262,slow=30
M30M **Minto, Yukon** **67.94 331** P **P** **14 20 29.7 +0.1**
M30M IAmb IAmb 14 20 30.8
comp=Z,3.9nm,0.8s
M30M **Minto, Yukon** **67.94 331** P **P** **14 20 29.2 -0.4**
baz=95,SNR=5.6
YUK6 **Outpost Mounta** **68.57 329** P **P** **14 20 34.3 +0.5**
baz=93
YUK4 **Talbot Arm** **68.73 330** P **P** **14 20 34.9 +0.1**
baz=93
DAWY **Dawson** **69.22 333** P **P** **14 20 37.8 +0.3**
DAWY **Dawson** **69.22 333** P **P** **14 20 37.5 0.0**
baz=93
LOGN **Logan Glacier** **69.86 329** P **P** **14 20 42.9 +1.3**
LOGN IAmb IAmb 14 20 43.5
comp=Z,4.6nm,0.8s
EGAK **Eagle** **70.01 333** P **P** **14 20 42.2 -0.1**
EGAK **Eagle** **70.01 333** P **P** **14 20 42.4 +0.1**
baz=92
CTGM **Chitina Glacie** **70.02 329** P **P** **14 20 43.9 +1.2**
CTGM IAmb IAmb 14 20 44.8
comp=Z,3.3nm,0.7s
CTG **Chitna Glacier** **70.03 329** P **P** **14 20 43.1 +0.4**
baz=90
BARN **Barnard Glacie** **70.18 329** P **P** **14 20 44.8 +1.1**
BARN IAmb IAmb 14 20 45.9
comp=Z,9.8nm,1.4s
BCAR **Beaver Creek A** **70.25 332** P **P** **14 20 44.5 +0.7**
L27K **Beaver Creek,** **70.27 332** P **P** **14 20 44.7 +0.7**
L27K IAmb IAmb 14 20 45.4
comp=Z,4.3nm,0.7s
L27K **Beaver Creek,** **70.27 332** P **P** **14 20 44.0 0.0**
baz=91,SNR=5.3
M27K **Edge Creek, AK** **70.29 331** P **P** **14 20 45.3 +1.1**
M27K IAmb IAmb 14 20 46.1
comp=Z,9.4nm,1.1s
M27K **Edge Creek, AK** **70.29 331** P **P** **14 20 44.3 0.0**
baz=90
MCARA **McCarthy VSAT** **70.84 330** P **P** **14 20 48.6 +1.1**
MCARA IAmb IAmb 14 20 49.8
comp=Z,10nm,0.8s
MCARA **McCarthy VSAT** **70.84 330** P **P** **14 20 47.8 +0.4**
baz=89
L26K **Log Cabin Wild** **70.97 331** P **P** **14 20 49.3 +1.1**
L26K IAmb IAmb 14 20 50.2
comp=Z,5.8nm,0.8s
L26K **Log Cabin Wild** **70.97 331** P **P** **14 20 48.3 +0.1**
baz=89,SNR=5.6
J26L **Joseph Creek** **71.05 333** P **P** **14 20 48.9 +0.2**
baz=90
MENT **Mentasta** **71.14 331** P **P** **14 20 50.2 +1.0**
MENT IAmb IAmb 14 20 51.0
comp=Z,5.9nm,0.8s
BMAR **Burnt Mountain** **71.44 336** P **P** **14 20 50.6 -0.4**
J25K **Salcha River,** **71.82 333** P **P** **14 20 53.7 +0.3**
J25K **Salcha River,** **71.82 333** P **P** **14 20 53.3 -0.1**
baz=88
PRP **Porcupine Dome** **71.86 334** P **P** **14 20 53.4 -0.3**
PRP IAmb IAmb 14 20 54.8
comp=Z,5.7nm,1.0s
PRP **Porcupine Dome** **71.86 334** P **P** **14 20 53.4 -0.3**
baz=88,SNR=5.2
PAX **Paxson** **71.94 331** P **P** **14 20 54.3 +0.2**
PAX **Paxson** **71.94 331** P **P** **14 20 54.6 +0.4**
baz=87
KLU **Klutina** **72.23 330** P **P** **14 20 55.9 0.0**
KLU IAmb IAmb 14 21 07.2
comp=Z,7.3nm,1.3s
KLU **Klutina** **72.23 330** P **P** **14 20 56.2 +0.3**
baz=86
IL31 **72.47 333** P **P** **14 20 56.9 -0.2**
IL31 IAmb IAmb 14 21 09.0
comp=Z,7.5nm,1.4s
ILAR **Eielson Array** **72.47 333** P **P** **14 20 56.8 -0.4**
comp=Z,1.7nm,0.8s,baz=99,slow=4.5,SNR=17
ILAR LR LR 14 52 11.3
comp=Z,21nm,20.8s,baz=127,slow=35
POKR **Poker Plat Res** **72.68 334** P **P** **14 20 58.3 -0.2**
baz=86
H24K **Noodor Dome** **72.82 335** P **P** **14 20 59.4 +0.1**
H24K **Noodor Dome** **72.82 335** P **P** **14 20 58.8 -0.5**
baz=86
CCB **Clear Creek Bu** **72.87 333** P **P** **14 20 59.3 -0.3**
ARCES **ARCESS Array B** **72.92 22** P **P** **14 20 59.8 0.0**
comp=Z,7.8nm,1.2s,baz=262,slow=4.5,SNR=2.5
ARCES **ARCESS Array B** **72.92 22** IAmb IAmb 14 21 03.2
comp=Z,21nm,1.4s
WAT6 **Susitna Watana** **73.00 331** P **P** **14 20 59.8 -0.7**
baz=85
WRH **Wood River Hil** **73.00 333** P **P** **14 21 00.2 -0.2**
MDM **Murphy Dome** **73.03 334** P **P** **14 21 00.5 0.0**
MDM IAmb IAmb 14 21 01.3
comp=Z,11nm,1.1s
TOLK **Toolik Lake Re** **73.27 338** P **P** **14 21 00.9 -1.0**
baz=85
NEA2 **Nenana** **73.42 333** P **P** **14 21 02.4 -0.4**
NEA2 IAmb IAmb 14 21 03.5
comp=Z,6.7nm,0.9s
NEA2 **Nenana** **73.42 333** P **P** **14 21 02.5 -0.3**
baz=85,SNR=5.1
RND **Reindeer** **73.43 332** P **P** **14 21 03.9 +0.9**
RND IAmb IAmb 14 21 07.8
comp=Z,8.8nm,1.2s
MCK **McKinley** **73.44 332** P **P** **14 21 02.8 -0.2**
baz=84
KNK **Knik Glacier** **73.45 330** P **P** **14 21 03.2 +0.2**
baz=84
I23K **Minto, Yukon-K** **73.49 334** P **P** **14 21 02.8 -0.3**
baz=84
COLD **Coldfoot** **73.63 336** P **P** **14 21 04.8 +0.8**
baz=84
FINES **FINESS Array B** **73.88 30** P **P** **14 21 05.6 +0.1**
comp=Z,1.7nm,1.0s,baz=234,slow=6.7,SNR=3.7
FINES LR LR 14 47 28.8
comp=Z,23nm,21.8s,baz=276,slow=31
FINES **FINESS Array B** **73.88 30** P **P** **14 21 05.7 +0.2**
FIA1 **FINESS Array S** **73.88 30** P **P** **14 21 05.3 -0.2**
FIA1 IAmb IAmb 14 21 18.9
comp=Z,14nm,1.4s
TRF **Thorofare Moun** **74.07 332** P **P** **14 21 06.7 -0.2**
TRF IAmb IAmb 14 21 08.0
comp=Z,10nm,0.7s
TRF **Thorofare Moun** **74.07 332** P **P** **14 21 06.7 -0.2**
baz=83,SNR=5.5
MLY **Manley** **74.08 334** P **P** **14 21 06.6 -0.1**
baz=83
CUT **Chulitna** **74.19 331** P **P** **14 21 07.2 -0.1**
baz=83
BPAW **Bear Paw Mtn.** **74.30 333** P **P** **14 21 06.9 -1.1**
baz=83
KTH **Kantishna Hill** **74.34 332** P **P** **14 21 08.3 0.0**
KTH IAmb IAmb 14 21 09.9
comp=Z,14nm,1.2s
BRSE **Bradley Lake S** **74.77 328** P **P** **14 21 10.5 -0.3**
baz=82
CAPN **Captain Cook N** **74.83 329** P **P** **14 21 11.0 0.0**
baz=82
H21K **Melozitna Rive** **74.86 335** P **P** **14 21 11.3 +0.1**
H21K IAmb IAmb 14 21 12.3
comp=Z,9.4nm,1.4s
H21K **Melozitna Rive** **74.86 335** P **P** **14 21 11.0 -0.2**
baz=82
CAST **Castle Rocks** **74.88 332** P **P** **14 21 10.8 -0.6**
baz=82
CHUM **Lake Minchumin** **74.91 333** P **P** **14 21 11.3 -0.2**
baz=82
IMAR **Indian Mountai** **75.19 335** P **P** **14 21 12.9 -0.2**
SPCR **Spurr Chakacha** **75.27 330** P **P** **14 21 12.5 -1.2**
baz=81
J20K **Nowinta River** **75.66 333** P **P** **14 21 15.6 -0.2**
J20K **Nowinta River** **75.66 333** P **P** **14 21 15.4 -0.4**
baz=80
K20K **Telida** **75.77 332** P **P** **14 21 15.8 -0.6**
baz=80
L20K **Farewell, AK** **75.84 331** P **P** **14 21 16.4 -0.5**
baz=80
L19K **White Mountain** **76.34 331** P **P** **14 21 20.3 +0.6**
baz=79
AKASG **Malin Array Be** **77.34 41** LR LR 14 53 43.0
comp=Z,22nm,19.1s,baz=272,slow=34
ANM **Nome** **80.28 335** P **P** **14 21 42.1 +0.7**
baz=70
TNA **Tin City** **80.93 336** P **P** **14 21 46.3 +1.5**
baz=68
BRTR **Keskin Array B** **83.08 51** P **P** **14 21 56.9 0.0**

comp=Z,0.7nm,0.7s,baz=246,slow=6.0,SNR=4.3

TSUM	**Tsumeb**	**85.87**	**111**	LR	LR	14 53 58.1
	comp=Z,40nm,18.0s,baz=144,slow=31					
BELG	**Belogornoye**	**87.67**	**35**	LR	LR	14 57 32.7
	comp=Z,27nm,20.6s,baz=344,slow=33					
MATP	**Matopo**	**96.02**	**109**	LR	LR	15 04 11.1
	comp=Z,39nm,18.3s,baz=60,slow=34					
PZH	**PanZhiHua**	**133.55**	**21**	PKP	**PKPdf**	**14 28 45.6 -2.4**
ASAR	**Alice Springs**	**164.13**	**244**	PKP	**PKPdf**	**14 29 33.8 -1.0**
	comp=Z,0.5nm,0.7s,baz=110,slow=1.3,SNR=12					
ASAR				PKPab	**PKPab**	**14 30 27.0 -1.5**
	comp=Z,1.0nm,0.7s,baz=106,slow=4.2,SNR=12					
WRA	**Warramunga Arr**	**164.63**	**258**	PKP	**PKPdf**	**14 29 34.4 -0.9**
	comp=Z,0.9nm,0.9s,baz=56,slow=0.8,SNR=6.5					

*NEIC **22** 14:15:24.7±1.6, 15°.13S±0°.05×72°.44W±0°.10, h93km±11km, mb4.1/6 Error ellipse: s-maj=15.6km s-min=2.3km az=60.0*
*IDC **22** 14:15:25.2±1.9, 15°.23S×72°.46W, h118km±17km, mb3.8/4, mb1 3.8/8, mb1mx3.5/37, mbtmp4.2/8, Error ellipse: s-maj=35.3km s-min=16.7km az=27.0*
*VAO **22** 14:15:29.1±0.4, 14°.79S×72°.34W, h145km, mb4.3*

ISC 22 14:15:24.8±0.6, 15°.16S±0°.07×72°.52W±0°.07, h114km, n75, σ1§41/76, mb4.1/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**3.82**	**147**	Pn	**Pn**	**14 16 22.0**	**+0.2**
PB12	**IPOC Station P**	**4.03**	**149**	Pn	**Pn**	**14 16 24.5**	**-0.2**
PB16	**IPOC Station P**	**4.38**	**138**	Pn	**Pn**	**14 16 29.8**	**+1.2**
LPAZ	**La Paz**	**4.38**	**105**	P	**Pn**	**14 16 31.2**	**+1.3**
	8.0nm,0.3s,baz=278,slow=11,SNR=86						
LPAZ				S	**Sn**	**14 17 19.2**	**-1.1**
	baz=339,slow=2.4,SNR=1.5						
LPAZ	**La Paz**	**4.38**	**105**	Pn	**Pn**	**14 16 31.1**	**+1.2**
LPAZ	**La Paz**	**4.38**	**105**	*eP*	**Pn**	**14 16 31.6**	**+1.7**
NNA	**Nana**	**5.25**	**306**	P	**Pn**	**14 16 42.6**	**+1.4**
	24nm,0.3s,baz=110,slow=13,SNR=30						
NNA				S	**Sn**	**14 17 40.4**	**-0.2**
	28nm,0.3s,baz=232,slow=17,SNR=6.5						
NNA	**Nana**	**5.25**	**306**	Pn	**Pn**	**14 16 42.9**	**+1.7**
PB11	**IPOC Station P**	**5.33**	**150**	Pn	**Pn**	**14 16 41.6**	**-0.7**
GO01	**Chusmiza**	**5.50**	**145**	Pn	**Pn**	**14 16 44.7**	**-0.2**
TA02	**Huaiquique**	**5.57**	**156**	Pn	**Pn**	**14 16 45.7**	**+0.2**
TA01	**Diego Aracena**	**5.82**	**158**	Pn	**Pn**	**14 16 47.7**	**-1.2**
PB08	**IPOC Station P**	**5.91**	**148**	Pn	**Pn**	**14 16 50.2**	**-0.1**
PB01	**IPOC Station P**	**6.53**	**154**	Pn	**Pn**	**14 16 57.4**	**-1.1**
PB02	**IPOC Station P**	**6.62**	**158**	Pn	**Pn**	**14 16 58.3**	**-1.4**
PB07	**IPOC Station P**	**7.00**	**159**	Pn	**Pn**	**14 17 03.9**	**-1.0**
PB09	**IPOC Station P**	**7.31**	**155**	Pn	**Pn**	**14 17 07.7**	**-1.3**
PB04	**IPOC Station P**	**7.48**	**163**	Pn	**Pn**	**14 17 10.4**	**-1.1**
PB06	**IPOC Station P**	**8.01**	**160**	Pn	**Pn**	**14 17 17.1**	**-1.5**
ETMB	**Extrema**	**8.13**	**50**	*eP*	**Pn**	**14 17 19.0**	**-1.1**
LVC	**Limon Verde**	**8.16**	**156**	P	**Pn**	**14 17 19.7**	**-1.1**
	1.5nm,0.3s,baz=351,slow=11,SNR=14						
LVC				S	**Sn**	**14 18 46.9**	**-4.8**
	3.6nm,0.3s,baz=134,slow=22,SNR=12						
LVC	**Limon Verde**	**8.16**	**156**	Pn	**Pn**	**14 17 20.1**	**-0.7**
PB15	**IPOC Station P**	**8.51**	**161**	Pn	**Pn**	**14 17 25.3**	**-0.2**
PB10	**IPOC Station P**	**8.52**	**168**	Pn	**Pn**	**14 17 23.7**	**-1.6**
PB14	**IPOC Station P**	**9.63**	**168**	Pn	**Pn**	**14 17 38.5**	**-2.1**
SIV	**San Ignacio**	**11.07**	**96**	P	**Pn**	**14 17 58.0**	**-1.9**
	0.8nm,0.3s,baz=276,slow=14,SNR=6.4						
AC01	**Pan de Azucar**	**11.08**	**171**	Pn	**Pn**	**14 18 00.3**	**+0.3**
VILB	**Vilhena**	**12.16**	**81**	*eP*	**Pn**	**14 18 14.2**	**-0.2**
PTLB	**Pontes e Lacer**	**12.92**	**93**	*eP*	**Pn**	**14 18 25.2**	**+0.9**
PDRB	**Porto dos Gac**	**15.77**	**79**	*eP*	**P**	**14 19 01.4**	**-0.7**
SALV	**Santo Antonio**	**16.24**	**95**	*eP*	**P**	**14 19 06.8**	**-0.5**
OTAV	**Otavalo**	**16.38**	**339**	*eP*	**Pn**	**14 19 07.2**	**-1.5**
CLDB	**Colider**	**16.84**	**77**	*eP*	**P**	**14 19 13.4**	**-0.8**
AQDB	**Aquidauana**	**16.87**	**111**		**P**	**14 19 13.9**	**-0.4**
AQDB				IAmb	IAmb	14 19 15.7	
	comp=Z,6.7nm,0.9s						
PP1B	**Ponte de Pedra**	**17.10**	**101**	*eP*	**P**	**14 19 17.5**	**+0.5**
CPUP	**Villa Florida**	**18.02**	**131**	P	**Pn**	**14 19 28.8**	**+0.7**
CPUP				IAmb	IAmb	14 19 29.2	
	comp=Z,14nm,1.4s						
CPUP	**Villa Florida**	**18.02**	**131**	*eP*	**Pn**	**14 19 29.1**	**+1.0**
NPGB	**Novo Progresso**	**18.66**	**66**	*eP*	**P**	**14 19 32.9**	**-1.2**
ITTB	**Itaituba**	**19.70**	**59**	*eP*	**P**	**14 19 43.9**	**-1.5**
TRCB	**Terra Rica**	**20.27**	**115**	*eP*	Pn	14 19 53.2	-1.3
ITQB	**Itaqui**	**20.57**	**137**	*eP*	Pn	14 19 60.0	+2.0
SNDB	**Serra Nova Dou**	**20.88**	**84**	*eP*	**P**	**14 19 57.7**	**-0.4**
BOAV	**Boa Vista**	**21.10**	**35**	*eP*	**P**	**14 19 57.8**	**-2.7**
PCMB	**Pacaembu**	**21.16**	**111**	*eP*	**P**	**14 20 01.8**	**+0.7**
ITRB	**Iturama**	**21.62**	**105**	*eP*	**P**	**14 20 06.2**	**+0.2**
MALB	**Monte Alegre**	**22.35**	**55**	*eP*	**P**	**14 20 12.7**	**-0.9**
ITAB	**Concordia**	**22.45**	**126**	P	**P**	**14 20 15.1**	**+0.5**
ITAB				IAmb	IAmb	14 20 20.0	
	comp=Z,22nm,1.0s						
ITAB	**Concordia**	**22.45**	**126**	*eP*	**P**	**14 20 15.2**	**+0.6**
FRTB	**Fartura**	**23.13**	**114**	*eP*	**P**	**14 20 22.8**	**+1.6**
CPSB	**Cacapava Do Su**	**23.18**	**134**	*eP*	**P**	**14 20 24.2**	**+2.6**
IPMB	**Ipameri, GO**	**23.47**	**100**	*eP*	**P**	**14 20 24.4**	**0.0**
BB19B	**Bebedouro**	**23.54**	**108**	*eP*	**P**	**14 20 25.8**	**+0.7**
BDFB	**Brasilia**	**23.63**	**94**	P	**P**	**14 20 23.8**	**-2.2**
	comp=Z,2.2nm,0.5s,baz=248,slow=11,SNR=2.7						
PEXB	**Peixe**	**23.73**	**86**	*eP*	**P**	**14 20 26.3**	**-0.5**
PLTB	**Pedras Altas**	**23.90**	**137**	*eP*	**P**	**14 20 30.5**	**+2.4**
SDV	**Santo Domingo**	**23.96**	**5**	P	**P**	**14 20 29.1**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=210,slow=7.3,SNR=1.9						
MCPB	**Macapa, AP**	**25.00**	**56**	*eP*	**P**	**14 20 35.2**	**-3.1**
SMTB	**Santa Maria do**	**25.16**	**78**	*eP*	**P**	**14 20 39.3**	**-0.5**
TER01	**Tubaro-SC**	**25.41**	**125**	*eP*	**P**	**14 20 44.8**	**+2.9**
BSCB	**Bom Sucesso**	**26.99**	**107**	*eP*	**P**	**14 20 57.3**	**+1.0**
JANB	**Januaria**	**27.23**	**94**	*eP*	**P**	**14 20 57.5**	**-1.0**
DIAM	**Diamantina, MG**	**27.79**	**101**	*eP*	**P**	**14 21 04.1**	**+0.6**
ROSB	**Rosrio**	**30.52**	**69**	*eP*	**P**	**14 21 26.6**	**-1.0**
GUA01	**Guaratinga, BA**	**31.49**	**97**	*eP*	**P**	**14 21 36.2**	**+0.1**
CMC01	**Camacan, BA**	**31.83**	**95**	*eP*	**P**	**14 21 40.2**	**+1.2**
GDU01	**Guandu, BA**	**31.93**	**92**	*eP*	**P**	**14 21 40.1**	**+0.2**
NBIT	**Itapeh - BA**	**31.94**	**94**	*eP*	**P**	**14 21 41.1**	**+1.1**
NBPB	**Pedra_Branca-C**	**33.74**	**77**	*eP*	**P**	**14 21 54.5**	**-1.3**
NBAN	**Anadia - AL**	**35.79**	**86**	*eP*	**P**	**14 22 13.1**	**-0.4**
SNAA	**Sanae**	**69.36**	**162**	P	**P**	**14 26 23.7**	**+3.8**
DBIC	**Dimbokro**	**70.46**	**77**	P	**P**	**14 26 27.6**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=239,slow=5.9,SNR=1.4						
TOA0	**Torodi Ar. Sit**	**78.63**	**73**	P	**P**	**14 27 15.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**78.63**	**73**	P	**P**	**14 27 15.0**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=258,slow=5.3,SNR=11						
TORD	**Torodi Ar. Bea**	**78.63**	**73**	P	**P**	**14 27 15.2**	**+0.4**
TORD				IAmb	IAmb	14 27 16.1	
	comp=Z,3.1nm,0.9s						
ASAR	**Alice Springs**	**133.56**	**214**	PKP	**PKPdf**	**14 34 27.5**	**-1.2**
	comp=Z,0.5nm,1.1s,baz=107,slow=3.1,SNR=2.8						

IDC 22 14:18:52.3±4.5, 47°.25S×32°.95E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/45, mbtmp3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/64, Error ellipse: s-maj=424.7km s-min=36.7km az=44.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.50**	**324**	LR	LR	14 27 56.1	
	comp=Z,60nm,18.2s,baz=168,slow=31						
LBTB	**Lobatse**	**22.95**	**343**	LR	LR	14 31 25.3	
	comp=Z,36nm,18.1s,baz=154,slow=33						
TORD	**Torodi Ar. Bea**	**66.31**	**327**	P	P	14 29 42.5	0.0
	0.3nm,0.6s,baz=167,slow=7.6,SNR=1.8						
STKA	**Stephens Creek**	**78.50**	**125**	P		14 30 55.4	+0.1
	1.0nm,0.6s,baz=204,slow=5.2,SNR=4.6						
ASAR	**Alice Springs**	**80.01**	**114**	P	P	14 31 03.8	0.0
	1.0nm,0.6s,baz=219,slow=4.9,SNR=20						

MAN 22 14:21:31.0, 8°.47N×123°.25E, h22km, mb4.3, ML3.1, MS2.8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.87**	**359**	*iP*	Pb	14 21 47.6	+0.1
SNPH				*i* S	Sn	14 22 00.6	+0.5
TBP	**Tagbilaran**	**1.36**	**26**	*eP*	Pn	14 21 55.0	+0.3
TBP				*i* S	Sb	14 22 14.5	+1.8
CGP	**Cagayan de Oro**	**1.43**	**90**	*eP*	Pb	14 22 01.4	+4.4
CGP				*eS*	Sn	14 22 13.6	-0.1
CTBH	**Cotabato--PC H**	**1.58**	**141**	*iP*	Pn	14 21 57.9	+0.2
CTBH				*i* S	Sb	14 22 18.5	-0.7
KCP	**Kidapawan**	**2.33**	**128**	*eP*	Pb	14 22 10.3	-2.1

*IDC **22** 14:23:09.7±2.2, 35°.50N×32°.35E, h53km±28km, mb3.8/5, mb1 3.9/10, mb1mx3.5/54, mbtmp4.0/10, ML4.4/6, MS3.0/3, Ms1 3.0/3, ms1mx2.3/82, Error ellipse: s-maj=20.7km s-min=18.8km az=110.0*
*HLW **22** 14:23:09.7, 35°.39N×32°.27E, h18km±35km, Md4.1*
*NIC **22** 14:23:10.2±0.0, 35°.57N×32°.45E, h51km±3km, Ml4.2/8*
*NEIC **22** 14:23:10.3±1.9, 35°.38N±0°.06×32°.42E±0°.07, h61km±7km, Error ellipse: s-maj=9.4km s-min=7.7km az=208.0*
*ISK **22** 14:23:10.1, 35°.40N×32°.53E, h77km, ML3.8/33*
*DDA **22** 14:23:11.1±0.0, 35°.52N×32°.59E, h33km±1km, MW3.8*
*GII **22** 14:23:13.1±0.2, 35°.24N×32°.57E, h80km, MD3.7/4, Mm3.4/9*

ISC 22 14:23:10.4±0.7, 35°.38N±0°.02×32°.42E±0°.03, h70km±6km, n172, σ1§32/210, mb4.2/10, 5C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALFC	**Alefka**	**0.27**	**145**	*iP*	**Pn**	**14 23 21.0**	**-0.5**
ALFC				S	**Sn**	**14 23 28.8**	**-0.7**
ALFC				AML	AML	14 23 29.2	
	58nm,0.3s						
ALFC				AML	AML	14 23 29.2	
	58nm,0.3s						
ALFC				AML	AML	14 23 29.2	
	74nm,0.2s						
ALFC				AML	AML	14 23 29.2	
	74nm,0.2s						
AKMS	**Akamas**	**0.36**	**190**	*iP*	**Pn**	**14 23 22.5**	**+0.4**
AKMS				S	**Sn**	**14 23 31.3**	**+0.7**
AKMS				AML	AML	14 23 35.2	
	36nm,0.3s						
AKMS				AML	AML	14 23 35.2	
	36nm,0.3s						
AKMS				AML	AML	14 23 37.0	
	47nm,0.4s						
AKMS				AML	AML	14 23 37.0	
	47nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**0.46**	**100**	PG	**Pn**	**14 23 23.2**	**+0.4**
AKDN				SG	**Sn**	**14 23 32.5**	**+0.6**
NATA	**Nata**	**0.61**	**168**	*iP*	**Pn**	**14 23 25.3**	**+0.9**
NATA				S	**Sn**	**14 23 37.1**	**+2.5**
NATA				AML	AML	14 23 38.4	
	56nm,0.5s						
NATA				AML	AML	14 23 38.4	
	56nm,0.5s						
NATA				AML	AML	14 23 38.6	
	42nm,0.3s						
NATA				AML	AML	14 23 38.6	
	42nm,0.3s						
SZAC	**Souni**	**0.73**	**148**	P	**Pn**	**14 23 26.1**	**+0.4**
SZAC				S	**Sn**	**14 23 39.5**	**+2.5**
SZAC				AML	AML	14 23 40.0	
	22nm,0.3s						
SZAC				AML	AML	14 23 40.0	
	22nm,0.3s						
SZAC				AML	AML	14 23 41.2	
	35nm,0.2s						
SZAC				AML	AML	14 23 41.2	
	35nm,0.2s						
ATHAL	**Athalassa**	**0.84**	**106**	P	**Pn**	**14 23 26.8**	**-0.1**
ATHAL				S	**Sn**	**14 23 39.4**	**+0.3**
ATHAL				AML	AML	14 23 39.5	
	30nm,0.3s						
ATHAL				AML	AML	14 23 39.5	
	30nm,0.3s						
ATHAL				AML	AML	14 23 39.9	
	27nm,0.6s						
ATHAL				AML	AML	14 23 39.9	
	27nm,0.6s						
CSS	**Mathiatis**	**0.86**	**119**	PG	**Pn**	**14 23 27.1**	**-0.1**
CSS				SG	**Sn**	**14 23 39.7**	**+0.1**
CSS	**Mathiatis**	**0.86**	**119**	Pn	**Pn**	**14 23 26.9**	**-0.3**
CSS				Sn	**Sn**	**14 23 38.3**	**-1.3**
CSS	**Mathiatis**	**0.86**	**119**	P	**Pn**	**14 23 27.1**	**-0.1**
CSS	**Mathiatis**	**0.86**	**119**	*ip*	**Pn**	**14 23 27.0**	**-0.1**
CSS				S	**Sn**	**14 23 40.2**	**+0.6**
GAZI	**Gazipasa**	**0.86**	**355**	P	**Pn**	**14 23 26.4**	**-0.9**
GAZI				S	**Sn**	**14 23 36.8**	**-2.9**
ASGA	**Asgata**	**0.90**	**131**	*eP*	**Pn**	**14 23 28.0**	**+0.2**
ASGA				S	**Sn**	**14 23 42.7**	**+2.2**
ASGA				AML	AML	14 23 44.7	
	18nm,0.4s						
ASGA				AML	AML	14 23 44.7	
	18nm,0.4s						
ASGA				AML	AML	14 23 46.0	
	14nm,0.5s						
ASGA				AML	AML	14 23 46.0	
	14nm,0.5s						
LFK	**Lefkose**	**0.92**	**96**	PG	**Pn**	**14 23 27.7**	**-0.3**
LFK				SG	**Sn**	**14 23 40.5**	**-0.5**
AKIN	**Akıncılar- Kıb**	**0.93**	**112**	PG	**Pn**	**14 23 27.9**	**-0.2**
TEKE	**Tekeli-Mersin**	**0.95**	**36**	PG	**Pn**	**14 23 27.9**	**-0.4**
MVOU	**Mavrovouni**	**1.06**	**109**	*eP*	**Pn**	**14 23 29.3**	**-0.4**
MVOU				AML	AML	14 23 45.2	
	12nm,0.7s						
MVOU				AML	AML	14 23 46.2	
	19nm,0.4s						
YORU	**Yoruktepe-Mers**	**1.12**	**46**	PG	**Pn**	**14 23 30.2**	**-0.3**
BERE	**Bereket-Mersin**	**1.17**	**34**	PN	**Pn**	**14 23 31.0**	**-0.2**
OREN	**Orenkoy-Mersin**	**1.19**	**45**	PN	**Pn**	**14 23 30.7**	**-0.6**
AKK1	**Akkuyu-Mersin**	**1.19**	**50**	PN	**Pn**	**14 23 30.9**	**-0.5**
AKK2	**Akkuyu-Mersin**	**1.20**	**50**	PN	**Pn**	**14 23 30.7**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.21**	**49**	PN	**Pn**	**14 23 31.0**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.22**	**48**	P	**Pn**	**14 23 31.1**	**-0.6**
GULN				S	**Sn**	**14 23 45.6**	**-2.1**
TISA	**Tisan-Mersin**	**1.29**	**52**	PN	**Pn**	**14 23 32.1**	**-0.6**
ERMK	**Ermenek**	**1.33**	**18**	P	**Pn**	**14 23 34.2**	**+0.9**
ERMK				S	**Sn**	**14 23 50.8**	**+0.4**
KARG	**Kargicak-Mersi**	**1.34**	**52**	PN	**Pn**	**14 23 33.0**	**-0.3**
IKL	**Isikli**	**1.34**	**50**	PN	**Pn**	**14 23 32.9**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.35**	**38**	PN	**Pn**	**14 23 33.4**	**-0.1**
PARAL	**Paralimni**	**1.39**	**106**	P	**Pn**	**14 23 34.8**	**+0.9**
PARAL				AML	AML	14 24 00.7	
	14nm,1.1s						
PARAL				AML	AML	14 24 01.7	
	15nm,0.6s						
EREN	**Erenkoy**	**1.44**	**83**	PN	**Pn**	**14 23 34.7**	**+0.1**
EREN	**Erenkoy**	**1.44**	**83**	P	**Pn**	**14 23 34.7**	**+0.1**
EREN				S	**Sn**	**14 23 51.8**	**-0.9**
KEBE	**Keben-Mersin**	**1.50**	**44**	PN	**Pn**	**14 23 35.6**	**+0.1**
HDMB	**Hadim**	**1.58**	**2**	PN	**Pn**	**14 23 37.3**	**+0.5**
KKBE	**Karaman, Kazim**	**1.89**	**13**	P	**Pn**	**14 23 41.8**	**+1.1**
KKBE				S	**Sn**	**14 24 04.0**	**+0.4**
KRMN	**Karaman**	**1.92**	**21**	PN	**Pn**	**14 23 41.5**	**+0.4**
SEYD	**Seydisehir-KON**	**2.08**	**347**	PN	**Pn**	**14 23 44.6**	**+1.4**
ANTB	**Antalya**	**2.08**	**317**	PN	**Pn**	**14 23 45.5**	**+2.3**
SEDI	**Konya, Seydise**	**2.14**	**346**	P	**Pn**	**14 23 46.1**	**+2.0**
SEDI				S	**Sn**	**14 24 12.0**	**+2.3**
MERS	**Mersin**	**2.26**	**48**	PN	**Pn**	**14 23 45.9**	**+0.2**
OSC2	**CSNet OBS 4**	**2.30**	**183**	P	**Pn**	**14 23 47.7**	**+1.6**
SUTC	**Sutluce-Ispart**	**2.39**	**332**	PN	**Pn**	**14 23 49.0**	**+1.6**
KSL	**Kastellorizon**	**2.43**	**289**	*iP*	**Pn**	**14 23 47.4**	**-0.4**
KSL				S	**Sn**	**14 24 16.4**	**-0.1**
AKAS	**Kas**	**2.44**	**291**	Pn	**Pn**	**14 23 47.8**	**-0.3**
ELL	**Elmali**	**2.45**	**305**	PN	**Pn**	**14 23 49.4**	**+1.1**
ELL	**Elmali**	**2.45**	**305**	Pn	**Pn**	**14 23 47.8**	**-0.5**
KERG	**Konya-Eregli**	**2.46**	**34**	P	**Pn**	**14 23 49.9**	**+1.5**
KERG				S	**Sn**	**14 24 17.9**	**+0.5**
DED	**Mersin**	**2.50**	**50**	P	**Pn**	**14 23 49.1**	**+0.3**
DED				S	**Sn**	**14 24 17.1**	**-1.1**
KONT	**Konya--Tatoy**	**2.56**	**359**	PN	**Pn**	**14 23 51.2**	**+1.4**
KONT	**Konya--Tatoy**	**2.56**	**359**	P	**Pn**	**14 23 50.1**	**+0.4**
KONT				S	**Sn**	**14 24 22.8**	**+2.9**
YESY	**Yesilyurt**	**2.63**	**24**	PN	**Pn**	**14 23 51.5**	**+0.8**
GULE	**Gulek**	**2.69**	**44**	P	**Pn**	**14 23 53.0**	**+1.4**
LADK	**Ladik-KONYA**	**2.82**	**359**	PN	**Pn**	**14 23 54.3**	**+1.0**
KARA	**Karaisali**	**2.84**	**48**	PN	**Pn**	**14 23 54.3**	**+0.8**
ISP	**Isparta**	**2.88**	**329**	PN	**Pn**	**14 23 56.1**	**+2.0**
ISP	**Isparta**	**2.88**	**329**	Pn	**Pn**	**14 23 55.5**	**+1.4**
BHL	**Bhannes**	**3.05**	**118**	*eP*	**Pn**	**14 23 54.5**	**-1.8**
CMRD	**Camardi-Nigde**	**3.08**	**42**	PN	**Pn**	**14 23 58.2**	**+1.3**
DQRL	**Deir Qamar**	**3.09**	**122**	*eP*	**Pn**	**14 23 55.8**	**-1.2**
HWQ	**Hawqa**	**3.10**	**110**	*eP*	**Pn**	**14 23 57.4**	**+0.2**
CEYT	**Ceyhan**	**3.15**	**58**	PN	**Pn**	**14 23 57.7**	**0.0**
BASM	**Basmaki-Afyon**	**3.17**	**324**	PN	**Pn**	**14 23 59.7**	**+1.7**
AKO	**Adana**	**3.21**	**49**	P	**Pn**	**14 23 59.5**	**+1.0**
AKO				S	**Sn**	**14 24 34.1**	**-1.6**
TAHT	**Tahtakopru-Hat**	**3.22**	**71**	PN	**Pn**	**14 23 59.2**	**+0.6**
CHBY	**Cihanbeyli**	**3.22**	**7**	PN	**Pn**	**14 23 59.8**	**+1.0**
HNTI	**Hanita**	**3.23**	**134**	P	**Pn**	**14 23 59.0**	**+0.2**
HNTI	**Hanita**	**3.23**	**134**	Pn	**Pn**	**14 23 59.0**	**+0.2**
HNTI				Sn	**Sn**	**14 24 35.1**	**-1.1**
QRWL	**Qaraoun**	**3.26**	**123**	*eP*	**Pn**	**14 23 59.1**	**-0.2**
RCY	**Rachaya**	**3.39**	**123**	*eP*	**Pn**	**14 24 01.2**	**0.0**
MMC7	**Mount Meron ar**	**3.41**	**133**	Pn	**Pn**	**14 24 02.2**	**+0.9**
SHBL	**Chebaa**	**3.42**	**125**	*eP*	**Pn**	**14 24 01.3**	**-0.2**
MMA0B	**Mount Meron ar**	**3.42**	**133**	Pn	**Pn**	**14 24 01.7**	**+0.3**
MMA0B				S	**Sn**	**14 24 39.6**	**-1.2**
MMAI	**Mount Meron Ar**	**3.42**	**133**	P	**Pn**	**14 24 01.2**	**-0.2**
	177nm,0.3s,baz=99,slow=31,SNR=196						
MMAI				S	**Sn**	**14 24 39.5**	**-1.3**
	162nm,0.3s,baz=237,slow=4.6,SNR=14						
MMAI				LR	LR	14 25 55.8	
	comp=Z,65nm,19.5s,baz=79,slow=4.7						
GEM	**Giv'at Ha'Em**	**3.45**	**128**	P	**Pn**	**14 24 01.6**	**-0.2**
GEM	**Giv'at Ha'Em**	**3.45**	**128**	Pn	**Pn**	**14 24 02.0**	**+0.2**
KOZT	**Kozan**	**3.46**	**52**	PN	**Pn**	**14 24 02.3**	**+0.4**
NATI	**Neve Ativ**	**3.46**	**127**	P	**Pn**	**14 24 02.2**	**+0.2**
NATI	**Neve Ativ**	**3.46**	**127**	Pn	**Pn**	**14 24 02.2**	**+0.2**
OFRI	**`Ofer**	**3.48**	**141**	P	**Pn**	**14 24 02.3**	**0.0**
OFRI	**`Ofer**	**3.48**	**141**	Pn	**Pn**	**14 24 02.2**	**0.0**
OFRI				S	**Sn**	**14 24 40.4**	**-1.9**
BLGI	**Bet Lehem HaGe**	**3.50**	**138**	P	**Pn**	**14 24 03.2**	**+0.7**
BLGI	**Bet Lehem HaGe**	**3.50**	**138**	Pn	**Pn**	**14 24 02.6**	**+0.1**
BLGI				S	**Sn**	**14 24 41.1**	**-1.6**
SHUT	**Suhut-Afyon**	**3.50**	**335**	PN	**Pn**	**14 24 04.6**	**+2.0**
KIZT	**Kizilcal**	**3.52**	**353**	PN	**Pn**	**14 24 02.5**	**-0.4**
KULU	**Kulu**	**3.59**	**7**	PN	**Pn**	**14 24 06.2**	**+1.1**
KSHT	**Keshet**	**3.59**	**129**	Pn	**Pn**	**14 24 06.0**	**+0.9**
SLTI	**Sal'it**	**3.82**	**144**	P	**Pn**	**14 24 07.3**	**+0.5**
SLTI	**Sal'it**	**3.82**	**144**	Pn	**Pn**	**14 24 07.1**	**+0.3**
SHMJ	**Saham**	**3.84**	**133**	P	**Pn**	**14 24 08.4**	**+1.3**
MMLI	**Mount Malkishu**	**3.85**	**139**	Pn	**Pn**	**14 24 07.7**	**+0.4**
MMLI				S	**Sn**	**14 24 50.1**	**-1.3**
HMDT	**Nahal Hemdat**	**4.05**	**139**	Pn	**Pn**	**14 24 10.6**	**+0.6**
HMDT				S	**Sn**	**14 24 55.4**	**-0.8**
UJAP	**Al Uja**	**4.26**	**142**	P	**Pn**	**14 24 14.0**	**+1.2**
KARP	**Karpathos**	**4.29**	**274**	Pn	**Pn**	**14 24 13.1**	**-0.2**
KARP	**Karpathos**	**4.29**	**274**	P	**Pn**	**14 24 12.7**	**-0.6**
AMAZ	**Amatzia**	**4.37**	**151**	Pn	**Pn**	**14 24 15.4**	**+1.1**
AMAZ				S	**Sn**	**14 25 03.1**	**-0.8**
SARI	**SarD1z-Kayseri**	**4.41**	**46**	PN	**Pn**	**14 24 15.4**	**+0.4**
BNN	**Bunyan**	**4.42**	**37**	PN	**Pn**	**14 24 15.4**	**+0.2**
BNN	**Bunyan**	**4.42**	**37**	Pn	**Pn**	**14 24 14.3**	**-0.8**
BR131	**Keskin Array S**	**4.45**	**12**		**Pn**	**14 24 16.0**	**+0.5**
BRTR	**Keskin Array B**	**4.45**	**12**	P	**Pn**	**14 24 16.3**	**+0.8**
	0.9nm,0.3s,baz=196,slow=15,SNR=16						
BRTR				S	**Sn**	**14 25 01.7**	**-4.4**
	0.9nm,0.3s,baz=146,slow=20,SNR=4.2						
BRTR	**Keskin Array B**	**4.45**	**12**	PN	**Pn**	**14 24 16.3**	**+0.8**
DSI	**Dead Sea**	**4.53**	**146**	P	**Pn**	**14 24 17.9**	**+1.3**
DSI	**Dead Sea**	**4.53**	**146**	Sn	**Sn**	**14 25 06.6**	**-1.4**
HSUJ	**Al Zarqa**	**4.53**	**135**	P	**Pn**	**14 24 18.1**	**+1.5**
YTIR	**Yattir**	**4.60**	**150**	P	**Pn**	**14 24 18.8**	**+1.3**

ARCES	**ARCESS Array B**	**34.43 356**	P	**P**	**14 29 50.4**	**-0.4**
ARCES			IAmb	IAmb	14 29 53.4	
	comp=Z,17nm,1.5s					
TORD	**Torodi Ar. Bea**	**35.45 239**	P	**P**	**14 30 01.8**	**+1.7**
	comp=Z,1.7nm,0.5s,baz=36,slow=8.7,SNR=12					
MKAR	**Makanchi Array**	**38.68 57**	P	**P**	**14 30 29.4**	**+2.1**
	comp=Z,0.1nm,0.7s,baz=276,slow=6.5,SNR=2.8					
DBIC	**Dimbokro**	**44.56 239**	P	**P**	**14 31 15.6**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=66,slow=6.5,SNR=3.1					
DBIC	**Dimbokro**	**44.56 239**	IAmb	IAmb	14 31 24.9	
	comp=Z,13nm,1.4s					
TIC	**Toumodi**	**44.70 239**	*eP*	**P**	**14 31 16.9**	**+0.2**
TIC	**Toumodi**	**44.70 239**	P	**P**	**14 31 16.9**	**+0.2**
KIC	**Kosan Boka**	**44.70 239**	*eP*	**P**	**14 31 17.4**	**+0.6**
	comp=Z,8.3nm,0.5s					
KIC	**Kosan Boka**	**44.70 239**	P	**P**	**14 31 17.4**	**+0.6**
LIC	**Lamto**	**45.00 239**	*eP*	P	14 31 13.8	-5.3
	comp=Z,47nm,1.8s					
DRLN	**Deer Lake**	**64.14 313**	P	**P**	**14 33 38.0**	**+0.7**
SEY	**Seymchan**	**70.99 25**	LR	LR	15 11 01.3	
	comp=Z,33nm,20.3s,baz=29,slow=40					

IDC 22 14:29:38.4±2.7, 15°49N×124°01E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/47, mbtmp3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/45, 1C, Error ellipse: s-maj=162.0km s-min=28.6km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**8.49**	**173⇑**	*eP*	Pn	14 31 46.4	+3.6
JNU	**Nakatsue**	**18.63**	**18**	LR	LR	14 41 08.0	
	comp=Z,25nm,19.3s,baz=146,slow=37						
FITZ	**Fitzroy Crossi**	**33.41**	**177**	P	P	14 36 18.6	-0.4
	0.7nm,0.5s,baz=0.9,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**36.64**	**164**	P	P	14 36 47.3	+0.4
	0.8nm,0.6s,baz=345,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**40.10**	**166**	P	P	14 37 15.7	-0.3
	0.3nm,0.7s,baz=344,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**46.58**	**321**	P	P	14 38 08.0	-0.2
	0.2nm,0.7s,baz=130,slow=5.1,SNR=2.1						

MAN 22 14:30:45.8, 5°42N×122°79E, h33km, mb4.9, ML3.8, MS3.8, Celebes Sea

*IDC **22** 14:32:31.4±0.6, 1°03N×126°21E, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.3/40, mbtmp4.3/24, ML4.1/2, MS3.4/9, Ms1 3.4/9, ms1mx2.9/74, Error ellipse: s-maj=21.8km s-min=11.7km az=77.0*

*DJA **22** 14:32:37.8±0.2, 1°N±2°×12°6E±°, h62km±3km, M4.4/32, mB5.0/6, mb4.5/32, MLv4.4/18, Mw(mB)4.3/6*

*NEIC **22** 14:32:37.7±1.5, 1°05N±0°08×126°37E±0°05, h45km±7km, mb4.5/38, Error ellipse: s-maj=11.5km s-min=6.9km az=189.0*

ISC 22 14:32:37.4±0.3, 1°06N±0°05×126°38E±0°05, h39km, n143, σ1s34/142, mb4.5/54, MS3.5/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.03**	**106**	Pn	**Pn**	**14 32 55.7**	**+0.4**
TNTI	**Ternate**	**1.03**	**106**	P	**Pn**	**14 32 55.8**	**+0.5**
TNTI				S	**Sn**	**14 33 09.7**	**+1.2**
LBMI	**Labuha**	**2.03**	**146**	P	**Pn**	**14 33 09.6**	**+0.6**
KMSI	**Cibinong**	**2.45**	**259**	P	**Pn**	**14 33 15.5**	**+0.7**
KMSI				S	**Sn**	**14 33 44.6**	**+1.1**
SGSI	**Sangihe**	**2.74**	**342**	P	**Pn**	**14 33 19.0**	**+0.1**
SANI	**Sanana**	**3.12**	**187**	P	**Pn**	**14 33 24.1**	**+0.1**
GTOI	**Gorontalo**	**3.43**	**263**	P	**Pn**	**14 33 29.3**	**+1.5**
LUWI	**Luwuk**	**4.17**	**240**	Pn	**Pn**	**14 33 38.0**	**-0.5**
LUWI	**Luwuk**	**4.17**	**240**	P	**Pn**	**14 33 41.4**	**+2.9**
LUWI	**Luwuk**	**4.17**	**240**	P	**Pn**	**14 33 42.6**	**+4.1**
MRSI	**Marisa**	**4.48**	**263**	P	**Pn**	**14 33 43.0**	**+0.3**
AAI	**Ambon**	**5.05**	**159**	P	**Pn**	**14 33 51.1**	**+0.4**
	0.3nm56nm,1.0s						
APSI	**Ampana**	**5.12**	**248**	P	**Pn**	**14 33 54.1**	**+2.5**
	0.9nm3μm155nm,0.4s						
SWI	**Sorong**	**5.24**	**111**	P	**Pn**	**14 33 53.5**	**+0.3**
	0.2nm32nm,0.8s						
SIJI	**Sorong**	**5.25**	**111**	Pn	**Pn**	**14 33 55.0**	**+1.6**
	3.0nm,0.3s,baz=6.3,slow=13,SNR=3.6						
SIJI				LR	LR	14 36 19.9	
	comp=Z,251nm,20.4s,baz=325,slow=42						
TOLI2	**Tolitoli**	**5.60**	**271**	Pn	**Pn**	**14 33 57.9**	**-0.3**
TOLI2	**Tolitoli**	**5.60**	**271**	P	**Pn**	**14 34 00.9**	**+2.8**
MPSI	**Mapaga**	**6.52**	**264**	P	**Pn**	**14 34 13.3**	**+2.5**
	0.1nm31nm,1.0s						
BBSI	**Bau Bau**	**7.54**	**210**	P	**Pn**	**14 34 28.0**	**+3.2**
	0.0nm95nm7.8nm,0.7s						
TTSI	**Tana Toraja**	**7.72**	**238**	P	**Pn**	**14 34 28.4**	**+1.1**
	0.2nm610nm44nm,0.7s						
SPSI	**Sidrap Palu**	**8.28**	**233**	P	**Pn**	**14 34 36.8**	**+1.8**
	618nm50nm,0.7s						
BNSI	**Bone**	**8.29**	**229**	P	**Pn**	**14 34 36.1**	**+1.0**
	32nm,0.8s						
MYLDM	**Lahad Datu**	**8.87**	**298**	Pn	**Pn**	**14 34 43.9**	**+0.9**
BKSI	**Bulukumba**	**8.90**	**225**	P	**Pn**	**14 34 46.1**	**+2.6**
	18nm,0.6s						
KAPI	**Kappang**	**8.96**	**228**	Pn	**Pn**	**14 34 44.4**	**+0.1**
	2.9nm,0.3s,baz=48,slow=11,SNR=9.3						
KAPI	**Kappang**	**8.96**	**228**	Pn	**Pn**	**14 34 44.2**	**-0.1**
KAPI	**Kappang**	**8.96**	**228**	P	**Pn**	**14 34 44.9**	**+0.6**
BSSI	**Bau Bau, Buton**	**9.26**	**219**	P	**Pn**	**14 34 49.1**	**+0.6**
	12nm,0.6s						
SOEI	**Soe**	**10.95**	**191**	P	Pn	14 35 16.6	+4.9
	30nm,1.0s						
KKM	**Kota Kinabalu**	**11.29**	**296**	Pn	**Pn**	**14 35 16.4**	**+0.1**
KKM	**Kota Kinabalu**	**11.29**	**296**	P	**Pn**	**14 35 19.3**	**+3.0**
SBUM	**Sibu**	**14.22**	**276**		**P**	**14 36 03.7**	**+0.7**
SRBI	**Singaraja**	**14.37**	**231**	P	**P**	**14 36 02.7**	**-1.9**
	24nm,1.0s						
MTN	**Manton Dam**	**14.60**	**161**	Pn	**Pn**	**14 36 01.3**	**-0.1**
KMMI	**Kalianget**	**14.78**	**237**	P	**Pn**	**14 36 02.9**	**-0.9**
	58nm,1.3s						
STKI	**Sintang**	**14.93**	**266**	P	**P**	**14 36 14.1**	**+3.2**
KDU	**Kakadu**	**14.94**	**156**	P	**P**	**14 36 11.3**	**+0.4**
GMJI	**Gumukmas**	**15.88**	**234**	P	**P**	**14 36 22.4**	**+0.9**
	25nm,0.9s						
KSM	**Kuching**	**16.07**	**272**		**P**	**14 36 24.7**	**+1.2**
KSM	**Kuching**	**16.07**	**272**	P	**Pn**	**14 36 21.2**	**+0.5**
KNRA	**Kununurra**	**16.80**	**172**		**Pn**	**14 36 29.5**	**-0.3**
KNRA				IAmb	IAmb	14 36 32.2	
	comp=Z,36nm,0.8s						
KNRA	**Kununurra**	**16.80**	**172**	P	**P**	**14 36 31.0**	**-0.6**
PCJI	**Pacitan**	**17.73**	**238**	P	**Pn**	**14 36 41.2**	**-0.2**
	comp=Z,26nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.05**	**182**	P	**P**	**14 36 55.4**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=16,slow=9.1,SNR=15						
FITZ	**Fitzroy Crossi**	**19.05**	**182**	P	**P**	**14 36 55.9**	**-0.6**
WB0	**Warramunga Arr**	**22.14**	**160**	P	**P**	**14 37 28.9**	**-1.1**
WB0				IAmb	IAmb	14 37 36.1	
	comp=Z,37nm,1.2s						
TWG	**Pinlang**	**22.23**	**347**	P	**P**	**14 37 30.4**	**-0.5**
WRAB	**Tennant Creek**	**22.28**	**160**	P	**P**	**14 37 30.1**	**-1.3**
WRAB				IAmb	IAmb	14 37 35.6	
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**22.28**	**160**	P	**P**	**14 37 31.0**	**-0.4**
WRA	**Warramunga Arr**	**22.29**	**160**	P	**P**	**14 37 30.4**	**-1.1**
	comp=Z,9.3nm,0.4s,baz=337,slow=11,SNR=71						
WRA				S	**S**	**14 41 32.3**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=330,slow=18,SNR=6.9						
WRA	**Warramunga Arr**	**22.29**	**160**	P	**P**	**14 37 30.1**	**-1.3**
WB2	**Warramunga Arr**	**22.29**	**160**	P	**P**	**14 37 30.3**	**-1.2**
WB2				IAmb	IAmb	14 37 35.7	
	comp=Z,27nm,0.8s						
COEN	**Coen**	**22.35**	**132**	P	**P**	**14 37 30.5**	**-1.8**
COEN				IAmb	IAmb	14 37 38.6	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**22.35**	**132**	P	**P**	**14 37 33.6**	**+1.4**
WR0	**Warramunga Arr**	**22.37**	**159**	P	**P**	**14 37 31.0**	**-1.3**
WR0				IAmb	IAmb	14 37 35.2	
	comp=Z,25nm,1.1s						
YULB	**Yu-li**	**22.74**	**348**	P	**P**	**14 37 34.4**	**-1.9**
YULB				IAmb	IAmb	14 37 50.5	
	comp=Z,10nm,0.8s						
TPUB	**Ta-pu**	**22.80**	**346**	P	**P**	**14 37 35.3**	**-1.6**
TPUB	**Ta-pu**	**22.80**	**346**	P	**P**	**14 37 37.7**	**+0.8**
PMG	**Port Moresby**	**23.16**	**117**	LR	LR	14 50 22.1	
	comp=Z,51nm,19.9s,baz=276,slow=46						
PSA00	**Pilbara Seismi**	**23.39**	**195**	P	**P**	**14 37 41.4**	**-1.4**
PSA00				IAmb	IAmb	14 38 06.3	
	comp=Z,11nm,1.0s						
PSA00	**Pilbara Seismi**	**23.39**	**195**	P	**P**	**14 37 43.6**	**+0.8**
PSA00				IAmb	IAmb	14 37 46.0	
	comp=Z,6.6nm,1.2s						
QIS	**Mount Isa**	**25.09**	**150**	P	**P**	**14 37 59.8**	**+1.2**
AS31	**Alice Springs**	**25.64**	**164**	P	**P**	**14 38 02.3**	**-1.3**
ASAR	**Alice Springs**	**25.65**	**164**	P	**P**	**14 38 03.0**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=348,slow=7.1,SNR=43						
ASAR				PcP	**PcP**	**14 41 33.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=344,slow=2.3,SNR=3.8						
ASAR				S	**S**	**14 42 30.1**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=345,slow=17,SNR=4.8						
ASAR	**Alice Springs**	**25.65**	**164**	P	**P**	**14 38 02.3**	**-1.3**
JOW	**Kunigami**	**25.69**	**4**	P	**P**	**14 38 05.1**	**+1.2**
	comp=Z,23nm,0.8s,baz=200,slow=11,SNR=5.1						
JOW	**Kunigami**	**25.69**	**4**	P	**P**	**14 38 06.9**	**+3.0**
	comp=Z,30nm,1.0s						
MTSU	**Mount Surprise**	**25.99**	**138**	P	**P**	**14 38 08.9**	**+2.1**
WRKA	**Warakurna**	**26.01**	**176**	P	**P**	**14 38 05.8**	**-1.1**
MNSI	**Mandailing Nat**	**26.80**	**270**	P	**P**	**14 38 11.9**	**-2.2**
RPSI	**Rantau Prapat**	**27.49**	**274**	P	**P**	**14 38 19.1**	**-1.2**
PSI	**Prapat**	**27.49**	**274**	P	**P**	**14 38 19.1**	**-1.4**
	comp=Z,6.8nm,0.8s,baz=101,slow=5.2,SNR=7.8						
MEEK	**Meekatharra**	**28.54**	**195**	P	**P**	**14 38 29.4**	**-0.2**
CTA	**Charters Tower**	**28.66**	**138**	LR	LR	14 52 52.1	
	comp=Z,66nm,20.0s,baz=268,slow=42						
OOD	**Oodnadatta**	**30.05**	**163**	P	**P**	**14 38 42.5**	**-0.4**
NJ2	**Nanjing**	**31.63**	**348**	*eP*	**P**	**14 38 58.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
FORT	**Forrest**	**31.70**	**177**	P	**P**	**14 38 57.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**32.00**	**304**	P	**P**	**14 38 59.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=129,slow=8.1,SNR=7.1						
CMAR				LR	LR	14 52 51.3	
	comp=Z,26nm,19.0s,baz=125,slow=38						
CHTO	**Chiang Mai**	**32.17**	**305**	P	**P**	**14 39 01.3**	**-0.5**
CHTO				IAmb	IAmb	14 39 02.6	
	comp=Z,7.3nm,1.5s						
PZH	**PanZhiHua**	**34.66**	**319**	P	**P**	**14 39 25.8**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
BBOO	**Buckleboo**	**34.91**	**166**	P	**P**	**14 39 24.6**	**-0.8**
STKA	**Stephens Creek**	**35.79**	**158**	P	**P**	**14 39 32.5**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=327,slow=7.9,SNR=18						
STKA	**Stephens Creek**	**35.79**	**158**	P	**P**	**14 39 32.6**	**-0.4**
KSRS	**Korea Array**	**36.24**	**2**	P	**P**	**14 39 37.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=179,slow=9.9,SNR=6.2						
XAN	**Xi'an**	**36.65**	**335**	P	**P**	**14 39 41.3**	**+0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MJAR	**Matsushiro Arr**	**36.97**	**16**	P	**P**	**14 39 41.4**	**-1.6**
	comp=Z,2.9nm,0.7s,baz=190,slow=8.7,SNR=5.8						
HHC	**Hu-ho-hao-te**	**41.82**	**343**	*eP*	**P**	**14 40 24.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,6.0s						
CN2	**Changchun**	**42.56**	**359**	*eP*	**P**	**14 40 32.9**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.24**	**6**	P	**P**	**14 40 34.8**	**0.0**
	comp=Z,2.8nm,0.6s,baz=190,slow=7.7,SNR=5.6						
GTA	**Gaotai**	**45.22**	**331**	*eP*	**P**	**14 40 49.8**	**-1.2**
GTA				pP	pP	14 40 56.1	-5.4
GTA				sP	pwP	14 40 58.9	-5.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAJ	**Asahikawa**	**45.23**	**16**	P	**P**	**14 40 52.2**	**+1.4**
	comp=Z,4.6nm,0.7s,baz=231,slow=9.2,SNR=6.2						
JKA	**Kamikawa-asahi**	**45.23**	**16**	P	**P**	**14 40 52.2**	**+1.4**
DZM	**Mont Dzumac**	**45.34**	**123**	LR	LR	15 00 55.5	
	comp=Z,65nm,18.3s,baz=16,slow=38						
RAMN	**Ramite**	**46.04**	**307**	*eP*	**P**	**14 40 59.0**	**+1.2**
JIRN	**Jiri**	**46.69**	**308**	*eP*	**P**	**14 41 03.5**	**+0.5**
GUN	**Gumba**	**47.05**	**308**	*eP*	**P**	**14 41 05.7**	**-0.1**
	comp=Z,7.1nm,0.3s						
PKI	**Pulchoki**	**47.26**	**308**	*eP*	**P**	**14 41 07.8**	**+0.3**
	comp=Z,3.1nm,0.4s						
PKIN	**Phulchoki**	**47.28**	**308**	*eP*	**P**	**14 41 07.4**	**-0.1**
	comp=Z,2.9nm,0.4s						
KKN	**Kakani**	**47.47**	**308**	*eP*	**P**	**14 41 08.6**	**-0.3**
	comp=Z,5.0nm,0.4s						
GKN	**Gorkha**	**48.07**	**308**	*eP*	**P**	**14 41 12.5**	**-1.0**
KLR	**Kul'dur**	**48.21**	**5**	P	**P**	**14 41 14.2**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=206,slow=5.4,SNR=8.9						
KOLN	**Koldanda**	**48.79**	**307**	*eP*	**P**	**14 41 17.9**	**-1.3**
DANN	**Dangsing**	**48.92**	**308**	*eP*	**P**	**14 41 18.6**	**-1.6**
	comp=Z,9.9nm,0.5s						
PYUN	**Piuthan**	**49.42**	**307**	*eP*	**P**	**14 41 22.3**	**-1.7**
	comp=Z,20nm,0.5s						
ULN	**Ulaanbaatar**	**49.54**	**343**	P	**P**	**14 41 25.3**	**+0.8**
ULN				IAmb	IAmb	14 41 30.0	
	comp=Z,2.2nm,0.7s						
SONM	**Songino Array**	**49.71**	**342**	P	**P**	**14 41 25.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=158,slow=7.8,SNR=10						
WMQ	**Urumqi**	**54.72**	**326**	*eP*	**P**	**14 42 02.8**	**-0.1**
WMQ				sP	sP	14 42 22.4	+4.3
WMQ				pmax	pmax		
	comp=Z,51nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,7.3s						
PETK	**Petropavlovsk-**	**58.02**	**22**	P	**P**	**14 42 27.4**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=167,slow=4.3,SNR=7.4						
MK31	**Makanchi Array**	**59.55**	**326**	P	**P**	**14 42 36.3**	**-0.7**
MK31				IAmb	IAmb	14 42 43.0	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**59.55**	**326**	P	**P**	**14 42 36.4**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=122,slow=8.7,SNR=41						
MKAR				LR	LR	15 08 31.9	
	comp=Z,40nm,21.7s,baz=67,slow=36						
MKAR	**Makanchi Array**	**59.55**	**326**	P	**P**	**14 42 36.2**	**-0.8**
KSH	**Kashi**	**59.70**	**316**	P	**P**	**14 42 40.3**	**+2.0**
KSH				sP	sP	14 42 55.6	+2.1
KSH				PcP	**PcP**	**14 43 25.3**	**+0.3**
KSH				ScP	**ScP**	**14 47 23.5**	**+0.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**59.73**	**326**	P	**P**	**14 42 37.4**	**-0.9**
MAKZ				IAmb	IAmb	14 42 44.6	
	comp=Z,7.4nm,1.2s						
KDJ	**Kajisay**	**60.11**	**319**	P	**P**	**14 42 40.5**	**-0.7**
KDJ				IAmb	IAmb	14 42 43.5	
	comp=Z,9.2nm,1.3s						
AAK	**Ala-Archa**	**62.11**	**319**	LR	LR	15 11 17.6	
	comp=Z,37nm,21.3s,baz=90,slow=38						
ZAA0	**Zalesovo Array**	**62.80**	**334**	P	**P**	**14 42 57.6**	**-1.3**
ZAA0				IAmb	IAmb	14 42 59.2	
	comp=Z,5.2nm,1.3s						
ZALV	**Zalesovo Beam**	**62.80**	**334**	P	**P**	**14 42 57.3**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=138,slow=5.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**62.80**	**334**	P	**P**	**14 42 57.2**	**-1.6**
KURK	**Kurchatov**	**63.80**	**328**	P	**P**	**14 43 04.5**	**-1.0**
KKAR	**Karatay Array**	**64.95**	**318**	P	**P**	**14 43 11.9**	**-1.4**
BRVK	**Borovoye**	**69.43**	**328**	P	**P**	**14 43 40.3**	**-1.1**
BRVK				IAmb	IAmb	14 43 54.2	
	comp=Z,3.7nm,0.8s						
TIXI	**Tiksi**	**70.50**	**1**	P	**P**	**14 43 47.3**	**-0.3**
GEYT	**Alibeck**	**72.30**	**310**	LR	LR	15 18 22.4	
	comp=Z,33nm,20.1s,baz=180,slow=38						
SOCY	**Socotra**	**72.57**	**282**	P	**P**	**14 43 59.8**	**-1.6**
NRIK	**Noril'sk**	**72.92**	**347**	P	**P**	**14 44 02.3**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=118,slow=7.5,SNR=8.5						
NRIK	**Noril'sk**	**72.92**	**347**	P	**P**	**14 44 01.8**	**-0.5**
NRIK				IAmb	IAmb	14 44 04.8	
	comp=Z,5.0nm,0.7s						
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**14 44 07.6**	**-1.4**
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**14 44 07.8**	**-1.2**
ABKAR				IAmb	IAmb	14 44 11.4	
	comp=Z,3.5nm,0.7s						
ARU	**Arti**	**77.00**	**328**	P	**P**	**14 44 25.1**	**-0.9**
VNDA	**Vanda**	**80.84**	**173**	P	**P**	**14 44 47.7**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=122,slow=8.5,SNR=3.5						
KBZ	**Khabaz**	**84.55**	**314**	P	**P**	**14 45 05.0**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=141,slow=6.5,SNR=2.8						
KLMR	**Klimovskoe**	**87.54**	**331**	*eP*	**P**	**14 45 20.8**	**-0.2**
KLMR				AMP		14 45 26.4	
	comp=Z,8.0nm,0.9s						
ILAR	**Eielson Array**	**87.65**	**25**	P	**P**	**14 45 20.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=251,slow=4.4,SNR=7.7						
ILAR	**Eielson Array**	**87.65**	**25**	P	**P**	**14 45 20.6**	**-0.9**
J25K	**Salcha River,**	**88.29**	**26**	P	**P**	**14 45 23.7**	**-1.0**
J25K				IAmb	IAmb	14 45 25.9	
	comp=Z,2.2nm,0.9s						
DOT	**Dot Lake**	**88.86**	**27**		**P**	**14 45 27.6**	**+0.3**
DOT				IAmb	IAmb	14 45 51.0	
	comp=Z,4.3nm,1.4s						
KMBO	**Kilima Mbogo**	**89.15**	**269**	LR	LR	15 27 23.0	
	comp=Z,39nm,18.1s,baz=93,slow=37						
L27K	**Beaver Creek,**	**89.88**	**27**		**P**	**14 45 32.5**	**+0.4**
L27K				IAmb	IAmb	14 45 49.0	
	comp=Z,1.6nm,0.9s						
BCAR	**Beaver Creek A**	**89.90**	**27**		**P**	**14 45 33.0**	**+0.8**
BRTR	**Keskin Array B**	**91.44**	**310**	P	**P**	**14 45 39.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=90,slow=7.2,SNR=2.0						
ARCES	**ARCESS Array B**	**92.81**	**340**	P	**P**	**14 45 44.2**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=79,slow=6.3,SNR=4.9						
ARCES	**ARCESS Array B**	**92.81**	**340**	IAmb	IAmb	14 45 51.1	
	comp=Z,18nm,1.4s						
FINES	**FINESS Array B**	**94.00**	**332**	P	**P**	**14 45 52.2**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=64,slow=6.3,SNR=1.7						

MAN 22 14:41:44.7, 15°74N×121°57E, h3km, mb4.3, ML3.1, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.49**	**249⇑**	*eP*	Pb	14 41 55.4	-0.7
PCPH				*eS*	Sb	14 42 03.0	-0.7
LQP	**Lukban**	**1.62**	**181⇑**	*eP*	Pg	14 42 16.3	+0.5

JMA 22 14:43:01.7, 24°35N×123°96E, h0km, M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.12**	**158**	P	Pg	14 43 04.5	+0.5
JKRS				S	Sg	14 43 06.6	+1.0
JIJ	**Ishigaki jima**	**0.17**	**85**	P	Pg	14 43 05.3	+0.4
JIJ				S	Sg	14 43 07.9	+0.8
IRIF	**Iriomote-Funau**	**0.21**	**266**	P	Pg	14 43 06.4	+0.7
IRIF				*eS*	Sg	14 43 09.9	+1.4
HATJ	**Hateruma jima**	**0.33**	**206**	P	Pg	14 43 08.5	+0.6
HATJ				S	Sg	14 43 13.4	+1.3
JISG	**Ishigakijimahi**	**0.40**	**53**	P	Pg	14 43 10.0	+0.7
JISG				*eS*	Sg	14 43 16.1	+1.6
JTJ	**Tarama**	**0.73**	**67**	P	Pg	14 43 15.9	+0.1
JTJ				S	Sb	14 43 27.3	-0.7

TAP 22 14:43:32.0, 24°53N×121°85E, h13km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.08**	**359**	P	Pg	14 43 35.1	+0.2
	baz=6.0						
TWC				S	Sg	14 43 37.0	+0.1
	baz=6.0						
EWUT	**Wuta**	**0.10**	**219**	*eP*	Pg	14 43 35.3	+0.3
	baz=220						
EWUT				*eS*	Sg	14 43 37.1	0.0
	baz=220						
ENA	**Nanau**	**0.14**	**226**	*eP*	Pg	14 43 35.7	+0.2
	baz=223						
ENA				*eS*	Sg	14 43 38.2	+0.2
	baz=223						
NDS	**Dongshan**	**0.16**	**312**	*eP*	Pg	14 43 35.5	-0.4
	baz=311						
NDS				*eS*	Sg	14 43 38.7	+0.1
	baz=311						
TWE	**Neicheng**	**0.26**	**320**	*eP*	Pg	14 43 37.8	+0.3
	baz=322						
TWE				*eS*	Sg	14 43 41.8	+0.7
	baz=322						
ENTT	**Nioudou**	**0.28**	**294**	*eP*	Pg	14 43 38.2	+0.3
	baz=294						
ENTT				*eS*	Sb	14 43 42.8	-0.8
	baz=294						
LATG	**Datong**	**0.29**	**272**	*eP*	Pg	14 43 38.1	-0.1
	baz=272						
LATG				*eS*	Sg	14 43 42.6	+0.3
	baz=272						
NDT	**Datong Townshi**	**0.32**	**284**	*eP*	Pg	14 43 39.0	+0.5
	baz=284						
NDT				*eS*	Sb	14 43 44.0	-0.5
	baz=284						
FUSB	**Fushanzhiwuyua**	**0.33**	**314**	*eP*	Pb	14 43 39.3	-0.5
	baz=314						
FUSB				*eS*	Sb	14 43 44.7	-0.4
	baz=314						
NNSB	**Datong**	**0.44**	**257**	*eS*	Sb	14 43 48.0	-0.1
	baz=257						
NNS	**Nan Shan**	**0.44**	**259**	*eS*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.73**	**188**	P	**Pn**	**14 55 00.3**	**0.0**
	3.3nm,0.3s,baz=182,slow=22,SNR=1.5						
GUMO				S	**Sn**	**14 55 55.2**	**-0.4**
	5.3nm,0.3s,baz=24,slow=23,SNR=1.6						
GUMO	**Guam**	**4.73**	**188**	Pn	**Pn**	**14 55 00.1**	**-0.3**
RABL	**Rabaul**	**23.30**	**163**	P	**P**	**14 58 43.8**	**+1.7**
ERM	**Erimo**	**23.71**	**356**	P	**P**	**14 58 46.1**	**+0.6**
USA0B	**Ussuriysk Arra**	**28.20**	**339**	P	**P**	**14 59 27.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**28.20**	**339**	P	**P**	**14 59 27.3**	**+1.4**
COEN	**Coen**	**32.15**	**184**	P	**P**	**14 59 59.5**	**-1.3**
COEN				IAmb	IAmb	15 00 07.9	
	comp=Z,4.5nm,1.2s						
KNRA	**Kununurra**	**37.59**	**207**	P	**P**	**15 00 48.2**	**+0.7**
KNRA				IAmb	IAmb	15 01 04.4	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**39.38**	**197**	P	**P**	**15 01 02.2**	**-0.2**
WB0				IAmb	IAmb	15 01 03.0	
	comp=Z,2.9nm,0.8s						
WR0	**Warramunga Arr**	**39.53**	**196**	P	**P**	**15 01 03.3**	**-0.3**
WRAB	**Tennant Creek**	**39.55**	**197**	P	**P**	**15 01 03.7**	**-0.1**
WRAB				IAmb	IAmb	15 01 08.4	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**39.56**	**197**	P	**P**	**15 01 03.9**	**0.0**
WB2				IAmb	IAmb	15 01 07.1	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**39.56**	**197**	P	**P**	**15 01 04.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=20,slow=8.3,SNR=32						
FITZ	**Fitzroy Crossi**	**41.12**	**209**	P	**P**	**15 01 17.5**	**+0.9**
FITZ				IAmb	IAmb	15 01 18.2	
	comp=Z,3.0nm,1.0s						
AS31	**Alice Springs**	**43.23**	**196**	P	**P**	**15 01 33.8**	**0.0**
ASAR	**Alice Springs**	**43.23**	**196**	P	**P**	**15 01 34.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=16,slow=7.7,SNR=38						
ASAR	**Alice Springs**	**43.23**	**196**	P	**P**	**15 01 33.7**	**-0.1**
STKA	**Stephens Creek**	**50.04**	**184**	P	**P**	**15 02 25.8**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=12,slow=9.3,SNR=3.9						
FORT	**Forrest**	**51.61**	**199**	P	**P**	**15 02 39.2**	**+1.0**
BBOO	**Buckleboo**	**51.63**	**190**	P	**P**	**15 02 37.3**	**-1.0**
BBOO				IAmb	IAmb	15 02 40.7	
	comp=Z,16nm,1.5s						
CAN	**Canberra**	**53.44**	**176**	P	**P**	**15 02 52.8**	**+1.2**
MORW	**Morawa**	**55.03**	**212**	P	**P**	**15 03 03.4**	**+0.2**
MKAR	**Makanchi Array**	**58.61**	**314**	P	**P**	**15 03 28.1**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=99,slow=7.4,SNR=1.4						
MAKZ	**Makanchi**	**58.82**	**314**	P	**P**	**15 03 29.6**	**-0.2**
KURK	**Kurchatov**	**61.45**	**318**	P	**P**	**15 03 47.4**	**0.0**
KURK				IAmb	IAmb	15 03 49.6	
	comp=Z,5.5nm,1.5s						
KURBB	**Kurchatov Arra**	**61.49**	**318**	P	**P**	**15 03 46.6**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=93,slow=7.7,SNR=2.7						
COLD	**Coldfoot**	**63.38**	**23**	P	**P**	**15 04 02.8**	**+2.8**
COLD				IAmb	IAmb	15 04 22.0	
	comp=Z,4.2nm,1.5s						
ILAR	**Eielson Array**	**64.07**	**26**	P	**P**	**15 04 03.9**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=231,slow=6.9,SNR=2.6						
ISLE	**Juniper Island**	**65.46**	**31**	P	**P**	**15 04 13.2**	**-0.5**
ISLE				IAmb	IAmb	15 04 18.1	
	comp=Z,11nm,1.0s						
BMAR	**Burnt Mountain**	**65.54**	**23**	P	**P**	**15 04 14.9**	**+0.9**
ABKAR	**Akbulak array**	**73.51**	**317**	P	**P**	**15 05 01.5**	**-1.6**
YKA	**Yellowknife Ar**	**78.41**	**28**	P	**P**	**15 05 29.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=289,slow=5.3,SNR=2.1						
RES	**Resolute Bay**	**79.84**	**14**	P	**P**	**15 05 37.5**	**-0.6**
RES				IAmb	IAmb	15 05 57.8	
	comp=Z,2.4nm,1.2s						

*IDC **22** 14:54:51.0±1.4,28°.34N×96°.08E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.3/70,mbtmp3.4/6,Error ellipse: s-maj=72.9km s-min=19.2km az=64.0*

ISC 22 14:54:56.0±1.7,28°.4N±0°.2×96°.1E±0°.4,h35km,n6,σ0s78/6, mb3.3/6,Eastern Xizang-Indigo border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**21.03**	**20**	P	**P**	**14 59 36.8**	**0.0**
	0.7nm,0.7s,baz=201,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**21.32**	**333**	P	**P**	**14 59 38.9**	**-0.9**
	0.5nm,0.7s,baz=140,slow=12,SNR=6.1						
KURBB	**Kurchatov Arra**	**25.88**	**334**	P	**P**	**15 00 25.3**	**+0.9**
	0.5nm,0.8s,baz=144,slow=10,SNR=4.5						
ZALV	**Zalesovo Beam**	**26.85**	**345**	P	**P**	**15 00 33.3**	**+0.3**
	0.5nm,0.4s,baz=163,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**60.64**	**138**	P	**P**	**15 05 03.4**	**-0.3**
	0.8nm,0.6s,baz=328,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**63.31**	**141**	P	**P**	**15 05 21.8**	**+0.2**
	0.2nm,0.5s,baz=325,slow=6.4,SNR=8.4						

*IDC **22** 14:57:29.0±2.9,62°.73N×2°.68E,h0km,mb1 3.3/5, mb1mx3.0/52,mbtmp3.2/5,ML2.7/5,Error ellipse: s-maj=30.4km s-min=25.5km az=135.0*
*NAO **22** 14:57:28.6±2.2,62°.70N×2°.61E,ML2.0*
*BER **22** 14:57:32.0±2.3,62°.70N×2°.42E,h27km±13km,ML2.1, ML2.0(NAO),Confirmed Earthquake*

ISC 22 14:57:25.3±1.1,62°.76N±0°.06×2°.33E±0°.06,h10km,n46, σ2s76/81,1C,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.73**	**131**	Pn	**Pn**	**14 57 57.9**	**+2.6**
FOO				Lg	Lg	14 58 18.1	
FOO	**Floro**	**1.73**	**131**	*e*P	**Pn**	**14 57 58.0**	**+2.6**
FOO				*e*S	**Sn**	**14 58 17.7**	**+0.3**
FOO				IAML		14 58 19.5	
	comp=Z,39nm,0.3s						
SUE	**Sulen**	**2.06**	**145**	*e*P	**Pn**	**14 58 02.2**	**+2.3**
SUE				*e*S	**Sn**	**14 58 24.8**	**-0.9**
SUE				IAML		14 58 26.8	
	comp=Z,45nm,0.2s						
AKN	**Aaknes**	**2.25**	**103**	Pn	**Pb**	**14 58 06.0**	**0.0**
AKN				Sn	**Sn**	**14 58 31.8**	**+1.5**
AKN	**Aaknes**	**2.25**	**103**	Pn	**Pb**	**14 58 06.0**	**0.0**
AKN				Sn	**Sn**	**14 58 31.8**	**+1.5**
MOL	**Molde**	**2.42**	**92**	Pn	**Pn**	**14 58 07.6**	**+2.8**
MOL				Sn	**Sn**	**14 58 33.2**	**-1.3**
MOL	**Molde**	**2.42**	**92**	*e*P	**Pn**	**14 58 07.6**	**+2.8**
MOL				*e*S	**Sn**	**14 58 34.3**	**-0.1**
MOL				IAML		14 58 37.1	
	comp=Z,24nm,0.2s						
HYA	**Hoyanger**	**2.43**	**130**	Pn	**Pn**	**14 58 07.5**	**+2.5**
HYA				Sn	**Sn**	**14 58 36.4**	**+1.7**
HYA	**Hoyanger**	**2.43**	**130**	*e*P	**Pn**	**14 58 07.5**	**+2.5**
HYA				*e*S	**Sn**	**14 58 34.2**	**-0.4**
HYA				IAML		14 58 40.5	
	comp=Z,22nm,0.3s						
ASK	**Askoy**	**2.66**	**148**	*e*P	**Pn**	**14 58 10.7**	**+2.5**
ASK				*e*S	**Sn**	**14 58 39.0**	**-1.5**
ASK				IAML		14 58 43.6	
	comp=Z,31nm,0.4s						
BER	**Bergen**	**2.79**	**148**	*e*P	**Pn**	**14 58 12.1**	**+2.2**
BER				*e*S	**Sn**	**14 58 41.4**	**-2.1**
BER				IAML		14 58 44.2	
	comp=Z,21nm,0.4s						
LRW	**Lerwick**	**3.12**	**214**	*e*P	**Pn**	**14 58 18.6**	**+4.0**
LRW				*e*S	**Sn**	**14 58 51.8**	**0.0**
LRW				IAML		14 58 56.0	
	comp=Z,17nm,0.4s						
DOMB	**Dombas**	**3.22**	**100**	*e*P	**Pn**	**14 58 19.1**	**+3.2**
DOMB				*e*S	**Sn**	**14 58 52.7**	**-1.6**
DOMB				IAML		14 58 58.1	
	comp=Z,8.3nm,0.3s						
SKAR	**Skarslia**	**3.53**	**124**	*e*P	**Pn**	**14 58 23.0**	**+2.8**
SKAR				*e*S	**Sn**	**14 59 01.1**	**-0.9**
SKAR				IAML		14 59 20.0	
	comp=Z,9.0nm,0.4s						
ODD1	**Odda**	**3.53**	**142**	*e*P	**Pn**	**14 58 22.9**	**+2.7**
ODD1				*e*S	**Sn**	**14 59 00.2**	**-1.7**
ODD1				IAML		14 59 02.3	
	comp=Z,21nm,0.2s						
KMY	**Karmoy**	**3.83**	**157**	*e*P	**Pn**	**14 58 26.3**	**+2.0**
KMY				*e*S	**Sn**	**14 59 05.8**	**-3.5**
KMY				IAML		14 59 10.8	
	comp=Z,22nm,0.4s						
BLS5	**Blasjo**	**3.90**	**147**	*i* P	**Pn**	**14 58 27.4**	**+2.1**
BLS5	**Blasjo**	**3.90**	**147**	*i*P	**Pn**	**14 58 27.9**	**+2.6**
BLS5				*e*S	**Sn**	**14 59 08.1**	**-3.0**
BLS5				IAML		14 59 10.4	
	comp=Z,11nm,0.1s						
NAO01	**NORSAR Array S**	**4.49**	**111**	*e*P	**Pn**	**14 58 36.4**	**+3.0**
NAO01				*e*S	**Sn**	**14 59 24.6**	**-1.1**
NB2	**NORSAR Subarra**	**4.54**	**108**	Pn	**Pn**	**14 58 36.8**	**+2.7**
	baz=298,slow=14						
NB2	**NORSAR Subarra**	**4.54**	**108**	Pn	**Pn**	**14 58 36.8**	**+2.7**
	baz=298,slow=14						
NOA	**NORSAR Array B**	**4.54**	**108**	Pn	**Pn**	**14 58 36.6**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=298,slow=13,SNR=19						
NOA				Sn	**Sn**	**14 59 25.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=300,slow=22,SNR=4.9						
NSS	**Namsos**	**4.65**	**63**	*e*P	**Pn**	**14 58 38.2**	**+2.7**
NSS				*e*S	**Sn**	**14 59 26.9**	**-2.5**
NSS				IAML		14 59 32.5	
	comp=Z,7.8nm,0.3s						
KONO	**Kongsberg**	**4.70**	**128**	*e*P	**Pn**	**14 58 38.5**	**+2.3**
KONO				*e*S	**Sn**	**14 59 28.3**	**-2.5**
NRA0	**NORESS Array S**	**4.83**	**111**	Pn	**Pn**	**14 58 40.5**	**+2.5**
	baz=295,slow=12						
NRA0				Sn	**Sn**	**14 59 32.0**	**-1.8**
	baz=288,slow=28						
NRA0	**NORESS Array S**	**4.83**	**111**	Pn	**Pn**	**14 58 40.5**	**+2.5**
	baz=295,slow=12						
NRA0				Sn	**Sn**	**14 59 32.0**	**-1.8**
	baz=288,slow=28						
SNART	**Snartemo**	**5.05**	**149**	*i* P	**Pn**	**14 58 42.5**	**+1.6**
SNART				*e*S	**Sn**	**14 59 32.5**	**-6.7**
SNART	**Snartemo**	**5.05**	**149**	*e*P	**Pn**	**14 58 43.2**	**+2.3**
SNART				*e*S	**Sn**	**14 59 34.9**	**-4.3**
SNART				IAML		14 59 42.6	
	comp=Z,7.2nm,0.4s						
BIGH	**Upper Bighouse**	**5.27**	**218**	*e*P	**Pn**	**14 58 47.9**	**+3.9**
BIGH				*e*S	**Sn**	**14 59 41.5**	**-3.1**
HOMB	**Homborsund**	**5.44**	**143**	*e*P	**Pn**	**14 58 47.5**	**+1.2**
HOMB				*e*S	**Sn**	**14 59 46.6**	**-2.3**
HOMB	**Homborsund**	**5.44**	**143**	*e*P	**Pn**	**14 58 48.5**	**+2.2**
HOMB				*e*S	**Sn**	**14 59 45.2**	**-3.7**
HOMB				IAML		14 59 49.8	
	comp=Z,3.1nm,0.4s						
STOK	**Stokkvaagen**	**5.84**	**47**	*e*P	**Pn**	**14 58 53.6**	**+1.9**
STOK				*e*S	**Sn**	**14 59 54.5**	**-4.2**
KONS	**Konsvik**	**5.96**	**46**	*e*P	**Pn**	**14 58 54.3**	**+0.8**
KONS				*e*S	**Sn**	**14 59 59.4**	**-2.4**
KONS				IAML		15 00 01.3	
	comp=Z,3.4nm,0.7s						
HFS	**Hagfors**	**6.05**	**111**	Pn	**Pn**	**14 58 57.0**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=352,slow=29,SNR=3.3						
HFS				Sn	**Sn**	**15 00 04.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=326,slow=28,SNR=1.7						
HFS	**Hagfors**	**6.05**	**111**	Pn	**Pn**	**14 58 57.9**	**+3.1**
HFS	**Hagfors**	**6.05**	**111**	Pn	**Pn**	**14 58 57.9**	**+3.1**
DRUM	**Mains of Drumt**	**6.35**	**205**	*e*P	**Pn**	**14 59 02.1**	**+3.3**
DRUM				*e*S	**Sn**	**15 00 07.2**	**-4.0**
TJOU	**Tjoern**	**6.61**	**132**	*e*P	**Pn**	**14 59 05.6**	**+3.2**
STEI	**Steigen**	**7.48**	**40**	*e*P	**Pn**	**14 59 17.1**	**+2.9**
STEI				*e*S	**Sn**	**15 00 34.9**	**-4.0**
STEI				IAML		15 00 40.2	
	comp=Z,2.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**7.96**	**203**	Pn	**Pn**	**14 59 24.8**	**+3.8**
	baz=14,slow=12,SNR=2.5						
EKA				Sn	**Sn**	**15 00 47.2**	**-3.8**
	baz=53,slow=28,SNR=1.7						
FIA0	**FINESS Array S**	**11.19**	**86**	Pn	**Pn**	**15 00 06.4**	**+1.4**
	baz=297,slow=14						
FIA0	**FINESS Array S**	**11.19**	**86**	Pn	**Pn**	**15 00 06.4**	**+1.4**
	baz=297,slow=14						
FINES	**FINESS Array B**	**11.19**	**86**	Pn	**Pn**	**15 00 07.9**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=291,slow=16,SNR=3.4						
FINES				Sn	**Sn**	**15 02 05.0**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=286,slow=17,SNR=3.5						
ARA0	**ARCESS Array S**	**11.51**	**44**	Pn	**Pn**	**15 00 11.4**	**+1.9**
	baz=236,slow=14						
ARA0	**ARCESS Array S**	**11.51**	**44**	Pn	**Pn**	**15 00 11.4**	**+1.9**
	baz=236,slow=14						
ARCES	**ARCESS Array B**	**11.51**	**44**	Pn	**Pn**	**15 00 12.4**	**+3.0**
	baz=238,slow=13,SNR=7.0						
ARCES				Sn	**Sn**	**15 02 11.2**	**-6.7**
	baz=240,slow=22,SNR=2.8						

MAN 22 15:01:19.6,8°.40N×124°.36E,h1km,mb4.1,ML2.9,MS2.6, Mindanao

*NEIC **22** 15:33:52.5±1.7, 19°.92S±0°.05×68°.8W±0°.1,h121km±5km, Error ellipse: s-maj=13.7km s-min=6.9km az=92.0*
*IDC **22** 15:33:53.8±2.6, 19°.96S×68°.45W,h133km±24km,mb3.3/3, mb1 3.4/5,mb1mx3.3/28,mbtmp3.8/5,Error ellipse: s-maj=41.2km s-min=26.3km az=104.0*
*GUC **22** 15:33:53.4±0.8, 19°.94S×68°.76W,h119km±3km, ML3.5*

ISC 22 15:33:52.6±0.8,19°.95S±0°.03×68°.82W±0°.07,h124km±6km, n52,σ0s97/70,mb4.0/4,8C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.37**	**238**	Pn	**Pn**	**15 34 10.8**	**0.0**
PB08				Sn	**Sn**	**15 34 23.8**	**-0.6**
PB08	**IPOC Station P**	**0.37**	**238**	*i*P	**Pn**	**15 34 11.0**	**+0.3**
PB08				*i* S	**Sn**	**15 34 25.0**	**+0.6**
PB08				IAML		15 34 25.3	
	comp=E,2μm,0.3s						
GO01	**Chusmiza**	**0.45**	**308**	Pn	**Pn**	**15 34 11.4**	**+0.1**
GO01				Sn	**Sn**	**15 34 23.7**	**-1.5**
GO01	**Chusmiza**	**0.45**	**308**	*e*P	**Pn**	**15 34 11.3**	**+0.1**
GO01				*e*S	**Sn**	**15 34 25.5**	**+0.2**
GO01				IAML		15 34 26.4	
	comp=E,4μm,0.4s						
PB11	**IPOC Station P**	**0.81**	**283**	Pn	**Pn**	**15 34 13.1**	**-0.2**
PB11	**IPOC Station P**	**0.81**	**283**	*i*P	**Pn**	**15 34 13.5**	**+0.1**
PB11				*e*S	**Sn**	**15 34 29.3**	**+0.3**
PB11				IAML		15 34 30.1	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.26**	**210**	Pn	**Pn**	**15 34 18.0**	**+0.3**
PB01	**IPOC Station P**	**1.26**	**210**	*i*P	**Pn**	**15 34 18.2**	**+0.5**
PB01				*e*S	**Sn**	**15 34 36.3**	**-0.4**
PB01				IAML		15 34 38.6	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**1.27**	**255**	Pn	**Pn**	**15 34 17.8**	**+0.2**
TA02				Sn	**Sn**	**15 34 37.1**	**+0.4**
TA02	**Huaiquique**	**1.27**	**255**	*e*P	**Pn**	**15 34 18.2**	**+0.6**
TA02				*e*S	**Sn**	**15 34 37.2**	**+0.4**
TA02				IAML		15 34 39.7	
	comp=N,2μm,0.1s						
TA01	**Diego Aracena**	**1.42**	**244**	Pn	**Pn**	**15 34 19.1**	**-0.2**
TA01	**Diego Aracena**	**1.42**	**244**	*i*P	**Pn**	**15 34 19.2**	**0.0**
TA01				*e*S	**Sn**	**15 34 40.0**	**+0.4**
TA01				IAML		15 34 44.9	
	comp=E,203nm,0.2s						
PB02	**IPOC Station P**	**1.70**	**216**	Pn	**Pn**	**15 34 23.1**	**+0.5**
PB02	**IPOC Station P**	**1.70**	**216**	*e*P	**Pn**	**15 34 23.1**	**+0.5**
PB02				*e*S	**Sn**	**15 34 45.3**	**-0.3**
PB02				IAML		15 34 50.1	
	comp=N,693nm,0.4s						
PB16	**IPOC Station P**	**1.73**	**338**	Pn	**Pn**	**15 34 24.1**	**+0.6**
PB16	**IPOC Station P**	**1.73**	**338**	*i*P	**Pn**	**15 34 24.7**	**+1.1**
PB16				*e*S	**Sn**	**15 34 48.4**	**+1.3**
PB16				IAML		15 34 50.1	
	comp=N,248nm,0.6s						
PB09	**IPOC Station P**	**1.88**	**192**	Pn	**Pn**	**15 34 25.8**	**+0.8**
PB09	**IPOC Station P**	**1.88**	**192**	*e*P	**Pn**	**15 34 25.9**	**+0.9**
PB09				*e*S	**Sn**	**15 34 50.8**	**+1.1**
PB09				IAML		15 34 53.2	
	comp=E,242nm,0.4s						
PB12	**IPOC Station P**	**1.94**	**313**	Pn	**Pn**	**15 34 25.4**	**-0.2**
PB12	**IPOC Station P**	**1.94**	**313**	*e*P	**Pn**	**15 34 25.5**	**-0.2**
PB12				*e*S	**Sn**	**15 34 50.0**	**-0.9**
PB12				IAML		15 34 53.9	
	comp=E,334nm,0.3s						
PB07	**IPOC Station P**	**2.03**	**209**	Pn	**Pn**	**15 34 26.8**	**0.0**
PB07	**IPOC Station P**	**2.03**	**209**	*e*P	**Pn**	**15 34 26.9**	**+0.1**
PB07				*e*S	**Sn**	**15 34 52.7**	**-0.2**
PB07				IAML		15 34 59.4	
	comp=E,360nm,0.2s						
AP01	**Chacalluta**	**2.13**	**317**	Pn	**Pn**	**15 34 26.9**	**-0.9**
AP01	**Chacalluta**	**2.13**	**317**	*e*P	**Pn**	**15 34 28.1**	**+0.3**
AP01				*e*S	**Sn**	**15 34 54.3**	**-0.4**
AP01				IAML		15 35 01.3	
	comp=N,564nm,0.3s						
LVC	**Limon Verde**	**2.65**	**182**	S	**Sn**	**15 35 06.8**	**-0.5**
LVC	**Limon Verde**	**2.65**	**182**	Pn	**Pn**	**15 34 36.0**	**+1.2**
LVC	**Limon Verde**	**2.65**	**182**	*e*P	**Pn**	**15 34 36.2**	**+1.4**
LVC				*e*S	**Sn**	**15 35 06.4**	**-0.9**
PB04	**IPOC Station P**	**2.68**	**207**	Pn	**Pn**	**15 34 34.8**	**-0.2**
PB04	**IPOC Station P**	**2.68**	**207**	*e*P	**Pn**	**15 34 35.5**	**+0.6**
PB04				*e*S	**Sn**	**15 35 05.8**	**-1.8**
PB04				IAML		15 35 13.7	
	comp=N,144nm,0.4s						
PB06	**IPOC Station P**	**2.83**	**194**	Pn	**Pn**	**15 34 37.1**	**+0.2**
PB06	**IPOC Station P**	**2.83**	**194**	*e*P	**Pn**	**15 34 37.6**	**+0.7**
PB06				*e*S	**Sn**	**15 35 09.0**	**-2.2**
PB06				IAML		15 35 15.9	
	comp=E,141nm,0.3s						
PB15	**IPOC Station P**	**3.30**	**190**	Pn	**Pn**	**15 34 43.4**	**+0.3**
PB15	**IPOC Station P**	**3.30**	**190**	*e*P	**Pn**	**15 34 43.6**	**+0.5**
PB15				*e*S	**Sn**	**15 35 21.8**	**-0.4**
LPAZ	**La Paz**	**3.70**	**10**	P	**Pn**	**15 34 50.2**	**+1.5**
	comp=E,1.6nm,0.3s,baz=191,slow=14,SNR=29						
LPAZ	**La Paz**	**3.70**	**10**		**Pn**	**15 34 49.2**	**+0.4**
PB10	**IPOC Station P**	**3.90**	**204**	Pn	**Pn**	**15 34 49.9**	**-1.0**
PB14	**IPOC Station P**	**4.88**	**197**	Pn	**Pn**	**15 35 03.4**	**-0.8**
GO02	**Mina Guanaco**	**5.24**	**188**	Pn	**Pn**	**15 35 08.5**	**-0.6**
AC01	**Pan de Azucar**	**6.39**	**195**	Pn	**Pn**	**15 35 21.8**	**-2.5**
AC02	**Maricunga**	**6.86**	**182**	Pn	**Pn**	**15 35 30.3**	**-0.9**
AC06	**Mina Casimiro**	**7.51**	**190**	Pn	**Pn**	**15 35 38.8**	**-0.6**
SIV	**San Ignacio**	**8.36**	**63**	P	**Pn**	**15 35 47.3**	**-3.6**
	baz=252,slow=12						
VA01	**Torpederas**	**13.27**	**190**	Pn	**Pn**	**15 36 55.8**	**-0.2**
MT02	**Curacav**	**13.42**	**188**	Pn	**Pn**	**15 36 57.1**	**-0.9**
BO01	**Tunca**	**14.53**	**187**	P	**P**	**15 37 16.7**	**+1.4**
ITAB	**Concordia**	**16.92**	**119**	P	**P**	**15 37 42.0**	**+0.1**
PLCA	**Paso Flores**	**20.77**	**184**	P	**P**	**15 38 24.5**	**+0.8**
	comp=E,1.3nm,0.7s,baz=13,slow=14,SNR=4.9						
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**15 44 53.6**	**+1.5**
QSPA				IAmb	IAmb	15 44 59.3	
	comp=Z,4.0nm,1.3s						
TOA0	**Torodi Ar. Sit**	**76.76**	**71**	P	**P**	**15 45 29.3**	**-1.6**
TOA0				IAmb	IAmb	15 45 30.0	
	comp=Z,5.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**76.76**	**71**	P	**P**	**15 45 29.6**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=255,slow=5.0,SNR=10						
TORD	**Torodi Ar. Bea**	**76.76**	**71**	IAmb	IAmb	15 45 29.9	
	comp=Z,2.8nm,1.4s						
YKA	**Yellowknife Ar**	**89.76**	**341**	P	**P**	**15 46 36.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=2.1						

IDC 22 16:03:35.3±3.6,7°.06S×125°.29E,h478km±49km,mb2.4/1, mb1 2.6/5,mb1mx2.3/32,mbtmp3.4/5,Error ellipse: s-maj=117.6km s-min=25.2km az=55.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.51**	**207**	P	P	16 04 48.7	+0.2
	12nm,0.3s,baz=71,slow=4.5,SNR=17						
BATI				S	S	16 05 43.6	-4.3
	8.6nm,0.3s,baz=111,slow=10.0,SNR=4.8						
FITZ	**Fitzroy Crossi**	**10.98**	**178**	P	P	16 06 02.5	-0.5
	0.3nm,0.3s,baz=352,slow=9.5,SNR=6.9						
FITZ				S	S	16 07 58.2	-6.4
	0.1nm,0.3s,baz=315,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**15.53**	**146**	P	P	16 06 51.3	-0.3
	0.2nm,0.3s,baz=319,slow=13,SNR=8.3						
ASAR	**Alice Springs**	**18.47**	**154**	P	P	16 07 21.4	+0.1
	0.2nm,0.3s,baz=326,slow=9.7,SNR=21						
MKAR	**Makanchi Array**	**65.79**	**329**	P	P	16 13 32.3	0.0
	0.1nm,0.4s,baz=123,slow=5.3,SNR=4.2						

*NEIC **22** 16:34:00.1±1.8,22°.57N±0°.07×12°.4W±0°.1,h0km±1km, mb4.4/21,Error ellipse: s-maj=21.0km s-min=5.7km az=241.0*
*IDC **22** 16:34:01.5±1.0,22°.95N×12°.39W,h0km,mb3.8/11, mb1 4.0/12,mb1mx3.8/37,mbtmp3.8/12,ML3.8/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/89,Error ellipse: s-maj=38.5km s-min=22.4km az=135.0*

ISC 22 16:33:60.0±0.6,22°.64N±0°.09×12°.29W±0°.10,h0km,n41, σ0s92/41,mb4.1/21,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACI	**Morro de la Ar**	**6.76**	**327**	Pn	**Pn**	**16 35 40.3**	**-0.4**
KOWA	**Kowa**	**11.27**	**134**		**Pn**	**16 36 43.4**	**+0.9**
TOA0	**Torodi Ar. Sit**	**16.31**	**123**	Pn	**Pn**	**16 37 49.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**16.31**	**123**	Pn	**Pn**	**16 37 49.8**	**-0.8**
	0.5nm,0.3s,baz=312,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**16.31**	**123**		**Pn**	**16 37 49.7**	**-0.8**
DBIC	**Dimbokro**	**17.42**	**155**	P	**Pn**	**16 38 02.7**	**-1.9**
	0.7nm,0.3s,baz=349,slow=11,SNR=7.0						
DBIC	**Dimbokro**	**17.42**	**155**	Pn	**Pn**	**16 38 03.2**	**-1.4**
ESDC	**Sonseca Array**	**18.40**	**21**	P	**Pn**	**16 38 16.0**	**-0.7**
	0.1nm,0.3s,baz=207,slow=12,SNR=4.1						
GERES	**GERESS Array B**	**33.29**	**32**

ISC 22 16:45:41.8±0.4, 20°74S±0'07×174°2W±0'1, h10km, n82, σ1°32/69, mb4.4/26, MS3.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.37**	**69**	Pn	**Pn**	16 46 40.6	-7.6
AFI	**Afiamalu**	**7.18**	**19**	Pn	**Pn**	**16 47 24.9**	**-2.1**
	5.2nm,0.3s,baz=355,slow=9.7,SNR=4.2						
AFI				Sn	Sn	16 48 38.9	-10
	5.6nm,0.3s,baz=229,slow=21,SNR=4.4						
AFI				LR	LR	16 50 08.5	
	comp=Z,238nm,20.4s,baz=187,slow=37						
GLKZ	**Green Lake**	**9.13**	**201**	P	**Pn**	**16 47 51.6**	**-2.0**
GLKZ				S	Sn	16 49 25.7	-11
RAR	**Rarotonga**	**13.51**	**95**	Pn	Pn	16 48 45.0	-8.6
	2.2nm,0.3s,baz=178,slow=22,SNR=1.9						
RAR				Sn	Sn	16 50 55.5	-28
	0.9nm,0.3s,baz=182,slow=18,SNR=2.4						
RAR				LR	LR	16 53 49.1	
	comp=Z,95nm,19.1s,baz=254,slow=36						
KNTN	**Kanton**	**18.02**	**8**	Pn	**Pn**	**16 49 51.2**	**-1.3**
KNTN				IAmb	IAmb	16 49 52.3	
	comp=Z,29nm,0.6s						
DZM	**Mont Dzumac**	**18.05**	**262**	P	**P**	**16 49 54.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=20,SNR=1.5						
DZM				LR	LR	16 55 22.1	
	comp=Z,77nm,19.0s,baz=172,slow=32						
DZM	**Mont Dzumac**	**18.05**	**262**	eLR	LR	16 54 30.7	
	comp=Z,190nm,24.1s						
DZM	**Mont Dzumac**	**18.05**	**262**	IAmb	IAmb	16 50 02.1	
	comp=Z,11nm,0.9s						
HAZ	**Te Kaha**	**18.32**	**201**	P	**P**	**16 49 58.5**	**+2.3**
HAZ				S	Sn	16 53 03.6	-17
PUZ	**Puketiti**	**18.46**	**199**	P	**Pn**	**16 50 00.0**	**+2.2**
PUZ				S	Sn	16 53 04.7	-20
TWGZ	**Tauwhareparae**	**18.64**	**200**	P	**Pn**	**16 50 01.2**	**+1.1**
TWGZ				S	Sn	16 53 09.2	-19
MWZ	**Matawai**	**18.93**	**200**	P	**Pn**	**16 50 03.7**	**+0.1**
URZ	**Urewera**	**19.00**	**201**	P	**P**	**16 50 03.6**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=288,slow=2.6,SNR=16						
URZ				S	Sn	16 53 16.0	-21
	comp=Z,0.3nm,0.3s,baz=150,slow=22,SNR=1.2						
URZ	**Urewera**	**19.00**	**201**	IAmb	IAmb	16 50 05.8	
	comp=Z,77nm,1.3s						
URZ	**Urewera**	**19.00**	**201**	P	**Pn**	**16 50 04.3**	**-0.1**
URZ				S	Sn	16 53 16.5	-21
RAGZ	**Rawiri**	**19.12**	**200**	P	**Pn**	**16 50 06.1**	**+0.2**
RAGZ				S	Sn	16 53 21.2	-19
RIGZ	**Rimuhau**	**19.20**	**199**	P	**P**	**16 50 05.3**	**-0.5**
RIGZ				S	Sn	16 53 20.8	-21
BKZ	**Black Stump Fm**	**20.03**	**201**	P	**P**	**16 50 13.0**	**-2.0**
BKZ	**Black Stump Fm**	**20.03**	**201**	P	**P**	**16 50 12.1**	**-2.9**
BKZ				S	S	16 53 41.3	-19
HIZ	**Hauiti**	**20.07**	**206**	P	**P**	**16 50 16.3**	**+1.0**
TMVZ	**Te Maari**	**20.27**	**203**	P	Pn	16 50 20.9	+1.3
ETVZ	**East Tongariro**	**20.28**	**203**	P	Pn	16 50 19.4	-0.3
SNZO	**South Karori**	**22.56**	**202**	P	**P**	**16 50 39.9**	**-2.2**
BHW	**Baring Head**	**22.59**	**202**	P	**P**	**16 50 41.0**	**-1.5**
NNZ	**Nelson**	**22.97**	**205**	P	**P**	**16 50 42.9**	**-3.6**
NNZ				IAmb	IAmb	16 50 57.9	
	comp=Z,51nm,1.5s						
TBI	**Tubuai**	**23.09**	**101**	eLR	LR	16 55 45.4	
	comp=Z,174nm,32.5s						
PPT2	**Papeete2**	**23.48**	**87**	eLR	LR	16 55 55.9	
	comp=Z,195nm,27.0s						
PPT	**Papeete**	**23.49**	**86**	LR	LR	16 59 46.5	
	comp=Z,86nm,18.1s,baz=281,slow=36						
OXZ	**Oxford**	**25.29**	**204**	P	**P**	**16 51 05.7**	**-2.7**
OXZ				IAmb	IAmb	16 51 14.0	
	comp=Z,18nm,0.8s						
RPZ	**Rata Peaks**	**26.00**	**205**	P	**P**	**16 51 13.6**	**-1.3**
	comp=Z,4.3nm,0.6s,baz=39,slow=19,SNR=1.6						
JOHN	**Johnston Islan**	**37.52**	**7**	P	**P**	**16 52 55.9**	**-0.2**
PMG	**Port Moresby**	**38.85**	**281**	P	**P**	**16 53 08.8**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=267,slow=22,SNR=2.0						
STKA	**Stephens Creek**	**40.88**	**245**	P	**P**	**16 53 24.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=92,slow=11,SNR=7.9						
COEN	**Coen**	**41.13**	**272**	P	**P**	**16 53 27.1**	**+0.6**
SBLHI	**Steaming Bluff**	**44.02**	**26**	P	**P**	**16 53 49.4**	**-0.6**
BBOO	**Buckleboo**	**45.62**	**244**	P	**P**	**16 54 02.4**	**-0.1**
BBOO				IAmb	IAmb	16 54 28.0	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**47.88**	**261**	P	**P**	**16 54 20.3**	**-0.2**
WR0				IAmb	IAmb	16 54 43.2	
	comp=Z,4.4nm,1.2s						
AS31	**Alice Springs**	**47.90**	**256**	P	**P**	**16 54 20.0**	**-0.7**
ASAR	**Alice Springs**	**47.91**	**256**	P	**P**	**16 54 20.4**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=102,slow=7.7,SNR=18						
ASAR				PcP	**PcP**	**16 55 49.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=121,slow=3.6,SNR=4.3						
ASAR				S	**S**	**17 01 13.8**	**-4.5**
	comp=Z,0.2nm,0.5s,baz=112,slow=11,SNR=2.1						
WB0	**Warramunga Arr**	**48.05**	**262**	P	**P**	**16 54 21.9**	**+0.1**
WB0				IAmb	IAmb	16 54 29.9	
	comp=Z,7.8nm,1.4s						
WB2	**Warramunga Arr**	**48.06**	**261**	P	**P**	**16 54 21.9**	**+0.1**
WB2				IAmb	IAmb	16 54 39.0	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**48.07**	**261**	P	**P**	**16 54 21.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=96,slow=6.9,SNR=18						
WRA				PcP	**PcP**	**16 55 49.8**	**0.0**
	comp=Z,1.2nm,0.9s,baz=93,slow=3.7,SNR=3.3						
WRA	**Warramunga Arr**	**48.07**	**261**	IAmb	IAmb	16 54 23.5	
	comp=Z,0.4nm,1.4s						
FORT	**Forrest**	**52.45**	**247**	P	**P**	**16 54 55.5**	**+0.6**
MTN	**Manton Dam**	**52.70**	**269**	P	**P**	**16 54 56.8**	**-0.2**
MTN				IAmb	IAmb	16 54 59.6	
	comp=Z,5.2nm,0.8s						
KNRA	**Kununurra**	**54.17**	**265**	P	**P**	**16 55 07.0**	**-0.7**
KNRA				IAmb	IAmb	16 55 25.4	
	comp=Z,8.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.50**	**262**	P	**P**	**16 55 25.5**	**+0.9**
FITZ				IAmb	IAmb	16 55 36.2	
	comp=Z,5.7nm,1.4s						
SBA	**Scott Base**	**57.90**	**185**	P	**P**	**16 55 35.8**	**+2.3**
SBA				IAmb	IAmb	16 55 36.3	
	comp=Z,9.6nm,0.9s						
VNDA	**Vanda**	**58.02**	**186**	P	**P**	**16 55 34.6**	**+0.2**
	comp=Z,3.2nm,1.0s,baz=0.0,slow=7.1,SNR=6.8						
VNDA	**Vanda**	**58.02**	**186**	P	**P**	**16 55 35.4**	**+1.0**
VNDA				IAmb	IAmb	16 55 48.3	
	comp=Z,12nm,1.5s						
PSA00	**Pilbara Seismi**	**61.05**	**256**	P	**P**	**16 55 56.9**	**+0.6**
PSA00				IAmb	IAmb	16 55 59.1	
	comp=Z,5.2nm,1.2s						
QSPA	**South Pole Qui**	**69.34**	**180**	P	**P**	**16 56 49.7**	**+0.3**
JNU	**Nakatsue**	**74.92**	**315**	LR	LR	17 26 15.3	
	comp=Z,27nm,21.9s,baz=168,slow=32						
ASAJ	**Asahikawa**	**75.67**	**329**	LR	LR	17 23 48.7	
	comp=Z,36nm,21.2s,baz=177,slow=30						
PETK	**Petropavlovsk-**	**77.46**	**343**	LR	LR	17 25 05.5	
	comp=Z,30nm,20.7s,baz=164,slow=30						
NVAR	**Mina Array Bea**	**78.81**	**42**	P	**P**	**16 57 46.5**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=211,slow=8.6,SNR=6.1						
KSRS	**Korea Array**	**79.44**	**317**	P	**P**	**16 57 48.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=107,slow=4.2,SNR=1.8						
PMSA	**Palmer Station**	**79.65**	**156**	P	**P**	**16 57 47.9**	**-1.3**
NLWA	**Neilton Lookou**	**81.52**	**32**	P	**P**	**16 57 59.5**	**+0.1**
USHA	**Ushuaia**	**81.97**	**146**	LR	LR	17 33 04.3	
	comp=Z,65nm,18.1s,baz=223,slow=35						
MAW	**Mawson**	**82.52**	**199**	P	**P**	**16 58 04.4**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=154,slow=5.1,SNR=4.0						
MAW	**Mawson**	**82.52**	**199**	P	**P**		
PLID	**Pearl Lake**	**84.22**	**37**	P	**P**	**16 58 14.5**	**+0.7**
PLID				IAmb	IAmb	16 58 32.9	
	comp=Z,4.6nm,1.3s						
TXAR	**Lajitas Array**	**84.23**	**56**	P	**P**	**16 58 14.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=208,slow=3.6,SNR=4.1						
PDAR	**Pinedale Array**	**86.74**	**42**	P	**P**	**16 58 26.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=209,slow=2.7,SNR=5.4						
ILAR	**Eielson Array**	**87.80**	**11**	P	**P**	**16 58 32.0**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=217,slow=4.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**16 59 01.1**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=116,slow=4.2,SNR=4.3						
YKA	**Yellowknife Ar**	**95.28**	**24**	P	**P**	**16 59 05.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=233,slow=4.0,SNR=3.8						
LVC	**Limon Verde**	**95.39**	**116**	LR	LR	17 32 28.2	
	comp=Z,53nm,20.5s,baz=214,slow=30						
LPAZ	**La Paz**	**98.69**	**111**	LR	LR	17 37 04.4	
	comp=Z,40nm,18.2s,baz=328,slow=31						
MKAR	**Makanchi Array**	**113.94**	**313**	PKP	**PKiKP**	**17 04 21.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=104,slow=0.4,SNR=4.9						
ARCES	**ARCESS Array B**	**129.74**	**351**	PKP	**PKPdf**	**17 04 50.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=7.4,slow=2.1,SNR=3.8						
EKA	**Eskdalemuir Ar**	**144.81**	**9**	PKP	**PKPdf**	**17 05 18.2**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=350,slow=4.6,SNR=3.8						
AKASG	**Malin Array Be**	**144.86**	**334**	PKPbc	**PKPdf**	**17 05 19.2**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=40,slow=4.4,SNR=18						
CLL	**Collm**	**148.97**	**351**	*e*PKPbc	**PKiKP**	**17 05 31.0**	**-0.2**
	comp=Z,6.0nm,1.1s						
CLL				*ep*PKPbc	**sPKPab**	**17 05 37.0**	**-0.5**
DPC	**Dobruska-Polom**	**149.29**	**347**	*e*PKP	**PKiKP**	**17 05 33.0**	**+1.0**
BRTR	**Keskin Array B**	**149.57**	**315**	PKPbc	**PKiKP**	**17 05 33.5**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=114,slow=2.2,SNR=12						
BRTR	**Keskin Array B**	**149.57**	**315**		**PKiKP**	**17 05 33.0**	**-0.1**
KHC	**Kasperske Hory**	**150.99**	**349**	*e*PKP	**PKiKP**	**17 05 36.6**	**+1.1**
KHC				*ex*	x	17 05 50.2	
CKRC	**Cesky Krumlov**	**151.16**	**348**	*e*PKP	**PKiKP**	**17 05 37.1**	**+1.2**
GERES	**GERESS Array B**	**151.24**	**349**	PKPbc	**PKiKP**	**17 05 36.8**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=44,slow=4.1,SNR=8.7						
TORD	**Torodi Ar. Bea**	**171.50**	**152**	PKPab	**PKPab**	**17 07 11.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=230,slow=3.7,SNR=2.1						

WEL 22 17:13:10.8±1.2, 36°S±18'×178°0W±2°2, h118km±32km, M3.4/12, ML3.8/7, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=125.7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.09**	**229**	P	Pn	17 13 44.7	-0.5
WMGZ				S	Sn	17 14 11.8	+0.2
PKGZ	**Pakihiroa**	**2.34**	**232**	P	Pn	17 13 48.3	-0.2
PUZ	**Puketiti**	**2.35**	**227**	P	Pn	17 13 48.1	-0.5
HAZ	**Te Kaha**	**2.46**	**238**	P	Pn	17 13 49.9	-0.1
TWGZ	**Tauwhareparae**	**2.58**	**228**	P	Pn	17 13 51.9	+0.3
TWGZ				S	Sn	17 14 23.6	+0.7
RUGZ	**Raukumara Rang**	**2.65**	**235**	P	Pn	17 13 52.6	+0.1
CNGZ	**Carnagh Statio**	**2.67**	**221**	P	Pn	17 13 52.7	0.0
CNGZ				S	Sn	17 14 27.7	+2.8
TKGZ	**Te Karaka**	**2.83**	**225**	P	Pn	17 13 54.7	-0.1
TKGZ				S	Sn	17 14 28.7	0.0
MWZ	**Matawai**	**2.96**	**230**	P	Pn	17 13 55.9	-0.5
RIGZ	**Rimuhau**	**3.07**	**223**	P	Pn	17 13 58.4	+0.5
RIGZ				S	Sn	17 14 34.5	+0.3
RAGZ	**Rawiri**	**3.13**	**229**	P	Pn	17 13 58.8	+0.1
URZ	**Urewera**	**3.18**	**235**	P	Pn	17 13 59.3	-0.1
URZ				S	Sn	17 14 37.5	+0.7
KNZ	**Kokohu**	**3.34**	**220**	P	Pn	17 14 00.6	-0.9
KNZ				S	Sn	17 14 40.2	-0.5
SNGZ	**Shannon Statio**	**3.36**	**226**	P	Pn	17 14 01.5	-0.2
SNGZ				S	Sn	17 14 41.0	-0.1
RTZ	**Ruatahuna**	**3.47**	**231**	P	Pn	17 14 03.6	+0.4
MUGZ	**Murupara**	**3.52**	**234**	P	Pn	17 14 04.4	+0.5
MTHZ	**Maungataniwha**	**3.70**	**229**	P	Pn	17 14 06.7	+0.5
ARHZ	**Arapoaanui**	**3.88**	**223**	P	Pn	17 14 08.9	+0.2
BKZ	**Black Stump Fm**	**4.11**	**228**	P	Pn	17 14 11.5	-0.2
BHHZ	**Black Hill Sta**	**4.57**	**228**	P	Pn	17 14 18.2	+0.3

NOU 22 17:22:25.6, 17°56S×168°23E, h72km, MLv4.1/17, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.17**	**194**	P	Pn	17 22 38.0	+1.7
RTV	**Rentapao**	**0.30**	**141**	P	Pn	17 22 37.8	+0.8
SANVU	**Saraoutou**	**2.32**	**335**	P	Pn	17 23 00.7	-0.9
MARNC	**Mare, Loyalty**	**3.91**	**183**	P	Pn	17 23 22.6	-0.6
YATNC	**Mamie plateau,**	**4.65**	**196**	P	Pn	17 23 32.8	-0.6
KOUNC	**Koumac, New Ca**	**4.77**	**231**	P	Pn	17 23 34.3	-0.7
DZM	**Mont Dzumac**	**4.79**	**200**	P	Pn	17 23 35.0	-0.4
NOUC	**Port Laguerre**	**4.87**	**202**	P	Pn	17 23 36.7	+0.4
OUENC	**Ouen Island, N**	**5.01**	**195**	P	Pn	17 23 38.8	+0.6
ONTNC	**Ouen Toro**	**5.01**	**199**	P	Pn	17 23 39.3	+1.0
PINNC	**Pines Island,**	**5.08**	**188**	P	Pn	17 23 39.5	+0.3

*IDC **22** 17:29:32.2±0.8, 6°.18N×127°.03E, h134km±7km, mb4.3/40, mb1 4.3/43, mb1mx4.2/61, mbtmp4.7/43, MS3.0/4, Ms1 3.1/4, ms1mx2.6/77, Error ellipse: s-maj=11.4km s-min=6.5km az=67.0*

*DJA **22** 17:29:33.7±0.3, 6°N±3°×12°7E±°, h136km±3km, M4.6/47, mB5.0/24, mb4.8/47, MLv5.2/10, Mw(mB)4.4/24*

*NEIC **22** 17:29:33.1±2.0, 6°.11N±0°.05×126°.99E±0°.06, h138km±5km, mb4.8/113, Error ellipse: s-maj=9.2km s-min=7.6km az=77.0*

*MAN **22** 17:29:37.1, 6°.45N×126°.78E, h102km, mb5.2, ML4.1, MS4.2*

ISC 22 17:29:32.3±0.6, 6°.15N±0°.03×127°.03E±0°.04, h136km±5km, n349, σ1°13/370, mb4.7/103, 7C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.71**	**303**	P	**Pn**	**17 30 04.0**	**+0.9**
	849nm,0.3s,baz=98,slow=0.7,SNR=42						
DAV				S	**Sn**	**17 30 26.0**	**-0.8**
	738nm,0.3s,baz=247,slow=21,SNR=7.1						
DAV	**Davao City (W)**	**1.71**	**303**		**Pn**	**17 30 04.1**	**+0.9**
DAV				Sn	**Sn**	**17 30 27.8**	**+1.0**
DAV	**Davao City (W)**	**1.71**	**303**	P	**Pn**	**17 30 04.7**	**+1.5**
GSPH	**General Santos**	**2.07**	**269**	*e*P	**Pn**	**17 30 05.4**	**-2.1**
GSPH				*i* S	**Sn**	**17 30 32.6**	**-1.9**
BIPH	**Bislig**	**2.13**	**342**	*i*P	**Pn**	**17 30 08.0**	**-0.3**
BIPH				*i* S	**Sn**	**17 30 31.9**	**-3.9**
SGSI	**Sangihe**	**2.86**	**211**	P	**Pn**	**17 30 16.9**	**-0.5**
SGSI				S	**Sn**	**17 30 50.8**	**-1.4**
CTBH	**Cotabato--PC H**	**2.96**	**291**	*e*P	**Pn**	**17 30 18.3**	**-0.3**
CTBH				*i* S	**Sn**	**17 30 55.1**	**+0.7**
CGP	**Cagayan de Oro**	**3.26**	**315**	*i*P	**Pn**	**17 30 22.6**	**+0.1**
CGP				*i* S	**Sn**	**17 31 01.2**	**-0.1**
TBP	**Tagbilaran**	**4.71**	**319**	*i*P	**Pn**	**17 30 41.9**	**+0.1**
TBP				*i* S	**Sn**	**17 31 31.9**	**-3.9**
SNPH	**Sibulan**	**4.92**	**310**	*e*P	**Pn**	**17 30 45.0**	**+0.5**
SNPH				*e*S	**Sn**	**17 31 36.5**	**-4.2**
ZCP	**Zamboanga City**	**4.98**	**279**	*i*P	**Pn**	**17 30 44.6**	**-0.7**
ZCP				*i* S	**Sn**	**17 31 42.3**	**+0.2**
LLP	**Lapu-Lapu**	**5.13**	**324**	*e*P	**Pn**	**17 30 48.3**	**+1.0**
LLP				*i* S	**Sn**	**17 31 46.1**	**+0.3**
TNTI	**Ternate**	**5.35**	**176**	Pn	**Pn**	**17 30 50.0**	**-0.2**
TNTI				Sn	**Sn**	**17 31 48.9**	**-2.1**
TNTI	**Ternate**	**5.35**	**176**	P	**Pn**	**17 30 50.1**	**-0.2**
	0.8nm2µm160nm,0.6s						
TNTI	**Ternate**	**5.35**	**176**	P	**Pn**	**17 30 50.2**	**0.0**
KMSI	**Cibinong**	**6.31**	**209**	P	**Pn**	**17 31 02.9**	**-0.2**
	1.9nm5µm580nm,0.8s						
LBMI	**Labuha**	**6.75**	**176**	P	**Pn**	**17 31 09.1**	**0.0**
	0.7nm1µm77nm,0.7s						
GTOI	**Gorontalo**	**6.78**	**216**	P	**Pn**	**17 31 08.5**	**-1.0**
	0.9nm3µm281nm,1.1s						
RCP	**Roxas**	**6.84**	**322**	*e*P	**Pn**	**17 31 11.7**	**+1.4**
MRSI	**Marisa**	**7.58**	**222**	P	**Pn**	**17 31 19.9**	**-0.3**
	1.8nm6µm395nm,0.6s						
TOLI2	**Tolitoli**	**7.99**	**231**	Pn	**Pn**	**17 31 23.7**	**-2.0**
TOLI2				Sn	**Sn**	**17 32 50.3**	**-4.3**
TOLI2	**Tolitoli**	**7.99**	**231**	P	**Pn**	**17 31 24.4**	**-1.3**
SWI	**Sorong**	**8.14**	**149**	P	**Pn**	**17 31 29.6**	**+1.8**
	932nm39nm,0.5s						
SIJI	**Sorong**	**8.15**	**149**	P	**Pn**	**17 31 28.9**	**+1.0**
	7.3nm,0.3s,baz=183,slow=21,SNR=59						
SIJI				S	**Sn**	**17 32 54.5**	**-4.1**
	4.3nm,0.3s,baz=188,slow=23,SNR=2.5						
SANI	**Sanana**	**8.21**	**187**	P	**Pn**	**17 31 24.6**	**-4.0**
	3µm46nm,0.5s						
LUWI	**Luwuk**	**8.31**	**211**	Pn	**Pn**	**17 31 29.0**	**-1.0**
LUWI				Sn	**Sn**	**17 33 02.1**	**-0.1**
LUWI	**Luwuk**	**8.31**	**211**	P	**Pn**	**17 31 30.4**	**+0.5**
	3µm332nm,0.8s						
LUWI	**Luwuk**	**8.31**	**211**	P	**Pn**	**17 31 30.8**	**+0.9**
MYLDM	**Lahad Datu**	**8.54**	**264**	Pn	**Pn**	**17 31 33.0**	**0.0**
APSI	**Ampana**	**8.83**	**218**	P	**Pn**	**17 31 38.0**	**+1.1**
	1µm98nm,1.0s						
MPSI	**Mapaga**	**9.16**	**231**	P	**Pn**	**17 31 42.1**	**+0.7**
	815nm45nm,0.8s						
LQP	**Lukban**	**9.58**	**326**	*e*P	**Pn**	**17 31 49.9**	**+2.7**
AAI	**Ambon**	**9.84**	**173**	P	**Pn**	**17 31 51.1**	**+0.6**
	872nm40nm,0.5s						
KKM	**Kota Kinabalu**	**10.75**	**270**	Pn	**Pn**	**17 32 01.8**	**-0.9**
KKM	**Kota Kinabalu**	**10.75**	**270**	P	**Pn**	**17 32 03.7**	**+0.9**
TTSI	**Tana Toraja**	**11.62**	**218**	P	**Pn**	**17 32 13.3**	**-0.9**
	753nm63nm,1.1s						
BBSI	**Bau Bau**	**12.38**	**201**	P	**Pn**	**17 32 25.5**	**+1.4**
	74nm5.3nm,0.7s						
SPSI	**Sidrap Palu**	**12.38**	**216**	P	**Pn**	**17 32 22.8**	**-1.3**
	25nm,1.0s						
BNSI	**Bone**	**12.55**	**214**	P	**Pn**	**17 32 25.9**	**-0.4**
	36nm,0.9s						
KAPI	**Kappang**	**13.25**	**213**	P	**Pn**	**17 32 33.7**	**-1.6**
	1.2nm,0.3s,baz=21,slow=9.1,SNR=27						
KAPI	**Kappang**	**13.25**	**213**	Pn	**Pn**	**17 32 33.1**	**-2.2**
KAPI	**Kappang**	**13.25**	**213**	P	**Pn**	**17 32 34.1**	**-1.3**
BKSI	**Bulukumba**	**13.31**	**211**	P	**Pn**	**17 32 34.1**	**-2.0**
	11nm,0.8s						
BSSI	**Bau Bau, Buton**	**13.84**	**208**	P	**Pn**	**17 32 41.9**	**-1.0**
	17nm,1.1s						
MTKI	**Muara Teweh, K**	**14.01**	**240**	P	**Pn**	**17 32 46.4**	**+1.4**
	41nm,0.8s						
SMPI	**Sarmi**	**14.19**	**124**	P	**P**	**17 32 50.5**	**-0.1**
	48nm,1.0s						
SAUI	**Saumlaki**	**14.67**	**163**	P	**P**	**17 32 55.5**	**-0.4**
SBUM	**Sibu**	**15.21**	**257**		**P**	**17 33 01.1**	**-0.9**
SBUM				IAmb	IAmb	17 33 05.2	
	comp=Z,36nm,0.8s						
MMRI	**Maumere**	**15.44**	**198**	Pn	**Pn**	**17 33 02.0**	**-0.9**
MMRI				IAmb	IAmb	17 33 12.3	
	comp=Z,37nm,0.7s						
MMRI	**Maumere**	**15.44**	**198**	P	**Pn**	**17 33 02.9**	**-0.1**
	comp=Z,56nm,0.8s						
MMRI	**Maumere**	**15.44**	**198**	P	**Pn**	**17 33 03.6**	**+0.6**
BBKI	**Banjar Baru**	**15.46**	**232**	P	**Pn**	**17 33 01.6**	**-1.7**
SOEI	**Soe**	**16.03**	**190**	P	**P**	**17 33 12.0**	**+0.8**
SOEI				IAmb	IAmb	17 33 37.2	
	comp=Z,52nm,0.9s						
SOEI	**Soe**	**16.03**	**190**	P	**P**	**17 33 12.5**	**+1.3**
	comp=Z,57nm,0.7s						
SOEI	**Soe**	**16.03**	**190**	P	**P**	**17 33 13.2**	**+2.0**
JAY	**Jayapura**	**16.14**	**122**	P	**P**	**17 33 13.9**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=201,slow=20,SNR=5.4						
BATI	**Baumata**	**16.59**	**192**	P	**P**	**17 33 18.4**	**+1.2**
	comp=Z,13nm,0.3s,baz=57,slow=4.8,SNR=23						
BATI				S	**S**	**17 36 23.9**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=89,slow=21,SNR=3.9						
BATI	**Baumata**	**16.59**	**192**	P	**P**	**17 33 18.1**	**+0.9**
	comp=Z,592nmcomp=Z,58nm,0.6s						
STKI	**Sintang**	**16.65**	**249**	P	**Pn**	**17 33 17.8**	**-0.1**
	comp=Z,57nm,1.0s						
KSM	**Kuching**	**17.31**	**255**	P	**P**	**17 33 25.2**	**+0.1**
KSM				IAmb	IAmb	17 33 28.3	
	comp=Z,60nm,0.7s						
KSM	**Kuching**	**17.31**	**255**	P	**Pn**	**17 33 25.9**	**+0.1**
WBSI	**Waikabubak, Su**	**17.43**	**206**	P	**P**	**17 33 26.5**	**0.0**
	comp=Z,812nmcomp=Z,46nm,0.8s						
PLAI	**Plampang**	**17.50**	**212**	P	**P**	**17 33 26.4**	**-0.8**
	comp=Z,1µmcomp=Z,38nm,0.5s						
PLAI	**Plampang**	**17.50**	**212**	P	**P**	**17 33 27.3**	**+0.1**
PBKI	**Pangkalan Bun**	**17.68**	**241**	P	**P**	**17 33 28.9**	**-0.3**
	comp=Z,111nm,1.0s						
YULB	**Yu-li**	**18.01**	**343**	P	**P**	**17 33 30.9**	**-1.9**
TPUB	**Ta-pu**	**18.14**	**341**	P	**P**	**17 33 03.0**	**-1.2**
TPUB				IAmb	IAmb	17 34 15.3	
	comp=Z,93nm,1.6s						
TPUB	**Ta-pu**	**18.14**	**341**	P	**P**	**17 33 33.6**	**-0.6**
SRBI	**Singaraja**	**18.40**	**220**	P	**Pn**	**17 33 45.0**	**+6.2**
KMMI	**Kalianget**	**18.48**	**225**	P	**P**	**17 33 38.4**	**+0.4**
	comp=Z,27nm,0.8s						
SSLB	**Suanglung**	**18.49**	**342**	P	**P**	**17 33 37.2**	**-0.8**
IGBI	**Denpasar**	**19.01**	**219**	P	**P**	**17 33 43.9**	**+0.2**
GUMO	**Guam**

QIS Mount Isa 29.27 155 P P 17 35 22.1 +0.2
MTSU Mount Surprise 29.55 145 P P 17 35 24.8 +0.5
baz=30,SNR=16
GSI Gunungsitoli 29.77 262 P P 17 35 24.2 -2.2
GSI IAmb IAmb 17 35 57.5
comp=Z,23nm,1.1s
GSI Gunungsitoli 29.77 262 P P 17 35 24.7 -1.7
KMI Kunming 29.95 312 ⇓P P 17 35 29.6 +1.5
KMI pmax pmax
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 29.98 297 P P 17 35 28.5 +0.2
comp=Z,2.6nm,0.3s,baz=106,slow=7.2,SNR=13
CMAR PcP PcP 17 38 28.4 +0.9
comp=Z,2.3nm,0.8s,baz=124,slow=1.1,SNR=11
CMAR LR LR 17 48 17.5
comp=Z,40nm,18.3s,baz=90,slow=38
CHTO Chiang Mai 30.11 297 P P 17 35 29.2 -0.1
CHTO PcP 17 38 29.0 +1.2
AS31 Alice Springs 30.38 167 P P 17 35 31.6 -0.1
AS31 IAmb IAmb 17 35 33.6
comp=Z,6.3nm,0.3s
ASAR Alice Springs 30.38 167 P P 17 35 31.5 -0.2
comp=Z,8.9nm,0.4s,baz=344,slow=7.5,SNR=277
ASAR PcP PcP 17 38 28.7 +0.3
comp=Z,11nm,0.5s,baz=347,slow=2.4,SNR=28
ASAR Alice Springs 30.38 167 P P 17 35 31.3 -0.4
ASAR PcP 17 38 28.6 +0.2
INU Inuyama 30.48 16 P P 17 35 34.6 +2.2
INU IAmb IAmb 17 35 42.5
comp=Z,20nm,1.2s
WRKA Warakurna 31.02 178 P P 17 35 37.4 +0.2
baz=31,SNR=135
WRKA Warakurna 31.02 178 P P 17 35 37.5 +0.2
KSRS Korea Array 31.18 1 P P 17 35 38.0 -0.4
comp=Z,1.7nm,0.6s,baz=180,slow=10.0,SNR=12
GIRL Giralia 31.23 203 P P 17 35 39.2 +0.2
PZH PanZhiHua 31.48 313 P P 17 35 44.3 +2.9
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.3s
MJAR Matsushiro Arr 31.94 17 P P 17 35 44.6 -0.6
comp=Z,1.2nm,0.5s,baz=187,slow=7.3,SNR=2.1
MJAR Matsushiro Arr 31.94 17 P P 17 35 43.2 -2.0
MAJO Matsushiro 31.94 17 P P 17 35 43.2 -2.0
MAJO IAmb IAmb 17 35 50.1
comp=Z,52nm,1.8s
MJB9 Matsu-Tunnel 31.94 17 P P 17 35 43.0 -2.3
MJB9 IAmb IAmb 17 35 53.1
comp=Z,18nm,1.3s
CTA Charters Tower 32.21 144 P P 17 35 49.4 +1.7
JYT Yasato 32.28 20 P P 17 35 46.9 -1.3
JYT IAmb IAmb 17 36 21.2
comp=Z,20nm,1.2s
XAN Xi'an 32.43 331 ⇑P P 17 35 49.4 -0.2
XAN pP pP 17 36 17.1 -1.3
XAN pmax pmax
comp=Z,17nm,0.9s
MEEK Meekatharra 33.59 194 P P 17 35 59.7 -0.1
baz=34,SNR=25
MEEK Meekatharra 33.59 194 P P 17 35 59.8 +0.1
JMM Marumori 33.97 20 P P 17 36 02.5 -0.3
JMM IAmb IAmb 17 36 23.4
comp=Z,47nm,1.2s
OOD Oodnadatta 34.76 166 P P 17 36 09.7 -0.1
BJI Beijing 35.13 345 P P 17 36 13.1 +0.3
BJI pmax pmax
comp=Z,9.0nm,0.8s
INKA Innaminka 36.20 159 P P 17 36 22.3 +0.2
QLP Quilpie 36.56 154 P P 17 36 24.8 -0.3
baz=37,SNR=6.4
QLP Quilpie 36.56 154 P P 17 36 25.0 -0.1
MORW Morawa 36.57 196 P P 17 36 25.6 +0.4
baz=37,SNR=8.3
MORW Morawa 36.57 196 P P 17 36 25.6 +0.4
MORW IAmb IAmb 17 36 26.8
comp=Z,25nm,1.1s
MORW Morawa 36.57 196 P P 17 36 25.7 +0.4
LZH Lanzhou 36.61 328 eP P 17 36 27.3 +1.6
LZH pP pwP 17 37 01.4 +4.2
LZH pmax pmax
comp=Z,38nm,1.4s
FORT Forrest 36.73 179 P P 17 36 27.0 +0.5
baz=37,SNR=7.9
FORT Forrest 36.73 179 P P 17 36 26.9 +0.5
FORT Forrest 36.73 179 P P 17 36 27.0 +0.5
MULG Mulgathing 36.84 170 P P 17 36 28.0 +0.5
HHC Hu-ho-hao-te 37.22 340 eP P 17 36 33.6 +2.9
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.0s
RK1H Rockhampton Ha 37.24 143 P P 17 36 30.9 -0.1
BLDU Ballidu 37.86 195 P P 17 36 36.3 +0.3
baz=38,SNR=27
BLDU Ballidu 37.86 195 P P 17 36 36.4 +0.3
LCRK Leigh Creek 37.93 164 P P 17 36 37.1 +0.4
USA0B Ussuriysk Arra 38.15 6 P P 17 36 39.8 +1.4
USRK Ussuriysk Ar. 38.15 6 P P 17 36 38.0 -0.4
comp=Z,1.6nm,0.4s,baz=183,slow=8.1,SNR=11
USRK Ussuriysk Ar. 38.15 6 P P 17 36 40.1 +1.8
KLBR Kellerberrin 38.55 193 P P 17 36 42.2 +0.3
baz=39,SNR=18
KLBR Kellerberrin 38.55 193 P P 17 36 42.4 +0.5
SHL Shillong 38.74 304 P P 17 36 43.3 -0.5
SHL IAmb IAmb 17 37 00.4
comp=Z,13nm,0.4s
EIDS Eidsvold 39.09 144 P P 17 36 46.0 -0.4
MUN Mundaring 39.29 195 P P 17 36 48.5 +0.5
baz=40,SNR=23
MUN Mundaring 39.29 195 P P 17 36 48.7 +0.7
BBOO Buckleboo 39.68 168 P P 17 36 51.6 +0.4
baz=40,SNR=89
BBOO Buckleboo 39.68 168 P P 17 36 51.3 +0.1
BBOO Buckleboo 39.68 168 P P 17 36 51.6 +0.4
ASAJ Asahikawa 40.21 17 P P 17 36 56.1 +0.6
comp=Z,3.4nm,0.4s,baz=236,slow=10,SNR=9.5
ASAJ LR LR 17 59 15.6
comp=Z,13nm,18.0s,baz=210,slow=44
JKA Kamikawa-asahi 40.21 17 P P 17 36 56.5 +1.0
JKA IAmb IAmb 17 37 17.6
comp=Z,66nm,1.6s
WHYH Whyalla 40.23 166 P P 17 36 56.1 +0.4
STKA Stephens Creek 40.28 161 P P 17 36 56.5 +0.3
comp=Z,20nm,0.5s,baz=337,slow=8.3,SNR=107
STKA PcP PcP 17 38 57.3 0.0
comp=Z,7.0nm,0.7s,baz=310,slow=4.2,SNR=3.4
STKA Stephens Creek 40.28 161 P P 17 36 56.5 +0.3
baz=40,SNR=40
STKA Stephens Creek 40.28 161 P P 17 36 56.5 +0.3
STKA Stephens Creek 40.28 161 P P 17 36 56.5 +0.3
NAPP Napperby 40.51 166 P P 17 36 59.0 +1.0
H11S3 WAKE ISLAND Hy 40.54 69 T T 18 21 23.3
baz=258,slow=75,SNR=18
H11S1 WAKE ISLAND Hy 40.55 69 T T 18 21 14.0
baz=258,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 40.56 69 T T 18 21 14.6
baz=258,slow=75,SNR=37
HTT Hallett 40.95 165 P P 17 37 02.2 +0.6
baz=41,SNR=27
HTT Hallett 40.95 165 P P 17 37 02.3 +0.6
H11N1 WAKE ISLAND Hy 41.00 67 T T 18 21 49.4
baz=243,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 41.01 67 T T 18 21 54.5
baz=243,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 41.02 67 T T 18 21 60.0
baz=243,slow=76,SNR=12
GTA Gaotai 41.21 327 ⇑P P 17 37 04.6 +0.7
GTA pP pP 17 37 33.6 0.0
GTA sP sP 17 37 50.6 +1.8
GTA PcP PcP 17 39 01.3 +0.9
GTA pmax pmax
comp=Z,17nm,0.7s
GTA pmax pmax
comp=Z,77nm,5.5s
GTA LR LR
comp=Z,69nm,15.3s
GTA LR LR
comp=Z,67nm,16.0s
GTA LR LR
comp=Z,65nm,16.0s
CMSA Cobar Meteorol 41.49 156 P P 17 37 06.6 +0.4
baz=42,SNR=20
CMSA Cobar Meteorol 41.49 156 P P 17 37 06.5 +0.4
RKGY Rocky Gully 41.63 193 P P 17 37 09.0 +1.8
baz=42,SNR=8.4
RKGY Rocky Gully 41.63 193 P P 17 37 09.0 +1.8
GOMU GeErMu 42.01 320 P P 17 37 10.4 -0.4
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,73nm,5.4s
TWOA Tennyson Woods 42.38 166 P P 17 37 14.3 +1.0
YSS Yuzh-Sakhalins 42.85 16 P P 17 37 17.5 +0.6
YSS IAmb IAmb 17 37 55.8
comp=Z,29nm,1.4s
TAPN Taplejung 42.88 304 eP P 17 37 17.7 -0.1
ODAN Odare 42.96 303 eP P 17 37 18.3 -0.1
comp=Z,23nm,0.5s
ARMA Armidale 43.33 148 P P 17 37 22.1 +0.9
baz=43,SNR=8.5
ARMA Armidale 43.33 148 P P 17 37 21.9 +0.7
ARMA IAmb IAmb 17 37 22.6
comp=Z,12nm,0.8s
ARMA Armidale 43.33 148 P P 17 37 22.1 +0.9
RAMN Ramite 43.65 303 eP P 17 37 24.0 0.0
comp=Z,27nm,0.5s
JIRN Jiri 44.24 304 eP P 17 37 28.8 -0.1
comp=Z,20nm,0.4s
GUN Gumba 44.59 304 eP P 17 37 31.4 -0.2
comp=Z,28nm,0.5s
PKI Pulchoki 44.86 303 eP P 17 37 32.9 -0.8
PKIN Phulchoki 44.87 303 eP P 17 37 33.0 -0.7
comp=Z,8.2nm,0.4s
ARPS Mount Arapiles 44.89 163 P P 17 37 34.0 +0.7
baz=45,SNR=30
ARPS Mount Arapiles 44.89 163 P P 17 37 34.2 +0.9
ULN Ulaanbaatar 44.94 341 P P 17 37 34.0 +0.2
KKN Kakani 45.04 304 eP P 17 37 34.4 -0.6
DMN Daman 45.12 303 eP P 17 37 34.7 -1.0
SONM Songino Array 45.13 340 P P 17 37 35.2 0.0
comp=Z,0.6nm,0.3s,baz=155,slow=8.6,SNR=11
GKN Gorkha 45.65 304 eP P 17 37 39.1 -0.6
comp=Z,10nm,0.5s
CAN Canberra 46.14 155 P P 17 37 44.8 +1.5
CAN Canberra 46.14 155 P P 17 37 44.5 +1.2
CNB Canberra Magne 46.29 155 P P 17 37 44.6 +0.1
baz=46,SNR=6.3
CNB Canberra Magne 46.29 155 P P 17 37 45.9 +1.4
KOLN Koldanda 46.43 303 eP P 17 37 45.8 -0.1
comp=Z,36nm,0.4s
DANN Dangsing 46.50 304 eP P 17 37 46.1 -0.4
comp=Z,41nm,0.5s
TOO Toolangi 46.78 160 P P 17 37 48.2 0.0
baz=47,SNR=14
TOO Toolangi 46.78 160 P P 17 37 49.2 +1.0
TOO IAmb IAmb 17 37 51.1
comp=Z,37nm,1.6s
TOO Toolangi 46.78 160 P P 17 37 49.8 +1.6
PYUN Piuthan 47.05 303 eP P 17 37 50.6 -0.2
comp=Z,30nm,0.5s
LIFNC LIFOU 47.70 125 P P 17 37 54.9 -0.7
LIFNC LIFOU 47.70 125 P P 17 37 55.3 -0.2
DZM Mont Dzumac 47.72 127 P P 17 37 55.1 -0.6
comp=Z,4.5nm,0.4s,baz=261,slow=12,SNR=13
DZM Mont Dzumac 47.72 127 P P 17 37 55.5 -0.3
DZM IAmb IAmb 17 37 57.8
comp=Z,32nm,1.6s
DZM Mont Dzumac 47.72 127 P P 17 37 56.1 +0.3
OUENC Ouen Island, N 48.21 127 P P 17 37 59.0 -0.5
OUENC IAmb IAmb 17 38 00.4
comp=Z,25nm,1.1s
WMQ Urumqi 50.94 324 eP P 17 38 20.8 +0.8
WMQ pmax pmax
comp=Z,14nm,1.1s
PEA0B Petropavlovsk- 53.10 23 P P 17 38 36.0 +0.3
PETK Petropavlovsk- 53.10 23 P P 17 38 35.8 +0.1
comp=Z,2.0nm,0.6s,baz=88,slow=25,SNR=17
MK31 Makanchi Array 55.77 324 P P 17 38 55.8 +0.7
MK31 IAmb IAmb 17 38 56.5
comp=Z,16nm,0.8s
MKAR Makanchi Array 55.77 324 P P 17 38 55.7 +0.6
comp=Z,24nm,0.7s,baz=124,slow=8.1,SNR=284
MKAR PcP PcP 17 39 52.7 +0.1
comp=Z,3.2nm,0.6s,baz=120,slow=4.3,SNR=5.7
MKAR ScP ScP 17 43 37.9 -1.2
comp=Z,0.8nm,0.8s,baz=129,slow=3.3,SNR=4.2
MAKZ Makanchi 55.96 324 P P 17 38 57.0 +0.6
MA2 Magadan 56.31 14 P P 17 38 59.2 +0.6
comp=Z,4.2nm,0.8s,baz=194,slow=10,SNR=4.3
MA2 Magadan 56.31 14 P P 17 38 59.2 +0.6
KSH Kashi 56.57 314 P P 17 39 02.8 +1.7
KSH pmax pmax
comp=Z,7.0nm,0.7s
KDJ Kajisay 56.77 317 P P 17 39 03.3 +0.8
KDJ PcP PcP 17 39 56.7 -0.1
ULHL Ulahol 57.45 317 P P 17 39 08.0 +0.7
SNR=11
BOOM Boomskoye usch 57.76 317 P P 17 39 09.7 +0.3
BOOM PcP PcP 17 40 01.1 +0.3
TKM2 Tokmak 2 58.16 317 P P 17 39 12.8 +0.5
SNR=7.6
KBK Karagaybulak 58.49 317 P P 17 39 15.4 +0.8
SNR=6.5
ZAA0 Zalesovo Array 58.59 332 P P 17 39 14.4 -0.3
ZAA0 IAmb IAmb 17 39 15.3
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 58.59 332 P P 17 39 14.2 -0.5
comp=Z,5.0nm,0.3s,baz=128,slow=6.4,SNR=30
ZALV Zalesovo Beam 58.59 332 P P 17 39 13.9 -0.9
CHMS Chumysh 58.76 317 P P 17 39 16.5 +0.3
SNR=6.0
AAK Ala-Archa 58.79 317 P P 17 39 17.2 +0.6
comp=Z,4.9nm,0.4s,baz=115,slow=6.1,SNR=15
AAK Ala-Archa 58.79 317 P P 17 39 17.1 +0.5
AAK IAmb IAmb 17 39 17.6
comp=Z,5.4nm,0.5s
AAK PcP PcP 17 40 05.1 +0.3
USP Ospenovka 59.03 317 P P 17 39 18.5 +0.4
SNR=20
EKS2 Erkin-Say 59.29 317 P P 17 39 20.7 +0.7
SNR=24
KURK Kurchatov 59.89 327 P P 17 39 23.9 +0.2
KURBB Kurchatov Arra 59.89 327 P P 17 39 24.0 +0.3
comp=Z,41nm,0.8s,baz=125,slow=6.8,SNR=431
KKAR Karatay Array 61.69 316 P P 17 39 36.3 +0.2
QRZ Quartz Range 62.64 142 P P 17 39 42.9 +0.5
THZ Tophouse 63.43 143 P P 17 39 47.1 -0.6
LBZ Lake Benmore 63.52 147 P P 17 39 48.2 0.0
RPZ Rata Peaks 63.57 146 P P 17 39 48.9 +0.4
comp=Z,6.8nm,0.7s,baz=67,slow=0.4,SNR=6.4
RPZ Rata Peaks 63.57 146 P P 17 39 48.5 +0.1
RPZ Rata Peaks 63.57 146 P P 17 39 48.9 +0.4
LTZ Lake Taylor 63.68 144 P P 17 39 49.5 +0.2
LTZ IAmb IAmb 17 40 03.2
comp=Z,37nm,1.4s
URZ Urewera 64.11 138 P P 17 39 51.9 -0.2
BKZ Black Stump Fm 64.19 139 P P 17 39 52.6 -0.1
BKZ IAmb IAmb 17 39 54.8
comp=Z,36nm,1.5s
KHZ Kahutara 64.20 143 P P 17 39 51.9 -0.7
KHZ Kahutara 64.20 143 P P 17 39 51.6 -1.0
CMWZ Cape Campbell 64.21 142 P P 17 39 53.5 +0.8
TIXI Tiksi 65.44 1 P P 17 39 58.9 -1.2
TIXI IAmb IAmb 17 40 05.4
comp=Z,17nm,1.8s
BVAR Borovoye Array 65.48 326 P P 17 40 01.0 +0.2
comp=Z,11nm,0.5s,baz=161,slow=5.9,SNR=122
BRVK Borovoye 65.55 326 P P 17 40 01.5 +0.3
ATKA Atka Island 66.36 35 P P 17 40 06.5 +0.1
NIUE Niue 66.94 114 P P 17 40 09.9 -0.7
NRIK Noril'sk 68.17 346 P P 17 40 17.1 -0.5
comp=Z,2.9nm,0.5s,baz=90,slow=6.0,SNR=7.8
NRIK Noril'sk 68.17 346 P P 17 40 16.8 -0.7
GEYT Alibeck 69.63 308 P P 17 40 27.3 0.0
comp=Z,4.7nm,0.6s,baz=146,slow=11,SNR=8.1
GEYT Alibeck 69.63 308 P P 17 40 27.8 +0.5
ABKAR Akbulak array 70.49 320 P P 17 40 32.3 +0.1
ABKAR Akbulak array 70.49 320 P P 17 40 32.1 -0.1
ABKAR IAmb IAmb 17 40 33.1
comp=Z,16nm,0.8s
AKTO Aktyubinsk 71.97 321 P P 17 40 41.2 +0.1
comp=Z,14nm,0.6s,baz=93,slow=7.5,SNR=39
SOCY Socotra 72.19 281 P P 17 40 41.5 -1.7
SOCY IAmb IAmb 17 40 42.7
comp=Z,8.9nm,0.7s
ARU Arti 73.07 327 P P 17 40 47.0 -0.4
comp=Z,6.2nm,0.7s,baz=118,slow=2.9,SNR=34
ARU Arti 73.07 327 P P 17 40 47.0 -0.4
ARU IAmb IAmb 17 40 47.8
comp=Z,17nm,0.7s
CASY Casey 73.23 187 P P 17 40 48.9 +0.8
CASY IAmb IAmb 17 40 49.7
comp=Z,22nm,0.8s
ANM Nome 74.96 24 P P 17 40 58.5 +0.2
SDPT Sand Point 75.04 34 P P 17 41 00.4 +1.5
KIRV Kirov 78.33 329 P P 17 41 16.8 -0.5
comp=Z,18nm,0.8s,baz=280,slow=3.0,SNR=7.3
TTA Tatalina 78.63 27 P P 17 41 19.0 0.0
BELG Belogornoye 78.69 322 P P 17 41 18.8 -0.6
comp=Z,42nm,0.8s,baz=332,slow=1.4,SNR=7.7
N19K Bonanza Creek 79.05 29 P P 17 41 22.1 +0.7
N19K IAmb IAmb 17 41 49.9
comp=Z,27nm,1.6s
OHAK Old Harbor 79.28 33 P P 17 41 24.2 +1.7
J20K Nowinta River 79.63 26 P P 17 41 24.9 +0.6
RAYN Ar Rayn 79.82 293 P P 17 41 25.8 -0.4
RAYN IAmb IAmb 17 41 29.8
comp=Z,7.9nm,0.8s
IMAR Indian Mountai 80.03 24 P P 17 41 27.1 +0.6
GNI Garni 80.18 310 P P 17 41 28.0 +0.1
comp=Z,3.0nm,0.5s,baz=206,slow=9.9,SNR=5.0
CAST Castle Rocks 80.46 27 P P 17 41 29.0 +0.2
I21K Tanana 80.67 25 P P 17 41 29.7 -0.2
ONI Oni 81.15 312 P P 17 41 33.4 +0.4
KARS Kars 81.44 310 P P 17 41 35.1 +0.4
GEVA Gevas 81.50 308 P P 17 41 35.3 +0.2
GEVA IAmb IAmb 17 41 38.4
comp=Z,14nm,0.7s
KBZ Khabaz 81.55 313 P P 17 41 35.0 +0.1
comp=Z,2.6nm,0.5s,baz=122,slow=4.0,SNR=16
COLD Coldfoot 81.57 23 P P 17 41 35.0 +0.4
KIV Kislovodsk 81.70 313 P P 17 41 35.1 -0.8
KIV IAmb IAmb 17 41 37.7
comp=Z,11nm,0.8s
MCK McKinley 81.88 27 P P 17 41 35.9 -0.5
MCK IAmb IAmb 17 41 42.6
comp=Z,7.6nm,0.8s
ABPO Ambohimpanom 82.41 250 P P 17 41 39.5 -0.6
ABPO IAmb IAmb 17 41 40.8
comp=Z,12nm,0.9s
ILAR Eielson Array 82.81 26 P P 17 41 40.3 -0.8
comp=Z,1.0nm,0.6s,baz=246,slow=5.7,SNR=12
MARD Mardin 83.33 307 P P 17 41 43.3 -1.3
MARD IAmb IAmb 17 41 46.6
comp=Z,13nm,0.6s
KLMR Klimovskoe 83.46 331 eP P 17 41 42.7 -1.8
KLMR AMP 17 41 45.0
comp=Z,24nm,1.2s
BMAR Burnt Mountain 83.75 23 P P 17 41 46.2 +0.3
OBN Obninsk 85.27 325 P P 17 41 53.2 -0.5
comp=Z,3.0nm,0.4s,baz=219,slow=20,SNR=5.6
OBN Obninsk 85.27 325 IAmb IAmb 17 41 54.4
comp=Z,18nm,0.6s
VNDA Vanda 85.77 173 P P 17 41 56.0 +0.3
comp=Z,5.5nm,0.8s,baz=315,slow=5.9,SNR=19
VNDA Vanda 85.77 173 P P 17 41 55.2 -0.5
VNDA IAmb IAmb 17 41 56.7
comp=Z,7.8nm,0.8s
ARCES ARCESS Array B 88.30 340 P P 17 42 07.1 -1.1
comp=Z,1.8nm,0.5s,baz=86,slow=6.3,SNR=28
ARCES ARCESS Array B 88.30 340 IAmb IAmb 17 42 15.8
comp=Z,72nm,1.8s
BR131 Keskin Array S 88.72 310 P P 17 42 09.2 -1.8
BR131 IAmb IAmb 17 42 16.4
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 88.72 310 P P 17 42 09.9 -1.0
comp=Z,1.8nm,0.4s,baz=127,slow=4.6,SNR=14
BRTR Keskin Array B 88.72 310 P P 17 42 09.5 -1.5
KIBK Kibwezi 89.23 268 P P 17 42 13.6 -0.2
KIBK IAmb IAmb 17 42 15.2
comp=Z,6.8nm,0.9s
FINES FINESS Array B 89.86 332 P P 17 42 14.7 -0.9
comp=Z,1.3nm,0.6s,baz=54,slow=4.7,SNR=14
KMBO Kilima Mbogo 89.89 269 P P 17 42 17.3 +0.2
comp=Z,2.0nm,0.6s,baz=77,slow=6.2,SNR=5.1
KMBO Kilima Mbogo 89.89 269 P P 17 42 16.6 -0.5
KMBO IAmb IAmb 17 42 18.6
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 90.22 321 P P 17 42 16.3 -1.2
comp=Z,2.2nm,0.5s,baz=66,slow=4.7,SNR=12
AKASG Malin Array Be 90.22 321 P P 17 42 14.7 -2.8
AKBB Malin Array Si 90.22 321 P P 17 42 15.4 -2.1
AKBB IAmb IAmb 17 42 17.1
comp=Z,13nm,1.4s
BURAR Bucovina Array 93.40 318 P P 17 42 30.7 -1.8
BURAR IAmb IAmb 17 42 32.9
comp=Z,2.4nm,0.8s
BUR08 Bucovina Ar. S 93.41 318 P P 17 42 31.3 -1.2
BUR08 IAmb IAmb 17 42 33.2
comp=Z,4.3nm,1.1s
SYO Syowa Base 94.77 201 ⇓eX P 17 42 33.2 -4.8
NOA NORSAR Array B 96.77 334 P P 17 42 45.9 -1.6
comp=Z,0.6nm,0.8s,baz=63,slow=4.6,SNR=2.5
NOA LR LR 18 29 28.6
comp=Z,11nm,18.1s,baz=285,slow=37
GERES GERESS Array B 100.38 322 P Pdif 17 43 03.0 -0.9
comp=Z,0.4nm,0.6s,baz=64,slow=6.1,SNR=4.5
TORD Torodi Ar. Bea 122.42 290 PKP PKPdf 17 48 12.0 -0.5
TORD Torodi Ar. Bea 122.42 290 PKPdf 17 48 11.7 -0.8
TKL Tuckaleechee C 129.33 33 PKP PKiKP 17 48 26.1 +0.1
comp=Z,0.7nm,0.3s,baz=145,slow=7.6,SNR=4.2
KIC Kosan Boka 130.29 284 ePKIKP PKiKP 17 48 28.3 -0.2
comp=Z,10.0nm,0.5s
DBIC Dimbokro 130.32 284 PKP PKPdf 17 48 27.8 +0.1
comp=Z,2.4nm,0.5s,baz=56,slow=1.3,SNR=9.5
TIC Toumodi 130.49 284 ePKIKP PKiKP 17 48 28.6 -0.3
LIC Lamto 130.59 284 ePKIKP PKPdf 17 48 28.5 +0.3
comp=Z,35nm,1.6s
PLCA Paso Flores 142.13 158 PKhKP PKPpre 17 48 46.1
comp=Z,4.0nm,0.5s,baz=265,slow=3.0,SNR=13
CPUP Villa Florida 159.50 169 PKP PKPdf 17 49 15.6 +0.1
comp=Z,3.4nm,1.0s,baz=85,slow=15,SNR=3.1
CPUP PKPab
comp=Z,2.3nm,0.7s,baz=134,slow=5.2,SNR=4.6 PKPab 17 49 54.8 +0.9
LPAZ La Paz 162.05 125 PKP PKPdf 17 49 19.8 +0.5
comp=Z,1.1nm,0.7s,baz=290,slow=1.2,SNR=4.6
LPAZ PKPab sPKPdf 17 50 08.5 +1.7
comp=Z,4.0nm,0.7s,baz=71,slow=7.1,SNR=11

AEIC ***22*** *17:37:20.8±3.9, 55°.29N±0°.10×163°.5W±0°.1, h196km±5km, Error ellipse: s-maj=15.2km s-min=7.3km az=158.0*
NEIC ***22*** *17:37:21.8±2.2, 55°.64N±0°.04×163°.78W±0°.08, h183km±7km, mb4.1/11, ML3.6/10, ML3.4/28(AEIC), Error ellipse: s-maj=7.5km s-min=4.3km az=49.0*
IDC ***22*** *17:37:25.1±5.6, 55°.82N×163°.78W, h198km±52km, mb3.2/7, mb1 3.4/10, mb1mx3.0/66, mbtmp3.7/10, Error ellipse: s-maj=35.9km s-min=18.0km az=15.0*

ISC 22 17:37:22.4±0.7, 55°.62N±0°.09×163°.75W±0°.06, h179km±7km, n128, σ1$28/134, mb3.6/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
BALA	Baldy Mountain	0.70	128		Pn	17 37 48.3	+0.3
FALS	False Pass	0.79	166		Pn	17 37 48.1	-0.4
FALS					Sn	17 38 07.7	-0.9
FALS	False Pass	0.79	166	P	Pn	17 37 48.1	-0.4
	baz=353						
FALS				S	Sn	17 38 07.7	-0.9
	baz=353						
ISNN	Isanotski Nort	0.79	181		Pn	17 37 48.9	+0.3
SSLN	Shishaldin Nor	0.83	190		Pn	17 37 49.1	+0.3
SSLN					Sn	17 38 10.6	+1.5
BLHA	Black Hill	0.95	84		Pn	17 37 50.4	+0.9
BLHA	Black Hill	0.95	84	P	Pn	17 37 50.4	+0.9
	baz=244						
BRPK	Brown Peak	0.98	180		Pn	17 37 49.4	-0.4
HAG	Hague Volcano	1.09	106		Pn	17 37 51.0	+0.3
PS4A	Pavlof South-4	1.11	104		Pn	17 37 51.0	+0.2
PS4A					Sn	17 38 15.3	+2.6
PVV	Pavlof Volcano	1.14	102		Pn	17 37 51.1	+0.1
WESE	West Dahl East	1.25	203		Pn	17 37 52.1	+0.1
AKSA	Akutan Strait	1.87	218		Pn	17 37 57.9	-0.1
SDPT	Sand Point	1.88	97		Pn	17 37 57.1	-0.9
SDPT	Sand Point	1.88	97	Sn	Sn	17 38 23.4	-2.2
SDPT				IAML		17 38 23.8	
	comp=N,292nm,0.3s						
	baz=269						
SDPT	Sand Point	1.88	97	P	Pn	17 37 57.1	-0.9
AKUT	Akutan	1.90	219	Pn	Pn	17 37 58.1	-0.1
AKUT				Sn	Sn	17 38 25.3	-0.6

AKUT					IAML		17 38 29.6	
	comp=E,202nm,3.3s							
HSB	**Akutan Spr's B**	**1.91**	**222**			**Pn**	**17 37 58.3**	**-0.1**
UNV	**Unalaska Valle**	**2.40**	**223**			**Pn**	**17 38 03.0**	**-0.7**
UNV						**Sn**	**17 38 34.8**	**-1.0**
UNV	**Unalaska Valle**	**2.40**	**223**		P	**Pn**	**17 38 03.0**	**-0.7**
	baz=49							
UNV					S	**Sn**	**17 38 34.8**	**-1.0**
	baz=49							
VNFG	**Fog Glacier, M**	**2.45**	**73**			**Pn**	**17 38 05.8**	**+1.4**
VNFG	**Fog Glacier, M**	**2.45**	**73**		P	**Pn**	**17 38 05.8**	**+1.4**
	baz=248							
MSW	**Makushin Switc**	**2.46**	**227**			**Pn**	**17 38 03.9**	**-0.5**
MREP	**Makushin Rep't**	**2.52**	**225**			**Pn**	**17 38 04.8**	**-0.4**
CHGN	**Chignik**	**3.07**	**75**			**Pn**	**17 38 11.8**	**+0.1**
CHGN	**Chignik**	**3.07**	**75**		Sn	**Sn**	**17 38 48.8**	**-1.4**
CHGN					IAML		17 38 54.3	
	comp=E,196nm,0.1s							
CHGN					IAML		17 38 55.5	
	comp=N,145nm,0.1s							
CHGN	**Chignik**	**3.07**	**75**		P	**Pn**	**17 38 11.8**	**+0.1**
	baz=253							
OKFG	**Magazine Ridge**	**3.29**	**229**			**Pn**	**17 38 14.1**	**-0.3**
OKSO	**Okmok South**	**3.43**	**230**			**Pn**	**17 38 15.8**	**-0.5**
SPIA	**Saint Paul Isl**	**3.94**	**296**		Pn	**Pn**	**17 38 20.4**	**-2.1**
NIKH	**Nikolski High**	**4.00**	**231**		Pn	**Pn**	**17 38 22.4**	**-1.0**
CHIR	**Chirikof Islan**	**4.60**	**84**			**Pn**	**17 38 29.5**	**-1.5**
CHIR	**Chirikof Islan**	**4.60**	**84**		IAML		17 39 20.7	
	comp=N,78nm,0.9s							
CHIR					IAML		17 39 23.6	
	comp=E,84nm,1.9s							
CHIR	**Chirikof Islan**	**4.60**	**84**		P	**Pn**	**17 38 29.5**	**-1.5**
	baz=266							
SII	**Sitkinak Islan**	**5.43**	**76**		Pn	**Pn**	**17 38 40.4**	**-1.5**
OHAK	**Old Harbor**	**6.02**	**70**		Pn	**Pn**	**17 38 47.8**	**-1.7**
Q19K	**Cape Douglas,**	**6.40**	**55**		Pn	**Pn**	**17 38 54.3**	**-0.2**
SVW2	**Sparrevohn**	**6.97**	**35**		Pn	**Pn**	**17 39 05.1**	**+3.2**
N19K	**Bonanza Creek**	**7.14**	**39**		Pn	**Pn**	**17 39 05.7**	**+1.5**
CNPM	**China Poot**	**7.78**	**55**		Pn	**Pn**	**17 39 12.4**	**-0.2**
M19K	**Big River Lodg**	**7.95**	**34**		Pn	**Pn**	**17 39 12.0**	**-2.8**
L19K	**White Mountain**	**8.02**	**31**		Pn	**Pn**	**17 39 15.3**	**-0.5**
BRLK	**Bradley Lake**	**8.04**	**54**		Pn	**Pn**	**17 39 13.3**	**-2.7**
ADK	**Adak**	**8.53**	**249**		Pn	**Pn**	**17 39 22.3**	**-0.2**
SEW	**Seward**	**8.84**	**54**		Pn	**Pn**	**17 39 24.9**	**-1.5**
O22K	**Cooper Landing**	**8.88**	**51**		Pn	**Pn**	**17 39 26.4**	**-0.6**
RC01	**Rabbit Creek A**	**9.17**	**48**		Pn	**Pn**	**17 39 30.4**	**-0.5**
K20K	**Telida**	**9.17**	**28**		Pn	**Pn**	**17 39 32.8**	**+1.9**
PPLA	**Purkeypile**	**9.38**	**34**		Pn	**Pn**	**17 39 36.2**	**+2.5**
PWL	**Port Wells**	**9.66**	**51**		Pn	**Pn**	**17 39 35.2**	**-2.1**
CUT	**Chulitna**	**9.71**	**40**		Pn	**Pn**	**17 39 38.6**	**+0.8**
CAST	**Castle Rocks**	**9.79**	**32**			**Pn**	**17 39 39.3**	**+0.3**
J20K	**Nowinta River**	**9.83**	**25**		Pn	**Pn**	**17 39 40.0**	**+0.6**
GHO	**Glory Hole Cre**	**9.86**	**45**		Pn	**Pn**	**17 39 38.9**	**-1.0**
KNK	**Knik Glacier**	**9.87**	**48**		Pn	**Pn**	**17 39 39.1**	**-0.9**
SML	**Sawmill**	**10.12**	**46**		Pn	**Pn**	**17 39 43.1**	**-0.2**
KTH	**Kantishna Hill**	**10.25**	**34**		Pn	**Pn**	**17 39 44.1**	**-0.9**
SCM	**Sheep Creek Mo**	**10.54**	**47**		Pn	**Pn**	**17 39 48.8**	**0.0**
EYAK	**Cordova Ski Ar**	**10.71**	**55**		Pn	**Pn**	**17 39 49.4**	**-1.6**
RND	**Reindeer**	**10.84**	**38**		Pn	**Pn**	**17 39 51.4**	**-1.4**
DIV	**Divide**	**10.91**	**52**		Pn	**Pn**	**17 39 52.0**	**-1.6**
KLU	**Klutina**	**10.99**	**50**		Pn	**Pn**	**17 39 52.7**	**-1.9**
M24K	**Tolsona, Glenn**	**11.15**	**47**		Pn	**Pn**	**17 39 55.3**	**-1.4**
RAGM	**Ragged Mountai**	**11.17**	**57**		Pn	**Pn**	**17 39 55.3**	**-1.6**
DHY	**Denali Highway**	**11.18**	**41**		Pn	**Pn**	**17 39 56.9**	**-0.3**
I21K	**Tanana**	**11.19**	**26**		Pn	**Pn**	**17 40 00.2**	**+3.1**
HMT	**Hamilton**	**11.35**	**57**		Pn	**Pn**	**17 39 57.2**	**-2.0**
H21K	**Melozitna Rive**	**11.38**	**23**			**Pn**	**17 40 01.0**	**+1.4**
IMAR	**Indian Mountai**	**11.46**	**21**		Pn	**Pn**	**17 40 01.2**	**+0.6**
N25K	**Chitina, Valde**	**11.62**	**51**		Pn	**Pn**	**17 39 59.2**	**-3.6**
BERG	**Berg Lake**	**11.63**	**58**		Pn	**Pn**	**17 40 01.1**	**-1.8**
WRH	**Wood River Hil**	**11.79**	**35**		Pn	**Pn**	**17 40 02.5**	**-2.4**
PAX	**Paxson**	**11.86**	**44**		Pn	**Pn**	**17 40 04.7**	**-1.1**
I23K	**Minto, Yukon-K**	**11.87**	**31**			**Pn**	**17 40 05.1**	**-0.8**
GLB	**Gilahina Butte**	**11.91**	**53**		Pn	**Pn**	**17 40 05.2**	**-1.3**
VRDI	**Verde Repeater**	**12.00**	**54**		Pn	**Pn**	**17 40 06.6**	**-1.1**
SNH	**Sunshine Point**	**12.00**	**59**		Pn	**Pn**	**17 40 08.4**	**+0.7**
CCB	**Clear Creek Bu**	**12.00**	**35**		Pn	**Pn**	**17 40 06.1**	**-1.4**
WAX	**Waxell Ridge**	**12.05**	**58**		Pn	**Pn**	**17 40 06.8**	**-1.6**
MDM	**Murphy Dome**	**12.08**	**33**		Pn	**Pn**	**17 40 07.5**	**-1.1**
TGL	**Tana Glacier**	**12.15**	**56**		Pn	**Pn**	**17 40 08.3**	**-1.2**
MCARA	**McCarthy VSAT**	**12.24**	**53**		Pn	**Pn**	**17 40 09.3**	**-1.4**
ISLE	**Juniper Island**	**12.34**	**57**		Pn	**Pn**	**17 40 11.2**	**-0.9**
IL31		**12.38**	**35**		Pn	**Pn**	**17 40 11.9**	**-0.5**
ILAR	**Eielson Array**	**12.38**	**35**		P	**Pn**	**17 40 11.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=323,slow=32,SNR=2.5							
RIDG	**Independent Ri**	**12.49**	**42**		Pn	**Pn**	**17 40 14.3**	**+0.4**
MENT	**Mentasta**	**12.54**	**46**		Pn	**Pn**	**17 40 15.3**	**+0.8**
YAH	**Yahtse**	**12.57**	**59**		Pn	**Pn**	**17 40 14.9**	**-0.2**
GRNC	**Granite Creek**	**12.65**	**57**		Pn	**Pn**	**17 40 15.4**	**-0.7**
L26K	**Log Cabin Wild**	**12.74**	**46**			**Pn**	**17 40 17.1**	**+0.1**
DOT	**Dot Lake**	**12.75**	**43**		Pn	**Pn**	**17 40 14.3**	**-2.8**
BARN	**Barnard Glacie**	**12.78**	**56**		Pn	**Pn**	**17 40 16.9**	**-0.8**
J25K	**Salcha River,**	**12.80**	**38**			**Pn**	**17 40 15.8**	**-2.0**
H24K	**Noodor Dome**	**12.80**	**31**			**Pn**	**17 40 15.8**	**-2.0**
TABL	**Table Mountain**	**12.88**	**59**		Pn	**Pn**	**17 40 16.6**	**-2.4**
CTGM	**Chitina Glacie**	**12.91**	**56**		Pn	**Pn**	**17 40 16.7**	**-2.6**
SCRK	**Sand Creek**	**12.94**	**42**			**Pn**	**17 40 17.4**	**-2.3**
LOGN	**Logan Glacier**	**13.03**	**57**		Pn	**Pn**	**17 40 20.5**	**-0.3**
M27K	**Edge Creek, AK**	**13.09**	**50**			**Pn**	**17 40 20.4**	**-1.2**
PCK	**Pinnacle**	**13.25**	**61**		Pn	**Pn**	**17 40 23.5**	**0.0**
COLD	**Coldfoot**	**13.28**	**23**			**Pn**	**17 40 23.3**	**-0.5**
L27K	**Beaver Creek,**	**13.38**	**47**			**Pn**	**17 40 24.0**	**-1.1**
BCAR	**Beaver Creek A**	**13.40**	**47**		Pn	**Pn**	**17 40 25.0**	**-0.4**
FYU	**Fort Yukon**	**14.08**	**31**			**Pn**	**17 40 33.9**	**+0.1**
EGAK	**Eagle**	**14.41**	**41**			**Pn**	**17 40 38.1**	**+0.2**
TOLK	**Toolik Lake Re**	**14.58**	**21**			**Pn**	**17 40 40.5**	**+0.5**
HYT	**Haines Junctio**	**14.71**	**59**		P	**P**	**17 40 43.1**	**-0.2**
DAWY	**Dawson**	**14.78**	**45**		P	**Pn**	**17 40 43.1**	**+0.5**
M30M	**Minto, Yukon**	**15.40**	**52**		P	**P**	**17 40 50.9**	**+0.1**
N31M	**Braeburn, Yuko**	**15.64**	**57**		P	**Pn**	**17 40 52.8**	**-0.3**
N31M					IAmb	IAmb	17 40 58.1	
	comp=Z,6.0nm,0.8s							
BESE	**Bessie Mountai**	**15.91**	**67**		P	**Pn**	**17 40 55.7**	**-0.7**
BESE					IAmb	IAmb	17 40 58.3	
	comp=Z,13nm,1.4s							
WHY	**Whitehorse**	**15.97**	**60**		P	**Pn**	**17 40 56.6**	**-0.5**
WHY					IAmb	IAmb	17 41 00.1	
	comp=Z,9.3nm,1.3s							
P33M	**Teslin, Yukon**	**16.96**	**62**		P	**Pn**	**17 41 09.5**	**+0.5**
P33M					IAmb	IAmb	17 41 14.3	
	comp=Z,4.0nm,0.8s							
DLBC	**Dease Lake**	**18.45**	**67**		P	**Pn**	**17 41 26.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=278,slow=11,SNR=6.0							
DLBC	**Dease Lake**	**18.45**	**67**		P	**Pn**	**17 41 26.0**	**-0.6**
DLBC					IAmb	IAmb	17 41 53.3	
	comp=Z,11nm,1.6s							
INK	**Inuvik**	**18.78**	**36**		P	**P**	**17 41 27.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=227,slow=11,SNR=9.8							
INK	**Inuvik**	**18.78**	**36**		P	**P**	**17 41 26.3**	**-1.3**
INK					IAmb	IAmb	17 41 27.5	
	comp=Z,4.6nm,0.6s							
PETK	**Petropavlovsk-**	**22.41**	**280**		P	**P**	**17 42 06.8**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=78,slow=14,SNR=1.6							
A36M	**Sachs Harbour**	**22.96**	**30**		P	**P**	**17 42 10.9**	**+0.2**
YKA	**Yellowknife Ar**	**25.62**	**54**		P	**P**	**17 42 35.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=275,slow=8.9,SNR=17							
EDM	**Edmonton**	**28.90**	**73**		P	**P**	**17 43 05.4**	**+1.2**
FCC	**Fort Churchill**	**36.33**	**56**		P	**P**	**17 44 08.9**	**+0.4**
FCC					IAmb	IAmb	17 44 35.5	
	comp=Z,8.7nm,1.5s							
PDAR	**Pinedale Array**	**36.72**	**87**		P	**P**	**17 44 13.3**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=307,slow=3.5,SNR=3.4							
PDAR	**Pinedale Array**	**36.72**	**87**		P	**P**	**17 44 12.9**	**+0.6**
TXAR	**Lajitas Array**	**49.57**	**96**		P	**P**	**17 45 55.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=303,slow=6.5,SNR=7.8							
ARCES	**ARCESS Array B**	**54.37**	**356**		P	**P**	**17 46 33.0**	**-1.3**
	comp=Z,3.7nm,1.1s,baz=8.9,slow=8.6,SNR=1.5							
FINES	**FINESS Array B**	**63.02**	**355**		P	**P**	**17 47 29.2**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=171,slow=36,SNR=0.9							
MKAR	**Makanchi Array**	**63.89**	**316**		P	**P**	**17 47 35.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=63,slow=3.6,SNR=3.6							

*IDC **22** 17:37:35.4±6.2,36°.06N×71°.26E,h0km,mb3.8/5,*
mb1 3.9/6,mb1mx3.5/50,mbtmp3.8/6,ML3.3/1,MS3.5/2,
Ms1 3.5/2,ms1mx2.4/88,Error ellipse: s-maj=125.7km
s-min=41.5km az=167.0

ISC 22 17:37:38.6±1.0,36°.3N±0°.2×71°.1E±0°.1,h10km,n18,
σ0s52/16,mb3.8/4,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.51**	**283**	Pn	**Pn**	**17 40 09.1**	**-0.3**
	0.2nm,0.3s,baz=188,slow=20,SNR=2.0						
PYUN	**Piuthan**	**12.95**	**126**	*e*P	**Pn**	**17 40 43.2**	**+0.2**
	4.1nm,0.3s						
GKN	**Gorkha**	**14.12**	**122**	*e*P	**Pn**	**17 40 59.3**	**+0.4**
DMN	**Daman**	**14.69**	**122**	*e*P	**Pn**	**17 41 06.9**	**+0.1**
KKN	**Kakani**	**14.69**	**121**	*e*P	**Pn**	**17 41 07.0**	**+0.2**
PKI	**Pulchoki**	**14.92**	**122**	*e*P	**Pn**	**17 41 10.1**	**+0.1**
JIRN	**Jiri**	**15.41**	**120**	*e*P	**Pn**	**17 41 15.8**	**-0.7**
RAMN	**Ramite**	**16.13**	**121**	*e*P	**Pn**	**17 41 24.8**	**-1.0**
TAPN	**Taplejung**	**16.67**	**118**	*e*P	**Pn**	**17 41 32.3**	**-0.4**
ODAN	**Odarе**	**16.74**	**120**	*e*P	**Pn**	**17 41 33.1**	**-0.4**
ZALV	**Zalesovo Beam**	**20.05**	**24**	P	**P**	**17 42 11.5**	**-0.2**
	0.9nm,0.3s,baz=215,slow=11,SNR=4.5						
NRIK	**Noril'sk**	**34.30**	**10**	LR	LR	17 58 45.1	
	comp=Z,56nm,19.5s,baz=108,slow=37						
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**17 44 54.9**	**+1.0**
	0.7nm,0.4s,baz=108,slow=6.2,SNR=3.9						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**17 45 24.8**	**+0.4**
	3.6nm,1.1s,baz=113,slow=8.3,SNR=1.8						
NB2	**NORSAR Subarra**	**44.59**	**323**	P	**P**	**17 45 51.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**17 45 50.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=97,slow=7.7,SNR=4.9						
KAPI	**Kappang**	**61.27**	**122**	LR	LR	18 18 33.3	
	comp=Z,50nm,18.6s,baz=268,slow=40						
YKA	**Yellowknife Ar**	**81.43**	**3**	P	**P**	**17 49 55.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=349,slow=5.1,SNR=6.9						

*TUL **22** 17:41:17.7±0.9,36°.48N±0°.01×98°.75W±0°.01,h6km±2km,*
ML2.3,mb_Lg2.3/3(NEIC),Error ellipse: s-maj=1.9km
s-min=1.1km az=159.0

NEIC 22 17:41:17.8±0.9,36°.47N±0°.01×98°.74W±0°.01,h9km±1km,
Error ellipse: s-maj=1.8km s-min=1.4km az=179.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.23**	**247**		Pg	17 41 22.6	+0.1
U32A				Sg	Sg	17 41 26.1	+0.5
WMOK	**Wichita Mounta**	**1.73**	**181**	Pn	Pn	17 41 47.1	-0.9
T35A	**Sooner Cattle**	**1.84**	**75**	Pn	Pn	17 41 49.1	-0.5
R32A	**Long Quarter,**	**1.95**	**1**	Pn	Pn	17 41 51.7	+0.7
R32A				IAmb_Lg		17 42 18.2	
	comp=Z,3.3nm,0.8s						
X34A	**Smith Ranch, M**	**2.01**	**158**	Pn	Pn	17 41 49.4	-2.5
S39A	**Bolivar**	**4.50**	**73**		Pn	17 42 25.4	-0.7

*IDC **22** 17:53:28.4±1.1,35°.73N×3°.65W,h0km,mb3.7/3,mb1 3.7/5,*
mb1mx3.4/49,mbtmp3.5/5,ML3.2/2,MS2.2/1,Ms1 2.3/1,
ms1mx2.0/93,Error ellipse: s-maj=38.3km s-min=12.3km
az=96.0
*MDD **22** 17:53:29.6±0.3,35°.70N×3°.66W,h0km,mb_Lg3.1/13,*
Error ellipse: s-maj=2.6km s-min=2.0km az=160.0
*CNRM **22** 17:53:30.6,35°.66N×3°.57W,h26km,ml3.6*
*SFS **22** 17:53:30.0,35°.50N×3°.50W,ML3.3,ALBORAN SUR*
*IGIL **22** 17:53:30.7,35°.58N×3°.59W,h24km,ML3.1*
*LDG **22** 17:53:30.7±0.2,35°.63N×3°.57W,h10km,Ml2.8/3,Error*
ellipse: s-maj=4.5km s-min=2.7km az=3.0
*INMG **22** 17:53:31.0±1.8,35°.64N×3°.61W,h21km±9km,ML3.0,Error*
ellipse: s-maj=6.9km s-min=3.5km az=145.0

ISC 22 17:53:29.0±1.2,35.72N±0°.02×3°.65W±0°.02,h8km±9km,n81,
σ1s58/146,mb3.9/3,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.55**	**66**	Pg	**Pb**	**17 53 41.1**	**+0.3**
EALB				Sg	**Sb**	**17 53 49.2**	**+0.4**
EMEL	**Melilla**	**0.71**	**126**	Pg	**Pg**	**17 53 42.8**	**+0.2**
EMEL				Sg	**Sg**	**17 53 51.5**	**-0.3**
GOG	**Mont Gurugu**	**0.73**	**133**	P	**Pg**	**17 53 43.2**	**+0.1**
GOG				S	**Sg**	**17 53 52.4**	**-0.3**
PVLZ	**Peæn de**	**0.76**	**224**	P	**Pb**	**17 53 45.1**	**+0.6**
PVLZ				S	**Sb**	**17 53 56.0**	**+0.9**
ELGU	**Los Guajares,**	**1.14**	**1**	Pg	**Pb**	**17 53 50.2**	**-0.8**
ELGU				Sg	**Sb**	**17 54 05.9**	**-0.2**
EMAL	**Malaga-Limoner**	**1.21**	**329**	P	**Pn**	**17 53 51.5**	**-0.8**
EMAL				S	**Sb**	**17 54 07.5**	**-0.5**
EMIJ	**Mijas**	**1.24**	**313**	Pg	**Pn**	**17 53 51.5**	**-1.1**
EMIJ				Sg	**Sb**	**17 54 07.8**	**-1.0**
EBER	**Berja**	**1.32**	**27**	Pg	**Pn**	**17 53 53.1**	**-0.9**
EBER				Sg	**Sb**	**17 54 09.8**	**-1.6**
EBER				*i* Vmb_Lg		17 54 12.7	
CEU	**Ceuta**	**1.41**	**278**	P	**Pn**	**17 53 53.1**	**-1.8**
CEU				S	**Sn**	**17 54 09.9**	**-3.8**
ECEU	**Ceuta**	**1.41**	**278**	Pn	**Pn**	**17 53 54.2**	**-0.9**
ECEU				Sn	**Sn**	**17 54 11.7**	**-2.1**
ECEU				*i* Vmb_Lg		17 54 13.8	
EGOR	**Sierra Gorda,**	**1.43**	**345**	Pn	**Pn**	**17 53 55.7**	**+0.3**
EGOR				Sn	**Sg**	**17 54 16.5**	**+1.4**
EGOR				*i* Vmb_Lg		17 54 23.6	
EQUE	**Quentar**	**1.49**	**6**	Pn	**Pn**	**17 53 56.5**	**+0.3**
EQUE				Sn	**Sn**	**17 54 17.7**	**-1.2**
EJIF	**Jimena Fronter**	**1.64**	**297**	Pn	**Pn**	**17 53 58.7**	**-0.1**
ENIJ	**Nijar**	**1.71**	**43**	Pn	**Pn**	**17 53 57.6**	**-1.5**
ENIJ				Sn	**Sn**	**17 54 18.0**	**-3.1**
ENIJ				*i* Vmb_Lg		17 54 19.3	
LIJA	**Lijar**	**1.84**	**310**	P	**Pg**	**17 54 04.5**	**+0.2**
LIJA				S	**Sb**	**17 54 27.3**	**+1.0**
ESPR	**Espera**	**2.12**	**303**	Pn	**Pn**	**17 54 06.5**	**+1.9**
ESPR				Sn	**Sn**	**17 54 32.0**	**+0.8**
LCRM	**LCR**	**2.26**	**206**	P	**Pn**	**17 54 07.0**	**+0.2**
LCRM				S	**Sb**	**17 54 37.0**	**-1.3**
IFR	**Ifrane**	**2.51**	**209**	P	**Pn**	**17 54 10.2**	**-0.1**
IFR				S	**Sn**	**17 54 40.1**	**-1.2**
EADA	**Adamuz**	**2.55**	**343**	Pn	**Pn**	**17 54 12.0**	**+1.3**
EADA				Sn	**Sn**	**17 54 42.7**	**+0.8**
EZAR	**Zarzadilla de**	**2.66**	**36**	Pn	**Pn**	**17 54 12.1**	**-0.2**
EZAR				Sn	**Sn**	**17 54 43.6**	**-1.2**
ECAB	**El Cabril**	**2.74**	**329**	Pn	**Pn**	**17 54 14.5**	**+1.2**
ECAB				Sn	**Sn**	**17 54 45.2**	**-1.5**
ECAB				*i* Vmb_Lg		17 55 02.1	
MD31	**MD31**	**2.99**	**198**	P	**Pn**	**17 54 16.9**	**+0.1**
MD31				S	**Sn**	**17 54 51.3**	**-1.6**
TDRA	**Tendrara**	**2.99**	**153**	P	**Pn**	**17 54 16.6**	**-0.3**
TDRA				S	**Sn**	**17 54 50.0**	**-3.1**
MDT	**Midelt**	**3.01**	**196**	Pn	**Pn**	**17 54 16.9**	**-0.1**
	0.9nm,0.3s,baz=225,slow=10,SNR=19						
MDT				Pg	**Pg**	**17 54 24.7**	**-1.9**
	3.2nm,0.3s,baz=182,slow=11,SNR=9.1						
MDT				Sn	**Sn**	**17 54 52.5**	**-0.8**
	2.8nm,0.3s,baz=98,slow=17,SNR=4.4						
MDT				Lg	Lg	17 55 01.6	
	3.4nm,0.3s,baz=292,slow=11,SNR=6.2						
MDT	**Midelt**	**3.01**	**196**	P	**Pn**	**17 54 16.6**	**-0.4**
MDT				S	**Sn**	**17 54 51.9**	**-1.4**
EMIN	**Mina Concepcio**	**3.17**	**311**	Pn	**Pn**	**17 54 19.5**	**+0.3**
EMIN				Sn	**Sn**	**17 54 55.6**	**-1.5**
ETOB	**Tobarra**	**3.37**	**29**	Pn	**Pn**	**17 54 23.9**	**+1.9**
ETOB				Sn	**Sn**	**17 55 01.4**	**-0.7**
EGRO	**El Granado**	**3.57**	**302**	Pn	**Pn**	**17 54 24.9**	**+0.2**
EGRO				Sn	**Sn**	**17 55 05.7**	**-1.4**
EGRO				*i* Vmb_Lg		17 55 07.2	
PBAR	**Barrancos**	**3.66**	**313**	*e*Pn	**Pn**	**17 54 26.4**	**+0.6**
PBAR				*e*Sn	**Sn**	**17 55 07.0**	**-2.1**
PBAR				A	A	17 55 11.3	
	25nm,0.6s						
PVAQ	**Vaqueiros**	**3.68**	**298**	*e*Pn	**Pn**	**17 54 26.6**	**+0.4**
PVAQ				*e*Sn	**Sn**	**17 55 07.7**	**-2.0**
PVAQ				A	A	17 55 15.1	
	31nm,0.3s						
PVAQ	**Vaqueiros**	**3.68**	**298**	P	**Pn**	**17 54 26.5**	**+0.4**
PBDV	**Barranco-do-Ve**	**3.77**	**295**	*e*Pn	**Pn**	**17 54 27.8**	**+0.4**
PBDV				*e*Sn	**Sn**	**17 55 10.2**	**-1.8**
PBDV				A	A	17 55 15.1	
	21nm,0.3s						
PAB	**San Pablo**	**3.86**	**352**	Pn	**Pn**	**17 54 29.8**	**+1.1**
PAB				Sn	**Sn**	**17 55 15.0**	**+0.7**
PAB				*i* Vmb_Lg		17 55 37.1	
ESDC	**Sonseca Array**	**3.95**	**357**	Pn	**Pn**	**17 54 31.5**	**+1.5**
	1.4nm,0.3s,baz=178,slow=12,SNR=36						
ESDC				Sn	**Sn**	**17 55 18.0**	**+1.5**
	1.0nm,0.3s,baz=187,slow=25,SNR=5.4						
ESDC				Lg	Lg	17 55 31.7	
	1.7nm,0.3s,baz=183,slow=28,SNR=6.6						
ESDC				LR	LR	17 55 34.2	
	comp=Z,28nm,18.9s,baz=164,slow=32						
ESDC	**Sonseca Array**	**3.95**	**357**	Pn	**Pn**	**17 54 31.3**	**+1.3**
ESDC				Sn	**Sn**	**17 55 15.0**	**-1.6**
ESDC				*i* Vmb_Lg		17 55 35.0	
PCVE	**Castro Verde**	**4.01**	**300**	*e*Pn	**Pn**	**17 54 30.9**	**+0.2**
PCVE				*e*Sn	**Sn**	**17 55 16.4**	**-1.5**
PCVE				A	A	17 55 25.5	
	34nm,0.5s						
EBAD	**Badajoz**	**4.04**	**319**	Pn	**Pn**	**17 54 31.9**	**+0.7**
EBAD				Sn	**Sn**	**17 55 17.1**	**-1.6**
PBEJ	**Beja**	**4.09**	**305**	*e*Pn	**Pn**	**17 54 32.7**	**+0.9**
PBEJ				*e*Sn	**Sn**	**17 55 18.7**	**-1.1**
PBEJ				A	A	17 55 25.0	
	15nm,0.4s						
MORF	**Marmelete**	**4.33**	**293**	*e*P	**Pn**	**17 54 34.8**	**-0.3**
MORF				*e*S	**Sn**	**17 55 21.7**	**-4.0**
MORF				IAML		17 55 29.0	
	comp=N,39nm,0.4s						
MORF	**Marmelete**	**4.33**	**293**	*e*Pn	**Pn**	**17 54 35.8**	**+0.7**
MORF				*e*Sn	**Sn**	**17 55 24.2**	**-1.6**
MORF				A	A	17 55 32.6	
	comp=N,13nm,0.9s						
PFVI	**Vila Bisbo**	**4.41**	**290**	*e*Pn	**Pn**	**17 54 38.8**	**+2.7**
PFVI				*e*Sn	**Sn**	**17 55 25.7**	**-1.9**
PFVI				A	A	17 55 34.7	
	comp=N,27nm,0.5s						
PFVI	**Vila Bisbo**	**4.41**	**290**	P	**Pn**	**17 54 36.9**	**+0.7**
ECHE	**Chera**	**4.41**	**28**	Pn	**Pn**	**17 54 36.5**	**+0.2**
ECHE				Sn	**Sn**	**17 55 29.1**	**+1.3**
ECHE				*i* Vmb_Lg		17 57 06.9	
PESTR	**Estremoz**	**4.44**	**316**	*e*Pn	**Pn**	**17 54 37.7**	**+1.1**
PESTR				*e*Sn	**Sn**	**17 55 27.5**	**-1.0**
PESTR				A	A	17 55 53.7	
	comp=N,14nm,0.4s						
PESTR	**Estremoz**	**4.44**	**316**	P	**Pn**	**17 54 37.6**	**+0.9**
PTEO	**Sao Teotonio**	**4.47**	**296**	*e*Pn	**Pn**	**17 54 38.5**	**+1.5**
PTEO				*e*Sn	**Sn**	**17 55 28.2**	**-0.9**
PTEO				A	A	17 55 42.0	
	comp=N,21nm,0.6s						
EVO	**Evora**	**4.47**	**310**	P	**Pn**	**17 54 37.4**	**+0.4**
EVO				S	**Sn**	**17 55 25.9**	**-3.4**
EVO	**Evora**	**4.47**	**310**	*e*Pn	**Pb**	**17 54 48.4**	**+0.6**
EVO				*e*Sn	**Sn**	**17 55 28.2**	**-1.1**
EVO				A	A	17 55 39.5	
	comp=N,23nm,0.4s						
PNCL	**Nicolau / Gran**	**4.58**	**303**	*e*Pn	**Pn**	**17 54 39.0**	**+0.5**
PNCL				*e*Sn	**Sn**	**17 55 30.6**	**-1.3**
PNCL				A	A	17 55 33.2	
	comp=N,13nm,0.9s

VOIR		**0.95**	**261**	⇓P		**Pn**	**17 54 04.9**	**+0.1**
VOIR				⇑S		**Sn**	**17 54 22.3**	**-0.9**
IZVR	**Izvoarele**	**0.97**	**93**	⇑P		**Pn**	**17 54 04.7**	**-0.1**
IZVR				⇑S		**Sn**	**17 54 22.5**	**-0.7**
SLCR	**Slobozia Conac**	**0.97**	**90**	⇑P		**Pn**	**17 54 05.0**	**+0.2**
SLCR				⇓S		**Sn**	**17 54 23.0**	**-0.1**
VARL	**Varlezi**	**1.07**	**73**	⇓P		**Pn**	**17 54 06.1**	**+0.5**
VARL				⇑S		**Sn**	**17 54 25.0**	**+0.3**
BIR	**Birlad**	**1.09**	**52**	⇑P		**Pn**	**17 54 06.4**	**+0.6**
BIR				⇑S		**Sn**	**17 54 24.7**	**-0.5**
LEHL	**Lehliu**	**1.16**	**165**	⇑P		**Pn**	**17 54 07.2**	**+0.7**
LEHL				⇑S		**Sn**	**17 54 26.6**	**+0.3**
TATR	**Tatarca**	**1.17**	**89**	⇑P		**Pn**	**17 54 07.1**	**+0.6**
TATR				⇑S		**Sn**	**17 54 26.2**	**-0.1**
GISR	**Galati**	**1.18**	**97**	⇑P		**Pn**	**17 54 07.4**	**+0.7**
GISR				⇓S		**Sn**	**17 54 25.6**	**-0.9**
AMRR	**Amara**	**1.19**	**145**	⇑P		**Pn**	**17 54 07.5**	**+0.7**
AMRR				⇑S		**Sn**	**17 54 26.8**	**+0.1**
VLDR	**Vladesti**	**1.21**	**78**	⇑P		**Pn**	**17 54 07.6**	**+0.7**
VLDR				⇑S		**Sn**	**17 54 26.7**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.25**	**235**	⇑P		**Pn**	**17 54 08.2**	**+0.9**
STFAR				⇑S		**Sn**	**17 54 28.5**	**+0.8**
ARR	**Arges**	**1.25**	**260**	⇓P		**Pn**	**17 54 07.9**	**+0.4**
ARR				⇑S		**Sn**	**17 54 27.3**	**-0.7**
BUC1	**Bucharest**	**1.27**	**192**	⇑S		**Sn**	**17 54 27.7**	**-0.4**
GIUM	**Giurgiulesti**	**1.28**	**94**	⇑P		**Pn**	**17 54 08.7**	**+1.1**
GIUM				⇑S		**Sn**	**17 54 27.8**	**-0.5**
CFR	**Carcaliu**	**1.30**	**108**	⇑P		**Pn**	**17 54 08.0**	**+0.2**
CFR				⇑S		**Sn**	**17 54 27.9**	**-0.6**
SGRR	**Singureni**	**1.40**	**192**	⇑S		**Sn**	**17 54 29.7**	**-0.7**
HARR	**Harsova**	**1.42**	**129**	⇑P		**Pn**	**17 54 09.5**	**+0.4**
VASR	**Vaslui**	**1.43**	**42**	⇑P		**Pn**	**17 54 09.7**	**+0.6**
HUMR	**Humele**	**1.46**	**224**	⇓P		**Pn**	**17 54 09.6**	**+0.2**
HUMR				⇑S		**Sn**	**17 54 31.0**	**-0.6**
RASA	**Rasa**	**1.48**	**158**	⇓S		**Sn**	**17 54 32.1**	**+0.2**
LEOM	**Leova**	**1.56**	**55**	⇓P		**Pn**	**17 54 11.2**	**+0.7**
LEOM				⇑S		**Sn**	**17 54 33.1**	**-0.4**
TLBR	**Topalu**	**1.58**	**131**	⇑P		**Pn**	**17 54 11.2**	**+0.5**
TLBR				⇑S		**Sn**	**17 54 32.5**	**-1.2**
TPGR	**Topolog**	**1.61**	**116**	⇑P		**Pn**	**17 54 11.2**	**+0.1**
COPA	**Copaceanca**	**1.68**	**210**	⇑P		**Pn**	**17 54 12.0**	**+0.1**
COPA				⇓S		**Sn**	**17 54 34.8**	**-1.0**
CVDA	**Cernavoda**	**1.72**	**137**	⇑P		**Pn**	**17 54 12.8**	**+0.5**
CVDA				⇓S		**Sn**	**17 54 35.4**	**-1.1**
TLCR		**1.76**	**103**	⇓P		**Pn**	**17 54 13.3**	**+0.7**
TLCR				⇑S		**Sn**	**17 54 37.2**	**0.0**
ICOR	**Ion Corvin**	**1.79**	**145**	⇑P		**Pn**	**17 54 13.8**	**+0.8**
ICOR				⇓S		**Sn**	**17 54 37.6**	**-0.3**
TIRR	**Tirgusor**	**1.83**	**128**	⇑P		**Pn**	**17 54 14.0**	**+0.5**
TIRR				⇑S		**Sn**	**17 54 37.6**	**-1.1**
LOT	**Lotru**	**1.85**	**266**	⇓P		**Pn**	**17 54 14.6**	**+0.7**
LOT				⇑S		**Sn**	**17 54 39.9**	**+0.6**
JURR	**Jurilovca**	**1.94**	**114**	⇓P		**Pn**	**17 54 15.5**	**+0.6**
MFTR	**Murfatlar**	**2.02**	**134**	⇑P		**Pn**	**17 54 16.3**	**+0.5**
MFTR				⇑S		**Sn**	**17 54 41.8**	**-0.9**
VLAD	**Vladila**	**2.13**	**222**	⇓P		**Pn**	**17 54 16.1**	**-0.9**
MILM	**Milestii Mici**	**2.14**	**51**	⇑P		**Pn**	**17 54 17.7**	**+0.6**
TSCT	**Constanta Port**	**2.16**	**131**	⇑P		**Pn**	**17 54 18.0**	**+0.6**
TSCT				⇑S		**Sn**	**17 54 44.9**	**-0.7**
BUR01	**Bucovina Ar. S**	**2.18**	**339**	⇑P		**Pn**	**17 54 19.1**	**+1.4**
SRE	**Strehaia**	**2.44**	**249**	⇓P		**Pn**	**17 54 20.9**	**+0.2**
SRE				⇑S		**Sn**	**17 54 51.8**	**+0.1**
GZR	**Gura Zlata**	**2.55**	**267**	⇓P		**Pn**	**17 54 22.9**	**+0.7**
GZR				⇓S		**Sn**	**17 54 54.8**	**+0.6**
DRGR		**2.82**	**296**	P		**Pn**	**17 54 25.6**	**0.0**
SORM	**Soroca**	**2.88**	**27**	⇑P		**Pn**	**17 54 26.3**	**+0.2**
HERR	**Herculane**	**2.90**	**247**	⇑P		**Pn**	**17 54 26.2**	**-0.3**
BZS	**Buzias**	**3.35**	**272**	⇑P		**Pn**	**17 54 32.3**	**+0.1**
MDVR	**Moldovita**	**3.40**	**258**	⇓P		**Pn**	**17 54 33.5**	**+0.5**
MI30	**MI30,Zelenitsa**	**5.29**	**12**	P		**Pn**	**17 54 58.0**	**+0.3**
MI30				sP			17 55 28.3	
AK07	**Malin Array Si**	**5.31**	**20**	P		**Pn**	**17 54 58.6**	**+0.7**
AK13	**Malin Array Si**	**5.33**	**19**	P		**Pn**	**17 54 58.3**	**+0.1**
AK14	**Malin Array Si**	**5.36**	**19**	P		**Pn**	**17 54 58.7**	**+0.1**
AK10	**Malin Array Si**	**5.36**	**20**	P		**Pn**	**17 54 59.0**	**+0.4**
AK05	**Malin Array Si**	**5.37**	**20**	P		**Pn**	**17 54 58.8**	**+0.1**
AK12	**Malin Array Si**	**5.38**	**19**	P		**Pn**	**17 54 59.3**	**+0.4**
AK09	**Malin Array Si**	**5.38**	**20**	P		**Pn**	**17 54 58.8**	**-0.1**
AK08	**Malin Array Si**	**5.39**	**20**	P		**Pn**	**17 54 59.5**	**+0.5**
AK17	**Malin Array Si**	**5.40**	**18**	P		**Pn**	**17 54 59.2**	**+0.1**
AK02	**Malin Array Si**	**5.41**	**19**	P		**Pn**	**17 54 59.6**	**+0.4**
AK11	**Malin Array Si**	**5.42**	**19**	P		**Pn**	**17 54 59.4**	**+0.1**
AK15	**Malin Array Si**	**5.42**	**19**	P		**Pn**	**17 54 59.5**	**+0.1**
AK19	**Malin Array Si**	**5.42**	**18**	P		**Pn**	**17 54 59.4**	**0.0**
AK18	**Malin Array Si**	**5.42**	**18**	P		**Pn**	**17 54 59.7**	**+0.1**
AK01	**Malin Array Si**	**5.44**	**19**	P		**Pn**	**17 54 59.8**	**+0.2**
AKBB	**Malin Array Si**	**5.45**	**19**	P		**Pn**	**17 55 00.0**	**+0.2**
AK04	**Malin Array Si**	**5.46**	**19**	P		**Pn**	**17 55 00.0**	**+0.1**
AK22	**Malin Array Si**	**5.47**	**18**	P		**Pn**	**17 55 00.1**	**0.0**
AK03	**Malin Array Si**	**5.47**	**19**	P		**Pn**	**17 55 00.3**	**+0.2**
AK21	**Malin Array Si**	**5.48**	**18**	P		**Pn**	**17 55 00.1**	**-0.1**
AK23	**Malin Array Si**	**5.49**	**18**	P		**Pn**	**17 55 00.2**	**-0.1**

UPP ***22*** *18:01:58.6±0.1, 67.07N×20.92E, h1km, ML2.2, Explosion*
NAO ***22*** *18:01:59.9±0.8, 67.06N×21.24E, ML2.8*
HEL ***22*** *18:01:59.0, 67.09N×20.96E, h0km, ML2.4, Explosion*
HEL ***22*** *18:01:59.2±0.1, 67.08N×20.95E, h0km, ML2.4, ML2.2(UPP), Explosion*
IDC ***22*** *18:01:59.4±1.2, 67.11N×21.03E, h0km, mb1 2.9/3, mb1mx2.7/45, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=22.0km s-min=9.7km az=109.0*
BER ***22*** *18:02:01.2±3.8, 67.09N×20.74E, h0km, ML1.9, ML2.8(NAO), Suspected explosion*
KOLA ***22*** *18:02:04.3, 67.63N×20.91E, h0km, ML2.7*

ISC 22 18:01:58.6±0.7, 67.09N±0.02×20.93E±0.03, h0km, n67, σ1§34/88, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MASU	**Masugnsbyn**	**0.56**	**48**	P		**Pg**	**18 02 09.5**			**+0.2**
MASU	**Masugnsbyn**	**0.56**	**48**	*i* P		**Pg**	**18 02 09.5**			**+0.2**
ERTU	**Ertsjaerv**	**0.73**	**136**	P		**Pg**	**18 02 12.1**			**-0.5**
ERTU	**Ertsjaerv**	**0.73**	**136**	*e*P		**Pg**	**18 02 11.9**			**-0.7**
ERTU				*e*S		**Sg**	**18 02 22.6**			**+0.5**
PAJU	**Pajala**	**0.86**	**93**	P		**Pg**	**18 02 14.6**			**-0.4**
PAJU				S		**Sg**	**18 02 26.0**			**-0.1**
PAJU	**Pajala**	**0.86**	**93**	*e*P		**Pg**	**18 02 14.4**			**-0.6**
PAJU				*e*SB		**Sg**	**18 02 26.4**			**+0.3**
RATU	**Laukkuluspa**	**0.90**	**326**	P		**Pg**	**18 02 15.5**			**-0.3**
RATU	**Laukkuluspa**	**0.90**	**326**	*e*P		**Pg**	**18 02 15.5**			**-0.3**
HARU	**Harads**	**0.93**	**179**	P		**Pg**	**18 02 15.6**			**-0.7**
HARU	**Harads**	**0.93**	**179**	*e*P		**Pg**	**18 02 15.6**			**-0.7**
SALU	**Saltoluokta**	**0.99**	**288**	*e*P		**Pg**	**18 02 17.2**			**-0.3**
SALU	**Saltoluokta**	**0.99**	**288**	P		**Pg**	**18 02 17.1**			**-0.3**
SALU	**Saltoluokta**	**0.99**	**288**	*e*P		**Pg**	**18 02 17.1**			**-0.3**
LANU	**Lannavaara**	**1.05**	**22**	P		**Pg**	**18 02 18.0**			**-0.6**
LANU	**Lannavaara**	**1.05**	**22**	*e*P		**Pg**	**18 02 17.9**			**-0.7**
NIKU	**Nikkaluokta**	**1.07**	**318**	P		**Pg**	**18 02 18.6**			**-0.5**
NIKU	**Nikkaluokta**	**1.07**	**318**	*e*P		**Pg**	**18 02 18.6**			**-0.5**
KOVU	**Salmi**	**1.18**	**346**	P		**Pg**	**18 02 20.6**			**-0.5**
KOVU	**Salmi**	**1.18**	**346**	*e*P		**Pg**	**18 02 20.6**			**-0.5**
KALU	**Kalix**	**1.57**	**141**	P		**Pn**	**18 02 27.6**			**-0.1**
KALU	**Kalix** baz=321	**1.57**	**141**	*e*P		**Pn**	**18 02 26.9**			**-0.7**
SJUU	**Sjulsmark**	**1.61**	**170**	P		**Pn**	**18 02 27.8**			**-0.4**
SJUU	**Sjulsmark**	**1.61**	**170**	*e*P		**Pn**	**18 02 27.8**			**-0.4**
HEF	**Hetta**	**1.69**	**37**	Pn		**Pn**	**18 02 29.4**			**+0.1**
HEF				Sn		**Sn**	**18 02 51.8**			**+0.3**
HEF	**Hetta**	**1.69**	**37**	*e*P		**Pn**	**18 02 29.2**			**-0.1**
HEF	**Hetta**	**1.69**	**37**	*e*P		**Pn**	**18 02 28.9**			**-0.4**
HEF				MSG			18 02 49.0			
	comp=Z,29nm,0.2s									
HEF				*e*SN		**Sg**	**18 02 54.7**			**+2.0**
TOF	**Tornio**	**1.69**	**125**	*e*P		**Pn**	**18 02 29.2**			**-0.1**
TOF				MSG			18 02 49.3			
	comp=Z,57nm,0.2s									
TOF				*e*SN		**Sg**	**18 02 53.8**			**+0.9**
KIF	**Kilpisjarvi**	**1.93**	**359**	Pn		**Pb**	**18 02 34.3**			**-0.2**
KIF				Sn		**Sb**	**18 02 59.1**			**+0.1**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P		**Pb**	**18 02 34.5**			**0.0**
KIF	**Kilpisjarvi** baz=178	**1.93**	**359**	*e*PB		**Pb**	**18 02 34.1**			**-0.4**
KIF				MSG			18 02 57.3			
	comp=Z,75nm,0.2s									
KIF				*e*SG		**Sg**	**18 03 01.4**			**+1.0**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PB		**Pn**	**18 02 35.3**			**+0.8**
RNF				*e*SG		**Sb**	**18 03 03.1**			**0.0**
KTK1	**Kautokeino**	**2.12**	**23**	Pn		**Pb**	**18 02 36.8**			**-1.0**
KTK1				Sn		**Sb**	**18 03 05.6**			**+1.0**
KTK1	**Kautokeino**	**2.12**	**23**	*e*P		**Pb**	**18 02 37.4**			**-0.4**
KTK1				IAML			18 03 15.0			
	comp=Z,17nm,0.2s									
I37NO	**I37NO** baz=159,slow=331,SNR=1.6	**2.18**	**338**	*i*			18 16 30.0			
SGF	**Sodankyl** baz=260	**2.21**	**78**	*e*PB		**Pn**	**18 02 37.3**			**+0.9**
OUL	**Oulu**	**2.85**	**133**	*e*PB		**Pn**	**18 02 47.4**			**+2.1**
ARA0	**ARCESS Array S** baz=214,slow=14	**2.99**	**33**	Pn		**Pn**	**18 02 47.7**			**+0.6**
ARA0				Sn		**Sn**	**18 03 26.1**			**+2.4**
	baz=211,slow=37									
ARA0	**ARCESS Array S** baz=214,slow=14	**2.99**	**33**	Pn		**Pn**	**18 02 47.7**			**+0.6**
ARA0				*e*P		Pb	18 02 47.9			-4.7
ARA0				Sn		**Sn**	**18 03 26.1**			**+2.4**
	baz=211,slow=37									
ARA0				IAML			18 03 29.1			
	comp=Z,8.1nm,0.2s									
ARA0	**ARCESS Array S**	**2.99**	**33**	*e*P		**Pn**	**18 02 47.7**			**+0.6**
ARA0				*e*S		**Sn**	**18 03 25.3**			**+1.6**
ARCES	**ARCESS Array B** baz=213,slow=13,SNR=100	**2.99**	**33**	Pn		**Pn**	**18 02 47.5**			**+0.3**
ARCES				Sn		**Sn**	**18 03 24.4**			**+0.7**
	baz=207,slow=20,SNR=5.7									
ARCES	**ARCESS Array B**	**2.99**	**33**	P		**Pn**	**18 02 47.6**			**+0.5**
ARCES				S		**Sn**	**18 03 16.7**			**-6.9**
OUF	**Merijarvi**	**3.15**	**148**	*e*PB		**Pn**	**18 02 52.9**			**+3.6**
OUF				MSG			18 03 31.2			
	comp=Z,4.3nm,0.2s									
UMAU	**Umeaa**	**3.22**	**182**	*e*P		**Pn**	**18 02 50.9**			**+0.6**
UMAU				*e*S		**Sn**	**18 03 29.8**			**+0.6**
VRF	**Varrio**	**3.42**	**75**	*e*P		**Pn**	**18 02 53.3**			**+0.3**
OLKF	**Oulanka, Finla**	**3.45**	**99**	*e*P		**Pn**	**18 02 54.8**			**+1.3**
MSF	**Maaselka** baz=290	**3.46**	**106**	*e*P		**Pn**	**18 02 54.8**			**+1.2**
KEV	**Kevo** baz=225	**3.50**	**37**	*e*P		**Pn**	**18 02 54.1**			**0.0**
KU6	**Riekki** baz=286	**3.74**	**102**	*e*P		**Pn**	**18 02 58.3**			**+0.9**
HUSU	**Husum**	**3.83**	**192**	*e*S		**Sn**	**18 03 43.3**			**-1.0**
VAF	**Ylistaro** baz=347	**4.13**	**169**	*e*P		**Pn**	**18 03 03.8**			**+1.1**
APA0	**Apatity Array** baz=248,slow=12	**4.70**	**78**	Pn		**Pn**	**18 03 09.8**			**-0.7**
APA0	**Apatity Array** baz=248,slow=12	**4.70**	**78**	Pn		**Pn**	**18 03 09.8**			**-0.7**
APA0	**Apatity Array**	**4.70**	**78**	P		**Pn**	**18 03 13.5**			**+2.9**
APA0				S		**Sn**	**18 04 06.6**			**+1.0**
PRVG	**Vayda Guba**	**4.94**	**52**	P		**Pn**	**18 03 14.5**			**+0.6**
PRVG				S		**Sn**	**18 04 06.7**			**-4.8**
TERR	**Teriberka**	**5.70**	**62**	P		**Pn**	**18 03 24.8**			**+0.4**
TERR				S		**Sn**	**18 04 27.7**			**-2.7**
FIA0	**FINESS Array S** baz=341,slow=12	**6.09**	**156**	Pn		**Pn**	**18 03 30.7**			**+1.0**
FIA0				Sn		**Sn**	**18 04 39.5**			**-0.5**
	baz=352,slow=28									
FIA0	**FINESS Array S** baz=341,slow=12	**6.09**	**156**	Pn		**Pn**	**18 03 30.7**			**+1.0**
FIA0				Sn		**Sn**	**18 04 39.5**			**-0.5**
	baz=352,slow=28									
FINES	**FINESS Array B**	**6.09**	**156**	Pn		**Pn**	**18 03 30.5**			**+0.8**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=1.4									
FINES				Sn		**Sn**	**18 04 40.9**			**+0.9**
	comp=Z,0.3nm,0.3s,baz=350,slow=24,SNR=7.0									
NB2	**NORSAR Subarra** baz=19,slow=16	**7.41**	**220**	Pn		**Pn**	**18 03 48.2**			**+0.4**
NB2	**NORSAR Subarra** baz=19,slow=16	**7.41**	**220**	Pn		**Pn**	**18 03 48.2**			**+0.4**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=52,slow=23,SNR=1.6	**7.41**	**220**	Pn		**Pn**	**18 03 48.6**			**+0.8**
NOA				Lg		Lg	18 05 51.2			
	comp=Z,0.0nm,0.3s,baz=106,slow=2.8,SNR=3.5									
NRA0	**NORESS Array S** baz=29,slow=12	**7.59**	**217**	Pn		**Pn**	**18 03 51.2**			**+0.9**
NRA0	**NORESS Array S** baz=29,slow=12	**7.59**	**217**	Pn		**Pn**	**18 03 51.2**			**+0.9**
HFS	**Hagfors**	**7.68**	**208**	Pn		**Pn**	**18 03 51.6**			**+0.1**
HFS	**Hagfors**	**7.68**	**208**	Pn		**Pn**	**18 03 51.6**			**+0.1**
SPA0	**Spitsbergen Ar**	**11.23**	**355**	Pn		**Pn**	**18 04 39.4**			**-0.6**
SPA0	**Spitsbergen Ar**	**11.23**	**355**	Pn		**Pn**	**18 04 39.4**			**-0.6**

MAN 22 18:03:53.0, 18.00N×121.37E, h1km, mb4.2, ML3.0, MS2.7, Luzon

NEIC ***22*** *18:47:04.2±2.4, 1.74N±0.06×125.38E±0.06, h118km±5km, mb5.0/81, Error ellipse: s-maj=9.3km s-min=8.4km az=212.0*
DJA ***22*** *18:47:04.8±0.2, 2°N±2°×12°5E±°, h106km±2km, M4.7/53, mb4.9/53, mB5.2/17, MLv5.0/21, Mw(mB)4.6/17*
MOS ***22*** *18:47:04.2±1.1, 1.77N×125.25E, h138km, mb4.4/10, Error ellipse: s-maj=12.9km s-min=6.9km az=96.6*
IDC ***22*** *18:47:05.1±1.3, 1.73N×125.36E, h130km±11km, mb4.2/20, mb1 4.3/26, mb1mx4.1/41, mbtmp4.6/26, MS3.3/7, Ms1 3.3/7, ms1mx2.8/79, Error ellipse: s-maj=15.4km s-min=7.1km az=74.0*
BJI ***22*** *18:47:05.0±0.0, 1.80N×125.40E, h125km, mb4.5/21, mB4.8/13*

ISC 22 18:47:04.9±0.6, 1.72N±0.04×125.43E±0.04, h126km±6km, n350, σ1§48/370, mb4.7/83, 6C-7D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KMSI	**Cibinong**	**1.84**	**232**	P		**Pn**	**18 47 36.1**			**-0.6**
SGSI	**Sangihe**	**1.96**	**3**	P		**Pn**	**18 47 37.2**			**-0.9**
TNTI	**Ternate**	**2.16**	**116**	Pn		**Pn**	**18 47 38.9**			**-1.7**
TNTI				Sn		**Sn**	**18 48 05.5**			**-2.4**
TNTI	**Ternate**	**2.16**	**116**	P		**Pn**	**18 47 39.4**			**-1.2**
TNTI	**Ternate**	**2.16**	**116**	P		**Pn**	**18 47 39.9**			**-0.7**
GTOI	**Gorontalo**	**2.64**	**246**	P		**Pn**	**18 47 46.9**			**+0.2**
LBMI	**Labuha**	**3.13**	**138**	P		**Pn**	**18 47 52.1**			**-1.0**
LBMI				S		**Sn**	**18 48 27.6**			**-2.7**
MRSI	**Marisa**	**3.70**	**251**	P		**Pn**	**18 48 00.8**			**+0.3**
SANI	**Sanana**	**3.79**	**171**	P		**Pn**	**18 47 59.1**			**-2.6**
SANI	**Sanana**	**3.79**	**171**	P		**Pn**	**18 47 59.4**			**-2.3**
LUWI	**Luwuk**	**3.82**	**224**	Pn		**Pn**	**18 48 01.6**			**-0.5**
LUWI	**Luwuk**	**3.82**	**224**	P		**Pn**	**18 48 03.1**			**+1.0**
LUWI	**Luwuk**	**3.82**	**224**	P		**Pn**	**18 48 03.6**			**+1.5**
GSPH	**General Santos**	**4.37**	**354**	*i* P		**Pn**	**18 48 09.0**			**-0.6**
APSI	**Ampana**	**4.59**	**235**	P		**Pn**	**18 48 13.6**			**+1.1**
TOLI2	**Tolitoli**	**4.68**	**263**	Pn		**Pn**	**18 48 11.9**			**-1.8**
DAV	**Davao City (W)** 46nm,0.3s,baz=148,slow=4.6,SNR=7.8	**5.32**	**2**	P		**Pn**	**18 48 22.6**			**+0.4**
DAV				S		Sn	18 49 35.6			+13
	42nm,0.3s,baz=188,slow=23,SNR=5.2									
DAV				LR		LR	18 50 41.0			
	comp=Z,245nm,21.3s,baz=168,slow=41									
DAV	**Davao City (W)**	**5.32**	**2**	Pn		**Pn**	**18 48 23.2**			**+0.9**
MPSI	**Mapaga** 0.7nm2µm217nm,0.9s	**5.70**	**256**	P		**Pn**	**18 48 27.9**			**+0.6**
AAI	**Ambon** 2.5nm6µm310nm,0.5s	**6.04**	**153**	P		**Pn**	**18 48 31.4**			**-0.5**
MSAI	**Masohi** 1.3nm3µm203nm,0.7s	**6.13**	**145**	P		**Pn**	**18 48 33.7**			**+0.6**
SWI	**Sorong** 0.2nm54nm,0.6s	**6.37**	**114**	P		**Pn**	**18 48 36.0**			**-0.4**
SIJI	**Sorong** 9.5nm,0.3s,baz=330,slow=19,SNR=31	**6.38**	**114**	P		**Pn**	**18 48 36.5**			**0.0**
SIJI				S		**Sn**	**18 49 42.6**			**-5.5**
	2.9nm,0.3s,baz=265,slow=24,SNR=6.0									
TTSI	**Tana Toraja** 1.2nm4µm461nm,1.1s	**7.34**	**230**	P		**Pn**	**18 48 49.8**			**+0.4**
BNDI	**Bandanaira**	**7.65**	**144**	P		**Pn**	**18 48 54.7**			**+1.1**
BBSI	**Bau Bau** 0.1nm266nm16nm,0.5s	**7.71**	**202**	P		**Pn**	**18 48 54.9**			**+0.5**
MYLDM	**Lahad Datu**	**7.72**	**297**	Pn		**Pn**	**18 48 57.0**			**+2.4**
SPSI	**Sidrap Palu** 1.1nm2µm338nm,0.8s	**7.99**	**225**	P		**Pn**	**18 48 58.8**			**+0.6**
BNSI	**Bone** 2µm179nm,1.2s	**8.07**	**221**	P		**Pn**	**18 48 58.8**			**-0.6**
KAPI	**Kappang** 3.5nm,0.3s,baz=18,slow=6.0,SNR=20	**8.77**	**220**	P		**Pn**	**18 49 07.2**			**-1.5**
KAPI				LR		LR	18 52 40.1			
	comp=Z,300nm,19.9s,baz=15,slow=38									
KAPI	**Kappang**	**8.77**	**220**	*i* P		**Pn**	**18 49 08.8**			**+0.1**
KAPI	**Kappang**	**8.77**	**220**	P		**Pn**	**18 49 13.0**			**+4.3**
BKSI	**Bulukumba** 930nm69nm,0.6s	**8.77**	**217**	P		**Pn**	**18 49 08.3**			**-0.5**
BSSI	**Bau Bau, Buton** 2µm166nm,0.6s	**9.23**	**212**	P		**Pn**	**18 49 14.2**			**-0.8**

KKM	**Kota Kinabalu**	**10.14**	**295**	Pn		**Pn**	**18 49 23.5**			**-3.9**
KKM	**Kota Kinabalu**	**10.14**	**295**	P		Pn	18 49 32.0			+4.7
MMRI	**Maumere**	**10.77**	**197**			**Pn**	**18 49 34.3**			**-1.4**
MMRI	**Maumere** 28nm,0.8s	**10.77**	**197**	P		**Pn**	**18 49 36.5**			**+0.9**
MMRI	**Maumere**	**10.77**	**197**	P		**Pn**	**18 49 36.7**			**+1.1**
MTKI	**Muara Teweh, K** 7µm28nm,0.4s	**10.86**	**256**	P		**Pn**	**18 49 38.8**			**+2.0**
SAUI	**Saumlaki**	**11.28**	**149**	Pn		**Pn**	**18 49 41.3**			**-1.2**
SOEI	**Soe**	**11.46**	**186**			**Pn**	**18 49 43.2**			**-1.7**
SOEI	**Soe** 46nm,0.7s	**11.46**	**186**	P		**Pn**	**18 49 49.3**			**+4.4**
SOEI	**Soe**	**11.46**	**186**	P		**Pn**	**18 49 46.6**			**+1.7**
BBKI	**Banjar Baru** 2µm50nm,0.9s	**11.77**	**244**	P		**Pn**	**18 49 49.9**			**+1.0**
BATI	**Baumata** 1.4nm,0.3s,baz=320,slow=10,SNR=4.2	**11.98**	**188**	P		**Pn**	**18 49 52.8**			**+1.1**
BATI	**Baumata** 33nm,0.5s	**11.98**	**188**	P		**Pn**	**18 49 52.3**			**+0.6**
WBSI	**Waikabubak, Su** 36nm,0.8s	**12.79**	**208**	P		**Pn**	**18 50 03.8**			**+1.5**
PLAI	**Plampang** 652nm32nm,0.6s	**12.96**	**216**	P		**Pn**	**18 50 06.3**			**+1.9**
PLAI	**Plampang**	**12.96**	**216**	P		**Pn**	**18 50 06.6**			**+2.2**
SBUM	**Sibu**	**13.22**	**273**			**P**	**18 50 10.6**			**-2.5**
SMPI	**Sarmi** 27nm,1.5s	**13.78**	**105**	P		**Pn**	**18 50 17.6**			**+2.5**
STKI	**Sintang** 10nm,0.5s	**14.04**	**263**	P		**P**	**18 50 21.7**			**-0.5**
SRBI	**Singaraja** 19nm,0.6s	**14.09**	**226**	P		**Pn**	**18 50 20.4**			**+1.4**
KMMI	**Kalianget** 75nm,0.7s	**14.38**	**233**	P		**Pn**	**18 50 22.7**			**+0.1**
IGBI	**Denpasar** 51nm,0.6s	**14.65**	**224**	P		**P**	**18 50 28.7**			**-0.2**
KSM	**Kuching**	**15.11**	**269**			**Pn**	**18 50 30.8**			**-1.2**
KSM	**Kuching**	**15.11**	**269**	P		**P**	**18 50 37.3**			**+3.2**
JAGI	**Jajag, Banyuwa**	**15.13**	**228**	Pn		**Pn**	**18 50 29.9**			**-2.2**
JAGI				IAmb		IAmb	18 50 37.6			
	comp=Z,39nm,1.1s									
JAGI	**Jajag, Banyuwa** comp=Z,617nmcomp=Z,22nm,0.5s	**15.13**	**228**	P		**Pn**	**18 50 32.8**			**+0.7**
JAGI	**Jajag, Banyuwa**	**15.13**	**228**	P		**P**	**18 50 36.2**			**+1.9**
GMJI	**Gumukmas** comp=Z,36nm,0.8s	**15.53**	**230**	P		**P**	**18 50 38.9**			**+0.1**
MTN	**Manton Dam** baz=15,SNR=25	**15.54**	**159**	P		**Pn**	**18 50 35.3**			**-1.9**
MTN	**Manton Dam**	**15.54**	**159**	Pn		**Pn**

MTSU Mount Surprise 27.11 138 P **P** 18 52 37.7 +1.5
RABL Rabaul 27.36 102 P **P** 18 52 40.0 +1.5
RABL IAmb IAmb 18 52 42.7
comp=Z,52nm,0.8s
RABL Rabaul 27.36 102 P **P** 18 52 37.7 -0.8
GSI Gunungsitoli 27.84 270 P **P** 18 52 45.1 +2.3
MEEK Meekatharra 28.95 193 P **P** 18 52 52.7 +0.2
baz=29,SNR=8.6
MEEK Meekatharra 28.95 193 P **P** 18 52 52.8 +0.3
CTA Charters Tower 29.78 138 P **P** 18 53 01.5 +1.6
comp=Z,10nm,0.9s,baz=331,slow=9.8,SNR=7.0
GYA Guiyang 30.50 325 ‖P **P** 18 53 09.3 +3.0
GYA pP pwP 18 53 34.9 -2.1
GYA S **S** 18 58 01.8 +3.2
GYA pmax pmax
comp=Z,4.0nm,0.5s
GYA LR LR
comp=Z,56nm,3.8s
GYA LR LR
comp=Z,55nm,3.8s
GYA LR LR
comp=Z,88nm,5.1s
NJ2 Nanjing 30.80 349 *e*P **P** 18 53 11.3 +2.6
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 30.84 304 P **P** 18 53 10.1 +0.9
comp=Z,0.3nm,0.4s,baz=119,slow=9.4,SNR=2.2
CMAR PcP **PcP** 18 56 04.1 +0.6
comp=Z,0.6nm,0.7s,baz=221,slow=4.2,SNR=4.2
CMAR ScP **ScP** 18 59 36.1 +1.4
comp=Z,0.4nm,0.4s,baz=115,slow=2.0,SNR=4.4
CMAR LR LR 19 06 36.0
comp=Z,11nm,18.6s,baz=125,slow=38
OOD Oodnadatta 30.96 162 P **P** 18 53 11.0 +0.9
CHTO Chiang Mai 31.02 305 P **P** 18 53 13.8 +3.0
COCO West Island 31.58 243 P **P** 18 53 14.4 -1.4
COCO pmax pmax
comp=Z,398nm,1.8s
COCO West Island 31.58 243 P **P** 18 53 14.4 -1.4
JNU Nakatsue 31.66 9 P **P** 18 53 13.3 -2.9
JNU IAmb IAmb 18 53 21.0
comp=Z,62nm,1.7s
JNU Nakatsue 31.66 9 P **P** 18 53 17.9 +1.6
MORW Morawa 31.91 196 P **P** 18 53 18.8 +0.3
baz=32,SNR=8.3
MORW Morawa 31.91 196 P **P** 18 53 17.6 -0.9
MORW IAmb IAmb 18 53 20.0
comp=Z,59nm,1.6s
MORW Morawa 31.91 196 P **P** 18 53 19.0 +0.5
FORT Forrest 32.41 176 P **P** 18 53 23.6 +0.7
baz=32,SNR=53
FORT Forrest 32.41 176 P **P** 18 53 23.4 +0.5
FORT Forrest 32.41 176 P **P** 18 53 23.9 +1.0
INKA Innaminka 32.79 154 P **P** 18 53 27.6 +1.4
MULG Mulgathing 32.87 166 P **P** 18 53 27.8 +0.9
BLDU Ballidu 33.21 194 P **P** 18 53 30.0 +0.3
baz=33,SNR=12
BLDU Ballidu 33.21 194 P **P** 18 53 30.1 +0.3
QLP Quilpie 33.48 148 P **P** 18 53 32.8 +0.6
baz=33,SNR=8.3
QLP Quilpie 33.48 148 P **P** 18 53 33.6 +1.3
PZH PanZhiHua 33.54 319 P **P** 18 53 34.6 +1.7
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
KLBR Kellerberrin 33.92 192 P **P** 18 53 36.8 +0.8
baz=34,SNR=7.3
KLBR Kellerberrin 33.92 192 P **P** 18 53 36.8 +0.8
LCRK Leigh Creek 34.23 160 P **P** 18 53 39.9 +1.2
MUN Mundaring 34.63 194 P **P** 18 53 42.9 +0.8
baz=34,SNR=4.6
MUN Mundaring 34.63 194 P **P** 18 53 43.0 +0.9
RK1H Rockhampton Ha 34.90 137 P **P** 18 53 46.0 +1.5
INU Inuyama 35.15 17 P **P** 18 53 45.4 -1.1
INU IAmb IAmb 18 53 49.9
comp=Z,36nm,1.4s
JGF Kuroka 35.49 17 P **P** 18 53 49.6 +0.2
JGF IAmb IAmb 18 55 11.2
comp=Z,47nm,1.8s
KSRS Korea Array 35.63 3 P **P** 18 53 51.2 +0.7
comp=Z,3.2nm,0.8s,baz=185,slow=9.9,SNR=13
KSRS PcP **PcP** 18 56 16.4 -0.2
comp=Z,1.4nm,0.7s,baz=192,slow=2.0,SNR=5.5
XAN Xi'an 35.67 336 P **P** 18 53 53.9 +2.9
XAN pmax pmax
comp=Z,5.0nm,0.9s
BBOO Buckleboo 35.78 165 P **P** 18 53 52.5 +0.5
baz=36,SNR=30
BBOO Buckleboo 35.78 165 P **P** 18 53 52.5 +0.5
BBOO Buckleboo 35.78 165 P **P** 18 53 52.8 +0.8
RMQ Roma 35.97 143 P **P** 18 53 54.4 +0.8
baz=36,SNR=5.6
RMQ Roma 35.97 143 P **P** 18 53 54.7 +1.1
WHYH Whyalla 36.42 163 P **P** 18 53 58.5 +1.2
MJAR Matsushiro Arr 36.61 17 P **P** 18 53 58.4 -0.6
comp=Z,11nm,0.7s,baz=202,slow=8.5,SNR=22
MJAR Matsushiro Arr 36.61 17 P **P** 18 53 57.7 -1.3
MJAR pmax pmax
comp=Z,22nm,1.8s
MJAR Matsushiro Arr 36.61 17 P **P** 18 53 57.6 -1.3
MJAR IAmb IAmb 18 54 45.1
comp=Z,22nm,1.8s
MAJO Matsushiro 36.61 17 *de*P **P** 18 53 58.4 -0.6
MAJO pmax pmax
comp=Z,15nm,0.7s
MAJO Matsushiro 36.61 17 P **P** 18 53 58.0 -1.0
MAJO IAmb IAmb 18 53 59.2
comp=Z,16nm,0.7s
MJB9 Matsu-Tunnel 36.62 17 P **P** 18 53 58.4 -0.6
MJB9 IAmb IAmb 18 53 59.2
comp=Z,16nm,0.7s
EIDS Eidsvold 36.64 139 P **P** 18 54 00.2 +0.9
baz=36,SNR=8.9
EIDS Eidsvold 36.64 139 P **P** 18 53 59.2 -0.1
EIDS IAmb IAmb 18 54 00.6
comp=Z,29nm,1.1s
NAPP Napperby 36.73 162 P **P** 18 54 01.2 +1.2
STKA Stephens Creek 36.77 157 P **P** 18 54 01.4 +1.1
comp=Z,39nm,0.7s,baz=329,slow=9.1,SNR=107
STKA Stephens Creek 36.77 157 P **P** 18 54 01.5 +1.1
baz=37,SNR=83
STKA Stephens Creek 36.77 157 P **P** 18 54 01.2 +0.9
STKA IAmb IAmb 18 54 02.2
comp=Z,10.0nm,0.9s
STKA Stephens Creek 36.77 157 P **P** 18 54 01.5 +1.1
RKGY Rocky Gully 37.00 192 P **P** 18 54 03.6 +1.4
HTT Hallett 37.21 161 P **P** 18 54 05.2 +1.1
baz=37,SNR=47
HTT Hallett 37.21 161 P **P** 18 54 05.4 +1.3
JSD Sado 38.02 17 P **P** 18 54 10.3 -0.4
CMSA Cobar Meteorol 38.27 151 P **P** 18 54 14.2 +1.3
baz=38,SNR=37
CMSA Cobar Meteorol 38.27 151 P **P** 18 54 14.8 +1.8
TWOA Tennyson Woods 38.58 163 P **P** 18 54 17.3 +1.8
JMM Marumori 38.65 20 P **P** 18 54 15.5 -0.5
JMM IAmb IAmb 18 54 18.5
comp=Z,38nm,0.6s
BJI Beijing 39.06 349 P **P** 18 54 21.3 +1.9
BJI pmax pmax
comp=Z,4.0nm,0.7s
ARMA Armidale 40.56 144 P **P** 18 54 34.1 +1.9
baz=40,SNR=8.3
ARMA Armidale 40.56 144 P **P** 18 54 33.5 +1.3
ARMA IAmb IAmb 18 54 35.0
comp=Z,19nm,0.9s
ARMA Armidale 40.56 144 P **P** 18 54 34.3 +2.1
HHC Hu-ho-hao-te 40.92 344 *e*P **P** 18 54 36.5 +1.5
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,80nm,7.3s
ARPS Mount Arapiles 41.22 160 P **P** 18 54 38.9 +1.5
baz=41,SNR=36
ARPS Mount Arapiles 41.22 160 P **P** 18 54 38.9 +1.5
MGCD Mangrove Creek 42.36 147 P **P** 18 54 49.2 +2.6
baz=42,SNR=5.1
MGCD Mangrove Creek 42.36 147 P **P** 18 54 49.4 +2.7
USA0B Ussuriysk Arra 42.70 7 P **P** 18 54 48.7 -0.5
USA0B pmax pmax
comp=Z,7.0nm,0.7s
USA0B Ussuriysk Arra 42.70 7 P **P** 18 54 48.7 -0.5
USRK Ussuriysk Ar. 42.70 7 P **P** 18 54 49.0 -0.2
comp=Z,2.7nm,0.6s,baz=173,slow=4.9,SNR=8.2
USRK Ussuriysk Ar. 42.70 7 P **P** 18 54 49.3 +0.1
USRK Ussuriysk Ar. 42.70 7 P **P** 18 54 49.3 +0.1
MDJ Mudanjiang 42.88 4 P **P** 18 54 50.7 0.0
MDJ IAmb IAmb 18 54 52.3
comp=Z,12nm,0.9s
CAN Canberra 42.94 151 P **P** 18 54 52.6 +1.1
CAN 18 56 40.3
CAN pmax pmax
comp=Z,120nm,1.7s
CAN Canberra 42.94 151 P **P** 18 54 52.5 +1.1
CAN IAmb IAmb 18 54 55.1
comp=Z,120nm,1.7s
CAN PcP **PcP** 18 56 40.2 +0.4
CAN Canberra 42.94 151 P **P** 18 54 53.9 +2.5
CNB Canberra Magne 43.11 151 P **P** 18 54 55.6 +2.8
baz=43,SNR=8.9
CNB Canberra Magne 43.11 151 P **P** 18 54 55.1 +2.3
TOO Toolangi 43.29 157 P **P** 18 54 56.6 +2.5
baz=43,SNR=24
TOO Toolangi 43.29 157 P **P** 18 54 55.6 +1.4
TOO IAmb IAmb 18 54 57.6
comp=Z,42nm,1.2s
TOO PcP **PP** 18 56 38.2 +0.8
TOO Toolangi 43.29 157 P **P** 18 54 55.5 +1.4
H11S3 WAKE ISLAND Hy 43.74 65 T T 19 42 02.5
baz=252,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 43.76 65 T T 19 42 01.2
baz=252,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 43.76 65 T T 19 42 01.9
baz=252,slow=75,SNR=16
KOUNC Koumac, New Ca 44.03 122 P **P** 18 55 01.9 +1.6
KOUNC IAmb IAmb 18 55 02.5
comp=Z,20nm,0.8s
KOUNC PcP **PcP** 18 56 38.7 -5.1
GTA Gaotai 44.18 331 *e*P P 18 55 11.5 +10
GTA pP pP 18 55 26.0 -3.2
GTA sP pwP 18 55 32.1 -1.0
GTA pmax pmax
comp=Z,1.0nm,1.4s
GTA pmax pmax
comp=Z,24nm,5.1s
GTA LR LR
comp=N,73nm,15.3s
GTA LR LR
comp=E,57nm,16.7s
GTA LR LR
comp=Z,83nm,15.6s
TAPN Taplejung 44.20 309 *e*P **P** 18 55 01.0 -0.9
ODAN Odare 44.22 308 *e*P **P** 18 55 02.1 +0.1
SANVU Saraoutou 44.69 114 P **P** 18 55 04.3 -1.3
ASAJ Asahikawa 44.88 18 P **P** 18 55 06.7 0.0
ASAJ pmax pmax
comp=Z,91nm,1.8s
RAMN Ramite 44.88 308 *e*P **P** 18 55 07.2 -0.1
comp=Z,4.6nm,0.5s
JKA Kamikawa-asahi 44.89 18 P **P** 18 55 06.7 0.0
JKA IAmb IAmb 18 56 21.1
comp=Z,92nm,1.8s
JIRN Jiri 45.53 308 *e*P **P** 18 55 11.7 -0.9
comp=Z,5.7nm,0.6s
GUN Gumba 45.89 308 *e*P **P** 18 55 14.4 -1.0
comp=Z,10nm,0.7s
PKI Pulchoki 46.11 308 *e*P **P** 18 55 16.1 -1.0
PKIN Phulchoki 46.12 308 *e*P **P** 18 55 16.2 -0.9
comp=Z,1.8nm,0.3s
KKN Kakani 46.31 308 *e*P **P** 18 55 16.8 -1.7
DMN Daman 46.37 308 *e*P **P** 18 55 18.0 -1.0
DZM Mont Dzumac 46.49 123 P **P** 18 55 20.0 +0.1
DZM IAmb IAmb 18 55 22.5
comp=Z,18nm,1.0s
DZM Mont Dzumac 46.49 123 P **P** 18 55 20.7 +0.8
LIFNC LIFOU 46.64 121 P **P** 18 55 21.7 +0.8
GKN Gorkha 46.91 308 *e*P **P** 18 55 21.9 -1.3
OUENC Ouen Island, N 46.98 123 P **P** 18 55 24.3 +0.8
OUENC IAmb IAmb 18 56 27.1
comp=Z,118nm,1.9s
OUENC Ouen Island, N 46.98 123 P **P** 18 55 25.5 +2.0
GLAD Gladstone 47.22 157 P **P** 18 55 26.7 +1.7
PINNC Pines Island, 47.56 123 P **P** 18 55 28.6 +0.6
PINNC PcP **PcP** 18 56 51.6 -4.4
KUR Kuril'sk 47.63 21⇑ *e*P **P** 18 55 30.6 +2.4
KOLN Koldanda 47.64 307 *e*P **P** 18 55 27.8 -1.0
comp=Z,22nm,0.9s
KLR Kul'dur 47.64 6‖ *i*P **P** 18 55 28.2 0.0
DANN Dangsing 47.76 308 *e*P **P** 18 55 28.6 -1.3
comp=Z,18nm,0.6s
PYUN Piuthan 48.27 307 *e*P **P** 18 55 33.0 -0.7
comp=Z,14nm,0.5s
ULN Ulaanbaatar 48.64 344⇑ *e*P **P** 18 55 36.1 0.0
ULN pmax pmax
comp=Z,7.0nm,2.4s
SONM Songino Array 48.80 343 P **P** 18 55 37.6 +0.3
comp=Z,0.4nm,0.6s,baz=161,slow=8.7,SNR=6.0
SONM PcP **PcP** 18 56 58.9 -1.3
comp=Z,1.1nm,0.8s,baz=164,slow=5.4,SNR=4.6
SONM LR LR 19 21 07.4
comp=Z,26nm,18.2s,baz=142,slow=42
ZEA Zeya 51.87 1 *e*P **P** 18 55 59.0 -1.1
WMQ Urumqi 53.65 327 *e*P **P** 18 56 15.0 +1.5
PEA0B Petropavlovsk- 57.77 22 P **P** 18 56 42.1 -0.6
PEA0B 18 57 33.3
PEA0B pmax pmax
comp=Z,56nm,1.5s
PEA0B Petropavlovsk- 57.77 22 P **P** 18 56 42.1 -0.6
PEA0B IAmb IAmb 18 56 54.8
comp=Z,56nm,1.5s
PEA0B PcP **PcP** 18 57 33.3 -0.7
PETK Petropavlovsk- 57.77 22 P **P** 18 56 42.3 -0.4
comp=Z,6.6nm,0.7s,baz=194,slow=5.6,SNR=12
PETK Petropavlovsk- 57.77 22 P **P** 18 56 41.3 -1.3
PETK 18 57 33.7
PETK Petropavlovsk- 57.77 22 P **P** 18 56 41.3 -1.3
PETK PcP **PcP** 18 57 33.7 -0.3
OUZ Omahuta 58.08 134 P **P** 18 56 46.0 +0.8
MK31 Makanchi Array 58.48 327 P **P** 18 56 46.2 -1.6
MK31 18 57 36.0
MK31 Makanchi Array 58.48 327 P **P** 18 56 46.1 -1.6
MK31 PcP **PcP** 18 57 36.0 -1.0
MKAR Makanchi Array 58.48 327 P **P** 18 56 46.5 -1.3
comp=Z,1.3nm,0.4s,baz=122,slow=7.4,SNR=48
MKAR PcP **PcP** 18 57 35.5 -1.5
comp=Z,1.9nm,0.5s,baz=121,slow=5.7,SNR=10
MKAR Makanchi Array 58.48 327 P **P** 18 56 46.3 -1.4
MKAR 18 57 36.3
MKAR Makanchi Array 58.48 327 P **P** 18 56 46.3 -1.4
MKAR PcP **PcP** 18 57 36.3 -0.7
MAKZ Makanchi 58.66 326 P **P** 18 56 46.9 -2.1
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 58.66 326 P **P** 18 56 46.9 -2.1
KDJ Kajisay 59.00 320 P **P** 18 56 50.4 -1.2
KDJ pmax pmax
comp=Z,2.0nm,0.6s
KDJ Kajisay 59.00 320 P **P** 18 56 50.4 -1.2
DCZ Deep Cove 59.75 147 P **P** 18 56 57.5 +1.0
FOZ Fox Glacier 60.06 144 P **P** 18 56 59.7 +1.0
QRZ Quartz Range 60.20 140 P **P** 18 57 01.3 +1.6
YAK Yakutsk 60.25 2 *d*/P **P** 18 56 59.6 +0.1
YAK pmax pmax
comp=Z,18nm,0.6s
YAK Yakutsk 60.25 2 P **P** 18 56 58.2 -1.3
WKZ Wanaka 60.38 146 P **P** 18 57 01.5 +0.6
LBZ Lake Benmore 60.78 145 P **P** 18 57 04.5 +1.0
RPZ Rata Peaks 60.90 144 P **P** 18 57 05.4 +1.0
RPZ IAmb IAmb 18 58 08.1
comp=Z,50nm,1.5s
RPZ Rata Peaks 60.90 144 P **P** 18 57 06.1 +1.7
THZ Tophouse 60.95 141 P **P** 18 57 05.3 +0.6
MA2 Magadan 60.96 14 P **P** 18 57 05.1 +0.7
MA2 pmax pmax
comp=Z,23nm,1.4s
MA2 Magadan 60.96 14 P **P** 18 57 05.1 +0.7
MA2 IAmb IAmb 18 58 12.5
comp=Z,23nm,1.4s
TUWZ Tuamarina 61.43 140 P **P** 18 57 08.6 +0.7
ODZ Otahua Downs 61.44 145 P **P** 18 57 09.2 +1.3
BSWZ Blackbirch Sta 61.54 140 P **P** 18 57 09.6 +0.9
KHZ Kahutara 61.70 141 P **P** 18 57 10.3 +0.6
ZALV Zalesovo Beam 61.80 334 P **P** 18 57 07.8 -2.4
comp=Z,0.3nm,0.3s,baz=131,slow=6.7,SNR=3.7
ZALV Zalesovo Beam 61.80 334 *i*P **P** 18 57 09.3 -0.9
SNZO South Karori 61.86 140 P **P** 18 57 10.7 -0.1
SNZO South Karori 61.86 140 P **P** 18 57 11.3 +0.5
BKZ Black Stump Fm 61.99 137 P **P** 18 57 12.5 +0.6
BKZ IAmb IAmb 18 57 19.1
comp=Z,67nm,1.6s
BKZ Black Stump Fm 61.99 137 P **P** 18 57 13.0 +1.1
URZ Urewera 62.00 136 LR LR 19 25 23.0
comp=Z,111nm,18.6s,baz=226,slow=37
BHW Baring Head 62.02 140 P **P** 18 57 11.7 -0.2
PLWZ Palliser 62.35 140 P **P** 18 57 14.3 +0.1
BFZ Birch Farm 62.56 138 P **P** 18 57 17.6 +2.1
KURK Kurchatov 62.75 329 P **P** 18 57 15.0 -1.6
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 62.75 329 P **P** 18 57 15.0 -1.6
KKAR Karatay Array 63.83 318 P **P** 18 57 22.1 -1.8
KKAR Karatay Array 63.83 318 P **P** 18 57 22.1 -1.8
AFI Afiamalu 64.11 106 P **P** 18 57 27.3 +1.0
SEY Seymchan 64.27 13‖ *e*P **P** 18 57 27.8 +1.4
SEY pmax pmax
comp=Z,7.0nm,2.5s
CASY Casey 68.68 186 P **P** 18 57 54.4 +0.1
CASY IAmb IAmb 19 00 22.4
comp=Z,16nm,0.6s
PAF Port-aux-Franc 69.49 215 P **P** 18 57 58.4 -1.2
PAF pmax pmax
comp=Z,909nm,1.6s
PAF Port-aux-Franc 69.49 215 P **P** 18 57 58.4 -1.2
TIXI Tiksi 69.86 1‖ *i*P **P** 18 58 00.6 -0.9
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 69.86 1 P **P** 18 58 00.4 -1.1
SOCY Socotra 71.50 282 P **P** 18 58 09.7 -2.9
SOCY IAmb IAmb 19 00 06.7
comp=Z,10nm,1.0s
BILL Bilibino 71.82 15 *e*P **P** 18 58 16.2 +2.8
BILL *e* 18 58 32.4
BILL *e**PP **pwP** 18 58 48.4 +4.2
BILL pmax pmax
comp=Z,1.0nm,1.2s
NRIK Noril'sk 72.07 347 P **P** 18 58 14.6 -0.3
comp=Z,6.3nm,0.7s,baz=111,slow=7.6,SNR=10
NRIK Noril'sk 72.07 347 P **P** 18 58 14.1 -0.8
NRIK IAmb IAmb 18 58 15.4
comp=Z,6.5nm,0.7s
ABKAR Akbulak array 72.89 321 P **P** 18 58 17.7 -2.5
ABKAR Akbulak array 72.89 321 P **P** 18 58 17.9 -2.2
ARU Arti 75.94 328 P **P** 18 58 35.5 -2.1
OPO Ambohidratompo 79.41 251 P **P** 18 58 58.1 +0.2
comp=Z,5.2nm,0.6s,baz=63,slow=5.9,SNR=12
SDPT Sand Point 79.58 34 P **P** 18 58 58.6 +0.8
SDPT Sand Point 79.58 34 P **P** 18 58 59.1 +1.3
baz=258
ANM Nome 79.62 24 P **P** 18 58 58.6 +0.7
ANM pmax pmax
comp=Z,14nm,1.8s
ANM Nome 79.62 24 P **P** 18 58 58.6 +0.7
ANM Nome 79.62 24 P **P** 18 58 59.7 +1.7
baz=252
VNDA Vanda 81.61 172 P **P** 18 59 09.3 +1.0
comp=Z,4.7nm,0.5s,baz=315,slow=6.8,SNR=28
VNDA Vanda 81.61 172 P **P** 18 59 09.1 +0.8
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 81.61 172 P **P** 18 59 09.1 +0.8
GCSA Galena City Sc 83.21 25 P **P** 18 59 18.9 +2.2
baz=260
TTA Tatalina 83.27 27 P **P** 18 59 19.3 +2.0
baz=261
KBZ Khabaz 83.41 314⇑ *e*P **P** 18 59 18.2 -0.1
KBZ pmax pmax
comp=Z,5.0nm,1.7s
PRGR Permogore 83.64 332 *e*P **P** 18 59 17.5 -1.6
PRGR pmax pmax
comp=Z,5.0nm,0.6s
O19K Port Alsworth 83.67 30 P **P** 18 59 21.3 +2.1
baz=262
N19K Bonanza Creek 83.67 29 P **P** 18 59 21.8 +2.4
baz=262
CAST Castle Rocks 85.10 27 P **P** 18 59 28.4 +2.0
baz=264
MLY Manley 85.84 25 P **P** 18 59 30.8 +0.7
MLY Manley 85.84 25 P **P** 18 59 31.5 +1.4
baz=265
COLD Coldfoot 86.24 23 P **P** 18 59 32.2 +0.2
COLD Coldfoot 86.24 23 P **P** 18 59 33.6 +1.6
baz=266
I23K Minto, Yukon-K 86.43 25 P **P** 18 59 34.0 +1.1
baz=266
TOLK Toolik Lake Re 86.58 21 P **P** 18 59 34.2 +0.5
TOLK IAmb IAmb 19 01 11.0
comp=Z,22nm,2.0s
TOLK Toolik Lake Re 86.58 21 P **P** 18 59 35.4 +1.7
baz=266
WAT6 Susitna Watana 87.02 28 P **P** 18 59 36.8 +0.7
baz=268
H24K Noodor Dome 87.08 24 P **P** 18 59 38.1 +2.0
baz=268
ILAR Eielson Array 87.47 25 P **P** 18 59 36.7 -1.3
comp=Z,0.6nm,0.5s,baz=246,slow=4.7,SNR=13
OBN Obninsk 87.95 325 *e*P **P** 18 59 38.4 -2.0
OBN pmax pmax
comp=Z,3.0nm,1.0s
RIDG Independent Ri 88.35 26 P **P** 18 59 42.4 +0.1
baz=271
L27K Beaver Creek, 89.73 27 P **P** 18 59 50.2 +1.5
baz=273
CTG Chitna Glacier 90.09 29 P **P** 18 59 52.3 +1.7
baz=274
QSPA South Pole Qui 91.64 180 P **P** 18 59 58.0 +0.4
ARCES ARCESS Array B 91.87 340 P **P** 18 59 56.7 -1.8
comp=Z,1.7nm,0.6s,baz=73,slow=4.2,SNR=7.0
HYT Haines Junctio 91.97 29 P **P** 19 00 00.7 +1.4
baz=277
AKASG Malin Array Be 92.62 321 P **P** 18 59 59.9 -2.4
comp=Z,0.2nm,0.3s,baz=64,slow=5.0,SNR=5.2
AKASG Malin Array Be 92.62 321 *i* P **P** 19 00 00.4 -1.9
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 92.97 332 P **P** 19 00 01.9 -1.7
comp=Z,2.0nm,0.7s,baz=71,slow=6.5,SNR=9.6
FINES FINESS Array B 92.97 332 *i* P **P** 19 00 02.0 -1.7
FINES pmax pmax
comp=Z,2.0nm,0.7s
WHY Whitehorse 93.27 29 P **P** 19 00 06.9 +1.7
baz=279
MMPY Sheldon Lake, 94.59 27 P **P** 19 00 13.0 +1.8
baz=283
C36M Paulatuk 95.53 20 P **P** 19 00 15.3 +0.1
baz=290
BUR08 Bucovina Ar. S 95.63 318 P **P** 19 00 14.8 -1.5
BUR08 IAmb IAmb 19 00 16.5
comp=Z,2.9nm,0.8s
SUW Suwalki 95.80 325 P **P** 19 00 15.6 -1.2
SUW pmax pmax
comp=Z,17nm,0.9s
SUW Suwalki 95.80 325 P **P** 19 00 15.6 -1.2
TGTN Hyland Airport 96.22 28 P **P** 19 00 20.0 +1.3
baz=285
CRVS Cervenica-Dubn 97.86 320 *e*P **P** 19 00 25.7 -0.6
CRVS Cervenica-Dubn 97.86 320 *e*PDIFF P 19 00 25.7 -0.6
KECS Kecovo 98.58 319 *e*P Pdif 19 00 29.5 0.0
KECS Kecovo 98.58 319 *e*PDIFF Pdif 19 00 29.5 0.0
NB2 NORSAR Subarra 99.99 333 P **Pdif** 19 00 33.4 -2.1
comp=Z,0.7nm,0.7s,baz=72,slow=4.4
NOA NORSAR Array B 99.99 333 P **Pdif** 19 00 34.6 -0.9
comp=Z,0.6nm,0.8s,baz=78,slow=4.2,SNR=3.8
NOA LR LR 19 49 15.3
comp=Z,9.6nm,19.9s,baz=310,slow=37
TORD Torodi Ar. Bea 122.27 287 PKP **PKPdf** 19 05 45.8 -0.2
comp=Z,1.8nm,0.8s,baz=68,slow=2.1,SNR=8.6
SCHQ Schefferville 122.74 9 PKP **PKiKP** 19 05 46.2 +0.2
comp=Z,4.8nm,0.9s,baz=52,slow=19,SNR=5.2
TXAR Lajitas Array 123.85 53 PKP **PKiKP** 19 05 50.0 +0.9
comp=Z,0.4nm,0.7s,baz=254,slow=0.9,SNR=4.4

TAP **22** 18:50:50.1,24°.91N×122°.22E,*h*136km±1km,ML2.9,D
JMA **22** 18:50:51.2±0.2,24°.82N×122°.17E,*h*127km±2km,*M*1.9
ISC 22 18:50:50.9±1.7,**24°.88N**±0°.05×**122°.19E**±0°.03,**h132**km±9km,
n79,σ0**856**/147,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.22**	**305**	*e*P	**Pn**	**18 51 08.9**	**0.0**
	baz=295						
TWB1				S	**Sn**	**18 51 22.2**	**-0.3**
	baz=295						
EGS		**0.23**	**261**	*i* P	**Pn**	**18 51 09.1**	**+0.2**
	baz=254						

EGS				S	Sn	18 51 22.9	+0.3		
	baz=254								
TIPB	**Shuangxi**	**0.34**	**285**	*i* P	Pn	18 51 09.0	-0.4		
	baz=279								
TIPB				*i* S	Sn	18 51 22.8	-0.6		
	baz=279								
SXI1	**Grass Mountain**	**0.35**	**307**	P	Pn	18 51 08.6	-0.9		
	baz=300								
SXI1				S	Sn	18 51 23.4	-0.2		
	baz=300								
TWC	**Suao**	**0.41**	**229**	*i* P	Pn	18 51 09.3	-0.3		
	baz=227								
TWC				*i* S	Sn	18 51 23.2	-0.6		
	baz=227								
NWF	**Wu-fen Shan**	**0.41**	**297**	*i* P	Pn	18 51 09.2	-0.5		
	baz=291								
NWF				*i* S	Sn	18 51 23.4	-0.6		
	baz=291								
WFSB	**Wu-fen Shan**	**0.41**	**297**	P	Pn	18 51 09.5	-0.1		
	baz=291								
WFSB				S	Sn	18 51 23.6	-0.3		
	baz=291								
TNOU	**National Taiwa**	**0.46**	**305**	*e*P	Pn	18 51 09.8	0.0		
	baz=300								
TNOU				S	Sn	18 51 23.7	-0.6		
	baz=300								
NDS	**Dongshan**	**0.49**	**240**	P	Pn	18 51 10.8	+0.7		
	baz=238								
NDS				S	Sn	18 51 25.4	+0.8		
	baz=238								
TWE	**Neicheng**	**0.50**	**251**	*i* P	Pn	18 51 10.6	+0.5		
	baz=248								
TWE				S	Sn	18 51 25.3	+0.8		
	baz=248								
TWA	**Mucha**	**0.56**	**280**	*i* P	Pn	18 51 10.9	+0.4		
	baz=276								
TWA				S	Sn	18 51 25.8	+0.6		
	baz=276								
FUSB	**Fushanzhiwuyua**	**0.56**	**257**	P	Pn	18 51 10.2	-0.3		
	baz=255								
FUSB				S	Sn	18 51 26.2	+0.9		
	baz=255								
EWUT	**Wuta**	**0.57**	**221**	P	Pn	18 51 10.9	+0.4		
	baz=220								
EWUT				S	Sn	18 51 26.2	+0.9		
	baz=220								
NWRT	**Kuosheng**	**0.57**	**304**	*e*S	Sn	18 51 25.4	0.0		
	baz=299								
NHDH	**Xindian Distri**	**0.61**	**278**	*i* P	Pn	18 51 10.9	+0.2		
	baz=274								
NHDH				*i* S	Sn	18 51 26.1	+0.4		
	baz=274								
ENA	**Nanau**	**0.61**	**222**	*i* P	Pn	18 51 11.0	+0.2		
	baz=221								
ENA				*i* S	Sn	18 51 26.5	+0.7		
	baz=221								
ENTT	**Nioudou**	**0.61**	**247**	*i* P	Pn	18 51 11.3	+0.5		
	baz=244								
ENTT				*i* S	Sn	18 51 26.8	+0.9		
	baz=244								
YM01	**YM01**	**0.62**	**295**	P	Pn	18 51 10.7	-0.2		
	baz=291								
YM01				S	Sn	18 51 25.2	-0.8		
	baz=291								
NDT	**Datong Townshi**	**0.67**	**246**	*i* P	Pn	18 51 11.5	+0.3		
	baz=244								
NDT				S	Sn	18 51 26.8	+0.2		
	baz=244								
ANP	**Anpu**	**0.68**	**297**	P	Pn	18 51 11.6	+0.3		
	baz=293								
ANP				*e*S	Sn	18 51 27.1	+0.3		
	baz=293								
LATG	**Datong**	**0.69**	**240**	P	Pn	18 51 11.7	+0.2		
	baz=239								
LATG				S	Sn	18 51 27.7	+0.6		
	baz=239								
NTST	**Danshui**	**0.73**	**293**	P	Pn	18 51 12.0	+0.5		
	baz=289								
NTST				*e*S	Sn	18 51 28.4	+1.2		
	baz=289								
TWS1	**Kuangyinshan**	**0.73**	**287**	*i* P	Pn	18 51 11.8	+0.2		
	baz=284								
TWS1				S	Sn	18 51 27.9	+0.6		
	baz=284								
YHNB	**Yeheng**	**0.77**	**254**	P	Pn	18 51 11.8	-0.2		
	baz=252								
YHNB				S	Sn	18 51 28.0	0.0		
	baz=252								
NSK	**Sanguang**	**0.78**	**255**	*i* P	Pn	18 51 11.7	-0.4		
	baz=252								
NSK				*i* S	Sn	18 51 27.3	-0.9		
	baz=252								
JYNG	**Yonagunijimaku**	**0.81**	**122**	P	Pn	18 51 12.2	0.0		
JYNG				S	Sn	18 51 27.9	-0.5		
YOJ	**Yonaguni jima**	**0.86**	**119**	P	Pn	18 51 12.9	+0.3		
YOJ				*e*S	Sn	18 51 28.5	-0.6		
NNSB	**Datong**	**0.86**	**238**	P	Pn	18 51 12.8	0.0		
	baz=237								
NNSB				S	Sn	18 51 29.5	+0.1		
	baz=237								
NNS	**Nan Shan**	**0.86**	**239**	*i* P	Pn	18 51 13.2	+0.4		
	baz=238								
NNS				*i* S	Sn	18 51 29.7	+0.3		
	baz=238								
ETL	**Fush Village**	**0.89**	**216**	P	Pn	18 51 12.7	-0.2		
	baz=215								
ETL				S	Sn	18 51 29.4	-0.2		
	baz=215								
NACB	**Ninganchiao**	**0.89**	**218**	P	Pn	18 51 12.5	-0.4		
	baz=217								
NACB				S	Sn	18 51 28.9	-0.7		
	baz=217								
NCUH	**Zhongli**	**0.91**	**276**	*e*P	Pn	18 51 12.4	-0.7		
	baz=273								
NCUH				*e*S	Sn	18 51 29.6	-0.3		
	baz=273								
ETLH	**Xiulin Townshi**	**0.93**	**224**	P	Pn	18 51 13.4	0.0		
	baz=223								
ETLH				S	Sn	18 51 30.2	-0.2		
	baz=223								
TWD	**Chiawan**	**0.96**	**214**	*i* P	Pn	18 51 13.2	-0.3		
	baz=213								
TWD				*i* S	Sn	18 51 30.4	-0.4		
	baz=213								
NFF	**Wufeng Townshi**	**1.00**	**256**	P	Pn	18 51 13.7	-0.3		
	baz=254								
NFF				S	Sn	18 51 30.8	-0.8		
	baz=254								
FUSS	**Fushou**	**1.07**	**234**	P	Pn	18 51 14.8	0.0		
	baz=233								
FUSS				S	Sn	18 51 32.8	-0.1		
	baz=233								
LIOB	**Emei**	**1.09**	**258**	*i* P	Pn	18 51 14.7	-0.1		
	baz=256								
LIOB				S	Sn	18 51 32.2	-0.7		
	baz=256								
SBCB	**Hsinchu**	**1.10**	**266**	P	Pn	18 51 14.5	-0.3		
	baz=263								
SBCB				*e*S	Sn	18 51 33.4	+0.5		
	baz=263								
NSTT	**Nanjuang**	**1.11**	**257**	*i* P	Pn	18 51 14.8	-0.1		
	baz=255								
NSTT				*i* S	Sn	18 51 32.4	-0.8		
	baz=255								
TWT	**Tachien**	**1.11**	**236**	*i* P	Pn	18 51 16.0	+0.8		
	baz=235								
TWT				S	Sn	18 51 32.7	-0.9		
	baz=235								
WHF	**Hehuan Shan**	**1.12**	**229**	*i* P	Pn	18 51 15.9	+0.4		
	baz=228								
WHF				*i* S	Sn	18 51 34.5	+0.3		
	baz=228								
CHGB	**Renai**	**1.23**	**229**	P	Pn	18 51 17.0	+0.6		
	baz=228								
CHGB				S	Sn	18 51 35.9	0.0		
	baz=228								
ESL	**Shilin**	**1.27**	**213**	*i* P	Pn	18 51 15.7	-0.9		
	baz=212								
ESL				S	Sn	18 51 34.4	-1.7		
	baz=212								
WHP	**Taichung City**	**1.28**	**242**	*i* P	Pn	18 51 17.1	+0.3		
	baz=241								
WHP				S	Sn	18 51 36.3	-0.2		
	baz=241								
OWD	**Renai**	**1.30**	**225**	*i* P	Pn	18 51 17.5	+0.4		
	baz=224								
OWD				S	Sn	18 51 37.6	+0.6		
	baz=224								
NMLH	**Miaoli**	**1.32**	**255**	*e*P	Pn	18 51 16.7	-0.3		
	baz=253								
WUSB	**Renai**	**1.32**	**228**	P	Pn	18 51 17.9	+0.7		
	baz=227								
WUSB				S	Sn	18 51 37.7	+0.5		
	baz=227								
NSY	**Sanyi**	**1.38**	**251**	P	Pn	18 51 17.6	-0.1		
	baz=249								
EGFH	**Guangfu**	**1.39**	**210**	*e*P	Pn	18 51 18.8	+0.9		
	baz=210								
EGFH				*e*S	Sn	18 51 37.2	-1.3		
	baz=210								
TWQ1	**Liyutan**	**1.39**	**248**	P	Pn	18 51 17.8	0.0		
	baz=246								
TWQ1				S	Sn	18 51 38.4	-0.1		
	baz=246								
WCS	**Beigang Elemen**	**1.42**	**235**	*e*P	Pn	18 51 18.7	+0.5		
	baz=234								
WCS				*e*S	Sn	18 51 39.2	+0.1		
	baz=234								
VWDT	**VWDT**	**1.48**	**221**	P	Pn	18 51 19.4	+0.6		
	baz=220								
VWDT				S	Sn	18 51 40.2	+0.2		
	baz=220								
WDJ	**Dajia District**	**1.50**	**250**	*e*P	Pn	18 51 19.2	+0.1		
	baz=248								
IRIF	**Iriomote-Funau**	**1.51**	**111**	P	Pn	18 51 18.9	-0.2		
IRIF				S	Sn	18 51 40.6	0.0		
SMLT	**Sun Moon Lake**	**1.54**	**230**	*i* P	Pn	18 51 20.2	+0.6		
	baz=229								
SMLT				*i* S	Sn	18 51 42.4	+0.8		
	baz=229								
HGSD	**Ruisui**	**1.55**	**207**	P	Pn	18 51 19.9	+0.3		
	baz=207								
HGSD				S	Sn	18 51 41.7	+0.2		
	baz=207								
TYC	**Yuchr**	**1.56**	**231**	*i* P	Pn	18 51 20.1	+0.4		
	baz=230								
TYC				S	Sn	18 51 41.9	+0.3		
	baz=230								
SSLB	**Suanglung**	**1.57**	**226**	P	Pn	18 51 20.2	+0.3		
	baz=225								
SSLB				S	Sn	18 51 42.9	+0.9		
	baz=225								
EHY	**Hungye**	**1.58**	**210**	P	Pn	18 51 20.1	+0.1		
	baz=210								
EHY				S	Sn	18 51 40.6	-1.6		
	baz=210								
HATJ	**Hateruma jima**	**1.69**	**119**	P	Pn	18 51 21.5	+0.3		
YULB	**Yu-li**	**1.69**	**209**	P	Pn	18 51 20.0	-1.3		
	baz=209								
YULB				S	Sn	18 51 43.7	-0.8		
	baz=209								
WJS	**Zhushan**	**1.70**	**232**	*e*P	Pn	18 51 21.7	+0.4		
	baz=231								
WJS				*e*S	Sn	18 51 44.5	-0.1		
	baz=231								
EYUL	**Yuli**	**1.72**	**208**	*e*P	Pn	18 51 22.6	+0.9		
	baz=207								
EYUL				*e*S	Sn	18 51 45.2	+0.1		
	baz=207								
JKRS	**Kuro-shima**	**1.78**	**111**	P	Pn	18 51 22.6	+0.4		
JKRS				S	Sn	18 51 46.3	+0.1		
YUS	**Yu-Shan**	**1.79**	**219**	*e*P	Pn	18 51 24.2	+1.3		
	baz=218								
YUS				*e*S	Sn	18 51 48.4	+1.1		
	baz=218								
JIJ	**Ishigaki jima**	**1.85**	**106**	P	Pn	18 51 23.5	+0.4		
JIJ				S	Sn	18 51 46.7	-1.1		
ALS	**Alishan**	**1.86**	**223**	P	Pn	18 51 23.8	+0.2		
	baz=222								
ALS				*e*S	Sn	18 51 49.2	+0.8		
	baz=222								
WDLH	**Douliu**	**1.92**	**232**	*e*P	Pn	18 51 24.0	+0.1		
	baz=231								
WRL	**Guolierlin Hig**	**1.92**	**240**	*e*P	Pn	18 51 23.4	-0.5		
	baz=239								
WRL				*e*S	Sn	18 51 48.3	-0.9		
	baz=239								
JISG	**Ishigakijimahi**	**1.95**	**98**	P	Pn	18 51 25.2	+0.9		
JISG				S	Sn	18 51 49.5	-0.4		
ELDTW	**Lidau**	**2.00**	**213**	P	Pn	18 51 24.8	-0.2		
	baz=212								
ELDTW				*e*S	Sn	18 51 50.7	-0.5		
	baz=212								
WTK	**Tuku**	**2.03**	**234**	*e*P	Pn	18 51 25.1	-0.1		
	baz=233								
WTK				*e*S	Sn	18 51 51.2	-0.4		
	baz=233								
EDH	**Donghe**	**2.07**	**203**	*e*S	Sn	18 51 52.2	-0.2		
	baz=203								
CHN4	**Tsaushan**	**2.11**	**224**	*e*P	Pn	18 51 26.0	-0.2		
	baz=223								
TPUB	**Ta-pu**	**2.12**	**222**	*e*P	Pn	18 51 26.7	+0.2		
	baz=222								
TPUB				*e*S	Sn	18 51 53.4	-0.3		
	baz=222								
STYH	**Taoyuan**	**2.14**	**217**	*e*P	Pn	18 51 27.3	+0.7		
	baz=217								
WTP	**Ta-pu**	**2.17**	**222**	*e*P	Pn	18 51 26.8	-0.3		
	baz=221								
CHN1	**Nanshi**	**2.27**	**222**	*e*P	Pn	18 51 28.1	-0.2		
	baz=221								
JTJ	**Tarama**	**2.30**	**95**	P	Pn	18 51 29.0	+0.4		
JTJ				S	Sn	18 51 57.6	+0.1		
JIJ				S	Sn	18 59 04.0	-1.4		
LONT	**Longtian**	**1.76**	**270**	*e*S	Sn	18 59 05.9	+0.5		
	baz=266								
TWD	**Chiawan**	**1.77**	**311**	*e*P	Pn	18 58 44.3	+0.2		
	baz=315								
TWD				*e*S	Sn	18 59 04.3	-1.1		
	baz=315								
TWGBT	**Beinan**	**1.81**	**267**	*e*P	Pn	18 58 45.6	+0.8		
	baz=264								
TWGBT				*e*S	Sn	18 59 06.7	0.0		
	baz=264								
TWG	**Pinlang**	**1.82**	**268**	*e*P	Pn	18 58 47.0	+2.1		
	baz=264								
TWG				*e*S	Sn	18 59 06.7	-0.1		
	baz=264								
NACB	**Ninganchiao**	**1.83**	**314**	*e*P	Pn	18 58 45.1	+0.1		
	baz=314								
NACB				*e*S	Sn	18 59 05.2	-1.9		
	baz=314								
ELDTW	**Lidau**	**1.89**	**279**	*e*S	Sn	18 59 07.8	-0.8		
	baz=283								
EWUT	**Wuta**	**1.92**	**323**	*e*S	Sn	18 59 09.8	+0.6		
	baz=332								
ENA	**Nanau**	**1.92**	**322**	*e*P	Pn	18 58 47.1	+0.8		
	baz=326								
ENA				*e*S	Sn	18 59 09.3	-0.1		
	baz=326								
ETLH	**Xiulin Townshi**	**1.93**	**312**	*e*S	Sn	18 59 09.0	-0.6		
	baz=309								
VWDT	**VWDT**	**1.94**	**296**	*e*P	Pn	18 58 47.5	+1.0		
	baz=300								
VWDT				*e*S	Sn	18 59 09.1	-0.6		
	baz=300								
ECL	**Taimali**	**1.95**	**261**	*e*P	Pn	18 58 48.0	+1.3		
	baz=258								
ECL				*e*S	Sn	18 59 09.1	-1.0		
	baz=258								
OWD	**Renai**	**2.00**	**302**	*e*P	Pn	18 58 48.5	+0.9		
	baz=311								
OWD				*e*S	Sn	18 59 10.4	-1.2		
	baz=311								
JISG	**Ishigakijimahi**	**2.03**	**35**	P	Pn	18 58 47.9	+0.1		
JISG				S	Sn	18 59 10.8	-1.2		
WHF	**Hehuan Shan**	**2.04**	**307**	*e*S	Sn	18 59 13.2	+0.3		
	baz=310								
CHGB	**Renai**	**2.06**	**304**	*e*P	Pn	18 58 48.4	0.0		
	baz=313								
CHGB				*e*S	Sn	18 59 12.8	-0.3		
	baz=313								
WUSB	**Renai**	**2.07**	**302**	*e*P	Pn	18 58 49.2	+0.7		
	baz=310								
WUSB				*e*S	Sn	18 59 11.7	-1.4		
	baz=310								
TAWH	**Dawu Township**	**2.07**	**254**	*e*P	Pn	18 58 49.8	+1.5		
	baz=250								
TAWH				*e*S	Sn	18 59 13.1	+0.1		
	baz=250								
EAST	**Anshuo**	**2.10**	**256**	*e*P	Pn	18 58 50.6	+1.9		
	baz=252								
EAST				*e*S	Sn	18 59 13.3	-0.3		
	baz=252								
NDS	**Dongshan**	**2.10**	**325**	*e*P	Pn	18 58 50.6	+1.9		
	baz=334								
NDS				*e*S	Sn	18 59 14.2	+0.5		
	baz=334								
STYH	**Taoyuan**	**2.10**	**277**	*e*P	Pn	18 58 50.2	+1.4		
	baz=276								
SSLB	**Suanglung**	**2.11**	**295**	P	Pn	18 58 49.7	+0.8		
	baz=299								
SSLB				*e*S	Sn	18 59 13.3	-0.7		
	baz=299								
FUSS	**Fushou**	**2.12**	**309**	*e*P	Pn	18 58 49.0	-0.2		
	baz=311								
FUSS				*e*S	Sn	18 59 12.8	-1.8		
	baz=311								
LATG	**Datong**	**2.13**	**320**	*e*P	Pn	18 58 50.0	+0.7		
	baz=314								
LATG				*e*S	Sn	18 59 13.7	-1.0		
	baz=314								
NNSB	**Datong**	**2.14**	**315**	*e*P	Pn	18 58 50.5	+1.0		
	baz=311								
NNSB				*e*S	Sn	18 59 14.6	-0.4		
	baz=311								
NNS	**Nan Shan**	**2.16**	**315**	*e*P	Pn	18 58 50.8	+1.1		
	baz=311								
NNS				*e*S	Sn	18 59 14.8	-0.5		
	baz=311								
ENTT	**Nioudou**	**2.19**	**322**	*e*S	Sn	18 59 15.9	0.0		
	baz=332								
NDT	**Datong Townshi**	**2.19**	**321**	*e*P	Pn	18 58 51.3	+1.3		
	baz=316								
NDT				*e*S	Sn	18 59 15.4	-0.5		
	baz=316								
JTJ	**Tarama**	**2.30**	**41**	P	Pn	18 58 52.0	+0.6		
JTJ				S	Sn	18 59 18.0	-0.5		

*JMA **22** 18:58:15.9±0.4,22°.93N×123°.07E,h62km,M2.2*
*TAP **22** 18:58:17.7,22°.97N×122°.81E,h104km±1km,ML2.7,D*
ISC 22 18:58:15.9±2.1,**22°.91N**±0°.04×**123°.04E**±0°.04,**h33**km±4km,
n45,σ1°**06**/82,**Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.34**	**31**	P	**Pn**	**18 58 38.5**	**+0.3**
HATJ				S	**Sn**	**18 58 54.5**	**-0.4**
LDUT	**Ludao**	**1.47**	**261**	*e*P	**Pn**	**18 58 40.9**	**+0.9**
	baz=257						
LDUT				*e*S	**Sn**	**18 58 56.1**	**-2.1**
	baz=257						
JYNG	**Yonagunijimaku**	**1.54**	**357**	P	**Pn**	**18 58 41.7**	**+0.7**
JYNG				S	**Sn**	**18 59 00.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.54**	**359**	P	**Pn**	**18 58 41.7**	**+0.6**
YOJ				*e*S	**Sn**	**18 59 01.0**	**+1.1**
YOJ	**Yonaguni jima**	**1.54**	**359**	*e*P	**Pn**	**18 58 41.8**	**+0.8**
	baz=6.0						
YOJ				*e*S	**Sn**	**18 59 01.1**	**+1.2**
	baz=6.0						
IRIF	**Iriomote-Funau**	**1.55**	**24**	P	**Pn**	**18 58 41.7**	**+0.5**
IRIF				*e*S	**Sn**	**18 59 00.9**	**+0.8**
JKRS	**Kuro-shima**	**1.59**	**34**	P	**Pn**	**18 58 42.0**	**+0.3**
JKRS				S	**Sn**	**18 59 00.6**	**-0.5**
HGSD	**Ruisui**	**1.60**	**292**	*e*P	**Pn**	**18 58 42.0**	**+0.2**
	baz=290						
HGSD				*e*S	**Sn**	**18 58 59.1**	**-2.2**
	baz=290						
EDH	**Donghe**	**1.60**	**272**	*e*P	**Pn**	**18 58 41.5**	**-0.4**
	baz=271						
EDH				*e*S	**Sn**	**18 58 59.3**	**-2.2**
	baz=271						
LYUB	**Lan-yu**	**1.63**	**236**	*e*P	**Pn**	**18 58 43.7**	**+1.5**
	baz=235						
LYUB				*e*S	**Sn**	**18 59 00.8**	**-1.1**
	baz=235						
LAY	**Lan-yu**	**1.63**	**238**	*e*P	**Pn**	**18 58 43.6**	**+1.3**
	baz=231						
LAY				*e*S	**Sn**	**18 59 00.7**	**-1.4**
	baz=231						
EYUL	**Yuli**	**1.65**	**286**	*e*P	**Pn**	**18 58 45.0**	**+2.5**
	baz=284						
EYUL				*e*S	**Sn**	**18 59 01.4**	**-1.0**
	baz=284						
EGFH	**Guangfu**	**1.67**	**297**	*e*P	**Pn**	**18 58 42.5**	**-0.2**
	baz=303						
EGFH				*e*S	**Sn**	**18 59 03.4**	**+0.4**
	baz=303						
YULB	**Yu-li**	**1.68**	**287**	*e*P	**Pn**	**18 58 44.0**	**+1.1**
	baz=287						
YULB				*e*S	**Sn**	**18 59 03.3**	**0.0**
	baz=287						
EHY	**Hungye**	**1.69**	**291**	*e*P	**Pb**	**18 58 46.0**	**-0.5**
	baz=291						
EHY				*e*S	**Sn**	**18 59 02.8**	**-0.8**
	baz=291						
ESL	**Shilin**	**1.73**	**302**	*e*S	**Sn**	**18 59 03.2**	**-1.4**
	baz=304						
JIJ	**Ishigaki jima**	**1.76**	**35**	P	**Pn**	**18 58 44.2**	**+0.1**

*IDC **22** 19:03:56.9±0.9,31°.71N×110°.96E,h0km,mb3.7/7,*
mb1 3.9/8,mb1mx3.6/37,mbtmp3.7/8,Error ellipse:
s-maj=32.1km s-min=19.7km az=68.0
ISC 22 19:03:58.4±0.8,**31.7N**±0°.1×**111.0E**±0°.1,**h10**km,**n24,**
σ0**.56**/23,**mb4.1**/19,**Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**15.05**	**63**	Pn	**P**	**19 07 35.7**	**-0.7**
	0.1nm,0.3s,baz=242,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**17.13**	**222**	Pn	**Pn**	**19 07 58.2**	**+0.3**
	baz=32,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**20.63**	**47**	P	Pn	19 08 43.3	+3.1
	6.8nm,0.8s,baz=242,slow=6.6,SNR=8.6						
TAPN	**Taplejung**	**20.73**	**264**	*e*P	**P**	**19 08 39.8**	**+0.4**
	25nm,1.2s						
ODAN	**Odare**	**21.15**	**263**	*e*P	**P**	**19 08 44.2**	**+0.2**
	19nm,0.9s						
RAMN	**Ramite**	**21.79**	**264**	*e*P	**P**	**19 08 50.7**	**-0.1**
	6.3nm,0.5s						
JIRN	**Jiri**	**21.93**	**266**	*e*P	**P**	**19 08 52.6**	**+0.2**
	25nm,0.8s						
GUN	**Gumba**	**22.12**	**267**	*e*P	**P**	**19 08 54.2**	**-0.3**
	72nm,0.9s						
PKI	**Pulchoki**	**22.61**	**266**	*e*P	**P**	**19 08 59.1**	**-0.7**
	15nm,1.0s						
PKIN	**Phulchoki**	**22.62**	**266**	*e*P	**P**	**19 08 59.9**	**+0.1**
	12nm,0.9s						
KKN	**Kakani**	**22.66**	**267**	*e*P	**P**	**19 09 00.6**	**+0.4**
	27nm,1.0s						
DMN	**Daman**	**22.86**	**266**	*e*P	**P**	**19 09 02.6**	**+0.3**
	14nm,1.1s						
GKN	**Gorkha**	**23.15**	**268**	*e*P	**P**	**19 09 04.5**	**-0.7**
	19nm,0.8s						
KLR	**Kul'dur**	**23.42**	**36**	P	**P**	**19 09 09.0**	**+1.5**
	1.0nm,0.7s,baz=287,slow=8.7,SNR=4.8						
DANN	**Dangsing**	**23.81**	**269**	*e*P	**P**	**19 09 11.3**	**-0.6**
	20nm,0.6s						
KOLN	**Koldanda**	**24.10**	**268**	*e*P	**P**	**19 09 14.2**	**-0.3**
	25nm,0.9s						
PYUN	**Piuthan**	**24.53**	**269**	*e*P	**P**	**19 09 18.3**	**-0.2**
	12nm,0.6s						
MKAR	**Makanchi Array**	**26.66**	**313**	P	**P**	**19 09 37.7**	**+0.3**
	1.5nm,0.8s,baz=109,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**29.07**	**328**	P	**P**	**19 09 59.0**	**+0.3**
	1.2nm,0.6s,baz=121,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**56.03**	**153**	P	**P**	**19 13 37.9**	**+0.3**
	0.8nm,1.0s,baz=340,slow=6.9,SNR=5.1						
ASAR	**Alice Springs**	**59.28**	**155**	P	**P**	**19 14 00.1**	**-0.2**
	0.6nm,0.7s,baz=343,slow=7.2,SNR=8.7						
ILAR	**Eielson Array**	**66.66**	**27**	P	**P**	**19 14 48.7**	**-0.2**
	0.3nm,0.7s,baz=292,slow=4.8,SNR=2.9						
NB2	**NORSAR Subarra**	**67.26**	**329**	P	**P**	**19 14 52.5**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=67,slow=6.2						
NOA	**NORSAR Array B**	**67.26**	**329**	P	**P**	**19 14 52.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=68,slow=6.2,SNR=4.4						

*NEIC **22** 19:27:34.9±2.3,51°.13N±0°.06×173°.77W

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.04**	**343**		**Pn**	**19 27 56.3**	**-0.8**
KOFP	**Korovin Flat P**	**1.09**	**347**		**Pn**	**19 27 57.8**	**-0.1**
GSMY	**Great Sitkin M**	**1.69**	**300**		**Pn**	**19 28 04.8**	**-1.3**
GSTR	**Great Sitkin T**	**1.72**	**302**		**Pn**	**19 28 05.6**	**-0.9**
GSCK	**Great Sitkin C**	**1.74**	**298**		**Pn**	**19 28 05.7**	**-1.0**
GSTD	**Great Sitkin T**	**1.75**	**300**		**Pn**	**19 28 05.5**	**-1.4**
ADK	**Adak**	**1.98**	**291**		**Pn**	**19 28 09.0**	**-1.1**
ADK	**Adak**	**1.98**	**291**		**Sn**	**19 28 31.4**	**-2.3**
KIWB	**Kanaga Island**	**2.25**	**288**		**Pn**	**19 28 13.4**	**-0.4**
KIKV	**Kanaga Island**	**2.27**	**288**		**Pn**	**19 28 14.3**	**+0.2**
KIMD	**Kanaga Island**	**2.28**	**285**		**Pn**	**19 28 14.3**	**+0.1**
TAPA	**Tanaga Point A**	**2.64**	**285**		**Pn**	**19 28 19.6**	**+0.4**
TAFP	**Tanaga Falls P**	**2.77**	**286**		**Pn**	**19 28 21.4**	**+0.5**
TASE	**Tanaga Southea**	**2.78**	**285**		**Pn**	**19 28 21.6**	**+0.5**
GAEA	**Gareloi East**	**3.21**	**282**		**Pn**	**19 28 26.3**	**-0.6**
NIKH	**Nikolski High**	**3.47**	**58**	Pn	**Pn**	**19 28 30.2**	**-0.3**
UNV	**Unalaska Valle**	**5.12**	**56**	Pn	**Pn**	**19 28 52.3**	**-0.8**
AKUT	**Akutan**	**5.64**	**56**	Pn	**Pn**	**19 28 58.7**	**-1.5**
CHGN	**Chignik**	**10.38**	**55**	Pn	**Pn**	**19 30 06.7**	**+1.6**
CHIR	**Chirikof Islan**	**11.70**	**60**	Pn	**Pn**	**19 30 24.1**	**+0.9**
GAMB	**Gambell**	**12.64**	**4**	Pn	**Pn**	**19 30 38.8**	**+2.7**
OHAK	**Old Harbor**	**13.34**	**55**	Pn	**Pn**	**19 30 45.1**	**-0.5**
Q19K	**Cape Douglas,**	**13.80**	**48**	Pn	**Pn**	**19 30 52.9**	**+0.9**
ANM	**Nome**	**14.08**	**15**	Pn	**Pn**	**19 30 54.7**	**-1.0**
SVW2	**Sparrevohn**	**14.09**	**38**	Pn	**Pn**	**19 30 57.2**	**+1.4**
N19K	**Bonanza Creek**	**14.36**	**41**	Pn	**Pn**	**19 30 58.2**	**-1.4**
L19K	**White Mountain**	**15.02**	**36**	Pn	**Pn**	**19 31 06.0**	**-2.5**
L19K	comp=Z,9.2nm,1.4s			IAmb	IAmb	19 31 12.1	
M19K	**Big River Lodg**	**15.03**	**37**	Pn	**Pn**	**19 31 06.9**	**-1.6**
M19K	comp=Z,16nm,1.4s			IAmb	IAmb	19 31 25.5	
TTA	**Tatalina**	**15.11**	**32**	Pn	**Pn**	**19 31 09.4**	**-0.2**
TTA	comp=Z,7.3nm,1.1s			IAmb	IAmb	19 31 35.5	
CNPM	**China Poot**	**15.18**	**48**	Pn	**Pn**	**19 31 10.0**	**-0.5**
BRLK	**Bradley Lake**	**15.43**	**47**	Pn	**Pn**	**19 31 14.3**	**+0.4**
K20K	**Telida**	**16.05**	**33**	P	**Pn**	**19 31 21.4**	**-0.4**
SEW	**Seward**	**16.23**	**47**	P	**Pn**	**19 31 23.3**	**-0.7**
O22K	**Cooper Landing**	**16.26**	**46**	P	**Pn**	**19 31 23.4**	**-0.9**
PPLA	**Purkeypile**	**16.44**	**36**	P	**P**	**19 31 28.4**	**-0.9**
PPLA	comp=Z,25nm,1.6s			IAmb	IAmb	19 31 46.1	
RC01	**Rabbit Creek A**	**16.51**	**44**	P	**Pn**	**19 31 27.9**	**+0.3**
RC01	comp=Z,16nm,1.2s			IAmb	IAmb	19 31 41.6	
J20K	**Nowinta River**	**16.57**	**31**	P	**P**	**19 31 31.6**	**+1.0**
CAST	**Castle Rocks**	**16.79**	**35**	P	**P**	**19 31 33.5**	**+0.5**
PWL	**Port Wells**	**17.04**	**46**	P	**Pn**	**19 31 32.8**	**-1.4**
GHO	**Glory Hole Cre**	**17.16**	**42**	P	**P**	**19 31 36.5**	**-0.7**
GHO	comp=Z,22nm,1.5s			IAmb	IAmb	19 31 40.2	
KNK	**Knik Glacier**	**17.21**	**44**	P	**P**	**19 31 36.6**	**-1.1**
KNK	comp=Z,11nm,1.1s			IAmb	IAmb	19 31 38.9	
KTH	**Kantishna Hill**	**17.29**	**36**	P	**P**	**19 31 37.6**	**-1.1**
KTH	comp=Z,17nm,1.6s			IAmb	IAmb	19 31 39.5	
SML	**Sawmill**	**17.43**	**43**	P	**P**	**19 31 40.1**	**-0.1**
SML	comp=Z,26nm,1.6s			IAmb	IAmb	19 31 57.9	
TRF	**Thorofare Moun**	**17.47**	**36**	P	**P**	**19 31 40.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**17.59**	**34**	P	**P**	**19 31 41.7**	**-0.2**
PETK	**Petropavlovsk-**	**17.61**	**287**	LR	LR	19 38 31.4	
SCM	comp=Z,29nm,18.2s,baz=94,slow=39 **Sheep Creek Mo**	**17.88**	**43**	P	**P**	**19 31 44.4**	**-0.7**
SCM	comp=Z,33nm,1.5s			IAmb	IAmb	19 32 00.5	
I21K	**Tanana**	**17.93**	**30**	P	**Pn**	**19 31 43.9**	**-1.3**
IMAR	**Indian Mountai**	**17.95**	**27**	P	**P**	**19 31 44.9**	**-0.9**
RND	**Reindeer**	**17.99**	**38**	P	**P**	**19 31 46.0**	**-0.4**
H21K	**Melozitna Rive**	**18.00**	**29**	P	**P**	**19 31 45.8**	**-0.6**
MCK	**McKinley**	**18.13**	**37**	P	**Pn**	**19 31 46.5**	**-1.3**
MCK	comp=Z,15nm,1.4s			IAmb	IAmb	19 32 20.2	
BWN	**Browne**	**18.18**	**35**	P	**P**	**19 31 47.7**	**-0.6**
BWN	comp=Z,15nm,1.1s			IAmb	IAmb	19 32 25.4	
MLY	**Manley**	**18.24**	**32**	P	**Pn**	**19 31 47.9**	**-1.2**
KLU	**Klutina**	**18.36**	**45**	P	**P**	**19 31 49.4**	**-1.0**
KLU	comp=Z,14nm,1.5s			IAmb	IAmb	19 32 11.3	
DHY	**Denali Highway**	**18.41**	**40**	P	**Pn**	**19 31 51.6**	**+0.3**
DHY	comp=Z,13nm,1.4s			IAmb	IAmb	19 31 55.5	
M24K	**Tolsona, Glenn**	**18.48**	**43**	P	**Pn**	**19 31 51.7**	**-0.4**
NEA2	**Nenana**	**18.55**	**34**	P	**P**	**19 31 51.7**	**-0.7**
I23K	**Minto, Yukon-K**	**18.78**	**33**	P	**Pn**	**19 31 56.7**	**+1.1**
WRH	**Wood River Hil**	**18.84**	**35**	P	**P**	**19 31 55.3**	**-0.3**
N25K	**Chitina, Valde**	**18.99**	**46**	P	**Pn**	**19 31 58.7**	**+0.5**
N25K	comp=Z,10nm,1.4s			IAmb	IAmb	19 32 31.1	
CCB	**Clear Creek Bu**	**19.04**	**35**	P	**P**	**19 31 57.2**	**-0.5**
MDM	**Murphy Dome**	**19.06**	**34**	P	**Pn**	**19 31 58.1**	**-0.9**
MDM	comp=Z,11nm,1.6s			IAmb	IAmb	19 32 29.0	
PAX	**Paxson**	**19.14**	**41**	P	**P**	**19 31 58.5**	**-0.5**
PAX	comp=Z,11nm,1.6s			IAmb	IAmb	19 32 04.8	
TCOL	**CIGO, UAF Yank**	**19.14**	**35**	P	**Pn**	**19 31 59.1**	**-0.8**
HDA	**Harding Lake**	**19.23**	**36**	P	**Pn**	**19 32 00.2**	**-0.8**
HDA	comp=Z,10nm,1.3s			IAmb	IAmb	19 32 08.9	
GLB	**Gilahina Butte**	**19.30**	**46**	P	**Pn**	**19 32 00.9**	**-0.9**
GLB	comp=Z,12nm,1.4s			IAmb	IAmb	19 32 24.8	
VRDI	**Verde Repeater**	**19.39**	**47**	P	**P**	**19 32 02.1**	**+0.2**
VRDI	comp=Z,12nm,1.4s			IAmb	IAmb	19 32 08.7	
SNH	**Sunshine Point**	**19.40**	**51**	P	**P**	**19 32 01.0**	**-0.8**
POKR	**Poker Plat Res**	**19.43**	**34**	P	**Pn**	**19 32 02.1**	**-1.3**
POKR	comp=Z,12nm,1.4s			IAmb	IAmb	19 32 34.9	
IL31		**19.44**	**36**	P	**P**	**19 32 02.0**	**-0.1**
ILAR	**Eielson Array**	**19.44**	**36**	P	**P**	**19 32 02.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=210,slow=11,SNR=23						
ILAR	**Eielson Array**	**19.44**	**36**	P	**P**	**19 32 01.8**	**-0.4**
WAX	**Waxell Ridge**	**19.46**	**50**	P	**Pn**	**19 32 04.3**	**+0.5**
TGL	**Tana Glacier**	**19.55**	**49**	P	**Pn**	**19 32 03.9**	**-1.0**
MCARA	**McCarthy VSAT**	**19.64**	**47**	P	**Pn**	**19 32 05.5**	**-0.4**
MCARA	comp=Z,8.6nm,1.1s			IAmb	IAmb	19 32 27.7	
H24K	**Noodor Dome**	**19.68**	**32**	P	**P**	**19 32 03.7**	**-1.1**
H24K	comp=Z,17nm,1.6s			IAmb	IAmb	19 32 08.1	
RIDG	**Independent Ri**	**19.72**	**39**	P	**Pn**	**19 32 05.7**	**-1.2**
ISLE	**Juniper Island**	**19.74**	**49**	P	**P**	**19 32 04.4**	**-1.2**
ISLE	comp=Z,18nm,1.3s			IAmb	IAmb	19 32 13.0	
COLD	**Coldfoot**	**19.84**	**27**	P	**P**	**19 32 05.7**	**-0.8**
MENT	**Mentasta**	**19.86**	**42**	P	**P**	**19 32 06.4**	**-0.4**
J25K	**Salcha River,**	**19.92**	**37**	P	**P**	**19 32 07.3**	**-0.2**
J25K	comp=Z,7.8nm,0.8s			IAmb	IAmb	19 32 09.4	
YAH	**Yahtse**	**19.97**	**50**	P	**P**	**19 32 08.3**	**0.0**
DOT	**Dot Lake**	**20.00**	**40**	P	**P**	**19 32 08.6**	**+0.3**
L26K	**Log Cabin Wild**	**20.05**	**42**	P	**Pn**	**19 32 11.3**	**+0.5**
L26K	comp=Z,14nm,1.6s			IAmb	IAmb	19 32 46.6	
GRNC	**Granite Creek**	**20.05**	**49**	P	**P**	**19 32 08.3**	**-0.8**
GRNC	comp=Z,7.9nm,0.9s			IAmb	IAmb	19 32 31.6	
SCRK	**Sand Creek**	**20.17**	**39**	P	Pn	19 32 10.9	-1.4
SCRK	comp=Z,4.7nm,0.4s			IAmb	IAmb	19 32 12.6	
BARN	**Barnard Glacie**	**20.18**	**48**	P	**P**	**19 32 10.9**	**+0.5**
BARN	comp=Z,7.2nm,1.1s			IAmb	IAmb	19 32 13.9	
TABL	**Table Mountain**	**20.28**	**50**	P	**P**	**19 32 11.0**	**-0.6**
CTGM	**Chitina Glacie**	**20.31**	**49**	P	**P**	**19 32 11.5**	**-0.3**
CTGM	comp=Z,11nm,1.2s			IAmb	IAmb	19 32 46.3	
PRP	**Porcupine Dome**	**20.32**	**35**	P	**P**	**19 32 12.1**	**+0.2**
PRP	comp=Z,9.4nm,1.6s			IAmb	IAmb	19 32 22.0	
LOGN	**Logan Glacier**	**20.43**	**49**	P	**P**	**19 32 11.1**	**-2.0**
LOGN	comp=Z,10nm,1.2s			IAmb	IAmb	19 32 40.8	
M27K	**Edge Creek, AK**	**20.45**	**45**	P	**P**	**19 32 11.7**	**-1.6**
M27K	comp=Z,8.5nm,1.4s			IAmb	IAmb	19 32 27.7	
PCA	**Pinnacle**	**20.65**	**52**	P	**P**	**19 32 12.3**	**-3.0**
L27K	**Beaver Creek,**	**20.71**	**43**	P	**P**	**19 32 13.7**	**-2.2**
BCAR	**Beaver Creek A**	**20.73**	**43**	P	**P**	**19 32 14.6**	**-1.6**
TOLK	**Toolik Lake Re**	**20.99**	**25**	P	**P**	**19 32 18.5**	**-0.4**
TOLK	comp=Z,5.4nm,0.8s			IAmb	IAmb	19 32 34.7	
MA2	**Magadan**	**21.61**	**307**	LR	LR	19 40 43.2	
	comp=Z,34nm,19.0s,baz=121,slow=38						
EGAK	**Eagle**	**21.62**	**39**	P	**P**	**19 32 25.3**	**-0.4**
EGAK	comp=Z,7.8nm,0.8s			IAmb	IAmb	19 32 40.9	
BMAR	**Burnt Mountain**	**21.68**	**31**	P	**P**	**19 32 26.2**	**-0.1**
DAWY	**Dawson**	**22.07**	**41**	P	**P**	**19 32 31.3**	**+0.7**
DAWY	comp=Z,6.9nm,1.6s			IAmb	IAmb	19 32 58.9	
HYT	**Haines Junctio**	**22.12**	**50**	P	**P**	**19 32 30.2**	**-1.0**
YKA	**Yellowknife Ar**	**33.01**	**47**	P	**P**	**19 34 12.8**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=270,slow=12,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**34.94**	**213**	T	T	20 12 26.4	
	baz=18,slow=76,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**34.95**	**213**	T	T	20 12 28.3	
H11N1	**WAKE ISLAND Hy**	**34.96**	**213**	T	T	20 12 31.7	
	baz=16,slow=76,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**36.14**	**213**	T	T	20 14 00.7	
	baz=20,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**36.16**	**213**	T	T	20 13 52.8	
	baz=20,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**36.16**	**213**	T	T	20 13 59.5	
	baz=20,slow=76,SNR=6.1						
G08A	**Pilot Rock**	**36.20**	**77**	P	**P**	**19 34 37.0**	**-1.3**
USA0B	**Ussuriysk Arra**	**36.49**	**281**	P	**P**	**19 34 36.6**	**-3.9**
USRK	**Ussuriysk Ar.**	**36.49**	**281**	P	**P**	**19 34 37.9**	**-2.7**
MJAR	**Matsushiro Arr**	**36.95**	**266**	LR	LR	19 51 46.8	
	comp=Z,13nm,18.7s,baz=138,slow=39						
PDAR	**Pinedale Array**	**43.28**	**75**	P	P	19 35 47.2	+10
	comp=Z,0.4nm,0.5s,baz=318,slow=4.3,SNR=5.5						
WUAZ	**Wupatki**	**46.53**	**85**	P	**P**	**19 36 01.0**	**-2.1**
W18A	**Petrified Fore**	**47.81**	**84**	P	P	19 36 08.6	-4.5
SONM	**Songino Array**	**49.56**	**299**	P	**P**	**19 36 27.4**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=55,slow=6.3,SNR=5.1						
ANMO	**Albuquerque**	**49.97**	**82**	P	**P**	**19 36 29.4**	**-0.3**
KBS	**Kingsbay**	**50.08**	**359**	P	**P**	**19 36 30.2**	**+0.5**
TXAR	**Lajitas Array**	**55.49**	**85**	P	P	19 37 25.6	+15
	comp=Z,0.2nm,0.7s,baz=283,slow=8.0,SNR=2.3						
ARCES	**ARCESS Array B**	**58.75**	**352**	P	**P**	**19 37 32.4**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=23,slow=6.5,SNR=5.1						
KURK	**Kurchatov**	**61.41**	**316**	P	**P**	**19 37 51.8**	**+0.6**
MK31	**Makanchi Array**	**62.60**	**311**	P	**P**	**19 37 59.5**	**+0.1**
MK31	comp=Z,2.4nm,1.4s			IAmb	IAmb	19 38 31.9	
MKAR	**Makanchi Array**	**62.60**	**311**	P	**P**	**19 37 59.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=46,slow=6.0,SNR=20						
BRVK	**Borovoye**	**63.05**	**323**	P	**P**	**19 38 00.3**	**-1.9**
BATG	**Bathurst New B**	**63.92**	**46**	P	**P**	**19 38 06.7**	**-1.4**
FIA1	**FINESS Array S**	**66.59**	**350**	P	**P**	**19 38 24.1**	**-1.0**
FINES	**FINESS Array B**	**66.59**	**350**	P	**P**	**19 38 25.1**	**0.0**
	comp=Z,1.8nm,0.9s,baz=350,slow=9.7,SNR=6.4						
NB201	**NORSAR Array S**	**68.02**	**357**	P	**P**	**19 38 35.5**	**+1.2**
BOOM	**Boomskoye usch**	**68.82**	**312**	P	**P**	**19 38 41.2**	**+1.5**
BOOM	comp=Z,1.0nm,0.6s			IAmb	IAmb	19 38 42.1	
ABKAR	**Akbulak array**	**69.94**	**326**	P	**P**	**19 38 47.1**	**+0.8**
ABKAR	comp=Z,3.1nm,1.4s			IAmb	IAmb	19 39 24.2	
ABKAR	**Akbulak array**	**69.94**	**326**	P	**P**	**19 38 47.4**	**+1.1**
KKAR	**Karatay Array**	**70.80**	**316**	P	**P**	**19 38 52.4**	**+0.7**
PABE	**Paberze**	**72.64**	**350**	P	**P**	**19 39 03.3**	**+0.8**
TAPN	**Taplejung**	**74.24**	**294**	*e*P	**P**	**19 39 15.1**	**+2.4**
GUN	**Gumba**	**74.86**	**296**	*e*P	**P**	**19 39 18.2**	**+1.8**
JIRN	**Jiri**	**74.87**	**295**	*e*P	**P**	**19 39 18.9**	**+2.4**
	comp=Z,10nm,0.7s						
RAMN	**Ramite**	**75.18**	**294**	*e*P	**P**	**19 39 19.9**	**+1.8**
	comp=Z,4.6nm,0.5s						
PKI	**Pulchoki**	**75.38**	**296**	*e*P	**P**	**19 39 21.0**	**+1.6**
PKIN	**Phulchoki**	**75.39**	**296**	*e*P	**P**	**19 39 20.8**	**+1.5**
GKN	**Gorkha**	**75.49**	**297**	*e*P	**P**	**19 39 21.6**	**+1.8**
DANN	**Dangsing**	**75.71**	**297**	*e*P	**P**	**19 39 23.1**	**+1.9**
	comp=Z,12nm,0.7s						
KOLN	**Koldanda**	**76.25**	**297**	*e*P	**P**	**19 39 26.0**	**+1.8**
PYUN	**Piuthan**	**76.33**	**298**	*e*P	**P**	**19 39 26.7**	**+2.0**
	comp=Z,10nm,1.0s						
AKASG	**Malin Array Be**	**76.61**	**345**	P	**P**	**19 39 26.2**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=17,slow=5.9,SNR=5.2						
AKASG				LR	LR	20 18 54.9	
	comp=Z,9.8nm,18.1s,baz=182,slow=41						
AKASG	**Malin Array Be**	**76.61**	**345**	P	**P**	**19 39 26.2**	**+0.7**
AKASG	comp=Z,3.0nm,1.6s			IAmb	IAmb	19 39 41.5	
CLL	**Collm**	**77.70**	**356**	*i* P	**P**	**19 39 33.4**	**+1.7**
GERES	**GERESS Array B**	**80.12**	**355**	P	**P**	**19 39 46.8**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=347,slow=5.5,SNR=5.5						
ASAR	**Alice Springs**	**87.62**	**227**	P	P	19 40 38.9	+15
	comp=Z,0.6nm,1.0s,baz=43,slow=5.7,SNR=4.1						

IDC 22 19:36:38.0±2.1, 2°22S×134°41E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/29, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=60.6km s-min=23.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.41**	**293**	Pn	Pn	19 37 33.1	+0.5
	10nm,0.3s,baz=216,slow=22,SNR=111						
SIJI				Sn	Sn	19 38 10.8	-2.9
	11nm,0.3s,baz=262,slow=23,SNR=11						
WRA	**Warramunga Arr**	**17.61**	**180**	P	P	19 40 46.1	0.0
	0.1nm,0.3s,baz=360,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**17.97**	**208**	P	Pn	19 40 47.7	-1.7
	0.1nm,0.3s,baz=31,slow=8.9,SNR=5.7						
ASAR	**Alice Springs**	**21.32**	**181**	P	P	19 41 27.0	+0.3
	1.4nm,0.9s,baz=5.7,slow=11,SNR=12						
MKAR	**Makanchi Array**	**66.82**	**324**	P	P	19 47 31.6	-0.1
	0.4nm,0.3s,baz=110,slow=8.3,SNR=14						

MAN 22 19:57:24.0, 16°06N×119°56E, h20km, mb4.4, ML3.2, MS3.0, Luzon

*IDC **22** 20:09:34.7±1.8, 43°58N×105°35W, h0km, mb1 3.6/5, mb1mx3.3/71, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=42.1km s-min=7.8km az=148.0*
*NEIC **22** 20:09:36.5±2.0, 43°75N±0°02×105°28W±0°06, h0km±2km, ML3.4/76, Error ellipse: s-maj=7.1km s-min=3.1km az=94.0*

ISC 22 20:09:35.8±0.9, 43°78N±0°06×105°30W±0°07, h0km, n95, σ1s16/96, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**69**		**Pg**	**20 09 55.2**	**+0.8**
K22A	**Casper**	**1.45**	**219**		**Pn**	**20 10 01.9**	**-1.4**
K22A	comp=N,491nm,0.3s			IAML		20 10 28.1	
PHWY	**Pilot Hill**	**2.48**	**183**		**Pn**	**20 10 18.0**	**+0.3**
PHWY	comp=N,132nm,0.8s			IAML		20 10 58.9	
RWWY	**Rawlins**	**2.52**	**215**		**Pn**	**20 10 19.3**	**+1.0**
RWWY	comp=N,202nm,0.7s			IAML		20 10 56.4	
N23A	**Red Feather La**	**2.93**	**190**		**Pn**	**20 10 24.6**	**+0.8**
N23A	comp=N,111nm,0.7s			IAML		20 11 08.4	
N23A	comp=E,108nm,0.8s			IAML		20 11 20.4	
LAO	**LASA Array**	**2.98**	**348**		**Pn**	**20 10 24.4**	**+0.1**
RLMT	**Red Lodge**	**3.14**	**297**		**Pn**	**20 10 26.0**	**-0.7**
RLMT	comp=E,89nm,1.1s			IAML		20 11 24.8	
RLMT	comp=E,85nm,1.1s			IAML		20 11 28.7	
BW06	**Boulder Array**	**3.27**	**253**		**Pn**	**20 10 30.1**	**+1.6**
PD31	**Pinedale Array**	**3.27**	**253**		**Pn**	**20 10 29.0**	**+0.5**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**20 10 29.3**	**+0.8**
	comp=E,5.5nm,0.3s,baz=69,slow=20,SNR=66						
PDAR				Lg	Lg	20 11 14.1	
	comp=E,14nm,0.3s,baz=79,slow=32,SNR=13						
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**20 10 29.0**	**+0.5**
YMP	**Mirror Lake Pl**	**3.62**	**287**		**Pn**	**20 10 33.2**	**-0.1**
YMP	comp=N,125nm,1.2s			IAML		20 11 38.6	
GCMT	**Greycliff**	**3.70**	**304**		**Pn**	**20 10 34.8**	**+0.5**
OGNE	**Ogallala**	**3.73**	**138**		**Pn**	**20 10 34.9**	**+0.3**
LKWY	**Lake**	**3.75**	**284**		**Pn**	**20 10 36.2**	**+1.0**
LKWY	comp=N,59nm,0.9s			IAML		20 12 02.7	
LKWY	comp=N,40nm,4.0s			IAML		20 12 58.7	
H17A	**Grant Village**	**3.85**	**281**		**Pn**	**20 10 37.8**	**+1.3**
H17A	comp=N,40nm,1.3s			IAML		20 11 41.3	
LOHW	**Long Hollow**	**3.85**	**269**		**Pn**	**20 10 37.6**	**+1.2**
YUF	**Upper Falls**	**3.86**	**286**	Pn	**Pn**	**20 10 38.1**	**+1.4**
FLWY	**Flagg Ranch**	**3.91**	**276**		**Pn**	**20 10 37.4**	**0.0**
FLWY	comp=N,81nm,2.0s			IAML		20 11 47.0	
FLWY	comp=N,55nm,1.8s			IAML		20 11 48.2	
MOOW	**Moose Ponds**	**3.95**	**271**		**Pn**	**20 10 39.7**	**+2.0**
SNOW	**Snow King Moun**	**3.98**	**267**		**Pn**	**20 10 39.0**	**+0.8**
SNOW	comp=N,54nm,1.3s			IAML		20 12 00.6	
SNOW	comp=N,47nm,1.1s			IAML		20 12 10.7	
YNR	**Norris Junctio**	**3.98**	**285**		**Pn**	**20 10 39.4**	**+1.2**
ISCO	**Idaho Springs**	**3.99**	**184**	Pn	**Pn**	**20 10 39.2**	**+0.8**
YFT	**Old Faithful**	**4.04**	**281**		**Pn**	**20 10 40.7**	**+1.6**
YFT	comp=N,27nm,1.0s			IAML		20 11 53.9	
REDW	**Red Top Meadow**	**4.06**	**266**		**Pn**	**20 10 40.6**	**+1.3**
REDW	comp=N,52nm,1.1s			IAML		20 11 46.0	
REDW	comp=N,61nm,0.8s			IAML		20 11 57.3	
YHH	**Holmes Hill**	**4.11**	**286**	Pn	**Pn**	**20 10 41.1**	**+0.9**
YHH	comp=N,32nm,1.2s			IAML		20 11 60.0	
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**20 10 40.9**	**+0.7**
TPAW	comp=N,65nm,1.0s			IAML		20 12 06.1	
TPAW	comp=N,28nm,1.1s			IAML		20 12 18.2	
FXWY	**Fox Creek**	**4.16**	**270**	Pn	**Pn**	**20 10 40.2**	**-0.5**
FXWY	comp=N,28nm,4.2s			IAML		20 13 16.8	
YMR	**Madison River**	**4.17**	**284**		**Pn**	**20 10 42.2**	**+1.3**
YMR	comp=N,56nm,1.0s			IAML		20 12 09.2	
YMR	comp=E,56nm,1.0s			IAML		20 12 13.1	
O20A	**White River Ci**	**4.26**	**212**		**Pn**	**20 10 42.3**	**+0.3**
O20A	comp=E,52nm,0.9s			IAML		20 12 01.6	
O20A	comp=N,67nm,2.4s			IAML		20 12 48.2	
E28A	**Huff**	**4.29**	**48**		**Pn**	**20 10 42.9**	**+0.7**
AHID	**Auburn Hatcher**	**4.36**	**258**		**Pn**	**20 10 44.3**	**+0.8**
AHID	comp=N,45nm,2.1s			IAML		20 11 57.5	
AHID	comp=N,40nm,1.2s			IAML		20 12 04.8	
ECR	**Eagle Creek**	**4.49**	**263**		**Pn**	**20 10 46.4**	**+1.3**
RDMU	**Red Mountain**	**4.52**	**226**	Pn	**Pn**	**20 10 46.9**	**+1.3**
RDMU	comp=N,49nm,0.9s			IAML		20 12 03.0	
RDMU	comp=E,47nm,1.2s			IAML		20 12 08.6	
QLMT	**Earthquake Lak**	**4.53**	**285**		**Pn**	**20 10 45.9**	**+0.2**
SUSD	**Miller**	**4.61**	**80**	Pn	**Pn**	**20 10 47.9**	**+1.1**
DGMT	**Dagmar**	**4.75**	**9**		**Pn**	**20 10 49.8**	**+1.1**
SMCO	**Snowmass**	**4.77**	**196**		**Pn**	**20 10 49.6**	**+0.3**
SMCO	comp=E,34nm,0.9s			IAML		20 12 14.1	
SMCO	comp=E,38nm,1.1s			IAML		20 12 17.5	
Q24A	**Divide**	**4.82**	**179**		**Pn**	**20 10 50.0**	**+0.2**
Q24A	comp=E,35nm,0.6s			IAML		20 12 11.8	
Q24A	comp=N,30nm,0.9s			IAML		20 12 12.5	
BOZ	**Bozeman (W)**	**4.87**	**294**		**Pn**	**20 10 51.3**	**+1.0**
BOZ	comp=N,22nm,1.6s			IAML		20 12 09.9	
BOZ	comp=N,20nm,1.1s			IAML		20 12 21.3	
K31A	**O'Neill**	**4.92**	**101**	Pn	**Pn**	**20 10 53.7**	**+2.7**
K31A					LR	20 12 13.0	
HWUT	**Hardware Ranch**	**5.11**	**247**		**Pn**	**20 10 52.8**	**-0.9**
HWUT	comp=N,32nm,1.1s			IAML		20 12 31.5	
KSCO	**Kaye Shedlock'**	**5.17**	**156**		**Pn**	**20 10 52.2**	**-2.4**
EGMT	**Eagleton**	**5.26**	**325**		**Pn**	**20 10 55.8**	**+0.1**
DLMT	**Dillon**	**5.45**	**289**		**Pn**	**20 10 59.0**	**+0.7**
HRY	**Holter Researc**	**5.46**	**305**	Pn	**Pn**	**20 10 59.6**	**+1.1**
LRM	**Limekiln Ridge**	**5.48**	**294**		**Pn**	**20 10 58.7**	**-0.2**
MCMT	**McKenzie Canyo**	**5.52**	**284**		**Pn**	**20 11 01.5**	**+2.1**
P18A	**Preston Nutter**	**5.56**	**223**		**Pn**	**20 11 00.3**	**+0.2**
JLU	**Jordanelle**	**5.57**	**237**		**Pn**	**20 11 00.5**	**+0.4**
MDND	**Maddock**	**5.69**	**42**		**Pn**	**20 11 01.1**	**-0.4**
CTU	**Camp Tracy**	**5.70**	**239**	Pn	**Pn**	**20 11 01.5**	**-0.3**
BGNE	**Belgrade**	**5.78**	**112**	Pn	**Pn**	**20 10 59.4**	**-3.4**
BCYI	**Bear Canyon**	**5.87**	**278**	Pn	**Pn**	**20 11 01.5**	**-2.7**
PV07	**Paradox Valley**	**5.91**

CMJI				S	Sn	20 12 33.1	-2.1
CNJI	**Cibinong**	**1.19**	**322**	P	Pn	20 12 29.9	-0.8
CNJI				S	Sn	20 12 44.0	-1.8
KPJI	**Karang Pucung**	**1.40**	**49**	P	Pn	20 12 33.6	+0.1
LEM	**Lembang**	**1.44**	**350**	P	Pn	20 12 35.0	+0.7
	103nm,0.3s,baz=134,slow=9.5,SNR=63						
LEM				S	Sn	20 12 54.1	+1.9
	127nm,0.3s,baz=174,slow=19,SNR=7.4						
LEM	**Lembang**	**1.44**	**350**	P	Pn	20 12 34.7	+0.4
LEM				S	Sn	20 12 54.0	+1.9
SKJI	**Sukabumi**	**1.79**	**314**	P	Pn	20 12 39.6	+0.6
SKJI				S	Sn	20 13 00.0	-0.6
DBJI	**Dramaga**	**2.02**	**327**	P	Pn	20 12 44.0	+2.0
DBJI				S	Sn	20 13 06.6	+0.5
YOGI	**Yogyakarta**	**2.44**	**80**	P	Pn	20 12 47.9	+0.1
YOGI				S	Sn	20 13 14.7	-1.9
UGM	**Wanagama**	**2.65**	**83**	P	Pn	20 12 50.6	-0.1
UGM				S	Sn	20 13 20.1	-1.6
UGM	**Wanagama**	**2.65**	**83**	P	Pn	20 12 51.1	+0.4
CGJI	**Cibinong**	**2.70**	**307**	P	Pn	20 12 51.9	+0.5
CGJI				S	Sn	20 13 18.4	-4.5
SMRI	**Semarang**	**2.82**	**65**	P	Pn	20 12 54.4	+1.4
SMRI	**Semarang**	**2.82**	**65**	P	Pn	20 12 51.8	-1.2
XMI	**Christmas Isla**	**3.06**	**224**	P	Pn	20 12 56.9	+0.5
XMIS	**Christmas Isla**	**3.11**	**224**	P	Pn	20 12 57.2	+0.2
PCJI	**Pacitan**	**3.28**	**89**	P	Pn	20 13 00.0	+0.7
PCJI				S	Sn	20 13 34.6	-2.4
UWJI	**Ujung Watu**	**3.56**	**59**	P	Pn	20 13 03.9	+0.8
PWJI	**Pagerwojo**	**3.91**	**87**	P	Pn	20 13 08.4	+0.5
KASI	**Kota Agung**	**4.31**	**309**	P	Pn	20 13 14.1	+0.7
KLSI		**4.71**	**318**	P	Pn	20 13 20.1	+1.1
GRJI	**Gresik**	**4.76**	**74**	P	Pn	20 13 19.4	-0.2
GRJI				S	Sn	20 14 12.5	-1.1
LWLI	**Liwa**	**4.96**	**310**	P	Pn	20 13 23.8	+1.3
GMJI	**Gumukmas**	**5.52**	**91**	P	Pn	20 13 30.1	0.0
JAGI	**Jajag, Banyuwa**	**6.22**	**92**	P	Pn	20 13 38.9	-0.8
	0.1nm19nm,1.2s						
JAGI	**Jajag, Banyuwa**	**6.22**	**92**	P	Pn	20 13 42.1	+2.4
PLAI	**Plampang**	**9.82**	**94**	P	Pn	20 14 29.4	+0.4
PLAI	**Plampang**	**9.82**	**94**	P	Pn	20 14 31.3	+2.3
BATI	**Baumata**	**15.71**	**98**	P	P	20 15 52.5	+0.9
	1.0nm,0.3s,baz=281,slow=16,SNR=2.0						
BATI				S	Sn	20 18 47.6	+5.8
	0.7nm,0.3s,baz=112,slow=6.3,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.86**	**121**	P	Pn	20 16 39.0	-0.3
	0.9nm,0.7s,baz=278,slow=5.5,SNR=2.3						
WRA	**Warramunga Arr**	**28.13**	**117**	P	P	20 17 58.5	+0.7
	0.4nm,0.8s,baz=283,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**29.27**	**125**	P	P	20 18 09.1	+1.2
	0.6nm,1.0s,baz=295,slow=9.5,SNR=4.8						
STKA	**Stephens Creek**	**39.17**	**132**	P	P	20 19 34.2	+0.9
	0.8nm,0.4s,baz=303,slow=8.5,SNR=7.2						
SONM	**Songino Array**	**55.86**	**359**	P	P	20 21 40.7	-1.9
	0.3nm,0.6s,baz=160,slow=9.0,SNR=2.3						
MKAR	**Makanchi Array**	**59.35**	**340**	P	P	20 22 05.0	-2.2
	0.5nm,0.5s,baz=149,slow=7.4,SNR=7.9						
KURBB	**Kurchatov Arra**	**63.91**	**340**	P	P	20 22 36.0	-1.7
	0.1nm,0.5s,baz=150,slow=5.8,SNR=4.4						

*IDC **22** 20:14:24.4±1.4, 9.°97N×126.°66E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/64, mbtmp3.7/6, ML4.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/67, Error ellipse: s-maj=57.6km s-min=19.3km az=74.0*
*NEIC **22** 20:14:28.0±2.0, 8.°6N±0.°1×123.°58E±0.°06, h1km±5km, mb4.4/12, Error ellipse: s-maj=15.4km s-min=7.6km az=193.0*
*MAN **22** 20:14:30.6, 8.°50N×123.°17E, h1km, mb5.0, ML4.0, MS4.0*
MAN INTENSITY II - DIPOLOG CITY; INTENSITY II - PRES.MANUEL A. ROXAS, KATIPUNAN & MANUKAN, ZAMBOANGA DEL NORTE; INTENSITY I - JOSE DALMAN & SINDANGAN, ZAMBOANGA DEL NORTE.
*DJA **22** 20:14:34.7±0.5, 8.°N±4.°×12.°3E±.°, h10km, M4.6/12, mB5.0/3, mb4.5/12, MLv4.6/6, Mw(mB)4.3/3*

ISC 22 20:14:32.7±1.2, 8.°55N±0.°04×123.°23E±0.°04, h30km±10km, n51, σ1°84/57, mb4.2/12, 4C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.79**	**1**	⇑*i*P	**Pn**	**20 14 49.1**	**+1.3**
SNPH				*i* S	**Sn**	**20 15 02.0**	**+3.4**
CGP	**Cagayan de Oro**	**1.45**	**94**	⇓*i*P	**Pn**	**20 14 56.2**	**-0.7**
CGP				*i* S	**Sb**	**20 15 18.6**	**+1.4**
CTBH	**Cotabato--PC H**	**1.66**	**143**	⇑*i*P	**Pn**	**20 14 59.1**	**-0.7**
CTBH				*i* S	**Sn**	**20 15 19.9**	**-0.2**
LLP	**Lapu-Lapu**	**1.90**	**22**	⇓*e*P	**Pb**	**20 15 05.5**	**-1.2**
LLP				*i* S	**Sb**	**20 15 30.8**	**+0.7**
ZCP	**Zamboanga City**	**1.97**	**215**	⇓*i*P	**Pn**	**20 15 04.5**	**+0.4**
ZCP				*i* S	**Sb**	**20 15 29.8**	**-2.4**
KCP	**Kidapawan**	**2.40**	**130**	⇓*i*P	**Pn**	**20 15 11.9**	**+1.9**
KCP				*i* S	**Sb**	**20 15 42.8**	**-1.6**
JAP	**San Jose, Anti**	**2.52**	**330**	⇓*e*P	**Pb**	**20 15 17.9**	**+0.7**
JAP				*e*S	**Sn**	**20 15 38.7**	**-2.7**
DAV	**Davao City (W)**	**2.75**	**122**	Pn	**Pn**	**20 15 15.0**	**+0.2**
	46nm,0.3s,baz=80,slow=6.1,SNR=1.7						
DAV				Sn	**Sb**	**20 15 53.9**	**-0.8**
	44nm,0.3s,baz=300,slow=20,SNR=2.6						
DAV				LR	LR	20 16 20.2	
	comp=Z,181nm,20.8s,baz=350,slow=38						
DAV	**Davao City (W)**	**2.75**	**122**		Pn	20 15 09.3	-5.6
RCP	**Roxas**	**3.03**	**351**	⇑*e*P	**Pb**	**20 15 23.0**	**-2.9**
BIPH	**Bislig**	**3.12**	**96**	⇑*e*P	**Pb**	**20 15 29.6**	**+2.1**
BIPH				*e*S	Sb	20 16 20.2	+15
PPR	**Puerto Princes**	**4.61**	**286**	⇓*i*P	**Pn**	**20 15 41.3**	**+1.0**
MYLDM	**Lahad Datu**	**5.77**	**235**		**Pn**	**20 15 59.3**	**+3.0**
LQP	**Lukban**	**5.77**	**343**	⇓*e*P	**Pb**	**20 16 10.7**	**-2.1**
KKM	**Kota Kinabalu**	**7.39**	**251**	Pn	**Pn**	**20 16 20.8**	**+2.1**
TOLI2	**Tolitoli**	**7.78**	**198**	Pn	**Pn**	**20 16 22.1**	**-1.8**
GTOI	**Gorontalo**	**7.87**	**182**	P	**Pn**	**20 16 22.9**	**-2.2**
	0.1nm300nm32nm,0.7s						
KMSI	**Cibinong**	**7.96**	**175**	P	**Pn**	**20 16 27.8**	**+1.4**
	0.2nm48nm,0.9s						
MRSI	**Marisa**	**8.12**	**189**	P	**Pn**	**20 16 29.4**	**+0.7**
	0.1nm29nm,0.6s						
APSI	**Ampana**	**9.53**	**190**	P	**Pn**	**20 16 50.9**	**+2.9**
	31nm,0.8s						
LUWI	**Luwuk**	**9.54**	**183**		**Pn**	**20 16 49.2**	**+1.1**
LUWI	**Luwuk**	**9.54**	**183**	P	**Pn**	**20 16 50.5**	**+2.4**
	4µm112nm,1.6s						
TTSI	**Tana Toraja**	**12.01**	**197**	P	**Pn**	**20 17 24.5**	**+2.5**
	16nm,0.6s						
SBUM	**Sibu**	**12.52**	**242**		**Pn**	**20 17 31.1**	**+2.2**
BNSI	**Bone**	**13.24**	**194**	P	**Pn**	**20 17 40.7**	**+2.0**
	5.3nm,1.1s						
PLAI	**Plampang**	**18.10**	**198**	P	**P**	**20 18 45.4**	**+3.2**
	23nm,0.9s						
BATI	**Baumata**	**18.64**	**179**	P	**Pn**	**20 18 50.6**	**+2.0**
KNRA	**Kununurra**	**24.69**	**167**	P	**P**	**20 19 50.2**	**-1.0**
GSI	**Gunungsitoli**	**26.54**	**256**	P	**P**	**20 20 09.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**26.59**	**175**	P	**P**	**20 20 07.6**	**-0.8**
FITZ				IAmb	IAmb	20 20 20.4	
	comp=Z,6.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.59**	**175**	S	**P**	**20 20 07.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=350,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**30.35**	**159**	P	**P**	**20 20 40.5**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=344,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**30.35**	**159**	P	**P**	**20 20 40.5**	**-1.6**
WB2	**Warramunga Arr**	**30.36**	**159**	P	**P**	**20 20 40.6**	**-1.5**
WB2				IAmb	IAmb	20 20 48.8	
	comp=Z,8.3nm,1.4s						
WR0	**Warramunga Arr**	**30.44**	**159**	P	**P**	**20 20 41.8**	**-1.0**
WR0				IAmb	IAmb	20 20 55.2	
	comp=Z,7.9nm,1.4s						
ASAR	**Alice Springs**	**33.68**	**162**	P	**P**	**20 21 10.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=341,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**33.68**	**162**	P	**P**	**20 21 10.7**	**-0.5**
GOMU	**GeErMu**	**37.77**	**321**	P	P	20 21 53.8	+7.1
GOMU				pP	sP	20 21 57.0	-2.0
GOMU				sP	pP	20 22 00.8	+5.4
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,48nm,4.9s						
STKA	**Stephens Creek**	**43.87**	**157**	P	**P**	**20 22 34.3**	**-2.2**
	comp=Z,1.6nm,1.0s,baz=326,slow=13,SNR=2.6						
STKA	**Stephens Creek**	**43.87**	**157**	P	**P**	**20 22 32.9**	**-3.6**
MK31	**Makanchi Array**	**51.63**	**325**	P	**P**	**20 23 37.5**	**+0.9**
MKAR	**Makanchi Array**	**51.63**	**325**	P	**P**	**20 23 38.8**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=122,slow=7.0,SNR=5.7						
MKAR	**Makanchi Array**	**51.63**	**325**	P	**P**	**20 23 38.2**	**+1.6**
KURBB	**Kurchatov Arra**	**55.83**	**327**	P	**P**	**20 24 08.9**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=122,slow=8.5,SNR=6.2						
KURK	**Kurchatov**	**55.83**	**327**	P	P	**20 24 07.2**	**0.0**
KURK				IAmb	IAmb	20 24 22.9	
	comp=Z,7.3nm,1.6s						
KKAR	**Karatay Array**	**57.36**	**316**		**P**	**20 24 20.4**	**+2.1**
TIXI	**Tiksi**	**63.14**	**2**	P	**P**	**20 24 55.6**	**-1.6**
TIXI				IAmb	IAmb	20 25 00.7	
	comp=Z,5.0nm,1.4s						
ABKAR	**Akbulak array**	**66.24**	**320**	P	**P**	**20 25 18.4**	**+0.4**
ABKAR	**Akbulak array**	**66.24**	**320**	P	**P**	**20 25 17.8**	**-0.1**
ABKAR				IAmb	IAmb	20 25 22.4	
	comp=Z,4.9nm,1.6s						
SOCY	**Socotra**	**68.05**	**280**	P	**P**	**20 25 29.9**	**-0.3**
PLWZ	**Palliser**	**68.96**	**141**	P	**P**	**20 25 32.9**	**-2.4**

*IDC **22** 20:14:50.1±3.9, 36.°15N×71.°23E, h56km±33km, mb3.3/8, mb1 3.5/14, mb1mx3.2/77, mbtmp3.7/14, ML3.8/5, Error ellipse: s-maj=32.5km s-min=24.0km az=175.0*
*NNC **22** 20:14:52.6±5.9, 36.°73N×71.°01E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=53.8km s-min=40.4km az=148.0*
*NEIC **22** 20:14:55.1±1.7, 36.°50N±0.°08×71.°14E±0.°08, h95km±8km, mb4.1/11, Error ellipse: s-maj=13.8km s-min=6.1km az=148.0*

ISC 22 20:14:53.5±0.6, 36.°31N±0.°05×71.°16E±0.°05, h100km, n56, σ2°26/64, mb3.8/11, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.47**	**225**		**Pn**	**20 15 36.3**	**+3.9**
GAR	**Garm**	**2.77**	**346**	Pn	**Pn**	**20 15 35.6**	**-0.6**
CHGR	**Chuyangaron**	**2.83**	**326**	Pn	**Pn**	**20 15 36.8**	**-0.2**
CHGR				Sn	**Sn**	**20 16 08.0**	**-2.5**
DRK	**Karamyk**	**3.20**	**9**		**Pn**	**20 15 41.7**	**-0.4**
BTK	**Batken**	**3.75**	**356**	Pn	**Pn**	**20 15 49.9**	**+0.6**
JMU	**Jammu**	**4.73**	**138**	*e*P	**Pn**	**20 16 03.5**	**+0.9**
JMU				*e*S	**Sn**	**20 16 54.6**	**-1.6**
THN	**Thein Dam**	**5.40**	**134**	*e*P	**Pn**	**20 16 12.8**	**+1.3**
THN				*e*S	**Sn**	**20 17 12.1**	**-0.4**
AML	**Almayashu**	**6.13**	**18**	P	**Pn**	**20 16 21.0**	**-0.9**
	SNR=76						
EKS2	**Erkin-Say**	**6.66**	**17**	P	**Pn**	**20 16 29.1**	**+0.4**
	SNR=27						
KKAR	**Karatay Array**	**6.80**	**356**	Pn	**Pn**	**20 16 29.0**	**-1.6**
KK08	**Karatay Array**	**6.80**	**356**	⇑P	**Pn**	**20 16 29.9**	**-0.8**
	3.5nm,0.5s						
KK08				⇑S	**Sn**	**20 17 43.1**	**-3.5**
	1.5nm,0.3s						
AAK	**Ala-Archa**	**6.82**	**21**	P	**Pn**	**20 16 31.5**	**+0.4**
	4.8nm,0.3s,baz=175,slow=6.1,SNR=76						
AAK				S	**Sn**	**20 17 44.7**	**-2.5**
	0.8nm,0.3s,baz=352,slow=23,SNR=3.6						
AAK	**Ala-Archa**	**6.82**	**21**		**Pn**	**20 16 30.5**	**-0.5**
KBK	**Karagaybulak**	**6.98**	**24**	P	**Pn**	**20 16 34.3**	**+1.1**
	SNR=5.8						
BOOM	**Boomskoye usch**	**7.19**	**29**		**Pn**	**20 16 35.4**	**-0.7**
SMLA	**Simla**	**7.20**	**134**	*e*P	**Pn**	**20 16 36.3**	**+0.3**
SMLA				*e*S	**Sn**	**20 17 51.8**	**-4.3**
SMLA				IAML		20 17 55.8	
	comp=E,87nm,0.3s						
SMLA				IAML		20 17 56.0	
	comp=N,93nm,0.3s						
CHMS	**Chumysh**	**7.23**	**21**	P	**Pn**	**20 16 36.6**	**+0.2**
	SNR=13						
USP	**Ospenovka**	**7.41**	**19**	P	**Pn**	**20 16 38.3**	**-0.5**
	SNR=14						
TKM2	**Tokmak 2**	**7.43**	**26**	⇓P	**Pn**	**20 16 38.5**	**-0.9**
	comp=N,6.1nm,0.6s						
TKM2				⇑S	**Sn**	**20 18 00.4**	**-1.8**
	comp=N,2.9nm,0.5s						
KDJ	**Kajisay**	**7.46**	**37**	Pn	**Pn**	**20 16 37.9**	**-1.8**
KUDL	**Kundal**	**9.31**	**150**	*e*S	**Sn**	**20 18 40.5**	**-7.1**
LGTI	**Lohaghat**	**10.25**	**129**	*e*P	**Pn**	**20 17 15.3**	**-2.3**
LGTI				*e*S	Sn	20 18 60.0	-11
GEYT	**Alibeck**	**10.54**	**283**	P	**Pn**	**20 17 19.2**	**-2.2**
	comp=N,0.8nm,0.3s,baz=116,slow=10,SNR=8.9						
GEYT				S	**Sn**	**20 19 11.4**	**-6.1**
	comp=N,1.6nm,0.3s,baz=313,slow=53,SNR=4.5						
GEYT	**Alibeck**	**10.54**	**283**	Pn	**Pn**	**20 17 19.5**	**-2.0**
GYA0B	**ALIBECK ARRAY**	**10.54**	**283**	Pn	**Pn**	**20 17 19.5**	**-2.0**
MK31	**Makanchi Array**	**13.37**	**35**	Pn	**Pn**	**20 17 56.9**	**-2.2**
MKAR	**Makanchi Array**	**13.37**	**35**	P	**Pn**	**20 17 58.1**	**-0.9**
	comp=N,0.0nm,0.3s,baz=217,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**13.37**	**35**	Pn	**Pn**	**20 17 57.2**	**-1.8**
KURBB	**Kurchatov Arra**	**15.26**	**18**	P	**P**	**20 18 25.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=7.7						
AB31	**Akbulak array**	**15.31**	**331**	P	**Pn**	**20 18 21.8**	**-2.1**
	comp=N,0.2nm,0.2s,baz=142,slow=12,SNR=47						
ABKAR	**Akbulak array**	**15.31**	**331**		**Pn**	**20 18 21.7**	**-2.2**
ABKAR	**Akbulak array**	**15.31**	**331**		**Pn**	**20 18 22.1**	**-1.8**
ABKAR				IAmb	IAmb	20 18 27.3	
	comp=Z,4.3nm,1.4s						
KURK	**Kurchatov**	**15.37**	**18**	Pn	**Pn**	**20 18 23.9**	**-0.7**
BVAR	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**20 18 40.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=198,slow=18,SNR=3.1						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**Pn**	**20 18 44.4**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=144,slow=8.0,SNR=13						
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑P	**Pn**	**20 18 45.0**	**+0.1**
	comp=Z,1.1nm,0.3s						
ZAA0	**Zalesovo Array**	**20.03**	**24**	P	**P**	**20 19 16.9**	**-1.4**
ZAA0				IAmb	IAmb	20 19 19.8	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**20.03**	**24**	P	**P**	**20 19 17.8**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=213,slow=10,SNR=16						
ARU	**Arti**	**21.85**	**341**	P	**P**	**20 19 42.2**	**+4.6**
	comp=Z,0.8nm,0.5s,baz=150,slow=8.1,SNR=6.3						
ARU	**Arti**	**21.85**	**341**	P	**P**	**20 19 37.7**	**0.0**
ARU				IAmb	IAmb	20 19 44.4	
	comp=Z,2.5nm,0.7s						
PZH	**PanZhiHua**	**27.78**	**102**	P	**P**	**20 20 37.3**	**+4.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.6s						
HHC	**Hu-ho-hao-te**	**31.71**	**69**	*e*P	**P**	**20 21 10.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,6.5s						
AKASG	**Malin Array Be**	**33.16**	**309**	P	**P**	**20 21 23.4**	**+3.3**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.3,SNR=2.7						
FIA1	**FINESS Array S**	**37.71**	**326**	P	**P**	**20 22 00.6**	**+1.7**
FIA1				IAmb	IAmb	20 22 29.0	
	comp=Z,15nm,1.3s						
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**20 22 01.8**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=130,slow=7.8,SNR=8.3						
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**20 21 59.7**	**+0.7**
KEV	**Kevo**	**41.02**	**338**	P	**P**	**20 22 24.7**	**-1.6**
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**20 22 31.6**	**+2.4**
	comp=Z,2.6nm,1.0s,baz=106,slow=7.7,SNR=6.7						
HFS	**Hagfors**	**43.29**	**322**	P	**P**	**20 22 47.3**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=87,slow=10,SNR=1.7						
NC303	**NORSAR Array S**	**44.55**	**323**	P	**P**	**20 22 55.7**	**+0.8**
NB201	**NORSAR Array S**	**44.57**	**323**	P	**P**	**20 22 57.1**	**+2.0**
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**20 22 57.9**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**20 22 57.8**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=106,slow=7.2,SNR=3.8						
NC204	**NORSAR Array S**	**44.85**	**323**	P	**P**	**20 22 59.1**	**+1.8**
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P	**P**	**20 25 29.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=47,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**20 27 02.8**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=325,slow=5.0,SNR=1.5						

*HLW **22** 20:24:16.6, 35.°06N×33.°73E, h11km±19km, Md3.9, Ml4.3*
*DDA **22** 20:24:18.2±0.0, 34.°94N×33.°86E, h64km±1km, MW4.0*
*IDC **22** 20:24:19.5±1.3, 34.°97N×33.°79E, h50km±15km, mb3.7/18, mb1 3.8/24, mb1mx3.7/46, mbtmp4.0/24, ML4.0/7, MS2.7/7, Ms1 2.7/7, ms1mx2.4/90, Error ellipse: s-maj=14.9km s-min=9.1km az=63.0*
*ISK **22** 20:24:19.6, 34.°99N×33.°93E, h48km±1km, ML4.0/26*
*NIC **22** 20:24:20.7±0.0, 35.°01N×33.°87E, h49km, Md4.1/3, Ml4.2/9*
*NEIC **22** 20:24:20.1±1.6, 34.°97N±0.°06×33.°80E±0.°06, h55km±7km, mb4.0/27, ML3.9(ISK), ML4.1(NIC), Error ellipse: s-maj=9.8km s-min=6.8km az=212.0*
*GII **22** 20:24:21.2±0.0, 34.°90N×33.°87E, h30km±1km, mb4.1/4, MD4.0/4, Mm3.9/3*
*GRAL **22** 20:24:22.3±0.6, 34.°73N×34.°14E, h0km±8km, MD4.0*
*THE **22** 20:25:10.4, 35.°82N×29.°38E, h30km±58km, ML2.5/1, Error ellipse: s-maj=58.1km s-min=3.3km az=39.0*

ISC 22 20:24:20.0±0.6, 34.°98N±0.°02×33.°88E±0.°03, h56km±5km, n250, σ1°20/310, mb3.9/31, 4C-12D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.13**	**85**	⇑P	**Pn**	**20 24 28.7**	**0.0**
PARAL				S	**Sn**	**20 24 34.9**	**+0.1**
PARAL				AMd		20 26 52.9	
PARAL				AMd		20 26 52.9	
MVOU	**Mavrovouni**	**0.20**	**280**	⇑P	**Pn**	**20 24 28.8**	**-0.2**
MVOU				S	**Sn**	**20 24 35.4**	**0.0**
MVOU				AMd		20 27 13.5	
MVOU				AMd		20 27 13.5	
AKIN	**Akıncılar- Kıb**	**0.34**	**276**	PG	**Pn**	**20 24 29.7**	**-0.3**
AKIN				SG	**Sn**	**20 24 37.1**	**-0.1**
LFK	**Lefkose**	**0.41**	**316**	PG	**Pn**	**20 24 30.7**	**-0.1**
ATHAL	**Athalassa**	**0.43**	**292**	⇑P	**Pn**	**20 24 31.0**	**+0.1**
ATHAL				S	**Sn**	**20 24 38.9**	**+0.2**
ATHAL				AML	AML	20 24 45.3	
	116nm,0.4s						
ATHAL				AML	AML	20 24 45.3	
	116nm,0.4s						
ATHAL				AML	AML	20 24 47.0	
	85nm,0.7s						
ATHAL				AML	AML	20 24 47.0	
	85nm,0.7s						
CSS	**Mathiatis**	**0.45**	**268**	PG	**Pn**	**20 24 31.0**	**-0.1**
CSS				SG	**Sn**	**20 24 39.4**	**+0.2**
CSS	**Mathiatis**	**0.45**	**268**	Pn	**Pn**	**20 24 30.0**	**-1.1**
CSS				Sn	**Sn**	**20 24 38.1**	**-1.1**
CSS	**Mathiatis**	**0.45**	**268**	⇑P	**Pn**	**20 24 30.9**	**-0.1**
CSS				S	**Sn**	**20 24 39.4**	**+0.2**
CSS				AML	AML	20 24 40.1	
	30nm,0.5s						
CSS				AML	AML	20 24 40.1	
	30nm,0.5s						
CSS				AML	AML	20 24 40.5	
	36nm,0.5s						
CSS				AML	AML	20 24 40.5	
	36nm,0.5s						
CSS				AMd		20 27 42.5	
CSS				AMd		20 27 42.5	
ASGA	**Asgata**	**0.55**	**249**	⇓P	**Pn**	**20 24 32.6**	**+0.3**
ASGA				S	**Sn**	**20 24 41.9**	**+0.8**
ASGA				AML	AML	20 24 43.3	
	85nm,0.5s						
ASGA				AML	AML	20 24 43.3	
	85nm,0.5s						
ASGA				AML	AML	20 24 46.4	
	51nm,0.4s						
ASGA				AML	AML	20 24 46.4	
	51nm,0.4s						
EREN	**Erenkoy**	**0.60**	**23**	PG	**Pn**	**20 24 33.2**	**+0.5**
EREN				SG	**Sn**	**20 24 41.5**	**-0.5**
EREN	**Erenkoy**	**0.60**	**23**	P	**Pn**	**20 24 32.8**	**0.0**
EREN				S	**Sn**	**20 24 43.6**	**+1.6**
EREN				*i* AML	AML	20 24 46.0	
	comp=E,8µm,0.8s						
AKDN	**Akdeniz- Kıbrı**	**0.81**	**293**	PG	**Pn**	**20 24 35.8**	**+0.4**
AKDN				SG	**Sn**	**20 24 47.8**	**+1.1**
SZAC	**Souni**	**0.85**	**255**	⇓P	**Pn**	**20 24 36.6**	**+0.6**
SZAC				S	**Sn**	**20 24 49.3**	**+1.7**
SZAC				AML	AML	20 24 49.7	
	34nm,0.4s						
SZAC				AML	AML	20 24 49.7	
	34nm,0.4s						
SZAC				AML	AML	20 24 51.3	
	44nm,0.2s						
SZAC				AML	AML	20 24 51.3	
	44nm,0.2s						
ALFC	**Alefka**	**1.06**	**280**	⇓P	**Pn**	**20 24 38.8**	**+0.1**
ALFC				S	**Sn**	**20 24 53.0**	**+0.3**
ALFC				AML	AML	20 24 54.1	
	14nm,0.3s						
ALFC				AML	AML	20 24 54.1	
	14nm,0.3s						
ALFC				AML	AML	20 25 00.1	
	26nm,0.5s						
ALFC				AML	AML	20 25 00.1	
	26nm,0.5s						
NATA	**Nata**	**1.09**	**260**	⇓P	**Pn**	**20 24 40.0**	**+0.9**
NATA				S	**Sn**	**20 24 54.7**	**+1.3**
NATA				AML	AML	20 24 58.4	
	23nm,0.7s						
NATA				AML	AML	20 24 58.4	
	23nm,0.7s						
N

NATI **Neve Ativ** 2.31 138 Pn **Pn** 20 24 56.2 +0.6
NATI Sn **Sn** 20 25 23.3 +0.6
OSC2 **CSNet OBS 4** 2.33 216 ⇓P **Pn** 20 24 57.1 +1.2
OSC2 S **Sn** 20 25 25.5 +2.3
OSC2 AML AML 20 25 34.9
2.2nm,0.7s
OSC2 AML AML 20 25 34.9
2.2nm,0.7s
OSC2 AML AML 20 25 40.1
2.5nm,0.4s
OSC2 AML AML 20 25 40.1
2.5nm,0.4s
YURE YUREGIR 2.33 37 P **Pn** 20 24 56.6 +0.7
MMA0B Mount Meron ar 2.33 147 Pn **Pn** 20 24 56.3 +0.3
MMA0B Sn **Sn** 20 25 23.5 -0.1
MMAI Mount Meron Ar 2.33 147 P **Pn** 20 24 55.0 -1.1
113nm,0.3s,baz=348,slow=26,SNR=736
MMAI S **Sn** 20 25 22.5 -1.1
467nm,0.3s,baz=78,slow=29,SNR=40
MMAI LR LR 20 26 04.5
comp=Z,103nm,19.0s,baz=109,slow=44
TAHT Tahtakopru-Hat 2.34 53 PN **Pn** 20 24 56.5 +0.5
KKBE Karaman, Kazim 2.36 341 P **Pn** 20 24 57.6 +1.3
KKBE S **Sn** 20 25 26.2 +2.0
KKBE *i* AML AML 20 25 29.0
comp=N,244nm,0.5s
KKBE *i* AML AML 20 25 30.0
comp=E,247nm,0.5s
GULE Gulek 2.41 17 P **Pn** 20 24 58.7 +1.6
GULE S **Sn** 20 25 26.2 +0.7
GULE *i* AML AML 20 25 31.0
comp=N,649nm,0.4s
GULE *i* AML AML 20 25 33.0
comp=E,700nm,0.6s
KERG Konya-Eregli 2.44 5 P **Pn** 20 24 58.8 +1.3
KERG S **Sn** 20 25 27.9 +1.7
KERG *i* AML AML 20 25 31.0
comp=E,530nm,0.7s
KERG *i* AML AML 20 25 33.0
comp=N,588nm,0.8s
KARA Karaisali 2.46 22 PN **Pn** 20 24 58.5 +0.7
BLGI Bet Lehem HaGe 2.50 154 Pn **Pn** 20 24 58.5 +0.3
BLGI Sn **Sn** 20 25 27.8 +0.4
CEYT Ceyhan 2.53 36 PN **Pn** 20 24 59.1 +0.5
OFRI `Ofer 2.53 158 Pn **Pn** 20 24 58.5 -0.2
OFRI Sn **Sn** 20 25 27.6 -0.7
OSC1 CSNet OBS 1 2.61 236 ⇓P **Pn** 20 24 59.3 -0.4
OSC1 S **Sn** 20 25 30.1 -0.2
OSC1 AML AML 20 25 35.6
0.5nm,0.2s
OSC1 AML AML 20 25 35.6
0.5nm,0.2s
OSC1 AML AML 20 25 54.1
0.5nm,0.4s
OSC1 AML AML 20 25 54.1
0.5nm,0.4s
KEPZ Antalya-Kepez 2.66 317 P **Pn** 20 25 02.5 +2.1
KEPZ S **Sn** 20 25 28.8 -2.7
KEPZ *i* AML AML 20 25 38.0
comp=E,303nm,0.6s
AKO Adana 2.78 27 P **Pn** 20 25 02.7 +0.7
CMRD Camardi-Nigde 2.82 18 PN **Pn** 20 25 03.7 +1.0
MMLI Mount Malkishu 2.84 153 PN **Pn** 20 25 03.9 +1.0
MMLI Mount Malkishu 2.84 153 Pn **Pn** 20 25 04.0 +1.0
MMLI Sn **Sn** 20 25 36.9 +0.8
SLTI Sal'it 2.90 160 Pn **Pn** 20 25 03.7 0.0
SEYD Seydisehir-KON 2.93 326 PN **Pn** 20 25 05.6 +1.4
KOZT Kozan 2.95 32 PN **Pn** 20 25 04.8 +0.4
SEDI Konya, Seydise 3.00 326 P **Pn** 20 25 07.5 +2.3
SEDI S **Sn** 20 25 41.0 +0.9
SEDI *i* AML AML 20 25 46.0
comp=E,254nm,1.0s
HMDT Nahal Hemdat 3.05 153 Pn **Pn** 20 25 07.1 +1.4
HMDT Sn **Sn** 20 25 41.5 +0.5
NIDE Nigde/Merkez-G 3.10 13 P **Pn** 20 25 08.7 +2.2
NIDE S **Sn** 20 25 40.0 -2.4
NIDE *i* AML AML 20 25 47.0
comp=N,262nm,0.5s
KUZU Kuzuini 3.15 55 P **Pn** 20 25 06.8 -0.4
KAMA Osmaniye 3.15 45 P **Pn** 20 25 07.4 +0.2
AKUM Antalya-Kumluc 3.17 296 P **Pn** 20 25 08.0 +0.6
AKUM S **Sn** 20 25 44.7 +0.6
AKUM *i* AML AML 20 25 58.0
comp=N,232nm,0.7s
KONT Konya--Tatoy 3.20 338 PN **Pn** 20 25 09.6 +1.8
KONT Konya--Tatoy 3.20 338 P **Pn** 20 25 09.7 +1.8
ANDN Andirin 3.27 37 P **Pn** 20 25 10.2 +1.3
ANDN S **Sn** 20 25 44.8 -1.8
ANDN *i* AML AML 20 25 51.0
comp=E,109nm,0.3s
ANDN *i* AML AML 20 25 51.0
comp=N,164nm,0.4s
YAHY KAYSERI_Yahyal 3.33 21 P **Pn** 20 25 11.0 +1.3
YAHY S **Sn** 20 25 46.5 -1.6
YAHY *i* AML AML 20 25 51.0
comp=N,235nm,0.6s
YAHY *i* AML AML 20 25 51.0
comp=E,182nm,0.3s
ALIN Konya, Altinte 3.41 347 P **Pn** 20 25 11.5 +0.8
SUTC Sutluce-Ispart 3.41 318 PN **Pn** 20 25 12.9 +2.1
LADK Ladik-KONYA 3.44 340 PN **Pn** 20 25 12.9 +1.8
SAIM ADANA 3.48 30 P **Pn** 20 25 12.7 +1.1
AMAZ Amatzia 3.55 166 Pn **Pn** 20 25 13.3 +0.7
AMAZ Sn **Sn** 20 25 53.8 +0.5
KAHM Kahramanmaras, 3.56 44 P **Pn** 20 25 13.3 +0.5
KAHM S **Sn** 20 25 49.8 -3.9
KAHM *i* AML AML 20 25 54.0
comp=E,141nm,0.5s
DOGA KONYA_Doganhis 3.59 331 P **Pn** 20 25 14.7 +1.5
DSI Dead Sea 3.63 159 Pn **Pn** 20 25 14.9 +1.2
DSI Sn **Sn** 20 25 55.8 +0.6
ELL Elmali 3.67 300 PN **Pn** 20 25 15.5 +1.1
ELL Elmali 3.67 300 Pn **Pn** 20 25 15.3 +0.9
AKAS Kas 3.70 291 **Pn** 20 25 13.6 -1.1
AKAS Kas 3.70 291 P **Pn** 20 25 15.5 +0.7
AKAS S **Sn** 20 25 51.3 -5.9
AKAS *i* AML AML 20 25 57.0
comp=E,71nm,0.2s
AKAS *i* AML AML 20 26 02.0
comp=N,158nm,0.3s
YTIR Yattir 3.76 164 Pn **Pn** 20 25 16.5 +1.0
YTIR Sn **Sn** 20 25 59.3 +0.8
ASF Jabal al Asfar 3.77 137 P **Pn** 20 25 17.3 +1.6
10nm,0.3s,baz=351,slow=7.6,SNR=44
ASF S **Sn** 20 26 00.3 +1.4
15nm,0.3s,baz=93,slow=20,SNR=4.0
KDHN Kadinhani 3.81 339 P **Pn** 20 25 14.7 -1.5
GZT Gaziantep 3.81 50 P **Pn** 20 25 16.2 -0.1
AVNS Nevsehir-Avano 3.90 11 P **Pn** 20 25 16.3 -1.1
YVAC Isparta, Yalva 3.91 328 P **Pn** 20 25 18.8 +1.1
ISP Isparta 3.92 317 PN **Pn** 20 25 19.1 +1.3
ISP Isparta 3.92 317 Pn **Pn** 20 25 17.8 +0.1
GHAJ Ghor Haditha 3.93 158 **Pn** 20 25 18.4 +0.5
GHAJ Ghor Haditha 3.93 158 Pn **Pn** 20 25 18.9 +1.1
KZIT Kziot 4.09 174 Pn **Pn** 20 25 20.3 +0.3
KZIT Sn **Sn** 20 26 06.4 -0.2
BRDR BURDUR-Merkez 4.10 312 P **Pn** 20 25 23.8 +3.6
KIRS Kirsehir-Merke 4.14 0 P **Pn** 20 25 18.8 -2.0
GOLH Golhisar 4.16 304 P **Pn** 20 25 22.9 +1.9
GOLH S **Sn** 20 26 07.4 -1.0
GOLH *i* AML AML 20 26 15.0
comp=N,102nm,0.3s
GOLH *i* AML AML 20 26 17.0
comp=E,137nm,0.5s
BNN Bunyan 4.17 22 **Pn** 20 25 22.0 +0.7
FETY Fethiye 4.23 294 P **Pn** 20 25 22.0 0.0
KKUL Konya-Kulu 4.25 350 P **Pn** 20 25 24.2 +1.9
CAEL Denizli, Camel 4.27 301 P **Pn** 20 25 25.0 +2.5
ATAB Bozova 4.35 54 P **Pn** 20 25 23.6 +0.1
KZIL AFYON_Kizioren 4.44 318 P **Pn** 20 25 26.2 +1.3
SIRC Yozgat 4.46 13 P **Pn** 20 25 24.4 -0.8
ZFRI Zfri 4.55 166 Pn **Pn** 20 25 27.0 +0.7
ZFRI Sn **Sn** 20 26 18.1 +0.2
AKCD Akcadag 4.64 43 P **Pn** 20 25 28.4 +0.8
SANL SANLIURFA_Merk 4.68 61 P **Pn** 20 25 28.6 +0.5
PRNI Paran 4.71 168 Pn **Pn** 20 25 29.2 +0.6
TAVA DENIZLI_Tavas 4.72 303 P **Pn** 20 25 29.6 +0.9
BR131 Keskin Array S 4.74 358 **Pn** 20 25 28.6 -0.4
BRTR Keskin Array B 4.74 358 P **Pn** 20 25 30.3 +1.3
0.7nm,0.3s,baz=188,slow=14,SNR=20
BRTR S **Sn** 20 26 23.1 +0.5
0.7nm,0.3s,baz=173,slow=12,SNR=5.0
BRTR LR LR 20 27 52.3
comp=Z,53nm,21.7s,baz=206,slow=45
BRTR Keskin Array B 4.74 358 **Pn** 20 25 28.8 -0.2
CUSAR Sarkisla-SIVAS 4.81 22 P **Pn** 20 25 31.6 +1.6
KRMI Paran Flat 4.90 171 Pn **Pn** 20 25 32.1 +0.9
KRMI Sn **Sn** 20 26 26.8 +0.1
BR231 Keskin MP Arra 4.93 350 Pn **Pn** 20 25 30.8 -0.8
ANTO Ankara 4.95 350 Pn **Pn** 20 25 31.5 -0.4
YER Yerkesik 5.02 297 P **Pn** 20 25 33.9 +1.2
HRFI Mount Harif 5.03 168 Pn **Pn** 20 25 33.5 +0.6
HRFI Sn **Sn** 20 26 29.4 -0.3
SUZ Suez 5.20 190 ⇑P **Pn** 20 25 35.4 +0.1
baz=189
HHAG Hagoal 5.24 197 P **Pn** 20 25 35.3 -0.4
baz=196
MBRI Mt Berech 5.25 170 Pn **Pn** 20 25 36.9 +0.9
MBRI Sn **Sn** 20 26 35.0 -0.2
KOT Kottamia 5.33 200 ⇓P **Pn** 20 25 36.6 -0.5
baz=198
EIL Elat 5.37 170 P **Pn** 20 25 38.1 +0.5
4.0nm,0.3s,baz=21,slow=3.1,SNR=68
EIL S **Sn** 20 26 37.4 -0.8
34nm,0.3s,baz=141,slow=13,SNR=17
EIL Elat 5.37 170 Pn **Pn** 20 25 38.3 +0.7
EIL Sn **Sn** 20 26 38.1 -0.1
USAK Uak-Merkez 5.39 315 P **Pn** 20 25 38.9 +1.0
DAT Datca 5.41 291 P **Pn** 20 25 37.9 -0.2
DAT Datca 5.41 291 P **Pn** 20 25 38.0 -0.2
MANT Manisa 5.52 311 Pn **Pn** 20 25 39.5 -0.3
KARP Karpathos 5.53 278 P **Pn** 20 25 38.8 -0.9
KARP Karpathos 5.53 278 Pn **Pn** 20 25 38.5 -1.1
GLL Jalalah 5.69 199 P **Pn** 20 25 41.3 -0.7
baz=198
HSAF As Saff 5.70 201 P **Pn** 20 25 40.6 -1.5
baz=200
BODT Bodrum 5.71 293 P **Pn** 20 25 41.9 -0.3
HNAT Natroun 6.00 208 ⇓P **Pn** 20 25 46.1 -0.2
baz=207
HNAT S **Sn** 20 26 50.7 -3.0
baz=207
MARD Mardin 6.05 65 Pn **Pn** 20 25 47.1 +0.2
HANI Diyarbakir_Han 6.26 55 P **Pn** 20 25 50.4 +0.6
HRDS Abu Rudays 6.27 185 ⇑P **Pn** 20 25 50.2 +0.3
baz=184
HKAT Jabal Katrina 6.44 179 P **Pn** 20 25 52.4 0.0
baz=177
MIDY Mardin/Midyat- 6.54 66 P **Pn** 20 25 55.1 +1.4
RYAN Fayoum 6.63 208 ⇓P **Pn** 20 25 53.8 -1.0
baz=208
RYAN S **Sn** 20 27 05.2 -3.8
baz=208
NBNS Bani Suef 6.71 200 ⇓P **Pn** 20 25 55.9 0.0
baz=199
GRB Gharib 6.76 188 ⇓P **Pn** 20 25 56.3 -0.3
baz=187
THR8 Santorini-Mono 6.98 284 P **Pn** 20 25 58.2 -1.4
THR2 Thira Island, 7.02 284 P **Pn** 20 25 59.1 -1.1
THR6 Thira Island, 7.04 284 P **Pn** 20 25 59.4 -1.0
THR3 Thira Island, 7.04 284 P **Pn** 20 25 58.7 -1.7
CMBO Columbo, Santo 7.05 285 P **Pn** 20 25 59.4 -1.1
MUSM Mu-Merkez 7.17 56 P **Pn** 20 26 03.4 +1.1
IDI Anoyia 7.37 275 P **Pn** 20 26 03.5 -1.5
16nm,0.3s,baz=116,slow=7.7,SNR=53
IDI S **Sn** 20 27 23.2 -4.0
15nm,0.3s,baz=322,slow=16,SNR=12
IDI Anoyia 7.37 275 P **Pn** 20 26 04.0 -1.0
IDI Anoyia 7.37 275 Pn **Pn** 20 26 03.3 -1.8
IDI Sn **Sn** 20 27 22.5 -4.8
SIVA Sivas 7.44 273 P **Pn** 20 26 05.2 -0.7
GURO Guroymak-BITLI 7.45 59 **Pn** 20 26 06.8 +0.7
VAM Vamos 7.94 276 P **Pn** 20 26 11.1 -1.6
GVD Gavdhos 8.04 272 P **Pn** 20 26 14.2 0.0
SLUM Salum 8.05 247 ⇑P **Pn** 20 26 12.9 -1.3
baz=246
GEVA Gevas 8.09 63 Pn **Pn** 20 26 16.9 +1.9
IMMV Iera Moni Meta 8.11 276 P **Pn** 20 26 13.5 -1.6
RODP Rodopos 8.30 277 P **Pn** 20 26 16.0 -1.6
HAKT HAKKARI 8.34 69 P **Pn** 20 26 20.1 +1.6
SWA2 9.15 234 ⇑P **Pn** 20 26 28.1 -1.2
baz=233
ITM Ithomi 9.92 286 Pn **Pn** 20 26 38.8 -1.0
GNI Garni 10.04 56 LR LR 20 30 00.7
comp=Z,17nm,21.8s,baz=240,slow=34
AGG Agios Georgios 10.08 297 Pn **Pn** 20 26 42.6 +0.7
TIRR Tirgusor 10.35 338 Pn **Pn** 20 26 47.1 +1.5
LIT Litokhoron 10.38 303 Pn **Pn** 20 26 46.5 +0.3
MLR Muntele Rosu 12.11 332 LR LR 20 31 55.1
comp=Z,46nm,22.0s,baz=184,slow=38
BURAR Bucovina Array 14.19 335 **P** 20 27 43.7 -0.2
AKASG Malin Array Be 16.07 349 P **Pn** 20 28 01.5 -0.6
0.6nm,0.3s,baz=166,slow=11,SNR=2.1
AKASG Malin Array Be 16.07 349 **P** 20 28 04.0 -0.7
AKBB Malin Array Si 16.07 349 P **P** 20 28 04.8 +0.1
PSZ Piszkesteto 16.61 325 P **Pn** 20 28 09.1 +0.1
CRVS Cervenica-Dubn 16.66 330 *eP* **P** 20 28 12.1 +0.9
KWP Kalwaria Pacla 16.78 334 P **P** 20 28 13.4 +0.9
VYHS Vyhne 17.51 325 *eP* **P** 20 28 23.2 +2.6
VRAC Vranov 19.15 324 LR LR 20 38 36.0
comp=Z,25nm,21.0s,baz=54,slow=45
MYKA Terra Mystica 19.18 313 *eP* **Pn** 20 28 40.9 +0.5
12nm,0.6s
KBA Koelnbreinsper 19.58 314 *eP* **Pn** 20 28 44.6 -0.6
4.1nm,0.5s
GEYT Alibeck 19.70 74 P **Pn** 20 28 45.8 -0.8
0.2nm,0.3s,baz=261,slow=7.2,SNR=2.4
BIOA Bad Ischl, Aus 19.73 316 *eP* **Pn** 20 28 46.4 -0.5
4.3nm,0.8s
ABTA Abfaltersbach 19.91 313 *eP* **Pn** 20 28 48.4 -0.6
6.1nm,1.5s
BELG Belogornoye 19.98 25 P **P** 20 28 47.4 -0.1
10nm,0.6s,baz=40,slow=1.7,SNR=9.4
DPC Dobruska-Polom 19.98 326 *eP* **Pn** 20 28 50.6 +0.8
CKRC Cesky Krumlov 20.00 320 *eP* **P** 20 28 48.2 +0.3
CTI Castel Tesino 20.12 310 P **P** 20 28 49.5 +0.1
CTI IAmb IAmb 20 28 50.9
comp=Z,4.3nm,0.6s
GEC2 GERESS Array S 20.34 319 P **P** 20 28 51.4 -0.3
GEC2 IAmb IAmb 20 28 52.9
comp=Z,5.2nm,0.8s
GERES GERESS Array B 20.34 319 P **P** 20 28 51.3 -0.4
comp=Z,1.9nm,0.4s,baz=119,slow=11,SNR=29
GERES GERESS Array B 20.34 319 P **P** 20 28 51.8 +0.2
SUW Suwalki 20.46 342 P **P** 20 28 51.8 -0.9
NACGM Naroch 20.52 348 *eP* **P** 20 28 54.1 +0.7
KHC Kasperske Hory 20.58 320 *eP* **P** 20 28 53.8 -0.3
KHC Kasperske Hory 20.58 320 P **P** 20 28 52.8 -1.3
KHC IAmb IAmb 20 28 55.0
comp=Z,6.2nm,0.7s
WTTA Wattenberg 20.68 313 *eP* Pn 20 28 57.5 -0.7
comp=Z,3.2nm,0.5s
WATA Walderalm 20.75 313 *eP* Pn 20 28 58.3 -0.8
comp=Z,3.0nm,0.5s
SQTA Sankt Quirin 20.92 313 *eP* **P** 20 28 58.6 +0.7
comp=Z,2.0nm,0.4s
MOTA Moosalm 21.04 313 *eP* **P** 20 28 59.5 +0.2
comp=Z,4.8nm,0.7s
FETA Feichten 21.12 312 *eP* **P** 20 29 01.4 +1.3
comp=Z,3.2nm,0.7s
RETA Reutte 21.31 313 *eP* **P** 20 29 03.4 +1.3
comp=Z,5.3nm,0.7s
DAVOX Davos/Dischmat 21.55 310 P **P** 20 29 05.3 +0.6
comp=Z,2.2nm,0.4s,baz=139,slow=13
DAVOX LR LR 20 38 35.2
comp=Z,38nm,21.0s,baz=100,slow=40
TUE Stuetta 21.76 309 P **P** 20 29 04.8 -2.2
TUE IAmb IAmb 20 29 16.4
comp=Z,10nm,1.4s
DAVA Damuels 21.76 312 *eP* **P** 20 29 06.4 -0.6
comp=Z,4.1nm,0.5s
CLL Collm 22.20 324 *eP* **P** 20 29 11.0 -0.4
comp=Z,4.0nm,1.2s
SENIN Lac Senin/Sane 23.03 308 P **P** 20 29 19.4 -1.1
SENIN IAmb IAmb 20 29 20.7
comp=Z,3.8nm,0.6s
BNI Bardonecchia 23.04 304 P **P** 20 29 21.0 +0.5
BNI IAmb IAmb 20 29 53.0
comp=Z,14nm,1.5s
BFO Black Forest 23.16 313 P **P** 20 29 21.3 -0.2
BFO IAmb IAmb 20 29 22.1
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 23.37 41 P **P** 20 29 22.3 -1.2
comp=Z,0.9nm,0.4s,baz=245,slow=12,SNR=4.5
AKTO LR LR 20 41 45.7
comp=Z,32nm,18.8s,baz=319,slow=45
ECH Echery 23.82 312 P **P** 20 29 26.0 -1.7
ECH IAmb IAmb 20 29 28.1
comp=Z,4.1nm,0.9s
ABKAR Akbulak array 23.87 45 P **P** 20 29 27.6 -0.5
ABKAR Akbulak array 23.87 45 P **P** 20 29 25.6 -2.5
SSB Saint Sauveur 24.55 304 P **P** 20 29 33.3 -1.2
SSB IAmb IAmb 20 29 35.7
comp=Z,8.5nm,1.1s
KIRV Kirov 25.77 19 P **P** 20 29 46.1 +0.9
comp=Z,6.6nm,0.7s,baz=225,slow=0.9,SNR=3.8
KLMR Klimovskoe 26.14 6 *e* **P** 20 29 48.0 -0.6
KLMR AMP 20 29 50.2
comp=Z,17nm,1.1s
FINES FINESS Array B 26.95 352 P **P** 20 29 55.7 -0.2
comp=Z,2.9nm,0.3s,baz=154,slow=11,SNR=62
FIA1 FINESS Array S 26.95 352 P **P** 20 29 55.5 -0.4
ARU Arti 27.25 30 P **P** 20 29 58.3 -0.3
comp=Z,0.3nm,0.2s,baz=244,slow=12,SNR=3.9
ARU Arti 27.25 30 IAmb IAmb 20 30 00.4
comp=Z,3.2nm,1.0s
HFS Hagfors 28.38 339 P **P** 20 30 07.1 -1.6
comp=Z,2.0nm,0.6s,baz=156,slow=11,SNR=3.9
KKAR Karatay Array 29.40 63 P **P** 20 30 19.7 +1.7
NOA NORSAR Array B 29.85 338 P **P** 20 30 20.5 -1.2
comp=Z,0.6nm,0.6s,baz=141,slow=9.2,SNR=3.3
NC303 NORSAR Array S 29.94 338 P **P** 20 30 20.7 -1.8
NBO00 NORSAR Array S 29.98 338 P **P** 20 30 21.1 -1.8
ESDC Sonseca Array 30.30 290 P **P** 20 30 25.6 -0.4
comp=Z,0.6nm,0.8s,baz=67,slow=8.6,SNR=4.1
ESDC Sonseca Array 30.30 290 IAmb IAmb 20 30 31.0
comp=Z,2.0nm,1.2s
EKA Eskdalemuir Ar 32.55 320 P **P** 20 30 44.5 -1.0
comp=Z,0.3nm,0.4s,baz=104,slow=8.8,SNR=4.0
LVZ Lovozero 32.97 1 P **P** 20 30 49.5 +0.4
ARCES ARCESS Array B 34.92 355 P **P** 20 31 05.7 -0.2
comp=Z,1.3nm,0.5s,baz=170,slow=9.1,SNR=24
ARCES PcP **PcP** 20 33 37.3 -0.1
comp=Z,7.1nm,1.1s,baz=176,slow=5.4,SNR=3.7
ARCES ARCESS Array B 34.92 355 P **P** 20 31 05.9 0.0
MK31 Makanchi Array 37.89 57 P **P** 20 31 32.3 +0.7
MKAR Makanchi Array 37.89 57 P **P** 20 31 32.2 +0.6
comp=Z,0.3nm,0.6s,baz=250,slow=6.6,SNR=5.4
MKAR Makanchi Array 37.89 57 P **P** 20 31 32.8 +1.2
ZAA0 Zalesovo Array 39.99 46 P **P** 20 31 48.7 -0.2
ZAA0 IAmb IAmb 20 31 51.2
comp=Z,1.2nm,0.8s
ZALV Zalesovo Beam 39.99 46 P **P** 20 31 49.1 +0.2
comp=Z,0.9nm,0.4s,baz=263,slow=9.4,SNR=5.8
ZALV Zalesovo Beam 39.99 46 P **P** 20 31 49.2 +0.3
WMQ Urumqi 41.87 61 *eP* **P** 20 32 06.1 +1.4
WMQ pP pP 20 32 19.3 +0.5
WMQ pmax pmax
comp=Z,1.1nm,0.7s
SPB2 Spitsbergen Ar 43.95 355 P **P** 20 32 21.5 +0.6
SPITS Spitsbergen Ar 43.95 355 P **P** 20 32 21.7 +0.8
comp=Z,5.5nm,0.7s,baz=134,slow=8.3,SNR=15
SONM Songino Array 53.99 53 P **P** 20 33 39.3 +1.0
comp=Z,0.5nm,0.7s,baz=286,slow=7.8,SNR=5.9
SONM Songino Array 53.99 53 P **P** 20 33 38.5 +0.1
SONM IAmb IAmb 20 33 58.1
comp=Z,1.6nm,1.4s
HHC Hu-ho-hao-te 59.69 59 *eP* **P** 20 34 20.1 +1.3
HHC Hu-ho-hao-te 59.69 59 *eP* **P** 20 34 20.8 +2.0
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.0s
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.6s
XAN Xi'an 60.40 67 P **P** 20 34 23.8 +0.1
XAN pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 79.60 346 P **P** 20 36 21.4 +0.6
comp=Z,1.7nm,0.8s,baz=30,slow=5.4,SNR=14
ILAR Eielson Array 80.57 0 P **P** 20 36 26.9 +0.9
comp=Z,0.7nm,0.6s,baz=330,slow=3.1,SNR=8.9

*IDC **22**20:37:45.8±7.0,6.83N×75.73W,h124km±83km,mb3.0/1, mb1 3.4/2,mb1mx3.0/22,mbtmp3.6/2,Error ellipse: s-maj=186.4km s-min=42.4km az=78.0*
*RSNC **22**20:37:45.5±0.8,6.84N×73.16W,h144km±4km,ML3.3, Mw3.6*

ISC 22 20:37:44.5±1.0,**6.91N**±0.03×**73.14W**±0.05,**h148**km±7km, **n21**,**σ1s09**/40,**3C-1D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.32**	**187**	⇑*iP*	**Pn**		**20 38 05.1**	**-0.1**
BARC				*eS*	**Sn**		**20 38 20.2**	**-0.8**
BARC				*i*			20 38 21.9	
comp=Z,206nm,0.4s								
PAMC	**Pamplona, Colo**	**0.61**	**46**	⇑*eP*	**Pn**		**20 38 07.9**	**+1.0**
PAMC				*i*			20 38 08.2	
comp=Z,532nm,0.2s								
PAMC				*eS*	**Sn**		**20 38 24.9**	**+1.0**
RUSC	**La Rusia**	**1.01**	**177**	⇑*eP*	**Pn**		**20 38 09.2**	**-0.6**
RUSC				*eS*	**Sn**		**20 38 27.9**	**-1.1**
RUSC				*i*			20 38 29.6	
comp=Z,101nm,0.2s								
OCAC	**Ocana**	**1.33**	**352**	*eP*	**Pn**		**20 38 12.5**	**+0.1**
OCAC				*eS*	**Sn**		**20 38 34.6**	**+0.8**
OCAC				*i*			20 38 38.0	
comp=Z,468nm,0.2s								
PTBC	**PUERTO BERRIO,**	**1.35**	**254**	*eP*	**Pn**		**20 38 11.8**	**-0.7**
PTBC				*eS*	**Sn**		**20 38 32.8**	**-1.0**
PTBC				*i*			20 38 35.3	
comp=Z,201nm,0.2s								
TAMC	**Tame, Arauca**	**1.42**	**109**	⇓*iP*	**Pn**		**20 38 13.6**	**+0.4**
TAMC				*eS*	**Sn**		**20 38 35.2**	**+0.1**
SPBC	**San Pablo de B**	**1.55**	**217**	*eP*	**Pn**		**20 38 14.0**	**-0.6**
SPBC				*eS*	**Sn**		**20 38 36.6**	**-1.0**
SPBC				*i*			20 38 41.7	
comp=Z,187nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.80**	**289**	*eP*	**Pn**		**20 38 17.7**	**+0.5**
ZARC				*eS*	**Sn**		**20 38 43.2**	**+1.0**
ZARC				*i*			20 38 49.3	
comp=Z,248nm,0.4s								
CHIC	**Chingaza**	**2.34**	**195**	*eP*	**Pn**		**20 38 23.6**	**-0.4**
CHIC				*eS*	**Sn**		**20 38 53.0**	**-1.3**
CHIC				*i*			20 38 58.6	
comp=Z,43nm,0.3s								
ROSC	**El Rosal**	**2.37**	**210**	P	**Pn**		**20 38 25.1**	**+0.7**
comp=Z,22nm,0.3s,baz=110,slow=23,SNR=33								
ROSC				S	**Sn**		**20 38 55.8**	**+0.8**
comp=Z,50nm,0.3s,baz=354,slow=23,SNR=16								
UREC	**San Jos de Ur**	**2.51**	**290**	*eP*	**Pn**		**20 38 25.2**	**-0.6**
UREC				*eS*	**Sn**		**20 38 56.9**	**-0.6**
UREC				*i*			20 39 06.3	
comp=Z,140nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.77**	**233**	*eP*	**Pn**		**20 38 30.4**	**+1.0**
GUY2C				*eS*	**Sn**		**20 39 03.6**	**-0.3**
GUY2C				*i*			20 39 13.7	
comp=Z,86nm,0.5s								
VILC	**Villavicencio,**	**2.83**	**191**	*eP*	**Pn**		**20 38 29.0**	**-0.8**
VILC				*eS*	**Sn**		**20 39 03.2**	**-1.7**
CBOC	**Ciudad Bolivar**	**3.03**	**250**	*eP*	**Pn**		**20 38 33.1**	**+0.7**
CBOC				*eS*	**Sn**		**20 39 08.6**	**-0.8**
CBOC				AMP			20 39 23.5	
comp=Z,618nm,0.8s								
DBBC	**Dabeiba**	**3.05**	**272**	*eP*	**Pn**		**20 38 32.7**	**+0.2**
DBBC				*eS*	**Sn**		**20 39 10.1**	**+0.5**
DBBC				*i*			20 39 13.1	
comp=Z,230nm,0.6s								
ANIL	**Santa Ana**	**3.29**	**223**	*eP*	**Pn**		**20 38 36.8**	**+1.0**
ANIL				*eS*	**Sn**		**20 39 17.2**	**+1.7**
ANIL				*i*			20 39 21.6	
comp=Z,144nm,0.3s								
SJCC	**San Jacinto, C**	**3.59**	**326**	*eP*	**Pn**		**20 38 38.8**	**-0.6**
SJCC				*eS*	**Sn**		**20 39 20.3**	**-1.7**
SJCC				*i*			20 39 23.8	
comp=Z,38nm,0.4s								
ORTC	**Ortega, Tolima**	**3.64**	**215**	*eP*	**Pn**		**20 38 39.7**	**-0.4**
ORTC				*eS*	**Sn**		**20 39 22.0**	**-1.2**
ORTC				*i*			20 39 33.3	
comp=Z,29nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.09**	**4**	*eP*	**Pn**		**20 38 45.2**	**-0.8**
CRJC				*eS*	**Sn**		**20 39 32.3**	**-1.5**
CRJC				*i*			20 39 35.8	
comp=Z,24nm,0.4s								
YKA	**Yellowknife Ar**	**63.17**	**340**	P	**P**		**20 47 55.1**	**-1.3**
comp=Z,0.2nm,0.5s,baz=134,slow=6.3,SNR=5.1								
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPdf**		**20 57 17.2**	**+3.2**
comp=Z,0.1nm,0.4s,baz=105,slow=2.7,SNR=5.1								

IDC 22 21:27:29.4±3.3, 10°32S×119°43E, h0km, mb3.1/1, mb1 3.4/3, mb1mx2.9/26, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=250.2km s-min=31.4km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.27**	**125**	P	Pn	21 31 32.8	+0.7
	0.2nm,0.3s,baz=301,slow=12,SNR=10						
ASAR	**Alice Springs**	**19.15**	**136**	P	P	21 31 53.9	-0.6
	0.1nm,0.3s,baz=316,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**65.82**	**333**	P	P	21 38 16.7	+0.1
	0.1nm,0.5s,baz=120,slow=5.2,SNR=1.6						

IDC 22 21:40:13.9±5.6, 25°.31N×109°.80W, h0km, mb2.9/1, mb1 3.5/3, mb1mx3.4/28, mbtmp3.0/3, ML3.5/2, MS3.1/7, Ms1 3.1/7, ms1mx3.0/13, Error ellipse: s-maj=85.3km s-min=28.7km az=164.0

MEX 22 21:40:18.5±0.7, 25°.54N×110°.17W, h20km±678km, MD4.0

ISC 22 21:40:18.0±1.8, 25°.8N±0°.1×109°.99W±0°.08, h10km, n13, σ1s28/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.87**	**100**	*eP*	**Pb**	**21 40 34.5**	**-0.6**
TSIG				*i* S	**Sb**	**21 40 46.2**	**-0.5**
LPIG	**La Paz**	**1.67**	**190**	LR	LR	21 40 51.4	
	comp=Z,56nm,19.1s,baz=4.0,slow=29						
CSIG	**Choix**	**1.80**	**53**	*eP*	**Pn**	**21 40 48.8**	**-0.3**
CSIG				*i* S	**Sb**	**21 41 14.1**	**+0.3**
GUYB	**Guaymas**	**2.28**	**340**	*eP*	**Pn**	**21 40 55.4**	**-0.2**
GUYB				*i* S	**Sn**	**21 41 21.3**	**-2.5**
TXAR	**Lajitas Array**	**6.64**	**56**	Pn	**Pn**	**21 41 55.2**	**-0.6**
	0.1nm,0.3s,baz=230,slow=14,SNR=4.9						
TXAR				Sn	**Sn**	**21 43 11.8**	**+0.2**
	0.7nm,0.3s,baz=232,slow=19,SNR=5.0						
TXAR				Lg	Lg	21 43 46.7	
	1.2nm,0.3s,baz=231,slow=32,SNR=5.6						
PFO	**Pinyon Flats O**	**9.64**	**326**	LR	LR	21 45 24.2	
	comp=Z,55nm,20.6s,baz=197,slow=31						
ANMO	**Albuquerque**	**9.65**	**18**	LR	LR	21 46 41.9	
	comp=Z,84nm,19.5s,baz=185,slow=39						
ELK	**Elko**	**15.57**	**345**	LR	LR	21 49 01.7	
	comp=Z,81nm,19.9s,baz=203,slow=33						
CMIG	**Matias Romero**	**16.48**	**119**	LR	LR	21 50 39.2	
	comp=Z,90nm,21.1s,baz=248,slow=39						
PDAR	**Pinedale Array**	**16.97**	**1**	P	**P**	**21 44 19.4**	**+1.8**
	0.0nm,0.3s,baz=170,slow=12,SNR=6.8						
PDAR				LR	LR	21 52 09.5	
	comp=Z,50nm,18.1s,baz=184,slow=41						
NEW	**Newport**	**23.16**	**348**	LR	LR	21 54 49.3	
	comp=Z,58nm,18.1s,baz=213,slow=37						
TKL	**Tuckaleechee C**	**24.54**	**60**	LR	LR	21 56 22.8	
	comp=Z,67nm,18.1s,baz=278,slow=39						
YKA	**Yellowknife Ar**	**36.86**	**356**	P	**P**	**21 47 27.2**	**+1.0**
	0.1nm,0.4s,baz=179,slow=7.9,SNR=1.6						

DDA 22 21:47:07.9±0.0, 38°.37N×44°.98E, h25km±1km, ML2.4

ISK 22 21:47:07.7, 38°.41N×44°.97E, h5km, ML2.6/6

ISC 22 21:47:06.9±2.0, 38°.39N±0°.05×45°.00E±0°.09, h3km±12km, n19, σ0s60/26, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.84**	**289**	P	**Pb**	**21 47 24.1**	**-0.1**
OZAP				S	**Sb**	**21 47 35.9**	**-0.1**
OZAP				*i* AML	AML	21 47 39.0	
	comp=E,123nm,0.4s						
CLDR	**Caldiran**	**1.13**	**312**	PN	**Pn**	**21 47 29.9**	**-0.1**
CLDR				SN	**Sn**	**21 47 46.2**	**0.0**
CLDR	**Caldiran**	**1.13**	**312**	P	**Pb**	**21 47 29.4**	**+0.1**
CLDR				S	**Sg**	**21 47 43.9**	**+0.5**
CLDR				*i* AML	AML	21 47 50.0	
	comp=N,94nm,0.3s						
TVAN	**Van**	**1.26**	**277**	P	**Pn**	**21 47 31.7**	**+0.1**
TVAN				S	**Sn**	**21 47 49.9**	**+0.7**
TVAN				*i* AML	AML	21 48 03.0	
	comp=E,78nm,0.8s						
VMUR	**Van-Muradiye**	**1.27**	**299**	P	**Pn**	**21 47 31.9**	**+0.2**
VMUR				S	**Sn**	**21 47 49.6**	**+0.1**
VMUR				*i* AML	AML	21 47 53.0	
	comp=E,82nm,0.6s						
VMUR				*i* AML	AML	21 47 55.0	
	comp=N,79nm,0.4s						
VANB	**Van**	**1.28**	**280**	PN	**Pn**	**21 47 32.3**	**+0.4**
VANB				SN	**Sn**	**21 47 50.6**	**+1.0**
HAKT	**HAKKARI**	**1.31**	**231**	P	**Pg**	**21 47 31.8**	**-0.3**
GEVA	**Gevas**	**1.53**	**268**	P	**Pn**	**21 47 34.4**	**-0.9**
GEVA				S	**Sg**	**21 47 56.6**	**+0.6**
GEVA				*i* AML	AML	21 48 02.0	
	comp=E,56nm,0.8s						
GEVA				*i* AML	AML	21 48 04.0	
	comp=N,50nm,0.6s						
DYDN	**Diyadin**	**1.54**	**319**	P	**Pg**	**21 47 36.7**	**+0.2**
CUKT	**Cukurca**	**1.58**	**225**	PN	**Pg**	**21 47 38.1**	**+0.8**
IGDI	**IGDIR**	**1.64**	**334**	P	**Pb**	**21 47 37.5**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.70**	**344**	PN	**Pb**	**21 47 39.2**	**-0.3**
GNI	**Garni**	**1.77**	**354**	PN	**Pb**	**21 47 40.3**	**+0.1**
ADCV	**BITLIS_Adilcev**	**1.83**	**284**	P	**Pb**	**21 47 41.0**	**-0.3**
KOTA	**Agri, Merkez-K**	**1.99**	**316**	P	**Pb**	**21 47 42.9**	**-0.9**
PERV	**Siirt/Pervari-**	**1.99**	**258**	P	**Pb**	**21 47 43.1**	**-0.7**
MLAZ	**Malazgirt-MUS**	**2.06**	**292**	PN	**Pb**	**21 47 44.4**	**-0.7**
GURO	**Guroymak-BITLI**	**2.33**	**275**	PN	**Pb**	**21 47 48.4**	**-1.4**
EAK	**Akyaka**	**2.54**	**335**	P	**Pg**	**21 47 55.4**	**-0.2**

IDC 22 21:53:41.7±3.8, 3°.46S×151°.69E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.4/37, mbtmp4.0/2, Error ellipse: s-maj=149.9km s-min=50.1km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**225**	P	P	21 58 54.5	+0.5
	5.2nm,0.5s,baz=49,slow=9.3,SNR=140						
ASAR	**Alice Springs**	**26.43**	**219**	P	P	21 59 20.1	-0.4
	0.7nm,0.6s,baz=53,slow=8.8,SNR=11						
TORD	**Torodi Ar. Bea**	**148.82**	**290**	PKPbc	PKPbc	22 13 31.8	-0.6
	0.5nm,0.6s,baz=74,slow=2.8,SNR=3.4						

UCR 22 21:59:53.0±1.9, 5°.69N×83°.14W, h0km±193km, MW3.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDPN	**Palmar Norte**	**3.27**	**354**	*eP*	Pn	22 00 43.7	-1.8
CUI	**Cuipilapa**	**5.33**	**338**	*i* P	Pn	22 01 15.5	+1.6
CUI				*i* S	Sn	22 02 17.5	+1.4

IDC 22 22:03:16.4±1.8, 11°.28S×164°.98E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.7/5, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/60, Error ellipse: s-maj=52.4km s-min=33.4km az=119.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.82**	**173**	Pn	Pn	22 05 53.3	+0.5
	0.4nm,0.3s,baz=54,slow=16,SNR=2.1						
DZM				Sn	Sn	22 07 45.5	-9.3
	0.0nm,0.3s,baz=57,slow=21,SNR=1.4						
PMG	**Port Moresby**	**17.63**	**274**	LR	LR	22 13 14.6	
	comp=Z,86nm,18.7s,baz=100,slow=34						
CTA	**Charters Tower**	**20.03**	**242**	LR	LR	22 13 53.8	
	comp=Z,43nm,20.3s,baz=82,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.63**	**3**	T	T	22 40 45.0	
	baz=183,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.64**	**3**	T	T	22 40 50.8	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.65**	**3**	T	T	22 40 47.0	
	baz=183,slow=74						
WRA	**Warramunga Arr**	**30.70**	**250**	P	P	22 09 33.7	+0.4
	0.2nm,0.5s,baz=80,slow=8.6,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**30.86**	**4**	T	T	22 42 19.2	
	baz=184,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.86**	**4**	T	T	22 42 18.2	
	baz=184						
H11N2	**WAKE ISLAND Hy**	**30.88**	**4**	T	T	22 42 19.4	
	baz=184,slow=74						
ASAR	**Alice Springs**	**32.02**	**243**	P	P	22 09 43.8	-1.1
	0.4nm,0.7s,baz=76,slow=9.7,SNR=4.5						
ILAR	**Eielson Array**	**83.97**	**19**	P	P	22 15 47.5	-0.8
	0.4nm,0.7s,baz=239,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**93.18**	**317**	P	P	22 16 33.9	+1.1
	0.8nm,0.8s,baz=102,slow=4.8,SNR=8.3						

NEIC 22 22:14:47.3±1.3, 2°.88S±0°.04×129°.80E±0°.05, h10km±1km, mb4.6/37, Error ellipse: s-maj=11.7km s-min=2.9km az=50.0

DJA 22 22:14:51.8±0.4, 3°.5±2°×13°0E±°, h36km±5km, M4.4/24, mbBS.0/7, mb4.6/24, MLv4.5/13, Mw(mB)4.3/7

IDC 22 22:14:53.4±1.6, 3°.04S×129°.64E, h54km±16km, mb3.9/11, mb1 4.2/16, mb1mx4.0/37, mbtmp4.3/16, ML4.3/5, MS3.4/14, Ms1 3.4/14, ms1mx3.1/72, Error ellipse: s-maj=17.0km s-min=9.4km az=100.0

ISC 22 22:14:50.3±0.4, 3°.02S±0°.04×129°.52E±0°.05, h28km, n136, σ1s37/130, mb4.5/44, MS3.3/11, 1C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.68**	**241**	P	**Pn**	**22 15 04.6**	**+0.6**
AAI	**Ambon**	**1.48**	**243**	P	**Pb**	**22 15 17.7**	**+0.5**
BNDI	**Bandanaira**	**1.54**	**166**	P	**Pb**	**22 15 20.7**	**+2.5**
SIJI	**Sorong**	**2.75**	**39**	P	**Pn**	**22 15 34.4**	**+1.7**
	113nm,0.3s,baz=112,slow=1.1,SNR=310						
SIJI				S	**Sn**	**22 16 06.7**	**+1.6**
	61nm,0.3s,baz=51,slow=19,SNR=28						
SIJI				LR	LR	22 16 59.6	
	comp=Z,624nm,18.7s,baz=193,slow=47						
SWI	**Sorong**	**2.75**	**39**	P	**Pn**	**22 15 33.7**	**+1.1**
LBMI	**Labuha**	**3.11**	**319**	P	**Pn**	**22 15 37.8**	**+0.3**
LBMI				S	**Sn**	**22 16 12.7**	**-1.1**
SANI	**Sanana**	**3.66**	**285**	P	**Pn**	**22 15 44.7**	**-0.4**
SANI				S	**Sn**	**22 16 24.7**	**-2.7**
SANI	**Sanana**	**3.66**	**285**	P	**Pn**	**22 15 44.7**	**-0.4**
TNTI	**Ternate**	**4.34**	**330**	Pn	**Pn**	**22 15 53.7**	**-0.7**
TNTI	**Ternate**	**4.34**	**330**	P	**Pn**	**22 15 54.3**	**-0.1**
SAUI	**Saumlaki**	**5.24**	**160**	Pn	**Pn**	**22 16 05.9**	**-0.9**
SAUI	**Saumlaki**	**5.24**	**160**	P	Pn	22 16 12.2	+5.4
	0.9nm189nm,0.8s						
LUWI	**Luwuk**	**7.03**	**286**	Pn	**Pn**	**22 16 31.9**	**+0.5**
LUWI	**Luwuk**	**7.03**	**286**	P	**Pn**	**22 16 31.6**	**+0.2**
LUWI	**Luwuk**	**7.03**	**286**	P	**Pn**	**22 16 31.7**	**+0.3**
BBSI	**Bau Bau**	**7.36**	**250**	P	**Pn**	**22 16 38.5**	**+2.6**
	0.0nm5.7nm,1.0s						
APSI	**Ampana**	**8.14**	**285**	P	**Pn**	**22 16 47.8**	**+1.1**
	1um106nm,0.5s						
MRSI	**Marisa**	**8.34**	**294**	P	**Pn**	**22 16 49.9**	**+0.5**
	719nm72nm,1.2s						
SOEI	**Soe**	**8.49**	**218**	Pn	**Pn**	**22 16 55.0**	**+3.4**
SOEI	**Soe**	**8.49**	**218**	P	Pn	22 17 00.3	+8.7
MMRI	**Maumere**	**9.15**	**232**	Pn	**Pn**	**22 17 04.7**	**+4.2**
BATI	**Baumata**	**9.21**	**219**	P	**Pn**	**22 17 05.4**	**+4.0**
	3.7nm,0.3s,baz=41,slow=3.5,SNR=3.0						
BATI				LR	LR	22 20 49.1	
	comp=Z,598nm,21.2s,baz=38,slow=38						
BNSI	**Bone**	**9.50**	**261**	P	Pn	22 17 16.6	+11
BSSI	**Bau Bau, Buton**	**9.52**	**251**	P	**Pn**	**22 17 08.7**	**+3.0**
	34nm,0.9s						
BKSI	**Bulukumba**	**9.65**	**256**	P	Pn	22 17 13.3	+5.9
TOLI2	**Tolitoli**	**9.65**	**295**	Pn	**Pn**	**22 17 06.5**	**-0.9**
TOLI2	**Tolitoli**	**9.65**	**295**	P	**Pn**	**22 17 07.6**	**+0.1**
SPSI	**Sidrap Palu**	**9.78**	**264**	P	**Pn**	**22 17 09.5**	**+0.3**
	15nm,0.7s						
MTN	**Manton Dam**	**9.89**	**171**	Pn	**Pn**	**22 17 12.0**	**+1.3**
MTN	**Manton Dam**	**9.89**	**171**	P	**Pn**	**22 17 13.5**	**+2.8**
KAPI	**Kappang**	**9.95**	**258**	P	**Pn**	**22 17 16.0**	**+4.5**
	2.8nm,0.3s,baz=86,slow=7.1,SNR=12						
KAPI				LR	LR	22 21 59.1	
	comp=Z,282nm,18.5s,baz=74,slow=42						
KAPI	**Kappang**	**9.95**	**258**	Pn	**Pn**	**22 17 14.3**	**+2.8**
MPSI	**Mapaga**	**10.18**	**289**	P	**Pn**	**22 17 14.3**	**-0.4**
	19nm,1.0s						
DAV	**Davao City (W)**	**10.77**	**339**	LR	LR	22 22 11.4	
	comp=Z,241nm,21.4s,baz=144,slow=40						
WBSI	**Waikabubak, Su**	**12.03**	**236**	P	**Pn**	**22 17 41.7**	**+1.7**
	35nm,1.0s						
KNRA	**Kununurra**	**12.60**	**183**	Pn	**Pn**	**22 17 47.9**	**+0.1**
KNRA	**Kununurra**	**12.60**	**183**	P	**Pn**	**22 17 49.4**	**+1.6**
PLAI	**Plampang**	**13.03**	**243**	P	**Pn**	**22 17 54.9**	**+1.2**
MYLDM	**Lahad Datu**	**13.70**	**306**	Pn	**Pn**	**22 18 03.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**15.46**	**194**	P	**Pn**	**22 18 28.1**	**+1.5**
	0.8nm,0.3s,baz=32,slow=9.9,SNR=12						
FITZ	**Fitzroy Crossi**	**15.46**	**194**		**Pn**	**22 18 26.9**	**+0.3**
GMJI	**Gumukmas**	**16.83**	**251**	P	**P**	**22 18 46.2**	**+0.2**
	12nm,1.0s						
WB0	**Warramunga Arr**	**17.31**	**164**	Pn	**Pn**	**22 18 49.2**	**-0.9**
WB0				lAmb	lAmb	22 18 57.7	
	comp=Z,16nm,0.6s						
COEN	**Coen**	**17.32**	**130**	P	**Pn**	**22 18 49.0**	**-1.2**
COEN	**Coen**	**17.32**	**130**	P	**P**	**22 18 52.2**	**+0.8**
WRA	**Warramunga Arr**	**17.47**	**165**	P	**Pn**	**22 18 51.3**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=345,slow=12,SNR=41						
WRA				S	**Sn**	**22 22 03.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=343,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**17.47**	**165**		**Pn**	**22 18 50.1**	**-2.0**
WR0	**Warramunga Arr**	**17.54**	**164**	P	**Pn**	**22 18 51.5**	**-1.4**
SBUM	**Sibu**	**18.13**	**287**	P	**P**	**22 19 01.3**	**+0.9**
PCJI	**Pacitan**	**18.96**	**254**	P	**Pn**	**22 19 11.1**	**+0.7**
	comp=Z,35nm,1.5s						
QIS	**Mount Isa**	**20.01**	**151**	P	**Pn**	**22 19 22.9**	**0.0**
PSA00	**Pilbara Seismi**	**20.71**	**206**	P	**P**	**22 19 27.6**	**-0.8**
PSA00	**Pilbara Seismi**	**20.71**	**206**	P	**P**	**22 19 27.7**	**-0.8**
PSA00				lAmb	lAmb	22 19 42.9	
	comp=Z,7.6nm,1.3s						
PSA00	**Pilbara Seismi**	**20.71**	**206**	P	**P**	**22 19 28.1**	**-0.4**
AS31	**Alice Springs**	**20.96**	**169**	P	**P**	**22 19 31.6**	**+0.4**
AS31				lAmb	lAmb	22 19 38.0	
	comp=Z,19nm,0.6s						
ASAR	**Alice Springs**	**20.96**	**169**	P	Pn	22 19 32.5	-1.4
	comp=Z,42nm,0.7s,baz=346,slow=9.6,SNR=196						
ASAR				S	**S**	**22 23 20.2**	**-3.3**
	comp=Z,3.1nm,0.9s,baz=350,slow=18,SNR=5.9						
ASAR				LR	LR	22 28 17.5	
	comp=Z,138nm,19.5s,baz=349,slow=38						
ASAR	**Alice Springs**	**20.96**	**169**	P	**P**	**22 19 31.5**	**+0.2**
WRKA	**Warakurna**	**21.92**	**183**	P	**P**	**22 19 42.1**	**+0.5**
CTA	**Charters Tower**	**23.55**	**137**	P	**P**	**22 19 59.1**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=321,slow=10,SNR=1.7						
OOD	**Oodnadatta**	**25.33**	**167**	P	**P**	**22 20 15.4**	**+0.6**
MEEK	**Meekatharra**	**25.71**	**203**	P	**P**	**22 20 16.9**	**-1.5**
RGRI	**Rengat**	**27.30**	**275**	P	**P**	**22 20 32.4**	**-0.5**
MULG	**Mulgathing**	**27.45**	**171**	P	**P**	**22 20 34.6**	**+0.6**
FORT	**Forrest**	**27.65**	**183**	P	**P**	**22 20 35.5**	**-0.2**
FORT	**Forrest**	**27.65**	**183**	P	**P**	**22 20 35.9**	**+0.2**
MORW	**Morawa**	**28.91**	**205**	P	**P**	**22 20 47.1**	**+0.1**
MORW				lAmb	lAmb	22 21 07.1	
	comp=Z,28nm,1.4s						
MORW	**Morawa**	**28.91**	**205**	P	**P**	**22 20 47.4**	**+0.4**
PPI	**Padang Panjang**	**29.22**	**274**	P	**P**	**22 20 52.4**	**+2.4**
BBOO	**Buckleboo**	**30.26**	**169**	P	**P**	**22 20 58.3**	**-0.7**
BBOO	**Buckleboo**	**30.26**	**169**	P	**P**	**22 20 59.5**	**+0.5**
STKA	**Stephens Creek**	**30.87**	**160**	P	**P**	**22 21 04.5**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=328,slow=8.8,SNR=5.6						
STKA				LR	LR	22 35 17.8	
	comp=Z,125nm,19.4s,baz=234,slow=40						
STKA	**Stephens Creek**	**30.87**	**160**	P	**P**	**22 21 01.3**	**-3.1**
GSI	**Gunungsitoli**	**32.23**	**277**	P	**P**	**22 21 16.3**	**-0.2**
JCJ	**Chichijima**	**32.34**	**21**	LR	LR	22 31 54.5	
	comp=Z,51nm,21.1s,baz=94,slow=32						
NJ2	**Nanjing**	**36.32**	**345**	*eP*	**P**	**22 21 52.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GYA	**Guiyang**	**36.70**	**324**	⇑P	**P**	**22 21 57.4**	**+2.1**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.91**	**306**	P	**P**	**22 21 57.5**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=139,slow=7.0,SNR=16						
CMAR	**Chiang Mai Arr**	**36.91**	**306**	P	**P**	**22 21 57.2**	**+0.2**
CHTO	**Chiang Mai**	**37.10**	**307**	P	**P**	**22 21 59.3**	**+0.7**
CHTO				lAmb	lAmb	22 22 01.3	
	comp=Z,8.5nm,1.0s						
KMI	**Kunming**	**38.18**	**319**	⇓P	**P**	**22 22 10.3**	**+2.4**
KMI				pP	pP	22 22 14.5	-1.9
KMI				sP	sP	22 22 15.8	-4.0
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH	**PanZhiHua**	**39.78**	**319**	P	**P**	**22 22 23.6**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
CD2	**Chengdu**	**41.73**	**326**	P	**P**	**22 22 37.3**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**45.71**	**331**	*eP*	**P**	**22 23 10.3**	**+1.1**
LZH				sP	pP	22 23 18.9	+1.2
LZH				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SHL	**Shillong**	**46.23**	**310**	P	**P**	**22 23 13.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**46.64**	**341**	*eP*	**P**	**22 23 17.1**	**+0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.06**	**2**	LR	LR	22 42 32.1	
	comp=Z,36nm,20.7s,baz=41,slow=35						
USRK	**Ussuriysk Ar.**	**47.06**	**2**	P	**P**	**22 23 17.8**	**-1.7**
ASAJ	**Asahikawa**	**48.37**	**13**	LR	LR	22 43 19.1	
	comp=Z,34nm,20.2s,baz=114,slow=35						
LSA	**Lhasa**	**49.05**	**314**	P	**P**	**22 23 35.3**	**-0.4**
LSA				lAmb	lAmb	22 23 38.2	
	comp=Z,5.2nm,1.1s						
GTA	**Gaotai**	**50.29**	**330**	⇓P	**P**	**22 23 45.8**	**+1.2**
GTA				sP	pP	22 23 52.3	-0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,72nm,5.1s						
GTA				LR	LR		
	comp=N,63nm,15.6s						
GTA				LR	LR		
	comp=E,83nm,15.3s						
GTA				LR	LR		
	comp=Z,110nm,15.6s						
TAPN	**Taplejung**	**50.35**	**310**	*eP*	**P**	**22 23 46.0**	**+0.6**
	comp=Z,3.3nm,0.4s						
ODAN	**Odare**	**50.35**	**309**	*eP*	**P**	**22 23 45.9**	**+0.5**
GOMU	**GeErMu**	**50.71**	**323**	P	**P**	**22 23 50.0**	**+1.9**
GOMU				pP	pP	22 23 53.5	-3.2
GOMU				sP	sP	22 23 57.3	-2.8
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,60nm,7.2s						
RAMN	**Ramite**	**51.01**	**309**	*eP*	**P**	**22 23 51.5**	**+1.1**
	comp=Z,8.6nm,0.4s						
JIRN	**Jiri**	**51.67**	**309**	*eP*	**P**	**22 23 56.1**	**+0.6**
OUZ	**Omahuta**	**51.87**	**134**	P	**P**	**22 23 54.1**	**-2.3**
GUN	**Gumba**	**52.04**	**309**	*eP*	**P**	**22 23 58.6**	**+0.4**
	comp=Z,15nm,0.8s						
GKN	**Gorkha**	**53.05**	**309**	*eP*	**P**	**22 24 05.7**	**+0.3**
	comp=Z,8.2nm,0.8s						
KOLN	**Koldanda**	**53.75**	**308**	*eP*	**P**	**22 24 11.3**	**+0.6**
	comp=Z,16nm,0.8s						
DANN	**Dangsing**	**53.89**	**309**	*eP*	**P**	**22 24 11.9**	**+0.1**
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**54.36**	**342**	P	**P**	**22 24 13.4**	**-1.2**
ULN				lAmb	lAmb	22 24 16.8	
	comp=Z,4.4nm,0.9s						
PYUN	**Piuthan**	**54.38**	**308**	*eP*	**P**	**22 24 15.7**	**+0.4**
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**54.54**	**341**	P	**P**	**22 24 16.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=153,slow=7.7,SNR=12						
SONM	**Songino Array**	**54.54**	**341**	P	**P**	**22 24 14.3**	**-1.6**
WMQ	**Urumqi**	**59.83**	**326**	*eP*	**P**	**22 24 54.3**	**+0.9**
WMQ				pP	pP	22 24 58.0	-4.1
WMQ				sP	sP	22 25 01.9	-3.6
WMQ				PP	**PP**	**22 27 03.9**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**60.73**	**19**	P	**P**	**22 24 59.4**	**+0.2**
	comp=Z,6.8nm,0.7s,baz=195,slow=4.6,SNR=8.1						
PETK				LR	LR	22 49 50.4	
	comp=Z,16nm,21.9s,baz=173,slow=34						
PETK	**Petropavlovsk-**	**60.73**	**19**	P	**P**	**22 24 57.6**	**-1.6**
MK31	**Makanchi Array**	**64.67**	**326**	P	**P**	**22 25 25.2**	**-0.5**
MK31				lAmb	lAmb	22 25 27.5	
	comp=Z,2.5nm,1.1s						
MKAR	**Makanchi Array**	**64.67**	**326**	P	**P**	**22 25 26.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=112,slow=7.8,SNR=23						
MKAR	**Makanchi Array**	**64.67**	**326**	P	**P**	**22 25 25.2**	**-0.5**
MAKZ	**Makanchi**	**64.85**	**326**	P	**P**	**22 25 26.5**	**-0.4**
MAKZ				lAmb	lAmb	22 25 28.6	
	comp=Z,4.0nm,1.1s						
YAK	**Yakutsk**	**64.87**	**0**	LR	LR	22 52 58.2	
	comp=Z,21nm,21.4s,baz=93,slow=35						
YAK	**Yakutsk**	**64.87**	**0**	P	**P**	**22 25 25.9**	**-0.6**
ZAA0	**Zalesovo Array**	**67.83**	**333**	P	**P**	**22 25 45.0**	**-0.7**
ZAA0				lAmb	lAmb	22 25 46.9	
	comp=Z,7.4nm,1.2s						
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**22 25 45.5**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=106,slow=4.8,SNR=13						
ZALV				LR	LR	22 58 46.5	
	comp=Z,21nm,18.7s,baz=120,slow=39						
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**22 25 45.2**	**-0.5**
KURK	**Kurchatov**	**68.90**	**328**	P	**P**	**22 25 52

MKAR				LR	LR	23 10 34.2	
	comp=Z,56nm,18.7s,baz=212,slow=42						
KBZ	**Khabaz**	**24.31 317**	P	**P**	**22 59 35.5**	**+0.1**	
	0.8nm,0.9s,baz=148,slow=8.6,SNR=1.4						
ARU	**Arti**	**29.18 352**	LR	LR	23 13 44.7		
	comp=Z,37nm,18.8s,baz=118,slow=40						
ZALV	**Zalesovo Beam**	**29.82 23**	P	**P**	**23 00 24.1**	**-0.8**	
	0.9nm,0.4s,baz=230,slow=11,SNR=7.1						
MLR	**Muntele Rosu**	**36.03 310**	LR	LR	23 19 12.8		
	comp=Z,30nm,18.9s,baz=72,slow=42						
SONM	**Songino Array**	**37.48 46**	P	**P**	**23 01 32.0**	**+0.4**	
	0.2nm,0.6s,baz=258,slow=9.6,SNR=2.5						
YAK	**Yakutsk**	**53.84 32**	LR	LR	23 29 13.0		
	comp=Z,43nm,19.6s,baz=92,slow=39						
MDT	**Midelt**	**59.86 294**	LR	LR	23 34 35.2		
	comp=Z,91nm,18.2s,baz=356,slow=40						
TORD	**Torodi Ar. Bea**	**61.02 270**	P	**P**	**23 04 32.1**	**+0.2**	
	0.1nm,0.4s,baz=67,slow=5.9,SNR=1.4						
JHJ	**Hachijo jima 2**	**63.01 65**	LR	LR	23 34 36.2		
	comp=Z,86nm,18.4s,baz=79,slow=38						
WRA	**Warramunga Arr**	**81.62 118**	P	**P**	**23 06 36.2**	**-0.2**	
	0.4nm,1.0s,baz=317,slow=4.6,SNR=1.8						

*IDC **22** 23:01:47.9±1.0,63.06S×146.36E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/18,mbtmp4.0/3,Error ellipse: s-maj=58.5km s-min=22.6km az=87.0*
*NEIC **22** 23:01:50.2±0.8,63.02S±0.07×145.8E±0.4,h10km±1km, mb4.0/8,Error ellipse: s-maj=33.7km s-min=11.8km az=85.0*

ISC 22 23:01:49.1±0.8,63.2S±0.1×145.7E±0.2,h10km,n28, σ1§18/27,mb4.1/6,South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**15.18 243**		Pn	**Pn**	**23 05 22.3**	**-1.0**
VNDA	**Vanda**	**15.22 167**		Pn	**Pn**	**23 05 21.9**	**-1.8**
	0.2nm,0.3s,baz=335,slow=10,SNR=10						
VNDA				Sn	Sn	23 08 01.4	-11
	0.2nm,0.3s,baz=72,slow=6.8,SNR=2.4						
VNDA	**Vanda**	**15.22 167**			**Pn**	**23 05 21.8**	**-1.9**
SBA	**Scott Base**	**16.07 164**		Pn	**Pn**	**23 05 32.7**	**-2.0**
SBA				IAmb	IAmb	23 05 42.7	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**26.85 180**		P	**P**	**23 07 31.3**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=313,slow=5.4,SNR=7.3						
QSPA	**South Pole Qui**	**26.85 180**		P	**P**	**23 07 32.6**	**+3.1**
H01W1	**Cape Leeuwin H**	**34.43 310**		T	T	23 44 50.1	
	baz=155,slow=76,SNR=7.8						
H01W2	**Cape Leeuwin H**	**34.43 310**		T	T	23 44 49.4	
	baz=155,slow=76,SNR=7.7						
H01W3	**Cape Leeuwin H**	**34.45 310**		T	T	23 44 50.3	
	baz=155,slow=76,SNR=8.4						
ASAR	**Alice Springs**	**40.34 343**		P	**P**	**23 09 26.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=166,slow=8.8,SNR=11						
WR0	**Warramunga Arr**	**43.92 345**		P	**P**	**23 09 54.8**	**-1.1**
WR0				IAmb	IAmb	23 10 03.7	
	comp=Z,3.0nm,1.1s						
WB2	**Warramunga Arr**	**43.96 344**		P	**P**	**23 09 55.4**	**-0.8**
WB2				IAmb	IAmb	23 09 56.0	
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**43.96 344**		P	**P**	**23 09 55.5**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=171,slow=7.0,SNR=36						
WRA				PcP	**PcP**	**23 11 41.5**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=180,slow=3.3,SNR=4.8						
WRA	**Warramunga Arr**	**43.96 344**		P	**P**	**23 09 55.3**	**-0.9**
WB0	**Warramunga Arr**	**44.12 345**		P	**P**	**23 09 56.3**	**-1.2**
WB0				IAmb	IAmb	23 09 57.4	
	comp=Z,2.4nm,0.7s						
H08S2	**Diego Garcia H**	**75.69 282**		T	T	00 36 32.6	
	baz=153,slow=76						
H08S1	**Diego Carcia H**	**75.69 282**		T	T	00 36 36.1	
	baz=153						
H08S3	**Diego Garcia H**	**75.70 282**		T	T	00 36 31.5	
	baz=153,slow=76						
AKASG	**Malin Array Be**	**144.75 280**		PKPbc	**PKPab**	**23 21 23.8**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=108,slow=2.4,SNR=16						
AKASG	**Malin Array Be**	**144.75 280**			**PKPab**	**23 21 23.4**	**-0.3**
YKA	**Yellowknife Ar**	**145.59 54**		PKPbc	**PKPdf**	**23 21 25.6**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=235,slow=2.9,SNR=35						
YKA	**Yellowknife Ar**	**145.59 54**			**PKPbc**	**23 21 26.7**	**+0.6**
VRAC	**Vranov**	**149.45 267**		PKPbc	**PKPbc**	**23 21 37.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=129,slow=16,SNR=4.3						
ESDC	**Sonseca Array**	**150.30 232**		PKPbc	**PKPbc**	**23 21 40.3**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=218,slow=0.4,SNR=11						
ESDC				PKPab	**pPKPab**	**23 21 48.5**	**+0.5**
	comp=Z,3.3nm,1.0s,baz=130,slow=0.8,SNR=11						
ESDC	**Sonseca Array**	**150.30 232**			**PKiKP**	**23 21 41.1**	**+0.7**
ESDC					**sPKPab**	**23 21 48.8**	**0.0**
GERES	**GERESS Array B**	**150.42 264**		PKPbc	**PKPbc**	**23 21 40.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.0,SNR=9.9						
GERES				PKPab	**pPKPab**	**23 21 47.5**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=112,slow=1.4,SNR=9.7						
GERES	**GERESS Array B**	**150.42 264**			**PKPbc**	**23 21 39.6**	**0.0**
GERES					**PKPab**	**23 21 47.3**	**+1.0**
FINES	**FINESS Array B**	**152.82 294**		PKPbc	**PKPbc**	**23 21 44.9**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=122,slow=5.1,SNR=2.2						

*IDC **22** 23:43:29.1±2.8,23.51S×179.95W,h533km±20km,mb3.6/8, mb1 3.8/8,mb1mx3.4/23,mbtmp4.5/8,Error ellipse: s-maj=47.1km s-min=21.2km az=153.0*
*NEIC **22** 23:43:29.7±1.8,23.6S±0.1×179.9W±0.2,h536km±11km, mb4.3/12,Error ellipse: s-maj=29.4km s-min=13.7km az=78.0*

ISC 22 23:43:28.5±0.8,23.6S±0.1×180.0W±0.1,h532km,n33, σ1§42/37,mb4.3/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.64 272**		P	**P**	**23 46 05.2**	**+1.9**
BKZ	**Black Stump Fm**	**15.83 190**		P	**P**	**23 46 44.7**	**-2.0**
BKZ				IAmb	IAmb	23 47 02.1	
	comp=Z,15nm,1.2s						
QRZ	**Quartz Range**	**18.32 198**		P	**P**	**23 47 11.5**	**+1.5**
WHZ	**Wether Hill Ro**	**24.33 201**		P	**P**	**23 48 05.3**	**+1.3**
CTA	**Charters Tower**	**31.52 270**		P	**P**	**23 49 08.4**	**+1.1**
	comp=Z,16nm,0.5s,baz=93,slow=9.9,SNR=25						
PMG	**Port Moresby**	**34.44 289**		P	**P**	**23 49 32.4**	**+0.5**
	comp=Z,13nm,0.4s,baz=124,slow=7.3,SNR=5.6						
PMG	**Port Moresby**	**34.44 289**		P	**P**	**23 49 32.1**	**+0.2**
STKA	**Stephens Creek**	**34.89 248**		P	**P**	**23 49 36.7**	**+1.2**
AS31	**Alice Springs**	**42.13 260**		P	**P**	**23 50 34.9**	**+0.4**
ASAR	**Alice Springs**	**42.14 260**		P	**P**	**23 50 34.8**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=94,slow=8.1,SNR=57						
ASAR				ScP	**ScP**	**23 55 16.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=104,slow=4.1,SNR=7.2						
ASAR				S	**S**	**23 56 12.9**	**-3.1**
	comp=Z,0.2nm,0.4s,baz=92,slow=15,SNR=2.8						
ASAR	**Alice Springs**	**42.14 260**		P	**P**	**23 50 34.5**	**0.0**
WR0	**Warramunga Arr**	**42.29 266**			**P**	**23 50 35.4**	**-0.3**
WR0				IAmb	IAmb	23 50 36.1	
	comp=Z,5.1nm,0.9s						
WB2	**Warramunga Arr**	**42.47 266**		P	**P**	**23 50 37.0**	**-0.1**
WB2				IAmb	IAmb	23 50 37.6	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**42.47 266**		P	**P**	**23 50 36.7**	**-0.3**
WB0				IAmb	IAmb	23 50 37.6	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**42.48 266**		P	**P**	**23 50 37.0**	**-0.2**
	comp=Z,7.4nm,0.7s,baz=90,slow=5.9,SNR=220						
WRA				ScP	**ScP**	**23 55 18.0**	**0.0**
	comp=Z,0.8nm,0.9s,baz=97,slow=4.7,SNR=5.0						
WRA				S	**S**	**23 56 16.3**	**-4.6**
	comp=Z,0.4nm,0.7s,baz=99,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**42.48 266**		P	**P**	**23 50 36.6**	**-0.5**
FAKI	**Fak Fak**	**50.54 287**		P	**P**	**23 51 38.0**	**-0.3**
FAKI				IAmb	IAmb	23 52 01.1	
	comp=Z,15nm,1.0s						
TOLI2	**Tolitoli**	**62.54 284**		P	**P**	**23 53 02.1**	**+1.2**
TOLI2				IAmb	IAmb	23 53 02.7	
	comp=Z,9.5nm,0.8s						
MJAR	**Matsushiro Arr**	**71.66 326**		P	**P**	**23 53 56.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=134,slow=3.6,SNR=4.2						
KSRS	**Korea Array**	**76.03 320**		P	**P**	**23 54 32.9**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=129,slow=4.8,SNR=2.4						
PETK	**Petropavlovsk-**	**78.80 346**		P	**P**	**23 54 34.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=146,slow=3.3,SNR=2.4						
TXAR	**Lajitas Array**	**90.22 58**		P	**P**	**23 55 33.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=193,slow=5.1,SNR=6.9						
MKAR	**Makanchi Array**	**111.97 313**		PKiKP	**PKiKP**	**00 01 02.9**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=74,slow=0.7,SNR=3.5						
MKAR	**Makanchi Array**	**111.97 313**			**PKiKP**	**00 01 02.6**	**-0.5**
FINES	**FINESS Array B**	**138.16 342**		PKP	**PKPdf**	**00 01 52.2**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.3,SNR=1.6						
NB2	**NORSAR Subarra**	**141.77 351**		PKP	**PKPdf**	**00 01 54.9**	**-4.1**
	comp=Z,2.4nm,1.0s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**141.77 351**		PKhKP	PKPpre	00 01 54.5	
	comp=Z,0.6nm,0.6s,baz=16,slow=4.7,SNR=4.0						
PABE	**Paberze**	**143.54 337**			PKPab	00 02 01.3	+0.5
AKASG	**Malin Array Be**	**144.73 328**		PKP	**PKPdf**	**00 02 04.4**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=45,slow=4.2,SNR=17						
AKASG				SKPbc	**SKPbc**	**00 04 53.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=28,slow=2.4,SNR=2.5						
AKASG	**Malin Array Be**	**144.73 328**			**PKPdf**	**00 02 04.9**	**+0.4**
AKBB	**Malin Array Si**	**144.73 328**			**PKPdf**	**00 02 04.0**	**-0.5**
BRTR	**Keskin Array B**	**147.42 308**		PKPbc	**PKPbc**	**00 02 12.4**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=150,slow=5.3,SNR=3.7						
BRTR				PKPab	**PKPab**	**00 02 16.9**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=88,slow=5.1,SNR=7.8						
BRTR	**Keskin Array B**	**147.42 308**			**PKPbc**	**00 02 12.7**	**-0.3**

*JMA **23** 00:01:57.8±0.1,24.78N×121.95E,h88km±2km,M2.6*
*TAP **23** 00:01:57.9,24.84N×121.98E,h86km,ML3.6,B*

ISC 23 00:01:58.2±1.3,24.84N±0.03×121.98E±0.02,h87km±5km, n124,σ0§54/194,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.04 274**		*e*P	**Pn**	**00 02 10.5**	**+0.1**
	baz=269						
NTC	**Toucheng**	**0.13 275**		*i* P	**Pn**	**00 02 10.4**	**-0.1**
NTC	baz=274			*i* S	**Sn**	**00 02 19.2**	**-0.5**
TWB1	**Santiao Chiao**	**0.17 4**		*i* P	**Pn**	**00 02 10.7**	**0.0**
	baz=4.0						
TWB1				*i* S	**Sn**	**00 02 19.8**	**-0.2**
	baz=4.0						
TIPB	**Shuangxi**	**0.19 313**		*i* P	**Pn**	**00 02 10.6**	**-0.2**
	baz=311						
TIPB				*i* S	**Sn**	**00 02 19.8**	**-0.3**
	baz=311						
ILA	**Ilan**	**0.22 250**		*i* P	**Pn**	**00 02 11.2**	**+0.3**
	baz=249						
ILA				*i* S	**Sn**	**00 02 20.4**	**+0.2**
	baz=249						
TWC	**Suao**	**0.26 207**		*i* P	**Pn**	**00 02 10.9**	**-0.1**
	baz=205						
TWC				*e*S	**Sn**	**00 02 20.1**	**-0.4**
	baz=205						
SXI1	**Grass Mountain**	**0.27 340**		P	**Pn**	**00 02 10.9**	**-0.3**
	baz=338						
SXI1				S	**Sn**	**00 02 20.7**	**-0.1**
	baz=338						
NWF	**Wu-fen Shan**	**0.29 322**		P	**Pn**	**00 02 11.2**	**-0.1**
	baz=321						
NWF				S	**Sn**	**00 02 20.8**	**-0.2**
	baz=321						
WFSB	**Wu-fen Shan**	**0.29 322**		P	**Pn**	**00 02 11.2**	**0.0**
	baz=320						
WFSB				S	**Sn**	**00 02 20.8**	**-0.1**
	baz=320						
TWE	**Neicheng**	**0.31 247**		*e*P	**Pn**	**00 02 11.4**	**+0.1**
	baz=245						
TWE				*e*S	**Sn**	**00 02 21.3**	**+0.3**
	baz=245						
NDS	**Dongshan**	**0.32 229**		*e*P	**Pn**	**00 02 11.7**	**+0.3**
	baz=229						
NDS				*e*S	**Sn**	**00 02 22.3**	**+1.2**
	baz=229						
TNOU	**National Taiwa**	**0.36 329**		P	**Pn**	**00 02 11.5**	**-0.1**
	baz=327						
TNOU				*e*S	**Sn**	**00 02 21.2**	**-0.3**
	baz=327						
FUSB	**Fushanzhiwuyua**	**0.36 257**		P	**Pn**	**00 02 11.7**	**0.0**
	baz=257						
FUSB				S	**Sn**	**00 02 21.5**	**-0.2**
	baz=257						
TWA	**Mucha**	**0.38 291**		*e*P	**Pn**	**00 02 11.6**	**-0.2**
	baz=290						
TWA				*e*S	**Sn**	**00 02 21.5**	**-0.3**
	baz=290						
NHY	**Taipei**	**0.42 298**		P	**Pn**	**00 02 11.9**	**0.0**
	baz=297						
ENTT	**Nioudou**	**0.42 242**		*e*P	**Pn**	**00 02 12.4**	**+0.4**
	baz=241						
NHDH	**Xindian Distri**	**0.43 286**		P	**Pn**	**00 02 12.1**	**+0.1**
	baz=285						
NHDH				*e*S	**Sn**	**00 02 23.1**	**+0.7**
	baz=285						
EWUT	**Wuta**	**0.43 205**		*e*P	**Pn**	**00 02 12.3**	**+0.2**
	baz=205						
EWUT				*e*S	**Sn**	**00 02 22.7**	**+0.3**
	baz=205						
TATO	**Taipei**	**0.46 287**		*e*P	**Pn**	**00 02 12.1**	**-0.2**
	baz=286						
TATO				*e*S	**Sn**	**00 02 23.1**	**+0.3**
	baz=286						
ENA	**Nanau**	**0.47 208**		*e*P	**Pn**	**00 02 12.6**	**+0.3**
	baz=207						
ENA				*e*S	**Sn**	**00 02 23.2**	**+0.4**
	baz=207						
TAP	**Taipei**	**0.47 295**		*e*P	**Pn**	**00 02 12.6**	**+0.3**
	baz=294						
YM01	**YM01**	**0.48 309**		P	**Pn**	**00 02 12.3**	**-0.1**
	baz=308						
YM01				*e*S	**Sn**	**00 02 22.8**	**-0.3**
	baz=308						
NDT	**Datong Townshi**	**0.48 241**		*e*P	**Pn**	**00 02 12.9**	**+0.4**
	baz=240						
NDT				*e*S	**Sn**	**00 02 23.5**	**+0.4**
	baz=240						
YM08	**YM08**	**0.49 314**		*e*P	**Pn**	**00 02 12.4**	**-0.2**
	baz=313						
BACT	**New Taipei Cit**	**0.51 288**		*e*P	**Pn**	**00 02 13.0**	**+0.3**
	baz=287						
LATG	**Datong**	**0.51 233**		*e*P	**Pn**	**00 02 13.2**	**+0.4**
	baz=233						
LATG				*e*S	**Sn**	**00 02 24.6**	**+0.9**
	baz=233						
TWY	**Chenhua**	**0.55 322**		P	**Pn**	**00 02 13.1**	**0.0**
	baz=321						
TWY				*e*S	**Sn**	**00 02 24.2**	**+0.2**
	baz=321						
TWS1	**Kuangyinshan**	**0.57 297**		P	**Pn**	**00 02 13.4**	**+0.2**
	baz=296						
TWS1				*e*S	**Sn**	**00 02 25.8**	**+1.4**
	baz=296						
YHNB	**Yeheng**	**0.57 253**		P	**Pn**	**00 02 13.2**	**-0.1**
	baz=252						
YHNB				*e*S	**Sn**	**00 02 24.3**	**-0.3**
	baz=252						
NSK	**Sanguang**	**0.59 254**		P	**Pn**	**00 02 13.3**	**-0.1**
	baz=253						
NSK				*e*S	**Sn**	**00 02 24.4**	**-0.3**
	baz=253						
NTY	**Taoyuan**	**0.64 284**		*e*P	**Pn**	**00 02 14.2**	**+0.4**
	baz=284						
NTY				*e*S	**Sn**	**00 02 26.7**	**+1.3**
	baz=284						
NNS	**Nan Shan**	**0.68 234**		*e*P	**Pn**	**00 02 14.5**	**+0.1**
	baz=233						
NNS				S	**Sn**	**00 02 26.5**	**+0.1**
	baz=233						
NNSB	**Datong**	**0.68 233**		P	**Pn**	**00 02 14.5**	**+0.1**
	baz=233						
NNSB				S	**Sn**	**00 02 26.6**	**+0.2**
	baz=233						
NCU	**National Centr**	**0.73 280**		P	**Pn**	**00 02 14.9**	**+0.2**
	baz=279						
NCU				*e*S	**Sn**	**00 02 27.8**	**+0.8**
	baz=279						
NCUH	**Zhongli**	**0.73 280**		P	**Pn**	**00 02 14.9**	**+0.2**
	baz=279						
NCUH				*e*S	**Sn**	**00 02 27.7**	**+0.6**
	baz=279						
NACB	**Ninganchiao**	**0.75 208**		*e*P	**Pn**	**00 02 14.0**	**-0.9**
	baz=208						
NACB				*e*S	**Sn**	**00 02 26.2**	**-1.2**
	baz=208						
ETL	**Fush Village**	**0.75 205**		*e*P	**Pn**	**00 02 14.5**	**-0.5**
	baz=205						
ETLH	**Xiulin Townshi**	**0.78 216**		*e*P	**Pn**	**00 02 14.7**	**-0.6**
	baz=215						
NFF	**Wufeng Townshi**	**0.81 255**		*e*P	**Pn**	**00 02 15.3**	**-0.3**
	baz=255						
NFF				*e*S	**Sn**	**00 02 28.1**	**-0.5**
	baz=255						
TWD	**Chiawan**	**0.83 205**		*e*P	**Pn**	**00 02 15.0**	**-0.8**
	baz=204						
TWD				*e*S	**Sn**	**00 02 27.9**	**-1.0**
	baz=204						
NHW	**Xinwu Township**	**0.86 281**		P	**Pn**	**00 02 16.2**	**+0.2**
	baz=280						
NHW				*e*S	**Sn**	**00 02 30.3**	**+0.9**
	baz=280						
HSN1	**Hsinchu**	**0.87 266**		P	**Pn**	**00 02 16.5**	**+0.2**
	baz=265						
HSN1				S	**Sn**	**00 02 30.1**	**+0.4**
	baz=265						
LIOB	**Emei**	**0.90 258**		*e*P	**Pn**	**00 02 16.4**	**-0.1**
	baz=257						
LIOB				*e*S	**Sn**	**00 02 30.1**	**-0.1**
	baz=257						
SBCB	**Hsinchu**	**0.90 267**		P	**Pn**	**00 02 16.7**	**+0.2**
	baz=266						
SBCB				S	**Sn**	**00 02 30.6**	**+0.3**
	baz=266						
NSTT	**Nanjuang**	**0.91 257**		*e*P	**Pn**	**00 02 16.4**	**-0.2**
	baz=256						
NSTT				*e*S	**Sn**	**00 02 30.1**	**-0.4**
	baz=256						
HSN	**Hsinchu**	**0.92 268**		*e*P	**Pn**	**00 02 16.4**	**-0.3**
	baz=269						
HSN				S	**Sn**	**00 02 30.2**	**-0.3**
	baz=269						
WHF	**Hehuan Shan**	**0.95 223**		*e*P	**Pn**	**00 02 17.5**	**-0.1**
	baz=222						
WHF				*e*S	**Sn**	**00 02 31.3**	**-0.6**
	baz=222						
JYNG	**Yonagunijimaku**	**0.96 114**		P	**Pn**	**00 02 17.2**	**0.0**
JYNG				*e*S	**Sn**	**00 02 31.3**	**-0.2**
ETM	**Tongmen**	**0.98 207**		*e*P	**Pn**	**00 02 17.0**	**-0.4**
	baz=207						
YOJ	**Yonaguni jima**	**1.01 112**		P	**Pn**	**00 02 17.7**	**-0.1**
YOJ				*e*S	**Sn**	**00 02 32.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.01 112**		P	**Pn**	**00 02 17.7**	**-0.1**
	baz=111						
YOJ				S	**Sn**	**00 02 32.5**	**0.0**
	baz=111						
NJN	**Zhunan**	**1.02 261**		*e*P	**Pn**	**00 02 18.1**	**+0.3**
	baz=261						
NJN				*e*S	**Sn**	**00 02 32.8**	**+0.2**
	baz=261						
TEYL	**Yanliau Villag**	**1.03 200**		*e*P	**Pn**	**00 02 17.6**	**-0.4**
	baz=200						
CHGB	**Renai**	**1.07 223**		P	**Pn**	**00 02 18.9**	**+0.2**
	baz=223						
CHGB				S	**Sn**	**00 02 34.0**	**-0.1**
	baz=223						
WHP	**Taichung City**	**1.09 239**		P	**Pn**	**00 02 19.1**	**+0.3**
	baz=239						
WHP				*e*S	**Sn**	**00 02 34.4**	**0.0**
	baz=239						
NMLH	**Miaoli**	**1.12 255**		*e*P	**Pn**	**00 02 19.3**	**+0.2**
	baz=254						
NMLH				*e*S	**Sn**	**00 02 34.6**	**-0.2**
	baz=254						
ESL	**Shilin**	**1.14 206**		P	**Pn**	**00 02 19.6**	**+0.3**
	baz=205						
OWD	**Renai**	**1.15 220**		*e*P	**Pn**	**00 02 19.3**	**-0.3**
	baz=219						
OWD				*e*S	**Sn**	**00 02 35.4**	**-0.1**
	baz=219						
WUSB	**Renai**	**1.15 223**		P	**Pn**	**00 02 19.9**	**+0.3**
	baz=223						
WUSB				S	**Sn**	**00 02 35.9**	**+0.2**
	baz=223						
TEGC	**Jichi Village**	**1.20 200**		*e*P	**Pn**	**00 02 20.3**	**+0.3**
	baz=199						
TEGC				*e*S	**Sn**	**00 02 36.9**	**+0.5**
	baz=199						
TWQ1	**Liyutan**	**1.20 246**		P	**Pn**	**00 02 20.6**	**+0.5**
	baz=245						
TWQ1				*e*S	**Sn**	**00 02 36.6**	**0.0**
	baz=245						
WPL	**Puli Township**	**1.24 229**		*e*P	**Pn**	**00 02 21.2**	**+0.7**
	baz=228						
WCS	**Beigang Elemen**	**1.25 231**		*e*P	**Pn**	**00 02 20.8**	**+0.2**
	baz=231						
WCS				*e*S	**Sn**	**00 02 37.7**	**+0.2**
	baz=231						
DPDB	**Guoxing**	**1.25 230**		*e*P	**Pn**	**00 02 21.4**	**+0.7**
	baz=230						
DPDB				*e*S	**Sn**	**00 02 38.5**	**+0.8**
	baz=230						
EGFH	**Guangfu**	**1.27 203**		*e*P	**Pn**	**00 02 21.1**	**+0.2**
	baz=203						
WDJ	**Dajia District**	**1.31 248**		*e*P	**Pn**	**00 02 21.7**	**+0.3**
	baz=248						
WDJ				*e*S	**Sn**	**00 02 38.8**	**-0.1**
	baz=248						
VWDT	**VWDT**	**1.32 215**		*e*P	**Pn**	**00 02 21.7**	**+0.2**
	baz=215						
VWDT				*e*S	**Sn**	**00 02 39.7**	**+0.5**
	baz=215						
SMLT	**Sun Moon Lake**	**1.37 226**		*e*P	**Pn**	**00 02 22.7**	**+0.4**
	baz=225						
TCU	**Taichung**	**1.37 240**		*e*P	**Pn**	**00 02 22.8**	**+0.6**
	baz=239						
TYC	**Yuchr**	**1.38 228**		*e*P	**Pn**	**00 02 22.6**	**+0.3**
	baz=227						
TYC				*e*S	**Sn**	**00 02 40.8**	**+0.3**
	baz=227						
SSLB	**Suanglung**	**1.41 222**		*e*P	**Pn**	**00 02 22.8**	**+0.2**
	baz=221						
SSLB				*e*S	**Sn**	**00 02 41.4**	**+0.4**
	baz=221						
HGSD	**Ruisui**	**1.44 201**		*e*P	**Pn**	**00 02 22.5**	**-0.4**
	baz=200						
HGSD				*e*S	**Sn**	**00 02 42.0**	**+0.3**
	baz=200						
EHY	**Hungye**	**1.46 204**		*e*P	**Pn**	**00 02 23.6**	**+0.3**
	baz=204						
WCHH	**Zhanghua**	**1.50 240**		*e*P	**Pn**	**00 02 24.0**	**+0.3**
	baz=239						
WCHH				*e*S	**Sn**	**00 02 42.7**	**-0.4**
	baz=239						
WNT1	**Nantou City**	**1.50 232**		*e*P	**Pn**	**00 02 24.4**	**+0.6**
	baz=231						
WNT1				*e*S	**Sn**	**00 02 43.6**	**+0.3**
	baz=231						
WNT	**Mingjian**	**1.52 231**		*e*P	**Pn**	**00 02 24.7**	**+0.7**
	baz=230						
WNT				*e*S	**Sn**	**00 02 43.9**	**+0.3**
	baz=230						
WJS	**Zhushan**	**1.53 229**		*e*P	**Pn**	**00 02 24.9**	**+0.8**
	baz=228						
YULB	**Yu-li**	**1.57 203**		*e*P	**Pn**	**00 02 23.6**	**-1.1**
	ba

	baz=226							
CHY				*e*S		**Sn**	**00 02 53.7**	**+0.2**
	baz=226							
EDH	**Donghe**	**1.96**	**198**	*e*P		**Pn**	**00 02 29.0**	**-0.8**
	baz=198							
TPUB	**Ta-pu**	**1.97**	**219**	*e*P		**Pn**	**00 02 30.9**	**+1.0**
	baz=218							
STYH	**Taoyuan**	**1.99**	**214**	*e*P		**Pn**	**00 02 31.1**	**+0.9**
	baz=213							
STYT	**Tauyuan**	**2.01**	**214**	*e*P		**Pn**	**00 02 31.1**	**+0.6**
	baz=213							
WTP	**Ta-pu**	**2.02**	**218**	*e*P		**Pn**	**00 02 31.6**	**+1.0**
	baz=218							
JIJ	**Ishigaki jima**	**2.03**	**103**	P		**Pn**	**00 02 30.9**	**+0.3**
JIJ				S		**Sn**	**00 02 54.4**	**-1.0**
TWK	**Hsinying**	**2.08**	**221**	*e*P		**Pn**	**00 02 31.8**	**+0.5**
	baz=220							
SNST	**Tainan City**	**2.11**	**220**	*e*P		**Pn**	**00 02 32.2**	**+0.5**
	baz=220							
CHN1	**Nanshi**	**2.12**	**219**	*e*P		**Pn**	**00 02 32.4**	**+0.6**
	baz=218							
CHN1				*e*S		**Sn**	**00 02 58.0**	**+0.5**
	baz=218							
JISG	**Ishigakijimahi**	**2.14**	**96**	*e*S		**Sn**	**00 02 58.4**	**+0.4**
ICHU	**Yijhu**	**2.14**	**227**	*e*P		**Pn**	**00 02 33.1**	**+1.0**
	baz=226							
SGST	**Jiashian**	**2.17**	**216**	*e*P		**Pn**	**00 02 33.5**	**+1.0**
	baz=216							
TWG	**Pinlang**	**2.18**	**203**	*e*P		**Pn**	**00 02 32.9**	**+0.2**
	baz=202							
TWGBT	**Beinan**	**2.18**	**202**	*e*P		**Pn**	**00 02 33.1**	**+0.5**
	baz=202							
LDUT	**Ludao**	**2.21**	**192**	*e*P		**Pn**	**00 02 31.4**	**-1.6**
	baz=192							
MATB	**Ma-tsu**	**2.25**	**306**	*e*P		**Pn**	**00 02 33.1**	**-0.5**
	baz=304							
MSUT	**Lienchiang**	**2.28**	**306**	*e*P		**Pn**	**00 02 34.0**	**0.0**
	baz=305							
VWUC	**VWUC**	**2.30**	**274**	*e*P		**Pn**	**00 02 33.4**	**-0.8**
	baz=273							
TSMG	**Majia**	**2.45**	**210**	*e*P		**Pn**	**00 02 37.0**	**+0.7**
	baz=209							
JTJ	**Tarama**	**2.49**	**94**	S		**Sn**	**00 03 07.7**	**+1.4**
MASBT	**Mashibuluo**	**2.54**	**209**	*e*P		**Pn**	**00 02 37.9**	**+0.4**
	baz=209							
PHUB	**P'eng-hu**	**2.56**	**239**	*e*P		**Pn**	**00 02 36.5**	**-1.3**
	baz=238							
LYJJ	**Jianjiangzhen**	**2.63**	**311**	*e*P		**Pn**	**00 02 38.0**	**-0.6**
	baz=310							
XPSS	**Dashiqiu**	**2.63**	**323**	*e*P		**Pn**	**00 02 38.5**	**-0.2**
	baz=322							
WDGT	**Dungji**	**2.64**	**234**	*e*P		**Pn**	**00 02 38.5**	**-0.3**
	baz=233							
LYUB	**Lan-yu**	**2.85**	**187**	*e*P		**Pn**	**00 02 41.7**	**+0.1**
	baz=187							
JIRB	**Irabujima**	**2.90**	**90**	*e*S		**Sn**	**00 03 16.8**	**+0.5**
MHZQ	**Yeshan**	**2.94**	**296**	*e*P		**Pn**	**00 02 42.9**	**+0.1**
	baz=295							
KNMB	**Chin-men Tao**	**3.29**	**264**	*e*P		**Pn**	**00 02 46.2**	**-1.2**
	baz=263							
AXDP	**Jialang**	**3.64**	**272**	*e*P		**Pn**	**00 02 51.6**	**-0.7**
	baz=270							

IDC 23 00:02:38.3±2.3, 5°44S×130°95E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/27, mbtmp3.1/3, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.9/32, Error ellipse: s-maj=103.1km s-min=33.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.55**	**4**	LR		LR		00 06 17.6	
	comp=Z,133nm,20.7s,baz=122,slow=48								
WRA	**Warramunga Arr**	**14.79**	**167**	Pn		Pn		00 06 08.7	-0.2
	0.1nm,0.3s,baz=348,slow=11,SNR=5.5								
WRA				S		Sn		00 08 36.4	-17
	0.1nm,0.3s,baz=337,slow=23,SNR=2.0								
ASAR	**Alice Springs**	**18.34**	**171**	P		Pn		00 06 54.3	-0.1
	0.0nm,0.3s,baz=350,slow=8.5,SNR=1.5								
MKAR	**Makanchi Array**	**67.46**	**326**	P		P		00 13 36.0	0.0
	0.1nm,0.4s,baz=117,slow=7.9,SNR=4.4								

*IDC **23** 00:15:03.3±4.2, 24°.77N×94°.33E, h88km±48km, mb3.3/7, mb1 3.4/8, mb1mx3.0/70, mbtmp3.6/8, MS3.7/3, Ms1 3.7/3, ms1mx2.8/49, Error ellipse: s-maj=54.0km s-min=28.4km az=81.0*

ISC 23 00:15:02.2±1.0, 24°.8N±0°.2×94°.3E±0°.3, h72km, n11, σ1§57/9, mb3.6/7, Myanmar-Indian border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.66**	**145**	P		**Pn**		**00 16 51.2**	**+0.2**
	1.0nm,0.3s,baz=325,slow=13,SNR=16								
MKAR	**Makanchi Array**	**23.94**	**339**	P		**P**		**00 20 09.9**	**+0.3**
	1.4nm,0.5s,baz=149,slow=9.3,SNR=30								
SONM	**Songino Array**	**24.89**	**20**	P		**P**		**00 20 20.2**	**+1.9**
	0.3nm,0.6s,baz=207,slow=9.1,SNR=3.0								
KURBB	**Kurchatov Arra**	**28.50**	**339**	P		**P**		**00 20 50.1**	**-0.4**
	0.6nm,0.5s,baz=146,slow=9.4,SNR=6.9								
KURBB				PcP		**PcP**		**00 23 58.0**	**-2.6**
	0.5nm,0.5s,baz=159,slow=2.3,SNR=7.2								
ZALV	**Zalesovo Beam**	**29.95**	**349**	P		**P**		**00 21 01.5**	**-1.8**
	0.3nm,0.4s,baz=186,slow=8.7,SNR=2.3								
BVAR	**Borovoye Array**	**33.44**	**334**	P		**P**		**00 21 33.8**	**-0.3**
	0.7nm,0.4s,baz=176,slow=12,SNR=6.4								
KLR	**Kul'dur**	**37.98**	**40**	LR		LR		00 41 10.6	
	comp=Z,42nm,18.0s,baz=294,slow=41								
BATI	**Baumata**	**45.07**	**137**	LR		LR		00 45 30.0	
	comp=Z,230nm,18.0s,baz=230,slow=41								
EIL	**Elat**	**52.51**	**289**	LR		LR		00 52 33.7	
	comp=Z,52nm,18.4s,baz=102,slow=43								
GERES	**GERESS Array B**	**65.71**	**314**	P		**P**		**00 25 39.5**	**+0.3**
	0.3nm,0.4s,baz=76,slow=5.6,SNR=4.5								
TORD	**Torodi Ar. Bea**	**86.91**	**283**	P		**P**		**00 27 40.4**	**+0.7**
	0.3nm,0.6s,baz=61,slow=3.0,SNR=2.7								

*BJI **23** 00:17:03.0±0.0, 14°.90S×167°.30E, h152km, mb4.5/10, mB4.7/6*
*NOU **23** 00:17:03.5, 14°.78S×167°.37E, h117km, MLv5.2/14, Vanuatu Islands*
*NEIC **23** 00:17:03.2±2.1, 14°.86S±0°.08×167°.3E±0°.2, h126km±4km, mb4.7/14, Error ellipse: s-maj=24.4km s-min=11.7km az=100.0*
*IDC **23** 00:17:03.6±0.8, 14°.85S×167°.35E, h135km±6km, mb4.2/16, mb1 4.4/18, mb1mx4.0/46, mbtmp4.7/18, Error ellipse: s-maj=15.3km s-min=13.1km az=104.0*

ISC 23 00:17:03.0±0.4, 14°.85S±0°.06×167°.40E±0°.08, h129km, n86, σ1§36/99, mb4.6/23, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.62**	**198**	Pn		**Pn**		**00 17 22.4**	**-0.2**
SANVU				Sn		**Sn**		**00 17 36.9**	**-0.8**
SANVU	**Saraoutou**	**0.62**	**198**	P		**Pn**		**00 17 23.1**	**+0.4**
DVP	**Devils Point**	**2.95**	**165**	P		**Pn**		**00 17 49.5**	**+0.6**
RTV	**Rentapao**	**3.08**	**162**	P		**Pn**		**00 17 52.2**	**+1.6**
LIFNC	**LIFOU**	**5.89**	**181**	Pn		**Pn**		**00 18 26.5**	**-1.6**
LIFNC	**LIFOU**	**5.89**	**181**	P		**Pn**		**00 18 29.1**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.40**	**207**			**Pn**		**00 18 35.1**	**+0.3**
KOUNC	**Koumac, New Ca**	**6.40**	**207**	P		**Pn**		**00 18 35.6**	**+0.8**
MARNC	**Mare, Loyalty**	**6.62**	**175**	Pn		**Pn**		**00 18 36.9**	**-0.9**
MARNC	**Mare, Loyalty**	**6.62**	**175**	P		**Pn**		**00 18 39.4**	**+1.6**
YATNC	**Mamie plateau,**	**7.18**	**184**	P		**Pn**		**00 18 46.8**	**+1.4**
DZM	**Mont Dzumac**	**7.24**	**187**	P		**Pn**		**00 18 46.8**	**+0.6**
	4.6nm,0.3s,baz=94,slow=10,SNR=55								
DZM				S		**Sn**		**00 20 09.2**	**+2.1**
	3.1nm,0.3s,baz=302,slow=22,SNR=3.8								
DZM	**Mont Dzumac**	**7.24**	**187**	P		**Pn**		**00 18 47.6**	**+1.4**
ONTNC	**Ouen Toro**	**7.47**	**187**	Pn		**Pn**		**00 18 51.0**	**+1.8**
ONTNC	**Ouen Toro**	**7.47**	**187**	P		**Pn**		**00 18 51.3**	**+2.0**
OUENC	**Ouen Island, N**	**7.54**	**184**	Pn		**Pn**		**00 18 51.7**	**+1.4**
OUENC	**Ouen Island, N**	**7.54**	**184**	P		**Pn**		**00 18 51.9**	**+1.6**
PINNC	**Pines Island,**	**7.72**	**180**			**Pn**		**00 18 54.1**	**+1.5**
HNR	**Honiara**	**9.06**	**306**	P		**Pn**		**00 19 12.0**	**+1.2**
	70nm,0.3s,baz=139,slow=7.9,SNR=5.0								
HNR				S		**Sn**		**00 20 52.3**	**+1.1**
	37nm,0.3s,baz=53,slow=23,SNR=6.7								
PMG	**Port Moresby**	**20.51**	**283**	P		**P**		**00 21 31.1**	**-0.1**
	8.6nm,0.4s,baz=99,slow=7.5,SNR=5.5								
CTA	**Charters Tower**	**20.83**	**253**	P		**P**		**00 21 34.8**	**+0.3**
	32nm,0.7s,baz=78,slow=11,SNR=38								
URZ	**Urewera**	**24.84**	**162**	P		**P**		**00 22 13.5**	**+0.1**
	8.8nm,0.5s,baz=269,slow=2.1,SNR=5.3								
URZ	**Urewera**	**24.84**	**162**	P		**P**		**00 22 14.2**	**+0.9**
URZ				IAmb		IAmb		00 22 40.5	
	comp=Z,27nm,1.2s								
BKZ	**Black Stump Fm**	**25.50**	**163**	P		**P**		**00 22 20.2**	**+0.8**
BFZ	**Birch Farm**	**26.86**	**165**	P		**P**		**00 22 31.1**	**-0.5**
BFZ				IAmb		IAmb		00 22 34.4	
	comp=Z,39nm,1.0s								
MSWZ	**Moikau Station**	**27.33**	**167**	P		**P**		**00 22 35.1**	**-0.6**
LTZ	**Lake Taylor**	**28.14**	**172**	P		**P**		**00 22 43.5**	**+0.6**
RPZ	**Rata Peaks**	**28.93**	**175**	P		**P**		**00 22 50.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=187,slow=5.2,SNR=3.7								
STKA	**Stephens Creek**	**29.01**	**230**	P		**P**		**00 22 50.9**	**+0.1**
	comp=Z,21nm,0.7s,baz=45,slow=8.4,SNR=41								
STKA				PcP		**PcP**		**00 25 56.3**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=19,slow=1.1,SNR=3.7								
STKA	**Stephens Creek**	**29.01**	**230**	P		**P**		**00 22 52.0**	**+1.2**
STKA				IAmb		IAmb		00 22 52.6	
	comp=Z,4.4nm,0.8s								
WR0	**Warramunga Arr**	**31.73**	**256**	P		**P**		**00 23 13.2**	**-1.8**
WB0	**Warramunga Arr**	**31.86**	**256**	P		**P**		**00 23 14.4**	**-1.7**
WB0				IAmb		IAmb		00 23 14.8	
	comp=Z,6.2nm,0.6s								
WB2	**Warramunga Arr**	**31.91**	**256**	P		**P**		**00 23 14.7**	**-1.8**
WRA	**Warramunga Arr**	**31.92**	**256**	P		**P**		**00 23 15.1**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=86,slow=9.6,SNR=59								
WRA				ScP		**ScP**		**00 29 36.3**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=84,slow=3.7,SNR=7.2								
WRA	**Warramunga Arr**	**31.92**	**256**	P		**P**		**00 23 13.7**	**-2.9**
AS31	**Alice Springs**	**32.75**	**249**	P		**P**		**00 23 22.4**	**-1.5**
AS31				IAmb		IAmb		00 23 23.8	
	comp=Z,5.1nm,0.9s								
ASAR	**Alice Springs**	**32.75**	**249**	P		**P**		**00 23 22.4**	**-1.4**
	comp=Z,7.2nm,0.4s,baz=78,slow=8.8,SNR=142								
ASAR				PcP		**PcP**		**00 26 05.8**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=90,slow=2.9,SNR=5.7								
ASAR				S		**S**		**00 28 26.6**	**-4.7**
	comp=Z,0.7nm,1.0s,baz=69,slow=18,SNR=4.5								
ASAR				ScP		**ScP**		**00 29 39.3**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=92,slow=2.5,SNR=9.7								
ASAR	**Alice Springs**	**32.75**	**249**	P		**P**		**00 23 22.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.12**	**259**	P		**P**		**00 24 25.4**	**-0.9**
	comp=Z,6.2nm,0.5s,baz=95,slow=8.8,SNR=39								
BATI	**Baumata**	**42.90**	**271**	P		**P**		**00 24 49.6**	**+0.4**
	comp=Z,24nm,0.5s,baz=255,slow=17,SNR=4.4								
VNDA	**Vanda**	**62.74**	**181**	P		**P**		**00 27 14.2**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=4.5,slow=7.3,SNR=24								
VNDA	**Vanda**	**62.74**	**181**	P		**P**		**00 27 14.3**	**+0.4**
VNDA				IAmb		IAmb		00 27 16.1	
	comp=Z,7.5nm,0.8s								
SBA	**Scott Base**	**63.01**	**180**	P		**P**		**00 27 16.2**	**+0.5**
CASY	**Casey**	**63.46**	**202**	P		**P**		**00 27 19.0**	**+0.2**
CASY				IAmb		IAmb		00 27 19.8	
	comp=Z,13nm,0.8s								
NJ2	**Nanjing**	**65.86**	**316**	*e*P		**P**		**00 27 37.3**	**+2.4**
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
QSPA	**South Pole Qui**	**75.17**	**180**	P		**P**		**00 28 31.3**	**+0.2**
QSPA				IAmb		IAmb		00 28 32.2	
	comp=Z,22nm,0.9s								
HHC	**Hu-ho-hao-te**	**75.76**	**320**	*e*P		**P**		**00 28 38.0**	**+3.2**
HHC				pmax		pmax			
	comp=Z,15nm,1.0s								
HHC				pmax		pmax			
	comp=Z,96nm,5.6s								
PZH	**PanZhiHua**	**75.87**	**303**	P		**P**		**00 28 36.0**	**+0.3**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,3.6s								
SEY	**Seymchan**	**78.42**	**353**	P		**P**		**00 28 48.8**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=152,slow=6.6,SNR=6.8								
SONM	**Songino Array**	**82.67**	**324**	P		**P**		**00 29 12.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=128,slow=4.0,SNR=6.5								
SONM				pP		**pP**		**00 29 46.3**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=129,slow=4.7,SNR=2.3								
GTA	**Gaotai**	**82.85**	**314**	*e*P		**P**		**00 29 15.1**	**+1.8**
GTA				pP		pP		00 29 47.1	+1.5
GTA				sP		sP		00 30 02.6	+3.4
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,95nm,4.7s								
GTA				LR		LR			
	comp=Z,52nm,16.4s								
GTA				LR		LR			
	comp=Z,82nm,16.0s								
GTA				LR		LR			
	comp=Z,65nm,18.2s								
ILAR	**Eielson Array**	**86.60**	**18**	P		**P**		**00 29 29.9**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=241,slow=5.1,SNR=12								
ILAR				pP		**pwP**		**00 30 07.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=237,slow=5.2,SNR=8.8								
ILAR	**Eielson Array**	**86.60**	**18**	P		**P**		**00 29 31.1**	**-0.3**
SYO	**Syowa Base**	**88.62**	**197**	*e*P		**P**		**00 29 40.6**	**-0.5**
TROLL	**Troll, Antarti**	**92.75**	**185**	P		**P**		**00 29 59.9**	**-0.6**
WMQ	**Urumqi**	**92.91**	**315**	*e*P		**P**		**00 30 03.8**	**+2.3**
SNAA	**Sanae**	**93.43**	**183**	P		**P**		**00 30 02.7**	**-0.8**
VNA3	**Neumayer Olymp**	**94.09**	**181**	P		**P**		**00 30 05.3**	**-1.2**
VNA2	**Neumayer--Watz**	**94.36**	**182**	P		**P**		**00 30 06.9**	**-0.8**
	baz=185,slow=5.0								
MKAR	**Makanchi Array**	**97.38**	**316**	P		Pdif		00 30 22.2	+0.3
	comp=Z,0.6nm,0.7s,baz=91,slow=6.2,SNR=9.5								
MKAR				pP		pP		00 30 54.6	0.0
	comp=Z,0.8nm,0.7s,baz=89,slow=7.5,SNR=5.3								
MKAR	**Makanchi Array**	**97.38**	**316**	P		Pdif		00 30 22.0	+0.1
ZALV	**Zalesovo Beam**	**97.57**	**324**	P		**P**		**00 30 21.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=100,slow=6.3,SNR=5.6								
YKA	**Yellowknife Ar**	**97.60**	**27**	P		**P**		**00 30 22.4**	**0.0**
	comp=Z,0.5nm,0.8s,baz=254,slow=3.9,SNR=6.5								
ARCES	**ARCESS Array B**	**120.40**	**345**	PKP		**PKPdf**		**00 35 37.9**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=87,slow=2.0,SNR=24								
ARCES	**ARCESS Array B**	**120.40**	**345**	PKPdf		**PKPdf**		**00 35 38.2**	**-0.3**
FIA1	**FINESS Array S**	**125.88**	**338**	PKPdf		**PKPdf**		**00 35 49.1**	**0.0**
FINES	**FINESS Array B**	**125.89**	**338**	PKP		**PKPdf**		**00 35 48.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=144,slow=1.5,SNR=8.9								
FINES	**FINESS Array B**	**125.89**	**338**	PKPdf		**PKPdf**		**00 35 48.1**	**-1.1**
MNK	**Minsk**	**129.49**	**331**	*i* PKP		**PKPdf**		**00 35 54.1**	**-2.2**
	comp=E,2.0nm,1.1s								
MNK				*i* PKP		**PKPdf**		**00 35 54.1**	**-2.2**
	comp=N,9.0nm,1.2s								
MNK				*i* PKP		**PKPdf**		**00 35 54.1**	**-2.2**
	comp=Z,6.0nm,1.1s,baz=235								
MNK				*i* pPKP		**pPKPdf**		**00 36 28.9**	**-1.4**
MNK				*i* PP		**PP**		**00 38 05.7**	**-1.6**
MNK				*i* PPP		PPP		00 40 53.6	
MNK				*i* SKS		**SKSdf**		**00 42 53.3**	**-2.5**
MNK				*i* SS		**SS**		**00 55 19.2**	**+0.3**
MNK				*i* SSS		SSS		01 00 07.9	
MNK				*i* LRM		MLR		01 33 04.6	
	comp=Z,45nm,14.5s								
MNK				*i* LRM		MLR		01 33 12.2	
	comp=E,6.0nm,15.9s								
MNK				*i* LRM		MLR		01 33 36.4	
	comp=N,45nm,13.8s								
NB2	**NORSAR Subarra**	**130.78**	**345**	PKP		**PKiKP**		**00 35 59.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=43,slow=2.7								
NOA	**NORSAR Array B**	**130.78**	**345**	PKP		**PKPdf**		**00 35 58.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=33,slow=2.0,SNR=3.7								
BURAR	**Bucovina Array**	**134.79**	**324**	PKPdf		**PKiKP**		**00 36 08.3**	**+0.2**
CONA	**Conrad Observa**	**139.49**	**330**	*e*P		**PKiKP**		**00 36 18.1**	**+0.4**
	comp=Z,0.4nm,0.3s								
FETA	**Feichten**	**142.50**	**334**	*e*P		**PKPdf**		**00 36 18.0**	**-2.8**
	comp=Z,2.6nm,0.7s								
DAVA	**Damuels**	**142.65**	**335**	*e*P		**PKPdf**		**00 36 18.4**	**-2.7**
	comp=Z,2.4nm,0.7s								
TUE	**Stuetta**	**143.52**	**334**	PKPdf		PKPbc		00 36 21.4	+1.0
ZCCA	**Zocca**	**144.42**	**330**	PKPdf		**PKPdf**		**00 36 24.8**	**+0.6**
SENIN	**Lac Senin/Sane**	**144.44**	**336**	PKPdf		**PKPdf**		**00 36 23.8**	**-0.5**
NRCA	**Norcia**	**144.44**	**327**	PKPdf		**PKPdf**		**00 36 23.6**	**-0.7**
AQU	**L'Aquila**	**144.61**	**326**	PKPdf		**PKPdf**		**00 36 24.4**	**-0.2**
OSSC	**Osservatorio P**	**144.90**	**329**	PKPdf		**PKPab**		**00 36 24.2**	**-0.3**
VSL	**Villasalto**	**148.79**	**326**	PKPbc		**PKPbc**		**00 36 35.6**	**0.0**
TORD	**Torodi Ar. Bea**	**166.03**	**265**	PKP		**PKPdf**		**00 36 53.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=342,slow=1.3,SNR=6.7								
TORD	**Torodi Ar. Bea**	**166.03**	**265**	PKPdf		**PKPdf**		**00 36 53.0**	**-0.6**
DBIC	**Dimbokro**	**168.87**	**224**	PKP		**PKPdf**		**00 36 54.3**	**-1.4**
	comp=Z,10nm,1.3s,baz=318,slow=3.9,SNR=4.3								
DBIC	**Dimbokro**	**168.87**	**224**	PKPdf		**PKPdf**		**00 36 53.5**	**-2.2**

*KRSC **23** 00:26:26.6±1.0, 55°.07N×163°.71E, h41km±25km, ML4.0*
*IDC **23** 00:26:26.2±1.2, 54°.80N×163°.88E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/40, mbtmp3.4/6, ML2.5/1, MS3.6/5, Ms1 3.6/5, ms1mx2.7/71, Error ellipse: s-maj=78.7km s-min=21.0km az=147.0*

ISC 23 00:26:26.9±0.7, 55°.15N±0°.05×163°.71E±0°.04, h10km, n35, σ1§51/38, mb3.6/5, MS3.6/5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.18**	**335**	*e*P		**Pb**		**00 26 47.8**	**-1.4**
KBTR				*e*S		**Sb**		**00 27 01.4**	**-3.1**
KBG	**Krutoberegovo**	**1.25**	**333**	*e*P		**Pn**		**00 26 49.1**	**-1.2**
BKI	**Bering**	**1.30**	**87**	*e*P		**Pn**		**00 26 50.1**	**-0.9**
BKI				*e*S		**Sb**		**00 27 05.3**	**-2.7**
BZGR	**Bezymyannyi-Gr**	**1.89**	**296**	*e*P		**Pn**		**00 26 59.6**	**+0.4**
BZGR				*e*S		**Sn**		**00 27 22.2**	**-0.9**
TUMD	**Tumrok D**	**1.90**	**273**	*e*P		**Pn**		**00 26 59.2**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.00**	**295**	*e*P		**Pn**		**00 27 01.7**	**+0.8**
TUMR	**Tumrok**	**2.05**	**275**	*e*P		**Pn**		**00 27 02.1**	**+0.7**
KMNR	**Kamenistaya**	**2.07**	**288**	*e*P		**Pn**		**00 27 02.5**	**+0.8**
KIRR	**Kirishev**	**2.08**	**294**	*e*P		**Pn**		**00 27 03.1**	**+1.2**
KRSR	**Krestovskiy**	**2.08**	**302**	*e*P		**Pn**		**00 27 02.1**	**+0.2**
KLY	**Klyuchi**	**2.09**	**305**	*e*P		**Pn**		**00 27 01.9**	**0.0**
KPT	**Kopyto**	**2.15**	**294**	*e*P		**Pn**		**00 27 03.8**	**+1.0**
KII	**Karymskiy**	**2.72**	**248**	*e*P		**Pn**		**00 27 10.5**	**-0.1**
ESO	**Esso**	**2.95**	**287**	*e*P		**Pn**		**00 27 14.9**	**+1.1**
SPN	**Mys Shipunski**	**2.99**	**228**	*e*P		**Pn**		**00 27 13.1**	**-1.2**
SPN				*e*S		**Sn**		**00 27 45.1**	**-5.0**
NLC	**Nalytchevo**	**3.24**	**234**	*e*P		**Pn**		**00 27 17.8**	**+0.1**
NLC				*e*S		**Sn**		**00 27 54.9**	**-1.4**
SMAR	**Somma**	**3.45**	**239**	*e*P		**Pn**		**00 27 21.2**	**+0.4**
KRER	**Koryakskii**	**3.45**	**240**	*e*P		**Pn**		**00 27 21.7**	**+0.9**
UGLR	**Uglovaya**	**3.47**	**238**	*e*P		**Pn**		**00 27 21.7**	**+0.7**
AVH	**Avacha**	**3.48**	**239**	*e*P		**Pn**		**00 27 21.9**	**+0.8**
KOK	**Koryaka**	**3.51**	**240**	*e*P		**Pn**		**00 27 22.2**	**+0.6**
DALK	**Dalny**	**3.61**	**236**	*e*P		**Pn**		**00 27 22.8**	**0.0**
GNL	**Ganaly**	**3.67**	**249**	*e*P		**Pn**		**00 27 25.1**	**+1.3**
KRMR	**Karymshinskiy**	**4.03**	**237**	*e*P		**Pn**		**00 27 29.1**	**+0.5**
PETK	**Petropavlovsk-**	**4.09**	**242**	Pn		**Pn**		**00 27 30.0**	**+0.7**
	1.5nm,0.3s,baz=78,slow=17,SNR=21								
PETK				Sn		**Sn**		**00 28 16.2**	**-1.0**
	1.5nm,0.3s,baz=93,slow=26,SNR=2.6								
PETK				LR		LR		00 28 42.3	
	comp=Z,20nm,21.2s,baz=65,slow=34								
RUS	**Russkaya**	**4.11**	**231**	*e*P		**Pn**		**00 27 30.7**	**+1.0**
GRL	**Gorelyy**	**4.23**	**234**	*e*P		**Pn**		**00 27 32.5**	**+1.0**
ILAR	**Eielson Array**	**25.85**	**48**	P		**P**		**00 31 59.4**	**+1.2**
	0.4nm,0.6s,baz=256,slow=8.5,SNR=5.5								
NRIK	**Noril'sk**	**35.48**	**324**	LR		LR		00 48 35.0	
	comp=Z,42nm,18.4s,baz=348,slow=37								
YKA	**Yellowknife Ar**	**40.20**	**45**	P		**P**		**00 34 06.0**	**+3.1**
	0.2nm,0.5s,baz=299,slow=8.5,SNR=4.2								
YKA				LR		LR		00 52 42.9	
	comp=Z,28nm,19.4s,baz=357,slow=39								
NVAR

VA01 **Torpederas** 1.29 188 *e*P Pn 00 38 16.5 -4.8
comp=E,24µm,0.8s
VA01 *e*S **Sn** **00 38 38.8 +1.3**
VA01 IAML 00 38 40.9
comp=Z,5µm,0.6s
PEL **Peldehue** 1.53 156 **Pn** **00 38 25.8 +1.1**
PEL **Peldehue** 1.53 156 ǁ *i*P **Pn** **00 38 25.8 +1.1**
PEL IAML 00 38 47.9
comp=N,18µm,0.2s
PEL **Peldehue** 1.53 156 *e*P **Pn** **00 38 25.0 +0.3**
PEL *e*P 00 38 25.5
PEL *e*S **Sn** **00 38 47.3 +3.8**
MT02 **Curacav** 1.54 171 **Pn** **00 38 25.3 +0.7**
MT02 **Curacav** 1.54 171 *e*P **Pn** **00 38 25.3 +0.7**
MT02 **Curacav** 1.54 171 *e*P **Pn** **00 38 25.0 +0.4**
MT02 *e*S **Sn** **00 38 46.4 +3.0**
MT02 IAML 00 38 49.6
comp=Z,6µm,0.5s
GO04 **Tololo Observa** 1.65 19 **Pn** **00 38 28.0 +1.6**
GO04 **Tololo Observa** 1.65 19 ǁ *e*P **Pn** **00 38 27.9 +1.4**
GO04 **Tololo Observa** 1.65 19 *e*P **Pn** **00 38 28.0 +1.6**
GO04 *e*S **Sn** **00 38 51.1 +4.6**
MT05 **Renca** 1.75 161 Pn **Pn** **00 38 28.9 +1.4**
MT05 **Renca** 1.75 161 *e*P **Pn** **00 38 28.8 +1.2**
MT05 *e*S **Sn** **00 38 50.1 +1.4**
MT05 IAML 00 38 54.9
comp=E,34µm,0.5s
MT05 **Renca** 1.75 161 *e*P **Pn** **00 38 29.0 +1.4**
MT05 *e*S **Sn** **00 38 52.5 +3.8**
MT05 IAML 00 38 54.8
comp=Z,6µm,0.5s
AUSP **Uspallata** 1.79 106 *e*P **Pn** **00 38 26.0 -2.4**
AUSP *e*P 00 38 31.5
RTLS **Leoncito** 1.81 92 *e*P **Pn** **00 38 26.0 -2.7**
RTLS *e*P 00 38 31.8
RTLS *e*S **Sn** **00 38 43.7 -6.9**
RTLS IAML 00 38 56.2
comp=Z,3µm,0.8s
CO05 **La Serena** 1.82 5 **Pn** **00 38 30.0 +1.5**
CO05 **La Serena** 1.82 5 *e*P **Pn** **00 38 30.0 +1.5**
CO05 *e*S **Sn** **00 38 53.2 +2.9**
CO05 IAML 00 38 59.1
comp=E,11µm,0.2s
FCH **Farellones** 1.85 149 ǁ *i*P **Pn** **00 38 30.5 +1.2**
FCH *i* S **Sn** **00 38 54.1 +2.5**
MT03 **Universidad Ad** 1.91 157 Pn **Pn** **00 38 31.2 +1.3**
MT03 **Universidad Ad** 1.91 157 ǁ *e*P **Pn** **00 38 31.2 +1.3**
MT03 *e*S **Sn** **00 38 54.7 +1.9**
MT03 IAML 00 39 03.1
comp=E,16µm,0.6s
MT03 **Universidad Ad** 1.91 157 *e*P Pn 00 38 25.5 -4.4
MT03 *e*P 00 38 31.2
MT03 *e*S **Sn** **00 38 57.9 +5.1**
MT03 IAML 00 39 07.9
comp=Z,8µm,0.7s
VA05 **Santo Domingo** 1.92 185 Pn **Pn** **00 38 30.4 +0.5**
VA05 **Santo Domingo** 1.92 185 *e*P **Pn** **00 38 30.3 +0.4**
VA05 *e*S **Sn** **00 38 54.5 +1.7**
VA05 IAML 00 39 00.8
comp=E,17µm,0.4s
MT09 **Talagante** 2.06 170 *e*P **Pn** **00 38 33.4 +1.3**
MT09 *e*S **Sn** **00 38 58.2 +1.6**
MT09 IAML 00 39 04.6
comp=N,9µm,0.3s
MT01 **Popeta** 2.12 176 *e*P **Pn** **00 38 33.8 +1.1**
MT01 *e*S **Sn** **00 38 59.5 +1.6**
MT01 **Popeta** 2.12 176 *e*P **Pn** **00 38 33.9 +1.2**
MT01 *e*S **Sn** **00 39 05.2 +7.3**
MT01 IAML 00 39 09.9
comp=Z,3µm,0.3s
AROD **Rodeo** 2.29 47 *e*P **Pn** **00 38 38.8 +3.5**
AROD *e*P 00 38 39.0
AROD *e*P 00 38 39.5
AROD *e*S **Sn** **00 39 04.5 +2.0**
ACCO **Cerro Coronel** 2.32 61 *e*P **Pn** **00 38 39.6 +3.9**
ACCO *e*P 00 38 40.0
LMEL **Las Melosas** 2.34 154 Pn **Pn** **00 38 37.9 +2.1**
LMEL **Las Melosas** 2.34 154 *e*S **Sn** **00 39 06.5 +3.1**
LMEL IAML 00 39 11.0
comp=N,8µm,0.3s
BO04 **La Punta** 2.35 163 **Pn** **00 38 37.2 +1.4**
BO04 **La Punta** 2.35 163 *e*P **Pn** **00 38 37.2 +1.4**
BO04 *e*S **Sn** **00 39 04.8 +1.4**
BO04 IAML 00 39 10.5
comp=E,5µm,0.4s
ZON **Zonda** 2.35 86 *e*P **Pn** **00 38 39.0 +3.2**
ZON *e*S Sn 00 39 13.7 +10
ZON IAML 00 39 17.0
comp=Z,2µm,0.5s
ASAL **Salagasta** 2.35 112 *e*P **Pn** **00 38 40.0 +4.1**
ASAL *e*S Sn 00 39 18.7 +15
RTCV **Cerro Valdivia** 2.46 94 *e*P **Pn** **00 38 41.0 +3.7**
RTCV *e*S Sn 00 39 18.5 +12
ACDV **Cuesta del Vie** 2.52 52 *e*P **Pn** **00 38 37.0 -1.3**
ACDV *e*P 00 38 43.0
ACDV IAML 00 39 24.6
comp=Z,1µm,0.4s
RTLL **Cerro Villicun** 2.55 82 *e*P **Pn** **00 38 42.1 +3.5**
RTLL *e*S Sn 00 39 17.9 +10
AAGR **Agrelo** 2.57 122 *e*P **Pn** **00 38 43.0 +4.1**
AAGR *e*S Sn 00 38 58.3 -11
BO01 **Tunca** 2.66 174 **Pn** **00 38 41.1 +1.0**
BO01 **Tunca** 2.66 174 *e*P **Pn** **00 38 41.0 +0.9**
BO01 *e*S **Sn** **00 39 11.7 +0.6**
BO01 **Tunca** 2.66 174 *e*P **Pn** **00 38 41.0 +0.9**
BO01 *e*S **Sn** **00 39 12.5 +1.4**
BO01 IAML 00 39 27.7
comp=Z,1µm,0.6s
BO03 **Pichilemu** 2.79 189 *e*P **Pn** **00 38 41.4 -0.4**
LCO **Las Campanas** 2.79 13 Pn **Pn** **00 38 43.7 +1.7**
LCO **Las Campanas** 2.79 13 *e*P **Pn** **00 38 43.8 +1.7**
LCO *e*S **Sn** **00 39 17.6 +2.9**
LCO **Las Campanas** 2.79 13 *e*P **Pn** **00 38 44.0 +1.9**
BO02 **Sierra Bellavi** 3.09 170 Pn **Pn** **00 38 47.2 +1.1**
BO02 **Sierra Bellavi** 3.09 170 *e*P **Pn** **00 38 47.1 +1.1**
BO02 *i* S **Sn** **00 39 22.9 +1.1**
BO02 IAML 00 39 34.3
comp=N,4µm,0.5s
BO02 **Sierra Bellavi** 3.09 170 *e*P **Pn** **00 38 47.5 +1.4**
BO02 *e*S **Sn** **00 39 26.0 +4.2**
BO02 IAML 00 39 34.7
comp=Z,2µm,0.2s
GO05 **Huala** 3.29 187 Pn **Pn** **00 38 48.4 -0.4**
GO05 **Huala** 3.29 187 *e*P **Pn** **00 38 48.2 -0.6**
GO05 IAML 00 39 49.9
comp=E,1µm,0.4s
GO05 **Huala** 3.29 187 *e*P **Pn** **00 38 48.0 -0.7**
GO05 *e*S **Sn** **00 39 29.5 +2.9**
AC04 **Llanos de Chal** 3.54 5 Pn **Pn** **00 38 52.9 +0.8**
AC04 **Llanos de Chal** 3.54 5 *e*P **Pn** **00 38 52.8 +0.8**
AC04 IAML 00 39 54.7
comp=E,2µm,0.4s
AC04 **Llanos de Chal** 3.54 5 *e*P **Pn** **00 38 53.0 +0.9**
AC04 *e*S **Sn** **00 39 37.5 +4.9**
AC04 IAML 00 39 55.0
comp=Z,2µm,0.8s
AVFE **Valle Fertil** 3.56 73 *e*P **Pn** **00 38 55.5 +3.0**
AVFE *e*S **Sn** **00 39 37.0 +3.5**
AVFE *e*S 00 39 39.5
AVFE IAML 00 39 49.5
comp=Z,2µm,0.5s
RFA **San Rafael** 3.91 141 *e*P **Pn** **00 38 59.6 +2.4**
RFA *e*S Sn 00 40 02.5 +21
RFA IAML 00 40 07.4
comp=Z,460nm,1.2s
ACHE **Chepes** 4.11 83 *e*P **Pn** **00 39 02.8 +2.7**
ACLC **CERRO LA CRUZ** 4.49 60 *e*S Sn 00 40 05.4 +9.0
ACLC IAML 00 40 08.1
comp=Z,2µm,1.1s
AC02 **Maricunga** 5.28 23 Pn **Pn** **00 39 17.8 +1.3**
H03N1 **Juan Fernandez** 6.55 253 T T 00 46 15.4
baz=86,slow=72,SNR=2440
H03N3 **Juan Fernandez** 6.56 253 T T 00 46 15.8
baz=86,slow=72,SNR=2194
H03N2 **Juan Fernandez** 6.56 253 T T 00 46 12.1
baz=86,slow=72,SNR=2806
H03S3 **Juan Fernandez** 6.64 250 T T 00 46 19.3
SNR=25
H03S1 **Juan Fernandez** 6.64 250 T T 00 46 16.3
SNR=27
H03S2 **Juan Fernandez** 6.66 250 T T 00 46 19.7
SNR=32
LR03 **Panguipulli** 7.91 185 Pn **Pn** **00 39 51.5 -0.7**

PLCA **Paso Flores** 9.00 176 P **Pn** **00 40 07.8 +0.7**
comp=Z,0.7nm,0.3s,baz=335,slow=11,SNR=11
PLCA LR LR 00 43 13.4
comp=Z,100nm,21.7s,baz=348,slow=35
PLCA **Paso Flores** 9.00 176 **Pn** **00 40 07.2 +0.1**
PLCA **Paso Flores** 9.00 176 *e*P **Pn** **00 40 08.3 +1.2**
LVC **Limon Verde** 9.36 14 P **Pn** **00 40 11.4 -1.0**
comp=Z,2.6nm,0.3s,baz=142,slow=6.0,SNR=17
LVC LR LR 00 44 22.7
comp=Z,134nm,19.7s,baz=207,slow=41
LVC **Limon Verde** 9.36 14 **Pn** **00 40 10.8 -1.6**
LVC **Limon Verde** 9.36 14 *e*P **Pn** **00 40 10.4 -2.0**
PB02 **IPOC Station P** 10.47 8 Pn **Pn** **00 40 26.4 -0.9**
ITQB **Itaqui** 12.90 85 **Pn** **00 40 58.9 -1.5**
ITQB **Itaqui** 12.90 85 *e*P **Pn** **00 40 58.8 -1.6**
CPUP **Villa Florida** 13.45 70 P **Pn** **00 41 07.0 -1.0**
comp=Z,0.8nm,0.3s,baz=239,slow=12,SNR=9.8
CPUP LR LR 00 46 35.5
comp=Z,178nm,18.5s,baz=232,slow=39
CPUP **Villa Florida** 13.45 70 Pn **Pn** **00 41 06.2 -1.7**
CPUP **Villa Florida** 13.45 70 *e*P **Pn** **00 41 07.2 -0.8**
PB16 **IPOC Station P** 13.46 8 **Pn** **00 41 08.5 -0.1**
PLTB **Pedras Altas** 15.16 95 **Pn** **00 41 27.9 -2.9**
PLTB **Pedras Altas** 15.16 95 *e*P **Pn** **00 41 28.8 -2.0**
CPSB **Cacapava Do Su** 15.47 90 *e*P **Pn** **00 41 32.7 -2.1**
LPAZ **La Paz** 15.67 12 P **Pn** **00 41 37.8 -0.3**
comp=Z,0.5nm,0.3s,baz=208,slow=7.2,SNR=12
LPAZ **La Paz** 15.67 12 P **Pn** **00 41 39.8 +1.7**
LPAZ **La Paz** 15.67 12 *e*P **Pn** **00 41 38.0 0.0**
ITAB **Concordia** 17.38 80 **Pn** **00 41 59.2 +0.2**
ITAB **Concordia** 17.38 80 *e*P **Pn** **00 41 58.7 -0.2**
CNLB **Canela** 17.88 88 *e*P **Pn** **00 42 03.7 -1.6**
AQDB **Aquidauana** 18.01 55 P **Pn** **00 42 05.7 -1.0**
AQDB **Aquidauana** 18.01 55 *e*P **Pn** **00 42 05.8 -1.0**
SIV **San Ignacio** 18.29 33 P **P** **00 42 09.2 -0.7**
comp=Z,2.6nm,0.3s,baz=208,slow=7.7,SNR=65
PTGB **Pitanga** 18.42 73 *e*P **Pn** **00 42 12.1 +0.2**
TRCB **Terra Rica** 18.91 67 P **P** **00 42 17.1 +0.4**
TER01 **Tubaro-SC** 19.54 86 *e*P **P** **00 42 23.2 -0.4**
PTLB **Pontes e Lacer** 19.71 37 *e*P **P** **00 42 25.6 +0.1**
NNA **Nana** 20.28 345 LR LR 00 48 56.8
comp=Z,67nm,18.4s,baz=176,slow=32
PP1B **Ponte de Pedra** 20.55 51 *e*P **P** **00 42 34.3 -0.4**
PCMB **Pacaembu** 20.62 66 *e*P **P** **00 42 35.6 +0.3**
TIJ01 **Guaruva-PR** 20.69 78 *e*P **P** **00 42 33.9 -2.3**
FRTB **Fartura** 21.08 72 *e*P **P** **00 42 40.2 -0.1**
SALV **Santo Antonio** 21.30 46 *e*P **P** **00 42 42.2 -0.4**
VILB **Vilhena** 21.35 31 *e*P **P** **00 42 42.6 -0.7**
MG03 **Isla Dawson** 22.11 178 P **P** **00 42 51.8 +0.7**
MG03 IAmb IAmb 00 43 11.5
comp=Z,60nm,1.2s
EFI **East Falkland** 22.21 158 P **P** **00 42 51.4 -0.8**
EFI IAmb IAmb 00 43 20.2
comp=Z,58nm,1.1s
DSPA **Despedida** 22.32 175 P **P** **00 42 53.7 +0.4**
ETMB **Extrema** 22.34 14 *e*P **P** **00 42 54.9 +1.0**
ITRB **Iturama** 22.39 63 *e*P **P** **00 42 53.5 -1.0**
PET01 **Itanhaem-SP** 22.54 77 *e*P **P** **00 42 56.3 +0.3**
BB19B **Bebedouro** 23.05 68 *e*P **P** **00 42 59.8 -1.5**
USHA **Ushuaia** 23.18 176 P **P** **00 43 03.5 +1.2**
comp=Z,26nm,0.9s,baz=2.5,slow=7.7,SNR=12
VAO **Valinhos** 23.36 74 *e*P **P** **00 43 04.8 +0.4**
CZSB **Cruzeiro do Su** 23.92 357 *e*P **P** **00 43 11.2 +1.7**
PDRB **Pedro dos Gac** 24.19 37 *e*P **P** **00 43 11.3 -0.8**
IPMB **Ipameri, GO** 25.05 62 *e*P **P** **00 43 19.2 -0.8**
CLDB **Colider** 25.30 38 *e*P **P** **00 43 23.0 +0.8**
BDFB **Brasilia** 26.67 58 P **P** **00 43 33.9 -0.8**
comp=Z,23nm,0.7s,baz=230,slow=7.2,SNR=35
BDFB LR LR 00 55 19.6
comp=Z,237nm,18.8s,baz=201,slow=39
BDFB **Brasilia** 26.67 58 P **P** **00 43 34.3 -0.4**
BDFB IAmb IAmb 00 43 35.7
comp=Z,33nm,1.0s
SNDB **Serra Nova Dou** 27.03 48 *e*P **P** **00 43 37.4 -0.4**
TBTG **Tibatinga, AM** 27.45 3 *e*P **P** **00 43 42.2 +0.7**
DUB01 **Friburgo-RJ** 27.56 77 *e*P **P** **00 43 43.0 +0.4**
DIAM **Diamantina, MG** 28.39 68 *e*P **P** **00 43 50.3 +0.2**
NPGB **Novo Progresso** 28.78 35 *e*P **P** **00 43 52.5 -1.0**
PEXB **Peixe** 28.90 53 *e*P **P** **00 43 54.9 +0.3**
JANB **Januaria** 29.79 62 *e*P **P** **00 44 02.2 -0.3**
SJMB **Sao Joao De Ma** 30.16 72 *e*P **P** **00 44 05.2 -0.5**
MACA **Manacapuru-AM** 30.17 22 *e*P **P** **00 44 05.7 0.0**
SDBA **SAO DESIDERIO** 31.06 58 *e*P **P** **00 44 12.9 -0.9**
NAN01 **Guarapari, ES** 31.47 71 *e*P **P** **00 44 16.2 -1.0**
SMTB **Santa Maria do** 31.75 49 *e*P **P** **00 44 19.7 -0.1**
GUA01 **Guaratinga, BA** 32.41 70 *e*P **P** **00 44 25.4 0.0**
PRPB **Parauapebas** 32.48 43 *e*P **P** **00 44 25.4 -0.7**
RPN **Rapa Nui** 33.23 268 LR LR 00 54 25.2
comp=Z,87nm,20.5s,baz=286,slow=30
CMC01 **Camacan, BA** 33.32 68 *e*P **P** **00 44 33.2 -0.3**
NBIT **Itapeh - BA** 33.63 58 *e*P **P** **00 44 36.0 -0.2**
MALB **Monte Alegre** 33.85 92 *e*P **P** **00 44 37.9 -0.1**
GDU01 **Guandu, BA** 34.23 66 *e*P **P** **00 44 40.9 -0.5**
BOAV **Boa Vista** 35.49 19 *e*P **P** **00 44 52.2 0.0**
ORTC **Ortega, Tolima** 35.64 353 *e*P **P** **00 44 55.8 +2.3**
MCPB **Macapa, AP** 36.19 34 *e*P **P** **00 44 58.0 -0.2**
CHIC **Chingaza** 36.23 356 *e*P P 00 45 04.0 +5.0
RUSC **La Rusia** 37.45 357 *e*P **P** **00 45 10.4 +1.0**
CBOC **Ciudad Bolivar** 37.65 353 *e*P **P** **00 45 12.6 +1.8**
ROSB **Rosrio** 38.51 47 *e*P **P** **00 45 17.2 -0.7**
DBBC **Dabeiba** 38.81 352 *e*P **P** **00 45 22.3 +1.9**
NBMA **Muriti-CE** 38.91 58 *e*P **P** **00 45 20.9 -0.4**
NBPS **Pedro II - PI** 39.12 52 *e*P **P** **00 45 22.8 -0.4**
ZARC **Zaragoza, Cauc** 39.15 355 P **P** **00 45 23.3 +0.1**
NBAN **Anadia - AL** 39.26 64 *e*P **P** **00 45 23.3 -0.9**
NBPB **Pedra_Branca-C** 39.58 55 *e*P **P** **00 45 26.6 -0.3**
SDV **Santo Domingo** 40.40 1 *e*P **P** **00 45 33.9 +0.1**
NBRF **Rio Formoso** 40.76 64 *e*P **P** **00 45 36.1 -0.6**
MDP **Mar Chiquita, Ges** 40.77 29 LR LR 01 03 38.4
comp=Z,72nm,18.7s,baz=190,slow=38
RCBR **Riachuelo** 42.03 60 LR LR 01 04 38.4
comp=Z,156nm,19.1s,baz=350,slow=38
NBPV **Pedro Velho** 42.09 61 *e*P **P** **00 45 47.6 0.0**
BIRV **Birongo** 42.26 8 P **P** **00 45 48.7 -0.2**
BIRV IAmb IAmb 00 45 49.8
comp=Z,31nm,1.1s
BELA **Belgrano 2** 49.01 170 P **P** **00 46 42.5 +1.0**
MLPR **Magueyes Islan** 49.60 5 P **P** **00 46 46.3 -0.3**
CRPR **Cabo Rojo, PR** 49.63 5 P **P** **00 46 46.2 -0.6**
PDPR **Patillas Dam,** 49.74 7 P **P** **00 46 47.0 -0.7**
PDPR IAmb IAmb 00 47 07.4
comp=Z,13nm,1.1s
VNA3 **Neumayer Olymp** 51.26 159 P **P** **00 46 59.1 +0.5**
VNA2 **Neumayer--Watz** 51.90 158 P **P** **00 47 04.2 +0.8**
baz=289,slow=8.0
SNAA **Sanae** 53.48 159 P **P** **00 47 15.9 +0.7**
SNAA **Sanae** 53.48 159 P **P** **00 47 15.5 +0.3**
SNAA IAmb IAmb 00 47 29.5
comp=Z,12nm,1.0s
TROLL **Troll, Antarti** 55.20 159 P **P** **00 47 28.3 +0.6**
QSPA **South Pole Qui** 58.49 180 P **P** **00 47 52.0 +0.9**
QSPA IAmb IAmb 00 47 53.1
comp=Z,7.7nm,0.9s
553A **Crawfordville** 62.82 347 P **P** **00 48 21.6 +0.9**
833A **Chaparral WMA,** 65.40 333 P **P** **00 48 38.1 +0.4**
833A IAmb IAmb 00 48 40.2
comp=Z,13nm,1.1s
GOGA **Godfrey** 65.79 349 P **P** **00 48 39.7 -0.4**
LRAL **Lakeview Retre** 66.08 346 P **P** **00 48 42.3 +0.3**
LRAL IAmb IAmb 00 48 55.6
comp=Z,17nm,1.4s
Y52A **Lilburn** 66.33 349 P **P** **00 48 43.6 0.0**
Y52A IAmb IAmb 00 48 44.6
comp=Z,9.6nm,0.8s
Y49A **Blount Mountai** 66.76 346 P **P** **00 48 46.7 +0.4**
Y49A IAmb IAmb 00 49 01.0
comp=Z,12nm,1.5s
BG3 **Lake Jocassee** 67.26 350 P **P** **00 48 49.5 0.0**
W50A **Signal Mountai** 67.85 348 IAmb IAmb 00 48 54.5
comp=Z,13nm,0.9s
V53A **Saluda** 67.90 350 IAmb IAmb 00 48 55.7
comp=Z,11nm,1.2s
CPCT **Cooper Cave** 67.96 348 IAmb IAmb 00 48 55.5
comp=Z,14nm,1.2s
TKL **Tuckaleechee C** 68.04 349 P **P** **00 48 52.9 -1.4**
comp=Z,3.9nm,0.5s,baz=163,slow=9.0,SNR=8.6
TKL **Tuckaleechee C** 68.04 349 P **P** **00 48 54.0 -0.3**
TKL IAmb IAmb 00 48 55.7
comp=Z,10nm,1.1s
V52A **Sevierville** 68.19 349 IAmb IAmb 00 48 56.1
comp=Z,7.1nm,0.7s
PLAL **Pickwick Lake** 68.19 345 IAmb IAmb 00 48 55.9
comp=Z,6.2nm,0.7s

V51A **Loudon** 68.28 349 IAmb IAmb 00 48 57.3
comp=Z,7.6nm,0.9s
W45A **Hickory Valley** 68.61 344 P **P** **00 48 58.5 +0.6**
CLTN **Cedars of Leba** 68.91 347 P **P** **00 48 59.7 -0.1**
CLTN IAmb IAmb 00 49 01.0
comp=Z,7.9nm,0.7s
WVT **Waverly** 69.25 346 P **P** **00 49 01.9 +0.1**
JSRW **J. Sargeant Re** 69.34 355 P **P** **00 49 02.8 +0.4**
W39A **Magazine** 69.82 341 IAmb IAmb 00 49 08.1
comp=Z,15nm,0.9s
T47A **Sharon Grove** 69.93 347 IAmb IAmb 00 49 07.2
comp=Z,12nm,1.1s
LCAR **Lake Charles** 69.95 343 IAmb IAmb 00 49 07.4
comp=Z,9.7nm,0.8s
U40A **Yellville** 70.66 342 IAmb IAmb 00 49 11.9
comp=Z,9.9nm,0.9s
MNTX **Cornudas Mount** 70.81 330 P **P** **00 49 11.4 -0.2**
MNTX IAmb IAmb 00 49 35.7
comp=Z,19nm,1.4s
P57A **Homestead Farm** 71.13 355 IAmb IAmb 00 49 17.0
comp=Z,11nm,1.1s
WUPA **West Chester U** 71.42 357 IAmb IAmb 00 49 17.2
comp=Z,10nm,1.1s
FVM **French Village** 71.59 344 IAmb IAmb 00 49 18.2
comp=Z,14nm,1.0s
CCM **Cathedral Cave** 71.86 344 P **P** **00 49 17.6 -0.2**
CCM IAmb IAmb 00 49 19.3
comp=Z,13nm,0.9s
S39A **Bolivar** 72.04 342 IAmb IAmb 00 49 20.4
comp=Z,15nm,1.3s
M55A **Ridgway** 73.16 354 P **P** **00 49 25.9 +0.4**
LIC **Lamto** 73.57 72 *e*P **P** **00 49 28.3 -0.2**
comp=Z,33nm,1.1s
TIC **Toumodi** 73.82 71 *e*P **P** **00 49 29.8 -0.2**
KIC **Kosan Boka** 73.88 72 *e*P **P** **00 49 30.1 -0.2**
comp=Z,20nm,0.7s
DBIC **Dimbokro** 73.97 71 P **P** **00 49 29.5 -1.3**
comp=Z,13nm,0.8s,baz=239,slow=5.6,SNR=17
DBIC LR LR 01 18 20.8
comp=Z,53nm,20.9s,baz=190,slow=33
DBIC **Dimbokro** 73.97 71 P **P** **00 49 30.7 -0.1**
DBIC IAmb IAmb 00 49 31.7
comp=Z,11nm,0.8s
SUR **Sutherland** 75.47 119 LR LR 01 22 36.4
comp=Z,57nm,18.1s,baz=176,slow=36
SUR **Sutherland** 75.47 119 P **P** **00 49 40.4 +0.8**
L40A **Anamosa** 75.67 345 IAmb IAmb 00 49 41.0
comp=Z,14nm,0.8s
SADO **Sadowa** 76.47 354 P **P** **00 49 44.0 -0.5**
comp=Z,5.9nm,0.5s,baz=244,slow=4.1,SNR=9.6
SADO **Sadowa** 76.47 354 IAmb IAmb 00 49 58.0
comp=Z,13nm,1.1s
Q24A **Divide** 77.02 334 P **P** **00 49 49.3 +1.2**
ECSD **EROS Data Cent** 78.57 342 IAmb IAmb 00 49 57.7
comp=Z,13nm,0.9s
KOWA **Kowa** 79.23 66 P **P** **00 50 00.5 -0.1**
KOWA IAmb IAmb 00 50 01.2
comp=Z,9.6nm,0.7s
TSUM **Tsumeb** 79.33 106 LR LR 01 21 22.7
comp=Z,75nm,20.7s,baz=156,slow=33
P18A **Preston Nutter** 79.62 331 P **P** **00 50 03.7 +1.1**
BOSA **Boshof** 80.66 118 P **P** **00 50 08.6 +0.2**
comp=Z,2.2nm,0.7s,baz=247,slow=4.2,SNR=7.7
BOSA **Boshof** 80.66 118 P **P** **00 50 08.4 +0.1**
JLU **Jordanelle** 80.94 330 IAmb IAmb 00 50 12.7
comp=Z,14nm,1.1s
PDAR **Pinedale Array** 81.99 333 P **P** **00 50 15.5 +0.5**
comp=Z,0.8nm,0.7s,baz=139,slow=5.1,SNR=6.4
PDAR **Pinedale Array** 81.99 333 P **P** **00 50 14.7 -0.3**
B35A **Bob, Littlefor** 82.20 345 IAmb IAmb 00 50 16.6
comp=Z,9.5nm,0.8s
NVAR **Mina Array Bea** 82.34 325 P **P** **00 50 17.7 +0.8**
comp=Z,2.5nm,0.7s,baz=155,slow=6.5,SNR=8.8
NVAR pP **pP** **00 50 30.9 +0.8**
comp=Z,1.6nm,0.8s,baz=148,slow=5.5,SNR=3.0
ELK **Elko** 82.72 328 P **P** **00 50 19.6 +0.7**
comp=Z,2.8nm,0.8s,baz=133,slow=6.6,SNR=9.0
LBTB **Lobatse** 82.78 115 LR LR 01 22 19.8
comp=Z,37nm,20.7s,baz=186,slow=32
LBTB **Lobatse** 82.78 115 P **P** **00 50 19.5 0.0**
LBTB IAmb IAmb 00 50 20.3
comp=Z,5.9nm,0.7s
TOA0 **Torodi Ar. Sit** 82.95 70 P **P** **00 50 20.2 -0.1**
TORD **Torodi Ar. Bea** 82.95 70 P **P** **00 50 20.3 0.0**
comp=Z,8.7nm,0.8s,baz=256,slow=4.5,SNR=49
TORD pP **pP** **00 50 33.6 -0.1**
comp=Z,4.6nm,0.7s,baz=273,slow=4.1,SNR=10.0
TORD **Torodi Ar. Bea** 82.95 70 P **P** **00 50 20.3 0.0**
TORD IAmb IAmb 00 50 21.3
comp=Z,9.7nm,0.8s
ULM **Lac du Bonnet** 84.46 345 P **P** **00 50 27.2 0.0**
comp=Z,4.3nm,0.7s,baz=169,slow=3.5,SNR=5.5
ULM **Lac du Bonnet** 84.46 345 IAmb IAmb 00 50 28.1
comp=Z,4.9nm,0.8s
PLID **Pearl Lake** 86.54 330 P **P** **00 50 39.0 +1.0**
PLID IAmb IAmb 00 50 39.8
comp=Z,7.0nm,1.2s
YKA **Yellowknife Ar** 100.09 341 P **Pdif** **00 51 39.6 -0.1**
comp=Z,0.3nm,0.5s,baz=144,slow=4.7,SNR=13
YKA PKKPbc **PKKPbc** **01 07 57.2 -2.7**
comp=Z,0.2nm,0.4s,baz=322,slow=3.5,SNR=8.8
IMAR **Indian Mountai** 115.54 333 PKPdf **PKPdf** **00 56 36.1 +0.2**
BURAR **Bucovina Array** 116.88 49 PKPdf **PKiKP** **00 56 39.8 +0.6**
ASAR **Alice Springs** 119.81 207 PKP **PKPdf** **00 56 44.9 -0.7**
comp=Z,0.8nm,0.5s,baz=160,slow=1.7,SNR=10
ASAR **Alice Springs** 119.81 207 PKPdf **PKPdf** **00 56 44.6 -1.1**
BRTR **Keskin Array B** 120.26 60 PKP **PKPdf** **00 56 45.4 -0.6**
comp=Z,0.8nm,0.9s,baz=292,slow=2.7,SNR=2.5
BRTR **Keskin Array B** 120.26 60 PKPdf **PKPdf** **00 56 46.1 +0.1**
WR0 **Warramunga Arr** 122.89 209 PKPdf **PKPdf** **00 56 51.1 -0.5**
WB2 **Warramunga Arr** 122.98 209 PKPdf **PKPdf** **00 56 51.6 -0.3**
WRA **Warramunga Arr** 122.98 209 PKP **PKPdf** **00 56 51.3 -0.5**
comp=Z,2.0nm,0.5s,baz=155,slow=1.6,SNR=50
WRA pPKP **pPKPdf** **00 57 04.4 -1.2**
comp=Z,0.4nm,0.4s,baz=156,slow=1.7,SNR=3.5
WRA **Warramunga Arr** 122.98 209 PKPdf **PKPdf** **00 56 51.1 -0.7**
WB0 **Warramunga Arr** 123.12 209 PKPdf **PKPdf** **00 56 51.7 -0.3**
H11S2 **WAKE ISLAND Hyl** 126.30 270 T T 03 15 54.6
baz=116,slow=75,SNR=90
H11S1 **WAKE ISLAND Hyl** 126.31 270 T T 03 15 53.7
baz=116,slow=75,SNR=87
H11S3 **WAKE ISLAND Hyl** 126.32 270 T T 03 15 53.6
baz=116,slow=75,SNR=74
H11N3 **WAKE ISLAND Hyl** 126.66 272 T T 03 16 17.0
baz=153,slow=74,SNR=14
H11N2 **WAKE ISLAND Hyl** 126.67 272 T T 03 16 18.6
baz=121,slow=74,SNR=19
ABKAR **Akbulak array** 139.85 50 PKPpre PKPpre 00 57 13.1
ABKAR PKPdf **PKPdf** **00 57 22.8 +0.3**
BRVK **Borovoye** 145.18 41 **PKPdf** **00 57 32.3 +0.4**
TOLI2 **Tolitoli** 147.43 203 PKPbc **PKPbc** **00 57 39.0 -0.4**
KKAR **Karatay Array** 147.96 58 PKPdf **PKPdf** **00 57 37.5 +0.6**
GAR **Garm** 148.15 66 PKPbc **PKPbc** **00 57 41.0 +0.2**
PSI **Prapat** 149.81 161 PKPbc **PKPbc** **00 57 44.6 -1.1**
comp=Z,11nm,0.6s,baz=283,slow=2.2,SNR=12
KURK **Kurchatov** 150.85 41 PKPbc **PKPbc** **00 57 47.5 +0.6**
BOOM **Boomskoye usch** 152.00 58 PKPbc **PKPbc** **00 57 50.2 +0.1**
ZAA0 **Zalesovo Array** 152.03 31 PKPbc **PKPbc** **00 57 49.9 +0.4**
ZALV **Zalesovo Beam** 152.03 31 PKPbc **PKPbc** **00 57 49.7 +0.2**
comp=Z,9.8nm,0.5s,baz=310,slow=3.2,SNR=55
ZALV pPKPbc **sPKPdf** **00 58 02.5 +0.8**
comp=Z,14nm,0.6s,baz=307,slow=2.9,SNR=24
ZALV **Zalesovo Beam** 152.03 31 PKPbc **PKiKP** **00 57 50.1 +0.2**
KSH **Kashi** 152.49 64 PKPbc **PKPbc** **00 57 51.0 -0.2**
KSH pPKP PKPab 00 58 01.0 -0.7
KSH sPKP 00 58 04.6
KSH PKS **PP** **01 01 30.3 -4.5**
KULM **Kulim** 152.66 163 PKPbc **PKPbc** **00 57 51.2 -1.0**
KDJ **Kajisay** 152.98 59 PKPbc **PKPbc** **00 57 52.5 +0.2**
MK31 **Makanchi Array** 154.85 46 PKPdf **PKPdf** **00 57 47.1 -0.1**
MK31 PKPbc **PKPbc** **00 57 55.2 -0.8**
MK31 **pPKPbc** **00 58 09.5 -0.3**
MKAR **Makanchi Array** 154.85 46 PKP **PKPdf** **00 57 46.5 -0.8**
comp=Z,0.3nm,0.7s,baz=30,slow=0.7,SNR=5.4
MKAR PKPbc **PKPbc** **00 57 55.9 -0.1**
comp=Z,1.1nm,0.7s,baz=296,slow=2.0,SNR=12
MKAR pPKPbc **pPKPbc** **00 58 09.2 -0.7**
comp=Z,2.8nm,0.7s,baz=299,slow=4.0,SNR=16
MKAR **Makanchi Array** 154.85 46 PKPdf **PKPdf** **00 57 46.9 -0.4**
MKAR PKPbc **PKPbc** **00 57 55.9 -0.1**
MKAR PKPab **pPKPbc** **00 58 09.5 -0.3**
CMAR **Chiang Mai Arr** 164.17 144 PKP **PKPdf** **00 57 58.5 -0.3**
comp=Z,1.6nm,0.4s,baz=207,slow=1.6,SNR=4.6
CMAR **Chiang Mai Arr** 164.17 144 **PKPdf** **00 57 58.9

*INET **23** 01:12:43.7±0.2, 13°.17N×89°.37W, h69km±3km, MW3.4*
*GCG **23** 01:12:45.1±0.4, 13°.41N×89°.50W, h150km±9km, MD4.2*
*SNET **23** 01:12:45.1±1.7, 13°.12N×89°.30W, h26km, ML4.6, ML4.4*
*IDC **23** 01:12:46.5±2.6, 13°.37N×88°.98W, h75km±24km, mb3.7/6, mb1 3.9/8, mb1mx3.6/34, mbtmp4.0/8, MS3.2/8, Ms1 3.2/8, ms1mx2.9/64, Error ellipse: s-maj=40.0km s-min=23.1km az=50.0*
*NEIC **23** 01:12:47.2±2.5, 13°.29N±0°.06×89°.10W±0°.08, h67km±6km, mb4.2/46, Md4.6(SNET), Error ellipse: s-maj=12.5km s-min=6.4km az=55.0*

ISC 23 01:12:45.1±0.8, 13°.22N±0°.06×89°.23W±0°.04, h60km±6km, n139, σ1§21/147, mb4.2/25, 2C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.28**	**342**	*eP*	**Pn**	**01 12 54.7**	**-0.4**
LALI				*eS*	**Sn**	**01 13 00.9**	**-1.6**
LALI	**Alcalda de L**	**0.28**	**342**	*eP*	**Pn**	**01 12 54.7**	**-0.4**
LFRS	**El Faro**	**0.44**	**22**	*eP*	**Pn**	**01 12 56.6**	**0.0**
ITCA	**Escuela Especi**	**0.46**	**354**	*eP*	**Pn**	**01 12 56.8**	**0.0**
SNET	**Serv Nac Est T**	**0.47**	**0**	Pn	**Pn**	**01 12 56.9**	**0.0**
SNET				Sn	**Sn**	**01 13 05.9**	**+0.4**
SNET	**Serv Nac Est T**	**0.47**	**0**	*eP*	**Pn**	**01 12 57.1**	**+0.2**
SNET				*eS*	**Sn**	**01 13 05.7**	**+0.3**
SNET				IAML		01 13 07.3	
	comp=Z,23µm,0.3s						
SNET	**Serv Nac Est T**	**0.47**	**0**	*eP*	**Pn**	**01 12 57.0**	**+0.2**
MAGS	**Ministerio de**	**0.47**	**354**	*eP*	**Pn**	**01 12 56.9**	**0.0**
MAGS				IAML		01 13 11.1	
	comp=Z,33µm,0.5s						
UTEC	**Universidad Te**	**0.48**	**4**	*eP*	**Pn**	**01 12 57.4**	**+0.3**
JAYA	**Jayaque - finc**	**0.48**	**334**	*eP*	**Pn**	**01 12 56.9**	**-0.3**
JAYA				*eS*	**Sn**	**01 13 04.8**	**-1.0**
SEMO	**Seminario San**	**0.48**	**1**	*eP*	**Pn**	**01 12 57.2**	**+0.2**
AEIL	**Aeropuerto Ilo**	**0.49**	**13**	*eP*	**Pn**	**01 12 57.7**	**+0.6**
AEIL				IAML		01 13 16.0	
	comp=Z,23µm,0.4s						
IGN	**Direccin Gen**	**0.50**	**7**	*eP*	**Pn**	**01 12 57.4**	**+0.2**
PMON	**Piamonte**	**0.50**	**351**	*eP*	**Pn**	**01 12 57.4**	**+0.2**
PMON				*eS*	**Sn**	**01 13 06.6**	**+0.5**
UDBS	**Universidad Do**	**0.50**	**9**	*eP*	**Pn**	**01 12 57.6**	**+0.4**
UESS	**Universidad de**	**0.50**	**4**	*eP*	**Pn**	**01 12 57.7**	**+0.4**
BOQS	**Boqueron**	**0.52**	**355**	*eP*	**Pn**	**01 12 57.9**	**+0.3**
COEG	**Centro de Oper**	**0.53**	**40**	*eP*	**Pn**	**01 12 57.6**	**+0.1**
COEG				IAML		01 13 18.1	
	comp=Z,8µm,0.6s						
LFU	**La Fuente**	**0.54**	**12**	*eP*	**Pn**	**01 12 58.3**	**+0.6**
LFU				*eS*	**Sn**	**01 13 07.7**	**+0.9**
TECO	**Alcaldia de Te**	**0.54**	**54**	*eP*	**Pn**	**01 12 57.6**	**0.0**
SNVI	**San Vicente**	**0.55**	**44**	*eP*	**Pn**	**01 12 58.0**	**+0.2**
LBRS	**Las Brisas**	**0.55**	**20**	*eP*	**Pn**	**01 12 58.5**	**+0.8**
PAVA	**Las Pavas**	**0.57**	**30**	*eP*	**Pn**	**01 12 58.6**	**+0.5**
PAVA				*eS*	**Sn**	**01 13 08.3**	**+0.8**
PAVA				IAML		01 13 12.1	
	comp=Z,12µm,0.3s						
PAVA	**Las Pavas**	**0.57**	**30**	*eP*	**Pn**	**01 12 58.6**	**+0.5**
UESV	**Universidad de**	**0.60**	**46**	*eP*	**Pn**	**01 12 58.6**	**+0.4**
CEDA	**San Andres**	**0.60**	**345**	*eP*	**Pn**	**01 12 58.6**	**+0.3**
CEDA				IAML		01 13 18.8	
	comp=Z,19µm,0.6s						
SCLA	**Alcaldia de Sa**	**0.69**	**45**	*eP*	**Pn**	**01 13 00.2**	**+0.9**
SCLA				*eS*	**Sn**	**01 13 11.9**	**+2.2**
CEVE	**Cerro Verde**	**0.72**	**328**	*eP*	**Pn**	**01 12 59.9**	**0.0**
CEVE				IAML		01 13 14.7	
	comp=Z,18µm,0.4s						
SBLS	**San Blas**	**0.73**	**329**	*eP*	**Pn**	**01 12 59.9**	**-0.1**
COEB	**Comit de Eme**	**0.74**	**68**	*eP*	**Pn**	**01 13 00.3**	**+0.4**
COEB				IAML		01 13 19.2	
	comp=Z,8µm,0.3s						
SNJE	**San Jose**	**0.74**	**331**	*eP*	**Pn**	**01 13 00.2**	**+0.1**
TACO	**Tacachico**	**0.76**	**351**	*eP*	**Pn**	**01 13 00.7**	**+0.5**
PQSS	**Presa 15 de Se**	**0.77**	**58**	*eP*	**Pn**	**01 13 01.1**	**+0.9**
PQSS				*eS*	**Sn**	**01 13 12.9**	**+1.6**
RTR	**El Retiro**	**0.79**	**329**	*eP*	**Pn**	**01 13 01.0**	**+0.3**
UNIC	**Universidad Ca**	**0.82**	**338**	*eP*	**Pn**	**01 13 01.4**	**+0.4**
NUBE	**Las Nubes**	**0.86**	**322**	*eP*	**Pn**	**01 13 01.4**	**-0.2**
PACA	**Pacayal**	**0.92**	**74**	*eP*	**Pn**	**01 13 03.5**	**+1.2**
LCY	**Lacayo**	**0.94**	**77**	*eP*	**Pn**	**01 13 03.4**	**+1.0**
LOAL	**Lomas de Alarc**	**0.94**	**326**	*eP*	**Pn**	**01 13 03.0**	**+0.5**
RANC	**El Ranchito**	**0.94**	**77**	*eP*	**Pn**	**01 13 03.6**	**+1.0**
RANC				IAML		01 13 21.9	
	comp=Z,14µm,0.4s						
VSM	**San Miguel**	**0.96**	**77**	*eP*	**Pn**	**01 13 03.9**	**+1.0**
JUCU	**Jucuarn**	**0.96**	**88**	*eP*	**Pn**	**01 13 02.5**	**-0.2**
JUCU				IAML		01 13 22.6	
	comp=Z,6µm,0.4s						
SLOZ	**Alcaldia de Sa**	**0.97**	**326**	*eP*	**Pn**	**01 13 03.2**	**+0.4**
SLOZ				*eS*	**Sn**	**01 13 16.8**	**+0.9**
LLGN	**La Laguna**	**0.98**	**17**	*eP*	**Pn**	**01 13 03.9**	**+0.9**
MTO3	**Montecristo**	**1.18**	**354**	Pn	**Pn**	**01 13 06.5**	**+0.8**
MTO3				Sn	**Sn**	**01 13 22.6**	**+1.4**
MTO3	**Montecristo**	**1.18**	**354**	*eP*	**Pn**	**01 13 06.5**	**+0.8**
LCND	**La Caada**	**1.31**	**86**	*eP*	**Pn**	**01 13 08.1**	**+0.8**
ESQI	**Esquipulas**	**1.34**	**355**	Pn	**Pn**	**01 13 09.0**	**+1.2**
CSGN	**Cosiguina Volc**	**1.65**	**98**	*eP*	**Pn**	**01 13 12.2**	**+0.3**
NBG	**Las Nubes**	**1.74**	**322**	*eP*	**Pn**	**01 13 15.1**	**+1.7**
PCG	**Pacaya**	**1.77**	**311**	*eS*	**Sn**	**01 13 39.1**	**+3.6**
MRL	**Marmol**	**1.91**	**347**	*eP*	**Pn**	**01 13 17.7**	**+2.2**
FUG	**Fuego 3**	**1.99**	**308**	*eP*	**Pn**	**01 13 17.5**	**+0.9**
FUG				*eS*	**Sn**	**01 13 42.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.08**	**66**	Pn	**Pn**	**01 13 18.6**	**+0.8**
CRIN	**San Cristobal**	**2.19**	**103**	Pn	**Pn**	**01 13 19.6**	**+0.3**
CNGN	**Cerro Negro**	**2.57**	**106**	Pn	**Pn**	**01 13 23.2**	**-1.2**
STG3	**Santiaguito 3,**	**2.71**	**303**	*eP*	**Pn**	**01 13 27.6**	**+1.2**
STG3				*eS*	**Sn**	**01 13 58.0**	**-0.2**
RTAL	**Retalhuleu**	**2.72**	**299**	Pn	**Pn**	**01 13 29.4**	**+2.9**
MATN	**Matagalpa**	**3.23**	**95**	Pn	**Pn**	**01 13 32.8**	**-0.7**
BOAB	**BOACO BROADBAN**	**3.56**	**102**	Pn	**Pn**	**01 13 37.5**	**-0.4**
PETF	**Flores**	**3.73**	**351**	Pn	**Pn**	**01 13 41.9**	**+1.7**
CCIG	**Comitan**	**4.15**	**318**	Pn	**Pn**	**01 13 48.7**	**+2.6**
HZTE	**Horizontes, Gu**	**4.34**	**125**	Pn	**Pn**	**01 13 50.0**	**+1.4**
ORTG	**Ortega, Santa**	**4.66**	**127**	Pn	**Pn**	**01 13 54.2**	**+1.2**
DUNO	**Dulce Nombre,**	**4.81**	**130**	Pn	**Pn**	**01 13 56.0**	**+0.9**
JTS	**Las Juntas de**	**5.10**	**124**	P	**Pn**	**01 13 58.9**	**-0.1**
	comp=Z,2.9nm,0.3s,baz=13,slow=15,SNR=7.8						
JTS	**Las Juntas de**	**5.10**	**124**	Pn	**Pn**	**01 14 00.5**	**+1.5**
JACO	**JACO, Garabito**	**5.71**	**128**	Pn	**Pn**	**01 14 07.3**	**0.0**
RIMA	**Rio Macho**	**6.28**	**123**		**Pn**	**01 14 17.0**	**+1.6**
PEZE	**Perez Zeledon,**	**6.65**	**124**	Pn	**Pn**	**01 14 22.8**	**+2.5**
CMIG	**Matias Romero**	**6.68**	**306**	P	**Pn**	**01 14 22.9**	**+2.2**
	comp=Z,2.2nm,0.3s,baz=110,slow=12,SNR=23						
CMIG				S	**Sn**	**01 15 35.5**	**+0.1**
	comp=Z,4.2nm,0.3s,baz=254,slow=22,SNR=6.1						
CMIG				LR	LR	01 17 02.3	
	comp=Z,161nm,21.8s,baz=118,slow=38						
SRBA	**San Rafael, Bu**	**6.99**	**124**	Pn	**Pn**	**01 14 26.5**	**+1.5**
DRK0	**Durika**	**7.07**	**123**	Pn	**Pn**	**01 14 27.8**	**+1.7**
TLIG	**Tlapa**	**9.98**	**297**	Pn	**Pn**	**01 15 10.2**	**+4.2**
SDV	**Santo Domingo**	**18.75**	**101**	LR	LR	01 23 41.2	
	comp=Z,59nm,20.7s,baz=274,slow=35						
LRAL	**Lakeview Retre**	**19.83**	**6**	P	**Pn**	**01 17 12.8**	**-0.3**
Y49A	**Blount Mountai**	**20.71**	**7**	P	Pn	01 17 23.1	-0.2
Y49A				IAmb	IAmb	01 17 24.2	
	comp=Z,7.7nm,0.7s						
GOGA	**Godfrey**	**20.78**	**14**	P	Pn	01 17 24.0	-0.2
GOGA				IAmb	IAmb	01 17 40.6	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**20.90**	**322**	P	Pn	01 17 24.5	-1.2
	comp=Z,2.7nm,0.7s,baz=142,slow=9.5,SNR=19						
TXAR				LR	LR	01 25 36.2	
	comp=Z,28nm,18.7s,baz=171,slow=37						
TX31	**Lajitas Ar. Si**	**20.90**	**322**	P	Pn	01 17 24.3	-1.5
TX31				IAmb	IAmb	01 17 40.9	
	comp=Z,20nm,1.1s						
TX32	**Lajitas Array**	**20.90**	**322**	P	Pn	01 17 24.4	-1.3
ABTX	**Abilene, Hawle**	**21.54**	**335**	P	**P**	**01 17 31.9**	**+2.5**
ABTX				IAmb	IAmb	01 17 32.1	
	comp=Z,6.3nm,0.6s						
X34A	**Smith Ranch, M**	**22.67**	**341**	P	**P**	**01 17 43.8**	**+2.3**
LCAR	**Lake Charles**	**22.82**	**356**	P	**P**	**01 17 44.5**	**+1.4**
LCAR				IAmb	IAmb	01 17 45.8	
	comp=Z,5.2nm,0.7s						
TKL	**Tuckaleechee C**	**22.88**	**11**	LR	LR	01 27 01.6	
	comp=Z,66nm,18.6s,baz=162,slow=38						
TKL	**Tuckaleechee C**	**22.88**	**11**	P	**P**	**01 17 46.0**	**+2.3**
TKL				IAmb	IAmb	01 18 11.3	
	comp=Z,18nm,1.4s						
FNO	**Franklin**	**23.15**	**343**	P	**P**	**01 17 47.7**	**+1.3**
FNO				IAmb	IAmb	01 18 05.0	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**23.27**	**353**	P	**P**	**01 17 48.2**	**+0.7**
U40A				IAmb	IAmb	01 17 50.0	
	comp=Z,6.4nm,0.8s						
U49A	**Red Boiling Sp**	**23.41**	**7**	P	**P**	**01 17 48.0**	**-0.7**
U49A				IAmb	IAmb	01 18 10.1	
	comp=Z,18nm,1.4s						
TZTN	**Tazewell**	**23.78**	**11**	P	**P**	**01 17 53.4**	**+1.1**
MGMO	**Mountain Grove**	**23.99**	**354**	P	**P**	**01 17 56.1**	**+2.0**
MGMO				IAmb	IAmb	01 18 18.0	
	comp=Z,21nm,1.5s						
S39A	**Bolivar**	**24.65**	**352**	P	**P**	**01 18 00.3**	**+0.2**
CCM	**Cathedral Cave**	**24.80**	**356**	P	**P**	**01 18 01.7**	**+0.2**
CCM				IAmb	IAmb	01 18 04.7	
	comp=Z,6.1nm,0.7s						
R40A	**Maddies Statio**	**25.12**	**354**	P	**P**	**01 18 04.8**	**+0.4**
T25A	**Trinidad**	**27.42**	**333**	P	**P**	**01 18 27.2**	**+1.8**
ISCO	**Idaho Springs**	**30.16**	**334**	P	**P**	**01 18 49.8**	**0.0**
ECSD	**EROS Data Cent**	**31.07**	**350**	P	**P**	**01 18 56.2**	**-1.3**
ECSD				IAmb	IAmb	01 18 59.5	
	comp=Z,5.0nm,1.4s						
O20A	**White River Ci**	**31.60**	**332**	P	**P**	**01 19 04.0**	**+1.7**
O20A				IAmb	IAmb	01 19 28.3	
	comp=Z,3.4nm,0.9s						
SADO	**Sadowa**	**32.61**	**13**	LR	LR	01 32 20.1	
	comp=Z,37nm,18.2s,baz=289,slow=36						
RSSD	**Black Hills**	**33.31**	**340**	P	**P**	**01 19 17.9**	**+0.6**
RSSD				IAmb	IAmb	01 19 20.7	
	comp=Z,2.2nm,0.7s						
PDAR	**Pinedale Array**	**34.29**	**333**	P	**P**	**01 19 25.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=128,slow=11,SNR=5.6						
PDAR				PcP	**PcP**	**01 21 60.0**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=141,slow=4.2,SNR=4.9						
PDAR				LR	LR	01 34 21.0	
	comp=Z,37nm,19.0s,baz=202,slow=38						
PDAR	**Pinedale Array**	**34.29**	**333**	P	**P**	**01 19 26.7**	**+0.8**
PDAR					**PcP**	**01 22 00.0**	**-1.1**
REDW	**Red Top Meadow**	**35.34**	**332**	P	**P**	**01 19 35.6**	**+0.6**
SNOW	**Snow King Moun**	**35.38**	**333**	P	**P**	**01 19 37.0**	**+1.7**
LOHW	**Long Hollow**	**35.43**	**333**	P	**P**	**01 19 36.9**	**+1.2**
LOHW				IAmb	IAmb	01 19 38.2	
	comp=Z,3.4nm,0.7s						
TPAW	**Teton Pass**	**35.49**	**332**	P	**P**	**01 19 35.9**	**-0.4**
MOOW	**Moose Ponds**	**35.60**	**333**	P	**P**	**01 19 37.8**	**+0.6**
MOOW				PcP	**PcP**	**01 22 05.0**	**+0.1**
FLWY	**Flagg Ranch**	**35.84**	**333**	P	**P**	**01 19 40.6**	**+1.4**
FLWY				IAmb	IAmb	01 19 42.4	
	comp=Z,2.1nm,0.7s						
NV11	**Mina Array Sit**	**35.90**	**320**	P	**P**	**01 19 41.1**	**+1.4**
LPAZ	**La Paz**	**35.98**	**144**	LR	LR	01 34 45.5	
	comp=Z,55nm,18.0s,baz=295,slow=37						
YMR	**Madison River**	**36.42**	**334**	P	**P**	**01 19 47.0**	**+2.8**
YMR				IAmb	IAmb	01 19 47.2	
	comp=Z,2.4nm,0.7s						
GCMT	**Greycliff**	**36.79**	**336**	P	**P**	**01 19 47.7**	**+0.5**
HLID	**Hailey**	**37.19**	**329**	P	**P**	**01 19 52.0**	**+1.4**
HLID				IAmb	IAmb	01 20 17.6	
	comp=Z,2.4nm,0.7s						
DGMT	**Dagmar**	**37.28**	**344**	P	**P**	**01 19 51.4**	**+0.3**
ULM	**Lac du Bonnet**	**37.33**	**353**	P	**P**	**01 19 50.2**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=174,slow=6.2,SNR=3.7						
ULM				LR	LR	01 36 26.3	
	comp=Z,61nm,18.6s,baz=120,slow=38						
BOZ	**Bozeman (W)**	**37.45**	**334**	P	**P**	**01 19 53.1**	**+0.4**
LRM	**Limekiln Ridge**	**37.98**	**333**	P	**P**	**01 19 58.2**	**+0.8**
EGMT	**Eagleton**	**38.68**	**338**	P	**P**	**01 20 03.8**	**+0.7**
PLID	**Pearl Lake**	**39.08**	**330**	P	**P**	**01 20 08.4**	**+1.9**
PLID				IAmb	IAmb	01 20 35.5	
	comp=Z,3.6nm,1.3s						
FFC	**Flin Flon**	**42.60**	**349**	P	**P**	**01 20 34.8**	**-0.4**
EDM	**Edmonton**	**44.28**	**339**	P	**P**	**01 20 48.2**	**-0.5**
SCHQ	**Schefferville**	**45.07**	**18**	P	**P**	**01 20 53.8**	**-1.2**
	comp=Z,3.5nm,0.8s,baz=231,slow=14,SNR=2.1						
SCHQ	**Schefferville**	**45.07**	**18**	P	**P**	**01 20 53.9**	**-1.1**
FCC	**Fort Churchill**	**45.61**	**356**	P	**P**	**01 20 58.0**	**-1.0**
FCC				IAmb	IAmb	01 21 18.0	
	comp=Z,4.1nm,1.1s						
YKA	**Yellowknife Ar**	**52.43**	**345**	P	**P**	**01 21 50.1**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=144,slow=7.7,SNR=53						
YKA	**Yellowknife Ar**	**52.43**	**345**	P	**P**	**01 21 49.9**	**-1.3**
RES	**Resolute Bay**	**61.54**	**358**	P	**P**	**01 22 53.8**	**-1.6**
RES				IAmb	IAmb	01 22 58.3	
	comp=Z,2.4nm,1.2s						
BCAR	**Beaver Creek A**	**61.84**	**336**	P	**P**	**01 22 57.2**	**-0.6**
INK	**Inuvik**	**61.96**	**343**	P	**P**	**01 22 57.4**	**-1.0**
INK				IAmb	IAmb	01 22 57.8	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**64.62**	**336**	P	**P**	**01 23 14.5**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=168,slow=4.2,SNR=7.5						
BMAR	**Burnt Mountain**	**64.96**	**339**	P	**P**	**01 23 17.7**	**-0.5**
BPAW	**Bear Paw Mtn.**	**66.02**	**335**	P	**P**	**01 23 24.0**	**-1.2**
BPAW				IAmb	IAmb	01 23 50.0	
	comp=Z,4.2nm,1.3s						
EUNU	**Eureka**	**66.87**	**1**	P	**P**	**01 23 29.1**	**-1.4**
WB2	**Warramunga Arr**	**137.79**	**255**	PKPdf	**PKPdf**	**01 32 04.2**	**+0.6**
WRA	**Warramunga Arr**	**137.80**	**255**	PKP	**PKPdf**	**01 32 02.9**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=85,slow=2.2,SNR=7.8						
WRA	**Warramunga Arr**	**137.80**	**255**		**PKPdf**	**01 32 02.4**	**-1.2**
PZH	**PanZhiHua**	**139.10**	**345**	PKP	**PKPdf**	**01 32 05.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**146.11**	**257**	PKPbc	**PKPbc**	**01 32 19.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=103,slow=1.6,SNR=9.8						
PSA00	**Pilbara Seismi**	**151.07**	**249**		**PKPbc**	**01 32 29.7**	**-2.5**

*DJA **23** 01:32:39.6±0.2, 0°.N±2°×12°.4E±°, h211km±2km, M4.3/16, mb4.2/10, mB5.1/2, MLv4.4/16, Mw(mB)4.4/2*
*NEIC **23** 01:32:39.2±2.0, 0°.46N±0°.09×123°.81E±0°.02, h217km±9km, mb4.1/20, Error ellipse: s-maj=13.8km s-min=2.6km az=173.0*
*IDC **23** 01:32:40.3±3.2, 0°.43N×123°.62E, h235km±33km, mb3.6/9, mb1 3.7/11, mb1mx3.3/40, mbtmp4.2/11, Error ellipse: s-maj=40.8km s-min=12.6km az=68.0*

ISC 23 01:32:38.5±0.5, 0°.38N±0°.05×123°.82E±0°.05, h218km, n63, σ1§32/73, mb4.2/20, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.25**	**40**	P	**Pn**	**01 33 09.6**	**+2.5**
KMSI				S	**S**	**01 33 29.7**	**+0.3**
LUWI	**Luwuk**	**1.76**	**217**	Pn	**Pn**	**01 33 17.0**	**+0.9**
LUWI	**Luwuk**	**1.76**	**217**	P	**Pn**	**01 33 16.8**	**+0.7**
LUWI				S	**S**	**01 33 44.2**	**-1.1**
LUWI	**Luwuk**	**1.76**	**217**	P	**Pn**	**01 33 17.4**	**+1.3**
MRSI	**Marisa**	**1.88**	**273**	P	**Pn**	**01 33 18.1**	**+0.9**
MRSI				S	**S**	**01 33 46.9**	**-0.3**
APSI	**Ampana**	**2.52**	**239**	P	**Pn**	**01 33 25.2**	**+1.4**
APSI				S	**S**	**01 33 57.9**	**-1.0**
TOLI2	**Tolitoli**	**3.12**	**283**	Pn	**Pn**	**01 33 18.8**	**+1.2**
TOLI2	**Tolitoli**	**3.12**	**283**	P	**Pn**	**01 33 32.0**	**+1.5**
SANI	**Sanana**	**3.25**	**138**	P	**Pn**	**01 33 31.9**	**0.0**
SANI				S	**S**	**01 34 10.6**	**-3.1**
SANI	**Sanana**	**3.25**	**138**	P	**Pn**	**01 33 32.0**	**0.0**
TNTI	**Ternate**	**3.57**	**84**	Pn	**Pn**	**01 33 36.8**	**+1.0**
TNTI	**Ternate**	**3.57**	**84**	P	**Pn**	**01 33 37.1**	**+1.3**
TNTI				S	**S**	**01 34 20.6**	**+0.1**
TNTI	**Ternate**	**3.57**	**84**	P	**Pn**	**01 33 37.3**	**+1.5**
SGSI	**Sangihe**	**3.70**	**27**	P	**Pn**	**01 33 39.5**	**+2.1**
LBMI	**Labuha**	**3.82**	**105**	P	**Pn**	**01 33 39.9**	**+1.1**
LBMI				S	**S**	**01 34 25.3**	**-0.7**
MPSI	**Mapaga**	**3.92**	**269**	P	**Pn**	**01 33 41.4**	**+1.4**
TTSI	**Tana Toraja**	**5.25**	**230**	P	**Pn**	**01 33 58.8**	**+2.3**
	0.6nm2µm172nm,0.8s						
SPSI	**Sidrap Palu**	**5.92**	**223**	P	**Pn**	**01 34 05.1**	**+0.1**
	0.1nm15nm,0.8s						
KAPI	**Kappang**	**6.72**	**217**	P	**Pn**	**01 34 16.0**	**+0.6**
	4.7nm,0.3s,baz=38,slow=10,SNR=7.3						
KAPI	**Kappang**	**6.72**	**217**	Pn	**Pn**	**01 34 17.5**	**+2.2**
FAKI	**Fak Fak**	**9.04**	**111**	Pn	**Pn**	**01 34 46.8**	**+1.5**
MTN	**Manton Dam**	**15.01**	**151**	P	**Pn**	**01 36 01.0**	**+0.8**
MTN				IAmb	IAmb	01 36 02.5	
	comp=Z,18nm,0.9s						
MTN	**Manton Dam**	**15.01**	**151**	P	**Pn**	**01 36 00.8**	**+0.6**
KNRA	**Kununurra**	**16.68**	**163**	P	**P**	**01 36 20.7**	**+1.8**
KNRA	**Kununurra**	**16.68**	**163**	P	**P**	**01 36 19.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.45**	**175**	P	**P**	**01 36 39.6**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=14,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**18.45**	**175**	P	**P**	**01 36 38.8**	**+0.7**
WB0	**Warramunga Arr**	**22.55**	**153**	P	**P**	**01 37 21.2**	**+0.8**
WB0				IAmb	IAmb	01 37 22.9	
	comp=Z,6.9nm,1.0s						
WRAB	**Tennant Creek**	**22.67**	**154**	P	**P**	**01 37 22.4**	**+0.9**
WRA	**Warramunga Arr**	**22.68**	**154**	P	**P**	**01 37 22.5**	**+0.9**
	comp=Z,2.7nm,0.3s,baz=340,slow=12,SNR=116						
WRA	**Warramunga Arr**	**22.68**	**154**	P	**P**	**01 37 21.2**	**-0.4**
WB2	**Warramunga Arr**	**22.68**	**154**	P	**P**	**01 37 22.5**	**+0.9**
WB2				IAmb	IAmb	01 37 22.9	
	comp=Z,3.3nm,0.8s						
WR0	**Warramunga Arr**	**22.78**	**153**	P	**P**	**01 37 23.4**	**+0.9**
WR0				IAmb	IAmb	01 37 24.5	
	comp=Z,3.8nm,0.9s						
COEN	**Coen**	**23.88**	**127**	P	**P**	**01 37 32.3**	**-0.3**
COEN				IAmb	IAmb	01 37 38.2	
	comp=Z,5.3nm,1.1s						
COEN	**Coen**	**23.88**	**127**	P	**P**	**01 37 33.2**	**+0.7**
ASAR	**Alice Springs**	**25.83**	**158**	P	**P**	**01 37 52.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=338,slow=9.6,SNR=5.0						
ASAR				PcP	**PcP**	**01 41 14.1**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=340,slow=2.1,SNR=10.0						
FORT	**Forrest**	**31.25**	**173**	P	**P**	**01 38 39.1**	**+1.2**
PZH	**PanZhiHua**	**33.56**	**322**	P	**P**	**01 39 00.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.9s						
HHC	**Hu-ho-hao-te**	**41.79**	**346**	*eP*	**P**	**01 40 08.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
USRK	**Ussuriysk Ar.**	**44.23**	**8**	P	**P**	**01 40 26.9**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=187,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**49.63**	**345**	P	**P**	**01 41 07.7**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=157,slow=8.6,SNR=24						
SONM	**Songino Array**	**49.63**	**345**	P	**P**	**01 41 07.7**	**-0.4**
WMQ	**Urumqi**	**53.90**	**328**	*eP*	**P**	**01 41 41.1**	**+1.5**
KSH	**Kashi**	**58.45**	**318**	P	**P**	**01 42 13.0**	**+1.1**
KSH				PcP	**PcP**	**01 42 57.0**	**-3.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**58.73**	**328**	P	**P**	**01 42 12.6**	**-0.9**
MK31				IAmb	IAmb	01 42 15.4	
	comp=Z,4.4nm,0.9s						
MKAR	**Makanchi Array**	**58.73**	**328**	P	**P**	**01 42 12.8**	**-0.8**
	comp=Z,3.4nm,0.4s,baz=120,slow=8.9,SNR=55						
MKAR				PcP	**PcP**	**01 43 00.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=161,slow=3.7,SNR=4.7						
MAKZ	**Makanchi**	**58.90**	**328**	P	**P**	**01 42 13.9**	**-0.8**
MAKZ				IAmb	IAmb	01 42 16.6	
	comp=Z,4.3nm,0.9s						
KDJ	**Kajisay**	**58.99**	**321**	P	**P**	**01 42 15.6**	**0.0**
KDJ				IAmb	IAmb	01 42 17.8	
	comp=Z,5.6nm,1.1s						
BOOM	**Boomskoye usch**	**59.97**	**321**	P	**P**	**01 42 24.5**	**+2.2**
AAK	**Ala-Archa**	**60.96**	**320**	P	**P**	**01 42 30.1**	**+1.1**
GAR	**Garm**	**62.12**	**315**	P	**P**	**01 42 35.9**	**-0.9**
BKZ	**Black Stump Fm**	**62.15**	**136**	P	**P**	**01 42 38.2**	**+1.4**

KTMS				*e*S	**Sb**	**02 05 24.8**	**-0.4**
	8.5nm,0.1s							
ULHL	**Ulahol**	**1.74**	**230**	⇑*i*P	**Pg**	**02 05 06.0**	**-0.1**
	baz=29							
ULHL				⇑*i*S	**Sg**	**02 05 28.3**	**-0.4**
	baz=29							
KRBS	**Karabastau**	**1.75**	**282**	*e*P	**Pb**	**02 05 04.8**	**-0.3**
	5.3nm,0.1s							
KRBS				*e*S	**Sn**	**02 05 27.1**	**+1.6**
	39nm,0.1s							
BOOM	**Boomskoye usch**	**1.78**	**241**	⇑*i*P	**Pg**	**02 05 06.5**	**-0.4**
	baz=41							
BOOM				⇑*i*S	**Sg**	**02 05 29.3**	**-0.6**
	baz=41							
TKM2	**Tokmak 2**	**1.84**	**257**	⇑*i*P	**Pg**	**02 05 07.8**	**-0.4**
	baz=58							
TKM2				⇑*i*S	**Sg**	**02 05 31.7**	**-0.4**
	baz=58							
TKM2	**Tokmak 2**	**1.84**	**257**	⇓P	**Pb**	**02 05 06.6**	**-0.1**
	3.2nm,0.3s							
TKM2				⇑S	**Sg**	**02 05 31.6**	**-0.6**
	9.7nm,0.3s							
KAPS	**Kapalarasan**	**2.13**	**26**	*e*P	**Pb**	**02 05 10.9**	**-0.6**
	2.3nm,0.1s							
KAPS				*e*S	**Sb**	**02 05 38.2**	**+0.2**
	22nm,0.1s							
KBK	**Karagaybulak**	**2.38**	**254**	⇑*e*P	**Pb**	**02 05 16.1**	**+0.3**
	baz=54							
KBK				⇑*i*S	**Sb**	**02 05 46.2**	**+1.0**
	baz=54							
CHMS	**Chumysh**	**2.44**	**262**	⇓*i*P	**Pb**	**02 05 16.9**	**+0.3**
	baz=63							
CHMS				⇓*i*S	**Sb**	**02 05 47.7**	**+1.0**
	baz=63							
SGDS	**Sogindy**	**2.49**	**273**	*e*P	**Pb**	**02 05 18.4**	**+0.8**
	0.5nm,0.1s							
SGDS				*e*S	**Sb**	**02 05 50.5**	**+2.2**
	6.6nm,0.0s							
USP	**Ospenovka**	**2.59**	**269**	⇑*i*P	**Pb**	**02 05 19.1**	**-0.1**
	baz=70							
USP				⇑*i*S	**Sb**	**02 05 51.4**	**+0.3**
	baz=70							
UCH	**Uchtor**	**2.84**	**247**	⇑*i*P	**Pb**	**02 05 22.8**	**-0.9**
	baz=48							
UCH				⇑*i*S	**Sb**	**02 05 57.2**	**-1.4**
	baz=48							
ARLS	**Aral**	**3.13**	**242**	⇑*i*P	**Pb**	**02 05 26.5**	**-2.1**
	baz=42							
ARLS				⇑*i*S	**Sb**	**02 06 04.2**	**-2.7**
	baz=42							
EKS2	**Erkin-Say**	**3.21**	**259**	⇑*i*P	**Pb**	**02 05 27.8**	**-2.0**
	baz=59							
EKS2				⇑*i*S	**Sb**	**02 06 06.1**	**-2.9**
	baz=59							
MRKS	**Merke**	**3.58**	**262**	*e*P	**Pb**	**02 05 38.6**	**+2.4**
	0.7nm,0.0s							
MRKS				*e*S	**Sg**	**02 06 25.2**	**-2.7**
	3.2nm,0.2s							
MAKZ	**Makanchi**	**4.42**	**38**	⇑Lg	Lg	02 06 54.0		
	0.4nm,0.3s							
MK31	**Makanchi Array**	**4.56**	**40**	⇑Pn	**Pn**	**02 05 44.0**	**+2.3**
	0.2nm,0.4s,baz=228,slow=18,SNR=4.3							
MK31				⇑Lg	Lg	02 06 58.5		
	0.3nm,0.3s,baz=218,slow=27,SNR=9.2							
KK09	**Karatay Array**	**5.51**	**270**	⇓Pg	**Pb**	**02 06 11.7**	**+2.5**
	0.4nm,0.4s							
KK09				Lg	Lg	02 07 26.0		
OTUK	**Ortayu**	**6.29**	**323**	⇓Lg	Lg	02 07 55.7		
	1.5nm,0.6s							

*IDC **23** 02:06:43.8±1.2,34˚.29N×26˚.14E,h0km,mb3.6/8, mb1 3.7/12,mb1mx3.5/47,mbtmp3.5/12,ML3.7/4,Error ellipse: s-maj=25.2km s-min=16.8km az=20.0*
*ATH **23** 02:06:44.5,34˚.11N×26˚.20E,h14km±4km,ML2.9/5,Error ellipse: s-maj=6.6km s-min=2.3km az=332.0*
*ISK **23** 02:06:45.1,34˚.22N×26˚.33E,h5km,ML3.1/7*
*DDA **23** 02:06:52.9±0.0,34˚.48N×26˚.99E,h7km±2km,ML2.8*
ISC 23 02:06:44.8±0.9,**34˚.18N**±0˚.07×**26˚.22E**±0˚.04,**h10**km,**n45,** σ1ᵗ**77**/56,**mb3.5/8,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.92**	**334**	P	**Pb**	**02 07 02.8**	**0.0**
FRMA				S	**Sn**	**02 07 16.3**	**-0.8**
FRMA				AML	AML	02 07 21.3	
	comp=N,2400μm,0.7s						
FRMA				AML	AML	02 07 27.3	
	comp=E,2031μm,0.6s						
ZKR	**Zakros**	**0.93**	**360**	P	**Pb**	**02 07 03.3**	**+0.3**
ZKR				S	**Sn**	**02 07 16.9**	**-0.4**
ZKR				AML	AML	02 07 24.6	
	comp=N,709μm,0.4s						
ZKR				AML	AML	02 07 34.4	
	comp=E,1389μm,0.4s						
ZKR	**Zakros**	**0.93**	**360**	P	**Pb**	**02 07 03.1**	**+0.1**
ZKR	**Zakros**	**0.93**	**360**	PG	**Pb**	**02 07 03.6**	**+0.6**
ZKR				SG	**Sn**	**02 07 17.1**	**-0.2**
SIVA	**Sivas**	**1.43**	**306**	P	**Pg**	**02 07 12.2**	**-0.1**
SIVA				AML	AML	02 07 46.5	
	comp=E,1402μm,0.6s						
SIVA				AML	AML	02 07 48.9	
	comp=N,960μm,0.7s						
SIVA	**Sivas**	**1.43**	**306**	P	**Pg**	**02 07 12.4**	**+0.1**
TMBK	**Timbaki Herakl**	**1.49**	**307**	P	**Pg**	**02 07 13.5**	**+0.1**
IDI	**Anoyia**	**1.56**	**315**	Pn	**Pn**	**02 07 12.8**	**+0.2**
	comp=N,4.2nm,0.3s,baz=135,slow=10,SNR=13						
IDI				Sn	**Sn**	**02 07 29.8**	**-3.1**
	comp=N,7.2nm,0.3s,baz=300,slow=24,SNR=8.1						
IDI	**Anoyia**	**1.56**	**315**	P	**Pg**	**02 07 15.0**	**+0.3**
IDI				AML	AML	02 07 57.6	
	comp=N,307μm,0.6s						
IDI				AML	AML	02 07 59.7	
	comp=E,250μm,0.8s						
IDI	**Anoyia**	**1.56**	**315**	P	**Pg**	**02 07 15.1**	**+0.5**
IDI	**Anoyia**	**1.56**	**315**	PN	**Pg**	**02 07 15.6**	**+1.0**
KARP	**Karpathos**	**1.56**	**29**	P	**Pg**	**02 07 15.4**	**+0.6**
KARP	**Karpathos**	**1.56**	**29**	P	**Pg**	**02 07 15.4**	**+0.6**
KARP	**Karpathos**	**1.56**	**29**	PN	**Pb**	**02 07 14.1**	**+0.3**
GVD	**Gavdhos**	**1.88**	**291**	P	**Pn**	**02 07 18.0**	**+1.0**
GVD				AML	AML	02 08 01.9	
	comp=E,408μm,0.4s						
GVD				AML	AML	02 08 11.5	
	comp=N,294μm,0.4s						
IMMV	**Iera Moni Meta**	**2.24**	**305**	P	**Pn**	**02 07 23.4**	**+1.5**
DALY	**Dalyan (Mula)**	**3.29**	**36**	PN	**Pn**	**02 07 38.7**	**+2.4**
FETY	**Fethiye**	**3.38**	**43**	PN	**Pn**	**02 07 39.8**	**+2.2**
FETY	**Fethiye**	**3.38**	**43**	P	**Pn**	**02 07 37.9**	**+0.3**
YER	**Yerkesik**	**3.39**	**29**	PN	**Pn**	**02 07 40.1**	**+2.3**
AKAS	**Kas**	**3.44**	**53**	P	**Pn**	**02 07 40.3**	**+1.7**
AKAS				S	**Sn**	**02 08 16.6**	**-2.9**
AKAS				*i* AML	AML	02 08 28.0	
	comp=N,51nm,0.9s						
CAEL	**Denizli, Camel**	**3.87**	**40**	P	**Pn**	**02 07 47.5**	**+3.1**
TAVA	**DENIZLI_Tavas**	**3.94**	**33**	P	**Pn**	**02 07 48.4**	**+3.1**
TAVA				S	**Sn**	**02 08 30.7**	**-1.0**
ELL	**Elmali**	**3.95**	**49**	PN	**Pn**	**02 07 47.9**	**+2.4**
AKUM	**Antalya-Kumluc**	**3.99**	**56**	P	**Pn**	**02 07 47.9**	**+1.9**
AKUM				S	**Sn**	**02 08 28.9**	**-3.9**
GOLH	**Golhisar**	**4.08**	**41**	P	**Pn**	**02 07 50.2**	**+2.9**
KORT	**Korkueli**	**4.38**	**49**	P	**Pn**	**02 07 54.1**	**+2.6**
PASA	**Karahalli, USA**	**4.92**	**31**	P	**Pn**	**02 07 58.8**	**-0.1**
KEPZ	**Antalya-Kepez**	**5.16**	**57**	P	**Pn**	**02 08 04.3**	**+2.2**
KEPZ				S	**Sn**	**02 09 00.5**	**-1.1**
KEPZ				*i* AML	AML	02 09 04.0	
	comp=N,9.4nm,0.6s						
GAZI	**Gazipasa**	**5.39**	**66**	P	**Pn**	**02 08 05.7**	**+0.5**
SEDI	**Konya, Seydise**	**5.55**	**52**	P	**Pn**	**02 08 10.4**	**+2.8**
SEDI				S	**Sn**	**02 09 11.7**	**+0.2**
SEDI				*i* AML	AML	02 09 19.0	
	comp=N,8.3nm,0.6s						
ERMK	**Ermenek**	**5.99**	**64**	P	**Pn**	**02 08 15.3**	**+1.6**
KKBE	**Karaman, Kazim**	**6.25**	**59**	P	**Pn**	**02 08 20.6**	**+3.5**
KKBE				S	**Sn**	**02 09 24.4**	**-4.3**
MMAI	**Mount Meron Ar**	**7.75**	**96**	Pn	**Pn**	**02 08 39.3**	**+1.6**
	comp=N,0.8nm,0.3s,baz=260,slow=13,SNR=1.9						
MMAI				Sn	**Sn**	**02 10 03.8**	**-1.7**
	comp=N,1.1nm,0.3s,baz=278,slow=39,SNR=1.8						
EIL	**Elat**	**8.67**	**119**	Pn	**Pn**	**02 08 51.3**	**+1.0**
	comp=N,0.5nm,0.3s,baz=202,slow=5.9,SNR=9.9						
AKASG	**Malin Array Be**	**16.65**	**7**	Pn	**Pn**	**02 10 37.9**	**-0.2**
	comp=N,0.6nm,0.3s,baz=196,slow=12,SNR=4.4						
GERES	**GERESS Array B**	**17.36**	**331**	P	**Pn**	**02 10 47.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=132,slow=7.0,SNR=2.4						
ESDC	**Sonseca Array**	**24.68**	**292**	P	**P**	**02 12 05.5**	**-0.4**
	comp=N,0.4nm,0.5s,baz=82,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**27.28**	**360**	P	**P**	**02 12 27.7**	**-1.3**
	comp=N,1.5nm,0.8s,baz=212,slow=10,SNR=3.7						
EKA	**Eskdalemuir Ar**	**29.34**	**325**	P	**P**	**02 12 46.6**	**-0.9**
	comp=N,0.4nm,0.5s,baz=122,slow=10,SNR=5.4						
TORD	**Torodi Ar. Bea**	**30.56**	**233**	P	**P**	**02 12 59.5**	**+0.8**
	comp=N,0.3nm,0.6s,baz=53,slow=8.4,SNR=1.9						
ARCES	**ARCESS Array B**	**35.41**	**360**	P	**P**	**02 13 38.8**	**-1.7**
	comp=N,3.1nm,1.1s,baz=270,slow=0.2,SNR=5.1						
MKAR	**Makanchi Array**	**43.59**	**56**	P	**P**	**02 14 50.4**	**+1.4**
	comp=N,0.6nm,0.7s,baz=272,slow=6.4,SNR=9.7						
ZALV	**Zalesovo Beam**	**45.05**	**45**	P	**P**	**02 15 00.8**	**+0.3**
	comp=N,0.4nm,0.4s,baz=273,slow=8.5,SNR=2.7						
YKA	**Yellowknife Ar**	**78.64**	**343**	P	**P**	**02 18 45.9**	**-0.6**
	comp=N,0.2nm,0.6s,baz=37,slow=5.2,SNR=4.6						

IDC 23 02:20:54.5±2.0,**56˚.94S**×**27˚.01W,h0**km,**mb3.4**/1, **mb1 3.4**/1,**mb1mx3.3**/19,**mbtmp3.4**/1,**Error ellipse: s-maj=104.5km s-min=86.3km az=134.0,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**73.78**	**29**	P	P	02 32 30.4	0.0
	0.2nm,0.6s,baz=208,slow=5.8,SNR=1.8						
SONM	**Songino Array**	**150.67**	**88**	PKPbc	PKPbc	02 40 47.2	-0.3
	1.6nm,0.7s,baz=260,slow=2.6,SNR=12						
ILAR	**Eielson Array**	**150.77**	**310**	PKPbc	PKPbc	02 40 46.8	-0.3
	0.5nm,0.8s,baz=124,slow=1.2,SNR=4.3						

*IDC **23** 02:28:29.2±0.9,55˚.39N×163˚.38E,h0km,mb3.5/8, mb1 3.8/9,mb1mx3.5/40,mbtmp3.4/9,ML2.5/1,MS3.2/2, Ms1 3.2/2,ms1mx2.4/73,Error ellipse: s-maj=42.5km s-min=16.4km az=153.0*
*KRSC **23** 02:28:29.8±1.2,55˚.06N×163˚.73E,h49km±29km,ML3.9*
ISC 23 02:28:30.0±3.5,**55˚.13N**±0˚.04×**163˚.75E**±0˚.04,**h12**km±23km, **n46,**σ1ᵗ**60**/62,**mb3.4/8,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.21**	**334**	*e*P	**Pn**	**02 28 51.1**	**-1.7**
BKI	**Bering**	**1.28**	**86**	*e*P	**Pn**	**02 28 53.2**	**-0.5**
BKI				*e*S	**Sb**	**02 29 08.9**	**-1.4**
KBG	**Krutoberegovo**	**1.28**	**333**	*e*P	**Pn**	**02 28 52.1**	**-1.6**
ZLN	**Zelenaya**	**1.90**	**299**	*e*P	**Pb**	**02 29 03.8**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.92**	**296**	*e*P	**Pn**	**02 29 02.9**	**+0.2**
BZGR				*e*S	**Sn**	**02 29 27.0**	**+0.2**
TUMD	**Tumrok D**	**1.93**	**274**	*e*P	**Pn**	**02 29 02.6**	**-0.1**
TUMD				*e*S	**Sn**	**02 29 25.4**	**-1.4**
SMKR	**Semkarok**	**1.95**	**320**	*e*P	**Pn**	**02 29 03.5**	**+0.5**
LGNR	**Loginova**	**1.99**	**300**	*e*P	**Pn**	**02 29 04.7**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.03**	**296**	*e*P	**Pn**	**02 29 05.0**	**+0.7**
BDR	**Baidarnaya**	**2.04**	**316**	*e*P	**Pn**	**02 29 04.8**	**+0.5**
TUMR	**Tumrok**	**2.07**	**276**	*e*P	**Pn**	**02 29 05.2**	**+0.4**
TUMR				*e*S	**Sn**	**02 29 30.9**	**+0.3**
KMNR	**Kamenistaya**	**2.10**	**289**	*e*P	**Pn**	**02 29 05.8**	**+0.7**
KIRR	**Kirishev**	**2.11**	**295**	*e*P	**Pn**	**02 29 06.1**	**+0.8**
KRSR	**Krestovskiy**	**2.11**	**303**	*e*P	**Pn**	**02 29 04.5**	**-0.8**
KRSR				*e*S	**Sn**	**02 29 29.6**	**-1.9**
SRKR	**Sorokina**	**2.11**	**318**	*e*P	**Pn**	**02 29 06.3**	**+1.0**
KLY	**Klyuchi**	**2.12**	**305**	*e*P	**Pn**	**02 29 04.1**	**-1.2**
KLY				*e*S	**Sn**	**02 29 29.7**	**-1.9**
KPT	**Kopyto**	**2.18**	**294**	*e*P	**Pn**	**02 29 07.2**	**+1.0**
KII	**Karymskiy**	**2.73**	**248**	*e*P	**Pn**	**02 29 14.4**	**+0.6**
KII				*e*S	**Sn**	**02 29 46.2**	**-0.6**
ESO	**Esso**	**2.98**	**288**	*e*P	**Pn**	**02 29 18.3**	**+1.1**
SPN	**Mys Shipunski**	**2.99**	**229**	*e*P	**Pn**	**02 29 16.0**	**-1.2**
SPN				*e*S	**Sn**	**02 29 48.4**	**-4.6**
NLC	**Nalytchevo**	**3.25**	**235**	*e*P	**Pn**	**02 29 20.8**	**0.0**
NLC				*e*S	**Sn**	**02 29 56.6**	**-2.7**
SMAR	**Somma**	**3.46**	**239**	*e*P	**Pn**	**02 29 24.5**	**+0.7**
SMAR				*e*S	**Sn**	**02 30 02.3**	**-2.5**
KRER	**Koryakskii**	**3.46**	**240**	*e*P	**Pn**	**02 29 24.8**	**+0.9**
KRER				*e*S	**Sn**	**02 30 03.8**	**-1.0**
UGLR	**Uglovaya**	**3.48**	**238**	*e*P	**Pn**	**02 29 24.7**	**+0.7**
AVH	**Avacha**	**3.48**	**240**	*e*P	**Pn**	**02 29 25.3**	**+1.2**
AVH				*e*S	**Sn**	**02 30 05.7**	**+0.4**
KOK	**Koryaka**	**3.52**	**241**	*e*P	**Pn**	**02 29 25.6**	**+1.0**
DALK	**Dalny**	**3.62**	**237**	*e*P	**Pn**	**02 29 26.1**	**+0.3**
DALK				*e*S	**Sn**	**02 30 05.3**	**-3.1**
PET	**Petropavlovsk**	**3.67**	**237**	*e*P	**Pn**	**02 29 28.5**	**+2.0**
PET				*e*S	**Sn**	**02 30 07.8**	**-1.9**
GNL	**Ganaly**	**3.69**	**250**	*e*P	**Pn**	**02 29 28.4**	**+1.5**
KRMR	**Karymshinskiy**	**4.04**	**238**	*e*P	**Pn**	**02 29 33.7**	**+2.1**
KRMR				*e*S	**Sn**	**02 30 16.6**	**-2.2**
PETK	**Petropavlovsk-**	**4.09**	**243**	Pn	**Pn**	**02 29 32.8**	**+0.4**
	1.7nm,0.3s,baz=77,slow=17,SNR=36						
PETK				Sn	**Sn**	**02 30 21.8**	**+1.5**
	2.4nm,0.3s,baz=307,slow=33,SNR=7.2						
RUS	**Russkaya**	**4.11**	**231**	*e*P	**Pn**	**02 29 32.7**	**0.0**
RUS				*e*S	**Sn**	**02 30 16.6**	**-4.1**
MTVR	**Mutnovka**	**4.23**	**234**	*e*P	**Pn**	**02 29 35.4**	**+1.0**
MTVR				*e*S	**Sn**	**02 30 21.9**	**-1.9**
GRL	**Gorelyy**	**4.24**	**235**	*e*P	**Pn**	**02 29 35.8**	**+1.3**
APC	**Apacha**	**4.47**	**243**	*e*P	**Pn**	**02 29 39.9**	**+2.3**
TILK	**Tilichiki**	**5.49**	**12**	*e*P	**Pn**	**02 29 53.0**	**+1.5**
ASAJ	**Asahikawa**	**17.51**	**240**	LR	LR	02 39 02.0	
	comp=Z,42nm,18.6s,baz=138,slow=36						
MJAR	**Matsushiro Arr**	**25.49**	**234**	P	**P**	**02 33 59.9**	**+1.9**
	0.9nm,0.3s,baz=44,slow=14,SNR=4.1						
ILAR	**Eielson Array**	**25.85**	**48**	P	**P**	**02 34 02.4**	**+1.4**
	0.4nm,0.6s,baz=260,slow=8.4,SNR=6.7						
SONM	**Songino Array**	**35.55**	**283**	P	**P**	**02 35 25.6**	**-1.3**
	0.1nm,0.3s,baz=38,slow=7.3,SNR=1.6						
YKA	**Yellowknife Ar**	**40.20**	**45**	P	**P**	**02 36 06.5**	**+0.7**
	0.2nm,0.5s,baz=299,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**49.20**	**296**	P	**P**	**02 37 15.6**	**-2.2**
	0.3nm,0.7s,baz=53,slow=5.6,SNR=2.9						
NVAR	**Mina Array Bea**	**53.06**	**74**	P	**P**	**02 37 48.4**	**+1.2**
	0.2nm,0.3s,baz=313,slow=9.8,SNR=1.8						
AKTO	**Aktyubinsk**	**58.01**	**313**	LR	LR	03 06 54.9	
	comp=Z,59nm,18.5s,baz=40,slow=40						
TXAR	**Lajitas Array**	**67.89**	**70**	P	**P**	**02 39 30.5**	**+2.1**
	0.5nm,0.7s,baz=310,slow=5.4,SNR=8.6						
ASAR	**Alice Springs**	**82.53**	**207**	P	**P**	**02 40 53.1**	**+0.7**
	0.2nm,0.7s,baz=23,slow=7.3,SNR=1.5						

GCMT 23 02:39:39.0±0.7,**41˚.56S**±0˚.03×**85˚.55W**±0˚.04,**h12**km, **MW4.8**/71,**Moment Tensor Solution. s9,c9; s71,c93; Duration: 0 Moment tenscor: Scale** 10¹⁶**Nm;** Mrr-0.23±.07; Mθθ0.28±.07; Mϕϕ-0.04±.07; Mrθ0.35±.23; Mθϕ-1.44±.05; Mϕr0.72±.21; **Best double couple:** M₀1.66400×10¹⁶ **NP1:**ϕ₁270.00000°,δ65.00000°, λ-165.00000°. **NP2:**ϕ₂174.00000°,δ77.00000°, λ-26.00000°. **Principal axes:** T 1.5940, Plg8.0000°, Azm224.0000°; N 0.1410, Plg61.0000°, Azm328.0000°; P -1.7340, Plg27.0000°, Azm130.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

*IDC **23** 02:48:09.3±2.1,26˚.37N×126˚.48E,h83km±20km,mb3.7/16, mb1 3.8/18,mb1mx3.7/43,mbtmp4.0/18,MS3.3/3, Ms1 3.3/3,ms1mx2.6/91 Error ellipse: s-maj=20.9km s-min=12.7km az=63.0*
*NEIC **23** 02:48:10.5±1.5,26˚.34N×0˚.09×126˚.5E±0˚.1,h86km±7km, mb4.2/30,Error ellipse: s-maj=13.6km s-min=12.8km az=93.0*
*JMA **23** 02:48:10.5±0.2,26˚.33N×126˚.53E,h88km±1km,M3.6*
ISC 23 02:48:10.2±0.7,**26˚.37N**±0˚.06×**126˚.49E**±0˚.05,**h89**km±6km, **n76,**σ0ᵗ**85**/89,**mb4.1**/33,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.27**	**100**	P	**Pn**	**02 48 23.5**	**+0.1**
JKE				S	**Sn**	**02 48 32.8**	**-0.3**
JAGN	**Aguni-jima**	**0.70**	**72**	P	**Pn**	**02 48 26.8**	**+0.1**
JAGN				S	**Sn**	**02 48 38.6**	**-0.4**
JJT3	**Tamagusuku3**	**1.18**	**101**	P	**Pn**	**02 48 32.5**	**+0.5**
JJT3				*e*S	**Sn**	**02 48 48.6**	**+0.2**
JNTH	**Nagotoyohara**	**1.38**	**84**	P	**Pn**	**02 48 34.5**	**+0.1**
JNTH				S	**Sn**	**02 48 51.6**	**-1.0**
JIH	**Iheya**	**1.47**	**63**	P	**Pn**	**02 48 36.2**	**+0.6**
JIH				*e*S	**Sn**	**02 48 54.4**	**-0.4**
JOW	**Kunigami**	**1.66**	**74**	P	**Pn**	**02 48 38.0**	**0.0**
	34nm,0.3s,baz=149,slow=20,SNR=26						
JOW				S	**Sn**	**02 48 57.8**	**-1.2**
	204nm,0.3s,baz=118,slow=25,SNR=16						
JOW	**Kunigami**	**1.66**	**74**	P	**Pn**	**02 48 37.9**	**0.0**
JOW				S	**Sn**	**02 48 58.0**	**-1.0**
JIKM	**Ikemajima**	**1.83**	**218**	P	**Pn**	**02 48 40.4**	**+0.2**
JIKM				*e*S	**Sn**	**02 49 03.1**	**+0.2**
JYRO	**Yoronjima**	**1.87**	**69**	P	**Pn**	**02 48 40.6**	**0.0**
JYRO				S	**Sn**	**02 49 02.5**	**-1.3**
JOGS	**Gusukube**	**1.88**	**212**	P	**Pn**	**02 48 41.2**	**+0.3**
JOGS				*e*S	**Sn**	**02 49 04.6**	**+0.4**
JMJ2	**Miyako jima3**	**1.94**	**213**	P	**Pn**	**02 48 41.8**	**+0.2**
JMJ2				*e*S	**Sn**	**02 49 06.0**	**+0.5**
JIRB	**Irabujima**	**1.95**	**218**	P	**Pn**	**02 48 41.4**	**-0.3**
JIRB				*e*S	**Sn**	**02 49 04.3**	**-1.4**
JOKE	**Okinoerabujima**	**2.10**	**62**	P	**Pn**	**02 48 43.7**	**0.0**
JOKE				*e*S	**Sn**	**02 49 08.3**	**-1.0**
JNU	**Nakatsue**	**7.73**	**29**	P	**Pn**	**02 50 00.6**	**+0.6**
	1.1nm,0.3s,baz=246,slow=1.6,SNR=7.2						
KSAR	**Wonju Array Be**	**11.10**	**6**	Pn	**Pn**	**02 50 46.8**	**+0.9**
KSRS	**Korea Array**	**11.11**	**6**	P	**Pn**	**02 50 46.5**	**+0.5**
	1.0nm,0.3s,baz=182,slow=15,SNR=7.8						
KSRS				LR	LR	02 54 31.3	
	comp=Z,30nm,22.0s,baz=190,slow=34						
USA0B	**Ussuriysk Arra**	**18.33**	**13**	P	**Pn**	**02 52 21.9**	**+3.5**
USRK	**Ussuriysk Ar.**	**18.33**	**13**	Pn	**Pn**	**02 52 19.5**	**+1.0**
LZH	**Lanzhou**	**21.61**	**302**	*e*P	**P**	**02 52 51.1**	**-2.0**
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
SONM	**Songino Array**	**26.61**	**329**	P	**P**	**02 53 40.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=146,slow=11,SNR=5.5						
MK31	**Makanchi Array**	**40.28**	**312**	P	**P**	**02 55 37.9**	**-0.6**
MKAR	**Makanchi Array**	**40.28**	**312**	P	**P**	**02 55 38.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=96,slow=10,SNR=18						
MKAR				PcP	**PcP**	**02 57 41.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=94,slow=1.5,SNR=6.7						
MKAR	**Makanchi Array**	**40.28**	**312**	P	**P**	**02 55 37.9**	**-0.7**
ZAA0	**Zalesovo Array**	**41.20**	**323**	P	**P**	**02 55 45.3**	**-0.6**
ZAA0				IAmb	IAmb	02 55 46.8	
	comp=Z,2.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.20**	**323**	P	**P**	**02 55 45.2**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=115,slow=8.7,SNR=11						
ZALV	**Zalesovo Beam**	**41.20**	**323**	P	**P**	**02 55 45.4**	**-0.5**
COEN	**Coen**	**43.25**	**156**	P	**P**	**02 56 03.2**	**+0.2**
COEN				IAmb	IAmb	02 56 03.5	
	comp=Z,2.4nm,0.8s						
KURK	**Kurchatov**	**43.65**	**317**	P	**P**	**02 56 06.0**	**+0.2**
KURBB	**Kurchatov Arra**	**43.68**	**317**	P	**P**	**02 56 04.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=107,slow=9.0,SNR=6.0						
FITZ	**Fitzroy Crossi**	**44.21**	**181**	P	**P**	**02 56 10.3**	**-0.3**
FITZ				IAmb	IAmb	02 56 10.8	
	comp=Z,2.9nm,0.8s						
WB0	**Warramunga Arr**	**46.50**	**170**	P	**P**	**02 56 28.1**	**-0.7**
WB0				IAmb	IAmb	02 56 51.6	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**46.67**	**170**	P	**P**	**02 56 29.2**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=352,slow=8.6,SNR=23						
WRA	**Warramunga Arr**	**46.67**	**170**	P	**P**	**02 56 30.0**	**0.0**
WB2	**Warramunga Arr**	**46.67**	**170**	P	**P**	**02 56 29.6**	**-0.5**
WB2				IAmb	IAmb	02 56 30.5	
	comp=Z,2.1nm,0.8s						
WR0	**Warramunga Arr**	**46.72**	**170**	P	**P**	**02 56 29.8**	**-0.5**
WR0				IAmb	IAmb	02 56 30.5	
	comp=Z,1.7nm,0.7s						
KKAR	**Karatay Array**	**48.05**	**305**	P	**P**	**02 56 42.0**	**+1.3**
BRVK	**Borovoye**	**49.20**	**318**	P	**P**	**02 56 49.4**	**+0.2**
ASAR	**Alice Springs**	**50.26**	**171**	P	**P**	**02 56 57.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=358,slow=14,SNR=9.5						
ABKAR	**Akbulak array**	**55.41**	**313**	P	**P**	**02 57 35.6**	**+0.4**
ANM	**Nome**	**57.12**	**29**	P	**P**	**02 57 48.7**	**+1.6**
ANM				IAmb	IAmb	02 57 49.3	
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**59.69

URZ				S	S	03 44 26.0	+1.0
TKGZ	**Te Karaka**	**7.12**	**192**	P	P	03 42 56.9	-1.1
RIGZ	**Rimuhau**	**7.39**	**192**	P	P	03 43 01.8	+0.9
RIGZ				S	S	03 44 32.4	+1.8
MUGZ	**Murupara**	**7.40**	**199**	P	P	03 43 01.5	+0.6
SNGZ	**Shannon Statio**	**7.55**	**195**	P	P	03 43 03.4	+0.8
KNZ	**Kokohu**	**7.71**	**192**	P	P	03 43 03.7	-0.5
KNZ				S	S	03 44 36.2	-0.4
MTHZ	**Maungataniwha**	**7.73**	**197**	P	P	03 43 04.5	0.0
RAHZ	**Arahi**	**7.74**	**196**	P	P	03 43 05.4	+0.9

MOS ***23*** *03:58:42.3±1.4, 49°.73N×98°.14E, h10km, mb4.4/4, Error ellipse: s-maj=10.9km s-min=8.7km az=43.6*
IDC ***23*** *03:58:42.2±0.7, 49°.75N×98°.18E, h0km, mb3.9/14, mb1 3.9/20, mb1mx3.7/47, mbtmp3.8/20, ML3.2/6, MS3.3/8, Ms1 3.3/8, ms1mx2.8/92, Error ellipse: s-maj=18.9km s-min=10.0km az=15.0*
ASRS ***23*** *03:58:43.1±0.6, 50°.N±4°×9°.8E±°, h5km, MLh4.9/6, Error ellipse: s-maj=9.2km s-min=3.4km az=6.5, confirmed*
NEIC ***23*** *03:58:44.6±0.9, 49°.8N±0°.2×98°.26E±0°.06, h16km±6km, mb4.2/4, Error ellipse: s-maj=27.6km s-min=2.7km az=190.0*
NNC ***23*** *03:58:44.5±2.2, 49°.55N×97°.86E, h0km, mb3.8, Error ellipse: s-maj=21.4km s-min=19.0km az=135.0*
BJI ***23*** *03:58:44.6±0.0, 49°.52N×98°.05E, h7km, mb4.0/7, mB4.5/3, ML4.6/1*

ISC 23 03:58:43.6±0.5**, 49°.76N**±0°.04×**98°.12E**±0°.03**, h10**km**, **n94, σ2s38/127, **mb4.0**/15, **MS3.2**/8, **7C-10D,**
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.93**	**336**	⇓*i*	PG	**Pg**	**03 59 02.3**	**+0.8**
KNGR				*e*			03 59 16.6	
KNGR					pmax	pmax		
	comp=Z,496nm,0.3s							
KNGR					smax	smax		
	comp=N,7μm,0.5s							
KNGR	**Kungurtug, Tuv**	**0.93**	**336**	⇓	Pg	**Pn**	**03 59 03.3**	**+0.4**
KNGR					Sg	**Sn**	**03 59 17.3**	**+1.0**
MOY	**Mondy**	**2.64**	**43**	*e*	PN	**Pb**	**03 59 29.3**	**-1.8**
MOY				*i*			03 59 32.2	
MOY				*e*			04 00 08.1	
MOY				*i*			04 00 13.2	
MOY	**Mondy**	**2.64**	**43**		Pg	**Pb**	**03 59 31.7**	**+0.6**
MOY					Sg	**Sg**	**04 00 08.1**	**-0.4**
ORL	**Orlik**	**2.98**	**20**	*e*	PN	**Pb**	**03 59 37.4**	**+0.6**
ORL				*e*			04 00 17.4	
ORL					pmax	pmax		
	comp=Z,244nm,0.3s							
ORL					smax	smax		
	comp=E,1μm,0.7s							
KZLR	**Kyzyl**	**3.03**	**311**		Pn	**Pn**	**03 59 34.7**	**+3.0**
KZLR					Pg	**Pb**	**03 59 39.5**	**+1.8**
KZLR					Sg	**Sg**	**04 00 20.8**	**-0.2**
ZAK	**Zakamensk**	**3.38**	**77**	*e*	PN	**Pn**	**03 59 37.8**	**+1.2**
ZAK				*e*			03 59 43.8	
ZAK				*e*			04 00 29.3	
ZAK					pmax	pmax		
	comp=Z,195nm,0.3s							
ZAK					smax	smax		
	comp=N,2μm,0.8s							
ZAK	**Zakamensk**	**3.38**	**77**		Pn	**Pn**	**03 59 37.8**	**+1.2**
ZAK					Pg	**Pb**	**03 59 43.7**	**0.0**
ZAK					Sg	**Sg**	**04 00 29.5**	**-2.7**
TLY	**Talaya**	**4.00**	**59**	*e*	PN	**Pb**	**03 59 55.9**	**+1.7**
IRK	**Irkutsk**	**4.61**	**55**	*e*	PN	**Pb**	**04 00 06.0**	**+1.4**
IRK				*e*			04 01 06.0	
IRK					pmax	pmax		
	comp=Z,259nm,0.1s							
IRK					smax	smax		
	comp=N,2μm,0.8s							
IRK	**Irkutsk**	**4.61**	**55**		Pg	**Pb**	**04 00 07.0**	**+2.4**
IRK					Sg	**Sg**	**04 01 07.4**	**-4.2**
LSTR	**Listvyanka**	**4.75**	**61**	*e*	PN	**Pb**	**04 00 08.8**	**+1.9**
LSTR					pmax	pmax		
	comp=Z,45nm,0.9s							
DJOS	**Djoyskaya Sosn**	**5.20**	**308**		Pn	**Pn**	**04 00 04.8**	**+3.4**
DJOS					Pg	**Pg**	**04 00 21.2**	**-1.8**
DJOS					Sg	**Sg**	**04 01 29.5**	**-0.8**
CERR	**Cheremushki**	**5.22**	**309**		Pn	**Pn**	**04 00 04.9**	**+3.2**
CERR					Pg	**Pg**	**04 00 20.7**	**-2.8**
CERR					Sg	**Sg**	**04 01 29.9**	**-1.2**
DJO	**Djoy, Khakassi**	**5.28**	**308**		Pn	**Pn**	**04 00 05.2**	**+2.7**
DJO					Pg	**Pg**	**04 00 22.6**	**-2.1**
DJO					Sg	**Sg**	**04 01 31.4**	**-1.6**
MINR	**Mina**	**5.68**	**337**		Pg	**Pg**	**04 00 29.1**	**-3.2**
MINR					Sg	**Sg**	**04 01 46.7**	**+0.9**
SONM	**Songino Array**	**5.80**	**106**		Pn	**Pn**	**04 00 08.9**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=296,slow=15,SNR=6.1							
SONM					Pg	**Pb**	**04 00 26.5**	**+1.6**
	comp=Z,6.9nm,0.3s,baz=293,slow=17,SNR=25							
SONM					Lg	Lg	04 01 45.0	
	comp=Z,43nm,0.3s,baz=282,slow=25,SNR=17							
SONM	**Songino Array**	**5.80**	**106**			**Pn**	**04 00 09.4**	**-0.4**
TRG	**Tyrgan**	**5.98**	**57**		Pg	**Pb**	**04 00 27.6**	**-0.2**
TRG					Sg	**Sg**	**04 01 48.1**	**-7.2**
ULN	**Ulaanbaatar**	**6.20**	**104**	⇓*e*	PN	**Pn**	**04 00 15.4**	**+0.1**
ULN	**Ulaanbaatar**	**6.20**	**104**		Pn	**Pn**	**04 00 14.5**	**-0.8**
ULN	**Ulaanbaatar**	**6.20**	**104**		Pn	**Pn**	**04 00 15.7**	**+0.4**
ULN					Pg	**Pb**	**04 00 35.8**	**+4.1**
ULN					Sg	**Sg**	**04 01 57.1**	**-5.4**
CUR	**Chagan-Uzun**	**6.32**	**277**		Pn	**Pn**	**04 00 17.6**	**+0.7**
CUR					Pg	Pb	04 00 39.9	+6.2
CUR					Sg	**Sg**	**04 02 01.2**	**-5.0**
ULGR	**Ulagan, Altay**	**6.58**	**281**		Pn	**Pn**	**04 00 23.6**	**+3.2**
ULGR					Pg	**Pg**	**04 00 47.4**	**-2.1**
ULGR					Sg	**Sg**	**04 02 10.8**	**-3.9**
AKAR	**Aktash**	**6.79**	**279**		Pn	**Pn**	**04 00 24.8**	**+1.5**
AKAR					Pg	**Pg**	**04 00 50.7**	**-2.8**
AKAR					Sg	**Sg**	**04 02 19.1**	**-2.2**
SHRR	**Shira**	**6.81**	**317**		Pn	**Pn**	**04 00 26.7**	**+3.2**
SHRR					Pg	Pb	04 00 48.2	+6.2
SHRR					Sg	**Sg**	**04 02 15.1**	**-7.0**
CHBI	**Chibit, Altay**	**6.86**	**279**		Pn	**Pn**	**04 00 27.0**	**+2.7**
CHBI					Sg	**Sg**	**04 02 21.0**	**-2.7**
LUZB	**Luzhba, Kemero**	**6.93**	**308**		Pn	**Pn**	**04 00 27.5**	**+2.3**
LUZB					Pg	Pb	04 00 51.6	+7.0
LUZB					Sg	**Sg**	**04 02 19.8**	**-6.1**
KRAR	**Krasnoyarsk**	**7.02**	**335**	⇑*e*	PN	**Pn**	**04 00 24.9**	**-1.4**
OGRR	**Ongureny**	**7.06**	**53**	*e*	PN	**Pn**	**04 00 29.3**	**+2.4**
OGRR				*e*			04 00 52.4	
OGRR					pmax	pmax		
	comp=Z,62nm,1.0s							
GZL	**Zheleznogorsk**	**7.08**	**339**		Sg	**Sg**	**04 02 25.6**	**-4.9**
TASR	**Tashtagol**	**7.09**	**299**		Pn	**Pn**	**04 00 29.3**	**+2.0**
TASR					Pg	**Pg**	**04 00 56.4**	**-2.9**
TASR					Sg	**Sg**	**04 02 28.2**	**-2.8**
ARTR	**Artybash**	**7.17**	**291**		Pn	**Pn**	**04 00 30.2**	**+1.8**
ARTR					Pg	Pb	04 00 55.3	+7.3
ARTR					Sg	**Sg**	**04 02 28.9**	**-4.6**
ELT	**Eltsovka**	**8.20**	**300**		Sg	Sg	04 02 58.8	-7.6
KOTO	**Kotino, Kuzbas**	**8.21**	**307**		Sg	**Sg**	**04 03 02.4**	**-4.4**
BRCR	**Berchikul'**	**8.37**	**318**		Pg	**Pb**	**04 01 10.4**	**+2.0**
BRCR					Sg	Sg	04 03 04.2	-7.7
UKR	**Ust'-Kan**	**8.62**	**283**		Pg	Pg	04 01 24.0	-4.4
UKR					Sg	**Sg**	**04 03 14.0**	**-6.0**
ZAA0	**Zalesovo Array**	**9.23**	**302**		Pn	**Pn**	**04 00 57.5**	**+0.9**
ZAA0	**Zalesovo Array**	**9.23**	**302**	⇓	Pn	**Pn**	**04 00 59.0**	**+2.3**
	comp=Z,0.5nm,1.1s							
ZAA0				⇓	Lg	Lg	04 03 35.2	
	comp=Z,7.1nm,0.9s							
ZALV	**Zalesovo Beam**	**9.23**	**302**		Pn	**Pn**	**04 00 56.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=106,slow=12,SNR=7.8							
ZALV					Pg		04 01 29.8	
	comp=Z,0.3nm,0.3s,baz=112,slow=14,SNR=7.4							
ZALV					Lg	Lg	04 03 37.2	
	comp=Z,1.7nm,0.3s,baz=118,slow=25,SNR=9.0							
ZALV	**Zalesovo Beam**	**9.23**	**302**			**Pn**	**04 00 57.1**	**+0.4**
MK31	**Makanchi Array**	**10.96**	**260**	⇓*i*	P	**Pn**	**04 01 23.0**	**+2.6**
MK31	**Makanchi Array**	**10.96**	**260**			**Pn**	**04 01 21.4**	**+1.0**
MK31	**Makanchi Array**	**10.96**	**260**		Pn	**Pn**	**04 01 19.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=86,slow=12,SNR=5.6							
MK31				⇑	Pg		04 02 02.1	
	comp=Z,1.7nm,0.6s,baz=72,slow=16,SNR=6.3							
MK31				⇓	Lg	Lg	04 04 28.1	
	comp=Z,12nm,0.7s,baz=75,slow=33,SNR=4.6							
MKAR	**Makanchi Array**	**10.96**	**260**		Pn	**Pn**	**04 01 20.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=7.1							
MKAR					Pg		04 02 03.9	
	comp=Z,0.3nm,0.3s,baz=75,slow=18,SNR=7.1							
MKAR					Lg	Lg	04 04 30.2	
	comp=Z,0.7nm,0.3s,baz=83,slow=32,SNR=6.6							
MKAR					LR	LR	04 05 48.9	
	comp=Z,77nm,21.8s,baz=49,slow=39							
MKAR	**Makanchi Array**	**10.96**	**260**		P	**Pn**	**04 01 21.0**	**+0.6**
MKAR	**Makanchi Array**	**10.96**	**260**			**Pn**	**04 01 21.3**	**+1.0**
MAKZ	**Makanchi**	**11.15**	**261**		P	**Pn**	**04 01 26.1**	**+3.1**
MAKZ	**Makanchi**	**11.15**	**261**		Pn	**Pn**	**04 01 26.1**	**+3.1**
MAKZ	**Makanchi**	**11.15**	**261**	⇑	Lg	Lg	04 04 31.3	
	comp=Z,31nm,1.2s							
KURK	**Kurchatov**	**12.52**	**282**		P	**Pn**	**04 01 42.8**	**+1.2**
KURK	**Kurchatov**	**12.52**	**282**			**Pn**	**04 01 42.7**	**+1.0**
KURK	**Kurchatov**	**12.52**	**282**	⇑	Pn	**Pn**	**04 01 41.5**	**-0.2**
	comp=Z,4.5nm,1.1s							
KURK				⇑	Lg	Lg	04 05 19.0	
	comp=Z,38nm,0.9s							
KURBB	**Kurchatov Arra**	**12.58**	**281**		Pn	**Pn**	**04 01 42.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=90,slow=14,SNR=11							
KURBB					Lg	Lg	04 05 23.0	
	comp=Z,0.1nm,0.3s,baz=87,slow=30,SNR=6.7							
KURBB	**Kurchatov Arra**	**12.58**	**281**	⇓	Pn	**Pn**	**04 01 41.9**	**-0.6**
	comp=Z,3.6nm,0.8s							
KURBB				⇑	Lg	Lg	04 05 20.4	
	comp=Z,40nm,0.9s							
GOMU	**GeErMu**	**13.77**	**191**		P	**Pn**	**04 01 58.8**	**-0.3**
GOMU					pP	P	04 02 02.3	-5.5
GOMU					sP		04 02 06.3	
GOMU					S	**Sn**	**04 04 28.8**	**-3.4**
GOMU					pmax	pmax		
	comp=Z,3.0nm,0.5s							
GOMU					pmax	pmax		
	comp=Z,61nm,5.0s							
BVAR	**Borovoye Array**	**17.56**	**291**		P	**Pn**	**04 02 48.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=57,slow=30,SNR=4.5							
XAN	**Xi'an**	**17.62**	**149**		P	**P**	**04 02 53.3**	**+3.2**
XAN					pmax	pmax		
	comp=Z,7.0nm,1.9s							
BRVK	**Borovoye**	**17.63**	**291**	⇓	eP	**P**	**04 02 52.5**	**+2.4**
AAK	**Ala-Archa**	**17.79**	**255**		P	**Pn**	**04 02 51.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=68,slow=6.1,SNR=6.7							
AAK	**Ala-Archa**	**17.79**	**255**	⇓	eP	**P**	**04 02 54.2**	**+2.1**
AAK	**Ala-Archa**	**17.79**	**255**		P	**Pn**	**04 02 52.2**	**+0.8**
KKAR	**Karatay Array**	**20.09**	**261**		P	**P**	**04 03 18.0**	**+0.9**
KKAR	**Karatay Array**	**20.09**	**261**		P	**P**	**04 03 18.0**	**+0.9**
NRIK	**Noril'sk**	**20.30**	**349**		P	**P**	**04 03 19.8**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=127,slow=4.1,SNR=6.2							
KLR	**Kul'dur**	**21.75**	**78**		LR	LR	04 12 40.9	
	comp=Z,62nm,21.2s,baz=329,slow=39							
MDJ	**Mudanjiang**	**21.90**	**91**		P	**P**	**04 03 35.4**	**-1.3**
MDJ					IAmb	IAmb	04 03 35.5	
	comp=Z,5.6nm,0.4s							
ARU	**Arti**	**24.40**	**301**		P	**P**	**04 04 02.9**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=90,slow=5.1,SNR=10							
ARU					LR	LR	04 14 37.5	
	comp=Z,61nm,19.0s,baz=2.5,slow=39							
ARU	**Arti**	**24.40**	**301**	*c*	*i* P	**P**	**04 04 02.7**	**+0.9**
ARU					S	**S**	**04 08 25.7**	**+4.6**
ARU					SS	**SnSn**	**04 09 10.3**	**+6.0**
ARU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
ARU	**Arti**	**24.40**	**301**		P	**P**	**04 04 02.7**	**+0.9**
ABKAR	**Akbulak array**	**24.62**	**284**		P	**P**	**04 04 04.5**	**+0.6**
KSRS	**Korea Array**	**24.66**	**109**		P	**P**	**04 04 05.1**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=310,slow=8.5,SNR=5.9							
KSRS					LR	LR	04 14 36.0	
	comp=Z,32nm,19.6s,baz=180,slow=39							
AKTO	**Aktyubinsk**	**25.52**	**287**		P	**P**	**04 04 12.9**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=87,slow=13,SNR=11							
AKTO	**Aktyubinsk**	**25.52**	**287**		P	**P**	**04 04 13.0**	**+0.9**
TIXI	**Tiksi**	**26.03**	**22**		P	**P**	**04 04 16.9**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=272,slow=21,SNR=4.0							
ARCES	**ARCESS Array B**	**38.67**	**328**		P	**P**	**04 06 06.2**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=52,slow=4.8,SNR=5.6							
ARCES					LR	LR	04 26 15.8	
	comp=Z,30nm,18.8s,baz=332,slow=43							
FINES	**FINESS Array B**	**40.21**	**315**		P	**P**	**04 06 19.3**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=82,slow=7.7,SNR=14							
FINES	**FINESS Array B**	**40.21**	**315**	*i*	P	**P**	**04 06 20.7**	**+0.9**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.4s							
FINES	**FINESS Array B**	**40.21**	**315**		P	**P**	**04 06 19.8**	**0.0**
WSAR	**Wadi Sarin**	**40.62**	**244**		LR	LR	04 24 42.8	
	comp=Z,59nm,18.9s,baz=98,slow=38							
MNK	**Minsk**	**41.73**	**304**	*i*	P	**P**	**04 06 31.5**	**-0.9**
MNK				*i*			04 08 07.9	
MNK				*i*	PPP	PPP	04 08 36.1	
MNK				*i*	S	**S**	**04 12 47.7**	**-1.4**
MNK				*i*	SS	**SS**	**04 15 55.6**	**+1.3**
MNK					pmax	pmax		
	comp=Z,4.0nm,0.8s							
MNK					pmax	pmax		
	comp=E,3.0nm,0.9s							
MNK					pmax	pmax		
	comp=N,12nm,0.9s							
MNK					MLR	MLR		
	comp=Z,68nm,21.0s							
MNK					MLR	MLR		
	comp=E,13nm,20.0s							
MNK					MLR	MLR		
	comp=N,133nm,29.0s							
MNK	**Minsk**	**41.73**	**304**	*i*	P	**P**	**04 06 31.5**	**-0.9**
	comp=E,3.0nm,0.9s							
MNK				*i*	P	**P**	**04 06 31.5**	**-0.9**
	comp=N,12nm,0.9s							
MNK				*i*	P	**P**	**04 06 31.5**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=246							
MNK				*i*	PP	**PP**	**04 08 07.9**	**-0.7**
MNK				*i*	PPP	PPP	04 08 36.1	
MNK				*i*	S	**S**	**04 12 47.7**	**-1.4**
MNK				*i*	SS	**SS**	**04 15 55.6**	**+1.3**
MNK				*i*	SSS	SSS	04 16 23.9	
MNK				*i*	LR	LR	04 20 40.6	
MNK				*i*	LRM	MLR	04 26 17.8	
	comp=Z,68nm,21.0s							
MNK				*i*	LRM	MLR	04 26 23.9	
	comp=E,13nm,20.4s							
MNK				*i*	LRM	MLR	04 26 28.0	
	comp=N,133nm,28.5s							
AKASG	**Malin Array Be**	**42.61**	**299**		P	**P**	**04 06 39.6**	**0.0**
	comp=N,1.2nm,0.5s,baz=54,slow=9.0,SNR=5.1							
BRTR	**Keskin Array B**	**45.57**	**283**		P	**P**	**04 07 04.3**	**+0.6**
	comp=N,1.9nm,0.9s,baz=80,slow=7.0,SNR=9.1							
BRTR	**Keskin Array B**	**45.57**	**283**	*i*	P	**P**	**04 07 05.5**	**+1.8**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.9s							
PSI	**Prapat**	**46.79**	**179**		LR	LR	04 26 03.3	
	comp=Z,127nm,20.8s,baz=166,slow=35							
NB2	**NORSAR Subarra**	**47.00**	**318**		P	**P**	**04 07 14.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=62,slow=7.9							
NOA	**NORSAR Array B**	**47.00**	**318**		P	**P**	**04 07 15.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=61,slow=8.5,SNR=6.7							
JMIC	**Jan Mayen**	**48.83**	**335**		LR	LR	04 31 00.9	
	comp=Z,24nm,18.6s,baz=186,slow=40							
YKA	**Yellowknife Ar**	**65.11**	**16**		P	**P**	**04 09 24.2**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=338,slow=7.2,SNR=3.2							
WRA	**Warramunga Arr**	**76.46**	**145**		P	**P**	**04 10 32.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=344,slow=6.1,SNR=6.6							
ASAR	**Alice Springs**	**79.72**	**147**		P	**P**	**04 10 51.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=342,slow=6.0,SNR=7.2							
TORD	**Torodi Ar. Bea**	**84.18**	**283**		P	**P**	**04 11 15.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=20,slow=5.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	**84.18**	**283**		P	**P**	**04 11 15.2**	**-0.1**
TORD					IAmb	IAmb	04 11 16.6	
	comp=Z,1.4nm,1.1s							

NEIC ***23*** *04:09:27.9±1.7, 16°.04S±0°.07×69°.51W±0°.05, h232km±5km, mb4.4/48, ML4.8(GUC), Error ellipse: s-maj=10.8km s-min=6.6km az=165.0*
IDC ***23*** *04:09:28.3±0.6, 15°.86S×69°.28W, h234km±4km, mb3.8/12, mb1 3.9/15, mb1mx3.8/30, mbtmp4.3/15, Error ellipse: s-maj=16.0km s-min=10.7km az=47.0*
VAO ***23*** *04:09:29.7±0.4, 16°.01S×69°.32W, h238km, mb4.0*
GUC ***23*** *04:09:29.0±0.6, 16°.33S×69°.82W, h269km±4km, ML4.8*

ISC 23 04:09:27.1±0.6**, 16°.08S**±0°.04×**69°.49W**±0°.06**, h236**km±5km**, **n163, σ1s55/183, **mb4.2**/27, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.32**	**99**		P	**Pn**	**04 10 03.7**	**+0.3**
	118nm,0.3s,baz=314,slow=5.4,SNR=3988							
LPAZ					S	**S**	**04 10 31.6**	**-0.1**
	30nm,0.3s,baz=32,slow=24,SNR=22							
LPAZ	**La Paz**	**1.32**	**99**		Pn	**Pn**	**04 10 05.0**	**+1.6**
LPAZ					Sn	**S**	**04 10 31.6**	**-0.2**
LPAZ	**La Paz**	**1.32**	**99**	*eP*		**Pn**	**04 10 05.0**	**+1.6**
LPAZ	**La Paz**	**1.32**	**99**	*eP*		**Pn**	**04 10 05.0**	**+1.6**
PB16	**IPOC Station P**	**2.24**	**180**			**Pn**	**04 10 13.5**	**+2.2**
PB16					Sn	**S**	**04 10 47.7**	**+1.7**
PB16	**IPOC Station P**	**2.24**	**180**	*eP*		**Pn**	**04 10 13.8**	**+2.5**
PB16				*i*	S	**S**	**04 10 48.8**	**+2.7**
AP01	**Chacalluta**	**2.42**	**200**			**Pn**	**04 10 13.2**	**+0.8**
AP01					Sn	**S**	**04 10 47.3**	**-0.8**
AP01	**Chacalluta**	**2.42**	**200**	*eP*		**Pn**	**04 10 13.2**	**+0.8**
AP01				*i*	S	**S**	**04 10 47.3**	**-0.8**
AP01					IAML		04 10 49.3	
	comp=E,3μm,0.5s							
PB12	**IPOC Station P**	**2.64**	**198**		Pn	**Pn**	**04 10 15.4**	**+0.4**
PB12	**IPOC Station P**	**2.64**	**198**	*eP*		**Pn**	**04 10 15.3**	**+0.4**
PB12				*i*	S	**S**	**04 10 50.9**	**-1.7**
PB12					IAML		04 10 54.2	
	comp=N,1μm,0.4s							
PB11	**IPOC Station P**	**3.66**	**182**		Pn	**Pn**	**04 10 27.1**	**+0.7**
PB11	**IPOC Station P**	**3.66**	**182**	*eP*		**Pn**	**04 10 27.4**	**+1.0**
PB11				*i*	S	**S**	**04 11 12.1**	**-1.2**
PB08	**IPOC Station P**	**4.05**	**176**			**Pn**	**04 10 32.3**	**+1.1**
PB08	**IPOC Station P**	**4.05**	**176**	*eP*		**Pn**	**04 10 32.8**	**+1.6**
PB08				*i*	S	**S**	**04 11 21.0**	**-0.9**
TA02	**Huaiquique**	**4.21**	**188**			**Pn**	**04 10 32.9**	**+0.1**
TA02	**Huaiquique**	**4.21**	**188**	*eP*		**Pn**	**04 10 32.7**	**-0.1**
TA02				*i*	S	**S**	**04 11 21.1**	**-3.7**
TA01	**Diego Aracena**	**4.51**	**188**			**Pn**	**04 10 36.0**	**-0.3**
TA01	**Diego Aracena**	**4.51**	**188**	*eP*		**Pn**	**04 10 35.8**	**-0.5**
TA01				*i*	S	**S**	**04 11 27.1**	**-4.2**
PB01	**IPOC Station P**	**4.93**	**180**			**Pn**	**04 10 42.3**	**+0.6**
PB01	**IPOC Station P**	**4.93**	**180**	*eP*		**Pn**	**04 10 42.3**	**+0.6**
PB01				*i*	S	**S**	**04 11 37.6**	**-3.3**
PB02	**IPOC Station P**	**5.22**	**184**		Pn	**Pn**	**04 10 45.8**	**+0.5**
PB02	**IPOC Station P**	**5.22**	**184**	*eP*		**Pn**	**04 10 45.1**	**-0.1**
PB02				*i*	S	**S**	**04 11 43.4**	**-4.1**
PB07	**IPOC Station P**	**5.62**	**184**			**Pn**	**04 10 51.1**	**+0.7**
PB07	**IPOC Station P**	**5.62**	**184**	*eP*		**Pn**	**04 10 50.3**	**-0.1**
PB07				*i*	S	**S**	**04 11 52.0**	**-4.7**
PB09	**IPOC Station P**	**5.69**	**178**			**Pn**	**04 10 52.2**	**+1.1**
PB09	**IPOC Station P**	**5.69**	**178**	*eP*		**Pn**	**04 10 52.4**	**+1.2**
PB09				*i*	S	**S**	**04 11 55.2**	**-2.9**
PB04	**IPOC Station P**	**6.25**	**186**			**Pn**	**04 10 58.4**	**+0.2**
PB04	**IPOC Station P**	**6.25**	**186**	*eP*		**Pn**	**04 10 58.1**	**-0.1**
PB04				*i*	S	**S**	**04 12 06.0**	**-4.9**
LVC	**Limon Verde**	**6.51**	**175**		P	**Pn**	**04 11 03.8**	**+2.0**
	comp=N,16nm,0.3s,baz=4.8,slow=8.9,SNR=108							
LVC					S	**S**	**04 12 14.1**	**-3.3**
	comp=N,13nm,0.3s,baz=189,slow=22,SNR=3.8							
LVC	**Limon Verde**	**6.51**	**175**		Pn	**Pn**	**04 11 03.0**	**+1.2**
PB06	**IPOC Station P**	**6.59**	**181**			**Pn**	**04 11 02.9**	**+0.4**
ETMB	**Extrema**	**7.00**	**28**	*eP*		**Pn**	**04 11 07.8**	**+0.1**
PB15	**IPOC Station P**	**7.09**	**180**			**Pn**	**04 11 09.6**	**+0.7**
SIV	**San Ignacio**	**8.09**	**91**		P	**Pn**	**04 11 17.2**	**-4.4**
	comp=N,0.4nm,0.3s,baz=277,slow=16,SNR=5.2							
NNA	**Nana**	**8.22**	**299**		P	**Pn**	**04 11 24.4**	**+1.2**
	comp=N,5.9nm,0.3s,baz=114,slow=14,SNR=5.7							
NNA	**Nana**	**8.22**	**299**			**Pn**	**04 11 23.4**	**+0.2**
PB14	**IPOC Station P**	**8.54**	**186**		Pn	**Pn**	**04 11 27.7**	**+0.1**
PTLB	**Pontes e Lacer**	**9.98**	**88**	*eP*		**Pn**	**04 11 46.3**	**+0.6**
AC01	**Pan de Azucar**	**10.07**	**186**		Pn	**Pn**	**04 11 48.2**	**+1.5**
AC02	**Maricunga**	**10.70**	**178**		Pn	**Pn**	**04 11 57.1**	**+1.9**
AC06	**Mina Casimiro**	**11.25**	**184**		P	**Pn**	**04 12 03.3**	**+1.8**
TBTG	**Tabatinga, AM**	**11.83**	**358**	*eP*		**P**	**04 12 10.5**	**-2

GCPR	**Guaynabo City**	**34.34**	**6**	P	**P**	**04 15 50.2**	**-1.5**
833A	**Chaparral WMA,**	**52.79**	**327**	P	**P**	**04 18 19.3**	**+0.9**
833A				IAmb	IAmb	04 18 20.2	
	comp=Z,9.1nm,0.6s						
TXAR	**Lajitas Array**	**55.93**	**324**	P	**P**	**04 18 41.8**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=152,slow=7.8,SNR=43						
TXAR				pP	**PcP**	**04 19 38.2**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=144,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**55.93**	**324**	P	**P**	**04 18 41.7**	**+0.7**
TX31	**Lajitas Ar. Si**	**55.93**	**324**	P	**P**	**04 18 41.9**	**+0.9**
TX31				IAmb	IAmb	04 18 42.6	
	comp=Z,12nm,1.1s						
TX32	**Lajitas Array**	**55.93**	**324**	P	**P**	**04 18 41.9**	**+0.9**
S39A	**Bolivar**	**58.00**	**338**	P	**P**	**04 18 54.1**	**-1.1**
S39A				IAmb	IAmb	04 18 55.1	
	comp=Z,5.7nm,1.1s						
MNTX	**Cornudas Mount**	**58.68**	**324**	P	**P**	**04 18 59.9**	**-0.2**
ANMO	**Albuquerque**	**61.71**	**326**	P	**P**	**04 19 21.7**	**+1.0**
ANMO				IAmb	IAmb	04 19 22.6	
	comp=Z,3.1nm,0.6s						
SDCO	**Great Sand Dun**	**63.35**	**329**	P	**P**	**04 19 32.6**	**+1.0**
SDCO				IAmb	IAmb	04 19 33.7	
	comp=Z,3.9nm,0.8s						
ISCO	**Idaho Springs**	**65.00**	**330**	P	**P**	**04 19 42.2**	**-0.1**
SMCO	**Snowmass**	**65.19**	**329**	P	**P**	**04 19 44.2**	**+0.6**
SMCO				IAmb	IAmb	04 19 48.4	
	comp=Z,4.8nm,1.1s						
PV15	**Paradox Valley**	**65.33**	**327**	P	**P**	**04 19 44.8**	**+0.4**
KNB	**Kanab**	**66.76**	**323**	P	**P**	**04 19 54.6**	**+1.2**
KNB				IAmb	IAmb	04 19 56.8	
	comp=Z,9.9nm,0.8s						
P18A	**Preston Nutter**	**67.20**	**327**	P	**P**	**04 19 56.5**	**+0.2**
P18A				IAmb	IAmb	04 19 58.8	
	comp=Z,5.0nm,0.8s						
P17A	**Butcher Ranch,**	**67.35**	**326**	P	**P**	**04 19 57.5**	**+0.5**
P17A				IAmb	IAmb	04 19 59.9	
	comp=Z,7.2nm,1.1s						
CCUT	**Cedar City**	**67.44**	**323**	P	**P**	**04 19 58.6**	**+0.8**
DBIC	**Dimbokro**	**67.83**	**76**	P	**P**	**04 19 59.6**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=258,slow=7.0,SNR=5.7						
DBIC	**Dimbokro**	**67.83**	**76**	P	**P**	**04 20 00.6**	**+0.3**
PSUT	**Pine Spring**	**68.40**	**324**	P	**P**	**04 20 05.4**	**+1.7**
PSUT				IAmb	IAmb	04 20 06.5	
	comp=Z,3.8nm,0.7s						
JLU	**Jordanelle**	**68.54**	**327**	P	**P**	**04 20 06.1**	**+1.5**
JLU				IAmb	IAmb	04 20 07.0	
	comp=Z,4.3nm,0.8s						
TPNV	**Topopah Spring**	**68.73**	**321**	P	**P**	**04 20 06.9**	**+1.2**
TPNV				IAmb	IAmb	04 20 09.1	
	comp=Z,3.4nm,0.7s						
PD31	**Pinedale Array**	**69.18**	**330**	P	**P**	**04 20 09.4**	**+1.0**
PDAR	**Pinedale Array**	**69.18**	**330**	P	**P**	**04 20 09.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=126,slow=8.8,SNR=11						
R11A	**Troy Canyon, C**	**69.27**	**323**	P	**P**	**04 20 10.0**	**+1.1**
ULM	**Lac du Bonnet**	**70.02**	**342**	P	**P**	**04 20 11.9**	**-1.0**
	comp=Z,6.3nm,0.5s,baz=142,slow=5.9,SNR=9.9						
ULM	**Lac du Bonnet**	**70.02**	**342**	P	**P**	**04 20 12.1**	**-1.0**
OMMB	**Old Mammoth Mi**	**70.83**	**320**	P	**P**	**04 20 19.3**	**+0.7**
OMMB				IAmb	IAmb	04 20 21.8	
	comp=Z,4.5nm,0.8s						
NVAR	**Mina Array Bea**	**70.93**	**321**	P	**P**	**04 20 20.5**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=148,slow=6.1,SNR=8.4						
YHH	**Holmes Hill**	**71.31**	**330**	P	**P**	**04 20 22.3**	**+1.0**
YHH				IAmb	IAmb	04 20 24.3	
	comp=Z,5.4nm,1.2s						
PLID	**Pearl Lake**	**74.08**	**328**	P	**P**	**04 20 38.8**	**+1.3**
TORD	**Torodi Ar. Bea**	**76.12**	**72**	P	**P**	**04 20 48.9**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=268,slow=4.4,SNR=37						
ESDC	**Sonseca Array**	**82.40**	**45**	P	**P**	**04 21 22.8**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=258,slow=5.4,SNR=11						
ESDC	**Sonseca Array**	**82.40**	**45**	P	**P**	**04 21 23.6**	**+0.6**
YKA	**Yellowknife Ar**	**85.92**	**341**	P	**P**	**04 21 40.4**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=131,slow=4.9,SNR=81						
YKA	**Yellowknife Ar**	**85.92**	**341**	P	**P**	**04 21 39.7**	**-0.3**
ASAR	**Alice Springs**	**134.35**	**211**	SKPbc	**SKPbc**	**04 31 26.9**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=140,slow=4.5,SNR=8.7						
WRA	**Warramunga Arr**	**137.22**	**214**	PKP	**PKiKP**	**04 28 25.2**	**+0.2**
	comp=Z,0.5nm,1.1s,baz=141,slow=1.6,SNR=5.7						
WRA				SKPbc	**SKPbc**	**04 31 36.1**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=149,slow=2.3,SNR=9.8						
ZALV	**Zalesovo Beam**	**137.24**	**22**	PKP	**PKiKP**	**04 28 24.1**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=288,slow=3.4,SNR=11						
ZALV				SKPbc	**SKPbc**	**04 31 34.2**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=338,slow=3.5,SNR=9.4						
ZALV	**Zalesovo Beam**	**137.24**	**22**		**PKPdf**	**04 28 23.0**	**+1.0**
MKAR	**Makanchi Array**	**141.45**	**31**	PKP	**PKPdf**	**04 28 31.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=278,slow=1.8,SNR=3.6						
MKAR				SKPbc	**SKiKP**	**04 31 46.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=325,slow=3.2,SNR=9.9						
MKAR	**Makanchi Array**	**141.45**	**31**		**PKPdf**	**04 28 30.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**146.59**	**331**	PKPbc	**PKPab**	**04 28 43.0**	**+0.6**
	comp=Z,3.1nm,0.4s,baz=25,slow=3.7,SNR=10						
MJAR	**Matsushiro Arr**	**148.07**	**315**	PKPbc	**PKiKP**	**04 28 46.9**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=36,slow=1.2,SNR=4.1						
SONM	**Songino Array**	**148.16**	**5**	PKPbc	**PKiKP**	**04 28 46.7**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=324,slow=1.5,SNR=25						
SONM	**Songino Array**	**148.16**	**5**		**PKiKP**	**04 28 46.5**	**-0.2**

*IDC **23** 04:38:00.2±0.7, 6.78N×72.97W, h160km±8km, mb3.7/8, mb1 4.0/10, mb1mx3.6/29, mbtmp4.2/10, Error ellipse: s-maj=19.3km s-min=7.7km az=130.0*
*VAO **23** 04:38:01.0±0.4, 6.73N×72.98W, h144km, mb3.9*
*NEIC **23** 04:38:01.9±2.0, 6.88N±0.06×73.10W±0.08, h158km±8km, mb4.3/38, Mwr4.3(RSNC), Error ellipse: s-maj=11.2km s-min=8.9km az=95.0*
*RSNC **23** 04:38:01.2±1.0, 6.84N×73.12W, h152km±4km, ML4.0, Mw4.3, Fault plane solution: NP1:φ=5.00000°, δ=38.00000°, λ=-22.00000°.*

ISC 23 04:38:00.2±0.6, 6.85N±0.03×73.10W±0.03, h156km±5km, n121, σ1$38/161, mb4.2/27, 5C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.27**	**199**	⇓	*i*P	**Pn**	**04 38 22.1**	**+0.4**
BARC					*e*S	**Sn**	**04 38 37.5**	**-0.6**
PAMC	**Pamplona, Colo**	**0.63**	**39**	⇑	*e*P	**Pn**	**04 38 24.9**	**+1.4**
PAMC					*e*S	**Sn**	**04 38 41.8**	**+0.6**
PAMC					*i*		04 38 44.1	
	comp=Z,1μm,0.4s							
RUSC	**La Rusia**	**0.95**	**179**	⇓	*i*P	**Pn**	**04 38 25.9**	**+0.2**
RUSC					*e*S	**Sn**	**04 38 44.4**	**-0.9**
RUSC					*i*		04 38 46.0	
	comp=Z,778nm,0.4s							
TAMC	**Tame, Arauca**	**1.36**	**108**	⇓	*i*P	**Pn**	**04 38 30.3**	**+1.4**
TAMC					*e*S	**Sn**	**04 38 50.8**	**0.0**
TAMC					*i*		04 38 51.1	
	comp=Z,1μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	⇓	*e*P	**Pn**	**04 38 28.6**	**-0.6**
PTBC					*e*S	**Sn**	**04 38 50.2**	**-1.0**
PTBC					*i*		04 38 56.0	
	comp=Z,2μm,0.3s							
OCAC	**Ocana**	**1.40**	**351**			**Pn**	**04 38 29.9**	**+0.5**
OCAC					Sn	**Sn**	**04 38 51.7**	**-0.1**
OCAC	**Ocana**	**1.40**	**351**	⇑	*e*P	**Pn**	**04 38 30.1**	**+0.7**
OCAC					*e*S	**Sn**	**04 38 52.2**	**+0.4**
OCAC					*i*		04 38 58.7	
	comp=Z,3μm,0.3s							
SPBC	**San Pablo de B**	**1.54**	**219**	⇓	*i*P	**Pn**	**04 38 30.9**	**+0.1**
SPBC					*e*S	**Sn**	**04 38 54.0**	**-0.2**
SPBC					*i*		04 39 00.3	
	comp=Z,3μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**290**		Pn	**Pn**	**04 38 34.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**		*e*P	**Pn**	**04 38 34.2**	**0.0**
ZARC					*e*S	**Sn**	**04 38 60.0**	**-0.3**
ZARC					*i*		04 39 06.8	
	comp=Z,2μm,0.5s							
NORC	**Norcasia**	**2.18**	**234**	⇑	*e*P	**Pn**	**04 38 37.8**	**0.0**
NORC					*e*S	**Sn**	**04 39 06.2**	**-0.6**
NORC					*i*		04 39 10.0	
	comp=Z,1μm,0.7s							
CHIC	**Chingaza**	**2.29**	**196**	⇓	*i*P	**Pn**	**04 38 39.8**	**+0.2**
CHIC					*e*S	**Sn**	**04 39 09.2**	**-0.8**
CHIC					*i*		04 39 17.4	
	comp=Z,445nm,0.4s							
ROSC	**El Rosal**	**2.34**	**211**		P	**Pn**	**04 38 41.6**	**+1.5**
	comp=Z,297nm,0.3s,baz=109,slow=22,SNR=332							
ROSC					S	**Sn**	**04 39 11.6**	**+0.8**
	comp=Z,362nm,0.3s,baz=31,slow=14,SNR=8.1							
ROSC	**El Rosal**	**2.34**	**211**	⇓	*i*P	**Pn**	**04 38 41.5**	**+1.5**
ROSC					*e*S	**Sn**	**04 39 12.2**	**+1.3**
ROSC					*i*		04 39 20.1	
	comp=Z,2μm,0.4s							
HELC	**Santa Helena**	**2.50**	**255**		*e*P	**Pn**	**04 38 42.4**	**+0.3**
HELC					*e*S	**Sn**	**04 39 14.1**	**-0.2**
HELC					*i*		04 39 20.9	
	comp=Z,689nm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**		*e*P	**Pn**	**04 38 41.7**	**-0.9**
UREC					*e*S	**Sn**	**04 39 12.2**	**-3.2**
UREC					*i*		04 39 23.0	
	comp=Z,598nm,0.3s							
SOCV	**Socops**	**2.64**	**57**		*i* P	**Pn**	**04 38 43.5**	**+0.1**
SOCV					*e*S	**Sn**	**04 39 15.3**	**-1.4**
LL1C	**La Loma 1 Cana**	**2.71**	**350**		*e*P	**Pn**	**04 38 46.7**	**+2.4**
LL1C					*e*S	**Sn**	**04 39 21.6**	**+3.2**
LL1C					*i*		04 39 26.0	
	comp=Z,2μm,0.4s							
GUY2C	**Guyana, Caldas**	**2.77**	**235**		*e*P	**Pn**	**04 38 46.0**	**+0.5**
GUY2C					*e*S	**Sn**	**04 39 21.3**	**+0.9**
GUY2C					*i*		04 39 29.0	
	comp=Z,1μm,0.8s							
VILC	**Villavicencio,**	**2.78**	**192**	⇓	*e*P	**Pn**	**04 38 45.1**	**-0.2**
VILC					*e*S	**Sn**	**04 39 20.1**	**-0.1**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇓	*i*P	**Pn**	**04 38 44.9**	**-0.5**
PTGC					*e*S	**Sn**	**04 39 17.8**	**-2.6**
PTGC					*i*		04 39 23.4	
	comp=Z,300nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.87**	**357**		*e*P	**Pn**	**04 38 46.3**	**0.0**
LL6C					*e*S	**Sn**	**04 39 21.4**	**-0.5**
LL6C					*i*		04 39 35.3	
	comp=Z,214nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.06**	**252**		*e*P	**Pn**	**04 38 49.7**	**+0.9**
CBOC					*e*S	**Sn**	**04 39 26.3**	**0.0**
CBOC					*i*		04 39 37.7	
	comp=Z,283nm,0.6s							
SDV	**Santo Domingo**	**3.17**	**50**		P	**Pn**	**04 38 51.2**	**+1.1**
	comp=Z,175nm,0.3s,baz=216,slow=4.6,SNR=1200							
SDV					S	**Sn**	**04 39 27.8**	**-1.1**
	comp=Z,97nm,0.3s,baz=55,slow=19,SNR=17							
SDV	**Santo Domingo**	**3.17**	**50**		Pn	**Pn**	**04 38 51.0**	**+0.8**
SDV	**Santo Domingo**	**3.17**	**50**		*i* P	**Pn**	**04 38 51.3**	**+1.1**
SDV					*e*S	**Sn**	**04 39 28.4**	**-0.5**
SDV					*i*		04 39 31.1	
	comp=Z,210nm,0.5s							
SDV	**Santo Domingo**	**3.17**	**50**		*e*P	**Pn**	**04 38 51.0**	**+0.8**
MOTC	**Monteria, Cord**	**3.19**	**307**		*e*P	**Pn**	**04 38 49.1**	**-1.1**
MOTC					*e*S	**Sn**	**04 39 26.9**	**-2.1**
MOTC					*i*		04 39 29.6	
	comp=Z,216nm,0.4s							
ANIL	**Santa Ana**	**3.28**	**225**		*e*P	**Pn**	**04 38 52.3**	**+0.7**
ANIL					*e*S	**Sn**	**04 39 33.0**	**+1.4**
ORTC	**Ortega, Tolima**	**3.62**	**216**		*e*P	**Pn**	**04 38 56.1**	**+0.3**
ORTC					*e*S	**Sn**	**04 39 39.3**	**+0.3**
ORTC					*i*		04 39 43.8	
	comp=Z,451nm,0.4s							
SJCC	**San Jacinto, C**	**3.66**	**326**		Pn	**Pn**	**04 38 55.5**	**-0.8**
SJCC	**San Jacinto, C**	**3.66**	**326**		*e*P	**Pn**	**04 38 55.8**	**-0.6**
SJCC					*e*S	**Sn**	**04 39 36.8**	**-3.2**
SJCC					*i*		04 39 50.1	
	comp=Z,156nm,0.3s							
PLMC	**San Jos del P**	**3.71**	**239**	⇑	*e*P	**Pn**	**04 38 57.6**	**+0.6**
PLMC					*e*S	**Sn**	**04 39 41.5**	**+0.4**
PLMC					*i*		04 39 52.7	
	comp=Z,264nm,0.5s							
LCBC	**Los crdobas,**	**3.81**	**302**		*e*P	**Pn**	**04 38 58.4**	**+0.3**
LCBC					*e*S	**Sn**	**04 39 43.1**	**-0.1**
LCBC					*i*		04 39 59.7	
	comp=Z,236nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.15**	**3**		*e*P	**Pn**	**04 39 02.1**	**-0.6**
CRJC					*e*S	**Sn**	**04 39 48.1**	**-3.2**
CRJC					*i*		04 39 55.7	
	comp=Z,238nm,0.4s							
GUVC	**San Jose del G**	**4.30**	**174**		*e*P	**Pn**	**04 39 03.4**	**-1.3**
GUVC					*e*S	**Sn**	**04 39 53.0**	**-1.8**
GUVC					*i*		04 39 57.9	
	comp=Z,197nm,0.2s							
YOTC	**Yotoco, Valle**	**4.31**	**229**		*e*P	**Pn**	**04 39 04.4**	**-0.4**
YOTC					*e*S	**Sn**	**04 39 54.0**	**-1.1**
SMRC	**Santa Marta, M**	**4.43**	**346**		*e*P	**Pn**	**04 39 07.3**	**+1.0**
SMRC					*e*S	**Sn**	**04 39 54.4**	**-3.4**
SMRC					*i*		04 40 01.7	
	comp=Z,163nm,0.3s							
PIZC	**Pizarro, Choco**	**4.64**	**246**		*e*P	**Pn**	**04 39 09.8**	**+0.9**
PIZC					*e*S	**Sn**	**04 40 02.0**	**-0.6**
PIZC					*i*		04 40 16.7	
	comp=Z,140nm,0.5s							
PTAC	**Punta Ardita,**	**4.69**	**274**		*e*P	**Pn**	**04 39 09.2**	**-0.5**
DABV	**Dabajuro**	**4.72**	**31**		*e*P	**Pn**	**04 39 10.4**	**+0.3**
DABV					*e*S	**Sn**	**04 40 02.2**	**-1.4**
MACC	**Macarena, Meta**	**4.73**	**189**	⇓	*i*P	**Pn**	**04 39 08.5**	**-1.8**
MACC					*e*S	**Sn**	**04 40 00.6**	**-4.4**
MACC					*i*		04 40 34.0	
	comp=Z,93nm,0.8s							
BETC	**Betania**	**4.75**	**210**		*e*P	**Pn**	**04 39 09.7**	**-0.9**
BETC					*e*S	**Sn**	**04 39 58.0**	**-7.6**
BETC					*i*		04 40 01.4	
	comp=Z,89nm,0.6s							
URIC	**Uribia, Colomb**	**4.94**	**13**			**Pn**	**04 39 12.1**	**-1.0**
URIC	**Uribia, Colomb**	**4.94**	**13**		*e*P	**Pn**	**04 39 12.0**	**-1.0**
URIC					*e*S	**Sn**	**04 40 06.8**	**-3.1**
URIC					*i*		04 40 13.2	
	comp=Z,124nm,0.9s							
GARC	**Garzon, Huila**	**5.21**	**207**		*e*P	**Pn**	**04 39 16.1**	**-0.8**
GARC					*i*		04 40 16.8	
	comp=Z,145nm,0.3s							
POPC	**Popayan, Colom**	**5.57**	**220**	⇑	*e*P	**Pn**	**04 39 21.6**	**0.0**
POPC					*e*S	**Sn**	**04 40 22.6**	**-2.6**
FLOC	**Florencia**	**5.82**	**206**		*e*P	**Pn**	**04 39 23.9**	**-0.8**
FLOC					*e*S	**Sn**	**04 40 30.9**	**+0.2**
FLOC					*i*		04 40 39.9	
	comp=Z,36nm,0.5s							
PTLC	**Puerto Leguiza**	**6.85**	**194**		*e*P	**Pn**	**04 39 41.9**	**+3.5**
PTLC					*i*		04 42 04.1	
	comp=Z,28nm,0.5s							
GCUF	**Volcan Galeras**	**7.01**	**217**		*e*P	**Pn**	**04 39 41.5**	**+0.5**
GCUF					*e*S	**Sn**	**04 40 57.3**	**-2.7**
GCUF					*i*		04 41 05.1	
	comp=Z,17nm,0.7s							
CMBC	**Cumbal**	**7.53**	**219**		*e*P	**Pn**	**04 39 49.1**	**+1.2**
BIRV	**Birongo**	**7.65**	**61**		Pn	**Pn**	**04 39 47.5**	**-1.5**
OTAV	**Otavalo**	**8.47**	**219**		Pn	**Pn**	**04 39 59.5**	**-0.8**
OTAV	**Otavalo**	**8.47**	**219**		*e*P	**Pn**	**04 40 00.2**	**-0.1**
TBTG	**Tabatinga, AM**	**11.41**	**164**		*e*P	**Pn**	**04 40 37.7**	**-1.1**
ORTG	**Ortega, Santa**	**12.71**	**287**			**Pn**	**04 40 56.7**	**+0.9**
BOAV	**Boa Vista**	**13.29**	**109**		*e*P	**Pn**	**04 41 02.2**	**-0.8**
CZSB	**Cruzeiro do Su**	**14.49**	**178**		*e*P	**P**	**04 41 18.9**	**-1.5**
MACA	**Manacapuru-AM**	**15.89**	**128**		*e*P	**P**	**04 41 35.3**	**-0.6**
ETMB	**Extrema**	**17.92**	**157**		*e*P	**Pn**	**04 41 58.2**	**-1.6**
ITTB	**Itaituba**	**20.60**	**122**		*e*P	**P**	**04 42 27.8**	**+0.4**
MALB	**Monte Alegre**	**20.69**	**114**		*e*P	**P**	**04 42 28.4**	**+0.2**
MCPB	**Macapa, AP**	**22.18**	**108**		*e*P	**P**	**04 42 44.5**	**+0.6**
NPGB	**Novo Progresso**	**22.44**	**128**		*e*P	**P**	**04 42 46.0**	**-0.5**
VILB	**Vilhena**	**23.48**	**147**		*e*P	**P**	**04 42 57.3**	**+1.3**
LPAZ	**La Paz**	**23.51**	**168**		pP	pP	04 43 26.9	-0.3
	comp=Z,4.0nm,0.7s,baz=346,slow=12,SNR=16							
LPAZ	**La Paz**	**23.51**	**168**		P	**P**	**04 42 59.4**	**+2.5**
PDRB	**Porto dos Gac**	**24.52**	**138**		*e*P	**P**	**04 43 04.8**	**-0.7**
SIV	**San Ignacio**	**25.63**	**152**		pP	pP	04 43 47.1	-1.6
	comp=Z,0.9nm,0.2s,baz=321,slow=12,SNR=8.3							
PTLB	**Pontes e Lacer**	**26.12**	**148**		*e*P	**P**	**04 43 22.0**	**+2.2**
SNDB	**Serra Nova Dou**	**28.63**	**131**		*e*P	**P**	**04 43 42.6**	**+0.2**
ROSB	**Rosrio**	**30.50**	**108**		*e*P	**P**	**04 43 59.4**	**+0.5**
U54A	**Nelsons Funny**	**30.59**	**346**		P	**P**	**04 44 01.7**	**+2.2**
PEXB	**Peixe**	**31.02**	**127**		*e*P	**P**	**04 44 02.9**	**-0.6**
V48A	**Smith Brothers**	**31.39**	**338**		P	**P**	**04 44 07.7**	**+1.2**
WVT	**Waverly**	**32.12**	**337**		P	**P**	**04 44 14.1**	**+1.3**
WVT					IAmb	IAmb	04 44 15.5	
	comp=Z,9.1nm,1.1s							
T47A	**Sharon Grove**	**32.61**	**339**		P	**P**	**04 44 18.1**	**+1.1**
T47A					IAmb	IAmb	04 44 19.5	
	comp=Z,9.4nm,0.8s							
BDFB	**Brasilia**	**33.41**	**132**		P	**P**	**04 44 23.9**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=349,slow=3.5,SNR=3.2							
BDFB	**Brasilia**	**33.41**	**132**		P	**P**	**04 44 24.2**	**-0.2**
BDFB					IAmb	IAmb	04 44 30.5	
	comp=Z,3.3nm,1.0s							
LCAR	**Lake Charles**	**33.46**	**333**		P	**P**	**04 44 25.6**	**+1.1**
LCAR					IAmb	IAmb	04 44 26.6	
	comp=Z,4.4nm,0.6s							
FVM	**French Village**	**34.76**	**336**		P	**P**	**04 44 37.0**	**+1.4**
CCM	**Cathedral Cave**	**35.16**	**335**		P	**P**	**04 44 40.1**	**+1.1**
SFIN	**Lafayette**	**35.66**	**342**		P	**P**	**04 44 44.5**	**+1.2**
S39A	**Bolivar**	**35.78**	**332**		P	**P**	**04 44 45.2**	**+0.8**
S39A					IAmb	IAmb	04 45 04.4	
	comp=Z,15nm,1.5s							
R40A	**Maddies Statio**	**35.80**	**334**		P	**P**	**04 44 45.5**	**+1.0**
R40A					IAmb	IAmb	04 44 45.6	
	comp=Z,4.9nm,0.6s							
FNO	**Franklin**	**36.03**	**325**		P	**P**	**04 44 45.9**	**-0.7**
TXAR	**Lajitas Array**	**36.46**	**312**		P	**P**	**04 44 51.6**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=128,slow=9.4,SNR=16							
TX31	**Lajitas Ar. Si**	**36.46**	**312**		P	**P**	**04 44 51.5**	**+1.1**
TX31					IAmb	IAmb	04 44 52.0	
	comp=Z,4.9nm,0.7s							
TX32	**Lajitas Array**	**36.46**	**312**		P	**P**	**04 44 52.0**	**+1.5**
P38A	**Dawn**	**37.45**	**334**		P	**P**	**04 44 59.2**	**+0.6**
P38A					IAmb	IAmb	04 44 59.8	
	comp=Z,8.4nm,0.6s							
GGN	**Saint George**	**38.51**	**7**		P	**P**	**04 45 07.9**	**+0.7**
MNTX	**Cornudas Mount**	**38.97**	**314**		P	**P**	**04 45 12.0**	**+0.6**
MNTX					IAmb	IAmb	04 45 14.1	
	comp=Z,3.2nm,0.8s							
GDU01	**Guandu, BA**	**39.05**	**122**		*e*P	**P**	**04 45 11.4**	**-0.8**
GUA01	**Guaratinga, BA**	**40.33**	**126**		*e*P	**P**	**04 45 22.1**	**-0.7**
ECSD	**EROS Data Cent**	**42.13**	**334**		P	**P**	**04 45 37.1**	**0.0**
ECSD					IAmb	IAmb	04 45 37.9	
	comp=Z,8.7nm,1.3s							
SDCO	**Great Sand Dun**	**42.54**	**321**		P	**P**	**04 45 41.3**	**+0.3**
SUSD	**Miller**	**43.72**	**333**		P	**P**	**04 45 50.3**	**+0.3**
ISCO	**Idaho Springs**	**43.90**	**323**		P	**P**	**04 45 51.7**	**-0.1**
WUAZ	**Wupatki**	**45.22**	**315**		P	**P**	**04 46 03.0**	**+0.9**
WUAZ					IAmb	IAmb	04 46 05.3	
	comp=Z,4.9nm,0.8s							
U15A	**North Rim**	**46.32**	**315**		P	**P**	**04 46 11.7**	**+0.8**
U15A					IAmb	IAmb	04 46 13.7	
	comp=Z,3.7nm,1.0s							
KNB	**Kanab**	**46.98**	**316**		P	**P**	**04 46 17.2**	**+1.3**
KNB					IAmb	IAmb	04 46 18.7	
	comp=Z,3.7nm,0.8s							
ULM	**Lac du Bonnet**	**47.27**	**340**		P	**P**	**04 46 17.8**	**+0.1**
	comp=Z,5.3nm,0.4s,baz=139,slow=6.8,SNR=8.8							
ULM	**Lac du Bonnet**	**47.27**	**340**		P	**P**	**04 46 17.6**	**-0.1**
ULM					IAmb	IAmb	04 46 18.9	
	comp=Z,6.1nm,0.8s							
PD31	**Pinedale Array**	**48.07**	**324**		P	**P**	**04 46 24.5**	**+0.2**
PDAR	**Pinedale Array**	**48.07**	**324**		P	**P**	**04 46 24.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=127,slow=8.9,SNR=12							
SCHQ	**Schefferville**	**48.11**	**5**		P	**P**	**04 46 24.1**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=189,slow=8.0,SNR=6.1							
HWUT	**Hardware Ranch**	**48.59**	**322**		P	**P**	**04 46 29.0**	**+0.7**
DGMT	**Dagmar**	**49.14**	**333**		P	**P**	**04 46 32.5**	**+0.4**
REDW	**Red Top Meadow**	**49.19**	**324**		P	**P**	**04 46 33.5**	**+0.7**
REDW					IAmb	IAmb	04 46 34.7	
	comp=Z,4.1nm,0.6s							
LOHW	**Long Hollow**	**49.19**	**324**		P	**P**	**04 46 34.1**	**+1.3**
MOOW	**Moose Ponds**	**49.35**	**324**		P	**P**	**04 46 34.7**	**+0.7**
NVAR	**Mina Array Bea**	**51.48**	**315**		P	**P**	**04 46 50.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=136,slow=5.7,SNR=5.9							
MFID	**Camas Ranch**	**52.22**	**321**		P	**P**	**04 46 56.7**	**+1.3**
MFID					IAmb	IAmb	04 46 58.1	
	comp=Z,

comp=Z,15nm,0.9s
MOA Molln 3.83 233 *i* Pn **Pn 04 42 28.6 +0.2**
comp=Z,0.2nm,0.1s
MOA Sg **Sg 04 43 33.5 +2.4**
comp=Z,8.6nm,0.3s
KBA Koelnbreinsper 4.81 231 *e*Sn **Sn 04 43 38.6 +0.1**
comp=Z,1.6nm,0.3s
AKASG Malin Array Be 6.68 82 Pg **Pb 04 43 27.5 +2.3**
comp=Z,0.5nm,0.3s,baz=272,slow=14,SNR=1.7
AKASG Lg Lg 04 45 02.8
comp=Z,0.5nm,0.3s,baz=270,slow=27,SNR=1.9
FINES FINESS Array B 11.92 17 Pn **Pn 04 44 16.1 -3.2**
comp=Z,0.1nm,0.3s,baz=196,slow=14,SNR=6.1

IDC ***23*** *04:42:49.0±1.5, 0˚.32S×120˚.39E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/38, mbtmp3.5/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/44, Error ellipse: s-maj=194.5km s-min=22.5km az=62.0*
DJA ***23*** *04:42:49.6±0.4, 0˚.5±3˚×12˚.0E±˚, h84km±5km, M4.5/9, mb5.2/2, mB5.3/2, MLv4.2/9, Mw(mB)4.7/2*
ISC 23 04:42:53.9±0.9, 0˚.26S±0˚.05×120˚.00E±0˚.07, h35km, n15, σ1§83/15, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.60**	**351**	P	**Pn**	**04 43 03.6**	**-2.4**
MPSI				S	**Sn**	**04 43 15.7**	**+1.2**
APSI	**Ampana**	**1.77**	**111**	P	**Pn**	**04 43 20.5**	**-1.6**
APSI				S	**Sn**	**04 43 44.3**	**+0.8**
MRSI	**Marisa**	**2.08**	**69**	P	**Pn**	**04 43 25.6**	**-0.7**
TTSI	**Tana Toraja**	**2.77**	**184**	P	**Pn**	**04 43 34.8**	**-1.1**
TTSI				S	**Sn**	**04 44 09.4**	**+1.3**
LUWI	**Luwuk**	**2.88**	**106**	P	**Pn**	**04 43 37.6**	**+0.2**
GTOI	**Gorontalo**	**3.14**	**74**	P	**Pn**	**04 43 39.3**	**-1.7**
SPSI	**Sidrap Palu**	**3.69**	**184**	P	**Pn**	**04 43 46.7**	**-1.7**
KAPI	**Kappang**	**4.73**	**183**	LR	LR	04 46 02.4	
comp=Z,176nm,20.7s,baz=294,slow=41							
BKSI	**Bulukumba**	**5.03**	**179**	P	**Pn**	**04 44 06.4**	**-0.5**
0.2nm602nm56nm,0.7s							
KSI	**Kapahiang**	**17.71**	**259**	P	Pn	04 46 44.5	-14
WRA	**Warramunga Arr**	**24.08**	**145**	P	**P**	**04 48 02.6**	**-3.7**
1.6nm,0.9s,baz=321,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**26.90**	**151**	P	**P**	**04 48 31.0**	**-0.9**
0.5nm,0.9s,baz=327,slow=8.2,SNR=4.5							
ASAJ	**Asahikawa**	**48.56**	**22**	LR	LR	05 13 34.9	
comp=Z,63nm,20.1s,baz=130,slow=38							
SONM	**Songino Array**	**49.34**	**348**	P	**P**	**04 51 41.6**	**+1.6**
0.5nm,0.6s,baz=179,slow=6.9,SNR=3.5							
MKAR	**Makanchi Array**	**57.30**	**330**	P	**P**	**04 52 40.0**	**+1.8**
0.5nm,0.6s,baz=134,slow=7.9,SNR=6.3							

IDC ***23*** *04:54:59.6±0.7, 51˚.59N×173˚.42W, h0km, mb4.2/31, mb1 4.4/33, mb1mx4.3/43, mbtmp4.2/33, ML4.1/2, MS3.6/32, Ms1 3.6/32, ms1mx3.3/98, Error ellipse: s-maj=20.5km s-min=10.5km az=176.0*
MOS ***23*** *04:54:59.9±1.0, 51˚.61N×173˚.42W, h14km, mb4.9/29, Error ellipse: s-maj=10.9km s-min=6.9km az=97.7*
NEIC ***23*** *04:55:00.9±1.9, 51˚.48N±0˚.05×173˚.46W±0˚.06, h10km±1km, mb4.7/92, ML4.0/22(AEIC), Error ellipse: s-maj=8.8km s-min=6.1km az=191.0*
AEIC ***23*** *04:55:06.7±2.0, 51˚.59N±0˚.05×173˚.50W±0˚.07, h3km±4km, Error ellipse: s-maj=7.3km s-min=5.1km az=215.0*
ISC 23 04:55:00.8±0.4, 51˚.62N±0˚.07×173˚.37W±0˚.04, h10km, n411, σ1§49/397, mb4.7/104, MS3.6/36, 9C-8D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.78**	**319**		**Pn**	**04 55 19.2**	**+1.4**
ATKA					**Sb**	**04 55 29.0**	**+2.1**
KOFP	**Korovin Flat P**	**0.79**	**326**		**Pn**	**04 55 20.3**	**+2.2**
KOKL	**Mount Kliuchef**	**0.87**	**324**		**Pn**	**04 55 21.2**	**+2.0**
GSMY	**Great Sitkin M**	**1.72**	**285**		**Pn**	**04 55 31.8**	**+0.9**
GSTR	**Great Sitkin T**	**1.73**	**287**	Pn	**Pn**	**04 55 32.2**	**+1.1**
GSTD	**Great Sitkin T**	**1.78**	**285**		**Pn**	**04 55 32.2**	**+0.6**
GSCK	**Great Sitkin C**	**1.78**	**284**		**Pn**	**04 55 32.0**	**+0.4**
ADK	**Adak**	**2.08**	**278**		**Pn**	**04 55 35.9**	**+0.2**
ADK				Sn	**Sn**	**04 56 00.1**	**-1.6**
KIWB	**Kanaga Island**	**2.36**	**277**		**Pn**	**04 55 40.6**	**+1.0**
KIKV	**Kanaga Island**	**2.38**	**278**		**Pn**	**04 55 41.2**	**+1.3**
KIMD	**Kanaga Island**	**2.41**	**275**		**Pn**	**04 55 41.4**	**+1.1**
TAPA	**Tanaga Point A**	**2.77**	**276**		**Pn**	**04 55 46.6**	**+1.3**
TAFP	**Tanaga Falls P**	**2.88**	**277**		**Pn**	**04 55 48.5**	**+1.8**
TASE	**Tanaga Southea**	**2.91**	**276**		**Pn**	**04 55 48.9**	**+1.7**
NIKH	**Nikolski High**	**3.08**	**62**		**Pn**	**04 55 50.5**	**+1.1**
NIKH	**Nikolski High**	**3.08**	**62**	P	**Pn**	**04 55 51.1**	**+1.6**
baz=246							
GALAA	**Gareloi Lava P**	**3.37**	**274**		**Pn**	**04 55 55.3**	**+1.9**
UNV	**Unalaska Valle**	**4.73**	**59**		**Pn**	**04 56 14.9**	**+2.8**
UNV	**Unalaska Valle**	**4.73**	**59**	P	**Pn**	**04 56 13.9**	**+1.8**
baz=245							
FALS	**False Pass**	**6.79**	**58**		**Pn**	**04 56 43.5**	**+3.1**
FALS	**False Pass**	**6.79**	**58**	P	**Pn**	**04 56 41.4**	**+1.0**
baz=246							
SDPT	**Sand Point**	**8.54**	**59**	P	**Pn**	**04 57 05.6**	**+1.2**
baz=250							
GAMB	**Gambell**	**12.22**	**3**	Pn	**Pn**	**04 57 57.1**	**+2.5**
GAMB	**Gambell**	**12.22**	**3**	P	**Pn**	**04 57 54.4**	**-0.2**
baz=185							
P18K	**Big Mountain,**	**12.86**	**46**	P	**Pn**	**04 58 04.4**	**+0.9**
baz=241							
OHAK	**Old Harbor**	**12.94**	**56**	P	**Pn**	**04 58 05.5**	**+1.0**
baz=253							
KDAK	**Kodiak Island**	**13.47**	**55**	Pn	**Pn**	**04 58 11.3**	**-0.5**
0.8nm,0.3s,baz=225,slow=2.1,SNR=9.3							
KDAK	**Kodiak Island**	**13.47**	**55**	*ieP*	**Pn**	**04 58 11.4**	**-0.4**
ANM	**Nome**	**13.63**	**15**	P	**Pn**	**04 58 18.0**	**+4.0**
baz=202							
O19K	**Port Alsworth**	**13.66**	**44**	P	**Pn**	**04 58 12.8**	**-1.5**
baz=240							
N19K	**Bonanza Creek**	**13.91**	**41**	P	**Pn**	**04 58 21.2**	**+3.3**
baz=237							
TNA	**Tin City**	**14.25**	**9**		**P**	**04 58 27.6**	**-2.2**
TNA	**Tin City**	**14.25**	**9**	P	**Pn**	**04 58 21.8**	**-0.6**
baz=194,SNR=6.2							
O20K	**Slope Mountain**	**14.35**	**46**	P	**Pn**	**04 58 22.4**	**-1.4**
baz=243							
L19K	**White Mountain**	**14.57**	**36**	P	**Pn**	**04 58 27.8**	**+1.0**
baz=232							
M19K	**Big River Lodg**	**14.57**	**38**	P	**P**	**04 58 30.7**	**-2.7**
M19K	**Big River Lodg**	**14.57**	**38**	P	**Pn**	**04 58 28.1**	**+1.3**
baz=234							
TTA	**Tatalina**	**14.65**	**33**	P	**Pn**	**04 58 30.3**	**+2.4**
TTA	**Tatalina**	**14.65**	**33**	Pn	**Pn**	**04 58 30.3**	**+2.4**
TTA	**Tatalina**	**14.65**	**33**	P	**Pn**	**04 58 26.9**	**-1.0**
baz=228,SNR=12							
BRSE	**Bradley Lake S**	**15.06**	**49**	P	**Pn**	**04 58 35.3**	**+1.8**
baz=248							
K20K	**Telida**	**15.59**	**34**	P	**Pn**	**04 58 39.2**	**-1.3**
baz=230							
GCSA	**Galena City Sc**	**15.69**	**27**	P	**P**	**04 58 44.1**	**-1.6**
baz=221							
SEW	**Seward**	**15.80**	**48**	P	**Pn**	**04 58 43.8**	**+0.6**
baz=248							
O22K	**Cooper Landing**	**15.82**	**47**	P	**Pn**	**04 58 43.2**	**-0.2**
baz=247							
PPLA	**Purkeypile**	**15.99**	**37**	Pn	**Pn**	**04 58 46.5**	**+0.8**
PPLA	**Purkeypile**	**15.99**	**37**	P	**Pn**	**04 58 44.5**	**-1.2**
baz=235							
J20K	**Nowinta River**	**16.11**	**31**	P	**Pn**	**04 58 47.6**	**+0.5**
baz=228,SNR=13							
CAST	**Castle Rocks**	**16.33**	**35**	P	**Pn**	**04 58 51.4**	**+1.4**
baz=234,SNR=8.3							
CUT	**Chulitna**	**16.47**	**40**	P	**Pn**	**04 58 50.8**	**-0.8**
baz=240							
CHUM	**Lake Minchumin**	**16.53**	**34**	P	**Pn**	**04 58 51.5**	**-0.9**
baz=232,SNR=6.2							
PWL	**Port Wells**	**16.60**	**46**	P	**P**	**04 58 54.6**	**-1.3**
baz=248							
GHO	**Glory Hole Cre**	**16.72**	**43**	Pn	**Pn**	**04 58 52.2**	**-2.8**
KNK	**Knik Glacier**	**16.77**	**45**	P	**Pn**	**04 58 55.3**	**-0.2**
baz=246							
SML	**Sawmill**	**16.99**	**43**	P	**P**	**04 58 59.2**	**-1.0**
baz=245							
TRF	**Thorofare Moun**	**17.01**	**37**	P	**P**	**04 58 59.9**	**-0.7**
baz=237							
BPAW	**Bear Paw Mtn.**	**17.13**	**35**	P	**Pn**	**04 59 00.4**	**+0.3**
baz=234							
SCM	**Sheep Creek Mo**	**17.43**	**44**	P	**Pn**	**04 59 02.5**	**-1.4**
baz=246							
I21K	**Tanana**	**17.47**	**31**	P	**Pn**	**04 59 04.3**	**0.0**
baz=229,SNR=9.1							
H21K	**Melozitna Rive**	**17.54**	**29**	P	**Pn**	**04 59 05.7**	**+0.6**
baz=227							
WAT6	**Susitna Watana**	**17.58**	**42**	P	**Pn**	**04 59 05.5**	**-0.3**
baz=243							
MCK	**McKinley**	**17.68**	**37**	P	**P**	**04 59 07.8**	**+0.1**
MCK				pmax	pmax		
comp=Z,15nm,1.0s							
MCK	**McKinley**	**17.68**	**37**	P	**P**	**04 59 07.8**	**+0.1**
MCK	**McKinley**	**17.68**	**37**	P	**P**	**04 59 07.5**	**-0.3**
baz=238							
PETK	**Petropavlovsk-**	**17.68**	**286**	P	**Pn**	**04 59 07.2**	**+0.3**
comp=Z,0.6nm,0.3s,baz=95,slow=13,SNR=10							
PETK				LR	LR	05 05 14.3	
comp=Z,96nm,21.7s,baz=90,slow=35							
PETK	**Petropavlovsk-**	**17.68**	**286**	P	**Pn**	**04 59 06.5**	**-0.5**
MLY	**Manley**	**17.78**	**32**	P	**P**	**04 59 08.6**	**-0.3**
MLY	**Manley**	**17.78**	**32**	P	**Pn**	**04 59 07.6**	**-0.6**
baz=232							
KLU	**Klutina**	**17.92**	**46**	P	**Pn**	**04 59 08.3**	**-1.7**
baz=249							
DHY	**Denali Highway**	**17.96**	**40**	P	**Pn**	**04 59 10.5**	**0.0**
baz=243							
M24K	**Tolsona, Glenn**	**18.04**	**44**	P	**P**	**04 59 12.0**	**+0.1**
baz=247							
NEA2	**Nenana**	**18.10**	**35**	P	**Pn**	**04 59 11.7**	**-0.3**
baz=236							
I23K	**Minto, Yukon-K**	**18.32**	**33**	P	**P**	**04 59 14.8**	**0.0**
baz=234,SNR=17							
N25K	**Chitina, Valde**	**18.56**	**46**	P	**P**	**04 59 16.6**	**-1.0**
baz=251							
HARP	**HAARP**	**18.60**	**44**	P	**P**	**04 59 16.7**	**-1.2**
baz=248							
PAX	**Paxson**	**18.69**	**42**	P	**Pn**	**04 59 20.2**	**+0.8**
PAX				pmax	pmax		
comp=Z,16nm,1.5s							
PAX	**Paxson**	**18.69**	**42**	P	**Pn**	**04 59 20.2**	**+0.8**
PAX	**Paxson**	**18.69**	**42**	P	**Pn**	**04 59 19.8**	**+0.5**
baz=246							
POKR	**Poker Plat Res**	**18.97**	**35**	P	**Pn**	**04 59 22.7**	**+0.1**
baz=237							
IL31		**18.98**	**36**	P	**P**	**04 59 22.1**	**0.0**
IL31				IAmb	IAmb	04 59 25.3	
comp=Z,31nm,1.3s							
ILAR	**Eielson Array**	**18.98**	**36**	P	**P**	**04 59 22.1**	**0.0**
comp=Z,2.4nm,0.3s,baz=240,slow=10.0,SNR=110							
ILAR				LR	LR	05 07 20.4	
comp=Z,120nm,19.6s,baz=255,slow=39							
ILAR	**Eielson Array**	**18.98**	**36**	P	**P**	**04 59 21.3**	**-0.8**
BILL	**Bilibino**	**19.21**	**337**	*ceP*	**Pn**	**04 59 27.8**	**+2.3**
BILL				pmax	pmax		
comp=Z,21nm,1.7s							
BILL				MLR	MLR		
comp=Z,111nm,15.0s							
BILL	**Bilibino**	**19.21**	**337**	P	**P**	**04 59 25.3**	**+0.8**
H24K	**Noodor Dome**	**19.23**	**33**	P	**Pn**	**04 59 26.7**	**+1.0**
baz=235,SNR=27							
RIDG	**Independent Ri**	**19.27**	**40**	P	**Pn**	**04 59 26.7**	**+0.4**
baz=244							
COLD	**Coldfoot**	**19.38**	**27**	P	**Pn**	**04 59 28.2**	**+0.7**
COLD	**Coldfoot**	**19.38**	**27**	P	**P**	**04 59 26.3**	**-0.1**
baz=228							
MENT	**Mentasta**	**19.41**	**43**	P	**Pn**	**04 59 28.7**	**+0.7**
J25K	**Salcha River,**	**19.47**	**37**	P	**P**	**04 59 27.9**	**+0.4**
baz=242,SNR=41							
DOT	**Dot Lake**	**19.55**	**41**	P	**Pn**	**04 59 29.3**	**-0.3**
L26K	**Log Cabin Wild**	**19.61**	**43**	P	**Pn**	**04 59 29.7**	**-0.6**
baz=248							
GRNC	**Granite Creek**	**19.63**	**50**	P	**P**	**04 59 29.1**	**-0.3**
GRNC				IAmb	IAmb	04 59 50.7	
comp=Z,24nm,1.1s							
SCRK	**Sand Creek**	**19.72**	**40**	P	**P**	**04 59 30.2**	**-0.1**
baz=245,SNR=18							
PRP	**Porcupine Dome**	**19.86**	**35**	P	**P**	**04 59 31.7**	**-0.2**
baz=239,SNR=10							
CTG	**Chitna Glacier**	**19.88**	**50**	P	**Pn**	**04 59 33.3**	**-0.5**
baz=257							
M27K	**Edge Creek, AK**	**20.02**	**45**	P	**P**	**04 59 33.1**	**-0.4**
baz=252							
J26L	**Joseph Creek**	**20.11**	**39**	P	**P**	**04 59 34.8**	**+0.2**
baz=244,SNR=49							
PCA	**Pinnacle**	**20.23**	**52**	P	**P**	**04 59 36.2**	**+0.4**
PCA				IAmb	IAmb	04 59 42.7	
comp=Z,23nm,0.7s							
PINM	**Pinnacle**	**20.23**	**52**	P	**P**	**04 59 36.0**	**+0.1**
baz=260							
L27K	**Beaver Creek,**	**20.27**	**43**	P	Pn	04 59 37.7	-0.4
baz=250,SNR=7.9							
BCAR	**Beaver Creek A**	**20.29**	**43**	P	Pn	04 59 38.5	+0.1
BVCY	**Beaver Creek**	**20.48**	**46**	P	Pn	04 59 41.0	+0.3
baz=253							
YUK3	**Moose Creek**	**20.49**	**48**	P	**P**	**04 59 38.6**	**-0.3**
baz=256							
TOLK	**Toolik Lake Re**	**20.52**	**25**	P	Pn	04 59 40.6	-0.5
baz=226,SNR=8.0							
PNL	**Peninsula**	**20.59**	**54**	P	Pn	04 59 40.7	-1.2
baz=262							
EGAK	**Eagle**	**21.17**	**39**	P	**P**	**04 59 47.3**	**+1.4**
EGAK				IAmb	IAmb	04 59 48.3	
comp=Z,40nm,0.7s							
EGAK	**Eagle**	**21.17**	**39**	P	**P**	**04 59 47.1**	**+1.2**
baz=247,SNR=56							
BMAR	**Burnt Mountain**	**21.22**	**31**	P	**P**	**04 59 48.1**	**+1.7**
YUK4	**Talbot Arm**	**21.24**	**49**	P	**P**	**04 59 46.8**	**-0.1**
baz=259							
YUK6	**Outpost Mounta**	**21.30**	**50**	P	**P**	**04 59 46.3**	**-1.3**
baz=260							
SEY	**Seymchan**	**21.41**	**315**	P	**P**	**04 59 49.6**	**+1.2**
comp=Z,3.9nm,0.8s,baz=147,slow=9.2,SNR=6.4							
SEY				LR	LR	05 08 16.9	
comp=Z,102nm,18.5s,baz=132,slow=37							
SEY	**Seymchan**	**21.41**	**315**	*ieP*	**P**	**04 59 50.3**	**+1.9**
SEY				pmax	pmax		
comp=Z,8.0nm,1.7s							
MA2	**Magadan**	**21.54**	**306**	P	**P**	**04 59 51.0**	**+1.2**
comp=Z,3.0nm,0.4s,baz=105,slow=21,SNR=1.2							
MA2				LR	LR	05 08 12.6	
comp=Z,158nm,18.4s,baz=106,slow=37							
MA2	**Magadan**	**21.54**	**306**	*ieP*	**P**	**04 59 53.4**	**+3.6**
MA2				pmax	pmax		
comp=Z,6.0nm,1.0s							
MA2	**Magadan**	**21.54**	**306**	P	**P**	**04 59 50.3**	**+0.5**
DAWY	**Dawson**	**21.63**	**42**	P	**P**	**04 59 50.0**	**-0.9**
baz=251							
HYT	**Haines Junctio**	**21.70**	**51**	P	**P**	**04 59 51.4**	**-0.3**
baz=261							
J29M	**Klondike Camp**	**22.24**	**41**	P	**P**	**04 59 58.3**	**+0.9**
baz=252							
M30M	**Minto, Yukon**	**22.35**	**47**	P	**P**	**04 59 59.5**	**+0.9**
baz=258							
I29M	**Ogilvie Camp,**	**22.51**	**39**	P	**P**	**05 00 00.5**	**+0.2**
baz=249							
N31M	**Braeburn, Yuko**	**22.62**	**50**	P	**P**	**05 00 00.8**	**-0.8**
baz=261							
SKAG	**Skagway**	**22.63**	**55**	P	**P**	**05 00 02.7**	**+1.2**
SKAG				IAmb	IAmb	05 00 28.8	
comp=Z,17nm,1.1s							
SKAG	**Skagway**	**22.63**	**55**	P	**P**	**05 00 01.6**	**+0.1**
baz=267							
WHY	**Whitehorse**	**22.95**	**52**	P	**P**	**05 00 03.5**	**-1.5**
baz=264							
M31M	**Drury Creek, Y**	**23.38**	**48**	P	**P**	**05 00 07.7**	**-1.7**
baz=261							
P33M	**Teslin, Yukon**	**23.94**	**53**	P	**P**	**05 00 13.0**	**-1.8**
baz=267							
MMPY	**Sheldon Lake,**	**24.88**	**47**	P	**P**	**05 00 22.0**	**-1.4**
baz=264							
INK	**Inuvik**	**25.33**	**34**	P	**P**	**05 00 28.5**	**+1.2**
comp=Z,4.5nm,0.4s,baz=240,slow=7.3,SNR=22							
INK	**Inuvik**	**25.33**	**34**	P	**P**	**05 00 28.3**	**+1.0**
INK				IAmb	IAmb	05 00 30.4	
comp=Z,36nm,1.5s							
INK	**Inuvik**	**25.33**	**34**	P	**P**	**05 00 25.3**	**-2.1**
baz=249,SNR=15							
DLBC	**Dease Lake**	**25.38**	**57**	P	**P**	**05 00 30.2**	**+2.2**
comp=Z,4.7nm,0.8s,baz=267,slow=9.3,SNR=13							
DLBC				LR	LR	05 10 55.3	
comp=Z,119nm,19.4s,baz=280,slow=38							
DLBC	**Dease Lake**	**25.38**	**57**	P	**P**	**05 00 28.8**	**+0.8**
DLBC				IAmb	IAmb	05 00 47.5	
comp=Z,12nm,1.0s							
TGTN	**Hyland Airport**	**26.21**	**50**	P	**P**	**05 00 36.1**	**+0.7**
baz=269							
BBB	**Bella Bella**	**27.58**	**71**	LR	LR	05 11 03.1	
comp=Z,51nm,18.7s,baz=272,slow=35							
YSS	**Yuzh-Sakhalins**	**28.66**	**278**	*eP*	**P**	**05 00 59.7**	**+2.2**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS				MLR	MLR		
comp=Z,300nm,16.0s							
C36M	**Paulatuk**	**28.92**	**34**	P	**P**	**05 00 59.1**	**-0.4**
baz=258							
A36M	**Sachs Harbour**	**29.24**	**28**	P	**P**	**05 01 02.3**	**0.0**
baz=252,SNR=7.2							
ASAJ	**Asahikawa**	**30.09**	**273**	P	**P**	**05 01 11.6**	**+1.4**
comp=Z,14nm,0.9s,baz=82,slow=7.2,SNR=6.7							
GRNR	**Gornyy**	**30.98**	**289**	*iP*	**P**	**05 01 17.0**	**-1.0**
GRNR				pmax	pmax		
comp=Z,7.0nm,0.7s							
GRNR				MLR	MLR		
comp=E,170nm,14.0s							
GRNR				MLR	MLR		
comp=N,50nm,18.0s							
GRNR				MLR	MLR		
comp=Z,130nm,17.0s							
YAK	**Yakutsk**	**31.81**	**311**	LR	LR	05 14 44.4	
comp=Z,193nm,18.1s,baz=88,slow=37							
TIXI	**Tiksi**	**32.12**	**330**	P	**P**	**05 01 28.3**	**+0.6**
comp=Z,2.2nm,0.4s,baz=90,slow=20,SNR=7.9							
TIXI				LR	LR	05 15 31.4	
comp=Z,77nm,18.1s,baz=178,slow=38							
TIXI	**Tiksi**	**32.12**	**330**	P	**P**	**05 01 27.6**	**-0.1**
YKA	**Yellowknife Ar**	**32.58**	**47**	P	**P**	**05 01 32.2**	**+0.4**
comp=Z,0.9nm,0.5s,baz=273,slow=8.0,SNR=32							
YKA				PcP	**PcP**	**05 04 17.8**	**0.0**
comp=Z,0.5nm,0.8s,baz=285,slow=3.3,SNR=4.2							
YKA				ScP	**ScP**	**05 08 02.1**	**+0.6**
comp=Z,0.3nm,0.7s,baz=285,slow=2.5,SNR=3.5							
YKA	**Yellowknife Ar**	**32.58**	**47**	P	**P**	**05 01 31.8**	**-0.1**
B08A	**Colville Reser**	**34.23**	**74**	P	**P**	**05 01 47.7**	**+1.3**
B08A				IAmb	IAmb	05 02 02.0	
comp=Z,5.9nm,0.8s							
KLR	**Kul'dur**	**34.36**	**288**	P	**P**	**05 01 47.1**	**-0.4**
comp=Z,1.5nm,0.4s,baz=76,slow=8.6,SNR=12							
KLR				LR	LR	05 16 46.5	
comp=Z,51nm,19.3s,baz=40,slow=38							
HAWA	**Hanford**	**35.02**	**77**	P	**P**	**05 01 55.0**	**+1.8**
HAWA				IAmb	IAmb	05 02 17.7	
comp=Z,6.4nm,0.7s							
J04D	**Umpqua Nationa**	**35.03**	**83**	P	**P**	**05 01 53.4**	**-0.2**
baz=302							
ZEA	**Zeya**	**35.16**	**297**	*eP*	**P**	**05 01 53.8**	**-0.6**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**35.40**	**213**	T	T	05 40 10.5	
baz=21,slow=76,SNR=58							
H11N3	**WAKE ISLAND Hy**	**35.41**	**213**	T	T	05 40 05.8	
baz=21,slow=76,SNR=31							
H11N1	**WAKE ISLAND Hy**	**35.42**	**213**	T	T	05 40 13.0	
baz=21,slow=76,SNR=32							
NEW	**Newport**	**35.59**	**73**	P	**P**	**05 01 58.9**	**+0.7**
comp=Z,3.6nm,0.7s,baz=274,slow=2.7,SNR=5.8							
NEW	**Newport**	**35.59**	**73**	P	**P**	**05 02 00.1**	**+1.8**
NEW				pmax	pmax		
comp=Z,7.0nm,0.8s							
NEW	**Newport**	**35.59**	**73**	P	**P**	**05 02 00.1**	**+1.8**
NEW				IAmb	IAmb	05 02 15.4	
comp=Z,6.8nm,0.8s							
NEW	**Newport**	**35.59**	**73**	P	**P**	**05 01 57.8**	**-0.4**
baz=297							
O02D	**Mt. Diablo Mer**	**36.31**	**88**	P	**P**	**05 02 03.6**	**-1.0**
baz=306							
H11S1	**WAKE ISLAND Hy**	**36.60**	**213**	T	T	05 41 18.6	
baz=20,slow=76,SNR=46							
USRK	**Ussuriysk Ar.**	**36.61**	**280**	P	**P**	**05 02 06.8**	**-0.1**
comp=Z,4.8nm,0.7s,baz=52,slow=9.2,SNR=5.4							
USRK	**Ussuriysk Ar.**	**36.61**	**280**	P	**P**	**05 02 06.5**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	05 41 20.4	
baz=20,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	05 41 23.2	
baz=20,slow=76,SNR=25							
MJAR	**Matsushiro Arr**	**37.19**	**265**	LR	LR	05 15 23.4	
comp=Z,75nm,21.7s,baz=58,slow=33							
RES	**Resolute Bay**	**38.10**	**25**	PcP	**PcP**	**05 04 34.0**	**+0.2**
comp=Z,0.7nm,0.6s,baz=308,slow=2.0,SNR=4.2							
MSO	**Missoula**	**38.17**	**73**	P	**P**	**05 02 17.8**	**-2.5**
baz=300							
PNTR	**Pine Nut**	**38.94**	**87**	P	**P**	**05 02 29.5**	**+2.5**
PNTR				IAmb	IAmb	05 02 57.7	
comp=Z,8.9nm,0.8s							
HRY	**Holter Researc**	**39.48**	**72**	P	**P**	**05 02 32.7**	**+1.4**
HLID	**Hailey**	**39.59**	**78**	P	**P**	**05 02 30.9**	**-1.4**
baz=303							
MCMT	**McKenzie Canyo**	**39.85**	**75**	P	**P**	**05 02 34.2**	**-0.3**
EGMT	**Eagleton**	**40.05**	**69**	P	**P**	**05 02 35.9**	**0.0**
EGMT				IAmb	IAmb	05 02 41.4	
comp=Z,10.0nm,0.7s							
EGMT	**Eagleton**	**40.05**	**69**	P	**P**	**05 02 32.9**	**-3.0**
baz=300,SNR=8.7							
NVAR	**Mina Array Bea**	**40.15**	**87**	P	**P**	**05 02 39.4**	**+2.4**
comp=Z,1.3nm,0.8s,baz=305,slow=7.6,SNR=4.1							
NVAR				LR	LR	05 17 08.1	
comp=Z,90nm,20.5s,baz=266,slow=38							
NVAR	**Mina Array Bea**	**40.15**	**87**	P	**P**	**05 02 38.1**	**+1.1**
BOZ	**Bozeman (W)**	**40.18**	**73**	P	**P**	**05 02 33.6**	**-3.5**
baz=302							
CN2	**Changchun**	**40.81**	**284**	*eP*	**P**	**05 02 42.1**	**-0.1**
CN2				*eS*	**S**	**05 08 50.3**	**-2.6**
CN2				pmax	p

O20A White River Ci 45.33 78 P **P** 05 03 19.3 +0.3
O20A IAmb IAmb 05 03 35.7
comp=Z,12nm,0.8s
O20A White River Ci 45.33 78 P **P** 05 03 18.4 -0.6
baz=307
RSSD Black Hills 45.50 71 P **P** 05 03 20.5 +0.1
baz=305
PV11 David Mesa, Pa 46.07 80 P **P** 05 03 26.9 +2.0
PV11 IAmb IAmb 05 03 40.8
comp=Z,20nm,1.3s
PV13 Radium Mtn., P 46.19 81 P **P** 05 03 26.4 +0.5
PV13 IAmb IAmb 05 03 42.9
comp=Z,10nm,0.8s
N23A Red Feather La 46.26 76 P **P** 05 03 25.5 -1.0
baz=307
ULM Lac du Bonnet 46.67 59 P **P** 05 03 30.8 +1.6
comp=Z,3.1nm,0.5s,baz=304,slow=8.0,SNR=5.4
ULM LR LR 05 22 27.7
comp=Z,74nm,20.0s,baz=328,slow=35
MVCO Mesa Verde 46.98 81 P **P** 05 03 30.1 -2.1
baz=310
ISCO Idaho Springs 47.13 77 P **P** 05 03 31.1 -2.2
baz=308
AGMN Agassiz Nation 47.77 62 P **P** 05 03 38.4 +0.6
AGMN IAmb IAmb 05 03 40.2
comp=Z,9.6nm,0.9s
AGMN Agassiz Nation 47.77 62 P **P** 05 03 35.0 -2.8
baz=305
SDCO Great Sand Dun 48.48 79 P **P** 05 03 42.3 -1.5
baz=310
TUC Tucson 48.78 88 P **P** 05 03 45.1 -0.8
baz=313
ULN Ulaanbaatar 49.16 299⇑ *e*P **P** 05 03 49.0 +0.3
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 49.16 299 P **P** 05 03 49.1 +0.4
ULN IAmb IAmb 05 03 50.3
comp=Z,8.1nm,1.3s
KSCO Kaye Shedlock' 49.43 76 P **P** 05 03 51.9 +1.0
baz=309
SONM Songino Array 49.53 299 P **P** 05 03 52.8 +1.3
comp=Z,2.5nm,0.5s,baz=51,slow=7.2,SNR=24
SONM Songino Array 49.53 299 P **P** 05 03 51.4 -0.1
T25A Trinidad 49.54 79 P **P** 05 03 52.2 +0.3
T25A IAmb IAmb 05 04 09.1
comp=Z,15nm,1.1s
T25A Trinidad 49.54 79 P **P** 05 03 52.7 +0.9
baz=310
ZAK Zakamensk 49.69 304 *e*P P 05 03 48.4 -4.3
ZAK pmax pmax
comp=Z,9.0nm,1.3s
ZAK pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 49.71 82 LR LR 05 24 23.9
comp=Z,44nm,18.1s,baz=282,slow=36
ECSD EROS Data Cent 50.04 67 P **P** 05 03 55.2 -0.2
ECSD IAmb IAmb 05 03 56.6
comp=Z,4.7nm,1.0s
ECSD EROS Data Cent 50.04 67 P **P** 05 03 55.1 -0.2
baz=308
F36A Milaca 50.49 63 P **P** 05 03 59.9 +1.2
F36A IAmb IAmb 05 04 10.3
comp=Z,6.3nm,0.9s
HHC Hu-ho-hao-te 50.85 289 *e*P **P** 05 04 00.6 -1.0
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.4s
HNS HongShan 51.18 284 ⇓P **P** 05 04 05.3 +1.4
HNS pmax pmax
comp=Z,19nm,1.0s
SPMN Marine on St. 51.28 63 P **P** 05 04 04.2 -0.5
baz=308
CBKS Cedar Bluff 51.29 74 P **P** 05 04 04.7 -0.1
baz=310
I37A Lemond, Waseca 51.70 65 P **P** 05 04 08.8 +1.0
MNTX Cornudas Mount 52.55 84 P **P** 05 04 15.2 +0.9
MNTX Cornudas Mount 52.55 84 P **P** 05 04 14.2 -0.1
baz=313
MSTX Muleshoe 52.63 81 P **P** 05 04 16.1 +1.1
baz=312
N38A Joes South For 53.84 68 P **P** 05 04 23.2 -0.5
SFJD Kangerlussuaq 54.09 24 LR LR 05 30 42.1
comp=Z,83nm,18.5s,baz=294,slow=40
P38A Dawn 54.43 69 P **P** 05 04 27.6 -0.3
P38A IAmb IAmb 05 04 41.0
comp=Z,8.7nm,0.9s
TX31 Lajitas Ar. Si 55.25 85 P **P** 05 04 34.6 +0.5
TX31 IAmb IAmb 05 04 47.7
comp=Z,6.8nm,0.8s
TX32 Lajitas Array 55.25 85 P **P** 05 04 34.6 +0.4
TXAR Lajitas Array 55.25 85 P **P** 05 04 34.0 -0.2
comp=Z,0.6nm,0.6s,baz=301,slow=5.3,SNR=9.4
TXAR Lajitas Array 55.25 85 P **P** 05 04 34.2 0.0
TXAR Lajitas Array 55.25 85 P **P** 05 04 34.2 0.0
P40A Paris 55.36 68 P **P** 05 04 34.6 0.0
P40A IAmb IAmb 05 04 36.7
comp=Z,12nm,0.7s
ABTX Abilene, Hawle 55.46 80 P **P** 05 04 34.1 -1.5
baz=314
GLMI Grayling 56.01 59 P **P** 05 04 36.1 -3.2
baz=311
R40A Maddies Statio 56.05 70 P **P** 05 04 39.2 -0.5
R40A IAmb IAmb 05 04 51.3
comp=Z,4.7nm,0.7s
HDIL Hopedale 56.26 66 P **P** 05 04 39.2 -1.9
baz=312
ZALV Zalesovo Beam 56.27 316 P **P** 05 04 41.0 0.0
comp=Z,0.5nm,0.5s,baz=78,slow=3.0,SNR=2.7
ZALV LR LR 05 31 03.3
comp=Z,61nm,18.6s,baz=36,slow=38
CCM Cathedral Cave 56.81 69 P **P** 05 04 43.7 -1.4
baz=313
JCT Junction City 56.84 82 P **P** 05 04 44.3 -1.2
baz=315
XAN Xi'an 56.92 284 P **P** 05 04 45.8 -0.2
XAN pP pwP 05 04 58.3 +4.9
XAN pmax pmax
comp=Z,11nm,1.3s
U40A Yellville 57.01 72 P **P** 05 04 44.5 -2.1
baz=313
JMIC Jan Mayen 57.21 6 LR LR 05 30 12.1
comp=Z,41nm,18.4s,baz=232,slow=37
W39A Magazine 57.25 73 P **P** 05 04 46.4 -1.8
baz=313
VLDQ Val d'Or 57.50 52 P **P** 05 04 49.4 -0.3
SFIN Lafayette 57.62 65 P **P** 05 04 48.3 -2.4
baz=313
SCHQ Schefferville 57.65 41 P **P** 05 04 50.7 -0.1
comp=Z,1.5nm,0.5s,baz=290,slow=9.1,SNR=5.9
SCHQ LR LR 05 31 10.4
comp=Z,81nm,19.6s,baz=102,slow=38
OLIL Olney 58.16 67 P **P** 05 04 54.5 -0.2
W41B Gary Mavity, V 58.18 72 P **P** 05 04 51.5 -3.2
baz=314
ARCES ARCESS Array B 58.37 352 P **P** 05 04 55.9 +0.3
comp=Z,1.9nm,0.6s,baz=23,slow=6.6,SNR=12
ARCES PcP **PcP** 05 05 46.6 +0.2
comp=Z,3.0nm,0.7s,baz=10,slow=5.5,SNR=2.1
ARCES LR LR 05 34 42.4
comp=Z,29nm,18.1s,baz=346,slow=41
ARCES ARCESS Array B 58.37 352 P **P** 05 04 56.2 +0.6
LZH Lanzhou 58.54 290 *e*P **P** 05 04 58.8 +1.3
LZH pP pwP 05 05 08.9 +3.9
LZH sP sP 05 05 13.8 +14
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=N,150nm,15.9s
LZH LR LR
comp=E,120nm,17.4s
LZH LR LR
comp=Z,190nm,17.4s
GTA Gaotai 58.59 295 *e*P **P** 05 04 57.8 +0.1
GTA sP pwP 05 05 09.9 +4.7
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA pmax pmax
comp=Z,82nm,5.5s
GTA LR LR
comp=N,81nm,18.9s
GTA LR LR
comp=E,95nm,17.4s
GTA LR LR
comp=Z,120nm,17.4s
O48B Farmland 58.79 63 P **P** 05 04 56.5 -2.5
baz=313

SADO Sadowa 58.93 56 LR LR 05 32 13.9
comp=Z,86nm,18.2s,baz=336,slow=38
P49A Miami Univ. Ec 59.53 64 P **P** 05 05 01.2 -2.9
baz=314
WCI Wyandotte Cave 59.54 66 P **P** 05 05 03.7 -0.5
WCI pmax pmax
comp=Z,7.0nm,0.7s
WCI Wyandotte Cave 59.54 66 P **P** 05 05 03.7 -0.5
WCI IAmb IAmb 05 05 17.6
comp=Z,7.4nm,0.7s
WCI Wyandotte Cave 59.54 66 P **P** 05 05 00.3 -3.8
baz=314
T47A Sharon Grove 59.94 67 P **P** 05 05 06.3 -0.7
T47A IAmb IAmb 05 05 13.8
comp=Z,6.8nm,0.9s
ACSO Alum Creek Sta 60.01 62 P **P** 05 05 03.0 -4.4
baz=314
WVT Waverly 60.11 69 P **P** 05 05 06.0 -2.1
baz=314
TRQ Mont Tremblant 60.23 52 P **P** 05 05 09.1 +0.2
LATQ La Tuque 60.27 50 P **P** 05 05 10.1 +1.0
OXF Oxford 60.32 71 P **P** 05 05 06.8 -2.8
baz=315
M53A WI Miller and 60.43 60 P **P** 05 05 07.7 -2.6
baz=314
Q51A Peebles 60.65 63 P **P** 05 05 12.4 +0.7
Q51A IAmb IAmb 05 05 13.8
comp=Z,14nm,1.0s
PLAL Pickwick Lake 60.77 70 P **P** 05 05 13.1 +0.4
PLAL IAmb IAmb 05 05 25.7
comp=Z,6.0nm,0.8s
P52A Corning 60.90 62 P **P** 05 05 11.4 -2.0
baz=315
O53A New Philadelph 60.97 61 P **P** 05 05 10.5 -3.5
baz=315
N54A Moraine State 61.13 60 P **P** 05 05 12.7 -2.3
baz=315
KURK Kurchatov 61.25 316 P **P** 05 05 16.0 +0.3
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 61.25 316 P **P** 05 05 16.0 +0.3
KURK IAmb IAmb 05 05 17.0
comp=Z,4.5nm,0.6s
LONY Lake Ozonia 61.36 54 P **P** 05 05 14.5 -2.0
baz=316
O54A Avella 61.47 61 P **P** 05 05 17.7 +0.3
L56A Greenwood 61.59 57 P **P** 05 05 19.1 +0.9
R53A Hurricane 61.91 63 P **P** 05 05 20.9 +0.6
WMQ Urumqi 62.01 306 *e*P **P** 05 05 21.0 0.0
MCWV Mont Chateau 62.13 61 P **P** 05 05 19.5 -2.3
baz=315
TZTN Tazewell 62.28 65 P **P** 05 05 21.1 -1.8
baz=315
BINY Binghamton 62.37 56 P **P** 05 05 20.7 -2.7
baz=316
O56A Blue Knob Stat 62.39 59 P **P** 05 05 20.2 -3.3
baz=316
MK31 Makanchi Array 62.48 311⇑ *e*P **P** 05 05 23.9 -0.2
MK31 Makanchi Array 62.48 311 P **P** 05 05 23.3 -0.8
MKAR Makanchi Array 62.48 311 P **P** 05 05 23.7 -0.4
comp=Z,1.5nm,0.4s,baz=52,slow=6.2,SNR=25
MKAR LR LR 05 33 10.5
comp=Z,50nm,20.2s,baz=42,slow=37
SSPA Standing Stone 62.49 59 P **P** 05 05 24.8 +0.7
SSPA Standing Stone 62.49 59 P **P** 05 05 21.8 -2.3
baz=316
FPAL Fort Paine 62.52 68 P **P** 05 05 24.7 +0.2
FPAL IAmb IAmb 05 05 38.0
comp=Z,8.9nm,0.9s
LRAL Lakeview Retre 62.78 71 P **P** 05 05 23.2 -3.0
baz=316
BRVK Borovoye 62.84 323 *c* iP **P** 05 05 26.5 +0.1
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 62.84 323 P **P** 05 05 26.0 -0.3
BRVK IAmb IAmb 05 05 27.3
comp=Z,3.9nm,0.8s
L59A Walton 62.86 56 P **P** 05 05 28.2 +1.5
H62A Milan 63.08 52 P **P** 05 05 28.9 +0.8
N59A State Game Lan 63.40 57 P **P** 05 05 29.5 -0.7
baz=316
PKME Peaks-Kenny Pk 63.48 50 P **P** 05 05 26.8 -3.9
baz=318
BLA Blacksburg 63.56 63 P **P** 05 05 29.1 -2.3
baz=316
GOMU GeErMu 63.66 296 P **P** 05 05 32.3 -0.2
GOMU pP sP 05 05 35.3 +0.3
GOMU sP pwP 05 05 40.5 +0.5
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,95nm,5.1s
ARU Arti 64.11 331 LR LR 05 37 29.8
comp=Z,59nm,18.1s,baz=42,slow=40
ARU Arti 64.11 331 *c* iP **P** 05 05 34.8 +0.1
ARU 05 06 09.8
ARU S **S** 05 14 11.8 +0.7
ARU pmax pmax
comp=Z,5.0nm,0.6s
KMSC Kings Mountain 64.54 65 P **P** 05 05 37.7 -0.2
KMSC Kings Mountain 64.54 65 P **P** 05 05 37.6 -0.2
baz=316
GOGA Godfrey 64.57 68 P **P** 05 05 37.6 -0.4
baz=316
KIRV Kirov 64.76 337⇑ *e*P **P** 05 05 39.9 +1.1
KLMR Klimovskoe 64.81 343 *e*P **P** 05 05 38.2 -1.0
KLMR pmax pmax
comp=Z,13nm,1.4s
KLMR Klimovskoe 64.81 343 *e*P **P** 05 05 38.2 -1.0
KLMR AMP 05 05 41.8
comp=Z,13nm,1.4s
FINES FINESS Array B 66.22 350 P **P** 05 05 48.0 -0.2
comp=Z,1.9nm,0.8s,baz=5.7,slow=5.7,SNR=2.0
FINES PcP **PcP** 05 06 18.7 +0.4
comp=Z,3.4nm,0.8s,baz=289,slow=5.8,SNR=5.6
NB2 NORSAR Subarra 67.63 358 P **P** 05 05 57.7 +0.4
comp=Z,0.5nm,0.5s,baz=4.4,slow=6.5
NOA NORSAR Array B 67.63 358 P **P** 05 05 57.5 +0.2
comp=Z,0.6nm,0.6s,baz=2.9,slow=7.3,SNR=5.0
NOA LR LR 05 36 08.8
comp=Z,18nm,18.4s,baz=250,slow=36
KDJ Kajisay 68.40 311 P **P** 05 06 02.4 -0.2
KDJ pmax pmax
comp=Z,10.0nm,1.3s
KDJ Kajisay 68.40 311 P **P** 05 06 02.4 -0.2
KDJ IAmb IAmb 05 06 04.4
comp=Z,9.9nm,1.3s
HFS Hagfors 68.45 356 LR LR 05 37 18.0
comp=Z,23nm,19.1s,baz=339,slow=37
BOOM Boomskoye usch 68.70 312 P **P** 05 06 04.8 +0.3
BOOM pmax pmax
comp=Z,7.0nm,0.7s
BOOM Boomskoye usch 68.70 312 P **P** 05 06 04.8 +0.3
BOOM IAmb IAmb 05 06 06.4
comp=Z,6.6nm,0.7s
VSU Vasula 69.05 349⇓ *i*P **P** 05 06 06.7 +0.5
VSU pmax pmax
comp=Z,81nm,1.4s
AAK Ala-Archa 69.25 313 LR LR 05 37 40.0
comp=Z,30nm,18.6s,baz=34,slow=37
AAK Ala-Archa 69.25 313 *c* iP **P** 05 06 08.5 +0.6
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 69.25 313 P **P** 05 06 08.3 +0.4
ABKAR Akbulak array 69.72 326 P **P** 05 06 11.0 +0.5
ABKAR IAmb IAmb 05 06 12.4
comp=Z,6.9nm,0.6s
ABKAR Akbulak array 69.72 326 P **P** 05 06 11.0 +0.5
LSA Lhasa 70.51 293 P **P** 05 06 15.1 -1.1
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 70.51 293 P **P** 05 06 15.1 -1.1
KKAR Karatay Array 70.65 316 P **P** 05 06 15.7 -0.6
KKAR Karatay Array 70.65 316 P **P** 05 06 15.7 -0.6
OBN Obninsk 70.75 342⇑ *e*P **P** 05 06 17.1 +0.4
OBN *e* 05 06 37.3
OBN *e* 05 08 57.7
OBN *e*S **SKiKP** 05 16 03.7 +4.6
OBN pmax pmax
comp=Z,6.0nm,1.0s
KSH Kashi 71.01 310 P **P** 05 06 22.5 +3.8
KSH sP PcP 05 06 36.3 -2.7
KSH pmax pmax
comp=Z,15nm,0.7s
MNK Minsk 72.77 347 *i* P P 05 06 23.5 -5.3

MNK *i* 05 06 40.2
MNK *i* PPP PPP 05 10 50.4
MNK *i* S **S** 05 15 46.3 -7.7
MNK *i* 05 16 28.4
MNK *i* SS **SS** 05 20 29.4 -3.0
MNK *i* SSS SSS 05 23 50.4
MNK pmax pmax
comp=N,17nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR
comp=Z,34nm,20.0s
MNK MLR MLR
comp=N,88nm,21.0s
MNK MLR MLR
comp=E,11nm,22.0s
MNK Minsk 72.77 347 *i* P P 05 06 23.5 -5.3
comp=E,3.0nm,0.9s
MNK *i* P P 05 06 23.5 -5.3
comp=N,17nm,0.7s
MNK *i* P P 05 06 23.5 -5.3
comp=Z,15nm,0.7s,baz=194
MNK *i* PcP pwP 05 06 40.2 +3.8
MNK *i* PP **PP** 05 09 05.7 -4.2
MNK *i* PPP PPP 05 10 50.4
MNK *i* S **S** 05 15 46.4 -7.7
MNK *i* SS **SS** 05 20 29.5 -3.0
MNK *i* SSS SSS 05 23 50.5
MNK *i* LR LR 05 35 09.3
MNK *i* LRM MLR 05 41 09.6
comp=Z,34nm,19.7s
MNK *i* LRM MLR 05 41 13.6
comp=N,88nm,21.1s
MNK *i* LRM MLR 05 41 15.0
comp=E,11nm,22.4s
BTK Batken 72.97 314 P **P** 05 06 30.0 -0.4
BTK pmax pmax
comp=Z,10.0nm,0.6s
BTK Batken 72.97 314 P **P** 05 06 30.0 -0.4
SHL Shillong 73.20 290 P **P** 05 06 31.5 -0.6
SHL pmax pmax
comp=Z,11nm,0.8s
SHL Shillong 73.20 290 P **P** 05 06 31.5 -0.6
SHL IAmb IAmb 05 06 33.0
comp=Z,11nm,0.8s
GAR Garm 74.05 313 P **P** 05 06 37.4 +0.5
TAPN Taplejung 74.26 294 *e*P **P** 05 06 39.1 +0.7
comp=Z,35nm,0.9s
CMAR Chiang Mai Arr 74.34 280 P **P** 05 06 40.1 +1.5
comp=Z,4.1nm,0.3s,baz=33,slow=6.1,SNR=6.2
CMAR LR LR 05 41 44.3
comp=Z,18nm,18.6s,baz=190,slow=38
CMAR Chiang Mai Arr 74.34 280 P **P** 05 06 38.9 +0.3
CHGR Chuyangaron 74.86 314 P **P** 05 06 41.2 -0.3
GUN Gumba 74.86 296 *e*P **P** 05 06 42.8 +0.8
JIRN Jiri 74.88 295 *e*P **P** 05 06 43.0 +0.9
comp=Z,45nm,0.8s
RAMN Ramite 75.19 295 *e*P **P** 05 06 44.3 +0.5
comp=Z,12nm,0.4s
PKI Pulchoki 75.39 296 *e*P **P** 05 06 45.4 +0.4
PKIN Phulchoki 75.39 296 *e*P **P** 05 06 45.3 +0.4
GKN Gorkha 75.48 297 *e*P **P** 05 06 45.9 +0.6
DANN Dangsing 75.70 298 *e*P **P** 05 06 47.5 +0.7
KOLN Koldanda 76.24 297 *e*P **P** 05 06 50.1 +0.4
AKASG Malin Array Be 76.26 345 P **P** 05 06 48.5 -0.6
comp=Z,1.2nm,0.3s,baz=16,slow=5.7,SNR=12
AKBB Malin Array Si 76.26 345⇓ *e*P **P** 05 06 48.1 -1.1
AKBB pmax pmax
comp=Z,8.0nm,1.3s
AKBB Malin Array Si 76.26 345 P **P** 05 06 48.1 -1.1
AKBB IAmb IAmb 05 06 49.6
comp=Z,8.3nm,1.2s
PYUN Piuthan 76.32 298 *e*P **P** 05 06 50.7 +0.5
comp=Z,45nm,1.0s
BRG Berggiesshubel 77.69 355 *e*P **P** 05 06 57.8 +0.5
BRG Amp 05 06 59.2
comp=Z,8.3nm,1.1s
BRG Berggiesshubel 77.69 355 *e*P **P** 05 06 57.7 +0.5
BRG pmax pmax
comp=Z,8.0nm,1.1s
OSTC Ostas 77.87 354 *e*P **P** 05 06 59.6 +1.3
DPC Dobruska-Polom 78.07 354 *e*P **P** 05 07 00.4 +1.0
DPC Dobruska-Polom 78.07 354 *e*P **P** 05 07 00.4 +1.0
KWP Kalwaria Pacla 78.20 349 P **P** 05 07 00.3 +0.2
KWP pmax pmax
comp=Z,127nm,1.3s
KWP Kalwaria Pacla 78.20 349 P **P** 05 07 00.3 +0.2
KBL Kabul 78.29 312 P **P** 05 07 00.3 -0.8
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 78.29 312 P **P** 05 07 00.3 -0.8
KBL IAmb IAmb 05 07 01.5
comp=Z,10nm,0.8s
KRLC Kraliky 78.31 353 *e*P **P** 05 07 01.5 +0.7
KRLC Kraliky 78.31 353 *e*P **P** 05 07 01.5 +0.7
NKC Novy Kostel 78.40 356 *e*P **P** 05 07 02.1 +0.9
NKC Novy Kostel 78.40 356 *e*P **P** 05 07 02.1 +0.9
MORC Moravsky Berou 78.55 353 *e*P **P** 05 07 02.4 +0.3
VRAC Vranov 79.09 353 LR LR 05 47 11.3
comp=Z,35nm,18.2s,baz=314,slow=40
VRAC Vranov 79.09 353 *e*P **P** 05 07 05.7 +0.7
KRUC Moravsky 79.35 353 *e*P **P** 05 07 06.9 +0.5
KHC Kasperske Hory 79.45 355⇓ *i*P **P** 05 07 08.2 +1.2
KHC pmax pmax
comp=Z,15nm,1.2s
KHC Kasperske Hory 79.45 355 *e*P **P** 05 07 08.1 +1.1
KHC Kasperske Hory 79.45 355 P **P** 05 07 07.5 +0.5
KHC IAmb IAmb 05 07 09.1
comp=Z,8.1nm,1.2s
JAVC Velka Javorina 79.45 353 *e*P **P** 05 07 08.6 +1.5
GERES GERESS Array B 79.73 355 P **P** 05 07 09.3 +0.7
comp=Z,1.4nm,0.7s,baz=17,slow=5.6,SNR=12
KIV Kislovodsk 79.81 334 *e*P **P** 05 07 08.7 -0.5
KIV pmax pmax
comp=Z,7.0nm,1.0s
BUR08 Bucovina Ar. S 79.84 347 P **P** 05 07 09.4 +0.2
KBZ Khabaz 79.97 334 P **P** 05 07 10.8 +1.0
comp=Z,1.5nm,0.3s,baz=269,slow=1.9,SNR=5.0
KBZ LR LR 05 45 59.5
comp=Z,34nm,21.1s,baz=28,slow=38
GEYT Alibeck 80.12 321 P **P** 05 07 12.0 +1.2
comp=Z,3.1nm,0.7s,baz=241,slow=18,SNR=4.3
GEYT LR LR 05 46 34.4
comp=Z,69nm,18.1s,baz=55,slow=39
GEYT Alibeck 80.12 321 P **P** 05 07 11.1 +0.3
GEYT IAmb IAmb 05 07 12.7
comp=Z,7.5nm,1.1s
CONA Conrad Observa 80.51 354 *e*P **P** 05 07 13.5 +0.7
comp=Z,2.5nm,0.7s
ECH Echery 80.54 360 P **P** 05 07 13.1 +0.2
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 80.54 360 P **P** 05 07 13.1 +0.2
ECH IAmb IAmb 05 07 14.0
comp=Z,5.5nm,1.0s
WATA Walderalm 81.33 357 *e*P **P** 05 07 19.1 +1.8
comp=Z,4.3nm,0.6s
HRA Herat 81.47 316 P **P** 05 07 18.1 -0.3
HRA IAmb IAmb 05 07 19.9
comp=Z,7.4nm,0.9s
KBA Koelnbreinsper 81.51 355 *e*P **P** 05 07 19.2 +0.9
comp=Z,7.3nm,0.7s
FETA Feichten 81.67 357 *e*P **P** 05 07 20.4 +1.2
comp=Z,4.8nm,1.0s
SOKA Soboth 81.81 354 *e*P **P** 05 07 20.9 +1.2
comp=Z,7.9nm,1.0s
TIRR Tirgusor 82.46 344 P **P** 05 07 23.4 +0.4
TIRR pmax pmax
comp=Z,18nm,0.8s
TIRR Tirgusor 82.46 344 P **P** 05 07 23.4 +0.4
GNI Garni 82.75 332 LR LR 05 50 27.5
comp=Z,34nm,18.9s,baz=34,slow=40
WRA Warramunga Arr 84.63 228 P **P** 05 07 32.9 -1.5
comp=Z,0.2nm,0.6s,baz=34,slow=5.8,SNR=5.2
BRTR Keskin Array B 86.02 339 P **P** 05 07 40.8 -0.7
comp=Z,1.4nm,0.8s,baz=52,slow=3.0,SNR=7.0
BRTR Keskin Array B 86.02 339 *i* P **P** 05 07 42.2 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 86.02 339 P **P** 05 07 40.3 -1.2
ASAR Alice Springs 88.05 227 P **P** 05 07 50.5 -0.7
comp=Z,0.4nm,0.6s,baz=26,slow=5.1,SNR=7.9
ASAR Alice Springs 88.05 227 P **P** 05 07 50.8 -0.4

ASAR	**Alice Springs**	**88.05**	**227**	P	**P**	**05 07 50.8**	**-0.4**
ESDC	**Sonseca Array**	**88.61**	**8**	P	**P**	**05 07 53.8**	**-0.1**
	comp=Z,1.9nm,1.2s,baz=341,slow=3.6,SNR=5.3						
ESDC	**Sonseca Array**	**88.61**	**8**	P	**P**	**05 07 54.1**	**+0.2**
WSAR	**Wadi Sarin**	**92.65**	**313**	LR	LR	05 53 31.2	
	comp=Z,43nm,19.4s,baz=156,slow=38						
PLCA	**Paso Flores**	**127.83**	**110**	PKP	**PKiKP**	**05 14 07.0**	**+0.4**
	comp=Z,2.9nm,1.2s,baz=233,slow=1.7,SNR=3.1						
PLCA	**Paso Flores**	**127.83**	**110**	PKiKP	**PKiKP**	**05 14 07.0**	**+0.4**
PLCA	**Paso Flores**	**127.83**	**110**		**PKiKP**	**05 14 06.5**	**-0.1**

IDC ***23*** *05:13:10.3±2.5, 32.˚49S×71.˚76W, h0km, mb4.1/2, mb1 3.8/5, mb1mx3.7/24, mbtmp3.7/5, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/50, Error ellipse: s-maj=83.6km s-min=31.6km az=102.0*

GUC ***23*** *05:13:13.8±0.8, 32.˚52S×71.˚89W, h25km±5km, ML3.7*

ISC 23 05:13:12.7±1.7, 32.˚48S±0.˚03×71.˚83W±0.˚08, h17km±9km, n30, σ0.˚58/32, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VA06	**Catapilco**	**0.45**	**100**	*eP*		**Pn**		**05 13 23.9**	**-0.5**
VA06				*i*	S	**Sn**		**05 13 30.9**	**-1.2**
VA06					IAML			05 13 34.6	
	comp=E,11μm,0.4s								
VA01	**Torpederas**	**0.56**	**165**	*eP*		**Pb**		**05 13 24.3**	**+0.3**
VA01				*i*	S	**Sb**		**05 13 31.8**	**+0.1**
VA01					IAML			05 13 33.4	
	comp=N,5μm,0.1s								
ROCH	**El Roble**	**0.84**	**126**	*eP*		**Pn**		**05 13 29.8**	**-0.2**
ROCH				*i*	S	**Sn**		**05 13 41.5**	**-0.5**
ROCH					IAML			05 13 45.0	
	comp=N,7μm,0.3s								
MT02	**Curacav**	**0.96**	**143**	*eP*		**Pn**		**05 13 31.3**	**-0.2**
MT02				*i*	S	**Sg**		**05 13 43.9**	**-0.3**
MT02					IAML			05 13 47.5	
	comp=E,2μm,0.3s								
VA03	**San Esteban**	**1.11**	**105**	*eP*		**Pg**		**05 13 34.3**	**0.0**
VA03				*i*	S	**Sn**		**05 13 49.7**	**+1.2**
VA03					IAML			05 13 50.6	
	comp=E,6μm,0.3s								
PEL	**Peldehue**	**1.16**	**125**	*eP*		**Pg**		**05 13 35.0**	**-0.3**
PEL				*i*	S	**Sg**		**05 13 50.9**	**+0.4**
PEL					IAML			05 13 54.0	
	comp=N,4μm,0.4s								
MT05	**Renca**	**1.29**	**135**	*eP*		**Pb**		**05 13 36.7**	**+0.2**
MT05				*i*	S	**Sg**		**05 13 54.4**	**0.0**
CO02	**Combarbal**	**1.46**	**29**	*eP*		**Pb**		**05 13 39.6**	**+0.2**
CO02				*i*	S	**Sg**		**05 14 00.0**	**+0.2**
MT01	**Popeta**	**1.46**	**161**	*eP*		**Pn**		**05 13 38.4**	**+0.2**
MT01					IAML			05 14 02.2	
	comp=E,2μm,0.2s								
MT09	**Talagante**	**1.47**	**152**	*eP*		**Pb**		**05 13 39.5**	**-0.1**
MT09				*i*	S	**Sb**		**05 13 58.3**	**+0.2**
MT09					IAML			05 14 02.7	
	comp=N,2μm,0.5s								
CO06	**Fray Jorge**	**1.81**	**5**	*eP*		**Pn**		**05 13 43.1**	**-0.1**
CO06				*i*	S	**Sn**		**05 14 04.8**	**-0.9**
CO06					IAML			05 14 20.4	
	comp=E,725nm,0.4s								
BO04	**La Punta**	**1.81**	**146**	*eP*		**Pb**		**05 13 44.8**	**-0.7**
BO04				*i*	S	**Sb**		**05 14 08.1**	**+0.1**
BO04					IAML			05 14 13.8	
	comp=E,2μm,0.2s								
CO03	**El Pedregal**	**1.91**	**31**	*eP*		**Pb**		**05 13 46.2**	**-0.8**
CO03				*i*	S	**Sb**		**05 14 11.9**	**+1.3**
CO03					IAML			05 14 17.2	
	comp=E,891nm,0.8s								
H03N1	**Juan Fernandez**	**6.03**	**259**	T		T		05 21 05.6	
	baz=88,slow=74,SNR=298								
H03N3	**Juan Fernandez**	**6.04**	**259**	T		T		05 21 18.3	
	baz=88,slow=74,SNR=385								
H03N2	**Juan Fernandez**	**6.05**	**259**	T		T		05 21 14.3	
	baz=88,slow=74,SNR=266								
H03S1	**Juan Fernandez**	**6.09**	**255**	T		T		05 21 04.9	
	SNR=12								
H03S3	**Juan Fernandez**	**6.09**	**255**	T		T		05 21 05.9	
	SNR=8.6								
H03S2	**Juan Fernandez**	**6.11**	**255**	T		T		05 21 02.0	
	SNR=17								
PLCA	**Paso Flores**	**8.30**	**173**	Pn		**Pn**		**05 15 12.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=348,slow=14,SNR=11								
CPUP	**Villa Florida**	**14.04**	**68**	LR		LR		05 22 24.5	
	comp=E,85nm,20.3s,baz=210,slow=40								
LPAZ	**La Paz**	**16.47**	**13**	Pn		**Pn**		**05 17 04.5**	**+0.8**
	comp=E,0.2nm,0.3s,baz=200,slow=7.3,SNR=6.3								
SIV	**San Ignacio**	**19.10**	**33**	P		**P**		**05 17 35.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=214,slow=9.6,SNR=1.6								
BDFB	**Brasilia**	**27.36**	**58**	P		**P**		**05 18 57.4**	**+0.2**
	comp=E,1.5nm,0.5s,baz=233,slow=6.5,SNR=4.9								
TORD	**Torodi Ar. Bea**	**83.53**	**70**	P		**P**		**05 25 39.7**	**-0.3**
	comp=E,0.8nm,0.7s,baz=255,slow=4.7,SNR=4.6								
H11S2	**WAKE ISLAND Hyl**	**25.96**	**270**	T		T		07 51 15.1	
	baz=118,slow=75,SNR=7.4								
H11S1	**WAKE ISLAND Hyl**	**25.97**	**270**	T		T		07 51 13.9	
	baz=118,slow=75,SNR=5.6								
H11S3	**WAKE ISLAND Hyl**	**25.98**	**270**	T		T		07 51 12.3	
	baz=118,slow=75,SNR=6.5								
ZALV	**Zalesovo Beam**	**152.84**	**31**	PKPbc		**PKiKP**		**05 33 08.9**	**+0.4**
	comp=E,0.8nm,0.7s,baz=298,slow=3.1,SNR=3.1								
MKAR	**Makanchi Array**	**155.62**	**47**	PKPab		**PKPab**		**05 33 30.7**	**-0.7**
	comp=E,0.3nm,0.8s,baz=298,slow=3.1,SNR=4.2								

NEIC ***23*** *06:31:00.9±2.7, 6.˚06S±0.˚07×147.˚79E±0.˚10, h34km±5km, mb4.3/19, Error ellipse: s-maj=14.7km s-min=9.9km az=111.0*

IDC ***23*** *06:31:01.3±3.0, 6.˚07S×147.˚61E, h37km±23km, mb4.1/11, mb1 4.3/14, mb1mx4.1/39, mbtmp4.3/14, ML4.1/2, MS3.3/19, Ms1 3.3/19, ms1mx3.1/61, Error ellipse: s-maj=30.0km s-min=15.0km az=97.0*

DJA ***23*** *06:31:28.7±1.2, 8.˚5S×9.˚4×147.˚7E±1.˚0, h119km±7km, M4.4/11, mB4.8/2, mb4.5/11, MLv4.3/2, Mw(mB)4.1/2*

ISC 23 06:31:00.8±0.6, 6.˚08S±0.˚07×147.˚66E±0.˚10, h35km, n53, σ1.˚42/44, mb4.2/17, MS3.2/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**3.34**	**188**	Pn		**Pn**		**06 31 51.7**	**+1.1**
	62nm,0.3s,baz=15,slow=5.9,SNR=59								
PMG						Sn		**06 32 29.6**	**+0.5**
	57nm,0.3s,baz=212,slow=22,SNR=6.6								
PMG						LR	LR	06 33 41.5	
	comp=Z,495nm,18.6s,baz=30,slow=48								
PMG	**Port Moresby**	**3.34**	**188**	Pn		**Pn**		**06 31 52.4**	**+1.8**
RABL	**Rabaul**	**4.87**	**67**			**Pn**		**06 32 09.9**	**-1.8**
JAY	**Jayapura**	**7.79**	**297**	LR		LR		06 36 28.1	
	comp=Z,310nm,21.3s,baz=20,slow=42								
COEN	**Coen**	**8.98**	**209**	Pn		**Pn**		**06 33 09.2**	**+1.0**
CTA	**Charters Tower**	**13.99**	**185**	Pn		**Pn**		**06 34 18.0**	**+1.3**
	0.6nm,0.3s,baz=359,slow=12,SNR=7.9								
CTA						LR	LR	06 39 12.1	
	comp=Z,145nm,20.1s,baz=54,slow=35								
CTAO	**Charters Tower**	**13.99**	**185**	Pn		**Pn**		**06 34 19.5**	**+2.8**
SIJI	**Sorong**	**17.16**	**287**	LR		LR		06 41 14.3	
	comp=Z,157nm,22.0s,baz=60,slow=36								
WB0	**Warramunga Arr**	**18.74**	**222**	P		**P**		**06 35 16.7**	**-0.2**
WB0					IAmb	IAmb		06 35 19.5	
	comp=Z,9.7nm,0.8s								
WR0	**Warramunga Arr**	**18.78**	**222**	P		**P**		**06 35 16.9**	**-0.4**
WR0					IAmb	IAmb		06 35 20.8	
	comp=Z,10nm,0.8s								
WRAB	**Tennant Creek**	**18.89**	**222**	P		**P**		**06 35 17.9**	**-0.6**
WRAB					IAmb	IAmb		06 35 20.7	
	comp=Z,12nm,0.8s								
WB2	**Warramunga Arr**	**18.89**	**222**	P		**P**		**06 35 18.2**	**-0.3**
WB2					IAmb	IAmb		06 35 38.5	
	comp=Z,9.7nm,0.7s								
WRA	**Warramunga Arr**	**18.90**	**222**	P		**P**		**06 35 18.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=46,slow=11,SNR=51								
WRA						S		**06 38 43.7**	**-6.4**
	baz=43,slow=20,SNR=4.5								
WRA						LR	LR	06 42 15.9	
	comp=Z,102nm,18.8s,baz=92,slow=36								
WRA	**Warramunga Arr**	**18.90**	**222**	P		**P**		**06 35 17.9**	**-0.7**
EIDS	**Eidsvold**	**19.46**	**171**	P		**P**		**06 35 25.1**	**+0.5**
EIDS					IAmb	IAmb		06 35 27.0	
	comp=Z,16nm,0.6s								
GUMO	**Guam**	**19.74**	**352**	LR		LR		06 43 08.5	
	comp=Z,68nm,18.8s,baz=128,slow=37								
KNRA	**Kununurra**	**20.84**	**241**	P		**P**		**06 35 39.8**	**0.0**
AS31	**Alice Springs**	**21.92**	**216**	P		**P**		**06 35 51.4**	**+0.1**
AS31					IAmb	IAmb		06 35 52.3	
	comp=Z,4.4nm,0.7s								
ASAR	**Alice Springs**	**21.93**	**216**	P		**P**		**06 35 51.4**	**-0.1**
	comp=Z,13nm,0.5s,baz=53,slow=8.8,SNR=205								
ASAR						S		**06 39 52.5**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=39,slow=21,SNR=7.2								
ASAR						ScP		**06 43 24.4**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=51,slow=2.9,SNR=8.7								
ASAR	**Alice Springs**	**21.93**	**216**	P		**P**		**06 35 50.9**	**-0.5**
SOEI	**Soe**	**23.45**	**260**	P		**P**		**06 36 10.3**	**+2.9**
SOEI	**Soe**	**23.45**	**260**	P		P		06 36 20.6	+13
	comp=Z,30nm,1.1s								
BATI	**Baumata**	**24.10**	**259**	P		**P**		**06 36 13.2**	**-0.3**
	comp=Z,45nm,0.8s,baz=296,slow=2.3,SNR=4.3								
DZM	**Mont Dzumac**	**24.13**	**133**	P		**P**		**06 36 13.0**	**-0.8**
DZM					IAmb	IAmb		06 36 25.8	
	comp=Z,22nm,1.4s								
ARMA	**Armidale**	**24.50**	**172**	P		**P**		**06 36 17.6**	**+0.5**
ARMA					IAmb	IAmb		06 36 20.2	
	comp=Z,12nm,0.8s								
FITZ	**Fitzroy Crossi**	**24.58**	**239**	P		**P**		**06 36 17.9**	**0.0**
	comp=Z,12nm,0.7s,baz=69,slow=7.7,SNR=46								
FITZ						LR	LR	06 47 25.0	
	comp=Z,47nm,18.0s,baz=69,slow=40								
DAV	**Davao City (W)**	**25.61**	**300**	LR		LR		06 46 55.7	
	comp=Z,34nm,20.5s,baz=169,slow=37								
STKA	**Stephens Creek**	**26.28**	**192**	P		**P**		**06 36 33.1**	**0.0**
	comp=Z,9.2nm,0.7s,baz=350,slow=8.3,SNR=22								
STKA						LR	LR	06 46 38.2	
	comp=Z,52nm,20.1s,baz=27,slow=36								
STKA	**Stephens Creek**	**26.28**	**192**	P		**P**		**06 36 33.0**	**-0.1**
BBOO	**Buckleboo**	**28.70**	**201**	P		**P**		**06 36 53.9**	**-0.9**
FORT	**Forrest**	**30.70**	**214**	P		**P**		**06 37 10.3**	**-2.1**
PSA00	**Pilbara Seismi**	**31.00**	**237**	P		**P**		**06 37 15.4**	**+0.1**
PSA00					IAmb	IAmb		06 37 25.7	
	comp=Z,4.6nm,1.1s								
TOO	**Toolangi**	**31.41**	**183**	P		**P**		**06 37 18.8**	**+0.1**
TOO					IAmb	IAmb		06 37 30.3	
	comp=Z,13nm,1.5s								
URZ	**Urewera**	**41.70**	**144**	LR		LR		06 54 49.1	
	comp=Z,110nm,18.5s,baz=290,slow=34								
MJAR	**Matsushiro Arr**	**43.32**	**349**	P		**P**		**06 38 60.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=169,slow=7.2,SNR=4.1								
MJAR						LR	LR	06 54 59.8	
	comp=Z,35nm,21.8s,baz=162,slow=33								
MJAR	**Matsushiro Arr**	**43.32**	**349**	IAmb		IAmb		06 39 03.4	
	comp=Z,2.7nm,0.9s								
KSRS	**Korea Array**	**47.06**	**338**	P		**P**		**06 39 29.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=160,slow=8.3,SNR=2.4								
KSRS						LR	LR	06 58 09.9	
	comp=Z,25nm,20.2s,baz=145,slow=35								
ASAJ	**Asahikawa**	**50.18**	**355**	LR		LR		07 00 51.0	
	comp=Z,17nm,19.7s,baz=163,slow=36								
RAR	**Rarotonga**	**53.00**	**112**	LR		LR		06 57 31.9	
	comp=Z,26nm,21.7s,baz=202,slow=30								
PETK	**Petropavlovsk-**	**59.58**	**7**	LR		LR		07 03 03.2	
	comp=Z,34nm,20.9s,baz=168,slow=32								
SONM	**Songino Array**	**64.80**	**331**	P		**P**		**06 41 37.2**	**+1.0**
	comp=Z,2.0nm,1.0s,baz=147,slow=6.5,SNR=7.6								
SONM						LR	LR	07 10 40.3	
	comp=Z,25nm,19.7s,baz=116,slow=37								
SONM	**Songino Array**	**64.80**	**331**	IAmb		IAmb		06 41 38.1	
	comp=Z,3.6nm,1.2s								
MA2	**Magadan**	**65.50**	**2**	LR		LR		07 05 47.2	
	comp=Z,22nm,21.9s,baz=142,slow=32								
SEY	**Seymchan**	**68.91**	**2**	P		**P**		**06 42 02.6**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=139,slow=22,SNR=4.2								
VNDA	**Vanda**	**71.79**	**177**	P		**P**		**06 42 19.7**	**+0.4**
MKAR	**Makanchi Array**	**77.98**	**320**	P		**P**		**06 42 55.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=96,slow=7.0,SNR=9.0								
ZALV	**Zalesovo Beam**	**79.43**	**328**	P		**P**		**06 43 02.3**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=110,slow=5.0,SNR=6.6								
ZALV						LR	LR	07 17 46.9	
	comp=Z,13nm,20.9s,baz=88,slow=35								
ILAR	**Eielson Array**	**85.30**	**23**	P		**P**		**06 43 32.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=253,slow=5.6,SNR=9.0								
OPO	**Ambohidratompo**	**97.94**	**250**	LR		LR		07 33 40.3	
	comp=Z,61nm,18.4s,baz=265,slow=38								
PLCA	**Paso Flores**	**121.69**	**146**	PKP		**PKiKP**		**06 49 52.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=270,slow=4.1,SNR=5.1								
TORD	**Torodi Ar. Bea**	**145.74**	**284**	PKPbc		**PKPdf**		**06 50 36.8**	**0.0**
	comp=Z,6.0nm,0.8s,baz=63,slow=2.7,SNR=27								
DBIC	**Dimbokro**	**152.68**	**273**	PKPbc		**PKiKP**		**06 50 55.4**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=171,slow=2.2,SNR=6.2								
BDFB	**Brasilia**	**153.41**	**144**	PKPbc		**PKPbc**		**06 50 57.0**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=200,slow=6.2,SNR=6.5								

IDC 23 06:45:46.4±5.8, 0.˚88N×100.˚48E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=308.4km s-min=31.0km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**39.11**	**124**	P		P		06 53 15.2	-0.6
	0.9nm,0.5s,baz=300,slow=9.1,SNR=26								
ASAR	**Alice Springs**	**40.62**	**129**	P		P		06 53 29.0	+0.7
	0.1nm,0.4s,baz=310,slow=8.6,SNR=1.7								
MKAR	**Makanchi Array**	**48.42**	**343**	P		P		06 54 30.3	-0.1
	0.1nm,0.4s,baz=158,slow=8.7,SNR=2.2								

IDC ***23*** *06:53:00.5±3.1, 53.˚88N×88.˚29E, h0km, mb1 2.6/3, mb1mx2.6/40, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=26.7km s-min=17.8km az=64.0*

NNC ***23*** *06:53:01.9±3.7, 53.˚69N×88.˚23E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=28.0km s-min=15.4km az=99.0, Suspected Mining explosion.*

ISC 23 06:53:02.2±3.4, 53.˚8N±0.˚1×88.˚1E±0.˚2, h0km, n8, σ1.˚22/11, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**274**	*i*				07 06 40.0	
	baz=91,slow=335,SNR=2.1								
ZAA0	**Zalesovo Array**	**1.94**	**274**	⇑P		**Pb**		**06 53 37.6**	**-0.8**
	0.8nm,0.7s,baz=89,slow=12								
ZAA0				⇑S		**Sg**		**06 54 05.2**	**+0.7**
	3.2nm,0.5s,baz=96,slow=27								
ZALV	**Zalesovo Beam**	**1.94**	**274**	Pn		**Pn**		**06 53 37.2**	**+0.8**
	0.9nm,0.3s,baz=89,slow=12,SNR=19								
ZALV						Lg	Lg	06 54 05.8	
	3.9nm,0.3s,baz=95,slow=27,SNR=21								
KURK	**Kurchatov**	**6.60**	**246**	⇑Pn		**Pn**		**06 54 40.5**	**+0.1**
KURK	1.2nm,0.9s								
				⇑Sn		**Sn**		**06 55 55.4**	**-0.9**
KURK	1.0nm,0.6s								
				⇑Lg		Lg		06 56 29.9	
	3.5nm,1.0s								
KURBB	**Kurchatov Arra**	**6.70**	**245**	Pn		**Pn**		**06 54 41.5**	**-0.2**
	0.1nm,0.3s,baz=62,slow=14,SNR=5.7								
KURBB						Lg	Lg	06 56 34.8	
	0.1nm,0.3s,baz=66,slow=35,SNR=3.8								
KURBB	**Kurchatov Arra**	**6.70**	**245**	⇓Pn		**Pn**		**06 54 41.7**	**0.0**
KURBB	0.4nm,0.3s								
				⇑Sn		**Sn**		**06 55 59.0**	**+0.3**
KURBB	3.1nm,0.6s								
				⇑Lg		Lg		06 56 37.4	
	2.7nm,0.6s								
MK31	**Makanchi Array**	**7.97**	**210**	⇓Sn		**Sn**		**06 56 28.3**	**-1.7**
	0.9nm,0.8s,baz=32,slow=24,SNR=2.9								
MK31				⇓Lg		Lg		06 57 14.9	
	1.1nm,0.8s								
MKAR	**Makanchi Array**	**7.97**	**210**	Pn		**Pn**		**06 54 59.5**	**+0.2**
	0.1nm,0.3s,baz=27,slow=13,SNR=4.4								
MKAR						Sn		**06 56 32.5**	**+2.5**
	0.1nm,0.3s,baz=28,slow=23,SNR=5.6								
MKAR						Lg	Lg	06 57 15.4	
	0.1nm,0.3s,baz=28,slow=31,SNR=3.4								

IDC ***23*** *07:02:16.3±2.5, 54.˚24N×87.˚40E, h0km, mb1 3.2/3, mb1mx2.9/51, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=21.0km s-min=13.9km az=56.0*

NNC ***23*** *07:02:18.5±3.4, 54.˚11N×87.˚38E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=27.5km s-min=18.8km az=27.0, Suspected Mining explosion.*

ISC 23 07:02:18.4±4.1, 54.˚3N±0.˚2×87.˚1E±0.˚2, h0km, n9, σ2.˚20/15, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**259**	*i*				07 11 50.0	
	baz=81,slow=339,SNR=2.2								
ZAA0	**Zalesovo Array**	**1.39**	**258**	⇓P		**Pb**		**07 02 45.4**	**+0.2**
	0.9nm,0.3s								
ZAA0				⇓S		**Sn**		**07 03 07.8**	**+3.7**
	4.2nm,0.3s								
ZALV	**Zalesovo Beam**	**1.39**	**258**	Pg		**Pg**		**07 02 42.7**	**-2.3**
	2.1nm,0.3s,baz=82,slow=17,SNR=27								
ZALV						Lg	Lg	07 03 05.1	
	6.0nm,0.3s,baz=78,slow=26,SNR=17								
KURK	**Kurchatov**	**6.28**	**239**	⇓Pn		**Pn**		**07 03 55.5**	**+3.3**
	2.9nm,1.1s								
KURK				⇑Sn		**Sn**		**07 05 05.7**	**+1.0**
	0.6nm,0.4s								
KURK				⇑Lg		Lg		07 05 41.9	
	2.8nm,0.7s								
KURBB	**Kurchatov Arra**	**6.38**	**239**	Pn		**Pn**		**07 03 53.5**	**-0.1**
	0.1nm,0.3s,baz=54,slow=13,SNR=24								
KURBB						Sn		**07 05 08.6**	**+1.4**
	0.1nm,0.3s,baz=46,slow=27,SNR=6.8								
KURBB						Lg	Lg	07 05 45.9	
	0.1nm,0.3s,baz=59,slow=32,SNR=2.7								
KURBB	**Kurchatov Arra**	**6.38**	**239**	⇓Pn		**Pn**		**07 03 56.4**	**+2.8**
	1.3nm,0.3s								
KURBB				⇑Sn		**Sn**		**07 05 08.2**	**+1.0**
	3.9nm,0.5s								
KURBB				⇑Lg		Lg		07 05 46.1	
	7.5nm,0.8s								
MK31	**Makanchi Array**	**8.07**	**204**	⇑Pn		**Pn**		**07 04 18.5**	**+1.6**
	0.1nm,0.2s,baz=27,slow=14,SNR=10								
MK31				⇑Sn		**Sn**		**07 05 47.9**	**-0.9**
	0.6nm,0.5s,baz=30,slow=28,SNR=6.1								
MK31				⇑Lg		Lg		07 06 34.4	
	0.8nm,0.6s,baz=32,slow=28,SNR=4.4								
MKAR	**Makanchi Array**	**8.07**	**204**	Pn		**Pn**		**07 04 16.7**	**-0.1**
	0.2nm,0.3s,baz=27,slow=14,SNR=8.9								
MKAR						Sn		**07 05 48.3**	**-0.4**
	0.3nm,0.3s,baz=27,slow=28,SNR=7.6								
MKAR						Lg	Lg	07 06 35.5	
	0.2nm,0.3s,baz=25,slow=33,SNR=2.8								
BVAR	**Borovoye Array**	**10.02**	**270**	Pn		**Pn**		**07 04 43.6**	**+0.2**
	0.3nm,0.3s,baz=79,slow=11,SNR=3.2								
BVAR						Sn		**07 06 32.8**	**-3.6**
	0.4nm,0.3s,baz=70,slow=22,SNR=5.6								

IDC ***23*** *07:09:22.6±2.5, 9.˚80S×115.˚96E, h44km±20km, mb3.9/8, mb1 4.1/10, mb1mx3.7/36, mbtmp4.1/10, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.1/66, Error ellipse: s-maj=26.8km s-min=12.6km az=55.0*

DJA ***23*** *07:09:24.2±0.4, 10.˚3S±4.˚×11.˚6E±.˚, h44km±27km, M4.5/13, mb4.6/6, mB4.8/3, MLv4.5/13, Mw(mB)4.1/3*

ISC 23 07:09:22.3±0.7, 9.˚87S±0.˚08×116.˚03E±0.˚04, h35km, n26, σ2.˚50/33, mb4.1/7, MS3.8/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
IGBI	**Denpasar**	**1.36**	**320**	P		**Pn**		**07 09 46.5**	**+1.7**
IGBI						S	**Sn**	**07 09 59.7**	**-1.9**
PLAI	**Plampang**	**2.01**	**59**	P		**Pn**		**07 09 56.0**	**+2.3**
PLAI						S	**Sn**	**07 10 19.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**2.31**	**307**	P		**Pn**		**07 10 00.1**	**+2.1**
JAGI						S	**Sn**	**07 10 26.2**	**+1.0**
ABJI	**Asem Bagus**	**2.72**	**319**	P		**Pn**		**07 10 06.9**	**+3.4**
ABJI						S	**Sn**	**07 10 39.4**	**+4.3**
GMJI	**Gumukmas**	**3.00**	**302**	P		**Pn**		**07 10 09.7**	**+2.3**
GMJI						S	**Sn**	**07 10 44.4**	**+2.2**
BLJI	**Banyuglugur**	**3.20**	**311**	P		**Pn**		**07 10 12.9**	**+2.8**
BLJI						S	**Sn**	**07 10 50.4**	**+3.4**
WBSI	**Waikabubak, Su**	**3.32**	**86**	P		**Pn**		**07 10 15.3**	**+3.5**
GRJI	**Gresik**	**4.58**	**310**	P		**Pn**		**07 10 30.9**	**+1.8**
PCJI	**Pacitan**	**5.07**	**289**	P		**Pn**		**07 10 38.0**	**+2.1**
	1.4nm2μm45nm,0.7s								
BSSI	**Bau Bau, Buton**	**5.76**	**50**	P		**Pn**		**07 10 49.1**	**+3.8**
	0.2nm765nm27nm,0.5s								
UGM	**Wanagama**	**5.78**	**289**	P		**Pn**		**07 10 49.6**	**+4.0**
	1

central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.26**	**180**	*e*Pg	**Pg**	**07 48 26.7**	**-2.7**
DAMV	**Damavand**	**0.92**	**199**	*e*Pn	**Pg**	**07 48 39.7**	**-2.1**
IFIR	**Firoozkooh**	**0.93**	**159**	*e*Pg	**Pg**	**07 48 39.3**	**-2.6**
IDMV	**Damavand**	**0.96**	**195**	*e*Pg	**Pg**	**07 48 40.3**	**-2.2**
ISHM	**Shahmirzad**	**1.04**	**132**	*e*Pg	**Pg**	**07 48 41.7**	**-2.3**
TEHA	**Amirabad Tehra**	**1.08**	**226**	*e*Pg	**Pg**	**07 48 43.4**	**-1.4**
TEH	**Tehran**	**1.09**	**226**	*e*Pg	**Pg**	**07 48 42.8**	**-2.2**
TEH				*e*Sg	**Sg**	**07 48 59.1**	**-0.1**
CHTH	**Charan**	**1.15**	**239**	*e*Pn	**Pg**	**07 48 44.0**	**-2.1**
IGLO	**Ghaloghah**	**1.20**	**90**	*e*Pg	**Pb**	**07 48 45.7**	**-1.3**
ILAS	**Lasjerd**	**1.23**	**156**	*e*Pg	**Pn**	**07 48 45.2**	**-2.3**
ILAS				*e*		07 49 05.7	
	comp=Z,62μm,0.6s						
QALM	**Alamut, Qazvin**	**1.37**	**267**	*e*Pg	**Pn**	**07 48 48.0**	**-1.4**
QALM				*e*		07 49 12.0	
	comp=Z,25μm,0.5s						
IHSB	**Hasanabad**	**1.37**	**219**	*e*Pg	**Pn**	**07 48 48.0**	**-1.3**
IHSB				*e*Sg	**Sg**	**07 49 08.2**	**+0.1**
IMHD	**Mahdasht**	**1.58**	**239**	*e*Pg	**Pn**	**07 48 52.7**	**+0.5**
IVRN	**Varamin**	**1.59**	**198**	*e*Pn	**Pn**	**07 48 52.1**	**-0.1**
IVRN				*e*		07 48 55.8	
	comp=Z,18μm,0.4s						
IANJ	**Anjilo**	**1.65**	**129**	*e*Pg	**Pn**	**07 48 53.4**	**+0.2**
IANJ				*e*		07 49 20.9	
	comp=Z,41μm,0.2s						
IGZV	**Ghazvin**	**1.71**	**267**	*e*Pn	**Pn**	**07 48 54.5**	**+0.4**
IGZV				*e*		07 49 27.5	
	comp=Z,15μm,0.6s						
QCNT	**Qazvin**	**1.89**	**264**	*e*Pn	**Pb**	**07 48 58.3**	**-0.4**
IQOM	**Qom**	**1.96**	**212**	*e*Pn	**Pn**	**07 48 58.1**	**+0.6**
JIR1	**Jirandeh**	**2.05**	**276**	*e*Pn	**Pn**	**07 48 59.6**	**+0.9**
ISFB	**Sefidab**	**2.15**	**182**	*e*Pn	**Pn**	**07 49 00.6**	**+0.6**
ISFB				*e*		07 49 33.0	
	comp=Z,27μm,0.3s						
GHVR	**GHOM**	**2.19**	**203**	*e*Pn	**Pn**	**07 49 02.0**	**+1.4**
IRAZ	**Razeghan**	**2.24**	**241**	*e*Pn	**Pn**	**07 49 02.3**	**+0.9**
IRAZ				*e*		07 49 38.1	
	comp=Z,10μm,0.7s						
QABG	**Abgarm-Qazvin**	**2.37**	**251**	*e*Pn	**Pn**	**07 49 02.3**	**-0.9**
QABG				*e*		07 49 40.5	
	comp=Z,4μm,0.5s						
KRSH	**Karshahi**	**2.54**	**184**	*e*Pn	**Pn**	**07 49 06.2**	**+0.8**
IMND	**Minoodasht**	**2.57**	**72**	*e*		07 49 51.7	
	comp=Z,18μm,0.4s						
IMND				*e*Pn	**Pn**	**07 49 06.1**	**+0.4**
ASAO	**Ashtian**	**2.72**	**225**	*e*Pn	**Pn**	**07 49 08.8**	**+0.9**
QAMS	**Qamsar**	**2.87**	**196**	*e*Pn	**Pn**	**07 49 10.4**	**+0.4**
QAMS				*e*		07 49 56.3	
	comp=Z,6μm,0.5s						
ZNJK	**Zanjan**	**2.95**	**274**	*e*Pn	**Pn**	**07 49 12.6**	**+1.5**
SHRO	**Shahrood**	**3.01**	**99**	*e*Pn	**Pn**	**07 49 12.2**	**+0.3**
HAGD	**Aghdareh**	**3.10**	**238**	*e*Pn	**Pn**	**07 49 11.8**	**-1.4**
MRVT	**Maraveh tapeh**	**3.21**	**68**	*e*Pn	**Pn**	**07 49 14.6**	**0.0**
IKLH	**Kolahrood**	**3.24**	**191**	*e*Pn	**Pn**	**07 49 15.9**	**+0.7**
IKLH				*e*		07 50 11.1	
	comp=Z,5μm,0.8s						
KHMZ	**Khomeyn**	**3.38**	**216**	*e*Pn	**Pn**	**07 49 18.8**	**+1.8**
ASTR	**Astara**	**3.49**	**307**	P	**Pn**	**07 49 17.9**	**-0.4**
	SNR=3.0						
ASTR				S	**Sn**	**07 49 56.9**	**-2.7**
ANAR	**Anarak**	**3.50**	**161**	*e*Pn	**Pn**	**07 49 19.9**	**+1.3**
LKRN	**Lenkeran, Azer**	**3.58**	**309**	P	**Pn**	**07 49 19.7**	**+0.1**
	SNR=4.3						
LKRN				S	**Sn**	**07 49 59.1**	**-2.8**
IZEF	**Zefreh**	**3.60**	**180**	*e*Pn	**Pn**	**07 49 20.6**	**+0.5**
IZEF				*e*		07 50 27.2	
	comp=Z,4μm,1.1s						
NASN	**Na'in**	**3.72**	**174**	*e*Pn	**Pn**	**07 49 22.2**	**+0.4**
LRK	**Lerik**	**3.83**	**305**	P	**Pn**	**07 49 22.8**	**-0.3**
	SNR=4.8						
LRK				S	**Sn**	**07 50 06.7**	**-1.6**
ISRB	**Sarab**	**3.96**	**291**	*e*Pn	**Pn**	**07 49 25.8**	**+0.8**
IPIR	**Pirpir**	**4.00**	**198**	*e*		07 50 42.0	
	comp=Z,3μm,1.2s						
BMDN	**Meydan**	**4.04**	**227**	*e*Pn	**Pn**	**07 49 28.1**	**+2.1**
YRD	**Yardimli**	**4.04**	**308**	P	**Pn**	**07 49 25.5**	**-0.6**
	SNR=11						
YRD				S	**Sn**	**07 50 11.3**	**-2.3**
IGAR	**Gharneh**	**4.10**	**184**	*e*Pn	**Pn**	**07 49 28.9**	**+2.0**
GLBA	**Clilabad**	**4.15**	**312**	P	**Pn**	**07 49 26.9**	**-0.5**
	SNR=7.7						
GLBA				S	**Sn**	**07 50 13.8**	**-2.1**
BJRD	**Bojnurd**	**4.22**	**72**	*e*Pn	**Pn**	**07 49 29.2**	**+0.7**
SBZV	**Sabzevar**	**4.25**	**90**	*e*Pn	**Pn**	**07 49 30.2**	**+1.2**
TNSJ	**Nastanj**	**4.32**	**125**	*e*Pn	**Pn**	**07 49 30.7**	**+0.9**
ALIB	**Äli-Bayra**	**4.33**	**324**	P	**Pn**	**07 49 31.7**	**+1.8**
	SNR=4.7						
ALIB				S	**Sn**	**07 50 22.9**	**+2.5**
SHK1	**Shahrekord**	**4.34**	**197**	*e*Pn	**Pn**	**07 49 31.4**	**+1.2**
SHK1				*e*		07 49 52.5	
	comp=Z,2μm,1.0s						
IDOB	**Doab**	**4.36**	**233**	*e*Pn	**Pn**	**07 49 33.1**	**+2.6**
GOBA	**Gobu**	**4.39**	**333**	S	**Sn**	**07 50 21.5**	**-0.5**
NDR	**Nardaran**	**4.47**	**336**	S	**Sn**	**07 50 22.1**	**-1.7**
YZKH	**Yazd**	**4.51**	**155**	*e*Pn	**Pn**	**07 49 33.2**	**+0.8**
IBST	**Bostanabad**	**4.51**	**287**	*e*Pn	**Pn**	**07 49 33.3**	**+0.7**
SAAT	**Saatly**	**4.55**	**319**	S	**Sn**	**07 50 27.6**	**+1.7**
ISFR	**Sfrayin**	**4.58**	**81**	*e*Pn	**Pn**	**07 49 35.2**	**+1.7**
ICHK	**Chekchek**	**4.58**	**157**	*e*Pn	**Pn**	**07 49 34.1**	**+0.5**
IHRS	**Heris**	**4.59**	**295**	*e*Pn	**Pn**	**07 49 34.9**	**+1.3**
IBRJ	**Brojen**	**4.67**	**191**	*e*Pn	**Pn**	**07 49 37.3**	**+2.4**
IRAM	**Ramesheh**	**4.69**	**180**	*e*Pn	**Pn**	**07 49 37.0**	**+2.0**
GBS	**Qobustan**	**4.82**	**328**	P	**Pn**	**07 49 38.0**	**+1.2**
GBS				S	**Sn**	**07 50 33.3**	**+0.6**
GEYT	**Alibeck**	**4.83**	**71**	Pn	**Pn**	**07 49 37.8**	**+1.0**
	comp=Z,4.7nm,0.3s,baz=252,slow=13,SNR=36						
GEYT				Sn	**Sn**	**07 50 33.4**	**+0.7**
	comp=Z,17nm,0.3s,baz=251,slow=26,SNR=7.7						
GEYT				LR	LR	07 51 43.5	
	comp=Z,328nm,18.7s,baz=283,slow=41						
GEYT	**Allbeck**	**4.83**	**71**	Pn	**Pn**	**07 49 38.1**	**+1.4**
GYA0B	**ALIBECK ARRAY**	**4.83**	**71**	Pn	**Pn**	**07 49 38.5**	**+1.8**
TABS	**Tabas**	**4.85**	**125**	*e*Pn	**Pn**	**07 49 38.1**	**+1.0**
TKDS	**Koohdasht(Taba**	**4.87**	**125**	*e*Pn	**Pn**	**07 49 38.3**	**+0.9**
QRD	**Qoradiz**	**4.94**	**308**	P	**Pn**	**07 49 38.8**	**+0.5**
	SNR=3.3						
QRD				S	**Sn**	**07 50 34.7**	**-0.8**
BLQ	**Beylaqan**	**4.95**	**312**	P	**Pn**	**07 49 38.0**	**-0.4**
	SNR=4.6						
BLQ				S	**Sn**	**07 50 34.1**	**-1.6**
TPRV	**Parvadeh(Tabas**	**4.98**	**133**	*e*Pn	**Pn**	**07 49 40.6**	**+1.6**
ATGJ	**Altiaghaj**	**5.10**	**330**	P	**Pn**	**07 49 41.9**	**+1.4**
	SNR=5.4						
ATGJ				S	**Sn**	**07 50 38.5**	**-1.0**
PQL	**Pirkuli**	**5.18**	**327**	P	**Pn**	**07 49 42.4**	**+0.6**
	SNR=15						
PQL				S	**Sn**	**07 50 40.3**	**-1.4**
IAZR	**Azarshahr**	**5.22**	**285**	*e*Pn	**Pn**	**07 49 44.3**	**+2.0**
ZRD	**Zardab**	**5.25**	**317**	P	**Pn**	**07 49 43.1**	**+0.6**
	SNR=7.5						
ZRD				S	**Sn**	**07 50 42.4**	**-0.6**
SIZA	**Siyzn**	**5.29**	**331**	P	**Pn**	**07 49 44.4**	**+1.2**
	SNR=14						
SIZA				S	**Sn**	**07 50 42.7**	**-1.7**
IPAY	**Payeh**	**5.36**	**89**	*e*Pn	**Pn**	**07 49 46.0**	**+1.7**
IML	**Ismayilli**	**5.38**	**324**	P	**Pn**	**07 49 43.4**	**-0.9**
IML				S	**Sn**	**07 50 43.5**	**-2.8**
IMEH	**Mehriz**	**5.44**	**159**	*e*Pn	**Pn**	**07 49 46.4**	**+1.0**
AMIS	**Naft Sefid**	**5.45**	**209**	*e*Pn	**Pn**	**07 49 48.4**	**+3.1**
AGDM	**Agdam**	**5.46**	**313**	P	**Pn**	**07 49 45.4**	**-0.1**
	SNR=5.1						
AGDM				P	**Pn**	**07 49 45.4**	**-0.1**
	SNR=5.1						
AGDM				S	**Sn**	**07 50 47.5**	**-0.9**
AGDM				S	**Sn**	**07 50 47.5**	**-0.9**
BRDA	**Brd**	**5.52**	**314**	S	**Sn**	**07 50 49.5**	**-0.3**
ORD	**Ordubad**	**5.58**	**298**	P	**Pn**	**07 49 49.1**	**+2.0**
	SNR=15						
ORD				S	**Sn**	**07 50 51.5**	**+0.2**
QBL	**Gabala**	**5.66**	**323**	P	**Pn**	**07 49 48.3**	**+0.2**
	SNR=6.1						
QBL				S	**Sn**	**07 50 49.6**	**-3.7**
QUBA	**Quba, Azerbaij**	**5.69**	**329**	P	**Pn**	**07 49 49.5**	**+0.8**
	SNR=12						
QUBA				S	**Sn**	**07 50 51.1**	**-3.0**
XNQ	**Khinaliq**	**5.70**	**326**	P	**Pn**	**07 49 49.0**	**+0.1**
	SNR=15						
XNQ				S	**Sn**	**07 50 51.4**	**-3.0**
IMRD	**Marand**	**5.71**	**295**	*e*Pn	**Pn**	**07 49 50.9**	**+1.9**
IKRD	**Kardeh**	**5.78**	**85**	*e*Pn	**Pn**	**07 49 51.8**	**+1.8**
MNGR	**Mingechevir, A**	**5.92**	**318**	S	**Sn**	**07 50 57.7**	**-1.9**
QSAR	**Qusar**	**5.92**	**329**	P	**Pn**	**07 49 52.4**	**+0.6**
	SNR=8.3						
QSAR				S	**Sn**	**07 50 56.2**	**-3.5**
SEKA	**Sheki**	**6.17**	**321**	P	**Pn**	**07 49 54.4**	**-0.9**
	SNR=11						
SEKA				S	**Sn**	**07 51 03.2**	**-2.8**
IMYA	**Miami**	**6.26**	**89**	*e*Pn	**Pn**	**07 49 57.7**	**+1.1**
GANJ	**Ganja**	**6.27**	**313**	P	**Pn**	**07 49 56.1**	**-0.4**
	SNR=9.3						
GANJ				S	**Sn**	**07 51 04.5**	**-3.7**
AFRZ	**Afriz**	**6.28**	**117**	*e*Pn	**Pn**	**07 49 58.1**	**+1.2**
ITEG	**Tejag**	**6.39**	**122**	*e*Pn	**Pn**	**07 50 00.0**	**+1.6**
JRKH	**Jarkhoshk**	**6.50**	**93**	*e*Pn	**Pn**	**07 50 01.2**	**+1.3**
TBJM	**Torbat-e-JAM**	**6.60**	**98**	*e*Pn	**Pn**	**07 50 02.9**	**+1.6**
GDB	**GEDABAY**	**6.65**	**311**	P	**Pn**	**07 50 02.2**	**+0.2**
	SNR=9.7						
GDB				S	**Sn**	**07 51 15.6**	**-2.3**
ZKTA	**Zakatala**	**6.78**	**321**	P	**Pn**	**07 50 04.3**	**+0.7**
	SNR=8.7						
ZKTA				S	**Sn**	**07 51 18.6**	**-2.3**
IMON	**Monand**	**6.87**	**117**	*e*Pn	**Pn**	**07 50 06.3**	**+1.3**
GNI	**Garni**	**6.99**	**304**	Pn	**Pn**	**07 50 09.8**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=201,slow=14,SNR=1.8						
GNI	**Garni**	**6.99**	**304**	Pn	**Pn**	**07 50 04.1**	**-2.5**
KHGB	**Koh Gabri**	**7.02**	**149**	*e*Pn	**Pn**	**07 50 06.9**	**-0.2**
QZX	**Qazax, Azerbai**	**7.09**	**312**	P	**Pn**	**07 50 08.9**	**+1.1**
	SNR=7.6						
QZX				S	**Sn**	**07 51 26.6**	**-1.8**
BSRN	**Basiran**	**7.22**	**127**	*e*Pn	**Pn**	**07 50 10.8**	**+1.1**
MAK	**Makhachkala**	**7.44**	**331**	*e*P	Pn	07 50 07.3	-5.3
MAK				*e*S	**Sn**	**07 51 30.2**	**-6.8**
MAK				pmax	pmax		
	comp=Z,249nm,1.1s						
MAK				MLR	MLR		
	comp=Z,297nm,14.0s						
AHBU	**AHRAM**	**7.67**	**187**	*e*Pn	**Pn**	**07 50 16.7**	**+0.9**
NHDN	**Nehbandan**	**8.19**	**126**	*e*Pn	**Pn**	**07 50 24.3**	**+1.3**
GROC	**Groznyy**	**8.37**	**325**	*e*P	**Pn**	**07 50 23.4**	**-1.9**
GROC				*e*		07 51 58.6	
GROC				pmax	pmax		
	comp=Z,17nm,0.3s						
GROC				smax	smax		
	comp=E,28nm,0.6s						
GROC				smax	smax		
	comp=N,54nm,0.7s						
GROC				MLR	MLR		
	comp=Z,22nm,5.0s						
ONI	**Oni**	**9.16**	**314**	P	**Pn**	**07 50 36.1**	**-0.2**
ONI	**Oni**	**9.16**	**314**		**Pn**	**07 50 36.1**	**-0.2**
GENO	**Geno**	**9.64**	**159**	*e*Pn	**Pn**	**07 50 44.7**	**+1.7**
KBZ	**Khabaz**	**10.21**	**318**	Pn	**Pn**	**07 50 51.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=129,slow=6.5,SNR=1.8						
KBZ				Sn	**Sn**	**07 52 40.5**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=160,slow=15,SNR=2.2						
KIV	**Kislovodsk**	**10.47**	**318**	*e*P	**Pn**	**07 50 54.4**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,34nm,10.0s						
SOC	**Sochi**	**11.97**	**310**	*e*P	**Pn**	**07 51 11.8**	**-2.8**
SOC				*e*		07 53 25.5	
SOC				MLR	MLR		
	comp=Z,141nm,16.0s						
ABKAR	**Akbulak array**	**13.90**	**21**	Pn	**Pn**	**07 51 38.2**	**-2.7**
RAYN	**Ar Rayn**	**14.22**	**206**	P	**Pn**	**07 51 48.4**	**+2.8**
RAYN	**Ar Rayn**	**14.22**	**206**	Pn	**Pn**	**07 51 48.4**	**+2.8**
WSAR	**Wadi Sarin**	**14.30**	**156**	LR	LR	07 57 39.5	
	comp=Z,177nm,20.6s,baz=360,slow=39						
MMAI	**Mount Meron Ar**	**14.35**	**261**	LR	LR	07 57 38.3	
	comp=Z,57nm,21.8s,baz=232,slow=39						
GAR	**Garm**	**14.44**	**75**	Pn	**Pn**	**07 51 46.6**	**-1.9**
AKTO	**Aktyubinsk**	**14.51**	**15**	Pn	**Pn**	**07 51 45.2**	**-4.1**
	comp=Z,0.6nm,0.3s,baz=201,slow=6.6,SNR=9.1						
AKTO				Sn	Sn	07 54 18.6	-12
	comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=6.8						
IUG	**Iuzhnay**	**14.80**	**62**	*e*P	**P**	**07 51 59.7**	**+0.3**
BTK	**Batken**	**14.94**	**71**	P	**Pn**	**07 51 54.3**	**-1.0**
BTK	**Batken**	**14.94**	**71**		**Pn**	**07 51 54.3**	**-1.0**
BRTR	**Keskin Array B**	**15.07**	**288**	Pn	**P**	**07 52 01.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=91,slow=6.4,SNR=9.5						
KKAR	**Karatay Array**	**15.43**	**59**	P	**Pn**	**07 51 59.8**	**-1.9**
KKAR	**Karatay Array**	**15.43**	**59**		**Pn**	**07 51 59.8**	**-1.9**
VRH	**Novokhopyorsk**	**16.54**	**336**	*e*P	**P**	**07 52 17.6**	**-0.9**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**18.12**	**63**	P	**P**	**07 52 36.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=244,slow=14,SNR=5.2						
AAK				LR	LR	08 00 40.5	
	comp=Z,81nm,19.3s,baz=262,slow=40						
AAK	**Ala-Archa**	**18.12**	**63**	P	**Pn**	**07 52 36.1**	**+0.2**
SGDS	**Sogindy**	**18.41**	**61**	*e*P	**P**	**07 52 36.9**	**-2.4**
LPSR	**Galich'ya Gora**	**18.66**	**334**	*e*P	**P**	**07 52 40.0**	**-1.9**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
KSH	**Kashi**	**18.85**	**74**	P	**P**	**07 52 40.0**	**-4.3**
KSH				pP	Pn	07 52 45.4	+0.6
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BOOM	**Boomskoye usch**	**19.14**	**65**	P	**P**	**07 52 46.6**	**-0.9**
BOOM				pmax	pmax		
	comp=Z,14nm,1.5s						
BOOM	**Boomskoye usch**	**19.14**	**65**	P	**P**	**07 52 46.6**	**-0.9**
BOOM				lAmb	lAmb	07 52 52.8	
	comp=Z,14nm,1.5s						
BRZS	**Berezniki**	**19.94**	**41**	*e*P	**P**	**07 52 55.7**	**-0.2**
KDJ	**Kajisay**	**19.99**	**66**	P	**P**	**07 52 57.6**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KDJ	**Kajisay**	**19.99**	**66**	P	**P**	**07 52 57.6**	**+0.8**
KDJ				lAmb	lAmb	07 53 02.5	
	comp=Z,8.9nm,1.1s						
ARU	**Arti**	**20.37**	**10**	P	**P**	**07 53 01.3**	**+0.8**
	comp=Z,2.7nm,0.4s,baz=198,slow=8.4,SNR=15						
ARU	**Arti**	**20.37**	**10**	*d* *i* P	**P**	**07 53 00.5**	**0.0**
ARU						07 53 16.2	
ARU				S	Sn	07 56 50.7	-1.2
ARU				SS	**SnSn**	**07 57 09.9**	**+3.4**
ARU				pmax	pmax		
	comp=Z,13nm,0.7s						
ARU				MLR	MLR		
	comp=Z,189nm,17.0s						
ARU	**Arti**	**20.37**	**10**	P	**P**	**07 52 59.9**	**-0.6**
ARU				lAmb	lAmb	07 53 03.6	
	comp=Z,14nm,0.7s						
TARG	**Taragay, Kyrgy**	**20.40**	**67**		**P**	**07 53 00.3**	**-1.2**
TARG				lAmb	lAmb	07 53 05.5	
	comp=Z,6.5nm,1.0s						
BRVK	**Borovoye**	**20.79**	**32**	*ce*P	**P**	**07 53 06.0**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,25nm,1.3s						
BRVK	**Borovoye**	**20.79**	**32**		**P**	**07 53 04.0**	**-1.1**
BVAR	**Borovoye Array**	**20.81**	**32**	P	**P**	**07 53 06.2**	**+0.9**
	comp=Z,11nm,1.0s,baz=249,slow=7.1,SNR=16						
UZB	**Uzynbulak**	**21.48**	**64**	*e*P	**P**	**07 53 12.6**	**-0.3**
OBN	**Obninsk**	**21.52**	**335**	*e*P	**P**	**07 53 12.7**	**-0.2**
OBN				*e*		07 53 33.4	
OBN				pmax	pmax		
	comp=Z,47nm,1.7s						
MOS	**Moscow**	**21.69**	**337**	*e*P	**P**	**07 53 19.0**	**+4.3**
MOS				*e*		07 53 41.2	
MLR	**Muntele Rosu**	**21.77**	**303**	P	**P**	**07 53 15.7**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=170,slow=11,SNR=6.0						
MLR	**Muntele Rosu**	**21.77**	**303**	P	**P**	**07 53 17.1**	**+1.2**
MLR				pmax	pmax		
	comp=Z,11nm,1.1s						
MLR	**Muntele Rosu**	**21.77**	**303**	P	**P**	**07 53 17.1**	**+1.2**
MLR				lAmb	lAmb	07 53 22.0	
	comp=Z,11nm,1.1s						
AKASG	**Malin Array Be**	**21.82**	**318**	P	**P**	**07 53 15.3**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=124,slow=11,SNR=11						
AKASG				LR	LR	08 02 55.6	
	comp=Z,68nm,20.0s,baz=120,slow=40						
AKASG	**Malin Array Be**	**21.82**	**318**	*i* P	**P**	**07 53 15.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**21.82**	**318**	*ce*P	**P**	**07 53 15.8**	**-0.4**
AKBB	**Malin Array Si**	**21.82**	**318**	P	**P**	**07 53 15.2**	**-1.1**
AKBB				lAmb	lAmb	07 53 18.2	
	comp=Z,18nm,1.5s						
KIRV	**Kirov**	**22.18**	**356**	LR	LR	08 04 52.8	
	comp=Z,84nm,18.7s,baz=196,slow=45						
BURAR	**Bucovina Array**	**22.88**	**307**	P	**P**	**07 53 26.3**	**-1.3**
KURBB	**Kurchatov Arra**	**23.49**	**45**	P	**P**	**07 53 35.0**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=247,slow=9.7,SNR=20						
KURBB				LR	LR	08 04 09.8	
	comp=Z,201nm,19.9s,baz=221,slow=40						
KURK	**Kurchatov**	**23.58**	**45**	*ce*P	**P**	**07 53 36.4**	**+1.7**
KURK				pmax	pmax		
	comp=Z,20nm,1.7s						
KURK	**Kurchatov**	**23.58**	**45**	P	**P**	**07 53 34.9**	**+0.3**
MK31	**Makanchi Array**	**24.49**	**56**	P	**P**	**07 53 44.2**	**+0.9**
MK31				pmax	pmax		
	comp=Z,16nm,1.5s						
MK31	**Makanchi Array**	**24.49**	**56**	P	**P**	**07 53 44.2**	**+0.9**
MKAR	**Makanchi Array**	**24.49**	**56**	P	**P**	**07 53 44.0**	**+0.7**
	comp=Z,6.2nm,1.0s,baz=248,slow=6.4,SNR=17						
MKAR				LR	LR	08 05 10.3	
	comp=Z,116nm,18.2s,baz=236,slow=41						
MKAR	**Makanchi Array**	**24.49**	**56**	*i* P	**P**	**07 53 44.5**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**24.49**	**56**	P	**P**	**07 53 42.8**	**-0.5**
MNK	**Minsk**	**24.64**	**325**	*i* P	**P**	**07 53 44.8**	**+0.3**
MNK				*i* PPP	PPP	07 54 24.0	
MNK				*i*		07 57 22.1	
MNK				*i* S	**S**	**07 58 06.5**	**+0.8**
MNK				*i* SS	**SnSn**	**07 58 53.3**	**+2.2**
MNK				*i* SSS	SSS	07 59 07.0	
MNK				pmax	pmax		
	comp=E,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,20nm,0.7s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,58nm,16.0s						
MNK				MLR	MLR		
	comp=N,244nm,16.0s						
MNK				MLR	MLR		
	comp=E,28nm,15.0s						
MNK	**Minsk**	**24.64**	**325**	*i* P	**P**	**07 53 44.8**	**+0.3**
	comp=E,4.0nm,0.8s						
MNK				*i* P	**P**	**07 53 44.8**	**+0.3**
	comp=N,9.0nm,0.7s						
MNK				*i* P	**P**	**07 53 44.8**	**+0.3**
	comp=Z,20nm,0.7s,baz=125						
MNK				*i* PP	**PnPn**	**07 54 16.1**	**+0.1**
MNK				*i* PPP	PPP	07 54 24.1	
MNK				*i* S	**S**	**07 58 06.6**	**+0.8**
MNK				*i* SS	**SnSn**	**07 58 53.4**	**+2.2**
MNK				*i* SSS	SSS	07 59 07.0	
MNK				*i* LQ	LQ	08 01 25.9	
MNK				*i* LR	LR	08 03 18.2	
MNK				*i* LRM	MLR	08 04 30.4	
	comp=Z,58nm,16.0s						
MNK				*i* LRM	MLR	08 04 50.8	
	comp=N,244nm,15.9s						
MNK				*i* LRM	MLR	08 04 51.5	
	comp=E,28nm,15.3s						
KLMR	**Klimovskoe**	**25.70**	**345**	*e*P	**P**	**07 53 53.0**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,21nm,1.2s						
KLMR	**Klimovskoe**	**25.70**	**345**	*e*P	**P**	**07 53 53.0**	**-1.0**
KLMR				AMP		07 53 56.9	
	comp=Z,21nm,1.2s						
ATD	**Arta Tunnel**	**26.30**	**201**	LR	LR	08 05 09.7	
	comp=Z,92nm,18.9s,baz=6.5,slow=38						
WMQ	**Urumqi**	**27.83**	**64**	*e*P	**P**	**07 54 16.3**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**28.41**	**42**	P	**P**	**07 54 18.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=245,slow=9.4,SNR=7.6						
ZALV				LR	LR	08 07 25.5	
	comp=Z,117nm,19.7s,baz=244,slow=40						
ZALV	**Zalesovo Beam**	**28.41**	**42**	P	**P**	**07 54 18.7**	**+0.2**
VRAC	**Vranov**	**28.86**	**308**	LR	LR	08 09 09.3	
	comp=Z,107nm,18.3s,baz=92,slow=43						
FINES	**FINESS Array B**	**29.93**	**335**	P	**P**	**07 54 32.3**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=206,slow=9.3,SNR=2.1						
GOMU	**GeErMu**	**34.01**	**78**	P	**P**	**07 55 09.0**	**+0.6**
GOMU				pP	sP	07 55 12.8	+0.1
GOMU				sP	pP	07 55 16.8	+5.3
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GOMU				p

comp=Z,6.0nm,1.7s
BILL Bilibino 64.79 22*c i*P P 07 59 03.5 +1.1
BILL *i* 07 59 37.7
BILL *e* 08 01 29.1
BILL *e*S **PnS 08 08 14.1 +14**
BILL *e*SS SS 08 11 56.3 +3.2
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL MLR MLR
comp=Z,44nm,15.0s
ASAJ Asahikawa 65.90 52 LR LR 08 30 16.0
comp=Z,50nm,18.5s,baz=301,slow=38
BOSA Boshof 69.60 205 LR LR 08 30 34.3
comp=Z,79nm,18.1s,baz=141,slow=36
FRB Frobisher Bay 69.72 336 LR LR 08 32 00.4
comp=Z,50nm,18.7s,baz=310,slow=38
PETK Petropavlovsk- 69.88 38 LR LR 08 32 39.3
comp=Z,46nm,18.9s,baz=267,slow=38
SUR Sutherland 74.61 207 LR LR 08 33 34.4
comp=Z,95nm,21.2s,baz=106,slow=36
INK Inuvik 75.41 2 LR LR 08 42 34.5
comp=Z,18nm,18.1s,baz=83,slow=43
SHEM Shemya Is, Ala 77.74 32 LR LR 08 38 01.4
comp=Z,42nm,18.3s,baz=323,slow=38
ILAR Eielson Array 77.93 8 P **P 08 00 22.1 +0.3**
comp=Z,0.9nm,0.8s,baz=336,slow=4.6,SNR=9.2
YKA Yellowknife Ar 80.78 354 P **P 08 00 37.4 0.0**
comp=Z,1.2nm,0.9s,baz=5.5,slow=6.2,SNR=16
YKA LR LR 08 42 41.2
comp=Z,27nm,18.0s,baz=302,slow=40
TKL Tuckaleechee C 97.42 325 LR LR 08 50 35.4
comp=Z,24nm,19.2s,baz=12,slow=38

*IDC **23** 07:51:42.6±0.9, 15°.81N×85°.28W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.6/40, mbtmp3.6/8, ML2.9/3, MS3.0/2, Ms1 3.1/2, ms1mx2.5/47, Error ellipse: s-maj=26.8km s-min=17.5km az=68.0*
ISC 23 07:51:44.6±0.7, 15°.93N±0°.09×85°.20W±0°.09, h10km, n12, σ0s88/13, mb3.5/5, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**5.61**	**177**	Pn	**Pn**	**07 53 07.7**	**-0.4**
	1.1nm,0.3s,baz=32,slow=19,SNR=1.7						
JTS				Pg	**Pb**	**07 53 22.6**	**-0.1**
	3.8nm,0.3s,baz=60,slow=8.1,SNR=8.2						
JTS				Lg	Lg	07 54 34.2	
	5.9nm,0.3s,baz=258,slow=17,SNR=6.6						
JTS				LR	LR	07 55 39.9	
	comp=Z,103nm,20.7s,baz=9.5,slow=43						
CMIG	**Matias Romero**	**9.36**	**278**	Pn	**Pn**	**07 53 60.0**	**+0.4**
	0.2nm,0.3s,baz=168,slow=7.0,SNR=1.8						
CMIG				Sn	**Sn**	**07 55 46.0**	**+1.0**
	0.1nm,0.3s,baz=90,slow=20,SNR=1.5						
SDV	**Santo Domingo**	**15.85**	**114**	Pn	**Pn**	**07 55 28.7**	**+0.5**
	0.1nm,0.3s,baz=292,slow=19,SNR=2.0						
TXAR	**Lajitas Array**	**21.60**	**311**	P	**P**	**07 56 32.9**	**-2.0**
	0.4nm,0.6s,baz=124,slow=13,SNR=2.3						
LPAZ	**La Paz**	**36.17**	**151**	LR	LR	08 13 38.9	
	comp=Z,36nm,18.2s,baz=200,slow=36						
YKA	**Yellowknife Ar**	**50.90**	**343**	P	**P**	**08 00 45.5**	**-0.1**
	0.4nm,0.7s,baz=139,slow=7.6,SNR=8.0						
ILAR	**Eielson Array**	**63.77**	**335**	P	**P**	**08 02 16.7**	**+0.2**
	1.0nm,0.7s,baz=120,slow=5.0,SNR=11						
ESDC	**Sonseca Array**	**73.35**	**53**	P	**P**	**08 03 17.8**	**+0.9**
	0.8nm,0.7s,baz=292,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**83.55**	**78**	P	**P**	**08 04 13.6**	**0.0**
	0.2nm,0.6s,baz=204,slow=5.7,SNR=1.3						
WRA	**Warramunga Arr**	**142.23**	**258**	PKhKP	PKPpre	08 11 13.9	
	0.4nm,0.8s,baz=47,slow=1.1,SNR=2.9						
WRA				PKP	**PKPdf**	**08 11 18.5**	**+0.3**
	0.2nm,0.6s,baz=88,slow=3.4,SNR=2.1						
ASAR	**Alice Springs**	**142.50**	**252**	PKhKP	PKPpre	08 11 14.0	
	0.5nm,0.7s,baz=104,slow=3.0,SNR=1.4						
ASAR				PKP	**PKPdf**	**08 11 18.8**	**+0.1**
	0.5nm,0.9s,baz=113,slow=2.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**145.59**	**353**	PKPbc	**PKPdf**	**08 11 22.9**	**-1.2**
	2.0nm,0.3s,baz=334,slow=3.4,SNR=6.6						

*JMA **23** 07:56:23.4±0.1, 38°.36N×141°.66E, h53km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs10.00000°, δ62.00000°, λ81.00000°. NP2: φs210.00000°, δ29.00000°, λ108.00000°. Principal axes: T Plg71.0000°, Azm259.0000°; N Plg8.0000°, Azm14.0000°; P Plg17.0000°, Azm107.0000°;*
JMA Felt II J1.
*NIED **23** 07:56:23.4, 38°.36N×141°.66E, h53km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.78; Mθθ-0.64; Mφφ-4.14; Mrθ1.35; Mθφ-0.60; Mφr4.37; Fault plane solution: M₀6.42000×10¹⁴ NP1: φs15.00000°, δ68.00000°, λ93.00000°. NP2: φs186.00000°, δ23.00000°, λ82.00000°.*
*IDC **23** 07:56:24.4±1.0, 38°.28N×141°.76E, h71km±6km, mb3.6/11, mb1 3.7/16, mb1mx3.5/62, mbtmp3.9/16, MS2.8/6, Ms1 2.8/6, ms1mx2.5/84 Error ellipse: s-maj=22.1km s-min=10.3km az=90.0*
ISC 23 07:56:22.7±0.8, 38°.33N±0°.04×141°.74E±0°.08, h52km±5km, n40, σ0s76/51, mb3.9/11, 2C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**0.21**	**265**	↑P	**Pn**	**07 56 31.9**	**+0.5**
JIKH				S	**Sn**	**07 56 37.7**	**+0.1**
JIO	**Ouri**	**0.33**	**293**	↓P	**Pn**	**07 56 32.6**	**+0.3**
JIO				S	**Sn**	**07 56 38.9**	**-0.3**
JKMT	**Kesennumamotoy**	**0.52**	**337**	↓P	**Pn**	**07 56 34.6**	**+0.2**
JKMT				*i* S	**Sn**	**07 56 42.3**	**-0.5**
JOFO	**Osakifurukawao**	**0.70**	**293**	↓P	**Pn**	**07 56 36.7**	**+0.1**
JOFO				S	**Sn**	**07 56 47.1**	**+0.4**
JMK	**Ichinoseki**	**0.74**	**327**	↓P	**Pn**	**07 56 37.3**	**+0.2**
JMK				S	**Sn**	**07 56 47.0**	**-0.6**
OFUJ	**Ofunato**	**0.75**	**356**	↑P	**Pn**	**07 56 37.4**	**+0.1**
OFUJ				S	**Sn**	**07 56 47.2**	**-0.6**
JOU	**Okura**	**0.84**	**273**	↓P	**Pn**	**07 56 38.5**	**0.0**
JOU				S	**Sn**	**07 56 49.7**	**-0.3**
JMM	**Marumori**	**0.88**	**239**	↓P	**Pn**	**07 56 38.8**	**-0.1**
JMM				S	**Sn**	**07 56 49.9**	**-0.8**
JFK	**Kawauchi**	**1.18**	**216**	↓P	**Pn**	**07 56 43.3**	**+0.3**
JFK				S	**Sn**	**07 56 57.9**	**-0.1**
JOM	**Ohasama**	**1.20**	**343**	↓P	**Pn**	**07 56 43.2**	**+0.1**
JOM				S	**Sn**	**07 56 58.5**	**+0.2**
JYK	**Kaneyama**	**1.23**	**299**	↓P	**Pn**	**07 56 43.6**	**0.0**
JYS	**Shirataka**	**1.32**	**266**	↓P	**Pn**	**07 56 45.1**	**+0.3**
JYS				S	**Sn**	**07 57 01.4**	**0.0**
JRG	**Rokugo**	**1.37**	**321**	↓P	**Pn**	**07 56 45.8**	**+0.3**
JFT	**Otama**	**1.37**	**234**	↓P	**Pn**	**07 56 46.1**	**+0.6**
JFT				S	**Sn**	**07 57 03.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.33**	**239**	P	**Pn**	**07 57 14.5**	**+2.2**
	1.6nm,0.3s,baz=34,slow=14,SNR=45						
MJAR				LR	LR	07 58 45.3	
	comp=Z,91nm,21.3s,baz=81,slow=42						
JHJ	**Hachijo jima 2**	**5.43**	**198**	P	**Pn**	**07 57 40.5**	**-0.7**
	3.9nm,0.3s,baz=72,slow=20,SNR=1.1						
JHJ				S	**Sn**	**07 58 40.5**	**-1.9**
	13nm,0.3s,baz=67,slow=22,SNR=1.3						
ASAJ	**Asahikawa**	**5.82**	**6**	P	**Pn**	**07 57 47.0**	**+0.6**
	0.9nm,0.3s,baz=274,slow=17,SNR=4.6						
ASAJ				S	**Sn**	**07 58 52.5**	**+0.7**
	0.8nm,0.3s,baz=132,slow=26,SNR=1.4						
ASAJ				LR	LR	08 00 22.1	
	comp=Z,45nm,21.6s,baz=128,slow=40						
USRK	**Ussuriysk Ar.**	**9.39**	**312**	P	**Pn**	**07 58 36.0**	**+0.7**
	baz=124,slow=14,SNR=11						
USRK	**Ussuriysk Ar.**	**9.39**	**312**	P	**Pn**	**07 58 36.0**	**+0.7**
KSRS	**Korea Array**	**10.95**	**270**	P	**Pn**	**07 58 57.9**	**+1.2**
	0.5nm,0.3s,baz=80,slow=15,SNR=3.3						
KLR	**Kul'dur**	**13.06**	**330**	LR	LR	08 03 46.6	
	comp=Z,55nm,18.2s,baz=216,slow=34						
PETK	**Petropavlovsk-**	**18.45**	**32**	LR	LR	08 08 42.3	
	comp=Z,26nm,19.6s,baz=280,slow=40						
MA2	**Magadan**	**22.04**	**12**	LR	LR	08 10 48.4	
	comp=Z,36nm,18.1s,baz=214,slow=39						
SONM	**Songino Array**	**27.30**	**302**	P	**P**	**08 02 02.9**	**+0.4**
	0.3nm,0.5s,baz=78,slow=8.0,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.61**	**123**	T	T	08 32 35.1	
	baz=316,slow=75,SNR=467						
H11N1	**WAKE ISLAND Hy**	**28.62**	**123**	T	T	08 32 32.9	
	baz=316,slow=75,SNR=466						
H11N3	**WAKE ISLAND Hy**	**28.63**	**123**	T	T	08 32 33.5	
	baz=316,slow=75,SNR=418						
H11S1	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	08 33 28.8	
	baz=318,slow=76,SNR=128						
H11S3	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	08 33 27.9	
	baz=318,slow=76,SNR=129						
H11S2	**WAKE ISLAND Hy**	**29.39**	**125**	T	T	08 33 35.1	
	baz=318,slow=76,SNR=122						
ZALV	**Zalesovo Beam**	**41.24**	**311**	P	**P**	**08 04 02.2**	**-0.2**
	2.0nm,0.5s,baz=82,slow=5.9,SNR=7.5						
ZALV				pP	**sP**	**08 04 21.1**	**-1.2**
	2.7nm,0.7s,baz=90,slow=7.4,SNR=5.7						
ZALV				PcP	**PcP**	**08 06 00.1**	**-0.2**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.3						
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**08 04 22.1**	**-0.1**
	2.5nm,0.8s,baz=87,slow=9.9,SNR=24						
MKAR				pP	**sP**	**08 04 40.9**	**-1.1**
	1.4nm,0.8s,baz=83,slow=9.9,SNR=7.2						
KURBB	**Kurchatov Arra**	**45.42**	**307**	P	**P**	**08 04 35.6**	**-0.5**
	6.9nm,0.7s,baz=82,slow=8.2,SNR=66						
KURBB				pP	**sP**	**08 04 54.8**	**-1.3**
	6.8nm,0.7s,baz=83,slow=8.4,SNR=14						
KURBB				PcP	**PcP**	**08 06 13.5**	**-1.0**
	0.1nm,0.5s,baz=75,slow=8.1,SNR=1.7						
BVAR	**Borovoye Array**	**49.90**	**312**	P	**P**	**08 05 10.7**	**0.0**
	0.3nm,0.4s,baz=7.6,slow=2.2,SNR=2.2						
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**	**08 06 12.6**	**-0.1**
	1.3nm,0.6s,baz=3.6,slow=7.2,SNR=33						
ASAR	**Alice Springs**	**62.10**	**188**	P	**P**	**08 06 38.4**	**+0.2**
	0.8nm,0.7s,baz=13,slow=6.3,SNR=8.7						
ASAR				pP	**pP**	**08 06 54.9**	**+2.3**
	0.5nm,0.8s,baz=1.7,slow=7.5,SNR=4.1						
YKA	**Yellowknife Ar**	**62.56**	**31**	P	**P**	**08 06 41.1**	**+0.3**
	0.3nm,0.8s,baz=303,slow=5.9,SNR=3.0						
ARCES	**ARCESS Array B**	**62.88**	**339**	P	**P**	**08 06 42.6**	**-0.3**
	2.2nm,0.9s,baz=64,slow=8.1,SNR=1.2						
NOA	**NORSAR Array B**	**73.09**	**337**	P	**P**	**08 07 46.8**	**-0.3**
	0.3nm,0.6s,baz=39,slow=6.1,SNR=1.8						
NOA				LR	LR	08 44 37.2	
	comp=Z,10nm,18.2s,baz=265,slow=40						
AKASG	**Malin Array Be**	**73.43**	**322**	P	**P**	**08 07 48.6**	**-0.7**
	0.6nm,0.4s,baz=43,slow=5.8,SNR=4.5						

*IDC **23** 07:59:38.4±0.8, 8°.97N×70°.63W, h19km±7km, mb3.4/3, mb1 3.9/4, mb1mx3.4/37, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=45.2km s-min=9.3km az=140.0*
*FUNV **23** 07:59:39.1, 8°.97N×70°.64W, h7km, MW4.3*
ISC 23 07:59:38.4±0.8, 8°.97N±0°.03×70°.57W±0°.03, h13km±5km, n59, σ1s67/78, mb3.6/3, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.10**	**214**	Pg	**Pg**	**07 59 42.1**	**+0.5**
	3μm,0.3s,baz=76,slow=4.2						
SDV				Lg	Lg	07 59 44.3	
	3μm,0.3s,baz=21,slow=21,SNR=100						
SDV	**Santo Domingo**	**0.10**	**214**	*e*P	**Pg**	**07 59 42.1**	**+0.5**
SOCV	**Socops**	**0.74**	**202**	*e*P	**Pg**	**07 59 51.7**	**-1.1**
SOCV	**Socops**	**0.74**	**202**	*e*P	**Pg**	**07 59 51.9**	**-0.9**
SOCV				*e*S	**Sg**	**08 00 01.0**	**-1.5**
SANV	**Sanarito**	**1.15**	**63**	↑*i*P	**Pn**	**08 00 01.2**	**+0.9**
SANV				*e*S	**Sn**	**08 00 17.6**	**+1.6**
CURV	**Curarigua**	**1.20**	**30**	*e*S	**Sn**	**08 00 18.5**	**+1.4**
SIQV	**Siquisique**	**1.83**	**24**	*e*P	**Pb**	**08 00 11.3**	**-0.5**
SIQV				*e*S	**Sb**	**08 00 34.0**	**-0.6**
DABV	**Dabajuro**	**1.94**	**358**	*e*P	**Pb**	**08 00 12.4**	**-1.2**
DABV				*e*S	**Sb**	**08 00 37.8**	**+0.1**
DABV	**Dabajuro**	**1.94**	**358**	*e*P	**Pn**	**08 00 11.9**	**+0.8**
DABV				*e*S	**Sn**	**08 00 35.7**	**+0.4**
CAPV	**Capacho**	**2.04**	**238**	*e*S	**Sn**	**08 00 38.9**	**+0.6**
MCQV	**Machiques**	**2.21**	**299**	*e*P	**Pn**	**08 00 15.3**	**+0.5**
MCQV				*e*S	**Sn**	**08 00 40.5**	**-1.5**
MAPV	**Macapo**	**2.25**	**68**	*e*P	**Pn**	**08 00 17.7**	**+2.3**
MAPV				*e*S	**Sn**	**08 00 45.1**	**+2.0**
PAMC	**Pamplona, Colo**	**2.66**	**233**	*e*P	**Pn**	**08 00 24.3**	**+2.9**
JACV	**Jacura**	**2.71**	**39**	*e*P	**Pn**	**08 00 23.8**	**+2.0**
JACV				*e*S	**Sn**	**08 00 56.1**	**+1.6**
LL5C	**La Loma 6 Bece**	**2.77**	**286**	*e*P	**Pn**	**08 00 22.8**	**+1.3**
TAMC	**Tame, Arauca**	**2.80**	**206**	*e*P	**Pn**	**08 00 24.8**	**+1.9**
TAMC	**Tame, Arauca**	**2.80**	**206**	*e*P	**Pn**	**08 00 24.5**	**+1.6**
OCAC	**Ocana**	**2.81**	**255**	*e*P	**Pn**	**08 00 25.2**	**+2.0**
LL1C	**La Loma 1 Cana**	**3.00**	**281**	*e*P	**Pb**	**08 00 32.4**	**+0.8**
URIC	**Uribia, Colomb**	**3.05**	**333**	*e*P	**Pn**	**08 00 25.4**	**-1.0**
URIC	**Uribia, Colomb**	**3.05**	**333**	*e*P	**Pn**	**08 00 24.9**	**-1.4**
CRJC	**Cerrejon, Guaj**	**3.05**	**312**	*e*P	**Pn**	**08 00 26.0**	**-0.5**
CRJC				*e*S	**Sn**	**08 01 01.8**	**-1.1**
BENV	**Beln**	**3.09**	**71**	*e*P	**Pn**	**08 00 28.4**	**+1.4**
BENV				*e*S	**Sn**	**08 01 04.0**	**+0.1**
BARC	**Barichara**	**3.50**	**228**	*e*P	**Pn**	**08 00 35.5**	**+2.6**
CARV	**Caracas**	**3.90**	**67**	*e*P	**Pn**	**08 00 39.4**	**+1.2**
CARV				*e*S	**Sn**	**08 01 23.5**	**-0.4**
RUSC	**La Rusia**	**3.94**	**219**	*e*P	**Pn**	**08 00 41.4**	**+2.3**
FUNV	**FUNVISIS**	**4.00**	**68**	*e*P	**Pn**	**08 00 40.8**	**+1.3**
FUNV				*e*S	**Sn**	**08 01 25.9**	**-0.4**
SMRC	**Santa Marta, M**	**4.20**	**301**	*e*P	**Pn**	**08 00 41.0**	**-1.3**
SMRC	**Santa Marta, M**	**4.20**	**301**	*e*P	**Pn**	**08 00 40.7**	**-3.5**
CAIC	**CAICARA DEL OR**	**4.23**	**109**	*e*P	**Pn**	**08 00 50.5**	**-2.2**
CACV				*e*S	**Sb**	**08 01 43.5**	**-0.3**
MERV	**Las Mercedes**	**4.23**	**86**	*e*P	**Pn**	**08 00 43.6**	**+1.0**
MERV				*e*S	**Sn**	**08 01 31.0**	**-0.9**
ZARC	**Zaragoza, Cauc**	**4.49**	**251**	*e*P	**Pn**	**08 00 47.7**	**+1.5**
BIRV	**Birongo**	**4.50**	**70**	*e*P	**Pn**	**08 00 47.6**	**+1.4**
BIRV				*e*S	**Sn**	**08 01 37.3**	**-1.2**
PTBC	**PUERTO BERRIO,**	**4.54**	**238**	*e*P	**Pn**	**08 00 46.9**	**-0.1**
SJCC	**San Jacinto, C**	**4.64**	**282**	*e*P	**Pn**	**08 00 50.3**	**+2.1**
SPBC	**San Pablo de B**	**4.79**	**227**	*e*P	**Pn**	**08 00 52.4**	**+2.0**
PTGC	**Puerto Gaitan,**	**4.99**	**198**	*e*P	**Pn**	**08 00 53.2**	**+0.1**
MOTC	**Monteria, Cord**	**5.04**	**268**	*e*P	**Pn**	**08 00 55.0**	**+1.3**
UREC	**San Jos de Ur**	**5.05**	**256**	*e*P	**Pn**	**08 00 55.7**	**+1.7**
CHIC	**Chingaza**	**5.33**	**216**	*e*P	**Pn**	**08 00 59.5**	**+1.3**
CHIC				*e*S	**Sn**	**08 01 59.2**	**-0.6**
NORC	**Norcasia**	**5.44**	**232**	*e*P	**Pn**	**08 00 59.8**	**+0.4**
ROSC	**El Rosal**	**5.54**	**222**	Pn	**Pn**	**08 01 03.5**	**+2.6**
	9.6nm,0.3s,baz=119,slow=18,SNR=12						
ROSC				Sn	**Sn**	**08 02 09.8**	**+5.1**
	16nm,0.3s,baz=53,slow=23,SNR=4.0						
ROSC	**El Rosal**	**5.54**	**222**	*e*P	**Pn**	**08 01 04.3**	**+3.3**
HELC	**Santa Helena**	**5.64**	**241**	*e*P	**Pn**	**08 01 04.0**	**+1.7**
PRGV	**PARIAGUAN**	**5.86**	**92**	*e*P	**Pn**	**08 01 04.5**	**-0.5**
PRGV				*e*S	**Sn**	**08 02 09.4**	**-2.8**
GUY2C	**Guyana, Caldas**	**6.04**	**232**	*e*P	**Pn**	**08 01 09.4**	**+1.5**
ANIL	**Santa Ana**	**6.54**	**227**	*e*P	**Pn**	**08 01 16.3**	**+1.6**
GUVC	**San Jose del G**	**6.71**	**198**	*e*P	**Pn**	**08 01 16.9**	**+0.3**
ORTC	**Ortega, Tolima**	**6.85**	**223**	*e*P	**Pn**	**08 01 19.0**	**+0.4**
PLMC	**San Jos del P**	**6.96**	**235**	*e*P	**Pn**	**08 01 22.6**	**+2.4**
YOTC	**Yotoco, Valle**	**7.58**	**230**	*e*P	**Pn**	**08 01 29.8**	**+1.0**
GARC	**Garzon, Huila**	**8.33**	**216**	*e*P	**Pn**	**08 01 40.1**	**+0.9**
FLOC	**Florencia**	**8.91**	**215**	*e*P	**Pn**	**08 01 46.7**	**-0.3**
SJG	**San Juan**	**10.05**	**25**	Pn	**Pn**	**08 02 02.0**	**-0.5**
	2.4nm,0.3s,baz=204,slow=20,SNR=2.1						
TXAR	**Lajitas Array**	**37.04**	**308**	P	**P**	**08 06 48.5**	**+0.1**
	0.4nm,0.5s,baz=133,slow=8.9,SNR=2.6						
PDAR	**Pinedale Array**	**47.91**	**321**	P	**P**	**08 08 16.6**	**-0.2**
	0.5nm,0.5s,baz=126,slow=10,SNR=7.5						
PDAR				pP	**pP**	**08 08 21.6**	**+0.1**
	0.3nm,0.5s,baz=132,slow=8.9,SNR=3.5						
YKA	**Yellowknife Ar**	**62.16**	**339**	P	**P**	**08 09 57.8**	**-1.4**
	0.2nm,0.5s,baz=126,slow=7.1,SNR=5.1						
ASAR	**Alice Springs**	**152.41**	**235**	PKPbc	**PKPdf**	**08 19 32.7**	**+4.3**
	0.3nm,0.8s,baz=115,slow=2.8,SNR=1.0						
WRA	**Warramunga Arr**	**153.57**	**243**	PKPbc	**PKPbc**	**08 19 36.0**	**-1.8**
	0.2nm,0.7s,baz=94,slow=2.6,SNR=1.5						

IDC 23 08:00:54.6±7.8, 18°.21S×175°.73W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.5/50, mbtmp3.9/3, Error ellipse: s-maj=344.3km s-min=34.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.08**	**259**	P	P	08 09 27.9	-0.7
	0.4nm,0.6s,baz=98,slow=7.4,SNR=7.8						
ASAR	**Alice Springs**	**47.16**	**254**	P	P	08 09 29.6	+0.4
	3.6nm,0.5s,baz=89,slow=8.2,SNR=62						
ILAR	**Eielson Array**	**85.63**	**12**	P	P	08 13 34.5	0.0
	0.4nm,0.4s,baz=224,slow=5.3,SNR=17						

*TUL **23** 08:05:14.4±1.3, 35°.88N±0°.01×97°.31W±0°.02, h6km±4km, ML2.6, mb_Lg2.5/15(NEIC), Error ellipse: s-maj=2.2km s-min=1.0km az=136.0*
NEIC 23 08:05:14.4±0.9, 35°.894N±0°.006×97°.32W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=1.0km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKCFA	**Oklahoma City**	**0.49**	**193**		Pg	08 05 23.7	-0.2
OKCSW	**OKLAHOMA CITY**	**0.50**	**191**	Pg	Pg	08 05 24.0	-0.1
FNO	**Franklin**	**0.64**	**186**	Pg	Pg	08 05 26.6	-0.2
T35A	**Sooner Cattle**	**1.21**	**32**	Pg	Pb	08 05 37.0	-0.6
TUL1	**Leonard**	**1.24**	**89**	Pn	Pn	08 05 36.9	-1.2
X34A	**Smith Ranch, M**	**1.36**	**198**		Pn	08 05 39.9	+0.2
U32A	**Winter Ranch,**	**1.45**	**290**	Pn	Pb	08 05 41.5	-0.2
WMOK	**Wichita Mounta**	**1.66**	**226**		Pn	08 05 44.5	+0.5
WMOK				Sn	Sb	08 06 07.0	+0.5
X37A	**Clayton**	**2.06**	**129**		Pn	08 05 50.0	+0.6
W39A	**Magazine**	**2.96**	**103**	IAmb_Lg		08 06 52.2	
	comp=Z,15nm,0.7s						
U40A	**Yellville**	**3.64**	**81**	IAmb_Lg		08 07 13.4	
	comp=Z,13nm,0.7s						
AMTX	**Amarillo**	**3.70**	**255**	IAmb_Lg		08 07 19.9	
	comp=Z,8.5nm,0.7s						
N35A	**Tabor**	**5.13**	**14**	IAmb_Lg		08 08 03.7	
	comp=Z,14nm,0.8s						

*MDD **23** 08:09:30.3±0.4, 35°.67N×3°.70W, h0km, mb_Lg2.4/12, Error ellipse: s-maj=3.6km s-min=2.9km az=23.0*
*SFS **23** 08:09:30.0, 35°.67N×3°.69W, ML2.4, ALBORAN SUR*
*CNRM **23** 08:09:32.8, 35°.57N×4°.10W, h8km, ml2.8*
ISC 23 08:09:29.0±1.3, 35°.68N±0°.03×3°.71W±0°.03, h3km±11km, n19, σ1s29/36, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.60**	**65**	Pg	**Pg**	**08 09 41.9**	**+1.3**
EALB				Sg	**Sg**	**08 09 49.9**	**+1.5**
EALB				*i* Vmb_Lg		08 09 51.1	
EMEL	**Melilla**	**0.72**	**122**	Pg	**Pg**	**08 09 42.8**	**0.0**
EMEL				Sg	**Sg**	**08 09 51.2**	**-1.0**
ELGU	**Los Guajares,**	**1.19**	**3**	Pg	**Pg**	**08 09 50.3**	**-1.4**
ELGU				Sg	**Sg**	**08 10 06.9**	**-0.2**
ELGU				*i* Vmb_Lg		08 10 09.7	
EMAL	**Malaga-Limoner**	**1.22**	**332**	P	**Pg**	**08 09 52.9**	**+0.4**
EMAL				S	**Sg**	**08 10 08.3**	**0.0**
EMIJ	**Mijas**	**1.23**	**316**	Pg	**Pg**	**08 09 52.8**	**+0.2**
EMIJ				Sg	**Sg**	**08 10 08.4**	**-0.2**
EMIJ				*i* Vmb_Lg		08 10 10.5	
ECEU	**Ceuta**	**1.37**	**279**	Pg	**Pn**	**08 09 54.6**	**-0.5**
ECEU				Sg	**Sb**	**08 10 13.5**	**+0.2**
ECEU				*i* Vmb_Lg		08 10 14.3	
EBER	**Berja**	**1.38**	**28**	Pg	**Pn**	**08 09 53.0**	**-2.4**
EBER				Sg	**Sg**	**08 10 09.9**	**-3.5**
EBER				*i* Vmb_Lg		08 10 18.6	
EGOR	**Sierra Gorda,**	**1.46**	**347**	Pg	**Pn**	**08 09 57.9**	**+1.4**
EGOR				Sg	**Sb**	**08 10 17.4**	**+1.5**
EGOR				*i* Vmb_Lg		08 10 21.1	
IFR	**Ifrane**	**2.46**	**209**	P	**Pn**	**08 10 10.8**	**+0.6**
IFR				S	**Sn**	**08 10 39.5**	**-1.3**
EADA	**Adamuz**	**2.58**	**345**	Pn	**Pn**	**08 10 13.3**	**+1.7**
EADA				Sn	**Sn**	**08 10 45.3**	**+1.8**
EADA				*i* Vmb_Lg		08 11 52.7	
ECAB	**El Cabril**	**2.75**	**331**	Pn	**Pn**	**08 10 15.5**	**+1.4**
ECAB				Sn	**Sn**	**08 10 47.1**	**-0.8**
ECAB				*i* Vmb_Lg		08 10 58.8	
MD31	**MD31**	**2.94**	**197**	P	**Pn**	**08 10 16.6**	**-0.1**
MD31				S	**Sn**	**08 10 51.3**	**-1.3**
MDT	**Midelt**	**2.96**	**195**	P	**Pn**	**08 10 18.0**	**+1.1**
MDT				S	**Sn**	**08 10 53.8**	**+0.8**
EMIN	**Mina Concepcio**	**3.16**	**312**	Pn	**Pn**	**08 10 19.7**	**0.0**
EMIN				Sn	**Sn**	**08 10 56.4**	**-1.5**
EMIN				*i* Vmb_Lg		08 10 58.2	
ETOB	**Tobarra**	**3.42**	**30**	Pn	**Pn**	**08 10 23.9**	**+0.6**
EGRO	**El Granado**	**3.55**	**302**	Pn	**Pn**	**08 10 26.4**	**+1.3**
EGRO				Sn	**Sn**	**08 11 06.9**	**-0.7**
EGRO				*i* Vmb_Lg		08 12 29.

mb3.8/7, Error ellipse: s-maj=17.9km s-min=11.1km az=49.0

ISC 23 08:44:11.4±0.8, 54°2'N±0'.1×171°35'E±0'.10, h10km, n20, σ1§05/18, mb3.5/8, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.23**	**131**	Pn	**Pn**	**08 44 47.0**	**-1.3**
	11nm,0.3s,baz=28,slow=1.9,SNR=13						
SHEM				Sn	**Sn**	**08 45 16.0**	**+0.1**
	14nm,0.3s,baz=48,slow=20,SNR=2.1						
SHEM				Lg	Lg	08 45 19.2	
	19nm,0.3s,baz=249,slow=21,SNR=8.6						
SMY	**Shemya**	**2.23**	**131**	Pn	**Pn**	**08 44 47.6**	**-0.7**
PETK	**Petropavlovsk-**	**8.19**	**268**	Pn	Pn	08 46 00.1	-10
	0.3nm,0.3s,baz=98,slow=18,SNR=1.7						
PETK				Sn	Sn	08 47 22.7	-20
	0.2nm,0.3s,baz=58,slow=47,SNR=1.9						
J20K	**Nowinta River**	**20.00**	**46**	P	**Pn**	**08 48 45.1**	**-0.4**
J20K				IAmb	IAmb	08 49 17.0	
	comp=Z,7.9nm,1.5s						
KDAK	**Kodiak Island**	**20.31**	**65**	P	**P**	**08 48 48.0**	**+0.8**
IMAR	**Indian Mountai**	**20.66**	**42**	P	**P**	**08 48 50.7**	**-0.2**
H21K	**Melozitna Rive**	**20.93**	**43**	P	**P**	**08 48 54.3**	**+0.4**
H21K				IAmb	IAmb	08 49 20.9	
	comp=Z,5.1nm,1.3s						
TOLK	**Toolik Lake Re**	**23.04**	**36**	P	**P**	**08 49 16.5**	**+0.2**
TOLK				IAmb	IAmb	08 49 48.7	
	comp=Z,5.7nm,1.4s						
ILAR	**Eielson Array**	**23.20**	**46**	P	**P**	**08 49 18.6**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=250,slow=8.2,SNR=6.4						
SONM	**Songino Array**	**40.03**	**288**	P	**P**	**08 51 46.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=50,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**40.03**	**288**	P	**P**	**08 51 43.8**	**-2.6**
SONM				IAmb	IAmb	08 52 15.1	
	comp=Z,1.6nm,1.4s						
KURK	**Kurchatov**	**52.62**	**307**	P	**P**	**08 53 25.5**	**+0.5**
KURBB	**Kurchatov Arra**	**52.72**	**307**	P	**P**	**08 53 26.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=50,slow=7.4,SNR=9.9						
MKAR	**Makanchi Array**	**53.50**	**301**	P	**P**	**08 53 31.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=46,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**53.50**	**301**	P	**P**	**08 53 31.2**	**-0.4**
FRB	**Frobisher Bay**	**53.55**	**29**	LR	LR	09 18 33.8	
	comp=Z,26nm,19.4s,baz=194,slow=38						
TXAR	**Lajitas Array**	**63.93**	**76**	P	**P**	**08 54 44.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=303,slow=5.0,SNR=4.5						
RAR	**Rarotonga**	**79.14**	**153**	LR	LR	09 24 43.0	
	comp=Z,43nm,21.0s,baz=187,slow=31						
WRA	**Warramunga Arr**	**80.42**	**215**	P	**P**	**08 56 23.8**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=33,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**84.02**	**214**	P	**P**	**08 56 44.0**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=22,slow=5.3,SNR=1.8						

IDC 23 09:01:39.0±3.1, 54°25N×87°34E, h0km, mb1 2.9/2, mb1mx2.9/40, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=17.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**259**	*i*		09 10 50.0	
	baz=78,slow=336,SNR=7.2						
ZALV	**Zalesovo Beam**	**1.51**	**259**	Pg	Pn	09 02 05.5	-1.8
	1.5nm,0.3s,baz=77,slow=14,SNR=7.8						
ZALV				Lg	Lg	09 02 27.9	
	2.4nm,0.3s,baz=77,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.50**	**240**	Pn	Pn	09 03 16.5	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=5.1						
KURBB				Sn	Sn	09 04 28.6	-1.8
	0.1nm,0.3s,baz=21,slow=8.0,SNR=4.3						
KURBB				Lg	Lg	09 05 03.5	
	0.0nm,0.3s,baz=60,slow=31,SNR=2.0						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	Pn	09 03 39.3	+1.2
	0.2nm,0.3s,baz=26,slow=14,SNR=5.3						
MKAR				Sn	Sn	09 05 10.9	+0.2
	0.1nm,0.3s,baz=27,slow=27,SNR=5.5						
MKAR				Lg	Lg	09 05 59.7	
	0.0nm,0.3s,baz=24,slow=26,SNR=5.9						

*JMA **23** 09:13:14.1±0.2, 31°.54N×142°.55E, h46km, M4.4*
*NIED **23** 09:13:14.1, 31°.54N×142°.55E, h46km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.76; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=8.77; $M_{r\theta}$=1.82; $M_{r\phi}$=-2.89; $M_{\theta\phi}$=1.09; Fault plane solution: $M_0$9.45000×10^{14} NP1: ϕ_s154.00000°, δ51.00000°, λ-103.00000°. NP2: ϕ_s353.00000°, δ41.00000°, λ-75.00000°.*
*NEIC **23** 09:13:15.3±1.2, 31°.43N±0°.02×142°.3E±0°.1, h10km±1km, mb4.5/32 Error ellipse: s-maj=15.6km s-min=3.1km az=85.0*
*MOS **23** 09:13:16.2±1.0, 31°.43N×142°.33E, h30km, mb4.4/18, Error ellipse: s-maj=13.6km s-min=6.9km az=108.3*
*IDC **23** 09:13:19.5±0.5, 31°.49N×142°.19E, h40km±3km, mb3.9/17, mb1 4.0/21, mb1mx3.9/48, mbtmp4.1/21, ML3.3/4, MS3.2/15, Ms1 3.2/15, ms1mx3.0/88, Error ellipse: s-maj=13.4km s-min=9.1km az=36.0*

ISC 23 09:13:20.3±0.5, 31°44N±0°.04×142°24E±0°.06, h49km±3km, h49km:pP-P, n139, σ1§71/145, mb4.4/51, MS3.2/12, 10C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.34**	**296**	P	**Pn**	**09 13 54.4**	**-1.9**
JHJ2	**Mitsune**	**2.65**	**310**	P	**Pn**	**09 13 57.3**	**-3.2**
JHJ2	**Mitsune**	**2.65**	**310**	Pn	**Pn**	**09 13 57.5**	**-2.9**
JHJ	**Hachijo jima 2**	**2.67**	**309**	P	**Pn**	**09 13 57.4**	**-3.5**
	28nm,0.3s,baz=98,slow=22,SNR=13						
JHJ				S	**Sn**	**09 14 28.7**	**-3.3**
	58nm,0.3s,baz=100,slow=17,SNR=6.8						
BSO1	**Boso 1**	**3.38**	**342**	P	**Pn**	**09 14 06.2**	**-3.8**
BSO3	**Boso 3**	**3.65**	**337**	P	**Pn**	**09 14 09.7**	**-4.3**
BSO3				*e*S	**Sn**	**09 14 52.2**	**-3.5**
CBIJ	**Chichi jima**	**4.33**	**181**	P	**Pn**	**09 14 20.4**	**-3.2**
JCJ	**Chichijima**	**4.33**	**181**	P	**Pn**	**09 14 19.9**	**-3.7**
	9.4nm,0.3s,baz=4.7,slow=21,SNR=27						
JCJ				S	**Sn**	**09 15 09.6**	**-3.2**
	15nm,0.3s,baz=342,slow=20,SNR=1.9						
JCJ	**Chichijima**	**4.33**	**181**	Pn	**Pn**	**09 14 19.7**	**-3.9**
JCJ				Sn	**Sn**	**09 15 10.3**	**-2.5**
JOD2	**Odawara 2**	**4.64**	**326**	P	**Pn**	**09 14 24.8**	**-3.0**
JHU	**Hanno**	**5.04**	**331**	S	**Sn**	**09 15 27.6**	**-2.8**
JYT	**Yasato**	**5.07**	**341**	Pn	**Pn**	**09 14 31.5**	**-2.2**
JHO	**Hitachi**	**5.34**	**345**	P	**Pn**	**09 14 33.1**	**-4.3**
JRY	**Ryogami san**	**5.35**	**330**	*e*S	**Sn**	**09 15 34.9**	**-2.9**
JAG	**Ashikaga**	**5.49**	**336**	P	**Pn**	**09 14 36.4**	**-3.0**
JGF	**Kuroka**	**5.82**	**317**	Pn	**Pn**	**09 14 42.5**	**-1.5**
MJAR	**Matsushiro Arr**	**6.09**	**328**	P	**Pn**	**09 14 45.6**	**-2.1**
	0.7nm,0.3s,baz=160,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**6.09**	**328**	P	**Pn**	**09 14 45.8**	**-2.0**
MJAR	**Matsushiro Arr**	**6.09**	**328**		**Pn**	**09 14 45.8**	**-2.0**
MAJO	**Matsushiro**	**6.09**	**328**	*i* P	**Pn**	**09 14 46.3**	**-1.5**
MAJO	**Matsushiro**	**6.09**	**328**	Pn	**Pn**	**09 14 45.4**	**-2.4**
MJB9	**Matsu-Tunnel**	**6.10**	**328**		**Pn**	**09 14 45.6**	**-2.2**
JMM	**Marumori**	**6.52**	**350**	Pn	**Pn**	**09 14 49.4**	**-4.2**
JNU	**Nakatsue**	**9.77**	**283**	P	**Pn**	**09 15 36.8**	**-1.3**
	0.1nm,0.3s,baz=116,slow=10.0,SNR=2.5						
JNU				LR	LR	09 19 44.7	
	comp=Z,164nm,19.6s,baz=98,slow=40						
JNU	**Nakatsue**	**9.77**	**283**	Pn	**Pn**	**09 15 37.5**	**-0.7**
ERM	**Erimo**	**10.58**	**4**	*i* P	Pn	09 15 43.5	-5.7
ASAJ	**Asahikawa**	**12.66**	**1**	P	Pn	09 16 12.2	-5.3
	0.5nm,0.3s,baz=248,slow=1.8,SNR=6.4						
ASAJ				S	Sn	09 18 23.8	-13
	0.2nm,0.3s,baz=217,slow=31,SNR=1.6						
ASAJ				LR	LR	09 21 02.0	
	comp=Z,44nm,21.8s,baz=182,slow=37						
JOW	**Kunigami**	**13.04**	**253**	LR	LR	09 20 44.6	
	comp=Z,126nm,21.3s,baz=101,slow=34						
KSRS	**Korea Array**	**13.25**	**301**	LR	LR	09 22 23.9	
	comp=Z,130nm,18.4s,baz=105,slow=41						
YSS	**Yuzh-Sakhalins**	**15.50**	**1**	*e*P	**Pn**	**09 16 56.1**	**+0.6**
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
MDJ	**Mudanjiang**	**16.48**	**327**	P	**Pn**	**09 17 07.8**	**-0.1**
MDJ				S	**Sn**	**09 20 13.3**	**+3.5**
MDJ				sS	S	09 20 14.8	-4.8
MDJ				ScS	**ScS**	**09 29 12.0**	**+5.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,79nm,4.3s						
MDJ				LR	LR		
	comp=Z,170nm,4.8s						
MDJ				LR	LR		
	comp=Z,95nm,4.8s						
MDJ				LR	LR		
	comp=Z,170nm,6.4s						
CN2	**Changchun**	**18.10**	**318**	*e*P	**Pn**	**09 17 29.1**	**+1.0**
CN2				S	**Sn**	**09 20 47.5**	**-1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
BNX	**BinXian**	**18.35**	**325**	⇑P	**Pn**	**09 17 30.6**	**-0.4**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,150nm,4.2s						
KLR	**Kul'dur**	**19.45**	**339**	P	**Pn**	**09 17 43.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=142,slow=9.6,SNR=11						
KLR				LR	LR	09 25 37.9	
	comp=Z,41nm,19.4s,baz=58,slow=38						
YHNB	**Yeheng**	**19.60**	**255**	P	**P**	**09 17 43.5**	**-1.1**
NJ2	**Nanjing**	**19.90**	**278**	*e*P	**P**	**09 17 48.1**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PETK	**Petropavlovsk-**	**24.39**	**23**	LR	LR	09 27 19.7	
	comp=Z,32nm,21.9s,baz=202,slow=34						
HIA	**Hailar**	**24.57**	**323**	*i* P	**P**	**09 18 36.4**	**+0.9**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZEA	**Zeya**	**24.77**	**338**	*e*P	**P**	**09 18 37.5**	**+0.3**
ZEA				*e*		09 18 54.2	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC	**Hu-ho-hao-te**	**26.38**	**299**	*e*P	**P**	**09 18 53.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
HHC				LR	LR		
	comp=Z,130nm,11.9s						
HHC				LR	LR		
	comp=Z,150nm,15.3s						
HHC				LR	LR		
	comp=Z,150nm,16.6s						
XAN	**Xi'an**	**28.08**	**284**	P	**P**	**09 19 06.8**	**-0.5**
XAN				pP	pP	09 19 18.9	+0.8
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**28.72**	**9**	LR	LR	09 35 45.6	
	comp=Z,19nm,18.4s,baz=113,slow=47						
MA2	**Magadan**	**28.72**	**9**	*i* P	**P**	**09 19 11.8**	**-0.8**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.3s						
DAV	**Davao City (W)**	**28.82**	**216**	LR	LR	09 29 27.5	
	comp=Z,48nm,22.0s,baz=147,slow=34						
ULN	**Ulaanbaatar**	**31.34**	**312**	*ce*P	**P**	**09 19 38.0**	**+1.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK	**Yakutsk**	**31.67**	**349**	*i* P	**P**	**09 19 39.1**	**+0.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
SONM	**Songino Array**	**31.75**	**311**	P	**P**	**09 19 40.7**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=106,slow=9.4,SNR=5.9						
SONM				LR	LR	09 33 57.5	
	comp=Z,55nm,18.1s,baz=165,slow=39						
SONM	**Songino Array**	**31.75**	**311**	P	**P**	**09 19 39.1**	**-0.6**
LZH	**Lanzhou**	**32.12**	**289**	*e*P	**P**	**09 19 38.9**	**-4.2**
LZH				pP	pP	09 19 45.3	-8.6
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SEY	**Seymchan**	**32.17**	**9**	P	**P**	**09 19 42.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=210,slow=7.7,SNR=10						
SEY				pP	**pP**	**09 19 53.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=206,slow=4.8,SNR=2.9						
PZH	**PanZhiHua**	**35.63**	**273**	P	**P**	**09 20 15.0**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
BILL	**Bilibino**	**39.23**	**14**	*i* P	**P**	**09 20 41.7**	**-1.8**
BILL				*i*		09 22 16.1	
BILL				*e*S	**S**	**09 26 43.9**	**+3.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,3.2s						
BILL				MLR	MLR		
	comp=Z,27nm,16.0s						
GOMU	**GeErMu**	**39.38**	**290**	P	P	09 20 57.6	+12
GOMU				pP	sP	09 21 01.0	-0.6
GOMU				sP	pwP	09 21 05.3	+0.1
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,6.5s						
TIXI	**Tiksi**	**40.91**	**354**	*i* P	**P**	**09 20 57.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,3.3s						
CHTO	**Chiang Mai**	**40.92**	**263**	P	**P**	**09 20 57.8**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHTO	**Chiang Mai**	**40.92**	**263**	P	**P**	**09 20 57.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.08**	**262**	P	**P**	**09 20 59.8**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=42,slow=8.2,SNR=6.7						
CMAR				LR	LR	09 38 41.1	
	comp=Z,12nm,18.4s,baz=70,slow=37						
CMAR	**Chiang Mai Arr**	**41.08**	**262**	*ce*P	**P**	**09 21 00.7**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WMQ	**Urumqi**	**44.19**	**302**	*e*P	**P**	**09 21 26.3**	**+1.8**
COEN	**Coen**	**45.15**	**179**	P	**P**	**09 21 32.7**	**+0.6**
COEN				IAmb	IAmb	09 21 34.3	
	comp=Z,14nm,1.5s						
ANM	**Nome**	**46.09**	**28**	P	**P**	**09 21 39.1**	**-0.1**
ANM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANM	**Nome**	**46.09**	**28**	P	**P**	**09 21 39.1**	**-0.1**
ZALV	**Zalesovo Beam**	**46.31**	**316**	P	**P**	**09 21 41.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=97,slow=12,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.31**	**316**	*i* P	P	09 21 45.7	+4.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**47.84**	**307**	P	**P**	**09 21 53.6**	**+0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**47.84**	**307**	P	**P**	**09 21 53.6**	**+0.5**
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**09 21 53.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=92,slow=9.1,SNR=18						
MKAR				pP	**pP**	**09 22 05.0**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=78,slow=8.8,SNR=6.3						
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**09 21 53.5**	**+0.4**
KNRA	**Kununurra**	**48.60**	**197**	P	**P**	**09 21 59.9**	**+0.8**
KURK	**Kurchatov**	**50.05**	**312**	*ce*P	**P**	**09 22 10.8**	**+0.9**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KURK	**Kurchatov**	**50.05**	**312**	P	**P**	**09 22 09.6**	**-0.3**
KURK				IAmb	IAmb	09 22 24.9	
	comp=Z,7.2nm,0.8s						
J20K	**Nowinta River**	**50.73**	**30**	P	**P**	**09 22 14.8**	**0.0**
J20K				IAmb	IAmb	09 22 30.1	
	comp=Z,3.8nm,0.8s						
KDAK	**Kodiak Island**	**50.91**	**39**	P	**P**	**09 22 15.9**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,74nm,1.3s						
KDAK	**Kodiak Island**	**50.91**	**39**	P	**P**	**09 22 15.9**	**-0.3**
WB0	**Warramunga Arr**	**51.47**	**189**	P	**P**	**09 22 20.4**	**-0.4**
WB0				IAmb	IAmb	09 22 34.1	
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**51.64**	**189**	*ce*P	**P**	**09 22 22.9**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WRAB	**Tennant Creek**	**51.64**	**189**	P	**P**	**09 22 21.7**	**-0.4**
WRAB				IAmb	IAmb	09 22 23.1	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**51.65**	**189**	P	**P**	**09 22 21.3**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=5.4,slow=7.5,SNR=41						
WRA				pP	**pP**	**09 22 33.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=8.1,slow=8.0,SNR=6.0						
WRA	**Warramunga Arr**	**51.65**	**189**	P	**P**	**09 22 21.9**	**-0.3**
BOOM	**Boomskoye usch**	**52.88**	**302**	P	**P**	**09 22 31.5**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOOM	**Boomskoye usch**	**52.88**	**302**	P	**P**	**09 22 31.5**	**+0.1**
NEA2	**Nenana**	**52.97**	**30**	P	**P**	**09 22 30.7**	**-0.8**
NEA2				IAmb	IAmb	09 22 45.6	
	comp=Z,4.7nm,1.0s						
TOLK	**Toolik Lake Re**	**53.18**	**25**	P	**P**	**09 22 33.0**	**-0.1**
TOLK				IAmb	IAmb	09 22 36.3	
	comp=Z,7.6nm,1.5s						
MDM	**Murphy Dome**	**53.35**	**30**	P	**P**	**09 22 33.3**	**-1.0**
MDM				IAmb	IAmb	09 22 36.2	
	comp=Z,6.9nm,1.2s						
H24K	**Noodor Dome**	**53.55**	**29**	P	**P**	**09 22 35.7**	**-0.1**
H24K				IAmb	IAmb	09 22 57.0	
	comp=Z,4.6nm,1.2s						
AAK	**Ala-Archa**	**53.90**	**302**	*ce*P	**P**	**09 22 38.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ILAR	**Eielson Array**	**53.91**	**30**	P	**P**	**09 22 37.5**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=264,slow=6.2,SNR=16						
ILAR				pP	**pP**	**09 22 49.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=266,slow=6.0,SNR=8.6						
ILAR	**Eielson Array**	**53.91**	**30**	P	**P**	**09 22 38.2**	**-0.2**
FYU	**Fort Yukon**	**54.66**	**28**	P	**P**	**09 22 43.4**	**-0.4**
RAGM	**Ragged Mountai**	**54.97**	**35**	P	**P**	**09 22 43.6**	**-2.6**
SCRK	**Sand Creek**	**55.17**	**31**	P	**P**	**09 22 46.7**	**-1.0**
SCRK				IAmb	IAmb	09 22 54.2	
	comp=Z,6.1nm,1.3s						
AS31	**Alice Springs**	**55.37**	**189**	P	**P**	**09 22 49.8**	**+0.3**
ASAR	**Alice Springs**	**55.37**	**189**	P	**P**	**09 22 49.7**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=5.8,slow=6.3,SNR=40						
ASAR	**Alice Springs**	**55.37**	**189**	P	**P**	**09 22 49.1**	**-0.4**
KKAR	**Karatay Array**	**56.66**	**304**	P	**P**	**09 22 59.2**	**+0.7**
KKAR	**Karatay Array**	**56.66**	**304**	P	**P**	**09 22 59.2**	**+0.7**
CHGR	**Chuyangaron**	**58.83**	**299**	P	**P**	**09 23 14.2**	**+0.3**
N31M	**Braeburn, Yuko**	**59.16**	**34**	P	**P**	**09 23 16.5**	**+0.8**
N31M				IAmb	IAmb	09 23 31.2	
	comp=Z,4.8nm,0.9s						
ARU	**Arti**	**61.06**	**321**	*c i* P	**P**	**09 23 29.8**	**+1.0**
ARU						09 25 42.6	
ARU				S	S	09 31 52.5	+8.6
ARU				SS	**SS**	**09 35 45.6**	**+2.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PALK	**Pallekele**	**62.01**	**261**	LR	LR	09 53 11.2	
	comp=Z,44nm,18.9s,baz=222,slow=39						
ABKAR	**Akbulak array**	**62.15**	**313**	P	**P**	**09 23 36.7**	**+0.4**
ABKAR				IAmb	IAmb	09 23 51.3	
	comp=Z,2.5nm,0.9s						
ABKAR	**Akbulak array**	**62.15**	**313**	P	**P**	**09 23 36.9**	**+0.6**
AKTO	**Aktyubinsk**	**63.00**	**314**	⇑P	**P**	**09 23 43.0**	**+1.1**
	comp=Z,2.3nm,0.8s						
AKTO				⇑S	**sP**	**09 24 01.6**	**+3.3**
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**68.32**	**29**	P	**P**	**09 24 15.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=292,slow=6.5,SNR=8.3						
YKA				pP	**pP**	**09 24 27.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=294,slow=6.5,SNR=7.2						
OBN	**Obninsk**	**73.01**	**325**	LR	LR	09 59 11.1	
	comp=Z,7.4nm,18.6s,baz=322,slow=38						
YBH	**Yreka Blue Hor**	**73.27**	**51**	LR	LR	09 50 09.5	
	comp=Z,57nm,21.7s,baz=260,slow=30						
FINES	**FINESS Array B**	**74.09**	**333**	P	**P**	**09 24 50.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=90,slow=5.7,SNR=4.8						
FINES	**FINESS Array B**	**74.09**	**333**	P	**P**	**09 24 51.3**	**+0.4**
FINES	**FINESS Array B**	**74.09**	**333**	P	**P**	**09 24 51.3**	**+0.4**
GNI	**Garni**	**75.65**	**308**	P	**P**	**09 24 58.9**	**-1.7**
	comp=Z,20nm,0.4s,baz=135,slow=13,SNR=1.9						
GNI	**Garni**	**75.65**	**308**	P	**P**	**09 24 59.7**	**-0.8**
GNI				pmax	pmax		
	comp=Z,24nm,0.4s						
GNI	**Garni**	**75.65**	**308**	P	**P**	**09 24 59.7**	**-0.8**
CMB	**Columbia Colle**	**76.59**	**54**	P	**P**	**09 25 05.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CMB	**Columbia Colle**	**76.59**	**54**	P	**P**	**09 25 05.8**	**0.0**
CMB				IAmb	IAmb	09 25 07.3	
	comp=Z,9.3nm,1.4s						
HRY	**Holter Researc**	**77.57**	**43**	P	**P**	**09 25 10.9**	**-0.3**
LRM	**Limekiln Ridge**	**77.69**	**44**	P	**P**	**09 25 12.4**	**+0.4**
NVAR	**Mina Array Bea**	**77.82**	**52**	P	**P**	**09 25 13.3**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=300,slow=5.7,SNR=14						
NVAR				pP	**pP**	**09 25 25.9**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=281,slow=5.8,SNR=12						
AKASG	**Malin Array Be**	**79.16**	**323**	P	**P**	**09 25 19.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=45,slow=5.1,SNR=4.6						
AKASG	**Malin Array Be**	**79.16**	**323**	*ce*P	**P**	**09 25 20.8**	**+1.1**
AKASG	**Malin Array Be**	**79.16**	**323**	P	**P**	**09 25 19.6**	**-0.1**
HFS	**Hagfors**	**79.47**	**337**	P	**P**	**09 25 21.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=49,slow=4.4,SNR=1.7						
NB2	**NORSAR Subarra**	**79.61**	**338**	P	**P**	**09 25 21.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**79.61**	**338**	P	**P**	**09 25 21.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=53,slow=6.6,SNR=3.3						
PDAR	**Pinedale Array**	**81.11**	**45**	P	**P**	**09 25 30.4**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=277,slow=2.1,SNR=14						
PDAR				pP	**pP**	**09 25 43.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=262,slow=2.5,SNR=5.6						
BRTR	**Keskin Array B**	**83.10**	**313**	P	**P**	**09 25 42.0**

CBIJ	**Chichi jima**	**4.40**	**182**	*e*S		**Sn**	**09 20 24.7**	**-0.8**
JCJ	**Chichijima**	**4.40**	**182**	P		**Pn**	**09 19 33.9**	**-1.6**
	4.9nm,0.3s,baz=0.8,slow=19,SNR=14							
JCJ				S		**Sn**	**09 20 23.2**	**-2.3**
	baz=302,slow=19							
JCJ	**Chichijima**	**4.40**	**182**	Pn		**Pn**	**09 19 34.6**	**-0.9**
JOD2	**Odawara 2**	**4.62**	**325**	P		**Pn**	**09 19 37.7**	**-0.8**
JHU	**Hanno**	**5.02**	**330**	P		**Pn**	**09 19 43.3**	**-0.6**
JYT	**Yasato**	**5.03**	**340**	Pn		**Pn**	**09 19 43.5**	**-0.6**
JHO	**Hitachi**	**5.29**	**344**	P		**Pn**	**09 19 44.7**	**-3.0**
JRY	**Ryogami san**	**5.32**	**329**	S		**Sn**	**09 20 48.0**	**-0.3**
JAG	**Ashikaga**	**5.45**	**335**	P		**Pn**	**09 19 48.4**	**-1.5**
INU	**Inuyama**	**5.86**	**312**	Pn		**Pn**	**09 19 55.7**	**+0.2**
MJAR	**Matsushiro Arr**	**6.07**	**327**	P		**Pn**	**09 19 57.3**	**-1.1**
	0.5nm,0.3s,baz=119,slow=18,SNR=12							
MJAR				S		**Sn**	**09 21 04.2**	**-2.5**
	0.1nm,0.3s,baz=177,slow=12,SNR=1.7							
MJAR	**Matsushiro Arr**	**6.07**	**327**			**Pn**	**09 19 57.1**	**-1.3**
MAJO	**Matsushiro**	**6.07**	**327**			**Pn**	**09 19 57.7**	**-0.7**
MJB9	**Matsu-Tunnel**	**6.08**	**327**			**Pn**	**09 19 57.7**	**-0.8**
JMM	**Marumori**	**6.46**	**349**			**Pn**	**09 20 01.2**	**-2.6**
JSD	**Sado**	**7.32**	**334**	Pn		**Pn**	**09 20 14.8**	**-0.7**
JTM	**Tenmabayashi**	**9.31**	**354**	Pn		**Pn**	**09 20 41.5**	**-1.4**
ASAJ	**Asahikawa**	**12.59**	**1**	P		**Pn**	**09 21 24.0**	**-3.6**
	0.4nm,0.3s,baz=220,slow=11,SNR=5.1							
ASAJ				S		Sn	09 23 34.1	-12
	0.1nm,0.3s,baz=251,slow=27,SNR=1.9							
SONM	**Songino Array**	**31.76**	**311**	P		**P**	**09 24 52.4**	**+0.4**
	0.6nm,0.6s,baz=111,slow=13,SNR=2.8							
ZALV	**Zalesovo Beam**	**46.31**	**316**	P		**P**	**09 26 54.4**	**+1.1**
	0.5nm,0.5s,baz=89,slow=7.5,SNR=1.2							
ZALV				PcP		**PcP**	**09 28 28.0**	**-0.1**
	0.4nm,0.4s,baz=128,slow=3.4,SNR=1.8							
MK31	**Makanchi Array**	**47.86**	**307**	P		**P**	**09 27 05.9**	**+0.4**
MKAR	**Makanchi Array**	**47.86**	**307**	P		**P**	**09 27 06.0**	**+0.4**
	0.6nm,0.6s,baz=89,slow=9.6,SNR=7.7							
MKAR				pP		**sP**	**09 27 17.4**	**+1.2**
	0.4nm,0.5s,baz=82,slow=9.0,SNR=2.9							
MKAR				PcP		**PcP**	**09 28 33.9**	**+0.1**
	0.4nm,0.7s,baz=91,slow=7.8,SNR=1.8							
MKAR	**Makanchi Array**	**47.86**	**307**	P		**P**	**09 27 05.5**	**0.0**
KURK	**Kurchatov**	**50.06**	**312**	P		**P**	**09 27 22.3**	**0.0**
KURK				IAmb		IAmb	09 27 37.8	
	comp=Z,3.4nm,0.9s							
KURBB	**Kurchatov Arra**	**50.12**	**312**	P		**P**	**09 27 22.9**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=88,slow=7.5,SNR=16							
KURBB				PcP		**PcP**	**09 28 41.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=6.8,SNR=1.4							
J20K	**Nowinta River**	**50.63**	**30**	P		**P**	**09 27 27.6**	**+1.3**
J20K				IAmb		IAmb	09 27 30.6	
	comp=Z,1.7nm,1.1s							
IMAR	**Indian Mountai**	**51.08**	**28**	P		**P**	**09 27 30.9**	**+1.1**
PPLA	**Purkeypile**	**51.34**	**32**	P		**P**	**09 27 33.4**	**+1.5**
PPLA				IAmb		IAmb	09 27 34.3	
	comp=Z,7.4nm,1.2s							
WRA	**Warramunga Arr**	**51.73**	**190**	P		**P**	**09 27 34.7**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=5.3,slow=7.6,SNR=18							
WRA				pP		**sP**	**09 27 47.2**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=5.5,slow=7.6,SNR=5.2							
FITZ	**Fitzroy Crossi**	**51.86**	**200**	P		**P**	**09 27 36.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=13,slow=9.3,SNR=3.8							
FITZ	**Fitzroy Crossi**	**51.86**	**200**	P		**P**	**09 27 36.5**	**+0.5**
ILAR	**Eielson Array**	**53.81**	**30**	P		**P**	**09 27 50.2**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=273,slow=6.8,SNR=6.3							
ILAR				pP		**sP**	**09 28 02.6**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=263,slow=5.9,SNR=5.0							
ILAR				PcP		**PcP**	**09 28 53.2**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=246,slow=5.6,SNR=7.7							
BVAR	**Borovoye Array**	**54.94**	**315**	P		**P**	**09 27 59.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=199,slow=11,SNR=1.5							
ASAR	**Alice Springs**	**55.45**	**189**	P		**P**	**09 28 02.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=19,slow=12,SNR=17							
ASAR				pP		**sP**	**09 28 14.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=351,slow=5.1,SNR=3.6							
ABKAR	**Akbulak array**	**62.16**	**313**	P		**P**	**09 28 49.3**	**+0.6**
ABKAR				IAmb		IAmb	09 28 55.8	
	comp=Z,1.4nm,0.9s							
YKA	**Yellowknife Ar**	**68.22**	**29**	P		**P**	**09 29 27.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=291,slow=6.6,SNR=13							
FINES	**FINESS Array B**	**74.06**	**333**	P		**P**	**09 30 03.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=68,slow=6.8,SNR=4.8							
NVAR	**Mina Array Bea**	**77.72**	**52**	P		**P**	**09 30 25.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=300,slow=4.9,SNR=5.4							
PDAR	**Pinedale Array**	**81.01**	**45**	P		**P**	**09 30 43.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=304,slow=1.5,SNR=6.0							
TXAR	**Lajitas Array**	**92.86**	**53**	P		**P**	**09 31 41.8**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=270,slow=2.1,SNR=7.0							
TORD	**Torodi Ar. Bea**	**121.71**	**313**	PKP		**PKiKP**	**09 37 22.3**	**+0.2**
	0.2nm,0.2s,baz=24,slow=1.6,SNR=1.9							
LPAZ	**La Paz**	**148.43**	**68**	PKPbc		**PKiKP**	**09 38 17.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=24,slow=2.2,SNR=2.3							

BEO 23 09:24:32.5±0.3, 44°12N×22°11E, h0km, ML1.6/11, 2C-5D, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZAGS	**Zajecar**	**0.32**	**163**	*e*Pg		Pg	09 24 38.4	-0.1
ZAGS				*e*Sg		Sg	09 24 42.2	-0.4
KUBS	**Kucevo**	**0.43**	**314**	*e*Pg		Pg	09 24 39.4	-1.4
KUBS				*e*Sg		Sg	09 24 45.7	-0.6
BLKB	**Belogradchik**	**0.64**	**140**	ǁS		Sg	09 24 53.8	+0.7
HERR	**Herculane**	**0.80**	**16**	ǁP		Pg	09 24 47.5	-0.3
HERR				ǁS		Sg	09 24 58.0	-0.2
ZAPS	**Zavoj**	**0.92**	**155**	*e*Pg		Pg	09 24 49.4	-0.8
ZAPS				*e*Sg		Sg	09 25 01.6	-0.5
GRUS	**Gruza**	**1.03**	**258**	*e*Pg		Pg	09 24 52.0	-0.2
GRUS				*e*Sg		Sg	09 25 05.9	+0.3
SELS	**Selova**	**1.15**	**219**	*e*Pg		Pg	09 24 53.9	-0.6
SELS				*e*Sg		Sg	09 25 09.0	-0.3
TRUS	**Trudelj**	**1.23**	**276**	*e*Pg		Pg	09 24 55.6	-0.5
TRUS				*e*Sg		Sg	09 25 12.2	+0.2
BARS	**Barje**	**1.31**	**189**	*e*Pg		Pg	09 24 55.9	-1.8
BARS				*e*Sg		Sg	09 25 14.0	-0.7
GZR	**Gura Zlata**	**1.36**	**20**	ǁP		Pg	09 24 57.6	-1.0
GZR				ǁS		Sb	09 25 16.9	-0.1
IVAS	**Ivanjica**	**1.51**	**250**	*e*Pg		Pn	09 25 00.1	-0.8
IVAS				*e*Sg		Sg	09 25 19.9	-1.2
DIVS	**Divibare**	**1.52**	**270**	*e*Pg		Pn	09 25 00.6	-0.5
DIVS				*e*Sg		Sg	09 25 20.7	-0.8
BZS	**Buzias**	**1.54**	**347**	ǁP		Pn	09 25 00.0	-1.2
BZS				ǁS		Sb	09 25 22.0	0.0
BZS	**Buzias**	**1.54**	**347**	*e*Pg		Pn	09 24 59.7	-1.5
BZS				*e*Sg		Sn	09 25 21.5	-0.5
SJES	**Sjenica**	**1.77**	**242**	*e*Pn		Pb	09 25 05.3	-0.6

IDC 23 09:26:49.7±1.6, 0°46N×125°98E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/51, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=109.0km s-min=22.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P		P	09 31 07.4	+0.5
	0.1nm,0.3s,baz=347,slow=8.3,SNR=2.2							
WRA	**Warramunga Arr**	**21.86**	**158**	P		P	09 31 44.0	-0.2
	5.0nm,0.6s,baz=336,slow=12,SNR=34							
ASAR	**Alice Springs**	**25.18**	**163**	P		P	09 32 17.2	+0.1
	1.3nm,0.4s,baz=344,slow=10,SNR=30							
STKA	**Stephens Creek**	**35.39**	**157**	P		P	09 33 47.0	-0.3
	0.5nm,0.3s,baz=346,slow=12,SNR=5.1							
MKAR	**Makanchi Array**	**59.83**	**327**	P		P	09 36 57.0	0.0
	0.2nm,0.3s,baz=122,slow=7.4,SNR=8.2							

WEL 23 09:42:43.2±1.4, 32°S±29°×17°9E±6°8, h459km±70km, M4.4/3, ML4.6/7, MLv4.4/3, Error ellipse: s-maj=0.1km s-min=0.0km az=105.8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	**Te Kaha**	**6.24**	**189**	P		P	09 44 20.1	0.0
HAZ				S		S	09 45 39.6	+0.2
WMGZ	**Waiomatatini S**	**6.24**	**184**	P		P	09 44 20.5	+0.5
WMGZ				S		S	09 45 40.8	+1.4
PKGZ	**Pakihiroa**	**6.33**	**187**	P		P	09 44 21.4	+0.3
PKGZ				S		S	09 45 42.0	+0.6
RUGZ	**Raukumara Rang**	**6.46**	**189**	P		P	09 44 22.3	-0.2
RUGZ				S		S	09 45 43.2	-0.6
PUZ	**Puketiti**	**6.50**	**185**	S		S	09 45 43.0	-1.4
TWGZ	**Tauwhareparae**	**6.63**	**187**	P		P	09 44 24.8	+0.6
TWGZ				S		S	09 45 48.0	+1.1
URZ	**Urewera**	**6.84**	**193**	P		P	09 44 26.2	0.0
URZ				S		S	09 45 51.5	+0.8
MWZ	**Matawai**	**6.84**	**190**	P		P	09 44 25.8	-0.5
MWZ				S		S	09 45 52.8	+1.9
TKGZ	**Te Karaka**	**6.90**	**188**	S		S	09 45 52.2	+0.2
RIGZ	**Rimuhau**	**7.17**	**188**	P		P	09 44 29.8	-0.1
RIGZ				S		S	09 45 58.0	+0.6

UCR 23 09:44:43.9±1.4, 9°00N×85°12W, h18km±4km, MW3.9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAO2	**Cobano, Puntar**	**0.68**	**1**	*e*P		Pb	09 44 56.7	-0.6
JACO	**JACO, Garabito**	**0.80**	**35**	*e*P		Pb	09 44 58.6	-0.7
LAFE	**Finca La Fe, P**	**0.82**	**14**	*e*P		Pb	09 44 58.6	-1.1
EDDO	**Dominical**	**1.26**	**79**	*e*P		Pn	09 45 05.7	-1.0
EDDO				*e*S		Sb	09 45 22.3	-0.9
JTS	**Las Juntas de**	**1.29**	**7**	*e*P		Pn	09 45 05.8	-1.3
LCR2	**La Lucha 2**	**1.32**	**56**	*e*P		Pn	09 45 06.9	-0.7
CDM	**Cerro de Muert**	**1.45**	**68**	*e*P		Pn	09 45 09.0	-0.6
RIMA	**Rio Macho**	**1.45**	**58**	*e*P		Pn	09 45 08.9	-0.6
ARE1	**Arenal 1**	**1.50**	**15**	*e*P		Pn	09 45 10.0	0.0
ACAL	**Aguas Claras**	**1.62**	**3**	*i* P		Pn	09 45 11.7	0.0
ACAL				*i* S		Sb	09 45 33.1	-0.5
EDPN	**Palmar Norte**	**1.64**	**91**	*e*P		Pn	09 45 11.8	-0.1
CUI	**Cuipilapa**	**1.65**	**358**	*i* P		Pn	09 45 11.7	-0.3
COLC	**Colonia**	**1.65**	**357**	*i* P		Pn	09 45 11.8	-0.3
SRBA	**San Rafael, Bu**	**1.75**	**82**	*e*P		Pn	09 45 13.5	0.0
LAPC	**Finca la Perla**	**1.78**	**350**	*i* P		Pn	09 45 13.3	-0.6
LAPC				*i* S		Sn	09 45 35.2	-0.9
BUEV	**Buena Vista**	**1.81**	**351**	*i* P		Pn	09 45 13.7	-0.6
EDBA	**Buenos Aires**	**1.83**	**85**	*e*P		Pn	09 45 14.2	-0.3
PIRO	**Carate, Puerto**	**1.86**	**109**	*e*P		Pn	09 45 14.7	-0.2
BUAI	**Buenos Aires**	**1.87**	**354**	*i* P		Pn	09 45 15.0	-0.2
EDSV	**San Vito**	**2.13**	**95**	*e*P		Pn	09 45 19.3	+0.6

IDC 23 09:48:49.0±3.1, 53°51N×87°29E, h0km, mb1 2.8/2, mb1mx2.7/42, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=30.8km s-min=16.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**288**	*i*			09 59 10.0	
	baz=107,slow=335,SNR=6.5							
ZALV	**Zalesovo Beam**	**1.53**	**288**	Pg		Pn	09 49 16.1	-1.5
	0.7nm,0.3s,baz=109,slow=16,SNR=9.5							
ZALV				Lg		Lg	09 49 37.5	
	0.6nm,0.3s,baz=104,slow=29,SNR=1.9							
KURBB	**Kurchatov Arra**	**6.13**	**245**	Pn		Pn	09 50 21.8	+1.1
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**7.45**	**208**	Pn		Pn	09 50 39.9	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=5.2							

*SCB **23** 10:13:44.6±3.2, 17°.29S×65°.99W, h10km±17km, ML3.5/4, MW3.2, Error ellipse: s-maj=14.9km s-min=12.6km az=0.0*
*IDC **23** 10:13:51.9±1.3, 17°.31S×65°.94W, h66km±14km, mb3.3/4, mb1 3.7/7, mb1mx3.5/26, mbtmp3.7/7, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=15.3km s-min=10.8km az=9.0*

ISC 23 10:13:49.8±0.8, 17°23S±0°.06×65°.88W±0°.05, h35km, n17, σ2s79/23, mb3.5/4, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBOE	**La Paz, Chanca**	**2.05**	**281**	P		**Pn**	**10 14 21.2**	**-1.1**
BBOE				IAML			10 14 58.1	
	549nm,0.8s							
LPAZ	**La Paz**	**2.35**	**293**	P		**Pn**	**10 14 28.6**	**+2.2**
	9.3nm,0.3s,baz=120,slow=9.5,SNR=208							
LPAZ				S		**Sn**	**10 14 57.5**	**+3.1**
	19nm,0.3s,baz=76,slow=9.3,SNR=6.1							
LPAZ	**La Paz**	**2.35**	**293**	P		**Pn**	**10 14 26.5**	**0.0**
LPAZ				S		**Sn**	**10 14 58.5**	**+4.1**
LPAZ				IAML			10 15 03.2	
	113nm,0.5s							
BBOD	**La Paz, Gloria**	**2.67**	**282**	P		**Pn**	**10 14 31.3**	**+0.5**
BBOD				S		**Sn**	**10 15 07.6**	**+5.5**
BBOD				IAML			10 15 14.5	
	204nm,0.6s							
PB16	**IPOC Station P**	**3.62**	**252**	P		**Pn**	**10 14 45.7**	**+1.7**
MOCB	**Mochara**	**4.01**	**177**	P		**Pn**	**10 14 48.9**	**-0.3**
MOCB				S		**Sn**	**10 15 39.0**	**+3.9**
MOCB				IAML			10 15 49.5	
	141nm,0.4s							
PB11	**IPOC Station P**	**4.38**	**234**	P		**Pn**	**10 14 57.0**	**+3.0**
SIV	**San Ignacio**	**4.77**	**76**	P		**Pn**	**10 15 02.9**	**+3.5**
	12nm,0.3s,baz=254,slow=9.1,SNR=160							
SIV				S		**Sn**	**10 15 56.9**	**+3.4**
	13nm,0.3s,baz=336,slow=23,SNR=2.3							
SIV				LR		LR	10 17 10.1	
	comp=Z,109nm,19.9s,baz=264,slow=41							
SIV	**San Ignacio**	**4.77**	**76**	P		**Pn**	**10 15 02.8**	**+3.5**
YJA	**Yavi**	**4.93**	**176**	P		**Pn**	**10 15 04.3**	**+2.4**
LVC	**Limon Verde**	**6.06**	**208**	P		**Pn**	**10 15 18.8**	**+1.5**
	0.6nm,0.3s,baz=21,slow=8.3,SNR=5.6							
LVC				S		**Sn**	**10 16 25.0**	**-0.7**
	0.1nm,0.3s,baz=334,slow=18,SNR=1.5							
PLCA	**Paso Flores**	**23.77**	**189**	P		**P**	**10 18 56.9**	**-2.3**
	1.4nm,0.8s,baz=324,slow=7.1,SNR=3.3							
PDAR	**Pinedale Array**	**71.95**	**328**	P		**P**	**10 25 07.0**	**-3.0**
	0.3nm,0.5s,baz=127,slow=29,SNR=4.4							
TORD	**Torodi Ar. Bea**	**73.23**	**70**	P		**P**	**10 25 18.3**	**+0.4**
	0.5nm,0.9s,baz=236,slow=7.4,SNR=2.5							
YKA	**Yellowknife Ar**	**88.17**	**340**	P		**P**	**10 26 35.7**	**-1.0**
	0.3nm,0.6s,baz=124,slow=4.4,SNR=7.8							
ASAR	**Alice Springs**	**134.99**	**206**	PKP		**PKPdf**	**10 33 04.9**	**-1.3**
	0.2nm,0.7s,baz=114,slow=2.2,SNR=1.6							
WRA	**Warramunga Arr**	**138.06**	**209**	PKP		**PKiKP**	**10 33 11.7**	**-2.2**
	0.2nm,0.5s,baz=154,slow=1.8,SNR=1.7							

WEL 23 10:27:16.8, 39°S±3°×17°5E±°, h25km±3km, M4.0/42, ML4.3/42, MLv4.0/42, Error ellipse: s-maj=0.0km s-min=0.0km az=140.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRZ	**Vera Road**	**0.17**	**322**	P		Pb	10 27 22.6	+0.4
VRZ				S		Sb	10 27 27.3	+1.5
PKVZ	**Pokaka**	**0.35**	**95**	P		Pb	10 27 25.0	+0.3
PKVZ				S		Sb	10 27 31.2	+1.1
LREZ	**Lake Rotokare**	**0.43**	**242**	P		Pb	10 27 25.7	-0.2
LREZ				S		Sb	10 27 33.2	+1.1
TWVZ	**Taurewa**	**0.46**	**66**	P		Pb	10 27 26.5	0.0
TWVZ				S		Sb	10 27 33.4	+0.3
MTVZ	**Mangateitei**	**0.47**	**106**	P		Pb	10 27 26.7	+0.1
MHEZ	**Mangahewa**	**0.48**	**292**	P		Pb	10 27 26.7	0.0
MHEZ				S		Sn	10 27 34.6	-1.1
WAZ	**Wanganui**	**0.50**	**172**	P		Pb	10 27 27.0	-0.1
TRVZ	**Turoa**	**0.51**	**95**	P		Pb	10 27 27.5	+0.1
TRVZ				S		Sb	10 27 35.1	+0.5
FWVZ	**Far West T-bar**	**0.51**	**90**	P		Pb	10 27 27.5	0.0
FWVZ				S		Sb	10 27 35.4	+0.7
DRZ	**Dome Shelter**	**0.52**	**92**	P		Pb	10 27 27.9	+0.2
DREZ	**Durham Road**	**0.54**	**277**	P		Pb	10 27 27.5	-0.2
WHVZ	**Whangaehu Hut**	**0.54**	**93**	P		Pb	10 27 27.8	-0.1
WHVZ				S		Sb	10 27 35.9	+0.5
WNVZ	**Wahianoa**	**0.55**	**97**	P		Pb	10 27 28.2	+0.2
WNVZ				S		Sb	10 27 36.0	+0.4
NGZ	**Ngauruhoe**	**0.56**	**82**	P		Pb	10 27 28.3	+0.1
NGZ				S		Sn	10 27 37.1	-0.8
WTVZ	**West Tongariro**	**0.56**	**76**	P		Pb	10 27 28.2	0.0
WTVZ				S		Sb	10 27 36.5	+0.6
PREZ	**Palmer Road**	**0.57**	**261**	P		Pb	10 27 28.3	-0.1
NNVZ	**North Ngauruho**	**0.58**	**78**	P		Pb	10 27 28.5	+0.1
NNVZ				S		Sb	10 27 37.1	+0.8
SNVZ	**South Ngauruho**	**0.59**	**83**	P		Pb	10 27 28.9	+0.3
SNVZ				S		Sb	10 27 36.6	0.0
TUVZ	**Tukino**	**0.59**	**91**	P		Pb	10 27 29.1	+0.4
TUVZ				S		Sb	10 27 37.5	+0.8
KRVZ	**Karewarewa**	**0.60**	**75**	P		Pb	10 27 29.0	+0.1
KRVZ				S		Sb	10 27 37.4	+0.3
OTVZ	**Oturere**	**0.61**	**81**	P		Pb	10 27 29.2	+0.2
OTVZ				S		Sn	10 27 38.3	-0.8
NEZ	**North Egmont**	**0.62**	**269**	P		Pb	10 27 28.7	-0.4
NTVZ	**North Tongarir**	**0.63**	**76**	P		Pb	10 27 29.4	+0.1
NTVZ				S		Sb	10 27 38.5	+0.7
ETVZ	**East Tongariro**	**0.65**	**79**	P		Pb	10 27 29.8	+0.2
TMVZ	**Te Maari**	**0.65**	**78**	P		Pb	10 27 29.8	+0.2
TMVZ				S		Sb	10 27 38.7	+0.5
KHEZ	**Kahui Hut**	**0.68**	**267**	P		Pb	10 27 30.0	-0.2
MOVZ	**Moawhango**	**0.69**	**103**	P		Pb	10 27 30.1	-0.1
KATZ	**Kakaramea**	**0.69**	**66**	P		Pb	10 27 30.4	+0.1
PKE	**Pukeiti**	**0.70**	**275**	P		Pb	10 27 30.2	-0.3
HIZ	**Hauiti**	**0.74**	**358**	P		Pb	10 27 30.7	-0.4
RATZ	**Rangitukua**	**0.79**	**61**	P		Pb	10 27 32.0	0.0
NBEZ	**Newall Road No**	**0.80**	**269**	P		Pb	10 27 31.5	-0.5
RITZ	**Rihia Road**	**0.80**	**70**	P		Pn	10 27 32.4	-0.2
WATZ	**Wairara**	**0.86**	**50**	P		Pn	10 27 32.9	-0.2
BHHZ	**Black Hill Sta**	**0.94**	**105**	P		Pn	10 27 33.6	-0.8
OHWZ	**Ohakea**	**1.00**	**161**	P		Pn	10 27 35.0	-0.2
HATZ	**Hinemaiaia**	**1.00**	**69**	P		Pn	10 27 35.0	-0.4
WHTZ	**Whakaora**	**1.02**	**55**	P		Pn	10 27 37.1	+1.3
TLZ	**Tolley Road**	**1.06**	**29**	P		Pn	10 27 35.2	-0.9
KUTZ	**Kaahu Road**	**1.06**	**44**	P		Pn	10 27 36.2	+0.1
TSZ	**Takapari Road**	**1.15**	**134**	P		Pn	10 27 37.0	-0.4
KWHZ	**Kaweka Forest**	**1.20**	**98**	P		Pn	10 27 37.9	-0.1
PNHZ	**Pukenui**	**1.21**	**123**	P		Pn	10 27 37.8	-0.3
KRHZ	**Kereru**	**1.21**	**109**	P		Pn	10 27 38.0	-0.2
WPRZ	**Whakapapatarin**	**1.24**	**54**	P		Pn	10 27 38.4	-0.1
BKZ	**Black Stump Fm**	**1.25**	**86**	P		Pn	10 27 38.7	0.0
MRHZ	**Matea Rd**	**1.26**	**71**	P		Pn	10 27 38.7	-0.2
GRRZ	**Galatos Road**	**1.31**	**47**	P		Pn	10 27 39.9	+0.3
POWZ	**Post Office Ro**	**1.32**	**149**	P		Pn	10 27 39.9	+0.2
ALRZ	**Allen Road**	**1.33**	**59**	P		Pn	10 27 41.0	-0.1
HRRZ	**Handcock Road**	**1.39**	**52**	P		Pn	10 27 43.1	+0.9
PRRZ	**Plateau Road**	**1.40**	**58**	P		Pn	10 27 45.7	+3.5
MCHZ	**McNeill Hill**	**1.41**	**98**	P		Pn	10 27 42.4	0.0
HSRZ	**Hossack Road**	**1.42**	**49**	P		Pn	10 27 45.0	+2.3
DVHZ	**Dannevirke**	**1.43**	**137**	P		Pn	10 27 42.0	+0.8
WPUZ	**Waipukurau**	**1.44**	**124**	P		Pn	10 27 42.0	-0.4
UTU	**Utuhina**	**1.48**	**44**	P		Pn	10 27 44.5	+0.7
MRZ	**Mangatainoka R**	**1.50**	**160**	P		Pn	10 27 42.3	+0.2
NMHZ	**Naumai**	**1.50**	**84**	P		Pn	10 27 43.3	-0.7
HLRZ	**Highlands Stat**	**1.52**	**49**	P		Pn	10 27 47.7	+3.3
PRWZ	**Pori Road**	**1.54**	**148**	P		Pn	10 27 43.9	-0.7
MTHZ	**Maungataniwha**	**1.57**	**76**	P		Pn	10 27 43.4	+0.2
OGWZ	**Otaki Gorge**	**1.57**	**172**	P		Pn	10 27 43.3	+0.2
TOZ	**Tahuroa Road**	**1.60**	**18**	P		Pn	10 27 42.8	-0.6
KIW	**Kapiti Island**	**1.60**	**179**	P		Pn	10 27 43.3	-0.2
KAHZ	**Kahuranaki**	**1.63**	**110**	P		Pn	10 27 45.9	-0.3
ARHZ	**Aropaoanui**	**1.63**	**91**	P		Pn	10 27 45.5	-0.7
MUGZ	**Murupara**	**1.66**	**63**	P		Pn	10 27 48.2	+1.4
PRHZ	**Porangahau**	**1.68**	**127**	P		Pn	10 27 46.3	-0.7
TIWZ	**Tintock**	**1.70**	**154**	P		Pn	10 27 46.0	+1.1
HOWZ	**Holdsworth Sta**	**1.71**	**164**	P		Pn	10 27 45.7	+0.7

Ms1 3.4/3,ms1mx2.7/75,Error ellipse: s-maj=61.1km s-min=16.4km az=69.0

DJA ***23*** *10:49:45.6±0.7,0°S±3′×12′0E±°,h12km±7km,M4.4/17, mb4.6/5,mB4.5/2,MLv4.3/17,Mw(mB)3.7/2*

NEIC ***23*** *10:49:50.6±1.9,0.485±0.05×119.97E±0.08,h49km±13km, mb3.9/10,Error ellipse: s-maj=12.8km s-min=5.5km az=61.0*

ISC 23 10:49:47.9±1.4,**0.41S**±0.04×**120.05E**±0.05,**h24**km±12km, **n38**,σ1§**83**/41,**mb4.0**/10,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.76**	**348**	P	**Pb**	**10 50 01.3**	**-1.2**
MPSI				S	**Sb**	**10 50 12.5**	**0.0**
APSI	**Ampana**	**1.67**	**107**	P	**Pn**	**10 50 15.7**	**-0.1**
APSI				S	**Sb**	**10 50 38.1**	**-0.6**
TOLI2	**Tolitoli**	**1.68**	**26**		**Pb**	**10 50 17.6**	**-0.6**
TOLI2				Sn	**Sb**	**10 50 43.8**	**+4.9**
MRSI	**Marisa**	**2.08**	**65**	P	**Pn**	**10 50 19.7**	**-1.7**
MRSI				S	**Sn**	**10 50 44.2**	**-2.5**
TTSI	**Tana Toraja**	**2.63**	**185**	P	**Pn**	**10 50 27.1**	**-1.8**
TTSI				S	**Sn**	**10 51 00.4**	**+0.4**
LUWI	**Luwuk**	**2.79**	**103**		**Pn**	**10 50 32.9**	**+1.7**
LUWI	**Luwuk**	**2.79**	**103**	P	**Pn**	**10 50 31.3**	**+0.1**
GTOI	**Gorontalo**	**3.14**	**71**	P	**Pn**	**10 50 33.1**	**-2.8**
SPSI	**Sidrap Palu**	**3.54**	**185**	P	**Pn**	**10 50 39.6**	**-1.9**
BNSI	**Bone**	**3.96**	**179**	P	**Pn**	**10 50 46.7**	**-0.6**
KMSI	**Cibinong**	**4.05**	**76**	P	**Pn**	**10 50 50.0**	**+1.5**
KAPI	**Kappang**	**4.58**	**184**	Pn	**Pn**	**10 50 54.4**	**-1.4**
	9.5nm,0.3s,baz=343,slow=9.2,SNR=9.3						
KAPI				Sn	**Sn**	**10 51 51.8**	**+3.5**
	2.6nm,0.3s,baz=29,slow=23,SNR=1.2						
KAPI	**Kappang**	**4.58**	**184**		**Pn**	**10 50 54.8**	**-1.0**
BKSI	**Bulukumba**	**4.88**	**179**	P	**Pn**	**10 50 58.3**	**-1.6**
MTKI	**Muara Teweh, K**	**5.18**	**264**	P	**Pn**	**10 51 01.3**	**-2.8**
BSSI	**Bau Bau, Buton**	**5.71**	**176**	P	**Pn**	**10 51 11.4**	**+0.1**
	0.1nm339nm24nm,0.7s						
MYLDM	**Lahad Datu**	**5.77**	**344**		**Pn**	**10 51 14.4**	**+2.3**
SANI	**Sanana**	**6.15**	**105**	P	**Pn**	**10 51 14.9**	**-2.5**
	0.1nm490nm27nm,0.7s						
DAV	**Davao City (W)**	**9.25**	**36**	LR	LR	10 55 27.5	
	comp=Z,41nm,20.0s,baz=303,slow=38						
MTN	**Manton Dam**	**16.53**	**139**		**P**	**10 53 41.1**	**+0.2**
MTN				IAmb	IAmb	10 53 47.7	
	comp=Z,10nm,1.4s						
KNRA	**Kununurra**	**17.44**	**151**	P	**Pn**	**10 53 50.2**	**+0.5**
KNRA				IAmb	IAmb	10 53 51.4	
	comp=Z,6.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.41**	**163**	P	**P**	**10 54 01.4**	**-0.2**
FITZ				IAmb	IAmb	10 54 05.2	
	comp=Z,2.5nm,0.7s						
WB0	**Warramunga Arr**	**23.82**	**145**	P	**P**	**10 54 58.8**	**-0.5**
WB0				IAmb	IAmb	10 55 17.1	
	comp=Z,3.8nm,1.0s						
WRAB	**Tennant Creek**	**23.93**	**145**	P	**P**	**10 54 57.8**	**-2.6**
WRA	**Warramunga Arr**	**23.93**	**145**	P	**P**	**10 54 58.7**	**-1.7**
	comp=Z,3.7nm,1.0s,baz=327,slow=10.0,SNR=15						
WRA	**Warramunga Arr**	**23.93**	**145**	P	**P**	**10 54 58.7**	**-1.7**
WB2	**Warramunga Arr**	**23.93**	**145**	P	**P**	**10 54 58.5**	**-2.0**
WB2				IAmb	IAmb	10 55 01.4	
	comp=Z,10.0nm,1.3s						
WR0	**Warramunga Arr**	**24.06**	**145**	P	**P**	**10 54 59.0**	**-2.5**
WR0				IAmb	IAmb	10 55 08.2	
	comp=Z,7.4nm,1.1s						
AS31	**Alice Springs**	**26.74**	**151**	P	**P**	**10 55 25.2**	**-0.8**
ASAR	**Alice Springs**	**26.74**	**151**	P	**P**	**10 55 25.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=343,slow=14,SNR=12						
XAN	**Xi'an**	**35.83**	**344**	P	**P**	**10 56 48.3**	**+2.5**
XAN				sP	sP	10 57 03.0	+7.2
XAN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
CAN	**Canberra**	**43.97**	**145**	P	**P**	**10 57 53.1**	**-0.4**
SONM	**Songino Array**	**49.50**	**348**	P	**P**	**10 58 37.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=170,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**57.45**	**330**	P	**P**	**10 59 34.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=121,slow=7.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.51**	**337**	P	**P**	**11 00 02.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=148,slow=8.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.88**	**331**	P	**P**	**11 00 04.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=192,slow=3.5,SNR=1.8						
KDAK	**Kodiak Island**	**88.93**	**32**	LR	LR	11 39 25.2	
	comp=Z,31nm,21.5s,baz=145,slow=34						
MBAR	**Mbarara**	**89.31**	**269**	LR	LR	11 38 02.3	
	comp=Z,95nm,21.5s,baz=51,slow=32						

NDI ***23*** *10:49:55.7±3.6,24°.54N×96°.46E,h14km±101km,ML4.0, mb4.5(NEIC)*

IDC ***23*** *10:49:55.4±0.6,24°.87N×96°.49E,h0km,mb4.0/22, mb1 4.2/23,mb1mx4.0/73,mbtmp4.0/23,ML4.9/1,MS3.5/25, Ms1 3.5/25,ms1mx3.3/89,Error ellipse: s-maj=26.8km s-min=11.8km az=61.0*

BJI ***23*** *10:49:59.8±0.0,24°.94N×96°.07E,h21km,mb4.4/28, mB4.5/9,ML3.9/5,Ms4.0/20,Ms7 3.6/17*

NEIC ***23*** *10:50:02.4±0.8,24°.63N±0°.07×96°.1E±0°.1,h57km±8km, mb4.5/31,Error ellipse: s-maj=16.7km s-min=6.4km az=57.0*

ISC 23 10:49:56.6±0.4,**24°.84N**±0°.05×**96°.35E**±0°.03,**h10**km,**n113**, σ1§**65**/112,**mb4.3**/36,**MS3.5**/28,**2D**,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**2.21**	**294**	*e*P	**Pb**	**10 50 36.6**	**-0.2**
KOHI				*e*S	**Sg**	**10 51 06.9**	**-0.8**
KOHI				IAML		10 51 11.1	
	comp=N,2μm,0.8s						
LKP	**Lekhapani**	**2.53**	**350**	*e*P	**Pn**	**10 50 39.8**	**+2.1**
LKP				*e*P	**Pb**	**10 50 40.8**	**-1.3**
LKP				*e*S	**Sb**	**10 51 13.7**	**+0.5**
LKP				IAML		10 51 30.3	
	comp=N,1μm,0.2s						
JORH	**JORHAT**	**2.68**	**316**	IAML		10 51 32.1	
	comp=Z,657nm,0.9s						
DIBR	**DIBRUGARH**	**2.92**	**334**	*e*P	**Pb**	**10 50 48.3**	**-0.4**
DIBR				*e*S	**Sb**	**10 51 23.9**	**-0.7**
ITAN	**ITANAGAR**	**3.30**	**315**	*e*P	**Pn**	**10 50 49.7**	**+1.4**
ITAN				*e*S	**Sn**	**10 51 29.1**	**+1.5**
ITAN				IAML		10 51 30.6	
	comp=E,584nm,0.5s						
SHL	**Shillong**	**4.11**	**281**	Pn	**Pn**	**10 51 00.6**	**+1.0**
GUWA	**GUWAHATI**	**4.42**	**289**	*e*P	**Pn**	**10 51 04.3**	**+0.6**
GUWA				*e*S	**Sn**	**10 51 54.2**	**-1.0**
PZH	**PanZhiHua**	**5.14**	**70**	Pn	**Pb**	**10 51 26.9**	**+0.2**
PZH				Pg	Pg	10 51 50.1	+15
PZH				Sn	**Sg**	**10 52 37.9**	**-3.8**
PZH				Sg	Sb	10 52 59.3	+31
PZH				smax	smax		
	comp=N,50nm,1.1s						
PZH				smax	smax		
	comp=E,40nm,1.2s						
PZH				LR	LR		
	comp=N,1μm,7.2s						
PZH				LR	LR		
	comp=E,730nm,7.1s						
PZH				LR	LR		
	comp=Z,850nm,8.4s						
KMI	**Kunming**	**5.81**	**86**	⇓Pn	Pb	10 51 33.3	-4.8
KMI				Sn	**Sb**	**10 52 45.6**	**-2.3**
KMI				smax	smax		
	comp=Z,130nm,1.2s						
KMI				smax	smax		
	comp=Z,70nm,1.4s						
KMI				LR	LR		
	comp=Z,840nm,6.6s						
KMI				LR	LR		
	comp=Z,700nm,6.4s						
KMI				LR	LR		
	comp=Z,1μm,10.2s						
DHUB	**DHUBRI**	**5.86**	**283**	*e*P	**Pn**	**10 51 24.0**	**+0.4**
DHUB				*e*S	**Sn**	**10 52 29.2**	**-1.7**
CHTO	**Chiang Mai**	**6.46**	**158**		**Pn**	**10 51 32.3**	**+0.5**
LSA	**Lhasa**	**6.70**	**317**	Pn	**Pn**	**10 51 38.7**	**+3.3**
LSA	**Lhasa**	**6.70**	**317**	Pn	**Pn**	**10 51 38.8**	**+3.3**
LSA				Sn	**Sn**	**10 52 45.8**	**-6.3**
LSA				LR	LR		
	comp=Z,520nm,10.3s						
LSA				LR	LR		
	comp=Z,680nm,13.9s						
CM31	**Chiang Mai Arr**	**6.79**	**159**		**Pn**	**10 51 37.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**6.79**	**159**	Pn	**Pn**	**10 51 37.2**	**+0.8**
	comp=Z,5.9nm,0.3s,baz=334,slow=13,SNR=45						
CMAR				Pg	Pg	10 52 00.7	-6.0
	comp=Z,1.9nm,0.3s,baz=336,slow=18,SNR=15						
CMAR				Lg	Lg	10 53 29.2	
	comp=Z,0.7nm,0.3s,baz=125,slow=9.8,SNR=1.8						
CMAR	**Chiang Mai Arr**	**6.79**	**159**		**Pn**	**10 51 37.9**	**+1.5**
TAPN	**Taplejung**	**8.16**	**290**	*e*Pn	**Pn**	**10 51 55.5**	**+0.1**
TAPN				*e*Sn	**Sn**	**10 53 29.8**	**+1.9**
ODAN	**Odare**	**8.32**	**286**	*e*Pn	**Pn**	**10 51 57.7**	**+0.2**
ODAN				*e*Sn	**Sn**	**10 53 34.1**	**+2.4**
	comp=Z,211nm,0.7s						
CD2	**Chengdu**	**8.92**	**46**	P	Pn	10 52 14.8	+9.2
CD2	**Chengdu**	**8.92**	**46**	*e*P	Pn	10 52 17.3	+12
CD2				S	Sn	10 54 00.4	+14
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,30nm,4.5s						
CD2				LR	LR		
	comp=Z,160nm,12.8s						
CD2				LR	LR		
	comp=Z,1μm,12.6s						
CD2				LR	LR		
	comp=Z,480nm,10.4s						
RAMN	**Ramite**	**9.03**	**286**	*e*Pn	**Pn**	**10 52 08.4**	**+1.1**
RAMN				*e*Sn	**Sn**	**10 53 51.0**	**+1.8**
	comp=Z,74nm,0.5s						
JIRN	**Jiri**	**9.54**	**289**	*e*Pn	**Pn**	**10 52 14.2**	**-0.2**
GUN	**Gumba**	**9.88**	**290**	*e*Pn	**Pn**	**10 52 18.6**	**-0.4**
GUN				*e*Sn	**Sn**	**10 54 07.2**	**-2.9**
PKI	**Pulchoki**	**10.20**	**288**	*e*Pn	**Pn**	**10 52 22.1**	**-1.2**
KKN	**Kakani**	**10.36**	**289**	*e*Pn	**Pn**	**10 52 24.6**	**-0.9**
DMN	**Daman**	**10.46**	**288**	*e*Pn	**Pn**	**10 52 26.6**	**-0.4**
DMN				*e*Sn	**Sn**	**10 54 24.2**	**-0.3**
	comp=Z,44nm,0.7s						
GKN	**Gorkha**	**10.96**	**289**	*e*Pn	**Pn**	**10 52 32.7**	**-1.0**
GKN				*e*Sn	**Sn**	**10 54 34.6**	**-1.9**
GOMU	**GeErMu**	**11.40**	**354**	P	**Pn**	**10 52 38.4**	**-1.5**
DANN	**Dangsing**	**11.80**	**290**	*e*Pn	**Pn**	**10 52 43.8**	**-1.4**
DANN				*e*Sn	**Sn**	**10 54 54.3**	**-2.8**
	comp=Z,43nm,0.7s						
KOLN	**Koldanda**	**11.80**	**287**	*e*Pn	**Pn**	**10 52 43.0**	**-2.3**
KOLN				*e*Sn	**Sn**	**10 54 54.7**	**-2.5**
PYUN	**Piuthan**	**12.40**	**288**	*e*Pn	**Pn**	**10 52 52.5**	**-0.9**
QIZ	**Qiongzhong**	**13.79**	**112**	P	**P**	**10 53 18.8**	**-2.0**
QIZ				S	**Sn**	**10 55 48.1**	**+2.6**
QIZ				LR	LR		
	comp=Z,740nm,17.1s						
QIZ				LR	LR		
	comp=Z,480nm,17.1s						
QIZ				LR	LR		
	comp=Z,200nm,12.9s						
XAN	**Xi'an**	**14.27**	**47**	P	**P**	**10 53 25.3**	**-0.9**
XAN				pP	Pn	10 53 30.8	+12
XAN				sP		10 53 34.3	
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				LR	LR		
	comp=Z,1μm,13.7s						
XAN				LR	LR		
	comp=Z,330nm,17.9s						
GTA	**Gaotai**	**14.82**	**11**	*e*P	**P**	**10 53 32.8**	**+0.5**
GTA				pP	Pn	10 53 39.9	+14
GTA				sP		10 53 44.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,49nm,4.7s						
GTA				LR	LR		
	comp=Z,290nm,17.4s						
GTA				LR	LR		
	comp=Z,270nm,17.8s						
LYN	**LuoYang**	**17.00**	**52**	*e*P	**Pn**	**10 53 55.3**	**+0.7**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN				LR	LR		
	comp=Z,450nm,13.8s						
LYN				LR	LR		
	comp=Z,250nm,15.3s						
HYBB	**Hyderabad (bro**	**18.16**	**249**	*e*P	**P**	**10 54 09.3**	**0.0**
WMQ	**Urumqi**	**20.22**	**342**	*e*P	Pn	10 54 37.6	+3.9
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**20.41**	**35**	*e*P	Pn	10 54 40.8	+4.9
HHC				S	Sn	10 58 26.5	+0.6
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,91nm,5.1s						
HHC				LR	LR		
	comp=Z,280nm,11.0s						
HHC				LR	LR		
	comp=Z,270nm,12.0s						
HHC				LR	LR		
	comp=Z,280nm,10.3s						
TIA	**Tai'an**	**21.14**	**53**	P	**P**	**10 54 43.3**	**+1.6**
TIA				pmax	pmax		
	comp=Z,13nm,1.1s						
TIA				LR	LR		
	comp=Z,440nm,15.7s						
TIA				LR	LR		
	comp=Z,320nm,15.7s						
TIA				LR	LR		
	comp=Z,190nm,19.1s						
KSH	**Kashi**	**22.55**	**315**	P	**P**	**10 54 58.4**	**+1.4**
TARG	**Taragay, Kyrgy**	**22.81**	**322**	P	**P**	**10 55 00.6**	**+0.5**
TARG				IAmb	IAmb	10 55 26.8	
	comp=Z,18nm,1.3s						
PALK	**Pallekele**	**23.00**	**223**	P	**P**	**10 55 04.3**	**+2.5**
	comp=Z,1.3nm,0.4s,baz=142,slow=18,SNR=1.4						
PALK				LR	LR	11 05 29.7	
	comp=Z,86nm,19.4s,baz=148,slow=40						
PALK	**Pallekele**	**23.00**	**223**	P	**P**	**10 54 58.0**	**-3.8**
PALK				IAmb	IAmb	10 55 07.8	
	comp=Z,34nm,1.7s						
GSI	**Gunungsitoli**	**23.43**	**177**	P	**P**	**10 55 03.9**	**-2.1**
KDJ	**Kajisay**	**23.43**	**322**	P	**P**	**10 55 06.6**	**+0.5**
KDJ				IAmb	IAmb	10 55 16.2	
	comp=Z,8.1nm,0.9s						
SONM	**Songino Array**	**24.30**	**17**	P	**P**	**10 55 14.3**	**0.0**
	comp=Z,1.5nm,0.8s,baz=206,slow=12,SNR=5.8						
SONM				LR	LR	11 05 47.5	
	comp=Z,133nm,21.1s,baz=216,slow=39						
SONM	**Songino Array**	**24.30**	**17**	P	**P**	**10 55 14.6**	**+0.3**
BOOM	**Boomskoye usch**	**24.36**	**321**	P	**P**	**10 55 15.1**	**+0.1**
BOOM				IAmb	IAmb	10 55 25.1	
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**24.50**	**18**	P	**P**	**10 55 16.1**	**-0.1**
MK31	**Makanchi Array**	**24.62**	**336**	P	**P**	**10 55 17.5**	**+0.3**
MK31				IAmb	IAmb	10 55 22.6	
	comp=Z,6.3nm,0.8s						
MKAR	**Makanchi Array**	**24.62**	**336**	P	**P**	**10 55 17.5**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=143,slow=9.2,SNR=35						
MKAR				LR	LR	11 06 22.8	
	comp=Z,96nm,19.2s,baz=146,slow=40						
MKAR	**Makanchi Array**	**24.62**	**336**	P	**P**	**10 55 17.8**	**+0.6**
MAKZ	**Makanchi**	**24.75**	**336**	P	**P**	**10 55 18.8**	**+0.5**
MAKZ				IAmb	IAmb	10 55 22.1	
	comp=Z,8.3nm,0.6s						
AAK	**Ala-Archa**	**25.29**	**320**	P	**P**	**10 55 23.9**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=172,slow=7.6,SNR=8.7						
AAK				LR	LR	11 06 40.3	
	comp=Z,76nm,20.2s,baz=132,slow=40						
AAK	**Ala-Archa**	**25.29**	**320**	P	**P**	**10 55 23.4**	**0.0**
DRK	**Karamyk**	**25.29**	**311**	P	**P**	**10 55 23.0**	**-0.6**
KBL	**Kabul**	**25.55**	**299**	P	**P**	**10 55 25.0**	**-0.9**
KBL				IAmb	IAmb	10 55 30.0	
	comp=Z,15nm,0.6s						
GAR	**Garm**	**26.11**	**309**	P	**P**	**10 55 30.3**	**-0.5**
GAR				IAmb	IAmb	10 55 35.0	
	comp=Z,21nm,0.7s						
BTK	**Batken**	**26.23**	**312**	P	**P**	**10 55 31.4**	**-0.5**
BTK				IAmb	IAmb	10 55 34.6	
	comp=Z,11nm,0.8s						
KKM	**Kota Kinabalu**	**26.68**	**131**	P	**P**	**10 55 36.2**	**+0.1**
KKR	**Karatay Array**	**27.95**	**317**	P	**P**	**10 55 47.0**	**-0.2**
JOW	**Kunigami**	**28.77**	**79**	LR	LR	11 08 35.7	
	comp=Z,127nm,20.7s,baz=310,slow=39						
KURBB	**Kurchatov Arra**	**29.19**	**336**	P	**P**	**10 55 57.7**	**-0.4**
	comp=Z,0.9nm,0.2s,baz=143,slow=9.6,SNR=1.6						
KURK	**Kurchatov**	**29.24**	**337**	P	**P**	**10 55 58.8**	**+0.3**
KSRS	**Korea Array**	**29.66**	**57**	LR	LR	11 07 40.5	
	comp=Z,59nm,18.2s,baz=255,slow=36						
ZAA0	**Zalesovo Array**	**30.33**	**346**	P	**P**	**10 56 11.0**	**+2.9**
ZALV	**Zalesovo Beam**	**30.33**	**346**	P	**P**	**10 56 09.5**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=166,slow=10.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**30.33**	**346**	P	**P**	**10 56 10.2**	**+2.0**
CN2	**Changchun**	**30.35**	**44**	*e*P	**P**	**10 56 12.9**	**+4.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,8.3s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,100nm,14.0s						
CN2				LR	LR		
	comp=Z,100nm,14.0s						
BNX	**BinXian**	**32.51**	**42**	⇓P	**P**	**10 56 30.3**	**+2.8**
BNX				pmax	pmax		
	comp=Z,16nm,1.2s						
LEM	**Lembang**	**33.33**	**159**	LR	LR	11 10 27.2	
	comp=Z,122nm,20.0s,baz=280,slow=37						
BVAR	**Borovoye Array**	**34.27**	**332**	P	**P**	**10 56 43.7**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=159,slow=8.0,SNR=6.2						
WSAR	**Wadi Sarin**	**34.41**	**275**	LR	LR	11 12 12.5	
	comp=Z,65nm,18.0s,baz=118,slow=39						
USA0B	**Ussuriysk Arra**	**34.78**	**47**	P	**P**	**10 56 49.0**	**+1.8**
USRK	**Ussuriysk Ar.**	**34.78**	**47**	P	**P**	**10 56 50.0**	**+2.7**
GEYT	**Alibeck**	**34.91**	**301**	P	**P**	**10 56 50.0**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=247,slow=24,SNR=2.0						
GEYT				LR	LR	11 13 38.5	
	comp=Z,48nm,21.1s,baz=138,slow=41						
GEYT	**Alibeck**	**34.91**	**301**	P	**P**	**10 56 49.9**	**+1.4**
GEYT				IAmb	IAmb	10 57 00.3	
	comp=Z,6.3nm,1.1s						
ABKAR	**Akbulak array**	**37.38**	**320**	P	**P**	**10 57 09.0**	**-0.4**
ABKAR				IAmb	IAmb	10 57 17.0	
	comp=Z,3.0nm,0.8s						
KAPI	**Kappang**	**37.40**	**139**	LR	LR	11 13 40.4	
	comp=Z,76nm,18.7s,baz=298,slow=38						
AKTO	**Aktyubinsk**	**39.02**	**321**	P	**P**	**10 57 24.4**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=84,slow=7.3,SNR=4.8						
AKTO				LR	LR	11 15 55.6	
	comp=Z,45nm,19.9s,baz=120,slow=40						
ARU	**Arti**	**41.74**	**329**	P	**P**	**10 57 47.2**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=117,slow=22,SNR=1.8						
ARU				LR	LR	11 15 44.4	
	comp=Z,54nm,20.2s,baz=124,slow=37						
ARU	**Arti**	**41.74**	**329**	P	**P**	**10 57 45.2**	**-0.4**
ASAJ	**Asahikawa**	**42.07**	**51**	LR	LR	11 17 27.0	
	comp=Z,31nm,18.4s,baz=5.0,slow=39						
BATI	**Baumata**	**43.85**	**139**	LR	LR	11 19 08.7	
	comp=Z,106nm,18.3s,baz=326,slow=40						
RAYN	**Ar Rayn**	**46.18**	**279**	P	**P**	**10 58 19.8**	**-2.1**
RAYN				IAmb	IAmb	10 58 26.4	
	comp=Z,4.0nm,1.1s						
GUMO	**Guam**	**46.95**	**94**	LR	LR	11 17 54.8	
	comp=Z,31nm,18.9s,baz=164,slow=36						
KIRV	**Kirov**	**47.09**	**329**	LR	LR	11 21 05.4	
	comp=Z,50nm,18.6s,baz=137,slow=40						
GURO	**Guroymak-BITLI**	**47.56**	**300**	P	**P**	**10 58 31.0**	**-1.6**
GURO				IAmb	IAmb	10 58 43.6	
	comp=Z,6.8nm,1.2s						
MA2	**Magadan**	**51.05**	**32**	LR	LR	11 23 16.5	
	comp=Z,36nm,18.3s,baz=270,slow=39						
ATD	**Arta Tunnel**	**52.22**	**265**	LR	LR	11 19 37.0	
	comp=Z,32nm,20.3s,baz=70,slow=34						
MMAI	**Mount Meron Ar**	**53.33**	**294**	LR	LR	11 23 13.9	
	comp=Z,43nm,19.1s,baz=244,slow=37						
BRTR	**Keskin Array B**	**54.04**	**302**	P	**P**	**10 59 22.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=131,slow=5.8,SNR=4.1						
BRTR	**Keskin Array B**	**54.04**	**302**	P	**P**	**10 59 22.0**	**+0.5**
AKASG	**Malin Array Be**	**56.84**	**316**	P	**P**	**10 59 40.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=78,slow=6.6,SNR=7.1						
AKASG				LR	LR	11 26 00.1	
	comp=Z,70nm,18.3s,baz=46,slow=38						
WRA	**Warramunga Arr**	**57.86**	**137**	P	**P**	**10 59 48.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=320,slow=7.5,SNR=14						
FINES	**FINESS Array B**	**59.09**	**328**	P	**P**	**10 59 57.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=119,slow=6.7,SNR=5.7						
FINES				LR	LR	11 27 30.0	
	comp=Z,53nm,18.5s,baz=68,slow=38						
MLR	**Muntele Rosu**	**59.25**	**310**	P	**P**	**11 00 00.4**	**+1.9**
	comp=Z,3.1nm,0.7s,baz=95,slow=11,SNR=4.2						
BURAR	**Bucovina Array**	**59.58**	**312**	P	**P**	**10 59 59.8**	**-0.8**
ARCES	**ARCESS Array B**	**60.27**	**338**	P	**P**	**11 00 06.1**	**+1.3**
	comp=Z,6.1nm,1.1s,baz=104,slow=7.7,SNR=1.8						
ARCES				LR	LR	11 27 21.8	
	comp=Z,48nm,18.6s,baz=16,slow=37						
ASAR	**Alice Springs**	**60.42**	**140**	P	**P**	**11 00 06.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=321,slow=6.2,SNR=16						
ASAR	**Alice Springs**	**60.42**	**140**	P	**P**	**11 00 05.9**	**-0.6**
CRVS	**Cervenica-Dubn**	**61.95**	**314**	*e*P	**P**	**11 00 18.4**	**+1.7**
OJC	**Ojcow**	**62.88**	**315**	P	**P**	**11 00 22.9**	**+0.1**
HFS	**Hagfors**	**65.18**	**327**	P	**P**	**11 00 39.2**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=144,slow=10,SNR=2.5						
NB2	**NORSAR Subarra**	**66.27**	**328**	P	**P**	**11 00 45.8**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=82,slow=6.5						
NOA	**NORSAR Array B**	**66.27**	**328**	P	**P**	**11 00 45.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=82,slow=6.4,SNR=4.3						
NOA				LR	LR	11 31 24.0	
	comp=Z,42nm,18.1s,baz=290,slow=38						
GERES	**GERESS Array B**	**67.02**	**315**	P	**P**	**11 00 50.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=62,slow=6.2,SNR=6.2						
GERES	**GERESS Array B**	**67.02**	**315**	P	**P**	**11 00 48.8**	**-1.1**
DAVOX	**Davos/Dischmat**	**70.01**	**313**	LR	LR	11 36 03.1	
	comp=Z,59nm,20.0s,baz=48,slow=40						
ILAR	**Eielson Array**	**78.34**	**23**	P	**P**	**11 01 57.1**	**+0.3**
	comp=Z,0.7nm,1.2s,baz=294,slow=4.8,SNR=2.4						
ESDC	**Sonseca

ROSC				*eS*		**Sn**	**10 57 02.5**	**+2.2**
ROSC				*i*			10 57 06.9	
	comp=Z,417nm,0.4s							
HELC	**Santa Helena**	**2.45**	**254**	*eP*		**Pn**	**10 56 32.1**	**+0.4**
HELC				*eS*		**Sn**	**10 57 03.1**	**+0.1**
HELC				*i*			10 57 10.2	
	comp=Z,141nm,0.3s							
UREC	**San Jos de Ur**	**2.51**	**291**	*eP*		**Pn**	**10 56 31.9**	**-0.2**
UREC				*eS*		**Sn**	**10 57 02.6**	**-1.3**
UREC				*i*			10 57 11.3	
	comp=Z,145nm,0.2s							
SOCV	**Socops**	**2.68**	**58**	*eP*		**Pn**	**10 56 34.0**	**-0.1**
SOCV				*eS*		**Sn**	**10 57 06.1**	**-1.6**
GUY2C	**Guyana, Caldas**	**2.73**	**233**	*eP*		**Pn**	**10 56 36.0**	**+0.8**
GUY2C				*eS*		**Sn**	**10 57 12.4**	**+2.9**
GUY2C				*i*			10 57 18.6	
	comp=Z,122nm,0.6s							
PTGC	**Puerto Gaitan,**	**2.84**	**159**	*eP*		**Pn**	**10 56 35.4**	**-0.8**
PTGC				*eS*		**Sn**	**10 57 09.0**	**-2.2**
PTGC				*i*			10 57 11.5	
	comp=Z,111nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.01**	**251**	*eP*		**Pn**	**10 56 39.8**	**+1.4**
CBOC				*eS*		**Sn**	**10 57 14.8**	**-0.3**
CBOC				*i*			10 57 21.9	
	comp=Z,37nm,0.5s							
MOTC	**Monteria, Cord**	**3.13**	**308**	*eP*		**Pn**	**10 56 39.2**	**-0.5**
MOTC				*eS*		**Sn**	**10 57 17.3**	**-0.3**
MOTC				*i*			10 57 20.0	
	comp=Z,64nm,0.3s							
SDV	**Santo Domingo**	**3.21**	**51**	*eP*		**Pn**	**10 56 41.6**	**+0.7**
SDV				*eS*		**Sn**	**10 57 18.4**	**-1.3**
ANIL	**Santa Ana**	**3.25**	**224**	*eP*		**Pn**	**10 56 42.4**	**+0.8**
ANIL				*eS*		**Sn**	**10 57 21.6**	**+0.6**
ORTC	**Ortega, Tolima**	**3.60**	**215**	*eP*		**Pn**	**10 56 46.3**	**+0.4**
ORTC				*eS*		**Sn**	**10 57 29.0**	**+0.3**
ORTC				*i*			10 57 33.6	
	comp=Z,75nm,0.2s							
SJCC	**San Jacinto, C**	**3.61**	**327**	*eP*		**Pn**	**10 56 45.9**	**-0.1**
SJCC				*eS*		**Sn**	**10 57 27.4**	**-1.6**
SJCC				*i*			10 57 42.0	
	comp=Z,34nm,0.6s							
PLMC	**San Jos del P**	**3.67**	**238**	*eP*		**Pn**	**10 56 47.6**	**+0.8**
PLMC				*eS*		**Sn**	**10 57 27.8**	**-2.5**
PLMC				*i*			10 57 36.2	
	comp=Z,29nm,0.7s							
CRJC	**Cerrejon, Guaj**	**4.14**	**4**	*eP*		**Pn**	**10 56 52.5**	**-0.4**
CRJC				*eS*		**Sn**	**10 57 39.3**	**-2.0**
CRJC				*i*			10 57 43.2	
	comp=Z,44nm,0.4s							
YOTC	**Yotoco, Valle**	**4.28**	**228**	*eP*		**Pn**	**10 56 54.6**	**-0.1**
YOTC				*eS*		**Sn**	**10 57 41.4**	**-3.1**
SMRC	**Santa Marta, M**	**4.40**	**346**	*eP*		**Pn**	**10 56 57.1**	**+0.8**
SMRC				*eS*		**Sn**	**10 57 42.1**	**-5.2**
SMRC				*i*			10 57 47.9	
	comp=Z,21nm,0.2s							
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*		**Pn**	**10 57 05.9**	**-1.2**
GARC				*eS*		**Sn**	**10 58 00.1**	**-6.5**
GARC				*i*			10 58 07.5	
	comp=Z,29nm,0.2s							
FLOC	**Florencia**	**5.81**	**205**	*eP*		**Pn**	**10 57 14.7**	**-0.3**
FLOC				*eS*		**Sn**	**10 58 14.4**	**-6.5**
FLOC				*i*			10 58 51.1	
	comp=Z,6.3nm,0.4s							
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**	**11 06 02.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=134,slow=6.6,SNR=17							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPdf**	**11 15 19.1**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=125,slow=3.6,SNR=4.5							
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc		**PKPdf**	**11 15 21.4**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=106,slow=2.8,SNR=7.4							

RSNC 23 11:28:08.0±0.9, 6.05N×72.37W, h1km±3km, ML3.2, Mw3.5, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.69**	**56**	*eP*	Pg	11 28 20.7	-0.5
TAMC				*eS*	Sg	11 28 31.0	+0.7
TAMC				*i*		11 28 37.2	
	comp=Z,468nm,0.3s						
RUSC	**La Rusia**	**0.73**	**258**	*iP*	Pg	11 28 21.0	-1.0
RUSC				*eS*	Sg	11 28 30.5	-0.9
RUSC				*i*		11 28 31.4	
	comp=Z,421nm,0.2s						
BARC	**Barichara**	**0.97**	**304**	*iP*	Pg	11 28 26.0	-0.7
BARC				*eS*	Sg	11 28 39.2	-0.2
BARC				*i*		11 28 40.4	
	comp=Z,390nm,0.2s						
PAMC	**Pamplona, Colo**	**1.33**	**346**	*eP*	Pg	11 28 32.7	-0.8
PAMC				*eS*	Sg	11 28 49.9	-0.8
PAMC				*i*		11 28 53.4	
	comp=Z,391nm,0.2s						
SPBC	**San Pablo de B**	**1.74**	**257**	*eP*	Pn	11 28 38.8	-0.7
SPBC				*eS*	Sn	11 29 01.4	-1.0
SPBC				*i*		11 29 03.9	
	comp=Z,372nm,0.3s						
PTGC	**Puerto Gaitan,**	**1.85**	**173**	*eP*	Pn	11 28 38.9	-2.0
PTGC				*eS*	Sn	11 29 03.2	-1.8
PTGC				*i*		11 29 05.7	
	comp=Z,642nm,0.2s						
CHIC	**Chingaza**	**1.96**	**224**	*eP*	Pn	11 28 41.3	-1.4
CHIC				*eS*	Sn	11 29 08.0	-0.3
CHIC				*i*		11 29 14.9	
	comp=Z,161nm,0.8s						
PTBC	**PUERTO BERRIO,**	**2.13**	**283**	*eP*	Pn	11 28 43.5	-1.4
PTBC				*eS*	Sn	11 29 12.6	+0.6
PTBC				*i*		11 29 16.3	
	comp=Z,237nm,0.2s						
ROSC	**El Rosal**	**2.28**	**238**	*eP*	Pn	11 28 48.2	+0.9
ROSC				*eS*	Sn	11 29 17.7	+1.4
ROSC				*i*		11 29 24.5	
	comp=Z,155nm,0.4s						
OCAC	**Ocana**	**2.37**	**337**	*eP*	Pb	11 28 51.0	-0.7
OCAC				*eS*	Sb	11 29 21.6	0.0
NORC	**Norcasia**	**2.53**	**259**	*eP*	Pn	11 28 49.3	-1.1
NORC				*eS*	Sn	11 29 22.9	+0.8
NORC				*i*		11 29 27.9	
	comp=Z,103nm,0.4s						
SOCV	**Socops**	**2.68**	**34**	*eP*	Pn	11 28 50.8	-1.7
SOCV				*eS*	Sn	11 29 23.6	-2.0
ZARC	**Zaragoza, Cauc**	**2.86**	**300**	*eP*	Pn	11 28 54.9	+0.1
ZARC				*eS*	Sn	11 29 30.7	+0.7
ZARC				*i*		11 29 38.5	
	comp=Z,99nm,0.4s						
GUY2C	**Guyana, Caldas**	**3.09**	**255**	*eP*	Pn	11 28 58.8	+0.3
GUY2C				*eS*	Sn	11 29 36.3	-0.1
GUY2C				*i*		11 29 46.5	
	comp=Z,78nm,0.6s						
HELC	**Santa Helena**	**3.15**	**273**	*eP*	Pn	11 28 58.6	-0.5
HELC				*eS*	Sn	11 29 39.6	+2.1
HELC				*i*		11 29 45.4	
	comp=Z,79nm,0.2s						
SDV	**Santo Domingo**	**3.30**	**31**	*eP*	Pn	11 29 00.0	-1.1
SDV				*eS*	Sn	11 29 39.2	-2.0
SDV				*i*		11 29 54.4	
	comp=Z,74nm,0.4s						
ANIL	**Santa Ana**	**3.40**	**243**	*eP*	Pn	11 29 01.6	-0.9
ANIL				*eS*	Sn	11 29 44.4	+0.8
ANIL				*i*		11 29 58.0	
	comp=Z,90nm,0.4s						
GUVC	**San Jose del G**	**3.49**	**184**	*eP*	Pn	11 29 01.2	-2.3
GUVC				*eS*	Sn	11 29 41.7	-3.8
GUVC				*i*		11 29 58.0	
	comp=Z,159nm,0.3s						
ORTC	**Ortega, Tolima**	**3.57**	**234**	*eP*	Pn	11 29 03.4	-1.3
ORTC				*eS*	Sn	11 29 46.9	-0.6
ORTC				*i*		11 30 01.6	
	comp=Z,41nm,0.6s						
UREC	**San Jos de Ur**	**3.57**	**299**	*eP*	Pn	11 29 03.7	-0.9
UREC				*eS*	Sb	11 29 54.0	-2.0
UREC				*i*		11 30 00.5	
	comp=Z,34nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.63**	**267**	*eP*	Pn	11 29 06.6	+1.0
CBOC				*eS*	Sn	11 29 50.6	+1.4
CBOC				*i*		11 30 04.6	
	comp=Z,21nm,0.4s						
LL6C	**La Loma 6 Bece**	**3.77**	**346**	*eP*	Pb	11 29 11.6	-3.9
LL6C				*i*		11 30 09.3	
	comp=Z,27nm,0.4s						
GARC	**Garzon, Huila**	**4.94**	**219**	*eP*	Pn	11 29 22.2	-1.5
GARC				*i*		11 30 46.0	
	comp=Z,42nm,0.3s						
FLOC	**Florencia**	**5.51**	**217**	*eP*	Pn	11 29 29.4	-2.0
FLOC				*i*		11 31 05.1	
	comp=Z,14nm,0.5s						

*NEIC **23** 11:45:16.8±0.5, 36.86N±0.02×98.34W±0.02, h5km±1km, Error ellipse: s-maj=4.5km s-min=2.0km az=317.0*
*TUL **23** 11:45:16.4±0.7, 36.87N±0.03×98.34W±0.03, h6km±3km, ML3.1, mb_Lg2.9/38(NEIC), Error ellipse: s-maj=5.4km s-min=1.7km az=136.0*
*IDC **23** 11:45:17.0±2.5, 36.98N×98.39W, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/53, mbtmp3.0/3, ML3.6/2, Error ellipse: s-maj=37.3km s-min=15.4km az=86.0*

ISC 23 11:45:17.1±1.1, 36.86N±0.06×98.40W±0.06, h10km, n35, σ0s78/24, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.68**	**225**		**Pg**	**11 45 30.4**	**+0.1**
T35A	**Sooner Cattle**	**1.52**	**87**		**Pn**	**11 45 43.7**	**-0.6**
R32A	**Long Quarter,**	**1.58**	**351**	Pn	**Pn**	**11 45 45.0**	**-0.2**
FNO	**Franklin**	**1.79**	**153**		**Pn**	**11 45 48.5**	**+0.4**
WMOK	**Wichita Mounta**	**2.14**	**188**		**Pn**	**11 45 52.8**	**-0.1**
CBKS	**Cedar Bluff**	**2.22**	**332**	Pn	**Pn**	**11 45 54.6**	**+0.6**
X34A	**Smith Ranch, M**	**2.30**	**168**	IAmb_Lg		11 46 30.2	
	comp=Z,66nm,0.7s						
TUL1	**Leonard**	**2.31**	**113**	Pn	**Pn**	**11 45 54.4**	**-0.7**
TUL1				IAmb_Lg		11 46 28.3	
	comp=Z,66nm,0.8s						
KSU1	**Kansas State U**	**2.65**	**32**	IAmb_Lg		11 46 44.8	
	comp=Z,27nm,0.7s						
X37A	**Clayton**	**3.35**	**132**	Pn	**Pn**	**11 46 09.9**	**+0.5**
X37A				IAmb_Lg		11 47 04.4	
	comp=Z,36nm,0.8s						
HHAR	**Hobbs**	**3.64**	**98**		**Pn**	**11 46 13.0**	**-0.5**
W39A	**Magazine**	**4.09**	**113**	Pn	**Pn**	**11 46 19.9**	**+0.2**
W39A				IAmb_Lg		11 47 33.5	
	comp=Z,36nm,0.9s						
S39A	**Bolivar**	**4.13**	**77**	Pn	**Pn**	**11 46 20.2**	**-0.1**
U40A	**Yellville**	**4.49**	**95**	Pn	**Pn**	**11 46 24.4**	**-0.8**
Z38A	**Mt. Pleasant**	**4.55**	**141**	Pn	**Pn**	**11 46 25.3**	**-0.7**
MSTX	**Muleshoe**	**4.59**	**232**	IAmb_Lg		11 47 46.7	
	comp=Z,17nm,1.1s						
P38A	**Dawn**	**4.72**	**53**	IAmb_Lg		11 47 46.8	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**4.82**	**275**	Pn	**Pn**	**11 46 30.8**	**+0.9**
MGMO	**Mountain Grove**	**4.92**	**85**	Pn	**Pn**	**11 46 31.1**	**0.0**
MGMO				IAmb_Lg		11 48 04.1	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	**5.08**	**72**	Pn	**Pn**	**11 46 32.6**	**-0.6**
R40A				IAmb_Lg		11 48 05.0	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**5.11**	**116**	Pn	**Pn**	**11 46 34.1**	**+0.3**
FCAR	**Ozark Folk Cen**	**5.16**	**99**	IAmb_Lg		11 48 02.4	
	comp=Z,15nm,1.1s						
WHAR	**Wooly Hollow**	**5.19**	**106**	Pn	**Pn**	**11 46 34.5**	**-0.4**
W41B	**Gary Mavity, V**	**5.26**	**107**	Pn	**Pn**	**11 46 35.5**	**-0.3**
W41B				IAmb_Lg		11 48 12.6	
	comp=Z,14nm,0.9s						
237A	**Washetta, Mont**	**5.30**	**155**	Pn	**Pn**	**11 46 35.5**	**-0.7**
N38A	**Joes South For**	**5.63**	**44**	IAmb_Lg		11 48 24.8	
	comp=Z,27nm,0.8s						
P40A	**Paris**	**5.67**	**60**	IAmb_Lg		11 48 15.9	
	comp=Z,25nm,0.7s						
Q24A	**Divide**	**5.74**	**294**	IAmb_Lg		11 48 21.3	
	comp=Z,12nm,0.8s						
Z41A	**Richland Creek**	**5.83**	**126**	IAmb_Lg		11 48 21.2	
	comp=Z,18nm,0.8s						
ANMO	**Albuquerque**	**6.81**	**256**	Pg	**Pg**	**11 47 25.4**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=17,SNR=2.5						
ANMO				Lg	Lg	11 48 47.9	
	comp=Z,0.3nm,0.3s,baz=67,slow=15,SNR=2.4						
PHWY	**Pilot Hill**	**7.06**	**311**	IAmb_Lg		11 49 19.9	
	comp=Z,17nm,1.2s						
RSSD	**Black Hills**	**8.43**	**331**	IAmb_Lg		11 49 49.3	
	comp=Z,6.8nm,1.0s						
TXAR	**Lajitas Array**	**8.71**	**212**	Pn	**Pn**	**11 47 24.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=8.3						
TXAR				Pg	Pg	11 47 55.6	-8.2
	comp=Z,0.2nm,0.3s,baz=32,slow=14,SNR=4.3						
TXAR				Lg	Lg	11 49 48.6	
	comp=Z,0.3nm,0.3s,baz=32,slow=24,SNR=5.8						
PDAR	**Pinedale Array**	**10.41**	**308**	Pn	**Pn**	**11 47 46.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=125,slow=7.8,SNR=2.7						
PDAR				Pg		11 48 29.4	
	comp=Z,0.2nm,0.3s,baz=123,slow=20,SNR=3.9						
PDAR				Lg	Lg	11 50 41.9	
	comp=Z,0.1nm,0.3s,baz=115,slow=31,SNR=4.2						
YKA	**Yellowknife Ar**	**27.55**	**344**	P	**P**	**11 51 05.1**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=149,slow=8.6,SNR=2.8						

IDC 23 11:45:41.2±290.0, 54.61N×42.40E, h0km, Error ellipse: s-maj=125.0km s-min=64.1km az=140.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.62**	**308**	*i*		12 11 10.0	
	baz=124,slow=329,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**10.41**	**107**	*i*		12 51 20.0	
	baz=304,slow=340,SNR=1.3						
I37NO	**I37NO**	**18.14**	**332**	*i*		13 44 00.0	
	baz=132,slow=331,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**24.51**	**74**	*i*		14 11 40.0	
	baz=296,slow=323,SNR=1.2						
I34MN	**SONGINO INFRAS**	**39.42**	**73**	*i*		15 47 00.0	
	baz=305,slow=338,SNR=0.6						

*IDC **23** 11:50:37.0±2.7, 21.94S×179.50W, h567km±26km, mb3.3/8, mb1 3.4/8, mb1mx3.2/27, mbtmp4.3/8, Error ellipse: s-maj=31.7km s-min=21.5km az=31.0*
*NEIC **23** 11:50:37.1±1.3, 21.75S±0.1×179.34W±0.2, h574km±16km, mb4.1/21, Error ellipse: s-maj=22.1km s-min=18.6km az=50.0*

ISC 23 11:50:35.8±0.7, 21.95S±0.1×179.56W±0.09, h550km, n34, σ1s64/37, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**9.44**	**75**	P	**P**	**11 52 47.6**	**-0.4**
AFI	**Afiamalu**	**10.82**	**44**	P	**P**	**11 53 02.1**	**-0.3**
MARNC	**Mare, Loyalty**	**11.55**	**270**	P	**P**	**11 53 11.5**	**+1.8**
DZM	**Mont Dzumac**	**12.99**	**266**	P	**P**	**11 53 27.2**	**+2.5**
EIDS	**Eidsvold**	**27.11**	**257**	P	**P**	**11 55 36.1**	**+0.9**
EIDS				IAmb	IAmb	11 55 37.1	
	comp=Z,4.1nm,0.6s						
ARMA	**Armidale**	**27.18**	**246**	P	**P**	**11 55 37.7**	**+1.8**
CAN	**Canberra**	**30.56**	**237**	P	**P**	**11 56 06.3**	**+1.2**
CAN				IAmb	IAmb	11 56 28.8	
	comp=Z,6.4nm,1.2s						
CTA	**Charters Tower**	**31.94**	**267**	P	**P**	**11 56 18.1**	**+1.0**
	comp=Z,5.6nm,0.4s,baz=94,slow=10,SNR=23						
TOO	**Toolangi**	**33.93**	**235**	P	**P**	**11 56 34.5**	**+0.8**
TOO				IAmb	IAmb	11 56 35.0	
	comp=Z,3.9nm,0.8s						
PMG	**Port Moresby**	**34.27**	**286**	P	**P**	**11 56 37.9**	**+1.2**
	comp=Z,9.4nm,0.9s,baz=92,slow=3.7,SNR=5.1						
PMG	**Port Moresby**	**34.27**	**286**	P	**P**	**11 56 38.2**	**+1.5**
STKA	**Stephens Creek**	**35.90**	**246**	P	**P**	**11 56 50.3**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=83,slow=13,SNR=8.9						
STKA	**Stephens Creek**	**35.90**	**246**	P	**P**	**11 56 51.1**	**+1.0**
COEN	**Coen**	**36.25**	**276**	P	**P**	**11 56 54.8**	**+1.6**
BBOO	**Buckleboo**	**40.65**	**245**	P	**P**	**11 57 28.6**	**-0.1**
WR0	**Warramunga Arr**	**42.80**	**264**	P	**P**	**11 57 46.1**	**+0.3**
WR0				IAmb	IAmb	11 58 05.5	
	comp=Z,7.6nm,1.5s						
AS31	**Alice Springs**	**42.81**	**258**	P	**P**	**11 57 45.9**	**+0.1**
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**11 57 46.0**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=99,slow=8.1,SNR=100						
ASAR				ScP	**ScP**	**12 02 21.1**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=103,slow=4.2,SNR=2.8						
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**11 57 45.6**	**-0.2**
WB0	**Warramunga Arr**	**42.98**	**264**	P	**P**	**11 57 47.1**	**-0.1**
WB0				IAmb	IAmb	11 57 47.5	
	comp=Z,4.5nm,0.7s						
WB2	**Warramunga Arr**	**42.98**	**264**	P	**P**	**11 57 46.8**	**-0.4**
WB2				IAmb	IAmb	11 57 47.7	
	comp=Z,4.9nm,0.9s						
WRAB	**Tennant Creek**	**42.98**	**264**	P	**P**	**11 57 46.9**	**-0.3**
WRAB				IAmb	IAmb	11 57 47.7	
	comp=Z,6.3nm,1.0s						
WRA	**Warramunga Arr**	**42.99**	**264**	P	**P**	**11 57 46.5**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=95,slow=7.8,SNR=80						
WRA				ScP	**ScP**	**12 02 22.0**	**-2.1**
	comp=Z,0.7nm,1.0s,baz=98,slow=4.1,SNR=5.1						
WRA				S	**S**	**12 03 26.1**	**-7.2**
	comp=Z,0.4nm,1.1s,baz=104,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**42.99**	**264**	P	**P**	**11 57 47.0**	**-0.2**
MTN	**Manton Dam**	**47.74**	**272**	P	**P**	**11 58 23.3**	**-0.2**
MTN				IAmb	IAmb	11 58 23.7	
	comp=Z,4.5nm,0.6s						
KNRA	**Kununurra**	**49.14**	**268**	P	**P**	**11 58 33.9**	**0.0**
KNRA				IAmb	IAmb	11 58 34.6	
	comp=Z,5.3nm,0.7s						
SOEI	**Soe**	**55.11**	**273**	P	**P**	**11 59 16.9**	**0.0**
PSA00	**Pilbara Seismi**	**55.96**	**258**	P	**P**	**11 59 21.8**	**-0.8**
PSA00				IAmb	IAmb	11 59 22.8	
	comp=Z,3.8nm,1.2s						
SBA	**Scott Base**	**56.44**	**183**	P	**P**	**11 59 26.4**	**+1.5**
VNDA	**Vanda**	**56.45**	**185**	P	**P**	**11 59 24.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=29,slow=3.8,SNR=1.8						
VNDA	**Vanda**	**56.45**	**185**	P	**P**	**11 59 25.9**	**+0.8**
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**12 00 40.4**	**-1.1**
	comp=Z,4.4nm,1.0s,baz=64,slow=2.7,SNR=6.3						
QSPA	**South Pole Qui**	**68.22**	**180**	P	**P**	**12 00 41.1**	**-0.5**
QSPA				IAmb	IAmb	12 00 41.5	
	comp=Z,9.8nm,1.2s						
NVAR	**Mina Array Bea**	**83.00**	**44**	P	**P**	**12 02 03.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=221,slow=6.8,SNR=3.2						

WEL 23 11:53:08.1, 45.5S±4.4°×17.1E±°, h10km±6km, M3.8/37, ML3.9/17, MLv3.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=87.9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**0.07**	**17**	P	Pg	11 53 11.6	+1.2
ODZ				S	Sg	11 53 12.9	+1.0
TMZ	**Timaru**	**0.78**	**21**	P	Pb	11 53 24.3	+0.6
TMZ				S	Sb	11 53 34.5	+0.2
HHSZ	**Highcliff Hill**	**0.78**	**181**	P	Pg	11 53 23.2	+0.1
LBZ	**Lake Benmore**	**0.79**	**337**	P	Pb	11 53 23.8	-0.1
EAZ	**Earnscleugh**	**0.93**	**262**	P	Pg	11 53 26.2	+0.1
EAZ				S	Sg	11 53 37.1	-1.2
TUZ	**Tuapeka**	**1.09**	**219**	P	Pb	11 53 28.9	-0.2
TUZ				S	Sg	11 53 42.0	-1.4
WKZ	**Wanaka**	**1.17**	**283**	P	Pg	11 53 30.8	+0.2
ARCZ	**Arundel**	**1.23**	**19**	P	Pb	11 53 31.4	0.0
RPZ	**Rata Peaks**	**1.43**	**13**	P	Pn	11 53 34.3	+0.2
WACZ	**Wakanui South**	**1.46**	**37**	P	Pn	11 53 34.5	+0.1
JCZ	**Jackson Bay**	**1.67**	**308**	P	Pb	11 53 39.3	+0.4
FOZ	**Fox Glacier**	**1.68**	**340**	P	Pb	11 53 39.4	+0.4
RACZ	**Rakaia**	**1.76**	**39**	P	Pn	11 53 38.5	-0.1
SYZ	**Scrubby Hill**	**1.76**	**215**	P	Pn	11 53 38.3	-0.3
MLZ	**Mavora Lakes**	**1.78**	**261**	P	Pn	11 53 39.2	+0.2
MLZ				S	Sn	11 54 02.0	+0.3
MSZ	**Milford Sound**	**1.96**	**282**	P	Pb	11 53 43.0	-0.8
MQZ	**McQueen's Vall**	**2.02**	**47**	P	Pn	11 53 41.9	-0.3
WVZ	**Waitaha Valley**	**2.03**	**2**	P	Pb	11 53 43.8	-1.2
WHZ	**Wether Hill Ro**	**2.04**	**246**	P	Pn	11 53 42.0	-0.4
AKCZ	**Akaroa Harbour**	**2.05**	**54**	P	Pn	11 53 42.5	-0.2
OXZ	**Oxford**	**2.05**	**30**	P	Pn	11 53 42.4	-0.3
OKCZ	**Okains Bay**	**2.23**	**53**	P	Pn	11 53 45.1	0.0
AMCZ	**Amberley**	**2.42**	**38**	P	Pn	11 53 47.8	+0.1
DCZ	**Deep Cove**	**2.47**	**260**	P	Pn	11 53 49.0	+0.7
APZ	**The Paps**	**2.52**	**226**	P	Pn	11 53 48.8	-0.3
LTZ	**Lake Taylor**	**2.61**	**28**	P	Pn	11 53 50.3	-0.1
PYZ	**Puysegur Point**	**2.96**	**248**	P	Pn	11 53 56.1	+1.1
KHZ	**Kahutara**	**3.42**	**39**	P	Pn	11 54 01.2	-0.2
DSZ	**Denniston Nort**	**3.47**	**15**	P	Pn	11 54 02.2	+0.1
THZ	**Tophouse**	**3.73**	**27**	P	Pn	11 54 05.3	-0.5
MRNZ	**Matariki Terra**	**4.02**	**24**	P	Pn	11 54 10.3	+0.6
BSWZ	**Blackbirch Sta**	**4.14**	**36**	P	Pn	11 54 12.4	+1.1
TUWZ	**Tuamarina**	**4.41**	**35**	P	Pn	11 54 15.6	+0.7
DUWZ	**D'Urville Isla**	**4.94**	**31**	P	Pn	11 54 24.2	+1.9
CAW	**Cannon Point**	**5.16**	**41**	P	Pn	11 54 24.5	-0.8
MRZ	**Mangatainoka R**	**5.75**	**41**	P	Pn	11 54 32.6	-0.7
BFZ	**Birch Farm**	**6.05**	**45**	P	Pn	11 54 37.0	-0.6

IDC 23 12:01:28.6±1.2, 15.30N×45.33W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/31, mbtmp3.9/5, ML4.4/1, MS3.5/22, Ms1 3.5/22, ms1mx3.2/82, Error ellipse: s-maj=37.7km s-min=29.2km az=129.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.43**	**216**	Pn	Pn	12 04 26.8	-0.1
	2.2nm,0.3s,baz=24,slow=16,SNR=18						
MDP				LR	LR	12 08 21.3	
	comp=Z,168nm,19.1s,baz=72,slow=33						
SDV	**Santo Domingo**	**25.54**	**258**	LR	LR	12 17 17.1	
	comp=Z,51nm,20.7s,baz=93,slow=37						
ROSC	**El Rosal**	**30.34**	**253**	LR	LR	12 20 03.3	
	comp=Z,92nm,20.6s,baz=114,slow=37						
**SI

BBOE	**La Paz, Chanca**	**1.99**	**290**	P	**Pg**	12 15 42.6	-0.4
BBOE				IAML		12 16 25.8	
	514nm,0.7s						
LPAZ	**La Paz**	**2.35**	**301**	P	**Pg**	**12 15 48.6**	**-1.2**
	15nm,0.3s,baz=110,slow=12,SNR=85						
LPAZ				S	**Sg**	**12 16 18.9**	**-1.5**
	48nm,0.3s,baz=270,slow=20,SNR=13						
LPAZ	**La Paz**	**2.35**	**301**	*eP*	**Pg**	**12 15 48.9**	**-1.0**
LPAZ	**La Paz**	**2.35**	**301**	P	**Pb**	**12 15 47.8**	**+0.3**
LPAZ				S	**Sg**	**12 16 19.3**	**-1.1**
LPAZ				IAML		12 16 20.0	
	119nm,0.5s						
BBOD	**La Paz, Gloria**	**2.61**	**289**	P	**Pb**	**12 15 52.4**	**+0.6**
BBOD				S	**Sg**	**12 16 28.3**	**-0.2**
BBOD				IAML		12 16 39.8	
	266nm,0.6s						
PB16	**IPOC Station P**	**3.41**	**256**	P	**Pb**	**12 16 07.4**	**+1.9**
MOCB	**Mochara**	**3.73**	**174**	P	**Pb**	**12 16 10.2**	**-0.8**
MOCB				S	**Sb**	**12 16 59.5**	**+3.0**
MOCB				IAML		12 17 09.4	
	131nm,0.5s						
YJA	**Yavi**	**4.66**	**174**	P	**Pb**	**12 16 24.5**	**-2.3**
SIV	**San Ignacio**	**4.99**	**73**	P	**Pn**	**12 16 22.6**	**+3.0**
	17nm,0.3s,baz=248,slow=9.4,SNR=115						
SIV				S	**Sn**	**12 17 17.5**	**+0.1**
	14nm,0.3s,baz=3.1,slow=17,SNR=2.1						
SIV	**San Ignacio**	**4.99**	**73**	P	**Pn**	**12 16 23.0**	**+3.3**
LVC	**Limon Verde**	**5.74**	**208**	P	Pn	12 16 38.3	+8.0
	0.7nm,0.3s,baz=34,slow=10,SNR=5.9						
PTLB	**Pontes e Lacer**	**6.93**	**74**	*eP*	**Pn**	**12 16 49.5**	**+3.2**
ETMB	**Extrema**	**7.66**	**359**	*eP*	**Pn**	**12 16 57.2**	**+0.9**
PDRB	**Porto dos Gac**	**10.75**	**58**	*eP*	**Pn**	**12 17 38.9**	**+0.1**
CLDB	**Colider**	**11.92**	**58**	*eP*	**Pn**	**12 17 56.1**	**+1.4**
NPGB	**Novo Progresso**	**14.72**	**46**	*eP*	**Pn**	**12 18 34.1**	**+0.9**
SNDB	**Serra Nova Dou**	**15.28**	**71**	*eP*	**P**	**12 18 44.0**	**-1.5**
ITTB	**Itaituba**	**16.51**	**39**	*eP*	**Pn**	**12 18 55.3**	**-1.2**
PLTB	**Pedras Altas**	**18.11**	**144**	*eP*	P	12 19 29.7	+13
VAO	**Valinhos**	**18.70**	**110**	*eP*	Pn	12 19 31.9	+8.2
MALB	**Monte Alegre**	**19.39**	**38**	*eP*	**Pn**	**12 19 33.5**	**+1.4**
MDP	**Montagnes des**	**26.07**	**32**	LR	LR	12 31 21.0	
	comp=Z,80nm,18.0s,baz=192,slow=38						
PDAR	**Pinedale Array**	**72.12**	**328**	P	**P**	**12 26 29.1**	**-0.6**
	0.3nm,0.5s,baz=126,slow=9.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**73.46**	**70**	P	**P**	**12 26 36.2**	**-1.7**
	0.3nm,0.6s,baz=244,slow=5.9,SNR=1.7						
YKA	**Yellowknife Ar**	**88.39**	**340**	P	**P**	**12 27 55.9**	**-0.5**
	0.3nm,0.6s,baz=128,slow=4.8,SNR=7.9						
WRA	**Warramunga Arr**	**137.74**	**209**	PKP	**PKPdf**	**12 34 30.6**	**+0.5**
	0.3nm,0.9s,baz=146,slow=2.0,SNR=1.8						

IDC ***23*** *12:18:47.3±1.0, 14°.50S×167°.90E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.2/48, mbtmp4.4/11, ML4.3/1, MS3.6/13, Ms1 3.6/13, ms1mx3.2/61, Error ellipse: s-maj=37.5km s-min=19.5km az=131.0*

NOU ***23*** *12:19:00.2, 15°.41S×167°.50E, h12km, MLv4.8/8, Vanuatu Islands*

ISC 23 12:18:48.2±0.7, 14°.70S±0°.07×168°.0E±0°.1, h10km, n32, σ1s46/20, mb4.3/9, MS3.7/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**1.10**	**227**	P	**Pb**	**12 19 07.1**	**-2.2**
DVP	**Devils Point**	**3.01**	**177**	P	**Pb**	**12 19 39.5**	**-2.4**
RTV	**Rentapao**	**3.10**	**173**	P	**Pb**	**12 19 40.7**	**-2.7**
DZM	**Mont Dzumac**	**7.49**	**191**	*e*Pn	Pn	**12 20 39.8**	**+2.2**
	16nm,0.3s						
DZM				*e*Sn	**Sn**	**12 22 04.2**	**+1.5**
	4.6nm,0.3s						
DZM	**Mont Dzumac**	**7.49**	**191**	Pn	**Pn**	**12 20 39.4**	**+1.8**
	4.9nm,0.3s,baz=172,slow=10,SNR=27						
DZM				Sn	**Sn**	**12 22 02.5**	**-0.2**
	1.5nm,0.3s,baz=326,slow=21,SNR=4.8						
DZM				LR	LR	12 22 37.7	
	comp=Z,115nm,19.7s,baz=40,slow=30						
AFI	**Afiamalu**	**19.57**	**90**	LR	LR	12 28 51.4	
	comp=Z,138nm,19.8s,baz=290,slow=31						
PMG	**Port Moresby**	**21.08**	**282**	LR	LR	12 30 26.5	
	comp=Z,182nm,18.3s,baz=9.0,slow=33						
CTA	**Charters Tower**	**21.46**	**252**	P	**P**	**12 23 37.4**	**+0.4**
	8.9nm,0.6s,baz=73,slow=12,SNR=13						
CTA				LR	LR	12 30 54.3	
	comp=Z,168nm,19.6s,baz=80,slow=34						
STKA	**Stephens Creek**	**29.59**	**230**	P	**P**	**12 24 55.1**	**+1.7**
	5.5nm,0.5s,baz=45,slow=8.9,SNR=27						
WRA	**Warramunga Arr**	**32.56**	**256**	LR	LR	12 37 50.5	
	comp=Z,198nm,18.1s,baz=102,slow=35						
H11S2	**WAKE ISLAND Hy**	**33.01**	**358**	T	T	13 00 23.8	
	baz=171						
H11S3	**WAKE ISLAND Hy**	**33.01**	**358**	T	T	13 00 16.7	
	baz=171						
H11S1	**WAKE ISLAND Hy**	**33.02**	**358**	T	T	13 00 26.2	
	baz=171						
ASAR	**Alice Springs**	**33.38**	**249**	P	**P**	**12 25 26.4**	**-0.7**
	2.8nm,0.5s,baz=78,slow=9.2,SNR=54						
ASAR				PcP	**PcP**	**12 28 08.8**	**-0.1**
	0.7nm,0.7s,baz=72,slow=3.1,SNR=2.7						
ASAR				LR	LR	12 37 50.5	
	comp=Z,138nm,21.8s,baz=120,slow=34						
H11N1	**WAKE ISLAND Hy**	**34.22**	**358**	T	T	13 01 47.0	
	baz=172						
H11N3	**WAKE ISLAND Hy**	**34.22**	**358**	T	T	13 01 53.3	
	baz=172						
H11N2	**WAKE ISLAND Hy**	**34.23**	**358**	T	T	13 01 53.1	
	baz=172						
FITZ	**Fitzroy Crossi**	**40.76**	**259**	LR	LR	12 43 01.8	
	comp=Z,124nm,18.3s,baz=98,slow=36						
BATI	**Baumata**	**43.51**	**271**	LR	LR	12 42 35.2	
	comp=Z,108nm,20.6s,baz=151,slow=33						
MJAR	**Matsushiro Arr**	**58.23**	**332**	P	**P**	**12 28 42.4**	**-0.4**
	3.8nm,0.9s,baz=168,slow=6.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**75.62**	**294**	P	**P**	**12 30 34.0**	**+0.1**
	0.7nm,0.3s,baz=120,slow=4.1,SNR=7.7						
ILAR	**Eielson Array**	**86.27**	**18**	P	**P**	**12 31 29.5**	**-0.3**
	1.0nm,0.7s,baz=241,slow=4.7,SNR=13						
PFO	**Pinyon Flats O**	**86.37**	**54**	LR	LR	13 03 12.8	
	comp=Z,38nm,19.4s,baz=258,slow=31						
NVAR	**Mina Array Bea**	**86.68**	**49**	P	**P**	**12 31 34.5**	**+1.8**
	0.7nm,0.7s,baz=234,slow=6.8,SNR=5.6						
NVAR				LR	LR	13 02 49.8	
	comp=Z,37nm,21.1s,baz=262,slow=30						
LPIG	**La Paz**	**88.51**	**65**	LR	LR	13 02 38.6	
	comp=Z,39nm,20.4s,baz=350,slow=30						
PDAR	**Pinedale Array**	**94.38**	**47**	LR	LR	13 12 29.8	
	comp=Z,20nm,19.1s,baz=248,slow=34						
TXAR	**Lajitas Array**	**95.61**	**61**	LR	LR	13 07 07.2	
	comp=Z,17nm,19.3s,baz=237,slow=30						
YKA	**Yellowknife Ar**	**97.18**	**27**	P	**P**	**12 32 20.3**	**-0.3**
	0.7nm,0.9s,baz=255,slow=4.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**97.81**	**324**	P	**P**	**12 32 22.9**	**-0.7**
	2.7nm,0.6s,baz=112,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**120.41**	**346**	PKP	**PKPdf**	**12 37 38.9**	**-0.4**
	4.4nm,0.9s,baz=64,slow=2.1,SNR=1.2						
AKASG	**Malin Array Be**	**131.13**	**326**	PKP	**PKiKP**	**12 38 01.0**	**-0.3**
	0.5nm,0.5s,baz=35,slow=3.5,SNR=1.9						
TORD	**Torodi Ar. Bea**	**166.66**	**265**	PKPab	**PKPab**	**12 39 57.2**	**-0.4**
	1.2nm,0.9s,baz=75,slow=3.5,SNR=5.6						

IDC ***23*** *12:20:35.7±0.6, 5°.34S×150°.60E, h191km±6km, mb4.0/19, mb1 4.1/22, mb1mx4.0/44, mbtmp4.5/22, Error ellipse: s-maj=15.2km s-min=6.8km az=119.0*

DJA ***23*** *12:20:36.2±0.3, 5°.5S×15°.1E±°, h187km±6km, M4.5/10, mB4.6/3, mb4.3/10, MLv4.7/3, Mw(mB)3.8/3*

NEIC ***23*** *12:20:36.2±1.7, 5°.38S±0°.07×150°.61E±0°.08, h184km±7km, mb4.6/46, Error ellipse: s-maj=11.8km s-min=10.1km az=114.0*

ISC 23 12:20:35.8±0.4, 5°.36S±0°.05×150°.60E±0°.06, h184km, n106, σ1s36/116, mb4.5/51, 2C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.77**	**54**	P	**Pn**	**12 21 11.7**	**+0.9**
	31nm,0.3s,baz=155,slow=0.9,SNR=30						
KRVT				S	**Sn**	**12 21 37.7**	**-0.2**
	34nm,0.3s,baz=185,slow=23,SNR=4.4						
RABL	**Rabaul**	**1.94**	**53**	Pn	**Pn**	**12 21 12.7**	**+0.1**
RABL				Sn	**Sn**	**12 21 41.5**	**+0.2**
MANU	**Manus Island**	**4.61**	**315**		**Pn**	**12 21 45.4**	**+0.5**
PMG	**Port Moresby**	**5.27**	**220**	P	**Pn**	**12 21 54.1**	**+0.7**
	7.9nm,0.3s,baz=27,slow=7.7,SNR=40						
PMG				S	**Sn**	**12 22 54.9**	**+0.4**
	4.8nm,0.3s,baz=358,slow=17,SNR=5.8						
PMG	**Port Moresby**	**5.27**	**220**	Pn	**Pn**	**12 21 53.6**	**+0.2**
PMG	**Port Moresby**	**5.27**	**220**	P	**Pn**	**12 21 54.4**	**+1.0**
COEN	**Coen**	**11.24**	**220**	Pn	**Pn**	**12 23 11.4**	**-0.2**
COEN	**Coen**	**11.24**	**220**	P	**Pn**	**12 23 15.1**	**+3.5**
	14nm,1.1s						
CTA	**Charters Tower**	**15.24**	**196**	P	**P**	**12 24 02.6**	**+0.1**
	0.7nm,0.3s,baz=33,slow=12,SNR=6.5						
CTA	**Charters Tower**	**15.24**	**196**	P	**P**	**12 24 05.7**	**+3.2**
	33nm,1.4s						
RK1H	**Rockhampton Ha**	**17.93**	**180**	P	**Pn**	**12 24 34.4**	**+0.5**
KDU	**Kakadu**	**19.31**	**247**	P	**P**	**12 24 47.5**	**+0.4**
SAUI	**Saumlaki**	**19.34**	**261**	P	**P**	**12 24 43.4**	**-4.1**
GUMO	**Guam**	**19.66**	**343**	P	**P**	**12 24 51.3**	**+0.4**
	7.6nm,0.3s,baz=175,slow=16,SNR=4.3						
GUMO	**Guam**	**19.66**	**343**	P	**P**	**12 24 50.5**	**-0.3**
EIDS	**Eidsvold**	**19.90**	**179**	P	**P**	**12 24 52.9**	**-0.5**
EIDS				IAmb	IAmb	12 25 00.6	
	comp=Z,26nm,1.2s						
KOUNC	**Koumac, New Ca**	**20.12**	**140**	P	**P**	**12 24 54.6**	**-1.2**
KOUNC				IAmb	IAmb	12 25 23.9	
	comp=Z,40nm,1.3s						
MTN	**Manton Dam**	**20.59**	**247**	P	**P**	**12 24 59.5**	**-1.4**
MTN				IAmb	IAmb	12 25 02.1	
	comp=Z,17nm,1.4s						
MTN	**Manton Dam**	**20.59**	**247**	P	**P**	**12 25 02.1**	**+1.2**
WB0	**Warramunga Arr**	**21.30**	**226**	P	**P**	**12 25 07.5**	**-0.9**
WB0				IAmb	IAmb	12 25 09.6	
	comp=Z,42nm,1.7s						
WR0	**Warramunga Arr**	**21.32**	**226**	P	**P**	**12 25 07.8**	**-0.7**
WRAB	**Tennant Creek**	**21.44**	**226**	P	**P**	**12 25 08.7**	**-1.1**
WRAB				IAmb	IAmb	12 25 11.5	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**21.45**	**226**	P	**P**	**12 25 08.7**	**-1.2**
WB2				IAmb	IAmb	12 25 11.7	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**21.45**	**226**	P	**P**	**12 25 09.3**	**-0.7**
	comp=Z,6.4nm,0.5s,baz=50,slow=10.0,SNR=79						
WRA				S	**S**	**12 28 56.1**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=50,slow=20,SNR=12						
WRA				ScP	**ScP**	**12 32 23.7**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=50,slow=2.6,SNR=16						
WRA	**Warramunga Arr**	**21.45**	**226**	P	**P**	**12 25 08.6**	**-1.4**
QLP	**Quilpie**	**21.96**	**195**	P	**P**	**12 25 16.7**	**+1.6**
DZM	**Mont Dzumac**	**22.61**	**139**	P	**P**	**12 25 21.7**	**+0.4**
	comp=Z,16nm,0.6s,baz=306,slow=9.5,SNR=12						
DZM	**Mont Dzumac**	**22.61**	**139**	P	**P**	**12 25 22.0**	**+0.7**
DZM				IAmb	IAmb	12 25 23.1	
	comp=Z,17nm,0.6s						
ONTNC	**Ouen Toro**	**22.78**	**139**	P	**P**	**12 25 20.3**	**-2.4**
KNRA	**Kununurra**	**23.76**	**243**	P	**P**	**12 25 31.4**	**-0.3**
KNRA				IAmb	IAmb	12 25 34.8	
	comp=Z,27nm,1.0s						
KNRA	**Kununurra**	**23.76**	**243**	P	**P**	**12 25 32.0**	**+0.3**
INKA	**Innaminka**	**24.15**	**202**	P	**P**	**12 25 36.8**	**+1.7**
AS31	**Alice Springs**	**24.29**	**220**	P	**P**	**12 25 36.3**	**-0.2**
ASAR	**Alice Springs**	**24.29**	**220**	P	**P**	**12 25 36.2**	**-0.3**
	comp=Z,17nm,0.8s,baz=54,slow=8.7,SNR=35						
ASAR				S	**S**	**12 29 40.3**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=56,slow=12,SNR=4.3						
ASAR				ScP	**ScP**	**12 32 31.1**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=44,slow=3.2,SNR=15						
ASAR	**Alice Springs**	**24.29**	**220**	P	**P**	**12 25 35.7**	**-0.7**
ARMA	**Armidale**	**24.95**	**178**	P	**P**	**12 25 43.2**	**+0.8**
ARMA				IAmb	IAmb	12 26 02.6	
	comp=Z,34nm,1.6s						
FITZ	**Fitzroy Crossi**	**27.47**	**240**	P	**P**	**12 26 04.8**	**-0.3**
	comp=Z,9.5nm,0.7s,baz=50,slow=5.3,SNR=46						
FITZ				S	**S**	**12 30 29.4**	**-2.9**
	comp=Z,1.3nm,0.8s,baz=127,slow=9.8,SNR=2.0						
FITZ	**Fitzroy Crossi**	**27.47**	**240**	P	**P**	**12 26 04.5**	**-0.5**
STKA	**Stephens Creek**	**27.70**	**197**	P	**P**	**12 26 06.1**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=337,slow=7.5,SNR=5.2						
STKA	**Stephens Creek**	**27.70**	**197**	P	**P**	**12 26 06.3**	**-0.6**
CAN	**Canberra**	**29.85**	**183**	P	**P**	**12 26 26.9**	**+0.9**
CAN				IAmb	IAmb	12 26 50.0	
	comp=Z,32nm,1.7s						
JNU	**Nakatsue**	**42.60**	**335**	P	**P**	**12 28 15.1**	**+1.1**
JGF	**Kuroka**	**42.60**	**344**	P	**P**	**12 28 15.1**	**+1.2**
JGF				IAmb	IAmb	12 29 54.9	
	comp=Z,64nm,2.0s						
MQZ	**McQueen's Vall**	**42.85**	**156**	P	**P**	**12 28 16.8**	**+1.0**
MJAR	**Matsushiro Arr**	**43.26**	**345**	P	**P**	**12 28 17.6**	**-1.7**
	comp=Z,5.2nm,1.0s,baz=176,slow=8.7,SNR=6.7						
JHS	**Saijyo**	**43.39**	**339**	P	**P**	**12 28 21.3**	**+1.1**
KSRS	**Korea Array**	**47.55**	**335**	P	**P**	**12 28 52.2**	**-0.6**
	comp=Z,7.0nm,0.9s,baz=157,slow=8.6,SNR=14						
KSAR	**Wonju Array Be**	**47.55**	**335**	P	**P**	**12 28 54.1**	**+1.3**
NJ2	**Nanjing**	**47.93**	**323**	*eP*	**P**	**12 28 57.6**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
ASAJ	**Asahikawa**	**49.77**	**352**	P	**P**	**12 29 09.8**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=166,slow=12,SNR=6.2						
USRK	**Ussuriysk Ar.**	**52.10**	**343**	P	**P**	**12 29 24.6**	**-2.4**
	comp=Z,3.2nm,0.7s,baz=185,slow=8.1,SNR=6.1						
USRK	**Ussuriysk Ar.**	**52.10**	**343**	P	**P**	**12 29 27.5**	**+0.5**
MDJ	**Mudanjiang**	**53.21**	**341**	P	**P**	**12 29 36.1**	**+1.0**
MDJ				S	**S**	**12 36 53.9**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.7s						
MDJ				LR	LR		
	comp=N,100nm,6.0s						
MDJ				LR	LR		
	comp=E,160nm,6.8s						
MDJ				LR	LR		
	comp=Z,170nm,6.6s						
CN2	**Changchun**	**53.94**	**338**	*eP*	**P**	**12 29 44.8**	**+4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.7s						
HNS	**HongShan**	**54.10**	**325**	⇑P	**P**	**12 29 42.8**	**+1.0**
HNS				pmax	pmax		
	comp=Z,17nm,1.1s						
BNX	**BinXian**	**54.92**	**340**	⇑P	**P**	**12 29 48.5**	**+1.0**
BNX				pmax	pmax		
	comp=Z,29nm,0.9s						
BNX				pmax	pmax		
	comp=Z,190nm,5.1s						
XAN	**Xi'an**	**55.54**	**318**	P	**P**	**12 29 52.8**	**+0.6**
XAN				pP	pP	12 30 34.3	+0.7
XAN				pmax	pmax		
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**56.14**	**296**	P	**P**	**12 29 55.4**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=111,slow=4.9,SNR=2.4						
CMAR	**Chiang Mai Arr**	**56.14**	**296**	P	**P**	**12 29 58.7**	**+2.0**
KLR	**Kul'dur**	**56.79**	**345**	P	**P**	**12 29 59.7**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=131,slow=1.8,SNR=7.4						
PZH	**PanZhiHua**	**56.91**	**306**	P	**P**	**12 30 02.8**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
OPA	**Opana**	**57.06**	**60**	P	**P**	**12 30 04.3**	**+1.2**
HHC	**Hu-ho-hao-te**	**58.24**	**326**	*eP*	**P**	**12 30 15.3**	**+4.1**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,81nm,6.7s						
PEA0B	**Petropavlovsk-**	**58.56**	**5**	P	**P**	**12 30 12.9**	**-0.1**
PETK	**Petropavlovsk-**	**58.56**	**5**	P	**P**	**12 30 12.3**	**-0.6**
	comp=Z,6.0nm,0.6s,baz=178,slow=7.0,SNR=13						
PETK	**Petropavlovsk-**	**58.56**	**5**	P	**P**	**12 30 12.8**	**-0.2**
LZH	**Lanzhou**	**60.12**	**317**	*eP*	**P**	**12 30 26.3**	**+2.1**
LZH				pP	pwP	12 31 14.8	+6.1
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
KIWB	**Kanaga Island**	**63.29**	**22**	P	**P**	**12 30 46.0**	**+1.2**
ADK	**Adak**	**63.48**	**22**	P	**P**	**12 30 47.0**	**+0.9**
GTA	**Gaotai**	**64.59**	**318**	*eP*	**P**	**12 30 55.0**	**+1.2**
GTA				pP	PcP	12 31 16.3	-10
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,44nm,5.1s						
GTA				LR	LR		
	comp=N,88nm,14.9s						
GTA				LR	LR		
	comp=E,83nm,17.8s						
GTA				LR	LR		
	comp=Z,110nm,15.6s						
ULN	**Ulaanbaatar**	**65.33**	**329**	P	**P**	**12 30 59.6**	**+1.1**
SONM	**Songino Array**	**65.65**	**329**	P	**P**	**12 30 59.3**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=130,slow=4.6,SNR=14						
SONM	**Songino Array**	**65.65**	**329**	P	**P**		
SEY	**Seymchan**	**68.11**	**1**	P	**P**	**12 31 15.3**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=230,slow=6.6,SNR=11						
UNV	**Unalaska Valle**	**69.05**	**26**	P	**P**	**12 31 22.3**	**+0.8**
BILL	**Bilibino**	**74.06**	**6**	P	**P**	**12 31 51.5**	**+0.4**
BILL				IAmb	IAmb	12 31 52.9	
	comp=Z,11nm,1.2s						
WMQ	**Urumqi**	**74.67**	**318**	*e*P	**P**	**12 31 56.8**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,14nm,1.3s						
TIXI	**Tiksi**	**78.17**	**353**	P	**P**	**12 32 12.9**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=269,slow=23,SNR=11						
TIXI	**Tiksi**	**78.17**	**353**	P	**P**	**12 32 14.8**	**+0.5**
MK31	**Makanchi Array**	**79.31**	**319**	P	**P**	**12 32 21.2**	**+0.1**
MKAR	**Makanchi Array**	**79.31**	**319**	P	**P**	**12 32 21.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=101,slow=6.0,SNR=21						
MKAR	**Makanchi Array**	**79.31**	**319**		**P**	**12 32 20.8**	**-0.3**
MAKZ	**Makanchi**	**79.52**	**319**	P	**P**	**12 32 22.2**	**0.0**
MAKZ				IAmb	IAmb	12 32 26.0	
	comp=Z,6.9nm,0.6s						
ZALV	**Zalesovo Beam**	**80.41**	**327**		**P**	**12 32 25.8**	**-1.0**
KDJ	**Kajisay**	**81.41**	**314**		**P**	**12 32 32.7**	**+0.1**
KSH	**Kashi**	**81.64**	**311**	P	**P**	**12 32 35.1**	**+1.3**
MLY	**Manley**	**82.19**	**21**	P	**P**	**12 32 35.4**	**-0.7**
MLY				IAmb	IAmb	12 32 37.0	
	comp=Z,14nm,1.5s						
BOOM	**Boomskoye usch**	**82.39**	**314**	P	**P**	**12 32 38.0**	**+0.3**
KURK	**Kurchatov**	**82.86**	**322**		**P**	**12 32 39.1**	**-0.6**
KURK				IAmb	IAmb	12 32 40.9	
	comp=Z,11nm,1.1s						
WRH	**Wood River Hil**	**82.91**	**23**	P	**P**	**12 32 38.8**	**-0.9**
WRH				IAmb	IAmb	12 33 41.9	
	comp=Z,27nm,1.8s						
CCB	**Clear Creek Bu**	**83.10**	**22**	P	**P**	**12 32 39.4**	**-1.2**
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**12 32 40.0**	**-2.7**
	comp=Z,3.0nm,0.8s,baz=251,slow=5.0,SNR=15						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**12 32 41.0**	**-1.7**
H24K	**Noodor Dome**	**83.64**	**21**	P	**P**	**12 32 42.9**	**-0.5**
H24K				IAmb	IAmb	12 34 00.3	
	comp=Z,18nm,1.9s						
MENT	**Mentasta**	**83.97**	**25**	P	**P**	**12 32 45.5**	**+0.4**
MENT				IAmb	IAmb	12 34 59.5	
	comp=Z,15nm,1.4s						
J25K	**Salcha River,**	**84.02**	**23**	P	**P**	**12 32 44.8**	**-0.6**
J25K				IAmb	IAmb	12 32 46.1	
	comp=Z,10nm,1.2s						
DOT	**Dot Lake**	**84.12**	**24**	P	**P**	**12 32 45.6**	**-0.3**
DOT				IAmb	IAmb	12 32 48.0	
	comp=Z,13nm,1.3s						
L26K	**Log Cabin Wild**	**84.16**	**25**	P	**P**	**12 32 46.1**	**0.0**
L26K				IAmb	IAmb	12 34 08.8	
	comp=Z,20nm,1.8s						
QSPA	**South Pole Qui**	**84.61**	**180**	P	**P**	**12 32 48.2**	**-0.2**
QSPA				IAmb	IAmb	12 33 32.8	
	comp=Z,15nm,1.4s						
DAWY	**Dawson**	**86.20**	**24**	P	**P**	**12 32 56.5**	**+0.3**
DAWY				IAmb	IAmb	12 32 57.6	
	comp=Z,8.6nm,1.3s						
INK	**Inuvik**	**89.76**	**21**	P	**P**	**12 33 11.7**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=237,slow=5.1,SNR=9.6						
A36M	**Sachs Harbour**	**93.25**	**18**	P	**P**	**12 33 27.9**	**-1.1**
A36M				IAmb	IAmb	12 33 30.2	
	comp=Z,5.3nm,0.8s						
NVAR	**Mina Array Bea**	**94.15**	**52**	P	**P**	**12 33 33.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=255,slow=6.3,SNR=4.9						
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**12 33 44.5**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=268,slow=4.4,SNR=6.7						
GERES	**GERESS Array B**	**123.36**	**327**	PKP	**PKPdf**	**12 39 10.0**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=48,slow=2.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**148.37**	**286**	PKPbc	**PKPbc**	**12 40 00.8**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=66,slow=2.1,SNR=15						
TORD				SKPbc	**SKPbc**	**12 43 18.9**	**-3.1**
	comp=Z,0.6nm,0.9s,baz=53,slow=0.9,SNR=2.9						

IDC ***23*** *12:27:00.7±5.2, 14°.74S×167°.19E, h129km±45km, mb3.5/5, mb1 3.8/6, mb1mx3.4/36, mbtmp4.0/6, Error ellipse: s-maj=35.5km s-min=31.8km az=171.0*

NOU ***23*** *12:27:01.5, 14°.74S×167°.27E, h112km, mb3.9/10, Vanuatu Islands*

ISC 23 12:26:58.2±1.3, 14°.6S±0°.1×167°.1E±0°.2, h100km, n11, σ1s71/12, mb3.8/5, Vanuatu Islands

| Code |

*IDC **23** 12:57:13.8±1.2,4.˝58N×94.˝25E, h0km, mb3.8/9, mb1 4.0/11,mb1mx3.8/37,mbtmp3.8/11,ML4.2/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/87, Error ellipse: s-maj=47.0km s-min=18.1km az=49.0*

*NEIC **23** 12:57:19.6±0.7,4.˝74N±0.˝05×94.˝54E±0.˝08, h27km±7km, mb4.0/6, Error ellipse: s-maj=12.1km s-min=6.8km az=114.0*

ISC 23 12:57:19.5±0.7, 4°75N±0.˝08×94°46E±0.˝07, h33km, n36, σ0s99/33, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.52**	**79**	Pn		**Pn**		**12 57 57.4**	**-0.8**
LHMI				Sn		**Sn**		**12 58 27.0**	**-0.8**
GSI	**Gunungsitoli**	**4.62**	**138**			**Pn**		**12 58 26.7**	**-0.4**
PSI	**Prapat**	**4.85**	**113**	Pn		**Pn**		**12 58 31.3**	**+0.9**
	3.1nm,0.3s,baz=307,slow=11,SNR=11								
PSI				Sn		**Sn**		**12 59 27.1**	**+1.6**
	0.9nm,0.3s,baz=201,slow=12,SNR=4.6								
PSI				LR		LR		13 00 40.4	
	comp=Z,231nm,18.6s,baz=340,slow=41								
RPSI	**Rantau Prapat**	**4.90**	**114**			**Pn**		**12 58 31.3**	**+0.4**
KULM	**Kulim**	**6.19**	**85**			**Pn**		**12 58 48.0**	**-0.6**
SRIT	**Nakonsritamara**	**6.38**	**53**	Pn		**Pn**		**12 58 50.8**	**-0.5**
IPM	**Ipoh**	**6.55**	**92**	Pn		**Pn**		**12 58 52.1**	**-1.4**
MNAI	**Manna**	**12.40**	**137**	Pn		**Pn**		**13 00 13.2**	**-0.6**
PALK	**Pallekele**	**13.91**	**281**	LR		LR		13 05 00.2	
	comp=Z,48nm,20.2s,baz=246,slow=34								
PALK	**Pallekele**	**13.91**	**281**	Pn		**Pn**		**13 00 34.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.31**	**17**	Pn		**Pn**		**13 00 42.2**	**+2.2**
	0.6nm,0.3s,baz=208,slow=11,SNR=2.2								
CHTO	**Chiang Mai**	**14.65**	**17**	Pn		**Pn**		**13 00 43.6**	**-0.9**
H08S2	**Diego Garcia H**	**25.14**	**241**	T		T		13 28 51.2	
	baz=61,slow=76,SNR=47								
H08S3	**Diego Garcia H**	**25.14**	**241**	T		T		13 28 46.8	
	baz=61,slow=76,SNR=34								
H08S1	**Diego Garcia H**	**25.16**	**241**	T		T		13 28 48.1	
	baz=61,slow=76,SNR=46								
BOOM	**Boomskoye usch**	**41.04**	**339**	P		**P**		**13 05 01.4**	**+1.4**
MK31	**Makanchi Array**	**43.19**	**348**	P		**P**		**13 05 17.9**	**+0.6**
MK31				IAmb		IAmb		13 05 37.4	
	comp=Z,3.2nm,1.5s								
MKAR	**Makanchi Array**	**43.19**	**348**	P		**P**		**13 05 16.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=164,slow=8.0,SNR=12								
MKAR	**Makanchi Array**	**43.19**	**348**	P		**P**		**13 05 17.5**	**+0.2**
SONM	**Songino Array**	**44.14**	**12**	P		**P**		**13 05 25.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=188,slow=7.3,SNR=1.7								
WRA	**Warramunga Arr**	**46.24**	**123**	P		**P**		**13 05 41.1**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=302,slow=9.1,SNR=12								
KURK	**Kurchatov**	**47.70**	**346**	P		**P**		**13 05 53.5**	**+0.6**
ASAR	**Alice Springs**	**47.71**	**128**	P		**P**		**13 05 53.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=298,slow=7.6,SNR=6.0								
ZAA0	**Zalesovo Array**	**49.68**	**353**	P		**P**		**13 06 08.0**	**-0.1**
ZAA0				IAmb		IAmb		13 06 10.1	
	comp=Z,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**49.68**	**353**	P		**P**		**13 06 07.5**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=180,slow=6.8,SNR=5.1								
ZALV	**Zalesovo Beam**	**49.68**	**353**	P		**P**		**13 06 08.4**	**+0.3**
BRVK	**Borovoye**	**52.10**	**342**	P		**P**		**13 06 26.7**	**+0.4**
BRVK				IAmb		IAmb		13 06 27.4	
	comp=Z,1.9nm,1.0s								
ABKAR	**Akbulak array**	**53.12**	**332**	P		**P**		**13 06 34.7**	**+0.8**
JMM	**Marumori**	**53.50**	**45**	P		**P**		**13 06 36.4**	**-0.5**
MBAR	**Mbarara**	**63.88**	**267**	LR		LR		13 31 59.6	
	comp=Z,39nm,19.3s,baz=182,slow=33								
BRTR	**Keskin Array B**	**64.72**	**312**	P		**P**		**13 07 52.3**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.9,SNR=1.9								
FINES	**FINESS Array B**	**75.61**	**333**	P		**P**		**13 09 01.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=104,slow=5.9,SNR=2.0								
FINES	**FINESS Array B**	**75.61**	**333**	P		**P**		**13 09 01.1**	**+0.2**
ARCES	**ARCESS Array B**	**78.30**	**340**	P		**P**		**13 09 16.4**	**+0.5**
	comp=Z,4.1nm,1.1s,baz=98,slow=4.1,SNR=1.7								
GERES	**GERESS Array B**	**80.36**	**319**	P		**P**		**13 09 28.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=94,slow=4.3,SNR=6.6								
GERES	**GERESS Array B**	**80.36**	**319**	P		**P**		**13 09 29.0**	**+1.3**

*WEL **23** 13:06:00,45.˝11S×170.˝61E, h15km, ML4.3, Mw3.9, Moment Tensor Solution. s10 Moment tensor: Scale 10^{14}Nm; M_{rr}3.44; $M_{\theta\theta}$2.40; $M_{\phi\phi}$-5.84; $M_{r\theta}$2.63; $M_{\theta\phi}$-5.87; $M_{\phi r}$-2.87; Fault plane solution: $M_0$8.66000×10^{14} NP1: ϕ_s66.00000°, δ59.00000°, λ156.00000°. NP2: ϕ_s169.00000°, δ69.00000°, λ33.00000°. Principal axes: T -90.4800, Plg38.0000°, Azm31.0000°; N 82.7300, Plg51.0000°, Azm197.0000°; P 7.7500, Plg6.0000°, Azm296.0000°;*

WEL 23 13:06:11.5±0.5, 45°S×-3.˝×17°1E±°, h8km±3km, ML4.3/22, ML4.5/22, MLv4.3/22 Error ellipse: s-maj=0.0km s-min=0.0km az=127.8, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**0.11**	**2**	P		P	g	13 06 15.2	+1.2
ODZ				S		S	g	13 06 16.6	+0.8
HHSZ	**Highcliff Hill**	**0.73**	**182**	P		P	b	13 06 26.8	+0.3
TMZ	**Timaru**	**0.82**	**19**	P		P	b	13 06 27.9	-0.1
TMZ				S		S	b	13 06 39.3	+0.1
LBZ	**Lake Benmore**	**0.84**	**337**	P		P	g	13 06 27.4	-0.2
EAZ	**Earnscleugh**	**0.94**	**265**	P		P	g	13 06 29.8	+0.2
EAZ				S		S	g	13 06 40.7	-1.2
TUZ	**Tuapeka**	**1.07**	**221**	P		P	b	13 06 32.4	+0.2
TUZ				S		S	g	13 06 45.4	-0.4
WKZ	**Wanaka**	**1.20**	**285**	P		P	g	13 06 34.4	-0.1
ARCZ	**Arundel**	**1.27**	**18**	P		P	n	13 06 35.0	-0.6
RPZ	**Rata Peaks**	**1.47**	**12**	P		P	n	13 06 37.7	-0.7
RPZ				S		S	n	13 06 57.9	0.0
WACZ	**Wakanui South**	**1.49**	**36**	P		P	n	13 06 38.1	-0.5
JCZ	**Jackson Bay**	**1.71**	**309**	P		P	b	13 06 42.8	-0.4
FOZ	**Fox Glacier**	**1.73**	**340**	P		P	b	13 06 43.0	-0.5
FOZ				S		S	n	13 07 04.4	+0.3
SYZ	**Scrubby Hill**	**1.73**	**217**	P		P	n	13 06 41.9	0.0
RACZ	**Rakaia**	**1.79**	**37**	P		P	n	13 06 42.1	-0.6
MLZ	**Mavora Lakes**	**1.79**	**262**	P		P	n	13 06 42.8	0.0
GCSZ	**Gaunt Creek Bo**	**1.85**	**353**	P		P	n	13 06 42.8	-0.9
MSZ	**Milford Sound**	**1.99**	**283**	P		P	n	13 06 46.0	+0.6
WHZ	**Wether Hill Ro**	**2.03**	**248**	P		P	n	13 06 45.5	-0.5
MQZ	**McQueen's Vall**	**2.05**	**46**	P		P	n	13 06 45.5	-0.7
AKCZ	**Akaroa Harbour**	**2.07**	**52**	P		P	n	13 06 46.1	-0.5
WVZ	**Waitaha Valley**	**2.08**	**2**	P		P	n	13 06 47.6	+0.9
OXZ	**Oxford**	**2.09**	**29**	P		P	n	13 06 46.0	-0.9
OKCZ	**Okains Bay**	**2.25**	**51**	P		P	n	13 06 48.7	-0.4
AMCZ	**Amberley**	**2.45**	**37**	P		P	n	13 06 51.6	-0.2
DCZ	**Deep Cove**	**2.48**	**262**	P		P	n	13 06 52.5	+0.3
APZ	**The Paps**	**2.49**	**227**	P		P	n	13 06 52.1	-0.3
INZ	**Inchbonnie**	**2.50**	**14**	P		P	n	13 06 52.3	-0.2
LTZ	**Lake Taylor**	**2.65**	**27**	P		P	n	13 06 53.8	-0.9
PYZ	**Puysegur Point**	**2.95**	**249**	P		P	n	13 06 59.0	+0.3
KHZ	**Kahutara**	**3.45**	**38**	P		P	n	13 07 04.9	-0.7
DSZ	**Denniston Nort**	**3.52**	**14**	P		P	n	13 07 05.9	-0.6
THZ	**Tophouse**	**3.77**	**27**	P		P	n	13 07 09.7	-0.3
MRNZ	**Matariki Terra**	**4.06**	**23**	P		P	n	13 07 14.0	0.0
BSWZ	**Blackbirch Sta**	**4.17**	**36**	P		P	n	13 07 16.0	+0.5
NNZ	**Nelson**	**4.42**	**28**	P		P	n	13 07 19.7	+0.9
TUWZ	**Tuamarina**	**4.44**	**34**	P		P	n	13 07 19.4	+0.3
DUWZ	**D'Urville Isla**	**4.97**	**30**	P		P	n	13 07 27.8	+1.3
MSWZ	**Moikau Station**	**5.03**	**44**	P		P	n	13 07 29.3	+2.0
CAW	**Cannon Point**	**5.18**	**40**	P		P	n	13 07 28.3	-1.1
TRWZ	**Traveller**	**5.26**	**46**	P		P	n	13 07 32.2	+1.7
OGWZ	**Otaki Gorge**	**5.46**	**39**	P		P	n	13 07 33.1	-0.1
MRZ	**Mangatainoka R**	**5.77**	**41**	P		P	n	13 07 36.6	-0.9
BFZ	**Birch Farm**	**6.08**	**45**	P		P	n	13 07 41.5	-0.2

*NEIC **23** 13:14:06.9±1.9, 30.˝34S±0.˝04×71.˝71W±0.˝09, h24km±6km, mb4.5/9, ML4.5(GUC), Error ellipse: s-maj=11.6km s-min=6.4km az=91.0*

*GUC **23** 13:14:07.9±0.5, 30.˝39S×71.˝64W, h30km±1km, ML4.5*

*IDC **23** 13:14:08.0±5.0, 30.˝40S×71.˝40W, h33km±36km, mb3.7/5, mb1 3.9/10,mb1mx3.8/26,mbtmp3.9/10,ML3.9/5,MS3.5/10, Ms1 3.5/10,ms1mx3.2/49, Error ellipse: s-maj=30.6km s-min=20.3km az=102.0*

ISC 23 13:14:07.1±0.8, 30.˝40S±0.˝03×71.˝67W±0.˝05, h31km±5km, n74, σ1s75/83, mb4.2/8, MS3.5/5, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**174**				**Pb**	**13 14 14.6**	**+0.2**
CO06						*i*	S	**Sb**	**13 14 19.5**	**+0.1**
CO06							IAML		13 14 20.5	
	comp=E,119μm,0.1s									
CO05	**La Serena**	**0.60**	**38**				**Pb**	**13 14 19.4**	**+0.1**
CO05	**La Serena**	**0.60**	**38**			*i*	P	**Pb**	**13 14 19.4**	**+0.1**
CO05						*i*	S	**Sb**	**13 14 27.9**	**+0.3**
CO05							IAML		13 14 30.1	
	comp=E,20μm,0.4s									
GO04	**Tololo Observa**	**0.78**	**74**				**Pb**	**13 14 22.4**	**0.0**
GO04	**Tololo Observa**	**0.78**	**74**			*i*	P	**Pb**	**13 14 22.3**	**-0.1**
GO04						*i*	S	**Sb**	**13 14 32.7**	**-0.2**
GO04							IAML		13 14 36.8	
	comp=N,42μm,0.3s									
CO03	**El Pedregal**	**0.95**	**118**	Pn			**Pn**	**13 14 24.9**	**+0.4**
CO03	**El Pedregal**	**0.95**	**118**			*i*	P	**Pn**	**13 14 24.7**	**+0.3**
CO03						*i*	S	**Sn**	**13 14 37.4**	**+0.4**
CO03							IAML		13 14 38.0	
	comp=E,20μm,0.5s									
CO02	**Combarbal**	**0.99**	**145**				**Pn**	**13 14 25.4**	**+0.5**
CO02	**Combarbal**	**0.99**	**145**			*i*	P	**Pn**	**13 14 25.4**	**+0.5**
CO02						*i*	S	**Sn**	**13 14 38.7**	**+0.7**
CO02							IAML		13 14 41.1	
	comp=N,61μm,0.3s									
LCO	**Las Campanas**	**1.62**	**32**				**Pn**	**13 14 34.9**	**+1.2**
LCO	**Las Campanas**	**1.62**	**32**			*i*	P	**Pn**	**13 14 35.0**	**+1.2**
LCO						*i*	S	**Sb**	**13 14 56.5**	**-0.1**
VA06	**Catapilco**	**2.18**	**172**				**Pn**	**13 14 42.5**	**+1.3**
VA06	**Catapilco**	**2.18**	**172**		*e*	P	**Pn**	**13 14 42.7**	**+1.5**
VA06						*i*	S	**Sb**	**13 15 11.6**	**-0.9**
VA06							IAML		13 15 18.7	
	comp=N,4μm,0.3s									
AC04	**Llanos de Chal**	**2.24**	**14**				**Pn**	**13 14 42.4**	**+0.3**
AC04	**Llanos de Chal**	**2.24**	**14**			*i*	P	**Pn**	**13 14 42.5**	**+0.3**
AC04							IAML		13 15 22.4	
	comp=E,2μm,0.3s									
VA03	**San Esteban**	**2.55**	**158**				**Pn**	**13 14 48.7**	**+2.3**
VA03	**San Esteban**	**2.55**	**158**		*e*	P	**Pn**	**13 14 49.1**	**+2.8**
VA03						*i*	S	**Sb**	**13 15 20.7**	**-2.4**
VA03							IAML		13 15 31.9	
	comp=E,4μm,0.5s									
VA01	**Torpederas**	**2.62**	**180**				**Pn**	**13 14 47.9**	**+0.7**
VA01	**Torpederas**	**2.62**	**180**		*e*	P	**Pb**	**13 14 52.6**	**-0.7**
VA01						*i*	S	**Sn**	**13 15 17.2**	**-0.8**
VA01							IAML		13 15 31.5	
	comp=E,2μm,0.8s									
ROCH	**El Roble**	**2.63**	**168**		*e*	P	**Pb**	**13 14 50.7**	**-2.9**
ROCH					*e*	P	**Pn**	**13 14 50.2**	**+2.6**
ROCH						*i*	S	**Sb**	**13 15 23.0**	**-2.6**
ROCH						*i*	S	**Sn**	**13 15 23.3**	**+4.7**
ROCH							IAML		13 15 29.9	
	comp=E,3μm,0.8s									
ROCH							IAML		13 15 32.3	
	comp=N,3μm,0.5s									
ROC1	**El Roble**	**2.63**	**168**				**Pn**	**13 14 47.1**	**-0.5**
ZON	**Zonda**	**2.81**	**115**				**Pn**	**13 14 53.7**	**+3.8**
PEL	**Peldehue**	**2.86**	**163**				**Pn**	**13 14 52.5**	**+1.8**
PEL	**Peldehue**	**2.86**	**163**		*e*	P	**Pn**	**13 14 54.1**	**+3.4**
PEL						*i*	S	**Sn**	**13 15 28.4**	**+4.3**
PEL							IAML		13 15 40.2	
	comp=E,2μm,0.2s									
MT02	**Curacav**	**2.89**	**171**				**Pn**	**13 14 53.4**	**+2.3**
MT05	**Renca**	**3.09**	**165**				**Pn**	**13 14 56.2**	**+2.4**
MT05	**Renca**	**3.09**	**165**		*e*	P	**Pn**	**13 14 56.5**	**+2.7**
MT05						*i*	S	**Sn**	**13 15 33.8**	**+4.1**
AC06	**Mina Casimiro**	**3.24**	**21**				**Pn**	**13 14 56.0**	**+0.2**
MT03	**Universidad Ad**	**3.24**	**163**				**Pn**	**13 14 56.6**	**+0.7**
VA05	**Santo Domingo**	**3.25**	**179**	Pn			**Pn**	**13 14 57.3**	**+1.4**
VA05	**Santo Domingo**	**3.25**	**179**		*e*	P	**Pb**	**13 15 01.5**	**-2.6**
VA05						*i*	S	**Sn**	**13 15 39.3**	**+5.7**
VA05							IAML		13 15 53.0	
	comp=E,2μm,0.5s									
MT09	**Talagante**	**3.42**	**170**				**Pn**	**13 14 59.2**	**+0.7**
MT09	**Talagante**	**3.42**	**170**		*e*	P	**Pn**	**13 15 00.3**	**+1.9**
MT09							IAML		13 15 55.8	
	comp=N,1μm,0.3s									
MT01	**Popeta**	**3.48**	**174**				**Pn**	**13 14 59.2**	**+0.1**
BO04	**La Punta**	**3.69**	**166**				**Pn**	**13 15 03.3**	**+1.2**
BO01	**Tunca**	**4.01**	**173**				**Pn**	**13 15 06.1**	**-0.4**
AC02	**Maricunga**	**4.19**	**33**	Pn			**Pn**	**13 15 08.7**	**-0.7**
AC01	**Pan de Azucar**	**4.34**	**13**	Pn			**Pn**	**13 15 09.6**	**-1.3**
BO02	**Sierra Bellavi**	**4.45**	**171**	Pn			**Pn**	**13 15 13.7**	**+1.3**
GO05	**Huala**	**4.61**	**183**				**Pn**	**13 15 14.9**	**+0.2**
ML02	**Panimavida**	**5.36**	**178**				**Pn**	**13 15 24.6**	**-0.3**
H03N1	**Juan Fernandez**	**6.87**	**242**	T		T		13 22 46.9	
	baz=70,slow=72									
H03N2	**Juan Fernandez**	**6.88**	**242**	T		T		13 22 47.3	
	baz=70,slow=72									
H03N3	**Juan Fernandez**	**6.88**	**242**	T		T		13 22 43.3	
	baz=70,slow=72									
LVC	**Limon Verde**	**8.14**	**18**	Pn			**Pn**	**13 16 02.9**	**-0.6**
	comp=N,0.6nm,0.3s,baz=324,slow=7.7,SNR=2.5									
LVC				Sn			**Sn**	**13 17 31.9**	**-2.7**
	comp=N,2.1nm,0.3s,baz=236,slow=11,SNR=2.0									
LVC				LR			LR	13 19 26.4		
	comp=N,283nm,19.0s,baz=220,slow=39									
LC01	**Cunco**	**8.48**	**181**				**Pn**	**13 16 08.7**	**+0.9**
PLCA	**Paso Flores**	**10.35**	**175**	Pn			**Pn**	**13 16 33.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=312,slow=15,SNR=2.6									
PLCA				Lg			Lg	13 19 19.9		
	comp=N,0.1nm,0.3s,baz=337,slow=7.7,SNR=2.4									
PLCA				LR			LR	13 20 48.8		
	comp=N,255nm,18.5s,baz=350,slow=39									
CPUP	**Villa Florida**	**13.26**	**76**	Pn			**Pn**	**13 17 11.7**	**-1.5**
	comp=N,0.3nm,0.3s,baz=259,slow=16,SNR=1.8									
CPUP				Sn			**Sn**	**13 19 37.0**	**-2.5**
	comp=N,0.3nm,0.3s,baz=121,slow=18,SNR=2.3									
CPUP				Lg			Lg	13 20 46.9		
	comp=N,0.1nm,0.3s,baz=342,slow=20,SNR=2.2									
CPUP				LR			LR	13 22 45.0		
	comp=N,139nm,19.6s,baz=234,slow=40									
LPAZ	**La Paz**	**14.41**	**14**	Pn			**Pn**	**13 17 29.2**	**-0.3**
	comp=N,0.2nm,0.3s,baz=191,slow=7.0,SNR=6.6									
LPAZ				LR			LR	13 23 34.0		
	comp=N,132nm,18.7s,baz=154,slow=39									
SIV	**San Ignacio**	**17.32**	**36**	P			**Pn**	**13 18 06.5**	**-0.1**
	comp=N,0.8nm,0.3s,baz=212,slow=10,SNR=29									
NNA	**Nana**	**18.94**	**344**	LR			LR	13 23 56.5		
	comp=N,93nm,21.3s,baz=156,slow=31									
BDFB	**Brasilia**	**26.18**	**61**	P			**P**	**13 19 37.5**	**-1.6**
	comp=N,3.3nm,0.7s,baz=184,slow=14,SNR=2.2									
OTAV	**Otavalo**	**31.14**	**347**	P			**P**	**13 20 23.5**	**-0.2**
OTAV				IAmb			IAmb	13 20 23.9		
	comp=Z,6.2nm,1.2s									
RPN	**Rapa Nui**	**33.08**	**266**	LR			LR	13 30 10.5		
	comp=Z,95nm,18.2s,baz=34,slow=29									
ZARC	**Zaragoza, Cauc**	**37.80**	**355**	P			**P**	**13 21 20.8**	**+0.1**
ZARC				IAmb			IAmb	13 21 34.5		
	comp=Z,9.2nm,1.3s									
MDP	**Montagnes des**	**39.72**	**31**	LR			LR	13 38 37.4		
	comp=Z,77nm,20.2s,baz=204,slow=37									
SJG	**San Juan**	**48.52**	**7**	LR			LR	13 42 49.9		
	comp=Z,50nm,20.2s,baz=144,slow=36									
CMIG	**Matias Romero**	**52.24**	**332**	LR			LR	13 40 13.1		
	comp=Z,38nm,19.5s,baz=222,slow=30									
SNAA	**Sanae**	**54.81**	**159**	P			**P**	**13 23 34.8**	**+1.1**
SNAA				IAmb			IAmb	13 23 59.3		
	comp=Z,4.8nm,0.9s									
QSPA	**South Pole Qui**	**59.83**	**180**	P			**P**	**13 24 10.5**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=144,slow=2.0,SNR=10									
QSPA	**South Pole Qui**	**59.83**	**180**	P			**P**	**13 24 10.5**	**+1.1**
QSPA				IAmb			IAmb	13 24 21.5		
	comp=Z,4.7nm,1.1s									
TXAR	**Lajitas Array**	**66.77**	**330**	P			**P**	**13 24 56.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=126,slow=4.6,SNR=4.2									
DBIC	**Dimbokro**	**73.75**	**72**	P			**P**	**13 25 38.7**	**+0.1**
NVAR	**Mina Array Bea**	**81.12**	**325**	P			**P**	**13 26 21.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=159,slow=7.7,SNR=1.5									
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P			**P**	**13 26 26.5**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=277,slow=4.4,SNR=5.1									
LBTB	**Lobatse**	**83.54**	**115**	LR			LR	14 02 00.6		
	comp=Z,34nm,18.1s,baz=194,slow=34									
WRA	**Warramunga Arr**	**124.05**	**210**	PKP			**PKPdf**	**13 33 02.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=150,slow=1.7,SNR=7.4									
H11S2	**WAKE ISLAND Hyl**	**126.06**	**272**	T			T	15 51 47.5		
	baz=114,slow=75									
H11S1	**WAKE ISLAND Hyl**	**126.08**	**272**	T			T	15 51 48.3		
	baz=114,slow=75									
H11S3	**WAKE ISLAND Hyl**	**126.08**	**272**	T			T	15 51 49.0		
	baz=114,slow=75									
ZALV	**Zalesovo Beam**	**150.97**	**29**	PKP			**PKPdf**	**13 33 50.6**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=321,slow=9.3,SNR=2.3									
ZALV				PKPbc			**PKPbc**	**13 33 57.1**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=310,slow=3.3,SNR=22									
ZALV				PKPab			**PKPab**	**13 34 03.3**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=324,slow=3.5,SNR=8.0									
MKAR	**Makanchi Array**	**154.05**	**44**	PKP			**PKPdf**	**13 33 55.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=354,slow=1.4,SNR=3.2									
MKAR				PKPbc			**PKPbc**	**13 34 03.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=321,slow=1.7,SNR=5.4									
MKAR				PKPab			**sPKPbc**	**13 34 16.9**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=274,slow=3.3,SNR=5.5									
PZH	**PanZhiHua**	**173.02**	**122**	PKP			**PKPdf**	**13 34 13.5**	**-0.2**

*CNRM **23** 13:18:23.5,35.˝69N×3.˝58W, h26km, ml2.9*

*MDD **23** 13:18:24.2±0.5,35.˝74N×3.˝58W, h15km±3km, mb_Lg2.3/11, Error ellipse: s-maj=3.3km s-min=3.2km az=17.0*

*SFS **23** 13:18:25.0,35.˝71N×3.˝51W, h25km, ML2.6, ALBORAN SUR*

ISC 23 13:18:22.9±1.1, 35°72N±0.˝03×3°59W±0.˝03, h17km±9km, n25, σ1s16/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.50**	**64**	Pg			**Pb**	**13 18 34.5**	**+1.2**
EALB				Sg			**Sb**	**13 18 42.5**	**+2.3**
EALB						*i*	Vmb_Lg	13 18 44.2	
EMEL	**Melilla**	**0.67**	**129**	Pg			**Pg**	**13 18 36.2**	**+0.2**
EMEL				Sg			**Sg**	**13 18 44.9**	**0.0**
GOG	**Mont Gurugu**	**0.69**	**136**	P			**Pg**	**13 18 36.5**	**-0.1**
GOG				S			**Sg**	**13 18 45.0**	**-0.8**
PVLZ	**Peæn de**	**0.80**	**227**	P			**Pg**	**13 18 37.8**	**-0.7**
PVLZ				S			**Sg**	**13 18 48.7**	**-0.3**
ELGU	**Los Guajares,**	**1.15**	**358**	Pg			**Pb**	**13 18 44.3**	**0.0**
ELGU				Sg			**Sb**	**13 18 58.8**	**-0.2**
ELGU						*i*	Vmb_Lg	13 19 02.5	
EMAL	**Malaga-Limoner**	**1.24**	**327**	P			**Pn**	**13 18 45.5**	**0.0**
EMAL				S			**Sb**	**13 19 00.2**	**-1.4**
EMIJ	**Mijas**	**1.28**	**312**	Pn			**Pn**	**13 18 45.6**	**-0.4**
EMIJ				Sn			**Sb**	**13 19 01.5**	**-1.1**
EMIJ						*i*	Vmb_Lg	13 19 02.6	
EBER	**Berja**	**1.30**	**25**	Pn			**Pn**	**13 18 46.6**	**0.0**
EBER				Sn			**Sb**	**13 19 01.4**	**-2.2**
EBER				Sg			**Sg**	**13 19 05.2**	**0.0**
EBER						*i*	Vmb_Lg	13 19 06.1	
TAF	**Taforalt**	**1.32**	**133**	P			**Pn**	**13 18 45.8**	**-0.8**
EGOR	**Sierra Gorda,**	**1.45**	**343**	Pn			**Pn**	**13 18 49.4**	**+0.9**
EGOR				Sn			**Sn**	**13 19 06.0**	**-1.1**
EGOR						*i*	Vmb_Lg	13 19 12.5	
SMIR	**Smir Dam**	**1.46**	**269**	P			**Pn**	**13 18 48.8**	**+0.3**
SMIR				S			**Sn**	**13 19 05.7**	**-1.5**
EQUE	**Quentar**	**1.49**	**5**	Pn			**Pn**	**13 18 49.6**	**+0.7**
EQUE				Sn			**Sn**	**13 19 06.8**	**-1.3**
EJIF	**Jimena Fronter**	**1.69**	**296**	Pn			**Pn

1.2nm,0.7s,baz=65,slow=10,SNR=9.6
WRA LR LR 13 56 32.2
comp=Z,78nm,19.7s,baz=34,slow=36
ASAR Alice Springs 23.70 232 P **P 13 48 46.5 0.0**
4.2nm,1.1s,baz=58,slow=9.3,SNR=20
SIJI Sorong 24.35 290 LR LR 13 58 33.4
comp=Z,161nm,18.1s,baz=197,slow=37
STKA Stephens Creek 24.85 206 P **P 13 48 57.2 +0.2**
4.2nm,0.8s,baz=29,slow=12,SNR=8.7
STKA LR LR 13 58 58.5
comp=Z,186nm,18.2s,baz=26,slow=37
GUMO Guam 24.95 338 LR LR 13 59 25.7
comp=Z,32nm,18.1s,baz=163,slow=38
FITZ Fitzroy Crossi 28.78 250 P **P 13 49 32.3 -0.2**
1.2nm,1.0s,baz=62,slow=8.8,SNR=2.0
BATI Baumata 29.95 267 LR LR 14 05 03.0
comp=Z,169nm,18.1s,baz=118,slow=43
AFI Afiamalu 33.65 100 LR LR 14 00 27.1
comp=Z,164nm,21.3s,baz=286,slow=30
KAPI Kappang 34.35 275 LR LR 14 04 37.4
comp=Z,74nm,19.3s,baz=122,slow=37
RPZ Rata Peaks 36.89 159 LR LR 14 03 55.3
comp=Z,198nm,20.8s,baz=332,slow=33
JOW Kunigami 44.18 326 LR LR 14 08 14.1
comp=Z,101nm,20.0s,baz=164,slow=34
LEM Lembang 46.04 270 LR LR 14 15 36.2
comp=Z,92nm,18.7s,baz=316,slow=42
MJAR Matsushiro Arr 48.43 343 LR LR 14 10 29.0
comp=Z,20nm,20.4s,baz=168,slow=33
KSRS Korea Array 52.99 334 P **P 13 52 50.8 -0.3**
0.6nm,0.6s,baz=151,slow=8.5,SNR=2.1
KSRS LR LR 14 16 05.4
comp=Z,12nm,18.0s,baz=235,slow=37
ASAJ Asahikawa 54.64 350 LR LR 14 13 24.9
comp=Z,28nm,21.2s,baz=174,slow=33
CMAR Chiang Mai Arr 61.20 297 P **P 13 53 50.2 +0.6**
1.0nm,0.9s,baz=116,slow=5.1,SNR=5.2
KLR Kul'dur 61.95 344 LR LR 14 17 34.7
comp=Z,22nm,21.9s,baz=194,slow=33
PETK Petropavlovsk- 62.71 2 P **P 13 53 58.9 -0.2**
2.4nm,1.0s,baz=193,slow=5.8,SNR=2.5
PETK LR LR 14 17 16.3
comp=Z,40nm,20.9s,baz=122,slow=32
MA2 Magadan 69.17 358 LR LR 14 26 52.5
comp=Z,14nm,18.0s,baz=130,slow=38
SONM Songino Array 71.19 328 P **P 13 54 52.7 -0.6**
0.4nm,0.5s,baz=131,slow=5.6,SNR=4.0
SONM LR LR 14 27 03.1
comp=Z,25nm,18.0s,baz=158,slow=37
PALK Pallekele 75.01 280 LR LR 14 30 56.5
comp=Z,16nm,18.5s,baz=246,slow=38
MKAR Makanchi Array 84.89 319 P **P 13 56 09.7 +0.4**
0.4nm,0.9s,baz=97,slow=4.9,SNR=5.0
ZALV Zelesovo Beam 85.97 326 P **P 13 56 15.5 +1.1**
0.4nm,0.3s,baz=120,slow=5.7,SNR=1.9
ILAR Eielson Array 86.28 22 P **P 13 56 15.9 +0.2**
0.8nm,0.8s,baz=274,slow=4.7,SNR=4.2
ILAR LR LR 14 30 40.6
comp=Z,45nm,20.1s,baz=232,slow=33
AAK Ala-Archa 88.99 313 LR LR 14 38 55.2
comp=Z,24nm,18.1s,baz=83,slow=37
INK Inuvik 92.63 21 LR LR 14 35 38.9
comp=Z,63nm,18.5s,baz=207,slow=34
TORD Torodi Ar. Bea 152.73 280 PKPbc **PKPbc 14 03 31.3 -0.9**
0.2nm,0.5s,baz=25,slow=2.4,SNR=1.6

TAP ***23*** *13:44:17.5,24.33N×121.71E,h16km,ML3.7,B*
JMA ***23*** *13:44:17.6,24.30N×121.68E,h12km,M3.0*
ISC 23 13:44:17.7±0.8,24.32N±0.01×121.71E±0.02,h16km±4km, n114,σ0.673/201,6C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.03**	**109**	⇑*i*P	**Pg**	**13 44 20.7**	**+0.1**
	baz=124						
EHP				*i* S	**Sg**	**13 44 22.8**	**+0.4**
	baz=124						
ENA	**Nanau**	**0.11**	**15**	⇑*i*P	**Pg**	**13 44 21.2**	**-0.1**
	baz=21						
ENA				*e*S	**Sg**	**13 44 23.3**	**-0.3**
	baz=21						
EWUT	**Wuta**	**0.14**	**26**	P	**Pg**	**13 44 21.4**	**-0.2**
	baz=29						
EWUT				S	**Sg**	**13 44 23.8**	**-0.3**
	baz=29						
ETL	**Fush Village**	**0.18**	**206**	*i* P	**Pb**	**13 44 22.2**	**-0.4**
	baz=205						
ETL				*e*S	**Sb**	**13 44 25.5**	**-0.5**
	baz=205						
NACB	**Ninganchiao**	**0.18**	**216**	⇓*i*P	**Pb**	**13 44 22.2**	**-0.5**
	baz=214						
NACB				S	**Sb**	**13 44 25.5**	**-0.4**
	baz=214						
ETLH	**Xiulin Townshi**	**0.24**	**242**	⇓*i*P	**Pb**	**13 44 23.2**	**-0.4**
	baz=240						
ETLH				S	**Sb**	**13 44 26.9**	**-0.8**
	baz=240						
TWD	**Chiawan**	**0.26**	**204**	⇓*i*P	**Pg**	**13 44 23.4**	**0.0**
	baz=201						
TWD				*e*S	**Sg**	**13 44 27.2**	**0.0**
	baz=201						
LATG	**Datong**	**0.27**	**322**	⇑*i*P	**Pg**	**13 44 23.7**	**0.0**
	baz=320						
LATG				S	**Sg**	**13 44 27.5**	**-0.3**
	baz=320						
NDS	**Dongshan**	**0.31**	**1**	⇓*i*P	**Pg**	**13 44 24.2**	**-0.1**
	baz=1.0						
NDS				S	**Sg**	**13 44 28.4**	**-0.4**
	baz=1.0						
TWC	**Suao**	**0.32**	**24**	⇓*i*P	**Pg**	**13 44 24.3**	**0.0**
	baz=21						
TWC				S	**Sg**	**13 44 28.5**	**-0.4**
	baz=21						
NNSB	**Datong**	**0.32**	**290**	⇑*i*P	**Pb**	**13 44 24.6**	**-0.5**
	baz=288						
NNSB				S	**Sg**	**13 44 28.9**	**-0.1**
	baz=288						
NNS	**Nan Shan**	**0.33**	**291**	⇑*i*P	**Pb**	**13 44 24.8**	**-0.5**
	baz=290						
NNS				S	**Sg**	**13 44 29.1**	**-0.3**
	baz=290						
NDT	**Datong Townshi**	**0.33**	**327**	⇓*i*P	**Pg**	**13 44 24.8**	**+0.1**
	baz=334						
NDT				S	**Sg**	**13 44 29.5**	**0.0**
	baz=334						
ENTT	**Nioudou**	**0.34**	**338**	⇓*i*P	**Pg**	**13 44 24.8**	**-0.1**
	baz=338						
ENTT				S	**Sg**	**13 44 29.9**	**+0.1**
	baz=338						
HWA	**Hwalien**	**0.35**	**196**	P	**Pb**	**13 44 25.4**	**-0.2**
	baz=194						
HWA				*e*S	**Sb**	**13 44 30.7**	**-0.3**
	baz=194						
TWE	**Neicheng**	**0.40**	**354**	⇓*i*P	**Pg**	**13 44 25.8**	**-0.1**
	baz=356						
TWE				*e*S	**Sg**	**13 44 30.9**	**-0.5**
	baz=356						
FUSS	**Fushou**	**0.43**	**261**	*e*P	**Pb**	**13 44 26.9**	**-0.2**
	baz=259						
FUSS				*e*S	**Sb**	**13 44 32.5**	**-1.0**
	baz=259						
WHF	**Hehuan Shan**	**0.44**	**247**	⇓*i*P	**Pb**	**13 44 26.9**	**-0.5**
	baz=245						
WHF				*e*S	**Sg**	**13 44 32.4**	**-0.5**
	baz=245						
ILA	**Ilan**	**0.45**	**4**	P	**Pg**	**13 44 26.8**	**+0.1**
	baz=359						
ILA				*e*S	**Sb**	**13 44 33.6**	**0.0**
	baz=359						
FUSB	**Fushanzhiwuyua**	**0.45**	**346**	⇓*i*P	**Pg**	**13 44 26.7**	**-0.1**
	baz=345						
FUSB				S	**Sg**	**13 44 31.8**	**-1.3**
	baz=345						
YHNB	**Yeheng**	**0.46**	**319**	P	**Pb**	**13 44 27.1**	**-0.5**
	baz=318						
YHNB				S	**Sg**	**13 44 32.6**	**-0.7**
	baz=318						
NSK	**Sanguang**	**0.48**	**318**	⇑*i*P	**Pb**	**13 44 27.3**	**-0.5**
	baz=318						
NSK				S	**Sg**	**13 44 33.6**	**-0.2**
	baz=318						
TWT	**Tachien**	**0.49**	**262**	*e*P	**Pb**	**13 44 28.2**	**+0.1**
	baz=256						
TWT				*e*S	**Sb**	**13 44 34.7**	**-0.4**
	baz=256						
NWLT	**Wulai**	**0.49**	**337**	P	**Pg**	**13 44 27.5**	**-0.1**
	baz=340						
NWLT				S	**Sg**	**13 44 33.9**	**-0.4**
	baz=340						
NTC	**Toucheng**	**0.54**	**12**	*e*P	**Pg**	**13 44 28.1**	**-0.4**
	baz=11						
NTC				*e*S	**Sg**	**13 44 35.0**	**-0.7**
	baz=11						
CHGB	**Renai**	**0.55**	**242**	⇓*i*P	**Pb**	**13 44 29.0**	**-0.2**
	baz=242						
CHGB				*e*S	**Sb**	**13 44 36.6**	**-0.3**
	baz=242						
EGS		**0.56**	**21**	*e*P	**Pg**	**13 44 28.9**	**+0.1**
	baz=27						
EGS				*e*S	**Sg**	**13 44 36.7**	**+0.4**
	baz=27						
ESL	**Shilin**	**0.56**	**207**	⇓*i*P	**Pg**	**13 44 28.3**	**-0.5**
	baz=206						
ESL				*e*S	**Sg**	**13 44 35.7**	**-0.7**
	baz=206						
OWD	**Renai**	**0.61**	**233**	⇓P	**Pb**	**13 44 29.7**	**-0.4**
	baz=233						
OWD				S	**Sg**	**13 44 37.3**	**-0.6**
	baz=233						
NFF	**Wufeng Townshi**	**0.62**	**300**	*e*P	**Pb**	**13 44 30.1**	**-0.1**
	baz=299						
NFF				*e*S	**Sb**	**13 44 38.2**	**-0.6**
	baz=299						
WUSB	**Renai**	**0.63**	**239**	⇓*i*P	**Pb**	**13 44 30.4**	**-0.1**
	baz=239						
WUSB				*e*S	**Sg**	**13 44 38.2**	**-0.4**
	baz=239						
TIPB	**Shuangxi**	**0.66**	**9**	⇓*i*P	**Pg**	**13 44 30.4**	**-0.3**
	baz=2.0						
TIPB				S	**Sg**	**13 44 38.4**	**-1.0**
	baz=2.0						
NHDH	**Xindian Distri**	**0.66**	**345**	*e*P	**Pg**	**13 44 30.6**	**-0.1**
	baz=345						
NHDH				*e*S	**Sg**	**13 44 39.3**	**-0.2**
	baz=345						
TWA	**Mucha**	**0.67**	**350**	P	**Pg**	**13 44 30.6**	**-0.3**
	baz=350						
TWA				*e*S	**Sg**	**13 44 39.3**	**-0.4**
	baz=350						
EGFH	**Guangfu**	**0.70**	**202**	P	**Pg**	**13 44 31.0**	**-0.4**
	baz=206						
EGFH				*e*S	**Sb**	**13 44 41.5**	**+0.6**
	baz=206						
WHP	**Taichung City**	**0.70**	**267**	P	**Pb**	**13 44 31.8**	**+0.2**
	baz=266						
WHP				S	**Sb**	**13 44 40.8**	**-0.2**
	baz=266						
LIOB	**Emei**	**0.71**	**297**	*e*P	**Pb**	**13 44 32.1**	**+0.3**
	baz=297						
LIOB				*e*S	**Sb**	**13 44 41.3**	**0.0**
	baz=297						
NSTT	**Nanjuang**	**0.72**	**296**	*e*P	**Pb**	**13 44 31.7**	**-0.1**
	baz=295						
NSTT				*e*S	**Sb**	**13 44 41.3**	**-0.2**
	baz=295						
TWB1	**Santiao Chiao**	**0.73**	**20**	⇓*i*P	**Pg**	**13 44 31.6**	**-0.4**
	baz=20						
TWB1				*e*S	**Sg**	**13 44 40.1**	**-1.6**
	baz=20						
TAP	**Taipei**	**0.74**	**346**	*e*P	**Pb**	**13 44 32.3**	**+0.1**
	baz=345						
TAP				*e*S	**Sg**	**13 44 42.0**	**0.0**
	baz=345						
NWF	**Wu-fen Shan**	**0.75**	**5**	⇓*i*P	**Pg**	**13 44 32.3**	**-0.1**
	baz=356						
NWF				*e*S	**Sg**	**13 44 42.0**	**-0.4**
	baz=356						
VWDT	**VWDT**	**0.77**	**223**	*e*P	**Pg**	**13 44 32.3**	**-0.4**
	baz=228						
VWDT				*e*S	**Sb**	**13 44 43.1**	**+0.3**
	baz=228						
WCS	**Beigang Elemen**	**0.78**	**250**	*e*P	**Pn**	**13 44 33.2**	**-0.7**
	baz=250						
WCS				*e*S	**Sg**	**13 44 42.2**	**-0.8**
	baz=250						
SXI1	**Grass Mountain**	**0.79**	**11**	P	**Pg**	**13 44 32.8**	**-0.3**
	baz=358						
NCUH	**Zhongli**	**0.80**	**324**	*e*P	**Pn**	**13 44 33.9**	**-0.5**
	baz=319						
NCUH				*e*S	**Sn**	**13 44 45.8**	**-0.2**
	baz=319						
NCU	**National Centr**	**0.80**	**324**	*e*P	**Pn**	**13 44 34.0**	**-0.4**
	baz=320						
NCU				*e*S	**Sn**	**13 44 45.7**	**-0.4**
	baz=320						
SBCB	**Hsinchu**	**0.81**	**306**	*e*P	**Pn**	**13 44 34.3**	**-0.2**
	baz=298						
SBCB				*e*S	**Sn**	**13 44 47.1**	**+0.9**
	baz=298						
TWS1	**Kuangyinshan**	**0.82**	**341**	⇓*i*P	**Pn**	**13 44 34.2**	**-0.4**
	baz=348						
TWS1				*e*S	**Sb**	**13 44 45.5**	**+1.0**
	baz=348						
HSN	**Hsinchu**	**0.83**	**306**	*e*P	**Pn**	**13 44 34.6**	**-0.1**
	baz=299						
HSN				*e*S	**Sn**	**13 44 46.6**	**0.0**
	baz=299						
YM01	**YM01**	**0.83**	**351**	*e*P	**Pg**	**13 44 32.5**	**-1.4**
	baz=358						
YM01				*e*S	**Sb**	**13 44 45.1**	**+0.3**
	baz=358						
TWQ1	**Liyutan**	**0.85**	**272**	*e*P	**Pn**	**13 44 35.0**	**-0.1**
	baz=272						
TWQ1				*e*S	**Sn**	**13 44 46.5**	**-0.8**
	baz=272						
SMLT	**Sun Moon Lake**	**0.86**	**240**	*e*P	**Pb**	**13 44 34.4**	**+0.1**
	baz=239						
SMLT				*e*S	**Sb**	**13 44 45.9**	**+0.2**
	baz=239						
HGSD	**Ruisui**	**0.86**	**198**	*e*P	**Pn**	**13 44 34.8**	**-0.4**
	baz=211						
NMLH	**Miaoli**	**0.86**	**285**	*e*P	**Pn**	**13 44 35.5**	**+0.2**
	baz=291						
NMLH				*e*S	**Sn**	**13 44 47.4**	**-0.2**
	baz=291						
NSY	**Sanyi**	**0.87**	**277**	P	**Pn**	**13 44 35.8**	**+0.5**
	baz=267						
NSY				*e*S	**Sn**	**13 44 47.4**	**-0.4**
	baz=267						
SSLB	**Suanglung**	**0.87**	**233**	*e*P	**Pb**	**13 44 34.4**	**0.0**
	baz=233						
SSLB				*e*S	**Sg**	**13 44 44.7**	**-1.4**
	baz=233						
NTST	**Danshui**	**0.87**	**344**	P	**Pn**	**13 44 35.0**	**-0.3**
	baz=351						
NTST				*e*S	**Sn**	**13 44 47.2**	**-0.5**
	baz=351						
ANP	**Anpu**	**0.88**	**349**	P	**Pb**	**13 44 34.7**	**0.0**
	baz=348						
ANP				*e*S	**Sb**	**13 44 46.6**	**+0.4**
	baz=348						
TYC	**Yuchr**	**0.88**	**242**	*e*P	**Pb**	**13 44 34.7**	**0.0**
	baz=242						
TYC				*e*S	**Sg**	**13 44 45.5**	**-0.9**
	baz=242						
EHY	**Hungye**	**0.89**	**204**	*e*P	**Pg**	**13 44 34.1**	**-0.8**
	baz=204						
EHY				*e*S	**Sb**	**13 44 46.4**	**+0.1**
	baz=204						
TWY	**Chenhua**	**0.96**	**354**	*e*P	**Pg**	**13 44 36.3**	**0.0**
	baz=354						
TWY				*e*S	**Sg**	**13 44 48.8**	**0.0**
	baz=354						
TCU	**Taichung**	**0.96**	**260**	*e*P	**Pn**	**13 44 37.6**	**+1.1**
	baz=260						
TCU				*e*S	**Sn**	**13 44 50.8**	**+0.9**
	baz=260						
WDJ	**Dajia District**	**0.98**	**272**	*e*P	**Pn**	**13 44 37.5**	**+0.7**
	baz=272						
WDJ				*e*S	**Sn**	**13 44 51.2**	**+0.9**
	baz=272						
YULB	**Yu-li**	**1.00**	**202**	P	**Pb**	**13 44 36.2**	**-0.4**
	baz=203						
YULB				*e*S	**Sb**	**13 44 49.3**	**-0.2**
	baz=203						
WJS	**Zhushan**	**1.03**	**241**	*e*P	**Pn**	**13 44 38.0**	**+0.6**
	baz=238						
WJS				*e*S	**Sn**	**13 44 53.5**	**+2.0**
	baz=238						
EYUL	**Yuli**	**1.03**	**200**	*e*P	**Pn**	**13 44 37.6**	**0.0**
	baz=210						
EYUL				*e*S	**Sn**	**13 44 52.6**	**+0.9**
	baz=210						
WNT	**Mingjian**	**1.04**	**245**	P	**Pn**	**13 44 39.0**	**+1.4**
	baz=242						
WNT				*e*S	**Sn**	**13 44 53.9**	**+2.1**
	baz=242						
WCHH	**Zhanghua**	**1.08**	**257**	P	**Pg**	**13 44 38.9**	**+0.3**
	baz=258						
WCHH				*e*S	**Sn**	**13 44 54.7**	**+1.9**
	baz=258						
YUS	**Yu-Shan**	**1.08**	**220**	P	**Pg**	**13 44 38.4**	**-0.3**
	baz=228						
ALS	**Alishan**	**1.16**	**226**	*e*P	**Pg**	**13 44 39.8**	**-0.3**
	baz=211						
ALS				*e*S	**Sn**	**13 44 57.5**	**+2.4**
	baz=211						
YOJ	**Yonaguni jima**	**1.19**	**83**	P	**Pb**	**13 44 40.4**	**+0.4**
YOJ				*e*S	**Sb**	**13 44 55.3**	**+0.1**
YOJ	**Yonaguni jima**	**1.19**	**83**	*e*P	**Pn**	**13 44 39.4**	**-0.4**
	baz=74						
WDLH	**Douliu**	**1.24**	**240**	*e*P	**Pg**	**13 44 41.8**	**+0.1**
	baz=254						
WDLH				*e*S	**Sg**	**13 44 58.3**	**+0.4**
	baz=254						
CHKT	**Chengkung**	**1.25**	**195**	*e*P	**Pn**	**13 44 39.5**	**-1.1**
	baz=209						
WRL	**Guolierlin Hig**	**1.29**	**251**	P	**Pg**	**13 44 42.1**	**-0.4**
	baz=266						
WRL				*e*S	**Sg**	**13 44 59.7**	**+0.4**
	baz=266						
ELDTW	**Lidau**	**1.29**	**210**	*e*P	**Pb**	**13 44 41.8**	**+0.1**
	baz=210						
ELDTW				*e*S	**Sg**	**13 44 58.9**	**-0.7**
	baz=210						
WTK	**Tuku**	**1.36**	**243**	*e*P	**Pg**	**13 44 43.1**	**-0.9**
	baz=255						
WTK				*e*S	**Sg**	**13 45 03.6**	**+1.8**
	baz=255						
CHN2	**Minshiung**	**1.38**	**235**	*e*P	**Pg**	**13 44 44.4**	**+0.2**
	baz=220						
EDH	**Donghe**	**1.39**	**196**	*e*P	**Pn**	**13 44 41.7**	**-0.7**
	baz=197						
EDH				*e*S	**Sn**	**13 45 00.7**	**+0.1**
	baz=197						
TPUB	**Ta-pu**	**1.42**	**225**	*e*P	**Pg**	**13 44 44.4**	**-0.6**
	baz=213						
TPUB				*e*S	**Sg**	**13 45 03.6**	**+0.2**
	baz=213						
STYH	**Taoyuan**	**1.43**	**217**	*e*P	**Pb**	**13 44 44.0**	**+0.1**
	baz=204						
CHY	**Chiayi**	**1.43**	**235**	*e*P	**Pg**	**13 44 45.1**	**-0.2**
	baz=236						
CHY				*e*S	**Sg**	**13 45 05.1**	**+1.1**
	baz=236						
WTP	**Ta-pu**	**1.47**	**223**	*e*P	**Pg**	**13 44 45.6**	**-0.3**
	baz=212						
WTP				*e*S	**Sg**	**13 45 06.9**	**+1.8**
	baz=212						
LONT	**Longtian**	**1.50**	**201**	*e*P	**Pn**	**13 44 43.7**	**-0.3**
	baz=201						
WSF	**Szhu**	**1.52**	**244**	*e*P	**Pn**	**13 44 44.5**	**+0.3**
	baz=245						
WSF				*e*S	**Sg**	**13 45 07.2**	**+0.4**
	baz=245						
TWK	**Hsinying**	**1.53**	**227**	*e*P	**Pg**	**13 44 46.2**	**-1.0**
	baz=212						
TWK				*e*S	**Sg**	**13 45 07.3**	**+0.1**
	baz=212						
SNST	**Tainan City**	**1.56**	**226**	*e*P	**Pg**	**13 44 47.0**	**-0.7**
	baz=210						
CHN1	**Nanshi**	**1.56**	**224**	*e*P	**Pg**	**13 44 46.9**	**-0.9**
	baz=211						
CHN1				*e*S	**Sg**	**13 45 09.0**	**+0.8**
	baz=211						
TWG	**Pinlang**	**1.60**	**202**	*e*P	**Pn**	**13 44 45.5**	**+0.1**
	baz=202						
TWG				*e*S	**Sn**	**13 45 06.2**	**+0.4**
	baz=202						
TWGBT	**Beinan**	**1.60**	**201**	*e*P	**Pn**	**13 44 45.0**	**-0.4**
	baz=186						
SGST	**Jiashian**	**1.61**	**220**	*e*P	**Pn**	**13 44 46.0**	**+0.5**
	baz=206						
SGST				*e*S	**Sg**	**13 45 09.0**	**-0.6**
	baz=206						
ICHU	**Yijhu**	**1.62**	**234**	P	**Pb**	**13 44 47.4**	**+0.2**
	baz=249						
ICHU				*e*S	**Sg**	**13 45 10.9**	**+0.9**
	baz=249						
LDUT	**Ludao**	**1.65**	**188**	*e*P	**Pn**	**13 44 45.5**	**-0.5**
	baz=174						
SHHT	**Tainan City**	**1.80**	**224**	*e*P	**Pg**	**13 44 51.3**	**-1.0**
	baz=224						
SCST	**Cishan**	**1.81**	**218**	*e*P	**Pb**	**13 44 49.8**	**-0.7**
	baz=218						
IRIF	**Iriomote-Funau**	**1.84**	**89**	P	**Pn**	**13 44 50.0**	**+1.3**
IRIF				*e*S	**Sn**	**13 45 12.2**	**+0.6**
ECL	**Taimali**	**1.85**	**202**	*e*P	**Pn**	**13 44 46.9**	**-1.9**
	baz=189						
TSMG	**Majia**	**1.88**	**212**	*e*P	**Pb**	**13 44 51.0**	**-0.7**
	baz=211						
TWM1	**Shoushan**	**1.90**	**219**	*e*P	**Pb**	**13 44 50.7**	**-1.4**
	baz=218						
MASBT	**Mashibuluo**	**1.97**	**210**	*e*P	**Pn**	**13 44 51.4**	**+1.0**
	baz=210						
EAST	**Anshuo**	**2.08**	**203**	*e*P	**Pb**	**13 44 53.7**	**-1.5**
	baz=191						
JKRS	**Kuro-shima**	**2.10**	**92**	P	**Pb**	**13 44 54.1**	**-1.3**
JKRS				*e*S	**Sn**	**13 45 19.2**	**+1.2**
SSPT	**Xinbi**	**2.11**	**210**	*e*P	**Pb**	**13 44 53.9**	**-1.6**
	baz=211						
PNG	**Penghu**	**2.11**	**250**	*e*P	**Pn**	**13 44 52.7**	**+0.4**
	baz=249						
PHUB	**P'eng-hu**	**2.12**	**248**	*e*P	**Pn**	**13 44 52.7**	**+0.3**
	baz=250						
PHUB				*e*S	**Sn**	**13 45 19.6**	**+1.2**
	baz=250						
VWUC	**VWUC**	**2.16**	**288**	*e*P	**Pn**	**13 44 52.6**	**-0.5**
	baz=288						
SCZT	**Fangliau**	**2.18**	**208**	*e*P	**Pb**	**13 44 55.9**	**-1.0**
	baz=201						
JIJ	**Ishigaki jima**	**2.22**	**88**	P	**Pn**	**13 44 55.3**	**+1.4**
JIJ				*e*S	**Sn**	**13 45 20.6**	**-0.4**
JISG	**Ishigakijimahi**	**2.38**	**83**	P	**Pn**	**13 44 56.5**	**+0.4**
JTJ	**Tarama**	**2.75**	**83**	P	**Pn**	**13 45 02.9**	**+1.8**
JTJ				*e*S	**Sn**	**13 45 35.7**	**+1.8**
LYJJ	**Jianjiangzhen**	**2.84**	**322**	*e*P	**Pn**	**13 45 02.7**	**+0.4**
	baz=322						
XPSS	**Dashigiu**	**2.94**	**332**	*e*P	**Pn**	**13 45 03.9**	**+0.2**
	baz=332						
KNM	**Kinmen**	**2.99**	**273**	*e*P	**Pn**	**13 45 06.5**	**+2.0**
	baz=271						
KNMB	**Chin-men Tao**	**3.03**	**273**	*e*P	**Pn**	**13 45 05.0**	**0.0**
	baz=272						

IDC ***23*** *14:06:49.6±1.9,32.93S×178.22W,h0km,mb4.2/2, mb1 4.4/3,mb1mx3.8/29,mbtmp4.2/3,ML4.1/1,Error ellipse: s-maj=62.7km s-min=36.0km az=143.0*
ISC 23 14:06:50.0±2.1,33.1S±0.2×178.1W±0.4,h10km,n8, σ1.923/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.48**	**216**	Pn	**Pn**	**14 08 26.5**	**+1.1**
	3.8nm,0.3s,baz=38,slow=17,SNR=14						
URZ				Sn	**Sn**	**14 09 37.8**	**-1.5**
	4.9nm,0.3s,baz=53,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**42.95**	**270**	P	**P**	**14 14 49.7**	**+0.3**
	1.1nm,0.5s,baz=111,slow=8.0,SNR=48						
WRA	**Warramunga Arr**	**44.18**	**275**	P	**P**	**14 14 59.5**	**+0.2**
	2.1nm,0.4s,baz=115,slow=7.8,SNR=69						
VNA3	**Neumayer Olymp**	**75.65**	**176**	P	P	14 18 48.7	+14
VNA2	**Neumayer--Watz**	**76.08**	**177**	P	P	14 18 51.3	+14
	baz=325,slow=16						
KURBB	**Kurchatov Arra**	**122.84**	**312**	PKP	**PKiKP**	**14 25 46.8**	**+0.7**
	0.4nm,0.7s,baz=113,slow=1.9,SNR=5.2						
FINES	**FINESS Array B**	**147.61**	**338**	PKPbc	**PKPab**	**14 26 34.8**	**-1.2**
	4.8nm,0.8s,baz=46,slow=4.6,SNR=10						
NOA	**NORSAR Array B**	**151.37**	**351**	PKPbc	**PKPbc**	**14 26 42.7**	**-0.6**
	0.6nm,0.8s,baz=13,slow=4.0,SNR=3.2						

ISK ***23*** *14:29:35.3,37.54N×27.40E,h8km,ML2.7/7*
DDA ***23*** *14:29:35.6±0.0,37.54N×27.38E,h7km±2km,ML2.5*
ISC 23 14:29:35.7±0.9,37.53N±0.03×27.38E±0.03,h12km±7km, n12,σ0.924/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.13**	**237**	P	**Pg**	**14 29 38.5**	**-0.4**
DDIM				S	**Sg**	**14 29 41.7**	**+0.5**

DDIM				*i* AML	AML	14 29 43.0	
	comp=N,3μm,0.4s						
GCAM	**G?zelcaml?**	**0.21**	**327**	PG	**Pg**	**14 29 40.0**	**-0.2**
GCAM				SG	**Sg**	**14 29 43.5**	**+0.3**
GCAM	**G?zelcaml?**	**0.21**	**327**	P	**Pg**	**14 29 40.1**	**-0.1**
GCAM				S	**Sg**	**14 29 43.2**	**-0.1**
GCAM				*i* AML	AML	14 29 44.0	
	comp=E,1μm,0.2s						
MLSB	**Milas**	**0.39**	**126**	PG	**Pg**	**14 29 43.3**	**-0.2**
MLSB				SG	**Sg**	**14 29 49.1**	**+0.3**
AYDN	**Tasoluk**	**0.42**	**71**	P	**Pg**	**14 29 44.1**	**0.0**
AYDN				S	**Sg**	**14 29 49.6**	**-0.1**
AYDN				*i* AML	AML	14 29 51.0	
	comp=N,337nm,0.3s						
BODT	**Bodrum**	**0.47**	**186**	PG	**Pg**	**14 29 45.0**	**+0.1**
BODT				SG	**Sb**	**14 29 52.2**	**-0.4**
DGB	**zmir**	**0.65**	**323**	P	**Pb**	**14 29 48.8**	**-0.2**
DGB				S	**Sb**	**14 29 58.1**	**+0.1**
DAT	**Datca**	**0.81**	**168**	PG	**Pb**	**14 29 51.8**	**0.0**
YER	**Yerkesik**	**0.82**	**118**	PG	**Pg**	**14 29 51.4**	**-0.2**
YER				SG	**Sb**	**14 30 03.0**	**+0.1**
TURN	**Turunc**	**1.02**	**137**	PG	**Pb**	**14 29 55.3**	**+0.1**
URLA	**Izmir**	**1.03**	**324**	PG	**Pb**	**14 29 55.7**	**+0.2**
URLA				SG	**Sn**	**14 30 10.5**	**+0.1**
CHOS	**Chios island**	**1.35**	**310**	PN	**Pg**	**14 30 01.5**	**-0.1**

IDC ***23*** *14:37:39.3±3.0, 15°.94S×174°.12W, h77km±27km, mb3.7/9, mb1 4.0/10, mb1mx3.8/25, mbtmp4.1/10, Error ellipse: s-maj=44.2km s-min=15.9km az=138.0*

ISC 23 14:37:41.2±0.9, 15°.9S±0°.2×173°.9W±0°.2, h100km, n16, σ1§38/15, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.88**	**46**	P	**Pn**	**14 38 25.2**	**-0.3**
	71nm,0.3s,baz=201,slow=2.9,SNR=241						
AFI				S	**Sn**	**14 38 56.4**	**-3.1**
	130nm,0.3s,baz=270,slow=20,SNR=20						
URZ	**Urewera**	**23.61**	**198**	P	**P**	**14 42 43.4**	**+0.3**
	16nm,0.8s,baz=324,slow=8.7,SNR=1.8						
H11S2	**WAKE ISLAND Hy**	**39.17**	**330**	T	T	15 26 15.2	
	baz=150,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.18**	**330**	T	T	15 26 18.7	
	baz=150,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.19**	**330**	T	T	15 26 19.0	
	baz=150						
STKA	**Stephens Creek**	**43.35**	**240**	P	**P**	**14 45 32.2**	**-1.6**
	2.6nm,0.9s,baz=106,slow=15,SNR=4.9						
WRA	**Warramunga Arr**	**49.25**	**257**	P	**P**	**14 46 18.8**	**-1.3**
	0.9nm,0.5s,baz=90,slow=6.9,SNR=21						
WRA				PcP	**PcP**	**14 47 42.2**	**+0.5**
	0.6nm,1.1s,baz=93,slow=3.6,SNR=2.1						
ASAR	**Alice Springs**	**49.48**	**252**	P	**P**	**14 46 20.4**	**-1.5**
	2.3nm,0.5s,baz=88,slow=8.0,SNR=62						
PETK	**Petropavlovsk-**	**72.99**	**343**	P	**P**	**14 49 00.5**	**+0.7**
	1.7nm,0.6s,baz=108,slow=9.5,SNR=7.1						
NVAR	**Mina Array Bea**	**75.05**	**42**	P	**P**	**14 49 14.2**	**+1.8**
	0.6nm,0.8s,baz=238,slow=8.4,SNR=3.5						
PDAR	**Pinedale Array**	**82.98**	**42**	P	**P**	**14 49 56.5**	**+0.8**
	1.1nm,0.8s,baz=232,slow=3.5,SNR=8.2						
ILAR	**Eielson Array**	**83.06**	**11**	P	**P**	**14 49 56.0**	**+0.8**
	0.6nm,0.6s,baz=229,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**90.78**	**24**	P	**P**	**14 50 33.8**	**+1.0**
	0.1nm,0.3s,baz=232,slow=3.0,SNR=1.9						
ARCES	**ARCESS Array B**	**125.06**	**352**	PKP	**PKPdf**	**14 56 29.0**	**-0.3**
	10nm,1.1s,baz=66,slow=1.5,SNR=7.1						
BRTR	**Keskin Array B**	**146.25**	**320**	PKPbc	**PKPbc**	**14 57 11.2**	**+0.5**
	1.3nm,0.9s,baz=48,slow=2.1,SNR=3.9						
GERES	**GERESS Array B**	**146.59**	**351**	PKPbc	**PKPbc**	**14 57 11.8**	**+0.5**
	0.7nm,0.8s,baz=19,slow=6.2,SNR=4.9						

GUC 23 14:56:54.0±0.3, 27°.89S×72°.12W, h15km±6km, ML3.0, 1C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.98**	**109**	*i*P	Pb	14 57 11.0	-1.6
AC04				*i* S	Sb	14 57 24.2	-1.1
AC04				IAML		14 57 26.5	
	comp=E,997nm,0.1s						
AC06	**Mina Casimiro**	**1.66**	**72**	*e*P	Pn	14 57 22.6	0.0
AC06				*i* S	Sn	14 57 44.2	+0.6
AC06				IAML		14 57 46.7	
	comp=N,269nm,0.5s						
LCO	**Las Campanas**	**1.68**	**132**	*e*P	Pn	14 57 20.9	-2.2
LCO				*i* S	Sn	14 57 41.6	-2.8
LCO	**Las Campanas**	**1.68**	**132**	*e*P	Pn	14 57 20.9	-2.1
LCO				*i* S	Sn	14 57 42.0	-2.4
GO04	**Tololo Observa**	**2.55**	**153**	*e*P	Pn	14 57 32.1	-3.0
GO04				*i* S	Sn	14 57 57.0	-8.9
AC02	**Maricunga**	**2.86**	**69**	*e*P	Pn	14 57 41.5	+1.9
AC02				*i* S	Sb	14 58 17.4	-2.8
GO02	**Mina Guanaco**	**3.54**	**40**	*e*P	Pn	14 57 48.6	-0.1
GO02				*i* S	Sn	14 58 30.3	-0.2

GUC 23 14:57:20.3±0.7, 30°.86S×71°.89W, h21km±6km, ML3.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.29**	**50**	*i*P	Pb	14 57 26.8	0.0
CO06				*i* S	Sb	14 57 31.4	+0.1
CO02	**Combarbal**	**0.84**	**114**	*i*P	Pb	14 57 35.7	-0.5
CO02				*i* S	Sb	14 57 46.9	-0.2
CO02				IAML		14 57 48.3	
	comp=N,2μm,0.2s						
CO03	**El Pedregal**	**1.03**	**89**	*e*P	Pb	14 57 38.8	-0.8
CO03				*i* S	Sb	14 57 52.7	0.0
CO03				IAML		14 57 55.8	
	comp=N,752nm,0.4s						
VA06	**Catapilco**	**1.77**	**164**	*e*P	Pn	14 57 49.9	+0.2
VA06				*i* S	Sb	14 58 13.5	-0.3
VA06				IAML		14 58 18.3	
	comp=E,734nm,0.2s						
VA03	**San Esteban**	**2.21**	**149**	*e*P	Pn	14 57 57.5	+1.6
VA03				*i* S	Sb	14 58 26.4	-0.3
VA03				IAML		14 58 31.2	
	comp=N,401nm,0.6s						
ROCH	**El Roble**	**2.23**	**161**	*e*P	Pn	14 57 56.3	0.0
ROCH				*i* S	Sn	14 58 21.5	-1.9
ROCH				IAML		14 58 31.9	
	comp=N,280nm,0.2s						
MT02	**Curacav**	**2.48**	**165**	*e*P	Pn	14 58 01.0	+1.6
MT02				*i* S	Sb	14 58 32.6	-1.6
MT02				IAML		14 58 38.2	
	comp=E,96nm,0.8s						
FCH	**Farellones**	**2.81**	**152**	*e*P	Pn	14 58 06.5	+2.2
FCH				*i* S	Sb	14 58 42.2	-1.9
FCH				IAML		14 58 52.1	
MT09	**Talagante**	**3.01**	**166**	*e*P	Pn	14 58 07.7	+0.8
MT09				IAML		14 58 59.5	
	comp=N,94nm,0.4s						

HEL 23 15:01:24.7±0.4, 67°.55N×34°.02E, h0km, ML2.0, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.70**	**279**	PG	Pn	15 01 55.1	-0.5
	baz=95						
VRF				SG	Sn	15 02 15.3	-2.7
VRF				MSG		15 02 15.5	
	comp=Z,11nm,0.2s						
OLKF	**Oulanka, Finla**	**2.20**	**238**	PG	Pb	15 02 04.3	-1.0
	baz=53						
OLKF				SG	Sb	15 02 33.5	+0.5
KU6	**Riekki**	**2.24**	**229**	PG	Pb	15 02 04.6	-1.4
KU6				MSG		15 02 31.0	
	comp=Z,6.7nm,0.2s						
KU6				SG	Sb	15 02 33.5	-0.6
MSF	**Maaselka**	**2.57**	**233**	PG	Pb	15 02 10.6	-1.0
	baz=49						
MSF				SG	Sb	15 02 43.0	-0.7
SGF	**Sodankyl**	**2.89**	**271**	PB	Pb	15 02 14.9	-2.1
SGF				SB	Sb	15 02 51.0	-1.7
KEV	**Kevo**	**3.39**	**314**	PN	Pn	15 02 18.2	-0.6
KEV				SB	Sb	15 03 05.2	-2.1
ARA0	**ARCESS Array S**	**3.71**	**306**	PB	Pn	15 02 25.6	+2.4
ARA0				SB	Sb	15 03 14.2	-2.3
KLF	**Kolari**	**3.90**	**270**	PG	Pb	15 02 35.3	+1.1
	baz=85						
OUL	**Oulu**	**4.11**	**237**	SG	Sg	15 03 33.9	-2.5
PAJU	**Pajala**	**4.26**	**268**	SG	Sb	15 03 34.7	+2.3
ERTU	**Ertsjaerv**	**4.74**	**263**	SN	Sn	15 03 30.3	-2.6

KOLA 23 15:02:11.6, 67°.64N×34°.21E, h0km, ML2.1, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.31**	**32**	P	Pg	15 02 16.9	-0.6
LVZ				S	Sg	15 02 21.2	-0.4
APA	**Apatity**	**0.32**	**258**	S	Sg	15 02 21.4	-0.3
APA0	**Apatity Array**	**0.47**	**267**	P	Pg	15 02 20.2	-0.3
APA0				S	Sg	15 02 25.7	-0.9
TERR	**Teriberka**	**1.61**	**11**	P	Pn	15 02 40.2	-0.9
TERR				S	Sn	15 03 00.7	-1.9
PRVG	**Vayda Guba**	**2.25**	**342**	P	Pn	15 02 50.4	+0.4
PRVG				S	Sn	15 03 17.9	-0.5

TUL ***23*** *15:13:30.1±0.5, 36°.47N±0°.01×98°.75W±0°.01, h7km±1km, ML2.7, mb_Lg2.7/11(NEIC), Error ellipse: s-maj=1.8km s-min=0.7km az=151.0*

NEIC 23 15:13:30.6±0.5, 36°.47N±0°.01×98°.741W±0°.006, h6km±1km, Error ellipse: s-maj=1.6km s-min=0.6km az=170.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.23**	**248**	Pg	Pg	15 13 35.0	-0.1
U32A				Sg	Sg	15 13 38.7	+0.6
OKCFA	**Oklahoma City**	**1.48**	**135**		Pn	15 13 56.8	-1.0
WMOK	**Wichita Mounta**	**1.73**	**181**	Pn	Pn	15 14 00.4	-0.7
AMTX	**Amarillo**	**2.87**	**237**	IAmb_Lg		15 15 00.7	
	comp=Z,22nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**	IAmb_Lg		15 15 47.4	
	comp=Z,13nm,0.9s						
S39A	**Bolivar**	**4.50**	**73**	IAmb_Lg		15 15 59.5	
	comp=Z,17nm,1.2s						
R40A	**Maddies Statio**	**5.47**	**69**	IAmb_Lg		15 16 33.5	
	comp=Z,11nm,1.3s						

NIED ***23*** *15:19:02.3, 37°.98N×142°.26E, h38km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.75; Mθθ-0.20; Mϕϕ0.96; Mrθ0.92; Mθϕ-0.88; Mϕr-0.67; Fault plane solution: M₀1.64000×10¹⁴ NP1: ϕs306.00000°, δ72.00000°, λ-119.00000°. NP2: ϕs187.00000°, δ33.00000°, λ-33.00000°.*

JMA 23 15:19:02.2±0.1, 37°.98N×142°.26E, h38km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.71**	**298**	P	Pn	15 19 15.9	+0.2
JIKH				S	Sn	15 19 25.2	-0.2
JIO	**Ouri**	**0.86**	**304**	P	Pn	15 19 18.2	+0.4
JIO				S	Sn	15 19 29.3	+0.2
JKMT	**Kesennumamotoy**	**1.03**	**324**	P	Pn	15 19 20.6	+0.5
JKMT				S	Sn	15 19 33.5	+0.1
JMST	**Minamisoumatoc**	**1.12**	**257**	P	Pn	15 19 21.6	+0.4
JMST				S	Sn	15 19 35.6	+0.2
JMM	**Marumori**	**1.17**	**265**	P	Pn	15 19 22.5	+0.6
JMM				*e*S	Sn	15 19 37.4	+0.8
JFK	**Kawauchi**	**1.26**	**241**	P	Pn	15 19 23.5	+0.2
JFK				S	Sn	15 19 39.3	+0.3
JMK	**Ichinoseki**	**1.27**	**320**	P	Pn	15 19 24.3	+0.9
JMK				*e*S	Sn	15 19 40.2	+1.1
JOU	**Okura**	**1.31**	**288**	P	Pn	15 19 25.4	+1.4
JOU				*e*S	Sn	15 19 42.8	+2.5
JFT	**Otama**	**1.59**	**254**	P	Pn	15 19 29.5	+1.7
JFT				*e*S	Sn	15 19 49.5	+2.3
JOM	**Ohasama**	**1.67**	**333**	P	Pn	15 19 30.2	+1.3
JOM				S	Sn	15 19 51.5	+2.4
JYS	**Shirataka**	**1.75**	**279**	P	Pn	15 19 32.2	+2.2
JYK	**Kaneyama**	**1.76**	**303**	P	Pn	15 19 31.8	+1.6
JRG	**Rokugo**	**1.90**	**319**	P	Pn	15 19 34.3	+2.2
JYA	**Atsumi**	**2.10**	**288**	P	Pn	15 19 36.7	+2.0
JFY	**Yanaizu**	**2.11**	**255**	*e*S	Sn	15 20 03.6	+3.8

IDC ***23*** *15:29:24.5±1.9, 12°.91N×86°.88W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/32, mbtmp3.6/6, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/60, Error ellipse: s-maj=72.1km s-min=27.0km az=51.0*

SNET ***23*** *15:29:25.9±1.3, 11°.84N×87°.80W, h74km±187km, ML3.1*

ISC 23 15:29:24.4±1.4, 11°.9N±0°.2×87°.5W±0°.2, h35km, n12, σ1§46/15, mb3.6/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PQSS	**Presa 15 de Se**	**1.99**	**329**	*e*P	**Pn**	**15 29 56.5**	**+0.9**
PQSS				*e*S	**Sn**	**15 30 21.2**	**+1.9**
PQSS				IAML		15 30 24.8	
	comp=Z,113nm,0.2s						
SCLA	**Alcaldia de Sa**	**2.14**	**327**	*e*P	**Pn**	**15 29 58.7**	**+0.9**
SCLA				IAML		15 30 38.1	
	comp=Z,91nm,0.6s						
COEG	**Centro de Oper**	**2.16**	**322**	IAML		15 30 30.7	
	comp=Z,234nm,0.2s						
JAYA	**Jayaque - finc**	**2.56**	**313**	*e*P	**Pn**	**15 30 04.4**	**+0.7**
JAYA				*e*S	**Sn**	**15 30 32.4**	**-1.3**
TACO	**Tacachico**	**2.72**	**319**	*e*P	**Pn**	**15 30 05.9**	**+0.2**
TACO				*e*S	**Sn**	**15 30 38.1**	**+0.6**
TACO				IAML		15 30 49.6	
	comp=Z,25nm,0.3s						
NUBE	**Las Nubes**	**2.97**	**312**	*e*P	**Pn**	**15 30 09.3**	**+0.1**
NUBE				*e*S	**Sn**	**15 30 42.0**	**-1.7**
NUBE				IAML		15 30 45.3	
	comp=Z,122nm,0.4s						
JTS	**Las Juntas de**	**2.98**	**122**	Pn	Pn	15 30 16.3	+7.0
	comp=Z,4.9nm,0.3s,baz=342,slow=15,SNR=8.7						
JTS				Sn	**Sn**	**15 30 44.4**	**+0.4**
	comp=Z,3.5nm,0.3s,baz=64,slow=22,SNR=4.4						
JTS				Lg	Lg	15 31 01.9	
	comp=Z,1.6nm,0.3s,baz=182,slow=22,SNR=3.9						
JTS				LR	LR	15 31 53.2	
	comp=Z,116nm,19.7s,baz=139,slow=46						
CMIG	**Matias Romero**	**8.80**	**307**	Pn	**Pn**	**15 31 31.0**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=122,slow=10,SNR=5.2						
CMIG				Sn	Sn	15 32 48.1	-19
	comp=Z,0.1nm,0.3s,baz=297,slow=14,SNR=1.4						
TXAR	**Lajitas Array**	**22.95**	**321**	P	**P**	**15 34 27.1**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=130,slow=12,SNR=7.1						
PDAR	**Pinedale Array**	**36.22**	**332**	P	**P**	**15 36 25.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=112,slow=10.0,SNR=3.7						
ULM	**Lac du Bonnet**	**38.84**	**351**	P	**P**	**15 36 43.4**	**-2.7**
	comp=Z,2.2nm,0.5s,baz=170,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**54.12**	**345**	P	**P**	**15 38 44.7**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=137,slow=7.8,SNR=6.5						

IDC 23 15:47:55.5±2.1, 18°.49S×176°.55W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/23, mbtmp3.9/3, Error ellipse: s-maj=54.2km s-min=48.3km az=9.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.27**	**260**	P	P	15 56 23.1	-0.1
	0.8nm,0.3s,baz=97,slow=7.5,SNR=52						
ASAR	**Alice Springs**	**46.34**	**255**	P	P	15 56 23.6	-0.2
	1.6nm,0.4s,baz=87,slow=8.0,SNR=58						
VNDA	**Vanda**	**60.03**	**185**	P	P	15 58 03.7	0.0
	0.4nm,0.6s,baz=351,slow=5.8,SNR=1.9						
GERES	**GERESS Array B**	**148.60**	**347**	PKPbc	PKPbc	16 07 44.0	-0.6
	0.5nm,0.6s,baz=46,slow=4.2,SNR=4.9						

IDC ***23*** *16:10:44.7±3.0, 22°.63N×121°.31E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, MS2.9/2, Ms1 3.0/2, ms1mx2.5/51, Error ellipse: s-maj=260.2km s-min=22.8km az=62.0*

JMA ***23*** *16:10:44.3±0.3, 22°.75N×121°.24E, h0km, M3.5*

TAP ***23*** *16:10:44.2, 22°.82N×120°.93E, h8km, ML3.9, C*

ISC 23 16:10:44.7±0.8, 22°.82N±0°.01×120°.93E±0°.02, h11km±5km, n135, σ1§25/226, mb3.5/4, 25C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.13**	**91**	*i*P	**Pg**	**16 10 47.8**	**0.0**
	baz=93						
TWG				*i* S	**Sg**	**16 10 49.9**	**-0.2**
	baz=93						
TWGBT	**Beinan**	**0.14**	**92**	*i*P	**Pg**	**16 10 47.8**	**-0.1**
	baz=93						
TWGBT				*i* S	**Sg**	**16 10 49.9**	**-0.4**
	baz=93						
LONT	**Longtian**	**0.20**	**66**	*i*P	**Pg**	**16 10 49.0**	**-0.1**
	baz=66						
LONT				S	**Sg**	**16 10 52.0**	**0.0**
	baz=66						
TTN	**Taitung**	**0.21**	**109**	*i*P	**Pg**	**16 10 50.1**	**+0.9**
	baz=104						
TTN				*i* S	**Sg**	**16 10 53.8**	**+1.6**
	baz=104						
ECL	**Taimali**	**0.23**	**174**	*i*P	**Pg**	**16 10 49.1**	**-0.3**
	baz=172						
ECL				S	**Sg**	**16 10 52.2**	**-0.4**
	baz=172						
TSMG	**Majia**	**0.29**	**246**	*i*P	**Pg**	**16 10 50.2**	**-0.4**
	baz=251						
TSMG				S	**Sg**	**16 10 53.5**	**-1.0**
	baz=251						
SLGT	**Liugui**	**0.31**	**303**	*i* P	**Pg**	**16 10 51.0**	**0.0**
	baz=294						
MASBT	**Mashibuluo**	**0.34**	**232**	*i*P	**Pb**	**16 10 51.2**	**-1.7**
	baz=237						
MASBT				S	**Sg**	**16 10 55.4**	**-0.9**
	baz=237						
ELDTW	**Lidau**	**0.37**	**13**	*i*P	**Pg**	**16 10 51.8**	**-0.4**
	baz=23						
ELDTW				*i* S	**Sg**	**16 10 56.5**	**-0.7**
	baz=23						
STYH	**Taoyuan**	**0.37**	**338**	P	**Pb**	**16 10 52.2**	**-1.2**
	baz=337						
STYH				S	**Sb**	**16 10 57.4**	**-1.9**
	baz=337						
STYT	**Tauyuan**	**0.37**	**335**	*i*P	**Pb**	**16 10 52.1**	**-1.4**
	baz=342						
STYT				*i* S	**Sb**	**16 10 57.3**	**-2.1**
	baz=342						
EDH	**Donghe**	**0.38**	**67**	P	**Pg**	**16 10 52.7**	**+0.5**
	baz=67						
EDH				S	**Sg**	**16 10 58.7**	**+1.5**
	baz=67						
ECS	**Chishang**	**0.38**	**45**	P	**Pg**	**16 10 52.0**	**-0.3**
	baz=45						
ECS				*e*S	**Sg**	**16 10 57.8**	**+0.4**
	baz=45						
SCST	**Cishan**	**0.41**	**279**	*i*P	**Pb**	**16 10 53.3**	**-0.7**
	baz=272						
SCST				*e*S	**Sb**	**16 10 59.7**	**-0.5**
	baz=272						
SGST	**Jiashian**	**0.41**	**309**	*i*P	**Pb**	**16 10 52.1**	**-1.9**
	baz=313						
SGST				*i* S	**Sb**	**16 10 58.0**	**-2.3**
	baz=313						
SGLT	**Jiouru**	**0.41**	**256**	*i*P	**Pb**	**16 10 53.6**	**-0.5**
	baz=257						
SGLT				S	**Sb**	**16 11 01.6**	**+1.1**
	baz=257						
TSPT	**Pingtung City**	**0.42**	**250**	*e*P	**Pb**	**16 10 53.8**	**-0.5**
	baz=251						
TSPT				*e*S	**Sb**	**16 11 00.4**	**-0.3**
	baz=251						
EAST	**Anshuo**	**0.45**	**190**	*i*P	**Pg**	**16 10 53.2**	**-0.2**
	baz=189						
EAST				*e*S	**Sg**	**16 10 59.8**	**+0.4**
	baz=189						
TAW	**Tawu**	**0.47**	**184**	P	**Pg**	**16 10 53.6**	**-0.3**
	baz=193						
TAW				*e*S	**Sg**	**16 10 59.7**	**-0.3**
	baz=193						
TWM1	**Shoushan**	**0.47**	**270**	*i*P	**Pn**	**16 10 55.0**	**-2.5**
	baz=270						
TWM1				S	**Sb**	**16 11 02.1**	**+0.1**
	baz=270						
SSPT	**Xinbi**	**0.47**	**225**	*i*P	**Pb**	**16 10 54.4**	**-0.8**
	baz=217						
SSPT				S	**Sb**	**16 11 01.6**	**-0.6**
	baz=217						
TAWH	**Dawu Township**	**0.48**	**184**	P	**Pg**	**16 10 53.8**	**-0.4**
	baz=185						
TAWH				*e*S	**Sg**	**16 11 00.3**	**-0.3**
	baz=185						
CHKT	**Chengkung**	**0.49**	**56**	*i*P	**Pg**	**16 10 54.6**	**+0.3**
	baz=72						
CHKT				*i* S	**Sg**	**16 11 02.3**	**+1.5**
	baz=72						
WTP	**Ta-pu**	**0.51**	**326**	*i*P	**Pb**	**16 10 55.3**	**-0.5**
	baz=325						
WTP				*i* S	**Sb**	**16 11 03.0**	**-0.3**
	baz=325						
CHN1	**Nanshi**	**0.52**	**314**	*i*P	**Pn**	**16 10 55.6**	**-2.5**
	baz=313						
CHN1				S	**Sb**	**16 11 03.7**	**+0.3**
	baz=313						
LDUT	**Ludao**	**0.52**	**107**	P	**Pg**	**16 10 55.3**	**+0.4**
	baz=107						
LDUT				S	**Sg**	**16 11 03.3**	**+1.5**
	baz=107						
SCZT	**Fangliau**	**0.53**	**212**	*i*P	**Pg**	**16 10 54.7**	**-0.4**
	baz=213						
SCZT				S	**Sg**	**16 11 01.7**	**-0.4**
	baz=213						
TPUB	**Ta-pu**	**0.55**	**330**	*i*P	**Pb**	**16 10 56.2**	**-0.3**
	baz=329						
TPUB				*e*S	**Sb**	**16 11 04.0**	**-0.4**
	baz=329						
SNST	**Tainan City**	**0.56**	**315**	P	**Pn**	**16 10 56.9**	**-1.8**
	baz=316						
SNST				S	**Sb**	**16 11 06.5**	**+1.9**
	baz=316						
SHHT	**Tainan City**	**0.57**	**290**	P	**Pn**	**16 10 58.7**	**-0.1**
	baz=290						
SHHT				*e*S	**Sb**	**16 11 09.8**	**+4.8**
	baz=290						
CHN3	**Shinhua**	**0.58**	**296**	P	**Pn**	**16 10 58.4**	**-0.6**
	baz=298						
CHN3				*e*S	**Sb**	**16 11 10.7**	**+5.5**
	baz=298						
TWK	**Hsinying**	**0.60**	**318**	*i*P	**Pn**	**16 10 57.6**	**-1.8**
	baz=320						
TWK				*e*S	**Sn**	**16 11 06.5**	**-2.6**
	baz=320						
CHN4	**Tsaushan**	**0.61**	**330**	P	**Pn**	**16 10 57.3**	**-2.1**
	baz=334						
CHN4				S	**Sn**	**16 11 07.1**	**-2.2**
	baz=334						
SLIU	**Shizi**	**0.62**	**191**	P	**Pg**	**16 10 56.3**	**-0.4**
	baz=184						
SLIU				*e*S	**Sg**	**16 11 04.6**	**-0.2**
	baz=184						
TWF1	**Yuli**	**0.63**	**33**	*i*P	**Pg**	**16 10 56.3**	**-0.6**
	baz=33						
TWF1				S	**Sg**	**16 11 03.7**	**-1.5**
	baz=33						
KAU	**Kaohsiung**	**0.63**	**246**	*e*P	**Pn**	**16 10 59.6**	**0.0**
	baz=246						
EYUL	**Yuli**	**0.63**	**35**	P	**Pg**	**16 10 56.4**	**-0.7**
	baz=26						
EYUL				*e*S	**Sg**	**16 11 04.5**	**-0.9**
	baz=26						
YULB	**Yu-li**	**0.66**	**31**	P	**Pg**	**16 10 56.6

EHY				S	Sg	16 11 08.3	-1.5	
	baz=28							
ICHU	**Yijhu**	**0.80**	**312**	*eP*	**Pn**	16 11 01.5	-0.5	
	baz=326							
ICHU				*eS*	**Sn**	16 11 14.5	+0.5	
	baz=326							
SMST	**Manzhou Townsh**	**0.80**	**186**	*eP*	**Pg**	16 10 59.3	-0.9	
	baz=197							
HGSD	**Ruisui**	**0.81**	**34**	P	**Pg**	16 11 00.3	-0.1	
	baz=26							
HGSD				*eS*	**Sb**	16 11 12.1	+0.3	
	baz=26							
CHY	**Chiayi**	**0.82**	**325**	*eP*	**Pn**	16 11 01.6	-0.7	
	baz=338							
CHY				*eS*	**Sn**	16 11 14.9	+0.5	
	baz=338							
CHN2	**Minshiung**	**0.82**	**329**	*eP*	**Pn**	16 11 00.7	-1.6	
	baz=343							
CHN2				*eS*	**Sn**	16 11 14.4	-0.1	
	baz=343							
HEN	**Hengchun**	**0.83**	**192**	*eP*	**Pb**	16 11 01.3	0.0	
	baz=202							
TWK1	**Hengchun**	**0.88**	**187**	*eP*	**Pb**	16 11 01.8	-0.3	
	baz=178							
TWKBT	**Hengchun**	**0.89**	**187**	*eP*	**Pn**	16 11 02.9	-0.3	
	baz=178							
TSEB	**Hengchuen, Pin**	**0.92**	**182**	*eP*	**Pb**	16 11 02.6	-0.1	
	baz=185							
WGK	**Gukeng**	**0.92**	**339**	P	**Pn**	16 11 03.6	-0.1	
	baz=338							
WGK				*eS*	**Sn**	16 11 17.6	+0.6	
	baz=338							
WDLH	**Douliu**	**0.93**	**337**	*eP*	**Pn**	16 11 03.5	-0.3	
	baz=336							
WDLH				*eS*	**Sn**	16 11 18.2	+1.0	
	baz=336							
VWDT	**VWDT**	**0.95**	**12**	⇑P	**Pg**	16 11 01.9	-1.1	
	baz=14							
VWDT				*eS*	**Sg**	16 11 14.7	-0.6	
	baz=14							
EGFH	**Guangfu**	**0.96**	**29**	⇑P	**Pg**	16 11 02.2	-1.0	
	baz=38							
EGFH				*eS*	**Sg**	16 11 14.0	-1.7	
	baz=38							
SSLB	**Suanglung**	**0.96**	**1**	*eP*	**Pg**	16 11 02.4	-0.8	
SSLB				*eS*	**Sn**	16 11 16.8	-1.2	
LAY	**Lan-yu**	**0.97**	**143**	*eP*	**Pg**	16 11 03.1	-0.3	
	baz=144							
WTK	**Tuku**	**0.99**	**330**	*eP*	**Pn**	16 11 04.5	-0.1	
	baz=330							
WTK				*eS*	**Sn**	16 11 18.8	+0.1	
	baz=330							
WJS	**Zhushan**	**1.01**	**350**	*eP*	**Pn**	16 11 05.3	+0.3	
	baz=356							
WJS				*eS*	**Sn**	16 11 19.6	+0.4	
	baz=356							
LYUB	**Lan-yu**	**1.02**	**143**	*eP*	**Pg**	16 11 00.7	-3.7	
	baz=144							
WSF	**Szhu**	**1.04**	**321**	*eP*	**Pn**	16 11 05.0	-0.3	
	baz=321							
WSF				*eS*	**Sn**	16 11 19.7	-0.2	
	baz=321							
SMLT	**Sun Moon Lake**	**1.05**	**359**	⇑P	**Pb**	16 11 04.7	-0.5	
	baz=5.0							
SMLT				*eS*	**Sn**	16 11 21.5	+1.0	
	baz=5.0							
WNT	**Mingjian**	**1.07**	**348**	⇓P	**Pn**	16 11 06.2	+0.4	
	baz=348							
WNT				*eS*	**Sn**	16 11 21.6	+0.9	
	baz=348							
TYC	**Yuchr**	**1.08**	**357**	P	**Pn**	16 11 05.4	-0.5	
	baz=3.0							
TYC				S	**Sn**	16 11 22.1	+1.3	
	baz=3.0							
ESL	**Shilin**	**1.09**	**25**	*eP*	**Pg**	16 11 04.3	-1.4	
	baz=24							
ESL				*eS*	**Sg**	16 11 17.8	-2.1	
	baz=24							
WNT1	**Nantou City**	**1.10**	**348**	*eP*	**Pn**	16 11 07.3	+1.2	
	baz=347							
WNT1				*eS*	**Sn**	16 11 23.3	+1.8	
	baz=347							
OWD	**Renai**	**1.15**	**11**	*eP*	**Pg**	16 11 05.3	-1.5	
	baz=18							
OWD				*eS*	**Sb**	16 11 22.1	+0.3	
	baz=18							
WUSB	**Renai**	**1.18**	**8**	P	**Pg**	16 11 06.0	-1.4	
	baz=16							
WUSB				*eS*	**Sn**	16 11 23.4	0.0	
	baz=16							
WRL	**Guolierlin Hig**	**1.19**	**335**	*eP*	**Pn**	16 11 07.4	+0.1	
	baz=334							
WRL				*eS*	**Sn**	16 11 24.5	+1.0	
	baz=334							
WCS	**Beigang Elemen**	**1.23**	**359**	*eP*	**Pg**	16 11 05.8	-2.5	
	baz=4.0							
WCS				*eS*	**Sg**	16 11 22.9	-1.4	
	baz=4.0							
CHGB	**Renai**	**1.25**	**10**	*eP*	**Pg**	16 11 07.5	-1.4	
	baz=16							
CHGB				*eS*	**Sn**	16 11 26.7	+1.2	
	baz=16							
WCHH	**Zhanghua**	**1.29**	**345**	*eP*	**Pg**	16 11 09.7	0.0	
	baz=344							
WCHH				*eS*	**Sn**	16 11 28.8	+2.6	
	baz=344							
HWA	**Hwalien**	**1.31**	**28**	*eP*	**Pn**	16 11 09.2	+0.2	
	baz=28							
HWA				*eS*	**Sn**	16 11 29.1	+2.7	
	baz=28							
TCU	**Taichung**	**1.34**	**350**	*eP*	**Pg**	16 11 10.8	+0.3	
	baz=349							
TCU				*eS*	**Sn**	16 11 30.0	+2.8	
	baz=349							
TWD	**Chiawan**	**1.39**	**26**	P	**Pn**	16 11 10.1	-0.1	
	baz=34							
TWD				*eS*	**Sg**	16 11 29.4	-0.2	
	baz=34							
PHUB	**P'eng-hu**	**1.42**	**299**	*eP*	**Pn**	16 11 09.3	-1.3	
	baz=299							
PHUB				*eS*	**Sn**	16 11 28.2	-1.2	
	baz=299							
VCHM	**Qimei**	**1.43**	**286**	*eP*	**Pb**	16 11 09.6	-1.9	
	baz=284							
TWT	**Tachien**	**1.44**	**9**	*eP*	**Pg**	16 11 11.5	-0.9	
	baz=7.0							
FUSS	**Fushou**	**1.45**	**11**	*eP*	**Pb**	16 11 11.6	-0.3	
	baz=21							
FUSS				*eS*	**Sg**	16 11 32.7	+1.3	
	baz=21							
WHP	**Taichung City**	**1.45**	**1**	*eP*	**Pg**	16 11 12.2	-0.3	
	baz=9.0							
WHP				*eS*	**Sg**	16 11 33.2	+1.9	
	baz=9.0							
PNG	**Penghu**	**1.46**	**301**	*eP*	**Pb**	16 11 10.4	-1.6	
	baz=300							
ETLH	**Xiulin Townshi**	**1.47**	**20**	*eP*	**Pb**	16 11 11.7	-0.5	
	baz=19							
ETLH				*eS*	**Sb**	16 11 31.2	+0.3	
	baz=19							
ETL	**Fush Village**	**1.47**	**26**	*eP*	**Pg**	16 11 12.6	-0.5	
	baz=33							
ETL				*eS*	**Sn**	16 11 30.4	-0.3	
	baz=33							
NACB	**Ninganchiao**	**1.48**	**24**	*eP*	**Pn**	16 11 11.3	0.0	
	baz=33							
NACB				*eS*	**Sb**	16 11 31.4	+0.3	
	baz=33							
WDJ	**Dajia District**	**1.54**	**350**	*eP*	**Pg**	16 11 14.4	+0.1	
	baz=351							
WDJ				*eS*	**Sg**	16 11 36.4	+2.0	
	baz=351							
NSY	**Sanyi**	**1.59**	**355**	*eP*	**Pg**	16 11 15.4	+0.1	
	baz=356							
NSY				*eS*	**Sg**	16 11 38.4	+2.4	
	baz=356							
NNSB	**Datong**	**1.65**	**15**	*eP*	**Pb**	16 11 14.8	-0.5	
	baz=21							
NNSB				*eS*	**Sn**	16 11 35.2	0.0	
	baz=21							
NNS	**Nan Shan**	**1.66**	**14**	*eP*	**Pn**	16 11 14.1	+0.1	
	baz=21							
NNS				*eS*	**Sg**	16 11 39.1	+0.9	
	baz=21							
NMLH	**Miaoli**	**1.71**	**356**	*eP*	**Pg**	16 11 19.1	+1.5	
	baz=357							
NMLH				*eS*	**Sg**	16 11 41.3	+1.5	
	baz=357							
ENA	**Nanau**	**1.76**	**25**	*eP*	**Pn**	16 11 15.3	+0.1	
	baz=34							
LATG	**Datong**	**1.79**	**18**	*eP*	**Pb**	16 11 17.3	-0.4	
	baz=34							
EWUT	**Wuta**	**1.79**	**26**	*eP*	**Pb**	16 11 17.3	-0.4	
	baz=33							
EWUT				*eS*	**Sb**	16 11 41.0	+0.9	
	baz=33							
NSTT	**Nanjuang**	**1.80**	**2**	*eP*	**Pg**	16 11 19.1	-0.2	
	baz=4.0							
NSTT				*eS*	**Sg**	16 11 42.5	-0.2	
	baz=4.0							
NFF	**Wufeng Townshi**	**1.81**	**5**	*eP*	**Pg**	16 11 18.4	-1.1	
	baz=5.0							
NFF				*eS*	**Sg**	16 11 42.5	-0.5	
	baz=5.0							
LIOB	**Emei**	**1.81**	**3**	*eP*	**Pg**	16 11 19.6	0.0	
	baz=4.0							
LIOB				*eS*	**Sg**	16 11 43.4	+0.2	
	baz=4.0							
NDT	**Datong Townshi**	**1.85**	**17**	P	**Pb**	16 11 18.8	+0.1	
	baz=26							
NDT				*eS*	**Sg**	16 11 44.2	0.0	
	baz=26							
YHNB	**Yeheng**	**1.88**	**12**	*eP*	**Pb**	16 11 18.7	-0.6	
	baz=13							
YHNB				*eS*	**Sg**	16 11 44.5	-0.9	
	baz=13							
NSK	**Sanguang**	**1.89**	**12**	P	**Pb**	16 11 18.8	-0.5	
	baz=22							
NSK				*eS*	**Sg**	16 11 43.9	-1.5	
	baz=22							
ENTT	**Nioudou**	**1.90**	**18**	P	**Pb**	16 11 19.6	+0.1	
	baz=30							
ENTT				*eS*	**Sg**	16 11 44.9	-1.0	
	baz=30							
NDS	**Dongshan**	**1.94**	**22**	P	**Pb**	16 11 20.4	+0.2	
	baz=36							
NDS				*eS*	**Sb**	16 11 45.6	+1.2	
	baz=36							
SBCB	**Hsinchu**	**1.96**	**2**	*eP*	**Pg**	16 11 22.8	+0.4	
	baz=344							
TWC	**Suao**	**1.97**	**25**	*eP*	**Pb**	16 11 21.0	+0.4	
	baz=24							
TWE	**Neicheng**	**2.01**	**20**	P	**Pb**	16 11 21.5	+0.2	
	baz=35							
NWLT	**Wulai**	**2.02**	**15**	*eP*	**Pg**	16 11 22.2	-1.2	
	baz=15							
NWLT				*eS*	**Sg**	16 11 48.8	-0.8	
	baz=15							
FUSB	**Fushanzhiwuyua**	**2.02**	**17**	*eP*	**Pg**	16 11 22.1	-1.3	
	baz=27							
FUSB				*eS*	**Sg**	16 11 49.1	-0.6	
	baz=27							
NCUH	**Zhongli**	**2.15**	**6**	*eP*	**Pg**	16 11 25.4	-0.6	
	baz=8.0							
NTC	**Toucheng**	**2.18**	**22**	*eP*	**Pb**	16 11 24.8	+0.5	
	baz=35							
NHDH	**Xindian Distri**	**2.20**	**14**	*eP*	**Pg**	16 11 26.0	-1.0	
	baz=23							
NHDH				*eS*	**Sg**	16 11 55.7	+0.3	
	baz=23							
TWA	**Mucha**	**2.23**	**15**	*eP*	**Pg**	16 11 26.2	-1.3	
	baz=33							
TAP	**Taipei**	**2.27**	**13**	*eP*	**Pg**	16 11 26.5	-1.7	
	baz=31							
TIPB	**Shuangxi**	**2.29**	**21**	*eP*	**Pb**	16 11 26.3	+0.2	
	baz=33							
TWS1	**Kuangyinshan**	**2.31**	**11**	*eP*	**Pg**	16 11 27.5	-1.5	
	baz=356							
NWF	**Wu-fen Shan**	**2.37**	**19**	*eP*	**Pb**	16 11 27.5	-0.1	
	baz=32							
YM01	**YM01**	**2.39**	**14**	*eP*	**Pb**	16 11 27.8	0.0	
	baz=32							
ANP	**Anpu**	**2.41**	**13**	*eP*	**Pb**	16 11 28.4	+0.1	
	baz=358							
SXI1	**Grass Mountain**	**2.42**	**21**	*eP*	**Pb**	16 11 27.9	-0.5	
	baz=32							
HATJ	**Hateruma jima**	**2.91**	**65**	*eS*	**Sn**	16 12 03.4	-2.7	
IRIF	**Iriomote-Funau**	**2.98**	**59**	P	**Pn**	16 11 31.8	-0.2	
IRIF				*eS*	**Sn**	16 12 05.8	-1.9	
JKRS	**Kuro-shima**	**3.16**	**63**	P	**Pn**	16 11 33.9	-0.6	
JKRS				*eS*	**Sn**	16 12 10.1	-2.1	
JIJ	**Ishigaki jima**	**3.32**	**62**	P	**Pn**	16 11 35.6	-1.1	
JIJ				*eS*	**Sn**	16 12 13.8	-2.5	
AXDP	**Jialang**	**3.41**	**308**	*eP*	**Pn**	16 11 37.1	-0.8	
	baz=310							
JISG	**Ishigakijimahi**	**3.56**	**60**	P	**Pn**	16 11 38.8	-1.2	
JISG				*eS*	**Sn**	16 12 19.4	-2.8	
MHZQ	**Yeshan**	**3.69**	**332**	*eP*	**Pn**	16 11 41.0	-0.8	
	baz=333							
JTJ	**Tarama**	**3.90**	**62**	*eS*	**Sn**	16 12 29.4	-1.2	
XPSS	**Dashiqiu**	**4.14**	**351**	*eP*	**Pn**	16 11 48.8	+0.7	
	baz=353							
CMAR	**Chiang Mai Arr**	**21.02**	**262**	LR	LR	16 25 19.8		
	comp=Z,25nm,18.8s,baz=185,slow=41							
SONM	**Songino Array**	**27.53**	**339**	LR	LR	16 29 37.4		
	comp=Z,34nm,19.4s,baz=314,slow=41							
MKAR	**Makanchi Array**	**39.16**	**317**	P	P	16 18 17.5	+4.9	
	0.5nm,0.7s,baz=116,slow=9.8,SNR=6.9							
ZALV	**Zalesovo Beam**	**41.26**	**328**	P	**P**	**16 18 34.0**	**+4.1**	
	0.6nm,0.5s,baz=126,slow=9.0,SNR=4.2							
WRA	**Warramunga Arr**	**44.48**	**162**	P	**P**	**16 18 54.4**	**-1.9**	
	0.4nm,0.6s,baz=344,slow=8.8,SNR=3.5							
ASAR	**Alice Springs**	**47.90**	**164**	P	**P**	**16 19 23.3**	**0.0**	
	0.2nm,0.5s,baz=338,slow=7.1,SNR=7.2							

*UPA **23** 16:16:05.5±1.4,8.°82N×84.°18W, h10km±999km, MW4.5*
*UCR **23** 16:16:06.3±1.1,8.°80N×84.°12W, h18km±14km, MW3.6*
ISC 23 16:16:05.6±2.0,**8.°83N**±0.°07×**84.°15W**±0.°07,**h16**km±11km,
n12,σ0.°40/18,1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.70**	**79**	*eP*	**Pg**	**16 16 19.3**	**-0.1**
EDPN				*eS*	**Sg**	**16 16 29.0**	**+0.3**
PEZE	**Perez Zeledon,**	**0.72**	**41**	*eP*	**Pg**	**16 16 19.5**	**-0.3**
CDM	**Cerro de Muert**	**0.81**	**28**	*eP*	**Pg**	**16 16 21.5**	**-0.2**
PIRO	**Carate, Puerto**	**0.91**	**118**	*eP*	**Pb**	**16 16 22.7**	**-0.4**
LCR2	**La Lucha 2**	**0.92**	**9**	*eP*	**Pb**	**16 16 23.4**	**+0.1**
EDBA	**Buenos Aires**	**0.93**	**69**	*eP*	**Pb**	**16 16 22.7**	**-0.6**
EDBA				*eS*	**Sb**	**16 16 35.0**	**-0.5**
JACO	**JACO, Garabito**	**0.97**	**329**	*eP*	**Pb**	**16 16 23.8**	**-0.2**
RIMA	**Rio Macho**	**0.97**	**17**	*eP*	**Pb**	**16 16 24.0**	**-0.2**
MLIR3	**Monte Lirio, C**	**1.31**	**92**	⇓*iP*	**Pn**	**16 16 29.8**	**+0.4**
MLIR3				*eS*	**Sg**	**16 16 48.9**	**+0.7**
PTPM	**Petroterminale**	**1.41**	**116**	*eP*	**Pn**	**16 16 30.6**	**0.0**
PTPM				*eS*	**Sb**	**16 16 49.2**	**0.0**
BRU2	**Volcan**	**1.45**	**91**	*eP*	**Pn**	**16 16 31.1**	**-0.1**
BRU2				*eS*	**Sn**	**16 16 50.4**	**+0.2**
BC3P	**Paso Ancho**	**1.52**	**90**	*eP*	**Pn**	**16 16 32.4**	**0.0**
BC3P				*eS*	**Sb**	**16 16 53.5**	**+0.7**

IDC 23 16:28:58.5±2.1,**4.°00S×150.°91E, h0km, mb3.4**/4,
mb1 3.6/4,**mb1mx3.4**/35,**mbtmp3.3**/4,**MS2.9**/2,**Ms1 2.9**/2,
ms1mx2.6/29,**Error ellipse: s-maj=120.8km**
s-min=32.5km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**10.29**	**278**	LR	LR	16 33 56.2	
	comp=Z,45nm,21.3s,baz=324,slow=29						
WRA	**Warramunga Arr**	**22.62**	**224**	P	P	16 33 59.7	-1.5
	0.3nm,0.8s,baz=49,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**25.53**	**218**	P	P	16 34 29.8	+0.7
	0.4nm,1.0s,baz=58,slow=8.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**28.42**	**239**	P	P	16 34 56.4	+1.2
	0.6nm,0.6s,baz=80,slow=11,SNR=1.6						
MJAR	**Matsushiro Arr**	**42.05**	**345**	LR	LR	16 51 21.1	
	comp=Z,30nm,21.4s,baz=102,slow=32						
YKA	**Yellowknife Ar**	**95.60**	**28**	P	P	16 42 24.9	-0.8
	0.3nm,0.7s,baz=283,slow=3.7,SNR=4.5						

*IDC **23** 16:29:49.4±0.7,54.°39N×163.°17W, h0km, mb4.2/24,*
mb1 4.3/28,mb1mx4.2/53,mbtmp4.1/28,ML4.1/4,MS3.4/35,
Ms1 3.4/35,ms1mx3.2/99,Error ellipse: s-maj=18.5km
s-min=11.7km az=177.0
*MOS **23** 16:29:54.6±0.9,54.°55N×162.°98W, h43km, mb4.3/5,Error*
ellipse: s-maj=12.3km s-min=7.6km az=78.9
*NEIC **23** 16:29:56.8±3.0,54.°29N±0.°05×162.°83W±0.°06, h53km±6km,*
mb4.5/60,ML4.6/8,ML4.3(AEIC),Error ellipse:
s-maj=7.4km s-min=5.3km az=164.0

*AEIC **23** 16:29:56±3.5,54.°26N±0.°05×162.°82W±0.°06,h41km±2km,*
Error ellipse: s-maj=7.4km s-min=5.1km az=166.0
ISC 23 16:29:56.6±0.7,**54.°40N**±0.°06×**162.°85W**±0.°04,**h52**km±5km,
n367,σ1.°34/353,mb4.4/69,MS3.5/33,3C,Alaska
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.56**	**324**	Pn	**Pn**	**16 30 09.6**	**+0.9**
FALS				Sn	**Sn**	**16 30 19.6**	**+2.1**
FALS	**False Pass**	**0.56**	**324**	P	**Pn**	**16 30 09.6**	**+0.9**
	baz=149,SNR=784						
BRPK	**Brown Peak**	**0.57**	**296**		**Pn**	**16 30 09.4**	**+0.5**
ISNN	**Isanotski Nort**	**0.69**	**309**		**Pn**	**16 30 11.8**	**+1.5**
SSLN	**Shishaldin Nor**	**0.78**	**302**		**Pn**	**16 30 13.1**	**+1.6**
SSLN					**Sn**	**16 30 25.7**	**+3.2**
BALA	**Baldy Mountain**	**0.79**	**3**		**Pn**	**16 30 13.8**	**+2.1**
WESE	**West Dahl East**	**1.01**	**275**		**Pn**	**16 30 15.2**	**+0.5**
HAG	**Hague Volcano**	**1.07**	**30**	P	**Pn**	**16 30 17.0**	**+1.7**
HAG	**Hague Volcano**	**1.07**	**30**		**Pn**	**16 30 17.0**	**+1.7**
PS4A	**Pavlof South-4**	**1.11**	**31**		**Pn**	**16 30 17.4**	**+1.6**
PVV	**Pavlof Volcano**	**1.15**	**32**		**Pn**	**16 30 18.1**	**+1.7**
BLHA	**Black Hill**	**1.38**	**19**		**Pn**	**16 30 21.2**	**+1.6**
SDPT	**Sand Point**	**1.67**	**54**	Pn	**Pn**	**16 30 24.8**	**+1.4**
SDPT				Sn	**Sn**	**16 30 45.4**	**+1.8**
SDPT				IAML		16 30 53.0	
	comp=N,7μm,0.6s						
SDPT	**Sand Point**	**1.67**	**54**	P	**Pn**	**16 30 24.8**	**+1.4**
	baz=233,SNR=160						
AKSA	**Akutan Strait**	**1.69**	**262**		**Pn**	**16 30 24.1**	**+0.4**
AKSA					**Sn**	**16 30 44.7**	**+0.5**
AKUT	**Akutan**	**1.73**	**262**	Pn	**Pn**	**16 30 24.7**	**+0.4**
AKUT					**Sn**	**16 30 46.2**	**+1.0**
AKMO	**Akutan Morgan**	**1.88**	**262**		**Pn**	**16 30 26.9**	**+0.5**
AKMO					**Sn**	**16 30 50.1**	**+1.2**
UNV	**Unalaska Valle**	**2.22**	**257**	Pn	**Pn**	**16 30 31.1**	**+0.1**
UNV	**Unalaska Valle**	**2.22**	**257**		**Sn**	**16 30 56.6**	**-0.6**
UNV	**Unalaska Valle**	**2.22**	**257**	P	**Pn**	**16 30 31.0**	**+0.1**
	baz=77,SNR=29						
MTBL	**Makushin Table**	**2.29**	**261**		**Pn**	**16 30 32.5**	**+0.5**
MSW	**Makushin Switc**	**2.36**	**260**		**Pn**	**16 30 33.0**	**+0.1**
MREP	**Makushin Rep't**	**2.37**	**257**		**Pn**	**16 30 33.3**	**+0.3**
VNFG	**Fog Glacier, M**	**2.67**	**44**		**Pn**	**16 30 39.6**	**+2.4**
VNHG	**Veniaminof 1**	**2.79**	**48**		**Pn**	**16 30 41.0**	**+2.2**
OKFG	**Magazine Ridge**	**3.15**	**254**		**Pn**	**16 30 44.6**	**+0.8**
CHGN	**Chignik**	**3.17**	**51**		**Pn**	**16 30 45.6**	**+1.7**
CHGN				IAML		16 31 26.8	
	comp=E,2μm,0.7s						
CHGN				IAML		16 31 29.4	
	comp=N,2μm,0.6s						
CHGN	**Chignik**	**3.17**	**51**	P	**Pn**	**16 30 45.6**	**+1.7**
	baz=233,SNR=66						
OKSP	**Okmok Steeple**	**3.42**	**253**		**Pn**	**16 30 48.3**	**+0.8**
AZAC	**Aniakchak**	**3.62**	**44**		**Pn**	**16 30 52.5**	**+2.2**
ANNW	**Aniakchak Nort**	**3.67**	**44**		**Pn**	**16 30 53.6**	**+2.7**
NIKH	**Nikolski High**	**3.85**	**251**	Pn	**Pn**	**16 30 54.3**	**+1.0**
NIKH	**Nikolski High**	**3.85**	**251**	P	**Pn**	**16 30 53.2**	**0.0**
	baz=67						
CHIR	**Chirikof Islan**	**4.39**	**68**	Pn	**Pn**	**16 31 01.0**	**+0.4**
CHIR				IAML		16 32 23.2	
	comp=N,575nm,1.3s						
CHIR	**Chirikof Islan**	**4.39**	**68**	P	**Pn**	**16 31 00.5**	**-0.1**
	baz=253						
PLK1	**Peulik 1**	**4.88**	**43**		**Pn**	**16 31 09.0**	**+1.6**
SPIA	**Saint Paul Isl**	**5.01**	**307**	Pn	**Pn**	**16 31 11.7**	**+2.5**
SPIA	**Saint Paul Isl**	**5.01**	**307**	P	**Pn**	**16 31 11.3**	**+2.1**
	baz=122						
SII	**Sitkinak Islan**	**5.38**	**63**	Pn	**Pn**	**16 31 17.2**	**+2.9**
OHAK	**Old Harbor**	**6.09**	**58**	Pn	**Pn**	**16 31 24.1**	**+0.2**
OHAK	**Old Harbor**	**6.09**	**58**	P	**Pn**	**16 31 23.4**	**-0.5**
	baz=245						
P18K	**Big Mountain,**	**6.51**	**37**	Pn	**Pn**	**16 31 32.4**	**+2.6**
P18K	**Big Mountain,**	**6.51**	**37**	P	**Pn**	**16 31 32.3**	**+2.5**
	baz=222,SNR=14						
KDAK	**Kodiak Island**	**6.67**	**55**	Pn	**Pn**	**16 31 31.0**	**-0.8**
	comp=N,8.3nm,0.3s,baz=262,slow=5.4,SNR=42						
KDAK				Sn	**Sn**	**16 32 42.5**	**-3.9**
	comp=N,5.7nm,0.3s,baz=168,slow=23,SNR=7.2						
KDAK				LR	LR	16 34 20.4	
	comp=N,262nm,21.5s,baz=240,slow=40						
KDAK	**Kodiak Island**	**6.67**	**55**	P	**Pn**	**16 31 31.3**	**-0.6**
KDAK	**Kodiak Island**	**6.67**	**55**	Pn	**Pn**	**16 31 31.3**	**-0.6**
O19K	**Port Alsworth**	**7.42**	**35**	Pn	**Pn**	**16 31 44.9**	**+2.8**
O19K	**Port Alsworth**	**7.42**	**35**	P	**Pn**	**16 31 45.1**	**+3.0**
	baz=222,SNR=18						
SVW2	**Sparrevohn**	**7.75**	**27**		**Pn**	**16 31 48.0**	**+1.3**
N19K	**Bonanza Creek**	**7.84**	**32**	Pn	**Pn**	**16 31 51.1**	**+3.2**
N19K	**Bonanza Creek**	**7.84**	**32**	P	**Pn**	**16 31 51.1**	**+3.2**
	baz=218,SNR=20						
O20K	**Slope Mountain**	**7.94**	**40**	P	**Pn**	**16 31 51.9**	**+2.6**
	baz=228						
RSO	**Redoubt South**	**8.15**	**38**	Pn	**Pn**	**16 31 52.1**	**-0.3**
CNPM	**China Poot**	**8.16**	**46**	Pn	**Pn**	**16 31 53.0**	**+0.7**
BRLK	**Bradley Lake**	**8.44**	**46**	Pn	**Pn**	**16 31 56.2**	**+0.1**
BRSE	**Bradley Lake S**	**8.49**	**46**	P	**Pn**	**16 31 56.8**	**0.0**
	baz=236						
ADK	**Adak**	**8.69**	**259**	P	**Pn**	**16 31 59.3**	**-0.2**
ADK	**Adak**	**8.69**	**259**	Pn	**Pn**	**16 31 59.3**	**-0.2**
M19K	**Big River Lodg**	**8.74**	**27**		**Pn**	**16 32 02.2**	**+2.0**
L19K	**White Mountain**	**8.86**	**25**	Pn	**Pn**	**16 32 03.3**	**+1.5**
L19K	**White Mountain**	**8.86**	**25**	P	**Pn**	**16 32 03.2**	**+1.4**
	baz=212,SNR=44						
SPCR	**Spurr Chakacha**	**8.86**	**35**	P	**Pn**	**16 32 03.9**	**+1.9**
	baz=224,SNR=12						
SPU	**Mount Spurr**	**8.90**	**36**		**Pn**	**16 32 05.0**	**+2.6**
KIWB	**Kanaga Island**	**8.97**	**259**	Pn	**Pn**	**16 32 03.9**	**+

KLU Klutina 11.43 45 Pn Pn 16 32 36.5 -0.6
KLU Klutina 11.43 45 P **Pn 16 32 36.3 -0.8**
baz=239,SNR=30
BPAW Bear Paw Mtn. 11.44 27 Pn **Pn 16 32 37.9 +0.8**
BPAW Bear Paw Mtn. 11.44 27 P **Pn 16 32 38.1 +1.0**
baz=217,SNR=17
TNA Tin City 11.47 349 Pn **Pn 16 32 40.5 +3.0**
TNA Tin City 11.47 349 P **Pn 16 32 38.8 +1.4**
baz=165,SNR=16
HMT Hamilton 11.64 52 Pn 16 32 39.5 -0.3
M24K Tolsona, Glenn 11.66 42 Pn 16 32 39.6 -0.6
M24K Tolsona, Glenn 11.66 42 P **Pn 16 32 39.8 -0.4**
baz=236,SNR=11
MCK McKinley 11.75 32 P **Pn 16 32 41.5 +0.2**
MCK McKinley 11.75 32 Pn **Pn 16 32 41.5 +0.2**
DHY Denali Highway 11.81 36 Pn 16 32 40.4 -1.8
DHY Denali Highway 11.81 36 P **Pn 16 32 40.4 -1.8**
baz=229
BERG Berg Lake 11.92 52 Pn 16 32 43.1 -0.6
N25K Chitina, Valde 12.04 46 Pn 16 32 44.5 -0.9
N25K Chitina, Valde 12.04 46 P **Pn 16 32 44.7 -0.7**
baz=241
I21K Tanana 12.09 22 Pn 16 32 47.7 +1.8
I21K Tanana 12.09 22 P **Pn 16 32 47.7 +1.8**
baz=212,SNR=24
HARP HAARP 12.22 42 P **Pn 16 32 47.4 -0.4**
baz=237
MLY Manley 12.26 25 Pn **Pn 16 32 49.3 +1.1**
MLY Manley 12.26 25 P **Pn 16 32 48.8 +0.6**
baz=215,SNR=16
GLB Gilahina Butte 12.30 47 Pn **Pn 16 32 47.9 -1.0**
H21K Melozitna Rive 12.33 20 Pn 16 32 50.8 +1.5
H21K Melozitna Rive 12.33 20 P **Pn 16 32 50.5 +1.3**
baz=208,SNR=21
WAX Waxell Ridge 12.33 53 Pn **Pn 16 32 48.4 -0.9**
NEA2 Nenana 12.35 29 P **Pn 16 32 49.3 -0.2**
baz=220
VRDI Verde Repeater 12.36 49 Pn **Pn 16 32 48.9 -1.0**
PAX Paxson 12.43 39 P **Pn 16 32 50.2 -0.4**
PAX Paxson 12.43 39 Pn **Pn 16 32 50.1 -0.4**
PAX Paxson 12.43 39 P **Pn 16 32 49.9 -0.7**
baz=234,SNR=8.5
IMAR Indian Mountai 12.45 17 Pn **Pn 16 32 52.2 +1.4**
MCARA McCarthy VSAT 12.62 48 P **Pn 16 32 52.4 -0.7**
baz=245
ISLE Juniper Island 12.62 52 Pn 16 32 52.9 -0.4
I23K Minto, Yukon-K 12.70 27 P **Pn 16 32 54.6 +0.4**
baz=218,SNR=12
GRNC Granite Creek 12.94 52 Pn 16 32 57.2 -0.5
MENT Mentasta 13.07 42 Pn **Pn 16 32 58.2 -1.2**
BARN Barnard Glacie 13.10 51 Pn 16 32 59.3 -0.5
RIDG Independent Ri 13.11 37 Pn **Pn 16 32 58.6 -1.4**
RIDG Independent Ri 13.11 37 P **Pn 16 32 59.1 -0.8**
baz=232
IL31 13.12 31 Pn 16 32 58.8 -1.1
ILAR Eielson Array 13.12 31 Pn **Pn 16 32 56.5 -3.5**
comp=N,0.3nm,0.3s,baz=221,slow=13,SNR=15
ILAR LR LR 16 38 33.6
comp=N,265nm,19.3s,baz=258,slow=40
ILAR Eielson Array 13.12 31 P **Pn 16 32 57.7 -2.3**
ILAR Eielson Array 13.12 31 Pn **Pn 16 32 57.7 -2.3**
TABL Table Mountain 13.13 54 Pn **Pn 16 33 00.6 +0.3**
POKR Poker Plat Res 13.21 29 P **Pn 16 33 00.3 -0.9**
baz=223
CTG Chitna Glacier 13.21 52 P **Pn 16 33 00.7 -0.6**
baz=249
CTGM Chitina Glacie 13.21 52 Pn **Pn 16 33 00.9 -0.5**
LOGN Logan Glacier 13.32 52 Pn **Pn 16 33 02.6 -0.2**
J25K Salcha River, 13.49 34 P **Pn 16 33 02.1 -3.0**
baz=228
SCRK Sand Creek 13.56 37 P **Pn 16 33 04.0 -2.1**
baz=233
H24K Noodor Dome 13.63 27 Pn **Pn 16 33 06.4 -0.6**
H24K Noodor Dome 13.63 27 P **Pn 16 33 06.3 -0.7**
baz=220
BCPM Bancas Point 13.72 57 Pn **Pn 16 33 07.2 -1.1**
PNL Peninsula 13.78 58 P **Pn 16 33 08.2 -0.8**
baz=257
L27K Beaver Creek, 13.88 43 Pn **Pn 16 33 09.3 -1.0**
L27K Beaver Creek, 13.88 43 P **Pn 16 33 09.3 -1.0**
baz=241,SNR=5.2
BCAR Beaver Creek A 13.90 43 Pn **Pn 16 33 09.2 -1.4**
YUK3 Moose Creek 13.90 49 P **Pn 16 33 10.0 -0.8**
baz=248,SNR=7.8
J26L Joseph Creek 14.02 36 P **Pn 16 33 11.4 -1.0**
baz=232
PRP Porcupine Dome 14.05 31 P **Pn 16 33 12.6 -0.2**
baz=226
COLD Coldfoot 14.22 20 Pn **Pn 16 33 17.0 +2.1**
COLD Coldfoot 14.22 20 P **Pn 16 33 16.8 +2.0**
baz=211,SNR=24
YUK4 Talbot Arm 14.57 52 P **Pn 16 33 20.6 +0.9**
baz=252
YUK6 Outpost Mounta 14.59 53 P **Pn 16 33 20.7 +0.7**
baz=254
FYU Fort Yukon 14.89 28 Pn **Pn 16 33 25.7 +2.1**
HYT Haines Junctio 14.96 54 Pn 16 33 25.0 +0.3
HYT IAmb IAmb 16 33 38.9
comp=Z,31nm,1.3s
HYT Haines Junctio 14.96 54 P **Pn 16 33 24.9 +0.2**
baz=255
EGAK Eagle 15.03 38 P **Pn 16 33 25.2 -0.2**
baz=236
DAWY Dawson 15.32 42 P **Pn 16 33 28.8 -0.4**
baz=241
TOLK Toolik Lake Re 15.56 18 P 16 33 34.6 -1.2
TOLK IAmb IAmb 16 33 40.6
comp=Z,23nm,0.8s
TOLK Toolik Lake Re 15.56 18 P **Pn 16 33 33.9 +1.6**
baz=210
BMAR Burnt Mountain 15.70 27 Pn 16 33 34.1 0.0
M30M Minto, Yukon 15.79 48 P **P 16 33 38.2 -0.1**
M30M Minto, Yukon 15.79 48 P **Pn 16 33 36.5 +1.2**
baz=250
N31M Braeburn, Yuko 15.93 53 Pn **Pn 16 33 37.4 +0.3**
N31M IAmb IAmb 16 33 47.9
comp=Z,26nm,1.0s
WHY Whitehorse 16.18 56 Pn **Pn 16 33 41.2 +0.8**
WHY Whitehorse 16.18 56 P **Pn 16 33 41.2 +0.8**
baz=259
P33M Teslin, Yukon 17.13 58 P **P 16 33 53.9 +0.6**
EPYK Eagle Plains 17.44 36 Pn 16 33 55.5 -0.3
EPYK Eagle Plains 17.44 36 P **Pn 16 33 55.6 -0.3**
baz=239,SNR=14
DLBC Dease Lake 18.48 64 P **Pn 16 34 10.2 +1.4**
comp=Z,0.2nm,0.3s,baz=278,slow=9.8,SNR=2.6
TGTN Hyland Airport 19.48 55 P **Pn 16 34 20.7 0.0**
baz=264,SNR=10
INK Inuvik 19.50 33 P **P 16 34 18.1 -0.9**
comp=Z,0.7nm,0.3s,baz=252,slow=16,SNR=2.3
INK LR LR 16 42 00.5
comp=Z,134nm,21.5s,baz=225,slow=37
BILL Bilibino 19.87 325 *eP* **P 16 34 19.9 -3.2**
BILL *eS* S 16 37 51.2 -12
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,57nm,16.0s
BILL Bilibino 19.87 325 P **Pn 16 34 25.1 0.0**
BBB Bella Bella 20.76 82 LR LR 16 41 13.9
comp=Z,66nm,18.1s,baz=286,slow=33
C36M Paulatuk 23.05 35 P **P 16 34 55.8 -1.1**
baz=249
PEA0B Petropavlovsk- 23.16 283 P **P 16 34 57.8 -0.4**
PEA0B pmax pmax
comp=Z,23nm,1.2s
PEA0B Petropavlovsk- 23.16 283 P **P 16 34 57.8 -0.4**
PEA0B IAmb IAmb 16 35 19.0
comp=Z,23nm,1.1s
PETK Petropavlovsk- 23.16 283 P **P 16 34 56.6 -1.6**
comp=Z,2.7nm,0.5s,baz=97,slow=12,SNR=28
PETK Petropavlovsk- 23.16 283 P **P 16 34 57.0 -1.2**
PETK Petropavlovsk- 23.16 283 P **P 16 34 57.0 -1.2**
A36M Sachs Harbour 23.78 28 P **P 16 35 02.8 -1.1**
A36M Sachs Harbour 23.78 28 P **P 16 35 03.1 -0.8**
baz=242,SNR=15
SEY Seymchan 24.31 309 P **P 16 35 07.8 -1.1**
comp=Z,1.6nm,0.5s,baz=110,slow=10.0,SNR=24
SEY LR LR 16 46 11.1
comp=Z,72nm,18.0s,baz=14,slow=41
MA2 Magadan 25.36 301 LR LR 16 46 47.2
comp=Z,17nm,18.1s,baz=94,slow=40
YKA Yellowknife Ar 25.93 52 P **P 16 35 24.4 +0.9**
comp=Z,5.0nm,0.5s,baz=273,slow=9.4,SNR=31
YKA LR LR 16 45 27.5
comp=Z,40nm,19.8s,baz=282,slow=36
H04A Detroit Lake 27.76 94 P **P 16 35 42.0 +1.8**
H04A IAmb IAmb 16 35 42.0
comp=Z,23nm,1.5s
NEW Newport 28.80 83 LR LR 16 45 31.7
comp=Z,38nm,19.2s,baz=297,slow=32
YBH Yreka Blue Hor 29.25 99 LR LR 16 45 16.8
comp=Z,50nm,19.6s,baz=294,slow=32
WVOR Wild Horse Val 31.17 94 P **P 16 36 12.6 +2.1**
WVOR pmax pmax
comp=Z,13nm,1.5s
WVOR Wild Horse Val 31.17 94 P **P 16 36 12.6 +2.1**
WVOR IAmb IAmb 16 36 40.8
comp=Z,13nm,1.4s
BEKR Beckworth 31.81 100 P **P 16 36 17.9 +1.6**
PAHR Pah Rah Range 32.48 99 P **P 16 36 23.9 +1.8**
PAHR IAmb IAmb 16 36 25.0
comp=Z,6.8nm,0.8s
PNTR Pine Nut 32.77 100 P **P 16 36 27.0 +2.3**
RES Resolute Bay 32.81 27 LR LR 16 51 30.5
comp=Z,84nm,21.6s,baz=300,slow=40
RES Resolute Bay 32.81 27 P **P 16 36 23.4 -1.0**
RES pmax pmax
comp=Z,3.0nm,0.7s
RES Resolute Bay 32.81 27 P **P 16 36 23.4 -1.0**
TIXI Tiksi 33.07 327 LR LR 16 50 45.4
comp=Z,75nm,18.1s,baz=185,slow=38
MCMT McKenzie Canyo 33.13 86 P **P 16 36 29.2 +1.3**
EGMT Eagleton 33.18 79 P **P 16 36 29.2 +1.2**
EGMT IAmb IAmb 16 36 44.7
comp=Z,4.3nm,0.9s
BMN Battle Mountai 33.26 96 P **P 16 36 30.8 +1.9**
BMN pmax pmax
comp=Z,3.0nm,0.7s
BMN Battle Mountai 33.26 96 P **P 16 36 30.8 +1.9**
BMN IAmb IAmb 16 36 31.6
comp=Z,3.1nm,0.7s
KVN Kaiserville 33.66 98 P **P 16 36 34.0 +1.6**
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 33.66 98 P **P 16 36 34.0 +1.6**
KVN IAmb IAmb 16 36 35.3
comp=Z,3.6nm,0.8s
RYN Ryan 33.70 99 P **P 16 36 34.8 +2.0**
RYN IAmb IAmb 16 36 35.3
comp=Z,5.1nm,0.6s
NVAR Mina Array Bea 33.96 99 P **P 16 36 37.1 +2.1**
comp=Z,5.5nm,0.7s,baz=303,slow=8.5,SNR=39
NV11 Mina Array Sit 34.05 99 P **P 16 36 37.7 +1.9**
NV11 IAmb IAmb 16 36 38.6
comp=Z,11nm,1.5s
ELK Elko 34.22 94 LR LR 16 47 22.1
comp=Z,37nm,18.8s,baz=266,slow=31
ELK Elko 34.22 94 P **P 16 36 39.4 +2.1**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 34.22 94 P **P 16 36 39.4 +2.1**
YHH Holmes Hill 34.32 84 P **P 16 36 39.7 +1.4**
YHH IAmb IAmb 16 36 40.0
comp=Z,5.6nm,1.2s
EUNU Eureka 34.64 17 P **P 16 36 40.8 +0.5**
YAK Yakutsk 34.81 310 LR LR 16 52 37.9
comp=Z,66nm,18.9s,baz=76,slow=40
LCH Last Change Ra 35.16 100 P **P 16 36 47.6 +2.3**
LCH IAmb IAmb 16 36 48.6
comp=Z,4.7nm,0.8s
R11A Troy Canyon, C 35.59 97 P **P 16 36 50.2 +1.1**
R11A IAmb IAmb 16 36 51.6
comp=Z,5.4nm,1.1s
R11A Troy Canyon, C 35.59 97 P **P 16 36 50.1 +1.0**
baz=312,SNR=6.7
MPMC Manual Prospec 36.07 102 P **P 16 36 54.8 +1.6**
baz=315,SNR=7.3
TPNV Topopah Spring 36.16 99 P **P 16 36 55.8 +1.8**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 36.16 99 P **P 16 36 55.8 +1.8**
TPNV IAmb IAmb 16 36 56.8
comp=Z,8.1nm,1.1s
TPNV Topopah Spring 36.16 99 P **P 16 36 55.9 +2.0**
baz=314,SNR=9.7
ASAJ Asahikawa 36.19 276 LR LR 16 53 59.5
comp=Z,23nm,18.2s,baz=114,slow=40
PDAR Pinedale Array 36.27 86 P **P 16 36 55.8 +0.8**
comp=Z,0.3nm,0.6s,baz=318,slow=4.0,SNR=3.5
PDAR Pinedale Array 36.27 86 P **P 16 36 56.7 +1.7**
GWY Greenwater Val 36.45 101 P **P 16 36 57.9 +1.4**
QSM Queen of Sheba 36.49 101 P **P 16 36 58.1 +1.5**
PRN Pahroc Range 36.54 98 P **P 16 36 58.8 +1.6**
PRN IAmb IAmb 16 36 59.5
comp=Z,4.3nm,0.7s
FCC Fort Churchill 36.61 55 P **P 16 36 59.0 +1.7**
FCC pmax pmax
comp=Z,6.0nm,0.9s
FCC Fort Churchill 36.61 55 P **P 16 36 59.0 +1.7**
FCC IAmb IAmb 16 37 04.5
comp=Z,6.1nm,0.9s
HEC Hector,Ludlow 37.61 102 P **P 16 37 07.3 +1.1**
baz=316
GMRC Granite Mounta 38.02 101 P **P 16 37 10.7 +1.0**
baz=316
BELC Belle Mtn. Jos 38.40 103 P **P 16 37 13.9 +1.0**
baz=317,SNR=5.3
PFO Pinyon Flats O 38.42 103 P **P 16 37 14.0 +0.9**
comp=Z,6.1nm,0.7s,baz=303,slow=5.5,SNR=6.0
PFO Pinyon Flats O 38.42 103 P **P 16 37 14.7 +1.7**
PFO pmax pmax
comp=Z,15nm,1.2s
PFO Pinyon Flats O 38.42 103 P **P 16 37 14.7 +1.7**
PFO Pinyon Flats O 38.42 103 P **P 16 37 13.9 +0.9**
baz=317
TPFO Pinon Flats 38.42 103 P **P 16 37 14.1 +1.0**
baz=317
RSSD Black Hills 38.66 81 P **P 16 37 15.9 +0.8**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 38.66 81 P **P 16 37 15.9 +0.8**
RSSD IAmb IAmb 16 37 16.9
comp=Z,3.8nm,0.8s
RSSD Black Hills 38.66 81 P **P 16 37 15.8 +0.8**
baz=307
O20A White River Ci 38.70 89 P **P 16 37 16.1 +0.7**
O20A IAmb IAmb 16 37 17.1
comp=Z,7.7nm,1.1s
O20A White River Ci 38.70 89 P **P 16 37 16.2 +0.8**
baz=310
IRM Iron Mountain 38.77 102 P **P 16 37 17.1 +1.2**
baz=316,SNR=6.9
MDND Maddock 39.02 73 P **P 16 37 18.8 +0.9**
baz=304
ZEA Zeya 39.47 299 *eP* P 16 37 33.4 +12
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,15.0s
PV13 Radium Mtn., P 39.66 91 P **P 16 37 24.9 +1.4**
H11N2 WAKE ISLAND Hy 41.58 226 T T 17 22 01.8
baz=26,slow=76,SNR=458
H11N3 WAKE ISLAND Hy 41.59 226 T T 17 22 02.3
baz=26,slow=76,SNR=270
H11N1 WAKE ISLAND Hy 41.60 226 T T 17 21 56.6
baz=26,slow=76,SNR=209
H11S1 WAKE ISLAND Hy 42.75 225 T T 17 23 38.0
baz=26,slow=76,SNR=541
H11S2 WAKE ISLAND Hy 42.77 225 T T 17 23 33.6
baz=26,slow=76,SNR=295
H11S3 WAKE ISLAND Hy 42.77 225 T T 17 23 39.3
baz=26,slow=76,SNR=287
ECSD EROS Data Cent 43.14 76 P **P 16 37 51.8 +0.1**
ECSD IAmb IAmb 16 37 52.4
comp=Z,3.9nm,0.7s
ECSD EROS Data Cent 43.14 76 P **P 16 37 51.4 -0.3**
baz=308
MJAR Matsushiro Arr 43.62 271 LR LR 17 03 35.5
comp=Z,8.4nm,18.0s,baz=110,slow=47
DAG Danmarks Havn 47.14 11 *iP* **P 16 38 21.6 -1.3**
DAG IAmb IAmb 16 38 23.3
comp=Z,4.0nm,0.6s
SPITS Spitsbergen Ar 47.68 0 P **P 16 38 25.9 -1.2**
comp=Z,17nm,1.2s,baz=34,slow=6.1,SNR=5.5
P40A Paris 48.47 77 P **P 16 38 33.5 -0.2**
SFJD Kangerlussuaq 48.77 29 P **P 16 38 36.3 +0.7**
comp=Z,5.7nm,0.6s,baz=274,slow=6.0,SNR=7.8
SFJD LR LR 17 01 35.9
comp=Z,77nm,18.7s,baz=250,slow=39
SFJD Kangerlussuaq 48.77 29 P **P 16 38 36.5 +0.9**
SFJD pmax pmax
comp=Z,31nm,1.5s
SFJD Kangerlussuaq 48.77 29 *i* P **P 16 38 35.7 +0.1**
SFJD Kangerlussuaq 48.77 29 P **P 16 38 36.5 +0.9**
TX31 Lajitas Ar. Si 48.93 96 P **P 16 38 38.6 +1.1**
TX32 Lajitas Array 48.93 96 P **P 16 38 38.4 +0.9**
TX32 IAmb IAmb 16 38 38.9
comp=Z,2.5nm,0.7s
TXAR Lajitas Array 48.93 96 P **P 16 38 38.1 +0.6**
comp=Z,2.3nm,0.8s,baz=302,slow=5.6,SNR=11
TXAR LR LR 16 58 01.4
comp=Z,34nm,18.3s,baz=314,slow=34
TXAR Lajitas Array 48.93 96 P **P 16 38 38.5 +1.0**
TXAR Lajitas Array 48.93 96 P **P 16 38 38.5 +1.0**
KSRS Korea Array 48.98 280 P **P 16 38 37.0 -0.7**
comp=Z,2.0nm,0.7s,baz=48,slow=6.8,SNR=8.8
KSRS Korea Array 48.98 280 *eP* **P 16 38 37.9 +0.3**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
DBG Daneborg 49.14 13 *i* P **P 16 38 37.5 -0.9**
DBG IAmb IAmb 16 38 38.5
comp=Z,3.9nm,0.7s
R40A Maddies Statio 49.19 79 P **P 16 38 38.0 -1.3**
ICESG Greenland Ices 50.04 23 *eP* **P 16 38 45.7 0.0**
DY2G Dye2 50.36 28 *i* P **P 16 38 48.4 +0.4**
SCHQ Schefferville 51.23 48 P **P 16 38 55.0 +0.5**
SCO Scoresbysund 52.30 16 P **P 16 39 02.2 +0.1**
SCO pmax pmax
comp=Z,19nm,1.4s
SCO Scoresbysund 52.30 16 *eP* **P 16 39 02.4 +0.3**
SCO Scoresbysund 52.30 16 P **P 16 39 02.2 +0.1**
ULN Ulaanbaatar 53.19 303 *ceP* **P 16 39 08.5 -0.8**
ULN pmax pmax
comp=Z,1.0nm,0.9s
WVT Waverly 53.23 77 P **P 16 39 09.4 -0.2**
WVT pmax pmax
comp=Z,10.0nm,0.7s
WVT Waverly 53.23 77 P **P 16 39 09.3 -0.2**
WVT Waverly 53.23 77 P **P 16 39 09.3 -0.2**
baz=315
SONM Songino Array 53.54 303 P **P 16 39 11.1 -0.7**
comp=Z,0.6nm,0.7s,baz=53,slow=7.4,SNR=3.5
SONM PcP **PcP 16 40 18.8 +0.9**
comp=Z,0.7nm,0.5s,baz=82,slow=2.0,SNR=6.0
SONM Songino Array 53.54 303 *eP* **P 16 39 12.4 +0.6**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 53.54 303 P **P 16 39 11.8 -0.1**
HHC Hu-ho-hao-te 55.75 294 *eP* **P 16 39 29.0 +1.1**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,75nm,6.5s
ARCES ARCESS Array B 56.22 356 P **P 16 39 29.5 -1.2**
comp=Z,1.6nm,0.6s,baz=10,slow=7.0,SNR=7.6
ARCES PcP **PcP 16 40 28.4 +0.6**
comp=Z,4.7nm,0.9s,baz=25,slow=4.0,SNR=4.7
ARCES LR LR 17 05 41.9
comp=Z,24nm,18.9s,baz=304,slow=38
ARCES ARCESS Array B 56.22 356 P **P 16 39 29.8 -0.9**
ARCES pmax pmax
comp=Z,20nm,1.5s
ARCES ARCESS Array B 56.22 356 P **P 16 39 29.8 -0.9**
BORG Borgarnes 57.55 18 LR LR 17 04 59.4
comp=Z,19nm,21.5s,baz=322,slow=37
ZALV Zalesovo Beam 58.46 320 P **P 16 39 46.9 +0.2**
comp=Z,1.5nm,0.4s,baz=40,slow=7.3,SNR=9.1
ZALV LR LR 17 05 58.5
comp=Z,64nm,19.8s,baz=38,slow=37
ZALV Zalesovo Beam 58.46 320 *eP* **P 16 39 47.1 +0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 63.34 321 *i* P **P 16 40 20.2 +0.4**
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 63.34 321 P **P 16 40 19.4 -0.4**
KURK IAmb IAmb 16 40 48.0
comp=Z,2.8nm,0.8s
BRVK Borovoye 64.21 328 *i* P **P 16 40 25.0 -0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 64.21 328 P **P 16 40 24.4 -1.1**
BRVK IAmb IAmb 16 40 39.7
comp=Z,3.6nm,0.8s
FINES FINESS Array B 64.28 355 P **P 16 40 24.6 -1.2**
comp=Z,1.0nm,0.5s,baz=30,slow=7.3,SNR=11
FINES LR LR 17 13 05.3
comp=Z,29nm,18.0s,baz=198,slow=40
FINES FINESS Array B 64.28 355 P **P 16 40 25.0 -0.8**
FINES FINESS Array B 64.28 355 P **P 16 40 25.0 -0.8**
KIRV Kirov 64.40 342 LR LR 17 10 44.8
comp=Z,39nm,22.0s,baz=21,slow=38
ARU Arti 64.47 336 LR LR 17 14 25.8
comp=Z,36nm,20.1s,baz=12,slow=42
ARU Arti 64.47 336 *ciP* **P 16 40 26.7 -0.5**
ARU *PP **pP** 16 40 38.2 -3.4
ARU 16 41 00.0
ARU S **S 16 49 02.5 +0.8**
ARU SS **SS 16 53 09.5 -2.0**
ARU pmax pmax
comp=Z,10.0nm,2.2s
ARU Arti 64.47 336 P **P 16 40 26.6 -0.5**
NC204 NORSAR Array S 64.56 3 P **P 16 40 27.4 -0.3**
NC204 IAmb IAmb 16 40 38.9
comp=Z,8.8nm,1.1s
NB2 NORSAR Subarra 64.81 3 P **P 16 40 28.6 -0.8**
comp=Z,3.2nm,0.9s,baz=356,slow=6.5
NOA NORSAR Array B 64.81 3 P **P 16 40 29.1 -0.3**
comp=Z,0.3nm,0.5s,baz=342,slow=12,SNR=3.6
NOA LR LR 17 08 04.3
comp=Z,8.7nm,19.3s,baz=260,slow=35
MK31 Makanchi Array 65.13 317 P **P 16 40 30.9 -0.8**
MK31 pmax pmax
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 65.13 317 P **P 16 40 30.9 -0.8**
MKAR Makanchi Array 65.13 317 P **P 16 40 30.8 -0.9**
comp=Z,1.1nm,0.4s,baz=38,slow=6.5,SNR=31
MKAR LR LR 17 10 03.0
comp=Z,34nm,18.7s,baz=30,slow=37
WMQ Urumqi 65.24 311 *eP* **P 16 40 35.9 +3.4**
HFS Hagfors 65.78 2 LR LR 17 10 30.2
comp=Z,53nm,18.1s,baz=339,slow=37
AKTO Aktyubinsk 70.06 334 LR LR 17 14 03.5
comp=Z,40nm,20.5s,baz=19,slow=38
ABKAR Akbulak array 70.62 332 P **P 16 41 06.3 +0.3**
BOOM Boomskoye usch 71.22 318 P **P 16 41 10.4 +0.3**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 71.22 318 P **P 16 41 10.4 +0.3**
AAK Ala-Archa 71.66 319 LR LR 17 15 19.2
comp=Z,76nm,18.6s,baz=40,slow=38
AAK Ala-Archa 71.66 319 P **P 16 41 12.9 +0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 71.66 319 P **P 16 41 12.9 +0.2**
AAK IAmb IAmb 16 41 26.6
comp=Z,2.8nm,0.7s
PZH PanZhiHua 71.90 290 P **P 16 41 14.1 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.0s
KKAR Karatay Array 72.73 322 P **P 16 41 18.5 -0.4**
KKAR Karatay Array 72.73 322 P **P 16 41 18.5 -0.4**
KSH Kashi 73.74 316 P **P 16 41 28.9 +3.9**
KSH pP PcP 16 41 41.1 +0.6
KSH PcP **sP 16 41 45.5 -0.1**
KSH sP pP 16 41 47.0 +7.3
AKASG Malin Array Be 74.78 352 P **P 16 41 29.8 -0.9**
comp=Z,2.7nm,0.4s,baz=11,slow=5.7,SNR=23
AKASG LR LR 17 15 39.0
comp=Z,28nm,18.7s,baz=7.5,slow=37
AKASG Malin Array Be 74.78 352 P **P 16 41 29.6 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,1.2s
AKASG Malin Array Be 74.78 352 P **P 16 41 29.6 -1.1**
AKBB Malin Array Si 74.78 352 P **P 16 41 29.9 -0.8**
AKBB pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 74.78 352 P **P 16 41 29.9 -0.8**
AKBB IAmb IAmb 16 41 30.4
comp=Z,4.5nm,0.5s
RAR Rarotonga 75.35 177 LR LR 17 12 07.0

comp=Z,39nm,19.1s,baz=128,slow=34
GAR Garm 76.39 320 P **P** **16 41 41.7 +1.4**
GAR lAmb lAmb 16 41 53.7
comp=Z,5.6nm,0.7s
GERES GERESS Array B 77.08 2 P **P** **16 41 44.0 0.0**
comp=Z,0.4nm,0.5s,baz=14,slow=6.1,SNR=4.9
BUR08 Bucovina Ar. S 78.10 354 P **P** **16 41 49.7 0.0**
BUR08 lAmb lAmb 16 42 15.3
comp=Z,4.0nm,1.1s
BURAR Bucovina Array 78.13 354 P **P** **16 41 49.8 0.0**
GUN Gumba 79.04 303 *e*P **P** **16 41 55.5 0.0**
comp=Z,12nm,0.6s
JIRN Jiri 79.10 302 *e*P **P** **16 41 55.9 0.0**
comp=Z,12nm,0.4s
RAMN Ramite 79.48 302 *e*P **P** **16 41 57.3 -0.5**
comp=Z,9.2nm,0.5s
PKIN Phulchoki 79.56 303 *e*P **P** **16 41 58.1 -0.1**
comp=Z,5.8nm,0.6s
GKN Gorkha 79.57 304 *e*P **P** **16 41 58.0 -0.2**
DANN Dangsing 79.71 305 *e*P **P** **16 41 59.2 +0.1**
comp=Z,18nm,0.5s
CMAR Chiang Mai Arr 79.86 287 P **P** **16 41 59.5 -0.2**
comp=Z,0.6nm,0.4s,baz=11,slow=6.7,SNR=7.1
CMAR Chiang Mai Arr 79.86 287 *e*P **P** **16 42 02.1 +2.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 79.86 287 P **P** **16 41 58.8 -0.8**
MLR Muntele Rosu 80.20 354 LR LR 17 22 56.8
comp=Z,32nm,18.4s,baz=46,slow=40
KOLN Koldanda 80.27 304 *e*P **P** **16 42 01.9 -0.1**
comp=Z,6.6nm,0.5s
PYUN Piuthan 80.29 305 *e*P **P** **16 42 01.5 -0.6**
comp=Z,11nm,0.6s
MSSA Maissana 81.44 6 P **P** **16 42 07.7 -0.1**
GEYT Alibeck 81.52 328 P **P** **16 42 07.5 -0.8**
comp=Z,1.7nm,0.4s,baz=24,slow=10,SNR=2.8
GEYT LR LR 17 20 06.1
comp=Z,39nm,19.1s,baz=85,slow=37
GNI Garni 82.89 339 LR LR 17 22 37.5
comp=Z,29nm,19.9s,baz=352,slow=38
SDV Santo Domingo 84.14 83 LR LR 17 24 32.5
comp=Z,28nm,18.0s,baz=220,slow=39
ESDC Sonseca Array 84.55 16 P **P** **16 42 24.6 +0.6**
comp=Z,1.3nm,0.7s,baz=344,slow=5.1,SNR=8.2
ESDC Sonseca Array 84.55 16 P **P** **16 42 24.8 +0.8**
ESDC lAmb lAmb 16 42 43.7
comp=Z,3.4nm,1.1s
BRTR Keskin Array B 85.18 347 P **P** **16 42 27.6 +0.4**
comp=Z,1.1nm,0.6s,baz=33,slow=1.5,SNR=5.2
BRTR LR LR 17 25 12.1
comp=Z,33nm,18.2s,baz=309,slow=39
WRA Warramunga Arr 91.36 237 P **P** **16 42 54.3 -2.3**
comp=Z,0.7nm,0.9s,baz=34,slow=5.2,SNR=5.2
ASAR Alice Springs 94.73 235 P **P** **16 43 11.3 -0.8**
comp=Z,0.5nm,0.7s,baz=40,slow=3.9,SNR=8.4
ASAR Alice Springs 94.73 235 P **P** **16 43 11.1 -1.0**
ASAR Alice Springs 94.73 235 P **P** **16 43 11.1 -1.0**

IDC 23 17:07:17.0±396.0, 53°87N×1°16E, h0km, Error ellipse: s-maj=179.4km s-min=73.4km az=23.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.32**	**118**	*i*		18 07 50.0	
	baz=310,slow=328,SNR=1.1						
I37NO	**I37NO**	**17.26**	**21**	*i*		19 01 40.0	
	baz=217,slow=331,SNR=1.9						
I43RU	**DUBNA INFRASON**	**20.57**	**67**	*i*		19 12 40.0	
	baz=272,slow=334,SNR=1.2						

IDC 23 17:18:39.2±398.0, 53°92N×1°45E, h0km, Error ellipse: s-maj=179.1km s-min=85.6km az=23.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.19**	**119**	*i*		18 21 10.0	
	baz=309,slow=328,SNR=1.1						
I37NO	**I37NO**	**17.16**	**21**	*i*		19 11 50.0	
	baz=216,slow=333,SNR=1.2						
I43RU	**DUBNA INFRASON**	**20.40**	**68**	*i*		19 22 47.1	
	baz=274,slow=333,SNR=1.0						

GCMT 23 17:43:38.0±0.3, 56°88S±0°02×141°94W±0°03, h38km±1km, MW5.1/83, Moment Tensor Solution. s30,c35; s83,c94; Duration: 0 Moment tensor: Scale 10^{16}**Nm;** M_{rr} 0.41±.24; $M_{\theta\theta}$ 4.98±.23; $M_{\phi\phi}$ -4.57±.21; $M_{r\theta}$ 0.45±.19; $M_{\theta\phi}$ 1.88±.16; $M_{\phi r}$ 0.34±.17; **Best double couple:** M_0 5.16300×10^{16} **NP1:**ϕ_s 214.00000°,δ 84.00000°, λ -179.00000°. **NP2:**ϕ_s 124.00000°,δ 89.00000°, λ -6.00000°. **Principal axes:** T 5.3610, Plg 4.0000°, Azm 169.0000°; N -0.4000, Plg 84.0000°, Azm 295.0000°; P -4.9650, Plg 5.0000°, Azm 79.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**33.94**	**348**	*e*LR	LR	17 58 55.2	
	comp=Z,529nm,28.5s						
TBI	**Tubuai**	**33.94**	**348**	*e*T	T	18 25 11.8	
	52nm,0.3s						
PAE	**Paea**	**39.57**	**349**	*e*T	T	18 32 11.9	
	2.4nm,0.3s						
PPT2	**Papeete2**	**39.64**	**349**	*e*LR	LR	18 01 44.7	
	comp=Z,478nm,25.2s						
VAH	**Vaihoa**	**41.79**	**352**	*e*T	T	18 35 02.0	
	36nm,0.3s						
TAOE	**Nuku Hiva Isla**	**47.93**	**2**	*e*LR	LR	18 05 17.6	
	comp=Z,408nm,27.0s						

IDC ***23*** *17:48:26.9±1.0, 36°33N×103°09E, h0km, mb3.4/8, mb1 3.6/11, mb1mx3.4/37, mbtmp3.4/11, ML3.5/3, MS3.4/3, Ms1 3.4/3, ms1mx2.6/67 Error ellipse: s-maj=31.8km s-min=18.1km az=68.0*

ISC 23 17:48:32.0±0.9, 36°4N±0°1×103°1E±0°2, h35km, n13, σ**1§18/11, mb3.4/8, Gansu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**11.71**	**11**	Pn	**Pn**	**17 51 15.4**	**-1.2**
	0.2nm,0.3s,baz=196,slow=14,SNR=5.2						
SONM				Lg	Lg	17 54 42.0	
	0.1nm,0.3s,baz=183,slow=27,SNR=1.6						
SONM				LR	LR	17 56 08.0	
	comp=Z,67nm,20.5s,baz=296,slow=39						
CMAR	**Chiang Mai Arr**	**18.22**	**193**	P	**P**	**17 52 41.6**	**-0.4**
	0.2nm,0.3s,baz=6.1,slow=13,SNR=1.3						
MKAR	**Makanchi Array**	**18.66**	**310**	P	**P**	**17 52 46.1**	**-0.7**
	0.0nm,0.3s,baz=116,slow=14,SNR=4.5						
ZALV	**Zalesovo Beam**	**21.68**	**330**	P	**P**	**17 53 21.2**	**+1.8**
	0.4nm,0.4s,baz=128,slow=9.3,SNR=2.1						
KURBB	**Kurchatov Arra**	**22.66**	**317**	P	**P**	**17 53 29.0**	**-1.1**
	0.7nm,0.8s,baz=125,slow=11,SNR=7.5						
FINES	**FINESS Array B**	**52.77**	**324**	P	**P**	**17 57 43.0**	**-0.1**
	2.3nm,0.8s,baz=83,slow=7.9,SNR=6.2						
AKASG	**Malin Array Be**	**53.25**	**310**	P	**P**	**17 57 47.5**	**+0.6**
	0.9nm,0.6s,baz=66,slow=6.4,SNR=3.5						
FITZ	**Fitzroy Crossi**	**58.23**	**155**	LR	LR	18 24 46.0	
	comp=Z,78nm,20.4s,baz=135,slow=38						
ATD	**Arta Tunnel**	**59.34**	**262**	LR	LR	18 25 03.8	
	comp=Z,31nm,19.9s,baz=46,slow=37						
WRA	**Warramunga Arr**	**63.33**	**147**	P	**P**	**17 58 58.1**	**+0.6**
	0.2nm,0.7s,baz=341,slow=6.9,SNR=1.6						
ILAR	**Eielson Array**	**65.48**	**26**	P	**P**	**17 59 10.7**	**-0.5**
	0.5nm,0.9s,baz=292,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**66.44**	**149**	P	**P**	**17 59 16.9**	**-0.9**
	0.2nm,0.8s,baz=354,slow=5.4,SNR=1.9						
YKA	**Yellowknife Ar**	**76.91**	**17**	P	**P**	**18 00 22.0**	**+1.7**
	0.2nm,0.6s,baz=333,slow=5.6,SNR=4.1						

IDC ***23*** *17:55:39.3±0.6, 29°68N×102°19E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/52, mbtmp4.1/18, ML3.4/1, MS3.5/21, Ms1 3.5/21, ms1mx3.3/89, Error ellipse: s-maj=17.3km s-min=13.1km az=68.0*

MOS ***23*** *17:55:39.1±1.1, 29°58N×102°23E, h10km, mb4.6/16, Error ellipse: s-maj=9.0km s-min=5.9km az=97.6*

NEIC ***23*** *17:55:41.2±2.1, 29°64N±0°09×102°20E±0°08, h10km±1km, mb4.5/45, Error ellipse: s-maj=14.6km s-min=12.4km*

az=185.0

BJI ***23*** *17:55:41.3±0.0, 29°60N×102°01E, h12km, mb4.2/33, mB4.6/16, ML4.2/18, Ms3.9/31, Ms7 3.8/29*

ISC 23 17:55:40.6±0.3, 29°53N±0°03×102°17E±0°04, h10km, n156, σ**2§14/170, mb4.4/55, MS3.5/26, 11C-5D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.94**	**45**	⇓*i*Pg	**Pn**	**17 56 14.6**	**+0.9**
CD2				Sg	**Sb**	**17 56 41.6**	**+1.1**
CD2				smax	smax		
	comp=E,4μm,1.0s						
PZH	**PanZhiHua**	**3.04**	**187**	Pg	**Pb**	**17 56 34.3**	**-0.6**
PZH				Sg	**Sg**	**17 57 16.1**	**-2.2**
PZH				smax	smax		
	comp=N,990nm,0.8s						
PZH				smax	smax		
	comp=E,970nm,0.8s						
PZH				LR	LR		
	comp=N,2μm,6.8s						
PZH				LR	LR		
	comp=Z,2μm,6.3s						
KMI	**Kunming**	**4.42**	**173**	⇑Pn	**Pn**	**17 56 52.3**	**+4.3**
KMI				Sn	**Sb**	**17 57 46.3**	**-5.7**
KMI				Sg	**Sg**	**17 58 09.6**	**+6.9**
KMI				smax	smax		
	comp=N,440nm,1.6s						
KMI				smax	smax		
	comp=E,210nm,1.3s						
KMI				LR	LR		
	comp=Z,960nm,5.3s						
GYA	**Guiyang**	**5.02**	**127**	⇓Pn	**Pn**	**17 56 58.3**	**+2.2**
GYA				Pg	**Pg**	**17 57 16.3**	**-0.4**
GYA				Sn	**Sn**	**17 57 54.9**	**+0.7**
GYA				Sg	**Sg**	**17 58 22.3**	**+0.5**
GYA				smax	smax		
	comp=N,190nm,1.0s						
GYA				smax	smax		
	comp=E,190nm,0.8s						
GYA				LR	LR		
	comp=N,370nm,3.8s						
GYA				LR	LR		
	comp=E,400nm,3.8s						
ENH	**Enshi**	**6.40**	**82**	Pn	**Pn**	**17 57 15.9**	**+1.0**
LZH	**Lanzhou**	**6.69**	**12**	*e*Pn	**Pn**	**17 57 23.3**	**+4.3**
LZH				Sn	Sn	17 58 45.5	+10
LZH				LR	LR		
	comp=E,980nm,7.0s						
LZH				LR	LR		
	comp=Z,2μm,10.6s						
XAN	**Xi'an**	**7.29**	**50**	Pn	**Pn**	**17 57 29.9**	**+2.6**
XAN				Sn	**Sn**	**17 58 53.8**	**+3.6**
XAN				Sg	**Sg**	**17 59 31.9**	**-2.9**
XAN				smax	smax		
	comp=N,410nm,1.1s						
XAN				smax	smax		
	comp=E,370nm,1.2s						
XAN				LR	LR		
	comp=N,1μm,6.2s						
XAN				LR	LR		
	comp=Z,1μm,6.3s						
GOMU	**GeErMu**	**9.08**	**319**	P	Pn	17 57 46.8	-5.2
GOMU				pP		17 57 50.4	
GOMU				sP		17 57 54.0	
GOMU				S	Sn	17 59 21.5	-13
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,120nm,6.9s						
GOMU				LR	LR		
	comp=N,1μm,12.2s						
GOMU				LR	LR		
	comp=E,800nm,11.8s						
GOMU				LR	LR		
	comp=Z,380nm,12.3s						
LSA	**Lhasa**	**9.59**	**274**	P	**Pn**	**17 57 59.3**	**+0.1**
LSA	**Lhasa**	**9.59**	**274**	Pn	**Pn**	**17 57 59.3**	**+0.1**
LSA	**Lhasa**	**9.59**	**274**	P	**Pn**	**17 57 59.6**	**+0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	**Shillong**	**9.95**	**249**	P	**Pn**	**17 58 01.4**	**-2.4**
SHL	**Shillong**	**9.95**	**249**	Pn	**Pn**	**17 58 01.4**	**-2.4**
GTA	**Gaotai**	**10.04**	**349**	⇓P	**Pn**	**17 58 07.8**	**+2.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,96nm,8.0s						
GTA				LR	LR		
	comp=Z,720nm,10.2s						
GTA				LR	LR		
	comp=Z,790nm,10.2s						
GTA				LR	LR		
	comp=Z,620nm,12.0s						
LYN	**LuoYang**	**10.07**	**58**	*e*P	**Pn**	**17 58 04.0**	**-1.3**
LYN				PP	**PnPn**	**17 58 13.3**	**+0.3**
LYN				S	**Sn**	**17 59 55.1**	**-3.2**
LYN				SS	**SnSn**	**18 00 10.8**	**+0.7**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,160nm,4.4s						
LYN				LR	LR		
	comp=N,2μm,12.2s						
LYN				LR	LR		
	comp=E,1μm,10.1s						
LYN				LR	LR		
	comp=Z,810nm,12.0s						
CHTO	**Chiang Mai**	**11.07**	**196**	P	**Pn**	**17 58 21.7**	**+2.7**
CHTO	**Chiang Mai**	**11.07**	**196**	Pn	**Pn**	**17 58 21.7**	**+2.7**
CMAR	**Chiang Mai Arr**	**11.41**	**196**	Pn	**Pn**	**17 58 27.2**	**+3.4**
	baz=11,slow=13,SNR=6.1						
CMAR				Pg		17 59 11.4	
	comp=Z,0.1nm,0.3s,baz=7.0,slow=16,SNR=4.0						
CMAR				Lg	Lg	18 01 44.5	
	comp=Z,0.1nm,0.3s,baz=8.8,slow=30,SNR=2.8						
CMAR				LR	LR	18 03 02.9	
	comp=Z,262nm,18.9s,baz=10.0,slow=38						
CMAR	**Chiang Mai Arr**	**11.41**	**196**	Pn	**Pn**	**17 58 26.6**	**+2.9**
QIZ	**Qiongzhong**	**12.58**	**145**	P	**Pn**	**17 58 39.8**	**+0.1**
QIZ				S	**Sn**	**18 00 59.1**	**-0.8**
QIZ				LR	LR		
	comp=N,750nm,9.3s						
QIZ				LR	LR		
	comp=E,1μm,15.0s						
QIZ				LR	LR		
	comp=Z,710nm,7.8s						
BTO	**Baotou**	**12.78**	**28**	*e*P	**Pn**	**17 58 43.6**	**+1.2**
BTO				S	**Sn**	**18 01 07.0**	**+2.3**
TAPN	**Taplejung**	**12.91**	**264**	*e*P	**Pn**	**17 58 42.4**	**-2.1**
	comp=Z,26nm,0.9s						
ODAN	**Odare**	**13.30**	**262**	*e*P	**Pn**	**17 58 47.5**	**-2.3**
	comp=Z,28nm,1.0s						
HHC	**Hu-ho-hao-te**	**13.64**	**32**	*e*P	**Pn**	**17 58 56.3**	**+2.0**
HHC				S	**Sn**	**18 01 28.8**	**+2.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,5.6s						
HHC				LR	LR		
	comp=Z,270nm,9.8s						
HHC				LR	LR		
	comp=Z,210nm,7.9s						
JIRN	**Jiri**	**14.16**	**266**	*e*P	**Pn**	**17 58 59.6**	**-2.1**
GUN	**Gumba**	**14.39**	**268**	*e*P	**Pn**	**17 59 02.3**	**-2.4**
	comp=Z,30nm,0.9s						
NJ2	**Nanjing**	**14.56**	**76**	*e*P	**Pn**	**17 59 04.4**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2				LR	LR		
	comp=N,630nm,4.5s						
NJ2				LR	LR		
	comp=E,710nm,7.0s						
NJ2				LR	LR		
	comp=Z,1μm,8.8s						
PKI	**Pulchoki**	**14.86**	**267**	*e*P	**Pn**	**17 59 07.6**	**-3.5**
	comp=Z,18nm,0.7s						
PKIN	**Phulchoki**	**14.87**	**267**	*e*P	**Pn**	**17 59 07.6**	**-3.6**
	comp=Z,19nm,0.7s						
KKN	**Kakani**	**14.93**	**267**	*e*P	**Pn**	**17 59 08.8**	**-3.2**
DMN	**Daman**	**15.12**	**267**	*e*P	**Pn**	**17 59 10.8**	**-3.7**
GKN	**Gorkha**	**15.45**	**269**	*e*P	**Pn**	**17 59 15.3**	**-3.6**
	comp=Z,19nm,0.8s						
KOLN	**Koldanda**	**16.40**	**268**	*e*P	**Pn**	**17 59 26.3**	**-4.8**
	comp=Z,33nm,1.0s						
PYUN	**Piuthan**	**16.87**	**270**	*e*P	**Pn**	**17 59 32.3**	**-4.8**
	comp=Z,44nm,0.9s						
WMQ	**Urumqi**	**18.35**	**325**	*e*P	**P**	**17 59 57.9**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				LR	LR		
	comp=Z,450nm,10.9s						
WMQ				LR	LR		
	comp=Z,130nm,11.9s						
SONM	**Songino Array**	**18.57**	**9**	P	**P**	**17 59 57.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=17						
SONM				LR	LR	18 07 45.3	
	comp=Z,388nm,21.8s,baz=186,slow=39						
SONM	**Songino Array**	**18.57**	**9**	P	**Pn**	**17 59 58.7**	**+0.8**
SONM				pmax	pmax		
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**18.57**	**9**		**Pn**	**17 59 58.7**	**+0.8**
ULN	**Ulaanbaatar**	**18.69**	**10**	P	**P**	**17 59 59.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ULN	**Ulaanbaatar**	**18.69**	**10**	P	**P**	**17 59 59.3**	**+0.2**
ZAK	**Zakamensk**	**20.84**	**2**	*e*P	**P**	**18 00 23.3**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,35nm,1.4s						
KNGR	**Kungurtug, Tuv**	**21.34**	**352**	*i*P	**P**	**18 00 26.9**	**-0.9**
MOY	**Mondy**	**22.13**	**358**	*e*P	**P**	**18 00 37.6**	**+1.3**
MOY				pmax	pmax		
	comp=Z,28nm,1.4s						
IRK	**Irkutsk**	**22.74**	**3**	*e*P	**P**	**18 00 44.2**	**+1.4**
IRK				pmax	pmax		
	comp=Z,42nm,2.2s						
KS19	**Wonju Array Si**	**22.80**	**63**	P	**P**	**18 00 43.8**	**+0.3**
KS19				lAmb	lAmb	18 00 50.3	
	comp=Z,31nm,1.1s						
KSAR	**Wonju Array Be**	**22.80**	**63**	P	**P**	**18 00 41.8**	**-1.7**
KSAR	**Wonju Array Be**	**22.80**	**63**	P	**P**	**18 00 41.8**	**-1.7**
KSRS	**Korea Array**	**22.84**	**63**	P	**P**	**18 00 43.2**	**-0.6**
	comp=Z,21nm,1.2s,baz=251,slow=9.8,SNR=15						
KSRS				LR	LR	18 10 45.3	
	comp=Z,212nm,19.0s,baz=260,slow=40						
MK31	**Makanchi Array**	**23.16**	**324**	*i*P	**P**	**18 00 47.9**	**+0.7**
MK31	**Makanchi Array**	**23.16**	**324**	P	**P**	**18 00 47.2**	**0.0**
MKAR	**Makanchi Array**	**23.16**	**324**	P	**P**	**18 00 46.3**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=130,slow=12,SNR=15						
MKAR	**Makanchi Array**	**23.16**	**324**	P	**P**	**18 00 46.1**	**-1.1**
CN2	**Changchun**	**23.38**	**46**	*e*P	**P**	**18 00 49.5**	**+0.1**
CN2				S	**S**	**18 04 55.3**	**-7.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,5.5s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
KSH	**Kashi**	**23.70**	**302**	P	**P**	**18 00 59.0**	**+6.3**
KSH				sP	sP	18 01 05.6	+7.7
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSH				LR	LR		
	comp=Z,130nm,13.7s						
KSH				LR	LR		
	comp=Z,150nm,10.0s						
KDJ	**Kajisay**	**23.75**	**309**	P	**P**	**18 00 53.3**	**0.0**
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KDJ	**Kajisay**	**23.75**	**309**	P	**P**	**18 00 53.3**	**0.0**
HIA	**Hailar**	**23.83**	**29**	P	**P**	**18 00 52.5**	**-1.3**
HIA				pmax	pmax		
	comp=Z,23nm,1.3s						
HIA	**Hailar**	**23.83**	**29**	P	**P**	**18 00 52.5**	**-1.3**
HIA				lAmb	lAmb	18 00 56.8	
	comp=Z,23nm,1.3s						
KULM	**Kulim**	**24.16**	**184**	P	**P**	**18 00 56.7**	**-0.3**
KULM				lAmb	lAmb	18 01 16.0	
	comp=Z,9.3nm,1.1s						
BOOM	**Boomskoye usch**	**24.73**	**309**	P	**P**	**18 01 03.6**	**+1.2**
BOOM				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BOOM	**Boomskoye usch**	**24.73**	**309**	P	**P**	**18 01 03.6**	**+1.2**
HYBB	**Hyderabad (bro**	**24.74**	**246**	*e*P	**P**	**18 01 02.4**	**0.0**
IPM	**Ipoh**	**24.94**	**183**	P	**P**	**18 01 05.7**	**+1.5**
IPM				lAmb	lAmb	18 01 08.4	
	comp=Z,11nm,0.9s						
BNX	**BinXian**	**25.56**	**44**	⇓P	**P**	**18 01 10.8**	**+1.2**
PSI	**Prapat**	**26.76**	**187**	P	**P**	**18 01 24.1**	**+3.2**
	comp=Z,3.5nm,0.4s,baz=227,slow=7.9,SNR=3.6						
DRK	**Karamyk**	**26.81**	**300**	P	**P**	**18 01 22.4**	**+1.0**
DRK				lAmb	lAmb	18 01 36.9	
	comp=Z,7.4nm,1.1s						
RPSI	**Rantau Prapat**	**26.87**	**187**	P	**P**	**18 01 24.1**	**+2.5**
ZAA0	**Zalesovo Array**	**27.47**	**338**	P	**P**	**18 01 25.1**	**-1.6**
ZAA0				lAmb	lAmb	18 01 28.5	
	comp=Z,12nm,1.2s						
ZALV	**Zalesovo Beam**	**27.47**	**338**	P	**P**	**18 01 25.9**	**-0.8**
	comp=Z,4.8nm,0.8s,baz=138,slow=9.0,SNR=20						
ZALV				LR	LR	18 12 44.1	
	comp=Z,48nm,20.3s,baz=150,slow=38						
KURBB	**Kurchatov Arra**	**27.55**	**326**	P	**P**	**18 01 26.9**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=131,slow=10,SNR=11						
KURBB				LR	LR	18 12 12.3	
	comp=Z,133nm,19.1s,baz=130,slow=36						
KURK	**Kurchatov**	**27.57**	**327**	*ce*P	**P**	**18 01 28.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KURK	**Kurchatov**	**27.57**	**327**	P	**P**	**18 01 27.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**27.80**	**50**	P	**P**	**18 01 30.0**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=142,slow=41,SNR=2.1						
USRK	**Ussuriysk Ar.**	**27.80**	**50**	P	**P**	**18 01 30.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**27.80**	**50**	P	**P**	**18 01 27.4**	**-2.5**
GAR	**Garm**	**27.85**	**298**	P	**P**	**18 01 30.9**	**+0.4**
GAR				lAmb	lAmb	18 01 42.0	
	comp=Z,10nm,1.2s						
KBL	**Kabul**	**28.44**	**289**	P	**P**	**18 01 35.4**	**-0.6**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**28.44**	**289**	P	**P**	**18 01 35.4**	**-0.6**
KBL				lAmb	lAmb	18 01 43.1	
	comp=Z,4.8nm,0.8s						
SBUM	**Sibu**	**28.58**	**159**	P	**P**	**18 01 37.8**	**+0.9**
SBUM				lAmb	lAmb	18 01 42.8	
	comp=Z,5.4nm,0.9s						
KKAR	**Karatay Array**	**28.69**	**307**	P	**P**	**18 01 37.5**	**-0.3**
KKAR	**Karatay Array**	**28.69**	**307**	P	**P**	**18 01 37.5**	**-0.3**
MYLDM	**Lahad Datu**	**28.72**	**144**	P	**P**	**18 01 39.6**	**+1.4**
KSM	**Kuching**	**28.96**	**163**	P	**P**	**18 01 41.2**	**+0.9**
KLR	**Kul'dur**	**29.87**	**41**	P	**P**	**18 01 47.4**	**-0.7**
	comp=Z,6.6nm,1.1s,baz=269,slow=11,SNR=8.9						
KLR				LR	LR	18 15 26.8	
	comp=Z,71nm,20.4s,baz=232,slow=40						
KLR	**Kul'dur**	**29.87**	**41**	*ce*P	**P**	**18 01 48.0**	**-0.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PALK	**Pallekele**	**29.97**	**227**	LR	LR	18 15 15.1	
	comp=Z,80nm,21.0s,baz=137,slow=39						
ZEA	**Zeya**	**30.30**	**30**	*e*P	**P**	**18 01 52.9**	**+1.0**
MJAR	**Matsushiro Arr**	**30.88**	**67**	LR	LR	18 13 34.7	
	comp=Z,85nm,20.8s,baz=238,slow=35						
BRVK	**Borovoye**	**33.11**	**324**	*i*P	**P**	**18 02 18.0**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRVK	**Borovoye**	**33.11**	**324**	P	**P**	**18 02 17.1**	**+0.5**
GRNR	**Gornyy**	**33.25**	**41**	⇑*i*P	**P**	**18 02 18.0**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,70nm,11.0s						
GRNR				MLR	MLR		
	comp=N,90nm,10.0s						
GRNR				MLR	MLR		
	comp=Z,180nm,20.0s						
TOLI2	**Tolitoli**	**33.36**	**145**	P	**P**	**18 02 19.5**	**+0.3**
TOLI2				lAmb	lAmb	18 02 21.1	
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**37.17**	**21**	LR	LR	18 20 36.6	
	comp=Z,49nm,18.5s,baz=266,slow=40

AKTO	**Aktyubinsk**	**39.02**	**315**	LR	LR	18 22 04.1		
	comp=Z,44nm,20.9s,baz=112,slow=41							
ARU	**Arti**	**40.68**	**324**	LR	LR	18 20 18.6		
	comp=Z,56nm,20.3s,baz=104,slow=36							
ARU	**Arti**	**40.68**	**324***d i*	P	**P**	**18 03 21.7**	**+0.7**	
ARU						18 04 55.4		
ARU						18 05 20.0		
ARU				S	**S**	**18 09 33.7**	**+2.8**	
ARU				SS	**SS**	**18 12 30.8**	**-0.3**	
ARU				pmax	pmax			
	comp=Z,15nm,1.9s							
ARU	**Arti**	**40.68**	**324**	P	**P**	**18 03 21.7**	**+0.7**	
ARU				IAmb	IAmb	18 03 23.3		
	comp=Z,5.6nm,0.9s							
GUMO	**Guam**	**42.50**	**103**	LR	LR	18 21 34.5		
	comp=Z,24nm,21.0s,baz=210,slow=37							
MMRI	**Maumere**	**42.59**	**150**	P	**P**	**18 03 36.9**	**-0.1**	
MA2	**Magadan**	**44.32**	**33**	P	**P**	**18 03 49.7**	**-0.8**	
MA2				pmax	pmax			
	comp=Z,12nm,1.1s							
MA2	**Magadan**	**44.32**	**33**	P	**P**	**18 03 49.7**	**-0.8**	
MA2				IAmb	IAmb	18 03 52.7		
	comp=Z,12nm,1.1s							
SOEI	**Soe**	**44.49**	**148**	P	**P**	**18 03 51.2**	**-1.3**	
TIXI	**Tiksi**	**44.62**	**12**	P	**P**	**18 03 52.8**	**0.0**	
TIXI				pmax	pmax			
	comp=Z,11nm,1.4s							
TIXI	**Tiksi**	**44.62**	**12**	P	**P**	**18 03 52.8**	**0.0**	
TIXI				IAmb	IAmb	18 03 54.5		
	comp=Z,11nm,1.4s							
PETK	**Petropavlovsk-**	**46.48**	**43**	P	**P**	**18 04 06.7**	**-1.0**	
	comp=Z,3.9nm,0.9s,baz=237,slow=4.9,SNR=5.2							
PETK				PcP	**PcP**	**18 05 42.7**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=311,slow=1.4,SNR=4.5							
PETK	**Petropavlovsk-**	**46.48**	**43**	P	**P**	**18 04 06.9**	**-0.8**	
PET	**Petropavlovsk**	**47.04**	**43***ce*	P	**P**	**18 04 10.9**	**-1.2**	
PET				pmax	pmax			
	comp=Z,20nm,1.7s							
GNI	**Garni**	**47.58**	**299**	LR	LR	18 27 46.1		
	comp=Z,47nm,19.9s,baz=78,slow=40							
ZEI	**Tsey**	**47.98**	**303**	*e*P	**P**	**18 04 20.6**	**+0.7**	
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
PRGR	**Permogore**	**48.67**	**328**	*e*P	**P**	**18 04 24.2**	**-0.4**	
PRGR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KIV	**Kislovodsk**	**48.79**	**304**	*e*P	**P**	**18 04 27.2**	**+1.2**	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,35nm,16.0s							
KIV	**Kislovodsk**	**48.79**	**304**	P	**P**	**18 04 26.7**	**+0.8**	
GURO	**Guroymak-BITLI**	**49.86**	**297**	P	**P**	**18 04 36.3**	**+2.0**	
GURO				IAmb	IAmb	18 04 37.8		
	comp=Z,4.6nm,1.0s							
MTN	**Manton Dam**	**50.55**	**142**	P	**P**	**18 04 37.9**	**-1.6**	
MTN				IAmb	IAmb	18 04 39.4		
	comp=Z,4.7nm,0.9s							
RAYN	**Ar Rayn**	**50.64**	**277**	P	**P**	**18 04 41.9**	**+1.6**	
RAYN				pmax	pmax			
	comp=Z,6.0nm,1.5s							
RAYN	**Ar Rayn**	**50.64**	**277**	P	**P**	**18 04 41.9**	**+1.6**	
RAYN				IAmb	IAmb	18 04 50.3		
	comp=Z,6.2nm,1.5s							
MARD	**Mardin**	**51.04**	**296**	P	**P**	**18 04 43.6**	**+0.4**	
MARD				IAmb	IAmb	18 04 46.9		
	comp=Z,8.7nm,1.2s							
KLMR	**Klimovskoe**	**51.42**	**326**	*e*P	**P**	**18 04 45.1**	**-0.4**	
KLMR				pmax	pmax			
	comp=Z,12nm,1.2s							
KLMR	**Klimovskoe**	**51.42**	**326**	*e*P	**P**	**18 04 45.2**	**-0.3**	
KLMR				AMP		18 04 46.3		
	comp=Z,12nm,1.2s							
KNRA	**Kununurra**	**51.76**	**147**	P	**P**	**18 04 48.6**	**+0.1**	
KNRA				IAmb	IAmb	18 04 52.9		
	comp=Z,10nm,0.9s							
OBN	**Obninsk**	**52.54**	**319**⇑	*e*P	**P**	**18 04 54.5**	**+0.6**	
OBN				*i*		18 06 04.4		
OBN				*i*		18 06 52.2		
OBN				*e*SS	**SS**	**18 15 49.6**	**-8.6**	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,59nm,16.0s							
BILL	**Bilibino**	**53.30**	**25**⇑	*e*P	**P**	**18 04 59.8**	**+0.4**	
BILL				*e*		18 07 01.6		
BILL				*e*S	S	18 12 21.8	-8.9	
BILL				pmax	pmax			
	comp=Z,8.0nm,2.1s							
BILL				MLR	MLR			
	comp=Z,50nm,16.0s							
BRTR	**Keskin Array B**	**56.07**	**300**	P	**P**	**18 05 20.5**	**+0.4**	
	comp=Z,0.9nm,0.8s,baz=73,slow=4.3,SNR=3.9							
BRTR				LR	LR	18 31 13.2		
	comp=Z,34nm,19.2s,baz=135,slow=38							
BRTR	**Keskin Array B**	**56.07**	**300**	*ce*P	**P**	**18 05 22.5**	**+2.4**	
BRTR	**Keskin Array B**	**56.07**	**300**	P	**P**	**18 05 20.2**	**+0.1**	
MMAI	**Mount Meron Ar**	**56.30**	**292**	LR	LR	18 31 59.6		
	comp=Z,49nm,19.7s,baz=237,slow=39							
AKASG	**Malin Array Be**	**57.25**	**314**	P	**P**	**18 05 27.1**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=71,slow=6.7,SNR=4.7							
AKASG	**Malin Array Be**	**57.25**	**314***ce*	P	**P**	**18 05 30.2**	**+2.1**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MNK	**Minsk**	**57.59**	**318**	*i* P	**P**	**18 05 27.4**	**-3.0**	
MNK				*i*		18 06 29.4		
MNK				*i*		18 07 35.2		
MNK				*i* PPP	PPP	18 08 56.1		
MNK				*i* S	**S**	**18 13 25.4**	**-2.8**	
MNK				*i*		18 15 16.9		
MNK				pmax	pmax			
	comp=N,11nm,1.1s							
MNK				pmax	pmax			
	comp=E,2.0nm,1.1s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MNK				MLR	MLR			
	comp=E,14nm,17.0s							
MNK				MLR	MLR			
	comp=Z,118nm,14.0s							
MNK				MLR	MLR			
	comp=N,51nm,16.0s							
MNK	**Minsk**	**57.59**	**318**	*i* P	**P**	**18 05 27.4**	**-3.0**	
	comp=E,2.0nm,1.1s							
MNK				*i* P	**P**	**18 05 27.4**	**-3.0**	
	comp=N,11nm,1.1s							
MNK				*i* P	**P**	**18 05 27.4**	**-3.0**	
	comp=Z,5.0nm,0.9s,baz=83							
MNK				*i* PcP	**PcP**	**18 06 29.5**	**+5.8**	
MNK				*i* PP	**PP**	**18 07 35.3**	**-2.6**	
MNK				*i* PPP	PPP	18 08 56.2		
MNK				*i* S	**S**	**18 13 25.4**	**-2.8**	
MNK				*i* SS	SS	18 17 05.9	-12	
MNK				*i* SSS	SSS	18 19 45.5		
MNK				*i* LQ	LQ	18 26 22.7		
MNK				*i* LR	LR	18 31 10.2		
MNK				*i* LRM	MLR	18 33 28.4		
	comp=E,14nm,16.9s							
MNK				*i* LRM	MLR	18 33 40.3		
	comp=Z,118nm,13.6s							
MNK				*i* LRM	MLR	18 34 00.6		
	comp=N,51nm,16.1s							
FINES	**FINESS Array B**	**57.95**	**327**	P	**P**	**18 05 31.4**	**-1.4**	
	comp=N,2.9nm,1.0s,baz=160,slow=6.1,SNR=2.8							
FINES				LR	LR	18 30 40.1		
	comp=N,73nm,18.5s,baz=99,slow=36							
ARCES	**ARCESS Array B**	**58.01**	**336**	P	**P**	**18 05 31.9**	**-1.3**	
	comp=N,1.9nm,0.8s,baz=96,slow=7.0,SNR=6.8							
WB0	**Warramunga Arr**	**58.03**	**144**	P	**P**	**18 05 33.1**	**-0.9**	
PMG	**Port Moresby**	**58.09**	**125**	P	**P**	**18 05 34.2**	**-0.3**	
PMG				pmax	pmax			
	comp=Z,14nm,1.0s							
PMG	**Port Moresby**	**58.09**	**125**	P	**P**	**18 05 34.2**	**-0.3**	
WRAB	**Tennant Creek**	**58.15**	**144***ce*	P	**P**	**18 05 35.5**	**+0.8**	
WRAB				pmax	pmax			
	comp=Z,29nm,0.8s							
WRAB	**Tennant Creek**	**58.15**	**144**	P	**P**	**18 05 34.8**	**+0.1**	
WRA	**Warramunga Arr**	**58.15**	**144**	P	**P**	**18 05 35.0**	**+0.3**	
	comp=Z,16nm,0.6s,baz=331,slow=7.9,SNR=116							
WRA	**Warramunga Arr**	**58.15**	**144**	P	**P**	**18 05 34.8**	**+0.1**	
WB2	**Warramunga Arr**	**58.16**	**144**	P	**P**	**18 05 34.4**	**-0.4**	
WR0	**Warramunga Arr**	**58.27**	**144**	P	**P**	**18 05 34.5**	**-1.1**	
COEN	**Coen**	**58.60**	**132**	P	**P**	**18 05 37.9**	**-0.1**	
AS31	**Alice Springs**	**61.06**	**147**	P	**P**	**18 05 54.0**	**-0.8**	
AS31				IAmb	IAmb	18 05 57.4		
	comp=Z,1.3nm,0.6s							
ASAR	**Alice Springs**	**61.06**	**147**	P	**P**	**18 05 55.6**	**+0.8**	
	comp=Z,4.7nm,0.6s,baz=330,slow=6.8,SNR=82							
ASAR	**Alice Springs**	**61.06**	**147**	P	**P**	**18 05 54.7**	**-0.1**	
IDI	**Anoyia**	**63.96**	**297**	LR	LR	18 37 35.7		
	comp=Z,38nm,20.4s,baz=276,slow=39							
NB2	**NORSAR Subarra**	**65.08**	**328**	P	**P**	**18 06 20.5**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=73,slow=6.9							
NOA	**NORSAR Array B**	**65.08**	**328**	P	**P**	**18 06 19.6**	**-1.5**	
	comp=Z,1.2nm,0.9s,baz=75,slow=6.4,SNR=5.4							
RES	**Resolute Bay**	**75.44**	**5**	LR	LR	18 43 16.5		
	comp=Z,48nm,18.3s,baz=103,slow=38							
YKA	**Yellowknife Ar**	**83.67**	**16**	P	**P**	**18 08 08.7**	**-0.5**	
	comp=Z,0.5nm,0.7s,baz=326,slow=4.8,SNR=7.1							
YKA				LR	LR	18 49 57.5		
	comp=Z,41nm,18.2s,baz=310,slow=39							
YKA	**Yellowknife Ar**	**83.67**	**16***ce*	P	**P**	**18 08 10.1**	**+0.9**	
YKA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
LSZ	**Lusaka**	**84.05**	**249**	LR	LR	18 45 03.7		
	comp=Z,93nm,18.7s,baz=156,slow=35							

*IDC **23** 18:05:31.7±1.3, 27.63°N×66.29°E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.4/55, mbtmp3.6/9, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/77, Error ellipse: s-maj=33.7km s-min=24.0km az=93.0*

ISC 23 18:05:36.2±1.0, 27.6°N±0.2°×66.1°E±0.1°, h35km, n9, σ1888/10, mb3.6/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.99**	**239**	Pn		**Pn**	**Pn**	**18 07 32.0**	**+2.2**
	0.4nm,0.3s,baz=131,slow=16,SNR=1.8								
WSAR				Sn		**Sn**	**Sn**	**18 08 55.8**	**-3.2**
	0.5nm,0.3s,baz=181,slow=18,SNR=1.8								
WSAR				LR		LR	LR	18 11 43.0	
	comp=Z,72nm,19.1s,baz=83,slow=45								
MKAR	**Makanchi Array**	**23.04**	**29**	P		**P**	**P**	**18 10 35.8**	**-2.5**
	0.6nm,0.8s,baz=201,slow=12,SNR=7.5								
KURBB	**Kurchatov Arra**	**24.88**	**19**	P		**P**	**P**	**18 10 55.6**	**+0.1**
	0.7nm,0.5s,baz=212,slow=8.8,SNR=12								
BVAR	**Borovoye Array**	**25.61**	**6**	P		**P**	**P**	**18 11 03.4**	**+1.4**
	0.4nm,0.5s,baz=203,slow=14,SNR=3.6								
ZALV	**Zalesovo Beam**	**29.73**	**23**	P		**P**	**P**	**18 11 37.7**	**-1.2**
	0.3nm,0.3s,baz=229,slow=3.3,SNR=2.3								
ZALV				LR		LR	LR	18 26 13.9	
	comp=Z,39nm,18.4s,baz=142,slow=42								
SONM	**Songino Array**	**37.23**	**46**	P		**P**	**P**	**18 12 44.2**	**-0.2**
	0.2nm,0.4s,baz=282,slow=6.8,SNR=2.2								
FINES	**FINESS Array B**	**43.04**	**333**	P		**P**	**P**	**18 13 32.6**	**+0.5**
	1.8nm,0.9s,baz=144,slow=12,SNR=1.6								
WRA	**Warramunga Arr**	**81.22**	**118**	P		**P**	**P**	**18 17 49.3**	**+0.5**
	0.6nm,0.8s,baz=315,slow=4.8,SNR=4.5								
ASAR	**Alice Springs**	**82.94**	**121**	P		**P**	**P**	**18 17 57.7**	**-0.2**
	0.6nm,0.8s,baz=312,slow=5.4,SNR=8.5								

*TUL **23** 18:12:53.0±0.7, 36.73°N±0.02°×98.73°W±0.02, h4km±3km, ML2.7, mb_Lg2.4/6(NEIC), Error ellipse: s-maj=2.7km s-min=1.5km az=152.0*

NEIC 23 18:12:53.8±1.4, 36.69°N±0.01°×98.67°W±0.02, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=304.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.41**	**221**			Pg	Pg	18 13 01.1	-0.6
U32A						Sg	Sg	18 13 06.2	-0.8
R32A	**Long Quarter,**	**1.73**	**359**				Pn	18 13 24.5	-0.1
T35A	**Sooner Cattle**	**1.75**	**82**				Pb	18 13 25.7	-0.6
X34A	**Smith Ranch, M**	**2.19**	**162**				Pn	18 13 31.1	+0.2
X34A				IAmb_Lg				18 14 08.9	
	comp=Z,18nm,0.8s								

*IDC **23** 18:23:25.1±0.7, 39.56°N×106.46°E, h0km, mb3.6/13, mb1 3.8/16, mb1mx3.6/67, mbtmp3.7/16, ML4.0/2, MS3.5/6, Ms1 3.5/6, ms1mx2.9/81, Error ellipse: s-maj=21.6km s-min=14.6km az=48.0*

*NEIC **23** 18:23:28.6±2.1, 39.88°N±0.08°×106.4°E±0.1°, h10km±1km, mb4.1/21, Error ellipse: s-maj=15.2km s-min=12.7km az=259.0*

*BJI **23** 18:23:29.6±0.0, 39.78°N×106.35°E, h10km, mb4.3/18, mB4.6/8, ML4.5/23, Ms3.9/19, Ms7 3.6/14*

ISC 23 18:23:28.0±0.4, 39.90°N±0.04°×106.48°E±0.03°, h10km, n73, σ2831/77, mb4.0/23, MS3.6/6, 2C, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.80**	**74**	Pn		Pn	**Pn**	**18 24 14.8**	**+1.8**
BTO				smax	smax				
	comp=N,12μm,0.3s								
BTO				smax	smax				
	comp=E,4μm,0.3s								
HHC	**Hu-ho-hao-te**	**4.00**	**75**	*e*P			**Pb**	**18 24 42.4**	**+3.8**
HHC				S			**Sg**	**18 25 33.9**	**-2.5**
HHC				pmax	pmax				
	comp=Z,240nm,0.8s								
LZH	**Lanzhou**	**4.34**	**209**	Pn			**Pn**	**18 24 34.3**	**+0.1**
LZH				Pg			**Pb**	**18 24 46.3**	**+1.8**
LZH				Sn			**Sn**	**18 25 27.0**	**+2.1**
LZH				Sg			**Sb**	**18 25 38.4**	**+1.4**
LZH				smax	smax				
	comp=Z,690nm,0.8s								
LZH				smax	smax				
	comp=Z,850nm,1.0s								
LZH				LR	LR				
	comp=Z,1μm,5.8s								
LZH				LR	LR				
	comp=Z,1μm,9.6s								
GTA	**Gaotai**	**5.17**	**267**	*e*Pn			**Pn**	**18 24 45.1**	**-0.4**
GTA				Pg			**Pb**	**18 25 00.3**	**+1.8**
GTA				Sn			**Sn**	**18 25 51.3**	**+6.0**
GTA				Sg			**Sg**	**18 26 08.0**	**-5.9**
GTA				smax	smax				
	comp=Z,560nm,1.2s								
GTA				smax	smax				
	comp=Z,350nm,1.4s								
GTA				LR	LR				
	comp=Z,1μm,10.9s								
GTA				LR	LR				
	comp=Z,880nm,10.2s								
GTA				LR	LR				
	comp=Z,570nm,11.3s								
XAN	**Xi'an**	**6.17**	**161**	Pn			**Pn**	**18 25 04.0**	**+4.8**
XAN				Sn			**Sn**	**18 26 08.6**	**-1.2**
XAN				Sg			**Sb**	**18 26 34.3**	**+4.8**
XAN				smax	smax				
	comp=Z,520nm,0.9s								
XAN				smax	smax				
	comp=Z,380nm,1.4s								
XAN				LR	LR				
	comp=Z,970nm,12.0s								
XAN				LR	LR				
	comp=Z,670nm,5.0s								
HNS	**HongShan**	**6.91**	**109**	⇑Pg			Pg	18 25 35.4	-4.8
HNS				Sg			**Sg**	**18 27 03.0**	**-6.7**
HNS				smax	smax				
	comp=Z,360nm,0.9s								
HNS				smax	smax				
	comp=Z,270nm,1.0s								
LYN	**LuoYang**	**7.16**	**136**	⇑Pn			**Pn**	**18 25 15.4**	**+2.6**
LYN				Pg			Pg	18 25 40.3	-4.9
LYN				Sg			Sb	18 27 08.1	+10
LYN				smax	smax				
	comp=Z,110nm,1.0s								
LYN				smax	smax				
	comp=Z,100nm,0.8s								
LYN				LR	LR				
	comp=Z,620nm,9.8s								
LYN				LR	LR				
	comp=Z,590nm,8.4s								
LYN				LR	LR				
	comp=Z,270nm,9.6s								
BJT	**Baijiatuan**	**7.44**	**86**	Pn			**Pn**	**18 25 16.2**	**-0.4**
BJI	**Beijing**	**7.45**	**86**	P			Pg	18 25 45.4	-5.2
BJI				S			Sb	18 27 18.5	+12
BJI				pmax	pmax				
	comp=Z,14nm,0.6s								
SONM	**Songino Array**	**7.93**	**360**	Pn			**Pn**	**18 25 26.2**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=181,slow=14,SNR=27								
SONM				Sn			**Sn**	**18 26 51.9**	**-1.3**
	comp=Z,3.4nm,0.3s,baz=186,slow=10,SNR=5.2								
SONM				Lg			Lg	18 27 42.5	
	comp=Z,5.4nm,0.3s,baz=180,slow=28,SNR=10								
SONM	**Songino Array**	**7.93**	**360**	Pn			**Pn**	**18 25 25.8**	**+2.3**
ULN	**Ulaanbaatar**	**7.97**	**3**				**Pn**	**18 25 22.8**	**-1.2**
TIA	**Tai'an**	**9.17**	**110**	PP			**PgPg**	**18 26 25.5**	**+1.8**
TIA				Pg	Pg			18 26 17.4	
TIA				Sg	Sg			18 28 11.6	
TIA				smax	smax				
	comp=N,51nm,1.2s								
TIA				smax	smax				
	comp=E,37nm,0.9s								
CD2	**Chengdu**	**9.24**	**195**	P			**Pn**	**18 25 46.1**	**+4.7**
CD2				pmax	pmax				
	comp=E,10.0nm,0.5s								
CD2				LR	LR				
	comp=E,570nm,11.2s								
CD2				LR	LR				
	comp=E,230nm,8.2s								
GOMU	**GeErMu**	**9.91**	**252**	P			**Pn**	**18 25 50.5**	**-0.4**
GOMU				S			**Sn**	**18 27 45.6**	**+3.2**
GOMU				smax	smax				
	comp=E,37nm,0.9s								
GOMU				smax	smax				
	comp=E,24nm,0.9s								
ENH	**Enshi**	**9.92**	**165**	Pn			**Pn**	**18 25 51.5**	**+0.8**
WMQ	**Urumqi**	**14.53**	**292**	*e*P			**Pn**	**18 26 53.8**	**+0.1**
WMQ				pP			P	18 26 57.4	-3.0
WMQ				sP				18 27 00.6	
WMQ				S			**Sn**	**18 29 34.3**	**-0.5**
WMQ				pmax	pmax				
	comp=E,20nm,0.9s								
WMQ				LR	LR				
	comp=E,160nm,9.3s								
LSA	**Lhasa**	**16.17**	**236**	Pn			**Pn**	**18 27 14.5**	**-1.3**
KSRS	**Korea Array**	**16.92**	**91**	Pn			**Pn**	**18 27 22.5**	**-2.3**
	baz=282,slow=9.7,SNR=1.8								
KSRS				LR	LR			18 34 50.3	
	comp=E,83nm,20.5s,baz=280,slow=40								
SHL	**Shillong**	**18.81**	**225**				**P**	**18 27 48.0**	**+0.1**
SHL				IAmb	IAmb			18 27 54.3	
	comp=Z,16nm,1.2s								
MK31	**Makanchi Array**	**18.85**	**299**	P			**P**	**18 27 46.4**	**-1.7**
MKAR	**Makanchi Array**	**18.85**	**299**	P			**P**	**18 27 47.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=105,slow=13,SNR=9.9								
MKAR				Lg	Lg			18 33 30.2	
	comp=Z,0.0nm,0.3s,baz=100,slow=34,SNR=2.4								
MAKZ	**Makanchi**	**19.06**	**299**	P			**P**	**18 27 49.9**	**-0.6**
USA0B	**Ussuriysk Arra**	**19.39**	**69**	P			**P**	**18 27 55.0**	**+1.0**
USA0B				IAmb	IAmb			18 28 21.8	
	comp=Z,7.0nm,0.8s								
TAPN	**Taplejung**	**19.98**	**237**	*e*P			**Pn**	**18 28 02.1**	**-0.4**
	comp=Z,44nm,1.2s								
KLR	**Kul'dur**	**20.20**	**54**	P			**Pn**	**18 28 04.8**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=261,slow=13,SNR=4.0								
ZAA0	**Zalesovo Array**	**20.29**	**321**	P			**P**	**18 28 00.4**	**-3.3**
ZALV	**Zalesovo Beam**	**20.29**	**321**	P			**P**	**18 28 04.4**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=128,slow=9.6,SNR=11								
ZALV	**Zalesovo Beam**	**20.29**	**321**	P			**P**	**18 28 00.3**	**-3.4**
ODAN	**Odare**	**20.52**	**236**	*e*P			Pn	18 28 10.1	+1.3
	comp=Z,31nm,1.0s								
GUN	**Gumba**	**20.81**	**241**	*e*P			**P**	**18 28 08.8**	**-1.1**
	comp=Z,20nm,0.5s								
QIZ	**Qiongzhong**	**21.00**	**171**	P			**P**	**18 28 12.4**	**+0.7**
QIZ				S			Sn	18 32 10.9	-0.7
QIZ				pmax	pmax				
	comp=Z,410nm,2.6s								
QIZ				LR	LR				
	comp=Z,220nm,8.8s								
QIZ				LR	LR				
	comp=Z,190nm,11.2s								
PKI	**Pulchoki**	**21.35**	**241**	*e*P			**P**	**18 28 13.8**	**-1.9**
	comp=Z,7.9nm,0.6s								
PKIN	**Phulchoki**	**21.35**	**241**	*e*P			**P**	**18 28 13.8**	**-1.9**
	comp=Z,11nm,0.6s								
DMN	**Daman**	**21.53**	**242**	*e*P			**P**	**18 28 16.1**	**-1.5**
	comp=Z,12nm,0.8s								
GKN	**Gorkha**	**21.60**	**243**	*e*P			**P**	**18 28 16.1**	**-2.1**
	comp=Z,7.2nm,0.6s								
DANN	**Dangsing**	**21.99**	**245**	*e*P			**P**	**18 28 20.9**	**-1.7**
KDJ	**Kajisay**	**22.17**	**285**	P			**P**	**18 28 24.2**	**-0.1**
KDJ				IAmb	IAmb			18 28 30.4	
	comp=Z,11nm,1.1s								
KURK	**Kurchatov**	**22.25**	**308**	P			**P**	**18 28 24.7**	**-0.1**
KURBB	**Kurchatov Arra**	**22.27**	**308**	P			**P**	**18 28 25.1**	**0.0**
	comp=Z,13nm,0.9s,baz=108,slow=12,SNR=40								
CMAR	**Chiang Mai Arr**	**22.34**	**199**	P			**P**	**18 28 21.1**	**-4.9**
	comp=Z,2.4nm,0.8s,baz=254,slow=31,SNR=1.5								
CMAR	**Chiang Mai Arr**	**22.34**	**199**	P			**P**	**18 28 25.9**	**-0.2**
KOLN	**Koldanda**	**22.46**	**244**	*e*P			**P**	**18 28 25.9**	**-1.6**
PYUN	**Piuthan**	**22.68**	**246**	*e*P			**P**	**18 28 28.6**	**-1.3**
	comp=Z,66nm,1.2s								
BOOM	**Boomskoye usch**	**23.07**	**286**	P			**P**	**18 28 32.0**	**-1.7**
BOOM				IAmb	IAmb			18 29 01.0	
	comp=Z,5.4nm,1.2s								
KSH	**Kashi**	**23.42**	**279**	P			**P**	**18 28 41.8**	**+4.5**
KSH				pmax	pmax				
	comp=Z,6.0nm,1.7s								
AAK	**Ala-Archa**	**24.12**	**287**	P			**P**	**18 28 44.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=131,slow=12,SNR=3.8								
AAK	**Ala-Archa**	**24.12**	**287**				**P**	**18 28 43.6**	**-0.5**
AAK				IAmb	IAmb			18 28 57.2	
	comp=Z,3.8nm,1.1s								
MJAR	**Matsushiro Arr**	**25.08**	**88**	LR	LR			18 38 33.8	
	comp=Z,64nm,19.6s,baz=273,slow=36								
DRK	**Karamyk**	**26.59**	**280**	P			**P**	**18 29 07.5**	**+0.8**
DRK				IAmb	IAmb			18 29 28.7	
	comp=Z,3.1nm,0.6s								
KKAR	**Karatay Array**	**27.00**	**289**	P			**P**	**18 29 10.4**	**+0.4**
BVAR	**Borovoye Array**	**27.79**	**310**	P			**P**	**18 29 17.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=128,slow=40,SNR=3.7								
GAR	**Garm**	**27.82**	**280**	P			**P**	**18 29 17.0**	**-0.6**
BRVK	**Borovoye**	**27.86**	**310**	P			**P**	**18 29 17.8**	**+0.3**
BRVK				IAmb	IAmb			18 29 41.3	
	comp=Z,2.3nm,0.9s								
CHGR	**Chuyangaron**	**28.78

σ1⁹31/117, **mb4.7**/58, **MS3.3**/13, **1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.61**	**346**	P	**Pn**	**18 33 35.0**	**-0.2**
KRVT				S	**Sn**	**18 33 55.0**	**+0.3**
RABL	**Rabaul**	**1.69**	**351**		**Pn**	**18 33 35.3**	**-1.2**
PMG	**Port Moresby**	**6.28**	**236**	Pn	**Pn**	**18 34 39.9**	**+0.4**
PMG	**Port Moresby**	**6.28**	**236**	P	**Pn**	**18 34 40.5**	**+1.0**
MANU	**Manus Island**	**6.31**	**307**	Pn	**Pn**	**18 34 42.9**	**+2.9**
HNR	**Honiara**	**8.26**	**116**	P	**Pn**	**18 35 08.2**	**+1.5**
	4.1nm,0.3s,baz=206,slow=10,SNR=1.7						
HNR				S	**Sn**	**18 36 40.3**	**+1.6**
	2.6nm,0.3s,baz=161,slow=3.4,SNR=1.5						
JAY	**Jayapura**	**12.15**	**285**	LR	LR	18 41 28.1	
	comp=Z,64nm,18.7s,baz=24,slow=41						
CTA	**Charters Tower**	**15.35**	**202**	P	**P**	**18 36 45.8**	**-1.7**
	0.2nm,0.3s,baz=46,slow=13,SNR=4.0						
CTA				LR	LR	18 42 48.8	
	comp=Z,154nm,18.8s,baz=39,slow=38						
QIS	**Mount Isa**	**19.17**	**219**	P	**P**	**18 37 29.3**	**-0.6**
EIDS	**Eidsvold**	**19.43**	**184**	P	**P**	**18 37 29.9**	**-2.7**
RMQ	**Roma**	**20.79**	**189**	P	Pn	18 37 51.6	+1.6
KDU	**Kakadu**	**20.80**	**250**	P	Pn	18 37 49.6	-0.6
DZM	**Mont Dzumac**	**21.05**	**141**	P	**P**	**18 37 51.9**	**+1.6**
	8.7nm,0.8s,baz=316,slow=16,SNR=5.2						
DZM				LR	LR	18 45 46.3	
	comp=Z,227nm,18.2s,baz=312,slow=36						
QLP	**Quilpie**	**22.02**	**200**	P	**P**	**18 38 02.0**	**+1.4**
MTN	**Manton Dam**	**22.10**	**250**	P	**P**	**18 38 02.5**	**+1.0**
MTN				IAmb	IAmb	18 38 22.3	
	comp=Z,15nm,0.5s						
MTN	**Manton Dam**	**22.10**	**250**	P	**P**	**18 38 04.1**	**+2.5**
WB0	**Warramunga Arr**	**22.31**	**230**	P	**P**	**18 38 02.5**	**-1.3**
WR0	**Warramunga Arr**	**22.31**	**230**	P	**P**	**18 38 03.1**	**-0.8**
WRAB	**Tennant Creek**	**22.44**	**230**	P	**P**	**18 38 04.6**	**-0.6**
WB2	**Warramunga Arr**	**22.45**	**230**	P	**P**	**18 38 04.2**	**-1.1**
WRA	**Warramunga Arr**	**22.46**	**230**	P	**P**	**18 38 04.1**	**-1.3**
	comp=Z,5.4nm,0.7s,baz=55,slow=9.8,SNR=56						
WRA	**Warramunga Arr**	**22.46**	**230**	P	**P**	**18 38 03.2**	**-2.2**
INKA	**Innaminka**	**24.41**	**206**	P	**P**	**18 38 26.7**	**+2.3**
AS31	**Alice Springs**	**25.10**	**223**	P	**P**	**18 38 29.9**	**-0.9**
ASAR	**Alice Springs**	**25.11**	**223**	P	**P**	**18 38 30.1**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=58,slow=8.9,SNR=74						
KNRA	**Kununurra**	**25.17**	**245**	P	**P**	**18 38 30.7**	**-0.7**
KNRA				IAmb	IAmb	18 38 42.5	
	comp=Z,22nm,0.6s						
KNRA	**Kununurra**	**25.17**	**245**	P	**P**	**18 38 35.0**	**+3.6**
CMSA	**Cobar Meteorol**	**26.30**	**193**	P	**P**	**18 38 46.0**	**+4.5**
STKA	**Stephens Creek**	**27.78**	**200**	P	**P**	**18 38 53.5**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=26,slow=14,SNR=6.4						
STKA	**Stephens Creek**	**27.78**	**200**	P	**P**	**18 38 52.4**	**-2.4**
SOEI	**Soe**	**28.14**	**260**	P	**P**	**18 38 55.6**	**-2.8**
SOEI	**Soe**	**28.14**	**260**	P	P	18 39 04.9	+6.5
BATI	**Baumata**	**28.78**	**260**	P	**P**	**18 39 03.6**	**-0.4**
	comp=Z,7.2nm,0.5s,baz=135,slow=4.3,SNR=3.3						
BATI	**Baumata**	**28.78**	**260**	P	**P**	**18 39 05.4**	**+1.4**
	comp=Z,19nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.82**	**243**	P	**P**	**18 39 03.3**	**-0.9**
	comp=Z,11nm,0.5s,baz=63,slow=7.6,SNR=83						
FITZ				LR	LR	18 51 41.0	
	comp=Z,80nm,19.0s,baz=97,slow=39						
DAV	**Davao City (W)**	**29.71**	**295**	LR	LR	18 49 08.2	
	comp=Z,46nm,20.8s,baz=246,slow=32						
MMRI	**Maumere**	**30.06**	**263**	P	**P**	**18 39 13.8**	**-1.4**
MMRI	**Maumere**	**30.06**	**263**	P	**P**	**18 39 14.8**	**-0.5**
	comp=Z,37nm,1.0s						
KAPI	**Kappang**	**32.53**	**270**	LR	LR	18 54 30.6	
	comp=Z,23nm,19.1s,baz=70,slow=40						
PSA00	**Pilbara Seismi**	**35.16**	**240**	P	**P**	**18 39 58.5**	**-1.4**
AFI	**Afiamalu**	**36.13**	**105**	LR	LR	18 53 44.1	
	comp=Z,65nm,18.4s,baz=284,slow=34						
JMZ	**Minamidaito 2**	**37.63**	**328**	P	**P**	**18 40 18.8**	**-2.0**
JMZ				IAmb	IAmb	18 40 41.7	
	comp=Z,24nm,0.9s						
JAGI	**Jajag, Banyuwa**	**38.04**	**264**	P	**P**	**18 40 24.4**	**-0.1**
JAGI				IAmb	IAmb	18 40 44.3	
	comp=Z,20nm,1.2s						
URZ	**Urewera**	**39.26**	**149**	LR	LR	18 55 42.5	
	comp=Z,151nm,18.2s,baz=4.5,slow=34						
RPZ	**Rata Peaks**	**41.10**	**159**	LR	LR	18 56 17.6	
	comp=Z,78nm,18.9s,baz=333,slow=34						
MJAR	**Matsushiro Arr**	**44.24**	**344**	P	**P**	**18 41 13.0**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=156,slow=9.1,SNR=1.7						
MJAR				LR	LR	18 56 40.1	
	comp=Z,36nm,20.2s,baz=176,slow=32						
KSRS	**Korea Array**	**48.79**	**334**	P	**P**	**18 41 50.4**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=162,slow=7.1,SNR=3.4						
NJ2	**Nanjing**	**49.44**	**322**	*eP*	**P**	**18 41 58.3**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ASAJ	**Asahikawa**	**50.54**	**351**	LR	LR	19 01 48.9	
	comp=Z,26nm,20.2s,baz=97,slow=34						
GYA	**Guiyang**	**54.75**	**308**	⇓P	**P**	**18 42 37.8**	**+2.2**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KLR	**Kul'dur**	**57.77**	**344**	P	**P**	**18 42 55.4**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=151,slow=9.1,SNR=7.3						
KLR				LR	LR	19 08 36.5	
	comp=Z,14nm,18.0s,baz=134,slow=37						
CMAR	**Chiang Mai Arr**	**57.99**	**296**	P	**P**	**18 42 57.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=225,slow=33,SNR=5.5						
CMAR				LR	LR	19 09 24.6	
	comp=Z,23nm,18.0s,baz=145,slow=38						
PZH	**PanZhiHua**	**58.68**	**306**	P	**P**	**18 43 06.5**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,60nm,3.9s						
PETK	**Petropavlovsk-**	**58.93**	**4**	P	**P**	**18 43 03.7**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=171,slow=7.9,SNR=6.8						
PETK				LR	LR	19 04 58.8	
	comp=Z,21nm,19.1s,baz=140,slow=32						
HHC	**Hu-ho-hao-te**	**59.70**	**325**	*eP*	**P**	**18 43 13.3**	**+3.0**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
MA2	**Magadan**	**65.26**	**359**	P	**P**	**18 43 46.0**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=174,slow=8.3,SNR=7.7						
MA2	**Magadan**	**65.26**	**359**	IAmb	IAmb	18 44 08.7	
	comp=Z,11nm,1.3s						
GTA	**Gaotai**	**66.19**	**318**	*eP*	**P**	**18 43 54.9**	**+1.4**
GTA				pP	pP	18 44 03.4	+0.6
GTA				sP	sP	18 44 09.5	+0.8
ULN	**Ulaanbaatar**	**66.70**	**329**	P	**P**	**18 43 56.3**	**-0.3**
SONM	**Songino Array**	**67.03**	**328**	P	**P**	**18 43 58.7**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=151,slow=5.7,SNR=11						
SONM	**Songino Array**	**67.03**	**328**	P	**P**	**18 43 57.6**	**-1.1**
YAK	**Yakutsk**	**69.95**	**349**	LR	LR	19 15 46.3	
	comp=Z,13nm,18.4s,baz=263,slow=37						
TAPN	**Taplejung**	**70.63**	**302**	*eP*	**P**	**18 44 22.0**	**+0.2**
	comp=Z,7.5nm,0.8s						
ODAN	**Odare**	**70.76**	**301**	*eP*	**P**	**18 44 23.5**	**+1.0**
VNDA	**Vanda**	**71.78**	**178**	P	**P**	**18 44 27.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=333,slow=6.4,SNR=5.7						
JIRN	**Jiri**	**72.02**	**301**	*eP*	**P**	**18 44 30.6**	**+0.4**
PKIN	**Phulchoki**	**72.67**	**301**	*eP*	**P**	**18 44 34.5**	**+0.5**
KKN	**Kakani**	**72.83**	**301**	*eP*	**P**	**18 44 35.0**	**+0.1**
	comp=Z,6.2nm,0.6s						
DMN	**Daman**	**72.92**	**301**	*eP*	**P**	**18 44 35.6**	**+0.1**
GKN	**Gorkha**	**73.43**	**301**	*eP*	**P**	**18 44 37.6**	**-0.8**
KOLN	**Koldanda**	**74.25**	**301**	*eP*	**P**	**18 44 43.7**	**+0.5**
GAMB	**Gambell**	**74.51**	**16**	P	**P**	**18 44 44.2**	**+0.6**
GAMB				IAmb	IAmb	18 44 46.2	
	comp=Z,6.5nm,1.0s						
PYUN	**Piuthan**	**74.86**	**301**	*eP*	**P**	**18 44 46.0**	**-0.8**
	comp=Z,9.3nm,0.9s						
WMQ	**Urumqi**	**76.27**	**318**	*eP*	**P**	**18 44 55.1**	**+0.7**
WMQ				pP	pP	18 45 01.5	-2.1
WMQ				PcP	**sP**	**18 45 09.0**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
ANM	**Nome**	**76.91**	**17**	P	**P**	**18 44 58.2**	**+0.8**
ANM				IAmb	IAmb	18 45 12.1	
	comp=Z,4.3nm,0.8s						
TNA	**Tin City**	**76.93**	**16**	P	**P**	**18 44 58.1**	**+0.6**
L19K	**White Mountain**	**78.88**	**22**	P	**P**	**18 45 09.4**	**+0.9**
M19K	**Big River Lodg**	**78.90**	**23**	P	**P**	**18 45 09.3**	**+0.8**
M19K				IAmb	IAmb	18 45 33.6	
	comp=Z,12nm,1.1s						
TTA	**Tatalina**	**78.90**	**21**	P	**P**	**18 45 09.3**	**+0.6**
TTA				IAmb	IAmb	18 45 14.6	
	comp=Z,6.3nm,0.9s						
TIXI	**Tiksi**	**78.91**	**353**	P	**P**	**18 45 08.4**	**0.0**
	comp=Z,1.1nm,0.2s,baz=270,slow=20,SNR=4.1						
TIXI	**Tiksi**	**78.91**	**353**	P	**P**	**18 45 07.9**	**-0.4**
K20K	**Telida**	**79.87**	**22**	P	**P**	**18 45 14.7**	**+0.8**
K20K				IAmb	IAmb	18 45 20.9	
	comp=Z,6.6nm,0.8s						
RDOG	**Red Dog Mine**	**80.11**	**16**	P	**P**	**18 45 15.1**	**+0.1**
RDOG				IAmb	IAmb	18 45 17.3	
	comp=Z,9.2nm,0.6s						
J20K	**Nowinta River**	**80.32**	**21**	P	**P**	**18 45 17.1**	**+0.9**
J20K				IAmb	IAmb	18 45 23.0	
	comp=Z,9.5nm,0.8s						
CAST	**Castle Rocks**	**80.64**	**22**	P	**P**	**18 45 17.8**	**-0.1**
CAST				IAmb	IAmb	18 45 20.7	
	comp=Z,7.4nm,0.7s						
PWL	**Port Wells**	**80.78**	**25**	P	**P**	**18 45 18.9**	**+0.1**
MK31	**Makanchi Array**	**80.88**	**319**	P	**P**	**18 45 19.3**	**-0.3**
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**18 45 19.3**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=106,slow=6.8,SNR=17						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**18 45 19.4**	**-0.2**
KTH	**Kantishna Hill**	**81.15**	**22**	P	**P**	**18 45 19.7**	**-1.0**
IMAR	**Indian Mountai**	**81.52**	**20**	P	**P**	**18 45 23.0**	**+0.5**
H21K	**Melozitna Rive**	**81.65**	**20**	P	**P**	**18 45 23.9**	**+0.7**
H21K				IAmb	IAmb	18 45 25.6	
	comp=Z,9.0nm,1.4s						
I21K	**Tanana**	**81.66**	**21**	P	**P**	**18 45 22.9**	**-0.4**
ZAA0	**Zalesovo Array**	**81.83**	**326**	P	**P**	**18 45 23.2**	**-1.2**
ZAA0				IAmb	IAmb	18 45 37.1	
	comp=Z,7.9nm,1.4s						
ZALV	**Zalesovo Beam**	**81.83**	**326**	P	**P**	**18 45 23.4**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=116,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**81.83**	**326**	P	**P**	**18 45 22.9**	**-1.5**
RND	**Reindeer**	**81.86**	**23**	P	**P**	**18 45 24.0**	**-0.5**
MLY	**Manley**	**82.02**	**21**	P	**P**	**18 45 25.3**	**0.0**
MLY				IAmb	IAmb	18 45 31.3	
	comp=Z,8.1nm,0.7s						
I23K	**Minto, Yukon-K**	**82.58**	**21**	P	**P**	**18 45 29.2**	**+1.1**
I23K				IAmb	IAmb	18 45 34.1	
	comp=Z,9.8nm,1.3s						
WRH	**Wood River Hil**	**82.69**	**22**	P	**P**	**18 45 28.1**	**-0.6**
WRH				IAmb	IAmb	18 45 33.9	
	comp=Z,11nm,0.9s						
CCB	**Clear Creek Bu**	**82.89**	**22**	P	**P**	**18 45 28.4**	**-1.3**
CCB				IAmb	IAmb	18 45 34.7	
	comp=Z,7.7nm,0.8s						
IL31		**83.29**	**22**	P	**P**	**18 45 30.6**	**-1.2**
IL31				IAmb	IAmb	18 45 36.6	
	comp=Z,7.9nm,0.8s						
ILAR	**Eielson Array**	**83.29**	**22**	P	**P**	**18 45 30.8**	**-1.1**
	comp=Z,5.0nm,0.9s,baz=253,slow=4.1,SNR=42						
ILAR	**Eielson Array**	**83.29**	**22**	P	**P**	**18 45 30.1**	**-1.7**
COLD	**Coldfoot**	**83.39**	**19**	P	**P**	**18 45 33.4**	**+1.0**
COLD				IAmb	IAmb	18 45 49.2	
	comp=Z,4.6nm,0.8s						
H24K	**Noodor Dome**	**83.46**	**21**	P	**P**	**18 45 32.0**	**-0.8**
H24K				IAmb	IAmb	18 45 42.7	
	comp=Z,11nm,1.5s						
J25K	**Salcha River,**	**83.79**	**23**	P	**P**	**18 45 34.0**	**-0.5**
DOT	**Dot Lake**	**83.86**	**24**	P	**P**	**18 45 35.1**	**+0.3**
L26K	**Log Cabin Wild**	**83.88**	**24**	P	**P**	**18 45 35.4**	**+0.4**
L26K				IAmb	IAmb	18 45 52.1	
	comp=Z,6.8nm,0.8s						
SCRK	**Sand Creek**	**84.04**	**23**	P	**P**	**18 45 36.2**	**+0.4**
SCRK				IAmb	IAmb	18 45 41.0	
	comp=Z,7.5nm,1.1s						
TOLK	**Toolik Lake Re**	**84.35**	**18**	P	**P**	**18 45 37.0**	**-0.2**
TOLK				IAmb	IAmb	18 45 42.2	
	comp=Z,6.9nm,0.9s						
KURK	**Kurchatov**	**84.38**	**322**	P	**P**	**18 45 37.2**	**-0.5**
MAW	**Mawson**	**84.44**	**203**	P	**P**	**18 45 36.7**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=68,slow=11,SNR=2.1						
L27K	**Beaver Creek,**	**84.52**	**25**	P	**P**	**18 45 39.2**	**+1.0**
L27K				IAmb	IAmb	18 45 55.0	
	comp=Z,4.7nm,0.8s						
EGAK	**Eagle**	**85.49**	**23**	P	**P**	**18 45 43.6**	**+0.6**
HYT	**Haines Junctio**	**85.56**	**28**	P	**P**	**18 45 45.0**	**+1.4**
I29M	**Ogilvie Camp,**	**86.83**	**23**	P	**P**	**18 45 50.5**	**+0.9**
EPYK	**Eagle Plains**	**87.80**	**22**	P	**P**	**18 45 54.9**	**+0.6**
BRVK	**Borovoye**	**89.94**	**323**	P	**P**	**18 46 03.2**	**-1.4**
BRVK				IAmb	IAmb	18 46 04.6	
	comp=Z,4.2nm,0.8s						
NVAR	**Mina Array Bea**	**93.05**	**52**	P	**P**	**18 46 20.6**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=254,slow=6.2,SNR=15						
A36M	**Sachs Harbour**	**93.17**	**18**	P	**P**	**18 46 18.8**	**-0.4**
A36M				IAmb	IAmb	18 46 23.9	
	comp=Z,4.7nm,0.8s						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**18 46 35.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=269,slow=4.9,SNR=11						
GEYT	**Alibeck**	**96.96**	**307**	P	**P**	**18 46 37.7**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=74,slow=11,SNR=2.1						
PDAR	**Pinedale Array**	**99.85**	**48**	P	**Pdif**	**18 46 50.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=222,slow=3.8,SNR=4.1						
GERES	**GERESS Array B**	**124.76**	**328**	PKP	**PKPdf**	**18 52 04.3**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=29,slow=4.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**150.26**	**286**	PKPbc	**PKPbc**	**18 52 56.8**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=80,slow=3.0,SNR=35						

*IDC **23** 18:34:48.5±2.8, 23°.43N×123°.14E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.1/40, mbtmp3.4/3, Error ellipse: s-maj=223.8km s-min=31.4km az=64.0*
*JMA **23** 18:34:51.5±0.2, 23°.51N×123°.34E, h53km±3km, M3.3*
ISC 23 18:34:51.6±1.5, **23°.6N**±0°.1×**123°.34E**±0°.06, **h22**km±11km, **n15**, σ⁰**44**/26, **mb3.3**/3, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.65**	**40**	P	**Pn**	**18 35 05.3**	**-0.2**
HATJ				S	**Sn**	**18 35 15.0**	**-0.2**
IRIF	**Iriomote-Funau**	**0.85**	**25**	P	**Pn**	**18 35 08.4**	**+0.1**
IRIF				S	**Sn**	**18 35 20.3**	**+0.2**
JKRS	**Kuro-shima**	**0.91**	**42**	P	**Pn**	**18 35 09.2**	**+0.1**
JKRS				S	**Sn**	**18 35 21.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.95**	**341**	P	**Pb**	**18 35 09.5**	**+0.1**
YOJ				*eS*	**Sn**	**18 35 22.5**	**0.0**
JYNG	**Yonagunijimaku**	**0.96**	**338**	P	**Pb**	**18 35 09.6**	**0.0**
JYNG				*eS*	**Sn**	**18 35 22.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.09**	**42**	P	**Pn**	**18 35 11.1**	**-0.4**
JIJ				*eS*	**Sn**	**18 35 25.2**	**-0.7**
JISG	**Ishigakijimahi**	**1.35**	**41**	P	**Pn**	**18 35 14.7**	**-0.5**
JISG				*eS*	**Sn**	**18 35 31.5**	**-1.0**
JTJ	**Tarama**	**1.65**	**49**	P	**Pn**	**18 35 19.1**	**-0.1**
JIRB	**Irabujima**	**2.10**	**53**	P	**Pn**	**18 35 25.1**	**-0.3**
JIRB				*eS*	**Sn**	**18 35 50.4**	**-0.4**
JMJ2	**Miyako jima3**	**2.16**	**57**	P	**Pn**	**18 35 26.1**	**-0.2**
JMJ2				*eS*	**Sn**	**18 35 53.0**	**+0.6**
JIKM	**Ikemajima**	**2.21**	**52**	P	**Pn**	**18 35 26.9**	**0.0**
JIKM				*eS*	**Sn**	**18 35 53.9**	**+0.3**
JOGS	**Gusukube**	**2.23**	**57**	P	**Pn**	**18 35 27.6**	**+0.3**
JOGS				*eS*	**Sn**	**18 35 55.0**	**+0.8**
MKAR	**Makanchi Array**	**40.16**	**316**	P	**P**	**18 42 25.9**	**-0.2**
	0.1nm,0.4s,baz=104,slow=9.1,SNR=4.3						
ASAR	**Alice Springs**	**48.05**	**167**	P	**P**	**18 43 29.1**	**-0.4**
	0.2nm,0.6s,baz=353,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**72.98**	**330**	P	**P**	**18 46 19.9**	**+0.7**
	0.7nm,0.7s,baz=57,slow=8.8,SNR=3.4						

*BER **23** 18:35:52.0±2.0, 80°.80N×2°.50W, h14km±23km, Mc3.2, ML1.6, Mc3.6(DNK), Confirmed Earthquake*
*DNK **23** 18:35:52.2±2.4, 80°.93N×2°.44W, h36km±23km, Mc3.6*
ISC 23 18:35:40.8±0.9, **80°.11N**±0°.05×**4°.65W**±0°.04, **h10**km, **n11**, σ⁰**5**⁰**5**/19, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.43**	**314**	*i* P	**Pg**	**18 36 28.0**	**+0.8**
NOR				*eS*	**Sn**	**18 36 50.2**	**+0.1**
NOR	**Nord**	**2.43**	**314**	*i* P	**Pg**	**18 36 28.0**	**+0.8**
KBS	**Kingsbay**	**3.25**	**103**	*i* P	**Pb**	**18 36 38.2**	**-0.2**
KBS				*eS*	**Sb**	**18 37 14.1**	**-3.8**
KBS	**Kingsbay**	**3.25**	**103**	*eP*	**Pb**	**18 36 39.6**	**+1.2**
KBS				*eS*	**Sn**	**18 37 13.5**	**+3.2**
KBS				IAML		18 37 20.4	
	comp=Z,2.2nm,0.7s						
DAG	**Danmarks Havn**	**4.37**	**227**	*i* P	**Pg**	**18 37 05.0**	**+0.7**
DAG				*eS*	**Sg**	**18 38 00.6**	**-0.1**
DAG	**Danmarks Havn**	**4.37**	**227**	*i* P	**Pg**	**18 37 05.0**	**+0.7**
DAG				*eS*	**Sg**	**18 38 00.6**	**-0.1**
SPA0	**Spitsbergen Ar**	**4.40**	**105**	*eP*	**Pb**	**18 36 55.6**	**-2.4**
SPA0				*eS*	**Sn**	**18 37 42.5**	**+3.8**
SPA0				IAML		18 37 46.9	
	comp=Z,2.0nm,0.8s						
HSPB	**Hornsund (broa**	**5.06**	**118**	*eP*	**Pb**	**18 37 07.4**	**-1.8**
DBG	**Daneborg**	**6.74**	**218**	*i* P	**Pb**	**18 37 38.7**	**+0.9**
DBG				*eS*	**Sb**	**18 38 55.8**	**-2.5**
DBG	**Daneborg**	**6.74**	**218**	*i* P	**Pb**	**18 37 38.7**	**+0.9**
DBG				*eS*	**Sb**	**18 38 55.8**	**-2.5**
HOPEN	**Hopen**	**6.94**	**106**	*eP*	Pn	18 37 28.2	+6.0
HOPEN				*eS*	**Sn**	**18 38 41.9**	**+0.9**
HOPEN				IAML		18 38 58.7	
	comp=Z,2.8nm,0.7s						

*KRNET **23** 18:43:23.8±0.1, 40°.13N×71°.67E, h27km, mb3.1*
*ISU **23** 18:43:24, 40°.10N×71°.73E, h15km*
*NNC **23** 18:43:25.3±1.9, 40°.21N×71°.64E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=16.4km s-min=8.0km az=177.0*
*SOME **23** 18:43:26.6, 40°.25N×71°.68E, h10km*
ISC 23 18:43:24.0±1.0, **40°.15N**±0°.03×**71°.73E**±0°.02, **h15**km±8km, **n47**, σ⁹**50**/84, **14C-23D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.23**	**11**	*i* P	**Pg**	**18 43 30.0**	**+0.8**
FRG				*eS*	**Sb**	**18 43 35.0**	**+1.0**
MINT	**Mingtut**	**0.66**	**299**	*eP*	**Pb**	**18 43 38.0**	**+0.8**
MINT				*eS*	**Sg**	**18 43 45.0**	**-0.6**
DRK	**Karamyk**	**0.67**	**175**	⇓*iP*	**Pg**	**18 43 36.6**	**-0.5**
	baz=71						
DRK				⇓*iS*	**Sg**	**18 43 45.9**	**-0.1**
	baz=71						
BTK	**Batken**	**0.70**	**263**	⇑*iP*	**Pg**	**18 43 36.8**	**-0.9**
	baz=64						
BTK				⇑*iS*	**Sg**	**18 43 46.2**	**-0.8**
	baz=64						
TSTA	**Tashata**	**0.72**	**53**	*eP*	**Pb**	**18 43 40.0**	**+1.7**
TSTA				*eS*	**Sg**	**18 43 48.0**	**+0.5**
OHH	**Osh**	**0.89**	**65**	⇑*iP*	**Pb**	**18 43 41.3**	**0.0**
	baz=65						
OHH				⇑*iS*	**Sb**	**18 43 54.0**	**+1.0**
	baz=65						
OHH	**Osh**	**0.89**	**65**	*eP*	**Pb**	**18 43 42.0**	**+0.7**
OHH				*eS*	**Sb**	**18 43 53.0**	**0.0**
TRKS	**Terek-Say**	**1.45**	**342**	⇓*iP*	**Pn**	**18 43 49.5**	**-0.4**
	baz=44						
TRKS				⇓*iS*	**Sn**	**18 44 07.3**	**-1.5**
	baz=44						
GAR	**Garm**	**1.58**	**224**	⇑*iP*	**Pn**	**18 43 51.6**	**0.0**
	baz=23						
GAR				⇑*iS*	**Sn**	**18 44 11.4**	**-0.4**
	baz=23						
ARK	**Arkit**	**1.66**	**6**	⇓*eP*	**Pn**	**18 43 53.5**	**+0.8**
	baz=7.0						
ARK				⇓*iS*	**Sb**	**18 44 15.1**	**-0.1**
	baz=7.0						
CHMG	**Chimgan**	**1.92**	**318**	*eP*	**Pb**	**18 43 59.0**	**+0.3**
CHMG				*eS*	**Sg**	**18 44 25.0**	**-0.7**
CHRV	**Charvak**	**2.01**	**319**	*eP*	**Pb**	**18 44 01.0**	**+0.7**
CHRV				*eS*	**Sg**	**18 44 28.0**	**-0.7**
TGS	**TashGRES**	**2.11**	**308**	*eP*	**Pb**	**18 44 03.0**	**+1.1**
TGS				*eS*	**Sg**	**18 44 34.0**	**+2.2**
KUMR	**Kumaryk**	**2.13**	**301**	*eP*	**Pg**	**18 44 04.0**	**-0.8**
KUMR				*eS*	**Sg**	**18 44 33.0**	**+0.6**
TAS	**Tashkent**	**2.19**	**303**	⇓*iP*	**Pn**	**18 44 00.2**	**+0.3**
	baz=4.0						
TAS				⇓*iS*	**Sn**	**18 44 27.2**	**+0.4**
	baz=4.0						
YNGY	**Yangiyul**	**2.26**	**296**	*eS*	**Sg**	**18 44 36.0**	**-0.7**
IUG	**Iuzhnay**	**2.38**	**328**	*eP*	**Pb**	**18 44 07.9**	**+1.3**
	392nm,0.3s						
IUG				*eS*	**Sg**	**18 44 37.9**	**-2.4**
	172nm,0.2s						
IUG	**Iuzhnay**	**2.38**	**328**	Pg	**Pb**	**18 44 07.9**	**+1.3**
	392nm,0.3s						
CHGR	**Chuyangaron**	**2.

MDOK *eS* **Sg** **18 46 04.2 -0.2**
4.9nm,0.2s
KTBS **Karatobe** **5.13 44** *eP* **Pg** **18 45 00.1 -2.1**
1.3nm,0.0s
KTBS *eS* **Sg** **18 46 07.0 -1.7**
7.6nm,0.5s
KTBS **Karatobe** **5.13 44** Pg **Pg** **18 45 00.1 -2.1**
1.6nm,0.4s
KTBS Lg Lg 18 46 05.5
7.6nm,0.5s
BTLS **Baital** **5.18 19** *eP* **Pg** **18 45 01.1 -2.1**
2.2nm,0.1s
BTLS *eS* **Sg** **18 46 08.4 -1.9**
5.6nm,0.3s
CHKK **Chushkaly** **5.39 45** *eP* **Pg** **18 45 03.9 -3.3**
1.1nm,0.0s
CHKK *eS* **Sg** **18 46 13.8 -3.3**
3.6nm,0.1s
CHKK **Chushkaly** **5.39 45** Pg **Pg** **18 45 03.9 -3.3**
1.1nm,0.2s
CHKK Lg Lg 18 46 13.2
4.3nm,0.5s

NEIC ***23*** *18:59:36.4±1.1,35°.65S±0°.06×71°.52W±0°.08, h102km±10km, Error ellipse: s-maj=11.9km s-min=5.5km az=136.0*
GUC ***23*** *18:59:37.4±0.7,35°.63S×71°.42W, h97km±3km, ML4.5*
IDC ***23*** *18:59:38.3±3.0,35°.75S×70°.88W, h94km±28km, mb3.7/5, mb1 3.7/8, mb1mx3.6/29, mbtmp4.0/8, MS2.9/1, Ms1 2.8/1, ms1mx2.5/47, Error ellipse: s-maj=57.7km s-min=18.4km az=101.0*
ISC 23 18:59:36.6±0.8, 35°.62S±0°.04×71°.46W±0°.07, h98km±6km, n63, σ0↑98/77, mb3.9/5, 9C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ML02	**Panimavida**	**0.15**	**167**	Pn	**Pn**	**18 59 50.4**	**0.0**
ML02	**Panimavida**	**0.15**	**167**	↑*iP*	**Pn**	**18 59 50.4**	**0.0**
ML02				*i* S	**Sn**	**19 00 00.6**	**-0.1**
ML02				IAML		19 00 01.5	
	comp=N,33μm,0.4s						
GO05	**Huala**	**0.72**	**327**		**Pn**	**18 59 54.9**	**+0.9**
GO05	**Huala**	**0.72**	**327**	↑*iP*	**Pn**	**18 59 54.9**	**+0.9**
GO05				*i* S	**Sn**	**19 00 08.2**	**+1.1**
BO02	**Sierra Bellavi**	**0.99**	**34**	Pn	**Pn**	**18 59 57.4**	**+0.6**
BO02	**Sierra Bellavi**	**0.99**	**34**	↓*iP*	**Pn**	**18 59 57.5**	**+0.6**
BO02				*i* S	**Sn**	**19 00 12.8**	**+0.7**
BO02				IAML		19 00 14.3	
	comp=N,23μm,0.5s						
BO03	**Pichilemu**	**1.19**	**340**	↑*iP*	**Pn**	**19 00 00.2**	**+1.2**
BO03				*i* S	**Sn**	**19 00 16.6**	**+0.6**
BO03				IAML		19 00 18.6	
	comp=N,4μm,0.2s						
BO01	**Tunca**	**1.26**	**14**		**Pn**	**19 00 00.5**	**+0.6**
BO01	**Tunca**	**1.26**	**14**	↑*iP*	**Pn**	**19 00 00.4**	**+0.6**
BO01				*i* S	**Sn**	**19 00 17.6**	**+0.3**
BO01				IAML		19 00 18.3	
	comp=N,5μm,0.3s						
MT01	**Popeta**	**1.76**	**6**		**Pn**	**19 00 06.7**	**+0.7**
MT01	**Popeta**	**1.76**	**6**	*eP*	**Pn**	**19 00 06.7**	**+0.7**
MT01				*i* S	**Sn**	**19 00 28.5**	**+0.1**
MT01				IAML		19 00 29.9	
	comp=E,5μm,0.3s						
BO04	**La Punta**	**1.77**	**24**		**Pn**	**19 00 07.1**	**+0.9**
BO04	**La Punta**	**1.77**	**24**	↑*iP*	**Pn**	**19 00 06.9**	**+0.7**
BO04				*i* S	**Sn**	**19 00 29.0**	**+0.3**
BO04				IAML		19 00 32.4	
	comp=N,2μm,0.2s						
BI05	**Punta Hualpn**	**1.80**	**231**	Pn	**Pn**	**19 00 05.6**	**-0.9**
MT09	**Talagante**	**1.88**	**12**		**Pn**	**19 00 08.1**	**+0.4**
MT09	**Talagante**	**1.88**	**12**	↓*iP*	**Pn**	**19 00 08.3**	**+0.6**
MT09				*i* S	**Sn**	**19 00 31.3**	**0.0**
MT09				IAML		19 00 35.3	
	comp=N,6μm,0.3s						
VA05	**Santo Domingo**	**1.96**	**356**		**Pn**	**19 00 09.1**	**+0.5**
VA05	**Santo Domingo**	**1.96**	**356**	↑*iP*	**Pn**	**19 00 09.1**	**+0.5**
VA05				*i* S	**Sn**	**19 00 32.0**	**-0.9**
VA05				IAML		19 00 40.0	
	comp=N,4μm,0.3s						
LMEL	**Las Melosas**	**2.04**	**31**		**Pn**	**19 00 11.2**	**+1.3**
MT03	**Universidad Ad**	**2.26**	**21**	Pn	**Pn**	**19 00 13.2**	**+0.6**
MT05	**Renca**	**2.30**	**15**	Pn	**Pn**	**19 00 13.9**	**+0.8**
MT05	**Renca**	**2.30**	**15**	↑*iP*	**Pn**	**19 00 14.2**	**+1.1**
MT05				*i* S	**Sn**	**19 00 41.0**	**0.0**
MT05				IAML		19 00 42.6	
	comp=E,6μm,0.5s						
MT02	**Curacav**	**2.37**	**7**		**Pn**	**19 00 14.7**	**+0.8**
MT02	**Curacav**	**2.37**	**7**	↑*iP*	**Pn**	**19 00 14.7**	**+0.8**
MT02				*i* S	**Sn**	**19 00 42.5**	**+0.1**
MT02				IAML		19 00 44.2	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**2.48**	**23**	↓*iP*	**Pn**	**19 00 16.4**	**+0.6**
FCH				*i* S	**Sn**	**19 00 46.7**	**+1.1**
FCH				IAML		19 00 48.2	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**2.55**	**15**		**Pn**	**19 00 17.2**	**+0.8**
PEL	**Peldehue**	**2.55**	**15**	*eP*	**Pn**	**19 00 16.9**	**+0.5**
PEL				*i* S	**Sn**	**19 00 46.9**	**0.0**
PEL				IAML		19 00 49.4	
	comp=N,2μm,0.4s						
VA01	**Torpederas**	**2.59**	**356**	Pn	**Pn**	**19 00 17.5**	**+0.6**
VA01	**Torpederas**	**2.59**	**356**	*eP*	**Pn**	**19 00 17.5**	**+0.6**
VA01				IAML		19 00 49.6	
	comp=N,1μm,0.3s						
ROC1	**El Roble**	**2.66**	**8**		**Pn**	**19 00 16.6**	**-1.5**
ROCH	**El Roble**	**2.66**	**8**	*eP*		19 00 18.8	
ROCH				↑*iP*	**Pn**	**19 00 16.8**	**-1.3**
ROCH				*i* S	**Sn**	**19 00 46.0**	**-3.9**
ROCH				*i* S		19 00 48.6	
ROCH				IAML		19 00 50.1	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**2.94**	**15**		**Pn**	**19 00 21.9**	**+0.2**
VA03	**San Esteban**	**2.94**	**15**	*eP*	**Pn**	**19 00 22.4**	**+0.7**
VA03				*i* S	**Sn**	**19 00 56.6**	**+0.3**
VA03				IAML		19 00 58.0	
	comp=E,2μm,0.1s						
VA06	**Catapilco**	**3.05**	**3**	Pn	**Pn**	**19 00 23.4**	**+0.3**
VA06	**Catapilco**	**3.05**	**3**	*eP*	**Pn**	**19 00 23.5**	**+0.5**
VA06				*i* S	**Sn**	**19 00 58.8**	**+0.1**
VA06				IAML		19 01 06.4	
	comp=E,2μm,0.5s						
LC01	**Cunco**	**3.29**	**186**	Pn	**Pn**	**19 00 25.6**	**-0.7**
CO02	**Combarbal**	**4.42**	**5**		**Pn**	**19 00 41.7**	**+0.1**
CO02	**Combarbal**	**4.42**	**5**	*eP*	**Pn**	**19 00 41.6**	**0.0**
CO02				*i* S	**Sn**	**19 01 31.7**	**-0.3**
LR04	**Corral**	**4.53**	**200**	Pn	**Pn**	**19 00 40.9**	**-2.1**
ZON	**Zonda**	**4.68**	**31**		**Pn**	**19 00 45.2**	**+0.2**
CO03	**El Pedregal**	**4.81**	**8**	Pn	**Pn**	**19 00 47.2**	**+0.4**
CO06	**Fray Jorge**	**4.93**	**358**		**Pn**	**19 00 48.0**	**-0.4**
PLCA	**Paso Flores**	**5.16**	**172**	P	**Pn**	**19 00 50.6**	**-0.9**
	comp=E,1.5nm,0.3s,baz=340,slow=11,SNR=42						
PLCA				S	Sn	19 01 33.1	-17
	comp=E,0.7nm,0.3s,baz=339,slow=13,SNR=2.9						
PLCA				LR	LR	19 02 20.4	
	comp=E,108nm,18.4s,baz=152,slow=33						
PLCA	**Paso Flores**	**5.16**	**172**	Pn	**Pn**	**19 00 51.5**	**0.0**
LL04	**Puerto Octay**	**5.34**	**188**		**Pn**	**19 00 52.0**	**-1.9**
GO04	**Tololo Observa**	**5.46**	**6**		**Pn**	**19 00 55.7**	**-0.1**
CO05	**La Serena**	**5.69**	**2**	Pn	**Pn**	**19 00 58.4**	**-0.2**
H03S1	**Juan Fernandez**	**6.38**	**284**	T	T	19 07 03.9	
	SNR=30						
H03S3	**Juan Fernandez**	**6.39**	**284**	T	T	19 07 23.0	
	SNR=27						
H03S2	**Juan Fernandez**	**6.40**	**284**	T	T	19 07 18.2	
	SNR=31						
AC04	**Llanos de Chal**	**7.40**	**3**	Pn	**Pn**	**19 01 20.9**	**-1.0**
AC06	**Mina Casimiro**	**8.29**	**7**	Pn	**Pn**	**19 01 32.1**	**-1.9**
CPUP	**Villa Florida**	**15.23**	**56**	P	**Pn**	**19 03 05.4**	**-1.0**
	comp=E,0.3nm,0.3s,baz=265,slow=8.3,SNR=3.0						
CPUP	**Villa Florida**	**15.23**	**56**		**Pn**	**19 03 04.8**	**-1.6**
LPAZ	**La Paz**	**19.48**	**10**	P	**Pn**	**19 04 00.0**	**+1.4**
	comp=E,0.3nm,0.3s,baz=183,slow=6.2,SNR=10						
LPAZ	**La Paz**	**19.48**	**10**	P	**P**	**19 03 54.3**	**-2.2**
LPAZ				IAmb	IAmb	19 04 04.8	
	comp=Z,2.9nm,0.8s						
AQDB	**Aquidauana**	**20.48**	**47**	P	**P**	**19 04 05.6**	**-1.0**
SIV	**San Ignacio**	**21.64**	**28**	P	**P**	**19 04 19.2**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=212,slow=8.0,SNR=16						
VNDA	**Vanda**	**62.61**	**191**	P	**P**	**19 09 51.9**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=90,slow=18,SNR=1.4						
MAW	**Mawson**	**71.50**	**163**	P	**P**	**19 10 46.6**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=8.3,slow=21,SNR=2.1						

BOSA **Boshof** **78.90 117** P **P** **19 11 29.5 -0.1**
comp=Z,2.4nm,0.8s,baz=245,slow=4.3,SNR=8.0
BOSA **Boshof** **78.90 117** P **P** **19 11 29.3 -0.3**
BOSA IAmb IAmb 19 11 42.1
comp=Z,3.7nm,1.1s
TORD **Torodi Ar. Bea** **84.32 70** P **P** **19 11 58.0 -0.1**
comp=Z,0.3nm,0.4s,baz=224,slow=4.0,SNR=1.7

DJA ***23*** *19:04:21.9±0.3,5°.5N±5°×12°.3E±°, h564km±4km, M4.5/8, mB4.8/4, mb4.4/8, MLv4.6/8, Mw(mB)4.1/4*
NEIC ***23*** *19:04:21.3±1.3,4°.9N±0°.1×123°.3E±0°.1, h568km±8km, mb4.1/34, Error ellipse: s-maj=24.7km s-min=13.5km az=53.0*
IDC ***23*** *19:04:23.0±1.4,4°.73N×123°.00E, h593km±19km, mb3.3/13, mb1 3.4/14, mb1mx3.2/35, mbtmp4.3/14, Error ellipse: s-maj=28.6km s-min=9.8km az=67.0*
ISC 23 19:04:23.1±0.5, 4°.67N±0°.06×123°.1E±0°.1, h600km, n78, σ1↑38/85, mb4.1/38, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**4.16**	**168**	P	**P**	**19 05 47.7**	**-2.1**
TOLI2	**Tolitoli**	**4.23**	**213**	P	**P**	**19 05 47.6**	**-2.7**
MRSI	**Marisa**	**4.33**	**196**	P	**P**	**19 05 49.3**	**-1.7**
MRSI				S	**S**	**19 06 58.0**	**-4.5**
MYLDM	**Lahad Datu**	**4.62**	**276**	P	**P**	**19 05 51.4**	**-1.7**
LUWI	**Luwuk**	**5.68**	**183**	P	**P**	**19 05 58.6**	**-3.0**
TNTI	**Ternate**	**5.75**	**132**	P	**P**	**19 05 57.9**	**-4.3**
PPR	**Puerto Princes**	**6.68**	**320**	*eP*	**P**	**19 06 08.2**	**-2.1**
LBMI	**Labuha**	**6.86**	**140**	P	**P**	**19 06 10.2**	**-1.7**
	0.4nm745nm45nn,0.9s						
KKM	**Kota Kinabalu**	**7.00**	**282**		**P**	**19 06 10.7**	**-2.6**
SANI	**Sanana**	**7.27**	**157**	P	**P**	**19 06 12.0**	**-3.7**
	0.2nm30nm,0.7s						
SBUM	**Sibu**	**11.09**	**259**	P	**P**	**19 06 52.5**	**-0.3**
SOEI	**Soe**	**14.38**	**175**	P	**P**	**19 07 25.8**	**0.0**
BATI	**Baumata**	**14.79**	**178**	P	**P**	**19 07 29.9**	**+0.4**
	6.6nm,0.3s,baz=357,slow=0.9,SNR=15						
BATI				S	**S**	**19 10 02.9**	**+1.3**
	0.8nm,0.3s,baz=80,slow=11,SNR=5.1						
BATI	**Baumata**	**14.79**	**178**	P	**P**	**19 07 29.9**	**+0.4**
	23nm,0.6s						
JAGI	**Jajag, Banyuwa**	**15.82**	**214**	P	**P**	**19 07 40.9**	**+2.0**
JAGI				IAmb	IAmb	19 07 48.7	
	comp=Z,21nm,1.2s						
DLV	**T Lat**	**16.17**	**297**	P	**P**	**19 07 41.6**	**-0.7**
DLV				IAmb	IAmb	19 07 43.0	
	comp=Z,6.7nm,0.9s						
MTN	**Manton Dam**	**19.14**	**155**	P	**P**	**19 08 09.4**	**+0.3**
KNRA	**Kununurra**	**20.98**	**165**	P	**P**	**19 08 26.6**	**+0.9**
KNRA				IAmb	IAmb	19 08 28.2	
	comp=Z,6.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.76**	**174**	P	**P**	**19 08 42.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=17,slow=5.7,SNR=9.4						
FITZ	**Fitzroy Crossi**	**22.76**	**174**	P	**P**	**19 08 42.4**	**+0.8**
FITZ				IAmb	IAmb	19 09 06.8	
	comp=Z,4.3nm,1.2s						
SRIT	**Nakonsritamara**	**23.67**	**281**	P	**P**	**19 08 50.4**	**+0.7**
SRIT				IAmb	IAmb	19 09 19.5	
	comp=Z,21nm,1.5s						
WB0	**Warramunga Arr**	**26.70**	**156**	P	**P**	**19 09 16.6**	**+0.2**
WRAB	**Tennant Creek**	**26.83**	**156**	P	**P**	**19 09 17.5**	**-0.1**
WRA	**Warramunga Arr**	**26.83**	**156**	P	**P**	**19 09 17.8**	**+0.2**
	comp=Z,8.0nm,0.6s,baz=322,slow=12,SNR=139						
WRA				S	**S**	**19 13 11.0**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=336,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**26.83**	**156**	P	**P**	**19 09 16.8**	**-0.8**
WB2	**Warramunga Arr**	**26.84**	**156**	P	**P**	**19 09 18.0**	**+0.4**
WR0	**Warramunga Arr**	**26.93**	**156**	P	**P**	**19 09 18.7**	**+0.3**
WR0				IAmb	IAmb	19 09 19.3	
	comp=Z,4.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.30**	**302**	P	**P**	**19 09 21.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=121,slow=7.1,SNR=11						
PZH	**PanZhiHua**	**29.81**	**319**	P	**P**	**19 09 44.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
AS31	**Alice Springs**	**30.07**	**160**	P	**P**	**19 09 46.7**	**+1.2**
AS31				IAmb	IAmb	19 09 47.2	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**30.07**	**160**	P	**P**	**19 09 46.8**	**+1.2**
	comp=Z,4.0nm,0.3s,baz=339,slow=7.1,SNR=139						
ASAR				S	**S**	**19 14 03.3**	**0.0**
	comp=Z,2.0nm,0.8s,baz=350,slow=22,SNR=12						
ASAR				ScP	**ScP**	**19 15 16.4**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=342,slow=2.9,SNR=18						
ASAR	**Alice Springs**	**30.07**	**160**	P	**P**	**19 09 46.6**	**+1.0**
MORW	**Morawa**	**34.22**	**191**	P	**P**	**19 10 21.9**	**+1.3**
FORT	**Forrest**	**35.56**	**173**	P	**P**	**19 10 33.1**	**+1.4**
SHL	**Shillong**	**36.44**	**308**	P	**P**	**19 10 39.5**	**+0.3**
SHL				IAmb	IAmb	19 10 39.9	
	comp=Z,6.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**37.49**	**346**	*eP*	**P**	**19 10 50.0**	**+2.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
LSA	**Lhasa**	**39.14**	**313**	P	**P**	**19 11 02.7**	**+1.4**
LSA				IAmb	IAmb	19 11 03.6	
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**40.38**	**155**	P	**P**	**19 11 12.5**	**+1.8**
	comp=Z,2.7nm,0.4s,baz=348,slow=7.9,SNR=8.9						
STKA	**Stephens Creek**	**40.38**	**155**	P	**P**	**19 11 12.3**	**+1.6**
GTA	**Gaotai**	**40.51**	**332**	*eP*	**P**	**19 11 12.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TAPN	**Taplejung**	**40.57**	**308**	*eP*	**P**	**19 11 13.0**	**+0.4**
ODAN	**Odare**	**40.60**	**307**	*eP*	**P**	**19 11 13.2**	**+0.4**
	comp=Z,10nm,0.8s						
JIRN	**Jiri**	**41.91**	**307**	*eP*	**P**	**19 11 23.8**	**+0.5**
	comp=Z,5.8nm,0.3s						
GUN	**Gumba**	**42.27**	**307**	*eP*	**P**	**19 11 26.5**	**+0.5**
	comp=Z,18nm,0.5s						
PKI	**Pulchoki**	**42.50**	**307**	*eP*	**P**	**19 11 27.8**	**0.0**
	comp=Z,4.6nm,0.3s						
PKIN	**Phulchoki**	**42.51**	**307**	*eP*	**P**	**19 11 27.8**	**0.0**
	comp=Z,4.5nm,0.3s						
KKN	**Kakani**	**42.70**	**307**	*eP*	**P**	**19 11 29.5**	**+0.3**
	comp=Z,5.8nm,0.4s						
ASAJ	**Asahikawa**	**42.87**	**21**	P	**P**	**19 11 30.5**	**+0.5**
	comp=Z,6.0nm,1.0s,baz=228,slow=6.4,SNR=7.5						
KOLN	**Koldanda**	**44.04**	**306**	*eP*	**P**	**19 11 40.3**	**+0.7**
	comp=Z,19nm,0.4s						
DANN	**Dangsing**	**44.15**	**307**	*eP*	**P**	**19 11 40.9**	**+0.4**
PYUN	**Piuhan**	**44.66**	**306**	*eP*	**P**	**19 11 45.1**	**+0.7**
	comp=Z,19nm,0.7s						
SONM	**Songino Array**	**45.34**	**344**	P	**P**	**19 11 49.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=160,slow=8.9,SNR=6.3						
SONM	**Songino Array**	**45.34**	**344**	P	**P**	**19 11 48.0**	**-1.0**
CAN	**Canberra**	**46.63**	**151**	P	**P**	**19 11 59.7**	**+0.8**
CAN				IAmb	IAmb	19 12 06.0	
	comp=Z,17nm,1.5s						
WMQ	**Urumqi**	**49.93**	**327**	*eP*	**P**	**19 12 24.8**	**+1.6**
MK31	**Makanchi Array**	**54.76**	**327**	P	**P**	**19 12 57.0**	**-0.6**
MKAR	**Makanchi Array**	**54.76**	**327**	P	**P**	**19 12 57.0**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=120,slow=7.9,SNR=62						
MKAR				PcP	**PcP**	**19 13 51.1**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=124,slow=4.5,SNR=8.9						
MKAR				ScP	**ScP**	**19 16 53.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=103,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**54.76**	**327**	P	**P**	**19 12 57.4**	**-0.2**
MAKZ	**Makanchi**	**54.94**	**326**	P	**P**	**19 12 58.8**	**0.0**
MAKZ				IAmb	IAmb	19 12 60.0	
	comp=Z,2.8nm,0.7s						
KDJ	**Kajisay**	**55.27**	**319**	P	**P**	**19 13 02.4**	**+1.0**
KDJ				IAmb	IAmb	19 13 02.9	
	comp=Z,3.0nm,0.5s						
AAK	**Ala-Archa**	**57.26**	**319**	P	**P**	**19 13 15.9**	**+0.9**
DRK	**Karamyk**	**57.76**	**314**	P	**P**	**19 13 19.8**	**+1.1**
ZALV	**Zalesovo Beam**	**58.15**	**334**	P	**P**	**19 13 20.1**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=136,slow=7.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**58.15**	**334**	P	**P**	**19 13 19.2**	**-1.4**
GAR	**Garm**	**58.65**	**313**	P	**P**	**19 13 24.5**	**+0.1**
GAR				IAmb	IAmb	19 13 25.6	
	comp=Z,5.8nm,0.9s						
KURK	**Karatov**	**59.04**	**329**	P	**P**	**19 13 26.5**	**-0.1**
KURK				IAmb	IAmb	19 13 27.6	
	comp=Z,7.8nm,0.6s						
KKAR	**Karatay Array**	**60.10**	**318**	P	**P**	**19 13 33.9**	**+0.1**
BRVK	**Borovoye**	**64.66**	**328**	P	**P**	**19 14 02.9**	**-0.1**
BRVK				IAmb	IAmb	19 14 04.0	
	comp=Z,3.8nm,0.9s						

SOCY **Socotra** **68.64 281** P **P** **19 14 27.4 -0.9**
SOCY IAmb IAmb 19 14 38.5
comp=Z,6.4nm,0.9s
ABKAR **Akbulak array** **69.15 321** P **P** **19 14 30.4 -0.1**
ABKAR IAmb IAmb 19 14 31.5
comp=Z,3.1nm,0.8s
ABKAR **Akbulak array** **69.15 321** P **P** **19 14 30.6 0.0**
ARU **Arti** **72.23 328** P **P** **19 14 47.4 -1.1**
ARU IAmb IAmb 19 14 48.7
comp=Z,3.8nm,0.5s
RAYN **Ar Rayn** **76.80 293** P **P** **19 15 14.8 +0.1**
BRTR **Keskin Array B** **86.64 309** P **P** **19 16 03.6 -1.0**
comp=Z,0.8nm,0.9s,baz=139,slow=26,SNR=2.8
ARCES **ARCESS Array B** **88.32 340** P **P** **19 16 10.5 -1.1**
comp=Z,6.9nm,1.1s,baz=52,slow=7.9,SNR=3.7
FINES **FINESS Array B** **89.30 332** P **P** **19 16 15.2 -1.0**
comp=Z,1.3nm,0.5s,baz=57,slow=7.0,SNR=10
NOA **NORSAR Array B** **96.33 333** P **P** **19 16 47.2 -1.2**
comp=Z,0.4nm,0.9s,baz=49,slow=20,SNR=2.1
TORD **Torodi Ar. Bea** **119.20 288** PKP **PKiKP** **19 22 06.1 0.0**
comp=Z,0.2nm,0.5s,baz=42,slow=32,SNR=1.9

IDC 23 19:48:55.9±2.1, 7°.72S×128°.04E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.2/33, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=87.5km s-min=29.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.58**	**193**	Pn	**Pn**	**19 51 30.6**	**+1.8**
	0.0nm,0.3s,baz=17,slow=17,SNR=1.0						
FITZ				Sn	Sn	19 53 21.5	-6.7
	0.1nm,0.3s,baz=16,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**13.60**	**154**	Pn	**Pn**	**19 52 10.2**	**0.0**
	0.1nm,0.3s,baz=338,slow=7.4,SNR=2.3						
WRA				Sn	Sn	19 54 33.2	-9.0
	0.1nm,0.3s,baz=328,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**16.83**	**161**	Pn	**Pn**	**19 52 51.4**	**-1.7**
	0.1nm,0.3s,baz=340,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**67.78**	**328**	P	P	**19 59 55.6**	**0.0**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=4.6						

MDD ***23*** *19:57:20.0±0.4,36°.23N×4°.56W, h99km±4km, Mb2.1/15, M_mb1.0/11, Error ellipse: s-maj=3.3km s-min=2.5km az=155.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
CNRM ***23*** *19:57:20.2,36°.05N×4°.99W, h124km_ml2.7*
IGIL ***23*** *19:57:21.7,36°.28N×4°.70W, h21km, ML2.6*
ISC 23 19:57:17.5±1.2, 36°.23N±0°.03×4°.53W±0°.04, h113km±7km, n31, σ1↑82/61, 13C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.38**	**330**	P	**Pn**	**19 57 34.4**	**+0.3**
EMIJ				↑*iV*mb_V		19 57 35.1	
	1μm,SNR=12						
EMIJ				S	**Sn**	**19 57 44.8**	**-1.8**
EMAL	**Malaga-Limoner**	**0.54**	**9**	P	**Pn**	**19 57 35.6**	**+0.6**
EMAL				S	**Sn**	**19 57 45.7**	**-2.4**
ECEU	**Ceuta**	**0.76**	**244**	P	**Pn**	**19 57 38.3**	**+1.6**
ECEU				↑*iV*mb_V		19 57 40.5	
	354nm,SNR=2.9						
ECEU				S	**Sn**	**19 57 51.1**	**-0.1**
EJIF	**Jimena Fronter**	**0.79**	**286**	P	**Pn**	**19 57 38.7**	**+1.8**
EJIF				S	**Sn**	**19 57 49.7**	**-1.9**
SMIR	**Smir Dam**	**0.88**	**232**	P	**Pn**	**19 57 41.4**	**+3.6**
SMIR				S	**Sn**	**19 57 53.2**	**+0.1**
EGOR	**Sierra Gorda,**	**0.94**	**21**	P	**Pn**	**19 57 40.2**	**+1.7**
EGOR				↑*iV*mb_V		19 57 45.1	
	334nm,SNR=3.6						
EGOR				S	**Sn**	**19 57 55.8**	**+1.4**
ELGU	**Los Guajares,**	**0.97**	**49**	P	**Pn**	**19 57 38.7**	**0.0**
ELGU				↑*iV*mb_V		19 57 39.5	
	612nm,SNR=3.4						
ELGU				S	**Sn**	**19 57 52.4**	**-2.4**
PVLZ	**Peæn de**	**1.07**	**170**	P	**Pn**	**19 57 40.8**	**+1.1**
PVLZ				S	**Sn**	**19 57 53.5**	**-3.0**
ESPR	**Espera**	**1.24**	**301**	P	**Pn**	**19 57 43.2**	**+1.7**
ESPR				↑*iV*mb_V		19 57 43.8	
	758nm,SNR=9.8						
ESPR				S	**Sn**	**19 58 00.1**	**+0.4**
EQUE	**Quentar**	**1.31**	**42**	P	**Pn**	**19 57 44.1**	**+1.7**
EQUE				↑*iV*mb_V		19 57 46.6	
	214nm,SNR=2.1						
EQUE				S	**Sn**	**19 58 02.3**	**+1.0**
EBER	**Berja**	**1.48**	**63**	P	**Pn**	**19 57 45.7**	**+1.2**
EBER				S	**Sn**	**19 58 04.5**	**-0.5**
EADA	**Adamuz**	**1.93**	**359**	P	**Pn**	**19 57 51.2**	**+1.4**
EADA				↑*iV*mb_V		19 57 51.6	
	965nm,SNR=9.9						
EADA				S	**Sn**	**19 58 13.3**	**-1.2**
ECAB	**El Cabril**	**1.97**	**339**	P	**Pn**	**19 57 51.2**	**+1.0**
ECAB				↑*iV*mb_V		19 57 52.5	
	308nm,SNR=5.1						
ECAB				S	**Sn**	**19 58 13.9**	**-1.5**
EMIN	**Mina Concepcio**	**2.30**	**312**	P	**Pn**	**19 57 55.6**	**+1.2**
EMIN				↑*

	comp=N,10µm,0.3s							
LHV	**Little Huntoon**	**0.27**	**207**	Pg	Pg	20 10 45.2	+0.1	
LHV				IAML		20 10 50.8		
	comp=E,5µm,0.7s							
LHV				IAML		20 10 53.4		
	comp=N,5µm,0.7s							
HCK	**Huntoon Valley**	**0.46**	**205**		Pg	20 10 48.9	+0.2	
BONR	**Boundary Peak**	**0.54**	**176**		Pg	20 10 50.6	+0.4	
KVN	**Kaiserville**	**0.59**	**19**	Pg	Pg	20 10 51.2	0.0	
LUL	**Lundy Lake**	**0.79**	**236**		Pg	20 10 54.8	-0.2	
BENR	**Benton**	**0.80**	**193**		Pg	20 10 54.8	-0.3	
YERR	**Yerington**	**0.85**	**305**		Pg	20 10 55.9	-0.3	
YERR				IAML		20 11 13.1		
	comp=N,2µm,0.8s							
ORC	**Owens River**	**0.89**	**196**		Pg	20 10 56.7	-0.2	
MLNR	**Milner Canyon**	**0.90**	**180**		Pg	20 10 56.8	-0.2	
Q09A	**Carvers**	**0.97**	**69**	Pg	Pg	20 10 58.9	-0.2	
TPH	**Tonopah**	**0.98**	**115**		Pg	20 10 58.5	-0.1	
POCCA	**Poleta Canyon**	**1.13**	**177**		Pg	20 11 01.5	0.0	
PNTR	**Pine Nut**	**1.15**	**302**		Pg	20 11 01.1	-0.7	
DSP	**Deep Springs**	**1.16**	**165**		Pg	20 11 01.8	-0.3	
SCHCA	**Scheelite**	**1.17**	**194**		Pg	20 11 01.7	-0.4	
VCNR	**Virginia City**	**1.29**	**309**		Pn	20 11 03.8	-0.7	
VCNR				IAML		20 11 26.4		
	comp=N,777nm,0.6s							
LCH	**Last Change Ra**	**1.38**	**156**	Pn	Pn	20 11 05.6	0.0	
LCH				IAML		20 11 27.2		
	comp=N,298nm,0.8s							
LCH				IAML		20 11 27.9		
	comp=E,460nm,1.1s							
EMB	**Emerald Bay**	**1.45**	**290**		Pn	20 11 06.7	-0.1	
EMB				IAML		20 11 30.5		
	comp=N,529nm,0.8s							
EMB				IAML		20 11 31.0		
	comp=E,344nm,1.0s							
PAHR	**Pah Rah Range**	**1.45**	**327**		Pn	20 11 06.6	-0.1	
PAHR				IAML		20 11 29.0		
	comp=N,319nm,0.3s							
PAHR				IAML		20 11 29.9		
	comp=E,318nm,0.7s							
RUBR	**Rubicon Trail**	**1.52**	**292**		Pn	20 11 07.1	-0.5	
RUBR				IAML		20 11 31.9		
	comp=N,534nm,0.8s							
RUBR				IAML		20 11 32.4		
	comp=E,314nm,0.4s							
MPK	**Martis Peak**	**1.54**	**302**		Pn	20 11 08.3	+0.3	
CMB	**Columbia Colle**	**1.67**	**255**		Pn	20 11 09.8	+0.3	
PEAR	**Peavine Mounta**	**1.68**	**312**		Pb	20 11 11.2	0.0	
GRAC	**Grapevine Rang**	**1.69**	**152**	Pn	Pn	20 11 10.2	+0.4	
GRAC				IAML		20 11 40.6		
	comp=E,427nm,0.5s							
GRAC				IAML		20 11 42.7		
	comp=N,404nm,0.8s							
BABR	**Babbit Peak**	**1.76**	**309**		Pb	20 11 12.8	+0.2	
DONR	**Donner Summit**	**1.76**	**300**		Pb	20 11 12.1	-0.5	
KBF	**Kyburz Flat**	**1.77**	**305**		Pb	20 11 12.5	-0.2	
LOY	**Loyalton**	**1.88**	**309**		Pb	20 11 14.0	-0.4	
BEKR	**Beckworth**	**2.08**	**312**		Pn	20 11 16.1	+0.7	
BMN	**Battle Mountai**	**2.12**	**24**		Pn	20 11 15.0	-0.9	
BMN				IAML		20 11 50.9		
	comp=N,164nm,0.3s							
BMN				IAML		20 11 51.2		
	comp=E,181nm,1.0s							
R11A	**Troy Canyon, C**	**2.17**	**93**	Pn	Pn	20 11 15.6	-1.0	
R11A				IAML		20 11 51.2		
	comp=E,125nm,0.2s							
S11A	**Rachel**	**2.22**	**112**	Pn	Pn	20 11 16.7	-0.5	
TPNV	**Topopah Spring**	**2.27**	**132**		Pn	20 11 18.0	+0.1	
TPNV				IAML		20 12 00.7		
	comp=E,259nm,0.9s							
TPNV				IAML		20 12 09.5		
	comp=E,189nm,0.8s							
GWY	**Greenwater Val**	**2.66**	**149**	Pn	Pn	20 11 23.6	+0.3	
ORV	**Oroville**	**2.67**	**294**	Pn	Pn	20 11 22.5	-0.8	
QSM	**Queen of Sheba**	**2.79**	**154**	Pn	Pn	20 11 25.4	+0.5	
Q12A	**Willow Creek R**	**2.80**	**78**		Pb	20 11 28.0	-2.3	
PRN	**Pahroc Range**	**2.82**	**112**	Pn	Pn	20 11 25.0	-0.5	
ISA	**Isabella, Lake**	**2.83**	**182**	Pg	Pb	20 11 31.5	+0.8	
BBGB	**Big Mountain B**	**2.87**	**229**		Pb	20 11 30.6	-0.9	
PMPB	**Monarch Peak**	**3.00**	**221**		Pb	20 11 33.5	-0.1	
SAO	**San Andreas Ge**	**3.01**	**236**		Pn	20 11 27.0	-0.9	
SHPR	**Sheep Range**	**3.22**	**127**	Pn	Pn	20 11 32.1	+1.1	
Q03E	**Paynes Creek**	**3.22**	**305**		Pn	20 11 32.9	+1.9	
Q03E				IAML		20 12 37.3		
	comp=E,93nm,1.0s							
ELK	**Elko**	**3.29**	**46**		Pn	20 11 32.4	+0.4	
ELK				IAML		20 12 30.7		
	comp=E,45nm,0.6s							
CCAC	**Calif City Air**	**3.35**	**175**		Pb	20 11 39.7	+0.2	
CCAC				IAML		20 12 36.8		
	comp=E,43nm,1.9s							
GSC	**Goldstone, Bar**	**3.42**	**158**	Pn	Pn	20 11 34.2	+0.5	
GSC				IAML		20 12 43.6		
	comp=E,57nm,2.1s							
GDXM	**Geysers**	**3.50**	**277**	Pg	Pb	20 11 41.0	-1.0	
PSUT	**Pine Spring**	**3.52**	**88**	Pn	Pn	20 11 36.1	+0.9	
MOD	**Modoc Plateau**	**3.72**	**337**		Pn	20 11 38.1	+0.3	
MOD				IAML		20 12 43.1		
	comp=N,35nm,1.6s							
MOD				IAML		20 12 45.5		
	comp=E,47nm,1.2s							
O02D	**Mt. Diablo Mer**	**3.83**	**297**		Pb	20 11 47.1	-0.7	
WVOR	**Wild Horse Val**	**3.94**	**357**		Pn	20 11 39.3	-1.6	
CCUT	**Cedar City**	**4.05**	**102**	Pn	Pn	20 11 43.3	+0.9	
N02D	**Trinity Center**	**4.17**	**308**		Pn	20 11 41.6	-2.3	
N02D				IAML		20 13 01.2		
	comp=E,23nm,1.1s							
M04C	**Macdoel**	**4.24**	**322**		Pn	20 11 42.0	-2.9	
M04C				IAML		20 13 09.2		
	comp=E,33nm,2.2s							
M04C				IAML		20 13 12.9		
	comp=N,42nm,2.3s							
SZCU	**Shurtz Canyon**	**4.25**	**101**		Pn	20 11 43.8	-1.4	
LCMT	**Little Creek M**	**4.31**	**109**		Pn	20 11 44.7	-1.2	
DUG	**Dugway, Tooele**	**4.61**	**67**	Pn	Pn	20 11 50.6	+0.4	
KNB	**Kanab**	**4.62**	**107**	Pn	Pn	20 11 51.1	+0.8	
K05A	**Summer Lake**	**4.65**	**336**		Pn	20 11 49.7	-0.9	
BGU	**Big Grassy Mou**	**4.76**	**58**		Pn	20 11 52.9	+0.7	
L04D	**Klamath Falls**	**4.79**	**322**	Pn	Pn	20 11 52.5	-0.1	
L04D				IAML		20 12 59.3		
	comp=N,22nm,4.1s							
L04D				IAML		20 13 25.3		
	comp=E,30nm,1.5s							
MSU	**Marysvale**	**4.84**	**88**		Pn	20 11 51.8	-1.5	
J08A	**Circle Bar Ran**	**4.86**	**359**	Pn	Pn	20 11 51.5	-2.0	
MTPU	**Mount Pierson**	**4.87**	**93**		Pn	20 11 51.4	-2.5	
PKCU	**Pink Cliffs**	**4.88**	**101**	Pn	Pn	20 11 52.5	-1.5	
W13A	**Hualapai Mount**	**4.93**	**132**	Pn	Pn	20 11 53.2	-1.3	
NLU	**North Lily Min**	**5.08**	**71**	Pn	Pn	20 11 54.9	-1.8	
U15A	**North Rim**	**5.24**	**111**		Pb	20 12 12.7	+0.8	
MFID	**Camas Ranch**	**5.27**	**20**	Pn	Pn	20 11 57.9	-1.3	
PD31	**Pinedale Array**	**7.93**	**55**	Pn	Pn	20 12 33.7	-2.0	
PDAR	**Pinedale Array**	**7.93**	**55**	Pn	Pn	20 12 35.1	-0.6	

*NOU **23** 20:37:49.1, 39˚15S×174˚92E, h64km, MLv3.9/7, North Island, New Zealand*
*WEL **23** 20:37:50.2, 39˚5±2˚×17˚5E±˚, h27km±3km, M3.4/37, ML3.7/37, MLv3.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=137.3*

ISC 23 20:37:50.1±0.9,**39˚25S**±0˚02×**175˚07E**±0˚02,**h32**km±6km, **n117**,σ0§**81**/152,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.22**	**100**	P	**Pb**	**20 37 56.6**	**-0.3**
PKVZ				S	**Sb**	**20 38 01.7**	**+0.2**
VRZ	**Vera Road**	**0.27**	**298**	P	**Pb**	**20 37 57.1**	**-0.3**
VRZ				S	**Sn**	**20 38 03.0**	**+0.1**
TWVZ	**Taurewa**	**0.34**	**58**	P	**Pb**	**20 37 58.0**	**-0.4**
TWVZ				S	**Sb**	**20 38 03.8**	**-0.3**
MTVZ	**Mangateitei**	**0.34**	**113**	P	**Pb**	**20 37 58.1**	**-0.3**
TRVZ	**Turoa**	**0.38**	**98**	P	**Pb**	**20 37 58.8**	**-0.2**
TRVZ				S	**Sb**	**20 38 04.9**	**-0.2**
FWVZ	**Far West T-bar**	**0.38**	**91**	P	**Pb**	**20 37 58.8**	**-0.2**
FWVZ				S	**Sb**	**20 38 05.0**	**-0.2**
DRZ	**Dome Shelter**	**0.39**	**94**	P	**Pb**	**20 37 59.4**	**+0.1**
DRZ				S	**Sb**	**20 38 05.3**	**-0.2**
WHVZ	**Whangaehu Hut**	**0.41**	**95**	P	**Pb**	**20 37 59.3**	**-0.1**
WHVZ				S	**Sb**	**20 38 05.2**	**-0.7**
WNVZ	**Wahianoa**	**0.42**	**101**	P	**Pb**	**20 37 59.3**	**-0.3**
WNVZ				S	**Sb**	**20 38 05.8**	**-0.2**
NGZ	**Ngauruhoe**	**0.42**	**80**	P	**Pb**	**20 37 59.4**	**-0.2**
NGZ				S	**Sb**	**20 38 06.2**	**+0.1**
WTVZ	**West Tongariro**	**0.43**	**72**	P	**Pb**	**20 37 59.4**	**-0.3**
WTVZ				S	**Sn**	**20 38 06.4**	**-0.5**
NNVZ	**North Ngauruho**	**0.44**	**75**	P	**Pb**	**20 37 59.7**	**-0.2**
NNVZ				S	**Sn**	**20 38 06.8**	**-0.6**
SNVZ	**South Ngauruho**	**0.45**	**82**	P	**Pb**	**20 37 59.7**	**-0.3**
SNVZ				S	**Sb**	**20 38 06.9**	**+0.1**
TUVZ	**Tukino**	**0.46**	**92**	P	**Pb**	**20 38 00.1**	**0.0**
KRVZ	**Karewarewa**	**0.47**	**71**	P	**Pb**	**20 38 00.0**	**-0.3**
KRVZ				S	**Sb**	**20 38 07.2**	**-0.1**
OTVZ	**Oturere**	**0.47**	**80**	P	**Pb**	**20 38 00.1**	**-0.3**
OTVZ				S	**Sn**	**20 38 07.6**	**-0.5**
NTVZ	**North Tongarir**	**0.50**	**72**	P	**Pb**	**20 38 00.3**	**-0.4**
NTVZ				S	**Sb**	**20 38 07.6**	**-0.4**
WAZ	**Wanganui**	**0.51**	**187**	P	**Pb**	**20 38 00.2**	**-0.6**
WAZ				S	**Sb**	**20 38 08.5**	**+0.3**
ETVZ	**East Tongariro**	**0.51**	**77**	P	**Pb**	**20 38 00.7**	**-0.3**
TMVZ	**Te Maari**	**0.51**	**75**	P	**Pb**	**20 38 00.6**	**-0.3**
TMVZ				S	**Sb**	**20 38 08.3**	**-0.1**
MOVZ	**Moawhango**	**0.56**	**107**	P	**Pb**	**20 38 00.9**	**-0.7**
MOVZ				S	**Sb**	**20 38 08.5**	**-1.0**
LREZ	**Lake Rotokare**	**0.56**	**248**	P	**Pb**	**20 38 01.1**	**-0.5**
LREZ				S	**Sn**	**20 38 10.2**	**+0.3**
KATZ	**Kakaramea**	**0.56**	**61**	P	**Pb**	**20 38 01.4**	**-0.3**
MHEZ	**Mangahewa**	**0.60**	**286**	P	**Pb**	**20 38 02.4**	**+0.1**
MHEZ				S	**Sn**	**20 38 11.9**	**+0.9**
RATZ	**Rangitukua**	**0.67**	**55**	P	**Pb**	**20 38 03.0**	**-0.4**
RATZ				S	**Sb**	**20 38 12.3**	**-0.2**
RITZ	**Rihia Road**	**0.67**	**66**	P	**Pn**	**20 38 03.7**	**+0.3**
DREZ	**Durham Road**	**0.68**	**275**	P	**Pb**	**20 38 03.3**	**-0.2**
DREZ				S	**Sn**	**20 38 13.7**	**+0.8**
PREZ	**Palmer Road**	**0.71**	**262**	P	**Pb**	**20 38 03.8**	**-0.4**
PREZ				S	**Sn**	**20 38 15.0**	**+1.2**
WATZ	**Wairara**	**0.75**	**44**	P	**Pb**	**20 38 04.1**	**-0.7**
WATZ				S	**Sb**	**20 38 14.6**	**-0.1**
HIZ	**Hauiti**	**0.75**	**347**	P	**Pb**	**20 38 04.1**	**-0.7**
HIZ				S	**Sn**	**20 38 15.4**	**+0.6**
HIZ	**Hauiti**	**0.75**	**347**	P	**Pb**	**20 38 04.2**	**-0.7**
NEZ	**North Egmont**	**0.75**	**268**	P	**Pb**	**20 38 04.3**	**-0.6**
BHHZ	**Black Hill Sta**	**0.81**	**108**	P	**Pb**	**20 38 04.5**	**-1.3**
BHHZ				S	**Sb**	**20 38 14.6**	**-1.8**
KHEZ	**Kahui Hut**	**0.82**	**267**	P	**Pb**	**20 38 05.8**	**-0.2**
KHEZ				S	**Sn**	**20 38 18.2**	**+1.7**
PKE	**Pukeiti**	**0.84**	**273**	P	**Pb**	**20 38 05.8**	**-0.5**
PKE				S	**Sn**	**20 38 18.0**	**+1.1**
HATZ	**Hinemaiaia**	**0.88**	**66**	P	**Pn**	**20 38 05.8**	**-0.4**
NBEZ	**Newall Road No**	**0.93**	**269**	P	**Pn**	**20 38 07.2**	**+0.3**
NBEZ				S	**Sn**	**20 38 20.3**	**+1.1**
NMEZ	**Namu Road**	**0.94**	**260**	P	**Pn**	**20 38 07.1**	**+0.2**
NMEZ				S	**Sn**	**20 38 20.5**	**+1.3**
KUTZ	**Kaahu Road**	**0.96**	**38**	P	**Pn**	**20 38 07.3**	**-0.1**
OHWZ	**Ohakea**	**0.97**	**169**	P	**Pn**	**20 38 07.2**	**-0.3**
TLZ	**Tolley Road**	**0.99**	**22**	P	**Pn**	**20 38 07.2**	**-0.6**
TLZ				S	**Sb**	**20 38 20.1**	**-1.5**
TSZ	**Takapari Road**	**1.06**	**140**	P	**Pn**	**20 38 08.3**	**-0.5**
TSZ				S	**Sb**	**20 38 23.1**	**-0.5**
KWHZ	**Kaweka Forest**	**1.07**	**100**	P	**Pn**	**20 38 08.8**	**0.0**
KRHZ	**Kereru**	**1.08**	**112**	P	**Pn**	**20 38 09.3**	**+0.2**
KRHZ				S	**Sb**	**20 38 24.2**	**0.0**
PNHZ	**Pukenui**	**1.10**	**127**	P	**Pn**	**20 38 09.0**	**-0.3**
PNHZ				S	**Sn**	**20 38 23.9**	**+0.5**
BKZ	**Black Stump Fm**	**1.11**	**86**	P	**Pn**	**20 38 09.4**	**0.0**
BKZ	**Black Stump Fm**	**1.11**	**86**	P	**Pn**	**20 38 09.5**	**0.0**
GRRZ	**Galatos Road**	**1.21**	**43**	P	**Pn**	**20 38 12.2**	**-0.3**
POWZ	**Post Office Ro**	**1.26**	**155**	P	**Pn**	**20 38 11.8**	**+0.3**
MCHZ	**McNeill Hill**	**1.28**	**99**	P	**Pb**	**20 38 13.2**	**-0.4**
HRHZ	**Handcock Road**	**1.28**	**46**	P	**Pb**	**20 38 14.2**	**+0.5**
WPHZ	**Waipukurau**	**1.34**	**128**	P	**Pn**	**20 38 14.3**	**-0.6**
DVHZ	**Dannevirke**	**1.35**	**141**	P	**Pn**	**20 38 13.9**	**+1.2**
DVHZ				S	**Sb**	**20 38 32.1**	**+0.4**
NMHZ	**Naumai**	**1.36**	**84**	P	**Pb**	**20 38 14.2**	**-0.8**
UTU	**Utuhina**	**1.39**	**40**	P	**Pb**	**20 38 16.0**	**+0.5**
MTHZ	**Maungataniwha**	**1.44**	**75**	P	**Pb**	**20 38 16.8**	**+0.5**
NGRZ	**Ngongotaha**	**1.44**	**38**	P	**Pb**	**20 38 16.6**	**+0.2**
MRZ	**Mangatainoka R**	**1.46**	**165**	P	**Pn**	**20 38 14.7**	**+0.4**
PRWZ	**Pori Road**	**1.48**	**152**	P	**Pn**	**20 38 15.9**	**+1.4**
ARHZ	**Aropaoanui**	**1.50**	**91**	P	**Pb**	**20 38 16.5**	**-0.8**
KAHZ	**Kahuranaki**	**1.50**	**112**	P	**Pb**	**20 38 18.2**	**+0.8**
MUGZ	**Murupara**	**1.54**	**60**	P	**Pn**	**20 38 15.6**	**+0.3**
TOZ	**Tahuroa Road**	**1.56**	**13**	P	**Pn**	**20 38 14.8**	**-0.7**
OGWZ	**Otaki Gorge**	**1.57**	**177**	P	**Pn**	**20 38 15.7**	**0.0**
PRHZ	**Porangahau**	**1.58**	**131**	P	**Pb**	**20 38 17.5**	**-1.2**
PXZ	**Pawanui**	**1.59**	**120**	P	**Pb**	**20 38 19.2**	**+0.3**
RAHZ	**Arahi**	**1.61**	**79**	P	**Pb**	**20 38 18.2**	**-0.9**
KIWZ	**Kapiti Island**	**1.61**	**184**	P	**Pn**	**20 38 16.4**	**-0.8**
RTZ	**Ruatahuna**	**1.62**	**68**	P	**Pn**	**20 38 15.8**	**-0.7**
ANWZ	**Angora Road**	**1.62**	**139**	P	**Pn**	**20 38 19.9**	**+0.5**
TIWZ	**Tintock**	**1.65**	**158**	P	**Pn**	**20 38 18.1**	**+1.2**
HOWZ	**Holdsworth Sta**	**1.68**	**168**	P	**Pn**	**20 38 18.2**	**+0.9**
BFZ	**Birch Farm**	**1.69**	**148**	P	**Pn**	**20 38 18.3**	**+0.9**
BFZ	**Birch Farm**	**1.69**	**148**	P	**Pn**	**20 38 19.0**	**+1.6**
DUWZ	**D'Urville Isla**	**1.78**	**209**	P	**Pn**	**20 38 18.8**	**+0.1**
CAW	**Cannon Point**	**1.85**	**180**	P	**Pn**	**20 38 20.8**	**+1.2**
URZ	**Urewera**	**1.88**	**59**	P	**Pn**	**20 38 20.0**	**0.0**
URZ	**Urewera**	**1.88**	**59**	P	**Pn**	**20 38 20.0**	**0.0**
MTW	**Mount Morrison**	**1.94**	**170**	P	**Pn**	**20 38 22.4**	**+1.6**
TMWZ	**Te Maipa**	**1.96**	**161**	P	**Pn**	**20 38 23.1**	**+2.0**
TCW	**Tory Channel**	**2.05**	**197**	P	**Pn**	**20 38 22.3**	**0.0**
MWZ	**Matawai**	**2.13**	**65**	P	**Pn**	**20 38 25.5**	**+2.0**
MKAZ	**Moumakai**	**2.14**	**2**	P	**Pn**	**20 38 23.2**	**-0.4**
PAWZ	**Paruwai Farm**	**2.15**	**173**	P	**Pb**	**20 38 27.3**	**-1.1**
BHW	**Baring Head**	**2.16**	**184**	P	**Pn**	**20 38 24.5**	**+0.6**
MSWZ	**Moikau Station**	**2.17**	**176**	P	**Pn**	**20 38 24.4**	**+0.5**
TRWZ	**Traveller**	**2.20**	**168**	P	**Pb**	**20 38 28.1**	**-1.1**
AWAZ	**Awhitu Peninsu**	**2.21**	**351**	P	**Pn**	**20 38 25.1**	**+0.6**
ETAZ	**East Tamaki Re**	**2.29**	**357**	P	**Pn**	**20 38 26.4**	**+0.7**
TKGZ	**Te Karaka**	**2.32**	**70**	P	**Pn**	**20 38 28.2**	**+2.2**
TUWZ	**Tuamarina**	**2.34**	**201**	P	**Pn**	**20 38 27.2**	**+0.9**
WTAZ	**Waiatarua**	**2.35**	**350**	P	**Pn**	**20 38 27.3**	**+0.9**
NNZ	**Nelson**	**2.35**	**213**	P	**Pn**	**20 38 27.4**	**+1.0**
TKNZ	**Takaka Hill**	**2.40**	**222**	P	**Pn**	**20 38 27.7**	**+0.5**
RUGZ	**Raukumara Rang**	**2.41**	**59**	P	**Pn**	**20 38 29.3**	**+1.9**
WIAZ	**Waiheke Island**	**2.45**	**1**	P	**Pn**	**20 38 27.8**	**-0.1**
MBAZ	**Motutapu North**	**2.48**	**357**	P	**Pn**	**20 38 28.3**	**+0.1**
QRZ	**Quartz Range**	**2.50**	**230**	P	**Pn**	**20 38 27.8**	**-0.7**
QRZ	**Quartz Range**	**2.50**	**230**	P	**Pn**	**20 38 27.2**	**-1.4**
TWGZ	**Tauwhareparae**	**2.52**	**66**	P	**Pn**	**20 38 31.2**	**+2.4**
KUZ	**Kuaotunu**	**2.55**	**12**	P	**Pn**	**20 38 28.3**	**-0.9**
CMWZ	**Cape Campbell**	**2.58**	**194**	P	**Pb**	**20 38 34.6**	**-1.1**
HAZ	**Te Kaha**	**2.60**	**46**	P	**Pn**	**20 38 28.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.62**	**200**	P	**Pn**	**20 38 31.5**	**+1.3**
PKGZ	**Pakihiroa**	**2.72**	**61**	P	**Pn**	**20 38 33.7**	**+2.1**
MRNZ	**Matariki Terra**	**2.78**	**219**	P	**Pn**	**20 38 32.6**	**+0.2**
WMGZ	**Waiomatatini S**	**2.99**	**63**	P	**Pn**	**20 38 36.6**	**+1.4**
THZ	**Tophouse**	**3.00**	**213**	P	**Pn**	**20 38 36.9**	**+1.4**
WCZ	**Waipu Caves**	**3.35**	**350**	P	**Pn**	**20 38 40.5**	**+0.2**
KHZ	**Kahutara**	**3.37**	**200**	P	**Pn**	**20 38 40.2**	**-0.2**
KHZ	**Kahutara**	**3.37**	**200**	P	**Pn**	**20 38 40.2**	**-0.2**
GVZ	**Greta Valley S**	**4.02**	**202**	P	**Pn**	**20 38 48.8**	**-0.6**
LTZ	**Lake Taylor**	**4.11**	**210**	P	**Pn**	**20 38 50.5**	**-0.3**
MQZ	**McQueen's Vall**	**4.81**	**201**	P	**Pn**	**20 38 58.7**	**-1.5**
TMZ	**Timaru**	**5.96**	**209**	P	**Pn**	**20 39 15.3**	**-0.7**
ODZ	**Otahua Downs**	**6.66**	**208**	P	**Pn**	**20 39 24.3**	**-1.3**
ODZ	**Otahua Downs**	**6.66**	**208**	P	**Pn**	**20 39 24.3**	**-1.3**

*IDC **23** 20:55:08.9±2.8, 5˚57S×151˚92E, h60km±18km, mb3.7/8, mb1 3.9/8, mb1mx3.7/29, mbtmp4.0/8, MS3.4/3, Ms1 3.4/3, ms1mx2.7/59, Error ellipse: s-maj=51.8km s-min=14.5km az=117.0*
*NEIC **23** 20:55:08.4±0.6, 5˚5S±0˚1×151˚9E±0˚2, h49km±5km, mb4.2/12, Error ellipse: s-maj=27.0km s-min=9.9km az=117.0*

ISC 23 20:55:07.3±0.9,**5˚62S**±0˚10×**152˚0E**±0˚2,**h45**km,**n29**, σ1§**08**/28,**mb4.0**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** baz=197,slow=19	**1.30**	**3**	P	**Pn**	**20 55 28.8**	**-0.3**
KRVT				S	**Sn**	**20 55 46.7**	**+1.4**
RABL	**Rabaul**	**1.43**	**8**		**Pn**	**20 55 30.7**	**-0.2**
RABL				Sn	**Sn**	**20 55 50.9**	**+2.5**
PMG	**Port Moresby**	**6.07**	**231**		**Pn**	**20 56 34.7**	**+0.1**
CTA	**Charters Tower** comp=Z,55nm,19.5s,baz=84,slow=37	**15.42**	**201**	LR	LR	21 04 37.1	
DZM	**Mont Dzumac** comp=Z,213nm,18.5s,baz=176,slow=31	**21.54**	**141**	LR	LR	21 06 19.9	

MTN	**Manton Dam**	**21.77**	**249**	P	**P**	**20 59 55.4**	**0.0**	
MTN				IAmb	IAmb	20 59 58.4		
	comp=Z,23nm,1.4s							
WB0	**Warramunga Arr**	**22.14**	**229**	P	**P**	**20 59 59.5**	**+0.1**	
WB0				IAmb	IAmb	21 00 02.9		
	comp=Z,7.7nm,1.2s							
WR0	**Warramunga Arr**	**22.14**	**228**	P	**P**	**20 59 59.9**	**+0.5**	
WR0				IAmb	IAmb	21 00 08.5		
	comp=Z,7.9nm,1.2s							
WRAB	**Tennant Creek**	**22.27**	**229**	P	**P**	**21 00 01.1**	**+0.3**	
WRAB				IAmb	IAmb	21 00 29.0		
	comp=Z,5.9nm,0.6s							
WB2	**Warramunga Arr**	**22.27**	**229**	P	**P**	**21 00 00.7**	**-0.2**	
WRA	**Warramunga Arr**	**22.28**	**229**	P	**P**	**21 00 01.1**	**+0.2**	
	comp=Z,2.3nm,0.8s,baz=52,slow=9.7,SNR=25							
WRA	**Warramunga Arr**	**22.28**	**229**	P	**P**	**21 00 00.8**	**-0.2**	
KNRA	**Kununurra**	**24.87**	**244**	P	**P**	**21 00 26.2**	**+0.2**	
AS31	**Alice Springs**	**24.99**	**222**	P	**P**	**21 00 29.6**	**+2.5**	
ASAR	**Alice Springs**	**24.99**	**222**	P	**P**	**21 00 28.0**	**+0.9**	
	comp=Z,4.4nm,0.8s,baz=56,slow=9.3,SNR=42							
ASAR	**Alice Springs**	**24.99**	**222**	P	**P**	**21 00 29.6**	**+2.6**	
SOEI	**Soe**	**27.75**	**260**	P	**P**	**21 00 51.5**	**-0.7**	
FITZ	**Fitzroy Crossi**	**28.54**	**242**	P	**P**	**21 00 58.8**	**-0.3**	
	comp=Z,3.9nm,0.5s,baz=44,slow=9.5,SNR=11							
FITZ	**Fitzroy Crossi**	**28.54**	**242**	P	**P**	**21 00 58.6**	**-0.5**	
FITZ				IAmb	IAmb	21 01 03.3		
	comp=Z,14nm,1.3s							
TAU	**Tasmania Unive**	**37.37**	**186**	P	**P**	**21 02 16.5**	**+0.9**	
SONM	**Songino Array**	**66.57**	**328**	P	**P**	**21 05 52.6**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=150,slow=5.0,SNR=6.5							
SONM	**Songino Array**	**66.57**	**328**	IAmb	IAmb	21 05 53.2		
	comp=Z,1.1nm,0.9s							
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**	**21 07 13.1**	**-1.1**	
	comp=Z,0.4nm,0.7s,baz=98,slow=6.9,SNR=5.0							
MKAR				LR	LR	21 44 30.0		
	comp=Z,18nm,18.4s,baz=15,slow=37							
ZALV	**Zalesovo Beam**	**81.37**	**327**	P	**P**	**21 07 18.1**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=116,slow=5.4,SNR=3.6							
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**21 07 27.5**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=245,slow=5.0,SNR=9.2							
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**21 08 32.0**	**+0.2**	
	comp=Z,0.3nm,0.7s,baz=276,slow=4.8,SNR=4.1							
GERES	**GERESS Array B**	**124.30**	**328**	PKP	**PKiKP**	**21 14 02.4**	**+0.6**	
	comp=Z,0.2nm,0.4s,baz=11,slow=2.7,SNR=3.9							
GERES	**GERESS Array B**	**124.30**	**328**		**PKPdf**	**21 14 00.6**	**-1.0**	
TORD	**Torodi Ar. Bea**	**149.75**	**286**	PKPbc	**PKPbc**	**21 14 53.1**	**-0.3**	
	comp=Z,4.1nm,0.8s,baz=69,slow=2.8

BRVK	**Borovoye**	**16.14**	**358**		**Pn**	**21 27 14.9 -0.1**
AKTO	**Aktyubinsk**	**16.52**	**329**	P	**Pn**	**21 27 19.7 0.0**
	comp=E,0.9nm,0.3s,baz=150,slow=13,SNR=14					
LSA	**Lhasa**	**18.09**	**108**		**Pn**	**21 27 40.2 +0.8**
ZAA0	**Zalesovo Array**	**19.43**	**25**	P	**P**	**21 27 51.2 -1.2**
ZAA0				IAmb	IAmb	21 27 56.4
	comp=Z,3.6nm,0.8s					
ZALV	**Zalesovo Beam**	**19.43**	**25**	P	**P**	**21 27 52.4 0.0**
	comp=Z,1.1nm,0.3s,baz=218,slow=10,SNR=22					
ZALV	**Zalesovo Beam**	**19.43**	**25**	P	**P**	**21 27 52.0 -0.4**
GNI	**Garni**	**20.98**	**287**	LR	LR	21 40 01.8
	comp=Z,17nm,20.0s,baz=283,slow=47					
GNI	**Garni**	**20.98**	**287**	P	**P**	**21 28 10.8 +1.3**
GNI				IAmb	IAmb	21 28 18.3
	comp=Z,19nm,1.5s					
ARU	**Arti**	**21.30**	**340**	P	**P**	**21 28 12.0 -0.6**
	comp=Z,0.4nm,0.3s,baz=131,slow=19,SNR=3.6					
ARU	**Arti**	**21.30**	**340**	P	**P**	**21 28 11.2 -1.3**
ARU				IAmb	IAmb	21 28 24.3
	comp=Z,7.8nm,1.4s					
ONI	**Oni**	**22.07**	**293**	P	**P**	**21 28 21.6 +0.6**
ONI				IAmb	IAmb	21 28 25.5
	comp=Z,5.7nm,1.2s					
KARS	**Kars**	**22.25**	**288**	P	**P**	**21 28 22.6 -0.3**
KARS				IAmb	IAmb	21 28 23.6
	comp=Z,17nm,0.9s					
ULN	**Ulaanbaatar**	**28.35**	**56**	P	**P**	**21 29 18.8 +0.1**
AKASG	**Malin Array Be**	**32.85**	**308**	P	**P**	**21 30 00.0 +1.9**
	comp=Z,0.3nm,0.4s,baz=82,slow=6.9,SNR=4.0					
FIA1	**FINESS Array S**	**37.25**	**326**	P	**P**	**21 30 36.2 +0.4**
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**21 30 37.8 +2.0**
	comp=Z,0.9nm,0.4s,baz=124,slow=10,SNR=8.9					
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**21 30 36.9 +1.1**
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**21 31 07.3 +1.7**
	comp=Z,9.1nm,1.2s,baz=121,slow=8.9,SNR=7.3					
GSI	**Gunungsitoli**	**42.97**	**139**	P	**P**	**21 31 25.6 +2.1**
YAK	**Yakutsk**	**43.49**	**36**	P	**P**	**21 31 29.8 +2.7**
NC303	**NORSAR Array S**	**44.12**	**323**	P	**P**	**21 31 33.9 +1.7**
NC303				IAmb	IAmb	21 31 42.6
	comp=Z,8.0nm,1.2s					
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**21 31 33.9 +1.2**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.9					
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**21 31 34.5 +1.8**
	comp=Z,0.4nm,0.5s,baz=106,slow=7.2,SNR=7.1					
PETK	**Petropavlovsk-**	**59.50**	**44**	P	**P**	**21 33 28.0 +1.4**
BMAR	**Burnt Mountain**	**72.47**	**14**	P	**P**	**21 34 49.2 -0.3**
CAST	**Castle Rocks**	**74.20**	**19**	P	**P**	**21 35 01.3 +1.6**
CAST				IAmb	IAmb	21 35 26.8
	comp=Z,5.9nm,1.4s					
YKA	**Yellowknife Ar**	**80.81**	**3**	P	**P**	**21 35 37.2 +0.9**
	comp=Z,0.2nm,0.5s,baz=345,slow=5.1,SNR=4.1					
SCHQ	**Schefferville**	**81.79**	**337**	P	**P**	**21 35 42.0 +0.3**
SCHQ				IAmb	IAmb	21 35 46.0
	comp=Z,6.1nm,0.9s					

GRAL ***23*** *21:25:37.5±0.3,34°.39N×36°.65E,h6km±6km,MD2.7*
DDA ***23*** *21:25:40.1±0.0,34°.38N×35°.99E,h7km±2km,ML2.4*

ISC 23 21:25:37.9±1.1,34°.33N±0°.06×36°.52E±0°.08,h10km±n10,
σ0s49/15,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.48**	**264**		*eP*	**Pb**	**21 25 48.1**	**-0.4**
HWQ					*eS*	**Sb**	**21 25 56.0**	**+0.3**
BHL	**Bhannes**	**0.84**	**239**		*eP*	**Pb**	**21 25 54.7**	**+0.1**
DQRL	**Deir Qamar**	**1.01**	**232**		*eP*	**Pb**	**21 25 57.5**	**0.0**
RCY	**Rachaya**	**1.01**	**215**		*eP*	**Pg**	**21 25 57.3**	**-0.1**
RCY					*eS*	**Sn**	**21 26 12.1**	**-0.6**
QRWL	**Qaraoun**	**1.05**	**222**		*eP*	**Pg**	**21 25 58.0**	**-0.1**
YAYL	**Yayladag**	**1.73**	**349**	P		**Pn**	**21 26 08.6**	**+0.4**
YAYL				S		**Sb**	**21 26 31.1**	**-0.7**
ASUZ	**Hatay-Arsuz**	**2.04**	**343**	P		**Pn**	**21 26 13.1**	**+0.7**
KUZU	**Kuzuini**	**2.48**	**10**	P		**Pb**	**21 26 21.9**	**-0.6**
KUZU				S		**Sb**	**21 26 52.6**	**-0.5**
KUZU				*i* AML		AML	21 26 58.0	
	comp=E,41nm,0.4s							
KUZU				*i* AML		AML	21 27 01.0	
	comp=N,35nm,0.3s							
YURE	**YUREGIR**	**2.59**	**344**	P		**Pb**	**21 26 24.9**	**+0.4**
YURE				*i* AML		AML	21 27 21.0	
	comp=N,19nm,2.5s							
SURC	**SANLIURFA_SURC**	**3.06**	**33**	P		**Pb**	**21 26 32.5**	**0.0**
SURC				S		**Sb**	**21 27 10.4**	**+0.5**
SURC				*i* AML		AML	21 27 26.0	
	comp=E,10.0nm,0.9s							

KRSC 23 21:28:17.0±1.4,54°.30N×163°.20E,h59km±32km,ML3.9,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.84**	**59**		*eP*	Pn	21 28 49.1	+2.8
BKI					*eS*	Sn	21 29 09.7	+1.2
TUMD	**Tumrok D**	**1.86**	**300**		*eP*	Pn	21 28 49.4	+2.8
TUMD					*eS*	Sn	21 29 11.3	+2.3
KBTR	**Krutoberegovo**	**1.93**	**354**		*eP*	Pn	21 28 48.9	+1.4
KBTR					*eS*	Sn	21 29 10.9	+0.3
KBG	**Krutoberegovo**	**1.98**	**352**		*eP*	Pn	21 28 50.0	+1.8
KBG					*eS*	Sn	21 29 12.8	+0.9
TUMR	**Tumrok**	**2.03**	**300**		*eP*	Pn	21 28 52.2	+3.3
TUMR					*eS*	Sn	21 29 16.9	+3.7
KII	**Karymskiy**	**2.22**	**265**		*eP*	Pn	21 28 54.6	+3.1
KII					*eS*	Sn	21 29 19.8	+1.9
SPN	**Mys Shipunski**	**2.24**	**239**		*eP*	Pn	21 28 54.1	+2.4
SPN					*eS*	Sn	21 29 18.9	+0.7
KMNR	**Kamenistaya**	**2.25**	**312**		*eP*	Pn	21 28 55.1	+3.2
KMNR					*eS*	Sn	21 29 22.0	+3.5
LGNR	**Loginova**	**2.30**	**322**		*eP*	Pn	21 28 56.7	+3.9
KPT	**Kopyto**	**2.39**	**316**		*eP*	Pn	21 28 57.1	+3.2
NLC	**Nalytchevo**	**2.55**	**245**		*eP*	Pn	21 28 58.9	+2.9
NLC					*eS*	Sn	21 29 28.0	+2.2
SMAR	**Somma**	**2.81**	**250**		*eP*	Pn	21 29 03.1	+3.4
SMAR					*eS*	Sn	21 29 34.5	+2.1
UGLR	**Uglovaya**	**2.82**	**249**		*eP*	Pn	21 29 03.4	+3.7
UGLR					*eS*	Sn	21 29 36.0	+3.5
KRER	**Koryakskii**	**2.82**	**251**		*eP*	Pn	21 29 03.6	+3.8
KRER					*eS*	Sn	21 29 35.8	+3.1
AVH	**Avacha**	**2.84**	**250**		*eP*	Pn	21 29 03.8	+3.8
AVH					*eS*	Sn	21 29 36.0	+2.9
KOK	**Koryaka**	**2.89**	**251**		*eP*	Pn	21 29 04.5	+3.8
KOK					*eS*	Sn	21 29 37.3	+3.1
DALK	**Dalny**	**2.94**	**246**		*eP*	Pn	21 29 04.5	+3.3
DALK					*eS*	Sn	21 29 36.8	+1.6
PET	**Petropavlovsk**	**2.99**	**247**		*eP*	Pn	21 29 05.4	+3.5
PET					*eS*	Sn	21 29 38.4	+1.8
ESO	**Esso**	**3.06**	**304**		*eP*	Pn	21 29 06.8	+3.9
ESO					*eS*	Sn	21 29 41.1	+2.9
GNL	**Ganaly**	**3.16**	**261**		*eP*	Pn	21 29 08.8	+4.4
GNL					*eS*	Sn	21 29 45.7	+4.7
KRMR	**Karymshinskiy**	**3.36**	**246**		*eP*	Pn	21 29 10.9	+3.9
KRMR					*eS*	Sn	21 29 48.6	+2.9
RUS	**Russkaya**	**3.37**	**238**		*eP*	Pn	21 29 10.2	+3.0
RUS					*eS*	Sn	21 29 47.2	+1.3
MTVR	**Mutnovka**	**3.51**	**241**		*eP*	Pn	21 29 13.2	+4.0
GRL	**Gorelyy**	**3.53**	**242**		*eP*	Pn	21 29 13.7	+4.2
GRL					*eS*	Sn	21 29 51.6	+1.6
APC	**Apacha**	**3.85**	**252**		*eP*	Pn	21 29 18.5	+4.8
APC					*eS*	Sn	21 30 02.9	+5.2
KDTR	**Khodutka, Kamc**	**3.97**	**233**		*eP*	Pn	21 29 18.6	+3.3
KDTR					*eS*	Sn	21 30 00.3	-0.3

BJI ***23*** *21:31:12.0±0.0,3°.90S×138°.10E,h86km,mb4.7/58, mB4.9/27,Ms4.6/11,Ms7 4.3/11*
NEIC ***23*** *21:31:15.7±1.4,3°.86S±0°.08×138°.10E±0°.07,h93km±7km, mb4.7/81,Error ellipse: s-maj=11.2km s-min=10.4km az=148.0*
IDC ***23*** *21:31:16.3±0.7,3°.83S×138°.23E,h102km±6km,mb4.3/18, mb1 4.4/24,mb1mx4.3/35,mbtmp4.7/24,MS3.4/16, Ms1 3.4/16,ms1mx3.1/58,Error ellipse: s-maj=11.8km s-min=9.5km az=129.0*
DJA ***23*** *21:31:16.1±0.3,4°S±3°×13°8E±°,h88km±18km,M5.0/11, mB5.3/8,mb5.2/11,MLv5.3/6,Mw(mB)4.7/8*
GCMT ***23*** *21:31:18.7±0.5,3°.82S±0°.03×138°.17E±0°.03,h94km±5km, MW4.9/70,Moment Tensor Solution. s14,c14; s70,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.92±.12; Mθθ=1.95±.14; Mφφ2.87±.16; Mrθ=-1.07±.07; Mθφ0.73±.16; Mφr0.06±.10; Best double couple: M0.2.84000×10^16*

NP1:φs148.00000°,δ68.00000°,λ=-158.00000°. NP2: φ=49.00000°,δ70.00000°,λ=-24.00000°. Principal axes: T 2.9820, Plg2.0000°, Azm99.0000°; N -0.2800, Plg59.0000°, Azm191.0000°; P -2.6990, Plg31.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 21:31:15.8±0.3,3.90S±0°.04×138°.14E±0°.04,h100km,n187,
σ1s12/197,mb4.7/77,2C-3D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.98**	**17**	P		**Pn**	**21 31 49.7**	**+1.6**
SMPI				S		**Sn**	**21 32 10.7**	**-2.0**
GENI	**Genyem**	**2.41**	**58**	P		**Pn**	**21 31 54.3**	**+0.6**
GENI				S		**Sn**	**21 32 21.0**	**-1.7**
SRPI	**Serui, Papua**	**2.76**	**317**	P		**Pn**	**21 31 57.9**	**-0.5**
JAY	**Jayapura**	**2.91**	**62**	P		**Pn**	**21 32 00.9**	**+0.5**
	37nm,0.3s,baz=234,slow=9.7,SNR=59							
JAY				S		**Sn**	**21 32 32.2**	**-2.5**
	95nm,0.3s,baz=98,slow=12,SNR=7.2							
JAY				LR		LR	21 33 04.8	
	comp=Z,417nm,19.8s,baz=274,slow=39							
JAY	**Jayapura**	**2.91**	**62**	P		**Pn**	**21 32 01.6**	**+1.2**
JAY				S		**Sn**	**21 32 32.5**	**-2.2**
MMPI	**Merauke**	**5.06**	**154**	P		**Pn**	**21 32 32.1**	**+2.8**
	13nm35μm1μm,0.5s							
MMPI				S		**Sn**	**21 33 28.5**	**+1.9**
	13nm35μm1μm,0.5s							
SIJI	**Sorong**	**7.49**	**293**	P		**Pn**	**21 33 02.6**	**+0.2**
	43nm,0.3s,baz=112,slow=9.2,SNR=78							
SIJI				LR		LR	21 36 02.8	
	comp=Z,202nm,20.6s,baz=198,slow=38							
SWI	**Sorong**	**7.50**	**294**	P		**Pn**	**21 33 02.5**	**0.0**
	1.3nm4μm428nm,0.8s							
SAUI	**Saumlaki**	**7.92**	**239**	Pn		**Pn**	**21 33 07.0**	**-1.2**
SAUI	**Saumlaki**	**7.92**	**239**	P		**Pn**	**21 33 11.9**	**+3.7**
	2.9nm271nm,0.8s							
BNDI	**Bandanaira**	**8.23**	**265**	P		**Pn**	**21 33 13.0**	**+0.5**
	330nm,1.0s							
MSAI	**Masohi**	**9.21**	**273**	P		**Pn**	**21 33 26.6**	**+0.9**
	787nm16nm,0.8s							
MANU	**Manus Island**	**9.40**	**79**			**Pn**	**21 33 28.2**	**-0.2**
AAI	**Ambon**	**9.92**	**271**	P		**Pn**	**21 33 35.6**	**+0.1**
	1μm112nm,0.9s							
KDU	**Kakatsu**	**10.37**	**212**	P		**Pn**	**21 33 41.4**	**-0.2**
	129nm,0.8s							
PMG	**Port Moresby**	**10.50**	**122**	Pn		**Pn**	**21 33 43.6**	**+0.3**
LBMI	**Labuha**	**11.11**	**287**	P		**Pn**	**21 33 53.1**	**+1.5**
	1μm226nm,0.9s							
COEN	**Coen**	**11.16**	**154**	Pn		**Pn**	**21 33 52.0**	**-0.4**
COEN	**Coen**	**11.16**	**154**	P		**Pn**	**21 33 52.4**	**0.0**
	63nm,1.1s							
MTN	**Manton Dam**	**11.27**	**217**	Pn		**Pn**	**21 33 52.8**	**-0.9**
MTN	**Manton Dam**	**11.27**	**217**	P		**Pn**	**21 33 53.8**	**+0.1**
	97nm,0.5s							
SANI	**Sanana**	**12.27**	**278**	P		**Pn**	**21 34 05.9**	**-1.2**
	722nm93nm,0.8s							
RABL	**Rabaul**	**14.00**	**92**			**Pn**	**21 34 30.4**	**+0.6**
RABL	**Rabaul**	**14.00**	**92**	P		**P**	**21 34 32.9**	**-1.6**
	156nm,0.9s							
KNRA	**Kununurra**	**14.90**	**218**			**Pn**	**21 34 40.5**	**-0.9**
KNRA	**Kununurra**	**14.90**	**218**	P		**Pn**	**21 34 41.0**	**-0.3**
	105nm,0.6s							
SOEI	**Soe**	**14.94**	**246**			**Pn**	**21 34 42.6**	**+0.6**
MTSU	**Mount Surprise**	**15.39**	**157**	P		**P**	**21 34 49.4**	**-0.5**
	40nm,0.8s							
LUWI	**Luwuk**	**15.61**	**280**	Pn		**Pn**	**21 34 48.1**	**-2.2**
BATI	**Baumata**	**15.66**	**246**	P		**Pn**	**21 34 52.3**	**+1.3**
	7.3nm,0.3s,baz=113,slow=3.3,SNR=9.7							
BATI				S		**Sn**	**21 37 42.0**	**-2.4**
	4.0nm,0.3s,baz=86,slow=19,SNR=3.7							
BATI				LR		LR	21 41 40.2	
	comp=Z,212nm,18.7s,baz=104,slow=40							
WB0	**Warramunga Arr**	**16.19**	**193**			**Pn**	**21 34 56.6**	**-0.9**
WB0					IAmb	IAmb	21 35 22.0	
	comp=Z,47nm,0.6s							
WRAB	**Tennant Creek**	**16.36**	**193**	P		**Pn**	**21 34 59.8**	**+0.2**
	comp=Z,119nm,0.7s							
WRA	**Warramunga Arr**	**16.37**	**193**	P		**Pn**	**21 34 59.5**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=16,slow=13,SNR=72							
WRA				S		**Sn**	**21 37 59.5**	**-1.8**
	comp=Z,3.3nm,0.3s,baz=7.8,slow=19,SNR=6.6							
WRA				LR		LR	21 42 29.2	
	comp=Z,117nm,18.0s,baz=312,slow=41							
WRA	**Warramunga Arr**	**16.37**	**193**			**Pn**	**21 34 58.6**	**-1.1**
MMRI	**Maumere**	**16.48**	**253**	Pn		**Pn**	**21 34 59.0**	**-2.2**
QIS	**Mount Isa**	**16.62**	**175**	P		**Pn**	**21 35 02.8**	**0.0**
	comp=Z,78nm,1.4s							
CTA	**Charters Tower**	**17.93**	**154**	P		**Pn**	**21 35 19.0**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=332,slow=12,SNR=48							
CTA				LR		LR	21 42 54.9	
	comp=Z,196nm,18.1s,baz=317,slow=39							
CTA	**Charters Tower**	**17.93**	**154**	P		**Pn**	**21 35 19.9**	**+1.1**
	comp=Z,140nm,0.9s							
TOLI2	**Tolitoli**	**18.04**	**286**	P		**P**	**21 35 19.0**	**-0.3**
TOLI2					IAmb	IAmb	21 35 26.2	
	comp=Z,51nm,1.3s							
TOLI2	**Tolitoli**	**18.04**	**286**	P		**Pn**	**21 35 20.7**	**+0.6**
	comp=Z,31nm,1.1s							
FITZ	**Fitzroy Crossi**	**18.68**	**220**	P		**Pn**	**21 35 28.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=47,slow=11,SNR=14							
FITZ				S		**S**	**21 38 46.7**	**-7.1**
	comp=Z,4.7nm,0.3s,baz=119,slow=8.5,SNR=5.7							
FITZ				LR		LR	21 43 22.5	
	comp=Z,120nm,18.7s,baz=52,slow=39							
FITZ	**Fitzroy Crossi**	**18.68**	**220**	P		**P**	**21 35 26.3**	**+0.1**
AS31	**Alice Springs**	**20.07**	**191**	P		Pn	21 35 43.2	-0.8
AS31					IAmb	IAmb	21 36 06.8	
	comp=Z,24nm,0.6s							
ASAR	**Alice Springs**	**20.07**	**191**	P		Pn	21 35 43.7	-0.4
	comp=Z,37nm,0.9s,baz=20,slow=11,SNR=174							
ASAR				S		**S**	**21 39 21.4**	**-0.2**
	comp=Z,55nm,1.1s,baz=11,slow=26,SNR=12							
ASAR	**Alice Springs**	**20.07**	**191**	P		**P**	**21 35 42.4**	**+1.0**
PLAI	**Plampang**	**20.81**	**255**	P		**P**	**21 35 50.5**	**+1.1**
	comp=Z,24nm,0.9s							
MYLDM	**Lahad Datu**	**21.59**	**295**	P		**P**	**21 35 56.5**	**-1.2**
MYLDM					IAmb	IAmb	21 36 25.7	
	comp=Z,44nm,1.1s							
HNR	**Honiara**	**22.34**	**105**	P		**P**	**21 36 05.6**	**-0.1**
	comp=Z,43nm,0.4s,baz=140,slow=0.9,SNR=3.8							
HNR	**Honiara**	**22.34**	**105**	P		**P**	**21 36 05.3**	**-0.4**
KKM	**Kota Kinabalu**	**24.01**	**294**	P		**P**	**21 36 21.5**	**-0.2**
KKM					IAmb	IAmb	21 36 26.9	
	comp=Z,40nm,1.2s							
JAGI	**Jajag, Banyuwa**	**24.27**	**258**	P		**P**	**21 36 24.1**	**+0.2**
EIDS	**Eidsvold**	**24.71**	**151**	P		**P**	**21 36 28.3**	**+0.5**
EIDS					IAmb	IAmb	21 36 32.6	
	comp=Z,23nm,1.0s							
PSA00	**Pilbara Seismi**	**24.98**	**224**	P		**P**	**21 36 32.0**	**+1.7**
PSA00					IAmb	IAmb	21 36 59.9	
	comp=Z,17nm,0.8s							
PSA00	**Pilbara Seismi**	**24.98**	**224**	P		**P**	**21 36 31.5**	**+1.2**
PSA00					IAmb	IAmb	21 36 59.9	
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**28.02**	**174**	P		**P**	**21 36 57.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=0.6,slow=14,SNR=3.4							
STKA				LR		LR	21 48 59.8	
	comp=Z,136nm,18.5s,baz=352,slow=38							
STKA	**Stephens Creek**	**28.02**	**174**	P		**P**	**21 36 58.1**	**+0.6**
BBOO	**Buckleboo**	**28.83**	**184**			**P**	**21 37 04.4**	**-0.2**
BBOO					IAmb	IAmb	21 37 31.1	
	comp=Z,16nm,0.9s							
ARMA	**Armidale**	**29.30**	**156**	P		**P**	**21 37 09.8**	**+0.8**
MORW	**Morawa**	**32.66**	**218**	P		**P**	**21 37 40.4**	**+1.9**
TOO	**Toolangi**	**34.19**	**170**	P		**P**	**21 37 53.2**	**+1.6**
JNU	**Nakatsue**	**37.45**	**350**	P		**P**	**21 38 19.0**	**-0.6**
	comp=Z,36nm,0.9s,baz=118,slow=7.1,SNR=6.6							
JNU	**Nakatsue**	**37.45**	**350**	P		**P**	**21 38 19.2**	**-0.4**
JMN	**Monobe**	**37.64**	**354**	P		**P**	**21 38 21.5**	**+0.3**
JHS	**Saijyo**	**38.98**	**353**	P		**P**	**21 38 31.4**	**-1.0**
JYT	**Yasato**	**39.96**	**3**	P		**P**	**21 38 38.7**	**-1.7**
NJ2	**Nanjing**	**40.18**	**334**	*eP*		**P**	**21 38 43.1**	**+0.8**
NJ2					pmax	pmax		
	comp=Z,17nm,0.6s							
MJAR	**Matsushiro Arr**	**40.23**	**0**	P		**P**	**21 38 41.4**	**-1.3**
	comp=Z,4.3nm,0.9s,baz=177,slow=8.8,SNR=6.3							
SRIT	**Nakonsritamara**	**40.38**	**288**	P		**P**	**21 38 43.4**	**-0.8**
SRIT					IAmb	IAmb	21 38 45.8	
	comp=Z,15nm,1.2s							
GSI	**Gunungsitoli**	**40.86**	**276**	P		**P**	**21 38 47.4**	**-0.8**
GSI					IAmb	IAmb	21 38 53.3	
	comp=Z,20nm,1.1s							
KSRS	**Korea Array**	**42.22**	**348**	P		**P**	**21 38 58.9**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=161,slow=8.9,SNR=14							
KSRS				LR		LR	21 54 47.1	
	comp=Z,27nm,21.4s,baz=195,slow=33							
GYA	**Guiyang**	**42.87**	**317**	⇑P		**P**	**21 39 05.3**	**+0.7**
GYA				sP		pP	21 39 34.1	+5.9
GYA				S		**S**	**21 45 25.3**	**+3.3**
GYA				pmax		pmax		
	comp=Z,9.0nm,1.2s							
GYA				pmax		pmax		
	comp=Z,200nm,4.0s							
GYA				LR		LR		
	comp=Z,350nm,4.1s							
GYA				LR		LR		
	comp=Z,290nm,5.0s							
GYA				LR		LR		
	comp=Z,120nm,4.8s							
ENH	**Enshi**	**43.65**	**323**	P		**P**	**21 39 10.2**	**-0.4**
ENH				IAmb		IAmb	21 39 36.5	
	comp=Z,9.6nm,0.8s							
CM31	**Chiang Mai Arr**	**44.54**	**301**	P		**P**	**21 39 18.2**	**+0.3**
CM31				IAmb		IAmb	21 39 19.7	
	comp=Z,10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**44.54**	**301**	P		**P**	**21 39 18.8**	**+0.8**
	comp=Z,10nm,0.9s,baz=126,slow=6.2,SNR=39							
CMAR	**Chiang Mai Arr**	**44.54**	**301**	P		**P**	**21 39 17.9**	**0.0**
JTM	**Tenmabayashi**	**44.55**	**3**	P		**P**	**21 39 17.3**	**-0.3**
CHTO	**Chiang Mai**	**44.70**	**302**	P		**P**	**21 39 18.7**	**-0.5**
CHTO				IAmb		IAmb	21 39 20.6	
	comp=Z,10nm,0.9s							
LYN	**LuoYang**	**45.24**	**330**	⇑P		**P**	**21 39 24.0**	**+0.8**
LYN				pmax		pmax		
	comp=Z,10.0nm,0.9s							
ERM	**Erimo**	**45.92**	**5**	P		**P**	**21 39 29.8**	**+1.4**
PZH	**PanZhiHua**	**46.39**	**313**	P		**P**	**21 39 32.9**	**+0.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,4.5s							
HNS	**HongShan**	**46.51**	**334**	⇓P		**P**	**21 39 33.3**	**+0.2**
HNS				pmax		pmax		
	comp=Z,21nm,1.1s							
XAN	**Xi'an**	**46.73**	**326**	P		**P**	**21 39 34.4**	**-0.6**
XAN				pP		pP	21 40 00.0	+0.8
XAN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
CD2	**Chengdu**	**47.68**	**319**	P		**P**	**21 39 42.9**	**+0.4**
CD2				pmax		pmax		
	comp=Z,20nm,0.9s							
ASAJ	**Asahikawa**	**47.96**	**4**	P		**P**	**21 39 44.3**	**0.0**
	comp=Z,17nm,0.8s,baz=230,slow=12,SNR=10							
JKA	**Kamikawa-asahi**	**47.96**	**4**	P		**P**	**21 39 44.7**	**+0.4**
BJT	**Baijiatuau**	**48.14**	**337**	P		**P**	**21 39 45.6**	**-0.2**
BJT				IAmb		IAmb	21 39 47.8	
	comp=Z,18nm,1.3s							
BJI	**Beijing**	**48.15**	**337**	P		**P**	**21 39 46.4**	**+0.6**
BJI				sP		**pP**	**21 40 13.3**	**+3.4**
BJI				PcP		**PcP**	**21 41 13.4**	**+1.6**
BJI				PP		**PP**	**21 41 38.1**	**-1.0**
BJI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
USA0B	**Ussuriysk Arra**	**48.20**	**354**	P		**P**	**21 39 46.7**	**+0.6**
USA0B				IAmb		IAmb	21 39 52.8	
	comp=Z,6.7nm,0.9s							
USRK	**Ussuriysk Ar.**	**48.20**	**354**	P		**P**	**21 39 46.0**	**-0.1**
	comp=Z,6.2nm,0.7s,baz=183,slow=8.5,SNR=8.8							
USRK	**Ussuriysk Ar.**	**48.20**	**354**	P		**P**	**21 39 46.6**	**+0.6**
CN2	**Changchun**	**48.84**	**348**	*eP*		**P**	**21 39 50.9**	**-0.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
MDJ	**Mudanjiang**	**48.90**	**352**	P		**P**	**21 39 51.5**	**0.0**
MDJ	**Mudanjiang**	**48.90**	**352**	P		**P**	**21 39 51.1**	**-0.4**
MDJ				S		**S**	**21 46 50.4**	**+2.7**
MDJ				pmax		pmax		
	comp=Z,18nm,1.0s							
MDJ				LR		LR		
	comp=Z,200nm,6.7s							
MDJ				LR		LR		
	comp=Z,92nm,6.7s							
MDJ				LR		LR		
	comp=Z,160nm,6.6s							
RPZ	**Rata Peaks**	**49.17**	**149**	LR		LR	21 59 22.8	
	comp=Z,98nm,18.1s,baz=279,slow=34							
BNX	**BinXian**	**50.33**	**350**	⇓P		**P**	**21 40 02.1**	**-0.2**
BNX				pmax		pmax		
	comp=Z,46nm,1.1s							
BNX				pmax		pmax		
	comp=Z,160n

comp=Z,15nm,21.1s,baz=126,slow=34
MA2 Magadan 64.06 7 P **P** **21 41 39.1 +0.3**
WMQ Urumqi 65.58 322 *eP* **P** **21 41 49.9 +0.8**
WMQ pP pP 21 42 12.3 -2.5
WMQ pmax pmax
comp=Z,11nm,0.9s
YAK Yakutsk 66.06 356 LR LR 22 07 37.4
comp=Z,27nm,21.6s,baz=102,slow=33
YAK Yakutsk 66.06 356 P **P** **21 41 51.8 +0.2**
KIWB Kanaga Island 67.24 28 P **P** **21 42 00.1 +0.7**
MK31 Makanchi Array 70.38 323 P **P** **21 42 18.9 -0.1**
MKAR Makanchi Array 70.38 323 P **P** **21 42 19.0 0.0**
comp=Z,4.4nm,0.8s,baz=112,slow=8.0,SNR=42
MKAR pP **pP** **21 42 45.7 +0.6**
comp=Z,1.8nm,0.6s,baz=121,slow=6.4,SNR=5.0
MKAR Makanchi Array 70.38 323 P **P** **21 42 18.9 0.0**
MAKZ Makanchi 70.57 323 P **P** **21 42 20.1 -0.1**
MAKZ IAmb IAmb 21 42 20.9
comp=Z,6.7nm,0.7s
TARG Taragay, Kyrgy 71.04 317 P **P** **21 42 23.6 0.0**
KSH Kashi 71.48 314 P **P** **21 42 27.0 +1.0**
KSH pP PcP 21 42 47.9 +3.0
KSH pmax pmax
comp=Z,6.0nm,1.1s
NIL Nilore 71.58 307 P **P** **21 42 25.6 -0.9**
NIL IAmb IAmb 21 42 27.5
comp=Z,14nm,0.9s
KDJ Kajisay 71.63 317 P **P** **21 42 26.8 0.0**
KDJ IAmb IAmb 21 42 28.5
comp=Z,6.5nm,0.9s
BOOM Boomskoye usch 72.61 317 P **P** **21 42 32.7 -0.1**
ZAA0 Zalesovo Array 72.67 330 P **P** **21 42 32.0 -0.5**
ZAA0 IAmb IAmb 21 42 33.0
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 72.67 330 P **P** **21 42 31.9 -0.6**
comp=Z,4.4nm,0.6s,baz=118,slow=5.9,SNR=22
ZALV Zalesovo Beam 72.67 330 P **P** **21 42 31.7 -0.8**
AAK Ala-Archa 73.66 316 P **P** **21 42 38.6 -0.3**
KURK Kurchatov 74.36 325 P **P** **21 42 42.4 -0.1**
KURK IAmb IAmb 21 42 43.7
comp=Z,11nm,1.3s
DRK Karamyk 74.50 313 P **P** **21 42 43.6 -0.4**
VNDA Vanda 74.66 175 P **P** **21 42 43.6 -0.2**
comp=Z,0.5nm,0.5s,baz=333,slow=7.9,SNR=2.0
VNDA pP **pP** **21 43 10.3 +0.5**
comp=Z,2.0nm,0.6s,baz=322,slow=6.7,SNR=7.2
VNDA Vanda 74.66 175 P **P** **21 42 44.0 +0.2**
KBL Kabul 75.18 307 P **P** **21 42 47.1 -0.8**
BTK Batken 75.40 313 P **P** **21 42 48.4 -0.5**
GAR Garm 75.45 312 P **P** **21 42 48.5 -0.7**
GAR IAmb IAmb 21 42 50.3
comp=Z,15nm,1.1s
TIXI Tiksi 75.65 357 P **P** **21 42 48.4 -1.1**
TIXI IAmb IAmb 21 42 51.3
comp=Z,7.8nm,1.1s
CHGR Chuyangaron 76.22 311 P **P** **21 42 52.8 -0.8**
CHGR IAmb IAmb 21 42 53.9
comp=Z,8.2nm,0.8s
KKAR Karatay Array 76.57 316 P **P** **21 42 54.9 -0.5**
BRVK Borovoye 80.03 325 P **P** **21 43 14.2 0.0**
BRVK IAmb IAmb 21 43 15.4
comp=Z,10nm,0.9s
HRA Herat 80.61 306 P **P** **21 43 17.1 -0.9**
WSAR Wadi Sarin 81.91 294 LR LR 22 25 48.3
comp=Z,18nm,18.1s,baz=178,slow=40
RDOG Red Dog Mine 82.48 19 P **P** **21 43 27.3 +0.4**
RDOG IAmb IAmb 21 43 28.9
comp=Z,6.2nm,0.8s
TTA Tatalina 82.72 25 P **P** **21 43 28.8 +0.5**
L19K White Mountain 82.92 26 P **P** **21 43 29.4 +0.1**
L19K IAmb IAmb 21 43 31.5
comp=Z,11nm,1.1s
K20K Telida 83.70 25 P **P** **21 43 33.9 +0.7**
K20K IAmb IAmb 21 43 37.1
comp=Z,9.7nm,1.2s
J20K Nowinta River 83.97 24 P **P** **21 43 35.2 +0.6**
J20K IAmb IAmb 21 43 37.7
comp=Z,14nm,1.1s
GEYT Alibeck 84.52 309 P **P** **21 43 38.7 +0.7**
comp=Z,2.2nm,0.8s,baz=110,slow=6.5,SNR=3.6
GEYT Alibeck 84.52 309 P **P** **21 43 38.2 +0.2**
KTH Kantishna Hill 85.09 25 P **P** **21 43 40.1 -0.2**
KTH IAmb IAmb 21 43 40.2
comp=Z,16nm,1.4s
ABKAR Akbulak array 85.25 320 P **P** **21 43 40.8 -0.6**
ABKAR Akbulak array 85.25 320 P **P** **21 43 40.4 -0.9**
MLY Manley 85.65 24 P **P** **21 43 43.7 +0.6**
RND Reindeer 85.93 26 P **P** **21 43 44.3 -0.2**
RND IAmb IAmb 21 43 45.1
comp=Z,9.3nm,0.8s
QSPA South Pole Qui 86.06 180 P **P** **21 43 45.4 +0.2**
I23K Minto, Yukon-K 86.24 24 P **P** **21 43 46.3 +0.4**
I23K IAmb IAmb 21 43 47.1
comp=Z,8.8nm,1.2s
WRH Wood River Hil 86.56 25 P **P** **21 43 47.2 -0.2**
WRH IAmb IAmb 21 43 49.1
comp=Z,12nm,1.4s
AKTO Aktyubinsk 86.70 321 LR LR 22 24 57.7
comp=Z,16nm,20.0s,baz=15,slow=37
H24K Noodor Dome 87.03 23 P **P** **21 43 50.4 +0.5**
IL31 87.14 24 P **P** **21 43 49.4 -0.8**
IL31 IAmb IAmb 21 43 50.3
comp=Z,8.4nm,1.1s
ILAR Eielson Array 87.14 24 P **P** **21 43 49.2 -1.1**
comp=Z,4.5nm,1.0s,baz=264,slow=4.6,SNR=27
ILAR pP **pP** **21 44 17.5 +0.2**
comp=Z,0.8nm,0.8s,baz=267,slow=4.4,SNR=2.3
ILAR Eielson Array 87.14 24 P **P** **21 43 49.6 -0.7**
TOLK Toolik Lake Re 87.23 20 P **P** **21 43 51.5 +0.8**
TOLK IAmb IAmb 21 43 53.2
comp=Z,8.4nm,1.1s
ARU Arti 87.47 327 P **P** **21 43 50.7 -1.3**
ARU IAmb IAmb 21 43 51.8
comp=Z,13nm,1.5s
J25K Salcha River, 87.73 25 P **P** **21 43 52.4 -0.8**
J25K IAmb IAmb 21 43 54.3
comp=Z,13nm,1.2s
FYU Fort Yukon 88.26 23 P **P** **21 43 56.9 +1.4**
BMAR Burnt Mountain 88.71 22 P **P** **21 43 58.9 +1.1**
M27K Edge Creek, AK 88.79 27 P **P** **21 43 59.3 +0.9**
M27K IAmb IAmb 21 44 24.7
comp=Z,8.6nm,1.4s
BCAR Beaver Creek A 88.96 27 P **P** **21 43 59.9 +0.9**
KLMR Klimovskoe 97.59 331 *eP* **P** **21 44 35.8 -2.8**
KLMR AMP 21 44 40.2
comp=Z,7.0nm,1.0s
YKA Yellowknife Ar 101.38 27 PP PKiKP 21 49 04.7 -15
comp=Z,0.3nm,0.9s,baz=280,slow=6.7,SNR=4.5
ARCES ARCESS Array B 101.43 341 P **Pdif** **21 44 54.9 -0.8**
comp=Z,9.1nm,1.2s,baz=64,slow=5.5,SNR=3.9
TORD Torodi Ar. Bea 136.02 285 PKP **PKPdf** **21 50 25.5 -0.7**
comp=Z,1.1nm,0.7s,baz=90,slow=1.4,SNR=5.7
LPAZ La Paz 147.19 128 PKPbc **PKPab** **21 50 51.0 0.0**
comp=Z,0.9nm,0.7s,baz=148,slow=7.1,SNR=4.0

*IDC **23** 22:26:07.5±0.7, 52.°54S×26.°97E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/30, mbtmp4.3/13, MS3.5/9, Ms1 3.5/9, ms1mx3.2/56, Error ellipse: s-maj=32.3km s-min=13.6km az=77.0*
*NEIC **23** 22:26:09.2±0.8, 52.°60S±0.°05×26.°8E±0.°3, h10km±1km, mb4.5/17, Error ellipse: s-maj=29.5km s-min=5.6km az=280.0*
ISC 23 22:26:08.9±0.6, 52.°56S±0.°09×26.°9E±0.°2, h10km, n37, σ0s58/34, mb4.4/16, MS3.5/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.64**	**345**	P	**P**	**22 30 49.7**	**+0.9**
SUR	11nm,0.8s,baz=160,slow=12,SNR=6.3			LR	LR	22 37 09.2	
	comp=Z,144nm,19.6s,baz=164,slow=32						
SUR	**Sutherland**	**20.64**	**345**	P	**P**	**22 30 49.4**	**+0.6**
MAW	**Mawson**	**22.94**	**145**	P	**P**	**22 31 13.0**	**+0.1**
	6.4nm,0.8s,baz=309,slow=9.1,SNR=4.2						
MAW	**Mawson**	**22.94**	**145**	P	**P**	**22 31 13.5**	**+0.7**
SNAA	**Sanae**	**23.21**	**203**	P	**P**	**22 31 16.7**	**+1.0**
	6.7nm,1.1s,baz=42,slow=8.0,SNR=3.9						
SNAA	**Sanae**	**23.21**	**203**	P	**P**	**22 31 15.2**	**-0.5**
SNAA				IAmb	IAmb	22 31 19.4	
	comp=Z,9.3nm,1.1s						
BOSA	**Boshof**	**23.95**	**356**	P	**P**	**22 31 23.2**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=182,slow=9.8,SNR=6.1						
BOSA				LR	LR	22 39 34.1	
	comp=Z,99nm,18.6s,baz=186,slow=34						
BOSA	**Boshof**	**23.95**	**356**	P	**P**	**22 31 23.3**	**-0.1**
LBTB	**Lobatse**	**27.52**	**357**	P	**P**	**22 31 55.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=181,slow=16,SNR=2.0						
LBTB				LR	LR	22 41 59.8	
	comp=Z,78nm,18.4s,baz=181,slow=35						
LBTB	**Lobatse**	**27.52**	**357**	P	**P**	**22 31 55.6**	**-0.1**
LBTB				IAmb	IAmb	22 32 21.9	
	comp=Z,12nm,1.4s						
BELA	**Belgrano 2**	**33.32**	**200**	P	**P**	**22 32 46.3**	**0.0**
TSUM	**Tsumeb**	**34.08**	**344**	P	**P**	**22 32 54.2**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=180,slow=3.9,SNR=2.2						
TSUM				LR	LR	22 45 20.8	
	comp=Z,50nm,19.1s,baz=158,slow=34						
TSUM	**Tsumeb**	**34.08**	**344**	P	**P**	**22 32 54.6**	**+1.1**
TSUM				IAmb	IAmb	22 33 05.2	
	comp=Z,12nm,1.4s						
LSZ	**Lusaka**	**37.21**	**2**	P	**P**	**22 33 19.6**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=197,slow=8.1,SNR=7.8						
LSZ				LR	LR	22 46 33.7	
	comp=Z,83nm,21.3s,baz=160,slow=33						
QSPA	**South Pole Qui**	**37.66**	**180**	P	**P**	**22 33 24.3**	**+0.3**
	comp=Z,18nm,0.9s,baz=251,slow=2.1,SNR=34						
QSPA				LR	LR	22 49 21.7	
	comp=Z,86nm,18.8s,baz=222,slow=37						
QSPA	**South Pole Qui**	**37.66**	**180**	P	**P**	**22 33 23.2**	**-0.8**
VNDA	**Vanda**	**47.22**	**168**	P	**P**	**22 34 41.1**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=238,slow=7.1,SNR=11						
VNDA	**Vanda**	**47.22**	**168**	P	**P**	**22 34 40.8**	**-0.5**
VNDA				IAmb	IAmb	22 34 42.2	
	comp=Z,3.1nm,0.8s						
SBA	**Scott Base**	**47.53**	**169**	P	**P**	**22 34 44.1**	**+0.4**
SBA				IAmb	IAmb	22 34 45.9	
	comp=Z,4.8nm,0.9s						
MBAR	**Mbarara**	**51.88**	**5**	LR	LR	22 56 58.9	
	comp=Z,47nm,18.4s,baz=162,slow=36						
KMBO	**Kilima Mbogo**	**51.98**	**13**	LR	LR	22 55 35.6	
	comp=Z,53nm,18.6s,baz=94,slow=34						
ATD	**Arta Tunnel**	**65.29**	**17**	LR	LR	23 02 37.1	
	comp=Z,28nm,20.2s,baz=142,slow=34						
TOA0	**Torodi Ar. Sit**	**68.95**	**334**	P	**P**	**22 37 13.4**	**-0.7**
TOA0				IAmb	IAmb	22 37 33.3	
	comp=Z,5.5nm,1.3s						
TORD	**Torodi Ar. Bea**	**68.95**	**334**	P	**P**	**22 37 14.5**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=164,slow=7.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**68.95**	**334**	P	**P**	**22 37 14.0**	**-0.1**
TORD				IAmb	IAmb	22 37 33.3	
	comp=Z,3.0nm,1.2s						
STKA	**Stephens Creek**	**78.51**	**128**	P	**P**	**22 38 10.3**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=243,slow=5.2,SNR=5.0						
FITZ	**Fitzroy Crossi**	**81.01**	**108**	P	**P**	**22 38 24.4**	**+0.5**
FITZ				IAmb	IAmb	22 38 28.7	
	comp=Z,7.0nm,1.4s						
ASAR	**Alice Springs**	**81.23**	**117**	P	**P**	**22 38 25.6**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=212,slow=4.7,SNR=44						
ASAR	**Alice Springs**	**81.23**	**117**	P	**P**	**22 38 25.4**	**+0.2**
AS31	**Alice Springs**	**81.23**	**117**	P	**P**	**22 38 25.5**	**+0.3**
WRA	**Warramunga Arr**	**84.47**	**116**	P	**P**	**22 38 41.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=211,slow=3.8,SNR=22						
WRA	**Warramunga Arr**	**84.47**	**116**	P	**P**	**22 38 41.9**	**-0.1**
WB2	**Warramunga Arr**	**84.47**	**116**	P	**P**	**22 38 41.9**	**-0.1**
WB2				IAmb	IAmb	22 38 45.0	
	comp=Z,3.7nm,0.8s						
WR0	**Warramunga Arr**	**84.56**	**116**	P	**P**	**22 38 42.3**	**-0.1**
PDAR	**Pinedale Array**	**149.51**	**269**	PKPbc	**PKPbc**	**22 45 57.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=6.4						
PDAR	**Pinedale Array**	**149.51**	**269**		**PKPbc**	**22 45 56.7**	**-1.3**
NVAR	**Mina Array Bea**	**152.13**	**253**	PKPbc	**PKPbc**	**22 46 04.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=130,slow=3.5,SNR=4.8						

IDC 23 22:53:40.2±1.7, 3.°53S×129.°26E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.2/34, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=45.7km s-min=24.9km az=96.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.32**	**37**	Pn	Pn	22 54 32.7	-0.7
	4.4nm,0.3s,baz=238,slow=23,SNR=7.9						
SIJI				Sn	Sn	22 55 16.6	+3.0
	2.4nm,0.3s,baz=120,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**17.05**	**164**	P	P	22 57 41.2	-0.9
	0.1nm,0.3s,baz=347,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**20.52**	**168**	P	P	22 58 19.9	-0.3
	1.4nm,0.7s,baz=349,slow=12,SNR=12						
MKAR	**Makanchi Array**	**64.94**	**326**	P	P	23 04 21.8	+0.1
	0.2nm,0.5s,baz=116,slow=8.5,SNR=2.5						

*ECX **23** 23:22:03.5±0.5, 32.°23N×115.°25W, h16km±1km, MD2.8, ML3.0*
*MEX **23** 23:22:05.2±0.4, 32.°33N×115.°08W, h30km±4km, MD3.7*
ISC 23 23:22:04.1±0.9, 32.°25N±0.°03×115.°21W±0.°03, h28km±6km, n21, σ0s54/36, 8C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUVIX	**Guadalupe Vict**	**0.13**	**66**	⇑*eP*	**Pb**	**23 22 09.0**	**-0.4**
GUVIX				*eS*	**Sb**	23 22 12.8	-0.2
MBIG	**Mexicali**	**0.16**	**4**	*iP*	**Pb**	23 22 09.4	-0.3
MBIG				*eP*	**Pn**	23 22 09.5	-1.1
MBIG				*iS*	**Sb**	23 22 12.9	-0.6
MBIG				*iS*		23 22 13.8	
MBIG	**Mexicali**	**0.16**	**4**	⇓*iP*	**Pb**	**23 22 09.7**	**0.0**
MBIG				*eS*	**Sb**	**23 22 13.8**	**+0.3**
CPBX	**Cerro Prieto**	**0.19**	**335**	*eP*	**Pb**	23 22 09.3	-0.7
CPBX				*eS*	**Sb**	**23 22 14.2**	**+0.2**
CPBX				IAML		23 22 16.6	
	comp=N,8μm,0.2s						
CPBX				*e*		23 22 16.6	
RITX	**Riito Sonora**	**0.23**	**112**	⇑*iP*	**Pb**	**23 22 10.7**	**+0.2**
RITX				*iS*	**Sb**	23 22 15.3	+0.5
CTLX	**Tlaxcala, TLX**	**0.23**	**14**	⇓*iP*	**Pn**	23 22 10.8	-0.9
CTLX				*eS*	**Sb**	23 22 15.8	+1.0
SLRCX	**San Luis Rio C**	**0.48**	**64**	*eP*	**Pn**	23 22 14.9	-0.1
SLRCX				*eS*	**Sn**	**23 22 22.8**	**+0.4**
SLRCX				IAML		23 22 23.8	
	comp=E,830nm,0.4s						
SLRCX				⇑*e*		23 22 23.8	
SLRCX				IAML		23 22 24.0	
	comp=N,1μm,0.5s						
SLRCX				⇓*e*		23 22 24.0	
ALAMX	**Rancho Alamar**	**0.49**	**240**	*iP*	**Pb**	23 22 13.5	-0.7
ALAMX				*eS*	**Sb**	**23 22 21.2**	**0.0**
EMSC	**East Mesa**	**0.52**	**21**	*eP*	**Pn**	23 22 15.6	-0.1
CEA0	**Mexicali**	**0.56**	**316**	*eP*	**Pb**	23 22 15.5	+0.1
CEA0				*iS*	**Sb**	23 22 23.9	+0.8
SGL	**Mount Signal**	**0.59**	**313**	*iP*	**Pb**	23 22 16.0	+0.1
SGL				*eS*	**Sb**	23 22 24.2	+0.2
COA	**Coachella**	**0.61**	**7**	*eP*	**Pn**	23 22 16.9	-0.1
YMD	**Yuma Desert**	**0.64**	**62**	*eP*	**Pn**	23 22 17.2	0.0
YUH2	**Yuha Desert**	**0.72**	**304**	*iP*	**Pb**	23 22 17.9	-0.2
COK2	**Cook Ranch 2**	**0.74**	**324**	*eP*	**Pb**	23 22 18.1	-0.3
ECBX	**El Chinero**	**0.79**	**170**	*eP*	**Pb**	23 22 18.5	-0.7
ECBX				*eS*	**Sb**	23 22 29.7	+0.1
RMX	**La Rumorosa**	**0.81**	**296**	⇑*iP*	**Pb**	23 22 18.5	-1.3
IKP	**In-Ko-Pah, Jac**	**0.86**	**298**	⇑*iP*	**Pb**	23 22 20.3	-0.1
SPIG	**San Pedro Mart**	**1.22**	**190**	*iP*	**Pn**	23 22 25.6	0.0
SPIG				*iS*	**Sn**	23 22 41.8	+0.5
CBX	**Cerro Bola**	**1.23**	**273**	*iP*	**Pn**	23 22 26.0	+0.4
CBX				*iS*	**Sn**	23 22 41.9	+0.6
TJIG	**Tijuana**	**1.25**	**279**	*eP*	**Pn**	23 22 25.9	+0.2
TJIG				*iS*	**Sn**	23 22 42.0	+0.3

*IDC **23** 23:32:21.5±1.7, 8.°44N×71.°37W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/40, mbtmp3.5/2, Error ellipse: s-maj=70.0km s-min=49.8km az=27.0*
*FUNV **23** 23:32:24.8, 8.°49N×71.°44W, h5km, MW3.7*
ISC 23 23:32:23.2±1.2, 8.°49N±0.°03×71.°35W±0.°02, h7km±9km, n28, σ1s66/49, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.53**	**113**	*eP*	**Pg**	**23 32 34.0**	**+0.6**
SOCV				*eS*	**Sg**	**23 32 40.4**	**+0.1**
SDV	**Santo Domingo**	**0.81**	**61**	LR	LR	23 33 11.7	
	comp=Z,46nm,19.5s,baz=192,slow=59						
SDV	**Santo Domingo**	**0.81**	**61**	*eP*	**Pg**	**23 32 38.7**	**0.0**
SDV				*eS*	**Sg**	**23 32 49.5**	**+0.2**
CAPV	**Capacho**	**1.14**	**237**	*eP*	**Pb**	23 32 44.6	-0.7
CAPV				*eS*	**Sb**	**23 32 59.6**	**-0.8**
PAMC	**Pamplona, Colo**	**1.76**	**230**	*eP*	**Pg**	**23 32 57.1**	**+0.1**
PAMC				*eS*	**Sg**	**23 33 21.9**	**+2.1**
MCQV	**Machiques**	**1.94**	**323**	*eP*	**Pn**	**23 32 57.1**	**+0.5**
MCQV				*eS*	**Sn**	**23 33 21.5**	**+0.2**
OCAC	**Ocana**	**1.97**	**263**	*eP*	**Pb**	**23 32 58.0**	**-1.4**
OCAC				*eS*	**Sb**	**23 33 23.6**	**-0.6**
CURV	**Curarigua**	**2.04**	**42**	*eS*	**Sn**	**23 33 26.2**	**+2.3**
SANV	**Sanarito**	**2.05**	**61**	*eP*	**Pn**	23 33 00.6	+2.4
SANV				*eS*	**Sn**	**23 33 26.9**	**+2.6**
TAMC	**Tame, Arauca**	**2.09**	**192**	*eP*	**Pb**	23 33 01.3	-0.1
TAMC				*eS*	**Sg**	**23 33 31.1**	**+0.8**
ELOV	**Elorza**	**2.37**	**129**	*eP*	**Pn**	23 33 04.3	+1.9
ELOV				*eS*	**Sn**	**23 33 33.7**	**+1.9**
DABV	**Dabajuro**	**2.52**	**16**	*eP*	**Pn**	23 33 05.9	+1.3
DABV				*eS*	**Sn**	**23 33 36.3**	**+0.8**
BARC	**Barichara**	**2.62**	**224**	*eP*	**Pg**	23 33 12.0	-1.4
BARC				*eS*	**Sb**	**23 33 43.5**	**+0.4**
SIQV	**Siquisique**	**2.63**	**35**	*eP*	**Pn**	**23 33 07.7**	**+1.5**
SIQV				*eS*	**Sn**	**23 33 39.7**	**+1.3**
RUSC	**La Rusia**	**3.10**	**214**	*eP*	**Pn**	**23 33 15.5**	**+2.5**
RUSC				*eS*	**Sb**	**23 33 53.7**	**-3.5**
MAPV	**Macapo**	**3.15**	**65**	*eP*	**Pn**	**23 33 15.6**	**+2.3**
MAPV				*eS*	**Sn**	**23 33 52.5**	**+1.3**
ZARC	**Zaragoza, Cauc**	**3.61**	**254**	*eP*	**Pn**	**23 33 20.8**	**+1.2**
ZARC				*eS*	**Sn**	**23 34 03.3**	**+0.7**
PTBC	**PUERTO BERRIO,**	**3.64**	**238**	*eP*	**Pn**	**23 33 20.2**	**+0.3**
PTBC				*eS*	**Sn**	**23 34 02.3**	**-0.9**
SPBC	**San Pablo de B**	**3.91**	**224**	*eP*	**Pn**	**23 33 26.1**	**+2.4**
BENV	**Beln**	**3.98**	**68**	*eP*	**Pn**	**23 33 26.6**	**+1.9**
BENV				*eS*	**Sn**	**23 34 11.6**	**-0.2**
UREC	**San Jos de Ur**	**4.21**	**260**	*eP*	**Pn**	**23 33 29.8**	**+2.0**
UREC				*eS*	**Sn**	**23 34 20.0**	**+2.8**
CHIC	**Chingaza**	**4.51**	**212**	*eP*	**Pn**	**23 33 34.6**	**+2.3**
CHIC				*eS*	**Sn**	**23 34 26.4**	**+1.2**
PAYV	**Puerto Ayacuch**	**4.77**	**130**	*eP*	**Pn**	**23 33 36.7**	**+1.2**
PAYV				*eS*	**Sn**	**23 34 30.1**	**-1.0**
CACV	**CAICARA DEL OR**	**4.85**	**101**	*eP*	**Pb**	**23 33 45.5**	**-3.1**
CACV				*eS*	**Sb**	**23 34 45.3**	**-1.9**
BIRV	**Birongo**	**5.38**	**68**	*eP*	**Pn**	**23 33 45.9**	**+1.8**
BIRV				*eS*	**Sn**	**23 34 44.1**	**-2.2**
YKA	**Yellowknife Ar**	**62.33**	**339**	P	**P**	**23 42 45.8**	**-0.3**
	0.2nm,0.5s,baz=125,slow=7.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**71.69**	**79**	P	**P**	**23 43 46.2**	**-0.3**
	0.8nm,0.9s,baz=282,slow=7.2,SNR=3.4						
WRA	**Warramunga Arr**	**152.67**	**243**	PKPbc	**PKPbc**	**23 52 20.9**	**-0.8**
	0.2nm,0.4s,baz=108,slow=2.4,SNR=5.3						

*MDD **23** 23:39:22.2±1.4, 36.°07N×9.°81W, h0km±14km, mb_Lg2.6/5, Error ellipse: s-maj=19.5km s-min=13.5km az=69.0*
*IGIL **23** 23:39:23.0, 35.°98N×9.°87W, h10km, ML1.6*
*INMG **23** 23:39:23.4±1.1, 36.°02N×9.°86W, h10km, ML1.9, Error ellipse: s-maj=6.3km s-min=4.9km az=88.0*
*CNRM **23** 23:39:27.4, 35.°85N×8.°93W, h0km*
ISC 23 23:39:18.8±3.0, 35.°88N±0.°06×9.°9W±0.°1, h13km±16km, n26, σ1s55/44, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.51**	**34**	*eP*	**Pn**	**23 39 46.9**	**+1.4**
PFVI				*eS*	**Sg**	**23 40 04.7**	**-2.7**
PFVI				A	A	23 40 09.1	
	10nm,0.5s						
MORF	**Marmelete**	**1.73**	**35**	*eP*	**Pn**	**23 39 50.2**	**+1.6**
MORF				*eS*	**Sn**	**23 40 10.2**	**-0.4**
MORF				IAML		23 40 10.5	
	comp=E,5.9nm,0.1s						
MORF	**Marmelete**	**1.73**	**35**	⇓*eP*	**Pn**	**23 39 50.2**	**+1.6**
MORF				*eS*	**Sn**	**23 40 09.8**	**-0.8**
MORF				A	A	23 40 11.7	
	comp=E,12nm,0.1s						
PTEO	**Sao Teotonio**	**1.90**	**29**	*e*Pn	**Pn**	**23 39 52.4**	**+1.5**
PTEO				*e*Sn	**Sn**	**23 40 14.3**	**-0.4**
PTEO				A	A	23 40 26.9	
	comp=E,7.7nm,0.9s						
PBDV	**Barranco-do-Ve**	**2.07**	**49**	*e*Pn	**Pn**	**23 39 55.3**	**+2.0**
PBDV				*e*Sn	**Sn**	**23 40 18.6**	**-0.4**
PBDV				A	A	23 40 31.0	
	comp=E,4.5nm,0.6s						
PCVE	**Castro Verde**	**2.29**	**40**	*e*Pn	**Pn**	**23 39 58.3**	**+2.1**
PCVE				*e*Sn	**Sn**	**23 40 24.2**	**0.0**
PCVE				A	A	23 40 26.8	
	comp=E,2.4nm,0.4s						
PVAQ	**Vaqueiros**	**2.31**	**48**	*e*Pn	**Pn**	**23 39 58.4**	**+1.9**
PVAQ				*e*Sn	**Sn**	**23 40 24.1**	**-0.6**
PVAQ				A	A	23 40 25.4	
	comp=E,3.3nm,0.4s						
PVAQ	**Vaqueiros**	**2.31**	**48**	P	**Pb**	**23 40 01.6**	**+1.3**
PVAQ				S	**Sn**	**23 40 24.5**	**-0.3**
PNCL	**Nicolau / Gran**	**2.47**	**26**	*e*Pn	**Pn**	**23 40 00.1**	**+1.4**
PNCL				*e*Sn	**Sn**	**23 40 27.8**	**-1.0**
PNCL				A	A	23 40 29.9	
	comp=E,3.2nm,0.3s						
EGRO	**El Granado**	**2.54**	**49**	P	**Pn**	**23 39 59.8**	**+0.2**
EGRO				S	**Sn**	**23 40 29.8**	**-0.5**
EGRO				*i* Vmb_Lg		23 40 33.3	
PBEJ	**Beja**	**2.68**	**36**	*e*Sn	**Sn**	**23 40 32.9**	**-1.0**
PACT	**Alcochete**	**3.00**	**16**	*e*Sn	**Sn**	**23 40 40.8**	**-0.9**
EVO	**Evora**	**3.04**	**29**	*e*Sn	**Sn**	**23 40 41.0**	**-1.7**
PMAFR	**Mafra**	**3.10**	**9**	*e*Pn	**Pn**	**23 40 08.4**	**+1.0**
PMAFR				*e*Sn	**Sn**	**23 40 42.5**	**-1.9**
PMAFR				A	A	23 40 44.5	
	comp=E,16nm,0.2s						
EMIN	**Mina Concepcio**	**3.19**	**53**	S	**Sn**	**23 40 46.5**	**0.0**
EMIN				*i* Vmb_Lg		23 40 55.7	
PBAR	**Barrancos**	**3.23**	**44**	*e*Pn	**Pn**	**23 40 10.7**	**+1.6**
PBAR				*e*Sn	**Sn**	**23 40 46.4**	**-1.0**
PBAR				A	A	23 40 48.5	
	comp=E,2.2nm,0.6s						
PMTG	**Montargil**	**3.44**	**22**	*e*Pn	**Pn**	**23 40 13.3**	**+1.2**
PMTG				*e*Sn	**Sn**	**23 40 50.7**	**-2.0**
PMTG				A	A	23 40 54.0	
	comp=E,3.3nm,0.7s						

AVH	**Avacha**	**1.89**	**9**	P		Pn	23 42 05.2	+2.4
AVH				S		Sn	23 42 29.0	+2.7
SMAR	**Somma**	**1.89**	**10**	P		Pn	23 42 04.8	+1.8
SMAR				S		Sn	23 42 28.0	+1.4
NLC	**Nalytchevo**	**1.90**	**21**	P		Pn	23 42 03.5	+0.8
NLC				S		Sn	23 42 25.7	-0.5
KOK	**Koryaka**	**1.91**	**7**	P		Pn	23 42 05.5	+2.5
KOK				S		Sn	23 42 29.8	+3.1
KRER	**Koryakskii**	**1.93**	**9**	P		Pn	23 42 05.8	+2.4
KRER				S		Sn	23 42 29.5	+2.1
SPN	**Mys Shipunski**	**2.02**	**32**	P		Pn	23 42 06.1	+1.7
SPN				S		Sn	23 42 29.9	+0.8
GNL	**Ganaly**	**2.30**	**356**	P		Pn	23 42 10.2	+2.0
GNL				S		Sn	23 42 37.9	+1.9
TUMD	**Tumrok D**	**4.02**	**18**	P		Pn	23 42 33.2	+2.0
TUMD				S		Sn	23 43 18.3	+1.2
TUMR	**Tumrok**	**4.05**	**16**	P		Pn	23 42 34.3	+2.6
KMNR	**Kamenistaya**	**4.52**	**14**	P		Pn	23 42 40.8	+2.8

*IDC **23** 23:45:07.2±0.7,2°.70N×31°.17W, h0km, mb4.1/13, mb1 4.3/14,mb1mx4.0/42,mbtmp4.1/14,ML3.9/1,MS3.6/27, Ms1 3.6/27,ms1mx3.4/82,Error ellipse: s-maj=22.9km s-min=14.7km az=147.0*

*NEIC **23** 23:45:08.7±1.6,2°.6N±0°.1×31°.21W±0°.04,h10km±1km, mb4.5/21,Error ellipse: s-maj=19.9km s-min=3.8km az=160.0*

ISC 23 23:45:08.2±0.5,2°.63N±0°.08×31°.22W±0°.08,h10km,n90, σ1s37/65,mb4.4/19,MS3.7/27,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.62**	**209**	P	**Pn**	**23 47 26.5**	**-0.4**
	1.1nm,0.3s,baz=161,slow=14,SNR=11						
RCBR				Sn	**Sn**	**23 49 10.4**	**-4.8**
	0.9nm,0.3s,baz=32,slow=13,SNR=2.4						
RCBR	**Riachuelo**	**9.62**	**209**		**Pn**	**23 47 24.8**	**-2.0**
NBCL	**Cascavel-CE**	**9.82**	**226**	eP	**Pn**	**23 47 29.2**	**-0.4**
NBPV	**Pedro Velho**	**9.87**	**204**	eP	**Pn**	**23 47 31.1**	**+0.9**
NBMO	**Morrinhos-CE**	**10.62**	**236**	eP	**Pn**	**23 47 38.6**	**-1.9**
NBPB	**Pedra_Branca-C**	**11.65**	**226**	eP	**Pn**	**23 47 54.7**	**-0.1**
NBRF	**Rio Formoso -**	**11.89**	**199**	eP	**Pn**	**23 47 59.8**	**+1.7**
NBPS	**Pedro II - PI**	**12.38**	**236**	eP	**Pn**	**23 48 04.7**	**0.0**
NBMA	**Muriti-CE**	**12.46**	**217**	eP	**Pn**	**23 48 06.0**	**+0.2**
ROSB	**Rosrio**	**14.02**	**247**	eP	**Pn**	**23 48 26.5**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**17.59**	**254**	eP	**Pn**	**23 49 13.8**	**+0.1**
H10N3	**ASCENSION HYDR**	**19.65**	**122**	T	T	00 10 08.0	
	baz=301,slow=75,SNR=393						
H10N2	**ASCENSION HYDR**	**19.66**	**122**	T	T	00 10 08.4	
	baz=301,slow=75,SNR=362						
H10N1	**ASCENSION HYDR**	**19.67**	**122**	T	T	00 10 09.5	
	baz=301,slow=75,SNR=398						
SMTB	**Santa Maria do**	**19.92**	**235**	eP	**P**	**23 49 41.3**	**+1.0**
H10S3	**ASCENSION HYDR**	**20.12**	**125**	T	T	00 10 41.8	
	baz=301,slow=74,SNR=223						
H10S2	**ASCENSION HYDR**	**20.14**	**125**	T	T	00 10 43.1	
	baz=279,slow=74,SNR=72						
SDBA	**SAO DESIDERIO**	**20.20**	**222**	eP	**P**	**23 49 45.0**	**+1.5**
PRPB	**Parauapebas**	**20.53**	**245**	eP	**P**	**23 49 47.6**	**+0.6**
MCPB	**Macapa, AP**	**21.05**	**262**	eP	**P**	**23 49 53.0**	**+0.4**
MDP	**Montagnes des**	**21.52**	**277**	LR	LR	23 56 39.1	
	comp=Z,82nm,19.5s,baz=94,slow=32						
JANB	**Januaria**	**21.84**	**216**	eP	**P**	**23 50 03.2**	**+2.1**
PEXB	**Peixe**	**22.42**	**229**	eP	**P**	**23 50 08.6**	**+1.3**
SJMB	**Sao Joao De Ma**	**23.36**	**204**	eP	**P**	**23 50 19.9**	**+2.8**
MALB	**Monte Alegre**	**23.47**	**259**	eP	**P**	**23 50 19.2**	**+1.0**
DIAM	**Diamantina, MG**	**24.15**	**210**	eP	**P**	**23 50 27.3**	**+2.4**
BDFB	**Brasilia**	**24.61**	**222**	P	**P**	**23 50 29.8**	**+0.7**
	3.9nm,0.8s,baz=48,slow=10.0,SNR=3.9						
BDFB	**Brasilia**	**24.61**	**222**	P	**P**	**23 50 28.1**	**-1.0**
SNDB	**Serra Nova Dou**	**24.68**	**234**	eP	**P**	**23 50 31.2**	**+1.6**
ITTB	**Itaituba**	**25.47**	**254**	eP	**P**	**23 50 37.2**	**+0.5**
NPGB	**Novo Progresso**	**25.94**	**248**	eP	**P**	**23 50 40.7**	**-0.4**
IPMB	**Ipameri, GO**	**26.46**	**219**	eP	**P**	**23 50 48.1**	**+2.3**
DBIC	**Dimbokro**	**26.57**	**80**	P	**P**	**23 50 46.3**	**-0.4**
	6.7nm,1.0s,baz=278,slow=12,SNR=4.8						
DBIC				LR	LR	23 59 17.4	
	comp=Z,203nm,18.7s,baz=307,slow=32						
DBIC	**Dimbokro**	**26.57**	**80**	P	**P**	**23 50 45.3**	**-1.4**
DBIC				IAmb	IAmb	23 50 49.0	
	comp=Z,10.0nm,1.1s						
BSCB	**Bom Sucesso**	**26.98**	**209**	eP	**P**	**23 50 53.3**	**+2.8**
PDRB	**Porto dos Gac**	**29.05**	**240**	eP	**P**	**23 51 10.4**	**+1.4**
KOWA	**Kowa**	**29.32**	**65**	P	**P**	**23 51 10.9**	**-0.4**
KOWA				IAmb	IAmb	23 51 13.3	
	comp=Z,16nm,1.5s						
PARB	**Paraibuna**	**29.39**	**208**	eP	**P**	**23 51 14.7**	**+2.9**
H05S1	**Guadeloupe/Mar**	**31.50**	**294**	T	T	00 24 15.2	
	SNR=12						
ANWB	**Willy Bob**	**33.51**	**299**	P	**P**	**23 51 47.2**	**-1.0**
TOA0	**Torodi Ar. Sit**	**34.18**	**70**	P	**P**	**23 51 54.4**	**+0.2**
TOA0				IAmb	IAmb	23 51 55.8	
	comp=Z,12nm,1.3s						
TORD	**Torodi Ar. Bea**	**34.18**	**70**	P	**P**	**23 51 53.9**	**-0.3**
	comp=Z,3.7nm,1.0s,baz=266,slow=8.2,SNR=12						
TORD	**Torodi Ar. Bea**	**34.18**	**70**	P	**P**	**23 51 54.0**	**-0.2**
TORD				IAmb	IAmb	23 51 58.6	
	comp=Z,7.3nm,1.2s						
SIV	**San Ignacio**	**34.84**	**237**	P	**P**	**23 52 01.1**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=72,slow=6.8,SNR=7.1						
SIV				LR	LR	00 06 15.8	
	comp=Z,174nm,18.1s,baz=108,slow=36						
ETMB	**Extrema**	**36.99**	**250**	eP	**P**	**23 52 19.6**	**+1.3**
SJG	**San Juan**	**37.53**	**297**	LR	LR	00 04 27.1	
	comp=Z,71nm,19.0s,baz=86,slow=31						
CPUP	**Villa Florida**	**38.29**	**220**	P	**P**	**23 52 31.0**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=40,slow=11,SNR=4.6						
CPUP				LR	LR	00 07 36.5	
	comp=Z,73nm,19.4s,baz=74,slow=35						
CPUP	**Villa Florida**	**38.29**	**220**	P	**P**	**23 52 29.2**	**+0.1**
MDT	**Midelt**	**39.04**	**37**	LR	LR	00 06 38.1	
	comp=Z,116nm,20.5s,baz=219,slow=33						
SDV	**Santo Domingo**	**39.68**	**281**	P	**P**	**23 52 41.8**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=101,slow=9.6,SNR=5.8						
SDV				LR	LR	00 08 53.5	
	comp=Z,45nm,21.7s,baz=80,slow=36						
SDV	**Santo Domingo**	**39.68**	**281**	P	**P**	**23 52 39.5**	**-1.6**
SDV				IAmb	IAmb	23 52 47.3	
	comp=Z,12nm,1.1s						
SDV	**Santo Domingo**	**39.68**	**281**	eP	**P**	**23 52 42.3**	**+1.1**
PLTB	**Pedras Altas**	**40.28**	**210**	P	**P**	**23 52 44.9**	**-0.8**
LPAZ	**La Paz**	**41.03**	**241**	P	**P**	**23 52 54.1**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=69,slow=16,SNR=4.0						
LPAZ				LR	LR	00 09 39.5	
	comp=Z,141nm,19.6s,baz=56,slow=36						
BANI	**BANI**	**41.41**	**295**	P	**P**	**23 52 54.7**	**-0.6**
ROSC	**El Rosal**	**43.06**	**274**	LR	LR	00 10 27.1	
	comp=Z,141nm,20.4s,baz=38,slow=35						
ROSC	**El Rosal**	**43.06**	**274**	P	**P**	**23 53 08.9**	**-0.4**
ROSC				IAmb	IAmb	23 53 11.8	
	comp=Z,21nm,1.1s						
ESDC	**Sonseca Array**	**44.40**	**30**	P	**P**	**23 53 19.3**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=226,slow=8.7,SNR=13						
ESDC				LR	LR	00 09 10.0	
	comp=Z,31nm,19.4s,baz=195,slow=33						
ESDC	**Sonseca Array**	**44.40**	**30**	P	**P**	**23 53 19.2**	**-0.1**
ESBB	**Sonseca Array**	**44.41**	**30**	P	**P**	**23 53 18.5**	**-0.7**
ESBB				IAmb	IAmb	23 53 21.2	
	comp=Z,8.5nm,1.1s						
LVC	**Limon Verde**	**44.52**	**234**	LR	LR	00 11 14.5	
	comp=Z,63nm,19.9s,baz=56,slow=35						
NNA	**Nana**	**47.61**	**251**	LR	LR	00 13 02.8	
	comp=Z,67nm,20.6s,baz=69,slow=35						
AC04	**Llanos de Chal**	**49.05**	**228**	P	**P**	**23 53 56.0**	**+0.2**
LCO	**Las Campanas**	**49.21**	**227**	P	**P**	**23 53 56.8**	**-0.6**
LCO				IAmb	IAmb	23 54 17.0	
	comp=Z,9.2nm,1.1s						
KEST	**Kesra**	**49.91**	**44**	LR	LR	00 16 35.7	
	comp=Z,92nm,18.3s,baz=312,slow=38						
TSUM	**Tsumeb**	**52.63**	**117**	LR	LR	00 13 04.1	
	comp=Z,75nm,18.1s,baz=230,slow=32						
PLCA	**Paso Flores**	**56.12**	**215**	LR	LR	00 16 36.0	
	comp=Z,67nm,19.4s,baz=167,slow=34						
DAVOX	**Davos/Dischmat**	**56.60**	**33**	LR	LR	00 15 43.0	
	comp=Z,19nm,19.9s,baz=276,slow=32						
SCHQ	**Schefferville**	**59.53**	**327**	P	**P**	**23 55 12.3**	**+0.6**
	comp=Z,7.2nm,0.8s,baz=197,slow=4.4,SNR=4.4						
SUR	**Sutherland**	**60.28**	**130**	LR	LR	00 16 24.8	
	comp=Z,52nm,18.1s,baz=194,slow=31						
LSZ	**Lusaka**	**61.40**	**109**	LR	LR	00 17 15.6	
	comp=Z,38nm,20.4s,baz=236,slow=31						
LBTB	**Lobatse**	**61.52**	**120**	LR	LR	00 16 45.9	
	comp=Z,60nm,20.5s,baz=217,slow=31						
LBTB	**Lobatse**	**61.52**	**120**	P	**P**	**23 55 25.8**	**-0.2**
T47A	**Sharon Grove**	**61.58**	**311**	P	**P**	**23 55 26.0**	**-0.1**
WVT	**Waverly**	**61.85**	**310**	P	**P**	**23 55 26.6**	**-1.2**
WVT				IAmb	IAmb	23 55 31.3	
	comp=Z,4.8nm,1.2s						
MBAR	**Mbarara**	**62.02**	**92**	LR	LR	00 19 23.7	
	comp=Z,59nm,19.5s,baz=202,slow=33						
BOSA	**Boshof**	**62.39**	**124**	P	**P**	**23 55 32.7**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=287,slow=6.9,SNR=6.3						
BOSA				LR	LR	00 19 17.1	
	comp=Z,49nm,18.8s,baz=192,slow=33						
BOSA	**Boshof**	**62.39**	**124**	P	**P**	**23 55 30.4**	**-1.4**
NOA	**NORSAR Array B**	**66.50**	**21**	LR	LR	00 21 21.2	
	comp=Z,15nm,19.4s,baz=270,slow=33						
EIL	**Elat**	**68.05**	**59**	LR	LR	00 27 09.8	
	comp=Z,66nm,18.1s,baz=244,slow=37						
BRTR	**Keskin Array B**	**69.12**	**48**	LR	LR	00 26 10.8	
	comp=Z,35nm,21.8s,baz=276,slow=36						
AKASG	**Malin Array Be**	**69.60**	**36**	P	**P**	**23 56 17.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=252,slow=6.4,SNR=4.6						
AKASG	**Malin Array Be**	**69.60**	**36**	P	**P**	**23 56 17.5**	**-0.1**
TXAR	**Lajitas Array**	**73.43**	**300**	P	**P**	**23 56 42.8**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=79,slow=6.6,SNR=3.8						
TXAR	**Lajitas Array**	**73.43**	**300**	P	**P**	**23 56 40.2**	**-1.1**
ATD	**Arta Tunnel**	**73.86**	**79**	LR	LR	00 29 07.8	
	comp=Z,46nm,18.4s,baz=58,slow=36						
GNI	**Garni**	**77.58**	**50**	LR	LR	00 34 04.7	
	comp=Z,23nm,18.6s,baz=268,slow=38						
YKA	**Yellowknife Ar**	**84.62**	**332**	P	**P**	**23 57 40.7**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=96,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**84.62**	**332**	P	**P**	**23 57 41.0**	**-0.7**
WSAR	**Wadi Sarin**	**88.83**	**67**	LR	LR	00 38 57.3	
	comp=Z,56nm,18.1s,baz=248,slow=36						

*IDC **23** 23:56:24.5±1.4,59°.77N×152°.60W,h104km±23km, mb3.6/1, mb1 3.5/4,mb1mx3.0/49,mbtmp3.7/4,Error ellipse: s-maj=32.3km s-min=11.7km az=110.0*

*ANF **23** 23:56:24.6±0.3,59°.80N×153°.03W,h98km±3km,ML3.6/40, Error ellipse: s-maj=2.3km s-min=2.2km az=179.0*

*NEIC **23** 23:56:24.3±1.0,59°.80N±0°.03×153°.09W±0°.07, h106km±5km,Error ellipse: s-maj=5.2km s-min=4.9km az=113.0*

*AEIC **23** 23:56:25±1.0,59°.79N±0°.03×153°.08W±0°.07,h99km±4km, ML3.3,ML3.6/114(NEIC),Error ellipse: s-maj=5.1km s-min=4.6km az=115.0*

ISC 23 23:56:24.1±0.9,59°.79N±0°.03×153°.04W±0°.03, h107km±6km,n213,σ0s74/223,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.17**	**215**		**Pn**	**23 56 39.1**	**0.0**
O20K	**Slope Mountain**	**0.36**	**35**		**Pn**	**23 56 39.9**	**+0.1**
O20K	**Slope Mountain**	**0.36**	**35**	P	**Pn**	**23 56 39.9**	**+0.1**
	baz=218						
O20K				S	**Sn**	**23 56 50.3**	**-1.4**
	baz=218						
AU22	**Augustine Moun**	**0.45**	**201**		**Pn**	**23 56 40.3**	**+0.1**
AU22					**Sn**	**23 56 52.1**	**-0.2**
AUL	**Augustine Lava**	**0.45**	**206**		**Pn**	**23 56 40.5**	**+0.2**
AUL					**Sn**	**23 56 52.3**	**-0.1**
AUH	**Augustine H**	**0.47**	**206**		**Pn**	**23 56 40.8**	**+0.3**
AUQ	**Augustine Qik'**	**0.47**	**204**		**Pn**	**23 56 40.6**	**+0.2**
RED	**Redoubt Volcan**	**0.65**	**12**		**Pn**	**23 56 41.7**	**-0.1**
RED					**Sn**	**23 56 54.4**	**-0.8**
RSO	**Redoubt South**	**0.69**	**12**		**Pn**	**23 56 42.4**	**+0.1**
RDWB	**Redoubt West**	**0.71**	**8**		**Pn**	**23 56 42.2**	**-0.2**
RDWB					**Sn**	**23 56 55.3**	**-0.9**
HOM	**Homer**	**0.72**	**100**		**Pn**	**23 56 42.9**	**+0.6**
HOM	**Homer**	**0.72**	**100**	IAML		23 56 57.8	
	comp=N,3μm,0.6s						
HOM				IAML		23 56 58.0	
	comp=E,2μm,0.9s						
HOM	**Homer**	**0.72**	**100**	P	**Pn**	**23 56 42.8**	**+0.6**
	baz=281,SNR=12						
HOM				S	**Sn**	**23 56 56.8**	**+0.8**
	baz=281						
O19K	**Port Alsworth**	**0.76**	**303**		**Pn**	**23 56 42.5**	**-0.1**
O19K					**Sn**	**23 56 55.8**	**-0.8**
O19K	**Port Alsworth**	**0.76**	**303**	IAML		23 56 57.1	
	comp=N,4μm,0.4s						
O19K	**Port Alsworth**	**0.76**	**303**	P	**Pn**	**23 56 42.5**	**-0.1**
	baz=122,SNR=49						
O19K				S	**Sn**	**23 56 55.8**	**-0.8**
	baz=122						
RDJH	**Redoubt Jeurge**	**0.82**	**8**		**Pn**	**23 56 43.3**	**-0.1**
CNPM	**China Poot**	**0.95**	**105**		**Pn**	**23 56 44.8**	**+0.3**
CNPM					**Sn**	**23 56 59.8**	**-0.2**
CNPM	**China Poot**	**0.95**	**105**	IAML		23 57 01.0	
	comp=N,952nm,0.5s						
BRLK	**Bradley Lake**	**1.09**	**90**		**Pn**	**23 56 46.0**	**0.0**
BRLK	**Bradley Lake**	**1.09**	**90**	IAML		23 57 04.3	
	comp=E,544nm,0.3s						
BRLK				IAML		23 57 04.3	
	comp=N,705nm,0.6s						
BRSE	**Bradley Lake S**	**1.17**	**91**		**Pn**	**23 56 46.9**	**+0.1**
BRSE					**Sn**	**23 57 03.8**	**-0.2**
BRSE	**Bradley Lake S**	**1.17**	**91**	P	**Pn**	**23 56 46.9**	**+0.1**
	baz=274,SNR=8.2						
BRSE				S	**Sn**	**23 57 03.8**	**-0.2**
	baz=274						
P18K	**Big Mountain,**	**1.18**	**251**		**Pn**	**23 56 46.6**	**-0.4**
P18K					**Sn**	**23 57 03.1**	**-1.2**
P18K	**Big Mountain,**	**1.18**	**251**	P	**Pn**	**23 56 46.6**	**-0.4**
	baz=69,SNR=15						
P18K				S	**Sn**	**23 57 03.1**	**-1.2**
	baz=69						
N19K	**Bonanza Creek**	**1.25**	**326**		**Pn**	**23 56 47.9**	**0.0**
N19K	**Bonanza Creek**	**1.25**	**326**	P	**Pn**	**23 56 47.9**	**0.0**
	baz=145,SNR=19						
N19K				S	**Sn**	**23 57 04.9**	**-1.0**
	baz=145						
CAPN	**Captain Cook N**	**1.36**	**43**	Pn	**Pn**	**23 56 50.0**	**+1.1**
CAPN				IAML		23 57 15.5	
	comp=E,706nm,0.4s						
CAPN				IAML		23 57 24.7	
	comp=N,900nm,0.7s						
SPCR	**Spurr Chakacha**	**1.48**	**16**		**Pn**	**23 56 50.7**	**+0.2**
SPCR	**Spurr Chakacha**	**1.48**	**16**	P	**Pn**	**23 56 50.7**	**+0.2**
	baz=197,SNR=34						
SPCR				S	**Sn**	**23 57 10.1**	**-0.4**
	baz=197						
SPCN	**Chakachatna No**	**1.50**	**16**		**Pn**	**23 56 51.2**	**+0.5**
SPBG	**Spurr Blockage**	**1.52**	**12**		**Pn**	**23 56 51.4**	**+0.5**
SLKM	**Skilak Lake**	**1.59**	**62**		**Pn**	**23 56 52.3**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.59**	**18**		**Pn**	**23 56 52.2**	**+0.3**
O22K	**Cooper Landing**	**1.80**	**66**		**Pn**	**23 56 54.9**	**+0.6**
O22K	**Cooper Landing**	**1.80**	**66**	P	**Pn**	**23 56 54.8**	**+0.4**
	baz=249,SNR=6.9						
O22K				S	**Sn**	**23 57 16.8**	**-0.6**
	baz=249						
STLK	**Strandline Lak**	**1.82**	**19**		**Pn**	**23 56 55.0**	**+0.4**
SVW2	**Sparrevohn**	**1.82**	**317**		**Pn**	**23 56 54.4**	**-0.2**
SEW	**Seward**	**1.83**	**78**		**Pn**	**23 56 55.0**	**+0.2**
SEW	**Seward**	**1.83**	**78**	P	**Pn**	**23 56 54.9**	**+0.2**
	baz=262						
SEW				S	**Sn**	**23 57 17.8**	**-0.3**
	baz=262						
FIS	**Fire Island**	**1.95**	**45**	Pn	**Pn**	**23 56 58.2**	**+2.0**
FIS				IAML		23 57 27.2	
	comp=E,428nm,0.8s						
FIS				IAML		23 57 28.1	
	comp=N,395nm,0.4s						
KDAK	**Kodiak Island**	**2.02**	**173**	P	**Pn**	**23 56 57.1**	**-0.1**
	comp=N,24nm,0.3s,baz=12,slow=12,SNR=159						
KDAK				S	**Sn**	**23 57 22.3**	**-0.1**
	comp=N,46nm,0.3s,baz=8.9,slow=24,SNR=37						
KDAK	**Kodiak Island**	**2.02**	**173**	IAML		23 57 23.8	
	comp=N,434nm,0.3s						
KDAK				IAML		23 57 23.8	
	comp=N,449nm,0.3s						
KDAK	**Kodiak Island**	**2.02**	**173**	P	**Pn**	**23 56 57.1**	**-0.1**
	baz=353						
KDAK				S	**Sn**	**23 57 22.4**	**-0.1**
	baz=353						
RC01	**Rabbit Creek A**	**2.10**	**50**		**Pn**	**23 56 58.7**	**+0.6**
RC01	**Rabbit Creek A**	**2.10**	**50**	P	**Pn**	**23 56 58.7**	**+0.6**
	baz=233,SNR=8.4						
RC01				S	**Sn**	**23 57 24.0**	**-0.2**
	baz=233						
M19K	**Big River Lodg**	**2.22**	**343**		**Pn**	**23 56 60.0**	**+0.2**
M19K	**Big River Lodg**	**2.22**	**343**	P	**Pn**	**23 56 59.9**	**+0.2**
	baz=162						
M19K				S	**Sn**	**23 57 26.5**	**-0.6**
	baz=162						
M22K	**Willow**	**2.44**	**35**		**Pn**	**23 57 03.0**	**+0.6**
M22K	**Willow**	**2.44**	**35**	P	**Pn**	**23 57 03.1**	**+0.6**
	baz=218,SNR=17						
M22K				S	**Sn**	**23 57 32.3**	**+0.3**
	baz=218						
L19K	**White Mountain**	**2.56**	**341**		**Pn**	**23 57 04.2**	**+0.2**
L19K	**White Mountain**	**2.56**	**341**	P	**Pn**	**23 57 04.3**	**+0.2**
	baz=159,SNR=50						
L19K				S	**Sn**	**23 57 34.7**	**-0.2**
	baz=159						
OHAK	**Old Harbor**	**2.58**	**183**		**Pn**	**23 57 03.7**	**-0.6**
OHAK	**Old Harbor**	**2.58**	**183**	IAML		23 57 35.6	
	comp=N,150nm,0.2s						
OHAK	**Old Harbor**	**2.58**	**183**	P	**Pn**	**23 57 03.7**	**-0.6**
	baz=2.4,SNR=7.2						
OHAK				S	**Sn**	**23 57 34.0**	**-1.2**
	baz=2.4						
PWL	**Port Wells**	**2.58**	**63**		**Pn**	**23 57 03.9**	**-0.5**
PWL				IAML		23 57 37.3	
	comp=N,480nm,0.4s						
PWL	**Port Wells**	**2.58**	**63**	P	**Pn**	**23 57 03.8**	**-0.5**
	baz=248						
PWL				S	**Sn**	**23 57 33.6**	**-1.7**
	baz=248						
PMR	**Palmer**	**2.64**	**45**	Pn	**Pn**	**23 57 04.7**	**-0.4**
PMR				IAML		23 57 36.7	
	comp=E,214nm,0.3s						
PMR				IAML		23 57 37.5	
	comp=N,190nm,0.3s						
PMR	**Palmer**	**2.64**	**45**	P	**Pn**	**23 57 05.3**	**+0.2**
	baz=229						
PMR				S	**Sn**	**23 57 35.2**	**-1.6**
	baz=229						
L20K	**Farewell, AK**	**2.73**	**352**		**Pn**	**23 57 06.9**	**+0.5**
L20K	**Farewell, AK**	**2.73**	**352**	P	**Pn**	**23 57 06.9**	**+0.5**
	baz=171,SNR=33						
KNK	**Knik Glacier**	**2.79**	**52**		**Pn**	**23 57 06.8**	**-0.3**
KNK	**Knik Glacier**	**2.79**	**52**	IAML		23 57 40.6	
	comp=E,353nm,0.6s						
KNK	**Knik Glacier**	**2.79**	**52**	P	**Pn**	**23 57 06.8**	**-0.3**
	baz=236						
KNK				S	**Sn**	**23 57 38.6**	**-1.6**
	baz=236						
CUT	**Chulitna**	**2.95**	**26**		**Pn**	**23 57 10.6**	**+1.4**
CUT				IAML		23 57 45.7	
	comp=N,175nm,0.5s						
CUT				IAML		23 57 49.6	
	comp=E,236nm,0.5s						
CUT	**Chulitna**	**2.95**	**26**	P	**Pn**	**23 57 10.4**	**+1.2**
	baz=209,SNR=13						
CUT				S	**Sn**	**23 57 44.1**	**+0.1**
	baz=209						
SML	**Sawmill**	**3.07**	**47**		**Pn**	**23 57 10.7**	**-0.2**
SML	**Sawmill**	**3.07**	**47**	IAML		23 57 47.9	
	comp=N,163nm,0.6s						
SML				IAML		23 57 57.2	
	comp=E,144nm,1.0s						
SML	**Sawmill**	**3.07**	**47**	P	**Pn**	**23 57 10.7**	**-0.2**
	baz=231						
SML				S	**Sn**	**23 57 44.9**	**-2.1**
	baz=231						
PPLA	**Purkeypile**	**3.15**	**7**		**Pn**	**23 57 13.4**	**+1.4**
PPLA	**Purkeypile**	**3.15**	**7**	P	**Pn**	**23 57 13.2**	**+1.2**
	baz=188,SNR=14						
GLI	**Glacier Island**	**3.15**	**67**		**Pn**	**23 57 12.3**	**+0.4**
GLI	**Glacier Island**	**3.15**	**67**	IAML		23 57 47.8	
	comp=N,201nm,0.4s						
GLI				IAML		23 57 48.9	
	comp=E,220nm,0.4s						
GLI	**Glacier Island**	**3.15**	**67**	P	**Pn**	**23 57 12.2**	**+0.2**
	baz=252						
GLI				S	**Sn**	**23 57 46.3**	**-2.6**
	baz=252						
SII	**Sitkinak Islan**	**3.29**	**191**	Pn	**Pn**	**23 57 13.1**	**-0.8**
SII				IAML		23 57 47.6	
	comp=E,182nm,3.6s						
SII				IAML		23 58 34.9	
	comp=N,200nm,4.0s						
SII	**Sitkinak Islan**	**3.29**	**191**	S	**Sn**	**23 57 50.3**	**-2.0**
	baz=9.8						
FID	**Port Fidalgo**	**3.41**	**71**		**Pn**	**23 57 13.9**	**-1.5**
FID	**Port Fidalgo**	**3.41**	**71**	IAML		23 57 54.2	
	comp=E,247nm,0.4s						
Q23K	**Middleton Isla**	**3.42**	**93**	Pn	**Pn**	**23 57 15.8**	**+0.4**
MID	**Middleton Isla**	**3.43**	**93**	Pn	**Pn**	**23 57 15.9**	**+0.4**
TTA	**Tatalina**	**3.46**	**337**		**Pn**	**23 57 16.0**	**-0.2**
TTA	**Tatalina**	**3.46**	**337**	P	**Pn**	**23 57 15.9**	**-0.2**
	baz=154,SNR=13						
SCM	**Sheep Creek Mo**	**3.47**	**51**		**Pn**	**23 57 16.1**	**-0.1**
SCM	**Sheep Creek Mo**	**3.47**	**51**	IAML		23 57 57.4	
	comp=E,136nm,0.8s						
SCM				IAML		23 58 02.7	
	comp=N,101nm,0.6s						
SCM	**Sheep Creek Mo**

CHGN	**Chignik**	**4.51**	**222**	Pn	**Pn**	**23 57 30.5**	**+0.3**
CHGN				IAML		23 58 24.4	
	comp=E,63nm,0.2s						
CHGN				IAML		00 00 30.9	
	comp=N,57nm,0.1s						
CHGN	**Chignik**	**4.51**	**222**	P	**Pn**	**23 57 30.7**	**+0.5**
	baz=37						
N25K	**Chitina, Valde**	**4.53**	**63**		**Pn**	**23 57 30.2**	**-0.3**
N25K	**Chitina, Valde**	**4.53**	**63**	IAML		23 58 22.7	
	comp=E,53nm,0.6s						
N25K				IAML		23 58 22.8	
	comp=N,60nm,0.4s						
N25K	**Chitina, Valde**	**4.53**	**63**	P	**Pn**	**23 57 30.1**	**-0.4**
	baz=250,SNR=7.4						
HARP	**HAARP**	**4.64**	**52**	P	**Pn**	**23 57 32.0**	**+0.2**
	baz=239						
SUCK	**Suckling Hills**	**4.67**	**82**	Pn	**Pn**	**23 57 32.9**	**+0.6**
BWN	**Browne**	**4.71**	**19**		**Pn**	**23 57 33.7**	**+0.9**
BWN				IAML		23 58 49.7	
	comp=N,34nm,2.2s						
BWN				IAML		23 59 09.9	
	comp=E,42nm,2.0s						
BERG	**Berg Lake**	**4.72**	**79**		**Pn**	**23 57 33.4**	**+0.5**
BERG	**Berg Lake**	**4.72**	**79**	IAML		23 58 28.7	
	comp=N,79nm,0.9s						
GLB	**Gilahina Butte**	**4.84**	**66**		**Pn**	**23 57 34.2**	**-0.5**
GLB	**Gilahina Butte**	**4.84**	**66**	IAML		23 58 30.5	
	comp=E,33nm,0.6s						
GLB				IAML		23 58 31.0	
	comp=N,77nm,0.8s						
PAX	**Paxson**	**4.84**	**46**		**Pn**	**23 57 34.8**	**+0.1**
PAX	**Paxson**	**4.84**	**46**	P	**Pn**	**23 57 34.8**	**+0.1**
	baz=232,SNR=7.2						
KHIT	**Khitrov Hills**	**4.94**	**78**		**Pn**	**23 57 36.2**	**+0.2**
VRDI	**Verde Repeater**	**4.96**	**69**		**Pn**	**23 57 36.8**	**+0.4**
VRDI				IAML		23 58 33.1	
	comp=N,36nm,0.7s						
VRDI				IAML		00 00 15.5	
	comp=E,26nm,4.5s						
WAX	**Waxell Ridge**	**5.14**	**78**	Pn	**Pn**	**23 57 39.0**	**+0.3**
NEA2	**Nenana**	**5.17**	**19**		**Pn**	**23 57 38.9**	**-0.1**
NEA2				IAML		23 59 08.5	
	comp=E,16nm,4.5s						
NEA2				IAML		23 59 20.4	
	comp=N,15nm,4.4s						
NEA2	**Nenana**	**5.17**	**19**	P	**Pn**	**23 57 38.4**	**-0.6**
	baz=203,SNR=32						
TGL	**Tana Glacier**	**5.18**	**75**	Pn	**Pn**	**23 57 39.8**	**+0.5**
TGL				IAML		23 58 38.0	
	comp=N,41nm,0.6s						
MCARA	**McCarthy VSAT**	**5.19**	**68**		**Pn**	**23 57 40.1**	**+0.8**
MCARA	**McCarthy VSAT**	**5.19**	**68**	IAML		23 58 41.0	
	comp=E,48nm,0.6s						
MCARA	**McCarthy VSAT**	**5.19**	**68**	P	**Pn**	**23 57 39.9**	**+0.6**
	baz=257						
WRH	**Wood River Hil**	**5.24**	**24**		**Pn**	**23 57 39.9**	**-0.1**
WRH	**Wood River Hil**	**5.24**	**24**	IAML		23 58 38.1	
	comp=E,16nm,2.8s						
WRH				IAML		23 58 38.8	
	comp=N,17nm,1.0s						
MLY	**Manley**	**5.37**	**11**		**Pn**	**23 57 42.2**	**+0.4**
MLY	**Manley**	**5.37**	**11**	IAML		23 58 45.6	
	comp=E,12nm,4.8s						
MLY				IAML		23 58 51.5	
	comp=N,12nm,4.9s						
MLY	**Manley**	**5.37**	**11**	P	**Pn**	**23 57 42.1**	**+0.4**
	baz=193,SNR=23						
ISLE	**Juniper Island**	**5.40**	**77**		**Pn**	**23 57 42.9**	**+0.5**
PTPK	**Patty Peak**	**5.42**	**70**		**Pn**	**23 57 43.8**	**+1.2**
KIAG	**Kiagna River**	**5.43**	**73**		**Pn**	**23 57 42.9**	**+0.3**
I21K	**Tanana**	**5.44**	**5**		**Pn**	**23 57 43.0**	**+0.5**
I21K	**Tanana**	**5.44**	**5**	P	**Pn**	**23 57 42.9**	**+0.3**
	baz=186,SNR=7.3						
BALM	**Baldy**	**5.45**	**72**		**Pn**	**23 57 43.5**	**+0.6**
BAGL	**Bagley Icefiel**	**5.52**	**78**		**Pn**	**23 57 44.6**	**+0.9**
RIDG	**Independent Ri**	**5.55**	**41**		**Pn**	**23 57 44.6**	**+0.4**
RIDG	**Independent Ri**	**5.55**	**41**	P	**Pn**	**23 57 44.7**	**+0.4**
	baz=228,SNR=7.0						
I23K	**Minto, Yukon-K**	**5.64**	**16**		**Pn**	**23 57 46.1**	**+0.8**
I23K	**Minto, Yukon-K**	**5.64**	**16**	P	**Pn**	**23 57 45.7**	**+0.3**
	baz=199,SNR=27						
TCOL	**CIGO, UAF Yank**	**5.65**	**23**		**Pn**	**23 57 45.7**	**+0.3**
TCOL	**CIGO, UAF Yank**	**5.65**	**23**	P	**Pn**	**23 57 45.4**	**0.0**
	baz=208,SNR=7.1						
COLA	**College**	**5.65**	**23**		**Pn**	**23 57 45.6**	**+0.2**
COLA	**College**	**5.65**	**23**	P	**Pn**	**23 57 45.7**	**+0.3**
	baz=208						
MDM	**Murphy Dome**	**5.65**	**21**		**Pn**	**23 57 45.3**	**-0.3**
YAH	**Yahtse**	**5.69**	**79**		**Pn**	**23 57 46.9**	**+0.6**
GRNC	**Granite Creek**	**5.70**	**76**		**Pn**	**23 57 47.1**	**+0.7**
DOT	**Dot Lake**	**5.76**	**44**	Pn	**Pn**	**23 57 47.8**	**+0.8**
IL31		**5.77**	**27**		**Pn**	**23 57 46.7**	**-0.3**
ILAR	**Eielson Array**	**5.77**	**27**	P	**Pn**	**23 57 46.6**	**-0.4**
	comp=N,3.2nm,0.3s,baz=216,slow=14,SNR=106						
ILAR				S	**Sn**	**23 58 49.5**	**-2.2**
	comp=N,2.5nm,0.3s,baz=200,slow=29,SNR=10						
BARN	**Barnard Glacie**	**5.78**	**72**		**Pn**	**23 57 48.3**	**+0.8**
H21K	**Melozitna Rive**	**5.89**	**1**		**Pn**	**23 57 49.2**	**+0.4**
H21K	**Melozitna Rive**	**5.89**	**1**	P	**Pn**	**23 57 48.9**	**+0.2**
	baz=181,SNR=9.5						
CTG	**Chitna Glacier**	**5.92**	**73**	P	**Pn**	**23 57 50.4**	**+1.0**
	baz=264,SNR=5.6						
CTGM	**Chitina Glacie**	**5.93**	**73**		**Pn**	**23 57 50.6**	**+1.2**
POKR	**Poker Plat Res**	**5.95**	**24**		**Pn**	**23 57 50.0**	**+0.4**
POKR	**Poker Plat Res**	**5.95**	**24**	P	**Pn**	**23 57 49.7**	**+0.2**
	baz=209						
TABL	**Table Mountain**	**5.99**	**79**		**Pn**	**23 57 50.8**	**+0.5**
SCRK	**Sand Creek**	**6.00**	**42**		**Pn**	**23 57 50.1**	**-0.3**
SCRK	**Sand Creek**	**6.00**	**42**	P	**Pn**	**23 57 50.0**	**-0.3**
	baz=230						
M27K	**Edge Creek, AK**	**6.00**	**60**		**Pn**	**23 57 52.1**	**+1.7**
M27K	**Edge Creek, AK**	**6.00**	**60**	P	**Pn**	**23 57 51.8**	**+1.5**
	baz=250						
J25K	**Salcha River,**	**6.03**	**33**		**Pn**	**23 57 50.6**	**0.0**
J25K	**Salcha River,**	**6.03**	**33**	P	**Pn**	**23 57 50.6**	**0.0**
	baz=220,SNR=16						
LOGN	**Logan Glacier**	**6.08**	**75**		**Pn**	**23 57 52.4**	**+1.0**
IMAR	**Indian Mountai**	**6.23**	**357**	Pn	**Pn**	**23 57 54.0**	**+0.7**
BCAR	**Beaver Creek A**	**6.32**	**54**	Pn	**Pn**	**23 57 54.3**	**-0.3**
YUK3	**Moose Creek**	**6.48**	**67**		**Pn**	**23 57 58.2**	**+1.3**
YUK3	**Moose Creek**	**6.48**	**67**	P	**Pn**	**23 57 58.0**	**+1.1**
	baz=258,SNR=5.3						
J26L	**Joseph Creek**	**6.49**	**39**	P	**Pn**	**23 57 56.9**	**0.0**
	baz=228						
H24K	**Noodor Dome**	**6.52**	**19**		**Pn**	**23 57 57.2**	**-0.1**
H24K	**Noodor Dome**	**6.52**	**19**	P	**Pn**	**23 57 57.2**	**-0.1**
	baz=204,SNR=10						
PRP	**Porcupine Dome**	**6.71**	**28**		**Pn**	**23 58 00.1**	**+0.1**
PRP	**Porcupine Dome**	**6.71**	**28**	P	**Pn**	**23 57 59.9**	**0.0**
	baz=215,SNR=44						
PNL	**Peninsula**	**6.90**	**85**		**Pn**	**23 58 02.8**	**+0.3**
PNL	**Peninsula**	**6.90**	**85**	P	**Pn**	**23 58 02.5**	**0.0**
	baz=277,SNR=6.0						
YUK4	**Talbot Arm**	**7.26**	**71**	P	**Pn**	**23 58 08.8**	**+1.3**
	baz=263						
YUK6	**Outpost Mounta**	**7.37**	**75**		**Pn**	**23 58 10.5**	**+1.4**
YUK6	**Outpost Mounta**	**7.37**	**75**	P	**Pn**	**23 58 09.8**	**+0.7**
	baz=268						
EGAK	**Eagle**	**7.46**	**43**		**Pn**	**23 58 09.3**	**-0.7**
YUK7	**Dusty Glacier**	**7.47**	**78**		**Pn**	**23 58 12.0**	**+1.6**
ANM	**Nome**	**7.49**	**315**	Pn	**Pn**	**23 58 11.2**	**+0.7**
YUK5	**Granite Creek**	**7.63**	**73**		**Pn**	**23 58 13.4**	**+1.0**
FYU	**Fort Yukon**	**7.66**	**24**	Pn	**Pn**	**23 58 12.4**	**-0.3**
BMAR	**Burnt Mountain**	**8.54**	**23**	Pn	**Pn**	**23 58 23.3**	**-1.3**
TOLK	**Toolik Lake Re**	**9.02**	**8**	Pn	**Pn**	**23 58 31.1**	**0.0**
TOLK	**Toolik Lake Re**	**9.02**	**8**	P	**Pn**	**23 58 31.6**	**+0.4**
	baz=191						
WHY	**Whitehorse**	**9.08**	**77**	P	**Pn**	**23 58 32.2**	**+0.1**
	baz=272						
P33M	**Teslin, Yukon**	**10.13**	**79**	P	**Pn**	**23 58 46.9**	**+0.5**
	baz=276						
DLBC	**Dease Lake**	**11.89**	**87**	P	**Pn**	**23 59 09.2**	**-0.8**
	comp=N,1.6nm,0.3s,baz=296,slow=12,SNR=22						
YKA	**Yellowknife Ar**	**18.56**	**65**	P	**P**	**00 00 32.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=277,slow=9.8,SNR=9.5						
ZALV	**Zalesovo Beam**	**57.53**	**324**	P	**P**	**00 06 02.7**	**+1.0**
	comp=N,0.7nm,0.4s,baz=39,slow=7.4,SNR=3.7						

*JMA **24** 00:19:44.3±0.2, 32.°64N×137.°88E, h406km, M3.3*
*IDC **24** 00:19:50.5±1.9, 32.°93N×137.°78E, h346km±21km, mb2.8/5, mb1 3.0/9, mb1mx2.8/51, mbtmp3.6/9, Error ellipse: s-maj=31.1km s-min=17.5km az=70.0*
ISC 24 00:19:50.7±1.0, 32.°9N±0.°1×137.°77E±0.°08, h341km, n28,

σ1≒50/30, **mb3.0/5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.97**	**341**	P	**Pn**	**00 20 37.9**	**+2.8**
TTO2	**TONANKAI O.B.S**	**1.01**	**322**	P	**Pn**	**00 20 37.7**	**+2.7**
TTO1	**TONANKAI O.B.S**	**1.07**	**310**	P	**Pn**	**00 20 37.8**	**+2.5**
TTO4	**TONANKAI O.B.S**	**1.08**	**350**	P	**Pn**	**00 20 37.9**	**+2.5**
JIE	**Ise**	**1.70**	**329**	P	**Pn**	**00 20 40.9**	**+1.9**
JKN2	**Miekihoku**	**1.80**	**316**	P	**Pn**	**00 20 41.2**	**+1.5**
HMMJ	**Hamamatsu 2**	**1.91**	**359**	P	**Pn**	**00 20 42.2**	**+1.8**
JTNC	**Tanabenakahech**	**2.01**	**296**	P	**Pn**	**00 20 42.4**	**+1.2**
JWY	**Kouya**	**2.22**	**306**	P	**Pn**	**00 20 44.4**	**+1.6**
JNY	**Yasuok**	**2.41**	**2**	P	**Pn**	**00 20 46.2**	**+1.9**
JAI	**Aioi**	**2.90**	**288**	P	**Pn**	**00 20 49.5**	**+1.1**
BSO3	**Boso 3**	**2.94**	**50**	P	**Pn**	**00 20 48.5**	**+0.1**
BSO3				S	**S**	**00 21 35.6**	**+0.7**
BSO4	**Boso 4**	**2.96**	**46**	S	**S**	**00 21 36.7**	**+1.3**
JWT	**Wachi**	**3.05**	**321**	P	**Pn**	**00 20 51.0**	**+1.3**
BSO1	**Boso 1**	**3.17**	**57**	P	**Pn**	**00 20 50.1**	**-0.1**
BSO1				S	**S**	**00 21 37.5**	**-0.7**
JRY	**Ryogami san**	**3.21**	**17**	P	**Pn**	**00 20 53.2**	**+2.0**
JMN	**Monobe**	**3.35**	**285**	P	**Pn**	**00 20 53.9**	**+1.2**
MJAR	**Matsushiro Arr**	**3.61**	**6**	P	**Pn**	**00 20 55.8**	**+0.6**
	0.2nm,0.3s,baz=189,slow=10,SNR=5.9						
JAG	**Ashikaga**	**3.74**	**21**	P	**Pn**	**00 20 56.8**	**+0.4**
JHO	**Hitachi**	**4.33**	**31**	P	**Pn**	**00 21 02.1**	**-0.3**
KSRS	**Korea Array**	**9.23**	**302**	P	**Pn**	**00 21 58.7**	**-0.6**
	0.4nm,0.3s,baz=112,slow=12,SNR=7.0						
USRK	**Ussuriysk Ar.**	**12.11**	**340**	P	**P**	**00 22 34.1**	**+0.3**
	baz=149,slow=11,SNR=11						
KLR	**Kul'dur**	**16.89**	**346**	P	**P**	**00 23 24.6**	**-1.3**
	0.2nm,0.3s,baz=158,slow=14,SNR=1.8						
SONM	**Songino Array**	**27.92**	**311**	P	**P**	**00 25 10.4**	**-0.1**
	0.9nm,0.7s,baz=116,slow=9.5,SNR=6.1						
MKAR	**Makanchi Array**	**43.89**	**305**	P	**P**	**00 27 24.0**	**-0.5**
	0.4nm,0.4s,baz=88,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**52.69**	**184**	P	**P**	**00 28 30.4**	**-0.9**
	0.3nm,0.6s,baz=350,slow=7.2,SNR=7.6						
ASAR	**Alice Springs**	**56.41**	**184**	P	**P**	**00 28 57.1**	**-0.7**
	0.1nm,0.3s,baz=355,slow=10,SNR=2.0						
YKA	**Yellowknife Ar**	**68.83**	**28**	P	**P**	**00 30 17.8**	**-0.8**
	0.1nm,0.3s,baz=299,slow=6.6,SNR=3.0						

*CNRM **24** 00:20:15.9, 35.°52N×3.°75W, h18km, ml2.4*
*SFS **24** 00:20:17.0, 35.°40N×3.°74W, h28km, ML2.6, ALBORAN SUR*
*MDD **24** 00:20:17.3±0.4, 35.°39N×3.°73W, h29km±5km, mb_Lg2.0/10, Error ellipse: s-maj=4.4km s-min=3.0km az=143.0*
ISC 24 00:20:16.7±1.1, 35.°50N±0.°02×3.°76W±0.°03, h21km±3km, n22, σ1≒31/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.32**	**208**	P	**Pb**	**00 20 23.2**	**-0.5**
PALE				S	**Sb**	**00 20 28.2**	**-0.3**
PVLZ	**Peæn de**	**0.55**	**234**	S	**Sb**	**00 20 33.9**	**-1.3**
GOG	**Mont Gurugu**	**0.68**	**114**	P	**Pb**	**00 20 29.7**	**-0.2**
GOG				S	**Sb**	**00 20 38.6**	**-0.4**
EMEL	**Melilla**	**0.68**	**107**	Pg	**Pb**	**00 20 30.1**	**+0.2**
EMEL				Sg	**Sb**	**00 20 39.0**	**0.0**
EALB	**Alboran**	**0.73**	**53**	Pg	**Pn**	**00 20 31.4**	**-0.3**
EALB				Sg	**Sn**	**00 20 41.4**	**-0.9**
EALB				*i* Vmb_Lg		00 20 43.8	
TAF	**Taforalt**	**1.30**	**121**	P	**Pn**	**00 20 39.2**	**-0.4**
TAF				S	**Sn**	**00 20 57.0**	**+0.4**
SMIR	**Smir Dam**	**1.33**	**278**	P	**Pn**	**00 20 37.8**	**-2.2**
SMIR				S	**Sb**	**00 20 59.9**	**+2.2**
EMIJ	**Mijas**	**1.34**	**323**	Pn	**Pb**	**00 20 40.7**	**-0.4**
EMIJ				Sn	**Sb**	**00 20 58.1**	**+0.2**
EMIJ				*i* Vmb_Lg		00 21 01.6	
ELGU	**Los Guajares,**	**1.37**	**4**	Pn	**Pn**	**00 20 39.9**	**-0.7**
ELGU				Sn	**Sn**	**00 20 57.5**	**-0.7**
ELGU				*i* Vmb_Lg		00 21 01.2	
EMAL	**Malaga-Limoner**	**1.37**	**337**	P	**Pb**	**00 20 43.5**	**+1.9**
EMAL				S	**Sn**	**00 20 55.6**	**-2.5**
ECEU	**Ceuta**	**1.38**	**287**	Sn	**Sn**	**00 20 55.7**	**-2.5**
ECEU				*i* Vmb_Lg		00 20 59.4	
EBER	**Berja**	**1.56**	**26**	Pn	**Pn**	**00 20 43.2**	**-0.1**
EBER				Sn	**Sn**	**00 21 02.1**	**-0.9**
EBER				*i* Vmb_Lg		00 21 15.5	
EGOR	**Sierra Gorda,**	**1.63**	**350**	Pn	**Pb**	**00 20 45.2**	**-0.9**
EGOR				Sn	**Sn**	**00 21 04.4**	**-0.3**
EGOR				Sg	**Sb**	**00 21 10.5**	**+4.2**
EGOR				*i* Vmb_Lg		00 21 12.9	
EJIF	**Jimena Fronter**	**1.68**	**305**	Pn	**Pn**	**00 20 44.9**	**+0.1**
EJIF				Sn	**Sn**	**00 21 04.7**	**-1.0**
ENIJ	**Nijar**	**1.93**	**40**	Pn	**Pn**	**00 20 47.9**	**-0.4**
ENIJ				Sn	**Sn**	**00 21 10.5**	**-1.4**
ENIJ				*i* Vmb_Lg		00 21 22.4	
LCRM	**LCR**	**2.02**	**207**	P	**Pb**	**00 20 52.0**	**-0.8**
LCRM				S	**Sb**	**00 21 17.2**	**-0.5**
IFR	**Ifrane**	**2.28**	**210**	P	**Pn**	**00 20 53.6**	**+0.5**
IFR				S	**Sn**	**00 21 19.8**	**-0.9**
CZD	**Col de Zad**	**2.68**	**204**	P	**Pn**	**00 20 59.9**	**+1.0**
CZD				S	**Sn**	**00 21 32.4**	**+1.6**
EADA	**Adamuz**	**2.74**	**346**	Pn	**Pn**	**00 21 00.2**	**+0.8**
EADA				Sn	**Sn**	**00 21 31.8**	**-0.2**
EADA				*i* Vmb_Lg		00 21 44.8	
MD31	**MD31**	**2.75**	**198**	P	**Pn**	**00 21 00.6**	**+1.0**
MD31				S	**Sn**	**00 21 32.9**	**+0.6**
MDT	**Midelt**	**2.77**	**195**	P	**Pn**	**00 21 00.6**	**+0.8**
MDT				S	**Sn**	**00 21 35.2**	**+2.5**
ECAB	**El Cabril**	**2.90**	**333**	Pn	**Pn**	**00 21 01.8**	**+0.3**
ECAB				Sn	**Sn**	**00 21 35.2**	**-0.5**
ECAB				*i* Vmb_Lg		00 21 51.5	

*IDC **24** 00:29:35.5±0.8, 16.°28N×97.°84W, h0km, mb4.4/22, mb1 4.5/25, mb1mx4.4/40, mbtmp4.4/25, ML3.9/3, MS4.2/53, Ms1 4.2/53, ms1mx4.1/66, Error ellipse: s-maj=22.6km s-min=12.4km az=50.0*
*NEIC **24** 00:29:38.0±1.9, 16.°36N±0.°05×97.°91W±0.°04, h10km±1km, mb4.9/214, Md4.9/124(MEX), Error ellipse: s-maj=8.7km s-min=5.1km az=205.0*
*MEX **24** 00:29:37.9±2.7, 16.°15N×98.°02W, h4km±15km, MD4.9*
*GCMT **24** 00:29:42.0±0.3, 16.°51N±0.°02×97.°88W±0.°03, h23km±1km, MW5.0/95, Moment Tensor Solution. s41,c48; s95,c118; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.45±.14; Mθθ-1.69±.09; Mϕϕ-0.75±.09; Mrθ2.11±.14; Mrϕ0.53±.07; Mθϕ-2.06±.15; Best double couple: M₀3.66100×10¹⁶ NP1:ϕs290.00000°, δ19.00000°, λ71.00000°. NP2: ϕs130.00000°, δ72.00000°, λ97.00000°. Principal axes: T 3.9750, Plg63.0000°, Azm50.0000°; N -0.6270, Plg6.0000°, Azm308.0000°; P -3.3460, Plg27.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 00:29:37.4±0.9, 16.°27N±0.°03×97.°98W±0.°02, h13km±5km, n605, σ1≒31/614, mb4.9/106, MS4.2/52, 6D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**309**		**Pg**	**00 29 42.0**	**+0.4**
PNIG					**Sg**	**00 29 45.4**	**+0.9**
PNIG	**Pinotepa**	**0.19**	**309**	*e*P	**Pg**	**00 29 42.0**	**+0.4**
PNIG				*e*S	**Sg**	**00 29 45.4**	**+0.9**
YOIG	**Yosondua**	**0.71**	**35**	*e*P	**Pb**	**00 29 51.5**	**-0.4**
YOIG				*e*S	**Sn**	**00 30 03.0**	**-1.5**
PEIG	**Puerto Escondi**	**0.84**	**109**	*e*P	**Pg**	**00 29 52.7**	**-1.0**
PEIG				*e*S	**Sg**	**00 30 04.0**	**-0.7**
TXIG	**Tlaxiaco**	**0.99**	**12**	*e*P	**Pg**	**00 29 56.3**	**-0.4**
TXIG				*e*S	**Sb**	**00 30 09.8**	**-0.1**
CRIG	**Cruz Grande**	**1.20**	**293**		**Pn**	**00 29 58.4**	**-1.5**
CRIG					**Sb**	**00 30 13.8**	**-1.7**
CRIG	**Cruz Grande**	**1.20**	**293**	*e*P	**Pn**	**00 29 58.4**	**-1.5**
CRIG				*e*S	**Sb**	**00 30 13.8**	**-1.7**
TLIG	**Tlapa**	**1.40**	**336**	Pn	**Pn**	**00 30 01.6**	**-1.2**
TLIG				Sn	**Sn**	**00 30 20.3**	**-1.0**
TLIG	**Tlapa**	**1.40**	**336**	*e*P	**Pn**	**00 30 03.1**	**+0.3**
TLIG				*e*S	**Sn**	**00 30 20.9**	**-0.4**
VHO	**Vista Hermosa**	**1.43**	**56**	*e*P	**Pn**	**00 30 03.0**	**-0.3**
VHO				*e*S	**Sg**	**00 30 22.6**	**-0.9**
OXBJ	**Oaxaca**	**1.44**	**56**		**Pn**	**00 30 02.7**	**-0.7**
OXBJ					**Sb**	**00 30 21.8**	**-0.7**
OXBJ	**Oaxaca**	**1.44**	**56**	*i* P	**Pn**	**00 30 02.7**	**-0.7**
OXBJ				*i* S	**Sb**	**00 30 21.8**	**-0.7**
OXLC	**Oaxaca**	**1.45**	**57**	*e*P	**Pn**	**00 30 03.0**	**-0.6**

HLIG	**Huajuapan de L**	**1.56**	**6**	*e*P	**Pn**	**00 30 04.8**	**-0.2**
HLIG				*e*S	**Sb**	**00 30 25.4**	**-0.6**
HMTT	**Tlapaneco**	**1.62**	**340**		**Pn**	**00 30 06.1**	**+0.4**
HMTT					**Sn**	**00 30 25.1**	**-1.5**
HMTT	**Tlapaneco**	**1.62**	**340**	*i* P	**Pn**	**00 30 06.1**	**+0.4**
HMTT				*i* S	**Sn**	**00 30 25.1**	**-1.5**
FTIG	**Fresnillo de T**	**1.63**	**355**	*e*P	**Pn**	**00 30 06.0**	**0.0**
FTIG				*e*S	**Sb**	**00 30 27.7**	**-0.4**
DAIG	**Los Arroyos**	**1.77**	**295**		**Pn**	**00 30 05.6**	**-2.2**
DAIG	**Los Arroyos**	**1.77**	**295**	*e*P	**Pn**	**00 30 05.6**	**-2.2**
DAIG				*e*S	**Sn**	**00 30 28.4**	**-1.8**
HUIG	**Huatulco**	**1.86**	**105**		**Pn**	**00 30 07.2**	**-1.9**
HUIG					**Sn**	**00 30 30.3**	**-2.2**
HUIG	**Huatulco**	**1.86**	**105**	*e*P	**Pn**	**00 30 07.2**	**-1.9**
HUIG				*e*S	**Sn**	**00 30 30.3**	**-2.2**
ACP2	**Acapulco**	**1.93**	**288**		**Pn**	**00 30 11.0**	**+1.1**
ACP2					**Sn**	**00 30 35.2**	**+1.1**
ACP2	**Acapulco**	**1.93**	**288**	*i* P	**Pn**	**00 30 11.0**	**+1.1**
ACP2				*i* S	**Sn**	**00 30 35.2**	**+1.1**
TOIG	**Toxpalan**	**2.01**	**26**	*e*P	**Pn**	**00 30 11.1**	**-0.1**
TOIG				*e*S	**Sn**	**00 30 37.1**	**+0.7**
TPIG	**Tehuac#an**	**2.21**	**15**		**Pn**	**00 30 14.3**	**+0.3**
TPIG					**Sb**	**00 30 42.7**	**-2.2**
TPIG	**Tehuac#an**	**2.21**	**15**	*e*P	**Pn**	**00 30 14.3**	**+0.3**
TPIG				*e*S	**Sb**	**00 30 42.7**	**-2.2**
THEZ	**Tehuacan**	**2.27**	**14**	*i* P	**Pb**	**00 30 17.7**	**-0.6**
THEZ				*i* S	**Sg**	**00 30 49.7**	**-0.5**
MEIG	**Mezcala**	**2.27**	**317**		**Pn**	**00 30 14.5**	**-0.3**
MEIG					**Sn**	**00 30 41.9**	**-0.8**
MEIG	**Mezcala**	**2.27**	**317**	*e*P	**Pn**	**00 30 14.5**	**-0.3**
MEIG				*e*S	**Sn**	**00 30 41.9**	**-0.8**
CAIG	**El Cayaco**	**2.33**	**290**	*e*P	**Pn**	**00 30 13.7**	**-2.3**
CAIG				*e*S	**Sn**	**00 30 41.9**	**-2.1**
NEUV	**Arroyo Zacate**	**2.53**	**55**	*e*P	**Pn**	**00 30 18.3**	**+0.1**
NEUV				*e*S	**Sn**	**00 30 46.9**	**-2.0**
ATYC	**Atoyac**	**2.53**	**292**	*e*P	**Pn**	**00 30 17.1**	**-1.1**
PLIG	**Platanillo**	**2.56**	**326**		**Pn**	**00 30 19.6**	**+0.8**
PLIG					**Sn**	**00 30 49.8**	**-0.1**
PLIG	**Platanillo**	**2.56**	**326**	*e*P	**Pn**	**00 30 19.6**	**+0.8**
PLIG				*e*S	**Sn**	**00 30 49.8**	**-0.1**
OZST	**Orizaba**	**2.71**	**18**	*e*P	**Pn**	**00 30 22.9**	**+2.1**
PHPU	**Puebla**	**2.76**	**356**		**Pb**	**00 30 25.5**	**-1.4**
PHPU	**Puebla**	**2.76**	**356**	*e*P	**Pb**	**00 30 25.5**	**-1.4**
YAIG	**Yautepec**	**2.78**	**338**		**Pn**	**00 30 22.7**	**+1.0**
YAIG					**Sn**	**00 30 56.0**	**+0.7**
YAIG	**Yautepec**	**2.78**	**338**	*e*P	**Pn**	**00 30 22.7**	**+1.0**
YAIG				*e*S	**Sn**	**00 30 56.0**	**+0.7**
AMVM	**AMECAMECA**	**2.95**	**345**		**Sb**	**00 31 04.6**	**-1.4**
AMVM	**AMECAMECA**	**2.95**	**345**	*e*P	**Pb**	**00 30 27.4**	**-2.6**
AMVM				*e*S	**Sb**	**00 31 04.6**	**-1.4**
ARIG	**Puente Sto Nin**	**3.02**	**312**		**Pn**	**00 30 24.7**	**-0.3**
ARIG					**Sn**	**00 31 00.6**	**-0.5**
ARIG	**Puente Sto Nin**	**3.02**	**312**	*e*P	**Pn**	**00 30 24.7**	**-0.3**
ARIG				*e*S	**Sn**	**00 31 00.6**	**-0.5**
MAVM	**Malinalco, Edo**	**3.04**	**332**		**Sb**	**00 31 06.2**	**-2.4**
MAVM	**Malinalco, Edo**	**3.04**	**332**	*e*P	**Pb**	**00 30 28.4**	**-3.1**
MAVM				*e*S	**Sb**	**00 31 06.2**	**-2.4**
CMIG	**Matias Romero**	**3.07**	**74**	Pn	**Pn**	**00 30 24.9**	**-0.8**
	57nm,0.3s,baz=252,slow=11,SNR=398						
CMIG				LR	LR	00 30 59.7	
	comp=Z,1μm,20.5s,baz=226,slow=29						
CMIG				Lg	Lg

CAO2 Cobano, Puntar 14.14 116 Pn 00 33 00.8 +3.2
JCT Junction City 14.24 354 Pn Pn 00 32 59.8 +0.9
JCT Junction City 14.24 354 P Pn 00 32 58.9 0.0
baz=172,SNR=8.2
COVE Coope Vega, Sa 14.30 111 Pn Pn 00 33 01.7 +1.8
435B Jarrell 14.45 1 Pn 00 33 02.7 +1.0
JACO JACO, Garabito 14.54 115 Pn 00 33 05.7 +2.6
HDC Heredia 14.87 113 Pn Pn 00 33 08.5 +0.9
CVTR Volcan Turrial 15.17 112 Pn 00 33 14.5 +2.5
CVTR IAmb IAmb 00 33 37.6
comp=Z,52nm,0.9s
RIMA Rio Macho 15.19 113 Pn 00 33 13.7 +1.7
RIMA IAmb IAmb 00 33 20.4
comp=Z,35nm,0.8s
SOR Soroa 15.52 63 Pn Pn 00 33 14.7 -1.4
PEZE Perez Zeledon, 15.53 114 Pn 00 33 17.1 +0.8
WHTX Lake Whitney, 15.66 2 Pn 00 33 18.6 +0.7
WHTX IAmb IAmb 00 33 24.2
comp=Z,72nm,0.8s
WHTX Lake Whitney, 15.66 2 P Pn 00 33 17.3 -0.5
baz=181,SNR=10
NATX Nacogdoches 15.71 10 Pn Pn 00 33 18.6 0.0
237A Washetta, Mont 15.78 7 P Pn 00 33 20.8 +1.4
237A IAmb IAmb 00 33 25.0
comp=Z,77nm,0.8s
SRBA San Rafael, Bu 15.87 114 P 00 33 23.0 -1.5
342A Flagon Creek P 15.89 18 P Pn 00 33 22.2 +1.3
342A IAmb IAmb 00 33 25.6
comp=Z,67nm,0.9s
DRK0 Durika 15.96 114 P P 00 33 24.0 -1.6
RIOS Rincon, Osa 15.99 116 P P 00 33 25.4 -0.3
RIOS IAmb IAmb 00 33 38.3
comp=Z,57nm,0.8s
ABTX Abilene, Hawle 16.35 355 P Pn 00 33 28.1 +1.3
ABTX IAmb IAmb 00 33 32.5
comp=Z,109nm,1.0s
ABTX Abilene, Hawle 16.35 355 P Pn 00 33 27.1 +0.4
baz=174,SNR=44
344A Westbrook Farm 16.49 22 Pn Pn 00 33 27.6 -0.9
BRU2 Volcan 16.66 115 P P 00 33 33.7 +0.4
MNTX Cornudas Mount 16.77 338 Pn 00 33 33.1 +1.0
MNTX Cornudas Mount 16.77 338 P Pn 00 33 33.1 +1.0
baz=154,SNR=8.0
Z35A Perchaven, San 17.00 2 P Pn 00 33 35.7 +0.8
Z35A IAmb IAmb 00 33 38.2
comp=Z,52nm,0.7s
Z38A Mt. Pleasant 17.13 9 Pn 00 33 35.4 -1.2
Z38A IAmb IAmb 00 33 47.5
comp=Z,202nm,1.6s
VBMS Vicksburg 17.26 22 P Pn 00 33 37.6 -0.6
VBMS Vicksburg 17.26 22 P Pn 00 33 37.5 -0.7
baz=204,SNR=5.5
LCCY Blossom Villag 17.35 76 Pn Pn 00 33 38.7 -0.7
143A Socs Landing, 17.41 19 P Pn 00 33 40.0 0.0
143A IAmb IAmb 00 33 48.2
comp=Z,62nm,0.8s
Z41A Richland Creek 17.55 15 P Pn 00 33 41.5 -0.3
Z41A IAmb IAmb 00 34 11.4
comp=Z,54nm,0.8s
WLAR White Oak Lake 17.89 13 Pn Pn 00 33 44.1 -1.9
MSTX Muleshoe 18.14 347 Pn 00 33 48.5 -0.8
MSTX Muleshoe 18.14 347 P Pn 00 33 48.5 -0.8
baz=164,SNR=9.3
146A Union 18.19 25 P Pn 00 33 48.3 -1.4
146A IAmb IAmb 00 33 59.2
comp=Z,172nm,1.4s
319A Douglas 18.23 328 P P 00 33 50.8 +0.3
X34A Smith Ranch, M 18.25 0 Pn 00 33 49.7 -0.8
X34A IAmb IAmb 00 34 13.3
comp=Z,53nm,0.8s
X37A Clayton 18.39 7 P Pn 00 33 51.8 -0.4
WMOK Wichita Mounta 18.40 358 P P 00 33 49.6 -2.8
baz=177,SNR=5.7
121A Cookes Peak, D 18.47 333 P Pn 00 33 54.0 +0.6
121A Cookes Peak, D 18.47 333 P Pn 00 33 53.4 +0.1
baz=148,SNR=6.1
X40A Basin Creek Fa 18.72 13 P P 00 33 53.9 -1.9
X40A Basin Creek Fa 18.72 13 P P 00 33 54.2 -1.6
baz=195
AMTX Amarillo 18.83 351 P P 00 33 56.8 -0.3
baz=168
FNO Franklin 18.91 1 P 00 33 57.7 -0.2
FNO IAmb IAmb 00 34 06.8
comp=Z,62nm,0.8s
OKCFA Oklahoma City 19.07 1 P P 00 33 58.5 -1.2
OKCFA IAmb IAmb 00 34 10.8
comp=Z,95nm,0.8s
W39A Magazine 19.21 10 P P 00 34 00.5 -0.7
W39A Magazine 19.21 10 P P 00 34 00.8 -0.5
baz=192,SNR=7.9
DWPF Disney Wildern 19.30 50 P P 00 34 00.3 -1.9
baz=236
LRAL Lakeview Retre 19.42 29 P P 00 34 02.2 -1.3
LRAL Lakeview Retre 19.42 29 P P 00 34 02.4 -1.1
baz=213,SNR=12
BNM Barren Site 19.43 338 P P 00 34 04.1 +0.3
W41B Gary Mavity, V 19.51 14 P P 00 34 04.2 -0.2
W41B Gary Mavity, V 19.51 14 P P 00 34 03.4 -1.0
baz=196
WHAR Wooly Hollow 19.61 14 P P 00 34 05.1 -0.4
MTDJ Mount Denham 19.62 81 eP Pn 00 34 14.5 +7.2
TUL1 Leonard 19.66 5 P P 00 34 04.2 -1.8
TUL1 IAmb IAmb 00 34 17.1
comp=Z,64nm,0.8s
TUL1 Leonard 19.66 5 P P 00 34 04.8 -1.2
baz=186,SNR=13
OXF Oxford 19.73 21 P P 00 34 05.3 -1.5
OXF IAmb IAmb 00 34 07.5
comp=Z,65nm,0.9s
OXF Oxford 19.73 21 P P 00 34 05.2 -1.5
baz=205,SNR=7.3
TUC Tucson 19.75 326 P Pn 00 34 08.7 +0.1
TUC Tucson 19.75 326 P P 00 34 07.1 -0.1
baz=140
TIGA Tifton 19.99 38 P P 00 34 07.7 -2.0
baz=224
ANMO Albuquerque 20.09 339 P Pn 00 34 12.1 -0.7
comp=Z,17nm,1.0s,baz=154,slow=11,SNR=18
ANMO LR LR 00 42 45.7
comp=Z,1μm,19.0s,baz=156,slow=39
ANMO Albuquerque 20.09 339 P Pn 00 34 11.9 -0.9
ANMO Albuquerque 20.09 339 P P 00 34 11.0 0.0
baz=155
FCAR Ozark Folk Cen 20.22 14 P P 00 34 10.9 -1.3
HHAR Hobbs 20.25 9 P 00 34 12.1 -0.5
Y49A Blount Mountai 20.37 29 P P 00 34 12.5 -1.5
Y49A IAmb IAmb 00 34 22.4
comp=Z,54nm,0.9s
U40A Yellville 20.52 12 P P 00 34 14.5 -0.9
U40A Yellville 20.52 12 P P 00 34 14.2 -1.3
baz=194,SNR=18
214A Organ Pipe Nat 20.63 322 P P 00 34 17.3 +0.6
baz=135
LCAR Lake Charles 20.63 16 P P 00 34 15.3 -1.4
PLAL Pickwick Lake 20.64 24 P P 00 34 14.9 -1.8
PLAL IAmb IAmb 00 34 27.7
comp=Z,39nm,0.8s
255A Hazlehurst 21.01 39 P P 00 34 18.8 -1.9
255A IAmb IAmb 00 34 34.9
comp=Z,68nm,0.9s
X18A Snowflake 21.12 332 P P 00 34 22.5 +0.3
X18A IAmb IAmb 00 34 26.3
comp=Z,44nm,1.1s
LNXT Lenox 21.14 19 P P 00 34 20.7 -1.5
FPAL Fort Paine 21.31 29 P P 00 34 22.3 -1.8
MGMO Mountain Grove 21.41 13 P P 00 34 24.1 -0.9
MGMO IAmb IAmb 00 34 29.2
comp=Z,62nm,0.9s
GOGA Godfrey 21.51 35 P P 00 34 24.4 -1.8
GOGA IAmb IAmb 00 34 34.1
comp=Z,53nm,0.9s
GOGA Godfrey 21.51 35 P P 00 34 24.2 -2.0
baz=221,SNR=19
W18A Petrified Fore 21.52 333 P P 00 34 26.0 -0.4
W18A Petrified Fore 21.52 333 P P 00 34 27.4 +0.9
baz=147,SNR=8.0
T25A Trinidad 21.55 346 P P 00 34 27.9 +1.1
T25A Trinidad 21.55 346 P P 00 34 27.9 +1.1
baz=162,SNR=58
SWET Sewanee 21.73 27 P P 00 34 26.9 -1.6
WVT Waverly 21.74 23 P P 00 34 27.1 -1.5
WVT IAmb IAmb 00 34 31.3
comp=Z,49nm,1.1s
WVT Waverly 21.74 23 P P 00 34 27.6 -1.1
baz=207

113A Mohawk Valley, 21.77 322 P P 00 34 29.7 +0.7
V48A Smith Brothers 21.79 25 P P 00 34 27.6 -1.6
V48A IAmb IAmb 00 34 34.9
comp=Z,44nm,0.8s
GTBY Guantanamo Bay 22.03 77 P P 00 34 31.9 0.0
R32A Long Quarter, 22.07 358 P P 00 34 31.5 -0.7
R32A IAmb IAmb 00 34 35.9
comp=Z,33nm,0.9s
Y14A Wickenburg 22.19 325 P P 00 34 35.0 +1.4
T45A Paducah 22.26 20 P P 00 34 32.7 -1.4
CLTN Cedars of Leba 22.30 26 P P 00 34 33.2 -1.4
CLTN IAmb IAmb 00 34 46.1
comp=Z,39nm,1.1s
CCM Cathedral Cave 22.50 14 P P 00 34 35.0 -1.6
CCM IAmb IAmb 00 34 46.8
comp=Z,45nm,0.8s
CCM Cathedral Cave 22.50 14 P P 00 34 35.6 -1.0
baz=197
R40A Maddies Statio 22.50 12 P P 00 34 34.9 -1.8
R40A IAmb IAmb 00 34 47.0
comp=Z,45nm,0.8s
CBKS Cedar Bluff 22.51 356 P P 00 34 36.8 -0.1
baz=175
CPCT Cooper Cave 22.57 30 P P 00 34 35.8 -1.7
CPCT IAmb IAmb 00 34 37.7
comp=Z,48nm,1.0s
WUAZ Wupatki 22.59 331 P P 00 34 38.7 +0.7
WUAZ IAmb IAmb 00 34 42.3
comp=Z,32nm,0.9s
WUAZ Wupatki 22.59 331 P P 00 34 39.5 +1.5
baz=144,SNR=18
GLA Glamis 22.61 321 P P 00 34 39.0 +1.0
GLA Glamis 22.61 321 P P 00 34 39.4 +1.4
baz=133
FVM French Village 22.63 16 P P 00 34 36.6 -1.5
S44A Carbondale 22.68 18 P P 00 34 37.5 -1.2
S44A IAmb IAmb 00 34 48.7
comp=Z,55nm,0.8s
S22A 4UR Ranch, Cre 22.77 342 P P 00 34 40.4 +0.4
baz=157,SNR=25
KSU1 Kansas State U 22.77 3 P P 00 34 39.1 -0.6
KSU1 Kansas State U 22.77 3 P P 00 34 39.1 -0.6
baz=183,SNR=13
MVCO Mesa Verde 22.84 338 P P 00 34 40.9 +0.2
MVCO Mesa Verde 22.84 338 P P 00 34 41.8 +1.2
baz=153,SNR=11
U49A Red Boiling Sp 22.89 26 P P 00 34 39.3 -1.6
U49A IAmb IAmb 00 34 41.2
comp=Z,49nm,0.8s
BLYC Blythe 22.91 322 P P 00 34 40.9 -0.2
BG3 Lake Jocassee 23.00 33 P P 00 34 40.2 -1.9
BG3 IAmb IAmb 00 34 50.0
comp=Z,35nm,0.8s
MOTC Monteria, Cord 23.00 106 eP P 00 34 43.7 +1.4
KSCO Kaye Shedlock' 23.02 351 P P 00 34 42.9 +0.6
baz=168
YUH Yuha Desert 23.02 318 P P 00 34 43.8 +1.5
YUH IAmb IAmb 00 34 47.6
comp=Z,84nm,1.9s
SJCC San Jacinto, C 23.08 103 eP P 00 34 45.8 +2.7
PDMCI Parker Dam,Lak 23.09 324 P P 00 34 44.4 +1.4
baz=136
TKL Tuckaleechee C 23.09 31 P P 00 34 42.1 -0.9
comp=Z,19nm,0.8s,baz=196,slow=13,SNR=22
TKL LR LR 00 47 44.8
comp=Z,262nm,18.1s,baz=185,slow=47
TKL Tuckaleechee C 23.09 31 P P 00 34 41.1 -1.9
TKL IAmb IAmb 00 34 52.4
comp=Z,43nm,1.1s
SWSC Sam W. Stewart 23.14 319 P P 00 34 45.4 +1.9
baz=131
IKP In-Ko-Pah, Jac 23.14 318 P P 00 34 45.5 +1.9
baz=130
DBBC Dabeiba 23.20 111 eP P 00 34 47.3 +3.0
NHSC New Hope 23.23 41 P P 00 34 42.7 -1.7
NHSC New Hope 23.23 41 P P 00 34 44.2 -0.2
baz=228,SNR=7.1
JSC Jenkinsville 23.39 37 P P 00 34 44.0 -2.0
JSC IAmb IAmb 00 34 55.5
comp=Z,25nm,0.9s
BC3 Big Chuckawall 23.40 321 P P 00 34 48.0 +1.7
baz=133,SNR=6.0
USIN University of 23.44 21 P P 00 34 45.2 -1.3
Q24A Divide 23.46 346 P P 00 34 46.3 -0.8
Q24A IAmb IAmb 00 34 58.0
comp=Z,29nm,1.1s
Q24A Divide 23.46 346 P P 00 34 48.4 +1.3
baz=162,SNR=13
PAULI Pauline 23.47 35 P P 00 34 45.2 -1.6
PAULI IAmb IAmb 00 34 56.9
comp=Z,45nm,0.9s
MONP2 Monument Peak 23.50 318 P P 00 34 48.6 +1.3
baz=130
UREC San Jos de Ur 23.51 108 eP P 00 34 48.9 +1.5
W13A Hualapai Mount 23.54 326 P P 00 34 47.8 0.0
IRM Iron Mountain 23.57 322 P P 00 34 49.1 +1.3
baz=134
P38A Dawn 23.59 9 P P 00 34 46.7 -1.2
P38A IAmb IAmb 00 34 57.5
comp=Z,38nm,0.8s
NEE2 Needles Airpor 23.70 324 P P 00 34 49.9 +0.8
baz=136
P40A Paris 23.74 11 P P 00 34 48.2 -1.2
U15A North Rim 23.77 330 P P 00 34 50.4 +0.4
U15A IAmb IAmb 00 35 02.8
comp=Z,45nm,1.2s
Q44A Meyer Farm, Va 23.88 17 P P 00 34 49.5 -1.2
CBOC Ciudad Bolivar 23.88 113 eP P 00 34 53.0 +1.8
TZTN Tazewell 23.91 30 P P 00 34 49.7 -1.4
baz=216,SNR=6.2
BELC Belle Mtn. Jos 23.97 321 P P 00 34 52.9 +1.1
baz=132
KMSC Kings Mountain 23.98 35 P P 00 34 50.4 -1.3
KMSC Kings Mountain 23.98 35 P P 00 34 50.8 -0.9
baz=222,SNR=13
PV07 Paradox Valley 23.99 339 P P 00 34 52.4 +0.3
PV07 IAmb IAmb 00 35 07.5
comp=Z,35nm,1.1s
PFO Pinyon Flats O 23.99 319 P P 00 34 54.1 +2.1
comp=Z,1.0nm,0.3s,baz=178,slow=9.5,SNR=2.4
PFO LR LR 00 43 36.2
comp=Z,416nm,19.2s,baz=136,slow=35
PFO Pinyon Flats O 23.99 319 P P 00 34 53.8 +1.8
baz=131
OLIL Olney 24.00 19 P P 00 34 50.3 -1.5
OLIL IAmb IAmb 00 34 54.7
comp=Z,37nm,0.8s
PLMC San Jos del P 24.10 116 eP P 00 34 53.1 0.0
BIRD Birdtown, Kers 24.11 37 P P 00 34 52.6 -0.4
SMCO Snowmass 24.14 343 P P 00 34 54.2 +0.5
SMCO IAmb IAmb 00 35 08.4
comp=Z,49nm,1.1s
WCI Wyandotte Cave 24.17 23 P P 00 34 52.3 -1.1
WCI Wyandotte Cave 24.17 23 P P 00 34 53.2 -0.2
baz=208
ZARC Zaragoza, Cauc 24.23 108 P P 00 34 54.5 +0.3
ZARC Zaragoza, Cauc 24.23 108 eP P 00 34 57.1 +2.9
GMRC Granite Mounta 24.31 323 P P 00 34 56.7 +1.7
baz=134
ISCO Idaho Springs 24.37 346 P P 00 34 55.7 0.0
ISCO IAmb IAmb 00 35 06.4
comp=Z,42nm,0.9s
ISCO Idaho Springs 24.37 346 P P 00 34 56.4 +0.8
baz=162,SNR=42
N33A J Bar K, Exete 24.38 1 P P 00 34 55.6 +0.2
KNB Kanab 24.49 330 P P 00 34 57.0 +0.4
KNB IAmb IAmb 00 35 11.2
comp=Z,29nm,1.3s
YOTC Yotoco, Valle 24.51 118 eP P 00 34 56.1 -0.9
N35A Tabor 24.59 4 P P 00 34 56.2 -1.1
GUY2C Guyana, Caldas 24.75 114 eP P 00 35 01.9 +2.4
OGNE Ogallala 24.84 353 P P 00 35 00.7 +1.1
baz=170
BLO Bloomington 24.92 21 P P 00 34 59.4 -0.9
BLO IAmb IAmb 00 35 09.2
comp=Z,38nm,0.9s
TUQ Turquoise Moun 24.92 323 P P 00 35 02.5 +1.9
baz=135
PTBC PUERTO BERRIO, 24.97 110 eP P 00 35 02.2 +1.2
OTAV Otavalo 25.00 128 P P 00 35 02.2 +0.5
NORC Norcasia 25.03 113 eP P 00 35 04.6 +3.1
MTPU Mount Pierson 25.04 333 P P 00 35 02.0 +0.3
N41A Harden Midland 25.12 13 P P 00 35 00.6 -1.5
BFSC Mount Baldy Ra 25.16 319 P P 00 35 04.2 +1.6
baz=130

RRX Edison Barstow 25.17 321 P P 00 35 04.1 +1.5
baz=132
SHPR Sheep Range 25.28 326 P P 00 35 03.8 +0.1
HDIL Hopedale 25.34 16 P P 00 35 02.9 -1.1
HDIL Hopedale 25.34 16 P P 00 35 03.0 -1.1
baz=200,SNR=6.4
GSC Goldstone, Bar 25.34 322 P P 00 35 05.2 +0.9
GSC Goldstone, Bar 25.34 322 P P 00 35 05.5 +1.2
baz=133
O20A White River Ci 25.40 341 P P 00 35 05.1 +0.2
O20A White River Ci 25.40 341 P P 00 35 06.6 +1.7
baz=156,SNR=13
N23A Red Feather La 25.49 346 P P 00 35 06.0 +0.2
N23A Red Feather La 25.49 346 P P 00 35 07.0 +1.3
baz=162,SNR=36
ORTC Ortega, Tolima 25.49 116 eP P 00 35 06.5 +0.7
SDDR Presa de Saban 25.57 80 P P 00 35 06.7 +0.2
SDDR IAmb IAmb 00 35 17.6
comp=Z,35nm,0.9s
SDDR Presa de Saban 25.57 80 eP P 00 35 08.3 +1.8
URIC Uribia, Colomb 25.61 97 eP P 00 35 00.4 -6.4
PHWY Pilot Hill 25.77 347 P P 00 35 08.2 0.0
PHWY IAmb IAmb 00 35 19.8
comp=Z,41nm,1.6s
EDW2 Edwards Air Fo 25.78 320 P P 00 35 10.1 +1.9
baz=130
SFIN Lafayette 25.81 19 P P 00 35 07.0 -1.3
SFIN IAmb IAmb 00 35 10.0
comp=Z,42nm,1.0s
SFIN Lafayette 25.81 19 P P 00 35 06.2 -2.2
baz=204,SNR=6.6
ROSC El Rosal 25.84 113 P P 00 35 08.3 -1.1
ROSC IAmb IAmb 00 35 29.8
comp=Z,22nm,1.1s
SCIA State Center 25.87 8 P P 00 35 08.7 -0.2
baz=190
P49A Miami Univ. Ec 25.91 24 P P 00 35 07.7 -1.5
P49A Miami Univ. Ec 25.91 24 P P 00 35 07.7 -1.5
baz=210,SNR=13
LRMC Laurel Mtn Rad 25.99 321 P P 00 35 12.0 +1.8
baz=132
BLA Blacksburg 26.00 33 P P 00 35 09.0 -1.2
BLA Blacksburg 26.00 33 P P 00 35 09.3 -1.0
baz=221,SNR=7.8
CNNC Cliffs of the 26.06 40 P P 00 35 09.0 -1.6
CNNC Cliffs of the 26.06 40 P P 00 35 09.7 -0.9
baz=228
BARC Barichara 26.11 109 eP P 00 35 14.7 +3.1
SC01 Santiago de lo 26.11 79 P P 00 35 10.8 -0.6
TPNV Topopah Spring 26.20 325 P P 00 35 12.1 +0.1
TPNV Topopah Spring 26.20 325 P P 00 35 13.6 +1.5
baz=136,SNR=6.2
RDMU Red Mountain 26.22 340 P P 00 35 12.1 -0.2
RDMU IAmb IAmb 00 35 23.6
comp=Z,27nm,1.0s
PAMC Pamplona, Colo 26.26 107 eP P 00 35 14.3 +1.1
MPMC Manual Prospec 26.27 322 P P 00 35 14.2 +1.4
baz=133
O48B Farmland 26.37 22 P P 00 35 11.8 -1.6
baz=208,SNR=7.9
CHIC Chingaza 26.46 113 eP P 00 35 18.5 +3.6
RUSC La Rusia 26.48 110 eP P 00 35 17.4 +2.1
P51A Williamsport 26.54 26 P P 00 35 13.3 -1.7
ISA Isabella, Lake 26.59 320 P P 00 35 14.7 -0.9
ISA Isabella, Lake 26.59 320 P P 00 35 17.8 +2.2
baz=131
GRAC Grapevine Rang 26.85 324 P P 00 35 19.8 +1.9
baz=135
CWC Cottonwood Cre 26.88 322 P P 00 35 19.7 +1.5
baz=133
R11A Troy Canyon, C 26.89 328 P P 00 35 19.5 +1.1
baz=140
P52A Corning 27.07 28 P P 00 35 19.0 -0.7
baz=215
DUG Dugway, Tooele 27.10 334 P P 00 35 20.5 +0.3
DUG Dugway, Tooele 27.10 334 P P 00 35 21.4 +1.2
baz=147,SNR=16
ACSO Alum Creek Sta 27.20 26 P P 00 35 19.5 -1.4
ACSO IAmb IAmb 00 35 55.6
comp=Z,34nm,1.1s
ACSO Alum Creek Sta 27.20 26 P P 00 35 20.4 -0.6
baz=213
K22A Casper 27.29 346 P P 00 35 22.1 +0.2
K22A IAmb IAmb 00 35 33.0
comp=Z,42nm,1.1s
K22A Casper 27.29 346 P P 00 35 22.5 +0.7
baz=161,SNR=8.4
SMMC Simmler 27.32 318 P P 00 35 24.1 +1.9
baz=128
JFWS Jewell Farm 27.36 12 P P 00 35 21.3 -1.1
JFWS Jewell Farm 27.36 12 P P 00 35 22.0 -0.3
baz=196
ECSD EROS Data Cent 27.40 2 P P 00 35 21.8 -0.9
ECSD IAmb IAmb 00 35 31.5
comp=Z,19nm,0.9s
ECSD EROS Data Cent 27.40 2 P P 00 35 21.9 -0.7
baz=182,SNR=11
TAMC Tame, Arauca 27.44 108 eP P 00 35 24.1 +0.7
TPH Tonopah 27.55 326 P P 00 35 23.7 -0.5
TPH IAmb IAmb 00 35 34.7
comp=Z,21nm,1.0s
SOCV Socops 27.64 103 eP P 00 35 29.1 +4.0
SDV Santo Domingo 27.65 102 P P 00 35 25.3 -0.2
comp=Z,15nm,0.8s,baz=296,slow=4.0,SNR=22
SDV LR LR 00 47 52.8
comp=Z,205nm,20.8s,baz=292,slow=40
SDV Santo Domingo 27.65 102 P P 00 35 25.5 +0.1
SDV IAmb IAmb 00 35 36.0
comp=Z,20nm,0.8s
SDV Santo Domingo 27.65 102 eP P 00 35 25.9 +0.4
JSRW J. Sargeant Re 27.74 36 P P 00 35 25.8 0.0
HWUT Hardware Ranch 27.83 338 P P 00 35 27.1 +0.3
I37A Lemond, Waseca 27.92 7 P P 00 35 25.8 -1.6
SUSD Miller 28.09 359 P P 00 35 30.0 +1.1
baz=178
BW06 Boulder Array 28.20 342 P P 00 35 30.2 +0.1
BW06 IAmb IAmb 00 35 44.4
comp=Z,18nm,1.1s
PDAR Pinedale Array 28.20 342 P P 00 35 31.1 +1.0
comp=Z,3.8nm,0.8s,baz=161,slow=11,SNR=14
PDAR LR LR 00 47 48.7
comp=Z,602nm,19.5s,baz=166,slow=39
PDAR Pinedale Array 28.20 342 P P 00 35 29.3 -0.9
RSSD Black Hills 28.23 351 P P 00 35 30.4 +0.1
RSSD Black Hills 28.23 351 P P 00 35 31.3 +1.0
baz=167
NV11 Mina Array Sit 28.31 325 P P 00 35 31.8 +0.7
CBN Corbin Frederi 28.39 36 P P 00 35 31.4 -0.1
baz=225
NVAR Mina Array Bea 28.39 325 P P 00 35 33.5 +1.7
comp=Z,7.2nm,1.0s,baz=147,slow=9.6,SNR=27
NVAR LR LR 00 47 23.7
comp=Z,545nm,19.9s,baz=144,slow=38
NVAR Mina Array Bea 28.39 325 P P 00 35 32.7 +0.9
ELK Elko 28.61 332 LR LR 00 46 58.9
comp=Z,938nm,18.6s,baz=162,slow=36
ELK Elko 28.61 332 P P 00 35 34.8 +1.0
AHID Auburn Hatcher 28.69 340 P P 00 35 34.7 +0.3
ECR Eagle Creek 29.04 340 P P 00 35 37.4 -0.2
SPMN Marine on St. 29.19 8 P P 00 35 37.5 -1.1
SPMN Marine on St. 29.19 8 P P 00 35 39.2 +0.6
baz=190
O56A Blue Knob Stat 29.26 31 P P 00 35 38.8 -0.5
baz=221
LOHW Long Hollow 29.29 341 P P 00 35 39.3 -0.5
BMN Battle Mountai 29.30 329 P P 00 35 39.9 0.0
BMN IAmb IAmb 00 35 51.1
comp=Z,26nm,1.7s
G40A Rib Lake 29.64 11 P P 00 35 41.7 -0.9
G40A IAmb IAmb 00 35 51.4
comp=Z,19nm,0.8s
M54A Oil Creek Stat 29.69 28 P P 00 35 42.4 -0.8
M54A Oil Creek Stat 29.69 28 P P 00 35 42.9 -0.3
baz=217
F36A Milaca 29.73 6 P P 00 35 42.6 -0.8
F36A IAmb IAmb 00 35 52.0
comp=Z,13nm,0.8s
SSPA Standing Stone 29.88 32 P P 00 35 43.8 -0.9
baz=221
LKWY Lake 30.09 342 P P 00 35 47.1 +0.1
RLMT Red Lodge 30.29 344 P P 00 35 48.5 -0.1
RLMT IAmb IAmb 00 35 59.2
comp=Z,14nm,1.0s
RLMT Red Lodge 30.29 344 P P 00 35 49.1 +0.4
baz=158,SNR=7.0

SJG **San Juan** 30.44 82 P P 00 35 48.9 -1.0
comp=Z,14nm,0.6s,baz=272,slow=12,SNR=4.2
SJG LR LR 00 49 32.1
comp=Z,353nm,21.2s,baz=284,slow=40
SJG **San Juan** 30.44 82 P P 00 35 48.4 -1.5
HLID **Hailey** 30.59 336 P P 00 35 52.2 +1.0
HLID **Hailey** 30.59 336 P P 00 35 52.2 +1.0
baz=147,SNR=5.3
GLMI **Grayling** 30.61 19 P P 00 35 51.6 +0.4
baz=206
CBYP **Canovanas** 30.72 82 P P 00 35 50.8 -1.7
BCYI **Bear Canyon** 30.85 338 P P 00 35 54.5 +0.9
LAO **LASA Array** 31.09 349 P P 00 35 55.2 -0.3
LAO IAmb IAmb 00 36 05.4
comp=Z,23nm,1.4s
LAO **LASA Array** 31.09 349 P P 00 35 56.5 +1.0
baz=164
BOZ **Bozeman (W)** 31.40 341 P P 00 35 59.0 +0.7
BOZ **Bozeman (W)** 31.40 341 P P 00 35 59.7 +1.4
baz=154
DLMT **Dillon** 31.49 340 P P 00 36 00.0 +0.8
DLMT IAmb IAmb 00 36 10.5
comp=Z,15nm,1.0s
WVOR **Wild Horse Val** 31.51 330 P P 00 36 00.3 +0.9
WVOR IAmb IAmb 00 36 02.5
comp=Z,25nm,1.1s
MDND **Maddock** 31.52 358 P P 00 35 58.9 -0.3
MDND **Maddock** 31.52 358 P P 00 35 58.8 -0.3
baz=177,SNR=8.7
O03E **Paynes Creek** 31.64 324 P P 00 36 01.6 +1.2
baz=132
BRNJ **Basking Ridge** 31.67 35 P P 00 36 00.2 -0.4
LRM **Limekiln Ridge** 31.86 341 P P 00 36 03.2 +0.8
AGMN **Agassiz Nation** 31.98 3 P P 00 36 02.3 -0.9
AGMN **Agassiz Nation** 31.98 3 P P 00 36 02.4 -0.9
baz=184,SNR=29
BINY **Binghamton** 31.99 32 P P 00 36 03.1 -0.4
baz=223
TRNY **Table Rock, Ra** 32.17 35 P P 00 36 04.6 -0.4
PAL **Palisades** 32.25 35 P P 00 36 05.2 -0.4
baz=227
HRY **Holter Researc** 32.46 342 P P 00 36 07.5 -0.1
PLID **Pearl Lake** 32.48 336 P P 00 36 08.6 +0.6
PLID IAmb IAmb 00 36 19.2
comp=Z,19nm,1.2s
DGMT **Dagmar** 32.51 352 P P 00 36 08.3 +0.4
baz=168
SADO **Sadowa** 32.55 25 P P 00 36 08.1 -0.2
comp=Z,4.0nm,0.6s,baz=260,slow=7.7,SNR=5.0
SADO LR LR 00 52 14.4
comp=Z,207nm,20.3s,baz=191,slow=42
M04C **Macdoel** 32.67 326 P P 00 36 10.4 +0.8
baz=134
WSPT **Westport, CT** 32.69 36 P P 00 36 09.2 -0.3
KSCT **Kent School, K** 32.98 35 P P 00 36 11.7 -0.3
YBH **Yreka Blue Hor** 33.11 325 LR LR 00 50 59.2
comp=Z,316nm,18.7s,baz=161,slow=39
EGMT **Eagleton** 33.12 345 P P 00 36 14.2 +0.9
EGMT **Eagleton** 33.12 345 P P 00 36 13.8 +0.5
baz=159
L04D **Klamath Falls** 33.22 326 P P 00 36 15.5 +1.2
baz=133
MSO **Missoula** 33.23 340 P P 00 36 14.8 +0.5
baz=151,SNR=5.8
PINE **Pine Mountain** 33.65 329 P P 00 36 18.9 +0.8
UCCT **U. Connecticut** 33.72 36 P P 00 36 18.2 -0.3
J04D **Umpqua Nationa** 33.84 328 P P 00 36 21.3 +1.5
baz=135
ULM **Lac du Bonnet** 33.93 2 P P 00 36 20.2 0.0
comp=Z,9.1nm,0.9s,baz=177,slow=8.8,SNR=9.6
ULM LR LR 00 50 55.9
comp=Z,211nm,21.9s,baz=186,slow=38
ULM **Lac du Bonnet** 33.93 2 P P 00 36 19.4 -0.8
ULM IAmb IAmb 00 36 28.7
comp=Z,12nm,0.8s
QUA2 **Belchertown** 33.97 35 P P 00 36 20.4 -0.3
I05D **Terrebonne, OR** 34.25 330 P P 00 36 24.4 +1.3
baz=137
LONY **Lake Ozonia** 34.47 30 P P 00 36 25.4 +0.4
baz=222
J01E **Myrtle Point** 34.74 326 P P 00 36 29.6 +2.2
baz=132
I03D **Drain, OR** 34.80 327 P P 00 36 29.8 +2.0
baz=134
NNA **Nana** 35.01 142 LR LR 00 48 23.8
comp=Z,157nm,18.4s,baz=338,slow=32
H04D **Lebanon** 35.07 329 P P 00 36 31.3 +1.1
baz=135
WALA **Waterton Lakes** 35.19 342 P P 00 36 31.2 -0.1
I02E **Swisshome, OR** 35.34 327 P P 00 36 36.0 +3.5
baz=133
F05D **White Salmon** 35.45 331 P P 00 36 35.7 +2.2
baz=138
LBNH **Lisbon** 35.53 33 P P 00 36 35.3 +1.2
baz=226
NEW **Newport** 35.57 338 LR LR 00 52 28.7
comp=Z,984nm,18.1s,baz=158,slow=39
NEW **Newport** 35.57 338 P P 00 36 36.0 +1.5
baz=147
TRQ **Mont Tremblant** 35.68 28 P P 00 36 33.8 -1.7
TRQ IAmb IAmb 00 36 46.9
comp=Z,34nm,1.5s
D05A **Enumclaw** 36.68 332 P P 00 36 44.4 +0.5
D05A IAmb IAmb 00 36 55.3
comp=Z,31nm,1.0s
D04E **Lakebay** 37.02 332 P P 00 36 49.1 +2.2
baz=138
PKME **Peaks-Kenny Pk** 37.61 34 P P 00 36 52.4 +0.5
FFC **Flin Flon** 38.50 356 P P 00 36 58.2 -1.0
FFC IAmb IAmb 00 37 09.3
comp=Z,26nm,1.1s
EDM **Edmonton** 38.80 345 P P 00 37 01.8 -0.1
EDM IAmb IAmb 00 37 11.7
comp=Z,44nm,1.3s
FCC **Fort Churchill** 42.52 3 P P 00 37 32.1 -0.3
FCC IAmb IAmb 00 37 42.2
comp=Z,48nm,1.6s
BBB **Bella Bella** 43.04 333 LR LR 00 57 06.2
comp=Z,284nm,21.8s,baz=172,slow=38
LPAZ **La Paz** 43.74 136 P P 00 37 42.2 -1.4
comp=Z,0.6nm,0.6s,baz=355,slow=12,SNR=3.8
LPAZ LR LR 00 53 40.6
comp=Z,140nm,21.7s,baz=312,slow=33
LPAZ **La Paz** 43.74 136 P P 00 37 43.9 +0.4
PB16 **IPOC Station P** 44.37 140 P P 00 37 49.8 +1.4
PB16 IAmb IAmb 00 37 56.8
comp=Z,12nm,0.9s
RPN **Rapa Nui** 44.53 194 LR LR 00 51 42.0
comp=Z,226nm,21.6s,baz=46,slow=30
SCHQ **Schefferville** 45.35 25 P P 00 37 54.3 -1.0
comp=Z,6.0nm,0.8s,baz=260,slow=5.1,SNR=4.5
SCHQ LR LR 01 00 56.1
comp=Z,297nm,19.3s,baz=262,slow=42
PB02 **IPOC Station P** 46.41 143 P P 00 38 04.7 +0.5
PB02 IAmb IAmb 00 38 11.7
comp=Z,14nm,0.7s
PB07 **IPOC Station P** 46.74 143 P P 00 38 07.2 +0.4
PB07 IAmb IAmb 00 38 14.2
comp=Z,10nm,0.8s
PB09 **IPOC Station P** 47.17 142 P P 00 38 10.4 +0.3
YKA **Yellowknife Ar** 47.63 350 P P 00 38 12.4 -0.6
comp=Z,4.7nm,0.9s,baz=157,slow=7.1,SNR=27
YKA LR LR 01 00 14.1
comp=Z,360nm,18.6s,baz=190,slow=39
YKA **Yellowknife Ar** 47.63 350 P P 00 38 13.5 +0.5
DLBC **Dease Lake** 48.32 338 LR LR 01 00 29.9
comp=Z,741nm,20.1s,baz=129,slow=38
TAOE **Nuku Hiva Isla** 48.63 242 *e*S S 00 45 26.6 +2.8
comp=Z,129nm,24.2s
TAOE *e*LR LR 00 51 57.2
comp=Z,607nm,25.2s
TAOE **Nuku Hiva Isla** 48.63 242 *e*T T 01 30 13.6
comp=Z,42nm,0.2s
TGTN **Hyland Airport** 50.07 342 P P 00 38 33.1 +1.3
baz=141,SNR=6.9
P33M **Teslin, Yukon** 50.59 338 P P 00 38 37.9 +2.1
baz=134
FRB **Frobisher Bay** 51.58 16 P P 00 38 42.6 -0.5
comp=Z,7.4nm,0.8s,baz=224,slow=11,SNR=11
FRB LR LR 01 02 12.2
comp=Z,222nm,20.7s,baz=205,slow=38
WHY **Whitehorse** 51.64 338 P P 00 38 45.3 +1.6
baz=132
M31M **Drury Creek, Y** 52.53 339 P P 00 38 51.8 +1.6
baz=134
RKT **Rikitea** 53.31 224 *e*T T 01 35 52.6
comp=Z,18nm,0.3s
YUK4 **Talbot Arm** 53.48 337 P P 00 38 58.8 +1.3
baz=129
M30M **Minto, Yukon** 53.61 339 P P 00 38 59.9 +1.6
baz=131
YUK3 **Moose Creek** 54.43 337 P P 00 39 05.7 +1.2
baz=127
MCARA **McCarthy VSAT** 55.20 335 P P 00 39 10.6 +0.9
MCARA **McCarthy VSAT** 55.20 335 P P 00 39 12.3 +2.5
baz=124
DAWY **Dawson** 55.47 339 P P 00 39 12.8 +1.1
baz=129
C36M **Paulatuk** 55.50 349 P P 00 39 11.9 +0.1
baz=149
BCAR **Beaver Creek A** 55.70 338 P P 00 39 14.5 +1.1
L27K **Beaver Creek,** 55.71 338 P P 00 39 14.6 +1.1
L27K IAmb IAmb 00 39 24.7
comp=Z,11nm,1.1s
L27K **Beaver Creek,** 55.71 338 P P 00 39 14.8 +1.3
baz=126,SNR=7.2
EYAK **Cordova Ski Ar** 55.87 334 P P 00 39 15.1 +0.5
baz=120
N25K **Chitina, Valde** 55.95 335 P P 00 39 17.0 +1.7
baz=122
I29M **Ogilvie Camp,** 55.96 341 P P 00 39 15.5 +0.3
baz=131
EPYK **Eagle Plains** 56.16 342 P P 00 39 17.6 +0.9
baz=133
L26K **Log Cabin Wild** 56.25 337 P P 00 39 18.1 +0.8
baz=124
KLU **Klutina** 56.43 335 P P 00 39 19.6 +0.9
baz=121
EGAK **Eagle** 56.52 339 P P 00 39 19.0 -0.1
EGAK **Eagle** 56.52 339 P P 00 39 20.0 +0.9
baz=128
HARP **HAARP** 56.60 336 P P 00 39 20.9 +1.1
baz=122
INK **Inuvik** 56.70 345 P P 00 39 20.9 +0.6
comp=Z,12nm,0.8s,baz=120,slow=6.8,SNR=26
INK LR LR 01 07 44.3
comp=Z,470nm,18.6s,baz=131,slow=40
INK **Inuvik** 56.70 345 P P 00 39 20.4 +0.1
INK IAmb IAmb 00 39 21.9
comp=Z,15nm,0.9s
INK **Inuvik** 56.70 345 P P 00 39 20.4 +0.1
baz=138,SNR=12
M24K **Tolsona, Glenn** 56.85 335 P P 00 39 23.5 +1.9
baz=121
PAX **Paxson** 57.03 336 P P 00 39 23.3 +0.3
PAX IAmb IAmb 00 39 24.8
comp=Z,8.4nm,1.0s
PAX **Paxson** 57.03 336 P P 00 39 23.0 +0.1
baz=122,SNR=5.8
SCRK **Sand Creek** 57.03 338 P P 00 39 24.1 +1.1
SCRK IAmb IAmb 00 39 34.2
comp=Z,10.0nm,1.0s
SCRK **Sand Creek** 57.03 338 P P 00 39 23.9 +1.0
baz=124,SNR=6.4
J26L **Joseph Creek** 57.18 338 P P 00 39 24.6 +0.7
baz=125,SNR=13
RIDG **Independent Ri** 57.21 337 P P 00 39 25.1 +1.0
RIDG **Independent Ri** 57.21 337 P P 00 39 24.2 0.0
baz=123,SNR=7.1
SML **Sawmill** 57.58 334 P P 00 39 28.0 +1.2
baz=119
KDAK **Kodiak Island** 57.78 329 LR LR 01 04 38.7
comp=Z,364nm,18.1s,baz=110,slow=36
RC01 **Rabbit Creek A** 57.84 333 P P 00 39 29.9 +1.3
baz=117
J25K **Salcha River,** 57.89 338 P P 00 39 29.8 +0.9
J25K **Salcha River,** 57.89 338 P P 00 39 29.8 +0.9
baz=123
CPUP **Villa Florida** 57.92 136 LR LR 01 04 08.0
comp=Z,120nm,19.9s,baz=327,slow=36
A36M **Sachs Harbour** 57.98 350 P P 00 39 28.9 -0.4
A36M IAmb IAmb 00 39 30.8
comp=Z,15nm,0.8s
A36M **Sachs Harbour** 57.98 350 P P 00 39 28.6 -0.7
baz=148,SNR=16
RES **Resolute Bay** 58.44 1 P P 00 39 32.1 -0.4
comp=Z,2.3nm,0.8s,baz=175,slow=11,SNR=8.7
RES LR LR 01 07 14.2
comp=Z,198nm,18.1s,baz=219,slow=39
RES **Resolute Bay** 58.44 1 P P 00 39 32.2 -0.4
PRP **Porcupine Dome** 58.45 339 P P 00 39 33.1 +0.2
PRP IAmb IAmb 00 39 43.5
comp=Z,12nm,1.1s
PRP **Porcupine Dome** 58.45 339 P P 00 39 32.8 -0.1
baz=124,SNR=6.6
IL31 58.52 338 P P 00 39 33.8 +0.6
IL31 IAmb IAmb 00 39 44.4
comp=Z,12nm,1.1s
ILAR **Eielson Array** 58.52 338 P P 00 39 33.5 +0.2
comp=Z,4.1nm,0.9s,baz=134,slow=5.0,SNR=27
ILAR LR LR 01 04 04.9
comp=Z,182nm,19.1s,baz=125,slow=35
ILAR **Eielson Array** 58.52 338 P P 00 39 33.6 +0.3
BDFB **Brasilia** 58.62 120 P P 00 39 34.1 -0.8
comp=Z,4.3nm,0.7s,baz=276,slow=8.6,SNR=8.4
BDFB **Brasilia** 58.62 120 P P 00 39 34.6 -0.2
BDFB IAmb IAmb 00 39 42.0
comp=Z,7.4nm,1.0s
CUT **Chulitna** 58.67 334 P P 00 39 35.3 +1.0
baz=117
MCK **McKinley** 58.76 336 P P 00 39 35.6 +0.6
baz=119
POKR **Poker Plat Res** 58.90 338 P P 00 39 36.1 +0.1
POKR IAmb IAmb 00 40 14.9
comp=Z,7.6nm,0.9s
POKR **Poker Plat Res** 58.90 338 P P 00 39 36.6 +0.6
baz=121
COLA **College** 58.93 338 P P 00 39 36.9 +0.8
baz=121
TCOL **CIGO, UAF Yank** 58.93 338 P P 00 39 37.1 +1.0
baz=121
SPCR **Spurr Chakacha** 58.97 333 P P 00 39 37.3 +0.7
baz=114
TRF **Thorofare Moun** 59.16 336 P P 00 39 38.9 +0.9
TRF **Thorofare Moun** 59.16 336 P P 00 39 37.9 0.0
baz=118,SNR=14
SFJD **Kangerlussuaq** 59.22 20 LR LR 01 06 58.1
comp=Z,335nm,21.4s,baz=234,slow=38
BMAR **Burnt Mountain** 59.23 341 P P 00 39 38.8 +0.6
H24K **Noodor Dome** 59.44 339 P P 00 39 40.4 +0.7
H24K IAmb IAmb 00 39 50.2
comp=Z,14nm,1.1s
H24K **Noodor Dome** 59.44 339 P P 00 39 40.2 +0.5
baz=121,SNR=7.8
I23K **Minto, Yukon-K** 59.62 337 P P 00 39 41.8 +1.0
I23K **Minto, Yukon-K** 59.62 337 P P 00 39 41.5 +0.7
baz=119
P18K **Big Mountain,** 59.66 330 P P 00 39 41.9 +0.6
baz=110
PPLA **Purkeypile** 59.68 335 P P 00 39 42.1 +0.6
baz=115
BPAW **Bear Paw Mtn.** 59.74 336 P P 00 39 41.9 +0.1
BPAW IAmb IAmb 00 39 55.9
comp=Z,18nm,1.5s
BPAW **Bear Paw Mtn.** 59.74 336 P P 00 39 42.0 +0.3
baz=117
N19K **Bonanza Creek** 59.83 332 P P 00 39 42.8 +0.2
baz=112,SNR=7.0
CAST **Castle Rocks** 59.87 335 P P 00 39 42.2 -0.4
baz=116,SNR=9.1
MLY **Manley** 60.08 337 P P 00 39 44.6 +0.5
baz=118,SNR=9.5
M19K **Big River Lodg** 60.21 333 P P 00 39 45.8 +0.8
baz=112
L20K **Farewell, AK** 60.22 334 P P 00 39 45.0 -0.1
baz=113,SNR=6.7
L19K **White Mountain** 60.52 333 P P 00 39 47.2 +0.1
baz=112
I21K **Tanana** 60.61 337 P P 00 39 48.1 +0.4
baz=117
K20K **Telida** 60.65 335 P P 00 39 48.2 +0.2
K20K IAmb IAmb 00 39 58.0
comp=Z,13nm,0.9s
K20K **Telida** 60.65 335 P P 00 39 48.0 0.0
baz=114,SNR=5.8
PPT **Papeete** 60.95 239 LR LR 01 00 08.5
comp=Z,222nm,20.0s,baz=23,slow=30
COLD **Coldfoot** 60.95 339 P P 00 39 50.7 +0.7
baz=120
PPT2 **Papeete2** 60.96 239 *e*LR LR 00 57 41.0
comp=Z,417nm,26.2s
J20K **Nowinta River** 61.02 335 P P 00 39 50.8 +0.4
J20K IAmb IAmb 00 40 00.4
comp=Z,12nm,1.0s
J20K **Nowinta River** 61.02 335 P P 00 39 50.7 +0.2
baz=114,SNR=9.1
H21K **Melozitna Rive** 61.13 337 P P 00 39 51.3 0.0
baz=116
TTA **Tatalina** 61.30 334 P P 00 39 52.3 -0.2
TTA IAmb IAmb 00 40 02.1
comp=Z,8.6nm,1.0s
TTA **Tatalina** 61.30 334 P P 00 39 52.7 +0.2
baz=112
TOLK **Toolik Lake Re** 61.47 341 P P 00 39 53.9 +0.4
TOLK IAmb IAmb 00 39 55.5
comp=Z,8.2nm,1.0s
TOLK **Toolik Lake Re** 61.47 341 P P 00 39 53.6 +0.1
baz=121,SNR=8.1
IMAR **Indian Mountai** 61.63 337 P P 00 39 54.1 -0.4
PLCA **Paso Flores** 62.17 157 P P 00 39 58.6 0.0
comp=Z,4.1nm,0.9s,baz=297,slow=7.2,SNR=5.4
PLTB **Pedras Altas** 63.97 138 P P 00 40 09.9 -0.7
PLTB IAmb IAmb 00 40 16.8
comp=Z,8.8nm,0.9s
EUNU **Eureka** 64.03 2 P P 00 40 09.9 -0.5
EUNU IAmb IAmb 00 40 12.0
comp=Z,12nm,1.0s
A21K **Barrow** 64.87 342 P P 00 40 16.2 +0.3
baz=115
RCBR **Riachuelo** 65.20 104 LR LR 01 10 37.1
comp=Z,120nm,19.4s,baz=92,slow=38
RDOG **Red Dog Mine** 65.73 338 P P 00 40 22.3 +0.7
baz=107
ANM **Nome** 65.76 334 P P 00 40 22.5 +0.6
ANM IAmb IAmb 00 40 23.6
comp=Z,5.1nm,0.8s
ANM **Nome** 65.76 334 P P 00 40 22.1 +0.3
baz=103,SNR=7.0
TNA **Tin City** 67.03 335 P P 00 40 30.5 +0.6
TNA IAmb IAmb 00 40 40.5
comp=Z,9.3nm,0.9s
TNA **Tin City** 67.03 335 P P 00 40 30.2 +0.3
baz=101,SNR=8.4
GAMB **Gambell** 68.34 333 P P 00 40 38.9 +0.7
baz=97
BORG **Borgarnes** 69.72 26 LR LR 01 13 26.5
comp=Z,135nm,18.3s,baz=281,slow=38
DAG **Danmarks Havn** 71.82 14 *i* P P 00 40 58.0 -1.4
JMIC **Jan Mayen** 74.57 20 LR LR 01 17 05.1
comp=Z,138nm,18.7s,baz=281,slow=38
USHA **Ushuaia** 75.15 163 LR LR 01 09 53.0
comp=Z,358nm,19.4s,baz=264,slow=32
BILL **Bilibino** 77.18 337 P P 00 41 30.7 0.0
BILL IAmb IAmb 00 41 41.1
comp=Z,9.9nm,1.3s
AFI **Afiamalu** 78.83 252 LR LR 01 09 33.8
comp=Z,114nm,18.5s,baz=80,slow=30
SPITS **Spitsbergen Ar** 79.00 11 LR LR 01 18 44.5
comp=Z,235nm,20.7s,baz=2.5,slow=37
PCAS **Casmilo, Conde** 79.33 51 *e*P P 00 41 43.5 +0.3
comp=Z,54nm,1.5s
EKA **Eskdalemuir Ar** 79.49 35 LR LR 01 14 57.9
comp=Z,128nm,21.7s,baz=295,slow=34
PVIS **Viseu** 79.64 51 *e*P P 00 41 44.5 -0.4
comp=Z,41nm,1.3s
PMTG **Montargil** 79.74 52 *e*P P 00 41 45.4 0.0
comp=Z,29nm,1.1s
MORF **Marmelete** 79.80 54 *e*P P 00 41 46.0 +0.1
comp=Z,38nm,1.4s
MTE **Manteigas** 79.97 51 *e*P P 00 41 46.8 +0.1
comp=Z,38nm,1.5s
MTE **Manteigas** 79.97 51 P P 00 41 46.0 -0.7
MTE IAmb IAmb 00 41 56.3
comp=Z,20nm,1.0s
MVO **Moncorvo** 80.18 50 *e*P P 00 41 48.8 +1.0
comp=Z,24nm,1.7s
PCVE **Castro Verde** 80.20 54 *e*P P 00 41 52.9 +4.9
comp=Z,39nm,1.6s
PBEJ **Beja** 80.25 53 *e*P P 00 41 48.7 +0.5
comp=Z,24nm,1.1s
PMRV **Marv??o** 80.30 52 *e*P P 00 41 48.4 0.0
comp=Z,20nm,1.3s
PBDV **Barranco-do-Ve** 80.37 54 *e*P P 00 41 55.5 +6.6
comp=Z,51nm,1.7s
PVAQ **Vaqueiros** 80.50 54 *e*P P 00 41 50.1 +0.5
comp=Z,32nm,1.6s
PBAR **Barrancos** 80.85 53 *e*P P 00 41 51.6 +0.2
comp=Z,24nm,1.7s
PAB **San Pablo** 82.55 51 P P 00 41 60.0 -0.5
PAB IAmb IAmb 00 42 11.2
comp=Z,13nm,1.0s
ESDC **Sonseca Array** 82.81 51 P P 00 42 01.2 -0.6
comp=Z,2.5nm,0.9s,baz=300,slow=6.2,SNR=9.8
ESDC LR LR 01 12 15.3
comp=Z,130nm,21.4s,baz=282,slow=31
ESDC **Sonseca Array** 82.81 51 P P 00 42 01.1 -0.7
ESDC IAmb IAmb 00 42 12.4
comp=Z,7.7nm,1.1s
MDT **Midelt** 84.11 58 LR LR 01 15 12.7
comp=Z,227nm,20.7s,baz=330,slow=33
NB2 **NORSAR Subarra** 84.86 27 P P 00 42 11.7 -0.1
comp=Z,1.4nm,0.8s,baz=298,slow=5.1
NOA **NORSAR Array B** 84.86 27 P P 00 42 12.2 +0.3
comp=Z,0.7nm,0.8s,baz=297,slow=5.1,SNR=3.9
NOA LR LR 01 19 14.2
comp=Z,60nm,21.8s,baz=290,slow=35
PETK **Petropavlovsk-** 85.47 324 P P 00 42 14.6 -0.4
comp=Z,1.3nm,0.7s,baz=259,slow=0.7,SNR=2.3
PETK LR LR 01 19 50.8
comp=Z,79nm,19.6s,baz=66,slow=35
DOU **Dourbes** 85.50 39 *d*P P 00 42 15.5 +0.3
BMRD **Maredsous** 85.54 39 *d*P P 00 42 16.3 +0.9
BGES **Gesves** 85.70 39 *d*P P 00 42 16.8 +0.6
ARCES **ARCESS Array B** 85.74 17 LR LR 01 22 30.2
comp=Z,103nm,20.3s,baz=304,slow=37
BCLA **Clavier** 85.82 39 *d*P P 00 42 18.0 +1.2
RCHB **Rochefort** 85.86 39 *d*P P 00 42 17.6 +0.6
BTNL **Ternell** 86.25 38 *d*P P 00 42 19.9 +1.0
HFS **Hagfors** 86.36 28 LR LR 01 21 58.6
comp=Z,128nm,19.5s,baz=306,slow=36
TIXI **Tiksi** 86.79 347 P P 00 42 20.6 -0.5
TIXI IAmb IAmb 00 42 22.0
comp=Z,4.6nm,0.8s
KOWA **Kowa** 89.71 75 P P 00 42 35.7 -0.5
DAVOX **Davos/Dischmat** 90.00 41 LR LR 01 25 24.5
comp=Z,158nm,18.5s,baz=276,slow=37
FINES **FINESS Array B** 90.81 23 LR LR 01 27 05.3
comp=Z,164nm,18.3s,baz=279,slow=38
DBIC **Dimbokro** 91.13 83 LR LR 01 21 56.2
comp=Z,85nm,19.8s,baz=316,slow=34
VRAC **Vranov** 92.91 37 LR LR 01 28 18.0
comp=Z,93nm,18.0s,baz=315,slow=38
YAK **Yakutsk** 93.41 340 LR LR 01 29 45.7
comp=Z,142nm,18.3s,baz=87,slow=39
TORD **Torodi Ar. Bea** 95.41 75 P P 00 43 01.1 -1.4
comp=Z,0.7nm,0.8s,baz=295,slow=4.5,SNR=3.6
TORD **Torodi Ar. Bea** 95.41 75 P P 00 43 00.8 -1.7
TORD IAmb IAmb 00 46 41.1
comp=Z,11nm,1.9s
URZ **Urewera** 96.01 232 LR LR 01 16 08.9
comp=Z,135nm,20.5s,baz=30,slow=29
VAE **Valguarnera** 97.03 48 LR LR 01 25 06.6
comp=Z,114nm,18.3s,baz=320,slow=34
AKASG **Malin Array Be** 98.88 31 LR LR 01 30 10.7
comp=Z,115nm,19.4s,baz=310,slow=37
OBN **Obninsk** 99.16 25 LR LR 01 28 41.7
comp=Z,36nm,21.8s,baz=352,slow=36
DZM **Mont Dzumac** 100.99 250 *e*LR LR 01 16 36.4
comp=Z,263nm,22.7s
WRA **Warramunga Arr** 130.30 257 PKP PKPdf 00 48 48.5 +0.1
comp=Z,0.4nm,0.8s,baz=83,slow=3.2,SNR=5.1
ASAR **Alice Springs** 130.90 253 PKP PKiKP 00 48 50.4 -0.1
comp=Z,0.2nm,0.4s,baz=56,slow=2.2,SNR=1.9
PZH **PanZhiHua** 133.36 335 PKP PKiKP 00 48 56.0 +0.5

INET **24** *00:59:08.0±0.6, 12°.10N×88°.11W, h27km±7km, MW3.2*
SNET **24** *00:59:08.3±1.0, 12°.07N×87°.96W, h22km±6km, ML3.3*
ISC 24 00:59:10.6±2.5, 12°.2N±0°.2×87°.9W±0°.1, h35km, n11,
σ3$00/13, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**1.09**	**359**	*e*P	**Pn**	**00 59 30.1**	**+0.7**
LCND				*e*S	**Sn**	**00 59 47.2**	**+3.9**
LCND				IAML		00 59 52.7	
JUCU	**Jucuar¡n**	**1.10**	**341**	*e*P	**Pn**	**00 59 29.8**	**+0.3**
JUCU				*e*S	**Sn**	**00 59 46.7**	**+3.2**
JUCU				IAML		00 59 52.6	

	comp=Z,493nm,0.4s						
COPN	**Copaltepe**	**1.25**	**91**	*eP*	**Pn**	**00 59 31.5**	**-0.2**
MOMN	**Momotombo**	**1.32**	**81**	*eP*	**Pn**	**00 59 33.0**	**+0.4**
COEB	**Comit de Eme**	**1.43**	**333**	*eP*	**Pn**	**00 59 33.8**	**-0.4**
FAGO	**Alcalda de S**	**1.49**	**351**	*eP*	Pn	00 59 24.2	-11
FAGO				*eS*	**Sn**	**00 59 45.2**	**-7.9**
TECO	**Alcaldia de Te**	**1.58**	**326**	*eP*	**Pn**	**00 59 35.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.70**	**331**	*eP*	**Pn**	**00 59 38.0**	**+0.2**
COEG	**Centro de Oper**	**1.71**	**325**	*eP*	**Pn**	**00 59 37.8**	**-0.1**
COEG				IAML		01 00 06.3	
	comp=Z,258nm,0.4s						
PAVA	**Las Pavas**	**1.81**	**325**	*eP*	**Pn**	**00 59 40.0**	**+0.5**
TACO	**Tacachico**	**2.26**	**321**	*eP*	**Pn**	**00 59 46.1**	**+0.5**

NOU 24 01:04:21.3, 17°10S × 168°60E, h231km, MLv4.3/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.71**	**194**	P	Pn	01 04 53.3	+0.5
DVP	**Devils Point**	**0.74**	**212**	P	Pn	01 04 54.0	+1.1
SANVU	**Saraoutou**	**2.12**	**321**	P	Pn	01 05 03.2	-0.2
LIFNC	**LIFOU**	**3.88**	**199**	P	Pn	01 05 22.5	-0.3
MARNC	**Mare, Loyalty**	**4.39**	**187**	P	Pn	01 05 28.5	-0.5
DZM	**Mont Dzumac**	**5.35**	**202**	P	Pn	01 05 41.5	+0.6

*DDA **24** 01:22:16.2±0.0, 35°.94N × 29°.68E, h18km±1km, MW4.2*
*ISK **24** 01:22:16.8, 36°.06N × 29°.67E, h5km, ML4.1/19*
*NIC **24** 01:22:17.3±0.0, 36°.14N × 29°.73E, h2km±1km, Ml4.0/5*
*ATH **24** 01:22:17.1, 36°.03N × 29°.63E, h6km±1km, ML3.9/11, Error ellipse: s-maj=2.4km s-min=1.0km az=327.0*
*NEIC **24** 01:22:17.3±2.4, 36°.00N±0°.03 × 29°.67E±0°.04, h3km±5km, Error ellipse: s-maj=4.7km s-min=4.2km az=202.0*
*MED_RC **24** 01:22:18.0±0.3, 36°.01N × 29°.62E, h10km, MW4.3/14, Moment Tensor Solution.Mantle waves: s14,c18; Duration: 1§1 Moment tensor: Scale 10^15 Nm; Mrr-0.56±.22; Mθθ-2.65±.20; Mϕϕ3.22±.16; Mrθ2.42±.57; Mθϕ0.05±.18; Mϕr-0.36±.47; Best double couple: M◎3.76000×10^15 NP1:ϕs320.00000°, δ72.00000°, λ-150.00000°. NP2:ϕs220.00000°, δ62.00000°, λ-20.00000°. Principal axes: T 3.2600, Plg7.0000°, Azm88.0000°; N 1.0000, Plg56.0000°, Azm348.0000°; P -4.2500, Plg33.0000°, Azm182.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **24** 01:22:20.7, 36°.15N × 29°.58E, h0km±2km, ML3.8/4 Error ellipse: s-maj=3.3km s-min=0.4km az=110.0*
*IDC **24** 01:22:20.6±4.0, 36°.04N × 29°.69E, h30km±31km, mb3.8/13, mb1 3.9/22, mb1mx3.7/48, mbtmp3.9/22, ML3.9/9, MS3.4/9, Ms1 3.4/9, ms1mx3.0/90, Error ellipse: s-maj=15.2km s-min=12.7km az=171.0*
*GII **24** 01:22:21.0±0.0, 35°.73N × 29°.66E, h10km, Mm4.5/4*

ISC 24 01:22:16.5±1.1, 36°.00N±0°.02 × 29°.67E±0°.02, h3km±8km, n245, σ1§53/311, mb4.1/16, MS3.8/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.17**	**335**	P	**Pg**	**01 22 19.9**	**+0.1**
KSL				S	**Sg**	**01 22 21.6**	**-0.6**
KSL				AML	AML	01 22 21.7	
KSL				AML	AML	01 22 21.9	
KSL	**Kastellorizon**	**0.17**	**335**	P	**Pg**	**01 22 19.9**	**+0.1**
KSL				S	**Sg**	**01 22 21.5**	**-0.6**
KSL	**Kastellorizon**	**0.17**	**335**	P	**Pg**	**01 22 20.0**	**+0.1**
KSL				S	**Sg**	**01 22 21.3**	**-0.8**
KSL				AML	AML	01 22 21.7	
	441nm,0.4s						
KSL				AML	AML	01 22 21.7	
	441nm,0.4s						
KSL				AML	AML	01 22 21.9	
	926nm,0.4s						
KSL				AML	AML	01 22 21.9	
	926nm,0.4s						
AKAS	**Kas**	**0.24**	**347**	PG	**Pg**	**01 22 21.1**	**-0.2**
AKAS				SG	**Sg**	**01 22 23.8**	**-0.6**
AKAS	**Kas**	**0.24**	**347**	Pg	**Pg**	**01 22 21.0**	**-0.2**
AKAS				Sg	**Sg**	**01 22 23.3**	**-1.1**
AKAS	**Kas**	**0.24**	**347**	P	**Pg**	**01 22 21.0**	**-0.2**
AKAS				S	**Sg**	**01 22 23.5**	**-0.9**
ELL	**Elmali**	**0.77**	**14**	PG	**Pg**	**01 22 30.3**	**-1.1**
ELL				SG	**Sb**	**01 22 42.7**	**-1.1**
ELL	**Elmali**	**0.77**	**14**	Pg	**Pg**	**01 22 30.2**	**-1.1**
ELL				Sg	**Sg**	**01 22 40.5**	**-0.9**
ELL	**Elmali**	**0.77**	**14**	P	**Pg**	**01 22 30.1**	**-1.3**
ELL				S	**Sg**	**01 22 40.3**	**-1.2**
FETY	**Fethiye**	**0.80**	**323**	P	**Pb**	**01 22 32.6**	**-0.5**
FETY				S	**Sb**	**01 22 43.2**	**-1.1**
FETY	**Fethiye**	**0.80**	**323**	PG	**Pg**	**01 22 32.2**	**+0.4**
FETY				SG	**Sb**	**01 22 43.8**	**-0.5**
FETY	**Fethiye**	**0.80**	**323**	Pg	**Pb**	**01 22 32.9**	**-0.2**
FETY				Sg	**Sb**	**01 22 44.5**	**+0.2**
FETY	**Fethiye**	**0.80**	**323**	P	**Pb**	**01 22 32.5**	**-0.5**
FETY				S	**Sb**	**01 22 44.8**	**+0.5**
KEMT	**Kemer-ANTALYA**	**0.94**	**49**	PG	**Pb**	**01 22 35.4**	**0.0**
KEMT	**Kemer-ANTALYA**	**0.94**	**49**	Pg	**Pb**	**01 22 35.5**	**+0.1**
CAME	**Cameli-Denizli**	**0.99**	**343**	PG	**Pg**	**01 22 35.3**	**-0.3**
CAME				SG	**Sb**	**01 22 49.9**	**-0.2**
CAME	**Cameli-Denizli**	**0.99**	**343**	Pg	**Pb**	**01 22 36.2**	**-0.3**
CAME					**Sn**	**01 22 50.7**	**-1.5**
KORT	**Korkueli**	**1.14**	**28**	PN	**Pb**	**01 22 38.9**	**-0.1**
KORT				SN	**Sn**	**01 22 55.1**	**-0.8**
KORT	**Korkueli**	**1.14**	**28**	P	**Pg**	**01 22 38.3**	**-0.1**
KORT				S	**Sn**	**01 23 00.2**	**+4.3**
CAEL	**Denizli, Camel**	**1.16**	**346**	P	**Pg**	**01 22 38.8**	**0.0**
DALY	**Dalyan (Mula)**	**1.16**	**315**	PN	**Pb**	**01 22 39.3**	**0.0**
DALY				SN	**Sn**	**01 22 55.8**	**-0.3**
DALY	**Dalyan (Mula)**	**1.16**	**315**	Pn	**Pn**	**01 22 39.7**	**-0.1**
DALY				Sn	**Sn**	**01 22 55.9**	**-0.2**
ANTB	**Antalya**	**1.20**	**41**	PN	**Pg**	**01 22 39.9**	**+0.4**
ANTB				SN	**Sn**	**01 22 57.3**	**+0.2**
ANTB	**Antalya**	**1.20**	**41**	Pn	**Pn**	**01 22 41.1**	**+0.8**
ANTB				Sn	**Sn**	**01 22 58.2**	**+1.1**
GOLH	**Golhisar**	**1.24**	**356**	P	**Pn**	**01 22 40.9**	**0.0**
GOLH				S	**Sn**	**01 23 01.6**	**+3.3**
TURN	**Turunc**	**1.39**	**304**	PN	**Pg**	**01 22 43.8**	**+0.6**
TURN	**Turunc**	**1.39**	**304**	P	**Pb**	**01 22 43.3**	**+0.1**
TURN				S	**Sn**	**01 23 02.9**	**+1.1**
MRSB	**Marmaris-Mugla**	**1.39**	**302**	PN	**Pg**	**01 22 43.9**	**+0.7**
MRSB	**Marmaris-Mugla**	**1.39**	**302**	Pn	**Pg**	**01 22 44.4**	**+1.2**
BUCA	**Burdur, Bucak-**	**1.51**	**28**	P	**Pb**	**01 22 45.3**	**+0.1**
BUCA				S	**Sg**	**01 23 09.9**	**+4.9**
TAVA	**DENIZLI_Tavas**	**1.59**	**338**	P	**Pg**	**01 22 47.2**	**+0.2**
TAVA				S	**Sg**	**01 23 09.8**	**+2.2**
YER	**Yerkesik**	**1.59**	**316**	P	**Pg**	**01 22 47.4**	**+0.3**
YER				S	**Sg**	**01 23 07.3**	**-0.5**
YER	**Yerkesik**	**1.59**	**316**	PN	**Pb**	**01 22 46.7**	**0.0**
YER	**Yerkesik**	**1.59**	**316**	Pn	**Pg**	**01 22 47.1**	**0.0**
BCK	**Bucak**	**1.64**	**26**	PN	**Pb**	**01 22 47.2**	**-0.3**
MULA	**Mugla, Merkez-**	**1.66**	**320**	P	**Pg**	**01 22 48.8**	**+0.4**
MULA				S	**Sg**	**01 23 10.9**	**+1.0**
BRDR	**BURDUR-Merkez**	**1.73**	**10**	P	**Pg**	**01 22 49.4**	**-0.3**
BRDR				S	**Sg**	**01 23 14.0**	**+2.0**
KEPZ	**Antalya-Kepez**	**1.80**	**59**	P	**Pb**	**01 22 50.4**	**+0.2**
KEPZ				S	**Sg**	**01 23 14.0**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.82**	**35**	PN	**Pb**	**01 22 49.9**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.82**	**35**	Pn	**Pb**	**01 22 51.0**	**+0.3**
DAT	**Datca**	**1.84**	**294**	P	**Pb**	**01 22 50.5**	**-0.5**
DAT	**Datca**	**1.84**	**294**	PN	**Pb**	**01 22 50.4**	**-0.5**
DAT	**Datca**	**1.84**	**294**	Pn	**Pb**	**01 22 51.0**	**0.0**
DAT	**Datca**	**1.84**	**294**	P	**Pb**	**01 22 50.4**	**-0.5**
BASM	**Basmaki-Afyon**	**1.94**	**9**	PN	**Pn**	**01 22 51.4**	**+0.8**
BASM	**Basmaki-Afyon**	**1.94**	**9**	Pn	**Pb**	**01 22 52.2**	**-0.4**
ISP	**Isparta**	**1.94**	**20**	P	**Pb**	**01 22 53.1**	**+0.4**
ISP				S	**Sg**	**01 23 18.4**	**-0.7**
ISP				AML	AML	01 23 28.4	
	comp=N,10399μm,1.0s						
ISP				AML	AML	01 23 41.1	
	comp=E,6166μm,1.6s						
ISP	**Isparta**	**1.94**	**20**	PN	**Pn**	**01 22 51.6**	**+0.9**
ISP	**Isparta**	**1.94**	**20**	Pn	**Pn**	**01 22 50.7**	**0.0**
MLSB	**Milas**	**2.00**	**311**	PN	**Pb**	**01 22 52.6**	**-1.0**
MLSB	**Milas**	**2.00**	**311**	Pn	**Pb**	**01 22 53.6**	**-0.1**
KARP	**Karpathos**	**2.09**	**258**	P	**Pb**	**01 22 54.9**	**-0.3**
KARP				S	**Sb**	**01 23 22.0**	**+0.4**
KARP				AML	AML	01 23 34.6	
	comp=N,2352μm,0.7s						
KARP				AML	AML	01 23 53.2	
	comp=E,1960μm,0.8s						
KARP	**Karpathos**	**2.09**	**258**	P	**Pb**	**01 22 54.9**	**-0.3**
KARP				S	**Sb**	**01 23 20.8**	**-0.8**
	comp=E,1μm,1.1s						
KARP	**Karpathos**	**2.09**	**258**	PN	**Pb**	**01 22 54.3**	**-0.9**
KARP	**Karpathos**	**2.09**	**258**		**Pn**	**01 22 53.8**	**+1.2**
KARP	**Karpathos**	**2.09**	**258**	P	**Pb**	**01 22 54.6**	**-0.6**
KARP				S	**Sg**	**01 23 23.2**	**-0.5**
KARP				AML	AML	01 23 34.2	
	comp=E,2.3nm,0.7s						
KARP				AML	AML	01 23 34.2	
	comp=E,2.3nm,0.7s						
KARP				AML	AML	01 23 48.4	
	comp=E,2.0nm,1.0s						
KARP				AML	AML	01 23 48.4	
	comp=E,2.0nm,1.0s						
NISR	**Nisiros**	**2.15**	**287**	P	**Pn**	**01 22 54.7**	**+1.4**
GAZI	**Gazipasa**	**2.15**	**83**	PN	**Pn**	**01 22 54.6**	**+1.2**
GAZI	**Gazipasa**	**2.15**	**83**	Pn	**Pn**	**01 22 55.2**	**+1.7**
GAZI	**Gazipasa**	**2.15**	**83**	P	**Pn**	**01 22 53.7**	**+0.3**
BODT	**Bodrum**	**2.18**	**300**	P	**Pn**	**01 22 54.9**	**+1.1**
BODT	**Bodrum**	**2.18**	**300**	PN	**Pn**	**01 22 54.9**	**+1.1**
BODT	**Bodrum**	**2.18**	**300**	Pn	**Pn**	**01 22 55.1**	**+1.4**
BAGO	**Egridir - ISPA**	**2.18**	**24**	P	**Pb**	**01 22 56.7**	**-0.1**
BAGO				S	**Sb**	**01 23 24.8**	**+0.5**
AYDN	**Tasoluk**	**2.20**	**320**	P	**Pb**	**01 22 56.3**	**-0.7**
AYDN				S	**Sg**	**01 23 26.1**	**-1.0**
SEDI	**Konya, Seydise**	**2.21**	**48**	P	**Pb**	**01 22 57.9**	**+0.5**
SEDI				S	**Sg**	**01 23 30.3**	**+2.6**
SEYD	**Seydisehir-KON**	**2.24**	**50**	PN	**Pn**	**01 22 55.9**	**+1.2**
SEYD	**Seydisehir-KON**	**2.24**	**50**	Pn	**Pn**	**01 22 55.8**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.29**	**9**	P	**Pn**	**01 22 56.7**	**+1.4**
KZIL				S	**Sb**	**01 23 27.0**	**-0.4**
KHL	**Karahalli**	**2.33**	**357**	PN	**Pn**	**01 22 56.9**	**+1.0**
KHL	**Karahalli**	**2.33**	**357**	Pn	**Pb**	**01 22 58.0**	**-1.2**
PASA	**Karahalli, USA**	**2.35**	**356**	P	**Pn**	**01 22 57.0**	**+0.8**
AFYN	**Afyon-Dinar-K**	**2.37**	**16**	Pg		01 23 09.1	+7.2
AKMS	**Akamas**	**2.38**	**113**	P	**Pn**	**01 22 57.8**	**+1.3**
AKMS				AML	AML	01 23 29.6	
	comp=E,2.5nm,0.7s						
AKMS				AML	AML	01 23 29.6	
	comp=E,1.9nm,0.8s						
DDIM	**Aydin, Didim**	**2.44**	**307**	P	**Pb**	**01 22 59.3**	**-1.7**
ALFC	**Alefka**	**2.53**	**109**	P	**Pn**	**01 22 59.3**	**+0.7**
ALFC				AML	AML	01 23 32.9	
	comp=E,1.2nm,1.0s						
ALFC				AML	AML	01 23 34.9	
	comp=E,1.0nm,0.7s						
GCAM	**G?zelcaml?**	**2.59**	**312**	PN	**Pn**	**01 23 00.9**	**+1.5**
GCAM	**G?zelcaml?**	**2.59**	**312**	P	**Pn**	**01 23 00.2**	**+0.8**
YVAC	**Isparta, Yalva**	**2.59**	**28**	P	**Pb**	**01 23 02.1**	**-1.7**
YVAC				S	**Sb**	**01 23 35.2**	**-0.9**
KULA	**Kula-Manisa**	**2.64**	**342**	P	**Pn**	**01 23 00.9**	**+0.7**
KULA	**Kula-Manisa**	**2.64**	**342**	PN	**Pn**	**01 23 01.2**	**+1.0**
KULA	**Kula-Manisa**	**2.64**	**342**	Pn	**Pn**	**01 23 01.7**	**+1.6**
DOGA	**KONYA_Doganhis**	**2.64**	**37**	P	**Pb**	**01 23 03.7**	**-0.9**
DOGA				S	**Sg**	**01 23 39.4**	**-2.0**
MANT	**Manisa**	**2.64**	**341**		**Pn**	**01 22 59.6**	**-0.7**
MANT	**Manisa**	**2.64**	**341**	P	**Pn**	**01 23 01.3**	**+0.9**
SHUT	**Suhut-Afyon**	**2.65**	**15**	PN	**Pn**	**01 23 01.6**	**+1.3**
SHUT	**Suhut-Afyon**	**2.65**	**15**	Pn	**Pn**	**01 23 02.0**	**+1.7**
NATA	**Nata**	**2.66**	**116**	P	**Pn**	**01 23 01.8**	**+1.4**
ERMK	**Ermenek**	**2.69**	**75**	P	**Pn**	**01 23 02.4**	**+1.3**
USAK	**Uak-Merkez**	**2.76**	**349**	P	**Pn**	**01 23 01.9**	**+0.1**
KMER	**Konya-Meram**	**2.79**	**50**	P	**Pb**	**01 23 05.9**	**-1.3**
KMER				S	**Sg**	**01 23 44.6**	**-1.6**
OSC1	**CSNet OBS 1**	**2.82**	**152**	P	**Pn**	**01 23 05.6**	**+3.1**
AFYO	**Afyonkarahisar**	**2.83**	**10**	P	**Pn**	**01 23 03.9**	**+1.1**
SMG	**Samos**	**2.84**	**308**	P	**Pn**	**01 23 03.9**	**+0.9**
SMG				AML	AML	01 23 56.8	
	comp=N,2285μm,1.2s						
SMG				AML	AML	01 23 57.2	
	comp=E,1553μm,0.8s						
SMG	**Samos**	**2.84**	**308**	P	**Pn**	**01 23 03.5**	**+0.6**
SMG				S	**Sn**	**01 23 37.9**	**+0.2**
	comp=E,1μm,1.2s						
KKBE	**Karaman, Kazim**	**2.90**	**64**	P	**Pn**	**01 23 06.5**	**+2.8**
KKBE				S	**Sn**	**01 23 39.1**	**-0.1**
SZAC	**Souni**	**2.90**	**114**	P	**Pn**	**01 23 05.2**	**+1.5**
SZAC				AML	AML	01 23 46.1	
	comp=E,1.3nm,0.9s						
SZAC				AML	AML	01 24 04.4	
	comp=E,1.6nm,1.3s						
KONT	**Konya--Tatoy**	**2.90**	**47**	P	**Pb**	**01 23 07.7**	**-1.3**
ZKR	**Zakros**	**2.95**	**254**	P	**Pn**	**01 23 07.2**	**+2.9**
ZKR				AML	AML	01 23 48.3	
	comp=N,501μm,0.6s						
ZKR				AML	AML	01 23 52.4	
	comp=E,1119μm,0.9s						
ZKR	**Zakros**	**2.95**	**254**	P	**Pn**	**01 23 07.3**	**+2.9**
ZKR				S	**Sn**	**01 23 42.8**	**+2.4**
	comp=E,405nm,0.7s						
ZKR	**Zakros**	**2.95**	**254**	P	**Pn**	**01 23 06.7**	**+2.3**
ZKR				S	**Sb**	**01 23 43.8**	**-2.6**
DGB	**zmir**	**3.03**	**313**	P	**Pn**	**01 23 06.5**	**+1.1**
GDZ	**Gediz**	**3.09**	**357**	P	**Pn**	**01 23 07.3**	**+0.8**
DEMI	**Demirci**	**3.13**	**346**	P	**Pn**	**01 23 07.7**	**+0.8**
GULN	**MERSIN_Gulnar**	**3.14**	**85**	P	**Pn**	**01 23 08.7**	**+1.8**
CSS	**Mathiatis**	**3.16**	**108**	P	**Pn**	**01 23 09.6**	**+2.4**
CSS				S	**Sb**	**01 23 49.6**	**-2.6**
CSS				AML	AML	01 24 23.4	
	comp=E,253μm,1.3s						
CSS				AML	AML	01 24 28.8	
	comp=N,294μm,1.8s						
CSS	**Mathiatis**	**3.16**	**108**	Pn	**Pn**	**01 23 07.8**	**+0.5**
CSS	**Mathiatis**	**3.16**	**108**	P	**Pn**	**01 23 07.7**	**+0.5**
ASGA	**Asgata**	**3.16**	**111**	P	**Pn**	**01 23 08.4**	**+1.2**
KDHN	**Kadinhani**	**3.19**	**37**	P	**Pb**	**01 23 11.6**	**-2.3**
AKHS	**Akhisar**	**3.23**	**333**	P	**Pn**	**01 23 08.7**	**+0.4**
MVOU	**Mavrovouni**	**3.38**	**106**	P	**Pn**	**01 23 10.6**	**+0.4**
THR8	**Santorini-Mono**	**3.42**	**278**	P	**Pn**	**01 23 12.6**	**+1.8**
ALIN	**Konya, Altinte**	**3.44**	**47**	P	**Pn**	**01 23 14.0**	**+2.8**
THR2	**Thira island,**	**3.46**	**279**	P	**Pn**	**01 23 13.3**	**+1.9**
THR6	**Thira Island,**	**3.48**	**277**	P	**Pn**	**01 23 13.2**	**+1.6**
THR3	**Thira Island,**	**3.48**	**278**	P	**Pn**	**01 23 13.3**	**+1.7**
APE	**Apeiranthos**	**3.50**	**289**	P	**Pn**	**01 23 14.2**	**+2.2**
ANDZ	**Kutahya, Merke**	**3.51**	**3**	P	**Pn**	**01 23 12.9**	**+0.7**
ZEDA	**zmir-Bergama**	**3.61**	**326**	P	**Pn**	**01 23 15.1**	**+1.6**
OSC2	**CSNet OBS 4**	**3.62**	**143**	P	**Pn**	**01 23 15.9**	**+2.4**
SGAZ	**Eskisehir, Sey**	**3.65**	**14**	P	**Pn**	**01 23 15.4**	**+1.4**
STEP	**BALIKESIR_Sava**	**3.71**	**336**	P	**Pn**	**01 23 15.8**	**+0.9**
DURS	**Dursunbey**	**3.72**	**346**	P	**Pn**	**01 23 15.2**	**+0.2**
AUSIV	**SIVRIHISAR**	**3.74**	**23**	P	**Pn**	**01 23 16.5**	**+1.1**
CHOS	**Chios island**	**3.75**	**311**	P	**Pn**	**01 23 16.5**	**+1.1**
CHOS				AML	AML	01 24 30.0	
	comp=N,643μm,1.7s						
CHOS				AML	AML	01 24 33.3	
	comp=E,669μm,1.1s						
CHOS	**Chios island**	**3.75**	**311**	P	**Pn**	**01 23 16.6**	**+1.2**
CHOS				S	**Sn**	**01 23 59.1**	**-1.0**
	comp=E,348nm,1.0s						
HRKL	**Herakleio**	**3.79**	**261**	P	**Pn**	**01 23 18.0**	**+2.2**
HRKL				AML	AML	01 24 16.6	
	comp=E,3021μm,0.8s						
HRKL				AML	AML	01 24 19.2	
	comp=N,2402μm,0.9s						
KSTL	**Kastelli Herak**	**3.81**	**261**	P	**Pn**	**01 23 16.1**	**-0.1**
BORA	**Eskisehir**	**3.93**	**9**	Pn	**Pn**	**01 23 18.3**	**+0.4**
BORA	**Eskisehir**	**3.93**	**9**	P	**Pn**	**01 23 18.9**	**+1.1**
IDI	**Anoyia**	**3.96**	**261**	Pn	**Pn**	**01 23 20.1**	**+1.8**
	comp=N,9.4nm,0.3s,baz=336,slow=6.8,SNR=51						
IDI				Sn	**Sn**	**01 24 05.6**	**+0.3**
	comp=N,10nm,0.3s,baz=346,slow=7.6,SNR=4.7						
IDI				LR	LR	01 25 23.6	
	comp=N,242nm,18.8s,baz=246,slow=46						
IDI	**Anoyia**	**3.96**	**261**	P	**Pn**	**01 23 20.1**	**+1.8**
IDI				AML	AML	01 24 14.8	
	comp=N,288μm,0.5s						
IDI				AML	AML	01 24 20.3	
	comp=E,260μm,0.6s						
IDI	**Anoyia**	**3.96**	**261**	P	**Pn**	**01 23 20.0**	**+1.8**
IDI	**Anoyia**	**3.96**	**261**	Pn	**Pn**	**01 23 18.6**	**+0.3**
BUHA	**Balikesir, Bur**	**4.06**	**330**	P	**Pn**	**01 23 20.9**	**+1.4**
BALY	**Balya**	**4.08**	**337**	P	**Pn**	**01 23 21.3**	**+1.4**
KKUL	**Konya-Kulu**	**4.08**	**38**	P	**Pn**	**01 23 23.1**	**+3.0**
SIVA	**Sivas**	**4.09**	**258**	P	**Pn**	**01 23 23.4**	**+3.5**
TMBK	**Timbaki Herakl**	**4.11**	**258**	P	**Pn**	**01 23 22.4**	**+2.1**
AKSY	**AKSARAY - Alti**	**4.20**	**50**	P	**Pn**	**01 23 24.3**	**+2.7**
PRK	**Paraskevi**	**4.22**	**321**	P	**Pn**	**01 23 24.3**	**+2.5**
PRK				AML	AML	01 24 39.7	
	comp=E,1386μm,1.0s						
PRK				AML	AML	01 24 45.2	
	comp=N,942μm,1.1s						
IGD	**Bursa**	**4.28**	**355**	P	**Pn**	**01 23 23.5**	**+0.9**
BBAL	**Bala**	**4.47**	**37**	P	**Pn**	**01 23 28.4**	**+3.0**
BBAL				S	**Sn**	**01 24 21.9**	**+3.8**
GEYV	**SAKARYA_Geyve**	**4.51**	**6**	P	**Pn**	**01 23 26.8**	**+1.0**
BR231	**Keskin MP Arra**	**4.55**	**32**	Pn	**Pn**	**01 23 26.5**	**0.0**
ANTO	**Ankara**	**4.59**	**32**		**Pn**	**01 23 27.5**	**+0.6**
KIRS	**Kirsehir-Merke**	**4.60**	**46**	P	**Pn**	**01 23 30.2**	**+3.1**
CHAN	**Chania**	**4.60**	**266**	P	**Pn**	**01 23 30.3**	**+3.2**
MDUB	**Mudurnu**	**4.63**	**15**	Pn	**Pn**	**01 23 28.0**	**+0.5**
IMMV	**Iera Moni Meta**	**4.66**	**265**	P	**Pn**	**01 23 30.3**	**+2.4**
IMMV	**Iera Moni Meta**	**4.66**	**265**	P	**Pn**	**01 23 30.8**	**+2.9**
GVD	**Gavdhos**	**4.71**	**257**	P	**Pn**	**01 23 31.1**	**+2.6**
GVD				AML	AML	01 24 38.2	
	comp=E,350μm,0.4s						
GVD				AML	AML	01 24 41.0	
	comp=N,280μm,0.4s						
AKO	**Adana**	**4.86**	**71**	P	**Pn**	**01 23 33.9**	**+3.2**
BR131	**Keskin Array S**	**4.87**	**39**		**Pn**	**01 23 32.8**	**+1.9**
BRTR	**Keskin Array B**	**4.87**	**39**	Pn	**Pn**	**01 23 32.7**	**+1.9**
	comp=N,3.4nm,0.3s,baz=206,slow=15,SNR=95						
BRTR				Sn	**Sn**	**01 24 27.5**	**-0.3**
	comp=N,0.5nm,0.3s,baz=227,slow=16,SNR=3.7						
BRTR				LR	LR	01 25 33.1	
	comp=N,268nm,18.6s,baz=202,slow=40						
BRTR	**Keskin Array B**	**4.87**	**39**	Pn	**Pn**	**01 23 32.2**	**+1.4**
YURE	**YUREGIR**	**4.88**	**78**	P	**Pn**	**01 23 34.7**	**+3.8**
SAHE	**Sakarya_HENDEK**	**4.94**	**10**	P	**Pn**	**01 23 32.5**	**+0.8**
KNDR	**Palaiochora Ch**	**4.94**	**263**	P	**Pn**	**01 23 36.2**	**+4.6**
ASUZ	**Hatay-Arsuz**	**4.96**	**85**	P	**Pn**	**01 23 33.3**	**+1.5**
ASUZ				S	**Sn**	**01 24 28.1**	**-1.6**
AVNS	**Nevsehir-Avano**	**4.98**	**54**	P	**Pn**	**01 23 35.8**	**+3.4**
KAYN	**Sakarya, Kayna**	**4.99**	**6**	P	**Pn**	**01 23 33.3**	**+0.9**
KAYN				S	**Sn**	**01 24 31.2**	**+0.7**
CMDR	**Camlidere-ANKA**	**5.00**	**25**	P	**Pn**	**01 23 36.1**	**+3.4**
CMDR				S	**Sn**	**01 24 31.4**	**+0.3**
GOKA	**anakkale-Gk**	**5.13**	**326**	P	**Pn**	**01 23 35.9**	**+1.5**
YIGI	**Dzce**	**5.15**	**15**	P	**Pn**	**01 23 35.9**	**+1.3**
YIGI				S	**Sn**	**01 24 32.7**	**-1.7**
BCAM	**Yenicaga**	**5.17**	**21**	P	**Pn**	**01 23 37.4**	**+2.5**
BCAM				S	**Sn**	**01 24 37.9**	**+2.8**
ANKY	**Antikythira Is**	**5.17**	**270**	P	**Pn**	**01 23 38.3**	**+3.5**
CDAG	**Cicekdag**	**5.19**	**44**	P	**Pn**	**01 23 39.1**	**+3.9**
CDAG				S	**Sn**	**01 24 40.2**	**+4.5**
DELI	**KIRIKKALE**	**5.22**	**39**	P	**Pn**	**01 23 37.7**	**+2.1**
DELI				S	**Sn**	**01 24 40.0**	**+3.6**
HNTI	**Hanita**	**5.39**	**121**	Pn	**Pn**	**01 23 39.5**	**+1.6**
HWQ	**Hawqa**	**5.42**	**107**	*eP*	**Pn**	**01 23 39.2**	**+0.8**
QRWL	**Qaraoun**	**5.52**	**115**	*eP*	**Pn**	**01 23 40.5**	**+0.8**
OFRI	**`Ofer**	**5.54**	**126**	Pn	**Pn**	**01 23 41.4**	**+1.4**
MMA0B	**Mount Meron ar**	**5.59**	**121**	Pn	**Pn**	**01 23 42.3**	**+1.6**
MMA0B				Sn	**Sn**	**01 24 46.4**	**+0.9**
MMAI	**Mount Meron Ar**	**5.59**	**121**	Pn	**Pn**	**01 23 40.7**	**0.0**
	comp=N,15nm,0.3s,baz=96,slow=29,SNR=74						
MMAI				Sn	**Sn**	**01 24 46.1**	**+0.6**
	comp=N,15nm,0.3s,baz=330,slow=28,SNR=4.3						
MMAI				LR	LR	01 27 28.1	
	comp=N,167nm,18.9s,baz=116,slow=55						
BLGI	**Bet Lehem HaGe**	**5.61**	**124**	Pn	**Pn**	**01 23 42.4**	**+1.5**

comp=Z,1.0nm,0.6s,baz=277,slow=7.1,SNR=16
MKAR Makanchi Array 40.23 58 P **P** **01 29 54.2 -0.3**
ZALV Zalesovo Beam 41.76 47 P **P** **01 30 05.9 -1.0**
comp=Z,0.7nm,0.4s,baz=249,slow=8.8,SNR=5.9
DBIC Dimbokro 43.02 236 P **P** **01 30 16.8 -0.8**
comp=Z,1.8nm,0.6s,baz=50,slow=7.9,SNR=3.2
DBIC Dimbokro 43.02 236 P **P** **01 30 16.6 -1.0**
DBIC IAmb IAmb 01 30 44.5
comp=Z,11nm,1.2s
TSUM Tsumeb 56.08 194 LR LR 01 58 52.3
comp=Z,66nm,18.4s,baz=338,slow=39
SONM Songino Array 56.09 52 P **P** **01 31 55.8 -1.3**
comp=Z,0.2nm,0.4s,baz=242,slow=3.1,SNR=2.5
CMAR Chiang Mai Arr 62.83 86 P **P** **01 32 43.8 -0.2**
comp=Z,1.3nm,0.4s,baz=297,slow=8.4,SNR=6.1
KLR Kul'dur 70.69 43 LR LR 02 09 20.3
comp=Z,56nm,19.2s,baz=292,slow=40
YKA Yellowknife Ar 77.73 344 P **P** **01 34 13.0 -1.4**
comp=Z,0.6nm,0.8s,baz=29,slow=5.4,SNR=8.8
YKA Yellowknife Ar 77.73 344 P **P** **01 34 14.2 -0.2**
KAPI Kappang 92.98 94 LR LR 02 23 37.5
comp=Z,32nm,18.8s,baz=287,slow=40

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*CNRM **24** 01:25:51.4, 35°.81N × 3°.56W, h26km, ml2.1*
*MDD **24** 01:25:54.9 ± 0.7, 35°.68N × 3°.57W, h14km ± 6km, mb_Lg2.0/7, Error ellipse: s-maj=5.3km s-min=3.9km az=89.0*
*SFS **24** 01:25:55.0, 35°.64N × 3°.54W, h22km, ML2.5, ALBORAN SUR*

ISC 24 01:25:54.1 ± 1.1, 35°.66N ± 0°.03 × 3°.58W ± 0°.03, h25km ± 12km, n17, σ1§24/34, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.53**	**58**	Pg	**Pb**	**01 26 05.2**	**+0.4**
EALB				Sg	**Sb**	**01 26 12.5**	**+0.5**
EALB				*i* Vmb_Lg		01 26 14.9	
PALE	**Palemas**	**0.53**	**213**	P	**Pb**	**01 26 04.8**	**-0.2**
PALE				S	**Sb**	**01 26 12.9**	**+0.6**
EMEL	**Melilla**	**0.63**	**125**	Pg	**Pb**	**01 26 05.9**	**-0.6**
EMEL				Sg	**Sb**	**01 26 14.8**	**-0.1**
GOG	**Mont Gurugu**	**0.65**	**132**	P	**Pb**	**01 26 06.0**	**-1.0**
GOG				S	**Sb**	**01 26 15.6**	**-0.1**
ELGU	**Los Guajares,**	**1.20**	**358**	Pg	**Pn**	**01 26 15.4**	**0.0**
ELGU				Sg	**Sb**	**01 26 30.5**	**-1.0**
ELGU				*i* Vmb_Lg		01 26 35.5	
TAF	**Taforalt**	**1.28**	**131**	P	**Pn**	**01 26 16.0**	**-0.4**
TAF				S	**Sn**	**01 26 31.2**	**-1.6**
EMAL	**Malaga-Limoner**	**1.29**	**328**	Pn	**Pn**	**01 26 16.5**	**-0.1**
EMAL				S	**Sn**	**01 26 32.2**	**-0.9**
EMIJ	**Mijas**	**1.32**	**313**	Pn	**Pn**	**01 26 16.8**	**-0.2**
EMIJ				Sn	**Sn**	**01 26 34.1**	**+0.4**
EMIJ				*i* Vmb_Lg		01 26 38.7	
EBER	**Berja**	**1.35**	**24**	Pn	**Pn**	**01 26 18.3**	**+0.7**
EBER				Sn	**Sn**	**01 26 34.1**	**-0.8**
SMIR	**Smir Dam**	**1.46**	**271**	P	**Pn**	**01 26 16.0**	**-2.9**
SMIR				S	**Sn**	**01 26 34.9**	**-2.4**
EGOR	**Sierra Gorda,**	**1.51**	**344**	Pn	**Pn**	**01 26 21.1**	**+1.4**
EGOR				Sn	**Sn**	**01 26 37.8**	**-0.7**
EGOR				*i* Vmb_Lg		01 26 52.3	
JBK	**JBK**	**1.57**	**147**	P	**Pn**	**01 26 19.7**	**-0.8**
JBK				S	**Sn**	**01 26 39.8**	**-0.3**
EADA	**Adamuz**	**2.62**	**343**	Pn	**Pn**	**01 26 36.3**	**+1.4**
EADA				Sn	**Sn**	**01 27 05.5**	**-0.5**
EADA				*i* Vmb_Lg		01 27 16.9	
ECAB	**El Cabril**	**2.82**	**329**	Pn	**Pn**	**01 26 39.2**	**+1.5**
ECAB				Sn	**Sn**	**01 27 11.1**	**+0.2**
MD31	**MD31**	**2.95**	**200**	P	**Pn**	**01 26 41.3**	**+1.8**
MD31				S	**Sn**	**01 27 15.9**	**+1.7**
MDT	**Midelt**	**2.96**	**197**	P	**Pn**	**01 26 40.3**	**+0.6**
MDT				S	**Sn**	**01 27 17.4**	**+2.8**
EBAD	**Badajoz**	**4.13**	**319**	Pn	**Pn**	**01 26 56.8**	**+1.2**
EBAD				Sn	**Sn**	**01 27 42.7**	**-0.3**
EBAD				*i* Vmb_Lg		01 27 47.8	

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*NEIC **24** 01:34:24.3 ± 3.0, 5°.97S ± 0°.05 × 151°.18E ± 0°.05, h10km ± 1km, mb4.1/10, Error ellipse: s-maj=10.7km s-min=6.9km az=223.0*
*DJA **24** 01:34:28.9 ± 1.7, 6°.5S ± 5° × 15°.1E ± °, h30km ± 19km, M4.6/7, mb4.3/7, MLv4.7/2*
*IDC **24** 01:34:30.6 ± 1.6, 5°.84S × 150°.94E, h69km ± 15km, mb3.8/9, mb1 4.0/9, mb1mx3.8/29, mbtmp4.1/9, MS3.4/9, Ms1 3.4/9, ms1mx3.1/58, Error ellipse: s-maj=39.5km s-min=12.2km az=125.0*

ISC 24 01:34:27.4 ± 0.6, 6°.00S ± 0°.07 × 151°.16E ± 0°.09, h43km, n38, σ1§46/36, mb4.1/12, MS3.4/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.89**	**27**	P	**Pn**	**01 34 59.1**	**+2.0**
	12nm,0.3s,baz=279,slow=23,SNR=32						
KRVT				S	**Sn**	**01 35 23.8**	**+4.0**
	14nm,0.3s,baz=45,slow=24,SNR=14						
RABL	**Rabaul**	**2.06**	**29**		**Pn**	**01 35 00.3**	**+0.8**
RABL				Sn	**Sn**	**01 35 24.4**	**+0.5**
PMG	**Port Moresby**	**5.21**	**229**	Pn	**Pn**	**01 35 45.0**	**+2.1**
MANU	**Manus Island**	**5.45**	**316**		**Pn**	**01 35 49.0**	**+2.8**
HNR	**Honiara**	**9.36**	**112**	Pn	**Pn**	**01 36 41.0**	**+1.3**
CTA	**Charters Tower**	**14.80**	**198**	LR	LR	01 42 47.1	
	comp=Z,95nm,20.5s,baz=76,slow=33						
EIDS	**Eidsvold**	**19.26**	**180**	P	**P**	**01 38 48.3**	**-0.1**
EIDS				IAmb	IAmb	01 38 52.8	
	comp=Z,11nm,1.1s						
GUMO	**Guam**	**20.43**	**342**	LR	LR	01 46 43.1	
	comp=Z,59nm,18.7s,baz=114,slow=36						
WB0	**Warramunga Arr**	**21.28**	**228**	P	**P**	**01 39 10.9**	**+0.5**
WR0	**Warramunga Arr**	**21.29**	**228**	P	**P**	**01 39 10.8**	**+0.3**
WR0				IAmb	IAmb	01 39 23.6	
	comp=Z,9.2nm,0.9s						
WB2	**Warramunga Arr**	**21.42**	**228**	P	**P**	**01 39 12.1**	**+0.2**
WB2				IAmb	IAmb	01 39 23.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**21.43**	**228**	P	**P**	**01 39 11.5**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=54,slow=10,SNR=70						
WRA				PcP	**PcP**	**01 43 15.3**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=43,slow=1.9,SNR=5.0						
WRA				ScP	**ScP**	**01 46 46.2**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=45,slow=2.7,SNR=2.4						
WRA				LR	LR	01 49 01.0	
	comp=Z,106nm,18.2s,baz=86,slow=41						
WRA	**Warramunga Arr**	**21.43**	**228**	P	**P**	**01 39 10.8**	**-1.2**
DZM	**Mont Dzumac**	**21.77**	**139**	LR	LR	01 46 43.1	
	comp=Z,108nm,19.2s,baz=24,slow=33						
KNRA	**Kununurra**	**23.98**	**245**	P	**P**	**01 39 37.6**	**-0.5**
AS31	**Alice Springs**	**24.17**	**222**	P	**P**	**01 39 41.5**	**+1.6**
AS31				IAmb	IAmb	01 39 42.6	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**24.17**	**222**	P	**P**	**01 39 41.0**	**+1.1**
	comp=Z,6.5nm,0.6s,baz=54,slow=9.4,SNR=67						
ASAR				LR	LR	01 49 11.2	
	comp=Z,139nm,19.0s,baz=136,slow=36						
ASAR	**Alice Springs**	**24.17**	**222**	P	**P**	**01 39 40.8**	**+0.9**
STKA	**Stephens Creek**	**27.26**	**198**	P	**P**	**01 40 09.4**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=349,slow=11,SNR=2.9						
STKA				LR	LR	01 51 03.0	
	comp=Z,80nm,18.7s,baz=26,slow=36						
STKA	**Stephens Creek**	**27.26**	**198**	P	**P**	**01 40 08.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**01 40 11.0**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=57,slow=7.6,SNR=17						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**01 40 11.2**	**-0.1**
FITZ				IAmb	IAmb	01 40 34.2	
	comp=Z,4.4nm,0.9s						
RPZ	**Rata Peaks**	**41.44**	**158**	LR	LR	01 58 20.3	
	comp=Z,68nm,18.2s,baz=332,slow=34						
JNU	**Nakatsue**	**43.41**	**335**	LR	LR	01 59 13.4	
	comp=Z,53nm,19.5s,baz=156,slow=34						
SONM	**Songino Array**	**66.48**	**329**	P	**P**	**01 45 12.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=131,slow=4.7,SNR=4.3						
SONM	**Songino Array**	**66.48**	**329**	P	**P**	**01 45 11.8**	**-0.9**
SONM				IAmb	IAmb	01 45 15.5	
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**01 46 31.9**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=90,slow=6.2,SNR=5.4						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**01 46 32.0**	**-1.2**
ZALV	**Zalesovo Beam**	**81.24**	**327**	P	**P**	**01 46 36.9**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=111,slow=7.9,SNR=3.1						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**01 46 50.4**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=249,slow=4.8,SNR=12						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**01 46 50.1**	**-2.2**
PFO	**Pinyon Flats O**	**95.26**	**57**	LR	LR	02 28 01.8	
	comp=Z,24nm,18.0s,baz=3.5,slow=34						
YKA	**Yellowknife Ar**	**97.24**	**28**	P	**P**	**01 47 54.5**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=269,slow=4.7,SNR=4.7						
YKA	**Yellowknife Ar**	**97.24**	**28**	P	**P**	**01 47 54.7**	**-0.7**
PDAR	**Pinedale Array**	**100.86**	**48**	P	**Pdif**	**01 48 11.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=2.8						
GERES	**GERESS Array B**	**124.19**	**327**	PKP	**PKiKP**	**01 53 21.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=48,slow=2.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.09**	**286**	PKPbc	**PKPbc**	**01 54 11.7**	**-0.3**
	comp=Z,7.5nm,0.7s,baz=56,slow=2.9,SNR=54						
TORD	**Torodi Ar. Bea**	**149.09**	**286**		**PKPbc**	**01 54 10.9**	**-1.2**

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*IDC **24** 02:09:11.8 ± 1.1, 2°.90S × 129°.20E, h0km, mb4.0/3, mb1 4.2/6, mb1mx3.7/35, mbtmp4.0/6, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/71, Error ellipse: s-maj=41.4km s-min=21.6km az=81.0*
*DJA **24** 02:09:15.9 ± 0.3, 3°.5S × 3°.2 × 12°.9E ± °, h10km, M4.2/8, mb4.9/1, MLv3.8/8*

ISC 24 02:09:14.8 ± 0.8, 2°.84S ± 0°.06 × 129°.66E ± 0°.06, h28km, n13, σ1§19/18, mb4.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.89**	**235**	P	**Pn**	**02 09 31.1**	**-0.3**
MSAI				S	**Sn**	**02 09 43.6**	**+0.2**
AAI	**Ambon**	**1.69**	**240**	P	**Pb**	**02 09 44.5**	**-0.7**
SIJI	**Sorong**	**2.53**	**40**	Pn	**Pb**	**02 09 58.1**	**-1.5**
	23nm,0.3s,baz=254,slow=23,SNR=56						
SIJI				Sn	**Sb**	**02 10 30.1**	**-0.2**
	12nm,0.3s,baz=284,slow=10,SNR=4.1						
SIJI				LR	LR	02 11 12.9	
	comp=Z,274nm,18.0s,baz=38,slow=42						
SWI	**Sorong**	**2.53**	**39**	P	**Pb**	**02 09 57.9**	**-1.7**
SWI				S	**Sb**	**02 10 31.3**	**+1.0**
FAKI	**Fak Fak**	**2.59**	**92**	P	**Pb**	**02 10 00.5**	**-0.1**
LBMI	**Labuha**	**3.07**	**315**	P	**Pn**	**02 10 01.9**	**+0.4**
SANI	**Sanana**	**3.75**	**282**	P	**Pn**	**02 10 10.2**	**-0.6**
MRSI	**Marisa**	**8.38**	**293**	P	**Pn**	**02 11 14.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**15.67**	**194**	Pn	**Pn**	**02 12 52.8**	**-1.1**
	0.1nm,0.3s,baz=29,slow=7.1,SNR=4.6						
FITZ				LR	LR	02 20 04.7	
	comp=Z,77nm,19.4s,baz=326,slow=42						
WRA	**Warramunga Arr**	**17.61**	**165**	P	**Pn**	**02 13 18.4**	**+0.1**
	0.4nm,0.3s,baz=341,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.11**	**169**	P	**P**	**02 13 58.1**	**+0.7**
	8.8nm,0.9s,baz=346,slow=9.7,SNR=73						
ASAR				S	**S**	**02 17 48.9**	**-2.2**
	0.3nm,0.4s,baz=346,slow=22,SNR=4.6						
ASAR				PcP	**PcP**	**02 18 06.0**	**+2.7**
	0.6nm,0.6s,baz=357,slow=1.9,SNR=5.5						
MKAR	**Makanchi Array**	**64.59**	**326**	P	**P**	**02 19 49.8**	**+0.1**
	0.7nm,0.7s,baz=118,slow=7.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**67.73**	**333**	P	**P**	**02 20 09.9**	**+0.3**
	0.7nm,0.3s,baz=130,slow=5.8,SNR=6.2						

GUC 24 02:10:49.4 ± 0.5, 24°.20S × 67°.23W, h195km ± 9km, ML3.7, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.21**	**315**	*e*P	Pn	02 11 29.9	-0.3
LVC				*e*S	Sn	02 12 01.0	-0.9
PB15	**IPOC Station P**	**2.28**	**295** ⇑	*i*P	Pn	02 11 31.1	+0.3
PB15				*e*S	Sn	02 12 02.2	-0.7
GO02	**Mina Guanaco**	**2.36**	**245** ⇑	*i*P	Pn	02 11 31.9	+0.3
GO02				*i*S	Sn	02 12 04.5	-0.1
GO02				IAML		02 12 05.4	
	comp=N,297nm,0.4s						
PB06	**IPOC Station P**	**2.61**	**304** ⇑	*i*P	Pn	02 11 34.7	+0.2
PB06				*e*S	Sn	02 12 08.5	-1.1
PB06				IAML		02 12 11.8	
	comp=N,85nm,0.1s						
PB09	**IPOC Station P**	**3.02**	**322**	*i*P	Pn	02 11 39.7	+0.4
PB09				*i*S	Sn	02 12 18.1	-0.2
PB09				IAML		02 12 18.6	
	comp=E,49nm,0.5s						
PB10	**IPOC Station P**	**3.12**	**282**	*e*P	Pn	02 11 40.5	+0.3
PB10				*i*S	Sn	02 12 19.4	-0.6
PB04	**IPOC Station P**	**3.26**	**304**	*e*P	Pn	02 11 42.0	-0.1
PB04				*i*S	Sn	02 12 21.0	-2.3
PB04				IAML		02 12 24.2	
	comp=N,71nm,0.5s						
PB07	**IPOC Station P**	**3.47**	**315**	*e*P	Pn	02 11 44.2	-0.5
PB07				*i*S	Sn	02 12 24.8	-3.1
PB07				IAML		02 12 27.6	
	comp=N,94nm,0.7s						
AC01	**Pan de Azucar**	**3.62**	**237**	*e*P	Pn	02 11 45.3	-1.0
AC01				*i*S	Sn	02 12 28.4	-2.5
AC01				IAML		02 12 29.5	
	comp=E,58nm,0.2s						
PB01	**IPOC Station P**	**3.77**	**326**	*e*P	Pn	02 11 47.3	-0.9
PB02	**IPOC Station P**	**3.78**	**319**	*e*P	Pn	02 11 47.4	-0.9
PB08	**IPOC Station P**	**4.41**	**336**	*e*P	Pn	02 11 56.4	-0.2

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*IDC **24** 02:14:21.4 ± 0.9, 41°.94N × 119°.65W, h0km, mb2.8/1, mb1 3.4/5, mb1mx3.2/35, mbtmp3.1/5, ML3.5/4, MS2.3/1, Ms1 2.3/1, ms1mx2.1/16, Error ellipse: s-maj=12.9km s-min=6.2km az=9.0*
*REN **24** 02:14:21.5 ± 2.0, 41°.91N ± 0°.04 × 119°.61W ± 0°.06, h8km ± 7km, ML3.5/6, ML3.2/112(NEIC), Error ellipse: s-maj=6.8km s-min=5.1km az=71.0*
*ANF **24** 02:14:21.2 ± 0.9, 41°.90N × 119°.61W, h6km ± 8km, ML3.5/15, Error ellipse: s-maj=4.2km s-min=3.1km az=109.0*
*NEIC **24** 02:14:22.3 ± 2.1, 41°.90N ± 0°.04 × 119°.61W ± 0°.04, h16km ± 6km, Error ellipse: s-maj=5.2km s-min=4.4km az=160.0*

ISC 24 02:14:21.2 ± 1.3, 41°.90N ± 0°.03 × 119°.63W ± 0°.02, h3km ± 12km, n92, σ1§12/102, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOD	**Modoc Plateau**	**0.50**	**270**		**Pg**	**02 14 31.9**	**+1.0**
MOD					**Sb**	**02 14 39.5**	**-1.2**
MOD	**Modoc Plateau**	**0.50**	**270**	IAML		02 14 39.8	
	comp=N,3μm,0.5s						
MOD				IAML		02 14 41.1	
	comp=E,3μm,0.5s						
WVOR	**Wild Horse Val**	**0.91**	**54**		**Pg**	**02 14 38.7**	**0.0**
WVOR					**Sg**	**02 14 51.0**	**+0.5**
WVOR	**Wild Horse Val**	**0.91**	**54**	IAML		02 14 55.1	
	comp=E,621nm,0.8s						
K05A	**Summer Lake**	**1.25**	**312**		**Pn**	**02 14 45.3**	**-0.5**
M04C	**Macdoel**	**1.66**	**267**		**Pn**	**02 14 51.2**	**-0.1**
M04C	**Macdoel**	**1.66**	**267**	P	**Pn**	**02 14 51.0**	**-0.3**
	baz=85,SNR=430						
M04C				Sb	**Sg**	**02 15 15.0**	**+0.5**
	baz=85						
J08A	**Circle Bar Ran**	**1.69**	**30**		**Pn**	**02 14 50.8**	**-0.9**
J08A				IAML		02 15 18.7	
	comp=N,291nm,0.7s						
J08A				IAML		02 15 21.7	
	comp=E,312nm,0.5s						
K04D	**Chiloquin, OR**	**1.74**	**295**	P	**Pn**	**02 14 52.0**	**-0.4**
	baz=114,SNR=201						
K04D				Sb	**Sg**	**02 15 17.5**	**+0.4**
	baz=114						
J05D	**Fort Rock, OR**	**1.82**	**320**	Pb	**Pb**	**02 14 55.3**	**0.0**
	baz=138,SNR=275						
J05D				S	**Sn**	**02 15 17.5**	**+0.2**
	baz=138						
L04D	**Klamath Falls**	**2.02**	**280**		**Pn**	**02 14 55.9**	**-0.4**
L04D				IAML		02 15 34.4	
	comp=N,171nm,0.5s						
L04D	**Klamath Falls**	**2.02**	**280**	P	**Pn**	**02 14 55.9**	**-0.4**
	baz=98,SNR=172						
L04D				Sb	**Sg**	**02 15 26.1**	**0.0**
	baz=98						
BEKR	**Beckworth**	**2.11**	**196**	Pn	**Pn**	**02 14 58.2**	**+0.6**
BEKR				IAML		02 15 29.6	
	comp=E,116nm,0.6s						
BEKR				IAML		02 15 35.0	
	comp=N,122nm,0.8s						
PINE	**Pine Mountain**	**2.12**	**333**		**Pb**	**02 14 59.8**	**-0.6**
PINE				IAML		02 15 43.0	
	comp=E,218nm,0.9s						
PINE				IAML		02 15 45.1	
	comp=N,186nm,0.8s						
PAHR	**Pah Rah Range**	**2.20**	**175**	Pn	**Pb**	**02 15 00.8**	**-0.9**
J04D	**Umpqua Nationa**	**2.27**	**307**		**Pb**	**02 15 01.7**	**-1.3**
J04D	**Umpqua Nationa**	**2.27**	**307**	Pb	**Pb**	**02 15 02.9**	**-0.1**
	baz=125,SNR=44						
J04D				Sb	**Sg**	**02 15 33.3**	**-0.9**
	baz=125						
O03E	**Paynes Creek**	**2.30**	**226**	Pn	**Pn**	**02 14 60.0**	**-0.1**
O03E				IAML		02 15 40.1	
	comp=N,113nm,0.8s						
O03E	**Paynes Creek**	**2.30**	**226**	P	**Pn**	**02 14 60.0**	**-0.1**
	baz=45,SNR=73						
O03E				Sb	**Sg**	**02 15 34.1**	**-1.0**
	baz=45						
YBH	**Yreka Blue Hor**	**2.31**	**267**	Pn	**Pn**	**02 14 60.0**	**-0.3**
	comp=N,7.4nm,0.3s,baz=72,slow=13,SNR=72						
YBH				Lg	Lg	02 15 34.3	
	comp=N,21nm,0.3s,baz=176,slow=11,SNR=10						
YBH	**Yreka Blue Hor**	**2.31**	**267**		**Pn**	**02 14 59.7**	**-0.5**
YBH				IAML		02 15 44.5	
	comp=N,87nm,1.1s						
BMN	**Battle Mountai**	**2.34**	**128**		**Pn**	**02 15 00.2**	**-0.4**
BMN				IAML		02 15 35.7	
	comp=N,115nm,0.6s						
BMN				IAML		02 15 36.0	
	comp=E,149nm,0.6s						
M02C	**Callahan**	**2.47**	**259**		**Pn**	**02 15 02.2**	**-0.2**
M02C	**Callahan**	**2.47**	**259**	P	**Pn**	**02 15 02.2**	**-0.2**
	baz=77,SNR=23						
M02C				Sb	**Sg**	**02 15 39.6**	**-1.0**
	baz=77						
N02D	**Trinity Center**	**2.49**	**249**		**Pn**	**02 15 02.1**	**-0.6**
N02D				IAML		02 15 46.0	
	comp=N,172nm,0.8s						
N02D	**Trinity Center**	**2.49**	**249**	Pb	**Pb**	**02 15 05.7**	**-1.0**
	baz=67,SNR=43						
N02D				Sb	**Sg**	**02 15 40.5**	**-0.8**
	baz=67						
HUMO	**Hull Mountain**	**2.57**	**287**	Pn	**Pn**	**02 15 03.1**	**-0.6**
HUMO				IAML		02 15 43.1	
	comp=N,97nm,0.7s						
HUMO				IAML		02 15 49.2	
	comp=E,67nm,0.7s						
VCNR	**Virginia City**	**2.60**	**180**		**Pn**	**02 15 05.3**	**+0.9**
VCNR				IAML		02 15 46.5	
	comp=E,145nm,1.0s						
VCNR				IAML		02 15 48.0	
	comp=N,146nm,0.6s						
MPK	**Martis Peak**	**2.62**	**187**	Pn	**Pb**	**02 15 07.1**	**-1.9**
MPK				IAML		02 15 57.2	
	comp=N,131nm,0.9s						
MPK				IAML		02 15 57.5	
	comp=E,135nm,0.8s						
I05D	**Terrebonne, OR**	**2.74**	**333**	Pb	**Pb**	**02 15 10.6**	**-0.3**
	baz=152,SNR=21						
ORV	**Oroville**	**2.74**	**212**		**Pn**	**02 15 06.5**	**+0.4**
I04A	**Tendick Farm,**	**2.79**	**314**	Pb	**Pb**	**02 15 11.8**	**+0.1**
	baz=132,SNR=18						
PNTR	**Pine Nut**	**2.81**	**180**		**Pn**	**02 15 09.2**	**+1.9**
PNTR				IAML		02 15 58.0	
	comp=E,109nm,1.0s						
PNTR				IAML		02 15 59.9	
	comp=N,126nm,1.0s						
RUBR	**Rubicon Trail**	**2.88**	**188**	Pn	**Pn**	**02 15 07.3**	**-0.9**
RUBR				IAML		02 15 57.0	
	comp=E,60nm,0.6s						
RUBR				IAML		02 16 05.9	
	comp=N,74nm,1.3s						
YERR	**Yerington**	**2.93**	**174**		**Pn**	**02 15 08.7**	**-0.2**
YERR				IAML		02 15 57.3	
	comp=N,104nm,0.9s						
DBO	**Dodson Butte**	**2.94**	**296**		**Pn**	**02 15 08.5**	**-0.4**
DBO				IAML		02 15 56.4	
	comp=N,71nm,0.7s						
EMB	**Emerald Bay**	**2.95**	**187**	Pn	**Pn**	**02 15 07.9**	**-1.2**
EMB				IAML		02 15 57.5	
	comp=E,52nm,1.4s						
O02D	**Mt. Diablo Mer**	**2.95**	**235**		**Pn**	**02 15 09.5**	**+0.5**
O02D				IAML		02 16 00.3	
	comp=N,50nm,1.3s						
O02D	**Mt. Diablo Mer**	**2.95**	**235**	Pb	**Pb**	**02 15 14.2**	**-0.3**
	baz=53,SNR=14						
O02D				Sb	**Sb**	**02 15 53.2**	**+2.3**
	baz=53						
L02E	**Cave Junction**	**2.97**	**276**		**Pn**	**02 15 08.7**	**-0.6**
L02E	**Cave Junction**	**2.97**	**276**	P	**Pn**	**02 15 09.3**	**+0.1**
	baz=94,SNR=13						
KVN	**Kaiserville**	**3.08**	**157**	Pn	**Pn**	**02 15 11.8**	**+1.0**
KVN				IAML		02 16 02.1	
	comp=N,51nm,0.8s						
KVN				IAML		02 16 15.1	
	comp=E,49nm,1.0s						
K02D	**Willamette Mer**	**3.10**	**286**	P	**Pn**	**02 15 11.5**	**+0.4**
	baz=103,SNR=130						
MFID	**Camas Ranch**	**3.19**	**60**	Pn	**Pn**	**02 15 11.1**	**-1.2**
KHMM	**Horse Mountain**	**3.25**	**253**		**Pn**	**02 15 16.0**	**+2.7**
KHMM				IAML		02 16 15.9	
	comp=E,57nm,1.1s						
KHMM				IAML		02 16 20.1	
	comp=N,83nm,1.4s						
I03D	**Drain, OR**	**3.27**	**304**	Pb	**Pb**	**02 15 19.6**	**-0.3**
	baz=122,SNR=7.9						
H04A	**Detroit Lake**	**3.35**	**327**		**Pn**	**02 15 16.6**	**+2.1**
BUCK	**Buck Mountain**	**3.37**	**314**	Pn	**Pn**	**02 15 15.8**	**+1.0**
BUCK				IAML		02 17 15.5	
	comp=N,59nm,4.3s						
RYN	**Ryan**	**3.38**	**165**		**Pn**	**02 15 14.3**	**-0.7**
RYN				IAML		02 16 17.2	
	comp=N,45nm,0.6s						
RYN				IAML		02 16 17.6	
	comp=E,44nm,1.2s						
BMO	**Blue Mountains**	**3.40**	**29**	Pn	**Pn**	**02 15 14.6**	**-0.6**
J01E	**Myrtle Point**	**3.42**	**293**	Pn	**Pn**	**02 15 16.1**	**+0.7**
J01E				IAML		02 16 23.9	
	comp=N,60nm,1.1s						
J01E				IAML		02 16 26.5	
	comp=E,54nm,1.8s						
**G08

comp=N,17nm,0.8s
LCH **Last Change Ra** 4.91 161 Pn 02 15 34.3 -1.7
LCH IAML 02 17 10.3
comp=E,14nm,1.5s
BGU **Big Grassy Mou** 5.06 99 Pn 02 15 37.8 -0.3
BCYI **Bear Canyon** 5.15 60 Pn Pn 02 15 38.6 -0.8
S11A **Rachel** 5.20 144 Pn 02 15 39.1 -0.8
DUG **Dugway, Tooele** 5.43 106 Pn 02 15 42.5 -0.6
PSUT **Pine Spring** 5.55 125 Pn 02 15 45.1 +0.1
PRN **Pahroc Range** 5.71 140 Pn 02 15 47.1 +0.1
HWUT **Hardware Ranch** 6.04 90 Pn Pn 02 15 51.3 -0.3
NLU **North Lily Min** 6.04 106 Pn Pn 02 15 50.3 -1.3
ECR **Eagle Creek** 6.21 77 Pn Pn 02 15 52.0 -2.1
AHID **Auburn Hatcher** 6.38 79 Pn Pn 02 15 54.9 -1.4
SHPR **Sheep Range** 6.41 146 Pn Pn 02 15 54.8 -1.8
CCUT **Cedar City** 6.50 130 Pn Pn 02 15 57.4 -0.5
TPAW **Teton Pass** 6.59 73 Pn Pn 02 15 58.4 -0.8
SZCU **Shurtz Canyon** 6.62 128 Pn Pn 02 15 58.0 -1.6
REDW **Red Top Meadow** 6.63 74 Pn Pn 02 15 57.2 -2.7
MOOW **Moose Ponds** 6.79 71 Pn Pn 02 16 01.9 0.0
YHL **Hebgen Lake** 6.82 62 Pn Pn 02 16 00.9 -1.5
LOHW **Long Hollow** 6.86 73 Pn Pn 02 16 03.2 +0.4
MTPU **Mount Pierson** 6.89 122 Pn Pn 02 16 02.4 -1.1
PDAR **Pinedale Array** 7.51 80 Pn Pn 02 16 17.0 +5.2
comp=E,0.1nm,0.3s,baz=271,slow=13,SNR=1.7
PDAR Pg **Pb** **02 16 33.0 +0.7**
comp=E,0.1nm,0.3s,baz=263,slow=14,SNR=4.6
YKA **Yellowknife Ar** 20.84 7 P P 02 19 03.9 +0.1
comp=E,0.4nm,0.8s,baz=186,slow=11,SNR=4.8

IDC 24 02:31:25.2±3.4, 49°44.S×110°81.E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/20, mbtmp3.6/2, Error ellipse: s-maj=193.4km s-min=69.4km az=131.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.47**	**44**	P	P	02 37 48.5	0.0
	1.4nm,1.2s,baz=201,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**34.93**	**41**	P	P	02 38 18.6	-0.1
	0.8nm,0.7s,baz=208,slow=8.7,SNR=8.0						
YKA	**Yellowknife Ar**	**152.09**	**45**	PKPbc	PKPbc	02 51 21.0	-0.2
	0.5nm,0.9s,baz=293,slow=2.6,SNR=4.4						

IDC 24 02:45:52.8±5.8, 8.78S×124.51E, h77km±69km, mb2.9/1, mb1 3.5/4, mb1mx3.0/35, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=58.2km s-min=30.8km az=20.0
DJA 24 02:45:56.7±0.4, 9°S±3°×12°4E±°, h106km±5km, M3.6/8, mb3.7/1, MLv3.5/8
ISC 24 02:45:55.1±1.1, 9°02.S±0°07×124°33.E±0°09, h100km, n10, σ2§61/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.74**	**185**	P	**Pn**	**02 46 16.3**	**+3.3**
BATI	**Baumata**	**1.35**	**209**	P	**Pn**	**02 46 21.3**	**+1.7**
	26nm,0.3s,baz=299,slow=2.3,SNR=15						
BATI				S	**Sn**	**02 46 40.4**	**+2.2**
	56nm,0.3s,baz=76,slow=3.6,SNR=38						
BATI	**Baumata**	**1.35**	**209**	P	**Pn**	**02 46 22.0**	**+2.4**
BATI				S	**Sn**	**02 46 41.8**	**+3.6**
MMRI	**Maumere**	**2.10**	**280**	P	**Pn**	**02 46 29.0**	**0.0**
MMRI				S	**Sn**	**02 46 52.8**	**-2.1**
BBSI	**Bau Bau**	**3.92**	**333**	P	**Pn**	**02 46 55.9**	**+2.7**
PLAI	**Plampang**	**6.48**	**271**	P	**Pn**	**02 47 28.2**	**+0.3**
	0.1nm8.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**9.12**	**172**	P	**Pn**	**02 48 03.6**	**-0.2**
	0.4nm,0.3s,baz=360,slow=8.6,SNR=13						
FITZ				S	**Sn**	**02 49 40.6**	**-4.1**
	1.2nm,0.3s,baz=155,slow=4.8,SNR=21						
WRA	**Warramunga Arr**	**14.55**	**139**	P	**Pn**	**02 49 15.6**	**-0.6**
	0.7nm,0.3s,baz=323,slow=13,SNR=47						
WRA				S	**Sn**	**02 51 53.2**	**-3.5**
	0.3nm,0.3s,baz=320,slow=25,SNR=5.6						
ASAR	**Alice Springs**	**17.21**	**149**	P	**Pn**	**02 49 50.9**	**+1.6**
	0.3nm,0.3s,baz=320,slow=11,SNR=15						
MKAR	**Makanchi Array**	**66.99**	**330**	P	**P**	**02 56 36.4**	**-0.8**
	0.1nm,0.5s,baz=140,slow=8.1,SNR=2.1						

IDC 24 02:46:15.6±3.1, 25°.24S×179°.99E, h474km±35km, mb3.4/4, mb1 3.6/6, mb1mx3.1/33, mbtmp4.5/6, Error ellipse: s-maj=48.0km s-min=25.0km az=156.0
ISC 24 02:46:16.4±1.0, 25°.3S±0°.2×179°.9W±0°.2, h500km, n10, σ0§43/10, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.13**	**191**	P	**P**	**02 49 06.6**	**-0.1**
	1.9nm,0.3s,baz=282,slow=2.9,SNR=9.2						
AFI	**Afiamalu**	**13.69**	**35**	P	**P**	**02 49 12.8**	**-0.2**
	3.6nm,0.3s,baz=40,slow=15,SNR=4.0						
CTA	**Charters Tower**	**31.62**	**273**	P	**P**	**02 51 57.8**	**-0.1**
	2.5nm,0.4s,baz=84,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**41.94**	**262**	P	**P**	**02 53 22.8**	**-0.2**
	2.0nm,0.6s,baz=89,slow=7.0,SNR=19						
WRA	**Warramunga Arr**	**42.45**	**268**	P	**P**	**02 53 26.3**	**-0.7**
	2.2nm,0.6s,baz=104,slow=7.8,SNR=10						
FITZ	**Fitzroy Crossi**	**50.85**	**267**	P	**P**	**02 54 31.2**	**+0.5**
	2.6nm,0.5s,baz=102,slow=6.9,SNR=10						
NB2	**NORSAR Sa:barra1**	**43.52**	**351**	PKP	**PKPdf**	**03 04 53.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=17,slow=3.4						
NOA	**NORSAR Array B**	**143.52**	**351**	PKP	**PKPdf**	**03 04 53.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=16,slow=4.9,SNR=6.0						
AKASG	**Malin Array Be**	**146.24**	**326**	PKPbc	**PKPbc**	**03 05 00.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=42,slow=4.2,SNR=4.3						
BRTR	**Keskin Array B**	**148.53**	**305**	PKPbc	**PKiKP**	**03 05 08.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=136,slow=2.9,SNR=4.7						

IDC 24 03:14:08.1±2.6, 7.63S×74.69W, h132km±25km, mb3.6/6, mb1 3.7/10, mb1mx3.5/40, mbtmp4.0/10, Error ellipse: s-maj=21.5km s-min=18.8km az=67.0
NEIC 24 03:14:10.8±2.0, 7.68S±0.09×74.63W±0.09, h155km±7km, mb4.2/8, Error ellipse: s-maj=15.4km s-min=8.9km az=134.0
VAO 24 03:14:18.2±0.5, 7.66S×73.93W, h153km±4km, mbR4.0
ISC 24 03:14:09.9±0.6, 7°.64S±0°.07×74°.77W±0°.08, h150km, n58, σ1§47/60, mb4.0/8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.05**	**93**	*eP*	**Pn**	**03 14 45.8**	**+0.2**
NNA	**Nana**	**4.78**	**205**	P	**Pn**	**03 15 20.5**	**0.0**
	6.8nm,0.3s,baz=11,slow=7.6,SNR=8.9						
NNA				S	**Sn**	**03 16 13.4**	**-2.1**
	23nm,0.3s,baz=201,slow=1.1,SNR=3.7						
NNA	**Nana**	**4.78**	**205**	Pn	**Pn**	**03 15 21.1**	**+0.6**
NNA				Sn	**Sn**	**03 16 13.0**	**-2.5**
TBTG	**Tabatinga, AM**	**5.93**	**55**	eP	Pn	**03 15 35.1**	**-0.6**
OTAV	**Otavalo**	**8.64**	**335**	*eP*	Pn	03 16 25.5	+13
ETMB	**Extrema**	**8.73**	**105**	*eP*	**Pn**	**03 16 09.9**	**-3.2**
LPAZ	**La Paz**	**10.77**	**144**	P	**Pn**	**03 16 38.3**	**-2.5**
	0.7nm,0.3s,baz=312,slow=9.2,SNR=19						
MACA	**Manacapuru-AM**	**14.71**	**73**	*eP*	**Pn**	**03 17 29.5**	**-1.4**
VILB	**Vilhena**	**15.28**	**111**	*eP*	**Pn**	**03 17 36.2**	**-1.7**
SIV	**San Ignacio**	**15.76**	**123**	P	**Pn**	**03 17 42.4**	**-1.5**
	0.4nm,0.3s,baz=312,slow=10,SNR=8.2						
LVC	**Limon Verde**	**15.92**	**160**	*eP*	**P**	**03 17 49.5**	**+2.8**
SDV	**Santo Domingo**	**16.93**	**14**	P	**P**	**03 17 58.2**	**+0.5**
	0.8nm,0.3s,baz=149,slow=5.3,SNR=8.0						
PTLB	**Pontes e Lacer**	**17.16**	**118**	*eP*	**P**	**03 18 00.0**	**-0.1**
BOAV	**Boa Vista**	**17.36**	**56**	*eP*	**P**	**03 18 02.8**	**+0.4**
PDRB	**Porto dos Gac**	**18.22**	**104**	*eP*	**P**	**03 18 11.0**	**-0.8**
CLDB	**Colider**	**19.00**	**101**	*eP*	**P**	**03 18 19.7**	**-0.6**
ITTB	**Itaituba**	**19.21**	**81**	*eP*	**P**	**03 18 21.9**	**-0.6**
NPGB	**Novo Progresso**	**19.27**	**90**	*eP*	**P**	**03 18 22.0**	**-1.1**
AC02	**Maricunga**	**19.83**	**165**	P	**P**	**03 18 31.0**	**+1.4**
AC02				IAmb	IAmb	03 18 32.9	
	comp=Z,12nm,1.2s						
SALV	**Santo Antonio**	**20.39**	**115**	*eP*	**P**	**03 18 35.2**	**0.0**
MALB	**Monte Alegre**	**21.22**	**75**	*eP*	**P**	**03 18 43.9**	**-0.3**
PP1B	**Ponte de Pedra**	**21.77**	**119**	*eP*	**P**	**03 18 50.2**	**+0.2**
AQDB	**Aquidauana**	**22.44**	**127**	*eP*	**P**	**03 18 57.9**	**+1.3**
SNDB	**Serra Nova Dou**	**23.53**	**102**	*eP*	**P**	**03 19 07.2**	**+0.5**
MCPB	**Macapa, AP**	**23.77**	**73**	*eP*	**P**	**03 19 07.5**	**-1.4**
PRPB	**Parauapebas**	**24.82**	**88**	*eP*	**P**	**03 19 19.2**	**+0.8**
CPUP	**Villa Florida**	**24.92**	**140**	P	**P**	**03 19 17.6**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=339,slow=9.2,SNR=3.4						
CPUP	**Villa Florida**	**24.92**	**140**	P	**P**	**03 19 17.2**	**-2.0**
CPUP	**Villa Florida**	**24.92**	**140**	*eP*	**P**	**03 19 22.2**	**+3.0**
TRCB	**Terra Rica**	**26.08**	**128**	*eP*	**P**	**03 19 31.9**	**+2.1**
PEXB	**Peixe**	**26.45**	**102**	*eP*	**P**	**03 19 33.9**	**+0.7**
ITRB	**Iturama**	**26.54**	**119**	*eP*	**P**	**03 19 35.4**	**+1.5**
SMTB	**Santa Maria do**	**26.93**	**95**	*eP*	**P**	**03 19 38.4**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**27.08**	**80**	*eP*	**P**	**03 19 40.0**	**+1.2**
PTGB	**Pitanga**	**27.56**	**131**	*eP*	**P**	**03 19 45.6**	**+2.6**
IPMB	**Ipameri, GO**	**27.83**	**114**	*eP*	**P**	**03 19 46.7**	**+1.2**
ITAB	**Concordia**	**28.99**	**135**	*eP*	**P**	**03 19 58.3**	**+2.6**
SDBA	**SAO DESIDERIO**	**29.78**	**102**	*eP*	**P**	**03 20 03.6**	**+0.8**
CPSB	**Cacapava Do Su**	**30.21**	**141**	*eP*	**P**	**03 20 09.7**	**+3.3**
JANB	**Januaria**	**30.73**	**107**	*eP*	**P**	**03 20 11.5**	**+0.3**
DIAM	**Diamantina, MG**	**32.05**	**112**	*eP*	**P**	**03 20 23.9**	**+1.1**
PLCA	**Paso Flores**	**33.17**	**174**	P	**P**	**03 20 32.5**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=350,slow=9.6,SNR=14						
PLCA	**Paso Flores**	**33.17**	**174**	P	**P**	**03 20 33.0**	**+0.7**
PLCA				IAmb	IAmb	03 20 33.8	
	comp=Z,5.6nm,1.1s						
NBIT	**Itapeh - BA**	**35.37**	**105**	*eP*	**P**	**03 20 52.9**	**+1.5**
NBAN	**Anadia - AL**	**38.10**	**96**	*eP*	**P**	**03 21 14.8**	**+0.1**
TXAR	**Lajitas Array**	**46.10**	**324**	P	**P**	**03 22 19.7**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=156,slow=4.6,SNR=2.9						
TXAR	**Lajitas Array**	**46.10**	**324**	P	**P**	**03 22 19.8**	**+0.6**
DBIC	**Dimbokro**	**71.16**	**80**	P	**P**	**03 25 14.1**	**+1.1**
	comp=Z,3.3nm,0.5s,baz=293,slow=1.6,SNR=12						
DBIC	**Dimbokro**	**71.16**	**80**	P	**P**	**03 25 11.4**	**-1.6**
KOWA	**Kowa**	**73.53**	**72**	P	**P**	**03 25 25.6**	**-1.4**
YKA	**Yellowknife Ar**	**76.32**	**342**	P	**P**	**03 25 41.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=141,slow=5.7,SNR=5.8						
YKA				pP	**pP**	**03 26 17.5**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=139,slow=6.2,SNR=11						
SNAA	**Sanae**	**77.14**	**162**	P	**P**	**03 25 46.2**	**-0.4**
SNAA				IAmb	IAmb	03 26 00.1	
	comp=Z,6.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**78.69**	**75**	P	**P**	**03 25 54.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=266,slow=5.3,SNR=15						
TORD	**Torodi Ar. Bea**	**78.69**	**75**	P	**P**	**03 25 55.0**	**-1.2**
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**03 26 16.4**	**+0.9**
QSPA				IAmb	IAmb	03 26 20.4	
	comp=Z,5.3nm,1.1s						
WRA	**Warramunga Arr**	**140.35**	**226**	PKhKP	PKPpre	03 33 17.2	
	comp=Z,0.4nm,0.8s,baz=124,slow=2.2,SNR=2.0						
WRA				PKP	**PKPdf**	**03 33 22.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=122,slow=2.2,SNR=5.9						
WRA	**Warramunga Arr**	**140.35**	**226**		**PKPdf**	**03 33 21.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**147.44**	**218**	PKPbc	**PKPbc**	**03 33 38.0**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=158,slow=4.7,SNR=7.5						

NEIC 24 03:17:37.8±1.4, 10°.31S±0°.05×161°.65E±0°.10, h54km±11km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=4.2km az=64.0
IDC 24 03:17:38.2±3.1, 10°.45S×161°.60E, h59km±24km, mb3.6/7, mb1 3.8/8, mb1mx3.6/37, mbtmp3.9/8, ML3.3/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/52, Error ellipse: s-maj=26.5km s-min=20.2km az=64.0
ISC 24 03:17:38.5±0.7, 10°.5S±0°.1×161°.57E±0°.10, h61km, n22, σ0§90/24, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.89**	**302**	P	**Pn**	**03 18 07.3**	**-1.2**
	82nm,0.3s,baz=189,slow=22,SNR=11						
HNR				S	**Sn**	**03 18 32.2**	**+0.9**
	100nm,0.3s,baz=139,slow=8.2,SNR=5.7						
HNR	**Honiara**	**1.89**	**302**	Pn	**Pn**	**03 18 07.5**	**-1.0**
HNR				Sn	**Sn**	**03 18 31.2**	**0.0**
SANVU	**Saraoutou**	**7.41**	**133**	Pn	**Pn**	**03 19 26.0**	**+2.1**
SANVU				Sn	**Sn**	**03 20 44.9**	**-1.7**
DZM	**Mont Dzumac**	**12.46**	**159**	P	**Pn**	**03 20 33.2**	**0.0**
	0.2nm,0.3s,baz=360,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**12.46**	**159**		**Pn**	**03 20 32.1**	**-1.1**
WR0	**Warramunga Arr**	**27.70**	**247**	P	**P**	**03 23 21.5**	**+0.3**
WR0				IAmb	IAmb	03 23 38.8	
	comp=Z,7.0nm,1.4s						
WB0	**Warramunga Arr**	**27.78**	**247**	P	**P**	**03 23 22.0**	**0.0**
WB0				IAmb	IAmb	03 23 24.3	
	comp=Z,3.3nm,0.7s						
WB2	**Warramunga Arr**	**27.87**	**247**	P	**P**	**03 23 22.9**	**+0.3**
WB2				IAmb	IAmb	03 23 24.8	
	comp=Z,3.4nm,0.9s						
WRA	**Warramunga Arr**	**27.88**	**247**	P	**P**	**03 23 23.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=75,slow=9.3,SNR=18						
WRA	**Warramunga Arr**	**27.88**	**247**	P	**P**	**03 23 22.1**	**-0.7**
AS31	**Alice Springs**	**29.45**	**240**	P	**P**	**03 23 37.5**	**+0.7**
AS31				IAmb	IAmb	03 23 46.6	
	comp=Z,1.1nm,1.2s						
ASAR	**Alice Springs**	**29.46**	**240**	P	**P**	**03 23 37.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=72,slow=9.8,SNR=3.5						
ASAR				LR	LR	03 35 24.1	
	comp=Z,98nm,18.6s,baz=142,slow=36						
URZ	**Urewera**	**31.00**	**156**	LR	LR	03 34 21.6	
	comp=Z,127nm,18.1s,baz=31,slow=32						
BBOO	**Buckleboo**	**32.35**	**223**	P	**P**	**03 24 03.7**	**+1.5**
BSWZ	**Blackbirch Sta**	**32.97**	**163**	P	**P**	**03 24 07.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.59**	**254**	P	**P**	**03 24 30.3**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=88,slow=9.0,SNR=3.5						
SONM	**Songino Array**	**75.80**	**325**	P	**P**	**03 29 17.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.3,SNR=4.4						
SONM	**Songino Array**	**75.80**	**325**	P	**P**	**03 29 17.3**	**-0.8**
SONM				IAmb	IAmb	03 29 31.5	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**84.30**	**20**	P	**P**	**03 30 03.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=241,slow=5.0,SNR=1.5						
MKAR	**Makanchi Array**	**90.30**	**318**	P	**P**	**03 30 32.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=81,slow=7.5,SNR=4.5						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**03 31 00.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=261,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**96.35**	**28**	P	**P**	**03 30 59.9**	**-0.4**

CNRM 24 03:20:33.2, 35°.75N×3°.59W, h16km, ml2.8
SFS 24 03:20:34.0, 35°.60N×3°.74W, ML2.9, ALBORAN SUR
MDD 24 03:20:34.6±0.4, 35°.63N×3°.75W, h0km, mb_Lg2.6/7, Error ellipse: s-maj=3.4km s-min=2.6km az=9.0
ISC 24 03:20:33.5±1.2, 35°.66N±0°.02×3°.72W±0°.03, h9km±10km, n30, σ1§48/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.47**	**202**	P	**Pb**	**03 20 44.5**	**+0.4**
PALE				S	**Sb**	**03 20 53.5**	**+2.4**
EALB	**Alboran**	**0.63**	**63**	Pg	**Pb**	**03 20 48.6**	**+0.1**
EALB				Sg	**Sb**	**03 20 56.5**	**+0.9**
PVLZ	**Peæn de**	**0.67**	**225**	P	**Pb**	**03 20 47.1**	**-0.3**
PVLZ				S	**Sb**	**03 20 56.7**	**-0.1**
EMEL	**Melilla**	**0.72**	**119**	Pg	**Pg**	**03 20 47.4**	**0.0**
EMEL				Sg	**Sg**	**03 20 57.5**	**+0.7**
GOG	**Mont Gurugu**	**0.74**	**126**	P	**Pg**	**03 20 47.5**	**-0.3**
GOG				S	**Sg**	**03 20 57.1**	**-0.2**
ELGU	**Los Guajares,**	**1.21**	**4**	Pg	**Pn**	**03 20 56.9**	**+0.2**
ELGU				Sg	**Sb**	**03 21 12.4**	**-0.1**
EMAL	**Malaga-Limoner**	**1.24**	**333**	P	**Pn**	**03 20 55.9**	**-1.1**
EMAL				S	**Sb**	**03 21 09.9**	**-3.4**
EMIJ	**Mijas**	**1.24**	**317**	Pg	**Pn**	**03 20 56.1**	**-1.0**
EMIJ				Sg	**Sb**	**03 21 12.1**	**-1.2**
EMIJ				*i* Vmb_Lg		03 21 14.5	
TAF	**Taforalt**	**1.36**	**128**	P	**Pn**	**03 20 57.1**	**-1.6**
TAF				S	**Sb**	**03 21 17.0**	**+0.3**
EBER	**Berja**	**1.41**	**28**	Pn	**Pn**	**03 21 00.3**	**+0.7**
EBER				Sn	**Sn**	**03 21 18.7**	**+0.3**
EBER				*i* Vmb_Lg		03 21 21.4	
EGOR	**Sierra Gorda,**	**1.48**	**348**	Pn	**Pn**	**03 21 00.3**	**-0.2**
EGOR				Sn	**Sn**	**03 21 21.4**	**+1.3**
EGOR				*i* Vmb_Lg		03 21 30.9	
EQUE	**Quentar**	**1.56**	**8**	Pn	**Pb**	**03 21 03.3**	**+0.6**
EQUE				Sn	**Sn**	**03 21 21.3**	**-0.7**
EJIF	**Jimena Fronter**	**1.62**	**300**	Pn	**Pb**	**03 21 04.1**	**+0.5**
EJIF				Sn	**Sn**	**03 21 22.8**	**-0.5**
JBK	**JBK**	**1.62**	**144**	P	**Pn**	**03 21 01.9**	**-0.5**
JBK				S	**Sn**	**03 21 21.3**	**-2.4**
ENIJ	**Nijar**	**1.80**	**43**	Pn	**Pn**	**03 21 05.9**	**+1.2**
ENIJ				Sn	**Sn**	**03 21 23.9**	**-3.8**
ENIJ				*i* Vmb_Lg		03 21 59.8	
SICH	**Sidi Chahed**	**2.03**	**221**	P	**Pb**	**03 21 09.8**	**-0.7**
SICH				S	**Sg**	**03 21 38.2**	**-0.5**
ESPR	**Espera**	**2.11**	**306**	Pn	**Pn**	**03 21 10.8**	**+1.8**
ESPR				Sn	**Sb**	**03 21 39.0**	**+1.0**
IFR	**Ifrane**	**2.43**	**209**	P	**Pn**	**03 21 14.2**	**+0.7**
IFR				S	**Sn**	**03 21 42.8**	**-0.6**
EADA	**Adamuz**	**2.60**	**345**	Pn	**Pn**	**03 21 17.8**	**+2.1**
EADA				Sn	**Sn**	**03 21 49.2**	**+1.7**
ECAB	**El Cabril**	**2.77**	**331**	Pn	**Pb**	**03 21 21.6**	**-1.6**
ECAB				Sn	**Sn**	**03 21 55.1**	**+3.4**
CZD	**Col de Zad**	**2.83**	**203**	P	**Pn**	**03 21 20.7**	**+1.4**
CZD				S	**Sn**	**03 21 54.4**	**+0.8**
MD31	**MD31**	**2.91**	**197**	P	**Pn**	**03 21 21.9**	**+1.8**
MD31				S	**Sn**	**03 21 56.9**	**+1.6**
MDT	**Midelt**	**2.93**	**195**	P	**Pn**	**03 21 21.3**	**+0.9**
MDT				S	**Sb**	**03 21 59.3**	**-2.6**
EMIN	**Mina Concepcio**	**3.17**	**313**	Pn	**Pn**	**03 21 24.4**	**+0.8**
EMIN				*i* Vmb_Lg		03 21 51.2	
EMIN				Sn	**Sn**	**03 22 00.3**	**-1.2**
ETOB	**Tobarra**	**3.45**	**30**	Pn	**Pn**	**03 21 28.6**	**+1.1**
ETOB				Sn	**Sn**	**03 22 09.4**	**+0.8**
EGRO	**El Granado**	**3.56**	**303**	Pn	**Pn**	**03 21 29.1**	**+0.2**
EGRO				Sn	**Sn**	**03 22 11.0**	**0.0**
PVAQ	**Vaqueiros**	**3.66**	**300**	P	**Pn**	**03 21 29.7**	**-0.6**
PVAQ				S	**Sn**	**03 22 12.6**	**-1.0**
PAB	**San Pablo**	**3.91**	**353**	Pn	**Pn**	**03 21 35.6**	**+1.8**
PAB				Sn	**Sn**	**03 22 20.7**	**+0.8**
PAB				*i* Vmb_Lg		03 23 00.2	
EBAD	**Badajoz**	**4.06**	**321**	Pn	**Pn**	**03 21 36.4**	**+0.7**
EBAD				Sn	**Sn**	**03 22 23.5**	**+0.1**
EVO	**Evora**	**4.47**	**311**	P	**Pb**	**03 21 53.7**	**+1.5**
EVO				S	**Sb**	**03 22 42.1**	**-4.1**

MDD 24 03:27:28.3±0.3, 35°.68N×3°.72W, h0km, mb_Lg2.8/5, Error ellipse: s-maj=2.7km s-min=2.3km az=160.0
CNRM 24 03:27:28.2, 35°.70N×3°.63W, h21km, ml2.9
SFS 24 03:27:28.0, 35°.67N×3°.71W, ML3.2, ALBORAN SUR
ISC 24 03:27:27.4±1.2, 35°.68N±0°.02×3°.70W±0°.02, h13km±10km, n39, σ1§35/70, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.50**	**203**	S	**Sb**	**03 27 46.8**	**+1.6**
EALB	**Alboran**	**0.60**	**64**	Pg	**Pb**	**03 27 40.1**	**+0.3**
EALB				Sg	**Sb**	**03 27 48.8**	**+0.6**
PVLZ	**Peæn de**	**0.70**	**224**	P	**Pb**	**03 27 41.9**	**+0.4**
PVLZ				S	**Sg**	**03 27 50.8**	**+0.4**
EMEL	**Melilla**	**0.72**	**122**	Pg	**Pb**	**03 27 41.4**	**-0.3**
EMEL				Sg	**Sb**	**03 27 50.7**	**-0.8**
GOG	**Mont Gurugu**	**0.73**	**128**	P	**Pg**	**03 27 41.6**	**-0.2**
GOG	**Mont Gurugu**	**0.73**	**128**	P	**Pg**	**03 27 41.6**	**-0.2**
GOG				S	**Sg**	**03 27 50.5**	**-0.9**
ELGU	**Los Guajares,**	**1.19**	**3**	Pg	**Pn**	**03 27 48.8**	**-1.0**
ELGU				Sg	**Sb**	**03 28 05.2**	**0.0**
ELGU				*i* Vmb_Lg		03 29 07.3	
EMAL	**Malaga-Limoner**	**1.23**	**332**	P	**Pn**	**03 27 50.0**	**-0.3**
EMAL				S	**Sb**	**03 28 04.5**	**-1.7**
EMIJ	**Mijas**	**1.24**	**316**	Pg	**Pn**	**03 27 49.8**	**-0.7**
EMIJ				Sg	**Sb**	**03 28 05.5**	**-1.1**
TAF	**Taforalt**	**1.36**	**129**	P	**Pn**	**03 27 51.3**	**-0.8**
TAF	**Taforalt**	**1.36**	**129**	P	**Pn**	**03 27 51.7**	**-0.5**
TAF				S	**Sg**	**03 28 11.6**	**+0.2**
ECEU	**Ceuta**	**1.38**	**280**	Pn	**Pn**	**03 27 51.8**	**-0.6**
ECEU				Sn	**Sn**	**03 28 08.6**	**-1.8**
EBER	**Berja**	**1.38**	**28**	Pn	**Pn**	**03 27 52.6**	**0.0**
EBER				Sn	**Sb**	**03 28 10.7**	**-0.1**
EGOR	**Sierra Gorda,**	**1.47**	**347**	Pn	**Pb**	**03 27 54.7**	**+0.1**
EGOR				Sn	**Sb**	**03 28 13.3**	**+0.1**
EQUE	**Quentar**	**1.54**	**8**	Pn	**Pb**	**03 27 55.6**	**-0.2**
EQUE				Sn	**Sb**	**03 28 15.2**	**-0.1**
EQUE				*i* Vmb_Lg		03 28 19.6	
EJIF	**Jimena Fronter**	**1.63**	**299**	Pn	**Pb**	**03 27 56.6**	**-0.4**
EJIF				Sn	**Sb**	**03 28 17.9**	**+0.3**
JBK	**JBK**	**1.63**	**145**	P	**Pn**	**03 27 55.0**	**-1.0**
JBK	**JBK**	**1.63**	**145**	P	**Pn**	**03 27 55.9**	**-

IGDI	**IGDIR**	**1.15**	**195**	P	**Pn**	**03 54 28.9**	**-0.8**
IGDI				S	**Sn**	**03 54 44.9**	**-0.9**
IGDI				*i* AML	AML	03 54 46.0	
	comp=N,270nm,0.4s						
IGDI				*i* AML	AML	03 54 47.0	
	comp=E,291nm,0.3s						
HYR	**Heyderabad**	**1.29**	**167**	P	**Pg**	**03 54 32.7**	**+1.0**
	SNR=12						
HYR				S	**Sn**	**03 54 50.9**	**+1.4**
DDFL	**Dedoflistskaro**	**1.33**	**69**	P	**Pg**	**03 54 35.0**	**+2.5**
DDFL				S	**Sn**	**03 54 56.7**	**+6.1**
DDFL	**Dedoflistskaro**	**1.33**	**69**	P	**Pg**	**03 54 34.7**	**+2.1**
DDFL				S	**Sn**	**03 54 55.8**	**+5.2**
DDFL				*i* AML	AML	03 55 01.0	
	comp=E,276nm,0.6s						
DDFL				*i* AML	AML	03 55 01.0	
	comp=N,274nm,0.7s						
EPOS	**Posof**	**1.41**	**293**	P	**Pg**	**03 54 34.2**	**+0.3**
EPOS				S	**Sg**	**03 54 53.2**	**+1.0**
EPOS				*i* AML	AML	03 54 55.0	
	comp=N,181nm,0.3s						
GANJ	**Ganja**	**1.45**	**103**	P	**Pb**	**03 54 34.4**	**-0.1**
	SNR=41						
GANJ				S	**Sn**	**03 54 52.7**	**-0.7**
ABS	**Abastumani**	**1.47**	**303**	P	**Pg**	**03 54 35.3**	**+0.3**
ABS				S	**Sg**	**03 54 55.0**	**+0.9**
GUDG	**Gudauri**	**1.49**	**0**	P	**Pg**	**03 54 35.5**	**0.0**
GUDG				S	**Sg**	**03 54 56.9**	**+2.1**
KOTA	**Agri, Merkez-K**	**1.52**	**220**	P	**Pg**	**03 54 37.6**	**+1.7**
KOTA				S	**Sg**	**03 55 00.7**	**+5.1**
DYDN	**Diyadin**	**1.55**	**203**	P	**Pg**	**03 54 37.5**	**+0.9**
DYDN				*i* AML	AML	03 55 05.0	
	comp=E,117nm,0.9s						
LGD	**Lagodekhi**	**1.59**	**57**	P	**Pg**	**03 54 37.8**	**+0.3**
LGD				S	**Sg**	**03 54 59.8**	**+1.8**
PNSH	**Pansheti**	**1.66**	**4**	P	**Pb**	**03 54 38.6**	**+0.4**
PNSH				S	**Sg**	**03 55 01.2**	**+0.9**
ZKTA	**Zakatala**	**1.76**	**67**	P	**Pb**	**03 54 40.1**	**+0.5**
	SNR=9.5						
ZKTA				S	**Sg**	**03 55 04.6**	**+1.3**
TKB	**Tkibuli**	**1.76**	**322**	P	**Pg**	**03 54 40.0**	**-0.6**
TKB				S	**Sg**	**03 55 03.5**	**0.0**
ONI	**Oni**	**1.78**	**335**	P	**Pb**	**03 54 40.2**	**+0.1**
ONI				S	**Sg**	**03 55 03.8**	**-0.3**
ONI	**Oni**	**1.78**	**335**	*e*Pg	**Pb**	**03 54 40.4**	**+0.3**
ONI				*e*Sg	**Sg**	**03 55 03.9**	**-0.3**
SBZ	**Shahbuz**	**1.79**	**152**	P	**Pg**	**03 54 41.6**	**+0.5**
	SNR=8.2						
SBZ				S	**Sg**	**03 55 05.8**	**+1.5**
LACR	**Lac**	**1.85**	**356**	*e*Pg	**Pg**	**03 54 42.2**	**-0.3**
LACR				*e*Sg	**Sg**	**03 55 07.0**	**+0.5**
ZEI	**Tsey**	**1.86**	**347**	*e*Pg	**Pb**	**03 54 42.1**	**+0.5**
ZEI				*e*Sg	**Sg**	**03 55 06.9**	**+0.2**
EATA	**Eleskirt**	**1.87**	**234**	P	**Pg**	**03 54 42.4**	**-0.4**
DAGI	**Agillar**	**1.93**	**274**	P	**Pb**	**03 54 42.5**	**-0.2**
DAGI				S	**Sg**	**03 55 09.5**	**+0.6**
NAX	**Nakhchivan**	**1.97**	**156**	P	**Pg**	**03 54 44.8**	**+0.2**
	SNR=7.8						
NAX				S	**Sg**	**03 55 11.9**	**+1.8**
MNGR	**Mingechevir, A**	**2.00**	**95**	S	**Sb**	**03 55 10.2**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.03**	**341**	*e*Pg	**Pg**	**03 54 45.7**	**-0.1**
DIGR				*e*Sg	**Sg**	**03 55 13.1**	**+0.9**
DDEM	**Demirkent**	**2.06**	**269**	P	**Pb**	**03 54 44.9**	**0.0**
DDEM				*i* AML	AML	03 55 18.0	
	comp=N,62nm,0.6s						
DDEM				*i* AML	AML	03 55 24.0	
	comp=E,55nm,0.3s						
VLKR	**Vladikavkaz**	**2.08**	**4**	*e*Pg	**Pg**	**03 54 47.0**	**+0.3**
VLKR				*e*Sg	**Sg**	**03 55 16.1**	**+2.5**
SEKA	**Sheki**	**2.08**	**83**	P	**Pb**	**03 54 45.8**	**+0.5**
	SNR=29						
SEKA				S	**Sg**	**03 55 13.4**	**-0.4**
DBAD	**Bademkaya**	**2.10**	**272**	P	**Pb**	**03 54 45.2**	**-0.3**
DBAD				S	**Sg**	**03 55 14.5**	**+0.3**
KMGR	**Komgaron**	**2.10**	**8**	*e*Pg	**Pg**	**03 54 47.6**	**+0.4**
KMGR				*e*Sg	**Sg**	**03 55 17.5**	**+3.0**
KORR	**Kora**	**2.13**	**352**	*e*Pg	**Pg**	**03 54 47.9**	**+0.2**
KORR				*e*Sg	**Sg**	**03 55 16.0**	**+0.6**
BTLR	**Botlikh**	**2.14**	**37**	*e*Pg	**Pg**	**03 54 47.9**	**0.0**
BTLR				*e*Sg	**Sg**	**03 55 15.3**	**-0.3**
DBOC	**Borcka**	**2.14**	**281**	P	**Pb**	**03 54 46.0**	**-0.3**
DBOC				S	**Sg**	**03 55 15.4**	**-0.4**
BRDA	**Brd**	**2.19**	**108**	P	**Pb**	**03 54 47.8**	**+0.8**
BRDA				S	**Sg**	**03 55 16.7**	**-0.5**
AGDM	**Agdam**	**2.19**	**112**	P	**Pg**	**03 54 48.4**	**-0.6**
AGDM				S	**Sg**	**03 55 18.1**	**+0.7**
LSNR	**Lesken**	**2.35**	**349**	*e*Pg	**Pg**	**03 54 52.0**	**+0.1**
LSNR				*e*Sg	**Sg**	**03 55 21.3**	**-1.1**
ORD	**Ordubad**	**2.36**	**150**	P	**Pg**	**03 54 51.9**	**-0.3**
	SNR=19						
ORD				S	**Sg**	**03 55 22.9**	**+0.2**
GROC	**Groznyy**	**2.44**	**24**	*e*Pn	**Pg**	**03 54 53.6**	**0.0**
GROC				*e*Sn	**Sg**	**03 55 26.0**	**+0.8**
ZRD	**Zardab**	**2.55**	**105**	P	**Pb**	**03 54 51.9**	**-1.2**
ZRD				S	**Sg**	**03 55 28.6**	**-0.2**
NEY	**Neytrino**	**2.61**	**331**	*e*Pn	**Pb**	**03 54 55.5**	**+1.1**
NEY				*e*Sn	**Sb**	**03 55 28.6**	**+1.6**
QRD	**Qoradiz**	**2.66**	**124**	P	**Pb**	**03 54 55.0**	**-0.1**
QRD				S	**Sb**	**03 55 28.6**	**+0.6**
BLQ	**Beylaqan**	**2.68**	**117**	P	**Pb**	**03 54 54.2**	**-1.1**
BLQ				S	**Sb**	**03 55 28.8**	**+0.2**
XNQ	**Khinaliq**	**2.79**	**85**	P	**Pb**	**03 54 56.6**	**-0.7**
	SNR=3.1						
XNQ				S	**Sb**	**03 55 32.2**	**+0.3**
IML	**Ismayilli**	**2.83**	**92**	P	**Pb**	**03 54 57.2**	**-0.7**
IML				S	**Sb**	**03 55 30.2**	**-2.6**
QSAR	**Qusar**	**2.92**	**78**	P	**Pb**	**03 55 00.4**	**+1.0**
QSAR				S	**Sb**	**03 55 36.7**	**+1.3**
QUBA	**Quba, Azerbaij**	**3.07**	**82**	P	**Pb**	**03 55 00.6**	**-1.4**
QUBA				S	**Sb**	**03 55 39.9**	**+0.1**
PQL	**Pirkuli**	**3.14**	**92**	P	**Pb**	**03 55 01.8**	**-1.5**
PQL				S	**Sb**	**03 55 39.6**	**-2.3**
SIZA	**Siyzn**	**3.36**	**87**	P	**Pb**	**03 55 05.0**	**-2.0**
SIZA				S	**Sb**	**03 55 46.2**	**-2.0**
ATGJ	**Altiaghaj**	**3.39**	**90**	P	**Pb**	**03 55 05.7**	**-1.9**
YRD	**Yardimli**	**3.56**	**124**	P	**Pb**	**03 55 09.0**	**-1.5**
YRD				S	**Sg**	**03 55 58.0**	**-3.2**
LRK	**Lerik**	**3.79**	**127**	P	**Pb**	**03 55 12.5**	**-1.9**

*NEIC **24** 04:27:38.5±2.0, 6°.21S±0°.06×151°.4E±0°.1, h10km±2km, mb4.1/6, Error ellipse: s-maj=22.9km s-min=5.5km az=114.0*
*IDC **24** 04:27:43.8±2.4, 6°.01S×151°.19E, h69km±21km, mb3.5/5, mb1 3.7/5, mb1mx3.5/28, mbtmp3.8/5, MS3.3/8, Ms1 3.3/8, ms1mx3.0/36, Error ellipse: s-maj=74.7km s-min=15.9km az=123.0*

ISC 24 04:27:38.5±1.6, 6°.5S±0°.1×151°.8E±0°.3, h37km, n25, σ1=62/20, mb3.9/9, MS3.2/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.19**	**5**	P	**Pn**	**04 28 12.9**	**+0.5**
	15nm,0.3s,baz=254,slow=24,SNR=35						
KRVT				S	**Sn**	**04 28 37.4**	**-0.8**
	6.8nm,0.3s,baz=38,slow=24,SNR=12						
RABL	**Rabaul**	**2.32**	**8**	Pn	**Pn**	**04 28 16.2**	**+2.1**
RABL					**Sn**	**04 28 44.4**	**+2.9**
PMG	**Port Moresby**	**5.45**	**238**	Pn	**Pn**	**04 28 59.0**	**+1.7**
CTA	**Charters Tower**	**14.55**	**201**	LR	LR	04 36 45.2	
	comp=Z,112nm,18.5s,baz=66,slow=37						
DZM	**Mont Dzumac**	**20.85**	**139**	LR	LR	04 38 42.7	
	comp=Z,98nm,19.8s,baz=59,slow=30						
GUMO	**Guam**	**21.12**	**341**	LR	LR	04 38 31.1	
	comp=Z,59nm,20.8s,baz=92,slow=32						
MTN	**Manton Dam**	**21.34**	**251**	P	**P**	**04 32 21.9**	**-0.8**
MTN				IAmb	IAmb	04 32 28.3	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**21.47**	**230**	P	**P**	**04 32 24.8**	**+0.8**
WB0				IAmb	IAmb	04 32 37.8	
	comp=Z,5.2nm,1.0s						
WR0	**Warramunga Arr**	**21.47**	**230**	P	**P**	**04 32 25.4**	**+1.5**
WR0				IAmb	IAmb	04 32 38.0	
	comp=Z,10.0nm,1.1s						
WB2	**Warramunga Arr**	**21.60**	**230**	P	**P**	**04 32 26.2**	**+0.8**
WB2				IAmb	IAmb	04 32 38.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**21.61**	**230**	P	**P**	**04 32 26.2**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=54,slow=10,SNR=28						
WRA	**Warramunga Arr**	**21.61**	**230**	P	**P**	**04 32 25.8**	**+0.3**
ASAR	**Alice Springs**	**24.25**	**223**	P	**P**	**04 32 54.2**	**+1.9**
	comp=Z,2.6nm,0.6s,baz=56,slow=9.3,SNR=28						
ASAR				LR	LR	04 42 37.6	
	comp=Z,82nm,19.2s,baz=130,slow=37						
ASAR	**Alice Springs**	**24.25**	**223**	P	**P**	**04 32 53.4**	**+1.0**
KNRA	**Kununurra**	**24.38**	**246**	P	**P**	**04 32 51.7**	**-1.8**
STKA	**Stephens Creek**	**27.00**	**199**	LR	LR	04 43 10.0	
	comp=Z,71nm,21.6s,baz=29,slow=34						
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	**P**	**04 33 25.3**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=64,slow=12,SNR=8.9						
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	**P**	**04 33 24.8**	**-1.5**
MJAR	**Matsushiro Arr**	**44.68**	**344**	LR	LR	04 54 01.6	
	comp=Z,34nm,18.9s,baz=144,slow=36						
KSRS	**Korea Array**	**49.09**	**335**	LR	LR	04 54 50.6	
	comp=Z,17nm,21.4s,baz=155,slow=34						
MA2	**Magadan**	**65.87**	**359**	LR	LR	05 02 24.3	
	comp=Z,29nm,21.9s,baz=128,slow=32						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**04 39 46.7**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=116,slow=3.4,SNR=2.6						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**04 39 47.2**	**-2.2**
ILAR	**Eielson Array**	**84.09**	**22**	P	**P**	**04 40 04.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=245,slow=6.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.86**	**285**	PKPbc	**PKPbc**	**04 47 25.7**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=72,slow=2.8,SNR=17						

*IDC **24** 04:59:13.9±4.3, 3°.88S×101°.37E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/39, mbtmp3.6/5, Error ellipse: s-maj=186.5km s-min=22.4km az=54.0*
*DJA **24** 04:59:20.5±0.8, 4°.S±4°×10°.2E±°, h25km±7km, M3.5/8, MLv3.5/8*

ISC 24 04:59:20.2±1.0, 3°.77S±0°.07×101°.61E±0°.06, h34km, n16, σ1=01/15, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.89**	**46**	P	**Pn**	**04 59 37.2**	**+0.9**
MASI				S	**Sb**	**04 59 49.0**	**+0.1**
MNAI	**Manna**	**1.47**	**114**	P	**Pn**	**04 59 45.2**	**+0.9**
MNAI				S	**Sn**	**05 00 03.5**	**+1.1**
KRJI	**Kerinci**	**1.67**	**355**	P	**Pn**	**04 59 48.1**	**+0.9**
PPSI	**Pulau Pagai**	**1.88**	**302**	P	**Pn**	**04 59 51.3**	**+1.3**
JMBI	**JAMBI**	**2.94**	**44**	P	**Pn**	**05 00 05.7**	**+1.2**
KASI	**Kota Agung**	**3.37**	**121**	P	**Pn**	**05 00 11.4**	**+0.9**
SISI	**Saibi**	**3.49**	**314**	P	**Pn**	**05 00 13.5**	**+1.3**
H08S2	**Diego Garcia H**	**29.22**	**261**	T	T	05 35 19.4	
	baz=82						
H08S3	**Diego Garcia H**	**29.23**	**261**	T	T	05 35 19.6	
	baz=82						
H08S1	**Diego Carcia H**	**29.24**	**261**	T	T	05 35 23.2	
	baz=82						
WRA	**Warramunga Arr**	**35.73**	**119**	P	**P**	**05 06 15.5**	**-0.6**
	0.2nm,0.4s,baz=298,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**36.92**	**125**	P	**P**	**05 06 26.1**	**-0.2**
	0.2nm,0.4s,baz=296,slow=8.0,SNR=5.6						
SONM	**Songino Array**	**51.56**	**4**	P	**P**	**05 08 22.8**	**-0.3**
	0.5nm,0.5s,baz=194,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**53.16**	**344**	P	**P**	**05 08 33.9**	**-0.9**
	0.7nm,0.6s,baz=148,slow=8.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**59.20**	**349**	P	**P**	**05 09 16.5**	**-1.3**
	0.7nm,0.4s,baz=190,slow=6.0,SNR=5.3						
TXAR	**Lajitas Array**	**145.06**	**41**	PKPbc	**PKPbc**	**05 18 54.0**	**-0.3**
	0.4nm,0.5s,baz=204,slow=2.0,SNR=2.7						

TAP 24 05:05:35.5, 23°.15N×120°.96E, h8km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.07**	**51**	P	Pg	05 05 38.3	+0.8
	baz=55						
ELDTW				*e*S	Sg	05 05 39.5	+0.5
	baz=55						
STYH	**Taoyuan**	**0.17**	**279**	*e*P	Pg	05 05 40.2	+1.1
	baz=281						
STYH				*e*S	Sg	05 05 42.7	+1.3
	baz=281						
STYT	**Tauyuan**	**0.19**	**276**	*e*P	Pg	05 05 40.5	+1.1
	baz=274						
STYT				*e*S	Sg	05 05 43.2	+1.2
	baz=274						
LONT	**Longtian**	**0.28**	**146**	*e*S	Sb	05 05 47.1	-0.8
	baz=146						
FULB	**Fuli**	**0.31**	**80**	*e*P	Pb	05 05 42.7	-0.7
	baz=80						
YUS	**Yu-Shan**	**0.34**	**359**	*e*P	Pg	05 05 42.6	+0.2
TWGBT	**Beinan**	**0.34**	**161**	*e*S	Sb	05 05 49.3	-0.3
	baz=161						
SNST	**Tainan City**	**0.43**	**280**	*e*S	Sb	05 05 52.0	-0.1
	baz=279						

TAP 24 05:05:41.1, 23°.09N×120°.94E, h8km±1km, ML1.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.12**	**35**	*e*P	Pg	05 05 43.2	-0.6
	baz=39						
STYH	**Taoyuan**	**0.17**	**297**	*e*P	Pg	05 05 45.1	+0.4
	baz=297						
STYH				*e*S	Sg	05 05 47.6	+0.6
	baz=297						
STYT	**Tauyuan**	**0.18**	**292**	*e*P	Pg	05 05 45.4	+0.5
	baz=293						
STYT				S	Sg	05 05 48.1	+0.6
	baz=293						
LONT	**Longtian**	**0.25**	**137**	*e*P	Pg	05 05 45.9	-0.3
	baz=127						
LONT				*e*S	Sg	05 05 50.8	+1.3
	baz=127						
TWG	**Pinlang**	**0.29**	**156**	*e*S	Pg	05 05 47.5	+0.6
	baz=161						
TWG	**Pinlang**	**0.29**	**156**	*e*P	Pg	05 05 47.5	+0.6
	baz=146						
TWG				*e*S	Sb	05 05 52.5	-1.3
	baz=146						
TWGBT	**Beinan**	**0.30**	**155**	*e*P	Pb	05 05 48.1	-0.7
	baz=146						
TWGBT				*e*S	Sg	05 05 52.4	+1.3
	baz=146						
SGST	**Jiashian**	**0.33**	**268**	*e*P	Pg	05 05 48.2	+0.5
	baz=269						
SGST				*e*S	Sg	05 05 53.4	+1.3
	baz=269						
WTP	**Ta-pu**	**0.34**	**297**	*e*S	Pb	05 05 49.2	-0.3
	baz=287						
WTP	**Ta-pu**	**0.34**	**297**	*e*P	Pb	05 05 49.2	-0.3
	baz=298						
WTP				*e*S	Sb	05 05 54.4	-0.7
	baz=298						
FULB	**Fuli**	**0.34**	**72**	*e*P	Pg	05 05 48.5	+0.7
	baz=71						
FULB				S	Sg	05 05 53.7	+1.4
	baz=71						
FULB	**Fuli**	**0.34**	**72**	S	Pg	05 05 48.5	+0.7
	baz=80						
EDH	**Donghe**	**0.35**	**110**	*e*S	Pb	05 05 49.2	-0.4
	baz=118						
EDH	**Donghe**	**0.35**	**110**	*e*P	Pb	05 05 49.1	-0.6
	baz=113						
EDH				*e*S	Sb	05 05 54.8	-0.6
	baz=113						
TPUB	**Ta-pu**	**0.35**	**306**	*e*S	Pg	05 05 49.0	+0.9
	baz=297						
TPUB	**Ta-pu**	**0.35**	**306**	*e*P	Pb	05 05 49.0	-0.7
	baz=306						
TPUB				*e*S	Sb	05 05 54.3	-1.3
	baz=306						
CHKT	**Chengkung**	**0.39**	**89**	*e*S	Sb	05 05 55.8	-0.6
	baz=78						
CHN1	**Nanshi**	**0.39**	**284**	*e*P	Pb	05 05 49.9	-0.5
	baz=284						
YUS	**Yu-Shan**	**0.40**	**1**	*e*P	Pg	05 05 48.2	-0.8
	baz=8.0						
YUS				*e*S	Sg	05 05 53.3	-0.9
	baz=8.0						
YUS	**Yu-Shan**	**0.40**	**1**	*e*S	Pg	05 05 48.3	-0.7
EYUL	**Yuli**	**0.43**	**54**	*e*P	Pg	05 05 49.1	-0.3
	baz=53						
EYUL				*e*S	Sg	05 05 53.9	-1.2
	baz=53						
ALS	**Alishan**	**0.43**	**343**	*e*S	Sg	05 05 55.7	+0.3
	baz=343						
YULB	**Yu-li**	**0.44**	**47**	*e*P	Pg	05 05 49.1	-0.6
	baz=47						
YULB				*e*S	Sg	05 05 54.0	-1.6
	baz=47						
SSD	**Sandimen**	**0.45**	**220**	*e*P	Pb	05 05 50.6	-0.7
	baz=218						
SSD				*e*S	Sg	05 05 55.4	-0.2
	baz=218						
TWK	**Hsinying**	**0.45**	**293**	*e*S	Pb	05 05 52.1	+0.7
	baz=285						
TWK	**Hsinying**	**0.45**	**293**	*e*P	Pb	05 05 51.8	+0.3
	baz=293						
TSMG	**Majia**	**0.47**	**216**	*e*P	Pg	05 05 50.8	+0.5
	baz=215						
TSMG				*e*S	Sg	05 05 57.0	+0.5
	baz=215						
EHY	**Hungye**	**0.54**	**40**	*e*P	Pg	05 05 50.9	-0.6
	baz=39						
EHY				*e*S	Sg	05 05 56.9	-1.8
	baz=39						
MASBT	**Mashibuluo**	**0.56**	**211**	*e*P	Pg	05 05 52.5	+0.6
	baz=202						
HGSD	**Ruisui**	**0.59**	**48**	*e*P	Pb	05 05 53.3	-0.5
	baz=40						

IDC 24 05:32:45.9±1.4, 12°.03N×144°.81E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/38, Error ellipse: s-maj=117.1km s-min=18.4km az=100.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.55**	**2**	Pn	Pn	05 33 15.1	+0.4
	40nm,0.3s,baz=173,slow=16,SNR=5.7						
GUMO				Sn	Sn	05 33 35.1	-0.5
	83nm,0.3s,baz=40,slow=20,SNR=9.1						
KSRS	**Korea Array**	**29.50**	**332**	LR	LR	05 50 08.6	
	comp=Z,13nm,18.3s,baz=165,slow=35						
WRA	**Warramunga Arr**	**33.40**	**198**	P	P	05 39 26.0	-0.4
	0.3nm,0.7s,baz=21,slow=9.9,SNR=5.2						
ASAR	**Alice Springs**	**37.05**	**197**	P	P	05 39 57.8	0.0
	0.4nm,0.6s,baz=18,slow=9.5,SNR=7.8						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	P	05 45 19.5	+0.2
	0.2nm,0.5s,baz=286,slow=5.1,SNR=5.0						

*MOS **24** 05:40:23.2±0.9, 59°.63S×26°.25W, h48km, mb5.0/12, Error ellipse: s-maj=28.7km s-min=11.6km az=112.3*
*NEIC **24** 05:40:23.2±1.3, 59°.67S±0°.08×26°.3W±0°.2, h35km±1km, mb5.0/79, Error ellipse: s-maj=14.6km s-min=12.5km az=220.0*
*IDC **24** 05:40:25.2±2.6, 59°.58S×26°.34W, h52km±22km, mb4.2/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.4/12, MS3.7/25, Ms1 3.7/25, ms1mx3.6/44, Error ellipse: s-maj=19.0km s-min=15.6km az=51.0*

ISC 24 05:40:25.3±0.4, 59.73S±0°.06×26°.28W±0°.07, h61km, n186, σ1=04/169, mb4.9/47, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.79**	**310**	P	**Pn**	**05 42 16.5**	**+0.6**
HOPE						05 43 46.0	
HOPE	**Hope Point**	**7.79**	**310**		**Pn**	**05 42 16.5**	**+0.6**
HOPE				Sn	**Sn**	**05 43 46.0**	**+3.4**
ORCD	**Orcadas**	**9.23**	**256**		**Pn**	**05 42 35.5**	**+0.1**
VNA1	**Neumayer--Stat**	**13.23**	**153**	P	**Pn**	**05 43 28.8**	**-1.2**
VNA3	**Neumayer Olymp**	**13.38**	**156**	P	**Pn**	**05 43 30.6**	**-1.4**
VNA2	**Neumayer--Watz**	**13.63**	**153**	P	**Pn**	**05 43 33.4**	**-2.0**
	baz=311,slow=14						
VNA2				S	Sn	05 45 51.9	-13
ESPZ	**Base Esperanza**	**15.00**	**243**	Pn	**Pn**	**05 43 52.8**	**-0.4**
SNAA	**Sanae**	**15.22**	**151**	P	**Pn**	**05 43 55.4**	**-0.8**
SNAA				S	Sn	05 46 27.9	-16
SNAA	**Sanae**	**15.22**	**151**	P	**Pn**	**05 43 55.2**	**-1.0**
	3.1nm,0.3s,baz=26,slow=11,SNR=57						
SNAA				LR	LR	05 48 29.9	
	comp=Z,201nm,21.3s,baz=14,slow=32						
SNAA	**Sanae**	**15.22**	**151**	P	**Pn**	**05 43 55.4**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,18nm,0.8s						
SNAA	**Sanae**	**15.22**	**151**		**Pn**	**05 43 55.4**	**-0.8**
TROLL	**Troll, Antarti**	**16.78**	**149**	P	**P**	**05 44 16.3**	**-0.9**
TROLL				S	Sn	05 47 07.9	-13
PMSA	**Palmer Station**	**18.08**	**238**	LR	LR	05 50 25.7	
	comp=Z,314nm,18.3s,baz=124,slow=33						
PMSA	**Palmer Station**	**18.08**	**238**	P	**P**	**05 44 29.0**	**-2.5**
BELA	**Belgrano 2**	**18.44**	**186**	P	**Pn**	**05 44 37.1**	**+1.0**
SMAI	**San Martin Ant**	**19.44**	**227**	P	**Pn**	**05 44 46.2**	**-1.8**
EFI	**East Falkland**	**19.47**	**280**	*i* P	**Pn**	**05 44 48.3**	**-0.3**
EFI				pmax	pmax		
	comp=Z,22nm,0.5s						
EFI	**East Falkland**	**19.47**	**280**	P	**Pn**	**05 44 47.1**	**-1.5**
EFI				IAmb	IAmb	05 45 30.0	
	comp=Z,135nm,1.4s						
MG01	**Puerto William**	**22.54**	**264**	P	**P**	**05 45 20.1**	**+0.3**
MG01				IAmb	IAmb	05 45 28.7	
	comp=Z,105nm,1.2s						
USHA	**Ushuaia**	**23.00**	**264**	P	**P**	**05 45 25.4**	**+0.9**
	comp=Z,28nm,0.9s,baz=97,slow=8.7,SNR=8.0						
USHA				LR	LR	05 52 30.6	
	comp=Z,165nm,18.1s,baz=124,slow=32						
DSPA	**Despedida**	**23.36**	**266**	P	**P**	**05 45 27.9**	**-0.1**
TRIS	**Tristan da Cun**	**24.40**	**28**	P	**P**	**05 45 37.1**	**-0.5**
MG02	**Cerro Sombrero**	**24.47**	**267**	P	**P**	**05 45 37.1**	**-1.0**
MG03	**Isla Dawson**	**24.52**	**264**	P	**P**	**05 45 38.3**	**-0.3**
MG04	**Isla Riesco**	**25.62**	**265**	P	**P**	**05 45 46.7**	**-1.9**
MG05	**Puerto Natales**	**26.76**	**267**	P	**P**	**05 45 58.5**	**-0.4**
SYO	**Syowa Base**	**28.49**	**136**	‖ *e*pP	pP	05 46 23.0	-5.3
QSPA	**South Pole Qui**	**30.51**	**180**	P	**P**	**05 46 34.7**	**+2.4**
	comp=Z,4.7nm,0.7s,baz=212,slow=2.4,SNR=35						
QSPA				LR	LR	05 58 15.6	
	comp=Z,164nm,19.7s,baz=206,slow=35						
QSPA	**South

comp=Z,67nm,1.9s
VA03 San Esteban 39.64 293 P **P** **05 47 51.9 +1.0**
VA03 IAmb IAmb 05 47 55.8
comp=Z,17nm,0.7s
CPUP Villa Florida 39.66 314 P **P** **05 47 50.9 0.0**
comp=Z,3.4nm,0.8s,baz=144,slow=6.1,SNR=9.9
CPUP LR LR 06 02 48.2
comp=Z,58nm,21.7s,baz=188,slow=34
CPUP Villa Florida 39.66 314 P **P** **05 47 51.0 0.0**
CPUP pmax pmax
comp=Z,17nm,1.6s
CPUP Villa Florida 39.66 314 P **P** **05 47 51.0 0.0**
ROC1 El Roble 39.69 292 P **P** **05 47 51.2 -0.3**
ROC1 IAmb IAmb 05 47 55.3
comp=Z,18nm,0.6s
ZON Zonda 39.80 296 P **P** **05 47 52.6 +0.4**
ZON pmax pmax
comp=Z,9.0nm,0.9s
ZON Zonda 39.80 296 P **P** **05 47 52.6 +0.4**
VA06 Catapilco 40.16 292 P **P** **05 47 55.3 +0.1**
VA06 IAmb IAmb 05 47 57.5
comp=Z,18nm,0.5s
CO02 Combarbal 41.15 294 P **P** **05 48 04.0 +0.5**
CO02 IAmb IAmb 05 48 06.7
comp=Z,20nm,1.1s
SUR Sutherland 41.29 70 LR LR 06 02 07.3
comp=Z,60nm,18.5s,baz=170,slow=32
CO03 El Pedregal 41.31 294 P **P** **05 48 05.0 +0.2**
CO03 IAmb IAmb 05 48 24.9
comp=Z,49nm,1.9s
CO06 Fray Jorge 41.89 293 P **P** **05 48 09.9 +0.5**
SBA Scott Base 42.43 184 P **P** **05 48 16.1 +2.9**
SBA pmax pmax
comp=Z,7.0nm,1.0s
SBA Scott Base 42.43 184 P **P** **05 48 16.1 +2.9**
LCO Las Campanas 42.87 296 P **P** **05 48 17.1 -0.5**
LCO pmax pmax
comp=Z,20nm,1.4s
LCO Las Campanas 42.87 296 P **P** **05 48 17.1 -0.5**
VNDA Vanda 42.91 183 P **P** **05 48 20.1 +3.0**
comp=Z,3.5nm,0.6s,baz=188,slow=6.8,SNR=34
VNDA LR LR 06 04 48.1
comp=Z,99nm,19.6s,baz=183,slow=34
VNDA Vanda 42.91 183 P **P** **05 48 19.6 +2.5**
VNDA pmax pmax
comp=Z,16nm,1.5s
VNDA Vanda 42.91 183 P **P** **05 48 19.6 +2.5**
AC04 Llanos de Chal 43.72 296 P **P** **05 48 24.6 +0.4**
AC04 IAmb IAmb 05 48 52.9
comp=Z,21nm,1.2s
AC02 Maricunga 44.03 299 P **P** **05 48 27.6 +0.3**
AC01 Pan de Azucar 45.27 298 P **P** **05 48 39.0 +2.4**
AC01 IAmb IAmb 05 49 45.3
comp=Z,48nm,1.6s
GO02 Mina Guanaco 45.68 300 P **P** **05 48 40.6 +0.4**
GO02 IAmb IAmb 05 48 53.7
comp=Z,23nm,1.4s
BOSA Boshof 46.54 72 P **P** **05 48 47.5 +0.8**
comp=Z,2.3nm,0.9s,baz=195,slow=9.1,SNR=3.1
BOSA LR LR 06 03 44.6
comp=Z,62nm,18.2s,baz=191,slow=30
BOSA Boshof 46.54 72 P **P** **05 48 46.1 -0.6**
BOSA pmax pmax
comp=Z,66nm,1.9s
BOSA Boshof 46.54 72 P **P** **05 48 46.1 -0.6**
BDFB Brasilia 46.81 331 P **P** **05 48 48.6 -0.2**
comp=Z,1.9nm,0.6s,baz=140,slow=8.6,SNR=4.3
BDFB Brasilia 46.81 331 P **P** **05 48 48.9 0.0**
BDFB pmax pmax
comp=Z,18nm,1.5s
BDFB Brasilia 46.81 331 P **P** **05 48 48.9 0.0**
BDFB IAmb IAmb 05 50 25.3
comp=Z,18nm,1.5s
PB15 IPOC Station P 47.34 301 P **P** **05 48 53.3 +0.2**
LVC Limon Verde 47.62 302 LR LR 06 07 41.7
comp=Z,55nm,21.9s,baz=180,slow=34
LVC Limon Verde 47.62 302 *e*P **P** **05 48 55.7 +0.2**
LVC Limon Verde 47.62 302 P **P** **05 48 55.7 +0.2**
PB04 IPOC Station P 48.40 301 P **P** **05 49 01.1 -0.2**
PB09 IPOC Station P 48.48 302 P **P** **05 49 02.6 +0.7**
PB07 IPOC Station P 48.82 302 P **P** **05 49 04.1 -0.4**
PB07 IAmb IAmb 05 49 08.3
comp=Z,14nm,0.7s
PB02 IPOC Station P 49.18 302 P **P** **05 49 07.3 +0.1**
PB02 IAmb IAmb 05 49 16.0
comp=Z,32nm,1.3s
PB01 IPOC Station P 49.25 302 P **P** **05 49 07.7 0.0**
PB01 IAmb IAmb 05 49 08.7
comp=Z,10nm,0.6s
LBTB Lobatse 49.74 69 P **P** **05 49 12.3 +1.0**
comp=Z,3.5nm,0.8s,baz=204,slow=8.9,SNR=3.7
LBTB LR LR 06 06 43.3
comp=Z,91nm,18.6s,baz=194,slow=32
PB08 IPOC Station P 49.91 303 P **P** **05 49 13.6 +0.6**
PB08 IAmb IAmb 05 49 17.7
comp=Z,10nm,1.2s
GO01 Chusmiza 50.35 304 P **P** **05 49 16.4 -0.1**
GO01 IAmb IAmb 05 49 19.2
comp=Z,34nm,1.9s
PB11 IPOC Station P 50.46 303 P **P** **05 49 16.8 -0.2**
SIV San Ignacio 50.49 315 LR LR 06 11 09.4
comp=Z,53nm,18.9s,baz=178,slow=37
TSUM Tsumeb 51.17 57 LR LR 06 08 05.7
comp=Z,99nm,18.5s,baz=155,slow=32
H10S2 ASCENSION HYDR 51.42 15 T T 06 45 05.1
baz=32,slow=74,SNR=5.8
H10S3 ASCENSION HYDR 51.42 15 T T 06 45 00.9
baz=188,slow=74,SNR=10
PB16 IPOC Station P 51.67 304 P **P** **05 49 26.5 +0.1**
PB16 IAmb IAmb 05 49 43.0
comp=Z,27nm,1.8s
H10N1 ASCENSION HYDR 52.54 15 T T 06 46 25.8
baz=187
H10N3 ASCENSION HYDR 52.54 15 T T 06 46 24.6
baz=187,slow=74
H10N2 ASCENSION HYDR 52.55 15 T T 06 46 26.5
baz=187,slow=74
LPAZ La Paz 52.93 307 P **P** **05 49 36.2 +0.3**
comp=Z,2.8nm,0.4s,baz=84,slow=7.9,SNR=24
LPAZ LR LR 06 12 26.6
comp=Z,25nm,20.4s,baz=162,slow=36
LPAZ La Paz 52.93 307 *e*P **P** **05 49 35.9 0.0**
LPAZ La Paz 52.93 307 P **P** **05 49 35.9 0.0**
RCBR Riachuelo 54.27 348 LR LR 06 09 32.1
comp=Z,42nm,18.4s,baz=311,slow=32
LSZ Lusaka 59.34 66 LR LR 06 11 49.0
comp=Z,80nm,21.7s,baz=200,slow=32
NNA Nana 60.47 300 LR LR 06 14 27.9
comp=Z,33nm,21.7s,baz=172,slow=34
NNA Nana 60.47 300 P **P** **05 50 28.5 -0.2**
NNA pmax pmax
comp=Z,42nm,1.5s
NNA Nana 60.47 300 P **P** **05 50 28.5 -0.2**
MDP Montagnes des 67.91 331 LR LR 06 19 36.5
comp=Z,44nm,18.8s,baz=228,slow=35
DBIC Dimbokro 68.35 23 LR LR 06 14 26.5
comp=Z,30nm,18.7s,baz=178,slow=30
DBIC Dimbokro 68.35 23 P **P** **05 51 20.9 +0.9**
DBIC pmax pmax
comp=Z,38nm,1.5s
DBIC Dimbokro 68.35 23 P **P** **05 51 20.9 +0.9**
OTAV Otavalo 72.11 304 P **P** **05 51 43.9 +0.3**
OTAV pmax pmax
comp=Z,15nm,1.7s
OTAV Otavalo 72.11 304 P **P** **05 51 43.9 +0.3**
MBAR Mbarara 73.46 61 *i* P P 05 51 55.1 +3.9
MBAR pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 75.96 67 LR LR 06 22 02.8
comp=Z,100nm,20.3s,baz=88,slow=33
TOA0 Torodi Ar. Sit 76.06 28 P **P** **05 52 06.8 +0.9**
TORD Torodi Ar. Bea 76.06 28 P **P** **05 52 06.7 +0.8**
comp=Z,3.0nm,0.4s,baz=201,slow=6.1,SNR=34
TORD Torodi Ar. Bea 76.06 28 P **P** **05 52 06.4 +0.5**
KOWA Kowa 76.13 22 P **P** **05 52 07.3 +0.9**
KOWA IAmb IAmb 05 54 39.1
comp=Z,47nm,2.0s
SDV Santo Domingo 76.96 315 LR LR 06 25 44.9
comp=Z,79nm,21.1s,baz=108,slow=35
SDV Santo Domingo 76.96 315 P **P** **05 52 10.6 -0.7**
SDV IAmb IAmb 05 52 32.2
comp=Z,26nm,1.7s
ZARC Zaragoza, Cauc 77.25 310 P **P** **05 52 10.3 -2.4**
SJG San Juan 84.06 322 LR LR 06 33 41.0
comp=Z,38nm,18.7s,baz=96,slow=38
FORT Forrest 87.36 158 P **P** **05 53 06.2 +0.7**

STKA Stephens Creek 88.18 170 P **P** **05 53 10.7 +1.4**
comp=Z,1.4nm,0.7s,baz=169,slow=8.3,SNR=3.6
STKA Stephens Creek 88.18 170 *i* P **P** **05 53 09.8 +0.5**
STKA Stephens Creek 88.18 170 P **P** **05 53 09.6 +0.2**
ASAR Alice Springs 95.33 162 P **P** **05 53 42.9 +0.3**
comp=Z,1.4nm,0.7s,baz=184,slow=4.2,SNR=20
ASAR LR LR 06 33 48.8
comp=Z,90nm,20.6s,baz=148,slow=34
ASAR Alice Springs 95.33 162 P **P** **05 53 43.4 +0.8**
ASAR Alice Springs 95.33 162 P **P** **05 53 43.4 +0.8**
WRA Warramunga Arr 99.05 162 LR LR 06 36 13.8
comp=Z,72nm,21.0s,baz=118,slow=34
WRAB Tennant Creek 99.06 162 *i* P **Pdif** **05 53 59.9 +0.4**
WRAB pmax pmax
comp=Z,3.0nm,1.4s
FITZ Fitzroy Crossi 99.15 153 LR LR 06 37 23.3
comp=Z,32nm,18.3s,baz=166,slow=34
KBZ Khabaz 117.60 50 *i* PKIKP **PKiKP** **05 59 03.7 +0.5**
KBZ pmax pmax
comp=Z,2.0nm,1.0s
TCRU Three Creeks R 120.61 295 **PKiKP** **05 59 11.3 +1.6**
PDAR Pinedale Array 122.66 300 PKP **PKPdf** **05 59 12.0 -1.3**
comp=Z,0.2nm,0.4s,baz=120,slow=5.4,SNR=4.1
PDAR Pinedale Array 122.66 300 **PKiKP** **05 59 12.4 -1.1**
CMAR Chiang Mai Arr 123.28 112 PKP **PKiKP** **05 59 16.1 +0.9**
comp=Z,1.5nm,0.3s,baz=218,slow=3.6,SNR=6.8
OBN Obninsk 124.95 39 *i* PKIKP **PKPdf** **05 59 15.6 -1.3**
OBN pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 127.41 29 PKP **PKiKP** **05 59 21.8 -0.2**
comp=Z,0.9nm,0.5s,baz=190,slow=1.3,SNR=14
FINES FINESS Array B 127.41 29 PKIKP **PKiKP** **05 59 22.0 +0.1**
FINES FINESS Array B 127.41 29 **PKiKP** **05 59 22.0 +0.1**
ABKAR Akbulak array 129.01 57 **PKiKP** **05 59 25.7 +0.1**
PZH PanZhiHua 131.48 110 PKP **PKiKP** **05 59 30.9 -0.6**
ARCES ARCESS Array B 134.18 23 PKP **PKiKP** **05 59 34.5 -0.9**
comp=Z,3.8nm,0.8s,baz=270,slow=1.2,SNR=14
BRVK Borovoye 136.25 60 *i* PKIKP **PKiKP** **05 59 40.4 +0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 137.50 75 PKP **PKPdf** **05 59 40.4 -0.6**
comp=Z,0.8nm,0.9s,baz=272,slow=5.7,SNR=4.7
YKA Yellowknife Ar 139.18 315 PKP **PKPdf** **05 59 43.1 -0.4**
comp=Z,0.6nm,0.5s,baz=128,slow=2.4,SNR=22
YKA SKPbc **SKiKP** **06 03 14.8 -1.4**
comp=Z,0.2nm,0.6s,baz=129,slow=2.7,SNR=5.9
YKA Yellowknife Ar 139.18 315 PKIKP **PKiKP** **05 59 43.8 -2.0**
YKA Yellowknife Ar 139.18 315 **PKiKP** **05 59 43.8 -2.0**
ZALV Zalesovo Beam 143.44 68 PKhKP PKPpre 05 59 48.5
comp=Z,1.2nm,0.4s,baz=260,slow=4.1,SNR=4.7
P33M Teslin, Yukon 144.98 303 P **PKPdf** **05 59 53.5 -0.5**
baz=122
M31M Drury Creek, Y 146.66 306 P **PKPbc** **05 59 57.9 -0.6**
baz=119
A36M Sachs Harbour 147.56 325 **PKPbc** **06 00 00.2 -0.5**
A36M PKPab **PKPab** **06 00 06.7 +3.6**
A36M Sachs Harbour 147.56 325 P **PKPbc** **06 00 00.4 -0.3**
baz=111
M30M Minto, Yukon 147.82 305 P **PKPbc** **06 00 01.4 -0.3**
baz=117
INK Inuvik 148.89 317 P **PKPbc** **06 00 03.6 -0.7**
baz=110
EPYK Eagle Plains 149.35 312 P **PKiKP** **06 00 05.1 -1.6**
baz=111
DAWY Dawson 149.52 307 P **PKiKP** **06 00 05.4 -1.7**
baz=113
M27K Edge Creek, AK 149.85 303 P **PKiKP** **06 00 06.9 -1.0**
baz=114
L27K Beaver Creek, 150.12 304 **PKiKP** **06 00 07.5 -0.8**
L27K Beaver Creek, 150.12 304 P **PKiKP** **06 00 07.6 -0.8**
baz=113
SONM Songino Array 150.28 92 PKPbc **PKiKP** **06 00 09.0 -0.3**
comp=Z,7.1nm,0.8s,baz=221,slow=2.4,SNR=31
SONM Songino Array 150.28 92 PKIKP **PKiKP** **06 00 09.7 +0.4**
SONM Songino Array 150.28 92 **PKiKP** **06 00 09.7 +0.4**
ZAK Zakamensk 150.33 86 *e*PKIKP **PKiKP** **06 00 08.0 -1.3**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
L26K Log Cabin Wild 150.74 304 P **PKiKP** **06 00 09.3 -0.3**
baz=112
DOT Dot Lake 151.27 305 **PKiKP** **06 00 10.6 -0.1**
DOT PKPab **pPKPdf** **06 00 19.4 -1.8**
SCRK Sand Creek 151.36 305 **PKiKP** **06 00 10.7 -0.3**
SCRK PKPab **pPKPdf** **06 00 20.5 -1.0**
SCRK Sand Creek 151.36 305 P **PKiKP** **06 00 10.9 -0.1**
baz=110
J26L Joseph Creek 151.37 307 P **PKiKP** **06 00 10.8 -0.1**
baz=110
RIDG Independent Ri 151.63 305 **PKiKP** **06 00 11.5 +0.1**
RIDG PKPab **pPKPdf** **06 00 20.8 -1.0**
RIDG Independent Ri 151.63 305 P **PKiKP** **06 00 11.5 +0.1**
baz=110
PWL Port Wells 152.06 298 P **PKiKP** **06 00 11.9 -0.4**
baz=114
J25K Salcha River, 152.14 306 **PKiKP** **06 00 12.8 +0.3**
J25K PKPab **pPKPdf** **06 00 23.6 +1.0**
J25K Salcha River, 152.14 306 P **PKiKP** **06 00 12.6 +0.1**
baz=109
WAT6 Susitna Watana 152.45 301 P **PKiKP** **06 00 13.2 -0.1**
baz=111
PRP Porcupine Dome 152.48 308 P **PKiKP** **06 00 12.8 -0.5**
baz=107
ILAR Eielson Array 152.81 306 PKPbc **PKiKP** **06 00 13.2 -0.6**
comp=Z,1.4nm,0.6s,baz=166,slow=1.5,SNR=15
MCK McKinley 153.35 303 P **PKiKP** **06 00 15.0 +0.1**
baz=108
BPAW Bear Paw Mtn. 154.32 304 P **PKiKP** **06 00 16.7 -0.3**
baz=106
TOLK Toolik Lake Re 154.70 314 P **PKiKP** **06 00 17.8 +0.1**
baz=98

NNC 24 05:43:09.7±4.1, 53.76N×90.96E, h0km, mb 3.6, mpv 3.4, 4C-6D, Error ellipse: s-maj=31.5km s-min=23.5km az=45.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.64**	**275**	⇑	Pg	Pb	05 44 14.2	-0.7
	2.5nm,1.1s						
ZAA0				⇓	Lg	Lg	05 45 05.8	
	16nm,1.2s						
KURK	**Kurchatov**	**8.17**	**253**	⇓	Pn	Pn	05 45 09.9	+0.6
	2.0nm,0.7s						
KURK				⇓	Sn	Sn	05 46 44.5	+2.2
	12nm,1.2s						
KURK				⇓	Lg	Lg	05 47 30.9	
	34nm,1.1s						
KURBB	**Kurchatov Arra**	**8.26**	**253**	⇑	Pn	Pn	05 45 11.3	+0.7
	2.6nm,0.5s						
KURBB				⇑	Sn	Sn	05 46 46.1	+1.5
	7.0nm,0.6s						
KURBB				⇓	Lg	Lg	05 47 33.2	
	41nm,1.3s						
MK31	**Makanchi Array**	**8.91**	**222**	Pn	Pn	05 45 21.8	+2.2
	0.5nm,0.5s,baz=39,slow=14,SNR=13						
MK31				⇓	Sn	Sn	05 46 59.2	-1.4
	0.6nm,0.6s						
MK31				⇑	Lg	Lg	05 47 55.1	
	11nm,1.1s,baz=36,slow=30,SNR=6.1						

IDC 24 05:51:28.3±2.7, 54.16N×86.41E, h0km, mb 1 2.6/2, mb1mx2.6/43, mbtmp2.6/2, ML 2.1/2, Error ellipse: s-maj=21.1km s-min=12.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**258**	*i*		05 56 40.0	
	baz=78,slow=329,SNR=4.6						
ZALV	**Zalesovo Beam**	**0.96**	**258**	Pg	Pg	05 51 45.7	-0.9
	1.5nm,0.3s,baz=75,slow=17,SNR=16						
ZALV				Lg	Lg	05 52 00.8	
	2.7nm,0.3s,baz=77,slow=30,SNR=20						
ZALV				Rg	Rg	05 52 07.0	
	7.7nm,0.9s,baz=75,slow=31,SNR=13						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	05 52 58.1	+0.1
	0.0nm,0.3s,baz=56,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	05 53 24.8	+1.5
	0.1nm,0.3s,baz=25,slow=14,SNR=6.7						

*DJA **24** 06:11:07.8±0.6,3°N±4°×12°8E±°, h130km±5km, M4.6/12, mb4.8/7, mB5.0/4, MLv4.7/12, Mw(mB)4.3/4*

*IDC **24** 06:11:09.0±3.6,2°.70N×127°.91E, h127km±37km, mb3.5/5, mb1 3.6/6, mb1mx3.3/39, mbtmp4.0/6, Error ellipse: s-maj=60.3km s-min=18.8km az=68.0*
*NEIC **24** 06:11:10.4±0.6,2°.76N±0°.08×127°.92E±0°.09, h138km±7km, mb4.1/18, Error ellipse: s-maj=14.4km s-min=9.5km az=53.0*

ISC 24 06:11:11.4±0.6, 2°.64N±0°.06×127°.93E±0°.07, h150km, n50, σ1s 24/54, mb 4.1/12, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.94**	**197**		**Pn**	**06 11 45.4**	**-0.4**
TNTI	**Ternate**	**1.94**	**197**	P	**Pn**	**06 11 45.5**	**-0.4**
SGSI	**Sangihe**	**2.62**	**294**	P	**Pn**	**06 11 50.8**	**-3.2**
LBMI	**Labuha**	**3.28**	**188**	P	**Pn**	**06 12 00.2**	**-2.2**
KMSI	**Cibinong**	**4.45**	**243**	P	**Pn**	**06 12 17.4**	**-0.2**
SIJI	**Sorong**	**4.82**	**136**	P	**Pn**	**06 12 22.0**	**-0.5**
	5.3nm,0.3s,baz=224,slow=22,SNR=9.3						
SIJI				S	**Sn**	**06 13 15.6**	**-2.3**
	4.4nm,0.3s,baz=153,slow=22,SNR=7.0						
SANI	**Sanana**	**5.04**	**203**	P	**Pn**	**06 12 23.8**	**-1.6**
	0.4nm2μm95nm,0.7s						
KCP	**Kidapawan**	**5.19**	**327**	⇓ *i* P	**Pn**	**06 12 24.1**	**-3.3**
KCP				*i* S	**Sn**	**06 13 30.4**	**+3.7**
GTOI	**Gorontalo**	**5.30**	**248**	P	**Pn**	**06 12 29.1**	**+0.2**
	0.2nm574nm55nm,0.6s						
LUWI	**Luwuk**	**6.32**	**235**	Pn	**Pn**	**06 12 41.5**	**-0.9**
LUWI				Sn	**Sn**	**06 13 53.1**	**-0.6**
LUWI	**Luwuk**	**6.32**	**235**	P	**Pn**	**06 12 42.2**	**-0.2**
	0.7nm12μm72nm,0.6s						
MRSI	**Marisa**	**6.36**	**250**	P	**Pn**	**06 12 44.1**	**+1.1**
	0.5nm130nm,0.6s						
FAKI	**Fak Fak**	**7.00**	**142**	Pn	**Pn**	**06 12 51.7**	**+0.1**
APSI	**Ampana**	**7.20**	**241**	P	**Pn**	**06 12 54.0**	**-0.2**
	0.3nm768nm72nm,0.5s						
TOLI2	**Tolitoli**	**7.30**	**258**	Pn	**Pn**	**06 12 53.5**	**-2.0**
MYLDM	**Lahad Datu**	**9.74**	**285**	Pn	**Pn**	**06 13 26.3**	**-1.8**
TTSI	**Tana Toraja**	**9.88**	**235**	P	**Pn**	**06 13 29.0**	**-0.9**
	41nm,0.8s						
SPSI	**Sidrap Palu**	**10.47**	**231**	P	**Pn**	**06 13 38.1**	**+0.4**
	54nm,0.7s						
BNSI	**Bone**	**10.49**	**228**	P	**Pn**	**06 13 38.7**	**+0.8**
KAPI	**Kappang**	**11.16**	**227**		**Pn**	**06 13 46.6**	**-0.2**
GENI	**Genyem**	**13.29**	**113**	P	**P**	**06 14 20.6**	**+1.9**
MTN	**Manton Dam**	**15.70**	**168**		**Pn**	**06 14 45.4**	**+0.7**
MTN				IAmb	IAmb	06 14 46.0	
	comp=Z,8.1nm,0.5s						
KNRA	**Kununurra**	**18.21**	**177**	P	**Pn**	**06 15 15.2**	**+0.3**
KNRA				IAmb	IAmb	06 15 17.3	
	comp=Z,5.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.73**	**186**	P	**P**	**06 15 40.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=9.9,slow=9.3,SNR=2.2						
FITZ	**Fitzroy Crossi**	**20.73**	**186**	P	**P**	**06 15 40.8**	**+0.6**
WB0	**Warramunga Arr**	**23.15**	**164**	P	**P**	**06 16 04.8**	**+0.1**
WB0				IAmb	IAmb	06 16 06.4	
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**23.30**	**165**	P	**P**	**06 16 05.8**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=343,slow=10,SNR=37						
WRA	**Warramunga Arr**	**23.30**	**165**	P	**P**	**06 16 05.4**	**-0.7**
WB2	**Warramunga Arr**	**23.31**	**165**	P	**P**	**06 16 06.2**	**+0.1**
WB2				IAmb	IAmb	06 16 08.1	
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**23.37**	**164**	P	**P**	**06 16 06.2**	**-0.6**
PSA00	**Pilbara Seismi**	**25.33**	**198**	P	**P**	**06 16 24.1**	**-0.3**
PSA00				IAmb	IAmb	06 16 27.9	
	comp=Z,7.1nm,1.1s						
XMIS	**Christmas Isla**	**25.72**	**239**	P	**P**	**06 16 28.3**	**+0.1**
ASAR	**Alice Springs**	**26.78**	**168**	P	**P**	**06 16 37.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=348,slow=7.7,SNR=8.8						
ASAR				PcP	**PcP**	**06 19 57.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=344,slow=2.3,SNR=6.4						
ASAR	**Alice Springs**	**26.78**	**168**	P	**P**	**06 16 38.2**	**+0.7**
MORW	**Morawa**	**33.52**	**199**	P	**P**	**06 17 36.8**	**0.0**
BBOO	**Buckleboo**	**36.08**	**168**	P	**P**	**06 17 59.3**	**+0.5**
STKA	**Stephens Creek**	**36.70**	**160**	P	**P**	**06 18 04.5**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=331,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**36.70**	**160**	P	**P**	**06 18 04.3**	**+0.3**
ARMA	**Armidale**	**39.90**	**147**	P	**P**	**06 18 31.1**	**+0.2**
ARMA				IAmb	IAmb	06 18 57.0	
	comp=Z,4.4nm,1.1s						
MK31	**Makanchi Array**	**59.13**	**325**	P	**P**	**06 20 55.3**	**-1.0**
MK31				IAmb	IAmb	06 20 55.9	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**06 20 55.6**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=120,slow=8.1,SNR=19						
ZALV	**Zalesovo Beam**	**62.10**	**333**	P	**P**	**06 21 14.0**	**-2.2**
KURK	**Kurchatov**	**63.30**	**327**	P	**P**	**06 21 23.4**	**-0.8**
VNDA	**Vanda**	**82.20**	**173**	P	**P**	**06 23 16.2**	**+1.0**
J20K	**Nowinta River**	**82.38**	**26**	P	**P**	**06 23 16.1**	**-0.2**
J20K				IAmb	IAmb	06 23 42.3	
	comp=Z,4.7nm,1.4s						
IMAR	**Indian Mountai**	**82.85**	**24**	P	**P**	**06 23 18.4**	**-0.3**
CAST	**Castle Rocks**	**83.17**	**26**	P	**P**	**06 23 20.5**	**0.0**
CAST				IAmb	IAmb	06 23 46.0	
	comp=Z,4.9nm,1.4s						
RND	**Reindeer**	**84.61**	**27**	P	**P**	**06 23 26.0**	**-1.8**
RND				IAmb	IAmb	06 23 45.6	
	comp=Z,4.5nm,1.3s						
BMAR	**Burnt Mountain**	**86.61**	**23**	P	**P**	**06 23 37.2**	**-0.5**
BCAR	**Beaver Creek A**	**87.80**	**27**	P	**P**	**06 23 43.0**	**-0.4**

*IDC **24** 06:11:16.9±1.3, 13°.89N×90°.79W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/33, mbtmp3.7/8, ML3.8/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/66, Error ellipse: s-maj=86.3km s-min=21.7km az=50.0*
*INET **24** 06:11:19.5±1.2, 13°.53N×91°.37W, h6km±14km, MW3.4*
*SNET **24** 06:11:23.5±3.8, 13°.67N×91°.06W, h20km*
*NEIC **24** 06:11:23.4±1.5, 13°.70N±0°.07×91°.29W±0°.08, h40km±5km, mb4.3/16, Md4.0(SNET), Md4.3/16(MEX), Error ellipse: s-maj=14.1km s-min=6.4km az=47.0*
*GCG **24** 06:11:28.2±0.5, 14°.19N×91°.27W, h40km±18km, MD4.2*

ISC 24 06:11:21.3±0.7, 13.66N±0°.06×91.30W±0°.05, h28km, n89, σ1s 19/92, mb 4.1/12, 1C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.91**	**29**	*e*P	**Pn**	**06 11 39.4**	**+1.0**
RTAL	**Retalhuleu**	**0.95**	**336**		**Pb**	**06 11 38.4**	**-0.7**
RTAL				Sn	**Sn**	**06 11 51.3**	**0.0**
RTAL	**Retalhuleu**	**0.95**	**336**	*e*P	**Pn**	**06 11 38.1**	**-0.6**
RTAL				*e*S	**Sn**	**06 11 51.1**	**-0.2**
PCG	**Pacaya**	**0.99**	**42**	*e*P	**Pb**	**06 11 41.0**	**+0.9**
STG3	**Santiaguito 3,**	**1.08**	**346**	*e*P	**Pb**	**06 11 40.8**	**-0.7**
NBG	**Las Nubes**	**1.31**	**45**	⇑ *e*P	**Pb**	**06 11 46.1**	**+0.7**
NUBE	**Las Nubes**	**1.50**	**80**	⇓ *e*P	**Pn**	**06 11 46.0**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.52**	**76**	⇓ *e*P	**Pn**	**06 11 46.7**	**+0.1**
THIG		**1.56**	**323**		**Pn**	**06 11 46.2**	**-1.0**
RTR	**El Retiro**	**1.63**	**81**	*e*P	**Pn**	**06 11 48.6**	**+0.3**
CEVE	**Cerro Verde**	**1.64**	**84**	*e*P	**Pn**	**06 11 48.3**	**-0.2**
SBLS	**San Blas**	**1.64**	**83**	*e*P	**Pn**	**06 11 48.3**	**-0.2**
SNJE	**San Jose**	**1.66**	**82**	*e*P	**Pn**	**06 11 48.7**	**0.0**
HUEH	**Huehuetenango**	**1.67**	**353**		**Pb**	**06 11 51.1**	**-0.3**
HUEH	**Huehuetenango**	**1.67**	**353**	*e*P	**Pb**	**06 11 50.5**	**-1.0**
HUEH	**Huehuetenango**	**1.67**	**353**	*e*P	**Pb**	**06 11 50.3**	**-1.2**
HUEH				*e*S	**Sb**	**06 12 13.7**	**+1.6**
JAYA	**Jayaque - finc**	**1.80**	**90**	*e*P	**Pn**	**06 11 50.1**	**-0.6**
CEDA	**San Andres**	**1.86**	**85**	*e*P	**Pn**	**06 11 51.3**	**0.0**
CEDA	**San Andres**	**1.86**	**85**	*e*P	**Pn**	**06 11 51.3**	**0.0**
TACO	**Tacachico**	**1.92**	**80**	⇓ *e*P	**Pn**	**06 11 52.6**	**+0.5**
LALI	**Alcalda de L**	**1.93**	**95**	*e*P	**Pn**	**06 11 52.8**	**+0.5**
BOQS	**Boqueron**	**1.96**	**87**	*e*P	**Pn**	**06 11 53.1**	**+0.1**
SNET	**Serv Nac Est T**	**2.01**	**89**		**Pn**	**06 11 53.7**	**+0.2**
SNET	**Serv Nac Est T**	**2.01**	**89**	*e*P	**Pn**	**06 11 53.7**	**+0.2**
SNET	**Serv Nac Est T**	**2.01**	**89**	*e*P	**Pn**	**06 11 52.9**	**-0.6**
MTO3	**Montecristo**	**2.02**	**68**		**Pn**	**06 11 54.7**	**+1.0**
MTO3	**Montecristo**	**2.02**	**68**	⇓ *e*P	**Pn**	**06 11 54.8**	**+1.0**
MTO3	**Montecristo**	**2.02**	**68**	*e*P	**Pn**	**06 11 54.7**	**+1.0**
MTO3				*e*S	**Sb**	**06 12 21.6**	**-0.8**
ESQI	**Esquipulas**	**2.10**	**64**		**Pb**	**06 11 56.2**	**-2.6**
**ESQI

CCIG	**Comitan**	**2.73**	**343**		**Pb**	**06 12 06.3**	**-3.3**
LCND	**La Caada**	**3.33**	**96**	*eP*	**Pn**	**06 12 13.1**	**+1.5**
PETF	**Flores**	**3.52**	**23**		**Pn**	**06 12 17.0**	**+2.8**
TGIG		**3.57**	**331**		**Pn**	**06 12 13.8**	**-1.1**
TGUH	**Tegucigalpa,Un**	**3.93**	**84**		**Pn**	**06 12 21.0**	**+1.1**
TGUH	**Tegucigalpa,Un**	**3.93**	**84**	*eP*	**Pn**	**06 12 20.6**	**+0.7**
CRIN	**San Cristobal**	**4.25**	**102**		**Pn**	**06 12 25.6**	**+1.4**
CMIG	**Matias Romero**	**4.86**	**315**	Pn	**Pn**	**06 12 32.2**	**-0.4**
	1.9nm,0.3s,baz=129,slow=11,SNR=17						
CMIG				Sn	**Sn**	**06 13 28.7**	**+0.7**
	3.1nm,0.3s,baz=94,slow=16,SNR=4.0						
CMIG				LR	LR	06 14 51.9	
	comp=Z,194nm,18.9s,baz=108,slow=42						
CMIG	**Matias Romero**	**4.86**	**315**		**Pn**	**06 12 33.1**	**+0.5**
MATN	**Matagalpa**	**5.28**	**97**		**Pn**	**06 12 39.4**	**+0.9**
BOAB	**BOACO BROADBAN**	**5.62**	**102**		**Pn**	**06 12 43.0**	**0.0**
HZTE	**Horizontes, Gu**	**6.30**	**117**	Pn	**Pn**	**06 12 54.2**	**+1.8**
ORTG	**Ortega, Santa**	**6.58**	**119**		**Pn**	**06 12 58.0**	**+1.6**
ESPN	**Las Esperanzas**	**6.98**	**101**	Pn	**Pn**	**06 13 03.1**	**+1.4**
JTS	**Las Juntas de**	**7.05**	**118**		**Pn**	**06 13 05.5**	**+2.8**
CAO2	**Cobano, Puntar**	**7.23**	**122**	Pn	**Pn**	**06 13 06.6**	**+1.3**
COVE	**Coope Vega, Sa**	**7.35**	**113**	Pn	**Pn**	**06 13 08.0**	**+1.2**
TLIG	**Tlapa**	**8.01**	**300**		**Pn**	**06 13 18.2**	**+2.2**
RIMA	**Rio Macho**	**8.24**	**117**		**Pn**	**06 13 20.8**	**+1.5**
PEZE	**Perez Zeledon,**	**8.59**	**119**	Pn	**Pn**	**06 13 24.8**	**+0.8**
SRBA	**San Rafael, Bu**	**8.94**	**119**		**Pn**	**06 13 31.2**	**+2.5**
DRK0	**Durika**	**9.02**	**118**	Pn	**Pn**	**06 13 32.6**	**+2.7**
TXAR	**Lajitas Array**	**19.36**	**326**	P	**Pn**	**06 15 45.6**	**-0.5**
	0.1nm,0.3s,baz=142,slow=10,SNR=16						
TX31	**Lajitas Ar. Si**	**19.36**	**326**	P	**Pn**	**06 15 47.4**	**+1.2**
TX31				IAmb	IAmb	06 16 09.6	
	comp=Z,19nm,1.4s						
TX32	**Lajitas Array**	**19.36**	**326**	P	**Pn**	**06 15 47.3**	**+1.2**
MNTX	**Cornudas Mount**	**22.12**	**327**	P	**Pn**	**06 16 15.1**	**+0.4**
MNTX				IAmb	IAmb	06 16 18.1	
	comp=Z,5.2nm,0.7s						
FNO	**Franklin**	**22.20**	**347**	P	**P**	**06 16 14.9**	**-0.5**
PBMO	**Poplar Bluff**	**23.04**	**2**	P	**P**	**06 16 23.6**	**-0.7**
PBMO				IAmb	IAmb	06 17 12.4	
	comp=Z,16nm,0.9s						
S39A	**Bolivar**	**24.01**	**356**	P	**P**	**06 16 33.2**	**-0.5**
S39A				IAmb	IAmb	06 16 34.0	
	comp=Z,5.5nm,0.9s						
CCM	**Cathedral Cave**	**24.30**	**0**	P	**P**	**06 16 35.8**	**-0.6**
CCM				IAmb	IAmb	06 16 37.0	
	comp=Z,9.5nm,1.1s						
BNM	**Barren Site**	**24.69**	**328**	P	**P**	**06 16 40.5**	**+0.2**
ANMO	**Albuquerque**	**25.24**	**330**	P	**P**	**06 16 46.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=130,slow=12,SNR=6.9						
ANMO	**Albuquerque**	**25.24**	**330**	P	**P**	**06 16 45.4**	**+0.2**
MTPU	**Mount Pierson**	**30.56**	**326**	IAmb	IAmb	06 17 37.4	
	comp=Z,3.2nm,0.8s						
PDAR	**Pinedale Array**	**33.02**	**335**	P	**P**	**06 17 54.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=167,slow=8.3,SNR=2.1						
PDAR	**Pinedale Array**	**33.02**	**335**	P	**P**	**06 17 54.5**	**+0.1**
SNOW	**Snow King Moun**	**34.09**	**334**	P	**P**	**06 18 05.1**	**+1.4**
SNOW				IAmb	IAmb	06 18 29.2	
	comp=Z,17nm,1.9s						
NVAR	**Mina Array Bea**	**34.37**	**321**	P	**P**	**06 18 08.2**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=133,slow=8.0,SNR=15						
SIV	**San Ignacio**	**41.96**	**134**	P	**P**	**06 19 08.6**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=309,slow=13,SNR=5.2						
YKA	**Yellowknife Ar**	**51.52**	**346**	P	**P**	**06 20 22.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=150,slow=7.6,SNR=18						
YKA				PcP	**PcP**	**06 21 36.7**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=152,slow=3.7,SNR=3.7						
YKA	**Yellowknife Ar**	**51.52**	**346**	P	**P**	**06 20 23.1**	**-1.2**
SFJD	**Kangerlussuaq**	**59.64**	**17**	LR	LR	06 46 33.9	
	comp=Z,22nm,20.4s,baz=266,slow=36						
KDAK	**Kodiak Island**	**63.37**	**328**	LR	LR	06 53 25.1	
	comp=Z,68nm,18.3s,baz=99,slow=40						
ILAR	**Eielson Array**	**63.42**	**337**	P	**P**	**06 21 47.2**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=134,slow=5.3,SNR=6.6						
ILAR	**Eielson Array**	**63.42**	**337**	P	**P**	**06 21 47.8**	**-0.3**
RND	**Reindeer**	**63.63**	**335**	P	**P**	**06 21 50.0**	**+0.4**
WRA	**Warramunga Arr**	**135.97**	**255**	PKP	**PKPdf**	**06 30 39.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=92,slow=3.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**146.53**	**342**	PKPbc	**PKPbc**	**06 31 00.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=337,slow=4.8,SNR=7.9						
CMAR	**Chiang Mai Arr**	**146.53**	**342**		**PKPbc**	**06 31 00.8**	**-0.1**

FUNV ***24*** *06:12:56.8, 11.81N×69.22W, h34km, MW3.7*
ISC 24 06:12:55.0±1.5, 11.82N±0.08×69.24W±0.03, h29km, n24, σ1§75/43, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.83**	**151**	*eP*	**Pb**	**06 13 12.2**	**+1.2**
JACV				*eS*	**Sb**	**06 13 12.8**	**+1.0**
SIQV	**Siquisique**	**1.29**	**206**	*eP*	**Pn**	**06 13 17.8**	**+0.6**
SIQV				*eS*	**Sn**	**06 13 33.5**	**-0.1**
DABV	**Dabajuro**	**1.64**	**237**	*eP*	**Pn**	**06 13 23.0**	**+1.1**
DABV	**Dabajuro**	**1.64**	**237**	*eP*	**Pn**	**06 13 22.8**	**+0.9**
DABV				*eS*	**Sn**	**06 13 42.5**	**+0.4**
TURV	**Turiamo**	**1.93**	**135**	*eP*	**Pn**	**06 13 26.4**	**+0.4**
TURV				*eS*	**Sn**	**06 13 46.8**	**-2.5**
CURV	**Curarigua**	**1.93**	**202**	*eP*	**Pn**	**06 13 26.9**	**+0.9**
CURV				*eS*	**Sn**	**06 13 48.6**	**-0.8**
MAPV	**Macapo**	**2.12**	**159**	*eP*	**Pn**	**06 13 29.2**	**+0.7**
MAPV				*eS*	**Sn**	**06 13 52.1**	**-1.8**
SANV	**Sanarito**	**2.32**	**187**	*eP*	**Pn**	**06 13 31.7**	**+0.2**
SANV				*eS*	**Sn**	**06 13 57.1**	**-2.0**
BENV	**Beln**	**2.45**	**139**	*eP*	**Pn**	**06 13 34.3**	**+1.2**
BENV				*eS*	**Sn**	**06 14 01.4**	**-0.7**
CARV	**Caracas**	**2.61**	**120**	*eP*	**Pn**	**06 13 35.7**	**+0.2**
CARV				*eS*	**Sn**	**06 14 04.3**	**-2.0**
BIRV	**Birongo**	**3.20**	**114**	*eP*	**Pn**	**06 13 43.6**	**+0.1**
BIRV				*eS*	**Sn**	**06 14 17.9**	**-2.7**
SDV	**Santo Domingo**	**3.22**	**205**	*eP*	**Pn**	**06 13 44.6**	**+0.7**
SDV				*eS*	**Sn**	**06 14 21.3**	**-0.2**
CRJC	**Cerrejon, Guaj**	**3.66**	**258**	*eP*	**Pn**	**06 13 51.6**	**+1.8**
CRJC				*eS*	**Sn**	**06 14 30.5**	**-1.6**
CRJC				*i*		06 14 36.5	
	comp=Z,41nm,0.4s						
MCQV	**Machiques**	**3.69**	**242**	*eP*	**Pn**	**06 13 50.1**	**0.0**
MCQV				*eS*	**Sn**	**06 14 30.0**	**-2.6**
MERV	**Las Mercedes**	**3.85**	**131**	*eP*	**Pn**	**06 13 52.6**	**+0.2**
MERV				*eS*	**Sn**	**06 14 33.5**	**-3.3**
SOCV	**Socops**	**3.86**	**205**	*eP*	**Pn**	**06 13 53.0**	**+0.5**
SOCV	**Socops**	**3.86**	**205**	*eP*	**Pn**	**06 13 52.0**	**-0.5**
SOCV				*eS*	**Sn**	**06 14 34.5**	**-2.4**
LL6C	**La Loma 6 Bece**	**4.47**	**243**	*eP*	**Pn**	**06 14 01.2**	**+1.4**
LL6C				*eS*	**Sn**	**06 14 51.8**	**-0.3**
LL6C				*i*		06 14 57.6	
	comp=Z,12nm,0.8s						
CAPV	**Capacho**	**4.96**	**218**	*eP*	**Pn**	**06 14 07.6**	**-0.3**
CAPV				*eS*	**Sn**	**06 15 00.4**	**-4.1**
CACV	**CAICARA DEL OR**	**4.99**	**148**	*eP*	Pn	06 14 13.2	+5.1
CACV				*eS*	**Sn**	**06 15 08.4**	**+3.5**
OCAC	**Ocana**	**5.37**	**229**	*eP*	**Pn**	**06 14 13.8**	**+0.4**
PAMC	**Pamplona, Colo**	**5.61**	**218**	*eP*	**Pn**	**06 14 18.9**	**+1.9**
PAMC				*eS*	**Sn**	**06 15 19.1**	**-1.7**
ZARC	**Zaragoza, Cauc**	**7.01**	**233**	*eP*	**Pn**	**06 14 35.9**	**0.0**
ZARC				*eS*	**Sn**	**06 15 50.4**	**-4.4**
ZARC				*i*		06 16 03.5	
	comp=Z,4.5nm,0.5s						
PTBC	**PUERTO BERRIO,**	**7.35**	**225**	*eP*	**Pn**	**06 14 39.7**	**-0.9**

NNC ***24*** *06:33:15.2±2.8, 54.37N×87.41E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=27.6km s-min=14.9km az=3.0, Suspected Mining explosion.*
IDC ***24*** *06:33:27.4±3.1, 54.23N×86.57E, h0km, mb1 2.9/2, mb1mx2.7/67, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.0km s-min=15.4km az=55.0*
ISC 24 06:33:18.9±2.0, 52.87N±0.05×86.3E±0.1, h0km, n8, σ1§40/11, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**321**	*i*		06 40 00.0	
	baz=74,slow=323,SNR=6.8						
ZAA0	**Zalesovo Array**	**1.41**	**321**	⇑P	**Pg**	**06 33 44.3**	**-1.6**
	0.6nm,0.4s						
ZAA0				⇑S	**Sn**	**06 34 05.4**	**+0.4**
	7.9nm,1.0s						
ZALV	**Zalesovo Beam**	**1.41**	**321**	Pg	**Pb**	**06 33 47.3**	**+1.3**
	1.6nm,0.3s,baz=76,slow=16,SNR=14						
ZALV				Lg	Lg	06 34 02.7	
	2.3nm,0.3s,baz=74,slow=27,SNR=13						
KURK	**Kurchatov**	**5.24**	**249**	⇑Pn	**Pb**	**06 34 52.7**	**+1.3**
	2.9nm,1.5s						
KURK				⇓Sn	**Sg**	**06 36 08.0**	**+0.9**
	1.2nm,0.7s						
KURK				⇓Lg	Lg	06 36 39.0	
	5.4nm,1.2s						
KURBB	**Kurchatov Arra**	**5.33**	**248**	Pn	**Pg**	**06 34 59.5**	**-1.6**
	0.1nm,0.3s,baz=54,slow=14,SNR=17						
KURBB	**Kurchatov Arra**	**5.33**	**248**	⇓Pn	**Pb**	**06 34 52.7**	**-0.3**
	2.3nm,0.5s						
KURBB				⇑Sn	**Sg**	**06 36 10.1**	**0.0**
	3.7nm,0.5s						
KURBB				⇑Lg	Lg	06 36 46.5	
	5.5nm,0.7s						
MK31	**Makanchi Array**	**6.61**	**205**	⇓Pn	**Pb**	**06 35 14.7**	**0.0**
	0.4nm,0.6s,baz=27,slow=13						
MK31				⇑Sn	**Sg**	**06 36 53.4**	**+2.2**
	0.3nm,0.6s						
MK31				⇑Lg	Lg	06 37 39.2	
	1.9nm,0.9s,baz=26,slow=29						
MKAR	**Makanchi Array**	**6.61**	**205**	Pn	**Pg**	**06 35 24.4**	**-1.2**
	0.1nm,0.3s,baz=27,slow=12,SNR=2.9						
MKAR				Lg	Lg	06 37 41.1	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.5						

IDC 24 06:55:08.6±22.0, 20.26S×178.29W, h612km±282km, mb3.0/5, mb1 3.3/5, mb1mx2.7/47, mbtmp4.0/5, Error ellipse: s-maj=164.3km s-min=89.8km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.24**	**264**	P	P	07 00 57.3	0.0
	2.8nm,0.6s,baz=86,slow=9.5,SNR=2.0						
ASAR	**Alice Springs**	**44.31**	**257**	P	P	07 02 26.0	-0.2
	1.6nm,0.5s,baz=93,slow=8.4,SNR=16						
WRA	**Warramunga Arr**	**44.36**	**262**	P	P	07 02 26.6	+0.1
	0.6nm,0.5s,baz=97,slow=6.9,SNR=4.6						
ILAR	**Eielson Array**	**88.14**	**13**	P	P	07 06 55.0	0.0
	0.5nm,0.5s,baz=216,slow=5.9,SNR=9.1						
PDAR	**Pinedale Array**	**88.97**	**43**	P	P	07 06 59.6	0.0
	0.3nm,0.6s,baz=224,slow=3.8,SNR=2.6						

IDC ***24*** *06:58:07.0±2.5, 6.25S×130.36E, h118km±25km, mb3.7/3, mb1 3.8/7, mb1mx3.3/50, mbtmp4.2/7, Error ellipse: s-maj=52.9km s-min=16.7km az=79.0*
DJA ***24*** *06:58:07.8±0.4, 6°S×3°×13°1E±°, h162km±14km, M4.5/8, mb4.5/5, mB5.0/4, MLv4.5/8, Mw(mB)4.3/4*
ISC 24 06:58:07.1±0.6, 6.12S±0.06×130.48E±0.07, h124km, n26, σ1§69/27, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.69**	**340**	P	Pn	06 58 42.6	+5.6
SAUI	**Saumlaki**	**2.02**	**156**	P	Pn	06 58 44.3	+3.3
MSAI	**Masohi**	**3.16**	**331**	P	**Pn**	**06 58 58.7**	**+3.0**
FAKI	**Fak Fak**	**3.64**	**29**	P	**Pn**	**06 59 02.7**	**+0.7**
FAKI				S	**Sn**	**06 59 44.6**	**+0.1**
SIJI	**Sorong**	**5.28**	**9**	P	**Pn**	**06 59 25.7**	**+1.8**
	15nm,0.3s,baz=247,slow=23,SNR=40						
SIJI				S	**Sn**	**07 00 21.6**	**-2.1**
	9.1nm,0.3s,baz=194,slow=22,SNR=14						
SWI	**Sorong**	**5.28**	**9**	P	**Pn**	**06 59 25.1**	**+1.1**
	0.6nm2µm30nm,0.5s						
SWI				S	**Sn**	**07 00 22.1**	**-1.7**
	0.6nm2µm30nm,0.5s						
LBMI	**Labuha**	**6.21**	**331**	P	**Pn**	**06 59 31.9**	**-4.5**
MTN	**Manton Dam**	**6.71**	**175**	P	**Pn**	**06 59 44.4**	**+1.2**
KDU	**Kakadu**	**6.81**	**163**	P	**Pn**	**06 59 44.7**	**+0.1**
KNRA	**Kununurra**	**9.64**	**190**	P	**Pn**	**07 00 22.8**	**0.0**
BASI	**Baing, Sumba**	**10.61**	**247**	P	**Pn**	**07 00 38.1**	**+2.3**
TOLI2	**Tolitoli**	**12.06**	**306**	P	**P**	**07 01 03.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.80**	**201**	P	**Pn**	**07 01 02.8**	**-2.0**
	0.7nm,0.3s,baz=32,slow=9.7,SNR=42						
FITZ				S	Sn	07 03 14.4	-11
	1.2nm,0.3s,baz=86,slow=10,SNR=8.4						
PLAI	**Plampang**	**12.88**	**257**	P	**P**	**07 01 10.8**	**-0.9**
WRAB	**Tennant Creek**	**14.23**	**165**	P	**Pn**	**07 01 23.2**	**0.0**
WRA	**Warramunga Arr**	**14.24**	**165**	P	**Pn**	**07 01 20.7**	**-2.5**
	0.3nm,0.3s,baz=342,slow=13,SNR=21						
WRA				S	Sn	07 03 48.1	-12
	2.1nm,0.3s,baz=347,slow=22,SNR=10						
COEN	**Coen**	**14.72**	**123**	P	**P**	**07 01 30.2**	**-1.9**
QIS	**Mount Isa**	**16.86**	**149**	P	**P**	**07 01 56.9**	**+1.1**
ASAR	**Alice Springs**	**17.75**	**170**	P	**Pn**	**07 02 06.3**	**-0.3**
	1.2nm,0.3s,baz=345,slow=10.0,SNR=93						
WRKA	**Warakurna**	**18.92**	**186**	P	**Pn**	**07 02 19.4**	**-1.0**
OOD	**Oodnadatta**	**22.11**	**168**	P	**P**	**07 02 52.4**	**-0.2**
LCRK	**Leigh Creek**	**25.27**	**164**	P	**P**	**07 03 22.7**	**+0.8**
STKA	**Stephens Creek**	**27.65**	**159**	P	**P**	**07 03 42.9**	**-0.4**
	0.8nm,0.4s,baz=332,slow=17,SNR=2.9						
SONM	**Songino Array**	**57.77**	**341**	P	**P**	**07 07 46.2**	**+0.9**
	0.5nm,0.5s,baz=153,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**67.76**	**326**	P	**P**	**07 08 52.2**	**+0.7**
	2.5nm,0.4s,baz=115,slow=7.9,SNR=42						
LPAZ	**La Paz**	**151.10**	**141**	PKPbc	**PKiKP**	**07 17 47.7**	**-0.3**
	0.6nm,0.3s,baz=326,slow=1.9,SNR=8.3						

IDC ***24*** *07:07:37.9±2.7, 60.26N×152.55W, h86km±24km, mb3.0/2, mb1 3.6/5, mb1mx3.2/38, mbtmp3.5/5, Error ellipse: s-maj=62.6km s-min=10.3km az=102.0*
ANF ***24*** *07:07:38.1±0.2, 60.17N×152.74W, h120km±3km, ML3.5/45, Error ellipse: s-maj=2.1km s-min=2.0km az=83.0*
NEIC ***24*** *07:07:38.1±1.1, 60.22N±0.04×152.86W±0.08, h126km±3km, Error ellipse: s-maj=5.7km s-min=5.5km az=86.0*
AEIC ***24*** *07:07:39±1.1, 60.20N±0.04×152.82W±0.08, h126km±3km, ML3.3, ML3.4/112(NEIC), Error ellipse: s-maj=5.5km s-min=5.4km az=59.0*
ISC 24 07:07:38.6±0.9, 60.20N±0.03×152.79W±0.03, h130km±5km, n215, σ1§12/227, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.14**	**144**		**Pn**	**07 07 55.8**	**-0.5**
O20K					**Sn**	**07 08 09.1**	**-0.6**
O20K	**Slope Mountain**	**0.14**	**144**	P	**Pn**	**07 07 55.9**	**-0.5**
	baz=321,SNR=42						
O20K				S	**Sn**	**07 08 09.0**	**-0.7**
	baz=321						
IVE	**Iliamna Volcan**	**0.21**	**212**		**Pn**	**07 07 55.6**	**-0.9**
IVE					**Sn**	**07 08 09.1**	**-1.0**
RED	**Redoubt Volcan**	**0.22**	**2**		**Pn**	**07 07 55.6**	**-0.9**
RED					**Sn**	**07 08 08.4**	**-1.7**
RSO	**Redoubt South**	**0.27**	**4**		**Pn**	**07 07 55.7**	**-1.1**
RDWB	**Redoubt West**	**0.29**	**355**		**Pn**	**07 07 55.9**	**-0.9**
RDWB					**Sn**	**07 08 09.5**	**-1.2**
NCT	**North Crescent**	**0.37**	**349**		**Pn**	**07 07 56.3**	**-0.8**
RDJH	**Redoubt Jeurge**	**0.40**	**359**		**Pn**	**07 07 56.2**	**-1.0**
DFR	**Drift River**	**0.40**	**7**		**Pn**	**07 07 56.2**	**-0.9**
DFR					**Sn**	**07 08 09.4**	**-1.8**
OPT	**Oil Point**	**0.59**	**202**		**Pn**	**07 07 57.9**	**-0.3**
O19K	**Port Alsworth**	**0.76**	**271**		**Pn**	**07 07 58.3**	**-1.0**
O19K	**Port Alsworth**	**0.76**	**271**	IAML		07 07 59.5	
	comp=E,1µm,0.4s						
O19K	**Port Alsworth**	**0.76**	**271**	P	**Pn**	**07 07 58.7**	**-0.6**
	baz=89,SNR=159						
O19K				S	**Sn**	**07 08 14.0**	**-1.1**
	baz=89						
HOM	**Homer**	**0.79**	**133**		**Pn**	**07 07 59.7**	**+0.1**
HOM					**Sn**	**07 08 15.6**	**+0.1**
HOM	**Homer**	**0.79**	**133**	P	**Pn**	**07 07 59.6**	**+0.1**
	baz=313						
HOM				S	**Sn**	**07 08 15.4**	**0.0**
	baz=313						
AU22	**Augustine Moun**	**0.88**	**199**		**Pn**	**07 07 59.9**	**-0.4**
AUL	**Augustine Lava**	**0.88**	**202**		**Pn**	**07 08 00.1**	**-0.2**
AUL					**Sn**	**07 08 16.7**	**-0.1**
AUH	**Augustine H**	**0.90**	**202**		**Pn**	**07 08 00.3**	**-0.2**
AUQ	**Augustine Qik'**	**0.90**	**201**		**Pn**	**07 08 00.3**	**-0.3**
CAPN	**Captain Cook N**	**0.99**	**54**		**Pn**	**07 08 02.4**	**+1.2**
CAPN	**Captain Cook N**	**0.99**	**54**	IAML		07 08 22.0	
	comp=E,2µm,0.5s						
CAPN	**Captain Cook N**	**0.99**	**54**	P	**Pn**	**07 08 02.5**	**+1.2**
	baz=236,SNR=36						
CAPN				S	**Sn**	**07 08 21.0**	**+2.5**
	baz=236						
CNPM	**China Poot**	**1.03**	**130**		**Pn**	**07 08 01.6**	**-0.1**
CNPM					**Sn**	**07 08 18.5**	**-0.8**
N19K	**Bonanza Creek**	**1.04**	**307**		**Pn**	**07 08 01.0**	**-0.9**
N19K					**Sn**	**07 08 18.1**	**-1.5**
N19K	**Bonanza Creek**	**1.04**	**307**	P	**Pn**	**07 08 01.1**	**-0.8**
	baz=126,SNR=64						
N19K				S	**Sn**	**07 08 18.0**	**-1.5**
	baz=126						
SPCR	**Spurr Chakacha**	**1.05**	**16**		**Pn**	**07 08 01.4**	**-0.5**
SPCR	**Spurr Chakacha**	**1.05**	**16**	P	**Pn**	**07 08 01.4**	**-0.5**
	baz=197,SNR=39						
SPCR				S	**Sn**	**07 08 18.3**	**-1.4**
	baz=197						
BRLK	**Bradley Lake**	**1.05**	**114**		**Pn**	**07 08 01.6**	**-0.4**
BRLK	**Bradley Lake**	**1.05**	**114**	IAML		07 08 19.8	
	comp=E,2µm,0.4s						
SPU	**Mount Spurr**	**1.05**	**20**		**Pn**	**07 08 01.1**	**-0.9**
SPCN	**Chakachatna No**	**1.07**	**16**		**Pn**	**07 08 01.8**	**-0.3**
SPBG	**Spurr Blockage**	**1.09**	**11**		**Pn**	**07 08 02.1**	**-0.2**
BRSE	**Bradley Lake S**	**1.13**	**113**		**Pn**	**07 08 02.4**	**-0.2**
BRSE					**Sn**	**07 08 19.7**	**-1.2**
BRSE	**Bradley Lake S**	**1.13**	**113**	P	**Pn**	**07 08 02.4**	**-0.2**
	baz=295,SNR=30						
BRSE				S	**Sn**	**07 08 19.5**	**-1.4**
	baz=295						
SPCG	**Spurr Capps Gl**	**1.16**	**19**		**Pn**	**07 08 02.6**	**-0.5**
SLKM	**Skilak Lake**	**1.31**	**75**		**Pn**	**07 08 03.7**	**-0.9**
STLK	**Strandline Lak**	**1.39**	**19**		**Pn**	**07 08 04.9**	**-0.5**
P18K	**Big Mountain,**	**1.47**	**238**		**Pn**	**07 08 05.6**	**-0.7**
P18K					**Sn**	**07 08 25.8**	**-1.7**
P18K	**Big Mountain,**	**1.47**	**238**	P	**Pn**	**07 08 05.6**	**-0.7**
	baz=55						
P18K				S	**Sn**	**07 08 25.8**	**-1.7**
	baz=55						
O22K	**Cooper Landing**	**1.55**	**78**		**Pn**	**07 08 06.5**	**-0.6**
O22K	**Cooper Landing**	**1.55**	**78**	IAML		07 08 32.8	
	comp=E,418nm,0.4s						
O22K				IAML		07 08 35.5	
	comp=N,460nm,0.4s						
O22K	**Cooper Landing**	**1.55**	**78**	P	**Pn**	**07 08 06.3**	**-0.8**
	baz=261,SNR=27						
O22K				S	**Sn**	**07 08 28.1**	**-0.8**
	baz=261						
FIS	**Fire Island**	**1.58**	**52**		**Pn**	**07 08 07.8**	**+0.4**
FIS	**Fire Island**	**1.58**	**52**	IAML		07 08 32.4	
	comp=N,377nm,0.6s						
FIS				IAML		07 08 37.8	
	comp=E,293nm,0.7s						
SVW2	**Sparrevohn**	**1.65**	**305**		**Pn**	**07 08 07.3**	**-0.9**
SEW	**Seward**	**1.67**	**92**		**Pn**	**07 08 07.7**	**-0.8**
SEW					**Sn**	**07 08 29.4**	**-1.9**
SEW	**Seward**	**1.67**	**92**	P	**Pn**	**07 08 07.8**	**-0.7**
	baz=275,SNR=14						
SEW				S	**Sn**	**07 08 29.4**	**-1.9**
	baz=275						
RC01	**Rabbit Creek A**	**1.75**	**58**		**Pn**	**07 08 08.6**	**-0.9**
RC01	**Rabbit Creek A**	**1.75**	**58**	IAML		07 08 33.0	
	comp=N,286nm,0.3s						
RC01				IAML		07 08 33.3	
	comp=E,387nm,0.3s						
RC01	**Rabbit Creek A**	**1.75**	**58**	P	**Pn**	**07 08 08.6**	**-0.9**
	baz=241,SNR=20						
RC01				S	**Sn**	**07 08 32.0**	**-1.1**
	baz=241						
M19K	**Big River Lodg**	**1.88**	**336**		**Pn**	**07 08 10.7**	**-0.4**
M19K	**Big River Lodg**	**1.88**	**336**	P	**Pn**	**07 08 10.6**	**-0.4**
	baz=155						
M19K				S	**Sn**	**07 08 35.0**	**-0.8**
	baz=155						
M22K	**Willow**	**2.03**	**39**		**Pn**	**07 08 12.3**	**-0.5**
M22K					**Sn**	**07 08 39.2**	**+0.1**
M22K	**Willow**	**2.03**	**39**	P	**Pn**	**07 08 12.3**	**-0.5**
	baz=221,SNR=14						
M22K				S	**Sn**	**07 08 38.6**	**-0.5**
	baz=221						
L19K	**White Mountain**	**2.23**	**334**		**Pn**	**07 08 14.8**	**-0.5**
L19K	**White Mountain**	**2.23**	**334**	P	**Pn**	**07 08 14.7**	**-0.5**
	baz=153,SNR=8.2						
L19K				S	**Sn**	**07 08 42.0**	**-1.5**
	baz=153						
PMR	**Palmer**	**2.27**	**50**		**Pn**	**07 08 14.3**	**-1.4**
PMR	**Palmer**	**2.27**	**50**	P	**Pn**	**07 08 14.2**	**-1.5**
	baz=234						
PMR				S	**Sn**	**07 08 41.6**	**-2.7**
	baz=234						
PWL	**Port Wells**	**2.30**	**71**		**Pn**	**07 08 14.4**	**-1.7**
PWL					**Sn**	**07

JPK	Jack Peak	3.17	72			Pn	07 08 25.5	-1.8
FID	Port Fidalgo	3.17	77			Pn	07 08 24.9	-2.5
FID	Port Fidalgo	3.17	77		IAML		07 09 04.9	
	comp=E,150nm,0.3s							
K20K	Telida	3.23	350			Pn	07 08 27.9	-0.2
K20K	Telida	3.23	350	P		Pn	07 08 27.8	-0.2
	baz=169							
CAST	Castle Rocks	3.25	6	Pn		Pn	07 08 27.7	-0.6
CAST	Castle Rocks	3.25	6	P		Pn	07 08 27.9	-0.5
	baz=186							
WAT6	Susitna Watana	3.41	43			Pn	07 08 29.2	-1.3
WAT6	Susitna Watana	3.41	43	P		Pn	07 08 29.4	-1.1
	baz=228,SNR=16							
TRF	Thorofare Moun	3.47	19			Pn	07 08 30.7	-0.7
TRF					IAML		07 09 11.7	
	comp=N,117nm,0.6s							
TRF					IAML		07 09 12.7	
	comp=E,77nm,0.6s							
TRF	Thorofare Moun	3.47	19	P		Pn	07 08 30.5	-0.9
	baz=201,SNR=5.8							
KTH	Kantishna Hill	3.48	14			Pn	07 08 30.6	-0.8
KTH	Kantishna Hill	3.48	14		IAML		07 09 12.1	
	comp=N,74nm,0.8s							
KTH					IAML		07 09 13.8	
	comp=E,59nm,0.8s							
EYAK	Cordova Ski Ar	3.51	81			Pn	07 08 30.0	-1.8
EYAK	Cordova Ski Ar	3.51	81	P		Pn	07 08 31.3	-0.4
	baz=267							
DIV	Divide	3.58	72			Pn	07 08 31.1	-1.6
KLU	Klutina	3.60	66			Pn	07 08 31.6	-1.5
KLU	Klutina	3.60	66		IAML		07 09 14.4	
	comp=N,127nm,0.7s							
KLU					IAML		07 09 16.2	
	comp=E,104nm,0.4s							
KLU	Klutina	3.60	66	P		Pn	07 08 31.6	-1.5
	baz=252,SNR=12							
CHUM	Lake Minchumin	3.71	3			Pn	07 08 33.8	-0.5
CHUM	Lake Minchumin	3.71	3	P		Pn	07 08 33.8	-0.5
	baz=184							
RND	Reindeer	3.72	28			Pn	07 08 33.7	-0.9
RND	Reindeer	3.72	28		IAML		07 09 19.4	
	comp=N,48nm,0.3s							
RND					IAML		07 09 20.6	
	comp=E,52nm,0.4s							
M24K	Tolsona, Glenn	3.73	56			Pn	07 08 34.0	-0.7
M24K	Tolsona, Glenn	3.73	56		IAML		07 09 25.6	
	comp=E,82nm,0.8s							
M24K	Tolsona, Glenn	3.73	56	P		Pn	07 08 34.0	-0.7
	baz=242,SNR=13							
DHY	Denali Highway	3.87	39			Pn	07 08 36.0	-0.7
DHY	Denali Highway	3.87	39		IAML		07 09 22.3	
	comp=E,106nm,0.5s							
DHY	Denali Highway	3.87	39	P		Pn	07 08 35.9	-0.8
	baz=224,SNR=9.4							
MCK	McKinley	3.99	25			Pn	07 08 37.1	-0.9
MCK	McKinley	3.99	25		IAML		07 09 26.2	
	comp=N,52nm,0.4s							
MCK					IAML		07 09 26.7	
	comp=E,50nm,0.4s							
MCK	McKinley	3.99	25	P		Pn	07 08 37.1	-0.9
	baz=209							
BPAW	Bear Paw Mtn.	4.01	11			Pn	07 08 38.5	+0.2
BPAW	Bear Paw Mtn.	4.01	11	P		Pn	07 08 37.4	-0.8
	baz=193							
PS11	TAPS Pump St11	4.02	59			Pn	07 08 37.8	-0.7
RAGM	Ragged Mountai	4.04	84			Pn	07 08 38.1	-0.7
J20K	Nowinta River	4.04	352			Pn	07 08 38.6	-0.2
J20K	Nowinta River	4.04	352	P		Pn	07 08 38.6	-0.2
	baz=171							
N25K	Chitina, Valde	4.24	67			Pn	07 08 40.4	-1.1
N25K	Chitina, Valde	4.24	67		IAML		07 09 32.2	
	comp=E,67nm,0.5s							
N25K	Chitina, Valde	4.24	67	P		Pn	07 08 40.2	-1.3
	baz=254,SNR=10							
BWN	Browne	4.28	20			Pn	07 08 41.9	-0.1
BWN	Browne	4.28	20		IAML		07 09 31.9	
	comp=N,53nm,4.0s							
BWN					IAML		07 09 42.5	
	comp=E,36nm,1.8s							
HARP	HAARP	4.29	56			Pn	07 08 41.5	-0.6
HARP	HAARP	4.29	56	P		Pn	07 08 41.2	-0.9
	baz=243							
PAX	Paxson	4.47	48			Pn	07 08 43.9	-0.6
PAX	Paxson	4.47	48	P		Pn	07 08 43.8	-0.6
	baz=235,SNR=8.7							
GLB	Gilahina Butte	4.57	70			Pn	07 08 44.8	-1.1
GLB	Gilahina Butte	4.57	70		IAML		07 09 38.3	
	comp=E,61nm,0.3s							
GLB					IAML		07 09 38.8	
	comp=N,63nm,0.4s							
PS10	TAPS Pump St10	4.64	43			Pn	07 08 45.8	-1.0
VRDI	Verde Repeater	4.70	73			Pn	07 08 46.5	-1.2
VRDI	Verde Repeater	4.70	73		IAML		07 09 43.8	
	comp=E,38nm,0.9s							
NEA2	Nenana	4.74	20			Pn	07 08 47.2	-0.8
NEA2	Nenana	4.74	20	P		Pn	07 08 47.3	-0.7
	baz=203,SNR=12							
WRH	Wood River Hil	4.82	25			Pn	07 08 47.9	-1.1
WRH	Wood River Hil	4.82	25		IAML		07 09 42.8	
	comp=N,27nm,0.9s							
WRH					IAML		07 10 04.7	
	comp=E,19nm,4.3s							
MCARA	McCarthy VSAT	4.93	72			Pn	07 08 49.8	-0.8
MCARA	McCarthy VSAT	4.93	72	P		Pn	07 08 49.7	-0.9
	baz=260,SNR=5.6							
GCSA	Galena City Sc	4.94	339	P		Pn	07 08 50.3	-0.4
	baz=156							
MLY	Manley	4.94	10			Pn	07 08 50.6	-0.2
MLY	Manley	4.94	10	P		Pn	07 08 50.6	-0.2
	baz=192							
WAX	Waxell Ridge	4.95	83			Pn	07 08 50.2	-0.6
I21K	Tanana	5.02	4			Pn	07 08 51.7	0.0
I21K	Tanana	5.02	4		IAML		07 09 59.3	
	comp=N,19nm,4.5s							
I21K					IAML		07 11 36.4	
	comp=E,15nm,4.8s							
I21K	Tanana	5.02	4	P		Pn	07 08 52.1	+0.5
	baz=185							
RIDG	Independent Ri	5.16	43			Pn	07 08 53.3	-0.4
RIDG	Independent Ri	5.16	43		IAML		07 10 05.0	
	comp=N,40nm,1.6s							
RIDG	Independent Ri	5.16	43	P		Pn	07 08 53.3	-0.4
	baz=230,SNR=7.3							
PTPK	Patty Peak	5.17	74			Pn	07 08 53.5	-0.5
ISLE	Juniper Island	5.20	81			Pn	07 08 54.0	-0.3
KIAG	Kiagna River	5.20	77			Pn	07 08 53.9	-0.4
BALM	Baldy	5.21	76			Pn	07 08 53.3	-1.2
I23K	Minto, Yukon-K	5.21	16			Pn	07 08 53.8	-0.5
I23K					IAML		07 10 04.9	
	comp=N,15nm,4.9s							
I23K					IAML		07 10 27.7	
	comp=E,19nm,5.0s							
I23K	Minto, Yukon-K	5.21	16	P		Pn	07 08 53.9	-0.4
	baz=199							
TCOL	CIGO, UAF Yank	5.22	24			Pn	07 08 53.8	-0.6
TCOL	CIGO, UAF Yank	5.22	24	P		Pn	07 08 53.8	-0.6
	baz=208							
COLA	College	5.22	24			Pn	07 08 53.8	-0.6
COLA	College	5.22	24	P		Pn	07 08 53.8	-0.6
	baz=208							
MDM	Murphy Dome	5.22	22			Pn	07 08 53.6	-0.9
MDM	Murphy Dome	5.22	22		IAML		07 09 54.1	
	comp=N,16nm,1.1s							
MDM					IAML		07 09 55.7	
	comp=E,12nm,0.8s							
BAGL	Bagley Icefiel	5.32	82			Pn	07 08 55.8	0.0
L26K	Log Cabin Wild	5.32	54			Pn	07 08 55.4	-0.5
L26K					IAML		07 10 16.4	
	comp=E,22nm,0.4s							
L26K					IAML		07 10 46.6	
	comp=N,24nm,3.3s							
IL31		5.34	28			Pn	07 08 55.0	-1.0
ILAR	Eielson Array	5.34	28	P		Pn	07 08 55.0	-1.0
	comp=N,1.1nm,0.3s,baz=214,slow=14,SNR=84							
ILAR				S		Sn	07 09 52.3	-4.2
	comp=N,4.9nm,0.3s,baz=214,slow=27,SNR=16							
DOT	Dot Lake	5.38	46			Pn	07 08 55.6	-1.0
H21K	Melozitna Rive	5.48	360			Pn	07 08 57.4	-0.6
H21K	Melozitna Rive	5.48	360	P		Pn	07 08 58.3	+0.4
	baz=180,SNR=14							
GRNC	Granite Creek	5.49	80			Pn	07 08 58.2	-0.1
YAH	Yahtse	5.50	83			Pn	07 08 58.4	0.0
POKR	Poker Plat Res	5.52	24	P		Pn	07 08 57.7	-0.8
	baz=209							
BARN	Barnard Glacie	5.55	76			Pn	07 08 58.6	-0.5
SCRK	Sand Creek	5.61	44			Pn	07 08 58.5	-1.3
SCRK	Sand Creek	5.61	44	P		Pn	07 08 58.5	-1.3
	baz=232							
J25K	Salcha River,	5.61	35			Pn	07 08 59.0	-0.7
J25K	Salcha River,	5.61	35	P		Pn	07 08 59.0	-0.7
	baz=221,SNR=8.9							
M27K	Edge Creek, AK	5.69	63			Pn	07 09 00.6	-0.3
M27K	Edge Creek, AK	5.69	63	P		Pn	07 09 00.4	-0.5
	baz=253							
CTG	Chitina Glacier	5.70	77	P		Pn	07 09 01.3	+0.3
	baz=267,SNR=13							
CTGM	Chitina Glacie	5.70	77			Pn	07 09 01.0	-0.1
TABL	Table Mountain	5.79	83			Pn	07 09 02.4	0.0
LOGN	Logan Glacier	5.86	79			Pn	07 09 03.2	+0.1
L27K	Beaver Creek,	5.96	56	P		Pn	07 09 03.7	-0.7
	baz=246							
YUK2	White River	6.03	70			Pn	07 09 05.7	+0.3
H24K	Noodor Dome	6.08	19			Pn	07 09 05.2	-0.8
H24K	Noodor Dome	6.08	19	P		Pn	07 09 05.2	-0.8
	baz=204							
J26L	Joseph Creek	6.09	41	P		Pn	07 09 05.3	-0.8
	baz=229							
BVCY	Beaver Creek	6.16	64			Pn	07 09 07.2	+0.1
BVCY	Beaver Creek	6.16	64	P		Pn	07 09 07.2	+0.1
	baz=254							
YUK3	Moose Creek	6.21	70			Pn	07 09 08.1	+0.2
YUK3	Moose Creek	6.21	70	P		Pn	07 09 08.0	+0.1
	baz=261,SNR=17							
PRP	Porcupine Dome	6.29	29			Pn	07 09 07.8	-1.1
PRP	Porcupine Dome	6.29	29	P		Pn	07 09 08.3	-0.6
	baz=215,SNR=5.2							
PNL	Peninsula	6.75	89			Pn	07 09 14.9	-0.2
PNL	Peninsula	6.75	89	P		Pn	07 09 14.7	-0.4
	baz=280							
YUK4	Talbot Arm	7.02	74	P		Pn	07 09 19.3	+0.5
	baz=266							
EGAK	Eagle	7.08	45	P		Pn	07 09 18.2	-1.2
	baz=235							
YUK6	Outpost Mounta	7.15	78			Pn	07 09 20.6	0.0
YUK6	Outpost Mounta	7.15	78	P		Pn	07 09 20.3	-0.4
	baz=270							
COLD	Coldfoot	7.15	8	Pn		Pn	07 09 20.2	-0.2
COLD	Coldfoot	7.15	8	P		Pn	07 09 19.7	-0.6
	baz=191,SNR=6.3							
YUK7	Dusty Glacier	7.27	81			Pn	07 09 22.1	-0.1
YUK5	Granite Creek	7.39	76			Pn	07 09 24.0	+0.2
TOLK	Toolik Lake Re	8.59	8	P		Pn	07 09 40.0	+0.3
	baz=191							
DLBC	Dease Lake	11.75	89	P		Pn	07 10 24.3	+2.3
	comp=N,0.6nm,0.3s,baz=283,slow=8.7,SNR=14							
YKA	Yellowknife Ar	18.27	66	P		Pn	07 11 42.9	-0.5
	comp=N,0.5nm,0.3s,baz=277,slow=9.9,SNR=79							
NVAR	Mina Array Bea	30.73	120	P		P	07 13 44.5	+3.2
	comp=N,0.2nm,0.6s,baz=315,slow=8.9,SNR=2.1							
PDAR	Pinedale Array	31.34	104	P		P	07 13 49.0	+2.3
	comp=N,0.3nm,0.6s,baz=306,slow=3.5,SNR=3.9							

IDC 24 07:10:25.1±3.0, 7.02S×129.06E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.3/22, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=298.7km s-min=33.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.83	159	Pn	Pn	07 13 41.3	-1.2
	0.1nm,0.3s,baz=335,slow=14,SNR=13						
ASAR	Alice Springs	17.19	165	P	P	07 14 28.0	-0.5
	0.0nm,0.3s,baz=352,slow=8.9,SNR=2.1						
MKAR	Makanchi Array	67.73	327	P	P	07 21 24.5	0.0
	0.2nm,0.3s,baz=124,slow=7.7,SNR=3.7						

IDC 24 07:27:34.3±2.3, 3.62S×129.50E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/66, Error ellipse: s-maj=132.7km s-min=30.4km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.90	164	Pn	Pn	07 31 32.8	+0.4
	0.2nm,0.3s,baz=344,slow=12,SNR=9.6						
ASAR	Alice Springs	20.38	168	P	P	07 32 12.7	-0.2
	3.4nm,0.5s,baz=352,slow=11,SNR=52						
CTA	Charters Tower	23.12	136	LR	LR	07 43 57.4	
	comp=Z,51nm,19.8s,baz=85,slow=42						
JOW	Kunigami	30.29	358	LR	LR	07 47 18.8	
	comp=Z,82nm,18.1s,baz=285,slow=39						
MKAR	Makanchi Array	65.15	326	P	P	07 38 17.2	0.0
	0.1nm,0.3s,baz=123,slow=8.8,SNR=2.5						

WEL 24 07:31:24.8±0.5, 41°S±3°×17°2E±°, h5km, M2.9/11, ML3.3/18, MLv2.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=124.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRNZ	Matariki Terra	0.36	101	P	Pg	07 31 32.3	+0.6
MRNZ				S	Sg	07 31 37.8	+1.3
QRZ	Quartz Range	0.54	20	P	Pg	07 31 35.3	+0.2
QRZ				S	Sg	07 31 42.7	+0.5
DSZ	Denniston Nort	0.55	221	P	Pg	07 31 35.2	-0.1
DSZ				S	Sg	07 31 42.5	+0.1
TKNZ	Takaka Hill	0.59	60	P	Pg	07 31 36.1	0.0
TKNZ				S	Sg	07 31 44.5	+0.7
THZ	Tophouse	0.63	133	P	Pg	07 31 36.7	-0.2
THZ				S	Sg	07 31 45.3	+0.2
NNZ	Nelson	0.83	82	P	Pg	07 31 40.0	-0.7
NNZ				S	Sg	07 31 51.8	+0.3
TUWZ	Tuamarina	1.25	95	P	Pg	07 31 47.4	-1.3
BSWZ	Blackbirch Sta	1.25	108	P	Pg	07 31 48.3	-0.4
BSWZ				S	Sb	07 32 05.3	0.0
DUWZ	D'Urville Isla	1.34	67	P	Pn	07 31 49.3	-0.9
KHZ	Kahutara	1.43	140	P	Pn	07 31 51.3	0.0
LTZ	Lake Taylor	1.45	181	P	Pn	07 31 50.8	-0.9
TCW	Tory Channel	1.50	86	P	Pn	07 31 52.0	-0.3
GVZ	Greta Valley S	1.72	161	P	Pb	07 31 57.1	+0.2
KIW	Kapiti Island	2.04	77	P	Pn	07 32 00.4	+0.6
CAW	Cannon Point	2.11	85	P	Pn	07 32 00.6	-0.1
OGWZ	Otaki Gorge	2.24	78	P	Pn	07 32 02.8	+0.3
KHEZ	Kahui Hut	2.43	33	P	Pn	07 32 04.8	-0.4
MTW	Mount Morrison	2.43	87	P	Pn	07 32 04.2	-0.9
PREZ	Palmer Road	2.45	36	P	Pn	07 32 05.4	0.0
HOWZ	Holdsworth Sta	2.48	81	P	Pn	07 32 05.1	-0.7
PKE	Pukeiti	2.50	32	P	Pn	07 32 04.8	-1.3
MRZ	Mangatainoka R	2.58	76	P	Pn	07 32 09.2	+2.1
NNVZ	North Ngauruho	3.37	50	P	Pn	07 32 18.9	+0.7
OTVZ	Oturere	3.37	51	P	Pn	07 32 20.2	+2.0

IDC 24 07:42:17.2±1.8, 16.80S×178.23W, h0km, mb4.3/4, mb1 4.6/4, mb1mx3.9/35, mbtmp4.3/4, Error ellipse: s-maj=147.9km s-min=31.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.32	240	P	P	07 49 49.2	+0.9
	3.0nm,0.4s,baz=87,slow=10,SNR=18						
WRA	Warramunga Arr	45.01	258	P	P	07 50 34.1	-0.8
	1.9nm,0.6s,baz=98,slow=7.2,SNR=55						
ASAR	Alice Springs	45.27	253	P	P	07 50 36.5	-0.5
	16nm,0.5s,baz=88,slow=8.1,SNR=315						
TXAR	Lajitas Array	85.26	58	P	P	07 54 56.4	+0.1
	0.4nm,0.7s,baz=212,slow=4.4,SNR=3.7						

*BJI **24** 07:57:35.8±0.0, 43.33N×145.46E, h103km, mb4.7/54, mB4.9/23*
*MOS **24** 07:57:36.8±0.9, 43.30N×145.49E, h107km, mb4.9/23, Error ellipse: s-maj=7.3km s-min=5.6km az=106.1*
MOS Felt (II) at Yuzhno-Kuril'sk, Lagunnoye, Goryachiy Plyazh, Malokuril'skoe.
*IDC **24** 07:57:37.7±0.8, 43.26N×145.51E, h100km±5km, mb4.4/22, mb1 4.4/29, mb1mx4.2/54, mbtmp4.6/29, MS2.8/5, Ms1 2.9/5, ms1mx2.7/90, Error ellipse: s-maj=12.8km s-min=8.5km az=6.0*
*SKHL **24** 07:57:38.2±0.3, 43.30N×145.50E, h103km±7km, mb6.5/3, msha7.1/4*
*NIED **24** 07:57:38.2, 43.24N×145.50E, h97km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.10; Mθθ0.12; Mϕϕ-0.01; Mrθ2.08; Mθϕ0.08; Mϕr1.99;*

Fault plane solution: M0 2.88000×10¹⁵ NP1: ϕs 226.00000°, δ89.00000°, λ-91.00000°. NP2: ϕs 92.00000°, δ2.00000°, λ-44.00000°.
*JMA **24** 07:57:38.1±0.1, 43.24N×145.50E, h97km±1km, M4.3*
JMA Felt III J1.
*NEIC **24** 07:57:38.1±1.3, 43.31N±0.07×145.4E±0.1, h99km±6km, mb4.7/81, Error ellipse: s-maj=12.7km s-min=9.1km az=109.0*

ISC 24 07:57:37.8±0.4, 43.26N±0.04×145.47E±0.03, h104km±3km, h104km: pP-P, n405, σ1 930/444, mb4.7/108, 49C-34D, Fault plane solution: NP1: ϕs 213.26126°, δ82.39410°, λ-99.69344°. NP2: ϕs 85.49047°, δ12.29874°, λ-38.41666°. Principal axes: T Plg36.6759°, Azm311.7983°; N Plg9.6073°, Azm214.5564°; P Plg51.6717°, Azm112.1928°; Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NMR	Nemuro--Hokkai	0.22	61	⇑*i* P	Pn	07 57 52.0	-0.5
NMR				*i* S	Sn	07 58 02.0	-1.6
NMR	Nemuro--Hokkai	0.22	61	*i* P	Pn	07 57 52.0	-0.5
NMR				*i* S	Sn	07 58 02.0	-1.6
NEM2	Nemuro 2	0.23	63	⇑P	Pn	07 57 51.9	-0.6
NEM2				*e*S	Sn	07 58 02.0	-1.6
JKHN	Kushirohamanak	0.29	231	⇑P	Pn	07 57 52.6	-0.2
JKHN				*e*S	Sn	07 58 03.2	-0.8
GLVR	Golovnino	0.48	5	⇓*i* PN	Pn	07 57 53.6	-0.2
GLVR				*i* S	Sn	07 58 05.9	0.0
GLVR				pmax	pmax		
	comp=Z,44μm,0.1s						
GLVR				smax	smax		
	comp=N,233μm,0.3s						
GLVR				smax	smax		
	comp=E,214μm,0.3s						
GLVR	Golovnino	0.48	5	*i* P	Pn	07 57 53.8	0.0
GLVR				AMB	AMB	07 57 54.2	
	comp=E,44μm,0.3s						
GLVR				*i* S	Sn	07 58 05.9	0.0
GLVR				A	A	07 58 06.4	
	comp=E,117μm,0.4s						
GLVR				A	A	07 58 06.4	
	comp=E,107μm,0.4s						
AKK	Akkeshi	0.52	242	*e*P	Pn	07 57 53.7	-0.4
AKK				*e*S	Sn	07 58 05.3	-1.1
JNSB	Nemuroshibetsu	0.61	327	⇓P	Pn	07 57 54.8	-0.1
JNSB				*e*S	Sn	07 58 07.0	-0.7
JAK	Akkeshi	0.62	245	⇓P	Pn	07 57 54.7	-0.2
JAK				*e*S	Sn	07 58 07.2	-0.6
JNK	Nakash	0.63	301	⇓P	Pn	07 57 54.6	-0.4
JNK				*e*S	Sn	07 58 06.9	-1.1
JRA	Rausu	0.72	340	⇓P	Pn	07 57 55.8	+0.1
JRA				*e*S	Sn	07 58 09.3	+0.1
YUK	Yuzh-Kuril'sk	0.82	20	*d i* PN	Pn	07 57 56.5	-0.2
YUK				*i* S	Sn	07 58 10.4	-0.6
YUK				pmax	pmax		
	comp=N,8μm,0.2s						
YUK				pmax	pmax		
	comp=Z,80μm,0.2s						
YUK				pmax	pmax		
	comp=E,8μm,0.1s						
YUK				smax	smax		
	comp=N,104μm,0.4s						
YUK				smax	smax		
	comp=E,139μm,0.4s						
YUK	Yuzh-Kuril'sk	0.82	20	*i* P	Pn	07 57 56.6	-0.2
YUK				AMB	AMB	07 57 57.0	
	comp=E,80μm,0.4s						
YUK				*i* S	Sn	07 58 10.4	-0.6
YUK				A	A	07 58 11.1	
	comp=E,104μm,0.5s						
YUK				A	A	07 58 11.1	
	comp=E,139μm,0.5s						
RUSJ	Misakicho	0.86	349	⇓*i* PN	Pn	07 57 57.3	+0.3
RUSJ				*i* S	Sn	07 58 11.7	+0.2
SHO	Shikotan	1.16	58	*c i* PN	Pn	07 57 59.6	-0.7
SHO				*i* S	Sn	07 58 15.1	-2.2
SHO				pmax	pmax		
	comp=Z,867nm,0.2s						
SHO				smax	smax		
	comp=N,16μm,0.2s						
SHO				smax	smax		
	comp=E,20μm,0.1s						
SHO	Shikotan	1.16	58	*i* P	Pn	07 57 59.6	-0.7
SHO				AMB	AMB	07 58 00.1	
	comp=E,870nm,0.2s						
SHO				*i* S	Sn	07 58 15.4	-1.9
SHO				A	A	07 58 16.5	
	comp=E,16μm,0.3s						
SHO				A	A	07 58 16.5	
	comp=E,20μm,0.3s						
JAR	Ashorobuto	1.24	272	⇓P	Pn	07 58 01.5	+0.3
JAR				*e*S	Sn	07 58 18.5	-0.3
JOB	Onbets	1.25	254	⇓P	Pn	07 58 01.6	+0.4
JOB				*e*S	Sn	07 58 18.0	0.0
JTKR	Abashiri--Toko	1.33	303	⇓P	Pn	07 58 02.8	+0.6
JTKR				*e*S	Sn	07 58 21.0	+0.2
JCH	Churui	1.68	248	⇓P	Pn	07 58 06.5	+0.1
JCH				*e*S	Sn	07 58 27.3	-0.9
JMP	Maruseppu	1.70	297	⇓P	Pn	07 58 07.3	+0.6
JMP				*e*S	Sn	07 58 29.6	+0.8
ERM	Erimo	2.11	235	*d i* PN	Pn	07 58 13.1	+1.2
ERM				pmax	pmax		
	comp=Z,86nm,0.8s						
ERM	Erimo	2.11	235	Pn	Pn	07 58 12.8	+0.9
JKA	Kamikawa-asahi	2.25	293		Pn	07 58 14.9	+1.3
JKA	Kamikawa-asahi	2.25	293	*e*P	Pn	07 58 15.3	+1.6
ASAJ	Asahikawa	2.25	293	P	Pn	07 58 15.3	+1.6
	comp=Z,335nm,0.3s,baz=106,slow=11,SNR=2707						
ASAJ				S	Sn	07 58 42.8	+1.6
	comp=Z,73nm,0.3s,baz=26,slow=29,SNR=30						
KUR	Kuril'sk	2.62	40	*d i* PN	Pn	07 58 18.3	-0.2
KUR				*i* S	Sn	07 58 50.0	+0.2
KUR				pmax	pmax		
	comp=Z,253nm,0.3s						
KUR				pmax	pmax		
	comp=N,118nm,0.2s						
KUR				pmax	pmax		
	comp=E,115nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR	Kuril'sk	2.62	40	*i* P	Pn	07 58 18.3	-0.2
KUR				AMB	AMB	07 58 25.4	
	comp=E,250nm,0.3s						
KUR				*i* S	Sn	07 58 50.0	+0.2
KUR				A	A	07 58 53.8	
	comp=E,2μm,0.3s						
KUR				A	A	07 58 53.8	
	comp=E,2μm,0.3s						
JEW	Eniwo	2.97	263		Pn	07 58 23.8	+0.6
JTM	Tenmabayashi	4.11	234		Pn	07 58 41.6	+3.2
YSS	Yuzh-Sakhalins	4.16	333	*e*PN	Pn	07 58 39.5	+0

UGL smax smax
comp=N,64nm,0.6s
UGL smax smax
comp=E,148nm,0.5s
UGL Uglegorsk 6.28 339 *eP* **Pn 07 59 10.0 +2.3**
UGL AMB AMB 07 59 13.4
comp=E,200nm,0.7s
TEY Ternei 6.62 289 *eP* **Pn 07 59 13.3 +0.9**
TEY AMB AMB 07 59 17.4
comp=E,10.0nm,0.8s
JSD Sado 7.56 229 Pn **Pn 07 59 25.1 -0.2**
TYV Tymovskoe 7.84 347 *e*PN Pn 07 59 37.8 +8.8
TYV pmax pmax
comp=Z,100nm,4.8s
TYV pmax pmax
comp=Z,14nm,0.9s
TYV Tymovskoe 7.84 347 *eP* **Pn 07 59 30.8 +1.8**
TYV AMB AMB 07 59 37.5
comp=Z,20nm,0.7s
TYV AMB AMB 07 59 38.1
comp=Z,10.0nm,0.9s
MAJO Matsushiro 8.72 222⇑ *e*PN **Pn 07 59 43.0 +1.9**
MJAR Matsushiro Arr 8.72 222 P **Pn 07 59 41.6 +0.5**
comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=7.4
GRNR Gornyy 9.72 324⇑ *i*PN Pn 08 00 00.4 +5.9
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR Gornyy 9.72 324 *eP* **Pn 07 59 54.1 -0.4**
USRK Ussuriysk Ar. 9.80 280 P **Pn 07 59 56.5 +0.8**
baz=78,slow=14,SNR=9.7
USRK LR LR 08 03 51.4
comp=Z,18nm,20.1s,baz=93,slow=38
USRK Ussuriysk Ar. 9.80 280 Pn **Pn 07 59 55.4 -0.2**
VLA Vladivostok 9.92 274⇓ *e*PN **Pn 08 00 00.7 +3.4**
VLA pmax pmax
comp=Z,34nm,0.8s
VLA Vladivostok 9.92 274 *eP* **Pn 08 00 00.7 +3.4**
VLA AMB AMB 08 00 02.8
comp=Z,30nm,0.8s
SKR Severo-Kuril's 10.39 41⇓ *e*PN **Pn 08 00 01.0 -2.5**
SKR Severo-Kuril's 10.39 41 *eP* **Pn 08 00 03.0 -0.5**
SKR AMB AMB 08 00 06.2
comp=Z,60nm,0.5s
NKL Nikolayevsk 10.39 344 *eP* **Pn 08 00 03.6 0.0**
NKL AMB AMB 08 00 04.9
comp=Z,50nm,0.8s
MSHR Mys Shultsa 10.52 271⇓ *e*PN **Pn 08 00 05.7 +0.3**
KLR Kul'dur 11.21 307 P **Pn 08 00 15.0 +0.3**
comp=Z,0.4nm,0.3s,baz=116,slow=13,SNR=10
KLR LR LR 08 04 45.9
comp=Z,69nm,19.1s,baz=52,slow=38
KLR Kul'dur 11.21 307 PN **Pn 08 00 15.0 +0.3**
KLR Kul'dur 11.21 307 *eP* **Pn 08 00 15.0 +0.3**
PAU Pauzhetka 11.24 39 *eP* **Pn 08 00 14.9 -0.1**
PAU AMB AMB 08 00 18.1
comp=Z,30nm,0.5s
MDJ Mudanjiang 11.53 282 Pn **Pn 08 00 18.1 -0.8**
MDJ Mudanjiang 11.53 282 P **Pn 08 00 18.4 -0.6**
MDJ pmax pmax
comp=Z,28nm,1.1s
MDJ pmax pmax
comp=Z,130nm,3.8s
PEA0B Petropavlovsk- 12.77 35 PN **Pn 08 00 35.7 +0.3**
PEA0B Petropavlovsk- 12.77 35 Pn **Pn 08 00 35.7 +0.3**
PETK Petropavlovsk- 12.77 35 P **Pn 08 00 33.6 -1.8**
comp=Z,0.5nm,0.3s,baz=284,slow=6.0,SNR=6.9
PETK LR LR 08 06 03.1
comp=Z,22nm,19.6s,baz=123,slow=40
PETK Petropavlovsk- 12.77 35 PN **Pn 08 00 34.5 -0.9**
PETK Petropavlovsk- 12.77 35 Pn **Pn 08 00 34.5 -0.9**
BNX BinXian 13.13 287⇓ P **Pn 08 00 39.0 -1.1**
BNX pmax pmax
comp=Z,71nm,0.7s
BNX pmax pmax
comp=Z,360nm,5.5s
CN2 Changchun 14.53 279 *eP* **Pn 08 00 54.0 -4.2**
CN2 S **Sn 08 03 31.4 -7.0**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,180nm,10.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,130nm,11.0s
KSRS Korea Array 14.57 252 P **Pn 08 00 58.1 -0.6**
comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=5.1
ZEA Zeya 15.94 317 *eP* **P 08 01 16.9 -0.5**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.7s
ZEA Zeya 15.94 317 *eP* **P 08 01 16.8 -0.6**
ZEA AMB AMB 08 01 18.4
comp=Z,50nm,0.7s
MA2 Magadan 16.66 9 P **Pn 08 01 23.9 -0.8**
comp=Z,0.8nm,0.3s,baz=198,slow=6.5,SNR=10
MA2 Magadan 16.66 9 **Pn 08 01 23.4 -1.3**
MA2 Magadan 16.66 9 *eP* **Pn 08 01 23.4 -1.3**
JSU Suzuyama 16.70 230 Pn **Pn 08 01 24.3 -1.2**
HIA Hailar 18.72 298 P **P 08 01 47.2 -0.9**
HIA pmax pmax
comp=Z,13nm,0.5s
HIA Hailar 18.72 298 P **P 08 01 47.2 -0.9**
SEY Seymchan 20.11 9 P **P 08 02 00.9 -2.1**
comp=Z,3.5nm,0.3s,baz=186,slow=8.6,SNR=29
JMZ Minamidaito 2 20.93 218 P **P 08 02 10.7 -1.4**
JMZ IAmb IAmb 08 02 15.7
comp=Z,20nm,0.9s
YAK Yakutsk 20.99 339 *eP* **P 08 02 07.4 -5.0**
YAK *e**PP **pP 08 02 34.7 +2.8**
YAK eS **S 08 05 51.5 -8.5**
YAK *e**SS **sS 08 06 37.8 +4.8**
YAK *e* 08 13 20.6
YAK pmax pmax
comp=Z,13nm,0.6s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK smax smax
comp=N,33nm,1.5s
YAK smax smax
comp=E,26nm,1.3s
XLT XiLinHaoTe 21.25 282 *eP* **P 08 02 14.0 -1.5**
XLT pP pP 08 02 35.9 +0.4
XLT sP sP 08 02 49.3 +0.6
XLT S **S 08 06 00.3 -5.4**
XLT pmax pmax
comp=E,34nm,0.8s
XLT pmax pmax
comp=E,150nm,6.5s
BJI Beijing 22.07 272 P **P 08 02 23.1 -1.0**
BJI pmax pmax
comp=E,14nm,1.2s
BJT Baijiatuao 22.08 272 P **P 08 02 23.6 -0.7**
BJT pmax pmax
comp=Z,15nm,1.0s
BJT Baijiatuau 22.08 272 P **P 08 02 23.6 -0.7**
NJ2 Nanjing 23.76 251 *eP* **P 08 02 41.4 +0.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HNS HongShan 24.09 266⇑ P **P 08 02 41.3 -2.1**
HNS pmax pmax
comp=Z,6.0nm,0.5s
BOD Bodaibo 24.45 318 *eP* **P 08 02 43.0 -3.5**
BOD pmax pmax
comp=Z,7.0nm,1.4s
HHC Hu-ho-hao-te 25.19 276 *eP* **P 08 02 54.0 +0.4**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.3s
BTO Baotou 26.38 276 *eP* **P 08 03 05.8 +1.4**
ULN Ulaanbaatar 27.09 293*c i*P **P 08 03 11.3 +0.6**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 27.09 293 P **P 08 03 10.8 +0.1**
ULN IAmb IAmb 08 03 14.4
comp=Z,22nm,0.8s
ULN Ulaanbaatar 27.09 293 *eP* **P 08 03 11.3 +0.6**
BILL Bilibino 27.18 17 *i* P P 08 03 03.0 -8.0
BILL pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 27.53 293 P **P 08 03 15.5 +0.9**
comp=Z,40nm,0.7s,baz=86,slow=8.3,SNR=245
SONM LR LR 08 14 09.4
comp=Z,86nm,18.9s,baz=14,slow=36
SONM Songino Array 27.53 293 P **P 08 03 15.0 +0.4**
SONM pmax pmax
comp=Z,40nm,0.7s
SONM Songino Array 27.53 293 P **P 08 03 15.0 +0.4**
ZAK Zakamensk 29.41 299 *eP* **P 08 03 31.8 +0.6**
ZAK pmax pmax
comp=Z,30nm,1.2s
ZAK Zakamensk 29.41 299 *eP* **P 08 03 31.8 +0.6**
H11N2 WAKE ISLAND Hy 29.57 136 T T 08 34 47.1
baz=329,slow=75,SNR=2328
H11N1 WAKE ISLAND Hy 29.58 136 T T 08 34 41.0
baz=329,slow=75,SNR=1779
H11N3 WAKE ISLAND Hy 29.59 136 T T 08 34 41.6
baz=329,slow=75,SNR=1853
TIXI Tiksi 29.60 349⇓ *e*P **P 08 03 28.8 -3.7**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
XAN Xi'an 29.79 264 P **P 08 03 34.6 -0.1**
XAN pmax pmax
comp=Z,10.0nm,1.0s
H11S1 WAKE ISLAND Hy 30.50 137 T T 08 35 51.3
baz=330,slow=76,SNR=3632
H11S3 WAKE ISLAND Hy 30.51 137 T T 08 35 50.0
baz=330,slow=76,SNR=1987
H11S2 WAKE ISLAND Hy 30.52 137 T T 08 35 51.4
baz=330,slow=76,SNR=2396
SPIA Saint Paul Isl 30.96 48 P **P 08 03 45.3 +0.7**
baz=263
GAMB Gambell 31.81 35 P **P 08 03 52.6 +0.6**
baz=250
LZH Lanzhou 32.56 272 *eP* **P 08 03 59.3 +0.1**
LZH pmax pmax
comp=Z,15nm,1.0s
KNGR Kungurtug, Tuv 33.06 300*de*P **P 08 04 04.3 +1.0**
TNA Tin City 33.92 33 P **P 08 04 10.8 +0.3**
TNA Tin City 33.92 33 P **P 08 04 10.6 +0.2**
baz=252
GTA Gaotai 34.17 279 *eP* **P 08 04 14.6 +1.6**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,44nm,6.2s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,180nm,16.7s
GTA LR LR
comp=Z,80nm,16.4s
ANM Nome 34.69 35 P **P 08 04 18.0 +0.9**
ANM pmax pmax
comp=Z,2.0nm,0.6s
ANM Nome 34.69 35 P **P 08 04 18.0 +0.9**
ANM Nome 34.69 35 P **P 08 04 18.2 +1.2**
baz=256,SNR=5.4
CD2 Chengdu 35.13 264 P **P 08 04 22.0 +0.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
RDOG Red Dog Mine 36.55 30 P **P 08 04 33.0 +0.1**
RDOG IAmb IAmb 08 04 33.9
comp=Z,6.0nm,1.0s
RDOG Red Dog Mine 36.55 30 P **P 08 04 33.3 +0.3**
baz=254
GCSA Galena City Sc 38.32 36 P **P 08 04 48.2 +0.3**
baz=264
TTA Tatalina 38.58 39 P **P 08 04 51.5 +1.3**
TTA pmax pmax
comp=Z,8.0nm,1.2s
TTA Tatalina 38.58 39 P **P 08 04 51.5 +1.3**
TTA Tatalina 38.58 39 P **P 08 04 51.7 +1.5**
baz=268
GOMU GeErMu 39.09 277 P **P 08 04 55.8 +0.7**
GOMU pmax pmax
comp=Z,18nm,0.8s
GOMU pmax pmax
comp=Z,85nm,7.3s
PZH PanZhiHua 39.09 259 P **P 08 04 55.6 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s
L19K White Mountain 39.10 40 P **P 08 04 55.5 +1.0**
baz=270
KMI Kunming 39.21 257⇑ P **P 08 04 56.6 +0.5**
KMI pmax pmax
comp=Z,11nm,1.0s
M19K Big River Lodg 39.31 40 P **P 08 04 56.5 +0.2**
baz=270
J20K Nowinta River 39.47 37 P **P 08 04 59.0 +1.6**
J20K IAmb IAmb 08 05 00.8
comp=Z,9.3nm,0.8s
J20K Nowinta River 39.47 37 P **P 08 04 58.5 +1.1**
baz=268,SNR=9.4
K20K Telida 39.47 38 P **P 08 04 57.7 +0.1**
baz=269
A21K Barrow 39.51 25 P **P 08 04 57.5 -0.2**
A21K Barrow 39.51 25 P **P 08 04 57.4 -0.3**
baz=257,SNR=16
L20K Farewell, AK 39.55 39 P **P 08 04 58.7 +0.5**
baz=270
IMAR Indian Mountai 39.73 34 P **P 08 05 00.2 +0.5**
H21K Melozitna Rive 40.10 35 P **P 08 05 02.8 +0.1**
H21K IAmb IAmb 08 05 04.5
comp=Z,12nm,1.4s
H21K Melozitna Rive 40.10 35 P **P 08 05 03.5 +0.7**
baz=267
CHUM Lake Minchumin 40.27 37 P **P 08 05 04.6 +0.6**
baz=270
ZAA0 Zalesovo Array 40.32 307 P **P 08 05 04.1 -0.5**
ZALV Zalesovo Beam 40.32 307 P **P 08 05 04.4 -0.2**
comp=Z,12nm,0.4s,baz=89,slow=9.5,SNR=61
ZALV PcP **PcP 08 07 06.5 +0.5**
comp=Z,3.6nm,0.6s,baz=76,slow=4.8,SNR=6.7
ZALV Zalesovo Beam 40.32 307 P **P 08 05 04.0 -0.6**
PPLA Purkeypile 40.33 39 P **P 08 05 05.5 +0.7**
baz=271
CAST Castle Rocks 40.37 38 P **P 08 05 06.2 +1.3**
baz=271
I21K Tanana 40.43 35 P **P 08 05 06.4 +1.0**
baz=269
BPAW Bear Paw Mtn. 40.85 37 P **P 08 05 10.1 +1.2**
baz=271
KTH Kantishna Hill 40.89 38 P **P 08 05 09.7 +0.5**
KTH IAmb IAmb 08 05 13.6
comp=Z,14nm,1.1s
MLY Manley 40.95 36 P **P 08 05 10.7 +0.9**
MLY Manley 40.95 36 P **P 08 05 11.2 +1.4**
baz=270
WMQ Urumqi 41.13 291 *eP* **P 08 05 12.5 +1.0**
WMQ pP pP 08 05 36.4 +0.8
WMQ pmax pmax
comp=Z,18nm,1.1s
TRF Thorofare Moun 41.17 38 P **P 08 05 13.1 +1.3**
baz=272
COLD Coldfoot 41.22 32 P **P 08 05 11.8 0.0**
COLD Coldfoot 41.22 32 P **P 08 05 12.0 +0.2**
baz=268
TOLK Toolik Lake Re 41.52 30 P **P 08 05 15.1 +0.8**
TOLK IAmb IAmb 08 05 16.3
comp=Z,7.5nm,0.5s
TOLK Toolik Lake Re 41.52 30 P **P 08 05 14.7 +0.3**
baz=267,SNR=11
I23K Minto, Yukon-K 41.54 35 P **P 08 05 15.4 +1.0**
baz=271
NEA2 Nenana 41.67 36 P **P 08 05 16.1 +0.6**
NEA2 Nenana 41.67 36 P **P 08 05 16.5 +0.9**
baz=272,SNR=26
MCK McKinley 41.77 37 P **P 08 05 17.6 +1.2**
baz=273
SEW Seward 41.82 43 P **P 08 05 16.2 -0.6**
baz=277
PMR Palmer 41.83 41 P **P 08 05 17.4 +0.6**
baz=275
MDM Murphy Dome 42.02 36 P **P 08 05 19.2 +0.8**
MDM IAmb IAmb 08 05 21.5
comp=Z,11nm,0.9s
WRH Wood River Hil 42.10 36 P **P 08 05 20.2 +1.1**
H24K Noodor Dome 42.14 34 P **P 08 05 20.8 +1.3**
H24K IAmb IAmb 08 05 21.8
comp=Z,7.8nm,0.8s
H24K Noodor Dome 42.14 34 P **P 08 05 20.0 +0.6**
baz=272,SNR=7.8
TCOL CIGO, UAF Yank 42.18 36 P **P 08 05 20.7 +1.0**
baz=273,SNR=10
COLA College 42.19 36 P **P 08 05 20.7 +1.0**
baz=273
SML Sawmill 42.19 40 P **P 08 05 21.3 +1.4**
baz=276
CCB Clear Creek Bu 42.22 36 P **P 08 05 20.6 +0.6**
PWL Port Wells 42.29 42 P **P 08 05 21.8 +1.2**
baz=277
POKR Poker Plat Res 42.35 35 P **P 08 05 22.2 +1.1**
POKR IAmb IAmb 08 05 24.3
comp=Z,12nm,0.7s
POKR Poker Plat Res 42.35 35 P **P 08 05 22.5 +1.4**
baz=273,SNR=6.0
WAT6 Susitna Watana 42.39 39 P **P 08 05 22.4 +0.8**
baz=275
DHY Denali Highway 42.51 38 P **P 08 05 23.1 +0.5**
DHY IAmb IAmb 08 05 25.6
comp=Z,17nm,1.3s
DHY Denali Highway 42.51 38 P **P 08 05 23.9 +1.3**
baz=275
IL31 42.60 36 P **P 08 05 23.6 +0.5**
IL31 IAmb IAmb 08 05 25.9
comp=Z,10nm,0.8s
ILAR Eielson Array 42.60 36 P **P 08 05 23.6 +0.4**
comp=Z,5.2nm,0.7s,baz=250,slow=5.1,SNR=82
ILAR Eielson Array 42.60 36 P **P 08 05 23.7 +0.6**
ILAR Eielson Array 42.60 36 P **P 08 05 23.7 +0.6**
PRP Porcupine Dome 43.13 35 P **P 08 05 28.9 +1.4**
PRP IAmb IAmb 08 05 30.8
comp=Z,17nm,0.8s
PRP Porcupine Dome 43.13 35 P **P 08 05 28.6 +1.1**
baz=274,SNR=17
M24K Tolsona, Glenn 43.17 40 P **P 08 05 28.7 +0.9**
baz=277
FYU Fort Yukon 43.18 33 P **P 08 05 29.3 +1.6**
FYU IAmb IAmb 08 05 30.3
comp=Z,10.0nm,0.6s
J25K Salcha River, 43.27 36 P **P 08 05 28.8 +0.2**
J25K Salcha River, 43.27 36 P **P 08 05 29.1 +0.6**
baz=275
KLU Klutina 43.37 41 P **P 08 05 31.3 +1.9**
baz=278
BMAR Burnt Mountain 43.40 32 P **P 08 05 31.0 +1.5**
RIDG Independent Ri 43.58 37 P **P 08 05 31.4 +0.3**
RIDG IAmb IAmb 08 05 33.8
comp=Z,8.3nm,1.0s
RIDG Independent Ri 43.58 37 P **P 08 05 31.7 +0.6**
baz=276
HARP HAARP 43.60 39 P **P 08 05 33.5 +2.2**
baz=278
MK31 Makanchi Array 43.72 297*c i*P **P 08 05 32.8 +0.4**
MK31 Makanchi Array 43.72 297 P **P 08 05 32.7 +0.2**
MK31 IAmb IAmb 08 05 33.8
comp=Z,13nm,0.6s
MKAR Makanchi Array 43.72 297 P **P 08 05 33.0 +0.6**
comp=Z,1.1nm,0.5s,baz=80,slow=8.9,SNR=178
MKAR Makanchi Array 43.72 297 P **P 08 05 32.8 +0.4**
MAKZ Makanchi 43.92 298 P **P 08 05 34.3 +0.3**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 43.92 298 P **P 08 05 34.2 +0.3**
MAKZ IAmb IAmb 08 05 35.6
comp=Z,19nm,0.9s
SCRK Sand Creek 43.93 37 P **P 08 05 34.2 +0.2**
SCRK IAmb IAmb 08 05 36.4
comp=Z,12nm,0.8s
SCRK Sand Creek 43.93 37 P **P 08 05 34.2 +0.2**
baz=277,SNR=12
J26L Joseph Creek 44.05 36 P **P 08 05 35.4 +0.5**
baz=277
L26K Log Cabin Wild 44.34 38 P **P 08 05 38.5 +1.4**
L26K IAmb IAmb 08 05 41.3
comp=Z,5.8nm,0.8s
L26K Log Cabin Wild 44.34 38 P **P 08 05 38.5 +1.4**
baz=278
KURK Kurchatov 44.79 304*c i*P **P 08 05 41.0 +0.2**
KURK pmax pmax
comp=Z,64nm,1.7s
KURK Kurchatov 44.79 304 P **P 08 05 40.9 +0.1**
KURK Kurchatov 44.79 304 *eP* **P 08 05 41.0 +0.2**
KURBB Kurchatov Arra 44.87 304 P **P 08 05 41.6 +0.2**
L27K Beaver Creek, 45.02 38 P **P 08 05 44.2 +1.6**
L27K IAmb IAmb 08 05 47.2
comp=Z,31nm,1.4s
L27K Beaver Creek, 45.02 38 P **P 08 05 44.2 +1.6**
baz=280,SNR=11
BCAR Beaver Creek A 45.04 38 P **P 08 05 44.5 +1.8**
EGAK Eagle 45.04 35 P **P 08 05 42.9 +0.3**
EGAK IAmb IAmb 08 05 45.2
comp=Z,10nm,0.7s
EGAK Eagle 45.04 35 P **P 08 05 43.5 +0.9**
baz=278
M27K Edge Creek, AK 45.12 39 P **P 08 05 45.2 +1.8**
M27K IAmb IAmb 08 05 48.1
comp=Z,23nm,1.4s
M27K Edge Creek, AK 45.12 39 P **P 08 05 45.5 +2.1**
baz=280
ISLE Juniper Island 45.23 41 P **P 08 05 44.9 +0.6**
ISLE IAmb IAmb 08 05 46.9
comp=Z,15nm,1.1s
GRNC Granite Creek 45.49 41 P **P 08 05 49.5 +3.0**
GRNC IAmb IAmb 08 05 60.0
comp=Z,18nm,1.3s
BVCY Beaver Creek 45.57 39 P **P 08 05 48.0 +1.1**
baz=281
CTG Chitna Glacier 45.64 41 P **P 08 05 48.2 +0.6**
baz=282
YUK3 Moose Creek 45.89 40 P **P 08 05 50.7 +1.1**
baz=282
DAWY Dawson 45.92 36 P **P 08 05 50.8 +1.2**
DAWY Dawson 45.92 36 P **P 08 05 50.9 +1.3**
baz=281
I29M Ogilvie Camp, 46.14 34 P **P 08 05 52.6 +1.3**
baz=280
CMAR Chiang Mai Arr 46.21 253 LR LR 08 26 03.7
comp=Z,15nm,18.2s,baz=230,slow=37
EPYK Eagle Plains 46.60 33 P **P 08 05 56.2 +1.4**
EPYK IAmb IAmb 08 05 57.1
comp=Z,9.8nm,0.8s
EPYK Eagle Plains 46.60 33 P **P 08 05 55.8 +1.0**
baz=281,SNR=9.5
M30M Minto, Yukon 47.38 38 P **P 08 06 02.3 +1.2**
M30M Minto, Yukon 47.38 38 P **P 08 06 03.1 +2.1**
baz=284
INK Inuvik 47.44 30 P **P 08 06 01.9 +0.6**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 47.44 30 P **P 08 06 01.9 +0.6**
INK IAmb IAmb 08 06 03.7
comp=Z,18nm,1.2s
INK Inuvik 47.44 30 P **P 08 06 01.9 +0.6**
baz=282,SNR=16
HYT Haines Junctio 47.50 40 P **P 08 06 03.6 +1.6**
baz=285
N31M Braeburn, Yuko 48.13 39 P **P 08 06 08.6 +1.8**
baz=286
M31M Drury Creek, Y 48.56 38 P **P 08 06 10.9 +0.8**
baz=286
TARG Taragay, Kyrgy 48.65 293 P **P 08 06 12.1 +0.6**
TARG IAmb IAmb 08 06 13.4
comp=Z,5.5nm,0.6s
KDJ Kajisay 48.90 293 P **P 08 06 13.4 +0.2**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 48.90 293 P **P 08 06 13.3 +0.2**
KDJ IAmb IAmb 08 06 14.7
comp=Z,8.4nm,0.9s
BRVK Borovoye 48.91 309 P **P 08 06 13.4 +0.6**
BRVK pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye 48.91 309 P **P 08 06 13.4 +0.6**
BRVK Borovoye 48.91 309 *eP* **P 08 06 13.4 +0.6**
A36M Sachs Harbour 49.32 24 P **P 08 06 16.1 +0.4**
A36M IAmb IAmb 08 06 17.7
comp=Z,9.7nm,1.0s
A36M Sachs Harbour 49.32 24 P **P 08 06 16.4 +0.7**
baz=286,SNR=7.4
ULHL Ulahol 49.47 294 P **P 08 06 17.9 +0.4**
SNR=11
OTUK Ortayu 49.49 303 P **P 08 06 17.7 +0.3**
BOOM Boomskoye usch 49.56 294 P **P 08 06 19.2 +1.0**

BOOM				pmax	pmax			
	comp=Z,20nm,0.7s							
BOOM	**Boomskoye usch**	**49.56**	**294**	P	**P**	**08 06 19.2**	**+1.0**
TKM2	**Tokmak 2**	**49.60**	**295**	P	**P**	**08 06 19.6**	**+1.1**
	SNR=22							
TKM2	**Tokmak 2**	**49.60**	**295**	P	**P**	**08 06 19.0**	**+0.4**
GUN	**Gumba**	**49.81**	**273**	*eP*	**P**	**08 06 21.0**	**+0.5**
	comp=Z,48nm,0.7s							
RAMN	**Ramite**	**49.83**	**271**	*eP*	**P**	**08 06 21.1**	**+0.6**
	comp=Z,21nm,0.3s							
P33M	**Teslin, Yukon**	**49.89**	**40**	P	**P**	**08 06 22.1**	**+1.8**
	baz=289							
KBK	**Karagaybulak**	**50.15**	**295**	P	**P**	**08 06 23.6**	**+1.0**
	SNR=12							
USP	**Ospenovka**	**50.18**	**296**	P	**P**	**08 06 23.4**	**+0.7**
	SNR=9.5							
AAK	**Ala-Archa**	**50.46**	**295***c*	*iP*	**P**	**08 06 25.5**	**+0.5**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AAK	**Ala-Archa**	**50.46**	**295**	*eP*	**P**	**08 06 25.5**	**+0.5**
C36M	**Paulatuk**	**50.48**	**27**	P	**P**	**08 06 24.5**	**0.0**
C36M	**Paulatuk**	**50.48**	**27**	P	**P**	**08 06 24.6**	**+0.1**
	baz=289,SNR=17							
DMN	**Daman**	**50.55**	**273**	*eP*	**P**	**08 06 26.0**	**+0.1**
KSH	**Kashi**	**50.90**	**291**	P	**P**	**08 06 32.4**	**+4.2**
KSH				PcP	**PcP**	**08 07 45.8**	**+2.5**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
EKS2	**Erkin-Say**	**50.92**	**296**	P	**P**	**08 06 28.8**	**+0.4**
	SNR=10							
DANN	**Dangsing**	**51.11**	**274**	*eP*	**P**	**08 06 31.2**	**+1.0**
	comp=Z,107nm,0.7s							
KOLN	**Koldanda**	**51.56**	**274**	*eP*	**P**	**08 06 34.3**	**+0.9**
	comp=Z,24nm,0.5s							
PYUN	**Piuthan**	**51.81**	**275**	*eP*	**P**	**08 06 36.1**	**+0.8**
	comp=Z,26nm,0.5s							
SVE	**Sverdlovsk**	**52.65**	**316**	*eP*	**P**	**08 06 41.0**	**+0.2**
KKAR	**Karatay Array**	**52.85**	**297**	P	**P**	**08 06 42.6**	**0.0**
KKAR	**Karatay Array**	**52.85**	**297**	P	**P**	**08 06 42.6**	**0.0**
EUNU	**Eureka**	**53.55**	**10**	P	**P**	**08 06 46.9**	**-0.3**
ARU	**Arti**	**53.86**	**317***c*	*iP*	**P**	**08 06 49.5**	**-0.2**
ARU				*PP	**pP**	**08 07 13.7**	**-1.1**
ARU				S	**S**	**08 14 18.0**	**+1.6**
ARU				SS	**SS**	**08 17 57.7**	**-0.5**
ARU				pmax	pmax			
	comp=Z,37nm,1.2s							
ARU	**Arti**	**53.86**	**317**	P	**P**	**08 06 49.0**	**-0.7**
BTK	**Batken**	**54.11**	**294**	P	**P**	**08 06 51.9**	**0.0**
BTK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BTK	**Batken**	**54.11**	**294**	P	**P**	**08 06 51.9**	**0.0**
BTK				lAmb	lAmb	08 06 53.0		
	comp=Z,7.1nm,0.9s							
GAR	**Garm**	**54.98**	**293**	P	**P**	**08 06 58.0**	**-0.2**
KBS	**Kingsbay**	**55.06**	**350**⇑	*eP*	**P**	**08 06 56.7**	**-1.3**
KBS				pmax	pmax			
	comp=Z,18nm,1.1s							
CHGR	**Chuyangaron**	**55.93**	**293**	P	**P**	**08 07 05.1**	**+0.1**
AB31	**Akbulak array**	**56.41**	**308**	*eP*	**P**	**08 07 08.7**	**+0.6**
ABKAR	**Akbulak array**	**56.41**	**308**	P	**P**	**08 07 08.4**	**+0.3**
YKA	**Yellowknife Ar**	**56.88**	**33**	P	**P**	**08 07 11.6**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=303,slow=6.8,SNR=55							
COEN	**Coen**	**56.98**	**183**	P	**P**	**08 07 13.6**	**+1.2**
COEN				lAmb	lAmb	08 07 32.9		
	comp=Z,14nm,1.2s							
KIRV	**Kirov**	**57.22**	**322***c*	*iP*	**P**	**08 07 13.6**	**-0.1**
PRGR	**Permogore**	**57.29**	**326**	*eP*	**P**	**08 07 12.2**	**-1.9**
PRGR				pmax	pmax			
	comp=Z,11nm,0.4s							
MTN	**Manton Dam**	**57.35**	**197**	P	**P**	**08 07 15.8**	**+0.8**
LVZ	**Lovozero**	**57.73**	**335**	P	**P**	**08 07 17.5**	**+0.3**
LVZ				pmax	pmax			
	comp=Z,35nm,1.0s							
LVZ	**Lovozero**	**57.73**	**335**	P	**P**	**08 07 17.5**	**+0.3**
KBL	**Kabul**	**58.20**	**289**	P	**P**	**08 07 20.9**	**-0.3**
KBL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KBL	**Kabul**	**58.20**	**289**	P	**P**	**08 07 20.9**	**-0.3**
KBL				lAmb	lAmb	08 07 21.3		
	comp=Z,8.7nm,0.8s							
ARA0	**ARCESS Array S**	**59.27**	**339**	*eP*	**P**	**08 07 28.4**	**+0.5**
ARCES	**ARCESS Array B**	**59.27**	**339**	P	**P**	**08 07 28.0**	**+0.2**
	comp=Z,6.7nm,0.7s,baz=62,slow=3.4,SNR=25							
DAG	**Danmarks Havn**	**59.82**	**356**	*iP*	**P**	**08 07 30.0**	**-1.5**
KLMR	**Klimovskoe**	**60.18**	**327**	*eP*	**P**	**08 07 32.8**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KLMR	**Klimovskoe**	**60.18**	**327**	*eP*	**P**	**08 07 32.8**	**-1.4**
KLMR				AMP		08 07 34.8		
	comp=Z,10.0nm,0.6s							
KTK1	**Kautokeino**	**60.22**	**339**	*eP*	**P**	**08 07 34.6**	**+0.3**
JETT	**Jettan, Norway**	**60.53**	**341**	*eP*	**P**	**08 07 38.0**	**+1.5**
TRO	**Tromso**	**60.83**	**341**	*eP*	**P**	**08 07 38.0**	**-0.4**
DBG	**Daneborg**	**62.32**	**356**	*eP*	**P**	**08 07 47.4**	**-1.0**
J01E	**Myrtle Point**	**62.62**	**55**	P	**P**	**08 07 52.6**	**+1.7**
	baz=305							
HRA	**Herat**	**62.92**	**293**	P	**P**	**08 07 53.2**	**-0.1**
HRA				lAmb	lAmb	08 07 54.8		
	comp=Z,7.5nm,0.8s							
STEI	**Steigen**	**63.00**	**341**	*eP*	**P**	**08 07 50.9**	**-2.1**
LOF	**Lofoten**	**63.24**	**342**	*eP*	**P**	**08 07 54.2**	**-0.3**
FAUS	**Fauske**	**63.42**	**341**	*eP*	**P**	**08 07 55.8**	**+0.1**
GEYT	**Alibeck**	**63.59**	**298**	P	**P**	**08 07 57.5**	**0.0**
	comp=Z,6.0nm,0.7s,baz=257,slow=12,SNR=5.5							
GEYT	**Alibeck**	**63.59**	**298**	lAmb	lAmb	08 07 58.4		
	comp=Z,4.8nm,0.6s							
WRA	**Warramunga Arr**	**63.72**	**192**	P	**P**	**08 07 57.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=8.8,slow=6.9,SNR=16							
WRA	**Warramunga Arr**	**63.72**	**192**	lAmb	lAmb	08 07 59.3		
	comp=Z,0.3nm,1.1s							
MOR8	**Moi Rana**	**64.58**	**340**	*eP*	**P**	**08 08 02.2**	**-1.3**
KONS	**Konsvik**	**64.64**	**341**	*eP*	**P**	**08 08 03.4**	**-0.4**
FIA1	**FINESS Array S**	**64.74**	**332**	P	**P**	**08 08 04.0**	**-0.5**
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**08 08 04.5**	**0.0**
	comp=Z,27nm,0.5s,baz=44,slow=7.6,SNR=250							
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**08 08 04.1**	**-0.4**
STOK	**Stokkvaagen**	**64.80**	**341**	*eP*	**P**	**08 08 05.9**	**+1.1**
OBN	**Obninsk**	**64.98**	**323**	*iP*	**P**	**08 08 06.2**	**+0.1**
OBN				*i* *PP	**pP**	**08 08 34.1**	**+2.1**
OBN				*i*		08 10 30.2		
OBN				pmax	pmax			
	comp=Z,14nm,0.5s							
OBN	**Obninsk**	**64.98**	**323**	*eP*	**P**	**08 08 06.2**	**+0.1**
MEF	**Metsahovi**	**66.20**	**332**	*eP*	**P**	**08 08 14.2**	**+0.3**
RAF	**Rauma**	**66.48**	**334**	*eP*	**P**	**08 08 15.8**	**+0.1**
NSS	**Namsos**	**66.53**	**340**	*eP*	**P**	**08 08 16.2**	**+0.3**
VSU	**Vasula**	**66.65**	**330**	*eP*	**P**	**08 08 17.3**	**+0.6**
FCC	**Fort Churchill**	**67.05**	**29**	P	**P**	**08 08 19.2**	**-0.1**
FCC				pmax	pmax			
	comp=Z,17nm,1.5s							
FCC	**Fort Churchill**	**67.05**	**29**	P	**P**	**08 08 19.2**	**-0.1**
FCC				lAmb	lAmb	08 08 22.7		
	comp=Z,17nm,1.4s							
ASAR	**Alice Springs**	**67.44**	**191**	P	**P**	**08 08 22.9**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=7.4,slow=5.0,SNR=39							
MTSE	**Matsula**	**67.51**	**331**	*eP*	**P**	**08 08 22.9**	**+0.7**
AAL	**Aland**	**67.69**	**334**	*eP*	**P**	**08 08 23.2**	**-0.1**
ICESG	**Greenland Ices**	**67.90**	**2**	*eP*	**P**	**08 08 25.2**	**+0.3**
TBLU	**Trondheim**	**68.01**	**340**	*eP*	**P**	**08 08 24.3**	**-1.0**
UPP	**Uppsala**	**68.69**	**335**	*eP*	**P**	**08 08 29.7**	**+0.1**
NVAR	**Mina Array Bea**	**68.87**	**57**	P	**P**	**08 08 33.0**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=298,slow=7.2,SNR=10							
IDID	**Didziasalis**	**68.92**	**328**	*eP*	**P**	**08 08 32.1**	**+1.0**
ISAL	**Salakas**	**68.98**	**328**	*eP*	**P**	**08 08 32.3**	**+0.9**
MNK	**Minsk**	**69.06**	**326**	*iP*	**P**	**08 08 30.1**	**-1.8**
MNK				*i*		08 08 53.3		
MNK				*i* *PP	**PcP**	**08 08 56.4**	**+1.1**
MNK				*i*		08 11 03.5		
MNK				*i* PPP	PPP	08 12 44.9		
MNK				*i* S	**S**	**08 17 27.1**	**-1.3**
MNK				*i* *SS	**pS**	**08 18 01.4**	**+2.3**
MNK				*i* SS	**SS**	**08 21 55.7**	**+0.5**
MNK				pmax	pmax			
	comp=E,3.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,26nm,0.8s							
MNK				pmax	pmax			
	comp=N,17nm,0.8s							
MNK	**Minsk**	**69.06**	**326**	*iP*	**P**	**08 08 30.1**	**-1.8**
	comp=E,3.0nm,0.8s							
MNK				*i* P	**P**	**08 08 30.1**	**-1.8**
	comp=N,17nm,0.8s							
MNK				*i* P	**P**	**08 08 30.1**	**-1.8**
	comp=Z,26nm,0.8s,baz=44							
MNK				*i* pP	**PcP**	**08 08 56.5**	**+1.1**
MNK				*i* sP	sP	08 09 33.9	+24
MNK				*i* PP	**PP**	**08 11 03.6**	**-1.5**
MNK				*i* PPP	PPP	08 12 45.0		
MNK				*i* S	**S**	**08 17 27.2**	**-1.3**
MNK				*i* sS	**pS**	**08 18 01.5**	**+2.3**
MNK				*i* SS	**SS**	**08 21 55.8**	**+0.5**
MNK				*i* SSS	SSS	08 26 48.8		
IIGN	**Ignalina**	**69.10**	**328**	*eP*	**P**	**08 08 33.2**	**+1.0**
KIV	**Kislovodsk**	**69.17**	**311**	*eP*	**P**	**08 08 34.3**	**+1.4**
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV	**Kislovodsk**	**69.17**	**311**	P	**P**	**08 08 34.7**	**+1.8**
KIV	**Kislovodsk**	**69.17**	**311**	*eP*	**P**	**08 08 34.3**	**+1.4**
KBZ	**Khabaz**	**69.20**	**311**	P	**P**	**08 08 34.2**	**+1.2**
	comp=Z,13nm,0.8s,baz=62,slow=4.9,SNR=23							
KBZ	**Khabaz**	**69.20**	**311***ce*	*eP*	**P**	**08 08 34.3**	**+1.3**
KBZ				*i* *PP	**pP**	**08 08 59.8**	**+0.7**
KBZ	**Khabaz**	**69.20**	**311**	*eP*	**P**	**08 08 34.3**	**+1.3**
NACGM	**Naroch**	**69.21**	**327**	*eP*	**P**	**08 08 33.5**	**+0.6**
ZEI	**Tsey**	**69.24**	**310**	*eP*	**P**	**08 08 32.4**	**-1.2**
ZEI				*e*		08 08 56.7		
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MOL	**Molde**	**69.26**	**341**	*eP*	**P**	**08 08 33.4**	**+0.4**
DOMB	**Dombas**	**69.33**	**340**	*eP*	**P**	**08 08 33.8**	**+0.2**
NC303	**NORSAR Array S**	**69.41**	**338**	P	**P**	**08 08 34.5**	**+0.4**
NC303				lAmb	lAmb	08 08 35.4		
	comp=Z,14nm,0.8s							
NB2	**NORSAR Subarra**	**69.61**	**338**	P	**P**	**08 08 35.0**	**-0.3**
	comp=Z,7.4nm,0.4s,baz=33,slow=6.5							
NB2	**NORSAR Subarra**	**69.61**	**338**	P	**P**	**08 08 35.0**	**-0.3**
	baz=33,slow=6.5							
NOA	**NORSAR Array B**	**69.61**	**338**	P	**P**	**08 08 35.4**	**+0.1**
	comp=Z,9.1nm,0.5s,baz=36,slow=5.9,SNR=117							
NOA				pP	**pP**	**08 09 00.2**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=34,slow=6.2,SNR=2.5							
HFS	**Hagfors**	**69.66**	**337**	P	**P**	**08 08 35.3**	**-0.2**
	comp=Z,13nm,0.5s,baz=26,slow=44,SNR=26							
HFS				pP	**pP**	**08 09 00.2**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=110,slow=8.1,SNR=2.9							
AKN	**Aaknes**	**69.73**	**341**	*eP*	**P**	**08 08 36.8**	**+0.8**
NBO00	**NORSAR Array S**	**69.73**	**338**	*eP*	**P**	**08 08 36.0**	**0.0**
NC602	**NORSAR Array S**	**69.77**	**338**	*eP*	**P**	**08 08 35.7**	**-0.6**
VIKU	**Vikbolandet**	**70.06**	**334**	*eP*	**P**	**08 08 38.3**	**+0.3**
DY2G	**Dye2**	**70.22**	**5**	*eP*	**P**	**08 08 39.5**	**+0.3**
R11A	**Troy Canyon, C**	**70.57**	**55**	P	**P**	**08 08 42.7**	**+0.9**
	baz=310							
OSL	**Oslo**	**70.66**	**338**	*eP*	**P**	**08 08 44.4**	**+2.7**
SKAR	**Skarslia**	**70.68**	**339**	*eP*	**P**	**08 08 42.4**	**+0.5**
HYA	**Hoyanger**	**70.80**	**340**	*eP*	**P**	**08 08 43.2**	**+0.7**
TPNV	**Topopah Spring**	**71.07**	**57**	P	**P**	**08 08 45.7**	**+1.0**
	baz=310							
BW06	**Boulder Array**	**71.16**	**49**	P	**P**	**08 08 45.5**	**+0.2**
	baz=312							
PD31	**Pinedale Array**	**71.16**	**49**	P	**P**	**08 08 45.4**	**+0.1**
PDAR	**Pinedale Array**	**71.16**	**49**	P	**P**	**08 08 45.9**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=268,slow=0.5,SNR=17							
PDAR				pP	**pP**	**08 09 11.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=271,slow=1.9,SNR=5.3							
KONO	**Kongsberg**	**71.21**	**338**	*eP*	**P**	**08 08 44.4**	**-0.6**
SUE	**Sulen**	**71.24**	**341**	*eP*	**P**	**08 08 45.7**	**+0.7**
AKASG	**Malin Array Be**	**71.24**	**323**	P	**P**	**08 08 45.3**	**0.0**
	comp=Z,3.0nm,0.3s,baz=41,slow=6.0,SNR=51							
AKASG				pP	**pP**	**08 09 10.3**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=43,slow=5.4,SNR=1.7							
AKASG	**Malin Array Be**	**71.24**	**323**	P	**P**	**08 08 45.1**	**-0.2**
AKBB	**Malin Array Si**	**71.24**	**323***ce*	P	**P**	**08 08 45.2**	**-0.1**
AKBB	**Malin Array Si**	**71.24**	**323**	P	**P**	**08 08 45.2**	**-0.1**
AKBB				lAmb	lAmb	08 08 46.1		
	comp=Z,12nm,0.7s							
ASK	**Askoy**	**71.63**	**341**	*eP*	**P**	**08 08 48.3**	**+0.8**
BER	**Bergen**	**71.69**	**340**	*eP*	**P**	**08 08 48.5**	**+0.7**
ODD1	**Odda**	**71.77**	**340**	*eP*	**P**	**08 08 48.8**	**+0.3**
BLS5	**Blasjo**	**72.24**	**339**	*eP*	**P**	**08 08 51.7**	**+0.5**
DEL	**Delary**	**72.61**	**334**	*eP*	**P**	**08 08 52.0**	**-1.3**
SNART	**Snartemo**	**72.98**	**338**	*eP*	**P**	**08 08 56.7**	**+1.1**
BSD	**Bornholm Skovb**	**73.38**	**333**	lAmb	lAmb	08 09 00.0		
	comp=Z,23nm,0.6s							
BSD				*eP*	**P**	**08 09 00.1**	**+2.2**
BSD	**Bornholm Skovb**	**73.38**	**333**	*eP*	**P**	**08 08 58.8**	**+0.9**
BUR08	**Bucovina Ar. S**	**75.28**	**323**	P	**P**	**08 09 09.8**	**+0.5**
BURAR	**Bucovina Array**	**75.29**	**323**	P	**P**	**08 09 09.7**	**+0.4**
BURAR				lAmb	lAmb	08 09 11.1		
	comp=Z,6.0nm,0.8s							
OJC	**Ojcow**	**75.54**	**327**	P	**P**	**08 09 11.0**	**+0.4**
OJC				pmax	pmax			
	comp=Z,17nm,1.0s							
OJC	**Ojcow**	**75.54**	**327**	P	**P**	**08 09 11.0**	**+0.4**
OJC				lAmb	lAmb	08 09 12.4		
	comp=Z,17nm,1.0s							
LANS	**Liptovska Anna**	**76.52**	**327**	*eP*	**P**	**08 09 18.1**	**+1.9**
LANS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LANS	**Liptovska Anna**	**76.52**	**327**	*eP*	**P**	**08 09 18.1**	**+1.9**
CHVC	**Chvalec**	**76.67**	**330**	*eP*	**P**	**08 09 20.4**	**+3.4**
DPC	**Dobruska-Polom**	**76.77**	**329**	*eP*	**P**	**08 09 18.8**	**+1.2**
DPC	**Dobruska-Polom**	**76.77**	**329**	*eP*	**P**	**08 09 18.8**	**+1.2**
DPC				*ex*	x	08 09 21.3		
MORC	**Moravsky Berou**	**76.77**	**328**	*eP*	**P**	**08 09 18.3**	**+0.7**
KRLC	**Kraliky**	**76.82**	**329**	*eP*	**P**	**08 09 18.7**	**+0.8**
KRLC	**Kraliky**	**76.82**	**329**	*eP*	**P**	**08 09 18.7**	**+0.8**
KRLC				*ex*	x	08 09 21.4		
SDCO	**Great Sand Dun**	**76.85**	**50**	P	**P**	**08 09 17.7**	**-0.9**
	baz=315							
BRTR	**Keskin Array B**	**76.98**	**313**	P	**P**	**08 09 19.6**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=122,slow=2.5,SNR=5.4							
CLL	**Collm**	**77.17**	**332**⇓	*iP*	**P**	**08 09 20.0**	**+0.2**
CLL				*e**PP	**pP**	**08 09 48.0**	**+1.6**
CLL				pmax	pmax			
	comp=Z,12nm,1.1s							
CLL	**Collm**	**77.17**	**332**⇓	*iP*	**P**	**08 09 20.0**	**+0.2**
	comp=Z,12nm,1.1s							
CLL				⇓*ix*	x	08 09 22.7		
	comp=Z,13nm,0.5s							
CLL				*ep*P	**pP**	**08 09 48.0**	**+1.6**
VYHS	**Vyhne**	**77.29**	**327**	*eP*	**P**	**08 09 21.8**	**+1.3**
VYHS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
VYHS	**Vyhne**	**77.29**	**327**	*eP*	**P**	**08 09 21.8**	**+1.3**
JAVC	**Velka Javorina**	**77.46**	**328**	*eP*	**P**	**08 09 23.4**	**+1.9**
VRAC	**Vranov**	**77.51**	**329**	*eP*	**P**	**08 09 22.8**	**+1.1**
PRU	**Pruhonice**	**77.72**	**330**	*eP*	**P**	**08 09 23.4**	**+0.6**
PRU				*e*		08 09 25.9		
PRU	**Pruhonice**	**77.72**	**330**	*eP*	**P**	**08 09 23.4**	**+0.6**
PRU				*ex*	x	08 09 25.9		
KRUC	**Moravsky**	**77.79**	**329**	*eP*	**P**	**08 09 24.0**	**+0.8**
EKA	**Eskdalemuir Ar**	**78.22**	**342**	P	**P**	**08 09 26.0**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=28,slow=5.2,SNR=14							
SCHQ	**Schefferville**	**78.48**	**18**	P	**P**	**08 09 27.1**	**+0.1**
	comp=Z,5.5nm,1.1s,baz=336,slow=10.0,SNR=5.9							
SCHQ	**Schefferville**	**78.48**	**18**	lAmb	lAmb	08 09 54.1		
	comp=Z,22nm,1.5s							
KHC	**Kasperske Hory**	**78.78**	**330**	*eP*	**P**	**08 09 29.4**	**+0.6**
KHC				*e*		08 09 32.6		
KHC	**Kasperske Hory**	**78.78**	**330**	*eP*	**P**	**08 09 29.4**	**+0.6**
KHC				*ex*	x	08 09 32.6		
CONA	**Conrad Observa**	**78.92**	**328**	*eP*	**P**	**08 09 30.6**	**+1.0**
	comp=Z,3.8nm,0.5s							
GERES	**GERESS Array B**	**78.97**	**330**	P	**P**	**08 09 30.2**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=40,slow=7.7,SNR=14							
SOKA	**Soboth**	**80.27**	**328**	P	**P**	**08 09 38.0**	**+1.1**
	comp=Z,2.6nm,0.6s							
KBA	**Koelnbreinsper**	**80.58**	**329**	*eP*	**P**	**08 09 39.9**	**+1.2**
	comp=Z,8.8nm,0.4s							
MMAI	**Mount Meron Ar**	**80.81**	**307**	P	**P**	**08 09 41.2**	**+1.1**
	comp=Z,4.4nm,0.6s,baz=186,slow=2.3,SNR=5.9							
WATA	**Walderalm**	**81.02**	**330**	*eP*	**P**	**08 09 42.2**	**+1.2**
	comp=Z,6.0nm,0.5s							
WTTA	**Wattenberg**	**81.06**	**330**	*eP*	**P**	**08 09 41.6**	**+0.4**
	comp=Z,7.5nm,0.4s							
MOTA	**Moosalm**	**81.18**	**331**	*eP*	**P**	**08 09 42.5**	**+0.6**
	comp=Z,5.1nm,0.5s							
TXAR	**Lajitas Array**	**83.94**	**55**	P	**P**	**08 09 57.5**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=326,slow=4.5,SNR=4.4							
IDI	**Anoyia**	**84.91**	**315**	P	**P**	**08 10 00.6**	**-0.6**
	comp=Z,8.9nm,0.7s,baz=49,slow=15,SNR=8.3							
H03N2	**Juan Fernandez**	**144.19**	**89**	T	T	10 58 06.8		
	baz=303,slow=77,SNR=3.2							
H03N3	**Juan Fernandez**	**144.21**	**89**	T	T	10 57 53.0		
	baz=303,slow=77,SNR=2.4							
H03N1	**Juan Fernandez**	**144.21**	**89**	T	T	10 58 17.9		
	baz=303,slow=77,SNR=2.7							
SIV	**San Ignacio**	**144.64**	**48**	PKP	**PKPdf**	**08 17 02.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=176,slow=1.4,SNR=3.8							

CRAAG ***24*** *08:06:15.8,36˚.37N×3˚.39E, Ml4.1*
IDC ***24*** *08:06:16.9±0.8, 36˚.48N×3˚.56E, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.7/52, mbtmp3.8/10, ML3.9/3, MS3.3/10, Ms1 3.3/10, ms1mx2.9/93, Error ellipse: s-maj=22.9km s-min=17.1km az=158.0*
INMG ***24*** *08:06:16.0, 36˚.11N×3˚.64E, h10km, Mb4.2*
SFS ***24*** *08:06:17.0, 36˚.28N×3˚.51W, h1km, ML4.0, BOUIRA (ARGELIA)*
MDD ***24*** *08:06:17.5±0.7, 36˚.28N×3˚.51E, h0km±9km, Mb4.5/23, M_mb4.0/16, Error ellipse: s-maj=12.0km s-min=2.9km az=141.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
LDG ***24*** *08:06:18.9±0.3, 36˚.21N×3˚.51E, h10km, Ml3.8/22, Error ellipse: s-maj=5.8km s-min=2.6km az=152.0*
MED_RC ***24*** *08:06:19.0±0.8, 36˚.40N×3˚.29E, h16km, MW4.2/6, Moment Tensor Solution.Mantle waves: s6,c8; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr0.31±.37; Mθθ0.81±.27; Mϕϕ-1.12±.25; Mrθ0.92±.45; Mθϕ-1.19±.17; Mϕr-1.58±.57; Best double couple: M☉2.39000×10^15 NP1:ϕs161.00000°, δ84.00000°, λ49.00000°. NP2: ϕs65.00000°, δ41.00000°, λ172.00000°. Principal axes: T 2.5300, Plg37.0000°, Azm36.0000°; N -0.2900, Plg41.0000°, Azm166.0000°; P -2.2400, Plg28.0000°, Azm283.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
CNRM ***24*** *08:06:20.6, 36˚.40N×3˚.27E, h12km, ml4.1*
ISC 24 08:06:18.6±0.6, 36˚.37N±0˚.04×3˚.47E±0˚.03, h18km, n153, s209/164, mb3.8/7, MS3.4/6, 19C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADJB	**Djebel Djouab**	**0.21**	**187**	P	**Pb**	**08 06 21.3**	**-2.5**
ABMS	**Boumerdes**	**0.38**	**1**	P	**Pg**	**08 06 25.8**	**-0.7**
EMHD	**Djebel Mahouad**	**0.45**	**248**	P	**Pg**	**08 06 25.6**	**-2.2**
ABA	**Alger-Bouzarea**	**0.55**	**321**	P	**Pg**	**08 06 28.4**	**-1.3**
SET	**Setif**	**1.57**	**96**	P	**Pn**	**08 06 46.0**	**+0.3**
CKHR	**Kef el Ahmar**	**1.69**	**101**	P	**Pn**	**08 06 45.6**	**-1.8**
ECHA	**Ech Chlef**	**1.71**	**263**	P	**Pb**	**08 06 48.5**	**-1.0**
DFRA	**Djebel Bou Aff**	**1.95**	**84**	P	**Pn**	**08 06 49.3**	**-1.6**
EANR	**'Ain N'Sour**	**1.96**	**258**	P	**Pn**	**08 06 50.3**	**-0.7**
OKGL	**Djebel Kef Gue**	**2.31**	**263**	P	**Pb**	**08 06 58.0**	**-1.7**
OJGS	**Djebel Guires**	**2.37**	**249**	P	**Pb**	**08 06 59.0**	**-1.8**
CTEI	**Djebel Teioual**	**2.40**	**96**	P	**Pn**	**08 06 55.2**	**-1.9**
CASM	**Ain Smara**	**2.44**	**92**	P	**Pb**	**08 07 02.9**	**+0.9**
CKFL	**Kef-Lekhel**	**2.62**	**88**	P	**Pg**	**08 07 07.0**	**-1.9**
OJBR	**Djebel Berber**	**2.65**	**254**	P	**Pn**	**08 07 02.0**	**+1.5**
ODJA	**Bouhanifia**	**3.12**	**252**	P	**Pn**	**08 07 05.0**	**-1.9**
CMAH	**Djebel Manchou**	**3.19**	**84**	P	**Pn**	**08 07 05.0**	**-3.0**
USTO	**Oran**	**3.32**	**260**	P	**Pn**	**08 07 05.0**	**-4.6**
MAHO	**Mahon**	**3.58**	**10**	P	Pn	08 07 03.0	-10
MAHO				S	**Sn**	**08 07 49.5**	**-5.4**
OTSS	**Djebel Tessala**	**3.63**	**254**	P	Pn	08 07 04.0	-10
EBEN2	**Beniarda presa**	**3.71**	**309**	Pn	**Pn**	**08 07 16.0**	**+1.0**
EBEN2				⇑*i*Vmb_V		08 07 22.9	
	878nm,SNR=2.2						
EBEN2				Sn	**Sn**	**08 07 58.0**	**-0.2**
CART	**Cartagena**	**3.

ECAB Sn **Sn** **08 09 25.1 -1.5**
LMR La Mourre 7.34 18 *e*Pn **Pn** **08 08 04.6 -0.2**
LMR La Mourre 7.34 18 *e*P Pn 08 08 10.9 +6.1
LMR *e*Sn **Sn** **08 09 24.2 -3.4**
3.7nm,0.2s
EORO Oroz-Betelu 7.48 332 Pn **Pn** **08 08 07.6 +0.8**
EORO ⇑*i*Vmb_V 08 08 11.8
38nm,SNR=4.2
EORO Sn **Sn** **08 09 27.6 -3.6**
PGF Pioggiola 7.51 33 *e*Pn **Pn** **08 08 07.9 +0.7**
PGF *e*Sn **Sn** **08 09 27.0 -4.9**
12nm,0.4s
MDT Midelt 7.54 244 Pn **Pn** **08 08 09.1 +1.3**
0.7nm,0.3s,baz=107,slow=23,SNR=15
MDT Lg Lg 08 10 20.2
1.0nm,0.3s,baz=316,slow=18,SNR=5.2
MDT Midelt 7.54 244 P **Pn** **08 08 11.2 +3.4**
FRF La Foret Royal 7.58 18 *e*Pn **Pn** **08 08 08.3 +0.1**
FRF La Foret Royal 7.58 18 *e*P Pn 08 08 14.4 +6.2
FRF *e*Sn **Sn** **08 09 30.5 -3.2**
24nm,0.6s
MD31 MD31 7.63 245 P **Pn** **08 08 10.9 +2.0**
SJPF Ste Jean 7.64 333 *e*Pn **Pn** **08 08 10.3 +1.3**
SJPF Ste Jean 7.64 333 *e*P Pn 08 08 15.2 +6.2
SJPF *e*Sn **Sn** **08 09 31.3 -3.8**
34nm,0.7s
LASF Ste Croix 7.70 2 *e*Pn **Pn** **08 08 10.6 +0.8**
LASF Ste Croix 7.70 2 *e*P Pn 08 08 16.7 +6.9
LASF *e*Sn **Sn** **08 09 33.6 -3.0**
26nm,0.6s
CZD Col de Zad 7.76 247 P **Pn** **08 08 11.8 +0.9**
SMRF Simiane la Rot 7.77 11 *e*Pn **Pn** **08 08 10.7 0.0**
SMRF Simiane la Rot 7.77 11 *e*P Pn 08 08 16.3 +5.6
SMRF *e*Sn **Sn** **08 09 37.6 -0.6**
SBF Sospel 8.08 21 *e*Pn **Pn** **08 08 14.8 -0.2**
SBF *e*Sn **Sn** **08 09 42.8 -3.1**
20nm,0.5s
VIVF Saint-Julien-l 8.53 6 *e*Pn **Pn** **08 08 22.0 +0.9**
VIVF Saint-Julien-l 8.53 6 *e*P Pn 08 08 27.9 +6.8
VIVF *e*Sn **Sn** **08 09 52.4 -4.5**
6.6nm,0.5s
PBAR Barrancos 8.57 285 *e*P **Pn** **08 08 23.4 +1.7**
22nm,1.2s
CAF Calviac 8.61 353 *e*Pn **Pn** **08 08 23.3 +1.0**
CAF Calviac 8.61 353 *e*P Pn 08 08 29.3 +7.0
MBDF Montbardon 8.72 16 *e*Pn **Pn** **08 08 24.9 +1.0**
MBDF Montbardon 8.72 16 *e*P Pn 08 08 29.5 +5.6
MBDF *e*Sn **Sn** **08 09 59.6 -2.1**
15nm,0.8s
ORIF Oris-en-Rattie 8.73 11 *e*Pn **Pn** **08 08 26.3 +2.3**
ORIF Oris-en-Rattie 8.73 11 *e*P Pn 08 08 30.9 +6.9
ORIF *e*Sn **Sn** **08 09 59.5 -2.5**
17nm,0.9s
ZHG ZHG 8.80 254 P **Pn** **08 08 26.8 +1.8**
LFF La Frestale 8.81 347 *e*Pn **Pn** **08 08 26.6 +1.7**
PVAQ Vaqueiros 9.02 280 *e*P **Pn** **08 08 28.9 +1.0**
31nm,1.7s
PVAQ Vaqueiros 9.02 280 P **Pn** **08 08 27.7 -0.2**
RJF Les Rejaudoux 9.05 351 *e*Pn **Pn** **08 08 28.4 +0.1**
RJF Les Rejaudoux 9.05 351 *e*P Pn 08 08 35.0 +6.7
PMRV Marv??o 9.11 293 *e*P **Pn** **08 08 32.6 +3.4**
35nm,1.1s
PCVE Castro Verde 9.29 281 *e*P **Pn** **08 08 32.9 +1.3**
47nm,1.9s
PCBR Castelo Branco 9.30 295 *e*P **Pn** **08 08 35.5 +3.8**
52nm,1.3s
LPG La Plagne 9.45 14 *e*Pn **Pn** **08 08 36.4 +2.4**
LPG *e*Sn **Sn** **08 10 17.4 -2.5**
13nm,0.9s
LPL La Plagne 9.46 14 *e*Pn **Pn** **08 08 36.0 +1.8**
LPL La Plagne 9.46 14 *e*P Pn 08 08 41.0 +6.8
LPL *e*Sn **Sn** **08 10 17.2 -3.0**
34nm,0.9s
MVO Moncorvo 9.49 303 *e*P **Pn** **08 08 34.3 -0.1**
23nm,1.5s
PBRG Braganca 9.61 307 *e*P **Pn** **08 08 36.9 +0.9**
32nm,1.6s
PVIS Viseu 9.90 299 *e*P **Pn** **08 08 43.1 +3.1**
28nm,1.9s
TCF Toulx Ste Croi 9.95 355 *e*Pn **Pn** **08 08 41.4 +0.7**
TCF Toulx Ste Croi 9.95 355 *e*P Pn 08 08 47.1 +6.4
TCF *e*Sn **Sn** **08 10 28.3 -3.6**
1.4nm,0.3s
PVRL Vila Real 10.00 303 *e*P **Pn** **08 08 43.9 +2.5**
31nm,1.4s
POLO Lamas de Olo 10.10 303 *e*P **Pn** **08 08 45.3 +2.5**
6.5nm,1.1s
PCAS Casmilo, Conde 10.11 295 *e*P **Pn** **08 08 45.7 +2.9**
66nm,1.8s
BGF Bois d'Agland 10.19 358 *e*Pn **Pn** **08 08 45.4 +1.5**
BGF Bois d'Agland 10.19 358 *e*P Pn 08 08 51.1 +7.2
BGF *e*Sn **Sn** **08 10 34.7 -3.0**
9.2nm,0.6s
SMF Signal de Mont 10.27 1 *e*Pn **Pn** **08 08 46.1 +1.1**
SMF Signal de Mont 10.27 1 *e*P Pn 08 08 51.4 +6.4
SMF *e*Sn **Sn** **08 10 36.0 -3.6**
2.9nm,0.4s
AVF Avril sur Loir 10.41 360 *e*Pn **Pn** **08 08 48.6 +1.7**
AVF Avril sur Loir 10.41 360 *e*P Pn 08 08 53.4 +6.5
AVF *e*Sn **Sn** **08 10 39.4 -3.7**
1.2nm,0.3s
CABF La Chapelle 10.42 10 *e*Pn **Pn** **08 08 49.0 +1.9**
CABF La Chapelle 10.42 10 *e*P Pn 08 08 54.1 +7.0
CABF *e*Sn **Sn** **08 10 40.5 -2.9**
MFF Saint Martin d 10.57 346 *e*Pn **Pn** **08 08 49.6 +0.4**
SSF Saint Saulge 10.68 0 *e*Pn **Pn** **08 08 52.8 +2.2**
SSF Saint Saulge 10.68 0 *e*P Pn 08 08 57.4 +6.8
PGAV Gavieira, Arco 10.69 305 *e*P **Pn** **08 08 54.0 +3.2**
37nm,2.1s
LOR Lormes 10.89 1 *e*Pn **Pn** **08 08 54.0 +0.5**
LOR Lormes 10.89 1 *e*P Pn 08 08 59.4 +5.8
baz=180
HINF Hinteralfeld 11.71 11 *e*Pn **Pn** **08 09 05.4 +0.7**
HAU Haudompre 11.82 9 *e*Pn **Pn** **08 09 07.0 +0.8**
HAU Haudompre 11.82 9 *e*P Pn 08 09 13.1 +6.9
SFTF Sexfontaines 11.88 5 *e*Pn **Pn** **08 09 08.4 +1.3**
SFTF Sexfontaines 11.88 5 *e*P Pn 08 09 13.1 +6.0
PAGF Fort de Pagny 12.29 7 *e*Pn **Pn** **08 09 13.5 +0.9**
PAGF Fort de Pagny 12.29 7 *e*P P 08 09 19.5 -5.3
SAVF Savonnieres en 12.30 5 *e*Pn **Pn** **08 09 13.7 +1.0**
baz=165
SAVF Savonnieres en 12.30 5 *e*P P 08 09 19.1 -5.8
SAVF *e*Sn **Sn** **08 11 23.7 -5.5**
4.7nm,0.3s
CDF Champ du Feu 12.36 12 *e*Pn **Pn** **08 09 14.2 +0.6**
CDF Champ du Feu 12.36 12 *e*P P 08 09 20.2 -5.5
GRR Gorron 12.43 346 *e*Pn **Pn** **08 09 15.0 +0.5**
GRR Gorron 12.43 346 *e*P P 08 09 20.6 -5.7
QUIF Quistinic 12.54 339 *e*Pn **Pn** **08 09 16.7 +0.7**
QUIF Quistinic 12.54 339 *e*P P 08 09 22.2 -5.3
SGMF Saint Gilles 12.68 341 *e*Pn **Pn** **08 09 18.8 +0.9**
SGMF Saint Gilles 12.68 341 *e*P P 08 09 24.0 -5.1
FLN La Foliniere 12.72 348 *e*P **Pn** **08 09 23.0 +4.5**
baz=168
FLN *e*Sn **Sn** **08 11 35.9 -3.6**
7.5nm,0.4s
BAIF Baives 13.69 2 *e*Pn **Pn** **08 09 33.1 +1.4**
GIVF Givet 13.76 4 *e*Pn **Pn** **08 09 33.5 +0.8**
GERES GERESS Array B 14.55 28 Pn **Pn** **08 09 44.9 +1.3**
0.2nm,0.3s,baz=204,slow=9.5,SNR=14
GERES LR LR 08 14 50.7
comp=Z,66nm,20.3s,baz=259,slow=36
VRAC Vranov 16.09 32 LR LR 08 15 23.7
comp=Z,48nm,19.4s,baz=232,slow=34
CLL Collm 16.42 22 *e*P **P** **08 10 13.0 +2.4**
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 19.22 55 LR LR 08 17 30.2
comp=Z,75nm,19.4s,baz=334,slow=35
TORD Torodi Ar. Bea 23.18 184 P **P** **08 11 25.1 +0.8**
comp=Z,2.0nm,0.6s,baz=357,slow=10,SNR=9.0
AKASG Malin Array Be 23.38 44 P **P** **08 11 24.9 -1.2**
comp=Z,0.7nm,0.5s,baz=240,slow=11,SNR=2.8
NOA NORSAR Array B 25.18 9 LR LR 08 21 40.6
comp=Z,18nm,18.5s,baz=300,slow=37
OBN Obninsk 29.34 40 LR LR 08 24 29.6
comp=Z,26nm,20.4s,baz=14,slow=37
ARCES ARCESS Array B 35.33 13 P **P** **08 13 12.2 -0.2**
comp=Z,3.7nm,1.0s,baz=213,slow=9.7,SNR=3.6
SFJD Kangerlussuaq 43.20 332 LR LR 08 31 56.3
comp=Z,88nm,18.3s,baz=146,slow=36
ATD Arta Tunnel 43.22 115 LR LR 08 34 12.4
comp=Z,32nm,18.3s,baz=36,slow=39
KURBB Kurchatov Arra 54.01 50 P **P** **08 15 41.1 -0.4**
comp=Z,0.4nm,0.6s,baz=288,slow=8.0,SNR=4.2
LSZ Lusaka 56.43 151 LR LR 08 42 26.6
comp=Z,54nm,21.8s,baz=170,slow=38
MKAR Makanchi Array 57.55 53 P **P** **08 16 06.1 -0.9**
comp=Z,0.3nm,0.6s,baz=294,slow=6.2,SNR=4.8
YKA Yellowknife Ar 69.72 334 P **P** **08 17 27.6 +0.6**
comp=Z,0.8nm,0.7s,baz=53,slow=6.1,SNR=15
TXAR Lajitas Array 85.40 303 P **P** **08 18 57.8 +2.5**
comp=Z,0.6nm,0.9s,baz=134,slow=3.6,SNR=4.6
TXAR LR LR 08 54 21.9
comp=Z,65nm,19.7s,baz=318,slow=34
WRA Warramunga Arr 134.19 83 PKP **PKiKP** **08 25 36.9 0.0**
comp=Z,0.3nm,0.7s,baz=322,slow=1.5,SNR=5.1
ASAR Alice Springs 135.69 88 PKP **PKiKP** **08 25 40.6 +0.7**
comp=Z,0.4nm,0.6s,baz=345,slow=1.4,SNR=4.3
STKA Stephens Creek 145.24 95 PKPbc **PKPdf** **08 25 56.9 +1.6**
comp=Z,1.2nm,0.7s,baz=313,slow=6.7,SNR=4.9

IDC 24 08:17:46.0±3.6, 28.68N×66.49E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/47, mbtmp3.5/5, MS3.1/2, Ms1 3.1/2, ms1mx2.5/71, Error ellipse: s-maj=91.4km s-min=31.9km az=147.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**15.36**	**23**	LR	LR	08 28 53.3	
	comp=Z,47nm,21.1s,baz=285,slow=44						
MKAR	**Makanchi Array**	**21.90**	**30**	P	P	08 22 40.9	+0.2
	1.0nm,0.7s,baz=213,slow=9.7,SNR=10						
MKAR				LR	LR	08 33 08.2	
	comp=Z,67nm,18.4s,baz=214,slow=42						
KURBB	**Kurchatov Arra**	**23.73**	**19**	P	P	08 22 59.1	-0.5
	0.3nm,0.5s,baz=210,slow=9.1,SNR=2.0						
KBZ	**Khabaz**	**24.13**	**315**	P	P	08 23 03.7	+0.2
	1.9nm,0.7s,baz=124,slow=7.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**61.81**	**270**	P	P	08 28 07.0	-0.2
	0.4nm,0.6s,baz=48,slow=5.1,SNR=2.2						
YKA	**Yellowknife Ar**	**89.14**	**1**	P	P	08 30 43.3	+0.2
	0.2nm,0.7s,baz=351,slow=5.0,SNR=5.1						

IDC 24 08:28:17.0±3.1, 54.51N×86.80E, h0km, mb1 2.8/2, mb1mx2.8/53, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=18.4km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**245**	*i*		08 34 50.0	
	baz=65,slow=324,SNR=6.6						
ZALV	**Zalesovo Beam**	**1.29**	**245**	Pg	Pg	08 28 40.2	-1.6
	1.1nm,0.3s,baz=64,slow=16,SNR=9.1						
ZALV				Lg	Lg	08 28 58.6	
	1.8nm,0.3s,baz=64,slow=26,SNR=10						
ZALV				Rg	Rg	08 29 03.1	
	3.5nm,0.5s,baz=63,slow=29,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.37**	**236**	Pn	Pn	08 29 52.9	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=5.5						
KURBB				Lg	Lg	08 31 41.3	
	baz=44,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**8.24**	**202**	Pn	Pn	08 30 18.9	+1.1
	0.2nm,0.3s,baz=24,slow=14,SNR=8.8						

*BJI **24** 08:37:32.2±0.0, 39.04N×70.47E, h5km, mb4.8/49, mB4.8/33, ML4.6/4, Ms4.4/39, Ms7 4.2/36*
*IDC **24** 08:37:34.4±0.5, 38.84N×70.72E, h0km, mb4.5/30, mb1 4.7/38, mb1mx4.5/69, mbtmp4.6/38, ML3.9/7, MS3.8/57, Ms1 3.8/57, ms1mx3.7/92, Error ellipse: s-maj=11.2km s-min=8.7km az=176.0*
*SOME **24** 08:37:34.7, 39.13N×70.60E, h10km, MS4.2*
*MOS **24** 08:37:35.0±1.1, 38.87N×70.72E, h11km, mb4.9/37, Error ellipse: s-maj=4.9km s-min=3.4km az=72.3*
*NEIC **24** 08:37:36.5±1.4, 38.96N±0.05×70.75E±0.05, h10km±1km, mb4.9/64, Error ellipse: s-maj=8.6km s-min=5.8km az=149.0*
*NNC **24** 08:37:37.7±1.5, 39.16N×70.43E, h0km, mb5.3, mpv5.0, Error ellipse: s-maj=13.0km s-min=8.2km az=169.0*
*BGR **24** 08:37:55.1±0.0, 40.98N×69.95E, h33km, mb4.4*
ISC 24 08:37:35.3±0.6, 39.01N±0.02×70.69E±0.02, h2km±3km, n512, σ2.233/529, mb4.8/108, MS3.9/64, 55C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.29**	**268**	*i* PG	**Pg**	**08 37 40.8**	**-0.1**
GAR	**Garm**	**0.29**	**268**		**Pg**	**08 37 40.9**	**-0.1**
GAR				Sg	**Sg**	**08 37 44.9**	**+0.2**
DRK	**Karamyk**	**0.98**	**61**		**Pg**	**08 37 54.0**	**-0.1**
DRK				Sg	**Sg**	**08 38 07.5**	**+0.7**
BTK	**Batken**	**1.05**	**5**	PG	**Pg**	**08 37 55.9**	**+0.4**
BTK	**Batken**	**1.05**	**5**	Pn	**Pg**	**08 37 55.9**	**+0.4**
CHGR	**Chuyangaron**	**1.25**	**254**	*e*PG	**Pg**	**08 37 58.5**	**-0.7**
CHGR				*i* S	**Sb**	**08 38 15.5**	**-0.6**
CHGR	**Chuyangaron**	**1.25**	**254**		**Pg**	**08 37 58.5**	**-0.7**
OHH	**Osh**	**2.21**	**46**	*i* PN	**Pn**	**08 38 14.9**	**+1.9**
OHH				*i* S	**Sb**	**08 38 43.9**	**0.0**
TRKS	**Terek-Say**	**2.54**	**8**	*e*PN	**Pn**	**08 38 18.8**	**+1.1**
TRKS				*i* S	**Sn**	**08 38 50.9**	**+1.7**
TAS	**Tashkent**	**2.55**	**336**	*i* PN	**Pn**	**08 38 19.8**	**+2.2**
TAS				*i* S	**Sb**	**08 38 52.6**	**-0.9**
ARK	**Arkit**	**2.95**	**19**	*e*PN	**Pn**	**08 38 25.5**	**+2.3**
IUG	**luzhnay**	**3.17**	**351**	*i* PN	**Pn**	**08 38 29.6**	**+3.3**
IUG	**luzhnay**	**3.17**	**351**	*e*P	**Pb**	**08 38 32.9**	**+0.4**
	16μm,0.7s						
IUG				*e*S	**Sb**	**08 39 14.0**	**+2.4**
	11μm,0.7s						
IUG	**luzhnay**	**3.17**	**351**	*i* Pn	**Pn**	**08 38 29.7**	**+3.3**
	baz=351						
CHM	**Chimkent**	**3.41**	**346**	*e*P	**Pb**	**08 38 35.6**	**-0.8**
	379nm,0.3s						
CHM				*e*S	**Sb**	**08 39 19.4**	**+1.1**
	13μm,0.7s						
AML	**Almayashu**	**3.87**	**35**	P	**Pn**	**08 38 40.1**	**+4.0**
	SNR=2546						
AML	**Almayashu**	**3.87**	**35**	*e*PN	**Pn**	**08 38 38.1**	**+2.0**
AML				*i* S	**Sn**	**08 39 24.4**	**+2.1**
DZA	**Taraz**	**3.91**	**7**	*e*PN	**Pn**	**08 38 39.2**	**+2.9**
DZA	**Taraz**	**3.91**	**7**	*e*P	**Pb**	**08 38 42.3**	**-2.6**
	958nm,0.9s						
DZA				*e*S	**Sb**	**08 39 31.1**	**-1.5**
	9μm,0.6s						
DZA	**Taraz**	**3.91**	**7**	*e*Pn	**Pn**	**08 38 39.2**	**+2.9**
	baz=7.1						
BRLS	**Borolday**	**4.07**	**351**	*i* PN	**Pn**	**08 38 39.8**	**+1.3**
BRLS	**Borolday**	**4.07**	**351**	*e*P	**Pn**	**08 38 41.4**	**+2.8**
	52nm,1.1s						
BRLS				*e*S	**Sn**	**08 39 28.5**	**+1.8**
	805nm,0.7s						
BRLS	**Borolday**	**4.07**	**351**	*i* Pn	**Pn**	**08 38 39.8**	**+1.3**
	baz=349						
KKAR	**Karatay Array**	**4.09**	**358**	PN	**Pn**	**08 38 41.6**	**+2.8**
KKAR	**Karatay Array**	**4.09**	**358**	Pn	**Pn**	**08 38 41.6**	**+2.8**
KK09	**Karatay Array**	**4.11**	**358**	⇓Pn	**Pn**	**08 38 42.4**	**+3.3**
	172nm,0.5s						
KK09				⇑Sn	**Sn**	**08 39 27.6**	**-0.2**
	867nm,0.9s						
KK09				⇓Lg	Lg	08 39 45.8	
	2μm,0.8s						
KSH	**Kashi**	**4.13**	**81**	Pn	**Pn**	**08 38 37.9**	**-1.6**
KSH				Sg	**Sb**	**08 39 39.6**	**+0.5**
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,950nm,0.7s						
KSH				LR	LR		
	comp=N,5μm,5.8s						
KSH				LR	LR		
	comp=E,3μm,4.1s						
KSH				LR	LR		
	comp=Z,3μm,5.6s						
MRKS	**Merke**	**4.20**	**26**	*e*P	**Pb**	**08 38 48.1**	**-1.8**
	223nm,0.2s						
MRKS				*e*S	**Sb**	**08 39 41.4**	**+0.3**
	1μm,0.6s						
EKS2	**Erkin-Say**	**4.33**	**32**	P	**Pn**	**08 38 46.8**	**+4.5**
	SNR=357						
EKS2	**Erkin-Say**	**4.33**	**32**	*i* PN	**Pn**	**08 38 44.5**	**+2.2**
EKS2				*e*S	**Sn**	**08 39 35.4**	**+2.0**
UCH	**Uchtor**	**4.33**	**41**	P	**Pn**	**08 38 47.0**	**+4.4**
	SNR=1245						
AAK	**Ala-Archa**	**4.63**	**37**	Pn	**Pn**	**08 38 51.0**	**+4.6**
	172nm,0.3s,baz=210,slow=5.9,SNR=682						
AAK				Sn	**Sb**	**08 39 48.8**	**-4.8**
	33nm,0.3s,baz=123,slow=11,SNR=2.5						
AAK				LR	LR	08 40 57.8	
	comp=Z,1μm,22.0s,baz=231,slow=43						
AAK	**Ala-Archa**	**4.63**	**37**	Pn	**Pn**	**08 38 50.6**	**+4.2**
KBL	**Kabul**	**4.65**	**197**	PN	**Pn**	**08 38 50.1**	**+3.4**
KBL	**Kabul**	**4.65**	**197**	Pn	**Pn**	**08 38 50.1**	**+3.4**
KBK	**Karagaybulak**	**4.87**	**40**	P	Pn	08 38 54.7	+5.1
	SNR=649						
KBK	**Karagaybulak**	**4.87**	**40**	*i* PN	**Pn**	**08 38 51.7**	**+2.1**
KBK				*e*S	**Sn**	**08 39 48.1**	**+1.5**
CHMS	**Chumysh**	**5.03**	**36**	P	**Pn**	**08 38 56.1**	**+4.3**
	SNR=391						
CHMS	**Chumysh**	**5.03**	**36**	*e*PN	**Pn**	**08 38 53.6**	**+1.9**
CHMS				*i* S	**Sn**	**08 39 51.6**	**+1.1**
USP	**Ospenovka**	**5.13**	**33**	P	**Pn**	**08 38 57.4**	**+4.2**
	SNR=80						
CEP	**Cherat**	**5.27**	**169**	P	**Pn**	**08 38 59.3**	**+4.2**
CEP				S	**Sb**	**08 40 07.0**	**-4.9**
BOOM	**Boomskoye usch**	**5.29**	**47**	PN	**Pn**	**08 38 59.3**	**+3.9**
BOOM	**Boomskoye usch**	**5.29**	**47**	Pn	**Pn**	**08 38 59.2**	**+3.9**
ULHL	**Ulahol**	**5.32**	**51**	P	**Pn**	**08 38 59.3**	**+3.4**
	SNR=48						
SGDS	**Sogindy**	**5.34**	**33**	⇑*i* Pn	**Pn**	**08 38 59.7**	**+3.7**
	baz=33						
TKM2	**Tokmak 2**	**5.39**	**42**	P	**Pn**	**08 39 01.0**	**+4.2**
	SNR=632						
TKM2	**Tokmak 2**	**5.39**	**42**	PN	**Pn**	**08 39 01.0**	**+4.2**
TKM2				S	**Sn**	**08 40 08.2**	**+8.7**
TKM2	**Tokmak 2**	**5.39**	**42**	⇑Pn	**Pn**	**08 39 00.8**	**+4.0**
	228nm,0.4s						
TKM2				⇑Sn	**Sn**	**08 40 08.3**	**+8.7**
	466nm,0.7s						
TKM2				⇓Lg	Lg	08 40 31.1	
	448nm,0.9s						
KST	**Kastek**	**5.67**	**43**	*e*P	**Pg**	**08 39 20.6**	**-3.3**
	129nm,1.0s						
KST				*e*S	**Sg**	**08 40 37.1**	**-0.1**
	359nm,0.8s						
DGS	**Degeres**	**5.71**	**41**	*e*P	**Pg**	**08 39 21.4**	**-3.2**
	180nm,1.2s						
DGS				*e*S	**Sg**	**08 40 38.2**	**-0.4**
	260nm,1.8s						
CHCP	**Chirah Chowk**	**5.73**	**158**	P	**Pn**	**08 39 05.2**	**+3.9**
KDJ	**Kajisay**	**5.84**	**56**	PN	**Pn**	**08 39 06.5**	**+3.5**
KDJ	**Kajisay**	**5.84**	**56**	Pn	**Pn**	**08 39 06.5**	**+3.5**
MTBS	**Maitube**	**5.98**	**45**	*e*P	**Pb**	**08 39 23.6**	**+3.4**
	98nm,0.9s						
MTBS				*e*S	**Sg**	**08 40 41.7**	**-5.5**
	211nm,0.8s						
KRBS	**Karabastau**	**6.00**	**37**	*e*P	**Pb**	**08 39 22.4**	**+1.9**
	190nm,0.8s						
KRBS				*e*S	**Sb**	**08 40 40.6**	**+7.8**
	207nm,0.8s						
IZV	**Izvestkoviy**	**6.02**	**46**	*e*P	**Pb**	**08 39 25.1**	**+4.1**
	215nm,0.6s						
IZV				*e*S	**Sg**	**08 40 44.6**	**-3.9**
	196nm,0.7s						
IZV	**Izvestkoviy**	**6.02**	**46**	Pg	**Pb**	**08 39 25.3**	**+4.3**
	215nm,0.6s						
IZV				Lg	Lg	08 40 44.6	
	196nm,0.7s						
TARG	**Taragay, Kyrgy**	**6.07**	**61**		**Pn**	**08 39 08.6**	**+2.1**
TNSS	**Tian-Shan**	**6.21**	**48**	*e*P	**Pb**	**08 39 28.8**	**+4.5**
	105nm,1.5s						
TNSS				*e*S	**Sg**	**08 40 51.1**	**-3.6**
	79nm,0.8s						
TNSS	**Tian-Shan**	**6.21**	**48**	*i* Pn	**Pn**	**08 39 12.0**	**+3.7**
	baz=48						
TNSS				*e*Pb	**Pb**	**08 39 28.5**	**+4.1**
	baz=48						
TNSS				*e*Lg	Lg	08 40 56.8	
	baz=48						
TNSS	**Tian-Shan**	**6.21**	**48**	Pg	**Pg**	**08 39 32.6**	**-1.6**
	161nm,0.7s						
TNSS				Lg	Lg	08 40 57.4	
	79nm,0.8s						
THW	**Thamme Wali**	**6.26**	**172**	P	**Pn**	**08 39 11.1**	**+2.5**
AAA	**Alma-Ata**	**6.30**	**46**	*e*PN	**Pn**	**08 39 12.5**	**+3.3**
AAA	**Alma-Ata**	**6.30**	**46**	*e*P	**Pb**	**08 39 30.0**	**+4.3**
	129nm,0.7s						
AAA				*e*S	**Sg**	**08 40 53.2**	**-4.3**
	287nm,0.9s						
AAA	**Alma-Ata**	**6.30**	**46**	*e*Pn	**Pn**	**08 39 12.6**	**+3.3**
	baz=46						
AAA	**Alma-Ata**	**6.30**	**46**	Pg	Pb	08 39 31.1	+5.5
	161nm,0.7s						
AAA				Lg	Lg	08 40 54.8	
	287nm,0.9s						
MDOK	**Medeo**	**6.35**	**47**	*i* PN	**Pn**	**08 39 13.8**	**+3.9**
MDOK	**Medeo**	**6.35**	**47**	*i* Pn	**Pn**	**08 39 13.8**	**+3.9**
	baz=47						
KOTS	**Kotyrbulak**	**6.43**	**47**	*e*P	Pb	08 39 34.0	+6.1
	135nm,0.5s						
KOTS				*e*S	**Sg**	**08 40 59.9**	**-1.8**
	416nm,0.7s						
KOTS	**Kotyrbulak**	**6.43**	**47**	Pg	Pb	08 39 33.9	+6.0
	135nm,0.5s						
KOTS				Lg	Lg	08 40 59.8	
	416nm,0.7s						
KUU	**Kurty**	**6.46**	**39**	*c i* PN	**Pn**	**08 39 14.3**	**+2.9**
KUU	**Kurty**	**6.46**	**39**	*e*P	**Pb**	**08 39 32.7**	**+4.2**
	54nm,0.7s						
KUU				*e*S	**Sg**	**08 40 57.1**	**-5.7**
	225nm,0.8s						
KUU	**Kurty**	**6.46**	**39**	⇑*i* Pn	**Pn**	**08 39 14.4**	**+2.9**
	baz=39						
KUU	**Kurty**	**6.46**	**39**	Pg	**Pb**	**08 39 32.4**	**+4.0**
	54nm,0.7s						
KUU				Lg	Lg	08 40 57.1	
	225nm,0.8s						
KTBS	**Karatobe**	**6.51**	**42**	*e*P	Pb	08 39 34.4	+5.2
	70nm,0.7s						
KTBS				*e*S	**Sg**	**08 41 00.5**	**-3.8**
	235nm,0.6s						
KTBS	**Karatobe**	**6.51**	**42**	Pg	**Pb**	**08 39 33.9**	**+4.7**
	70nm,0.7s						
KTBS				Lg	Lg	08 41 00.5	
	235nm,0.6s						
BTLS	**Baital**	**6.52**	**21**	*c i* PN	**Pn**	**08 39 15.0**	**+2.8**
BTLS	**Baital**	**6.52**	**21**	*e*P	Pb	08 39 35.1	+5.7
	68nm,0.7s						
BTLS				*e*S	**Sg**	**08 41 01.4**	**-3.3**
	186nm,1.2s						
BTLS	**Baital**	**6.52**	**21**	⇑*i* Pn	**Pn**	**08 39 15.0**	**+2.8**
	baz=22						
BTLS	**Baital**	**6.52**	**21**	Pg	**Pb**	**08 39 30.8**	**+1.4**
	68nm,0.7s						
BTLS				Lg	Lg	08 40 54.7	
	201nm,0.7s						
CHKK	**Chushkaly**	**6.77**	**42**	*e*P	**Pb**	**08 39 37.5**	**+3.9**
	73nm,0.7s						
CHKK				*e*S	**Sg**	**08 41 06.3**	**-6.3**
	126nm,0.6s						
CHKK	**Chushkaly**	**6.77**	**42**	*i* Pn	**Pn**	**08 39 18.3**	**+2.8**
	baz=43						
CHKK	**Chushkaly**	**6.77**	**42**	Pg	**Pb**	**08 39 37.2**	**+3.6**
	73nm,0.7s						
CHKK				Lg	Lg	08 41 06.3	
	126nm,0.6s						
SATY	**Saty**	**7.10**	**53**	*e*PN	**Pn**	**08 39 23.0**	**+2.8**
SATY	**Saty**	**7.10**	**53**

KPKS	**Kokpek**	**7.49**	**51**	*e*Pn	**Pn**	**08 39 29.2**	**+3.6**		
	baz=51								
UZB	**Uzunbulak**	**7.53**	**54**	*e*P	**Pn**	**08 39 29.9**	**+3.8**		
UZB	**Uzunbulak**	**7.53**	**54**	*e*Pn	**Pn**	**08 39 29.9**	**+3.8**		
	baz=54								
UZB	**Uzunbulak**	**7.53**	**54**	Pg	**Pg**	**08 39 56.5**	**-3.0**		
	68nm,0.8s								
UZB				Lg	Lg	08 41 38.0			
	97nm,0.9s								
THN	**Thein Dam**	**7.73**	**147**	*e*P	**Pn**	**08 39 31.4**	**+2.7**		
THN				*e*S	**Sn**	**08 40 55.6**	**-1.2**		
BLB	**Baldybastay**	**7.74**	**46**	Pg	Pb	08 39 57.8	+7.6		
	101nm,0.5s								
BLB				Lg	Lg	08 41 40.5			
	183nm,0.7s								
PDGK	**Podgornoye**	**7.92**	**54**	P	**Pn**	**08 39 34.1**	**+2.7**		
PDGK	**Podgornoye**	**7.92**	**54**	Pg	Pg	08 40 03.2	-3.6		
	22nm,0.9s								
PDGK				Lg	Lg	08 41 50.8			
	54nm,0.9s								
PDGK	**Podgornoye**	**7.92**	**54**	⇑Pn	**Pn**	**08 39 34.1**	**+2.7**		
	46nm,0.7s								
PDGK				⇑Lg	Lg	08 41 56.1			
	160nm,0.9s								
HRA	**Herat**	**8.20**	**238**	Pn	**Pn**	**08 39 35.9**	**+0.5**		
TDK	**Taldyqorghan**	**8.29**	**41**	*e*P	**Pn**	**08 39 39.9**	**+3.4**		
TDK	**Taldyqorghan**	**8.29**	**41**	*e*Pn	**Pn**	**08 39 39.9**	**+3.4**		
	baz=42								
KTMS	**Ketmen**	**8.52**	**56**	Pg	**Pg**	**08 40 15.5**	**-2.9**		
	12nm,0.8s								
KTMS				Lg	Lg	08 42 11.0			
	27nm,0.8s								
DJR	**Jarkent**	**8.64**	**49**	Pg	Pg	08 40 14.6	-6.1		
	37nm,0.8s								
DJR				Lg	Lg	08 42 09.7			
	81nm,1.2s								
BHK	**Bhakra**	**8.90**	**147**	*e*P	**Pn**	**08 39 48.2**	**+3.3**		
BHK				*e*S	**Sn**	**08 41 24.3**	**-1.5**		
KAPS	**Kapalarasan**	**8.98**	**43**	Pg	Pn	08 40 19.3	+33		
	27nm,0.6s								
KAPS				Lg	Lg	08 42 17.6			
	71nm,0.7s								
OTUK	**Ortayu**	**9.31**	**7**	P	**Pn**	**08 39 52.8**	**+2.4**		
OTUK	**Ortayu**	**9.31**	**7**	⇑Pn	**Pn**	**08 39 52.8**	**+2.4**		
	22nm,0.9s								
OTUK				⇓Sn	**Sn**	**08 41 34.6**	**-1.0**		
	131nm,1.1s								
SMLA	**Simla**	**9.48**	**144**	*e*P	**Pn**	**08 39 53.9**	**+1.1**		
SMLA				*e*S	**Sn**	**08 41 35.4**	**-4.5**		
SMLA				IAML		08 41 48.0			
	comp=E,238nm,0.8s								
SMLA				IAML		08 41 49.3			
	comp=N,287nm,0.2s								
GEYT	**Alibeck**	**9.92**	**268**	Pn	**Pn**	**08 39 56.8**	**-2.1**		
	comp=N,1.8nm,0.3s,baz=103,slow=12,SNR=9.6								
GEYT				Sn	**Sn**	**08 41 44.5**	**-6.3**		
	comp=N,2.2nm,0.3s,baz=226,slow=56,SNR=2.9								
GEYT				LR	LR	08 44 33.0			
	comp=N,540nm,19.8s,baz=88,slow=42								
GEYT	**Alibeck**	**9.92**	**268**		**Pn**	**08 39 58.6**	**-0.2**		
GYA0B	**ALIBECK ARRAY**	**9.92**	**268**		**Pn**	**08 39 58.3**	**-0.6**		
GYA0B	**ALIBECK ARRAY**	**9.92**	**268**	⇓Pn	**Pn**	**08 39 59.9**	**+1.1**		
GYA0B				⇓Sn	**Sn**	**08 41 47.9**	**-2.8**		
BRZS	**Berezniki**	**11.06**	**7**	*e*P	**Pn**	**08 40 16.2**	**+1.8**		
BRZS				*e*		08 42 20.7			
BRZS				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BRZS	**Berezniki**	**11.06**	**7**	*e*Pn	**Pn**	**08 40 16.2**	**+1.8**		
	comp=Z,6.7nm,0.9s,baz=6.7								
BRZS				*e*Sn	**Sn**	**08 42 20.8**	**+2.1**		
	baz=6.7								
MAKZ	**Makanchi**	**11.36**	**43**	P	**Pn**	**08 40 21.0**	**+2.5**		
MAKZ	**Makanchi**	**11.36**	**43**		**Pn**	**08 40 21.0**	**+2.5**		
MAKZ	**Makanchi**	**11.36**	**43**	⇑Pn	**Pn**	**08 40 21.8**	**+3.3**		
	comp=Z,46nm,1.0s								
MK31	**Makanchi Array**	**11.52**	**44**	*i* P	**Pn**	**08 40 23.2**	**+2.5**		
MK31	**Makanchi Array**	**11.52**	**44**		**Pn**	**08 40 23.0**	**+2.3**		
MK31	**Makanchi Array**	**11.52**	**44**	⇑Pn	**Pn**	**08 40 23.1**	**+2.5**		
	comp=Z,54nm,0.8s,baz=230,slow=13,SNR=313								
MKAR	**Makanchi Array**	**11.52**	**44**	Pn	**Pn**	**08 40 22.6**	**+1.9**		
	comp=Z,2.5nm,0.3s,baz=230,slow=11,SNR=197								
MKAR				LR	LR	08 45 12.1			
	comp=Z,484nm,19.8s,baz=222,slow=39								
MKAR	**Makanchi Array**	**11.52**	**44**		**Pn**	**08 40 22.4**	**+1.7**		
NDI	**New Delhi**	**11.63**	**150**	*e*P	**Pn**	**08 40 23.3**	**+1.0**		
NDI				*e*P	**Pn**	**08 40 26.0**	**+3.7**		
NDI				*e*S	**Sn**	**08 42 32.0**	**-0.8**		
AYAN	**Aya Nagar**	**11.78**	**151**	*e*P	**Pn**	**08 40 23.3**	**-1.0**		
KUDL	**Kundal**	**11.86**	**154**	*e*P	**Pn**	**08 40 23.7**	**-1.7**		
SONA	**Sohna**	**11.97**	**152**	*e*P	**Pn**	**08 40 27.1**	**+0.2**		
JASL	**Jaisalmer**	**12.05**	**179**	*e*P	**Pn**	**08 40 31.5**	**+3.5**		
PTH	**Pithoragarh**	**12.28**	**137**	*ex*	**Pn**	**08 40 31.9**	**+0.6**		
LGTI	**Lohaghat**	**12.38**	**138**	*e*P	**Pn**	**08 40 30.5**	**-2.0**		
AB31	**Akbulak array**	**12.81**	**327**	*i* P	**Pn**	**08 40 36.5**	**-1.8**		
AB31	**Akbulak array**	**12.81**	**327**	⇑Pn	**Pn**	**08 40 36.5**	**-1.8**		
	comp=Z,55nm,0.8s,baz=142,slow=11,SNR=468								
AB31				⇑Sn	**Sn**	**08 42 56.1**	**-5.3**		
	comp=Z,78nm,0.6s,baz=144,slow=23,SNR=17								
ABKAR	**Akbulak array**	**12.81**	**327**		**Pn**	**08 40 37.1**	**-1.2**		
ABKAR	**Akbulak array**	**12.81**	**327**		**Pn**	**08 40 37.2**	**-1.1**		
KURBB	**Kurchatov Arra**	**12.87**	**23**	Pn	**Pn**	**08 40 37.9**	**-1.1**		
	comp=Z,0.4nm,0.3s,baz=211,slow=12,SNR=28								
KURBB				LR	LR	08 46 00.7			
	comp=Z,412nm,21.0s,baz=190,slow=39								
KURBB	**Kurchatov Arra**	**12.87**	**23**	P	**Pn**	**08 40 37.6**	**-1.4**		
KURBB	**Kurchatov Arra**	**12.87**	**23**	⇑Pn	**Pn**	**08 40 41.2**	**+2.2**		
	comp=Z,23nm,0.6s								
AJM	**Ajmer**	**12.93**	**164**	*e*P	**Pn**	**08 40 39.4**	**-0.6**		
KURK	**Kurchatov**	**12.97**	**23**	⇑*e*P	**Pn**	**08 40 40.5**	**0.0**		
KURK	**Kurchatov**	**12.97**	**23**	⇑Pn	Pn	08 40 45.6	+5.1		
	comp=Z,21nm,0.9s								
SEM	**Semipalatinsk**	**13.26**	**28**	*e*P	**Pn**	**08 40 46.3**	**+1.8**		
SEM				pmax	pmax				
	comp=Z,4.0nm,0.6s								
SEM	**Semipalatinsk**	**13.26**	**28**	*e*Pn	**Pn**	**08 40 46.4**	**+1.8**		
	comp=Z,3.5nm,0.6s,baz=28								
ZSN	**Zaisan**	**13.32**	**46**	*e*P	**Pn**	**08 40 48.8**	**+3.5**		
ZSN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ZSN	**Zaisan**	**13.32**	**46**	*e*Pn	**Pn**	**08 40 48.8**	**+3.5**		
	comp=Z,4.1nm,0.8s,baz=46								
WMQ	**Urumqi**	**13.63**	**64**	*e*P	**Pn**	**08 40 52.5**	**+2.9**		
WMQ				pP	P	08 40 55.6	-3.1		
WMQ				sP		08 40 59.6			
WMQ				PP	**PnPn**	**08 41 04.5**	**+7.1**		
WMQ				pmax	pmax				
	comp=Z,95nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,160nm,4.5s								
WMQ				LR	LR				
	comp=Z,1μm,8.7s								
WMQ				LR	LR				
	comp=Z,760nm,11.1s								
WMQ				LR	LR				
	comp=Z,1μm,9.3s								
BVAR	**Borovoye Array**	**14.02**	**359**	Pn	**Pn**	**08 40 54.7**	**-0.1**		
	comp=Z,1.5nm,0.3s,baz=205,slow=28,SNR=24								
BVAR				Sn	**Sn**	**08 43 28.3**	**-2.6**		
	comp=Z,2.0nm,0.3s,baz=146,slow=48,SNR=4.7								
BRVK	**Borovoye**	**14.05**	**359**	P	**Pn**	**08 40 54.0**	**-1.2**		
BRVK	**Borovoye**	**14.05**	**359**		**Pn**	**08 40 55.0**	**-0.3**		
BRVK	**Borovoye**	**14.05**	**359**	⇑Pn	**Pn**	**08 40 55.0**	**-0.3**		
	comp=Z,18nm,0.5s								
BRVK				⇓Sn	**Sn**	**08 43 34.0**	**+2.3**		
	comp=Z,35nm,0.8s								
BRVK				⇑Lg	Lg	08 44 59.8			
	comp=Z,123nm,1.0s								
AKTO	**Aktyubinsk**	**14.52**	**326**	Pn	**Pn**	**08 41 00.6**	**-1.1**		
	comp=Z,2.2nm,0.3s,baz=129,slow=16,SNR=24								
AKTO				Sn	**Sn**	**08 43 37.0**	**-6.1**		
	comp=Z,1.8nm,0.3s,baz=2.1,slow=20,SNR=6.8								
AKTO				LR	LR	08 47 16.6			
	comp=Z,513nm,21.4s,baz=143,slow=40								
AKTO	**Aktyubinsk**	**14.52**	**326**	P	**Pn**	**08 40 59.2**	**-2.5**		
AKTO				S	**Sn**	**08 43 39.0**	**-4.2**		
AKTO	**Aktyubinsk**	**14.52**	**326**	⇓Pn	**Pn**	**08 41 00.4**	**-1.3**		
	comp=Z,65nm,0.9s								
AKTO				⇓Sn	**Sn**	**08 43 39.0**	**-4.2**		
	comp=Z,129nm,0.9s								
PYUN	**Piuthan**	**14.93**	**133**	*e*P	**Pn**	**08 41 03.4**	**-4.2**		
	comp=Z,60nm,0.3s								
JHNI	**Jhansi**	**15.04**	**152**	*ex*	x	08 41 05.9			
DANN	**Dangsing**	**15.19**	**130**	*e*P	**Pn**	**08 41 07.9**	**-3.2**		
	comp=Z,78nm,0.4s								
KOLN	**Koldanda**	**15.53**	**132**	*e*P	**Pn**	**08 41 12.2**	**-3.3**		
	comp=Z,50nm,0.4s								
GKN	**Gorkha**	**15.97**	**129**	*e*P	**Pn**	**08 41 18.1**	**-3.1**		
VLK	**Valmikinagar**	**16.03**	**133**	*e*P	**Pn**	**08 41 19.8**	**-2.0**		
KKN	**Kakani**	**16.52**	**128**	*e*P	**Pn**	**08 41 25.3**	**-2.9**		
	comp=Z,48nm,0.5s								
ALBI	**Allahabad**	**16.57**	**142**	*ex*	**Pn**	**08 41 24.2**	**-4.5**		
BHPL	**Bhopal**	**16.73**	**158**	*e*P	**Pn**	**08 41 30.2**	**-0.6**		
PKIN	**Phulchoki**	**16.74**	**129**	*e*P	**Pn**	**08 41 27.3**	**-3.9**		
	comp=Z,43nm,0.4s								
PKI	**Pulchoki**	**16.75**	**129**	*e*P	**Pn**	**08 41 27.3**	**-4.1**		
	comp=Z,42nm,0.3s								
GUN	**Gumba**	**16.80**	**127**	*e*P	**Pn**	**08 41 28.3**	**-3.7**		
	comp=Z,70nm,0.4s								
JIRN	**Jiri**	**17.17**	**127**	*e*P	**Pn**	**08 41 32.9**	**-3.8**		
	comp=Z,97nm,0.3s								
JBP	**Jabalpur**	**17.67**	**151**	*e*P	**Pn**	**08 41 38.1**	**-4.3**		
JBP				⇓*e*S	**Sn**	**08 44 54.6**	**-5.1**		
ZAA0	**Zalesovo Array**	**17.78**	**28**	P	**Pn**	**08 41 43.7**	**0.0**		
ZALV	**Zalesovo Beam**	**17.78**	**28**	P	**Pn**	**08 41 43.1**	**-0.6**		
	comp=Z,4.8nm,0.3s,baz=227,slow=12,SNR=83								
ZALV				LR	LR	08 48 57.0			
	comp=Z,390nm,18.2s,baz=182,slow=38								
ZALV	**Zalesovo Beam**	**17.78**	**28**	*i* P	**Pn**	**08 41 43.7**	**0.0**		
ZALV				pmax	pmax				
	comp=Z,39nm,0.6s								
MAK	**Makhachkala**	**17.93**	**290**	*e*P	**Pn**	**08 41 43.0**	**-2.6**		
MAK				*e*S	**Sn**	**08 45 02.8**	**-3.1**		
MAK				pmax	pmax				
	comp=Z,169nm,1.1s								
MAK				MLR	MLR				
	comp=Z,533nm,15.0s								
RAMN	**Ramite**	**17.93**	**127**	*e*P	**Pn**	**08 41 41.4**	**-4.6**		
	comp=Z,100nm,0.4s								
TAPN	**Taplejung**	**18.35**	**124**	*e*P	**Pn**	**08 41 45.2**	**-6.0**		
	comp=Z,21nm,0.4s								
WSAR	**Wadi Sarin**	**18.78**	**217**	LR	LR	08 51 06.8			
	comp=Z,51nm,20.5s,baz=72,slow=44								
SVE	**Sverdlovsk**	**19.02**	**343**	*e*P	**Pn**	**08 42 00.5**	**+1.7**		
SVE				*e*S	**Sn**	**08 45 26.3**	**-5.9**		
SVE				pmax	pmax				
	comp=Z,44nm,1.3s								
AKL	**Akola**	**19.04**	**162**	*e*P	**Pn**	**08 41 58.8**	**-0.5**		
ARU	**Arti**	**19.19**	**339**	P	**Pn**	**08 42 01.2**	**+0.3**		
	comp=Z,0.0nm,0.3s,baz=153,slow=8.2,SNR=24								
ARU				S	**Sn**	**08 45 27.0**	**-9.3**		
	comp=Z,0.0nm,0.3s,baz=300,slow=22,SNR=1.2								
ARU				LR	LR	08 50 18.5			
	comp=Z,431nm,19.4s,baz=151,slow=40								
ARU	**Arti**	**19.19**	**339**	*c i* P	**Pn**	**08 42 01.2**	**+0.3**		
ARU				S	**Sn**	**08 45 36.3**	**0.0**		
ARU				pmax	pmax				
	comp=Z,40nm,0.9s								
ARU				MLR	MLR				
	comp=Z,330nm,12.0s								
ARU	**Arti**	**19.19**	**339**	P	**P**	**08 42 00.8**	**+0.7**		
GROC	**Groznyy**	**19.20**	**291**	*e*P	**Pn**	**08 42 01.8**	**+0.7**		
GROC				*e*S	**S**	**08 45 41.5**	**+3.2**		
GROC				pmax	pmax				
	comp=Z,47nm,0.8s								
GOMU	**GeErMu**	**19.31**	**91**	P	**P**	**08 42 01.4**	**-0.5**		
GOMU				pP	sP	08 42 05.3	+1.7		
GOMU				sP	pP	08 42 08.6	+5.5		
GOMU				S	**S**	**08 45 44.6**	**+3.3**		
GOMU				pmax	pmax				
	comp=Z,24nm,0.7s								
GOMU				pmax	pmax				
	comp=Z,170nm,5.3s								
GOMU				LR	LR				
	comp=Z,230nm,12.7s								
GOMU				LR	LR				
	comp=Z,280nm,12.1s								
GOMU				LR	LR				
	comp=Z,300nm,12.5s								
BOK	**Bokaro**	**19.91**	**135**	*e*P	P	08 41 57.8	-10		
GNI	**Garni**	**20.02**	**282**	LR	LR	08 51 13.8			
	comp=Z,173nm,19.6s,baz=93,slow=41								
GNI	**Garni**	**20.02**	**282**	*ce*P	Pn	08 42 13.6	+2.5		
GNI				pmax	pmax				
	comp=Z,34nm,0.8s								
GNI	**Garni**	**20.02**	**282**	P	**P**	**08 42 09.2**	**-0.2**		
ZEI	**Tsey**	**20.57**	**289**	*e*P	Pn	08 42 17.3	-0.3		
ZEI				pmax	pmax				
	comp=Z,13nm,0.7s								
POO	**Poona**	**20.59**	**171**	*e*P	Pn	08 42 19.3	+1.5		
ONI	**Oni**	**20.89**	**289**	P	Pn	08 42 20.4	-0.8		
ONI				pmax	pmax				
	comp=Z,72nm,0.8s								
ONI	**Oni**	**20.89**	**289**	P	Pn	08 42 20.4	-0.9		
ONI				IAmb	IAmb	08 42 26.4			
	comp=Z,72nm,0.8s								
PYA1	**Pyatigorsk**	**21.22**	**293**	⇑*e*P	**P**	**08 42 23.3**	**+1.1**		
KARS	**Kars**	**21.24**	**283**	P	**P**	**08 42 23.3**	**+0.6**		
KARS				pmax	pmax				
	comp=Z,236nm,1.3s								
KARS	**Kars**	**21.24**	**283**	P	**P**	**08 42 23.3**	**+0.6**		
KBZ	**Khabaz**	**21.34**	**292**	P	**P**	**08 42 23.3**	**-0.1**		
	comp=Z,5.7nm,0.6s,baz=110,slow=7.7,SNR=12								
KBZ				LR	LR	08 52 38.0			
	comp=Z,361nm,18.2s,baz=90,slow=42								
NEY	**Neytrino**	**21.44**	**290**	⇓*e*P	**P**	**08 42 26.1**	**+1.3**		
NEY				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KIV	**Kislovodsk**	**21.50**	**292**	*e*P	**P**	**08 42 29.0**	**+3.6**		
KIV				*e*S	Sn	08 46 28.5	-3.8		
KIV				pmax	pmax				
	comp=Z,57nm,1.1s								
KIV				MLR	MLR				
	comp=Z,132nm,14.0s								
KIV	**Kislovodsk**	**21.50**	**292**	P	**P**	**08 42 25.4**	**0.0**		
KIV				IAmb	IAmb	08 42 34.6			
	comp=Z,45nm,0.9s								
SHA1	**Shidzhatmaz**	**21.51**	**292**	*d* iP	**P**	**08 42 26.4**	**+0.8**		
GEVA	**Gevas**	**21.56**	**277**	P	**P**	**08 42 26.5**	**+0.3**		
KNGR	**Kungurtug, Tuv**	**22.16**	**50**	*d* iP	**P**	**08 42 33.8**	**+1.5**		
SHL	**Shillong**	**22.31**	**121**	P	**P**	**08 42 31.7**	**-2.5**		
SHL				pmax	pmax				
	comp=Z,40nm,0.9s								
SHL	**Shillong**	**22.31**	**121**	P	**P**	**08 42 31.7**	**-2.5**		
SHL				IAmb	IAmb	08 42 36.4			
	comp=Z,40nm,0.9s								
SHL	**Shillong**	**22.31**	**121**	*ex*	Pn	08 42 34.8			
SHL				IAmb	IAmb	08 42 38.0			
	comp=Z,23nm,0.0s								
GURO	**Guroymak-BITLI**	**22.31**	**278**	P	**P**	**08 42 34.8**	**+0.6**		
GTA	**Gaotai**	**22.53**	**80**	*e*P	**P**	**08 42 36.8**	**+0.3**		
GTA				pP	sP	08 42 42.1	+3.8		
GTA				sP	pP	08 42 44.9	+7.2		
GTA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,100nm,4.4s								
GTA				LR	LR				
	comp=Z,470nm,18.5s								
GTA				LR	LR				
	comp=Z,440nm,17.4s								
GTA				LR	LR				
	comp=Z,470nm,18.9s								
HYBB	**Hyderabad (bro**	**22.58**	**160**	*e*P	**P**	**08 42 36.4**	**-0.6**		
HYB	**Hyderabad**	**22.58**	**160**	*e*P	**P**	**08 42 38.1**	**+1.1**		
HYB				IAmb	IAmb	08 42 43.0			
	comp=Z,40nm,1.1s								
GOA	**Goa**	**23.59**	**172**	*e*P	**P**	**08 42 47.9**	**+0.6**		
GOA				IAmb	IAmb	08 42 52.0			
	comp=Z,34nm,0.9s								
VRH	**Novokhopyorsk**	**23.64**	**311**	*e*P	**P**	**08 42 52.8**	**+5.2**		
VRH				pmax	pmax				
	comp=Z,60nm,1.5s								
KIRV	**Kirov**	**23.89**	**332**	P	**P**	**08 42 51.6**	**+1.6**		
	comp=Z,20nm,0.6s,baz=129,slow=0.6,SNR=5.4								
KIRV				LR	LR	08 52 53.9			
	comp=Z,398nm,21.3s,baz=135,slow=38								
MOY	**Mondy**	**24.58**	**49**	*e*P	**P**	**08 42 58.3**	**+1.7**		
MOY				pmax	pmax				
	comp=Z,30nm,1.6s								
VORD	**Divnogorie**	**25.02**	**309**	*e*P	**P**	**08 43 00.6**	**+0.2**		
VORD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VORR	**Voronezh**	**25.28**	**310**	*e*P	**P**	**08 43 05.3**	**+2.6**		
VORR				pmax	pmax				
	comp=Z,35nm,1.6s								
ANN	**Anapa**	**25.30**	**294**	*e*P	**P**	**08 43 05.4**	**+2.4**		
ANN				pmax	pmax				
	comp=Z,106nm,1.1s								
ZAK	**Zakamensk**	**25.60**	**53**	*e*P	**P**	**08 43 06.0**	**+0.2**		
ZAK				pmax	pmax				
	comp=Z,52nm,1.4s								
LPSR	**Galich'ya Gora**	**25.73**	**312**	*e*P	**P**	**08 43 06.4**	**-0.4**		
LPSR				pmax	pmax				
	comp=Z,30nm,0.7s								
LZH	**Lanzhou**	**26.37**	**86**	*e*P	**P**	**08 43 13.8**	**+0.8**		
LZH				pP	pP	08 43 16.3	+2.1		
LZH				sP	sP	08 43 18.1	+3.3		
LZH				pmax	pmax				
	comp=Z,30nm,1.1s								
LZH				LR	LR				
	comp=Z,650nm,16.2s								
LZH				LR	LR				
	comp=Z,290nm,16.0s								
LZH				LR	LR				
	comp=Z,500nm,17.3s								
RAYN	**Ar Rayn**	**26.37**	**242**	P	**P**	**08 43 12.4**	**-0.5**		
RAYN				pmax	pmax				
	comp=Z,16nm,0.9s								
RAYN	**Ar Rayn**	**26.37**	**242**	P	**P**	**08 43 12.4**	**-0.5**		
RAYN				IAmb	IAmb	08 43 18.8			
	comp=Z,16nm,0.8s								
SONM	**Songino Array**	**27.19**	**59**	P	**P**	**08 43 20.8**	**+0.5**		
	comp=Z,3.3nm,0.6s,baz=264,slow=9.5,SNR=24								
SONM				LR	LR	08 55 11.2			
	comp=Z,316nm,20.7s,baz=278,slow=39								
SONM	**Songino Array**	**27.19**	**59**	P	**P**	**08 43 20.4**	**+0.2**		
PRGR	**Permogore**	**27.40**	**334**	*e*P	**P**	**08 43 23.7**	**+1.9**		
PRGR				pmax	pmax				
	comp=Z,3.0nm,0.4s								
MOS	**Moscow**	**27.59**	**318**	*e*P	**P**	**08 43 24.8**	**+1.2**		
MOS				*e*		08 44 13.6			
MOS				*e*S	**S**	**08 48 08.6**	**+3.0**		
MOS				*e*SS	**SnSn**	**08 49 22.0**	**+6.3**		
ULN	**Ulaanbaatar**	**27.63**	**59**	*c i* P	**P**	**08 43 24.7**	**+0.5**		
ULN				pmax	pmax				
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**27.63**	**59**	P	**P**	**08 43 24.3**	**0.0**		
OBN	**Obninsk**	**27.91**	**316**	LR	LR	08 55 01.0			
	comp=Z,47nm,19.5s,baz=169,slow=37								
OBN	**Obninsk**	**27.91**	**316**	*i* P	**P**	**08 43 27.6**	**+1.2**		
OBN				*i*		08 44 19.2			
OBN				pmax	pmax				
	comp=Z,19nm,0.9s								
OBN				MLR	MLR				
	comp=Z,168nm,16.0s								
OBN	**Obninsk**	**27.91**	**316**	P	**P**	**08 43 26.6**	**+0.1**		
CD2	**Chengdu**	**28.16**	**96**	P	**P**	**08 43 29.8**	**+0.8**		
CD2				pmax	pmax				
	comp=Z,20nm,0.8s								
ILGA	**Ilgaz**	**28.25**	**286**	P	**P**	**08 43 30.1**	**+0.2**		
BR131	**Keskin Array S**	**28.53**	**283**	⇓*e*P	**P**	**08 43 33.9**	**+1.6**		
BR131	**Keskin Array S**	**28.53**	**283**	P	**P**	**08 43 32.1**	**-0.2**		
BR131				IAmb	IAmb	08 43 39.7			
	comp=Z,19nm,1.1s								
BRTR	**Keskin Array B**	**28.53**	**283**	P	**P**	**08 43 33.7**	**+1.4**		
	comp=Z,7.2nm,0.9s,baz=74,slow=7.4,SNR=14								
BRTR				LR	LR	08 56 50.6			
	comp=Z,139nm,18.1s,baz=95,slow=40								
BRTR	**Keskin Array B**	**28.53**	**283**	*ce*P	**P**	**08 43 34.2**	**+1.9**		
BRTR				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BRTR	**Keskin Array B**	**28.53**	**283**	P	**P**	**08 43 33.1**	**+0.8**		
PZH	**PanZhiHua**	**28.79**	**106**	P	**P**	**08 43 36.1**	**+1.4**		
PZH				S	**S**	**08 48 23.5**	**-1.8**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,140nm,4.5s								
PZH				LR	LR				
	comp=Z,540nm,19.4s								
PZH				LR	LR				
	comp=Z,410nm,18.6s								
PZH				LR	LR				
	comp=Z,630nm,16.0s								
MMAI	**Mount Meron Ar**	**29.04**	**269**	LR	LR	08 58 41.0			
	comp=Z,98nm,18.8s,baz=228,slow=44								
KLMR	**Klimovskoe**	**29.20**	**329**	*e*P	**P**	**08 43 40.0**	**+2.2**		
KLMR				pmax	pmax				
	comp=Z,13nm,1.1s								
KLMR	**Klimovskoe**	**29.20**	**329**	*e*P	**P**	**08 43 40.0**	**+2.2**		
KLMR				AMP		08 43 41.5			
	comp=Z,13nm,1.1s								
BTO	**Baotou**	**30.09**	**74**	*e*P	**P**	**08 43 45.6**	**-0.5**		
BTO				S	**S**	**08 48 40.8**	**-4.6**		
BTO				LR	LR				
	comp=Z,2μm,15.5s								
BTO				LR	LR				
	comp=Z,2μm,16.1s								
EIL	**Elat**

comp=E,49nm,16.3s
VRI Vrincioaia 32.83 297 ⇑P **P** **08 44 14.1 +4.1**
VRI Vrincioaia 32.83 297 ⇑P **P** **08 44 14.1 +4.1**
TESR Tescani 32.84 298 ⇑P **P** **08 44 13.2 +3.1**
PALK Pallekele 32.86 161 LR LR 08 56 41.2
comp=E,97nm,19.3s,baz=95,slow=35
PLOR Plostina 32.88 296 ⇑P **P** **08 44 13.9 +3.3**
PLOR Plostina 32.88 296 ⇑P **P** **08 44 13.9 +3.3**
COVR Voineasa-Covas 33.19 297 ⇑P **P** **08 44 15.6 +2.4**
NACGM Naroch 33.28 313 *eP* **P** **08 44 15.8 +1.9**
MLR Muntele Rosu 33.40 296 ⇑P **P** **08 44 18.8 +3.6**
MLR Muntele Rosu 33.40 296 LR LR 09 00 11.0
comp=E,166nm,19.1s,baz=73,slow=40
MLR Muntele Rosu 33.40 296 ⇑P **P** **08 44 18.8 +3.6**
BOD Bodaibo 33.60 42 *eP* **P** **08 44 16.9 +0.3**
BOD pmax pmax
comp=Z,17nm,1.0s
BURAR Bucovina Array 33.77 300 ⇑P **P** **08 44 20.5 +2.1**
BURAR Bucovina Array 33.77 300 ⇑P **P** **08 44 20.5 +2.1**
BURAR Bucovina Array 33.77 300 P **P** **08 44 18.7 +0.3**
BUR08 Bucovina Ar. S 33.78 300 P **P** **08 44 18.5 +0.1**
BUR08 IAmb IAmb 08 45 34.8
comp=Z,13nm,1.4s
XLT XiLinHaoTe 34.03 67 *eP* **P** **08 44 21.1 +0.4**
XLT pP sP 08 44 25.1 +2.6
XLT sP pP 08 44 28.3 +6.3
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,150nm,5.8s
VOIR 34.04 296 ⇑P **P** **08 44 22.3 +1.7**
VOIR 34.04 296 ⇑P **P** **08 44 22.3 +1.7**
ARR Arges 34.34 296 ⇑P **P** **08 44 25.4 +2.1**
HNS HongShan 34.38 79 ⇓P **P** **08 44 24.8 +1.2**
HNS S **S** **08 49 52.9 +0.9**
HNS pmax pmax
comp=Z,8.0nm,1.0s
HNS LR LR
comp=Z,290nm,15.6s
HNS LR LR
comp=Z,380nm,16.4s
HNS LR LR
comp=Z,320nm,18.6s
ARCR ARCALIA 34.38 299 ⇑P **P** **08 44 26.4 +2.9**
BJI Beijing 34.81 74 P **P** **08 44 27.3 0.0**
BJI pP **pP** **08 44 28.3 -0.3**
BJI sP **sP** **08 44 30.5 +1.4**
BJI S **S** **08 49 53.8 -4.8**
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI LR LR
comp=Z,330nm,13.0s
BJI LR LR
comp=Z,200nm,15.4s
APA Apatity 35.24 336 ⇓ *iP* **P** **08 44 34.8 +4.2**
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,1µm,13.0s
FIA1 FINESS Array S 35.29 324 P **P** **08 44 31.6 +0.4**
FIA1 IAmb IAmb 08 44 58.0
comp=Z,28nm,1.5s
FINES FINESS Array B 35.29 324 P **P** **08 44 31.6 +0.4**
comp=Z,5.3nm,0.6s,baz=107,slow=10,SNR=24
FINES LR LR 08 59 58.9
comp=Z,321nm,20.2s,baz=106,slow=38
FINES FINESS Array B 35.29 324 *iP* **P** **08 44 31.8 +0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
DRGR 35.53 299 ⇑P **P** **08 44 35.7 +2.2**
DRGR 35.53 299 ⇑P **P** **08 44 35.7 +2.2**
TRPA Tarpa 35.55 301 P P 08 44 38.4 +4.9
GZR Gura Zlata 35.63 296 ⇑P **P** **08 44 36.6 +2.2**
GZR Gura Zlata 35.63 296 ⇑P **P** **08 44 36.6 +2.2**
IDI Anoyia 36.40 279 LR LR 09 03 59.6
comp=Z,45nm,19.1s,baz=291,slow=44
BZS Buzias 36.41 297 ⇑P **P** **08 44 43.1 +2.1**
BZS Buzias 36.41 297 ⇑P **P** **08 44 43.1 +2.1**
WHN Wuhan 36.56 90 ⇓P **P** **08 44 43.3 +0.9**
ATD Arta Tunnel 36.90 230 LR LR 09 00 38.0
comp=Z,85nm,20.9s,baz=52,slow=38
ARA0 ARCESS Array S 38.74 337 *eP* **P** **08 45 01.2 +0.8**
ARCES ARCESS Array B 38.74 337 P **P** **08 45 01.3 +0.8**
comp=Z,1.8nm,0.5s,baz=108,slow=7.8,SNR=18
ARCES LR LR 09 02 23.8
comp=Z,285nm,20.1s,baz=127,slow=38
KTK1 Kautokeino 39.23 335 *eP* **P** **08 45 04.2 -0.4**
VRAC Vranov 39.38 303 LR LR 09 04 00.5
comp=Z,91nm,19.0s,baz=85,slow=40
NJ2 Nanjing 39.43 85 *eP* **P** **08 45 05.6 -1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
HAMF Hammerfest 39.81 338 *eP* **P** **08 45 08.9 -0.4**
CONA Conrad Observa 40.03 301 *eP* **P** **08 45 14.5 +2.9**
comp=Z,5.6nm,0.9s
JETT Jettan, Norway 40.37 335 *eP* **P** **08 45 15.5 +1.4**
ZEA Zeya 40.59 50 *eP* **P** **08 45 17.6 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.4s
ZEA MLR MLR
comp=E,100nm,20.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
CN2 Changchun 40.72 65 *eP* **P** **08 45 14.3 -2.9**
CN2 PP **PP** **08 46 51.5 +0.7**
CN2 S **S** **08 51 23.1 -5.1**
CN2 LR LR
comp=Z,210nm,14.0s
CN2 LR LR
comp=Z,340nm,14.0s
CN2 LR LR
comp=Z,310nm,16.0s
SOKA Soboth 40.78 299 *eP* **P** **08 45 21.9 +4.1**
comp=Z,7.0nm,1.2s
TRO Tromso 40.88 335 *eP* **P** **08 45 20.2 +2.0**
BRG Berggiesshubel 40.92 306 *eP* **P** **08 45 20.0 +1.3**
BRG Amp 08 45 23.3
comp=Z,4.3nm,0.6s
BRG *ex* x 08 45 31.3
BRG Amp 08 45 32.5
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 40.92 306 *eP* **P** **08 45 20.0 +1.3**
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 40.96 320 LR LR 09 03 24.8
comp=Z,219nm,18.3s,baz=79,slow=38
GEC2 GERESS Array S 41.32 303 P **P** **08 45 23.4 +1.2**
GERES GERESS Array B 41.32 303 P **P** **08 45 23.4 +1.2**
comp=Z,1.5nm,0.6s,baz=68,slow=10,SNR=11
GERES PP **PnPn** **08 46 59.8 -2.1**
comp=Z,0.4nm,0.5s,baz=65,slow=5.8,SNR=1.9
GERES LR LR 09 03 45.8
comp=Z,98nm,19.1s,baz=65,slow=38
KHC Kasperske Hory 41.36 303 ⇑ *eP* **P** **08 45 24.1 +1.6**
KHC pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 41.46 307 *eP* **P** **08 45 23.0 -0.2**
CLL *ex* x 08 45 28.0
FAUS Fauske 41.48 331 *eP* **P** **08 45 23.5 +0.4**
MOR8 Moi Rana 41.52 329 *eP* **P** **08 45 23.9 +0.4**
STEI Steigen 41.64 332 *eP* **P** **08 45 26.1 +1.7**
BNX BinXian 41.67 62 ⇓P **P** **08 45 25.4 +0.4**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,150nm,6.1s
KBA Koelnbreinsper 41.85 300 *eP* **P** **08 45 27.8 +1.1**
comp=Z,2.7nm,0.6s
NC405 NORSAR Array S 42.01 322 P **P** **08 45 26.4 -1.2**
NC405 IAmb IAmb 08 45 33.4
comp=Z,71nm,1.8s
NC602 NORSAR Array S 42.07 321 *eP* **P** **08 45 28.2 +0.1**
YAK Yakutsk 42.09 37 P **P** **08 45 28.4 +0.2**
comp=Z,15nm,0.3s,baz=9.8,slow=1.1,SNR=7.0
YAK Yakutsk 42.09 37 *eP* **P** **08 45 27.8 -0.4**
YAK *eS* **S** **08 51 43.1 -5.0**
YAK *e* 08 55 25.4
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,13nm,1.0s
YAK smax smax
comp=E,36nm,4.7s
YAK smax smax
comp=N,43nm,4.2s
YAK MLR MLR
comp=Z,144nm,18.0s
YAK Yakutsk 42.09 37 P **P** **08 45 27.0 -1.2**
KONS Konsvik 42.11 330 *eP* **P** **08 45 29.3 +0.9**
NC303 NORSAR Array S 42.19 322 P **P** **08 45 29.1 +0.1**
NC303 IAmb IAmb 08 45 51.5
comp=Z,55nm,1.7s
NB201 NORSAR Array S 42.21 321 P **P** **08 45 29.1 -0.2**
NB2 NORSAR Subarra 42.25 321 P **P** **08 45 29.7 +0.1**
comp=Z,2.3nm,0.5s,baz=89,slow=7.9
NB2 NORSAR Subarra 42.25 321 P **P** **08 45 29.7 +0.1**
baz=89,slow=7.9
NOA NORSAR Array B 42.25 321 P **P** **08 45 29.5 -0.1**
comp=Z,1.2nm,0.5s,baz=107,slow=7.8,SNR=21
NOA LR LR 09 03 47.5
comp=Z,182nm,18.8s,baz=95,slow=37
OSL Oslo 42.44 320 *eP* **P** **08 45 32.5 +1.4**
NBO00 NORSAR Array S 42.46 321 P **P** **08 45 31.5 +0.2**
NBO00 IAmb IAmb 08 47 07.4
comp=Z,27nm,1.1s
GRF Grafenberg Arr 42.80 305 *eP* **P** **08 45 36.1 +1.8**
comp=Z,7.4nm,0.9s,baz=88,slow=6.9
BJO1 Bjornoya 42.81 342 *eP* **P** **08 45 34.8 +1.0**
WATA Walderalm 42.98 301 *eP* **P** **08 45 39.2 +3.3**
comp=Z,4.6nm,0.5s
KONO Kongsberg 43.01 319 *eP* **P** **08 45 35.8 +0.1**
MOTA Moosalm 43.30 301 *eP* **P** **08 45 41.4 +3.0**
comp=Z,6.0nm,0.6s
DOMB Dombas 43.33 323 *eP* **P** **08 45 37.8 -0.6**
TIXI Tiksi 43.55 23 P **P** **08 45 40.4 +0.4**
comp=Z,37nm,0.7s,baz=275,slow=22,SNR=77
TIXI Tiksi 43.55 23 P **P** **08 45 40.0 0.0**
FETA Feichten 43.61 301 *eP* **P** **08 45 43.0 +2.0**
comp=Z,3.8nm,0.9s
SKAR Skarslia 43.66 321 *eP* **P** **08 45 42.2 +1.1**
KLR Kul'dur 43.90 56 P **P** **08 45 43.3 +0.2**
comp=Z,3.4nm,0.6s,baz=286,slow=8.4,SNR=15
KLR LR LR 09 05 24.8
comp=Z,115nm,19.4s,baz=256,slow=38
DAVA Damuels 44.12 301 *eP* **P** **08 45 45.9 +0.8**
comp=Z,12nm,0.9s
DAVOX Davos/Dischmat 44.23 301 LR LR 09 08 27.4
comp=Z,135nm,18.1s,baz=68,slow=42
PSI Prapat 44.27 137 LR LR 09 04 48.7
comp=Z,105nm,18.8s,baz=286,slow=37
KSAR Wonju Array Be 44.32 73 P **P** **08 45 46.4 -0.2**
KSAR Wonju Array Be 44.32 73 P **P** **08 45 46.4 -0.2**
KSRS Korea Array 44.34 73 P **P** **08 45 46.1 -0.7**
comp=Z,4.2nm,0.8s,baz=288,slow=6.3,SNR=10.0
ODD1 Odda 44.51 320 *eP* **P** **08 45 49.2 +1.4**
TUE Stuetta 44.66 300 P **P** **08 45 49.8 +0.4**
TUE IAmb IAmb 08 46 04.4
comp=Z,7.6nm,0.7s
SPB2 Spitsbergen Ar 44.99 346 P **P** **08 45 52.1 +0.7**
SPA0 Spitsbergen Ar 45.00 346 *eP* **P** **08 45 52.6 +1.0**
SPITS Spitsbergen Ar 45.00 346 P **P** **08 45 52.9 +1.4**
comp=Z,2.9nm,0.5s,baz=121,slow=11,SNR=13
MSSA Maissana 45.08 297 P **P** **08 45 51.1 -1.6**
MSSA IAmb IAmb 08 45 56.9
comp=Z,29nm,1.3s
USRK Ussuriysk Ar. 45.20 63 P **P** **08 45 53.0 -0.5**
comp=Z,2.5nm,0.7s,baz=307,slow=9.2,SNR=4.4
USRK LR LR 09 06 13.1
comp=Z,137nm,19.2s,baz=272,slow=38
USRK Ussuriysk Ar. 45.20 63 P **P** **08 45 53.0 -0.5**
SENIN Lac Senin/Sane 46.06 301 P **P** **08 45 59.7 -0.9**
SENIN IAmb IAmb 08 46 04.4
comp=Z,11nm,0.7s
KBS Kingsbay 46.12 347 P **P** **08 46 00.4 +0.1**
KBS pmax pmax
comp=Z,153nm,2.0s
KBS Kingsbay 46.12 347 *i* P **P** **08 46 00.6 +0.2**
KBS Kingsbay 46.12 347 P **P** **08 46 00.4 +0.1**
BNI Bardonecchia 46.83 299 P **P** **08 46 06.4 -0.1**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 46.83 299 P **P** **08 46 06.4 -0.1**
BNI IAmb IAmb 08 46 15.3
comp=Z,9.9nm,1.0s
KEST Kesra 48.05 286 LR LR 09 09 41.4
comp=Z,38nm,18.8s,baz=214,slow=40
JNU Nakatsue 48.24 77 P **P** **08 46 17.1 -0.4**
comp=Z,17nm,0.8s,baz=3.9,slow=3.2,SNR=5.8
JNU Nakatsue 48.24 77 P **P** **08 46 17.5 0.0**
JHS Saijyo 49.16 74 P **P** **08 46 23.6 -1.0**
JMIC Jan Mayen 50.20 335 LR LR 09 08 17.7
comp=Z,143nm,18.6s,baz=86,slow=37
EKA Eskdalemuir Ar 50.34 315 P **P** **08 46 33.5 +0.3**
comp=Z,3.3nm,0.6s,baz=87,slow=7.9,SNR=9.9
EKA LR LR 09 11 59.4
comp=Z,149nm,18.1s,baz=15,slow=41
KMBO Kilima Mbogo 50.37 226 LR LR 09 08 40.8
comp=Z,73nm,20.3s,baz=92,slow=37
KMBO Kilima Mbogo 50.37 226 ⇑ *eP* **P** **08 46 36.2 +2.0**
KIBK Kibwezi 50.95 224 P **P** **08 46 39.6 +1.3**
KIBK IAmb IAmb 08 46 43.1
comp=Z,13nm,0.9s
YSS Yuzh-Sakhalins 51.61 56 ⇑ *eP* **P** **08 46 43.7 +0.8**
YSS pmax pmax
comp=Z,13nm,1.3s
KSM Kuching 51.98 126 P **P** **08 46 45.0 -1.0**
KSM IAmb IAmb 08 46 47.4
comp=Z,15nm,1.1s
DAG Danmarks Havn 52.26 343 *i* P **P** **08 46 48.0 +0.7**
DAG IAmb IAmb 08 46 49.0
comp=Z,12nm,0.7s
MAJO Matsushiro 52.30 70 ⇓ *eP* **P** **08 46 47.5 -0.7**
MAJO pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 52.30 70 P **P** **08 46 47.7 -0.6**
comp=Z,5.0nm,0.7s,baz=292,slow=11,SNR=12
MJAR Matsushiro Arr 52.30 70 P **P** **08 46 47.2 -1.1**
SBUM Sibu 52.46 123 P **P** **08 46 49.6 0.0**
ASAJ Asahikawa 52.47 60 LR LR 09 10 38.6
comp=Z,134nm,18.5s,baz=318,slow=38
SEY Seymchan 52.49 35 LR LR 09 10 41.8
comp=Z,101nm,21.8s,baz=59,slow=38
SEY Seymchan 52.49 35 ⇓ *eP* **P** **08 46 49.9 +0.7**
SEY pmax pmax
comp=Z,10.0nm,1.7s
MA2 Magadan 52.56 39 LR LR 09 10 17.8
comp=Z,134nm,19.5s,baz=280,slow=37
MA2 Magadan 52.56 39 *ceP* **P** **08 46 49.6 -0.2**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 52.56 39 P **P** **08 46 48.8 -1.0**
DBG Daneborg 53.14 340 *eP* **P** **08 46 55.5 +1.6**
MBAR Mbarara 53.80 233 LR LR 09 12 04.4
comp=Z,108nm,19.1s,baz=28,slow=38
STKI Sintang 53.80 126 P **P** **08 47 00.7 +1.2**
ESDC Sonseca Array 56.10 296 P **P** **08 47 16.2 +0.3**
comp=Z,4.2nm,0.7s,baz=57,slow=7.4,SNR=24
ESDC Sonseca Array 56.10 296 P **P** **08 47 16.3 +0.3**
BORG Borgarnes 56.32 329 LR LR 09 11 48.3
comp=Z,142nm,18.8s,baz=68,slow=36
BILL Bilibino 56.47 27 *i* P **P** **08 47 18.0 -0.1**
BILL *i* 08 47 25.4
BILL *i* 08 48 13.4
BILL *i* 08 49 25.9
BILL *i* S **S** **08 55 13.2 +3.6**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,78nm,14.0s
BILL Bilibino 56.47 27 P **P** **08 47 18.4 +0.3**
BILL IAmb IAmb 08 47 19.9
comp=Z,7.7nm,0.9s
LEM Lembang 57.01 135 LR LR 09 13 40.4
comp=Z,55nm,19.2s,baz=332,slow=38
PETK Petropavlovsk- 58.35 45 LR LR 09 13 50.7
comp=Z,61nm,19.0s,baz=291,slow=37
DAV Davao City (W) 58.57 108 LR LR 09 15 36.4
comp=Z,67nm,19.6s,baz=321,slow=39
BBKI Banjar Baru 58.64 125 P **P** **08 47 35.2 +1.1**
MDT Midelt 59.69 289 LR LR 09 17 10.2
comp=Z,54nm,19.9s,baz=212,slow=40
JCJ Chichijima 59.70 78 LR LR 09 16 17.7
comp=Z,70nm,18.6s,baz=153,slow=39
KAPI Kappang 62.99 122 *ceP* **P** **08 48 03.0 -0.7**
KAPI pmax pmax
comp=Z,6.0nm,1.0s
DY2G Dye2 64.38 337 *eP* **P** **08 48 13.1 +0.7**
DY2G IAmb IAmb 08 48 14.6
comp=Z,13nm,0.6s
A21K Barrow 64.96 15 P **P** **08 48 16.0 +0.2**
A21K Barrow 64.96 15 P **P** **08 48 16.2 +0.4**
baz=321
TORD Torodi Ar. Bea 65.56 267 P **P** **08 48 19.7 -0.9**
comp=Z,2.8nm,0.7s,baz=45,slow=5.6,SNR=13
TORD Torodi Ar. Bea 65.56 267 P **P** **08 48 19.6 -0.9**
RDOG Red Dog Mine 65.98 19 P **P** **08 48 22.8 +0.3**
baz=317
RES Resolute Bay 66.18 356 P **P** **08 48 24.1 +0.4**
comp=Z,1.4nm,0.7s,baz=350,slow=6.1,SNR=4.2
TNA Tin City 66.34 23 P **P** **08 48 25.3 +0.4**
baz=313
GAMB Gambell 66.34 25 P **P** **08 48 25.1 +0.2**
baz=311
LSZ Lusaka 67.03 225 LR LR 09 21 44.5
comp=Z,70nm,18.7s,baz=156,slow=40
SHEM Shenya Is, Ala 67.19 40 LR LR 09 19 54.7
comp=Z,69nm,18.4s,baz=50,slow=38
ANM Nome 67.82 23 P **P** **08 48 34.9 +0.6**
ANM pmax pmax
comp=Z,8.0nm,0.8s
ANM Nome 67.82 23 P **P** **08 48 34.9 +0.6**
ANM IAmb IAmb 08 48 36.2
comp=Z,7.9nm,0.8s
ANM Nome 67.82 23 P **P** **08 48 34.6 +0.3**
baz=316,SNR=9.3
TOLK Toolik Lake Re 68.56 15 P **P** **08 48 39.2 +0.2**
baz=327
A36M Sachs Harbour 68.73 5 P **P** **08 48 40.0 +0.1**
A36M Sachs Harbour 68.73 5 P **P** **08 48 40.2 +0.3**
baz=347,SNR=16
BATI Baumata 69.42 123 LR LR 09 26 11.2
comp=Z,163nm,18.2s,baz=257,slow=42
COLD Coldfoot 69.62 16 P **P** **08 48 45.8 +0.3**
COLD IAmb IAmb 08 48 47.0
comp=Z,12nm,0.8s
COLD Coldfoot 69.62 16 P **P** **08 48 46.0 +0.5**
baz=327,SNR=11
IMAR Indian Mountai 69.86 18 P **P** **08 48 46.7 -0.3**
GCSA Galena City Sc 70.08 20 P **P** **08 48 48.4 +0.2**
baz=322
H21K Melozitna Rive 70.35 18 P **P** **08 48 50.0 0.0**
baz=325,SNR=5.9
I21K Tanana 70.94 18 P **P** **08 48 53.7 +0.1**
baz=326
FYU Fort Yukon 71.20 14 P **P** **08 48 55.6 +0.4**
J20K Nowinta River 71.24 19 P **P** **08 48 55.5 +0.1**
J20K IAmb IAmb 08 48 56.9
comp=Z,8.7nm,0.8s
J20K Nowinta River 71.24 19 P **P** **08 48 55.8 +0.3**
baz=324,SNR=7.6
H24K Noodor Dome 71.30 16 P **P** **08 48 56.5 +0.6**
H24K IAmb IAmb 08 48 57.6
comp=Z,5.8nm,0.8s
H24K Noodor Dome 71.30 16 P **P** **08 48 56.2 +0.4**
baz=329,SNR=7.1
MLY Manley 71.36 17 P **P** **08 48 56.5 +0.3**
baz=327,SNR=5.1
C36M Paulatuk 71.41 5 P **P** **08 48 56.0 -0.3**
C36M Paulatuk 71.41 5 P **P** **08 48 56.0 -0.3**
baz=348,SNR=20
INK Inuvik 71.47 9 P **P** **08 48 57.2 +0.5**
comp=Z,8.3nm,0.6s,baz=358,slow=8.0,SNR=22
INK LR LR 09 23 12.2
comp=Z,77nm,19.4s,baz=160,slow=38
INK Inuvik 71.47 9 P **P** **08 48 57.4 +0.7**
baz=340,SNR=9.2
I23K Minto, Yukon-K 71.57 17 P **P** **08 48 57.6 +0.3**
baz=328
TTA Tatalina 71.76 21 P **P** **08 48 58.9 +0.2**
baz=323
K20K Telida 71.93 20 P **P** **08 48 59.8 +0.1**
K20K IAmb IAmb 08 49 00.8
comp=Z,7.6nm,0.8s
K20K Telida 71.93 20 P **P** **08 49 00.0 +0.4**
baz=325,SNR=6.0
CHUM Lake Minchumin 71.94 19 P **P** **08 48 60.0 +0.3**
baz=326
POKR Poker Plat Res 72.02 16 P **P** **08 49 00.8 +0.7**
baz=330
PRP Porcupine Dome 72.07 15 P **P** **08 49 01.1 +0.5**
baz=331
BPAW Bear Paw Mtn. 72.08 18 P **P** **08 49 00.5 -0.1**
baz=327,SNR=6.2
NEA2 Nenana 72.11 17 P **P** **08 49 00.7 0.0**
baz=328,SNR=10
TCOL CIGO, UAF Yank 72.14 16 P **P** **08 49 01.3 +0.5**
baz=329,SNR=5.6
COLA College 72.14 16 P **P** **08 49 00.9 +0.1**
baz=329
CAST Castle Rocks 72.39 19 P **P** **08 49 02.5 +0.2**
CAST IAmb IAmb 08 49 03.8
comp=Z,14nm,1.1s
CAST Castle Rocks 72.39 19 P **P** **08 49 02.5 +0.2**
baz=326,SNR=7.2
ILAR Eielson Array 72.44 16 P **P** **08 49 02.2 -0.4**
comp=Z,4.2nm,0.8s,baz=325,slow=4.6,SNR=32
ILAR LR LR 09 26 49.0
comp=Z,107nm,19.4s,baz=158,slow=41
KTH Kantishna Hill 72.56 18 P **P** **08 49 03.1 -0.3**
KTH IAmb IAmb 08 49 04.4
comp=Z,13nm,0.9s
FRB Frobisher Bay 72.60 342 P **P** **08 49 03.5 -0.1**
comp=Z,3.1nm,0.7s,baz=59,slow=5.5,SNR=5.6
L19K White Mountain 72.68 21 P **P** **08 49 04.4 +0.2**
baz=324
L20K Farewell, AK 72.70 20 P **P** **08 49 04.5 +0.2**
baz=325,SNR=5.7
PPLA Purkeypile 72.80 19 P **P** **08 49 05.0 0.0**
baz=326
TRF Thorofare Moun 72.80 18 P **P** **08 49 05.2 +0.2**
baz=328
EPYK Eagle Plains 72.85 11 P **P** **08 49 05.5 +0.4**
baz=338
MCK McKinley 72.88 17 P **P** **08 49 05.5 +0.2**
baz=329
J25K Salcha River, 72.89 15 P **P** **08 49 05.4 0.0**
baz=331
M19K Big River Lodg 73.04 21 P **P** **08 49 06.6 +0.4**
baz=325
J26L Joseph Creek 73.36 15 P **P** **08 49 08.3 +0.1**
baz=333,SNR=7.6
I29M Ogilvie Camp, 73.53 12 P **P** **08 49 09.2 +0.1**
baz=337,SNR=5.6
EGAK Eagle 73.57 14 P **P** **08 49 09.2 -0.1**
baz=335
SCRK Sand Creek 73.74 15 P **P** **08 49 10.8 +0.3**
baz=332,SNR=7.6
RIDG Independent Ri 73.77 16 P **P** **08 49 10.5 -0.1**
baz=332
DHY Denali Highway 73.80 17 P **P** **08 49 11.2 +0.2**
baz=330
WAT6 Susitna Watana 74.15 17 P **P** **08 49 12.7 -0.3**
baz=330
PAX Paxson 74.32 16 P **P** **08 49 13.7 -0.2**
baz=331
DAWY Dawson 74.54 13 P **P** **08 49 14.8 -0.3**
DAWY Dawson 74.54 13 P **P** **08 49 15.3 +0.2**
baz=336
DBIC Dimbokro 74.60 266 LR LR 09 26 06.5
comp=Z,47nm,18.6s,baz=5.0,slow=39
PMR Palmer 74.67 19 P **P** **08 49 15.6 -0.1**
baz=329
SML Sawmill 74.68 18 P **P** **08 49 16.0 +0.1**
baz=329,SNR=5.1
P18K Big Mountain, 74.86 22 P **P** **08 49 17.4 +0.4**
baz=325
HARP HAARP 74.89 16 P **P** **08 49 18.0 +0.8**
baz=332
SCM Sheep Creek Mo 74.90 18 P **P** **08 49 17.0 -0.2**
SCM pmax pmax
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 74.90 18 P **P** **08 49 17.0 -0.2**
SCM IAmb IAmb 08 49 18.9
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 74.90 18 P **P** **08 49 17.3 +0.1**
baz=330
M24K Tolsona, Glenn 74.92 17 P **P** **08 49 18.2 +0.9**
baz=331
RC01 Rabbit Creek A 74.95 19 P **P** **08 49 17.3 -0.2**
baz=328
KNK Knik Glacier 74.99 18 P **P** **08 49 17.6 -0.1**
baz=329
L27K Beaver Creek, 75.00 15 P **P** **08 49 18.7 +0.9**
baz=334,SNR=6.0

PWL	**Port Wells** baz=330	**75.50**	**19**	P	**P**	**08 49 20.0**	**-0.7**
KLU	**Klutina** baz=331	**75.52**	**17**	P	**P**	**08 49 21.4**	**+0.5**
M27K	**Edge Creek, AK** baz=334	**75.62**	**15**	P	**P**	**08 49 22.2**	**+0.7**
BVCY	**Beaver Creek** baz=335	**75.77**	**15**	P	**P**	**08 49 23.5**	**+1.3**
GLI	**Glacier Island** baz=330	**75.78**	**18**	P	**P**	**08 49 22.3**	**0.0**
PSA00	**Pilbara Seismi**	**75.81**	**133**	P	**P**	**08 49 22.1**	**-0.7**
PSA00	comp=Z,17nm,1.7s			IAmb	IAmb	08 49 28.5	
TSUM	**Tsumeb** comp=Z,62nm,19.2s,baz=143,slow=37	**76.29**	**231**	LR	LR	09 24 38.2	
M30M	**Minto, Yukon** baz=338	**76.37**	**13**	P	**P**	**08 49 26.3**	**+0.7**
YUK3	**Moose Creek** baz=336	**76.44**	**15**	P	**P**	**08 49 27.0**	**+0.8**
FITZ	**Fitzroy Crossi** comp=Z,35nm,18.6s,baz=170,slow=41	**76.58**	**127**	LR	LR	09 30 08.9	
KNRA	**Kununurra**	**76.79**	**123**	P	**P**	**08 49 27.4**	**-1.1**
KNRA	comp=Z,10nm,0.8s			IAmb	IAmb	08 49 28.8	
CTG	**Chitna Glacier** baz=335	**77.00**	**15**	P	**P**	**08 49 30.2**	**+0.9**
M31M	**Drury Creek, Y** baz=340	**77.12**	**12**	P	**P**	**08 49 30.5**	**+0.7**
YUK4	**Talbot Arm** baz=337	**77.18**	**14**	P	**P**	**08 49 30.6**	**+0.2**
N31M	**Braeburn, Yuko** baz=339	**77.56**	**13**	P	**P**	**08 49 32.9**	**+0.6**
HYT	**Haines Junctio** baz=338	**77.88**	**14**	P	**P**	**08 49 35.1**	**+0.9**
WHY	**Whitehorse** baz=340	**78.50**	**13**	P	**P**	**08 49 37.5**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,5.3nm,0.7s,baz=350,slow=5.7,SNR=99	**78.75**	**3**	P	**P**	**08 49 39.0**	**+0.1**
YKA	**Yellowknife Ar**	**78.75**	**3**	P	**P**	**08 49 39.0**	**+0.1**
P33M	**Teslin, Yukon** baz=342	**79.26**	**12**	P	**P**	**08 49 41.9**	**+0.2**
BOSA	**Boshof** comp=Z,39nm,18.1s,baz=182,slow=39	**79.51**	**220**	LR	LR	09 29 28.0	
SCHQ	**Schefferville** comp=Z,4.2nm,0.7s,baz=24,slow=7.8,SNR=5.9	**79.70**	**337**	P	**P**	**08 49 44.7**	**+0.5**
SCHQ				LR	LR	09 24 29.1	
WB0	**Warramunga Arr** comp=Z,120nm,19.3s,baz=78,slow=35	**83.44**	**122**	P	**P**	**08 50 03.1**	**-1.3**
WB0				IAmb	IAmb	08 50 04.0	
WRA	**Warramunga Arr** comp=Z,4.9nm,0.8s	**83.52**	**122**	P	**P**	**08 50 03.6**	**-1.2**
WRAB	**Tennant Creek** comp=Z,5.5nm,0.6s,baz=322,slow=4.9,SNR=101	**83.52**	**122**	*ce*P	**P**	**08 50 03.4**	**-1.4**
WRAB				pmax	pmax		
WB2	**Warramunga Arr** comp=Z,9.3nm,0.8s	**83.53**	**122**	P	**P**	**08 50 03.8**	**-1.1**
WB2				IAmb	IAmb	08 50 04.5	
AS31	**Alice Springs**	**85.89**	**125**	P	**P**	**08 50 15.4**	**-1.4**
ASAR	**Alice Springs** comp=Z,2.5nm,0.6s,baz=314,slow=4.9,SNR=45	**85.89**	**125**	P	**P**	**08 50 15.6**	**-1.1**
ULM	**Lac du Bonnet** comp=Z,63nm,18.7s,baz=308,slow=37	**90.33**	**351**	LR	LR	09 33 14.3	
CTA	**Charters Tower** comp=Z,2.0nm,0.4s,baz=315,slow=5.4,SNR=2.6	**91.80**	**114**	P	**P**	**08 50 44.5**	**-0.3**
SADO	**Sadowa** comp=Z,80nm,18.2s,baz=346,slow=38	**92.28**	**339**	LR	LR	09 35 27.9	
PLCA	**Paso Flores** comp=Z,3.7nm,1.0s,baz=103,slow=7.0,SNR=5.6	**150.36**	**254**	PKPbc	**PKiKP**	**08 57 28.5**	**-0.3**

KRSZO 24 08:38:45.3±2.2, 47°.94N×20°.03E, h1km±20km, ML1.3/3, Error ellipse: s-maj=16.7km s-min=6.9km az=137.0, Explosion., Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.09**	**260**	Pg	Pg	08 38 47.4	+0.3
PSZ				Lg	Lg	08 38 50.2	
PSZ	**Piszkesteto**	**0.09**	**260**	PG	Pg	08 38 47.4	+0.3
PSZ				LG	Lg	08 38 50.2	
KECS	**Kecovo**	**0.63**	**29**	Lg	Lg	08 39 07.6	
KECS	**Kecovo**	**0.63**	**29**	*e*SG	Sb	08 39 07.2	-1.2
VYHS	**Vyhne**	**0.97**	**306**	Pn	Pb	08 39 05.1	+0.1
VYHS				Lg	Lg	08 39 18.9	
VYHS	**Vyhne**	**0.97**	**306**	*e*PG	Pb	08 39 05.0	0.0
VYHS				*e*SG	Sb	08 39 17.8	-0.5

*KRNET **24** 08:46:46.6±0.1, 40°.99N×69°.75E, h14km, mb2.9*
ISC 24 08:46:46.6±1.2, 40°.99N±0°.05×69°.76E±0°.07, h13km±14km, n6, σ0$46/12, 7C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent** baz=15	**0.48**	**314**	⇑*i*P	**Pg**	**08 46 55.9**	**-0.3**
TAS				⇑*i*S	**Sg**	**08 47 02.7**	**+0.1**
TRKS	**Terek-Say** baz=66	**1.17**	**62**	⇓*i*P	**Pn**	**08 47 08.3**	**-0.6**
TRKS				⇓*i*S	**Sn**	**08 47 24.9**	**+0.1**
BTK	**Batken** baz=39	**1.23**	**139**	⇑*i*P	**Pb**	**08 47 10.0**	**+0.2**
BTK				⇑*e*S	**Sg**	**08 47 26.9**	**+0.6**
ARK	**Arkit** baz=63	**1.84**	**63**	⇑*e*P	**Pb**	**08 47 20.4**	**+0.2**
ARK				⇑*i*S	**Sg**	**08 47 45.8**	**-0.1**
DRK	**Karamyk** baz=33	**2.17**	**133**	⇓*i*P	**Pb**	**08 47 25.9**	**0.0**
DRK				⇓*i*S	**Sb**	**08 47 53.2**	**+0.3**
KK09	**Karatay Array** 3.2nm,0.3s,baz=197,slow=15	**2.20**	**14**	⇓Pn	**Pb**	**08 47 27.2**	**+0.9**
KK09	19nm,0.5s,baz=196,slow=26			⇑Sn	**Sg**	**08 47 57.3**	**-0.1**

NOU 24 08:51:43.1, 14°.76S×167°.32E, h105km, MLv4.6/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.69**	**189**	P	Pn	08 52 01.6	+0.7
DVP	**Devils Point**	**3.06**	**164**	P	Pn	08 52 29.9	+0.1
YATNC	**Mamie plateau,**	**7.27**	**183**	P	Pn	08 53 26.4	-0.3
DZM	**Mont Dzumac**	**7.32**	**186**	P	Pn	08 53 26.9	-0.5
NOUC	**Port Laguerre**	**7.37**	**187**	P	Pn	08 53 27.8	-0.2
OUENC	**Ouen Island, N**	**7.63**	**183**	P	Pn	08 53 32.1	+0.5

IDC 24 08:54:24.8±2.6, 53°.68N×86°.77E, h0km, mb1 3.0/2, mb1mx2.9/49, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=24.3km s-min=13.7km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=102,slow=328,SNR=4.3	**1.18**	**284**	*i*		09 00 50.0	
ZALV	**Zalesovo Beam** 2.8nm,0.3s,baz=104,slow=18,SNR=21	**1.18**	**284**	Pg	Pg	08 54 46.6	-0.8
ZALV	1.3nm,0.3s,baz=104,slow=29,SNR=5.9			Lg	Lg	08 55 03.8	
ZALV	1.7nm,0.3s,baz=98,slow=29,SNR=5.9			Rg	Rg	08 55 10.8	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=59,slow=14,SNR=5.0	**5.92**	**242**	Pn	Pn	08 55 54.8	+1.1
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=24,slow=12,SNR=8.8	**7.47**	**204**	Pn	Pn	08 56 16.0	+1.1

*IDC **24** 09:01:20.1±1.4, 35°.44N×3°.82W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/52, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=45.7km s-min=22.8km az=101.0*
*MDD **24** 09:01:22.6±0.4, 35°.45N×3°.78W, h8km±3km, mb_Lg3.0/13, Error ellipse: s-maj=3.4km s-min=2.1km az=160.0*
*CNRM **24** 09:01:22.6, 35°.48N×3°.82W, h24km, ml3.5*
ISC 24 09:01:22.3±1.1, 35°.50N±0°.02×3°.79W±0°.02, h15km±8km, n59, σ1$43/101, mb3.8/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.30**	**204**	P	**Pg**	**09 01 28.9**	**+0.1**
PALE				S	**Sb**	**09 01 34.2**	**-0.2**
PVLZ	**Peæn de**	**0.53**	**233**	P	**Pg**	**09 01 32.5**	**-0.3**
PVLZ				S	**Sg**	**09 01 39.7**	**-0.2**
GOG	**Mont Gurugu**	**0.70**	**113**	P	Pn	09 01 47.0	+9.1
GOG	**Mont Gurugu**	**0.70**	**113**	P	**Pg**	**09 01 36.0**	**-0.1**
GOG				S	**Sb**	**09 01 46.1**	**+0.2**
EMEL	**Melilla**	**0.71**	**106**	Pg	**Pg**	**09 01 35.9**	**-0.3**
EMEL				Sg	**Sg**	**09 01 44.6**	**-0.8**
EALB	**Alboran**	**0.76**	**54**	Pg	**Pb**	**09 01 37.2**	**-0.1**
EALB				Sg	**Sb**	**09 01 47.9**	**+0.5**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**09 01 44.1**	**-2.1**
SMIR				S	**Sb**	**09 02 02.8**	**-0.5**
TAF	**Taforalt**	**1.31**	**121**	P	**Pg**	**09 01 51.0**	**+3.3**
TAF	**Taforalt**	**1.31**	**121**	P	**Pg**	**09 01 48.0**	**+0.3**
TAF				S	**Sb**	**09 02 03.1**	**-0.4**
EMIJ	**Mijas**	**1.33**	**323**	Pg	**Pn**	**09 01 45.5**	**-1.0**
EMIJ				Sg	**Sb**	**09 02 01.0**	**-3.0**
ECEU	**Ceuta**	**1.35**	**288**	Pn	**Pn**	**09 01 44.9**	**-1.9**
ECEU				Sn	**Sn**	**09 02 01.3**	**-3.2**
EMAL	**Malaga-Limoner**	**1.37**	**338**	P	**Pn**	**09 01 46.3**	**-0.7**
EMAL				S	**Sn**	**09 02 02.1**	**-2.6**
ELGU	**Los Guajares,**	**1.38**	**5**	Pn	**Pn**	**09 01 46.3**	**-0.8**
ELGU				Sn	**Sn**	**09 02 02.8**	**-2.3**
ELGU				*i*	Vmb_Lg	09 02 05.2	
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**09 01 48.0**	**-1.4**
JBK	**JBK**	**1.53**	**139**	P	**Pn**	**09 01 48.0**	**-1.4**
JBK				S	**Sn**	**09 02 08.5**	**-0.7**
EBER	**Berja**	**1.58**	**27**	Pn	**Pn**	**09 01 49.2**	**-0.8**
EBER				Sn	**Sn**	**09 02 09.2**	**-1.1**
EBER				*i*	Vmb_Lg	09 02 12.3	
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**09 01 51.3**	**+0.6**
EGOR				Sn	**Sn**	**09 02 11.3**	**-0.3**
EJIF	**Jimena Fronter**	**1.66**	**305**	Pg	**Pn**	**09 01 51.4**	**+0.3**
EQUE	**Quentar**	**1.73**	**9**	Pn	**Pn**	**09 01 52.9**	**+0.9**
EQUE				Sn	**Sn**	**09 02 13.3**	**-0.6**
SICH	**Sidi Chahed**	**1.87**	**223**	P	**Pg**	**09 01 59.0**	**+0.7**
SICH	**Sidi Chahed**	**1.87**	**223**	S	**Sb**	**09 02 18.6**	**-0.9**
ENIJ	**Nijar**	**1.95**	**40**	Pn	**Pn**	**09 01 54.1**	**-0.9**
ENIJ				Sn	**Sn**	**09 02 17.4**	**-1.8**
ENIJ				*i*	Vmb_Lg	09 02 18.7	
LCRM	**LCR**	**2.01**	**206**	P	**Pb**	**09 01 59.1**	**+0.3**
LCRM	**LCR**	**2.01**	**206**	P	**Pb**	**09 01 59.1**	**+0.3**
LCRM				S	**Sb**	**09 02 23.4**	**-0.2**
ESPR	**Espera**	**2.16**	**310**	Pn	**Pn**	**09 01 59.6**	**+1.7**
ESPR				Sn	**Sn**	**09 02 24.2**	**-0.2**
IFR	**Ifrane**	**2.26**	**210**	P	**Pn**	**09 01 59.0**	**-0.5**
IFR				S	**Sn**	**09 02 25.2**	**-2.0**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pn**	**09 02 06.0**	**+0.9**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pn**	**09 02 06.0**	**+0.9**
CZD				S	**Sn**	**09 02 38.0**	**+0.7**
EADA	**Adamuz**	**2.74**	**347**	Pn	**Pn**	**09 02 07.5**	**+1.6**
EADA				Sn	**Sn**	**09 02 39.9**	**+1.1**
EADA				*i*	Vmb_Lg	09 02 47.9	
MD31	**MD31**	**2.74**	**197**	P	**Pn**	**09 02 05.8**	**-0.1**
MD31				S	**Sn**	**09 02 39.8**	**+0.9**
MDT	**Midelt** 1.4nm,0.3s,baz=173,slow=13,SNR=28	**2.76**	**194**	Pn	**Pn**	**09 02 06.0**	**-0.2**
MDT	4.7nm,0.3s,baz=96,slow=20,SNR=9.7			Sn	**Sn**	**09 02 38.1**	**-1.2**
MDT	**Midelt**	**2.76**	**194**	P	**Pn**	**09 02 05.9**	**-0.3**
MDT	**Midelt**	**2.76**	**194**	P	**Pn**	**09 02 05.9**	**-0.3**
MDT				S	**Sn**	**09 02 39.8**	**+0.4**
TDRA	**Tendrara**	**2.85**	**149**	P	**Pn**	**09 02 08.5**	**+1.0**
TDRA				S	**Sn**	**09 02 41.9**	**+0.2**
ECAB	**El Cabril**	**2.89**	**334**	Pn	**Pn**	**09 02 09.5**	**+1.6**
ECAB				Sn	**Sn**	**09 02 44.3**	**+1.9**
ECAB				*i*	Vmb_Lg	09 03 00.9	
EZAR	**Zarzadilla de**	**2.91**	**35**	Pn	**Pn**	**09 02 08.0**	**-0.2**
EZAR				Sn	**Sn**	**09 02 42.4**	**-0.7**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**09 02 08.1**	**-2.1**
CART				S	**Sn**	**09 02 42.2**	**-4.5**
CART	**Cartagena**	**3.06**	**46**	P	**Pn**	**09 02 08.8**	**-1.5**
CART				S	**Sn**	**09 02 45.5**	**-1.2**
ZHG	**ZHG**	**3.12**	**230**	P	**Pn**	**09 02 11.2**	**0.0**
ZHG				S	**Sn**	**09 02 47.0**	**-1.3**
EMIN	**Mina Concepcio**	**3.24**	**315**	Pn	**Pn**	**09 02 12.5**	**-0.3**
EMIN				Sn	**Sn**	**09 02 50.6**	**-0.6**
EMIN				*i*	Vmb_Lg	09 02 54.9	
EGRO	**El Granado**	**3.60**	**305**	Pn	**Pn**	**09 02 17.7**	**0.0**
EGRO				Sn	**Sn**	**09 02 50.0**	**-2.0**
EGRO				*i*	Vmb_Lg	09 03 01.1	
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**09 02 20.2**	**+2.2**
ETOB				Sn	**Sn**	**09 03 02.3**	**+1.8**
ETOB				*i*	Vmb_Lg	09 03 03.9	
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**09 02 19.4**	**+0.4**
PVAQ				S	**Sn**	**09 03 01.9**	**-0.4**
FIGM	**Figuig**	**3.96**	**147**	P	**Pn**	**09 02 23.7**	**+1.0**
FIGM				S	**Sn**	**09 03 07.8**	**-1.2**
PAB	**San Pablo**	**4.07**	**354**	Pn	**Pn**	**09 02 25.7**	**+1.5**
PAB				Sn	**Sn**	**09 03 10.5**	**-1.1**
EBAD	**Badajoz**	**4.15**	**323**	Pn	**Pn**	**09 02 25.4**	**+0.2**
EBAD				Sn	**Sn**	**09 03 14.4**	**+1.0**
EBAD				*i*	Vmb_Lg	09 03 17.8	
ESDC	**Sonseca Array** 0.5nm,0.3s,baz=175,slow=12,SNR=17	**4.17**	**358**	Pn	**Pn**	**09 02 27.4**	**+1.8**
ESDC	**Sonseca Array**	**4.17**	**358**	Pn	**Pn**	**09 02 26.9**	**+1.3**
ESDC				Sn	**Sn**	**09 03 13.2**	**-1.0**
ESDC				*i*	Vmb_Lg	09 03 14.2	
PESTR	**Estremoz**	**4.53**	**319**	P	**Pn**	**09 02 31.8**	**+1.3**
PESTR				S	**Sn**	**09 03 24.8**	**+1.9**
EVO	**Evora**	**4.54**	**313**	P	**Pb**	**09 02 41.7**	**-0.1**
EVO				S	**Sn**	**09 03 27.7**	**+4.6**
SRHM	**Skhour des Reh**	**4.56**	**230**	P	**Pn**	**09 02 32.3**	**+1.5**
SRHM				S	**Sn**	**09 03 24.8**	**+1.2**
UCM	**Universidad Co**	**4.82**	**5**	P	**Pn**	**09 02 37.0**	**+2.5**
UCM				S	Sn	09 03 20.7	-9.5
EPLA	**Plasencia**	**4.91**	**339**	Pn	**Pn**	**09 02 37.1**	**+1.5**
EPLA				Sn	**Sn**	**09 03 30.6**	**-1.6**
EPLA				*i*	Vmb_Lg	09 05 18.1	
OUZM	**OUZ**	**5.21**	**209**	S	**Sn**	**09 03 40.0**	**+0.2**
ETOR	**Torete**	**5.49**	**14**	Pn	**Pn**	**09 02 44.9**	**+1.3**
ETOR				*i*	Vmb_Lg	09 06 07.1	
TTIG	**Tnine Tigouga,**	**6.29**	**220**	P	**Pn**	**09 02 52.6**	**-2.2**
TTIG				S	**Sn**	**09 04 04.4**	**-2.1**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=292,slow=7.3,SNR=5.0	**59.00**	**47**	P	**P**	**09 11 21.7**	**+0.4**
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=58,slow=6.4,SNR=8.4	**67.83**	**332**	P	**P**	**09 12 19.9**	**+0.3**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=78,slow=4.7,SNR=2.6	**76.83**	**313**	P	**P**	**09 13 13.6**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=20,slow=12,SNR=11	**38.62**	**196**	P	**P**	**09 13 26.6**	**-0.1**
STKA	**Stephens Creek** comp=Z,1.1nm,0.4s,baz=356,slow=8.4,SNR=5.5	**45.39**	**184**	P	**P**	**09 14 21.6**	**-0.1**
STKA				LR	LR	09 34 14.6	
STKA	**Stephens Creek** comp=Z,0.9nm,1.2s	**45.39**	**184**	IAmb	IAmb	09 14 47.6	

*IDC **24** 09:06:12.4±3.0, 13°.49N×144°.40E, h71km±86km, mb3.5/3, mb1 3.6/3, mb1mx3.1/53, mbtmp3.8/3, MS3.3/1, Ms1 3.2/1, ms1mx2.5/43, Error ellipse: s-maj=173.6km s-min=78.5km az=41.0*
*NEIC **24** 09:06:13.3±0.3, 13°.7N±0°.1×144°.9E±0°.2, h96km±4km, mb4.0/7, Error ellipse: s-maj=25.0km s-min=12.2km az=111.0*
ISC 24 09:06:12.8±6.2, 14°N±1°×144°.9E±0°.2, h98km±26km, n14, σ0$41/11, mb3.7/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 611nm,0.3s,baz=270,slow=6.1,SNR=582	**0.08**	**181**	P	**Pn**	**09 06 26.6**	**+0.1**
GUMO	666nm,0.3s,baz=173,slow=23,SNR=16			S	**Sn**	**09 06 36.6**	**-0.1**
PATS	**Pohnpei**	**14.86**	**116**	Pn	**Pn**	**09 09 37.9**	**0.0**
H11S3	**WAKE ISLAND Hy** baz=261,slow=74,SNR=8.8	**21.50**	**74**	T	T	09 32 56.5	
H11S1	**WAKE ISLAND Hy** baz=261,slow=74,SNR=2.9	**21.51**	**74**	T	T	09 33 21.2	
H11S2	**WAKE ISLAND Hy** baz=261,slow=74,SNR=3.5	**21.52**	**74**	T	T	09 33 13.4	
WB0	**Warramunga Arr**	**34.79**	**197**	P	**P**	**09 12 54.1**	**0.0**
WB0	comp=Z,7.1nm,1.2s			IAmb	IAmb	09 12 54.4	
WR0	**Warramunga Arr**	**34.93**	**197**	P	**P**	**09 12 55.2**	**-0.2**
WR0	comp=Z,8.0nm,1.5s			IAmb	IAmb	09 12 56.9	
WB2	**Warramunga Arr**	**34.97**	**197**	P	**P**	**09 12 55.7**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,baz=14,slow=8.7,SNR=17	**34.97**	**197**	P	**P**	**09 12 55.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**36.82**	**212**	P	**P**	**09 13 11.6**	**+0.1**
FITZ	comp=Z,1.1nm,0.7s			IAmb	IAmb	09 13 12.3	
AS31	**Alice Springs**	**38.62**	**196**	P	**P**	**09 13 27.7**	**+1.0**
AS31	comp=Z,0.7nm,0.9s			IAmb	IAmb	09 13 42.8	

*SKHL **24** 09:12:04.3±0.2, 44°.20N×148°.10E, h45km±4km, mb4.2/4*
*JMA **24** 09:12:04.1±0.3, 43°.93N×147°.79E, h0km, M3.7*
ISC 24 09:12:00.4±3.5, 44°.2N±0°.1×148°.2E±0°.2, h15km±19km, n18, σ1$73/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.00**	**253**	*i* P	**Pn**	**09 12 20.9**	**+1.0**
SHO	70nm,0.3s			AMB	AMB	09 12 21.1	
SHO				*i* S	**Sb**	**09 12 32.8**	**+0.3**
SHO	410nm,0.2s			A	A	09 12 37.4	
SHO	390nm,0.2s			A	A	09 12 37.4	
KUR	**Kuril'sk**	**1.07**	**349**	*i* P	**Pn**	**09 12 21.8**	**+0.9**
KUR	130nm,0.4s			AMB	AMB	09 12 22.3	
KUR				*i* S	**Sg**	**09 12 34.8**	**-0.3**
KUR	320nm,0.2s			A	A	09 12 35.6	
KUR	390nm,0.2s			A	A	09 12 35.6	
YUK	**Yuzh-Kuril'sk**	**1.66**	**266**	*i* P	**Pb**	**09 12 30.2**	**-0.4**
YUK	130nm,0.3s			AMB	AMB	09 12 31.0	
YUK				*i* S	**Sn**	**09 12 49.1**	**-0.8**
YUK	260nm,0.2s			A	A	09 12 51.5	

IDC 24 09:11:08.7±13.0, 37°.01S×102°.15W, h0km, mb3.8/4, mb1 4.3/4, mb1mx4.0/20, mbtmp3.8/4, MS3.4/4, Ms1 3.4/4, ms1mx3.1/49, Error ellipse: s-maj=373.0km s-min=45.2km az=13.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui** comp=Z,122nm,18.8s,baz=56,slow=30	**11.58**	**326**	LR	LR	09 16 59.6	
H03S2	**Juan Fernandez** baz=274,SNR=4.2	**19.18**	**87**	T	T	09 35 05.5	
H03S1	**Juan Fernandez** baz=274,SNR=4.4	**19.20**	**87**	T	T	09 35 02.3	
H03S3	**Juan Fernandez** baz=274	**19.20**	**87**	T	T	09 34 58.1	
H03N2	**Juan Fernandez** baz=248,slow=72,SNR=7.5	**19.29**	**86**	T	T	09 35 03.4	
H03N3	**Juan Fernandez** baz=248,slow=72,SNR=10.0	**19.29**	**86**	T	T	09 35 04.7	
H03N1	**Juan Fernandez** baz=248,slow=72,SNR=9.3	**19.31**	**86**	T	T	09 35 01.7	
LVC	**Limon Verde** comp=Z,97nm,21.1s,baz=230,slow=29	**32.03**	**73**	LR	LR	09 26 36.5	
NNA	**Nana** comp=Z,78nm,18.9s,baz=238,slow=30	**33.72**	**49**	LR	LR	09 28 00.9	
LPAZ	**La Paz** 2.3nm,0.8s,baz=225,slow=8.6,SNR=6.4	**36.47**	**65**	P	P	09 18 16.2	0.0
LPAZ	comp=Z,50nm,21.5s,baz=216,slow=29			LR	LR	09 28 53.1	
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=195,slow=6.5,SNR=2.3	**66.01**	**359**	P	P	09 21 57.0	0.0
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=182,slow=6.9,SNR=6.8	**76.53**	**347**	P	P	09 23 01.2	+0.5
PDAR	**Pinedale Array** 1.2nm,0.7s,baz=153,slow=6.1,SNR=13	**79.69**	**354**	P	P	09 23 17.8	-0.3
H01W1	**Cape Leeuwin H** baz=150,slow=76,SNR=6.1	**100.89**	**210**	T	T	11 19 46.8	
H01W2	**Cape Leeuwin H** baz=150,slow=76,SNR=4.4	**100.89**	**210**	T	T	11 19 46.8	
H01W3	**Cape Leeuwin H** baz=150,slow=76,SNR=3.7	**100.91**	**210**	T	T	11 19 47.7	

YUK					A	A	09 12 51.5	
	280nm,0.2s							
NEM2	**Nemuro 2**	**1.93**	**246**	P		**Pn**	**09 12 33.6**	**+1.0**
NEM2				*e*S		**Sn**	**09 12 54.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.93**	**246**	*i* P		**Pn**	**09 12 33.7**	**+1.0**
NMR				*i* S		**Sn**	**09 12 55.7**	**-1.1**
GLVR	**Golovnino**	**1.95**	**258**	*e*P		**Pb**	**09 12 34.5**	**-1.1**
GLVR					AMB	AMB	09 12 35.1	
	100nm,0.3s							
GLVR				*e*S		**Sn**	**09 12 57.3**	**+0.1**
GLVR					A	A	09 13 01.4	
	520nm,0.4s							
GLVR					A	A	09 13 01.4	
	290nm,0.4s							
JRA	**Rausu**	**2.20**	**265**	P		**Pb**	**09 12 38.6**	**-1.2**
JNSB	**Nemuroshibetsu**	**2.31**	**261**	P		**Pb**	**09 12 40.1**	**-1.6**
JKHN	**Kushirohamanak**	**2.43**	**244**	P		**Pn**	**09 12 41.1**	**+1.5**
JNK	**Nakash**	**2.55**	**258**	P		**Pn**	**09 12 43.2**	**+1.9**
AKK	**Akkeshi**	**2.67**	**245**	*e*P		**Pn**	**09 12 44.6**	**+1.7**
AKK				*e*S		**Sn**	**09 13 13.5**	**-1.5**
JAK	**Akkeshi**	**2.78**	**246**	P		**Pn**	**09 12 45.8**	**+1.5**
JAK				*e*S		**Sn**	**09 13 16.3**	**-1.2**
JTKR	**Abashiri--Toko**	**3.07**	**268**	P		**Pn**	**09 12 50.8**	**+2.5**
JAR	**Ashorobuto**	**3.30**	**256**	P		**Pn**	**09 12 54.4**	**+2.9**
JOB	**Onbets**	**3.39**	**249**	P		**Pn**	**09 12 55.1**	**+2.4**
JMP	**Maruseppu**	**3.46**	**269**	P		**Pn**	**09 12 56.5**	**+2.8**
JCH	**Churui**	**3.83**	**248**	P		**Pn**	**09 13 00.7**	**+1.9**
JCH				*e*S		**Sn**	**09 13 41.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**4.38**	**246**	P		**Pn**	**09 13 08.7**	**+2.3**

*SKHL **24** 09:22:51.4±0.3, 44.00N×148.20E, h41km±1km, mb4.4/4*
*JMA **24** 09:22:51.2±0.3, 43.73N×147.82E, h0km, M3.7*
*IDC **24** 09:22:53.9±3.7, 45.53N×147.56E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/68, mbtmp3.5/7, ML2.6/1, MS3.4/3, Ms1 3.4/3, ms1mx2.6/87, Error ellipse: s-maj=97.7km s-min=27.5km az=158.0*

ISC 24 09:22:51.3±2.4, 43.94N±0.09×148.1E±0.1, h48km±19km, n34, σ1.967/30, mb3.5/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.91**	**266**	*i* P	Pn	09 23 07.9	+0.2
SHO				AMB	AMB	09 23 09.0	
	110nm,0.3s						
SHO				*e*S	**Sn**	**09 23 20.3**	**+0.5**
SHO				A	A	09 23 21.9	
	1μm,0.3s						
SHO				A	A	09 23 21.9	
	490nm,0.3s						
KUR	**Kuril'sk**	**1.30**	**353**	*e*P	Pn	09 23 11.5	-1.6
KUR				AMB	AMB	09 23 13.5	
	70nm,0.3s						
KUR				*e*S	**Sn**	**09 23 26.7**	**-2.6**
KUR				A	A	09 23 32.0	
	500nm,0.5s						
KUR				A	A	09 23 32.0	
	580nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.61**	**274**	*i* P	Pn	09 23 18.3	+1.1
YUK				AMB	AMB	09 23 19.2	
	200nm,0.3s						
YUK				*i* S	**Sn**	**09 23 38.1**	**+1.3**
YUK				A	A	09 23 42.5	
	950nm,0.5s						
YUK				A	A	09 23 42.5	
	640nm,0.5s						
NEM2	**Nemuro 2**	**1.79**	**252**	P	Pn	09 23 20.2	+0.4
NEM2				*e*S	**Sn**	**09 23 40.9**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.80**	**252**	*i* P	Pn	09 23 20.2	+0.3
NMR				*i* S	**Sn**	**09 23 42.2**	**+0.6**
GLVR	**Golovnino**	**1.87**	**265**	*i* P	**Pn**	**09 23 22.0**	**+1.2**
GLVR				AMB	AMB	09 23 22.8	
	210nm,0.3s						
GLVR				*i* S	**Sn**	**09 23 44.9**	**+1.8**
GLVR				A	A	09 23 49.1	
	950nm,0.4s						
GLVR				A	A	09 23 49.1	
	280nm,0.4s						
JRA	**Rausu**	**2.14**	**271**	P	**Pn**	**09 23 26.2**	**+1.7**
JNSB	**Nemuroshibetsu**	**2.23**	**267**	P	**Pn**	**09 23 27.5**	**+1.7**
JKHN	**Kushirohamanak**	**2.29**	**249**	P	**Pn**	**09 23 27.7**	**+1.1**
JNK	**Nakash**	**2.46**	**263**	P	**Pn**	**09 23 30.5**	**+1.5**
JNK				*e*S	**Sn**	**09 23 59.4**	**+1.5**
AKK	**Akkeshi**	**2.54**	**250**	*e*P	**Pn**	**09 23 31.0**	**+1.1**
AKK				*e*S	**Sn**	**09 24 00.7**	**+1.2**
JAK	**Akkeshi**	**2.64**	**250**	P	**Pn**	**09 23 32.2**	**+0.8**
JAK				*e*S	**Sn**	**09 24 02.5**	**+0.3**
JTKR	**Abashiri--Toko**	**3.02**	**272**	P	**Pn**	**09 23 38.7**	**+2.2**
JAR	**Ashorobuto**	**3.20**	**260**	P	**Pn**	**09 23 41.4**	**+2.3**
JOB	**Onbets**	**3.27**	**253**	P	**Pn**	**09 23 41.4**	**+1.5**
JMP	**Maruseppu**	**3.41**	**273**	P	**Pn**	**09 23 44.5**	**+2.5**
JCH	**Churui**	**3.69**	**251**	P	**Pn**	**09 23 47.0**	**+1.2**
JCH				*e*S	**Sn**	**09 24 28.8**	**+0.7**
ASAJ	**Asahikawa**	**3.96**	**274**	Pn	**Pn**	**09 23 53.4**	**+3.9**
	0.4nm,0.3s,baz=63,slow=16,SNR=2.0						
JNBK	**Urakawa-nobuka**	**4.24**	**249**	P	**Pn**	**09 23 54.8**	**+1.4**
KLR	**Kul'dur**	**12.41**	**301**	LR	LR	09 30 39.7	
	comp=Z,98nm,19.6s,baz=76,slow=41						
H11N2	**WAKE ISLAND Hy**	**28.81**	**141**	T	T	09 59 25.1	
	baz=332,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.82**	**141**	T	T	09 59 32.4	
	baz=332,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.83**	**141**	T	T	09 59 26.5	
	baz=332,slow=76,SNR=37						
SONM	**Songino Array**	**29.02**	**293**	LR	LR	09 41 21.7	
	comp=Z,70nm,18.1s,baz=9.5,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.79**	**142**	T	T	10 00 34.9	
	baz=333,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**29.80**	**142**	T	T	10 00 38.6	
	baz=333,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.81**	**142**	T	T	10 00 36.4	
	baz=333,slow=76,SNR=53						
ILAR	**Eielson Array**	**40.93**	**36**	P	**P**	**09 30 29.6**	**+0.9**
	0.4nm,0.7s,baz=281,slow=10.0,SNR=5.8						
MKAR	**Makanchi Array**	**45.10**	**298**	P	**P**	**09 31 03.8**	**+1.2**
	0.3nm,0.6s,baz=77,slow=7.0,SNR=3.8						
AAK	**Ala-Archa**	**51.88**	**296**	LR	LR	09 55 27.5	
	comp=Z,54nm,18.4s,baz=290,slow=38						
YKA	**Yellowknife Ar**	**55.27**	**34**	P	**P**	**09 32 19.6**	**+0.4**
	0.2nm,0.6s,baz=299,slow=7.0,SNR=3.8						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**09 33 24.2**	**-1.7**
	0.7nm,0.5s,baz=21,slow=12,SNR=5.0						
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**09 33 55.0**	**-0.4**
	0.7nm,0.9s,baz=32,slow=6.6,SNR=4.3						
AKASG	**Malin Array Be**	**71.83**	**324**	P	**P**	**09 34 08.6**	**-0.1**
	0.4nm,0.3s,baz=39,slow=5.2,SNR=1.9						

IDC 24 09:27:23.7±50.0, 18.31S×179.95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/45, mbtmp3.9/3, Error ellipse: s-maj=906.5km s-min=149.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.16**	**241**	P	P	09 34 37.4	+0.9
	1.8nm,0.8s,baz=52,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**43.12**	**260**	P	P	09 35 26.1	-0.2
	0.7nm,0.5s,baz=97,slow=7.8,SNR=24						
ASAR	**Alice Springs**	**43.28**	**255**	P	P	09 35 26.7	-0.8
	1.7nm,0.7s,baz=89,slow=8.3,SNR=31						

MAN 24 09:29:55.7, 13.41N×120.38E, h42km, mb4.5, ML3.3, MS3.1, 9D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**339**	*e*P	Pn	09 30 06.3	+1.6
PGP	**Puerto Galera**	**0.57**	**80**	*e*P	Pn	09 30 06.3	+1.2
PGP				*i* S	Sn	09 30 15.2	-0.6
TGY	**Tagaytay City**	**0.88**	**38**	*e*P	Pn	09 30 13.0	+1.2
TGY				*i* S	Sn	09 30 52.6	+29
MACP	**Maragondon, Ca**	**0.91**	**21**	*e*P	Pn	09 30 12.8	+0.7
LQP	**Lukban**	**1.33**	**58**	*e*P	Pn	09 30 18.9	+0.9
LQP				*e*S	Sn	09 30 33.6	-1.0
QVP	**Quezon City--P**	**1.35**	**27**	*e*P	Pn	09 30 19.9	+1.7
BUSP	**Coron**	**1.41**	**187**	*e*P	Pn	09 30 20.2	+1.3
BOAC	**Boac**	**1.43**	**88**	*e*P	Pn	09 30 20.5	+1.4
PCPH	**Palayan**	**2.25**	**18**	*e*P	Pn	09 30 31.3	+0.8
PCPH				*e*S	Sn	09 30 58.2	+1.1

IDC 24 09:44:13.8±265.0, 62.70N×40.43E, h0km, Error ellipse: s-maj=106.8km s-min=49.7km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**6.21**	**197**	*i*		10 27 58.0	
	baz=16,slow=315,SNR=3.1						
I37NO	**I37NO**	**10.92**	**315**	*i*		10 46 50.0	
	baz=116,slow=329,SNR=7.5						
I46RU	**ZALESOVO INFRA**	**24.43**	**90**	*i*		12 11 12.4	
	baz=315,slow=330,SNR=1.8						
I18DK	**QAANAAQ INFRAS**	**33.70**	**338**	*i*		13 11 09.3	
	baz=52,slow=338,SNR=2.9						
I53US	**FAIRBANKS INFR**	**52.59**	**4**	*i*		15 10 03.0	
	baz=3.8,slow=329,SNR=1.5						
I45RU	**USSURIYSK INFR**	**52.59**	**65**	*i*		15 04 00.0	
	baz=322,slow=324,SNR=1.8						

*JMA **24** 09:48:07.1±0.2, 23.64N×121.92E, h22km±4km, M3.8*
*TAP **24** 09:48:08.8, 23.71N×121.91E, h39km, ML4.1, C*

ISC 24 09:48:07.8±1.0, 23.68N±0.02×121.93E±0.02, h27km±10km, n133, σ0.979/238, 15C-28D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag**	**0.36**	**301**	⇓*i* P	**Pn**	**09 48 17.3**	**0.0**
	baz=308						
TEYL				*i* S	**Sn**	**09 48 23.6**	**+0.2**
	baz=308						
TEGC	**Jichi Village**	**0.36**	**274**	⇓*i* P	**Pn**	**09 48 17.3**	**0.0**
	baz=262						
TEGC				S	**Sn**	**09 48 23.7**	**+0.2**
	baz=262						
HWA	**Hwalien**	**0.42**	**314**	⇓*i* P	**Pn**	**09 48 17.6**	**-0.4**
	baz=314						
HWA				*i* S	**Sn**	**09 48 24.5**	**-0.5**
	baz=314						
EGFH	**Guangfu**	**0.46**	**268**	⇓P	**Pn**	**09 48 18.3**	**-0.4**
	baz=261						
EGFH				S	**Sn**	**09 48 25.6**	**-0.4**
	baz=261						
ESL	**Shilin**	**0.48**	**286**	⇓*i* P	**Pb**	**09 48 18.2**	**+0.4**
	baz=280						
ESL				S	**Sb**	**09 48 24.7**	**+0.2**
	baz=280						
ETM	**Tongmen**	**0.49**	**305**	P	**Pb**	**09 48 18.4**	**+0.4**
	baz=309						
TWD	**Chiawan**	**0.50**	**322**	⇓*i* P	**Pb**	**09 48 18.5**	**+0.3**
	baz=323						
TWD				*i* S	**Sb**	**09 48 25.2**	**-0.1**
	baz=323						
HGSD	**Ruisui**	**0.50**	**248**	*e*P	**Pn**	**09 48 19.0**	**-0.2**
	baz=240						
HGSD				S	**Sn**	**09 48 26.2**	**-0.9**
	baz=240						
ETL	**Fush Village**	**0.55**	**329**	P	**Pb**	**09 48 19.2**	**+0.1**
	baz=324						
ETL				S	**Sb**	**09 48 26.7**	**0.0**
	baz=324						
ECBN	**Changbin**	**0.57**	**231**	P	**Pn**	**09 48 20.3**	**+0.1**
	baz=219						
ECBN				S	**Sn**	**09 48 28.1**	**-0.6**
	baz=219						
NACB	**Ninganchiao**	**0.58**	**328**	⇓*i* P	**Pb**	**09 48 19.5**	**0.0**
	baz=325						
NACB				*i* S	**Sb**	**09 48 27.1**	**-0.3**
	baz=325						
EHY	**Hungye**	**0.59**	**253**	P	**Pn**	**09 48 20.4**	**0.0**
	baz=262						
EHY				S	**Sb**	**09 48 28.1**	**+0.5**
	baz=262						
EHP	**Heping Village**	**0.65**	**344**	*e*P	**Pb**	**09 48 20.8**	**+0.1**
	baz=346						
EHP				S	**Sb**	**09 48 29.4**	**+0.1**
	baz=346						
YULB	**Yu-li**	**0.65**	**244**	⇑*i* P	**Pn**	**09 48 21.3**	**0.0**
	baz=253						
YULB				*i* S	**Sn**	**09 48 30.3**	**-0.4**
	baz=253						
EYUL	**Yuli**	**0.66**	**239**	⇑P	**Pn**	**09 48 21.5**	**+0.1**
	baz=229						
EYUL				S	**Sn**	**09 48 31.1**	**+0.3**
	baz=229						
ETLH	**Xiulin Townshi**	**0.67**	**322**	⇓P	**Pb**	**09 48 20.9**	**0.0**
	baz=322						
ETLH				S	**Sb**	**09 48 29.5**	**-0.5**
	baz=322						
TWF1	**Yuli**	**0.67**	**241**	⇑*i* P	**Pn**	**09 48 21.6**	**0.0**
	baz=249						
TWF1				*i* S	**Sn**	**09 48 31.1**	**0.0**
	baz=249						
VWDT	**VWDT**	**0.73**	**276**	⇓*i* P	**Pn**	**09 48 22.5**	**+0.2**
	baz=273						
VWDT				*i* S	**Sn**	**09 48 32.0**	**-0.5**
	baz=273						
OWD	**Renai**	**0.74**	**291**	⇓*i* P	**Pn**	**09 48 22.5**	**-0.2**
	baz=290						
OWD				*i* S	**Sb**	**09 48 32.1**	**-0.1**
	baz=290						
FULB	**Fuli**	**0.76**	**231**	⇑*i* P	**Pb**	**09 48 22.4**	**-0.1**
	baz=219						
FULB				S	**Sn**	**09 48 33.0**	**-0.4**
	baz=219						
ENA	**Nanau**	**0.76**	**347**	P	**Pb**	**09 48 22.6**	**0.0**
	baz=348						
ENA				S	**Sb**	**09 48 32.5**	**-0.1**
	baz=348						
WHF	**Hehuan Shan**	**0.77**	**307**	⇓*i* P	**Pb**	**09 48 22.6**	**-0.3**
	baz=306						
WHF				*i* S	**Sb**	**09 48 32.7**	**-0.4**
	baz=306						
EWUT	**Wuta**	**0.77**	**350**	⇑P	**Pb**	**09 48 22.7**	**0.0**
	baz=351						
EWUT				*i* S	**Sb**	**09 48 32.5**	**-0.4**
	baz=351						
CHKT	**Chengkung**	**0.78**	**222**	⇑*i* P	**Pb**	**09 48 22.5**	**-0.3**
	baz=211						
CHKT				*i* S	**Sb**	**09 48 32.7**	**-0.4**
	baz=211						
CHGB	**Renai**	**0.79**	**299**	⇓*i* P	**Pb**	**09 48 23.2**	**+0.1**
	baz=297						
CHGB				*i* S	**Sn**	**09 48 34.0**	**-0.4**
	baz=297						
WUSB	**Renai**	**0.81**	**293**	⇓*i* P	**Pn**	**09 48 23.7**	**+0.1**
	baz=291						
WUSB				S	**Sb**	**09 48 33.6**	**-0.4**
	baz=291						
FUSS	**Fushou**	**0.84**	**312**	⇓*i* P	**Pb**	**09 48 24.2**	**+0.1**
	baz=311						
FUSS				S	**Sb**	**09 48 35.0**	**-0.2**
	baz=311						
ECS	**Chishang**	**0.88**	**228**	P	**Pb**	**09 48 24.9**	**+0.3**
	baz=219						
ECS				S	**Sn**	**09 48 37.6**	**+1.3**
	baz=219						
TWT	**Tachien**	**0.90**	**310**	⇓*i* P	**Pb**	**09 48 25.2**	**+0.2**
	baz=308						
TWT				S	**Sb**	**09 48 36.0**	**-0.6**
	baz=308						
NNSB	**Datong**	**0.90**	**326**	⇓*i* P	**Pn**	**09 48 24.6**	**-0.1**
	baz=318						
NNSB				S	**Sb**	**09 48 35.7**	**-0.8**
	baz=318						
SSLB	**Suanglung**	**0.90**	**277**	⇓P	**Pn**	**09 48 24.8**	**0.0**
	baz=275						
SSLB				*e*S	**Sb**	**09 48 35.7**	**-0.9**
	baz=275						
NNS	**Nan Shan**	**0.91**	**326**	⇓*i* P	**Pn**	**09 48 24.9**	**-0.1**
	baz=318						
NNS				*i* S	**Sb**	**09 48 36.3**	**-0.7**
	baz=318						
EDH	**Donghe**	**0.91**	**219**	⇑P	**Pn**	**09 48 24.4**	**-0.5**
	baz=210						
EDH				S	**Sb**	**09 48 35.6**	**-1.3**
	baz=210						
TWC	**Suao**	**0.93**	**355**	⇓*i* P	**Pb**	**09 48 25.4**	**+0.1**
	baz=357						
TWC				*i* S	**Sb**	**09 48 37.3**	**+0.1**
	baz=357						
LATG	**Datong**	**0.93**	**336**	⇓P	**Pn**	**09 48 24.9**	**-0.3**
	baz=337						
LATG				S	**Sb**	**09 48 36.2**	**-1.2**
	baz=337						
WPL	**Puli Township**	**0.95**	**290**	P	**Pb**	**09 48 25.8**	**+0.1**
	baz=289						
NDS	**Dongshan**	**0.97**	**348**	*e*P	**Pb**	**09 48 26.2**	**+0.2**
	baz=349						
NDS				*e*S	**Sn**	**09 48 37.7**	**-0.8**
	baz=349						
ELDTW	**Lidau**	**0.97**	**240**	⇑*i* P	**Pn**	**09 48 25.6**	**-0.2**
	baz=237						
ELDTW				S	**Sn**	**09 48 37.6**	**-1.2**
	baz=237						
DPDB	**Guoxing**	**0.98**	**291**	P	**Pb**	**09 48 26.4**	**0.0**
	baz=289						
DPDB				S	**Sn**	**09 48 38.5**	**-0.5**
	baz=289						
NDT	**Datong Townshi**	**0.99**	**337**	P	**Pb**	**09 48 26.3**	**-0.2**
	baz=338						
NDT				S	**Sn**	**09 48 38.1**	**-1.0**
	baz=338						
WCS	**Beigang Elemen**	**1.01**	**292**	P	**Pn**	**09 48 23.7**	**-2.5**
	baz=286						
WCS				*e*S	**Sb**	**09 48 39.7**	**+0.2**
	baz=286						
ENTT	**Nioudou**	**1.01**	**341**	P	**Pn**	**09 48 26.3**	**+0.1**
	baz=341						
ENTT				S	**Sn**	**09 48 39.5**	**-0.1**
	baz=341						
TYC	**Yuchr**	**1.01**	**283**	⇓*i* P	**Pb**	**09 48 26.6**	**-0.1**
	baz=289						
TYC				S	**Sn**	**09 48 39.2**	**-0.3**
	baz=289						
ALS	**Alishan**	**1.05**	**261**	⇓*i* P	**Pb**	**09 48 28.0**	**+0.4**
	baz=267						
ALS				*i* S	**Sn**	**09 48 40.6**	**-0.3**
	baz=267						
TWE	**Neicheng**	**1.06**	**347**	⇓*i* P	**Pb**	**09 48 27.4**	**-0.2**
	baz=357						
TWE				S	**Sn**	**09 48 40.2**	**-0.6**
	baz=357						
LONT	**Longtian**	**1.07**	**224**	P	**Pn**	**09 48 26.8**	**-0.3**
	baz=232						
LONT				*e*S	**Sn**	**09 48 39.8**	**-1.2**
	baz=232						
WHP	**Taichung City**	**1.08**	**303**	⇑P	**Pb**	**09 48 28.1**	**+0.1**
	baz=310						
WHP				*e*S	**Sn**	**09 48 40.5**	**-0.8**
	baz=310						
ILA	**Ilan**	**1.09**	**351**	*e*S	**Sn**	**09 48 41.6**	**+0.1**
	baz=352						
LDUT	**Ludao**	**1.09**	**203**	*e*P	**Pn**	**09 48 26.4**	**-0.9**
	baz=201						
LDUT				S	**Sn**	**09 48 39.4**	**-2.1**
	baz=201						
YHNB	**Yeheng**	**1.11**	**333**	⇓*i* P	**Pn**	**09 48 27.8**	**+0.2**
	baz=333						
YHNB				S	**Sn**	**09 48 40.3**	**-1.7**
	baz=333						
WJS	**Zhushan**	**1.11**	**277**	*e*P	**Pb**	**09 48 29.1**	**+0.6**
	baz=276						
WJS				*e*S	**Sb**	**09 48 43.5**	**+0.9**
	baz=276						
FUSB	**Fushanzhiwuyua**	**1.12**	**344**	⇑*i* P	**Pb**	**09 48 28.2**	**-0.4**
	baz=333						
FUSB				S	**Sn**	**09 48 41.5**	**-0.8**
	baz=333						
NSK	**Sanguang**	**1.12**	**332**	⇓*i* P	**Pn**	**09 48 28.0**	**+0.2**
	baz=332						
NSK				*i* S	**Sn**	**09 48 41.3**	**-1.0**
	baz=332						
CHN5	**Tsauling**	**1.15**	**266**	⇓P	**Pb**	**09 48 29.7**	**+0.5**
	baz=264						
CHN5				S	**Sb**	**09 48 45.0**	**+1.2**
	baz=264						
NWLT	**Wulai**	**1.16**	**340**	P	**Pb**	**09 48 29.2**	**0.0**
	baz=330						
NWLT				S	**Sn**	**09 48 42.4**	**-0.9**
	baz=330						
WNT	**Mingjian**	**1.16**	**280**	*e*P	**Pb**	**09 48 30.0**	**+0.7**
	baz=278						
TWGBT	**Beinan**	**1.17**	**222**	P	**Pn**	**09 48 27.9**	**-0.5**
	baz=230						
TWGBT				*e*S	**Sn**	**09 48 41.7**	**-1.7**
	baz=230						
WNT1	**Nantou City**	**1.17**	**281**	*e*P	**Pb**	**09 48 30.9**	**+1.5**
	baz=279						
NTC	**Toucheng**	**1.17**	**355**	*e*P	**Pb**	**09 48 29.7**	**+0.2**
	baz=356						
NTC				*e*S	**Sn**	**09 48 43.4**	**-0.1**
	baz=356						
STYH	**Taoyuan**	**1.18**	**245**	*e*P	**Pb**	**09 48 29.4**	**-0.2**
	baz=236						
STYH				*e*S	**Sn**	**09 48 43.6**	**-0.1**
	baz=236						
WWF	**Wufeng**	**1.19**	**288**	P	**Pb**	**09 48 30.8**	**+1.1**
	baz=286						
WWF				*e*S	**Sb**	**09 48 47.6**	**+2.9**
	baz=286						
STYT	**Tauyuan**	**1.20**	**245**	*i* P	**Pb**	**09 48 29.8**	**-0.1**
	baz=236						
STYT				*e*S	**Sb**	**09 48 45.5**	**+0.5**
	baz=236						
JYNG	**Yonagunijimaku**	**1.20**	**50**	P	**Pn**	**09 48 29.5**	**+0.7**
JYNG					S	**Sb**	**09 48 45.0**	**-0.1**
NFF	**Wufeng Townshi**	**1.20**	**322**	P	**Pb**	**09 48 29.9**	**-0.2**
	baz=321						
NFF				S	**Sn**	**09 48 44.2**	**-0.2**
	baz=321						
TCU	**Taichung**	**1.24**	**292**	P	**Pb**	**09 48 31.2**	**+0.6**
	baz=291						
TCU				S	**Sb**	**09 48 46.7**	**+0.5**
	baz=291						
YOJ	**Yonaguni jima**	**1.25**	**52**	P	**Pb**	**09 48 30.4**	**-0.5**
YOJ				*e*S	**Sn**	**09 48 45.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.25**	**52**	*e*P	**Pn**	**09 48 29.9**	**+0.3**
	baz=53						
YOJ				*e*S	**Sn**	**09 48 45.3**	**-0.2**
	baz=53						
TPUB	**Ta-pu**	**1.25**	**253**	P	**Pb**	**09 48 31.1**	**+0.2**
	baz=243						
TPUB				S	**Sb**	**09 48 47.0**	**+0.3**
	baz=243						
NSTT	**Nanjuang**	**1.27**	**318**	P	**Pb**	**09 48 31.4**	**+0.2**
	baz=318						
NSTT				S	**Sb**	**09 48 46.5**	**-0.6**
	baz=318						
LIOB	**Emei**	**1.27**	**319**	⇓*i* P	**Pb**	**09 48 31.5**	**+0.3**
	baz=319						
LIOB				S	**Sb**	**09 48 46.8**	**-0.4**
	baz=319						
WDLH	**Douliu**	**1.28**	**271**	*e*P	**Pb**	**09 48 31.8**	**+0.5**
	baz=269						
WDLH				*e*S	**Sb**	**09 48 47.9**	**+0.6**
	baz=269						
WTP	**Ta-pu**	**1.29**	**251**	*e*P	**Pb**	**09 48 31.6**	**+0.1**
	baz=240						
WTP				*e*S	**Sb**	**09 48 48.6**	**+1.0**
	baz=240						
TIPB	**Shuangxi**	**1.29**	**356**	⇑*i* P	**Pb**	**09 48 31.3**	**-0.1**
	baz=3.0						
TIPB				S	**Sn**	**09 48 46.6**	**+0.2**
	baz=3.0						
NSY	**Sanyi**	**1.30**	**305**	⇓*i* P	**Pb**	**09 48 31.9**	**+0.4**
	baz=304						
NSY				*i* S	**Sb**	**09 48 48.8**	**+0.9**
	baz=304						
NJD	**Zhudong**	**1.30**	**324**	*e*S	**Sb**	**09 48 48.8**	**+0.8**
	baz=323						
WCHH	**Zhanghua**	**1.32**	**288**	P	**Pb**	**09 48 32.6**	**+0.7**
	baz=286						
WCHH				*e*S	**Sb**	**09 48 49.9**	**+1.4**
	baz=286						
TWB1	**Santiao Chiao**	**1.32**	**2**	⇑*i* P	**Pn**	**09 48 31.2**	**+0.7**
	baz=3.0						
TWB1				S	**Sn**	**09 48 46.6**	**-0.6**
	baz=3.0						
NHDH	**Xindian Distri**	**1.33**	**344**	*e*P	**Pb**	**09 48 31.9**	**-0.2**
	baz=335						
NHDH	

SGST	**Jiashian** baz=233	**1.38**	**245**	P	**Pb**	**09 48 32.6 -0.3**
SGST	baz=233			S	**Sb**	**09 48 50.6 +0.4**
NWF	**Wu-fen Shan** baz=355	**1.39**	**354**	⇑*i*P	**Pb**	**09 48 33.0 -0.2**
NWF	baz=355			*i* S	**Sb**	**09 48 50.0 -0.5**
TWK	**Hsinying** baz=251	**1.39**	**253**	P	**Pb**	**09 48 33.3 +0.1**
TWK	baz=251			S	**Sb**	**09 48 51.3 +0.7**
CHY	**Chiayi** baz=261	**1.40**	**263**	*e*P	**Pb**	**09 48 33.6 +0.3**
CHY	baz=261			*e*S	**Sb**	**09 48 51.3 +0.7**
SNST	**Tainan City** baz=249	**1.40**	**251**	*e*P	**Pb**	**09 48 33.5 +0.2**
SNST	baz=249			S	**Sb**	**09 48 52.1 +1.4**
SBCB	**Hsinchu** baz=321	**1.40**	**322**	*e*P	**Pb**	**09 48 33.2 -0.2**
SBCB	baz=321			*e*S	**Sb**	**09 48 51.7 +0.8**
TAP	**Taipei** baz=344	**1.41**	**344**	*e*P	**Pb**	**09 48 35.4 +1.9**
TAP	baz=344			*e*S	**Sn**	**09 48 50.0 +0.7**
SXI1	**Grass Mountain** baz=14	**1.41**	**358**	⇑P	**Pb**	**09 48 32.8 -0.8**
SXI1	baz=14			S	**Sn**	**09 48 50.2 +0.8**
ECL	**Taimali** baz=226	**1.41**	**220**	P	**Pn**	**09 48 31.1 -0.5**
WTK	**Tuku** baz=269	**1.42**	**271**	*e*P	**Pb**	**09 48 33.6 0.0**
HSN	**Hsinchu** baz=323	**1.42**	**322**	*e*P	**Pb**	**09 48 33.5 -0.1**
HSN	baz=323			*e*S	**Sb**	**09 48 52.1 +0.7**
WRL	**Guolierlin Hig** baz=277	**1.44**	**279**	*e*P	**Pb**	**09 48 33.8 -0.3**
WRL	baz=277			*e*S	**Sb**	**09 48 51.9 -0.1**
NCUH	**Zhongli** baz=332	**1.45**	**332**	*e*P	**Pb**	**09 48 33.4 -0.8**
NCUH	baz=332			*e*S	**Sb**	**09 48 51.5 -0.8**
NCU	**National Centr** baz=332	**1.45**	**332**	*e*P	**Pb**	**09 48 33.6 -0.6**
NCU	baz=332			S	**Sb**	**09 48 51.9 -0.4**
TWS1	**Kuangyinshan** baz=342	**1.49**	**342**	*e*P	**Pb**	**09 48 34.0 -0.8**
TWS1	baz=342			*e*S	**Sn**	**09 48 51.9 +0.6**
YM01	**YM01** baz=333	**1.49**	**347**	*e*P	**Pb**	**09 48 33.7 +0.8**
YM01	baz=333			*e*S	**Sn**	**09 48 52.0 +0.4**
SSD	**Sandimen** baz=225	**1.52**	**232**	P	**Pn**	**09 48 34.2 +1.0**
WTCT	**Ta-ch'eng** baz=275	**1.52**	**277**	*e*P	**Pb**	**09 48 35.4 0.0**
WTCT	baz=275			*e*S	**Sb**	**09 48 55.1 +0.8**
TSMG	**Majia** baz=227	**1.53**	**231**	*e*P	**Pb**	**09 48 34.7 -0.9**
TSMG	baz=227			*e*S	**Sb**	**09 48 55.9 +1.3**
SCST	**Cishan** baz=238	**1.54**	**239**	*e*P	**Pb**	**09 48 36.3 +0.5**
SCST	baz=238			*e*S	**Sb**	**09 48 56.6 +1.7**
ICHU	**Yijhu** baz=257	**1.55**	**258**	*e*P	**Pb**	**09 48 35.9 0.0**
ICHU	baz=257			*e*S	**Sb**	**09 48 55.0 -0.1**
CHN3	**Shinhua** baz=246	**1.56**	**248**	*e*P	**Pn**	**09 48 34.4 +0.6**
SHHT	**Tainan City** baz=256	**1.60**	**246**	*e*P	**Pb**	**09 48 37.9 +1.2**
SHHT	baz=256			*e*S	**Sb**	**09 48 59.0 +2.5**
MASBT	**Mashibuluo** baz=226	**1.60**	**229**	*e*P	**Pn**	**09 48 35.2 +0.9**
MASBT	baz=226			*e*S	**Sb**	**09 48 58.1 +1.5**
TWM1	**Shoushan** baz=237	**1.63**	**239**	P	**Pb**	**09 48 38.4 +1.1**
TWM1	baz=237			S	**Sb**	**09 49 01.1 +3.6**
EAST	**Anshuo** baz=216	**1.64**	**218**	*e*P	**Pn**	**09 48 34.7 -0.2**
TAWH	**Dawu Township** baz=215	**1.65**	**216**	*e*P	**Pn**	**09 48 34.9 -0.1**
LAY	**Lan-yu** baz=182	**1.67**	**192**	*e*P	**Pn**	**09 48 34.9 -0.5**
LYUB	**Lan-yu** baz=190	**1.70**	**191**	*e*P	**Pn**	**09 48 34.4 -1.4**
LYUB	baz=190			*e*S	**Sn**	**09 48 53.2 -3.5**
SSPT	**Xinbi** baz=221	**1.73**	**227**	*e*P	**Pb**	**09 48 39.0 0.0**
HATJ	**Hateruma jima**	**1.75**	**77**	P	**Pn**	**09 48 37.3 +0.9**
HATJ				*e*S	**Sn**	**09 48 57.9 0.0**
IRIF	**Iriomote-Funau**	**1.77**	**68**	P	**Pn**	**09 48 37.9 +1.3**
IRIF				S	**Sn**	**09 48 59.0 +0.8**
SCZT	**Fangliau** baz=219	**1.78**	**223**	P	**Pb**	**09 48 39.3 -0.5**
SCZT	baz=219			*e*S	**Sb**	**09 49 01.8 +0.1**
SLIU	**Shizi** baz=215	**1.79**	**216**	*e*P	**Pn**	**09 48 36.7 -0.3**
JKRS	**Kuro-shima**	**1.98**	**73**	P	**Pn**	**09 48 40.8 +1.3**
JKRS				S	**Sn**	**09 49 04.7 +1.3**
HEN	**Hengchun** baz=205	**2.00**	**214**	*e*P	**Pb**	**09 48 42.4 -1.2**
TWKBT	**Hengchun** baz=210	**2.02**	**211**	*e*P	**Pn**	**09 48 40.0 -0.1**
JIJ	**Ishigaki jima**	**2.13**	**71**	P	**Pn**	**09 48 42.5 +0.9**
JIJ				S	**Sn**	**09 49 06.9 -0.3**
PHUB	**P'eng-hu** baz=253	**2.17**	**266**	*e*P	**Pn**	**09 48 43.7 +1.5**
PHUB	baz=253			*e*S	**Sn**	**09 49 08.4 +0.2**
PNG	**Penghu** baz=255	**2.18**	**267**	*e*P	**Pn**	**09 48 43.5 +1.1**
PNG	baz=255			*e*S	**Sn**	**09 49 08.9 +0.4**
JISG	**Ishigakijimahi**	**2.35**	**67**	P	**Pn**	**09 48 45.2 +0.5**
JISG				*e*S	**Sn**	**09 49 12.0 -0.6**
JTJ	**Tarama**	**2.70**	**69**	*e*S	**Sn**	**09 49 21.4 +0.1**
PTMZ	**Houxiangcun** baz=296	**2.90**	**298**	*e*P	**Pn**	**09 48 50.4 -1.8**
JIRB	**Irabujima**	**3.17**	**68**	S	**Sn**	**09 49 32.5 -0.3**
JIKM	**Ikemajima**	**3.27**	**67**	*e*S	**Sn**	**09 49 34.9 -0.3**
JMJ2	**Miyako jima3**	**3.27**	**71**	*e*S	**Sn**	**09 49 35.5 +0.1**
JOGS	**Gusukube**	**3.35**	**71**	*e*S	**Sn**	**09 49 37.9 +0.7**
LYJJ	**Jianjiangzhen** baz=336	**3.47**	**326**	*e*P	**Pn**	**09 49 00.1 +0.1**
MHZQ	**Yeshan** baz=311	**3.57**	**313**	*e*P	**Pn**	**09 49 01.3 -0.1**
XPSS	**Dashiqiu** baz=333	**3.60**	**334**	*e*P	**Pn**	**09 49 00.7 -1.1**
AXDP	**Jialang** baz=287	**3.81**	**289**	*e*P	**Pn**	**09 49 04.7 -0.1**

IDC 24 09:53:24.0±304.0, 74°.59N×21°.86E, h0km, Error ellipse: s-maj=154.3km s-min=14.9km az=12.0, Barents Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I37NO	**I37NO** baz=9.0,slow=334,SNR=1.0	**5.63**	**192**	*i*		10 31 00.0	
I18DK	**QAANAAQ INFRAS** baz=51,slow=337,SNR=0.8	**20.09**	**321**	*i*		11 54 50.0	
I53US	**FAIRBANKS INFR** baz=13,slow=332,SNR=1.9	**40.62**	**353**	*i*		14 02 30.0	
I45RU	**USSURIYSK INFR** baz=340,slow=328,SNR=2.1	**52.89**	**58**	*i*		15 24 33.4	

IDC 24 09:56:50.2±2.1, 8°.10S×129°.57E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.2/43, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=58.3km s-min=26.1km az=79.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=11,slow=10,SNR=6.2	**10.65**	**201**	Pn	Pn	09 59 24.8	+0.7
FITZ	0.2nm,0.3s,baz=181,slow=12,SNR=2.7			Sn	Sn	10 01 23.7	-0.4
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=339,slow=13,SNR=11	**12.65**	**159**	Pn	Pn	09 59 51.7	+0.1
WRA	0.2nm,0.3s,baz=336,slow=23,SNR=7.2			Sn	Sn	10 02 14.8	+1.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=342,slow=9.8,SNR=9.0	**16.03**	**165**	Pn	Pn	10 00 36.9	-0.3
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=116,slow=3.4,SNR=2.5	**68.91**	**327**	P	P	10 07 57.0	0.0

*IDC **24** 09:58:13.9±1.0, 22°.08N×120°.96E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.4/54, mbtmp3.7/6, MS3.3/10, Ms1 3.4/10, ms1mx3.0/90, Error ellipse: s-maj=74.2km s-min=19.5km az=67.0*
*TAP **24** 09:58:16.2, 22°.32N×121°.03E, h9km, ML4.2, C*
*NIED **24** 09:58:19.4, 22°.60N×121°.31E, h0km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=1.08; Mθθ1.63; Mϕϕ-0.55; Mrθ0.99; Mθϕ0.66; Mϕr1.18; Fault plane solution: M0 2.20000×10¹⁵ NP1: ϕs226.00000°, δ72.00000°, λ-119.00000°. NP2: ϕs107.00000°, δ34.00000°, λ-34.00000°.*
*JMA **24** 09:58:19.4±0.5, 22°.60N×121°.31E, h0km, M4.0*
ISC 24 09:58:16.5±0.8, 22°.30N±0°.02×121°.07E±0°.02, h12km±5km, n148, σ1°19/188, mb3.7/6, MS3.4/8, 12C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu** baz=297	**0.17**	**290**	⇓*i*P	**Pg**	**09 58 20.1**	**-0.2**
TAW	baz=297			*i* S	**Sg**	**09 58 22.4**	**-0.5**
TAWH	**Dawu Township** baz=288	**0.17**	**283**	⇓*i*P	**Pg**	**09 58 20.2**	**-0.1**
TAWH	baz=288			*i* S	**Sg**	**09 58 22.8**	**-0.2**
EAST	**Anshuo** baz=299	**0.22**	**292**	⇓*i*P	**Pg**	**09 58 20.9**	**-0.3**
EAST	baz=299			*i* S	**Sg**	**09 58 24.0**	**-0.4**
SLIU	**Shizi** baz=244	**0.26**	**251**	⇓*i*P	**Pg**	**09 58 21.9**	**0.0**
SLIU	baz=244			*i* S	**Sg**	**09 58 25.4**	**-0.2**
ECL	**Taimali** baz=342	**0.31**	**341**	⇓*i*P	**Pg**	**09 58 22.6**	**-0.3**
ECL	baz=342			*i* S	**Sg**	**09 58 27.8**	**+0.7**
SMST	**Manzhou Townsh** baz=211	**0.35**	**217**	⇑*i*P	**Pg**	**09 58 24.2**	**+0.7**
SMST	baz=211			S	**Sb**	**09 58 30.4**	**+0.3**
SCZT	**Fangliau** baz=279	**0.42**	**280**	⇓*i*P	**Pg**	**09 58 24.6**	**-0.2**
SCZT	baz=279			*i* S	**Sg**	**09 58 29.8**	**-0.5**
HEN	**Hengchun** baz=219	**0.42**	**226**	⇑*i*P	**Pb**	**09 58 25.6**	**-0.2**
HEN	baz=219			S	**Sb**	**09 58 32.2**	**0.0**
TSEB	**Hengchuen, Pin** baz=200	**0.43**	**201**	⇑*i*P	**Pb**	**09 58 26.6**	**+0.6**
TSEB	baz=200			*i* S	**Sb**	**09 58 34.0**	**+1.6**
TWKBT	**Hengchun** baz=207	**0.43**	**213**	P	**Pg**	**09 58 25.7**	**+0.7**
TWKBT	baz=207			S	**Sb**	**09 58 32.7**	**+0.3**
TWK1	**Hengchun** baz=207	**0.43**	**214**	⇑*i*P	**Pb**	**09 58 25.9**	**-0.1**
TWK1	baz=207			S	**Sb**	**09 58 33.2**	**+0.7**
SNW	**Nanwan** baz=203	**0.45**	**221**	*e*P	**Pb**	**09 58 26.9**	**+0.6**
SNW	baz=203			*e*S	**Sb**	**09 58 34.3**	**+1.4**
TTN	**Taitung** baz=17	**0.46**	**9**	⇑P	**Pb**	**09 58 26.7**	**+0.2**
TTN	baz=17			S	**Sb**	**09 58 36.7**	**+3.4**
SSPT	**Xinbi** baz=301	**0.49**	**292**	⇓*i*P	**Pb**	**09 58 26.6**	**-0.5**
SSPT	baz=301			*i* S	**Sb**	**09 58 33.7**	**-0.7**
MASBT	**Mashibuluo** baz=310	**0.51**	**308**	⇓*i*P	**Pg**	**09 58 26.1**	**-0.4**
MASBT	baz=310			*i* S	**Sg**	**09 58 31.9**	**-1.3**
TWGBT	**Beinan** baz=7.0	**0.52**	**1**	⇑*i*P	**Pg**	**09 58 26.2**	**-0.3**
TWGBT	baz=7.0			*i* S	**Sg**	**09 58 33.9**	**+0.4**
TWG	**Pinlang** baz=7.0	**0.52**	**1**	⇑*i*P	**Pg**	**09 58 26.2**	**-0.4**
TWG	baz=7.0			*i* S	**Sg**	**09 58 34.4**	**+0.9**
LAY	**Lan-yu** baz=121	**0.52**	**120**	P	**Pg**	**09 58 27.4**	**+0.7**
LAY	baz=121			*e*S	**Sg**	**09 58 35.0**	**+1.4**
LDUT	**Ludao** baz=35	**0.53**	**45**	P	**Pg**	**09 58 27.6**	**+0.8**
LDUT	baz=35			S	**Sb**	**09 58 35.9**	**+0.7**
TSMG	**Majia** baz=319	**0.56**	**316**	P	**Pg**	**09 58 26.9**	**-0.5**
TSMG	baz=319			S	**Sg**	**09 58 33.4**	**-1.5**
LYUB	**Lan-yu** baz=103	**0.56**	**122**	*e*P	**Pg**	**09 58 26.8**	**-0.8**
SSD	**Sandimen** baz=326	**0.60**	**318**	⇓*i*P	**Pg**	**09 58 27.5**	**-0.7**
SSD	baz=326			*i* S	**Sg**	**09 58 35.5**	**-0.6**
LONT	**Longtian** baz=9.0	**0.61**	**6**	P	**Pg**	**09 58 27.7**	**-0.6**
LONT	baz=9.0			S	**Sb**	**09 58 37.9**	**+0.4**
WLCH	**Liuqiu** baz=284	**0.64**	**275**	P	**Pn**	**09 58 31.6**	**+0.2**
TWP	**Hsiaoliuchiu** baz=283	**0.65**	**274**	P	**Pn**	**09 58 32.2**	**+0.6**
SGLT	**Jiouru** baz=310	**0.68**	**309**	P	**Pb**	**09 58 30.2**	**-0.1**
SGLT	baz=310			S	**Sb**	**09 58 40.1**	**+0.5**
EDH	**Donghe** baz=36	**0.70**	**18**	*e*P	**Pg**	**09 58 29.6**	**-0.5**
EDH	baz=36			*e*S	**Sg**	**09 58 39.5**	**+0.1**
KAU	**Kaohsiung** baz=298	**0.75**	**291**	*e*P	**Pn**	**09 58 33.8**	**+0.9**
SCST	**Cishan** baz=326	**0.79**	**318**	*e*P	**Pb**	**09 58 32.2**	**+0.1**
SCST	baz=326			*e*S	**Sb**	**09 58 43.3**	**+0.5**
TWM1	**Shoushan** baz=321	**0.79**	**311**	⇓P	**Pb**	**09 58 32.6**	**+0.4**
SLGT	**Liugui** baz=341	**0.79**	**331**	*i* P	**Pg**	**09 58 31.7**	**-0.1**
ECS	**Chishang** baz=14	**0.80**	**10**	*e*P	**Pg**	**09 58 30.8**	**-1.2**
SNJT	**Kaohsiung City** baz=306	**0.81**	**304**	*e*P	**Pn**	**09 58 33.7**	**-0.1**
SNJT	baz=306			*e*S	**Sn**	**09 58 48.6**	**+2.9**
CHKT	**Chengkung** baz=24	**0.84**	**19**	*e*P	**Pg**	**09 58 31.8**	**-0.9**
CHKT	baz=24			*e*S	**Sg**	**09 58 43.4**	**-0.4**
ELDTW	**Lidau** baz=13	**0.89**	**357**	P	**Pg**	**09 58 31.9**	**-1.7**
SGST	**Jiashian** baz=340	**0.90**	**330**	P	**Pg**	**09 58 32.7**	**-1.1**
STYT	**Tauyuan** baz=349	**0.91**	**342**	⇑*i*P	**Pg**	**09 58 33.5**	**-0.4**
STYT	baz=349			S	**Sn**	**09 58 48.4**	**+0.2**
STYH	**Taoyuan** baz=350	**0.91**	**343**	⇑P	**Pg**	**09 58 33.6**	**-0.4**
STYH	baz=350			*e*S	**Sb**	**09 58 46.5**	**+0.4**
FULB	**Fuli** baz=18	**0.92**	**13**	*e*P	**Pg**	**09 58 32.9**	**-1.4**
SHHT	**Tainan City** baz=320	**0.98**	**317**	*e*P	**Pn**	**09 58 37.5**	**+1.4**
CHN3	**Shinhua** baz=324	**1.01**	**320**	P	**Pn**	**09 58 37.7**	**+1.3**
CHN3	baz=324			S	**Sn**	**09 58 54.7**	**+4.1**
CHN1	**Nanshi** baz=336	**1.01**	**331**	⇓*i*P	**Pb**	**09 58 36.5**	**+0.5**
CHN1	baz=336			*i* S	**Sn**	**09 58 52.2**	**+1.5**
WTP	**Ta-pu** baz=341	**1.03**	**336**	⇓*i*P	**Pb**	**09 58 36.5**	**+0.2**
WTP	baz=341			*e*S	**Sn**	**09 58 51.5**	**+0.3**
SNST	**Tainan City** baz=348	**1.05**	**330**	*e*P	**Pn**	**09 58 37.5**	**+0.4**
SNST	baz=348			*e*S	**Sn**	**09 58 51.9**	**+0.2**
EYUL	**Yuli** baz=16	**1.07**	**13**	*e*P	**Pg**	**09 58 37.0**	**-0.1**
TWF1	**Yuli** baz=16	**1.07**	**11**	*e*P	**Pg**	**09 58 35.4**	**-1.7**
TPUB	**Ta-pu** baz=341	**1.07**	**338**	⇑P	**Pb**	**09 58 37.4**	**+0.3**
TPUB	baz=341			*e*S	**Sb**	**09 58 52.2**	**+1.2**
TPUB	**Ta-pu**	**1.07**	**338**	P	**Pb**	**09 58 37.7**	**+0.7**
SSHA	**Shanhua** baz=322	**1.10**	**319**	*e*P	**Pn**	**09 58 38.2**	**+0.5**
TWK	**Hsinying** baz=335	**1.10**	**331**	⇑*i*P	**Pb**	**09 58 37.8**	**+0.3**
TWK	baz=335			S	**Sn**	**09 58 54.4**	**+1.4**
YULB	**Yu-li** baz=14	**1.11**	**11**	*e*P	**Pg**	**09 58 37.8**	**0.0**
SCLT	**Jiali** baz=322	**1.19**	**317**	*e*P	**Pn**	**09 58 39.7**	**+0.8**
YUS	**Yu-Shan** baz=9.0	**1.19**	**355**	P	**Pg**	**09 58 37.2**	**-2.2**
EHY	**Hungye** baz=15	**1.22**	**11**	*e*P	**Pg**	**09 58 39.7**	**-0.4**
ALS	**Alishan** baz=3.0	**1.23**	**349**	*e*P	**Pg**	**09 58 40.0**	**-0.1**
ALS	baz=3.0			*e*S	**Sn**	**09 58 57.7**	**+1.3**
HGSD	**Ruisui** baz=20	**1.23**	**15**	*e*P	**Pg**	**09 58 39.7**	**-0.5**
ICHU	**Yijhu** baz=330	**1.28**	**326**	*e*P	**Pg**	**09 58 40.6**	**-0.5**
CHY	**Chiayi** baz=337	**1.33**	**334**	*e*P	**Pn**	**09 58 41.3**	**+0.5**
CHY	baz=337			*e*S	**Sn**	**09 59 01.3**	**+2.8**
CHN5	**Tsauling** baz=1.0	**1.34**	**345**	P	**Pn**	**09 58 41.8**	**+0.7**
CHN5	baz=1.0			S	**Sn**	**09 59 02.4**	**+3.5**
VWDT	**VWDT** baz=14	**1.45**	**3**	P	**Pb**	**09 58 44.1**	**+0.8**
WGK	**Gukeng** baz=348	**1.46**	**342**	*e*S	**Sg**	**09 59 04.9**	**+1.6**
WDLH	**Douliu** baz=347	**1.47**	**341**	P	**Pn**	**09 58 43.5**	**+0.8**
WDLH	baz=347			*e*S	**Sg**	**09 59 03.4**	**-0.2**
SSLB	**Suanglung** baz=18	**1.48**	**356**	P	**Pn**	**09 58 43.7**	**+0.7**
SSLB	baz=18			S	**Sn**	**09 59 03.1**	**+0.7**
SSLB	**Suanglung**	**1.48**	**356**	P	**Pb**	**09 58 44.3**	**+0.3**
WTK	**Tuku** baz=342	**1.52**	**336**	*e*P	**Pn**	**09 58 43.3**	**-0.1**
WTK	baz=342			*e*S	**Sg**	**09 59 04.9**	**-0.4**
ESL	**Shilin** baz=17	**1.54**	**13**	*e*P	**Pb**	**09 58 45.4**	**+0.4**
WJS	**Zhushan** baz=356	**1.55**	**348**	P	**Pn**	**09 58 44.9**	**+1.1**
WJS	baz=356			*e*S	**Sg**	**09 59 07.8**	**+1.6**
SMLT	**Sun Moon Lake** baz=7.0	**1.58**	**355**	*e*P	**Pn**	**09 58 45.0**	**+0.5**
TYC	**Yuchr** baz=15	**1.61**	**353**	⇑*i*P	**Pn**	**09 58 46.0**	**+1.3**
TYC	baz=15			*i* S	**Sb**	**09 59 07.3**	**+1.0**
WNT	**Mingjian** baz=355	**1.61**	**347**	P	**Pn**	**09 58 45.9**	**+1.2**
WNT	baz=355			*e*S	**Sg**	**09 59 08.8**	**+0.5**
WDGT	**Dungji** baz=310	**1.61**	**307**	*e*P	**Pb**	**09 58 46.1**	**0.0**
OWD	**Renai** baz=9.0	**1.65**	**4**	*e*P	**Pn**	**09 58 46.4**	**+1.0**
OWD	baz=9.0			*e*S	**Sb**	**09 59 08.3**	**+0.6**
WUSB	**Renai** baz=14	**1.68**	**2**	*e*P	**Pn**	**09 58 47.4**	**+1.5**
WRL	**Guolierlin Hig** baz=344	**1.71**	**338**	*e*P	**Pn**	**09 58 45.8**	**-0.4**
CHGB	**Renai** baz=9.0	**1.75**	**3**	*e*P	**Pb**	**09 58 48.7**	**-0.1**
CHGB	baz=9.0			*e*S	**Sb**	**09 59 11.5**	**+0.6**
WCS	**Beigang Elemen** baz=9.0	**1.75**	**355**	*e*P	**Pn**	**09 58 47.6**	**+0.9**
VCHM	**Qimei** baz=304	**1.76**	**301**	*e*P	**Pn**	**09 58 44.8**	**-2.0**
PHUB	**P'eng-hu** baz=316	**1.83**	**312**	*e*P	**Pn**	**09 58 46.2**	**-1.6**
WCHH	**Zhanghua** baz=351	**1.83**	**345**	*e*P	**Pn**	**09 58 47.9**	**+0.1**
TWD	**Chiawan** baz=20	**1.84**	**15**	*e*P	**Pn**	**09 58 47.0**	**-0.9**
WHF	**Hehuan Shan** baz=24	**1.84**	**6**	*e*P	**Pn**	**09 58 47.2**	**-1.2**
TCU	**Taichung** baz=356	**1.87**	**349**	*e*P	**Pn**	**09 58 49.2**	**+0.8**
PNG	**Penghu** baz=317	**1.88**	**312**	*e*P	**Pn**	**09 58 47.7**	**-0.7**
NACB	**Ninganchiao** baz=19	**1.93**	**15**	*e*P	**Pn**	**09 58 48.3**	**-0.8**
ETLH	**Xiulin Townshi** baz=30	**1.94**	**11**	*e*P	**Pn**	**09 58 49.3**	**0.0**
FUSS	**Fushou** baz=22	**1.94**	**5**	*e*P	**Pn**	**09 58 50.1**	**+0.5**
TWT	**Tachien** baz=6.0	**1.95**	**3**	*e*P	**Pn**	**09 58 51.4**	**+1.9**
WHP	**Taichung City** baz=9.0	**1.97**	**357**	*e*P	**Pn**	**09 58 51.4**	**+1.6**
WHP	baz=9.0			*e*S	**Sn**	**09 59 16.4**	**+2.0**
TWQ1	**Liyutan**	**2.06**	**353**	P	**Pn**	**09 58 52.7**	**+1.8**
TWQ1				*e*S	**Sb**	**09 59 19.2**	**-0.1**
WDJ	**Dajia District** baz=356	**2.08**	**349**	*e*P	**Pn**	**09 58 53.2**	**+2.0**
NSY	**Sanyi** baz=359	**2.12**	**352**	*e*P	**Pn**	**09 58 53.2**	**+1.4**
NNSB	**Datong** baz=30	**2.14**	**8**	*e*P	**Pn**	**09 58 53.3**	**+1.1**
NNS	**Nan Shan** baz=30	**2.15**	**7**	*e*P	**Pn**	**09 58 54.0**	**+1.8**
EWUT	**Wuta** baz=22	**2.23**	**17**	*e*P	**Pn**	**09 58 54.4**	**+1.1**
LATG	**Datong** baz=30	**2.27**	**11**	*e*P	**Pn**	**09 58 54.5**	**+0.7**
NFF	**Wufeng Townshi** baz=9.0	**2.32**	**1**	*e*P	**Pn**	**09 58 56.5**	**+1.9**
NSTT	**Nanjuang** baz=5.0	**2.32**	**359**	*e*P	**Pn**	**09 58 56.9**	**+2.3**
NDT	**Datong Townshi** baz=29	**2.33**	**10**	*e*P	**Pn**	**09 58 56.1**	**+1.5**
LIOB	**Emei** baz=6.0	**2.33**	**359**	*e*P	**Pb**	**09 58 57.9**	**-0.6**
ENTT	**Nioudou** baz=29	**2.37**	**11**	*e*P	**Pn**	**09 58 56.3**	**+1.1**
YHNB	**Yeheng** baz=355	**2.38**	**7**	*e*P	**Pn**	**09 58 56.5**	**+1.1**
YHNB	**Yeheng**	**2.38**	**7**	P	**Pn**	**09 58 56.8**	**+1.5**
NSK	**Sanguang** baz=30	**2.38**	**6**	*e*P	**Pn**	**09 58 56.5**	**+1.1**
NDS	**Dongshan** baz=32	**2.40**	**14**	*e*P	**Pn**	**09 58 56.9**	**+1.3**

TWC	**Suao**	**2.41**	**17**	*eP*		**Pn**	**09 58 56.5**	**+0.8**
	baz=23							
TWE	**Neicheng**	**2.47**	**13**	*eP*		**Pn**	**09 58 58.0**	**+1.4**
	baz=31							
FUSB	**Fushanzhiwuyua**	**2.49**	**11**	*eP*		**Pn**	**09 58 57.9**	**+1.0**
	baz=29							
NWLT	**Wulai**	**2.50**	**9**	*eP*		**Pn**	**09 58 58.3**	**+1.3**
	baz=27							
TIPB	**Shuangxi**	**2.75**	**15**	*eP*		**Pn**	**09 59 01.6**	**+1.2**
	baz=20							
YOJ	**Yonaguni jima**	**2.80**	**39**	*eS*		**Sn**	**09 59 32.2**	**-2.5**
YOJ	**Yonaguni jima**	**2.80**	**39**	P		**Pb**	**09 59 06.5**	**+0.1**
NWF	**Wu-fen Shan**	**2.83**	**13**	*eP*		**Pn**	**09 59 02.8**	**+1.1**
	baz=30							
SXI1	**Grass Mountain**	**2.88**	**15**	*eP*		**Pn**	**09 59 04.3**	**+2.1**
	baz=20							
ANP	**Anpu**	**2.90**	**8**	*eP*		**Pn**	**09 59 03.8**	**+1.2**
	baz=359							
VWUC	**VWUC**	**3.06**	**331**	*eP*		**Pn**	**09 59 03.9**	**-0.8**
	baz=339							
HATJ	**Hateruma jima**	**3.07**	**55**	P		**Pn**	**09 59 05.5**	**+0.7**
HATJ				*eS*		**Sn**	**09 59 39.1**	**-2.3**
IRIF	**Iriomote-Funau**	**3.18**	**50**	P		**Pn**	**09 59 07.4**	**+1.1**
IRIF				*eS*		**Sn**	**09 59 42.9**	**-1.2**
KNM	**Kinmen**	**3.21**	**312**	*eP*		**Pn**	**09 59 07.4**	**+0.7**
	baz=317							
JKRS	**Kuro-shima**	**3.32**	**54**	P		**Pn**	**09 59 09.5**	**+1.2**
JKRS				S		**Sn**	**09 59 46.5**	**-1.2**
ZPLA	**Ao Xicun**	**3.46**	**299**	*eP*		**Pn**	**09 59 08.9**	**-1.3**
	baz=303							
JIJ	**Ishigaki jima**	**3.50**	**53**	P		**Pn**	**09 59 11.3**	**+0.6**
JIJ				*eS*		**Sn**	**09 59 49.0**	**-3.0**
JISG	**Ishigakijimahi**	**3.75**	**52**	P		**Pn**	**09 59 15.9**	**+1.7**
JISG				*eS*		**Sn**	**09 59 56.7**	**-1.5**
AXDP	**Jialang**	**3.84**	**313**	*eP*		**Pn**	**09 59 14.5**	**-0.9**
	baz=321							
JTJ	**Tarama**	**4.07**	**54**	P		**Pn**	**09 59 19.8**	**+1.2**
JTJ				*eS*		**Sn**	**10 00 04.7**	**-1.5**
MHZQ	**Yeshan**	**4.21**	**334**	*eP*		**Pn**	**09 59 20.0**	**-0.5**
	baz=344							
JIRB	**Irabujima**	**4.53**	**55**	*eS*		**Sn**	**10 00 14.9**	**-2.6**
JMJ2	**Miyako jima3**	**4.61**	**57**	P		**Pn**	**09 59 27.3**	**+1.4**
JMJ2				*eS*		**Sn**	**10 00 18.1**	**-1.2**
JMJ	**Miyako jima 2**	**4.62**	**56**	P		Pn	09 59 32.9	+6.8
DAV	**Davao City (W)**	**15.76**	**163**	LR		LR	10 08 37.7	
	comp=Z,123nm,21.5s,baz=334,slow=40							
KSRS	**Korea Array**	**16.22**	**20**	LR		LR	10 08 33.3	
	comp=Z,65nm,18.9s,baz=215,slow=38							
CMAR	**Chiang Mai Arr**	**21.08**	**264**	LR		LR	10 10 36.4	
	comp=Z,16nm,18.6s,baz=115,slow=35							
GUMO	**Guam**	**24.22**	**107**	LR		LR	10 12 46.3	
	comp=Z,31nm,19.3s,baz=316,slow=36							
SONM	**Songino Array**	**28.07**	**339**	P		**P**	**10 04 08.1**	**+0.2**
	0.4nm,0.5s,baz=139,slow=7.7,SNR=2.7							
SONM				LR		LR	10 16 16.7	
	comp=Z,141nm,21.6s,baz=104,slow=38							
KLR	**Kul'dur**	**28.18**	**15**	LR		LR	10 16 40.3	
	comp=Z,107nm,18.6s,baz=202,slow=39							
MKAR	**Makanchi Array**	**39.63**	**318**	P		**P**	**10 05 48.4**	**+0.4**
	1.3nm,0.9s,baz=110,slow=10,SNR=10							
YAK	**Yakutsk**	**40.15**	**6**	LR		LR	10 24 25.7	
	comp=Z,53nm,19.4s,baz=222,slow=39							
ZALV	**Zelesovo Beam**	**41.77**	**328**	P		**P**	**10 06 05.4**	**-0.2**
	0.6nm,0.3s,baz=116,slow=6.3,SNR=3.7							
ZALV				LR		LR	10 24 39.5	
	comp=Z,44nm,18.7s,baz=214,slow=38							
H11N1	**WAKE ISLAND Hy**	**42.73**	**85**	T		T	10 51 59.0	
	baz=282,slow=74,SNR=9.9							
H11N2	**WAKE ISLAND Hy**	**42.74**	**85**	T		T	10 51 58.5	
	baz=282,slow=74,SNR=20							
H11N3	**WAKE ISLAND Hy**	**42.75**	**85**	T		T	10 52 00.6	
	baz=282,slow=74,SNR=13							
H11S3	**WAKE ISLAND Hy**	**42.81**	**86**	T		T	10 52 02.4	
	baz=284,slow=74,SNR=56							
H11S1	**WAKE ISLAND Hy**	**42.82**	**86**	T		T	10 52 04.6	
	baz=284,slow=74,SNR=38							
H11S2	**WAKE ISLAND Hy**	**42.83**	**86**	T		T	10 52 03.8	
	baz=284,slow=74,SNR=33							
WRA	**Warramunga Arr**	**43.94**	**162**	P		**P**	**10 06 20.7**	**-2.8**
	1.1nm,0.7s,baz=343,slow=8.8,SNR=9.4							
ASAR	**Alice Springs**	**47.37**	**164**	P		**P**	**10 06 48.8**	**-1.8**
	0.4nm,0.5s,baz=352,slow=8.4,SNR=9.1							
AKTO	**Aktyubinsk**	**56.05**	**317**	LR		LR	10 34 19.4	
	comp=Z,55nm,18.5s,baz=32,slow=39							
NOA	**NORSAR Array B**	**79.83**	**332**	LR		LR	10 49 02.9	
	comp=Z,48nm,18.6s,baz=0.0,slow=38							
YKA	**Yellowknife Ar**	**84.74**	**23**	P		**P**	**10 10 51.2**	**+0.9**
	0.3nm,0.7s,baz=320,slow=4.7,SNR=4.1							

IDC 24 09:59:48.5±999.0, 66°46N×33°18E, h0km, Error ellipse: s-maj=542.3km s-min=42.7km az=122.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**6.12**	**302**	*i*		10 37 10.0	
	baz=108,slow=332,SNR=2.2						
I18DK	**QAANAAQ INFRA**	**28.98**	**334**	*i*		12 59 00.0	
	baz=51,slow=339,SNR=0.8						
I53US	**FAIRBANKS INFR**	**48.95**	**1**	*i*		14 57 10.0	
	baz=3.9,slow=331,SNR=3.6						

*HEL **24** 10:00:08.0±0.2, 64°.59N×30°.91E, h0km, ML2.2, Explosion*
*IDC **24** 10:00:11.4±2.9, 64°.60N×30°.71E, h0km, mb1 3.0/3, mb1mx2.8/48, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=43.6km s-min=9.4km az=103.0*
*KOLA **24** 10:00:12.2, 64°.67N×30°.98E, h0km, ML2.2*
ISC 24 10:00:06.8±1.0, 64°58N±0°.03×30°.68E±0°.05, h0km, n25, σ1s80/41, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.48**	**348**	PG	**Pb**	**10 00 35.1**	**-0.2**
	baz=165						
KU6				MSG		10 00 53.1	
	comp=Z,13nm,0.2s						
KU6				SB	**Sg**	**10 00 54.8**	**+0.3**
MSF	**Maaselka**	**1.50**	**333**	PG	**Pb**	**10 00 35.5**	**0.0**
	baz=153						
MSF				SG	**Sg**	**10 00 55.7**	**+0.7**
OLKF	**Oulanka, Finla**	**1.82**	**344**	PG	**Pb**	**10 00 41.1**	**+0.1**
OLKF				SG	**Sb**	**10 01 04.8**	**+0.4**
OUL	**Oulu**	**2.10**	**286**	PG	**Pg**	**10 00 47.4**	**+0.3**
	baz=96						
OUL				SG	**Sg**	**10 01 15.0**	**+0.6**
OUF	**Merijarvi**	**2.58**	**268**	PG	**Pg**	**10 00 54.9**	**-1.4**
OUF				MSG		10 01 27.0	
	comp=Z,19nm,0.2s						
OUF				SG	**Sg**	**10 01 29.4**	**-0.4**
SUF	**Sumiainen**	**2.75**	**229**	PG	**Pg**	**10 00 58.8**	**-0.7**
SUF				MSG		10 01 31.4	
	comp=Z,5.4nm,0.2s						
SUF				SG	**Sg**	**10 01 37.8**	**+2.6**
OBF0	**Syolatti, Pyha**	**2.78**	**271**	PG	**Pg**	**10 00 59.2**	**-0.9**
OBF0				SG	**Sg**	**10 01 36.5**	**+0.4**
TOF	**Tornio**	**3.06**	**302**	PN	**Pn**	**10 00 56.5**	**+0.2**
TOF				MSG		10 01 40.0	
	comp=Z,8.4nm,0.2s						
TOF				SB	**Sb**	**10 01 41.1**	**+1.2**
KAF	**Kangasniemi**	**3.17**	**220**	PG	**Pg**	**10 01 06.0**	**-1.4**
VRF	**Varrio**	**3.21**	**353**	PB	**Pb**	**10 01 03.2**	**-1.4**
	baz=168						
VRF				MSG		10 01 42.3	
	comp=Z,6.3nm,0.2s						
VRF				SG	**Sb**	**10 01 46.2**	**+2.1**
SGF	**Sodankyl**	**3.33**	**331**	PB	**Pb**	**10 01 04.4**	**-2.4**
SGF				SB	**Sb**	**10 01 46.1**	**-1.6**
KEF	**Keuruu**	**3.56**	**230**	PB	**Pb**	**10 01 10.3**	**-0.4**
LVZ	**Lovozero**	**3.70**	**24**	P	**Pb**	**10 01 08.8**	**-4.1**
LVZ				S	**Sn**	**10 01 49.4**	**0.0**
FINES	**FINESS Array B**	**3.79**	**216**	Pn	**Pb**	**10 01 11.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=35,slow=12,SNR=6.8						
FINES				Lg	Lg	10 02 10.9	
	comp=Z,2.1nm,0.3s,baz=40,slow=27,SNR=12						
KLF	**Kolari**	**3.83**	**317**	PB	**Pb**	**10 01 13.1**	**-2.1**
KLF				SG	**Sg**	**10 02 07.2**	**-2.4**
VAF	**Ylistaro**	**3.87**	**250**	PB	**Pb**	**10 01 14.7**	**-1.2**
	baz=59						
PAJU	**Pajala**	**3.96**	**312**	PG	**Pg**	**10 01 21.9**	**-0.7**
PAJU				SG	**Sg**	**10 02 10.9**	**-3.1**
ERTU	**Ertsjaerv**	**4.04**	**303**	PN	**Pb**	**10 01 14.6**	**-4.3**
	baz=119						
UMAU	**Umeaa**	**4.42**	**265**	PB	**Pb**	**10 01 23.7**	**-1.5**
UMAU				SG	**Sg**	**10 02 29.6**	**+0.9**
TERR	**Teriberka**	**4.96**	**19**	S	**Sn**	**10 02 20.1**	**-0.1**
PRVG	**Vayda Guba**	**5.22**	**6**	P	**Pn**	**10 01 28.4**	**+2.4**
PRVG				S	**Sn**	**10 02 26.0**	**-0.8**
ARCES	**ARCESS Array B**	**5.37**	**340**	Pn	**Pn**	**10 01 29.8**	**+1.8**
	baz=155,slow=13,SNR=31						
ARCES				Sn	**Sn**	**10 02 31.4**	**+0.9**
	baz=159,slow=23,SNR=5.0						
ARCES				Lg	Lg	10 02 51.9	
	baz=156,slow=28,SNR=9.8						
ARCES	**ARCESS Array B**	**5.37**	**340**	P	**Pn**	**10 01 31.6**	**+3.5**
ARCES				S	**Sn**	**10 02 31.2**	**+0.8**
I37NO	**I37NO**	**6.55**	**319**	*i*		10 44 10.0	
	baz=130,slow=326,SNR=3.9						
NOA	**NORSAR Array B**	**9.57**	**257**	Pn	**Pn**	**10 02 25.8**	**0.0**
	comp=Z,0.0nm,0.3s,baz=52,slow=12,SNR=2.2						

NEIC 24 10:00:13.5±0.7, 35°.675N±0°.009×97°.39W±0°.01, h6km±3km, mb_Lg2.5/4, Error ellipse: s-maj=1.5km s-min=1.3km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.26**	**190**	Pg	Pg	10 00 18.1	-0.6
OKCFA				Sg	Sg	10 00 22.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.27**	**188**	Pg	Pg	10 00 18.3	-0.4
OKCSW				Sg	Sg	10 00 22.4	+0.1
FNO	**Franklin**	**0.42**	**181**	Pg	Pg	10 00 21.0	-0.5
FNO				Sg	Sg	10 00 27.0	0.0
X34A	**Smith Ranch, M**	**1.13**	**199**	Pg	Pg	10 00 34.3	-0.9
X34A				Sg	Sg	10 00 50.0	+0.2
TUL1	**Leonard**	**1.32**	**79**	Pg	Pn	10 00 36.8	-1.8
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	10 00 38.9	-1.2
X37A	**Clayton**	**1.98**	**123**	Pn	Pn	10 00 47.8	+0.2

IDC 24 10:07:34.2±435.0, 54°25N×0°.16E, h0km, Error ellipse: s-maj=200.7km s-min=64.2km az=24.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.02**	**117**	*i*		11 05 20.0	
	baz=309,slow=328,SNR=1.3						
I37NO	**I37NO**	**17.13**	**23**	*i*		11 58 10.0	
	baz=219,slow=333,SNR=1.0						
I43RU	**DUBNA INFRASON**	**20.98**	**68**	*i*		12 17 00.0	
	baz=280,slow=326,SNR=0.7						

IDC 24 10:19:40.6±6.3, 25°.54S×69°.65E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/64, mbtmp3.8/4, MS3.5/4, Ms1 3.5/4, ms1mx2.9/77, Error ellipse: s-maj=173.2km s-min=41.2km az=58.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.99**	**9**	T	T	10 41 43.8	
	baz=189,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**18.00**	**9**	T	T	10 41 41.0	
	baz=189,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**18.01**	**9**	T	T	10 41 42.7	
	baz=189,slow=76,SNR=20						
BOSA	**Boshof**	**39.48**	**255**	LR	LR	10 41 09.5	
	comp=Z,64nm,18.6s,baz=188,slow=33						
LBTB	**Lobatse**	**39.70**	**261**	LR	LR	10 42 14.2	
	comp=Z,51nm,18.1s,baz=173,slow=34						
CMAR	**Chiang Mai Arr**	**52.20**	**36**	P	P	10 28 53.5	+0.1
	0.9nm,0.3s,baz=224,slow=8.7,SNR=1.8						
ASAR	**Alice Springs**	**57.93**	**103**	P	P	10 29 35.1	0.0
	0.6nm,0.8s,baz=257,slow=6.3,SNR=6.9						
WRA	**Warramunga Arr**	**59.42**	**99**	P	P	10 29 45.4	-0.1
	0.6nm,0.8s,baz=253,slow=7.5,SNR=6.0						
WRA				LR	LR	10 53 15.5	
	comp=Z,54nm,18.8s,baz=132,slow=34						
GEYT	**Alibeck**	**64.05**	**350**	LR	LR	10 53 36.9	
	comp=Z,32nm,20.8s,baz=339,slow=32						
MKAR	**Makanchi Array**	**72.89**	**9**	P	P	10 31 11.2	-0.1
	0.6nm,0.7s,baz=174,slow=5.8,SNR=2.3						

*IDC **24** 10:22:47.2±1.7, 13°.08N×144°.93E, h59km±20km, mb3.0/3, mb1 3.3/3, mb1mx3.0/55, mbtmp3.3/3, Error ellipse: s-maj=71.3km s-min=23.2km az=110.0*
ISC 24 10:22:47.1±1.4, 13°.0N±0°.1×145°.1E±0°.3, h57km, n4, σ0s54/5, mb3.2/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.63**	**338**	P	**Pn**	**10 23 00.3**	**0.0**
	346nm,0.3s,baz=166,slow=13,SNR=182						
GUMO				LR	LR	10 23 04.1	
	comp=Z,25nm,20.2s,baz=258,slow=34						
GUMO				S	**Sn**	**10 23 10.1**	**+0.1**
	505nm,0.3s,baz=318,slow=24,SNR=16						
WRA	**Warramunga Arr**	**34.41**	**198**	P	**P**	**10 29 28.7**	**-0.5**
	0.2nm,0.6s,baz=19,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**38.06**	**197**	P	**P**	**10 30 00.9**	**+0.6**
	0.2nm,0.7s,baz=12,slow=9.5,SNR=1.9						
ILAR	**Eielson Array**	**68.99**	**25**	P	**P**	**10 33 46.2**	**0.0**
	0.3nm,0.6s,baz=248,slow=6.0,SNR=7.8						

IDC 24 10:25:18.5±2.7, 23°.61N×141°.90E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/56, mbtmp3.6/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/80, Error ellipse: s-maj=327.3km s-min=23.6km az=108.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**12.74**	**287**	LR	LR	10 31 59.1	
	comp=Z,50nm,21.5s,baz=93,slow=31						
DAV	**Davao City (W)**	**22.72**	**226**	LR	LR	10 40 16.9	
	comp=Z,27nm,18.4s,baz=275,slow=40						
H11N1	**WAKE ISLAND Hy**	**23.54**	**95**	T	T	10 54 57.4	
	baz=284,slow=74,SNR=62						
H11N2	**WAKE ISLAND Hy**	**23.54**	**95**	T	T	10 54 57.6	
	baz=284,slow=74,SNR=54						
H11N3	**WAKE ISLAND Hy**	**23.55**	**95**	T	T	10 54 58.8	
	baz=284,slow=74,SNR=63						
H11S3	**WAKE ISLAND Hy**	**23.67**	**98**	T	T	10 55 08.4	
	baz=287,slow=75,SNR=84						
H11S1	**WAKE ISLAND Hy**	**23.68**	**98**	T	T	10 55 09.0	
	baz=287,slow=75,SNR=85						
H11S2	**WAKE ISLAND Hy**	**23.69**	**98**	T	T	10 55 09.7	
	baz=287,slow=75,SNR=101						
WRA	**Warramunga Arr**	**43.91**	**190**	P	P	10 33 26.8	-0.3
	2.6nm,0.8s,baz=10,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**47.63**	**190**	P	P	10 33 56.6	+0.1
	0.4nm,0.7s,baz=12,slow=11,SNR=7.6						
ILAR	**Eielson Array**	**60.89**	**28**	P	P	10 35 32.4	-0.3
	0.7nm,0.9s,baz=246,slow=7.3,SNR=4.6						
YKA	**Yellowknife Ar**	**75.32**	**28**	P	P	10 37 03.6	+0.3
	0.3nm,0.8s,baz=287,slow=5.9,SNR=4.3						

IDC 24 10:32:03.7±394.0, 53°.61N×1°.49E, h0km, Error ellipse: s-maj=177.2km s-min=70.2km az=22.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.03**	**117**	*i*		11 27 00.0	
	baz=309,slow=327,SNR=2.1						
I37NO	**I37NO**	**17.44**	**21**	*i*		12 25 30.0	
	baz=216,slow=334,SNR=1.8						
I43RU	**DUBNA INFRASON**	**20.50**	**67**	*i*		12 39 00.0	
	baz=273,slow=331,SNR=1.1						

WEL 24 10:38:28.0, 39°S±9°×17°5E±1°, h208km±15km, M2.8/48, mB4.9/1, ML2.0/10, MLv2.8/48, Mw(mB)4.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=107.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.19**	**127**	P	Pn	10 38 55.9	+0.5
WTVZ	**West Tongariro**	**0.31**	**120**	P	Pn	10 38 56.4	+0.7
NNVZ	**North Ngauruho**	**0.34**	**121**	P	Pn	10 38 56.4	+0.6
KRVZ	**Karewarewa**	**0.34**	**114**	P	Pn	10 38 56.4	+0.7
PKVZ	**Pokaka**	**0.34**	**167**	P	Pn	10 38 56.4	+0.7
KATZ	**Kakaramea**	**0.35**	**93**	P	Pn	10 38 56.5	+0.7
NGZ	**Ngauruhoe**	**0.35**	**128**	P	Pn	10 38 56.6	+0.8
NTVZ	**North Tongarir**	**0.36**	**113**	P	Pn	10 38 56.6	+0.8
FWVZ	**Far West T-bar**	**0.38**	**141**	P	Pn	10 38 56.7	+0.7
SNVZ	**South Ngauruho**	**0.38**	**126**	P	Pn	10 38 56.9	+1.0
OTVZ	**Oturere**	**0.38**	**122**	P	Pn	10 38 56.8	+0.9
TMVZ	**Te Maari**	**0.39**	**114**	P	Pn	10 38 56.8	+0.9
ETVZ	**East Tongariro**	**0.40**	**116**	P	Pn	10 38 56.8	+0.8
TRVZ	**Turoa**	**0.41**	**145**	P	Pn	10 38 56.9	+0.8
VRZ	**Vera Road**	**0.41**	**246**	P	Pn	10 38 56.0	+0.2
WHVZ	**Whangaehu Hut**	**0.42**	**140**	P	Pn	10 38 55.8	-0.3
RATZ	**Rangitukua**	**0.42**	**77**	P	Pn	10 38 56.1	+0.2
TUVZ	**Tukino**	**0.44**	**134**	P	Pn	10 38 57.0	+0.9
WNVZ	**Wahianoa**	**0.46**	**143**	P	Pn	10 38 56.9	+0.8
MTVZ	**Mangateitei**	**0.46**	**158**	P	Pn	10 38 56.9	+0.8
HIZ	**Hauiti**	**0.54**	**326**	P	Pn	10 38 55.9	-0.4
MOVZ	**Moawhango**	**0.59**	**139**	P	Pn	10 38 57.1	+0.5
MHEZ	**Mangahewa**	**0.73**	**261**	P	Pn	10 38 57.4	+0.3
WAZ	**Wanganui**	**0.82**	**194**	P	Pn	10 38 58.5	+1.0
LREZ	**Lake Rotokare**	**0.82**	**232**	P	Pn	10 38 58.0	+0.5
BHHZ	**Black Hill Sta**	**0.83**	**130**	P	Pn	10 38 58.2	+0.6
DREZ	**Durham Road**	**0.84**	**254**	P	Pn	10 38 57.7	0.0
MRHZ	**Matea Rd**	**0.92**	**83**	P	Pn	10 38 57.8	-0.5
PREZ	**Palmer Road**	**0.93**	**245**	P	Pn	10 38 58.4	+0.1
NEZ	**North Egmont**	**0.95**	**251**	P	Pn	10 38 58.4	0.0
BKZ	**Black Stump Fm**	**0.99**	**102**	P	Pn	10 38 58.9	+0.2
PKE	**Pukeiti**	**1.01**	**256**	P	Pn	10 38 58.5	-0.2
KHEZ	**Kahui Hut**	**1.01**	**250**	P	Pn	10 38 58.7	-0.1
KWHZ	**Kaweka Forest**	**1.03**	**117**	P	Pn	10 38 59.8	+0.9
KRHZ	**Kereru**	**1.11**	**128**	P	Pn	10 39 00.2	+0.8
NBEZ	**Newall Road No**	**1.11**	**254**	P	Pn	10 38 59.2	-0.2
NMEZ	**Namu Road**	**1.16**	**247**	P	Pn	10 38 59.6	-0.1
PNHZ	**Pukenui**	**1.21**	**142**	P	Pn	10 39 00.8	+0.7
NMHZ	**Naumai**	**1.22**	**97**	P	Pn	10 39 01.1	+0.8
MCHZ	**McNeill Hill**	**1.23**	**114**	P	Pn	10 39 01.3	+1.1
TSZ	**Takapari Road**	**1.23**	**153**	P	Pn	10 39 01.1	+0.8
TOZ	**Tohunoa Road**	**1.24**	**9**	P	Pn	10 38 58.3	-2.0
OHWZ	**Ohakea**	**1.25**	**178**	P	Pn	10 39 01.6	+1.3
MTHZ	**Maungataniwha**	**1.25**	**86**	P	Pn	10 39 00.1	-0.3
MUGZ	**Murupara**	**1.29**	**68**	P	Pn	10 38 59.6	-1.2
ARHZ	**Aropaoanui**	**1.40**	**103**	P	Pn	10 39 02.2	+0.7
RTZ	**Ruatahuna**	**1.40**	**76**	P	Pn	10 39 00.8	-0.9
RAHZ	**Arahi**	**1.44**	**89**	P	Pn	10 39 01.8	-0.1
WPHZ	**Waipukurau**	**1.44**	**140**	P	Pn	10 39 02.6	+0.6
POWZ	**Post Office Ro**	**1.49**	**164**	P	Pn	10 39 02.6	+0.3
KAHZ	**Kahuranaki**	**1.51**	**124**	P	Pn	10 39 03.4	+0.8
DVHZ	**Dannevirke**	**1.52**	**152**	P	Pn	10 39 02.8	+0.2
WHHZ	**Waihua**	**1.55**	**95**	P	Pn	10 39 02.4	-0.5
URZ	**Urewera**	**1.62**	**65**	P	Pn	10 39 01.3	-2.2
SNGZ	**Shannon Statio**	**1.65**	**84**	P	Pn	10 39 03.1	-0.7
PXZ	**Pawanui**	**1.65**	**131**	P	Pn	10 39 04.0	+0.4
PRWZ	**Pori Road**	**1.69**	**161**	P	Pn	10 39 04.4	+0.3
PRHZ	**Porangahau**	**1.69**	**141**	P	Pn	10 39 04.5	+0.4
MRZ	**Mangatainoka R**	**1.72**	**172**	P	Pn	10 39 04.2	-0.2
RAGZ	**Rawiri**	**1.76**	**75**	P	Pn	10 39 03.7	-1.2
MKAZ	**Moumakai**	**1.85**	**358**	P	Pn	10 39 02.3	-3.4
OGWZ	**Otaki Gorge**	**1.85**	**182**	P	Pn	10 39 05.5	-0.2
TIWZ	**Tintock**	**1.88**	**165**	P	Pn	10 39 05.7	-0.2
BFZ	**Birch Farm**	**1.88**	**156**	P	Pn	10 39 05.9	-0.1
KNZ	**Kokohu**	**1.89**	**93**	P	Pn	10 39 05.3	-0.8
MWZ	**Matawai**	**1.89**	**71**	P	Pn	10 39 04.1	-2.0
KIW	**Kapiti Island**	**1.92**	**188**	P	Pn	10 39 05.7	-0.6
HOWZ	**Holdsworth Sta**	**1.95**	**174**	P	Pn	10 39 06.0	-0.6
RIGZ	**Rimuhau**	**1.98**	**83**	P	Pn	10 39 05.9	-1.1
ETAZ	**East Tamaki Re**	**2.02**	**353**	P	Pn	10 39 03.7	-3.7
PRGZ	**Paritu Road**	**2.06**	**90**	P	Pn	10 39 06.9	-0.9
MHGZ	**Mahia Peninsul**	**2.08**	**96**	P	Pn	10 39 07.3	-0.6
TKGZ	**Te Karaka**	**2.10**	**76**	P	Pn	10 39 06.7	-1.5
DUWZ	**D'Urville Isla**	**2.10**	**209**	P	Pn	10 39 07.0	-1.2
CAW	**Cannon Point**	**2.15**	**184**	P	Pn	10 39 07.8	-0.8
RUGZ	**Raukumara Rang**	**2.15**	**63**	P	Pn	10 39 05.2	-3.7
WIAZ	**Waiheke Island**	**2.17**	**358**	P	Pn	10 39 04.9	-4.0
TMWZ	**Te Maipa**	**2.20**	**167**	P	Pn	10 39 08.5	-0.7
MTW	**Mount Morrison**	**2.20**	**175**	P	Pn	10 39 08.3	-0.9
MBAZ	**Motutapu North**	**2.21**	**353**	P	Pn	10 39 04.2	-5.0
KUZ	**Kuaotunu**	**2.24**	**10**	P	Pn	10 39 05.4	-4.3
TWGZ	**Tauwhareparae**	**2.28**	**71**	P	Pn	10 39 08.0	-2.1
HAZ	**Te Kaha**	**2.33**	**60**	P	Pn	10 39 06.8	-3.8
WEL	**Wellington**	**2.35**	**189**	P	Pn	10 39 09.6	-1.1
CNGZ	**Carnagh Statio**	**2.37**	**79**	P	Pn	10 39 08.8	-2.1
TCW	**Tory Channel**	**2.37**	**198**	P	Pn	10 39 09.9	-1.1
PAWZ	**Paruwai Farm**	**2.42**	**177**	P	Pn	10 39 10.4	-1.1
MSWZ	**Moikau Station**	**2.45**	**180**	P	Pn

JTS	Las Juntas de	1.00	342	*e*P		Pb	10 52 17.4	-1.2		
DUNO	Dulce Nombre,	1.12	312	*e*P		Pn	10 52 20.3	-0.2		
ARE1	Arenal 1	1.12	356	*e*P		Pn	10 52 20.2	-0.5		
CEDE	Laguna Cedeo	1.15	357	*i* P		Pn	10 52 20.1	-0.9		
EDPN	Palmar Norte	1.23	107	*e*P		Pn	10 52 21.9	-0.1		
GUAI	GUAI	1.27	318	*i* P		Pn	10 52 22.7	+0.2		
RIOS	Rincon, Osa	1.28	119	*e*P		Pn	10 52 22.0	-0.7		
ORTG	Ortega, Santa	1.30	322	*e*P		Pb	10 52 23.6	-0.1		
ACAL	Aguas Claras	1.35	343	*i* P		Pn	10 52 23.8	0.0		
ACAL				*i* S		Sb	10 52 42.5	+0.9		
EDBA	Buenos Aires	1.36	97	*e*P		Pn	10 52 23.6	-0.3		
DRK0	Durika	1.38	93	*e*P		Pn	10 52 24.7	+0.4		
COVE	Coope Vega, Sa	1.40	10	*e*P		Pn	10 52 24.3	-0.1		
PTEN	Parque Tenorio	1.42	346	*i* P		Pn	10 52 24.9	+0.2		
HORNC	Hornillas	1.47	339	*i* P		Pb	10 52 26.1	-0.5		
HORNC				*i* S		Sb	10 52 46.2	+1.2		
GUAB	Guayabo de Bag	1.48	337	*i* P		Pb	10 52 26.5	-0.3		
VMAR	Armenia, Volca	1.54	342	*e*P		Pn	10 52 27.0	+0.6		
GPS2	Hotel Rincn d	1.57	334	*i* P		Pb	10 52 27.9	-0.5		
LAPC	Finca la Perla	1.62	331	*i* P		Pn	10 52 27.8	+0.3		
BUEV	Buena Vista	1.64	333	*i* P		Pn	10 52 28.7	+0.9		
GBS3	Finca Las Img	1.65	331	*i* P		Pb	10 52 28.8	-0.8		
HZTE	Horizontes, Gu	1.66	326	*e*P		Pb	10 52 29.5	-0.4		
HZTE	Horizontes, Gu	1.66	326	*e*P		Pn	10 52 28.9	+0.9		
BUAI	Buenos Aires	1.68	336	*i* P		Pn	10 52 29.2	+0.9		

KRSC ***24*** *11:02:45.0±1.8,51°.13N×156°.32E,h192km±15km,ML4.4*
MOS ***24*** *11:02:46.6±0.9,51°.32N×155°.98E,h188km,mb4.4/19,*
Error ellipse: s-maj=9.3km s-min=4.0km az=69.2
IDC ***24*** *11:02:47.6±0.7,51°.46N×155°.83E,h174km±6km,mb3.8/21,*
mb1 4.0/26,mb1mx3.9/42,mbtmp4.3/26,Error ellipse:
s-maj=11.7km s-min=8.7km az=144.0
NEIC ***24*** *11:02:47.6±1.6,51°.4N±0°.1×155°.9E±0°.2,h174km±4km,*
mb4.5/122,Error ellipse: s-maj=17.5km s-min=10.8km
az=138.0

ISC 24 11:02:47.0±0.4,51°.27N±0°.05×156°.11E±0°.05,h179km±3km,
h179km:pP-P,n259,σ1s49/261,mb4.4/98,8C-8D,
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
PAU	**Pauzhetka**	**0.48**	**66**	PN		**Pn**	**11 03 11.6**	**0.0**
PAU				S		**Sn**	**11 03 30.5**	**0.0**
PAU	**Pauzhetka**	**0.48**	**66**	*e*P		**Pn**	**11 03 11.6**	**0.0**
PAU				*e*S		**Sn**	**11 03 30.5**	**0.0**
SKR	**Severo-Kuril's**	**0.59**	**180**	PN		**Pn**	**11 03 11.9**	**-0.2**
SKR				S		**Sn**	**11 03 30.8**	**-0.5**
SKR	**Severo-Kuril's**	**0.59**	**180**	*e*P		**Pn**	**11 03 11.9**	**-0.2**
SKR				*e*S		**Sn**	**11 03 30.8**	**-0.5**
MIPR	**Malaya Ipel'ka**	**1.08**	**21**	PN		**Pn**	**11 03 15.7**	**+0.5**
MIPR	**Malaya Ipel'ka**	**1.08**	**21**	*e*P		**Pn**	**11 03 15.7**	**+0.5**
KDTR	**Khodutka, Kamc**	**1.34**	**66**	PN		**Pn**	**11 03 17.3**	**0.0**
KDTR	**Khodutka, Kamc**	**1.34**	**66**	*e*P		**Pn**	**11 03 17.3**	**0.0**
GRL	**Gorelyy**	**1.77**	**43**	PN		**Pn**	**11 03 22.6**	**+1.0**
GRL				S		**Sn**	**11 03 48.4**	**-0.1**
GRL	**Gorelyy**	**1.77**	**43**	*e*P		**Pn**	**11 03 22.6**	**+1.0**
GRL				*e*S		**Sn**	**11 03 48.4**	**-0.1**
MTVR	**Mutnovka**	**1.77**	**46**	PN		**Pn**	**11 03 22.7**	**+1.0**
MTVR	**Mutnovka**	**1.77**	**46**	*e*P		**Pn**	**11 03 22.7**	**+1.0**
APC	**Apacha**	**1.78**	**21**	PN		**Pn**	**11 03 22.1**	**+0.5**
APC				S		**Sn**	**11 03 48.7**	**+0.2**
APC	**Apacha**	**1.78**	**21**	*e*P		**Pn**	**11 03 22.1**	**+0.5**
APC				*e*S		**Sn**	**11 03 48.7**	**+0.2**
RUS	**Russkaya**	**1.89**	**51**	PN		**Pn**	**11 03 23.3**	**+0.6**
RUS				S		**Sn**	**11 03 49.9**	**-0.6**
RUS	**Russkaya**	**1.89**	**51**	*e*P		**Pn**	**11 03 23.3**	**+0.6**
RUS				*e*S		**Sn**	**11 03 49.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**2.08**	**27**	*d i* PN		**Pn**	**11 03 25.6**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.08**	**27**	Pn		**Pn**	**11 03 24.9**	**+0.1**
PETK	**Petropavlovsk-**	**2.08**	**27**	P		**Pn**	**11 03 24.7**	**-0.2**
	4.2nm,0.3s,baz=206,slow=9.7,SNR=82							
PET	**Petropavlovsk**	**2.35**	**41**	*e*PN		**Pn**	**11 03 28.2**	**+0.4**
PET				*e*S		**Sn**	**11 03 59.5**	**-0.2**
PET				pmax		pmax		
	comp=Z,44nm,0.5s							
PET				smax		smax		
	comp=E,410nm,1.0s							
PET				smax		smax		
	comp=N,344nm,0.6s							
PET	**Petropavlovsk**	**2.35**	**41**			**Pn**	**11 03 28.1**	**+0.2**
PET	**Petropavlovsk**	**2.35**	**41**	*e*P		**Pn**	**11 03 28.8**	**+1.0**
PET				*e*S		**Sn**	**11 04 00.5**	**+0.8**
DALK	**Dalny**	**2.40**	**42**	PN		**Pn**	**11 03 29.2**	**+0.8**
DALK				S		**Sn**	**11 04 01.5**	**+0.9**
DALK	**Dalny**	**2.40**	**42**	*e*P		**Pn**	**11 03 29.2**	**+0.8**
DALK				*e*S		**Sn**	**11 04 01.5**	**+0.9**
KOK	**Koryaka**	**2.55**	**36**	PN		**Pn**	**11 03 32.2**	**+1.9**
KOK				S		**Sn**	**11 04 05.0**	**+1.0**
KOK	**Koryaka**	**2.55**	**36**	*e*P		**Pn**	**11 03 32.2**	**+1.9**
KOK				*e*S		**Sn**	**11 04 05.0**	**+1.0**
UGLR	**Uglovaya**	**2.56**	**40**	PN		**Pn**	**11 03 32.3**	**+1.9**
UGLR				S		**Sn**	**11 04 06.3**	**+2.1**
UGLR	**Uglovaya**	**2.56**	**40**	*e*P		**Pn**	**11 03 32.3**	**+1.9**
UGLR				*e*S		**Sn**	**11 04 06.3**	**+2.1**
AVH	**Avacha**	**2.57**	**38**	PN		**Pn**	**11 03 32.3**	**+1.8**
AVH				S		**Sn**	**11 04 05.7**	**+1.4**
AVH	**Avacha**	**2.57**	**38**	*e*P		**Pn**	**11 03 32.3**	**+1.8**
AVH				*e*S		**Sn**	**11 04 05.7**	**+1.4**
SMAR	**Somma**	**2.59**	**39**	PN		**Pn**	**11 03 32.5**	**+1.6**
SMAR				S		**Sn**	**11 04 06.6**	**+1.6**
SMAR	**Somma**	**2.59**	**39**	*e*P		**Pn**	**11 03 32.5**	**+1.6**
SMAR				*e*S		**Sn**	**11 04 06.6**	**+1.6**
KRER	**Koryakskii**	**2.60**	**37**	PN		**Pn**	**11 03 32.6**	**+1.6**
KRER				S		**Sn**	**11 04 07.4**	**+2.1**
KRER	**Koryakskii**	**2.60**	**37**	*e*P		**Pn**	**11 03 32.6**	**+1.6**
KRER				*e*S		**Sn**	**11 04 07.4**	**+2.1**
SDLR	**Sedlovina**	**2.63**	**39**	PN		**Pn**	**11 03 32.6**	**+1.3**
SDLR				S		**Sn**	**11 04 07.0**	**+1.2**
SDLR	**Sedlovina**	**2.63**	**39**	*e*P		**Pn**	**11 03 32.6**	**+1.3**
SDLR				*e*S		**Sn**	**11 04 07.0**	**+1.2**
GNL	**Ganaly**	**2.67**	**24**	PN		**Pn**	**11 03 32.0**	**+0.3**
GNL	**Ganaly**	**2.67**	**24**	*e*P		**Pn**	**11 03 32.0**	**+0.3**
NLC	**Nalytchevo**	**2.75**	**45**	PN		**Pn**	**11 03 33.0**	**+0.5**
NLC				S		**Sn**	**11 04 06.1**	**-1.9**
NLC	**Nalytchevo**	**2.75**	**45**	*e*P		**Pn**	**11 03 33.0**	**+0.5**
NLC				*e*S		**Sn**	**11 04 06.1**	**-1.9**
SPN	**Mys Shipunski**	**3.02**	**51**	PN		**Pn**	**11 03 35.7**	**-0.1**
SPN	**Mys Shipunski**	**3.02**	**51**	*e*P		**Pn**	**11 03 35.7**	**-0.1**
SPN				*e*S		**Sn**	**11 04 09.8**	**-4.1**
KII	**Karymskiy**	**3.44**	**35**	PN		**Pn**	**11 03 42.4**	**+1.4**
KII	**Karymskiy**	**3.44**	**35**	*e*P		**Pn**	**11 03 42.4**	**+1.4**
TUMR	**Tumrok**	**4.69**	**29**	PN		**Pn**	**11 03 58.5**	**+1.5**
TUMR	**Tumrok**	**4.69**	**29**	*e*P		**Pn**	**11 03 56.9**	**-0.1**
TUMD	**Tumrok D**	**4.71**	**31**	*e*P		**Pn**	**11 03 58.5**	**+1.4**
ESO	**Esso**	**4.91**	**17**	PN		**Pn**	**11 04 02.0**	**+2.3**
ESO	**Esso**	**4.91**	**17**	*e*P		**Pn**	**11 04 02.0**	**+2.3**
KOZ	**Kozyrevsk**	**5.29**	**24**	PN		**Pn**	**11 04 06.1**	**+1.5**
KOZ	**Kozyrevsk**	**5.29**	**24**	*e*P		**Pn**	**11 04 06.1**	**+1.5**
KPT	**Kopyto**	**5.30**	**26**	PN		**Pn**	**11 04 06.6**	**+1.8**
KPT	**Kopyto**	**5.30**	**26**	*e*P		**Pn**	**11 04 06.6**	**+1.8**
KIRR	**Kirishev**	**5.32**	**27**	PN		**Pn**	**11 04 06.5**	**+1.3**
KIRR	**Kirishev**	**5.32**	**27**	*e*P		**Pn**	**11 04 06.5**	**+1.3**
BZWR	**Bezymyannyi-We**	**5.38**	**27**	PN		**Pn**	**11 04 08.0**	**+2.1**
BZWR	**Bezymyannyi-We**	**5.38**	**27**	*e*P		**Pn**	**11 04 08.0**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**5.42**	**28**	PN		**Pn**	**11 04 08.1**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**5.42**	**28**	*e*P		**Pn**	**11 04 08.1**	**+1.8**
KRSR	**Krestovskiy**	**5.62**	**26**	PN		**Pn**	**11 04 09.9**	**+1.0**
KRSR	**Krestovskiy**	**5.62**	**26**	*e*P		**Pn**	**11 04 09.9**	**+1.0**
KLY	**Klyuchi**	**5.72**	**26**	PN		**Pn**	**11 04 12.4**	**+2.2**
KLY	**Klyuchi**	**5.72**	**26**	*e*P		**Pn**	**11 04 12.4**	**+2.2**
KBG	**Krutoberegovo**	**6.34**	**35**	PN		**Pn**	**11 04 18.2**	**-0.1**
KBG				S		**Sn**	**11 05 27.5**	**-2.8**
KBG	**Krutoberegovo**	**6.34**	**35**	*e*P		**Pn**	**11 04 18.2**	**-0.1**
KBG				*e*S		**Sn**	**11 05 27.5**	**-2.8**
KBTR	**Krutoberegovo**	**6.35**	**36**	PN		**Pn**	**11 04 17.9**	**-0.5**
KBTR				S		**Sn**	**11 05 28.6**	**-1.8**
KBTR	**Krutoberegovo**	**6.35**	**36**	*e*P		**Pn**	**11 04 17.9**	**-0.5**
KBTR				*e*S		**Sn**	**11 05 28.6**	**-1.8**
BKI	**Bering**	**7.11**	**53**	PN		**Pn**	**11 04 27.8**	**-0.6**
BKI	**Bering**	**7.11**	**53**	*e*P		**Pn**	**11 04 27.8**	**-0.6**
BKI				*e*S		**Sn**	**11 05 39.9**	**-8.6**
KUR	**Kuril'sk**	**8.17**	**226**	*e*PN		**Pn**	**11 04 41.5**	**-0.9**
KUR				*e*S		**Sn**	**11 06 13.1**	**-0.8**
KUR				pmax		pmax		
	comp=Z,34nm,0.5s							
KUR				pmax		pmax		
	comp=N,18nm,0.3s							
KUR				pmax		pmax		
	comp=E,17nm,0.5s							
KUR				smax		smax		
	comp=N,47nm,0.6s							
KUR				smax		smax		
	comp=E,35nm,0.4s							
TYV	**Tymovskoe**	**8.49**	**272**	*e*PN		**Pn**	**11 04 48.4**	**+1.8**
TYV				*e*S		**Sn**	**11 06 19.3**	**-2.2**
TYV				pmax		pmax		
	comp=Z,300nm,3.5s							
TYV				pmax		pmax		
	comp=Z,31nm,1.0s							
TYV				smax		smax		
	comp=N,6.0nm,1.0s							
TYV				smax		smax		
	comp=E,6.0nm,1.0s							
MA2	**Magadan**	**8.86**	**342**	P		**Pn**	**11 04 50.9**	**-0.4**
	comp=E,0.5nm,0.3s,baz=150,slow=8.8,SNR=19							
MA2	**Magadan**	**8.86**	**342**	*d i* PN		**Pn**	**11 04 51.1**	**-0.3**
MA2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
MA2	**Magadan**	**8.86**	**342**	Pn		**Pn**	**11 04 50.2**	**-1.2**
SHO	**Shikotan**	**9.70**	**224**	*e*PN		**Pn**	**11 04 58.1**	**-4.4**
SHO				pmax		pmax		
	comp=E,3.0nm,0.2s							
SHO				pmax		pmax		
	comp=Z,23nm,0.2s							
YSS	**Yuzh-Sakhalins**	**9.76**	**249**	*e*PN		**Pn**	**11 05 05.2**	**+1.8**
YSS				pmax		pmax		
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**9.76**	**249**			**Pn**	**11 05 04.7**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**10.00**	**228**	*d i* PN		**Pn**	**11 05 06.0**	**-0.5**
YUK				S		**Sn**	**11 06 54.9**	**-2.9**
YUK				pmax		pmax		
	comp=Z,164nm,0.3s							
YUK				pmax		pmax		
	comp=N,32nm,0.2s							
RUSJ	**Misakicho**	**10.24**	**230**	*e*PN		**Pn**	**11 05 09.5**	**-0.1**
RUSJ				*e*S		**S**	**11 07 06.9**	**+2.6**
GLVR	**Golovnino**	**10.39**	**228**	*e*PN		**Pn**	**11 05 07.3**	**-4.3**
GLVR				*e*S		**Sn**	**11 07 02.5**	**-4.5**
GLVR				pmax		pmax		
	comp=Z,35nm,0.1s							
NMR	**Nemuro--Hokkai**	**10.58**	**226**	*e*PN		**Pn**	**11 05 10.0**	**-4.1**
JKA	**Kamikawa-asahi**	**11.57**	**237**	Pn		**Pn**	**11 05 28.2**	**+1.3**
ASAJ	**Asahikawa**	**11.57**	**237**	P		**Pn**	**11 05 28.5**	**+1.6**
	comp=Z,2.4nm,0.3s,baz=75,slow=14,SNR=29							
SEY	**Seymchan**	**11.87**	**352**	P		**Pn**	**11 05 31.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=157,slow=10,SNR=20							
SEY	**Seymchan**	**11.87**	**352**	*e*PN		**Pn**	**11 05 31.4**	**+1.0**
SEY				pmax		pmax		
	comp=Z,24nm,1.7s							
GRNR	**Gornyy**	**12.41**	**275**	*i* PN		**P**	**11 05 44.6**	**+2.2**
GRNR				pmax		pmax		
	comp=E,7.0nm,0.5s							
GRNR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ERM	**Erimo**	**12.82**	**229**	PN		**Pn**	**11 05 40.9**	**-2.0**
ERM	**Erimo**	**12.82**	**229**	Pn		**Pn**	**11 05 40.9**	**-2.0**
JEW	**Eniwo**	**13.06**	**235**	Pn		**Pn**	**11 05 47.3**	**+1.5**
KLR	**Kul'dur**	**15.70**	**272**	P		**P**	**11 06 20.9**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=91,slow=12,SNR=13							
JMM	**Marumori**	**17.23**	**225**			**Pn**	**11 06 37.3**	**+0.2**
BILL	**Bilibino**	**17.54**	**13**	*d i* P		**P**	**11 06 39.1**	**+0.3**
BILL				pmax		pmax		
	comp=Z,13nm,0.7s							
BILL	**Bilibino**	**17.54**	**13**	P		**P**	**11 06 38.7**	**-0.1**
BILL				IAmb		IAmb	11 06 41.2	
	comp=Z,13nm,0.6s							
ZEA	**Zeya**	**17.69**	**289**	*e*P		**P**	**11 06 40.8**	**+0.2**
ZEA				pmax		pmax		
	comp=N,10.0nm,0.6s							
ZEA				pmax		pmax		
	comp=E,20nm,0.6s							
ZEA				pmax		pmax		
	comp=Z,30nm,0.7s							
YAK	**Yakutsk**	**17.94**	**317**	P		**P**	**11 06 42.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=289,slow=4.8,SNR=62							
YAK	**Yakutsk**	**17.94**	**317**	*d i* P		**P**	**11 06 42.8**	**-0.4**
YAK				*e*S		**S**	**11 09 55.7**	**-3.9**
YAK				pmax		pmax		
	comp=Z,260nm,0.9s							
YAK				pmax		pmax		
	comp=N,20nm,0.9s							
YAK				pmax		pmax		
	comp=E,59nm,0.9s							
YAK				smax		smax		
	comp=N,43nm,1.8s							
YAK				smax		smax		
	comp=E,21nm,1.5s							
YAK	**Yakutsk**	**17.94**	**317**	P		**P**	**11 06 42.6**	**-0.6**
MJB9	**Matsu-Tunnel**	**19.50**	**228**	P		**P**	**11 07 00.8**	**+0.4**
MJB9				IAmb		IAmb	11 07 06.5	
	comp=Z,14nm,0.9s							
MAJO	**Matsushiro**	**19.50**	**228**	*e*P		**P**	**11 07 01.5**	**+1.1**
MAJO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MAJO	**Matsushiro**	**19.50**	**228**	P		**P**	**11 07 00.5**	**+0.1**
MAJO				IAmb		IAmb	11 07 06.6	
	comp=Z,13nm,0.8s							
MJAR	**Matsushiro Arr**	**19.50**	**228**	P		**P**	**11 07 01.7**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=19,slow=12,SNR=10.0							
MJAR	**Matsushiro Arr**	**19.50**	**228**	P		**P**	**11 07 01.3**	**+1.0**
INU	**Inuyama**	**21.03**	**228**	P		**P**	**11 07 16.9**	**+0.2**
GAMB	**Gambell**	**21.05**	**41**	P		**P**	**11 07 16.4**	**-0.2**
HIA	**Hailar**	**23.19**	**279**	P		**P**	**11 07 36.5**	**-1.1**
HIA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HIA	**Hailar**	**23.19**	**279**	P		**P**	**11 07 36.5**	**-1.1**
HIA				IAmb		IAmb	11 07 38.3	
	comp=Z,10nm,0.8s							
TNA	**Tin City**	**23.21**	**38**	P		**P**	**11 07 38.0**	**+0.4**
TNA				IAmb		IAmb	11 07 40.5	
	comp=Z,14nm,1.0s							
TIXI	**Tiksi**	**23.81**	**339**	P		**P**	**11 07 42.3**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=89,slow=23,SNR=16							
TIXI				PcP		**PcP**	**11 11 21.9**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=87,slow=21,SNR=3.8							
TIXI	**Tiksi**	**23.81**	**339**	P		**P**	**11 07 41.6**	**-1.4**
TIXI				IAmb		IAmb	11 07 43.5	
	comp=Z,19nm,1.4s							
ANM	**Nome**	**23.93**	**42**	P		**P**	**11 07 45.0**	**+0.8**
ANM				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ANM	**Nome**	**23.93**	**42**	P		**P**	**11 07 45.0**	**+0.8**
BOD	**Bodaibo**	**24.95**	**302**	*e*P		**P**	**11 07 52.3**	**-1.2**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.6s							
RDOG	**Red Dog Mine**	**25.94**	**34**	P		**P**	**11 08 01.6**	**-0.7**
RDOG				IAmb		IAmb	11 08 07.2	
	comp=Z,11nm,1.0s							
TTA	**Tatalina**	**27.80**	**47**	P		**P**	**11 08 18.9**	**-0.1**
TTA	**Tatalina**	**27.80**	**47**	P		**P**	**11 08 18.9**	**-0.1**
J20K	**Nowinta River**	**28.69**	**44**	IAmb		IAmb	11 08 29.6	
	comp=Z,12nm,1.4s							
IMAR	**Indian Mountai**	**28.99**	**40**	P		**P**	**11 08 29.8**	**+0.3**
BPAW	**Bear Paw Mtn.**	**30.07**	**44**	P		**P**	**11 08 39.4**	**+0.4**
KTH	**Kantishna Hill**	**30.10**	**45**	P		**P**	**11 08 40.3**	**+0.9**
KTH				IAmb		IAmb	11 08 42.6	
	comp=Z,13nm,1.2s							
TOLK	**Toolik Lake Re**	**30.88**	**35**	P		**P**	**11 08 46.4**	**+0.3**
NEA2	**Nenana**	**30.90**	**43**	IAmb		IAmb	11 08 49.9	
	comp=Z,12nm,1.2s							
MCK	**McKinley**	**30.98**	**45**	IAmb		IAmb	11 08 48.8	
	comp=Z,10.0nm,1.0s							
RND	**Reindeer**	**31.04**	**46**	IAmb		IAmb	11 08 48.8	
	comp=Z,9.5nm,1.0s							
SEW	**Seward**	**31.08**	**52**	P		**P**	**11 08 48.6**	**+0.7**
MDM	**Murphy Dome**	**31.25**	**43**	IAmb		IAmb	11 08 51.9	
	comp=Z,6.5nm,1.0s							
WRH	**Wood River Hil**	**31.33**	**44**	IAmb		IAmb	11 08 52.1	
	comp=Z,12nm,0.9s							
TCOL	**CIGO, UAF Yank**	**31.41**	**43**	IAmb		IAmb	11 08 52.9	
	comp=Z,13nm,1.1s							
COLA	**College**	**31.41**	**43**	*i* P		**P**	**11 08 52.0**	**+1.2**
COLA				*i* *PP		**pP**	**11 09 26.5**	**-1.5**
COLA				pmax		pmax		
	comp=Z,12nm,1.1s							
COLA	**College**	**31.41**	**43**	P		**P**	**11 08 50.8**	**0.0**
COLA				IAmb		IAmb	11 08 52.9	
	comp=Z,12nm,1.1s							
CCB	**Clear Creek Bu**	**31.44**	**43**	IAmb		IAmb	11 08 53.4	
	comp=Z,9.2nm,1.3s							
ULN	**Ulaanbaatar**	**31.52**	**283**	*e*P		**P**	**11 08 51.7**	**-0.5**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
DHY	**Denali Highway**	**31.73**	**46**	IAmb		IAmb	11 08 55.8	
	comp=Z,12nm,1.2s							
IL31		**31.83**	**43**	IAmb		IAmb	11 08 56.0	
	comp=Z,6.1nm,0.8s							
ILAR	**Eielson Array**	**31.83**	**43**	P		**P**	**11 08 54.9**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=263,slow=6.7,SNR=90							
ILAR				PcP		**PcP**	**11 11 40.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=282,slow=3.6,SNR=5.3							
SONM	**Songino Array**	**31.94**	**284**	P		**P**	**11 08 55.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=63,slow=7.8,SNR=12							
SONM				PcP		**PcP**	**11 11 41.8**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=93,slow=2.5,SNR=6.2							
SONM	**Songino Array**	**31.94**	**284**	IAmb		IAmb	11 08 58.0	
	comp=Z,0.8nm,0.6s							
PRP	**Porcupine Dome**	**32.37**	**42**	IAmb		IAmb	11 09 01.5	
	comp=Z,12nm,0.8s							
FYU	**Fort Yukon**	**32.46**	**40**	P		**P**	**11 09 01.0**	**+1.1**
FYU				IAmb		IAmb	11 09 03.0	
	comp=Z,8.0nm,0.9s							
J25K	**Salcha River,**	**32.49**	**43**	IAmb		IAmb	11 09 01.0	
	comp=Z,4.5nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**32.60**	**161**	T		T	11 43 15.3	
	baz=348,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**32.62**	**161**	T		T	11 43 16.5	
	baz=348,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**32.62**	**161**	T		T	11 43 16.5	
	baz=348,slow=76,SNR=31							
ZAK	**Zakamensk**	**32.79**	**290**	*e*P		**P**	**11 09 03.1**	**0.0**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
SCRK	**Sand Creek**	**33.15**	**44**	IAmb		IAmb	11 09 07.1	
	comp=Z,8.0nm,0.9s							
DOT	**Dot Lake**	**33.16**	**45**	IAmb		IAmb	11 09 07.0	
	comp=Z,5.6nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**33.75**	**162**	T		T	11 44 11.1	
	baz=347,slow=76,SNR=195							
H11S3	**WAKE ISLAND Hy**	**33.76**	**162**	T		T	11 44 07.6	
	baz=347,slow=76,SNR=210							
H11S2	**WAKE ISLAND Hy**	**33.77**	**162**	T		T	11 44 08.4	
	baz=347,slow=76,SNR=133							
BCAR	**Beaver Creek A**	**34.25**	**46**	P		**P**	**11 09 16.3**	**+0.8**
EGAK	**Eagle**	**34.27**	**43**	IAmb		IAmb	11 09 16.7	
	comp=Z,6.9nm,0.8s							
I29M	**Ogilvie Camp,**	**35.39**	**41**	IAmb		IAmb	11 09 27.2	
	comp=Z,8.4nm,0.8s							
KNGR	**Kungurtug, Tuv**	**36.08**	**293**	*e*P		**P**	**11 09 32.5**	**+1.2**
HYT	**Haines Junctio**	**36.72**	**49**	IAmb		IAmb	11 09 39.8	
	comp=Z,9.3nm,0.8s							
INK	**Inuvik**	**36.80**	**36**	P		**P**	**11 09 37.0**	**0.0**
INK				pmax		pmax		
	comp=Z,11nm,1.3s							
INK	**Inuvik**	**36.80**	**36**	P		**P**	**11 09 37.0**	**0.0**
INK				IAmb		IAmb	11 09 39.0	
	comp=Z,11nm,1.2s							
M31M	**Drury Creek, Y**	**37.78**	**46**	IAmb		IAmb	11 09 48.5	
	comp=Z,5.1nm,0.8s							
A36M	**Sachs Harbour**	**38.93**	**29**	IAmb		IAmb	11 09 57.4	
	comp=Z,13nm,0.8s							
C36M	**Paulatuk**	**39.93**	**33**	IAmb		IAmb	11 10 05.0	
	comp=Z,16nm,1.1s							
ZALV	**Zalesovo Beam**	**41.70**	**303**	P		**P**	**11 10 16.8**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=42,slow=4.8,SNR=11							
ZALV				PcP		**PcP**	**11 12 10.7**	**0.0**
	comp=Z,2.5nm,0.4s,baz=78,slow=3.6,SNR=12							
EUNU	**Eureka**	**44.29**	**13**	P		**P**	**11 10 39.0**	**+0.7**
GOMU	**GeErMu**	**45.45**	**275**	P		**P**	**11 10 48.3**	**-0

GKN	Gorkha	57.33	275	*e*P		P	11 12 17.3	+0.9
BOZ	Bozeman (W)	57.54	56	IAmb		IAmb	11 12 20.3	
	comp=Z,4.8nm,0.8s							
DANN	Dangsing	57.63	276	*e*P		P	11 12 19.6	+0.9
	comp=Z,57nm,0.7s							
KOLN	Koldanda	58.14	276	*e*P		P	11 12 22.0	-0.1
	comp=Z,40nm,0.8s							
PYUN	Piuthan	58.29	276	*e*P		P	11 12 22.7	-0.4
KVN	Kaiserville	58.39	66	P		P	11 12 26.2	+2.5
KVN				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KVN	Kaiserville	58.39	66	P		P	11 12 26.2	+2.5
YHH	Holmes Hill	58.49	57	IAmb		IAmb	11 12 27.6	
	comp=Z,7.0nm,0.7s							
YMR	Madison River	58.52	57	IAmb		IAmb	11 12 27.8	
	comp=Z,7.3nm,0.7s							
YNR	Norris Junctio	58.63	56	IAmb		IAmb	11 12 29.1	
	comp=Z,4.8nm,0.9s							
NVAR	Mina Array Bea	58.70	66	P		P	11 12 28.4	+2.5
	comp=Z,1.5nm,0.7s,baz=295,slow=7.6,SNR=12							
LKWY	Lake	58.88	56	IAmb		IAmb	11 12 31.9	
	comp=Z,7.8nm,0.8s							
YMP	Mirror Lake Pl	58.89	56	IAmb		IAmb	11 12 30.2	
	comp=Z,4.7nm,0.8s							
H17A	Grant Village	58.91	57	IAmb		IAmb	11 12 32.0	
	comp=Z,9.5nm,0.9s							
RLMT	Red Lodge	59.09	55	IAmb		IAmb	11 12 31.9	
	comp=Z,7.7nm,0.8s							
MOOW	Moose Ponds	59.26	57	P		P	11 12 32.4	+2.7
TPAW	Teton Pass	59.33	58	IAmb		IAmb	11 12 33.2	
	comp=Z,6.3nm,0.9s							
ICESG	Greenland Ices	59.39	7	*i* P		P	11 12 29.9	-0.4
ICESG				*i*			11 12 29.9	
ICESG				IAmb		IAmb	11 12 30.9	
	comp=Z,18nm,0.6s							
LOHW	Long Hollow	59.43	57	IAmb		IAmb	11 12 34.5	
	comp=Z,5.1nm,0.9s							
REDW	Red Top Meadow	59.47	58	P		P	11 12 34.0	+2.9
REDW				IAmb		IAmb	11 12 34.9	
	comp=Z,5.7nm,0.9s							
HWUT	Hardware Ranch	60.29	60	IAmb		IAmb	11 12 40.0	
	comp=Z,4.8nm,0.9s							
SFJD	Kangerlussuaq	60.33	12	*i*		P	11 12 36.1	-0.2
SFJD				*i* P		P	11 12 36.1	-0.2
BW06	Boulder Array	60.56	57	IAmb		IAmb	11 12 42.0	
	comp=Z,6.1nm,0.8s							
PD31	Pinedale Array	60.56	57	IAmb		IAmb	11 12 41.9	
	comp=Z,5.4nm,0.8s							
PDAR	Pinedale Array	60.56	57	P		P	11 12 40.5	+1.9
	comp=Z,5.6nm,0.8s,baz=327,slow=1.8,SNR=45							
PDAR	Pinedale Array	60.56	57	P		P	11 12 40.0	+1.5
FINES	FINESS Array B	60.78	335	P		P	11 12 38.1	-1.2
	comp=Z,1.7nm,0.7s,baz=40,slow=6.2,SNR=5.4							
FINES				PcP		pP	11 13 20.6	-0.1
	comp=Z,2.8nm,0.7s,baz=39,slow=7.3,SNR=6.5							
DY2G	Dye2	61.35	10	*i*		P	11 12 42.9	-0.6
DY2G				*i* P		P	11 12 42.9	-0.6
DY2G				IAmb		IAmb	11 12 44.1	
	comp=Z,9.2nm,0.8s							
ULM	Lac du Bonnet	61.85	44	P		P	11 12 47.4	+0.6
	comp=Z,4.1nm,0.6s,baz=323,slow=6.1,SNR=5.3							
ULM	Lac du Bonnet	61.85	44	IAmb		IAmb	11 12 47.9	
	comp=Z,4.3nm,0.6s							
TMUT	Trail Mountain	62.10	61	IAmb		IAmb	11 12 52.1	
	comp=Z,5.2nm,0.8s							
RSSD	Black Hills	62.46	53	P		P	11 12 52.3	+1.1
RSSD				pmax		pmax		
	comp=Z,12nm,1.1s							
RSSD	Black Hills	62.46	53	P		P	11 12 52.3	+1.1
SRU	San Rafael Swe	62.60	61	IAmb		IAmb	11 12 55.3	
	comp=Z,7.4nm,0.8s							
N23A	Red Feather La	63.79	57	IAmb		IAmb	11 13 03.0	
	comp=Z,4.6nm,0.8s							
PV13	Radium Mtn., P	64.22	61	IAmb		IAmb	11 13 05.8	
	comp=Z,5.5nm,0.7s							
NB2	NORSAR Subarra	64.56	342	P		P	11 13 03.3	-1.2
	comp=Z,1.0nm,0.6s,baz=23,slow=6.5							
NOA	NORSAR Array B	64.56	342	P		P	11 13 03.6	-0.8
	comp=Z,1.9nm,0.8s,baz=23,slow=6.5,SNR=11							
NOA				PcP		PcP	11 13 35.8	-1.2
	comp=Z,1.4nm,0.7s,baz=24,slow=3.4,SNR=5.8							
ECSD	EROS Data Cent	66.37	49	P		P	11 13 16.8	+0.5
ANMO	Albuquerque	67.86	62	⇑*e*P		P	11 13 27.7	+1.7
ANMO				pmax		pmax		
	comp=Z,10.0nm,2.5s							
ANMO	Albuquerque	67.86	62	P		P	11 13 27.0	+1.0
SCHQ	Schefferville	68.37	25	P		P	11 13 29.1	+0.4
	comp=Z,8.2nm,0.9s,baz=352,slow=5.4,SNR=8.8							
AKASG	Malin Array Be	68.86	327	P		P	11 13 30.4	-1.3
	comp=Z,0.5nm,0.3s,baz=32,slow=6.5,SNR=3.7							
AKASG	Malin Array Be	68.86	327	IAmb		IAmb	11 13 31.2	
	comp=Z,2.7nm,1.4s							
P38A	Dawn	71.01	50	IAmb		IAmb	11 13 46.5	
	comp=Z,8.5nm,0.8s							
EKA	Eskdalemuir Ar	72.37	348	P		P	11 13 52.6	-0.3
	comp=Z,0.4nm,0.3s,baz=25,slow=4.6,SNR=3.5							
WRA	Warramunga Arr	73.44	201	P		P	11 14 00.5	+1.0
	comp=Z,0.9nm,0.3s,baz=16,slow=6.2,SNR=38							
WRA				pP		pP	11 14 42.1	-0.3
	comp=Z,1.1nm,0.7s,baz=18,slow=6.4,SNR=4.6							
TXAR	Lajitas Array	73.63	64	P		P	11 14 02.7	+1.9
	comp=Z,7.3nm,1.1s,baz=294,slow=4.8,SNR=20							
TXAR				pP		pP	11 14 43.8	-0.1
	comp=Z,1.8nm,0.7s,baz=305,slow=4.8,SNR=5.7							
GERES	GERESS Array B	75.21	335	P		P	11 14 09.6	0.0
	comp=Z,0.4nm,0.4s,baz=15,slow=4.1,SNR=3.5							
ASAR	Alice Springs	77.13	201	P		P	11 14 22.4	+1.9
	comp=Z,2.3nm,0.4s,baz=13,slow=5.2,SNR=20							
ASAR				pP		pP	11 15 04.7	+0.9
	comp=Z,0.5nm,0.4s,baz=12,slow=4.8,SNR=2.2							
ESDC	Sonseca Array	87.77	345	P		P	11 15 14.8	-0.7
	comp=Z,4.0nm,0.9s,baz=0.4,slow=3.8,SNR=21							
ESDC	Sonseca Array	87.77	345	IAmb		IAmb	11 15 15.5	
	comp=Z,4.6nm,0.9s							
H03N2	Juan Fernandez	136.69	88	T		T	13 53 03.1	
	baz=313,slow=76,SNR=11							
H03N1	Juan Fernandez	136.71	88	T		T	13 53 04.9	
	baz=313,slow=76,SNR=11							
H03N3	Juan Fernandez	136.71	88	T		T	13 53 06.2	
	baz=313							
CPUP	Villa Florida	144.46	58	PKP		PKPdf	11 22 01.5	-0.1
	comp=Z,4.1nm,0.7s,baz=322,slow=4.5,SNR=8.2							
PLCA	Paso Flores	146.45	90	PKPbc		PKPab	11 22 08.0	+0.2
	comp=Z,3.8nm,0.6s,baz=283,slow=3.8,SNR=10							
PLCA	Paso Flores	146.45	90	PKP2		PKPab	11 22 08.0	+0.2

IDC ***24*** *11:16:34.5±1.3, 19°.52S×70°.73W, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.8/34, mbtmp4.1/4, ML3.8/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/60, Error ellipse: s-maj=37.4km s-min=33.2km az=89.0*

VAO ***24*** *11:16:35.3±0.9, 19°.48S×71°.11W, h10km, mb4.1*

NEIC ***24*** *11:16:39.8±1.1, 19°.68S±0°.05×70°.78W±0°.08, h38km±12km, mb4.0/1, ML4.0(GUC), Error ellipse: s-maj=10.8km s-min=6.5km az=100.0*

GUC ***24*** *11:16:40.0±0.7, 19°.62S×70°.70W, h34km±2km, ML4.0*

ISC 24 11:16:35.8±1.7, 19°.60S±0°.03×70°.84W±0°.07, h6km±10km, n74, σ1°34/73, mb4.1/3, 4C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA02	Huaiquique	0.95	135			Pg	11 16 54.2	+0.2
TA02	Huaiquique	0.95	135	*e*P		Pg	11 16 54.4	+0.4
TA02				*e*S		Sg	11 17 05.1	-1.2
TA02				IAML			11 17 06.4	
	comp=N,6μm,0.6s							
PB12	IPOC Station P	1.09	26			Pn	11 16 57.8	0.0
PB12	IPOC Station P	1.09	26	⇓*i*P		Pn	11 16 57.7	0.0
PB12				*i* S		Sn	11 17 12.2	-1.1
PB12				IAML			11 17 16.9	
	comp=N,3μm,0.2s							
PB11	IPOC Station P	1.13	98	Pn		Pg	11 16 57.0	-0.6
PB11	IPOC Station P	1.13	98	⇓*i*P		Pg	11 16 56.9	-0.6
PB11				IAML			11 17 13.7	
	comp=N,6μm,0.2s							
TA01	Diego Aracena	1.15	147			Pg	11 16 58.0	+0.2
TA01	Diego Aracena	1.15	147	⇑*i*P		Pg	11 16 57.9	0.0
TA01				*i* S		Sg	11 17 11.9	-0.8
AP01	Chacalluta	1.31	21			Pn	11 17 01.6	+1.0
AP01	Chacalluta	1.31	21	⇓*i*P		Pn	11 17 01.4	+0.8
AP01				*i* S		Sn	11 17 18.7	+0.3
AP01				IAML			11 17 23.1	
	comp=N,7μm,0.3s							
PATCX	Punta Patache	1.38	152			Pn	11 17 01.4	-0.3
GO01	Chusmiza	1.55	93			Pn	11 17 04.3	-0.1
GO01	Chusmiza	1.55	93	*e*P		Pn	11 17 04.1	-0.4
GO01				*i* S		Sn	11 17 23.2	-1.9
GO01				IAML			11 17 24.4	
	comp=N,10μm,0.3s							
PB08	IPOC Station P	1.68	109			Pn	11 17 05.8	-0.2
PB08	IPOC Station P	1.68	109	⇓*i*P		Pn	11 17 05.9	-0.2
PB08				*i* S		Sn	11 17 26.3	-1.8
PB08				IAML			11 17 31.6	
	comp=N,2μm,0.8s							
PB16	IPOC Station P	1.78	45			Pb	11 17 08.8	-0.4
PB16	IPOC Station P	1.78	45	⇓*i*P		Pb	11 17 08.8	-0.4
PB16				*i* S		Sn	11 17 30.9	0.0
PB16				IAML			11 17 37.2	
	comp=N,2μm,0.4s							
PB01	IPOC Station P	1.92	139			Pn	11 17 09.0	-0.1
PB01	IPOC Station P	1.92	139	⇑*i*P		Pn	11 17 09.1	-0.1
PB01				*i* S		Sn	11 17 31.9	-1.7
PB01				IAML			11 17 38.7	
	comp=E,2μm,0.4s							
PB02	IPOC Station P	1.93	153			Pn	11 17 09.3	0.0
PB02	IPOC Station P	1.93	153	⇑*i*P		Pn	11 17 09.3	0.0
PB02				*i* S		Sn	11 17 31.2	-2.7
PB02				IAML			11 17 41.9	
	comp=E,3μm,0.3s							
PB07	IPOC Station P	2.30	157			Pn	11 17 14.2	-0.2
PB07	IPOC Station P	2.30	157	⇑*i*P		Pn	11 17 14.2	-0.2
PB07				IAML			11 17 54.1	
	comp=E,2μm,0.7s							
PB09	IPOC Station P	2.65	146			Pn	11 17 20.2	+0.9
PB09	IPOC Station P	2.65	146	*e*P		Pn	11 17 20.1	+0.9
PB09				*i* S		Sn	11 17 54.1	+2.2
PB09				IAML			11 18 03.4	
	comp=E,1μm,0.6s							
PB04	IPOC Station P	2.80	167			Pn	11 17 20.7	-0.7
PB04	IPOC Station P	2.80	167	*e*P		Pn	11 17 20.5	-0.8
PB04				IAML			11 18 10.2	
	comp=E,637nm,0.7s							
PB04				IAML			11 18 11.3	
	comp=N,727nm,0.7s							
PB06	IPOC Station P	3.31	159			Pn	11 17 27.9	-0.4
PB06	IPOC Station P	3.31	159	*e*P		Pn	11 17 27.1	-1.2
PB06				IAML			11 18 28.0	
	comp=N,373nm,0.7s							
LVC	Limon Verde	3.50	149	Pn		Pn	11 17 32.1	+1.0
	comp=N,7.2nm,0.3s,baz=336,slow=12,SNR=42							
LVC						LR	11 19 01.7	
	comp=N,262nm,20.1s,baz=345,slow=42							
LVC	Limon Verde	3.50	149	*i* P		Pn	11 17 31.7	+0.6
LVC				*e*S		Sn	11 18 12.4	-0.6
LVC	Limon Verde	3.50	149	*e*P		Pn	11 17 32.1	+1.0
PB15	IPOC Station P	3.81	161			Pn	11 17 34.6	-0.7
PB10	IPOC Station P	3.91	176	Pn		Pn	11 17 34.7	-1.7
LPAZ	La Paz	4.18	39	Pn		Pb	11 17 45.0	-5.3
	comp=N,5.8nm,0.3s,baz=237,slow=7.1,SNR=49							
LPAZ	La Paz	4.18	39	Pn		Pn	11 17 44.5	+3.7
GO02	Mina Guanaco	5.66	168	Pn		Pn	11 18 00.3	-0.5
AC01	Pan de Azucar	6.52	178	Pn		Pn	11 18 10.8	-1.6
AC02	Maricunga	7.37	168	Pn		Pn	11 18 24.4	-0.1
AC04	Llanos de Chal	8.57	181	Pn		Pn	11 18 39.8	-0.7
SIV	San Ignacio	9.97	70	Pn		Pn	11 18 58.9	-0.9
	comp=N,1.2nm,0.3s,baz=256,slow=12,SNR=20							
SIV						LR	11 23 24.6	
	comp=N,139nm,19.8s,baz=266,slow=42							
PTLB	Pontes e Lacer	11.90	72	*e*P		Pn	11 19 27.1	+0.9
VILB	Vilhena	12.16	59	*e*P		Pn	11 19 30.9	+1.1
CPUP	Villa Florida	14.13	121	LR		LR	11 26 20.6	
	comp=N,84nm,19.9s,baz=238,slow=42							
CPUP	Villa Florida	14.13	121	*e*P		Pn	11 20 00.3	+3.7
AQDB	Aquidauana	14.26	96	*e*P		Pn	11 20 00.6	+2.2
H03N1	Juan Fernandez	15.55	206	Pn		Pn	11 20 15.1	-0.4
H03N1				T		T	11 36 37.9	
	baz=32,slow=72,SNR=96							
H03N2	Juan Fernandez	15.56	206	T		T	11 36 38.5	
	baz=32,slow=72,SNR=73							
H03N3	Juan Fernandez	15.57	206	Pn		Pn	11 20 14.9	-0.9
H03N3				T		T	11 36 36.0	
	baz=32,slow=72,SNR=82							
PDRB	Porto dos Gac	15.73	62	*e*P		P	11 20 20.3	-2.0
PTGB	Pitanga	18.12	110	*e*P		P	11 20 51.0	+2.2
PCMB	Pacaembu	18.44	100	*e*P		Pn	11 20 54.7	+2.5
CPSB	Cacapava Do Su	19.07	128	*e*P		Pn	11 20 59.9	+0.1
MACA	Manacapuru-AM	19.11	33	*e*P		P	11 20 58.3	-1.3
ITRB	Iturama	19.29	94	*e*P		Pn	11 21 03.1	+0.5
NPGB	Novo Progresso	19.54	32	*e*P		P	11 21 03.7	-0.6
PLTB	Pedras Altas	19.67	131	*e*P		Pn	11 21 08.6	+1.6
PLCA	Paso Flores	21.07	179	P		P	11 21 24.9	+4.1
	comp=N,1.4nm,0.8s,baz=347,slow=12,SNR=4.4							
MALB	Monte Alegre	23.96	45	*e*P		P	11 21 51.8	+0.7
BOAV	Boa Vista	24.09	26	*e*P		P	11 21 51.4	-1.0
ROSC	El Rosal	24.52	352	LR		LR	11 31 08.4	
	comp=N,58nm,19.1s,baz=360,slow=36							
MCPB	Macapa, AP	26.54	46	*e*P		P	11 22 13.1	-1.5
MDP	Montagnes des	30.38	38	LR		LR	11 35 58.1	
	comp=N,114nm,18.4s,baz=238,slow=38							
TORD	Torodi Ar. Bea	78.45	72	P		P	11 28 36.0	-2.2
	comp=N,1.5nm,0.7s,baz=251,slow=4.6,SNR=6.6							
TORD	Torodi Ar. Bea	78.45	72	IAmb		IAmb	11 28 37.6	
	comp=Z,1.5nm,0.8s							
YKA	Yellowknife Ar	88.81	341	P		P	11 29 30.2	0.0
	comp=Z,0.7nm,0.6s,baz=136,slow=4.6,SNR=19							
H11S2	WAKE ISLAND Hy	125.82	279	T		T	13 54 46.3	
	baz=101,slow=74,SNR=60							
H11S1	WAKE ISLAND Hy	125.83	279	T		T	13 54 48.7	
	baz=101,slow=74,SNR=40							
H11S3	WAKE ISLAND Hy	125.84	279	T		T	13 54 50.5	
	baz=101,slow=74,SNR=49							
H11N3	WAKE ISLAND Hy	125.86	281	T		T	13 54 44.4	
	baz=100,slow=74,SNR=15							
H11N2	WAKE ISLAND Hy	125.87	281	T		T	13 54 49.3	
	baz=100,slow=74,SNR=15							
H11N1	WAKE ISLAND Hy	125.87	281	T		T	13 54 51.5	
	baz=100,slow=74,SNR=8.3							
WRA	Warramunga Arr	133.60	214	PKP		PKPdf	11 35 54.2	-0.1
	comp=Z,2nm,0.5s,baz=154,slow=1.9,SNR=4.7							
MKAR	Makanchi Array	145.09	33	PKP		PKPab	11 36 13.3	-0.4
	comp=Z,1.4nm,0.6s,baz=315,slow=3.6,SNR=13							

NIED ***24*** *11:17:12.1, 30°.74N×138°.78E, h0km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15 Nm; Mrr 0.42; Mθθ -0.85; Mφφ 0.42; Mrθ -0.64; Mθφ 0.36; Mφr 1.12; Fault plane solution: M0 1.52000×10^15 NP1: φs 323.00000°, δ81.00000°, λ118.00000°. NP2: φs 69.00000°, δ30.00000°, λ18.00000°.*

JMA ***24*** *11:17:12.1±0.2, 30°.74N×138°.78E, h0km, M4.1*

IDC ***24*** *11:17:12.6±1.8, 30°.42N×139°.20E, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.5/60, mbtmp3.7/5, ML3.7/2, MS3.0/7, Ms1 3.1/7, ms1mx2.8/75, Error ellipse: s-maj=55.4km s-min=21.5km az=58.0*

ISC 24 11:17:14.7±1.2, 30°.56N±0°.08×139°.0E±0°.1, h35km, n27, σ1°73/10, MS3.0/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	Aogashimamukai	2.00	18	P		Pn	11 17 46.3	+0.3
JHJ	Hachijo jima 2	2.63	14	LR		LR	11 18 59.2	
	comp=Z,335nm,19.7s,baz=250,slow=39							
TK01	Tokai 1	3.42	339	*e*S		Sn	11 18 44.0	-0.5
TK02	Tokai 2	3.55	343	*e*S		Sn	11 18 47.0	-0.6
JMMH	Miemihama	4.13	323	*e*S		Sn	11 19 00.2	-2.2
JKN2	Miekihoku	4.35	328	*e*S		Sn	11 19 06.2	-1.5
JTNC	Tanabenakahech	4.36	319	P		Pn	11 18 17.9	-0.5
JTNC				*e*S		Sn	11 19 06.2	-1.8
JCJ	Chichijima	4.42	141	Pn		Pn	11 18 18.8	-0.4
	6.4nm,0.3s,baz=135,slow=19,SNR=1.6							
JCJ						Sn	11 19 07.2	-2.3
	9.9nm,0.3s,baz=274,slow=23,SNR=2.4							
JAO	Obara	4.93	343	*e*S		Sn	11 19 21.4	-0.6
MJAR	Matsushiro Arr	6.01	354	Pn		Pn	11 18 43.7	+2.6
	0.1nm,0.3s,baz=174,slow=12,SNR=1.7							
JNU	Nakatsue	7.39	292	Pn		Pn	11 19 03.6	+3.5
	1.0nm,0.3s,baz=33,slow=2.2,SNR=7.5							
JNU						LR	11 21 53.5	
	comp=Z,152nm,19.4s,baz=90,slow=37							
KSRS	Korea Array	11.50	310	LR		LR	11 23 49.2	
	comp=Z,42nm,21.1s,baz=145,slow=34							
KLR	Kul'dur	19.45	346	LR		LR	11 29 27.6	
	comp=Z,38nm,18.1s,baz=167,slow=37							
PETK	Petropavlovsk-	26.32	26	LR		LR	11 36 02.3	
	comp=Z,24nm,18.1s,baz=200,slow=43							
H11N2	WAKE ISLAND Hy	27.36	107	T		T	11 51 25.2	
	baz=300,slow=75,SNR=23							
H11N1	WAKE ISLAND Hy	27.36	107	T		T	11 51 23.7	
	baz=300,slow=75,SNR=16							
H11N3	WAKE ISLAND Hy	27.38	107	T		T	11 51 26.5	
	baz=300,slow=75,SNR=19							
H11S3	WAKE ISLAND Hy	27.80	109	T		T	11 52 12.9	
	baz=302,slow=75,SNR=7.5							
H11S1	WAKE ISLAND Hy	27.80	109	T		T	11 52 12.3	
	baz=302,slow=75,SNR=9.4							
H11S2	WAKE ISLAND Hy	27.81	109	T		T	11 51 56.8	
	baz=302,slow=75,SNR=6.3							
SONM	Songino Array	30.32	314	P		P	11 23 28.3	+5.4
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.0							
YAK	Yakutsk	32.07	352	LR		LR	11 36 04.0	
	comp=Z,49nm,18.3s,baz=118,slow=35							
CMAR	Chiang Mai Arr	38.23	261	LR		LR	11 40 24.7	
	comp=Z,26nm,19.6s,baz=85,slow=36							
WRA	Warramunga Arr	50.41	186	P		P	11 26 10.8	+2.1
	1.1nm,0.9s,baz=360,slow=7.8,SNR=8.2							
H03N2	Juan Fernandez	147.79	105	T		T	14 21 58.8	
	baz=281,slow=75,SNR=3.8							
H03N3	Juan Fernandez	147.80	105	T		T	14 21 56.2	
	baz=281,slow=75,SNR=4.9							
H03N1	Juan Fernandez	147.81	105	T		T	14 22 03.9	
	baz=281,slow=75,SNR=6.4							

SOME ***24*** *11:19:28.0, 41°.37N×74°.65E, h10km*

KNET ***24*** *11:19:28.7±0.6, 41°.41N×74°.53E, h18km±8km, ml3.4, Error ellipse: s-maj=6.9km s-min=3.1km az=5.0*

KRNET ***24*** *11:19:28.0±0.1, 41°.35N×74°.60E, h17km, mb4.2*

NNC ***24*** *11:19:29.3±0.9, 41°.40N×74°.65E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=8.2km s-min=4.5km az=166.0*

IDC ***24*** *11:19:30.4±1.4, 41°.59N×74°.14E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/58, mbtmp3.6/8, ML3.0/3, Error ellipse: s-maj=29.1km s-min=11.6km az=123.0*

MOS ***24*** *11:19:31.0±1.1, 41°.49N×74°.32E, h14km, mb3.9/4, Error ellipse: s-maj=9.2km s-min=4.6km az=70.4*

ISC 24 11:19:29.1±1.1, 41°.39N±0°.02×74°.60E±0°.02, h5km±8km, n146, σ1°50/208, mb3.9/8, 47C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARLS	Aral	0.52	337	*e*PG		Pg	11 19 38.4	-0.7
ARLS				*e*S		Sg	11 19 46.0	+0.1
ARLS	Aral	0.52	337	⇓*e*P		Pg	11 19 38.4	-0.7
	baz=38							
ARLS				⇓*e*S		Sg	11 19 46.0	+0.1
	baz=38							
UCH	Uchtor	0.84	356	⇓P		Pg	11 19 44.7	-0.6
	84nm,0.2s,SNR=244							
UCH				⇑S		Sg	11 19 57.0	+0.7
	333nm,0.2s							
UCH	Uchtor	0.84	356	*e*PG		Pg	11 19 44.8	-0.6
UCH	Uchtor	0.84	356	⇓*e*P		Pg	11 19 44.8	-0.6
	baz=56							
UCH				⇓*i*S		Sg	11 19 56.7	+0.3
	baz=56							
AML	Almayashu	1.00	318	P		Pg	11 19 47.6	-0.9
	130nm,0.2s,SNR=586							
AML				⇑S		Sg	11 20 01.2	-0.3
	888nm,0.3s							
AML	Almayashu	1.00	318	*i* PG		Pg	11 19 47.6	-0.9
AML				*e*S		Sg	11 20 01.7	+0.2
AAK	Ala-Archa	1.25	357	Pg		Pg	11 19 52.1	-1.1
	24nm,0.3s,baz=166,slow=5.8,SNR=166							
AAK				Lg		Lg	11 20 04.6	
	47nm,0.3s,baz=189,slow=14,SNR=7.2							
KBK	Karagaybulak	1.30	12	⇓P		Pg	11 19 53.0	-1.1
	124nm,0.1s,SNR=83							
KBK				⇓S		Sg	11 20 10.7	-0.1
	339nm,0.2s							
KBK	Karagaybulak	1.30	12	*i* PG		Pg	11 19 52.9	-1.1
KBK				*i* S		Sg	11 20 10.5	-0.4
KBK	Karagaybulak	1.30	12	⇑*i*P		Pg	11 19 52.9	-1.1
	baz=11							
KBK				⇑*i*S		Sg	11 20 10.5	-0.4
	baz=11							
EKS2	Erkin-Say	1.41	335	⇓P		Pn	11 19 55.0	-0.6
	57nm,0.2s,SNR=36							
EKS2	Erkin-Say	1.41	335	*e*PG		Pn	11 19 54.9	-0.7
EKS2	Erkin-Say	1.41	335	⇑*i*P		Pn	11 19 54.9	-0.7
	baz=35							
EKS2				⇑*i*S		Sg	11 20 14.2	-0.4
	baz=35							
FRU1	Bishkek	1.42	1	*e*PG		Pn	11 19 55.3	-0.4
FRU1		

KDJ Kajisay 2.07 68 *i* PN Pg 11 20 15.2 +6.3
KDJ Kajisay 2.07 68 ⇓*i* P **Pn 11 20 05.2 +0.5**
baz=67
KDJ ⇓*i* S **Sn 11 20 32.6 +1.6**
baz=67
KSH Kashi 2.14 150 Pn **Pg 11 20 10.5 +0.3**
KSH sP Pb 11 20 16.4 +7.9
KSH Sn **Sg 11 20 42.6 +4.6**
KSH pmax pmax
comp=Z,31nm,0.5s
KSH smax smax
comp=N,380nm,0.6s
KSH smax smax
comp=E,300nm,0.9s
MTBS Maitube 2.21 37 *e*P **Pb 11 20 09.5 -0.2**
comp=E,149nm,0.3s
MTBS *e*S **Sb 11 20 39.2 +1.8**
comp=E,527nm,0.6s
MTBS Maitube 2.21 37 Pg **Pb 11 20 10.4 +0.7**
comp=E,167nm,0.6s
MTBS Lg Lg 11 20 39.1
comp=E,527nm,0.6s
IZV Izvestkoviy 2.23 42 *e*P **Pb 11 20 09.4 -0.6**
comp=E,255nm,0.6s
IZV *e*S **Sb 11 20 39.3 +1.4**
comp=E,364nm,0.6s
IZV Izvestkoviy 2.23 42 Pg **Pb 11 20 09.5 -0.6**
comp=E,255nm,0.6s
IZV Lg Lg 11 20 37.5
comp=E,364nm,0.6s
TNSS Tian-Shan 2.40 46 *e*P **Pb 11 20 12.7 -0.4**
comp=E,113nm,0.3s
TNSS *e*S **Sb 11 20 44.9 +1.7**
comp=E,92nm,0.5s
TNSS Tian-Shan 2.40 46 *i* Pb **Pb 11 20 12.4 -0.7**
baz=46
TNSS Tian-Shan 2.40 46 Pg **Pb 11 20 12.7 -0.4**
comp=E,113nm,0.3s
TNSS Lg Lg 11 20 43.4
comp=E,92nm,0.5s
KRBS Karabastau 2.44 19 *e*P **Pb 11 20 13.1 -0.5**
comp=E,162nm,0.3s
KRBS *e*S **Sb 11 20 46.3 +2.3**
comp=E,340nm,0.6s
KRBS Karabastau 2.44 19 Pg **Pb 11 20 14.0 +0.4**
comp=E,162nm,0.3s
KRBS Lg Lg 11 20 45.7
comp=E,340nm,0.6s
AAA Alma-Ata 2.51 43 *e*PN **Pb 11 20 15.3 +0.6**
AAA Alma-Ata 2.51 43 *e*P **Pb 11 20 15.2 +0.6**
comp=E,234nm,0.3s
AAA *e*S **Sg 11 20 49.2 -0.5**
comp=E,319nm,0.5s
AAA Alma-Ata 2.51 43 *e*Pb **Pb 11 20 15.3 +0.6**
baz=42
AAA Alma-Ata 2.51 43 Pg **Pb 11 20 15.2 +0.6**
comp=E,234nm,0.3s
AAA Lg Lg 11 20 48.0
comp=E,319nm,0.5s
KNDC Almaty 2.54 43 PN **Pb 11 20 15.3 +0.1**
KNDC 11 20 50.7
KNDC Almaty 2.54 43 ⇓Pg **Pb 11 20 15.3 +0.1**
comp=E,175nm,0.5s
KNDC ⇓Lg Lg 11 20 50.6
comp=E,384nm,0.5s
MDOK Medeo 2.54 45 *i* PN **Pb 11 20 14.9 -0.4**
MDOK Medeo 2.54 45 *e*P **Pb 11 20 14.9 -0.4**
comp=E,70nm,0.4s
MDOK *e*S **Sb 11 20 49.0 +2.0**
comp=E,183nm,0.8s
MDOK Medeo 2.54 45 *i* Pb **Pb 11 20 14.9 -0.4**
baz=45
MDOK Medeo 2.54 45 Pg **Pb 11 20 15.0 -0.4**
comp=E,130nm,0.6s
MDOK Lg Lg 11 20 47.1
comp=E,183nm,0.8s
TRKS Terek-Say 2.60 274 *i* PN **Pn 11 20 12.3 +0.3**
TRKS *i* S **Sn 11 20 44.3 +0.3**
TRKS Terek-Say 2.60 274 ⇑*i* P **Pn 11 20 12.3 +0.3**
baz=74
TRKS ⇑*i* S **Sn 11 20 44.3 +0.3**
baz=74
KOTS Kotyrbulak 2.63 44 *e*P **Pb 11 20 17.0 +0.2**
comp=E,244nm,0.7s
KOTS *e*S **Sb 11 20 51.5 +2.2**
comp=E,358nm,0.3s
KOTS Kotyrbulak 2.63 44 Pg **Pb 11 20 17.0 +0.2**
comp=E,244nm,0.7s
KOTS Lg Lg 11 20 50.6
comp=E,358nm,0.3s
ANVS Anan'yevo 2.68 58 *e*PN **Pn 11 20 13.8 +0.7**
ANVS Anan'yevo 2.68 58 ⇓*e*P **Pn 11 20 13.8 +0.7**
baz=57
ANVS ⇓*i* S **Sn 11 20 46.9 +0.9**
baz=57
KTBS Karatobe 2.79 33 *e*P **Pb 11 20 19.6 +0.2**
comp=E,75nm,0.5s
KTBS *e*S **Sb 11 20 56.4 +2.5**
comp=E,468nm,0.7s
KTBS Karatobe 2.79 33 Pg **Pb 11 20 19.6 +0.2**
comp=E,75nm,0.5s
KTBS Lg Lg 11 20 55.7
comp=E,468nm,0.7s
KUU Kurty 2.82 27 *i* PN **Pb 11 20 19.7 -0.2**
KUU Kurty 2.82 27 *e*P **Pb 11 20 20.1 +0.2**
comp=E,44nm,0.7s
KUU *e*S **Sb 11 20 56.8 +2.1**
comp=E,420nm,0.5s
KUU Kurty 2.82 27 *i* Pb **Pb 11 20 19.8 -0.2**
baz=28
KUU Kurty 2.82 27 Pg **Pb 11 20 20.1 +0.2**
comp=E,59nm,0.5s
KUU Lg Lg 11 20 56.2
comp=E,420nm,0.5s
DZA Taraz 2.86 303 *e*P **Pb 11 20 22.3 +1.7**
comp=E,102nm,0.3s
DZA *e*S **Sg 11 21 00.3 -0.6**
comp=E,941nm,0.6s
CHKK Chushkaly 3.03 35 *e*P **Pb 11 20 23.8 +0.2**
comp=E,32nm,0.3s
CHKK *e*S **Sb 11 21 03.7 +2.7**
comp=E,214nm,0.5s
CHKK Chushkaly 3.03 35 *i* Pb **Pb 11 20 23.8 +0.2**
baz=35
CHKK Chushkaly 3.03 35 Pg **Pb 11 20 24.1 +0.5**
comp=E,32nm,0.3s
CHKK Lg Lg 11 21 02.7
comp=E,214nm,0.5s
BTK Batken 3.16 246 *i* PN **Pn 11 20 19.9 +0.3**
BTK *i* S **Sn 11 20 58.0 +0.3**
BTK Batken 3.16 246 ⇑*i* P **Pn 11 20 19.9 +0.3**
baz=47
BTK ⇑*i* S **Sn 11 20 58.0 +0.3**
baz=47
SATY Saty 3.29 58 *e*PN **Pb 11 20 27.2 -0.8**
SATY Saty 3.29 58 *e*P **Pb 11 20 27.3 -0.8**
comp=E,25nm,0.5s
SATY *e*S **Sb 11 21 10.4 +2.0**
comp=E,131nm,0.6s
SATY Saty 3.29 58 *e*Pb **Pb 11 20 27.3 -0.8**
baz=57
SATY *i* Pg **Pg 11 20 30.2 -1.9**
baz=57
SATY Saty 3.29 58 Pg **Pb 11 20 28.4 +0.4**
comp=E,37nm,0.7s
SATY Lg Lg 11 21 10.4
comp=E,131nm,0.6s
ZHN Zhinishke 3.36 57 *e*PN **Pb 11 20 29.1 -0.1**
ZHN Zhinishke 3.36 57 *e*P **Pb 11 20 29.3 0.0**
comp=E,44nm,0.1s
ZHN *e*S **Sb 11 21 13.1 +2.6**
comp=E,67nm,0.8s
ZHN Zhinishke 3.36 57 *e*Pb **Pb 11 20 29.1 -0.1**
baz=56
ZHN Zhinishke 3.36 57 Pg **Pb 11 20 30.1 +0.9**
comp=E,44nm,0.1s
ZHN Lg Lg 11 21 13.1
comp=E,67nm,0.8s
KURS Kuram 3.38 50 *e*P **Pb 11 20 29.5 0.0**
comp=E,12nm,0.5s
KURS *e*S **Sb 11 21 14.1 +3.2**
comp=E,78nm,1.1s
KURS Kuram 3.38 50 Pg **Pb 11 20 30.0 +0.5**
comp=E,20nm,0.6s
KURS Lg Lg 11 21 13.0
comp=E,78nm,1.1s
IUG Iuzhnay 3.50 284 *e*PN **Pn 11 20 26.2 +2.0**
comp=E,1µm,0.7s
IUG Iuzhnay 3.50 284 *e*P **Pb 11 20 32.6 +1.0**
IUG *e*S **Sg 11 21 18.9 -2.6**
comp=E,621nm,0.6s
IUG Iuzhnay 3.50 284 *e*Pb **Pn 11 20 26.3 +2.0**
baz=287
KK08 Karatay Array 3.50 301 ⇑Pn **Pn 11 20 25.6 +1.4**
comp=E,2.8nm,0.5s
KK08 ⇑Pg **Pb 11 20 32.1 +0.6**
comp=E,20nm,0.4s
KK08 ⇑Lg Lg 11 21 18.9
comp=E,145nm,0.7s
KPKS Kokpek 3.67 54 *e*P **Pb 11 20 34.4 -0.2**
comp=E,24nm,0.3s
KPKS *e*S **Sb 11 21 22.4 +3.0**
comp=E,169nm,0.7s
BTLS Baital 3.68 354 *e*P **Pb 11 20 35.1 +0.6**
comp=E,8.7nm,0.4s
BTLS *e*S **Sb 11 21 22.9 +3.5**
comp=E,157nm,0.5s
BTLS Baital 3.68 354 Pg **Pb 11 20 34.7 +0.1**
comp=E,6.6nm,0.3s
BTLS Lg Lg 11 21 21.1
comp=E,157nm,0.5s
UZB Uzynbulak 3.73 60 *i* PN **Pg 11 20 38.9 -1.6**
UZB Uzynbulak 3.73 60 *e*P **Pb 11 20 35.2 -0.3**
comp=E,14nm,0.3s
UZB *e*S **Sb 11 21 23.9 +2.8**
comp=E,108nm,0.9s
UZB Uzynbulak 3.73 60 *i* Pg **Pg 11 20 39.0 -1.6**
baz=59
UZB Uzynbulak 3.73 60 Pg **Pb 11 20 36.2 +0.7**
comp=E,14nm,0.4s
UZB Lg Lg 11 21 23.9
comp=E,108nm,0.9s
CHM Chimkent 3.84 286 *e*P **Pb 11 20 39.7 +2.2**
comp=E,255nm,0.2s
CHM *e*S **Sg 11 21 31.1 -1.5**
comp=E,338nm,0.6s
BRLS Borolday 3.90 297 *e*P **Pb 11 20 40.3 +1.9**
comp=E,18nm,0.8s
BRLS *e*S **Sg 11 21 32.7 -1.6**
comp=E,137nm,0.8s
BLB Baldybastay 3.94 45 *e*P **Pb 11 20 39.3 +0.2**
comp=E,22nm,0.5s
BLB *e*S **Sb 11 21 30.9 +3.7**
comp=E,126nm,0.9s
BLB Baldybastay 3.94 45 Pg **Pb 11 20 40.4 +1.2**
comp=E,103nm,0.4s
BLB Lg Lg 11 21 30.9
comp=E,126nm,0.9s
GAR Garm 4.05 235 *e*PN **Pn 11 20 32.3 +0.4**
GAR *i* S **Sn 11 21 18.9 -0.8**
GAR Garm 4.05 235 ⇑*e*P **Pn 11 20 32.3 +0.4**
baz=36
GAR ⇑*i* S **Sn 11 21 18.9 -0.8**
baz=36
PDGK Podgornoye 4.12 60 Pg **Pb 11 20 43.5 +1.4**
comp=E,5.4nm,0.5s
PDGK Lg Lg 11 21 36.3
comp=E,41nm,0.6s
PDGK Podgornoye 4.12 60 ⇑Pg **Pb 11 20 45.0 +2.9**
comp=E,15nm,0.5s
PDGK ⇑Lg Lg 11 21 42.8
comp=E,88nm,0.7s
TDK Taldyqorghan 4.56 36 *e*P **Pb 11 20 52.8 +3.1**
comp=E,42nm,0.5s
TDK *e*S **Sg 11 21 53.8 -1.9**
comp=E,134nm,0.8s
TDK Taldyqorghan 4.56 36 Pg **Pg 11 20 53.6 -2.9**
comp=E,114nm,0.6s
TDK Lg Lg 11 21 53.8
comp=E,134nm,0.8s
KTMS Ketmen 4.73 62 *e*P **Pg 11 20 56.7 -3.2**
comp=E,9.3nm,0.5s
KTMS *e*S **Sg 11 22 00.4 -0.7**
comp=E,24nm,0.6s
KTMS Ketmen 4.73 62 Pg **Pb 11 20 55.6 +2.9**
comp=E,9.3nm,0.5s
KTMS Lg Lg 11 21 56.6
comp=E,24nm,0.6s
DJR Jarkent 4.82 51 Pg **Pb 11 20 56.5 +2.3**
comp=E,5.8nm,0.6s
DJR Lg Lg 11 21 58.8
comp=E,71nm,1.0s
CHGR Chuyangaron 4.98 239 *e*PN **Pn 11 20 45.2 +0.5**
CHGR Chuyangaron 4.98 239 ⇑*e*P **Pn 11 20 45.2 +0.5**
baz=39
CHGR ⇑*i* S **Sn 11 21 41.5 -1.2**
baz=39
KAPS Kapalarasan 5.22 40 Pg **Pb 11 21 02.5 +1.6**
comp=E,18nm,0.7s
KAPS Lg Lg 11 22 08.6
comp=E,38nm,1.0s
OTUK Ortayu 7.04 348 PN **Pn 11 21 13.9 +1.1**
OTUK Ortayu 7.04 348 ⇑Pn **Pn 11 21 14.0 +1.1**
comp=E,2.0nm,0.6s
OTUK ⇑Lg Lg 11 23 14.9
comp=E,41nm,0.8s
MK31 Makanchi Array 7.74 43 *e*P Pn 11 21 27.5 +5.1
MK31 Makanchi Array 7.74 43 ⇑Pn **Pn 11 21 24.0 +1.6**
comp=E,6.9nm,0.6s,baz=233,slow=13,SNR=5.3
MK31 ⇑Lg Lg 11 23 36.6
comp=E,15nm,1.0s,baz=230,slow=25,SNR=4.6
MKAR Makanchi Array 7.74 43 Pn **Pn 11 21 26.8 +4.4**
comp=E,0.2nm,0.3s,baz=229,slow=14,SNR=7.0
MKAR Lg Lg 11 23 35.7
comp=E,0.5nm,0.3s,baz=230,slow=24,SNR=5.3
CHCP Chirah Chowk 7.79 188 P **Pn 11 21 25.1 +2.0**
CEP Cherat 7.84 197 P **Pn 11 21 26.8 +2.8**
CEP S **Sn 11 22 51.0 -2.2**
THW Thamme Wali 8.87 196 P **Pn 11 21 36.7 -1.3**
KURBB Kurchatov Arra 9.63 15 Pn **Pn 11 21 48.6 +0.3**
comp=E,0.2nm,0.3s,baz=203,slow=12,SNR=6.1
KURBB Lg Lg 11 24 31.4
comp=E,0.1nm,0.3s,baz=202,slow=29,SNR=10.0
KURBB Kurchatov Arra 9.63 15 P **Pn 11 21 47.5 -0.8**
KURBB Kurchatov Arra 9.63 15 ⇑Pg Pn 11 22 24.6 +36
comp=E,6.1nm,0.8s
KURBB ⇑Lg Lg 11 24 35.5
comp=E,41nm,0.9s
KURK Kurchatov 9.74 15 P **Pn 11 21 48.7 -1.1**
KURK Kurchatov 9.74 15 ⇑Lg Lg 11 24 40.2
comp=E,34nm,1.0s
BVAR Borovoye Array 11.99 348 Lg Lg 11 25 43.9
comp=E,0.5nm,0.3s,baz=175,slow=34,SNR=2.6
BRVK Borovoye 12.04 347 ⇑*e*P **Pn 11 22 21.9 +0.7**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
AB31 Akbulak array 12.96 312 Pn **Pn 11 22 33.2 -0.6**
comp=Z,2.0nm,0.7s,baz=122,slow=12,SNR=42
AB31 ⇑Sn **Sn 11 25 03.5 +5.3**
comp=Z,3.2nm,0.9s,baz=115,slow=27,SNR=4.6
ZALV Zalesovo Beam 14.31 25 Pn **Pn 11 22 54.0 +1.8**
comp=Z,0.2nm,0.3s,baz=200,slow=13,SNR=3.7
ZALV Lg Lg 11 27 04.0
comp=Z,0.1nm,0.3s,baz=341,slow=31,SNR=3.1
ZALV Zalesovo Beam 14.31 25 *i* P **Pn 11 22 55.5 +3.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 14.64 314 Pn **Pn 11 22 56.2 -0.5**
comp=Z,0.3nm,0.3s,baz=122,slow=16,SNR=7.7
AKTO Aktyubinsk 14.64 314 ⇓Pn **Pn 11 22 55.7 -1.1**
comp=Z,6.2nm,0.9s
AKTO ⇓Sn **Sn 11 25 42.9 +3.6**
comp=Z,6.8nm,1.4s
GOMU GeErMu 16.58 102 P **Pn 11 23 18.4 -4.3**
GOMU pP P 11 23 21.8 -3.5
GOMU sP pP 11 23 25.6 -1.8
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,65nm,5.2s
ARU Arti 18.30 331 *c i*P **Pn 11 23 40.5 -3.1**
ARU S **Sn 11 27 05.5 -2.6**
ARU pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 23.39 286 ⇑*e*P **P 11 24 36.5 -2.1**
KBZ pmax pmax
comp=Z,6.0nm,1.5s
ULN Ulaanbaatar 23.87 63 ⇑*e*P **P 11 24 45.0 +1.5**
ULN pmax pmax
comp=Z,2.0nm,1.8s
PALK Pallekele 34.40 169 ⇑*e*P **P 11 26 12.8 -4.6**
PALK pmax pmax
comp=Z,11nm,1.3s
FINES FINESS Array B 35.20 321 P **P 11 26 23.9 +0.1**
comp=Z,1.7nm,0.9s,baz=119,slow=16,SNR=1.5
ARCES ARCESS Array B 37.83 334 P **P 11 26 47.0 +0.8**
comp=Z,3.3nm,1.0s,baz=114,slow=9.0,SNR=3.9
GERES GERESS Array B 42.59 301 P **P 11 27 26.1 +0.1**
comp=Z,0.4nm,0.5s,baz=51,slow=5.2,SNR=2.5
TORD Torodi Ar. Bea 68.63 269 P **P 11 30 31.8 -1.7**
comp=Z,1.0nm,0.5s,baz=51,slow=5.7,SNR=8.0
YKA Yellowknife Ar 76.20 4 P **P 11 31 17.3 -0.6**
comp=Z,0.2nm,0.7s,baz=355,slow=5.3,SNR=4.2
YKA Yellowknife Ar 76.20 4 *i* P **P 11 31 19.2 +1.3**

IDC 24 11:24:46.2±465.0, 53.01N×0.58E, h0km, Error ellipse: s-maj=178.5km s-min=71.7km az=23.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.28**	**111**	*i*		12 20 50.0	
	baz=304,slow=332,SNR=2.0						
I37NO	**I37NO**	**18.19**	**21**	*i*		13 22 40.0	
	baz=217,slow=333,SNR=1.0						
I43RU	**DUBNA INFRASON**	**21.24**	**65**	*i*		13 34 30.0	
	baz=272,slow=330,SNR=1.0						

*TUL **24** 11:40:51.7±0.9, 36.74N±0.02×98.76W±0.03, h4km±6km, ML2.8, mb_Lg2.3/13(NEIC), Error ellipse: s-maj=3.3km s-min=1.6km az=121.0*

NEIC 24 11:40:52.0±0.8, 36.76N±0.02×98.77W±0.03, h3km±6km, Error ellipse: s-maj=3.7km s-min=1.0km az=123.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.42**	**207**	Pg	Pg	11 40 59.9	-0.2
U32A				Sg	Sg	11 41 05.8	+0.2
R32A	**Long Quarter,**	**1.66**	**1**		Pn	11 41 22.7	+0.6
T35A	**Sooner Cattle**	**1.81**	**84**		Pn	11 41 24.5	+0.4
CBKS	**Cedar Bluff**	**2.19**	**340**	Pn	Pb	11 41 31.0	-1.4
CBKS				IAmb_Lg		11 42 03.0	
	comp=Z,16nm,0.8s						
X34A	**Smith Ranch, M**	**2.28**	**160**	Pn	Pn	11 41 32.2	+1.6
KSU1	**Kansas State U**	**2.90**	**35**	IAmb_Lg		11 42 31.4	
	comp=Z,10nm,0.9s						
AMTX	**Amarillo**	**3.02**	**233**	IAmb_Lg		11 42 26.3	
	comp=Z,11nm,0.9s						
PHWY	**Pilot Hill**	**6.91**	**313**	IAmb_Lg		11 44 34.8	
	comp=Z,2.9nm,0.7s						

*TEH **24** 12:06:43.7, 36.46N×52.31E, h8km, ML3.6*
*AZER **24** 12:06:47.3±0.8, 36.67N×52.17E, h10km, Error ellipse: s-maj=5.7km s-min=4.7km az=70.0*

ISC 24 12:06:44.0±0.8, 36.50N±0.03×52.32E±0.02, h10km, n91, σ1§48/117, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.26**	**177**	*e*Pg	**Pg**	**12 06 47.8**	**-1.5**
DAMV	**Damavand**	**0.91**	**198**	*e*Pg	**Pg**	**12 07 00.6**	**-1.0**
IFIR	**Firoozkooh**	**0.93**	**158**	*e*Pg	**Pg**	**12 07 00.2**	**-1.6**
IFIR				*e*Sg	**Sg**	**12 07 13.4**	**-0.5**
IDMV	**Damavand**	**0.95**	**194**	*e*Pg	**Pg**	**12 07 01.3**	**-1.0**
IDMV				*e*Sg	**Sg**	**12 07 14.5**	**-0.2**
ISHM	**Shahmirzad**	**1.05**	**131**	*e*		12 07 19.9	
	comp=Z,16µm,0.2s						
ISHM				*e*Pg	**Pg**	**12 07 02.9**	**-1.2**
TEHA	**Amirabad Tehra**	**1.07**	**225**	*e*Pg	**Pg**	**12 07 04.0**	**-0.5**
TEH	**Tehran**	**1.08**	**225**	*e*Pg	**Pg**	**12 07 03.3**	**-1.4**
CHTH	**Charan**	**1.13**	**239**	*e*Pg	**Pg**	**12 07 04.8**	**-0.9**
IGLO	**Ghaloghah**	**1.22**	**89**	*e*		12 07 37.5	
	comp=Z,17µm,0.5s						
IGLO				*e*Pg	**Pg**	**12 07 07.9**	**+0.5**
ILAS	**Lasjerd**	**1.23**	**155**	*e*		12 07 26.5	
	comp=Z,8µm,0.3s						
ILAS				*e*Pg	**Pb**	**12 07 06.9**	**-0.5**
QALM	**Alamut, Qazvin**	**1.35**	**268**	*e*		12 07 32.3	
	comp=Z,22µm,0.6s						
QALM				*e*Pg	**Pn**	**12 07 09.2**	**+0.1**
IHSB	**Hasanabad**	**1.36**	**219**	*e*Sg	**Sg**	**12 07 27.8**	**+0.2**
IHSB				*e*Pg	**Pn**	**12 07 08.9**	**-0.2**
IMHD	**Mahdasht**	**1.57**	**239**	*e*Pg	**Pb**	**12 07 13.4**	**+0.3**
IMHD				*e*		12 07 38.5	
	comp=Z,6µm,0.4s						
IVRN	**Varamin**	**1.58**	**198**	*e*Pg	**Pb**	**12 07 13.0**	**-0.3**
IVRN				*e*		12 07 18.5	
	comp=Z,6µm,0.2s						
IANJ	**Anjilo**	**1.65**	**128**	*e*Pn	**Pb**	**12 07 14.1**	**-0.6**
IANJ				*e*		12 07 43.7	
	comp=Z,4µm,0.4s						
IGZV	**Ghazvin**	**1.70**	**267**	*e*Pg	**Pb**	**12 07 15.6**	**+0.2**
IGZV				*e*Sg	**Sg**	**12 07 40.4**	**+1.8**
IGZV				*e*		12 07 43.3	
	comp=Z,13µm,0.4s						
QCNT	**Qazvin**	**1.88**	**264**	*e*	**Pg**	**12 07 21.0**	**+1.0**
	comp=Z,6µm,0.2s						
LHJ2	**Lahijan - Gila**	**1.93**	**291**	*e*Pn	**Pn**	**12 07 17.3**	**+0.5**
IQOM	**Qom**	**1.94**	**212**	*e*Pn	**Pb**	**12 07 18.4**	**-1.2**
IQOM				*e*		12 07 20.8	
	comp=Z,7µm,0.2s						
JIR1	**Jirandeh**	**2.04**	**277**	*e*Pn	**Pb**	**12 07 20.0**	**-1.1**
ISFB	**Sefidab**	**2.15**	**182**	*e*Pn	**Pb**	**12 07 21.8**	**-1.1**
GHVR	**GHOM**	**2.18**	**203**	*e*Pn	**Pb**	**12 07 22.4**	**-1.2**
IRAZ	**Razeghan**	**2.23**	**241**	*e*Pn	**Pn**	**12 07 22.4**	**+1.3**
IRAZ				*e*		12 07 55.6	
	comp=Z,7µm,0.5s						
QJF1	**Jafarie**	**2.27**	**221**	*e*Pn	**Pb**	**12 07 24.1**	**-1.0**
QABG	**Abgarm-Qazvin**	**2.35**	**251**	*e*Pn	**Pn**	**12 07 23.2**	**+0.3**
KRSH	**Karshahi**	**2.53**	**183**	*e*Pn	**Pn**	**12 07 26.7**	**+1.4**
KRSH				*e*		12 08 03.2	
	comp=Z,5µm,0.4s						
IMND	**Minoodasht**	**2.59**	**72**	*e*Pn	**Pb**	**12 07 28.1**	**-2.3**
ASAO	**Ashtian**	**2.70**	**225**	*e*Pn	**Pb**	**12 07 30.1**	**-2.4**
QAMS	**Qamsar**	**2.86**	**196**	*e*Pn	**Pn**	**12 07 31.7**	**+1.8**
QAMS				*e*		12 07 42.3	
	comp=Z,2µm,0.5s						
ZNJK	**Zanjan**	**2.93**	**274**	*e*Pn	**Pn**	**12 07 33.4**	**+2.6**
SHRO	**Shahrood**	**3.03**	**99**	*e*Pn	**Pn**	**12 07 34.5**	**+2.5**
HAGD	**Aghdareh**	**3.08**	**238**	*e*Pn	**Pn**	**12 07 35.3**	**+2.4**
MRVT	**Maraveh tapeh**	**3.23**	**68**	*e*Pn	**Pn**	**12 07 36.5**	**+1.7**
IKLH	**Kolahrood**	**3.23**	**191**	*e*Pn	**Pn**	**12 07 36.6**	**+1.6**
IKLH				*e*		12 08 24.8	
	comp=Z,1µm,0.3s						
KHMZ	**Khomeyn**	**3.37**	**216**	*e*Pn	**Pn**	**12 07 40.0**	**+3.2**
ASTR	**Astara**	**3.48**	**307**	*e*Pn	**Pn**	**12 07 37.7**	**-0.4**
ASTR	**Astara**	**3.48**	**307**	P	**Pn**	**12 07 37.8**	**-0.4**
	SNR=7.1						
ASTR				S	**Sn**	**12 08 18.0**	**-1.4**
ANAR	**Anarak**	**3.50**	**160**	*e*Pn	**Pn**	**12 07 40.8**	**+2.2**
LKRN	**Lenkeran, Azer**	**3.57**	**309**	*e*Pn	**Pn**	**12 07 39.9**	**+0.5**
LKRN	**Lenkeran, Azer**	**3.57**	**309**	P	**Pn**	**12 07 39.9**	**+0.5**
LKRN				S	**Sn**	**12 08 19.7**	**-2.0**
IZEF	**Zefreh**	**3.60**	**180**	*e*Pn	**Pn**	**12 07 41.7**	**+1.7**
NASN	**Na'in**	**3.71**	**174**	*e*Pn	**Pb**	**12 07 49.5**	**-0.4**
LRK	**Lerik**	**3.82**	**305**	*e*Pn	**Pn**	**12 07 43.3**	**+0.4**
LRK	**Lerik**	**3.82**	**305**	P	**Pn**	**12 07 43.4**	**+0.4**
	SNR=6.3						
LRK				S	**Sn**	**12 08 25.7**	**-2.3**
ISRB	**Sarab**	**3.94**	**291**	*e*Pn	**Pn**	**12 07 46.8**	**+2.0**
ISRB				*e*		12 08 37.7	
	comp=Z,914nm,0.3s						
YRD	**Yardimli**	**4.04**	**308**	*e*Pn	**Pn**	**12 07 46.3**	**+0.3**
YRD	**Yardimli**	**4.04**	**308**	P	**Pn**	**12 07 46.3**	**+0.3**
	SNR=3.8						
YRD				S	**Sn**	**12 08 31.6**	**-1.8**
IGAR	**Gharneh**	**4.09**	**183**	*e*Pn	**Pn**	**12 07 49.3**	**+2.5**
GLBA	**Clilabad**	**4.14**	**313**	*e*Pn	**Pn**	**12 07 47.5**	**+0.3**
GLBA	**Clilabad**	**4.14**	**313**	P	**Pn**	**12 07 47.6**	**+0.3**
	SNR=6.4						
GLBA				S	**Sn**	**12 08 34.3**	**-1.4**
BJRD	**Bojnurd**	**4.24**	**72**	*e*Pn	**Pn**	**12 07 50.8**	**+2.1**
SBZV	**Sabzevar**	**4.27**	**90**	*e*Pn	**Pn**	**12 07 51.4**	**+2.2**
ALIB	**Äli-Bayra**	**4.33**	**324**	*e*Pn	**Pn**	**12 07 50.6**	**+0.9**
ALIB	**Äli-Bayra**	**4.33**	**324**	P	**Pn**	**12 07 50.7**	**+0.9**
ALIB				S	**Sn**	**12 08 40.0**	**-0.3**
IDOB	**Doab**	**4.34**	**233**	*e*Pn	**Pn**	**12 07 53.0**	**+2.8**
IBST	**Bostanabad**	**4.50**	**287**	*e*Pn	**Pn**	**12 07 54.2**	**+1.8**
YZKH	**Yazd**	**4.51**	**155**	*e*Pn	**Pn**	**12 07 54.6**	**+2.2**
SAAT	**Saatly**	**4.55**	**319**	S	**Sn**	**12 08 48.3**	**+2.6**
ICHK	**Chekchek**	**4.58**	**157**	*e*Pn	**Pn**	**12 07 55.3**	**+1.8**
ISFR	**Sfrayin**	**4.59**	**81**	*e*Pn	**Pn**	**12 07 56.4**	**+2.7**
ISFR				*e*		12 09 07.2	
	comp=Z,444nm,0.5s						
IBRJ	**Brojen**	**4.66**	**191**	*e*Pn	**Pn**	**12 07 55.9**	**+1.2**

IRAM	**Rameshesh**	**4.68**	**179**	*e*Pn		**Pn**	**12 07 57.3**	**+2.4**
IKFM	**Kafar-mosalman**	**4.72**	**232**	*e*Pn		**Pn**	**12 07 57.2**	**+2.0**
TABS	**Tabas**	**4.86**	**124**	*e*Pn		**Pn**	**12 07 59.4**	**+2.2**
TKDS	**Koohdasht(Taba**	**4.88**	**125**	*e*Pn		**Pn**	**12 07 59.3**	**+1.8**
TKDS				*e*			12 09 39.0	
	comp=Z,316nm,1.1s							
QRD	**Qoradiz**	**4.93**	**308**	S		**Sn**	**12 08 55.7**	**+0.4**
BLQ	**Beylaqan**	**4.94**	**312**	P		**Pn**	**12 07 59.1**	**+0.8**
BLQ				S		**Sn**	**12 08 54.9**	**-0.5**
TPRV	**Parvadeh(Tabas**	**4.99**	**133**	*e*Pn		**Pn**	**12 08 01.3**	**+2.3**
ATGJ	**Altiaghaj**	**5.09**	**330**	P		**Pn**	**12 08 01.3**	**+0.9**
ATGJ				S		**Sn**	**12 08 59.4**	**0.0**
PQL	**Pirkuli**	**5.18**	**327**	P		**Pn**	**12 08 03.1**	**+1.4**
	SNR=7.3							
PQL				S		**Sn**	**12 09 01.5**	**-0.1**
ZRD	**Zardab**	**5.24**	**317**	P		**Pn**	**12 08 03.8**	**+1.5**
ZRD				S		**Sn**	**12 09 02.9**	**0.0**
SIZA	**Siyzn**	**5.29**	**331**	P		**Pn**	**12 08 04.4**	**+1.3**
SIZA				S		**Sn**	**12 09 03.6**	**-0.6**
IML	**Ismayilli**	**5.37**	**324**	P		**Pn**	**12 08 04.7**	**+0.5**
IML				S		**Sn**	**12 09 06.1**	**0.0**
IMEH	**Mehriz**	**5.44**	**159**	*e*Pn		**Pn**	**12 08 07.4**	**+2.0**
AGDM	**Agdam**	**5.46**	**313**	P		**Pn**	**12 08 05.4**	**+0.1**
AGDM				S		**Sn**	**12 09 07.1**	**-1.1**
KLNJ	**Kolanjah**	**5.51**	**187**	*e*Pn		**Pn**	**12 08 09.0**	**+2.6**
BRDA	**Brd**	**5.51**	**314**	P		**Pn**	**12 08 07.0**	**+0.9**
BRDA				S		**Sn**	**12 09 09.8**	**+0.3**
ORD	**Ordubad**	**5.57**	**298**	P		**Pn**	**12 08 07.5**	**+0.5**
	SNR=3.6							
ORD				S		**Sn**	**12 09 10.6**	**-0.4**
QBL	**Gabala**	**5.66**	**323**	P		**Pn**	**12 08 08.2**	**+0.2**
QBL				S		**Sn**	**12 09 12.3**	**-0.8**
QUBA	**Quba, Azerbaij**	**5.69**	**330**	P		**Pn**	**12 08 10.2**	**+1.6**
QUBA				S		**Sn**	**12 09 12.7**	**-1.3**
XNQ	**Khinaliq**	**5.69**	**326**	P		**Pn**	**12 08 09.6**	**+0.8**
XNQ				S		**Sn**	**12 09 14.2**	**-0.1**
IKRD	**Kardeh**	**5.79**	**85**	*e*Pn		**Pn**	**12 08 12.8**	**+2.6**
QSAR	**Qusar**	**5.92**	**329**	P		**Pn**	**12 08 12.9**	**+1.2**
QSAR				S		**Sn**	**12 09 18.8**	**-0.8**
SEKA	**Sheki**	**6.17**	**321**	P		**Pn**	**12 08 15.9**	**+0.7**
	SNR=3.3							
SEKA				S		**Sn**	**12 09 23.4**	**-2.4**
GANJ	**Ganja**	**6.26**	**313**	P		**Pn**	**12 08 16.8**	**+0.4**
GANJ				S		**Sn**	**12 09 26.5**	**-1.5**
IMYA	**Miami**	**6.28**	**89**	*e*Pn		**Pn**	**12 08 19.7**	**+2.9**
AFRZ	**Afriz**	**6.29**	**117**	*e*Pn		**Pn**	**12 08 19.3**	**+2.3**
GDB	**GEDABAY**	**6.65**	**311**	P		**Pn**	**12 08 22.5**	**+0.7**
	SNR=7.0							
ZKTA	**Zakatala**	**6.78**	**321**	P		**Pn**	**12 08 24.6**	**+1.1**
ZKTA				S		**Sn**	**12 09 39.3**	**-1.5**
QZX	**Qazax, Azerbai**	**7.08**	**312**	P		**Pn**	**12 08 28.9**	**+1.3**
BSRN	**Basiran**	**7.23**	**127**	*e*Pn		**Pn**	**12 08 32.0**	**+2.2**

IDC 24 12:07:11.3±4.1, 19°.26N×145°.11E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/45, mbtmp3.4/3, Error ellipse: s-maj=272.3km s-min=34.2km az=120.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.37**	**196**	P	P	12 14 50.9	-0.2
	0.3nm,0.3s,baz=18,slow=8.5,SNR=16						
ASAR	**Alice Springs**	**44.05**	**195**	P	P	12 15 20.9	-0.2
	0.2nm,0.5s,baz=16,slow=6.6,SNR=5.2						
NVAR	**Mina Array Bea**	**83.23**	**52**	P	P	12 19 40.3	+0.1
	0.3nm,0.6s,baz=252,slow=7.4,SNR=3.8						

ISK 24 12:25:35.0, 36°.17N×29°.70E, h6km, ML2.5/8
DDA 24 12:25:35.0±0.0, 36°.10N×29°.62E, h5km±2km, ML1.7
ISC 24 12:25:33.1±2.5, 36°.0N±0°.1×29°.66E±0°.04, h10km, n14, σ1s88/22, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.26**	**351**	PG	**Pg**	**12 25 37.4**	**-1.1**
AKAS				SG	**Sg**	**12 25 39.6**	**-2.6**
AKAS	**Kas**	**0.26**	**351**	P	**Pg**	**12 25 37.4**	**-1.1**
AKAS				S	**Sg**	**12 25 39.8**	**-2.4**
DEMR	**Demre-Antalya**	**0.33**	**37**	PG	**Pg**	**12 25 39.1**	**-0.6**
DEMR				SG	**Sg**	**12 25 42.3**	**-1.8**
AKUM	**Antalya-Kumluc**	**0.65**	**58**	P	**Pg**	**12 25 44.6**	**-1.2**
AKUM				S	**Sb**	**12 25 56.6**	**+0.8**
AKUM				*i* AML	AML	12 26 02.0	
	comp=N,30nm,0.9s						
AKUM				*i* AML	AML	12 26 06.0	
	comp=E,35nm,0.3s						
ELL	**Elmali**	**0.80**	**15**	PG	**Pg**	**12 25 46.9**	**-1.7**
FETY	**Fethiye**	**0.81**	**325**	PG	**Pb**	**12 25 48.8**	**-0.5**
FETY	**Fethiye**	**0.81**	**325**	P	**Pb**	**12 25 49.0**	**-0.3**
FETY				S	**Sg**	**12 25 58.4**	**-0.9**
FETY				*i* AML	AML	12 26 02.0	
	comp=E,50nm,0.8s						
FETY				*i* AML	AML	12 26 03.0	
	comp=N,38nm,0.9s						
CAME	**Cameli-Denizli**	**1.01**	**344**	PG	**Pg**	**12 25 50.5**	**-2.1**
KORT	**Korkueli**	**1.17**	**28**	PG	**Pb**	**12 25 54.2**	**-1.3**
KORT	**Korkueli**	**1.17**	**28**	P	**Pg**	**12 25 56.3**	**+0.7**
KORT				S	**Sn**	**12 26 16.6**	**+4.9**
KORT				*i* AML	AML	12 26 22.0	
	comp=E,25nm,0.5s						
KORT				*i* AML	AML	12 26 26.0	
	comp=N,20nm,0.7s						
DALY	**Dalyan (Mula)**	**1.17**	**316**	PG	**Pg**	**12 25 55.8**	**+0.2**
GOLH	**Golhisar**	**1.26**	**356**	P	**Pg**	**12 25 57.3**	**-0.1**
GOLH				S	**Sn**	**12 26 17.3**	**+3.2**
GOLH				*i* AML	AML	12 26 21.0	
	comp=E,21nm,0.4s						
GOLH				*i* AML	AML	12 26 23.0	
	comp=N,23nm,0.4s						
YER	**Yerkesik**	**1.60**	**317**	PN	**Pg**	**12 26 02.9**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.60**	**338**	P	**Pg**	**12 26 04.0**	**0.0**
TAVA				S	**Sg**	**12 26 25.5**	**+0.7**
TAVA				*i* AML	AML	12 26 29.0	
	comp=N,16nm,0.7s						
TAVA				*i* AML	AML	12 26 31.0	
	comp=E,20nm,0.4s						

ECX 24 12:39:20.0±0.4, 30°.98N×115°.21W, h9km±12km, MD2.6, ML2.8
ANF 24 12:39:21.7±1.3, 31°.22N×114°.91W, h0km, ML2.8/6, Error ellipse: s-maj=18.4km s-min=6.9km az=33.0
ISC 24 12:39:15.2±1.9, 30°.83N±0°.08×115°.09W±0°.05, h16km±11km, n16, σ1s28/29, 8C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.30**	**45**	↑*iP*	**Pn**	**12 39 25.9**	**+1.0**
SFX				*e*S	**Sn**	**12 39 29.9**	**-1.1**
SFX				IAML		12 39 30.3	
	comp=N,1μm,0.3s						
SFX				↑*e*		12 39 30.3	
SFX				IAML		12 39 30.4	
	comp=E,2μm,0.3s						
SFX				↑*e*		12 39 30.4	
SPIG	**San Pedro Mart**	**0.39**	**304**	↑*iP*	**Pb**	**12 39 24.6**	**+0.7**
SPIG				*i* S	**Sg**	**12 39 28.1**	**-0.6**
ECBX	**El Chinero**	**0.64**	**3**	↓*eP*	**Pn**	**12 39 29.2**	**-0.5**
ECBX				*e*S	**Sb**	**12 39 36.1**	**-0.7**
SVX	**San Vicente**	**1.11**	**297**	↑*iP*	**Pg**	**12 39 37.0**	**+0.4**
SVX				*e*S	**Sb**	**12 39 49.5**	**-0.7**
ALAMX	**Rancho Alamar**	**1.29**	**336**	↓*eP*	**Pg**	**12 39 39.5**	**-0.6**
ALAMX				*e*S	**Sb**	**12 39 54.1**	**-1.3**
ALAMX				IAML		12 39 56.6	
	comp=N,328nm,0.3s						
ALAMX				↑*e*		12 39 56.6	
ALAMX				IAML		12 39 58.5	
	comp=E,331nm,0.2s						
CPBX	**Cerro Prieto**	**1.60**	**354**	↓*e*	**Sg**	**12 40 10.2**	**+3.5**
CPBX				IAML		12 40 10.2	
	comp=E,577nm,0.5s						
CPBX				↑*e*		12 40 15.1	
CPBX				IAML		12 40 15.1	
	comp=N,558nm,0.3s						
CCX	**Cicese**	**1.70**	**308**	*e*P	**Pg**	**12 39 47.2**	**-0.6**
CCX				*e*S	**Sb**	**12 40 07.6**	**+0.5**
CCX				*e*S	**Sb**	**12 40 07.7**	**+0.5**
CCX				IAML		12 40 09.0	
	comp=E,106nm,0.5s						
CCX				*e*		12 40 09.0	
CCX				IAML		12 40 09.9	
	comp=N,149nm,0.3s						
CCX				*e*		12 40 09.9	
CBX	**Cerro Bola**	**2.00**	**318**	*e*P	**Pb**	**12 39 50.9**	**-0.3**
CBX				*e*S	**Sb**	**12 40 14.7**	**-1.3**
CBX				IAML		12 40 18.9	
	comp=N,71nm,0.4s						
CBX				‖*e*		12 40 18.9	
CBX				‖*e*		12 40 19.9	
CBX				IAML		12 40 19.9	
	comp=E,66nm,0.3s						
IKP	**In-Ko-Pah, Jac**	**2.01**	**335**	P	**Pg**	**12 39 53.2**	**-0.6**
	baz=154						
IKP				S	**Sb**	**12 40 16.6**	**+0.2**
	baz=154						
GLA	**Glamis**	**2.23**	**6**	S	**Sg**	**12 40 25.8**	**-1.1**
	baz=187						
214A	**Organ Pipe Nat**	**2.25**	**59**	P	**Pb**	**12 39 55.8**	**+0.2**
	baz=243						
MONP2	**Monument Peak**	**2.35**	**332**	P	**Pg**	**12 39 59.2**	**-1.1**
	baz=150						
MONP2				S	**Sb**	**12 40 26.3**	**+0.2**
	baz=150						
109C	**Camp Elliot, M**	**2.67**	**321**	P	**Pb**	**12 40 03.3**	**+0.6**
	baz=139						
109C				S	**Sb**	**12 40 34.7**	**-0.6**
	baz=139						
TPFO	**Pinon Flats**	**3.00**	**338**	Pb	**Pg**	**12 40 11.5**	**-1.2**
	baz=157						
TPFO				Sb	**Sb**	**12 40 47.5**	**+2.7**
	baz=157						
PFO	**Pinyon Flats O**	**3.01**	**338**	Pb	**Pg**	**12 40 11.6**	**-1.2**
	baz=157						
PFO				Sb	**Sb**	**12 40 47.3**	**+2.3**
	baz=157						
MURC	**Murrieta**	**3.29**	**328**	S	**Sb**	**12 40 53.2**	**+0.2**
	baz=146						

MEX 24 12:57:53.2±0.6, 16°.26N×99°.64W, h16km±14km, MD4.1
IDC 24 12:57:57.6±6.3, 17°.31N×98°.95W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/29, mbtmp3.6/5, ML3.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/62, Error ellipse: s-maj=155.3km s-min=34.5km az=26.0
ISC 24 12:57:51.7±1.8, 16°.32N±0°.07×99°.57W±0°.03, h12km±9km, n20, σ1s83/34, mb3.7/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.59**	**46**	*i* P	**Pb**	**12 58 03.9**	**-0.1**
CRIG				*i* S	**Sb**	**12 58 12.6**	**+0.3**
ACP2	**Acapulco**	**0.63**	**331**	*i* P	**Pg**	**12 58 03.6**	**-0.3**
ACP2				*i* S	**Sg**	**12 58 12.1**	**-0.1**
DAIG	**Los Arroyos**	**0.70**	**354**	*i* P	**Pg**	**12 58 05.0**	**-0.3**
DAIG				*i* S	**Sg**	**12 58 14.4**	**-0.1**
CAIG	**El Cayaco**	**0.98**	**317**	*i* P	**Pb**	**12 58 08.4**	**-2.2**
CAIG				*i* S	**Sb**	**12 58 24.2**	**+0.7**
ATYC	**Atoyac**	**1.21**	**317**	*e*P	**Pn**	**12 58 11.4**	**-3.0**
ATYC				*i* S	**Sb**	**12 58 28.5**	**-1.6**
PNIG	**Pinotepa**	**1.39**	**87**	*i* P	**Pn**	**12 58 15.2**	**-1.7**
PNIG				*i* S	**Sn**	**12 58 31.2**	**-4.1**
TLIG	**Tlapa**	**1.57**	**38**	*i* P	**Pn**	**12 58 18.5**	**-1.0**
TLIG				*i* S	**Sg**	**12 58 43.8**	**+1.6**
MEIG	**Mezcala**	**1.60**	**358**	*i* P	**Pn**	**12 58 19.0**	**-0.8**
MEIG				*i* S	**Sn**	**12 58 37.1**	**-3.3**
TXIG	**Tlaxiaco**	**1.96**	**62**	*i* P	**Pn**	**12 58 24.6**	**-0.4**
TXIG				*i* S	**Sn**	**12 58 49.3**	**-0.5**
PLIG	**Platanillo**	**2.06**	**2**	*i* P	**Pn**	**12 58 25.9**	**-0.3**
PLIG				*i* S	**Sb**	**12 58 54.5**	**-0.3**
ARIG	**Puente Sto Nin**	**2.08**	**339**	*i* P	**Pn**	**12 58 26.0**	**-0.5**
ARIG				*i* S	**Sn**	**12 58 50.4**	**-2.0**
FTIG	**Fresnillo de T**	**2.10**	**41**	*i* P	**Pn**	**12 58 26.2**	**-0.6**
FTIG				*i* S	**Sn**	**12 58 51.8**	**-1.0**
ZIIG	**Zihuatanejo**	**2.22**	**305**	*i* P	**Pb**	**12 58 32.9**	**+1.2**
ZIIG				*e*S	**Sb**	**12 59 02.3**	**+3.2**
HLIG	**Huajuapan de L**	**2.26**	**48**	*i* P	**Pn**	**12 58 28.3**	**-0.8**
HLIG				*i* S	**Sn**	**12 58 57.1**	**+0.1**
CMIG	**Matias Romero**	**4.56**	**80**	Pn	**Pn**	**12 58 59.8**	**-0.7**
	1.0nm,0.3s,baz=267,slow=12,SNR=8.5						
CMIG				Sn	**Sn**	**12 59 51.2**	**-2.3**
	1.5nm,0.3s,baz=277,slow=20,SNR=4.3						
CMIG				LR	LR	13 00 23.1	
	comp=Z,54nm,20.5s,baz=294,slow=37						
NVAR	**Mina Array Bea**	**27.49**	**327**	P	**P**	**13 03 42.7**	**+4.5**
	0.7nm,0.9s,baz=139,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**27.71**	**344**	P	**P**	**13 03 41.8**	**+1.7**
	0.6nm,0.8s,baz=142,slow=12,SNR=6.5						
YKA	**Yellowknife Ar**	**47.32**	**351**	P	**P**	**13 06 25.4**	**+0.5**
	1.0nm,0.9s,baz=158,slow=7.3,SNR=9.2						
INK	**Inuvik**	**56.26**	**346**	P	**P**	**13 07 32.1**	**+0.5**
	1.3nm,0.9s,baz=145,slow=6.5,SNR=5.3						
RAO	**Raoul Island**	**88.07**	**239**	LR	LR	13 42 00.7	
	comp=Z,174nm,21.6s,baz=72,slow=30						

EAF 24 13:07:24.8±7.0, 22°.04S×28°.18E, h10km, MD3.1
BUL 24 13:07:26.1±2.4, 20°.85S×30°.25E, h10km, MD3.0, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**1.69**	**294**	*i* P	Pn	13 07 56.2	+0.3
BLWY				*i* S	Sn	13 08 14.6	-3.1
BLWY	**Bulawayo**	**1.69**	**294**	*i* P	Pn	13 07 56.2	+0.3
BLWY				*i* S	Sn	13 08 14.6	-3.1
MATP	**Matopo**	**1.69**	**284**	*i* P	Pn	13 07 56.5	+0.7
MATP				*i* Sg	Sb	13 08 19.5	+0.7
MATP	**Matopo**	**1.69**	**284**	*i* P	Pn	13 07 56.5	+0.7
MATP				*i* Sg	Sb	13 08 19.5	+0.7
MOPA	**Mopani**	**2.86**	**158**	*i* P	Pb	13 08 17.8	+0.5
MOPA				*i* S	Sb	13 08 53.5	+1.1
MOPA	**Mopani**	**2.86**	**158**	*i* P	Pb	13 08 17.8	+0.5
MOPA				*i* S	Sb	13 08 53.5	+1.1

IDC 24 13:18:44.7±2.8, 9°.70S×120°.31E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/71, Error ellipse: s-maj=263.2km s-min=27.5km az=51.0
DJA 24 13:18:47.3±0.6, 10°.5±3°×12°.0E±°, h13km±4km, M4.1/13, mb4.4/6, mB4.6/1, MLv3.9/13, Mw(mB)3.8/1
ISC 24 13:18:49.4±1.1, 10°.36S±0°.09×119°.67E±0°.06, h35km, n15, σ1s35/17, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.76**	**339**	P	**Pn**	**13 19 03.4**	**-0.3**
WBSI				S	**Sn**	**13 19 14.6**	**+0.6**
BASI	**Baing, Sumba**	**0.91**	**81**	P	**Pn**	**13 19 05.5**	**-0.1**
BASI				S	**Sn**	**13 19 18.7**	**+1.2**
PLAI	**Plampang**	**2.41**	**309**	P	**Pn**	**13 19 27.8**	**+1.5**
PLAI				S	**Sn**	**13 19 57.3**	**+2.7**
MMRI	**Maumere**	**3.06**	**56**	P	**Pn**	**13 19 35.7**	**+0.5**
BATI	**Baumata**	**3.93**	**88**	P	**Pn**	**13 19 48.4**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.27**	**11**	P	**Pn**	**13 19 52.6**	**+0.7**
SOEI	**Soe**	**4.57**	**83**	P	**Pn**	**13 19 58.0**	**+1.9**
IGBI	**Denpasar**	**4.72**	**289**	P	**Pn**	**13 19 57.0**	**-1.0**
SRBI	**Singaraja**	**4.95**	**297**	P	**Pn**	**13 20 00.8**	**-0.4**
BKSI	**Bulukumba**	**5.02**	**5**	P	**Pn**	**13 20 01.4**	**-0.9**
	0.2nm548nm40nm,0.5s						
KAPI	**Kappang**	**5.31**	**1**	LR	LR	13 21 58.5	
	comp=Z,64nm,20.2s,baz=127,slow=41						
BNSI	**Bone**	**5.94**	**4**	P	**Pn**	**13 20 14.7**	**-0.1**
	0.1nm15nm,0.7s						
WRA	**Warramunga Arr**	**17.05**	**126**	Pn	**Pn**	**13 22 43.1**	**-2.1**
	0.3nm,0.3s,baz=299,slow=13,SNR=24						
ASAR	**Alice Springs**	**18.96**	**136**	P	**P**	**13 23 08.5**	**+0.7**
	0.2nm,0.3s,baz=326,slow=12,SNR=25						
MKAR	**Makanchi Array**	**65.96**	**333**	P	**P**	**13 29 30.9**	**-1.2**
	0.9nm,0.6s,baz=151,slow=7.3,SNR=13						

IDC 24 13:59:58.3±2.1, 13°.88N×88°.53W, h0km, mb3.1/3, mb1 3.6/5, mb1mx3.4/30, mbtmp3.3/5, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/20, Error ellipse: s-maj=92.1km s-min=28.5km az=44.0
SNET 24 14:00:01.3±1.2, 12°.95N×89°.20W, h37km±53km, ML4.0
UCR 24 14:00:01.4±1.2, 12°.95N×89°.20W, h34km±3km, ML4.0
INET 24 14:00:01.2±1.2, 12°.93N×89°.20W, h41km±18km, MW3.3
ISC 24 14:00:01.1±1.2, 12°.94N±0°.08×89°.21W±0°.04, h44km±11km, n81, σ0s78/139, mb3.0/3, 10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.56**	**349**	*e*P	**Pn**	**14 00 12.8**	**0.0**
LALI				*e*S	**Sn**	**14 00 21.2**	**+0.1**
LALI	**Alcalda de L**	**0.56**	**349**	*e*P	**Pn**	**14 00 12.8**	**0.0**
LALI				*e*S	**Sn**	**14 00 21.2**	**+0.1**
LALI	**Alcalda de L**	**0.56**	**349**	↓*i*P	**Pn**	**14 00 12.7**	**-0.1**
LALI				*e*S	**Sn**	**14 00 21.6**	**+0.5**
LFRS	**El Faro**	**0.70**	**12**	↓*i*P	**Pn**	**14 00 14.5**	**-0.2**
LFRS	**El Faro**	**0.70**	**12**	↓*i*P	**Pn**	**14 00 14.5**	**-0.2**
TECO	**Alcaldia de Te**	**0.73**	**35**	*e*P	**Pn**	**14 00 14.6**	**-0.4**
TECO				*e*S	**Sn**	**14 00 25.5**	**+0.4**
TECO				IAML		14 00 27.5	
	comp=Z,870nm,0.2s						
TECO	**Alcaldia de Te**	**0.73**	**35**	*e*P	**Pn**	**14 00 14.6**	**-0.4**
TECO				*e*S	**Sn**	**14 00 25.5**	**+0.4**
TECO				IAML		14 00 27.5	
	comp=Z,870nm,0.2s						
ITCA	**Escuela Especi**	**0.73**	**355**	*e*P	**Pn**	**14 00 15.3**	**+0.1**
ITCA				*e*S	**Sn**	**14 00 26.1**	**+0.6**
ITCA	**Escuela Especi**	**0.73**	**355**	*e*P	**Pn**	**14 00 15.3**	**+0.1**
ITCA				*e*S	**Sn**	**14 00 26.1**	**+0.6**
SNET	**Serv Nac Est T**	**0.74**	**358**	*i* P	**Pn**	**14 00 15.3**	**-0.1**
SNET				*e*S	**Sn**	**14 00 26.1**	**+0.4**
SNET				IAML		14 00 28.1	
	comp=Z,11μm,0.3s						
SNET	**Serv Nac Est T**	**0.74**	**358**	*i* P	**Pn**	**14 00 15.3**	**-0.1**
SNET				*e*S	**Sn**	**14 00 26.1**	**+0.4**
SNET				IAML		14 00 28.1	
	comp=Z,11μm,0.3s						
SNET	**Serv Nac Est T**	**0.74**	**358**	↓*i*P	**Pn**	**14 00 15.1**	**-0.2**
SNET				*e*S	**Sn**	**14 00 25.9**	**+0.3**
MAGS	**Ministerio de**	**0.75**	**354**	*e*P	**Pn**	**14 00 15.2**	**-0.2**
MAGS				*e*S	**Sn**	**14 00 26.7**	**+1.0**
MAGS				IAML		14 00 31.8	
	comp=Z,11μm,0.4s						
JAYA	**Jayaque - finc**	**0.75**	**342**	↓*i*P	**Pn**	**14 00 15.3**	**-0.2**
JAYA				*e*S	**Sn**	**14 00 26.0**	**+0.2**
JAYA				IAML		14 00 26.7	
	comp=Z,29μm,0.2s						
JAYA	**Jayaque - finc**	**0.75**	**342**	↓*i*P	**Pn**	**14 00 15.3**	**-0.2**
JAYA				*e*S	**Sn**	**14 00 26.0**	**+0.2**
JAYA				IAML		14 00 26.7	
	comp=Z,29μm,0.2s						
COEG	**Centro de Oper**	**0.75**	**25**	*e*P	**Pn**	**14 00 15.2**	**-0.2**
COEG				*e*S	**Sn**	**14 00 26.0**	**+0.3**
COEG				IAML		14 00 27.3	
	comp=Z,5μm,0.4s						
COEG	**Centro de Oper**	**0.75**	**25**	*e*P	**Pn**	**14 00 15.2**	**-0.2**
COEG				*e*S	**Sn**	**14 00 26.0**	**+0.3**
COEG				IAML		14 00 27.3	
	comp=Z,5μm,0.4s						
COEG	**Centro de Oper**	**0.75**	**25**	*e*P	**Pn**	**14 00 15.2**	**-0.2**
AEIL	**Aeropuerto Ilo**	**0.76**	**7**	*i* P	**Pn**	**14 00 15.8**	**+0.2**
AEIL				*e*S	**Sn**	**14 00 26.7**	**+0.8**
AEIL				IAML		14 00 35.1	
	comp=Z,6μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.76**	**7**	*i* P	**Pn**	**14 00 15.8**	**+0.2**
AEIL				*e*S	**Sn**	**14 00 26.7**	**+0.8**
AEIL				IAML		14 00 35.1	
	comp=Z,6μm,0.3s						
SEMO	**Seminario San**	**0.76**	**359**	*e*P	**Pn**	**14 00 15.6**	**0.0**
SEMO				*e*S	**Sn**	**14 00 26.3**	**+0.3**
SEMO				*e*S		14 00 26.6	
UDBS	**Universidad Do**	**0.78**	**4**	*e*P	**Pn**	**14 00 15.8**	**+0.1**
UDBS				*e*S	**Sn**	**14 00 26.9**	**+0.6**
UDBS				IAML		14 00 31.0	
	comp=Z,6μm,0.3s						
UDBS	**Universidad Do**	**0.78**	**4**	*e*P	**Pn**	**14 00 15.8**	**+0.1**
UDBS				*e*S	**Sn**	**14 00 26.9**	**+0.6**
UDBS				IAML		14 00 31.0	
	comp=Z,6μm,0.3s						
PMON	**Piamonte**	**0.78**	**353**	↓*i*P	**Pn**	**14 00 15.7**	**-0.1**
PMON				*e*S	**Sn**	**14 00 27.0**	**+0.5**
PMON	**Piamonte**	**0.78**	**353**	↓*i*P	**Pn**	**14 00 15.7**	**-0.1**
PMON				*e*S	**Sn**	**14 00 27.0**	**+0.5**
BOQS	**Boqueron**	**0.80**	**355**	*i* P	**Pn**	**14 00 16.3**	**+0.1**
BOQS	**Boqueron**	**0.80**	**355**	*i* P	**Pn**	**14 00 16.3**	**+0.1**
UESV	**Universidad de**	**0.81**	**31**	*e*P	**Pn**	**14 00 15.9**	**-0.2**
UESV				*e*S	**Sn**	**14 00 27.4**	**+0.3**
UESV	**Universidad de**	**0.81**	**31**	*e*P	**Pn**	**14 00 15.9**	**-0.2**
UESV				*e*S	**Sn**	**14 00 27.4**	**+0.3**
LFU	**La Fuente**	**0.81**	**7**	*e*P	**Pn**	**14 00 16.4**	**+0.2**
LFU	**La Fuente**	**0.81**	**7**	*e*P	**Pn**	**14 00 16.4**	**+0.2**
LBRS	**Las Brisas**	**0.81**	**12**	*e*P	**Pn**	**14 00 16.6**	**+0.3**
LBRS	**Las Brisas**	**0.81**	**12**	*e*P	**Pn**	**14 00 16.6**	**+0.3**
PAVA	**Las Pavas**	**0.82**	**19**	*e*P	**Pn**	**14 00 16.5**	**+0.1**
PAVA				*e*S	**Sn**	**14 00 28.2**	**+0.8**
PAVA				IAML		14 00 31.8	
	comp=Z,5μm,0.3s						
PAVA	**Las Pavas**	**0.82**	**19**	*e*P	**Pn**	**14 00 16.5**	**+0.1**
PAVA				*e*S	**Sn**	**14 00 28.2**	**+0.8**
PAVA				IAML		14 00 31.8	
	comp=Z,5μm,0.3s						
PAVA	**Las Pavas**	**0.82**	**19**	*e*P	**Pn**	**14 00 16.4**	**+0.1**
PAVA				*e*S	**Sn**	**14 00 28.1**	**+0.7**
COEB	**Comit de Eme**	**0.87**	**50**	*e*P	**Pn**	**14 00 17.0**	**0.0**
COEB				*e*S	**Sn**	**14 00 29.5**

NUBE	**Las Nubes**	**1.11**	**330**	*eP*	**Pn**	**14 00 20.1**	**-0.2**
NUBE				*eS*	**Sn**	**14 00 34.4**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.22**	**333**	*eP*	**Pn**	**14 00 22.1**	**+0.3**
SLOZ				*eS*	**Sn**	**14 00 38.4**	**+1.3**
LCND	**La Caada**	**1.34**	**74**	*eP*	**Pn**	**14 00 23.7**	**+0.3**
LCND				*eS*	**Sn**	**14 00 41.1**	**+1.1**
LCND				IAML		14 00 43.3	
	comp=Z,3µm,0.3s						
LCND	**La Caada**	**1.34**	**74**	*eP*	**Pn**	**14 00 23.7**	**+0.3**
LCND				*eS*	**Sn**	**14 00 41.1**	**+1.1**
LCND				IAML		14 00 43.3	
	comp=Z,3µm,0.3s						
MTO3	**Montecristo**	**1.46**	**354**	*eP*	**Pn**	**14 00 25.5**	**+0.2**
MTO3				*eS*	**Sn**	**14 00 44.1**	**+0.8**
MTO3	**Montecristo**	**1.46**	**354**	*eP*	**Pn**	**14 00 25.5**	**+0.2**
MTO3				*eS*	**Sn**	**14 00 44.1**	**+0.8**
MTO3	**Montecristo**	**1.46**	**354**	⇓ *iP*	**Pn**	**14 00 25.5**	**+0.2**
MTO3				*eS*	**Sn**	**14 00 43.4**	**+0.2**
CSGN	**Cosiguina Volc**	**1.61**	**88**	*eP*	**Pn**	**14 00 26.9**	**-0.3**
ESQI	**Esquipulas**	**1.62**	**356**	*eP*	**Pn**	**14 00 28.0**	**+0.7**
ESQI				*eS*	**Sn**	**14 00 48.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.19**	**59**	*eP*	**Pn**	**14 00 35.5**	**+0.4**
JTS	**Las Juntas de**	**4.93**	**122**	Pn	**Pn**	**14 01 14.9**	**+2.2**
	comp=Z,3.1nm,0.3s,baz=6.6,slow=23,SNR=21						
JTS				Sn	**Sn**	**14 02 08.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=5.0,slow=21,SNR=1.1						
JTS				Lg	Lg	14 02 27.5	
	comp=Z,3.3nm,0.3s,baz=161,slow=17,SNR=14						
CMIG	**Matias Romero**	**6.86**	**308**	Pn	**Pn**	**14 01 40.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=126,slow=8.6,SNR=1.9						
CMIG				Sn	**Sn**	**14 02 57.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=113,slow=19,SNR=2.0						
TXAR	**Lajitas Array**	**21.13**	**323**	P	**P**	**14 04 43.4**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=154,slow=12,SNR=2.3						
NVAR	**Mina Array Bea**	**36.22**	**320**	P	**P**	**14 07 00.5**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=112,slow=15,SNR=1.9						
SIV	**San Ignacio**	**40.01**	**135**	LR	LR	14 24 05.0	
	comp=Z,53nm,20.0s,baz=148,slow=36						
YKA	**Yellowknife Ar**	**52.70**	**346**	P	**P**	**14 09 08.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=143,slow=7.6,SNR=5.5						
YKA				pP	**pP**	**14 09 23.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=144,slow=7.9,SNR=6.6						

*MDD **24** 14:19:36.7±0.5, 35°.57N×3°.68W, h0km±4km, mb_Lg2.2/13, Error ellipse: s-maj=4.3km s-min=2.8km az=165.0*
*SFS **24** 14:19:36.0, 35°.52N×3°.06W, ML2.5, ALBORAN SUR*
*CNRM **24** 14:19:36.2, 35°.58N×3°.64W, h16km, ml2.6*

ISC 24 14:19:35.5±1.2, 35°.57N±0°.02×3°.67W±0°.02, h5km±10km, n30, σ1°.02/64, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.41**	**212**	P		**Pb**	**14 19 45.3**	**0.0**
PALE				S		**Sb**	**14 19 51.6**	**-0.2**
EALB	**Alboran**	**0.64**	**54**	Pg		**Pb**	**14 19 49.9**	**+0.9**
EALB				Sg		**Sb**	**14 19 57.7**	**-0.5**
EALB				*i* Vmb_Lg			14 20 00.9	
EMEL	**Melilla**	**0.64**	**115**	Pg		**Pg**	**14 19 47.9**	**+0.1**
EMEL				Sg		**Sg**	**14 19 55.8**	**-0.3**
GOG	**Mont Gurugu**	**0.65**	**122**	P		**Pg**	**14 19 47.8**	**-0.2**
GOG				S		**Sg**	**14 19 56.5**	**+0.1**
PVLZ	**Peæn de**	**0.65**	**233**	P		**Pb**	**14 19 50.0**	**+0.7**
PVLZ				S		**Sb**	**14 19 58.5**	**-0.1**
TAF	**Taforalt**	**1.27**	**126**	P		**Pn**	**14 19 58.1**	**-1.8**
TAF				S		**Sn**	**14 20 16.6**	**-0.9**
ELGU	**Los Guajares,**	**1.30**	**2**	Pn		**Pn**	**14 20 00.1**	**-0.2**
ELGU				Sn		**Sb**	**14 20 16.4**	**-1.0**
ELGU				*i* Vmb_Lg			14 20 19.5	
EMIJ	**Mijas**	**1.34**	**318**	Pn		**Pn**	**14 20 00.4**	**-0.3**
EMIJ				Sn		**Sb**	**14 20 17.9**	**-0.5**
EMIJ				*i* Vmb_Lg			14 20 22.3	
EMAL	**Malaga-Limoner**	**1.34**	**333**	P		**Pn**	**14 20 01.1**	**+0.3**
EMAL				S		**Sb**	**14 20 16.7**	**-1.8**
SMIR	**Smir Dam**	**1.40**	**275**	P		**Pn**	**14 19 58.7**	**-2.9**
SMIR				S		**Sb**	**14 20 20.2**	**0.0**
EBER	**Berja**	**1.47**	**25**	Pn		**Pn**	**14 20 02.5**	**-0.3**
EBER				Sn		**Sn**	**14 20 21.9**	**-0.5**
EBER				*i* Vmb_Lg			14 20 33.2	
EGOR	**Sierra Gorda,**	**1.58**	**347**	Pn		**Pn**	**14 20 04.4**	**+0.2**
EGOR				Pg		**Pb**	**14 20 05.7**	**+0.5**
EGOR				Sn		**Sn**	**14 20 24.6**	**-0.5**
EGOR				Sg		**Sg**	**14 20 27.1**	**+0.9**
EGOR				*i* Vmb_Lg			14 20 32.6	
EQUE	**Quentar**	**1.64**	**6**	Pn		**Pn**	**14 20 04.9**	**-0.1**
EQUE				Sn		**Sn**	**14 20 26.1**	**-0.5**
EQUE				*i* Vmb_Lg			14 20 32.6	
EJIF	**Jimena Fronter**	**1.70**	**302**	Pn		**Pn**	**14 20 06.8**	**+1.0**
EJIF				Sn		**Sn**	**14 20 27.4**	**-0.6**
ENIJ	**Nijar**	**1.83**	**40**	Pn		**Pb**	**14 20 08.7**	**-0.8**
ENIJ				Sn		**Sn**	**14 20 30.3**	**-0.8**
ENIJ				*i* Vmb_Lg			14 20 43.0	
LCRM	**LCR**	**2.12**	**208**	P		**Pg**	**14 20 15.6**	**-0.5**
LCRM				S		**Sg**	**14 20 43.1**	**-0.5**
ESPR	**Espera**	**2.19**	**307**	Pn		**Pn**	**14 20 13.7**	**+1.2**
ESPR				Sn		**Sn**	**14 20 38.4**	**-1.6**
ESPR				*i* Vmb_Lg			14 20 53.7	
EADA	**Adamuz**	**2.69**	**345**	Pn		**Pn**	**14 20 20.6**	**+1.2**
EADA				Sn		**Sn**	**14 20 52.4**	**0.0**
EADA				Sg		**Sb**	**14 20 60.0**	**+2.5**
EADA				*i* Vmb_Lg			14 21 00.5	
MD31	**MD31**	**2.84**	**199**	P		**Pn**	**14 20 22.2**	**+0.7**
MD31				S		**Sn**	**14 20 55.7**	**-0.5**
MDT	**Midelt**	**2.86**	**196**	P		**Pn**	**14 20 23.5**	**+1.8**
MDT				S		**Sn**	**14 20 57.0**	**+0.4**
TDRA	**Tendrara**	**2.87**	**151**	P		**Pn**	**14 20 22.3**	**+0.3**
TDRA				S		**Sn**	**14 20 58.4**	**+1.5**
ECAB	**El Cabril**	**2.87**	**331**	Pn		**Pn**	**14 20 22.6**	**+0.8**
ECAB				Sn		**Sn**	**14 20 55.8**	**-1.0**
ECAB				Sg		**Sg**	**14 21 06.3**	**-1.3**
ZHG	**ZHG**	**3.24**	**230**	P		**Pn**	**14 20 28.4**	**+1.4**
ZHG				S		**Sn**	**14 21 04.7**	**-1.3**
EMIN	**Mina Concepcio**	**3.26**	**313**	Pn		**Pn**	**14 20 27.8**	**+0.6**
EMIN				Sn		**Sn**	**14 21 06.3**	**-0.1**
ETOB	**Tobarra**	**3.51**	**28**	Pn		**Pn**	**14 20 32.6**	**+1.9**
ETOB				Sn		**Sn**	**14 21 11.7**	**-0.9**
EGRO	**El Granado**	**3.64**	**304**	Pn		**Pn**	**14 20 33.4**	**+0.9**
EGRO				Sn		**Sn**	**14 21 14.4**	**-1.4**
EGRO				*i* Vmb_Lg			14 21 23.8	
PVAQ	**Vaqueiros**	**3.74**	**300**	P		**Pn**	**14 20 34.0**	**+0.2**
PVAQ				S		**Sn**	**14 21 18.8**	**+0.6**
PAB	**San Pablo**	**4.01**	**352**	Pn		**Pn**	**14 20 39.0**	**+1.5**
PAB				Sn		**Sn**	**14 21 24.2**	**-0.7**
PAB				*i* Vmb_Lg			14 21 27.5	
ESDC	**Sonseca Array**	**4.11**	**357**	Pn		**Pn**	**14 20 39.7**	**+0.8**
ESDC				Sn		**Sn**	**14 21 27.0**	**-0.3**
ESDC				*i* Vmb_Lg			14 21 45.1	
EBAD	**Badajoz**	**4.15**	**321**	Pn		**Pn**	**14 20 40.9**	**+1.4**
EBAD				Sn		**Sn**	**14 21 28.7**	**+0.3**
EBAD				*i* Vmb_Lg			14 21 41.1	

NOU 24 14:19:50.9, 16°.40S×167°.78E, h51km, MLv4.0/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.10**	**330**	P		Pn	14 20 10.3	+0.3
DVP	**Devils Point**	**1.37**	**164**	P		Pn	14 20 13.7	0.0
KOUNC	**Koumac, New Ca**	**5.29**	**218**	P		Pn	14 21 07.7	+0.2
YATNC	**Mamie plateau,**	**5.69**	**188**	P		Pn	14 21 11.9	-1.0
DZM	**Mont Dzumac**	**5.78**	**192**	P		Pn	14 21 13.5	-0.7
NOUC	**Port Laguerre**	**5.84**	**194**	P		Pn	14 21 15.2	+0.2
OUENC	**Ouen Island, N**	**6.05**	**188**	P		Pn	14 21 17.9	0.0

*IDC **24** 14:24:55.2±1.8, 24°.50S×179°.68W, h459km±20km, mb3.8/12, mb1 3.8/14, mb1mx3.6/34, mbtmp4.6/14, Error ellipse: s-maj=20.8km s-min=13.2km az=85.0*
*NEIC **24** 14:24:55.9±1.6, 24°.6S±0°.1×179°.7W±0°.2, h465km±10km, mb4.3/30, Error ellipse: s-maj=20.6km s-min=15.7km az=97.0*

ISC 24 14:24:54.6±0.5, 24°.51S±0°.06×179°.80W±0°.08, h450km, n81, σ2°.17/81, mb4.2/25, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.01**	**161**	P		**P**	**14 26 18.3**	**-0.7**
	251nm,0.3s,baz=59,slow=22,SNR=5.6							
RAO	**Raoul Island**	**5.01**	**161**	P		**P**	**14 26 17.9**	**-1.1**
NIUE	**Niue**	**10.64**	**61**	P		**P**	**14 27 19.4**	**+0.6**
DZM	**Mont Dzumac**	**12.88**	**278**	P		P	14 27 49.2	+6.1
	1.0nm,0.3s,baz=87,slow=18,SNR=11							
AFI	**Afiamalu**	**12.97**	**37**	P		**P**	**14 27 44.5**	**+0.3**
	5.8nm,0.3s,baz=172,slow=8.1,SNR=11							
AFI				S		**S**	**14 30 01.1**	**-3.2**
	2.9nm,0.3s,baz=228,slow=21,SNR=3.0							
AFI	**Afiamalu**	**12.97**	**37**	P		**P**	**14 27 44.1**	**-0.1**
TOZ	**Tahuroa Road**	**13.78**	**196**	P		P	14 27 59.6	+7.0
URZ	**Urewera**	**13.96**	**190**	P		**P**	**14 27 57.0**	**+2.6**
	2.1nm,0.3s,baz=21,slow=2.7,SNR=6.5							
URZ				S		**S**	**14 30 24.7**	**+1.7**
	2.7nm,0.3s,baz=72,slow=22,SNR=18							
URZ	**Urewera**	**13.96**	**190**	P		**P**	**14 27 55.3**	**+0.9**
TLZ	**Tolley Road**	**14.34**	**195**	P		**P**	**14 27 55.7**	**-2.9**
HIZ	**Hauiti**	**14.68**	**197**	P		P	14 28 09.0	+6.8
HATZ	**Hinemaiaia**	**14.76**	**193**	P		P	14 28 08.4	+5.3
RATZ	**Rangitukua**	**14.80**	**194**	P		**P**	**14 28 06.9**	**+3.4**
BKZ	**Black Stump Fm**	**14.95**	**191**	P		**P**	**14 28 08.1**	**+3.0**
TWVZ	**Taurewa**	**15.07**	**194**	P		**P**	**14 28 11.1**	**+4.6**
OTVZ	**Oturere**	**15.11**	**194**	P		**P**	**14 28 09.4**	**+2.4**
SNVZ	**South Ngauruho**	**15.14**	**194**	P		**P**	**14 28 08.2**	**+0.9**
SANVU	**Saraoutou**	**15.17**	**304**	P		**P**	**14 28 09.8**	**+2.1**
KWHZ	**Kaweka Forest**	**15.21**	**191**	P		**P**	**14 28 10.5**	**+2.6**
WNVZ	**Wahianoa**	**15.28**	**194**	P		**P**	**14 28 11.2**	**+2.4**
MOVZ	**Moawhango**	**15.32**	**193**	P		**P**	**14 28 12.5**	**+3.4**
BHHZ	**Black Hill Sta**	**15.34**	**192**	P		**P**	**14 28 10.5**	**+1.2**
KAHZ	**Kahuranaki**	**15.50**	**190**	P		**P**	**14 28 14.8**	**+3.9**
NEZ	**North Egmont**	**15.60**	**198**	P		**P**	**14 28 18.2**	**+6.1**
LREZ	**Lake Rotokare**	**15.69**	**197**	P		**P**	**14 28 14.1**	**+1.1**
PNHZ	**Pukenui**	**15.73**	**191**	P		**P**	**14 28 15.8**	**+2.4**
TSZ	**Takapari Road**	**15.91**	**192**	P		**P**	**14 28 17.9**	**+2.6**
QRZ	**Quartz Range**	**17.50**	**200**	P		**P**	**14 28 32.4**	**+0.4**
THZ	**Tophouse**	**18.25**	**198**	P		**P**	**14 28 39.5**	**-0.2**
LTZ	**Lake Taylor**	**19.37**	**198**	P		**P**	**14 28 48.9**	**-1.2**
OXZ	**Oxford**	**19.94**	**198**	P		**P**	**14 28 54.1**	**-1.1**
RPZ	**Rata Peaks**	**20.58**	**199**	P		**P**	**14 29 01.3**	**+0.3**
	41nm,0.6s,baz=324,slow=1.1,SNR=28							
RPZ	**Rata Peaks**	**20.58**	**199**	P		**P**	**14 29 00.2**	**-0.9**
ARMA	**Armidale**	**25.99**	**251**	P		**P**	**14 29 51.1**	**+1.2**
ARMA				IAmb		IAmb	14 29 53.1	
	comp=Z,7.7nm,0.7s							
EIDS	**Eidsvold**	**26.40**	**262**	P		**P**	**14 29 53.2**	**-0.3**
EIDS				IAmb		IAmb	14 29 55.4	
	comp=Z,4.8nm,0.6s							
CAN	**Canberra**	**29.00**	**241**	P		**P**	**14 30 17.6**	**+1.2**
CAN				IAmb		IAmb	14 30 18.6	
	comp=Z,5.9nm,0.5s							
CTAO	**Charters Tower**	**31.67**	**271**	P		**P**	**14 30 41.1**	**+1.5**
TOO	**Toolangi**	**32.28**	**238**	P		**P**	**14 30 45.7**	**+1.0**
TOO				IAmb		IAmb	14 30 46.3	
	comp=Z,7.0nm,0.7s							
TAU	**Tasmania Unive**	**32.66**	**228**	P		**P**	**14 30 48.7**	**+0.9**
TAU				IAmb		IAmb	14 31 00.3	
	comp=Z,20nm,1.1s							
STKA	**Stephens Creek**	**34.67**	**249**	P		**P**	**14 31 05.9**	**+0.8**
	comp=Z,8.5nm,0.6s,baz=96,slow=10,SNR=34							
STKA	**Stephens Creek**	**34.67**	**249**	P		**P**	**14 31 05.7**	**+0.6**
PMG	**Port Moresby**	**34.87**	**290**	P		**P**	**14 31 07.8**	**+0.9**
	comp=Z,16nm,0.7s,baz=270,slow=24,SNR=5.5							
PMG	**Port Moresby**	**34.87**	**290**	P		**P**	**14 31 07.5**	**+0.6**
BBOO	**Buckleboo**	**39.38**	**248**	P		**P**	**14 31 43.5**	**-0.5**
BBOO				IAmb		IAmb	14 31 44.1	
	comp=Z,11nm,0.8s							
AS31	**Alice Springs**	**42.12**	**261**	P		**P**	**14 32 06.2**	**0.0**
ASAR	**Alice Springs**	**42.12**	**261**	P		**P**	**14 32 06.1**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=87,slow=6.3,SNR=102							
ASAR				S		**S**	**14 37 45.9**	**-6.5**
	comp=Z,1.9nm,1.0s,baz=99,slow=16,SNR=9.8							
ASAR	**Alice Springs**	**42.12**	**261**	P		**P**	**14 32 05.8**	**-0.3**
WR0	**Warramunga Arr**	**42.37**	**267**	P		**P**	**14 32 07.7**	**-0.4**
WR0				IAmb		IAmb	14 32 08.1	
	comp=Z,4.9nm,0.6s							
WB2	**Warramunga Arr**	**42.54**	**267**	P		**P**	**14 32 09.0**	**-0.5**
WB2				IAmb		IAmb	14 32 09.6	
	comp=Z,9.2nm,0.6s							
WRAB	**Tennant Creek**	**42.55**	**267**	P		**P**	**14 32 07.5**	**-2.0**
WRAB				IAmb		IAmb	14 32 09.5	
	comp=Z,7.6nm,0.5s							
WB0	**Warramunga Arr**	**42.55**	**267**	P		**P**	**14 32 09.1**	**-0.5**
WB0				IAmb		IAmb	14 32 09.9	
	comp=Z,10nm,0.6s							
FORT	**Forrest**	**46.28**	**250**	P		**P**	**14 32 37.0**	**-1.4**
KNRA	**Kununurra**	**48.87**	**270**	P		**P**	**14 32 58.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.97**	**266**	P		**P**	**14 33 13.8**	**+0.2**
SBA	**Scott Base**	**53.78**	**184**	P		**P**	**14 33 33.1**	**+0.1**
SBA				IAmb		IAmb	14 33 36.1	
	comp=Z,8.7nm,0.9s							
VNDA	**Vanda**	**53.79**	**185**	P		**P**	**14 33 34.1**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=9.4,slow=5.9,SNR=10							
VNDA	**Vanda**	**53.79**	**185**	P		**P**	**14 33 32.5**	**-0.6**
PSA00	**Pilbara Seismi**	**55.24**	**260**	P		**P**	**14 33 41.1**	**-3.1**
MORW	**Morawa**	**56.84**	**250**	P		**P**	**14 33 53.5**	**-1.8**
MORW				IAmb		IAmb	14 33 55.3	
	comp=Z,6.8nm,0.8s							
CASY	**Casey**	**59.65**	**206**	P		**P**	**14 34 12.3**	**-1.4**
CASY				IAmb		IAmb	14 34 13.3	
	comp=Z,7.5nm,0.7s							
QSPA	**South Pole Qui**	**65.58**	**180**	P		**P**	**14 34 52.8**	**+0.4**
QSPA				IAmb		IAmb	14 34 53.8	
	comp=Z,11nm,0.8s							
MJAR	**Matsushiro Arr**	**72.50**	**326**	P		**P**	**14 35 34.4**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=161,slow=4.3,SNR=6.5							
MAW	**Mawson**	**77.25**	**200**	P		**P**	**14 36 00.6**	**-0.2**
	comp=Z,5.1nm,0.5s,baz=159,slow=5.1,SNR=14							
MAW	**Mawson**	**77.25**	**200**	P		**P**	**14 36 00.6**	**-0.2**
KSRS	**Korea Array**	**78.83**	**320**	P		**P**	**14 36 10.5**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=133,slow=5.3,SNR=8.9							
PETK	**Petropavlovsk-**	**79.73**	**346**	P		**P**	**14 36 14.3**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=122,slow=7.7,SNR=6.4							
USRK	**Ussuriysk Ar.**	**81.37**	**327**	P		**P**	**14 36 23.7**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=96,slow=3.8,SNR=6.7							
TROLL	**Troll, Antarti**	**83.73**	**181**	P		**P**	**14 36 33.8**	**-1.1**
SNAA	**Sanae**	**84.06**	**179**	P		**P**	**14 36 34.9**	**-1.5**
VNA3	**Neumayer Olymp**	**84.26**	**177**	P		**P**	**14 36 35.6**	**-1.8**
VNA2	**Neumayer--Watz**	**84.68**	**177**	P		**P**	**14 36 37.9**	**-1.5**
	baz=197,slow=4.0							
CMAR	**Chiang Mai Arr**	**89.91**	**290**	P		**P**	**14 37 06.3**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=142,slow=3.4,SNR=11							
SONM	**Songino Array**	**97.68**	**319**	P		**P**	**14 37 39.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=117,slow=1.6,SNR=3.6							
NB2	**NORSAR Subarra**	**142.71**	**351**	PKP		**PKPdf**	**14 43 30.3**	**-4.9**
	comp=Z,1.0nm,0.8s,baz=13,slow=3.6							
NOA	**NORSAR Array B**	**142.71**	**351**	PKhKP		PKPpre	14 43 30.7	
	comp=Z,2.1nm,0.9s,baz=15,slow=4.8,SNR=5.8							
MNK	**Minsk**	**143.67**	**333**	*i* PKP		PKPab	14 43 35.5	+0.1
	comp=E,2.0nm,1.1s							
MNK				*i* PKP		PKPab	14 43 35.5	+0.1
	comp=N,22nm,1.0s							
MNK				*i* PKP		PKPab	14 43 35.5	+0.1
	comp=Z,30nm,1.0s,baz=45							
MNK				*i* SKP			14 46 47.2	
MNK				*i* PKS		**PKSdf**	**14 47 17.6**	**+5.3**
MNK				*i* PPP		PPP	14 49 14.8	
MNK				*i* SKS		**SKSdf**	**14 50 06.0**	**+3.0**
MNK				*i* SPP		SPP	15 03 30.6	
MNK				*i* PPS		PPS	15 04 19.8	
MNK				*i* SS		**SS**	**15 05 05.2**	**+5.2**
MNK				*i* SSS		SSS	15 10 26.0	
NACGM	**Naroch**	**143.83**	**334**	*e*PKP		PKPbc	14 43 35.5	-0.5
AKASG	**Malin Array Be**	**145.58**	**327**	PKPbc		**PKPdf**	**14 43 39.6**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=45,slow=4.3,SNR=13							
BRTR	**Keskin Array B**	**148.09**	**306**	PKPbc		**PKPdf**	**14 43 47.1**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=85,slow=2.6,SNR=4.8							
BRTR				PKPab		**PKiKP**	**14 43 52.7**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=113,slow=3.7,SNR=5.9							
CLL	**Collm**	**151.49**	**343**	⇑ *i*PKPbc		**PKPbc**	**14 43 55.4**	**-1.1**
	comp=Z,10.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**168.61**	**187**	PKPab		**PKPab**	**14 45 20.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=172,slow=3.9,SNR=6.4							

*MDD **24** 14:34:36.6±0.5, 35°.45N×3°.74W, h19km±9km, mb_Lg2.2/6, Error ellipse: s-maj=10.3km s-min=3.6km az=159.0*
*CNRM **24** 14:34:36.6, 35°.47N×3°.74W, h13km, ml2.1*
*SFS **24** 14:34:36.0, 35°.44N×3°.73W, h34km, ML2.5, ALBORAN SUR*

ISC 24 14:34:35.7±1.1, 35°.51N±0°.03×3°.76W±0°.03, h16km±9km, n15, σ1°.03/30, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**207**	P		**Pg**	**14 34 42.5**	**-0.1**
PALE				S		**Sg**	**14 34 47.3**	**-0.1**
PVLZ	**Peæn de**	**0.56**	**233**	P		**Pb**	**14 34 44.4**	**-2.8**
PVLZ				S		**Sb**	**14 34 54.3**	**-0.6**
GOG	**Mont Gurugu**	**0.69**	**115**	P		**Pb**	**14 34 48.8**	**-0.6**
GOG				S		**Sg**	**14 34 58.9**	**+0.5**
EMEL	**Melilla**	**0.69**	**108**	Pg		**Pb**	**14 34 48.9**	**-0.5**
EMEL				Sg		**Sb**	**14 34 57.7**	**-1.0**
EALB	**Alboran**	**0.73**	**54**	Pg		**Pb**	**14 34 50.5**	**+0.4**
EALB				Sg		**Sb**	**14 35 00.7**	**+0.9**
EALB				*i* Vmb_Lg			14 35 01.6	
TAF	**Taforalt**	**1.30**	**122**	P		**Pg**	**14 35 00.6**	**-0.2**
TAF				S		**Sg**	**14 35 17.3**	**-0.6**
EMIJ	**Mijas**	**1.33**	**322**	Pn		**Pn**	**14 34 59.3**	**-0.5**
EMIJ				Sn		**Sn**	**14 35 17.5**	**+0.2**
EMIJ				*i* Vmb_Lg			14 35 22.9	
SMIR	**Smir Dam**	**1.33**	**278**	P		**Pb**	**14 35 01.5**	**+1.1**
SMIR				S		**Sg**	**14 35 20.5**	**+1.7**
ELGU	**Los Guajares,**	**1.36**	**4**	Pn		**Pn**	**14 34 59.5**	**-0.6**
ELGU				Sn		**Sn**	**14 35 17.4**	**-0.5**
ELGU				*i* Vmb_Lg			14 35 21.5	
EBER	**Berja**	**1.55**	**27**	Pn		**Pn**	**14 35 03.0**	**+0.1**
EBER				Sn		**Sn**	**14 35 22.2**	**-0.6**
EBER				*i* Vmb_Lg			14 35 27.0	
EADA	**Adamuz**	**2.73**	**346**	Pn		**Pn**	**14 35 19.8**	**+0.8**
EADA				Sn		**Sn**	**14 35 51.9**	**+0.1**
EADA				*i* Vmb_Lg			14 36 10.6	
MD31	**MD31**	**2.77**	**198**	P		**Pn**	**14 35 19.9**	**+0.4**
MD31				S		**Sn**	**14 35 54.1**	**+1.4**
MDT	**Midelt**	**2.78**	**195**	P		**Pn**	**14 35 21.7**	**+1.9**
MDT				S		**Sn**	**14 35 54.4**	**+1.2**
ECAB	**El Cabril**	**2.88**	**333**	Pn		**Pn**	**14 35 21.5**	**+0.4**
ECAB				Sn		**Sn**	**14 35 54.7**	**-0.9**
EGRO	**El Granado**	**3.62**	**305**	Pn		**Pn**	**14 35 31.3**	**+0.2**
EGRO				Sn		**Sn**	**14 36 12.2**	**-1.3**

TAP 24 14:56:51.6, 23°.14N×120°.96E, h3km±1km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.07**	**47**	*i* P		Pg	14 56 54.1	+0.9
	baz=52							
ELDTW				*i* S		Sg	14 56 55.3	+1.1
	baz=52							
STYH	**Taoyuan**	**0.17**	**280**	P		Pg	14 56 55.9	+0.9
	baz=282							
STYH				*e*S		Sg	14 56 58.6	+1.3
	baz=282							
STYT	**Tauyuan**	**0.19**	**277**	*e*S		Sg	14 56 59.0	+1.2
	baz=276							
LONT	**Longtian**	**0.28**	**146**	*e*S		Sg	14 57 01.2	+0.6
	baz=146							
FULB	**Fuli**	**0.31**	**79**	S		Sb	14 57 04.2	-1.1
	baz=79							
WTP	**Ta-pu**	**0.34**	**288**	P		Pb	14 56 59.6	-0.7
	baz=288							
WTP				S		Sb	14 57 05.2	-0.8
	baz=288							
TWGBT	**Beinan**	**0.34**	**161**	*e*S		Sg	14 57 03.5	+1.0
	baz=161							
TPUB	**Ta-pu**	**0.34**	**298**	*e*P		Pb	14 56 59.5	-0.9
	baz=297							
TPUB				*e*S		Sb	14 57 05.3	-1.0
	baz=297							
ALS	**Alishan**	**0.40**	**339**	*e*S		Sb	14 57 07.7	-0.3
	baz=339							

	baz=306																		
STYH					*e*S		Sn	14 57 30.5	-0.7										
	baz=306																		
TWK1	**Hengchun**	**1.19**	**238**		*e*S		Sn	14 57 30.3	-0.9										
	baz=239																		
SCZT	**Fangliau**	**1.20**	**261**		*e*P		Pn	14 57 16.1	+0.2										
	baz=270																		
SCZT					*e*S		Sn	14 57 31.3	-0.1										
	baz=270																		
HEN	**Hengchun**	**1.22**	**242**		*e*S		Sn	14 57 31.3	-0.5										
	baz=233																		
ESL	**Shilin**	**1.30**	**341**		*e*P		Pn	14 57 15.6	-1.7										
	baz=349																		
ESL					*e*S		Sn	14 57 30.8	-3.2										
	baz=349																		
SGST	**Jiashian**	**1.31**	**293**		*e*P		Pn	14 57 17.3	-0.2										
	baz=298																		
SGST					*e*S		Sn	14 57 34.3	0.0										
	baz=298																		
SCST	**Cishan**	**1.33**	**284**		*e*S		Sb	14 57 38.3	+2.7										
	baz=285																		
WTP	**Ta-pu**	**1.36**	**300**		*e*P		Pn	14 57 18.7	+0.5										
	baz=310																		
WTP					*e*S		Sb	14 57 36.7	+0.3										
	baz=310																		
VWDT	**VWDT**	**1.36**	**329**		*e*P		Pn	14 57 17.4	-0.7										
	baz=329																		
VWDT					*e*S		Sn	14 57 34.4	-1.0										
	baz=329																		
ALS	**Alishan**	**1.37**	**313**		P		Pn	14 57 18.8	+0.3										
	baz=322																		
ALS					S		Sn	14 57 36.2	+0.2										
	baz=322																		
TPUB	**Ta-pu**	**1.38**	**302**		P		Pn	14 57 18.9	+0.6										
	baz=312																		
TPUB					S		Sb	14 57 36.9	0.0										
	baz=312																		
CHN1	**Nanshi**	**1.40**	**296**		*e*P		Pb	14 57 19.5	-0.7										
	baz=297																		
SNST	**Tainan City**	**1.44**	**297**		*e*P		Pb	14 57 20.1	-0.8										
	baz=306																		
SNST					*e*S		Sb	14 57 39.0	+0.2										
	baz=306																		
SSLB	**Suanglung**	**1.49**	**324**		*e*P		Pn	14 57 20.0	+0.1										
	baz=324																		
CHN5	**Tsauling**	**1.52**	**312**		P		Pb	14 57 21.5	-0.6										
	baz=322																		
OWD	**Renai**	**1.52**	**334**		*e*P		Pn	14 57 19.6	-0.8										
	baz=343																		
OWD					*e*S		Sn	14 57 37.0	-2.7										
	baz=343																		
WUSB	**Renai**	**1.58**	**333**		*e*P		Pn	14 57 20.8	-0.5										
	baz=342																		
WUSB					*e*S		Sn	14 57 38.7	-2.3										
	baz=342																		
SMLT	**Sun Moon Lake**	**1.59**	**325**		*e*P		Pn	14 57 21.9	+0.5										
	baz=333																		
SMLT					*e*S		Sn	14 57 41.0	-0.3										
	baz=333																		
NACB	**Ninganchiao**	**1.61**	**350**		*e*P		Pn	14 57 19.8	-1.8										
	baz=359																		
NACB					*e*S		Sn	14 57 38.7	-3.0										
	baz=359																		
CHGB	**Renai**	**1.62**	**336**		*e*P		Pn	14 57 20.9	-1.0										
	baz=345																		
CHGB					*e*S		Sn	14 57 40.2	-1.9										
	baz=345																		
TYC	**Yuchr**	**1.63**	**324**		*e*P		Pn	14 57 22.3	+0.5										
	baz=333																		
TYC					*e*S		Sn	14 57 42.6	+0.5										
	baz=333																		
ETLH	**Xiulin Townshi**	**1.67**	**347**		*e*S		Sn	14 57 39.8	-3.3										
	baz=356																		
WNT	**Mingjian**	**1.71**	**319**		*e*P		Pb	14 57 24.3	-1.1										
	baz=319																		
WNT					*e*S		Sb	14 57 45.8	-0.7										
	baz=319																		
WCS	**Beigang Elemen**	**1.73**	**329**		*e*P		Pn	14 57 23.5	+0.3										
	baz=338																		
FUSS	**Fushou**	**1.77**	**340**		*e*P		Pn	14 57 22.3	-1.7										
	baz=351																		
FUSS					*e*S		Sn	14 57 43.7	-2.2										
	baz=351																		
ENA	**Nanau**	**1.85**	**356**		*e*P		Pn	14 57 23.5	-1.3										
	baz=354																		
ENA					*e*S		Sn	14 57 44.8	-2.6										
	baz=354																		
EWUT	**Wuta**	**1.86**	**357**		*e*P		Pn	14 57 23.6	-1.4										
	baz=355																		
NNSB	**Datong**	**1.90**	**346**		*e*S		Sn	14 57 46.0	-2.9										
	baz=345																		
WHP	**Taichung City**	**1.91**	**333**		*e*P		Pn	14 57 26.9	+1.2										
	baz=341																		
NNS	**Nan Shan**	**1.92**	**346**		*e*S		Sn	14 57 46.6	-2.7										
	baz=345																		
LATG	**Datong**	**1.98**	**350**		*e*P		Pn	14 57 25.9	-0.8										
	baz=349																		
LATG					*e*S		Sn	14 57 48.5	-2.3										
	baz=349																		
NDT	**Datong Townshi**	**2.05**	**350**		*e*P		Pn	14 57 26.9	-0.7										
	baz=349																		
NDS	**Dongshan**	**2.06**	**355**		*e*S		Sn	14 57 49.8	-2.7										
	baz=354																		
ENTT	**Nioudou**	**2.08**	**352**		*e*P		Pn	14 57 27.4	-0.6										
	baz=351																		
YHNB	**Yeheng**	**2.14**	**347**		*e*P		Pn	14 57 28.8	-0.1										
	baz=358																		
YHNB					*e*S		Sn	14 57 52.7	-2.0										
	baz=358																		
NSK	**Sanguang**	**2.15**	**347**		*e*P		Pn	14 57 28.9	-0.1										
	baz=357																		
NSK					*e*S		Sn	14 57 53.0	-1.9										
	baz=357																		
FUSB	**Fushanzhiwuyua**	**2.19**	**353**		*e*P		Pn	14 57 29.5	-0.1										
	baz=352																		
NWLT	**Wulai**	**2.22**	**351**		*e*P		Pn	14 57 30.3	+0.3										
	baz=349																		
TIPB	**Shuangxi**	**2.39**	**358**		*e*P		Pn	14 57 32.4	+0.2										
	baz=357																		
TIPB					*e*S		Sn	14 57 59.5	-1.2										
	baz=357																		
TTN					S		Sb	15 05 42.9	+3.1										
	baz=21																		
SCZT	**Fangliau**	**0.44**	**273**	⇓	*i*P		Pg	15 05 31.9	-0.2										
	baz=276																		
SCZT					*i* S		Sg	15 05 37.2	-0.6										
	baz=276																		
TWGBT	**Beinan**	**0.47**	**359**	⇑	*i*P		Pb	15 05 33.7	-0.7										
	baz=11																		
TWGBT					S		Sb	15 05 41.7	+0.1										
	baz=11																		
HEN	**Hengchun**	**0.47**	**224**	⇑	P		Pg	15 05 33.2	+0.5										
	baz=215																		
HEN					S		Sg	15 05 40.0	+1.1										
	baz=215																		
TWG	**Pinlang**	**0.47**	**358**	⇑	*i*P		Pb	15 05 33.7	-0.7										
	baz=11																		
TWG					S		Sb	15 05 42.1	+0.5										
	baz=11																		
LDUT	**Ludao**	**0.48**	**47**		P		Pb	15 05 35.2	+0.7										
	baz=40																		
LDUT					S		Sb	15 05 43.2	+1.4										
	baz=40																		
TSEB	**Hengchuen, Pin**	**0.48**	**202**	⇑	*i*P		Pb	15 05 34.2	-0.3										
	baz=181																		
TSEB					S		Sb	15 05 41.8	+0.1										
	baz=181																		
TWKBT	**Hengchun**	**0.48**	**213**	⇑	*i*P		Pg	15 05 33.4	+0.5										
	baz=203																		
TWKBT					S		Sg	15 05 40.2	+1.0										
	baz=203																		
TWK1	**Hengchun**	**0.48**	**214**	⇑	*i*P		Pg	15 05 33.4	+0.5										
	baz=203																		
TWK1					S		Sb	15 05 40.7	-1.1										
	baz=203																		
SNW	**Nanwan**	**0.50**	**220**		*e*P		Pb	15 05 34.4	-0.4										
	baz=202																		
SNW					*e*S		Sb	15 05 41.7	-0.6										
	baz=202																		
MASBT	**Mashibuluo**	**0.50**	**302**	⇓	*i*P		Pg	15 05 33.4	+0.1										
	baz=310																		
MASBT					S		Sg	15 05 39.6	-0.2										
	baz=310																		
SSPT	**Xinbi**	**0.50**	**286**	⇓	*i*P		Pb	15 05 34.0	-0.9										
	baz=301																		
SSPT					S		Sb	15 05 41.3	-1.2										
	baz=301																		
LAY	**Lan-yu**	**0.53**	**126**		P		Pb	15 05 35.1	-0.1										
	baz=104																		
TSMG	**Majia**	**0.55**	**311**	⇓	P		Pg	15 05 34.2	0.0										
	baz=319																		
TSMG					S		Sg	15 05 41.1	-0.2										
	baz=319																		
LONT	**Longtian**	**0.56**	**4**		P		Pb	15 05 35.1	-0.7										
	baz=13																		
LONT					S		Sb	15 05 43.9	-0.3										
	baz=13																		
LYUB	**Lan-yu**	**0.57**	**127**		*e*P		Pg	15 05 34.5	-0.2										
	baz=122																		
LYUB					*e*S		Sg	15 05 42.0	-0.1										
	baz=122																		
SSD	**Sandimen**	**0.58**	**313**	⇓	*i*P		Pg	15 05 34.8	-0.1										
	baz=327																		
SSD					*i* S		Sg	15 05 42.6	+0.2										
	baz=327																		
TSPT	**Pingtung City**	**0.64**	**301**		P		Pb	15 05 36.8	-0.4										
	baz=307																		
TSPT					*e*S		Sb	15 05 46.1	-0.4										
	baz=307																		
EDH	**Donghe**	**0.65**	**17**		*e*P		Pb	15 05 37.2	-0.2										
	baz=24																		
EDH					*e*S		Sb	15 05 47.1	+0.3										
	baz=24																		
WLCH	**Liuqiu**	**0.66**	**271**		*e*P		Pn	15 05 38.9	-0.6										
	baz=280																		
SGLT	**Jiouru**	**0.67**	**304**	⇓	P		Pb	15 05 37.5	-0.3										
	baz=310																		
SGLT					S		Sb	15 05 47.4	0.0										
	baz=310																		
TWP	**Hsiaoliuchiu**	**0.68**	**270**		*e*P		Pn	15 05 39.4	-0.3										
	baz=279																		
ECS	**Chishang**	**0.76**	**9**		*e*P		Pb	15 05 38.5	-0.7										
	baz=17																		
KAU	**Kaohsiung**	**0.76**	**287**		*e*P		Pn	15 05 40.9	0.0										
	baz=291																		
SCST	**Cishan**	**0.77**	**314**		*e*P		Pb	15 05 39.6	+0.2										
	baz=327																		
SCST					*e*S		Sb	15 05 50.6	+0.4										
	baz=327																		
TWM1	**Shoushan**	**0.78**	**308**		P		Pb	15 05 40.0	+0.4										
	baz=322																		
CHKT	**Chengkung**	**0.79**	**19**		*e*P		Pb	15 05 39.5	-0.3										
	baz=27																		
CHKT					*e*S		Sb	15 05 51.0	+0.2										
	baz=27																		
SNJT	**Kaohsiung City**	**0.81**	**300**		*e*P		Pn	15 05 41.4	-0.2										
	baz=305																		
SNJT					*e*S		Sn	15 05 55.4	+1.5										
	baz=305																		
ELDTW	**Lidau**	**0.84**	**355**		P		Pg	15 05 39.3	-0.5										
	baz=15																		
FULB	**Fuli**	**0.87**	**12**		*e*P		Pg	15 05 40.4	0.0										
	baz=20																		
STYT	**Tauyuan**	**0.87**	**339**		P		Pb	15 05 40.9	-0.3										
	baz=354																		
SGST	**Jiashian**	**0.87**	**327**	⇓	*i*P		Pb	15 05 40.3	-0.9										
	baz=338																		
SGST					*e*S		Sn	15 05 54.0	-1.4										
	baz=338																		
STYH	**Taoyuan**	**0.87**	**341**		P		Pb	15 05 41.2	+0.1										
	baz=353																		
SHHT	**Tainan City**	**0.96**	**315**		*e*P		Pn	15 05 44.9	+1.2										
	baz=321																		
CHN1	**Nanshi**	**0.98**	**328**		P		Pn	15 05 43.8	-0.2										
	baz=335																		
CHN1					*e*S		Sn	15 05 59.5	+1.3										
	baz=335																		
CHN3	**Shinhua**	**0.99**	**317**		P		Pn	15 05 45.1	+1.1										
	baz=338																		
CHN3					*e*S		Sn	15 06 01.3	+3.0										
	baz=338																		
WTP	**Ta-pu**	**1.00**	**334**	⇓	P		Pn	15 05 43.8	-0.4										
	baz=342																		
WTP					*e*S		Sn	15 05 59.2	+0.5										
	baz=342																		
EYUL	**Yuli**	**1.02**	**12**		*e*P		Pg	15 05 42.8	-0.4										
	baz=18																		
SNST	**Tainan City**	**1.03**	**328**		*e*P		Pn	15 05 45.0	+0.4										
	baz=348																		
SNST					*e*S		Sn	15 05 59.9	+0.5										
	baz=348																		
TPUB	**Ta-pu**	**1.04**	**336**		*e*P		Pn	15 05 44.8	-0.1										
	baz=343																		
TPUB					*e*S		Sn	15 05 59.8	+0.1										
	baz=343																		
YULB	**Yu-li**	**1.06**	**10**		*e*P		Pg	15 05 43.5	-0.4										
	baz=17																		
TWK	**Hsinying**	**1.07**	**329**	⇑	P		Pn	15 05 45.1	-0.2										
	baz=336																		
TWK					*e*S		Sn	15 06 02.6	+2.1										
	baz=336																		
YUS	**Yu-Shan**	**1.15**	**354**		*e*P		Pb	15 05 45.8	-0.4										
	baz=11																		
SCLT	**Jiali**	**1.17**	**315**		*e*P		Pn	15 05 47.0	+0.5										
	baz=323																		
EHY	**Hungye**	**1.17**	**10**		*e*P		Pn	15 05 47.7	+1.1										
	baz=17																		
HGSD	**Ruisui**	**1.18**	**15**		*e*P		Pn	15 05 47.5	+0.8										
	baz=22																		
ALS	**Alishan**	**1.19**	**347**		*e*P		Pb	15 05 46.5	-0.3										
	baz=6.0																		
ALS					*e*S		Sn	15 06 05.6	+1.9										
	baz=6.0																		
ICHU	**Yijhu**	**1.26**	**324**		*e*P		Pn	15 05 47.9	+0.1										
	baz=343																		
CHY	**Chiayi**	**1.30**	**332**		*e*P		Pn	15 05 48.6	+0.3										
	baz=339																		
CHN5	**Tsauling**	**1.30**	**343**		*e*P		Pn	15 05 49.3	+0.8										
	baz=2.0																		
EGFH	**Guangfu**	**1.35**	**13**		*e*P		Pb	15 05 49.4	0.0										
	baz=20																		
VWDT	**VWDT**	**1.40**	**2**		*e*P		Pn	15 05 49.1	-0.7										
	baz=14																		
WGK	**Gukeng**	**1.42**	**340**		*e*P		Pb	15 05 52.3	+1.7										
	baz=350																		
WGK					*e*S		Sn	15 06 12.4	+3.4										
	baz=350																		
WDLH	**Douliu**	**1.43**	**339**		*e*P		Pg	15 05 50.6	-0.4										
	baz=346																		
SSLB	**Suanglung**	**1.44**	**355**		*e*P		Pg	15 05 51.2	0.0										
	baz=11																		
WTK	**Tuku**	**1.48**	**334**		*e*P		Pn	15 05 50.8	-0.1										
	baz=344																		
WTK					*e*S		Sn	15 06 12.8	+2.2										
	baz=344																		
ESL	**Shilin**	**1.49**	**12**		*e*P		Pb	15 05 51.4	-0.4										
	baz=33																		
WJS	**Zhushan**	**1.51**	**347**		*e*P		Pg	15 05 52.5	-0.1										
	baz=356																		
WSF	**Szhu**	**1.52**	**328**		*e*P		Pn	15 05 50.3	-1.0										
	baz=338																		
SMLT	**Sun Moon Lake**	**1.54**	**353**		*e*P		Pg	15 05 52.8	-0.4										
	baz=8.0																		
TYC	**Yuchr**	**1.56**	**352**		*e*P		Pg	15 05 53.2	-0.5										
	baz=7.0																		
WNT	**Mingjian**	**1.57**	**346**		*e*P		Pg	15 05 53.2	-0.5										
	baz=356																		
OWD	**Renai**	**1.60**	**3**		*e*P		Pg	15 05 54.5	+0.1										
	baz=9.0																		
WDGT	**Dungji**	**1.60**	**305**		*e*P		Pn	15 05 51.0	-1.5										
	baz=311																		
WUSB	**Renai**	**1.64**	**1**		*e*P		Pn	15 05 52.7	-0.5										
	baz=16																		
WRL	**Guolierlin Hig**	**1.68**	**337**		*e*P		Pn	15 05 53.3	-0.3										
	baz=346																		
CHGB	**Renai**	**1.71**	**3**		*e*P		Pg	15 05 56.0	-0.4										
	baz=16																		
WCS	**Beigang Elemen**	**1.71**	**354**		*e*P		Pg	15 05 55.6	-0.9										
	baz=11																		
VCHM	**Qimei**	**1.76**	**300**		*e*P		Pn	15 05 52.5	-2.2										
	baz=305																		
WCHH	**Zhanghua**	**1.79**	**344**		*e*P		Pn	15 05 55.5	+0.3										
	baz=353																		
WHF	**Hehuan Shan**	**1.80**	**5**		*e*P		Pg	15 05 57.5	-0.6										
	baz=26																		
PHUB	**P'eng-hu**	**1.82**	**310**		*e*P		Pn	15 05 53.5	-2.0										
	baz=317																		
PNG	**Penghu**	**1.87**	**311**		*e*P		Pn	15 05 54.1	-2.0										
	baz=319																		
NACB	**Ninganchiao**	**1.88**	**14**		*e*P		Pn	15 05 55.6	-0.7										
	baz=31																		
ETLH	**Xiulin Townshi**	**1.89**	**11**		*e*P		Pb	15 05 57.5	-1.0										
	baz=31																		
FUSS	**Fushou**	**1.90**	**4**		*e*P		Pn	15 05 56.7	-0.1										
	baz=24																		
WHP	**Taichung City**	**1.93**	**356**		*e*P		Pb	15 05 58.7	-0.5										
	baz=11																		
TWQ1	**Liyutan**	**2.01**	**352**		*e*P		Pb	15 06 00.1	-0.6										
NSY	**Sanyi**	**2.08**	**352**		*e*P		Pb	15 06 00.5	-1.3										
NNSB	**Datong**	**2.09**	**7**		*e*P		Pb	15 06 00.7	-1.4										
	baz=30																		
NNS	**Nan Shan**	**2.10**	**7**		*e*P		Pb	15 06 01.6	-0.6										
	baz=30																		
ENA	**Nanau**	**2.16**	**16**		*e*P		Pn	15 06 00.2	+0.1										
	baz=35																		
EWUT	**Wuta**	**2.18**	**17**		*e*P		Pn	15 06 00.5	0.0										
	baz=36																		
LATG	**Datong**	**2.21**	**10**		*e*P		Pn	15 06 02.1	+1.0										
	baz=30																		
NFF	**Wufeng Townshi**	**2.27**	**1**		*e*P		Pn	15 06 02.5	+0.6										
	baz=11																		
NSTT	**Nanjuang**	**2.28**	**358**		*e*P		Pb	15 06 04.9	-0.2										
	baz=6.0																		
NDT	**Datong Townshi**	**2.28**	**10**		*e*P		Pb	15 06 04.1	-1.1										
	baz=29																		
LIOB	**Emei**	**2.29**	**358**		*e*P		Pn	15 06 02.8	+0.8										
	baz=7.0																		
ENTT	**Nioudou**	**2.32**	**11**		*e*P		Pb	15 06 04.2	-1.7										
	baz=30																		
YHNB	**Yeheng**	**2.33**	**6**		*e*P		Pn	15 06 03.6	+1.1										
	baz=30																		
NSK	**Sanguang**	**2.33**	**6**		*e*P		Pb	15 06 04.6	-1.5										
	baz=30																		
NDS	**Dongshan**	**2.35**	**14**		*e*P		Pn	15 06 03.4	+0.6										
	baz=31																		
TWE	**Neicheng**	**2.42**	**12**		*e*P		Pb	15 06 06.6	-1.0										
	baz=30																		
FUSB	**Fushanzhiwuyua**	**2.44**	**11**		*e*P		Pn	15 06 05.7	+1.5										
	baz=30																		
NWLT	**Wulai**	**2.45**	**9**		*e*P		Pn	15 06 05.2	+1.0

OUENC	**Ouen Island, N**	**7.53**	**184**		**Pn**	**15 07 47.4**	**+2.5**
OUENC				Sn	**Sn**	**15 09 09.7**	**+0.9**
PINNC	**Pines Island,**	**7.70**	**179**	Pn	**Pn**	**15 07 49.7**	**+2.4**
HNR	**Honiara**	**9.04**	**306**	P	**Pn**	**15 08 07.1**	**+1.7**
	18nm,0.3s,baz=230,slow=4.7,SNR=4.8						
HNR				LR	LR	15 11 25.5	
	comp=Z,396nm,20.4s,baz=178,slow=36						
HNR	**Honiara**	**9.04**	**306**	P	**Pn**	**15 08 06.3**	**+1.0**
HNR	**Honiara**	**9.04**	**306**	Pn	**Pn**	**15 08 06.3**	**+1.0**
HNR	**Honiara**	**9.04**	**306**	P	Pn	15 08 13.4	+8.1
LHI	**Lord Howe Isla**	**18.23**	**203**		**P**	**15 09 58.3**	**-2.8**
RABL	**Rabaul**	**18.34**	**304**	P	**P**	**15 10 01.9**	**-0.7**
RABL				IAmb	IAmb	15 10 39.3	
	comp=Z,55nm,0.6s						
EIDS	**Eidsvold**	**18.49**	**233**	P	**Pn**	**15 10 06.9**	**+1.2**
	baz=18,SNR=10						
EIDS	**Eidsvold**	**18.49**	**233**		**Pn**	**15 10 06.5**	**+0.7**
EIDS				IAmb	IAmb	15 10 26.7	
	comp=Z,108nm,1.6s						
AFI	**Afiamalu**	**20.23**	**90**		Pn	15 10 26.2	-0.1
PMG	**Port Moresby**	**20.47**	**283**	P	**P**	**15 10 26.2**	**+0.6**
PMG	**Port Moresby**	**20.47**	**283**		**P**	**15 10 26.2**	**+0.6**
PMG	**Port Moresby**	**20.47**	**283**	pmax	pmax		
	comp=Z,28nm,0.9s						
RMQ	**Roma**	**20.86**	**233**	P	Pn	15 10 32.1	-1.5
	baz=21,SNR=18						
OUZ	**Omahuta**	**21.03**	**166**	P	**P**	**15 10 33.9**	**+2.6**
OUZ				IAmb	IAmb	15 10 34.7	
	comp=Z,143nm,1.8s						
ARMA	**Armidale**	**21.18**	**220**	P	**P**	**15 10 36.7**	**+3.5**
	baz=21,SNR=7.8						
ARMA	**Armidale**	**21.18**	**220**	P	**P**	**15 10 31.8**	**-1.4**
NIUE	**Niue**	**22.12**	**104**		**P**	**15 10 45.0**	**+1.9**
MTSU	**Mount Surprise**	**22.32**	**258**	P	**P**	**15 10 45.7**	**+0.5**
	baz=22,SNR=4.0						
PATS	**Pohnpei**	**23.36**	**337**	P	**P**	**15 10 53.5**	**-1.4**
PATS				IAmb	IAmb	15 11 12.3	
	comp=Z,105nm,1.1s						
COEN	**Coen**	**23.44**	**269**	P	**P**	**15 10 55.3**	**-0.5**
MGCD	**Mangrove Creek**	**23.47**	**216**	P	**P**	**15 10 58.1**	**+2.3**
	baz=23,SNR=8.4						
MANU	**Manus Island**	**23.49**	**301**	P	**P**	**15 10 53.3**	**-2.9**
RIV	**Riverview**	**23.90**	**215**	P	**P**	**15 11 01.8**	**+2.0**
	baz=24,SNR=4.4						
HIZ	**Hauiti**	**24.47**	**166**	P	**P**	**15 11 05.9**	**+1.1**
QLP	**Quilpie**	**24.52**	**238**	P	**P**	**15 11 06.4**	**+0.9**
	baz=24,SNR=5.6						
URZ	**Urewera**	**24.84**	**161**	P	**P**	**15 11 09.6**	**+1.4**
	comp=Z,11nm,0.6s,baz=257,slow=2.2,SNR=6.4						
URZ				LR	LR	15 20 25.4	
	comp=Z,121nm,18.4s,baz=30,slow=35						
URZ	**Urewera**	**24.84**	**161**	P	**P**	**15 11 09.1**	**+0.9**
URZ				IAmb	IAmb	15 12 04.4	
	comp=Z,79nm,1.5s						
BKZ	**Black Stump Fm**	**25.50**	**163**	P	**P**	**15 11 15.1**	**+0.8**
BKZ				IAmb	IAmb	15 11 16.5	
	comp=Z,16nm,0.5s						
CMSA	**Cobar Meteorol**	**25.84**	**226**	P	**P**	**15 11 18.4**	**+1.1**
	baz=26,SNR=18						
CNB	**Canberra Magne**	**25.99**	**215**	P	**P**	**15 11 20.1**	**+1.3**
	baz=26,SNR=23						
CAN	**Canberra**	**26.20**	**216**	pmax	pmax		
	comp=Z,21nm,1.3s						
CAN	**Canberra**	**26.20**	**216**	P	**P**	**15 11 21.6**	**+1.0**
CAN	**Canberra**	**26.20**	**216**	P	**P**	**15 11 21.7**	**+1.0**
BFZ	**Birch Farm**	**26.86**	**165**	P	**P**	**15 11 26.3**	**-0.1**
QIS	**Mount Isa**	**27.01**	**254**	P	**P**	**15 11 27.9**	**-0.2**
	baz=27,SNR=4.2						
THZ	**Tophouse**	**27.23**	**171**	P	**P**	**15 11 31.0**	**+1.3**
THZ				IAmb	IAmb	15 12 07.7	
	comp=Z,95nm,1.5s						
LTZ	**Lake Taylor**	**28.14**	**172**	P	**P**	**15 11 39.1**	**+1.3**
LTZ				IAmb	IAmb	15 12 00.0	
	comp=Z,27nm,0.9s						
FOZ	**Fox Glacier**	**28.64**	**176**	P	**P**	**15 11 43.8**	**+1.6**
FOZ				IAmb	IAmb	15 11 45.3	
	comp=Z,87nm,1.2s						
RPZ	**Rata Peaks**	**28.92**	**174**	P	**P**	**15 11 46.5**	**+1.8**
	comp=Z,18nm,0.6s,baz=287,slow=3.9,SNR=14						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**15 11 47.0**	**+1.7**
	comp=Z,9.5nm,0.4s,baz=54,slow=9.3,SNR=87						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**15 11 46.8**	**+1.5**
	baz=29,SNR=68						
STKA	**Stephens Creek**	**28.97**	**230**	pmax	pmax		
	comp=Z,9.0nm,0.7s						
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**15 11 46.5**	**+1.2**
STKA	**Stephens Creek**	**28.97**	**230**	P	**P**	**15 11 46.5**	**+1.2**
LBZ	**Lake Benmore**	**29.52**	**176**	P	**P**	**15 11 49.8**	**-0.2**
LBZ				IAmb	IAmb	15 12 07.8	
	comp=Z,127nm,1.6s						
TOO	**Toolangi**	**29.79**	**217**	P	**P**	**15 11 54.1**	**+1.6**
	baz=30,SNR=4.6						
TOO	**Toolangi**	**29.79**	**217**	pmax	pmax		
	comp=Z,20nm,0.8s						
TOO	**Toolangi**	**29.79**	**217**		**P**	**15 11 53.5**	**+1.0**
TOO				IAmb	IAmb	15 12 09.5	
	comp=Z,20nm,0.8s						
TOO	**Toolangi**	**29.79**	**217**	P	**P**	**15 11 53.5**	**+1.0**
MLZ	**Mavora Lakes**	**30.41**	**179**	P	**P**	**15 11 58.6**	**+0.8**
MLZ				IAmb	IAmb	15 12 42.7	
	comp=Z,37nm,1.4s						
WHZ	**Wether Hill Ro**	**30.93**	**179**	P	**P**	**15 12 02.4**	**0.0**
WHZ				IAmb	IAmb	15 12 37.5	
	comp=Z,87nm,1.7s						
ARPS	**Mount Arapiles**	**31.50**	**221**	P	**P**	**15 12 09.2**	**+1.6**
	baz=31,SNR=6.9						
HTT	**Hallett**	**31.69**	**229**	P	**P**	**15 12 10.9**	**+1.5**
	baz=32,SNR=4.1						
WB2	**Warramunga Arr**	**31.86**	**256**	P	**P**	**15 12 09.7**	**-1.2**
	baz=32						
WRAB	**Tennant Creek**	**31.86**	**256**	pmax	pmax		
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**31.86**	**256**	P	**P**	**15 12 07.6**	**-3.4**
WRAB	**Tennant Creek**	**31.86**	**256**	P	**P**	**15 12 07.6**	**-3.4**
AS31	**Alice Springs**	**32.70**	**249**	P	**P**	**15 12 17.0**	**-1.3**
ASAR	**Alice Springs**	**32.70**	**249**	P	**P**	**15 12 17.4**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=78,slow=9.3,SNR=149						
ASAR				S	**S**	**15 17 21.3**	**-4.2**
	comp=Z,0.6nm,0.8s,baz=81,slow=14,SNR=3.5						
ASAR	**Alice Springs**	**32.70**	**249**	P	**P**	**15 12 17.3**	**-1.0**
TAU	**Tasmania Unive**	**32.82**	**208**	pmax	pmax		
	comp=Z,112nm,1.6s						
TAU	**Tasmania Unive**	**32.82**	**208**	P	**P**	**15 12 16.8**	**-2.2**
TAU				IAmb	IAmb	15 13 12.8	
	comp=Z,112nm,1.6s						
TAU	**Tasmania Unive**	**32.82**	**208**	P	**P**	**15 12 16.8**	**-2.2**
BBOO	**Buckleboo**	**33.56**	**232**	P	**P**	**15 12 26.5**	**+0.9**
	baz=34,SNR=8.5						
BBOO	**Buckleboo**	**33.56**	**232**	P	**P**	**15 12 26.4**	**+0.8**
BBOO				IAmb	IAmb	15 12 41.2	
	comp=Z,40nm,0.7s						
KDU	**Kakadu**	**33.93**	**269**	P	**P**	**15 12 27.9**	**-1.1**
	baz=34,SNR=15						
MTN	**Manton Dam**	**35.20**	**269**	P	**P**	**15 12 41.1**	**+1.1**
	baz=35,SNR=16						
MTN	**Manton Dam**	**35.20**	**269**	P	**P**	**15 12 40.4**	**+0.4**
GUMO	**Guam**	**35.98**	**321**	LR	LR	15 26 47.0	
	comp=Z,48nm,18.2s,baz=162,slow=35						
KNRA	**Kununurra**	**37.21**	**264**	P	**P**	**15 12 56.0**	**-1.0**
	baz=37,SNR=7.3						
KNRA	**Kununurra**	**37.21**	**264**	P	**P**	**15 12 55.9**	**-1.0**
WRKA	**Warakurna**	**37.96**	**248**	P	**P**	**15 13 02.8**	**-0.5**
	baz=38,SNR=64						
FORT	**Forrest**	**39.30**	**239**	P	**P**	**15 13 14.6**	**+0.3**
	baz=39						
FORT	**Forrest**	**39.30**	**239**	P	**P**	**15 13 12.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**40.07**	**259**	P	**P**	**15 13 20.7**	**-0.2**
	comp=Z,5.0nm,0.6s,baz=69,slow=9.5,SNR=25						
FITZ	**Fitzroy Crossi**	**40.07**	**259**	IAmb	IAmb	15 13 34.0	
	comp=Z,37nm,0.8s						
SOEI	**Soe**	**42.35**	**272**	P	**P**	**15 13 37.8**	**-2.0**
SOEI				IAmb	IAmb	15 13 53.2	
	comp=Z,30nm,0.9s						
MMRI	**Maumere**	**44.54**	**273**	P	**P**	**15 13 54.6**	**-2.6**
PSA00	**Pilbara Seismi**	**45.48**	**254**	P	**P**	**15 14 02.5**	**-2.0**
PSA00				IAmb	IAmb	15 14 18.0	
	comp=Z,26nm,0.8s						
PSA00	**Pilbara Seismi**	**45.48**	**254**	P	**P**	**15 14 02.6**	**-1.9**
PSA00				IAmb	IAmb	15 14 17.9	
	comp=Z,19nm,1.1s						
KAPI	**Kappang**	**47.81**	**277**	P	**P**	**15 14 21.4**	**-1.3**
KAPI	**Kappang**	**47.81**	**277**	P	**P**	**15 14 21.4**	**-1.3**
KAPI				IAmb	IAmb	15 14 35.4	
	comp=Z,29nm,0.9s						
KAPI	**Kappang**	**47.81**	**277**	pmax	pmax		
	comp=Z,29nm,1.0s						
KLBR	**Kellerberrin**	**48.11**	**241**	P	**P**	**15 14 24.9**	**0.0**
	baz=48,SNR=10.0						
JCJ	**Chichijima**	**48.35**	**330**	P	**P**	**15 14 28.5**	**+1.9**
TOLI2	**Tolitoli**	**48.73**	**285**	P	**P**	**15 14 28.9**	**-0.8**
MORW	**Morawa**	**49.28**	**244**	P	**P**	**15 14 34.0**	**+0.2**
	baz=49,SNR=17						
MORW	**Morawa**	**49.28**	**244**	P	**P**	**15 14 33.8**	**-0.1**
OPA	**Opana**	**49.74**	**44**	P	**P**	**15 14 37.9**	**+0.6**
OPA				IAmb	IAmb	15 15 05.7	
	comp=Z,88nm,1.4s						
MLOA	**Mauna Loa Obse**	**49.99**	**48**	P	**P**	**15 14 38.7**	**-1.1**
MYLDM	**Lahad Datu**	**52.35**	**289**	P	**P**	**15 14 57.3**	**+0.3**
MYLDM				IAmb	IAmb	15 15 20.0	
	comp=Z,46nm,1.3s						
JAGI	**Jajag, Banyuwa**	**52.39**	**271**	P	**P**	**15 14 55.8**	**-1.6**
JAGI				IAmb	IAmb	15 15 08.5	
	comp=Z,24nm,0.7s						
KKM	**Kota Kinabalu**	**54.78**	**289**	P	**P**	**15 15 14.9**	**0.0**
KKM				IAmb	IAmb	15 15 26.5	
	comp=Z,54nm,1.2s						
UGM	**Wanagama**	**56.02**	**270**	P	**P**	**15 15 22.9**	**-0.8**
SBUM	**Sibu**	**57.22**	**283**	P	**P**	**15 15 32.8**	**+0.7**
JGF	**Kuroka**	**57.68**	**331**	P	**P**	**15 15 35.9**	**+1.0**
JMN	**Monobe**	**57.91**	**327**	P	**P**	**15 15 37.9**	**+1.3**
MJAR	**Matsushiro Arr**	**58.07**	**332**	pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**58.07**	**332**	P	**P**	**15 15 37.5**	**-0.1**
MJAR	**Matsushiro Arr**	**58.07**	**332**	P	**P**	**15 15 37.5**	**-0.1**
MAJO	**Matsushiro**	**58.07**	**332**	P	**P**	**15 15 37.5**	**-0.1**
MAJO				IAmb	IAmb	15 16 49.0	
	comp=Z,70nm,1.9s						
MJB9	**Matsu-Tunnel**	**58.07**	**332**	P	**P**	**15 15 37.1**	**-0.6**
MJB9				IAmb	IAmb	15 16 49.0	
	comp=Z,68nm,1.8s						
JMM	**Marumori**	**58.09**	**335**	P	**P**	**15 15 38.6**	**+0.9**
JMM				IAmb	IAmb	15 16 17.1	
	comp=Z,39nm,1.2s						
YULB	**Yu-li**	**58.95**	**309**	P	**P**	**15 15 47.0**	**+3.0**
YULB				IAmb	IAmb	15 17 07.2	
	comp=Z,56nm,1.4s						
JNU	**Nakatsue**	**59.08**	**324**	P	**P**	**15 15 46.7**	**+2.0**
JNU				IAmb	IAmb	15 15 54.0	
	comp=Z,28nm,0.9s						
NACB	**Ninganchiao**	**59.18**	**310**	P	**P**	**15 15 47.6**	**+2.0**
NACB				IAmb	IAmb	15 15 49.9	
	comp=Z,36nm,1.0s						
JHS	**Saijyo**	**59.29**	**328**	P	**P**	**15 15 47.8**	**+1.6**
TPUB	**Ta-pu**	**59.40**	**309**	P	**P**	**15 15 47.3**	**+0.3**
SSLB	**Suanglung**	**59.43**	**310**	P	**P**	**15 15 49.1**	**+1.7**
YHNB	**Yeheng**	**59.64**	**311**	P	**P**	**15 15 50.7**	**+1.9**
ERM	**Erimo**	**60.84**	**340**	P	**P**	**15 15 59.1**	**+2.6**
ERM	**Erimo**	**60.84**	**340**	P	**P**	**15 15 59.1**	**+2.6**
ERM	**Erimo**	**60.84**	**340**	pmax	pmax		
	comp=Z,160nm,1.7s						
VNDA	**Vanda**	**62.73**	**181**	P	**P**	**15 16 09.6**	**+1.0**
	comp=Z,5.9nm,0.6s,baz=353,slow=7.7,SNR=53						
VNDA	**Vanda**	**62.73**	**181**	pmax	pmax		
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**62.73**	**181**	P	**P**	**15 16 09.1**	**+0.4**
VNDA				IAmb	IAmb	15 16 24.6	
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**62.73**	**181**	P	**P**	**15 16 09.1**	**+0.4**
SBA	**Scott Base**	**63.00**	**180**	P	**P**	**15 16 11.9**	**+1.4**
SBA	**Scott Base**	**63.00**	**180**	P	**P**	**15 16 11.9**	**+1.4**
SBA				IAmb	IAmb	15 16 13.7	
	comp=Z,25nm,0.9s						
SBA	**Scott Base**	**63.00**	**180**	pmax	pmax		
	comp=Z,25nm,0.9s						
CASY	**Casey**	**63.43**	**202**	P	**P**	**15 16 14.1**	**+0.6**
CASY				IAmb	IAmb	15 16 28.2	
	comp=Z,26nm,0.8s						
NJ2	**Nanjing**	**65.83**	**316**	*e*P	**P**	**15 16 31.8**	**+2.2**
NJ2	**Nanjing**	**65.83**	**316**	pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**67.05**	**333**	P	**P**	**15 16 38.9**	**+1.9**
USRK	**Ussuriysk Ar.**	**67.05**	**333**	P	**P**	**15 16 38.9**	**+1.9**
PEA0B	**Petropavlovsk-**	**68.21**	**354**	pmax	pmax		
	comp=Z,26nm,1.2s						
PEA0B	**Petropavlovsk-**	**68.21**	**354**	P	**P**	**15 16 44.6**	**+0.4**
PEA0B				IAmb	IAmb	15 16 54.2	
	comp=Z,26nm,1.2s						
PEA0B	**Petropavlovsk-**	**68.21**	**354**	P	**P**	**15 16 44.6**	**+0.4**
PETK	**Petropavlovsk-**	**68.21**	**354**	P	**P**	**15 16 44.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=199,slow=18,SNR=4.6						
PETK				LR	LR	15 42 18.1	
	comp=Z,36nm,21.1s,baz=138,slow=32						
PETK	**Petropavlovsk-**	**68.21**	**354**	P	**P**	**15 16 44.1**	**-0.1**
MDJ	**Mudanjiang**	**68.44**	**332**	P	**P**	**15 16 46.2**	**+0.4**
MDJ				IAmb	IAmb	15 16 56.2	
	comp=Z,22nm,0.9s						
IPM	**Ipoh**	**68.45**	**281**	P	**P**	**15 16 46.1**	**-0.5**
IPM				IAmb	IAmb	15 16 58.2	
	comp=Z,20nm,0.9s						
GSI	**Gunungsitoli**	**70.83**	**277**	P	**P**	**15 17 00.1**	**-1.1**
BJI	**Beijing**	**72.43**	**321**	pmax	pmax		
	comp=Z,190nm,10.3s						
BJI	**Beijing**	**72.43**	**321**	P	**P**	**15 17 11.0**	**+0.9**
BJI	**Beijing**	**72.43**	**321**	pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**75.08**	**294**	P	**P**	**15 17 26.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=127,slow=4.4,SNR=5.1						
MAW	**Mawson**	**81.79**	**202**	P	**P**	**15 18 02.9**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=175,slow=2.7,SNR=6.0						
MAW	**Mawson**	**81.79**	**202**	P	**P**	**15 18 02.9**	**+0.9**
MAW	**Mawson**	**81.79**	**202**	pmax	pmax		
	comp=Z,6.0nm,0.8s						
YAK	**Yakutsk**	**82.19**	**343**	P	**P**	**15 18 03.3**	**-0.7**
YAK				IAmb	IAmb	15 18 13.6	
	comp=Z,41nm,0.7s						
ULN	**Ulaanbaatar**	**82.30**	**324**	P	**P**	**15 18 04.6**	**-0.6**
ULN	**Ulaanbaatar**	**82.30**	**324**	P	**P**	**15 18 04.6**	**-0.6**
ULN				IAmb	IAmb	15 18 15.7	
	comp=Z,16nm,0.8s						
ULN	**Ulaanbaatar**	**82.30**	**324**	pmax	pmax		
	comp=Z,16nm,0.8s						
O22K	**Cooper Landing**	**82.58**	**20**	P	**P**	**15 18 06.3**	**+0.2**
SONM	**Songino Array**	**82.66**	**324**	P	**P**	**15 18 07.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=156,slow=6.1,SNR=5.7						
SONM	**Songino Array**	**82.66**	**324**	pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**82.66**	**324**	P	**P**	**15 18 06.9**	**-0.1**
SONM	**Songino Array**	**82.66**	**324**	P	**P**	**15 18 06.9**	**-0.1**
BILL	**Bilibino**	**82.68**	**360**	P	**P**	**15 18 06.0**	**-0.5**
CAST	**Castle Rocks**	**84.10**	**17**	P	**P**	**15 18 12.3**	**-1.6**
RND	**Reindeer**	**85.04**	**18**	P	**P**	**15 18 18.1**	**-0.6**
I21K	**Tanana**	**85.50**	**16**	P	**P**	**15 18 20.2**	**-0.6**
ZAK	**Zakamensk**	**85.71**	**325**	pmax	pmax		
	comp=Z,4.0nm,1.4s						
ZAK	**Zakamensk**	**85.71**	**325**	*e*P	**P**	**15 18 21.7**	**-0.7**
WRH	**Wood River Hil**	**86.06**	**18**	P	**P**	**15 18 21.2**	**-2.4**
BELA	**Belgrano 2**	**86.58**	**175**	P	**P**	**15 18 25.3**	**-0.8**
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**15 18 25.1**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=235,slow=4.8,SNR=10						
G08A	**Pilot Rock**	**89.36**	**43**	P	**P**	**15 18 40.0**	**0.0**
G08A				IAmb	IAmb	15 18 51.1	
	comp=Z,13nm,1.3s						
TIXI	**Tiksi**	**90.12**	**349**	pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**90.12**	**349**	P	**P**	**15 18 43.6**	**+0.9**
TIXI	**Tiksi**	**90.12**	**349**	P	**P**	**15 18 43.6**	**+0.9**
CCUT	**Cedar City**	**90.68**	**51**	P	**P**	**15 18 46.4**	**0.0**
MFID	**Camas Ranch**	**90.80**	**45**	P	**P**	**15 18 47.1**	**+0.4**
TROLL	**Troll, Antarti**	**92.73**	**185**	P	**P**	**15 18 54.9**	**-0.4**
WMQ	**Urumqi**	**92.89**	**315**	*e*P	**P**	**15 18 58.9**	**+2.6**
WMQ	**Urumqi**	**92.89**	**315**	pmax	pmax		
	comp=Z,39nm,0.9s						
INK	**Inuvik**	**92.99**	**19**	LR	LR	15 54 50.9	
	comp=Z,71nm,19.3s,baz=164,slow=32						
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**15 18 57.4**	**-0.9**
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**15 18 58.0**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=188,slow=9.2,SNR=12						
SNAA	**Sanae**	**93.42**	**183**	pmax	pmax		
	comp=Z,22nm,1.3s						
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**15 18 57.4**	**-0.9**
SNAA				IAmb	IAmb	15 19 11.6	
	comp=Z,22nm,1.3s						
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**15 18 57.4**	**-0.9**
VNA3	**Neumayer Olymp**	**94.08**	**181**	P	**P**	**15 19 00.2**	**-1.1**
VNA2	**Neumayer--Watz**	**94.34**	**182**	P	**P**	**15 19 01.8**	**-0.7**
	baz=183,slow=5.0						
MK31	**Makanchi Array**	**97.36**	**316**	P	**P**	**15 19 15.1**	**-1.5**
MK31				IAmb	IAmb	15 19 26.9	
	comp=Z,8.4nm,0.8s						
MK31	**Makanchi Array**	**97.36**	**316**	P	**P**	**15 19 15.1**	**-1.5**
MKAR	**Makanchi Array**	**97.36**	**316**	P	**P**	**15 19 16.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=97,slow=6.5,SNR=7.4						
MKAR	**Makanchi Array**	**97.36**	**316**	P	**P**	**15 19 16.1**	**-0.5**
MKAR	**Makanchi Array**	**97.36**	**316**	P	**P**	**15 19 16.1**	**-0.5**
ZAA0	**Zalesovo Array**	**97.55**	**324**	P	**P**	**15 19 16.4**	**-0.8**
ZAA0				IAmb	IAmb	15 19 26.2	
	comp=Z,8.9nm,0.8s						
ZALV	**Zalesovo Beam**	**97.55**	**324**	P	**P**	**15 19 16.5**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=146,slow=2.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**97.55**	**324**	P	**P**	**15 19 15.3**	**-1.9**
ZALV	**Zalesovo Beam**	**97.55**	**324**	P	**P**	**15 19 15.3**	**-1.9**
ARCES	**ARCESS Array B**	**120.41**	**345**	PKP	**PKPdf**	**15 24 32.8**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=76,slow=1.9,SNR=21						
ARCES	**ARCESS Array B**	**120.41**	**345**	PKIKP	**PKPdf**	**15 24 32.4**	**-1.0**
ARCES	**ARCESS Array B**	**120.41**	**345**		**PKPdf**	**15 24 32.4**	**-1.0**
RAYN	**Ar Rayn**	**124.72**	**288**	PKIKP	**PKPdf**	**15 24 42.6**	**-0.5**
RAYN	**Ar Rayn**	**124.72**	**288**	PKPdf	**PKPdf**	**15 24 42.5**	**-0.5**
ONI	**Oni**	**124.77**	**312**	PKIKP	**PKPdf**	**15 24 42.3**	**-0.4**
ONI	**Oni**	**124.77**	**312**	PKPdf	**PKPdf**	**15 24 42.2**	**-0.4**
FIA1	**FINESS Array S**	**125.88**	**338**	PKPdf	**PKPdf**	**15 24 42.9**	**-1.2**
FINES	**FINESS Array B**	**125.88**	**338**	PKP	**PKPdf**	**15 24 43.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=350,slow=4.6,SNR=8.8						
FINES	**FINESS Array B**	**125.88**	**338**	PKIKP	**PKPdf**	**15 24 42.9**	**-1.2**
FINES	**FINESS Array B**	**125.88**	**338**		**PKPdf**	**15 24 42.9**	**-1.2**
AKBB	**Malin Array Si**	**130.90**	**326**	PKHKP	PKPpre	15 24 53.7	
AKBB	**Malin Array Si**	**130.90**	**326**	PKPdf	**PKPdf**	**15 24 53.7**	**-0.3**
BURAR	**Bucovina Array**	**134.77**	**324**	PKPdf	**PKPdf**	**15 25 01.4**	**-0.1**
MORC	**Moravsky Berou**	**137.39**	**331**	PKHKP	PKPpre	15 25 05.3	
MORC	**Moravsky Berou**	**137.39**	**331**	PKPdf	**PKPdf**	**15 25 05.3**	**-0.9**
PSZ	**Piszkesteto**	**137.48**	**328**	PKPdf	**PKPdf**	**15 25 03.6**	**-2.9**
CLL	**Collm**	**138.22**	**336**	PKHKP	PKPpre	15 25 05.4	
CLL	**Collm**	**138.22**	**336**	PKPdf	**PKPdf**	**15 25 05.4**	**-2.2**
KHC	**Kasperske Hory**	**139.64**	**333**	PKHKP	PKPpre	15 25 07.6	
KHC	**Kasperske Hory**	**139.64**	**333**		**PKPdf**	**15 25 07.6**	**-2.8**
GERES	**GERESS Array B**	**139.81**	**333**	PKHKP	PKPpre	15 25 09.2	
GERES	**GERESS Array B**	**139.81**	**333**	PKPdf	**PKPdf**	**15 25 09.2**	**-1.6**
SOKA	**Soboth**	**140.76**	**330**	*e*P	**PKPdf**	**15 25 11.8**	**-0.7**
	comp=Z,5.7nm,0.9s						
MYKA	**Terra Mystica**	**141.47**	**331**	*e*P	**PKPdf**	**15 25 11.5**	**-2.3**
	comp=Z,6.8nm,0.9s						
WATA	**Walderalm**	**141.88**	**333**	*e*P	**PKPdf**	**15 25 14.8**	**+0.1**
	comp=Z,3.9nm,0.5s						
MOTA	**Moosalm**	**142.08**	**334**	*e*P	**PKPdf**	**15 25 15.6**	**+0.6**
	comp=Z,12nm,1.1s						
TUE	**Stuetta**	**143.51**	**334**	PKPdf	PKPab	15 25 14.7	+0.5
ZCCA	**Zocca**	**144.41**	**330**	PKPdf	**PKPab**	**15 25 17.4**	**-0.2**
NRCA	**Norcia**	**144.42**	**327**		**PKPab**	**15 25 17.7**	**0.0**
SENIN	**Lac Senin/Sane**	**144.43**	**336**		PKPbc	15 25 18.1	+0.1
AQU	**L'Aquila**	**144.60**	**326**	PKHKP	PKPpre	15 25 19.1	
AQU	**L'Aquila**	**144.60**	**326**	PKPdf	**PKPdf**	**15 25 19.1**	**-0.4**
TIP	**Timpagrande**	**144.61**	**319**	PKPdf	**PKPdf**	**15 25 19.2**	**-0.3**
BNI	**Bardonecchia**	**145.76**	**335**	PKHKP	PKPpre	15 25 21.1	
BNI	**Bardonecchia**	**145.76**	**335**	PKPdf	**PKPdf**	**15 25 21.1**	**-0.4**
SSB	**Saint Sauveur**	**146.39**	**338**	PKHKP	PKPpre	15 25 21.6	
SSB	**Saint Sauveur**	**146.39**	**338**	PKPdf	**PKPdf**	**15 25 21.6**	**-0.8**
ESDC	**Sonseca Array**	**154.14**	**345**	PKPbc	**PKiKP**	**15 25 43.7**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=2.4,slow=1.9,SNR=6.0						
ESDC	**Sonseca Array**	**154.14**	**345**	PKPdf	**PKPdf**	**15 25 33.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**165.98**	**265**	PKPab	**PKPab**	**15 26 49.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=81,slow=4.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**165.98**	**265**	PKPdf	**PKPdf**	**15 25 48.0**	**-0.4**
TORD					**PKPab**	**15 26 48.6**	**-0.7**

BJI ***24*** *15:06:02.0±0.0, 15°.00S×167°.20E, h120km, mb4.9/45, mB5.1/27*

NOU ***24*** *15:06:05.9, 15°.00S×167°.11E, h38km, mb5.2/44, Vanuatu Islands*

MOS ***24*** *15:06:09.9±1.8, 15°.05S×165°.78E, h143km, mb4.8/24, Error ellipse: s-maj

PLAI **Plampang** 48.97 271 P P 15 14 41.9 0.0
3µm68nm,0.8s
IGBI **Denpasar** 51.52 270 P P 15 15 01.2 +0.2
4µm140nm,0.9s
SRBI **Singaraja** 51.60 271 P P 15 15 00.5 -1.2
51nm,0.9s
KMMI **Kalianget** 53.03 272 P P 15 15 12.2 0.0
31nm,1.9s
BBKI **Banjar Baru** 53.07 277 P P 15 15 13.5 +1.0
7µm14nm,0.7s
BLJI **Banyuglugur** 53.24 271 P P 15 15 13.8 +0.1
16nm,0.8s
PWJI **Pagerwojo** 54.91 270 P P 15 15 25.9 0.0
35nm,1.0s
PCJI **Pacitan** 55.48 270 P P 15 15 30.5 +0.6
109nm,0.9s
UGM **Wanagama** 56.18 270 P P 15 15 34.6 -0.3
104nm,0.9s
STKI **Sintang** 57.30 280 P P 15 15 43.8 +1.0
KPJI **Karang Pucung** 57.84 271 P P 15 15 46.5 -0.1
91nm,0.7s
MJAR **Matsushiro Arr** 57.98 332 P P 15 15 45.7 -1.4
8.3nm,0.6s,baz=178,slow=7.3,SNR=14
MAJO **Matsushiro** 57.98 332⇑ *eP* P 15 15 45.5 -1.6
MAJO pmax pmax
comp=Z,8.0nm,0.6s
CMJI **Cimerak** 58.21 270 P P 15 15 48.4 -0.7
comp=Z,40nm,0.7s
KASI **Kota Agung** 62.54 271 P P 15 16 17.9 -0.6
comp=Z,78nm,0.9s
KSRS **Korea Array** 63.84 326 P P 15 16 26.1 -0.5
comp=Z,4.1nm,0.8s,baz=143,slow=7.6,SNR=14
KSRS PcP PcP 15 17 01.1 +0.2
comp=Z,3.3nm,1.0s,baz=145,slow=6.4,SNR=4.8
YSS **Yuzh-Sakhalins** 65.27 342 *ceP* P 15 16 35.9 +0.3
YSS pmax pmax
comp=Z,41nm,1.3s
USRK **Ussuriysk Ar.** 66.96 333 P P 15 16 46.4 -0.1
comp=Z,6.3nm,0.7s,baz=117,slow=6.6,SNR=10
PPI **Padang Panjang** 67.78 276 P P 15 16 49.6 -2.7
PET **Petropavlovsk** 67.87 354⇑ *eP* P 15 16 52.1 +0.2
PET pmax pmax
comp=Z,27nm,2.5s
PETK **Petropavlovsk-** 68.05 354 P P 15 16 52.6 -0.5
comp=Z,15nm,1.0s,baz=131,slow=8.1,SNR=11
MDJ **Mudanjiang** 68.36 332 P P 15 16 55.0 -0.2
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,150nm,5.2s
CN2 **Changchun** 69.74 329 *eP* P 15 17 02.8 -1.0
CN2 PP PP 15 19 41.4 +0.9
CN2 S S 15 26 00.3 +1.4
CN2 SS SS 15 30 34.3 +3.1
PSI **Prapat** 70.09 278 P P 15 17 05.7 -1.1
comp=Z,12nm,0.8s,baz=157,slow=3.7,SNR=11
BNX **BinXian** 70.22 331 ⇓P P 15 17 05.9 -0.7
BNX pmax pmax
comp=Z,72nm,0.6s
BNX pmax pmax
comp=Z,340nm,6.0s
GRNR **Gornyy** 70.64 340⇑ *iP* P 15 17 09.8 +0.7
GRNR pmax pmax
comp=N,3.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,40nm,17.0s
GRNR MLR MLR
comp=N,50nm,12.0s
GRNR MLR MLR
comp=Z,110nm,20.0s
GSI **Gunungsitoli** 70.97 277 P P 15 17 13.2 +1.3
comp=Z,66nm,0.9s
KLR **Kul'dur** 71.07 336 *ceP* P 15 17 11.5 -0.2
KLR *i* *PP pP 15 17 47.3 -4.7
KLR pmax pmax
comp=Z,23nm,1.7s
HNS **HongShan** 71.73 318 ⇑P P 15 17 16.0 +0.1
HNS pmax pmax
comp=Z,15nm,0.7s
XAN **Xi'an** 73.84 312 ⇑P P 15 17 27.9 -0.6
XAN PcP PcP 15 17 40.3 -2.9
XAN pP pP 15 17 55.4 -14
XAN pmax pmax
comp=Z,15nm,1.0s
KMI **Kunming** 74.49 302 ⇑P P 15 17 33.4 +0.7
XLT **XiLinHaoTe** 74.81 324 *eP* P 15 17 33.8 -0.2
XLT pP pP 15 18 07.1 -7.5
XLT pmax pmax
comp=Z,20nm,1.2s
XLT pmax pmax
comp=Z,180nm,5.8s
CMAR **Chiang Mai Arr** 75.15 294 P P 15 17 37.1 +0.7
comp=Z,7.7nm,0.8s,baz=125,slow=4.6,SNR=49
MA2 **Magadan** 75.25 351⇑ *eP* P 15 17 34.9 -1.1
MA2 pmax pmax
comp=Z,15nm,2.5s
HHC **Hu-ho-hao-te** 75.71 320 *eP* P 15 17 32.6 -6.6
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.1s
PZH **PanZhiHua** 75.88 303 P P 15 17 40.1 -0.4
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,50nm,3.8s
ZEA **Zeya** 76.35 337 *eP* P 15 17 42.8 +0.4
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.6s
HIA **Hailar** 76.37 330 *deP* P 15 17 42.3 -0.4
HIA pmax pmax
comp=Z,10.0nm,0.8s
BTO **Baotou** 76.56 319 *eP* P 15 17 39.5 -4.5
SEY **Seymchan** 78.27 353⇓ *eP* P 15 17 52.8 0.0
SEY pmax pmax
comp=Z,16nm,1.1s
LZH **Lanzhou** 78.47 312 *eP* P 15 17 56.0 +1.2
LZH pmax pmax
comp=Z,25nm,1.1s
MAW **Mawson** 82.01 202 P P 15 18 15.5 +2.6
comp=Z,27nm,0.8s,baz=107,slow=6.1,SNR=18
YAK **Yakutsk** 82.06 343 *cP* P 15 18 12.5 -0.6
YAK pmax pmax
comp=Z,40nm,0.7s
TTA **Tatalina** 82.42 16 P P 15 18 16.4 +1.3
baz=216
BILL **Bilibino** 82.51 360 *cP* P 15 18 15.4 +0.1
BILL *i* 15 21 26.0
BILL pmax pmax
comp=Z,9.0nm,1.2s
SONM **Songino Array** 82.61 323 P P 15 18 16.2 -0.4
comp=Z,4.2nm,0.6s,baz=143,slow=5.6,SNR=34
L20K **Farewell, AK** 82.64 17 P P 15 18 16.7 +0.5
baz=218
GTA **Gaotai** 82.81 314 ⇑P P 15 18 18.0 +0.2
GTA sP pP 15 19 04.3 +5.0
GTA pmax pmax
comp=Z,15nm,1.2s
TRF **Thorofare Moun** 84.43 18 P P 15 18 24.8 -0.6
baz=221
WAT1 **Susitna Watana** 84.49 19 P P 15 18 25.7 +0.1
baz=222
O02D **Mt. Diablo Mer** 84.53 46 P P 15 18 27.9 +1.5
baz=246
BOD **Bodaibo** 84.55 334 *eP* P 15 18 25.1 -0.8
BOD pmax pmax
comp=Z,17nm,1.5s
N02D **Trinity Center** 84.91 46 P P 15 18 29.7 +1.4
baz=246
M02C **Callahan** 84.98 45 P P 15 18 29.8 +1.1
baz=246
MCK **McKinley** 85.04 18 P P 15 18 28.7 +0.3
baz=222
GOMU **GeErMu** 85.15 309 P P 15 18 31.4 +1.4
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,180nm,7.4s
YBH **Yreka Blue Hor** 85.22 45 P P 15 18 31.0 +1.1
comp=Z,3.2nm,0.7s,baz=69,slow=2.7,SNR=7.2
O03E **Paynes Creek** 85.27 46 P P 15 18 31.1 +1.1
baz=246

I21K **Tanana** 85.29 16 P P 15 18 29.8 +0.3
baz=219
H21K **Melozitna Rive** 85.45 15 P P 15 18 30.9 +0.6
baz=218
L04D **Klamath Falls** 85.69 44 P P 15 18 33.0 +0.8
baz=246
ISA **Isabella, Lake** 85.94 52 P P 15 18 34.8 +1.2
baz=249
EDW2 **Edwards Air Fo** 86.03 53 P P 15 18 34.2 +0.3
baz=249
ILAR **Eielson Array** 86.42 18 P P 15 18 33.4 -1.7
comp=Z,3.2nm,0.7s,baz=227,slow=4.4,SNR=28
LRMC **Laurel Mtn Rad** 86.48 52 P P 15 18 36.9 +0.6
baz=249
POKR **Poker Plat Res** 86.51 17 P P 15 18 34.1 -1.4
baz=223
MPMC **Manual Prospec** 86.83 52 P P 15 18 39.1 +1.1
baz=249
NVAR **Mina Array Bea** 87.06 49 P P 15 18 39.4 +0.3
comp=Z,2.0nm,0.7s,baz=227,slow=6.6,SNR=14
GRAC **Grapevine Rang** 87.25 51 P P 15 18 41.0 +1.2
baz=249
BELC **Belle Mtn. Jos** 87.27 54 P P 15 18 41.5 +1.4
baz=250
HEC **Hector,Ludlow** 87.29 53 P P 15 18 41.3 +1.3
baz=250
MOY **Mondy** 87.54 325 *eP* P 15 18 41.8 +0.9
BC3 **Big Chuckawall** 87.58 54 P P 15 18 43.4 +1.9
baz=251
GMRC **Granite Mounta** 87.80 53 P P 15 18 44.1 +1.5
baz=250
TUQ **Turquoise Moun** 87.81 53 P P 15 18 44.1 +1.5
baz=250
TAPN **Taplejung** 87.87 299 *eP* P 15 18 42.9 -0.4
comp=Z,39nm,0.9s
IRM **Iron Mountain** 87.99 54 P P 15 18 45.0 +1.6
baz=251
ODAN **Odare** 88.00 298 *eP* P 15 18 43.4 -0.4
comp=Z,69nm,0.8s
TPNV **Topopah Spring** 88.07 51 P P 15 18 45.3 +1.4
baz=250
RAMN **Ramite** 88.70 298 *eP* P 15 18 46.6 -0.5
comp=Z,13nm,0.6s
SYO **Syowa Base** 88.81 197⇓ *eX* P 15 18 46.5 0.0
KNGR **Kungurtug, Tuv** 89.05 323⇓ *eP* P 15 18 47.8 -0.2
JIRN **Jiri** 89.25 299 *eP* P 15 18 49.5 -0.4
GUN **Gumba** 89.59 299 *eP* P 15 18 50.9 -0.5
comp=Z,38nm,0.9s
PKI **Pulchoki** 89.89 298 *eP* P 15 18 52.0 -0.8
comp=Z,48nm,1.0s
PKIN **Phulchoki** 89.90 298 *eP* P 15 18 52.0 -0.8
comp=Z,36nm,0.9s
KKN **Kakani** 90.06 299 *eP* P 15 18 52.9 -0.6
comp=Z,34nm,0.8s
ELK **Elko** 90.08 48 P P 15 18 53.7 +0.4
comp=Z,2.5nm,0.8s,baz=306,slow=4.0,SNR=8.3
DMN **Daman** 90.16 298 *eP* P 15 18 53.4 -0.6
comp=Z,64nm,1.0s
GKN **Gorkha** 90.67 299 *eP* P 15 18 55.0 -1.2
WUAZ **Wupatki** 91.36 54 P P 15 19 01.2 +2.0
baz=253
KOLN **Koldanda** 91.49 298 *eP* P 15 18 58.7 -1.4
DANN **Dangsing** 91.51 299 *eP* P 15 18 58.6 -1.7
PYUN **Piuthan** 92.10 298 *eP* P 15 19 01.1 -1.8
comp=Z,14nm,0.9s
SNAA **Sanae** 93.60 183 P P 15 19 10.0 +1.2
comp=Z,9.4nm,1.0s,baz=174,slow=5.4,SNR=6.6
PDAR **Pinedale Array** 94.74 47 P P 15 19 15.2 +0.5
comp=Z,0.3nm,0.5s,baz=240,slow=6.0,SNR=4.2
PDAR PKKPbc PKKPdf 15 36 11.1 -1.3
comp=Z,0.5nm,0.7s,baz=104,slow=4.7,SNR=5.1
ANMO **Albuquerque** 95.08 55 *ceP* P 15 19 17.5 +1.1
ANMO pmax pmax
comp=Z,8.0nm,2.6s
MK31 **Makanchi Array** 97.34 316 pmax pmax
comp=Z,8.0nm,0.9s
MKAR **Makanchi Array** 97.34 316 P P 15 19 25.9 -0.2
comp=Z,8.2nm,0.7s,baz=93,slow=6.3,SNR=76
MKAR PKKPbc PKKPbc 15 36 04.2 -1.3
comp=Z,0.3nm,0.6s,baz=271,slow=4.0,SNR=4.4
YKA **Yellowknife Ar** 97.40 27 P P 15 19 24.8 -1.1
comp=Z,0.8nm,0.7s,baz=254,slow=4.5,SNR=12
YKA PKKPbc PKKPbc 15 36 04.0 -2.0
comp=Z,0.7nm,0.7s,baz=73,slow=2.6,SNR=8.2
ZALV **Zalesovo Beam** 97.50 324 P P 15 19 25.5 -1.2
comp=Z,7.2nm,0.7s,baz=112,slow=4.6,SNR=32
KURK **Kurchatov** 100.53 320⇑ *eP* Pdif 15 19 39.5 -0.7
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURBB **Kurchatov Arra** 100.57 320 P Pdif 15 19 39.4 -1.0
comp=Z,0.6nm,0.6s,baz=99,slow=4.5,SNR=9.9
AAK **Ala-Archa** 101.99 311⇓ *eP* Pdif 15 19 44.7 -2.5
AAK pmax pmax
comp=Z,1.0nm,1.0s
ARU **Arti** 112.59 325 *i* PKIKP PKiKP 15 24 28.0 -0.1
ARU 15 25 18.4
ARU 15 31 25.8
ARU SS SS 15 40 35.6 -10
KIRV **Kirov** 116.97 329 ⇓ *i* PKIKP PKiKP 15 24 36.4 0.0
PRGR **Permogore** 117.75 333 *e* PKIKP PKPdf 15 24 36.5 -1.3
PRGR pmax pmax
comp=Z,9.0nm,0.6s
ARCES **ARCESS Array B** 120.28 345 PKP PKPdf 15 24 42.1 -0.4
comp=Z,7.1nm,0.6s,baz=69,slow=1.1,SNR=22
KLMR **Klimovskoe** 120.76 333 *e* PKIKP PKPdf 15 24 42.4 -1.3
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KLMR **Klimovskoe** 120.76 333 *e* PKPdf PKPdf 15 24 42.4 -1.3
KLMR AMP 15 24 44.2
comp=Z,10.0nm,0.7s
VRH **Novokhopyorsk** 123.50 322 *e* PKIKP PKPdf 15 24 48.5 -0.7
VRH pmax pmax
comp=Z,30nm,0.8s
BOSA **Boshof** 123.56 220 PKP PKiKP 15 24 51.2 +0.6
comp=Z,6.3nm,0.9s,baz=47,slow=1.3,SNR=5.8
GNI **Garni** 124.29 309 *d* i PKIKP PKiKP 15 24 52.3 +0.6
GNI pmax pmax
comp=Z,24nm,1.7s
ZEI **Tsey** 124.40 312 *i* PKIKP PKPdf 15 24 51.6 +0.1
ZEI pmax pmax
comp=Z,11nm,1.0s
LPSR **Galich'ya Gora** 124.60 325 *e* PKIKP PKiKP 15 24 51.7 +0.1
LPSR pmax pmax
comp=Z,40nm,1.2s
OBN **Obninsk** 124.80 328 *i* PKIKP PKPdf 15 24 51.0 -0.6
OBN pmax pmax
comp=Z,20nm,1.1s
VORR **Voronezh** 124.80 323 *e* PKIKP PKPdf 15 24 51.5 -0.2
VORR pmax pmax
comp=Z,70nm,0.4s
KBZ **Khabaz** 124.90 313 PKP PKiKP 15 24 52.9 +0.5
comp=Z,5.4nm,0.9s,baz=89,slow=0.4,SNR=9.5
KBZ **Khabaz** 124.90 313 ⇑ *i* PKIKP PKiKP 15 24 53.0 +0.5
AKH **Akhalkalaki** 124.99 310 ⇓P PKiKP 15 24 53.1 +0.1
KIV **Kislovodsk** 125.00 314 *e* PKIKP PKiKP 15 24 53.1 +0.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
FINES **FINESS Array B** 125.78 338 PKP PKPdf 15 24 52.9 -0.4
comp=Z,9.6nm,0.9s,baz=56,slow=3.4,SNR=18
FINES SKPbc SKPbc 15 27 52.6
comp=Z,2.7nm,0.9s,baz=87,slow=4.0,SNR=3.5
MEF **Metsahovi** 127.22 338 *eP* PKiKP 15 24 56.3 -0.3
VSU **Vasula** 127.48 335 *eP* PKiKP 15 24 57.6 +0.5
RAF **Rauma** 127.56 340 *eP* PKiKP 15 24 57.2 0.0
AAL **Aland** 128.78 340 *eP* PKPdf 15 24 59.0 0.0
MNK **Minsk** 129.40 331 *i* PKIKP PKiKP 15 25 01.2 +0.1
MNK *i* 15 25 40.9
MNK *i* 15 27 10.6
MNK *i* PPP PPP 15 30 01.0
MNK *i* SS SS 15 44 24.6 +5.3
MNK pmax pmax
comp=N,6.0nm,1.0s
MNK pmax pmax
comp=Z,18nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=Z,194nm,19.0s
MNK MLR MLR
comp=E,29nm,20.0s
MNK MLR MLR
comp=N,247nm,20.0s
MNK **Minsk** 129.40 331 *i* PKP PKiKP 15 25 01.2 +0.1
comp=E,1.0nm,1.0s
MNK *i* PKP PKiKP 15 25 01.2 +0.1
comp=N,6.0nm,1.0s

MNK *i* PKP PKiKP 15 25 01.2 +0.1
comp=Z,18nm,1.0s,baz=54
MNK *i* pPKP pPKPdf 15 25 40.9 -3.3
MNK *i* PP PP 15 27 10.6 -1.0
MNK *i* SKP 15 28 22.1
MNK *i* PKS PKSdf 15 29 01.5 +25
MNK *i* PPP PPP 15 30 01.0
MNK *i* SKS SKSdf 15 32 29.0 +33
MNK *i* SKKS 15 34 57.2
MNK *i* SS SS 15 44 24.7 +5.4
MNK *i* SSS SSS 15 48 41.6
MNK *i* LRM MLR 16 20 02.1
comp=Z,194nm,19.4s
MNK *i* LRM MLR 16 22 38.6
comp=E,29nm,19.9s
MNK *i* LRM MLR 16 22 41.3
comp=N,247nm,19.9s
IDID **Didziasalis** 129.45 332 *eP* PKiKP 15 25 02.1 +0.9
ISAL **Salakas** 129.56 333 *eP* PKiKP 15 25 02.9 +1.5
IIGN **Ignalina** 129.66 332 *eP* PKiKP 15 25 02.7 +1.1
NACGM **Naroch** 129.68 332 *e* PKiKP PKiKP 15 25 02.7 +1.0
NB2 **NORSAR Subarra** 130.65 345 PKPdf PKPdf 15 25 02.9 +0.2
comp=Z,6.0nm,1.0s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 130.65 345 PKPdf PKPdf 15 25 02.9 +0.2
baz=31,slow=1.9
NOA **NORSAR Array B** 130.65 345 PKP PKiKP 15 25 03.1 -0.5
comp=Z,3.0nm,0.7s,baz=35,slow=2.0,SNR=12
NOA SKPbc SKPbc 15 28 10.2 -0.5
comp=Z,11nm,0.7s,baz=33,slow=2.9,SNR=39
AKASG **Malin Array Be** 130.84 326 PKP PKiKP 15 25 03.8 -0.4
comp=Z,5.9nm,0.8s,baz=53,slow=2.2,SNR=17
AKASG SKPbc SKPbc 15 28 11.3 -0.4
comp=Z,13nm,0.7s,baz=46,slow=4.3,SNR=22
SUW **Suwalki** 131.87 332 *eP* PKiKP 15 25 06.9 +0.8
SORM **Soroca** 132.66 323 ⇑P PKPdf 15 25 05.9 -0.8
SORM **Soroca** 132.66 323 ⇑PKIKP PKPdf 15 25 05.9 -0.8
BR131 **Keskin Array S** 132.67 311⇓ *e* PKiKP PKiKP 15 25 07.9 -0.5
BRTR **Keskin Array B** 132.67 311 PKP PKPdf 15 25 07.0 -0.2
comp=Z,3.6nm,0.8s,baz=134,slow=2.6,SNR=12
BRTR SKPbc SKPbc 15 28 18.2 -0.6
comp=Z,1.7nm,0.6s,baz=91,slow=3.5,SNR=8.4
MILM **Milestii Mici** 132.99 322 ⇑P PKiKP 15 25 08.2 -0.4
MILM **Milestii Mici** 132.99 322 ⇑PKIKP PKiKP 15 25 08.2 -0.4
DEL **Delary** 133.70 340 *eP* PKPdf 15 25 08.9 +0.4
TLCR 133.82 320 ⇑P PKiKP 15 25 10.4 +0.1
TLCR 133.82 320 ⇑PKIKP PKiKP 15 25 10.4 +0.1
CFR **Carcaliu** 134.24 320 ⇑P PKPdf 15 25 09.1 -0.7
CFR **Carcaliu** 134.24 320 ⇑PKIKP PKPdf 15 25 09.1 -0.7
BSD **Bornholm Skovb** 134.42 338 *eP* PKiKP 15 25 10.9 -0.4
BURAR **Bucovina Array** 134.72 324 ⇑P PKiKP 15 25 12.2 -0.1
BURAR **Bucovina Array** 134.72 324 ⇑PKIKP PKiKP 15 25 12.2 -0.1
OZUR 135.21 322 ⇑P PKiKP 15 25 12.6 -0.7
NEHR **Nehoiu** 135.25 321 ⇑P PKiKP 15 25 17.5 +4.2
MLR **Muntele Rosu** 135.43 321 ⇑P PKPdf 15 25 08.4 -3.8
MLR **Muntele Rosu** 135.43 321 ⇑PKIKP PKPdf 15 25 08.4 -3.8
DOPR **Dopca** 135.51 322 ⇑P PKPdf 15 25 12.6 +0.4
SECR 135.59 321 ⇑P PKPdf 15 25 12.5 +0.1
CRVS **Cervenica-Dubn** 135.98 328 *e* PKIKP PKPdf 15 25 11.7 -1.3
CRVS **Cervenica-Dubn** 135.98 328 *e* PKP PKPdf 15 25 11.7 -1.3
VOIR 136.00 322 ⇑P PKiKP 15 25 14.9 0.0
VOIR 136.00 322 ⇑PKIKP PKiKP 15 25 14.9 0.0
CJR **Cluj-Napoca** 136.14 324 ⇑P PKiKP 15 25 15.2 +0.1
CJR **Cluj-Napoca** 136.14 324 ⇑PKIKP PKiKP 15 25 15.2 +0.1
ARR **Arges** 136.28 322 ⇑P PKPdf 15 25 14.5 +0.7
DRGR 136.59 325 ⇑P PKPdf 15 25 13.8 -0.5
DRGR 136.59 325 ⇑PKIKP PKPdf 15 25 13.8 -0.5
LANS **Liptovska Anna** 136.82 329 *e* PKIKP PKiKP 15 25 18.0 +1.6
LANS **Liptovska Anna** 136.82 329 *e* PKiKP 15 25 18.0 +1.6
MORC **Moravsky Berou** 137.31 331 ⇑P PKPdf 15 25 15.6 +0.1
MORC **Moravsky Berou** 137.31 331 *e* PKIKP PKPdf 15 25 15.9 +0.4
MORC *e* SKP SKPbc 15 28 34.7 +1.7
OSTC **Ostas** 137.35 333 *e* PKP PKiKP 15 25 16.8 -0.6
GZR **Gura Zlata** 137.36 323 ⇑P PKPdf 15 25 15.4 -0.4
GZR **Gura Zlata** 137.36 323 ⇑PKIKP PKPdf 15 25 15.4 -0.4
PSZ **Piszkesteto** 137.41 328 ⇑P PKiKP 15 25 17.2 -0.5
PSZ **Piszkesteto** 137.41 328 ⇑PKIKP PKiKP 15 25 17.2 -0.5
KRLC **Kraliky** 137.45 332 *e* PKIKP PKPdf 15 25 16.2 +0.4
KRLC **Kraliky** 137.45 332 *e* PKP PKPdf 15 25 16.2 +0.4
DPC **Dobruska-Polom** 137.46 333 *e* PKIKP PKPdf 15 25 16.6 +0.8
DPC **Dobruska-Polom** 137.46 333 *e* PKP PKPdf 15 25 16.6 +0.8
VYHS **Vyhne** 137.57 329 *e* PKIKP PKiKP 15 25 17.7 -0.2
VYHS **Vyhne** 137.57 329 *e* PKiKP 15 25 17.7 -0.2
HERR **Herculane** 137.86 323 ⇑P PKPdf 15 25 16.3 -0.3
JAVC **Velka Javorina** 137.89 330 *e* PKIKP PKiKP 15 25 18.4 -0.2
JAVC *e* SKP SKPbc 15 28 37.0 +2.3
BZS **Buzias** 137.90 324 ⇑P PKPdf 15 25 16.9 +0.3
BZS **Buzias** 137.90 324 ⇑PKIKP PKPdf 15 25 16.9 +0.3
FLTG **Flechtingen** 137.96 338 *e* SKP SKPbc 15 28 35.9 +1.2
BRG **Berggiesshubel** 138.08 335 *e* PKP PKPdf 15 25 17.7 +0.9
BRG Amp 15 25 20.1
comp=Z,4.9nm,0.8s
BRG SKP SKPbc 15 28 36.7 +1.6
BRG Amp 15 28 37.8
comp=Z,7.4nm,0.9s
BRG **Berggiesshubel** 138.08 335 *e* PKIKP PKPdf 15 25 17.7 +0.9
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG **Berggiesshubel** 138.08 335 *e* SKP SKPbc 15 28 36.1 +1.0
PVCC **Panska Ves** 138.08 334 *e* PKIKP PKPdf 15 25 17.6 +0.8
PVCC **Panska Ves** 138.08 334 *e* PKP PKPdf 15 25 17.6 +0.8
VRAC **Vranov** 138.08 332 *e* PKIKP PKPdf 15 25 17.7 +0.8
VRAC *e* SKP SKPbc 15 28 36.8 +1.6
CLL **Collm** 138.12 336 *i* PKPdf PKPdf 15 25 17.3 +0.4
comp=Z,4.0nm,0.6s
CLL *i* PKIKP PKiKP 15 25 19.3 +0.4
comp=Z,9.0nm,0.8s
CLL *i* SKPbc SKPbc 15 28 36.3 +1.1
comp=Z,6.0nm,0.8s
CLL **Collm** 138.12 336 *e* SKP SKPbc 15 28 36.5 +1.3
RETH **Rethem/Aller,** 138.27 340 *e* SKP SKPbc 15 28 37.7 +2.1
FBE **Freiberg** 138.28 336 *e* SKP SKPbc 15 28 37.1 +1.5
KRUC **Moravsky** 138.35 331 *e* PKIKP PKPdf 15 25 18.1 +0.7
KRUC *e* SKP SKPbc 15 28 37.5 +1.6
PRU **Pruhonice** 138.50 334 *e* PKIKP PKPdf 15 25 18.5 +0.9
PRU **Pruhonice** 138.50 334 *e* PKP PKPdf 15 25 18.5 +0.9
VTS **Vitosha** 138.59 319 ⇑P PKPdf 15 25 17.7 -0.5
VTS **Vitosha** 138.59 319 ⇑PKIKP PKPdf 15 25 17.7 -0.5
NEUB **Neuenburg** 138.67 337 *e* SKP SKPbc 15 28 37.9 +1.2
BOVS **Bovan** 138.98 322 ⇑P PKPdf 15 25 18.2 -0.5
TANN **Tannenbergstha** 139.03 336 *e* SKP SKPbc 15 28 39.5 +1.6
WERD **Werda** 139.07 336 *e* SKP SKPbc 15 28 39.3 +1.4
GUNZ **Gunzen** 139.12 336 *e* SKP SKPbc 15 28 39.5 +1.4
IBBN **Ibbenbueren** 139.15 341 *e* SKP SKPbc 15 28 39.6 +1.6
WERN **Wernitzgruen** 139.16 336 *e* SKP SKPbc 15 28 39.6 +1.4
FRGS **Fruska Gora** 139.19 325 ⇑P PKPdf 15 25 18.1 -0.9
CONA **Conrad Observa** 139.40 331 *e* P PKPdf 15 25 15.2 -4.2
comp=Z,8.8nm,0.8s
CKRC **Cesky Krumlov** 139.47 333 *e* PKP PKiKP 15 25 20.6 -1.2
KHC **Kasperske Hory** 139.56 334 *e* PKP PKPdf 15 25 20.6 +1.0
ROTZ **Rotzenmuhle** 139.64 335 *e* SKP SKPbc 15 28 40.0 +0.5
GEC2 **GERESS Array S** 139.72 333 *e* SKP SKPbc 15 28 41.4 +1.5
GERES **GERESS Array B** 139.72 333 PKP PKPdf 15 25 21.1 +1.1
comp=Z,3.6nm,0.7s,baz=47,slow=2.4,SNR=20
GERES SKPbc SKPbc 15 28 39.1 -0.8
comp=Z,2.7nm,0.7s,baz=35,slow=3.3,SNR=18
KASTN **Kahler Asten** 139.88 340 *e* SKP SKPbc 15 28 41.4 +1.3
BUG **Bochum--Univer** 140.05 341 *e* SKP SKPbc 15 28 41.5 +1.1
BIOA **Bad Ischl, Aus** 140.61 332 *e* P PKPdf 15 25 17.9 -3.7
comp=Z,2.4nm,0.8s
MILB **Miltenberg** 140.72 338 *e* SKP SKPbc 15 28 43.7 +1.4
PDG **Podgorica** 141.15 322 ⇑P PKPdf 15 25 21.2 -1.4
KBA **Koelnbreinsper** 141.20 332 *e* P PKPdf 15 25 16.6 -6.3
comp=Z,6.7nm,0.7s
WTTA **Wattenberg** 141.82 333 *e* P PKPdf 15 25 20.8 -3.2
comp=Z,9.6nm,0.8s
ABTA **Abfaltersbach** 141.82 332 *e* P PKPdf 15 25 17.2 -6.6
comp=Z,9.7nm,0.7s
RETA **Reutte** 142.02 334 *e* P PKPdf 15 25 19.7 -4.5
comp=Z,11nm,1.6s
SQTA **Sankt Quirin** 142.04 334 *e* P PKPdf 15 25 19.7 -4.6
comp=Z,10.0nm,0.7s
FETA **Feichten** 142.40 334 *e* P PKPdf 15 25 18.0 -6.9
comp=Z,11nm,1.0s
DAVA **Damuels** 142.55 335 *e* P PKPdf 15 25 18.7 -6.5
comp=Z,8.0nm,0.9s
TIP **Timpagrande** 144.58 319 ⇑P PKPdf 15 25 28.6 -0.3
KEST **Kesra** 151.33 321 PKPbc PKiKP 15 25 47.1 +0.4
comp=Z,56nm,0.8s,baz=198,slow=0.7,SNR=32
CMAH **Djebel Manchou** 151.85 325 P PKPdf 15 25 42.2 +1.4
ABSA **Djebel Ababsia** 152.07 324 P PKPdf 15 25 43.0 +1.8
CKFL **Kef-Lekhel** 152.40 325 P PKPbc 15 25 47.4 -1.3
PBRG **Braganca** 152.53 351 *e* PKPab PKiKP 15 25 49.2 +0.3

PBRG			*i* LQ	LQ	15 25 59.8		
PGAV	**Gavieira, Arco**	**152.58 353**	*e*PKPab	**PKiKP**	**15 25 49.5**	**+0.4**
CASM	**Ain Smara**	**152.63 325**	P	**PKPbc**	**15 25 48.8**	**-0.3**
DFRA	**Djebel Bou Aff**	**152.75 326**	P	**PKPbc**	**15 25 49.2**	**-0.3**
POLO	**Lamas de Olo**	**153.10 352**	*e*PKPab	**PKiKP**	**15 25 50.8**	**+0.6**
POLO			*i* LQ	LQ	15 26 02.8		
PVRL	**Vila Real**	**153.19 352**	*e*PKPab	**PKiKP**	**15 25 51.0**	**+0.7**
PVRL			*i* LQ	LQ	15 26 03.2		
MVO	**Moncorvo**	**153.20 351**	*e*PKPab	**PKiKP**	**15 25 51.2**	**+0.8**
PVIS	**Viseu**	**153.76 352**	*e*PKPab	**PKiKP**	**15 25 55.6**	**+4.1**
PVIS			*i* LQ	LQ	15 26 06.0		
ESDC	**Sonseca Array**	**154.01 345**	PKPbc	**PKiKP**	**15 25 52.7**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=4.2,slow=2.9,SNR=15						
ESDC			PKPab	**PKPab**	**15 26 06.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=17,slow=3.7,SNR=9.7						
MTE	**Manteigas**	**154.03 351**	*e*PKPab	**PKiKP**	**15 25 52.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**166.15 265**	PKPab	**PKPab**	**15 26 59.4**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=108,slow=5.0,SNR=14						
DBIC	**Dimbokro**	**169.06 224**	PKPab	**PKPab**	**15 27 13.0**	**+0.7**
	comp=Z,9.6nm,1.1s,baz=247,slow=6.5,SNR=4.8						

TAP 24 15:11:59.5,24.34N×121.91E,h28km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.16**	**261**	*e*P	Pb	15 12 05.3	+0.2
	baz=259						
EWUT	**Wuta**	**0.17**	**311**	P	Pb	15 12 05.5	+0.4
	baz=311						
ENA	**Nanau**	**0.18**	**300**	*e*P	Pb	15 12 05.2	-0.1
	baz=300						
NACB	**Ninganchiao**	**0.33**	**241**	*e*P	Pb	15 12 07.6	+0.4
	baz=241						
NACB				S	Sn	15 12 13.9	-0.5
	baz=241						
NDS	**Dongshan**	**0.35**	**329**	P	Pb	15 12 07.9	+0.4
	baz=328						
TWD	**Chiawan**	**0.39**	**229**	P	Pb	15 12 08.4	+0.4
	baz=228						
LATG	**Datong**	**0.41**	**299**	P	Pb	15 12 08.8	+0.4
	baz=299						
LATG				*e*S	Sn	15 12 16.2	-0.2
	baz=299						
ETLH	**Xiulin Townshi**	**0.41**	**252**	P	Pb	15 12 09.0	+0.5
	baz=251						
ETLH				S	Sn	15 12 16.0	-0.6
	baz=251						
ENTT	**Nioudou**	**0.44**	**314**	P	Pb	15 12 09.4	+0.5
	baz=314						
ENTT				*e*S	Sn	15 12 16.7	-0.4
	baz=314						
TWE	**Neicheng**	**0.45**	**330**	*e*P	Pb	15 12 09.5	+0.5
	baz=330						
NDT	**Datong Townshi**	**0.45**	**306**	P	Pb	15 12 09.6	+0.5
	baz=305						
NNSB	**Datong**	**0.49**	**281**	P	Pb	15 12 10.2	+0.4
	baz=280						
NNSB				*e*S	Sn	15 12 18.1	-0.5
	baz=280						
NNS	**Nan Shan**	**0.50**	**282**	*e*P	Pb	15 12 10.4	+0.4
	baz=281						
NNS				S	Sn	15 12 18.1	-0.7
	baz=281						
FUSB	**Fushanzhiwuyua**	**0.52**	**325**	P	Pn	15 12 10.7	-0.5
	baz=324						
NWLT	**Wulai**	**0.58**	**320**	*e*P	Pn	15 12 11.6	-0.3
	baz=319						
YHNB	**Yeheng**	**0.59**	**304**	P	Pn	15 12 11.9	-0.3
	baz=304						
YHNB				*e*S	Sn	15 12 20.3	-0.6
	baz=304						
NSK	**Sanguang**	**0.61**	**304**	*e*P	Pn	15 12 12.1	-0.3
	baz=303						
WHF	**Hehuan Shan**	**0.62**	**252**	*e*P	Pb	15 12 12.4	+0.2
	baz=251						
TIPB	**Shuangxi**	**0.64**	**353**	P	Pn	15 12 12.6	-0.2
	baz=352						

TAP 24 15:12:03.9,24.84N×122.18E,h19km,ML2.3,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.23**	**272**	*e*P	Pg	15 12 09.7	+0.3
	baz=271						
TWB1	**Santiao Chiao**	**0.24**	**314**	*i* P	Pg	15 12 10.0	+0.3
	baz=320						
TWB1				*i* S	Sg	15 12 13.9	+0.3
	baz=320						
TIPB	**Shuangxi**	**0.35**	**292**	*e*P	Pb	15 12 12.0	+0.3
	baz=300						
TIPB				*e*S	Sb	15 12 17.9	+1.0
	baz=300						
SXI1	**Grass Mountain**	**0.38**	**312**	P	Pb	15 12 12.5	+0.3
	baz=316						
SXI1				*e*S	Sb	15 12 18.7	+1.0
	baz=316						
TWC	**Suao**	**0.38**	**233**	*e*P	Pg	15 12 11.3	-0.6
	baz=229						
TWC				S	Sg	15 12 17.3	0.0
	baz=229						
NWF	**Wu-fen Shan**	**0.43**	**302**	*e*P	Pb	15 12 14.1	+1.0
	baz=303						
NWF				*e*S	Sb	15 12 20.2	+1.0
	baz=303						
WFSB	**Wu-fen Shan**	**0.43**	**302**	*e*P	Pb	15 12 13.9	+0.9
	baz=303						
WFSB				S	Sb	15 12 20.1	+0.9
	baz=303						
NDS	**Dongshan**	**0.47**	**244**	P	Pb	15 12 13.9	+0.3
	baz=239						
NDS				*e*S	Sb	15 12 21.0	+0.8
	baz=239						
NDS	**Dongshan**	**0.47**	**244**	*e*S	Pb	15 12 13.9	+0.3
	baz=328						
TWE	**Neicheng**	**0.48**	**256**	P	Pb	15 12 13.8	0.0
	baz=250						
TWE				*e*S	Sb	15 12 20.7	+0.1
	baz=250						
EWUT	**Wuta**	**0.54**	**223**	*e*P	Pg	15 12 15.2	+0.4
	baz=219						
EWUT				*e*S	Sb	15 12 21.8	-0.2
	baz=219						
FUSB	**Fushanzhiwuyua**	**0.55**	**262**	*e*P	Pn	15 12 16.1	-0.6
	baz=262						
FUSB				*e*S	Sg	15 12 23.6	+1.2
	baz=262						
ENA	**Nanau**	**0.57**	**225**	*e*P	Pg	15 12 15.7	+0.3
	baz=218						
ENA				*e*S	Sg	15 12 24.2	+1.0
	baz=218						
ENTT	**Nioudou**	**0.60**	**251**	P	Pg	15 12 16.1	+0.3
	baz=251						
NWLT	**Wulai**	**0.62**	**264**	*e*P	Pg	15 12 16.4	+0.1
	baz=265						
YM08	**YM08**	**0.64**	**303**	*e*P	Pg	15 12 17.0	+0.4
	baz=303						
NDT	**Datong Townshi**	**0.65**	**249**	*e*P	Pg	15 12 17.0	+0.1
	baz=241						
NDT				*e*S	Sg	15 12 26.6	+0.9
	baz=241						
NDT	**Datong Townshi**	**0.65**	**249**	S	Pg	15 12 17.0	+0.1
	baz=305						
LATG	**Datong**	**0.67**	**243**	*e*P	Pg	15 12 17.4	+0.2
	baz=235						
LATG				*e*S	Sg	15 12 26.9	+0.7
	baz=235						
NNSB	**Datong**	**0.84**	**241**	*e*P	Pb	15 12 20.1	+0.2
	baz=234						
NNSB				*e*S	Sg	15 12 31.9	+0.4
	baz=234						
NNS	**Nan Shan**	**0.84**	**242**	*e*P	Pb	15 12 19.9	0.0
	baz=235						
NNS				*e*S	Sg	15 12 31.9	+0.4
	baz=235						
NACB	**Ninganchiao**	**0.85**	**219**	*e*P	Pb	15 12 20.2	+0.1
	baz=211						
NACB				*e*S	Sg	15 12 31.9	0.0
	baz=211						
ETLH	**Xiulin Townshi**	**0.90**	**226**	*e*P	Pb	15 12 21.1	+0.2
	baz=218						
ETLH				*e*S	Sg	15 12 33.6	+0.3
	baz=218						
WHF	**Hehuan Shan**	**1.09**	**231**	*e*P	Pn	15 12 24.4	0.0
	baz=232						
WHF				*e*S	Sn	15 12 39.3	+0.1
	baz=232						

*IDC **24** 15:51:16.1±9.1,21°.33N×144°.16E,h170km±87km,mb3.2/9,mb1 3.4/9,mb1mx3.2/46,mbtmp3.7/9,MS3.2/2,Ms1 3.2/2,ms1mx2.5/31,Error ellipse: s-maj=42.2km s-min=14.2km az=89.0*

ISC 24 15:51:14.0±1.1,21°.3N×144°.2E±0°.2,h150km,n17,σ0.71/9,mb3.4/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**21.31**	**90**	T	T	16 17 41.7	
	baz=278,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**21.31**	**90**	T	T	16 17 37.8	
	baz=278,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**21.33**	**94**	T	T	16 17 35.5	
	baz=281,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**21.33**	**90**	T	T	16 17 39.2	
	baz=278,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	16 17 36.4	
	baz=281,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	16 17 38.2	
	baz=281,slow=75,SNR=16						
KSRS	**Korea Array**	**21.39**	**322**	P	**P**	**15 55 50.9**	**+1.2**
	0.8nm,0.6s,baz=143,slow=8.0,SNR=5.6						
DAV	**Davao City (W)**	**22.90**	**235**	LR	LR	16 05 41.4	
	comp=Z,24nm,19.5s,baz=329,slow=38						
KLR	**Kul'dur**	**29.57**	**343**	P	**P**	**15 57 04.2**	**-0.3**
	2.0nm,0.6s,baz=169,slow=6.8,SNR=8.0						
SONM	**Songino Array**	**40.23**	**320**	P	**P**	**15 58 35.9**	**-0.1**
	0.2nm,0.5s,baz=113,slow=5.7,SNR=2.6						
WRA	**Warramunga Arr**	**42.12**	**194**	P	**P**	**15 58 51.8**	**+0.2**
	1.3nm,0.6s,baz=15,slow=8.8,SNR=9.7						
ASAR	**Alice Springs**	**45.82**	**193**	P	**P**	**15 59 20.9**	**-0.1**
	0.4nm,0.6s,baz=17,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**52.95**	**183**	LR	LR	16 24 33.1	
	comp=Z,59nm,18.1s,baz=202,slow=38						
ZALV	**Zalesovo Beam**	**55.09**	**322**	P	**P**	**16 00 29.6**	**-0.7**
	0.5nm,0.6s,baz=109,slow=11,SNR=2.4						
ILAR	**Eielson Array**	**61.95**	**27**	P	**P**	**16 01 17.0**	**-0.5**
	0.4nm,0.8s,baz=242,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	**P**	**16 02 47.1**	**+0.9**
	0.4nm,0.6s,baz=292,slow=5.6,SNR=4.8						
FINES	**FINESS Array B**	**83.93**	**335**	P	**P**	**16 03 26.7**	**-0.1**
	0.8nm,0.6s,baz=84,slow=5.9,SNR=7.7						

WEL 24 16:01:11.7±0.9,32°.S±6°×18°.0W±1°.6,h341km±14km,M4.2/8,mB4.6/6,ML4.6/10,MLv4.5/8,Mw(mB)3.8/6,Error ellipse: s-maj=0.0km s-min=0.0km az=108.1,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.08**	**27**	P	Pn	16 02 08.8	-2.3
GLKZ				S	S	16 02 59.9	+1.0
MXZ	**Matakaoa Point**	**5.81**	**197**	P	Pn	16 02 43.4	+3.6
WMGZ	**Waiomatatini S**	**6.03**	**196**	P	Pn	16 02 44.3	+2.0
WMGZ				S	S	16 04 00.9	+5.1
HAZ	**Te Kaha**	**6.13**	**200**	P	Pn	16 02 43.9	+0.4
HAZ				S	S	16 02 58.3	+0.3
PKGZ	**Pakihiroa**	**6.17**	**198**	P	Pn	16 02 45.2	+1.1
PKGZ				S	S	16 03 59.4	+0.3
PUZ	**Puketiti**	**6.30**	**196**	P	Pn	16 02 46.1	+0.6
PUZ				S	S	16 04 01.8	+0.1
RUGZ	**Raukumara Rang**	**6.36**	**200**	P	Pn	16 02 47.6	+1.4
RUGZ				S	S	16 04 01.0	-2.0
WCZ	**Waipu Caves**	**6.41**	**231**	P	Pn	16 02 47.6	+0.9
TWGZ	**Tauwhareparae**	**6.47**	**198**	P	Pn	16 02 43.2	-4.3
TWGZ				S	S	16 04 07.6	+2.3
WIAZ	**Waiheke Island**	**6.48**	**221**	P	Pn	16 02 49.8	+2.1
OUZ	**Omahuta**	**6.55**	**239**	P	Pn	16 02 48.3	-0.2
CNGZ	**Carnagh Statio**	**6.71**	**195**	P	Pn	16 02 51.5	+1.3
MWZ	**Matawai**	**6.74**	**200**	P	Pn	16 02 50.8	+0.1
MWZ				S	S	16 04 10.3	-0.8
TKGZ	**Te Karaka**	**6.75**	**198**	P	Pn	16 02 50.7	-0.1
TKGZ				S	S	16 04 11.9	+0.7
URZ	**Urewera**	**6.80**	**203**	P	Pn	16 02 50.3	-1.0
URZ				S	S	16 04 10.9	-1.5
KARZ	**Kaharoa**	**6.91**	**209**	P	Pn	16 02 55.1	+2.4
RIGZ	**Rimuhau**	**7.03**	**198**	P	Pn	16 02 53.5	-0.6
RIGZ				S	S	16 04 16.6	-0.6
MUGZ	**Murupara**	**7.11**	**204**	P	Pn	16 02 51.7	-3.3
SNGZ	**Shannon Statio**	**7.21**	**200**	P	Pn	16 02 56.0	-0.2
SNGZ				S	S	16 04 20.1	-1.1
WHHZ	**Waihua**	**7.52**	**200**	P	Pn	16 02 59.9	+0.2
WHHZ				S	S	16 04 26.9	-0.9
NMHZ	**Naumai**	**7.66**	**202**	P	Pn	16 03 02.2	+0.6
NMHZ				S	S	16 04 31.5	+0.4
BKZ	**Black Stump Fm**	**7.83**	**203**	P	Pn	16 03 01.7	-1.8
BKZ				S	S	16 04 31.2	-3.4
HIZ	**Hauiti**	**7.93**	**214**	P	Pn	16 03 06.8	+2.1
KWHZ	**Kaweka Forest**	**8.08**	**203**	P	Pn	16 03 06.0	-0.6
KWHZ				S	S	16 04 37.6	-2.7
CKHZ	**Cape Kidnapper**	**8.10**	**199**	P	Pn	16 03 07.5	+0.8
WTHZ	**West Tongariro**	**8.11**	**208**	P	Pn	16 03 07.2	+0.2
NNVZ	**North Ngauruho**	**8.12**	**208**	P	Pn	16 03 06.9	-0.2
OTVZ	**Oturere**	**8.13**	**207**	P	Pn	16 03 05.8	-1.4
TWVZ	**Taurewa**	**8.14**	**209**	P	Pn	16 03 07.3	0.0
NGZ	**Ngauruhoe**	**8.16**	**208**	P	Pn	16 03 07.6	0.0
BHHZ	**Black Hill Sta**	**8.27**	**204**	P	Pn	16 03 06.3	-2.5
BHHZ				S	S	16 04 40.2	-4.0
KAHZ	**Kahuranaki**	**8.28**	**200**	P	Pn	16 03 08.9	-0.1
TRVZ	**Turoa**	**8.29**	**207**	P	Pn	16 03 06.5	-2.7
WNVZ	**Wahianoa**	**8.29**	**207**	P	Pn	16 03 07.1	-2.1
MOVZ	**Moawhango**	**8.30**	**206**	P	Pn	16 03 08.2	-1.0
MOVZ				S	S	16 04 39.4	-5.8
VRZ	**Vera Road**	**8.47**	**212**	P	Pn	16 03 10.6	-0.6
PXZ	**Pawanui**	**8.51**	**199**	P	Pn	16 03 09.9	-1.7
PXZ				S	S	16 04 45.7	-3.7
PNHZ	**Pukenui**	**8.60**	**202**	P	Pn	16 03 09.9	-2.9
PNHZ				S	S	16 04 47.0	-4.6
WPHZ	**Waipukurau**	**8.66**	**201**	P	Pn	16 03 12.7	-0.7
WPHZ				S	S	16 04 48.8	-4.1
PRHZ	**Porangahau**	**8.79**	**200**	P	Pn	16 03 13.6	-1.4
PRHZ				S	S	16 04 51.7	-4.0
TSZ	**Takapari Road**	**8.81**	**203**	S	S	16 04 51.0	-5.2
DVHZ	**Dannevirke**	**8.96**	**202**	P	Pn	16 03 15.8	-1.2

TAP 24 16:06:16.4,23.10N×120.96E,h7km,ML1.2,1C,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.10**	**31**	*i* P	Pg	16 06 19.6	+0.8
	baz=34						
ELDTW				*i* S	Sg	16 06 20.8	+0.4
	baz=34						
STYH	**Taoyuan**	**0.18**	**293**	P	Pg	16 06 21.3	+1.2
	baz=295						
STYH				S	Sg	16 06 24.1	+1.6
	baz=295						
LONT	**Longtian**	**0.25**	**141**	*e*P	Pg	16 06 22.9	+1.6
	baz=140						
LONT				S	Sg	16 06 27.2	+2.6
	baz=140						
TWG	**Pinlang**	**0.30**	**159**	*i* P	Pb	16 06 23.4	-0.6
	baz=158						
TWG				S	Sb	16 06 28.4	-0.7
	baz=158						
TWGBT	**Beinan**	**0.30**	**158**	P	Pb	16 06 23.4	-0.8
	baz=158						
TWGBT				*e*S	Sb	16 06 28.5	-0.8
	baz=158						
FULB	**Fuli**	**0.32**	**72**	P	Pb	16 06 24.1	-0.4
	baz=72						
FULB				S	Sb	16 06 29.5	-0.5
	baz=72						
EDH	**Donghe**	**0.34**	**112**	*e*S	Sb	16 06 30.4	-0.1
	baz=111						
SGST	**Jiashian**	**0.35**	**267**	*e*S	Sb	16 06 29.9	-0.7
	baz=266						
WTP	**Ta-pu**	**0.35**	**295**	S	Sb	16 06 30.4	-0.4
	baz=294						
TPUB	**Ta-pu**	**0.36**	**303**	*e*P	Pb	16 06 24.5	-0.7
	baz=303						
TPUB				S	Sb	16 06 30.8	-0.3
	baz=303						
TTN	**Taitung**	**0.39**	**153**	*e*S	Sb	16 06 31.5	-0.2
	baz=152						
YUS	**Yu-Shan**	**0.39**	**359**	*i* P	Pg	16 06 24.9	+0.9
YUS				*e*S	Sg	16 06 29.8	+0.6
	baz=232						
EYUL	**Yuli**	**0.41**	**53**	*e*P	Pg	16 06 25.2	+0.8
	baz=53						
YULB	**Yu-li**	**0.43**	**47**	*e*P	Pb	16 06 25.5	-0.8
	baz=46						
ALS	**Alishan**	**0.43**	**341**	P	Pb	16 06 26.1	-0.4
	baz=341						
ALS				*e*S	Sb	16 06 32.4	-1.0
	baz=341						
TWK	**Hsinying**	**0.46**	**291**	*e*S	Sb	16 06 33.8	-0.2
	baz=291						
TSMG	**Majia**	**0.49**	**216**	*e*S	Sb	16 06 34.0	-0.7
	baz=216						

TAP 24 16:06:16.7,22.36N×120.95E,h16km,ML1.2,1D,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.05**	**272**	*i* P	Pg	16 06 19.9	+0.3
	baz=270						
TAW				*i* S	Sg	16 06 22.1	+0.6
	baz=270						
TAWH	**Dawu Township**	**0.06**	**254**	P	Pg	16 06 19.9	+0.2
	baz=254						
TAWH				S	Sg	16 06 22.2	+0.6
	baz=254						
EAST	**Anshuo**	**0.10**	**286**	⇓ *i* P	Pg	16 06 20.7	+0.6
	baz=287						
EAST				S	Sg	16 06 23.3	+1.0
	baz=287						
SLIU	**Shizi**	**0.20**	**225**	P	Pb	16 06 22.0	0.0
	baz=224						
SLIU				S	Sb	16 06 25.7	+0.2
	baz=224						
ECL	**Taimali**	**0.24**	**1**	*i* P	Pb	16 06 22.6	-0.2
	baz=3.0						
ECL				*i* S	Sb	16 06 27.3	+0.5
	baz=3.0						
SCZT	**Fangliau**	**0.30**	**273**	P	Pb	16 06 23.6	-0.2
	baz=272						
SCZT				*i* S	Sb	16 06 28.9	+0.3
	baz=272						
SMST	**Manzhou Townsh**	**0.35**	**197**	*e*P	Pb	16 06 24.7	+0.1
	baz=197						
SMST				S	Sb	16 06 30.6	+0.7
	baz=197						
SSPT	**Xinbi**	**0.37**	**290**	*e*S	Sb	16 06 31.2	+0.6
	baz=289						
MASBT	**Mashibuluo**	**0.39**	**311**	P	Pb	16 06 25.6	+0.4
	baz=311						
MASBT				S	Sb	16 06 31.4	+0.4
	baz=311						
TWKBT	**Hengchun**	**0.43**	**197**	*e*P	Pb	16 06 26.1	+0.1
	baz=196						
TWKBT				*e*S	Sb	16 06 32.7	+0.4
	baz=196						
TSMG	**Majia**	**0.45**	**321**	*e*P	Pb	16 06 26.5	+0.3
	baz=321						
TSMG				*e*S	Sb	16 06 33.3	+0.6
	baz=321						
TSMG	**Majia**	**0.45**	**321**	*e*P	Pb	16 06 26.7	+0.5
	baz=216						
SSD	**Sandimen**	**0.49**	**323**	P	Pb	16 06 26.7	-0.2
	baz=219						
SSD				S	Sb	16 06 33.6	-0.3
	baz=219						
SSD	**Sandimen**	**0.49**	**323**	P	Pb	16 06 26.7	-0.2
	baz=323						
SSD				S	Sb	16 06 33.7	-0.1
	baz=323						
SGLT	**Jiouru**	**0.56**	**311**	*e*S	Sb	16 06 36.6	+0.6
	baz=311						

*PRE **24** 16:16:02.3±2.2,26°.47S×27°.58E,h2km,ML3.5*
*EAF **24** 16:16:03.1±1.5,26°.50S×27°.58E,h0km±10km,MD3.5*
*BUL **24** 16:16:03.1±1.4,26°.50S×27°.58E,h0km±9km,MD3.7*
*NEIC **24** 16:16:03.2±2.4,26°.52S±0°.05×27°.7E±0°.1,h5km±1km,mb4.6/9,Error ellipse: s-maj=18.2km s-min=9.2km az=93.0*
*IDC **24** 16:16:03.5±1.2,26°.46S×27°.48E,h0km,mb3.8/4,mb1 4.1/10,mb1mx3.7/52,mbtmp4.0/10,ML4.1/5,Error ellipse: s-maj=18.3km s-min=13.5km az=109.0*

ISC 24 16:16:03.8±0.8,26.44S±0°.02×27.55E±0°.03,h13km±5km,n60,σ1.96/103,mb4.4/8,1C,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.11**	**276**	*e*P	**Pg**	**16 16 06.8**	**-0.4**
WDLM				*e*S	**Sg**	**16 16 08.4**	**-1.2**
WDLM				IAML		16 16 09.0	
	comp=Z,31μm,0.3s						
PRYS	**Parys**	**0.52**	**199**	*e*P	**Pg**	**16 16 13.6**	**-0.5**
PRYS				*e*S	**Sg**	**16 16 18.8**	**-2.2**
PRYS				IAML		16 16 20.8	
	comp=Z,2μm,0.2s						
KSR	**Koster**	**0.82**	**315**	*e*P	**Pg**	**16 16 19.4**	**-0.4**
KSR				*e*S	**Sg**	**16 16 30.0**	**-0.7**
KSR				IAML		16 16 38.5	
	comp=Z,698nm,0.4s						
SLR	**Silverton**	**0.96**	**44**	⇑ *i* P	**Pb**	**16 16 21.1**	**-1.3**
SLR				*e*S	**Sb**	**16 16 33.2**	**-1.9**
SLR				IAML		16 16 40.8	
	comp=Z,422nm,0.3s						
SNKL	**Senekal, Frees**	**1.84**	**174**	*e*P	**Pb**	**16 16 37.0**	**-0.5**
SNKL				*e*S	**Sb**	**16 16 59.6**	**-1.0**
SNKL				IAML		16 17 02.4	
	comp=Z,1μm,0.9s						
SWZ	**Schweizer**	**2.12**	**249**	*e*P	**Pn**	**16 16 40.1**	**+1.1**
SWZ				*e*S	**Sb**	**16 17 07.9**	**-0.4**
SWZ				IAML		16 17 10.5	
	comp=Z,315nm,0.6s						
LBTB	**Lobatse**	**2.26**	**308**	Pn	**Pn**	**16 16 42.9**	**+2.0**
	comp=Z,56nm,0.3s,baz=126,slow=16,SNR=995						
LBTB				Pg	**Pb**	**16 16 44.5**	**0.0**
	comp=Z,56nm,0.3s,baz=128,slow=16,SNR=211						
LBTB				Lg	Lg	16 17 13.8	
	comp=Z,232nm,0.3s,baz=28,slow=22,SNR=48						
LBTB	**Lobatse**	**2.26**	**308**	*e*P	**Pn**	**16 16 43.0**	**+2.1**
LBTB				*e*S	**Sn**	**16 17 10.9**	**+2.3**
LBTB				IAML		16 17 14.3	
	comp=Z,551nm,0.3s						
LBTB	**Lobatse**	**2.26**	**308**		**Pn**	**16 16 42.9**	**+2.0**
LBTB				Sn	**Sb**	**16 17 13.5**	**+1.1**
LBTB	**Lobatse**	**2.26**	**308**	*i* Sg	**Sb**	**16 17 14.2**	**+1.8**
LBTB	**Lobatse**	**2.26**	**308**	*i* Sg	**Sb**	**16 17 14.2**	**+1.8**
CRLN	**Carolina, Mapu**	**2.27**	**79**	*e*P	**Pn**	**16 16 41.8**	**+0.7**
CRLN				*e*S	**Sn**	**16 17 09.2**	**+0.1**
NWCL	**Newcastle**	**2.46**	**122**	*e*P	**Pn**	**16 16 44.4**	**+0.6**
NWCL				*e*S	**Sn**	**16 17 15.7**	**+2.0**
NWCL				IAML		16 17 21.6	
	comp=Z,297nm,0.5s						
BOSA	**Boshof**	**2.97**	**223**	Pn	**Pn**	**16 16 51.4**	**+0.6**
	comp=Z,11nm,0.3s,baz=42,slow=13,SNR=240						
BOSA				Pg	**Pb**	**16 16 57.9**	**+1.1**
	comp=Z,14nm,0.3s,baz=44,slow=17,SNR=17						
BOSA				Lg	Lg	16 17 34.0	
	comp=Z,112nm,0.3s,baz=324,slow=18,SNR=24						
BOSA	**Boshof**	**2.97**	**223**	*e*P	**Pn**	**16 16 51.6**	**+0.8**
BOSA				*e*S	**Sn**	**16 17 25.4**	**-1.0**
BOSA				IAML		16 17 36.4	
	comp=Z,272nm,0.3s						
BOSA	**Boshof**	**2.97**	**223**		**Pn**	**16 16 51.4**	**+0.6**
BOSA				Pg	**Pb**	**16 16 58.9**	**+2.2**
BOSA				Sn

MOPA					*e*S		**Sn**	**16 18 02.5**	**-2.5**
MOPA					IAML			16 18 23.8	
	comp=Z,74nm,0.4s								
MOPA	**Mopani**	**4.54**	**51**	*i* P		**Pn**	**16 17 13.3**	**+1.0**
MOPA				*i* S		**Sn**	**16 18 02.3**	**-2.7**
MOPA	**Mopani**	**4.54**	**51**	*i* P		**Pn**	**16 17 13.3**	**+1.0**
MOPA				*i* S		**Sn**	**16 18 02.3**	**-2.7**
MSNA	**Messina**	**4.66**	**30**	*e*P		**Pn**	**16 17 15.5**	**+1.7**
MSNA				*e*S		**Sn**	**16 18 05.9**	**-1.9**
MSNA				IAML			16 18 35.4	
	comp=Z,63nm,0.4s								
MSNA	**Messina**	**4.66**	**30**	*i* P		**Pn**	**16 17 14.9**	**+1.0**
MSNA				*i* S		**Sn**	**16 18 07.0**	**-0.8**
MSNA	**Messina**	**4.66**	**30**	*i* P		**Pn**	**16 17 14.9**	**+1.0**
MSNA				*i* S		**Sn**	**16 18 07.0**	**-0.8**
UPI	**Upington**	**5.92**	**250**	*e*P		**Pn**	**16 17 33.0**	**+1.9**
UPI				*e*S		**Sn**	**16 18 36.4**	**-2.5**
UPI				IAML			16 19 10.0	
	comp=Z,35nm,0.5s								
MATP	**Matopo**	**6.04**	**9**	Pn		**Pn**	**16 17 34.1**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=188,slow=13,SNR=29								
MATP				Sn		**Sn**	**16 18 40.9**	**-1.3**
	comp=Z,5.3nm,0.3s,baz=162,slow=5.2,SNR=14								
MATP				Lg		Lg	16 19 11.1		
	comp=Z,15nm,0.3s,baz=101,slow=21,SNR=16								
MATP	**Matopo**	**6.04**	**9**	*i* P		**Pn**	**16 17 34.3**	**+1.3**
MATP				*i* S		**Sn**	**16 18 40.6**	**-1.6**
MATP	**Matopo**	**6.04**	**9**	*i* P		**Pn**	**16 17 34.3**	**+1.3**
MATP				*i* S		**Sn**	**16 18 40.6**	**-1.6**
KEIM	**Keimoes**	**6.26**	**247**	*e*P		**Pn**	**16 17 36.4**	**+0.5**
KEIM				*e*S		**Sn**	**16 18 44.2**	**-3.1**
KEIM				IAML			16 19 27.8	
	comp=Z,54nm,0.3s								
BLWY	**Bulawayo**	**6.34**	**9**	*e*P		**Pn**	**16 17 38.3**	**+1.2**
BLWY				*e*S		**Sn**	**16 18 47.7**	**-1.9**
BLWY				IAML			16 19 22.6	
	comp=Z,167nm,0.6s								
GRAN	**Grantham**	**7.49**	**217**	*e*P		**Pn**	**16 17 54.5**	**+1.6**
GRAN				*e*S		**Sn**	**16 19 15.5**	**-2.3**
GRAN				IAML			16 19 58.5	
	comp=Z,59nm,0.6s								
ROSN	**Rosenhof**	**8.07**	**198**	*e*P		**Pn**	**16 17 59.8**	**-0.9**
ROSN				*e*S		**Sn**	**16 19 29.6**	**-2.2**
ROSN				IAML			16 20 18.7	
	comp=Z,28nm,0.6s								
KROM	**Kromhout**	**8.09**	**198**	*e*P		**Pn**	**16 18 00.6**	**-0.3**
KROM				*e*S		**Sn**	**16 19 27.1**	**-5.2**
KROM				IAML			16 20 18.6	
	comp=Z,31nm,0.8s								
SUR	**Sutherland**	**8.34**	**223**	Pn		**Pn**	**16 18 05.8**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=41,slow=9.2,SNR=83								
SUR				Sn		**Sn**	**16 19 35.4**	**-3.3**
	comp=Z,3.8nm,0.3s,baz=148,slow=22,SNR=6.7								
SUR				Lg		Lg	16 20 20.9		
	comp=Z,9.1nm,0.3s,baz=314,slow=18,SNR=9.5								
SUR	**Sutherland**	**8.34**	**223**			**Pn**	**16 18 05.5**	**+0.9**
SUR				Sn		**Sn**	**16 19 35.0**	**-3.7**
CVNA	**Calvinia**	**8.47**	**232**	*e*P		**Pn**	**16 18 07.1**	**+0.8**
CVNA				*e*S		**Sn**	**16 19 39.1**	**-2.8**
CVNA				IAML			16 20 29.4	
	comp=Z,57nm,0.5s								
MATJ	**Matjiesfontein**	**9.10**	**220**	*e*P		**Pn**	**16 18 16.2**	**+1.2**
MATJ				*e*S		**Sn**	**16 19 54.2**	**-3.1**
MATJ				IAML			16 20 59.8	
	comp=Z,33nm,0.5s								
KOMG	**Komaggas**	**9.49**	**247**	*e*P		**Pn**	**16 18 20.2**	**-0.1**
KOMG				*e*S		**Sn**	**16 20 02.1**	**-4.7**
KOMG				IAML			16 21 09.9	
	comp=Z,66nm,0.5s								
ELIM	**Elim**	**10.55**	**218**	*e*P		**Pn**	**16 18 34.7**	**0.0**
ELIM				*e*S		**Sn**	**16 20 28.0**	**-4.8**
ELIM				IAML			16 21 37.8	
	comp=Z,19nm,0.6s								
LSZ	**Lusaka**	**11.12**	**3**	Pn		**Pn**	**16 18 43.7**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=183,slow=13,SNR=4.4								
LSZ				Sn		**Sn**	**16 20 40.4**	**-6.6**
	comp=Z,1.0nm,0.3s,baz=360,slow=12,SNR=4.8								
LSZ				Lg		Lg	16 21 49.0		
	comp=Z,1.4nm,0.3s,baz=251,slow=20,SNR=6.1								
TSUM	**Tsumeb**	**11.67**	**306**	Pn		**Pn**	**16 18 50.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=125,slow=11,SNR=11								
TSUM				Lg		Lg	16 22 07.1		
	comp=Z,1.0nm,0.3s,baz=237,slow=21,SNR=4.8								
TSUM	**Tsumeb**	**11.67**	**306**	*e*P		**Pn**	**16 18 51.4**	**+1.2**
TSUM				*e*S		**Sn**	**16 20 57.1**	**-3.3**
TSUM				IAML			16 22 16.8	
	comp=Z,74nm,0.6s								
TSUM	**Tsumeb**	**11.67**	**306**	Pn		**Pn**	**16 18 50.2**	**0.0**
ASCN	**Ascension**	**43.80**	**287**	P		**P**	**16 24 08.5**	**-1.2**
SOCY	**Socotra**	**46.20**	**37**	P		**P**	**16 24 30.0**	**+1.2**
SOCY				IAmb		IAmb	16 24 59.7	
	comp=Z,11nm,0.9s								
TOA0	**Torodi Ar. Sit**	**46.69**	**324**	P		**P**	**16 24 32.8**	**+0.3**
TOA0				IAmb		IAmb	16 25 04.4	
	comp=Z,7.3nm,1.4s								
TORD	**Torodi Ar. Bea**	**46.69**	**324**	P		**P**	**16 24 34.1**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=135,slow=7.0,SNR=7.3								
TORD	**Torodi Ar. Bea**	**46.69**	**324**	P		**P**	**16 24 33.4**	**+0.9**
TORD				IAmb		IAmb	16 24 35.0	
	comp=Z,5.6nm,1.5s								
KOWA	**Kowa**	**50.96**	**319**	P		**P**	**16 25 05.1**	**-0.2**
BELA	**Belgrano 2**	**58.58**	**193**	P		**P**	**16 26 01.3**	**+1.5**
BELA				IAmb		IAmb	16 26 08.3	
	comp=Z,8.9nm,1.5s								
QSPA	**South Pole Qui**	**63.75**	**180**	P		**P**	**16 26 36.1**	**+1.0**
QSPA				IAmb		IAmb	16 26 54.9	
	comp=Z,8.1nm,1.6s								
GYA0B	**ALIBECK ARRAY**	**70.16**	**25**	P		**P**	**16 27 15.1**	**-1.0**
ESDC	**Sonseca Array**	**72.04**	**335**	P		**P**	**16 27 29.3**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=153,slow=6.4,SNR=6.2								
FINES	**FINESS Array B**	**87.57**	**359**	P		**P**	**16 28 53.0**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=183,slow=2.8,SNR=4.3								
MKAR	**Makanchi Array**	**88.06**	**34**	P		**P**	**16 28 55.5**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=240,slow=4.0,SNR=2.4								

IDC 24 16:25:11.2±2.2,3°.73N×126°.93E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/38,mbtmp3.4/3,Error ellipse: s-maj=168.5km s-min=26.4km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	16 30 32.5	-1.0
	0.7nm,0.8s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**28.06**	**166**	P	P	16 31 05.8	+1.2
	0.3nm,0.7s,baz=346,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	16 35 03.4	-0.1
	0.3nm,0.5s,baz=115,slow=8.9,SNR=5.7						

TAP 24 16:30:41.9,24°.36N×121°.74E,h13km,ML1.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.05**	**174**	*e*P	Pg	16 30 44.9	+0.4
	baz=166						
ENA	**Nanau**	**0.07**	**5**	*i* P	Pg	16 30 45.3	+0.7
	baz=11						
ENA				*i* S	Sg	16 30 47.3	+0.9
	baz=11						
EWUT	**Wuta**	**0.09**	**25**	*i* P	Pg	16 30 45.4	+0.5
	baz=25						
EWUT				*i* S	Sg	16 30 47.4	+0.5
	baz=25						
ETL	**Fush Village**	**0.23**	**207**	*i* P	Pb	16 30 47.8	-0.1
	baz=206						
ETL				*i* S	Sb	16 30 51.5	-0.5
	baz=206						
NACB	**Ninganchiao**	**0.23**	**214**	*i* P	Pb	16 30 47.7	-0.2
	baz=214						
NACB				*i* S	Sb	16 30 51.5	-0.4
	baz=214						
LATG	**Datong**	**0.26**	**312**	*e*P	Pb	16 30 48.6	+0.1
	baz=312						
LATG				S	Sb	16 30 52.8	-0.1
	baz=312						
TWC	**Suao**	**0.27**	**23**	*e*P	Pg	16 30 48.0	+0.4
	baz=24						
NDS	**Dongshan**	**0.27**	**356**	P	Pb	16 30 48.4	-0.3
	baz=356						
NDS				*e*S	Sg	16 30 52.2	+0.7
	baz=356						
ETLH	**Xiulin Townshi**	**0.28**	**236**	*e*P	Pb	16 30 48.8	-0.1
	baz=236						
ETLH				S	Sb	16 30 53.4	-0.1
	baz=236						

TWD	**Chiawan**	**0.31**	**204**	P		Pb	16 30 49.0	-0.3
	baz=203							
NDT	**Datong Townshi**	**0.31**	**320**	*e*P		Pb	16 30 49.6	+0.1
	baz=319							
NDT				*e*S		Sb	16 30 54.4	-0.1
	baz=319							
ENTT	**Nioudou**	**0.32**	**331**	*e*P		Pb	16 30 49.5	0.0
	baz=331							
ENTT				S		Sb	16 30 54.5	-0.1
	baz=331							
NNSB	**Datong**	**0.33**	**282**	*e*P		Pb	16 30 49.9	+0.2
	baz=281							
NNSB				*e*S		Sb	16 30 54.6	-0.3
	baz=281							
NNS	**Nan Shan**	**0.34**	**283**	*e*P		Pb	16 30 50.1	+0.2
	baz=283							
NNS				S		Sb	16 30 55.1	-0.2
	baz=283							
TWE	**Neicheng**	**0.36**	**350**	*e*P		Pb	16 30 50.4	+0.2
	baz=352							
TWE				S		Sb	16 30 55.8	0.0
	baz=352							
FUSB	**Fushanzhiwuyua**	**0.42**	**341**	*e*P		Pb	16 30 51.4	+0.1
	baz=341							
FUSB				*e*S		Sb	16 30 57.0	-0.5
	baz=341							
YHNB	**Yeheng**	**0.45**	**313**	*e*P		Pb	16 30 52.0	+0.3
	baz=313							
YHNB				*e*S		Sb	16 30 58.4	0.0
	baz=313							
NSK	**Sanguang**	**0.46**	**312**	*e*P		Pb	16 30 52.0	0.0
	baz=312							
NWLT	**Wulai**	**0.46**	**333**	*e*P		Pb	16 30 51.8	-0.2
	baz=332							
NWLT				*e*S		Sb	16 30 58.3	-0.5
	baz=332							
WHF	**Hehuan Shan**	**0.48**	**243**	*e*P		Pb	16 30 52.5	+0.1
	baz=242							
WHF				*e*S		Sb	16 30 59.6	0.0
	baz=242							
ESL	**Shilin**	**0.61**	**207**	*e*P		Pb	16 30 54.5	0.0
	baz=206							
TIPB	**Shuangxi**	**0.61**	**8**	*e*P		Pb	16 30 54.5	-0.1
	baz=7.0							
OWD	**Renai**	**0.65**	**232**	*e*P		Pb	16 30 55.1	-0.1
	baz=231							
WUSB	**Renai**	**0.67**	**237**	*e*P		Pb	16 30 55.9	+0.3
	baz=236							

JMA 24 16:30:44.6±0.2,24°.03N×123°.25E,h29km±4km,M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**326**	P	Pb	16 30 54.4	-0.6
JYNG				S	Sb	16 31 01.8	-0.4
HATJ	**Hateruma jima**	**0.51**	**87**	P	Pb	16 30 54.8	-0.3
HATJ				S	Sb	16 31 01.7	-0.6
IRIF	**Iriomote-Funau**	**0.53**	**55**	P	Pb	16 30 55.3	-0.2
IRIF				S	Sb	16 31 02.7	-0.3
JKRS	**Kuro-shima**	**0.72**	**73**	P	Pb	16 30 58.5	-0.2
JKRS				S	Sb	16 31 08.4	+0.1
JIJ	**Ishigaki jima**	**0.88**	**68**	P	Pn	16 31 00.6	-0.4
JIJ				S	Sb	16 31 12.0	-0.7
JISG	**Ishigakijimahi**	**1.11**	**60**	P	Pn	16 31 04.3	0.0
JISG				S	Sn	16 31 18.4	-0.3

*NEIC **24** 16:37:50.1±2.3,15°.89N±0°.08×97°.28W±0°.04,h11km±7km, mb4.1/8,Md4.5/70(MEX),Error ellipse: s-maj=11.9km s-min=3.4km az=203.0*
*MEX **24** 16:37:52.4±0.8,15°.88N×97°.27W,h11km±3km,MD4.5*
ISC 24 16:37:50.5±0.9,15°.90N±0°.04×97°.24W±0°.03,h25km±6km, n66,σ1°.44/83,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEIG	**Puerto Escondi**	**0.13**	**44**	*i* P	**Pb**	**16 37 55.5**	**0.0**
PEIG				*i* S	**Sb**	**16 37 58.2**	**-0.5**
PNIG	**Pinotepa**	**0.98**	**300**		**Pn**	**16 38 08.1**	**-0.7**
PNIG					**Sb**	**16 38 19.9**	**-1.5**
PNIG	**Pinotepa**	**0.98**	**300**	*i* P	**Pn**	**16 38 08.1**	**-0.7**
PNIG				*i* S	**Sb**	**16 38 19.9**	**-1.5**
YOIG	**Yosondua**	**0.99**	**343**	*i* P	**Pn**	**16 38 08.3**	**-0.8**
YOIG				*i* S	**Sb**	**16 38 20.3**	**-1.7**
HUIG	**Huatulco**	**1.10**	**97**		**Pn**	**16 38 10.0**	**-0.4**
HUIG					**Sb**	**16 38 24.4**	**-0.4**
HUIG	**Huatulco**	**1.10**	**97**	*i* P	**Pn**	**16 38 10.0**	**-0.4**
HUIG				*i* S	**Sb**	**16 38 24.4**	**-0.4**
OXBJ	**Oaxaca**	**1.26**	**23**		**Pn**	**16 38 12.9**	**+0.1**
OXBJ					**Sn**	**16 38 28.4**	**-0.7**
OXBJ	**Oaxaca**	**1.26**	**23**	*i* P	**Pn**	**16 38 12.9**	**+0.1**
OXBJ				*i* S	**Sn**	**16 38 28.4**	**-0.7**
VHO	**Vista Hermosa**	**1.26**	**23**	*i* P	**Pn**	**16 38 12.9**	**+0.2**
VHO				*i* S	**Sn**	**16 38 28.5**	**-0.5**
OXLC	**Oaxaca**	**1.27**	**24**	*i* P	**Pn**	**16 38 13.1**	**+0.3**
OXLC				*i* S	**Sn**	**16 38 28.4**	**-0.8**
TXIG	**Tlaxiaco**	**1.43**	**339**	*i* P	**Pn**	**16 38 15.5**	**+0.2**
TXIG				*i* S	**Sn**	**16 38 29.4**	**-0.1**
HLIG	**Huajuapan de L**	**1.99**	**344**	*i* P	**Pn**	**16 38 24.8**	**-1.4**
HLIG				*i* S	**Sb**	**16 38 49.9**	**-0.8**
CRIG	**Cruz Grande**	**2.00**	**295**		**Pn**	**16 38 22.4**	**-0.3**
CRIG					**Sn**	**16 38 44.0**	**-2.8**
CRIG	**Cruz Grande**	**2.00**	**295**	*e*P	**Pn**	**16 38 22.4**	**-0.3**
CRIG				*i* S	**Sn**	**16 38 44.0**	**-2.8**
TLIG	**Tlapa**	**2.08**	**323**		**Pn**	**16 38 24.6**	**+0.7**
TLIG	**Tlapa**	**2.08**	**323**	*i*	**Pb**	**16 38 26.9**	**-0.8**
TLIG				*i*		16 38 53.9	
FTIG	**Fresnillo de T**	**2.17**	**337**	*i*	**Pb**	**16 38 28.2**	**-1.0**
FTIG				*i*		16 38 55.2	
TOIG	**Toxpalan**	**2.19**	**4**	*i*	**Pb**	**16 38 27.7**	**-1.7**
TOIG				*i*		16 38 55.8	
NEUV	**Arroyo Zacate**	**2.27**	**37**	*i*	**Pn**	**16 38 27.1**	**+0.7**
NEUV				*i*		16 38 57.4	
TPIG	**Tehuac#an**	**2.50**	**357**		**Pb**	**16 38 33.6**	**-1.3**
TPIG					**Sb**	**16 39 07.3**	**+1.9**
TPIG	**Tehuac#an**	**2.50**	**357**	*i*	**Pb**	**16 38 33.6**	**-1.3**
TPIG				*i*		16 39 07.3	
DAIG	**Los Arroyos**	**2.56**	**296**		**Pb**	**16 38 37.0**	**+1.2**
DAIG					**Sb**	**16 39 10.2**	**+3.2**
DAIG	**Los Arroyos**	**2.56**	**296**	*i*	**Pb**	**16 38 37.0**	**+1.2**
DAIG				*i*		16 39 10.2	
OZST	**Orizaba**	**2.94**	**3**	*i*	Pb	16 38 51.2	+8.8
OZST				*i*		16 39 20.5	
MEIG	**Mezcala**	**3.04**	**312**		**Pb**	**16 38 43.1**	**-0.8**
MEIG					**Sb**	**16 39 20.7**	**+0.1**
MEIG	**Mezcala**	**3.04**	**312**	*i*	**Pb**	**16 38 43.1**	**-0.8**
MEIG				*i*		16 39 20.7	
CAIG	**El Cayaco**	**3.12**	**292**		**Pn**	**16 38 38.9**	**+0.7**
CAIG					**Sn**	**16 39 10.6**	**-4.0**
CAIG	**El Cayaco**	**3.12**	**292**	*i*	**Pn**	**16 38 38.9**	**+0.7**
CAIG				*i*		16 39 10.6	
PLIG	**Platanillo**	**3.29**	**319**		**Pb**	**16 38 49.5**	**+1.3**
PLIG					**Sb**	**16 39 26.1**	**-1.2**
PLIG	**Platanillo**	**3.29**	**319**	*i*	**Pb**	**16 38 49.5**	**+1.3**
PLIG				*i*		16 39 26.6	
PPM	**Popocatepetl**	**3.41**	**337**	*i*	**Pb**	**16 38 51.8**	**+1.2**
PPM				*i*		16 39 34.8	
YAIG	**Yautepec**	**3.42**	**330**		**Pb**	**16 38 51.8**	**+1.2**
YAIG					**Sb**	**16 39 33.1**	**+1.4**
YAIG	**Yautepec**	**3.42**	**330**	*i*	**Pb**	**16 38 51.8**	**+1.2**
YAIG				*i*		16 39 33.1	
JAUV	**Jalcomulco**	**3.47**	**7**	*i*	**Pn**	**16 38 43.4**	**+0.4**
JAUV				*i*		16 39 36.7	
MAVM	**Malinalco, Edo**	**3.72**	**325**		**Pb**	**16 38 54.9**	**-0.8**
MAVM					**Sb**	**16 39 40.0**	**-0.5**
MAVM	**Malinalco, Edo**	**3.72**	**325**	*i*	**Pb**	**16 38 54.9**	**-0.8**
MAVM				*i*		16 39 40.0	
TLVM	**San Miguel Top**	**3.76**	**331**	*i*	**Pn**	**16 38 51.1**	**+3.9**
TLVM				*i*		16 39 40.9	
THVM	**De Xico**	**3.77**	**334**	*i*	**Pb**	**16 38 55.8**	**-0.8**
THVM				*i*		16 39 47.4	
UNM	**Universidad Na**	**3.88**	**332**		**Pn**	**16 38 51.2**	**+2.4**
PCIG		**3.88**	**92**		**Pn**	**16 38 48.8**	**+0.2**
PCIG					**Sn**	**16 39 30.5**	**-2.9**
PCIG		**3.88**	**92**	*i*	**Pn**	**16 38 48.8**	**+0.2**
PCIG				*i*		16 39 30.5	
COVM	**Coyoacan**	**3.88**	**332**	*e*	Pn	16 38 40.5	-8.5
AOVM	**Tlapan**	**3.89**	**330**	*i*	Pb	16 39 03.0	+4.3
AOVM				*i*		16 39 47.4	
PBVM	**Pinon**	**3.93**	**334**		**Pn**	**16 38 49.3**	**0.0**
PBVM					**Sb**	**16 39 47.9**	**+1.6**
PBVM	**Pinon**	**3.93**	**334**	*i*	**Pn**	**16 38 49.3**	**0.0**
PBVM				*i*		16 39 47.9	
INVM	**La Marquesa**	**3.94**	**329**	*i*	**Pn**	**16 38 47.4**	**-2.4**
INVM				*i*		16 39 40.0	
GMVM	**Gustavo A Made**	**3.99**	**334**	*e*	Sg	16 39 53.5	
PTVM	**Pico Tres Padr**	**4.08**	**334**		**Pb**	**16 39 00.9**	**-0.9**
PTVM					**Sb**	**16 39 51.1**	**+0.3**
PTVM	**Pico Tres Padr**	**4.08**	**334**	*i*	**Pb**	**16 39 00.9**	**-0.9**
PTVM				*i*		16 39 51.1	
ZUVM	**ZUMPANGO**	**4.28**	**336**	*i*	Pn	16 38 39.1	-15
ZUVM				*i*		16 40 03.7	
ZIIG	**Zihuatanejo**	**4.39**	**293**		Pn	16 38 50.2	-5.3
ZIIG					**Sb**	**16 40 03.3**	**+3.9**
ZIIG	**Zihuatanejo**	**4.39**	**293**	*i*	Pn	16 38 50.2	-5.3
ZIIG				*i*		16 40 03.3	
CCIG	**Comitan**	**4.92**	**85**		**Pn**	**16 39 04.5**	**+1.4**
MOIG	**Morelia**	**5.31**	**316**	Pn	**Pn**	**16 39 09.2**	**+0.7**
MTO3	**Montecristo**	**7.75**	**100**	Pn	**Pn**	**16 39 43.9**	**+1.8**
HZTE	**Horizontes, Gu**	**12.45**	**113**	Pn	**Pn**	**16 40 49.3**	**+3.1**
833A	**Chaparral WMA,**	**12.52**	**351**	Pn	**Pn**	**16 40 48.1**	**+0.9**
MIAR	**Mount Ida**	**18.85**	**9**	P	**Pn**	**16 42 10.8**	**+1.4**
MIAR				IAmb	IAmb	16 42 17.1	
	comp=Z,9.6nm,0.9s						
LENM	**Lemitar**	**20.19**	**336**	P	**P**	**16 42 24.5**	**+0.9**
Y49A	**Blount Mountai**	**20.37**	**27**	P	Pn	16 42 26.7	-0.9
Y49A				IAmb	IAmb	16 42 29.2	
	comp=Z,7.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**20.42**	**12**	P	**P**	**16 42 26.6**	**+0.7**
FCAR				IAmb	IAmb	16 42 58.6	
	comp=Z,12nm,1.3s						
TUC	**Tucson**	**20.45**	**325**	P	**P**	**16 42 26.2**	**-0.1**
TUC				IAmb	IAmb	16 42 40.3	
	comp=Z,11nm,1.6s						
SWET	**Sewanee**	**21.74**	**26**	P	**P**	**16 42 39.6**	**-0.6**
SWET				IAmb	IAmb	16 42 46.9	
	comp=Z,13nm,0.7s						
MTPU	**Mount Pierson**	**25.69**	**332**	P	**P**	**16 43 18.3**	**-0.8**
RWWY	**Rawlins**	**27.10**	**343**	P	**P**	**16 43 30.9**	**-0.8**
YAH	**Yahtse**	**54.73**	**335**	P	**P**	**16 47 18.6**	**+0.6**

IDC 24 16:45:39.9±58.0,14°.22S×165°.16E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/23,mbtmp3.7/3,Error ellipse: s-maj=968.5km s-min=103.3km az=64.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**27.81**	**227**	P	P	16 51 30.9	-0.1
	1.7nm,0.5s,baz=73,slow=10,SNR=7.2						
WRA	**Warramunga Arr**	**29.98**	**255**	P	P	16 51 50.8	+0.4
	0.4nm,0.6s,baz=84,slow=9.1,SNR=7.1						
ASAR	**Alice Springs**	**30.96**	**248**	P	P	16 51 58.9	-0.3
	0.4nm,0.6s,baz=76,slow=9.5,SNR=12						

IDC 24 16:57:24.4±2.2,7°.14S×126°.48E,h0km,mb3.2/1, mb1 3.8/3,mb1mx3.4/25,mbtmp3.5/3,ML3.8/2,Error ellipse: s-maj=299.3km s-min=32.5km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.84**	**150**	Pn	Pn	17 00 54.5	-1.1
	0.4nm,0.3s,baz=326,slow=13,SNR=21						
WRA				Sn	Sn	17 03 27.9	-13
	0.4nm,0.3s,baz=332,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**17.91**	**157**	P	P	17 01 35.8	0.0
	0.4nm,0.3s,baz=337,slow=9.5,SNR=46						
MKAR	**Makanchi Array**	**66.47**	**329**	P	P	17 08 15.8	0.0
	0.2nm,0.6s,baz=136,slow=6.4,SNR=2.5						

*TIF **24** 16:59:59.0,40°.98N×45°.11E,h19km±1km*
*ISK **24** 16:59:58.7,40°.97N×44°.98E,h5km,ML2.5/2*
*DDA **24** 16:59:59.2±0.0,41°.01N×45°.11E,h7km±2km,ML2.0*
ISC 24 16:59:58.7±1.3,40°.99N±0°.03×45°.13E±0°.04,h7km±11km, n16,σ0°.94/29,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZRT	**Kazreti**	**0.68**	**306**	P	**Pb**	**17 00 12.8**	**-0.1**
KZRT				S	**Sb**	**17 00 22.4**	**-0.1**
KZRT	**Kazreti**	**0.68**	**306**	P	**Pb**	**17 00 12.8**	**-0.1**
KZRT				S	**Sb**	**17 00 21.9**	**-0.7**
BTNK	**Botanikuri**	**0.74**	**341**	P	Pg	17 00 08.4	-4.5
BTNK				S	**Sg**	**17 00 19.0**	**-3.5**
BTNK	**Botanikuri**	**0.74**	**341**	P	Pg	17 00 08.4	-4.5
DMNI	**Dmanisi**	**0.79**	**296**	P	**Pb**	**17 00 14.7**	**-0.1**
DMNI				S	**Sb**	**17 00 25.4**	**-0.3**
GNI	**Garni**	**0.89**	**199**	PG	**Pg**	**17 00 15.9**	**+0.2**
GNI				SG	**Sb**	**17 00 28.9**	**+0.3**
TRLG	**Trialeti**	**0.95**	**306**	P	**Pg**	**17 00 17.2**	**+0.3**
TRLG				S	**Sb**	**17 00 30.3**	**-0.1**
BRNG	**Burnasheti**	**1.17**	**303**	P	**Pn**	**17 00 22.0**	**+0.3**
BRNG				S	**Sn**	**17 00 38.2**	**+0.2**
EAK	**Akyaka**	**1.19**	**256**	P	**Pn**	**17 00 22.0**	**0.0**
EAK				S	**Sn**	**17 00 38.3**	**-0.2**
EAK				*i* AML	AML	17 00

H01W2	**Cape Leeuwin H**	**33.77**	**293**	T	T	17 58 51.2		
	baz=142,slow=76,SNR=20							
H01W3	**Cape Leeuwin H**	**33.78**	**293**	T	T	17 58 45.2		
	baz=142,slow=76,SNR=18							
ASAR	**Alice Springs**	**35.50**	**330**	P	**P**	**17 23 18.4**	**0.0**	
	0.7nm,0.7s,baz=162,slow=9.3,SNR=9.3							
ASAR				PcP	**PcP**	**17 25 46.2**	**-1.5**	
	0.8nm,0.7s,baz=149,slow=2.8,SNR=4.2							
WRA	**Warramunga Arr**	**38.93**	**332**	P	**P**	**17 23 47.2**	**-0.3**	
	0.9nm,0.9s,baz=162,slow=7.1,SNR=5.0							
KAPI	**Kappang**	**57.53**	**320**	LR	LR	17 51 26.3		
	comp=Z,28nm,18.3s,baz=161,slow=37							
H08S2	**Diego Garcia H**	**78.17**	**274**	T	T	18 54 13.6		
	baz=146,slow=76,SNR=4.3							
H08S1	**Diego Garcia H**	**78.17**	**274**	T	T	18 54 16.7		
	baz=146,slow=76,SNR=4.7							
H08S3	**Diego Garcia H**	**78.19**	**274**	T	T	18 54 13.7		
	baz=146,slow=76,SNR=4.4							
H03S2	**Juan Fernandez**	**80.01**	**139**	T	T	18 57 15.5		
	baz=209,SNR=7.8							
H03S1	**Juan Fernandez**	**80.02**	**139**	T	T	18 57 17.9		
	baz=209,SNR=7.6							
H03S3	**Juan Fernandez**	**80.03**	**139**	T	T	18 57 21.0		
	baz=209,SNR=7.1							
CMAR	**Chiang Mai Arr**	**87.09**	**310**	P	**P**	**17 29 07.2**	**-0.2**	
	0.3nm,0.4s,baz=175,slow=3.3,SNR=4.1							
AKASG	**Malin Array Be**	**146.70**	**285**	PKPbc	**PKPdf**	**17 36 00.4**	**-0.4**	
	0.9nm,0.5s,baz=90,slow=2.9,SNR=7.4							
FINES	**FINESS Array B**	**152.63**	**303**	PKPbc	**PKPbc**	**17 36 15.8**	**-1.1**	
	3.4nm,1.1s,baz=84,slow=7.9,SNR=4.1							

*ISK **24** 17:22:53.8, 34.52N×25.38E, h12km, ML3.4/12*
*THE **24** 17:22:55.8, 34.65N×25.29E, h0km, ML2.9/6, Error ellipse: s-maj=1.4km s-min=0.4km az=182.0*
*IDC **24** 17:22:55.4±2.5, 34.67N×25.43E, h35km±18km, mb3.5/6, mb1 3.5/8, mb1mx3.3/47, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=24.0km s-min=23.0km az=180.0*
*ATH **24** 17:22:56.0, 34.68N×25.27E, h26km±2km, ML3.2/5, Error ellipse: s-maj=7.3km s-min=1.7km az=1.0*

ISC 24 17:22:55.5±1.0, 34.61N±0.06×25.34E±0.03, h25km±8km, n44, σ1°31/56, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.52**	**38**	P		**P**	**Pn**	**17 23 07.8**	**+0.4**
FRMA				S			**Sn**	**17 23 17.4**	**+1.9**
	690nm,0.7s								
SIVA	**Sivas**	**0.60**	**313**	P		**P**	**Pb**	**17 23 06.8**	**-0.7**
SIVA				AML		AML		17 23 19.4	
	comp=N,14110μm,0.6s								
SIVA				AML		AML		17 23 23.2	
	comp=E,24695μm,0.6s								
SIVA	**Sivas**	**0.60**	**313**	P		**P**	**Pb**	**17 23 06.8**	**-0.7**
SIVA				S			**Sb**	**17 23 15.2**	**-0.3**
TMBK	**Timbaki Herakl**	**0.66**	**315**	P		**P**	**Pb**	**17 23 08.1**	**-0.4**
TMBK				S			**Sb**	**17 23 17.4**	**+0.1**
	comp=E,2μm,0.5s								
HRKL	**Herakleio**	**0.73**	**344**	P		**P**	**Pb**	**17 23 09.7**	**+0.1**
HRKL	**Herakleio**	**0.73**	**344**	PG		**P**	**Pb**	**17 23 10.2**	**+0.6**
HRKL				SG			**Sn**	**17 23 22.0**	**+1.3**
KSTL	**Kastelli Herak**	**0.73**	**342**	P		**P**	**Pb**	**17 23 07.5**	**-2.1**
KSTL				S			**Sb**	**17 23 16.1**	**-3.1**
IDI	**Anoyia**	**0.78**	**332**	Pg		**P**	**Pb**	**17 23 09.6**	**-0.8**
	comp=E,40nm,0.3s,baz=179,slow=9.2,SNR=159								
IDI				Lg		Lg		17 23 22.6	
	comp=E,88nm,0.3s,baz=99,slow=22,SNR=10								
IDI	**Anoyia**	**0.78**	**332**	P		**P**	**Pb**	**17 23 09.5**	**-0.9**
IDI				AML		AML		17 23 25.1	
	comp=N,2081μm,0.5s								
IDI				AML		AML		17 23 27.4	
	comp=E,3042μm,0.6s								
IDI	**Anoyia**	**0.78**	**332**	P		**P**	**Pb**	**17 23 09.9**	**-0.5**
IDI				S			**Sb**	**17 23 21.4**	**+0.8**
	comp=E,1μm,0.5s								
IDI	**Anoyia**	**0.78**	**332**	PG		**P**	**Pb**	**17 23 10.3**	**-0.1**
ZKR	**Zakros**	**0.88**	**55**	P		**P**	**Pn**	**17 23 12.8**	**+0.5**
ZKR				S			**Sn**	**17 23 26.4**	**+2.0**
ZKR				AML		AML		17 23 32.6	
	comp=E,2248μm,0.5s								
ZKR				AML		AML		17 23 38.3	
	comp=N,958μm,0.5s								
ZKR	**Zakros**	**0.88**	**55**	P		**Pn**		**17 23 13.0**	**+0.6**
ZKR				S		**Sn**		**17 23 26.9**	**+2.5**
	comp=N,802nm,0.5s								
ZKR	**Zakros**	**0.88**	**55**	PG		**Pb**		**17 23 12.2**	**0.0**
PRNS	**Prines Rethymn**	**1.02**	**318**	P		**Pb**		**17 23 14.8**	**+0.2**
PRNS				S		**Sn**		**17 23 29.7**	**+1.8**
	comp=N,470nm,0.7s								
GVD	**Gavdhos**	**1.06**	**283**	P		**Pb**		**17 23 15.1**	**-0.1**
GVD				AML		AML		17 23 37.2	
	comp=E,3681μm,0.3s								
GVD				AML		AML		17 23 41.5	
	comp=N,3943μm,0.4s								
GVD	**Gavdhos**	**1.06**	**283**	PN		**Pb**		**17 23 15.4**	**+0.2**
GVD				SN		**Sn**		**17 23 31.6**	**+2.8**
IMMV	**Iera Moni Meta**	**1.41**	**308**	P		**Pb**		**17 23 21.0**	**-0.1**
IMMV				AML		AML		17 23 52.3	
	comp=N,1611μm,0.5s								
IMMV				AML		AML		17 23 56.0	
	comp=E,1274μm,1.0s								
IMMV	**Iera Moni Meta**	**1.41**	**308**	P		**Pb**		**17 23 20.8**	**-0.3**
IMMV				S		**Sb**		**17 23 40.1**	**+1.5**
	comp=E,732nm,0.4s								
IMMV	**Iera Moni Meta**	**1.41**	**308**	PN		**Pb**		**17 23 21.3**	**+0.2**
IMMV				SN		**Sb**		**17 23 40.6**	**+2.0**
KNDR	**Palaiochora Ch**	**1.50**	**295**	PN		**Pb**		**17 23 22.9**	**+0.2**
RODP	**Rodopos**	**1.61**	**307**	PN		**Pb**		**17 23 24.0**	**-0.6**
KARP	**Karpathos**	**1.76**	**57**	P		**Pb**		**17 23 27.6**	**+0.4**
KARP	**Karpathos**	**1.76**	**57**	P		**Pb**		**17 23 26.9**	**-0.3**
KARP	**Karpathos**	**1.76**	**57**	PN		**Pn**		**17 23 25.7**	**+1.2**
APE	**Apeiranthos**	**2.46**	**4**	PN		**Pn**		**17 23 36.3**	**+2.1**
KTHA	**Kythira Island**	**2.49**	**312**	P		**Pn**		**17 23 35.4**	**+0.9**
DAT	**Datca**	**2.79**	**40**	PN		**Pn**		**17 23 40.4**	**+1.6**
VLI	**Veliai**	**2.88**	**318**	P		**Pn**		**17 23 39.9**	**+0.1**
TURN	**Turunc**	**3.20**	**47**	PN		**Pn**		**17 23 45.4**	**+1.1**
YER	**Yerkesik**	**3.47**	**43**	PN		**Pn**		**17 23 49.9**	**+1.8**
DALY	**Dalyan (Mula)**	**3.48**	**50**	PN		**Pn**		**17 23 49.9**	**+1.8**
FETY	**Fethiye**	**3.66**	**55**	PN		**Pn**		**17 23 51.1**	**+0.5**
EIL	**Elat**	**9.52**	**119**	Pn		**Pn**		**17 25 10.0**	**-1.0**
	comp=E,0.5nm,0.3s,baz=351,slow=2.6,SNR=7.7								
AKASG	**Malin Array Be**	**16.33**	**9**	Pn		**Pn**		**17 26 43.6**	**+0.5**
	comp=E,1.7nm,0.3s,baz=199,slow=11,SNR=7.9								
KBZ	**Khabaz**	**16.36**	**51**	Pn		**P**		**17 26 47.0**	**+1.0**
	comp=E,0.1nm,0.3s,baz=250,slow=10,SNR=6.4								
GERES	**GERESS Array B**	**16.64**	**332**	Pn		**Pn**		**17 26 47.9**	**+0.8**
	comp=E,0.1nm,0.3s,baz=153,slow=11,SNR=2.1								
BRG	**Berggiesshubel**	**18.25**	**336**	Sg		**Sn**		**17 30 28.9**	**-1.0**
BRG				Amp				17 30 32.6	
	comp=Z,1.6nm,0.6s								
ESDC	**Sonseca Array**	**23.85**	**291**	P		**P**		**17 28 06.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=81,slow=9.1,SNR=2.0								
FINES	**FINESS Array B**	**26.86**	**1**	P		**P**		**17 28 30.5**	**-3.4**
	comp=Z,1.4nm,0.9s,baz=158,slow=12,SNR=7.1								
TORD	**Torodi Ar. Bea**	**30.25**	**231**	P		**P**		**17 29 04.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=43,slow=10,SNR=4.6								
TORD				pP			**pwP**	**17 29 11.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=34,slow=9.4,SNR=5.0								
ARCES	**ARCESS Array B**	**34.98**	**0**	P		P		17 29 42.1	-3.4
	comp=Z,1.6nm,0.9s,baz=180,slow=9.8,SNR=5.7								
MKAR	**Makanchi Array**	**43.96**	**56**	P		**P**		**17 30 59.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=269,slow=7.9,SNR=4.5								
ZALV	**Zalesovo Beam**	**45.28**	**46**	P		**P**		**17 31 09.2**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=267,slow=9.2,SNR=3.8								

*IDC **24** 17:26:02.6±3.4, 27.69N×88.01E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/53, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=112.7km s-min=33.2km az=73.0*
*NDI **24** 17:26:11.1±2.4, 27.84N×88.10E, h69km±21km, ML3.6*

ISC 24 17:26:08.2±1.2, 27.88N±0.08×88.02E±0.07, h35km, n13, σ2°94/16, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.76**	**137**	*e*P			Pn	17 26 26.1	+3.6
GTK				*e*S			**Sn**	**17 26 36.4**	**+3.6**
GTK				IAML				17 26 37.1	
	comp=N,2μm,0.2s								
GTK				IAML				17 26 37.5	
	comp=E,2μm,0.2s								
GTK				IAML				17 26 38.7	
	comp=N,2μm,0.1s								
GTK				IAML				17 26 38.7	
	comp=E,2μm,0.1s								
DHUB	**DHUBRI**	**2.55**	**136**	*e*P			Pn	17 26 49.9	+2.9
DHUB				*e*S			**Sn**	**17 27 18.4**	**+1.5**
TURI	**Tura**	**3.10**	**138**	*e*P			**Pn**	**17 26 56.8**	**+2.1**
TURI				*e*S			**Sn**	**17 27 28.2**	**-2.3**
TURI				IAML				17 27 33.6	
	comp=N,620nm,0.1s								
TURI				IAML				17 27 33.9	
	comp=E,417nm,0.2s								
GUWA	**GUWAHATI**	**3.68**	**116**	*e*P			Pn	17 27 05.6	+3.1
GUWA				*e*S			**Sn**	**17 27 43.0**	**-1.7**
GUWA				IAML				17 27 46.7	
	comp=E,166nm,0.5s								
GUWA				IAML				17 27 47.8	
	comp=N,187nm,0.3s								
SHL	**Shillong**	**4.15**	**123**	*e*P			Pn	17 27 11.4	+2.3
TEZP	**TEZPUR**	**4.43**	**105**	*e*P			**Pn**	**17 27 13.8**	**+0.8**
TEZP				*e*S			**Sn**	**17 27 60.0**	**-3.3**
TEZP				IAML				17 28 02.8	
	comp=E,177nm,0.0s								
TEZP				IAML				17 28 03.0	
	comp=N,215nm,0.2s								
BOK	**Bokaro**	**4.50**	**206**	*e*P			**Pn**	**17 27 16.4**	**+2.6**
BOK				*e*S			**Sn**	**17 27 59.6**	**-5.3**
BOK				*e*S			**Sn**	**17 28 02.9**	**-2.0**
BOK				IAML				17 28 07.3	
	comp=E,198nm,0.2s								
BOK				IAML				17 28 07.5	
	comp=N,176nm,0.2s								
ITAN	**ITANAGAR**	**5.11**	**97**	*e*P			Pn	17 27 24.5	+2.2
KOHI	**KOHIMA**	**5.85**	**110**	*e*P			**Pn**	**17 27 33.0**	**+0.6**
KOHI				*e*S			**Sn**	**17 28 33.0**	**-5.4**
KOHI				IAML				17 28 38.3	
	comp=N,80nm,0.3s								
KOHI				IAML				17 28 40.1	
	comp=Z,41nm,0.5s								
LKP	**Lekhapani**	**6.96**	**93**	*e*P			**Pn**	**17 27 48.0**	**+0.3**
MKAR	**Makanchi Array**	**19.41**	**348**	P		**P**		**17 30 32.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=164,slow=9.8,SNR=5.7								
SONM	**Songino Array**	**24.53**	**31**	P		**P**		**17 31 26.0**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=211,slow=7.8,SNR=3.0								
WRA	**Warramunga Arr**	**65.32**	**132**	P		**P**		**17 36 46.0**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=326,slow=6.6,SNR=4.8								

*DJA **24** 17:26:14.6±0.6, 3.7N×4.2°E, h93km±8km, M3.7/11, mb3.7/7, mB4.9/2, MLv3.7/11, Mw(mB)4.2/2*
*IDC **24** 17:26:16.7±4.5, 2.76N×127.64E, h114km±47km, mb3.0/5, mb1 3.2/6, mb1mx3.0/44, mbtmp3.5/6, Error ellipse: s-maj=64.0km s-min=23.7km az=70.0*

ISC 24 17:26:15.0±1.2, 2.9N±0.1×127.6E±0.1, h100km, n14, σ0°93/15, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.08**	**186**	P			**Pn**	**17 26 49.8**	**+1.1**
SGSI	**Sangihe**	**2.21**	**292**	P			**Pn**	**17 26 50.1**	**-0.2**
LBMI	**Labuha**	**3.47**	**181**	P			**Pn**	**17 27 07.8**	**+0.7**
GTOI	**Gorontalo**	**5.07**	**244**	P			**Pn**	**17 27 30.8**	**+2.1**
	0.0nm5.1nm,1.3s								
SANI	**Sanana**	**5.13**	**198**	P			**Pn**	**17 27 29.2**	**-0.3**
	0.1nm1μm15nm,1.0s								
SWI	**Sorong**	**5.21**	**135**	P			**Pn**	**17 27 30.7**	**+0.1**
	0.1nm16nm,1.0s								
SIJI	**Sorong**	**5.22**	**135**	P			**Pn**	**17 27 31.8**	**+1.0**
	1.5nm,0.3s,baz=252,slow=23,SNR=15								
SIJI				S			**Sn**	**17 28 29.3**	**-0.5**
	0.4nm,0.3s,baz=209,slow=23,SNR=1.9								
MRSI	**Marisa**	**6.11**	**247**	P			**Pn**	**17 27 42.5**	**-0.4**
	0.1nm11nm,1.6s								
LUWI	**Luwuk**	**6.17**	**231**	P			Pn	**17 27 43.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.91**	**185**	P			**P**	**17 30 48.7**	**-0.9**
	1.2nm,0.7s,baz=15,slow=9.6,SNR=5.5								
WRA	**Warramunga Arr**	**23.61**	**164**	P			**P**	**17 31 16.0**	**-1.1**
	0.4nm,0.4s,baz=345,slow=11,SNR=8.7								
ASAR	**Alice Springs**	**27.07**	**167**	P			**P**	**17 31 48.7**	**+0.3**
	0.1nm,0.3s,baz=346,slow=12,SNR=7.9								
STKA	**Stephens Creek**	**37.02**	**160**	P			**P**	**17 33 14.7**	**-0.4**
	1.1nm,0.4s,baz=332,slow=10.0,SNR=4.4								
MKAR	**Makanchi Array**	**58.75**	**325**	P			**P**	**17 36 03.2**	**+0.6**
	0.2nm,0.4s,baz=114,slow=7.4,SNR=4.4								

*PDG **24** 17:26:39.5±0.4, 43.69N×18.81E, h11km, MD3.0/3, ML3.1/14, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*IDC **24** 17:26:40.4±3.0, 43.56N×18.18E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.2/46, mbtmp3.4/3, ML3.4/2, MS2.9/1, Ms1 3.0/1, ms1mx2.2/49, Error ellipse: s-maj=76.9km s-min=13.9km az=40.0*
*BEO **24** 17:26:40.1±0.2, 43.72N×18.77E, h4km±2km, ML2.9/18*
*PRU **24** 17:26:40.2±0.0, 43.70N×18.78E, h0km*
*LDG **24** 17:26:40.7±0.1, 43.69N×18.78E, h4km, Ml3.1/7, Error ellipse: s-maj=4.7km s-min=2.8km az=6.0*
*RHSSO **24** 17:26:40.2±0.2, 43.69N×18.84E, h5km±2km, ML3.2/16*

ISC 24 17:26:39.5±1.1, 43.70N±0.01×18.81E±0.02, h4km±9km, n141, σ1°65/227, 20C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUDO	**Rudo**	**0.42**	**101**	↑*i*Pg			**Pg**	**17 26 46.9**	**-0.7**
RUDO				*e*Sg			**Sg**	**17 26 52.6**	**-0.4**
BBLS	**Lazići**	**0.47**	**69**	*e*Pg			**Pg**	**17 26 49.1**	**+0.6**
BBLS				*e*Sg			**Sb**	**17 26 55.8**	**-1.9**
BBLS	**Lazići**	**0.47**	**69**	↑*i*Pg			**Pg**	**17 26 48.6**	**+0.1**
BBLS				*i* Sg			**Sb**	**17 26 55.8**	**-1.9**
UPM	**Unac-Piva**	**0.50**	**172**	↓*i*Pg			**Pg**	**17 26 49.5**	**+0.3**
UPM				*e*Sg			**Sb**	**17 26 56.7**	**-2.1**
UPM	**Unac-Piva**	**0.50**	**172**	↑*i*Pg			**Pg**	**17 26 48.7**	**-0.5**
UPM				*i* Sg			**Sg**	**17 26 56.5**	**+0.8**
PLE	**Pljevlja**	**0.56**	**131**	*e*Pg			**Pg**	**17 26 49.4**	**-1.0**
PLE				*i* Sg			**Sb**	**17 26 58.7**	**-1.8**
BRY	**Bratogost**	**0.82**	**194**	↓*i*Pg			**Pg**	**17 26 54.7**	**-0.6**
BRY				*e*Sg			**Sg**	**17 27 06.4**	**+0.5**
BRY	**Bratogost**	**0.82**	**194**	↓*i*Pg			**Pg**	**17 26 54.6**	**-0.7**
BRY				*i* Sg			**Sb**	**17 27 07.3**	**-0.7**
NKY	**Niksic**	**0.90**	**171**	↓*i*Pg			**Pg**	**17 26 56.1**	**-0.6**
NKY				*e*Sg			**Sb**	**17 27 10.1**	**0.0**
NKME	**Niksic**	**0.94**	**173**	↑*i*Pg			**Pg**	**17 26 56.6**	**-0.9**
NKME				*i* Sg			**Sb**	**17 27 11.5**	**+0.3**
DIVS	**Divibare**	**0.95**	**65**	*e*Pg			**Pb**	**17 26 58.0**	**-0.6**
DIVS				*e*Sg			**Sb**	**17 27 11.1**	**-0.4**
DIVS	**Divibare**	**0.95**	**65**	↑*i*Pg			**Pg**	**17 26 57.3**	**-0.4**
DIVS				*e*Sg			**Sg**	**17 27 10.0**	**0.0**
SJES	**Sjenica**	**0.96**	**117**	*e*Pg			**Pg**	**17 26 57.4**	**-0.5**
SJES				*e*Sg			**Sg**	**17 27 10.0**	**-0.3**
IVAS	**Ivanjica**	**0.99**	**97**	*e*Pg			**Pg**	**17 26 57.7**	**-0.7**
IVAS				*e*Sg			**Sn**	**17 27 13.1**	**-1.6**
KOME	**Kolasin**	**0.99**	**148**	↓*i*Pg			**Pg**	**17 26 57.8**	**-0.8**
KOME				*i* Sg			**Sb**	**17 27 13.0**	**+0.1**
TREB	**Trebinje**	**1.04**	**199**	*e*Pg			**Pg**	**17 26 59.1**	**-0.3**
TREB				*e*Sg			**Sb**	**17 27 13.5**	**-0.5**
TREB	**Trebinje**	**1.04**	**199**	*e*Pg			**Pg**	**17 26 58.5**	**-0.9**
TREB				*e*Sg			**Sb**	**17 27 13.8**	**-0.2**
BLJ	**Bijeljina**	**1.13**	**17**	↑*i*Pg			**Pg**	**17 26 59.8**	**-1.5**
BLJ				*e*Sg			**Sg**	**17 27 15.3**	**-0.7**
DBRK	**Dubrovnik**	**1.14**	**205**	*e*Pg			**Pg**	**17 27 00.5**	**-0.8**
DBRK				Sg			**Sn**	**17 27 17.8**	**-0.5**
IVA	**Berane**	**1.15**	**136**	↓*i*Pg			**Pg**	**17 27 00.8**	**-0.7**
IVA				*i* Sg			**Sn**	**17 27 18.6**	**-0.1**
DOB	**Doboj**	**1.15**	**334**	*e*Pg			**Pg**	**17 27 01.4**	**-0.2**
DOB				*e*Sg			**Sg**	**17 27 17.2**	**+0.7**
CEME	**Cevo**	**1.16**	**176**	↓*i*Pg			**Pg**	**17 27 00.3**	**-1.4**
CEME				*i* Sg			**Sn**	**17 27 18.6**	**-0.3**
STON	**Ston**	**1.16**	**225**	*e*Pg			**Pg**	**17 27 01.7**	**0.0**
STON				*e*Sg			**Sb**	**17 27 17.4**	**0.0**
STON	**Ston**	**1.16**	**225**	↑*i*Pg			**Pg**	**17 27 01.1**	**-0.6**
STON				*e*Sg			**Sg**	**17 27 16.7**	**0.0**
STON	**Ston**	**1.16**	**225**	*e*Pg			**Pg**	**17 27 00.8**	**-0.9**
STON				Sg			**Sg**	**17 27 17.0**	**+0.4**
RICI	**Ricice**	**1.23**	**261**	*e*Pg			**Pg**	**17 27 02.0**	**-1.1**
TRUS	**Trudelj**	**1.27**	**65**	*e*Pg			**Pb**	**17 27 03.8**	**-0.2**
TRUS				*e*Sg			**Sn**	**17 27 21.5**	**-0.1**
HCY	**Herceg Novi**	**1.27**	**190**	*e*Pg			**Pg**	**17 27 03.2**	**-0.7**
HCY				*e*Sg			**Sg**	**17 27 19.7**	**-0.7**
HCY	**Herceg Novi**	**1.27**	**190**	↑*i*Pg			**Pg**	**17 27 03.1**	**-0.8**
HCY				*i* Sg			**Sn**	**17 27 22.9**	**+1.2**
PDG	**Podgorica**	**1.31**	**165**	↓Pn			**Pg**	**17 27 03.5**	**-1.1**
PDG	**Podgorica**	**1.31**	**165**	↓Sg			**Sn**	**17 27 24.8**	**+2.2**
PDG	**Podgorica**	**1.31**	**165**	*e*Pg			**Pg**	**17 27 03.3**	**-1.4**
PDG				*e*Sg			**Sn**	**17 27 23.7**	**+1.1**
PDG	**Podgorica**	**1.31**	**165**	*e*Pg			**Pg**	**17 27 03.2**	**-1.4**
PDG				*e*Sg			**Sn**	**17 27 21.6**	**-1.0**
TTG	**Podgorica**	**1.31**	**165**	↑*i*Pg			**Pg**	**17 27 03.4**	**-1.3**
TTG				*i* Sg			**Sn**	**17 27 24.0**	**+1.4**
MAKA	**Makarska**	**1.36**	**253**	*e*Pg			**Pn**	**17 27 03.6**	**-1.7**
MAKA				Sg			**Sg**	**17 27 24.1**	**+0.8**
PVY	**Plav**	**1.39**	**142**	↑*i*Pg			**Pn**	**17 27 05.3**	**-0.6**
PVY				*i* Sg			**Sn**	**17 27 26.5**	**+1.7**
GRUS	**Gruza**	**1.40**	**82**	*e*Pg			**Pn**	**17 27 05.2**	**-0.6**
GRUS				*e*Sg			**Sn**	**17 27 26.1**	**+1.4**
BUM	**Brajici-Budva**	**1.40**	**177**	↑*i*Pg			**Pn**	**17 27 04.9**	**-1.0**
BUM				*i* Sg			**Sn**	**17 27 26.8**	**+1.9**
MGRS	**Mrkonjic Grad**	**1.43**	**301**	*e*Pg			**Pn**	**17 27 05.9**	**-0.5**
MGRS				*e*Sg			**Sb**	**17 27 26.6**	**+1.1**
DRME	**Dracevica, Mon**	**1.54**	**169**	*e*Pn			**Pb**	**17 27 08.3**	**-0.3**
DRME				*e*Sn			**Sg**	**17 27 28.1**	**-0.8**
DRME	**Dracevica, Mon**	**1.54**	**169**	*e*Pg			**Pn**	**17 27 07.8**	**0.0**
DRME				*i* Sg			**Sg**	**17 27 30.4**	**+1.5**
BLY	**Banja Luka**	**1.57**	**313**	*e*Pg			**Pn**	**17 27 08.6**	**+0.4**
BLY				*e*Sg			**Sn**	**17 27 29.6**	**+0.6**
BLY	**Banja Luka**	**1.57**	**313**	*e*Pn			**Pn**	**17 27 08.5**	**+0.4**
BLY				*e*Sn			**Sn**	**17 27 29.4**	**+0.4**
FRGS	**Fruska Gora**	**1.63**	**26**	↑Pn			**Pn**	**17 27 07.2**	**-1.8**
FRGS	**Fruska Gora**	**1.63**	**26**	↑Sg			**Sg**	**17 27 32.4**	**+0.7**
FRGS	**Fruska Gora**	**1.63**	**26**	*e*Pg			**Pn**	**17 27 07.2**	**-1.8**
FRGS				*e*Sg			**Sb**	**17 27 31.6**	**+0.6**
FRGS	**Fruska Gora**	**1.63**	**26**	*e*Pn			**Pn**	**17 27 09.1**	**+0.1**
FRGS				*e*Sn			**Sn**	**17 27 30.8**	**+0.4**
A052A	**Srbac**	**1.68**	**327**	*e*Pn			**Pn**	**17 27 10.1**	**+0.4**
A052A				*e*Sn			**Sb**	**17 27 33.0**	**+0.7**
LSTV	**Lastovo**	**1.68**	**237**	*e*Pn			**Pn**	**17 27 09.3**	**-0.4**
LSTV				Sn			**Sg**	**17 27 34.8**	**+1.3**
SELS	**Selova**	**1.75**	**105**	*e*Pg			**Pn**	**17 27 10.9**	**+0.1**
SELS				*e*Sg			**Sg**	**17 27 36.6**	**+0.8**
KIJV	**Kijevo**	**1.76**	**281**	*e*Pn			**Pn**	**17 27 11.8**	**+0.9**
ULC	**Ulcinj**	**1.77**	**169**	↑*i*Pn			**Pn**	**17 27 11.2**	**+0.3**
ULC				*i* Sn			**Sg**	**17 27 36.0**	**-0.2**
HVAR	**Hvar**	**1.79**	**254**	*e*Pn			**Pn**	**17 27 12.0**	**+0.7**
HVAR				Sn			**Sb**	**17 27 37.2**	**+1.4**
A050A	**Klekovaca**	**1.81**	**296**	*e*Pn			**Pn**	**17 27 12.0**	**+0.3**
A050A				*e*Sn			**Sn**	**17 27 36.0**	**+0.8**
SVIS	**Svilajnac**	**1.83**	**71**	*e*Pn			**Pn**	**17 27 12.3**	**+0.5**
SVIS				*e*Sn			**Sg**	**17 27 37.9**	**-0.4**
A051A	**Mrakovica**	**1.89**	**315**	*e*Pn			**Pn**	**17 27 12.9**	**+0.2**
A051A				*e*Sn			**Sn**	**17 27 38.0**	**+1.0**
PRIJ	**Prijedor**	**1.97**	**311**	*e*Pn			**Pn**	**17 27 14.9**	**+1.2**
PRIJ				*e*Sn			**Sn**	**17 27 39.6**	**+0.8**
MORI	**Morici**	**2.25**	**275**	*e*Pn			**Pn**	**17 27 19.6**	**+2.0**
ZIRJ	**Zirje**	**2.29**	**270**	*e*Pn			**Pn**	**17 27 19.2**	**+1.1**
**U

KHC				*e*SN	**Sn**	17 29 29.3	-1.8	
MOTA	**Moosalm**	**6.52**	**307**	*i* Pn	**Pn**	**17 28 19.0**	**+2.6**	
	comp=Z,3.2nm,0.4s,SNR=7.3							
MOTA				*e*Sn	**Sn**	**17 29 33.4**	**+2.1**	
	comp=Z,3.2nm,0.7s							
FETA	**Feichten**	**6.59**	**303**	*e*Pn	**Pn**	**17 28 19.4**	**+2.1**	
	comp=Z,1.8nm,0.7s							
FETA				*e*Sn	**Sn**	**17 29 34.8**	**+1.9**	
	comp=Z,1.7nm,0.6s							
RETA	**Reutte**	**6.79**	**307**	*e*Pn	**Pn**	**17 28 22.3**	**+2.2**	
	comp=Z,0.7nm,0.2s							
RETA				*e*Sn	**Sn**	**17 29 39.3**	**+1.4**	
	comp=Z,3.1nm,0.5s							
DAVA	**Damuels**	**7.22**	**303**	*e*Pn	**Pn**	**17 28 29.1**	**+3.1**	
	comp=Z,0.1nm,0.1s							
DAVA				*e*Sn	Sn	17 29 36.0	-13	
	comp=Z,0.5nm,0.1s							
PGF	**Pioggiola**	**7.27**	**264**	*e*Pn	**Pn**	**17 28 24.4**	**-2.2**	
PGF				*e*Sn	**Sn**	**17 29 43.3**	**-6.3**	
	comp=Z,0.6nm,0.3s							
SBF	**Sospel**	**8.23**	**275**	*e*Pn	**Pn**	**17 28 39.0**	**-0.8**	
MBDF	**Montbardon**	**8.71**	**281**	*e*Pn	**Pn**	**17 28 44.9**	**-1.5**	
MBDF				*e*Sn	**Sn**	**17 30 18.4**	**-6.6**	
	comp=Z,3.8nm,0.7s							
LPG	**La Plagne**	**8.79**	**286**	*e*Pn	**Pn**	**17 28 46.1**	**-1.5**	
LPG	**La Plagne**	**8.79**	**286**	*e*P	**Pn**	**17 28 51.5**	**+3.9**	
LPG				*e*Sn	**Sn**	**17 30 19.8**	**-7.4**	
	comp=Z,5.6nm,0.6s							
LPL	**La Plagne**	**8.80**	**286**	*e*Pn	**Pn**	**17 28 46.4**	**-1.4**	
LPL	**La Plagne**	**8.80**	**286**	*e*P	**Pn**	**17 28 49.8**	**+2.0**	
FRF	**La Foret Royal**	**8.82**	**273**	*e*Pn	**Pn**	**17 28 46.6**	**-1.2**	
LMR	**La Mourre**	**8.94**	**272**	*e*Pn	**Pn**	**17 28 47.4**	**-2.1**	
CDF	**Champ du Feu**	**9.29**	**304**	*e*Pn	**Pn**	**17 28 51.6**	**-2.8**	
HINF	**Hinteralfeld**	**9.31**	**300**	*e*Pn	**Pn**	**17 28 53.3**	**-1.3**	
ORIF	**Oris-en-Rattie**	**9.35**	**282**	*e*Pn	**Pn**	**17 28 53.1**	**-2.0**	
ORIF				*e*Sn	**Sn**	**17 30 34.3**	**-6.4**	
	comp=Z,0.7nm,0.3s							
CABF	**La Chapelle**	**9.45**	**292**	*e*Pn	**Pn**	**17 28 55.0**	**-1.4**	
HAU	**Haudompre**	**9.70**	**301**	*e*Pn	**Pn**	**17 28 58.1**	**-1.7**	
HAU	**Haudompre**	**9.70**	**301**	*e*P	**Pn**	**17 29 03.7**	**+3.9**	
VIVF	**Saint-Julien-l**	**10.20**	**281**	*e*Pn	**Pn**	**17 29 04.8**	**-2.0**	
VIVF				*e*Sn	Sn	17 30 53.3	-8.3	
	comp=Z,0.3nm,0.2s							
PAGF	**Fort de Pagny**	**10.29**	**303**	*e*Pn	**Pn**	**17 29 06.8**	**-1.1**	
	baz=126							
LASF	**Ste Croix**	**10.80**	**277**	*e*P	**Pn**	**17 29 19.5**	**+4.6**	
LOR	**Lormes**	**11.08**	**294**	*e*Pn	**Pn**	**17 29 17.4**	**-1.4**	
	baz=97							
LOR				*e*Sn	Sn	17 31 13.9	-9.2	
	comp=Z,0.6nm,0.2s							
BRTR	**Keskin Array B**	**11.78**	**105**	Pn	Pn	17 29 36.4	+8.0	
	comp=Z,0.1nm,0.3s,baz=300,slow=15,SNR=7.8							
ESDC	**Sonseca Array**	**17.46**	**265**	LR	LR	17 36 38.2		
	comp=Z,40nm,18.1s,baz=346,slow=35							
YKA	**Yellowknife Ar**	**67.77**	**339**	P	**P**	**17 37 38.5**	**+0.5**	
	comp=Z,0.1nm,0.4s,baz=34,slow=5.9,SNR=3.6							

*IDC **24** 17:39:58.8±0.7, 13°.06N×143°.57E, h218km±9km, mb3.5/11, mb1 3.7/11, mb1mx3.5/34, mbtmp4.0/11, Error ellipse: s-maj=23.4km s-min=11.8km az=97.0*
*NEIC **24** 17:39:59.1±0.7, 13°.1N±0°.1×143°.7E±0°.2, h221km±9km, mb4.2/17, Error ellipse: s-maj=23.6km s-min=14.3km az=107.0*

ISC 24 17:39:57.2±0.5, **13°.07N**±0°.09×**143°.35E**±0°.10, **h200**km, **n31**, σ1§**07**/33, **mb3.9**/20, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.56**	**71**	P	**Pn**	**17 40 34.1**	**+2.5**
	24nm,0.3s,baz=349,slow=23,SNR=34						
GUMO				S	**Sn**	**17 40 59.7**	**+1.6**
	89nm,0.3s,baz=169,slow=23,SNR=25						
GUMO	**Guam**	**1.56**	**71**		**Pn**	**17 40 32.7**	**+1.2**
GUMO				Sn	**Sn**	**17 40 59.1**	**+1.0**
RABL	**Rabaul**	**19.26**	**152**	P	**P**	**17 44 04.8**	**-2.0**
WB0	**Warramunga Arr**	**33.80**	**195**	P	**P**	**17 46 20.7**	**+0.1**
WB0				IAmb	IAmb	17 46 21.4	
	comp=Z,5.7nm,0.7s						
WR0	**Warramunga Arr**	**33.95**	**195**	P	**P**	**17 46 22.0**	**+0.1**
WR0				IAmb	IAmb	17 46 22.7	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**33.97**	**195**	P	**P**	**17 46 22.2**	**+0.2**
WRAB				IAmb	IAmb	17 46 23.0	
	comp=Z,7.8nm,0.7s						
WB2	**Warramunga Arr**	**33.98**	**195**	P	**P**	**17 46 22.4**	**+0.3**
WB2				IAmb	IAmb	17 46 23.1	
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**33.99**	**195**	P	**P**	**17 46 22.4**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=15,slow=9.4,SNR=93						
FITZ	**Fitzroy Crossi**	**35.56**	**210**	P	**P**	**17 46 36.2**	**+0.6**
FITZ				IAmb	IAmb	17 46 47.7	
	comp=Z,4.2nm,1.3s						
AS31	**Alice Springs**	**37.66**	**194**	P	**P**	**17 46 53.3**	**-0.1**
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**17 46 53.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=20,slow=11,SNR=34						
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**17 46 53.1**	**-0.2**
CM31	**Chiang Mai Arr**	**42.99**	**283**	P	**P**	**17 47 38.4**	**+1.2**
CM31				IAmb	IAmb	17 48 04.4	
	comp=Z,3.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**42.99**	**283**	P	**P**	**17 47 38.6**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=77,slow=6.6,SNR=6.7						
STKA	**Stephens Creek**	**44.73**	**182**	P	**P**	**17 47 50.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=355,slow=8.6,SNR=5.7						
STKA	**Stephens Creek**	**44.73**	**182**	P	**P**	**17 47 50.0**	**-0.7**
FORT	**Forrest**	**46.01**	**198**	P	**P**	**17 48 01.3**	**+0.5**
BBOO	**Buckleboo**	**46.15**	**189**	P	**P**	**17 48 01.6**	**-0.3**
BBOO				IAmb	IAmb	17 48 18.5	
	comp=Z,29nm,1.4s						
SONM	**Songino Array**	**46.31**	**326**	P	**P**	**17 48 04.7**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.3,SNR=4.9						
LHMI	**Lhok Sumawe**	**46.41**	**265**	P	**P**	**17 48 04.6**	**+0.4**
MA2	**Magadan**	**46.75**	**5**	P	**P**	**17 48 05.0**	**-1.2**
YAK	**Yakutsk**	**49.87**	**352**	P	**P**	**17 48 28.7**	**-1.2**
YAK				IAmb	IAmb	17 48 33.4	
	comp=Z,5.1nm,0.5s						
BILL	**Bilibino**	**56.92**	**10**	P	**P**	**17 49 21.0**	**-0.1**
BILL				IAmb	IAmb	17 49 23.1	
	comp=Z,1.7nm,0.7s						
TIXI	**Tiksi**	**59.20**	**355**	P	**P**	**17 49 34.8**	**-2.1**
MKAR	**Makanchi Array**	**60.84**	**316**	P	**P**	**17 49 49.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=85,slow=7.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**61.19**	**325**	P	**P**	**17 49 51.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=100,slow=7.9,SNR=2.0						
ZALV				PcP	**PcP**	**17 50 30.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=140,slow=3.4,SNR=3.8						
ILAR	**Eielson Array**	**69.66**	**25**	P	**P**	**17 50 43.8**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=247,slow=5.9,SNR=27						
YKA	**Yellowknife Ar**	**83.99**	**27**	P	**P**	**17 52 05.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=286,slow=5.1,SNR=20						
ARCES	**ARCESS Array B**	**87.11**	**342**	P	**P**	**17 52 20.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=46,slow=3.5,SNR=6.2						
ARCES	**ARCESS Array B**	**87.11**	**342**	IAmb	IAmb	17 52 20.5	
	comp=Z,29nm,1.4s						
FINES	**FINESS Array B**	**91.00**	**335**	P	**P**	**17 52 37.3**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=68,slow=5.0,SNR=16						

IDC 24 17:50:19.6±368.0, **66°.40N**×**37°.28E**, **h0**km, **Error ellipse: s-maj=222.5km s-min=111.5km az=55.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**19.20**	**136**	*i*		19 49 40.0	
	baz=336,slow=333,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**25.97**	**95**	*i*		20 29 08.7	
	baz=322,slow=330,SNR=4.2						
I18DK	**QAANAAQ INFRAS**	**29.75**	**335**	*i*		20 51 10.0	
	baz=51,slow=340,SNR=1.3						
I34MN	**SONGINO INFRAS**	**39.40**	**83**	*i*		21 52 00.0	
	baz=328,slow=331,SNR=0.5						
I53US	**FAIRBANKS INFR**	**48.96**	**3**	*i*		22 54 20.0	
	baz=3.2,slow=332,SNR=1.3						

IDC 24 17:55:22.9±5.2, **29°.52S**×**176°.64W**, **h0**km, **mb3.3**/2, **mb1 3.5**/2, **mb1mx3.4**/27, **mbtmp3.3**/2, **Error ellipse: s-maj=293.0km s-min=75.7km az=165.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.35**	**265**	P	P	18 03 35.1	0.0
	0.3nm,0.9s,baz=104,slow=7.8,SNR=6.1						
WRA	**Warramunga Arr**	**45.26**	**271**	P	P	18 03 42.2	-0.2
	0.2nm,0.4s,baz=110,slow=8.0,SNR=9.9						
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf	18 15 00.3	-0.6
	2.6nm,0.9s,baz=20,slow=8.9,SNR=3.3						

*BER **24** 18:01:46.7±2.0, 66°.59N×21°.45E, h0km, ML1.6, Suspected explosion*
*IDC **24** 18:01:49.6±0.9, 67°.05N×20°.95E, h0km, mb1 3.2/5, mb1mx3.0/53, mbtmp3.2/5, ML1.9/4, Error ellipse: s-maj=10.9km s-min=6.0km az=143.0*
*HEL **24** 18:01:49.5±0.1, 67°.05N×20°.96E, h0km, ML2.2, ML2.5(UPP), Explosion*
*UPP **24** 18:01:49.0±0.1, 67°.04N×20°.97E, h0km, ML2.5, Explosion*
*KOLA **24** 18:01:50.3, 67°.14N×20°.61E, h0km, ML2.4*

ISC 24 18:01:49.0±0.8, **67°.05N**±0°.02×**20°.96E**±0°.03, **h0**km, **n57**, σ0§**81**/72, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.17**	**297**	P	**Pg**	**18 01 52.5**	**+0.2**
DUNU	**Dundret**	**0.17**	**297**	*i* P	**Pg**	**18 01 52.5**	**+0.2**
MASU	**Masugnsbyn**	**0.58**	**44**	P	**Pg**	**18 01 60.0**	**-0.1**
MASU	**Masugnsbyn**	**0.58**	**44**	*i* P	**Pg**	**18 01 60.0**	**-0.1**
ERTU	**Ertsjaerv**	**0.69**	**135**	P	**Pg**	**18 02 01.9**	**-0.4**
ERTU	**Ertsjaerv**	**0.69**	**135**	*e*P	**Pg**	**18 02 01.7**	**-0.6**
ERTU				*e*S	**Sg**	**18 02 11.7**	**+0.5**
PAJU	**Pajala**	**0.84**	**90**	P	**Pg**	**18 02 04.6**	**-0.6**
PAJU	**Pajala**	**0.84**	**90**	*e*P	**Pg**	**18 02 04.4**	**-0.8**
	baz=273						
PAJU				*e*SB	**Sg**	**18 02 16.5**	**+0.4**
HARU	**Harads**	**0.89**	**180**	P	**Pg**	**18 02 05.5**	**-0.4**
HARU	**Harads**	**0.89**	**180**	*i* P	**Pg**	**18 02 05.5**	**-0.4**
RATU	**Laukkuluspa**	**0.94**	**327**	P	**Pg**	**18 02 06.4**	**-0.7**
RATU	**Laukkuluspa**	**0.94**	**327**	*e*P	**Pg**	**18 02 06.4**	**-0.7**
SALU	**Saltoluokta**	**1.01**	**291**	P	**Pg**	**18 02 07.8**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**291**	*e*P	**Pg**	**18 02 07.8**	**-0.6**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**18 02 08.7**	**-1.0**
LANU	**Lannavaara**	**1.08**	**21**	*e*P	**Pg**	**18 02 08.6**	**-1.2**
KLF	**Kolari**	**1.19**	**79**	*e*P	**Pg**	**18 02 10.8**	**-1.0**
	baz=265						
KLF				*e*SB	**Sg**	**18 02 27.4**	**+0.3**
KALU	**Kalix**	**1.53**	**140**	P	**Pn**	**18 02 16.9**	**-0.7**
KALU	**Kalix**	**1.53**	**140**	*e*P	**Pn**	**18 02 16.9**	**-0.7**
KALU				*e*SB	**Sn**	**18 02 37.8**	**-0.3**
SJUU	**Sjulsmark**	**1.57**	**170**	P	**Pn**	**18 02 17.6**	**-0.4**
SJUU	**Sjulsmark**	**1.57**	**170**	*e*P	**Pn**	**18 02 17.6**	**-0.4**
TOF	**Tornio**	**1.66**	**124**	*e*P	**Pn**	**18 02 19.1**	**-0.2**
	baz=310						
TOF				MSG		18 02 39.5	
	comp=Z,28nm,0.2s						
TOF				*e*SG	**Sn**	**18 02 41.3**	**+0.1**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**18 02 19.8**	**-0.3**
HEF	**Hetta**	**1.71**	**36**	*e*P	**Pn**	**18 02 19.6**	**-0.5**
HEF				MSG		18 02 40.8	
	comp=Z,15nm,0.2s						
HEF				*e*SN	**Sn**	**18 02 42.8**	**+0.1**
LILU	**Lilltraesk**	**1.82**	**195**	P	**Pn**	**18 02 21.2**	**-0.3**
LILU	**Lilltraesk**	**1.82**	**195**	*e*P	**Pn**	**18 02 21.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pb**	**18 02 25.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*PB	**Pb**	**18 02 24.8**	**-0.8**
KIF				MSG		18 02 48.3	
	comp=Z,27nm,0.2s						
KIF				*e*SG	**Sb**	**18 02 51.6**	**+0.9**
RNF	**Rovaniemi**	**2.05**	**100**	*e*PB	**Pn**	**18 02 25.4**	**+0.7**
RNF				*e*SG	**Sb**	**18 02 53.5**	**+0.5**
KTK1	**Kautokeino**	**2.15**	**22**	*e*P	**Pn**	**18 02 27.3**	**+1.2**
KTK1				IAML		18 02 58.7	
	comp=Z,6.2nm,0.2s						
SGF	**Sodankyl**	**2.20**	**77**	*e*PB	**Pn**	**18 02 27.6**	**+0.8**
	baz=266						
SGF				*e*SG	**Sb**	**18 02 58.1**	**+0.7**
I37NO	**I37NO**	**2.22**	**338**	*i*		18 16 40.0	
	baz=156,slow=327,SNR=9.0						
FAUS	**Fauske**	**2.23**	**281**	*e*P	**Pn**	**18 02 28.0**	**+0.8**
STEI	**Steigen**	**2.37**	**295**	*e*P	**Pn**	**18 02 29.2**	**+0.1**
STEI				IAML		18 03 04.9	
	comp=Z,4.0nm,0.5s						
JETT	**Jettan, Norway**	**2.53**	**356**	*e*P	**Pb**	**18 02 35.3**	**0.0**
OUL	**Oulu**	**2.81**	**132**	*e*PB	**Pn**	**18 02 37.3**	**+2.1**
OBF0	**Syolatti, Pyha**	**2.89**	**151**	*e*P	**Pn**	**18 02 38.0**	**+1.8**
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P	**Pn**	**18 02 37.9**	**-0.1**
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P	**Pn**	**18 02 38.1**	**+0.1**
ARA0				*e*S	**Sn**	**18 03 15.6**	**+0.8**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 02 38.2**	**+0.2**
	baz=216,slow=12,SNR=88						
ARCES				Sn	**Sn**	**18 03 14.8**	**-0.1**
	baz=210,slow=22,SNR=2.3						
ARCES	**ARCESS Array B**	**3.02**	**32**	P	**Pn**	**18 02 38.1**	**+0.2**
ARCES				S	**Sn**	**18 03 15.3**	**+0.5**
OUF	**Merijarvi**	**3.11**	**148**	*e*P	**Pn**	**18 02 39.9**	**+0.7**
OUF				MSG		18 03 20.7	
	comp=Z,3.6nm,0.2s						
VRF	**Varrio**	**3.41**	**74**	*e*P	**Pn**	**18 02 43.6**	**+0.2**
	baz=261						
MSF	**Maaselka**	**3.43**	**106**	*e*P	**Pn**	**18 02 44.4**	**+0.7**
	baz=295						
OLKF	**Oulanka, Finla**	**3.44**	**98**	*e*P	**Pn**	**18 02 44.4**	**+0.7**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 02 45.0**	**+0.1**
	baz=218						
KU6	**Riekki**	**3.72**	**102**	*e*P	**Pn**	**18 02 48.2**	**+0.7**
	baz=291						
HAMF	**Hammerfest**	**3.75**	**14**	*e*P	**Pn**	**18 02 49.2**	**+1.2**
HAMF				IAML		18 03 51.2	
	comp=Z,4.6nm,0.8s						
HUSU	**Husum**	**3.79**	**192**	*e*P	**Pn**	**18 02 49.6**	**+1.0**
VAF	**Ylistaro**	**4.08**	**169**	*e*P	**Pn**	**18 02 53.9**	**+1.3**
APA0	**Apatity Array**	**4.69**	**78**	P	**Pn**	**18 03 02.7**	**+1.7**
APA0				S	**Sn**	**18 03 56.6**	**+0.6**
PRVG	**Vayda Guba**	**4.95**	**52**	P	**Pn**	**18 03 04.9**	**+0.3**
PRVG				S	**Sn**	**18 04 00.1**	**-2.4**
TERR	**Teriberka**	**5.71**	**61**	P	**Pn**	**18 03 16.6**	**+1.7**
TERR				S	**Sn**	**18 04 21.3**	**+0.3**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 03 20.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=10						
FINES				Sn	**Sn**	**18 04 28.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=20,SNR=7.9						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**18 03 37.2**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=32,slow=9.4,SNR=7.0						
HFS	**Hagfors**	**7.65**	**209**	Pn	**Pn**	**18 03 41.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=1.7						
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**18 04 30.3**	**-0.8**
	baz=153,slow=19,SNR=2.0						

*NEIC **24** 18:30:49.6±1.7, 12°.03S±0°.09×167°.0E±0°.2, h228km±6km, mb4.4/18, Error ellipse: s-maj=25.0km s-min=13.3km az=91.0*
*IDC **24** 18:30:52.0±6.1, 12°.18S×166°.94E, h252km±62km, mb3.5/10, mb1 3.8/11, mb1mx3.5/37, mbtmp4.0/11, Error ellipse: s-maj=46.4km s-min=19.6km az=169.0*

ISC 24 18:30:48.4±0.5, **12°.10S**±0°.07×**167°.0E**±0°.2, **h220**km, **n36**, σ1§**21**/38, **mb4.3**/20, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.34**	**177**	Pn	**Pn**	**18 31 45.1**	**+2.1**
MARNC	**Mare, Loyalty**	**9.38**	**174**	Pn	**Pn**	**18 32 59.4**	**-0.1**
DZM	**Mont Dzumac**	**9.94**	**183**	P	**P**	**18 33 09.5**	**-4.2**
	0.8nm,0.3s,baz=176,slow=20,SNR=7.3						
DZM				S	**S**	**18 35 01.6**	**+3.4**
	0.3nm,0.3s,baz=89,slow=23,SNR=0.9						
PINNC	**Pines Island,**	**10.47**	**178**	Pn	**Pn**	**18 33 14.0**	**+0.6**
BKZ	**Black Stump Fm**	**28.25**	**164**	P	**P**	**18 36 20.2**	**-0.9**
QRZ	**Quartz Range**	**29.03**	**171**	P	**P**	**18 36 29.8**	**+1.8**
NNZ	**Nelson**	**29.54**	**170**	P	**P**	**18 36 33.8**	**+1.3**
THZ	**Tophouse**	**30.00**	**171**	P	**P**	**18 36 36.8**	**+0.2**
THZ				IAmb	IAmb	18 36 42.3	
	comp=Z,21nm,1.2s						
PLWZ	**Palliser**	**30.23**	**168**	P	**P**	**18 36 37.5**	**-1.2**
LTZ	**Lake Taylor**	**30.91**	**172**	P	**P**	**18 36 44.4**	**-0.2**
LTZ				IAmb	IAmb	18 37 02.4	
	comp=Z,8.6nm,1.5s						
WR0	**Warramunga Arr**	**32.13**	**252**	P	**P**	**18 36 55.0**	**-0.5**
WB0	**Warramunga Arr**	**32.23**	**252**	P	**P**	**18 36 55.9**	**-0.6**
LBZ	**Lake Benmore**	**32.29**	**176**	P	**P**	**18 36 56.9**	**+0.3**
WRA	**Warramunga Arr**	**32.31**	**252**	P	**P**	**18 36 56.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=83,slow=8.5,SNR=11						
ODZ	**Otahua Downs**	**32.98**	**175**	P	**P**	**18 37 02.3**	**-0.2**
ASAR	**Alice Springs**	**33.46**	**245**	P	**P**	**18 37 05.8**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=74,slow=10.0,SNR=5.9						
CMAR	**Chiang Mai Arr**	**73.67**	**293**	P	**P**	**18 41 60.0**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=122,slow=5.2,SNR=6.0						
BILL	**Bilibino**	**79.92**	**360**	P	**P**	**18 42 32.9**	**+0.4**
BILL				IAmb	IAmb	18 42 33.9	
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**80.24**	**323**	P	**P**	**18 42 35.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=148,slow=5.4,SNR=3.9						
CAST	**Castle Rocks**	**81.57**	**17**	P	**P**	**18 42 41.0**	**-0.2**
CAST				IAmb	IAmb	18 42 42.6	
	comp=Z,4.6nm,0.7s						
RND	**Reindeer**	**82.53**	**18**	P	**P**	**18 42 46.2**	**-0.1**
RND				IAmb	IAmb	18 42 47.0	
	comp=Z,5.8nm,0.5s						
WRH	**Wood River Hil**	**83.54**	**18**	P	**P**	**18 42 51.0**	**-0.3**
WRH				IAmb	IAmb	18 42 51.9	
	comp=Z,9.4nm,1.2s						
YBH	**Yreka Blue Hor**	**83.74**	**45**	P	**P**	**18 42 54.0**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=280,slow=1.1,SNR=5.0						
CCB	**Clear Creek Bu**	**83.75**	**18**	P	**P**	**18 42 52.1**	**-0.3**
CCB				IAmb	IAmb	18 42 52.7	
	comp=Z,4.5nm,0.6s						
MDM	**Murphy Dome**	**83.85**	**18**	P	**P**	**18 42 52.9**	**-0.1**
MDM				IAmb	IAmb	18 42 53.5	
	comp=Z,5.0nm,0.8s						
IL31		**84.11**	**18**	P	**P**	**18 42 54.2**	**0.0**
IL31				IAmb	IAmb	18 42 54.7	
	comp=Z,7.6nm,0.7s						
ILAR	**Eielson Array**	**84.11**	**18**	P	**P**	**18 42 53.9**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=246,slow=5.1,SNR=83						
NVAR	**Mina Array Bea**	**85.75**	**49**	P	**P**	**18 43 03.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=235,slow=8.3,SNR=5.6						
EGAK	**Eagle**	**85.94**	**20**	P	**P**	**18 43 03.6**	**+0.3**
EGAK				IAmb	IAmb	18 43 04.9	
	comp=Z,4.4nm,0.8s						
MKAR	**Makanchi Array**	**95.13**	**317**	P	**P**	**18 43 47.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=94,slow=6.7,SNR=16						
TXAR	**Lajitas Array**	**95.24**	**61**	P	**P**	**18 43 48.0**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=201,slow=3.0,SNR=4.8						
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**18 43 46.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=257,slow=4.8,SNR=11						
ARCES	**ARCESS Array B**	**117.65**	**346**	PKP	**PKiKP**	**18 49 07.4**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=72,slow=2.2,SNR=16						
FINES	**FINESS Array B**	**123.19**	**339**	PKP	**PKiKP**	**18 49 18.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=90,slow=0.6,SNR=4.8						
NOA	**NORSAR Array B**	**128.03**	**345**	PKP	**PKiKP**	**18 49 27.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=356,slow=1.7,SNR=1.5						
ESDC	**Sonseca Array**	**151.39**	**345**	PKPbc	**PKiKP**	**18 50 16.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=24,slow=1.2,SNR=5.7						
ESDC				PKPab	**PKPab**	**18 50 26.5**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=10,slow=3.6,SNR=8.0						

*IDC **24** 18:32:09.7±4.4, 12°.82N×125°.90E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/41, Error ellipse: s-maj=332.5km s-min=28.5km az=65.0*
*MAN **24** 18:32:12.7, 12°.92N×125°.60E, h40km, mb4.7, ML3.5, MS3.4*

ISC 24 18:32:10.9±1.9, **13°.04N**±0°.09×**125°.9E**±0°.2, **h40**km, **n16**, σ1§**46**/7, **mb3.5**/3, **1C-8D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.50**	**198**	*i* P	**Pn**	**18 32 34.5**	**-0.9**
PVCP	**Virac**	**1.80**	**288**	*i* P	**Pn**	**18 32 38.6**	**-0.9**
MSLP	**Maasin**	**3.06**	**200**	*i* P	Pn	18 32 59.8	+2.9
LLP	**Lapu-Lapu**	**3.31**	**215**	*i* P	**Pn**	**18 32 59.7**	**-0.6**
LLP				*e*S	**Sn**	**18 33 39.4**	**+1.0**
RCP	**Roxas**	**3.43**	**245**	*e*P	Pn

TSMG	**Majia** baz=321	**0.48**	**321**	P	Pb	18 56 43.3	-0.1
TSMG	baz=321			S	Sb	18 56 50.9	+0.6
SSD	**Sandimen** baz=323	**0.52**	**323**	P	Pb	18 56 43.9	-0.2
SSD	baz=323			S	Sb	18 56 52.0	+0.6
SSD	**Sandimen** baz=178	**0.52**	**323**	S	Pg	18 56 44.3	+0.8
LAY	**Lan-yu** baz=118	**0.61**	**118**	*e*P	Pb	18 56 45.7	+0.1

TAP 24 19:07:43.5, 23.19N×120.96E, h11km±1km, ML0.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau** baz=96	**0.05**	**96**	P	Pg	19 07 46.5	+0.8
ELDTW	baz=96			S	Sg	19 07 47.8	+0.5
STYT	**Tauyuan** baz=259	**0.19**	**261**	*e*P	Pg	19 07 48.3	+0.7
TWF1	**Yuli** baz=63	**0.35**	**63**	P	Pb	19 07 51.8	+0.1
TWF1	baz=63			S	Sb	19 07 57.2	-0.1
YULB	**Yu-li** baz=57	**0.37**	**57**	P	Pb	19 07 52.1	0.0
YULB	baz=57			S	Sb	19 07 57.3	-0.5
EDH	**Donghe** baz=124	**0.38**	**125**	P	Pb	19 07 51.8	-0.5
EDH	baz=124			S	Sb	19 07 58.3	0.0

TAP 24 19:07:45.8, 23.17N×120.89E, h2km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan** baz=265	**0.11**	**270**	*e*P	Pg	19 07 48.2	+0.2
STYH	baz=265			*e*S	Sg	19 07 51.0	+1.6
STYH	**Taoyuan** baz=274	**0.11**	**270**	P	Pg	19 07 48.6	+0.6
STYH	baz=274			*i* S	Sg	19 07 51.0	+1.6
ELDTW	**Lidau** baz=82	**0.12**	**81**	*e*P	Pg	19 07 50.2	+2.1
ELDTW	baz=82			S	Sg	19 07 51.5	+1.9
STYT	**Tauyuan** baz=264	**0.13**	**266**	*i* P	Pg	19 07 49.3	+1.0
STYT	baz=264			*i* S	Sg	19 07 51.5	+1.5
STYT	**Tauyuan** baz=259	**0.13**	**266**	*e*S	Sg	19 07 51.5	+1.5
WTP	**Ta-pu** baz=286	**0.27**	**286**	P	Pb	19 07 52.2	-1.2
WTP	baz=286			*e*S	Sb	19 07 57.6	-0.9
TPUB	**Ta-pu** baz=297	**0.28**	**298**	*e*P	Pg	19 07 52.3	+1.2
TPUB	baz=297			*e*S	Sb	19 07 57.5	-1.1
YUS	**Yu-Shan** baz=10.0	**0.32**	**10**	*e*P	Pb	19 07 53.5	-1.1
ALS	**Alishan** baz=347	**0.35**	**346**	P	Pb	19 07 54.0	-0.9
ALS	baz=347			S	Sb	19 07 60.0	-1.1
FULB	**Fuli** baz=85	**0.37**	**86**	P	Pb	19 07 54.7	-0.5
FULB	baz=85			S	Sb	19 08 01.1	-0.3
SSD	**Sandimen** baz=208	**0.49**	**210**	*e*P	Pb	19 07 56.5	-0.6

IDC 24 19:29:16.5±3.8, 5.67S×151.38E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/21, mbtmp3.3/2, Error ellipse: s-maj=145.6km s-min=50.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=54,slow=10,SNR=13	**21.81**	**228**	P	P	19 34 10.5	-0.1
ASAR	**Alice Springs** 0.7nm,0.8s,baz=58,slow=8.8,SNR=13	**24.56**	**221**	P	P	19 34 38.4	+0.1
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=74,slow=2.3,SNR=4.6	**149.21**	**286**	PKPbc	PKPbc	19 49 07.6	-0.6

IDC 24 19:37:38.5±2.1, 7.02S×129.08E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=112.4km s-min=32.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=338,slow=13,SNR=22	**13.82**	**159**	Pn	Pn	19 40 55.0	-1.0
WRA	0.2nm,0.3s,baz=336,slow=23,SNR=7.0			Sn	Sn	19 43 16.7	-14
ASAR	**Alice Springs** 0.1nm,0.3s,baz=339,slow=8.7,SNR=8.6	**17.19**	**165**	P	Pn	19 41 41.1	+0.8
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=119,slow=8.1,SNR=4.9	**67.74**	**327**	P	P	19 48 38.0	0.0

IDC ***24*** *19:51:33.0±2.4, 36.94N×46.96E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.7/37, mbtmp3.8/14, ML4.0/3, MS3.1/10, Ms1 3.1/10, ms1mx2.8/88, Error ellipse: s-maj=41.0km s-min=13.2km az=34.0*

AZER ***24*** *19:51:32.6±0.2, 37.09N×47.29E, h7km, Error ellipse: s-maj=3.2km s-min=2.5km az=16.0*

TEH ***24*** *19:51:35.9, 37.29N×47.15E, h19km, ML4.2*

NEIC ***24*** *19:51:37.5±2.2, 37.1N±0.1×47.36E±0.10, h13km±7km, mb3.8/11, mb_Lg4.4(TEH), Error ellipse: s-maj=20.0km s-min=10.8km az=188.0*

NNC ***24*** *19:51:38.5±1.9, 37.42N×47.55E, h0km, mb4.0, Error ellipse: s-maj=26.4km s-min=20.1km az=20.0*

ISC 24 19:51:35.2±1.3, 37.23N±0.03×47.16E±0.03, h3km±9km, n174, σ2.910/196, mb3.8/13, MS3.1/5, 11C-4D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	**Bostanabad**	**0.52**	**336**	*e*Pg	**Pg**	**19 51 45.5**	**+0.3**
IBST				*e*Sg	**Sg**	**19 51 52.8**	**+0.8**
ISRB	**Sarab**	**0.72**	**34**	*e*Pg	**Pg**	**19 51 48.9**	**-0.2**
ISRB				*e*Sg	**Sg**	**19 51 59.0**	**+0.6**
IAZR	**Azarshahr**	**1.04**	**296**	*e*Pg	**Pb**	**19 51 55.4**	**-0.7**
TAB1	**Tabriz**	**1.05**	**322**	*e*Pg	**Pb**	**19 51 55.7**	**-0.5**
IHRS	**Heris**	**1.09**	**355**	*e*Pg	**Pb**	**19 51 55.8**	**-1.2**
IHRS	comp=Z,36μm,0.4s			*e*		19 52 14.9	
MAHB	**Mahabad**	**1.25**	**249**	*e*Pg	**Pn**	**19 51 58.8**	**-1.0**
MAHB	comp=Z,57μm,0.3s			*e*		19 52 16.3	
ITBZ	**Tabriz**	**1.29**	**322**	*e*Pg	**Pn**	**19 51 58.2**	**-2.1**
ITBZ				*e*Sg	**Sb**	**19 52 15.4**	**-1.8**
TVRZ	**Varzaqan**	**1.33**	**343**	*e*Pg	**Pn**	**19 52 00.3**	**-0.7**
TVRZ	comp=Z,93μm,0.2s			*e*		19 52 21.0	
ZNJK	**Zanjan**	**1.34**	**114**	*e*Pg	**Pn**	**19 51 59.7**	**-1.4**
CSN1	**Caspian**	**1.58**	**77**	*e*Pn	**Pn**	**19 52 04.4**	**+0.3**
ISHB	**Shabestar** comp=Z,74μm,0.3s	**1.62**	**311**	*e*		19 52 28.3	
ISHB				*e*Pn	**Pn**	**19 52 04.4**	**-0.5**
LRK	**Lerik**	**1.69**	**33**	*e*Pn	**Pn**	**19 52 06.6**	**+0.8**
LRK	**Lerik** SNR=207	**1.69**	**33**	P	**Pn**	**19 52 06.7**	**+0.8**
LRK				S	**Sg**	**19 52 30.3**	**+0.6**
ASTR	**Astara**	**1.85**	**44**	*e*Pn	**Pn**	**19 52 08.5**	**+0.6**
ASTR	**Astara** SNR=628	**1.85**	**44**	P	**Pn**	**19 52 08.5**	**+0.6**
ASTR				S	**Sg**	**19 52 34.4**	**-0.4**
IMRD	**Marand**	**1.88**	**323**	*e*Pn	**Pb**	**19 52 10.0**	**-0.3**
IMRD				*e*		19 52 39.5	
	comp=Z,60μm,0.3s						
YRD	**Yardimli**	**1.89**	**26**	*e*Pn	**Pb**	**19 52 10.3**	**-0.2**
YRD	**Yardimli** SNR=102	**1.89**	**26**	P	**Pb**	**19 52 10.4**	**-0.2**
YRD				S	**Sg**	**19 52 36.9**	**+0.9**
ORD	**Ordubad**	**1.93**	**332**	*e*Pn	**Pb**	**19 52 11.4**	**+0.3**
ORD	**Ordubad** SNR=1768	**1.93**	**332**	P	**Pb**	**19 52 11.5**	**+0.3**
ORD				S	**Sg**	**19 52 39.3**	**+2.0**
LKRN	**Lenkeran, Azer** SNR=250	**1.96**	**40**	P	**Pn**	**19 52 10.4**	**+1.1**
LKRN				S	**Sg**	**19 52 38.1**	**0.0**
RST1	**Rasht - Gilan**	**1.97**	**89**	*e*Pn	**Pn**	**19 52 10.6**	**+1.1**
JIR1	**Jirandeh**	**2.18**	**103**	*e*Pn	**Pn**	**19 52 13.8**	**+1.3**
GLBA	**Clilabad** SNR=20	**2.23**	**25**	P	**Pn**	**19 52 14.8**	**+1.6**
GLBA				S	**Sb**	**19 52 44.9**	**+0.6**
QRD	**Qoradiz** SNR=169	**2.24**	**3**	P	**Pb**	**19 52 15.0**	**-1.3**
QRD				S	**Sg**	**19 52 46.6**	**-0.4**
LHJ2	**Lahijan - Gila**	**2.32**	**91**	*e*Pn	**Pn**	**19 52 16.4**	**+2.1**
NAX	**Nakhchivan** SNR=59	**2.35**	**326**	P	**Pb**	**19 52 17.5**	**-0.7**
NAX				S	**Sg**	**19 52 50.2**	**-0.4**
QCNT	**Qazvin**	**2.47**	**111**	*e*Pn	**Pn**	**19 52 18.0**	**+1.5**
QCNT	comp=Z,30μm,0.3s			*e*		19 53 00.1	
SBZ	**Shahbuz** SNR=176	**2.51**	**330**	P	**Pb**	**19 52 19.6**	**-1.4**
SBZ				S	**Sg**	**19 52 56.7**	**+0.9**
BLQ	**Beylaqan** SNR=105	**2.51**	**7**	P	**Pb**	**19 52 19.2**	**-1.7**
BLQ				S	**Sg**	**19 52 54.8**	**-1.1**
IGZV	**Ghazvin**	**2.59**	**108**	*e*Pn	**Pn**	**19 52 18.7**	**+0.4**
IDHR	**Dehrash**	**2.60**	**194**	*e*Pn	**Pn**	**19 52 20.9**	**+2.6**
IDHR	comp=Z,6μm,0.9s			*e*		19 53 07.2	
IBZA	**Bozab**	**2.81**	**168**	*e*Pn	**Pn**	**19 52 24.3**	**+3.0**
IBZA	comp=Z,6μm,0.5s			*e*		19 53 08.1	
SAAT	**Saatly** SNR=11	**2.81**	**20**	P	**Pb**	**19 52 27.8**	**+1.8**
SAAT				S	**Sb**	**19 53 01.8**	**+0.9**
KER	**Kermanshah**	**2.83**	**180**	*e*Pn	**Pn**	**19 52 24.4**	**+2.9**
CUKT	**Cukurca**	**2.84**	**272**	P	**Pb**	**19 52 25.5**	**-1.1**
CUKT	**Cukurca**	**2.84**	**272**	S	**Sg**	**19 53 06.4**	**+0.1**
AGDM	**Agdam** SNR=92	**2.88**	**359**	P	**Pn**	**19 52 24.0**	**+2.0**
AGDM				S	**Sb**	**19 53 04.4**	**+1.5**
IRAZ	**Razeghan**	**2.88**	**128**	*e*Pn	**Pn**	**19 52 23.1**	**+0.9**
IRAZ	comp=Z,6μm,0.7s			*e*		19 53 13.0	
MAKU	**Maku**	**2.88**	**318**	*e*Pn	**Pn**	**19 52 23.7**	**+1.4**
HAGD	**Aghdareh**	**2.89**	**146**	*e*Pn	**Pn**	**19 52 23.9**	**+1.6**
QALM	**Alamut, Qazvin**	**2.91**	**105**	*e*Pn	**Pn**	**19 52 22.5**	**-0.1**
QALM	comp=Z,23μm,0.8s			*e*		19 53 18.5	
IGHG	**Ghaleghazi**	**2.93**	**190**	*e*Pn	**Pn**	**19 52 24.2**	**+1.3**
KCHF	**Cheshme Sefid,**	**2.95**	**182**	*e*Pn	**Pn**	**19 52 25.4**	**+2.3**
BRDA	**Brd** SNR=18	**3.03**	**0**	P	**Pn**	**19 52 26.3**	**+2.2**
BRDA				S	**Sb**	**19 53 08.8**	**+1.5**
ZRD	**Zardab** SNR=6.7	**3.08**	**7**	P	**Pn**	**19 52 27.3**	**+2.6**
ZRD				S	**Sb**	**19 53 08.0**	**-0.5**
HYR	**Heyderabad** SNR=38	**3.08**	**325**	P	**Pn**	**19 52 27.9**	**+3.0**
HYR				S	**Sb**	**19 53 10.6**	**+1.9**
ALIB	**Äli-Bayra**	**3.09**	**27**	P	**Pb**	**19 52 32.6**	**+1.9**
ALIB				S	**Sg**	**19 53 15.8**	**+1.5**
CLDR	**Caldiran**	**3.19**	**308**	*i* P	**Pn**	**19 52 29.7**	**+3.2**
IMHD	**Mahdasht**	**3.22**	**117**	*e*Pn	**Pn**	**19 52 27.6**	**+0.8**
IMHD	comp=Z,5μm,0.5s			*e*		19 53 22.1	
VANB	**Van**	**3.28**	**296**	*e*P	**Pb**	**19 52 32.1**	**-2.1**
GEVA	**Gevas**	**3.43**	**290**		**Pn**	**19 52 33.4**	**+3.7**
CHTH	**Charan**	**3.45**	**111**	*e*Pn	**Pn**	**19 52 30.4**	**+0.3**
GANJ	**Ganja** SNR=14	**3.48**	**349**	P	**Pn**	**19 52 32.3**	**+2.0**
GANJ				S	**Sb**	**19 53 18.7**	**-1.4**
GNI	**Garni**	**3.48**	**328**	Pn	**Pn**	**19 52 33.9**	**+3.4**
GNI	comp=Z,23nm,0.3s,baz=291,slow=0.8,SNR=30			Pg	**Pb**	**19 52 39.4**	**+1.9**
GNI	comp=Z,33nm,0.3s,baz=202,slow=2.2,SNR=40			Lg	Lg	19 53 30.7	
GNI	comp=Z,22nm,0.3s,baz=334,slow=17,SNR=2.0						
GNI	**Garni**	**3.48**	**328**	*e*P	**Pn**	**19 52 34.0**	**+3.6**
GNI	**Garni**	**3.48**	**328**		**Pn**	**19 52 33.5**	**+3.1**
AKDM	**Akdamar-Van**	**3.49**	**290**	*e*P	**Pb**	**19 52 35.9**	**-1.9**
IDOB	**Doab**	**3.53**	**166**	*e*Pn	**Pn**	**19 52 33.5**	**+2.3**
MNGR	**Mingechevir, A** SNR=13	**3.54**	**359**	P	**Pb**	**19 52 34.9**	**-3.6**
MNGR				S	**Sb**	**19 53 18.3**	**-3.6**
TASB	**TASBURUN-IGDIR**	**3.58**	**321**	*e*P	**Pb**	**19 52 36.3**	**-2.9**
IML	**Ismayilli** SNR=6.1	**3.65**	**12**	P	**Pn**	**19 52 35.2**	**+2.6**
IML				S	**Sb**	**19 53 22.2**	**-2.9**
QJF1	**Jafarie**	**3.65**	**131**	*e*Pn	**Pn**	**19 52 33.1**	**+0.3**
GDB	**GEDABAY** SNR=16	**3.66**	**343**	P	**Pn**	**19 52 35.9**	**+3.0**
GDB				S	**Sb**	**19 53 21.8**	**-3.7**
TEH	**Tehran** comp=Z,9μm,0.7s	**3.71**	**112**	*e*		19 53 48.3	
TEHA	**Amirabad Tehra**	**3.71**	**112**	*e*Pn	**Pn**	**19 52 35.2**	**+1.6**
TEHA	comp=Z,9μm,0.9s			*e*		19 53 42.7	
PQL	**Pirkuli** SNR=6.4	**3.73**	**17**	P	**Pn**	**19 52 36.2**	**+2.3**
PQL				S	**Sb**	**19 53 23.5**	**-3.9**
IKFM	**Kafar-mosalman**	**3.74**	**171**	*e*Pn	**Pn**	**19 52 36.2**	**+2.4**
QBL	**Gabala** SNR=13	**3.75**	**8**	P	**Pn**	**19 52 37.0**	**+2.9**
QBL				S	**Sb**	**19 53 25.2**	**-2.8**
IHSB	**Hasanabad**	**3.77**	**117**	*e*Pn	**Pn**	**19 52 35.4**	**+1.0**
IHSB	comp=Z,2μm,0.6s			*e*		19 52 53.6	
ATGJ	**Altiaghaj** SNR=9.0	**3.88**	**20**	P	**Pn**	**19 52 38.1**	**+2.2**
ATGJ				S	**Sb**	**19 53 26.6**	**-5.3**
IQOM	**Qom**	**3.96**	**126**	*e*Pn	**Pn**	**19 52 37.5**	**+0.4**
SEKA	**Sheki** SNR=11	**3.98**	**0**	P	**Pn**	**19 52 38.7**	**+1.5**
SEKA				S	**Sb**	**19 53 29.7**	**-4.9**
XNQ	**Khinaliq** SNR=6.1	**4.01**	**11**	P	**Pn**	**19 52 39.5**	**+1.7**
XNQ				S	**Sn**	**19 53 29.5**	**+4.1**
QZX	**Qazax, Azerbai** SNR=15	**4.07**	**341**	P	**Pn**	**19 52 41.5**	**+3.1**
QZX				S	**Sb**	**19 53 32.3**	**-4.9**
SIZA	**Siyzn** SNR=12	**4.08**	**19**	P	**Pn**	**19 52 41.0**	**+2.5**
SIZA				S	**Sn**	**19 53 30.5**	**+3.7**
MLAZ	**Malazgirt-MUS**	**4.11**	**299**	*e*P	**Pb**	**19 52 44.8**	**-3.4**
KHMZ	**Khomeyn**	**4.16**	**146**	*e*Pn	**Pn**	**19 52 42.7**	**+2.9**
DAMV	**Damavand**	**4.19**	**111**	*e*Pn	**Pn**	**19 52 41.0**	**+0.7**
QUBA	**Quba, Azerbaij** SNR=3.1	**4.25**	**14**	P	**Pn**	**19 52 43.5**	**+2.6**
QUBA				S	**Sb**	**19 53 37.6**	**-4.8**
IDMV	**Damavand** comp=Z,4μm,1.0s	**4.26**	**111**	*e*Pn	**Pn**	**19 52 42.2**	**+0.9**
IDMV				*e*		19 53 58.4	
GURO	**Guroymak-BITLI**	**4.27**	**290**	P	**Pb**	**19 52 46.9**	**-4.1**
GURO	**Guroymak-BITLI**	**4.27**	**290**		**Pn**	**19 52 44.6**	**+3.4**
IPRN	**Peran**	**4.27**	**102**	*e*Pn	**Pn**	**19 52 42.5**	**+1.2**
IPRN	comp=Z,9μm,0.6s			*e*		19 53 55.1	
IVRN	**Varamin** comp=Z,2μm,0.4s	**4.32**	**120**	*e*Pn	**Pn**	**19 52 42.7**	**+0.9**
IVRN				*e*		19 54 01.8	
GHVR	**GHOM**	**4.33**	**128**	*e*Pn	**Pn**	**19 52 42.9**	**+0.8**
QSAR	**Qusar** SNR=5.0	**4.37**	**11**	P	**Pn**	**19 52 44.2**	**+1.7**
QSAR				S	**Sb**	**19 53 40.2**	**-5.5**
ZKTA	**Zakatala** SNR=12	**4.43**	**355**	P	**Pn**	**19 52 45.5**	**+2.2**
ZKTA				S	**Sb**	**19 53 40.7**	**-6.7**
KARS	**Kars**	**4.66**	**318**		**Pn**	**19 52 49.2**	**+2.6**
IFIR	**Firoozkooh**	**4.78**	**108**	*e*Pn	**Pn**	**19 52 50.1**	**+1.7**
VRTB	**Varto-Mus**	**4.89**	**295**	*e*P	Pn	19 52 55.4	+5.6
QAMS	**Qamsar**	**4.91**	**134**	*e*Pn	**Pn**	**19 52 51.7**	**+1.6**
ISFB	**Sefidab**	**5.03**	**123**	*e*Pn	**Pn**	**19 52 52.0**	**+0.4**
ILAS	**Lasjerd**	**5.03**	**110**	*e*Pn	**Pn**	**19 52 53.8**	**+2.0**
MARD	**Mardin**	**5.09**	**273**		**Pn**	**19 52 54.9**	**+2.4**
ISHM	**Shahmirzad**	**5.14**	**104**	*e*Pn	**Pn**	**19 52 55.6**	**+2.3**
ISHM	comp=Z,2μm,0.6s			*e*		19 54 24.6	
KRSH	**Karshahi**	**5.19**	**127**	*e*Pn	**Pn**	**19 52 55.5**	**+1.5**
IKLH	**Kolahrood**	**5.32**	**136**	*e*Pn	**Pn**	**19 52 58.4**	**+2.7**
IGLO	**Ghaloghah**	**5.40**	**96**	*e*Pn	**Pn**	**19 52 58.0**	**+1.2**
BNGB	**Bingl**	**5.41**	**291**	*e*P	Pn	19 53 02.9	+6.0
IPIR	**Pirpir**	**5.47**	**145**	*e*Pn	**Pn**	**19 53 01.1**	**+3.2**
IANJ	**Anjilo**	**5.73**	**106**	*e*Pn	**Pn**	**19 53 03.5**	**+2.1**
SHK1	**Shahrekord**	**5.77**	**147**	*e*Pn	**Pn**	**19 53 03.7**	**+1.8**
IZEF	**Zefreh**	**6.05**	**134**	*e*Pn	**Pn**	**19 53 08.0**	**+2.1**
ONI	**Oni**	**6.07**	**333**	Pg	**Pb**	**19 53 24.6**	**+3.0**
ANAR	**Anarak**	**6.72**	**125**	*e*Pn	**Pn**	**19 53 16.5**	**+1.6**
IRAM	**Ramesheh**	**6.91**	**140**	*e*Pn	**Pn**	**19 53 19.5**	**+1.9**
MRVT	**Maraveh tapeh**	**7.12**	**84**	*e*Pn	**Pn**	**19 53 19.9**	**-0.4**
KLNJ	**Kolanjah**	**7.21**	**148**	*e*Pn	**Pn**	**19 53 24.1**	**+2.3**
SHRO	**Shahrood**	**7.22**	**97**	*e*Pn	**Pn**	**19 53 23.1**	**+1.3**
KBZ	**Khabaz** comp=Z,158nm,19.7s,baz=146,slow=41	**7.26**	**335**	LR	LR	19 56 38.2	
YZKH	**Yazd**	**7.78**	**126**	*e*Pn	**Pn**	**19 53 30.5**	**+1.0**
BJRD	**Bojnurd**	**8.16**	**84**	*e*Pn	**Pn**	**19 53 35.1**	**+0.4**
SBZV	**Sabzevar**	**8.42**	**93**	*e*Pn	**Pn**	**19 53 39.4**	**+1.0**
ISFR	**Sfrayin**	**8.66**	**88**	*e*Pn	**Pn**	**19 53 43.1**	**+1.4**
GEYT	**Alibeck** comp=Z,1.1nm,0.3s,baz=263,slow=21,SNR=12	**8.73**	**82**	Pn	**Pn**	**19 53 41.7**	**-0.7**
GEYT	**Alibeck**	**8.73**	**82**	Pn	**Pn**	**19 53 40.2**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**8.73**	**82**	Pn	**Pn**	**19 53 40.6**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**8.73**	**82**	⇓P	**Pn**	**19 53 42.1**	**-0.3**
GYA0B				⇑S	**Sn**	**19 55 17.5**	**-3.8**
TPRV	**Parvadeh(Tabas**	**8.85**	**115**	*e*Pn	**Pn**	**19 53 45.4**	**+1.2**
TABS	**Tabas**	**8.87**	**111**	*e*Pn	**Pn**	**19 53 45.2**	**+0.7**
TKDS	**Koohdasht(Taba**	**8.89**	**111**	*e*Pn	**Pn**	**19 53 45.9**	**+1.2**
IAKL	**Akhelmad**	**9.31**	**90**	*e*Pn	**Pn**	**19 53 52.0**	**+1.4**
IPAY	**Payeh**	**9.52**	**91**	*e*Pn	**Pn**	**19 53 54.4**	**+1.0**
IKRD	**Kardeh**	**9.89**	**89**	*e*Pn	**Pn**	**19 53 59.3**	**+0.7**
AFRZ	**Afriz**	**10.40**	**108**	*e*Pn	**Pn**	**19 54 07.3**	**+1.9**
IMYA	**Miami**	**10.42**	**91**	*e*Pn	**Pn**	**19 54 07.4**	**+1.7**
MMAI	**Mount Meron Ar** comp=Z,54nm,20.2s,baz=232,slow=44	**10.50**	**250**	LR	LR	19 59 03.9	
IKOO	**Kooshah**	**10.85**	**113**	*e*Pn	**Pn**	**19 54 14.9**	**+3.3**
BR131	**Keskin Array S**	**10.89**	**287**	Pn	**Pn**	**19 54 12.6**	**+0.5**
BSRN	**Basiran**	**11.17**	**115**	*e*Pn	**Pn**	**19 54 16.9**	**+1.0**
SHRT	**Shahrakht**	**11.29**	**105**	*e*Pn	**Pn**	**19 54 18.3**	**+0.8**
EIL	**Elat** comp=Z,63nm,20.0s,baz=62,slow=43	**12.67**	**237**	LR	LR	20 00 30.4	
AB31	**Akbulak array** comp=Z,1.2nm,0.5s,baz=218,slow=13,SNR=30	**15.18**	**34**	⇑P	**Pn**	**19 55 07.8**	**-2.6**
AB31	comp=Z,2.3nm,0.9s,baz=220,slow=22,SNR=2.6			⇓S	**Sn**	**19 57 57.6**	**-1.5**
ABKAR	**Akbulak array**	**15.18**	**34**		**Pn**	**19 55 07.8**	**-2.7**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.3s,baz=210,slow=14,SNR=11	**15.33**	**27**	Pn	**Pn**	**19 55 13.2**	**+0.8**
AKTO	**Aktyubinsk** comp=Z,5.1nm,0.7s	**15.33**	**27**	⇑P	**Pn**	**19 55 12.8**	**+0.4**
AKTO	comp=Z,2.3nm,0.6s			⇑S	**Sn**	**19 57 59.7**	**-2.9**
WSAR	**Wadi Sarin** comp=Z,50nm,19.0s,baz=343,slow=40	**17.08**	**141**	LR	LR	20 02 53.4	
CHGR	**Chuyangaron**	**17.41**	**79**	Pn	**Pn**	**19 55 36.0**	**-3.2**
CHGR	comp=Z,15nm,1.3s			IAmb	IAmb	19 55 53.3	
PLOR	**Plostina**	**17.57**	**306**	⇑P	P	19 55 49.0	+6.8
MLR	**Muntele Rosu**	**17.90**	**304**	⇑P	**P**	**19 55 50.9**	**+4.9**
MLR	**Muntele Rosu** comp=Z,49nm,21.9s,baz=72,slow=35	**17.90**	**304**	LR	LR	20 02 00.6	
GAR	**Garm**	**18.30**	**77**		**Pn**	**19 55 49.3**	**-1.0**
VOIR		**18.48**	**303**	⇑P	**Pn**	**19 55 53.5**	**+1.2**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=126,slow=13,SNR=12	**18.59**	**322**	P	**P**	**19 55 52.5**	**-0.9**
AKASG	**Malin Array Be** comp=Z,4.5nm,1.4s	**18.59**	**322**	IAmb	IAmb	19 55 53.6	
KK09	**Karatay Array** comp=Z,2.4nm,0.7s	**18.75**	**64**	⇑P	**Pn**	**19 55 56.6**	**+0.9**
KKAR	**Karatay Array**	**18.76**	**65**		**P**	**19 55 54.5**	**-0.9**
BURAR	**Bucovina Array**	**19.18**	**310**	⇑P	**P**	**19 55 57.9**	**-2.1**
BURAR	**Bucovina Array**	**19.18**	**310**	P	**P**	**19 55 59.9**	**-0.1**
GZR	**Gura Zlata**	**20.00**	**302**	⇓P	**P**	**19 56 09.1**	**+0.2**
ARU	**Arti** comp=Z,0.7nm,0.5s,baz=202,slow=9.8,SNR=5.2	**20.68**	**18**	P	Pn	19 56 18.3	-0.2
ARU	comp=Z,45nm,19.1s,baz=76,slow=39			LR	LR	20 05 05.4	
BZS	**Buzias**	**20.84**	**302**	⇑P	Pn	19 56 20.1	-0.4
AAK	**Ala-Archa** comp=Z,1.4nm,0.5s,baz=208,slow=5.3,SNR=10.0	**21.60**	**67**	P	**P**	**19 56 27.4**	**+1.1**
AAK	comp=Z,44nm,21.8s,baz=276,slow=41			LR	LR	20 06 28.1	
BVAR	**Borovoye Array** comp=Z,1.2nm,0.5s,baz=230,slow=21,SNR=6.9	**22.61**	**38**	P	**P**	**19 56 37.7**	**+0.8**
KSH	**Kashi**	**22.67**	**75**	P	**P**	**19 56 35.3**	**-2.5**
KSH	comp=Z,3.0nm,0.8s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,1.6nm,0.8s,baz=257,slow=9.4,SNR=12	**26.04**	**49**	P	**P**	**19 57 10.6**	**+1.0**
KURBB	**Kurchatov Arra** comp=Z,4.6nm,1.4s	**26.04**	**49**	⇓P	**P**	**19 57 09.7**	**+0.2**
KURK	**Kurchatov**	**26.12**	**49**	P	**P**	**19 57 10.6**	**+0.2**
KURK	**Kurchatov** comp=Z,4.3nm,1.1s	**26.12**	**49**	⇑P	**P**	**19 57 10.5**	**+0.2**
MK31	**Makanchi Array** comp=Z,1.5nm,0.8s	**27.60**	**59**	P	**P**	**19 57 23.9**	**+0.2**
MK31				IAmb	IAmb	19 57 42.3	
MK31	**Makanchi Array** comp=Z,1.2nm,0.7s,baz=262,slow=5.9,SNR=17	**27.60**	**59**	P	**P**	**19 57 24.4**	**+0.7**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.7s,baz=259,slow=8.1,SNR=15	**27.60**	**59**	P	**P**	**19 57 24.3**	**+0.7**
MKAR	**Makanchi Array**	**27.60**	**59**	P	**P**	**19 57 23.9**	**+0.2**
FINES	**FINESS Array B** comp=Z,0.5nm,0.5s,baz=118,slow=11,SNR=1.2	**27.61**	**338**	P	**P**	**19 57 23.3**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.5s,baz=235,slow=17,SNR=2.1	**30.75**	**45**	P	**P**	**19 57 52.4**	**+0.9**
ZALV	comp=Z,38nm,18.4s,baz=332,slow=40			LR	LR	20 12 21.3	
ZALV	**Zalesovo Beam**	**30.75**	**45**	P	**P**	**19 57 52.9**	**+1.4**
NOA	**NORSAR Array B** comp=Z,45nm,19.0s,baz=115,slow=38	**32.78**	**328**	LR	LR	20 12 25.7	
ARCES	**ARCESS Array B** comp=Z,4.3nm,1.1s,baz=147,slow=12,SNR=1.9	**34.43**	**347**	P	**P**	**19 58 24

SPU	Mount Spurr	15.09	42		P		20 19 13.5	-0.3
SEW	Seward	15.77	48		Pn		20 19 16.7	-1.2
PPLA	Purkeypile	15.97	37	Pn	Pn		20 19 19.7	-0.8
PPLA				IAmb	IAmb		20 19 23.9	
	comp=Z,8.9nm,1.2s							
GHO	Glory Hole Cre	16.70	43	Pn	Pn		20 19 29.2	-0.5
GHO				IAmb	IAmb		20 19 39.0	
	comp=Z,6.9nm,1.0s							
IMAR	Indian Mountai	17.48	27		Pn		20 19 39.9	+0.5
MCK	McKinley	17.66	37		P		20 19 42.8	+0.6
MCK				IAmb	IAmb		20 19 51.0	
	comp=Z,9.9nm,1.4s							
PETK	Petropavlovsk-	17.74	286	LR	LR		20 26 21.4	
	comp=Z,40nm,19.6s,baz=99,slow=37							
BERG	Berg Lake	18.58	50	P	P		20 19 52.4	0.0
PAX	Paxson	18.67	42	P	P		20 19 52.8	-0.6
IL31		18.96	36	P	Pn		20 19 57.2	-0.1
IL31				IAmb	IAmb		20 19 58.2	
	comp=Z,8.3nm,1.2s							
ILAR	Eielson Array	18.96	36	P	P		20 19 54.8	-1.7
	comp=Z,0.6nm,0.3s,baz=240,slow=9.5,SNR=30							
ILAR	Eielson Array	18.96	36	P	Pn		20 19 57.6	+0.1
BILL	Bilibino	19.24	337	P	Pn		20 20 01.2	+0.5
COLD	Coldfoot	19.37	27	P	Pn		20 20 02.1	-0.1
COLD				IAmb	IAmb		20 20 12.3	
	comp=Z,6.3nm,1.2s							
MENT	Mentasta	19.39	43	P	Pn		20 20 02.6	0.0
DOT	Dot Lake	19.53	41	P	P		20 20 02.8	+0.1
BCAR	Beaver Creek A	20.26	43	P	P		20 20 10.3	-0.4
EGAK	Eagle	21.15	39	P	P		20 20 20.4	+0.1
BMAR	Burnt Mountain	21.20	31	P	P		20 20 22.0	+1.2
DAWY	Dawson	21.61	42	P	P		20 20 24.9	-0.3
DAWY				IAmb	IAmb		20 20 30.3	
	comp=Z,2.7nm,0.7s							
INK	Inuvik	25.32	34	P	P		20 21 01.4	-0.1
	comp=Z,2.2nm,0.4s,baz=221,slow=12,SNR=3.8							
INK	Inuvik	25.32	34	P	Pn		20 21 01.5	0.0
INK				IAmb	IAmb		20 21 03.7	
	comp=Z,3.0nm,0.6s							
TIXI	Tiksi	32.15	330	P	P		20 22 02.3	0.0
	comp=Z,1.3nm,0.3s,baz=268,slow=23,SNR=5.3							
TIXI	Tiksi	32.15	330	IAmb	IAmb		20 22 10.1	
	comp=Z,1.2nm,0.8s							
YKA	Yellowknife Ar	32.55	47	P	P		20 22 06.0	+0.1
	comp=Z,0.5nm,0.5s,baz=269,slow=8.5,SNR=7.8							
H11N2	WAKE ISLAND Hy	35.42	213	T	T		21 00 41.6	
	baz=21,slow=75,SNR=7.9							
H11N3	WAKE ISLAND Hy	35.42	213	T	T		21 00 44.8	
	baz=21,slow=75,SNR=5.6							
H11N1	WAKE ISLAND Hy	35.43	213	T	T		21 00 42.8	
	baz=21,slow=75,SNR=9.0							
H11S1	WAKE ISLAND Hy	36.62	213	T	T		21 01 57.8	
	baz=20,slow=76,SNR=13							
H11S2	WAKE ISLAND Hy	36.63	213	T	T		21 02 00.5	
	baz=20,slow=76,SNR=12							
H11S3	WAKE ISLAND Hy	36.63	213	T	T		21 01 58.6	
	baz=20,slow=76,SNR=6.1							
PDAR	Pinedale Array	42.93	76	P	P		20 23 34.4	+0.4
	comp=Z,0.9nm,0.7s,baz=304,slow=4.2,SNR=9.1							
FCC	Fort Churchill	43.27	48	P	P		20 23 36.4	+0.2
SONM	Songino Array	49.58	299	P	P		20 24 26.4	+0.3
	comp=Z,0.7nm,0.4s,baz=68,slow=5.9,SNR=13							
SONM	Songino Array	49.58	299	IAmb	IAmb		20 24 26.9	
	comp=Z,1.2nm,1.1s							
TXAR	Lajitas Array	55.20	85	P	P		20 25 07.9	0.0
	comp=Z,0.3nm,0.4s,baz=296,slow=5.2,SNR=6.1							
ARCES	ARCESS Array B	58.38	352	P	P		20 25 29.6	-0.1
	comp=Z,2.4nm,0.8s,baz=11,slow=8.3,SNR=9.9							
KURK	Kurchatov	61.29	316	P	P		20 25 50.6	+0.6
KURK	Kurchatov	61.29	316	IAmb	IAmb		20 26 06.0	
	comp=Z,3.7nm,1.4s							
KURBB	Kurchatov Arra	61.40	316	P	P		20 25 50.6	-0.1
	comp=Z,0.5nm,0.5s,baz=45,slow=6.5,SNR=14							
MKAR	Makanchi Array	62.53	311	P	P		20 25 58.1	-0.3
	comp=Z,0.3nm,0.3s,baz=46,slow=5.9,SNR=8.3							
BVAR	Borovoye Array	62.87	323	P	P		20 26 00.3	-0.2
	comp=Z,1.0nm,0.4s,baz=256,slow=12,SNR=7.6							
ARU	Arti	64.15	331	P	P		20 26 09.0	+0.1
	comp=Z,0.6nm,0.3s,baz=73,slow=17,SNR=3.6							
FINES	FINESS Array B	66.24	350	P	P		20 26 21.9	-0.5
	comp=Z,1.5nm,0.8s,baz=359,slow=7.6,SNR=5.7							
NOA	NORSAR Array B	67.64	358	P	P		20 26 31.3	-0.1
	comp=Z,0.2nm,0.5s,baz=2.2,slow=7.3,SNR=3.9							
AAK	Ala-Archa	69.29	313	P	P		20 26 42.4	+0.3
AKTO	Aktyubinsk	69.41	328	P	P		20 26 43.0	+0.4
	comp=Z,3.5nm,0.7s,baz=56,slow=4.8,SNR=11							
ABKAR	Akbulak array	69.76	326	P	P		20 26 44.8	+0.1
CMAR	Chiang Mai Arr	74.39	280	P	P		20 27 12.3	-0.6
	comp=Z,0.5nm,0.4s,baz=34,slow=6.6,SNR=4.5							
AKASG	Malin Array Be	76.29	345	P	P		20 27 22.5	-0.8
	comp=Z,0.6nm,0.3s,baz=15,slow=6.1,SNR=5.8							
VRAC	Vranov	79.11	353	P	P		20 27 39.5	+0.5
	comp=Z,2.9nm,0.8s,baz=338,slow=5.4,SNR=4.6							
GERES	GERESS Array B	79.74	355	P	P		20 27 43.0	+0.4
	comp=Z,0.8nm,0.7s,baz=32,slow=5.3,SNR=7.2							
KBZ	Khabaz	80.00	334	P	P		20 27 44.7	+0.8
	comp=Z,0.9nm,0.7s,baz=228,slow=1.3,SNR=3.6							
DAVOX	Davos/Dischmat	81.95	358	P	P		20 27 56.1	+1.5
	comp=Z,1.8nm,0.6s,baz=3.1,slow=1.3,SNR=5.3							
ASAR	Alice Springs	88.08	227	P	P		20 28 24.6	-0.6
	comp=Z,0.6nm,0.7s,baz=32,slow=4.7,SNR=7.6							

*IDC **24** 20:31:38.1±2.4, 43.˝65N×105.˝25W, h0km, mb1 3.3/3, mb1mx3.1/35, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=55.7km s-min=9.8km az=150.0*
*NEIC **24** 20:31:39.7±1.3, 43.˝99N±0.˝06×105.˝26W±0.˝04, h0km±1km, ML3.2/36, Error ellipse: s-maj=10.0km s-min=5.1km az=352.0*

ISC 24 20:31:39.4±1.1, 44.˝00N±0.˝06×105.˝22W±0.˝07, h0km, n32, σ0s75/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.86	82	Pg	Pb	20 31 56.9	-0.5
PHWY	Pilot Hill	2.71	184		Pn	20 32 23.7	-0.8
RWWY	Rawlins	2.74	213		Pn	20 32 26.3	+1.4
RWWY				IAML		20 33 03.1	
	194nm,0.8s						
LAO	LASA Array	2.78	346		Pn	20 32 24.6	-0.6
RLMT	Red Lodge	3.10	293	Pn	Pn	20 32 29.4	-0.5
RLMT				IAML		20 33 29.0	
	63nm,0.6s						
RLMT				IAML		20 33 34.5	
	57nm,0.8s						
PD31	Pinedale Array	3.40	250	Pn	Pn	20 32 33.7	-0.2
PDAR	Pinedale Array	3.40	250	Pn	Pn	20 32 34.0	+0.1
	0.9nm,0.3s,baz=68,slow=15,SNR=45						
PDAR				Lg	Lg	20 33 20.1	
	7.6nm,0.3s,baz=80,slow=20,SNR=5.1						
PDAR	Pinedale Array	3.40	250	Pn	Pn	20 32 33.5	-0.4
BW06	Boulder Array	3.40	250		Pn	20 32 33.0	-0.9
BW06				IAML		20 33 25.0	
	50nm,0.7s						
YMP	Mirror Lake Pl	3.62	283		Pn	20 32 36.7	-0.3
GCMT	Greycliff	3.63	301		Pn	20 32 37.0	-0.1
OGNE	Ogallala	3.86	141	Pn	Pn	20 32 39.0	-1.2
LOHW	Long Hollow	3.92	266		Pn	20 32 41.1	0.0
LOHW				IAML		20 34 25.9	
	27nm,4.7s						
FLWY	Flagg Ranch	3.95	273		Pn	20 32 41.1	-0.4
MOOW	Moose Ponds	4.00	268		Pn	20 32 41.8	-0.4
YHH	Holmes Hill	4.11	283		Pn	20 32 42.9	-0.9
YHH				IAML		20 34 04.9	
	comp=N,21nm,1.2s						
REDW	Red Top Meadow	4.14	263		Pn	20 32 44.5	+0.4
REDW				IAML		20 33 54.8	
	comp=N,44nm,1.5s						
REDW				IAML		20 34 01.8	
	comp=N,44nm,2.5s						
ISCO	Idaho Springs	4.21	184		Pn	20 32 45.7	+0.5
YHL	Hebgen Lake	4.36	283		Pn	20 32 47.3	+0.1
YHL				IAML		20 34 08.6	
	comp=N,30nm,2.6s						
RDMU	Red Mountain	4.71	225		Pn	20 32 51.5	-0.4
RDMU				IAML		20 34 17.4	
	comp=N,26nm,1.8s						
BOZ	Bozeman (W)	4.83	291		Pn	20 32 53.1	-0.4
BOZ				IAML		20 34 19.6	
	comp=N,18nm,1.1s						
HWUT	Hardware Ranch	5.25	245		Pn	20 32 58.4	-0.9
HWUT				IAML		20 34 32.7	
	comp=N,21nm,1.2s						
HWUT				IAML		20 34 41.9	
	comp=N,21nm,1.1s						
HRY	Holter Researc	5.39	302	Pn	Pn	20 33 01.1	-0.1
LRM	Limekiln Ridge	5.45	292	Pn	Pn	20 33 01.8	-0.3
P18A	Preston Nutter	5.76	222	Pn	Pn	20 33 06.5	0.0
PV23	Carpenter Ridg	6.24	209	Pn	Pn	20 33 12.5	-0.5
SRU	San Rafael Swe	6.30	221	Pn	Pn	20 33 13.3	-0.5
PV11	David Mesa, Pa	6.33	207	Pn	Pn	20 33 13.6	-0.6
MSO	Missoula	6.76	298	Pn	Pn	20 33 18.0	-1.9
I10CA	LAC DU BONNET	8.81	42	*i*		21 23 50.0	
	baz=224,slow=322,SNR=2.6						
ULM	Lac du Bonnet	8.92	42	Pn	Pn	20 33 50.0	+0.6
	comp=N,0.3nm,0.3s,baz=228,slow=14,SNR=6.1						
ULM				Lg		20 36 18.8	
	comp=N,0.4nm,0.3s,baz=327,slow=22,SNR=3.0						
YKA	Yellowknife Ar	19.32	347	P	Pn	20 36 08.2	+1.4
	comp=N,0.1nm,0.3s,baz=153,slow=12,SNR=4.2						

*BUG **24** 21:07:22.4±0.0, 51.˝62N×6.˝81E, h2km±1km, MD2.4/7, ML2.5/3*
*BNS **24** 21:07:22.9±0.8, 51.˝64N×6.˝80E, h1km, ML1.9*
*BGR **24** 21:07:22.5±0.9, 51.˝60N×6.˝68E, h1km, ML2.2/4, Error ellipse: s-maj=13.3km s-min=5.6km az=120.0*
*LDG **24** 21:07:27.5±0.2, 51.˝33N×6.˝83E, h1km, Ml2.6/23, Suspected Mining induced.*

ISC 24 21:07:22.2±0.8, 51.˝54N±0.˝03×6.˝71E±0.˝02, h0km, n54, σ1s95/96, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	Hlnxe	0.13	52	Pg	Pg	21 07 23.8	-0.9
BZER				Sg	Sg	21 07 24.6	-1.8
LAUG	Laupendahl	0.24	142	*e*Pg	Pg	21 07 28.3	+1.5
BAVN	Auguste-Victor	0.33	53	Pg	Pg	21 07 28.4	-0.1
BAVN				Sg	Sg	21 07 32.4	-0.3
BULI	Ruhr-Universit	0.36	104	Pg	Pg	21 07 29.7	+0.7
BKLB	Ruhr-Universit	0.37	106	Pg	Pg	21 07 29.9	+0.7
BUG	Bochum--Univer	0.37	106	Pg	Pg	21 07 29.9	+0.7
BUG				Sg	Sg	21 07 35.1	+1.2
ENTS	Ennepetalsperr	0.53	124	*e*Pg	Pg	21 07 33.4	+1.0
ENTS				*e*Sg	Sg	21 07 40.5	+1.2
PLH	Pulheim	0.54	172	*e*Pg	Pb	21 07 35.4	+0.9
PLH				*e*Sg	Sb	21 07 43.9	+1.1
HMES	Hamm, Michael-	0.65	79	Sg	Sg	21 07 42.5	-0.5
HOBG	Hohbusch	0.68	144	*e*Pg	Pb	21 07 36.9	0.0
SORT	Sorpetalsperre	0.81	103	*e*Pg	Pg	21 07 37.8	0.0
SORT				*e*Sg	Sg	21 07 48.0	-0.3
	51nm,0.3s						
GSH	Grosshau	0.83	194	*e*Pg	Pn	21 07 41.1	-0.1
GSH				*e*Sg	Sn	21 07 54.0	-0.1
	31nm,0.2s						
DREG	Dreilaegerbach	0.93	199	*e*Pg	Pn	21 07 42.3	-0.2
KLL	Kalltalsperre	0.93	196	*e*Pg	Pn	21 07 42.3	-0.2
STB	Steinbach	0.95	175	*e*Pg	Pn	21 07 43.0	+0.2
STB				*e*Sg	Sn	21 07 57.4	+0.4
	33nm,0.6s						
TDN	Todenfeld	0.98	171	*e*Pg	Pn	21 07 43.4	+0.2
TDN				*e*Sg	Sn	21 07 57.7	0.0
	30nm,0.3s						
IBBN	Ibbenburen	1.01	40	*e*Sg	Sg	21 07 54.3	-0.2
AHRW	Bad Neuenahr-A	1.03	167	*e*Pg	Pn	21 07 43.8	0.0
AHRW				*e*Sg	Sn	21 07 59.5	+0.6
OLFT	Oleftalsperre	1.06	190	*e*Pg	Pn	21 07 45.5	+1.2
OLFT				*e*Sg	Sn	21 08 01.0	+1.2
KASTN	Kahler Asten	1.12	107	*e*Pg	Pg	21 07 43.8	0.0
KASTN				*e*Sg	Sg	21 07 59.5	+1.2
BHE	Schloss Buerre	1.23	166	*e*Pg	Pn	21 07 47.5	+0.9
BHE				*e*Sg	Sn	21 08 04.7	+0.9
	14nm,0.2s						
HILG	Hillesheim	1.25	181	*e*Pg	Pn	21 07 47.7	+0.8
KOE	Koeppel	1.29	149	*e*Pg	Pn	21 07 47.8	+0.3
LOH	Wallersheim-Lo	1.36	185	*e*Pg	Pb	21 07 50.0	+1.4
LOH				*e*Sg	Sn	21 08 08.8	+1.5
	22nm,0.3s						
BGG	Burgeitz	1.40	163	*e*Pg	Pb	21 07 49.5	+0.4
NAST	IGS Nastaetten	1.53	151	*e*Pg	Pn	21 07 51.4	+0.6
TNS	Taunus Mts	1.72	139	*e*Pg	Pn	21 07 54.1	+0.7
GIVF	Givet	1.87	220	*e*Pn	Pb	21 07 57.2	0.0
GIVF	Givet	1.87	220	*e*Pg	Pg	21 08 00.4	+2.4
GIVF				*e*Sn	Sn	21 08 19.4	-0.3
GIVF				*e*Sg	Sg	21 08 23.8	+1.6
	8.2nm,0.2s						
WLF	Walferdange	1.91	191	*e*Sg	Sg	21 08 24.0	+0.5
BAIF	Baives	2.17	228	*e*Pn	Pb	21 08 02.5	+0.2
BAIF	Baives	2.17	228	*e*Pg	Pg	21 08 07.2	+3.4
BAIF				*e*Sn	Sn	21 08 26.9	-0.2
BAIF				*e*Sg	Sg	21 08 33.2	+1.3
	4.2nm,0.2s						
PAGF	Fort de Pagny	3.06	192	*e*Pn	Pn	21 08 13.3	+1.6
PAGF	Fort de Pagny	3.06	192	*e*Pg	Pg	21 08 20.8	+0.1
PAGF				*e*Sn	Sn	21 08 45.1	-3.9
PAGF				*e*Sg	Sb	21 08 56.4	+1.2
	3.6nm,0.3s						
SAVF	Savonnieres en	3.10	200	*e*Pn	Pn	21 08 14.4	+2.1
	baz=23						
SAVF	Savonnieres en	3.10	200	*e*Pg	Pg	21 08 22.0	+0.4
	baz=26						
SAVF				*e*Sn	Sn	21 08 44.7	-5.4
SAVF				*e*Sg	Sb	21 08 59.2	+2.7
	5.5nm,0.4s						
CDF	Champ du Feu	3.15	173	*e*Pn	Pn	21 08 13.7	+0.5
CDF	Champ du Feu	3.15	173	*e*P	Pn	21 08 15.5	+2.3
CDF	Champ du Feu	3.15	173	*e*Pg	Pg	21 08 21.7	-0.9
CDF				*e*Sn	Sn	21 08 46.4	-5.1
	2.1nm,0.4s						
CDF				*e*Sg	Sb	21 08 58.5	+0.4
	1.1nm,0.3s						
MEZF	Maizieres J'vi	3.22	200	*e*Pg	Pg	21 08 23.6	-0.3
	baz=26						
MEZF				*e*Sn	Sn	21 08 50.1	-3.0
MEZF				*e*Sg	Sg	21 09 03.6	-2.1
	6.0nm,0.3s						
SFTF	Sexfontaines	3.51	199	*e*Pn	Pn	21 08 19.5	+1.5
SFTF	Sexfontaines	3.51	199	*e*Pg	Pg	21 08 29.5	+0.1
SFTF				*e*Sg	Sb	21 09 10.7	+2.4
	4.1nm,0.3s						
LOR	Lormes	4.66	205	*e*Pn	Pn	21 08 34.9	+1.1
	baz=29						
LOR				*e*Sn	Sn	21 09 24.6	-4.0
	1.9nm,0.3s						
LOR				*e*Sg	Sg	21 09 49.0	-2.9
	2.5nm,0.4s,baz=24						
SSF	Saint Saulge	4.95	206	*e*Pn	Pn	21 08 37.8	+0.1
SSF				*e*Sn	Sn	21 09 31.9	-3.7
SSF				*e*Sg	Sg	21 09 57.9	-3.1
	1.7nm,0.4s						
CABF	La Chapelle	4.95	185	*e*Pn	Pn	21 08 38.9	+1.0
AVF	Avril sur Loir	5.24	206	*e*Pn	Pn	21 08 42.5	+0.8
AVF				*e*Sn	Sn	21 09 38.2	-4.5
	0.2nm,0.2s						
AVF				*e*Sg	Sg	21 10 07.0	-3.3
	0.5nm,0.2s						
SMF	Signal de Mont	5.25	202	*e*Pn	Pn	21 08 42.1	+0.2
SMF				*e*Sg	Sg	21 10 06.3	-4.4
	2.3nm,0.5s						
LDF	La Druitiere	5.29	239	*e*Pn	Pn	21 08 44.1	+1.6
LDF				*e*Sn	Sn	21 09 42.3	-1.8
	4.1nm,0.5s						
LDF				*e*Sg	Sg	21 10 13.3	+1.2
	0.5nm,0.3s						
FLN	La Foliniere	5.39	242	*e*Pn	Pn	21 08 45.1	+1.3
FLN				*e*Sn	Sn	21 09 45.1	-1.4
	2.9nm,0.3s						
BGF	Bois d'Agland	5.59	208	*e*Pn	Pn	21 08 47.3	+0.7
BGF				*e*Sn	Sn	21 09 47.7	-3.9
BGF				*e*Sg	Sg	21 10 17.5	-4.3
	8.1nm,0.6s						
GRR	Gorron	5.81	240	*e*Pn	Pn	21 08 50.8	+1.2
GRR				*e*Sn	Sn	21 09 54.0	-2.9
	2.3nm,0.2s						
TCF	Toulx Ste Croi	6.03	211	*e*Pn	Pn	21 08 53.1	+0.4
TCF				*e*Sg	Sg	21 10 31.7	-4.2
	0.5nm,0.3s						
MFF	Saint Martin d	6.68	225	*e*Pn	Pn	21 09 03.2	+1.7
MFF				*e*Sn	Sn	21 10 14.8	-3.5
	2.0nm,0.4s						
LFF	La Frestale	7.71	213	*e*Pn	Pn	21 09 16.4	+0.8

*IDC **24** 21:26:59.9±0.7, 6.˝76N×72.˝94W, h164km±10km, mb3.3/4, mb1 3.6/6, mb1mx3.3/29, mbtmp3.9/6, Error ellipse: s-maj=33.7km s-min=7.7km az=131.0*
*NEIC **24** 21:27:00.7±2.2, 6.˝96N±0.˝04×73.˝20W±0.˝08, h155km±9km, mb4.6/5, Error ellipse: s-maj=12.2km s-min=5.4km az=109.0*
*RSNC **24** 21:27:00.3±1.0, 6.˝83N×73.˝13W, h150km±4km, ML3.7, Mw3.9*

ISC 24 21:26:59.6±0.7, 6.˝84N±0.˝03×73.˝12W±0.˝03, h155km±5km, n55, σ1s40/96, mb3.8/7, 8C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	195	*i*P	Pn	21 27 20.8	-0.2
BARC				*e*S	Sn	21 27 35.9	-1.5
BARC				*i*		21 27 37.1	
	comp=Z,1μm,0.2s						
PAMC	Pamplona, Colo	0.65	40	*i*P	Pn	21 27 23.6	+0.7
PAMC				*e*S	Sn	21 27 40.7	-0.1
PAMC				*i*		21 27 42.9	
	comp=Z,2μm,0.5s						
RUSC	La Rusia	0.94	178	*e*P	Pn	21 27 24.8	-0.2
RUSC				*e*S	Sn	21 27 43.5	-0.9
RUSC				*i*		21 27 44.7	
	comp=Z,763nm,0.3s						
PTBC	PUERTO BERRIO,	1.36	257	*e*P	Pn	21 27 27.2	-1.0
PTBC				*e*S	Sn	21 27 48.6	-1.5
PTBC				*i*		21 27 56.0	
	comp=Z,422nm,0.3s						
TAMC	Tame, Arauca	1.38	107	*e*P	Pn	21 27 29.3	+0.9
TAMC				*e*S	Sn	21 27 50.7	+0.3
OCAC	Ocana	1.40	352		Pn	21 27 28.6	-0.2
OCAC				Sn	Sn	21 27 51.2	0.0
OCAC	Ocana	1.40	352	*e*P	Pn	21 27 28.8	0.0
OCAC				*e*S	Sn	21 27 50.7	-0.5
OCAC				*i*		21 27 55.4	
	comp=Z,1μm,0.5s						
SPBC	San Pablo de B	1.52	219	*e*P	Pn	21 27 29.5	-0.4
SPBC				*e*S	Sn	21 27 51.8	-1.2
SPBC				*i*		21 27 54.3	
	comp=Z,965nm,0.4s						
ZARC	Zaragoza, Cauc	1.84	291		Pn	21 27 32.9	-0.4
ZARC				Sn	Sn	21 27 58.5	-0.7
ZARC	Zaragoza, Cauc	1.84	291	*e*P	Pn	21 27 32.9	-0.4
ZARC				*e*S	Sn	21 27 58.8	-0.5
ZARC				*i*		21 28 04.6	
	comp=Z,344nm,0.6s						
NORC	Norcasia	2.15	234	*e*P	Pn	21 27 36.4	-0.5
NORC				*e*S	Sn	21 28 04.9	-0.8
NORC				*i*		21 28 09.8	
	comp=Z,426nm,0.5s						
CHIC	Chingaza	2.28	196	*e*P	Pn	21 27 38.8	0.0
CHIC				*e*S	Sn	21 28 08.3	-0.7
CHIC				*i*		21 28 11.6	
	comp=Z,367nm,0.5s						
ROSC	El Rosal	2.32	211	P	Pn	21 27 40.5	+1.3
	comp=Z,164nm,0.3s,baz=91,slow=12,SNR=217						
ROSC				S	Sn	21 28 12.2	+2.5
	comp=Z,238nm,0.3s,baz=43,slow=19,SNR=8.6						
ROSC	El Rosal	2.32	211		Pn	21 27 40.5	+1.3
ROSC					Sn	21 28 10.0	+0.2
HELC	Santa Helena	2.48	255	*e*P	Pn	21 27 40.7	-0.4
HELC				*e*S	Sn	21 28 13.2	+0.1
HELC				*i*		21 28 19.7	
	comp=Z,237nm,0.4s						
UREC	San Jos de Ur	2.56	291	*e*P	Pn	21 27 40.6	-1.1
UREC				*e*S	Sn	21 28 12.9	-1.4
UREC				*i*		21 28 23.3	
	comp=Z,250nm,0.2s						
SOCV	Socops	2.66	57	*e*P	Pn	21 27 42.4	-0.5
SOCV				*e*S	Sn	21 28 14.5	-2.0
LL1C	La Loma 1 Cana	2.72	351	*e*P	Pn	21 27 45.7	+2.1
LL1C				*e*S	Sn	21 28 21.2	+3.4
GUY2C	Guyana, Caldas	2.75	234	*e*P	Pn	21 27 44.5	0.0
GUY2C				*e*S	Sn	21 28 20.9	+1.6
GUY2C				*i*		21 28 31.0	
	comp=Z,214nm,0.5s						
VILC	Villavicencio,	2.77	192	*e*P	Pn	21 27 44.0	-0.4
VILC				*e*S	Sn	21 28 18.6	-0.6
PTGC	Puerto Gaitan,	2.80	160	*i*P	Pn	21 27 43.9	-0.8
PTGC				*e*S	Sn	21 28 17.0	-2.7
PTGC				*i*		21 28 22.1	
	comp=Z,375nm,0.3s						
CBOC	Ciudad Bolivar	3.04	252	*e*P	Pn	21 27 48.5	+0.7
CBOC				*e*S	Sn	21 28 25.5	+0.4
CBOC				*i*		21 28 28.8	
	comp=Z,57nm,0.2s						
DBBC	Dabeiba	3.08	273	*e*P	Pn	21 27 48.2	0.0
DBBC				*e*S	Sn	21 28 25.2	-0.6
DBBC				*i*		21 28 28.7	
	comp=Z,606nm,0.6s						
MOTC	Monteria, Cord	3.17	307	*e*P	Pn	21 27 48.0	-1.4
MOTC				*e*S	Sn	21 28 26.3	-1.7
MOTC				*i*		21 28 28.5	
SDV	Santo Domingo	3.19	50	P	Pn	21 27 50.3	+0.4
	comp=Z,20nm,0.3s,baz=192,slow=3.5,SNR=138						
SDV				S	Sn	21 28 27.8	-0.9
	comp=Z,55nm,0.3s,baz=48,slow=20,SNR=45						
SDV	Santo Domingo	3.19	50		Pn	21 27 50.2	+0.4
SDV				Sn	Sn	21 28 28.6	-0.1
SDV	Santo Domingo	3.19	50	*e*P	Pn	21 27 50.2	+0.4
SDV				*e*S	Sn	21 28 27.7	-1.0
SDV				*i*		21 28 32.0	
	comp=Z,110nm,0.6s						
ANIL	Santa Ana	3.26	224	*e*P	Pn	21

comp=Z,0.7nm,0.6s,baz=133,slow=6.8,SNR=15

ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**21**	**46**	**29.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=110,slow=3.8,SNR=5.8								
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**21**	**46**	**32.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=106,slow=2.9,SNR=11								

*IDC **24** 21:49:14.5±1.1, 22°.80S×63°.92W, h533km±19km, mb3.5/1, mb1 3.1/5, mb1mx2.8/39, mbtmp4.0/5, Error ellipse: s-maj=36.7km s-min=22.6km az=31.0*
*NEIC **24** 21:49:15.6±1.0, 22°.8S±0°.1×63°.8W±0°.1, h527km±14km, mb4.1/5, Error ellipse: s-maj=25.0km s-min=8.6km az=222.0*

ISC 24 21:49:14.9±0.9, 22°.79S±0°.08×63°.81W±0°.08, h527km, n34, σ0$75/47, Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.71**	**271**	P		**P**		**21 50 41.7**	**+0.3**
	7.2nm,0.3s,baz=90,slow=6.5,SNR=56								
LVC				S		**S**		**21 51 49.7**	**-2.1**
	4.6nm,0.3s,baz=258,slow=18,SNR=22								
LVC	**Limon Verde**	**4.71**	**271**	P		**P**		**21 50 41.4**	**0.0**
LVC				S		**S**		**21 51 49.9**	**-2.0**
PB09	**IPOC Station P**	**5.12**	**280**	P		**P**		**21 50 45.0**	**+0.3**
PB09				S		**S**		**21 51 58.7**	**+0.6**
PB15	**IPOC Station P**	**5.23**	**264**	P		**P**		**21 50 46.3**	**+0.6**
PB15				S		**S**		**21 51 59.0**	**-0.8**
PB06	**IPOC Station P**	**5.32**	**270**	P		**P**		**21 50 47.1**	**+0.7**
PB06				S		**S**		**21 52 01.4**	**+0.3**
PB01	**IPOC Station P**	**5.55**	**287**	P		**P**		**21 50 49.1**	**+0.7**
PB01				S		**S**		**21 52 04.6**	**-0.2**
PB08	**IPOC Station P**	**5.63**	**297**	P		**P**		**21 50 50.7**	**+1.2**
PB08						**S**		**21 52 06.2**	**-0.5**
PB07	**IPOC Station P**	**5.72**	**279**	P		**P**		**21 50 50.5**	**+0.3**
PB07						**S**		**21 52 08.3**	**+0.4**
GO02	**Mina Guanaco**	**5.79**	**245**			**P**		**21 50 51.1**	**+0.3**
GO02				S		**S**		**21 52 09.2**	**+0.1**
PB02	**IPOC Station P**	**5.83**	**283**	P		**P**		**21 50 51.1**	**+0.1**
PB02				S		**S**		**21 52 10.1**	**+0.6**
PB04	**IPOC Station P**	**5.88**	**273**	P		**P**		**21 50 52.1**	**+0.6**
PB04				S		**S**		**21 52 10.9**	**+0.4**
GO01	**Chusmiza**	**5.90**	**301**	P		**P**		**21 50 53.0**	**+0.9**
PATCX	**Punta Patache**	**6.21**	**287**	P		**P**		**21 50 55.2**	**+0.7**
PB11	**IPOC Station P**	**6.23**	**298**	P		**P**		**21 50 55.0**	**+0.1**
PB10	**IPOC Station P**	**6.25**	**262**	P		**P**		**21 50 55.1**	**+0.4**
AC02	**Maricunga**	**6.29**	**229**			**P**		**21 50 56.0**	**+0.3**
PB14	**IPOC Station P**	**6.31**	**252**	P		**P**		**21 50 55.0**	**-0.7**
TA01	**Diego Aracena**	**6.32**	**289**	P		**P**		**21 50 55.8**	**+0.3**
TA02	**Huaiquique**	**6.39**	**292**	P		**P**		**21 50 56.4**	**+0.2**
CPUP	**Villa Florida**	**6.87**	**122**	P		**P**		**21 51 01.4**	**+0.7**
	1.4nm,0.3s,baz=318,slow=9.6,SNR=18								
CPUP	**Villa Florida**	**6.87**	**122**			**P**		**21 51 01.2**	**+0.5**
PB16	**IPOC Station P**	**6.94**	**309**	P		**P**		**21 51 02.8**	**+0.6**
AC01	**Pan de Azucar**	**7.03**	**240**	P		**P**		**21 51 02.1**	**-0.2**
AC01				S		**S**		**21 52 30.4**	**+0.2**
PB12	**IPOC Station P**	**7.38**	**303**	P		**P**		**21 51 06.0**	**0.0**
PB12				S		**S**		**21 52 37.0**	**+0.1**
AC06	**Mina Casimiro**	**7.47**	**231**			**P**		**21 51 07.5**	**+0.8**
GO03	**Copiap**	**7.53**	**229**	P		**P**		**21 51 08.4**	**+1.1**
LPAZ	**La Paz**	**7.64**	**327**	P		**P**		**21 51 10.4**	**+1.2**
	0.4nm,0.3s,baz=133,slow=3.6,SNR=8.0								
LPAZ				S		**S**		**21 52 41.1**	**-1.5**
	0.2nm,0.3s,baz=54,slow=23,SNR=6.2								
AQDB	**Aquidauana**	**7.89**	**75**			**P**		**21 51 11.6**	**+0.7**
BDFB	**Brasilia**	**16.52**	**67**	P		**P**		**21 52 40.3**	**0.0**
	0.4nm,0.3s,baz=255,slow=6.6,SNR=3.5								
BDFB	**Brasilia**	**16.52**	**67**	P		**P**		**21 52 40.4**	**0.0**
BDFB					IAmb	IAmb		21 52 40.6	
	comp=Z,2.3nm,0.6s								
TOA0	**Torodi Ar. Sit**	**73.40**	**68**	P		**P**		**21 59 53.1**	**-0.7**
TOA0					IAmb	IAmb		21 59 53.7	
	comp=Z,2.4nm,0.6s								
TORD	**Torodi Ar. Bea**	**73.40**	**68**	P		**P**		**21 59 53.0**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=260,slow=5.7,SNR=18								
TORD	**Torodi Ar. Bea**	**73.40**	**68**	P		**P**		**21 59 53.1**	**-0.7**
MKAR	**Makanchi Array**	**143.72**	**40**	PKP		PKPab		22 07 48.9	+0.1
	comp=Z,0.8nm,0.5s,baz=311,slow=3.8,SNR=12								

TAP 24 22:01:37.9, 23°.14N×120°.98E, h8km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.06**	**37**	P		Pg		22 01 40.3	+0.3
	baz=43								
ELDTW				*e*S		Sg		22 01 41.9	+0.5
	baz=43								
STYH	**Taoyuan**	**0.19**	**280**	P		Pg		22 01 42.1	+0.4
	baz=281								
STYH				*e*S		Sg		22 01 44.7	+0.3
	baz=281								
STYT	**Tauyuan**	**0.20**	**277**	*e*P		Pg		22 01 42.5	+0.4
	baz=278								
STYT				*e*S		Sg		22 01 45.1	+0.2
	baz=278								
ECS	**Chishang**	**0.23**	**101**	*e*P		Pg		22 01 42.8	+0.2
	baz=100								
ECS				*e*S		Sg		22 01 47.7	+2.0
	baz=100								
LONT	**Longtian**	**0.27**	**148**	*e*P		Pb		22 01 44.3	-0.7
	baz=138								
LONT				*e*S		Sg		22 01 48.0	+1.0
	baz=138								
FULB	**Fuli**	**0.30**	**78**	*e*S		Sb		22 01 50.7	+0.1
	baz=69								
TWG	**Pinlang**	**0.33**	**164**	*e*P		Pg		22 01 45.1	+0.7
	baz=154								
TWGBT	**Beinan**	**0.33**	**163**	*e*P		Pg		22 01 45.1	+0.6
	baz=154								
WTP	**Ta-pu**	**0.35**	**288**	*e*P		Pb		22 01 46.0	-0.5
	baz=289								
WTP				*e*S		Sb		22 01 51.2	-0.9
	baz=289								
YUS	**Yu-Shan**	**0.35**	**357**	P		Pg		22 01 45.6	+0.5
	baz=5.0								
YUS				*e*S		Sg		22 01 50.2	+0.5
	baz=5.0								
TPUB	**Ta-pu**	**0.36**	**297**	*e*P		Pb		22 01 45.8	-0.7
	baz=305								
TPUB				*e*S		Sb		22 01 51.3	-1.0
	baz=305								
SGST	**Jiashian**	**0.36**	**261**	*e*P		Pg		22 01 45.3	+0.2
	baz=262								
TWF1	**Yuli**	**0.36**	**54**	*e*P		Pg		22 01 45.8	+0.7
	baz=54								
EYUL	**Yuli**	**0.38**	**57**	*e*P		Pg		22 01 45.5	+0.2
	baz=56								
YULB	**Yu-li**	**0.39**	**49**	*e*P		Pg		22 01 46.1	+0.5
	baz=50								
YULB				*e*S		Sg		22 01 51.0	+0.3
	baz=50								
ALS	**Alishan**	**0.40**	**337**	*e*P		Pb		22 01 46.7	-0.7
	baz=337								
ALS				*e*S		Sb		22 01 52.7	-1.2
	baz=337								
CHN1	**Nanshi**	**0.41**	**277**	*e*P		Pb		22 01 47.7	+0.2
	baz=274								
CHN1				*e*S		Sb		22 01 53.7	-0.3
	baz=274								

TAP 24 22:01:42.0, 23°.10N×120°.95E, h7km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**33**	P		Pg		22 01 45.3	+0.8
	baz=36								
ELDTW				*e*S		Sg		22 01 46.6	+0.4
	baz=36								
STYH	**Taoyuan**	**0.18**	**295**	P		Pg		22 01 47.3	+1.7
	baz=297								
STYH				*e*S		Sg		22 01 49.8	+1.8
	baz=297								
STYT	**Tauyuan**	**0.19**	**291**	*e*P		Pg		22 01 47.5	+1.7
	baz=290								
STYT				S		Sg		22 01 50.3	+1.8
	baz=290								
ECS	**Chishang**	**0.25**	**90**	*e*P		Pg		22 01 48.2	+1.3
	baz=90								
ECS				*e*S		Sg		22 01 53.3	+3.1
	baz=90								
LONT	**Longtian**	**0.25**	**139**	*e*P		Pb		22 01 48.5	-0.4
	baz=139								
LONT				S		Sb		22 01 52.9	-0.5
	baz=139								

TWG	**Pinlang**	**0.30**	**158**	*e*P		Pb		22 01 49.7	+0.1
	baz=156								
TWG				*e*S		Sb		22 01 54.6	-0.1
	baz=156								
TWG	**Pinlang**	**0.30**	**158**	*e*S		Pb		22 01 49.7	+0.1
	baz=154								
TWGBT	**Beinan**	**0.30**	**157**	*e*P		Pb		22 01 49.6	-0.1
	baz=156								
TWGBT				*e*S		Sb		22 01 54.6	-0.3
	baz=156								
TWGBT	**Beinan**	**0.30**	**157**	*e*S		Pb		22 01 49.6	-0.1
	baz=154								
FULB	**Fuli**	**0.33**	**72**	*e*P		Pb		22 01 50.1	-0.1
	baz=72								
FULB				*e*S		Sb		22 01 55.8	0.0
	baz=72								
SGST	**Jiashian**	**0.34**	**268**	*e*P		Pb		22 01 50.2	-0.2
	baz=267								
SGST				*e*S		Sb		22 01 55.7	-0.3
	baz=267								
SGST	**Jiashian**	**0.34**	**268**	*e*S		Pb		22 01 50.2	-0.1
	baz=262								
WTP	**Ta-pu**	**0.34**	**296**	*e*P		Pb		22 01 50.0	-0.5
	baz=295								
WTP				*e*S		Sb		22 01 56.1	-0.1
	baz=295								
TPUB	**Ta-pu**	**0.36**	**305**	*e*P		Pb		22 01 50.7	0.0
	baz=304								
TPUB				*e*S		Sb		22 01 56.5	-0.1
	baz=304								

*IDC **24** 22:03:53.6±0.8, 29°.60N×102°.02E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/39, mbtmp3.9/9, ML3.3/1, MS3.4/13, Ms1 3.5/13, ms1mx3.0/94, Error ellipse: s-maj=30.9km s-min=15.7km az=50.0*
*BJI **24** 22:03:54.5±0.0, 29°.60N×101°.98E, h10km, mb4.0/20, mB4.4/4, ML3.9/22, Ms3.8/9, Ms7 3.7/6*
*NEIC **24** 22:03:56.3±1.4, 29°.6N±0°.1×102°.15E±0°.09, h10km±1km, mb4.3/23, Error ellipse: s-maj=21.8km s-min=12.7km az=190.0*

ISC 24 22:03:56.0±0.5, 29°.63N±0°.04×102°.11E±0°.04, h10km, n67, σ1$72/63, mb4.2/22, MS3.3/11, 1C-3D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.91**	**48**	↑*i*Pg		**Pn**		**22 04 29.5**	**+0.8**
CD2				Sg		**Sb**		**22 04 55.9**	**+1.0**
CD2				smax		smax			
	comp=N,220nm,0.8s								
CD2				smax		smax			
	comp=E,2μm,0.9s								
PZH	**PanZhiHua**	**3.13**	**186**	Pg		**Pn**		**22 04 48.3**	**+2.8**
PZH				Sg		**Sb**		**22 05 29.6**	**-0.5**
PZH				smax		smax			
	comp=N,380nm,0.7s								
PZH				smax		smax			
	comp=E,600nm,0.7s								
PZH				LR		LR			
	comp=N,930nm,5.0s								
PZH				LR		LR			
	comp=Z,670nm,4.7s								
KMI	**Kunming**	**4.52**	**173**	⇓Pn		**Pn**		**22 05 07.3**	**+2.6**
KMI				Sn		**Sn**		**22 06 00.8**	**+3.3**
KMI				smax		smax			
	comp=N,110nm,1.2s								
KMI				smax		smax			
	comp=E,43nm,1.8s								
KMI				LR		LR			
	comp=N,910nm,5.9s								
KMI				LR		LR			
	comp=E,430nm,5.8s								
KMI				LR		LR			
	comp=Z,430nm,5.1s								
GYA	**Guiyang**	**5.11**	**127**	⇓Pn		**Pn**		**22 05 14.1**	**+1.4**
GYA				Sn		**Sn**		**22 06 14.5**	**+2.6**
GYA				Sg		**Sg**		**22 06 36.9**	**-3.3**
GYA				smax		smax			
	comp=N,120nm,1.3s								
GYA				smax		smax			
	comp=E,120nm,0.8s								
ENH	**Enshi**	**6.43**	**82**	Pn		**Pn**		**22 05 31.1**	**+0.4**
LZH	**Lanzhou**	**6.60**	**12**	*e*Pn		**Pn**		**22 05 37.5**	**+4.3**
LZH				LR		LR			
	comp=N,540nm,11.1s								
LZH				LR		LR			
	comp=Z,740nm,13.3s								
XAN	**Xi'an**	**7.27**	**51**	Pn		**Pn**		**22 05 43.6**	**+1.3**
XAN				Sn		**Sn**		**22 07 08.4**	**+3.4**
XAN				Sg		**Sg**		**22 07 44.8**	**-4.6**
XAN				smax		smax			
	comp=N,190nm,1.0s								
XAN				smax		smax			
	comp=E,150nm,1.0s								
XAN				LR		LR			
	comp=E,440nm,6.9s								
XAN				LR		LR			
	comp=Z,560nm,17.9s								
GOMU	**GeErMu**	**8.97**	**319**	P		**Pg**		**22 06 47.8**	**0.0**
GOMU				pP		Pn		22 06 51.8	+46
GOMU				sP				22 06 55.4	
GOMU				S		Sg		22 08 20.9	-23
GOMU				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GOMU				pmax		pmax			
	comp=Z,71nm,5.4s								
GOMU				LR		LR			
	comp=N,44nm,5.1s								
GOMU				LR		LR			
	comp=E,260nm,5.6s								
GOMU				LR		LR			
	comp=Z,110nm,6.2s								
LSA	**Lhasa**	**9.54**	**273**	Pn		**Pn**		**22 06 14.4**	**+0.6**
GTA	**Gaotai**	**9.94**	**350**	*e*P		Pn		22 06 26.3	+7.3
GTA				pP				22 06 32.3	
GTA				sP				22 06 36.4	
GTA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,130nm,5.1s								
GTA				LR		LR			
	comp=N,160nm,13.8s								
GTA				LR		LR			
	comp=E,270nm,13.1s								
GTA				LR		LR			
	comp=Z,170nm,15.3s								
CMAR	**Chiang Mai Arr**	**11.49**	**195**	Pn		**Pn**		**22 06 42.2**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=9.1,slow=13,SNR=5.6								
CMAR				Pg				22 07 26.1	
	comp=Z,0.6nm,0.3s,baz=19,slow=14,SNR=2.1								
CMAR				Lg		Lg		22 10 06.5	
	comp=Z,0.4nm,0.3s,baz=17,slow=26,SNR=1.4								
CMAR				LR		LR		22 11 14.8	
	comp=Z,65nm,20.3s,baz=30,slow=39								
WMQ	**Urumqi**	**18.24**	**325**	*e*P		**Pn**		**22 08 09.3**	**0.0**
WMQ				pmax		pmax			
	comp=Z,27nm,0.6s								
SONM	**Songino Array**	**18.48**	**9**	P		**Pn**		**22 08 12.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=191,slow=9.4,SNR=14								
SONM				LR		LR		22 16 11.7	
	comp=Z,211nm,21.3s,baz=190,slow=40								
SONM	**Songino Array**	**18.48**	**9**	P		**Pn**		**22 08 12.6**	**+0.4**
ULN	**Ulaanbaatar**	**18.61**	**10**	P		**P**		**22 08 13.9**	**+0.4**
KSAR	**Wonju Array Be**	**22.80**	**63**	P		**P**		**22 08 58.5**	**-0.3**
KSRS	**Korea Array**	**22.84**	**63**	P		**P**		**22 08 59.2**	**0.0**
	comp=Z,2.3nm,0.6s,baz=248,slow=9.7,SNR=8.7								
KSRS				LR		LR		22 18 26.1	
	comp=Z,79nm,18.9s,baz=255,slow=38								
MK31	**Makanchi Array**	**23.05**	**323**	P		**P**		**22 09 00.4**	**-1.0**
MKAR	**Makanchi Array**	**23.05**	**323**	P		**P**		**22 08 59.9**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=134,slow=10,SNR=9.0								
MKAR	**Makanchi Array**	**23.05**	**323**	P		**P**		**22 09 00.4**	**-1.0**
TARG	**Taragay, Kyrgy**	**23.06**	**308**	P		**P**		**22 09 03.0**	**+1.1**
TARG				IAmb		IAmb		22 09 11.3	
	comp=Z,3.5nm,0.9s								
CN2	**Changchun**	**23.35**	**46**	*e*P		**P**		**22 09 03.6**	**-0.8**
KSH	**Kashi**	**23.61**	**302**	P		**P**		**22 09 09.9**	**+2.7**
KSH				pmax		pmax			
	comp=Z,4.0nm,0.9s								
HIA	**Hailar**	**23.77**	**29**	P		**P**		**22 09 09.5**	**+0.9**
HIA				IAmb		IAmb		22 09 19.6	
	comp=Z,4.9nm,1.0s								
HYBB	**Hyderabad (bro**	**24.73**	**246**	*e*P		**P**		**22 09 12.5**	**-5.2**
BNX	**BinXian**	**25.52**	**44**	⇓P		**P**		**22 09 24.3**	**-0.3**
BNX				pmax		pmax			

	comp=Z,13nm,0.5s								
ZALV	**Zalesovo Beam**	**27.36**	**338**	P		**P**		**22 09 39.5**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=140,slow=12,SNR=6.5								
ZALV	**Zalesovo Beam**	**27.36**	**338**	P		**P**		**22 09 39.8**	**-1.3**
KURBB	**Kurchatov Arra**	**27.45**	**326**	P		**P**		**22 09 40.4**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=131,slow=10,SNR=12								
KURK	**Kurchatov**	**27.46**	**327**	P		**P**		**22 09 41.5**	**-0.6**
KURK					IAmb	IAmb		22 09 43.5	
	comp=Z,1.8nm,0.8s								
USA0B	**Ussuriysk Arra**	**27.78**	**50**	P		**P**		**22 09 43.7**	**-1.3**
USA0B					IAmb	IAmb		22 09 49.0	
	comp=Z,5.5nm,0.8s								
USRK	**Ussuriysk Ar.**	**27.78**	**50**	LR		LR		22 21 10.7	
	comp=Z,69nm,20.6s,baz=183,slow=37								
USRK	**Ussuriysk Ar.**	**27.78**	**50**	P		**P**		**22 09 42.7**	**-2.3**
KBL	**Kabul**	**28.37**	**289**	P		**P**		**22 09 50.6**	**0.0**
KBL					IAmb	IAmb		22 09 53.9	
	comp=Z,3.7nm,0.8s								
KLR	**Kul'dur**	**29.83**	**41**	LR		LR		22 22 28.9	
	comp=Z,49nm,19.4s,baz=205,slow=37								
PALK	**Pallekele**	**30.00**	**226**	LR		LR		22 23 57.1	
	comp=Z,53nm,19.7s,baz=158,slow=40								
MJAR	**Matsushiro Arr**	**30.89**	**68**	LR		LR		22 23 36.1	
	comp=Z,85nm,18.3s,baz=274,slow=38								
JHJ	**Hachijo jima 2**	**32.24**	**74**	LR		LR		22 23 07.3	
	comp=Z,81nm,18.8s,baz=11,slow=36								
JEW	**Eniwo**	**34.05**	**56**	P		**P**		**22 10 40.8**	**+0.5**
ASAJ	**Asahikawa**	**35.10**	**54**	LR		LR		22 26 19.8	
	comp=Z,46nm,18.6s,baz=234,slow=38								
JCJ	**Chichijima**	**35.23**	**84**	P		**P**		**22 10 48.7**	**-2.0**
YSS	**Yuzh-Sakhalins**	**35.81**	**50**	P		**P**		**22 10 55.9**	**+0.5**
YSS					IAmb	IAmb		22 11 10.2	
	comp=Z,7.6nm,0.9s								
YAK	**Yakutsk**	**37.09**	**21**	LR		LR		22 26 40.3	
	comp=Z,49nm,18.8s,baz=93,slow=37								
GEYT	**Alibeck**	**37.22**	**295**	P		**P**		**22 11 07.2**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=85,slow=18,SNR=5.9								
GEYT	**Alibeck**	**37.22**	**295**	P		**P**		**22 11 07.8**	**+0.2**
GEYT					IAmb	IAmb		22 11 10.0	
	comp=Z,4.8nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**37.22**	**295**	P		**P**		**22 11 07.9**	**+0.3**
GYA0B					IAmb	IAmb		22 11 10.0	
	comp=Z,6.5nm,0.8s								
ABKAR	**Akbulak array**	**37.40**	**314**	P		**P**		**22 11 09.5**	**+0.5**
ABKAR	**Akbulak array**	**37.40**	**314**	P		**P**		**22 11 09.6**	**+0.5**
ABKAR					IAmb	IAmb		22 11 10.8	
	comp=Z,1.0nm,1.1s								
KAPI	**Kappang**	**38.38**	**151**	P		**P**		**22 11 16.6**	**-0.9**
KAPI					IAmb	IAmb		22 11 17.4	
	comp=Z,6.4nm,0.8s								
ARU	**Arti**	**40.58**	**324**	P		**P**		**22 11 34.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=158,slow=5.4,SNR=5.2								
ARU	**Arti**	**40.58**	**324**	P		**P**		**22 11 35.8**	**+0.3**
TIXI	**Tiksi**	**44.54**	**12**	LR		LR		22 32 16.8	
	comp=Z,94nm,20.8s,baz=185,slow=38								
SEY	**Seymchan**	**46.21**	**29**	LR		LR		22 33 10.2	
	comp=Z,61nm,18.9s,baz=304,slow=38								
KIV	**Kislovodsk**	**48.70**	**304**	P		**P**		**22 12 40.8**	**+0.2**
KIV					IAmb	IAmb		22 12 43.7	
	comp=Z,8.2nm,1.0s								
KNRA	**Kununurra**	**51.87**	**147**	P		**P**		**22 13 03.6**	**-1.0**
KNRA					IAmb	IAmb		22 13 04.2	
	comp=Z,9.6nm,0.8s								
BRTR	**Keskin Array B**	**55.98**	**300**	P		**P**		**22 13 33.7**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=116,slow=8.4,SNR=4.2								
KEV	**Kevo**	**57.38**	**336**	P		**P**		**22 13 44.9**	**+0.8**
FINES	**FINESS Array B**	**57.84**	**327**	P		**P**		**22 13 45.7**	**-1.7**
WB0	**Warramunga Arr**	**58.14**	**144**	P		**P**		**22 13 49.3**	**-0.7**
WRAB	**Tennant Creek**	**58.25**	**144**	P		**P**		**22 13 50.3**	**-0.5**
WRA	**Warramunga Arr**	**58.25**	**144**	P		**P**		**22 13 50.1**	**-0.7**
	comp=Z,14nm,0.6s,baz=314,slow=11,SNR=235								
WB2	**Warramunga Arr**	**58.26**	**144**	P		**P**		**22 13 50.2**	**-0.7**
WR0	**Warramunga Arr**	**58.37**	**144**	P		**P**		**22 13 51.0**	**-0.7**
AS31	**Alice Springs**	**61.17**	**147**	P		**P**		**22 14 09.6**	**-1.3**
AS31					IAmb	IAmb		22 14 11.0	
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**61.17**	**147**	P		**P**		**22 14 10.2**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=331,slow=6.9,SNR=41								
ASAR	**Alice Springs**	**61.17**	**147**	P		**P**		**22 14 10.0**	**-0.9**
ULM	**Lac du Bonnet**	**98.89**	**12**	LR		LR		23 05 33.5	
	comp=Z,51nm,18.3s,baz=344,slow=37								

*IDC **24** 22:14:32.6±1.5, 30°.57S×71°.61W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/22, mbtmp3.9/4, ML3.8/1, MS3.0/4, Ms1 3.0/4, ms1mx2.8/50, Error ellipse: s-maj=58.3km s-min=33.3km az=153.0*
*SJA **24** 22:14:34.3±0.8, 30°.40S×71°.80W, h20km±2km, ML4.0, MW4.1*
*NEIC **24** 22:14:37.9±2.1, 30°.39S±0°.02×71°.70W±0°.06, h28km±7km, Mwr3.8/36, ML4.2(GUC), Error ellipse: s-maj=7.9km s-min=3.1km az=100.0*
*NEIC **24** 22:14:37.8, 30°.40S×71°.69W, h29km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr4.79; Mθθ-0.96; Mϕϕ-3.83; Mrθ2.49; Mrϕ-3.32; Mθϕ-1.22; Fault plane solution: M₀6.16000×10¹⁴ NP1:ϑ₁187.89000°, δ49.72000°, λ51.42000°. NP2:ϑ₂58.86000°, δ53.39000°, λ126.34000°. Principal axes: T 6.2919, Plg62.0000°, Azm30.0000°; N -0.2663, Plg28.0000°, Azm215.0000°; P -6.0256, Plg2.0000°, Azm124.0000°;*
*GUC **24** 22:14:37.6±0.5, 30°.42S×71°.67W, h34km±1km, ML4.2*

ISC 24 22:14:36.3±0.7, 30°.41S±0°.02×71°.74W±0°.04, h21km±3km, n100, σ2$01/149, mb3.8/3, 10C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.28**	**162**			**Pn**		**22 14 44.3**	**-1.0**
CO06					Sg	**Sb**		**22 14 49.2**	**+1.9**
CO06	**Fray Jorge**	**0.28**	**162**	↑*e*P		**Pn**		**22 14 44.2**	**-1.0**
CO06				*e*S		**Sn**		**22 14 49.1**	**-1.7**
CO06				IAML

ACDV IAML 22 15 51.1
comp=Z,524nm,0.4s
ACCO Cerro Coronel 2.31 95 *eP* **Pb 22 15 17.0 -0.5**
ACCO *eS* **Sb 22 15 48.3 +2.5**
RTLS Leoncito 2.51 124 *eP* **Pb 22 15 19.6 -1.3**
RTLS *eS* **Sb 22 15 50.3 -1.2**
RTLS IAML 22 16 04.2
comp=Z,466nm,0.7s
VA03 San Esteban 2.56 157 **Pn 22 15 18.4 +1.8**
VA03 San Esteban 2.56 157 *eP* **Pn 22 15 18.7 +2.1**
VA03 *eS* **Sb 22 15 49.7 -2.9**
VA03 IAML 22 15 58.9
comp=E,2μm,0.5s
VA03 San Esteban 2.56 157 *eP* **Pn 22 15 18.7 +2.1**
VA03 *eS* **Sb 22 15 49.8 -2.8**
VA03 IAML 22 15 58.3
comp=Z,769nm,0.6s
VA01 Torpederas 2.61 178 Pn **Pn 22 15 17.8 +0.7**
VA01 Torpederas 2.61 178 *eP* **Pn 22 15 17.3 +0.1**
VA01 *eS* **Sn 22 15 48.5 +0.3**
ROCH El Roble 2.63 167⍰ *eP* **Pn 22 15 18.8 +1.1**
ROCH *eS* **Sn 22 15 51.4 +2.3**
ROCH IAML 22 15 59.7
comp=N,2μm,0.5s
ROC1 El Roble 2.63 167 **Pn 22 15 16.8 -1.0**
ROC1 El Roble 2.63 167 *eP* **Pn 22 15 16.8 -1.0**
ROC1 *eS* **Sb 22 15 57.8 +2.9**
AUSP Uspallata 2.71 133 *eP* **Pb 22 15 22.6 -1.6**
AUSP *eS* **Sn 22 15 52.8 +1.7**
AUSP *eS* **Sb 22 15 54.3 -2.8**
PEL Peldehue 2.87 162 **Pn 22 15 22.1 +1.2**
PEL Peldehue 2.87 162⍰ *eP* **Pn 22 15 22.5 +1.7**
PEL *eS* **Sn 22 15 57.0 +2.2**
PEL IAML 22 16 09.1
comp=E,605nm,0.3s
PEL Peldehue 2.87 162 *eP* **Pn 22 15 22.0 +1.1**
PEL *eP* **Pn 22 15 22.6 +1.7**
PEL *eP* **Pn 22 15 22.6 +1.8**
PEL *eS* **Sb 22 15 59.3 -2.3**
MT02 Curacav 2.89 170 **Pn 22 15 22.8 +1.7**
MT02 Curacav 2.89 170 *eP* **Pn 22 15 21.8 +0.7**
MT02 *eS* **Sn 22 15 57.8 +2.6**
MT02 IAML 22 16 14.7
comp=E,440nm,0.6s
MT02 Curacav 2.89 170 *eP* **Pn 22 15 22.0 +0.9**
MT02 *eS* **Sn 22 15 54.3 -0.9**
MT02 IAML 22 16 05.0
comp=Z,311nm,0.6s
RTLL Cerro Villicun 2.95 109 *eP* **Pn 22 15 24.3 +2.3**
RTLL Cerro Villicun 2.95 109 *eP* **Pb 22 15 25.0 -3.2**
RTLL *eP* **Pn 22 15 25.2 +3.2**
RTLL *eS* **Sn 22 15 57.8 +1.0**
RTLL *eS* **Sb 22 16 01.3 -2.6**
MT05 Renca 3.10 164 Pn **Pn 22 15 24.9 +0.9**
MT05 Renca 3.10 164 *eP* **Pn 22 15 25.7 +1.8**
MT05 *eS* **Sn 22 16 02.2 +1.9**
MT05 IAML 22 16 16.3
comp=E,1μm,0.6s
MT05 Renca 3.10 164 *eP* **Pn 22 15 25.8 +1.8**
MT05 *eS* **Sn 22 16 03.8 +3.5**
MT05 IAML 22 16 19.0
comp=Z,476nm,1.4s
GO03 Copiap 3.10 26 **Pn 22 15 25.6 +1.6**
GO03 Copiap 3.10 26 *eP* **Pn 22 15 24.6 +0.6**
GO03 *eS* **Sn 22 16 02.7 +2.4**
GO03 IAML 22 16 16.5
comp=N,333nm,0.5s
GO03 Copiap 3.10 26 *eP* **Pn 22 15 25.2 +1.2**
GO03 *eS* **Sb 22 16 13.3 +5.2**
FCH Farellones 3.16 157 *eP* **Pn 22 15 27.4 +2.3**
FCH *eS* **Sn 22 16 03.9 +1.6**
FCH IAML 22 16 22.9
comp=N,284nm,0.3s
VA05 Santo Domingo 3.24 178 *eP* **Pn 22 15 26.1 +0.2**
VA05 *eS* **Sn 22 16 01.2 -2.7**
VA05 IAML 22 16 20.7
comp=E,560nm,0.5s
MT03 Universidad Ad 3.25 162 Pn **Pn 22 15 28.4 +2.3**
MT03 Universidad Ad 3.25 162 *eP* **Pn 22 15 27.5 +1.4**
MT03 *eS* **Sn 22 16 06.7 +2.5**
MT03 IAML 22 16 21.0
comp=E,894nm,0.3s
MT03 Universidad Ad 3.25 162 *eP* **Pn 22 15 28.0 +1.9**
MT03 *eS* **Sn 22 16 08.1 +3.9**
MT03 IAML 22 16 22.7
comp=Z,497nm,0.8s
AC06 Mina Casimiro 3.27 22 Pn **Pn 22 15 26.6 +0.3**
AC06 Mina Casimiro 3.27 22 *eP* **Pn 22 15 26.7 +0.3**
AC06 *eS* **Sn 22 16 06.4 +1.7**
AC06 IAML 22 16 23.6
comp=N,330nm,0.4s
ASAL Salagasta 3.30 132 *eP* **Pb 22 15 31.0 -3.2**
ASAL *eS* **Sb 22 16 22.8 +8.8**
MT09 Talagante 3.42 169⍰ *eP* **Pn 22 15 29.9 +1.4**
MT09 *i* S **Sn 22 16 09.8 +1.4**
MT09 IAML 22 16 27.8
comp=E,432nm,0.3s
MT01 Popeta 3.47 173 *eP* **Pn 22 15 29.7 +0.6**
MT01 *eS* **Sn 22 16 10.8 +1.3**
MT01 IAML 22 16 25.6
comp=E,336nm,0.7s
MT01 Popeta 3.47 173 *eP* **Pn 22 15 30.0 +0.9**
MT01 *eS* **Sb 22 16 17.8 -1.0**
MT01 IAML 22 16 24.8
comp=Z,250nm,0.7s
VCA Vinchina 3.50 62 *eP* **Pb 22 15 34.0 -3.6**
VCA *eS* **Sb 22 16 19.3 -0.4**
VCA IAML 22 16 30.5
comp=Z,618nm,1.5s
AAGR Agrelo 3.64 138 *eP* **Pb 22 15 37.0 -3.0**
AAGR *eS* **Sb 22 16 31.3 +7.5**
LMEL Las Melosas 3.67 160 **Pn 22 15 34.6 +2.7**
LMEL Las Melosas 3.67 160 *eP* **Pn 22 15 34.7 +2.7**
LMEL *eS* **Sn 22 16 16.9 +2.2**
BO04 La Punta 3.70 165⍰ *eP* **Pn 22 15 33.7 +1.4**
BO04 *eS* **Sn 22 16 15.9 +0.7**
AVFE Valle Fertil 3.70 95 *eP* **Pn 22 15 35.0 +2.7**
AVFE *eS* **Sb 22 16 20.8 -4.8**
AVFE IAML 22 16 33.2
comp=Z,288nm,0.4s
BO01 Tunca 4.01 172 **Pn 22 15 37.8 +1.3**
BO01 Tunca 4.01 172 *eP* **Pn 22 15 37.2 +0.7**
BO01 Tunca 4.01 172 *eP* **Pn 22 15 38.0 +1.5**
BO01 *eS* **Sn 22 16 25.3 +2.4**
BO01 IAML 22 16 45.0
comp=Z,164nm,0.9s
BO03 Pichilemu 4.08 183 *eP* **Pn 22 15 37.0 -0.4**
AC02 Maricunga 4.23 33 Pn **Pn 22 15 41.3 +1.3**
AC02 Maricunga 4.23 33 *eP* **Pn 22 15 42.0 +2.0**
AC02 *eS* **Sn 22 16 33.3 +4.3**
AC02 IAML 22 16 56.6
comp=Z,193nm,1.1s
ACLC CERRO LA CRUZ 4.27 78 *eP* **Pn 22 15 43.0 +2.8**
ACLC *eS* **Sn 22 16 31.8 +2.3**
ACLC IAML 22 16 45.7
comp=Z,221nm,0.8s
ACHE Chepes 4.43 101 *eP* **Pn 22 15 44.0 +1.6**
BO02 Sierra Bellavi 4.45 170 Pn **Pn 22 15 43.7 +1.2**
BO02 Sierra Bellavi 4.45 170 *eP* **Pn 22 15 43.9 +1.4**
BO02 *eS* **Sn 22 16 34.3 +0.6**
GO05 Huala 4.59 182 Pn **Pn 22 15 44.1 -0.4**
ML02 Panimavida 5.35 177 Pn **Pn 22 15 56.5 +1.6**
GO02 Mina Guanaco 5.56 21 *eS* **Sb 22 17 19.3 +0.1**
TCA Tanti 6.21 100 *eP* **Pn 22 16 08.0 +1.2**
H03N1 Juan Fernandez 6.81 242 Pn **Pn 22 16 14.4 -0.2**
baz=115,slow=18,SNR=21
H03N1 T T 22 23 08.6
baz=71,slow=72,SNR=3370
H03N2 Juan Fernandez 6.82 242 Pn **Pn 22 16 14.5 -0.3**
baz=115,slow=18,SNR=20
H03N2 T T 22 23 09.7
baz=71,slow=72,SNR=3058
H03N3 Juan Fernandez 6.82 242 Pn **Pn 22 16 14.2 -0.7**
baz=115,slow=18,SNR=22
H03N3 T T 22 23 08.1
baz=71,slow=72,SNR=3717
PB15 IPOC Station P 7.45 16 Pn **Pn 22 16 25.2 +1.2**
PB06 IPOC Station P 7.91 15 Pn **Pn 22 16 30.9 +0.6**
PB04 IPOC Station P 8.16 10 Pn **Pn 22 16 32.6 -1.2**
LVC Limon Verde 8.17 19 LR LR 22 19 37.1
comp=Z,62nm,18.4s,baz=220,slow=37
LVC Limon Verde 8.17 19 Pn **Pn 22 16 34.4 +0.5**
LC01 Cunco 8.47 181 Pn **Pn 22 16 38.0 +0.2**

PLCA Paso Flores 10.35 175 LR LR 22 20 25.9
comp=Z,153nm,19.1s,baz=320,slow=35
LPAZ La Paz 14.44 14 LR LR 22 24 51.8
comp=Z,55nm,18.8s,baz=227,slow=42
SIV San Ignacio 17.36 37 P **P 22 18 38.0 -0.6**
comp=Z,0.3nm,0.3s,baz=224,slow=13,SNR=12
NNA Nana 18.93 344 LR LR 22 24 16.2
comp=Z,38nm,21.2s,baz=204,slow=30
TXAR Lajitas Array 66.75 330 P **P 22 25 27.6 +1.5**
comp=Z,0.2nm,0.6s,baz=150,slow=9.3,SNR=2.6
TORD Torodi Ar. Bea 82.75 70 P **P 22 26 58.5 -0.5**
comp=Z,0.7nm,0.9s,baz=224,slow=4.0,SNR=2.3
ULM Lac du Bonnet 83.11 345 P **P 22 26 59.9 -0.1**
comp=Z,3.1nm,0.9s,baz=158,slow=7.6,SNR=3.2
H11S2 WAKE ISLAND Hyl 26.00 272 T T 00 52 22.7
baz=114,slow=74,SNR=95
H11S1 WAKE ISLAND Hyl 26.02 272 T T 00 52 16.8
baz=114,slow=74,SNR=134
H11S3 WAKE ISLAND Hyl 26.02 272 T T 00 52 19.0
baz=114,slow=74,SNR=85
ZALV Zalesovo Beam 151.01 29 PKPbc **PKiKP 22 34 27.2 -0.4**
comp=Z,2.1nm,0.6s,baz=305,slow=3.9,SNR=11
MKAR Makanchi Array 154.10 44 PKPbc **PKiKP 22 34 34.1 -0.2**
comp=Z,0.2nm,0.6s,baz=281,slow=2.2,SNR=3.1

*NEIC **24** 22:20:58.7±1.0, 17.8S±0.1×172.88W±0.08, h10km±1km, mb4.6/12, Error ellipse: s-maj=25.2km s-min=7.7km az=25.0*
*IDC **24** 22:21:26.6±2.8, 20.40S×176.43W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/33, mbtmp3.9/4, Error ellipse: s-maj=262.7km s-min=31.0km az=162.0*
ISC 24 22:20:58.0±0.7, 17.8S±0.2×172.9W±0.1, h10km, n22, σ1°69/21, mb4.3/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.13**	**115**	Pn	**Pn**	**22 21 47.4**	**0.0**
KHZ	**Kahutara**	**27.13**	**202**	P	**P**	**22 26 41.4**	**+0.2**
KHZ				IAmb	IAmb	22 26 41.6	
comp=Z,34nm,1.1s							
CTA	**Charters Tower**	**38.61**	**260**	P	**P**	**22 28 22.4**	**+0.7**
comp=Z,1.9nm,0.4s,baz=95,slow=9.9,SNR=6.2							
CTA	**Charters Tower**	**38.61**	**260**	P	**P**	**22 28 22.4**	**+0.7**
COEN	**Coen**	**42.32**	**269**	P	**P**	**22 28 54.0**	**+1.5**
COEN				IAmb	IAmb	22 29 06.1	
comp=Z,12nm,1.1s							
BBOO	**Buckleboo**	**48.04**	**242**	P	**P**	**22 29 37.7**	**0.0**
BBOO				IAmb	IAmb	22 29 42.4	
comp=Z,11nm,1.1s							
WR0	**Warramunga Arr**	**49.59**	**259**	P	**P**	**22 29 50.1**	**+0.3**
WB0	**Warramunga Arr**	**49.75**	**259**	P	**P**	**22 29 51.0**	**0.0**
WB0				IAmb	IAmb	22 29 57.1	
comp=Z,3.9nm,1.1s							
WB2	**Warramunga Arr**	**49.77**	**259**	P	**P**	**22 29 51.2**	**0.0**
WRA	**Warramunga Arr**	**49.78**	**259**	P	**P**	**22 29 51.1**	**-0.1**
comp=Z,0.6nm,0.5s,baz=97,slow=8.9,SNR=14							
WRA	**Warramunga Arr**	**49.78**	**259**	P	**P**	**22 29 51.1**	**-0.1**
AS31	**Alice Springs**	**49.84**	**254**	P	**P**	**22 29 51.7**	**0.0**
ASAR	**Alice Springs**	**49.84**	**254**	P	**P**	**22 29 51.8**	**+0.1**
comp=Z,1.6nm,0.7s,baz=92,slow=8.2,SNR=24							
ASAR	**Alice Springs**	**49.84**	**254**	P	**P**	**22 29 51.8**	**+0.1**
FORT	**Forrest**	**54.77**	**245**	P	**P**	**22 30 27.2**	**-1.0**
MORW	**Morawa**	**65.30**	**246**	P	**P**	**22 31 40.0**	**-0.6**
YULB	**Yu-li**	**76.15**	**300**	P	**P**	**22 32 45.6**	**-1.1**
BMO	**Blue Mountains**	**80.25**	**37**	P	**P**	**22 33 10.1**	**+1.1**
MFID	**Camas Ranch**	**80.26**	**38**	P	**P**	**22 33 08.8**	**-0.3**
MFID				IAmb	IAmb	22 33 20.6	
comp=Z,3.5nm,1.1s							
RUBB	**Prince Rupert**	**80.54**	**24**	P	**P**	**22 33 10.9**	**+0.7**
RUBB				IAmb	IAmb	22 33 20.7	
comp=Z,19nm,1.2s							
PWL	**Port Wells**	**80.83**	**12**	P	**P**	**22 33 10.8**	**-0.8**
TXAR	**Lajitas Array**	**81.57**	**56**	P	P	22 34 08.2	+52
comp=Z,0.3nm,0.6s,baz=220,slow=5.7,SNR=5.2							

*IDC **24** 22:25:04.3±1.3, 17.91S×173.71W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.8/42, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=49.0km s-min=21.6km az=133.0*
*NEIC **24** 22:25:10.4±2.6, 17.93S±0.07×173.08W±0.04, h68km±14km, mb4.5/16, Error ellipse: s-maj=11.3km s-min=3.8km az=163.0*
ISC 24 22:25:08.3±0.7, 17.98S±0.06×173.27W±0.08, h37km, n55, σ1°87/58, mb4.4/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.35**	**110**	Pn	**Pn**	**22 25 57.8**	**-0.3**
NIUE				Sn	**Sn**	**22 26 34.3**	**-2.4**
AFI	**Afiamalu**	**4.29**	**20**	Pn	**Pn**	**22 26 11.5**	**+0.3**
4.5nm,0.3s,baz=272,slow=11,SNR=4.3							
AFI				Sn	**Sn**	**22 26 57.0**	**-3.0**
33nm,0.3s,baz=89,slow=22,SNR=9.5							
AFI	**Afiamalu**	**4.29**	**20**		**Pn**	**22 26 11.3**	**+0.1**
AFI				Sn	**Sn**	**22 26 58.0**	**-2.0**
KUZ	**Kuaotunu**	**21.07**	**205**	P	**P**	**22 29 50.7**	**+1.4**
HAZ	**Te Kaha**	**21.21**	**200**	P	**P**	**22 29 51.5**	**+0.7**
PKGZ	**Pakihiroa**	**21.24**	**199**	P	**P**	**22 29 53.3**	**+2.1**
WIAZ	**Waiheke Island**	**21.35**	**206**	P	**P**	**22 29 53.8**	**+1.5**
RUGZ	**Raukumara Rang**	**21.43**	**200**	P	**P**	**22 29 55.7**	**+2.3**
TWGZ	**Tauwhareparae**	**21.53**	**199**	P	**P**	**22 29 57.7**	**+3.4**
MKAZ	**Moumakai**	**21.61**	**206**	P	**P**	**22 29 56.3**	**+1.3**
MWZ	**Matawai**	**21.82**	**200**	P	**P**	**22 29 59.4**	**+2.1**
URZ	**Urewera**	**21.89**	**201**	P	**P**	**22 29 58.2**	**+0.1**
11nm,0.3s,baz=336,slow=3.9,SNR=19							
URZ	**Urewera**	**21.89**	**201**	P	**P**	**22 29 57.9**	**-0.1**
URZ	**Urewera**	**21.89**	**201**	P	**P**	**22 29 58.2**	**+0.1**
RAGZ	**Rawiri**	**22.00**	**200**	P	**P**	**22 29 54.7**	**-4.7**
TOZ	**Tahuroa Road**	**22.01**	**204**	P	**P**	**22 30 01.3**	**+1.9**
RIGZ	**Rimuhau**	**22.09**	**199**	P	**P**	**22 29 57.8**	**-2.4**
RTZ	**Ruatahuna**	**22.25**	**201**	P	**P**	**22 30 02.1**	**0.0**
SNGZ	**Shannon Statio**	**22.29**	**200**	P	**P**	**22 30 05.5**	**+3.1**
RAHZ	**Arahi**	**22.49**	**200**	P	**P**	**22 30 06.4**	**+1.8**
MTHZ	**Maungataniwha**	**22.52**	**201**	P	**P**	**22 30 06.8**	**+1.9**
BKZ	**Black Stump Fm**	**22.91**	**201**	P	**P**	**22 30 08.1**	**-0.9**
BKZ				IAmb	IAmb	22 30 14.1	
comp=Z,17nm,1.0s							
BKZ	**Black Stump Fm**	**22.91**	**201**	P	**P**	**22 30 09.4**	**+0.3**
HIZ	**Hauiti**	**22.94**	**204**	P	**P**	**22 30 10.4**	**+1.1**
HIZ	**Hauiti**	**22.94**	**204**	P	**P**	**22 30 10.7**	**+1.5**
OTVZ	**Oturere**	**23.20**	**202**	P	**P**	**22 30 10.8**	**-1.3**
SNVZ	**South Ngauruho**	**23.23**	**202**	P	**P**	**22 30 12.2**	**-0.2**
BHHZ	**Black Hill Sta**	**23.35**	**201**	P	**P**	**22 30 11.8**	**-1.7**
BFZ	**Birch Farm**	**24.36**	**200**	P	**P**	**22 30 22.3**	**-0.6**
BHW	**Baring Head**	**25.47**	**201**	P	**P**	**22 30 33.1**	**+0.2**
PLWZ	**Palliser**	**25.49**	**200**	P	**P**	**22 30 33.1**	**0.0**
NNZ	**Nelson**	**25.84**	**204**	P	**P**	**22 30 36.0**	**-0.2**
QRZ	**Quartz Range**	**25.84**	**205**	P	**P**	**22 30 37.7**	**+1.4**
QRZ				IAmb	IAmb	22 30 40.3	
comp=Z,11nm,0.6s							
THZ	**Tophouse**	**26.49**	**204**	P	**P**	**22 30 42.7**	**+0.5**
KHZ	**Kahutara**	**26.83**	**202**	P	**P**	**22 30 48.3**	**+3.2**
LTZ	**Lake Taylor**	**27.61**	**203**	P	**P**	**22 30 55.0**	**+2.7**
OXZ	**Oxford**	**28.16**	**203**	P	**P**	**22 30 57.7**	**+0.6**
OXZ				IAmb	IAmb	22 31 05.9	
comp=Z,18nm,1.1s							
RPZ	**Rata Peaks**	**28.87**	**204**	P	**P**	**22 31 06.4**	**+3.0**
FOZ	**Fox Glacier**	**29.21**	**206**	P	**P**	**22 31 09.9**	**+3.5**
LBZ	**Lake Benmore**	**29.77**	**204**	P	**P**	**22 31 14.2**	**+2.8**
ODZ	**Otahua Downs**	**30.15**	**203**	P	**P**	**22 31 13.5**	**-1.2**
ODZ				IAmb	IAmb	22 31 16.0	
comp=Z,14nm,1.1s							
WKZ	**Wanaka**	**30.60**	**205**	P	**P**	**22 31 18.4**	**-0.4**
MLZ	**Mavora Lakes**	**31.41**	**206**	P	**P**	**22 31 26.0**	**+0.1**
MLZ				IAmb	IAmb	22 31 38.1	
comp=Z,6.5nm,1.1s							
CTA	**Charters Tower**	**38.26**	**260**	P	**P**	**22 32 23.7**	**-1.5**
comp=Z,3.9nm,0.6s,baz=98,slow=7.1,SNR=2.0							
STKA	**Stephens Creek**	**42.91**	**242**	P	**P**	**22 33 03.2**	**-0.3**
BBOO	**Buckleboo**	**47.67**	**242**	P	**P**	**22 33 39.7**	**-1.6**
BBOO				IAmb	IAmb	22 33 52.0	
comp=Z,8.1nm,1.1s							
WR0	**Warramunga Arr**	**49.23**	**259**	P	**P**	**22 33 53.0**	**-0.5**
WB0	**Warramunga Arr**	**49.40**	**259**	P	**P**	**22 33 53.3**	**-1.5**
WB0				IAmb	IAmb	22 33 56.5	
comp=Z,2.8nm,1.0s							
WB2	**Warramunga Arr**	**49.41**	**259**	P	**P**	**22 33 53.2**	**-1.7**
WB2				IAmb	IAmb	22 34 11.2	
comp=Z,3.5nm,1.1s							
WRA	**Warramunga Arr**	**49.43**	**259**	P	**P**	**22 33 52.9**	**-2.1**
comp=Z,0.8nm,0.6s,baz=98,slow=6.0,SNR=16							
AS31	**Alice Springs**	**49.48**	**254**	P	**P**	**22 33 55.0**	**-0.4**
ASAR	**Alice Springs**	**49.48**	**254**	P	**P**	**22 33 53.5**	**-1.9**
comp=Z,2.3nm,0.5s,baz=90,slow=8.5,SNR=40							
PDAR	**Pinedale Array**	**84.09**	**42**	P	**P**	**22 37 38.6**	**+2.9**
comp=Z,0.9nm,0.9s,baz=218,slow=8.7,SNR=4.6							
ILAR	**Eielson Array**	**84.94**	**11**	P	**P**	**22 37 41.7**	**+2.6**
comp=Z,0.5nm,0.8s,baz=225,slow=4.7,SNR=5.2							
CLL	**Collm**	**146.37**	**353**	*i* PKPbc	**PKiKP**	**22 44 47.9**	**-0.2**
comp=Z,5.0nm,1.0s							

*SFS **24** 23:00:35.0, 35.73N×3.85W, ML2.5, ALBORAN SUR*
*CNRM **24** 23:00:36.5, 35.83N×3.81W, h32km, ml1.8*
*MDD **24** 23:00:36.5±0.5, 35.78N×3.82W, h3km±3km, mb_Lg2.1/13, Error ellipse: s-maj=3.4km s-min=2.7km az=11.0*
ISC 24 23:00:36.0±1.4, 35.79N±0.02×3.83W±0.03, h17km±11km, n28, σ1°29/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.57**	**189**	P	**Pb**	**23 00 48.6**	**+1.0**
PALE				S	**Sb**	**23 00 55.6**	**+0.1**
EALB	**Alboran**	**0.67**	**76**	Pg	**Pg**	**23 00 49.1**	**-0.1**
EALB				Sg	**Sb**	**23 00 58.4**	**+0.3**
EALB				*i* Vmb_Lg		23 00 58.9	
PVLZ	**Peæn de**	**0.72**	**212**	S	**Sn**	**23 01 01.9**	**-0.1**
EMEL	**Melilla**	**0.86**	**124**	Pg	**Pb**	**23 00 52.3**	**-0.2**
EMEL				Sg	**Sb**	**23 01 03.4**	**-0.4**
GOG	**Mont Gurugu**	**0.89**	**129**	P	**Pb**	**23 00 52.8**	**-0.1**
GOG				S	**Sb**	**23 01 04.1**	**-0.4**
EMAL	**Malaga-Limoner**	**1.09**	**334**	P	**Pb**	**23 00 54.5**	**-1.8**
EMAL				S	**Sb**	**23 01 09.1**	**-1.1**
EMIJ	**Mijas**	**1.09**	**316**	Pg	**Pb**	**23 00 56.3**	**-0.1**
EMIJ				Sg	**Sb**	**23 01 09.4**	**-0.9**
EMIJ				*i* Vmb_Lg		23 01 17.3	
ELGU	**Los Guajares,**	**1.09**	**9**	Pg	**Pb**	**23 00 55.5**	**-1.0**
ELGU				Sg	**Sn**	**23 01 11.9**	**+0.5**
ELGU				*i* Vmb_Lg		23 01 17.3	
ECEU	**Ceuta**	**1.26**	**276**	Pg	**Pn**	**23 00 58.0**	**-0.8**
ECEU				Sg	**Sb**	**23 01 14.3**	**-0.9**
ECEU				*i* Vmb_Lg		23 01 16.0	
SMIR	**Smir Dam**	**1.26**	**266**	P	**Pn**	**23 00 58.3**	**-0.5**
SMIR				S	**Sb**	**23 01 12.9**	**-2.4**
AKLM	**AKL**	**1.27**	**181**	P	**Pg**	**23 01 00.4**	**-0.2**
AKLM				S	**Sb**	**23 01 15.9**	**+0.3**
EGOR	**Sierra Gorda,**	**1.34**	**351**	Pn	**Pg**	**23 01 02.0**	**0.0**
EGOR				Sn	**Sb**	**23 01 18.3**	**+0.6**
EGOR				*i* Vmb_Lg		23 01 23.2	
EBER	**Berja**	**1.35**	**34**	Pn	**Pn**	**23 00 59.4**	**-0.7**
EBER				Sn	**Sn**	**23 01 17.9**	**+0.2**
EBER				*i* Vmb_Lg		23 01 21.5	
EQUE	**Quentar**	**1.45**	**12**	Pn	**Pb**	**23 01 02.9**	**+0.2**
EQUE				Sn	**Sn**	**23 01 21.0**	**+0.8**
EQUE				*i* Vmb_Lg		23 01 28.7	
EJIF	**Jimena Fronter**	**1.48**	**297**	Pn	**Pn**	**23 01 02.5**	**+0.7**
EJIF				Sn	**Sb**	**23 01 22.1**	**+0.5**
TAF	**Taforalt**	**1.51**	**129**	P	**Pn**	**23 01 01.0**	**-1.3**
TAF				S	**Sn**	**23 01 20.5**	**-1.2**
JBK	**JBK**	**1.78**	**144**	P	**Pn**	**23 01 05.3**	**-0.9**
JBK				S	**Sn**	**23 01 25.9**	**-2.6**
EADA	**Adamuz**	**2.45**	**346**	Pn	**Pn**	**23 01 16.1**	**+0.9**
EADA				Sn	**Sn**	**23 01 45.3**	**+0.5**
EADA				*i* Vmb_Lg		23 01 54.7	
ECAB	**El Cabril**	**2.61**	**331**	Pn	**Pn**	**23 01 19.7**	**+2.2**
ECAB				Sn	**Sn**	**23 01 49.9**	**+1.1**
ECAB				*i* Vmb_Lg		23 02 04.8	
MD31	**MD31**	**3.01**	**195**	P	**Pn**	**23 01 25.0**	**+2.0**
MD31				S	**Sn**	**23 01 59.9**	**+1.3**
EMIN	**Mina Concepcio**	**3.02**	**312**	Pn	**Pn**	**23 01 23.3**	**+0.3**
EMIN				Sn	**Sn**	**23 01 59.1**	**+0.4**
EMIN				*i* Vmb_Lg		23 02 06.5	
MDT	**Midelt**	**3.03**	**192**	P	**Pn**	**23 01 26.2**	**+2.9**
MDT				S	**Sn**	**23 01 59.0**	**-0.2**
ETOB	**Tobarra**	**3.39**	**32**	Pn	**Pn**	**23 01 29.9**	**+1.8**
EGRO	**El Granado**	**3.41**	**302**	Pn	**Pn**	**23 01 29.9**	**+1.5**
EGRO				Sn	**Sn**	**23 02 09.6**	**+1.1**
EGRO				*i* Vmb_Lg		23 02 11.9	
PVAQ	**Vaqueiros**	**3.52**	**298**	P	**Pn**	**23 01 30.5**	**+0.6**
PVAQ				S	**Sn**	**23 02 08.7**	**-2.3**
PAB	**San Pablo**	**3.78**	**354**	Pn	**Pn**	**23 01 35.4**	**+1.9**
PAB				Sn	**Sn**	**23 02 17.7**	**+0.2**
EBAD	**Badajoz**	**3.90**	**320**	Pn	**Pn**	**23 01 35.8**	**+0.6**
EBAD				Sn	**Sn**	**23 02 20.5**	**0.0**
EBAD				*i* Vmb_Lg		23 02 22.1	
PESTR	**Estremoz**	**4.29**	**317**	P	**Pn**	**23 01 42.3**	**+1.8**
PESTR				S	**Sn**	**23 02 26.7**	**-3.5**

KRSC 24 23:18:11.8±1.1, 52.86N×157.30E, h276km±7km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.85**	**120**	P	Pn	23 18 49.8	+0.9
RUS				S	S	23 19 18.7	+0.5
DALK	**Dalny**	**0.90**	**78**	P	Pn	23 18 50.1	+1.1
DALK				S	S	23 19 19.0	+0.5
KOK	**Koryaka**	**0.91**	**61**	P	Pn	23 18 50.6	+1.3
GNL	**Ganaly**	**0.92**	**24**	P	Pn	23 18 49.4	+0.1
GNL				S	S	23 19 18.0	-1.0
AVH	**Avacha**	**0.96**	**64**	P	Pn	23 18 51.0	+1.6
KRER	**Koryakskii**	**0.98**	**62**	P	Pn	23 18 51.0	+1.3
KRER				S	S	23 19 20.7	+1.0
UGLR	**Uglovaya**	**0.98**	**69**	P	Pn	23 18 50.9	+1.3
SMAR	**Somma**	**0.99**	**65**	P	Pn	23 18 51.2	+1.4
SDLR	**Sedlovina**	**1.04**	**66**	P	Pn	23 18 51.1	+1.2
KDTR	**Khodutka, Kamc**	**1.16**	**155**	P	Pn	23 18 50.7	+0.2
KDTR				S	S	23 19 19.8	-1.2
SPN	**Mys Shipunski**	**1.66**	**81**	P	Pn	23 18 54.7	+1.0
SPN				S	S	23 19 26.4	-0.5
TUMR	**Tumrok**	**2.95**	**33**	P	Pn	23 19 07.2	+1.8
TUMR				S	S	23 19 48.5	+0.4
TUMD	**Tumrok D**	**2.98**	**37**	P	Pn	23 19 06.3	+0.7
TUMD				S	S	23 19 47.6	-0.8
KMNR	**Kamenistaya**	**3.37**	**29**	P	Pn	23 19 11.7	+1.8
KBG	**Krutoberegovo**	**4.63**	**41**	P	Pn	23 19 25.7	+1.8
KBG				S	S	23 20 21.0	-0.6
KBTR	**Krutoberegovo**	**4.64**	**42**	P	Pn	23 19 25.1	+1.0
KBTR				S	S	23 20 19.6	-2.3
BKI	**Bering**	**5.62**	**62**	P	Pn	23 19 38.3	+2.5
BKI				S	S	23 20 41.8	-1.3

*NEIC **24** 23:22:33.7±1.0, 4.66S±0.05×152.37E±0.05, h13km±5km, mb4.4/21, Error ellipse: s-maj=9.2km s-min=4.5km az=48.0*
*IDC **24** 23:22:34.1±9.2, 4.55S×152.37E, h26km±51km, mb3.7/

ASAR	**Alice Springs**	**26.01**	**221**	P	**P**	**23**	**28**	**05.5 -0.3**
FORT	**Forrest**	**34.68**	**218**	P	**P**	**23**	**29**	**22.0 -0.2**
KNTN	**Kanton**	**35.90**	**88**	P	**P**	**23**	**29**	**34.3 +1.3**
KNTN				IAmb	IAmb	23	29	48.1
	comp=Z,10nm,1.1s							
URZ	**Urewera**	**40.41**	**149**	P	**P**	**23**	**30**	**09.9 -0.8**
NACB	**Ninganchiao**	**41.40**	**315**	P	**P**	**23**	**30**	**20.5 +1.6**
BHW	**Baring Head**	**41.85**	**154**	P	**P**	**23**	**30**	**22.5 0.0**
JMN	**Monobe**	**41.91**	**337**	P	**P**	**23**	**30**	**24.0 +0.9**
MYKOM	**Kota Tinggi**	**48.87**	**276**	P	**P**	**23**	**31**	**18.6 +0.1**
MYKOM				IAmb	IAmb	23	31	26.0
	comp=Z,6.5nm,1.0s							
IPM	**Ipoh**	**52.05**	**279**	P	**P**	**23**	**31**	**42.9 +0.3**
IPM				IAmb	IAmb	23	31	51.0
	comp=Z,9.2nm,1.1s							
KULM	**Kulim**	**52.55**	**280**	P	**P**	**23**	**31**	**47.2 +0.8**
KULM				IAmb	IAmb	23	32	05.1
	comp=Z,7.0nm,1.0s							
GAMB	**Gambell**	**73.29**	**16**	P	**P**	**23**	**34**	**05.1 +1.8**
GAMB				IAmb	IAmb	23	34	11.9
	comp=Z,3.4nm,0.9s							
ANM	**Nome**	**75.70**	**17**	P	**P**	**23**	**34**	**17.1 -0.2**
TNA	**Tin City**	**75.71**	**16**	P	**P**	**23**	**34**	**18.8 +1.5**
TNA				IAmb	IAmb	23	34	28.2
	comp=Z,2.4nm,1.1s							
P18K	**Big Mountain,**	**75.94**	**25**	P	**P**	**23**	**34**	**17.0 -1.8**
M20K	**Styx River**	**78.21**	**23**	P	**P**	**23**	**34**	**33.6 +1.9**
M20K				IAmb	IAmb	23	34	40.8
	comp=Z,2.5nm,1.1s							
PAX	**Paxson**	**81.83**	**24**	P	**P**	**23**	**34**	**52.2 +1.0**
TORD	**Torodi Ar. Bea**	**149.81**	**288**	PKPbc	**PKiKP**	**23**	**42**	**22.5 -1.7**
	comp=Z,0.3nm,0.5s,baz=73,slow=2.4,SNR=6.2							

TUL ***25*** *00:12:32.3±1.0, 36.°71N±0.°01×98.°43W±0.°01, h2km±7km, ML2.8, mb_Lg2.4/14(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=159.0*

NEIC 25 00:12:32.7±0.9, 36.°71N±0.°01×98.°42W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=256.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.57**	**235**	Pg	Pg	00 12 43.4	-0.2
OKCFA	**Oklahoma City**	**1.51**	**148**	Pn	Pn	00 12 59.6	-0.8
OKCSW	**OKLAHOMA CITY**	**1.52**	**148**	Pn	Pn	00 12 59.9	-0.6
T35A	**Sooner Cattle**	**1.55**	**82**	Pn	Pn	00 13 00.7	-0.2
FNO	**Franklin**	**1.67**	**150**	Pn	Pn	00 13 02.5	0.0
FNO				IAmb_Lg		00 13 24.8	
	comp=Z,12nm,1.2s						
R32A	**Long Quarter,**	**1.73**	**352**		Pn	00 13 03.5	+0.1
WMOK	**Wichita Mounta**	**1.99**	**189**	Pn	Pn	00 13 07.1	+0.1
X34A	**Smith Ranch, M**	**2.15**	**167**	Pn	Pn	00 13 09.7	+0.4
TUL1	**Leonard**	**2.27**	**110**	Pn	Pn	00 13 10.9	+0.1
TUL1				IAmb_Lg		00 13 44.8	
	comp=Z,20nm,1.1s						
CBKS	**Cedar Bluff**	**2.35**	**334**	Pn	Pn	00 13 11.3	-0.7
KSU1	**Kansas State U**	**2.79**	**30**	Pn	Pn	00 13 17.5	-0.5
AMTX	**Amarillo**	**3.21**	**236**	Pg	Pb	00 13 30.9	+0.6
X37A	**Clayton**	**3.26**	**129**	Pn	Pn	00 13 25.1	+0.7
Z35A	**Perchaven, San**	**3.50**	**164**	Pn	Pn	00 13 27.2	-0.6
HHAR	**Hobbs**	**3.64**	**95**	Pn	Pn	00 13 29.1	-0.5
HHAR				IAmb_Lg		00 14 37.5	
	comp=Z,5.3nm,0.7s						
ABTX	**Abilene, Hawle**	**4.20**	**194**	IAmb_Lg		00 14 46.6	
	comp=Z,4.6nm,0.9s						
U40A	**Yellville**	**4.50**	**93**	IAmb_Lg		00 14 55.2	
	comp=Z,12nm,0.8s						
N35A	**Tabor**	**4.68**	**27**	IAmb_Lg		00 15 07.6	
	comp=Z,20nm,0.7s						
Q24A	**Divide**	**5.78**	**295**	IAmb_Lg		00 15 40.5	
	comp=Z,5.1nm,0.8s						
JCT	**Junction City**	**6.32**	**191**	IAmb_Lg		00 15 55.0	
	comp=Z,14nm,1.2s						

TUL ***25*** *00:32:48±1.3, 35.°56N±0.°01×97.°08W±0.°01, h6km±3km, ML2.5, ML2.2/28(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=143.0*

NEIC 25 00:32:48.3±1.4, 35.°570N±0.°010×97.°08W±0.°01, h7km±3km, Error ellipse: s-maj=1.9km s-min=0.9km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.12**	**313**	Pg	Pg	00 32 51.1	+0.1
OK005				Sg	Sg	00 32 53.4	+0.6
ADOK	**Arcadia Dam**	**0.25**	**289**	Pg	Pg	00 32 53.4	+0.1
ADOK				Sg	Sg	00 32 57.3	+0.7
OKCSW	**OKLAHOMA CITY**	**0.34**	**241**	Pg	Pg	00 32 54.5	-0.4
OKCSW				Sg	Sg	00 32 59.8	+0.4
OKCFA	**Oklahoma City**	**0.34**	**243**		Pg	00 32 54.5	-0.5
OKCFA				Sg	Sg	00 32 59.9	+0.4
OKCFA				IAML		00 33 05.1	
	comp=N,293nm,0.5s						
FNO	**Franklin**	**0.41**	**220**	Pg	Pg	00 32 56.1	-0.1
FNO				Sg	Sg	00 33 02.1	+0.5
FNO				IAML		00 33 02.3	
	comp=E,275nm,0.2s						
TUL1	**Leonard**	**1.10**	**72**	Pg	Pg	00 33 08.7	-0.8
TUL1				Sg	Sg	00 33 23.4	-0.4
TUL1				IAML		00 33 29.1	
	comp=N,58nm,0.2s						
X34A	**Smith Ranch, M**	**1.15**	**213**		Pg	00 33 09.7	-0.7
X34A				Sg	Sb	00 33 26.0	+0.3
X34A				IAML		00 33 26.6	
	comp=N,43nm,0.6s						
T35A	**Sooner Cattle**	**1.42**	**19**		Pn	00 33 14.0	-0.6
T35A					Pb	00 33 14.3	-0.9
WMOK	**Wichita Mounta**	**1.62**	**240**	Pn	Pn	00 33 17.5	+0.1
X37A	**Clayton**	**1.71**	**124**	Pn	Pn	00 33 16.8	-1.8
X37A				Sg	Sg	00 33 43.2	-0.1

NEIC 25 00:46:49.2±0.4, 36.°47N±0.°02×98.°74W±0.°03, h5km±3km, ML2.3/27, Error ellipse: s-maj=3.7km s-min=1.5km az=60.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.23**	**246**		Pg	00 46 53.8	0.0
T35A	**Sooner Cattle**	**1.84**	**75**		Pn	00 47 21.7	+0.2

IDC ***25*** *01:21:39.9±1.9, 59.°80N×153.°38W, h86km±29km, mb3.5/2, mb1 3.5/6, mb1mx3.1/38, mbtmp3.7/6, Error ellipse: s-maj=34.3km s-min=11.9km az=107.0*

NEIC ***25*** *01:21:41.2±1.1, 59.°76N±0.°03×153.°17W±0.°07, h111km±4km, Error ellipse: s-maj=5.2km s-min=4.6km az=101.0*

AEIC ***25*** *01:21:42±1.3, 59.°74N±0.°03×153.°15W±0.°07, h105km±4km, ML3.1, ML3.3/97(NEIC), Error ellipse: s-maj=5.2km s-min=4.5km az=117.0*

ISC 25 01:21:41.2±0.9, 59.°74N±0.°04×153.°14W±0.°04, h112km±5km, n241, c058/233, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.10**	**209**		**Pn**	**01 21 56.7**	**0.0**
OPT	**Oil Point**	**0.10**	**209**	P	**Pn**	**01 21 56.7**	**0.0**
	baz=26						
IVE	**Iliamna Volcan**	**0.28**	**12**		**Pn**	**01 21 57.2**	**-0.1**
IVE					**Sn**	**01 22 08.6**	**-0.8**
AU22	**Augustine Moun**	**0.39**	**197**		**Sn**	**01 22 09.7**	**-0.2**
AUL	**Augustine Lava**	**0.39**	**203**		**Pn**	**01 21 58.0**	**+0.3**
AUL					**Sn**	**01 22 09.9**	**-0.1**
AU2	**Augustine Isla**	**0.39**	**198**		**Pn**	**01 21 57.9**	**+0.2**
AUH	**Augustine H**	**0.41**	**203**		**Pn**	**01 21 58.3**	**+0.4**
AUQ	**Augustine Qik'**	**0.41**	**200**		**Pn**	**01 21 58.1**	**+0.2**
AUQ					**Sn**	**01 22 10.2**	**-0.1**
O20K	**Slope Mountain**	**0.43**	**37**		**Pn**	**01 21 57.8**	**-0.2**
O20K					**Sn**	**01 22 10.3**	**-0.2**
O20K	**Slope Mountain**	**0.43**	**37**	P	**Pn**	**01 21 57.8**	**-0.2**
	baz=218						
O20K				S	**Sn**	**01 22 10.3**	**-0.2**
	baz=218						
RED	**Redoubt Volcan**	**0.70**	**15**		**Pn**	**01 21 59.7**	**-0.2**
RED					**Sn**	**01 22 13.1**	**-0.9**
RSO	**Redoubt South**	**0.75**	**15**		**Pn**	**01 22 00.4**	**0.0**
O19K	**Port Alsworth**	**0.75**	**308**		**Pn**	**01 22 00.1**	**0.0**
O19K					**Sn**	**01 22 13.8**	**-0.6**
O19K	**Port Alsworth**	**0.75**	**308**	IAML		01 22 14.3	
	comp=E,836nm,0.4s						
O19K				IAML		01 22 14.7	
	comp=N,1µm,0.4s						
O19K	**Port Alsworth**	**0.75**	**308**	P	**Pn**	**01 22 00.1**	**0.0**
	baz=127						
O19K				S	**Sn**	**01 22 13.8**	**-0.6**
	baz=127						
HOM	**Homer**	**0.76**	**96**		**Pn**	**01 22 00.6**	**+0.3**
HOM					**Sn**	**01 22 15.3**	**+0.7**
HOM	**Homer**	**0.76**	**96**	IAML		01 22 16.6	
	comp=E,1µm,0.8s						
HOM				IAML		01 22 17.5	
	comp=N,666nm,0.5s						
HOM	**Homer**	**0.76**	**96**	P	**Pn**	**01 22 00.6**	**+0.3**
	baz=277						
HOM				S	**Sn**	**01 22 15.3**	**+0.7**
	baz=277						
RDWB	**Redoubt West**	**0.76**	**11**		**Pn**	**01 22 00.3**	**-0.2**
RDWB					**Sn**	**01 22 13.9**	**-1.1**
Q19K	**Cape Douglas,**	**0.86**	**198**		**Pn**	**01 22 01.3**	**+0.1**
Q19K					**Sn**	**01 22 16.3**	**0.0**
Q19K	**Cape Douglas,**	**0.86**	**198**	IAML		01 22 21.3	
	comp=N,474nm,0.9s						
Q19K				IAML		01 22 23.8	
	comp=E,386nm,1.2s						
Q19K	**Cape Douglas,**	**0.86**	**198**	P	**Pn**	**01 22 01.3**	**+0.1**
	baz=17						
Q19K				S	**Sn**	**01 22 16.3**	**0.0**
	baz=17						
RDJH	**Redoubt Jeurge**	**0.87**	**11**		**Pn**	**01 22 01.3**	**-0.1**
RDJH					**Sn**	**01 22 15.9**	**-0.8**
CNPM	**China Poot**	**0.99**	**102**		**Pn**	**01 22 02.3**	**-0.1**
CNPM					**Sn**	**01 22 17.9**	**-0.6**
CNPM	**China Poot**	**0.99**	**102**	IAML		01 22 21.1	
	comp=E,319nm,0.5s						
P18K	**Big Mountain,**	**1.12**	**253**		**Pn**	**01 22 03.7**	**-0.2**
P18K					**Sn**	**01 22 20.3**	**-0.7**
P18K	**Big Mountain,**	**1.12**	**253**	P	**Pn**	**01 22 03.7**	**-0.2**
	baz=71						
P18K				S	**Sn**	**01 22 20.3**	**-0.7**
	baz=71						
BRLK	**Bradley Lake**	**1.14**	**88**		**Pn**	**01 22 03.7**	**-0.3**
BRLK	**Bradley Lake**	**1.14**	**88**	IAML		01 22 22.6	
	comp=E,587nm,0.2s						
BRLK				IAML		01 22 23.0	
	comp=N,889nm,0.1s						
BRSE	**Bradley Lake S**	**1.21**	**89**		**Pn**	**01 22 04.6**	**-0.2**
BRSE	**Bradley Lake S**	**1.21**	**89**	P	**Pn**	**01 22 04.6**	**-0.2**
	baz=271						
N19K	**Bonanza Creek**	**1.27**	**329**		**Pn**	**01 22 05.5**	**0.0**
N19K	**Bonanza Creek**	**1.27**	**329**	P	**Pn**	**01 22 05.5**	**0.0**
	baz=148						
CAPN	**Captain Cook N**	**1.43**	**43**		**Pn**	**01 22 09.1**	**+1.9**
CAPN	**Captain Cook N**	**1.43**	**43**	IAML		01 22 30.6	
	comp=N,901nm,0.8s						
CAPN				IAML		01 22 31.2	
	comp=E,610nm,0.8s						
CAPN	**Captain Cook N**	**1.43**	**43**	P	**Pn**	**01 22 09.1**	**+1.9**
	baz=225						
SPCR	**Spurr Chakacha**	**1.53**	**17**		**Pn**	**01 22 08.7**	**+0.1**
SPCR	**Spurr Chakacha**	**1.53**	**17**	P	**Pn**	**01 22 08.7**	**+0.1**
	baz=198						
SPU	**Mount Spurr**	**1.54**	**20**		**Pn**	**01 22 08.8**	**+0.2**
SPCN	**Chakachatna No**	**1.56**	**17**		**Pn**	**01 22 09.2**	**+0.3**
SPBG	**Spurr Blockage**	**1.57**	**14**		**Pn**	**01 22 09.4**	**+0.4**
SLKM	**Skilak Lake**	**1.65**	**61**		**Pn**	**01 22 10.2**	**+0.3**
SPCG	**Spurr Capps Gl**	**1.65**	**19**		**Pn**	**01 22 10.2**	**+0.2**
SVW2	**Sparrevohn**	**1.82**	**319**		**Pn**	**01 22 12.0**	**0.0**
O22K	**Cooper Landing**	**1.86**	**65**		**Pn**	**01 22 12.9**	**+0.5**
O22K	**Cooper Landing**	**1.86**	**65**	P	**Pn**	**01 22 12.9**	**+0.5**
	baz=248						
STLK	**Strandline Lak**	**1.88**	**19**		**Pn**	**01 22 13.3**	**+0.6**
SEW	**Seward**	**1.89**	**77**		**Pn**	**01 22 12.7**	**-0.1**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**01 22 12.7**	**-0.1**
	baz=260						
KDAK	**Kodiak Island**	**1.99**	**171**	P	**Pn**	**01 22 13.7**	**-0.4**
	comp=E,22nm,0.3s,baz=47,slow=8.5,SNR=75						
KDAK				S	**Sn**	**01 22 38.2**	**-0.9**
	comp=E,27nm,0.3s,baz=143,slow=23,SNR=8.1						
M20K	**Styx River**	**2.15**	**0**		**Pn**	**01 22 16.6**	**+0.4**
M20K	**Styx River**	**2.15**	**0**	P	**Pn**	**01 22 16.6**	**+0.4**
	baz=180						
RC01	**Rabbit Creek A**	**2.16**	**50**		**Pn**	**01 22 16.4**	**+0.1**
RC01	**Rabbit Creek A**	**2.16**	**50**	IAML		01 22 43.4	
	comp=N,369nm,0.2s						
RC01				IAML		01 22 44.5	
	comp=E,430nm,0.2s						
RC01	**Rabbit Creek A**	**2.16**	**50**	P	**Pn**	**01 22 16.4**	**+0.1**
	baz=233						
M19K	**Big River Lodg**	**2.25**	**345**		**Pn**	**01 22 17.7**	**+0.2**
M19K	**Big River Lodg**	**2.25**	**345**	P	**Pn**	**01 22 17.7**	**+0.2**
	baz=164						
M22K	**Willow**	**2.50**	**35**		**Pn**	**01 22 21.2**	**+0.6**
M22K	**Willow**	**2.50**	**35**	P	**Pn**	**01 22 21.2**	**+0.6**
	baz=218						
OHAK	**Old Harbor**	**2.53**	**182**		**Pn**	**01 22 20.3**	**-0.7**
OHAK	**Old Harbor**	**2.53**	**182**	IAML		01 22 54.7	
	comp=N,73nm,2.6s						
OHAK				IAML		01 23 37.1	
	comp=E,66nm,3.8s						
OHAK	**Old Harbor**	**2.53**	**182**	P	**Pn**	**01 22 20.3**	**-0.7**
	baz=1.6						
L19K	**White Mountain**	**2.59**	**342**		**Pn**	**01 22 21.9**	**+0.1**
L19K	**White Mountain**	**2.59**	**342**	P	**Pn**	**01 22 21.9**	**+0.1**
	baz=160						
PWL	**Port Wells**	**2.64**	**63**		**Pn**	**01 22 21.8**	**-0.7**
PWL	**Port Wells**	**2.64**	**63**	P	**Pn**	**01 22 21.7**	**-0.7**
	baz=247						
PMR	**Palmer**	**2.71**	**45**		**Pn**	**01 22 22.7**	**-0.6**
PMR	**Palmer**	**2.71**	**45**	IAML		01 22 56.5	
	comp=N,114nm,0.3s						
PMR				IAML		01 22 58.7	
	comp=E,92nm,0.3s						
PMR	**Palmer**	**2.71**	**45**	P	**Pn**	**01 22 22.7**	**-0.6**
	baz=228						
L20K	**Farewell, AK**	**2.77**	**353**		**Pn**	**01 22 24.6**	**+0.5**
L20K	**Farewell, AK**	**2.77**	**353**	P	**Pn**	**01 22 24.6**	**+0.5**
	baz=172						
KNK	**Knik Glacier**	**2.85**	**52**		**Pn**	**01 22 24.6**	**-0.6**
KNK	**Knik Glacier**	**2.85**	**52**	P	**Pn**	**01 22 24.6**	**-0.6**
	baz=236						
GHO	**Glory Hole Cre**	**2.90**	**44**		**Pn**	**01 22 25.4**	**-0.6**
GHO	**Glory Hole Cre**	**2.90**	**44**	IAML		01 23 00.0	
	comp=N,141nm,0.4s						
GHO				IAML		01 23 02.7	
	comp=E,123nm,0.3s						
CUT	**Chulitna**	**3.01**	**26**		**Pn**	**01 22 27.9**	**+0.6**
CUT	**Chulitna**	**3.01**	**26**	IAML		01 23 09.1	
	comp=E,93nm,0.3s						
CUT				IAML		01 23 29.6	
	comp=N,85nm,1.2s						
CUT	**Chulitna**	**3.01**	**26**	P	**Pn**	**01 22 27.9**	**+0.6**
	baz=209						
SML	**Sawmill**	**3.14**	**47**		**Pn**	**01 22 28.4**	**-0.6**
SML	**Sawmill**	**3.14**	**47**	IAML		01 23 06.3	
	comp=N,79nm,0.4s						
SML				IAML		01 23 12.7	
	comp=E,79nm,0.7s						
SML	**Sawmill**	**3.14**	**47**	P	**Pn**	**01 22 28.4**	**-0.6**
	baz=231						
PPLA	**Purkeypile**	**3.20**	**8**		**Pn**	**01 22 31.2**	**+1.3**
PPLA	**Purkeypile**	**3.20**	**8**	P	**Pn**	**01 22 31.2**	**+1.3**
	baz=189						
GLI	**Glacier Island**	**3.21**	**67**		**Pn**	**01 22 28.7**	**-1.3**
GLI	**Glacier Island**	**3.21**	**67**	IAML		01 23 05.4	
	comp=E,170nm,0.6s						
GLI				IAML		01 23 06.1	
	comp=N,154nm,0.4s						
GLI	**Glacier Island**	**3.21**	**67**	P	**Pn**	**01 22 28.7**	**-1.3**
	baz=252						
SII	**Sitkinak Islan**	**3.24**	**190**		**Pn**	**01 22 29.6**	**-0.9**
SII	**Sitkinak Islan**	**3.24**	**190**	IAML		01 23 28.1	
	comp=N,165nm,3.5s						
SII				IAML		01 24 30.4	
	comp=E,154nm,3.2s						
SII	**Sitkinak Islan**	**3.24**	**190**	P	**Pn**	**01 22 29.5**	**-0.9**
	baz=9.3						
Q23K	**Middleton Isla**	**3.46**	**92**		**Pn**	**01 22 33.5**	**+0.2**
Q23K	**Middleton Isla**	**3.46**	**92**	P	**Pn**	**01 22 33.5**	**+0.2**
	baz=278						
FID	**Port Fidalgo**	**3.47**	**70**		**Pn**	**01 22 31.8**	**-1.6**
MID	**Middleton Isla**	**3.47**	**92**		**Pn**	**01 22 33.5**	**+0.1**
TTA	**Tatalina**	**3.49**	**338**		**Pn**	**01 22 33.4**	**-0.3**
TTA	**Tatalina**	**3.49**	**338**	P	**Pn**	**01 22 33.4**	**-0.3**
	baz=155						
JPK	**Jack Peak**	**3.50**	**65**		**Pn**	**01 22 33.5**	**-0.4**
SCM	**Sheep Creek Mo**	**3.54**	**51**		**Pn**	**01 22 34.0**	**-0.4**
SCM	**Sheep Creek Mo**	**3.54**	**51**	IAML		01 23 14.8	
	comp=E,89nm,0.4s						
SCM				IAML		01 23 19.0	
	comp=N,68nm,0.6s						
SCM	**Sheep Creek Mo**	**3.54**	**51**	P	**Pn**	**01 22 34.0**	**-0.4**
	baz=236						
K20K	**Telida**	**3.66**	**353**		**Pn**	**01 22 36.2**	**+0.3**
K20K	**Telida**	**3.66**	**353**	P	**Pn**	**01 22 36.2**	**+0.3**
	baz=173						
CAST	**Castle Rocks**	**3.72**	**7**		**Pn**	**01 22 37.2**	**+0.4**
CAST	**Castle Rocks**	**3.72**	**7**	P	**Pn**	**01 22 37.2**	**+0.4**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.78**	**74**		**Pn**	**01 22 36.7**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.78**	**74**	P	**Pn**	**01 22 36.7**	**-0.8**
	baz=261						
WAT1	**Susitna Watana**	**3.81**	**34**		**Pn**	**01 22 38.0**	**+0.1**
WAT1	**Susitna Watana**	**3.81**	**34**	P	**Pn**	**01 22 38.0**	**+0.1**
	baz=218						
WAT6	**Susitna Watana**	**3.87**	**40**		**Pn**	**01 22 38.5**	**-0.3**
WAT6	**Susitna Watana**	**3.87**	**40**	P	**Pn**	**01 22 38.5**	**-0.3**
	baz=225						
DIV	**Divide**	**3.91**	**66**		**Pn**	**01 22 39.9**	**+0.6**
TRF	**Thorofare Moun**	**3.96**	**19**		**Pn**	**01 22 40.5**	**+0.3**
TRF	**Thorofare Moun**	**3.96**	**19**	IAML		01 23 34.9	
	comp=N,25nm,4.7s						
TRF				IAML		01 23 57.8	
	comp=E,19nm,2.0s						
TRF	**Thorofare Moun**	**3.96**	**19**	P	**Pn**	**01 22 40.5**	**+0.3**
	baz=201						
KLU	**Klutina**	**3.96**	**61**		**Pn**	**01 22 39.5**	**-0.6**
KLU	**Klutina**	**3.96**	**61**	IAML		01 23 27.5	
	comp=E,88nm,0.4s						
KLU	**Klutina**	**3.96**	**61**	P	**Pn**	**01 22 39.5**	**-0.6**
	baz=247						
KTH	**Kantishna Hill**	**3.97**	**14**		**Pn**	**01 22 40.0**	**-0.1**
KTH	**Kantishna Hill**	**3.97**	**14**	IAML		01 24 01.1	
	comp=N,16nm,4.3s						
M24K	**Tolsona, Glenn**	**4.14**	**52**		**Pn**	**01 22 42.5**	**0.0**
M24K	**Tolsona, Glenn**	**4.14**	**52**	IAML		01 23 31.1	
	comp=N,63nm,1.0s						
M24K				IAML		01 23 33.4	
	comp=E,56nm,0.5s						
M24K	**Tolsona, Glenn**	**4.14**	**52**	P	**Pn**	**01 22 42.5**	**0.0**
	baz=238						
CHIR	**Chirikof Islan**	**4.15**	**200**		**Pn**	**01 22 41.7**	**-0.8**
CHIR	**Chirikof Islan**	**4.15**	**200**	P	**Pn**	**01 22 41.7**	**-0.8**
	baz=18						
CHUM	**Lake Minchumin**	**4.17**	**5**		**Pn**	**01 22 43.3**	**+0.5**
CHUM	**Lake Minchumin**	**4.17**	**5**	P	**Pn**	**01 22 43.3**	**+0.5**
	baz=186						
RND	**Reindeer**	**4.21**	**27**		**Pn**	**01 22 43.5**	**+0.2**
RND	**Reindeer**	**4.21**	**27**	IAML		01 23 51.4	
	comp=E,14nm,0.8s						
RND				IAML		01 24 04.6	
	comp=N,16nm,4.8s						
GOAT	**Goat Mountain**	**4.29**	**75**		**Pn**	**01 22 43.7**	**-0.7**
RAGM	**Ragged Mountai**	**4.29**	**78**		**Pn**	**01 22 43.8**	**-0.7**
RAGM	**Ragged Mountai**	**4.29**	**78**	IAML		01 23 35.9	
	comp=E,79nm,0.4s						
DHY	**Denali Highway**	**4.34**	**37**		**Pn**	**01 22 44.9**	**-0.3**
DHY	**Denali Highway**	**4.34**	**37**	IAML		01 23 35.5	
	comp=N,24nm,0.3s						
DHY				IAML		01 23 35.6	
	comp=E,23nm,0.4s						
DHY	**Denali Highway**	**4.34**	**37**	P	**Pn**	**01 22 44.9**	**-0.3**
	baz=222						
KAIM	**Kayak Island**	**4.40**	**84**		**Pn**	**01 22 46.0**	**+0.1**
KAIM	**Kayak Island**	**4.40**	**84**	P	**Pn**	**01 22 46.0**	**+0.1**
	baz=271						
CHGN	**Chignik**	**4.45**	**221**	Pn	**Pn**	**01 22 46.1**	**-0.4**
CHGN				IAML		01 23 36.7	
	comp=N,31nm,0.1s						
CHGN				IAML		01 23 39.7	
	comp=E,34nm,0.1s						
MCK	**McKinley**	**4.47**	**25**		**Pn**	**01 22 47.2**	**+0.4**
MCK	**McKinley**	**4.47**	**25**	IAML		01 24 04.1	
	comp=N,16nm,4.1s						
MCK				IAML		01 25 30.5	
	comp=E,18nm,4.6s						
MCK	**McKinley**	**4.47**	**25**	P	**Pn**	**01 22 47.2**	**+0.4**
	baz=208						
J20K	**Nowinta River**	**4.48**	**354**		**Pn**	**01 22 47.0**	**+0.2**
J20K	**Nowinta River**	**4.48**	**354**	IAML		01 23 52.0	
	comp=N,9.5nm,4.5s						
J20K	**Nowinta River**	**4.48**	**354**	P	**Pn**	**01 22 47.0**	**+0.2**
	baz=174						
BPAW	**Bear Paw Mtn.**	**4.49**	**12**		**Pn**	**01 22 46.5**	**-0.5**
BPAW	**Bear Paw Mtn.**	**4.49**	**12**	IAML		01 23 37.5	
	comp=N,12nm,2.2s						
BPAW	**Bear Paw Mtn.**	**4.49**	**12**	P	**Pn**	**01 22 46.5**	**-0.5**
	baz=194						
HMT	**Hamilton**	**4.49**	**79**		**Pn**	**01 22 46.7**	**-0.4**
N25K	**Chitina, Valde**	**4.59**	**62**		**Pn**	**01 22 48.4**	**-0.2**
N25K	**Chitina, Valde**	**4.59**	**62**	IAML		01 23 40.6	
	comp=E,52nm,0.6s						
N25K				IAML		01 23 42.7	
	comp=N,38nm,0.5s						
N25K	**Chitina, Valde**	**4.59**	**62**	P	**Pn**	**01 22 48.4**	**-0.2**
	baz=250						
NICHA	**Nichawak Mount**	**4.63**	**80**		**Pn**	**01 22 48.9**	**0.0**
HARP	**HAARP**	**4.70**	**52**		**Pn**	**01 22 49.6**	**-0.3**
HARP	**HAARP**	**4.70**	**52**	P	**Pn**	**01 22 49.6**	**-0.3**
	baz=239						
BWN	**Browne**	**4.77**	**20**		**Pn**	**01 22 51.2**	**+0.4**
BWN	**Browne**	**4.77**	**20**	IAML		01 25 35.4	
	comp=N,33nm,4.9s						
BERG	**Berg Lake**	**4.77**	**78**		**Pn**	**01 22 50.3**	**-0.5**
GLB	**Gilahina Butte**	**4.90**	**66

	baz=263							
CTGM	**Chitina Glacie**	5.99	73			Pn		01 23 08.1 +0.7
POKR	**Poker Plat Res**	6.01	24			Pn		01 23 07.0 -0.5
POKR	**Poker Plat Res**	6.01	24	P		Pn		01 23 07.0 -0.5
	baz=209							
TABL	**Table Mountain**	6.04	78			Pn		01 23 08.9 +0.7
SCRK	**Sand Creek**	6.06	42			Pn		01 23 07.4 -1.0
SCRK	**Sand Creek**	6.06	42	P		Pn		01 23 07.4 -1.0
	baz=230							
M27K	**Edge Creek, AK**	6.06	60	Pn		Pn		01 23 09.1 +0.7
J25K	**Salcha River,**	6.09	33			Pn		01 23 08.2 -0.4
J25K	**Salcha River,**	6.09	33	P		Pn		01 23 08.2 -0.4
	baz=220							
LOGN	**Logan Glacier**	6.13	75			Pn		01 23 09.5 +0.1
IM03		6.27	358			Pn		01 23 11.6 +0.6
IMAR	**Indian Mountai**	6.27	358	Pn		Pn		01 23 11.8 +0.7
YUK2	**White River**	6.36	66			Pn		01 23 13.4 +1.0
L27K	**Beaver Creek,**	6.37	54			Pn		01 23 12.8 +0.4
L27K	**Beaver Creek,**	6.37	54	P		Pn		01 23 12.9 +0.4
	baz=244							
BC03		6.38	54			Pn		01 23 13.0 +0.5
BCAR	**Beaver Creek A**	6.38	54	Pn		Pn		01 23 13.2 +0.6
J26L	**Joseph Creek**	6.55	39	P		Pn		01 23 14.5 -0.4
	baz=228							
H24K	**Noodor Dome**	6.57	19			Pn		01 23 15.1 -0.1
H24K	**Noodor Dome**	6.57	19	P		Pn		01 23 15.1 -0.1
	baz=204							
PRP	**Porcupine Dome**	6.77	28			Pn		01 23 18.4 +0.4
BCPM	**Bancas Point**	6.81	82			Pn		01 23 19.3 +1.0
PNL	**Peninsula**	6.95	85			Pn		01 23 20.4 0.0
PNL	**Peninsula**	6.95	85	P		Pn		01 23 20.4 0.0
	baz=277							
YUK4	**Talbot Arm**	7.32	71	P		Pn		01 23 26.7 +1.1
	baz=263							
YUK6	**Outpost Mounta**	7.43	74			Pn		01 23 27.8 +0.8
YUK6	**Outpost Mounta**	7.43	74	P		Pn		01 23 27.8 +0.8
	baz=267							
EGAK	**Eagle**	7.53	43			Pn		01 23 28.3 +0.3
YUK7	**Dusty Glacier**	7.53	78			Pn		01 23 28.8 +0.4
YUK5	**Granite Creek**	7.68	73			Pn		01 23 30.9 +0.5
FYU	**Fort Yukon**	7.72	24	Pn		Pn		01 23 30.3 -0.3
DAWY	**Dawson**	7.80	50			Pn		01 23 31.6 -0.1
DAWY	**Dawson**	7.80	50	P		Pn		01 23 31.7 -0.1
	baz=242							
BM03	**Burnt Mountain**	8.58	23			Pn		01 23 41.0 -1.3
BMAR	**Burnt Mountain**	8.60	23	Pn		Pn		01 23 42.8 +0.2
TOLK	**Toolik Lake Re**	9.07	8	Pn		Pn		01 23 50.5 +1.5
WHY	**Whitehorse**	9.13	76			Pn		01 23 49.5 -0.4
WHY	**Whitehorse**	9.13	76	P		Pn		01 23 49.5 -0.4
	baz=272							
DLBC	**Dease Lake**	11.94	86	P		Pn		01 24 29.2 +1.6
	comp=N,0.7nm,0.3s,baz=271,slow=7.8,SNR=10							
YKA	**Yellowknife Ar**	18.62	65	P		Pn		01 25 51.0 -0.1
	comp=N,0.1nm,0.3s,baz=277,slow=9.9,SNR=7.3							
SONM	**Songino Array**	54.89	306	P		P		01 30 59.9 +0.1
	comp=N,0.4nm,0.5s,baz=51,slow=7.8,SNR=4.3							
ZALV	**Zalesovo Beam**	57.54	324	P		P		01 31 19.0 +0.7
	comp=N,0.8nm,0.4s,baz=35,slow=7.0,SNR=4.3							

IDC ***25*** *01:46:50.3±1.1,2.2°25'S×12.5°50'W, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/41, mbtmp4.1/11, ML3.6/1, MS3.6/42, Ms1 3.6/42, ms1mx3.5/75, Error ellipse: s-maj=57.6km s-min=16.3km az=135.0*

NEIC ***25*** *01:46:51.1±1.9, 2.35±0.04×12.5°W±0.1, h10km±1km, mb4.8/25, Error ellipse: s-maj=17.2km s-min=6.1km az=264.0*

ISC 25 01:46:51.0±0.5, 2°40S±0.08×12°46W±0.10, h11km, n77, σ1§37/40, mb4.6/20, MS3.6/41, 1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	5.76	200	Pn	Pn	01 48 17.2	+1.0
	baz=12,slow=12,SNR=8.8						
H10N2				T	T	01 54 42.9	
	baz=17,slow=74,SNR=250						
H10N1	**ASCENSION HYDR**	5.78	200	Pn	Pn	01 48 17.4	+1.0
	baz=12,slow=12,SNR=20						
H10N1				T	T	01 54 44.0	
	baz=17,slow=74,SNR=331						
H10N3	**ASCENSION HYDR**	5.78	201	Pn	Pn	01 48 17.5	+1.0
	baz=12,slow=12,SNR=13						
H10N3				T	T	01 54 45.3	
	baz=17,slow=74,SNR=194						
ASCN	**Ascension**	5.82	199	Pn	Pn	01 48 16.8	-0.4
LIC	**Lamto**	11.33	41	*e*PKP1	Pn	01 49 36.8	+3.8
	18nm,1.1s						
KIC	**Kosan Boka**	11.62	42	*e*PKP1	Pn	01 49 36.2	-0.8
	26nm,1.0s						
TIC	**Toumodi**	11.65	40	*e*PKP1	Pn	01 49 37.3	-0.1
DBIC	**Dimbokro**	11.78	40	Pn	Pn	01 49 38.7	-0.4
	0.4nm,0.3s,baz=241,slow=13,SNR=8.5						
DBIC				LR	LR	01 53 24.8	
	comp=Z,572nm,20.2s,baz=222,slow=34						
SHEL	**Horse Pasture**	15.01	154	Pn	Pn	01 50 23.9	+0.6
KOWA	**Kowa**	18.75	26	P	P	01 51 09.0	-1.2
TOA0	**Torodi Ar. Sit**	20.88	42	P	P	01 51 32.7	-0.7
TORD	**Torodi Ar. Bea**	20.88	42	P	P	01 51 32.6	-0.8
	4.5nm,0.8s,baz=231,slow=9.0,SNR=16						
TORD	**Torodi Ar. Bea**	20.88	42	P	P	01 51 33.3	-0.1
RCBR	**Riachuelo**	23.62	261	LR	LR	01 58 46.2	
	comp=Z,145nm,20.2s,baz=212,slow=30						
TSUM	**Tsumeb**	33.81	122	LR	LR	02 06 52.9	
	comp=Z,59nm,18.4s,baz=167,slow=36						
MDT	**Midelt**	35.80	11	LR	LR	02 08 02.2	
	comp=Z,148nm,19.0s,baz=198,slow=36						
BDFB	**Brasilia**	37.41	247	LR	LR	02 08 12.1	
	comp=Z,119nm,19.5s,baz=300,slow=34						
MDP	**Montagnes des**	40.83	281	LR	LR	02 07 22.3	
	comp=Z,68nm,20.6s,baz=118,slow=30						
LSZ	**Lusaka**	42.06	110	LR	LR	02 09 16.2	
	comp=Z,59nm,20.8s,baz=214,slow=32						
ESDC	**Sonseca Array**	42.59	10	LR	LR	02 12 34.5	
	comp=Z,69nm,18.0s,baz=172,slow=36						
LBTB	**Lobatse**	43.01	125	LR	LR	02 09 39.8	
	comp=Z,34nm,21.1s,baz=232,slow=32						
LBTB	**Lobatse**	43.01	125	P	P	01 54 50.9	-0.1
KEST	**Kesra**	43.06	26	LR	LR	02 13 14.8	
	comp=Z,103nm,18.5s,baz=242,slow=37						
SUR	**Sutherland**	43.20	137	P	P	01 54 51.1	-1.4
SUR				IAmb	IAmb	01 55 02.6	
	comp=Z,16nm,1.4s						
MBAR	**Mbarara**	43.22	88	LR	LR	02 11 16.7	
	comp=Z,133nm,19.6s,baz=250,slow=34						
MBAR	**Mbarara**	43.22	88	P	P	01 54 53.8	+0.9
VAE	**Valguarnera**	46.85	30	LR	LR	02 15 16.6	
	comp=Z,62nm,19.2s,baz=162,slow=36						
CPUP	**Villa Florida**	49.17	237	P	P	01 55 42.1	+2.7
	comp=Z,3.2nm,1.1s,baz=66,slow=12,SNR=3.4						
CPUP				LR	LR	02 13 50.1	
	comp=Z,92nm,20.4s,baz=58,slow=33						
CPUP	**Villa Florida**	49.17	237	P	P	01 55 40.0	+0.7
CPUP				IAmb	IAmb	01 55 46.9	
	comp=Z,14nm,1.5s						
KMBO	**Kilima Mbogo**	49.70	89	LR	LR	02 14 56.9	
	comp=Z,154nm,20.8s,baz=105,slow=34						
SIV	**San Ignacio**	49.70	251	P	P	01 55 45.3	+1.6
	comp=Z,1.8nm,0.7s,baz=69,slow=11,SNR=7.2						
SIV				LR	LR	02 14 17.7	
	comp=Z,91nm,21.7s,baz=127,slow=33						
IDI	**Anoyia**	51.25	40	LR	LR	02 19 07.1	
	comp=Z,41nm,19.1s,baz=260,slow=38						
DAVOX	**Davos/Dischmat**	52.78	19	LR	LR	02 18 55.5	
	comp=Z,127nm,19.5s,baz=240,slow=37						
EIL	**Elat**	55.39	51	LR	LR	02 21 30.0	
	comp=Z,101nm,18.3s,baz=278,slow=38						
GERES	**GERESS Array B**	55.86	21	P	P	01 56 28.8	+0.2
	comp=Z,1.8nm,0.8s,baz=205,slow=5.9,SNR=18						
GERES				LR	LR	02 19 58.8	
	comp=Z,62nm,21.6s,baz=251,slow=36						
LPAZ	**La Paz**	56.45	252	P	P	01 56 33.8	-0.2
	comp=Z,1.0nm,0.6s,baz=90,slow=4.0,SNR=5.1						
LPAZ				LR	LR	02 19 08.1	
	comp=Z,86nm,20.3s,baz=66,slow=34						
MMAI	**Mount Meron Ar**	57.27	48	LR	LR	02 23 05.1	
	comp=Z,42nm,18.5s,baz=54,slow=38						
VRAC	**Vranov**	57.30	22	LR	LR	02 21 46.6	
	comp=Z,67nm,18.9s,baz=210,slow=37						
LVC	**Limon Verde**	58.25	245	LR	LR	02 20 47.3	
	comp=Z,42nm,19.5s,baz=98,slow=35						
PB07	**IPOC Station P**	58.97	246	P	P	01 56 50.6	-0.7
PB07				IAmb	IAmb	01 56 52.9	
	comp=Z,10nm,0.8s						
BRTR	**Keskin Array B**	59.48	40	P	P	01 56 54.8	+0.4
	comp=Z,1.0nm,0.8s,baz=224,slow=10,SNR=5.1						
AKASG	**Malin Array Be**	63.74	28	LR	LR	02 27 24.2	
	comp=Z,38nm,18.2s,baz=243,slow=38						
NNA	**Nana**	64.45	258	LR	LR	02 25 02.7	
	comp=Z,51nm,18.7s,baz=75,slow=36						
PLCA	**Paso Flores**	64.64	226	LR	LR	02 22 27.6	
	comp=Z,58nm,18.3s,baz=134,slow=33						
HFS	**Hagfors**	65.61	14	LR	LR	02 26 19.8	
	comp=Z,22nm,19.0s,baz=257,slow=36						
NOA	**NORSAR Array B**	65.85	12	LR	LR	02 26 15.2	
	comp=Z,21nm,18.3s,baz=205,slow=36						
GNI	**Garni**	67.16	44	LR	LR	02 29 19.8	
	comp=Z,23nm,19.5s,baz=268,slow=38						
KBZ	**Khabaz**	67.47	40	LR	LR	02 31 02.9	
	comp=Z,20nm,18.6s,baz=153,slow=39						
OBN	**Obninsk**	69.98	27	LR	LR	02 31 23.8	
	comp=Z,18nm,18.1s,baz=207,slow=38						
FINES	**FINESS Array B**	70.18	19	P	P	01 58 03.9	+0.4
	comp=Z,2.2nm,0.9s,baz=238,slow=3.6,SNR=6.0						
FINES				LR	LR	02 30 50.5	
	comp=Z,49nm,18.3s,baz=230,slow=38						
SDMD	**Soldier's Deli**	72.03	313	P	P	01 58 16.8	+1.5
JMIC	**Jan Mayen**	73.29	1	LR	LR	02 30 48.0	
	comp=Z,17nm,18.7s,baz=250,slow=36						
WSAR	**Wadi Sarin**	73.65	65	LR	LR	02 31 33.1	
	comp=Z,40nm,18.2s,baz=258,slow=36						
KMSC	**Kings Mountain**	74.25	307	P	P	01 58 26.2	-2.3
KMSC				IAmb	IAmb	01 58 29.8	
	comp=Z,14nm,1.4s						
SYO	**Syowa Base**	74.92	163	*e*P	P	01 58 28.8	-2.8
ARCES	**ARCESS Array B**	76.22	13	P	P	01 58 39.1	0.0
	comp=Z,2.2nm,0.8s,baz=214,slow=6.4,SNR=1.5						
ARCES	**ARCESS Array B**	76.22	13	IAmb	IAmb	01 58 39.3	
	comp=Z,24nm,1.5s						
GEYT	**Alibeck**	76.27	50	LR	LR	02 36 58.3	
	comp=Z,33nm,18.3s,baz=313,slow=40						
T50A	**Nancy**	77.45	309	P	P	01 58 45.8	-1.0
T50A				IAmb	IAmb	01 58 47.6	
	comp=Z,9.8nm,0.8s						
KIRV	**Kirov**	77.80	28	LR	LR	02 34 57.2	
	comp=Z,60nm,19.9s,baz=256,slow=37						
Z47A	**Carrollton**	79.30	304	P	P	01 58 55.7	-1.3
Z47A				IAmb	IAmb	01 58 57.2	
	comp=Z,12nm,0.7s						
AKTO	**Aktyubinsk**	79.54	38	LR	LR	02 40 14.6	
	comp=Z,21nm,18.1s,baz=279,slow=40						
WVT	**Waverly**	79.63	307	P	P	01 58 57.2	-1.5
WVT				IAmb	IAmb	01 58 58.3	
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	81.61	32	LR	LR	02 38 41.5	
	comp=Z,32nm,18.7s,baz=249,slow=38						
W41B	**Gary Mavity, V**	83.03	306	P	P	01 59 15.9	-1.0
S39A	**Bolivar**	84.23	308	P	P	01 59 21.4	-1.6
S39A				IAmb	IAmb	01 59 22.9	
	comp=Z,5.9nm,0.8s						
P38A	**Dawn**	84.64	310	P	P	01 59 23.5	-1.5
P38A				IAmb	IAmb	01 59 24.7	
	comp=Z,6.4nm,0.8s						
KSU1	**Kansas State U**	86.95	309	P	P	01 59 35.2	-1.3
KSU1				IAmb	IAmb	01 59 36.9	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	87.69	180	LR	LR	02 34 58.2	
	comp=Z,76nm,18.7s,baz=216,slow=33						
WMOK	**Wichita Mounta**	88.32	305	IAmb	IAmb	01 59 43.7	
	comp=Z,4.9nm,1.0s						
ABTX	**Abilene, Hawle**	88.90	303	P	P	01 59 46.1	+0.1
ABTX				IAmb	IAmb	01 59 47.1	
	comp=Z,7.1nm,1.0s						
CBKS	**Cedar Bluff**	89.36	309	P	P	01 59 46.4	-1.6
AAK	**Ala-Archa**	89.36	47	LR	LR	02 42 38.4	
	comp=Z,25nm,20.1s,baz=284,slow=38						
TXAR	**Lajitas Array**	92.21	299	P	P	02 00 02.0	+0.4
	comp=Z,0.9nm,1.0s,baz=119,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	94.99	43	P	P	02 00 15.8	+1.9
	comp=Z,0.5nm,0.8s,baz=253,slow=1.3,SNR=5.0						
MKAR				LR	LR	02 49 11.2	
	comp=Z,18nm,19.0s,baz=272,slow=39						
MKAR	**Makanchi Array**	94.99	43	P	P	02 00 13.5	-0.4
ZALV	**Zalesovo Beam**	96.22	36	LR	LR	02 46 45.8	
	comp=Z,14nm,21.3s,baz=264,slow=37						

MOS ***25*** *02:58:26.8±1.0, 51.49N×173.42W, h9km, mb4.7/32, Error ellipse: s-maj=10.5km s-min=6.1km az=98.0*

NEIC ***25*** *02:58:28.8±2.3, 51.37N±0.05×173.40W±0.07, h10km±1km, mb4.4/110, ML3.9(AEIC), Error ellipse: s-maj=8.7km s-min=7.3km az=197.0*

AEIC ***25*** *02:58:30±2.1, 51.43N±0.06×173.33W±0.07, h26km±5km, Error ellipse: s-maj=9.2km s-min=6.7km az=174.0*

IDC ***25*** *02:58:32.2±5.9, 51.58N×173.41W, h33km±44km, mb4.0/26, mb1 4.2/28, mb1mx4.1/37, mbtmp4.2/28, ML4.2/2, MS3.5/23, Ms1 3.5/23, ms1mx3.2/96, Error ellipse: s-maj=21.3km s-min=11.3km az=175.0*

ISC 25 02:58:31.9±2.0, 51.46N±0.08×173.38W±0.03, h31km±13km, n401, σ1§09/351, mb4.5/102, MS3.6/22, 33C-9D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	0.91	326		Pn	02 58 46.9	-1.5
ATKA					Sb	02 59 01.9	+1.1
KOFP	**Korovin Flat P**	0.94	332		Pn	02 58 48.0	-0.9
KOKL	**Mount Kliuchef**	1.01	330		Pn	02 58 49.0	-1.0
GSMY	**Great Sitkin M**	1.77	291		Pn	02 59 00.3	-0.1
GSTR	**Great Sitkin T**	1.79	292	Pn	Pn	02 59 00.9	+0.3
GSCK	**Great Sitkin C**	1.82	289		Pn	02 58 59.6	-1.5
GSTD	**Great Sitkin T**	1.82	290		Pn	02 58 60.0	-1.2
GSTD					Sn	02 59 24.2	+0.9
ADAG	**Mount Adagdak**	2.08	286		Pn	02 59 05.0	+0.5
ADK	**Adak**	2.10	283	Pn	Pn	02 59 04.5	-0.4
ADK	**Adak**	2.10	283		Sn	02 59 29.8	-0.3
KIWB	**Kanaga Island**	2.39	281	Pn	Pn	02 59 08.7	-0.2
KIKV	**Kanaga Island**	2.40	282		Pn	02 59 09.3	+0.2
KICM	**Kanaga Island**	2.42	283		Pn	02 59 09.9	+0.6
KIMD	**Kanaga Island**	2.43	279		Pn	02 59 09.3	-0.1
TAPA	**Tanaga Point A**	2.79	279		Pn	02 59 14.5	+0.1
TAFP	**Tanaga Falls P**	2.90	281		Pn	02 59 16.4	+0.5
TASE	**Tanaga Southea**	2.93	279		Pn	02 59 16.9	+0.6
NIKH	**Nikolski High**	3.17	60	Pn	Pn	02 59 18.6	-1.0
NIKH	**Nikolski High**	3.17	60		Sn	02 59 55.5	-0.7
NIKH	**Nikolski High**	3.17	60	P	Pn	02 59 19.7	+0.1
	baz=242						
GANO	**Gareloi North**	3.40	278		Pn	02 59 23.2	+0.4
OKSP	**Okmok Steeple**	3.60	58		Pn	02 59 25.4	-0.1
OKWE	**Okmok W'ng Wal**	3.73	55		Pn	02 59 28.1	+0.7
MREP	**Makushin Rep't**	4.68	57		Pn	02 59 40.7	+0.3
MSW	**Makushin Switc**	4.71	56		Pn	02 59 41.2	+0.5
UNV	**Unalaska Valle**	4.82	58	Pn	Pn	02 59 42.9	+0.7
UNV	**Unalaska Valle**	4.82	58	P	Pn	02 59 43.4	+1.2
	baz=242,SNR=7.1						
AKSA	**Akutan Strait**	5.38	57		Pn	02 59 50.0	+0.1
SPIA	**Saint Paul Isl**	6.02	16		Pn	03 00 00.3	+1.6
SPIA	**Saint Paul Isl**	6.02	16	P	Pn	03 00 01.3	+2.7
	baz=199						
WESE	**West Dahl East**	6.11	57		Pn	03 00 00.1	+0.1
SSLN	**Shishaldin Nor**	6.57	56		Pn	03 00 06.3	0.0
FALS	**False Pass**	6.89	56	Pn	Pn	03 00 11.9	+1.3
SDPT	**Sand Point**	8.63	58	Pn	Pn	03 00 35.8	+1.3
GAMB	**Gambell**	12.39	3	Pn	Pn	03 01 27.5	+1.7
GAMB	**Gambell**	12.39	3	P	Pn	03 01 28.3	+2.5
	baz=185						
KDAK	**Kodiak Island**	13.58	54	Pn	Pn	03 01 39.6	-2.5
	1.0nm,0.3s,baz=257,slow=5.4,SNR=7.6						
KDAK	**Kodiak Island**	13.58	54	*e*P	Pn	03 01 40.5	-1.6
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ANM	**Nome**	13.79	15	P	Pn	03 01 45.9	+0.9
ANM	**Nome**	13.79	15	Pn	Pn	03 01 45.9	+0.9
ANM	**Nome**	13.79	15	P	Pn	03 01 48.6	+3.6
	baz=201,SNR=10						
N19K	**Bonanza Creek**	14.04	41	Pn	Pn	03 01 49.7	+1.1
N19K	**Bonanza Creek**	14.04	41	P	Pn	03 01 50.4	+1.9
	baz=236						
TNA	**Tin City**	14.42	9	Pn	Pn	03 01 54.1	+0.5
TNA	**Tin City**	14.42	9	P	Pn	03 01 56.1	+2.6
	baz=194,SNR=6.6						
L19K	**White Mountain**	14.71	36	Pn	Pn	03 01 55.5	-2.0
L19K	**White Mountain**	14.71	36	P	P	03 02 02.4	-1.0
	baz=231						
M19K	**Big River Lodg**	14.71	37	P	P	03 02 01.7	-1.6
M19K	**Big River Lodg**	14.71	37	P	P	03 02 01.3	-2.0
	baz=233						
TTA	**Tatalina**	14.79	32	P	Pn	03 01 59.4	+0.7
TTA	**Tatalina**	14.79	32	Pn	Pn	03 01 59.4	+0.7
TTA	**Tatalina**	14.79	32	P	P	03 02 05.3	+1.0
	baz=227,SNR=17						
M20K	**Styx River**	15.18	39	P	P	03 02 06.5	-2.2
	baz=236						
L20K	**Farewell, AK**	15.25	36	P	P	03 02 09.5	+0.2
	baz=232						
K20K	**Telida**	15.74	33	Pn	Pn	03 02 09.9	-1.1
K20K	**Telida**	15.74	33	P	P	03 02 15.1	+0.4
	baz=230						
GCSA	**Galena City Sc**	15.84	26	P	P	03 02 17.8	+2.0
	baz=220						
PPLA	**Purkeypile**	16.13	37	IAmb	IAmb	03 02 35.7	
	comp=Z,32nm,1.4s						
PPLA	**Purkeypile**	16.13	37	P	P	03 02 19.6	+0.5
	baz=234						
J20K	**Nowinta River**	16.25	31	IAmb	IAmb	03 02 22.7	
	comp=Z,31nm,1.5s						
J20K	**Nowinta River**	16.25	31	P	P	03 02 21.2	+0.8
	baz=227,SNR=15						
CAST	**Castle Rocks**	16.47	35	P	P	03 02 22.1	-0.8
	baz=233,SNR=11						
CHUM	**Lake Minchumin**	16.68	34	P	P	03 02 25.6	+0.5
	baz=231,SNR=7.8						
KNK	**Knik Glacier**	16.89	44	P	Pn	03 02 24.7	-1.0
	baz=245						
KTH	**Kantishna Hill**	16.98	36	IAmb	IAmb	03 02 55.1	
	comp=Z,22nm,1.0s						
SML	**Sawmill**	17.12	43	P	Pn	03 02 27.6	-1.0
	baz=244						
TRF	**Thorofare Moun**	17.15	37	P	Pn	03 02 29.4	+0.3
	baz=236						
PET	**Petropavlovsk**	17.16	286	*e*P	P	03 02 31.3	+0.8
PET				*e*S	Sn	03 05 37.4	-1.4
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
BPAW	**Bear Paw Mtn.**	17.27	34	Pn	Pn	03 02 30.4	-0.1
BPAW	**Bear Paw Mtn.**	17.27	34	P	P	03 02 31.8	+0.1
	baz=233,SNR=10						
SCM	**Sheep Creek Mo**	17.56	44	IAmb	IAmb	03 02 55.1	
	comp=Z,15nm,0.8s						
SCM	**Sheep Creek Mo**	17.56	44	P	Pn	03 02 33.0	-1.1
	baz=245						
I21K	**Tanana**	17.62	31	IAmb	IAmb	03 02 50.2	
	comp=Z,15nm,0.8s						
I21K	**Tanana**	17.62	31	P	P	03 02 35.5	0.0
	baz=229,SNR=18						
H21K	**Melozitna Rive**	17.69	29	P	P	03 02 36.3	0.0
	baz=226,SNR=8.5						
WAT6	**Susitna Watana**	17.71	41	P	Pn	03 02 34.9	-1.1
	baz=243						
PETK	**Petropavlovsk-**	17.73	287	P	Pn	03 02 35.9	-0.2
	comp=Z,0.9nm,0.3s,baz=94,slow=13,SNR=20						
PETK				LR	LR	03 09 01.6	
	comp=Z,70nm,19.9s,baz=95,slow=36						
MCK	**McKinley**	17.81	37	IAmb	IAmb	03 03 02.9	
	comp=Z,26nm,1.5s						
MCK	**McKinley**	17.81	37	P	Pn	03 02 35.9	-1.3
	baz=238,SNR=6.6						
BWN	**Browne**	17.86	35	IAmb	IAmb	03 03 03.8	
	comp=Z,17nm,0.9s						
MLY	**Manley**	17.93	32	Pn	Pn	03 02 37.3	-1.3
MLY	**Manley**	17.93	32	P	P	03 02 39.3	+0.3
	baz=231,SNR=14						
KLU	**Klutina**	18.05	46	P	Pn	03 02 38.3	-1.8
	baz=248						
DHY	**Denali Highway**	18.09	40	P	Pn	03 02 39.4	-1.3
	baz=242						
M24K	**Tolsona, Glenn**	18.17	44	IAmb	IAmb	03 03 08.2	
	comp=Z,13nm,0.7s						
M24K	**Tolsona, Glenn**	18.17	44	P	Pn	03 02 40.5	-1.1
	baz=246						
NEA2	**Nenana**	18.24	35	P	P	03 02 40.6	-1.7
	baz=235,SNR=8.3						
I23K	**Minto, Yukon-K**	18.46	33	IAmb	IAmb	03 02 46.9	
	comp=Z,54nm,1.5s						
I23K	**Minto, Yukon-K**	18.46	33	P	P	03 02 44.7	0.0
	baz=233						
WRH	**Wood River Hil**	18.53	36	IAmb	IAmb	03 02 49.0	
	comp=Z,7.7nm,0.5s						
N25K	**Chitina, Valde**	18.68	46	P	P	03 02 46.9	-0.4
	baz=250						
HARP	**HAARP**	18.72	43	P	P	03 02 46.9	-0.7
	baz=247						
BERG	**Berg Lake**	18.73	50	IAmb	IAmb	03 03 03.0	
	comp=Z,12nm,0.8s						
PAX	**Paxson**	18.82	42	P	P	03 02 48.1	-0.7
PAX				pmax	pmax		
	comp=Z,11nm,1.4s						
PAX	**Paxson**	18.82	42	P	P	03 02 48.1	-0.7
PAX	**Paxson**	18.82	42	P	Pn	03 02 49.6	+0.1
	baz=245						
COLA	**College**	18.83	35	*e*P	Pn	03 02 49.2	-0.3
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
COLA	**College**	18.83	35

PNL	Peninsula	20.70	53	P		P		03 03 09.5	+0.4		
	baz=262										
EGAK	Eagle	21.31	39	P		P		03 03 14.9	-0.8		
	baz=246										
YUK4	Talbot Arm	21.36	49	P		P		03 03 17.3	+0.9		
	baz=258										
BMAR	Burnt Mountain	21.36	31	P		P		03 03 15.9	-0.4		
YUK6	Outpost Mounta	21.41	50	P		P		03 03 17.4	+0.3		
	baz=259										
SEY	Seymchan	21.52	315	P		P		03 03 17.9	-0.1		
	comp=Z,2.1nm,0.7s,baz=103,slow=10,SNR=7.6										
SEY	Seymchan	21.52	315⇓	*eP*		P		03 03 17.9	-0.1		
SEY				pmax	pmax						
	comp=Z,5.0nm,1.2s										
MA2	Magadan	21.63	306	P		P		03 03 19.8	+0.6		
	comp=Z,2.3nm,0.3s,baz=118,slow=15,SNR=1.8										
MA2				LR		LR		03 11 40.9			
	comp=Z,120nm,18.2s,baz=110,slow=37										
MA2	Magadan	21.63	306	P		P		03 03 19.7	+0.5		
DAWY	Dawson	21.76	42	P		P		03 03 19.3	-1.3		
	baz=250										
HYT	Haines Junctio	21.81	51	P		P		03 03 20.6	-0.7		
	baz=261										
J29M	Klondike Camp	22.37	41	P		P		03 03 28.3	+1.2		
	baz=251										
I29M	Ogilvie Camp,	22.65	39	IAmb		IAmb		03 03 52.1			
	comp=Z,14nm,1.1s										
I29M	Ogilvie Camp,	22.65	39	P		P		03 03 28.1	-2.0		
	baz=249										
SKAG	Skagway	22.73	55	P		P		03 03 31.1	+0.2		
	baz=266										
BESE	Bessie Mountai	22.94	57	P		P		03 03 32.1	-1.1		
BESE				IAmb		IAmb		03 04 00.4			
	comp=Z,22nm,1.2s										
JIS	Juneau Island	23.18	58	IAmb		IAmb		03 03 55.1			
	comp=Z,10nm,0.7s										
M31M	Drury Creek, Y	23.50	48	P		P		03 03 38.8	+0.1		
	baz=261										
P33M	Teslin, Yukon	24.04	53	P		P		03 03 46.9	+3.0		
	baz=267										
DLBC	Dease Lake	25.48	57	P		P		03 03 59.0	+2.0		
	comp=Z,5.1nm,0.7s,baz=291,slow=9.3,SNR=13										
DLBC	Dease Lake	25.48	57	IAmb		IAmb		03 04 24.2			
	comp=Z,14nm,1.1s										
INK	Inuvik	25.48	34	P		P		03 03 55.7	-1.1		
	comp=Z,7.0nm,0.4s,baz=246,slow=11,SNR=20										
INK	Inuvik	25.48	34	P		P		03 03 55.9	-0.8		
	baz=249,SNR=14										
TGTN	Hyland Airport	26.32	50	P		P		03 04 04.8	+0.2		
	baz=268										
TYV	Tymovskoe	27.28	286	*eP*		P		03 04 04.7	-8.5		
TYV				pmax	pmax						
	comp=Z,9.0nm,1.2s										
TYV				pmax	pmax						
	comp=Z,100nm,4.2s										
YSS	Yuzh-Sakhalins	28.68	278	*eP*		P		03 04 26.6	+0.8		
YSS				pmax	pmax						
	comp=Z,20nm,1.1s										
YSS				MLR		MLR					
	comp=Z,300nm,20.0s										
C36M	Paulatuk	29.07	34	IAmb		IAmb		03 04 28.8			
	comp=Z,5.1nm,1.1s										
C36M	Paulatuk	29.07	34	P		P		03 04 27.8	-1.2		
	baz=258										
ASAJ	Asahikawa	30.10	273	LR		LR		03 16 41.6			
	comp=Z,48nm,20.6s,baz=143,slow=36										
YAK	Yakutsk	31.91	312	LR		LR		03 18 12.1			
	comp=Z,133nm,18.2s,baz=249,slow=37										
YAK	Yakutsk	31.91	312⇓	*eP*		P		03 04 54.7	+0.6		
YAK				pmax	pmax						
	comp=Z,6.0nm,0.7s										
TIXI	Tiksi	32.26	330	LR		LR		03 19 00.4			
	comp=Z,58nm,18.5s,baz=187,slow=38										
TIXI	Tiksi	32.26	330	P		P		03 04 57.3	+0.2		
TIXI				pmax	pmax						
	comp=Z,2.0nm,0.5s										
TIXI	Tiksi	32.26	330	P		P		03 04 57.3	+0.2		
TIXI				IAmb		IAmb		03 04 57.9			
	comp=Z,2.0nm,0.5s										
KIP	Kipapa	32.28	152⇓	*eP*		P		03 04 58.1	+0.4		
KIP				pmax	pmax						
	comp=Z,15nm,1.3s										
YKA	Yellowknife Ar	32.70	47	P		P		03 05 00.1	-0.9		
	comp=Z,0.8nm,0.4s,baz=274,slow=8.9,SNR=37										
YKA				PcP		PcP		03 07 45.9	0.0		
	comp=Z,0.3nm,0.4s,baz=284,slow=3.1,SNR=7.0										
KLR	Kul'dur	34.40	288	LR		LR		03 19 55.0			
	comp=Z,53nm,19.6s,baz=52,slow=37										
KLR	Kul'dur	34.40	288⇓	*eP*		P		03 05 14.9	-1.1		
KLR				pmax	pmax						
	comp=Z,5.0nm,1.3s										
H11N2	WAKE ISLAND Hy	35.25	213	T		T		03 43 39.4			
	baz=21,slow=75,SNR=20										
H11N3	WAKE ISLAND Hy	35.26	213	T		T		03 43 42.4			
	baz=21,slow=75,SNR=20										
H11N1	WAKE ISLAND Hy	35.27	213	T		T		03 43 37.2			
	baz=21,slow=75,SNR=17										
H11S1	WAKE ISLAND Hy	36.45	213	T		T		03 44 46.3			
	baz=20,slow=76,SNR=45										
H11S2	WAKE ISLAND Hy	36.47	213	T		T		03 44 47.7			
	baz=20,slow=76,SNR=59										
H11S3	WAKE ISLAND Hy	36.47	213	T		T		03 44 51.9			
	baz=20,slow=76,SNR=24										
USA0B	Ussuriysk Arra	36.64	281	P		P		03 05 34.9	-0.4		
USA0B				pmax	pmax						
	comp=Z,6.0nm,1.0s										
USA0B	Ussuriysk Arra	36.64	281	P		P		03 05 34.9	-0.4		
USA0B				IAmb		IAmb		03 05 35.6			
	comp=Z,6.2nm,0.9s										
USRK	Ussuriysk Ar.	36.64	281	P		P		03 05 34.6	-0.6		
	comp=Z,4.0nm,0.5s,baz=63,slow=8.9,SNR=12										
MJAR	Matsushiro Arr	37.17	266	LR		LR		03 20 27.3			
	comp=Z,46nm,19.0s,baz=42,slow=35										
PNTR	Pine Nut	38.96	87	P		P		03 05 56.4	+1.3		
PNTR				IAmb		IAmb		03 06 25.1			
	comp=Z,8.0nm,0.9s										
EGMT	Eagleton	40.11	69	IAmb		IAmb		03 06 20.4			
	comp=Z,9.2nm,0.8s										
EGMT	Eagleton	40.11	69	P		P		03 06 04.8	+0.3		
	baz=300										
NVAR	Mina Array Bea	40.16	87	P		P		03 06 06.4	+1.2		
	comp=Z,1.0nm,0.7s,baz=286,slow=9.2,SNR=6.2										
NVAR	Mina Array Bea	40.16	87	P		P		03 06 06.2	+1.0		
BOZ	Bozeman (W)	40.23	73	P		P		03 06 05.9	+0.2		
	baz=302										
YHH	Holmes Hill	41.13	74	P		P		03 06 13.9	+0.7		
YHH				IAmb		IAmb		03 06 29.6			
	comp=Z,5.2nm,0.9s										
FFC	Flin Flon	41.31	56	P		P		03 06 14.2	+0.1		
FFC				pmax	pmax						
	comp=Z,9.0nm,1.5s										
FFC	Flin Flon	41.31	56	P		P		03 06 14.2	+0.1		
FFC				IAmb		IAmb		03 06 27.6			
	comp=Z,8.5nm,1.4s										
HIA	Hailar	41.38	294⇑	*eP*		P		03 06 13.3	-1.6		
HIA				pmax	pmax						
	comp=Z,5.0nm,0.9s										
RLMT	Red Lodge	41.90	73	IAmb		IAmb		03 06 36.7			
	comp=Z,4.6nm,0.8s										
RLMT	Red Lodge	41.90	73	P		P		03 06 20.2	+0.8		
	baz=303										
TPNV	Topopah Spring	42.36	87	P		P		03 06 24.2	+1.0		
TPNV				pmax	pmax						
	comp=Z,3.0nm,0.8s										
TPNV	Topopah Spring	42.36	87	P		P		03 06 24.2	+1.0		
TPNV	Topopah Spring	42.36	87	P		P		03 06 23.7	+0.5		
	baz=309										
DUG	Dugway, Tooele	42.52	81	P		P		03 06 25.3	+0.9		
DUG				pmax	pmax						
	comp=Z,5.0nm,1.2s										
DUG	Dugway, Tooele	42.52	81	P		P		03 06 25.3	+0.9		
DUG	Dugway, Tooele	42.52	81	P		P		03 06 26.1	+1.7		
	baz=306										
PRN	Pahroc Range	42.82	86	P		P		03 06 27.3	+0.4		
PRN				IAmb		IAmb		03 06 42.7			
	comp=Z,5.9nm,0.8s										
LAO	LASA Array	42.86	69	P		P		03 06 27.8	+0.8		
	baz=302										
BW06	Boulder Array	43.02	76	IAmb		IAmb		03 06 43.7			
	comp=Z,5.7nm,1.1s										
BW06	Boulder Array	43.02	76	P		P		03 06 29.0	+0.4		
	baz=305										
PD31	Pinedale Array	43.02	76	P		P		03 06 29.1	+0.5		
PD31				IAmb		IAmb		03 06 43.7			
	comp=Z,5.5nm,1.2s										
PDAR	Pinedale Array	43.02	76	P		P		03 06 28.8	+0.2		
	comp=Z,1.3nm,0.4s,baz=322,slow=2.8,SNR=29										
KSRS	Korea Array	43.03	275	P		P		03 06 29.2	+0.9		
	comp=Z,3.2nm,0.7s,baz=56,slow=7.9,SNR=8.8										
GSC	Goldstone, Bar	43.05	89	P		P		03 06 29.6	+0.9		
	baz=310										
KSAR	Wonju Array Be	43.06	275	P		P		03 06 29.9	+1.3		
KSAR	Wonju Array Be	43.06	275	P		P		03 06 29.9	+1.3		
DGMT	Dagmar	43.09	66	P		P		03 06 30.1	+1.2		
DGMT				IAmb		IAmb		03 06 30.6			
	comp=Z,16nm,1.2s										
DGMT	Dagmar	43.09	66	P		P		03 06 29.3	+0.4		
	baz=301										
FCC	Fort Churchill	43.42	48	IAmb		IAmb		03 06 32.0			
	comp=Z,5.9nm,0.8s										
TMUT	Trail Mountain	44.05	81	IAmb		IAmb		03 06 54.2			
	comp=Z,5.0nm,0.8s										
LCMT	Little Creek M	44.19	85	IAmb		IAmb		03 07 01.8			
	comp=Z,4.3nm,1.0s										
PFO	Pinyon Flats O	44.37	91⇓	*eP*		P		03 06 39.4	0.0		
PFO				pmax	pmax						
	comp=Z,10.0nm,1.3s										
P18A	Preston Nutter	44.44	80	IAmb		IAmb		03 07 02.1			
	comp=Z,4.8nm,1.0s										
SRU	San Rafael Swe	44.58	80	P		P		03 06 41.2	+0.1		
SRU				pmax	pmax						
	comp=Z,4.0nm,0.7s										
SRU	San Rafael Swe	44.58	80	P		P		03 06 41.2	+0.1		
SRU				IAmb		IAmb		03 06 55.4			
	comp=Z,4.2nm,0.7s										
O20A	White River Ci	45.37	78	IAmb		IAmb		03 07 03.4			
	comp=Z,7.3nm,0.8s										
O20A	White River Ci	45.37	78	P		P		03 06 47.4	+0.1		
	baz=307										
RSSD	Black Hills	45.56	71	P		P		03 06 49.0	+0.2		
	baz=305										
WUAZ	Wupatki	46.31	85	IAmb		IAmb		03 07 09.8			
	comp=Z,4.8nm,0.8s										
WUAZ	Wupatki	46.31	85	P		P		03 06 55.7	+0.9		
	baz=310										
XLT	XiLinHaoTe	46.40	290	*eP*		P		03 06 54.0	-1.3		
XLT				pP		pP		03 06 58.6	-4.5		
XLT				sP		sP		03 07 00.3	-6.0		
XLT				pmax	pmax						
	comp=Z,160nm,6.0s										
ULM	Lac du Bonnet	46.76	59	P		P		03 06 57.7	-0.2		
	comp=Z,3.3nm,0.4s,baz=300,slow=7.8,SNR=7.4										
ULM	Lac du Bonnet	46.76	59⇑	*eP*		P		03 06 58.2	+0.3		
AGMN	Agassiz Nation	47.85	62	P		P		03 07 06.3	-0.1		
	baz=305,SNR=5.1										
ULN	Ulaanbaatar	49.23	299	P		P		03 07 16.9	-0.4		
ULN				pmax	pmax						
	comp=Z,4.0nm,0.5s										
ULN	Ulaanbaatar	49.23	299	P		P		03 07 16.9	-0.4		
ULN				IAmb		IAmb		03 07 17.5			
	comp=Z,3.7nm,0.5s										
SONM	Songino Array	49.61	299	P		P		03 07 19.8	-0.3		
	comp=Z,2.9nm,0.4s,baz=57,slow=6.1,SNR=36										
SONM	Songino Array	49.61	299	P		P		03 07 20.4	+0.2		
SONM				pmax	pmax						
	comp=Z,5.0nm,1.1s										
SONM	Songino Array	49.61	299	P		P		03 07 20.4	+0.2		
SONM				IAmb		IAmb		03 07 20.7			
	comp=Z,4.7nm,1.1s										
ZAK	Zakamensk	49.78	304	*eP*		P		03 07 20.8	-0.6		
ZAK				pmax	pmax						
	comp=Z,7.0nm,1.3s										
ZAK				pmax	pmax						
	comp=Z,5.0nm,1.3s										
ECSD	EROS Data Cent	50.12	67	IAmb		IAmb		03 07 23.4			
	comp=Z,3.7nm,0.7s										
ECSD	EROS Data Cent	50.12	67	P		P		03 07 23.2	-0.7		
	baz=308										
F36A	Milaca	50.58	63	IAmb		IAmb		03 07 29.1			
	comp=Z,4.7nm,0.9s										
HHC	Hu-ho-hao-te	50.90	289	*eP*		P		03 07 30.3	+0.3		
HHC				pmax	pmax						
	comp=Z,16nm,0.9s										
HHC				pmax	pmax						
	comp=Z,160nm,5.4s										
HNS	HongShan	51.21	284	⇑P		P		03 07 32.8	+0.6		
HNS				pmax	pmax						
	comp=Z,20nm,1.0s										
SPMN	Marine on St.	51.37	63	P		P		03 07 33.0	-0.2		
	baz=308										
SCIA	State Center	53.21	67	P		P		03 07 47.3	+0.3		
	baz=310										
SFJD	Kangerlussuaq	54.25	24	LR		LR		03 34 00.4			
	comp=Z,58nm,18.3s,baz=180,slow=39										
LPIG	La Paz	54.85	95	LR		LR		03 28 13.8			
	comp=Z,44nm,18.0s,baz=292,slow=32										
TXAR	Lajitas Array	55.27	85	P		P		03 08 01.9	-0.3		
	comp=Z,0.8nm,0.8s,baz=304,slow=5.5,SNR=10										
TXAR	Lajitas Array	55.27	85	P		P		03 08 02.4	+0.1		
TXAR	Lajitas Array	55.27	85	P		P		03 08 02.4	+0.1		
ZALV	Zalesovo Beam	56.39	316	P		P		03 08 08.3	-1.5		
	comp=Z,0.6nm,0.5s,baz=50,slow=7.7,SNR=3.0										
ZALV				PcP		PcP		03 09 06.2	-0.3		
	comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=2.3										
ZALV	Zalesovo Beam	56.39	316	P		P		03 08 09.8	0.0		
XAN	Xi'an	56.95	285	P		P		03 08 13.6	-0.6		
XAN				pP		pP		03 08 19.0	-3.2		
XAN				pmax	pmax						
	comp=Z,8.0nm,1.4s										
U40A	Yellville	57.07	72	P		P		03 08 13.4	-1.5		
	baz=313										
W39A	Magazine	57.30	73	P		P		03 08 16.0	-0.6		
	baz=313										
SCHQ	Schefferville	57.78	41	P		P		03 08 19.7	+0.1		
	comp=Z,2.3nm,0.5s,baz=290,slow=12,SNR=8.5										
ARCES	ARCESS Array B	58.53	352	P		P		03 08 23.5	-1.2		
	comp=Z,1.7nm,0.5s,baz=21,slow=6.3,SNR=17										
ARCES				PcP		PcP		03 09 14.6	-0.2		
	comp=Z,1.8nm,0.7s,baz=17,slow=4.9,SNR=7.3										
ARCES				LR		LR		03 33 57.2			
	comp=Z,26nm,20.8s,baz=313,slow=36										
ARCES	ARCESS Array B	58.53	352	P		P		03 08 23.5	-1.2		
ARCES				pmax	pmax						
	comp=Z,16nm,1.5s										
LZH	Lanzhou	58.59	290	*eP*		P		03 08 24.8	-1.0		
LZH				pP		pP		03 08 32.0	-1.8		
LZH				pmax	pmax						
	comp=Z,16nm,1.3s										
GTA	Gaotai	58.65	295	*eP*		P		03 08 25.9	-0.2		
GTA				sP		pwP		03 08 39.3	-0.8		
GTA				pmax	pmax						
	comp=Z,9.0nm,0.5s										
O48B	Farmland	58.87	63	P		P		03 08 25.9	-1.6		
	baz=313										
PLAL	Pickwick Lake	60.84	70	P		P		03 08 43.5	+2.4		
KURK	Kurchatov	61.37	316	P		P		03 08 43.9	-0.5		
KURK				pmax	pmax						
	comp=Z,4.0nm,0.6s										
KURK	Kurchatov	61.37	316	P		P		03 08 43.9	-0.5		
WMQ	Urumqi	62.10	306	*eP*		P		03 08 53.4	+3.9		
MCWV	Mont Chateau	62.22	61	P		P		03 08 50.5	+0.2		
	baz=315										
SSPA	Standing Stone	62.58	59	P		P		03 08 52.5	-0.2		
	baz=316										
MK31	Makanchi Array	62.59	311	*c iP*		P		03 08 51.6	-1.1		
MK31	Makanchi Array	62.59	311	P		P		03 08 51.1	-1.7		
MK31				IAmb		IAmb		03 08 52.9			
	comp=Z,1.9nm,0.9s										
MKAR	Makanchi Array	62.59	311	P		P		03 08 51.3	-1.4		
	comp=Z,1.8nm,0.5s,baz=48,slow=5.9,SNR=37										
MKAR				LR		LR		03 38 44.6			
	comp=Z,29nm,18.9s,baz=35,slow=39										
MKAR	Makanchi Array	62.59	311	P		P		03 08 51.6	-1.1		
MKAR	Makanchi Array	62.59	311	P		P		03 08 51.6	-1.1		
MAKZ	Makanchi	62.73	312	P		P		03 08 52.8	-0.8		
MAKZ				pmax	pmax						
	comp=Z,3.0nm,0.6s										
MAKZ	Makanchi	62.73	312	P		P		03 08 52.8	-0.8		
TKL	Tuckaleechee C	62.85	66	LR		LR		03 35 32.4			
	comp=Z,73nm,18.1s,baz=322,slow=35										
BRVK	Borovoye	62.98	323	P		P		03 08 54.7	-0.4		
BRVK				pmax	pmax						
	comp=Z,4.0nm,0.7s										
BRVK	Borovoye	62.98	323	P		P		03 08 54.7	-0.4		
BRVK				IAmb		IAmb		03 08 55.1			
	comp=Z,3.5nm,0.7s										
GOMU	GeErMu	63.72	296	P		P		03 09 00.4	-0.4		
GOMU				pP		pP		03 09 03.3	-5.7		
GOMU				sP		sP		03 09 07.6	-4.4		
GOMU				pmax	pmax						
	comp=Z,3.0nm,0.7s										
GOMU				pmax	pmax						
	comp=Z,130nm,6.9s										
ARU	Arti	64.26	331	LR		LR		03 41 33.7			
	comp=Z,85nm,18.2s,baz=36,slow=40										
ARU	Arti	64.26	331	*c iP*		P		03 09 02.7	-0.8		
ARU								03 09 36.7			
ARU				S		S		03 17 40.8	+2.1		
ARU				pmax	pmax						
	comp=Z,15nm,1.9s										
KMSC	Kings Mountain	64.61	65	P		P		03 09 05.7	-0.5		
	baz=316										
GOGA	Godfrey	64.64	68	P		P		03 09 05.7	-0.6		
	baz=316										
KIRV	Kirov	64.91	337	LR		LR		03 41 26.5			
	comp=Z,37nm,18.8s,baz=29,slow=40										
KLMR	Klimovskoe	64.97	343	*eP*		P		03 09 05.8	-2.3		
KLMR				pmax	pmax						
	comp=Z,15nm,1.5s										
KLMR	Klimovskoe	64.97	343	*eP*		P		03 09 05.9	-2.2		
KLMR				AMP				03 09 07.7			
	comp=Z,15nm,1.5s										
FINES	FINESS Array B	66.38	350	P		P		03 09 15.8	-1.4		
	comp=Z,1.3nm,0.6s,baz=35,slow=7.0,SNR=8.1										
FINES				PcP		PcP		03 09 46.6	-0.2		
	comp=Z,1.4nm,0.5s,baz=45,slow=2.4,SNR=6.4										
FINES				LR		LR		03 41 04.5			
	comp=Z,30nm,18.5s,baz=34,slow=38										
FINES	FINESS Array B	66.38	350	P		P		03 09 19.3	+2.1		
FINES	FINESS Array B	66.38	350	P		P		03 09 19.3	+2.1		
PZH	PanZhiHua	66.66	284	P		P		03 09 19.8	+0.1		
PZH				pmax	pmax						
	comp=Z,10.0nm,0.7s										
PZH				pmax	pmax						
	comp=Z,120nm,4.7s										
NB2	NORSAR Subarra	67.80	358	P		P		03 09 25.0	-1.2		
	comp=Z,0.6nm,0.5s,baz=4.1,slow=6.5										
NOA	NORSAR Array B	67.80	358	P		P		03 09 25.3	-0.9		
	comp=Z,0.2nm,0.5s,baz=3.1,slow=7.4,SNR=7.6										
NOA				LR		LR		03 39 37.4			
	comp=Z,20nm,18.1s,baz=10.0,slow=36										
TKM2	Tokmak 2	68.63	313	P		P		03 09 32.2	+0.2		
	SNR=6.1										
USP	Ospenovka	68.86	313	P		P		03 09 33.4	+0.2		
	SNR=9.8										
AAK	Ala-Archa	69.36	313	LR		LR		03 43 15.7			
	comp=Z,27nm,18.0s,baz=24,slow=39										
AAK	Ala-Archa	69.36	313	P		P		03 09 36.6	+0.1		
	SNR=11										
AAK	Ala-Archa	69.36	313	P		P		03 09 36.8	+0.3		
AAK				pmax	pmax						
	comp=Z,9.0nm,0.7s										
AAK	Ala-Archa	69.36	313	P		P		03 09 36.8	+0.3		
AKTO	Aktyubinsk	69.51	328	LR		LR		03 43 35.4			
	comp=Z,43nm,18.3s,baz=30,slow=39										
EKS2	Erkin-Say	69.67	314	P		P		03 09 38.9	+0.6		
	SNR=9.2										
ABKAR	Akbulak array	69.85	326	P		P		03 09 38.8	-0.4		
AML	Almayashu	70.12	313	P		P		03 09 42.5	+1.0		
	SNR=8.4										
KKAR	Karatay Array	70.77	316	P		P		03 09 44.3	-0.6		
KKAR	Karatay Array	70.77	316	P		P		03 09 44.3	-0.6		
OBN	Obninsk	70.92	342	*eP*		P		03 09 44.9	-0.6		
OBN				*e*				03 10 04.5			
OBN				pmax	pmax						
	comp=Z,5.0nm,1.1s										
KSH	Kashi	71.11	310	P		P		03 09 50.4	+3.2		
KSH				pP		pP		03 09 55.4	-0.1		
KSH				PcP		PcP		03 10 12.1	+4.8		
KSH				pmax	pmax						
	comp=Z,17nm,0.6s										
BTK	Batken	73.08	314	P		P		03 09 59.3	+0.4		
BTK				pmax	pmax						
	comp=Z,8.0nm,1.0s										
BTK	Batken	73.08	314	P		P		03 09 59.3	+0.4		
GAR	Garm	74.17	313	P		P		03 10 05.2	-0.2		
CMAR	Chiang Mai Arr	74.37	280	P		P		03 10 06.8	+0.1		
	comp=Z,1.2nm,0.4s,baz=28,slow=7.1,SNR=6.3										
CMAR	Chiang Mai Arr	74.37	280	*ceP*		P		03 10 09.6	+3.0		
CMAR				pmax	pmax						
	comp=Z,1.0nm,0.4s										
GUN	Gumba	74.93	296	*eP*		P		03 10 10.6	+0.4		
	comp=Z,19nm,0.4s										
JIRN	Jiri	74.95	295	*eP*		P		03 10 10.8	+0.4		
	comp=Z,35nm,0.6s										
RAMN	Ramite	75.26	295	*eP*		P		03 10 12.3	+0.3		
	comp=Z,19nm,0.4s										
PKI	Pulchoki	75.46	296	*eP*		P		03 10 13.1	-0.1		
PKIN	Phulchoki	75.46	296	*eP*		P		03 10 13.1	-0.1		
GKN	Gorkha	75.56	297	*eP*		P		03 10 13.

BURAR				IAmb	IAmb	03 10 38.2
	comp=Z,2.5nm,0.7s					
KBZ	**Khabaz**	**80.12 334**	P		**P**	**03 10 38.4 0.0**
	comp=Z,2.8nm,0.7s,baz=115,slow=5.5,SNR=7.1					
GEYT	**Alibeck**	**80.25 321**	P		**P**	**03 10 39.6 +0.2**
	comp=Z,3.1nm,0.6s,baz=56,slow=24,SNR=3.9					
GEYT			LR		LR	03 51 02.7
	comp=Z,46nm,18.2s,baz=328,slow=39					
GEYT	**Alibeck**	**80.25 321**	IAmb		IAmb	03 10 40.4
	comp=Z,8.8nm,1.2s					
CONA	**Conrad Observa**	**80.68 354**	*eP*		**P**	**03 10 41.4 -0.2**
	comp=Z,2.4nm,0.7s					
MOA	**Molln**	**80.86 355**	*eP*		**P**	**03 10 44.7 +2.3**
	comp=Z,3.4nm,0.9s					
BIOA	**Bad Ischl, Aus**	**81.05 355**	*eP*		**P**	**03 10 45.1 +1.6**
	comp=Z,4.7nm,1.4s					
RETA	**Reutte**	**81.37 357**	*eP*		**P**	**03 10 49.2 +3.9**
ARSA	**Arzberg**	**81.38 354**	*eP*		**P**	**03 10 45.5 +0.3**
	comp=Z,4.7nm,0.9s					
WTTA	**Wattenberg**	**81.57 357**	*eP*		**P**	**03 10 46.7 +0.3**
	comp=Z,3.1nm,0.6s					
HRA	**Herat**	**81.58 316**	P		**P**	**03 10 46.4 -0.3**
DOPR	**Dopca**	**81.62 347**	⇑P		**P**	**03 10 43.7 -2.8**
SQTA	**Sankt Quirin**	**81.62 357**	*eP*		**P**	**03 10 46.0 -0.6**
	comp=Z,2.9nm,0.6s					
KBA	**Koelnbreinsper**	**81.68 355**	*eP*		**P**	**03 10 47.2 +0.2**
	comp=Z,6.7nm,0.7s					
FETA	**Feichten**	**81.84 357**	*eP*		**P**	**03 10 48.0 +0.1**
	comp=Z,5.2nm,1.1s					
TLCR		**81.85 344**	⇑P		**P**	**03 10 47.3 -0.4**
TLCR		**81.85 344**	⇑P		**P**	**03 10 47.3 -0.4**
CFR	**Carcaliu**	**81.97 345**	⇑P		**P**	**03 10 47.9 -0.4**
CFR	**Carcaliu**	**81.97 345**	⇑P		**P**	**03 10 47.9 -0.4**
SOKA	**Soboth**	**81.98 354**	*eP*		**P**	**03 10 48.2 -0.3**
	comp=Z,7.3nm,1.4s					
MLR	**Muntele Rosu**	**82.00 346**	⇑P		**P**	**03 10 48.5 -0.2**
MLR	**Muntele Rosu**	**82.00 346**	⇑P		**P**	**03 10 48.5 -0.2**
ABTA	**Abfaltersbach**	**82.05 356**	*eP*		**P**	**03 10 48.7 -0.1**
	comp=Z,5.9nm,1.2s					
OBKA	**Obir**	**82.18 354**	*eP*		**P**	**03 10 49.1 -0.4**
	comp=Z,2.0nm,0.6s					
VOIR		**82.18 347**	⇑P		**P**	**03 10 50.2 +0.6**
VOIR		**82.18 347**	⇑P		**P**	**03 10 50.2 +0.6**
ARR	**Arges**	**82.31 347**	⇑P		**P**	**03 10 49.9 -0.3**
BZS	**Buzias**	**82.45 349**	⇑P		**P**	**03 10 48.1 -2.7**
BZS	**Buzias**	**82.45 349**	⇑P		**P**	**03 10 48.1 -2.7**
GZR	**Gura Zlata**	**82.53 349**	⇓P		**P**	**03 10 50.5 -0.8**
GZR	**Gura Zlata**	**82.53 349**	⇓P		**P**	**03 10 50.5 -0.8**
HERR	**Herculane**	**83.08 349**	⇑P		**P**	**03 10 52.7 -1.4**
WRA	**Warramunga Arr**	**84.52 228**	P		**P**	**03 11 00.5 -1.2**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.8,SNR=5.4					
VTS	**Vitosha**	**85.20 348**	⇑P		**P**	**03 11 04.0 -1.2**
VTS	**Vitosha**	**85.20 348**	⇑P		**P**	**03 11 04.0 -1.2**
BRTR	**Keskin Array B**	**86.18 339**	P		**P**	**03 11 09.4 -0.7**
	comp=Z,1.8nm,0.8s,baz=33,slow=2.7,SNR=9.6					
BRTR	**Keskin Array B**	**86.18 339**	*ceP*		**P**	**03 11 10.3 +0.2**
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ASAR	**Alice Springs**	**87.93 227**	P		**P**	**03 11 18.1 -0.4**
	comp=Z,1.1nm,0.8s,baz=27,slow=4.7,SNR=13					
ASAR	**Alice Springs**	**87.93 227**	P		**P**	**03 11 18.2 -0.2**
ASAR	**Alice Springs**	**87.93 227**	P		**P**	**03 11 18.2 -0.2**
ESDC	**Sonseca Array**	**88.78 8**	P		**P**	**03 11 22.0 -0.5**
	comp=Z,0.7nm,0.7s,baz=340,slow=4.6,SNR=6.6					
ESDC	**Sonseca Array**	**88.78 8**	IAmb		IAmb	03 11 32.6
	comp=Z,4.0nm,1.5s					
IDI	**Anoyia**	**92.15 345**	LR		LR	03 58 28.9
	comp=Z,8.4nm,18.3s,baz=246,slow=39					
WSAR	**Wadi Sarin**	**92.77 313**	LR		LR	04 00 09.9
	comp=Z,25nm,18.8s,baz=253,slow=40					
BOSA	**Boshof**	**153.24 321**	PKPbc		**PKPbc**	**03 18 26.2 -0.3**
	comp=Z,1.5nm,0.5s,baz=44,slow=1.6,SNR=7.5					

*ISK **25** 03:09:02.9, 40°.10N×27°.85E, h16km, ML2.0/15*
*DDA **25** 03:09:03.2±0.0, 40°.09N×27°.85E, h13km±1km, ML1.3*
ISC 25 03:09:03.3±1.0, **40°.09N**±0°.03×**27°.86E**±0°.02, **h16**km±9km, **n27**, σ0°.**36**/**37**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GONE	**Gonen-Balikesi**	**0.14**	**251**	PG	**Pb**	**03 09 07.4**	**-0.1**
GONE				SG	**Sb**	**03 09 10.0**	**-0.3**
EDC	**Edincik**	**0.25**	**1**	PG	**Pg**	**03 09 08.9**	**-0.1**
EDC				SG	**Sg**	**03 09 12.7**	**-0.1**
KNL	**Balıkesir**	**0.31**	**305**	P	**Pg**	**03 09 10.0**	**+0.2**
KNL				S	**Sb**	**03 09 14.8**	**-0.4**
KNL				*i* AML	AML	03 09 15.0	
	comp=E,44nm,0.5s						
KNL				*i* AML	AML	03 09 15.0	
	comp=N,46nm,0.2s						
BALY	**Balya**	**0.40**	**207**	P	**Pb**	**03 09 11.7**	**-0.2**
BALY				S	**Sb**	**03 09 17.3**	**-0.4**
BALY				*i* AML	AML	03 09 18.0	
	comp=N,25nm,0.4s						
KRBG	**Karabiga-Canak**	**0.52**	**305**	PG	**Pg**	**03 09 13.7**	**0.0**
DURS	**Dursunbey**	**0.68**	**136**	P	**Pg**	**03 09 16.6**	**-0.1**
DURS				*i* AML	AML	03 09 26.0	
	comp=N,18nm,0.4s						
DURS				*i* AML	AML	03 09 26.0	
	comp=E,20nm,0.5s						
DURS				S	**Sb**	**03 09 26.2**	**+0.1**
YYLC	**Yaylacik**	**0.77**	**74**	P	**Pg**	**03 09 17.9**	**-0.3**
YYLC				S	**Sb**	**03 09 28.9**	**+0.6**
YYLC				*i* AML	AML	03 09 32.0	
	comp=N,12nm,0.2s						
GZKV	**Gazikoy-Tekird**	**0.77**	**329**	PG	**Pg**	**03 09 18.1**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.79**	**319**	PG	**Pg**	**03 09 18.6**	**-0.1**
SART	**Tekirdag**	**0.79**	**319**	P	**Pg**	**03 09 18.7**	**0.0**
SART				S	**Sb**	**03 09 30.1**	**+1.0**
SART				*i* AML	AML	03 09 32.0	
	comp=N,24nm,0.8s						
SART				*i* AML	AML	03 09 33.0	
	comp=E,13nm,0.3s						
BUHA	**Balikesir, Bur**	**0.84**	**226**	P	**Pb**	**03 09 19.8**	**+0.3**
BUHA				S	**Sb**	**03 09 31.5**	**+1.0**
BUHA				*i* AML	AML	03 09 33.0	
	comp=N,21nm,0.8s						
BUHA				*i* AML	AML	03 09 34.0	
	comp=E,26nm,0.3s						
AVDN	**Avdancik/Bursa**	**1.02**	**78**	P	**Pg**	**03 09 23.1**	**0.0**
AVDN				*i* AML	AML	03 09 39.0	
	comp=E,6.7nm,0.5s						
AVDN				*i* AML	AML	03 09 39.0	
	comp=N,4.6nm,0.3s						
IGD	**Bursa**	**1.04**	**80**	P	**Pb**	**03 09 23.0**	**0.0**
IGD				S	**Sg**	**03 09 37.5**	**+0.3**
IGD				*i* AML	AML	03 09 38.0	
	comp=E,7.2nm,0.5s						
IGD				*i* AML	AML	03 09 39.0	
	comp=N,8.6nm,0.8s						
BAYC	**CANAKKALE_Bayr**	**1.07**	**251**	P	**Pg**	**03 09 23.6**	**-0.3**
BAYC				S	**Sb**	**03 09 37.2**	**+0.2**
BAYC				*i* AML	AML	03 09 38.0	
	comp=E,7.3nm,0.3s						
BAYC				*i* AML	AML	03 09 40.0	
	comp=N,5.1nm,0.2s						
GELI	**Tayfur-Gelibol**	**1.10**	**287**	PN	**Pb**	**03 09 23.8**	**-0.1**
TRML	**Termal-Yalova**	**1.13**	**62**	PN	**Pb**	**03 09 24.2**	**-0.3**
SLVT	**Silivri**	**1.17**	**13**	PN	**Pn**	**03 09 24.6**	**-0.3**
ERIK	**Erikli-Kesan**	**1.18**	**300**	PN	**Pn**	**03 09 24.9**	**-0.1**
EZN	**Ezine**	**1.21**	**258**	PN	**Pn**	**03 09 25.5**	**+0.1**
CTKS	**Kestanelik-??a**	**1.25**	**23**	PN	**Pn**	**03 09 26.3**	**+0.3**
YLV	**Yalova**	**1.25**	**67**	PN	**Pn**	**03 09 25.9**	**-0.3**
DKL	**Dikili**	**1.26**	**216**	PN	**Pn**	**03 09 26.4**	**+0.3**
BGKT	**Bogazkoy**	**1.29**	**32**	PN	**Pn**	**03 09 26.6**	**0.0**
SIMA	**Simav-Kutahya**	**1.33**	**139**	PN	**Pn**	**03 09 27.2**	**-0.1**
UKOP	**Uzunkopru-Edir**	**1.39**	**318**	PN	**Pn**	**03 09 28.1**	**+0.1**
TVSB	**Tavsanli**	**1.39**	**117**	PN	**Pn**	**03 09 28.2**	**+0.1**
ALN	**Alexandroupoli**	**1.60**	**301**	PN	**Pn**	**03 09 30.2**	**-0.6**

*DDA **25** 03:10:55.5±0.0, 38°.57N×44°.60E, h6km±5km, ML2.0*
*ISK **25** 03:10:55.3, 38°.57N×44°.56E, h5km, ML2.5/7*
ISC 25 03:10:55.5±1.8, **38°.55N**±0°.04×**44°.53E**±0°.07, **h1**km±14km, **n13**, σ0°.**84**/**19**, **Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.76**	**321**	PG	**Pb**	**03 11 10.9**	**-0.9**
CLDR				SG	**Sb**	**03 11 22.9**	**+0.2**
CLDR	**Caldiran**	**0.76**	**321**	P	**Pg**	**03 11 10.5**	**+0.4**
CLDR				S	**Sb**	**03 11 22.2**	**-0.5**
VMUR	**Van-Muradiye**	**0.87**	**300**	P	**Pb**	**03 11 13.5**	**-0.1**
VMUR				*i* AML	AML	03 11 29.0	
	comp=N,35nm,0.4s						
VMUR				*i* AML	AML	03 11 30.0	
	comp=E,41nm,0.3s						
TVAN	**Van**	**0.89**	**269**	P	**Pg**	**03 11 12.6**	**+0.1**
TVAN				*i* AML	AML	03 11 31.0	
	comp=E,49nm,0.3s						
TVAN				*i* AML	AML	03 11 31.0	
	comp=N,77nm,0.5s						
VANB	**Van**	**0.90**	**273**	PG	**Pg**	**03 11 12.9**	**+0.1**
VANB				SG	**Sn**	**03 11 28.1**	**-1.1**
GEVA	**Gevas**	**1.18**	**259**	P	**Pg**	**03 11 17.7**	**-0.6**
GEVA				S	**Sn**	**03 11 36.9**	**+0.6**
GEVA				*i* AML	AML	03 11 40.0	
	comp=N,31nm,0.4s						
GEVA				*i* AML	AML	03 11 41.0	
	comp=E,36nm,0.3s						
HAKT	**HAKKARI**	**1.19**	**214**	P	**Pn**	**03 11 19.0**	**-0.6**
HAKT				S	**Sn**	**03 11 37.9**	**+1.3**
HAKT				*i* AML	AML	03 11 39.0	
	comp=N,39nm,0.6s						
HAKT				*i* AML	AML	03 11 43.0	
	comp=E,31nm,0.4s						
AKDM	**Akdamar-Van**	**1.24**	**260**	PN	**Pn**	**03 11 20.2**	**0.0**
AKDM				SN	**Sn**	**03 11 38.9**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.45**	**351**	PN	**Pg**	**03 11 23.7**	**+0.4**
CUKT	**Cukurca**	**1.50**	**210**	PN	**Pg**	**03 11 24.8**	**+0.6**
GNI	**Garni**	**1.60**	**6**	PN	**Pg**	**03 11 26.1**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.62**	**321**	P	**Pg**	**03 11 28.4**	**+1.8**
MLAZ	**Malazgirt-MUS**	**1.66**	**291**	PN	**Pb**	**03 11 26.5**	**-0.5**

*IDC **25** 03:27:53.7±8.2, 0°.15N×123°.25E, h42km±78km, mb3.3/5, mb1 3.5/6, mb1mx3.1/61, mbtmp3.6/6, ML4.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/25, Error ellipse: s-maj=97.2km s-min=20.1km az=56.0*
*DJA **25** 03:27:59.2±0.2, 0°.5S×122°.3E±°, h50km±11km, M4.4/18, mb4.6/6, mB4.9/4, MLv4.4/18, Mw(mB)4.2/4*
ISC 25 03:27:57.4±1.0, **0°.18S**±0°.05×**123°.01E**±0°.05, **h50**km, **n21**, σ2°.**10**/**23**, **mb3.5**/**5**, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.81**	**0**	P	**Pn**	**03 28 15.4**	**+2.7**
LUWI	**Luwuk**	**0.89**	**196**	P	**Pn**	**03 28 15.7**	**+2.0**
LUWI				S	**Sn**	**03 28 29.8**	**+4.2**
KMSI	**Cibinong**	**1.23**	**52**	P	**Pn**	**03 28 19.6**	**+1.4**
MRSI	**Marisa**	**1.25**	**301**	P	**Pn**	**03 28 19.1**	**+0.5**
MRSI				S	**Sn**	**03 28 34.4**	**0.0**
APSI	**Ampana**	**1.54**	**242**	P	**Pn**	**03 28 24.1**	**+1.6**
MPSI	**Mapaga**	**3.15**	**279**	P	**Pn**	**03 28 45.6**	**+1.0**
SANI	**Sanana**	**3.51**	**122**	P	**Pn**	**03 28 48.2**	**-1.3**
TTSI	**Tana Toraja**	**4.27**	**228**	P	**Pn**	**03 29 01.4**	**+1.4**
TNTI	**Ternate**	**4.46**	**78**	P	**Pn**	**03 29 05.3**	**+2.8**
LBMI	**Labuha**	**4.51**	**96**	P	**Pn**	**03 29 05.6**	**+2.3**
SPSI	**Sidrap Palu**	**4.96**	**221**	P	**Pn**	**03 29 10.8**	**+1.4**
BNSI	**Bone**	**5.10**	**215**	P	**Pn**	**03 29 13.2**	**+1.9**
	0.2nm738nm39nm,0.7s						
KAPI	**Kappang**	**5.80**	**214**	P	**Pn**	**03 29 22.1**	**+1.1**
	6.0nm,0.3s,baz=7.2,slow=11,SNR=9.9						
KAPI				S	**Sn**	**03 30 24.8**	**-1.4**
	7.7nm,0.3s,baz=223,slow=21,SNR=9.8						
KAPI				LR	LR	03 31 23.2	
	comp=Z,51nm,18.1s,baz=62,slow=34						
BKSI	**Bulukumba**	**5.87**	**209**	P	**Pn**	**03 29 21.8**	**0.0**
	0.1nm17nm,0.5s						
AAI	**Ambon**	**6.24**	**124**	P	**Pn**	**03 29 28.8**	**+1.8**
	0.5nm2μm117nm,0.7s						
BSSI	**Bau Bau, Buton**	**6.43**	**203**	P	**Pn**	**03 29 31.8**	**+2.1**
	0.2nm596nm52nm,0.7s						
WRA	**Warramunga Arr**	**22.56**	**151**	P	**P**	**03 32 51.4**	**-2.2**
	0.7nm,0.6s,baz=333,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.63**	**156**	P	**P**	**03 33 21.0**	**-1.5**
	0.3nm,0.8s,baz=343,slow=14,SNR=2.2						
ASAR				PcP	**PcP**	**03 36 48.9**	**-3.6**
	0.6nm,0.5s,baz=342,slow=2.1,SNR=12						
STKA	**Stephens Creek**	**36.09**	**153**	P	**P**	**03 34 55.0**	**+0.4**
	0.7nm,0.5s,baz=314,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**58.77**	**328**	P	P	03 37 46.9	-3.6
	0.3nm,0.3s,baz=126,slow=8.6,SNR=9.6						
KURBB	**Kurchatov Arra**	**63.12**	**330**	P	P	03 38 16.0	-3.9
	0.2nm,0.5s,baz=129,slow=6.5,SNR=5.5						

IDC 25 03:35:31.1±58.0, **20°.22S**×**179°.17W**, **h0**km, **mb3.6**/3, **mb1 3.7**/3, **mb1mx3.3**/37, **mbtmp3.6**/3, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx2.7**/47, **Error ellipse: s-maj=1051.0km s-min=160.1km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.93**	**244**	P	P	03 42 41.3	-0.6
	0.7nm,0.5s,baz=89,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**43.52**	**257**	P	P	03 43 36.7	0.0
	0.3nm,0.6s,baz=96,slow=8.1,SNR=5.3						
WRA	**Warramunga Arr**	**43.55**	**262**	P	P	03 43 37.2	+0.2
	0.2nm,0.4s,baz=96,slow=7.7,SNR=8.1						
SIJI	**Sorong**	**52.11**	**285**	LR	LR	04 06 31.9	
	comp=Z,124nm,20.8s,baz=52,slow=36						
KSRS	**Korea Array**	**75.96**	**319**	LR	LR	04 16 05.9	
	comp=Z,6.0nm,21.0s,baz=255,slow=32						

*NIED **25** 03:41:42.1, 30°.69N×138°.81E, h0km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14 Nm; Mrr-0.90; Mθθ-3.17; Mφφ4.06; Mrθ-2.51; Mθφ-3.84; Mφr-0.58; Fault plane solution: M0 5.92000×10^14 NP1: φs115.00000°, δ75.00000°, λ-158.00000°. NP2: φs19.00000°, δ69.00000°, λ-16.00000°.*
*IDC **25** 03:41:44.7±1.6, 30°.21N×139°.19E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.4/37, mbtmp3.4/6, ML3.2/2, MS2.8/4, Ms1 2.8/4, ms1mx2.5/34 Error ellipse: s-maj=59.9km s-min=20.7km az=62.0*
JMA 25 03:41:42.1±0.2, **30°.69N**×**138°.81E**, **h0**km, **M3.9, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**3.24**	**342**	*eS*	Sn	03 43 15.5	+2.5
TK02	**Tokai 2**	**3.37**	**345**	P	Pn	03 42 37.5	+1.7
JIE	**Ise**	**4.10**	**335**	P	Pn	03 42 47.6	+1.6
JTNC	**Tanabenakahech**	**4.13**	**320**	P	Pn	03 42 48.4	+1.9
JTNC				S	Sn	03 43 36.8	+1.3
JKN2	**Miekihoku**	**4.14**	**329**	P	Pn	03 42 48.3	+1.8
JCJ	**Chichijima**	**4.64**	**140**	Pn	Pn	03 42 48.4	-5.2
	8.7nm,0.3s,baz=299,slow=19,SNR=1.4						
JCJ				Sn	Sn	03 43 38.0	-10
	6.0nm,0.3s,baz=307,slow=20,SNR=1.3						
MJAR	**Matsushiro Arr**	**5.86**	**355**	Pn	Pb	03 43 18.8	-6.4
	0.1nm,0.3s,baz=171,slow=12,SNR=2.4						
MJAR				LR	LR	03 45 34.8	
	comp=Z,92nm,19.1s,baz=168,slow=36						
JOW	**Kunigami**	**10.01**	**250**	LR	LR	03 46 30.0	
	comp=Z,34nm,21.2s,baz=92,slow=28						
KLR	**Kul'dur**	**19.28**	**346**	LR	LR	03 52 53.6	
	comp=Z,19nm,18.1s,baz=110,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.58**	**107**	T	T	04 15 53.5	
	baz=300,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**27.59**	**107**	T	T	04 15 55.6	
	baz=300,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**27.60**	**107**	T	T	04 16 01.2	
	baz=300,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.02**	**109**	T	T	04 16 19.0	
	baz=301,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**28.03**	**109**	T	T	04 16 19.3	
	baz=301,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.04**	**109**	T	T	04 16 20.2	
	baz=301,slow=75,SNR=34						
SONM	**Songino Array**	**30.09**	**314**	P	P	03 48 00.5	+7.2
	0.2nm,0.4s,baz=103,slow=6.4,SNR=1.8						
ZALV	**Zalesovo Beam**	**44.85**	**317**	LR	LR	04 09 08.2	
	comp=Z,28nm,18.0s,baz=35,slow=36						
MKAR	**Makanchi Array**	**45.93**	**307**	P	P	03 50 14.5	+7.9
	0.3nm,0.8s,baz=83,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**50.52**	**185**	P	P	03 50 40.4	-1.8
	0.3nm,0.6s,baz=1.3,slow=7.5,SNR=1.4						
ASAR	**Alice Springs**	**54.25**	**186**	P	P	03 51 09.9	0.0
	0.2nm,0.5s,baz=6.5,slow=7.4,SNR=2.2						
H03N2	**Juan Fernandez**	**148.01**	**105**	T	T	06 46 31.1	
	baz=280,slow=75,SNR=6.4						
H03N3	**Juan Fernandez**	**148.02**	**105**	T	T	06 46 32.5	
	baz=280,slow=75,SNR=7.3						
H03N1	**Juan Fernandez**	**148.03**	**105**	T	T	06 46 28.6	
	baz=280,slow=75,SNR=8.6						

*ISK **25** 03:55:03.3, 34°.52N×33°.13E, h14km, ML2.5/6*
*GII **25** 03:55:04.2±0.0, 34°.48N×33°.33E, h10km*
*NIC **25** 03:55:05.7±0.0, 34°.69N×33°.61E, h0km±1km, Ml2.5/6*
ISC 25 03:55:04.1±1.3, **34°.64N**±0°.03×**33°.74E**±0°.04, **h8**km±10km, **n22**, σ1°.**16**/**35**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MVOU	**Mavrovouni**	**0.38**	**347**	P	**Pb**	**03 55 12.8**	**-0.4**
MVOU				S	**Sb**	**03 55 18.6**	**-0.6**
MVOU				AML	AML	03 55 20.6	
	0.5nm,0.5s						
MVOU				AML	AML	03 55 20.6	
	0.5nm,0.5s						
MVOU				AML	AML	03 55 21.4	
	0.5nm,0.3s						
MVOU				AML	AML	03 55 21.4	
	0.5nm,0.3s						
PARAL	**Paralimni**	**0.43**	**35**	P	**Pn**	**03 55 15.6**	**-0.9**
PARAL				S	**Sb**	**03 55 23.9**	**+3.4**
PARAL				AML	AML	03 55 27.3	
	1.1nm,0.6s						
PARAL				AML	AML	03 55 27.3	
	1.1nm,0.6s						
PARAL				AML	AML	03 55 31.5	
	0.7nm,0.4s						
PARAL				AML	AML	03 55 31.5	
	0.7nm,0.4s						
ASGA	**Asgata**	**0.43**	**290**	P	**Pg**	**03 55 12.6**	**+0.2**
ASGA				S	**Sg**	**03 55 17.7**	**-0.4**
ASGA				AML	AML	03 55 17.8	
	0.6nm,0.4s						
ASGA				AML	AML	03 55 17.8	
	0.6nm,0.4s						
ASGA				AML	AML	03 55 18.0	
	0.8nm,0.4s						
ASGA				AML	AML	03 55 18.0	
	0.8nm,0.4s						
CSS	**Mathiatis**	**0.47**	**314**	PG	**Pg**	**03 55 13.1**	**0.0**
CSS	**Mathiatis**	**0.47**	**314**	P	**Pg**	**03 55 13.2**	**+0.1**
CSS				S	**Sg**	**03 55 19.6**	**+0.3**
LFK	**Lefkose**	**0.66**	**345**	PG	**Pn**	**03 55 19.9**	**+0.1**
LFK				SG	**Sn**	**03 55 31.8**	**+1.4**
SZAC	**Souni**	**0.72**	**279**	P	**Pb**	**03 55 19.3**	**+0.5**
SZAC				S	**Sb**	**03 55 28.4**	**-0.4**
SZAC				AML	AML	03 55 30.8	
	1.5nm,0.2s						
SZAC				AML	AML	03 55 30.8	
	1.5nm,0.2s						
SZAC				AML	AML	03 55 31.0	
	1.9nm,0.3s						
SZAC				AML	AML	03 55 31.0	
	1.9nm,0.3s						
NATA	**Nata**	**0.97**	**278**	P	**Pb**	**03 55 23.4**	**+0.2**
NATA				S	**Sb**	**03 55 36.7**	**+0.4**
NATA				AML	AML	03 55 47.4	
	0.8nm,0.7s						
NATA				AML	AML	03 55 47.4	
	0.8nm,0.7s						
NATA				AML	AML	03 55 51.0	
	0.8nm,0.6s						
NATA				AML	AML	03 55 51.0	
	0.8nm,0.6s						
ALFC	**Alefka**	**1.07**	**299**	P	**Pn**	**03 55 25.1**	**-0.3**
ALFC				S	**Sn**	**03 55 39.7**	**-0.7**
ALFC				AML	AML	03 55 41.1	
	0.6nm,0.6s						
ALFC				AML	AML	03 55 41.1	
	0.6nm,0.6s						
ALFC				AML	AML	03 55 41.3	
	0.5nm,0.5s						
ALFC				AML	AML	03 55 41.3	
	0.5nm,0.5s						
AKMS	**Akamas**	**1.22**	**288**	P	**Pg**	**03 55 27.9**	**+0.5**
AKMS				S	**Sn**	**03 55 44.7**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.52**	**354**	PN	**Pg**	**03 55 32.9**	**-0.4**
AKKU				SN	**Sg**	**03 55 53.9**	**+0.9**
TEKE	**Tekeli-Mersin**	**1.58**	**341**	PN	**Pn**	**03 55 32.1**	**-0.3**
TEKE				SN	**Sg**	**03 55 53.2**	**-1.8**
IKL	**Isikli**	**1.59**	**358**	PN	**Pg**	**03 55 34.2**	**-0.4**
IKL				SN	**Sg**	**03 55 56.9**	**+1.6**
BERE	**Bereket-Mersin**	**1.75**	**346**	PN	**Pb**	**03 55 35.2**	**-1.4**
KEBE	**Keben-Mersin**	**1.80**	**359**	PN	**Pb**	**03 55 37.1**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.81**	**352**	PN	**Pb**	**03 55 36.6**	**-0.8**
OSC2	**CSNet OBS 4**	**1.99**	**219**	S	**Sb**	**03 56 07.1**	**+1.8**
HMDT	**Nahal Hemdat**	**2.81**	**147**	Pn	**Pn**	**03 55 50.2**	**+0.9**
DSI	**Dead Sea**	**3.36**	**155**	Pn	**Pn**	**03 55 55.1**	**-1.7**
YTIR	**Nattir**	**3.47**	**160**	Pn	**Pn**	**03 56 00.0**	**+1.6**
PRNI	**Paran**	**4.41**	**166**	Pn	**Pn**	**03 56 10.6**	**-0.7**
MBRI	**Mt Berech**	**4.93**	**168**	Pn	**Pn**	**03 56 17.1**	**-1.5**
MBRI				Sn	**Sn**	**03 57 14.2**	**-1.7**

IDC 25 04:07:19.3±9.8, **38°.16S**×**78°.71E**, **h0**km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.6**/34, **mbtmp3.8**/4, **MS3.7**/17, **Ms1 3.7**/17, **ms1mx3.4**/66, **Error ellipse: s-maj=324.9km s-min=39.0km az=33.0, Mid-Indian Ridge**

| Code | Station Name | Δ° | AZ° | Phase

s-min=12.7km az=213.0
*MEX **25** 04:40:43.0±1.6, 19°.22N×107°.89W, h16km±259km, MD4.2*
ISC 25 04:40:40.9±1.5, 19°.3N±0°.1×107°.87W±0°.08, h10km, n65,
σ1$50/55, mb4.0/10, MS3.3/11, 1D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**3.60**	**61**			**Pn**	**04 41 37.1**	**+0.3**
ANIG						**Sn**	**04 42 17.4**	**-2.1**
ANIG	**Ahuacatlan**	**3.60**	**61**	*eP*		**Pn**	**04 41 37.1**	**+0.3**
ANIG				*i* S		**Sn**	**04 42 17.4**	**-2.1**
CDAR	**Ciudad de Arme**	**3.67**	**95**	*eP*		**Pn**	**04 41 37.2**	**-0.5**
CDAR				*i* S		**Sn**	**04 42 20.1**	**-1.0**
R15V		**3.68**	**91**			**Pn**	**04 41 37.3**	**-0.6**
R15V		**3.68**	**91**	*eP*		**Pn**	**04 41 37.3**	**-0.6**
R15V				*i* S		**Sn**	**04 42 17.4**	**-4.0**
COIG	**Colima**	**3.96**	**91**	*eP*		**Pn**	**04 41 41.8**	**+0.1**
COIG				⇓*eS*		**Sn**	**04 42 26.9**	**-1.3**
MNGA	**Volcan de Coli**	**4.02**	**87**	*eP*		**Pn**	**04 41 43.9**	**+1.1**
MNGA				*eS*		**Sn**	**04 42 29.4**	**-0.7**
EZ5V		**4.04**	**87**			**Pn**	**04 41 45.0**	**+2.0**
EZ5V		**4.04**	**87**	*eP*		**Pn**	**04 41 45.0**	**+2.0**
EZ5V				*i* S		**Sn**	**04 42 27.2**	**-3.3**
INCO	**Volcan de Coli**	**4.04**	**86**	*eP*		**Pn**	**04 41 45.2**	**+2.1**
INCO				*i* S		**Sn**	**04 42 28.0**	**-2.7**
JUBC	**Volcan de Coli**	**4.07**	**86**	*eP*		**Pn**	**04 41 44.9**	**+1.4**
JUBC				*i* S		**Sn**	**04 42 31.0**	**-0.4**
SLBS	**Sierra La Lagu**	**4.77**	**337**	Pn		**Pn**	**04 41 51.8**	**-1.1**
LPIG	**La Paz**	**5.28**	**335**	LR		LR	04 43 34.4	
	comp=Z,490nm,20.3s,baz=184,slow=34							
ZAIG	**Zacatecas**	**6.04**	**54**			**Pn**	**04 42 11.2**	**+0.7**
TLIG	**Tlapa**	**9.00**	**100**			**Pn**	**04 42 51.9**	**+0.7**
HSIG		**10.07**	**344**	Pn		**Pn**	**04 43 06.0**	**+0.3**
TX31	**Lajitas Ar. Si**	**10.69**	**20**			**Pn**	**04 43 16.2**	**+1.9**
TX32	**Lajitas Array**	**10.69**	**20**			**Pn**	**04 43 15.4**	**+1.1**
TXAR	**Lajitas Array**	**10.69**	**20**	Pn		**Pn**	**04 43 14.9**	**+0.7**
	0.1nm,0.3s,baz=202,slow=14,SNR=4.1							
TXAR				LR		LR	04 47 01.4	
	comp=Z,116nm,18.5s,baz=206,slow=36							
TXAR	**Lajitas Array**	**10.69**	**20**	Pn		**Pn**	**04 43 15.9**	**+1.7**
319A	**Douglas**	**12.09**	**354**	Pn		**Pn**	**04 43 34.9**	**+1.6**
CMIG	**Matias Romero**	**12.54**	**98**	Pn		**Pn**	**04 43 43.2**	**+3.7**
	0.3nm,0.3s,baz=296,slow=12,SNR=6.1							
CMIG				LR		LR	04 48 16.8	
	comp=Z,160nm,19.1s,baz=292,slow=36							
TUC	**Tucson**	**13.21**	**349**	Pn		**Pn**	**04 43 50.3**	**+1.6**
113A	**Mohawk Valley,**	**14.41**	**340**	Pn		**Pn**	**04 44 04.8**	**-0.2**
BNM	**Barren Site**	**14.83**	**4**	Pn		**Pn**	**04 44 13.0**	**+2.1**
GLA	**Glamis**	**15.04**	**337**	Pn		**Pn**	**04 44 13.3**	**-0.3**
GLA				IAmb		IAmb	04 44 22.9	
	comp=Z,7.8nm,0.9s							
X18A	**Snowflake**	**15.28**	**353**			**Pn**	**04 44 18.6**	**+1.8**
X18A				IAmb		IAmb	04 44 31.8	
	comp=Z,7.9nm,1.2s							
X16A	**Lo Mia Camp, P**	**15.38**	**349**			**Pn**	**04 44 18.8**	**+0.5**
X16A				IAmb		IAmb	04 44 25.4	
	comp=Z,19nm,1.9s							
ANMO	**Albuquerque**	**15.63**	**4**	LR		LR	04 49 13.6	
	comp=Z,87nm,18.6s,baz=187,slow=33							
ANMO	**Albuquerque**	**15.63**	**4**	Pn		**Pn**	**04 44 21.9**	**+0.4**
PFO	**Pinyon Flats O**	**16.18**	**333**	LR		LR	04 49 40.7	
	comp=Z,260nm,20.7s,baz=166,slow=34							
WUAZ	**Wupatki**	**16.44**	**350**	Pn		**Pn**	**04 44 31.9**	**0.0**
WUAZ				IAmb		IAmb	04 44 49.5	
	comp=Z,14nm,1.3s							
W13A	**Hualapai Mount**	**16.61**	**343**			**Pn**	**04 44 34.9**	**+0.8**
GWY	**Greenwater Val**	**18.51**	**337**	P		**P**	**04 44 57.1**	**-0.5**
CCUT	**Cedar City**	**18.80**	**346**	P		**P**	**04 45 00.8**	**+0.1**
PV07	**Paradox Valley**	**19.08**	**358**	P		**P**	**04 45 05.0**	**+1.2**
PV07				IAmb		IAmb	04 45 08.4	
	comp=Z,14nm,1.6s							
PSUT	**Pine Spring**	**19.85**	**346**	IAmb		IAmb	04 45 23.9	
	comp=Z,6.4nm,1.1s							
TMUT	**Trail Mountain**	**20.13**	**352**	P		**P**	**04 45 14.9**	**-0.5**
P17A	**Butcher Ranch,**	**20.25**	**354**	IAmb		IAmb	04 45 31.3	
	comp=Z,12nm,1.5s							
P18A	**Preston Nutter**	**20.36**	**355**	P		**P**	**04 45 18.9**	**+1.1**
P18A				IAmb		IAmb	04 45 47.7	
	comp=Z,16nm,1.3s							
LHV	**Little Huntoon**	**21.02**	**336**	P		**P**	**04 45 26.0**	**+1.3**
LHV				IAmb		IAmb	04 45 33.0	
	comp=Z,8.5nm,1.1s							
NVAR	**Mina Array Bea**	**21.10**	**337**	P		**P**	**04 45 24.6**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=154,slow=11,SNR=7.6							
NVAR				LR		LR	04 52 50.0	
	comp=Z,96nm,18.3s,baz=100,slow=35							
NVAR	**Mina Array Bea**	**21.10**	**337**	P		**P**	**04 45 26.1**	**+0.2**
DUG	**Dugway, Tooele**	**21.25**	**350**	P		**P**	**04 45 27.5**	**+0.2**
DUG				IAmb		IAmb	04 45 40.8	
	comp=Z,6.6nm,1.1s							
KVN	**Kaiserville**	**21.58**	**338**	IAmb		IAmb	04 45 39.4	
	comp=Z,9.0nm,1.3s							
PNTR	**Pine Nut**	**22.17**	**335**	P		**P**	**04 45 38.7**	**+1.3**
PNTR				IAmb		IAmb	04 45 46.4	
	comp=Z,9.1nm,0.9s							
ELK	**Elko**	**22.28**	**345**	LR		LR	04 54 12.1	
	comp=Z,71nm,19.4s,baz=177,slow=37							
VCNR	**Virginia City**	**22.37**	**335**	P		**P**	**04 45 39.1**	**-0.3**
VCNR				IAmb		IAmb	04 45 54.2	
	comp=Z,6.7nm,1.0s							
K22A	**Casper**	**23.30**	**3**	P		**P**	**04 45 50.7**	**+1.6**
PDAR	**Pinedale Array**	**23.43**	**357**	P		**P**	**04 45 50.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=152,slow=7.9,SNR=3.7							
PDAR				LR		LR	04 54 41.5	
	comp=Z,70nm,20.5s,baz=221,slow=36							
LOHW	**Long Hollow**	**24.34**	**355**	IAmb		IAmb	04 46 08.9	
	comp=Z,5.5nm,1.1s							
HLID	**Hailey**	**24.80**	**349**	P		**P**	**04 46 04.5**	**+1.2**
YBH	**Yreka Blue Hor**	**25.67**	**334**	LR		LR	04 55 30.5	
	comp=Z,135nm,18.7s,baz=144,slow=35							
TKL	**Tuckaleechee C**	**26.77**	**48**	LR		LR	04 59 02.4	
	comp=Z,47nm,20.2s,baz=231,slow=41							
NEW	**Newport**	**29.84**	**348**	LR		LR	04 56 54.6	
	comp=Z,57nm,20.6s,baz=208,slow=33							
SADO	**Sadowa**	**34.86**	**37**	LR		LR	05 00 46.6	
	comp=Z,49nm,19.5s,baz=220,slow=34							
BBB	**Bella Bella**	**36.43**	**339**	LR		LR	05 03 23.4	
	comp=Z,95nm,18.4s,baz=234,slow=38							
SJG	**San Juan**	**39.47**	**85**	LR		LR	05 05 16.1	
	comp=Z,42nm,18.7s,baz=147,slow=37							
DLBC	**Dease Lake**	**42.30**	**343**	LR		LR	05 05 25.1	
	comp=Z,83nm,19.4s,baz=146,slow=35							
YKA	**Yellowknife Ar**	**43.40**	**355**	P		**P**	**04 48 42.8**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=169,slow=6.9,SNR=2.9							
ILAR	**Eielson Array**	**52.31**	**340**	P		**P**	**04 49 51.0**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=143,slow=5.4,SNR=5.3							
LPAZ	**La Paz**	**52.71**	**129**	LR		LR	05 11 44.4	
	comp=Z,47nm,18.1s,baz=94,slow=35							
H03N2	**Juan Fernandez**	**59.28**	**152**	T		T	05 54 50.3	
	baz=329,slow=78,SNR=60							
H03N1	**Juan Fernandez**	**59.29**	**152**	T		T	05 54 51.6	
	baz=329,slow=78,SNR=94							
H03N3	**Juan Fernandez**	**59.30**	**152**	T		T	05 54 50.3	
	baz=329,slow=78,SNR=78							

*IDC **25** 04:49:34.8±1.2, 28°.58N×52°.14E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/47, mbtmp3.8/12, ML3.6/2, MS3.1/7, Ms1 3.1/7, ms1mx2.7/87, Error ellipse: s-maj=27.7km s-min=20.2km az=154.0*
*TEH **25** 04:49:34.9, 28°.58N×52°.05E, h12km, ML3.9*
*NEIC **25** 04:49:36.5±1.9, 28°.56N±0°.08×52°.12E±0°.02, h10km±1km, mb4.2/14, mb_Lg3.9(TEH), Error ellipse: s-maj=14.1km s-min=3.3km az=173.0*
*DSN **25** 04:49:37.8±1.5, 28°.49N×52°.23E, h15km, ML3.7/10, Error ellipse: s-maj=22.8km s-min=6.9km az=8.0*
*OMAN **25** 04:49:39.4±0.1, 28°.56N×52°.41E, h15km, mb5.1/9, ml4.2/12, ms2.6/4, Error ellipse: s-maj=2.6km s-min=1.6km az=353.0*
ISC 25 04:49:37.0±0.5, 28°.56N±0°.03×52°.16E±0°.04, h15km, n106,
σ1$51/126, mb4.0/21, MS3.0/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.78**	**96**	*eP*g		**Pg**	**04 49 51.3**	**-1.0**
QIR1				*e*			04 50 13.6	
	comp=Z,85μm,0.8s							
SHI	**Shiraz**	**1.12**	**16**	*eP*g		**Pb**	**04 49 56.9**	**-1.3**
SHI				*eS*g		**Sn**	**04 50 13.6**	**0.0**
SHI				*e*			04 50 18.3	
	comp=Z,24μm,0.5s							
LMD1	**Lamerd**	**1.51**	**144**	*eS*g		**Sg**	**04 50 28.8**	**+3.2**
LMD1				*eP*g		**Pb**	**04 50 05.0**	**+0.3**
LMD1				*e*			04 50 38.7	
	comp=Z,61μm,0.7s							
SHMA	**Al-Shehemyia**	**2.90**	**202**	P		**Pb**	**04 50 26.0**	**-2.5**
SHMA				S		**Sb**	**04 51 05.0**	**+1.2**
SAKB	**Bahrain**	**2.95**	**210**	P		**Pb**	**04 50 26.7**	**-2.7**
SAKB				S		**Sb**	**04 51 04.9**	**-0.5**
IRAM	**Ramesheh**	**3.24**	**3**	*eP*n		**Pn**	**04 50 28.3**	**+0.7**
IRAM				*e*			04 51 28.9	
	comp=Z,2μm,0.8s							
IMEH	**Mehriz**	**3.53**	**36**	*eP*n		**Pn**	**04 50 33.4**	**+1.8**
ISAD	**Sadrabad**	**3.59**	**21**	*eP*n		**Pn**	**04 50 33.7**	**+1.3**
ISAD				*e*			04 51 40.4	
	comp=Z,2μm,0.9s							
JRN	**Qarnain Island**	**3.66**	**170**	P		**Pn**	**04 50 35.1**	**+2.0**
JRN				S		**Sn**	**04 51 19.3**	**+3.3**
TRNA	**Turayna**	**3.91**	**193**	P		**Pn**	**04 50 39.4**	**+2.9**
TRNA				S		**Sb**	**04 51 28.0**	**-4.7**
SHK1	**Shahrekord**	**3.91**	**344**	*eP*n		**Pn**	**04 50 35.1**	**-1.7**
NGRK	**Negar Kerman**	**4.14**	**74**	Pn		**Pn**	**04 50 41.5**	**+1.4**
NGRK	**Negar Kerman**	**4.14**	**74**	*eP*n		**Pn**	**04 50 41.5**	**+1.4**
IPIR	**Pirpir**	**4.25**	**345**	*eP*n		**Pn**	**04 50 41.5**	**-0.1**
TVBK	**TV Kerman**	**4.26**	**69**	Pn		**Pn**	**04 50 43.1**	**+1.4**
TVBK	**TV Kerman**	**4.26**	**69**	*eP*n		**Pn**	**04 50 43.1**	**+1.4**
IZEF	**Zefreh**	**4.32**	**2**	*eP*n		**Pn**	**04 50 42.9**	**+0.4**
SHME	**Shamm**	**4.33**	**124**	P		**Pn**	**04 50 42.8**	**+0.4**
SHME				S		**Sn**	**04 51 31.8**	**-0.9**
SHME	**Shamm**	**4.33**	**124**	P		**Pn**	**04 50 41.4**	**-1.0**
SLWR	**Sila**	**4.50**	**186**	P		**Pn**	**04 50 47.3**	**+2.6**
BANOM	**Banah**	**4.53**	**125**	P		**Pn**	**04 50 46.0**	**+0.9**
	SNR=17							
BANOM				S		**Sn**	**04 51 35.5**	**-1.9**
BANOM	**Banah**	**4.53**	**125**	P		**Pn**	**04 50 43.7**	**-1.4**
GHWR	**Ruwais**	**4.62**	**172**	P		**Pn**	**04 50 50.0**	**+3.6**
GHWR				S		**Sn**	**04 51 41.7**	**+1.8**
NAZ	**Nazwa, Dubai**	**4.74**	**138**	P		**Pn**	**04 50 48.9**	**+0.9**
NAZ				S		**Sn**	**04 51 43.1**	**+0.4**
NAZ	**Nazwa, Dubai**	**4.74**	**138**	P		**Pn**	**04 50 48.7**	**+0.7**
MASF	**Masafi**	**4.78**	**131**	P		**Pn**	**04 50 49.0**	**+0.4**
MASF				S		**Sn**	**04 51 42.6**	**-1.1**
MSFE	**Esma-Masafi**	**4.79**	**131**	P		**Pn**	**04 50 47.9**	**-0.8**
MSFE				S		**Sn**	**04 51 42.6**	**-1.3**
ASUD	**Al Ashush, Dub**	**4.84**	**143**	P		**Pn**	**04 50 51.6**	**+2.3**
	SNR=8.5							
ASUD	**Al Ashush, Dub**	**4.84**	**143**	P		**Pn**	**04 50 49.3**	**-0.1**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	P		**Pn**	**04 50 51.7**	**+1.7**
FAQ				S		**Sn**	**04 51 47.9**	**+1.5**
FAQ	**Al Faqa, Dubai**	**4.89**	**140**	P		**Pn**	**04 50 50.7**	**+0.7**
MZWR	**Madinat Zayed**	**5.03**	**162**	P		**Pn**	**04 50 54.3**	**+2.4**
UOSS	**Minazif**	**5.10**	**134**			**Pn**	**04 50 52.5**	**-0.5**
UOSS	**Minazif**	**5.10**	**134**	P		**Pn**	**04 50 53.7**	**+0.7**
UOSS				S		**Sn**	**04 51 50.2**	**-1.4**
UOSS	**Minazif**	**5.10**	**134**	P		**Pn**	**04 50 52.4**	**-0.5**
HATD	**Hatta, Dubai**	**5.14**	**135**	P		**Pn**	**04 50 54.2**	**+0.6**
HATD				S		**Sn**	**04 51 53.8**	**+1.1**
HATD	**Hatta, Dubai**	**5.14**	**135**	P		**Pn**	**04 50 54.1**	**+0.6**
QAMS	**Qamsar**	**5.20**	**353**	*eP*n		**Pn**	**04 50 55.0**	**+0.5**
ASHO	**Ashiyiah**	**5.20**	**137**	P		**Pn**	**04 50 54.6**	**+0.2**
ASHO				S		**Sn**	**04 51 53.4**	**-0.8**
ASHO	**Ashiyiah**	**5.20**	**137**	P		**Pn**	**04 50 54.0**	**-0.4**
ALNE	**Al Ain**	**5.52**	**144**	P		**Pn**	**04 51 00.9**	**+2.1**
ALNE				S		**Sn**	**04 52 03.8**	**+1.7**
MZR	**Muzera**	**5.66**	**168**	P		**Pn**	**04 51 02.9**	**+2.2**
MZR				S		**Sn**	**04 52 07.4**	**+1.9**
ISFB	**Sefidab**	**5.77**	**1**	*eP*n		**Pn**	**04 51 02.2**	**0.0**
SOHO	**SOHO**	**5.90**	**137**	P		**Pn**	**04 51 03.4**	**-0.5**
SOHO				S		**Sn**	**04 52 11.2**	**-0.2**
SOHO	**SOHO**	**5.90**	**137**	P		**Pn**	**04 51 02.8**	**-1.1**
TPRV	**Parvadeh(Tabas**	**5.91**	**40**	*eP*n		**Pn**	**04 51 05.1**	**+0.9**
IQOM	**Qom**	**6.33**	**352**	*e*			04 51 42.7	
	comp=Z,286nm,0.6s							
IQOM					*eP*n	**Pn**	**04 51 09.2**	**-0.9**
UMZA	**Um Al Zommool**	**6.42**	**154**	P		**Pn**	**04 51 11.4**	**+0.3**
UMZA				S		**Sn**	**04 52 23.6**	**-0.6**
IVRN	**Varamin**	**6.42**	**357**	*eP*n		**Pn**	**04 51 11.2**	**0.0**
ARQ	**Araqi**	**6.52**	**142**	P		**Pn**	**04 51 12.1**	**-0.3**
TKDS	**Koohdasht(Taba**	**6.59**	**39**	Pn		**Pn**	**04 51 13.9**	**+0.4**
TKDS	**Koohdasht(Taba**	**6.59**	**39**	*eP*n		**Pn**	**04 51 13.9**	**+0.4**
TNSJ	**Nastanj**	**6.59**	**34**	*eP*n		**Pn**	**04 51 14.7**	**+1.2**
HOQ	**Hoqain**	**6.78**	**136**	P		**Pn**	**04 51 15.9**	**-0.2**
ITEG	**Tejag**	**7.13**	**51**	*eP*n		**Pn**	**04 51 21.7**	**+0.8**
BSY	**Bisya**	**7.36**	**141**	P		**Pn**	**04 51 24.1**	**0.0**
	SNR=6.9							
BSY				P		**Pn**	**04 51 24.1**	**0.0**
	SNR=6.9							
QABG	**Abgarm-Qazvin**	**7.45**	**344**	*eP*n		**Pn**	**04 51 24.3**	**-1.2**
SMDO	**Samad**	**7.63**	**135**	P		**Pn**	**04 51 27.5**	**-0.3**
SMDO				P		**Pn**	**04 51 27.5**	**-0.3**
SMDO				S		**Sn**	**04 52 52.2**	**-1.6**
SMDO				S		**Sn**	**04 52 52.4**	**-1.6**
RAYN	**Ar Rayn**	**7.81**	**232**			**Pn**	**04 51 29.2**	**-1.1**
RAYN	**Ar Rayn**	**7.81**	**232**	P		**Pn**	**04 51 30.6**	**+0.3**
WSAR	**Wadi Sarin**	**7.87**	**131**	Pn		**Pn**	**04 51 31.8**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=325,slow=4.4,SNR=6.6							
WSAR					Sn	**Sn**	**04 52 56.1**	**-3.9**
	comp=Z,0.8nm,0.3s,baz=320,slow=19,SNR=1.3							
WSAR				LR		LR	04 55 32.5	
	comp=Z,51nm,19.1s,baz=344,slow=45							
QALM	**Alamut, Qazvin**	**7.95**	**351**	Pn		**Pn**	**04 51 31.6**	**-0.7**
QALM	**Alamut, Qazvin**	**7.95**	**351**	*eP*n		**Pn**	**04 51 31.7**	**-0.6**
JMD0	**Jabal Madar**	**8.17**	**138**	P		**Pn**	**04 51 32.1**	**0.0**
WBK	**Wadi Bani Khal**	**8.54**	**132**	P		**Pn**	**04 51 39.8**	**-0.4**
SBZV	**Sabzevar**	**9.06**	**29**	Pn		**Pn**	**04 51 47.8**	**+0.3**
SBZV	**Sabzevar**	**9.06**	**29**	*eP*n		**Pn**	**04 51 47.8**	**+0.3**
SRVN	**Saravan**	**9.12**	**95**	*eP*n		**Pn**	**04 51 49.2**	**+0.9**
JLN	**Jalan Bani Buh**	**9.15**	**133**	P		**Pn**	**04 51 47.1**	**-1.4**
MHTO	**MHTO**	**9.20**	**144**	P		**Pn**	**04 51 49.0**	**-0.3**
	SNR=12							
GEYT	**Alibeck**	**10.58**	**27**	Pn		**Pn**	**04 52 08.5**	**+0.3**
MMAI	**Mount Meron Ar**	**15.07**	**291**	LR		LR	05 00 55.7	
	comp=Z,31nm,18.1s,baz=267,slow=45							
KBL	**Kabul**	**15.57**	**63**	Pn		**Pn**	**04 53 16.6**	**+0.3**
CHGR	**Chuyangaron**	**17.34**	**50**	Pn		**Pn**	**04 53 36.6**	**-2.0**
GAR	**Garm**	**18.30**	**51**	Pn		**Pn**	**04 53 48.8**	**-1.7**
GAR				IAmb		IAmb	04 53 54.8	
	comp=Z,9.9nm,0.8s							
BR131	**Keskin Array S**	**18.91**	**311**	P		**P**	**04 53 56.3**	**-1.0**
BR131				IAmb		IAmb	04 54 06.6	
	comp=Z,12nm,1.3s							
BRTR	**Keskin Array B**	**18.91**	**311**	P		**Pn**	**04 53 57.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=7.0							
BRTR				LR		LR	05 03 31.2	
	comp=Z,70nm,18.2s,baz=121,slow=44							
BTK	**Batken**	**19.17**	**48**	P		**Pn**	**04 54 00.9**	**-0.1**
BTK				IAmb		IAmb	04 54 35.3	
	comp=Z,18nm,1.7s							
KKAR	**Karatay Array**	**20.71**	**41**	P		**P**	**04 54 16.6**	**-0.2**
ABKAR	**Akbulak array**	**21.51**	**14**	P		**P**	**04 54 25.1**	**-0.1**
AKTO	**Aktyubinsk**	**22.29**	**10**	P		**P**	**04 54 35.2**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=194,slow=8.3,SNR=3.2							
AAK	**Ala-Archa**	**22.86**	**46**	LR		LR	05 05 06.4	
	comp=Z,47nm,19.0s,baz=229,slow=41							
KURBB	**Kurchatov Arra**	**29.69**	**35**	P		**P**	**04 55 42.9**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=235,slow=9.1,SNR=6.4							
MK31	**Makanchi Array**	**29.73**	**44**	P		**P**	**04 55 43.1**	**+0.4**
MKAR	**Makanchi Array**	**29.73**	**44**	P		**P**	**04 55 42.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=234,slow=8.3,SNR=6.3							
KURK	**Kurchatov**	**29.80**	**35**	P		**P**	**04 55 42.9**	**-0.2**
KURK	**Kurchatov**	**29.80**	**35**	IAmb		IAmb	04 56 16.0	
	comp=Z,10nm,1.9s							
ZAA0	**Zalesovo Array**	**34.77**	**34**	P		**P**	**04 56 25.6**	**-1.1**
ZAA0				IAmb		IAmb	04 56 34.1	
	comp=Z,1.6nm,0.7s							
ZALV	**Zalesovo Beam**	**34.77**	**34**	P		**P**	**04 56 25.9**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=241,slow=9.6,SNR=6.2							
MOA	**Molln**	**35.00**	**314**	*eP*		**P**	**04 56 33.0**	**+4.2**
	comp=Z,0.7nm,0.4s							
KBA	**Koelnbreinsper**	**35.35**	**312**	*eP*		**P**	**04 56 31.9**	**-0.1**
	comp=Z,0.9nm,0.5s							
WTTA	**Wattenberg**	**36.52**	**312**	*eP*		**P**	**04 56 45.3**	**+3.2**
	comp=Z,1.1nm,0.4s							
WATA	**Walderalm**	**36.58**	**312**	*eP*		**P**	**04 56 45.5**	**+3.0**
	comp=Z,0.8nm,0.3s							
SQTA	**Sankt Quirin**	**36.79**	**312**	*eP*		**P**	**04 56 47.7**	**+3.4**
	comp=Z,1.7nm,0.4s							
MOTA	**Moosalm**	**36.89**	**312**	*eP*		**P**	**04 56 47.9**	**+2.7**
	comp=Z,0.3nm,0.3s							
FETA	**Feichten**	**37.05**	**311**	*eP*		**P**	**04 56 49.6**	**+3.1**
	comp=Z,0.9nm,0.6s							
FINES	**FINESS Array B**	**37.18**	**340**	P		**P**	**04 56 46.8**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=134,slow=11,SNR=13							
DAVA	**Damuels**	**37.68**	**311**	*eP*		**P**	**04 56 51.5**	**-0.4**
	comp=Z,3.7nm,0.6s							
NOA	**NORSAR Array B**	**42.37**	**332**	P		**P**	**04 57 29.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=129,slow=8.8,SNR=4.5							
NOA				LR		LR	05 17 49.4	
	comp=Z,19nm,18.7s,baz=45,slow=40							
ARCES	**ARCESS Array B**	**43.80**	**347**	P		**P**	**04 57 41.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=126,slow=6.2,SNR=8.1							
CMAR	**Chiang Mai Arr**	**43.83**	**93**	LR		LR	05 21 08.6	
	comp=Z,13nm,18.4s,baz=220,slow=43							
ULN	**Ulaanbaatar**	**46.19**	**50**	P		**P**	**04 58 02.2**	**+0.8**
ULN				IAmb		IAmb	04 58 08.9	
	comp=Z,13nm,1.9s							
TORD	**Torodi Ar. Bea**	**49.24**	**263**	P		**P**	**04 58 25.0**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=56,slow=7.5,SNR=18							
DBIC	**Dimbokro**	**57.96**	**259**	P		**P**	**04 59 29.6**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=39,slow=6.9,SNR=2.6							
DAV	**Davao City (W)**	**72.10**	**92**	LR		LR	05 36 13.4	
	comp=Z,50nm,20.6s,baz=285,slow=39							
YKA	**Yellowknife Ar**	**88.64**	**354**	P		**P**	**05 02 29.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=11,slow=5.4,SNR=12							

*IDC **25** 05:05:45.3±2.5, 52°.31N×168°.90W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/56, mbtmp3.6/7, ML3.1/1, MS3.5/3, Ms1 3.5/3, ms1mx2.7/94, Error ellipse: s-maj=60.3km s-min=24.4km az=175.0*
*AEIC **25** 05:05:47.7±1.6, 52°.14N±0°.08×168°.64W±0°.09, h38km±10km, ML3.2, Error ellipse: s-maj=12.1km s-min=7.9km az=171.0*
*NEIC **25** 05:05:49.5±1.1, 52°.2N±0°.1×168°.65W±0°.09, h30km±7km, Error ellipse: s-maj=16.5km s-min=7.1km az=164.0*
ISC 25 05:05:49.4±1.1, 52°.3N±0°.1×168°.70W±0°.07, h29km, n33,
σ0$65/28, mb3.7/5, MS3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.71**	**353**			**Pb**	**05 06 03.1**	**-0.2**
OKSP	**Okmok Steeple**	**1.02**	**14**			**Pn**	**05 06 07.6**	**-0.2**
OKFG	**Magazine Ridge**	**1.24**	**22**			**Pn**	**05 06 11.0**	**+0.2**
MREP	**Makushin Rep't**	**1.95**	**37**			**Pn**	**05 06 20.6**	**+0.1**
MSW	**Makushin Switc**	**2.02**	**34**			**Pn**	**05 06 22.0**	**+0.6**
UNV	**Unalaska Valle**	**2.06**	**39**			**Pn**	**05 06 21.9**	**-0.2**
AKBBA	**Akutan Broad B**	**2.48**	**41**			**Pn**	**05 06 28.4**	**+0.5**
AKSA	**Akutan Strait**	**2.60**	**43**			**Pn**	**05 06 29.5**	**0.0**
KOFP	**Korovin Flat P**	**3.31**	**272**			**Pn**	**05 06 40.0**	**+0.6**
ATKA	**Atka Island**	**3.38**	**271**			**Pn**	**05 06 40.1**	**0.0**
GSTR	**Great Sitkin T**	**4.53**	**271**			**Pn**	**05 06 56.5**	**+0.4**
GSMY	**Great Sitkin M**	**4.53**	**270**			**Pn**	**05 06 56.4**	**+0.4**
GSTD	**Great Sitkin T**	**4.59**

SONM	**Songino Array**	**33.88**	**314**	P		**P**		**05 28 10.9**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=123,slow=8.4,SNR=19								
SONM	**Songino Array**	**33.88**	**314**	IAmb		IAmb		05 28 13.4	
	comp=Z,4.0nm,1.0s								
TOLI2	**Tolitoli**	**34.38**	**221**	P		**P**		**05 28 14.7**	**-0.1**
TOLI2				IAmb		IAmb		05 28 16.9	
	comp=Z,9.0nm,1.2s								
SEY	**Seymchan**	**34.91**	**8**	P		**P**		**05 28 19.6**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=207,slow=6.8,SNR=14								
KAPI	**Kappang**	**40.02**	**217**	LR		LR		05 44 22.2	
	comp=Z,29nm,21.6s,baz=57,slow=34								
KAPI	**Kappang**	**40.02**	**217**	P		**P**		**05 29 02.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**41.08**	**266**	P		**P**		**05 29 12.6**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=68,slow=7.5,SNR=5.0								
CMAR				LR		LR		05 47 48.1	
	comp=Z,44nm,19.0s,baz=60,slow=38								
MTN	**Manton Dam**	**42.69**	**197**	P		**P**		**05 29 23.7**	**-0.7**
MTN				IAmb		IAmb		05 30 48.7	
	comp=Z,30nm,1.4s								
SHL	**Shillong**	**44.98**	**279**	P		**P**		**05 29 42.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**45.97**	**221**	P		**P**		**05 29 51.4**	**+0.6**
JAGI				IAmb		IAmb		05 29 52.6	
	comp=Z,14nm,1.0s								
ODAN	**Odare**	**48.52**	**282**	*e*P		**P**		**05 30 11.2**	**+0.3**
ZAA0	**Zalesovo Array**	**48.58**	**318**	P		**P**		**05 30 11.1**	**+0.4**
ZALV	**Zalesovo Beam**	**48.58**	**318**	P		**P**		**05 30 11.2**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=91,slow=7.9,SNR=11								
ZALV				LR		LR		05 51 25.1	
	comp=Z,38nm,19.1s,baz=67,slow=37								
ZALV	**Zalesovo Beam**	**48.58**	**318**	P		**P**		**05 30 11.3**	**+0.6**
WB0	**Warramunga Arr**	**48.75**	**190**	P		**P**		**05 30 11.9**	**-0.4**
PSI	**Prapat**	**48.83**	**246**	P		**P**		**05 30 14.2**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=261,slow=3.5,SNR=4.7								
RPSI	**Rantau Prapat**	**48.89**	**246**	P		**P**		**05 30 14.2**	**+0.7**
WRAB	**Tennant Creek**	**48.92**	**190**	P		**P**		**05 30 13.2**	**-0.4**
WRA	**Warramunga Arr**	**48.93**	**190**	P		**P**		**05 30 13.8**	**0.0**
	comp=Z,7.3nm,0.5s,baz=14,slow=8.7,SNR=134								
FITZ	**Fitzroy Crossi**	**49.25**	**201**	P		**P**		**05 30 16.1**	**0.0**
JIRN	**Jiri**	**49.34**	**283**	*e*P		**P**		**05 30 18.1**	**+0.7**
GUN	**Gumba**	**49.54**	**284**	*e*P		**P**		**05 30 19.7**	**+0.8**
	comp=Z,47nm,0.8s								
MK31	**Makanchi Array**	**49.80**	**309**	P		**P**		**05 30 20.7**	**+0.5**
MKAR	**Makanchi Array**	**49.80**	**309**	P		**P**		**05 30 20.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=91,slow=9.6,SNR=27								
MKAR	**Makanchi Array**	**49.80**	**309**	P		**P**		**05 30 20.4**	**+0.3**
DANN	**Dangsing**	**51.23**	**285**	*e*P		**P**		**05 30 32.3**	**+0.7**
	comp=Z,38nm,0.7s								
KOLN	**Koldanda**	**51.52**	**284**	*e*P		**P**		**05 30 34.3**	**+0.6**
PYUN	**Piuthan**	**51.95**	**285**	*e*P		**P**		**05 30 37.5**	**+0.6**
	comp=Z,39nm,0.6s								
KURK	**Kurchatov**	**52.19**	**314**	P		**P**		**05 30 38.9**	**+0.9**
KURBB	**Kurchatov Arra**	**52.24**	**314**	P		**P**		**05 30 39.3**	**+0.8**
	comp=Z,9.0nm,0.7s,baz=90,slow=7.6,SNR=69								
KURBB				LR		LR		05 53 47.8	
	comp=Z,51nm,18.8s,baz=135,slow=37								
ASAR	**Alice Springs**	**52.66**	**190**	P		**P**		**05 30 41.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=8.2,slow=5.8,SNR=13								
K20K	**Telida**	**52.90**	**30**	P		**P**		**05 30 43.0**	**-0.2**
K20K				IAmb		IAmb		05 30 56.8	
	comp=Z,24nm,1.8s								
J20K	**Nowinta River**	**53.01**	**29**	P		**P**		**05 30 44.5**	**+0.6**
IMAR	**Indian Mountai**	**53.53**	**27**	P		**P**		**05 30 46.5**	**-1.2**
PPLA	**Purkeypile**	**53.67**	**31**	P		**P**		**05 30 49.2**	**+0.2**
CAST	**Castle Rocks**	**53.79**	**30**	P		**P**		**05 30 50.0**	**+0.2**
CAST				IAmb		IAmb		05 31 02.6	
	comp=Z,5.5nm,1.0s								
TRF	**Thorofare Moun**	**54.60**	**31**	P		**P**		**05 30 55.8**	**+0.1**
TRF				IAmb		IAmb		05 31 10.5	
	comp=Z,10nm,1.3s								
MLY	**Manley**	**54.60**	**29**	P		**P**		**05 30 55.9**	**+0.2**
MLY				IAmb		IAmb		05 31 12.2	
	comp=Z,14nm,1.8s								
NEA2	**Nenana**	**55.26**	**29**	P		**P**		**05 31 00.7**	**+0.4**
AAK	**Ala-Archa**	**55.69**	**304**	LR		LR		05 56 04.3	
	comp=Z,53nm,18.1s,baz=81,slow=37								
ILAR	**Eielson Array**	**56.21**	**29**	P		**P**		**05 31 06.2**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.7,SNR=10								
BVAR	**Borovoye Array**	**57.17**	**317**	P		**P**		**05 31 14.9**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=192,slow=5.9,SNR=10								
BRVK	**Borovoye**	**57.23**	**317**	P		**P**		**05 31 15.2**	**+0.7**
BRVK				IAmb		IAmb		05 31 16.6	
	comp=Z,6.8nm,0.8s								
SCRK	**Sand Creek**	**57.43**	**30**	P		**P**		**05 31 15.7**	**-0.3**
SCRK				IAmb		IAmb		05 31 27.9	
	comp=Z,5.5nm,1.2s								
WAX	**Waxell Ridge**	**58.00**	**34**	P		**P**		**05 31 20.0**	**+0.1**
KKAR	**Karatay Array**	**58.49**	**305**	P		**P**		**05 31 24.3**	**+0.7**
GAR	**Garm**	**59.52**	**301**	P		**P**		**05 31 31.4**	**+0.5**
INK	**Inuvik**	**61.50**	**25**	P		**P**		**05 31 44.3**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=274,slow=7.3,SNR=5.6								
INK	**Inuvik**	**61.50**	**25**	IAmb		IAmb		05 31 55.8	
	comp=Z,3.7nm,0.8s								
M31M	**Drury Creek, Y**	**61.90**	**32**	P		**P**		**05 31 47.4**	**+0.8**
M31M				IAmb		IAmb		05 31 52.4	
	comp=Z,15nm,1.9s								
ARU	**Arti**	**63.45**	**322**	P		**P**		**05 31 57.7**	**+0.7**
	comp=Z,1.6nm,0.2s,baz=177,slow=3.9,SNR=6.6								
ABKAR	**Akbulak array**	**64.30**	**314**	P		**P**		**05 32 03.3**	**+0.6**
ABKAR	**Akbulak array**	**64.30**	**314**	P		**P**		**05 32 03.6**	**+0.8**
ABKAR				IAmb		IAmb		05 32 07.5	
	comp=Z,5.7nm,0.8s								
C36M	**Paulatuk**	**64.70**	**23**	P		**P**		**05 32 05.0**	**0.0**
C36M				IAmb		IAmb		05 32 16.9	
	comp=Z,6.7nm,1.1s								
AKTO	**Aktyubinsk**	**65.19**	**315**	P		**P**		**05 32 09.8**	**+1.2**
	comp=Z,6.7nm,0.6s,baz=82,slow=12,SNR=14								
YKA	**Yellowknife Ar**	**70.63**	**29**	P		**P**		**05 32 42.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=292,slow=6.4,SNR=6.6								
FINES	**FINESS Array B**	**76.74**	**334**	P		**P**		**05 33 18.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=73,slow=6.6,SNR=8.6								
KBZ	**Khabaz**	**77.23**	**313**	P		**P**		**05 33 23.1**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=96,slow=2.5,SNR=7.3								
NVAR	**Mina Array Bea**	**79.30**	**52**	P		**P**		**05 33 33.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=321,slow=1.9,SNR=4.1								
AKASG	**Malin Array Be**	**81.60**	**324**	P		**P**		**05 33 45.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=53,slow=5.4,SNR=3.7								
AKASG				LR		LR		06 12 34.1	
	comp=Z,41nm,18.3s,baz=6.0,slow=38								
NB2	**NORSAR Subarra**	**82.33**	**338**	P		**P**		**05 33 48.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=40,slow=5.1								
NOA	**NORSAR Array B**	**82.33**	**338**	P		**P**		**05 33 48.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=30,slow=5.5,SNR=4.9								
PDAR	**Pinedale Array**	**82.88**	**45**	P		**P**		**05 33 54.2**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=286,slow=2.8,SNR=3.6								
PFO	**Pinyon Flats O**	**82.92**	**56**	LR		LR		06 06 23.0	
	comp=Z,37nm,18.8s,baz=254,slow=32								
RAYN	**Ar Rayn**	**84.86**	**294**	P		**P**		**05 34 03.8**	**+1.2**
BRTR	**Keskin Array B**	**85.23**	**313**	P		**P**		**05 34 05.6**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=114,slow=4.1,SNR=7.2								
ANMO	**Albuquerque**	**89.23**	**50**	LR		LR		06 07 25.7	
	comp=Z,35nm,20.0s,baz=272,slow=31								
TXAR	**Lajitas Array**	**94.41**	**53**	P		**P**		**05 34 48.7**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=296,slow=2.3,SNR=4.0								
LPAZ	**La Paz**	**149.16**	**73**	PKPbc		**PKPab**		**05 41 18.5**	**-3.1**
	comp=Z,1.1nm,0.8s,baz=300,slow=6.5,SNR=4.9								

IDC 25 05:34:05.5±10.0, 19°38S×178°66W, h590km±87km, mb2.8/3, mb1 3.1/4, mb1mx2.8/32, mbtmp3.9/4, Error ellipse: s-maj=170.9km s-min=39.4km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.19**	**257**	P	P	05 37 07.9	+1.3
	0.4nm,0.3s,baz=112,slow=21,SNR=1.6						
WRA	**Warramunga Arr**	**44.15**	**261**	P	P	05 41 22.9	-0.4
	0.4nm,0.3s,baz=96,slow=7.7,SNR=29						
ASAR	**Alice Springs**	**44.18**	**256**	P	P	05 41 23.4	-0.2
	0.7nm,0.7s,baz=94,slow=7.7,SNR=10						
ASAR				PcP	PcP	05 42 54.5	-0.7
	0.7nm,0.7s,baz=99,slow=4.4,SNR=9.5						
ILAR	**Eielson Array**	**87.37**	**13**	P	P	05 45 49.5	-0.8
	0.3nm,0.5s,baz=212,slow=5.6,SNR=7.2						
AKASG	**Malin Array Be**	**141.74**	**331**	PKhKP	PKPpre	05 52 26.7	
	1.0nm,0.5s,baz=42,slow=4.5,SNR=8.7						
BRTR	**Keskin Array B**	**145.63**	**313**	PKPbc	PKPbc	05 52 39.8	+0.3
	0.5nm,0.4s,baz=83,slow=3.8,SNR=2.6						
GERES	**GERESS Array B**	**148.96**	**344**	PKPbc	PKPbc	05 52 47.8	0.0
	0.2nm,0.3s,baz=0.0,slow=3.4,SNR=5.0						

*ISK **25** 05:43:58.6, 38°.00N×43°.43E, h6km, ML2.7/6*
*DDA **25** 05:44:02.1±0.0, 38°.16N×43°.35E, h7km±5km, ML2.3*
ISC 25 05:43:58.5±1.5, 38°.08N±0°.04×43°.42E±0°.05, h1km±13km, n10, σ1s27/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.37**	**309**	P	**Pb**	**05 44 07.3**	**-0.7**
GEVA				S	**Sb**	**05 44 12.7**	**-1.7**
GEVA				*i* AML	AML	05 44 14.0	
	comp=E,506nm,0.3s						
GEVA				*i* AML	AML	05 44 15.0	
	comp=N,515nm,0.5s						
AKDM	**Akdamar-Van**	**0.43**	**306**	PG	**Pb**	**05 44 08.7**	**-0.4**
AKDM				SG	**Sb**	**05 44 15.4**	**-0.8**
TVAN	**Van**	**0.45**	**358**	P	**Pb**	**05 44 08.9**	**-0.6**
TVAN				S	**Sb**	**05 44 15.5**	**-1.4**
TVAN				*i* AML	AML	05 44 16.0	
	comp=E,359nm,0.5s						
TVAN				*i* AML	AML	05 44 16.0	
	comp=N,379nm,0.3s						
VANB	**Van**	**0.52**	**357**	PG	**Pg**	**05 44 08.6**	**+0.1**
VANB				SG	**Sg**	**05 44 16.9**	**+1.7**
HAKT	**HAKKARI**	**0.56**	**156**	P	**Pn**	**05 44 14.5**	**+0.5**
HAKT				S	**Sn**	**05 44 26.0**	**+2.0**
HAKT				*i* AML	AML	05 44 30.0	
	comp=N,161nm,0.5s						
HAKT				*i* AML	AML	05 44 30.0	
	comp=E,149nm,0.2s						
PERV	**Siirt/Pervari-**	**0.71**	**260**	P	**Pn**	**05 44 15.4**	**-0.5**
PERV				S	**Sn**	**05 44 29.2**	**+1.7**
CUKT	**Cukurca**	**0.84**	**170**	PG	**Pg**	**05 44 13.8**	**-0.8**
CLDR	**Caldiran**	**1.13**	**20**	PN	**Pn**	**05 44 21.3**	**-0.5**
GURO	**Guroymak-BITLI**	**1.19**	**294**	PN	**Pg**	**05 44 22.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.76**	**273**	PN	**Pb**	**05 44 30.6**	**-1.0**

IDC 25 06:03:58.5±5.7, 21°.43S×148°.11E, h0km, mb1 3.0/3, mb1mx3.0/27, mbtmp2.8/3, ML2.3/2, Error ellipse: s-maj=59.0km s-min=33.4km az=55.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.19**	**307**	Pn	Pn	06 04 36.0	-0.2
	1.3nm,0.3s,baz=131,slow=17,SNR=12						
CTA				Lg	Lg	06 05 08.5	
	3.8nm,0.3s,baz=39,slow=23,SNR=13						
WRA	**Warramunga Arr**	**12.97**	**274**	Pn	Pn	06 07 02.5	-1.7
	0.0nm,0.3s,baz=96,slow=10,SNR=1.6						
WRA				Lg	Lg	06 10 50.5	
	0.0nm,0.3s,baz=99,slow=26,SNR=3.1						
ASAR	**Alice Springs**	**13.31**	**258**	Pn	Pn	06 07 10.9	+2.0
	baz=73,slow=16,SNR=1.6						
ASAR				Lg	Lg	06 10 56.8	
	0.0nm,0.3s,baz=93,slow=23,SNR=5.6						
I22FR	**PORTLAGUERRE I17.42**	**96**		*i*		08 00 40.0	
	baz=266,slow=318,SNR=3.6						

*IDC **25** 06:07:47.7±0.9, 18°.75S×67°.20W, h231km±14km, mb3.2/2, mb1 3.4/6, mb1mx3.1/30, mbtmp3.9/6, Error ellipse: s-maj=26.7km s-min=10.7km az=100.0*
*SCB **25** 06:07:50.4±4.8, 18°.93S×67°.29W, h23km±32km, ML2.9/7, MW3.2, Error ellipse: s-maj=13.2km s-min=11.9km az=1.0*
ISC 25 06:07:48.0±0.9, 18°.78S±0°.05×67°.33W±0°.07, h232km±10km, n21, σ1s73/30, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**2.05**	**342**	P	**Pn**	**06 08 32.0**	**+1.8**
PB16	**IPOC Station P**	**2.12**	**282**	P	**Pn**	**06 08 32.6**	**+1.8**
PB16				S	**S**	**06 09 02.8**	**-1.3**
PB16				IAML		06 09 17.5	
	12nm,0.4s						
PB08	**IPOC Station P**	**2.19**	**231**	P	**Pn**	**06 08 33.4**	**+2.1**
PB08				S	**S**	**06 09 03.9**	**-1.3**
PB08				IAML		06 09 10.6	
	70nm,0.3s						
PB11	**IPOC Station P**	**2.41**	**246**	P	**Pn**	**06 08 34.7**	**+1.5**
PB11				S	**S**	**06 09 06.8**	**-1.8**
PB11				IAML		06 09 11.0	
	152nm,0.4s						
BBOD	**La Paz, Gloria**	**2.45**	**330**	P	**Pn**	**06 08 35.8**	**+1.7**
LPAZ	**La Paz**	**2.59**	**343**	P	**Pn**	**06 08 36.6**	**+0.9**
	12nm,0.3s,baz=167,slow=5.1,SNR=340						
LPAZ				S	**S**	**06 09 13.1**	**+0.1**
	baz=31,slow=21,SNR=1.1						
LPAZ	**La Paz**	**2.59**	**343**	P	**Pn**	**06 08 36.6**	**+0.9**
MOCB	**Mochara**	**2.93**	**147**	P	**Pn**	**06 08 40.9**	**+1.8**
MOCB				S	**S**	**06 09 17.7**	**-1.5**
MOCB				IAML		06 09 27.8	
	8.7nm,0.3s						
PB01	**IPOC Station P**	**3.04**	**222**	P	**Pn**	**06 08 41.4**	**+1.5**
PB01				S	**S**	**06 09 18.7**	**-2.0**
PB01				IAML		06 09 24.9	
	79nm,0.3s						
PB02	**IPOC Station P**	**3.50**	**223**	P	**Pn**	**06 08 46.7**	**+1.5**
PB02				S	**S**	**06 09 27.7**	**-2.6**
PB02				IAML		06 09 34.7	
	100nm,0.4s						
PB09	**IPOC Station P**	**3.50**	**211**	P	**Pn**	**06 08 47.0**	**+1.7**
YJA	**Yavi**	**3.79**	**154**	P	**Pn**	**06 08 50.7**	**+1.8**
PB07	**IPOC Station P**	**3.79**	**219**	P	**Pn**	**06 08 50.1**	**+1.4**
PB07				S	**S**	**06 09 33.9**	**-2.8**
PB07				IAML		06 09 41.6	
	52nm,0.3s						
LVC	**Limon Verde**	**4.09**	**201**	P	**Pn**	**06 08 54.4**	**+1.9**
	2.8nm,0.3s,baz=30,slow=10,SNR=25						
LVC				S	**S**	**06 09 44.0**	**+0.6**
	5.7nm,0.3s,baz=73,slow=23,SNR=19						
LVC	**Limon Verde**	**4.09**	**201**	P	**Pn**	**06 08 54.0**	**+1.5**
PB04	**IPOC Station P**	**4.42**	**216**	P	**Pn**	**06 08 57.8**	**+1.6**
PB06	**IPOC Station P**	**4.44**	**208**	P	**Pn**	**06 08 58.0**	**+1.5**
SIV	**San Ignacio**	**6.58**	**66**	P	**Pn**	**06 09 21.3**	**-2.0**
	3.8nm,0.3s,baz=252,slow=12,SNR=42						
NNA	**Nana**	**11.39**	**305**	P	**Pn**	**06 10 24.8**	**+0.3**
	1.1nm,0.3s,baz=114,slow=10.0,SNR=1.7						
PLCA	**Paso Flores**	**22.06**	**187**	P	**P**	**06 12 24.6**	**+0.6**
	2.7nm,0.9s,baz=343,slow=7.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.04**	**70**	P	**P**	**06 19 03.4**	**-1.2**
	0.4nm,0.5s,baz=246,slow=5.2,SNR=4.6						

*NNC **25** 06:15:45.4±1.4, 54°.33N×86°.49E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=25.9km s-min=6.8km az=166.0, Suspected Mining explosion.*
IDC 25 06:15:47.8±2.5, 54°.13N×86°.46E, h0km, mb1 3.0/2, mb1mx2.9/54, mbtmp3.0/2, ML2.7/2, 5C, Error ellipse: s-maj=20.9km s-min=12.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**260**	*i*		06 22 50.0	
	baz=80,slow=324,SNR=3.3						
ZAA0	**Zalesovo Array**	**0.98**	**260**	⇑P	Pg	06 16 05.4	-1.2
	0.2nm,0.4s						
ZAA0				⇑S	Sg	06 16 20.2	+0.9
	3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**0.98**	**260**	Pg	Pg	06 16 05.4	-1.2
	0.8nm,0.3s,baz=76,slow=17,SNR=11						
ZALV				Lg	Lg	06 16 20.5	
	1.3nm,0.3s,baz=79,slow=31,SNR=21						
ZALV				Rg	Rg	06 16 27.1	
	72nm,1.2s,baz=76,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 17 18.3	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB	**Kurchatov Arra**	**5.99**	**237**	⇑Pn	Pn	06 17 17.9	+0.3
	1.3nm,0.5s						
KURBB				⇑Lg	Lg	06 18 58.9	
	4.4nm,0.8s						
MK31	**Makanchi Array**	**7.81**	**202**	⇑Pn	Pn	06 17 43.0	+0.4
	0.2nm,0.5s,baz=28,slow=14,SNR=8.7						
MK31				Lg	Lg	06 19 57.8	
	1.7nm,0.9s,baz=24,slow=29,SNR=6.9						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 17 43.8	+1.1
	0.2nm,0.3s,baz=25,slow=13,SNR=11						
MKAR				Lg	Lg	06 19 55.9	
	0.0nm,0.3s,baz=23,slow=27,SNR=12						

*IDC **25** 06:15:46.5±1.0, 13°.93N×144°.11E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/48, mbtmp3.9/6, MS3.6/4, Ms1 3.6/4, ms1mx2.8/74, Error ellipse: s-maj=23.2km s-min=15.9km az=37.0*
ISC 25 06:15:51.8±0.9, 13°.9N±0°.1×144°.1E±0°.1, h35km, n19, σ0s86/9, mb3.9/8, MS4.0/3, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.79**	**113**	Pn	**Pn**	**06 16 05.6**	**-0.8**
	97nm,0.3s,baz=260,slow=3.5,SNR=50						
GUMO				Sn	**Sn**	**06 16 17.4**	**+0.5**
	290nm,0.3s,baz=7.4,slow=21,SNR=23						
JOW	**Kunigami**	**19.63**	**313**	LR	LR	06 26 05.4	
	comp=Z,53nm,19.2s,baz=300,slow=32						
H11S3	**WAKE ISLAND Hy**	**22.14**	**75**	T	T	06 43 55.4	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**22.16**	**75**	T	T	06 43 54.4	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**22.16**	**75**	T	T	06 43 58.2	
	baz=262,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**22.54**	**72**	T	T	06 44 30.8	
	baz=258,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**22.55**	**72**	T	T	06 44 25.7	
	baz=258,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**22.56**	**72**	T	T	06 44 31.6	
	baz=258,slow=75,SNR=9.0						
MJAR	**Matsushiro Arr**	**23.17**	**348**	LR	LR	06 29 27.5	
	comp=Z,52nm,18.6s,baz=182,slow=36						
KSRS	**Korea Array**	**27.55**	**331**	P	**P**	**06 21 34.0**	**-1.4**
	2.0nm,0.7s,baz=141,slow=11,SNR=6.2						
BATI	**Baumata**	**31.39**	**221**	LR	LR	06 33 19.1	
	comp=Z,447nm,21.2s,baz=42,slow=34						
WRA	**Warramunga Arr**	**34.98**	**196**	P	**P**	**06 22 40.8**	**-0.1**
	3.6nm,0.8s,baz=16,slow=9.7,SNR=24						
ASAR	**Alice Springs**	**38.65**	**195**	P	**P**	**06 23 12.2**	**+0.1**
	1.1nm,0.7s,baz=18,slow=12,SNR=21						
STKA	**Stephens Creek**	**45.57**	**183**	P	**P**	**06 24 08.6**	**+0.2**
	0.8nm,0.5s,baz=359,slow=12,SNR=3.9						
MK31	**Makanchi Array**	**60.77**	**316**	P	P	06 26 05.1	+4.9
	0.2nm,0.2s,baz=231,slow=17,SNR=38						
MKAR	**Makanchi Array**	**60.77**	**316**	P	**P**	**06 26 00.1**	**-0.2**
	0.8nm,0.8s,baz=93,slow=8.7,SNR=3.1						
MAKZ	**Makanchi**	**60.98**	**316**	⇓P	**P**	**06 26 02.5**	**+0.8**
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**82.92**	**27**	P	**P**	**06 28 13.8**	**+1.0**
	0.5nm,1.1s,baz=287,slow=5.0,SNR=3.2						
MAW	**Mawson**	**99.43**	**203**	LR	LR	07 13 43.3	
	comp=Z,54nm,20.5s,baz=208,slow=35						

*IDC **25** 06:18:20.6±5.4, 6°.98S×156°.07E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/43, mbtmp4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/57, Error ellipse: s-maj=148.4km s-min=29.4km az=109.0*
*NEIC **25** 06:18:32.5±1.0, 6°.9S±0°.1×155°.52E±0°.10, h63km±8km, mb4.2/10, Error ellipse: s-maj=18.5km s-min=11.1km az=215.0*
ISC 25 06:18:31.0±0.7, 6°.91S±0°.10×155°.47E±0°.09, h50km, n28, σ0s93/19, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.26**	**309**		**Pn**	**06 19 35.0**	**+1.6**
HNR	**Honiara**	**5.09**	**120**		**Pn**	**06 19 45.5**	**+0.7**
PMG	**Port Moresby**	**8.59**	**253**	LR	LR	06 23 35.9	
	comp=Z,208nm,21.7s,baz=55,slow=34						
PMG	**Port Moresby**	**8.59**	**253**	Pn	**Pn**	**06 20 34.6**	**+1.9**
PATS	**Pohnpei**	**13.95**	**12**	Pn	**Pn**	**06 21 46.9**	**+0.8**
SANVU	**Saraoutou**	**14.29**	**127**	Pn	**Pn**	**06 21 50.4**	**-0.3**
WR0	**Warramunga Arr**	**24.09**	**235**	P	**P**	**06 23 42.4**	**+0.3**
WR0				IAmb	IAmb	06 23 43.5	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**24.23**	**236**	P	**P**	**06 23 43.5**	**+0.1**
WRAB				IAmb	IAmb	06 23 55.1	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**24.25**	**236**	P	**P**	**06 23 43.9**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=60,slow=9.8,SNR=28						
WRA	**Warramunga Arr**	**24.25**	**236**	IAmb	IAmb	06 23 45.5	
	comp=Z,0.3nm,1.0s						
MTN	**Manton Dam**	**24.68**	**254**	P	**P**	**06 23 47.0**	**-0.5**
MTN				IAmb	IAmb	06 23 49.4	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**26.58**	**229**	P	**P**	**06 24 04.6**	**-0.1**
ASAR	**Alice Springs**	**26.58**	**229**	P	**P**	**06

SIJI LR LR 06 28 59.8
comp=Z,3µm,19.8s,baz=300,slow=42
BNDI Bandanaira 4.65 139 P **Pn** **06 27 06.5 +0.9**
SGSI Sangihe 4.83 344 P **Pn** **06 27 09.2 +1.1**
MRSI Marisa 5.11 287 P **Pn** **06 27 10.7 -1.2**
1.4nm3µm311nm,0.6s
APSI Ampana 5.19 271 P **Pn** **06 27 12.7 -0.3**
3.3nm11µm707nm,0.7s
FAKI Fak Fak 5.73 110 Pn **Pn** **06 27 21.0 +0.5**
FAKI Fak Fak 5.73 110 P **Pn** **06 27 20.6 +0.1**
1.7nm4µm542nm,0.9s
FAKI Fak Fak 5.73 110 P **Pn** **06 27 22.7 +2.2**
BBSI Bau Bau 6.17 224 P **Pn** **06 27 27.8 +1.3**
0.2nm458nm46nm,0.6s
TOLI2 Tolitoli 6.41 289 Pn **Pn** **06 27 29.6 -0.2**
TOLI2 Tolitoli 6.41 289 P **Pn** **06 27 30.8 +1.0**
MPSI Mapaga 7.07 281 P **Pn** **06 27 39.2 +0.4**
0.5nm2µm1µm881nm,0.7s
DDMP Don Marcelino, 7.14 351⇑ *e*P **Pn** **06 27 40.8 +0.9**
DDMP *e*S **Sn** **06 28 59.7 -0.2**
TTSI Tana Toraja 7.31 254 P **Pn** **06 27 41.8 -0.3**
1.6nm4µm476nm,0.6s
BNSI Bone 7.53 243 P **Pn** **06 27 45.8 +0.7**
0.5nm1µm169nm,0.7s
SPSI Sidrap Palu 7.66 247 P **Pn** **06 27 47.4 +0.5**
5.3nm14µm1µm,0.6s
BKSI Bulukumba 7.97 237 P **Pn** **06 27 52.9 +1.8**
1.0nm3µm198nm,0.5s
KAPI Kappang 8.13 240 Pn **Pn** **06 27 54.1 +0.8**
20nm,0.3s,baz=58,slow=6.6,SNR=127
KAPI Kappang 8.13 240 *d iP* **Pn** **06 27 54.1 +0.8**
KAPI pmax pmax
comp=Z,120nm,0.8s
KAPI Kappang 8.13 240 Pn **Pn** **06 27 53.8 +0.4**
KAPI Kappang 8.13 240 P **Pn** **06 27 54.7 +1.4**
KCP Kidapawan 8.14 348⇓ *e*P **Pn** **06 27 55.4 +1.8**
BSSI Bau Bau, Buton 8.14 231 P **Pn** **06 27 55.7 +2.1**
comp=Z,0.5nmcomp=Z,1µmcomp=Z,150nm,0.7s
SAUI Saumlaki 8.24 148 Pn **Pn** **06 27 56.6 +1.6**
SAUI Saumlaki 8.24 148 P **Pn** **06 27 57.9 +3.0**
SOEI Soe 9.07 196 P **Pn** **06 28 09.3 +2.9**
comp=Z,2µmcomp=Z,102nm,1.1s
BKB Balikpapan 9.95 268 Pn **Pn** **06 28 17.5 -0.8**
BKB Balikpapan 9.95 268 P **Pn** **06 28 19.5 +1.2**
comp=Z,228nm,0.6s
BKB Balikpapan 9.95 268 P **Pn** **06 28 17.9 -0.4**
MYLDM Lahad Datu 10.35 306 Pn **Pn** **06 28 25.2 +1.4**
PLAI Plampang 11.91 229 P **Pn** **06 28 46.1 +0.8**
comp=Z,31nm,0.8s
BBKI Banjar Baru 12.24 258 P **Pn** **06 28 52.4 +2.7**
comp=Z,4µmcomp=Z,27nm,0.7s
MTN Manton Dam 12.52 160 P **Pn** **06 28 52.6 -0.8**
baz=12,SNR=5.1
MTN Manton Dam 12.52 160 Pn **Pn** **06 28 52.7 -0.8**
MTN Manton Dam 12.52 160 P **Pn** **06 28 52.9 -0.6**
KKM Kota Kinabalu 12.71 304 Pn **Pn** **06 28 54.9 -1.3**
KKM Kota Kinabalu 12.71 304 P **Pn** **06 28 59.0 +2.8**
KDU Kakadu 12.89 155 P **Pn** **06 28 56.3 -2.3**
baz=13,SNR=31
KDU Kakadu 12.89 155 P **Pn** **06 28 56.1 -2.5**
GENI Genyem 13.41 97 P **Pn** **06 29 06.9 +1.1**
comp=Z,2µmcomp=Z,148nm,1.2s
GENI Genyem 13.41 97 P **Pn** **06 29 07.9 +2.1**
JAGI Jajag, Banyuwa 14.66 239 Pn **Pn** **06 29 22.2 -0.5**
JAGI Jajag, Banyuwa 14.66 239 P **Pn** **06 29 24.5 +1.8**
comp=Z,63nm,0.9s
KNRA Kununurra 14.71 173 P **Pn** **06 29 21.6 -1.8**
baz=15,SNR=28
KNRA Kununurra 14.71 173 Pn **Pn** **06 29 21.7 -1.8**
KNRA Kununurra 14.71 173 P **Pn** **06 29 21.8 -1.6**
SBUM Sibu 15.01 283 Pn **Pn** **06 29 25.2 -2.3**
GMJI Gumukmas 15.18 241 P **Pn** **06 29 30.5 +0.8**
comp=Z,46nm,1.1s
STKI Sintang 15.40 274 P **Pn** **06 29 32.6 0.0**
KSM Kuching 16.71 278 Pn **Pn** **06 29 47.8 -1.6**
KSM Kuching 16.71 278 P **Pn** **06 29 49.4 0.0**
FITZ Fitzroy Crossi 17.04 184 Pn **Pn** **06 29 51.3 -2.1**
comp=Z,0.7nm,0.3s,baz=25,slow=7.7,SNR=22
FITZ Fitzroy Crossi 17.04 184 IAmb IAmb 06 29 57.9
comp=Z,20nm,0.8s
PCJI Pacitan 17.16 245 P **P** **06 29 55.9 -0.5**
comp=Z,74nm,0.9s
SMRI Semarang 17.42 249 P **Pn** **06 29 56.6 -1.7**
SMRI IAmb IAmb 06 30 16.3
comp=Z,64nm,0.7s
UGM Wanagama 17.65 247 P **Pn** **06 29 59.6 -1.6**
UGM IAmb IAmb 06 30 07.9
comp=Z,93nm,1.2s
UGM Wanagama 17.65 247 P **Pn** **06 30 01.4 +0.3**
comp=Z,60nm,1.5s
KPJI Karang Pucung 18.93 250 P **Pn** **06 30 18.4 +1.7**
comp=Z,59µmcomp=Z,75nm,1.0s
CMJI Cimerak 19.53 249 P **Pn** **06 30 25.8 +1.9**
comp=Z,478nmcomp=Z,35nm,0.9s
WRAB Tennant Creek 20.21 159 *c iP* **P** **06 30 28.0 -1.8**
WRAB pmax pmax
comp=Z,112nm,1.7s
WRAB Tennant Creek 20.21 159 P **P** **06 30 27.8 -2.0**
WRAB IAmb IAmb 06 30 29.1
comp=Z,76nm,1.1s
WRAB Tennant Creek 20.21 159 P **P** **06 30 28.0 -1.8**
WRA Warramunga Arr 20.21 159 P **P** **06 30 28.0 -1.9**
comp=Z,41nm,0.9s,baz=338,slow=12,SNR=203
WRA LR LR 06 38 32.9
comp=Z,216nm,19.4s,baz=334,slow=38
WRA Warramunga Arr 20.21 159 *i P* **P** **06 30 28.0 -1.9**
WRA pmax pmax
comp=Z,41nm,0.9s
WR0 Warramunga Arr 20.30 159 P **P** **06 30 28.5 -2.3**
WR0 IAmb IAmb 06 30 30.0
comp=Z,62nm,1.1s
CNJI Cibinong 20.63 252 P **P** **06 30 33.3 -1.1**
comp=Z,1µmcomp=Z,82nm,1.0s
CBJI Citeko 20.66 254 P Pn 06 30 36.3 -0.9
COEN Coen 20.66 129 P **P** **06 30 34.9 +0.1**
COEN Coen 20.66 129 P **P** **06 30 35.6 +0.8**
PPBI Pangkal Pinang 20.73 267 P **P** **06 30 35.6 +0.1**
comp=Z,13µmcomp=Z,42nm,0.9s
DBJI Dramaga 20.79 254 P Pn 06 30 38.4 -0.3
comp=Z,43nm,0.5s
PSA00 Pilbara Seismi 21.56 198 P **P** **06 30 42.8 -1.6**
PSA00 IAmb IAmb 06 30 49.2
comp=Z,31nm,0.8s
CGJI Cibinong 21.82 255 P **P** **06 30 47.9 +0.7**
comp=Z,61nm,0.8s
PMG Port Moresby 21.88 113 P **P** **06 30 50.7 +2.9**
comp=Z,72nm,0.8s,baz=304,slow=6.9,SNR=21
PMG Port Moresby 21.88 113 *c iP* **P** **06 30 50.3 +2.5**
PMG pmax pmax
comp=Z,82nm,1.0s
PMG Port Moresby 21.88 113 P **P** **06 30 48.4 +0.5**
PMG Port Moresby 21.88 113 P **P** **06 30 50.9 +3.1**
PMG Port Moresby 21.88 113 P **P** **06 30 51.0 +3.1**
BLSI Bandar Lampung 21.99 258 P **P** **06 30 50.3 +1.2**
comp=Z,89nm,0.4s
DSRI Dabo 22.27 271 P **P** **06 30 54.1 +2.0**
comp=Z,4µmcomp=Z,19nm,1.0s
KLI Kotabumi 22.29 260 P **P** **06 30 55.7 +3.4**
comp=Z,253nm,0.8s
KLSI 22.38 260 P **P** **06 30 53.9 +0.6**
comp=Z,444nmcomp=Z,52nm,0.8s
KASI Kota Agung 22.75 258 P **P** **06 30 58.5 +1.3**
comp=Z,133nm,0.9s
MDSI Maura Dua 22.90 261 P **P** **06 30 58.3 -0.5**
comp=Z,567nmcomp=Z,51nm,1.3s
GUMO Guam 23.01 50 LR LR 06 39 04.4
comp=Z,307nm,21.4s,baz=235,slow=34
LWLI Liwa 23.09 260 P **P** **06 31 02.8 +1.9**
comp=Z,100nm,0.8s
QIS Mount Isa 23.10 148 P **P** **06 30 59.7 -1.0**
baz=23,SNR=105
QIS Mount Isa 23.10 148 P **P** **06 30 59.8 -1.0**
comp=Z,205nm,0.9s
AS31 Alice Springs 23.55 164 P **P** **06 31 03.5 -1.7**
ASAR Alice Springs 23.55 164 P **P** **06 31 03.6 -1.6**
comp=Z,56nm,0.9s,baz=342,slow=9.6,SNR=362
ASAR S **S** **06 35 16.5 -0.8**
comp=Z,4.1nm,1.0s,baz=346,slow=22,SNR=5.4
ASAR ScP **ScP** **06 38 27.6 +1.6**
comp=Z,1.4nm,0.7s,baz=355,slow=2.3,SNR=6.5
ASAR LR LR 06 40 36.0
comp=Z,207nm,21.4s,baz=348,slow=38
WRKA Warakurna 23.94 177 P **P** **06 31 08.0 -0.9**
baz=24,SNR=58
WRKA Warakurna 23.94 177 P **P** **06 31 08.3 -0.6**
comp=Z,87nm,0.8s
MNAI Manna 24.09 262 P **P** **06 31 10.7 +0.3**
MTSU Mount Surprise 24.18 136 P **P** **06 31 11.6 +0.4**
baz=24,SNR=7.2
MASI Maura Aman, Be 24.68 265 P **P** **06 31 18.3 +2.5**
comp=Z,3µmcomp=Z,275nm,0.9s
GIRL Giralia 24.77 209 P **P** **06 31 15.7 -0.6**
baz=25,SNR=4.4
TPUB Ta-pu 24.89 346 P **P** **06 31 16.9 -0.7**
TPUB Ta-pu 24.89 346 P **P** **06 31 21.3 +3.7**
KRJI Kerinci 25.39 267 P **P** **06 31 23.7 +1.4**
comp=Z,11µmcomp=Z,311nm,0.7s
RABL Rabaul 25.49 98 P **P** **06 31 24.6 +1.4**
IPM Ipoh 26.36 282 P **P** **06 31 30.1 -0.9**
IPM IAmb IAmb 06 31 33.2
comp=Z,30nm,0.7s
IPM Ipoh 26.36 282 P **P** **06 31 32.1 +1.1**
comp=Z,47nm,0.8s
MEEK Meekatharra 26.70 197 P **P** **06 31 32.5 -1.4**
baz=27,SNR=3.6
MEEK Meekatharra 26.70 197 P **P** **06 31 33.0 -0.9**
CTA Charters Tower 26.85 136 P **P** **06 31 37.9 +2.6**
comp=Z,29nm,0.9s,baz=322,slow=12,SNR=15
CTA LR LR 06 45 37.2
comp=Z,282nm,18.1s,baz=308,slow=44
CTA Charters Tower 26.85 136 P **P** **06 31 37.1 +1.8**
JOW Kunigami 27.70 3 P **P** **06 31 43.8 +0.9**
comp=Z,94nm,1.0s,baz=198,slow=9.9,SNR=8.9
JOW Kunigami 27.70 3 P **P** **06 31 43.4 +0.5**
JOW Kunigami 27.70 3 P **P** **06 31 45.3 +2.4**
OOD Oodnadatta 27.96 163 P **P** **06 31 46.0 +0.8**
RPSI Rantau Prapat 28.15 278 P **P** **06 31 46.6 -0.5**
PSI Prapat 28.16 278 P **P** **06 31 46.6 -0.7**
comp=Z,18nm,0.9s,baz=88,slow=6.3,SNR=8.8
PSI LR LR 06 45 08.4
comp=Z,348nm,19.6s,baz=99,slow=41
GSI Gunungsitoli 29.35 274 P **P** **06 31 56.2 -1.6**
GSI IAmb IAmb 06 31 59.7
comp=Z,30nm,0.7s
GSI Gunungsitoli 29.35 274 P **P** **06 32 00.3 +2.5**
FORT Forrest 29.64 178 P **P** **06 31 59.0 -1.1**
FORT IAmb IAmb 06 32 02.2
comp=Z,37nm,1.1s
FORT Forrest 29.64 178 P **P** **06 31 59.1 -1.1**
INKA Innaminka 29.75 155 P **P** **06 32 03.2 +2.1**
MULG Mulgathing 29.92 167 P **P** **06 32 02.9 +0.3**
QLP Quilpie 30.45 148 P **P** **06 32 07.6 +0.3**
baz=30,SNR=3.2
LCRK Leigh Creek 31.22 161 P **P** **06 32 16.0 +1.9**
JCJ Chichijima 31.60 27 LR LR 06 43 18.9
comp=Z,91nm,20.8s,baz=115,slow=33
BBOO Buckleboo 32.81 166 P **P** **06 32 27.8 -0.2**
baz=33,SNR=27
BBOO Buckleboo 32.81 166 P **P** **06 32 28.1 0.0**
WHYH Whyalla 33.43 164 P **P** **06 32 35.0 +1.6**
comp=Z,34nm,0.8s
WHN Wuhan 33.54 340 P **P** **06 32 38.5 +4.1**
CMAR Chiang Mai Arr 33.56 307 P **P** **06 32 34.4 -0.3**
comp=Z,1.9nm,0.4s,baz=140,slow=8.0,SNR=8.3
CMAR PcP **PcP** **06 35 17.0 +1.9**
comp=Z,1.8nm,0.3s,baz=160,slow=2.2,SNR=9.2
CMAR ScP **ScP** **06 39 00.3 +3.1**
comp=Z,2.7nm,0.3s,baz=163,slow=3.0,SNR=7.0
NJ2 Nanjing 33.73 348 *e*P **P** **06 32 38.0 +2.0**
NJ2 pmax pmax
comp=Z,20nm,0.5s
STKA Stephens Creek 33.73 157 P **P** **06 32 36.5 +0.5**
comp=Z,65nm,0.9s,baz=329,slow=9.3,SNR=82
STKA LR LR 06 48 16.5
comp=Z,180nm,20.9s,baz=339,slow=40
STKA Stephens Creek 33.73 157 P **P** **06 32 36.3 +0.2**
baz=34,SNR=49
STKA Stephens Creek 33.73 157 *c iP* **P** **06 32 36.0 -0.1**
STKA Stephens Creek 33.73 157 P **P** **06 32 35.8 -0.3**
STKA IAmb IAmb 06 32 39.4
comp=Z,11nm,0.8s
STKA Stephens Creek 33.73 157 P **P** **06 32 36.8 +0.7**
NAPP Napperby 33.74 163 P **P** **06 32 39.1 +3.0**
comp=Z,12nm,0.7s
CHTO Chiang Mai 33.75 307 P **P** **06 32 35.3 -1.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 33.75 307 P **P** **06 32 35.3 -1.1**
CHTO Chiang Mai 33.75 307 P **P** **06 32 38.9 +2.5**
comp=Z,5.3nm,0.9s
JNU Nakatsue 34.15 6 P **P** **06 32 39.2 -0.4**
comp=Z,11nm,0.9s,baz=170,slow=8.3,SNR=4.8
JNU Nakatsue 34.15 6 IAmb IAmb 06 32 47.7
comp=Z,48nm,1.4s
HTT Hallett 34.20 162 P **P** **06 32 41.3 +1.2**
baz=34,SNR=4.8
HTT Hallett 34.20 162 P **P** **06 32 42.2 +2.0**
CMSA Cobar Meteorol 35.22 151 P **P** **06 32 49.6 +0.6**
baz=35,SNR=15
CMSA Cobar Meteorol 35.22 151 P **P** **06 32 50.0 +1.0**
PZH PanZhiHua 36.51 320 P **P** **06 33 00.8 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,7.9s
INU Inuyama 37.39 14 P **P** **06 33 06.7 -0.7**
INU IAmb IAmb 06 33 11.4
comp=Z,29nm,1.0s
INU Inuyama 37.39 14 P **P** **06 33 09.7 +2.3**
comp=Z,33nm,1.0s
ARMA Armidale 37.55 144 P **P** **06 33 09.4 +0.3**
baz=38,SNR=6.8
ARMA Armidale 37.55 144 P **P** **06 33 10.4 +1.4**
comp=Z,16nm,1.1s
LYN LuoYang 37.84 340 *e*P **P** **06 33 10.0 -1.3**
LYN pmax pmax
comp=Z,10.0nm,0.5s
ARPS Mount Arapiles 38.21 160 P **P** **06 33 15.1 +0.8**
baz=38,SNR=59
ARPS Mount Arapiles 38.21 160 P **P** **06 33 15.7 +1.4**
KSAR Wonju Array Be 38.26 1 P **P** **06 33 14.6 -0.1**
KSAR Wonju Array Be 38.26 1 P **P** **06 33 14.6 -0.1**
KSRS Korea Array 38.27 1 P **P** **06 33 15.1 +0.3**
comp=Z,14nm,1.0s,baz=178,slow=10.0,SNR=37
KSRS PcP **PcP** **06 35 28.7 +0.2**
comp=Z,2.0nm,0.6s,baz=182,slow=3.2,SNR=4.5
KS19 Wonju Array Si 38.32 1 P **P** **06 33 14.9 -0.3**
KS19 IAmb IAmb 06 33 17.9
comp=Z,16nm,0.8s
XAN Xi'an 38.70 336 ⇑P **P** **06 33 18.5 -0.1**
XAN pP pP 06 33 27.5 +0.2
XAN sP pwP 06 33 32.0 -0.7
XAN S **S** **06 39 13.0 -0.4**
XAN pmax pmax
comp=Z,26nm,1.0s
MAJO Matsushiro 38.81 15⇓ *e*P **P** **06 33 19.1 -0.3**
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 38.81 15 P **P** **06 33 18.9 -0.6**
MAJO Matsushiro 38.81 15 P **P** **06 33 21.4 +2.0**
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 38.81 15 P **P** **06 33 18.2 -1.2**
comp=Z,3.3nm,0.4s,baz=187,slow=8.5,SNR=8.7
MJAR ScP **ScP** **06 39 17.5 +1.3**
comp=Z,1.1nm,0.4s,baz=223,slow=4.1,SNR=5.6
MJB9 Matsu-Tunnel 38.82 15 P **P** **06 33 18.9 -0.6**
MGCD Mangrove Creek 39.33 147 P **P** **06 33 24.0 +0.2**
baz=39,SNR=4.8
BRAT Ballarat 39.64 159 P **P** **06 33 28.0 +1.7**
comp=Z,22nm,1.1s
HNS HongShan 39.82 345 ⇑P **P** **06 33 28.3 +0.5**
HNS pmax pmax
comp=Z,14nm,1.0s
TOO Toolangi 40.25 157 P **P** **06 33 33.3 +1.9**
baz=40,SNR=6.0
TOO Toolangi 40.25 157 P **P** **06 33 32.6 +1.1**
TOO pmax pmax
comp=Z,45nm,1.2s
TOO Toolangi 40.25 157 P **P** **06 33 32.6 +1.1**
TOO IAmb IAmb 06 33 34.5
comp=Z,45nm,1.2s
TOO Toolangi 40.25 157 P **P** **06 33 33.6 +2.1**
JMM Marumori 40.76 17 P **P** **06 33 35.4 -0.1**
JMM IAmb IAmb 06 33 38.5
comp=Z,29nm,0.8s
BJT Baijiatuau 41.97 348 P **P** **06 33 44.6 -0.9**
BJT pmax pmax
comp=Z,14nm,0.8s
BJT Baijiatuau 41.97 348 P **P** **06 33 44.5 -0.9**
BJI Beijing 41.99 348 P **P** **06 33 45.0 -0.6**
BJI pmax pmax
comp=Z,9.0nm,0.6s
SANVU Saraoutou 42.33 112 P **P** **06 33 49.0 +0.2**
LZH Lanzhou 42.66 332 *e*P **P** **06 33 52.5 +1.1**
LZH pP sP 06 34 02.0 -1.7
LZH sP pwP 06 34 07.8 +2.4
LZH pmax pmax
comp=Z,19nm,1.1s
LZH LR LR
comp=Z,220nm,10.8s
LZH LR LR
comp=Z,210nm,11.9s
LZH LR LR
comp=Z,270nm,16.3s
SHL Shillong 42.88 310 P **P** **06 33 52.9 -0.5**
SHL pmax pmax
comp=Z,11nm,0.7s
SHL Shillong 42.88 310 P **P** **06 33 52.9 -0.5**
DZM Mont Dzumac 43.86 121 *e*LR LR 06 46 33.9
comp=Z,210nm,25.3s
HHC Hu-ho-hao-te 43.91 343 *e*P **P** **06 34 03.0 +1.7**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,140nm,6.0s
USA0B Ussuriysk Arra 45.23 5 P **P** **06 34 11.1 -0.5**
USA0B pmax pmax
comp=Z,14nm,0.8s
USA0B Ussuriysk Arra 45.23 5 P **P** **06 34 11.1 -0.5**
USA0B IAmb IAmb 06 34 14.2
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 45.23 5 P **P** **06 34 11.8 +0.2**
comp=Z,16nm,0.8s,baz=191,slow=5.8,SNR=17
USRK Ussuriysk Ar. 45.23 5 P **P** **06 34 11.3 -0.4**
USRK Ussuriysk Ar. 45.23 5 P **P** **06 34 11.2 -0.4**
MDJ Mudanjiang 45.48 3 P **P** **06 34 12.6 -1.0**
MDJ IAmb IAmb 06 34 16.4
comp=Z,24nm,0.9s
MDJ Mudanjiang 45.48 3 P **P** **06 34 15.8 +2.2**
MDJ pmax pmax
comp=Z,31nm,0.9s
MDJ pmax pmax
comp=Z,150nm,4.4s
MDJ Mudanjiang 45.48 3 P P **06 34 15.4 +1.8**
comp=Z,28nm,1.1s
XLT XiLinHaoTe 45.72 349 *e*P **P** **06 34 16.8 +1.1**
XLT pP sP 06 34 28.8 +0.6
XLT sP pwP 06 34 36.3 +6.2
XLT pmax pmax
comp=Z,13nm,1.0s
XLT pmax pmax
comp=Z,190nm,6.4s
PALK Pallekele 46.75 281 P **P** **06 34 23.4 -0.8**
PALK pmax pmax
comp=Z,10.0nm,0.8s
PALK Pallekele 46.75 281 P **P** **06 34 23.4 -0.8**
PALK IAmb IAmb 06 34 26.4
comp=Z,10.0nm,0.8s
TAPN Taplejung 47.00 310 *e*P **P** **06 34 26.4 +0.1**
ASAJ Asahikawa 47.07 15 P **P** **06 34 27.0 +0.9**
comp=Z,22nm,0.9s,baz=236,slow=13,SNR=12
GTA Gaotai 47.23 331 ⇑P **P** **06 34 28.8 +1.2**
GTA pP pP 06 34 37.5 +1.0
GTA sP pwP 06 34 43.5 +1.8
GTA pmax pmax
comp=Z,12nm,0.9s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,130nm,15.3s
GTA LR LR
comp=Z,150nm,16.7s
GTA LR LR
comp=Z,130nm,15.6s
GOMU GeErMu 47.51 324 P **P** **06 34 30.5 +0.4**
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,78nm,3.6s
RAMN Ramite 47.66 309 *e*P **P** **06 34 31.8 +0.4**
comp=Z,36nm,0.5s
JIRN Jiri 48.33 309 *e*P **P** **06 34 36.5 -0.1**
comp=Z,24nm,0.7s
GUN Gumba 48.69 309 *e*P **P** **06 34 39.4 0.0**
comp=Z,60nm,0.7s
DMN Daman 49.14 309 *e*P **P** **06 34 43.3 +0.5**
comp=Z,26nm,0.7s
YSS Yuzh-Sakhalins 49.75 14 *de*P **P** **06 34 47.9 +1.2**
YSS pmax pmax
comp=Z,25nm,1.0s
KLR Kul'dur 50.21 4 P **P** **06 34 50.1 0.0**
comp=Z,10nm,0.9s,baz=192,slow=5.8,SNR=26
KOLN Koldanda 50.40 308 *e*P **P** **06 34 52.8 +0.5**
comp=Z,100nm,0.8s
DANN Dangsing 50.54 309 *e*P **P** **06 34 53.5 0.0**
comp=Z,140nm,0.7s
HYBB Hyderabad (bro 50.95 293 *e*P **P** **06 34 56.2 -0.2**
PYUN Piuthan 51.03 308 *e*P **P** **06 34 57.4 +0.3**
comp=Z,113nm,0.9s
ULN Ulaanbaatar 51.63 343⇓ *e*P **P** **06 35 01.6 +0.5**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 51.63 343 P **P** **06 35 01.1 -0.1**
ULN IAmb IAmb 06 35 14.1
comp=Z,18nm,1.1s
SONM Songino Array 51.80 343 P **P** **06 35 02.5 +0.1**
comp=Z,6.5nm,0.8s,baz=157,slow=8.8,SNR=26
SONM ScP **ScP** **06 40 10.3 +0.7**
comp=Z,1.0nm,0.8s,baz=159,slow=3.1,SNR=4.9
SONM Songino Array 51.80 343 P **P** **06 35 02.8 +0.5**
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM Songino Array 51.80 343 P **P** **06 35 02.8 +0.5**
GRNR Gornyy 52.21 8⇓ *iP* **P** **06 35 07.1 +1.9**
GRNR pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 55.01 342 *e*P **P** **06 35 23.7 -2.1**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 56.68 327 *e*P **P** **06 35 39.5 +1.6**
WMQ sP pwP 06 35 56.3 +4.3
WMQ PcP **PcP** **06 36 36.0 +2.2**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,150nm,3.7s
WMQ LR LR
comp=Z,140nm,17.5s
MOY Mondy 56.84 341 *e*P **P** **06 35 40.2 +1.2**
MOY pmax pmax
comp=Z,12nm,1.3s
RPZ Rata Peaks 57.89 143 LR LR 07 00 31.8
comp=Z,147nm,20.8s,baz=322,slow=36
URZ Urewera 59.09 135 LR LR 07 04 50.5
comp=Z,110nm,18.1s,baz=26,slow=40
BOD Bodaibo 59.53 352 *e*P **P** **06 35 57.1 -0.4**
BOD pmax pmax
comp=Z,12nm,1.1s
PETK Petropavlovsk- 59.76 21 P **P** **06 35 59.7 +0.5**
comp=Z,7.5nm,0.6s,baz=198,slow=9.3,SNR=10
PETK LR LR 07 01 16.8
comp=Z,28nm,19.8s,baz=203,slow=36
PET Petropavlovsk 60.03 22 *e*P P 06 36 06.0 +5.0
PET *e* 06 38 19.0
PET *e*S **S** **06 44 16.2 +4.8**
PET *e*PPS PPS 06 44 36.9
PET pmax pmax
comp=Z,15nm,1.4s
PET MLR MLR
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,200nm,15.0s
TARG Taragay, Kyrgy 61.37 320 P **P** **06 36 10.4 -0.5**
TARG IAmb IAmb 06 36 29.0
comp=Z,12nm,0.8s
KSH Kashi 61.50 317 P **P** **06 36 13.0 +1.5**
KSH pmax pmax
comp=Z,14nm,0.8s
MK31 Makanchi Array 61.51 327 P **P** **06 36 11.3 0.0**
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 61.51 327 P **P** **06 36 11.3 0.0**
MK31 IAmb IAmb 06 36 23.9
comp=Z,9.6nm,0.8s
MKAR Makanchi Array 61.51 327 P **P** **06 36 11.5 +0.3**
comp=Z,10.0nm,0.7s,baz=122,slow=8.4,SNR=76
MKAR ScP **ScP** **06 40 53.9 +1.6**
comp=Z,1.1nm,0.8s,baz=123,slow=4.5,SNR=4.6

MKAR LR LR 07 04 22.0
comp=Z,67nm,21.8s,baz=114,slow=38
MKAR Makanchi Array 61.51 327 P P 06 36 11.2 -0.1
MKAR Makanchi Array 61.51 327 P P 06 36 11.2 -0.1
MAKZ Makanchi 61.69 327 P P 06 36 12.6 +0.1
MAKZ pmax pmax
comp=Z,18nm,1.2s
MAKZ Makanchi 61.69 327 P P 06 36 12.6 +0.1
MAKZ IAmb IAmb 06 36 17.4
comp=Z,18nm,1.1s
AFI Afiamalu 62.02 105 LR LR 07 04 33.0
comp=Z,80nm,18.2s,baz=237,slow=37
YAK Yakutsk 62.90 2 P P 06 36 20.1 -0.1
comp=Z,13nm,0.5s,baz=348,slow=3.8,SNR=4.5
YAK Yakutsk 62.90 2 *e*P **P 06 36 19.5 -0.7**
YAK *e**PP **pP 06 36 28.3 -1.3**
YAK *e* 06 36 56.1
YAK *e*S **S 06 44 47.2 -0.2**
YAK *e**SS **sS 06 45 10.9 +7.7**
YAK *e* 06 46 11.2
YAK *e*SS **SS 06 48 50.9 -2.2**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=N,46nm,2.5s
YAK smax smax
comp=E,10.0nm,1.5s
YAK Yakutsk 62.90 2 IAmb IAmb 06 36 29.9
comp=Z,49nm,0.8s
BOOM Boomskoye usch 62.95 320 P P 06 36 20.8 -0.4
BOOM pmax pmax
comp=Z,23nm,1.2s
BOOM Boomskoye usch 62.95 320 P P 06 36 20.8 -0.4
MA2 Magadan 63.24 13 P P 06 36 23.3 +0.8
comp=Z,12nm,0.8s,baz=226,slow=7.4,SNR=13
MA2 Magadan 63.24 13 *de*P **P 06 36 23.5 +1.0**
MA2 pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 63.24 13 P P 06 36 22.5 -0.1
AAK Ala-Archa 63.95 319 LR LR 07 07 23.1
comp=Z,8.9nm,21.0s,baz=107,slow=39
AAK Ala-Archa 63.95 319⇑ *e*P **P 06 36 27.4 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 64.53 309 P P 06 36 31.9 +0.1
KBL pmax pmax
comp=Z,19nm,0.7s
KBL Kabul 64.53 309 P P 06 36 31.9 +0.1
ZALV Zalesovo Beam 64.84 334 P P 06 36 32.1 -1.1
comp=Z,1.3nm,0.5s,baz=125,slow=7.4,SNR=6.2
ZALV LR LR 07 06 05.2
comp=Z,40nm,20.7s,baz=128,slow=37
ZALV Zalesovo Beam 64.84 334 P P 06 36 31.8 -1.3
ZALV Zalesovo Beam 64.84 334 P P 06 36 31.8 -1.3
GAR Garm 65.23 314 P P 06 36 36.1 -0.1
BTK Batken 65.30 316 P P 06 36 36.7 +0.1
BTK pmax pmax
comp=Z,22nm,1.1s
BTK Batken 65.30 316 P P 06 36 36.7 +0.1
KURBB Kurchatov Arra 65.78 329 P P 06 36 38.9 -0.4
comp=Z,6.3nm,0.8s,baz=128,slow=5.9,SNR=47
KURK Kurchatov 65.78 329 *ce*P **P 06 36 39.0 -0.3**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 65.78 329 P P 06 36 38.7 -0.6
CHGR Chuyangaron 65.94 314 P P 06 36 40.6 -0.1
SEY Seymchan 66.59 12 P P 06 36 44.6 +0.4
comp=Z,4.2nm,0.6s,baz=72,slow=21,SNR=17
KKAR Karatay Array 66.78 318 P P 06 36 45.3 -0.6
KKAR Karatay Array 66.78 318 P P 06 36 45.3 -0.6
WSAR Wadi Sarin 70.45 295 LR LR 07 10 10.9
comp=Z,42nm,20.9s,baz=126,slow=38
BVAR Borovoye Array 71.34 328 P P 06 37 14.0 0.0
comp=Z,3.5nm,1.0s,baz=55,slow=20,SNR=11
BRVK Borovoye 71.41 328 P P 06 37 14.0 -0.4
BRVK pmax pmax
comp=Z,18nm,1.4s
BRVK Borovoye 71.41 328 P P 06 37 14.0 -0.4
BRVK IAmb IAmb 06 37 42.4
comp=Z,18nm,1.4s
SOHO SOHO 72.49 296 *i* P **P 06 37 21.5 0.0**
SNR=7.1
TIXI Tiksi 72.53 1 P P 06 37 20.4 -0.4
comp=Z,12nm,0.5s,baz=184,slow=4.3,SNR=37
TIXI Tiksi 72.53 1 *de*P **P 06 37 20.4 -0.4**
TIXI pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 72.53 1 P P 06 37 19.8 -0.9
UOSS Minazif 72.92 296 P P 06 37 23.4 -0.7
UOSS Minazif 72.92 296 P P 06 37 24.2 +0.1
HATD Hatta, Dubai 72.97 296 P P 06 37 24.8 +0.5
BANOM Banah 73.00 297 P P 06 37 24.6 +0.1
ASHO Ashiyiah 73.01 296 *i* P **P 06 37 24.9 +0.2**
SNR=7.1
MSFE Esma-Masafi 73.03 297 P P 06 37 25.8 +1.1
ALNE Al Ain 73.19 295 *i* P **P 06 37 26.0 +0.3**
SNR=13
NAZ Nazwa, Dubai 73.41 296 P P 06 37 27.4 +0.4
FAQ Al Faqa, Dubai 73.44 296 *i* P **P 06 37 28.0 +0.9**
SNR=12
ASUD Al Ashush, Dub 73.66 296 P P 06 37 29.2 +0.8
GEYT Alibeck 73.96 310 P P 06 37 30.3 +0.4
comp=Z,5.4nm,0.7s,baz=190,slow=7.5,SNR=4.9
GEYT Alibeck 73.96 310 P P 06 37 28.7 -1.3
BILL Bilibino 74.07 14 *e*P **P 06 37 30.7 +0.8**
BILL *e* 06 37 46.3
BILL *e* 06 40 13.7
BILL *e*PPP PPP 06 42 00.9
BILL pmax pmax
comp=Z,1.0nm,1.0s
MZR Muzera 75.10 294 *i* P **P 06 37 36.9 +0.1**
SNR=8.7
ABKAR Akbulak array 75.88 322 P P 06 37 39.9 -0.8
AKTO Aktyubinsk 77.42 322 P P 06 37 49.2 -0.3
comp=Z,4.5nm,0.9s,baz=88,slow=5.9,SNR=9.9
VNDA Vanda 78.76 173 P P 06 37 56.0 -0.3
comp=Z,2.0nm,0.9s,baz=265,slow=5.8,SNR=9.2
VNDA LR LR 07 10 48.9
comp=Z,111nm,21.1s,baz=338,slow=34
VNDA Vanda 78.76 173 P P 06 37 56.6 +0.2
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 78.76 173 P P 06 37 56.5 +0.2
ARU Arti 78.98 328 *c i*P **P 06 37 56.1 -1.8**
ARU S **S 06 47 55.8 +1.6**
ARU SS **SS 06 52 54.7 -5.4**
ARU pmax pmax
comp=Z,6.0nm,1.3s
ANM Nome 81.51 24 P P 06 38 13.2 +1.8
baz=249
RAYN Ar Rayn 82.45 294 P P 06 38 17.0 -0.3
RAYN pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 82.45 294 P P 06 38 17.0 -0.3
RAYN IAmb IAmb 06 38 28.4
comp=Z,10nm,0.9s
RAYN Ar Rayn 82.45 294 *i* P **P 06 38 17.7 +0.4**
SNR=9.8
PPT Papeete 83.58 107 LR LR 07 13 04.2
comp=Z,49nm,20.8s,baz=4.0,slow=34
PPT2 Papeete2 83.58 107 *e*LR LR 07 04 44.4
comp=Z,121nm,27.2s
KIRV Kirov 84.30 329 P P 06 38 26.1 +0.1
comp=Z,7.8nm,0.6s,baz=243,slow=11,SNR=3.6
KIRV Kirov 84.30 329⇑ *e*P **P 06 38 26.2 +0.3**
TTA Tatalina 85.04 27 P P 06 38 29.5 -0.2
TTA pmax pmax
comp=Z,9.0nm,1.4s
TTA Tatalina 85.04 27 P P 06 38 29.5 -0.2
TTA IAmb IAmb 06 38 42.2
comp=Z,9.3nm,1.4s
N19K Bonanza Creek 85.34 29 P P 06 38 30.9 -0.4
N19K IAmb IAmb 06 38 47.9
comp=Z,13nm,0.9s
N19K Bonanza Creek 85.34 29 P P 06 38 31.3 0.0
baz=260
ZEI Tsey 85.48 313 *e*P **P 06 38 32.5 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KDAK Kodiak Island 85.81 32 LR LR 07 13 18.7
comp=Z,111nm,21.3s,baz=254,slow=33

J20K Nowinta River 86.10 26 P P 06 38 37.2 +2.3
baz=260
KBZ Khabaz 86.30 314 P P 06 38 36.3 0.0
comp=Z,1.8nm,0.8s,baz=39,slow=2.5,SNR=3.9
KBZ Khabaz 86.30 314 *je*P **P 06 38 36.1 -0.2**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 86.47 314 *e*P **P 06 38 34.3 -3.0**
KIV pmax pmax
KIV comp=Z,6.0nm,1.0s MLR MLR
comp=Z,27nm,20.0s
MLY Manley 87.69 25 P P 06 38 42.4 -0.3
SYO Syowa Base 88.09 201⇑ *e*P **P 06 38 45.0 +0.6**
COLD Coldfoot 88.18 23 P P 06 38 44.6 -0.3
COLD Coldfoot 88.18 23 P P 06 38 45.6 +0.7
baz=263
I23K Minto, Yukon-K 88.28 25 P P 06 38 45.1 -0.3
I23K IAmb IAmb 06 38 54.9
comp=Z,9.7nm,1.3s
I23K Minto, Yukon-K 88.28 25 P P 06 38 45.8 +0.4
baz=264
TOLK Toolik Lake Re 88.58 21 P P 06 38 48.5 +1.7
baz=264
QSPA South Pole Qui 88.94 180 P P 06 38 48.3 -0.4
ILAR Eielson Array 89.30 25 P P 06 38 48.2 -2.1
comp=Z,0.8nm,0.6s,baz=241,slow=5.2,SNR=9.7
KMBO Kilima Mbogo 89.57 269 LR LR 07 18 38.2
comp=Z,54nm,18.3s,baz=90,slow=35
RIDG Independent Ri 90.14 26 P P 06 38 53.5 -0.8
RIDG IAmb IAmb 06 38 58.0
comp=Z,11nm,1.4s
RIDG Independent Ri 90.14 26 P P 06 38 53.7 -0.5
baz=268
J26L Joseph Creek 90.72 26 P P 06 38 57.0 0.0
baz=269
OBN Obninsk 90.97 325 *e*P **P 06 38 56.9 -1.2**
OBN *e* 06 42 28.8
OBN *e*PPP PPP 06 44 30.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
L27K Beaver Creek, 91.49 27 P P 06 39 01.3 +0.8
baz=271
MMAI Mount Meron Ar 91.74 303 LR LR 07 26 55.7
comp=Z,38nm,20.0s,baz=238,slow=40
LOGN Logan Glacier 91.92 29 P P 06 39 02.7 0.0
DAWY Dawson 92.54 26 P P 06 39 05.2 -0.2
DAWY IAmb IAmb 06 39 15.0
comp=Z,5.4nm,1.1s
TAOE Nuku Hiva Isla 92.82 99 *e*LR LR 07 09 04.9
comp=Z,136nm,27.8s
I29M Ogilvie Camp, 92.93 25 P P 06 39 07.3 +0.1
baz=274
BRTR Keskin Array B 93.10 310 LR LR 07 30 56.1
comp=Z,16nm,18.1s,baz=118,slow=42
SKAG Skagway 94.84 31 P P 06 39 18.3 +2.4
baz=276
ARCES ARCESS Array B 94.89 340 P P 06 39 15.2 -0.8
comp=Z,7.6nm,1.2s,baz=44,slow=5.6,SNR=6.8
ARCES LR LR 07 27 52.9
comp=Z,32nm,18.4s,baz=70,slow=39
ARCES ARCESS Array B 94.89 340 P P 06 39 15.2 -0.8
ARCES pmax pmax
comp=Z,13nm,1.4s
ARCES ARCESS Array B 94.89 340 IAmb IAmb 06 39 19.0
comp=Z,13nm,1.4s
SPITS Spitsbergen Ar 95.11 349 LR LR 07 26 42.3
comp=Z,37nm,19.1s,baz=240,slow=38
MNK Minsk 96.02 325 *i* P **P 06 39 17.2 -4.2**
MNK *i* 06 43 09.8
MNK *i* S **SKSac 06 49 53.4 -1.9**
MNK *i* SS **SS 06 57 06.5 -2.3**
MNK *i* SSS SSS 07 00 51.9
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=N,186nm,16.0s
MNK MLR MLR
comp=E,17nm,16.0s
MNK MLR MLR
comp=Z,98nm,16.0s
MNK Minsk 96.02 325 *i* P **P 06 39 17.2 -4.2**
comp=E,2.0nm,0.6s
MNK *i* P **P 06 39 17.2 -4.2**
comp=N,6.0nm,0.6s
MNK *i* P **P 06 39 17.2 -4.2**
comp=Z,5.0nm,0.6s,baz=263
MNK *i* PP **PP 06 43 09.9 -4.2**
MNK *i* PPP PPP 06 45 12.4
MNK *i* SKS 06 49 23.1
MNK *i* S **SKSac 06 49 53.5 -1.9**
MNK *i* SS **SS 06 57 06.5 -2.3**
MNK *i* SSS SSS 07 00 51.9
MNK *i* LQ LQ 07 16 07.5
MNK *i* LR LR 07 18 57.8
MNK *i* LRM MLR 07 23 19.9
comp=E,17nm,15.8s
MNK *i* LRM MLR 07 23 19.9
comp=N,186nm,15.8s
MNK *i* LRM MLR 07 23 19.9
comp=Z,98nm,15.8s
MBAR Mbarara 96.09 269 LR LR 07 21 55.3
comp=Z,58nm,19.3s,baz=70,slow=35
A36M Sachs Harbour 96.43 17 P P 06 39 22.6 -0.3
A36M Sachs Harbour 96.43 17 P P 06 39 23.8 +0.8
baz=287
C36M Paulatuk 97.59 20 P P 06 39 27.2 -1.0
baz=288
LSZ Lusaka 98.09 255 LR LR 07 22 16.8
comp=Z,46nm,19.9s,baz=147,slow=34
MLR Muntele Rosu 98.35 316 LR LR 07 29 03.5
comp=Z,46nm,21.8s,baz=84,slow=38
BOSA Boshof 99.69 241 LR LR 07 18 59.0
comp=Z,40nm,21.4s,baz=176,slow=32
YKA Yellowknife Ar 103.72 25 PKiKP PKiKP 06 44 13.1 -0.6
comp=Z,0.1nm,0.5s,baz=311,slow=1.9,SNR=3.9
YKA PKKPbc **PKKPbc 06 55 46.3 -3.4**
comp=Z,0.3nm,0.8s,baz=121,slow=3.0,SNR=5.2
TORD Torodi Ar. Bea 124.37 285 PKP PKPdf 06 44 54.0 -0.2
comp=Z,3.0nm,0.7s,baz=43,slow=1.2,SNR=15
SCHQ Schefferville 125.18 10 PKP PKPdf 06 44 54.8 +0.1
comp=Z,2.4nm,0.7s,baz=334,slow=2.9,SNR=3.7
PLCA Paso Flores 135.55 161 SKPbc SKPab 06 48 46.5 -1.7
comp=Z,2.4nm,0.9s,baz=179,slow=3.0,SNR=3.7
CPUP Villa Florida 152.54 172 PKPbc PKiKP 06 45 51.5 -0.1
comp=Z,2.0nm,0.6s,baz=182,slow=1.9,SNR=8.1

*NNC **25** 06:30:31.1±2.0,54.27N×86.39E,h0km,mb3.5,mpv2.8,*
Error ellipse: s-maj=24.9km s-min=10.9km az=172.0,
Suspected Mining explosion.
*IDC **25** 06:30:34.0±2.4,54.15N×86.28E,h0km,mb1 3.1/2,*
mb1mx2.9/67,mbtmp3.1/2,ML2.8/2,Error ellipse:
s-maj=19.4km s-min=11.3km az=60.0
ISC 25 06:30:34.8±4.6,54.2N±0.2×86.1E±0.2,h0km,n8,σ0s72/9,
4C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**255**	*i*		06 37 20.0	
	baz=75,slow=326,SNR=2.6						
ZAA0	**Zalesovo Array**	**0.81**	**255**	⇑P	**Pg**	**06 30 49.6**	**-0.7**
	0.4nm,0.3s						
ZAA0				⇑S	**Sb**	**06 31 03.6**	**+0.5**
	2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**0.81**	**255**	Pg	**Pg**	**06 30 49.5**	**-0.7**
	2.6nm,0.3s,baz=74,slow=17,SNR=26						
ZALV				Lg	Lg	06 31 03.7	
	1.8nm,0.3s,baz=78,slow=29,SNR=8.5						
ZALV				Rg	Rg	06 31 09.1	
	58nm,1.0s,baz=77,slow=32,SNR=14						
KURK	**Kurchatov**	**5.75**	**236**	⇓Pn	**Pn**	**06 32 01.3**	**0.0**
	1.3nm,0.9s						
KURK				⇑Lg	Lg	06 33 39.2	
	2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.85**	**236**	Pn	**Pn**	**06 32 03.8**	**+1.0**
	0.1nm,0.3s,baz=54,slow=14,SNR=20						
KURBB	**Kurchatov Arra**	**5.85**	**236**	⇓Pn	**Pn**	**06 32 03.4**	**+0.7**
	1.8nm,0.5s						
KURBB				⇓Lg	Lg	06 33 44.1	
	6.6nm,0.7s						
MK31	**Makanchi Array**	**7.77**	**200**	⇓Pn	**Pn**	**06 32 29.1**	**0.0**
	0.3nm,0.5s,baz=26,slow=14,SNR=10						
MK31				⇓Sn	**Sn**	**06 33 57.6**	**-0.1**
	0.8nm,0.8s						
MK31				⇑Lg	Lg	06 34 40.5	
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**7.77**	**200**	Pn	**Pn**	**06 32 29.6**	**+0.5**
	0.2nm,0.3s,baz=24,slow=14,SNR=12						
MKAR				Lg	Lg	06 34 39.5	
	0.0nm,0.3s,baz=34,slow=32,SNR=6.3						

*KRNET **25** 06:34:28.0±0.1,39.87N×71.87E,h13km,mb2.8*
*SOME **25** 06:34:42.2,40.37N×71.80E,h10km*
*NNC **25** 06:34:44.6±2.4,40.48N×71.87E,h14km±13km,mb3.7,*
mpv3.3,Error ellipse: s-maj=17.7km s-min=6.9km
az=178.0
ISC 25 06:34:29.2±1.2,39.82N±0.04×71.82E±0.03,h3km±12km,
n19,σ1s80/31,8C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.34**	**182**	⇓*i*P	**Pg**	**06 34 35.6**	**-0.2**
	baz=87						
DRK				⇓*i*S	**Sg**	**06 34 41.2**	**+0.8**
	baz=87						
BTK	**Batken**	**0.80**	**287**	⇑*i*P	**Pg**	**06 34 44.0**	**-0.5**
	baz=84						
BTK				⇑*i*S	**Sg**	**06 34 55.4**	**+0.5**
	baz=84						
OHH	**Osh**	**1.02**	**46**	⇓*i*P	**Pg**	**06 34 46.5**	**-2.2**
	baz=46						
OHH				⇓*i*S	**Sg**	**06 34 59.5**	**-2.5**
	baz=46						
TRKS	**Terek-Say**	**1.78**	**343**	⇓*i*P	**Pn**	**06 34 59.9**	**-1.0**
	baz=42						
TRKS				⇓*i*S	**Sn**	**06 35 22.5**	**-1.7**
	baz=42						
ARK	**Arkit**	**1.98**	**3**	⇑*i*P	**Pn**	**06 35 04.0**	**+0.4**
	baz=2.0						
ARK				⇑*i*S	**Sb**	**06 35 30.2**	**-0.7**
	baz=2.0						
IUG	**Iuzhnay**	**2.69**	**330**	*e*P	**Pg**	**06 35 23.4**	**+2.8**
	217nm,0.4s						
IUG				*e*S	**Sb**	**06 35 53.2**	**+1.9**
	28nm,0.3s						
IUG	**Iuzhnay**	**2.69**	**330**	Pg	**Pg**	**06 35 23.4**	**+2.8**
	217nm,0.4s						
IUG				Lg	Lg	06 35 53.2	
	28nm,0.3s						
ARLS	**Aral**	**2.79**	**42**	⇓*i*P	**Pn**	**06 35 15.2**	**+0.4**
	baz=42						
ARLS				⇓*i*S	**Sn**	**06 35 49.3**	**+0.3**
	baz=42						
MRKS	**Merke**	**3.11**	**20**	*e*P	**Pg**	**06 35 30.8**	**+2.1**
	2.7nm,0.4s						
MRKS				*e*S	**Sb**	**06 36 05.7**	**+2.3**
	9.8nm,0.5s						
MRKS	**Merke**	**3.11**	**20**	Pg	**Pg**	**06 35 30.8**	**+2.1**
	2.7nm,0.4s						
MRKS				Lg	Lg	06 36 05.6	
	9.8nm,0.5s						
UCH	**Uchtor**	**3.15**	**39**	⇑*i*P	**Pn**	**06 35 20.5**	**+0.4**
	baz=39						
UCH				⇑*i*S	**Sn**	**06 35 58.6**	**+0.2**
	baz=39						
KK02	**Karatay Array**	**3.42**	**344**	⇑Pn	**Pb**	**06 35 29.9**	**-0.5**
	2.2nm,0.6s,baz=154,slow=12						
KK02				⇓Lg	Lg	06 36 13.6	
	8.6nm,0.7s,baz=158,slow=29						
AAK	**Ala-Archa**	**3.46**	**35**	⇓Pn	**Pb**	**06 35 30.2**	**-1.0**
	2.7nm,0.8s						
AAK				⇑Lg	Lg	06 36 14.6	
	3.7nm,0.4s						
BRLS	**Borolday**	**3.53**	**336**	*e*P	**Pg**	**06 35 35.9**	**-0.9**
	2.4nm,0.1s						
BRLS				*e*S	**Sb**	**06 36 14.6**	**-1.0**
	10nm,0.3s						
BRLS	**Borolday**	**3.53**	**336**	Pg	**Pg**	**06 35 35.9**	**-0.9**
	2.4nm,0.1s						
BRLS				Lg	Lg	06 36 14.6	
	10nm,0.3s						
KST	**Kastek**	**4.48**	**43**	*e*P	**Pg**	**06 35 58.1**	**+3.2**
	1.9nm,0.2s						
KST				*e*S	**Sg**	**06 36 52.7**	**-0.3**
	8.2nm,0.4s						
KST	**Kastek**	**4.48**	**43**	Pg	**Pg**	**06 35 58.1**	**+3.2**
	1.9nm,0.2s						
KST				Lg	Lg	06 36 52.7	
	8.2nm,0.4s						
KRBS	**Karabastau**	**4.83**	**35**	*e*P	**Pg**	**06 36 03.0**	**+1.4**
	0.8nm,0.2s						
KRBS				*e*S	**Sg**	**06 37 01.2**	**-2.9**
	4.2nm,0.4s						
KRBS	**Karabastau**	**4.83**	**35**	Pg	**Pg**	**06 36 03.0**	**+1.4**
	0.8nm,0.2s						
KRBS				Lg	Lg	06 37 01.2	
	4.2nm,0.4s						

*NNC **25** 06:46:35.5±1.5,54.32N×87.19E,h0km,mb3.0,mpv2.9,*
Error ellipse: s-maj=9.3km s-min=6.7km az=72.0,
Suspected Mining explosion.
*IDC **25** 06:46:36.2±3.3,54.29N×87.25E,h0km,mb1 3.0/2,*
mb1mx2.9/62,mbtmp3.0/2,ML2.7/2,Error ellipse:
s-maj=30.8km s-min=19.2km az=50.0
ISC 25 06:46:36.6±4.8,54.4N±0.3×87.0E±0.2,h0km,n7,σ0s95/8,
1C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**252**	*i*		06 56 21.6	
	baz=77,slow=333,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.37**	**252**	⇓P	**Pg**	**06 47 01.9**	**-0.9**
	0.4nm,0.3s,baz=73,slow=16						
ZAA0				⇓S	**Sb**	**06 47 21.9**	**+0.8**
	0.9nm,0.3s,baz=74,slow=30						
ZALV	**Zalesovo Beam**	**1.37**	**252**	Pg	**Pg**	**06 47 02.0**	**-0.8**
	2.4nm,0.3s,baz=73,slow=16,SNR=13						
ZALV				Lg	Lg	06 47 23.0	
	2.7nm,0.3s,baz=77,slow=27,SNR=7.3						
KURK	**Kurchatov**	**6.30**	**238**	⇓Pn	**Pn**	**06 48 11.2**	**+0.5**
	2.5nm,1.0s						
KURK				⇓Lg	Lg	06 49 57.4	
	2.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.41**	**237**	Pn	**Pn**	**06 48 13.6**	**+1.4**
	0.1nm,0.3s,baz=56,slow=14,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.41**	**237**	⇓Pn	**Pn**	**06 48 12.2**	**+0.1**
	1.2nm,0.4s						
KURBB				⇓Sn	**Sn**	**06 49 25.6**	**-0.3**
	3.2nm,0.7s						
KURBB				⇑Lg	Lg	06 50 00.8	
	3.9nm,0.6s						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	**Pn**	**06 48 36.7**	**+0.2**
	0.1nm,0.3s,baz=26,slow=13,SNR=5.7						

IDC 25 06:51:19.8±2.7,53.78N×86.89E,h0km,mb1 2.9/2,
mb1mx2.8/50,mbtmp2.9/2,ML2.7/2,Error ellipse:
s-maj=26.2km s-min=14.7km az=64.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**279**	*i*		07 00 13.6	
	baz=98,slow=330,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.24**	**279**	Pg	Pg	06 51 42.6	-0.9
	2.4nm,0.3s,baz=95,slow=16,SNR=24						
ZALV				Lg	Lg	06 51 60.0	
	1.1nm,0.3s,baz=98,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.03**	**242**	Pn	Pn	06 52 51.3	+1.0
	0.1nm,0.3s,baz=58,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**7.59**	**205**	Pn	Pn	06 53 12.8	+1.2
	0.2nm,0.3s,baz=26,slow=14,SNR=10						

KRSC 25 07:19:03.8±0.9,52.57N×159.88E,h40km±12km,ML3.5,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.54**	**9**	*e*P	Pn	07 19 16.0	+1.0
SPN				*e*S	Sn	07 19 24.1	+1.1
NLC	**Nalytchevo**	**0.69**	**332**	*e*P	Pn	07 19 18.3	+1.3
NLC				*e*S	Sn	07 19 27.8	+1.3
DALK	**Dalny**	**0.83**	**305**	*e*P	Pn	07 19 19.7	+0.8
DALK				*e*S	Sn	07 19 30.0	+0.1
RUS	**Russkaya**	**0.85**	**261**	*e*P	Pn	07 19 19.8	+0.6

RUS				*e*S	Sn	07 19 30.4	0.0
PET	**Petropavlovsk**	**0.87**	**302**	*e*P	Pn	07 19 20.5	+0.9
PET				*e*S	Sn	07 19 31.3	+0.2
UGLR	**Uglovaya**	**0.91**	**316**	*e*P	Pn	07 19 21.6	+1.4
SDLR	**Sedlovina**	**0.93**	**320**	*e*P	Pn	07 19 21.6	+1.1
SMAR	**Somma**	**0.96**	**317**	*e*P	Pn	07 19 22.2	+1.3
AVH	**Avacha**	**0.98**	**316**	*e*P	Pn	07 19 22.7	+1.5
AVH				*e*S	Sn	07 19 35.6	+1.7
KRER	**Koryakskii**	**1.01**	**318**	*e*P	Pn	07 19 23.4	+1.8
MTVR	**Mutnovka**	**1.04**	**266**	*e*P	Pn	07 19 23.0	+1.0
MTVR				*e*S	Sn	07 19 36.4	+1.0
KOK	**Koryaka**	**1.05**	**314**	*e*P	Pn	07 19 23.5	+1.5
KRMR	**Karymshinskiy**	**1.10**	**285**	*e*P	Pn	07 19 23.7	+1.1
KRMR				*e*S	Sn	07 19 37.5	+0.9
GRL	**Gorelyy**	**1.10**	**270**	*e*P	Pn	07 19 24.3	+1.5
GRL				*e*S	Sn	07 19 38.9	+2.0
KDTR	**Khodutka, Kamc**	**1.34**	**236**	*e*P	Pn	07 19 27.3	+1.3
KDTR				*e*S	Sn	07 19 45.4	+2.8
KII	**Karymskiy**	**1.50**	**350**	*e*P	Pn	07 19 30.1	+1.9
GNL	**Ganaly**	**1.62**	**315**	*e*P	Pn	07 19 32.3	+2.3
APC	**Apacha**	**1.69**	**283**	*e*P	Pn	07 19 33.3	+2.5
APC				*e*S	Sn	07 19 54.9	+3.7
TUMD	**Tumrok D**	**2.66**	**6**	*e*P	Pn	07 19 46.8	+2.7
TUMR	**Tumrok**	**2.73**	**3**	*e*P	Pn	07 19 48.8	+3.7
TUMR				*e*S	Sn	07 20 20.9	+4.0
KMNR	**Kamenistaya**	**3.20**	**4**	*e*P	Pn	07 19 56.0	+4.4
KPT	**Kopyto**	**3.41**	**3**	*e*P	Pn	07 19 59.2	+4.7
KBTR	**Krutoberegovo**	**4.03**	**24**	*e*P	Pn	07 20 06.7	+3.8
BKI	**Bering**	**4.47**	**51**	*e*P	Pn	07 20 11.0	+2.1

MDD ***25*** *07:37:26.8±0.4, 35°.83N×3°.82W, h0km, mb_Lg2.1/11, Error ellipse: s-maj=3.2km s-min=2.7km az=20.0*
CNRM ***25*** *07:37:26.9, 35°.75N×3°.79W, h24km, ml2.6*
ISC 25 07:37:25.8±1.6, 35°.79N±0°.03×3°.77W±0°.03, h19km±4km, n23, σ1§52/41, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.58**	**194**	P		**Pn**	**07 37 38.5**	**-0.6**
PALE				S		**Sb**	**07 37 46.4**	**+1.2**
EALB	**Alboran**	**0.62**	**75**	Pg		**Pn**	**07 37 39.2**	**-0.3**
EALB				Sg		**Sn**	**07 37 48.1**	**-0.7**
EALB				*i* Vmb_Lg			07 37 49.3	
EMEL	**Melilla**	**0.82**	**126**	Pg		**Pn**	**07 37 43.9**	**+1.6**
EMEL				Sg		**Sn**	**07 37 53.2**	**-0.7**
ELGU	**Los Guajares,**	**1.09**	**6**	Pg		**Pb**	**07 37 45.3**	**-0.7**
ELGU				Sg		**Sb**	**07 37 58.8**	**-1.1**
ELGU				*i* Vmb_Lg			07 38 02.6	
EMAL	**Malaga-Limoner**	**1.11**	**331**	P		**Pn**	**07 37 42.4**	**-4.0**
EMAL				S		**Sb**	**07 37 59.2**	**-1.2**
EMIJ	**Mijas**	**1.12**	**314**	Pg		**Pn**	**07 37 45.3**	**-1.2**
EMIJ				Sg		**Sb**	**07 38 00.2**	**-0.7**
EMIJ				*i* Vmb_Lg			07 38 06.0	
ECEU	**Ceuta**	**1.31**	**275**	Pg		**Pn**	**07 37 49.2**	**+0.1**
ECEU				Sg		**Sn**	**07 38 05.0**	**-1.0**
ECEU				*i* Vmb_Lg			07 38 06.0	
SMIR	**Smir Dam**	**1.32**	**266**	P		**Pn**	**07 37 48.3**	**-0.8**
SMIR				S		**Sn**	**07 38 06.1**	**0.0**
EBER	**Berja**	**1.32**	**32**	Pg		**Pg**	**07 37 51.5**	**+0.1**
EBER				Sg		**Sb**	**07 38 07.0**	**+0.4**
EBER				*i* Vmb_Lg			07 38 11.6	
EGOR	**Sierra Gorda,**	**1.35**	**348**	Pg		**Pb**	**07 37 50.9**	**+0.3**
EGOR				Sg		**Sn**	**07 38 05.8**	**-1.4**
EGOR				*i* Vmb_Lg			07 38 14.9	
TAF	**Taforalt**	**1.47**	**131**	P		**Pg**	**07 37 53.2**	**-1.1**
TAF				S		**Sn**	**07 38 09.0**	**-1.2**
EJIF	**Jimena Fronter**	**1.53**	**296**	Pg		**Pn**	**07 37 52.3**	**+0.2**
EJIF				Sg		**Sn**	**07 38 07.7**	**-3.7**
JBK	**JBK**	**1.75**	**145**	P		**Pn**	**07 37 55.3**	**0.0**
EADA	**Adamuz**	**2.46**	**345**	Pn		**Pn**	**07 38 07.2**	**+2.3**
EADA				Sn		**Sn**	**07 38 37.1**	**+2.5**
EADA				*i* Vmb_Lg			07 38 44.7	
ECAB	**El Cabril**	**2.64**	**330**	Pn		**Pn**	**07 38 08.6**	**+1.2**
ECAB				Sn		**Sn**	**07 38 41.7**	**+2.8**
ECAB				*i* Vmb_Lg			07 38 49.1	
CZD	**Col de Zad**	**2.94**	**201**	P		**Pn**	**07 38 13.1**	**+1.3**
MD31	**MD31**	**3.02**	**196**	P		**Pn**	**07 38 13.6**	**+0.8**
MD31				S		**Sn**	**07 38 48.3**	**-0.2**
MDT	**Midelt**	**3.04**	**193**	P		**Pn**	**07 38 13.9**	**+0.8**
EMIN	**Mina Concepcio**	**3.06**	**311**	Pn		**Pn**	**07 38 14.8**	**+1.7**
EMIN				Sn		**Sn**	**07 38 51.1**	**+1.9**
EMIN				*i* Vmb_Lg			07 38 51.6	
EGRO	**El Granado**	**3.46**	**301**	Pn		**Pn**	**07 38 20.0**	**+1.4**
EGRO				Sn		**Sn**	**07 38 58.7**	**-0.3**
EGRO				*i* Vmb_Lg			07 39 01.3	
PVAQ	**Vaqueiros**	**3.56**	**298**	P		**Pn**	**07 38 21.2**	**+1.2**
EBAD	**Badajoz**	**3.94**	**320**	Pn		**Pn**	**07 38 25.9**	**+0.8**
EBAD				Sn		**Sn**	**07 39 11.8**	**+1.0**
EBAD				*i* Vmb_Lg			07 39 13.8	
PESTR	**Estremoz**	**4.33**	**316**	P		**Pn**	**07 38 32.2**	**+1.6**

NNC ***25*** *07:42:40.6±2.4, 53°.72N×86°.97E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=20.9km s-min=10.6km az=41.0, Suspected Mining explosion.*
IDC ***25*** *07:42:42.0±2.5, 53°.74N×86°.85E, h0km, mb1 3.2/2, mb1mx3.0/39, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=24.0km s-min=12.5km az=70.0*
ISC 25 07:42:32.9±2.0, 52°.59N±0°.05×86°.3E±0°.1, h0km, n7, σ0§96/10, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**327**	*i*			07 51 38.6	
	baz=99,slow=330,SNR=1.3							
ZAA0	**Zalesovo Array**	**1.63**	**327**	⇓P		**Pg**	**07 43 04.4**	**+0.3**
	0.7nm,0.6s							
ZAA0				⇑S		**Sn**	**07 43 22.8**	**-1.7**
	3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**1.63**	**327**	Pg		**Pb**	**07 43 04.4**	**+0.6**
	4.8nm,0.3s,baz=97,slow=16,SNR=30							
ZALV				Lg		Lg	07 43 21.5	
	3.6nm,0.3s,baz=100,slow=29,SNR=10							
ZALV				Rg		Rg	07 43 31.1	
	3.7nm,0.3s,baz=92,slow=32,SNR=1.9							
KURBB	**Kurchatov Arra**	**5.24**	**251**	Pn		**Pg**	**07 44 13.1**	**-0.1**
	0.2nm,0.3s,baz=58,slow=14,SNR=11							
KURBB	**Kurchatov Arra**	**5.24**	**251**	⇓Pn		**Pg**	**07 44 12.8**	**-0.4**
	1.6nm,0.4s							
KURBB				⇑Sn		**Sg**	**07 45 21.4**	**+0.3**
	2.5nm,0.6s							
KURBB				⇑Lg		Lg	07 45 52.4	
	4.6nm,0.7s							
MK31	**Makanchi Array**	**6.37**	**206**	⇑Pn		**Pg**	**07 44 34.1**	**-0.7**
	0.1nm,0.2s,baz=26,slow=13,SNR=14							
MK31				⇑Sn		**Sg**	**07 45 58.2**	**+1.0**
	0.5nm,0.7s,baz=22,slow=28,SNR=2.7							
MK31				⇓Lg		Lg	07 46 39.7	
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**6.37**	**206**	Pn		**Pg**	**07 44 34.2**	**-0.5**
	0.3nm,0.3s,baz=28,slow=14,SNR=18							
MKAR				Sn		**Sg**	**07 45 58.3**	**+1.1**
	0.2nm,0.3s,baz=27,slow=14,SNR=5.9							

IDC 25 07:52:32.8±3.5, 53°.65N×87°.97E, h0km, mb1 2.9/2, mb1mx2.7/53, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=36.1km s-min=18.7km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**280**	*i*			08 05 33.6	
	baz=99,slow=326,SNR=4.9							
ZALV	**Zalesovo Beam**	**1.89**	**280**	Pn		Pn	07 53 06.5	+0.2
	1.2nm,0.3s,baz=93,slow=12,SNR=15							
ZALV				Lg		Lg	07 53 32.3	
	1.9nm,0.3s,baz=93,slow=20,SNR=10							
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn		Pn	07 54 11.1	+0.8
	0.1nm,0.3s,baz=63,slow=14,SNR=5.4							
MKAR	**Makanchi Array**	**7.77**	**210**	Pn		Pn	07 54 28.0	+0.9
	0.1nm,0.3s,baz=28,slow=13,SNR=6.6							

NEIC ***25*** *07:56:03.8±1.9, 5°.47S±0°.08×147°.1E±0°.1, h179km±6km, mb4.5/28, Error ellipse: s-maj=19.3km s-min=12.2km az=87.0*
IDC ***25*** *07:56:03.9±1.3, 5°.55S×147°.17E, h190km±13km, mb4.0/11, mb1 4.2/13, mb1mx3.7/44, mbtmp4.5/13, Error ellipse: s-maj=20.3km s-min=9.3km az=107.0*

DJA ***25*** *07:56:05.2±0.5, 6°.5S×144°.7E±°, h190km±5km, M4.6/10, mB4.7/4, mb4.4/10, MLv4.8/2, Mw(mB)3.9/4*
ISC 25 07:56:05.0±0.5, 5°.56S±0°.06×147°.12E±0°.10, h195km, n82, σ1§04/82, mb4.5/29, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.83**	**179**	P		**Pn**	**07 57 04.0**	**-0.5**
	63nm,0.3s,baz=33,slow=10,SNR=142							
PMG				S		**Sn**	**07 57 48.5**	**-2.7**
	60nm,0.3s,baz=24,slow=15,SNR=8.8							
PMG	**Port Moresby**	**3.83**	**179**			**Pn**	**07 57 03.6**	**-0.9**
PMG	**Port Moresby**	**3.83**	**179**	P		**Pn**	**07 57 04.0**	**-0.5**
COEN	**Coen**	**9.21**	**205**			**Pn**	**07 58 13.6**	**-0.5**
COEN	**Coen**	**9.21**	**205**	P		**Pn**	**07 58 16.2**	**+2.1**
MTSU	**Mount Surprise**	**12.80**	**192**	P		**P**	**07 59 03.3**	**-0.6**
QIS	**Mount Isa**	**16.60**	**205**	P		**Pn**	**07 59 48.4**	**+1.5**
MTN	**Manton Dam**	**17.35**	**244**	P		**P**	**07 59 54.0**	**-0.2**
MTN				IAmb		IAmb	07 59 55.7	
	comp=Z,17nm,0.8s							
MTN	**Manton Dam**	**17.35**	**244**	P		**P**	**07 59 55.0**	**+0.8**
WB0	**Warramunga Arr**	**18.78**	**220**	P		**P**	**08 00 10.1**	**+0.3**
WB0				IAmb		IAmb	08 00 12.2	
	comp=Z,25nm,1.0s							
WRA	**Warramunga Arr**	**18.95**	**220**	P		**P**	**08 00 12.4**	**+0.9**
	comp=Z,3.9nm,0.3s,baz=40,slow=11,SNR=203							
WRA				S		**S**	**08 03 35.4**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=42,slow=21,SNR=5.6							
WRA	**Warramunga Arr**	**18.95**	**220**	P		**P**	**08 00 11.3**	**-0.2**
EIDS	**Eidsvold**	**20.07**	**169**	P		**P**	**08 00 24.6**	**+1.1**
EIDS				IAmb		IAmb	08 00 26.8	
	comp=Z,7.4nm,0.8s							
KNRA	**Kununurra**	**20.63**	**239**	P		**P**	**08 00 29.4**	**-0.2**
KNRA	**Kununurra**	**20.63**	**239**	P		**P**	**08 00 29.8**	**+0.2**
RMQ	**Roma**	**20.87**	**176**	P		**P**	**08 00 33.4**	**+1.3**
AS31	**Alice Springs**	**22.05**	**214**	P		**P**	**08 00 44.6**	**+0.4**
AS31				IAmb		IAmb	08 00 50.6	
	comp=Z,9.5nm,0.4s							
ASAR	**Alice Springs**	**22.05**	**214**	P		**P**	**08 00 45.2**	**+1.0**
	comp=Z,20nm,0.7s,baz=50,slow=8.1,SNR=487							
ASAR				S		**S**	**08 04 33.9**	**+0.6**
	comp=Z,5.7nm,0.9s,baz=35,slow=17,SNR=8.1							
ASAR	**Alice Springs**	**22.05**	**214**	P		**P**	**08 00 44.6**	**+0.4**
INKA	**Innaminka**	**22.88**	**195**	P		**P**	**08 00 53.3**	**+1.6**
SOEI	**Soe**	**23.02**	**258**	P		**P**	08 01 06.9	+14
BATI	**Baumata**	**23.68**	**257**	P		**P**	**08 01 00.5**	**+1.3**
	comp=Z,53nm,0.8s,baz=332,slow=2.8,SNR=6.7							
FITZ	**Fitzroy Crossi**	**24.40**	**237**	P		**P**	**08 01 05.9**	**+0.3**
	comp=Z,38nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.40**	**237**	IAmb		IAmb	08 01 08.9	
	comp=Z,36nm,0.6s							
OOD	**Oodnadatta**	**24.64**	**205**	P		**P**	**08 01 09.0**	**+1.3**
MMRI	**Maumere**	**24.87**	**261**	P		**P**	**08 01 08.4**	**-1.6**
ARMA	**Armidale**	**25.09**	**171**	P		**P**	**08 01 11.9**	**0.0**
ARMA				IAmb		IAmb	08 01 15.6	
	comp=Z,10.0nm,0.8s							
LCRK	**Leigh Creek**	**26.14**	**198**	P		**P**	**08 01 22.3**	**+1.1**
WRKA	**Warakurna**	**26.48**	**221**	P		**P**	**08 01 24.8**	**+0.4**
STKA	**Stephens Creek**	**26.69**	**190**	P		**P**	**08 01 26.7**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=9.2,slow=9.0,SNR=5.5							
STKA	**Stephens Creek**	**26.69**	**190**	P		**P**	**08 01 25.9**	**-0.3**
MULG	**Mulgathing**	**27.50**	**205**	P		**P**	**08 01 34.3**	**+0.9**
HTT	**Hallett**	**28.76**	**194**	P		**P**	**08 01 45.7**	**+1.1**
BBOO	**Buckleboo**	**29.01**	**199**	P		**P**	**08 01 46.5**	**-0.2**
BBOO				IAmb		IAmb	08 01 48.0	
	comp=Z,6.6nm,0.8s							
BBOO	**Buckleboo**	**29.01**	**199**	P		**P**	**08 01 47.1**	**+0.3**
	comp=Z,9.9nm,1.5s							
CAN	**Canberra**	**29.67**	**177**	P		**P**	**08 01 53.6**	**+1.0**
CAN				IAmb		IAmb	08 02 20.4	
	comp=Z,17nm,1.1s							
FORT	**Forrest**	**30.83**	**213**	P		**P**	**08 02 02.9**	**+0.1**
FORT	**Forrest**	**30.83**	**213**	P		**P**	**08 02 03.6**	**+0.8**
ARPS	**Mount Arapiles**	**31.44**	**188**	P		**P**	**08 02 09.5**	**+1.4**
TOO	**Toolangi**	**31.90**	**182**	P		**P**	**08 02 13.5**	**+1.4**
TOO				IAmb		IAmb	08 02 14.4	
	comp=Z,25nm,1.4s							
MEEK	**Meekatharra**	**34.33**	**229**	P		**P**	**08 02 33.9**	**+0.6**
GIRL	**Giralia**	**36.00**	**239**	P		**P**	**08 02 48.1**	**+0.5**
UGM	**Wanagama**	**36.41**	**264**	P		**P**	**08 02 50.1**	**-1.1**
MORW	**Morawa**	**37.55**	**228**	P		**P**	**08 03 00.6**	**-0.1**
MORW				IAmb		IAmb	08 03 01.8	
	comp=Z,17nm,1.1s							
KLBR	**Kellerberrin**	**37.77**	**223**	P		**P**	**08 03 02.4**	**-0.1**
BLDU	**Ballidu**	**37.92**	**225**	P		**P**	**08 03 04.2**	**+0.4**
MUN	**Mundaring**	**39.06**	**224**	P		**P**	**08 03 13.7**	**+0.5**
URZ	**Urewera**	**42.44**	**144**	P		**P**	**08 03 41.4**	**+0.7**
BKZ	**Black Stump Fm**	**42.71**	**146**	P		**P**	**08 03 44.0**	**+1.0**
BKZ				IAmb		IAmb	08 04 06.2	
	comp=Z,30nm,1.4s							
NJ2	**Nanjing**	**46.08**	**326**	*e*P		**P**	**08 04 10.5**	**+0.9**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
KSRS	**Korea Array**	**46.38**	**339**	P		**P**	**08 04 11.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=154,slow=8.8,SNR=6.3							
XAN	**Xi'an**	**53.42**	**320**	P		**P**	**08 05 04.5**	**-0.5**
XAN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BJI	**Beijing**	**53.57**	**331**	P		**P**	**08 05 05.5**	**-0.4**
BJI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
PZH	**PanZhiHua**	**54.27**	**308**	P		**P**	**08 05 11.3**	**-0.1**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,5.3s							
HHC	**Hu-ho-hao-te**	**56.52**	**328**	*e*P		**P**	**08 05 29.5**	**+2.3**
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,120nm,6.2s							
XLT	**XiLinHaoTe**	**56.63**	**333**	*e*P		**P**	**08 05 29.0**	**+1.2**
XLT				pP		pP	08 06 08.5	-3.0
XLT				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,150nm,5.6s							
GTA	**Gaotai**	**62.48**	**320**	*e*P		**P**	**08 06 09.8**	**+1.8**
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**64.08**	**331**	P		**P**	**08 06 18.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=149,slow=7.4,SNR=14							
SONM	**Songino Array**	**64.08**	**331**	P		**P**	**08 06 18.9**	**+0.6**
CASY	**Casey**	**65.71**	**195**	P		**P**	**08 06 27.6**	**-0.8**
CASY				IAmb		IAmb	08 06 55.8	
	comp=Z,11nm,1.1s							
VNDA	**Vanda**	**72.34**	**177**	P		**P**	**08 07 09.7**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=333,slow=6.4,SNR=22							
VNDA	**Vanda**	**72.34**	**177**	P		**P**	**08 07 09.6**	**+0.6**
VNDA				IAmb		IAmb	08 07 10.2	
	comp=Z,3.3nm,0.7s							
WMQ	**Urumqi**	**72.53**	**319**	*e*P		**P**	**08 07 11.5**	**+0.7**
MK31	**Makanchi Array**	**77.23**	**320**	P		**P**	**08 07 36.8**	**-0.8**
MKAR	**Makanchi Array**	**77.23**	**320**	P		**P**	**08 07 36.7**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=93,slow=7.4,SNR=8.4							
MKAR	**Makanchi Array**	**77.23**	**320**	P		**P**	**08 07 36.8**	**-0.8**
ZAA0	**Zalesovo Array**	**78.70**	**328**	P		**P**	**08 07 43.8**	**-1.7**
ZALV	**Zalesovo Beam**	**78.70**	**328**	P		**P**	**08 07 43.4**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=114,slow=7.0,SNR=6.4							
IMAR	**Indian Mountai**	**83.04**	**21**	P		**P**	**08 08 07.6**	**-0.6**
SML	**Sawmill**	**83.20**	**26**	P		**P**	**08 08 07.7**	**-1.4**
SML				IAmb		IAmb	08 08 10.3	
	comp=Z,12nm,1.2s							
QSPA	**South Pole Qui**	**84.41**	**180**	P		**P**	**08 08 14.9**	**-0.4**
QSPA				IAmb		IAmb	08 08 15.9	
	comp=Z,6.8nm,1.0s							
IL31		**85.03**	**23**	P		**P**	**08 08 17.0**	**-1.2**
ILAR	**Eielson Array**	**85.03**	**23**	P		**P**	**08 08 16.8**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=257,slow=5.2,SNR=18							
J25K	**Salcha River,**	**85.57**	**24**	P		**P**	**08 08 20.4**	**-0.7**
BCAR	**Beaver Creek A**	**86.49**	**26**	P		**P**	**08 08 25.6**	**+0.1**
BMAR	**Burnt Mountain**	**86.94**	**21**	P		**P**	**08 08 28.4**	**+0.7**
NVAR	**Mina Array Bea**	**97.01**	**52**	P		**P**	**08 09 16.6**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=249,slow=5.6,SNR=3.8							
YKA	**Yellowknife Ar**	**98.73**	**28**	P		**P**	**08 09 20.4**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=278,slow=5.1,SNR=4.0							
GERES	**GERESS Array B**	**121.61**	**326**	PKP		**PKPdf**	**08 14 34.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=100,slow=3.1,SNR=4.6							
SIV	**San Ignacio**	**144.83**	**128**	PKP		PKPbc	08 15 18.7	-0.6
	comp=Z,4.2nm,0.6s,baz=227,slow=4.0,SNR=8.8							
TORD	**Torodi Ar. Bea**	**145.09**	**285**	PKPbc		**PKPbc**	**08 15 18.6**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=69,slow=3.6,SNR=21							
TORD	**Torodi Ar. Bea**	**145.09**	**285**			**PKPbc**	**08 15 18.1**	**-2.0**

DJA 25 07:56:37.6±0.4, 3°.N±3°×12°.7E±°, h10km, M4.1/6, mb4.6/2, mB4.6/1, MLv3.9/6, Mw(mB)3.8/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.26**	**304**	P		Pn	07 56 58.6	-2.7
SGSI				S		Sb	07 57 16.9	-0.9
MRSI	**Marisa**	**5.25**	**242**	P		Pn	07 57 58.0	+1.8

SJA ***25*** *08:03:17.3±1.8, 30°.68S×71°.74W, h68km±12km, ML4.8, MW4.7*
NEIC ***25*** *08:03:20.0±1.7, 30°.69S±0°.03×71°.54W±0°.09, h30km±3km, mb4.7/44, Mwr4.8(GUC), Error ellipse: s-maj=11.1km s-min=4.8km az=95.0*
VAO ***25*** *08:03:20.7±0.4, 30°.66S×71°.45W, h41km, mb4.6*
GUC ***25*** *08:03:20.6±0.7, 30°.69S×71°.43W, h51km±2km, ML4.8*
IDC ***25*** *08:03:20.9±0.6, 30°.79S×71°.41W, h42km±4km, mb4.2/9, mb1 4.4/13, mb1mx4.2/24, mbtmp4.4/13, ML4.3/4, MS3.9/14, Ms1 3.9/14, ms1mx3.5/51, Error ellipse: s-maj=20.5km s-min=16.1km az=172.0*
ISC 25 08:03:20.6±0.5, 30.73S±0°.02×71°.55W±0°.04, h43km±4km, n224, σ1§68/254, mb4.6/25, MS4.0/11, 2C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.09**	**306**			**Pn**	**08 03 28.6**	**+1.0**
CO06	**Fray Jorge**	**0.09**	**306**	⇑*i*P		**Pn**	**08 03 28.6**	**+1.0**
CO06				*i* S		**Sn**	**08 03 33.9**	**+1.5**
CO06				IAML			08 03 35.4	
	comp=E,91μm,0.7s							
CO03	**El Pedregal**	**0.75**	**99**			**Pn**	**08 03 34.0**	**-0.9**
CO03	**El Pedregal**	**0.75**	**99**	⇓*i*P		**Pn**	**08 03 34.1**	**-0.7**
CO03				*i* S		**Sn**	**08 03 43.7**	**-1.5**
CO03				IAML			08 03 45.5	
	comp=E,38μm,0.5s							
CO03	**El Pedregal**	**0.75**	**99**	*e*P		**Pn**	**08 03 34.1**	**-0.7**
CO03				*e*S		**Sn**	**08 03 43.9**	**-1.3**
CO03				IAML			08 03 45.2	
	comp=Z,15μm,0.5s							
CO05	**La Serena**	**0.85**	**19**			**Pn**	**08 03 35.4**	**-0.8**
CO05	**La Serena**	**0.85**	**19**	*e*P		**Pn**	**08 03 35.9**	**-0.3**
CO05				*i* S		**Sn**	**08 03 46.9**	**-0.5**
CO05				IAML			08 03 53.4	
	comp=E,36μm,0.5s							
GO04	**Tololo Observa**	**0.85**	**50**			**Pn**	**08 03 35.9**	**-0.6**
GO04	**Tololo Observa**	**0.85**	**50**	*e*P		**Pn**	**08 03 35.7**	**-0.7**
GO04				*i* S		**Sn**	**08 03 46.5**	**-1.4**
GO04				IAML			08 03 49.1	
	comp=N,97μm,0.6s							
GO04	**Tololo Observa**	**0.85**	**50**	*e*P		**Pn**	**08 03 35.9**	**-0.6**
VA06	**Catapilco**	**1.84**	**173**			**Pn**	**08 03 50.7**	**+1.0**
VA06	**Catapilco**	**1.84**	**173**	⇓*i*P		**Pn**	**08 03 50.9**	**+1.1**
VA06				*i* S		**Sn**	**08 04 13.9**	**+2.1**
VA06				IAML			08 04 24.8	
	comp=N,13μm,0.4s							
LCO	**Las Campanas**	**1.86**	**24**	Pn		**Pn**	**08 03 50.5**	**+0.2**
LCO	**Las Campanas**	**1.86**	**24**	⇓*i*P		**Pn**	**08 03 50.5**	**+0.2**
LCO				*i* S		**Sn**	**08 04 12.2**	**-0.5**
LCO	**Las Campanas**	**1.86**	**24**	*e*P		**Pn**	**08 03 50.0**	**-0.3**
LCO				*e*S		**Sn**	**08 04 13.6**	**+0.9**
AROD	**Rodeo**	**1.88**	**73**	*e*P		**Pn**	**08 03 52.7**	**+2.2**
AROD				*e*S		**Sn**	**08 04 15.0**	**+1.8**
ACCO	**Cerro Coronel**	**2.15**	**87**	*e*P		**Pn**	**08 03 56.8**	**+2.6**
ACDV	**Cuesta del Vie**	**2.17**	**76**	*e*P		**Pn**	**08 03 57.0**	**+2.6**
ACDV				*e*S		**Sn**	**08 04 23.6**	**+3.4**
ACDV				IAML			08 04 28.3	
	comp=Z,3μm,0.5s							
VA03	**San Esteban**	**2.20**	**157**			**Pn**	**08 03 56.5**	**+1.7**
VA03	**San Esteban**	**2.20**	**157**	⇓*i*P		**Pn**	**08 03 55.7**	**+0.9**
VA03				*i* S		**Sn**	**08 04

AVFE				eS		Sn	08 04 50.2	-3.3
AVFE				eS		Sn	08 04 54.2	+0.7
AVFE				IAML			08 05 04.8	
	comp=Z,1μm,0.7s							
BO01	**Tunca**	**3.68**	**174**			**Pn**	**08 04 15.3**	**+0.4**
BO01	**Tunca**	**3.68**	**174**	eP		**Pn**	**08 04 15.5**	**+0.6**
BO01				eS		**Sn**	**08 04 53.7**	**-3.3**
BO01				IAML			08 05 15.2	
	comp=Z,1μm,0.6s							
BO02	**Sierra Bellavi**	**4.11**	**171**	eP		**Pn**	**08 04 19.4**	**-1.4**
BO02				eS		**Sn**	**08 05 09.2**	**+1.5**
BO02				IAML			08 05 31.6	
	comp=Z,2μm,0.8s							
ACLC	**CERRO LA CRUZ**	**4.19**	**73**	eP		**Pn**	**08 04 23.8**	**+1.6**
ACLC				eS		**Sn**	**08 05 11.4**	**+1.4**
ACLC				IAML			08 05 21.6	
	comp=Z,2μm,0.6s							
ACHE	**Chepes**	**4.22**	**97**	eP		**Pn**	**08 04 23.7**	**+1.1**
ACHE				eS		**Sn**	**08 05 13.1**	**+2.4**
GO05	**Huala**	**4.28**	**184**	eP		**Pn**	**08 04 22.9**	**-0.4**
GO05				eS		**Sn**	**08 05 10.8**	**-1.2**
APLL	**PUNTA DE LOS L**	**4.35**	**87**	eP		**Pn**	**08 04 25.0**	**+0.8**
AC02	**Maricunga**	**4.42**	**29**	eP		**Pn**	**08 04 26.0**	**+0.4**
AC02				eS		**Sn**	**08 05 15.2**	**-0.9**
AC02				eS		**Sn**	**08 05 23.7**	**+7.6**
AC02				IAML			08 05 37.3	
	comp=Z,992nm,1.0s							
AC01	**Pan de Azucar**	**4.64**	**11**	eP		**Pn**	**08 04 27.0**	**-1.2**
AC01				IAML			08 05 45.0	
	comp=Z,743nm,0.6s							
MRA	**San Martin**	**5.26**	**110**	*i* P		**Pn**	**08 04 37.5**	**+0.8**
MRA				eS		**Sn**	**08 05 33.1**	**-3.0**
GO02	**Mina Guanaco**	**5.81**	**18**			**Pn**	**08 04 43.9**	**-0.6**
GO02	**Mina Guanaco**	**5.81**	**18**	eP		**Pn**	**08 04 44.0**	**-0.5**
GO02				eS		**Sn**	**08 05 56.9**	**+6.9**
TCA	**Tanti**	**6.00**	**98**	eP		**Pn**	**08 04 47.2**	**+0.3**
TCA				eP		**Pn**	**08 04 47.2**	**+0.3**
BI05	**Punta Hualpn**	**6.16**	**192**	Pn		**Pn**	**08 04 47.7**	**-1.3**
H03N1	**Juan Fernandez**	**6.81**	**245**	P		**Pn**	**08 04 58.6**	**+0.9**
	baz=112,slow=20,SNR=669							
H03N1				T		T	08 11 49.2	
	baz=74,slow=72,SNR=1502							
H03N3	**Juan Fernandez**	**6.82**	**245**	P		**Pn**	**08 04 58.4**	**+0.6**
	baz=112,slow=20,SNR=496							
H03N3				T		T	08 11 48.2	
	baz=74,slow=72,SNR=1527							
H03N2	**Juan Fernandez**	**6.82**	**245**	P		**Pn**	**08 04 58.6**	**+0.8**
	baz=112,slow=20,SNR=469							
H03N2				T		T	08 11 49.6	
	baz=74,slow=72,SNR=1629							
H03S3	**Juan Fernandez**	**6.95**	**242**	P		**Pn**	**08 04 59.5**	**-0.1**
	baz=100							
H03S3				T		T	08 12 11.1	
	baz=82,SNR=9.5							
H03S1	**Juan Fernandez**	**6.96**	**242**	P		**Pn**	**08 04 59.1**	**-0.6**
	baz=100,SNR=19							
H03S1				T		T	08 12 16.9	
	baz=82,SNR=18							
H03S2	**Juan Fernandez**	**6.97**	**242**	P		**Pn**	**08 04 59.3**	**-0.5**
	baz=100,SNR=25							
H03S2				T		T	08 12 07.1	
	baz=82,SNR=15							
PB10	**IPOC Station P**	**7.24**	**7**	Pn		**Pn**	**08 05 03.8**	**-0.1**
PB15	**IPOC Station P**	**7.71**	**14**			**Pn**	**08 05 09.6**	**-0.9**
LC01	**Cunco**	**8.16**	**182**	Pn		**Pn**	**08 05 15.5**	**-0.9**
LVC	**Limon Verde**	**8.42**	**17**			**Pn**	**08 05 18.6**	**-1.8**
LVC	**Limon Verde**	**8.42**	**17**	eP		**Pn**	**08 05 19.2**	**-1.2**
LR03	**Panguipulli**	**8.91**	**184**			**Pn**	**08 05 25.2**	**-1.5**
PB07	**IPOC Station P**	**9.09**	**10**	Pn		**Pn**	**08 05 28.6**	**-0.7**
PB09	**IPOC Station P**	**9.13**	**14**	Pn		**Pn**	**08 05 28.8**	**-1.2**
PLCA	**Paso Flores**	**10.02**	**176**	P		**Pn**	**08 05 42.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=342,slow=11,SNR=30							
PLCA				LR		LR	08 09 34.7	
	comp=Z,294nm,22.0s,baz=344,slow=38							
PLCA	**Paso Flores**	**10.02**	**176**	eP		**Pn**	**08 05 43.1**	**+1.2**
LL04	**Puerto Octay**	**10.19**	**184**			**Pn**	**08 05 42.8**	**-1.3**
LL03	**Petrohue**	**10.41**	**184**			**Pn**	**08 05 45.7**	**-1.6**
ITQB	**Itaqui**	**12.96**	**89**			**Pn**	**08 06 20.5**	**-1.5**
ITQB	**Itaqui**	**12.96**	**89**	eP		**Pn**	**08 06 20.1**	**-1.9**
CPUP	**Villa Florida**	**13.25**	**74**	P		**Pn**	**08 06 24.4**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=254,slow=8.8,SNR=12							
CPUP				LR		LR	08 12 02.7	
	comp=Z,479nm,18.1s,baz=228,slow=40							
CPUP	**Villa Florida**	**13.25**	**74**			**Pn**	**08 06 25.2**	**-0.8**
CPUP	**Villa Florida**	**13.25**	**74**	eP		**Pn**	**08 06 25.1**	**-1.0**
LPAZ	**La Paz**	**14.71**	**13**	P		**Pn**	**08 06 48.1**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=171,slow=8.7,SNR=27							
COYC	**Coyhaique**	**14.83**	**181**			**Pn**	**08 06 48.1**	**+0.8**
PLTB	**Pedras Altas**	**15.39**	**98**			**Pn**	**08 06 52.2**	**-2.6**
CPSB	**Cacapava Do Su**	**15.61**	**93**	eP		**Pn**	**08 06 56.6**	**-1.0**
ITAB	**Concordia**	**17.34**	**83**	eP		**Pn**	**08 07 18.7**	**-0.8**
SIV	**San Ignacio**	**17.52**	**36**	P		**Pn**	**08 07 21.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=223,slow=9.8,SNR=36							
SIV				LR		LR	08 15 27.9	
	comp=Z,225nm,20.2s,baz=282,slow=42							
AQDB	**Aquidauana**	**17.55**	**58**	Pn		**Pn**	**08 07 20.0**	**-2.0**
AQDB	**Aquidauana**	**17.55**	**58**	eP		**Pn**	**08 07 20.6**	**-1.4**
CNLB	**Canela**	**17.98**	**91**	eP		**Pn**	**08 07 26.2**	**-1.2**
PTGB	**Pitanga**	**18.25**	**76**	eP		**P**	**08 07 30.4**	**-0.2**
TRCB	**Terra Rica**	**18.63**	**69**	P		**P**	**08 07 34.5**	**-0.2**
TRCB	**Terra Rica**	**18.63**	**69**	eP		**P**	**08 07 34.9**	**+0.2**
PTLB	**Pontes e Lacer**	**18.99**	**40**	eP		**P**	**08 07 38.3**	**-0.3**
TER01	**Tubaro-SC**	**19.61**	**89**	eP		**P**	**08 07 45.3**	**0.0**
PP1B	**Ponte de Pedra**	**20.02**	**53**	eP		**P**	**08 07 49.6**	**-0.2**
PCMB	**Pacaembu**	**20.32**	**68**	eP		**P**	**08 07 52.7**	**-0.5**
VILB	**Vilhena**	**20.56**	**33**	eP		**P**	**08 07 55.1**	**-0.6**
SALV	**Santo Antonio**	**20.69**	**48**	eP		**P**	**08 07 56.3**	**-0.8**
ETMB	**Extrema**	**21.39**	**15**	eP		**P**	**08 08 05.3**	**+0.7**
ITAB	**Iturama**	**22.05**	**65**	eP		**P**	**08 08 10.3**	**-1.5**
MG02	**Cerro Sombrero**	**22.10**	**176**	P		**P**	**08 08 13.6**	**+1.7**
PET01	**Itanhaem-SP**	**22.44**	**79**	eP		**P**	**08 08 15.2**	**-0.7**
BB19B	**Bebedouro**	**22.80**	**71**	eP		**P**	**08 08 18.8**	**-1.0**
CZSB	**Cruzeiro do Su**	**22.90**	**357**	eP		**P**	**08 08 20.1**	**-0.7**
EFI	**East Falkland**	**23.19**	**158**	P		**P**	**08 08 23.4**	**+0.1**
VAO	**Valinhos**	**23.21**	**77**	eP		**P**	**08 08 22.0**	**-2.0**
ARAG	**Araguaiana, MT**	**23.45**	**55**	eP		**P**	**08 08 26.1**	**-0.1**
CLDB	**Colider**	**24.58**	**40**	eP		**P**	**08 08 36.4**	**-0.3**
IPMB	**Ipameri, GO**	**24.70**	**64**	eP		**P**	**08 08 36.2**	**-1.6**
MAN01	**Angra dos Reis**	**25.79**	**79**	eP		**P**	**08 08 47.0**	**-0.8**
BDFB	**Brasilia**	**26.26**	**60**	P		**P**	**08 08 50.9**	**-1.1**
	comp=Z,18nm,0.9s,baz=232,slow=7.2,SNR=20							
BDFB				LR		LR	08 20 21.3	
	comp=Z,357nm,21.0s,baz=189,slow=39							
BDFB	**Brasilia**	**26.26**	**60**	P		**P**	**08 08 51.1**	**-0.9**
BDFB				IAmb		IAmb	08 08 52.6	
	comp=Z,16nm,0.8s							
SNDB	**Serra Nova Dou**	**26.45**	**50**	eP		**P**	**08 08 52.7**	**-1.0**
VAS01	**Vassouras-RJ**	**26.47**	**78**	eP		**P**	**08 08 53.3**	**-0.5**
DUB01	**Friburgo-RJ**	**27.45**	**79**	eP		**P**	**08 09 02.0**	**-0.6**
NPGB	**Novo Progresso**	**28.02**	**36**	eP		**P**	**08 09 05.8**	**-2.0**
DIAM	**Diamantina, MG**	**28.14**	**70**	eP		**P**	**08 09 08.3**	**-0.7**
PEXB	**Peixe**	**28.39**	**54**	eP		**P**	**08 09 10.4**	**-0.6**
MACA	**Manacapuru-AM**	**29.28**	**23**	eP		**P**	**08 09 18.2**	**-0.6**
JANB	**Januaria**	**29.43**	**64**	eP		**P**	**08 09 19.2**	**-1.2**
ALF01	**Guarapari-ES**	**29.47**	**77**	eP		**P**	**08 09 21.3**	**+0.8**
SJMB	**Sao Joao De Ma**	**29.97**	**74**	eP		**P**	**08 09 24.1**	**-1.0**
ITTB	**Itaituba**	**30.16**	**33**	eP		**P**	**08 09 26.5**	**-0.2**
RIB01	**Linhares ES**	**30.34**	**75**	eP		**P**	**08 09 27.4**	**-0.9**
SDBA	**SAO DESIDERIO**	**30.63**	**59**	eP		**P**	**08 09 30.5**	**-0.5**
SMTB	**Santa Maria do**	**31.19**	**51**	eP		**P**	**08 09 35.1**	**-0.8**
NAN01	**Guarapari, ES**	**31.27**	**73**	eP		**P**	**08 09 35.0**	**-1.5**
OTAV	**Otavalo**	**31.48**	**347**	eP		**P**	**08 09 37.1**	**-1.8**
GUA01	**Guaratinga, BA**	**32.18**	**71**	eP		**P**	**08 09 43.5**	**-0.9**
CMC01	**Camacan, BA**	**33.06**	**70**	eP		**P**	**08 09 51.9**	**-0.3**
RPN	**Rapa Nui**	**33.16**	**267**	LR		LR	08 19 03.6	
	comp=Z,161nm,19.2s,baz=76,slow=28							
NBIT	**Itapeh - BA**	**33.36**	**69**	eP		**P**	**08 09 54.2**	**-0.7**
GDU01	**Guandu, BA**	**33.93**	**67**	eP		**P**	**08 09 58.5**	**-1.4**
BOAV	**Boa Vista**	**34.58**	**20**	eP		**P**	**08 10 04.9**	**-0.5**
MCPB	**Macapa, AP**	**35.42**	**35**	eP		**P**	**08 10 12.0**	**-0.7**
ZARC	**Zaragoza, Cauc**	**38.13**	**355**	P		**P**	**08 10 35.9**	**+0.2**
NBMA	**Muriti-CE**	**38.48**	**60**	eP		**P**	**08 10 37.4**	**-1.3**
NBPS	**Pedro II - PI**	**38.60**	**53**	eP		**P**	**08 10 39.1**	**-0.7**
SDV	**Santo Domingo**	**39.40**	**1**	P		**P**	**08 10 45.8**	**-0.7**
SDV	**Santo Domingo**	**39.40**	**1**	eP		**P**	**08 10 46.1**	**-0.4**
MDP	**Montagnes des**	**39.95**	**30**	LR		LR	08 29 28.6	
	comp=Z,104nm,19.1s,baz=252,slow=39							
NBCL	**Cascavel-CE**	**40.95**	**57**	eP		**P**	**08 10 58.3**	**-0.9**
RCBR	**Riachuelo**	**41.63**	**61**	LR		LR	08 29 30.3	
	comp=Z,180nm,19.4s,baz=350,slow=38							
NBPV	**Pedro Velho**	**41.71**	**62**	eP		**P**	**08 11 04.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**48.64**	**6**	P		**P**	**08 11 59.6**	**-0.7**
CELP	**Cerrillos**	**48.75**	**6**	P		**P**	**08 12 01.2**	**0.0**
PDPR	**Patillas Dam,**	**48.75**	**7**	P		**P**	**08 12 00.8**	**-0.3**
AOPR	**Arecibo Observ**	**49.01**	**6**	P		**P**	**08 12 02.7**	**-0.4**
GCPR	**Guaynabo City**	**49.03**	**7**	P		**P**	**08 12 02.8**	**-0.5**
CBCY	**The Bluff, Cay**	**50.79**	**350**	P		**P**	**08 12 16.4**	**-0.2**
VNA1	**Neumayer--Stat**	**52.53**	**158**	P		**P**	08 12 34.5	+5.4
VNA2	**Neumayer--Watz**	**52.88**	**158**	P		**P**	**08 12 31.4**	**-0.3**
	baz=278,slow=7.0							
SNAA	**Sanae**	**54.47**	**159**	P		**P**	**08 12 44.0**	**+0.7**
SNAA				IAmb		IAmb	08 13 10.3	
	comp=Z,8.9nm,1.1s							
JCT	**Junction City**	**66.53**	**334**	P		**P**	**08 14 07.2**	**+1.2**
JCT				IAmb		IAmb	08 14 09.1	
	comp=Z,12nm,1.2s							
V53A	**Saluda**	**66.89**	**350**	P		**P**	**08 14 09.0**	**+0.8**
V53A				IAmb		IAmb	08 14 10.2	
	comp=Z,8.6nm,1.0s							
TX32	**Lajitas Array**	**67.10**	**330**	P		**P**	**08 14 11.3**	**+1.5**
TXAR	**Lajitas Array**	**67.10**	**330**	P		**P**	**08 14 11.2**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=154,slow=8.5,SNR=19							
TXAR				pP		**pP**	**08 14 24.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=152,slow=8.1,SNR=4.2							
TX31	**Lajitas Ar. Si**	**67.11**	**330**	P		**P**	**08 14 11.1**	**+1.3**
TX31				IAmb		IAmb	08 14 13.0	
	comp=Z,6.8nm,1.0s							
SYO	**Syowa Base**	**68.76**	**159**	pP		pP	08 14 29.0	-3.3
LCAR	**Lake Charles**	**68.95**	**343**	P		**P**	**08 14 21.4**	**+0.3**
LCAR				IAmb		IAmb	08 14 23.3	
	comp=Z,3.7nm,0.9s							
PBMO	**Poplar Bluff**	**69.44**	**344**	P		**P**	**08 14 24.4**	**+0.3**
PBMO				IAmb		IAmb	08 14 31.2	
	comp=Z,7.9nm,1.2s							
MNTX	**Cornudas Mount**	**69.89**	**330**	P		**P**	**08 14 27.0**	**0.0**
HHAR	**Hobbs**	**69.89**	**341**	P		**P**	**08 14 27.5**	**+0.5**
HHAR				IAmb		IAmb	08 14 28.8	
	comp=Z,15nm,1.5s							
R40A	**Maddies Statio**	**71.33**	**343**	P		**P**	**08 14 36.1**	**+0.5**
R40A				IAmb		IAmb	08 14 38.0	
	comp=Z,8.8nm,0.8s							
ANMO	**Albuquerque**	**73.13**	**331**	P		**P**	**08 14 46.8**	**+0.1**
LIC	**Lamto**	**73.36**	**72**	eP		**P**	**08 14 47.4**	**-0.9**
	comp=Z,17nm,1.0s							
TIC	**Toumodi**	**73.61**	**72**	eP		**P**	**08 14 49.2**	**-0.6**
KIC	**Kosan Boka**	**73.68**	**72**	eP		**P**	**08 14 49.7**	**-0.5**
	comp=Z,26nm,0.9s							
DBIC	**Dimbokro**	**73.75**	**72**	P		**P**	**08 14 50.4**	**-0.3**
	comp=Z,11nm,0.6s,baz=234,slow=6.2,SNR=18							
DBIC				LR		LR	08 44 44.5	
	comp=Z,92nm,19.9s,baz=217,slow=34							
DBIC	**Dimbokro**	**73.75**	**72**	P		**P**	**08 14 50.1**	**-0.5**
X16A	**Lo Mia Camp, P**	**74.92**	**327**	P		**P**	**08 14 58.6**	**+1.5**
X16A				IAmb		IAmb	08 15 00.3	
	comp=Z,9.5nm,1.4s							
WUAZ	**Wupatki**	**75.79**	**327**	P		**P**	**08 15 03.9**	**+1.7**
WUAZ				IAmb		IAmb	08 15 06.1	
	comp=Z,9.6nm,1.3s							
SUR	**Sutherland**	**76.06**	**119**	LR		LR	08 46 43.9	
	comp=Z,44nm,18.9s,baz=172,slow=34							
ECSD	**EROS Data Cent**	**77.57**	**342**	P		**P**	**08 15 12.4**	**+0.6**
ECSD				IAmb		IAmb	08 15 14.2	
	comp=Z,6.8nm,0.8s							
RAR	**Rarotonga**	**78.00**	**252**	LR		LR	08 41 00.1	
	comp=Z,164nm,18.4s,baz=292,slow=29							
KOWA	**Kowa**	**78.92**	**66**	P		**P**	**08 15 19.4**	**-0.5**
KOWA				IAmb		IAmb	08 15 23.6	
	comp=Z,4.9nm,0.8s							
TSUM	**Tsumeb**	**79.72**	**106**	LR		LR	08 46 06.2	
	comp=Z,58nm,19.3s,baz=152,slow=32							
PDAR	**Pinedale Array**	**81.04**	**333**	P		**P**	**08 15 31.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=140,slow=7.8,SNR=4.9							
PDAR	**Pinedale Array**	**81.04**	**333**	P		**P**	**08 15 31.6**	**+0.6**
BOSA	**Boshof**	**81.23**	**118**	P		**P**	**08 15 32.7**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=222,slow=5.0,SNR=6.9							
BOSA				LR		LR	08 47 31.8	
	comp=Z,58nm,18.1s,baz=188,slow=33							
BOSA	**Boshof**	**81.23**	**118**	P		**P**	**08 15 32.4**	**0.0**
BOSA				IAmb		IAmb	08 15 33.8	
	comp=Z,7.6nm,0.9s							
NVAR	**Mina Array Bea**	**81.45**	**325**	P		**P**	**08 15 35.0**	**+1.7**
	comp=Z,1.0nm,1.0s,baz=132,slow=4.4,SNR=5.1							
TOA0	**Torodi Ar. Sit**	**82.71**	**70**	P		**P**	**08 15 39.5**	**-0.7**
TOA0				IAmb		IAmb	08 15 40.7	
	comp=Z,5.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P		**P**	**08 15 40.0**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=276,slow=5.6,SNR=26							
TORD				pP		**pP**	**08 15 52.2**	**-0.9**
	comp=Z,4.7nm,0.9s,baz=263,slow=5.0,SNR=8.4							
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P		**P**	**08 15 40.0**	**-0.1**
TORD				IAmb		IAmb	08 15 53.4	
	comp=Z,6.5nm,1.0s							
RLMT	**Red Lodge**	**82.92**	**334**	P		**P**	**08 15 41.8**	**+1.0**
LBTB	**Lobatse**	**83.31**	**115**	LR		LR	08 48 59.7	
	comp=Z,75nm,18.4s,baz=215,slow=33							
LBTB	**Lobatse**	**83.31**	**115**	P		**P**	**08 15 42.8**	**-0.5**
LBTB				IAmb		IAmb	08 15 44.6	
	comp=Z,8.5nm,0.8s							
ULM	**Lac du Bonnet**	**83.46**	**345**	P		**P**	**08 15 43.3**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=194,slow=3.0,SNR=4.1							
ULM	**Lac du Bonnet**	**83.46**	**345**	IAmb		IAmb	08 15 45.0	
	comp=Z,5.8nm,0.9s							
DGMT	**Dagmar**	**84.08**	**339**	P		**P**	**08 15 47.2**	**+0.7**
QRZ	**Quartz Range**	**87.39**	**223**	P		**P**	**08 16 03.6**	**+0.3**
LSZ	**Lusaka**	**90.43**	**108**	LR		LR	08 52 13.9	
	comp=Z,86nm,18.6s,baz=147,slow=32							
YKA	**Yellowknife Ar**	**99.10**	**341**	P		**Pdif**	**08 16 56.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=144,slow=4.3,SNR=7.8							
YKA				pP		**pP**	**08 17 09.8**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=142,slow=4.5,SNR=4.7							
WRA	**Warramunga Arr**	**123.81**	**210**	PKP		**PKPdf**	**08 22 13.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=156,slow=1.7,SNR=7.3							
WRA				pPKP		**pPKPdf**	**08 22 27.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=151,slow=1.7,SNR=3.2							
H11S2	**WAKE ISLAND Hyd**	**26.17**	**271**	T		T	10 41 08.2	
	baz=116,slow=75,SNR=114							
H11S1	**WAKE ISLAND Hyd**	**26.18**	**271**	T		T	10 41 09.3	
	baz=116,slow=75,SNR=121							
H11S3	**WAKE ISLAND Hyd**	**26.19**	**271**	T		T	10 41 10.1	
	baz=116,slow=75,SNR=84							
H11N3	**WAKE ISLAND Hyd**	**26.50**	**273**	T		T	10 41 32.3	
	baz=117,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hyd**	**26.52**	**273**	T		T	10 41 32.7	
	baz=117,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hyd**	**26.52**	**273**	T		T	10 41 41.6	
	baz=117,slow=75,SNR=50							
BVAR	**Borovoye Array**	**144.56**	**40**	PKP		**PKPdf**	**08 22 52.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=36,slow=20,SNR=9.6							
KURBB	**Kurchatov Arra**	**150.15**	**40**	PKPbc		**PKiKP**	**08 23 06.8**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=298,slow=3.1,SNR=22							
AAK	**Ala-Archa**	**150.48**	**57**	PKPbc		**PKiKP**	**08 23 08.8**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=223,slow=6.2,SNR=8.0							
AAK				pPKPbc		**pPKPbc**	**08 23 21.8**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=176,slow=2.6,SNR=4.7							
ZALV	**Zalesovo Beam**	**151.21**	**29**	PKPbc		**PKiKP**	**08 23 09.0**	**-0.2**
	comp=Z,10nm,0.7s,baz=298,slow=3.1,SNR=9.8							
ZALV				pPKPbc		**sPKPdf**	**08 23 21.5**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=301,slow=4.0,SNR=3.4							
MKAR	**Makanchi Array**	**154.22**	**44**	PKPbc		**PKiKP**	**08 23 15.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=282,slow=2.2,SNR=6.6							
MKAR				PKPab		**PKPab**	**08 23 29.9**	**+0.2**
	comp=Z,2.9nm,1.1s,baz=278,slow=3.6,SNR=8.3							
MJAR	**Matsushiro Arr**	**154.61**	**291**	PKPab		**PKPab**	**08 23 32.9**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=117,slow=0.3,SNR=5.0							

*IDC **25** 08:04:12.6±3.2, **53°.99N×86°.69E, h0km, mb1 3.4**/2, **mb1mx3.1**/40, **mbtmp3.4**/2, **ML2.6**/2, **Error ellipse: s-maj=27.8km s-min=15.8km az=49.0, Southwestern Siberia***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**269**	*i*		08 12 00.0	
	baz=89,slow=323,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.10**	**269**	Pg	Pg	08 04 32.2	-1.5
	0.3nm,0.3s,baz=84,slow=16,SNR=4.3						
ZALV				Lg	Lg	08 04 49.1	
	2.8nm,0.3s,baz=95,slow=31,SNR=25						
ZALV				Rg	Rg	08 04 54.8	
	2.6nm,0.4s,baz=83,slow=25,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.03**	**239**	Pn	Pn	08 05 44.8	+1.8
	0.1nm,0.3s,baz=56,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**7.73**	**203**	Pn	Pn	08 06 07.1	+0.8
	0.1nm,0.3s,baz=24,slow=13,SNR=5.4						

*IDC **25** 08:17:35.3±3.3, **54°.07N×86°.60E, h0km, mb1 2.8**/2, **mb1mx2.6**/47, **mbtmp2.8**/2, **ML2.4**/2, **Error ellipse: s-maj=27.7km s-min=16.2km az=47.0, Southwestern Siberia***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**264**	*i*		08 25 30.0	
	baz=83,slow=325,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.06**	**264**	Pg	Pg	08 17 54.0	-1.6
	0.5nm,0.3s,baz=86,slow=19,SNR=7.1						
ZALV				Lg	Lg	08 18 10.8	
	0.9nm,0.3s,baz=76,slow=24,SNR=7.6						
ZALV				Rg	Rg	08 18 19.2	
	3.7nm,0.7s,baz=80,slow=26,SNR=18						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	08 19 07.2	+1.5
	0.1nm,0.3s,baz=55,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	08 19 30.8	+1.0
	0.1nm,0.3s,baz=24,slow=13,SNR=4.4						

*IDC **25** 08:27:44.2±2.2, 6°.17S×132°.87E, h0km, mb3.8/1, mb1 4.4/6, mb1mx3.8/38, mbtmp4.3/6, ML4.3/4, Error ellipse: s-maj=60.1km s-min=24.5km az=87.0*

ISC 25 08:27:44.7±0.9, 6°.16S±0°.07×132°.9E±0°.1, h10km, n15, σ3°77/13, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.36**	**299**	P		**Pn**	**08 28 39.6**	**+2.4**
SIJI	**Sorong**	**5.49**	**343**	Pn		**Pn**	**08 29 07.8**	**+1.2**
	8.6nm,0.3s,baz=306,slow=24,SNR=19							
SIJI				Sn		**Sn**	**08 30 03.1**	**-6.6**
	11nm,0.3s,baz=251,slow=23,SNR=10							
KDU	**Kakadu**	**6.50**	**183**	P		Pn	08 29 25.5	+5.0
MTN	**Manton Dam**	**6.86**	**194**	P		Pn	08 29 30.0	+4.6
	20nm,0.5s							
SANI	**Sanana**	**7.97**	**300**	P		**Pn**	**08 29 42.3**	**+1.6**
	20nm,0.8s							
SOEI	**Soe**	**9.23**	**247**	P		Pn	08 30 02.9	+4.8
	16nm,0.6s							
BATI	**Baumata**	**9.95**	**246**	Pn		**Pn**	**08 30 10.5**	**+2.6**
	7.0nm,0.3s,baz=123,slow=5.2,SNR=5.0							
KNRA	**Kununurra**	**10.28**	**203**	P		**Pn**	**08 30 15.5**	**+3.1**
	30nm,0.5s							
COEN	**Coen**	**12.78**	**128**	P		**Pn**	**08 30 49.4**	**+2.8**
	9.0nm,2.0s							
KAPI	**Kappang**	**13.09**	**274**	Pn		Pn	08 30 38.0	-13
	1.2nm,0.3s,baz=80,slow=18,SNR=4.5							
WRA	**Warramunga Arr**	**13.78**	**174**	Pn		**Pn**	**08 31 00.5**	**+0.2**
	1.1

WRA	**Warramunga Arr**	**42.53**	**192**	P		P	09 03 18.9	0.0
	1.0nm,0.7s,baz=6.6,slow=8.4,SNR=33							
ASAR	**Alice Springs**	**46.24**	**192**	P		P	09 03 47.7	-0.4
	0.3nm,0.6s,baz=18,slow=10,SNR=10							
MKAR	**Makanchi Array**	**54.33**	**313**	P		P	09 04 48.3	+0.1
	0.5nm,0.8s,baz=102,slow=9.6,SNR=3.5							
KURBB	**Kurchatov Arra**	**57.15**	**317**	P		P	09 05 07.6	-0.4
	0.6nm,0.4s,baz=92,slow=7.5,SNR=6.1							
ILAR	**Eielson Array**	**61.87**	**27**	P		P	09 05 39.8	-0.1
	0.5nm,0.8s,baz=260,slow=6.3,SNR=5.9							
BVAR	**Borovoye Array**	**62.29**	**319**	P		P	09 05 44.2	+1.3
	1.1nm,0.3s,baz=98,slow=2.0,SNR=4.9							
YKA	**Yellowknife Ar**	**76.29**	**28**	P		P	09 07 08.5	+0.3
	0.4nm,0.5s,baz=292,slow=5.8,SNR=8.1							
FINES	**FINESS Array B**	**82.81**	**334**	P		P	09 07 42.0	-1.1
	0.9nm,0.4s,baz=73,slow=5.3,SNR=5.8							

IDC 25 09:33:28.4±1.8, 4°34'N×122°56'E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/42, mbtmp3.6/3, Error ellipse: s-maj=204.9km s-min=25.3km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.76**	**155**	P		P	09 39 10.0	-0.2
	0.3nm,0.3s,baz=332,slow=10.0,SNR=21							
ASAR	**Alice Springs**	**29.95**	**159**	P		P	09 39 38.9	+0.2
	0.2nm,0.4s,baz=340,slow=7.1,SNR=11							
MKAR	**Makanchi Array**	**54.73**	**327**	P		P	09 42 59.7	-0.1
	0.3nm,0.3s,baz=121,slow=7.8,SNR=6.7							

*NOU **25** 10:06:58.0, 38.07S×176.31E, h218km, MLv3.6/5, North Island, New Zealand*
*WEL **25** 10:07:09.1, 38°S±7°×17°E±°, h128km±13km, M2.6/49, MLv2.6/49, Error ellipse: s-maj=0.0km s-min=0.0km az=104.2*

ISC 25 10:07:00.8±2.2, 38°22S×0°09×176°14E±0°06, h200km±15km, n92, σ0.53/93, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HSRZ	**Hossack Road**	**0.12**	**137**	P		**Pn**	**10 07 26.8**	**-0.3**
GRRZ	**Galatos Road**	**0.13**	**191**	P		**Pn**	**10 07 27.0**	**-0.1**
OMRZ	**Omania**	**0.22**	**57**	P		**Pn**	**10 07 26.9**	**-0.4**
KARZ	**Kaharoa**	**0.22**	**22**	P		**Pn**	**10 07 26.9**	**-0.3**
WPRZ	**Whakapapatarin**	**0.30**	**177**	P		**Pn**	**10 07 27.1**	**-0.3**
PRRZ	**Plateau Road**	**0.34**	**144**	P		**Pn**	**10 07 27.0**	**-0.5**
KUTZ	**Kaahu Road**	**0.36**	**223**	P		**Pn**	**10 07 27.4**	**-0.1**
ALRZ	**Allen Road**	**0.37**	**155**	P		**Pn**	**10 07 27.2**	**-0.3**
KMRZ	**Kaimai**	**0.41**	**337**	P		**Pn**	**10 07 27.5**	**-0.2**
TLZ	**Tolley Road**	**0.49**	**257**	P		**Pn**	**10 07 27.9**	**0.0**
MUGZ	**Murupara**	**0.56**	**117**	P		**Pn**	**10 07 27.6**	**-0.6**
MUGZ				P		**Pn**	**10 07 27.6**	**-0.6**
MRHZ	**Matea Rd**	**0.65**	**160**	P		**Pn**	**10 07 28.2**	**-0.4**
RATZ	**Rangitukua**	**0.70**	**204**	P		**Pn**	**10 07 28.7**	**-0.2**
TOZ	**Tahuroa Road**	**0.70**	**314**	P		**Pn**	**10 07 29.0**	**+0.2**
URZ	**Urewera**	**0.77**	**93**	P		**Pn**	**10 07 28.5**	**-0.7**
URZ	**Urewera**	**0.77**	**93**	P		**Pn**	**10 07 28.6**	**-0.5**
RTZ	**Ruatahuna**	**0.77**	**121**	P		**Pn**	**10 07 28.9**	**-0.3**
RITZ	**Rihia Road**	**0.78**	**196**	P		**Pn**	**10 07 29.6**	**+0.3**
KATZ	**Kakaramea**	**0.83**	**205**	P		**Pn**	**10 07 29.8**	**+0.1**
MTHZ	**Maungataniwha**	**0.83**	**139**	P		**Pn**	**10 07 29.5**	**-0.1**
NTVZ	**North Tongarir**	**0.95**	**202**	P		**Pn**	**10 07 30.5**	**+0.1**
KRVZ	**Karewarewa**	**0.95**	**204**	P		**Pn**	**10 07 30.4**	**-0.1**
TMVZ	**Te Maari**	**0.95**	**201**	P		**Pn**	**10 07 30.5**	**+0.1**
ETVZ	**East Tongariro**	**0.97**	**200**	P		**Pn**	**10 07 30.6**	**+0.1**
BKZ	**Black Stump Fm**	**0.98**	**164**	P		**Pn**	**10 07 30.4**	**-0.1**
BKZ	**Black Stump Fm**	**0.98**	**164**	P		**Pn**	**10 07 30.2**	**-0.3**
WTVZ	**West Tongariro**	**0.99**	**206**	P		**Pn**	**10 07 30.7**	**0.0**
NNVZ	**North Ngauruho**	**0.99**	**204**	P		**Pn**	**10 07 30.9**	**+0.1**
OTVZ	**Oturere**	**1.01**	**201**	P		**Pn**	**10 07 31.1**	**+0.3**
TWVZ	**Taurewa**	**1.01**	**213**	P		**Pn**	**10 07 30.9**	**+0.1**
RAHZ	**Arahi**	**1.01**	**133**	P		**Pn**	**10 07 31.2**	**+0.5**
NMHZ	**Naumai**	**1.02**	**149**	P		**Pn**	**10 07 31.7**	**+0.9**
SNVZ	**South Ngauruho**	**1.04**	**202**	P		**Pn**	**10 07 31.2**	**+0.1**
NGZ	**Ngauruhoe**	**1.04**	**204**	P		**Pn**	**10 07 31.4**	**+0.3**
HIZ	**Hauiti**	**1.05**	**254**	P		**Pn**	**10 07 31.4**	**+0.5**
HIZ	**Hauiti**	**1.05**	**254**	P		**Pn**	**10 07 31.4**	**+0.5**
SNGZ	**Shannon Statio**	**1.09**	**121**	P		**Pn**	**10 07 31.8**	**+0.5**
MWZ	**Matawai**	**1.10**	**96**	P		**Pn**	**10 07 31.2**	**-0.1**
TUVZ	**Tukino**	**1.11**	**200**	P		**Pn**	**10 07 31.8**	**+0.3**
FWVZ	**Far West T-bar**	**1.13**	**204**	P		**Pn**	**10 07 31.7**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.14**	**202**	P		**Pn**	**10 07 32.1**	**+0.3**
TRVZ	**Turoa**	**1.17**	**203**	P		**Pn**	**10 07 32.3**	**+0.2**
WNVZ	**Wahianoa**	**1.18**	**201**	P		**Pn**	**10 07 32.2**	**+0.2**
KWHZ	**Kaweka Forest**	**1.22**	**170**	P		**Pn**	**10 07 32.6**	**+0.4**
MOVZ	**Moawhango**	**1.22**	**194**	P		**Pn**	**10 07 32.1**	**-0.2**
PKVZ	**Pokaka**	**1.23**	**210**	P		**Pn**	**10 07 32.5**	**+0.2**
ARHZ	**Aropaoanui**	**1.23**	**147**	P		**Pn**	**10 07 33.1**	**+0.8**
RUGZ	**Raukumara Rang**	**1.24**	**78**	P		**Pn**	**10 07 31.6**	**-0.9**
BHHZ	**Black Hill Sta**	**1.27**	**185**	P		**Pn**	**10 07 32.6**	**0.0**
MTVZ	**Mangahitei**	**1.27**	**204**	P		**Pn**	**10 07 32.9**	**+0.3**
MCHZ	**McNeill Hill**	**1.29**	**161**	P		**Pn**	**10 07 33.7**	**+1.0**
TKGZ	**Te Karaka**	**1.36**	**100**	P		**Pn**	**10 07 33.7**	**+0.4**
RIGZ	**Rimuhau**	**1.36**	**111**	P		**Pn**	**10 07 34.0**	**+0.6**
HAZ	**Te Kaha**	**1.38**	**71**	P		**Pn**	**10 07 33.1**	**-0.4**
VRZ	**Vera Road**	**1.41**	**230**	P		**Pn**	**10 07 34.5**	**+0.8**
KRHZ	**Kereru**	**1.43**	**173**	P		**Pn**	**10 07 34.3**	**+0.4**
PKGZ	**Pakihiroa**	**1.56**	**78**	P		**Pn**	**10 07 35.7**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.61**	**153**	P		**Pn**	**10 07 35.9**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.67**	**124**	P		**Pn**	**10 07 37.2**	**+1.2**
KAHZ	**Kahuranaki**	**1.67**	**160**	P		**Pn**	**10 07 33.8**	**-2.3**
PUZ	**Puketiti**	**1.68**	**85**	P		**Pn**	**10 07 36.6**	**+0.4**
PNHZ	**Pukenui**	**1.69**	**178**	P		**Pn**	**10 07 36.5**	**+0.2**
WAZ	**Wanganui**	**1.77**	**210**	P		**Pn**	**10 07 37.6**	**+0.5**
TSZ	**Takapari Road**	**1.84**	**184**	P		**Pn**	**10 07 38.0**	**+0.3**
WMGZ	**Waiomatatini S**	**1.84**	**78**	P		**Pn**	**10 07 38.3**	**+0.6**
WPHZ	**Waipukurau**	**1.85**	**173**	P		**Pn**	**10 07 38.3**	**+0.5**
PXZ	**Pawanui**	**1.89**	**163**	P		**Pn**	**10 07 38.8**	**+0.7**
NEZ	**North Egmont**	**1.91**	**236**	P		**Pn**	**10 07 40.0**	**+1.5**
DVHZ	**Dannevirke**	**2.07**	**179**	P		**Pn**	**10 07 40.2**	**+0.1**
PRHZ	**Porangahau**	**2.08**	**169**	P		**Pn**	**10 07 40.8**	**+0.7**
POWZ	**Post Office Ro**	**2.18**	**187**	P		**Pn**	**10 07 41.4**	**+0.1**
PRWZ	**Pori Road**	**2.33**	**183**	P		**Pn**	**10 07 43.2**	**+0.4**
BFZ	**Birch Farm**	**2.46**	**178**	P		**Pn**	**10 07 44.3**	**+0.1**
BFZ	**Birch Farm**	**2.46**	**178**	P		**Pn**	**10 07 44.5**	**+0.3**
MRZ	**Mangatainoka R**	**2.47**	**190**	P		**Pn**	**10 07 44.3**	**-0.1**
TIWZ	**Tintock**	**2.56**	**184**	P		**Pn**	**10 07 45.4**	**+0.1**
OGWZ	**Otaki Gorge**	**2.70**	**196**	P		**Pn**	**10 07 46.9**	**0.0**
HOWZ	**Holdsworth Sta**	**2.71**	**190**	P		**Pn**	**10 07 46.8**	**-0.3**
KIW	**Kapiti Island**	**2.80**	**199**	P		**Pn**	**10 07 47.7**	**-0.4**
TMWZ	**Te Maipa**	**2.88**	**184**	P		**Pn**	**10 07 48.9**	**-0.2**
MTW	**Mount Morrison**	**2.97**	**189**	P		**Pn**	**10 07 49.5**	**-0.5**
CAW	**Cannon Point**	**3.00**	**196**	P		**Pn**	**10 07 50.0**	**-0.3**
TRWZ	**Traveller**	**3.19**	**186**	P		**Pn**	**10 07 52.3**	**-0.4**
PAWZ	**Paruwai Farm**	**3.20**	**190**	P		**Pn**	**10 07 52.1**	**-0.7**
MSWZ	**Moikau Station**	**3.26**	**192**	P		**Pn**	**10 07 52.7**	**-0.8**
TCW	**Tory Channel**	**3.31**	**205**	P		**Pn**	**10 07 53.7**	**-0.3**
BHW	**Baring Head**	**3.33**	**197**	P		**Pn**	**10 07 53.6**	**-0.7**
PLWZ	**Palliser**	**3.41**	**191**	P		**Pn**	**10 07 54.5**	**-0.8**
TUWZ	**Tuamarina**	**3.62**	**207**	P		**Pn**	**10 07 57.4**	**-0.5**
KHZ	**Kahutara**	**4.63**	**205**	P		**Pn**	**10 08 10.0**	**-0.5**
KHZ	**Kahutara**	**4.63**	**205**	P		**Pn**	**10 08 10.5**	**0.0**
LTZ	**Lake Taylor**	**5.42**	**212**	P		**Pn**	**10 08 20.4**	**-0.2**

KRSZO 25 10:12:12.8±3.5, 46°28N×18°22E, h0km, Error ellipse: s-maj=34.8km s-min=6.8km az=152.0, Explosion., Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KOVH	**Kovagotottos**	**0.21**	**203**	Pg		Pg	10 12 16.7	-0.1
KOVH				Lg		Lg	10 12 19.6	
KOVH	**Kovagotottos**	**0.21**	**203**	P		Pg	10 12 16.7	-0.1
KOVH				S		Sg	10 12 19.6	+0.2
MORH	**Mrgy, Hungar**	**0.30**	**102**	Pg		Pg	10 12 18.7	+0.1
MORH				Lg		Lg	10 12 22.4	
MORH	**Mrgy, Hungar**	**0.30**	**102**	P		Pg	10 12 18.7	+0.1
MORH				S		Sg	10 12 22.4	-0.1

*BJI **25** 10:20:44.7±0.0, 34.51N×136.00E, h380km, mb4.8/58, mB4.5/26*
*MOS **25** 10:20:46.0±0.7, 34.44N×135.91E, h379km, mb4.2/22, Error ellipse: s-maj=7.7km s-min=5.3km az=95.0*
*IDC **25** 10:20:47.1±0.6, 34.42N×135.90E, h373km±6km, mb3.6/21, mb1 3.8/28, mb1mx3.6/54, mbtmp4.4/28, Error ellipse: s-maj=10.0km s-min=8.2km az=107.0*

*NEIC **25** 10:20:47.5±1.3, 34.45N±0.07×135.96E±0.09, h376km, 6km, mb4.2/80, Error ellipse: s-maj=10.9km s-min=9.8km az=136.0*
*JMA **25** 10:20:47.7±0.1, 34.52N×135.87E, h372km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs43.00000°, δ75.00000°, λ-163.00000°. NP2: φs309.00000°, δ73.00000°, λ-16.00000°. Principal axes: T Plg1.0000°, Azm176.0000°; N Plg67.0000°, Azm84.0000°; P Plg23.0000°, Azm266.0000°;*
*NIED **25** 10:20:47.7, 34.52N×135.87E, h372km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.55; Mθθ5.42; Mφφ-4.87; Mrθ-0.03; Mθφ0.75; Mφr-1.90; Fault plane solution: M05.56000×10^15 NP1:φs43.00000°, δ77.00000°, λ-164.00000°. NP2:φs309.00000°, δ74.00000°, λ-14.00000°.*

ISC 25 10:20:46.9±0.4, 34°44N±0.04×135°93E±0.04, h372km±3km, h373km:pP-P, n258, σ1.932/289, mb4.2/83, 8C-17D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHE	**Heguri**	**0.29**	**316**	⇓P		**Pn**	**10 21 34.2**	**+0.9**
JHE				S		**S**	**10 22 10.6**	**-0.1**
JWY	**Kouya**	**0.36**	**232**	⇓P		**Pn**	**10 21 34.7**	**+1.1**
JWY				S		**S**	**10 22 11.0**	**-0.1**
JIE	**Ise**	**0.64**	**94**	⇓P		**Pn**	**10 21 35.2**	**+1.2**
JIE				S		**S**	**10 22 12.6**	**+0.8**
JTNC	**Tanabenakahech**	**0.68**	**203**	⇓P		**Pn**	**10 21 35.0**	**+0.8**
JTNC				S		**S**	**10 22 12.0**	**-0.1**
JWT	**Wachi**	**0.95**	**333**	⇓P		**Pn**	**10 21 35.5**	**+0.7**
JWT				S		**S**	**10 22 12.7**	**-0.7**
TTO1	**TONANKAI O.B.S**	**1.08**	**139**	⇓P		**Pn**	**10 21 36.9**	**+1.8**
INU	**Inuyama**	**1.27**	**44**			**Pn**	**10 21 36.8**	**+0.6**
INU	**Inuyama**	**1.27**	**44**	P		**Pn**	**10 21 37.3**	**+1.2**
JYTA	**Yamagatataniai**	**1.33**	**30**	⇓P		**Pn**	**10 21 37.4**	**+1.1**
JYTA				S		**S**	**10 22 16.6**	**+0.4**
JAI	**Aioi**	**1.39**	**243**	P		**Pn**	**10 21 37.5**	**+0.7**
JAI				S		**S**	**10 22 17.0**	**+0.1**
TK02	**Tokai 2**	**1.59**	**108**	P		**Pn**	**10 21 39.3**	**+1.8**
JGF	**Kuroka**	**1.65**	**45**			**Pn**	**10 21 38.9**	**+0.8**
JMN	**Monobe**	**1.85**	**248**	P		**Pn**	**10 21 40.3**	**+0.9**
JMN	**Monobe**	**1.85**	**248**	Pn		**Pn**	**10 21 40.3**	**+0.9**
JKG	**Kaga**	**1.86**	**10**	P		**Pn**	**10 21 40.0**	**+0.7**
JKG				S		**S**	**10 22 21.0**	**-0.5**
JFNN	**Fujinakano**	**2.39**	**71**	⇓P		**Pn**	**10 21 44.2**	**+1.2**
JHS	**Saijyo**	**2.39**	**284**	⇓P		**Pn**	**10 21 43.6**	**+0.6**
JHS	**Saijyo**	**2.39**	**284**			**Pn**	**10 21 43.7**	**+0.7**
JYN	**Shimob**	**2.39**	**63**	⇓P		**Pn**	**10 21 43.8**	**+0.7**
JOD2	**Odawara 2**	**2.72**	**72**	⇓P		**Pn**	**10 21 46.4**	**+0.8**
MAJO	**Matsushiro**	**2.80**	**41**	*d* iP		**Pn**	**10 21 46.5**	**+0.2**
MAJO	**Matsushiro**	**2.80**	**41**			**Pn**	**10 21 46.4**	**+0.2**
MAJO	**Matsushiro**	**2.80**	**41**	P		**Pn**	**10 21 47.0**	**+0.8**
MAT	**Matsushiro**	**2.80**	**41**	P		**Pn**	**10 21 46.8**	**+0.6**
MAT				*e* S		**S**	**10 22 33.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.80**	**41**	P		**Pn**	**10 21 46.9**	**+0.7**
	4.5nm,0.3s,baz=228,slow=7.7,SNR=34							
MJAR				S		**S**	**10 22 34.8**	**+0.7**
	0.2nm,0.3s,baz=230,slow=16,SNR=7.6							
MJAR	**Matsushiro Arr**	**2.80**	**41**			**Pn**	**10 21 46.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.80**	**41**			**Pn**	**10 21 46.9**	**+0.6**
JOI	**OKI**	**2.87**	**311**	P		**Pn**	**10 21 47.0**	**+0.2**
JGT2	**ShimaneMisato**	**2.89**	**283**	P		**Pn**	**10 21 47.2**	**+0.2**
JGT2				S		**S**	**10 22 34.5**	**-1.0**
JRY	**Ryogami san**	**2.89**	**56**	⇓P		**Pn**	**10 21 47.9**	**+0.8**
JTO	**Tosashimizu**	**3.05**	**240**	P		**Pn**	**10 21 48.9**	**+0.4**
JTO				S		**S**	**10 22 37.2**	**-0.9**
JHJ	**Hachijo jima 2**	**3.47**	**111**	P		**Pn**	**10 21 54.0**	**+1.8**
	80nm,0.3s,baz=204,slow=23,SNR=16							
JHJ2	**Mitsune**	**3.50**	**111**	P		**Pn**	**10 21 54.1**	**+1.7**
JHJ2	**Mitsune**	**3.50**	**111**	Pn		**Pn**	**10 21 51.4**	**-1.1**
JHJ2	**Mitsune**	**3.50**	**111**	P		**Pn**	**10 21 54.2**	**+1.8**
JYT	**Yasato**	**3.91**	**62**	Pn		**Pn**	**10 21 55.0**	**-1.3**
JSD	**Sado**	**4.05**	**27**			**Pn**	**10 21 58.3**	**+0.6**
JNU	**Nakatsue**	**4.41**	**254**	P		**Pn**	**10 22 01.7**	**+0.2**
	14nm,0.3s,baz=70,slow=1.8,SNR=161							
JNU	**Nakatsue**	**4.41**	**254**	Pn		**Pn**	**10 22 02.1**	**+0.6**
JNU	**Nakatsue**	**4.41**	**254**	P		**Pn**	**10 22 02.3**	**+0.8**
JMM	**Matsumori**	**5.21**	**48**			**Pn**	**10 22 09.0**	**-0.7**
JTU	**Tsushima**	**5.40**	**273**			**Pn**	**10 22 11.6**	**-0.2**
JSU	**Suzuyama**	**5.46**	**239**	Pn		**Pn**	**10 22 13.2**	**+0.7**
KSRS	**Korea Array**	**7.16**	**297**	P		**P**	**10 22 32.5**	**-0.2**
KSRS	6.0nm,0.3s,baz=115,slow=12,SNR=214					**S**	**10 23 57.2**	**+0.2**
	baz=110,slow=22,SNR=9.4							
KSAR	**Wonju Array Be**	**7.18**	**297**	P		**Pn**	**10 22 32.3**	**+0.4**
KSAR	**Wonju Array Be**	**7.18**	**297**	Pn		**Pn**	**10 22 32.3**	**+0.4**
KS19	**Wonju Array Si**	**7.22**	**297**			**Pn**	**10 22 32.5**	**+0.2**
TJN	**Taejon**	**7.26**	**288**	P		**Pn**	**10 22 33.2**	**+0.5**
TJN	**Taejon**	**7.26**	**288**	Pn		**Pn**	**10 22 33.2**	**+0.5**
TJN	**Taejon**	**7.26**	**288**	P		**P**	**10 22 33.6**	**-0.4**
JTM	**Tennabayashi**	**7.53**	**31**	Pn		**Pn**	**10 22 33.5**	**-2.4**
INCN	**Inchon**	**8.13**	**295**	P		**Pn**	**10 22 43.5**	**+0.6**
INCN	**Inchon**	**8.13**	**295**			**Pn**	**10 22 43.5**	**+0.6**
INCN	**Inchon**	**8.13**	**295**	P		**Pn**	**10 22 43.5**	**+0.6**
MSHR	**Mys Shultsa**	**8.95**	**337**	*c* iP		**Pn**	**10 22 52.5**	**+0.2**
JCJ	**Chichijima**	**9.08**	**142**	P		**Pn**	**10 22 51.2**	**-3.0**
JCJ	33nm,0.3s,baz=270,slow=14,SNR=11					S	10 24 29.5	-9.0
	87nm,0.3s,baz=283,slow=24,SNR=18							
JCJ	**Chichijima**	**9.08**	**142**	Pn		**Pn**	**10 22 52.5**	**-1.7**
JCJ	**Chichijima**	**9.08**	**142**	P		**Pn**	**10 22 52.1**	**-2.1**
	138nm,0.7s							
VLA	**Vladivostok**	**9.22**	**341**	*c* iP		**Pn**	**10 22 55.6**	**+0.1**
JEW	**Eniwo**	**9.43**	**26**			**Pn**	**10 22 57.9**	**-0.1**
ERM	**Erimo**	**9.46**	**35**	*i* P		**Pn**	**10 22 58.1**	**-0.2**
ERM	**Erimo**	**9.46**	**35**			**Pn**	**10 22 58.0**	**-0.2**
ERM	**Erimo**	**9.46**	**35**	P		**Pn**	**10 22 58.3**	**0.0**
JOW	**Kunigami**	**10.05**	**223**			**P**	**10 23 06.1**	**+0.1**
JOW	**Kunigami**	**10.05**	**223**	P		**P**	**10 23 07.1**	**+1.1**
USA0B	**Ussuriysk Arra**	**10.21**	**344**	P		**Pn**	**10 23 07.3**	**+0.1**
USA0B	**Ussuriysk Arra**	**10.21**	**344**			**Pn**	**10 23 07.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.21**	**344**	P		**Pn**	**10 23 07.2**	**0.0**
	baz=157,slow=11,SNR=236							
USRK	**Ussuriysk Ar.**	**10.21**	**344**	P		**P**	**10 23 07.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**10.21**	**344**			**P**	**10 23 07.4**	**-0.2**
ASAJ	**Asahikawa**	**10.95**	**26**	P		**P**	**10 23 14.3**	**-1.4**
	10nm,0.3s,baz=229,slow=11,SNR=61							
ASAJ				S		**S**	**10 25 10.9**	**-7.0**
	3.0nm,0.3s,baz=43,slow=22,SNR=8.4							
ASAJ	**Asahikawa**	**10.95**	**26**	P		**P**	**10 23 14.5**	**-1.3**
JKA	**Kamikawa-asahi**	**10.95**	**26**	P		**P**	**10 23 14.5**	**-1.2**
MDJ	**Mudanjiang**	**11.28**	**336**			**P**	**10 23 18.9**	**-0.5**
MDJ	**Mudanjiang**	**11.28**	**336**	P		**P**	**10 23 19.0**	**-0.4**
MDJ				pmax		pmax		
	comp=Z,64nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,140nm,5.6s							
MDJ	**Mudanjiang**	**11.28**	**336**	P		**Pn**	**10 23 20.3**	**+0.6**
NMR	**Nemuro--Hokkai**	**11.73**	**38**	*eP*		**P**	**10 23 24.1**	**-0.2**
NMR				*eS*		**S**	**10 25 27.9**	**-6.6**
GLVR	**Golovnino**	**11.89**	**36**	*eP*		**P**	**10 23 26.6**	**+0.4**
GLVR				*eS*		**S**	**10 25 32.3**	**-5.7**
RUSJ	**Misakicho**	**12.04**	**34**	*eP*		**Pn**	**10 23 28.7**	**0.0**
RUSJ				*eS*		**S**	**10 25 36.2**	**-4.9**
YUK	**Yuzh-Kuril'sk**	**12.28**	**36**	*eP*		**Pn**	**10 23 31.9**	**+0.4**
YUK				*eS*		**S**	**10 25 41.9**	**-4.1**
SHO	**Shikotan**	**12.64**	**39**	*eP*		**Pn**	**10 23 36.7**	**+1.0**
SHO				*eS*		**S**	**10 25 49.9**	**-3.5**
BNX	**BinXian**	**13.03**	**333**	⇑P		**P**	**10 23 38.0**	**-0.7**
BNX				pmax		pmax		
	comp=Z,100nm,0.7s							
BNX				pmax		pmax		
	comp=Z,130nm,4.9s							
JMJ	**Miyako jima 2**	**13.32**	**227**	P		**P**	**10 23 42.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**13.52**	**20**	*eP*		**Pn**	**10 23 45.3**	**-0.6**
YSS				*eS*		**S**	**10 26 09.5**	**-1.3**
YSS				pmax		pmax		
	comp=Z,130nm,0.7s							
YSS				pmax		pmax		
	comp=Z,300nm,3.1s							
YSS				smax		smax		
	comp=N,60nm,0.8s							
YSS				smax		smax		
	comp=E,30nm,0.7s							
YSS	**Yuzh-Sakhalins**	**13.52**	**20**	P		**P**	**10 23 44.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**13.52**	**20**	P		**P**	**10 23 44.4**	**+0.3**
KUR	**Kuril'sk**	**14.13**	**37**	*eP*		**Pn**	**10 23 52.8**	**-0.1**
KUR				*eS*		**S**	**10 26 25.7**	**+2.5**
KUR				pmax		pmax		
	comp=Z,45nm,0.6s							
KLR	**Kul'dur**	**15.10**	**349**	P		**P**	**10 23 59.8**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=157,slow=8.4,SNR=34							
UGL	**Uglegorsk**	**15.32**	**15**	*eP*		**Pn**	**10 24 08.5**	**+2.0**
UGL				pmax		pmax		
	comp=Z,140nm,0.5s							
UGL				pmax		pmax		
	comp=N,160nm,0.5s							
UGL				pmax		pmax		
	comp=E,80nm,0.5s							
TIA	**Tai'an**	**15.46**	**282**	⇑P		**P**	**10 24 05.3**	**-0.1**
TIA				pmax		pmax		
	comp=E,17nm,1.0s							
TATO	**Taipei**	**15.68**	**237**	P		**P**	**10 24 08.0**	**0.0**
YHNB	**Yeheng**	**15.96**	**236**	P		**P**	**10 24 10.9**	**-0.2**
YHNB	**Yeheng**	**15.96**	**236**	P		**P**	**10 24 10.3**	**-0.8**
NACB	**Ninganchiao**	**16.14**	**234**	P		**P**	**10 24 11.5**	**-1.4**
BJT	**Baijiatuan**	**16.69**	**295**	P		**P**	**10 24 17.6**	**-1.0**
BJT				pmax		pmax		
	comp=Z,20nm,0.5s							
BJT	**Baijiatuan**	**16.69**	**295**	P		**P**	**10 24 17.6**	**-1.0**
SSLB	**Suanglung**	**16.83**	**235**	P		**P**	**10 24 18.5**	**-1.9**
SSLB	**Suanglung**	**16.83**	**235**	P		**P**	**10 24 18.7**	**-1.7**
YULB	**Yu-li**	**16.87**	**233**	P		**P**	**10 24 18.6**	**-2.2**
TYV	**Tymovskoe**	**17.13**	**15**	*eP*		**Pn**	**10 24 30.0**	**+3.0**
TYV				*eS*		**S**	**10 27 27.5**	**+5.2**
TYV				pmax		pmax		
	comp=Z,25nm,1.2s							
TYV				pmax		pmax		
	comp=Z,100nm,3.7s							
TYV				smax		smax		
	comp=N,6.0nm,1.4s							
TYV				smax		smax		
	comp=E,6.0nm,1.4s							
TPUB	**Ta-pu**	**17.38**	**234**	P		**P**	**10 24 24.5**	**-1.7**
TPUB	**Ta-pu**	**17.38**	**234**	P		**P**	**10 24 24.8**	**-1.4**
TWG	**Pinlang**	**17.42**	**232**	P		**P**	**10 24 24.6**	**-2.1**
HNS	**HongShan**	**17.44**	**286**	⇓P		**P**	**10 24 25.8**	**-0.9**
HNS				pmax		pmax		
	comp=E,93nm,1.2s							
QZH	**Quanzhou**	**17.77**	**242**	⇑ *i* P		**P**	**10 24 29.0**	**-1.3**
QZH				pmax		pmax		
	comp=E,100nm,0.6s							
XLT	**XiLinHaoTe**	**18.02**	**307**	*i* P		**P**	**10 24 30.5**	**-2.4**
XLT				S		**S**	**10 27 42.5**	**+2.4**
XLT				pmax		pmax		
	comp=E,32nm,0.7s							
XLT				pmax		pmax		
	comp=E,120nm,5.0s							
WHN	**Wuhan**	**18.61**	**

	comp=Z,19nm,0.7s						
SHL	**Shillong**	**38.91**	**269**	P	**P**	**10 27 37.3**	**-1.2**
SHL				pmax	pmax		
	comp=Z,12nm,0.6s						
SHL	**Shillong**	**38.91**	**269**	P	**P**	**10 27 37.3**	**-1.2**
SHL				IAmb	IAmb	10 27 37.7	
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**40.47**	**315**	P	**P**	**10 27 50.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=90,slow=6.5,SNR=4.1						
ZALV				PcP	**PcP**	**10 29 43.9**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=84,slow=3.8,SNR=5.7						
ZALV				ScP	**ScP**	**10 32 57.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=104,slow=6.1,SNR=4.5						
MK31	**Makanchi Array**	**41.78**	**304**	P	**P**	**10 28 01.7**	**+0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MK31	**Makanchi Array**	**41.78**	**304**	P	**P**	**10 28 01.6**	**+0.3**
MK31				IAmb	IAmb	10 28 02.3	
	comp=Z,7.5nm,1.0s						
MKAR	**Makanchi Array**	**41.78**	**304**	P	**P**	**10 28 01.6**	**+0.3**
	comp=Z,5.9nm,0.4s,baz=86,slow=10,SNR=114						
MKAR				ScP	**ScP**	**10 33 02.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=82,slow=5.3,SNR=7.0						
MKAR	**Makanchi Array**	**41.78**	**304**	P	**P**	**10 28 01.3**	**0.0**
MAKZ	**Makanchi**	**42.00**	**304**	P	**P**	**10 28 03.2**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAKZ	**Makanchi**	**42.00**	**304**	P	**P**	**10 28 03.2**	**+0.2**
MAKZ				IAmb	IAmb	10 28 03.8	
	comp=Z,9.5nm,0.4s						
SRIT	**Nakonsritamara**	**42.10**	**241**	P	**P**	**10 28 05.0**	**+0.8**
ODAN	**Odare**	**42.11**	**273**	*eP*	**P**	**10 28 03.8**	**-0.7**
	comp=Z,25nm,0.4s						
PKIN	**Phulchoki**	**43.49**	**275**	*eP*	**P**	**10 28 14.7**	**-0.7**
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**43.50**	**276**	*eP*	**P**	**10 28 15.1**	**-0.4**
DMN	**Daman**	**43.71**	**275**	*eP*	**P**	**10 28 16.7**	**-0.5**
	comp=Z,18nm,0.4s						
GKN	**Gorkha**	**43.95**	**276**	*eP*	**P**	**10 28 18.4**	**-0.6**
KURK	**Kurchatov**	**44.08**	**310**	P	**P**	**10 28 19.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**44.08**	**310**	P	**P**	**10 28 19.2**	**-0.2**
KURK				IAmb	IAmb	10 28 19.9	
	comp=Z,6.9nm,0.9s						
DANN	**Dangsing**	**44.55**	**277**	*eP*	**P**	**10 28 23.8**	**0.0**
	comp=Z,137nm,0.5s						
KOLN	**Koldanda**	**44.89**	**276**	*eP*	**P**	**10 28 26.1**	**-0.3**
PYUN	**Piuthan**	**45.27**	**277**	*eP*	**P**	**10 28 29.2**	**-0.1**
	comp=Z,118nm,0.4s						
TNA	**Tin City**	**45.29**	**29**	P	**P**	**10 28 30.2**	**+1.6**
TARG	**Taragay, Kyrgy**	**45.58**	**297**	P	**P**	**10 28 32.2**	**+0.5**
TARG				IAmb	IAmb	10 28 33.2	
	comp=Z,6.1nm,0.7s						
KDJ	**Kajisay**	**45.96**	**298**	P	**P**	**10 28 34.7**	**+0.3**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KDJ	**Kajisay**	**45.96**	**298**	P	**P**	**10 28 34.7**	**+0.3**
KDJ				IAmb	IAmb	10 28 35.3	
	comp=Z,4.5nm,0.6s						
ANM	**Nome**	**46.11**	**31**	P	**P**	**10 28 36.5**	**+1.5**
ANM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANM	**Nome**	**46.11**	**31**	P	**P**	**10 28 36.5**	**+1.5**
MTN	**Manton Dam**	**47.24**	**186**	P	**P**	**10 28 43.9**	**-0.3**
MTN				IAmb	IAmb	10 28 44.4	
	comp=Z,14nm,0.7s						
KSH	**Kashi**	**47.40**	**295**	P	**P**	**10 28 48.8**	**+3.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**47.81**	**299**	P	**P**	**10 28 48.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**47.81**	**299**	P	**P**	**10 28 48.5**	**-0.1**
BRVK	**Borovoye**	**49.12**	**313**	P	**P**	**10 28 58.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**49.12**	**313**	P	**P**	**10 28 58.3**	**+0.3**
KNRA	**Kununurra**	**50.30**	**189**	P	**P**	**10 29 06.9**	**-0.3**
KNRA				IAmb	IAmb	10 29 08.6	
	comp=Z,14nm,1.2s						
KKAR	**Karatay Array**	**50.57**	**300**	P	**P**	**10 29 08.7**	**-0.3**
KKAR	**Karatay Array**	**50.57**	**300**	P	**P**	**10 29 08.7**	**-0.3**
A21K	**Barrow**	**50.58**	**23**	P	**P**	**10 29 08.9**	**+0.4**
A21K				IAmb	IAmb	10 29 10.5	
	comp=Z,15nm,0.7s						
J20K	**Nowinta River**	**50.92**	**32**	P	**P**	**10 29 12.9**	**+1.7**
K20K	**Telida**	**50.95**	**33**	P	**P**	**10 29 13.6**	**+2.1**
K20K				IAmb	IAmb	10 29 14.3	
	comp=Z,5.5nm,0.8s						
IMAR	**Indian Mountai**	**51.13**	**30**	P	**P**	**10 29 13.9**	**+1.2**
GAR	**Garm**	**51.78**	**295**	P	**P**	**10 29 18.1**	**0.0**
GAR				IAmb	IAmb	10 29 18.8	
	comp=Z,17nm,1.1s						
I21K	**Tanana**	**51.85**	**31**	P	**P**	**10 29 18.1**	**+0.1**
MLY	**Manley**	**52.38**	**31**	P	**P**	**10 29 22.0**	**0.0**
CHGR	**Chuyangaron**	**52.74**	**295**	P	**P**	**10 29 24.8**	**-0.3**
NEA2	**Nenana**	**53.12**	**31**	P	**P**	**10 29 28.3**	**+1.0**
NEA2				IAmb	IAmb	10 29 29.6	
	comp=Z,7.8nm,0.8s						
RND	**Reindeer**	**53.30**	**33**	P	**P**	**10 29 29.3**	**+0.7**
RND				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RND	**Reindeer**	**53.30**	**33**	P	**P**	**10 29 29.3**	**+0.7**
RND				IAmb	IAmb	10 29 30.1	
	comp=Z,6.9nm,0.6s						
MDM	**Murphy Dome**	**53.45**	**31**	P	**P**	**10 29 31.3**	**+1.6**
MDM				IAmb	IAmb	10 29 32.1	
	comp=Z,10nm,0.7s						
H24K	**Noodor Dome**	**53.54**	**30**	P	**P**	**10 29 32.1**	**+1.9**
TCOL	**CIGO, UAF Yank**	**53.61**	**31**	P	**P**	**10 29 32.4**	**+1.7**
TCOL				IAmb	IAmb	10 29 34.0	
	comp=Z,6.3nm,0.8s						
COLA	**College**	**53.62**	**31**	P	**P**	**10 29 32.5**	**+1.7**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
COLA	**College**	**53.62**	**31**	P	**P**	**10 29 32.5**	**+1.7**
COLA				IAmb	IAmb	10 29 33.9	
	comp=Z,6.5nm,0.8s						
POKR	**Poker Plat Res**	**53.78**	**31**	P	**P**	**10 29 33.1**	**+1.2**
POKR				IAmb	IAmb	10 29 35.1	
	comp=Z,8.6nm,0.9s						
WB0	**Warramunga Arr**	**53.93**	**182**	P	**P**	**10 29 33.1**	**-0.5**
WB0				IAmb	IAmb	10 29 34.6	
	comp=Z,10.0nm,1.1s						
IL31		**54.04**	**31**	P	**P**	**10 29 34.4**	**+0.6**
ILAR	**Eielson Array**	**54.04**	**31**	P	**P**	**10 29 33.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=260,slow=6.1,SNR=28						
ILAR	**Eielson Array**	**54.04**	**31**	P	**P**	**10 29 34.2**	**+0.4**
ILAR	**Eielson Array**	**54.04**	**31**	P	**P**	**10 29 34.2**	**+0.4**
WRAB	**Tennant Creek**	**54.09**	**182**	P	**P**	**10 29 33.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRAB	**Tennant Creek**	**54.09**	**182**	P	**P**	**10 29 33.9**	**-0.9**
WB2	**Warramunga Arr**	**54.10**	**182**	P	**P**	**10 29 34.2**	**-0.6**
WRA	**Warramunga Arr**	**54.10**	**182**	P	**P**	**10 29 34.5**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=360,slow=7.7,SNR=236						
WRA	**Warramunga Arr**	**54.10**	**182**	P	**P**	**10 29 33.9**	**-0.9**
WR0	**Warramunga Arr**	**54.11**	**182**	P	**P**	**10 29 34.6**	**-0.2**
KBL	**Kabul**	**54.16**	**291**	P	**P**	**10 29 34.6**	**-0.9**
KBL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBL	**Kabul**	**54.16**	**291**	P	**P**	**10 29 34.6**	**-0.9**
BMAR	**Burnt Mountain**	**54.72**	**28**	P	**P**	**10 29 41.0**	**+2.3**
SCRK	**Sand Creek**	**55.39**	**32**	P	**P**	**10 29 44.4**	**+0.9**
SCRK				IAmb	IAmb	10 29 45.1	
	comp=Z,6.6nm,1.0s						
DOT	**Dot Lake**	**55.40**	**32**	P	**P**	**10 29 44.1**	**+0.6**
DOT				IAmb	IAmb	10 29 45.0	
	comp=Z,3.8nm,0.6s						
MENT	**Mentasta**	**55.67**	**33**	P	**P**	**10 29 47.0**	**+1.5**
MENT				IAmb	IAmb	10 29 47.9	
	comp=Z,7.3nm,0.6s						
L26K	**Log Cabin Wild**	**55.82**	**33**	P	**P**	**10 29 46.9**	**+0.4**
ABKAR	**Akbulak array**	**56.19**	**310**	P	**P**	**10 29 49.1**	**-0.2**
MCARA	**McCarthy VSAT**	**56.26**	**35**	P	**P**	**10 29 51.5**	**+2.0**
MCARA				IAmb	IAmb	10 30 11.1	
	comp=Z,11nm,1.2s						
EGAK	**Eagle**	**56.47**	**31**	P	**P**	**10 29 51.5**	**+0.5**
L27K	**Beaver Creek,**	**56.49**	**33**	P	**P**	**10 29 52.9**	**+1.7**
BCAR	**Beaver Creek A**	**56.51**	**33**	P	**P**	**10 29 52.9**	**+1.5**
M27K	**Edge Creek, AK**	**56.61**	**34**	P	**P**	**10 29 53.8**	**+1.7**
M27K				IAmb	IAmb	10 29 54.4	
	comp=Z,4.2nm,0.8s						
PALK	**Pallekele**	**57.43**	**255**	P	**P**	**10 29 58.3**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=144,slow=6.1,SNR=6.6						
PALK	**Pallekele**	**57.43**	**255**	P	**P**	**10 29 58.3**	**-0.1**
PALK				pmax	pmax		
	comp=Z,13nm,1.0s						
PALK	**Pallekele**	**57.43**	**255**	IAmb	IAmb	10 29 59.3	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**57.82**	**182**	P	**P**	**10 30 00.3**	**-0.5**
ASAR	**Alice Springs**	**57.82**	**182**	P	**P**	**10 30 00.7**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=17,slow=11,SNR=54						
ASAR				S	**S**	**10 37 29.6**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=20,slow=19,SNR=5.1						
ASAR	**Alice Springs**	**57.82**	**182**	P	**P**	**10 30 01.3**	**+0.5**
SANVU	**Saraoutou**	**57.84**	**144**	P	**P**	**10 29 59.7**	**-1.4**
EPYK	**Eagle Plains**	**57.95**	**28**	P	**P**	**10 30 02.3**	**+1.0**
EPYK				IAmb	IAmb	10 30 03.5	
	comp=Z,6.8nm,0.7s						
N31M	**Braeburn, Yuko**	**59.62**	**34**	P	**P**	**10 30 14.2**	**+1.5**
N31M				IAmb	IAmb	10 30 39.2	
	comp=Z,6.0nm,1.0s						
A36M	**Sachs Harbour**	**60.29**	**21**	P	**P**	**10 30 17.4**	**+0.4**
A36M				IAmb	IAmb	10 30 18.9	
	comp=Z,8.1nm,0.7s						
C36M	**Paulatuk**	**61.61**	**23**	P	**P**	**10 30 26.4**	**+0.6**
C36M				IAmb	IAmb	10 30 27.3	
	comp=Z,7.5nm,1.1s						
ARCES	**ARCESS Array B**	**64.81**	**339**	P	**P**	**10 30 46.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=57,slow=8.8,SNR=15						
ARCES	**ARCESS Array B**	**64.81**	**339**	P	**P**	**10 30 46.6**	**0.0**
ARCES				pmax	pmax		
	comp=Z,17nm,1.4s						
RES	**Resolute Bay**	**66.17**	**13**	P	**P**	**10 30 55.5**	**+0.5**
RES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
RES	**Resolute Bay**	**66.17**	**13**	P	**P**	**10 30 55.5**	**+0.5**
RES				IAmb	IAmb	10 30 56.0	
	comp=Z,4.1nm,0.5s						
STKA	**Stephens Creek**	**66.18**	**175**	P	**P**	**10 30 55.9**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=338,slow=12,SNR=3.0						
OBN	**Obninsk**	**67.45**	**322**	*eP*	**P**	**10 31 02.7**	**-0.6**
OBN				*e*		10 31 26.9	
OBN				*e**PP	**pP**	**10 32 24.7**	**+0.2**
OBN				*e**SP	**sP**	**10 33 03.0**	**-1.5**
OBN				*e*		10 33 36.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
YKA	**Yellowknife Ar**	**68.24**	**28**	P	**P**	**10 31 08.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=299,slow=6.3,SNR=18						
YKA	**Yellowknife Ar**	**68.24**	**28**	P	**P**	**10 31 07.8**	**-0.3**
FINES	**FINESS Array B**	**68.97**	**331**	P	**P**	**10 31 12.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=46,slow=8.2,SNR=7.5						
KBZ	**Khabaz**	**69.14**	**309**	P	**P**	**10 31 14.2**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=95,slow=2.4,SNR=9.2						
KIV	**Kislovodsk**	**69.17**	**310**	*eP*	**P**	**10 31 13.9**	**-0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GNI	**Garni**	**69.61**	**305**	*i* P	**P**	**10 31 17.5**	**+0.4**
GNI				pmax	pmax		
	comp=Z,16nm,0.9s						
NOA	**NORSAR Array B**	**74.77**	**336**	P	**P**	**10 31 46.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=45,slow=5.6,SNR=1.7						
BRTR	**Keskin Array B**	**77.14**	**309**	P	**P**	**10 32 00.7**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=116,slow=5.6,SNR=8.9						
RAYN	**Ar Rayn**	**77.42**	**290**	P	**P**	**10 32 02.2**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RAYN	**Ar Rayn**	**77.42**	**290**	P	**P**	**10 32 02.2**	**-0.1**
RAYN				IAmb	IAmb	10 32 02.9	
	comp=Z,4.9nm,0.7s						
NVAR	**Mina Array Bea**	**80.09**	**50**	P	**P**	**10 32 18.5**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=290,slow=6.4,SNR=3.1						
CLL	**Collm**	**81.01**	**328**	*i* P	**P**	**10 32 24.4**	**+3.5**
TXAR	**Lajitas Array**	**95.21**	**49**	P	**P**	**10 33 30.7**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=316,slow=2.5,SNR=2.9						
TXAR				pP	**pP**	**10 34 57.8**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=304,slow=5.2,SNR=4.1						

*IDC **25** 10:28:47.0±2.9, 16°.22S×173°.32W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/33, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=142.4km s-min=23.7km az=142.0*
ISC 25 10:28:55.5±3.1, 16°.4S±0°.9×173°.4W±0°.6, h66km, n12, σ0s13/5, mb3.4/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.90**	**32**	Pn	Pn	10 29 30.5	-8.9
	6.6nm,0.3s,baz=161,slow=4.1,SNR=15						
AFI				Sn	Sn	10 29 59.3	-14
	24nm,0.3s,baz=92,slow=20,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	11 17 59.0	
	baz=149,slow=76,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	11 17 59.7	
	baz=149,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	11 18 00.1	
	baz=149,slow=76,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	11 19 10.9	
	baz=157,slow=80,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	11 19 13.8	
	baz=157,slow=80,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**40.78**	**331**	T	T	11 19 14.7	
	baz=157,slow=80,SNR=3.7						
WRA	**Warramunga Arr**	**49.65**	**258**	P	**P**	**10 37 40.9**	**-0.1**
	0.1nm,0.3s,baz=97,slow=6.8,SNR=5.7						
ASAR	**Alice Springs**	**49.84**	**253**	P	**P**	**10 37 42.5**	**+0.1**
	0.9nm,0.6s,baz=88,slow=8.3,SNR=12						
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**10 41 13.8**	**0.0**
	0.5nm,0.7s,baz=247,slow=4.6,SNR=4.7						
ILAR	**Eielson Array**	**83.39**	**11**	P	**P**	**10 41 15.1**	**0.0**
	0.2nm,0.7s,baz=235,slow=6.4,SNR=5.2						
BRTR	**Keskin Array B**	**146.92**	**320**	PKPbc	**PKPab**	**10 48 32.6**	**+0.1**
	0.6nm,0.7s,baz=160,slow=3.9,SNR=3.8						

*DDA **25** 10:30:27.0±0.0, 38°.71N×43°.50E, h7km±2km, ML2.2*
*ISK **25** 10:30:27.1, 38°.73N×43°.49E, h8km, ML2.7/7*
ISC 25 10:30:27.9±0.9, 38°.74N±0°.03×43°.50E±0°.03, h18km±5km, n19, σ1s07/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**212**	PG	**Pg**	**10 30 33.1**	**+0.6**
TVAN	**Van**	**0.22**	**200**	P	**Pg**	**10 30 33.3**	**-0.1**
TVAN				*i* AML	AML	10 30 38.0	
	comp=N,1μm,0.8s						
TVAN				S	**Sg**	**10 30 38.2**	**+1.2**
TVAN				*i* AML	AML	10 30 39.0	
	comp=E,2μm,0.3s						
VMUR	**Van-Muradiye**	**0.26**	**12**	P	**Pg**	**10 30 32.9**	**-1.0**
VMUR				S	**Sg**	**10 30 37.8**	**-0.1**
VMUR				*i* AML	AML	10 30 38.0	
	comp=N,894nm,0.2s						
VMUR				*i* AML	AML	10 30 39.0	
	comp=E,1μm,0.5s						
ERCV	**ERCIS-VAN**	**0.31**	**335**	PG	**Pg**	**10 30 33.7**	**-1.0**
ERCV				SG	**Sg**	**10 30 39.0**	**-0.4**
CLDR	**Caldiran**	**0.52**	**38**	PG	**Pg**	**10 30 37.5**	**-0.9**
CLDR				SG	**Sb**	**10 30 45.9**	**0.0**
CLDR	**Caldiran**	**0.52**	**38**	P	**Pg**	**10 30 37.5**	**-0.9**
CLDR				S	**Sb**	**10 30 45.9**	**0.0**
CLDR				*i* AML	AML	10 30 46.0	
	comp=E,1μm,0.5s						
CLDR				*i* AML	AML	10 30 47.0	
	comp=N,1μm,0.4s						
GEVA	**Gevas**	**0.55**	**220**	P	**Pg**	**10 30 37.7**	**-1.2**
GEVA				*i* AML	AML	10 30 54.0	
	comp=N,77nm,0.4s						
AKDM	**Akdamar-Van**	**0.58**	**225**	PG	**Pb**	**10 30 38.6**	**-1.1**
AKDM				SG	**Sb**	**10 30 46.6**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.61**	**277**	P	**Pg**	**10 30 39.3**	**-0.8**
ADCV				S	**Sb**	**10 30 50.0**	**+1.4**
ADCV				*i* AML	AML	10 30 53.0	
	comp=E,103nm,0.3s						
ADCV				*i* AML	AML	10 30 56.0	
	comp=N,92nm,0.3s						
DYDN	**Diyadin**	**0.82**	**10**	P	**Pg**	**10 30 43.2**	**-0.7**
DYDN				S	**Sb**	**10 30 55.2**	**+0.6**
DYDN				*i* AML	AML	10 30 58.0	
	comp=N,57nm,0.8s						
DYDN				*i* AML	AML	10 31 01.0	
	comp=E,60nm,0.4s						
MLAZ	**Malazgirt-MUS**	**0.85**	**299**	PG	**Pg**	**10 30 43.6**	**-0.9**
MLAZ				SG	**Sb**	**10 30 55.9**	**+0.6**
KOTA	**Agri, Merkez-K**	**1.09**	**348**	P	**Pg**	**10 30 48.2**	**-0.9**
KOTA				S	**Sg**	**10 31 02.2**	**-1.1**
KOTA				*i* AML	AML	10 31 08.0	
	comp=N,30nm,0.4s						
KOTA				*i* AML	AML	10 31 08.0	
	comp=E,46nm,0.7s						
PERV	**Siirt/Pervari-**	**1.09**	**224**	P	**Pn**	**10 30 49.3**	**+0.8**
BLIS	**Bitlis-Merkez**	**1.14**	**254**	P	**Pg**	**10 30 48.6**	**-1.3**
GURO	**Guroymak-BITLI**	**1.17**	**261**	PN	**Pg**	**10 30 48.9**	**-1.6**
GURO				SN	**Sn**	**10 31 05.7**	**+0.6**
HAKT	**HAKKARI**	**1.19**	**172**	P	**Pg**	**10 30 49.3**	**-1.7**
IGDI	**IGDIR**	**1.21**	**21**	P	**Pb**	**10 30 49.9**	**-0.5**
IGDI				S	**Sn**	**10 31 08.5**	**+2.3**
IGDI				*i* AML	AML	10 31 11.0	
	comp=E,35nm,0.6s						
IGDI				*i* AML	AML	10 31 12.0	
	comp=N,22nm,0.3s						
MUSM	**Mu-Merkez**	**1.56**	**270**	P	**Pb**	**10 30 56.3**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.79**	**315**	PN	**Pn**	**10 30 59.2**	**+1.1**

MAN 25 10:51:35.7, 16°.73N×120°.73E, h35km, mb3.8, ML2.5, MS2.0, Luzon

WEL 25 11:05:58.3±1.1, 34°S±21°×177°W±3°0, h222km±32km, M4.2/8, mB4.7/4, ML4.5/13, MLv4.2/8, Mw(mB)3.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=123.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.07**	**211**	P	Pn	11 07 14.9	+0.8
WMGZ				S	S	11 08 15.4	+1.4
PKGZ	**Pakihiroa**	**5.28**	**213**	P	Pn	11 07 13.6	-3.2
PKGZ				S	S	11 08 19.1	+0.3
HAZ	**Te Kaha**	**5.31**	**216**	P	Pn	11 07 17.2	+0.1
HAZ				S	S	11 08 21.5	+2.0
PUZ	**Puketiti**	**5.35**	**211**	P	Pn	11 07 16.5	-1.1
PUZ				S	S	11 08 19.8	-0.6
RUGZ	**Raukumara Rang**	**5.53**	**215**	P	Pn	11 07 19.9	0.0
TWGZ	**Tauwhareparae**	**5.56**	**212**	P	Pn	11 07 20.2	-0.1
TWGZ				S	S	11 08 25.8	+0.5
CNGZ	**Carnagh Statio**	**5.72**	**209**	P	Pn	11 07 22.0	-0.2
TKGZ	**Te Karaka**	**5.83**	**211**	P	Pn	11 07 22.8	-0.9
TKGZ				S	S	11 08 32.6	+1.1
MWZ	**Matawai**	**5.89**	**214**	P	Pn	11 07 23.9	-0.6
MWZ				S	S	11 08 32.6	-0.3
URZ	**Urewera**	**6.04**	**217**	P	Pn	11 07 26.4	+0.1
URZ				S	S	11 08 36.6	+0.4
RIGZ	**Rimuhau**	**6.09**	**211**	P	Pn	11 07 27.7	+0.7
RIGZ				S	S	11 08 37.7	+0.1
SNGZ	**Shannon Statio**	**6.34**	**213**	P	Pn	11 07 31.6	+1.4
SNGZ				S	S	11 08 44.3	+1.0
RTZ	**Ruatahuna**	**6.38**	**216**	P	Pn	11 07 30.3	-0.4
RAHZ	**Arahi**	**6.57**	**213**	P	Pn	11 07 34.5	+1.4
RAHZ				S	S	11 08 48.9	+0.4
MTHZ	**Maungataniwha**	**6.63**	**215**	P	Pn	11 07 34.5	+0.6
MTHZ				S	S	11 08 50.6	+0.6
BKZ	**Black Stump Fm**	**7.04**	**215**	P	Pn	11 07 38.7	-0.5
BKZ				S	S	11 08 58.3	-1.4
KAHZ	**Kahuranaki**	**7.38**	**210**	P	Pn	11 07 44.2	+0.7
KAHZ				S	S	11 09 07.8	+0.3

*NAO **25** 11:18:40.9±2.1, 79°.82N×3°.25E, ML2.9*
*BER **25** 11:18:43.3±3.2, 79°.58N×3°.20E, h10km, ML2.3, ML2.0(DNK), Confirmed Earthquake*
*DNK **25** 11:18:44.6±2.1, 79°.62N×3°.43E, h36km±28km, ML2.0*
*IEPN **25** 11:18:48.0, 79°.51N×4°.67E, h10km*
ISC 25 11:18:40.6±1.2, 79°.56N±0°.07×3°.19E±0°.05, h12km, n30, σ2s67/53, 1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.76**	**107**	Pn	**Pn**	**11 19 11.9**	**+1.1**
KBS				Sn	**Sn**	**11 19 31.3**	**-1.9**
KBS	**Kingsbay**	**1.76**	**107**	*i* P	**Pn**	**11 19 11.8**	**+0.9**
KBS				*i* S	**Sn**	**11 19 30.7**	**-2.4**
KBS	**Kingsbay**	**1.76**	**107**	*eP*	**Pn**	**11 19 12.0**	**+1.1**
KBS				*eS*	**Sn**	**11 19 31.1**	**-2.0**
KBS				IAML		11 19 32.0	
	comp=Z,78nm,0.1s						
KBS	**Kingsbay**	**1.76**	**107**	*eP*	**Pn**	**11 19 11.9**	**+1.1**
KBS				*eS*	**Sn**	**11 19 31.2**	**-2.0**
BRBA	**Barentsburg A**	**2.63**	**120**	Pn	**Pn**	**11 19 26.7**	**+4.0**
BRBA				Sn	**Sn**	**11 19 54.8**	**+0.3**
BRBA	**Barentsburg A**	**2.63**	**120**	Pn	**Pn**	**11 19 26.7**	**+4.0**
BRBA				Sn	**Sn**	**11 19 54.8**	**+0.3**
SPA0	**Spitsbergen Ar**	**2.91**	**112**	Pn	**Pn**	**11 19 28.6**	**+2.0**
SPA0				Sn	**Sn**	**11 20 00.2**	**-1.2**
	baz=325,slow=16						
SPA0	**Spitsbergen Ar**	**2.91**	**112**	Pn	**Pn**	**11 19 28.6**	**+2.0**
SPA0				Sn	**Sn**	**11 20 00.2**	**-1.2**
	baz=325,slow=16						
SPA0	**Spitsbergen Ar**	**2.91**	**112**	*i* P	**Pn**	**11 19 28.6**	**+2.0**
SPA0				*i* S	**Sn**	**11 20

n106,σ0°76/112,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.61**	**4**		**Pn**	**11 34 50.7**	**-0.8**
SDPT					**Sn**	**11 34 59.7**	**-0.5**
SDPT	**Sand Point** comp=N,2μm,0.4s	**0.61**	**4**	IAML		11 34 59.8	
SDPT				IAML		11 35 02.0	
	comp=E,1μm,0.5s						
SDPT	**Sand Point** baz=193	**0.61**	**4**	P	**Pn**	**11 34 50.7**	**-0.8**
SDPT				S	**Sn**	**11 34 59.7**	**-0.5**
	baz=193						
PVV	**Pavlof Volcano**	**0.96**	**312**		**Pn**	**11 34 55.5**	**-0.8**
PS4A	**Pavlof South-4**	**0.97**	**309**		**Pn**	**11 34 55.5**	**-0.9**
HAG	**Hague Volcano**	**0.97**	**307**		**Pn**	**11 34 55.7**	**-0.8**
HAG					**Sn**	**11 35 08.6**	**-0.5**
PN6	**Pavlof North-6**	**1.06**	**313**		**Pn**	**11 34 57.4**	**-0.4**
PN6					**Sn**	**11 35 11.8**	**+0.4**
DT1	**Dutton Round H**	**1.06**	**291**		**Pn**	**11 34 56.5**	**-1.3**
BALA	**Baldy Mountain**	**1.37**	**290**		**Pn**	**11 35 02.5**	**+0.5**
VNFG	**Fog Glacier, M**	**1.65**	**20**		**Pn**	**11 35 07.5**	**+1.6**
VNFG	**Fog Glacier, M** baz=204	**1.65**	**20**	P	**Pn**	**11 35 07.5**	**+1.6**
FALS	**False Pass**	**1.67**	**275**		**Pn**	**11 35 04.9**	**-1.0**
FALS	**False Pass**	**1.67**	**275**		**Sn**	**11 35 25.9**	**-0.2**
FALS	**False Pass** baz=91	**1.67**	**275**	P	**Pn**	**11 35 05.6**	**-0.3**
FALS				S	**Sn**	**11 35 25.9**	**-0.2**
	baz=91						
VNHG	**Veniaminof 1**	**1.68**	**27**		**Pn**	**11 35 07.8**	**+1.5**
ISNN	**Isanotski Nort**	**1.87**	**274**		**Pn**	**11 35 09.5**	**+0.6**
CHGN	**Chignik**	**1.98**	**37**		**Pn**	**11 35 11.1**	**+0.8**
CHGN				IAML		11 35 42.4	
	comp=E,330nm,0.1s						
CHGN	**Chignik** baz=222	**1.98**	**37**	P	**Pn**	**11 35 12.0**	**+1.7**
SSLN	**Shishaldin Nor**	**2.00**	**273**		**Pn**	**11 35 11.4**	**+0.8**
WESE	**West Dahl East**	**2.36**	**265**		**Pn**	**11 35 16.6**	**+1.0**
CHIR	**Chirikof Islan**	**3.02**	**67**		**Pn**	**11 35 25.4**	**+0.8**
CHIR	**Chirikof Islan** comp=E,118nm,2.4s	**3.02**	**67**	IAML		11 36 18.7	
CHIR				IAML		11 36 42.7	
	comp=N,94nm,1.9s						
CHIR	**Chirikof Islan** baz=252	**3.02**	**67**	P	**Pn**	**11 35 25.4**	**+0.8**
AKSA	**Akutan Strait**	**3.07**	**261**		**Pn**	**11 35 26.2**	**+1.0**
AKSA					**Sn**	**11 36 01.4**	**+0.7**
AKSA	**Akutan Strait**	**3.07**	**261**		**Pn**	**11 35 26.3**	**+1.0**
AKBBA	**Akutan Broad B**	**3.21**	**261**		**Pn**	**11 35 27.8**	**+0.6**
ZRO	**Akutan Zero**	**3.24**	**261**		**Pn**	**11 35 28.2**	**+0.6**
UNV	**Unalaska Valle**	**3.60**	**258**		**Pn**	**11 35 32.7**	**+0.1**
UNV					**Sn**	**11 36 13.4**	**-0.4**
UNV	**Unalaska Valle** baz=72	**3.60**	**258**	P	**Pn**	**11 35 32.7**	**+0.1**
UNV				S	**Sn**	**11 36 13.4**	**-0.4**
	baz=72						
MTBL	**Makushin Table**	**3.67**	**260**		**Pn**	**11 35 34.4**	**+0.8**
MSW	**Makushin Switc**	**3.74**	**260**		**Pn**	**11 35 34.6**	**+0.1**
MSW					**Sn**	**11 36 17.9**	**+0.6**
MREP	**Makushin Rep't**	**3.75**	**258**		**Pn**	**11 35 35.2**	**+0.5**
PLK1	**Peulik 1**	**3.78**	**34**		**Pn**	**11 35 36.8**	**+1.9**
SII	**Sitkinak Islan**	**4.04**	**61**	Pn	**Pn**	**11 35 39.0**	**+0.4**
SII				IAML		11 37 04.5	
	comp=E,82nm,2.3s						
OKTU	**Okmok Mt. Tuli**	**4.62**	**256**		**Pn**	**11 35 47.0**	**+0.4**
OHAK	**Old Harbor**	**4.78**	**56**		**Pn**	**11 35 48.5**	**-0.2**
OHAK	**Old Harbor** comp=E,30nm,3.6s	**4.78**	**56**	IAML		11 36 55.8	
OHAK	**Old Harbor** baz=243	**4.78**	**56**	P	**Pn**	**11 35 48.5**	**-0.2**
KDAK	**Kodiak Island**	**5.39**	**52**	Pn	**Pn**	**11 35 57.0**	**0.0**
KDAK	**Kodiak Island** baz=240	**5.39**	**52**	P	**Pn**	**11 35 56.8**	**-0.3**
P18K	**Big Mountain,**	**5.49**	**30**		**Pn**	**11 35 59.1**	**+0.5**
P18K	**Big Mountain,** baz=215	**5.49**	**30**	P	**Pn**	**11 35 59.1**	**+0.5**
Q19K	**Cape Douglas,**	**5.66**	**39**	Pn	**Pn**	**11 36 00.5**	**-0.3**
O19K	**Port Alsworth**	**6.42**	**29**		**Pn**	**11 36 12.0**	**+0.7**
N19K	**Bonanza Creek**	**6.90**	**26**		**Pn**	**11 36 18.5**	**+0.5**
N19K	**Bonanza Creek** baz=212	**6.90**	**26**	P	**Pn**	**11 36 18.5**	**+0.5**
SVW2	**Sparrevohn**	**6.90**	**20**	Pn	**Pn**	**11 36 18.6**	**+0.7**
CNPM	**China Poot**	**6.98**	**43**		**Pn**	**11 36 19.4**	**+0.4**
RSO	**Redoubt South**	**7.10**	**33**	Pn	**Pn**	**11 36 21.7**	**+0.9**
BRLK	**Bradley Lake**	**7.26**	**42**	Pn	**Pn**	**11 36 22.7**	**-0.2**
BRSE	**Bradley Lake S**	**7.31**	**43**		**Pn**	**11 36 24.2**	**+0.7**
BRSE	**Bradley Lake S** baz=232	**7.31**	**43**	P	**Pn**	**11 36 24.2**	**+0.7**
SPU	**Mount Spurr**	**7.88**	**31**	Pn	**Pn**	**11 36 31.9**	**+0.6**
M19K	**Big River Lodg**	**7.88**	**22**		**Pn**	**11 36 32.3**	**+1.1**
M19K	**Big River Lodg** baz=208	**7.88**	**22**	P	**Pn**	**11 36 32.3**	**+1.1**
SLKM	**Skilak Lake**	**8.00**	**40**		**Pn**	**11 36 33.9**	**+0.9**
L19K	**White Mountain**	**8.04**	**19**		**Pn**	**11 36 34.0**	**+0.6**
L19K	**White Mountain** baz=205	**8.04**	**19**	P	**Pn**	**11 36 34.0**	**+0.6**
SEW	**Seward**	**8.04**	**44**		**Pn**	**11 36 34.3**	**+0.8**
SEW	**Seward** baz=234	**8.04**	**44**	P	**Pn**	**11 36 34.3**	**+0.8**
TT01	**Tatalina**	**8.52**	**14**		**Pn**	**11 36 40.2**	**+0.2**
TTA	**Tatalina**	**8.54**	**14**	Pn	**Pn**	**11 36 40.6**	**+0.1**
PWL	**Port Wells**	**8.94**	**42**		**Pn**	**11 36 45.9**	**0.0**
PWL	**Port Wells** baz=233	**8.94**	**42**	P	**Pn**	**11 36 45.9**	**0.0**
PPLA	**Purkeypile**	**9.25**	**24**	Pn	**Pn**	**11 36 51.0**	**+0.8**
KNK	**Knik Glacier**	**9.25**	**39**		**Pn**	**11 36 49.9**	**-0.2**
KNK	**Knik Glacier** baz=230	**9.25**	**39**	P	**Pn**	**11 36 49.9**	**-0.2**
K20K	**Telida**	**9.26**	**18**	Pn	**Pn**	**11 36 50.7**	**+0.5**
SML	**Sawmill**	**9.56**	**37**		**Pn**	**11 36 53.8**	**-0.5**
SML	**Sawmill** baz=228	**9.56**	**37**	P	**Pn**	**11 36 53.8**	**-0.5**
FID	**Port Fidalgo**	**9.62**	**46**		**Pn**	**11 36 54.3**	**-0.9**
GSCK	**Great Sitkin C**	**9.72**	**260**		**Pn**	**11 36 55.9**	**-0.7**
CAST	**Castle Rocks**	**9.72**	**23**	Pn	**Pn**	**11 36 56.3**	**-0.2**
JPK	**Jack Peak**	**9.74**	**44**		**Pn**	**11 36 56.5**	**-0.4**
SCM	**Sheep Creek Mo**	**9.94**	**39**		**Pn**	**11 36 58.9**	**-0.6**
SCM	**Sheep Creek Mo** baz=231	**9.94**	**39**	P	**Pn**	**11 36 58.9**	**-0.6**
J20K	**Nowinta River**	**10.01**	**16**		**Pn**	**11 37 00.1**	**-0.3**
J20K	**Nowinta River** baz=202	**10.01**	**16**	P	**Pn**	**11 37 00.1**	**-0.3**
ADK	**Adak**	**10.07**	**260**		**Pn**	**11 37 00.5**	**-0.8**
ANM	**Nome**	**10.15**	**348**	Pn	**Pn**	**11 37 02.6**	**+0.3**
KLU	**Klutina**	**10.26**	**43**	Pn	**Pn**	**11 37 03.7**	**-0.3**
M24K	**Tolsona, Glenn**	**10.53**	**40**	Pn	**Pn**	**11 37 07.5**	**-0.2**
RND	**Reindeer**	**10.55**	**30**	Pn	**Pn**	**11 37 08.5**	**+0.5**
DHY	**Denali Highway**	**10.76**	**34**	Pn	**Pn**	**11 37 10.2**	**-0.6**
WAX	**Waxell Ridge**	**11.07**	**52**	Pn	**Pn**	**11 37 15.2**	**+0.2**
GLB	**Gilahina Butte**	**11.09**	**46**	Pn	**Pn**	**11 37 16.2**	**+0.9**
I21K	**Tanana**	**11.30**	**19**	Pn	**Pn**	**11 37 16.8**	**-1.3**
PAX	**Paxson**	**11.33**	**37**	Pn	**Pn**	**11 37 18.3**	**-0.2**
MCARA	**McCarthy VSAT**	**11.40**	**47**	Pn	**Pn**	**11 37 20.0**	**+0.6**
NEA2	**Nenana**	**11.44**	**26**	Pn	**Pn**	**11 37 21.0**	**+1.0**
TNA	**Tin City**	**11.45**	**344**	Pn	**Pn**	**11 37 21.1**	**+1.0**
YAH	**Yahtse**	**11.54**	**53**	Pn	**Pn**	**11 37 21.9**	**+0.3**
H21K	**Melozitna Rive**	**11.60**	**16**	Pn	**Pn**	**11 37 22.2**	**0.0**
GRNC	**Granite Creek**	**11.68**	**51**	Pn	**Pn**	**11 37 23.3**	**-0.2**
IMAR	**Indian Mountai**	**11.76**	**14**	Pn	**Pn**	**11 37 23.6**	**-0.8**
I23K	**Minto, Yukon-K**	**11.82**	**24**	Pn	**Pn**	**11 37 24.3**	**-0.9**
TABL	**Table Mountain**	**11.85**	**53**	Pn	**Pn**	**11 37 26.3**	**+0.5**
RIDG	**Independent Ri**	**12.05**	**35**	Pn	**Pn**	**11 37 29.7**	**+1.3**
SCRK	**Sand Creek**	**12.49**	**36**	Pn	**Pn**	**11 37 34.9**	**+0.5**
BCAR	**Beaver Creek A**	**12.75**	**42**	Pn	**Pn**	**11 37 37.7**	**-0.2**
H24K	**Noodor Dome**	**12.75**	**24**	Pn	**Pn**	**11 37 37.9**	**0.0**
EGAK	**Eagle**	**13.95**	**36**	Pn	**Pn**	**11 37 53.2**	**-1.0**
BMAR	**Burnt Mountain**	**14.81**	**25**	Pn	**Pn**	**11 38 05.9**	**0.0**
WRAK	**Wrangell Islan** comp=Z,16nm,1.1s	**15.99**	**72**	IAmb	IAmb	11 38 22.7	
WRAK				Pn	**Pn**	**11 38 22.8**	**+1.5**
EPYK	**Eagle Plains**	**16.38**	**35**	Pn	**Pn**	**11 38 26.8**	**+0.4**
EPYK				IAmb	IAmb	11 38 42.3	
	comp=Z,7.6nm,1.4s						
C36M	**Paulatuk**	**22.01**	**34**	P	**P**	**11 39 28.0**	**-2.1**
C36M				IAmb	IAmb	11 39 32.5	
	comp=Z,0.7nm,1.1s						

*SOME **25** 11:57:18.8,43.°32N×82.°43E,h10km*
*NNC **25** 11:57:20.3±0.8,43.°40N×82.°42E,h0km,mb3.6,mpv3.4,*
Error ellipse: s-maj=7.4km s-min=3.3km az=144.0

ISC 25 11:57:18.9±1.6,43.°34N±0.°07×82.°44E±0.°06,h10km,n45,
σ2.°19/68,5C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 14nm,0.1s	**1.53**	**275**	*e*P	**Pg**	**11 57 48.6**	**+0.4**
KTMS				*e*S	**Sg**	**11 58 10.2**	**+2.2**
	111nm,0.2s						
KTMS	**Ketmen** 29nm,0.2s	**1.53**	**275**	P	**Pg**	**11 57 48.4**	**+0.2**
KTMS				S	**Sg**	**11 58 10.7**	**+2.8**
	111nm,0.2s						
PDGK	**Podgornoye** 12nm,0.4s	**2.15**	**271**	⇑Pn	**Pb**	**11 57 57.7**	**-0.3**
PDGK				⇑Lg	Lg	11 58 29.4	
	188nm,0.8s						
DJR	**Jarkent** 16nm,0.4s	**2.16**	**298**	*e*P	**Pb**	**11 57 59.0**	**+0.9**
DJR				*e*S	**Sg**	**11 58 28.0**	**-0.3**
	89nm,0.3s						
DJR	**Jarkent** 16nm,0.4s	**2.16**	**298**	Pg	**Pb**	**11 57 58.8**	**+0.7**
DJR				Lg	Lg	11 58 28.9	
	58nm,0.3s						
UZB	**Uzynbulak** 4.4nm,0.2s	**2.50**	**267**	*e*P	**Pb**	**11 58 04.2**	**+0.1**
UZB				*e*S	**Sg**	**11 58 36.9**	**-2.4**
	75nm,0.4s						
UZB	**Uzynbulak** 4.4nm,0.2s	**2.50**	**267**	Pg	**Pb**	**11 58 04.2**	**+0.1**
UZB				Lg	Lg	11 58 36.9	
	75nm,0.4s						
KPKS	**Kokpek** 3.2nm,0.1s	**2.74**	**274**	*e*P	**Pb**	**11 58 09.2**	**+1.2**
KPKS				*e*S	**Sg**	**11 58 45.9**	**-1.0**
	125nm,0.5s						
KAPS	**Kapalarasan** 2.4nm,0.2s	**2.95**	**312**	*e*P	**Pb**	**11 58 13.2**	**+1.6**
KAPS				*e*S	**Sg**	**11 58 52.7**	**-0.9**
	34nm,0.3s						
KAPS	**Kapalarasan** 2.4nm,0.2s	**2.95**	**312**	Pg	**Pb**	**11 58 13.2**	**+1.6**
KAPS				Lg	Lg	11 58 52.7	
	34nm,0.3s						
SATY	**Saty** 3.0nm,0.1s	**2.96**	**266**	*e*P	**Pg**	**11 58 13.9**	**-1.7**
SATY				*e*S	**Sg**	**11 58 53.8**	**-0.3**
	33nm,0.3s						
SATY	**Saty** 3.0nm,0.1s	**2.96**	**266**	Pg	**Pg**	**11 58 14.0**	**-1.7**
SATY				Lg	Lg	11 58 53.7	
	33nm,0.3s						
BLB	**Baldybastay** 5.5nm,0.1s	**2.97**	**286**	*e*P	**Pb**	**11 58 12.9**	**+0.9**
BLB				*e*S	**Sg**	**11 58 52.0**	**-2.4**
	38nm,0.5s						
BLB	**Baldybastay** 5.5nm,0.1s	**2.97**	**286**	Pg	**Pb**	**11 58 12.9**	**+0.9**
BLB				Lg	Lg	11 58 52.7	
	38nm,0.5s						
KURS	**Kuram** 3.4nm,0.4s	**3.12**	**274**	*e*P	**Pg**	**11 58 16.6**	**-2.0**
KURS				*e*S	**Sg**	**11 58 58.5**	**-0.4**
	9.1nm,0.6s						
KURS	**Kuram** 3.4nm,0.4s	**3.12**	**274**	Pg	**Pg**	**11 58 16.6**	**-2.0**
KURS				Lg	Lg	11 58 58.5	
	9.1nm,0.6s						
TDK	**Taldyqorghan** 42nm,0.2s	**3.35**	**301**	*e*P	**Pb**	**11 58 20.4**	**+2.1**
TDK				*e*S	**Sg**	**11 59 04.8**	**-1.6**
	61nm,0.6s						
TDK	**Taldyqorghan** 42nm,0.2s	**3.35**	**301**	Pg	**Pb**	**11 58 20.4**	**+2.1**
TDK				Lg	Lg	11 59 04.8	
	61nm,0.6s						
MK31	**Makanchi Array** 0.1nm,0.2s,baz=177,slow=16,SNR=42	**3.46**	**358**	Pn	**Pn**	**11 58 14.8**	**+2.0**
MK31				⇓Pg	**Pb**	**11 58 21.8**	**+1.6**
	baz=182,slow=18,SNR=29						
MK31				Lg	Lg	11 59 06.2	
	7.3nm,0.3s,baz=168,slow=30,SNR=5.2						
MAKZ	**Makanchi** 0.4nm,0.3s	**3.49**	**355**	⇓Pg	**Pn**	**11 58 14.9**	**+1.7**
MAKZ				⇓Pg	**Pg**	**11 58 23.7**	**-2.0**
	2.2nm,0.4s						
MAKZ				⇑Lg	Lg	11 59 08.1	
	8.0nm,0.5s						
KOTS	**Kotyrbulak** 14nm,0.5s	**3.89**	**270**	*e*P	**Pg**	**11 58 31.7**	**-1.7**
KOTS				*e*S	**Sg**	**11 59 24.5**	**+0.6**
	28nm,0.5s						
KOTS	**Kotyrbulak** 14nm,0.5s	**3.89**	**270**	Pg	**Pg**	**11 58 31.7**	**-1.7**
KOTS				Lg	Lg	11 59 24.5	
	28nm,0.5s						
MDOK	**Medeo** 3.0nm,0.4s	**3.94**	**269**	*e*P	**Pg**	**11 58 32.3**	**-2.1**
MDOK				*e*S	**Sg**	**11 59 25.2**	**-0.2**
	14nm,0.6s						
MDOK	**Medeo** 3.0nm,0.4s	**3.94**	**269**	Pg	**Pg**	**11 58 32.3**	**-2.1**
MDOK				Lg	Lg	11 59 25.2	
	14nm,0.6s						
CHKK	**Chushkaly** 2.3nm,0.1s	**3.99**	**279**	*e*P	**Pg**	**11 58 33.0**	**-2.4**
CHKK				*e*S	**Sg**	**11 59 26.4**	**-0.7**
	18nm,0.4s						
CHKK	**Chushkaly** 2.3nm,0.1s	**3.99**	**279**	Pg	**Pg**	**11 58 32.9**	**-2.4**
CHKK				Lg	Lg	11 59 26.4	
	18nm,0.4s						
TNSS	**Tian-Shan** 1.4nm,0.2s	**4.03**	**268**	*e*P	**Pg**	**11 58 33.7**	**-2.4**
TNSS				*e*S	**Sg**	**11 59 27.5**	**-0.7**
	4.7nm,0.5s						
TNSS	**Tian-Shan** 1.4nm,0.2s	**4.03**	**268**	Pg	**Pg**	**11 58 33.7**	**-2.4**
TNSS				Lg	Lg	11 59 27.5	
	4.7nm,0.5s						
KTBS	**Karatobe** 0.7nm,0.2s	**4.20**	**277**	*e*P	**Pg**	**11 58 36.3**	**-3.1**
KTBS				*e*S	**Sg**	**11 59 32.4**	**-1.4**
	33nm,0.5s						
KTBS	**Karatobe** 0.7nm,0.2s	**4.20**	**277**	Pg	**Pg**	**11 58 36.3**	**-3.1**
KTBS				Lg	Lg	11 59 32.4	
	33nm,0.5s						
MTBS	**Maitube** 2.8nm,0.4s	**4.40**	**269**	*e*P	**Pg**	**11 58 40.2**	**-2.9**
MTBS				*e*S	**Sg**	**11 59 38.7**	**-1.3**
	19nm,0.5s						
MTBS	**Maitube** 2.8nm,0.4s	**4.40**	**269**	Pg	**Pg**	**11 58 40.2**	**-2.9**
MTBS				Lg	Lg	11 59 38.7	
	19nm,0.5s						
ZSN	**Zaisan** 2.2nm,0.2s	**4.46**	**22**	*e*P	**Pb**	**11 58 39.2**	**+2.0**
ZSN				*e*S	**Sg**	**11 59 37.0**	**-4.9**
	32nm,0.5s						
ZSN	**Zaisan** 2.2nm,0.2s	**4.46**	**22**	Pg	**Pb**	**11 58 39.2**	**+2.0**
ZSN				Lg	Lg	11 59 37.0	
	32nm,0.5s						
KUU	**Kurty** 1.6nm,0.1s	**4.46**	**279**	*e*P	**Pb**	**11 58 40.6**	**+3.2**
KUU				*e*S	**Sg**	**11 59 39.7**	**-2.5**
	19nm,0.7s						
KUU	**Kurty** 1.6nm,0.1s	**4.46**	**279**	Pg	**Pb**	**11 58 40.6**	**+3.2**
KUU				Lg	Lg	11 59 39.7	
	19nm,0.7s						
KST	**Kastek** 3.0nm,0.3s	**4.75**	**269**	*e*P	**Pg**	**11 58 47.2**	**-2.6**
KST				*e*S	**Sg**	**11 59 51.2**	**0.0**
	9.6nm,0.5s						
KST	**Kastek** 3.0nm,0.3s	**4.75**	**269**	Pg	**Pg**	**11 58 47.2**	**-2.6**
KST				Lg	Lg	11 59 51.2	
	9.6nm,0.5s						
DGS	**Degeres** 2.5nm,0.4s	**4.87**	**271**	*e*P	**Pg**	**11 58 48.3**	**-3.8**
DGS				*e*S	**Sg**	**11 59 52.9**	**-2.3**
	16nm,0.4s						
DGS	**Degeres** 2.5nm,0.4s	**4.87**	**271**	Pg	**Pg**	**11 58 48.3**	**-3.8**
DGS				Lg	Lg	11 59 52.9	
	16nm,0.4s						
KRBS	**Karabastau** 1.0nm,0.4s	**4.93**	**277**	*e*P	**Pb**	**11 58 47.5**	**+2.1**
KRBS				*e*S	**Sg**	**11 59 51.6**	**-5.6**
	8.1nm,0.6s						
KRBS	**Karabastau** 1.0nm,0.4s	**4.93**	**277**	Pg	**Pb**	**11 58 47.5**	**+2.1**
KRBS				Lg	Lg	11 59 51.6	
	8.1nm,0.6s						
TKM2	**Tokmak 2** 2.8nm,0.9s	**5.03**	**268**	⇓Pg	**Pg**	**11 58 52.9**	**-2.2**
TKM2				⇑Lg	Lg	11 59 59.5	
	12nm,0.7s						
KURBB	**Kurchatov Arra** 0.7nm,0.3s	**7.76**	**341**	⇓Pn	**Pn**	**11 59 12.4**	**+0.5**
KURBB				⇓Sn	**Sn**	**12 00 41.4**	**+1.6**
	3.8nm,0.6s						
KURBB				⇑Lg	Lg	12 01 24.0	
	11nm,0.7s						
KK02	**Karatay Array** 1.4nm,0.7s	**8.71**	**273**	Lg	Lg	12 01 57.0	

*IDC **25** 12:05:32.8±1.2,36.°68N×3.°36W,h0km,mb3.4/5,mb1 3.5/7,*
mb1mx3.3/69,mbtmp3.4/7,ML3.7/2,MS2.8/3,Ms1 2.8/3,
ms1mx2.5/49,Error ellipse: s-maj=30.2km s-min=17.0km
az=86.0
*NEIC **25** 12:05:33.9±1.2,36.°6N±0.°1×3.°41W±0.°07,h10km±2km,*
mb_Lg3.9(MDD),Error ellipse: s-maj=19.0km
s-min=10.2km az=180.0
*CNRM **25** 12:05:34.6,36.°68N×3.°60W,h0km,ml3.7*
*CRAAG **25** 12:05:34.9,36.°62N×3.°55W,Ml4.0*
*SFS **25** 12:05:35.0,36.°60N×3.°50W,ML4.0,MOTRIL*
(GRANADA)
*MDD **25** 12:05:35.3±0.2,36.°65N×3.°53W,h0km,mb_Lg4.0/35,*
Error ellipse: s-maj=1.8km s-min=1.4km az=170.0
*INMG **25** 12:05:36.4±1.8,36.°68N×3.°57W,h8km±3km,MD3.7,ML3.8,*
Error ellipse: s-maj=2.8km s-min=2.6km az=106.0
*LDG **25** 12:05:36.0±0.2,36.°64N×3.°50W,h2km,Ml3.7/23,Error*
ellipse: s-maj=4.1km s-min=3.2km az=73.0
*IGIL **25** 12:05:37.0,36.°65N×3.°53W,h15km,ML3.7*

ISC 25 12:05:34.3±0.9,36.°63N±0.°02×3.°46W±0.°02,h16km±6km,
n162,σ2.°40/269,mb3.6/5,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.28**	**330**	Pg	**Pg**	**12 05 40.8**	**+0.5**
ELGU				Sg	**Sg**	**12 05 43.8**	**-0.7**
ELGU				*i* Vmb_Lg		12 05 44.6	
EBER	**Berja**	**0.53**	**59**	Pg	**Pn**	**12 05 46.7**	**-0.6**
EBER				Sg	**Sb**	**12 05 53.6**	**+0.9**
EBER				*i* Vmb_Lg		12 05 56.6	
EQUE	**Quentar**	**0.57**	**1**	Pg	**Pg**	**12 05 46.2**	**+0.4**
EQUE				Sg	**Sg**	**12 05 53.3**	**-0.1**
EQUE				*i* Vmb_Lg		12 05 56.5	
EGOR	**Sierra Gorda,**	**0.71**	**313**	Pg	**Pg**	**12 05 47.4**	**-0.9**
EGOR				Sg	**Sg**	**12 05 56.9**	**-0.8**
EGOR				*i* Vmb_Lg		12 06 01.2	
EALB	**Alboran**	**0.77**	**154**	Pg	**Pn**	**12 05 51.6**	**+1.2**
EALB				Sg	**Sn**	**12 06 02.1**	**+0.5**
EALB				*i* Vmb_Lg		12 06 03.5	
EMAL	**Malaga-Limoner**	**0.79**	**280**	P	**Pg**	**12 05 47.9**	**-1.8**
EMAL				S	**Sg**	**12 05 56.0**	**-4.3**
ENIJ	**Nijar**	**1.06**	**71**	Pg	**Pn**	**12 05 54.8**	**+0.3**
ENIJ				Sg	**Sn**	**12 06 10.2**	**+1.3**
ENIJ				*i* Vmb_Lg		12 06 13.6	
EMIJ	**Mijas**	**1.06**	**267**	Pg	**Pb**	**12 05 51.9**	**-2.4**
EMIJ				Sg	**Sg**	**12 06 03.3**	**-5.5**
EMIJ				*i* Vmb_Lg		12 06 11.1	
EMEL	**Melilla**	**1.39**	**163**	Pg	**Pg**	**12 06 00.6**	**-0.4**
EMEL				Sg	**Sg**	**12 06 17.6**	**-1.4**
EMEL				*i* Vmb_Lg		12 06 18.9	
GOG	**Mont Gurugu**	**1.45**	**165**	P	**Pg**	**12 06 01.0**	**-1.2**
PALE	**Palemas**	**1.46**	**196**	P	**Pg**	**12 06 02.0**	**-0.4**
PALE	**Palemas**	**1.46**	**196**	P	**Pb**	**12 06 00.9**	**-0.2**
LIJA	**Lijar**	**1.59**	**281**	P	**Pg**	**12 06 05.3**	**+0.5**
LIJA				S	**Sb**	**12 06 25.1**	**+1.9**
PVLZ	**Peæn de**	**1.61**	**206**	P	**Pn**	**12 06 02.4**	**+0.4**
PVLZ				S	**Sn**	**12 06 22.0**	**-0.3**
EJIF	**Jimena Fronter**	**1.63**	**264**	Pn	**Pn**	**12 06 00.9**	**-1.5**
ECEU	**Ceuta**	**1.72**	**245**	Pg	**Pn**	**12 06 03.3**	**-0.2**
ECEU				Sg	**Sn**	**12 06 21.0**	**-4.1**
ECEU				*i* Vmb_Lg		12 06 29.8	
TLOR	**Lorca, Murcia**	**1.74**	**53**	Pn	**Pb**	**12 06 06.5**	**+0.6**
TLOR				Sn	**Sg**	**12 06 30.2**	**-0.3**
ALJ	**Aljibe**	**1.77**	**267**	P	**Pg**	**12 06 07.9**	**-0.4**
ALJ				S	**Sg**	**12 06 31.2**	**-0.1**
EADA	**Adamuz**	**1.78**	**330**	Pn	**Pn**	**12 06 05.8**	**+1.4**
EADA				Pg	**Pb**	**12 06 08.0**	**+1.4**
EADA				Sn	**Sn**	**12 06 27.2**	**+0.5**
EADA				Sg	**Sb**	**12 06 29.8**	**+1.3**
EADA				*i* Vmb_Lg		12 06 33.5	
SMIR	**Smir Dam**	**1.82**	**239**	P	**Pn**	**12 06 03.3**	**-1.6**
EZAR	**Zarzadilla de**	**1.88**	**48**	Pn	**Pb**	**12 06 07.6**	**-0.6**
EZAR				Sn	**Sb**	**12 06 32.0**	**+0.5**
ESPR	**Espera**	**1.94**	**278**	Pn	**Pb**	**12 06 09.0**	**-0.3**
ESPR				Sn	**Sn**	**12 06 32.3**	**+1.7**
ESPR				*i* Vmb_Lg		12 06 45.5	
TAF	**Taforalt**	**2.00**	**155**	P	**Pg**	**12 06 11.0**	**-1.7**
TAF	**Taforalt**	**2.00**	**155**	P	**Pb**	**12 06 09.2**	**-1.1**
CNIL	**Conil**	**2.11**	**264**	P	**Pb**	**12 06 13.2**	**+1.0**
CNIL				S	**Sg**	**12 06 43.8**	**+1.5**
ECAB	**El Cabril**	**2.13**	**313**	Pn	**Pn**	**12 06 10.3**	**+1.1**
ECAB				Pg	**Pb**	**12 06 13.1**	**+0.6**
ECAB				Sn	**Sn**	**12 06 36.2**	**+0.9**
ECAB				*i* Vmb_Lg		12 06 41.6	
OLHC	**Oulhaca**	**2.15**	**129**	P	**Pn**	**12 06 09.9**	**+0.4**
CART	**Cartagena**	**2.18**	**63**	P	**Pn**	**12 06 09.9**	**0.0**
CART				S	**Sn**	**12 06 22.7**	**-14**
CART	**Cartagena**	**2.18**	**63**	Pn	**Pn**	**12 06 09.8**	**-0.1**
CART	**Cartagena**	**2.18**	**63**	P	**Pn**	**12 06 09.9**	**0.0**
JBK	**JBK**	**2.40**	**162**	P	**Pb**	**12 06 14.7**	**-

ECHE			*i* Vmb_Lg			12 07 30.2
PBDV	**Barranco-do-Ve**	**3.64**	**281**	*e*Pn	**Pn**	**12 06 30.7 +0.7**
PBDV				*e*Sn	**Sn**	**12 07 10.8 -1.8**
PBDV				A	A	12 07 43.2
	75nm,0.5s					
UCM	**Universidad Co**	**3.68**	**3**	P	**Pn**	**12 06 32.2 +1.7**
UCM				S	**Sn**	**12 07 12.1 -1.4**
TDRA	**Tendrara**	**3.77**	**161**	P	**Pn**	**12 06 34.7 +2.8**
PBEJ	**Beja**	**3.78**	**293**	*e*Pn	**Pn**	**12 06 32.9 +1.0**
PBEJ				*e*Sn	**Sn**	**12 07 14.7 -1.4**
PBEJ				A	A	12 07 41.2
	108nm,0.5s					
PCVE	**Castro Verde**	**3.80**	**287**	*e*Pn	**Pn**	**12 06 32.9 +0.8**
PCVE				*e*Sn	**Sn**	**12 07 15.1 -1.3**
PCVE				*e*Sg	**Sg**	**12 07 37.3 +1.0**
PCVE				A	A	12 07 45.8
	118nm,0.5s					
CZD	**Col de Zad**	**3.82**	**200**	P	**Pn**	**12 06 35.2 +2.5**
CZD	**Col de Zad**	**3.82**	**200**	P	**Pn**	**12 06 35.1 +2.5**
MD31	**MD31**	**3.90**	**196**	P	**Pn**	**12 06 36.0 +2.3**
MDT	**Midelt**	**3.92**	**194**	Pn	**Pn**	**12 06 36.6 +2.6**
	2.7nm,0.3s,baz=218,slow=10,SNR=24					
MDT				Sn	**Sn**	**12 07 21.3 +1.6**
	12nm,0.3s,baz=199,slow=22,SNR=21					
MDT	**Midelt**	**3.92**	**194**	P	**Pn**	**12 06 36.6 +2.6**
MDT	**Midelt**	**3.92**	**194**	P	**Pn**	**12 06 36.6 +2.6**
PESTR	**Estremoz**	**3.97**	**306**	*e*Pn	**Pn**	**12 06 35.0 +0.5**
PESTR	**Estremoz**	**3.97**	**306**	*e*Pg	**Pb**	**12 06 46.1 +2.3**
PESTR				*e*Sn	**Sn**	**12 07 17.8 -2.8**
PESTR				*e*Sg	**Sg**	**12 07 38.8 -2.9**
PESTR				A	A	12 07 48.0
	194nm,0.6s					
PESTR	**Estremoz**	**3.97**	**306**	Pn	**Pn**	**12 06 34.8 +0.4**
PESTR	**Estremoz**	**3.97**	**306**	P	**Pn**	**12 06 34.7 +0.2**
PESTR	**Estremoz**	**3.97**	**306**	P	**Pn**	**12 06 34.7 +0.2**
EPLA	**Plasencia**	**4.00**	**330**	Pn	**Pn**	**12 06 36.3 +1.3**
EPLA				Sn	**Sn**	**12 07 22.4 +0.8**
EPLA				Sg	**Sb**	**12 07 38.5 +5.8**
EPLA				*i* Vmb_Lg		12 07 44.0
EVO	**Evora**	**4.09**	**299**	P	**Pb**	**12 06 46.8 +0.9**
EVO				S	**Sb**	**12 07 32.2 -2.8**
EVO	**Evora**	**4.09**	**299**	*e*Pn	**Pn**	**12 06 37.0 +0.9**
EVO	**Evora**	**4.09**	**299**	*e*Pg	**Pg**	**12 06 50.3 -2.3**
EVO				*e*Sn	**Sn**	**12 07 21.8 -1.8**
EVO				*e*Sg	**Sg**	**12 07 44.9 -0.7**
ZHG	**ZHG**	**4.11**	**220**	P	**Pn**	**12 06 37.0 +0.4**
PMRV	**Marv??o**	**4.18**	**313**	*e*Pn	**Pn**	**12 06 38.4 +1.0**
PMRV	**Marv??o**	**4.18**	**313**	*e*Pg	**Pg**	**12 06 52.4 -2.0**
PMRV				*e*Sn	**Sn**	**12 07 23.1 -2.8**
PMRV				*e*Sg	**Sb**	**12 07 43.4 +5.7**
PMRV				A	A	12 07 47.2
	128nm,0.5s					
MORF	**Marmelete**	**4.22**	**281**	*e*P	**Pn**	**12 06 38.2 +0.3**
MORF				*e*S	**Sn**	**12 07 22.9 -3.9**
MORF				IAML		12 07 29.1
	comp=N,157nm,0.3s					
MORF	**Marmelete**	**4.22**	**281**	*e*Pn	**Pn**	**12 06 39.1 +1.2**
MORF				*e*Sn	**Sn**	**12 07 26.0 -0.8**
MORF				A	A	12 07 31.0
	comp=N,70nm,0.2s					
PNCL	**Nicolau / Gran**	**4.30**	**292**	*e*Pn	**Pn**	**12 06 39.5 +0.4**
PNCL	**Nicolau / Gran**	**4.30**	**292**	*e*Pg	**Pb**	**12 06 53.7 +4.1**
PNCL				*e*Sn	**Sn**	**12 07 25.6 -3.3**
PNCL				A	A	12 07 59.7
	comp=N,84nm,0.7s					
PTEO	**Sao Teotonio**	**4.31**	**284**	*e*Pn	**Pn**	**12 06 40.0 +0.8**
PTEO				*e*Sn	**Sn**	**12 07 26.6 -2.5**
PTEO				*e*Sg	**Sg**	**12 07 55.3 +2.6**
PTEO				A	A	12 08 00.1
	comp=N,94nm,0.7s					
ETOR	**Torete**	**4.33**	**14**	Pn	**Pn**	**12 06 41.1 +1.6**
ETOR				Pg	**Pg**	**12 06 58.5 +1.3**
ETOR				Sg	**Sg**	**12 07 50.5 -2.6**
ETOR				*i* Vmb_Lg		12 07 56.8
PFVI	**Vila Bisbo**	**4.34**	**278**	*e*Pn	**Pn**	**12 06 40.0 +0.5**
PFVI				*e*Sn	**Sn**	**12 07 27.9 -1.8**
PFVI				A	A	12 07 37.9
	comp=N,54nm,0.5s					
PFVI				*e*Sg	**Sg**	**12 07 56.9 +3.4**
PFVI	**Vila Bisbo**	**4.34**	**278**	Pn	**Pn**	**12 06 39.8 +0.3**
PFVI	**Vila Bisbo**	**4.34**	**278**	P	**Pn**	**12 06 40.2 +0.7**
PFVI	**Vila Bisbo**	**4.34**	**278**	P	**Pn**	**12 06 40.0 +0.5**
EMOS	**Mosqueruela**	**4.40**	**31**	Pn	**Pn**	**12 06 43.1 +2.5**
EMOS				Sn	**Sn**	**12 07 31.4 -0.2**
EMOS				*i* Vmb_Lg		12 07 58.3
PMTG	**Montargil**	**4.49**	**304**	*e*Pn	**Pn**	**12 06 41.9 +0.2**
PMTG				*e*Sn	**Sn**	**12 07 29.9 -3.7**
PMTG				*e*Sg	**Sg**	**12 07 54.2 -4.3**
PMTG				A	A	12 08 04.4
	comp=N,171nm,0.5s					
PCBR	**Castelo Branco**	**4.51**	**317**	*e*Pn	**Pn**	**12 06 43.1 +1.2**
PCBR				*e*Sn	**Sn**	**12 07 30.8 -3.1**
PCBR				*e*Sg	**Sb**	**12 07 53.4 +6.3**
PCBR				A	A	12 08 03.0
	comp=N,140nm,0.6s					
ECOL	**Islas Columbre**	**4.61**	**44**	Pn	**Pn**	**12 06 44.2 +1.0**
PACT	**Alcochete**	**4.77**	**298**	*e*Pn	**Pn**	**12 06 46.6 +1.1**
PACT				*e*Sn	**Sn**	**12 07 38.8 -1.6**
PACT				*e*Sg	**Sg**	**12 08 09.0 +1.6**
PACT				A	A	12 08 18.0
	comp=N,214nm,0.4s					
FIGM	**Figuig**	**4.84**	**157**	P	**Pn**	**12 06 50.0 +3.4**
FIGM	**Figuig**	**4.84**	**157**	P	**Pn**	**12 06 49.1 +2.5**
MTE	**Manteigas**	**4.95**	**321**	*e*Pn	**Pn**	**12 06 49.2 +1.2**
MTE				*e*Sn	**Sn**	**12 07 41.8 -3.0**
MTE				*e*Sg	**Sg**	**12 08 08.0 -5.0**
MTE				A	A	12 08 14.0
	comp=N,398nm,0.6s					
MTE	**Manteigas**	**4.95**	**321**	Pn	**Pn**	**12 06 48.7 +0.7**
LIS	**Lisbon**	**4.97**	**296**	*e*Pn	**Pn**	**12 06 49.6 +1.3**
LIS				*e*Sn	**Sn**	**12 07 46.8 +1.4**
LIS				*e*Sg	**Sg**	**12 08 17.0 +3.0**
LIS				A	A	12 08 24.3
	comp=N,116nm,0.5s					
PMST	**Lisbon--Monsan**	**5.01**	**297**	*e*Pn	**Pn**	**12 06 49.7 +1.0**
PMST				*e*Sn	**Sn**	**12 07 44.7 -1.6**
PMST				*e*Sg	**Sg**	**12 08 15.4 +0.4**
PMST				A	A	12 08 29.3
	comp=N,117nm,0.6s					
PSBE	**So Bento**	**5.10**	**306**	*e*Pn	**Pn**	**12 06 51.1 +1.0**
PSBE				*e*Sn	**Sn**	**12 07 46.9 -1.8**
PSBE				*e*Sg	**Sg**	**12 08 16.4 -1.7**
PSBE				A	A	12 08 30.4
	comp=N,180nm,0.5s					
PMAFR	**Mafra**	**5.17**	**298**	*e*Pn	**Pn**	**12 06 51.5 +0.6**
PMAFR				*e*Sn	**Sn**	**12 07 46.8 -3.4**
PMAFR				*e*Sg	**Sg**	**12 08 21.2 +1.1**
PMAFR				A	A	12 08 27.8
	comp=N,153nm,0.6s					
PCAS	**Casmilo, Conde**	**5.23**	**312**	*e*Pn	**Pn**	**12 06 52.4 +0.5**
PCAS				*e*Sn	**Sn**	**12 07 46.9 -5.0**
PCAS				*e*Sg	**Sg**	**12 08 20.5 -1.8**
PCAS				A	A	12 08 36.3
	comp=N,194nm,0.7s					
ERTA	**Horta de San J**	**5.24**	**33**	Pn	**Pn**	**12 06 55.2 +3.3**
ERTA				*i* Vmb_Lg		12 08 30.0
COI	**Coimbra**	**5.28**	**314**	*e*Pn	**Pn**	**12 06 53.8 +1.3**
COI				*e*Sn	**Sn**	**12 07 49.9 -3.2**
COI				*e*Sg	**Sg**	**12 08 20.4 -3.5**
COI				A	A	12 08 23.7
	comp=N,194nm,0.7s					
COI	**Coimbra**	**5.28**	**314**	Pn	**Pn**	**12 06 53.6 +1.1**
MVO	**Moncorvo**	**5.32**	**329**	*e*Pn	**Pn**	**12 06 54.3 +1.2**
MVO				*e*Sn	**Sn**	**12 07 49.9 -4.1**
MVO				*e*Sg	**Sg**	**12 08 21.5 -3.5**
MVO				A	A	12 08 27.3
	comp=N,217nm,0.6s					
PVIS	**Viseu**	**5.36**	**321**	*e*Pn	**Pn**	**12 06 55.0 +1.4**
PVIS				*e*Sn	**Sn**	**12 07 50.8 -4.2**
PVIS				*e*Sg	**Sg**	**12 08 23.2 -3.1**
PVIS				A	A	12 08 25.6
	comp=N,112nm,0.7s					
PVRL	**Vila Real**	**5.71**	**326**	*e*Pn	**Pn**	**12 06 59.7 +1.3**
PVRL				*e*Sn	**Sn**	**12 07 58.8 -4.7**
PVRL				*e*Sg	**Sg**	**12 08 32.9 -4.5**
PVRL				A	A	12 08 38.2
	comp=N,102nm,0.5s					
PBRG	**Braganca**	**5.76**	**335**	*e*Pn	**Pn**	**12 07 00.8 +1.6**
PBRG				*e*Sn	**Sn**	**12 08 00.9 -4.1**
PBRG				*e*Sg	**Sg**	**12 08 37.0 -2.3**
PBRG				A	A	12 08 39.3
	comp=N,98nm,0.7s					
POLO	**Lamas de Olo**	**5.82**	**326**	*e*Pn	**Pn**	**12 07 01.1 +1.1**
POLO				*e*Sn	**Sn**	**12 08 01.0 -5.4**
POLO				*e*Sg	**Sg**	**12 08 37.9 -3.1**
POLO				A	A	12 08 43.6
	comp=N,40nm,0.4s					
EPOB	**Poblet**	**5.89**	**35**	Pn	**Pn**	**12 07 03.7 +2.8**
EPOB				*i* Vmb_Lg		12 08 49.5
PTO	**Porto**	**6.03**	**320**	*e*Pn	**Pn**	**12 07 03.9 +1.1**
PTO				*e*Sn	**Sn**	**12 08 06.0 -5.5**
PTO				*e*Sg	**Sg**	**12 08 45.8 -2.1**
PCAB	**Cabril**	**6.19**	**326**	*e*Pn	**Pn**	**12 07 06.6 +1.5**
PCAB				*e*Sn	**Sn**	**12 08 10.2 -5.3**
PCAB				*e*Sg	**Sg**	**12 08 46.3 -6.7**
PCAB				A	A	12 08 53.2
	comp=N,146nm,0.5s					
EARA	**Aranguren**	**6.30**	**13**	Pn	**Pn**	**12 07 09.6 +3.1**
EARA				*i* Vmb_Lg		12 11 45.7
OUZM	**OUZ**	**6.33**	**207**	P	**Pn**	**12 07 08.7 +1.6**
ELOB	**Lobios**	**6.33**	**327**	Pn	**Pn**	**12 07 08.3 +1.2**
ELOB				Sn	**Sn**	**12 08 13.9 -5.2**
ELOB				Sg	**Sg**	**12 08 53.4 -4.1**
ELOB				*i* Vmb_Lg		12 09 00.6
EORO	**Oroz-Betelu**	**6.47**	**14**	Pn	**Pn**	**12 07 11.0 +2.1**
EORO				*i* Vmb_Lg		12 09 06.6
PGAV	**Gavieira, Arco**	**6.51**	**326**	*e*Pn	**Pn**	**12 07 10.5 +1.1**
PGAV				*e*Sn	**Sn**	**12 08 17.5 -5.8**
PGAV				*e*Sg	**Sg**	**12 08 59.4 -3.6**
PGAV				A	A	12 09 10.2
	comp=N,100nm,0.6s					
OUK	**Oukaimeden**	**6.53**	**215**	P	**Pn**	**12 07 10.8 +0.8**
EMIR	**Miracle**	**6.54**	**35**	Pn	**Pn**	**12 07 11.9 +2.0**
EMIR				Sn	**Sn**	**12 08 23.6 -0.5**
EMIR				*i* Vmb_Lg		12 11 35.2
ELAN	**Lanestosa**	**6.59**	**0**	Pn	**Pn**	**12 07 12.3 +1.7**
ELAN				Sn	**Sn**	**12 08 23.0 -2.5**
ELAN				*i* Vmb_Lg		12 09 13.0
ETSF	**Etsaut**	**6.65**	**19**	*e*Pn	**Pn**	**12 07 13.5 +2.2**
ETSF				*e*Sn	**Sn**	**12 08 22.7 -4.0**
	comp=N,18nm,0.3s					
ETSF				*e*Sg	**Sg**	**12 09 04.1 -3.4**
	comp=N,26nm,0.6s					
SJPF	**Ste Jean**	**6.70**	**14**	*e*Pn	**Pn**	**12 07 13.6 +1.6**
SJPF				*e*Sn	**Sn**	**12 08 23.8 -4.2**
	comp=N,23nm,0.4s					
SJPF				*e*Sg	**Sg**	**12 09 05.4 -3.8**
	comp=N,83nm,0.8s					
EALK	**Alkurruntz**	**6.75**	**12**	Pn	**Pn**	**12 07 15.1 +2.3**
EALK				Sn	**Sn**	**12 08 28.5 -0.8**
EARI	**Arriondas**	**6.80**	**349**	Pn	**Pn**	**12 07 14.1 +0.7**
EARI				Sn	**Sn**	**12 08 28.3 -2.2**
EARI				*i* Vmb_Lg		12 09 13.6
EZAM	**Zamans**	**6.84**	**325**	Pn	**Pn**	**12 07 16.6 +2.6**
EZAM				*i* Vmb_Lg		12 09 25.5
EPF	**Esparros**	**7.03**	**23**	*e*Pn	**Pn**	**12 07 18.1 +1.6**
EPF				*e*Sn	**Sn**	**12 08 31.6 -4.5**
	comp=N,8.1nm,0.4s					
EPF				*e*Sg	**Sg**	**12 09 16.2 -3.6**
	comp=N,40nm,0.6s					
EAGO	**Agolada(Pontev**	**7.12**	**331**	Pn	**Pn**	**12 07 20.5 +2.7**
EAGO				Sn	**Sn**	**12 08 33.6 -4.8**
EAGO				Sg	**Sg**	**12 09 16.9 -5.9**
EAGO				*i* Vmb_Lg		12 09 31.8
TTIG	**Tnine Tigouga,**	**7.35**	**216**	P	**Pn**	**12 07 20.0 -1.1**
EMAZ	**Mazaricos**	**7.61**	**328**	Pn	**Pn**	**12 07 26.7 +2.2**
EMAZ				*i* Vmb_Lg		12 09 39.0
MTLF	**Montolieu**	**7.99**	**31**	*e*Pn	**Pn**	**12 07 30.8 +1.1**
MTLF	**Montolieu**	**7.99**	**31**	*e*Pg		12 08 04.3
MTLF				*e*Sn	**Sn**	**12 08 54.8 -4.9**
	comp=N,2.9nm,0.4s					
MTLF				*e*Sg		12 09 46.5
	comp=N,23nm,0.8s					
LFF	**La Frestale**	**8.89**	**20**	*e*Pn	**Pn**	**12 07 43.1 +1.1**
LFF				*e*Sn	**Sn**	**12 09 16.1 -5.7**
	comp=N,4.4nm,0.3s					
LFF				*e*Sg		12 10 13.9
	comp=N,9.3nm,0.4s					
CAF	**Calviac**	**9.28**	**25**	*e*Pn	**Pn**	**12 07 49.0 +1.6**
CAF	**Calviac**	**9.28**	**25**	*e*P	Pn	12 07 54.8 +7.4
CAF				*e*Sn	**Sn**	**12 09 25.6 -5.9**
	comp=N,2.7nm,0.3s					
LASF	**Ste Croix**	**9.29**	**35**	*e*Pn	**Pn**	**12 07 47.8 +0.2**
LASF				*e*Sn	**Sn**	**12 09 27.5 -4.3**
LASF				*e*Sg		12 10 27.1
	comp=N,2.9nm,0.6s					
RJF	**Les Rejaudoux**	**9.45**	**22**	*e*Pn	**Pn**	**12 07 51.1 +1.5**
RJF	**Les Rejaudoux**	**9.45**	**22**	*e*P	Pn	12 07 55.0 +5.4
RJF				*e*Sn	**Sn**	**12 09 29.4 -6.0**
	comp=N,3.9nm,0.5s					
RJF				*e*Sg		12 10 31.5
	comp=N,3.1nm,0.4s					
MFF	**Saint Martin d**	**10.27**	**13**	*e*Pn	**Pn**	**12 08 01.7 +0.8**
MFF	**Saint Martin d**	**10.27**	**13**	*e*P	Pn	12 08 07.0 +6.1
MFF				*e*Sn	**Sn**	**12 09 51.4 -4.2**
	comp=N,3.2nm,0.3s					
KEST	**Kesra**	**10.39**	**91**	Pn	**Pn**	**12 08 02.5 -0.2**
TANT	**Tantan**	**10.50**	**221**	P	**Pn**	**12 08 04.4 +0.2**
VSL	**Villasalto**	**10.52**	**70**	Pn	**Pn**	**12 08 04.7 +0.4**
SSB	**Saint Sauveur**	**10.54**	**32**	Pn	**Pn**	**12 08 03.8 -0.8**
PGF	**Pioggiola**	**11.28**	**55**	*e*Pn	**Pn**	**12 08 18.2 +3.4**
QUIF	**Quistinic**	**11.28**	**1**	*e*Pn	**Pn**	**12 08 14.9 +0.2**
QUIF				*e*Sn	Sn	12 10 12.3 -8.1
	comp=N,4.0nm,0.4s					
AVF	**Avril sur Loir**	**11.35**	**24**	*e*Pn	**Pn**	**12 08 15.3 -0.4**
SMF	**Signal de Mont**	**11.39**	**26**	*e*Pn	**Pn**	**12 08 15.3 -1.0**
SGMF	**Saint Gilles**	**11.64**	**3**	*e*Pn	**Pn**	**12 08 19.9 +0.3**
SGMF	**Saint Gilles**	**11.64**	**3**	*e*P	Pn	12 08 26.1 +6.5
SGMF				*e*Sn	Sn	12 10 21.2 -7.9
	comp=N,1.4nm,0.3s					
SSF	**Saint Saulge**	**11.64**	**24**	*e*Pn	**Pn**	**12 08 20.6 +1.0**
ROSF	**Rostrenen**	**11.70**	**1**	*e*Pn	**Pn**	**12 08 20.7 +0.2**
ROSF				*e*Sn	Sn	12 10 22.7 -8.0
	comp=N,1.4nm,0.2s					
GRR	**Gorron**	**11.91**	**8**	*e*Pn	**Pn**	**12 08 23.8 +0.5**
GRR				*e*Sn	Sn	12 10 27.7 -8.0
	comp=N,1.7nm,0.3s					
LDF	**La Druitiere**	**12.21**	**11**	*e*Pn	**Pn**	**12 08 27.5 +0.1**
LDF				*e*Sn	Sn	12 10 35.0 -8.0
	comp=N,1.0nm,0.3s					
FLN	**La Foliniere**	**12.32**	**9**	*e*Pn	**Pn**	**12 08 29.1 +0.2**
	baz=189					
GERES	**GERESS Array B**	**17.50**	**40**	LR	LR	12 17 13.1
	comp=N,67nm,19.5s,baz=293,slow=40					
TORD	**Torodi Ar. Bea**	**23.83**	**168**	P	**P**	**12 10 48.8 +2.1**
	comp=N,0.3nm,0.6s,baz=1.0,slow=8.6,SNR=2.3					
NOA	**NORSAR Array B**	**26.14**	**16**	LR	LR	12 21 06.2
	comp=N,22nm,18.7s,baz=245,slow=36					
KURBB	**Kurchatov Arra**	**58.04**	**48**	P	**P**	**12 15 26.0 -0.3**
	comp=N,0.5nm,0.6s,baz=293,slow=7.9,SNR=4.8					
ZALV	**Zalesovo Beam**	**60.43**	**43**	P	**P**	**12 15 42.6 -0.2**
	comp=N,0.4nm,0.5s,baz=286,slow=10,SNR=2.0					
MKAR	**Makanchi Array**	**61.79**	**51**	P	**P**	**12 15 52.5 +0.3**
	comp=N,0.3nm,0.7s,baz=272,slow=4.0,SNR=2.8					
YKA	**Yellowknife Ar**	**66.96**	**332**	P	**P**	**12 16 26.5 +0.8**
	comp=N,0.2nm,0.8s,baz=57,slow=7.2,SNR=3.1					

PRE ***25*** *12:18:54.7±1.0,26°.47S×27°.48E, h2km, ML2.5*
EAF ***25*** *12:18:57.1±0.8,26°.55S×27°.76E, h10km, MD3.8*
BUL ***25*** *12:18:57.1±0.8,26°.55S×27°.76E, h10km, MD4.0*

ISC 25 12:18:52.9±1.3, 26.49S±0.03×27.70E±0.03, h1km±11km, n18, σ2s56/36, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SLR	**Silverton**	**0.92**	**35**	*e*P		**Pn**	**12 19 13.8**	**+0.8**
SLR				*e*S		**Sn**	**12 19 28.4**	**+1.5**
SLR				IAML			12 19 32.0	
	comp=Z,67nm,0.3s							
KSR	**Koster**	**0.96**	**311**	*e*P		**Pg**	**12 19 11.2**	**-0.1**
KSR				*e*S		**Sg**	**12 19 21.5**	**-2.2**
KSR				IAML			12 19 30.5	
	comp=Z,282nm,0.5s							
SNKL	**Senekal, Frees**	**1.78**	**178**	*e*P		**Pg**	**12 19 28.1**	**+1.1**
SNKL				*e*S		**Sg**	**12 19 51.9**	**+1.8**
SNKL				IAML			12 19 56.1	
	comp=Z,74nm,0.5s							
SWZ	**Schweizer**	**2.23**	**251**	*e*P		**Pn**	**12 19 31.1**	**+0.1**
SWZ				*e*S		**Sn**	**12 19 57.3**	**-2.0**
SWZ				IAML			12 20 02.6	
	comp=Z,61nm,0.6s							
NWCL	**Newcastle**	**2.31**	**123**	*e*P		**Pg**	**12 19 37.8**	**+0.6**
NWCL				*e*S		**Sg**	**12 20 08.2**	**+0.9**
NWCL				IAML			12 20 14.2	
	comp=Z,31nm,0.6s							
LBTB	**Lobatse**	**2.40**	**307**	*i* P		**Pn**	**12 19 37.5**	**+4.1**
LBTB				*i* S		**Sn**	**12 20 06.8**	**+3.4**
LBTB	**Lobatse**	**2.40**	**307**	*i* P		**Pn**	**12 19 37.5**	**+4.1**
LBTB				*i* S		**Sn**	**12 20 06.8**	**+3.4**
BOSA	**Boshof**	**3.03**	**225**	*i* P		**Pn**	**12 19 44.4**	**+2.3**
BOSA				*i* S		**Sn**	**12 20 19.9**	**+0.8**
BOSA	**Boshof**	**3.03**	**225**	*i* P		**Pn**	**12 19 44.4**	**+2.3**
BOSA				*i* S		**Sn**	**12 20 19.9**	**+0.8**
POGA	**Pongola**	**3.68**	**104**	*e*P		**Pb**	**12 19 55.6**	**-3.1**
POGA				*e*S		**Sb**	**12 20 40.7**	**-3.1**
POGA				IAML			12 20 55.9	
	comp=Z,21nm,0.4s							
HVD	**Gariep Dam**	**4.54**	**205**	*e*P		**Pn**	**12 20 04.5**	**+1.7**
HVD				*e*S		**Sn**	**12 20 55.2**	**-1.1**
HVD				IAML			12 21 01.4	
	comp=Z,22nm,2.7s							
MSNA	**Messina**	**4.64**	**28**	*i* P		**Pn**	**12 20 07.4**	**+3.3**
MSNA				*i* S		**Sn**	**12 20 59.2**	**+0.5**
MSNA	**Messina**	**4.64**	**28**	*i* P		**Pn**	**12 20 07.4**	**+3.3**
MSNA				*i* S		**Sn**	**12 20 59.2**	**+0.5**
UPI	**Upington**	**6.03**	**251**	*e*P		**Pn**	**12 20 23.5**	**+0.3**
UPI				*e*S		**Sn**	**12 21 27.5**	**-5.4**
UPI				IAML			12 21 33.9	
	comp=Z,8.5nm,4.0s							
MATP	**Matopo**	**6.08**	**7**	*i* P		**Pn**	**12 20 27.2**	**+3.2**
MATP				*i* S		**Sn**	**12 21 32.6**	**-1.8**
MATP	**Matopo**	**6.08**	**7**	*i* P		**Pn**	**12 20 27.2**	**+3.2**
MATP				*i* S		**Sn**	**12 21 32.6**	**-1.8**
BLWY	**Bulawayo**	**6.38**	**8**	*i* P		**Pn**	**12 20 30.5**	**+2.4**
BLWY				*i* S		**Sn**	**12 21 39.4**	**-2.3**
BLWY	**Bulawayo**	**6.38**	**8**	*i* P		**Pn**	**12 20 30.5**	**+2.4**
BLWY				*i* S		**Sn**	**12 21 39.4**	**-2.3**

KRSC 25 12:23:46.1±0.9, 51°.53N×158°.03E, h69km±7km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KDTR	**Khodutka, Kamc**	**0.28**	**6**	*e*P		Pn	12 23 58.3	+1.4
KDTR				*e*S		Sn	12 24 06.5	+1.6
PAU	**Pauzhetka**	**0.77**	**265**	*e*P		Pn	12 24 03.0	+1.4
PAU				*e*S		Sn	12 24 15.7	+2.6
RUS	**Russkaya**	**0.95**	**18**	*e*P		Pn	12 24 04.6	+0.8
RUS				*e*S		Sn	12 24 17.7	+0.7
MTVR	**Mutnovka**	**0.95**	**6**	*e*P		Pn	12 24 05.1	+1.0
MTVR				*e*S		Sn	12 24 18.9	+1.5
GRL	**Gorelyy**	**1.02**	**1**	*e*P		Pn	12 24 06.3	+1.4
GRL				*e*S		Sn	12 24 20.8	+2.0
MIPR	**Malaya Ipel'ka**	**1.08**	**314**	*e*P		Pn	12 24 06.6	+1.1
KRMR	**Karymshinskiy**	**1.30**	**3**	*e*P		Pn	12 24 09.8	+1.5
KRMR				*e*S		Sn	12 24 27.0	+2.0
SKR	**Severo-Kuril's**	**1.48**	**236**	*e*P		Pn	12 24 11.8	+1.2
SKR				*e*S		Sn	12 24 30.3	+1.2
APC	**Apacha**	**1.49**	**339**	*e*P		Pn	12 24 12.1	+1.3
PET	**Petropavlovsk**	**1.54**	**14**	*e*P		Pn	12 24 12.7	+1.2
PET				*e*S		Sn	12 24 32.4	+1.8
DALK	**Dalny**	**1.56**	**16**	*e*P		Pn	12 24 13.0	+1.2
UGLR	**Uglovaya**	**1.75**	**16**	*e*P		Pn	12 24 16.2	+1.9
AVH	**Avacha**	**1.79**	**14**	*e*P		Pn	12 24 17.2	+2.3
SMAR	**Somma**	**1.79**	**15**	*e*P		Pn	12 24 16.3	+1.2
KOK	**Koryaka**	**1.80**	**12**	*e*P		Pn	12 24 17.4	+2.4
SDLR	**Sedlovina**	**1.82**	**16**	*e*P		Pn	12 24 16.6	+1.2
KRER	**Koryakskii**	**1.83**	**14**	*e*P		Pn	12 24 17.6	+2.1
SPN	**Mys Shipunski**	**1.99**	**37**	*e*P		Pn	12 24 19.1	+1.6
SPN				*e*S		Sn	12 24 42.8	+1.4
GNL	**Ganaly**	**2.17**	**359**	*e*P		Pn	12 24 21.7	+1.7
KII	**Karymskiy**	**2.65**	**18**	*e*P		Pn	12 24 29.4	+2.9
TUMD	**Tumrok D**	**3.94**	**20**	*e*P		Pn	12 24 49.0	+5.0
ESO	**Esso**	**4.42**	**5**	*e*P		Pn	12 24 54.0	+3.5
KMNR	**Kamenistaya**	**4.43**	**16**	*e*P		Pn	12 24 55.4	+4.6

IDC 25 12:30:27.9±57.0, 17°.55S×176°.12W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/22, mbtmp4.0/3, Error ellipse: s-maj=1065.0km s-min=168.8km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**40.72**	**241**	P		P	12 38 10.8	+0.2
	1.0nm,0.4s,baz=80,slow=12,SNR=7.7							
WRA	**Warramunga Arr**	**46.84**	**259**	P		P	12 38 59.8	-0.3
	0.5nm,0.4s,baz

comp=N,268nm,0.4s
GO01 Chusmiza 3.08 323⇑ *i*P **Pn** 13 52 14.0 **+1.4**
GO01 *e*S **Sn** 13 52 53.7 **+1.2**
GO01 IAML 13 52 56.5
comp=N,252nm,0.1s
TA01 Diego Aracena 3.18 299 *e*P **Pn** 13 52 13.5 **+0.3**
TA01 *e*S **Sn** 13 52 51.5 **-2.2**
TA01 IAML 13 52 52.6
comp=N,246nm,0.3s
PB11 IPOC Station P 3.29 316⇑ *i*P **Pn** 13 52 15.2 **+0.4**
PB11 *e*S **Sn** 13 52 54.5 **-2.0**
PB11 IPOC Station P 3.29 316 P **Pn** 13 52 15.4 **+0.6**
PB11 IAML 13 52 57.2
comp=N,102nm,0.2s
TA02 Huaiquique 3.30 304 *e*P **Pn** 13 52 14.7 **0.0**
TA02 *e*S **Sn** 13 52 53.7 **-2.6**
PB10 IPOC Station P 3.37 245 *e*P **Pn** 13 52 16.3 **+0.8**
PB10 *e*S **Sn** 13 52 55.9 **-2.0**
PB10 IPOC Station P 3.37 245 P **Pn** 13 52 16.3 **+0.8**
PB10 S **Sn** 13 52 54.6 **-3.2**
PB10 IAML 13 52 57.5
comp=N,64nm,0.2s
PB10 IAML 13 52 59.5
comp=N,44nm,0.2s
GO02 Mina Guanaco 3.71 215⇓ *e*P **Pn** 13 52 21.4 **+1.5**
GO02 *e*S **Sn** 13 53 05.7 **-0.2**
PB16 IPOC Station P 4.36 330 P **Pn** 13 52 29.4 **+1.0**
BBOE La Paz, Chanca 5.35 352 P **Pn** 13 52 42.2 **+1.2**
BBOD La Paz, Gloria 5.63 346 P **Pn** 13 52 45.7 **+1.1**
LPAZ La Paz 5.89 351 P **Pn** 13 52 49.2 **+1.2**

IDC 25 14:26:56.2±1.7, 0°.19S×131°.95E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=30.6km s-min=14.8km az=132.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.96**	**225**	Pg	Pb	14 27 15.2	-0.5
	20nm,0.3s,baz=24,slow=19,SNR=203						
SIJI				Lg	Lg	14 27 27.5	
	85nm,0.3s,baz=285,slow=23,SNR=18						
FITZ	**Fitzroy Crossi**	**18.84**	**199**	P	Pn	14 31 18.6	+0.3
	0.1nm,0.3s,baz=20,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**19.77**	**173**	P	P	14 31 27.4	-0.7
	0.1nm,0.3s,baz=351,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**23.41**	**175**	P	P	14 32 06.8	-0.2
	0.5nm,0.6s,baz=359,slow=8.6,SNR=19						
MKAR	**Makanchi Array**	**63.75**	**324**	P	P	14 37 29.9	-0.1
	0.2nm,0.5s,baz=110,slow=8.3,SNR=3.9						

IDC 25 14:47:41.4±4.6, 31°.34S×123°.11W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/43, mbtmp3.8/3, Error ellipse: s-maj=240.4km s-min=44.3km az=123.0, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**37.10**	**106**	T	T	15 33 35.0	
	baz=259						
H03S1	**Juan Fernandez**	**37.12**	**106**	T	T	15 33 42.9	
	baz=259						
H03S3	**Juan Fernandez**	**37.12**	**106**	T	T	15 33 37.6	
	baz=259						
PDAR	**Pinedale Array**	**74.79**	**10**	P	P	14 59 23.5	0.0
	0.5nm,0.8s,baz=171,slow=6.1,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**83.56**	**296**	T	T	16 33 03.0	
	baz=127,slow=75						
H11S1	**WAKE ISLAND Hy**	**83.58**	**296**	T	T	16 33 04.0	
	baz=127,slow=75						
H11S3	**WAKE ISLAND Hy**	**83.58**	**296**	T	T	16 33 03.2	
	baz=127,slow=75						
ASAR	**Alice Springs**	**88.26**	**243**	P	P	15 00 35.0	-0.2
	0.4nm,0.8s,baz=122,slow=4.5,SNR=4.6						
WRA	**Warramunga Arr**	**89.97**	**247**	P	P	15 00 43.2	0.0
	0.8nm,0.9s,baz=118,slow=4.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**149.81**	**327**	PKPbc	PKPbc	15 07 32.5	-0.4
	1.2nm,0.6s,baz=54,slow=2.5,SNR=6.9						
MKAR	**Makanchi Array**	**155.11**	**316**	PKPab	PKPab	15 08 00.4	-0.4
	0.4nm,0.8s,baz=58,slow=4.1,SNR=3.9						

*IDC **25** 14:55:14.0±0.7, 36°.76N×141°.19E, h0km, mb3.7/17, mb1 3.9/21, mb1mx3.8/54, mbtmp3.8/21, ML3.4/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/89, Error ellipse: s-maj=18.1km s-min=13.3km az=105.0*
*NIED **25** 14:55:16.9, 36°.76N×141°.19E, h38km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.59; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$0.65; $M_{r\theta}$0.31; $M_{\theta\phi}$0.70; $M_{\phi r}$-0.40; Fault plane solution: $M_0$1.06000×10^{15} NP1: ϕ_s358.00000°, δ63.00000°, λ-137.00000°. NP2: ϕ_s246.00000°, δ53.00000°, λ-34.00000°.*
*JMA **25** 14:55:16.9±0.1, 36°.76N×141°.19E, h38km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s102.00000°, δ88.00000°, λ-66.00000°. NP2: ϕ_s197.00000°, δ24.00000°, λ-175.00000°. Principal axes: T Plg38.0000°, Azm171.0000°; N Plg24.0000°, Azm281.0000°; P Plg42.0000°, Azm35.0000°;*
JMA Felt II J1.
*MOS **25** 14:55:18.7±0.9, 36°.74N×141°.11E, h47km, mb4.4/16 Error ellipse: s-maj=12.2km s-min=9.5km az=107.4*
*NEIC **25** 14:55:19.8±1.6, 36°.76N±0°.05×141°.18E±0°.09, h38km±7km, mb4.5/21, Error ellipse: s-maj=10.4km s-min=6.3km az=109.0*
ISC 25 14:55:18.9±1.0, 36°.76N±0°.03×141°.10E±0°.06, h31km±6km, n120, σ1s53/115, mb4.0/37, 10C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.42**	**325**	⇑P	**Pb**	**14 55 26.7**	**-1.5**
ONAJ				S	**Sb**	**14 55 33.6**	**-1.0**
JHO	**Hitachi**	**0.45**	**251**	⇓P	**Pb**	**14 55 27.5**	**-1.1**
JHO				S	**Sb**	**14 55 35.2**	**-0.1**
JFFD	**Fukushimafurud**	**0.55**	**308**	⇑P	**Pb**	**14 55 28.7**	**-1.5**
JHYU	**Hitachinakayam**	**0.59**	**225**	⇓P	**Pb**	**14 55 29.3**	**-1.5**
JHYU				S	**Sb**	**14 55 38.6**	**-0.3**
JFK	**Kawauchi**	**0.64**	**343**	⇑P	**Pb**	**14 55 29.4**	**-2.2**
JYT	**Yasato**	**0.90**	**234**	⇓P	**Pn**	**14 55 33.9**	**-1.5**
JYT	**Yasato**	**0.90**	**234**	Pn	**Pn**	**14 55 34.0**	**-1.4**
JFT	**Otama**	**0.98**	**321**	⇑P	**Pn**	**14 55 35.8**	**-0.7**
JFT				S	**Sn**	**14 55 49.1**	**-0.1**
JMM	**Marumori**	**1.14**	**348**	⇑P	**Pn**	**14 55 36.8**	**-1.8**
JMM				S	**Sn**	**14 55 51.3**	**-1.8**
JMM	**Marumori**	**1.14**	**348**	Pn	**Pn**	**14 55 37.3**	**-1.3**
JFY	**Yanaizu**	**1.29**	**301**	⇑P	**Pn**	**14 55 40.9**	**+0.1**
JFY				S	**Sn**	**14 55 57.7**	**+0.6**
MJAR	**Matsushiro Arr**	**2.34**	**266**	Pn	**Pn**	**14 55 56.2**	**+1.0**
	5.1nm,0.3s,baz=99,slow=11,SNR=139						
MJAR				Sn	**Sb**	**14 56 26.9**	**-1.9**
	5.8nm,0.3s,baz=347,slow=32,SNR=9.9						
MJAR	**Matsushiro Arr**	**2.34**	**266**	Pn	**Pn**	**14 55 56.3**	**+1.1**
MAJO	**Matsushiro**	**2.34**	**266**	P	**Pn**	**14 55 56.5**	**+1.3**
MAJO	**Matsushiro**	**2.34**	**266**	Pn	**Pn**	**14 55 56.5**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.34**	**266**	Pn	**Pn**	**14 55 56.7**	**+1.4**
JSD	**Sado**	**2.60**	**300**	Pn	**Pn**	**14 55 59.3**	**+0.5**
JGF	**Kuroka**	**3.24**	**250**	Pn	**Pn**	**14 56 09.6**	**+2.0**
INU	**Inuyama**	**3.59**	**248**	Pn	**Pn**	**14 56 14.0**	**+1.6**
JHJ2	**Mitsune**	**3.79**	**197**	Pn	**Pn**	**14 56 15.7**	**+0.6**
JHJ	**Hachijo jima 2**	**3.79**	**197**	Pn	**Pn**	**14 56 14.8**	**-0.3**
	18nm,0.3s,baz=42,slow=14,SNR=16						
JHJ				Sn	**Sn**	**14 56 58.7**	**+0.1**
	62nm,0.3s,baz=131,slow=23,SNR=6.6						
JHJ				LR	LR	14 57 54.9	
	comp=Z,135nm,19.1s,baz=14,slow=42						
JTM	**Tenmabayashi**	**4.03**	**360**	Pn	**Pn**	**14 56 19.3**	**+1.0**
ERM	**Erimo**	**5.49**	**16**	P	**Pn**	**14 56 39.1**	**+0.7**
ERM	**Erimo**	**5.49**	**16**	Pn	**Pn**	**14 56 39.1**	**+0.7**
JMN	**Monobe**	**6.64**	**245**	Pn	**Pn**	**14 56 55.0**	**+0.8**
JHS	**Saijyo**	**6.72**	**257**	Pn	**Pn**	**14 56 58.5**	**+3.1**
ASAJ	**Asahikawa**	**7.44**	**8**	Pn	**Pn**	**14 57 03.1**	**-2.1**
	0.5nm,0.3s,baz=222,slow=14,SNR=12						
ASAJ				Sn	**Sn**	**14 58 27.1**	**-1.4**
	baz=163,slow=32,SNR=0.9						
SHO	**Shikotan**	**8.34**	**30**	P	**Pn**	**14 57 20.7**	**+3.1**
JNU	**Nakatsue**	**9.14**	**250**	Pn	**Pn**	**14 57 31.3**	**+2.6**
	0.3nm,0.3s,baz=184,slow=8.4,SNR=6.5						
JNU	**Nakatsue**	**9.14**	**250**	Pn	**Pn**	**14 57 31.8**	**+3.2**
VLA	**Vladivostok**	**9.51**	**315**	*i* P	Pn	14 57 42.5	+8.9
JCJ	**Chichijima**	**9.68**	**174**	Pn	**Pn**	**14 57 35.0**	**-0.9**
	8.2nm,0.3s,baz=270,slow=20,SNR=1.8						
JCJ				Sn	Sn	14 59 10.7	-13
	5.7nm,0.3s,baz=284,slow=17,SNR=2.1						
JCJ	**Chichijima**	**9.68**	**174**	Pn	**Pn**	**14 57 35.4**	**-0.6**
KSRS	**Korea Array**	**10.55**	**278**	Pn	**Pn**	**14 57 52.0**	**+4.2**
	0.1nm,0.3s,baz=92,slow=14,SNR=4.0						
KSRS				LR	LR	15 01 31.2	
	comp=Z,86nm,18.2s,baz=80,slow=35						
MA2	**Magadan**	**23.68**	**12**	P	**P**	**15 00 27.4**	**-0.1**
	1.3nm,0.5s,baz=169,slow=10,SNR=4.0						
MA2	**Magadan**	**23.68**	**12**	*i* P	P	15 00 34.7	+7.2
MA2				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MA2	**Magadan**	**23.68**	**12**	P	**P**	**15 00 26.7**	**-0.7**
MA2				IAmb	IAmb	15 00 36.6	
	comp=Z,3.3nm,0.7s						
YAK	**Yakutsk**	**26.29**	**348**	LR	LR	15 11 48.5	
	comp=Z,49nm,18.9s,baz=265,slow=38						
YAK	**Yakutsk**	**26.29**	**348**	*ce*P	**P**	**15 00 55.9**	**+4.7**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
SEY	**Seymchan**	**27.11**	**11**	P	**P**	**15 01 01.9**	**+3.2**
	comp=Z,1.3nm,0.8s,baz=204,slow=10.0,SNR=3.9						
SEY	**Seymchan**	**27.11**	**11**	*ce*P	**P**	**15 01 04.8**	**+6.1**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.30**	**305**	*ce*P	**P**	**15 01 00.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOD	**Bodaibo**	**27.63**	**328**	*e*P	P	15 01 10.3	+6.9
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**15 01 05.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=102,slow=9.0,SNR=3.5						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**15 01 03.8**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	15 30 24.0	
	baz=313,slow=75,SNR=579						
H11N1	**WAKE ISLAND Hy**	**28.23**	**120**	T	T	15 30 34.8	
	baz=313,slow=75,SNR=512						
H11N3	**WAKE ISLAND Hy**	**28.24**	**120**	T	T	15 30 35.5	
	baz=313,slow=75,SNR=547						
H11S1	**WAKE ISLAND Hy**	**28.92**	**122**	T	T	15 32 03.3	
	baz=314,slow=76,SNR=590						
H11S3	**WAKE ISLAND Hy**	**28.92**	**122**	T	T	15 31 59.3	
	baz=314,slow=76,SNR=394						
H11S2	**WAKE ISLAND Hy**	**28.94**	**122**	T	T	15 32 02.0	
	baz=314,slow=76,SNR=373						
BILL	**Bilibino**	**34.36**	**16**	*e*P	P	15 02 09.6	+7.1
BILL				*e**PP	sP	15 02 32.9	+17
TIXI	**Tiksi**	**35.53**	**353**	*i* P	P	15 02 18.3	+5.7
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s						
UBPT	**Khong Chiam**	**38.19**	**245**	P	**P**	**15 02 35.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**41.18**	**255**	P	**P**	**15 03 00.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=47,slow=7.7,SNR=2.3						
CMAR	**Chiang Mai Arr**	**41.18**	**255**	P	**P**	**15 03 01.0**	**+0.3**
ZALV	**Zalesovo Beam**	**41.92**	**313**	P	**P**	**15 03 05.9**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=96,slow=6.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**41.92**	**313**	*i* P	**P**	**15 03 06.6**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**41.92**	**313**	P	**P**	**15 03 06.3**	**0.0**
RABL	**Rabaul**	**42.02**	**163**	P	**P**	**15 03 05.2**	**-2.4**
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**15 03 23.9**	**+0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**44.05**	**302**	P	**P**	**15 03 23.9**	**+0.1**
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**15 03 24.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=90,slow=10,SNR=14						
KURK	**Kurchatov**	**45.91**	**308**	P	**P**	**15 03 38.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**45.91**	**308**	P	**P**	**15 03 38.3**	**0.0**
KURK				IAmb	IAmb	15 03 47.0	
	comp=Z,9.0nm,0.8s						
KAPI	**Kappang**	**46.10**	**210**	*i* P	P	15 03 30.7	-9.5
IMAR	**Indian Mountai**	**47.02**	**31**	P	**P**	**15 03 45.5**	**-1.4**
IL31		**49.86**	**32**	P	**P**	**15 04 09.1**	**+0.4**
IL31				IAmb	IAmb	15 04 19.2	
	comp=Z,1.3nm,0.8s						
ILAR	**Eielson Array**	**49.86**	**32**	P	**P**	**15 04 08.3**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=270,slow=6.6,SNR=4.3						
ILAR	**Eielson Array**	**49.86**	**32**	P	**P**	**15 04 08.9**	**+0.1**
ILAR	**Eielson Array**	**49.86**	**32**	P	**P**	**15 04 08.9**	**+0.1**
MTN	**Manton Dam**	**50.22**	**193**	P	**P**	**15 04 12.2**	**+0.2**
MTN				IAmb	IAmb	15 04 12.4	
	comp=Z,15nm,1.2s						
M24K	**Tolsona, Glenn**	**50.36**	**36**	P	**P**	**15 04 12.6**	**-0.1**
M24K				IAmb	IAmb	15 04 14.3	
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**50.40**	**298**	*i* P	**P**	**15 04 11.3**	**-2.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BRVK	**Borovoye**	**50.63**	**312**	*i* P	**P**	**15 04 13.8**	**-1.0**
BMAR	**Burnt Mountain**	**50.70**	**29**	P	**P**	**15 04 15.3**	**+0.1**
BCAR	**Beaver Creek A**	**52.26**	**34**	P	**P**	**15 04 28.0**	**+1.1**
KKAR	**Karatay Array**	**53.05**	**300**	P	**P**	**15 04 33.9**	**+0.9**
KKAR	**Karatay Array**	**53.05**	**300**	P	**P**	**15 04 33.9**	**+0.9**
KNRA	**Kununurra**	**53.43**	**195**	P	**P**	**15 04 36.2**	**+0.3**
KNRA				IAmb	IAmb	15 04 36.5	
	comp=Z,6.4nm,0.9s						
GSI	**Gunungsitoli**	**53.44**	**239**	P	**P**	**15 04 36.3**	**+0.2**
ARU	**Arti**	**56.40**	**319**	*c* P	**P**	**15 04 57.2**	**+0.2**
ARU						15 05 52.4	
ARU				S	**S**	**15 12 40.6**	**-4.9**
ARU				SS	**SS**	**15 16 28.2**	**-4.0**
ARU				pmax	pmax		
	comp=Z,11nm,2.2s						
WRAB	**Tennant Creek**	**56.74**	**188**	P	**P**	**15 05 00.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WRAB	**Tennant Creek**	**56.74**	**188**	P	**P**	**15 04 60.0**	**+0.2**
WRAB				IAmb	IAmb	15 05 08.2	
	comp=Z,8.2nm,1.2s						
WR0	**Warramunga Arr**	**56.75**	**187**	P	**P**	**15 04 59.4**	**-0.4**
WR0				IAmb	IAmb	15 05 07.8	
	comp=Z,3.9nm,0.8s						
WB2	**Warramunga Arr**	**56.75**	**188**	P	**P**	**15 04 58.8**	**-1.1**
WB2				IAmb	IAmb	15 05 11.2	
	comp=Z,9.3nm,1.3s						
WRA	**Warramunga Arr**	**56.75**	**188**	P	**P**	**15 04 59.1**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=2.4,slow=7.5,SNR=48						
WRA	**Warramunga Arr**	**56.75**	**188**	P	**P**	**15 04 58.1**	**-1.7**
ABKAR	**Akbulak array**	**57.93**	**310**	P	**P**	**15 05 07.8**	**-0.1**
ASAR	**Alice Springs**	**60.48**	**188**	P	**P**	**15 05 25.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=11,slow=5.9,SNR=15						
ASAR	**Alice Springs**	**60.48**	**188**	P	**P**	**15 05 25.4**	**-0.4**
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**15 05 50.6**	**+0.7**
	comp=Z,3.6nm,1.1s,baz=21,slow=7.7,SNR=1.8						
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**15 05 49.6**	**-0.3**
YKA	**Yellowknife Ar**	**64.17**	**30**	P	**P**	**15 05 49.9**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=297,slow=6.4,SNR=2.1						
YKA	**Yellowknife Ar**	**64.17**	**30**	P	**P**	**15 05 49.2**	**-0.9**
OBN	**Obninsk**	**68.17**	**323**	*e*P	**P**	**15 06 15.9**	**+0.1**
OBN				*e*		15 06 42.6	
OBN				*e*		15 08 51.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**68.28**	**180**	P	**P**	**15 06 16.1**	**-0.5**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
STKA	**Stephens Creek**	**68.28**	**180**	P	**P**	**15 06 16.1**	**-0.5**
FORT	**Forrest**	**68.29**	**192**	P	**P**	**15 06 16.2**	**-0.4**
FINES	**FINESS Array B**	**68.94**	**332**	P	**P**	**15 06 19.3**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=104,slow=5.9,SNR=1.5						
FINES	**FINESS Array B**	**68.94**	**332**	P	**P**	**15 06 20.4**	**-0.1**
FINES	**FINESS Array B**	**68.94**	**332**	P	**P**	**15 06 20.4**	**-0.1**
BBOO	**Buckleboo**	**69.37**	**185**	P	**P**	**15 06 22.7**	**-0.7**
BBOO				IAmb	IAmb	15 06 46.1	
	comp=Z,14nm,1.4s						
KIV	**Kislovodsk**	**70.90**	**311**	*e*P	**P**	**15 06 33.3**	**+0.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	**NORSAR Subarra**	**74.34**	**337**	P	**P**	**15 06 52.8**	**-0.3**
	comp=Z,3.7nm,1.1s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.34**	**337**	P	**P**	**15 06 53.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=39,slow=6.0,SNR=3.7						
NOA	**NORSAR Array B**	**74.34**	**337**	P	**P**	**15 06 53.0**	**-0.1**
AKASG	**Malin Array Be**	**74.36**	**322**	P	**P**	**15 06 53.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=49,slow=5.9,SNR=4.8						
AKASG	**Malin Array Be**	**74.36**	**322**	*i* P	**P**	**15 06 54.5**	**+1.2**
NVAR	**Mina Array Bea**	**75.36**	**53**	P	**P**	**15 07 00.2**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=298,slow=4.0,SNR=2.1						
PDAR	**Pinedale Array**	**78.04**	**45**	P	**P**	**15 07 14.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=286,slow=0.7,SNR=2.5						
BUR08	**Bucovina Ar. S**	**78.36**	**322**	P	**P**	**15 07 16.7**	**+0.4**
BUR08				IAmb	IAmb	15 07 19.0	
	comp=Z,3.5nm,1.2s						
BURAR	**Bucovina Array**	**78.37**	**322**	P	**P**	**15 07 17.2**	**+0.9**
CLL	**Collm**	**81.21**	**330**	*i* P	**P**	**15 07 34.4**	**+3.0**
GERES	**GERESS Array B**	**82.81**	**328**	P	**P**	**15 07 40.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=8.1,SNR=1.9						
GERES	**GERESS Array B**	**82.81**	**328**	P	**P**	**15 07 40.0**	**-0.1**
TXAR	**Lajitas Array**	**90.49**	**52**	P	**P**	**15 08 18.6**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=283,slow=4.5,SNR=2.8						
H03N2	**Juan Fernandez**	**147.24**	**96**	T	T	17 59 21.7	
	baz=291,slow=76,SNR=8.3						
H03N3	**Juan Fernandez**	**147.25**	**96**	T	T	17 59 22.7	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**147.26**	**96**	T	T	17 59 25.5	
	baz=291,slow=76,SNR=11						

*TUL **25** 14:55:36.9±1.1, 35°.72N±0°.01×97°.17W±0°.02, h6km±5km, ML3.0, mb_Lg2.6/42(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=134.0*
NEIC 25 14:55:37.1±1.0, 35°.74N±0°.01×97°.16W±0°.01, h9km±4km, Error ellipse: s-maj=2.2km s-min=0.5km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.09**	**198**		Pg	14 55 38.9	-0.6
OK001	**Jones High Sch**	**0.21**	**211**	Pg	Pg	14 55 41.2	-0.3
OK001				Sg	Sg	14 55 44.2	-0.1
OK009	**Oakdale Elemen**	**0.27**	**234**	Sg	Sg	14 55 46.3	+0.2
OKCFA	**Oklahoma City**	**0.40**	**217**		Pg	14 55 44.7	-0.3
OKCFA				Sg	Sg	14 55 50.4	+0.1
OKCSW	**OKLAHOMA CITY**	**0.41**	**214**	Pg	Pg	14 55 44.7	-0.3
OKCSW				Sg	Sg	14 55 50.0	-0.4
FNO	**Franklin**	**0.52**	**202**	Pg	Pg	14 55 46.8	-0.5
FNO				Sg	Sg	14 55 54.0	-0.1
TUL1	**Leonard**	**1.12**	**81**		Pg	14 55 57.4	-1.2
TUL1				Sg	Sg	14 56 12.6	-0.6
TUL1				IAmb_Lg		14 56 14.5	
	comp=Z,25nm,0.8s						
X34A	**Smith Ranch, M**	**1.27**	**206**		Pn	14 56 00.3	-0.6
X34A				Sg	Sg	14 56 17.9	+0.1
T35A	**Sooner Cattle**	**1.28**	**24**		Pn	14 56 01.0	-0.3
U32A	**Winter Ranch,**	**1.62**	**294**	Pn	Pn	14 56 05.5	-0.5
X37A	**Clayton**	**1.86**	**128**		Pn	14 56 10.1	+0.9
W39A	**Magazine**	**2.81**	**100**	Pn	Pn	14 56 23.1	+0.9
W39A				IAmb_Lg		14 57 10.2	
	comp=Z,10nm,0.7s						
Z38A	**Mt. Pleasant**	**3.06**	**143**	IAmb_Lg		14 57 16.6	
	comp=Z,24nm,0.7s						
MIAR	**Mount Ida**	**3.17**	**111**	IAmb_Lg		14 57 21.8	
	comp=Z,13nm,0.8s						
KSU1	**Kansas State U**	**3.38**	**7**	IAmb_Lg		14 57 29.4	
	comp=Z,16nm,0.8s						
U40A	**Yellville**	**3.54**	**79**	IAmb_Lg		14 57 31.1	
	comp=Z,18nm,0.8s						
S39A	**Bolivar**	**3.64**	**57**	IAmb_Lg		14 57 37.3	
	comp=Z,18nm,1.1s						
CBKS	**Cedar Bluff**	**3.69**	**327**	IAmb_Lg		14 57 39.6	
	comp=Z,17nm,0.9s						
ABTX	**Abilene, Hawle**	**3.73**	**214**	IAmb_Lg		14 57 38.5	
	comp=Z,14nm,1.1s						
X40A	**Basin Creek Fa**	**3.76**	**108**	IAmb_Lg		14 57 43.5	
	comp=Z,12nm,0.7s						
AMTX	**Amarillo**	**3.80**	**258**	IAmb_Lg		14 57 44.2	
	comp=Z,17nm,0.8s						
WHAR	**Wooly Hollow**	**4.00**	**95**	Pn	Pn	14 56 39.2	+0.7
WHAR				IAmb_Lg		14 57 50.8	
	comp=Z,13nm,0.8s						
W41B	**Gary Mavity, V**	**4.05**	**97**	IAmb_Lg		14 57 47.6	
	comp=Z,11nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.09**	**86**	IAmb_Lg		14 57 50.9	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.18**	**69**	IAmb_Lg		14 57 59.2	
	comp=Z,16nm,0.8s						
R40A	**Maddies Statio**	**4.67**	**56**	IAmb_Lg		14 58 12.3	
	comp=Z,11nm,0.9s						
P38A	**Dawn**	**4.83**	**35**	IAmb_Lg		14 58 18.3	
	comp=Z,9.3nm,0.9s						
PBMO	**Poplar Bluff**	**5.53**	**77**	IAmb_Lg		14 58 48.6	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**6.01**	**286**	IAmb_Lg		14 58 58.5	
	comp=Z,8.0nm,0.8s						
SDCO	**Great Sand Dun**	**6.99**	**289**	IAmb_Lg		14 59 24.3	
	comp=Z,3.5nm,0.9s						

*IDC **25** 14:56:10.1±0.6, 29°.39S×178°.13W, h196km±5km, mb3.2/4, mb1 3.5/7, mb1mx3.4/36, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=17.6km az=134.0*
**ISC 25

PLWZ	**Palliser**	**13.16 202**	P	**Pn**	**14 59 08.8**	**-1.0**
TCW	**Tory Channel**	**13.19 206**	P	**Pn**	**14 59 10.8**	**+0.7**
DZM	**Mont Dzumac**	**15.75 295**	P	**Pn**	**14 59 42.3**	**+0.4**
	0.1nm,0.3s,baz=103,slow=19,SNR=1.4					
AKCZ	**Akaroa Harbour**	**16.00 204**	P	**Pn**	**14 59 49.7**	**+5.1**
RPZ	**Rata Peaks**	**16.58 208**	P	**Pn**	**14 59 53.2**	**+1.6**
	0.6nm,0.3s,baz=72,slow=16,SNR=1.6					
RPZ			S	**S**	**15 02 47.1**	**-6.6**
	0.6nm,0.3s,baz=133,slow=21,SNR=7.9					
STKA	**Stephens Creek**	**34.58 256**	P	**P**	**15 02 41.2**	**+1.0**
	0.7nm,0.4s,baz=101,slow=14,SNR=5.8					
ASAR	**Alice Springs**	**43.05 266**	P	**P**	**15 03 50.7**	**-0.1**
	0.5nm,0.4s,baz=106,slow=7.6,SNR=15					
ASAR			ScP	**ScP**	**15 09 09.9**	**+0.7**
	0.3nm,0.9s,baz=112,slow=4.0,SNR=4.3					
WRA	**Warramunga Arr**	**43.96 271**	P	**P**	**15 03 57.2**	**-0.8**
	0.5nm,0.4s,baz=110,slow=7.4,SNR=17					
NVAR	**Mina Array Bea**	**87.68 43**	P	**P**	**15 08 35.7**	**-0.8**
	0.3nm,0.7s,baz=219,slow=9.9,SNR=3.9					
MKAR	**Makanchi Array**	**117.13 310**	PKP	**PKiKP**	**15 14 31.1**	**-0.3**
	0.1nm,0.4s,baz=146,slow=1.3,SNR=4.5					
FINES	**FINESS Array B**	**144.30 340**	PKP	**PKPab**	**15 15 19.5**	**-0.8**
	1.3nm,0.5s,baz=48,slow=3.2,SNR=11					
AKASG	**Malin Array Be**	**150.54 324**	PKPbc	**PKPbc**	**15 15 37.0**	**-1.0**
	2.5nm,0.6s,baz=44,slow=3.0,SNR=8.1					
TORD	**Torodi Ar. Bea**	**163.69 179**	PKPab	**PKPab**	**15 16 44.1**	**+1.3**
	0.6nm,0.8s,baz=186,slow=3.2,SNR=3.0					

CNRM ***25*** *15:32:42.0, 35°.91N×3°.46W, h10km, ml2.5*
MDD ***25*** *15:32:43.8±0.8, 35°.82N×3°.46W, h21km±9km, mb_Lg2.1/6, Error ellipse: s-maj=8.3km s-min=6.5km az=109.0*

ISC 25 15:32:42.6±1.1, 35°.88N±0°.03×3°.46W±0°.04, h13km±10km, n14, σ0°.71/26, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.35**	**79**	Pg		**Pb**	**15 32 51.5**	**+0.8**
EALB				Sg		**Sb**	**15 32 56.4**	**+0.2**
EALB				*i* Vmb_Lg			15 32 58.0	
EMEL	**Melilla**	**0.71**	**144**	Pg		**Pg**	**15 32 56.6**	**+0.2**
EMEL				Sg		**Sg**	**15 33 04.8**	**-0.9**
GOG	**Mont Gurugu**	**0.76**	**150**	P		**Pg**	**15 32 56.8**	**-0.5**
GOG				S		**Sg**	**15 33 06.6**	**-0.6**
PALE	**Palemas**	**0.76**	**211**	P		**Pb**	**15 32 58.2**	**+0.4**
PALE				S		**Sn**	**15 33 09.8**	**-0.6**
ELGU	**Los Guajares,**	**1.00**	**352**	Pn		**Pb**	**15 33 01.6**	**-0.2**
ELGU				Sn		**Sg**	**15 33 16.1**	**+1.1**
ELGU				*i* Vmb_Lg			15 33 18.5	
EBER	**Berja**	**1.12**	**24**	Pn		**Pb**	**15 33 03.7**	**-0.2**
EBER				Sn		**Sg**	**15 33 19.4**	**+0.6**
EBER				*i* Vmb_Lg			15 33 27.0	
EMIJ	**Mijas**	**1.26**	**303**	Pn		**Pn**	**15 33 05.4**	**-0.5**
EMIJ				Sn		**Sb**	**15 33 21.5**	**-0.9**
EMIJ				*i* Vmb_Lg			15 33 28.1	
EQUE	**Quentar**	**1.33**	**1**	Sn		**Sn**	**15 33 23.9**	**-0.5**
EQUE				*i* Vmb_Lg			15 33 32.2	
EGOR	**Sierra Gorda,**	**1.34**	**337**	Sn		**Sn**	**15 33 23.9**	**-0.9**
EGOR				*i* Vmb_Lg			15 33 34.0	
TAF	**Taforalt**	**1.36**	**141**	P		**Pg**	**15 33 08.5**	**-0.3**
TAF				S		**Sg**	**15 33 27.4**	**+0.9**
SMIR	**Smir Dam**	**1.57**	**263**	P		**Pn**	**15 33 09.6**	**-0.5**
SMIR				S		**Sn**	**15 33 30.7**	**+0.4**
JBK	**JBK**	**1.70**	**154**	P		**Pn**	**15 33 11.6**	**-0.6**
JBK				S		**Sg**	**15 33 37.3**	**-0.2**
MD31	**MD31**	**3.19**	**200**	P		**Pn**	**15 33 33.0**	**+0.5**
MD31				S		**Sn**	**15 34 11.5**	**+1.2**
PVAQ	**Vaqueiros**	**3.75**	**295**	P		**Pn**	**15 33 41.0**	**+1.0**
PVAQ				S		**Sn**	**15 34 24.3**	**+0.3**

IDC 25 16:09:57.1±3.1, 20°.78S×176°.22W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/24, mbtmp3.7/2, Error ellipse: s-maj=197.4km s-min=47.2km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.08**	**257**	P		P	16 18 23.9	+0.7
	1.0nm,0.7s,baz=93,slow=8.0,SNR=32							
ASAR				PcP		PcP	16 19 57.5	-2.2
	0.3nm,0.6s,baz=111,slow=4.4,SNR=6.8							
WRA	**Warramunga Arr**	**46.21**	**262**	P		P	16 18 23.9	-0.4
	0.3nm,0.3s,baz=96,slow=7.5,SNR=34							
AKASG	**Malin Array Be**	**144.05**	**332**	PKP		PKPbc	16 29 33.5	+1.0
	1.2nm,0.4s,baz=44,slow=4.2,SNR=13							
GERES	**GERESS Array B**	**150.89**	**346**	PKPbc		PKiKP	16 29 52.8	+0.4
	0.2nm,0.5s,baz=28,slow=4.4,SNR=3.7							

TIF ***25*** *16:15:00.9, 42°.20N×45°.60E, h14km±1km*
MOS ***25*** *16:15:01.4±0.0, 42°.22N×45°.63E, h22km, MPVA3.6*
NORS ***25*** *16:15:01.0±0.0, 42°.19N×45°.61E, h19km, MPVA3.7*
DRS ***25*** *16:15:03.4±0.0, 42°.23N×45°.64E, h15km*
DDA ***25*** *16:15:03.2±0.0, 42°.18N×45°.39E, h10km, ML2.7*

ISC 25 16:15:01.0±1.0, 42°.18N±0°.01×45°.56E±0°.01, h5km±9km, n96, σ1°.46/178, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.61**	**124**	P		**Pb**	**16 15 13.6**	**-0.7**
LGD				S		**Sg**	**16 15 21.7**	**+0.9**
LGD	**Lagodekhi**	**0.61**	**124**	PG		**Pb**	**16 15 13.6**	**-0.7**
LGD				S		**Sg**	**16 15 21.7**	**+0.9**
BTLR	**Botlikh**	**0.69**	**45**	*e*Pg		**Pg**	**16 15 14.4**	**+0.1**
BTLR				*i* S		**Sg**	**16 15 23.6**	**+0.3**
BTLR				pmax	pmax			
	comp=Z,64nm,0.6s							
BTLR				smax	smax			
	comp=E,279nm,0.7s							
BTLR	**Botlikh**	**0.69**	**45**	*e*Pg		**Pb**	**16 15 14.5**	**-1.1**
BTLR				*e*Sg		**Sg**	**16 15 23.4**	**+0.1**
DGRG	**David-gareji**	**0.74**	**191**	P		**Pn**	**16 15 18.4**	**+0.2**
DGRG	**David-gareji**	**0.74**	**191**	PG		**Pn**	**16 15 18.4**	**+0.2**
BTNK	**Botanikuri**	**0.75**	**229**	P		**Pg**	**16 15 11.7**	**-3.8**
BTNK	**Botanikuri**	**0.75**	**229**	PG		**Pg**	**16 15 11.7**	**-3.8**
BTNK	**Botanikuri**	**0.75**	**229**	P		**Pg**	**16 15 11.7**	**-3.8**
BTNK				S		**Sg**	**16 15 22.9**	**-2.4**
PNSH	**Pansheti**	**0.83**	**303**	P		**Pb**	**16 15 17.6**	**-0.4**
PNSH				S		**Sg**	**16 15 28.1**	**+0.2**
PNSH	**Pansheti**	**0.83**	**303**	PG		**Pb**	**16 15 17.7**	**-0.4**
PNSH				S		**Sg**	**16 15 28.1**	**+0.2**
DDFL	**Dedoflistskaro**	**0.84**	**150**	P		**Pn**	**16 15 20.1**	**+0.5**
DDFL				S		**Sn**	**16 15 37.2**	**+4.9**
DDFL	**Dedoflistskaro**	**0.84**	**150**	PG		**Pn**	**16 15 20.1**	**+0.5**
DDFL				S		**Sn**	**16 15 37.3**	**+4.9**
DDFL	**Dedoflistskaro**	**0.84**	**150**	P		**Pn**	**16 15 20.9**	**+1.3**
DDFL				S		**Sn**	**16 15 39.2**	**+6.8**
DDFL				*i* AML		AML	16 15 48.0	
	comp=E,307nm,0.6s							
DDFL				*i* AML		AML	16 15 49.0	
	comp=E,261nm,0.7s							
GUDG	**Gudauri**	**0.85**	**290**	P		**Pg**	**16 15 16.8**	**-0.6**
GUDG				S		**Sb**	**16 15 29.7**	**-0.5**
GUDG	**Gudauri**	**0.85**	**290**	PG		**Pg**	**16 15 16.8**	**-0.6**
GUDG				S		**Sb**	**16 15 29.7**	**-0.5**
XNZR	**Khunzakh**	**0.92**	**67**	*e*PG		**Pg**	**16 15 18.7**	**-0.1**
XNZR				*i* S		**Sb**	**16 15 31.1**	**-1.2**
XNZR				pmax	pmax			
	comp=Z,19nm,0.5s							
XNZR				smax	smax			
	comp=N,148nm,0.3s							
XNZR	**Khunzakh**	**0.92**	**67**	*e*Pg		**Pb**	**16 15 19.1**	**-0.5**
XNZR				*e*Sg		**Sb**	**16 15 31.0**	**-1.2**
KMGR	**Komgaron**	**1.01**	**330**	*e*PG		**Pn**	**16 15 22.0**	**0.0**
KMGR				*e*S		**Sn**	**16 15 36.6**	**-0.1**
KMGR	**Komgaron**	**1.01**	**330**	*e*Pg		**Pn**	**16 15 21.9**	**0.0**
KMGR				*e*Sg		**Sn**	**16 15 36.6**	**-0.1**
GROC	**Groznyy**	**1.04**	**10**	*e*PG		**Pn**	**16 15 21.8**	**-0.4**
GROC				*e*			16 15 37.2	
GROC				pmax	pmax			
	comp=Z,57nm,0.4s							
GROC				smax	smax			
	comp=N,447nm,0.5s							
GROC				smax	smax			
	comp=E,148nm,0.3s							
GROC				smax	smax			
	comp=N,462nm,0.6s							
GROC	**Groznyy**	**1.04**	**10**	*e*Pg		**Pn**	**16 15 22.5**	**+0.3**
GROC				*e*Sg		**Sn**	**16 15 37.5**	**+0.4**
UNCR	**Uncukul**	**1.06**	**59**	*e*PG		**Pb**	**16 15 21.4**	**-0.4**
UNCR				*i* S		**Sn**	**16 15 36.2**	**-1.5**
UNCR				pmax	pmax			
	comp=Z,28nm,0.4s							
UNCR				smax	smax			
	comp=N,200nm,0.8s							
UNCR	**Uncukul**	**1.06**	**59**	*e*Pg		**Pb**	**16 15 21.4**	**-0.4**
UNCR				*e*Sg		**Sb**	**16 15 35.5**	**-0.5**
VLKR	**Vladikavkaz**	**1.08**	**323**	*e*PG		**Pn**	**16 15 23.0**	**+0.1**
VLKR				*e*S		**Sn**	**16 15 38.9**	**+0.6**
VLKR	**Vladikavkaz**	**1.08**	**323**	*e*Pg		**Pn**	**16 15 23.0**	**+0.1**
VLKR				*e*Sg		**Sn**	**16 15 38.9**	**+0.6**
LACR	**Lac**	**1.14**	**305**	*i* PG		**Pn**	**16 15 23.1**	**-0.6**
LACR				*e*S		**Sn**	**16 15 38.2**	**-1.5**
LACR	**Lac**	**1.14**	**305**	*i* Pg		**Pn**	**16 15 23.1**	**-0.6**
LACR				*e*Sg		**Sn**	**16 15 38.2**	**-1.5**
ARKR	**Arakani**	**1.14**	**68**	*e*PG		**Pg**	**16 15 22.8**	**-0.1**
ARKR				*i* S		**Sn**	**16 15 38.5**	**-1.3**
ARKR				pmax	pmax			
	comp=Z,29nm,0.2s							
ARKR				smax	smax			
	comp=N,105nm,0.4s							
ARKR	**Arakani**	**1.14**	**68**	*e*Pg		**Pg**	**16 15 22.9**	**-0.1**
ARKR				*e*Sg		**Sg**	**16 15 38.0**	**+0.2**
KMKR	**Kumukh**	**1.15**	**92**	*e*PG		**Pn**	**16 15 23.5**	**-0.4**
KMKR				*i* S		**Sn**	**16 15 39.9**	**-0.2**
KMKR				pmax	pmax			
	comp=Z,33nm,0.3s							
KMKR				smax	smax			
	comp=E,143nm,0.4s							
KMKR	**Kumukh**	**1.15**	**92**	*e*Pg		**Pn**	**16 15 23.6**	**-0.4**
KMKR				*e*Sg		**Sn**	**16 15 38.7**	**-1.4**
KZRT	**Kazreti**	**1.18**	**228**	P		**Pg**	**16 15 24.1**	**+0.5**
KZRT				S		**Sn**	**16 15 40.5**	**-0.1**
KZRT	**Kazreti**	**1.18**	**228**	PG		**Pg**	**16 15 24.1**	**+0.5**
KZRT				S		**Sn**	**16 15 40.5**	**-0.1**
KZRT	**Kazreti**	**1.18**	**228**	P		**Pg**	**16 15 24.1**	**+0.5**
KZRT				S		**Sn**	**16 15 39.5**	**-1.1**
KRNR	**Karanay**	**1.19**	**57**	*e*PG		**Pg**	**16 15 23.7**	**-0.1**
KRNR				*i* S		**Sn**	**16 15 39.7**	**-1.3**
KRNR				pmax	pmax			
	comp=Z,15nm,0.4s							
KRNR				smax	smax			
	comp=E,70nm,0.2s							
KRNR	**Karanay**	**1.19**	**57**	*e*Pg		**Pg**	**16 15 23.8**	**-0.1**
KRNR				*e*Sg		**Sg**	**16 15 39.0**	**-0.2**
DLMR	**Dylym**	**1.19**	**41**	*e*PG		**Pg**	**16 15 24.0**	**+0.2**
DLMR				*i* S		**Sn**	**16 15 40.4**	**-0.5**
DLMR				pmax	pmax			
	comp=E,66nm,0.4s							
DLMR				smax	smax			
	comp=E,298nm,0.4s							
DLMR	**Dylym**	**1.19**	**41**	*e*Pg		**Pg**	**16 15 24.0**	**+0.2**
DLMR				*e*Sg		**Sn**	**16 15 39.5**	**-1.3**
DBC	**Dubki**	**1.26**	**48**	*e*PG		**Pg**	**16 15 24.9**	**-0.3**
DBC				*i* S		**Sn**	**16 15 42.3**	**-0.4**
DBC				pmax	pmax			
	comp=Z,38nm,0.3s							
DBC				smax	smax			
	comp=N,74nm,0.5s							
DBC	**Dubki**	**1.26**	**48**	*e*Pg		**Pg**	**16 15 24.9**	**-0.3**
DBC				*e*Sg		**Sn**	**16 15 41.6**	**-1.1**
TRLG	**Trialeti**	**1.26**	**240**	P		**Pg**	**16 15 25.6**	**+0.4**
TRLG				S		**Sn**	**16 15 43.4**	**+0.5**
TRLG	**Trialeti**	**1.26**	**240**	PG		**Pg**	**16 15 25.6**	**+0.4**
TRLG				S		**Sn**	**16 15 43.4**	**+0.5**
BUJR	**Buynaksk**	**1.31**	**60**	*e*PG		**Pg**	**16 15 25.9**	**-0.3**
BUJR				*i* S		**Sg**	**16 15 44.1**	**+0.8**
BUJR				pmax	pmax			
	comp=Z,39nm,0.2s							
BUJR				smax	smax			
	comp=E,118nm,0.4s							
BUJR	**Buynaksk**	**1.31**	**60**	*e*Pg		**Pg**	**16 15 25.9**	**-0.3**
BUJR				*e*Sg		**Sg**	**16 15 43.0**	**-0.3**
DMNI	**Dmanisi**	**1.33**	**231**	P		**Pg**	**16 15 26.6**	**+0.1**
DMNI				S		**Sg**	**16 15 45.2**	**+1.4**
DMNI	**Dmanisi**	**1.33**	**231**	PG		**Pg**	**16 15 26.6**	**+0.1**
DMNI				S		**Sg**	**16 15 45.2**	**+1.4**
ZEI	**Tsey**	**1.37**	**297**	*e*PG		**Pg**	**16 15 27.5**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,19nm,0.2s							
ZEI	**Tsey**	**1.37**	**297**	*e*Pg		**Pg**	**16 15 27.5**	**+0.2**
ZEI				*e*Sg		**Sg**	**16 15 46.1**	**+1.0**
ARNR	**Ardon**	**1.37**	**317**	*e*PG		**Pg**	**16 15 28.7**	**+1.3**
ARNR				*e*S		**Sg**	**16 15 48.7**	**+3.5**
ARNR	**Ardon**	**1.37**	**317**	*e*Pg		**Pg**	**16 15 28.7**	**+1.3**
ARNR				*e*Sg		**Sg**	**16 15 48.7**	**+3.5**
BRNG	**Burnasheti**	**1.41**	**247**	P		**Pg**	**16 15 28.2**	**+0.2**
BRNG				S		**Sg**	**16 15 48.3**	**+2.1**
BTKR	**Batakoyurt**	**1.41**	**328**	*e*PG		**Pg**	**16 15 30.1**	**+2.1**
BTKR				*e*S		**Sg**	**16 15 50.4**	**+4.1**
BTKR	**Batakoyurt**	**1.41**	**328**	*e*Pg		**Pg**	**16 15 29.6**	**+1.5**
BTKR				*e*Sg		**Sg**	**16 15 48.4**	**+2.1**
KORR	**Kora**	**1.43**	**310**	*e*PG		**Pg**	**16 15 29.0**	**+0.6**
KORR				*e*S		**Sg**	**16 15 49.4**	**+2.6**
KORR	**Kora**	**1.43**	**310**	*e*Pg		**Pg**	**16 15 29.0**	**+0.6**
KORR				*e*Sg		**Sg**	**16 15 49.4**	**+2.6**
URKR	**Urkarakh**	**1.54**	**90**	*e*PG		**Pg**	**16 15 30.5**	**-0.1**
URKR				*i* S		**Sg**	**16 15 52.0**	**+1.4**
URKR				pmax	pmax			
	comp=Z,11nm,0.5s							
URKR				smax	smax			
	comp=N,33nm,0.6s							
URKR	**Urkarakh**	**1.54**	**90**	*e*Pg		**Pg**	**16 15 30.5**	**-0.1**
URKR				*e*Sg		**Sg**	**16 15 51.5**	**+0.9**
SGKR	**Sergokala**	**1.58**	**79**	*e*PG		**Pg**	**16 15 30.8**	**-0.5**
SGKR				*i* S		**Sg**	**16 15 53.4**	**+1.5**
SGKR				pmax	pmax			
	comp=Z,32nm,0.4s							
SGKR				smax	smax			
	comp=E,84nm,0.5s							
SGKR	**Sergokala**	**1.58**	**79**	*e*Pg		**Pg**	**16 15 30.9**	**-0.5**
SGKR				*e*Sg		**Sg**	**16 15 52.5**	**+0.6**
ONI	**Oni**	**1.61**	**285**	P		**Pg**	**16 15 31.6**	**-0.4**
ONI				S		**Sg**	**16 15 54.0**	**+1.1**
ONI	**Oni**	**1.61**	**285**	*e*PN		**Pg**	**16 15 31.9**	**-0.1**
ONI				*e*S		**Sg**	**16 15 54.6**	**+1.7**
ONI	**Oni**	**1.61**	**285**	*e*Pg		**Pg**	**16 15 31.9**	**-0.1**
ONI				*e*Sg		**Sg**	**16 15 54.6**	**+1.7**
STDR	**Stavd-Durt**	**1.62**	**318**	*e*PN		**Pg**	**16 15 33.7**	**+1.6**
STDR				*e*S		**Sg**	**16 15 57.2**	**+4.1**
STDR	**Stavd-Durt**	**1.62**	**318**	*e*Pg		**Pg**	**16 15 32.9**	**+0.8**
STDR				*e*Sg		**Sg**	**16 15 55.5**	**+2.3**
DIGR	**Digorskoe uzhe**	**1.63**	**297**	*e*PN		**Pg**	**16 15 32.1**	**-0.2**
DIGR				*e*S		**Sg**	**16 15 53.7**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.63**	**297**	*e*Pg		**Pg**	**16 15 32.1**	**-0.2**
DIGR				*e*Sg		**Sg**	**16 15 53.6**	**+0.3**
MAK	**Makhachkala**	**1.64**	**61**	*e*PG		**Pb**	**16 15 30.8**	**-0.8**
MAK				*e*			16 15 52.6	
MAK				pmax	pmax			
	comp=Z,88nm,0.3s							
MAK				smax	smax			
	comp=N,166nm,0.5s							
MAK				smax	smax			
	comp=N,184nm,0.4s							
TRKR	**Terskaya**	**1.66**	**339**	*e*PN		**Pb**	**16 15 31.1**	**-1.0**
TRKR	**Terskaya**	**1.66**	**339**	*e*Pg		**Pb**	**16 15 31.1**	**-1.0**
TRKR				*e*Sg		**Sb**	**16 15 52.9**	**-0.3**
LSNR	**Lesken**	**1.68**	**311**	*e*PN		**Pg**	**16 15 33.7**	**+0.4**
LSNR				*e*S		**Sg**	**16 15 57.0**	**+1.9**
LSNR	**Lesken**	**1.68**	**311**	*e*Pg		**Pg**	**16 15 33.7**	**+0.4**
LSNR				*e*Sg		**Sg**	**16 15 57.0**	**+1.9**
AKT	**Akhty**	**1.77**	**113**	*e*PN		**Pb**	**16 15 34.1**	**+0.1**
AKT				*i* S		**Sg**	**16 15 58.6**	**+0.8**
AKT				pmax	pmax			
	comp=Z,18nm,0.2s							
AKT				smax	smax			
	comp=N,35nm,0.6s							
AKT	**Akhty**	**1.77**	**113**	*e*Pg		**Pg**	**16 15 34.5**	**-0.4**
AKT				*e*Sg		**Sg**	**16 15 57.5**	**-0.3**
PRTR	**Priterechnaya**	**1.83**	**330**	*e*PN		**Pn**	**16 15 33.2**	**+0.1**
PRTR	**Priterechnaya**	**1.83**	**330**	*e*Pg		**Pn**	**16 15 33.1**	**+0.1**
PRTR				*e*Sg		**Sg**	**16 15 58.7**	**-1.1**
TKB	**Tkibuli**	**1.91**	**276**	P		**Pb**	**16 15 36.6**	**+0.2**
TKB				S		**Sg**	**16 16 01.8**	**-0.6**
TKB	**Tkibuli**	**1.91**	**276**	PN		**Pb**	**16 15 36.6**	**+0.2**
NCK	**Nalchik**	**1.95**	**313**	*i* PN		**Pb**	**16 15 35.6**	**-1.5**
ABS	**Abastumani**	**2.09**	**259**	P		**Pb**	**16 15 39.0**	**-0.5**
ABS				S		**Sg**	**16 16 06.7**	**-1.5**
ABS	**Abastumani**	**2.09**	**259**	PN		**Pb**	**16 15 39.0**	**-0.5**
ABS				S		**Sg**	**16 16 06.7**	**-1.5**
EAK	**Akyaka**	**2.09**	**225**	P		**Pb**	**16 15 39.4**	**-0.1**
EAK				S		**Sg**	**16 16 06.8**	**-1.5**
EAK				*i* AML		AML	16 16 08.0	
	comp=N,72nm,0.8s							
EAK				*i* AML		AML	16 16 09.0	
	comp=N,102nm,0.6s							
EAK				*i* AML		AML	16 16 20.0	
	comp=N,52nm,0.5s							
GNI	**Garni**	**2.12**	**197**	*e*PN		**Pb**	**16 15 39.5**	**-0.5**
GNI				*e*S		**Sg**	**16 16 09.5**	**+0.4**
GNI	**Garni**	**2.12**	**197**	*e*Pn		**Pb**	**16 15 39.5**	**-0.5**
GNI				*e*Sn		**Sg**	**16 16 09.5**	**+0.4**
EPOS	**Posof**	**2.22**	**253**	P		**Pb**	**16 15 40.8**	**-0.9**
EPOS				S		**Sb**	**16 16 10.1**	**+0.5**
EPOS				*i* AML		AML	16 16 20.0	
	comp=N,49nm,1.0s							
NEY	**Neytrino**	**2.35**	**298**	*e*PN		**Pb**	**16 15 43.3**	**-0.6**
NEY				*e*S		**Sb**	**16 16 12.6**	**-0.7**
NEY	**Neytrino**	**2.35**	**298**	*e*Pn		**Pb**	**16 15 43.3**	**-0.6**
NEY				*e*Sn		**Sb**	**16 16 12.6**	**-0.7**
KBZ	**Khabaz**	**2.49**	**309**	*i* PN		**Pb**	**16 15 43.7**	**-2.5**
SHA1	**Shidzhatmaz**	**2.64**	**307**	*e*PN		**Pb**	**16 15 47.5**	**-1.4**
SHA1				*e*S		**Sb**	**16 16 19.0**	**-2.7**
SHA1	**Shidzhatmaz**	**2.64**	**307**	*e*Pn		**Pb**	**16 15 47.5**	**-1.4**
SHA1				*e*Sn		**Sb**	**16 16 19.0**	**-2.7**
BEYR	**Belyy Ugol+**	**2.72**	**313**	*e*PN		**Pn**	**16 15 46.8**	**+1.4**
BEYR				*e*S		**Sb**	**16 16 21.0**	**-2.8**
BEYR	**Belyy Ugol+**	**2.72**	**313**	*e*Pn		**Pn**	**16 15 46.8**	**+1.4**
BEYR				*e*Sn		**Sb**	**16 16 21.0**	**-2.8**
DAGI	**Agillar**	**2.95**	**249**	P		**Pb**	**16 15 53.6**	**-0.4**
DAGI				S		**Sb**	**16 16 31.7**	**+1.3**
KOTA	**Agri, Merkez-K**	**2.97**	**218**	P		**Pb**	**16 15 54.7**	**+0.2**
DBAD	**Bademkaya**	**3.12**	**249**	P		**Pb**	**16 15 58.4**	**+1.4**
DBAD				S		**Sb**	**16 16 33.8**	**-1.7**
OBN	**Obninsk**	**14.22**	**339**	*e*P		**Pn**	**16 18 23.4**	**+0.5**
OBN				pmax	pmax			
	comp=Z,11nm,0.4s							

IDC ***25*** *16:23:49.3±1.3, 9°.97S×115°.63E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.4/59, mbtmp3.7/9, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/64, Error ellipse: s-maj=54.9km s-min=18.5km az=46.0*
DJA ***25*** *16:23:58.4±1.0, 10°S±5°×11°6E±°, h31km±17km, M4.1/13, mb4.2/4, MLv4.0/13*

ISC 25 16:23:56.6±1.1, 9°.88S±0°.08×116°.06E±0°.04, h57km±13km, n26, σ1°.79/34, mb3.5/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.39**	**319**	P		**Pn**	**16 24 19.0**	**-0.7**
IGBI				S		**Sn**	**16 24 34.8**	**-2.3**
DNP	**Denpasar**	**1.46**	**325**	P		**Pn**	**16 24 20.5**	**-0.2**
DNP				S		**Sn**	**16 24 37.9**	**-0.9**
SRBI	**Singaraja**	**1.97**	**335**	P		**Pn**	**16 24 28.8**	**+1.2**
SRBI				S		**Sn**	**16 24 50.6**	**-0.7**
PLAI	**Plampang**	**1.99**	**58**	P		**Pn**	**16 24 28.7**	**+0.8**
PLAI				S		**Sn**	**16 24 51.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.35**	**307**	P		**Pn**	**16 24 32.6**	**-0.2**
ABJI	**Asem Bagus**	**2.75**	**319**	P		**Pn**	**16 24 39.6**	**+1.4**
ABJI				S		**Sn**	**16 25 10.5**	**+0.2**
GMJI	**Gumukmas**	**3.04**	**302**	P		**Pn**	**16 24 42.2**	**0.0**
BLJI	**Banyuglugur**	**3.23**	**311**	P		**Pn**	**16 24 45.3**	**+0.4**
BLJI				S		**Sn**	**16 25 22.8**	**+0.6**
WBSI	**Waikabubak, Su**	**3.29**	**86**	P		**Pn**	**16 24 46.2**	**+0.5**
KMJI	**Kalianget**	**3.50**	**323**	P		**Pn**	**16 24 48.4**	**+0.3**
PWJI	**Purgerwojo**	**4.59**	**293**	P		**Pn**	**16 25 04.1**	**+0.6**
PCJI	**Pacitan**	**5.11**	**289**	P		**Pn**	**16 25 13.7**	**+3.1**
	0.3nm30nm,1.3s							
BWJI	**Bawean**	**5.24**	**320**	P		**Pn**	**16 25 13.4**	**+1.1**
	0.2nm22nm,0.9s							
BSSI	**Bau Bau, Buton**	**5.75**	**50**	P		**Pn**	**16 25 22.3**	**+2.9**
	0.1nm14nm,0.6s							
UGM	**Wanagama**	**5.81**	**289**	P		**Pn**	**16 25 22.6**	**+2.3**
KAPI	**Kappang**	**6.06**	**37**	Pn		**Pn**	**16 25 25.5**	**+1.8**
	2.7nm,0.3s,baz=181,slow=9.2,SNR=1.8							
KAPI				Sn		**Sn**	**16 26 30.7**	**-1.0**
	4.1nm,0.3s,baz=53,slow=22,SNR=12							
KA

ARHZ	**Aropaoanui**	**1.49**	**197**	P	**Pn**	**16 28 11.3**	**-0.1**
KUTZ	**Kaahu Road**	**1.51**	**244**	P	**Pn**	**16 28 11.7**	**0.0**
HATZ	**Hinemaiaia**	**1.56**	**227**	P	**Pn**	**16 28 11.6**	**-0.8**
BKZ	**Black Stump Fm**	**1.56**	**212**	P	**Pn**	**16 28 11.4**	**-1.1**
BKZ	**Black Stump Fm**	**1.56**	**212**	P	**Pn**	**16 28 12.7**	**+0.2**
TOZ	**Tahuroa Road**	**1.63**	**273**	P	**Pn**	**16 28 12.3**	**-1.0**
RATZ	**Rangitukua**	**1.73**	**233**	P	**Pn**	**16 28 15.8**	**+1.0**
MCHZ	**McNeill Hill**	**1.74**	**202**	P	**Pn**	**16 28 15.2**	**+0.4**
RITZ	**Rihia Road**	**1.75**	**229**	P	**Pn**	**16 28 14.7**	**-0.3**
KWHZ	**Kaweka Forest**	**1.81**	**209**	P	**Pn**	**16 28 15.7**	**-0.2**
KUZ	**Kuaotunu**	**1.82**	**306**	P	**Pn**	**16 28 14.4**	**-1.6**
TMVZ	**Te Maari**	**1.93**	**228**	P	**Pn**	**16 28 18.3**	**+0.7**
NTVZ	**North Tongariro**	**1.94**	**229**	P	**Pn**	**16 28 17.4**	**-0.2**
ETVZ	**East Tongariro**	**1.94**	**184**	P	**Pn**	**16 28 17.1**	**-0.6**
OTVZ	**Oturere**	**1.98**	**228**	P	**Pn**	**16 28 17.9**	**-0.5**
NNVZ	**North Ngauruho**	**1.99**	**229**	P	**Pn**	**16 28 18.1**	**-0.3**
WTVZ	**West Tongariro**	**2.00**	**230**	P	**Pn**	**16 28 19.7**	**+1.2**
SNVZ	**South Ngauruho**	**2.02**	**228**	P	**Pn**	**16 28 18.3**	**-0.5**
BHHZ	**Black Hill Sta**	**2.02**	**215**	P	**Pn**	**16 28 19.1**	**+0.4**
KAHZ	**Kahuranaki**	**2.02**	**195**	P	**Pn**	**16 28 17.4**	**-1.4**
KRHZ	**Kereru**	**2.02**	**207**	P	**Pn**	**16 28 18.5**	**-0.3**
NGZ	**Ngauruhoe**	**2.03**	**228**	P	**Pn**	**16 28 18.9**	**-0.1**
MKAZ	**Moumakai**	**2.04**	**290**	P	**Pn**	**16 28 17.9**	**-1.0**
TUVZ	**Tukino**	**2.06**	**226**	P	**Pn**	**16 28 20.0**	**+0.6**
TWVZ	**Taurewa**	**2.07**	**233**	P	**Pn**	**16 28 20.7**	**+1.2**
MOVZ	**Moawhango**	**2.11**	**221**	P	**Pn**	**16 28 20.1**	**+0.1**
WNVZ	**Wahianoa**	**2.13**	**225**	P	**Pn**	**16 28 21.0**	**+0.5**
TRVZ	**Turoa**	**2.14**	**227**	P	**Pn**	**16 28 21.3**	**+0.7**
HIZ	**Hauiti**	**2.23**	**252**	P	**Pn**	**16 28 21.6**	**+0.1**
HIZ	**Hauiti**	**2.23**	**252**	P	**Pn**	**16 28 23.6**	**+2.0**
MTVZ	**Mangateitei**	**2.25**	**226**	P	**Pn**	**16 28 22.8**	**+0.9**
PXZ	**Pawanui**	**2.25**	**194**	P	**Pn**	**16 28 19.3**	**-2.6**
ETAZ	**East Tamaki Re**	**2.27**	**292**	P	**Pn**	**16 28 21.0**	**-1.1**
GRZ	**Great Barrier**	**2.31**	**313**	P	**Pn**	**16 28 21.5**	**-1.2**
PNHZ	**Pukenui**	**2.33**	**207**	P	**Pn**	**16 28 21.6**	**-1.4**
MBAZ	**Motutapu North**	**2.37**	**296**	P	**Pn**	**16 28 22.9**	**-0.6**
WPHZ	**Waipukurau**	**2.38**	**201**	P	**Pn**	**16 28 22.6**	**-1.1**
PRHZ	**Porangahau**	**2.53**	**196**	P	**Pn**	**16 28 23.1**	**-2.6**
VRZ	**Vera Road**	**2.54**	**239**	P	**Pn**	**16 28 26.9**	**+1.0**
RVAZ	**Riverhead Bore**	**2.60**	**293**	P	**Pn**	**16 28 26.3**	**-0.4**
WAZ	**Wanganui**	**2.77**	**226**	P	**Pn**	**16 28 29.7**	**+0.7**
BFZ	**Birch Farm**	**3.01**	**199**	P	**Pn**	**16 28 30.0**	**-2.4**
BFZ	**Birch Farm**	**3.01**	**199**	P	**Pn**	**16 28 31.3**	**-1.1**
NEZ	**North Egmont**	**3.06**	**241**	P	**Pn**	**16 28 35.6**	**+2.5**
TIWZ	**Tintock**	**3.21**	**203**	P	**Pn**	**16 28 34.3**	**-0.7**
MRZ	**Mangatainoka R**	**3.21**	**208**	P	**Pn**	**16 28 32.3**	**-2.7**
OGWZ	**Otaki Gorge**	**3.50**	**211**	P	**Pn**	**16 28 37.3**	**-1.7**
KIW	**Kapiti Island**	**3.65**	**213**	P	**Pn**	**16 28 38.4**	**-2.7**
MTW	**Mount Morrison**	**3.67**	**205**	P	**Pn**	**16 28 38.1**	**-3.4**
OUZ	**Omahuta**	**4.12**	**306**	P	**Pn**	**16 28 47.4**	**-0.2**
OUZ	**Omahuta**	**4.12**	**308**	P	**Pn**	**16 28 47.5**	**-0.1**
TCW	**Tory Channel**	**4.21**	**216**	P	**Pn**	**16 28 45.9**	**-2.9**
BSWZ	**Blackbirch Sta**	**4.80**	**215**	P	**Pn**	**16 28 54.3**	**-2.6**
QRZ	**Quartz Range**	**4.91**	**231**	P	**Pn**	**16 28 56.0**	**-2.4**
QRZ	**Quartz Range**	**4.91**	**231**	P	**Pn**	**16 28 59.1**	**+0.8**
	57nm,2.5s						

*JMA **25** 16:30:41.9±0.1,34°.11N×137°.37E,h360km,M3.0*
*IDC **25** 16:30:44.9±0.8,34°.15N×137°.25E,h340km±9km,mb2.7/6,*
mb1 2.8/9,mb1mx2.6/60,mbtmp3.4/9,Error ellipse:
s-maj=22.4km s-min=12.3km az=67.0
ISC 25 16:30:45.2±0.8,**34°.19N**±0°.08×**137°.28E**±0°.08,**h347**km,**n24,**
σ1§65/26,mb2.8/6,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.50**	**205**	P	**Pn**	**16 31 27.7**	**-1.1**
JIE	**Ise**	**0.52**	**293**	P	**Pn**	**16 31 27.7**	**-1.4**
TTO1	**TONANKAI O.B.S**	**0.70**	**216**	P	**Pn**	**16 31 28.1**	**-1.2**
JWY	**Kouya**	**1.40**	**272**	P	**Pn**	**16 31 31.2**	**-1.4**
JTNC	**Tanabenakahech**	**1.44**	**255**	P	**Pn**	**16 31 31.0**	**-1.7**
JYTA	**Yamagatataniai**	**1.47**	**342**	P	**Pn**	**16 31 31.6**	**-1.1**
JOD2	**Odawara 2**	**1.83**	**54**	P	**Pn**	**16 31 33.6**	**-1.4**
JWT	**Wachi**	**1.89**	**306**	P	**Pn**	**16 31 34.1**	**-1.3**
JKG	**Kaga**	**2.22**	**340**	P	**Pn**	**16 31 36.6**	**-1.1**
JRY	**Ryogami san**	**2.25**	**36**	P	**Pn**	**16 31 37.1**	**-0.9**
JHJ	**Hachijo jima 2**	**2.34**	**116**	P	**Pn**	**16 31 36.8**	**-2.0**
	15nm,0.3s,baz=117,slow=24,SNR=6.2						
JHJ				S	**S**	**16 32 24.2**	**+2.4**
	4.4nm,0.3s,baz=269,slow=22,SNR=1.2						
JHJ2	**Mitsune**	**2.37**	**116**	P	**Pn**	**16 31 36.8**	**-2.2**
JAI	**Aioi**	**2.39**	**261**	P	**Pn**	**16 31 37.5**	**-1.6**
MAT	**Matsushiro**	**2.46**	**18**	P	**Pn**	**16 31 38.4**	**-1.2**
MJAR	**Matsushiro Arr**	**2.46**	**18**	P	**Pn**	**16 31 38.0**	**-1.7**
	0.3nm,0.3s,baz=206,slow=10,SNR=7.7						
MJAR				S	**S**	**16 32 20.9**	**-2.6**
	0.1nm,0.3s,baz=258,slow=16,SNR=2.1						
JAG	**Ashikaga**	**2.85**	**38**	P	**Pn**	**16 31 40.4**	**-2.5**
JHS	**Saijyo**	**3.53**	**284**	P	**Pn**	**16 31 47.6**	**-1.7**
KSRS	**Korea Array**	**8.27**	**296**	P	**Pn**	**16 32 43.0**	**+0.6**
	0.2nm,0.3s,baz=105,slow=13,SNR=7.1						
SONM	**Songino Array**	**26.79**	**310**	P	**P**	**16 35 56.6**	**+2.0**
	0.3nm,0.3s,baz=114,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**42.85**	**304**	P	**P**	**16 38 10.8**	**+0.6**
	0.8nm,0.7s,baz=91,slow=9.9,SNR=9.9						
ILAR	**Eielson Array**	**53.67**	**31**	P	**P**	**16 39 32.6**	**+0.8**
	0.2nm,0.6s,baz=254,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**53.91**	**183**	P	**P**	**16 39 32.8**	**-1.2**
	0.1nm,0.3s,baz=0.4,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**57.63**	**184**	P	**P**	**16 39 59.1**	**-1.0**
	0.2nm,0.7s,baz=354,slow=3.8,SNR=4.3						
YKA	**Yellowknife Ar**	**67.93**	**28**	P	**P**	**16 41 08.1**	**+1.2**
	0.1nm,0.4s,baz=300,slow=6.1,SNR=3.0						

*DRS **25** 16:35:47.2±0.0,43°.14N×47°.09E,h11km*
*MOS **25** 16:35:47.5±0.0,43°.07N×47°.04E,h14km,MPVA3.6*
*NORS **25** 16:35:48.6±0.0,42°.98N×47°.04E,h7km,MPVA3.7*
ISC 25 16:35:49.8±0.9,**43°.05N**±0°.02×**47°.06E**±0°.02,**h13**km±7km,
n77,σ1§29/141,4C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.17**	**261**	⇓*i*PG	**Pb**	**16 35 52.5**	**-2.3**
DBC	**Dubki**	**0.17**	**261**	*i* Pg	**Pb**	**16 35 52.5**	**-2.3**
DBC				*e*Sg	**Sb**	**16 35 55.8**	**-2.3**
BUJR	**Buynaksk**	**0.23**	**170**	⇑*i*PG	**Pb**	**16 35 54.7**	**-1.1**
BUJR				*i*		16 35 59.8	
BUJR				pmax	pmax		
	comp=Z,340nm,0.4s						
BUJR				smax	smax		
	comp=N,1μm,0.2s						
BUJR	**Buynaksk**	**0.23**	**170**	*e*Pg	**Pb**	**16 35 54.7**	**-1.1**
BUJR				*e*Sg	**Sb**	**16 35 59.8**	**0.0**
KRNR	**Karanay**	**0.25**	**206**	*e*PG	**Pb**	**16 35 54.1**	**-2.0**
KRNR				*i* S	**Sb**	**16 35 59.3**	**-1.1**
KRNR				pmax	pmax		
	comp=Z,148nm,0.2s						
KRNR				smax	smax		
	comp=E,1μm,0.2s						
KRNR	**Karanay**	**0.25**	**206**	*e*Pg	**Pb**	**16 35 54.2**	**-2.0**
KRNR				*e*Sg	**Sb**	**16 35 59.0**	**-1.4**
DLMR	**Dylym**	**0.31**	**274**	*e*PG	**Pg**	**16 35 55.3**	**-0.9**
DLMR				*i* S	**Sb**	**16 36 01.2**	**-1.1**
DLMR				pmax	pmax		
	comp=Z,240nm,0.2s						
DLMR				smax	smax		
	comp=E,2μm,0.2s						
DLMR	**Dylym**	**0.31**	**274**	*i* Pg	**Pg**	**16 35 55.3**	**-0.9**
DLMR				*e*Sg	**Sb**	**16 36 00.8**	**-1.5**
MAK	**Makhachkala**	**0.34**	**104**	*e*PG	**Pg**	**16 35 55.5**	**-1.1**
MAK				*i* S	**Sg**	**16 36 01.9**	**+0.6**
MAK				pmax	pmax		
	comp=Z,92nm,0.3s						
MAK				smax	smax		
	comp=N,539nm,0.3s						
MAK	**Makhachkala**	**0.34**	**104**	*e*Pg	**Pg**	**16 35 55.6**	**-1.1**
MAK				*e*Sg	**Sg**	**16 36 01.0**	**-0.3**
KANR	**Karaman**	**0.35**	**65**	*e*PG	**Pg**	**16 35 56.9**	**0.0**
KANR				*e*S	**Sg**	**16 36 03.3**	**+1.7**
KANR	**Karaman**	**0.35**	**65**	*e*Pg	**Pg**	**16 35 56.9**	**0.0**
KANR				*e*Sg	**Sg**	**16 36 03.4**	**+1.7**
UNCR	**Uncukul**	**0.38**	**210**	⇓*i*PG	**Pg**	**16 35 56.7**	**-0.8**
UNCR				*i*		16 36 03.3	
UNCR				pmax	pmax		
	comp=Z,277nm,0.4s						
UNCR				smax	smax		
	comp=N,589nm,0.4s						
UNCR	**Uncukul**	**0.38**	**210**	*e*Pg	**Pg**	**16 35 56.7**	**-0.8**
UNCR				*e*Sg	**Sg**	**16 36 03.3**	**+0.7**
ARKR	**Arakani**	**0.45**	**186**	*e*PG	**Pg**	**16 35 58.1**	**-0.5**
ARKR				*e*S	**Sg**	**16 36 05.8**	**+1.2**
ARKR				pmax	pmax		
	comp=Z,101nm,0.3s						
ARKR				smax	smax		
	comp=N,397nm,0.6s						
ARKR				smax	smax		
	comp=E,344nm,0.2s						
ARKR				smax	smax		
	comp=N,362nm,0.3s						
ARKR	**Arakani**	**0.45**	**186**	*e*Pg	**Pg**	**16 35 58.1**	**-0.5**
ARKR				*e*Sg	**Sg**	**16 36 05.8**	**+1.2**
XNZR	**Khunzakh**	**0.57**	**207**	*e*PG	**Pb**	**16 36 00.6**	**-1.1**
XNZR				*e*S	**Sb**	**16 36 09.5**	**-0.3**
XNZR				pmax	pmax		
	comp=Z,48nm,0.6s						
XNZR				smax	smax		
	comp=N,295nm,0.3s						
XNZR				smax	smax		
	comp=E,376nm,0.3s						
XNZR				smax	smax		
	comp=E,325nm,0.1s						
XNZR	**Khunzakh**	**0.57**	**207**	*e*Pg	**Pb**	**16 36 00.6**	**-1.1**
XNZR				*e*Sg	**Sb**	**16 36 09.8**	**+0.1**
BTLR	**Botlikh**	**0.72**	**238**	*e*PG	**Pb**	**16 36 03.5**	**-0.8**
BTLR				*e*S	**Sb**	**16 36 14.7**	**+0.6**
BTLR				pmax	pmax		
	comp=Z,42nm,0.4s						
BTLR				smax	smax		
	comp=E,152nm,0.4s						
BTLR				smax	smax		
	comp=N,202nm,0.3s						
BTLR				smax	smax		
	comp=N,220nm,0.8s						
BTLR	**Botlikh**	**0.72**	**238**	*e*Pg	**Pb**	**16 36 04.3**	**0.0**
BTLR				*e*Sg	**Sg**	**16 36 14.9**	**+1.6**
SGKR	**Sergokala**	**0.74**	**143**	*e*PG	**Pb**	**16 36 04.5**	**0.0**
SGKR				*e*S	**Sn**	**16 36 16.2**	**-0.8**
SGKR				pmax	pmax		
	comp=Z,80nm,0.8s						
SGKR				smax	smax		
	comp=E,174nm,0.6s						
SGKR				smax	smax		
	comp=N,295nm,0.3s						
SGKR				smax	smax		
	comp=N,190nm,0.6s						
SGKR	**Sergokala**	**0.74**	**143**	*e*Pg	**Pb**	**16 36 04.5**	**0.0**
SGKR				*e*Sg	**Sn**	**16 36 16.2**	**-0.8**
KMKR	**Kumukh**	**0.92**	**178**	*e*PG	**Pb**	**16 36 08.2**	**+0.6**
KMKR				*e*S	**Sn**	**16 36 22.6**	**+0.9**
KMKR				pmax	pmax		
	comp=Z,62nm,0.1s						
KMKR				smax	smax		
	comp=N,905nm,0.2s						
KMKR				smax	smax		
	comp=E,677nm,0.2s						
KMKR				smax	smax		
	comp=N,799nm,0.2s						
KMKR	**Kumukh**	**0.92**	**178**	*e*Pg	**Pb**	**16 36 08.2**	**+0.6**
KMKR				*e*Sg	**Sn**	**16 36 22.6**	**+0.9**
GROC	**Groznyy**	**0.94**	**280**	*e*PG	**Pg**	**16 36 09.9**	**+2.1**
GROC				*e*S	**Sn**	**16 36 23.9**	**+2.0**
GROC	**Groznyy**	**0.94**	**280**	*e*Pg	**Pb**	**16 36 06.1**	**-1.8**
GROC				*e*Sg	**Sn**	**16 36 22.3**	**+0.4**
URKR	**Urkarakh**	**0.98**	**154**	*e*PG	**Pb**	**16 36 08.5**	**-0.2**
URKR				*e*S	**Sg**	**16 36 22.9**	**+1.5**
URKR				pmax	pmax		
	comp=Z,42nm,0.3s						
URKR				smax	smax		
	comp=E,174nm,0.6s						
URKR				smax	smax		
	comp=N,96nm,0.2s						
URKR				smax	smax		
	comp=E,146nm,0.6s						
URKR	**Urkarakh**	**0.98**	**154**	*e*Pg	**Pb**	**16 36 08.5**	**-0.2**
URKR				*e*Sg	**Sg**	**16 36 23.0**	**+1.5**
DRN	**Derbent**	**1.39**	**137**	*e*PG	**Pn**	**16 36 15.7**	**+0.9**
DRN				*e*S	**Sg**	**16 36 36.3**	**+1.9**
DRN	**Derbent**	**1.39**	**137**	*e*Pg	**Pn**	**16 36 15.7**	**+0.9**
DRN				*e*Sg	**Sg**	**16 36 36.3**	**+1.9**
KMGR	**Komgaron**	**1.60**	**271**	*e*PG	**Pb**	**16 36 19.5**	**+0.2**
KMGR				*e*S	**Sg**	**16 36 43.3**	**+1.9**
KMGR	**Komgaron**	**1.60**	**271**	*e*Pg	**Pn**	**16 36 18.8**	**+0.9**
KMGR				*e*Sg	**Sg**	**16 36 43.4**	**+1.9**
AKT	**Akhty**	**1.64**	**162**	*e*PN	**Pn**	**16 36 19.5**	**+1.0**
AKT				*i* S	**Sg**	**16 36 43.4**	**+0.7**
AKT				pmax	pmax		
	comp=Z,76nm,0.3s						
AKT				smax	smax		
	comp=E,122nm,0.2s						
AKT	**Akhty**	**1.64**	**162**	*e*Pg	**Pb**	**16 36 20.6**	**+0.6**
AKT				*e*Sg	**Sg**	**16 36 42.9**	**+0.2**
VLKR	**Vladikavkaz**	**1.74**	**271**	*e*PN	**Pb**	**16 36 23.4**	**+1.7**
VLKR				*e*S	**Sg**	**16 36 48.4**	**+2.6**
VLKR	**Vladikavkaz**	**1.74**	**271**	*e*Pg	**Pn**	**16 36 20.9**	**+1.1**
VLKR				*e*Sg	**Sb**	**16 36 45.1**	**+1.6**
BTKR	**Batakoyurt**	**1.87**	**281**	*e*PN	**Pb**	**16 36 24.5**	**+0.7**
BTKR				*e*S	**Sg**	**16 36 51.8**	**+2.0**
BTKR	**Batakoyurt**	**1.87**	**281**	*e*Pg	**Pb**	**16 36 23.8**	**+0.1**
BTKR				*e*Sg	**Sg**	**16 36 49.9**	**+0.1**
LACR	**Lac**	**2.04**	**265**	*e*PN	**Pn**	**16 36 23.6**	**-0.3**
LACR				pmax	pmax		
	comp=Z,31nm,0.3s						
LACR	**Lac**	**2.04**	**265**	*e*Pg	**Pn**	**16 36 23.6**	**-0.3**
LACR				*e*Sg	**Sb**	**16 36 52.9**	**+0.8**
PRTR	**Priterechnaya**	**2.14**	**290**	*e*PN	**Pb**	**16 36 28.9**	**+0.5**
PRTR				*e*S	**Sg**	**16 36 58.5**	**-0.1**
PRTR	**Priterechnaya**	**2.14**	**290**	*e*Pg	**Pn**	**16 36 25.1**	**-0.1**
PRTR				*e*Sg	**Sn**	**16 36 53.6**	**+2.0**
KORR	**Kora**	**2.19**	**272**	*e*PN	**Pn**	**16 36 26.4**	**+0.4**
KORR				*e*S	**Sn**	**16 36 54.5**	**+1.5**
KORR	**Kora**	**2.19**	**272**	*e*Pg	**Pn**	**16 36 26.4**	**+0.4**
KORR				*e*Sg	**Sn**	**16 36 54.5**	**+1.5**
STDR	**Stavd-Durt**	**2.21**	**279**	*e*PN	**Pn**	**16 36 26.4**	**+0.2**
STDR				*e*S	**Sn**	**16 36 54.5**	**+1.1**
STDR	**Stavd-Durt**	**2.21**	**279**	*e*Pg	**Pn**	**16 36 26.4**	**+0.2**
STDR				*e*Sg	**Sn**	**16 36 54.5**	**+1.1**
ZEI	**Tsey**	**2.33**	**265**	*e*PN	**Pn**	**16 36 28.3**	**+0.3**
ZEI				*e*S	**Sn**	**16 36 56.9**	**+0.2**
ZEI	**Tsey**	**2.33**	**265**	*e*Pn	**Pn**	**16 36 28.3**	**+0.3**
ZEI				*e*Sn	**Sn**	**16 36 56.9**	**+0.2**
LSNR	**Lesken**	**2.37**	**277**	*e*PN	**Pn**	**16 36 30.5**	**+2.0**
LSNR				*e*S	**Sn**	**16 36 57.5**	**0.0**
LSNR	**Lesken**	**2.37**	**277**	*e*Pn	**Pn**	**16 36 30.5**	**+2.0**
LSNR				*e*Sn	**Sn**	**16 36 57.5**	**0.0**
DIGR	**Digorskoe uzhe**	**2.55**	**268**	*e*PN	**Pn**	**16 36 32.2**	**+1.1**
DIGR				*e*S	**Sb**	**16 37 05.6**	**-1.4**
DIGR	**Digorskoe uzhe**	**2.55**	**268**	*e*Pn	**Pn**	**16 36 32.2**	**+1.1**
DIGR				*e*Sn	**Sb**	**16 37 05.6**	**-1.4**
ONI	**Oni**	**2.69**	**261**	*e*PN	**Pn**	**16 36 33.0**	**+0.2**
ONI				*e*S	**Sn**	**16 37 06.3**	**+1.0**
ONI	**Oni**	**2.69**	**261**	*e*Pn	**Pn**	**16 36 33.0**	**+0.2**
ONI				*e*Sn	**Sn**	**16 37 06.3**	**+1.0**
KBTC	**Kuba-Taba**	**2.77**	**287**	*e*PN	**Pn**	**16 36 33.0**	**-0.9**
KBTC				*e*S	**Sn**	**16 37 05.8**	**-1.3**
KBTC	**Kuba-Taba**	**2.77**	**287**	*e*Pn	**Pn**	**16 36 33.0**	**-0.9**
KBTC				*e*Sn	**Sn**	**16 37 05.8**	**-1.3**
KBZ	**Khabaz**	**3.11**	**284**	*e*PN	**Pn**	**16 36 37.2**	**-1.3**
KBZ				*e*S	**Sn**	**16 37 15.6**	**+0.1**
KBZ	**Khabaz**	**3.11**	**284**	*e*Pn	**Pn**	**16 36 37.2**	**-1.3**
KBZ				*e*Sn	**Sn**	**16 37 15.6**	**+0.1**
NEY	**Neytrino**	**3.18**	**275**	*e*PN	**Pn**	**16 36 39.2**	**-0.4**
NEY				*e*S	**Sn**	**16 37 18.8**	**+1.3**
NEY	**Neytrino**	**3.18**	**275**	*e*Pn	**Pn**	**16 36 39.2**	**-0.4**
NEY				*e*Sn	**Sn**	**16 37 18.8**	**+1.3**
BEYR	**Belyy Ugol+**	**3.23**	**289**	*e*PN	**Pn**	**16 36 39.0**	**-1.3**
BEYR				*e*S	**Sn**	**16 37 16.9**	**-1.7**
BEYR	**Belyy Ugol+**	**3.23**	**289**	*e*Pn	**Pn**	**16 36 39.0**	**-1.3**
BEYR				*e*Sn	**Sn**	**16 37 16.9**	**-1.7**
SHA1	**Shidzhatmaz**	**3.28**	**284**	*e*PN	**Pn**	**16 36 40.1**	**-1.0**
SHA1				*e*S	**Sn**	**16 37 17.7**	**-2.4**
SHA1	**Shidzhatmaz**	**3.28**	**284**	*e*Pn	**Pn**	**16 36 40.1**	**-1.0**
SHA1				*e*Sn	**Sn**	**16 37 17.7**	**-2.4**
KIV	**Kislovodsk**	**3.31**	**287**	*e*PN	**Pn**	**16 36 42.4**	**+1.1**
KIV				*e*S	**Sn**	**16 37 19.3**	**-1.3**
KIV	**Kislovodsk**	**3.31**	**287**	*e*Pn	**Pn**	**16 36 42.4**	**+1.1**
KIV				*e*Sn	**Sn**	**16 37 19.3**	**-1.3**
GNI	**Garni**	**3.38**	**212**	*e*PN	**Pn**	**16 36 44.3**	**+1.9**
GNI				*e*S	**Sb**	**16 37 27.6**	**-3.0**
GNI	**Garni**	**3.38**	**212**	*e*Pn	**Pn**	**16 36 44.3**	**+1.9**
GNI				*e*Sn	**Sb**	**16 37 27.6**	**-3.0**
ALER	**Alexandrovskoy**	**3.45**	**301**	*e*PN	**Pn**	**16 36 43.7**	**+0.4**
ALER				*e*S	**Sn**	**16 37 25.0**	**+1.0**
ALER	**Alexandrovskoy**	**3.45**	**301**	*e*Pn	**Pn**	**16 36 43.6**	**+0.4**
ALER				*e*Sn	**Sn**	**16 37 25.0**	**+1.0**
VSLR	**Vesyoloye**	**5.15**	**277**	*i* PN	**Pn**	**16 37 05.9**	**-0.6**
AKTO	**Aktyubinsk**	**10.54**	**42**	⇑Pn	**Pn**	**16 38 16.8**	**-3.6**
	comp=Z,1.3nm,0.9s						
AKTO				⇑Sn	Sn	16 40 07.3	-11
	comp=Z,1.6nm,0.7s						
AB31	**Akbulak array**	**10.88**	**51**	⇓Pn	**Pn**	**16 38 23.6**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=243,slow=12,SNR=13						
AB31				⇑Sn	Sn	16 40 17.0	-10
	comp=Z,0.4nm,0.6s,baz=245,slow=25,SNR=5.0						
OBN	**Obninsk**	**13.87**	**334**	*i* P	**Pn**	**16 39 07.6**	**+1.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**18.40**	**49**	*i* P	**Pn**	**16 40 05.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.7s						
AAK	**Ala-Archa**	**20.10**	**82**	*i* P	Pn	16 40 26.2	+1.1
AAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
PET	**Petropavlovsk**	**67.73**	**37**	*e*P	P	16 46 40.4	-6.2
PET				pmax	pmax		
	comp=Z,36nm,0.4s						

*JMA **25** 16:53:31.3,24°.31N×121°.91E,h30km±4km,M2.7*
*TAP **25** 16:53:31.4,24°.40N×121°.91E,h19km,ML3.2,C*
ISC 25 16:53:31.0±0.9,**24°.38N**±0°.02×**121°.95E**±0°.02,**h16**km±6km,
n87,σ0§98/146,2C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.17**	**294**	⇑*i*P	**Pb**	**16 53 35.5**	**-0.3**
	baz=290						
EWUT				*i* S	**Sb**	**16 53 38.2**	**-0.8**
	baz=290						
ENA	**Nanau**	**0.20**	**285**	⇓*i*P	**Pb**	**16 53 35.8**	**-0.4**
	baz=279						
ENA				*i* S	**Sb**	**16 53 38.8**	**-1.0**
	baz=279						
EHP	**Heping Village**	**0.20**	**251**	*e*P	**Pg**	**16 53 35.9**	**+0.2**
	baz=240						
EHP				*e*S	**Sg**	**16 53 39.5**	**+0.6**
	baz=240						
TWC	**Suao**	**0.25**	**338**	⇓*i*P	**Pg**	**16 53 36.7**	**+0.2**
	baz=351						
TWC				*i* S	**Sg**	**16 53 40.0**	**-0.3**
	baz=351						
NDS	**Dongshan**	**0.34**	**320**	⇓*i*P	**Pg**	**16 53 38.2**	**+0.3**
	baz=323						
NDS				*i* S	**Sg**	**16 53 42.1**	**-0.6**
	baz=323						
ETL	**Fush Village**	**0.37**	**234**	P	**Pg**	**16 53 38.8**	**+0.2**
	baz=227						
NACB	**Ninganchiao**	**0.38**	**238**	⇓*i*P	**Pg**	**16 53 38.7**	**-0.1**
	baz=228						
LATG	**Datong**	**0.42**	**292**	⇓*i*P	**Pg**	**16 53 39.5**	**+0.1**
	baz=296						
LATG				S	**Sg**	**16 53 45.0**	**-0.2**
	baz=296						
ILA	**Ilan**	**0.43**	**335**	P	**Pg**	**16 53 40.1**	**+0.5**
	baz=338						
ILA				S	**Sg**	**16 53 45.9**	**+0.4**
	baz=338						
TWE	**Neicheng**	**0.43**	**323**	⇓*i*P	**Pg**	**16 53 39.8**	**+0.1**
	baz=326						
TWE				*i* S	**Sg**	**16 53 45.0**	**-0.5**
	baz=326						
TWD	**Chiawan**	**0.44**	**228**	P	**Pb**	**16 53 40.0**	**-0.3**
	baz=227						
TWD				*e*S	**Sn**	**16 53 48.8**	**-1.4**
	baz=227						
ENTT	**Nioudou**	**0.44**	**307**	⇓*i*P	**Pg**	**16 53 39.9**	**+0.1**
	baz=308						
ENTT				S	**Sg**	**16 53 45.5**	**-0.3**
	baz=308						
NDT	**Datong Townshi**	**0.46**	**300**	⇓*i*P	**Pg**	**16 53 40.4**	**+0.2**
	baz=300						
NDT				S	**Sg**	**16 53 46.2**	**-0.2**

NFF	**Wufeng Townshi**	**0.80 289**	*e*P	**Pb**	**16 53 46.5**	**-0.1**
	baz=292					
OWD	**Renai**	**0.82 240**	P	**Pg**	**16 53 47.0**	**0.0**
	baz=238					
OWD			*e*S	**Sn**	**16 53 59.1**	**-0.9**
	baz=238					
YM01	**YM01**	**0.84 336**	*e*P	**Pb**	**16 53 47.9**	**+0.6**
	baz=337					
EGFH	**Guangfu**	**0.85 214**	*e*P	**Pn**	**16 53 47.9**	**-0.4**
	baz=228					
EGFH			*e*S	**Sn**	**16 54 02.7**	**+2.2**
	baz=228					
WUSB	**Renai**	**0.85 244**	P	**Pb**	**16 53 47.4**	**0.0**
	baz=248					
WUSB			*e*S	**Sn**	**16 54 00.2**	**-0.5**
	baz=248					
TWS1	**Kuangyinshan**	**0.87 326**	*e*P	**Pb**	**16 53 48.8**	**+1.0**
	baz=322					
TWS1			*e*S	**Sb**	**16 54 00.1**	**+0.9**
	baz=322					
LIOB	**Emei**	**0.89 288**	*e*P	**Pb**	**16 53 48.8**	**+0.7**
	baz=293					
ANP	**Anpu**	**0.90 334**	*e*P	**Pb**	**16 53 49.1**	**+0.8**
	baz=327					
ANP			*e*S	**Sb**	**16 54 00.3**	**+0.2**
	baz=327					
NSTT	**Nanjuang**	**0.90 287**	*e*P	**Pb**	**16 53 48.5**	**+0.2**
	baz=280					
NSTT			*e*S	**Sb**	**16 53 59.9**	**-0.1**
	baz=280					
JYNG	**Yonagunijimaku**	**0.91 85**	P	**Pb**	**16 53 48.5**	**+0.1**
JYNG			S	**Sg**	**16 54 01.4**	**+0.8**
NTST	**Danshui**	**0.91 330**	*e*P	**Pn**	**16 53 49.6**	**+0.5**
	baz=330					
NTST			*e*S	**Sb**	**16 54 01.5**	**+1.3**
	baz=330					
NCUH	**Zhongli**	**0.91 310**	*e*P	**Pb**	**16 53 49.1**	**+0.7**
	baz=311					
WHP	**Taichung City**	**0.92 264**	*e*P	**Pn**	**16 53 49.5**	**+0.1**
	baz=263					
TWY	**Chenhua**	**0.95 340**	*e*P	**Pb**	**16 53 50.2**	**+1.1**
	baz=341					
TWY			*e*S	**Sb**	**16 54 02.2**	**+0.7**
	baz=341					
YOJ	**Yonaguni jima**	**0.97 85**	P	**Pb**	**16 53 49.6**	**+0.2**
YOJ			S	**Sb**	**16 54 02.2**	**+0.2**
SBCB	**Hsinchu**	**0.97 295**	*e*P	**Pb**	**16 53 49.7**	**+0.3**
	baz=296					
WCS	**Beigang Elemen**	**1.00 252**	*e*P	**Pg**	**16 53 50.7**	**+0.3**
	baz=259					
HGSD	**Ruisui**	**1.00 209**	*e*P	**Pg**	**16 53 50.7**	**+0.3**
	baz=223					
EHY	**Hungye**	**1.04 214**	*e*P	**Pb**	**16 53 50.0**	**-0.6**
	baz=211					
NMLH	**Miaoli**	**1.07 279**	*e*P	**Pg**	**16 53 52.5**	**+0.8**
	baz=279					
TWQ1	**Liyutan**	**1.07 269**	*e*P	**Pg**	**16 53 53.3**	**+1.5**
	baz=269					
TWQ1			*e*S	**Sg**	**16 54 08.3**	**+2.5**
	baz=269					
SMLT	**Sun Moon Lake**	**1.08 243**	*e*P	**Pg**	**16 53 51.7**	**-0.1**
	baz=242					
SSLB	**Suanglung**	**1.08 238**	*e*P	**Pg**	**16 53 51.7**	**-0.2**
	baz=238					
SSLB			*e*S	**Sg**	**16 54 06.7**	**+0.6**
	baz=238					
NSY	**Sanyi**	**1.09 272**	*e*P	**Pg**	**16 53 53.5**	**+1.5**
	baz=272					
YULB	**Yu-li**	**1.15 212**	*e*P	**Pn**	**16 53 51.9**	**-0.5**
	baz=210					
EYUL	**Yuli**	**1.18 210**	*e*P	**Pg**	**16 53 53.5**	**-0.2**
	baz=222					
TCU	**Taichung**	**1.19 259**	*e*P	**Pg**	**16 53 54.6**	**+0.7**
	baz=259					
WJS	**Zhushan**	**1.25 244**	*e*P	**Pg**	**16 53 55.3**	**+0.3**
	baz=235					
WJS			*e*S	**Sg**	**16 54 15.2**	**+3.9**
	baz=235					
WNT	**Mingjian**	**1.26 247**	*e*P	**Pg**	**16 53 55.1**	**-0.1**
	baz=248					
WNT			*e*S	**Sg**	**16 54 15.5**	**+3.8**
	baz=248					
FULB	**Fuli**	**1.32 207**	*e*P	**Pb**	**16 53 55.0**	**-0.3**
	baz=222					
ALS	**Alishan**	**1.36 231**	P	**Pg**	**16 53 56.8**	**-0.3**
	baz=219					
ALS			*e*S	**Sg**	**16 54 17.3**	**+2.4**
	baz=219					
CHN5	**Tsauling**	**1.40 237**	*e*P	**Pg**	**16 53 58.0**	**+0.1**
	baz=238					
CHN5			*e*S	**Sg**	**16 54 19.2**	**+3.1**
	baz=238					
WDLH	**Douliu**	**1.46 242**	*e*P	**Pg**	**16 53 59.3**	**+0.2**
	baz=244					
WDLH			*e*S	**Sg**	**16 54 20.4**	**+2.3**
	baz=244					
WRL	**Guolierlin Hig**	**1.51 252**	*e*P	**Pb**	**16 53 58.7**	**0.0**
	baz=266					
WRL			*e*S	**Sg**	**16 54 19.5**	**-0.3**
	baz=266					
EDH	**Donghe**	**1.52 203**	*e*P	**Pb**	**16 53 57.8**	**-0.9**
	baz=189					
WTK	**Tuku**	**1.58 245**	*e*P	**Pg**	**16 54 00.8**	**-0.7**
	baz=247					
WTK			*e*S	**Sg**	**16 54 24.0**	**+2.0**
	baz=247					
STYH	**Taoyuan**	**1.61 222**	*e*P	**Pn**	**16 53 58.1**	**-0.6**
	baz=222					
TPUB	**Ta-pu**	**1.61 229**	*e*P	**Pg**	**16 54 01.0**	**-1.1**
	baz=230					
TPUB			*e*S	**Sg**	**16 54 24.9**	**+1.9**
	baz=230					
IRIF	**Iriomote-Funau**	**1.62 91**	P	**Pn**	**16 53 58.9**	**0.0**
IRIF			S	**Sn**	**16 54 18.7**	**-0.8**
LONT	**Longtian**	**1.65 207**	*e*P	**Pn**	**16 53 57.9**	**-1.3**
	baz=207					
WTP	**Ta-pu**	**1.66 228**	*e*P	**Pb**	**16 54 01.6**	**+0.4**
	baz=229					
WTP			*e*S	**Sg**	**16 54 26.8**	**+2.2**
	baz=229					
TWK	**Hsinying**	**1.74 231**	*e*P	**Pg**	**16 54 03.3**	**-1.1**
	baz=233					
TWK			*e*S	**Sg**	**16 54 27.5**	**+0.6**
	baz=233					
TWGBT	**Beinan**	**1.74 207**	*e*P	**Pn**	**16 53 59.5**	**-1.1**
	baz=207					
SNST	**Tainan City**	**1.76 229**	*e*P	**Pb**	**16 54 03.4**	**+0.5**
	baz=232					
SNST			*e*S	**Sg**	**16 54 28.4**	**+0.7**
	baz=232					
CHN1	**Nanshi**	**1.76 228**	*e*P	**Pb**	**16 54 03.5**	**+0.6**
	baz=230					
CHN1			*e*S	**Sg**	**16 54 27.9**	**+0.2**
	baz=230					
JKRS	**Kuro-shima**	**1.88 94**	S	**Sn**	**16 54 26.4**	**+0.5**
JIJ	**Ishigaki jima**	**2.00 90**	P	**Pn**	**16 54 04.4**	**+0.3**
JIJ			S	**Sn**	**16 54 27.4**	**-1.4**
SSD	**Sandimen**	**2.02 217**	*e*P	**Pb**	**16 54 07.5**	**+0.1**
	baz=216					
MASBT	**Mashibuluo**	**2.13 215**	*e*P	**Pn**	**16 54 06.5**	**+0.5**
	baz=215					
JISG	**Ishigakijimahi**	**2.16 84**	P	**Pn**	**16 54 06.0**	**-0.3**
JISG			S	**Sn**	**16 54 31.6**	**-1.2**

*DJA **25** 17:01:56.0±0.2,8°S±2°×12°5E±°,h10km,M4.5/21,mB5.0/8, mb4.8/21,MLv4.5/13,Mw(mB)4.4/8*
*NEIC **25** 17:01:57.3±2.4,8°31S±0°05×125°15E±0°06,h27km±5km, mb4.7/50,Error ellipse: s-maj=8.7km s-min=7.3km az=60.0*
*IDC **25** 17:01:59.8±2.2,8°27S×125°21E,h46km±22km,mb4.1/14, mb1 4.3/19,mb1mx4.1/33,mbtmp4.5/19,ML4.3/4,MS3.2/13, Ms1 3.2/13,ms1mx2.9/66,Error ellipse: s-maj=21.7km s-min=13.1km az=66.0*

ISC 25 17:01:57.0±0.3,8°38S±0°04×125°12E±0°05,h24km,n158, σ2s00/156,mb4.7/52,MS3.2/10,1C,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SOEI	**Soe**	**1.61**	**212**			**Pb**	**17 02 25.3**	**-0.8**
SOEI	**Soe**	**1.61**	**212**	P		**Pb**	**17 02 27.9**	**+1.8**
SOEI	**Soe**	**1.61**	**212**	P		**Pb**	**17 02 27.9**	**+1.8**
BATI	**Baumata**	**2.32**	**218**	P		**Pb**	**17 02 37.6**	**-0.5**
	51nm,0.3s,baz=62,slow=3.6,SNR=47							
BATI				S		**Sb**	**17 03 08.2**	**+1.7**
	60nm,0.3s,baz=18,slow=20,SNR=6.8							
BATI				LR		LR	17 03 51.1	
	comp=Z,966nm,20.3s,baz=45,slow=45							
BATI	**Baumata**	**2.32**	**218**	P		**Pb**	**17 02 37.1**	**-1.1**
MMRI	**Maumere**	**2.87**	**265**			**Pn**	**17 02 41.9**	**+0.6**
MMRI	**Maumere**	**2.87**	**265**	P		**Pn**	**17 02 43.0**	**+1.8**
MMRI	**Maumere**	**2.87**	**265**	P		**Pn**	**17 02 43.6**	**+2.4**
BBSI	**Bau Bau**	**3.83**	**318**	P		**Pn**	**17 02 53.7**	**-0.8**
BASI	**Baing, Sumba**	**4.84**	**247**	P		**Pn**	**17 03 11.4**	**+2.9**
BSSI	**Bau Bau, Buton**	**5.10**	**296**	P		**Pn**	**17 03 11.0**	**-1.1**
	0.2nm601nm35nm,0.7s							
BKSI	**Bulukumba**	**5.82**	**301**	P		**Pn**	**17 03 21.9**	**0.0**
	0.1nm29nm,0.8s							
SAUI	**Saumlaki**	**6.13**	**87**	Pn		**Pn**	**17 03 24.7**	**-1.4**
KAPI	**Kappang**	**6.29**	**302**	P		**Pn**	**17 03 30.2**	**+1.8**
	4.6nm,0.3s,baz=118,slow=17,SNR=2.4							
KAPI				S		**Sn**	**17 04 42.2**	**+2.5**
	baz=90,slow=20,SNR=1.1							
KAPI	**Kappang**	**6.29**	**302**			**Pn**	**17 03 27.3**	**-1.2**
KAPI	**Kappang**	**6.29**	**302**	P		**Pn**	**17 03 32.6**	**+4.2**
SANI	**Sanana**	**6.35**	**8**	P		**Pn**	**17 03 28.8**	**-0.3**
	0.1nm28nm,0.6s							
SANI	**Sanana**	**6.35**	**8**	P		**Pn**	**17 03 29.3**	**+0.2**
BNSI	**Bone**	**6.36**	**308**	P		**Pn**	**17 03 30.0**	**+0.7**
	0.5nm978nm124nm,0.7s							
SPSI	**Sidrap Palu**	**6.90**	**309**	P		**Pn**	**17 03 36.4**	**-0.3**
	1.0nm447nm38nm,1.0s							
PLAI	**Plampang**	**7.28**	**266**	P		**Pn**	**17 03 45.4**	**+3.5**
	0.4nm986nm123nm,0.8s							
PLAI	**Plampang**	**7.28**	**266**	P		**Pn**	**17 03 45.6**	**+3.7**
MTN	**Manton Dam**	**7.39**	**127**	Pn		**Pn**	**17 03 44.6**	**+1.2**
MTN	**Manton Dam**	**7.39**	**127**	P		**Pn**	**17 03 45.7**	**+2.3**
TTSI	**Tana Toraja**	**7.48**	**315**	P		Pn	17 03 52.2	+7.5
LUWI	**Luwuk**	**7.66**	**342**	Pn		**Pn**	**17 03 45.3**	**-1.8**
LUWI	**Luwuk**	**7.66**	**342**	P		**Pn**	**17 03 45.1**	**-2.0**
	0.2nm731nm62nm,1.0s							
LUWI	**Luwuk**	**7.66**	**342**	P		**Pn**	**17 03 46.8**	**-0.3**
KNRA	**Kununurra**	**8.08**	**154**	Pn		**Pn**	**17 03 53.5**	**+0.6**
KNRA				Sn		**Sn**	**17 05 21.0**	**-2.5**
KNRA	**Kununurra**	**8.08**	**154**	P		**Pn**	**17 03 54.1**	**+1.2**
APSI	**Ampana**	**8.19**	**335**	P		**Pn**	**17 03 53.1**	**-1.3**
	36nm,0.8s							
KDU	**Kakadu**	**8.40**	**121**	P		**Pn**	**17 03 58.7**	**+1.4**
SIJI	**Sorong**	**9.65**	**40**	LR		LR	17 08 43.6	
	comp=Z,83nm,18.5s,baz=256,slow=42							
FITZ	**Fitzroy Crossi**	**9.67**	**177**	P		**Pn**	**17 04 14.5**	**-0.3**
	2.6nm,0.3s,baz=358,slow=9.0,SNR=92							
FITZ				S		**Sn**	**17 05 58.2**	**-4.6**
	3.9nm,0.3s,baz=311,slow=19,SNR=5.2							
FITZ				LR		LR	17 08 38.2	
	comp=Z,44nm,20.0s,baz=352,slow=41							
TOLI2	**Tolitoli**	**10.37**	**335**	Pn		**Pn**	**17 04 24.5**	**0.0**
TOLI2	**Tolitoli**	**10.37**	**335**	P		**Pn**	**17 04 25.9**	**+1.5**
JAGI	**Jajag, Banyuwa**	**10.85**	**269**	Pn		**Pn**	**17 04 30.6**	**-0.4**
KMMI	**Kalianget**	**11.13**	**276**	P		**Pn**	**17 04 34.3**	**-0.5**
	23nm,0.9s							
BBKI	**Banjar Baru**	**11.33**	**295**	P		Pn	17 04 53.5	+16
MTKI	**Muara Teweh, K**	**12.58**	**305**	P		P	17 05 11.2	+5.2
MBWA	**Marble Bar**	**13.73**	**202**	Pn		**Pn**	**17 05 10.4**	**+0.1**
PSA00	**Pilbara Seismi**	**14.07**	**201**	Pn		**Pn**	**17 05 14.2**	**-0.8**
WB0	**Warramunga Arr**	**14.45**	**143**	Pn		**Pn**	**17 05 16.4**	**-3.8**
UGM	**Wanagama**	**14.46**	**271**	Pn		**Pn**	**17 05 20.2**	**-0.2**
WRAB	**Tennant Creek**	**14.55**	**143**			**Pn**	**17 05 17.8**	**-3.8**
WRA	**Warramunga Arr**	**14.55**	**143**	P		**Pn**	**17 05 17.9**	**-3.7**
	2.0nm,0.3s,baz=314,slow=14,SNR=84							
WRA				S		**Sn**	**17 07 55.0**	**-7.2**
	0.9nm,0.3s,baz=320,slow=22,SNR=5.5							
WRA				LR		LR	17 12 35.0	
	comp=Z,99nm,18.0s,baz=170,slow=44							
WRA	**Warramunga Arr**	**14.55**	**143**	Pn		**Pn**	**17 05 17.6**	**-3.9**
WB2	**Warramunga Arr**	**14.56**	**143**	Pn		**Pn**	**17 05 17.7**	**-4.0**
WR0	**Warramunga Arr**	**14.69**	**143**			**Pn**	**17 05 19.2**	**-4.2**
DAV	**Davao City (W)**	**15.35**	**2**	P		**Pn**	**17 05 31.1**	**-1.2**
	36nm,0.3s,baz=232,slow=19,SNR=2.7							
SBUM	**Sibu**	**16.77**	**309**	Pn		**Pn**	**17 05 47.8**	**-2.7**
KKM	**Kota Kinabalu**	**16.86**	**328**	Pn		**Pn**	**17 05 50.7**	**-1.0**
AS31	**Alice Springs**	**17.37**	**152**	Pn		**Pn**	**17 05 56.5**	**-1.6**
ASAR	**Alice Springs**	**17.37**	**152**	P		**Pn**	**17 05 58.1**	**+0.1**
	0.8nm,0.3s,baz=334,slow=12,SNR=59							
ASAR				S		**Sn**	**17 09 05.3**	**-5.5**
	0.2nm,0.3s,baz=322,slow=21,SNR=5.4							
ASAR	**Alice Springs**	**17.37**	**152**	Pn		**Pn**	**17 05 57.5**	**-0.6**
LEM	**Lembang**	**17.42**	**274**	P		**P**	**17 06 02.0**	**+2.0**
	2.0nm,0.3s,baz=127,slow=20,SNR=5.2							
LEM				LR		LR	17 13 00.8	
	comp=Z,154nm,20.5s,baz=66,slow=38							
GIRL	**Giralia**	**17.62**	**215**			**P**	**17 06 03.8**	**+1.9**
QIS	**Mount Isa**	**18.50**	**132**	P		**Pn**	**17 06 13.5**	**+1.5**
COEN	**Coen**	**18.55**	**109**	P		**P**	**17 06 11.3**	**-0.9**
PPBI	**Pangkal Pinang**	**19.88**	**287**	P		**Pn**	**17 06 32.5**	**+4.0**
MTSU	**Mount Surprise**	**21.03**	**119**	P		**P**	**17 06 43.5**	**+4.2**
OOD	**Oodnadatta**	**21.74**	**154**	P		**P**	**17 06 50.3**	**+3.5**
PMG	**Port Moresby**	**21.80**	**94**	LR		LR	17 16 37.6	
	comp=Z,84nm,19.9s,baz=240,slow=40							
PMG	**Port Moresby**	**21.80**	**94**	P		**P**	**17 06 49.9**	**+2.4**
PMG				IAmb		IAmb	17 06 55.3	
	comp=Z,27nm,0.7s							
PMG	**Port Moresby**	**21.80**	**94**	P		**P**	**17 06 51.4**	**+3.9**
PMG	**Port Moresby**	**21.80**	**94**	P		**P**	**17 06 51.6**	**+4.1**
MORW	**Morawa**	**22.28**	**201**	P		**P**	**17 06 52.3**	**-0.4**
MORW				IAmb		IAmb	17 07 17.8	
	comp=Z,47nm,1.8s							
FORT	**Forrest**	**22.45**	**173**	P		**P**	**17 06 53.7**	**-0.7**
FORT				IAmb		IAmb	17 07 12.1	
	comp=Z,20nm,0.7s							
CTA	**Charters Tower**	**23.52**	**122**	P		**P**	**17 07 04.2**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=323,slow=17,SNR=2.7							
CTA				LR		LR	17 18 07.5	
	comp=Z,80nm,20.3s,baz=232,slow=41							
CTAO	**Charters Tower**	**23.52**	**122**	P		**P**	**17 07 04.0**	**-1.6**
INKA	**Innaminka**	**24.27**	**144**	P		**P**	**17 07 16.3**	**+3.8**
LCRK	**Leigh Creek**	**25.14**	**153**	P		**P**	**17 07 23.8**	**+3.4**
NWAO	**Narrogin (SRO)**	**25.50**	**196**	P		**P**	**17 07 23.2**	**-0.3**
QLP	**Quilpie**	**25.62**	**137**	P		**P**	**17 07 29.0**	**+4.2**
BBOO	**Buckleboo**	**26.34**	**159**	P		**P**	**17 07 29.5**	**-1.7**
BBOO				IAmb		IAmb	17 08 04.8	
	comp=Z,27nm,1.5s							
STKA	**Stephens Creek**	**27.95**	**149**	P		**P**	**17 07 46.2**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=324,slow=9.5,SNR=7.8							
STKA				LR		LR	17 19 59.3	
	comp=Z,53nm,19.3s,baz=305,slow=39							
STKA	**Stephens Creek**	**27.95**	**149**	P		**P**	**17 07 46.2**	**+0.5**
PSI	**Prapat**	**28.39**	**292**	P		**P**	**17 07 50.2**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=168,slow=16,SNR=5.6							
GUMO	**Guam**	**29.34**	**42**	LR		LR	17 20 01.7	
	comp=Z,18nm,19.6s,baz=216,slow=37							
ARMA	**Armidale**	**33.09**	**135**	P		**P**	**17 08 34.0**	**+2.7**
TOO	**Toolangi**	**34.42**	**151**	P		**P**	**17 08 43.4**	**+0.7**
CAN	**Canberra**	**34.59**	**144**	P		**P**	**17 08 45.8**	**+1.6**
CM31	**Chiang Mai Arr**	**37.13**	**316**	P		**P**	**17 09 05.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.13**	**316**	P		**P**	**17 09 06.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=143,slow=6.9,SNR=32							
CMAR				PcP		**PcP**	**17 11 26.4**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=198,slow=2.4,SNR=5.0							
CMAR				LR		LR	17 27 41.1	
	comp=Z,15nm,19.8s,baz=145,slow=42							
CMAR	**Chiang Mai Arr**	**37.13**	**316**	P		**P**	**17 09 05.8**	**-0.3**
CHTO	**Chiang Mai**	**37.37**	**316**	P		**P**	**17 09 07.8**	**-0.4**
KMI	**Kunming**	**39.80**	**327**	↑P		**P**	**17 09 30.3**	**+1.5**
NJ2	**Nanjing**	**40.65**	**352**	*e*P		**P**	**17 09 36.8**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
PZH	**PanZhiHua**	**41.44**	**328**	P		**P**	**17 09 42.8**	**+0.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,70nm,5.5s							
SANVU	**Saraoutou**	**41.71**	**104**	P		**P**	**17 09 45.9**	**+1.5**
DZM	**Mont Dzumac**	**41.98**	**114**	LR		LR	17 27 09.1	
	comp=Z,46nm,18.7s,baz=46,slow=36							
JHS	**Saijyo**	**43.80**	**9**	P		**P**	**17 10 01.7**	**+0.6**
JHS				IAmb		IAmb	17 10 34.6	
	comp=Z,32nm,1.4s							
KSRS	**Korea Array**	**45.67**	**3**	P		**P**	**17 10 16.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=176,slow=4.9,SNR=4.8							
MAJO	**Matsushiro**	**46.34**	**15**	P		**P**	**17 10 19.2**	**-2.1**
MJAR	**Matsushiro Arr**	**46.34**	**15**	P		**P**	**17 10 20.0**	**-1.2**
	comp=Z,12nm,0.9s,baz=196,slow=7.7,SNR=15							
MJAR				LR		LR	17 29 32.8	
	comp=Z,24nm,21.1s,baz=210,slow=36							
MJAR	**Matsushiro Arr**	**46.34**	**15**	P		**P**	**17 10 19.3**	**-1.9**
MJAR				IAmb		IAmb	17 10 21.7	
	comp=Z,6.5nm,1.0s							
MJB9	**Matsu-Tunnel**	**46.35**	**15**	P		**P**	**17 10 19.1**	**-2.2**
JYT	**Yasato**	**46.58**	**17**	P		**P**	**17 10 22.1**	**-1.0**
LSA	**Lhasa**	**50.02**	**321**	P		**P**	**17 10 50.0**	**-0.3**
LSA				IAmb		IAmb	17 10 51.4	
	comp=Z,4.5nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.55**	**347**	*e*P		**P**	**17 10 56.8**	**+3.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,82nm,4.7s							
ODAN	**Odare**	**50.65**	**315**	*e*P		**P**	**17 10 54.0**	**-0.9**
	comp=Z,5.0nm,0.5s							
TAPN	**Taplejung**	**50.74**	**316**	*e*P		**P**	**17 10 55.2**	**-0.4**
	comp=Z,7.5nm,0.5s							
RAMN	**Ramite**	**51.26**	**315**	*e*P		**P**	**17 10 59.1**	**-0.4**
	comp=Z,12nm,0.6s							
JIRN	**Jiri**	**51.99**	**315**	*e*P		**P**	**17 11 04.6**	**-0.5**
	comp=Z,8.4nm,0.7s							
GUN	**Gumba**	**52.36**	**315**	*e*P		**P**	**17 11 07.3**	**-0.5**
	comp=Z,9.9nm,0.6s							
PKI	**Pulchoki**	**52.48**	**314**	*e*P		**P**	**17 11 07.8**	**-0.9**
	comp=Z,7.0nm,0.5s							
PKIN	**Phulchoki**	**52.49**	**314**	*e*P		**P**	**17 11 07.0**	**-1.7**
	comp=Z,7.5nm,0.5s							
XLT	**XiLinHaoTe**	**52.67**	**352**	*e*P		**P**	**17 11 14.0**	**+4.5**
XLT				pP		sP	17 11 24.8	+5.1
XLT				sP		pP	17 11 28.0	+11
XLT				pmax		pmax		
	comp=Z,10.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,160nm,4.8s							
USA0B	**Ussuriysk Arra**	**52.70**	**6**	P		**P**	**17 11 09.4**	**-0.1**
USA0B				IAmb		IAmb	17 11 10.4	
	comp=Z,6.8nm,0.8s							
USRK	**Ussuriysk Ar.**	**52.70**	**6**	P		**P**	**17 11 09.4**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=178,slow=7.5,SNR=8.7							
USRK	**Ussuriysk Ar.**	**52.70**	**6**	P		**P**	**17 11 09.0**	**-0.5**
MDJ	**Mudanjiang**	**52.90**	**4**	P		**P**	**17 11 11.1**	**0.0**
LBZ	**Lake Benmore**	**52.98**	**141**	P		**P**	**17 11 11.1**	**-0.7**
LBZ				IAmb		IAmb	17 11 41.1	
	comp=Z,17nm,1.2s							
GTA	**Gaotai**	**53.03**	**336**	*e*P		**P**	**17 11 12.3**	**0.0**
GTA				pP		sP	17 11 24.0	+1.6
GTA				sP		pP	17 11 29.0	+10
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,73nm,6.2s							
GTA				LR		LR		
	comp=Z,76nm,16.7s							
GTA				LR		LR		
	comp=Z,83nm,18.9s							
GTA				LR		LR		
	comp=Z,72nm,15.3s							
RPZ	**Rata Peaks**	**53.22**	**139**	LR		LR	17 33 20.3	
	comp=Z,83nm,18.4s,baz=265,slow=35							
GKN	**Gorkha**	**53.29**	**314**	*e*P		**P**	**17 11 13.6**	**-0.8**
KOLN	**Koldanda**	**53.89**	**313**	*e*P		**P**	**17 11 17.7**	**-1.2**
	comp=Z,7.4nm,0.6s							
DANN	**Dangsing**	**54.12**	**314**	*e*P		**P**	**17 11 19.6**	**-1.1**
	comp=Z,11nm,0.6s							
TUWZ	**Tuamarina**	**54.17**	**136**	P		**P**	**17 11 21.6**	**+1.1**
PYUN	**Piuthan**	**54.52**	**313**	*e*P		**P**	**17 11 23.1**	**-0.4**
	comp=Z,10nm,0.6s							
HIA	**Hailar**	**57.59**	**356**	P		**P**	**17 11 44.7**	**-0.2**
HIA				IAmb		IAmb	17 11 46.2	
	comp=Z,12nm,1.2s							
ULN	**Ulaanbaatar**	**58.24**	**346**	P		**P**	**17 11 48.9**	**-0.7**
ULN				IAmb		IAmb	17 11 50.6	
	comp=Z,6.1nm,0.9s							
SONM	**Songino Array**	**58.37**	**345**	P		**P**	**17 11 49.9**	**-0.6**
	comp=Z,4.6nm,1.0s,baz=163,slow=8.5,SNR=22							
SONM	**Songino Array**	**58.37**	**345**	P		**P**	**17 11 49.5**	**-1.0**
SONM				IAmb		IAmb	17 11 51.5	
	comp=Z,4.8nm,1.0s							
WMQ	**Urumqi**	**62.04**	**330**	*e*P		**P**	**17 12 18.0**	**+2.4**
KSH	**Kashi**	**65.87**	**320**	P		**P**	**17 12 40.3**	**-0.7**
KSH				pP		sP	17 12 51.0	-0.9
KSH				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KDJ	**Kajisay**	**66.65**	**323**	P		**P**	**17 12 45.2**	**-0.9**
KDJ				IAmb		IAmb	17 12 48.5	
	comp=Z,3.2nm,0.8s							
MK31	**Makanchi Array**	**66.84**	**329**	P		**P**	**17 12 46.2**	**-0.7**
MK31				IAmb		IAmb	17 12 47.5	
	comp=Z,7.7nm,0.8s							
MKAR	**Makanchi Array**	**66.84**	**329**	P		**P**	**17 12 46.3**	**-0.6**
	comp=Z,8.4nm,0.8s,baz=133,slow=8.1,SNR=94							
MKAR	**Makanchi Array**	**66.84**	**329**	P		**P**	**17 12 46.2**	**-0.7**
MAKZ	**Makanchi**	**67.00**	**329**	P		**P**	**17 12 47.3**	**-0.7**
MAKZ				IAmb		IAmb	17 12 48.4	
	comp=Z,5.2nm,0.8s							
PEA0B	**Petropavlovsk-**	**67.22**	**21**	P		**P**	**17 12 49.7**

7.7nm,0.3s,baz=36,slow=14,SNR=4.7
MMRI Maumere 6.33 244 Pn Pn 17 26 56.6 -1.1
TNTI Ternate 6.59 355 P P 17 27 00.7 -0.5
MTN Manton Dam 7.63 156 P P 17 27 13.0 +0.4
FITZ Fitzroy Crossi 12.40 190 P **P 17 28 05.2 -0.2**
0.1nm,0.3s,baz=4.8,slow=13,SNR=1.5
FITZ Fitzroy Crossi 12.40 190 P **P 17 28 05.5 0.0**
DAV Davao City (W) 13.04 349 P **P 17 28 13.1 +0.4**
35nm,0.3s,baz=174,slow=19,SNR=1.8
DAV Davao City (W) 13.04 349 P **P 17 28 11.8 -0.9**
WB0 Warramunga Arr 15.19 156 P IAmb IAmb 17 28 36.8
WB0
comp=Z,9.7nm,0.3s
WRAB Tennant Creek 15.32 157 P **P 17 28 37.6 +0.2**
WRAB IAmb IAmb 17 29 05.7
comp=Z,5.9nm,1.2s
WRA Warramunga Arr 15.32 157 P **P 17 28 37.7 +0.3**
comp=Z,1.2nm,0.3s,baz=333,slow=11,SNR=121
WRA S **S 17 31 19.2 -0.5**
comp=Z,0.1nm,0.3s,baz=334,slow=21,SNR=7.8
WRA Warramunga Arr 15.32 157 P **P 17 28 36.5 -1.0**
WB2 Warramunga Arr 15.33 157 P **P 17 28 37.9 +0.4**
WB2 IAmb IAmb 17 29 09.1
comp=Z,7.1nm,1.4s
WR0 Warramunga Arr 15.42 156 P **P 17 28 38.9 +0.4**
COEN Coen 17.00 119 P **P 17 28 56.1 +0.7**
COEN IAmb IAmb 17 29 17.4
comp=Z,35nm,1.4s
AS31 Alice Springs 18.62 163 P **P 17 29 12.5 -0.1**
AS31 IAmb IAmb 17 29 14.5
comp=Z,0.5nm,0.7s
ASAR Alice Springs 18.62 163 P **P 17 29 12.5 -0.1**
comp=Z,0.5nm,0.3s,baz=344,slow=12,SNR=78
ASAR S **S 17 32 23.2 +0.3**
comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=6.4
KWAJ Kwajalein Atol 42.11 70 P **P 17 32 37.1 +0.4**
MKAR Makanchi Array 66.16 327 P **P 17 35 26.8 -0.7**
comp=Z,0.2nm,0.4s,baz=113,slow=7.9,SNR=5.6
MKAR Makanchi Array 66.16 327 P **P 17 35 26.4 -1.1**

IDC 25 17:47:36.7±13.0, 35°90N×99°33E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.2/39, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=175.3km s-min=65.0km az=177.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**13.03**	**22**	Pn		Pn	17 50 43.2	0.0
	0.1nm,0.3s,baz=209,slow=15,SNR=3.0							
MKAR	**Makanchi Array**	**16.76**	**316**	Pn		Pn	17 51 29.0	-3.9
	0.2nm,0.3s,baz=123,slow=14,SNR=10							
MKAR				Sn		Sn	17 54 27.1	-13
	0.0nm,0.3s,baz=126,slow=20,SNR=2.9							
ZALV	**Zalesovo Beam**	**20.69**	**335**	P		P	17 52 18.1	-0.2
	2.7nm,0.5s,baz=155,slow=12,SNR=14							

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*IASPEI **25** 17:47:37.7±0.8, 32°.57N±0°.02×115°.69W±0°.01, h18km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=3.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ANF **25** 17:47:37.7±0.5, 32°.59N×115°.66W, h23km±3km, ML2.9/12, Error ellipse: s-maj=4.8km s-min=2.7km az=174.0*

*NEIC **25** 17:47:37.6±2.6, 32°.55N±0°.03×115°.67W±0°.02, h10km±2km, Error ellipse: s-maj=5.2km s-min=3.0km az=337.0*

*PAS **25** 17:47:38.7±2.1, 32°.58N±0°.04×115°.68W±0°.01, h12km±5km, Error ellipse: s-maj=5.3km s-min=1.3km az=166.0*

*ECX **25** 17:47:39.3±0.5, 32°.57N×115°.70W, h4km±1km, MD3.0, ML3.3, Fault plane solution: NP1:ϕ±49.00000°, δ88.00000°, λ12.00000°.*

*MEX **25** 17:47:39.1±0.5, 32°.62N×115°.59W, h17km±999km, MD3.9*

ISC 25 17:47:37.9±0.8, 32°.57N±0°.02×115°.69W±0°.01, h20km±4km, n101, σ1§06/156, 26C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEA0	**Mexicali**	**0.08**	**11**	⇓*iP*		**Pg**	**17 47 40.9**	**-0.7**
CEA0				*i* S		**Sg**	**17 47 42.8**	**-1.4**
SGL	**Mount Signal**	**0.08**	**337**	⇓*iP*		**Pg**	**17 47 41.0**	**-0.7**
SGL				*i* S		**Sg**	**17 47 42.8**	**-1.5**
ZC01	**Zona Comercial**	**0.11**	**59**	⇓*iP*		**Pb**	**17 47 41.6**	**+0.3**
ZC01				*eS*		**Sg**	**17 47 44.8**	**+0.1**
POTX	**Potabilizadora**	**0.17**	**81**	⇑*iP*		**Pg**	**17 47 42.7**	**+0.1**
POTX				*eS*		**Sg**	**17 47 46.4**	**+0.6**
WESC	**Westside Schoo**	**0.19**	**348**	⇓*iP*		**Pb**	**17 47 43.0**	**+0.4**
WESC				*eS*		**Sb**	**17 47 46.3**	**+0.5**
ICBC	**Inst. de Cultu**	**0.20**	**64**	⇑*eP*		**Pg**	**17 47 43.3**	**+0.3**
ICBC				*i* S		**Sg**	**17 47 47.4**	**+0.8**
YUH	**Yuha Desert**	**0.21**	**290**			**Pb**	**17 47 42.6**	**-0.4**
YUH					Sg	**Sb**	**17 47 46.1**	**-0.4**
YUH					IAML		17 47 46.5	
	comp=N,3μm,0.1s							
YUH2	**Yuha Desert**	**0.21**	**290**	⇑*iP*		**Pb**	**17 47 43.0**	**0.0**
YUH2				*eS*		**Sb**	**17 47 46.1**	**-0.4**
UABX	**UABC, Campus M**	**0.22**	**74**			**Pg**	**17 47 43.7**	**+0.5**
UABX					Sg	**Sg**	**17 47 47.9**	**+1.0**
UABX					IAML		17 47 47.9	
	comp=N,8μm,0.4s							
UABX					IAML		17 47 48.0	
	comp=E,3μm,0.3s							
UABX	**UABC, Campus M**	**0.22**	**74**	⇑*iP*		**Pg**	**17 47 43.7**	**+0.5**
UABX				*i* S		**Sg**	**17 47 48.0**	**+1.0**
ZC06	**Zona comercial**	**0.25**	**84**	⇑*iP*		**Pg**	**17 47 44.4**	**+0.6**
ZC06				*eS*		**Sg**	**17 47 49.2**	**+1.5**
POT2	**Potabilizadora**	**0.26**	**78**	⇑*iP*		**Pb**	**17 47 43.9**	**+0.1**
POT2				⇑*iP*		**Pg**	**17 47 44.6**	**+0.7**
POT2				*eS*		**Sg**	**17 47 48.4**	**+0.4**
POT2				*eS*		**Sb**	**17 47 49.5**	**+1.6**
COK2	**Cook Ranch 2**	**0.28**	**353**	⇓*iP*		**Pb**	**17 47 44.7**	**+0.5**
FRM1	**Rumorosa**	**0.30**	**267**	⇑*iP*		**Pg**	**17 47 44.8**	**+0.2**
FRM1				*eS*		**Sb**	**17 47 49.1**	**0.0**
DREC	**Desert Rsrch C**	**0.31**	**41**	⇓*eP*		**Pb**	**17 47 45.4**	**+0.7**
RMX	**La Rumorosa**	**0.33**	**275**			**Pg**	**17 47 44.5**	**-0.7**
RMX					Sg	**Sg**	**17 47 48.5**	**-1.6**
RMX					IAML		17 47 49.0	
	comp=N,5μm,0.2s							
RMX	**La Rumorosa**	**0.33**	**275**	⇑*iP*		**Pg**	**17 47 44.6**	**-0.5**
RMX				*i* S		**Sg**	**17 47 48.7**	**-1.5**
CPBX	**Cerro Prieto**	**0.36**	**115**			**Pb**	**17 47 45.8**	**+0.3**
CPBX	**Cerro Prieto**	**0.36**	**115**	⇑*iP*		**Pb**	**17 47 45.9**	**+0.3**
CPBX				*e*			17 47 58.6	
CPBX					IAML		17 47 58.6	
	comp=E,6μm,0.2s							
IKP	**In-Ko-Pah, Jac**	**0.36**	**282**	⇑*iP*		**Pg**	**17 47 45.8**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.36**	**282**	P		**Pg**	**17 47 45.8**	**+0.1**
	baz=101,SNR=124							
IKP					S	**Sg**	**17 47 51.0**	**0.0**
	baz=101							
SWSC	**Sam W. Stewart**	**0.38**	**346**	*iP*		**Pg**	**17 47 46.1**	**+0.1**
SWSC				*eS*		**Sg**	**17 47 51.5**	**0.0**
SWSC	**Sam W. Stewart**	**0.38**	**346**	P		**Pg**	**17 47 46.1**	**+0.1**
	baz=164,SNR=80							
SWSC					S	**Sg**	**17 47 51.6**	**+0.1**
	baz=164							
CRR	**Carrizo Plain**	**0.39**	**323**	⇑*iP*		**Pg**	**17 47 46.4**	**+0.3**
SUP	**Superstition M**	**0.40**	**343**			**Pg**	**17 47 46.4**	**+0.2**
MBIG	**Mexicali**	**0.45**	**112**			**Pb**	**17 47 47.6**	**+0.6**
MBIG						**Sg**	**17 47 53.2**	**0.0**
MBIG	**Mexicali**	**0.45**	**112**	*eP*		**Pg**	**17 47 45.8**	**-1.2**
MBIG				*i* P		**Pb**	**17 47 47.6**	**+0.6**
MBIG				*i* S		**Sg**	**17 47 52.3**	**-1.0**
MBIG				*i* S		**Sg**	**17 47 53.2**	**0.0**
MBIG	**Mexicali**	**0.45**	**112**	*eP*		**Pb**	**17 47 47.5**	**+0.4**
CTLX	**Tlaxcala, TLX**	**0.47**	**102**	⇑*eP*		**Pn**	**17 47 48.8**	**-0.6**
YUCAX	**Ej. Yucatɲn**	**0.50**	**86**	⇑*eP*		**Pg**	**17 47 48.9**	**+0.8**
COA	**Coachella**	**0.56**	**59**	⇑*iP*		**Pg**	**17 47 49.4**	**+0.3**
ALMX	**Rancho Alamar**	**0.57**	**182**	⇓*iP*		**Pb**	**17 47 49.3**	**+0.2**
ALMX				*eS*		**Sg**	**17 47 56.9**	**0.0**
ALMX				⇑*e*			17 48 00.0	
ALMX					IAML		17 48 00.0	
	comp=N,2μm,0.3s							
ALAMX				⇑*e*			17 48 00.8	
ALAMX					IAML		17 48 00.8	
	comp=E,2μm,0.2s							
GUVIX	**Guadalupe Vict**	**0.58**	**117**			**Pb**	**17 47 49.6**	**+0.2**
GUVIX					Sg	**Sn**	**17 47 58.9**	**-1.0**
GUVIX					IAML		17 48 00.2	
	comp=E,2μm,0.4s							
GUVIX					IAML		17 48 00.6	
	comp=N,2μm,0.3s							
GUVIX	**Guadalupe Vict**	**0.58**	**117**	⇑*iP*		**Pg**	**17 47 49.9**	**+0.3**
EMSC	**East Mesa**	**0.61**	**74**	⇑*iP*		**Pg**	**17 47 50.4**	**+0.3**
EMSC				*eS*		**Sg**	**17 47 59.2**	**+0.8**
MONP2	**Monument Peak**	**0.70**	**297**	⇑*iP*		**Pb**	**17 47 51.8**	**+0.3**
MONP2				*eS*		**Sb**	**17 48 01.1**	**+0.4**
MONP2	**Monument Peak**	**0.70**	**297**	P		**Pb**	**17 47 51.8**	**+0.3**
	baz=116,SNR=82							
MONP2					S	**Sb**	**17 48 00.9**	**+0.2**
	baz=116							
RITX	**Riito Sonora**	**0.74**	**123**	*eP*		**Pg**	**17 47 52.9**	**+0.5**
TKX	**Tecate**	**0.78**	**270**			**Pb**	**17 47 53.2**	**+0.4**
TKX					Sg	**Sb**	**17 48 02.9**	**0.0**
TKX					IAML		17 48 03.9	
	comp=E,1μm,0.2s							
SLH	**Sleepy Hollow**	**0.78**	**322**	⇑*eP*		**Pb**	**17 47 53.0**	**+0.2**
BAR	**Barrett**	**0.84**	**277**			**Pb**	**17 47 54.2**	**+0.5**
BAR					Sg	**Sb**	**17 48 05.0**	**+0.4**
BAR					IAML		17 48 06.3	
	comp=N,1μm,0.2s							
BAR					IAML		17 48 06.6	
	comp=E,746nm,0.2s							
BAR	**Barrett**	**0.84**	**277**	⇑*iP*		**Pb**	**17 47 54.3**	**+0.5**
BAR				*eS*		**Sb**	**17 48 05.1**	**+0.4**
BAR					IAML		17 48 06.2	
	comp=N,992nm,0.1s							
BAR				⇓*e*			17 48 06.2	
TJIG	**Tijuana**	**0.85**	**261**			**Pb**	**17 47 54.2**	**+0.3**
TJIG						**Sb**	**17 48 05.0**	**+0.2**
TJIG	**Tijuana**	**0.85**	**261**	*eP*		**Pb**	**17 47 54.2**	**+0.3**
TJIG				*eS*		**Sb**	**17 48 05.0**	**+0.2**
TJIG	**Tijuana**	**0.85**	**261**	⇑*eP*		**Pb**	**17 47 54.2**	**+0.3**
TJIG				*eS*		**Sb**	**17 48 05.2**	**+0.4**
CBX	**Cerro Bola**	**0.87**	**253**			**Pb**	**17 47 54.6**	**+0.3**
CBX					Sg	**Sb**	**17 48 05.9**	**+0.4**
CBX	**Cerro Bola**	**0.87**	**253**	*eP*		**Pb**	**17 47 54.8**	**+0.5**
CBX				*eS*		**Sb**	**17 48 06.0**	**+0.4**
CBX	**Cerro Bola**	**0.87**	**253**	⇑*eP*		**Pb**	**17 47 54.8**	**+0.5**
CBX				*eS*		**Sb**	**17 48 06.2**	**+0.7**
GLA	**Glamis**	**0.87**	**56**			**Pb**	**17 47 53.8**	**-0.4**
GLA					Sg	**Sb**	**17 48 04.8**	**-0.7**
GLA	**Glamis**	**0.87**	**56**	P		**Pb**	**17 47 53.9**	**-0.4**
	baz=237,SNR=36							
GLA					S	**Sb**	**17 48 05.0**	**-0.4**
	baz=237							
PIPTJ	**Tijuana**	**1.02**	**266**	⇓*iP*		**Pn**	**17 47 57.6**	**+0.6**
PIPTJ				*eS*		**Sb**	**17 48 10.8**	**+1.0**
EML	**El Monte Cty P**	**1.03**	**288**	⇑*iP*		**Pb**	**17 47 57.2**	**+0.3**
EML				*eS*		**Sb**	**17 48 10.7**	**+0.7**
SDRC	**San Diego Road**	**1.07**	**279**	⇑*iP*		**Pn**	**17 47 58.2**	**+0.4**
SDRC				⇓*e*			17 48 13.7	
SDRC					IAML		17 48 13.7	
	comp=N,740nm,0.2s							
CCX	**Cicese**	**1.09**	**230**			**Pb**	**17 47 58.6**	**+0.6**
CCX					Sg	**Sb**	**17 48 12.5**	**+0.8**
CCX	**Cicese**	**1.09**	**230**	*eP*		**Pb**	**17 47 58.7**	**+0.8**
CCX				*eS*		**Sn**	**17 48 13.2**	**+0.8**
BC3	**Big Chuckawall**	**1.09**	**10**	P		**Pn**	**17 47 57.5**	**-0.7**
	baz=190,SNR=65							
BC3					S	**Sb**	**17 48 11.6**	**-0.6**
	baz=190							
TJX	**Tijuana**	**1.16**	**267**			**Pb**	**17 48 00.0**	**+0.8**
TJX					Sn	**Sn**	**17 48 15.1**	**+0.9**
PFO	**Pinyon Flats O**	**1.22**	**328**			**Pn**	**17 47 59.2**	**-0.7**
PFO	**Pinyon Flats O**	**1.22**	**328**	P		**Pn**	**17 47 59.4**	**-0.6**
	baz=148,SNR=19							
PFO					S	**Sb**	**17 48 14.8**	**-0.9**
	baz=148							
ECBX	**El Chinero**	**1.22**	**154**	*eP*		**Pb**	**17 48 01.1**	**+0.8**
ECBX				*i* S		**Sg**	**17 48 16.8**	**-0.8**
109C	**Camp Elliot, M**	**1.24**	**285**			**Pn**	**17 48 00.4**	**+0.4**
109C					Sn	**Sb**	**17 48 16.7**	**+0.7**
109C					IAML		17 48 17.5	
	comp=N,597nm,0.2s							
109C	**Camp Elliot, M**	**1.24**	**285**	Pb		**Pb**	**17 48 00.9**	**+0.4**
	baz=104,SNR=42							
109C					S	**Sb**	**17 48 16.6**	**+0.6**
	baz=104							
SVX	**San Vicente**	**1.33**	**201**	*eP*		**Pb**	**17 48 02.4**	**+0.2**
BLYC	**Blythe**	**1.53**	**39**			**Pn**	**17 48 03.9**	**-0.2**
BLYC					IAML		17 48 27.3	
	comp=E,136nm,0.4s							
BLYC					IAML		17 48 27.6	
	comp=N,142nm,0.2s							
SPIG	**San Pedro Mart**	**1.54**	**173**			**Pn**	**17 48 03.8**	**-0.6**
SPIG						**Sn**	**17 48 22.5**	**-1.5**
SPIG	**San Pedro Mart**	**1.54**	**173**	*eP*		**Pn**	**17 48 03.8**	**-0.6**
SPIG				*i* S		**Sn**	**17 48 22.5**	**-1.5**
MURC	**Murrieta**	**1.63**	**309**	Pn		**Pn**	**17 48 05.6**	**+0.2**
	baz=128							
MURC				Pb		**Pb**	**17 48 08.6**	**+1.3**
	baz=128,SNR=26							
MURC					Sb	**Sb**	**17 48 29.4**	**+2.0**
	baz=128							
113A	**Mohawk Valley,**	**1.63**	**83**			**Pn**	**17 48 05.1**	**-0.4**
IRM	**Iron Mountain**	**1.64**	**16**	P		**Pn**	**17 48 05.6**	**0.0**
	baz=196,SNR=24							
SFX	**San Felipe**	**1.69**	**155**			**Pb**	**17 48 09.0**	**+0.8**
ELS	**Elsinore Mount**	**1.81**	**307**			**Pn**	**17 48 08.1**	**0.0**
214A	**Organ Pipe Nat**	**2.51**	**103**			**Pn**	**17 48 16.7**	**-0.9**
214A	**Organ Pipe Nat**	**2.51**	**103**			**Sn**	**17 48 43.7**	**-4.0**
214A	**Organ Pipe Nat**	**2.51**	**103**	*eP*		**Pn**	**17 48 15.5**	**-2.1**
214A				*i* S		**Sn**	**17 48 43.7**	**-4.0**
214A	**Organ Pipe Nat**	**2.51**	**103**	P		**Pn**	**17 48 16.8**	**-0.9**
	baz=285,SNR=5.1							
Y14A	**Wickenburg**	**2.63**	**58**			**Pn**	**17 48 21.1**	**+1.8**
GSC	**Goldstone, Bar**	**2.88**	**341**			**Pn**	**17 48 23.8**	**+1.2**
EDW2	**Edwards Air Fo**	**3.00**	**321**	Sb		**Sb**	**17 49 10.7**	**+3.9**
	baz=140							
BCW	**Bitter Crk WRg**	**3.90**	**308**	Pn		**Pn**	**17 48 39.0**	**+2.2**
SHPR	**Sheep Range**	**3.95**	**6**	Pn		**Pn**	**17 48 35.8**	**-1.6**
X16A	**Lo Mia Camp, P**	**4.00**	**61**	Pn		**Pn**	**17 48 37.6**	**-0.5**
TUC	**Tucson**	**4.15**	**92**			**Pn**	**17 48 41.8**	**+1.6**
TPNV	**Topopah Spring**	**4.39**	**354**	Pn		**Pn**	**17 48 42.8**	**-0.7**
WUAZ	**Wupatki**	**4.63**	**49**	Pn		**Pn**	**17 48 47.6**	**+0.8**
U15A	**North Rim**	**4.76**	**35**	Pn		**Pn**	**17 48 49.6**	**+0.9**
LCMT	**Little Creek M**	**4.86**	**24**	Pn		**Pn**	**17 48 49.5**	**-0.5**
LCH	**Last Change Ra**	**4.92**	**341**	Pn		**Pn**	**17 48 49.6**	**-1.2**
PAGB	**Antelope Grade**	**4.92**	**311**	Pn		**Pn**	**17 48 49.3**	**-1.5**
X18A	**Snowflake**	**5.17**	**66**	Pn		**Pn**	**17 48 55.5**	**+1.2**
CCUT	**Cedar City**	**5.32**	**20**	Pn		**Pn**	**17 48 55.6**	**-0.7**
W18A	**Petrified Fore**	**5.56**	**61**	Pn		**Pn**	**17 49 02.2**	**+2.5**
319A	**Douglas**	**5.57**	**101**	Pn		**Pn**	**17 48 59.2**	**-0.6**
MSU	**Marysvale**	**6.58**	**25**	Pn		**Pn**	**17 49 16.1**	**+2.4**
121A	**Cookes Peak, D**	**6.67**	**88**			**Pn**	**17 49 16.0**	**+1.1**
PAHR	**Pah Rah Range**	**7.72**	**338**	Pn		**Pn**	**17 49 29.3**	**+0.1**
BNM	**Barren Site**	**7.74**	**76**	Pn		**Pn**	**17 49 29.5**	**-0.2**

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*IDC **25** 17:48:30.7±0.7, 4°.07S×142°.30E, h110km±5km, mb3.7/13, mb1 3.9/16, mb1mx3.8/29, mbtmp4.2/16, MS3.1/4, Ms1 3.1/4, ms1mx2.7/56, Error ellipse: s-maj=18.9km s-min=11.7km az=86.0*

*BJI **25** 17:48:30.6±0.0, 4°.03S×142°.07E, h106km, mb4.5/26, mB4.9/14*

*DJA **25** 17:48:31.2±0.6, 4°.5±7°×14°.2E±°, h91km±7km, M4.6/16, mB4.9/5, mb4.7/16, MLv4.7/4, Mw(mB)4.2/5*

*NEIC **25** 17:48:31.2±1.7, 4°.12S±0°.07×142°.14E±0°.08, h108km±7km, mb4.7/48, Error ellipse: s-maj=11.9km s-min=9.1km az=53.0*

ISC 25 17:48:31.3±0.4, 4°.13S±0°.04×142°.16E±0°.06, h109km, n133, σ1§38/142, mb4.5/47, 2C, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.16**	**318**	P		**Pn**	**17 49 05.8**	**-0.5**
	14nm,0.3s,baz=152,slow=9.1,SNR=66							
JAY					S	**Sn**	**17 49 31.6**	**-1.5**
	baz=162,slow=20							
JAY					LR	LR	17 49 48.5	
	comp=Z,291nm,18.2s,baz=256,slow=35							
GENI	**Genyem**	**2.50**	**307**	P		**Pn**	**17 49 10.8**	**+0.1**
GENI	**Genyem**	**2.50**	**307**	P		**Pn**	**17 49 11.1**	**+0.4**
MANU	**Manus Island**	**5.60**	**68**	Pn		**Pn**	**17 49 53.0**	**+0.7**
SRPI	**Serui, Papua**	**6.32**	**291**	P		**Pn**	**17 50 02.1**	**+0.1**
	0.3nm1μm48nm,0.5s							
PMG	**Port Moresby**	**7.22**	**137**	P		**Pn**	**17 50 14.1**	**-0.2**
	1.4nm,0.3s,baz=35,slow=2.5,SNR=9.9							
PMG					S	**Sn**	**17 51 32.3**	**-2.5**
	0.6nm,0.3s,baz=307,slow=20,SNR=2.1							
PMG					LR	LR	17 53 21.8	
	comp=Z,106nm,21.2s,baz=320,slow=41							
PMG	**Port Moresby**	**7.22**	**137**	P		**Pn**	**17 50 15.1**	**+0.8**
PMG	**Port Moresby**	**7.22**	**137**	P		**Pn**	**17 50 14.9**	**+0.6**
COEN	**Coen**	**9.82**	**174**	Pn		**Pn**	**17 50 47.2**	**-2.3**
COEN	**Coen**	**9.82**	**174**	P		**Pn**	**17 50 49.1**	**-0.4**
SIJI	**Sorong**	**11.35**	**286**	P		**Pn**	**17 51 10.8**	**+0.5**
	1.8nm,0.3s,baz=115,slow=8.4,SNR=11							
KDU	**Kakadu**	**12.80**	**228**	P		**Pn**	**17 51 28.2**	**-1.2**
MTN	**Manton Dam**	**13.92**	**231**	Pn		**Pn**	**17 51 42.4**	**-1.5**
MTN	**Manton Dam**	**13.92**	**231**	P		**Pn**	**17 51 43.0**	**-0.9**
MTSU	**Mount Surprise**	**14.08**	**172**	P		**Pn**	**17 51 47.0**	**+1.0**
TNTI	**Ternate**	**15.56**	**288**			**P**	**17 52 06.2**	**-0.5**
CTA	**Charters Tower**	**16.36**	**166**	P		**Pn**	**17 52 14.4**	**-0.2**
CTAO	**Charters Tower**	**16.36**	**166**	P		**P**	**17 52 17.2**	**+1.6**
QIS	**Mount Isa**	**16.52**	**188**	P		**P**	**17 52 17.5**	**+0.2**
WB0	**Warramunga Arr**	**17.29**	**205**			**P**	**17 52 24.8**	**-1.1**
WB0					IAmb	IAmb	17 52 29.1	
	comp=Z,26nm,0.6s							
WR0	**Warramunga Arr**	**17.40**	**205**	P		**P**	**17 52 26.5**	**-0.5**
WRAB	**Tennant Creek**	**17.46**	**205**	P		**P**	**17 52 27.3**	**-0.3**
WRAB					IAmb	IAmb	17 52 42.7	
	comp=Z,44nm,0.7s							
WRAB	**Tennant Creek**	**17.46**	**205**	P		**P**	**17 52 27.5**	**-0.1**
WB2	**Warramunga Arr**	**17.46**	**205**	P		**P**	**17 52 27.4**	**-0.3**
WB2					IAmb	IAmb	17 52 31.8	
	comp=Z,41nm,0.6s							
WRA	**Warramunga Arr**	**17.47**	**205**	P		**P**	**17 52 27.2**	**-0.5**
	comp=Z,4.7nm,0.3s,baz=27,slow=12,SNR=148							
WRA					S	**Sn**	**17 55 40.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=30,slow=24,SNR=3.3							
WRA					LR	LR	18 00 28.4	
	comp=Z,85nm,21.5s,baz=242,slow=41							
WRA	**Warramunga Arr**	**17.47**	**205**	P		**P**	**17 52 26.3**	**-1.5**
KNRA	**Kununurra**	**17.47**	**228**			**P**	**17 52 27.4**	**-0.4**
KNRA					IAmb	IAmb	17 52 31.4	
	comp=Z,35nm,0.7s							
KNRA	**Kununurra**	**17.47**	**228**	P		**Pn**	**17 52 28.7**	**+0.5**
HNR	**Honiara**	**18.43**	**108**	P		**P**	**17 52 37.9**	**-0.4**
HNR					IAmb	IAmb	17 53 04.6	
	comp=Z,83nm,1.4s							
SOEI	**Soe**	**18.61**	**252**	P		**P**	**17 52 39.8**	**-0.7**
SOEI					IAmb	IAmb	17 52 56.4	
	comp=Z,50nm,0.8s							
SOEI	**Soe**	**18.61**	**252**	P		**Pn**	**17 52 42.8**	**+0.8**
	comp=Z,74nm,0.8s							
SOEI	**Soe**	**18.61**	**252**	P		**Pn**	**17 52 42.1**	**+0.1**
KMSI	**Cibinong**	**18.75**	**284**	P		**Pn**	**17 52 45.1**	**+1.5**
	comp=Z,107nm,0.7s							
LUWI	**Luwuk**	**19.60**	**278**	P		**P**	**17 52 52.2**	**+1.0**
LUWI					IAmb	IAmb	17 52 57.5	
	comp=Z,34nm,0.7s							
LUWI	**Luwuk**	**19.60**	**278**	P		**Pn**	**17 52 52.7**	**-0.9**
GTOI	**Gorontalo**	**19.71**	**283**	P		**Pn**	**17 52 56.0**	**+1.2**
	comp=Z,281nmcomp=Z,26nm,0.8s							
MMRI	**Maumere**	**20.29**	**256**	P		**P**	**17 52 57.0**	**-1.6**
MMRI					IAmb	IAmb	17 52 60.0	
	comp=Z,24nm,1.0s							
MMRI	**Maumere**	**20.29**	**256**	P		**Pn**	17 53 00.5	-1.1
	comp=Z,23nm,0.6s							
MRSI	**Marisa**	**20.71**	**282**	P		**Pn**	17 53 09.8	+3.3
	comp=Z,40nm,0.7s							
AS31	**Alice Springs**	**20.99**	**202**	P		**P**	**17 53 05.4**	**-0.7**
ASAR	**Alice Springs**	**21.00**	**202**	P		**P**	**17 53 06.0**	**-0.1**
	comp=Z,15nm,0.7s,baz=28,slow=8.8,SNR=98							
ASAR					sP	**sP**	**17 53 42.6**	**+1.3**
	comp=Z,11nm,1.0s,baz=26,slow=9.6,SNR=3.5							
ASAR					S	**S**	**17 56 52.3**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=14,slow=11,SNR=2.4							
ASAR	**Alice Springs**	**21.00**	**202**	P		**P**	**17 53 05.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.31**	**228**	P		**P**	**17 53 09.6**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=53,slow=10,SNR=22							
FITZ					S	**S**	**17 57 01.8**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=55,slow=12,SNR=4.6							
FITZ	**Fitzroy Crossi**	**21.31**	**228**	P		**P**	**17 53 09.2**	**-0.3**
BSSI	**Bau Bau, Buton**	**21.67**	**264**	P		**P**	**17 53 18.0**	**+4.6**
	comp=Z,13nm,1.3s							
TOLI2	**Tolitoli**	**21.98**	**283**	P		**P**	**17 53 16.4**	**-0.3**
TOLI2					IAmb	IAmb	17 53 24.1	
	comp=Z,17nm,0.8s							
TOLI2	**Tolitoli**	**21.98**	**283**	P		**P**	**17 53 18.3**	**+1.6**
BKSI	**B

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	46.93	155	P	P	17 56 52.1	+1.1
BSWZ	Blackbirch Sta	46.95	147	P	P	17 56 51.5	+0.3
RPZ	Rata Peaks	46.97	151	P	P	17 56 50.6	-0.7
RPZ				IAmb	IAmb	17 57 38.6	
	comp=Z,10.0nm,1.0s						
LBZ	Lake Benmore	47.07	153	P	P	17 56 51.4	-0.6
KHZ	Kahutara	47.26	148	P	P	17 56 52.3	-1.3
BFZ	Birch Farm	47.58	145	P	P	17 56 55.8	-0.3
PLWZ	Palliser	47.60	146	P	P	17 56 54.7	-1.6
CMAR	Chiang Mai Arr	48.12	299	P	P	17 57 01.2	+0.6
	comp=Z,0.6nm,0.6s,baz=118,slow=6.4,SNR=6.6						
CMAR				pP	pP	17 57 26.9	+0.7
	comp=Z,0.6nm,0.7s,baz=128,slow=7.5,SNR=2.8						
XAN	Xi'an	49.24	323	P	P	17 57 08.5	-0.4
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PZH	PanZhiHua	49.55	310	P	P	17 57 13.8	+2.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,70nm,5.6s						
HHC	Hu-ho-hao-te	52.79	331	eP	P	17 57 38.8	+3.3
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.3s						
XLT	XiLinHaoTe	53.26	337	eP	P	17 57 43.0	+4.2
XLT				pP	pP	17 58 08.5	+3.5
XLT				sP	sP	17 58 22.0	+4.9
XLT				PcS	PcS	18 02 48.8	+4.6
XLT				S	S	18 04 58.0	-3.9
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,170nm,5.9s						
LZH	Lanzhou	53.70	321	⇑P	P	17 57 43.0	+0.7
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
KLR	Kul'dur	53.91	352	P	P	17 57 42.8	-0.6
	comp=Z,0.7nm,0.6s,baz=172,slow=7.2,SNR=4.8						
GTA	Gaotai	58.27	322	eP	P	17 58 15.5	+0.7
GTA				pP	pP	17 58 43.3	+2.0
GTA				sP	sP	17 58 52.8	-0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,88nm,5.5s						
GTA				LR	LR		
	comp=Z,69nm,16.7s						
GTA				LR	LR		
	comp=Z,84nm,17.4s						
GTA				LR	LR		
	comp=Z,92nm,17.1s						
SONM	Songino Array	60.50	333	P	P	17 58 30.2	+0.3
	comp=Z,0.3nm,0.4s,baz=145,slow=6.0,SNR=3.9						
SONM	Songino Array	60.50	333	P	P	17 58 29.5	-0.4
TAPN	Taplejung	61.11	304	eP	P	17 58 35.0	+0.3
	comp=Z,5.5nm,0.5s						
RAMN	Ramite	61.88	303	eP	P	17 58 40.5	+0.7
	comp=Z,7.9nm,0.4s						
JIRN	Jiri	62.47	304	eP	P	17 58 44.2	+0.3
	comp=Z,5.3nm,0.4s						
GUN	Gumba	62.82	304	eP	P	17 58 46.7	+0.5
PKI	Pulchoki	63.09	304	eP	P	17 58 47.9	-0.1
PKIN	Phulchoki	63.10	304	eP	P	17 58 47.8	-0.2
	comp=Z,3.2nm,0.4s						
DMN	Daman	63.35	304	eP	P	17 58 49.9	+0.3
	comp=Z,6.9nm,0.5s						
GKN	Gorkha	63.88	304	eP	P	17 58 53.2	+0.2
	comp=Z,8.8nm,0.5s						
DANN	Dangsing	64.73	304	eP	P	17 58 58.7	0.0
	comp=Z,7.0nm,0.5s						
PYUN	Piuthan	65.28	303	eP	P	17 59 02.2	0.0
	comp=Z,5.6nm,0.5s						
WMQ	Urumqi	68.27	321	eP	P	17 59 22.8	+2.2
MK31	Makanchi Array	73.02	322	P	P	17 59 49.3	0.0
MKAR	Makanchi Array	73.02	322	P	P	17 59 49.0	-0.3
	comp=Z,1.0nm,0.6s,baz=96,slow=10.0,SNR=16						
MKAR				pP	pP	18 00 18.0	+1.1
	comp=Z,1.8nm,1.0s,baz=107,slow=7.8,SNR=5.0						
MKAR				sP	sP	18 00 27.4	-1.3
	comp=Z,1.0nm,0.7s,baz=110,slow=7.4,SNR=4.9						
MKAR	Makanchi Array	73.02	322	P	P	17 59 48.3	-1.0
MAKZ	Makanchi	73.22	322	P	P	17 59 49.2	-1.3
VNDA	Vanda	74.09	176	P	P	17 59 55.5	+0.4
	comp=Z,0.5nm,0.5s,baz=326,slow=7.1,SNR=6.7						
VNDA	Vanda	74.09	176	P	P	17 59 53.7	-1.4
ZALV	Zalesovo Beam	74.90	329	P	P	17 59 58.8	-1.3
	comp=Z,0.6nm,0.3s,baz=104,slow=6.3,SNR=5.0						
BOOM	Boomskoye usch	75.56	316	P	P	18 00 03.6	-0.7
BOOM				IAmb	IAmb	18 00 25.8	
	comp=Z,6.2nm,1.2s						
CNPM	China Poot	81.93	28	P	P	18 00 37.2	-1.5
M20K	Styx River	82.02	26	P	P	18 00 37.7	-1.5
M20K				IAmb	IAmb	18 00 51.3	
	comp=Z,16nm,1.6s						
K20K	Telida	82.25	24	P	P	18 00 40.2	0.0
J20K	Nowinta River	82.57	23	P	P	18 00 41.3	-0.5
J20K				IAmb	IAmb	18 01 23.0	
	comp=Z,7.9nm,1.6s						
CAST	Castle Rocks	83.09	24	P	P	18 00 43.5	-1.1
CAST				IAmb	IAmb	18 01 31.5	
	comp=Z,13nm,1.8s						
ILAR	Eielson Array	85.71	24	P	P	18 00 55.0	-2.7
	comp=Z,1.4nm,0.7s,baz=258,slow=4.3,SNR=13						
ILAR				pP	pP	18 01 24.3	-1.8
	comp=Z,0.7nm,0.8s,baz=255,slow=5.4,SNR=3.8						
ILAR				sP	sP	18 01 37.5	-0.3
	comp=Z,1.2nm,0.7s,baz=257,slow=5.5,SNR=4.2						

HLW ***25*** *17:53:05.8, 29°.33N×35°.38E, h9km±14km, Md3.1*

GII ***25*** *17:53:11.1±0.7, 29°.45N×34°.91E, h10km±1km, MD2.9/4, Mm2.8/3*

ISC 25 17:53:08.6±2.2**, 29°.37N**±0°.06×**35°.11E**±0°.09**, h10**km±11km**, n18,** σ**1s.23**/31**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIL	Elat	0.33	335	Pg	Pb	17 53 16.6	+0.1
EIL				Sg	Sg	17 53 20.3	+0.9
MBRI	Mt Berech	0.45	338	Pg	Pb	17 53 18.7	0.0
MBRI				Sg	Sg	17 53 24.3	+0.9
HRFI	Mount Harif	0.66	355	Pg	Pb	17 53 22.4	+0.1
HRFI				Sg	Sb	17 53 31.0	-0.6
KRMI	Paran Flat	0.81	336	Pg	Pg	17 53 24.2	-0.1
KRMI				Sg	Sg	17 53 34.2	-0.7
PRNI	Paran	0.98	355	Pg	Pn	17 53 27.8	-0.7
PRNI				Sg	Sb	17 53 40.4	-0.3
ZFRI	Zfri	1.18	3	Pg	Pn	17 53 32.0	+0.9
ZFRI				Sg	Sn	17 53 47.3	+0.1
HKAT	Jabal Katrina	1.29	229	P	Pn	17 53 32.7	-0.2
	baz=238						
HKAT				S	Sb	17 53 50.2	+0.3
	baz=238						
KZIT	Kziot	1.65	338	Pn	Pn	17 53 38.0	+0.4
KZIT				Sn	Sn	17 53 58.6	-0.3
HRDS	Abu Rudays	1.72	248	P	Pn	17 53 39.0	+0.4
	baz=252						
HRDS				S	Sn	17 54 01.3	+0.7
	baz=252						
YTIR	Yattir	1.98	0	Pn	Pb	17 53 43.9	-0.9
YTIR				Sn	Sb	17 54 09.4	-0.2
SUZ	Suez	2.04	284	P	Pn	17 53 42.2	-0.7
	baz=284						
DSI	Dead Sea	2.20	6	Pn	Pb	17 53 47.2	-1.3
ZAF	Zafarana	2.24	268	P	Pn	17 53 47.2	+1.5
	baz=270						
ZAF				S	Sn	17 54 14.6	+1.1
	baz=270						
GRB	Gharib	2.32	242	P	Pn	17 53 46.0	-0.8
	baz=246						
SLTI	Sal'it	2.86	359	Pn	Pn	17 53 56.5	+2.2
SLTI				Sn	Sn	17 54 29.9	+1.1
HMDT	Nahal Hemdat	2.89	7	Pn	Pn	17 53 56.2	+1.5
GLL	Jalalah	2.97	275	P	Pn	17 53 55.6	-0.3
	baz=276						
MMLI	Mount Malkishu	3.07	5	Pn	Pn	17 53 59.3	+2.1
MMLI				Sn	Sb	17 54 36.8	-4.0

NEIC ***25*** *17:58:24.0±2.2, 18°.7N±0°.1×147°.2E±0°.1, h44km±9km, mb4.3/14, Error ellipse: s-maj=21.7km s-min=13.3km az=115.0*

IDC ***25*** *17:58:27.9±4.2, 18°.64N×146°.86E, h72km±35km, mb3.5/14, mb1 3.6/16, mb1mx3.4/49, mbtmp3.8/16, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/51, Error ellipse: s-maj=45.7km s-min=16.9km az=83.0*

ISC 25 17:58:24.5±0.7**, 18°.66N**±0°.07×**147°.2E**±0°.1**, h52**km**, n38,** σ**1s.29**/32**, mb4.1**/17**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.52	204	P	Pn	17 59 45.8	+1.7
	8.9nm,0.3s,baz=16,slow=7.4,SNR=8.7						
GUMO				S	Sn	18 00 46.2	-0.1
	13nm,0.3s,baz=37,slow=20,SNR=4.1						
JHJ	Hachijo jima 2	15.86	337	LR	LR	18 08 45.7	
	comp=Z,31nm,18.1s,baz=31,slow=39						
PATS	Pohnpei	15.97	136	Pn	Pn	18 02 03.1	-2.7
H11S3	WAKE ISLAND Hy	18.47	87	T	T	18 21 38.7	
	baz=272,slow=74						
H11S1	WAKE ISLAND Hy	18.49	87	T	T	18 21 41.3	
	baz=272,slow=74						
H11S2	WAKE ISLAND Hy	18.49	87	T	T	18 21 41.1	
	baz=272						
H11N1	WAKE ISLAND Hy	18.63	84	T	T	18 21 18.5	
	baz=278						
H11N2	WAKE ISLAND Hy	18.63	84	T	T	18 21 17.4	
	baz=278						
H11N3	WAKE ISLAND Hy	18.65	84	T	T	18 21 18.9	
	baz=278						
MJAR	Matsushiro Arr	19.50	338	P	Pn	18 02 48.7	-0.2
	0.1nm,0.3s,baz=175,slow=11,SNR=5.7						
MJAR	Matsushiro Arr	19.50	338	P	P	18 02 45.4	-1.9
MAJO	Matsushiro	19.50	338	P	P	18 02 45.7	-1.6
MAJO				IAmb	IAmb	18 03 08.0	
	comp=Z,25nm,1.6s						
JHS	Saijyo	20.52	325	P	P	18 02 57.4	-1.1
JNU	Nakatsue	20.53	318	P	P	18 02 58.4	-0.2
	comp=Z,5.8nm,1.0s,baz=177,slow=8.6,SNR=2.0						
JNU	Nakatsue	20.53	318	P	P	18 02 57.2	-1.4
JNU				IAmb	IAmb	18 03 32.6	
	comp=Z,27nm,1.4s						
KSRS	Korea Array	25.21	322	P	P	18 03 45.6	+0.3
	comp=Z,1.0nm,0.5s,baz=144,slow=8.9,SNR=12						
SMY	Shemya	39.94	25	P	P	18 05 53.7	+0.1
WR0	Warramunga Arr	40.34	199	P	P	18 05 54.5	-2.7
WR0				IAmb	IAmb	18 06 19.4	
	comp=Z,7.2nm,1.4s						
WRAB	Tennant Creek	40.37	199	P	P	18 05 56.9	-0.6
WRAB				IAmb	IAmb	18 06 29.0	
	comp=Z,13nm,1.6s						
WB2	Warramunga Arr	40.38	199	P	P	18 05 56.3	-1.2
WB2				IAmb	IAmb	18 06 11.9	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	40.39	199	P	P	18 05 58.0	+0.4
	comp=Z,0.5nm,0.8s,baz=18,slow=8.3,SNR=2.6						
ASAR	Alice Springs	44.03	198	P	P	18 06 28.2	+1.0
	comp=Z,0.2nm,0.7s,baz=10,slow=6.9,SNR=1.8						
SONM	Songino Array	44.07	321	P	P	18 06 26.9	-0.6
	comp=Z,0.4nm,0.4s,baz=136,slow=11,SNR=5.3						
ZALV	Zalesovo Beam	58.91	322	P	P	18 08 18.0	-0.2
	comp=Z,0.5nm,0.3s,baz=101,slow=7.9,SNR=3.9						
RSO	Redoubt South	59.28	30	P	P	18 08 21.2	+0.4
MKAR	Makanchi Array	59.52	314	P	P	18 08 22.4	-0.1
	comp=Z,0.3nm,0.5s,baz=83,slow=8.4,SNR=5.8						
MKAR	Makanchi Array	59.52	314	P	P	18 08 20.8	-1.7
MAKZ	Makanchi	59.73	314	P	P	18 08 21.7	-2.3
MAKZ				IAmb	IAmb	18 08 46.6	
	comp=Z,3.0nm,1.4s						
GLI	Glacier Island	62.08	30	P	P	18 08 41.0	+1.4
KURK	Kurchatov	62.25	318	P	P	18 08 40.7	-0.2
KURBB	Kurchatov Arra	62.30	318	P	P	18 08 41.1	-0.2
	comp=Z,0.8nm,0.5s,baz=92,slow=7.5,SNR=14						
BVAR	Borovoye Array	67.41	320	P	P	18 09 14.7	+0.2
	comp=Z,1.6nm,0.5s,baz=130,slow=4.1,SNR=8.5						
BRVK	Borovoye	67.47	320	P	P	18 09 15.3	+0.4
AKTO	Aktyubinsk	75.34	319	P	P	18 10 03.4	+1.1
	comp=Z,0.9nm,0.6s,baz=72,slow=9.6,SNR=2.8						
YKA	Yellowknife Ar	77.35	28	P	P	18 10 15.5	+2.0
	comp=Z,0.1nm,0.5s,baz=286,slow=5.4,SNR=2.1						
GEYT	Alibeck	78.07	306	P	P	18 10 18.2	+0.1
	comp=Z,1.0nm,0.4s,baz=113,slow=3.7,SNR=1.3						
ARCES	ARCESS Array B	82.96	342	P	P	18 10 44.8	+1.2
	comp=Z,2.5nm,1.0s,baz=62,slow=8.5,SNR=7.0						
FINES	FINESS Array B	87.51	336	P	P	18 11 05.9	-0.6
	comp=Z,2.8nm,1.0s,baz=98,slow=10.0,SNR=4.3						

IDC 25 18:43:03.9±5.1**, 5°.04S**×**150°.43E, h0**km**, mb3.0**/3**, mb1 3.2**/3**, mb1mx3.0**/20**, mbtmp3.0**/3**, Error ellipse: s-maj=149.8km s-min=39.6km az=103.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.56	225	P	P	18 47 55.2	0.0
	0.5nm,1.1s,baz=52,slow=10.0,SNR=2.4						
ASAR	Alice Springs	24.43	219	P	P	18 48 24.6	0.0
	0.1nm,0.3s,baz=52,slow=8.2,SNR=7.2						
MKAR	Makanchi Array	78.96	319	P	P	18 55 09.7	0.0
	0.2nm,0.7s,baz=97,slow=6.0,SNR=2.4						

BJI ***25*** *19:03:54.9±0.0, 36°.71N×70°.41E, h152km, mb4.3/11, mB4.7/7*

NEIC ***25*** *19:03:59.6±2.6, 36°.52N±0°.05×70°.83E±0°.07, h155km±7km, mb4.0/13, Error ellipse: s-maj=8.7km s-min=6.4km az=64.0*

NNC ***25*** *19:04:02.0±1.3, 36°.76N×70°.80E, h146km±14km, mb3.4, mpv4.3, Error ellipse: s-maj=11.9km s-min=7.4km az=167.0*

IDC ***25*** *19:04:04.0±2.8, 36°.60N×71°.45E, h176km±25km, mb3.1/8, mb1 3.4/15, mb1mx3.1/45, mbtmp3.8/15, Error ellipse: s-maj=23.3km s-min=15.1km az=39.0*

ISC 25 19:04:00.1±0.5**, 36°.51N**±0°.04×**71°.00E**±0°.04**, h188**km**, n96,** σ**3s.10**/110**, mb3.5**/12**, 9C-9D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.53	220	Pn	Pn	19 04 40.9	-2.8
KBL				Sn	Sn	19 05 12.0	-5.7
GAR	Garm	2.55	348		Pn	19 04 42.2	-1.6
GAR				Sn	Sn	19 05 12.3	-5.9
CHGR	Chuyangaron	2.60	326	Pn	Pn	19 04 41.9	-2.5
CHGR				Sn	Sn	19 05 11.7	-7.4
CEP	Cherat	2.78	164	P	Pn	19 04 44.2	-2.5
CEP				S	Sn	19 05 17.0	-5.9
DRK	Karamyk	3.04	12		Pn	19 04 49.1	-0.7
DRK				Sn	Sn	19 05 21.2	-7.6
CHCP	Chirah Chowk	3.39	146	P	Pn	19 04 52.1	-1.9
BTK	Batken	3.55	358	Pn	Pn	19 04 55.3	-0.6
BTK				Sn	Sn	19 05 33.5	-6.2
THW	Thamme Wali	3.75	170	P	Pn	19 04 56.1	-2.3
SARP	Sargodha	4.78	163	P	Pn	19 05 08.9	-2.5
KSH	Kashi	4.95	51	P	Pn	19 05 08.3	-5.3
KSH				S	Sn	19 05 59.0	-12
KSH				smax	smax		
	comp=N,570nm,0.6s						
KSH				smax	smax		
	comp=E,210nm,0.4s						
JMU	Jammu	4.96	138	eP	Pn	19 05 11.8	-1.9
JMU				eS	Sn	19 06 03.4	-8.2
JMU				eS	Sn	19 06 04.8	-6.8
TAS	Tashkent	4.99	345	Pn	Pn	19 05 11.2	-2.8
THN	Thein Dam	5.63	135	eP	Pn	19 05 20.8	-1.5
THN				eS	Sn	19 06 22.1	-5.0
AML	Almayashu	6.00	20	P	Pn	19 05 26.6	-0.8
	SNR=205						
UCH	Uchtor	6.33	24	P	Pn	19 05 31.0	-0.9
	SNR=34						
EKS2	Erkin-Say	6.51	18	P	Pn	19 05 33.5	-0.3
	SNR=37						
KK02	Karatay Array	6.60	357	⇓P	Pn	19 05 33.8	-1.1
	19nm,0.4s						
KK02				⇑S	Sn	19 06 45.2	-4.8
	21nm,0.7s						
KKAR	Karatay Array	6.60	357	Pn	Pn	19 05 34.4	-0.6
AAK	Ala-Archa	6.69	23	P	Pn	19 05 36.3	0.0
	5.0nm,0.3s,baz=194,slow=8.9,SNR=65						
AAK				S	Sn	19 06 50.3	-2.1
	2.4nm,0.3s,baz=333,slow=20,SNR=9.8						
AAK	Ala-Archa	6.69	23	P	Pn	19 05 36.0	-0.3
	SNR=30						
AAK	Ala-Archa	6.69	23	Pn	Pn	19 05 35.5	-0.8
AAK				Sn	Sn	19 06 49.1	-3.3
AAK	Ala-Archa	6.69	23	⇓P	Pn	19 05 35.9	-0.4
	8.0nm,0.6s						
AAK				⇓S	Sn	19 06 49.6	-2.8
	33nm,0.7s						
BHK	Bhakra	6.78	137	eP	Pn	19 05 35.2	-2.3
BHK				eS	Sn	19 06 48.0	-6.4
KBK	Karagaybulak	6.86	25	P	Pn	19 05 38.6	+0.1
	SNR=16						
FRU1	Bishkek	6.89	23		Pn	19 05 39.0	+0.2
ULHL	Ulahol	7.03	34	P	Pn	19 05 40.0	-0.7
	SNR=9.9						
BOOM	Boomskoye usch	7.09	31	Pn	Pn	19 05 40.8	-0.8
CHMS	Chumysh	7.10	23	P	Pn	19 05 41.0	-0.5
	SNR=11						
USP	Ospenovka	7.27	21	P	Pn	19 05 43.8	0.0
	SNR=28						
TKM2	Tokmak 2	7.32	28	P	Pn	19 05 44.0	-0.6
	SNR=44						
TKM2	Tokmak 2	7.32	28	⇑P	Pn	19 05 43.7	-0.9
	19nm,0.7s						
KDJ	Kajisay	7.38	39	Pn	Pn	19 05 44.1	-1.2
SMLA	Simla	7.42	134	eP	Pn	19 05 44.0	-1.8
SMLA				eS	Sn	19 07 03.0	-6.6
SMLA				IAML		19 07 06.2	
	comp=E,153nm,0.3s						
SMLA				IAML		19 07 07.7	
	comp=N,109nm,0.3s						
MDOK	Medeo	8.12	33	⇓P	Pn	19 05 55.6	+0.7
	comp=N,9.7nm,0.8s						
PDGK	Podgornoye	9.43	41	⇑P	Pn	19 06 12.3	+0.2
	comp=N,4.5nm,0.6s						
KUDL	Kundal	9.54	149	eP	Pn	19 06 10.4	-3.1
KUDL				eS	Sn	19 07 48.9	-11
GEYT	Alibeck	10.37	282	P	P	19 06 33.9	+1.6
	comp=N,3.2nm,0.3s,baz=95,slow=14,SNR=10						
GEYT				S	Sn	19 08 16.9	-2.9
	comp=N,1.8nm,0.3s,baz=92,slow=26,SNR=6.7						
GEYT	Alibeck	10.37	282	Pn	Pn	19 06 23.5	-0.8
GYA0B	ALIBECK ARRAY	10.37	282		Pn	19 06 21.9	-2.4
GYA0B	ALIBECK ARRAY	10.37	282	⇑P	Pn	19 06 24.0	-0.3
GYA0B				⇑S	Sn	19 08 17.4	-2.4
AJM	Ajmer	10.47	162	eS	Sn	19 08 10.0	-12
LGTI	Lohaghat	10.47	130	eP	Pn	19 06 22.3	-3.4
LGTI				eS	Sn	19 08 11.6	-11
OTUK	Ortayu	11.77	4	⇑P	Pn	19 06 42.2	-0.1
	comp=N,2.9nm,0.8s						
PYUN	Piuthan	13.15	126	eP	Pn	19 06 57.4	-2.7
	comp=N,31nm,0.5s						
MAKZ	Makanchi	13.15	35		Pn	19 06 59.6	-0.1
MAKZ	Makanchi	13.15	35	⇓P	Pn	19 07 00.5	+0.7
	comp=N,2.9nm,0.8s						
MK31	Makanchi Array	13.29	36	Pn	Pn	19 07 02.0	+0.5
MK31	Makanchi Array	13.29	36	⇓P	P	19 07 03.2	-1.4
	comp=N,1.4nm,0.7s,baz=206,slow=9.8,SNR=12						
MKAR	Makanchi Array	13.29	36	P	Pn	19 07 02.5	+1.1
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=8.5						
MKAR	Makanchi Array	13.29	36	Pn	Pn	19 07 02.3	+0.8
DANN	Dangsing	13.49	123	eP	Pn	19 07 02.1	-2.4
	comp=N,35nm,0.3s						
KOLN	Koldanda	13.77	126	eP	Pn	19 07 05.9	-1.9
	comp=N,15nm,0.4s						
GKN	Gorkha	14.31	122	eP	Pn	19 07 13.6	-0.9
	comp=N,81nm,0.5s						
WMQ	Urumqi	14.70	55	eP	P	19 07 21.8	+1.5
KKN	Kakani	14.88	122	eP	Pn	19 07 20.5	-1.1
AB31	Akbulak array	15.08	331	⇑P	Pn	19 07 23.7	+0.1
	comp=N,0.9nm,0.3s,baz=143,slow=12,SNR=86						
AB31				⇓S	S	19 10 04.6	-7.4
	comp=N,3.3nm,0.6s						
ABKAR	Akbulak array	15.08	331	P	P	19 07 24.4	0.0
ABKAR	Akbulak array	15.08	331	P	P	19 07 24.2	-0.2
ABKAR				IAmb	IAmb	19 07 30.3	
	comp=Z,3.3nm,0.4s						
PKIN	Phulchoki	15.10	122	eP	Pn	19 07 23.5	-0.8
	comp=Z,26nm,0.4s						
PKI	Pulchoki	15.11	122	eP	Pn	19 07 23.7	-0.8
	comp=Z,34nm,0.4s						
KURBB	Kurchatov Arra	15.12	19	P	Pn	19 07 24.2	+0.2
	comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=4.0						
GUN	Gumba	15.22	120	eP	Pn	19 07 24.6	-1.3
	comp=Z,17nm,0.4s						
KURK	Kurchatov	15.23	19		P	19 07 26.5	+0.5
JIRN	Jiri	15.59	120	eP	P	19 07 30.4	-0.3
	comp=Z,36nm,0.4s						
RAMN	Ramite	16.32	121	eP	P	19 07 38.5	-0.1
	comp=Z,25nm,0.4s						
BVAR	Borovoye Array	16.52	359	P	Pn	19 07 44.2	+3.1
	comp=Z,0.7nm,0.3s,baz=198,slow=14,SNR=10.0						
BRVK	Borovoye	16.56	358	P	Pn	19 07 42.1	+0.6
BRVK				IAmb	IAmb	19 07 47.9	
	comp=Z,5.1nm,0.8s						
AKTO	Aktyubinsk	16.77	330	P	Pn	19 07 47.7	+3.7
	comp=Z,0.5nm,0.3s,baz=133,slow=9.0,SNR=20						
AKTO				S	S	19 10 44.7	-3.6
	comp=Z,0.1nm,0.3s,baz=24,slow=20,SNR=2.9						
AKTO	Aktyubinsk	16.77	330	⇓P	Pn	19 07 45.5	+1.5
	comp=Z,5.7nm,0.9s						
AKTO				⇑S	S	19 10 47.7	-0.6
	comp=Z,5.1nm,0.7s						
TAPN	Taplejung	16.85	118	eP	P	19 07 44.6	+0.1
	comp=Z,13nm,0.3s						
ODAN	Odare	16.92	120	eP	Pn	19 07 46.3	0.0
LSA	Lhasa	18.18	106	P	Pn	19 08 03.1	+1.8
LSA				IAmb	IAmb	19 08 08.4	
	comp=Z,5.6nm,0.6s						
ZAA0	Zalesovo Array	19.91	24	P	Pn	19 08 19.2	-1.9
ZAA0				IAmb	IAmb	19 08 25.8	
	comp=Z,3.4nm,0.6s						
ZAA0	Zalesovo Array	19.91	24	⇑P	Pn	19 08 20.6	-0.5
	comp=Z,0.5nm,0.6s						
ZALV	Zalesovo Beam	19.91	24	P	Pn	19 08 20.9	-0.2
	comp=Z,1.3nm,0.3s,baz=219,slow=11,SNR=20						
ZALV	Zalesovo Beam	19.91	24	P	Pn	19 08 19.4	-1.7
GNI	Garni	20.89	288	P	P	19 08 28.2	+0.3
GNI				IAmb	IAmb	19 09 07.3	
	comp=Z,8.3nm,1.1s						
ARU	Arti	21.63	341	P	P	19 08 40.7	+5.5
	comp=Z,0.6nm,0.4s,baz=8.1,slow=3.8,SNR=4.4						
ARU	Arti	21.63	341	IAmb	IAmb	19 08 47.7	
	comp=Z,5.2nm,1.1s						
PZH	PanZhiHua	27.94	102	P	P	19 09 36.5	+3.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,50nm,6.1s						
KMI	Kunming	29.40	104	⇓P	P	19 09 54.8	+8.7
CMAR	Chiang Mai Arr	30.46	119	P	P	19 09 59.1	+3.8
	comp=Z,0.5nm,0.3s,baz=299,slow=9.2,SNR=5.2						
HHC	Hu-ho-hao-te	31.76	70	eP	P	19 10 09.3	+2.7
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.3s						
XLT	XiLinHaoTe	34.86	64	eP	P	19 10 38.5	+5.1
XLT				pP	pP	19 11 11.8	-2.3
XLT				sP	sP	19 11 32.0	-4.3
XLT				PcP	PcP	19 13 05.5	+3.6
XLT				S	S	19 15 55.5	+5.2
XLT				SS	SS	19 18 18.0	-10
XLT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,5.9s						
KARP	Karpathos	35.24	282	P	P	19 10 37.5	+0.8
FIA1	FINESS Array S	37.48	326	P	P	19 10 55.4	+0.3
FIA1				IAmb	IAmb	19 11 15.3	
	comp=Z,4.9nm,1.2s						
FINES	FINESS Array B	37.48	326	P	P	19 11 01.5	+6.3
	comp=Z,1.5nm,0.9s,baz=112,slow=15,SNR=3.7						
FINES	FINESS Array B	37.48	326	P	P	19 10 55.9	+0.7
ARCES	ARCESS Array B	41.14	338	P	P	19 11 30.9	+5.5
	comp=Z,0.5nm,0.4s,baz=116,slow=9.2,SNR=7.8						
NC303	NORSAR Array S	44.32	323	P	P	19 11 53.3	+2.3
NB201	NORSAR Array S	44.34	323	P	P	19 11 54.1	+2.9
NB2	NORSAR Subarra	44.38	323	P	P	19 11 56.2	+4.7
	comp=Z,0.7nm,0.7s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.38	323	P	P	19 11 56.3	+4.8
	comp=Z,0.4nm,0.6s,baz=96,slow=7.7,SNR=2.4						
YKA	Yellowknife Ar	81.24	3	P	P	19 15 59.7	+5.1
	comp=Z,0.1nm,0.4s,baz=350,slow=5.4,SNR=5.2						
WRA	Warramunga Arr	82.00	122	P	P	19 16 02.3	+3.1
	comp=Z,0.4nm,0.7s,baz=326,slow=5.0,SNR=9.1						
ASAR	Alice Springs	84.26	125	P	P	19 16 14.1	+3.3
	comp=Z,0.4nm,0.6s,baz=314,slow=4.9,SNR=9.2						

IDC ***25*** *19:14:11.6±10.0, 31°.03N×142°.44E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=429.6km s-min=147.4km az=24.0*
JMA ***25*** *19:15:26.5±0.1, 33°.87N× 137°.04E, h378km, M2.5*
ISC 25 19:15:29.8±2.0, 34°.1N±0'.3×137°.0E±0'.1, h350km, n11, σ1♀75/11, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKN2	Miekihoku	0.62	285	P			Pn	19 16 14.6	+0.3
JWY	Kouya	1.17	277	P			Pn	19 16 16.7	+0.4
JTNC	Tanabenakahech	1.18	258	P			Pn	19 16 16.5	+0.2
JWT	Wachi	1.78	313	P			Pn	19 16 20.0	+0.5
JAI	Aioi	2.13	263	P			Pn	19 16 21.8	-0.2
JHU	Hanno	2.58	46	*e*S			S	19 17 11.1	+0.9
JAG	Ashikaga	3.09	40	P			Pn	19 16 30.6	+0.7
JHO	Hitachi	3.86	48	*e*S			S	19 17 28.9	-2.9
KSRS	Korea Array	8.11	297	Pn			P	19 17 26.0	-2.1
	0.1nm,0.3s,baz=111,slow=12,SNR=5.3								
SONM	Songino Array	26.69	310	P			P	19 20 41.2	+3.1
	0.2nm,0.6s,baz=111,slow=7.9,SNR=3.5								
MKAR	Makanchi Array	42.72	304	P			P	19 22 53.7	+0.2
	0.1nm,0.4s,baz=86,slow=10,SNR=4.5								

IDC ***25*** *19:22:52.3±0.9, 28°.66N× 142°.77E, h0km, mb3.7/12, mb1 3.8/14, mb1mx3.7/36, mbtmp3.6/14, ML3.1/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/86, Error ellipse: s-maj=33.6km s-min=16.2km az=85.0*
ISC 25 19:22:57.4±0.9, 28°.63N±0'.07×142°.7E±0'.2, h35km, n19, σ0♀83/16, mb3.7/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.60	198	Pn			Pn	19 23 22.3	-1.0
	8.2nm,0.3s,baz=19,slow=17,SNR=1.7								
JCJ					Sn		Sn	19 23 42.4	-0.3
	25nm,0.3s,baz=93,slow=23,SNR=9.8								
MJAR	Matsushiro Arr	8.76	335	Pn			Pn	19 24 60.0	-1.6
	0.1nm,0.3s,baz=157,slow=13,SNR=7.4								
KSRS	Korea Array	15.20	309	Pn			Pn	19 26 30.4	+1.0
	0.2nm,0.3s,baz=115,slow=13,SNR=2.6								
KSRS					LR		LR	19 31 57.5	
	comp=Z,21nm,18.8s,baz=100,slow=36								
USRK	Ussuriysk Ar.	17.75	334	LR			LR	19 34 34.7	
	comp=Z,33nm,18.8s,baz=154,slow=40								
KLR	Kul'dur	22.22	341	P			P	19 27 49.6	-1.2
	1.1nm,0.6s,baz=143,slow=10,SNR=3.7								
H11N2	WAKE ISLAND Hy	23.73	107	T			T	19 53 14.7	
	baz=296								
H11N1	WAKE ISLAND Hy	23.73	107	T			T	19 53 04.4	
	baz=296								
H11N3	WAKE ISLAND Hy	23.74	107	T			T	19 53 11.8	
	baz=296								
SONM	Songino Array	33.96	314	P			P	19 29 37.5	0.0
	0.8nm,1.0s,baz=106,slow=7.8,SNR=4.9								
ZALV	Zalesovo Beam	48.66	318	P			P	19 31 38.2	+0.4
	0.4nm,0.4s,baz=103,slow=8.6,SNR=3.1								
WRA	Warramunga Arr	48.97	190	P			P	19 31 41.0	+0.5
	2.0nm,0.5s,baz=12,slow=9.0,SNR=32								
MKAR	Makanchi Array	49.88	309	P			P	19 31 47.3	0.0
	0.6nm,0.7s,baz=91,slow=9.4,SNR=8.7								
ASAR	Alice Springs	52.69	190	P			P	19 32 08.4	0.0
	0.3nm,0.6s,baz=10,slow=6.3,SNR=6.2								
ILAR	Eielson Array	56.14	29	P			P	19 32 32.8	-0.3
	0.3nm,0.7s,baz=261,slow=5.4,SNR=2.2								
YKA	Yellowknife Ar	70.57	29	P			P	19 34 09.3	+0.8
	0.2nm,0.8s,baz=295,slow=6.2,SNR=3.5								
FINES	FINESS Array B	76.78	334	P			P	19 34 45.7	+0.7
	0.4nm,0.6s,baz=53,slow=5.4,SNR=0.9								
KBZ	Khabaz	77.32	313	P			P	19 34 49.0	+0.7
	1.9nm,0.9s,baz=96,slow=10,SNR=3.6								
NOA	NORSAR Array B	82.36	338	P			P	19 35 15.3	-0.1
	0.4nm,0.5s,baz=40,slow=4.9,SNR=3.3								
BRTR	Keskin Array B	85.31	313	P			P	19 35 32.0	+1.0
	0.9nm,0.9s,baz=76,slow=5.2,SNR=3.6								

IGIL ***25*** *19:33:15.5, 35°.61N×3°.60W, h12km*
MDD ***25*** *19:33:15.4±0.3, 35°.64N×3°.62W, h12km, mb_Lg2.8/24, Error ellipse: s-maj=2.6km s-min=2.0km az=163.0*
CNRM ***25*** *19:33:15.7, 35°.65N×3°.60W, h18km, ml2.7*
SFS ***25*** *19:33:16.0, 35°.60N×3°.60W, ML2.8, ALBORAN SUR*
ISC 25 19:33:13.3±1.7, 35°.71N±0'.02×3°.61W±0'.02, h4km±13km, n54, σ1♀46/102, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EALB	Alboran	0.52	63	Pg			Pn	19 33 26.5	-0.9
EALB				Sg			Sn	19 33 35.1	-1.6
EALB				*i* Vmb_Lg				19 33 36.1	
PALE	Palemas	0.56	209	P			Pb	19 33 26.0	+0.4
PALE	Palemas	0.56	209	P			Pb	19 33 26.0	+0.4
PALE				S			Sb	19 33 34.5	+0.6
EMEL	Melilla	0.67	127	Pg			Pb	19 33 28.1	+0.7
EMEL				Sg			Sb	19 33 37.3	+0.3
EMEL				*i* Vmb_Lg				19 33 39.1	
GOG	Mont Gurugu	0.69	134	P			Pb	19 33 28.5	+0.5
GOG				S			Sn	19 33 40.0	-1.2
GOG	Mont Gurugu	0.69	134	P			Pb	19 33 28.5	+0.5
GOG				S			Sn	19 33 40.0	-1.2
ELGU	Los Guajares,	1.16	359	Pn			Pn	19 33 35.7	-0.6
ELGU				Sn			Sn	19 33 52.9	+0.2
ELGU				*i* Vmb_Lg				19 33 55.1	
EMAL	Malaga-Limoner	1.25	328	P			Pn	19 33 36.6	-0.9
EMAL				S			Sb	19 33 52.6	-1.1
EMIJ	Mijas	1.27	313	Pn			Pn	19 33 37.1	-0.8
EMIJ				Sn			Sn	19 33 53.1	-2.3
EMIJ				*i* Vmb_Lg				19 33 53.9	
TAF	Taforalt	1.32	132	P			Pb	19 33 38.3	-0.3
TAF	Taforalt	1.32	132	P			Pb	19 33 38.3	-0.3
TAF				S			Sg	19 33 57.0	+1.2
EBER	Berja	1.32	26	Pn			Pn	19 33 38.4	-0.3
EBER				Sn			Sn	19 33 56.2	-0.7
EBER				*i* Vmb_Lg				19 34 05.5	
SMIR	Smir Dam	1.44	270	P			Pn	19 33 38.0	-2.1
SMIR				S			Sn	19 33 58.3	-1.2
ECEU	Ceuta	1.45	278	Pn			Pn	19 33 39.4	-0.9
ECEU				Sn			Sn	19 33 57.1	-2.6
ECEU				*i* Vmb_Lg				19 34 03.9	
EGOR	Sierra Gorda,	1.46	344	Pn			Pn	19 33 40.9	+0.4
EGOR				Sn			Sn	19 33 59.6	-0.5
EGOR				*i* Vmb_Lg				19 34 06.8	
EQUE	Quentar	1.50	5	Pn			Pb	19 33 42.1	+0.3
EQUE				Sn			Sn	19 34 00.7	-0.5
EQUE				*i* Vmb_Lg				19 34 11.8	
JBK	JBK	1.61	148	P			Pn	19 33 42.1	-0.5
JBK	JBK	1.61	148	P			Pn	19 33 42.1	-0.5
JBK				S			Sn	19 34 01.9	-2.0
EJIF	Jimena Fronter	1.68	297	Pn			Pn	19 33 43.2	-0.3
EJIF				Sn			Sn	19 34 04.5	-0.9
ENIJ	Nijar	1.70	41	Pn			Pn	19 33 43.6	0.0
ENIJ				Sn			Sn	19 34 04.2	-1.6
ENIJ				*i* Vmb_Lg				19 34 08.5	
LIJA	Lijar	1.88	310	P			Pb	19 33 49.0	+0.8
LIJA				S			Sn	19 34 08.0	-2.5
SICH	Sidi Chahed	2.13	222	P			Pb	19 33 52.2	-0.1
SICH				S			Sb	19 34 18.7	-0.4
ESPR	Espera	2.16	303	Pn			Pn	19 33 51.0	+1.1
ESPR				Sn			Sn	19 34 16.4	-0.7
ESPR				*i* Vmb_Lg				19 34 25.0	
LCRM	LCR	2.26	207	P			Pb	19 33 56.2	+1.4
LCRM				S			Sg	19 34 24.7	-1.3
TLOR	Lorca, Murcia	2.48	38	Pn			Pn	19 33 54.8	+0.3
TLOR				Sn			Sn	19 34 24.0	-1.2
IFR	Ifrane	2.52	210	P			Pn	19 33 53.6	-1.5
IFR				S			Sn	19 34 25.6	-0.7
EADA	Adamuz	2.58	343	Pn			Pn	19 33 57.4	+1.6
EADA				Sn			Sn	19 34 28.2	+0.6
EADA				*i* Vmb_Lg				19 34 36.3	
ECAB	El Cabril	2.78	329	Pn			Pn	19 34 00.2	+1.6
ECAB				Sn			Sn	19 34 31.8	-0.7
ECAB				Sg			Sb	19 34 41.5	+3.7
ECAB				*i* Vmb_Lg				19 34 42.9	
CZD	Col de Zad	2.92	204	P			Pn	19 34 02.2	+1.5
CZD				S			Sn	19 34 37.2	+0.9
TDRA	Tendrara	2.96	153	P			Pn	19 34 01.9	+0.7
TDRA				S			Sn	19 34 37.0	-0.3
MD31	MD31	2.99	199	P			Pn	19 34 02.2	+0.7
MD31				S			Sn	19 34 38.0	+0.3
MDT	Midelt	3.00	196	P			Pn	19 34 02.1	+0.5
MDT	Midelt	3.00	196	P			Pn	19 34 02.1	+0.5
MDT				S			Sn	19 34 37.5	-0.6
EMIN	Mina Concepcio	3.21	311	Pn			Pn	19 34 04.6	+0.2
EMIN				Sn			Sn	19 34 41.6	-1.5
EMIN				*i* Vmb_Lg				19 34 43.8	
ETOB	Tobarra	3.36	29	Pn			Pn	19 34 09.5	+2.8
ETOB				Sn			Sn	19 34 46.6	-0.4
ETOB				*i* Vmb_Lg				19 34 56.1	
EGRO	El Granado	3.61	301	Pn			Pn	19 34 10.4	+0.5
EGRO				Sn			Sn	19 34 50.6	-2.4
EGRO				*i* Vmb_Lg				19 34 54.4	
PVAQ	Vaqueiros	3.72	298	P			Pn	19 34 11.9	+0.5
PVAQ	Vaqueiros	3.72	298	P			Pn	19 34 12.4	+1.0
PVAQ				S			Sn	19 34 57.9	+2.3
PAB	San Pablo	3.88	352	P			Pn	19 34 15.6	+1.9
PAB	San Pablo	3.88	352	P			Pn	19 34 15.6	+1.9
PAB	San Pablo	3.88	352	Pn			Pn	19 34 15.3	+1.6
PAB				Sn			Sn	19 34 59.4	-0.3
PAB				Sg			Sg	19 35 16.3	-1.6
PAB				*i* Vmb_Lg				19 35 23.1	
ESDC	Sonseca Array	3.97	356	Pn			Pn	19 34 17.0	+2.0
ESDC				Sn			Sn	19 35 01.4	-0.6
ESDC				*i* Vmb_Lg				19 35 22.6	
FIGM	Figuig	4.06	151	P			Pn	19 34 18.4	+2.1
FIGM				S			Sn	19 35 03.9	-0.4
EBAD	Badajoz	4.08	319	Pn			Pn	19 34 16.8	+0.4
EBAD				Sn			Sn	19 35 02.6	-2.0
EBAD				*i* Vmb_Lg				19 35 04.5	
MORF	Marmelete	4.37	293	*e*P			Pn	19 34 20.4	0.0
PFVI	Vila Bisbo	4.44	290	P			Pn	19 34 24.4	+3.0
PFVI				S			Sn	19 35 17.0	+3.5
PESTR	Estremoz	4.48	316	P			Pn	19 34 22.9	+1.0
PESTR				S			Sn	19 35 13.3	-1.0
EPLA	Plasencia	4.77	337	Pn			Pn	19 34 27.7	+1.8
EPLA				Sn			Sn	19 35 20.2	-1.5
EPLA				*i* Vmb_Lg				19 35 57.1	
GUD	Guadarrama	4.95	355	Pn			Pn	19 34 29.9	+1.4
GUD				Sn			Sn	19 35 24.9	-1.2
GUD				Sg			Sg	19 35 50.0	-2.2
GUD				*i* Vmb_Lg				19 35 58.3	
TZRR	Tazzarine	5.17	199	P			Pn	19 34 32.3	+0.7
TZRR				S			Sn	19 35 33.7	+2.0
ETOR	Torete	5.25	13	Pn			Pn	19 34 34.2	+1.6
ETOR				Sn			Sn	19 35 32.0	-1.6
ETOR				*i* Vmb_Lg				19 36 17.3	
TTIG	Tnine Tigouga,	6.55	220	P			Pn	19 34 48.8	-1.7
TTIG				S			Sn	19 36 05.4	-0.2
ELOB	Lobios	7.07	332	Pn			Pn	19 34 59.1	+1.6
ELOB				Sn			Sn	19 36 13.5	-4.7
EARI	Arriondas	7.69	351	Pn			Pn	19 35 07.8	+1.8

BJI ***25*** *19:49:07.8±0.0, 6°.42S×131°.12E, h132km, mb4.9/61, mB4.9/29*
MOS ***25*** *19:49:10.8±0.8, 6°.00S×130°.81E, h125km, mb4.7/18, Error ellipse: s-maj=11.5km s-min=5.6km az=120.8*
NEIC ***25*** *19:49:11.6±2.0, 5°.98S±0°.05×130°.83E±0°.06, h112km±4km, mb5.0/102, Error ellipse: s-maj=9.2km s-min=6.8km az=84.0*
DJA ***25*** *19:49:12.8±0.2, 6°S±2°×13°1E±°, h122km±2km, M4.8/74, mB5.3/50, mb5.2/74, MLv5.5/14, Mw(mB)4.8/50, MwMwp4.4/2, Mwp4.8/2*
IDC ***25*** *19:49:12.7±1.2, 5°.99S×130°.81E, h122km±11km, mb4.4/21, mb1 4.5/25, mb1mx4.4/33, mbtmp4.9/25, MS3.4/14, Ms1 3.4/14, ms1mx3.1/69, Error ellipse: s-maj=11.3km s-min=7.9km az=53.0*
GCMT ***25*** *19:49:13.6±0.3, 5°.95S±0°.02×130°.94E±0°.03, h126km±4km, MW4.8/88, Moment Tensor Solution. s19,c20; s88,c116; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.09±.10; Mθθ -1.89±.12; Mφφ 0.79±.14; Mrθ 0.57±.07; Mrφ -0.43±.11; Mθφ 1.30±.07; Best double couple: M0 2.21100×10^16 NP1: φ294.00000°, δ44.00000°, λ150.00000°. NP2: φ47.00000°, δ70.00000°, λ50.00000°. Principal axes: T 2.2540, Plg49.0000°, Azm273.0000°; N -0.0950, Plg37.0000°, Azm63.0000°; P -2.1680, Plg15.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 19:49:12.5±0.6, 6°.05S±0'.04×130°.85E±0'.04, h129km±5km, n517, σ1♀35/529, mb4.9/122, 67C-33D, Fault plane solution: NP1: φ=47.91111°, δ=55.20790°, λ=28.86645°. **NP2:** φ=300.45001°, δ=66.64269°, λ=141.57169°. **Principal axes:** T Plg43.1427°, Azm259.8420°; N Plg45.9875°, Azm93.8985°; P Plg7.0730°, Azm356.5196°; **Fault plane solution: NP1:** φ=23.39591°, δ=77.81144°, λ=51.99300°. **NP2:** φ=278.27750°, δ=39.63049°, λ=160.66989°. **Principal axes:** T Plg43.9385°, Azm256.1915°; N Plg37.0045°, Azm32.7650°; P Plg23.2849°, Azm141.6911°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.78	328	P			Pn	19 49 44.8	+1.0
SAUI	Saumlaki	1.97	167				Pn	19 49 46.5	+0.4
SAUI					Sn		Sn	19 50 08.3	-3.5
SAUI	Saumlaki	1.97	167	P			Pn	19 49 47.9	+1.8
MSAI	Masohi	3.30	324	P			Pn	19 50 03.0	0.0
AAI	Ambon	3.54	311	P			Pn	19 50 07.0	+0.9
SIJI	Sorong	5.16	5	P			Pn	19 50 25.9	-2.0
	126nm,0.3s,baz=187,slow=21,SNR=570								
SIJI					S		Sn	19 51 19.9	-6.7
	116nm,0.3s,baz=344,slow=23,SNR=27								
SWI	Sorong	5.17	5	P			Pn	19 50 25.6	-2.3
	9.5nm31μm654nm,0.7s								
SANI	Sanana	6.27	309	P			Pn	19 50 42.7	0.0
	1.2nm3μm248nm,0.7s								
SANI	Sanana	6.27	309	P			Pn	19 50 43.2	+0.5
LBMI	Labuha	6.33	328	P			Pn	19 50 42.8	-0.7
	1.9nm1μm6μm642nm,0.8s								
MTN	Manton Dam	6.76	178	P			Pn	19 50 48.8	-0.5
	baz=6.8,SNR=1000								
MTN	Manton Dam	6.76	178	Pn			Pn	19 50 48.5	-0.8
MTN				Sn			Sn	19 52 00.7	-4.2
MTN	Manton Dam	6.76	178	P			Pn	19 50 49.8	+0.5
KDU	Kakadu	6.79	166	P			Pn	19 50 48.5	-1.2
	baz=6.9,SNR=1000								
KDU					S		Sn	19 51 59.8	-5.8
	baz=6.9								
KDU	Kakadu	6.79	166	P			Pn	19 50 48.7	-1.0
SRPI	Serui, Papua	6.79	53	P			Pn	19 50 49.2	-0.6
	1.0nm127nm,0.9s								
SOEI	Soe	7.49	240				Pn	19 50 60.0	+0.7
SOEI	Soe	7.49	240	P			Pn	19 50 59.9	+0.7
	5.2nm5μm317nm,0.5s								
SOEI	Soe	7.49	240	P			Pn	19 51 00.6	+1.4
TNTI	Ternate	7.62	333	Pn			Pn	19 51 00.2	-0.6
TNTI				Sn			Sn	19 52 21.0	-4.7
TNTI	Ternate	7.62	333	P			Pn	19 51 00.8	-0.1
	0.6nm1μm162nm,0.8s								
TNTI	Ternate	7.62	333	P			Pn	19 51 00.5	-0.4
WAMI	Wamena	8.12	75	P			Pn	19 51 11.1	+3.4
	720nm,0.9s								
BATI	Baumata	8.22	239	P			Pn	19 51 09.6	+0.5
	284nm,0.3s,baz=115,slow=4.1,SNR=159								
BATI					S		Sn	19 52 40.0	-0.5
	143nm,0.3s,baz=176,slow=22,SNR=18								
BATI	Baumata	8.22	239	P			Pn	19 51 10.0	+0.9
	2.1nm6μm402nm,0.5s								
BBSI	Bau Bau	8.25	273	P			Pn	19 51 12.1	+2.6
	98nm9.7nm,0.8s								
MMRI	Maumere	8.92	253	Pn			Pn	19 51 19.4	+1.0
MMRI	Maumere	8.92	253	P			Pn	19 51 20.9	+2.5
	2μm146nm,0.4s								
MMRI	Maumere	8.92	253	P			Pn	19 51 20.2	+1.8
LUWI	Luwuk	9.47	301	Pn			Pn	19 51 26.2	+0.4
KMSI	Cibinong	9.50	314	P			Pn	19 51 27.5	+1.2
	205nm,0.9s								
MMPI	Merauke	9.76	105	P			Pn	19 51 29.3	-0.4
	6μm534nm,0.7s								
KNRA	Kununurra	9.78	192	P			Pn	19 51 28.3	-1.7
	baz=9.9,SNR=525								
KNRA					S		Sn	19 53 06.3	-12
	baz=9.9								
KNRA	Kununurra	9.78	192	Pn			Pn	19 51 27.7	-2.3
KNRA	Kununurra	9.78	192	P			Pn	19 51 28.8	-1.2
GENI	Genyem	9.91	70	P			Pn	19 51 32.0	+0.3
	162nm,0.8s								
GENI	Genyem	9.91	70	P			Pn	19 51 32.2	+0.5
BSSI	Bau Bau, Buton	10.30	269	P			Pn	19 51 39.0	+2.0
	483nm32nm,1.1s								
JAY	Jayapura	10.44	71	P			Pn	19 51 39.0	+0.2
	4.2nm,0.3s,baz=261,slow=9.4,SNR=14								
JAY					S		Sn	19 53 31.8	-2.3
	0.6nm,0.3s,baz=127,slow=20,SNR=2.1								
APSI	Ampana	10.50	299	P			Pn	19 51 41.7	+2.0
	541nm53nm,0.9s								
BKSI	Bulukumba	10.70	273	P			Pn	19 51 43.6	+1.3
	1μm101nm,0.6s								
BNSI	Bone	10.82	278	P			Pn	19 51 45.1	+1.1
	39nm,0.5s								
BASI	Baing, Sumba	10.98	247	P			Pn	19 51 47.5	+1.5
	3μm182nm,0.6s								
MRSI	Marisa	11.00	306	P			Pn	19 51 46.9	+0.5
	691nm89nm,1.0s								
KAPI	Kappang	11.09	275	P			P	19 51 54.0	-2.8
	2.1nm,0.3s,baz=89,slow=7.1,SNR=4.5								
KAPI	Kappang	11.09	275	P			Pn	19 51 47.0	-0.6
KAPI	Kappang	11.09	275				Pn	19 51 47.0	-0.6
KAPI	Kappang	11.09	275	P			Pn	19 51 48.0	+0.4
SPSI	Sidrap Palu	11.23	280	P			Pn	19 51 50.2	+0.8
	658nm51nm,0.7s								
TTSI	Tana Toraja	11.39	285	P			Pn	19 51 54.3	+2.8
	806nm51nm,0.9s								
TOLI2	Tolitoli	12.31	305	Pn			Pn	19 52 03.6	0.0
TOLI2	Tolitoli	12.31	305	P			Pn	19 52 04.6	+1.0
MPSI	Mapaga	12.64	300	P			Pn	19 52 09.9	+2.0
	572nm24nm,0.9s								
FITZ	Fitzroy Crossi	13.01	203	P			Pn	19 52 09.4	-3.3
	20nm,0.3s,baz=29,slow=9.3,SNR=178								
FITZ					S		Sn	19 54 24.2	-12
	20nm,0.3s,baz=119,slow=6.4,SNR=15								
FITZ				LR			LR	19 58 08.4	
	comp=Z,84nm,18.0s,baz=34,slow=41								
FITZ	Fitzroy Crossi	13.01	203				Pn	19 52 09.2	-3.5
PLAI	Plampang	13.25	257	P			P	19 52 16.5	+0.7
	3μm114nm,0.5s								
PLAI	Plampang	13.25	257	P			Pn	19 52 14.8	-1.0
WRAB	Tennant Creek	14.21	166	*ce*P			Pn	19 52 23.8	-4.3
WRAB				pmax			pmax		
	comp=Z,49nm,0.7s								
WRAB	Tennant Creek	14.21	166				Pn	19 52 22.7	-5.5
WRA	Warramunga Arr	14.22	167	P			Pn	19 52 24.3	-3.9
	comp=Z,8.6nm,0.3s,baz=347,slow=14,SNR=328								
WRA					S		Sn	19 54 55.5	-10
	comp=Z,35nm,0.3s,baz=354,slow=23,SNR=9.7								
WRA					LR		LR	19 58 51.0	
	comp=Z,283nm,19.0s,baz=210,slow=40								
WRA	Warramunga Arr	14.22	167	P			Pn	19 52 23.3	-4.9
WRA	Warramunga Arr	14.22	167				Pn	19 52 23.3	-4.9
WB2	Warramunga Arr	14.22	166				Pn	19 52 23.9	-4.3
WR0	Warramunga Arr	14.29	166				Pn	19 52 24.7	-4.4
COEN	Coen	14.45	124	Pn			Pn	19 52 28.8	-2.4
COEN	Coen	14.45	124	P			Pn	19 52 31.1	-0.1
SRBI	Singaraja	15.65	262	P			Pn	19 52 47.2	+1.1
	comp=Z,1μmcomp=Z,135nm,0.8s								
DNP	Denpasar	15.73	260	P			P	19 52 50.5	+2.1
	comp=Z,11μmcomp=Z,254nm,0.5s								
IGBI	Denpasar	15.81	259	P			Pn	19 52 49.1	+1.0
	comp=Z,4μmcomp=Z,242nm,0.4s								
BBKI	Banjar Baru	16.16	278	P			P	19 52 55.5	+2.3
	comp=Z,258nm,1.1s								
PMG	Port Moresby	16.50	103	P			Pn	19 52 57.9	+1.3
	comp=Z,2.3nm,0.3s,baz=37,slow=7.4,SNR=21								
PMG					S		S	19 55 49.4	-13
	comp=Z,0.9nm,0.3s,baz=216,slow=19,SNR=2.1								
PMG					LR		LR	20 00 37.5	
	comp=Z,127nm,21.9s,baz=276,slow=41								
PMG	Port Moresby	16.50	103	*ce*P			Pn	19 52 57.6	+1.0
PMG				pmax			pmax		
	comp=Z,103nm,1.7s								
PMG	Port Moresby	16.50	103				P	19 52 56.1	-0.9
PMG				IAmb			IAmb	19 52 59.6	
	comp=Z,46nm,0.8s								
PMG	Port Moresby	16.50	103	P			Pn	19 52 58.5	+1.9
ABJI	Asem Bagus	16.58	263	P			Pn	19 52 59.7	+2.1
	comp=Z,160nm,1.1s								
MYLDM	Lahad Datu	16.62	312	P			P	19 52 55.6	-2.7
MYLDM				IAmb			IAmb	19 53 18.1	
	comp=Z,61nm,1.1s								
MTKI	Muara Teweh, K	16.71	287	P			Pn	19 53 00.7	+1.6
	comp=Z,44nm,0.6s								
JAGI	Jajag, Banyuwa	16.73	261				P	19 52 56.5	-3.0
JAGI	Jajag, Banyuwa	16.73	261	P			P	19 52 58.8	-0.8
	comp=Z,2μmcomp=Z,76nm,0.6s								
JAGI	Jajag, Banyuwa	16.73	261	P			P	19 52 58.6	-1.0
QIS	Mount Isa	16.74	150	P			P	19 52 57.5	-2.1
	baz=17,SNR=226								
QIS	Mount Isa	16.74	150	P			P	19 52 58.5	-1.1
KMMI	Kalianget	16.80	266	P			Pn	19 53 02.6	+2.3
	comp=Z,3μmcomp=Z,191nm,1.3s								
BLJI	Banyuligur	17.21	263	P			Pn	19 53 06.6	+1

QLP	**Quilpie**	**24.08**	**149**	P		**P**	**19 54 17.5**	**+1.3**		
	baz=24,SNR=31									
QLP	**Quilpie**	**24.08**	**149**	P		**P**	**19 54 17.8**	**+1.6**		
MULG	**Mulgathing**	**24.29**	**173**	P		**P**	**19 54 19.4**	**+1.4**		
FORT	**Forrest**	**24.74**	**186**	P		**P**	**19 54 23.0**	**+0.9**		
	baz=25,SNR=62									
FORT	**Forrest**	**24.74**	**186**	P		**P**	**19 54 23.1**	**+1.0**		
FORT	**Forrest**	**24.74**	**186**	P		**P**	**19 54 23.5**	**+1.4**		
PPBI	**Pangkal Pinang**	**24.94**	**278**	P		**P**	**19 54 26.0**	**+1.9**		
	comp=Z,5µmcomp=Z,30nm,0.4s									
CGJI	**Cibinong**	**25.01**	**267**	P		**P**	**19 54 26.5**	**+1.8**		
	comp=Z,826nmcomp=Z,83nm,0.6s									
LCRK	**Leigh Creek**	**25.24**	**165**	P		**P**	**19 54 28.4**	**+1.8**		
XMIS	**Christmas Isla**	**25.31**	**258**	P		**P**	**19 54 27.1**	**-0.4**		
XMIS				IAmb		IAmb	19 54 33.4			
	comp=Z,40nm,0.9s									
RK1H	**Rockhampton Ha**	**25.59**	**134**	P		**P**	**19 54 31.7**	**+1.8**		
	comp=Z,24nm,0.6s									
KLSI		**26.04**	**272**	P		**P**	**19 54 39.9**	**+5.9**		
RMQ	**Roma**	**26.55**	**142**	P		**P**	**19 54 39.7**	**+1.2**		
	baz=27,SNR=6.4									
RMQ	**Roma**	**26.55**	**142**	P		**P**	**19 54 40.2**	**+1.7**		
DSRI	**Dabo**	**26.79**	**281**	P		**P**	**19 54 42.9**	**+2.1**		
	comp=Z,7.0nm,0.9s									
MORW	**Morawa**	**26.84**	**210**	P		**P**	**19 54 41.8**	**+0.8**		
	baz=27,SNR=20									
MORW	**Morawa**	**26.84**	**210**	P		**P**	**19 54 41.1**	**+0.1**		
MORW				IAmb		IAmb	19 55 31.8			
	comp=Z,38nm,1.6s									
BBOO	**Buckleboo**	**27.07**	**170**	P		**P**	**19 54 43.4**	**+0.3**		
	baz=27,SNR=5.0									
BBOO	**Buckleboo**	**27.07**	**170**	P		**P**	**19 54 42.7**	**-0.3**		
BBOO				IAmb		IAmb	19 55 25.7			
	comp=Z,40nm,0.7s									
BBOO	**Buckleboo**	**27.07**	**170**	P		**P**	**19 54 43.8**	**+0.8**		
EIDS	**Eidsvold**	**27.28**	**137**	P		**P**	**19 54 45.9**	**+0.9**		
STKA	**Stephens Creek**	**27.59**	**160**	P		**P**	**19 54 48.7**	**+1.0**		
	comp=Z,31nm,0.4s,baz=337,slow=8.7,SNR=80									
STKA				LR		LR	20 07 11.1			
	comp=Z,172nm,19.3s,baz=303,slow=39									
STKA	**Stephens Creek**	**27.59**	**160**	P		**P**	**19 54 48.8**	**+1.0**		
	baz=28,SNR=51									
STKA	**Stephens Creek**	**27.59**	**160**	P		**P**	**19 54 48.7**	**+1.0**		
STKA				pmax		pmax				
	comp=Z,7.0nm,0.5s									
STKA	**Stephens Creek**	**27.59**	**160**	P		**P**	**19 54 48.7**	**+1.0**		
STKA	**Stephens Creek**	**27.59**	**160**	P		**P**	**19 54 49.0**	**+1.3**		
BLDU	**Ballidu**	**27.82**	**207**	P		**P**	**19 54 50.9**	**+1.1**		
	baz=28,SNR=46									
MNAI	**Manna**	**27.82**	**272**	P		**P**	**19 54 49.5**	**-0.6**		
NAPP	**Napperby**	**27.84**	**167**	P		**P**	**19 54 51.2**	**+1.3**		
MYKOM	**Kota Tinggi**	**28.06**	**285**	P		**P**	**19 54 51.0**	**-1.1**		
MYKOM				IAmb		IAmb	19 54 58.1			
	comp=Z,15nm,0.6s									
MYKOM	**Kota Tinggi**	**28.06**	**285**	P		**P**	**19 54 54.0**	**+1.9**		
KLBR	**Kellerberrin**	**28.21**	**204**	P		**P**	**19 54 54.5**	**+1.2**		
	baz=28,SNR=20									
KLBR	**Kellerberrin**	**28.21**	**204**	P		**P**	**19 54 54.9**	**+1.6**		
HTT	**Hallett**	**28.26**	**166**	P		**P**	**19 54 54.8**	**+1.1**		
	baz=28,SNR=84									
HTT	**Hallett**	**28.26**	**166**	P		**P**	**19 54 54.9**	**+1.1**		
DLV	**T Lat**	**28.53**	**309**	P		**P**	**19 54 56.4**	**-0.1**		
DLV				IAmb		IAmb	19 56 01.3			
	comp=Z,97nm,1.6s									
CMSA	**Cobar Meteorol**	**28.92**	**153**	P		**P**	**19 55 00.7**	**+1.1**		
	baz=29,SNR=4.6									
CMSA	**Cobar Meteorol**	**28.92**	**153**	P		**P**	**19 55 01.1**	**+1.6**		
HNR	**Honiara**	**29.02**	**98**	P		**P**	**19 55 01.1**	**+0.4**		
HNR				pmax		pmax				
	comp=Z,49nm,0.7s									
HNR	**Honiara**	**29.02**	**98**	P		**P**	**19 55 01.1**	**+0.4**		
MUN	**Mundaring**	**29.20**	**206**	P		**P**	**19 55 03.2**	**+1.1**		
	baz=29,SNR=9.5									
TWOA	**Tennyson Woods**	**29.71**	**167**	P		**P**	**19 55 08.3**	**+1.8**		
JRMM	**Jerantut**	**30.00**	**289**	P		**P**	**19 55 10.0**	**+0.7**		
YULB	**Yu-li**	**30.71**	**343**	P		**P**	**19 55 15.5**	**+0.1**		
YULB				IAmb		IAmb	19 55 36.4			
	comp=Z,22nm,1.0s									
TPUB	**Ta-pu**	**30.83**	**341**	P		**P**	**19 55 15.1**	**-1.4**		
ARMA	**Armidale**	**31.14**	**144**	P		**P**	**19 55 20.2**	**+0.9**		
	baz=31,SNR=15									
ARMA	**Armidale**	**31.14**	**144**	P		**P**	**19 55 18.7**	**-0.6**		
SSLB	**Suanglung**	**31.19**	**342**	P		**P**	**19 55 18.4**	**-1.2**		
SSLB				IAmb		IAmb	19 55 21.3			
	comp=Z,35nm,1.1s									
IPM	**Ipoh**	**31.56**	**289**	P		**P**	**19 55 22.1**	**-1.0**		
IPM	**Ipoh**	**31.56**	**289**	P		**P**	**19 55 23.0**	**-0.1**		
MNSI	**Mandailing Nat**	**31.95**	**281**	P		**P**	**19 55 26.8**	**+0.3**		
	comp=Z,664nmcomp=Z,72nm,0.8s									
KULM	**Kulim**	**32.18**	**290**	P		**P**	**19 55 27.6**	**-0.9**		
KULM				IAmb		IAmb	19 55 28.9			
	comp=Z,11nm,0.7s									
KULM	**Kulim**	**32.18**	**290**	P		**P**	**19 55 28.0**	**-0.5**		
ARPS	**Mount Arapiles**	**32.19**	**163**	P		**P**	**19 55 29.9**	**+1.7**		
	baz=32,SNR=53									
ARPS	**Mount Arapiles**	**32.19**	**163**	P		**P**	**19 55 30.1**	**+1.8**		
JOW	**Kunigami**	**32.78**	**356**	P		**P**	**19 55 33.2**	**-0.3**		
MGCD	**Mangrove Creek**	**32.94**	**148**	P		**P**	**19 55 35.5**	**+0.6**		
	baz=33,SNR=18									
PSI	**Prapat**	**33.07**	**285**	P		**P**	**19 55 34.9**	**-1.5**		
	comp=Z,14nm,0.8s,baz=77,slow=6.4,SNR=10.0									
PSI				LR		LR	20 10 05.7			
	comp=Z,43nm,18.4s,baz=118,slow=38									
BRAT	**Ballarat**	**33.55**	**161**	P		**P**	**19 55 42.6**	**+2.6**		
	comp=Z,17nm,0.6s									
CAN	**Canberra**	**33.59**	**153**	P		**P**	**19 55 41.6**	**+1.1**		
CAN				pmax		pmax				
	comp=Z,22nm,0.6s									
CAN	**Canberra**	**33.59**	**153**	P		**P**	**19 55 41.6**	**+1.1**		
CAN				IAmb		IAmb	19 55 43.3			
	comp=Z,22nm,0.6s									
CAN	**Canberra**	**33.59**	**153**	P		**P**	**19 55 42.6**	**+2.1**		
CNB	**Canberra Magne**	**33.75**	**152**	P		**P**	**19 55 42.6**	**+0.6**		
	baz=34,SNR=18									
GSI	**Gunungsitoli**	**34.01**	**281**	P		**P**	**19 55 42.5**	**-1.9**		
GSI	**Gunungsitoli**	**34.01**	**281**	P		**P**	**19 55 47.1**	**+2.6**		
	comp=Z,1µmcomp=Z,108nm,0.8s									
GSI	**Gunungsitoli**	**34.01**	**281**	P		**P**	**19 55 46.7**	**+2.2**		
TOO	**Toolangi**	**34.10**	**159**	P		**P**	**19 55 46.2**	**+1.3**		
	baz=34,SNR=23									
TOO	**Toolangi**	**34.10**	**159**	P		**P**	**19 55 46.2**	**+1.3**		
TOO				pmax		pmax				
	comp=Z,12nm,0.7s									
TOO	**Toolangi**	**34.10**	**159**	P		**P**	**19 55 46.2**	**+1.3**		
TOO				IAmb		IAmb	19 55 48.7			
	comp=Z,12nm,0.7s									
GEXS	**Deakin Univers**	**34.26**	**161**	P		**P**	**19 55 48.9**	**+2.7**		
SRIT	**Nakonsritamara**	**34.38**	**295**	P		**P**	**19 55 47.7**	**+0.1**		
SRIT				IAmb		IAmb	19 55 49.5			
	comp=Z,22nm,0.8s									
LHMI	**Lhok Sumawe**	**35.65**	**288**	P		**P**	**19 55 57.3**	**-1.2**		
SANVU	**Saraoutou**	**36.86**	**108**	P		**P**	**19 56 09.0**	**+0.2**		
JSU	**Suzuyama**	**37.35**	**359**	P		**P**	**19 56 13.7**	**+1.0**		
JSU				IAmb		IAmb	19 57 13.9			
	comp=Z,17nm,1.0s									
DZM	**Mont Dzumac**	**37.89**	**118**	P		**P**	**19 56 18.5**	**+1.0**		
	comp=Z,7.2nm,0.8s,baz=301,slow=18,SNR=2.9									
DZM	**Mont Dzumac**	**37.89**	**118**	P		**P**	**19 56 18.2**	**+0.7**		
DZM				IAmb		IAmb	19 56 50.4			
	comp=Z,28nm,1.3s									
PINNC	**Pines Island,**	**38.94**	**119**	P		**P**	**19 56 26.6**	**+0.4**		
JNU	**Nakatsue**	**38.95**	**0**	P		**P**	**19 56 25.4**	**-0.7**		
JNU				IAmb		IAmb	19 56 28.1			
	comp=Z,19nm,1.1s									
MOO	**Moorlands**	**39.03**	**161**	P		**P**	**19 56 29.3**	**+2.7**		
	baz=39,SNR=5.4									
TAU	**Tasmania Unive**	**39.49**	**161**	P		**P**	**19 56 32.3**	**+1.8**		
TAU				pmax		pmax				
	comp=Z,53nm,1.3s									
TAU	**Tasmania Unive**	**39.49**	**161**	P		**P**	**19 56 32.3**	**+1.8**		
TAU				IAmb		IAmb	19 56 46.2			
	comp=Z,53nm,1.2s									
NJ2	**Nanjing**	**39.58**	**344**	*e*P		**P**	**19 56 33.0**	**+1.8**		
NJ2				pmax		pmax				
	comp=Z,10.0nm,0.6s									
WHN	**Wuhan**	**39.67**	**337**	⇓P		**P**	**19 56 33.0**	**+0.9**		
WHN				pmax		pmax				
	comp=Z,38nm,0.8s									
CM31	**Chiang Mai Arr**	**39.79**	**308**	P		**P**	**19 56 33.6**	**+0.4**		
CM31				IAmb		IAmb	19 56 35.9			
	comp=Z,12nm,0.8s									
CMAR	**Chiang Mai Arr**	**39.79**	**308**	P		**P**	**19 56 33.8**	**+0.5**		
	comp=Z,11nm,0.7s,baz=137,slow=7.4,SNR=65									
CMAR				PcP		**PcP**	**19 58 38.5**	**+1.4**		
	comp=Z,2.0nm,0.8s,baz=172,slow=3.2,SNR=4.5									
CMAR				ScP		**ScP**	**20 02 14.8**	**+0.6**		
	comp=Z,1.0nm,0.5s,baz=148,slow=2.5,SNR=6.8									
CMAR				LR		LR	20 15 36.5			
	comp=Z,10nm,18.1s,baz=125,slow=40									
CMAR	**Chiang Mai Arr**	**39.79**	**308**	P		**P**	**19 56 32.6**	**-0.7**		
CMAR							19 58 38.5			
CMAR	**Chiang Mai Arr**	**39.79**	**308**	P		**P**	**19 56 32.6**	**-0.7**		
JHJ	**Hachijo jima 2**	**39.87**	**12**	LR		LR	20 11 48.9			
	comp=Z,50nm,18.7s,baz=186,slow=34									
GYA	**Guiyang**	**39.92**	**325**	⇓*i*P		**P**	**19 56 34.8**	**+0.4**		
GYA				pmax		pmax				
	comp=Z,27nm,0.5s									
CHTO	**Chiang Mai**	**39.99**	**309**	P		**P**	**19 56 34.8**	**-0.1**		
CHTO				pmax		pmax				
	comp=Z,25nm,0.8s									
CHTO	**Chiang Mai**	**39.99**	**309**	P		**P**	**19 56 34.8**	**-0.1**		
CHTO				IAmb		IAmb	19 56 36.8			
	comp=Z,25nm,0.8s									
CHTO	**Chiang Mai**	**39.99**	**309**	P		**P**	**19 56 35.1**	**+0.2**		
CHTO	**Chiang Mai**	**39.99**	**309**	P		**P**	**19 56 36.9**	**+2.0**		
JHS	**Saijyo**	**40.88**	**3**	P		**P**	**19 56 43.5**	**+1.5**		
JHS				IAmb		IAmb	19 57 07.7			
	comp=Z,37nm,1.4s									
KMI	**Kunming**	**41.32**	**320**	⇑P		**P**	**19 56 46.5**	**+0.4**		
KMI				pmax		pmax				
	comp=Z,16nm,1.2s									
PBA	**Port Blair**	**41.79**	**295**	P		**P**	**19 56 47.4**	**-2.3**		
PBA				IAmb		IAmb	19 56 50.8			
	comp=Z,26nm,0.6s									
PBA	**Port Blair**	**41.79**	**295**	P		**P**	**19 56 49.5**	**-0.2**		
MAJO	**Matsushiro**	**42.93**	**9**	*i* P		**P**	**19 56 57.8**	**-0.8**		
MAJO				pmax		pmax				
	comp=Z,8.0nm,0.8s									
MAJO	**Matsushiro**	**42.93**	**9**	P		**P**	**19 56 56.5**	**-2.1**		
MJAR	**Matsushiro Arr**	**42.93**	**9**	P		**P**	**19 56 58.3**	**-0.3**		
	comp=Z,6.5nm,0.8s,baz=198,slow=9.1,SNR=12									
MJAR				LR		LR	20 11 41.2			
	comp=Z,39nm,21.0s,baz=176,slow=32									
MJB9	**Matsu-Tunnel**	**42.93**	**9**	P		**P**	**19 56 57.1**	**-1.5**		
PZH	**PanZhiHua**	**42.93**	**320**	⇑P		**P**	**19 56 58.8**	**-0.1**		
PZH				pmax		pmax				
	comp=Z,30nm,0.7s									
PZH				pmax		pmax				
	comp=Z,50nm,4.5s									
KSAR	**Wonju Array Be**	**43.35**	**357**	P		**P**	**19 57 01.3**	**-0.7**		
KSAR	**Wonju Array Be**	**43.35**	**357**	P		**P**	**19 57 01.3**	**-0.7**		
KSRS	**Korea Array**	**43.36**	**357**	P		**P**	**19 57 03.0**	**+1.0**		
	comp=Z,3.5nm,0.6s,baz=175,slow=8.3,SNR=19									
KSRS				LR		LR	20 15 26.8			
	comp=Z,22nm,20.6s,baz=140,slow=36									
KS19	**Wonju Array Si**	**43.41**	**357**	P		**P**	**19 57 01.9**	**-0.6**		
JMM	**Marumori**	**44.66**	**11**	P		**P**	**19 57 11.9**	**-0.5**		
JMM				IAmb		IAmb	19 58 58.1			
	comp=Z,59nm,1.7s									
XAN	**Xi'an**	**44.95**	**334**	P		**P**	**19 57 14.5**	**-0.3**		
XAN				pP		pP	19 57 43.3	+0.5		
XAN				sP		sP	19 57 59.8	+3.1		
XAN				PcP		**PcP**	**19 58 55.3**	**+1.3**		
XAN				pmax		pmax				
	comp=Z,30nm,0.6s									
CD2	**Chengdu**	**44.97**	**326**	P		**P**	**19 57 16.0**	**+0.9**		
HNS	**HongShan**	**45.77**	**342**	⇓P		**P**	**19 57 21.5**	**+0.3**		
HNS				pmax		pmax				
	comp=Z,14nm,0.8s									
BJI	**Beijing**	**47.82**	**345**	P		**P**	**19 57 37.0**	**0.0**		
BJI				pmax		pmax				
	comp=Z,7.0nm,0.5s									
SHL	**Shillong**	**49.20**	**311**	P		**P**	**19 57 47.8**	**-0.3**		
SHL				pmax		pmax				
	comp=Z,75nm,1.1s									
SHL	**Shillong**	**49.20**	**311**	P		**P**	**19 57 47.8**	**-0.3**		
SHL	**Shillong**	**49.20**	**311**	P		**P**	**19 57 47.8**	**-0.3**		
CN2	**Changchun**	**49.86**	**355**	*e*P		**P**	**19 57 52.5**	**-0.1**		
CN2				pmax		pmax				
	comp=Z,10.0nm,0.6s									
HHC	**Hu-ho-hao-te**	**49.92**	**341**	*e*P		**P**	**19 57 54.5**	**+1.3**		
HHC				pmax		pmax				
	comp=Z,19nm,0.9s									
HHC				pmax		pmax				
	comp=Z,76nm,5.0s									
USA0B	**Ussuriysk Arra**	**50.03**	**1**	P		**P**	**19 57 54.4**	**+0.5**		
USA0B				pmax		pmax				
	comp=Z,8.0nm,0.7s									
USA0B	**Ussuriysk Arra**	**50.03**	**1**	P		**P**	**19 57 54.4**	**+0.5**		
USA0B				IAmb		IAmb	19 57 55.4			
	comp=Z,7.6nm,0.7s									
USRK	**Ussuriysk Ar.**	**50.03**	**1**	P		**P**	**19 57 54.1**	**+0.3**		
	comp=Z,6.6nm,0.6s,baz=185,slow=7.8,SNR=9.9									
DCZ	**Deep Cove**	**50.33**	**147**	P		**P**	**19 57 56.9**	**+0.7**		
MLZ	**Mavora Lakes**	**50.79**	**147**	P		**P**	**19 57 60.0**	**+0.3**		
QRZ	**Quartz Range**	**50.81**	**139**	P		**P**	**19 57 59.8**	**-0.1**		
LBZ	**Lake Benmore**	**51.36**	**144**	P		**P**	**19 58 05.2**	**+1.3**		
LBZ				IAmb		IAmb	19 58 06.3			
	comp=Z,14nm,0.7s									
RPZ	**Rata Peaks**	**51.48**	**143**	P		**P**	**19 58 05.9**	**+1.1**		
	comp=Z,3.6nm,0.5s,baz=45,slow=2.9,SNR=1.9									
RPZ	**Rata Peaks**	**51.48**	**143**	IAmb		IAmb	19 58 55.2			
	comp=Z,23nm,1.2s									
XLT	**XiLinHaoTe**	**51.48**	**346**	*e*P		**P**	**19 58 08.3**	**+3.4**		
XLT				pP		pP	19 58 38.5	+5.6		
XLT				sP		sP	19 58 50.0	+3.6		
XLT				PcP		**PcP**	**19 59 15.3**	**-2.1**		
XLT				ScP		**ScP**	**20 02 58.5**	**-3.7**		
XLT				S		**S**	**20 05 11.8**	**-3.4**		
XLT				sS		sS	20 06 13.5	+10		
XLT				pmax		pmax				
	comp=Z,11nm,0.9s									
XLT				pmax		pmax				
	comp=Z,140nm,5.0s									
BNX	**BinXian**	**51.65**	**357**	⇓P		**P**	**19 58 06.0**	**0.0**		
BNX				pmax		pmax				
	comp=Z,11nm,0.9s									
BNX				pmax		pmax				
	comp=Z,340nm,4.8s									
PALK	**Pallekele**	**51.75**	**284**	P		**P**	**19 58 07.7**	**+0.3**		
	comp=Z,7.9nm,0.6s,baz=198,slow=8.8,SNR=9.2									
PALK				LR		LR	20 21 31.7			
	comp=Z,40nm,19.8s,baz=232,slow=38									
PALK	**Pallekele**	**51.75**	**284**	P		**P**	**19 58 07.3**	**-0.1**		
PALK				pmax		pmax				
	comp=Z,41nm,1.6s									
PALK	**Pallekele**	**51.75**	**284**	P		**P**	**19 58 07.3**	**-0.1**		
PALK				IAmb		IAmb	19 58 09.3			
	comp=Z,41nm,1.6s									
PALK	**Pallekele**	**51.75**	**284**	P		**P**	**19 58 07.2**	**-0.2**		
TUWZ	**Tuamarina**	**52.04**	**139**	P		**P**	**19 58 09.4**	**+0.4**		
MTVZ	**Mangateitei**	**52.07**	**136**	P		**P**	19 58 16.4	+7.0		
LSA	**Lhasa**	**52.11**	**315**	P		**P**	**19 58 11.0**	**+0.8**		
LSA				pmax		pmax				
	comp=Z,21nm,0.6s									
LSA	**Lhasa**	**52.11**	**315**	P		**P**	**19 58 11.3**	**+1.0**		
LSA	**Lhasa**	**52.11**	**315**	P		**P**	**19 58 11.1**	**+0.8**		
BSWZ	**Blackbirch Sta**	**52.14**	**140**	P		**P**	**19 58 09.5**	**-0.3**		
KHZ	**Kahutara**	**52.29**	**141**	P		**P**	**19 58 11.1**	**+0.2**		
MQZ	**McQueen's Vall**	**52.43**	**142**	P		**P**	**19 58 12.4**	**+0.6**		
MQZ				IAmb		IAmb	19 59 56.5			
	comp=Z,26nm,1.3s									
BHHZ	**Black Hill Sta**	**52.52**	**136**	P		**P**	**19 58 13.5**	**+0.8**		
BKZ	**Black Stump Fm**	**52.67**	**136**	P		**P**	**19 58 14.0**	**+0.2**		
BKZ	**Black Stump Fm**	**52.67**	**136**	P		**P**	**19 58 13.7**	**-0.2**		
URZ	**Urewera**	**52.71**	**134**	P		**P**	**19 58 14.5**	**+0.5**		
	comp=Z,6.7nm,0.6s,baz=336,slow=3.4,SNR=5.3									
KWHZ	**Kaweka Forest**	**52.74**	**136**	P		**P**	**19 58 15.8**	**+1.5**		
MTHZ	**Maungataniwha**	**52.78**	**135**	P		**P**	**19 58 15.8**	**+1.2**		
HAZ	**Te Kaha**	**52.98**	**134**	P		**P**	**19 58 17.1**	**+1.1**		
RUGZ	**Raukumara Rang**	**52.99**	**134**	P		**P**	**19 58 16.6**	**+0.3**		
MWZ	**Matawai**	**53.04**	**134**	P		**P**	**19 58 17.9**	**+1.3**		
SNGZ	**Shannon Statio**	**53.10**	**135**	P		**P**	**19 58 17.8**	**+0.9**		
ODAN	**Odare**	**53.28**	**310**	*e*P		**P**	**19 58 18.9**	**+0.2**		
	comp=Z,149nm,0.6s									
TAPN	**Taplejung**	**53.30**	**311**	*e*P		**P**	**19 58 19.1**	**+0.2**		
	comp=Z,111nm,0.4s									
TKGZ	**Te Karaka**	**53.31**	**134**	P		**P**	**19 58 18.1**	**-0.3**		
GTA	**Gaotai**	**53.56**	**330**	*e*P		**P**	**19 58 21.0**	**+0.6**		
GTA				pP		pwP	19 58 56.3	+1.9		
GTA				sP		sP	19 59 10.0	+6.9		
GTA				PcP		**PcP**	**19 59 27.0**	**+1.6**		
GTA				pmax		pmax				
	comp=Z,4.0nm,0.7s									
GTA				pmax		pmax				
	comp=Z,120nm,6.2s									
GTA				LR		LR				
	comp=Z,110nm,15.3s									
GTA				LR		LR				
	comp=Z,64nm,16.4s									
GTA				LR		LR				
	comp=Z,100nm,17.1s									
YSS	**Yuzh-Sakhalins**	**53.82**	**10**	*ce*P		**P**	**19 58 22.4**	**+0.5**		
YSS				pmax		pmax				
	comp=Z,16nm,1.7s									
YSS	**Yuzh-Sakhalins**	**53.82**	**10**	P		**P**	**19 58 22.6**	**+0.7**		
YSS				IAmb		IAmb	19 58 23.2			
	comp=Z,12nm,0.6s									
GOMU	**GeErMu**	**53.92**	**324**	P		**P**	**19 58 23.5**	**+0.2**		
GOMU				pmax		pmax				
	comp=Z,4.0nm,0.8s									
GOMU				pmax		pmax				
	comp=Z,58nm,4.6s									
RAMN	**Ramite**	**53.94**	**310**	*e*P		**P**	**19 58 24.0**	**+0.5**		
	comp=Z,453nm,0.5s									
JIRN	**Jiri**	**54.61**	**310**	*e*P		**P**	**19 58 28.7**	**+0.2**		
	comp=Z,127nm,0.6s									
GUN	**Gumba**	**54.98**	**310**	*e*P		**P**	**19 58 31.4**	**+0.3**		
	comp=Z,294nm,0.6s									
KLR	**Kul'dur**	**55.05**	**1**	*ce*P		**P**	**19 58 31.5**	**+0.7**		
KLR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
PKI	**Pulchoki**	**55.16**	**310**	*e*P		**P**	**19 58 32.3**	**-0.1**		
	comp=Z,79nm,0.6s									
PKIN	**Phulchoki**	**55.17**	**310**	*e*P		**P**	**19 58 32.1**	**-0.3**		
	comp=Z,72nm,0.6s									
KKN	**Kakani**	**55.37**	**310**	*e*P		**P**	**19 58 33.9**	**+0.1**		
	comp=Z,88nm,0.4s									
DMN	**Daman**	**55.41**	**309**	*e*P		**P**	**19 58 34.4**	**+0.3**		
	comp=Z,64nm,0.4s									
GKN	**Gorkha**	**55.97**	**310**	*e*P		**P**	**19 58 38.1**	**+0.1**		
	comp=Z,242nm,0.4s									
KOLN	**Koldanda**	**56.65**	**309**	*e*P		**P**	**19 58 43.3**	**+0.4**		
HYBB	**Hyderabad (bro**	**56.66**	**295**	*e*P		**P**	**19 58 42.2**	**-0.7**		
DANN	**Dangsing**	**56.81**	**310**	*e*P		**P**	**19 58 44.3**	**+0.2**		
	comp=Z,120nm,0.6s									
PYUN	**Piuthan**	**57.28**	**309**	*e*P		**P**	**19 58 47.7**	**+0.3**		
ULN	**Ulaanbaatar**	**57.63**	**341**	*ce*P		**P**	**19 58 50.1**	**+0.8**		
ULN				pmax		pmax				
	comp=Z,9.0nm,0.6s									
ULN	**Ulaanbaatar**	**57.63**	**341**	P		**P**	**19 58 48.0**	**-1.3**		
ULN				IAmb		IAmb	19 58 51.7			
	comp=Z,10nm,0.7s									
ULN	**Ulaanbaatar**	**57.63**	**341**	P		**P**	**19 58 50.4**	**+1.0**		
SONM	**Songino Array**	**57.82**	**341**	P		**P**	**19 58 51.5**	**+0.9**		
	comp=Z,5.1nm,0.6s,baz=165,slow=6.4,SNR=43									
SONM	**Songino Array**	**57.82**	**341**	P		**P**	**19 58 50.2**	**-0.4**		
SONM				pmax		pmax				
	comp=Z,6.0nm,0.7s									
SONM	**Songino Array**	**57.82**	**341**	P		**P**	**19 58 50.2**	**-0.4**		
DGAR	**Diego Garcia**	**57.97**	**265**	P		**P**	**19 58 52.1**	**-0.1**		
DGAR				pmax		pmax				
	comp=Z,259nm,1.4s									
DGAR	**Diego Garcia**	**57.97**	**265**	P		**P**	**19 58 52.1**	**-0.1**		
DGAR	**Diego Garcia**	**57.97**	**265**	P		**P**	**19 58 52.6**	**+0.5**		
KAAM	**Kaadhehdhoo**	**58.11**	**274**	P		**P**	**19 58 52.2**	**-0.9**		
HMDM	**Hanimaadhoo**	**58.94**	**282**	P		**P**	**19 58 58.8**	**0.0**		
HMDM	**Hanimaadhoo**	**58.94**	**282**	P		**P**	**19 58 58.9**	**0.0**		
**

TDK	Taldyqorghan	69.13 323	*e*P		P	20 00 05.6	+0.6
	comp=Z,7.8nm,0.5s,baz=323						
BOOM	Boomskoye usch	69.36 320	P		P	20 00 07.2	+0.6
BOOM			pmax	pmax			
	comp=Z,22nm,1.4s						
BOOM	Boomskoye usch	69.36 320	P		P	20 00 07.2	+0.6
BOOM			IAmb	IAmb		20 00 09.1	
	comp=Z,22nm,1.4s						
CHKK	Chushkaly	69.39 321	*e*P		P	20 00 06.8	+0.2
	baz=321						
TKM2	Tokmak 2	69.80 320	P		P	20 00 10.4	+1.0
	SNR=21						
TKM2	Tokmak 2	69.80 320	P		P	20 00 09.8	+0.5
KUU	Kurty	69.81 321	*c* i P		P	20 00 09.8	+0.7
KUU			pmax	pmax			
	comp=Z,23nm,0.7s						
KUU	Kurty	69.81 321	⇑ *i* P		P	20 00 09.8	+0.7
	comp=Z,23nm,0.7s,baz=321						
KBK	Karagaybulak	70.08 319	P		P	20 00 12.0	+1.0
	SNR=9.1						
UCH	Uchtor	70.16 319	P		P	20 00 13.3	+1.4
	SNR=22						
FRU1	Bishkek	70.36 320	P		P	20 00 13.1	+0.5
FRU1			pmax	pmax			
	comp=Z,7.0nm,0.6s						
FRU1	Bishkek	70.36 320	P		P	20 00 13.1	+0.5
FRU1			IAmb	IAmb		20 00 19.2	
	comp=Z,6.8nm,0.6s						
AAK	Ala-Archa	70.37 319	P		P	20 00 15.4	+2.6
	SNR=12						
AAK	Ala-Archa	70.37 319	P		P	20 00 14.1	+1.3
AAK	Ala-Archa	70.37 319	P		P	20 00 13.4	+0.6
AAK	Ala-Archa	70.37 319	P		P	20 00 14.1	+1.3
AAK	Ala-Archa	70.37 319	*i* P		P	20 00 13.8	+1.0
	SNR=13						
CHMS	Chumysh	70.38 320	P		P	20 00 13.6	+1.0
	SNR=5.2						
AML	Almayashu	70.65 319	P		P	20 00 16.2	+1.3
	SNR=25						
AML	Almayashu	70.65 319	P		P	20 00 16.1	+1.3
AML	Almayashu	70.65 319	*i* P		P	20 00 16.1	+1.3
	SNR=25						
USP	Ospenovka	70.67 320	P		P	20 00 15.3	+0.9
	SNR=28						
SGDS	Sogindy	70.67 320	*e*P		P	20 00 14.9	+0.5
	baz=320						
SEY	Seymchan	70.73	10 *c e* P		P	20 00 15.2	+0.9
SEY			pmax	pmax			
	comp=Z,14nm,0.7s						
DRK	Karamyk	70.76 315	P		P	20 00 15.3	0.0
DRK			IAmb	IAmb		20 00 17.8	
	comp=Z,18nm,0.8s						
KBL	Kabul	70.80 310	P		P	20 00 15.8	+0.1
KBL			pmax	pmax			
	comp=Z,17nm,0.8s						
KBL	Kabul	70.80 310	P		P	20 00 15.8	+0.1
KBL			IAmb	IAmb		20 00 18.0	
	comp=Z,17nm,0.8s						
KBL	Kabul	70.80 310	P		P	20 00 16.4	+0.7
EKS2	Erkin-Say	70.85 319	P		P	20 00 16.9	+1.3
	SNR=17						
ZAA0	Zalesovo Array	71.11 333	P		P	20 00 15.9	-0.8
ZALV	Zalesovo Beam	71.11 333	P		P	20 00 16.7	-0.1
	comp=Z,3.9nm,0.6s,baz=120,slow=5.5,SNR=24						
ZALV	Zalesovo Beam	71.11 333	P		P	20 00 16.1	-0.7
SEM	Semipalatinsk	71.13 328	*e*P		P	20 00 16.8	-0.4
SEM	Semipalatinsk	71.13 328	*e*P		P	20 00 16.9	-0.4
	baz=329						
GAR	Garm	71.60 314	P		P	20 00 20.3	0.0
BTK	Batken	71.69 316	P		P	20 00 20.8	+0.1
BTK			pmax	pmax			
	comp=Z,13nm,0.9s						
BTK	Batken	71.69 316	P		P	20 00 20.8	+0.1
BTK			IAmb	IAmb		20 00 22.9	
	comp=Z,13nm,0.8s						
BTLS	Baital	71.81 321	*c* i P		P	20 00 21.6	+0.5
BTLS	Baital	71.81 321	⇑ *i* P		P	20 00 21.7	+0.5
	baz=321						
KURBB	Kurchatov Arra	72.15 328	P		P	20 00 23.0	-0.1
KURK	Kurchatov	72.16 328	*c e* P		P	20 00 23.3	+0.2
KURK			pmax	pmax			
	comp=Z,7.0nm,0.7s						
KURK	Kurchatov	72.16 328	P		P	20 00 22.6	-0.5
CHGR	Chuyangaron	72.29 314	P		P	20 00 23.1	-1.3
CHGR			IAmb	IAmb		20 00 26.3	
	comp=Z,45nm,1.0s						
DZA	Taraz	72.56 318	*e*P		P	20 00 26.9	+1.2
DZA	Taraz	72.56 318	*e*P		P	20 00 26.9	+1.2
	baz=318						
IUG	Iuzhnay	73.10 317	*e*P		P	20 00 29.8	+0.8
IUG	Iuzhnay	73.10 317	*e*P		P	20 00 29.9	+0.8
	baz=317						
KKAR	Karatay Array	73.19 318	P		P	20 00 29.3	-0.1
KKAR	Karatay Array	73.19 318	P		P	20 00 29.3	-0.1
VNDA	Vanda	73.28 173	P		P	20 00 30.6	+1.2
	comp=Z,3.8nm,0.7s,baz=319,slow=6.8,SNR=32						
VNDA	Vanda	73.28 173	P		P	20 00 30.4	+1.0
VNDA			pmax	pmax			
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	73.28 173	P		P	20 00 30.4	+1.0
OTUK	Ortayu	74.37 324	P		P	20 00 36.4	+0.2
BRZS	Berezniki	75.01 325	*e*P		P	20 00 39.9	0.0
BRZS	Berezniki	75.01 325	*e*P		P	20 00 39.9	0.0
	baz=325						
JLN	Jalan Bani Buh	75.27 295	P		P	20 00 42.7	+0.8
WBK	Wadi Bani Khal	75.77 295	P		P	20 00 45.6	+0.8
MHTO	MHTO	76.33 293	P		P	20 00 48.2	+0.3
JMDO	Jabal Madar	76.50 295	P		P	20 00 49.8	+0.8
DQM	DQM	76.51 292	P		P	20 00 49.5	+0.5
SMDO	Samad	76.70 295	P		P	20 00 51.0	+0.9
BIDO	Bidbid	76.73 296	P		P	20 00 51.1	+0.9
BSY	Bisya	77.39 295	P		P	20 00 54.2	+0.2
HOQ	Hoqain	77.47 296	P		P	20 00 55.3	+1.0
TIXI	Tiksi	77.55 359	P		P	20 00 52.6	-1.1
TIXI			pmax	pmax			
	comp=Z,7.0nm,0.6s						
TIXI	Tiksi	77.55 359	P		P	20 00 52.6	-1.1
BRVK	Borovoye	77.79 327	P		P	20 00 55.2	-0.2
BRVK	Borovoye	77.79 327	P		P	20 00 54.9	-0.5
BRVK	Borovoye	77.79 327	P		P	20 00 55.3	-0.1
SHAO	Shalim	77.93 290	P		P	20 00 57.6	+0.7
	SNR=12						
SHAO	Shalim	77.93 290	*i* P		P	20 00 57.8	+0.8
	SNR=12						
BILL	Bilibino	78.00	13 *e*P		P	20 00 56.9	+0.6
BILL			*e*			20 01 05.8	
BILL			*e*			20 03 50.7	
BILL			pmax	pmax			
	comp=Z,12nm,3.2s						
ARQ	Araqi	78.13 295	P		P	20 00 58.8	+0.8
DMTO	DMTO	78.51 289	P		P	20 01 00.8	+0.6
SOCY	Socotra	78.52 284	P		P	20 00 59.9	-0.4
SOCY	Socotra	78.52 284	P		P	20 01 00.5	+0.2
UOSS	Minazif	78.75 297	P		P	20 01 00.6	-0.7
UOSS	Minazif	78.75 297	P		P	20 01 01.8	+0.5
UOSS	Minazif	78.75 297	P		P	20 01 02.0	+0.7
HATD	Hatta, Dubai	78.78 297	P		P	20 01 02.7	+1.1
HATD	Hatta, Dubai	78.78 297	P		P	20 01 02.2	+0.7
ASHO	Ashiyiah	78.82 297	P		P	20 01 02.5	+0.7
	SNR=5.6						
ASHO	Ashiyiah	78.82 297	*i* P		P	20 01 02.5	+0.7
	SNR=8.1						
BANOM	Banah	78.87 298	P		P	20 01 03.3	+1.2
BANOM	Banah	78.87 298	*i* P		P	20 01 03.2	+1.2
	SNR=12						
MSFE	Esma-Masafi	78.87 297	*i* P		P	20 01 03.1	+1.1
	SNR=8.5						
MASF	Masafi	78.87 297	P		P	20 01 03.5	+1.4
SHME	Shamm	79.03 298	P		P	20 01 03.9	+1.0
SHME	Shamm	79.03 298	*i* P		P	20 01 03.7	+0.8
	SNR=11						
RBK	Rabkut	79.17 289	P		P	20 01 04.6	+0.8
UMZA	Um Al Zommool	79.23 294	P		P	20 01 04.2	+0.2
NAZ	Nazwa, Dubai	79.23 297	P		P	20 01 04.7	+0.7
FAQ	Al Faqa, Dubai	79.25 296	P		P	20 01 04.7	+0.6
FAQ	Al Faqa, Dubai	79.25 296	P		P	20 01 04.5	+0.4
DOK	Doka	79.43 290	P		P	20 01 05.2	+0.1
ASUD	Al Ashush, Dub	79.46 296	P		P	20 01 06.1	+0.9
ASUD	Al Ashush, Dub	79.46 296	P		P	20 01 06.3	+1.1
WHFO	Wadi Hawf	79.64 289	P		P	20 01 06.4	0.0
ABTO	Aybut	80.00 289	P		P	20 01 08.1	-0.2
GEYT	Alibeck	80.25 310	P		P	20 01 10.7	+1.4
	comp=Z,5.0nm,0.7s,baz=150,slow=4.8,SNR=8.5						
GEYT	Alibeck	80.25 310	P		P	20 01 09.0	-0.2
GYA0B	ALIBECK ARRAY	80.25 310	P		P	20 01 09.2	-0.1
MZR	Muzera	80.81 294	*i* P		P	20 01 13.2	+0.7
	SNR=7.9						
JRN	Qarnain Island	81.73 296	P		P	20 01 17.3	0.0
VOI	Vohitsoka	82.27 249	P		P	20 01 21.2	+0.8
AB31	Akbulak array	82.30 321	*i* P		P	20 01 19.1	-0.6
ABKAR	Akbulak array	82.30 321	P		P	20 01 18.8	-0.9
ABKAR	Akbulak array	82.30 321	P		P	20 01 19.1	-0.6
ABKAR			IAmb	IAmb		20 01 22.3	
	comp=Z,6.6nm,1.1s						
KHOR	Al-Khor Airpor	83.04 297	P		P	20 01 24.7	+0.6
TRNA	Turayna	83.16 296	P		P	20 01 25.0	+0.2
SHMA	Al-Shehemyia	83.57 297	P		P	20 01 27.3	+0.5
AKTO	Aktyubinsk	83.84 322	P		P	20 01 28.4	+0.7
SVE	Sverdlovsk	84.40 329	*e*P		P	20 01 30.8	+0.5
SVE			pmax	pmax			
	comp=Z,13nm,0.9s						
SYO	Syowa Base	84.85 201	⇓ *e* PcP		PcP	20 01 34.0	-1.5
ARU	Arti	85.35 328	*d i* P		P	20 01 34.3	-0.8
ARU			*PP		pP	20 02 06.3	0.0
ARU						20 04 52.5	
ARU			S		S	20 11 46.8	-8.2
ARU			pmax	pmax			
	comp=Z,24nm,1.9s						
ARU	Arti	85.35 328	P		P	20 01 34.3	-0.8
ARU			IAmb	IAmb		20 01 36.4	
	comp=Z,5.9nm,0.6s						
TTA	Tatalina	87.77 26	P		P	20 01 47.7	+0.8
TTA			pmax	pmax			
	comp=Z,7.0nm,1.1s						
TTA	Tatalina	87.77 26	P		P	20 01 47.7	+0.8
L19K	White Mountain	88.06 27	P		P	20 01 48.4	+0.2
L19K			IAmb	IAmb		20 02 30.5	
	comp=Z,8.2nm,1.0s						
RAYN	Ar Rayn	88.14 294	P		P	20 01 48.9	-0.5
RAYN			pmax	pmax			
	comp=Z,15nm,1.1s						
RAYN	Ar Rayn	88.14 294	P		P	20 01 48.9	-0.5
RAYN			IAmb	IAmb		20 01 51.1	
	comp=Z,15nm,1.1s						
RAYN	Ar Rayn	88.14 294	P		P	20 01 49.8	+0.4
RAYN	Ar Rayn	88.14 294	*i* P		P	20 01 49.8	+0.4
	SNR=14						
SPU	Mount Spurr	89.08 28	P		P	20 01 53.2	+0.2
I23K	Minto, Yukon-K	91.17 25	P		P	20 02 01.9	-0.7
COLD	Coldfoot	91.27 22	P		P	20 02 03.0	-0.1
H24K	Noodor Dome	91.91 24	P		P	20 02 05.2	-0.9
GEVA	Gevas	91.97 308	P		P	20 02 07.1	-0.1
ILAR	Eielson Array	92.13 25	P		P	20 02 06.3	-0.8
	comp=Z,1.1nm,0.6s,baz=274,slow=4.2,SNR=14						
GURO	Guroymak-BITLI	92.80 308	P		P	20 02 10.8	-0.2
GURO			IAmb	IAmb		20 02 13.6	
	comp=Z,6.8nm,1.1s						
RIDG	Independent Ri	92.86 26	P		P	20 02 10.6	+0.1
RIDG			IAmb	IAmb		20 05 35.1	
	comp=Z,16nm,1.6s						
BMAR	Burnt Mountain	93.45 23	P		P	20 02 13.0	-0.2
KMBO	Kilima Mbogo	93.46 269	*i* P		P	20 02 13.3	-1.4
KLMR	Klimovskoe	95.89 331	*e*P		P	20 02 22.1	-2.3
KLMR			pmax	pmax			
	comp=Z,9.0nm,1.1s						
KLMR	Klimovskoe	95.89 331	AMP			20 02 24.2	
	comp=Z,9.0nm,1.1s						
KLMR	Klimovskoe	95.89 331	*e*P		P	20 02 22.1	-2.3
OBN	Obninsk	97.37 325	*e*P		P	20 02 29.2	-2.0
OBN			*e*			20 06 28.4	
OBN			*e*PPP		PPP	20 08 36.7	
OBN			pmax	pmax			
	comp=Z,3.0nm,0.9s						
MMAI	Mount Meron Ar	97.82 302	LR		LR	20 54 45.5	
	comp=Z,27nm,18.4s,baz=242,slow=40						
BRTR	Keskin Array B	99.37 309	P		Pdif	20 02 40.4	-0.4
	comp=Z,0.6nm,0.8s,baz=90,slow=4.3,SNR=2.9						
ARCES	ARCESS Array B	100.98 340	P		Pdif	20 02 47.8	+0.7
	comp=Z,1.3nm,0.8s,baz=81,slow=5.6,SNR=1.5						
ARCES			PKiKP		PKiKP	20 07 12.4	+0.7
	comp=Z,3.0nm,0.9s,baz=90,slow=0.9,SNR=5.1						
FINES	FINESS Array B	102.34 332	P		Pdif	20 02 52.1	-1.1
	comp=Z,1.7nm,0.9s,baz=12,slow=0.9,SNR=4.7						
FINES			PKiKP		PKiKP	20 07 15.0	+0.8
	comp=Z,0.9nm,0.7s,baz=129,slow=2.0,SNR=3.6						
YKA	Yellowknife Ar	106.53 26	PKiKP		PKiKP	20 07 22.2	+0.2
	comp=Z,0.7nm,0.6s,baz=291,slow=1.9,SNR=19						
YKA			PKKPbc		PKKPbc	20 18 41.8	-2.9
	comp=Z,0.4nm,0.6s,baz=105,slow=3.1,SNR=7.3						
CONA	Conrad Observa	111.10 319	*e*P		PKiKP	20 07 31.2	+0.1
	comp=Z,1.0nm,0.5s						
SOKA	Soboth	111.97 318	*i* P		PKiKP	20 07 33.5	+0.7
	comp=Z,0.5nm,0.3s						
GERES	GERESS Array B	112.23 321	PKiKP		PKiKP	20 07 33.1	-0.2
	comp=Z,1.2nm,0.6s,baz=31,slow=3.1,SNR=15						
OBKA	Obir	112.33 318	*e*P		PKiKP	20 07 33.4	-0.1
	comp=Z,0.5nm,0.2s						
ABTA	Abfaltersbach	113.61 319	*i* P		PKiKP	20 07 35.6	-0.3
	comp=Z,1.9nm,0.5s,SNR=4.4						
WTTA	Wattenberg	114.03 319	*e*P		PKiKP	20 07 36.8	0.0
	comp=Z,8.0nm,0.3s						
SQTA	Sankt Quirin	114.32 319	*e*P		PKiKP	20 07 37.5	+0.2
	comp=Z,1.1nm,0.3s						
MOTA	Moosalm	114.35 320	*e*P		PKiKP	20 07 37.3	-0.1
	comp=Z,2.8nm,0.5s						
FETA	Feichten	114.69 319	*e*P		PKPdf	20 07 38.3	+0.2
	comp=Z,1.1nm,0.4s						
DAVA	Damuels	115.15 320	*e*P		PKPdf	20 07 38.6	-0.3
	comp=Z,3.1nm,0.4s						
TUE	Stuetta	115.77 319			PKiKP	20 07 40.2	-0.1
TXAR	Lajitas Array	123.72 59	PKP		PKiKP	20 07 57.0	+0.8
	comp=Z,0.7nm,0.7s,baz=264,slow=0.7,SNR=8.2						
TXAR	Lajitas Array	123.72 59	PKiKP		PKiKP	20 07 57.0	+0.8
ESDC	Sonseca Array	127.41 316	PKP		PKiKP	20 08 03.4	+0.2
	comp=Z,0.5nm,0.6s,baz=17,slow=2.5,SNR=7.1						
TORD	Torodi Ar. Bea	129.44 282	PKP		PKiKP	20 08 07.6	-0.2
	comp=Z,3.0nm,0.8s,baz=60,slow=1.7,SNR=15						
TORD			SKPbc		SKPbc	20 11 16.7	-0.7
	comp=Z,1.9nm,0.5s,baz=70,slow=4.1,SNR=15						
PLCA	Paso Flores	129.46 159	PKP		PKiKP	20 08 07.4	+0.1
	comp=Z,1.4nm,0.6s,baz=249,slow=1.1,SNR=5.1						
PLCA			SKPbc		SKPbc	20 11 17.3	+0.5
	comp=Z,1.5nm,0.8s,baz=214,slow=12,SNR=4.7						
DBIC	Dimbokro	135.98 273	PKP		PKiKP	20 08 20.4	-0.7
	comp=Z,2.6nm,0.7s,baz=80,slow=3.6,SNR=4.0						
DBIC			SKPbc		SKPbc	20 11 38.8	-0.8
	comp=Z,1.9nm,0.5s,baz=101,slow=3.8,SNR=5.8						
TKL	Tuckaleechee C	136.66 42	SKPbc		SKPbc	20 11 39.9	-1.1
	comp=Z,3.3nm,0.6s,baz=243,slow=2.3,SNR=6.6						
JTS	Las Juntas de	144.33 81	PKP		PKPdf	20 08 35.0	+0.4
	comp=Z,7.4nm,0.7s,baz=342,slow=2.0,SNR=6.4						
LVC	Limon Verde	145.57 146	PKiKP		PKPdf	20 08 34.3	-2.6
LVC	Limon Verde	145.57 146			PKPdf	20 08 34.3	-2.6
CPUP	Villa Florida	146.85 167	PKPbc		PKPab	20 08 41.6	-0.3
	comp=Z,8.2nm,0.9s,baz=212,slow=4.9,SNR=8.5						
CPUP	Villa Florida	146.85 167	PKiKP		PKPdf	20 08 38.0	-0.5
CPUP	Villa Florida	146.85 167			PKPdf	20 08 38.0	-0.5
NNA	Nana	147.15 123	PKPbc		PKPab	20 08 42.9	-0.7
	comp=Z,3.6nm,0.4s,baz=249,slow=8.0,SNR=6.1						
PB11	IPOC Station P	147.37 142			PKPbc	20 08 41.3	-1.0
LPAZ	La Paz	150.93 140	PKPbc		PKiKP	20 08 53.8	+1.4
	comp=Z,12nm,0.8s,baz=122,slow=1.2,SNR=14						
LPAZ	La Paz	150.93 140	PKiKP		PKPbc	20 08 51.3	-0.6
LPAZ	La Paz	150.93 140			PKPbc	20 08 51.3	-0.6
SDV	Santo Domingo	158.52 81	PKPab		PKPab	20 09 33.1	+1.5
	comp=Z,2.7nm,1.0s,baz=300,slow=8.5,SNR=3.6						
RCBR	Riachuelo	162.28 229	PKPab		PKPab	20 09 49.2	+1.5
	comp=Z,4.6nm,0.7s,baz=203,slow=6.4,SNR=4.1						

MAN 25 19:52:16.0, 7.46N×125.47E, h14km, mb4.3, ML3.1, MS2.8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.58	220	⇑ *i* P		P	Pg	19 52 27.8	+0.2
BIPH	Bislig	1.14	51	⇑ *i* P		P	Pb	19 52 35.9	-1.6
BIPH				*i* S		Sn	Sn	19 52 53.7	+0.7
TBP	Tagbilaran	2.72	324	*e* P		Pn	Pn	19 53 00.0	+0.6
LLP	Lapu-Lapu	3.20	333	⇓ *e* P		P	Pb	19 53 11.8	-0.9
LQP	Lukban	7.65	330	⇓ *e* P		P	Pn	19 53 57.5	-10

MAN 25 19:59:13.4, 9.70N×126.86E, h10km, mb4.7, ML3.5, MS3.4, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.42	239	⇓ *e* P		P	Pn	19 59 35.9	-3.5
BIPH	Bislig	1.58	198	⇑ *i* P		P	Pn	19 59 40.2	-1.4
BIPH				*i* S		Sn	Sn	19 59 55.2	-6.9
MSLP	Maasin	2.02	283	⇑ *e* P		P	Pn	19 59 46.0	-1.6
CGP	Cagayan de Oro	2.47	240	⇓ *e* P		P	Pn	19 59 55.2	+1.4
CGP				*e* S		Sn	Sn	20 00 23.9	-0.2
LLP	Lapu-Lapu	2.92	282	*e* P		Pn	Pn	19 59 58.4	-1.6
LLP				*i* S		Sn	Sn	20 00 36.9	+1.7
TBP	Tagbilaran	2.96	270	*e* P		Pn	Pn	19 59 56.3	-4.2
LQP	Lukban	6.81	311	⇓ *e* P		P	Pg	20 01 18.8	-5.1

HEL 25 20:00:20.4±0.2, 65.78N×24.69E, h0km, ML0.7, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOF	Tornio	0.33	333	*e* P		P	Pg	20 00 25.9	-0.8
TOF				*e* S		Sg	Sg	20 00 30.1	-1.0
TOF				MSG				20 00 31.5	
	comp=Z,1.5nm,0.1s								
KALU	Kalix	0.56	278	*e* P		P	Pg	20 00 30.0	-1.0
KALU				*e* S		Sg	Sg	20 00 37.6	-0.6
OUL	Oulu	0.86	144	*e* P		P	Pg	20 00 35.4	-1.5
OUL				*e* S		Sg	Sg	20 00 47.8	-0.3
OUL				MSG				20 00 50.8	
	comp=Z,1.0nm,0.1s								
RNF	Rovaniemi	0.99	32	*e* P		P	Pg	20 00 38.4	-0.9
RNF				*e* S		Sb	Sb	20 00 53.0	-0.9
ERTU	Ertsjaerv	1.28	308	*e* P		P	Pg	20 00 43.9	-0.9
ERTU				*e* S		Sg	Sg	20 01 00.6	-0.7

SJA ***25*** *20:02:10.7±0.6, 19.59S×69.14W, h117km±2km, ML4.0, MW4.1*
NEIC ***25*** *20:02:10.3±2.3, 19.60S±0.04×69.06W±0.07, h117km±5km, mb4.5/23, ML4.0(GUC), Error ellipse: s-maj=10.1km s-min=6.0km az=90.0*
IDC ***25*** *20:02:11.4±2.8, 19.47S×68.81W, h116km±25km, mb4.0/6, mb1 4.1/9, mb1mx3.7/38, mbtmp4.4/9, MS2.8/2, Ms1 2.8/2, ms1mx2.4/62, Error ellipse: s-maj=31.1km s-min=20.2km az=134.0*
GUC ***25*** *20:02:11.6±0.8, 19.57S×69.04W, h112km±2km, ML4.0*
VAO ***25*** *20:02:12.0±0.4, 19.48S×68.90W, h124km, mb4.4*

ISC 25 20:02:09.9±0.5, 19.59S±0.03×69.11W±0.04, h119km±5km, n151, σ1°44/195, mb4.4/10, 7C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.11	225			Pn	Pn	20 02 27.2	+0.3
GO01				Sn		Sn	Sn	20 02 39.4	-0.2
GO01	Chusmiza	0.11	225	⇑ *i* P		Pn	Pn	20 02 27.3	+0.5
GO01				*i* S		Sn	Sn	20 02 39.9	+0.3
GO01				IAML				20 02 41.1	
	comp=E,9μm,0.1s								
GO01	Chusmiza	0.11	225	*e* P		Pn	Pn	20 02 27.4	+0.6
GO01				*e* S		Sn	Sn	20 02 41.0	+1.4
PB11	IPOC Station P	0.54	251	Pn		Pn	Pn	20 02 28.5	+0.3
PB11				Sn		Sn	Sn	20 02 42.6	+0.6
PB11	IPOC Station P	0.54	251	⇑ *i* P		Pn	Pn	20 02 29.0	+0.8
PB11				*i* S		Sn	Sn	20 02 42.9	+0.9
PB11				IAML				20 02 43.7	
	comp=E,4μm,0.1s								
PB11	IPOC Station P	0.54	251	*e* P		Pn	Pn	20 02 29.1	+0.8
PB11				*e* S		Sn	Sn	20 02 42.8	+0.8
PB11				IAML				20 02 44.0	
	comp=Z,3μm,0.2s								
PB08	IPOC Station P	0.55	184			Pn	Pn	20 02 28.6	0.0
PB08				Sn		Sn	Sn	20 02 43.0	+0.4
PB08	IPOC Station P	0.55	184	⇑ *i* P		Pn	Pn	20 02 29.6	+1.0
PB08				*i* S		Sn	Sn	20 02 43.4	+0.8
PB08				IAML				20 02 44.1	
	comp=E,5μm,0.2s								
PB08	IPOC Station P	0.55	184	*e* P		Pn	Pn	20 02 29.6	+1.0
PB08				*e* S		Sn	Sn	20 02 43.9	+1.2
PB08				IAML				20 02 44.1	
	comp=Z,2μm,0.2s								
TA02	Huaiquique	1.18	235			Pn	Pn	20 02 34.9	+1.2
TA02				Sn		Sn	Sn	20 02 52.5	+0.8
TA02	Huaiquique	1.18	235	⇑ *i* P		Pn	Pn	20 02 34.9	+1.2
TA02				*i* S		Sn	Sn	20 02 53.0	+1.3
TA02				IAML				20 02 53.3	
	comp=N,3μm,0.2s								
TA02	Huaiquique	1.18	235	*e* P		Pn	Pn	20 02 34.9	+1.2
TA02				*e* S		Sn	Sn	20 02 53.5	+1.9
TA02				IAML				20 02 54.5	
	comp=Z,2μm,0.1s								
PB16	IPOC Station P	1.30	343			Pn	Pn	20 02 36.9	+1.2
PB16				Sn		Sn	Sn	20 02 56.4	+1.3
PB16	IPOC Station P	1.30	343	⇓ *i* P		Pn	Pn	20 02 37.5	+1.8
PB16				*i* S		Sn	Sn	20 02 57.1	+2.0
PB16				IAML				20 03 00.2	
	comp=E,1μm,0.6s								
PB16	IPOC Station P	1.30	343	*e* P		Pn	Pn	20 02 37.5	+1.8
PB16				*e* S		Sn	Sn	20 02 57.5	+2.4
PB16				IAML				20 02 58.6	
	comp=Z,1μm,1.4s								
TA01	Diego Aracena	1.40	226	Pn		Pn	Pn	20 02 37.0	+0.9
TA01				Sn		Sn	Sn	20 02 56.6	+0.6
TA01	Diego Aracena	1.40	226	⇑ *i* P		Pn	Pn	20 02 37.1	+0.9
TA01				*i* S		Sn

PB04	**IPOC Station P**	**2.90**	**199**	*eP*		**Pn**	**20 02 56.3**	**+1.3**
PB04				IAML			20 03 46.1	
	comp=E,617nm,0.5s							
PB04	**IPOC Station P**	**2.90**	**199**	*eP*		**Pn**	**20 02 56.8**	**+1.7**
PB04				*eP*		**Pn**	**20 02 59.3**	**+4.2**
PB04				*eS*		**Sn**	**20 03 30.9**	**+1.1**
PB04				IAML			20 03 57.6	
	comp=Z,391nm,0.6s							
LVC	**Limon Verde**	**3.01**	**176**	P		**Pn**	**20 02 59.2**	**+2.5**
	comp=Z,33nm,0.3s,baz=349,slow=8.7,SNR=79							
LVC				S		**Sn**	**20 03 32.8**	**+0.1**
	comp=Z,39nm,0.3s,baz=87,slow=18,SNR=3.8							
LVC	**Limon Verde**	**3.01**	**176**	Pn		**Pn**	**20 02 57.3**	**+0.6**
LVC				Sn		**Sn**	**20 03 29.0**	**-3.8**
LVC	**Limon Verde**	**3.01**	**176**	*eP*		**Pn**	**20 02 58.3**	**+1.6**
LVC				*i* S		**Sn**	**20 03 34.0**	**+1.2**
LVC	**Limon Verde**	**3.01**	**176**	*eP*		**Pn**	**20 02 58.6**	**+1.9**
LVC	**Limon Verde**	**3.01**	**176**	*eP*		**Pn**	**20 02 58.7**	**+1.9**
LVC				*eS*		**Sn**	**20 03 35.0**	**+2.2**
LVC				IAML			20 03 40.7	
	comp=Z,292nm,0.9s							
PB06	**IPOC Station P**	**3.13**	**188**			**Pn**	**20 02 58.5**	**+0.4**
PB06	**IPOC Station P**	**3.13**	**188**	*eP*		**Pn**	**20 02 59.1**	**+1.0**
PB06				IAML			20 03 44.1	
	comp=N,514nm,0.5s							
PB06	**IPOC Station P**	**3.13**	**188**	*eP*		**Pn**	**20 02 59.8**	**+1.7**
PB06				*eS*		Sn	20 03 23.3	-12
PB06				IAML			20 03 47.5	
	comp=Z,558nm,0.7s							
LPAZ	**La Paz**	**3.41**	**16**	LR		LR	20 04 06.0	
	comp=Z,44nm,21.0s,baz=204,slow=35							
LPAZ	**La Paz**	**3.41**	**16**	Pn		**Pn**	**20 03 04.3**	**+2.0**
LPAZ	**La Paz**	**3.41**	**16**	*eP*		**Pn**	**20 03 05.0**	**+2.8**
PB15	**IPOC Station P**	**3.62**	**185**			**Pn**	**20 03 05.6**	**+1.0**
PB15				Sn		**Sn**	**20 03 45.5**	**-1.3**
PB15	**IPOC Station P**	**3.62**	**185**	*eP*		**Pn**	**20 03 06.1**	**+1.5**
PB15	**IPOC Station P**	**3.62**	**185**	*eP*		**Pn**	**20 03 01.8**	**-2.8**
PB15				*eP*		**Pn**	**20 03 06.4**	**+1.8**
PB15				*eS*		**Sn**	**20 03 47.5**	**+0.6**
PB15				IAML			20 03 52.9	
	comp=Z,659nm,0.2s							
PB10	**IPOC Station P**	**4.13**	**199**	Pn		**Pn**	**20 03 11.4**	**+0.2**
PB10	**IPOC Station P**	**4.13**	**199**	*eP*		**Pn**	**20 03 12.0**	**+0.8**
PB10				*eS*		**Sn**	**20 03 58.0**	**-0.7**
PB10				IAML			20 04 18.0	
	comp=Z,183nm,0.6s							
YJA	**Yavi**	**4.24**	**128**	*eP*		**Pn**	**20 03 16.5**	**+3.5**
YJA				*eS*		**Sn**	**20 04 01.8**	**-0.1**
HJA	**Humahuaca**	**4.99**	**137**	*eP*		**Pn**	**20 03 26.0**	**+3.0**
HJA				*eS*		**Sn**	**20 04 23.9**	**+4.0**
PB14	**IPOC Station P**	**5.16**	**193**	Pn		**Pn**	**20 03 27.3**	**+2.0**
GO02	**Mina Guanaco**	**5.57**	**184**	Pn		**Pn**	**20 03 30.1**	**-0.6**
GO02	**Mina Guanaco**	**5.57**	**184**	*eP*		**Pn**	**20 03 31.4**	**+0.6**
GO02				*eS*		**Sn**	**20 04 32.5**	**-1.3**
AC01	**Pan de Azucar**	**6.67**	**192**			**Pn**	**20 03 43.9**	**-1.6**
AC02	**Maricunga**	**7.21**	**180**	Pn		**Pn**	**20 03 52.9**	**-0.3**
AC06	**Mina Casimiro**	**7.82**	**188**	Pn		**Pn**	**20 04 00.7**	**-0.3**
SIV	**San Ignacio**	**8.45**	**66**	P		**Pn**	**20 04 06.9**	**-2.7**
	comp=Z,10nm,0.3s,baz=259,slow=9.5,SNR=247							
ETMB	**Extrema**	**10.11**	**16**	*eP*		**Pn**	**20 04 30.8**	**-1.2**
PTLB	**Pontes e Lacer**	**10.37**	**68**	*eP*		**Pn**	**20 04 33.0**	**-2.4**
VILB	**Vilhena**	**10.80**	**54**	*eP*		**Pn**	**20 04 39.4**	**-1.9**
CO06	**Fray Jorge**	**11.27**	**191**	Pn		**Pn**	**20 04 43.4**	**-4.1**
CO03	**El Pedregal**	**11.29**	**187**	Pn		**Pn**	**20 04 46.8**	**-1.1**
CPUP	**Villa Florida**	**12.76**	**124**	P		**Pn**	**20 05 06.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=303,slow=9.7,SNR=5.3							
CPUP	**Villa Florida**	**12.76**	**124**	Pn		**Pn**	**20 05 05.6**	**-1.4**
CPUP	**Villa Florida**	**12.76**	**124**	*eP*		**Pn**	**20 05 07.4**	**+0.4**
VA06	**Catapilco**	**13.07**	**188**	Pn		**Pn**	**20 05 11.8**	**+0.8**
VA03	**San Esteban**	**13.19**	**185**			**Pn**	**20 05 13.5**	**+0.8**
SALV	**Santo Antonio**	**13.30**	**76**	*eP*		**Pn**	**20 05 12.8**	**-1.3**
ROC1	**El Roble**	**13.44**	**187**	Pn		**Pn**	**20 05 14.7**	**-1.5**
PEL	**Peldehue**	**13.57**	**186**	Pn		**Pn**	**20 05 17.1**	**-0.6**
PP1B	**Ponte de Pedra**	**13.64**	**84**	*eP*		**Pn**	**20 05 17.6**	**-0.9**
MT02	**Curacav**	**13.74**	**187**			**Pn**	**20 05 18.2**	**-1.5**
MT05	**Renca**	**13.83**	**186**	P		**Pn**	**20 05 19.8**	**-1.2**
MT03	**Universidad Ad**	**13.91**	**185**	P		**Pn**	**20 05 20.5**	**-1.5**
VA05	**Santo Domingo**	**14.19**	**189**	P		**Pn**	**20 05 25.3**	**-0.2**
MT09	**Talagante**	**14.23**	**186**	P		**Pn**	**20 05 25.5**	**-0.6**
LMEL	**Las Melosas**	**14.24**	**184**	P		**Pn**	**20 05 25.6**	**-0.7**
MT01	**Popeta**	**14.35**	**187**	P		**Pn**	**20 05 28.1**	**+0.6**
BO04	**La Punta**	**14.41**	**185**	P		**Pn**	**20 05 28.4**	**+0.1**
BO01	**Tunca**	**14.85**	**186**	P		**Pn**	**20 05 33.7**	**-0.2**
ITQB	**Itaqui**	**15.14**	**134**	P		**Pn**	**20 05 36.0**	**-1.5**
ITQB				IAmb	IAmb		20 05 42.7	
	comp=Z,45nm,1.5s							
BO02	**Sierra Bellavi**	**15.22**	**185**	P		**Pn**	**20 05 38.0**	**-0.5**
CLDB	**Colider**	**15.48**	**58**	*eP*		**Pn**	**20 05 42.2**	**+0.2**
TRCB	**Terra Rica**	**15.69**	**105**	P		**Pn**	**20 05 42.7**	**-1.9**
TRCB				IAmb	IAmb		20 05 47.8	
	comp=Z,68nm,1.0s							
TRCB	**Terra Rica**	**15.69**	**105**	*eP*		**Pn**	**20 05 44.7**	**+0.2**
ML02	**Panimavida**	**16.24**	**187**	P		**Pn**	**20 05 50.1**	**-1.1**
ML02				IAmb	IAmb		20 05 57.2	
	comp=Z,44nm,1.1s							
H03N1	**Juan Fernandez**	**16.34**	**210**	T		T	20 22 23.2	
	baz=28,slow=74,SNR=3.0							
H03N2	**Juan Fernandez**	**16.34**	**210**	T		T	20 22 24.3	
	baz=28							
H03N3	**Juan Fernandez**	**16.35**	**210**	T		T	20 22 21.7	
	baz=28,slow=74,SNR=2.9							
PTGB	**Pitanga**	**16.59**	**111**	*eP*		**P**	**20 05 56.8**	**+0.7**
PCMB	**Pacaembu**	**16.83**	**100**	*eP*		**P**	**20 05 59.4**	**+0.7**
ITAB	**Concordia**	**17.33**	**119**	P		**P**	**20 06 02.7**	**-1.4**
ITAB				IAmb	IAmb		20 06 10.7	
	comp=Z,25nm,1.2s							
ITAB	**Concordia**	**17.33**	**119**	*eP*		**Pn**	**20 06 05.1**	**+0.6**
ITRB	**Iturama**	**17.66**	**94**	*eP*		**P**	**20 06 07.9**	**+0.1**
CPSB	**Cacapava Do Su**	**17.80**	**130**	*eP*		**P**	**20 06 09.2**	**0.0**
NPGB	**Novo Progresso**	**18.27**	**49**	*eP*		**P**	**20 06 13.5**	**-1.0**
MACA	**Manacapuru-AM**	**18.28**	**28**	*eP*		**P**	**20 06 14.9**	**+0.3**
SNDB	**Serra Nova Dou**	**18.73**	**69**	*eP*		**P**	**20 06 19.6**	**+0.1**
BB19B	**Bebedouro**	**19.36**	**98**	*eP*		**P**	**20 06 25.9**	**-0.5**
LC01	**Cunco**	**19.39**	**187**	P		**P**	**20 06 25.3**	**-1.2**
IPMB	**Ipameri, GO**	**19.85**	**89**	*eP*		**P**	**20 06 31.3**	**-0.5**
ITTB	**Itaituba**	**19.98**	**42**	*eP*		**P**	**20 06 32.0**	**-1.1**
RCLB	**Rio Claro- Sao**	**20.34**	**102**	*eP*		**P**	**20 06 36.3**	**-0.7**
BDFB	**Brasilia**	**20.48**	**82**	P		**P**	**20 06 37.9**	**-0.8**
	comp=Z,5.2nm,0.6s,baz=269,slow=12,SNR=8.7							
BDFB	**Brasilia**	**20.48**	**82**	P		**P**	**20 06 37.5**	**-1.2**
BDFB				IAmb	IAmb		20 06 42.1	
	comp=Z,21nm,1.4s							
VAO	**Valinhos**	**20.91**	**103**	*eP*		**P**	**20 06 41.6**	**-1.5**
PLCA	**Paso Flores**	**21.11**	**183**	P		**P**	**20 06 48.5**	**+3.3**
	comp=Z,9.0nm,0.8s,baz=359,slow=11,SNR=20							
PLCA	**Paso Flores**	**21.11**	**183**	P		**P**	**20 06 46.3**	**+1.2**
PLCA				IAmb	IAmb		20 06 50.6	
	comp=Z,14nm,1.0s							
PLCA	**Paso Flores**	**21.11**	**183**	*eP*		**P**	**20 06 48.8**	**+3.6**
PEXB	**Peixe**	**21.34**	**73**	*eP*		**P**	**20 06 46.6**	**-1.1**
PRPB	**Parauapebas**	**23.02**	**57**	*eP*		**P**	**20 07 03.5**	**-1.3**
SMTB	**Santa Maria do**	**23.40**	**66**	*eP*		**P**	**20 07 07.9**	**-0.4**
BOAV	**Boa Vista**	**23.42**	**22**	*eP*		**P**	**20 07 08.5**	**0.0**
JANB	**Januaria**	**24.09**	**83**	*eP*		**P**	**20 07 14.1**	**-0.5**
DIAM	**Diamantina, MG**	**24.09**	**91**	*eP*		**P**	**20 07 14.5**	**-0.3**
VAS01	**Vassouras-RJ**	**24.11**	**101**	*eP*		**P**	**20 07 15.1**	**+0.3**
SDBA	**SAO DESIDERIO**	**24.32**	**77**	*eP*		**P**	**20 07 16.6**	**-0.1**
MCPB	**Macapa, AP**	**25.39**	**43**	*eP*		**P**	**20 07 26.6**	**+0.3**
SJMB	**Sao Joao De Ma**	**26.39**	**93**	*eP*		**P**	**20 07 35.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**27.50**	**348**	P		**P**	**20 07 44.4**	**-0.9**
GUA01	**Guaratinga, BA**	**28.00**	**89**	*eP*		**P**	**20 07 49.8**	**0.0**
SDV	**Santo Domingo**	**28.33**	**357**	*eP*		**P**	**20 07 54.4**	**+1.4**
SJCC	**San Jacinto, C**	**29.90**	**348**	P		**P**	**20 08 06.5**	**-0.2**
SJCC				IAmb	IAmb		20 08 14.8	
	comp=Z,19nm,1.3s							
BIRV	**Birongo**	**30.00**	**6**	P		**P**	**20 08 07.0**	**-0.5**
TOSP	**Speyside**	**31.83**	**16**	P		**P**	**20 08 23.8**	**+0.2**
MG05	**Puerto Natales**	**32.14**	**184**	P		**P**	**20 08 25.9**	**0.0**
MG02	**Cerro Sombrero**	**33.13**	**180**	P		**P**	**20 08 37.1**	**+2.6**
JTS	**Las Juntas de**	**33.54**	**331**	P		**P**	**20 08 34.4**	**-4.2**
JTS				IAmb	IAmb		20 08 35.7	
	comp=Z,8.4nm,0.8s							
MG03	**Isla Dawson**	**34.21**	**181**	P		**P**	**20 08 46.5**	**+2.6**
BIM	**Bigot**	**34.80**	**14**	P		**P**	**20 08 47.9**	**-1.5**
SJG	**San Juan**	**37.58**	**5**	LR		LR	20 24 38.6	
	comp=Z,45nm,21.6s,baz=109,slow=36							
LIC	**Lamto**	**68.05**	**75**	*eP*		**P**	**20 12 56.3**	**-0.9**
	comp=Z,9.9nm,0.5s							
TIC	**Toumodi**	**68.23**	**74**	*eP*		**P**	**20 12 57.7**	**-0.6**
KIC	**Kosan Boka**	**68.36**	**75**	*eP*		**P**	**20 12 58.8**	**-0.3**
	comp=Z,36nm,0.4s							
DBIC	**Dimbokro**	**68.39**	**74**	P		**P**	**20 12 59.1**	**-0.1**
	comp=Z,12nm,0.5s,baz=248,slow=6.1,SNR=24							
DBIC	**Dimbokro**	**68.39**	**74**	P		**P**	**20 12 59.0**	**-0.2**
DBIC				IAmb	IAmb		20 12 59.8	
	comp=Z,11nm,0.7s							
SCHQ	**Schefferville**	**74.14**	**1**	P		**P**	**20 13 34.0**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=207,slow=2.3,SNR=1.9							
TOA0	**Torodi Ar. Sit**	**76.90**	**71**	P		**P**	**20 13 49.3**	**-0.3**
TOA0				IAmb	IAmb		20 13 50.1	
	comp=Z,5.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P		**P**	**20 13 49.5**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=254,slow=5.3,SNR=30							
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P		**P**	**20 13 49.3**	**-0.3**
YKA	**Yellowknife Ar**	**89.33**	**341**	P		**P**	**20 14 54.3**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=131,slow=4.5,SNR=18							
YKA				pP		**pP**	**20 15 24.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.9,SNR=6.7							
EKA	**Eskdalemuir Ar**	**93.09**	**32**	LR		LR	20 51 56.3	
	comp=Z,143nm,18.4s,baz=206,slow=32							
ASAR	**Alice Springs**	**131.50**	**209**	PKP		**PKiKP**	**20 21 10.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=133,slow=1.6,SNR=6.3							
SONM	**Songino Array**	**151.59**	**6**	PKPbc		**PKiKP**	**20 21 52.4**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=268,slow=1.5,SNR=4.9							

IDC ***25*** *20:03:26.4±1.7,43.77N×105.61W,h0km,mb3.7/1, mb1 3.7/4,mb1mx3.3/44,mbtmp3.5/4,ML3.5/3,MS3.2/1, Ms1 3.2/1,ms1mx2.3/83,Error ellipse: s-maj=45.4km s-min=8.1km az=148.0*

NEIC ***25*** *20:03:26.4±1.8,43.78N±0.04×105.29W±0.06,h0km±2km, ML3.2/74,Error ellipse: s-maj=7.2km s-min=6.9km az=144.0*

ISC 25 20:03:25.9±0.9, 43.79N±0.05×105.29W±0.05, h0km, n59, σ0.8 77/58, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**70**			**Pb**	**20 03 45.1**	**-0.6**
K22A	**Casper**	**1.45**	**219**			**Pn**	**20 03 52.2**	**-1.4**
K22A				IAML			20 04 17.2	
	comp=N,356nm,0.3s							
K22A				IAML			20 04 18.5	
	comp=E,326nm,0.3s							
PHWY	**Pilot Hill**	**2.49**	**183**			**Pn**	**20 04 08.8**	**+0.7**
PHWY				IAML			20 04 49.8	
	comp=E,105nm,0.6s							
RWWY	**Rawlins**	**2.53**	**215**			**Pn**	**20 04 09.8**	**+1.3**
RWWY				IAML			20 04 47.1	
	comp=E,163nm,1.1s							
RWWY				IAML			20 04 48.0	
	comp=E,125nm,0.9s							
N23A	**Red Feather La**	**2.94**	**190**			**Pn**	**20 04 15.1**	**+1.1**
N23A				IAML			20 04 58.4	
	comp=N,94nm,0.5s							
N23A				IAML			20 05 07.1	
	comp=E,76nm,0.9s							
LAO	**LASA Array**	**2.97**	**348**			**Pn**	**20 04 15.4**	**+1.1**
RLMT	**Red Lodge**	**3.14**	**296**			**Pn**	**20 04 17.5**	**+0.6**
RLMT				IAML			20 05 10.6	
	comp=E,45nm,0.8s							
RLMT				IAML			20 05 15.7	
	comp=E,55nm,0.8s							
BW06	**Boulder Array**	**3.28**	**253**			**Pn**	**20 04 19.5**	**+0.7**
PD31	**Pinedale Array**	**3.28**	**253**			**Pn**	**20 04 19.3**	**+0.6**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn		**Pn**	**20 04 19.8**	**+1.0**
	comp=E,5.4nm,0.3s,baz=74,slow=18,SNR=81							
PDAR				Pg		**Pb**	**20 04 24.9**	**-0.1**
	comp=E,9.9nm,0.3s,baz=70,slow=19,SNR=38							
PDAR				Lg		Lg	20 05 00.8	
	comp=E,4.3nm,0.3s,baz=76,slow=29,SNR=3.0							
PDAR	**Pinedale Array**	**3.28**	**253**			**Pn**	**20 04 18.9**	**+0.1**
YMP	**Mirror Lake Pl**	**3.62**	**287**			**Pn**	**20 04 24.3**	**+0.8**
YMP				IAML			20 05 24.3	
	comp=E,72nm,0.7s							
GCMT	**Greycliff**	**3.70**	**304**			**Pn**	**20 04 24.2**	**-0.3**
OGNE	**Ogallala**	**3.73**	**139**			**Pn**	**20 04 25.9**	**+1.0**
LKWY	**Lake**	**3.75**	**284**			**Pn**	**20 04 26.6**	**+1.3**
LKWY				IAML			20 04 54.0	
	comp=E,37nm,0.7s							
LKWY				IAML			20 05 44.9	
	comp=E,31nm,1.2s							
H17A	**Grant Village**	**3.85**	**281**			**Pn**	**20 04 27.2**	**+0.5**
H17A				IAML			20 05 32.6	
	comp=N,27nm,0.8s							
LOHW	**Long Hollow**	**3.85**	**269**			**Pn**	**20 04 27.9**	**+1.3**
FLWY	**Flagg Ranch**	**3.92**	**276**			**Pn**	**20 04 28.0**	**+0.5**
FLWY				IAML			20 05 36.1	
	comp=N,40nm,2.0s							
FLWY				IAML			20 05 39.7	
	comp=N,40nm,2.1s							
MOOW	**Moose Ponds**	**3.95**	**271**			**Pn**	**20 04 29.1**	**+1.2**
YNR	**Norris Junctio**	**3.98**	**285**			**Pn**	**20 04 28.7**	**+0.3**
SNOW	**Snow King Moun**	**3.98**	**267**	Pn		**Pn**	**20 04 28.2**	**-0.2**
SNOW				IAML			20 05 31.7	
	comp=N,41nm,0.7s							
SNOW				IAML			20 05 45.8	
	comp=N,36nm,1.1s							
ISCO	**Idaho Springs**	**4.00**	**184**			**Pn**	**20 04 30.0**	**+1.3**
YPP	**Pitchstone Pla**	**4.00**	**279**	Pn		**Pn**	**20 04 29.5**	**+0.7**
YFT	**Old Faithful**	**4.04**	**281**			**Pn**	**20 04 30.5**	**+1.2**
REDW	**Red Top Meadow**	**4.06**	**266**			**Pn**	**20 04 30.6**	**+1.1**
REDW				IAML			20 05 37.6	
	comp=N,35nm,1.1s							
REDW				IAML			20 05 49.0	
	comp=N,42nm,0.9s							
YHH	**Holmes Hill**	**4.11**	**286**			**Pn**	**20 04 31.3**	**+1.0**
TPAW	**Teton Pass**	**4.12**	**268**			**Pn**	**20 04 30.6**	**+0.3**
TPAW				IAML			20 05 52.6	
	comp=N,24nm,1.0s							
TPAW				IAML			20 05 59.4	
	comp=N,40nm,1.3s							
YMR	**Madison River**	**4.17**	**284**			**Pn**	**20 04 32.0**	**+1.1**
YMR				IAML			20 06 00.7	
	comp=N,40nm,1.0s							
YMR				IAML			20 06 01.8	
	comp=E,41nm,0.9s							
O20A	**White River Ci**	**4.26**	**212**			**Pn**	**20 04 32.7**	**+0.4**
O20A				IAML			20 05 46.3	
	comp=E,29nm,1.3s							
O20A				IAML			20 06 24.4	
	comp=N,34nm,1.4s							
E28A	**Huff**	**4.28**	**48**	Pn		**Pn**	**20 04 33.3**	**+1.0**
YHL	**Hebgen Lake**	**4.36**	**286**			**Pn**	**20 04 34.6**	**+1.0**
YHL				IAML			20 06 07.4	
	comp=N,31nm,1.1s							
YHL				IAML			20 06 14.6	
	comp=E,24nm,1.1s							
AHID	**Auburn Hatcher**	**4.36**	**258**			**Pn**	**20 04 34.1**	**+0.5**
AHID				IAML			20 05 48.2	
	comp=E,30nm,0.7s							
AHID				IAML			20 06 00.3	
	comp=E,21nm,0.8s							
ECR	**Eagle Creek**	**4.49**	**263**			**Pn**	**20 04 35.0**	**-0.3**
RDMU	**Red Mountain**	**4.52**	**226**			**Pn**	**20 04 36.3**	**+0.5**
RDMU				IAML			20 05 53.6	
	comp=N,26nm,1.0s							
RDMU				IAML			20 05 59.2	
	comp=E,22nm,0.8s							
QLMT	**Earthquake Lak**	**4.52**	**285**			**Pn**	**20 04 35.8**	**-0.1**
SUSD	**Miller**	**4.61**	**80**	Pn		**Pn**	**20 04 36.7**	**-0.1**
DGMT	**Dagmar**	**4.74**	**9**			**Pn**	**20 04 38.5**	**-0.1**
SMCO	**Snowmass**	**4.78**	**196**			**Pn**	**20 04 39.6**	**0.0**
SMCO				IAML			20 05 57.4	
	comp=E,28nm,0.3s							
SMCO				IAML			20 06 06.2	
	comp=E,19nm,0.9s							
Q24A	**Divide**	**4.83**	**179**			**Pn**	**20 04 40.0**	**-0.2**
Q24A				IAML			20 06 01.6	
	comp=N,22nm,0.6s							
Q24A				IAML			20 06 02.3	
	comp=E,31nm,0.4s							
BOZ	**Bozeman (W)**	**4.86**	**294**			**Pn**	**20 04 40.6**	**+0.1**
BOZ				IAML			20 06 02.1	
	comp=E,13nm,1.4s							
BOZ				IAML			20 06 03.8	
	comp=E,14nm,0.7s							
K31A	**O'Neill**	**4.92**	**101**			**Pn**	**20 04 40.1**	**-1.1**
HWUT	**Hardware Ranch**	**5.11**	**247**			**Pn**	**20 04 43.6**	**-0.3**
HWUT				IAML			20 06 12.4	
	comp=E,27nm,1.1s							
KSCO	**Kaye Shedlock'**	**5.18**	**156**			**Pn**	**20 04 44.4**	**-0.4**
EGMT	**Eagleton**	**5.25**	**325**			**Pn**	**20 04 45.3**	**-0.5**
DLMT	**Dillon**	**5.45**	**289**			**Pn**	**20 04 47.6**	**-0.9**
HRY	**Holter Researc**	**5.46**	**305**			**Pn**	**20 04 48.4**	**-0.2**
LRM	**Limekiln Ridge**	**5.48**	**294**			**Pn**	**20 04 48.5**	**-0.5**
MCMT	**McKenzie Canyo**	**5.52**	**283**			**Pn**	**20 04 49.9**	**+0.3**
P18A	**Preston Nutter**	**5.57**	**223**			**Pn**	**20 04 49.5**	**-0.8**
PV07	**Paradox Valley**	**5.92**	**206**			**Pn**	**20 04 53.8**	**-1.2**
PV11	**David Mesa, Pa**	**6.12**	**207**			**Pn**	**20 04 57.0**	**-0.8**
ECSD	**EROS Data Cent**	**6.29**	**88**			**Pn**	**20 04 59.9**	**0.0**
I10CA	**LAC DU BONNET**	**9.01**	**41**	*i*			20 58 30.0	
	baz=220,slow=326,SNR=3.0							
ULM	**Lac du Bonnet**	**9.11**	**42**	Pn		**Pn**	**20 05 39.3**	**+0.7**
	comp=E,2.3nm,0.3s,baz=224,slow=12,SNR=17							
ULM				Pg			20 06 09.2	
	comp=E,0.6nm,0.3s,baz=239,slow=18,SNR=1.7							
ULM				Lg		Lg	20 08 10.8	
	comp=E,0.3nm,0.3s,baz=127,slow=20,SNR=1.6							
ULM	**Lac du Bonnet**	**9.11**	**42**			**Pn**	**20 05 38.1**	**-0.5**
SADO	**Sadowa**	**18.73**	**78**	LR		LR	20 14 33.7	
	comp=E,68nm,18.6s,baz=248,slow=35							
YKA	**Yellowknife Ar**	**19.51**	**347**	P		**P**	**20 07 54.2**	**-0.2**
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=6.7							
YKA	**Yellowknife Ar**	**19.51**	**347**	P		**P**	**20 07 54.0**	**-0.4**
MKAR	**Makanchi Array**	**89.55**	**355**	P		**P**	**20 16 25.4**	**+0.4**
	comp=E,0.2nm,0.6s,baz=12,slow=4.7,SNR=3.6							

TIF ***25*** *20:11:49.9,41.10N×43.89E,h13km*

DDA ***25*** *20:11:49.4±0.0,41.10N×43.89E,h25km±1km,ML2.9*

ISK ***25*** *20:11:50.5,41.06N×43.90E,h4km,ML2.7/6*

NORS ***25*** *20:11:52.2±0.0,41.32N×43.80E,h1km,MPVA3.6*

AZER ***25*** *20:11:52.5±0.4,41.11N×44.20E,h11km±1km,Error ellipse: s-maj=5.1km s-min=3.1km az=301.0*

ISC 25 20:11:50.4±1.0, 41.10N±0.01×43.90E±0.01, h8km±9km, n75, σ1.966/141, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BGD	**Bogdanovka**	**0.28**	**306**	P		**Pg**	**20 11 56.2**	**+0.2**
BGD				S		**Sg**	**20 12 00.8**	**+1.0**
TRLG	**Trialeti**	**0.47**	**19**	P		**Pg**	**20 11 59.6**	**+0.1**
TRLG				S		**Sg**	**20 12 06.3**	**+0.6**
EAK	**Akyaka**	**0.47**	**208**	P		**Pg**	**20 11 59.3**	**-0.3**
EAK				S		**Sg**	**20 12 05.7**	**0.0**
EAK				*i* AML		AML	20 12 09.0	
	comp=E,717nm,0.8s							
EAK				*i* AML		AML	20 12 13.0	
	comp=N,821nm,0.5s							
KZRT	**Kazreti**	**0.48**	**53**	P		**Pg**	**20 11 59.8**	**+0.1**
KZRT				S		**Sg**	**20 12 06.7**	**+0.7**
KZRT	**Kazreti**	**0.48**	**53**	P		**Pg**	**20 11 59.8**	**+0.1**
KZRT				S		**Sg**	**20 12 06.3**	**+0.4**
BRNG	**Burnasheti**	**0.53**	**354**	P		**Pg**	**20 12 00.9**	**+0.2**
BRNG				S		**Sb**	**20 12 08.9**	**-1.0**
KARS	**Kars**	**0.78**	**233**	PG		**Pg**	**20 12 05.6**	**+0.2**
KARS				SG		**Sb**	**20 12 16.7**	**-0.4**
DIGO	**Kars**	**0.79**	**210**	P		**Pg**	**20 12 05.2**	**-0.5**
DIGO				S		**Sg**	**20 12 16.0**	**+0.1**
DIGO				*i* AML		AML	20 12 18.0	
	comp=E,950nm,0.4s							
DIGO				*i* AML		AML	20 12 23.0	
	comp=N,939nm,0.5s							
BTNK	**Botanikuri**	**0.90**	**49**	P		Pg	20 12 01.7	-6.0
BTNK				S		**Sg**	**20 12 14.5**	**-4.8**
BTNK	**Botanikuri**	**0.90**	**49**	P		Pg	20 12 01.8

BTLR	**Botlikh**	**2.34**	**47**	*e*Pg		**Pb**	**20 12 33.9**	**+1.0**
BTLR				*e*Sg		**Sg**	**20 13 04.5**	**-1.1**
CHOM	**Cayeli-Rize**	**2.37**	**271**	PN		**Pb**	**20 12 32.1**	**-1.3**
KRIK	**Erzurum-spir**	**2.38**	**252**	P		**Pg**	**20 12 34.9**	**-1.1**
MNGR	**Mingechevir, A**	**2.44**	**97**	P		**Pb**	**20 12 33.7**	**-0.8**
MNGR				S		**Sb**	**20 13 02.6**	**-2.1**
SEKA	**Sheki**	**2.50**	**86**	P		**Pb**	**20 12 34.0**	**-1.6**
	SNR=7.7							
SEKA				S		**Sb**	**20 13 05.2**	**-1.3**
BRDA	**Brd**	**2.63**	**107**	P		**Pb**	**20 12 36.4**	**-1.4**
BRDA				S		**Sb**	**20 13 09.1**	**-1.3**
AGDM	**Agdam**	**2.64**	**111**	P		**Pb**	**20 12 37.6**	**-0.4**
	SNR=7.3							
AGDM				S		**Sb**	**20 13 08.5**	**-2.1**
ORD	**Ordubad**	**2.70**	**143**	P		**Pb**	**20 12 39.1**	**0.0**
	SNR=4.4							
ORD				S		**Sb**	**20 13 10.8**	**-1.6**
QBL	**Gabala**	**2.99**	**92**	P		**Pb**	**20 12 41.2**	**-2.7**
	SNR=6.4							
QBL				S		**Sn**	**20 13 15.9**	**+1.7**
KIV	**Kislovodsk**	**2.99**	**343**	PN		**Pb**	**20 12 42.5**	**-1.5**
ZRD	**Zardab**	**3.00**	**105**	P		**Pb**	**20 12 43.4**	**-0.6**
ZRD				S		**Sn**	**20 13 16.9**	**+2.6**
QRD	**Qoradiz**	**3.09**	**121**	P		**Pn**	**20 12 41.0**	**+1.5**
QRD				S		**Sn**	**20 13 17.7**	**+1.1**
BLQ	**Beylaqan**	**3.12**	**115**	P		**Pn**	**20 12 42.3**	**+2.4**
BLQ				S		**Sb**	**20 13 20.7**	**-3.6**
XNQ	**Khinaliq**	**3.21**	**87**	P		**Pb**	**20 12 45.6**	**-2.1**
XNQ				S		**Sb**	**20 13 23.1**	**-4.0**
IML	**Ismayilli**	**3.26**	**94**	P		**Pb**	**20 12 47.3**	**-1.3**
	SNR=8.1							
IML				S		**Sb**	**20 13 24.9**	**-3.6**
QSAR	**Qusar**	**3.32**	**81**	P		**Pb**	**20 12 46.9**	**-2.6**
	SNR=7.6							
QSAR				S		**Sn**	**20 13 24.5**	**+2.2**
QUBA	**Quba, Azerbaij**	**3.48**	**84**	P		**Pn**	**20 12 46.2**	**+1.3**
QUBA				S		**Sn**	**20 13 27.0**	**+0.7**
PQL	**Pirkuli**	**3.57**	**93**	P		**Pb**	**20 12 52.4**	**-1.6**
	SNR=6.0							
PQL				S		**Sn**	**20 13 29.7**	**+0.9**
SIZA	**Siyzn**	**3.78**	**89**	P		**Pb**	**20 12 55.2**	**-2.3**
SIZA				S		**Sn**	**20 13 35.3**	**+1.4**
GLBA	**Clilabad**	**3.91**	**117**	P		**Pb**	**20 12 58.8**	**-0.9**
GLBA				S		**Sn**	**20 13 36.7**	**-0.3**
YRD	**Yardimli**	**3.99**	**122**	P		**Pb**	**20 13 03.1**	**+2.0**
	SNR=5.2							
YRD				S		**Sn**	**20 13 35.1**	**-3.9**

NEIC ***25*** *20:12:13.2±2.6,28°.85N±0°.07×144°.3E±0°.1,h13km±4km, mb4.5/23,Error ellipse: s-maj=18.9km s-min=10.3km az=94.0*

IDC ***25*** *20:12:17.8±0.9,28°.55N×142°.57E,h0km,mb3.7/13, mb1 3.9/14,mb1mx3.8/37,mbtmp3.7/14,ML3.3/1,MS3.3/2, Ms1 3.3/2,ms1mx2.4/84,Error ellipse: s-maj=34.3km s-min=13.4km az=87.0*

ISC 25 20:12:14.9±0.8,28°.68N±0°.08×143°.6E±0°.2,h10km,n56, σ1§91/49,mb4.3/24,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.04**	**220**	Pn	Pn	20 12 46.0	-3.3
	10nm,0.3s,baz=306,slow=19,SNR=1.5						
JCJ				Sn	Sn	20 13 06.2	-8.5
	38nm,0.3s,baz=252,slow=22,SNR=6.0						
JCJ	**Chichijima**	**2.04**	**220**		**Pn**	**20 12 50.4**	**+1.2**
JHJ2	**Mitsune**	**5.51**	**324**	Pn	**Pn**	**20 13 33.2**	**-3.8**
JHJ	**Hachijo jima 2**	**5.53**	**324**	Sn	Sn	20 14 32.2	-8.7
	17nm,0.3s,baz=66,slow=20,SNR=1.5						
MJAR	**Matsushiro Arr**	**9.08**	**331**	Pn	**Pn**	**20 14 25.9**	**-0.2**
	0.4nm,0.3s,baz=246,slow=6.9,SNR=13						
MJAR				Sn	**Sn**	**20 16 03.6**	**-4.8**
	0.1nm,0.3s,baz=124,slow=25,SNR=1.5						
MJAR	**Matsushiro Arr**	**9.08**	**331**		**Pn**	**20 14 25.8**	**-0.3**
MAJO	**Matsushiro**	**9.08**	**331**	Pn	**Pn**	**20 14 26.4**	**+0.4**
MJB9	**Matsu-Tunnel**	**9.09**	**331**	Pn	**Pn**	**20 14 26.3**	**+0.2**
JMM	**Marumori**	**9.47**	**346**	Pn	**Pn**	**20 14 29.4**	**-1.9**
KSRS	**Korea Array**	**15.80**	**308**	Pn	**Pn**	**20 15 56.8**	**-0.7**
	0.2nm,0.3s,baz=114,slow=12,SNR=5.7						
KLR	**Kul'dur**	**22.46**	**339**	P	**P**	**20 17 16.9**	**+2.9**
	1.2nm,0.5s,baz=161,slow=11,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**22.97**	**108**	T	T	20 42 35.1	
	baz=300						
H11N1	**WAKE ISLAND Hy**	**22.97**	**108**	T	T	20 42 41.0	
	baz=300,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.99**	**108**	T	T	20 42 36.9	
	baz=300,slow=74						
SIJI	**Sorong**	**31.68**	**204**	LR	LR	20 29 55.8	
	comp=Z,25nm,19.9s,baz=8.0,slow=34						
SONM	**Songino Array**	**34.51**	**314**	P	**P**	**20 19 02.2**	**-1.1**
	0.5nm,0.6s,baz=124,slow=7.9,SNR=6.3						
SONM	**Songino Array**	**34.51**	**314**	P	**P**	**20 19 02.9**	**-0.5**
WB0	**Warramunga Arr**	**48.98**	**192**	P	**P**	**20 21 03.8**	**+2.0**
WB0				IAmb	IAmb	20 21 15.8	
	comp=Z,3.4nm,0.7s						
WB0				PcP	**PcP**	**20 22 22.7**	**-3.1**
WR0	**Warramunga Arr**	**49.15**	**191**	P	**P**	**20 21 04.3**	**+1.3**
WR0				IAmb	IAmb	20 21 06.2	
	comp=Z,11nm,1.6s						
WR0				PcP	**PcP**	**20 22 23.4**	**-3.0**
WRAB	**Tennant Creek**	**49.15**	**192**	P	**P**	**20 21 05.2**	**+2.2**
WRAB				IAmb	IAmb	20 21 33.9	
	comp=Z,7.6nm,1.1s						
ZAA0	**Zalesovo Array**	**49.16**	**318**	P	**P**	**20 21 01.0**	**-1.8**
ZALV	**Zalesovo Beam**	**49.16**	**318**	P	**P**	**20 21 03.3**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=86,slow=8.2,SNR=7.0						
ZALV	**Zalesovo Beam**	**49.16**	**318**	P	**P**	**20 21 02.3**	**-0.5**
WB2	**Warramunga Arr**	**49.16**	**192**	P	**P**	**20 21 04.8**	**+1.7**
WB2				IAmb	IAmb	20 21 17.6	
	comp=Z,4.2nm,0.8s						
WB2				PcP	**PcP**	**20 22 25.1**	**-1.4**
WRA	**Warramunga Arr**	**49.16**	**192**	P	**P**	**20 21 05.2**	**+2.0**
	comp=Z,1.6nm,0.5s,baz=13,slow=8.9,SNR=44						
WRA	**Warramunga Arr**	**49.16**	**192**	P	**P**	**20 21 04.3**	**+1.2**
SANVU	**Saraoutou**	**49.43**	**150**	P	**P**	**20 21 00.5**	**-4.7**
FITZ	**Fitzroy Crossi**	**49.65**	**203**	P	**P**	**20 21 07.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=31,slow=12,SNR=2.2						
FITZ	**Fitzroy Crossi**	**49.65**	**203**	P	**P**	**20 21 08.1**	**+1.2**
FITZ				IAmb	IAmb	20 21 21.0	
	comp=Z,8.7nm,1.4s						
MK31	**Makanchi Array**	**50.48**	**309**	P	**P**	**20 21 12.3**	**-0.7**
MKAR	**Makanchi Array**	**50.48**	**309**	P	**P**	**20 21 12.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=86,slow=9.9,SNR=10						
MKAR	**Makanchi Array**	**50.48**	**309**	P	**P**	**20 21 11.5**	**-1.5**
MAKZ	**Makanchi**	**50.70**	**309**	P	**P**	**20 21 13.9**	**-0.7**
KURK	**Kurchatov**	**52.81**	**314**	P	**P**	**20 21 30.8**	**+0.4**
KURK				IAmb	IAmb	20 21 31.5	
	comp=Z,8.1nm,1.2s						
ASAR	**Alice Springs**	**52.88**	**191**	P	**P**	**20 21 32.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=6.0,slow=5.9,SNR=6.7						
KDJ	**Kajisay**	**54.54**	**303**	P	**P**	**20 21 43.2**	**-0.2**
KDJ				IAmb	IAmb	20 22 01.8	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**55.71**	**29**	P	P	20 21 60.0	+8.7
	comp=Z,0.3nm,0.7s,baz=269,slow=7.1,SNR=2.2						
L26K	**Log Cabin Wild**	**57.18**	**31**	P	P	20 21 54.3	-7.5
L26K				IAmb	IAmb	20 22 29.4	
	comp=Z,5.3nm,1.4s						
WAX	**Waxell Ridge**	**57.43**	**34**	P	P	20 21 55.1	-8.6
BRVK	**Borovoye**	**57.83**	**317**	P	**P**	**20 22 05.9**	**-0.6**
BRVK				IAmb	IAmb	20 22 08.1	
	comp=Z,2.3nm,0.7s						
KKAR	**Karatay Array**	**59.22**	**305**	P	**P**	**20 22 16.2**	**-0.2**
GAR	**Garm**	**60.29**	**301**	P	**P**	**20 22 23.3**	**-0.6**
CHGR	**Chuyangaron**	**61.25**	**301**	P	**P**	**20 22 30.0**	**-0.4**
BBOO	**Buckleboo**	**61.57**	**187**	P	**P**	**20 22 32.5**	**+0.2**
ARU	**Arti**	**63.97**	**322**	P	**P**	**20 22 49.2**	**+1.0**
ARU				IAmb	IAmb	20 23 01.1	
	comp=Z,2.7nm,0.7s						
ABKAR	**Akbulak array**	**64.92**	**314**	P	**P**	**20 22 54.9**	**+0.4**
ABKAR	**Akbulak array**	**64.92**	**314**	P	**P**	**20 22 53.6**	**-0.9**
ABKAR				IAmb	IAmb	20 22 56.7	
	comp=Z,3.3nm,0.6s						
YKA	**Yellowknife Ar**	**70.14**	**29**	P	P	20 23 35.2	+8.0
	comp=Z,0.1nm,0.5s,baz=287,slow=5.1,SNR=3.0						
ARCES	**ARCESS Array B**	**72.47**	**341**	P	**P**	**20 23 44.5**	**+3.2**
ARCES				IAmb	IAmb	20 23 56.4	
	comp=Z,9.0nm,1.4s						
FINES	**FINESS Array B**	**77.10**	**334**	P	**P**	**20 24 10.7**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=60,slow=8.3,SNR=1.8						
KBZ	**Khabaz**	**77.87**	**313**	P	**P**	**20 24 15.1**	**+2.3**
	comp=Z,1.8nm,0.8s,baz=103,slow=0.7,SNR=4.5						
NB2	**NORSAR Subarra**	**82.62**	**339**	P	**P**	**20 24 40.4**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**82.62**	**339**	P	**P**	**20 24 40.8**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=42,slow=5.1,SNR=2.5						
RAYN	**Ar Rayn**	**85.68**	**294**	P	**P**	**20 24 55.2**	**+0.7**
BRTR	**Keskin Array B**	**85.87**	**313**	P	**P**	**20 24 56.9**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=45,slow=6.7,SNR=4.1						
BORG	**Borgarnes**	**86.14**	**354**	LR	LR	21 07 43.7	
	comp=Z,34nm,18.3s,baz=46,slow=39						

IDC ***25*** *20:27:34.0±3.0,36°.17N×70°.93E,h122km±26km,mb3.4/10, mb1 3.5/15,mb1mx3.3/57,mbtmp3.9/15,MS3.4/4, Ms1 3.4/4,ms1mx2.7/64,Error ellipse: s-maj=22.5km s-min=16.3km az=9.0*

NEIC ***25*** *20:27:37.1±2.5,36°.46N±0°.06×70°.90E±0°.09,h148km±6km, mb4.0/20,Error ellipse: s-maj=10.5km s-min=7.9km az=122.0*

NNC ***25*** *20:27:39.9±1.2,36°.79N×70°.64E,h95km±29km,mb3.7, mpv4.2,Error ellipse: s-maj=12.1km s-min=6.9km az=159.0*

ISC 25 20:27:36.3±0.5,36°.46N±0°.05×70°.97E±0°.05,h150km,n94, σ1§98/106,mb3.7/11,9C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.48**	**220**		**Pn**	**20 28 18.4**	**+1.0**
KBL				Sn	**Sn**	**20 28 47.9**	**-1.2**
GAR	**Garm**	**2.59**	**349**		**Pn**	**20 28 19.7**	**+1.0**
GAR				Sn	**Sn**	**20 28 50.4**	**-0.9**
CHGR	**Chuyangaron**	**2.62**	**327**		**Pn**	**20 28 19.5**	**+0.5**
CHGR				Sn	**Sn**	**20 28 50.3**	**-1.7**
DRK	**Karamyk**	**3.08**	**12**		**Pn**	**20 28 26.8**	**+1.8**
DRK				Sn	**Sn**	**20 29 01.1**	**-1.6**
BTK	**Batken**	**3.59**	**358**		**Pn**	**20 28 32.7**	**+1.4**
BTK				Sn	**Sn**	**20 29 13.4**	**-0.7**
JMU	**Jammu**	**4.95**	**138**	*e*P	**Pn**	**20 28 49.2**	**+0.2**
JMU				*e*S	**Sn**	**20 29 43.8**	**-1.9**
THN	**Thein Dam**	**5.61**	**134**	*e*P	**Pn**	**20 28 58.3**	**+0.4**
THN				*e*S	**Sn**	**20 29 59.6**	**-2.0**
AML	**Almayashu**	**6.04**	**20**	P	**Pn**	**20 29 04.7**	**+0.8**
	SNR=125						
UCH	**Uchtor**	**6.38**	**24**	P	**Pn**	**20 29 10.8**	**+2.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.56**	**18**	P	**Pn**	**20 29 11.6**	**+1.0**
	SNR=20						
KK02	**Karatay Array**	**6.64**	**357**	⇑P	**Pn**	**20 29 11.4**	**-0.1**
	10nm,0.4s						
KK02				⇑S	**Sn**	**20 30 21.4**	**-4.8**
	12nm,0.5s						
KKAR	**Karatay Array**	**6.64**	**357**	Pn	**Pn**	**20 29 11.9**	**+0.3**
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**20 29 14.3**	**+1.3**
	4.0nm,0.3s,baz=179,slow=3.9,SNR=59						
AAK				S	**Sn**	**20 30 28.6**	**-0.1**
	1.7nm,0.3s,baz=360,slow=17,SNR=10						
AAK	**Ala-Archa**	**6.74**	**23**	P	**Pn**	**20 29 16.1**	**+3.1**
	SNR=9.3						
AAK	**Ala-Archa**	**6.74**	**23**	Pn	**Pn**	**20 29 13.8**	**+0.8**
AAK	**Ala-Archa**	**6.74**	**23**	⇑P	**Pn**	**20 29 13.9**	**+0.9**
	10nm,0.7s						
AAK				⇓S	**Sn**	**20 30 27.8**	**-0.9**
	26nm,0.8s						
BHK	**Bhakra**	**6.77**	**136**	*ex*	x	20 29 27.1	
BHK				*e*S	**Sn**	**20 30 26.1**	**-3.2**
KBK	**Karagaybulak**	**6.91**	**25**	P	**Pn**	**20 29 18.4**	**+3.2**
	SNR=6.2						
FRU1	**Bishkek**	**6.94**	**23**		**Pn**	**20 29 15.3**	**-0.2**
BOOM	**Boomskoye usch**	**7.14**	**31**		**Pn**	**20 29 19.8**	**+1.4**
CHMS	**Chumysh**	**7.15**	**23**	P	**Pn**	**20 29 19.0**	**+0.7**
	SNR=11						
USP	**Ospenovka**	**7.32**	**21**	P	**Pn**	**20 29 22.3**	**+1.7**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.37**	**28**	P	**Pn**	**20 29 24.3**	**+2.8**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.37**	**28**	⇑P	**Pn**	**20 29 23.0**	**+1.6**
	8.9nm,0.6s						
TKM2				⇑S	**Sn**	**20 30 43.5**	**-0.4**
	8.8nm,0.8s						
SMLA	**Simla**	**7.41**	**134**	*e*P	**Pn**	**20 29 21.3**	**-0.5**
SMLA				*e*S	**Sn**	**20 30 40.7**	**-3.9**
SMLA				IAML		20 30 43.0	
	comp=N,51nm,0.2s						
SMLA				IAML		20 30 43.0	
	comp=E,35nm,0.4s						
HRA	**Herat**	**7.42**	**256**	Pn	**Pn**	**20 29 22.2**	**0.0**
KDJ	**Kajisay**	**7.43**	**38**	Pn	**Pn**	**20 29 23.0**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.47**	**43**		**Pn**	**20 29 22.1**	**-0.9**
MDOK	**Medeo**	**8.16**	**33**	⇓P	**Pn**	**20 29 34.2**	**+2.2**
	comp=E,8.3nm,0.8s						
PDGK	**Podgornoye**	**9.48**	**41**	⇓P	**Pn**	**20 29 50.6**	**+1.2**
	comp=E,1.9nm,0.6s						
KUDL	**Kundal**	**9.52**	**149**	*e*P	**Pn**	**20 29 48.7**	**-1.2**
GEYT	**Alibeck**	**10.36**	**282**	P	**Pn**	**20 30 00.4**	**-0.7**
	comp=E,1.5nm,0.3s,baz=104,slow=10,SNR=12						
GEYT				S	**Sn**	**20 31 53.4**	**-2.3**
	comp=E,1.6nm,0.3s,baz=90,slow=30,SNR=3.7						
GEYT	**Alibeck**	**10.36**	**282**	Pn	**Pn**	**20 29 59.6**	**-1.5**
GYA0B	**ALIBECK ARRAY**	**10.36**	**282**	Pn	**Pn**	**20 30 00.3**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**10.36**	**282**	⇓P	**Pn**	**20 30 00.7**	**-0.4**
GYA0B				⇑S	**Sn**	**20 31 52.6**	**-3.2**
PYUN	**Piuthan**	**13.14**	**126**	*e*P	**Pn**	**20 30 35.2**	**-2.3**
	comp=E,26nm,0.4s						
MAKZ	**Makanchi**	**13.20**	**35**		**Pn**	**20 30 38.4**	**+0.4**
MAKZ	**Makanchi**	**13.20**	**35**	⇓P	**P**	**20 30 42.7**	**+0.3**
	comp=E,4.4nm,0.8s						
MK31	**Makanchi Array**	**13.34**	**36**	Pn	**Pn**	**20 30 39.6**	**-0.1**
MK31	**Makanchi Array**	**13.34**	**36**	⇓P	**P**	**20 30 44.6**	**+0.7**
	comp=E,1.7nm,0.6s,baz=207,slow=8.4,SNR=4.5						
MKAR	**Makanchi Array**	**13.34**	**36**	P	**Pn**	**20 30 42.1**	**+2.5**
	comp=E,0.1nm,0.3s,baz=224,slow=10,SNR=10						
MKAR	**Makanchi Array**	**13.34**	**36**	Pn	**Pn**	**20 30 40.3**	**+0.6**
DANN	**Dangsing**	**13.49**	**123**	*e*P	**Pn**	**20 30 39.6**	**-2.4**
	comp=E,19nm,0.4s						
KOLN	**Koldanda**	**13.76**	**125**	*e*P	**Pn**	**20 30 43.5**	**-1.9**
	comp=E,13nm,0.5s						
GKN	**Gorkha**	**14.30**	**122**	*e*P	**Pn**	**20 30 50.3**	**-1.9**
	comp=E,62nm,0.7s						
DMN	**Daman**	**14.87**	**122**	*e*P	**Pn**	**20 30 58.6**	**-0.8**
	comp=E,16nm,0.4s						
KKN	**Kakani**	**14.88**	**121**	*e*P	**Pn**	**20 30 57.8**	**-1.7**
PKIN	**Phulchoki**	**15.09**	**122**	*e*P	**Pn**	**20 31 01.0**	**-1.2**
	comp=E,24nm,0.4s						
PKI	**Pulchoki**	**15.10**	**122**	*e*P	**Pn**	**20 31 01.2**	**-1.2**
	comp=E,34nm,0.5s						
AB31	**Akbulak array**	**15.11**	**331**	⇑P	**Pn**	**20 31 02.1**	**+0.3**
	comp=E,2.6nm,0.5s,baz=146,slow=8.3,SNR=90						
AB31				⇑S	**Sn**	**20 33 43.3**	**-6.3**
	comp=E,3.6nm,0.7s,baz=152,slow=22,SNR=8.0						
ABKAR	**Akbulak array**	**15.11**	**331**	Pn	**Pn**	**20 31 01.6**	**-0.3**
ABKAR	**Akbulak array**	**15.11**	**331**	Pn	**Pn**	**20 31 02.1**	**+0.2**
ABKAR				IAmb	IAmb	20 31 06.2	
	comp=Z,4.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.17**	**19**	P	**P**	**20 31 05.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=9.9						
GUN	**Gumba**	**15.22**	**120**	*e*P	**Pn**	**20 31 02.9**	**-0.9**
	comp=Z,20nm,0.4s						
KURK	**Kurchatov**	**15.27**	**19**	Pn	**Pn**	**20 31 03.9**	**-0.1**
KURK				IAmb	IAmb	20 31 10.5	
	comp=Z,3.7nm,1.4s						
JIRN	**Jiri**	**15.59**	**120**	*e*P	**Pn**	**20 31 08.2**	**-0.2**
	comp=Z,43nm,0.4s						
RAMN	**Ramite**	**16.32**	**121**	*e*P	**Pn**	**20 31 16.2**	**-1.0**
	comp=Z,14nm,0.4s						
BRVK	**Borovoye**	**16.60**	**359**		**P**	**20 31 18.8**	**-1.2**
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**20 31 24.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=141,slow=13,SNR=9.8						
AKTO				S	**S**	**20 34 22.1**	**-7.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=19,SNR=3.2						
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P	**Pn**	**20 31 24.6**	**+2.0**
	comp=Z,2.4nm,0.5s						
AKTO				⇓S	**S**	**20 34 25.9**	**-3.3**
	comp=Z,3.7nm,0.7s						
TAPN	**Taplejung**	**16.85**	**118**	*e*P	**P**	**20 31 24.2**	**+0.9**
ODAN	**Odare**	**16.92**	**120**	*e*P	**P**	**20 31 24.1**	**+0.1**
	comp=Z,40nm,0.8s						
LSA	**Lhasa**	**18.19**	**106**	P	**P**	**20 31 38.3**	**+0.2**
LSA				IAmb	IAmb	20 31 46.1	
	comp=Z,4.7nm,0.7s						
ZAA0	**Zalesovo Array**	**19.96**	**24**	P	**P**	**20 31 53.3**	**-3.3**
ZAA0				IAmb	IAmb	20 31 58.7	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**19.96**	**24**	P	**P**	**20 31 58.1**	**+1.5**
	comp=Z,2.9nm,0.5s,baz=221,slow=11,SNR=13						
ZALV				LR	LR	20 40 32.8	
	comp=Z,32nm,18.9s,baz=61,slow=38						
ZALV	**Zalesovo Beam**	**19.96**	**24**	P	**P**	**20 31 53.7**	**-2.8**
GNI	**Garni**	**20.88**	**288**	LR	LR	20 42 56.4	
	comp=Z,58nm,21.6s,baz=3.0,slow=44						
SHL	**Shillong**	**20.91**	**115**	P	**P**	**20 32 04.5**	**-2.7**
SHL				IAmb	IAmb	20 32 09.8	
	comp=Z,4.8nm,0.9s						
ARU	**Arti**	**21.66**	**341**	P	**P**	**20 32 17.1**	**+2.3**
	comp=Z,0.6nm,0.4s,baz=146,slow=11,SNR=4.8						
ARU	**Arti**	**21.66**	**341**	P	**P**	**20 32 16.0**	**+1.2**
ARU				IAmb	IAmb	20 32 37.3	
	comp=Z,10.0nm,1.5s						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**20 33 58.5**	**+2.1**
	comp=Z,1.6nm,0.6s,baz=81,slow=7.1,SNR=8.1						
AKASG	**Malin Array Be**	**32.95**	**309**	IAmb	IAmb	20 34 24.6	
	comp=Z,3.3nm,1.6s						
BURAR	**Bucovina Array**	**35.29**	**303**	P	**P**	**20 34 19.3**	**+2.5**
FIA1	**FINESS Array S**	**37.50**	**326**	P	**P**	**20 34 37.9**	**+2.7**
FIA1				IAmb	IAmb	20 34 51.1	
	comp=Z,11nm,1.5s						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**20 34 37.5**	**+2.3**
	comp=Z,1.0nm,0.4s,baz=117,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**37.50**	**326**		**P**	**20 34 37.6**	**+2.4**
KEV	**Kevo**	**40.83**	**338**	P	**P**	**20 35 04.8**	**+2.1**
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**20 35 08.1**	**+2.6**
	comp=Z,1.1nm,0.5s,baz=112,slow=8.4,SNR=15						
ARCES	**ARCESS Array B**	**41.17**	**338**		**P**	**20 35 08.0**	**+2.4**
NC405	**NORSAR Array S**	**44.16**	**323**	P	**P**	**20 35 31.6**	**+1.9**
NC303	**NORSAR Array S**	**44.34**	**323**	P	**P**	**20 35 32.6**	**+1.4**
NC303				IAmb	IAmb	20 35 33.8	
	comp=Z,12nm,1.1s						
NB201	**NORSAR Array S**	**44.36**	**323**	P	**P**	**20 35 32.8**	**+1.5**
NB2	**NORSAR Subarra**	**44.40**	**323**	P	**P**	**20 35 33.2**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**20 35 33.5**	**+1.9**
	comp=Z,2.3nm,0.8s,baz=96,slow=7.7,SNR=10						
NBO00	**NORSAR Array S**	**44.61**	**323**	P	**P**	**20 35 34.6**	**+1.3**
NC204	**NORSAR Array S**	**44.64**	**323**	P	**P**	**20 35 35.0**	**+1.4**
TIXI	**Tiksi**	**45.82**	**22**	P	**P**	**20 35 43.8**	**+1.2**
JMIC	**Jan Mayen**	**52.61**	**336**	LR	LR	21 01 00.8	
	comp=Z,45nm,18.6s,baz=94,slow=38						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**20 38 04.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.4,SNR=7.0						
MATP	**Matopo**	**69.37**	**223**	LR	LR	21 09 26.2	
	comp=Z,109nm,21.9s,baz=240,slow=36						
YKA	**Yellowknife Ar**	**81.28**	**3**	P	**P**	**20 39 37.7**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=349,slow=5.4,SNR=12						
WRA	**Warramunga Arr**	**81.99**	**122**	P	**P**	**20 39 39.8**	**0.0**
	comp=Z,0.2nm,0.6s,baz=310,slow=4.6,SNR=5.0						
WRA	**Warramunga Arr**	**81.99**	**122**	IAmb	IAmb	20 39 47.0	
	comp=Z,0.4nm,1.6s						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**20 39 51.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=308,slow=5.0,SNR=14						

NEIC ***25*** *21:07:53.7±1.7,56°.1S±0°.1×27°.9W±0°.2,h117km±5km, mb4.4/15,Error ellipse: s-maj=15.5km s-min=12.8km az=218.0*

IDC ***25*** *21:07:57.0±8.8,56°.09S×27°.55W,h146km±75km,mb4.0/5, mb1 4.1/6,mb1mx3.6/22,mbtmp4.5/6,Error ellipse: s-maj=43.9km s-min=24.5km az=108.0*

ISC 25 21:07:53.8±0.5,56°.02S±0°.10×27°.98W±0°.09,h121km,n40, σ1§07/37,mb4.3/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.18**	**286**	Pn	**Pn**	**21 09 09.8**	**+0.7**
HOPE				Sn	**Sn**	**21 10 04.8**	**

M_0r1.39±.10; Best double couple: $M_0$2.67400×10^{16} NP1:ϕ_s135.00000°,δ42.00000°,λ25.00000°. NP2: ϕ_s25.00000°,δ73.00000°,λ129.00000°. Principal axes: T 2.5590, Plg47.0000°, Azm336.0000°; N 0.2290, Plg37.0000°, Azm192.0000°; P -2.7890, Plg19.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*BGR **25** 21:36:35.5±0.0, 55.73N×162.40E, h33km, mb5.3*

ISC 25 21:36:26.4±0.4, **54.22N**±0.03×**163.07E**±0.02, **h35**km±1km, **h36**km:**pP-P, n1282,** σ**1s24**/1305**, mb5.0**/395**, MS4.2**/71**, 237C-117D, Fault plane solution: NP1:**ϕ_s181.84042°, δ30.75155°, λ58.45923°. **NP2:** ϕ_s37.37493°, δ64.16515°, λ107.28792°. **Principal axes:** T Plg66.3231°, Azm338.9266°; N Plg15.5139°, Azm209.6511°; P Plg17.4300°, Azm114.6514°; **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMD	**Tumrok D**	**1.84**	**303**	*e*P		**Pn**	**21 36 56.4**	**+0.9**
TUMD				*e*S		**Sn**	**21 37 18.9**	**+1.4**
BKI	**Bering**	**1.95**	**58**	PN		**Pn**	**21 36 56.5**	**-0.5**
BKI				S		**Sn**	**21 37 17.6**	**-2.6**
BKI	**Bering**	**1.95**	**58**	*e*P		**Pn**	**21 36 56.5**	**-0.5**
BKI				*e*S		**Sn**	**21 37 17.5**	**-2.6**
KBTR	**Krutoberegovo**	**2.00**	**356**	PN		**Pn**	**21 36 57.0**	**-0.7**
KBTR				S		**Sn**	**21 37 21.4**	**0.0**
KBTR	**Krutoberegovo**	**2.00**	**356**	*e*P		**Pn**	**21 36 56.9**	**-0.7**
KBTR				*e*S		**Sn**	**21 37 21.0**	**-0.4**
TUMR	**Tumrok**	**2.00**	**303**	PN		**Pn**	**21 36 59.2**	**+1.4**
TUMR				S		**Sb**	**21 37 24.6**	**-2.2**
TUMR	**Tumrok**	**2.00**	**303**	*i* P		**Pn**	**21 36 59.2**	**+1.4**
KBG	**Krutoberegovo**	**2.05**	**354**	PN		**Pn**	**21 36 57.9**	**-0.4**
KBG				S		**Sn**	**21 37 22.7**	**0.0**
KBG	**Krutoberegovo**	**2.05**	**354**	*e*P		**Pn**	**21 36 57.8**	**-0.5**
KBG				*e*S		**Sn**	**21 37 22.6**	**-0.1**
SPN	**Mys Shipunski**	**2.14**	**239**	*e*P		**Pn**	**21 36 59.4**	**-0.2**
SPN				*e*S		**Sn**	**21 37 23.3**	**-1.5**
KII	**Karymskiy**	**2.14**	**266**	PN		**Pn**	**21 37 00.2**	**+0.5**
KII	**Karymskiy**	**2.14**	**266**	*e*P		**Pn**	**21 37 00.2**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.20**	**323**	PN		**Pn**	**21 37 01.5**	**+0.9**
BZGR				S		**Sb**	**21 37 29.0**	**-3.4**
BZGR	**Bezymyannyi-Gr**	**2.20**	**323**	*e*P		**Pn**	**21 37 01.4**	**+0.9**
BZGR				*e*S		**Sn**	**21 37 28.5**	**+2.0**
ZLN	**Zelenaya**	**2.22**	**325**	PN		**Pn**	**21 37 01.9**	**+1.1**
ZLN	**Zelenaya**	**2.22**	**325**	*e*P		**Pn**	**21 37 01.9**	**+1.1**
KMNR	**Kamenistaya**	**2.24**	**314**	PN		**Pn**	**21 37 02.5**	**+1.3**
KMNR	**Kamenistaya**	**2.24**	**314**	*i* P		**Pn**	**21 37 02.4**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.29**	**321**	PN		**Pn**	**21 37 02.5**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.29**	**321**	*e*P		**Pn**	**21 37 02.6**	**+0.7**
LGNR	**Loginova**	**2.31**	**325**	PN		**Pn**	**21 37 03.4**	**+1.1**
LGNR	**Loginova**	**2.31**	**325**	*e*P		**Pn**	**21 37 03.4**	**+1.1**
CIRR	**Tsirk**	**2.32**	**326**	PN		**Pn**	**21 37 02.9**	**+0.7**
CIRR	**Tsirk**	**2.32**	**326**	*e*P		**Pn**	**21 37 03.2**	**+1.0**
KIRR	**Kirishev**	**2.34**	**319**	PN		**Pn**	**21 37 03.2**	**+0.7**
KIRR	**Kirishev**	**2.34**	**319**	*e*P		**Pn**	**21 37 03.3**	**+0.7**
KPT	**Kopyto**	**2.40**	**318**	PN		**Pn**	**21 37 04.0**	**+0.8**
KPT	**Kopyto**	**2.40**	**318**	*e*P		**Pn**	**21 37 04.0**	**+0.8**
NLC	**Nalytchevo**	**2.45**	**246**	PN		**Pn**	**21 37 03.9**	**0.0**
NLC				S		**Sn**	**21 37 32.6**	**0.0**
NLC	**Nalytchevo**	**2.45**	**246**	*e*P		**Pn**	**21 37 04.0**	**0.0**
NLC				*e*S		**Sn**	**21 37 32.1**	**-0.5**
KRSR	**Krestovskiy**	**2.46**	**325**	PN		**Pn**	**21 37 04.5**	**+0.4**
KRSR	**Krestovskiy**	**2.46**	**325**	*e*P		**Pn**	**21 37 04.6**	**+0.4**
KLY	**Klyuchi**	**2.51**	**328**	PN		**Pn**	**21 37 04.5**	**-0.2**
KLY				S		**Sn**	**21 37 33.3**	**-0.8**
KLY	**Klyuchi**	**2.51**	**328**	*e*P		**Pn**	**21 37 04.3**	**-0.4**
KLY				*e*S		**Sn**	**21 37 34.6**	**+0.5**
SMKR	**Semkarok**	**2.54**	**340**	PN		**Pn**	**21 37 05.6**	**+0.5**
SMKR	**Semkarok**	**2.54**	**340**	*e*P		**Pn**	**21 37 05.6**	**+0.5**
BDR	**Baidarnaya**	**2.58**	**336**	PN		**Pn**	**21 37 06.7**	**+0.9**
BDR	**Baidarnaya**	**2.58**	**336**	*e*P		**Pn**	**21 37 06.7**	**+0.9**
BDR				*e*S		**Sn**	**21 37 38.9**	**+3.0**
KOZ	**Kozyrevsk**	**2.60**	**316**	PN		**Pn**	**21 37 07.4**	**+1.4**
KOZ				S		**Sn**	**21 37 39.2**	**+2.9**
KOZ	**Kozyrevsk**	**2.60**	**316**	*e*P		**Pn**	**21 37 07.3**	**+1.3**
SDLR	**Sedlovina**	**2.66**	**251**	PN		**Pn**	**21 37 07.7**	**+0.8**
SDLR	**Sedlovina**	**2.66**	**251**	*i* P		**Pn**	**21 37 07.7**	**+0.8**
SRKR	**Sorokina**	**2.67**	**337**	PN		**Pn**	**21 37 07.7**	**+0.8**
SRKR	**Sorokina**	**2.67**	**337**	*e*P		**Pn**	**21 37 07.7**	**+0.8**
SMAR	**Somma**	**2.71**	**251**	PN		**Pn**	**21 37 08.4**	**+0.7**
SMAR				S		**Sn**	**21 37 40.9**	**+1.5**
SMAR	**Somma**	**2.71**	**251**	*i* P		**Pn**	**21 37 08.4**	**+0.7**
SMAR				*e*S		**Sn**	**21 37 40.9**	**+1.5**
UGLR	**Uglovaya**	**2.72**	**250**	PN		**Pn**	**21 37 08.6**	**+0.9**
UGLR	**Uglovaya**	**2.72**	**250**	*i* P		**Pn**	**21 37 08.7**	**+1.0**
KRER	**Koryakskii**	**2.73**	**252**	PN		**Pn**	**21 37 09.0**	**+1.2**
KRER				S		**Sn**	**21 37 41.6**	**+1.9**
KRER	**Koryakskii**	**2.73**	**252**	*i* P		**Pn**	**21 37 09.1**	**+1.2**
KRER				*e*S		**Sn**	**21 37 41.2**	**+1.5**
AVH	**Avacha**	**2.75**	**251**	PN		**Pn**	**21 37 09.2**	**+1.2**
AVH				S		**Sn**	**21 37 41.5**	**+1.4**
AVH	**Avacha**	**2.75**	**251**	*e*P		**Pn**	**21 37 09.3**	**+1.2**
AVH				*e*S		**Sn**	**21 37 41.4**	**+1.4**
KOK	**Koryaka**	**2.79**	**252**	PN		**Pn**	**21 37 09.8**	**+1.1**
KOK	**Koryaka**	**2.79**	**252**	*e*P		**Pn**	**21 37 09.7**	**+1.1**
DALK	**Dalny**	**2.83**	**247**	PN		**Pn**	**21 37 09.8**	**+0.6**
DALK				S		**Sn**	**21 37 41.7**	**-0.3**
DALK	**Dalny**	**2.83**	**247**	*e*P		**Pn**	**21 37 09.8**	**+0.6**
DALK				*e*S		**Sn**	**21 37 41.7**	**-0.3**
PET	**Petropavlovsk**	**2.89**	**247**α	*i*PN		**Pn**	**21 37 10.5**	**+0.5**
PET				*e*S		**Sn**	**21 37 43.6**	**+0.1**
PET				pmax	pmax			
	comp=Z,1μm,0.7s							
PET				smax	smax			
	comp=E,8μm,0.8s							
PET				smax	smax			
	comp=N,7μm,0.5s							
PET				MLR	MLR			
	comp=Z,4μm,16.0s							
PET				MLR	MLR			
	comp=Z,4μm,15.0s							
PET	**Petropavlovsk**	**2.89**	**247**			**Pn**	**21 37 10.4**	**+0.5**
PET					Sn	**Sn**	**21 37 43.3**	**-0.2**
PET	**Petropavlovsk**	**2.89**	**247**	P		**Pn**	**21 37 11.1**	**+1.2**
PET	**Petropavlovsk**	**2.89**	**247**	*e*P		**Pn**	**21 37 10.7**	**+0.8**
PET				*e*S		**Sn**	**21 37 42.7**	**-0.8**
ESO	**Esso**	**3.04**	**306**	PN		**Pn**	**21 37 13.4**	**+1.4**
ESO				S		**Sn**	**21 37 50.1**	**+3.0**
ESO	**Esso**	**3.04**	**306**	*e*P		**Pn**	**21 37 13.4**	**+1.4**
ESO				*e*S		**Sn**	**21 37 49.0**	**+1.9**
GNL	**Ganaly**	**3.08**	**262**	PN		**Pn**	**21 37 14.4**	**+1.8**
GNL				S		**Sn**	**21 37 49.9**	**+1.7**
GNL	**Ganaly**	**3.08**	**262**	*e*P		**Pn**	**21 37 14.4**	**+1.8**
GNL				*e*S		**Sn**	**21 37 49.4**	**+1.2**
KRMR	**Karymshinskiy**	**3.26**	**247**	PN		**Pn**	**21 37 16.1**	**+1.1**
KRMR				S		**Sn**	**21 37 53.7**	**+1.1**
KRMR	**Karymshinskiy**	**3.26**	**247**	*e*P		**Pn**	**21 37 16.1**	**+1.1**
KRMR				*e*S		**Sn**	**21 37 53.6**	**+1.0**
RUS	**Russkaya**	**3.27**	**239**	PN		**Pn**	**21 37 15.3**	**+0.2**
RUS				S		**Sn**	**21 37 51.3**	**-1.4**
RUS	**Russkaya**	**3.27**	**239**	*i* P		**Pn**	**21 37 15.3**	**+0.2**
RUS				*e*S		**Sn**	**21 37 51.6**	**-1.1**
PEA0B	**Petropavlovsk-**	**3.39**	**253**	PN		**Pn**	**21 37 18.2**	**+1.5**
PEA0B							21 37 57.7	
PEA0B	**Petropavlovsk-**	**3.39**	**253**	Pn		**Pn**	**21 37 18.2**	**+1.5**
PEA0B				Sn		**Sn**	**21 37 57.7**	**+2.0**
PETK	**Petropavlovsk-**	**3.39**	**253**	Pn		**Pn**	**21 37 17.4**	**+0.7**
	comp=Z,145nm,0.3s,baz=82,slow=14,SNR=720							
PETK				Sn		**Sn**	**21 37 56.9**	**+1.2**
	comp=Z,118nm,0.3s,baz=213,slow=7.9,SNR=12							
PETK				LR		LR	21 38 27.5	
	comp=Z,2μm,18.4s,baz=337,slow=38							
PETK	**Petropavlovsk-**	**3.39**	**253**	Pn		**Pn**	**21 37 17.4**	**+0.7**
PETK				Sn		**Sn**	**21 37 58.3**	**+2.6**
MTVR	**Mutnovka**	**3.41**	**241**	PN		**Pn**	**21 37 18.1**	**+0.9**
GRL	**Gorelyy**	**3.43**	**243**	PN		**Pn**	**21 37 18.8**	**+1.3**
GRL	**Gorelyy**	**3.43**	**243**	*e*P		**Pn**	**21 37 18.7**	**+1.3**
APC	**Apacha**	**3.76**	**252**	PN		**Pn**	**21 37 23.1**	**+1.3**
APC				S		**Sn**	**21 38 04.1**	**-0.7**
APC	**Apacha**	**3.76**	**252**	*e*P		**Pn**	**21 37 23.9**	**+2.1**
KDTR	**Khodutka, Kamc**	**3.87**	**233**	PN		**Pn**	**21 37 23.7**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.87**	**233**	*e*P		**Pn**	**21 37 23.7**	**+0.4**
KDTR				*e*S		**Sn**	**21 38 05.5**	**-1.9**
MIPR	**Malaya Ipel'ka**	**4.26**	**245**	PN		**Pn**	**21 37 31.0**	**+2.2**
MIPR	**Malaya Ipel'ka**	**4.26**	**245**	*i* P		**Pn**	**21 37 31.0**	**+2.2**
PAU	**Pauzhetka**	**4.69**	**237**	PN		**Pn**	**21 37 35.7**	**+1.0**
PAU	**Pauzhetka**	**4.69**	**237**	*e*P		**Pn**	**21 37 35.7**	**+1.0**
OSSR	**Ossora**	**5.04**	**360**	PN		**Pn**	**21 37 39.4**	**0.0**
OSSR	**Ossora**	**5.04**	**360**	*e*P		**Pn**	**21 37 39.6**	**+0.2**
PALN	**Palana**	**5.17**	**342**	PN		**Pn**	**21 37 41.4**	**+0.2**
PALN	**Palana**	**5.17**	**342**	*e*P		**Pn**	**21 37 41.4**	**+0.2**
SKR	**Severo-Kuril's**	**5.54**	**233**	*e*PN		**Pn**	**21 37 46.4**	**+0.2**
SKR				pmax	pmax			
	comp=Z,88nm,0.5s							
SKR				MLR	MLR			
	comp=Z,800nm,13.0s							
SKR	**Severo-Kuril's**	**5.54**	**233**	*e*P		**Pn**	**21 37 46.4**	**+0.2**
TILK	**Tilichiki**	**6.46**	**14**	PN		**Pn**	**21 38 00.5**	**+1.6**
TILK	**Tilichiki**	**6.46**	**14**	*e*P		**Pn**	**21 38 00.5**	**+1.6**
TILK				*e*S		**Sn**	**21 39 09.9**	**-1.3**
SHEM	**Shemya Is, Ala**	**6.75**	**98**	Pn		**Pn**	**21 38 02.7**	**-0.2**
	comp=Z,118nm,0.3s,baz=35,slow=3.2,SNR=80							
SHEM				Sn		**Sn**	**21 39 13.9**	**-4.6**
	comp=Z,84nm,0.3s,baz=202,slow=22,SNR=13							
SMY	**Shemya**	**6.75**	**98**	PN		**Pn**	**21 38 02.5**	**-0.4**
SMY	**Shemya**	**6.75**	**98**	Pn		**Pn**	**21 38 02.5**	**-0.4**
KMSK	**Kamenskaya**	**8.43**	**10**	PN		**Pn**	**21 38 27.5**	**+1.6**
KMSK	**Kamenskaya**	**8.43**	**10**	*e*P		**Pn**	**21 38 27.4**	**+1.6**
KMSK				*e*S		**Sn**	**21 39 56.8**	**-2.9**
MA2	**Magadan**	**8.60**	**314**	Pn		**Pn**	**21 38 29.3**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=139,slow=6.5,SNR=35							
MA2				LR		LR	21 42 08.2	
	comp=Z,1μm,20.2s,baz=126,slow=41							
MA2	**Magadan**	**8.60**	**314**	Pn		**Pn**	**21 38 28.4**	**+0.1**
MA2	**Magadan**	**8.60**	**314**	P		**Pn**	**21 38 29.8**	**+1.5**
SEY	**Seymchan**	**10.35**	**332**	Pn		**Pn**	**21 38 53.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=14							
KIWB	**Kanaga Island**	**12.13**	**93**	Pn		**Pn**	**21 39 15.8**	**-0.8**
ADK	**Adak**	**12.40**	**93**	PN		**Pn**	**21 39 19.3**	**-0.9**
ADK	**Adak**	**12.40**	**93**			**Pn**	**21 39 19.3**	**-0.9**
ADK	**Adak**	**12.40**	**93**	P		**Pn**	**21 39 20.2**	**0.0**
GSTR	**Great Sitkin T**	**12.70**	**91**	Pn		**Pn**	**21 39 23.9**	**-0.4**
TYV	**Tymovskoe**	**12.87**	**263**	*e*PN		**Pn**	**21 39 31.1**	**+4.5**
TYV				pmax	pmax			
	comp=Z,300nm,4.0s							
TYV				pmax	pmax			
	comp=Z,27nm,1.1s							
KUR	**Kuril'sk**	**13.30**	**234**	*e*PN		**Pn**	**21 39 29.4**	**-3.2**
KUR				pmax	pmax			
	comp=Z,84nm,0.6s							
KUR				MLR	MLR			
	comp=Z,753nm,18.0s							
ATKA	**Atka Island**	**13.76**	**89**	P		**Pn**	**21 39 39.2**	**+0.4**
BILL	**Bilibino**	**13.95**	**5**	*d* iP		**Pn**	**21 39 44.3**	**+3.0**
BILL				*e*S		**Sn**	**21 42 17.2**	**+2.6**
BILL				pmax	pmax			
	comp=Z,21nm,0.8s							
BILL				MLR	MLR			
	comp=Z,348nm,13.0s							
BILL	**Bilibino**	**13.95**	**5**	Pn		**Pn**	**21 39 44.2**	**+2.9**
YSS	**Yuzh-Sakhalins**	**14.78**	**249**	*e*P		**Pn**	**21 39 52.8**	**+0.1**
YSS				*e*S		**Sn**	**21 42 33.7**	**-1.3**
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
YSS				MLR	MLR			
	comp=Z,900nm,18.0s							
YSS				MLR	MLR			
	comp=N,600nm,17.0s							
YSS	**Yuzh-Sakhalins**	**14.78**	**249**	Pn		**Pn**	**21 39 53.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**14.78**	**249**	P		**Pn**	**21 39 54.4**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**15.15**	**235**	*e*P		**Pn**	**21 39 54.4**	**-3.2**
YUK				pmax	pmax			
	comp=N,285nm,0.3s							
YUK				pmax	pmax			
	comp=Z,1μm,0.3s							
YUK				pmax	pmax			
	comp=E,583nm,0.4s							
RUSJ	**Misakicho**	**15.40**	**236**	*e*P		**Pn**	**21 39 58.3**	**-2.5**
GLVR	**Golovnino**	**15.54**	**235**	*e*P		**Pn**	**21 39 58.3**	**-4.3**
GLVR				pmax	pmax			
	comp=Z,170nm,0.3s							
GLVR				pmax	pmax			
	comp=E,47nm,0.7s							
GLVR				pmax	pmax			
	comp=N,62nm,0.4s							
NMR	**Nemuro--Hokkai**	**15.72**	**233**	*e*P		**Pn**	**21 39 58.6**	**-6.4**
GAMB	**Gambell**	**16.02**	**43**	Pn		**Pn**	**21 40 09.3**	**+0.6**
GAMB				IAmb	IAmb		21 40 14.6	
	comp=Z,117nm,1.4s							
GAMB	**Gambell**	**16.02**	**43**	P		**Pn**	**21 40 09.3**	**+0.6**
	baz=245,SNR=42							
GRNR	**Gornyy**	**16.55**	**269**	*i* P		**P**	**21 40 18.2**	**+0.3**
GRNR				*e*S		**S**	**21 43 25.2**	**-3.7**
GRNR				pmax	pmax			
	comp=N,5.0nm,0.9s							
GRNR				pmax	pmax			
	comp=E,8.0nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GRNR				smax	smax			
	comp=N,4.0nm,0.9s							
GRNR				MLR	MLR			
	comp=E,280nm,18.0s							
GRNR				MLR	MLR			
	comp=N,400nm,17.0s							
GRNR				MLR	MLR			
	comp=Z,670nm,18.0s							
NIKH	**Nikolski High**	**16.67**	**83**	P		**Pn**	**21 40 17.7**	**+0.6**
NIKH				IAmb	IAmb		21 40 19.5	
	comp=Z,172nm,0.9s							
NIKH	**Nikolski High**	**16.67**	**83**	P		**P**	**21 40 18.6**	**-0.5**
	baz=286,SNR=6.7							
JKA	**Kamikawa-asahi**	**16.72**	**241**	Pn		**Pn**	**21 40 17.7**	**0.0**
JKA				IAmb	IAmb		21 40 19.7	
	comp=Z,170nm,0.9s							
ASAJ	**Asahikawa**	**16.72**	**241**	Pn		**Pn**	**21 40 17.6**	**-0.2**
	comp=Z,12nm,0.3s,baz=62,slow=9.1,SNR=85							
ASAJ				LR		LR	21 46 52.9	
	comp=Z,645nm,19.0s,baz=16,slow=38							
ASAJ	**Asahikawa**	**16.72**	**241**	P		**Pn**	**21 40 17.7**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,170nm,0.9s							
UNV	**Unalaska Valle**	**17.81**	**79**	Pn		**Pn**	**21 40 30.6**	**-0.7**
UNV	**Unalaska Valle**	**17.81**	**79**	P		**P**	**21 40 32.6**	**+0.8**
	baz=284,SNR=5.7							
UNV	**Unalaska Valle**	**17.81**	**79**	P		**P**	**21 40 32.5**	**+0.8**
ERM	**Erimo**	**17.98**	**235**	P		**Pn**	**21 40 28.7**	**-4.6**
ERM				pmax	pmax			
	comp=Z,73nm,0.6s							
ERM	**Erimo**	**17.98**	**235**	Pn		**Pn**	**21 40 28.7**	**-4.6**
ERM				IAmb	IAmb		21 40 37.2	
	comp=Z,73nm,0.6s							
JEW	**Eniwo**	**18.21**	**240**	P		**P**	**21 40 35.1**	**-1.1**
JEW				IAmb	IAmb		21 40 49.3	
	comp=Z,118nm,1.0s							
TNA	**Tin City**	**18.25**	**40**	P		**Pn**	**21 40 36.6**	**+0.2**
TNA	**Tin City**	**18.25**	**40**	P		**Pn**	**21 40 37.6**	**+1.1**
	baz=245,SNR=27							
ANM	**Nome**	**18.89**	**44**	P		**Pn**	**21 40 45.3**	**+1.0**
ANM				pmax	pmax			
	comp=Z,47nm,1.4s							
ANM	**Nome**	**18.89**	**44**	P		**Pn**	**21 40 45.2**	**+1.0**
ANM	**Nome**	**18.89**	**44**	P		**Pn**	**21 40 45.4**	**+1.1**
	baz=252,SNR=23							
YAK	**Yakutsk**	**19.10**	**308**	P		**P**	**21 40 43.9**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=302,slow=1.1,SNR=46							
YAK				S		**Sn**	**21 44 14.3**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=289,slow=22,SNR=10.0							
YAK				LR		LR	21 49 08.2	
	comp=Z,681nm,18.3s,baz=95,slow=40							
YAK	**Yakutsk**	**19.10**	**308**	*d* iP		**P**	**21 40 43.8**	**-2.0**
YAK				*e*S		**Sn**	**21 44 15.5**	**-3.9**
YAK				pmax	pmax			
	comp=Z,136nm,0.9s							
YAK				pmax	pmax			
	comp=E,45nm,1.1s							
YAK				pmax	pmax			
	comp=N,18nm,1.1s							
YAK				pmax	pmax			
	comp=Z,46nm,0.9s							
YAK				smax	smax			
	comp=N,106nm,1.8s							
YAK				smax	smax			
	comp=E,96nm,1.3s							
YAK				MLR	MLR			
	comp=Z,904nm,22.0s							
YAK				MLR	MLR			
	comp=E,647nm,21.0s							
YAK				MLR	MLR			
	comp=N,103nm,12.0s							
YAK	**Yakutsk**	**19.10**	**308**	P		**P**	**21 40 43.9**	**-1.8**
FALS	**False Pass**	**19.35**	**74**	P		**P**	**21 40 48.9**	**+0.3**
FALS				IAmb	IAmb		21 41 04.4	
	comp=Z,104nm,1.0s							
FALS	**False Pass**	**19.35**	**74**	P		**Pn**	**21 40 50.7**	**+0.9**
	baz=282							
FALS	**False Pass**	**19.35**	**74**	P		**Pn**	**21 40 50.9**	**+1.0**
TEY	**Ternei**	**19.35**	**252**	*e*P		**Pn**	**21 40 49.4**	**-0.6**
TEY				pmax	pmax			
	comp=N,20nm,0.7s							
TEY				pmax	pmax			
	comp=E,20nm,0.7s							
TEY				pmax	pmax			
	comp=Z,30nm,0.7s							
JTM	**Tenmabayashi**	**19.93**	**237**	P		**P**	**21 40 52.9**	**-2.1**
JTM				IAmb	IAmb		21 40 54.8	
	comp=Z,60nm,0.4s							
KLR	**Kul'dur**	**19.93**	**268**	P		**P**	**21 40 53.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=61,slow=10,SNR=27							
KLR	**Kul'dur**	**19.93**	**268**	*e*P		**P**	**21 40 54.7**	**-0.3**
KLR				pmax	pmax			
	comp=Z,14nm,1.1s							
KLR				MLR	MLR			
	comp=Z,427nm,18.0s							
SDPT	**Sand Point**	**20.90**	**72**	P		**P**	**21 41 06.3**	**+0.8**
SDPT				IAmb	IAmb		21 41 09.8	
	comp=Z,83nm,0.8s							
SDPT	**Sand Point**	**20.90**	**72**	P		Pn	21 41 08.8	+0.7
	baz=282,SNR=7.8							
ZEA	**Zeya**	**20.94**	**283**	*e*P		**P**	**21 41 01.9**	**-4.0**
ZEA				*e*			21 44 55.3	
RDOG	**Red Dog Mine**	**21.09**	**36**	P		**P**	**21 41 08.1**	**+0.7**
RDOG	**Red Dog Mine**	**21.09**	**36**	P		**P**	**21 41 08.6**	**+1.2**
	baz=246,SNR=6.0							
CHGN	**Chignik**	**21.85**	**69**	P		**P**	**21 41 15.4**	**-0.2**
CHGN	**Chignik**	**21.85**	**69**	P		**P**	**21 41 16.7**	**+1.0**
	baz=281,SNR=21							
JMM	**Marumori**	**22.36**	**232**	P		**P**	**21 41 21.6**	**+0.4**
JMM				IAmb	IAmb		21 41 39.7	
	comp=Z,44nm,0.8s							
USA0B	**Ussuriysk Arra**	**22.47**	**256**	P		**P**	**21 41 23.0**	**+0.6**
USA0B	**Ussuriysk Arra**	**22.47**	**256**	P		**P**	**21 41 23.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**22.47**	**256**	P		**P**	**21 41 21.7**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=50,slow=13,SNR=6.6							
USRK	**Ussuriysk Ar.**	**22.47**	**256**	P		**P**	**21 41 23.8**	**+1.4**
GCSA	**Galena City Sc**	**22.48**	**46**	P		**P**	**21 41 22.5**	**+0.2**
	baz=261							
TTA	**Tatalina**	**22.67**	**51**	P		**P**	**21 41 25.3**	**+0.9**
TTA				pmax	pmax			
	comp=Z,44nm,1.0s							
TTA	**Tatalina**	**22.67**	**51**	P		**P**	**21 41 25.2**	**+0.9**
TTA				IAmb	IAmb		21 41 27.3	
	comp=Z,44nm,1.0s							
TTA	**Tatalina**	**22.67**	**51**	P		**P**	**21 41 25.3**	**+0.9**
	baz=266,SNR=40							
TIXI	**Tiksi**	**22.84**	**333**	P		**P**	**21 41 25.0**	**-1.0**
	comp=Z,31nm,0.4s,baz=92,slow=22,SNR=133							
TIXI				PcP		**PcP**	**21 45 16.1**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=112,slow=5.4,SNR=5.5							
TIXI				LR		LR	21 51 23.7	
	comp=Z,418nm,19.3s,baz=178,slow=40							
TIXI	**Tiksi**	**22.84**	**333**	P		**P**	**21 41 25.3**	**-0.8**
TIXI				IAmb	IAmb		21 41 27.1	
	comp=Z,47nm,0.8s							
P18K	**Big Mountain,**	**23.11**	**60**	P		**P**	**21 41 29.6**	**+0.7**
P18K				IAmb	IAmb		21 41 31.9	
	comp=Z,49nm,0.9s							
P18K	**Big Mountain,**	**23.11**	**60**	P		**P**	**21 41 29.3**	**+0.4**
	baz=276							
L19K	**White Mountain**	**23.17**	**53**	P		**P**	**21 41 30.0**	**+0.4**
L19K				IAmb	IAmb		21 41 53.1	
	comp=Z,37nm,0.7s							
L19K	**White Mountain**	**23.17**	**53**	P		**P**	**21 41 30.3**	**+0.7**
	baz=269,SNR=17							
N19K	**Bonanza Creek**	**23.38**	**56**	IAmb	IAmb		21 41 35.0	
	comp=Z,53nm,0.8s							
N19K	**Bonanza Creek**	**23.38**	**56**	P		**P**	**21 41 32.5**	**+0.8**
	baz=273,SNR=30							
M19K	**Big River Lodg**	**23.39**	**54**	IAmb	IAmb		21 41 33.7	
	comp=Z,25nm,0.7s		

comp=Z,54nm,1.1s
I21K Tanana 24.60 46 P **P** **21 41 43.9 +1.0**
baz=265,SNR=19
MJB9 Matsu-Tunnel 24.64 234 P **P** **21 41 44.7 +1.2**
MJB9 IAmb IAmb 21 41 45.5
comp=Z,63nm,0.7s
MAJO Matsushiro 24.64 234 *i*P **P** **21 41 43.9 +0.3**
MAJO pmax pmax
comp=Z,58nm,0.7s
MAJO Matsushiro 24.64 234 P **P** **21 41 44.7 +1.2**
MAJO Matsushiro 24.64 234 P **P** **21 41 45.2 +1.6**
MJAR Matsushiro Arr 24.64 234 P **P** **21 41 44.6 +1.1**
comp=Z,50nm,0.9s,baz=18,slow=8.4,SNR=74
MJAR Matsushiro Arr 24.64 234 P **P** **21 41 44.6 +1.1**
MJAR pmax pmax
comp=Z,34nm,0.8s
MJAR Matsushiro Arr 24.64 234 P **P** **21 41 44.6 +1.1**
MJAR IAmb IAmb 21 41 45.5
comp=Z,34nm,0.8s
KDAK Kodiak Island 24.71 64 P **P** **21 41 43.6 -0.3**
comp=Z,49nm,0.8s,baz=298,slow=6.0,SNR=68
KDAK LR LR 21 51 15.7
comp=Z,265nm,20.9s,baz=232,slow=36
KDAK Kodiak Island 24.71 64 *i*P **P** **21 41 42.9 -1.0**
KDAK pmax pmax
comp=Z,58nm,0.9s
KDAK Kodiak Island 24.71 64 P **P** **21 41 43.8 -0.1**
KDAK IAmb IAmb 21 41 46.5
comp=Z,39nm,0.7s
KDAK Kodiak Island 24.71 64 P **P** **21 41 43.3 -0.6**
baz=281
HOM Homer 24.89 59 P **P** **21 41 45.8 +0.2**
BPAW Bear Paw Mtn. 24.97 48 IAmb IAmb 21 41 49.5
comp=Z,54nm,1.0s
BPAW Bear Paw Mtn. 24.97 48 P **P** **21 41 47.1 +0.8**
baz=268,SNR=40
KTH Kantishna Hill 24.99 50 IAmb IAmb 21 41 49.9
comp=Z,49nm,1.0s
CAPN Captain Cook N 25.01 56 P **P** **21 41 48.0 +1.5**
MLY Manley 25.12 46 IAmb IAmb 21 42 05.1
comp=Z,18nm,0.6s
MLY **PcP** **21 45 21.7 +0.8**
MLY Manley 25.12 46 P **P** **21 41 48.5 +0.9**
baz=267,SNR=38
BRLK Bradley Lake 25.26 59 IAmb IAmb 21 41 51.7
comp=Z,26nm,0.7s
TRF Thorofare Moun 25.27 50 P **P** **21 41 49.6 +0.4**
TRF Thorofare Moun 25.27 50 P **P** **21 41 50.0 +0.8**
baz=270,SNR=62
CUT Chulitna 25.31 52 P **P** **21 41 49.3 -0.1**
CUT Chulitna 25.31 52 P **P** **21 41 49.4 +0.1**
baz=273,SNR=12
BRSE Bradley Lake S 25.33 59 P **P** **21 41 49.7 +0.1**
baz=278,SNR=5.3
M22K Willow 25.42 54 P **P** **21 41 51.0 +0.6**
M22K IAmb IAmb 21 41 52.6
comp=Z,33nm,0.8s
M22K Willow 25.42 54 P **P** **21 41 50.5 +0.1**
baz=274,SNR=5.0
COLD Coldfoot 25.54 41 P **P** **21 41 52.0 +0.7**
COLD IAmb IAmb 21 41 54.6
comp=Z,33nm,0.9s
COLD Coldfoot 25.54 41 P **P** **21 41 52.1 +0.7**
baz=263,SNR=42
BWN Browne 25.64 48 P **P** **21 41 53.7 +1.4**
BWN IAmb IAmb 21 41 59.3
comp=Z,68nm,1.0s
RC01 Rabbit Creek A 25.66 55 P **P** **21 41 53.2 +0.6**
RC01 Rabbit Creek A 25.66 55 P **P** **21 41 53.5 +0.9**
baz=276
I23K Minto, Yukon-K 25.71 46 IAmb IAmb 21 42 17.2
comp=Z,34nm,0.9s
I23K Minto, Yukon-K 25.71 46 P **P** **21 41 53.7 +0.8**
baz=268,SNR=16
O22K Cooper Landing 25.74 57 P **P** **21 41 53.7 +0.5**
JGF Kuroka 25.81 234 IAmb IAmb 21 42 12.0
comp=Z,43nm,0.9s
NEA2 Nenana 25.82 47 IAmb IAmb 21 42 13.6
comp=Z,22nm,0.7s
NEA2 Nenana 25.82 47 P **P** **21 41 54.4 +0.4**
baz=269,SNR=21
MCK McKinley 25.88 49 IAmb IAmb 21 42 12.4
comp=Z,28nm,1.0s
MCK McKinley 25.88 49 P **P** **21 41 54.8 +0.3**
baz=271,SNR=19
RND Reindeer 25.92 50 P **P** **21 41 55.0 0.0**
RND pmax pmax
comp=Z,31nm,0.8s
RND Reindeer 25.92 50 P **P** **21 41 55.0 0.0**
RND IAmb IAmb 21 42 12.4
comp=Z,31nm,0.8s
SEW Seward 25.93 58 P **P** **21 41 54.7 -0.2**
SEW IAmb IAmb 21 41 55.7
comp=Z,41nm,0.7s
SEW Seward 25.93 58 P **P** **21 41 54.7 -0.2**
baz=278,SNR=6.7
TOLK Toolik Lake Re 25.99 38 P **P** **21 41 56.3 +0.8**
TOLK IAmb IAmb 21 42 13.7
comp=Z,40nm,0.7s
TOLK Toolik Lake Re 25.99 38 P **P** **21 41 56.5 +1.0**
baz=260,SNR=26
INU Inuyama 26.17 234 P **P** **21 41 58.3 +0.9**
INU IAmb IAmb 21 42 17.6
comp=Z,29nm,0.7s
INU Inuyama 26.17 234 P **P** **21 41 58.7 +1.3**
MDM Murphy Dome 26.18 46 P **P** **21 41 58.0 +0.7**
WRH Wood River Hil 26.24 48 IAmb IAmb 21 42 23.7
comp=Z,30nm,0.9s
KNK Knik Glacier 26.25 55 IAmb IAmb 21 41 59.8
comp=Z,106nm,1.4s
KNK Knik Glacier 26.25 55 P **P** **21 41 58.5 +0.6**
baz=276,SNR=14
SML Sawmill 26.27 54 IAmb IAmb 21 42 00.8
comp=Z,40nm,1.0s
SML Sawmill 26.27 54 P **P** **21 41 58.7 +0.7**
baz=276,SNR=14
TCOL CIGO, UAF Yank 26.34 47 P **P** **21 41 59.2 +0.6**
TCOL IAmb IAmb 21 42 22.5
comp=Z,32nm,1.1s
TCOL CIGO, UAF Yank 26.34 47 P **P** **21 41 59.7 +1.1**
baz=270
COLA College 26.34 47 *i*P **P** **21 41 59.0 +0.4**
COLA pmax pmax
comp=Z,22nm,1.1s
COLA College 26.34 47 P **P** **21 41 59.2 +0.6**
COLA IAmb IAmb 21 42 22.5
comp=Z,46nm,1.2s
H24K Noodor Dome 26.35 44 P **P** **21 41 59.6 +0.8**
H24K Noodor Dome 26.35 44 P **P** **21 41 60.0 +1.2**
baz=268,SNR=6.4
PWL Port Wells 26.37 56 P **P** **21 41 59.1 +0.1**
baz=277,SNR=15
WAT6 Susitna Watana 26.47 52 P **P** **21 41 60.0 -0.1**
baz=274
CN2 Changchun 26.48 262 *e*P **P** **21 41 57.5 -2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,17.2s
POKR Poker Plat Res 26.52 46 P **P** **21 42 01.3 +1.0**
POKR Poker Plat Res 26.52 46 P **P** **21 42 01.5 +1.1**
baz=270
DHY Denali Highway 26.61 51 P **P** **21 42 01.5 +0.3**
baz=274,SNR=9.5
SCM Sheep Creek Mo 26.74 53 P **P** **21 42 03.0 +0.6**
SCM pmax pmax
comp=Z,68nm,1.1s
SCM Sheep Creek Mo 26.74 53 P **P** **21 42 03.0 +0.6**
SCM IAmb IAmb 21 42 07.1
comp=Z,68nm,1.1s
SCM Sheep Creek Mo 26.74 53 P **P** **21 42 03.2 +0.8**
baz=276,SNR=11
IL31 26.75 47 IAmb IAmb 21 42 27.8
comp=Z,35nm,1.2s
ILAR Eielson Array 26.75 47 P **P** **21 42 02.8 +0.4**
comp=Z,12nm,0.7s,baz=262,slow=8.5,SNR=91
ILAR PcP **PcP** **21 45 23.9 -0.6**
comp=Z,1.9nm,0.6s,baz=289,slow=3.5,SNR=12
ILAR LR LR 21 53 55.1
comp=Z,237nm,18.2s,baz=278,slow=39
JHJ2 Mitsune 26.76 227 P **P** **21 42 02.9 +0.2**

HIA Hailar 26.95 277 *i*P **P** **21 42 01.6 -2.8**
HIA pmax pmax
comp=Z,9.0nm,0.6s
GLI Glacier Island 26.97 56 P **P** **21 42 05.3 +0.9**
GLI IAmb IAmb 21 42 08.9
comp=Z,29nm,0.6s
GLI Glacier Island 26.97 56 P **P** **21 42 07.9 +3.5**
baz=278
BOD Bodaibo 27.17 298 *e*P **P** **21 42 03.1 -3.1**
BOD pmax pmax
comp=Z,11nm,1.9s
M24K Tolsona, Glenn 27.25 53 P **P** **21 42 07.7 +0.7**
M24K IAmb IAmb 21 42 12.8
comp=Z,48nm,1.0s
M24K Tolsona, Glenn 27.25 53 P **P** **21 42 08.3 +1.3**
baz=277,SNR=5.6
FID Port Fidalgo 27.29 56 P **P** **21 42 07.0 -0.3**
FID IAmb IAmb 21 42 12.2
comp=Z,40nm,0.7s
J25K Salcha River, 27.41 47 P **P** **21 42 07.6 -0.8**
baz=272,SNR=9.3
KLU Klutina 27.44 54 IAmb IAmb 21 42 15.8
comp=Z,22nm,0.8s
KLU Klutina 27.44 54 P **P** **21 42 09.6 +0.9**
baz=278
PAX Paxson 27.48 51 P **P** **21 42 11.6 +2.6**
PAX pmax pmax
comp=Z,9.0nm,0.7s
PAX Paxson 27.48 51 P **P** **21 42 11.6 +2.6**
PAX Paxson 27.48 51 P **P** **21 42 12.4 +3.4**
baz=276,SNR=5.8
DIV Divide 27.57 55 P **P** **21 42 10.3 +0.5**
DIV IAmb IAmb 21 42 17.3
comp=Z,16nm,0.7s
Q23K Middleton Isla 27.59 58 P **P** **21 42 08.3 -1.6**
MID Middleton Isla 27.59 58 P **P** **21 42 08.4 -1.5**
MID pmax pmax
comp=Z,233nm,1.1s
MID Middleton Isla 27.59 58 P **P** **21 42 08.4 -1.5**
EYAK Cordova Ski Ar 27.67 56 P **P** **21 42 11.7 +1.0**
EYAK IAmb IAmb 21 42 31.7
comp=Z,48nm,1.4s
EYAK Cordova Ski Ar 27.67 56 P **P** **21 42 11.6 +1.0**
baz=280
HARP HAARP 27.68 52 P **P** **21 42 11.8 +1.0**
baz=277
RIDG Independent Ri 27.69 49 P **P** **21 42 10.7 -0.2**
RIDG Independent Ri 27.69 49 P **P** **21 42 10.5 -0.4**
baz=274,SNR=8.2
SCRK Sand Creek 28.05 48 P **P** **21 42 13.6 -0.5**
SCRK Sand Creek 28.05 48 P **P** **21 42 13.7 -0.5**
baz=275,SNR=12
N25K Chitina, Valde 28.05 54 P **P** **21 42 14.5 +0.3**
N25K Chitina, Valde 28.05 54 P **P** **21 42 14.8 +0.6**
baz=279
J26L Joseph Creek 28.20 47 P **P** **21 42 15.7 +0.3**
baz=274
JHS Saijyo 28.38 240 P **P** **21 42 17.5 +0.3**
L26K Log Cabin Wild 28.44 50 P **P** **21 42 18.5 +1.0**
L26K Log Cabin Wild 28.44 50 P **P** **21 42 18.2 +0.7**
baz=277
KAIM Kayak Island 28.45 57 P **P** **21 42 18.1 +0.5**
GLB Gilahina Butte 28.45 54 P **P** **21 42 17.6 -0.1**
VRDI Verde Repeater 28.66 54 P **P** **21 42 19.9 +0.2**
L27K Beaver Creek, 29.12 50 P **P** **21 42 24.4 +0.8**
L27K IAmb IAmb 21 42 26.0
comp=Z,21nm,0.8s
L27K Beaver Creek, 29.12 50 P **P** **21 42 25.0 +1.4**
baz=278,SNR=22
EGAK Eagle 29.20 47 IAmb IAmb 21 42 41.1
comp=Z,18nm,0.7s
EGAK Eagle 29.20 47 P **P** **21 42 24.0 -0.2**
baz=276,SNR=9.9
M27K Edge Creek, AK 29.20 52 P **P** **21 42 24.4 0.0**
M27K Edge Creek, AK 29.20 52 P **P** **21 42 26.3 +1.8**
baz=279,SNR=6.0
KS19 Wonju Array Si 29.27 250 P **P** **21 42 25.4 +0.2**
KSRS Korea Array 29.28 250 P **P** **21 42 26.5 +1.4**
comp=Z,12nm,0.7s,baz=42,slow=9.3,SNR=42
BARN Barnard Glacie 29.55 54 P **P** **21 42 28.7 +1.2**
GRNC Granite Creek 29.57 55 P **P** **21 42 29.2 +1.4**
GRNC IAmb IAmb 21 42 47.2
comp=Z,27nm,1.3s
DAWY Dawson 30.05 48 P **P** **21 42 32.5 +0.6**
baz=278,SNR=5.4
I29M Ogilvie Camp, 30.34 45 P **P** **21 42 34.9 +0.6**
I29M Ogilvie Camp, 30.34 45 P **P** **21 42 34.9 +0.6**
baz=277
BCPM Bancas Point 30.78 56 P **P** **21 42 39.5 +1.3**
EPYK Eagle Plains 30.87 43 P **P** **21 42 39.5 +0.6**
EPYK **PcP** **21 45 35.9 +1.0**
JNU Nakatsue 30.99 240 P **P** **21 42 40.9 +0.5**
comp=Z,7.2nm,0.6s,baz=323,slow=4.2,SNR=8.6
JNU Nakatsue 30.99 240 P **P** **21 42 40.8 +0.5**
JNU IAmb IAmb 21 42 57.8
comp=Z,19nm,1.0s
M30M Minto, Yukon 31.48 50 P **P** **21 42 45.5 +1.1**
M30M Minto, Yukon 31.48 50 P **P** **21 42 46.0 +1.5**
baz=283
INK Inuvik 31.88 39 P **P** **21 42 49.2 +1.5**
comp=Z,4.5nm,0.7s,baz=283,slow=8.0,SNR=12
INK LR LR 21 57 20.5
comp=Z,127nm,19.8s,baz=276,slow=40
INK Inuvik 31.88 39 P **P** **21 42 48.6 +0.8**
INK pmax pmax
comp=Z,7.0nm,0.7s
INK Inuvik 31.88 39 P **P** **21 42 48.6 +0.8**
INK Inuvik 31.88 39 P **P** **21 42 49.3 +1.5**
baz=276
XLT XiLinHaoTe 31.91 271 *e*P **P** **21 42 48.5 0.0**
XLT pP pP 21 42 58.0 +0.7
XLT sP pwP 21 43 02.3 +0.1
XLT PcP **PcP** **21 45 39.8 +1.7**
XLT S **S** **21 47 56.0 -1.1**
XLT sS sS 21 48 09.5 -2.6
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.5s
XLT LR LR
comp=Z,65nm,12.2s
XLT LR LR
comp=Z,620nm,15.2s
XLT LR LR
comp=Z,670nm,14.3s
JSU Suzuyama 32.50 239 P **P** **21 42 54.2 +0.6**
JSU IAmb IAmb 21 43 13.6
comp=Z,34nm,1.0s
M31M Drury Creek, Y 32.66 50 P **P** **21 42 55.7 +1.0**
M31M Drury Creek, Y 32.66 50 P **P** **21 42 56.8 +2.1**
baz=285,SNR=9.6
WHY Whitehorse 32.86 53 P **P** **21 42 58.1 +1.5**
WHY IAmb IAmb 21 43 15.7
comp=Z,18nm,1.2s
WHY Whitehorse 32.86 53 P **P** **21 42 58.6 +2.0**
baz=287,SNR=6.3
SKAG Skagway 33.01 56 P **P** **21 42 58.9 +1.1**
SKAG IAmb IAmb 21 43 10.1
comp=Z,15nm,0.9s
BESE Bessie Mountai 33.54 57 P **P** **21 43 02.8 +0.3**
BESE IAmb IAmb 21 43 22.0
comp=Z,30nm,1.2s
JIS Juneau Island 33.87 57 P **P** **21 43 06.0 +0.7**
P33M Teslin, Yukon 33.97 54 P **P** **21 43 07.5 +1.2**
P33M Teslin, Yukon 33.97 54 P **P** **21 43 08.1 +1.9**
baz=289
BJI Beijing 34.24 265 P **P** **21 43 08.8 +0.2**
BJI pmax pmax
comp=Z,4.0nm,0.7s
A36M Sachs Harbour 34.24 32 **P** **21 43 09.5 +1.2**
A36M Sachs Harbour 34.24 32 P **P** **21 43 09.6 +1.2**
baz=278,SNR=5.7
H11N2 WAKE ISLAND Hy 34.55 174 T T 22 21 11.0
baz=355,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 34.57 174 T T 22 20 39.9
baz=355,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 34.57 174 T T 22 20 47.4
baz=355,slow=76,SNR=28
ULN Ulaanbaatar 34.97 283 P **P** **21 43 15.5 +0.4**
ULN 21 45 47.9
ULN Ulaanbaatar 34.97 283 P **P** **21 43 15.5 +0.4**
ULN **PcP** **21 45 47.9 +1.2**
C36M Paulatuk 35.10 36 IAmb IAmb 21 43 33.5
comp=Z,20nm,0.7s
C36M Paulatuk 35.10 36 P **P** **21 43 16.7 +0.9**
baz=283,SNR=11
SONM Songino Array 35.37 283 P **P** **21 43 16.0 -2.5**
comp=Z,1.2nm,0.5s,baz=58,slow=7.8,SNR=16
SONM PcP **PcP** **21 45 48.2 +0.3**
comp=Z,7.6nm,0.9s,baz=57,slow=1.4,SNR=15
SONM LR LR 21 58 52.8
comp=Z,423nm,19.6s,baz=64,slow=38
SONM Songino Array 35.37 283 P **P** **21 43 18.0 -0.5**
SONM PcP **PcP** **21 45 48.4 +0.5**
TGTN Hyland Airport 35.62 50 P **P** **21 43 22.6 +2.2**
baz=290
ZAK Zakamensk 35.81 289 *e*P **P** **21 43 20.7 -1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
DLBC Dease Lake 35.95 56 LR LR 21 58 55.8
comp=Z,162nm,20.5s,baz=298,slow=38
DLBC Dease Lake 35.95 56 P **P** **21 43 24.2 +0.9**
HHC Hu-ho-hao-te 36.42 270 *e*P **P** **21 43 28.5 +0.9**
HHC sS sS 21 49 26.0 +4.1
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,53nm,5.1s
HHC LR LR
comp=Z,510nm,11.8s
HHC LR LR
comp=Z,800nm,16.9s
HHC LR LR
comp=Z,1µm,16.5s
MOY Mondy 36.44 292 *e*P **P** **21 43 26.0 -1.6**
HNS HongShan 36.85 263 ⇑P **P** **21 43 27.3 -3.8**
HNS pmax pmax
comp=Z,6.0nm,0.7s
JOW Kunigami 37.41 237 P **P** **21 43 37.4 +1.4**
comp=Z,17nm,0.5s,baz=32,slow=12,SNR=2.1
JOW Kunigami 37.41 237 IAmb IAmb 21 43 45.0
comp=Z,29nm,0.7s
RUBB Prince Rupert 37.61 62 P **P** **21 43 37.6 +0.3**
RUBB IAmb IAmb 21 43 54.0
comp=Z,40nm,1.4s
NJ2 Nanjing 38.29 253 *e*P **P** **21 43 44.0 +0.7**
NJ2 pmax pmax
comp=Z,19nm,0.6s
KNGR Kungurtug, Tuv 38.86 292 *i*P **P** **21 43 46.1 -2.0**
BBB Bella Bella 39.78 64 LR LR 21 59 40.8
comp=Z,233nm,19.6s,baz=294,slow=35
BBB Bella Bella 39.78 64 P **P** **21 43 56.4 +0.9**
LYN LuoYang 40.13 262 *e*P **P** **21 43 57.5 -1.2**
LYN pmax pmax
comp=Z,10.0nm,0.5s
YKA Yellowknife Ar 41.12 44 P **P** **21 44 07.5 +0.9**
comp=Z,3.1nm,0.7s,baz=298,slow=8.0,SNR=35
YKA PcP **PcP** **21 46 05.7 +0.4**
comp=Z,1.9nm,0.7s,baz=303,slow=3.3,SNR=6.1
YKA LR LR 22 03 04.4
comp=Z,160nm,19.1s,baz=286,slow=39
YKA Yellowknife Ar 41.12 44 P **P** **21 44 08.5 +2.0**
YKA 21 46 05.7
YKA Yellowknife Ar 41.12 44 P **P** **21 44 08.5 +2.0**
RES Resolute Bay 41.60 23 P **P** **21 44 10.5 +0.5**
comp=Z,1.6nm,0.5s,baz=316,slow=8.7,SNR=9.3
RES PcP **PcP** **21 46 07.0 +0.3**
comp=Z,5.0nm,0.8s,baz=255,slow=2.9,SNR=6.4
RES Resolute Bay 41.60 23 P **P** **21 44 10.8 +0.5**
RES 21 46 07.0
RES pmax pmax
comp=Z,7.0nm,1.2s
RES Resolute Bay 41.60 23 P **P** **21 44 10.8 +0.5**
XAN Xi'an 42.56 264 ⇑P **P** **21 44 17.8 -0.9**
XAN pP pP 21 44 26.0 -1.5
XAN PcP **PcP** **21 46 11.0 +0.4**
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN LR LR
comp=Z,620nm,15.1s
XAN LR LR
comp=Z,680nm,15.1s
ZALV Zalesovo Beam 43.65 303 P **P** **21 44 24.7 -2.5**
comp=Z,3.2nm,0.6s,baz=55,slow=6.9,SNR=16
ZALV PcP **PcP** **21 46 14.1 +0.3**
comp=Z,4.3nm,0.8s,baz=42,slow=3.8,SNR=5.3
ZALV LR LR 22 04 12.6
comp=Z,580nm,19.0s,baz=72,slow=38
ZALV Zalesovo Beam 43.65 303 P **P** **21 44 24.3 -2.9**
YULB Yu-li 43.79 242 P **P** **21 44 28.7 0.0**
YULB IAmb IAmb 21 44 51.0
comp=Z,20nm,0.8s
LLLB Lillooet 43.91 63 P **P** **21 44 30.3 +0.9**
QZH Quanzhou 43.96 246 *e*P **P** **21 44 30.3 +0.3**
KIP Kipapa 43.97 123 P **P** **21 44 31.1 +1.0**
KIP pmax pmax
comp=Z,42nm,0.9s
KIP Kipapa 43.97 123 P **P** **21 44 31.1 +1.0**
KIP IAmb IAmb 21 44 55.3
comp=Z,42nm,0.9s
LZH Lanzhou 44.11 271 *e*P **P** **21 44 30.8 -0.5**
LZH pP pP 21 44 40.0 -0.1
LZH sP sP 21 44 43.0 -0.4
LZH PcP **PcP** **21 46 17.5 +1.5**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,490nm,14.1s
LZH LR LR
comp=Z,560nm,13.6s
LZH LR LR
comp=Z,600nm,15.7s
TPUB Ta-pu 44.21 243 P **P** **21 44 32.3 +0.3**
GTA Gaotai 44.23 277 ⇑P **P** **21 44 30.8 -1.4**
GTA pP pP 21 44 39.5 -1.5
GTA sP sP 21 44 44.0 -0.4
GTA PcP **PcP** **21 46 17.5 +1.2**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,83nm,6.5s
GTA LR LR
comp=Z,460nm,18.2s
GTA LR LR
comp=Z,570nm,18.2s
GTA LR LR
comp=Z,680nm,18.2s
NOR Nord 44.42 360 *i*P **P** **21 44 31.6 -1.5**
NOR IAmb IAmb 21 44 39.0
comp=Z,1.6nm,0.6s
ENH Enshi 44.96 260 P **P** **21 44 36.5 -1.6**
TULEG Thule 45.41 15 *i*P **P** **21 44 40.2 -0.8**
TULEG IAmb IAmb 21 44 45.6
comp=Z,4.4nm,0.8s
KBS Kingsbay 45.99 353 P **P** **21 44 46.4 +0.9**
KBS pmax pmax
comp=Z,39nm,1.0s
KBS Kingsbay 45.99 353 *i*P **P** **21 44 45.3 -0.2**
KBS Kingsbay 45.99 353 P **P** **21 44 46.4 +0.9**
KBS Kingsbay 45.99 353 ⇑*i*P **P** **21 44 46.4 +0.9**
SPA0 Spitsbergen Ar 46.30 351 ⇑*i*P **P** **21 44 48.4 +0.3**
SPITS Spitsbergen Ar 46.30 351 P **P** **21 44 48.4 +0.3**
comp=Z,130nm,0.8s,baz=51,slow=6.7,SNR=85
SPB2 Spitsbergen Ar 46.31 351 P **P** **21 44 48.4 +0.4**
B08A Colville Reser 46.59 64 P **P** **21 44 52.2 +1.6**
MWH Moku'aweowe 46.81 121 P **P** **21 44 54.0 +0.7**
HOPEN Hopen 46.82 348 *e*P **P** **21 44 51.9 -0.1**
MLH Mauna Loa 46.91 121 P **P** **21 44 53.6 -0.1**
HSPB Hornsund (broa 47.45 351 *e*P **P** **21 44 56.7 -0.2**
HSPB Hornsund (broa 47.45 351 *e*P **P** **21 44 57.5 +0.6**
ZSN Zaisan 47.48 296 *i*P **P** **21 44 55.8 -1.7**
ZSN Zaisan 47.48 296 *i*P **P** **21 44 55.9 -1.7**
baz=296
NEW Newport 47.80 63 LR LR 22 03 02.1
comp=Z,216nm,21.6s,baz=301,slow=33
CD2 Chengdu 47.83 266 P **P** **21 45 00.8 +0.2**
CD2 pmax pmax
comp=Z,30nm,0.8s
SEM Semipalatinsk 48.01 301 *e*P **P** **21 44 59.0 -2.9**
SEM Semipalatinsk 48.01 301 *e*P **P** **21 44 59.0 -2.9**
baz=301
WMQ Urumqi 48.26 290 *e*P **P** **21 45 04.0 +0.3**
WMQ pP sP 21 45 15.5 -0.4
WMQ sP pwP 21 45 21.3 +3.2
WMQ S **S** **21 52 02.0 +1.2**
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.3s
WMQ LR LR

comp=Z,650nm,14.3s
WMQ LR LR
comp=Z,500nm,14.3s
WMQ LR LR
comp=Z,480nm,20.3s
J04D Umpqua Nationa 48.33 71 P **P** **21 45 07.9 +3.5**
PINE Pine Mountain 48.61 69 IAmb IAmb 21 45 25.1
comp=Z,21nm,1.2s
KURK Kurchatov 48.63 303 P **P** **21 45 04.2 -2.2**
KURK pmax pmax
comp=Z,42nm,1.3s
KURK Kurchatov 48.63 303 P **P** **21 45 04.2 -2.2**
KURK Kurchatov 48.63 303 P **P** **21 45 04.9 -1.5**
KURBB Kurchatov Arra 48.73 302 LR LR 22 07 32.9
comp=Z,628nm,18.5s,baz=26,slow=38
J05D Fort Rock, OR 48.78 70 P **P** **21 45 09.9 +2.1**
baz=311
L04D Klamath Falls 48.89 72 IAmb IAmb 21 45 27.7
comp=Z,30nm,1.1s
L04D Klamath Falls 48.89 72 P **P** **21 45 10.0 +1.4**
baz=311
YBH Yreka Blue Hor 48.98 73 LR LR 22 03 31.1
comp=Z,142nm,19.3s,baz=295,slow=33
MK31 Makanchi Array 49.25 296 *i* P **P** **21 45 08.2 -3.1**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 49.25 296 IAmb IAmb 21 45 09.8
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 49.25 296 P **P** **21 45 09.2 -2.1**
comp=Z,9.7nm,0.5s,baz=57,slow=7.5,SNR=189
MKAR PcP **PcP** **21 46 33.4 -0.4**
comp=Z,2.1nm,0.6s,baz=44,slow=3.7,SNR=1.9
MKAR LR LR 22 06 59.2
comp=Z,249nm,20.4s,baz=49,slow=37
DAG Danmarks Havn 49.27 1 *i* P **P** **21 45 10.1 -0.8**
DAG IAmb IAmb 21 45 11.1
comp=Z,9.3nm,0.6s
GOMU GeErMu 49.32 278 P **P** **21 45 10.3 -2.0**
GOMU pmax pmax
comp=Z,5.0nm,0.6s
GOMU pmax pmax
comp=Z,36nm,3.9s
GOMU LR LR
comp=Z,360nm,16.2s
GOMU LR LR
comp=Z,130nm,15.3s
GOMU LR LR
comp=Z,350nm,15.2s
BJO1 Bjornoya 49.33 348 *e*P **P** **21 45 11.7 +0.3**
K05A Summer Lake 49.34 71 P **P** **21 45 12.3 +0.2**
K05A IAmb IAmb 21 45 16.0
comp=Z,17nm,1.1s
MAKZ Makanchi 49.41 297 P **P** **21 45 10.1 -2.3**
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 49.41 297 P **P** **21 45 10.1 -2.3**
MAKZ IAmb IAmb 21 45 13.9
comp=Z,18nm,1.1s
M04C Macdoel 49.43 72 P **P** **21 45 13.9 +1.1**
M04C IAmb IAmb 21 45 32.0
comp=Z,18nm,1.0s
GYA Guiyang 49.46 259 ⇑P **P** **21 45 13.3 +0.1**
GYA pmax pmax
comp=Z,23nm,0.8s
GYA LR LR
comp=Z,390nm,10.5s
GYA LR LR
comp=Z,510nm,12.0s
GYA LR LR
comp=Z,560nm,10.4s
N02D Trinity Center 49.49 73 P **P** **21 45 13.5 +0.3**
N02D IAmb IAmb 21 45 32.9
comp=Z,26nm,1.4s
JTMT Jette 49.61 62 P **P** **21 45 14.5 +0.4**
JTMT IAmb IAmb 21 45 36.6
comp=Z,11nm,0.8s
BMO Blue Mountains 49.90 66 P **P** **21 45 16.9 +0.6**
BMO pmax pmax
comp=Z,21nm,1.5s
BMO Blue Mountains 49.90 66 P **P** **21 45 16.9 +0.6**
BMO IAmb IAmb 21 45 34.9
comp=Z,22nm,1.4s
O02D Mt. Diablo Mer 49.98 74 P **P** **21 45 18.6 +1.7**
O02D IAmb IAmb 21 45 39.7
comp=Z,19nm,1.4s
O02D Mt. Diablo Mer 49.98 74 P **P** **21 45 20.2 +3.3**
baz=313
MOD Modoc Plateau 50.21 71 IAmb IAmb 21 45 37.8
comp=Z,17nm,1.0s
J08A Circle Bar Ran 50.25 68 P **P** **21 45 20.2 +1.3**
MSO Missoula 50.38 62 P **P** **21 45 21.9 +2.0**
UPNV Upernavik 50.42 14 *i* P **P** **21 45 18.0 -1.7**
UPNV IAmb IAmb 21 45 20.1
comp=Z,30nm,0.6s
PLID Pearl Lake 50.44 65 P **P** **21 45 21.6 +1.0**
O03E Paynes Creek 50.45 73 P **P** **21 45 21.8 +1.3**
O03E IAmb IAmb 21 45 39.0
comp=Z,28nm,1.2s
O03E Paynes Creek 50.45 73 P **P** **21 45 23.1 +2.6**
baz=313,SNR=5.1
WVOR Wild Horse Val 50.77 69 P **P** **21 45 24.5 +1.5**
WVOR pmax pmax
comp=Z,17nm,1.4s
WVOR Wild Horse Val 50.77 69 P **P** **21 45 24.5 +1.5**
WVOR IAmb IAmb 21 45 41.2
comp=Z,17nm,1.4s
GDXM Geysers 50.90 76 P **P** **21 45 24.5 +0.6**
GDXM IAmb IAmb 21 45 50.8
comp=Z,18nm,1.4s
FFC Flin Flon 50.95 48 P **P** **21 45 25.3 +1.3**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 50.95 48 P **P** **21 45 25.3 +1.3**
BRVK Borovoye 51.09 309 P **P** **21 45 24.1 -1.0**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 51.09 309 P **P** **21 45 24.1 -1.0**
BRVK IAmb IAmb 21 45 30.4
comp=Z,18nm,0.8s
BRVK Borovoye 51.09 309 P **P** **21 45 24.5 -0.6**
FCC Fort Churchill 51.48 40 P **P** **21 45 28.5 +0.7**
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC Fort Churchill 51.48 40 P **P** **21 45 28.5 +0.7**
EGMT Eagleton 51.73 59 P **P** **21 45 31.6 +1.6**
EGMT Eagleton 51.73 59 P **P** **21 45 30.6 +0.6**
baz=312
DBG Daneborg 51.73 1 *i* P **P** **21 45 28.5 -1.0**
DBG IAmb IAmb 21 45 29.7
comp=Z,9.2nm,0.7s
LRM Limekiln Ridge 51.82 62 P **P** **21 45 31.9 +1.0**
BRZS Berezniki 52.01 305 *e*P **P** **21 45 29.9 -2.1**
BRZS Berezniki 52.01 305 *e*P **P** **21 45 29.9 -2.1**
baz=305
HAMF Hammerfest 52.09 344 *e*P **P** **21 45 31.4 -0.8**
PAHR Pah Rah Range 52.21 72 P **P** **21 45 35.2 +1.4**
MCMT McKenzie Canyo 52.28 63 P **P** **21 45 34.6 +0.3**
PZH PanZhiHua 52.29 264 ⇑P **P** **21 45 34.5 0.0**
PZH pP **sP** **21 46 46.3 -0.3**
PZH PcP **PcP** **21 46 45.8 +0.4**
PZH S **S** **21 52 58.5 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,140nm,5.7s
PZH LR LR
comp=Z,580nm,19.6s
PZH LR LR
comp=Z,650nm,17.5s
PZH LR LR
comp=Z,640nm,16.8s
HLID Hailey 52.30 66 P **P** **21 45 35.5 +1.0**
EMB Emerald Bay 52.31 74 P **P** **21 45 36.1 +1.5**
LVZ Lovozero 52.33 338 P **P** **21 45 33.6 -0.6**
LVZ pmax pmax
comp=Z,45nm,0.8s
LVZ Lovozero 52.33 338 P **P** **21 45 33.6 -0.6**
VCNR Virginia City 52.34 73 P **P** **21 45 36.6 +1.8**
VCNR IAmb IAmb 21 45 54.1
comp=Z,16nm,1.2s
BOZ Bozeman (W) 52.40 62 P **P** **21 45 35.9 +0.8**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 52.40 62 P **P** **21 45 35.9 +0.8**
BOZ Bozeman (W) 52.40 62 P **P** **21 45 36.0 +0.9**
baz=312,SNR=5.5

TDK Taldyqorghan 52.47 297 *i* P **P** **21 45 34.1 -1.3**
TDK pmax pmax
comp=Z,15nm,0.6s
TDK Taldyqorghan 52.47 297 *i* P **P** **21 45 34.2 -1.3**
comp=Z,15nm,0.6s,baz=297
PNTR Pine Nut 52.52 73 P **P** **21 45 37.2 +1.1**
PNTR IAmb IAmb 21 46 04.5
comp=Z,17nm,0.9s
SVE Sverdlovsk 52.66 318 *de*P **P** **21 45 36.4 -0.2**
SVE pmax pmax
comp=Z,64nm,0.8s
SVE MLR MLR
comp=Z,723nm,24.0s
ARA0 ARCESS Array S 52.75 343 ⇑*i* P **P** **21 45 36.7 -0.5**
ARCES ARCESS Array B 52.75 343 P **P** **21 45 36.6 -0.6**
comp=Z,19nm,0.8s,baz=35,slow=9.9,SNR=57
ARCES PcP **PcP** **21 46 46.2 -0.2**
comp=Z,1.7nm,0.5s,baz=41,slow=3.9,SNR=6.5
ARCES LR LR 22 11 41.2
comp=Z,151nm,18.8s,baz=48,slow=40
ARCES ARCESS Array B 52.75 343 IAmb IAmb 21 45 37.8
comp=Z,36nm,1.1s
KMI Kunming 52.75 262 ⇓P **P** **21 45 38.8 +0.7**
KMI pmax pmax
comp=Z,21nm,1.2s
YERR Yerington 52.79 73 P **P** **21 45 39.1 +1.0**
CMB Columbia Colle 52.80 75 P **P** **21 45 39.8 +1.7**
CMB pmax pmax
comp=Z,9.0nm,1.3s
CMB Columbia Colle 52.80 75 P **P** **21 45 39.8 +1.7**
APA Apatity 52.87 338 ⇓*i* P **P** **21 45 34.3 -3.8**
APA pmax pmax
comp=Z,17nm,0.8s
BMN Battle Mountai 52.91 70 P **P** **21 45 40.2 +1.2**
BMN pmax pmax
comp=Z,13nm,1.3s
BMN Battle Mountai 52.91 70 P **P** **21 45 40.2 +1.2**
YHL Hebgen Lake 53.14 62 P **P** **21 45 41.8 +1.0**
YHH Holmes Hill 53.35 62 P **P** **21 45 43.4 +1.0**
KPKS Kokpek 53.37 295 *i* P **P** **21 45 40.7 -1.5**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 53.37 295 *i* P **P** **21 45 40.7 -1.5**
comp=Z,8.3nm,0.7s,baz=296
YMR Madison River 53.37 62 P **P** **21 45 43.4 +1.0**
KVN Kaiserville 53.38 72 P **P** **21 45 43.9 +1.4**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 53.38 72 P **P** **21 45 43.9 +1.4**
KVN IAmb IAmb 21 46 01.8
comp=Z,13nm,1.1s
UZB Uzynbulak 53.41 295 *e*P **P** **21 45 40.8 -1.8**
UZB pmax pmax
comp=Z,5.0nm,0.7s
UZB Uzynbulak 53.41 295 *e*P **P** **21 45 40.8 -1.8**
comp=Z,5.4nm,0.7s,baz=295
RYN Ryan 53.44 73 P **P** **21 45 45.1 +2.3**
JETT Jettan, Norway 53.58 345 ⇑*i* P **P** **21 45 44.3 +1.0**
YFT Old Faithful 53.59 63 P **P** **21 45 44.7 +0.7**
KTK1 Kautokeino 53.60 343 ⇑*i* P **P** **21 45 43.0 -0.4**
NVAR Mina Array Bea 53.70 73 P **P** **21 45 46.8 +1.9**
comp=Z,3.9nm,0.8s,baz=287,slow=7.2,SNR=14
NVAR LR LR 22 05 06.7
comp=Z,147nm,21.6s,baz=285,slow=32
NVAR Mina Array Bea 53.70 73 P **P** **21 45 46.0 +1.1**
LHV Little Huntoon 53.71 73 P **P** **21 45 47.3 +2.6**
LHV IAmb IAmb 21 46 04.8
comp=Z,33nm,1.3s
TRO Tromso 53.73 345 ⇑*i* P **P** **21 45 44.1 -0.3**
LKWY Lake 53.74 62 P **P** **21 45 46.6 +1.5**
LKWY pmax pmax
comp=Z,12nm,1.0s
LKWY Lake 53.74 62 P **P** **21 45 46.6 +1.5**
LKWY IAmb IAmb 21 46 11.0
comp=Z,12nm,1.0s
YMP Mirror Lake PI 53.74 62 P **P** **21 45 46.4 +1.2**
ARU Arti 53.75 318 LR LR 22 11 47.7
comp=Z,454nm,19.1s,baz=44,slow=40
ARU Arti 53.75 318 *c* i P **P** **21 45 43.6 -1.1**
ARU *PP **sP** **21 45 55.5 -1.2**
ARU 21 46 45.1
ARU S **S** **21 53 14.6 -1.7**
ARU SS **SS** **21 56 57.8 +1.3**
ARU pmax pmax
comp=Z,81nm,0.6s
ARU MLR MLR
comp=Z,339nm,16.0s
ARU Arti 53.75 318 P **P** **21 45 44.0 -0.7**
H17A Grant Village 53.76 62 P **P** **21 45 47.2 +1.9**
H17A Grant Village 53.76 62 P **P** **21 45 48.2 +2.8**
baz=314
NV11 Mina Array Sit 53.78 73 P **P** **21 45 47.2 +1.8**
ELK Elko 53.79 69 LR LR 22 06 05.4
comp=Z,99nm,21.5s,baz=297,slow=33
ELK Elko 53.79 69 P **P** **21 45 46.5 +1.0**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 53.79 69 P **P** **21 45 46.5 +1.0**
SATY Saty 53.80 295 *c* i P **P** **21 45 44.0 -1.4**
SATY pmax pmax
comp=Z,4.0nm,0.5s
SATY Saty 53.80 295 ⇑*i* P **P** **21 45 44.0 -1.4**
comp=Z,4.5nm,0.5s,baz=295
OMMB Old Mammoth Mi 53.88 74 P **P** **21 45 47.1 +0.8**
FLWY Flagg Ranch 53.91 63 P **P** **21 45 48.2 +1.8**
RLMT Red Lodge 53.94 61 P **P** **21 45 47.3 +0.7**
RLMT IAmb IAmb 21 46 12.3
comp=Z,9.7nm,0.8s
RLMT Red Lodge 53.94 61 P **P** **21 45 48.3 +1.7**
baz=314,SNR=6.0
CHKK Chushkaly 54.00 297 *e*P **P** **21 45 44.3 -2.4**
baz=297
MOOW Moose Ponds 54.12 63 P **P** **21 45 49.4 +1.5**
KUU Kurty 54.31 297 *e*P **P** **21 45 46.2 -2.8**
KUU pmax pmax
comp=Z,9.0nm,0.7s
KUU Kurty 54.31 297 *e*P **P** **21 45 46.2 -2.8**
comp=Z,9.2nm,0.7s,baz=297
PRGR Permogore 54.41 329 *e*P **P** **21 45 47.1 -2.3**
PRGR *e*PP **pP** **21 45 58.4 0.0**
PRGR *e*SP **pwP** **21 46 02.9 -1.5**
PRGR *e* 21 47 48.0
PRGR pmax pmax
comp=Z,34nm,0.6s
MDOK Medeo 54.44 296 *i* P **P** **21 45 48.6 -1.5**
MDOK Medeo 54.44 296 *i* P **P** **21 45 48.6 -1.5**
baz=296
AAA Alma-Ata 54.48 296 *e*P **P** **21 45 48.8 -1.5**
AAA pmax pmax
comp=Z,14nm,0.6s
AAA Alma-Ata 54.48 296 *e*P **P** **21 45 48.9 -1.5**
comp=Z,14nm,0.6s,baz=296
TPH Tonopah 54.56 72 P **P** **21 45 52.5 +1.4**
TPH pmax pmax
comp=Z,75nm,1.0s
TPH Tonopah 54.56 72 P **P** **21 45 52.5 +1.4**
TNSS Tian-Shan 54.58 296 *e*P **P** **21 45 49.1 -2.4**
baz=296
BTLS Baital 54.70 300 *c* i P **P** **21 45 49.8 -1.9**
BTLS pmax pmax
comp=Z,5.0nm,0.7s
BTLS Baital 54.70 300 ⇑*i* P **P** **21 45 49.9 -1.9**
comp=Z,5.2nm,0.7s,baz=300
LCH Last Change Ra 54.91 73 P **P** **21 45 55.5 +1.8**
TARG Taragay, Kyrgy 55.04 294 IAmb IAmb 21 46 07.2
comp=Z,6.2nm,0.6s
KDJ Kajisay 55.09 295 IAmb IAmb 21 45 55.3
comp=Z,16nm,0.7s
HWUT Hardware Ranch 55.18 66 P **P** **21 45 56.8 +1.3**
HWUT IAmb IAmb 21 46 14.2
comp=Z,12nm,1.1s
GRAC Grapevine Rang 55.24 73 P **P** **21 45 57.5 +1.7**
GRAC IAmb IAmb 21 46 21.4
comp=Z,32nm,1.4s
R11A Troy Canyon, C 55.27 71 P **P** **21 45 57.9 +1.6**
baz=315
TKM2 Tokmak 2 55.37 297 P **P** **21 45 55.7 -1.2**
SNR=18
BW06 Boulder Array 55.43 63 P **P** **21 45 58.5 +1.1**
BW06 IAmb IAmb 21 46 16.6
comp=Z,17nm,1.5s
PDAR Pinedale Array 55.43 63 P **P** **21 45 58.8 +1.4**
comp=Z,2.0nm,0.8s,baz=331,slow=2.3,SNR=23
BOOM Boomskoye usch 55.50 296 IAmb IAmb 21 45 58.5
comp=Z,9.9nm,0.8s

DUG Dugway, Tooele 55.50 68 IAmb IAmb 21 46 17.3
comp=Z,14nm,1.1s
DUG Dugway, Tooele 55.50 68 P **P** **21 45 59.8 +2.0**
baz=315,SNR=9.4
SGDS Sogindy 55.51 298 ⇑*i* P **P** **21 45 56.4 -1.3**
baz=298
ULHL Ulahol 55.51 296 P **P** **21 45 57.1 -0.8**
SNR=6.0
KIRV Kirov 55.52 324 LR LR 22 13 16.1
comp=Z,257nm,18.6s,baz=36,slow=40
KIRV Kirov 55.52 324 *ce*P **P** **21 45 57.1 -0.4**
SCO Scoresbysund 55.55 2 P **P** **21 45 59.8 +2.3**
SCO pmax pmax
comp=Z,55nm,1.5s
SCO Scoresbysund 55.55 2 P **P** **21 45 59.8 +2.3**
ISA Isabella, Lake 55.56 75 P **P** **21 45 58.6 +0.4**
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA Isabella, Lake 55.56 75 P **P** **21 45 58.6 +0.4**
S11A Rachel 55.69 72 P **P** **21 46 00.3 +1.1**
S11A IAmb IAmb 21 46 21.9
comp=Z,25nm,1.0s
USP Ospenovka 55.70 298 P **P** **21 45 58.2 -0.9**
SNR=38
CTU Camp Tracy 55.72 66 P **P** **21 46 00.8 +1.4**
FRB Frobisher Bay 55.75 25 LR LR 22 13 27.3
comp=Z,70nm,18.1s,baz=339,slow=40
CHMS Chumysh 55.76 297 P **P** **21 45 58.5 -1.0**
SNR=9.5
MPMC Manual Prospec 55.84 74 P **P** **21 46 02.1 +1.7**
baz=316
STEI Steigen 55.84 346 *e*P **P** **21 45 59.2 -0.4**
ICESG Greenland Ices 55.87 10 *i* P **P** **21 45 58.2 -2.1**
ICESG IAmb IAmb 21 46 00.4
comp=Z,22nm,0.6s
FURC Furnace Creek, 55.90 74 P **P** **21 46 02.6 +2.1**
baz=316
TPNV Topopah Spring 55.90 73 P **P** **21 46 01.4 +0.7**
TPNV pmax pmax
comp=Z,9.0nm,1.0s
TPNV Topopah Spring 55.90 73 P **P** **21 46 01.4 +0.7**
TPNV Topopah Spring 55.90 73 P **P** **21 46 02.7 +2.0**
baz=316,SNR=6.6
KBK Karagaybulak 55.90 297 P **P** **21 45 59.7 -1.0**
SNR=31
JLU Jordanelle 55.95 66 P **P** **21 46 02.7 +1.6**
JLU IAmb IAmb 21 46 20.7
comp=Z,21nm,1.5s
NLU North Lily Min 56.07 67 P **P** **21 46 03.0 +1.1**
NLU IAmb IAmb 21 46 28.1
comp=Z,16nm,1.4s
PSUT Pine Spring 56.10 70 P **P** **21 46 03.7 +1.5**
PSUT IAmb IAmb 21 46 21.0
comp=Z,15nm,1.4s
LSA Lhasa 56.11 275 IAmb IAmb 21 46 04.7
comp=Z,14nm,0.7s
LSA Lhasa 56.11 275 P **P** **21 46 02.0 -0.7**
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 56.11 275 P **P** **21 46 02.5 -0.2**
AAK Ala-Archa 56.15 297 LR LR 22 11 37.3
comp=Z,303nm,19.3s,baz=64,slow=38
AAK Ala-Archa 56.15 297 P **P** **21 46 01.5 -0.9**
SNR=28
AAK Ala-Archa 56.15 297 P **P** **21 46 01.5 -0.9**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 56.15 297 P **P** **21 46 01.5 -0.9**
AAK IAmb IAmb 21 46 04.3
comp=Z,16nm,0.8s
AAK Ala-Archa 56.15 297 P **P** **21 46 01.6 -0.9**
AAK Ala-Archa 56.15 297 *i* P **P** **21 46 01.4 -1.1**
SNR=40
GWY Greenwater Val 56.21 74 P **P** **21 46 04.3 +1.4**
GWY IAmb IAmb 21 46 22.2
comp=Z,26nm,1.2s
PRN Pahroc Range 56.24 71 P **P** **21 46 04.7 +1.6**
PRN IAmb IAmb 21 46 22.8
comp=Z,12nm,0.9s
FAUS Fauske 56.34 346 *e*P **P** **21 46 03.4 +0.2**
EDW2 Edwards Air Fo 56.40 76 P **P** **21 46 06.0 +1.8**
baz=316
UCH Uchtor 56.43 297 P **P** **21 46 04.0 -0.8**
SNR=9.3
SFJD Kangerlussuaq 56.48 15 LR LR 22 12 30.8
comp=Z,63nm,19.4s,baz=337,slow=38
SFJD Kangerlussuaq 56.48 15 *i* P **P** **21 46 01.7 -2.5**
SFJD IAmb IAmb 21 46 03.9
comp=Z,4.9nm,0.6s
EKS2 Erkin-Say 56.51 298 P **P** **21 46 04.1 -0.8**
SNR=37
ULM Lac du Bonnet 56.75 49 P **P** **21 46 07.6 +1.2**
comp=Z,5.3nm,0.8s,baz=315,slow=6.4,SNR=4.2
ULM LR LR 22 11 42.7
comp=Z,272nm,18.8s,baz=308,slow=37
ULM Lac du Bonnet 56.75 49 *i* P **P** **21 46 06.8 +0.4**
ULM Lac du Bonnet 56.75 49 P **P** **21 46 08.6 +2.2**
ULM IAmb IAmb 21 46 24.7
comp=Z,17nm,0.8s
GSC Goldstone, Bar 56.77 74 P **P** **21 46 08.2 +1.4**
GSC pmax pmax
comp=Z,13nm,1.0s
GSC Goldstone, Bar 56.77 74 P **P** **21 46 08.2 +1.4**
GSC IAmb IAmb 21 46 26.1
comp=Z,13nm,0.9s
GSC Goldstone, Bar 56.77 74 P **P** **21 46 08.4 +1.6**
baz=316
MDND Maddock 56.78 53 P **P** **21 46 08.7 +2.0**
PASC Pasadena Art C 56.80 76 P **P** **21 46 08.4 +1.4**
PASC IAmb IAmb 21 46 26.0
comp=Z,34nm,1.4s
TCRU Three Creeks R 56.82 69 P **P** **21 46 08.7 +1.3**
TCRU IAmb IAmb 21 46 26.6
comp=Z,15nm,1.3s
SHPR Sheep Range 56.83 72 P **P** **21 46 08.3 +1.0**
KLMR Klimovskoe 56.84 331 *e*P **P** **21 46 04.4 -2.4**
KLMR *e* 21 48 10.4
KLMR pmax pmax
comp=Z,62nm,0.7s
KLMR Klimovskoe 56.84 331 *e*P **P** **21 46 04.5 -2.4**
KLMR AMP 21 46 07.6
comp=Z,62nm,0.7s
KLMR *ePP **PP** **21 48 10.5 -2.4**
AML Almayashu 56.93 297 P **P** **21 46 07.5 -0.8**
SNR=20
AML Almayashu 56.93 297 P **P** **21 46 07.8 -0.5**
AML Almayashu 56.93 297 *i* P **P** **21 46 07.5 -0.8**
SNR=22
RDMU Red Mountain 56.97 65 IAmb IAmb 21 46 29.0
comp=Z,30nm,1.3s
TMUT Trail Mountain 57.00 67 P **P** **21 46 10.0 +1.2**
MSU Marysvale 57.04 69 P **P** **21 46 10.1 +1.2**
MSU Marysvale 57.04 69 P **P** **21 46 10.1 +1.2**
CCUT Cedar City 57.08 70 P **P** **21 46 10.1 +0.9**
K22A Casper 57.09 61 P **P** **21 46 11.8 +2.7**
K22A IAmb IAmb 21 46 27.1
comp=Z,13nm,1.1s
P17A Butcher Ranch, 57.13 67 P **P** **21 46 11.9 +2.4**
P17A IAmb IAmb 21 46 39.6
comp=Z,16nm,1.4s
TUQ Turquoise Moun 57.17 74 P **P** **21 46 11.4 +1.6**
baz=316
E28A Huff 57.18 55 P **P** **21 46 11.6 +2.1**
E28A IAmb IAmb 21 46 28.4
comp=Z,33nm,1.2s
SZCU Shurtz Canyon 57.20 70 P **P** **21 46 11.8 +1.7**
P18A Preston Nutter 57.29 66 P **P** **21 46 11.3 +0.5**
Q16A Castle Valley 57.30 68 P **P** **21 46 12.2 +1.5**
RSSD Black Hills 57.30 59 P **P** **21 46 11.4 +0.7**
RSSD pmax pmax
comp=Z,14nm,1.1s
RSSD Black Hills 57.30 59 P **P** **21 46 11.4 +0.7**
RSSD IAmb IAmb 21 46 28.7
comp=Z,14nm,1.1s
RSSD Black Hills 57.30 59 P **P** **21 46 11.9 +1.2**
baz=316
MTPU Mount Pierson 57.37 69 P **P** **21 46 12.6 +1.2**
RWWY Rawlins 57.42 63 P **P** **21 46 12.8 +1.2**
RWWY IAmb IAmb 21 46 33.6
comp=Z,16nm,1.1s
KONS Konsvik 57.48 346 ⇑*i* P **P** **21 46 12.5 +1.2**
SRU San Rafael Swe 57.51 67 P **P** **21 46 14.0 +1.8**
SRU pmax pmax
comp=Z,13nm,0.7s
SRU San Rafael Swe 57.51 67 P **P** **21 46 14.0 +1.8**

SRU IAmb IAmb 21 46 38.7
comp=Z,13nm,0.7s
LCMT Little Creek M 57.53 71 P P 21 46 14.0 +1.7
LCMT IAmb IAmb 21 46 35.3
comp=Z,15nm,1.3s
KSH Kashi 57.59 294 P P 21 46 15.0 +2.3
KSH pP sP 21 46 25.8 +0.9
KSH PcS **PcS 21 51 06.8 -0.2**
KSH pmax pmax
comp=Z,16nm,0.9s
KSH LR LR
comp=Z,300nm,17.5s
KSH LR LR
comp=Z,290nm,17.5s
KSH LR LR
comp=Z,420nm,16.8s
MOR8 Moi Rana 57.59 345⇑ *i* P **P 21 46 10.7 -1.5**
DY2G Dye2 57.60 13 *i* P **P 21 46 10.2 -2.2**
DY2G IAmb IAmb 21 46 12.1
comp=Z,9.6nm,0.8s
DZA Taraz 57.60 300 *eP* **P 21 46 11.1 -1.5**
DZA Taraz 57.60 300 *eP* **P 21 46 11.1 -1.5**
baz=300
ELS Elsinore Mount 57.61 76 P P 21 46 14.7 +1.9
KNB Kanab 57.76 70 P P 21 46 14.9 +1.0
KNB pmax pmax
comp=Z,14nm,1.3s
KNB Kanab 57.76 70 P P 21 46 14.9 +1.0
KNB IAmb IAmb 21 46 39.5
comp=Z,14nm,1.3s
GMRC Granite Mounta 57.79 74 P P 21 46 15.9 +1.8
baz=317
O20A White River Ci 57.99 65 P P 21 46 16.4 +0.8
O20A IAmb IAmb 21 46 38.6
comp=Z,25nm,1.4s
O20A White River Ci 57.99 65 P P 21 46 17.0 +1.4
baz=316
BELC Belle Mtn. Jos 58.17 75 P P 21 46 17.6 +0.8
baz=317
AGMN Agassiz Nation 58.18 50 P P 21 46 18.8 +2.3
AGMN IAmb IAmb 21 46 34.7
comp=Z,19nm,1.0s
PFO Pinyon Flats O 58.19 76 LR LR 22 07 20.9
comp=Z,205nm,21.4s,baz=310,slow=32
AKTO Aktyubinsk 58.35 313 LR LR 22 15 06.2
comp=Z,207nm,19.0s,baz=46,slow=40
IRM Iron Mountain 58.53 74 P P 21 46 21.0 +1.7
baz=317
W13A Hualapai Mount 58.56 73 P P 21 46 20.2 +0.6
N23A Red Feather La 58.65 63 P P 21 46 21.1 +0.9
N23A IAmb IAmb 21 46 38.8
comp=Z,11nm,0.8s
N23A Red Feather La 58.65 63 P P 21 46 21.8 +1.6
baz=317
SHL Shillong 58.77 271 P P 21 46 20.7 -0.5
SHL pmax pmax
comp=Z,18nm,0.8s
SHL Shillong 58.77 271 P P 21 46 20.7 -0.5
SHL IAmb IAmb 21 46 21.2
comp=Z,18nm,0.8s
SHL Shillong 58.77 271 P P 21 46 20.7 -0.5
SNR=7.7
IUG luzhnay 58.80 300*c i*P **P 21 46 20.2 -0.9**
IUG luzhnay 58.80 300⇑ *i*P **P 21 46 20.2 -0.9**
baz=300
RABL Rabaul 58.91 193 P P 21 46 22.1 +0.1
PV07 Paradox Valley 59.01 66 P P 21 46 24.0 +1.3
PV07 IAmb IAmb 21 46 42.8
comp=Z,7.1nm,0.9s
CBX Cerro Bola 59.02 77 P P 21 46 23.9 +1.1
B35A Bob, Littlefor 59.09 49 P P 21 46 24.4 +1.6
B35A IAmb IAmb 21 46 40.4
comp=Z,13nm,1.0s
PV13 Radium Mtn., P 59.12 67 P P 21 46 24.8 +1.3
PV13 IAmb IAmb 21 46 43.7
comp=Z,18nm,1.0s
PV15 Paradox Valley 59.16 66 P P 21 46 25.1 +1.3
PV15 IAmb IAmb 21 46 44.0
comp=Z,11nm,0.8s
BLYC Blythe 59.18 74 P P 21 46 24.8 +1.2
SMCO Snowmass 59.36 65 P P 21 46 26.6 +1.3
SMCO IAmb IAmb 21 46 43.7
comp=Z,9.9nm,1.1s
NSS Namsos 59.50 346 *eP* **P 21 46 25.4 0.0**
ISCO Idaho Springs 59.62 63 P P 21 46 28.6 +1.5
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 59.62 63 P P 21 46 28.6 +1.5
FINES FINESS Array B 59.77 338 P P 21 46 27.4 +0.1
comp=Z,79nm,0.6s,baz=35,slow=8.2,SNR=523
FINES LR LR 22 14 56.5
comp=Z,79nm,21.8s,baz=32,slow=39
FINES FINESS Array B 59.77 338 *i* P **P 21 46 27.3 0.0**
FINES pmax pmax
comp=Z,79nm,0.6s
TAS Tashkent 59.78 300 P P 21 46 26.8 -0.9
TAS pmax pmax
comp=Z,54nm,1.1s
TAS Tashkent 59.78 300 P P 21 46 26.8 -0.9
F33A 5 Mile Ranch, 59.80 53 P P 21 46 28.6 +0.9
F33A IAmb IAmb 21 46 46.1
comp=Z,19nm,1.1s
DRK Karamyk 59.84 297 IAmb IAmb 21 46 29.8
comp=Z,13nm,0.8s
CHTO Chiang Mai 59.85 260 P P 21 46 29.3 +0.8
CHTO pmax pmax
comp=Z,55nm,0.8s
CHTO Chiang Mai 59.85 260 P P 21 46 29.3 +0.8
CHTO Chiang Mai 59.85 260 P P 21 46 29.8 +1.2
CHTO Chiang Mai 59.85 260 P P 21 46 29.7 +1.2
TAPN Taplejung 59.88 276 *eP* **P 21 46 28.1 -0.8**
comp=Z,50nm,0.4s
CM31 Chiang Mai Arr 60.14 260 P P 21 46 31.2 +0.8
CMAR Chiang Mai Arr 60.14 260 P P 21 46 31.7 +1.3
comp=Z,23nm,0.7s,baz=22,slow=7.2,SNR=139
CMAR LR LR 22 15 05.1
comp=Z,251nm,19.1s,baz=50,slow=39
CMAR Chiang Mai Arr 60.14 260*ce*P **P 21 46 31.7 +1.3**
CMAR pmax pmax
comp=Z,25nm,0.7s
PUL Pulkovo 60.23 335*ce*P **P 21 46 30.5 0.0**
PUL pmax pmax
comp=Z,42nm,0.4s
113A Mohawk Valley, 60.34 74 P P 21 46 32.8 +1.2
EYMN Ely 60.39 48 P P 21 46 33.1 +1.3
EYMN IAmb IAmb 21 46 54.0
comp=Z,12nm,0.9s
X16A Lo Mia Camp, P 60.42 71 P P 21 46 33.3 +0.9
ODAN Odare 60.43 276 *eP* **P 21 46 32.2 -0.4**
comp=Z,25nm,0.5s
Q24A Divide 60.48 64 P P 21 46 31.2 -1.7
S22A 4UR Ranch, Cre 60.49 66 P P 21 46 34.5 +1.5
S22A IAmb IAmb 21 46 51.9
comp=Z,17nm,1.4s
GUN Gumba 60.52 278 *eP* **P 21 46 32.2 -1.2**
comp=Z,75nm,0.6s
JIRN Jiri 60.53 277 *eP* **P 21 46 32.3 -1.2**
comp=Z,16nm,0.4s
KNTN Kanton 60.54 151 P P 21 46 33.8 +0.7
RAMN Ramite 60.82 276 *eP* **P 21 46 34.4 -0.9**
comp=Z,128nm,0.4s
TBLU Trondheim 60.96 346 *eP* **P 21 46 34.3 -1.1**
KKN Kakani 60.96 278 *eP* **P 21 46 35.3 -0.9**
comp=Z,35nm,0.5s
GAR Garm 60.97 297 P P 21 46 34.6 -1.4
K31A O'Neill 61.02 57 P P 21 46 36.7 +0.5
K31A IAmb IAmb 21 47 02.2
comp=Z,25nm,1.1s
PKI Pulchoki 61.05 278 *eP* **P 21 46 35.8 -1.2**
comp=Z,72nm,0.7s
KKM Kota Kinabalu 61.05 236 P P 21 46 38.2 +1.4
KKM IAmb IAmb 21 46 52.7
comp=Z,10nm,0.9s
PKIN Phulchoki 61.05 278 *eP* **P 21 46 35.8 -1.1**
comp=Z,65nm,0.6s
X18A Snowflake 61.17 70 P P 21 46 38.6 +1.1
X18A IAmb IAmb 21 46 57.2
comp=Z,7.8nm,0.9s
GKN Gorkha 61.17 279 *eP* **P 21 46 36.6 -1.0**
SDCO Great Sand Dun 61.20 65 P P 21 46 38.5 +0.7
SDCO Great Sand Dun 61.20 65 P P 21 46 39.8 +2.1
baz=318
DMN Daman 61.20 278 *eP* **P 21 46 37.0 -0.9**
comp=Z,38nm,0.5s
ECSD EROS Data Cent 61.22 54 P P 21 46 38.2 +0.7
ECSD IAmb IAmb 21 46 54.9
comp=Z,13nm,1.1s
ECSD EROS Data Cent 61.22 54 P P 21 46 39.1 +1.5
baz=319
MEF Metsahovi 61.24 338 *eP* **P 21 46 37.5 +0.2**
DANN Dangsing 61.42 280 *eP* **P 21 46 38.6 -0.8**
214A Organ Pipe Nat 61.48 74 P P 21 46 40.4 +0.9
MOS Moscow 61.65 328 *eP* **P 21 46 36.5 -3.6**
MOS *e* 21 46 47.7
MOS pmax pmax
comp=Z,88nm,0.7s
CHGR Chuyangaron 61.83 298 P P 21 46 40.7 -1.1
SPMN Marine on St. 61.88 51 P P 21 46 42.4 +0.5
SPMN IAmb IAmb 21 46 59.4
comp=Z,9.1nm,1.0s
KOLN Koldanda 61.95 279 *eP* **P 21 46 41.9 -1.0**
comp=Z,56nm,0.6s
PYUN Piuthan 62.06 280 *eP* **P 21 46 42.7 -0.9**
T25A Trinidad 62.23 64 P P 21 46 45.4 +0.8
T25A Trinidad 62.23 64 P P 21 46 46.0 +1.4
baz=319
BGNE Belgrade 62.23 57 P P 21 46 45.2 +0.9
VSU Vasula 62.27 336*c i*P **P 21 46 44.2 -0.1**
VSU Vasula 62.27 336 *eP* **P 21 46 44.2 -0.1**
DOMB Dombas 62.28 347⇑ *i*P **P 21 46 44.1 -0.3**
OBN Obninsk 62.50 329 LR LR 22 17 13.8
comp=Z,67nm,18.6s,baz=1.5,slow=39
OBN Obninsk 62.50 329*ce*P **P 21 46 45.0 -0.8**
OBN *e**PP **sP 21 46 58.3 +0.2**
OBN *e**SP **pwP 21 47 03.4 +2.5**
OBN *e* 21 47 19.9
OBN *e* 21 49 02.8
OBN *e*PPP PPP 21 50 30.3
OBN *e*S **S 21 55 08.3 -2.0**
OBN pmax pmax
comp=Z,46nm,0.9s
OBN MLR MLR
comp=Z,220nm,18.0s
OBN Obninsk 62.50 329 P **P 21 46 45.4 -0.5**
I37A Lemond, Waseca 62.52 52 P P 21 46 47.5 +1.2
I37A IAmb IAmb 21 47 06.8
comp=Z,22nm,0.9s
MTSE Matsula 62.72 337 *eP* **P 21 46 47.6 +0.3**
NC303 NORSAR Array S 62.73 345 P P 21 46 47.4 0.0
ANMO Albuquerque 62.77 67 P P 21 46 49.4 +1.2
comp=Z,1.0nm,0.6s,baz=334,slow=11,SNR=3.6
ANMO LR LR 22 13 08.8
comp=Z,91nm,20.1s,baz=306,slow=35
ANMO Albuquerque 62.77 67 *i* P **P 21 46 48.1 -0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 62.77 67 P P 21 46 49.1 +0.8
ANMO Albuquerque 62.77 67 P P 21 46 49.5 +1.3
baz=319
NB2 NORSAR Subarra 62.93 345 P P 21 46 48.4 -0.3
comp=Z,38nm,0.8s,baz=19,slow=6.9
NB2 NORSAR Subarra 62.93 345 P P 21 46 48.4 -0.3
baz=19,slow=6.9
NOA NORSAR Array B 62.93 345 P P 21 46 48.7 0.0
comp=Z,28nm,0.8s,baz=19,slow=6.7,SNR=120
UPP Uppsala 62.95 341 *eP* **P 21 46 49.1 +0.3**
G40A Rib Lake 63.02 49 P P 21 46 50.3 +0.8
G40A IAmb IAmb 21 47 14.0
comp=Z,13nm,1.4s
NAO01 NORSAR Array S 63.17 345 P P 21 46 49.8 -0.4
NC602 NORSAR Array S 63.17 345 P P 21 46 49.9 -0.4
NC602 NORSAR Array S 63.17 345 *eP* **P 21 46 49.8 -0.4**
TOLI2 Tolitoli 63.26 229 P P 21 46 51.0 -0.4
TOLI2 IAmb IAmb 21 46 52.5
comp=Z,11nm,1.0s
TOLI2 Tolitoli 63.26 229 P P 21 46 51.5 +0.1
SKAR Skarslia 63.70 346 *eP* **P 21 46 54.1 +0.3**
SCHQ Schefferville 63.81 30 P P 21 46 54.7 +0.1
comp=Z,3.6nm,0.5s,baz=354,slow=6.9,SNR=16
SCHQ LR LR 22 19 22.9
comp=Z,119nm,18.2s,baz=32,slow=40
SCHQ Schefferville 63.81 30 P P 21 46 54.9 +0.3
SCHQ IAmb IAmb 21 47 15.2
comp=Z,11nm,1.1s
LPSR Galich'ya Gora 63.87 326 *eP* **P 21 46 54.3 -0.7**
LPSR pmax pmax
comp=Z,80nm,0.7s
I40A Norwalk 63.90 51 P P 21 46 55.8 +0.4
I40A IAmb IAmb 21 47 19.8
comp=Z,14nm,1.2s
SANI Sanana 63.93 222 P P 21 46 56.3 +0.5
SLIT Slitere, Latvi 64.05 338 *eP* **P 21 46 55.9 -0.2**
OSL Oslo 64.06 345 *eP* **P 21 46 56.6 +0.5**
VRH Novokhopyorsk 64.09 323 *eP* **P 21 46 55.7 -0.8**
VRH pmax pmax
comp=Z,100nm,0.6s
SCIA State Center 64.23 54 P P 21 46 58.4 +0.8
KONO Kongsberg 64.50 345 P P 21 46 59.6 +0.6
KONO pmax pmax
comp=Z,21nm,1.0s
KONO Kongsberg 64.50 345 P P 21 46 59.6 +0.6
KONO IAmb IAmb 21 47 00.3
comp=Z,21nm,0.9s
KONO Kongsberg 64.50 345⇑ *i*P **P 21 46 59.2 +0.2**
VORR Voronezh 64.56 325 *eP* **P 21 46 59.1 -0.4**
VORR pmax pmax
comp=Z,40nm,0.6s
KBL Kabul 64.99 295 P P 21 47 01.1 -1.8
KBL pmax pmax
comp=Z,28nm,0.8s
KBL Kabul 64.99 295 P P 21 47 01.1 -1.8
KBL Kabul 64.99 295 P P 21 47 01.4 -1.5
SNR=16
ISAL Salakas 65.01 335 *eP* **P 21 47 02.8 +0.4**
IDID Didziasalis 65.08 334 *eP* **P 21 47 03.4 +0.5**
VORD Divnogorie 65.13 325 *eP* **P 21 47 02.7 -0.5**
VORD pmax pmax
comp=Z,40nm,0.7s
IIGN Ignalina 65.18 335 *eP* **P 21 47 04.2 +0.7**
NACGM Naroch 65.44 334⇓ *eP* **P 21 47 05.9 +0.7**
MNK Minsk 65.51 333 *i* P **P 21 47 06.1 +0.4**
MNK *i* 21 47 37.2
MNK *i* 21 49 31.4
MNK *i*PPP PPP 21 51 04.4
MNK *i*S **S 21 55 48.7 +1.0**
MNK *i*SS **SS 22 00 04.2 +3.7**
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,32nm,0.8s
MNK pmax pmax
comp=Z,92nm,0.8s
MNK MLR MLR
comp=E,20nm,16.0s
MNK MLR MLR
comp=Z,202nm,21.0s
MNK MLR MLR
comp=N,172nm,17.0s
MNK Minsk 65.51 333 *i* P **P 21 47 06.1 +0.4**
comp=E,3.0nm,0.8s
MNK *i* P **P 21 47 06.1 +0.4**
comp=N,32nm,0.8s
MNK *i* P **P 21 47 06.1 +0.4**
comp=Z,92nm,0.8s,baz=27
MNK *i* PcP **PcP 21 47 37.2 0.0**
MNK *i* PP **PP 21 49 31.4 +2.1**
MNK *i* PPP PPP 21 51 04.4
MNK *i* S **S 21 55 48.8 +1.0**
MNK *i* SS **SS 22 00 04.3 +3.7**
MNK *i* SSS SSS 22 03 08.2
MNK *i* LQ LQ 22 08 34.7
MNK *i* LR LR 22 14 11.4
MNK *i* LRM MLR 22 19 27.4
comp=E,20nm,16.3s
MNK *i* LRM MLR 22 19 29.4
comp=Z,202nm,21.1s
MNK *i* LRM MLR 22 19 30.0
comp=N,172nm,17.2s
PBUR Paburge 65.60 337 *eP* **P 21 47 06.3 +0.1**
P38A Dawn 65.85 55 P P 21 47 08.7 +0.6
P38A IAmb IAmb 21 47 25.3
comp=Z,13nm,1.0s
VLDQ Val d'Or 65.97 40 P P 21 47 07.3 -1.4
VLDQ IAmb IAmb 21 47 24.3
comp=Z,14nm,1.0s
SBUM Sibu 66.12 238 P P 21 47 10.6 +0.5
P40A Paris 66.64 55 P P 21 47 14.0 +0.8
P40A IAmb IAmb 21 47 37.5
comp=Z,20nm,1.1s
SUW Suwalki 67.15 336 *eP* **P 21 47 15.9 -0.3**
SUW Suwalki 67.15 336 *eP* **P 21 47 15.6 -0.5**
R40A Maddies Statio 67.51 55 IAmb IAmb 21 47 35.6
comp=Z,8.0nm,0.8s
MUD Monsted U'grnd 67.64 345 *i* P **P 21 47 18.6 -0.6**
MUD IAmb IAmb 21 47 20.3
comp=Z,7.1nm,0.8s
BSD Bornholm Skovb 67.92 341 *i* P **P 21 47 20.1 -0.9**
BSD IAmb IAmb 21 47 21.6
comp=Z,13nm,0.5s
KSM Kuching 67.92 239 P P 21 47 21.8 +0.3
KSM IAmb IAmb 21 47 30.8
comp=Z,24nm,1.0s
GEYT Alibeck 67.94 304 P P 21 47 21.5 +0.1
comp=Z,49nm,0.7s,baz=41,slow=2.7,SNR=86
GEYT LR LR 22 20 02.5
comp=Z,473nm,18.1s,baz=50,slow=39
SADO Sadowa 68.09 43 LR LR 22 18 49.0
comp=Z,99nm,19.6s,baz=352,slow=37
HHAR Hobbs 68.27 58 IAmb IAmb 21 47 40.3
comp=Z,11nm,1.0s
AKASG Malin Array Be 68.53 330 P P 21 47 24.7 -0.2
comp=Z,34nm,0.5s,baz=28,slow=6.2,SNR=86
AKASG LR LR 22 23 12.2
comp=Z,179nm,18.1s,baz=20,slow=41
AKASG Malin Array Be 68.53 330 P P 21 47 24.2 -0.7
AKBB Malin Array Si 68.53 330*ce*P **P 21 47 23.9 -1.0**
AKBB Malin Array Si 68.53 330 P P 21 47 24.6 -0.3
TX31 Lajitas Ar. Si 68.57 69 P P 21 47 26.6 +1.0
TX31 IAmb IAmb 21 47 45.7
comp=Z,17nm,0.8s
Q44A Meyer Farm, Va 68.57 53 P P 21 47 26.9 +1.5
Q44A IAmb IAmb 21 47 42.3
comp=Z,10nm,0.8s
TXAR Lajitas Array 68.57 69 P P 21 47 27.1 +1.5
comp=Z,3.4nm,0.6s,baz=299,slow=5.2,SNR=33
TXAR Lajitas Array 68.57 69 P P 21 47 26.6 +1.0
FVM French Village 68.64 54 P P 21 47 26.5 +0.7
FVM pmax pmax
comp=Z,11nm,0.8s
FVM French Village 68.64 54 P P 21 47 26.5 +0.7
FVM IAmb IAmb 21 47 43.0
comp=Z,11nm,0.8s
GOF Gofitskoye 68.73 319⇑ *eP* **P 21 47 26.9 +0.6**
GOF pmax pmax
comp=Z,79nm,0.6s
U40A Yellville 68.75 57 P P 21 47 27.7 +1.2
U40A IAmb IAmb 21 47 43.8
comp=Z,12nm,1.0s
RGN Rugen 68.76 342 P P 21 47 26.0 -0.2
LPIG La Paz 68.88 78 LR LR 22 14 55.1
comp=Z,40nm,18.5s,baz=238,slow=34
PBA Port Blair 69.14 261 P P 21 47 30.8 +1.6
GROC Groznyy 69.19 316 *eP* **P 21 47 29.6 +0.5**
GROC *e* 21 47 53.8
GROC pmax pmax
comp=Z,43nm,0.9s
GKP Gorka Klasztor 69.19 339 *eP* **P 21 47 29.4 +0.5**
GKP Gorka Klasztor 69.19 339 *eP* **P 21 47 29.2 +0.3**
W39A Magazine 69.20 59 P P 21 47 30.1 +0.7
S44A Carbondale 69.43 54 P P 21 47 32.0 +1.4
S44A IAmb IAmb 21 47 47.9
comp=Z,11nm,0.8s
FCAR Ozark Folk Cen 69.48 57 P P 21 47 31.2 +0.2
FCAR IAmb IAmb 21 47 48.2
comp=Z,12nm,1.0s
PYA1 Pyatigorsk 69.55 318*c i*P **P 21 47 31.4 0.0**
PYA1 pmax pmax
comp=Z,2.0nm,0.6s
LNIZ Loecknitz 69.59 341 *eP* **P 21 47 31.9 +0.5**
comp=Z,32nm,0.8s,baz=18,slow=6.1
PECO Prince Edward 69.64 42 P P 21 47 33.1 +1.2
PECO IAmb IAmb 21 48 01.5
comp=Z,18nm,0.9s
BEL Belsk 69.72 336 *eP* **P 21 47 33.4 +1.1**
P48A Milroy 69.77 50 P P 21 47 32.1 -0.7
P48A IAmb IAmb 21 47 35.0
comp=Z,14nm,1.1s
JCT Junction City 69.78 66 P P 21 47 33.7 +0.7
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 69.78 66 P P 21 47 33.7 +0.7
KIV Kislovodsk 69.80 318 *eP* **P 21 47 33.4 +0.4**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,158nm,17.0s
KIV Kislovodsk 69.80 318 P P 21 47 33.3 +0.4
KIV IAmb IAmb 21 47 34.7
comp=Z,34nm,1.2s
KIV Kislovodsk 69.80 318 P P 21 47 33.8 +0.8
KIV Kislovodsk 69.80 318 *i* P **P 21 47 33.6 +0.6**
SNR=10
NCK Nalchik 69.83 318*c i*P **P 21 47 33.6 +0.5**
NCK pmax pmax
comp=Z,36nm,0.8s
KULM Kulim 69.83 250 P P 21 47 33.0 -0.4
KULM IAmb IAmb 21 47 51.6
comp=Z,9.4nm,0.9s
D62A Allapoint, All 69.85 35 P P 21 47 33.3 +0.2
D62A IAmb IAmb 21 48 00.3
comp=Z,18nm,1.2s
BSEG Bad Segeberg 69.88 343 *eP* **P 21 47 33.8 +0.6**
comp=Z,28nm,1.2s,baz=18,slow=6.1
KBZ Khabaz 69.91 318 P P 21 47 34.3 +0.8
comp=Z,38nm,0.8s,baz=70,slow=4.0,SNR=92
KBZ LR LR 22 22 04.8
comp=Z,298nm,21.0s,baz=27,slow=39
KBZ Khabaz 69.91 318*ce*P **P 21 47 34.0 +0.5**
KBZ pmax pmax
comp=Z,45nm,0.9s
W41B Gary Mavity, V 69.98 58 P P 21 47 34.8 +0.7
W41B IAmb IAmb 21 47 58.5
comp=Z,21nm,1.2s
SHA1 Shidzhatmaz 69.99 318*c i*P **P 21 47 34.2 -0.2**
COEN Coen 70.00 201 P P 21 47 35.3 +1.0
COEN IAmb IAmb 21 47 53.0
comp=Z,15nm,0.9s
ESK Eskdalemuir 70.24 352 P P 21 47 35.3 -0.1
ESK pmax pmax
comp=Z,45nm,1.3s
ESK Eskdalemuir 70.24 352 P P 21 47 35.3 -0.1
IPM Ipoh 70.29 249 P P 21 47 36.1 -0.2
IPM IAmb IAmb 21 47 59.3
comp=Z,17nm,1.3s
ZEI Tsey 70.30 317 *eP* **P 21 47 35.1 -1.1**
ZEI pmax pmax
comp=Z,38nm,1.0s
NEY Neytrino 70.38 318 *i* P **P 21 47 36.6 -0.1**
NEY pmax pmax
comp=Z,9.0nm,1.6s
M54A Oil Creek Stat 70.59 45 P P 21 47 37.5 -0.3
M54A IAmb IAmb 21 47 54.6
comp=Z,7.7nm,0.8s
RUE Ruedersdorf 70.64 341 *eP* **P 21 47 38.3 +0.4**
RUE Ruedersdorf 70.64 341 *eP* **P 21 47 38.2 +0.4**
comp=Z,36nm,0.8s,baz=18,slow=6.1
ONI Oni 70.64 317 P P 21 47 39.6 +1.4
ONI pmax pmax
comp=Z,27nm,0.9s
ONI Oni 70.64 317 P P 21 47 39.6 +1.4
LVV L'vov 70.77 333 *eP* **P 21 47 38.5 -0.2**
J58A Remsen 70.79 41 P P 21 47 38.2 -0.7
J58A IAmb IAmb 21 47 55.3
comp=Z,13nm,1.1s
L56A Greenwood 70.92 43 P P 21 47 39.7 -0.2
L56A IAmb IAmb 21 47 56.5
comp=Z,29nm,1.1s
ANN Anapa 71.05 322 *eP* **P 21 47 38.7 -1.7**
ANN pmax pmax
comp=Z,83nm,1.4s
CHVG Ch'k'valeri 71.08 318 ⇑P P 21 47 41.6 +0.9
SORM Soroca 71.08 330 ⇑P P 21 47 40.1 -0.6
F64A Sherman 71.15 35 P P 21 47 41.0 0.0
F64A IAmb IAmb 21 48 08.1
comp=Z,24nm,1.2s
AFI Afiamalu 71.17 154 LR LR 22 14 16.0
comp=Z,110nm,20.8s,baz=322,slow=32
RETH Rethem/Aller, 71.19 343 *eP* **P 21 47 41.7 +0.5**
comp=Z,26nm,1.3s,baz=18,slow=6.1
SOC Sochi 71.25 320 *eP* **P 21 47 38.5 -3.2**
SOC *e* 21 50 19.2
SOC *e*PPP PPP 21 52 01.0
SOC *e*S **S 21 56 52.5 -3.9**
SOC *e*SS **SS 22 01 29.7 +0.1**

SOC pmax pmax
comp=Z,20nm,0.7s
SOC MLR MLR
comp=Z,142nm,19.0s
FLTG Flechtingen 71.25 342 *eP* **P 21 47 41.5 -0.1**
comp=Z,15nm,1.0s,baz=18,slow=6.1
H62A Milan 71.29 38 P **P 21 47 42.3 +0.3**
H62A IAmb IAmb 21 47 43.1
comp=Z,20nm,0.9s
OJC Ojcow 71.46 336 *eP* **P 21 47 43.6 +0.7**
OJC Ojcow 71.46 336 P **P 21 47 43.9 +1.0**
OJC pmax pmax
comp=Z,56nm,1.2s
OJC Ojcow 71.46 336 P **P 21 47 43.9 +1.0**
KDU Kakadu 71.54 212 P **P 21 47 44.2 +0.5**
AKH Akhalkalaki 71.62 316 ⇓P **P 21 47 45.1 +0.9**
KSP Ksiaz 71.67 339 *eP* **P 21 47 44.8 +0.6**
M57A Sunshine Farm, 71.77 43 P **P 21 47 45.1 +0.1**
M57A IAmb IAmb 21 48 01.6
comp=Z,16nm,0.8s
IBBN Ibbenburen 71.86 344 *eP* **P 21 47 45.8 +0.5**
comp=Z,35nm,1.1s,baz=18,slow=6.1
CLZ Clausthal 71.88 343 *eP* **P 21 47 45.4 -0.1**
comp=Z,47nm,1.1s,baz=18,slow=6.1
L59A Walton 71.88 42 P **P 21 47 45.3 -0.3**
L59A IAmb IAmb 21 48 02.9
comp=Z,36nm,1.4s
CLL Collm 71.90 341 ⇑*iP* **P 21 47 45.6 +0.1**
CLL pmax pmax
comp=Z,49nm,1.2s
CLL Collm 71.90 341 ⇑*iP* **P 21 47 45.6 +0.1**
comp=Z,49nm,1.2s
CLL Collm 71.90 341 *eP* **P 21 47 45.5 0.0**
comp=Z,49nm,1.2s,baz=18,slow=6.1
I63A Otisfield 71.95 38 P **P 21 47 46.6 +0.6**
I63A IAmb IAmb 21 48 04.2
comp=Z,32nm,1.2s
OSTC Ostas 71.96 338 *eP* **P 21 47 46.6 +0.7**
CHVC Chvalec 71.96 339 *eP* **P 21 47 46.7 +0.8**
G65A Princeton 72.00 35 P **P 21 47 46.4 +0.3**
G65A IAmb IAmb 21 47 58.7
comp=Z,42nm,1.3s
MILM Milestii Mici 72.04 329 ⇑P **P 21 47 46.0 -0.4**
UPC Upice 72.05 339 *eP* **P 21 47 47.3 +0.9**
UPC Upice 72.05 339 *eP* **P 21 47 47.3 +0.9**
NIE Niedzica 72.08 335 *eP* **P 21 47 48.4 +1.7**
MTN Manton Dam 72.11 213 P **P 21 47 47.5 +0.4**
MTN IAmb IAmb 21 47 48.4
comp=Z,19nm,0.8s
MTN Manton Dam 72.11 213 P **P 21 47 47.8 +0.7**
comp=Z,29nm,0.9s
DPC Dobruska-Polom 72.13 338 *eP* **P 21 47 47.9 +0.9**
DPC Dobruska-Polom 72.13 338 *eP* **P 21 47 47.9 +0.9**
BRG Berggiesshubel 72.13 340 *eP* **P 21 47 47.2 +0.2**
BRG Amp 21 47 48.4
comp=Z,18nm,0.9s
BRG *i* x x 21 47 49.8
BRG Amp 21 47 50.6
comp=Z,10nm,0.7s
BRG Berggiesshubel 72.13 340 *eP* **P 21 47 47.1 +0.2**
BRG pmax pmax
comp=Z,18nm,1.0s
BRG Berggiesshubel 72.13 340 *eP* **P 21 47 47.0 +0.1**
comp=Z,24nm,1.2s,baz=18,slow=6.1
GNI Garni 72.17 315 LR LR 22 25 08.6
comp=Z,221nm,18.2s,baz=16,slow=41
GNI Garni 72.17 315*ceP* **P 21 47 47.0 -0.5**
GNI pmax pmax
comp=Z,119nm,1.7s
GNI Garni 72.17 315 P **P 21 47 49.4 +1.9**
GNI Garni 72.17 315 P **P 21 47 49.3 +1.8**
GNI Garni 72.17 315 P **P 21 47 49.0 +1.5**
FBE Freiberg 72.20 340 *eP* **P 21 47 47.8 +0.5**
comp=Z,46nm,1.1s,baz=18,slow=6.1
OKC Ostrava-Krasne 72.20 337 *eP* **P 21 47 48.3 +1.0**
OKC Ostrava-Krasne 72.20 337 *eP* **P 21 47 48.3 +1.0**
NEUB Neuenburg 72.23 342 *eP* **P 21 47 47.8 +0.3**
comp=Z,23nm,1.0s,baz=18,slow=6.1
CRVS Cervenica-Dubn 72.27 335 *eP* **P 21 47 48.5 +0.7**
CRVS pmax pmax
comp=Z,22nm,1.1s
CRVS Cervenica-Dubn 72.27 335 *eP* **P 21 47 48.5 +0.7**
KRLC Kraliky 72.29 338 *eP* **P 21 47 48.7 +0.8**
KRLC Kraliky 72.29 338 *eP* **P 21 47 48.7 +0.8**
KRLC *ex* x 21 47 50.5
GGN Saint George 72.31 35 P **P 21 47 48.1 +0.1**
UZH Uzhgorod 72.31 334 *i* P **P 21 47 48.2 +0.2**
UZH *e* 21 47 58.6
UZH *i* 21 48 07.4
LMN Caledonia Moun 72.33 33 P **P 21 47 47.9 -0.3**
LMN IAmb IAmb 21 48 02.3
comp=Z,18nm,1.1s
MORC Moravsky Berou 72.40 337 ⇑P **P 21 47 49.4 +0.8**
MORC Moravsky Berou 72.40 337 P **P 21 47 49.9 +1.3**
MORC pmax pmax
comp=Z,19nm,0.7s
MORC Moravsky Berou 72.40 337 P **P 21 47 49.9 +1.3**
MORC IAmb IAmb 21 47 52.1
comp=Z,19nm,0.7s
MORC Moravsky Berou 72.40 337 *eP* **P 21 47 49.3 +0.7**
BUR08 Bucovina Ar. S 72.43 332 P **P 21 47 49.5 +0.6**
KARS Kars 72.45 316 P **P 21 47 50.7 +1.5**
KARS pmax pmax
comp=Z,71nm,0.9s
KARS Kars 72.45 316 P **P 21 47 50.7 +1.5**
BURAR Bucovina Array 72.46 332 ⇑P **P 21 47 49.1 +0.1**
BURAR Bucovina Array 72.46 332 P **P 21 47 49.4 +0.3**
LANS Liptovska Anna 72.53 336 *eP* **P 21 47 50.9 +1.5**
LANS pmax pmax
comp=Z,27nm,0.7s
LANS Liptovska Anna 72.53 336 *eP* **P 21 47 50.9 +1.5**
VASR Vaslui 72.59 329 ⇓P **P 21 47 49.7 -0.1**
BUG Bochum--Univer 72.78 344 *eP* **P 21 47 51.1 +0.3**
comp=Z,27nm,1.3s,baz=18,slow=6.1
MOX Moxa 72.80 341 *eP* **P 21 47 51.3 +0.4**
comp=Z,25nm,1.0s,baz=18,slow=6.1
KASTN Kahler Asten 72.83 344 *eP* **P 21 47 51.6 +0.5**
comp=Z,32nm,1.4s,baz=18,slow=6.1
PRU Pruhonice 72.85 339 *eP* **P 21 47 52.1 +0.9**
PRU Pruhonice 72.85 339 *eP* **P 21 47 52.1 +0.9**
PRU *ex* x 21 47 54.5
PLN Plauen 72.85 341 *eP* **P 21 47 51.7 +0.5**
comp=Z,20nm,1.0s,baz=18,slow=6.1
WERD Werda 72.86 341 *eP* **P 21 47 51.8 +0.5**
comp=Z,34nm,1.0s,baz=18,slow=6.1
TANN Tannenbergstha 72.86 341 *eP* **P 21 47 51.8 +0.4**
comp=Z,16nm,1.0s,baz=18,slow=6.1
BMR Baia Mare 72.87 333 ⇑P **P 21 47 52.3 +0.9**
HYBB Hyderabad (bro 72.88 276 *eP* **P 21 47 51.1 -0.8**
KECS Kecovo 72.91 335 *eP* **P 21 47 52.6 +1.0**
KECS Kecovo 72.91 335 *eP* **P 21 47 52.6 +1.0**
UBBA Unterbreizbach 72.92 343 *eP* **P 21 47 52.0 +0.5**
comp=Z,32nm,1.5s,baz=18,slow=6.1
GUNZ Gunzen 72.93 341 *eP* **P 21 47 52.3 +0.6**
comp=Z,18nm,0.9s,baz=18,slow=6.1
BIR Birlad 72.98 329 ⇓P **P 21 47 53.0 +1.0**
WERN Wernitzgruen 73.00 341 *eP* **P 21 47 52.7 +0.6**
comp=Z,31nm,0.9s,baz=18,slow=6.1
IZAB Izabela 73.02 336 *eP* **P 21 47 53.9 +1.7**
NKC Novy Kostel 73.03 341 *eP* **P 21 47 52.9 +0.6**
NKC Novy Kostel 73.03 341 *eP* **P 21 47 52.9 +0.6**
NKC *ex* x 21 47 55.6
TESR Tescani 73.05 330 ⇓P **P 21 47 52.2 -0.3**
VRAC Vranov 73.05 338 ⇓P **P 21 47 53.6 +1.1**
VRAC Vranov 73.05 338 LR LR 22 24 24.0
comp=Z,114nm,19.6s,baz=20,slow=40
VRAC Vranov 73.05 338 *eP* **P 21 47 53.5 +1.1**
R55A Marlinton 73.08 47 P **P 21 47 53.3 +0.4**
R55A IAmb IAmb 21 48 10.9
comp=Z,26nm,1.5s
VLDR Vladesti 73.23 329 ⇓P **P 21 47 54.0 +0.5**
JAVC Velka Javorina 73.23 337 *eP* **P 21 47 55.3 +1.8**
GHRR 73.23 329 ⇑P **P 21 47 54.6 +1.1**
VARL Varlezi 73.25 329 ⇑P **P 21 47 53.9 +0.3**
PBCC Pribram 73.25 340 *eP* **P 21 47 54.1 +0.5**
PBCC *ex* x 21 47 56.4
VYHS Vyhne 73.30 336 *eP* **P 21 47 54.8 +0.9**
VYHS pmax pmax
comp=Z,6.0nm,0.8s
VYHS Vyhne 73.30 336 *eP* **P 21 47 54.8 +0.9**
KOLL Kolacno 73.32 336 *eP* **P 21 47 55.0 +1.0**
KRUC Moravsky 73.33 338 *eP* **P 21 47 54.9 +0.9**
MANZ Manzenberg 73.33 341 *eP* **P 21 47 54.5 +0.4**
comp=Z,3.9nm,1.1s,baz=18,slow=6.1

SCTR Scanteiesti 73.41 329 ⇑P **P 21 47 55.1 +0.5**
TATR Tatarca 73.46 329 ⇓P **P 21 47 55.6 +0.8**
PANC Panciu 73.48 330 ⇑P **P 21 47 55.8 +0.9**
MESR Meseseni 73.50 333 ⇑P **P 21 47 56.4 +1.2**
ROTZ Rotzenmuhle 73.53 341 *eP* **P 21 47 55.9 +0.7**
comp=Z,6.0nm,1.1s,baz=18,slow=6.1
SLCR Slobozia Conac 73.55 329 ⇓P **P 21 47 55.8 +0.4**
LTVH Ltavrtes, Hu 73.56 334 ⇑P **P 21 47 55.5 0.0**
LTVH Ltavrtes, Hu 73.56 334 P **P 21 47 55.4 0.0**
PSZ Piszkesteto 73.58 335 ⇑P **P 21 47 56.5 +0.9**
PSZ Piszkesteto 73.58 335 P **P 21 47 57.0 +1.4**
PSZ pmax pmax
comp=Z,21nm,0.9s
PSZ Piszkesteto 73.58 335 P **P 21 47 57.0 +1.4**
PSZ IAmb IAmb 21 47 57.8
comp=Z,21nm,0.9s
PSZ Piszkesteto 73.58 335 P **P 21 47 56.4 +0.8**
TLCR 73.59 328 ⇑P **P 21 47 55.9 +0.3**
ODBI Odobesti 73.61 330 ⇑P **P 21 47 56.3 +0.6**
SMOL Smolenice 73.61 337 *eP* **P 21 47 57.1 +1.4**
SMOL pmax pmax
comp=Z,11nm,0.9s
SMOL Smolenice 73.61 337 *eP* **P 21 47 57.1 +1.4**
VRI Vrincioaia 73.61 330 ⇑P **P 21 47 56.0 +0.2**
TKL Tuckaleechee C 73.64 51 LR LR 22 22 36.5
comp=Z,168nm,18.5s,baz=332,slow=38
PLOR Plostina 73.65 330 ⇑P **P 21 47 56.0 0.0**
OZUR 73.68 331 ⇓P **P 21 47 56.9 +0.6**
AHRW Bad Neuenahr-A 73.68 344 *eP* **P 21 47 56.7 +0.6**
comp=Z,48nm,2.1s,baz=18,slow=6.1
FPAL Fort Paine 73.70 53 P **P 21 47 56.6 0.0**
FPAL IAmb IAmb 21 48 13.7
comp=Z,16nm,0.8s
CJR Cluj-Napoca 73.73 332 ⇑P **P 21 47 57.6 +1.1**
TNS Taunus Mts 73.77 343 *eP* **P 21 47 57.1 +0.4**
comp=Z,22nm,1.2s,baz=18,slow=6.1
COVR Voineasa-Covas 73.78 330 ⇑P **P 21 47 57.9 +1.0**
MEM Membach 73.78 345 *bP* **P 21 47 57.1 +0.4**
comp=Z,24nm,1.0s
GRA1 Grafenberg Arr 73.78 341 P **P 21 47 58.1 +1.3**
GRF Grafenberg Arr 73.78 341 P **P 21 47 58.1 +1.3**
GRF pmax pmax
comp=Z,36nm,0.7s
GRF Grafenberg Arr 73.78 341 *eP* **P 21 47 57.7 +0.9**
comp=Z,40nm,1.0s,baz=18,slow=6.1
GRFO Grafenberg 73.79 341 P **P 21 47 58.2 +1.4**
GRFO pmax pmax
comp=Z,35nm,0.7s
GRFO Grafenberg 73.79 341 P **P 21 47 58.2 +1.4**
BTNL Ternell 73.79 345 *dP* **P 21 47 57.1 +0.4**
comp=Z,18nm,1.1s
CFR Carcaliu 73.81 329 ⇑P **P 21 47 57.0 +0.1**
KHC Kasperske Hory 73.86 340 *eP* **P 21 47 57.9 +0.7**
KHC *e* 21 48 13.0
KHC Kasperske Hory 73.86 340 *eP* **P 21 47 57.9 +0.7**
KHC *ex* x 21 48 00.6
KHC *epP* **PcP 21 48 13.0 +0.4**
KHC Kasperske Hory 73.86 340 IAmb IAmb 21 47 59.4
comp=Z,27nm,1.1s
BSTI Sart Tilman 73.88 345 *dP* **P 21 47 57.4 +0.2**
DRGR 73.90 333 ⇑P **P 21 47 57.8 +0.2**
BISRR Bisoca 73.90 330 ⇑P **P 21 47 58.6 +1.0**
DOPR Dopca 73.91 331 ⇑P **P 21 47 58.5 +0.9**
JURR Jurilovca 73.95 328 ⇓P **P 21 47 58.4 +0.6**
GRER 73.98 329 ⇓P **P 21 47 58.7 +0.8**
ZST Bratislava 73.98 337 *eP* **P 21 47 59.6 +1.7**
ZST pmax pmax
comp=Z,66nm,1.2s
ZST Bratislava 73.98 337 *eP* **P 21 47 59.5 +1.7**
WET Wettzell 73.99 340 *eP* **P 21 47 58.9 +0.9**
comp=Z,41nm,1.4s,baz=18,slow=6.1
KOPT Kop Dagi 74.00 318 P **P 21 47 59.8 +1.3**
MILB Miltenberg 74.00 343 *eP* **P 21 47 58.5 +0.5**
comp=Z,29nm,0.9s,baz=18,slow=6.1
CKRC Cesky Krumlov 74.00 339 *eP* **P 21 47 58.6 +0.5**
TPGR Topolog 74.01 328 ⇑P **P 21 47 58.3 +0.1**
BHOU Houvegnez 74.03 345 *dP* **P 21 47 58.9 +0.7**
SRO Srobarova 74.06 336 *eP* **P 21 47 59.9 +1.6**
SRO pmax pmax
comp=Z,44nm,1.6s
SRO Srobarova 74.06 336 *eP* **P 21 47 59.9 +1.6**
BCLA Clavier 74.07 345 *dP* **P 21 47 58.7 +0.3**
SRO2 Moca 74.09 336 *eP* **P 21 47 58.8 +0.3**
SRO2 pmax pmax
comp=Z,19nm,0.8s
SRO2 Moca 74.09 336 *eP* **P 21 47 58.8 +0.3**
GEC2 GERESS Array S 74.11 340 P **P 21 47 59.6 +0.9**
GEC2 IAmb IAmb 21 48 00.3
comp=Z,14nm,1.0s
GEC2 GERESS Array S 74.11 340 *eP* **P 21 47 59.1 +0.4**
comp=Z,13nm,0.9s,baz=18,slow=6.1
GERES GERESS Array B 74.11 340 P **P 21 47 59.2 +0.5**
comp=Z,5.8nm,0.5s,baz=32,slow=5.3,SNR=66
GERES LR LR 22 24 23.7
comp=Z,48nm,19.9s,baz=18,slow=39
NEHR Nehoiu 74.14 330 ⇓P **P 21 47 59.2 +0.3**
MLR Muntele Rosu 74.18 330 ⇓P **P 21 48 00.2 +1.0**
MLR Muntele Rosu 74.18 330 LR LR 22 25 11.1
comp=Z,257nm,18.3s,baz=28,slow=40
MLR Muntele Rosu 74.18 330 P **P 21 48 00.3 +1.0**
MLR pmax pmax
comp=Z,25nm,0.7s
MLR Muntele Rosu 74.18 330 P **P 21 48 00.2 +1.0**
BUD Budapest 74.20 336 P **P 21 48 00.5 +1.3**
LRAL Lakeview Retre 74.28 55 P **P 21 47 59.9 +0.1**
LRAL IAmb IAmb 21 48 03.2
comp=Z,16nm,1.2s
LRAL Lakeview Retre 74.28 55 IAmb IAmb 21 48 02.5
comp=Z,8.2nm,0.8s
LRAL Lakeview Retre 74.28 55 P **P 21 47 59.5 -0.4**
baz=325
LRAL Lakeview Retre 74.28 55 P **P 21 47 59.3 -0.6**
HARR Harsova 74.31 328 ⇑P **P 21 48 00.3 +0.4**
ISR Istrita 74.34 330 ⇑P **P 21 48 00.8 +0.6**
TIRR Tirgusor 74.37 328 ⇑P **P 21 48 00.1 -0.1**
TIRR Tirgusor 74.37 328 P **P 21 48 00.3 +0.1**
TIRR pmax pmax
comp=Z,174nm,1.5s
TIRR Tirgusor 74.37 328 P **P 21 48 00.3 +0.1**
TLBR Topalu 74.41 328 ⇑P **P 21 48 00.3 -0.1**
GEVA Gevas 74.42 315 P **P 21 48 01.7 +0.8**
GEVA IAmb IAmb 21 48 02.7
comp=Z,28nm,1.0s
VOIR 74.49 331 ⇑P **P 21 48 01.6 +0.5**
CONA Conrad Observa 74.51 338 *iP* **P 21 48 02.3 +1.2**
comp=Z,19nm,1.1s,SNR=10
AMRR Amara 74.57 329 ⇑P **P 21 48 02.3 +0.9**
SOP Sopron 74.59 337 P **P 21 48 03.2 +1.7**
GURO Guroymak-BITLI 74.64 316 P **P 21 48 03.4 +1.3**
GURO IAmb IAmb 21 48 04.9
comp=Z,13nm,0.9s
SIRR Siria 74.66 333 ⇑P **P 21 48 02.6 +0.7**
EGYH Egyhazaskeszo 74.66 337 P **P 21 48 02.8 +0.9**
ARR Arges 74.67 331 ⇑P **P 21 48 03.1 +1.1**
WLF Walferdange 74.68 345 *dP* **P 21 48 02.8 +0.8**
GSI Gunungsitoli 74.82 250 P **P 21 48 03.4 +0.2**
AMBH Ambrzfalva 74.83 334 P **P 21 48 04.1 +1.3**
SULR 74.83 330 ⇑P **P 21 48 03.6 +0.8**
MPLH Magyarpolny 74.84 336 P **P 21 48 04.1 +1.2**
ICOR Ion Corvin 74.87 328 ⇑P **P 21 48 03.9 +0.8**
MOA Molln 74.94 339 *iP* **P 21 48 04.3 +0.8**
comp=Z,11nm,0.7s,SNR=6.9
RASA Rasa 74.98 329 ⇓P **P 21 48 03.6 -0.1**
Y52A Lilburn 74.98 53 P **P 21 48 05.8 +1.8**
Y52A IAmb IAmb 21 48 12.3
comp=Z,22nm,0.9s
Y52A Lilburn 74.98 53 IAmb IAmb 21 48 12.3
comp=Z,22nm,0.9s
STU Stuttgart 75.04 342 P **P 21 48 04.4 +0.4**
STU pmax pmax
comp=Z,12nm,1.0s
STU Stuttgart 75.04 342 P **P 21 48 04.4 +0.4**
STU IAmb IAmb 21 48 05.6
comp=Z,12nm,1.0s
STU Stuttgart 75.04 342 *eP* **P 21 48 04.4 +0.4**
comp=Z,34nm,1.1s,baz=18,slow=6.1
PSN Preselentsi 75.14 328 *eP* **P 21 48 05.6 +0.9**
GZR Gura Zlata 75.17 332 ⇑P **P 21 48 05.2 +0.3**
ARSA Arzberg 75.23 338 *iP* **P 21 48 06.4 +1.2**
comp=Z,15nm,1.2s,SNR=7.4
FUR Furstenfeldbru 75.24 341 *eP* **P 21 48 05.8 +0.6**
comp=Z,27nm,1.0s,baz=18,slow=6.1
BZS Buzias 75.27 333 ⇓P **P 21 48 05.5 +0.1**
TOKA Tokat 75.28 321 P **P 21 48 06.3 +0.7**

RJOB Jochberg 75.35 340 *eP* **P 21 48 06.8 +0.9**
comp=Z,21nm,0.9s,baz=18,slow=6.1
CTA Charters Tower 75.41 196 P **P 21 48 07.0 +0.7**
comp=Z,9.0nm,0.8s,baz=358,slow=8.6,SNR=7.9
MORH Mrgy, Hungar 75.47 335 ⇓P **P 21 48 06.5 0.0**
MORH Mrgy, Hungar 75.47 335 ⇑*iP* **P 21 48 06.6 0.0**
MORH Mrgy, Hungar 75.47 335 P **P 21 48 06.5 0.0**
COPA Copaceanca 75.63 330 ⇓P **P 21 48 07.7 +0.2**
GOGA Godfrey 75.64 52 P **P 21 48 07.9 +0.2**
GOGA pmax pmax
comp=Z,15nm,0.6s
GOGA Godfrey 75.64 52 P **P 21 48 07.9 +0.2**
GOGA IAmb IAmb 21 48 08.8
comp=Z,15nm,0.6s
GOGA Godfrey 75.64 52 P **P 21 48 08.1 +0.4**
baz=326
GOGA Godfrey 75.64 52 P **P 21 48 07.9 +0.2**
ILGA Ilgaz 75.65 323 P **P 21 48 08.5 +0.6**
KOVH Kovagotottos 75.73 336 P **P 21 48 08.3 +0.3**
HERR Herculane 75.74 332 ⇑P **P 21 48 08.1 0.0**
PRD Provadia 75.82 328 *eP* **P 21 48 09.3 +0.7**
KBA Koelnbreinsper 75.86 339 *iP* **P 21 48 10.7 +1.6**
comp=Z,88nm,1.1s,SNR=35
SOKA Soboth 75.88 338 *iP* **P 21 48 10.1 +1.1**
comp=Z,24nm,1.2s,SNR=14
PERS Pernice 75.90 338 *iP* **P 21 48 10.1 +1.0**
UBR Ueberruh 75.92 342 *eP* **P 21 48 10.0 +0.8**
comp=Z,26nm,1.1s,baz=18,slow=6.1
ECH Echery 75.92 344 IAmb IAmb 21 48 11.2
comp=Z,21nm,1.2s
WATA Walderalm 75.97 340 *iP* **P 21 48 10.5 +0.9**
comp=Z,29nm,1.2s,SNR=9.9
RETA Reutte 75.99 341 *iP* **P 21 48 10.3 +0.7**
comp=Z,14nm,1.0s,SNR=7.7
VLAD Vladila 75.99 331 ⇓P **P 21 48 09.8 +0.3**
WTTA Wattenberg 76.03 340 *iP* **P 21 48 11.0 +1.1**
comp=Z,36nm,1.3s,SNR=15
DZM Mont Dzumac 76.03 177 *e*LR LR 22 11 37.4
comp=Z,269nm,24.5s
MOTA Moosalm 76.06 341 *iP* **P 21 48 10.9 +0.8**
comp=Z,33nm,1.2s,SNR=13
KALN Kalnik 76.08 337 *iP* **P 21 48 10.4 +0.4**
LOBO Lobor 76.14 337 *iP* **P 21 48 10.6 +0.2**
OBKA Obir 76.15 338 *iP* **P 21 48 11.7 +1.2**
comp=Z,29nm,0.8s,SNR=12
PUNG Punghina 76.15 332 ⇓P **P 21 48 10.5 0.0**
SQTA Sankt Quirin 76.16 341 *iP* **P 21 48 11.7 +1.1**
comp=Z,44nm,1.2s,SNR=17
FRGS Fruska Gora 76.17 334 ⇑P **P 21 48 09.9 -0.7**
FRGS Fruska Gora 76.17 334 ⇑*iP* **P 21 48 09.6 -1.0**
MARD Mardin 76.21 316 P **P 21 48 11.7 +0.6**
SZH Strazhica 76.21 329 *eP* **P 21 48 10.6 -0.2**
MYKA Terra Mystica 76.23 339 *iP* **P 21 48 11.8 +0.8**
comp=Z,13nm,0.7s,SNR=6.1
DAVA Damuels 76.34 342 *eP* **P 21 48 12.5 +0.8**
comp=Z,15nm,1.3s
ABTA Abfaltersbach 76.35 340 *iP* **P 21 48 12.4 +0.8**
comp=Z,30nm,1.0s,SNR=14
PTJ Puntijarka 76.40 337 P **P 21 48 12.1 +0.1**
A252A Venje 76.40 336 *iP* **P 21 48 11.9 0.0**
LEM Lembang 76.40 237 LR LR 22 25 17.0
comp=Z,38nm,18.8s,baz=8.5,slow=38
FETA Feichten 76.44 341 *iP* **P 21 48 13.4 +1.1**
comp=Z,30nm,1.1s,SNR=13
ZAG Zagreb 76.47 337 ⇑*iP* **P 21 48 13.3 +1.1**
MOSL Moslavina 76.49 336 *iP* **P 21 48 12.4 0.0**
CRES Cresnjev 76.59 337 ⇑*iP* **P 21 48 13.2 +0.2**
LJU Ljubljana 76.59 338 ⇑*iP* **P 21 48 13.3 +0.3**
ROBS Robic 76.62 339 *iP* **P 21 48 12.8 -0.2**
OZLJ Ozalj 76.79 337 *iP* **P 21 48 14.1 +0.1**
BNN Bunyan 76.80 320 P **P 21 48 14.9 +0.5**
CLF Chambon-Foret 76.84 347 P **P 21 48 15.2 +0.9**
BR131 Keskin Array S 76.84 322*c iP* **P 21 48 13.8 -0.9**
BR131 Keskin Array S 76.84 322 P **P 21 48 14.4 -0.3**
BRTR Keskin Array B 76.84 322 P **P 21 48 14.9 +0.3**
comp=Z,12nm,0.6s,baz=29,slow=3.1,SNR=86
BRTR LR LR 22 25 38.5
comp=Z,74nm,19.9s,baz=26,slow=38
BRTR Keskin Array B 76.84 322*ceP* **P 21 48 15.0 +0.3**
BRTR pmax pmax
comp=Z,13nm,0.6s
CEY Cerknica 76.90 338 *eP* **P 21 48 14.5 -0.2**
BOJS Bojanci 76.94 337 *iP* **P 21 48 15.4 +0.5**
ANTO Ankara 77.02 323 P **P 21 48 16.5 +0.9**
ANTO pmax pmax
comp=Z,30nm,0.8s
ANTO Ankara 77.02 323 P **P 21 48 16.5 +0.9**
MDUB Mudurnu 77.04 324 P **P 21 48 16.0 +0.3**
BR231 Keskin MP Arra 77.05 323 P **P 21 48 16.3 +0.6**
DIVS Divibare 77.11 334 P **P 21 48 15.9 -0.1**
DIVS IAmb IAmb 21 48 17.1
comp=Z,18nm,0.9s
DIVS Divibare 77.11 334 ⇑*iP* **P 21 48 16.0 0.0**
QIS Mount Isa 77.16 203 P **P 21 48 16.9 +0.6**
SKDS Skadanscina 77.18 338 ⇑*iP* **P 21 48 15.9 -0.4**
CTI Castel Tesino 77.19 340 P **P 21 48 16.1 -0.4**
CTI pmax pmax
comp=Z,17nm,0.6s
CTI Castel Tesino 77.19 340 P **P 21 48 16.1 -0.4**
CTI IAmb IAmb 21 48 19.8
comp=Z,17nm,0.6s
TUE Stuetta 77.23 342 P **P 21 48 17.4 +0.6**
A250A Rusevo Krmpots 77.42 337 *iP* **P 21 48 17.4 -0.2**
BBLS Lazići 77.48 334 ⇑*iP* **P 21 48 18.6 +0.5**
MGRS Mrkonjic Grad 77.54 336 *eP* **P 21 48 19.7 +1.4**
VTS Vitosha 77.60 331 ⇑P **P 21 48 19.1 +0.3**
VTS Vitosha 77.60 331 P **P 21 48 18.5 -0.4**
VTS pmax pmax
comp=Z,17nm,0.6s
VTS Vitosha 77.60 331 P **P 21 48 18.4 -0.4**
VTS IAmb IAmb 21 48 19.9
comp=Z,17nm,0.6s
VTS Vitosha 77.60 331 *eP* **P 21 48 18.8 0.0**
SMRN Sveta Marina 77.63 338 *iP* **P 21 48 18.3 -0.4**
SENIN Lac Senin/Sane 77.70 343 P **P 21 48 19.7 +0.3**
SENIN IAmb IAmb 21 48 24.8
comp=Z,26nm,1.5s
WB0 Warramunga Arr 77.70 208 P **P 21 48 18.9 -0.4**
WB0 IAmb IAmb 21 48 36.0
comp=Z,11nm,0.8s
RUDO Rudo 77.72 334 *eP* **P 21 48 18.9 -0.4**
UDBI Udbina 77.75 337 *iP* **P 21 48 19.4 -0.2**
RABC Rab 77.76 337 *iP* **P 21 48 19.0 -0.5**
BORA Eskisehir 77.82 325 IAmb IAmb 21 48 21.1
comp=Z,18nm,0.9s
WR0 Warramunga Arr 77.84 207 P **P 21 48 19.6 -0.5**
BRJN Brijuni 77.84 338 *iP* **P 21 48 19.6 -0.4**
WRAB Tennant Creek 77.87 208*ceP* **P 21 48 20.1 -0.1**
WRAB pmax pmax
comp=Z,11nm,1.3s
WRAB Tennant Creek 77.87 208 P **P 21 48 20.4 +0.1**
WRAB Tennant Creek 77.87 208 P **P 21 48 20.3 +0.1**
WB2 Warramunga Arr 77.88 208 IAmb IAmb 21 48 21.3
comp=Z,9.9nm,0.8s
WRA Warramunga Arr 77.88 208 P **P 21 48 20.4 +0.1**
comp=Z,6.1nm,0.6s,baz=21,slow=5.8,SNR=68
NVLJ Novalja 77.92 337 *iP* **P 21 48 19.2 -1.2**
KIJV Kijevo 78.09 336 *iP* **P 21 48 21.3 -0.1**
VIRC Vir 78.14 337 *iP* **P 21 48 20.9 -0.7**
UPM Unac-Piva 78.23 334 *eP* **P 21 48 21.8 -0.6**
KKB Krupnik 78.33 331 *eP* **P 21 48 22.7 -0.1**
ALN Alexandroupoli 78.33 328 P **P 21 48 23.2 +0.5**
ALN pmax pmax
comp=Z,43nm,1.5s
ALN Alexandroupoli 78.33 328 P **P 21 48 23.2 +0.5**
ALN IAmb IAmb 21 48 23.9
comp=Z,43nm,1.5s
MORI Morici 78.39 337 *iP* **P 21 48 22.4 -0.5**
RICI Ricice 78.40 335 P **P 21 48 22.4 -0.6**
MMB Musomiste 78.40 330 *eP* **P 21 48 24.0 +0.8**
DUGI Dugi Otok 78.42 337 *iP* **P 21 48 23.0 -0.2**
SHME Shamm 78.48 299 P **P 21 48 23.7 -0.1**
SNR=5.2
SHME Shamm 78.48 299 *iP* **P 21 48 22.9 -0.9**
SNR=22
BANOM Banah 78.50 298 P **P 21 48 24.0 0.0**
SNR=8.1
BANOM Banah 78.50 298 *iP* **P 21 48 23.3 -0.6**
SNR=29
ZIRJ Zirje 78.60 337 *iP* **P 21 48 23.4 -0.8**
BRY Bratogost 78.61 334 *eP* **P 21 48 23.7 -0.7**
MAKA Makarska 78.62 335 *iP* **P 21 48 23.6 -0.7**
PRMA PARMA 78.69 341 P **P 21 48 25.5 +0.8**
SKO Skopje 78.70 332 ⇑*iP* **P 21 48 25.2 +0.5**

STIP	Stip	78.75	331	⇑	*i*	P	P	21 48 24.4	-0.6
TAOE	Nuku Hiva Isla	78.80	123		*e*	LR	LR	22 12 52.0	
	comp=Z,215nm,27.1s								
TREB	Trebinje	78.83	334		*e*	P	P	21 48 24.6	-0.8
FITZ	Fitzroy Crossi	78.84	216		P		P	21 48 26.1	+0.5
	comp=Z,7.1nm,0.6s,baz=12,slow=5.5,SNR=25								
FITZ	Fitzroy Crossi	78.84	216		P		P	21 48 25.9	+0.3
STON	Ston	78.84	335	⇑	*i*	P	P	21 48 24.6	-0.9
STON	Ston	78.84	335		*i*	P	P	21 48 24.8	-0.7
PDG	Podgorica	78.86	334	⇑		P	P	21 48 25.4	-0.3
PDG	Podgorica	78.86	334	⇑	*i*	P	P	21 48 25.3	-0.3
HVAR	Hvar	78.86	336		*i*	P	P	21 48 24.4	-1.2
ZCCA	Zocca	78.96	340		P		P	21 48 27.6	+1.4
VAY	Valandovo	78.98	331		*i*	P	P	21 48 26.7	+0.4
MASF	Masafi	79.03	298		P		P	21 48 26.7	-0.2
MSFE	Esma-Masafi	79.03	298		*i*	P	P	21 48 26.0	-0.9
	SNR=8.0								
HCY	Herceg Novi	79.04	334		*e*	P	P	21 48 25.9	-0.7
BNI	Bardonecchia	79.08	343			P	P	21 48 28.2	+1.2
BNI						pmax	pmax		
	comp=Z,12nm,1.0s								
BNI	Bardonecchia	79.08	343			P	P	21 48 28.2	+1.2
BNI						IAmb	IAmb	21 48 39.4	
	comp=Z,12nm,1.0s								
DRME	Dracevica, Mon	79.11	334	⇑	*i*	P	P	21 48 27.1	+0.1
UMQ	Umm Al-Quwin	79.16	299		P		P	21 48 27.0	-0.5
SSB	Saint Sauveur	79.20	345			IAmb	IAmb	21 48 28.9	
	comp=Z,16nm,1.2s								
MSSA	Maissana	79.28	341			P	P	21 48 27.8	-0.2
MSSA						IAmb	IAmb	21 48 28.9	
	comp=Z,25nm,1.0s								
UOSS	Minazif	79.35	298			P	P	21 48 27.4	-1.2
UOSS	Minazif	79.35	298			P	P	21 48 27.9	-0.7
UOSS	Minazif	79.35	298		*i*	P	P	21 48 27.5	-1.0
	SNR=38								
WSAR	Wadi Sarin	79.46	295			LR	LR	22 27 05.0	
	comp=Z,122nm,20.6s,baz=86,slow=38								
HATD	Hatta, Dubai	79.48	298			P	P	21 48 29.0	-0.4
	SNR=11								
HATD	Hatta, Dubai	79.48	298		*i*	P	P	21 48 29.0	-0.4
	SNR=23								
BIDO	Bidbid	79.50	296			P	P	21 48 29.5	+0.1
NAZ	Nazwa, Dubai	79.60	298			P	P	21 48 29.3	-0.6
NAZ	Nazwa, Dubai	79.60	298		*i*	P	P	21 48 29.1	-0.8
	SNR=13								
ASHO	Ashiyiah	79.64	298			P	P	21 48 30.1	-0.1
	SNR=7.8								
ASHO	Ashiyiah	79.64	298		*i*	P	P	21 48 29.4	-0.8
	SNR=20								
OHR	Ohrid	79.68	332		*i*	P	P	21 48 30.5	+0.3
PALK	Pallekele	79.68	268			LR	LR	22 26 32.6	
	comp=Z,85nm,21.4s,baz=148,slow=38								
PALK	Pallekele	79.68	268			P	P	21 48 31.0	+0.5
PALK						pmax	pmax		
	comp=Z,17nm,0.9s								
PALK	Pallekele	79.68	268			P	P	21 48 31.0	+0.5
PALK						IAmb	IAmb	21 48 33.1	
	comp=Z,17nm,0.8s								
PALK	Pallekele	79.68	268			P	P	21 48 30.0	-0.5
OSSC	Osservatorio P	79.69	340			IAmb	IAmb	21 48 31.7	
	comp=Z,25nm,0.9s								
MANT	Manisa	79.71	325			IAmb	IAmb	21 48 31.4	
	comp=Z,25nm,1.1s								
WBK	Wadi Bani Khal	79.79	294			P	P	21 48 31.8	+0.7
FNA	Florina	79.82	331			P	P	21 48 30.5	-0.5
FNA						pmax	pmax		
	comp=Z,15nm,0.9s								
FNA	Florina	79.82	331			P	P	21 48 30.5	-0.5
FNA						IAmb	IAmb	21 48 31.8	
	comp=Z,15nm,0.9s								
FAQ	Al Faqa, Dubai	79.83	298			P	P	21 48 30.3	-0.9
FAQ	Al Faqa, Dubai	79.83	298		*i*	P	P	21 48 30.0	-1.2
	SNR=9.6								
HOQ	Hoqain	79.88	296			P	P	21 48 32.0	+0.5
	SNR=7.5								
SMDO	Samad	79.92	295			P	P	21 48 31.7	-0.1
JLN	Jalan Bani Buh	79.93	294			P	P	21 48 32.1	+0.3
EIDS	Eidsvold	79.94	191			P	P	21 48 31.2	-0.2
NRCA	Norcia	79.96	338			P	P	21 48 32.5	+0.8
ASUD	Al Ashush, Dub	80.06	298			P	P	21 48 32.1	-0.4
ASUD	Al Ashush, Dub	80.06	298		*i*	P	P	21 48 31.7	-0.7
	SNR=11								
KBN	Korca	80.13	332			P	P	21 48 32.9	+0.2
KBN						pmax	pmax		
	comp=Z,17nm,1.1s								
KBN	Korca	80.13	332			P	P	21 48 32.9	+0.2
KBN						IAmb	IAmb	21 48 39.2	
	comp=Z,17nm,1.1s								
LIT	Litokhoron	80.13	330			P	P	21 48 33.2	+0.6
LIT						pmax	pmax		
	comp=Z,28nm,1.3s								
LIT	Litokhoron	80.13	330			P	P	21 48 33.2	+0.6
LIT						IAmb	IAmb	21 48 46.3	
	comp=Z,28nm,1.3s								
AJN	Ajban	80.29	299			P	P	21 48 32.7	-1.0
ALNE	Al Ain	80.31	298			P	P	21 48 33.3	-0.6
	SNR=6.2								
ALNE	Al Ain	80.31	298		*i*	P	P	21 48 33.1	-0.7
	SNR=13								
AQU	L'Aquila	80.35	338			P	P	21 48 34.5	+0.7
AQU	L'Aquila	80.35	338			P	P	21 48 34.5	+0.7
AQU						IAmb	IAmb	21 48 45.6	
	comp=Z,24nm,0.9s								
SGRT	San Giovanni R	80.38	336			P	P	21 48 33.4	-0.6
SGRT						IAmb	IAmb	21 48 37.6	
	comp=Z,22nm,0.8s								
JMDO	Jabal Madar	80.45	295			P	P	21 48 35.0	+0.4
	SNR=12								
LATE	Laterza	80.45	339			P	P	21 48 33.6	-0.7
BSY	Bisya	80.63	296			P	P	21 48 36.0	+0.4
	SNR=7.6								
JRN	Qarnain Island	81.07	300			P	P	21 48 36.7	-1.1
CSS	Mathiatis	81.18	320			P	P	21 48 37.9	-0.4
KHOR	Al-Khor Airpor	81.18	302			P	P	21 48 37.7	-0.7
SHMA	Al-Shehemyia	81.26	302			P	P	21 48 38.2	-0.6
RMQ	Roma	81.32	193			P	P	21 48 40.2	+1.3
SAKB	Bahrain	81.37	303			P	P	21 48 38.6	-0.8
MZWR	Madinat Zayed	81.52	299			P	P	21 48 39.0	-1.2
AS31	Alice Springs	81.54	207			P	P	21 48 40.5	+0.4
ASAR	Alice Springs	81.54	207			P	P	21 48 40.9	+0.7
	comp=Z,7.6nm,0.8s,baz=16,slow=5.7,SNR=77								
ASAR						PKKPbc	PKKPbc	22 07 13.2	+0.9
	comp=Z,0.3nm,0.5s,baz=190,slow=1.8,SNR=6.8								
ASAR	Alice Springs	81.54	207			P	P	21 48 40.6	+0.5
ASAR	Alice Springs	81.54	207			P	P	21 48 40.6	+0.5
RAR	Rarotonga	81.63	145			LR	LR	22 22 21.2	
	comp=Z,179nm,18.3s,baz=286,slow=34								
MHTO	MHTO	81.65	294			P	P	21 48 40.8	-0.1
MHTO						P	PcP	21 48 41.0	-5.8
	SNR=16								
UMZA	Um Al Zommool	81.72	297			P	P	21 48 40.5	-0.8
GHWR	Ruwais	81.87	300			P	P	21 48 41.1	-0.9
TRNA	Turayna	82.07	302			P	P	21 48 42.0	-1.1
QLP	Quilpie	82.10	197			P	P	21 48 44.0	+1.1
	comp=Z,44nm,1.1s								
MMAI	Mount Meron Ar	82.10	318			LR	LR	22 29 31.1	
	comp=Z,80nm,18.3s,baz=177,slow=39								
PPT	Papeete	82.14	135			LR	LR	22 20 21.1	
	comp=Z,136nm,20.0s,baz=313,slow=32								
PPT2	Papeete2	82.16	135		*e*	LR	LR	22 14 29.9	
	comp=Z,157nm,22.5s								
MZR	Muzera	82.35	299			P	P	21 48 44.8	+0.2
	SNR=8.3								
MZR	Muzera	82.35	299		*i*	P	P	21 48 43.9	-0.7
	SNR=28								
SLWR	Sila	82.38	301			P	P	21 48 43.9	-0.8
TIP	Timpagrande	82.56	334	⇓		P	P	21 48 46.2	+0.6
TIP	Timpagrande	82.56	334			P	P	21 48 46.1	+0.5
TIP						IAmb	IAmb	21 48 47.4	
	comp=Z,31nm,1.1s								
DQM	DQM	82.74	294			P	P	21 48 45.8	-0.9
CMIG	Matias Romero	83.15	70			LR	LR	22 25 14.3	
	comp=Z,49nm,19.6s,baz=352,slow=35								
GHAJ	Ghor Haditha	83.54	317			P	P	21 48 50.5	-0.1
GHAJ						IAmb	IAmb	21 48 51.3	
	comp=Z,13nm,0.7s								
PSA00	Pilbara Seismi	84.12	220			P	P	21 48 52.6	-0.9
PSA00						IAmb	IAmb	21 48 53.5	
	comp=Z,14nm,1.2s								
WRKA	Warakurna	84.44	211			P	P	21 48 56.2	+1.1
POLO	Lamas de Olo	84.45	353		*e*	P	P	21 48 56.2	+0.9
	comp=Z,25nm,1.8s								
PVRL	Vila Real	84.55	353		*e*	P	P	21 48 56.8	+1.1
	comp=Z,51nm,1.6s								
PVRL						*e*pP	pwP	21 49 13.9	+2.6
MVO	Moncorvo	84.61	353		*e*	P	P	21 48 57.0	+1.0
	comp=Z,28nm,1.2s								
MVO						*e*pP	pwP	21 49 14.5	+2.9
OOD	Oodnadatta	85.04	204			P	P	21 48 59.4	+1.4
	comp=Z,16nm,1.0s								
PVIS	Viseu	85.12	353		*e*	P	P	21 48 59.4	+0.8
	comp=Z,36nm,1.8s								
PVIS						*e*pP	pwP	21 49 16.7	+2.5
EIL	Elat	85.23	317			LR	LR	22 32 51.8	
	comp=Z,154nm,19.2s,baz=50,slow=40								
SHAO	Shalim	85.33	294			P	P	21 48 58.7	-1.2
SHAO	Shalim	85.33	294			P	P	21 48 58.6	-1.4
MTE	Manteigas	85.41	353		*e*	P	P	21 49 00.7	+0.6
	comp=Z,37nm,1.7s								
MTE						*e*pP	pwP	21 49 18.4	+2.7
DOK	Doka	85.64	296			P	P	21 49 00.3	-1.1
ESBB	Sonseca Array	85.81	350			P	P	21 49 02.5	+0.4
ESBB						IAmb	IAmb	21 49 03.9	
	comp=Z,11nm,0.9s								
ESDC	Sonseca Array	85.81	350			P	P	21 49 02.7	+0.6
	comp=Z,7.4nm,0.9s,baz=359,slow=5.3,SNR=43								
ESDC	Sonseca Array	85.81	350			P	P	21 49 02.3	+0.3
ESDC						IAmb	IAmb	21 49 22.6	
	comp=Z,15nm,1.3s								
PCAS	Casmilo, Conde	85.82	354		*e*	P	P	21 49 02.9	+0.9
	comp=Z,26nm,2.0s								
PCAS						*e*pP	pwP	21 49 20.8	+3.2
RAYN	Ar Rayn	85.89	305			P	P	21 49 02.1	-0.5
RAYN						pmax	pmax		
	comp=Z,20nm,0.7s								
RAYN	Ar Rayn	85.89	305			P	P	21 49 02.1	-0.5
RAYN	Ar Rayn	85.89	305			P	P	21 49 02.1	-0.5
RAYN	Ar Rayn	85.89	305		*i*	P	P	21 49 02.2	-0.5
	SNR=43								
DMTO	DMTO	85.95	295			P	P	21 49 01.4	-1.5
PCBR	Castelo Branco	85.96	353		*e*	P	P	21 49 03.3	+0.6
	comp=Z,20nm,1.5s								
PMRV	Marv??o	86.36	353		*e*	P	P	21 49 04.9	+0.2
	comp=Z,12nm,2.6s								
WHFO	Wadi Hawf	86.40	296			P	P	21 49 03.9	-1.3
RBK	Rabkut	86.52	295			P	P	21 49 04.3	-1.5
PESTR	Estremoz	86.93	353		*e*	P	P	21 49 07.5	0.0
	comp=Z,16nm,1.7s								
LCRK	Leigh Creek	87.02	201			P	P	21 49 09.1	+1.4
	comp=Z,23nm,0.9s								
ABTO	Aybut	87.12	296			P	P	21 49 07.6	-1.2
EVO	Evora	87.30	353		*e*	P	P	21 49 19.8	+11
	comp=Z,8.6nm,1.6s								
EVO						*e*pP	pwP	21 49 34.7	+10
PBAR	Barrancos	87.58	352		*e*	P	P	21 49 11.0	+0.4
	comp=Z,16nm,1.6s								
PBAR						*e*pP	pwP	21 49 28.6	+2.3
KEST	Kesra	87.58	339			P	P	21 49 10.9	+0.1
	comp=Z,1.9nm,0.6s,baz=291,slow=4.2,SNR=6.4								
STKA	Stephens Creek	87.73	198			P	P	21 49 11.8	+0.7
	comp=Z,5.5nm,0.8s,baz=331,slow=6.1,SNR=12								
STKA	Stephens Creek	87.73	198			P	P	21 49 11.5	+0.4
STKA						pmax	pmax		
	comp=Z,1.0nm,0.8s								
STKA	Stephens Creek	87.73	198			P	P	21 49 11.5	+0.4
PCVE	Castro Verde	88.19	353		*e*	P	P	21 49 11.4	-2.2
	comp=Z,20nm,1.4s								
PCVE						*e*pP	pwP	21 49 31.7	+2.5
JTS	Las Juntas de	94.16	66			LR	LR	22 35 50.7	
	comp=Z,30nm,18.6s,baz=62,slow=38								
SJG	San Juan	96.58	46			LR	LR	22 36 18.0	
	comp=Z,56nm,19.2s,baz=110,slow=37								
TORD	Torodi Ar. Bea	111.05	341			PKiKP	PKiKP	21 54 55.7	-0.5
	comp=Z,0.6nm,0.6s,baz=25,slow=2.3,SNR=5.2								
TORD						PP	PP	21 55 22.9	-11
	comp=Z,0.7nm,0.7s,baz=5.9,slow=8.3,SNR=5.4								
DBIC	Dimbokro	118.49	346			PKP	PKPdf	21 55 10.3	-0.2
	comp=Z,3.5nm,0.6s,baz=18,slow=2.3,SNR=6.4								
TIC	Toumodi	118.54	347		*e*	P	PKPdf	21 55 09.3	-1.3
KIC	Kosan Boka	118.78	346		*e*	P	PKPdf	21 55 10.1	-1.0
	comp=Z,4.9nm,0.5s								
LIC	Lamto	118.95	346		*e*	P	PKPdf	21 55 07.5	-3.9
	comp=Z,7.8nm,0.9s								
PRPB	Parauapebas	125.22	41		*e*	P	PKiKP	21 55 25.1	+1.4
LPAZ	La Paz	125.38	67			PKP	PKPdf	21 55 24.2	0.0
	comp=Z,1.4nm,0.6s,baz=346,slow=2.8,SNR=4.7								
LPAZ	La Paz	125.38	67		*e*	P	PKiKP	21 55 24.7	0.0
SIV	San Ignacio	128.82	59			PKP	PKPdf	21 55 30.3	+0.2
	baz=355,slow=1.6								
VNDA	Vanda	131.48	180			PKP	PKiKP	21 55 34.4	+0.1
	comp=Z,1.7nm,0.7s,baz=325,slow=3.7,SNR=15								
VNDA	Vanda	131.48	180				PKiKP	21 55 34.8	+0.5
BOSA	Boshof	140.19	293			PKP	PKPdf	21 55 51.8	+0.6
	comp=Z,1.4nm,0.6s,baz=4.3,slow=2.7,SNR=5.3								
PLCA	Paso Flores	142.26	92			PKP	PKPdf	21 55 55.1	+0.7
	comp=Z,3.9nm,0.8s,baz=269,slow=3.9,SNR=5.4								
COYC	Coyhaique	144.27	99				PKPbc	21 55 57.0	+0.9
COYC							sPKPdf	21 56 14.9	+4.2
SYO	Syowa Base	150.66	218	⇓	*e*		PKiKP	21 56 13.9	+0.2
SYO	Syowa Base	150.66	218	⇑	*e*		PKPdf	21 56 22.4	+2.2
BELA	Belgrano 2	155.42	171			PKPbc	PKPab	21 56 40.1	-0.1
BELA						PKPdf	PKPab	21 56 23.2	+8.9
TROLL	Troll, Antarti	160.29	198			PKPab	PKPab	21 57 00.6	-0.9
SNAA	Sanae	161.45	194			PKPab	PKPab	21 57 04.2	-2.2
VNA3	Neumayer Olymp	162.62	188			PKPab	PKPab	21 57 10.1	-1.5
VNA2	Neumayer--Watz	162.71	191			PKPab	PKPab	21 57 10.3	-1.6
	baz=167,slow=4.0								

KEA ***25*** *21:42:49.3, 31.˙04N× 141.˙96E, h79km, MS4.6/2*
IDC ***25*** *21:42:55.2± 0.5, 31.˙39N× 140.˙09E, h0km, mb4.3/26, mb1 4.5/32, mb1mx4.4/45, mbtmp4.4/32, ML3.7/5, MS3.9/15, Ms1 3.9/15, ms1mx3.4/89, Error ellipse: s-maj=15.6km s-min=11.0km az=93.0*
JMA ***25*** *21:42:55.3± 0.3, 31.˙55N× 140.˙49E, h7km, M4.9*
NIED ***25*** *21:42:55.4, 31.˙55N× 140.˙49E, h7km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-2.42; Mθθ 0.09; Mφφ 2.32; Mrθ 4.82; Mθφ 1.70; Mφr 4.15; Fault plane solution: M0 6.99000×10^15 NP1: φs 228.00000°, δ 79.00000°, λ -79.00000°. NP2: φs 4.00000°, δ 15.00000°, λ -133.00000°.*
BJI ***25*** *21:42:56.4± 0.0, 31.˙32N× 140.˙80E, h60km, mb4.6/71, mB5.1/51, Ms4.5/63, MS7 4.3/54*
MOS ***25*** *21:43:00.6± 1.0, 31.˙37N× 140.˙07E, h51km, mb4.9/12, Error ellipse: s-maj=8.4km s-min=4.7km az=106.1*
NEIC ***25*** *21:43:04.4± 1.6, 31.˙52N± 0.˙05× 140.˙03E± 0.˙08, h56km± 6km, mb4.7/244, Error ellipse: s-maj=9.7km s-min=7.5km az=79.0*

ISC 25 21:43:03.3± 0.4, 31.˙41N± 0.˙03× 140.˙19E± 0.˙04, h57km± 3km, h57km:pP-P, n565, σ1§60/571, mb4.7/204, MS4.3/27, 8C-8D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.11	341			P	Pn	21 43 16.2	-6.5
JHCJ	Hachijojimakas	1.69	349			P	Pn	21 43 24.9	-5.6
JHCJ						*e*S	Sn	21 43 45.3	-5.8
JHJ2	Mitsune	1.73	350			P	Pn	21 43 25.2	-5.8
JHJ2	Mitsune	1.73	350			Pn	Pn	21 43 28.0	-3.0
JHJ	Hachijo jima 2	1.74	349			Pn	Pn	21 43 25.4	-5.7
	49nm,0.3s,baz=258,slow=21,SNR=26								
JHJ						LR	LR	21 44 08.3	
	comp=Z,2μm,20.8s,baz=203,slow=42								
BSO1	Boso 1	3.30	11	P		P	Pn	21 43 45.7	-6.3
JOD2	Odawara 2	3.96	347	P		P	Pn	21 44 00.4	-1.0
HMMJ	Hamamatsu 2	4.01	330	P		P	Pn	21 43 58.3	-3.9
JIE	Ise	4.18	316	P		P	Pn	21 44 01.5	-2.9
JYN	Shimob	4.30	342	P		P	Pn	21 44 04.3	-2.0
JKN2	Miekihoku	4.34	312	P		P	Pn	21 44 01.0	-5.7
JNY	Yasuok	4.39	334	P		P	Pn	21 44 07.4	-0.1
JHU	Hanno	4.50	351	P		P	Pn	21 44 06.4	-2.4
JTNC	Tanabenakahech	4.55	303	P		P	Pn	21 44 03.7	-5.9
JAO	Obara	4.56	328	P		P	Pn	21 44 07.7	-2.1
JCJ	Chichijima	4.64	157	Pn		Pn	Pn	21 44 08.4	-2.4
	6.3nm,0.3s,baz=288,slow=20,SNR=1.2								
JCJ						Sn	Sn	21 44 57.5	-5.9
	14nm,0.3s,baz=49,slow=19,SNR=2.4								
JCJ	Chichijima	4.64	157	Pn		Pn	Pn	21 44 12.9	+2.1
JRY	Ryogami san	4.72	347	P		P	Pn	21 44 10.6	-1.3
INU	Inuyama	4.74	327				Pn	21 44 11.3	-0.9
JGF	Kuroka	4.80	331	Pn		Pn	Pn	21 44 12.7	-0.4
JYT	Yasato	4.81	0				Pn	21 44 13.0	-0.1
MJAR	Matsushiro Arr	5.38	343	Pn		Pn	Pn	21 44 19.5	-1.4
	0.9nm,0.3s,baz=165,slow=10,SNR=34								
MJAR						LR	LR	21 45 56.0	
	comp=Z,322nm,20.3s,baz=169,slow=34								
MJAR	Matsushiro Arr	5.38	343	P		P	Pn	21 44 20.5	-0.5
MJAR	Matsushiro Arr	5.38	343			P	Pn	21 44 20.4	-0.5
MAJO	Matsushiro	5.38	343	P		P	Pn	21 44 20.2	-0.7
MAJO	Matsushiro	5.38	343	Pn		Pn	Pn	21 44 20.2	-0.7
MJB9	Matsu-Tunnel	5.38	343	Pn		Pn	Pn	21 44 20.6	-0.4
JMN	Monobe	5.81	295				Pn	21 44 24.6	-2.3
JMM	Marumori	6.46	4	Pn		Pn	Pn	21 44 33.1	-2.7
JSD	Sado	6.80	347	Pn		Pn	Pn	21 44 39.4	-1.0
JHS	Saijyo	6.92	303	Pn		Pn	Pn	21 44 42.5	+0.4
JNU	Nakatsue	8.07	285	Pn		Pn	Pn	21 44 54.0	-3.8
	1.0nm,0.3s,baz=71,slow=18,SNR=2.8								
JNU						LR	LR	21 47 51.7	
	comp=Z,544nm,19.0s,baz=152,slow=37								
JNU	Nakatsue	8.07	285				Pn	21 44 54.9	-2.9
JSU	Suzuyama	8.32	273	Pn		Pn	Pn	21 45 00.6	-0.6
ERM	Erimo	10.85	12	P		Pn	Pn	21 45 32.3	-3.4
ERM	Erimo	10.85	12	Pn		Pn	Pn	21 45 32.3	-3.4
JOW	Kunigami	11.37	249	Pn		Pn	Pn	21 45 39.3	-3.7
	0.9nm,0.3s,baz=116,slow=18,SNR=1.4								
JOW	Kunigami	11.37	249	Pn		Pn	Pn	21 45 44.2	+1.2
JEW	Eniwo	11.46	5	Pn		Pn	Pn	21 45 42.4	-1.6
TJN	Taejon	11.75	298	*i*	P		Pn	21 45 48.3	+0.2
KSRS	Korea Array	11.78	304	Pn		Pn	Pn	21 45 48.3	-0.2
	0.3nm,0.3s,baz=123,slow=39,SNR=5.5								
KSAR	Wonju Array Be	11.80	304	P		P	Pn	21 45 49.1	+0.3
KSAR	Wonju Array Be	11.80	304	Pn		Pn	Pn	21 45 49.1	+0.3
KS19	Wonju Array Si	11.85	304				Pn	21 45 50.2	+0.9
ASAJ	Asahikawa	12.83	8	Pn		Pn	Pn	21 45 58.2	-4.5
	0.5nm,0.3s,baz=208,slow=14,SNR=5.7								
JKA	Kamikawa-asahi	12.83	8				Pn	21 45 58.2	-4.5
MSHR	Mys Shultsa	13.27	330	*i*	P		Pn	21 46 09.3	+0.5
HHU	Hamhung	13.34	313		P		Pn	21 46 11.7	+2.0
HHU					pP		P	21 46 25.6	+8.1
HHU					S		S	21 48 57.0	-0.5
HHU					AMS		AMS		
	comp=N,313nm,5.0s								
HHU					AMS		AMS		
	comp=E,413nm,6.6s								
HHU					AMS		AMS		
	comp=Z,176nm,2.8s								
HJU	Haeju	13.61	303			P	Pn	21 46 16.6	+3.3
PYAG	Pyongyang	14.04	307			P	P	21 46 23.2	-2.1
USA0B	Ussuriysk Arra	14.31	335			P	Pn	21 46 23.0	+0.3
USA0B	Ussuriysk Arra	14.31	335			Pn	Pn	21 46 23.0	+0.3
USRK	Ussuriysk Ar.	14.31	335			P	P	21 46 28.8	+0.5
USRK	Ussuriysk Ar.	14.31	335			P	P	21 46 28.8	+0.5
KUR	Kuril'sk	15.05	21			P	Pn	21 46 25.8	-6.5
KUR						MLR	MLR		
	comp=Z,546nm,14.0s								
SUJ	Sinuiju	15.40	309			P	P	21 46 40.4	0.0
SUJ						pP	pP	21 46 53.6	+1.2
SUJ						S	S	21 49 44.5	+4.8
SUJ						AMS	AMS		
	comp=N,870nm,5.1s								
SUJ						AMS	AMS		
	comp=E,1μm,6.7s								
SUJ						AMS	AMS		
	comp=Z,1μm,7.1s								
MDJ	Mudanjiang	15.59	331			P	Pn	21 46 39.5	+0.2
MDJ	Mudanjiang	15.59	331			P	Pn	21 46 38.8	-0.5
MDJ						PP	PnPn	21 46 47.0	-1.7
MDJ						S	Sn	21 49 30.5	-0.4
MDJ						pmax	pmax		
	comp=Z,17nm,1.2s								
MDJ						pmax	pmax		
	comp=Z,280nm,3.6s								
MDJ						LR	LR		
	comp=Z,780nm,12.6s								
MDJ						LR	LR		
	comp=Z,920nm,10.8s								
MDJ						LR	LR		
	comp=Z,1μm,17.8s								
YSS	Yuzh-Sakhalins	15.65	7		*e*	P	Pn	21 46 36.0	-4.0
YSS						pmax	pmax		
	comp=Z,50nm,0.9s								
YSS						MLR	MLR		
	comp=Z,300nm,12.0s								
YSS	Yuzh-Sakhalins

SSLB IAmb IAmb 21 47 27.9
comp=Z,63nm,1.0s
KLR Kul'dur 18.91 343 P **P** **21 47 17.8 -1.3**
comp=Z,0.4nm,0.3s,baz=163,slow=12,SNR=8.0
KLR LR LR 21 54 34.6
comp=Z,712nm,18.6s,baz=103,slow=37
TWG Pinlang 19.03 248 P **P** **21 47 20.9 +0.3**
TWG IAmb IAmb 21 47 29.5
comp=Z,80nm,1.1s
TPUB Ta-pu 19.14 250 P **Pn** **21 47 22.8 -0.4**
TYV Tymovskoe 19.52 5 *e*P **Pn** **21 47 27.7 +0.2**
TYV pmax pmax
comp=Z,46nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.9s
GRNR Gornyy 19.55 353⇓ *i*P **P** **21 47 25.1 -1.0**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,570nm,19.0s
GRNR MLR MLR
comp=N,190nm,16.0s
GRNR MLR MLR
comp=Z,230nm,15.0s
TIA Tai'an 19.74 290⇓ P **P** **21 47 28.3 0.0**
TIA S **Sn** **21 51 13.3 +1.9**
TIA pmax pmax
comp=Z,20nm,1.2s
TIA pmax pmax
comp=Z,470nm,3.5s
TIA LR LR
comp=Z,990nm,12.2s
TIA LR LR
comp=Z,670nm,12.2s
TIA LR LR
comp=Z,880nm,14.5s
QZH Quanzhou 20.08 257⇑ *i*P **P** **21 47 32.0 -0.1**
QZH pmax pmax
comp=Z,540nm,5.1s
KNMB Chin-men Tao 20.45 256 P Pn 21 47 37.3 -1.3
KNMB IAmb IAmb 21 47 46.1
comp=Z,39nm,0.9s
BJT Baijiatuau 21.27 300 P **P** **21 47 43.9 -0.9**
BJT pmax pmax
comp=Z,93nm,1.2s
BJT Baijiatuau 21.27 300 **P** **21 47 43.9 -0.9**
BJT IAmb IAmb 21 47 46.6
comp=Z,93nm,1.2s
BJI Beijing 21.27 301 P **P** **21 47 43.5 -1.2**
BJI S **S** **21 51 41.8 +3.9**
BJI pmax pmax
comp=Z,39nm,1.1s
BJI pmax pmax
comp=Z,410nm,3.6s
BJI LR LR
comp=Z,700nm,16.3s
BJI LR LR
comp=Z,640nm,15.7s
HNS HongShan 21.83 293⇑ P **P** **21 47 49.5 -1.2**
HNS PP **PnPn** **21 48 16.0 +2.0**
HNS S **S** **21 51 43.8 -5.1**
HNS pmax pmax
comp=Z,34nm,1.9s
HNS LR LR
comp=Z,740nm,16.1s
HNS LR LR
comp=Z,320nm,17.5s
WHN Wuhan 22.16 275⇓ P **P** **21 47 55.3 +0.9**
WHN sP **sP** **21 48 15.0 +1.3**
WHN SS Sn 21 52 41.8 +32
WHN LR LR
comp=Z,1μm,12.6s
WHN LR LR
comp=Z,1μm,10.3s
WHN LR LR
comp=Z,1μm,13.4s
XLT XiLinHaoTe 22.71 310 *e*P **P** **21 48 02.0 +1.7**
XLT pP sP 21 48 16.3 -3.4
XLT sP pP 21 48 23.0 +10
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,190nm,5.6s
LYN LuoYang 23.44 285⇑ *i*P **P** **21 48 06.3 -1.2**
LYN sP sP 21 48 29.0 +1.7
LYN PP **PnPn** **21 48 39.8 +3.7**
LYN S **S** **21 52 12.5 -4.0**
LYN pmax pmax
comp=Z,40nm,1.9s
LYN pmax pmax
comp=Z,210nm,5.7s
LYN LR LR
comp=Z,680nm,9.4s
LYN LR LR
comp=Z,500nm,12.7s
LYN LR LR
comp=Z,330nm,14.1s
HIA Hailar 23.56 325 P **P** **21 48 07.8 -0.7**
HIA pmax pmax
comp=Z,14nm,1.1s
HIA Hailar 23.56 325 P **P** **21 48 07.8 -0.7**
TIY Taiyuan 23.66 293 P **P** **21 48 11.3 +1.7**
TIY S **S** **21 52 11.3 -8.9**
TIY SS **SnSn** **21 53 08.3 +6.0**
TIY pmax pmax
comp=Z,26nm,1.1s
TIY pmax pmax
comp=Z,280nm,5.0s
TIY LR LR
comp=Z,420nm,15.8s
TIY LR LR
comp=Z,370nm,18.6s
TIY LR LR
comp=Z,680nm,15.8s
ZEA Zeya 24.19 341 *e*P **P** **21 48 13.2 -0.9**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA MLR MLR
comp=E,300nm,12.0s
ZEA MLR MLR
comp=N,400nm,20.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
HHC Hu-ho-hao-te 24.88 300 *e*P **P** **21 48 20.8 +0.1**
HHC pP pP 21 48 37.3 +2.9
HHC S **S** **21 52 42.5 +2.7**
HHC sS sS 21 53 00.8 -2.2
HHC pmax pmax
comp=Z,36nm,1.3s
HHC pmax pmax
comp=Z,370nm,6.0s
HHC LR LR
comp=Z,510nm,11.8s
HHC LR LR
comp=Z,790nm,14.9s
HHC LR LR
comp=Z,1μm,16.5s
PEA0B Petropavlovsk- 25.13 25 P **P** **21 48 22.6 -0.1**
PEA0B pmax pmax
comp=Z,33nm,1.2s
PEA0B Petropavlovsk- 25.13 25 P **P** **21 48 22.6 -0.1**
PEA0B IAmb IAmb 21 48 27.3
comp=Z,33nm,1.1s
PETK Petropavlovsk- 25.13 25 P **P** **21 48 23.4 +0.7**
comp=Z,9.7nm,0.9s,baz=201,slow=7.9,SNR=8.1
PETK LR LR 22 01 01.7
comp=Z,86nm,18.6s,baz=217,slow=43
PET Petropavlovsk 25.42 26 *i* P **P** **21 48 19.8 -5.5**
PET pmax pmax
comp=Z,43nm,1.3s
PET Petropavlovsk 25.42 26 P **P** **21 48 25.1 -0.2**
BTO Baotou 25.97 299 *e*P **P** **21 48 31.0 +0.4**
BTO S **S** **21 52 59.8 +2.6**
BTO LR LR
comp=Z,3μm,18.2s
BTO LR LR
comp=Z,3μm,17.5s
ENH Enshi 26.35 276 IAmb IAmb 21 48 34.1
comp=Z,34nm,0.9s
XAN Xi'an 26.39 284 P **P** **21 48 33.0 -1.4**
XAN pP pP 21 48 47.8 -0.3
XAN S **S** **21 53 04.3 +0.6**

XAN pmax pmax
comp=Z,68nm,1.7s
XAN pmax pmax
comp=Z,300nm,3.5s
XAN LR LR
comp=Z,430nm,15.8s
XAN LR LR
comp=Z,560nm,15.1s
XAN LR LR
comp=Z,680nm,15.1s
H11N2 WAKE ISLAND Hy 26.68 109 T T 22 16 31.4
baz=302,slow=75,SNR=339
H11N1 WAKE ISLAND Hy 26.68 109 T T 22 16 31.3
baz=302,slow=75,SNR=506
H11N3 WAKE ISLAND Hy 26.69 109 T T 22 16 33.2
baz=302,slow=75,SNR=712
H11S3 WAKE ISLAND Hy 27.16 112 T T 22 17 07.8
baz=304,slow=75
H11S1 WAKE ISLAND Hy 27.17 112 T T 22 17 06.1
baz=304,slow=75
H11S2 WAKE ISLAND Hy 27.18 112 T T 22 17 09.0
baz=304,slow=75
CIT Chita 28.36 324 *e*P **P** **21 48 53.3 +1.5**
CIT *e* 21 49 04.9
CIT *e* 21 49 38.9
CIT *e* 21 50 04.0
CIT pmax pmax
comp=Z,53nm,2.8s
MA2 Magadan 29.05 11 P **P** **21 48 57.3 -0.5**
comp=Z,8.4nm,0.9s,baz=186,slow=6.4,SNR=12
MA2 LR LR 22 02 07.6
comp=Z,61nm,18.7s,baz=166,slow=40
MA2 Magadan 29.05 11 P **P** **21 48 57.3 -0.5**
MA2 pmax pmax
comp=Z,15nm,1.0s
MA2 Magadan 29.05 11 P **P** **21 48 57.3 -0.5**
MA2 IAmb IAmb 21 49 00.2
comp=Z,15nm,1.0s
GYA Guiyang 29.68 269⇑ *i*P **P** **21 49 05.0 +1.1**
GYA pmax pmax
comp=Z,16nm,1.8s
ULN Ulaanbaatar 30.06 313 P **P** **21 49 07.0 -0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 30.06 313 P **P** **21 49 07.0 -0.1**
LZH Lanzhou 30.46 289⇑ P **P** **21 49 12.0 +1.2**
LZH pP pP 21 49 26.5 +1.8
LZH sP sP 21 49 36.3 +5.0
LZH *e*S **S** **21 54 08.5 +0.4**
LZH sS sS 21 54 33.5 +1.9
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,580nm,11.9s
LZH LR LR
comp=Z,670nm,11.4s
LZH LR LR
comp=Z,800nm,14.5s
SONM Songino Array 30.46 312 P **P** **21 49 09.7 -0.9**
comp=Z,2.0nm,0.8s,baz=119,slow=9.4,SNR=13
SONM Songino Array 30.46 312 P **P** **21 49 10.2 -0.4**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 30.46 312 P **P** **21 49 10.2 -0.4**
CD2 Chengdu 31.09 279 P **P** **21 49 15.0 -1.3**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,190nm,5.7s
CD2 LR LR
comp=Z,810nm,11.4s
CD2 LR LR
comp=Z,800nm,13.3s
YAK Yakutsk 31.39 350 P **P** **21 49 17.4 -0.9**
comp=Z,2.5nm,0.4s,baz=355,slow=7.5,SNR=6.0
YAK LR LR 22 01 59.2
comp=Z,395nm,18.0s,baz=259,slow=36
YAK Yakutsk 31.39 350 *e*P **P** **21 49 18.8 +0.4**
YAK *e**PP **pwP** **21 49 35.9 +1.6**
YAK *e* 21 50 23.0
YAK *e* 21 52 08.1
YAK *e*S **S** **21 54 22.5 +1.0**
YAK *e**SS **sS** **21 54 47.1 +2.1**
YAK *e*SS **SnSn** **21 56 13.1 +3.1**
YAK *e* 21 59 49.4
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=Z,132nm,4.3s
YAK pmax pmax
comp=N,45nm,3.5s
YAK smax smax
comp=N,126nm,3.7s
YAK MLR MLR
comp=Z,593nm,19.0s
YAK MLR MLR
comp=N,441nm,17.0s
YAK MLR MLR
comp=E,328nm,18.0s
YAK Yakutsk 31.39 350 P **P** **21 49 16.9 -1.5**
YAK IAmb IAmb 21 49 20.1
comp=Z,22nm,1.1s
SEY Seymchan 32.49 10 P **P** **21 49 27.6 -0.5**
comp=Z,5.3nm,0.9s,baz=133,slow=1.6,SNR=20
TNTI Ternate 32.80 204 P **P** **21 49 30.9 -0.3**
TNTI Ternate 32.80 204 P **P** **21 49 32.9 +1.7**
comp=Z,31nm,1.1s
MYLDM Lahad Datu 33.09 222 P **P** **21 49 34.4 +0.6**
ZAK Zakamensk 33.27 316 *e*P **P** **21 49 38.2 +3.0**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
KMI Kunming 33.46 269⇓ P **P** **21 49 38.0 +0.7**
KMI pmax pmax
comp=Z,15nm,1.2s
KMI LR LR
comp=Z,360nm,11.0s
KMI LR LR
comp=Z,270nm,12.7s
KMI LR LR
comp=Z,340nm,12.1s
GTA Gaotai 33.64 295 *e*P **P** **21 49 37.3 -1.3**
GTA pP pP 21 49 49.3 -3.3
GTA sP sP 21 49 55.3 -3.9
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,5.8s
GTA LR LR
comp=Z,370nm,16.7s
GTA LR LR
comp=Z,570nm,17.1s
GTA LR LR
comp=Z,680nm,17.8s
JAY Jayapura 33.74 179 LR LR 22 02 33.1
comp=Z,197nm,19.0s,baz=348,slow=35
KKM Kota Kinabalu 33.78 227 P **P** **21 49 40.2 +0.3**
KKM IAmb IAmb 21 49 45.0
comp=Z,18nm,1.1s
PZH PanZhiHua 33.88 272 P **P** **21 49 39.5 -1.3**
PZH S **S** **21 54 57.5 -3.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,210nm,4.3s
PZH LR LR
comp=Z,660nm,14.1s
PZH LR LR
comp=Z,480nm,15.7s
PZH LR LR
comp=Z,610nm,15.4s
KMSI Cibinong 34.29 210 P P 21 49 49.7 +5.5
GTOI Gorontalo 34.66 211 P **P** **21 49 46.8 -0.6**
comp=Z,2μmcomp=Z,356nmcomp=Z,22nm,1.1s
DLV T Lat 35.06 244 P **P** **21 49 51.7 +0.5**
MRSI Marisa 35.28 213 P **P** **21 49 53.1 +0.3**
comp=Z,1μmcomp=Z,109nm,1.2s
TOLI2 Tolitoli 35.28 215 P **P** **21 49 50.9 -1.9**
UBPT Khong Chiam 35.50 251 P **P** **21 49 55.2 +0.5**
SANI Sanana 35.91 205 P **P** **21 49 57.3 -0.8**
comp=Z,507nmcomp=Z,31nm,0.9s
MSAI Masohi 36.19 199 P **P** **21 50 04.0 +3.5**
comp=Z,464nmcomp=Z,5.3nm,1.0s

MPSI Mapaga 36.39 216 P **P** **21 50 03.9 +1.6**
comp=Z,18nm,0.9s
APSI Ampana 36.64 212 P **P** **21 50 06.5 +2.1**
comp=Z,678nmcomp=Z,54nm,1.0s
KIWB Kanaga Island 37.18 44 P **P** **21 50 09.1 +0.5**
ADK Adak 37.46 44 P **P** **21 50 12.4 +1.4**
ADK pmax pmax
comp=Z,25nm,1.1s
ADK Adak 37.46 44 P **P** **21 50 12.4 +1.4**
SBUM Sibu 39.06 228 IAmb IAmb 21 50 27.3
comp=Z,10nm,1.1s
CHTO Chiang Mai 39.18 261 P **P** **21 50 24.9 -0.9**
CHTO pmax pmax
comp=Z,35nm,0.9s
CHTO Chiang Mai 39.18 261 P **P** **21 50 24.9 -0.9**
CMAR Chiang Mai Arr 39.34 261 P **P** **21 50 27.2 0.0**
comp=Z,14nm,0.7s,baz=51,slow=7.1,SNR=51
CMAR Chiang Mai Arr 39.34 261 P **P** **21 50 27.1 -0.1**
BILL Bilibino 39.70 15⇓ *e*P **P** **21 50 29.2 -0.4**
BILL *e* 21 52 03.0
BILL *e* 21 52 32.2
BILL pmax pmax
comp=Z,23nm,1.6s
BILL Bilibino 39.70 15 P **P** **21 50 29.5 -0.1**
SPSI Sidrap Palu 40.20 213 P **P** **21 50 34.1 -0.2**
comp=Z,449nmcomp=Z,16nm,1.0s
BNSI Bone 40.43 212 P **P** **21 50 37.6 +1.4**
comp=Z,34nm,1.1s
TIXI Tiksi 40.76 355 P **P** **21 50 37.4 -0.9**
comp=Z,3.9nm,0.8s,baz=90,slow=20,SNR=10
TIXI Tiksi 40.76 355 P **P** **21 50 36.8 -1.5**
TIXI IAmb IAmb 21 50 40.3
comp=Z,8.9nm,1.1s
KSM Kuching 41.03 229 P **P** **21 50 41.3 +0.1**
KAPI Kappang 41.13 212 P **P** **21 50 41.9 -0.1**
KAPI pmax pmax
comp=Z,19nm,1.0s
KAPI Kappang 41.13 212 P **P** **21 50 41.9 -0.1**
KAPI IAmb IAmb 21 50 43.2
comp=Z,19nm,0.9s
STKI Sintang 41.37 227 P **P** **21 50 46.9 +3.0**
comp=Z,2μmcomp=Z,27nm,1.0s
BBKI Banjar Baru 42.25 219 P **P** **21 50 50.9 -0.2**
comp=Z,6μmcomp=Z,38nm,0.6s
NIKH Nikolski High 42.38 44 P **P** **21 50 51.9 +0.2**
baz=260
SHL Shillong 42.59 275 P **P** **21 50 54.3 +0.2**
SHL pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 42.59 275 P **P** **21 50 54.3 +0.2**
WMQ Urumqi 42.73 302 *e*P **P** **21 50 56.0 +1.2**
WMQ pP pP 21 51 11.5 +2.2
WMQ sP sP 21 51 20.0 +4.1
WMQ PP **PP** **21 52 37.5 +2.8**
WMQ pmax pmax
comp=Z,23nm,1.9s
WMQ pmax pmax
comp=Z,370nm,6.9s
WMQ LR LR
comp=Z,660nm,13.9s
WMQ LR LR
comp=Z,500nm,14.5s
WMQ LR LR
comp=Z,490nm,20.7s
TARA Tarawa 43.01 128 P **P** **21 50 59.2 +1.9**
PBKI Pangkalan Bun 43.44 224 P **P** **21 51 02.8 +2.1**
comp=Z,1μmcomp=Z,75nm,0.8s
SRIT Nakonsritamara 44.02 248 P **P** **21 51 05.6 +0.2**
GAMB Gambell 44.09 28 P **P** **21 51 06.3 +0.9**
GAMB IAmb IAmb 21 51 09.5
comp=Z,10.0nm,1.0s
GAMB Gambell 44.09 28 P **P** **21 51 07.6 +2.2**
baz=246,SNR=5.8
BATI Baumata 44.31 204 P **P** **21 51 09.7 +2.0**
comp=Z,18nm,1.1s
MTN Manton Dam 44.85 193 P **P** **21 51 10.4 -1.5**
MTN IAmb IAmb 21 51 12.4
comp=Z,15nm,1.1s
ZAA0 Zalesovo Array 45.13 317 P **P** **21 51 13.8 -0.1**
ZALV Zalesovo Beam 45.13 317 P **P** **21 51 12.6 -1.2**
comp=Z,0.8nm,0.7s,baz=120,slow=5.3,SNR=3.8
ZALV PcP **PcP** **21 52 53.0 -0.5**
comp=Z,1.9nm,0.8s,baz=87,slow=3.0,SNR=4.3
ZALV Zalesovo Beam 45.13 317 P **P** **21 51 13.7 -0.1**
KULM Kulim 45.24 243 P **P** **21 51 14.4 -0.8**
TAPN Taplejung 45.56 279 *e*P **P** **21 51 17.2 -0.8**
KMMI Kalianget 45.73 218 P **P** **21 51 17.8 -1.1**
comp=Z,36nm,1.0s
TPI Tanjungpandan 45.95 228 P **P** **21 51 21.1 +0.3**
comp=Z,24nm,1.0s
SRBI Singaraja 45.97 216 P **P** **21 51 21.3 +0.4**
comp=Z,39nm,0.9s
ODAN Odare 45.98 278 *e*P **P** **21 51 21.1 -0.2**
TNA Tin City 46.28 27 P **P** **21 51 24.1 +1.4**
TNA IAmb IAmb 21 51 27.1
comp=Z,14nm,1.1s
TNA Tin City 46.28 27 P **P** **21 51 24.9 +2.2**
baz=249,SNR=6.6
MK31 Makanchi Array 46.45 307 *i* P **P** **21 51 20.9 -3.5**
MKAR Makanchi Array 46.45 307 P **P** **21 51 23.1 -1.3**
comp=Z,2.4nm,0.8s,baz=90,slow=8.9,SNR=16
MKAR PcP **PcP** **21 52 58.1 -0.2**
comp=Z,1.0nm,0.8s,baz=90,slow=3.6,SNR=2.9
PPBI Pangkal Pinang 46.49 230 P **P** **21 51 26.2 +1.2**
comp=Z,7μmcomp=Z,17nm,0.7s
MAKZ Makanchi 46.67 307 P **P** **21 51 24.6 -1.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 46.67 307 P **P** **21 51 24.6 -1.5**
JIRN Jiri 46.74 280 *e*P **P** **21 51 27.3 -0.1**
comp=Z,28nm,0.8s
JAGI Jajag, Banyuwa 46.84 217 P **P** **21 51 25.9 -1.8**
JAGI IAmb IAmb 21 51 28.1
comp=Z,21nm,1.1s
GUN Gumba 46.93 280 *e*P **P** **21 51 29.0 +0.2**
ANM Nome 46.96 29 P **P** **21 51 29.1 +1.0**
ANM pmax pmax
comp=Z,12nm,0.9s
ANM Nome 46.96 29 P **P** **21 51 29.1 +1.0**
ANM IAmb IAmb 21 51 32.7
comp=Z,12nm,0.9s
ANM Nome 46.96 29 P **P** **21 51 30.7 +2.6**
baz=252,SNR=16
KKN Kakani 47.47 280 *e*P **P** **21 51 32.7 -0.2**
SMRI Semarang 47.66 222 P **P** **21 51 34.2 +0.2**
PWJI Pagerwojo 47.70 220 P P 21 51 28.4 -5.9
GKN Gorkha 47.94 281 *e*P **P** **21 51 35.9 -0.6**
KNRA Kununurra 48.08 195 P **P** **21 51 36.2 -1.0**
KNRA IAmb IAmb 21 51 38.7
comp=Z,7.4nm,0.8s
BKNI Bangkinang 48.24 238 P **P** **21 51 38.9 +0.3**
UGM Wanagama 48.31 221 P **P** **21 51 38.1 -1.1**
DANN Dangsing 48.57 282 *e*P **P** **21 51 41.7 +0.3**
KPJI Karang Pucung 48.76 223 P **P** **21 51 42.4 -0.1**
comp=Z,42nm,1.1s
KURK Kurchatov 48.77 312 P **P** **21 51 40.4 -1.8**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 48.77 312 P **P** **21 51 40.4 -1.8**
KURK IAmb IAmb 21 51 43.0
comp=Z,8.6nm,0.9s
KOLN Koldanda 48.89 281 *e*P **P** **21 51 43.2 -0.6**
MNSI Mandailing Nat 48.99 240 P **P** **21 51 45.6 +1.2**
comp=Z,719nmcomp=Z,14nm,0.8s
RDOG Red Dog Mine 49.00 25 P **P** **21 51 45.1 +1.3**
RDOG Red Dog Mine 49.00 25 P **P** **21 51 45.7 +1.9**
baz=252
PYUN Piuthan 49.30 282 *e*P **P** **21 51 45.4 -1.5**
comp=Z,26nm,0.9s
KLSI 49.31 230 P **P** **21 51 46.9 +0.1**
comp=Z,501nmcomp=Z,16nm,1.9s
KLI Kotabumi 49.35 229 P **P** **21 51 47.8 +0.7**
comp=Z,51nm,0.4s
BLSI Bandar Lampung 49.48 229 P **P** **21 51 49.1 +1.0**
MASI Maura Aman, Be 49.83 233 P **P** **21 51 51.1 +0.2**
comp=Z,108nm,1.0s
GSI Gunungsitoli 50.15 242 P **P** **21 51 52.1 -1.1**
GSI Gunungsitoli 50.15 242 P **P** **21 51 53.6 +0.4**
TARG Taragay, Kyrgy 50.17 300 P **P** **21 51 52.1 -1.5**
KDJ Kajisay 50.56 301 P **P** **21 51 55.9 -0.4**
KDJ pmax pmax
comp=Z,6.0nm,1.1s
KDJ Kajisay 50.56 301 P **P** **21 51 55.9 -0.4**
KDJ IAmb IAmb 21 52 14.3
comp=Z,6.1nm,1.1s

SVW2 **Sparrevohn** 50.66 34 P P 21 51 57.6 +1.0
SVW2 IAmb IAmb 21 52 10.4
comp=Z,6.0nm,1.1s

TTA **Tatalina** 50.67 32 P P 21 51 58.0 +1.4
TTA pmax pmax
comp=Z,8.0nm,1.1s

TTA **Tatalina** 50.67 32 P P 21 51 58.0 +1.4
TTA IAmb IAmb 21 52 01.4
comp=Z,8.0nm,1.1s

TTA **Tatalina** 50.67 32 P P 21 51 58.7 +2.1
baz=263

P18K **Big Mountain,** 50.70 37 P P 21 51 56.6 -0.3
P18K IAmb IAmb 21 52 02.3
comp=Z,9.1nm,0.8s

P18K **Big Mountain,** 50.70 37 P P 21 51 57.5 +0.6
baz=266

L19K **White Mountain** 51.12 33 P P 21 52 00.2 +0.3
L19K IAmb IAmb 21 52 05.8
comp=Z,6.9nm,1.1s

L19K **White Mountain** 51.12 33 P P 21 52 01.6 +1.6
baz=265

FITZ **Fitzroy Crossi** 51.17 198 P P 21 52 00.6 -0.1

N19K **Bonanza Creek** 51.17 35 P P 21 52 00.8 +0.4
N19K IAmb IAmb 21 52 06.3
comp=Z,4.3nm,0.8s

N19K **Bonanza Creek** 51.17 35 P P 21 52 04.8 +4.3
baz=266

WB0 **Warramunga Arr** 51.19 187 P P 21 52 00.3 -0.5

O19K **Port Alsworth** 51.21 36 P P 21 52 01.4 +0.8
O19K IAmb IAmb 21 52 06.7
comp=Z,11nm,1.1s

O19K **Port Alsworth** 51.21 36 P P 21 52 04.8 +4.2
baz=267

M19K **Big River Lodg** 51.31 33 P P 21 52 02.2 +0.9
M19K IAmb IAmb 21 52 07.4
comp=Z,6.0nm,1.0s

M19K **Big River Lodg** 51.31 33 P P 21 52 04.0 +2.7
baz=265,SNR=5.2

WRAB **Tennant Creek** 51.35 187 P P 21 52 01.1 -1.0
WRAB pmax pmax
comp=Z,15nm,1.0s

WRAB **Tennant Creek** 51.35 187 P P 21 52 01.1 -1.0
WRAB IAmb IAmb 21 52 06.0
comp=Z,15nm,1.0s

WR0 **Warramunga Arr** 51.36 187 IAmb IAmb 21 52 03.9
comp=Z,10nm,0.9s

WB2 **Warramunga Arr** 51.36 187 P P 21 52 00.5 -1.7
WB2 IAmb IAmb 21 52 06.0
comp=Z,11nm,0.9s

WRA **Warramunga Arr** 51.36 187 P P 21 51 60.0 -2.2
comp=Z,7.4nm,0.9s,baz=5.6,slow=7.7,SNR=18
WRA LR LR 22 12 53.3
comp=Z,90nm,18.8s,baz=6.5,slow=35

WRA **Warramunga Arr** 51.36 187 P P 21 52 00.0 -2.2

BOOM **Boomskoye usch** 51.41 302 P P 21 52 02.4 -0.2
BOOM pmax pmax
comp=Z,2.0nm,1.1s

BOOM **Boomskoye usch** 51.41 302 P P 21 52 02.4 -0.2

CTA **Charters Tower** 51.53 173 P P 21 52 03.0 -0.4
comp=Z,3.7nm,0.5s,baz=1.5,slow=8.2,SNR=3.9

K20K **Telida** 51.59 32 P P 21 52 04.3 +0.9

K20K **Telida** 51.59 32 P P 21 52 05.2 +1.8
baz=264,SNR=16

L20K **Farewell, AK** 51.59 33 P P 21 52 06.0 +2.5
baz=265,SNR=5.4

J20K **Nowinta River** 51.65 31 P P 21 52 05.4 +1.6

J20K **Nowinta River** 51.65 31 P P 21 52 05.7 +1.9
baz=264,SNR=15

M20K **Styx River** 51.90 34 P P 21 52 07.8 +1.9
M20K IAmb IAmb 21 52 19.8
comp=Z,8.5nm,1.1s

M20K **Styx River** 51.90 34 P P 21 52 08.5 +2.6
baz=266

KSH **Kashi** 51.95 298 P P 21 52 09.5 +2.8
KSH pmax pmax
comp=Z,6.0nm,1.9s

RSO **Redoubt South** 52.01 35 P P 21 52 08.3 +1.5

KDAK **Kodiak Island** 52.03 39 P P 21 52 07.4 +0.6
comp=Z,26nm,1.1s,baz=302,slow=6.5,SNR=5.0

KDAK **Kodiak Island** 52.03 39 P P 21 52 08.0 +1.2
KDAK pmax pmax
comp=Z,18nm,1.2s

KDAK **Kodiak Island** 52.03 39 P P 21 52 08.0 +1.2
KDAK IAmb IAmb 21 52 09.0
comp=Z,18nm,1.1s

KDAK **Kodiak Island** 52.03 39 P P 21 52 08.6 +1.8
baz=270

A21K **Barrow** 52.04 21 P P 21 52 07.6 +1.0

SPCR **Spurr Chakacha** 52.30 34 P P 21 52 12.7 +3.9
baz=268,SNR=5.3

FRU1 **Bishkek** 52.30 302 P P 21 52 09.1 0.0
FRU1 pmax pmax
comp=Z,5.0nm,1.1s

FRU1 **Bishkek** 52.30 302 P P 21 52 09.1 0.0
FRU1 IAmb IAmb 21 52 21.9
comp=Z,5.1nm,1.1s

H21K **Melozitna Rive** 52.38 29 IAmb IAmb 21 52 15.2
comp=Z,16nm,1.1s

H21K **Melozitna Rive** 52.38 29 P P 21 52 10.7 +1.4
baz=264,SNR=16

PPLA **Purkeypile** 52.40 32 P P 21 52 11.4 +1.7
PPLA IAmb IAmb 21 52 15.7
comp=Z,16nm,1.0s

PPLA **Purkeypile** 52.40 32 P P 21 52 11.3 +1.7
baz=266

CHUM **Lake Minchumin** 52.42 31 P P 21 52 11.7 +2.1
baz=266

AAK **Ala-Archa** 52.44 302 P P 21 52 09.2 -1.0
AAK pmax pmax
comp=Z,4.0nm,1.2s

AAK **Ala-Archa** 52.44 302 P P 21 52 09.2 -1.0

CAST **Castle Rocks** 52.49 32 P P 21 52 11.2 +1.1

CAST **Castle Rocks** 52.49 32 P P 21 52 11.6 +1.5
baz=266,SNR=14

I21K **Tanana** 52.68 29 P P 21 52 12.8 +1.3
I21K IAmb IAmb 21 52 17.8
comp=Z,9.8nm,1.1s

I21K **Tanana** 52.68 29 P P 21 52 13.8 +2.4
baz=265

KTH **Kantishna Hill** 53.02 32 P P 21 52 16.0 +1.9
KTH IAmb IAmb 21 52 24.7
comp=Z,5.9nm,0.9s

BPAW **Bear Paw Mtn.** 53.02 31 P P 21 52 15.2 +1.1
BPAW IAmb IAmb 21 52 19.1
comp=Z,15nm,1.2s

BPAW **Bear Paw Mtn.** 53.02 31 P P 21 52 16.0 +2.0
baz=267

MLY **Manley** 53.19 30 P P 21 52 16.7 +1.4
baz=266,SNR=13

CUT **Chulitna** 53.27 33 P P 21 52 16.6 +0.8
CUT IAmb IAmb 21 52 23.4
comp=Z,11nm,0.8s

TRF **Thorofare Moun** 53.30 32 P P 21 52 16.4 +0.1
TRF IAmb IAmb 21 52 35.8
comp=Z,10nm,1.1s

TRF **Thorofare Moun** 53.30 32 P P 21 52 16.3 +0.1
baz=268

M22K **Willow** 53.32 34 P P 21 52 16.3 +0.1

SANVU **Saraoutou** 53.32 147 P P 21 52 17.0 +0.3

RC01 **Rabbit Creek A** 53.50 35 P P 21 52 18.6 +1.0
RC01 IAmb IAmb 21 52 22.9
comp=Z,12nm,1.0s

COLD **Coldfoot** 53.58 27 P P 21 52 18.6 +0.4

COLD **Coldfoot** 53.58 27 P P 21 52 19.8 +1.7
baz=265

BWN **Browne** 53.69 31 P P 21 52 20.8 +1.8

I23K **Minto, Yukon-K** 53.78 30 P P 21 52 21.1 +1.6
I23K IAmb IAmb 21 52 33.9
comp=Z,5.3nm,1.1s

I23K **Minto, Yukon-K** 53.78 30 P P 21 52 21.8 +2.3
baz=267,SNR=7.9

BRVK **Borovoye** 53.79 315 P P 21 52 18.3 -1.5
BRVK pmax pmax
comp=Z,4.0nm,1.1s

BRVK **Borovoye** 53.79 315 P P 21 52 18.3 -1.5

PMR **Palmer** 53.79 34 P P 21 52 20.2 +0.5
PMR pmax pmax
comp=Z,15nm,1.1s

PMR **Palmer** 53.79 34 P P 21 52 20.2 +0.5
PMR IAmb IAmb 21 52 24.4
comp=Z,15nm,1.1s

NEA2 **Nenana** 53.88 30 P P 21 52 21.9 +1.6
baz=268,SNR=9.9

GHO **Glory Hole Cre** 53.89 34 P P 21 52 20.7 +0.2
GHO IAmb IAmb 21 52 33.9
comp=Z,13nm,0.9s

MCK **McKinley** 53.91 31 P P 21 52 21.7 +1.1
MCK pmax pmax
comp=Z,29nm,1.2s

MCK **McKinley** 53.91 31 P P 21 52 21.7 +1.1

MCK **McKinley** 53.91 31 P P 21 52 21.5 +1.0
baz=269,SNR=9.0

TOLK **Toolik Lake Re** 53.95 25 IAmb IAmb 21 52 26.4
comp=Z,7.4nm,0.8s

TOLK **Toolik Lake Re** 53.95 25 P P 21 52 21.3 +0.5
baz=265,SNR=8.0

KNK **Knik Glacier** 54.12 34 P P 21 52 23.2 +1.1

KNK **Knik Glacier** 54.12 34 P P 21 52 23.9 +1.8
baz=271

SML **Sawmill** 54.17 34 P P 21 52 23.8 +1.2

SML **Sawmill** 54.17 34 P P 21 52 24.0 +1.5
baz=271

PWL **Port Wells** 54.19 35 P P 21 52 22.9 +0.3

WRH **Wood River Hil** 54.30 30 P P 21 52 24.6 +1.3
WRH IAmb IAmb 21 52 28.4
comp=Z,8.0nm,1.0s

TCOL **CIGO, UAF Yank** 54.41 30 P P 21 52 25.6 +1.5
TCOL IAmb IAmb 21 52 28.9
comp=Z,15nm,1.1s

COLA **College** 54.41 30 P P 21 52 25.4 +1.3
COLA pmax pmax
comp=Z,15nm,1.1s

COLA **College** 54.41 30 P P 21 52 25.4 +1.3
COLA IAmb IAmb 21 52 28.8
comp=Z,15nm,1.1s

H24K **Noodor Dome** 54.43 29 P P 21 52 25.5 +1.2

H24K **Noodor Dome** 54.43 29 P P 21 52 26.1 +1.8
baz=268,SNR=5.3

WAT6 **Susitna Watana** 54.44 33 P P 21 52 26.5 +1.8
baz=271

POKR **Poker Plat Res** 54.59 30 P P 21 52 26.3 +0.9

POKR **Poker Plat Res** 54.59 30 P P 21 52 26.5 +1.0
baz=269

DHY **Denali Highway** 54.61 32 P P 21 52 26.5 +0.7
DHY IAmb IAmb 21 52 45.3
comp=Z,4.0nm,0.9s

SCM **Sheep Creek Mo** 54.65 34 P P 21 52 27.5 +1.5
SCM pmax pmax
comp=Z,29nm,1.1s

SCM **Sheep Creek Mo** 54.65 34 P P 21 52 27.5 +1.5

SCM **Sheep Creek Mo** 54.65 34 P P 21 52 27.3 +1.3
baz=272

IL31 54.82 30 IAmb IAmb 21 52 31.6
comp=Z,13nm,1.1s

ILAR **Eielson Array** 54.82 30 P P 21 52 26.9 -0.1
comp=Z,5.1nm,1.0s,baz=274,slow=5.3,SNR=25

ILAR **Eielson Array** 54.82 30 P P 21 52 27.0 -0.1

ILAR **Eielson Array** 54.82 30 P P 21 52 27.0 -0.1

AS31 **Alice Springs** 55.09 187 P P 21 52 29.0 -0.5

ASAR **Alice Springs** 55.09 187 P P 21 52 28.4 -1.1
comp=Z,1.6nm,0.6s,baz=16,slow=12,SNR=13

FID **Port Fidalgo** 55.10 35 P P 21 52 29.8 +0.6

DRK **Karamyk** 55.10 299 P P 21 52 29.8 -0.1
DRK IAmb IAmb 21 52 33.7
comp=Z,8.6nm,1.0s

KLU **Klutina** 55.33 34 P P 21 52 31.7 +0.8
KLU IAmb IAmb 21 52 36.6
comp=Z,9.0nm,1.1s

DIV **Divide** 55.42 35 P P 21 52 32.0 +0.4
DIV IAmb IAmb 21 52 37.2
comp=Z,16nm,1.1s

J25K **Salcha River,** 55.47 30 P P 21 52 31.7 -0.2
J25K IAmb IAmb 21 52 40.4
comp=Z,5.2nm,1.1s

PAX **Paxson** 55.48 32 P P 21 52 33.0 +1.0
PAX pmax pmax
comp=Z,5.0nm,1.0s

PAX **Paxson** 55.48 32 P P 21 52 33.0 +1.0
PAX IAmb IAmb 21 52 40.4
comp=Z,5.0nm,1.0s

PAX **Paxson** 55.48 32 P P 21 52 33.0 +1.0
baz=272

RIDG **Independent Ri** 55.73 31 P P 21 52 35.1 +1.4

RIDG **Independent Ri** 55.73 31 P P 21 52 36.3 +2.5
baz=272

BMAR **Burnt Mountain** 55.77 27 P P 21 52 35.1 +1.1

DOT **Dot Lake** 56.08 31 IAmb IAmb 21 52 41.2
comp=Z,11nm,1.0s

SCRK **Sand Creek** 56.10 31 P P 21 52 37.0 +0.6

SCRK **Sand Creek** 56.10 31 P P 21 52 36.8 +0.4
baz=273,SNR=12

J26L **Joseph Creek** 56.26 30 P P 21 52 38.0 +0.5
baz=273,SNR=11

MENT **Mentasta** 56.28 32 P P 21 52 39.7 +2.1
MENT IAmb IAmb 21 52 43.1
comp=Z,17nm,1.2s

GAR **Garm** 56.34 298 P P 21 52 38.0 -0.6
GAR IAmb IAmb 21 52 57.0
comp=Z,7.0nm,0.8s

GLB **Gilahina Butte** 56.35 34 P P 21 52 40.1 +1.9

L26K **Log Cabin Wild** 56.44 32 P P 21 52 40.1 +1.2

L26K **Log Cabin Wild** 56.44 32 P P 21 52 39.8 +1.0
baz=274

BERG **Berg Lake** 56.49 35 P P 21 52 41.0 +1.8

VRDI **Verde Repeater** 56.54 34 P P 21 52 41.0 +1.3
VRDI IAmb IAmb 21 52 46.6
comp=Z,13nm,1.2s

MCARA **McCarthy VSAT** 56.73 34 P P 21 52 42.5 +1.7

MCARA **McCarthy VSAT** 56.73 34 P P 21 52 42.3 +1.5
baz=276

TGL **Tana Glacier** 56.88 35 P P 21 52 42.1 0.0
TGL IAmb IAmb 21 52 58.4
comp=Z,16nm,1.1s

L27K **Beaver Creek,** 57.13 32 P P 21 52 44.4 +0.7
L27K IAmb IAmb 21 52 49.7
comp=Z,14nm,1.1s

L27K **Beaver Creek,** 57.13 32 P P 21 52 45.0 +1.3
baz=276,SNR=7.1

BCAR **Beaver Creek A** 57.15 32 P P 21 52 44.6 +0.8

M27K **Edge Creek, AK** 57.17 33 P P 21 52 45.4 +1.2
M27K IAmb IAmb 21 52 50.6
comp=Z,8.1nm,1.0s

M27K **Edge Creek, AK** 57.17 33 P P 21 52 45.2 +1.1
baz=276

EGAK **Eagle** 57.27 30 P P 21 52 45.4 +0.7
EGAK IAmb IAmb 21 52 50.6
comp=Z,7.7nm,1.0s

EGAK **Eagle** 57.27 30 P P 21 52 45.6 +1.0
baz=275

CHGR **Chuyangaron** 57.30 298 IAmb IAmb 21 52 58.1
comp=Z,11nm,0.8s

EIDS **Eidsvold** 57.41 168 P P 21 52 47.4 +1.5
EIDS IAmb IAmb 21 52 48.6
comp=Z,8.6nm,1.0s

BARN **Barnard Glacie** 57.42 34 P P 21 52 48.1 +2.1
BARN IAmb IAmb 21 52 51.5
comp=Z,9.2nm,1.0s

DAWY **Dawson** 58.11 31 P P 21 52 51.4 +0.8
DAWY IAmb IAmb 21 53 10.8
comp=Z,4.0nm,1.1s

POHA **Pohakuloa** 58.41 85 P P 21 52 54.1 +0.5

I29M **Ogilvie Camp,** 58.41 29 IAmb IAmb 21 53 06.7
comp=Z,7.4nm,1.1s

I29M **Ogilvie Camp,** 58.41 29 P P 21 52 53.4 +0.7
baz=277

HMH **Humu'ula Sheep** 58.52 85 P P 21 52 54.5 +0.1

BCPM **Bancas Point** 58.56 36 P P 21 52 54.0 +0.3

KBL **Kabul** 58.62 294 P P 21 52 53.5 -1.3
KBL pmax pmax
comp=Z,4.0nm,0.9s

KBL **Kabul** 58.62 294 P P 21 52 53.5 -1.3
KBL IAmb IAmb 21 52 55.7
comp=Z,3.6nm,0.8s

EPYK **Eagle Plains** 58.93 28 P P 21 52 56.8 +0.5

EPYK **Eagle Plains** 58.93 28 P P 21 52 57.5 +1.3
baz=278,SNR=8.9

M30M **Minto, Yukon** 59.48 32 P P 21 53 01.6 +1.4
baz=280

INK **Inuvik** 59.87 25 IAmb IAmb 21 53 11.1
comp=Z,5.1nm,0.9s

INK **Inuvik** 59.87 25 P P 21 53 02.9 +0.3
baz=280

ARU **Arti** 59.98 321 *c i* P P 21 53 03.3 -0.2
ARU *PP pP 21 53 20.1 +1.6
ARU 21 55 16.3
ARU S S 22 01 11.8 +0.3
ARU SS SS 22 05 08.9 +0.7
ARU pmax pmax
comp=Z,18nm,1.9s

ARU **Arti** 59.98 321 P P 21 53 03.8 +0.2
ARU IAmb IAmb 21 53 07.3
comp=Z,6.2nm,1.0s

N31M **Braeburn, Yuko** 60.16 33 P P 21 53 06.1 +1.3
baz=282

M31M **Drury Creek, Y** 60.66 32 IAmb IAmb 21 53 13.2
comp=Z,4.7nm,0.8s

M31M **Drury Creek, Y** 60.66 32 P P 21 53 09.7 +1.5
baz=282

WHY **Whitehorse** 60.76 34 P P 21 53 11.1 +2.1
WHY IAmb IAmb 21 53 12.9
comp=Z,3.9nm,0.8s

WHY **Whitehorse** 60.76 34 P P 21 53 10.7 +1.7
baz=283

ABKAR **Akbulak array** 60.88 312 P P 21 53 08.3 -1.5

ABKAR **Akbulak array** 60.88 312 IAmb IAmb 21 53 11.0
comp=Z,9.2nm,1.0s

A36M **Sachs Harbour** 61.86 21 P P 21 53 15.6 -0.4
baz=285,SNR=14

STKA **Stephens Creek** 62.95 179 P P 21 53 23.3 -0.5
comp=Z,3.2nm,0.9s,baz=332,slow=6.5,SNR=4.5

C36M **Paulatuk** 62.97 23 IAmb IAmb 21 53 26.4
comp=Z,12nm,1.1s

C36M **Paulatuk** 62.97 23 P P 21 53 23.8 +0.4
baz=287,SNR=9.2

TGTN **Hyland Airport** 63.63 32 P P 21 53 29.7 +1.6
baz=288

KIRV **Kirov** 64.17 324 *i* P P 21 53 30.3 -1.3

PRGR **Permogore** 64.97 328 *e* P P 21 53 29.0 -7.7
PRGR pmax pmax
comp=Z,4.0nm,1.2s

SPITS **Spitsbergen Ar** 65.84 349 LR LR 22 23 01.0
comp=Z,78nm,19.6s,baz=263,slow=36

KLMR **Klimovskoe** 68.00 329 *e* P P 21 53 55.3 -0.8
KLMR *e* 21 56 24.9
KLMR pmax pmax
comp=Z,15nm,1.2s

KLMR **Klimovskoe** 68.00 329 *e* P P 21 53 55.4 -0.7
KLMR AMP 21 53 58.8
comp=Z,15nm,1.2s

KLMR *e* PP PP 21 56 24.9 -1.2

RES **Resolute Bay** 68.29 14 P P 21 53 58.0 +0.3
RES pmax pmax
comp=Z,9.0nm,1.1s

RES **Resolute Bay** 68.29 14 P P 21 53 58.0 +0.3
RES IAmb IAmb 21 54 01.5
comp=Z,9.4nm,1.1s

ARCES **ARCESS Array B** 68.91 340 P P 21 54 01.4 -0.3
comp=Z,4.2nm,0.8s,baz=42,slow=7.4,SNR=6.8
ARCES LR LR 22 28 20.0
comp=Z,252nm,18.2s,baz=58,slow=40

YKA **Yellowknife Ar** 69.20 29 P P 21 54 03.7 +0.2
comp=Z,2.7nm,0.9s,baz=294,slow=6.0,SNR=24

YKA **Yellowknife Ar** 69.20 29 P P 21 54 04.3 +0.8

YKA **Yellowknife Ar** 69.20 29 P P 21 54 04.3 +0.8

TULEG **Thule** 70.80 7 IAmb IAmb 21 54 17.3
comp=Z,8.1nm,0.9s

LLLB **Lillooet** 71.06 42 P P 21 54 16.6 +1.3
LLLB IAmb IAmb 21 54 19.6
comp=Z,7.4nm,1.1s

MAK **Makhachkala** 71.17 309 *e* P P 21 54 14.6 -1.4
MAK *e* PP pP 21 54 28.5 -3.0
MAK *e* SP PcP 21 54 36.0 +0.3
MAK *e* PPP PPP 21 58 36.0
MAK *e* S S 22 03 29.8 +1.3
MAK *e* SS SKiKP 22 03 51.8 +0.1
MAK *e* SS SS 22 08 05.2 +2.7
MAK pmax pmax
comp=Z,170nm,1.6s
MAK MLR MLR
comp=Z,192nm,17.0s

MOS **Moscow** 71.19 324 *e* P P 21 54 15.4 -0.4

DAG **Danmarks Havn** 71.28 355 *i* P P 21 54 15.3 -0.8

OBN **Obninsk** 72.02 324 *e* P P 21 54 18.4 -2.4
OBN *e* 21 54 37.4
OBN *e* 21 56 59.3
OBN *e* PPP PPP 21 58 44.1
OBN pmax pmax
comp=Z,6.0nm,1.0s

E04D **Cinebar** 72.49 46 P P 21 54 24.4 +0.6

F04A **Amboy** 72.86 46 P P 21 54 26.8 +0.7
F04A IAmb IAmb 21 54 30.4
comp=Z,16nm,1.2s

LTY **Liberty** 73.31 45 P P 21 54 29.0 +0.2

FIA1 **FINESS Array S** 73.32 333 P P 21 54 28.9 +0.4
FIA1 IAmb IAmb 21 54 34.1
comp=Z,15nm,1.1s

FINES **FINESS Array B** 73.33 333 P P 21 54 27.9 -0.5
comp=Z,3.8nm,0.7s,baz=46,slow=4.2,SNR=12

FINES **FINESS Array B** 73.33 333 P P 21 54 27.8 -0.7

F05D **White Salmon** 73.48 46 P P 21 54 30.5 +0.8

B08A **Colville Reser** 73.58 43 P P 21 54 30.9 +0.6

H04A **Detroit Lake** 73.59 47 P P 21 54 30.9 +0.5
H04A IAmb IAmb 21 54 39.6
comp=Z,10nm,1.2s

KBZ **Khabaz** 73.83 312 P P 21 54 31.4 -0.4
comp=Z,6.4nm,0.9s,baz=83,slow=3.3,SNR=10

KIV **Kislovodsk** 73.86 312 *e* P P 21 54 31.5 -0.6
KIV pmax pmax
comp=Z,10.0nm,1.1s

KIV **Kislovodsk** 73.86 312 P P 21 54 31.5 -0.6
KIV IAmb IAmb 21 54 40.5
comp=Z,9.7nm,1.1s

SHA1 **Shidzhatmaz** 73.98 312 *i* P P 21 54 30.1 -2.9

ONI **Oni** 74.00 310 P P 21 54 33.3 +0.4
ONI pmax pmax
comp=Z,9.0nm,1.2s

ONI **Oni** 74.00 310 P P 21 54 33.3 +0.4
ONI IAmb IAmb 21 54 38.5
comp=Z,9.4nm,1.2s

NEY **Neytrino** 74.17 311 *i* P P 21 54 34.0 0.0
NEY pmax pmax
comp=Z,3.0nm,0.9s

JCC **Jacoby Creek,** 74.20 52 P P 21 54 34.9 +1.0

GNI **Garni** 74.29 308 P P 21 54 35.0 +0.2
GNI pmax pmax
comp=Z,5.0nm,1.0s

GNI **Garni** 74.29 308 P P 21 54 35.0 +0.2

YBH **Yreka Blue Hor** 74.64 50 LR LR 22 18 44.3
comp=Z,44nm,22.0s,baz=274,slow=29

PINE **Pine Mountain** 74.80 48 P P 21 54 39.4 +1.6
PINE IAmb IAmb 21 54 42.6
comp=Z,10nm,1.1s

NEW **Newport** 74.91 42 P P 21 54 39.9 +1.8
NEW pmax pmax
comp=Z,3.0nm,1.0s

NEW **Newport** 74.91 42 P P 21 54 39.9 +1.8

KARS **Kars** 75.18 309 P P 21 54 40.0 +0.1
KARS pmax pmax
comp=Z,10.0nm,0.8s

KARS **Kars** 75.18 309 P P 21 54 40.0 +0.1
KARS IAmb IAmb 21 54 55.9
comp=Z,9.8nm,0.8s

E09A **Wood Farm, Sta** 75.19 44 P P 21 54 41.6 +2.0
E09A IAmb IAmb 21 54 49.4
comp=Z,5.5nm,0.8s

DGAR **Diego Garcia** 75.24 252 P P 21 54 39.7 -0.6
DGAR pmax pmax
comp=Z,173nm,1.1s

DGAR **Diego Garcia** 75.24 252 P P 21 54 39.7 -0.6

MOD **Modoc Plateau** 76.14 49 P P 21 54 46.7 +1.4

GEVA **Gevas** 76.31 307 P P 21 54 46.8 +0.4
GEVA IAmb IAmb 21 54 48.7
comp=Z,7.0nm,1.0s

WALA **Waterton Lakes** 76.32 41 P P 21 54 46.6 +0.4

BMO **Blue Mountains** 76.54 46 P P 21 54 47.5 0.0
BMO pmax pmax
comp=Z,3.0nm,0.9s

BMO **Blue Mountains** 76.54 46 P P 21 54 47.5 0.0

J08A **Circle Bar Ran** 76.58 47 P P 21 54 48.8 +1.0

HIZ **Hauiti** 76.70 153 P P 21 54 49.8 +1.8

JTMT **Jette** 76.81 42 P P 21 54 50.0 +1.0

GURO **Guroymak-BITLI** 76.90 307 IAmb IAmb 21 54 54.0
comp=Z,9.7nm,1.1s

WVOR **Wild Horse Val** 76.94 48 P P 21 54 50.4 +0.6
WVOR pmax pmax
comp=Z,3.0nm,1.1s

WVOR **Wild Horse Val** 76.94 48 P P 21 54 50.4 +0.6

KOPT **Kop Dagi** 77.20 309 P P 21 54 51.0 -0.6
KOPT IAmb IAmb 21 55 00.1
comp=Z,8.7nm,1.2s

PLID **Pearl Lake** 77.21 45 P P 21 54 52.0 +0.6

MXZ **Matakaoa Point** 77.30 150 P P 21 54 53.2 +1.8

SCO **Scoresbysund** 77.59 354 P P 21 54 53.4 +0.6
SCO pmax pmax
comp=Z,15nm,1.1s

SCO **Scoresbysund** 77.59 354 P P 21 54 53.4 +0.6

SCO					IAmb	IAmb	21 55 05.0			
	comp=Z,15nm,1.1s									
CMB	**Columbia Colle**	**78.02**	**53**		P	**P**	**21 54 57.0**	**+1.2**		
CMB					pmax	pmax				
	comp=Z,4.0nm,1.1s									
CMB	**Columbia Colle**	**78.02**	**53**		P	**P**	**21 54 57.0**	**+1.2**		
AKASG	**Malin Array Be**	**78.13**	**323**		P	**P**	**21 54 55.2**	**-0.9**		
	comp=Z,3.6nm,0.8s,baz=51,slow=5.8,SNR=14									
AKASG	**Malin Array Be**	**78.13**	**323**		P	**P**	**21 54 55.6**	**-0.5**		
AKASG					pmax	pmax				
	comp=Z,3.0nm,1.1s									
AKASG	**Malin Array Be**	**78.13**	**323**		P	**P**	**21 54 55.6**	**-0.5**		
AKBB	**Malin Array Si**	**78.13**	**323**		P	**P**	**21 54 55.0**	**-1.1**		
AKBB					pmax	pmax				
	comp=Z,7.0nm,0.9s									
AKBB	**Malin Array Si**	**78.13**	**323**		P	**P**	**21 54 55.0**	**-1.1**		
AKBB					IAmb	IAmb	21 54 57.6			
	comp=Z,6.5nm,0.9s									
MFID	**Camas Ranch**	**78.19**	**46**		P	**P**	**21 54 57.7**	**+0.9**		
MFID					IAmb	IAmb	21 55 06.0			
	comp=Z,4.7nm,0.9s									
NC405	**NORSAR Array S**	**78.75**	**337**		P	**P**	**21 54 59.2**	**-0.2**		
NC405					IAmb	IAmb	21 55 04.5			
	comp=Z,12nm,0.9s									
NC303	**NORSAR Array S**	**78.79**	**337**		P	**P**	**21 54 59.6**	**+0.1**		
HFS	**Hagfors**	**78.79**	**336**		LR	LR	22 32 26.5			
	comp=Z,167nm,18.5s,baz=34,slow=38									
BMN	**Battle Mountai**	**78.89**	**49**		P	**P**	**21 55 02.3**	**+1.6**		
BMN					pmax	pmax				
	comp=Z,3.0nm,0.9s									
BMN	**Battle Mountai**	**78.89**	**49**		P	**P**	**21 55 02.3**	**+1.6**		
TUWZ	**Tuamarina**	**78.89**	**155**		P	**P**	**21 55 02.0**	**+1.8**		
LRM	**Limekiln Ridge**	**78.91**	**43**		P	**P**	**21 55 02.0**	**+1.1**		
NB201	**NORSAR Array S**	**78.94**	**337**		P	**P**	**21 55 00.2**	**-0.2**		
NC204	**NORSAR Array S**	**78.95**	**338**		P	**P**	**21 55 00.8**	**+0.3**		
NC204					IAmb	IAmb	21 55 17.7			
	comp=Z,15nm,1.1s									
RYN	**Ryan**	**78.97**	**51**		P	**P**	**21 55 02.5**	**+1.3**		
NB2	**NORSAR Subarra**	**78.97**	**337**		P	**P**	**21 54 59.7**	**-0.9**		
	comp=Z,3.9nm,0.9s,baz=44,slow=5.9									
NOA	**NORSAR Array B**	**78.97**	**337**		P	**P**	**21 55 00.2**	**-0.5**		
	comp=Z,1.8nm,0.8s,baz=43,slow=5.4,SNR=9.3									
NOA					LR	LR	22 33 31.0			
	comp=Z,128nm,19.3s,baz=25,slow=38									
HLID	**Hailey**	**78.98**	**46**		P	**P**	**21 55 02.7**	**+1.5**		
FFC	**Flin Flon**	**79.00**	**32**		P	**P**	**21 55 02.2**	**+1.3**		
FFC					pmax	pmax				
	comp=Z,4.0nm,0.9s									
FFC	**Flin Flon**	**79.00**	**32**		P	**P**	**21 55 02.1**	**+1.3**		
KVN	**Kaiserville**	**79.03**	**51**		P	**P**	**21 55 02.1**	**+0.5**		
KVN					pmax	pmax				
	comp=Z,2.0nm,1.0s									
KVN	**Kaiserville**	**79.03**	**51**		P	**P**	**21 55 02.1**	**+0.5**		
SUW	**Suwalki**	**79.08**	**328**		P	**P**	**21 55 01.1**	**-0.2**		
SUW					pmax	pmax				
	comp=Z,11nm,1.0s									
SUW	**Suwalki**	**79.08**	**328**		P	**P**	**21 55 01.1**	**-0.2**		
SUW					IAmb	IAmb	21 55 01.3			
	comp=Z,11nm,1.0s									
DLMT	**Dillon**	**79.08**	**43**		P	**P**	**21 55 01.7**	**0.0**		
NBO00	**NORSAR Array S**	**79.12**	**337**		P	**P**	**21 55 01.2**	**-0.2**		
OMMB	**Old Mammoth Mi**	**79.17**	**53**		P	**P**	**21 55 02.6**	**+0.1**		
EGMT	**Eagleton**	**79.19**	**40**		P	**P**	**21 55 03.3**	**+1.1**		
EGMT					IAmb	IAmb	21 55 15.2			
	comp=Z,6.9nm,1.1s									
NVAR	**Mina Array Bea**	**79.22**	**52**		P	**P**	**21 55 03.3**	**+0.6**		
	comp=Z,0.3nm,0.3s,baz=276,slow=5.9,SNR=4.4									
NVAR					LR	LR	22 26 48.2			
	comp=Z,54nm,18.6s,baz=280,slow=33									
NVAR	**Mina Array Bea**	**79.22**	**52**		P	**P**	**21 55 03.6**	**+1.0**		
FCC	**Fort Churchill**	**79.49**	**25**		P	**P**	**21 55 04.5**	**+1.1**		
FCC					pmax	pmax				
	comp=Z,2.0nm,1.0s									
FCC	**Fort Churchill**	**79.49**	**25**		P	**P**	**21 55 04.5**	**+1.1**		
YHL	**Hebgen Lake**	**80.20**	**43**		P	**P**	**21 55 08.3**	**+0.4**		
LCH	**Last Change Ra**	**80.29**	**52**		P	**P**	**21 55 09.2**	**+0.8**		
YHH	**Holmes Hill**	**80.43**	**43**		P	**P**	**21 55 10.7**	**+1.5**		
KONO	**Kongsberg**	**80.55**	**337**		P	**P**	**21 55 09.3**	**+0.2**		
KONO					pmax	pmax				
	comp=Z,11nm,1.2s									
KONO	**Kongsberg**	**80.55**	**337**		P	**P**	**21 55 09.3**	**+0.2**		
KONO					IAmb	IAmb	21 55 24.7			
	comp=Z,11nm,1.1s									
YNR	**Norris Junctio**	**80.57**	**43**		P	**P**	**21 55 12.0**	**+2.1**		
H17A	**Grant Village**	**80.81**	**43**		P	**P**	**21 55 12.4**	**+1.2**		
H17A					IAmb	IAmb	21 55 26.0			
	comp=Z,6.3nm,1.1s									
H17A	**Grant Village**	**80.81**	**43**		P	**P**	**21 55 14.3**	**+3.1**		
	baz=305									
BNN	**Bunyan**	**80.88**	**310**		P	**P**	**21 55 11.9**	**+0.4**		
BNN					IAmb	IAmb	21 55 13.2			
	comp=Z,13nm,0.9s									
FLWY	**Flagg Ranch**	**80.92**	**44**		P	**P**	**21 55 13.2**	**+1.4**		
FLWY					IAmb	IAmb	21 55 25.4			
	comp=Z,16nm,1.1s									
R11A	**Troy Canyon, C**	**81.07**	**50**		P	**P**	**21 55 13.8**	**+1.2**		
MOOW	**Moose Ponds**	**81.09**	**44**		P	**P**	**21 55 14.5**	**+1.8**		
TPNV	**Topopah Spring**	**81.39**	**52**		P	**P**	**21 55 15.1**	**+0.8**		
TPNV					pmax	pmax				
	comp=Z,3.0nm,0.9s									
TPNV	**Topopah Spring**	**81.39**	**52**		P	**P**	**21 55 15.1**	**+0.8**		
TPNV	**Topopah Spring**	**81.39**	**52**		P	**P**	**21 55 15.3**	**+1.0**		
	baz=303									
QSM	**Queen of Sheba**	**81.50**	**53**		P	**P**	**21 55 16.1**	**+1.4**		
QSM					IAmb	IAmb	21 55 33.7			
	comp=Z,7.8nm,1.2s									
GWY	**Greenwater Val**	**81.51**	**53**		P	**P**	**21 55 15.2**	**+0.2**		
HWUT	**Hardware Ranch**	**81.82**	**46**		P	**P**	**21 55 17.0**	**+0.5**		
BR131	**Keskin Array S**	**81.82**	**312**	*i*	P	**P**	**21 55 15.7**	**-0.7**		
BR131	**Keskin Array S**	**81.82**	**312**		IAmb	IAmb	21 55 28.2			
	comp=Z,6.1nm,1.1s									
BRTR	**Keskin Array B**	**81.82**	**312**		P	**P**	**21 55 16.1**	**-0.3**		
	comp=Z,2.4nm,0.8s,baz=105,slow=4.3,SNR=13									
BRTR	**Keskin Array B**	**81.82**	**312**		P	**P**	**21 55 15.8**	**-0.7**		
DUG	**Dugway, Tooele**	**81.84**	**48**		P	**P**	**21 55 17.8**	**+1.2**		
DUG					pmax	pmax				
	comp=Z,6.0nm,1.2s									
DUG	**Dugway, Tooele**	**81.84**	**48**		P	**P**	**21 55 17.8**	**+1.2**		
DUG					IAmb	IAmb	21 55 20.9			
	comp=Z,6.3nm,1.1s									
DUG	**Dugway, Tooele**	**81.84**	**48**		P	**P**	**21 55 17.5**	**+0.9**		
	baz=305									
RAYN	**Ar Rayn**	**81.86**	**292**		P	**P**	**21 55 16.2**	**-0.6**		
RAYN					pmax	pmax				
	comp=Z,6.0nm,1.2s									
RAYN	**Ar Rayn**	**81.86**	**292**		P	**P**	**21 55 16.2**	**-0.6**		
RAYN					IAmb	IAmb	21 55 22.9			
	comp=Z,6.3nm,1.1s									
GSC	**Goldstone, Bar**	**81.90**	**54**		P	**P**	**21 55 17.5**	**+0.6**		
GSC					pmax	pmax				
	comp=Z,2.0nm,0.9s									
GSC	**Goldstone, Bar**	**81.90**	**54**		P	**P**	**21 55 17.5**	**+0.6**		
BURAR	**Bucovina Array**	**82.09**	**322**		P	**P**	**21 55 17.5**	**-0.2**		
CTU	**Camp Tracy**	**82.23**	**47**		P	**P**	**21 55 20.4**	**+1.7**		
CTU					IAmb	IAmb	21 55 28.4			
	comp=Z,3.0nm,0.5s									
PDAR	**Pinedale Array**	**82.36**	**44**		P	**P**	**21 55 20.2**	**+0.8**		
	comp=Z,0.3nm,0.4s,baz=305,slow=5.4,SNR=4.9									
PDAR	**Pinedale Array**	**82.36**	**44**		P	**P**	**21 55 19.5**	**+0.1**		
UZH	**Uzhgorod**	**82.96**	**324**	*eP*		**P**	**21 55 21.4**	**-0.6**		
UZH				*e*			21 55 38.8			
OJC	**Ojcow**	**83.13**	**326**		P	**P**	**21 55 22.6**	**-0.3**		
OJC					pmax	pmax				
	comp=Z,12nm,1.0s									
OJC	**Ojcow**	**83.13**	**326**		P	**P**	**21 55 22.6**	**-0.3**		
OJC					IAmb	IAmb	21 55 27.7			
	comp=Z,12nm,1.0s									
CRVS	**Cervenica-Dubn**	**83.20**	**324**	*eP*		**P**	**21 55 25.4**	**+2.1**		
CRVS	**Cervenica-Dubn**	**83.20**	**324**	*eP*		**P**	**21 55 25.4**	**+2.1**		
P17A	**Butcher Ranch,**	**83.56**	**47**		P	**P**	**21 55 26.9**	**+1.3**		
P17A					IAmb	IAmb	21 55 45.5			
	comp=Z,8.5nm,1.2s									
Q16A	**Castle Valley**	**83.61**	**48**		P	**P**	**21 55 27.2**	**+1.4**		
KNB	**Kanab**	**83.63**	**50**		P	**P**	**21 55 27.0**	**+1.0**		
KNB					pmax	pmax				
	comp=Z,7.0nm,1.2s									
KNB	**Kanab**	**83.63**	**50**		P	**P**	**21 55 27.0**	**+1.0**		
KNB					IAmb	IAmb	21 55 33.3			
	comp=Z,7.4nm,1.2s									
RDMU	**Red Mountain**	**83.65**	**46**		P	**P**	**21 55 27.1**	**+1.1**		
RDMU					IAmb	IAmb	21 55 39.5			
	comp=Z,7.0nm,0.6s									
SRU	**San Rafael Swe**	**83.91**	**48**		P	**P**	**21 55 28.5**	**+1.1**		
SRU					pmax	pmax				
	comp=Z,7.0nm,1.0s									
SRU	**San Rafael Swe**	**83.91**	**48**		P	**P**	**21 55 28.5**	**+1.1**		
SRU					IAmb	IAmb	21 55 31.4			
	comp=Z,6.6nm,1.0s									
K22A	**Casper**	**84.22**	**43**		P	**P**	**21 55 28.1**	**-0.8**		
U15A	**North Rim**	**84.32**	**51**		P	**P**	**21 55 30.6**	**+1.0**		
BLYC	**Blythe**	**84.32**	**54**		P	**P**	**21 55 31.0**	**+1.7**		
BLYC					IAmb	IAmb	21 55 34.7			
	comp=Z,5.6nm,1.1s									
GLA	**Glamis**	**84.50**	**55**		P	**P**	**21 55 31.3**	**+1.0**		
GLA					pmax	pmax				
	comp=Z,4.0nm,1.0s									
GLA	**Glamis**	**84.50**	**55**		P	**P**	**21 55 31.3**	**+1.0**		
MORC	**Moravsky Berou**	**84.50**	**327**		P	**P**	**21 55 30.7**	**+0.7**		
MORC					pmax	pmax				
	comp=Z,5.0nm,1.1s									
MORC	**Moravsky Berou**	**84.50**	**327**		P	**P**	**21 55 30.7**	**+0.7**		
MORC					IAmb	IAmb	21 55 34.1			
	comp=Z,5.0nm,1.1s									
MORC	**Moravsky Berou**	**84.50**	**327**	*eP*		**P**	**21 55 27.9**	**-2.1**		
CHVC	**Chvalec**	**84.62**	**328**	*eP*		**P**	**21 55 29.8**	**-0.7**		
PSZ	**Piszkesteto**	**84.63**	**324**		P	**P**	**21 55 29.9**	**-0.8**		
PSZ					pmax	pmax				
	comp=Z,7.0nm,1.0s									
PSZ	**Piszkesteto**	**84.63**	**324**		P	**P**	**21 55 29.9**	**-0.8**		
PSZ					IAmb	IAmb	21 55 32.9			
	comp=Z,6.6nm,1.0s									
DPC	**Dobruska-Polom**	**84.67**	**328**	*eP*		**P**	**21 55 30.1**	**-0.7**		
DPC	**Dobruska-Polom**	**84.67**	**328**	*eP*		**P**	**21 55 30.1**	**-0.7**		
VYHS	**Vyhne**	**84.76**	**325**	*eP*		**P**	**21 55 33.3**	**+2.0**		
VYHS	**Vyhne**	**84.76**	**325**	*eP*		**P**	**21 55 33.3**	**+2.0**		
JAVC	**Velka Javorina**	**85.08**	**326**	*eP*		**P**	**21 55 33.2**	**+0.3**		
VRAC	**Vranov**	**85.27**	**327**	*eP*		**P**	**21 55 33.8**	**0.0**		
PV10	**Paradox Valley**	**85.28**	**48**	P		**P**	**21 55 34.1**	**-0.3**		
BRG	**Berggiesshubel**	**85.36**	**329**	*eP*		**P**	**21 55 36.1**	**+1.9**		
BRG					Amp		21 55 38.3			
	comp=Z,37nm,2.1s									
BRG	**Berggiesshubel**	**85.36**	**329**	*eP*		**P**	**21 55 36.1**	**+1.9**		
BRG					pmax	pmax				
	comp=Z,37nm,2.1s									
SMOL	**Smolenice**	**85.43**	**326**	*eP*		**P**	**21 55 34.5**	**-0.1**		
SMOL	**Smolenice**	**85.43**	**326**	*eP*		**P**	**21 55 34.5**	**-0.1**		
CLL	**Collm**	**85.45**	**330**	*eP*		**P**	**21 55 34.0**	**-0.6**		
CLL				*e**PP		**pP**	**21 55 53.0**	**+2.6**		
CLL					pmax	pmax				
	comp=Z,29nm,1.7s									
CLL	**Collm**	**85.45**	**330**		P	**P**	**21 55 34.1**	**-0.5**		
CLL					IAmb	IAmb	21 55 36.6			
	comp=Z,8.8nm,1.1s									
CLL	**Collm**	**85.45**	**330**	*eP*		**P**	**21 55 34.0**	**-0.6**		
	comp=Z,29nm,1.7s									
CLL				*e*pP		**pP**	**21 55 53.0**	**+2.6**		
KRUC	**Moravsky**	**85.54**	**327**	*eP*		**P**	**21 55 34.4**	**-0.7**		
PRU	**Pruhonice**	**85.73**	**328**	*eP*		**P**	**21 55 37.1**	**+1.1**		
PRU	**Pruhonice**	**85.73**	**328**	*eP*		**P**	**21 55 37.1**	**+1.1**		
KHC	**Kasperske Hory**	**86.79**	**328**	*eP*		**P**	**21 55 37.9**	**-3.4**		
KHC	**Kasperske Hory**	**86.79**	**328**	*eP*		**P**	**21 55 37.9**	**-3.4**		
GERES	**GERESS Array B**	**86.94**	**328**	P		**P**	**21 55 41.8**	**-0.4**		
	comp=Z,0.2nm,0.4s,baz=27,slow=3.3,SNR=3.7									
MEM	**Membach**	**88.86**	**333**	dpP		pP	21 56 10.7	+3.7		
TX31	**Lajitas Ar. Si**	**94.37**	**52**	P		**P**	**21 56 18.4**	**+1.2**		
TX32	**Lajitas Array**	**94.37**	**52**	P		**P**	**21 56 17.5**	**+0.3**		
TX32					IAmb	IAmb	21 56 37.1			
	comp=Z,4.5nm,1.1s									
TXAR	**Lajitas Array**	**94.37**	**52**	P		**P**	**21 56 18.5**	**+1.3**		
	comp=Z,1.1nm,0.8s,baz=304,slow=3.7,SNR=14									
TXAR	**Lajitas Array**	**94.37**	**52**	P		**P**	**21 56 17.5**	**+0.3**		
TORD	**Torodi Ar. Bea**	**120.44**	**312**	PKP		**PKiKP**	**22 01 49.4**	**+0.4**		
	comp=Z,0.2nm,0.4s,baz=31,slow=1.5,SNR=1.1									
H03N2	**Juan Fernandez**	**147.04**	**104**	T		T	00 47 01.3			
	baz=281,slow=75,SNR=1340									
H03N3	**Juan Fernandez**	**147.05**	**104**	T		T	00 47 02.2			
	baz=281,slow=75,SNR=1626									
H03N1	**Juan Fernandez**	**147.06**	**104**	T		T	00 47 02.4			
	baz=281,slow=75,SNR=1651									

*INET **25** 21:43:36.5±0.8, 12°.62N×87°.06W, h175km±12km, ML3.9*
*IDC **25** 21:43:37.1±1.8, 12°.74N×87°.03W, h178km±20km, mb3.5/7, mb1 3.7/10,mb1mx3.4/39,mbtmp4.0/10,MS3.1/1, Ms1 3.1/1,ms1mx2.5/44,Error ellipse: s-maj=29.9km s-min=16.4km az=58.0*
*SNET **25** 21:43:37.7±1.1, 11°.79N×87°.57W, h12km±78km, ML3.5*
*NEIC **25** 21:43:37.9±1.3, 12°.70N±0°.08×87°.00W±0°.08, h171km±4km, mb4.4/79,Error ellipse: s-maj=14.2km s-min=7.3km az=222.0*
*UCR **25** 21:43:38.9±2.1, 11°.96N×87°.58W, h3km±5km, MW4.0, mb4.4(NEIC)*

ISC 25 21:43:36.8±0.6, 12°.70N±0°.05×87°.02W±0°.05, h173km±5km, n181,σ1°07/211, mb4.4/39, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h	m	s	Res ISC
				Op						
CRIN	**San Cristobal**	**0.03**	**280**	Pn		**Pn**	**21**	**43**	**60.0**	**+0.3**
CRIN				Sn		**Sn**	**21**	**44**	**19.4**	**+2.2**
TEL3	**Telica 3**	**0.21**	**125**	*eP*		**Pn**	**21**	**44**	**00.2**	**+0.3**
CNGN	**Cerro Negro**	**0.37**	**121**	Pn		**Pn**	**21**	**43**	**59.6**	**-0.7**
CNGN				Sn		**Sn**	**21**	**44**	**17.8**	**-0.6**
CNGN	**Cerro Negro**	**0.37**	**121**	*eP*		**Pn**	**21**	**43**	**59.2**	**-1.1**
CNGN				IAML			21	44	18.4	
	comp=E,1μm,0.7s									
MOMN	**Momotombo**	**0.55**	**121**	*eP*		**Pn**	**21**	**44**	**01.2**	**+0.1**
CSGN	**Cosiguina Volc**	**0.59**	**298**	*eP*		**Pn**	**21**	**44**	**01.4**	**+0.2**
BRAN	**Las Pilas**	**0.66**	**88**	*eP*		**Pn**	**21**	**44**	**02.8**	**+1.3**
COPN	**Copaltepe**	**0.66**	**140**	*eP*		**Pn**	**21**	**44**	**00.4**	**-1.1**
APYN	**Apoyeque**	**0.80**	**125**	*eP*		**Pn**	**21**	**44**	**01.9**	**-0.5**
HUEN		**0.91**	**113**	*eP*		**Pn**	**21**	**44**	**03.4**	**+0.4**
MGAN	**Managua**	**0.93**	**126**	*eP*		**Pn**	**21**	**44**	**03.1**	**-0.1**
LCND	**La Caada**	**1.04**	**306**	*eP*		**Pn**	**21**	**44**	**04.5**	**+0.4**
LCND				*e*S		**Sn**	**21**	**44**	**26.1**	**+1.0**
LCND	**La Caada**	**1.04**	**306**	*eP*		**Pn**	**21**	**44**	**04.5**	**+0.4**
LCND				*e*S		**Sn**	**21**	**44**	**26.1**	**+1.0**
LCND				IAML			21	44	35.9	
	comp=Z,878nm,0.4s									
MATN	**Matagalpa**	**1.10**	**78**	Pn		**Pn**	**21**	**44**	**05.0**	**+0.4**
MATN	**Matagalpa**	**1.10**	**78**	*eP*		**Pn**	**21**	**44**	**05.0**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.35**	**100**	Pn		**Pn**	**21**	**44**	**07.1**	**+0.4**
BOAB	**BOACO BROADBAN**	**1.35**	**100**	*eP*		**Pn**	**21**	**44**	**07.0**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.38**	**350**	Pn		**Pn**	**21**	**44**	**08.3**	**+1.2**
TGUH	**Tegucigalpa,Un**	**1.38**	**350**	*eP*		**Pn**	**21**	**44**	**08.2**	**+1.2**
VSM	**San Miguel**	**1.42**	**301**	*eP*		**Pn**	**21**	**44**	**08.5**	**+0.9**
VSM	**San Miguel**	**1.42**	**301**	*eP*		**Pn**	**21**	**44**	**08.5**	**+0.9**
LCY	**Lacayo**	**1.43**	**300**	*eP*		**Pn**	**21**	**44**	**08.4**	**+0.8**
LCY	**Lacayo**	**1.43**	**300**	*eP*		**Pn**	**21**	**44**	**08.4**	**+0.8**
RANC	**El Ranchito**	**1.43**	**301**	*eP*		**Pn**	**21**	**44**	**08.5**	**+0.9**
RANC	**El Ranchito**	**1.43**	**301**	*eP*		**Pn**	**21**	**44**	**08.5**	**+0.9**
COEB	**Comit de Eme**	**1.67**	**299**	*eP*		**Pn**	**21**	**44**	**10.5**	**+0.5**
COEB				*e*S		**Sn**	**21**	**44**	**36.3**	**+0.7**
COEB	**Comit de Eme**	**1.67**	**299**	*eP*		**Pn**	**21**	**44**	**10.5**	**+0.5**
COEB				*e*S		**Sn**	**21**	**44**	**36.3**	**+0.7**
PQSS	**Presa 15 de Se**	**1.76**	**302**	*eP*		**Pn**	**21**	**44**	**11.6**	**+0.9**
PQSS				*e*S		**Sn**	**21**	**44**	**38.2**	**+1.2**
PQSS	**Presa 15 de Se**	**1.76**	**302**	*eP*		**Pn**	**21**	**44**	**11.6**	**+0.9**
PQSS				IAML			21	44	12.1	
	comp=Z,285nm,0.3s									
PQSS				*e*S		**Sn**	**21**	**44**	**38.2**	**+1.2**
TECO	**Alcaldia de Te**	**1.91**	**296**	*eP*		**Pn**	**21**	**44**	**12.8**	**+0.5**
TECO	**Alcaldia de Te**	**1.91**	**296**	*eP*		**Pn**	**21**	**44**	**12.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.94**	**301**	*eP*		**Pn**	**21**	**44**	**13.7**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.94**	**301**	*eP*		**Pn**	**21**	**44**	**13.7**	**+1.0**
ACON	**Acoyapa**	**1.95**	**112**	Pn		**Pn**	**21**	**44**	**12.9**	**+0.2**
ACON	**Acoyapa**	**1.95**	**112**	*eP*		**Pn**	**21**	**44**	**12.8**	**+0.1**
UESV	**Universidad de**	**1.96**	**299**	*eP*		**Pn**	**21**	**44**	**13.8**	**+1.0**
UESV	**Universidad de**	**1.96**	**299**	*eP*		**Pn**	**21**	**44**	**13.8**	**+1.0**
COEG	**Centro de Oper**	**2.03**	**297**	*eP*		**Pn**	**21**	**44**	**14.5**	**+0.8**
COEG	**Centro de Oper**	**2.03**	**297**	*eP*		**Pn**	**21**	**44**	**14.5**	**+0.8**
PAVA	**Las Pavas**	**2.12**	**299**	*eP*		**Pn**	**21**	**44**	**15.7**	**+0.9**
PAVA	**Las Pavas**	**2.12**	**299**	*eP*		**Pn**	**21**	**44**	**15.7**	**+0.9**
LFRS	**El Faro**	**2.19**	**295**	*eP*		**Pn**	**21**	**44**	**16.3**	**+0.8**
LFRS				*e*S		**Sn**	**21**	**44**	**45.7**	**+0.1**
LFRS	**El Faro**	**2.19**	**295**	*eP*		**Pn**	**21**	**44**	**16.3**	**+0.8**
LFRS				*e*S		**Sn**	**21**	**44**	**45.7**	**+0.1**
SNET	**Serv Nac Est T**	**2.37**	**295**	Pn		**Pn**	**21**	**44**	**18.2**	**+0.6**
SNET				Sn		**Sn**	**21**	**44**	**51.4**	**+2.1**
HZTE	**Horizontes, Gu**	**2.42**	**144**			**Pn**	**21**	**44**	**19.2**	**+1.1**
HZTE				Sn		**Sn**	**21**	**44**	**48.8**	**-1.5**
HZTE	**Horizontes, Gu**	**2.42**	**144**	*eP*		**Pn**	**21**	**44**	**19.0**	**+0.9**
BOQS	**Boqueron**	**2.43**	**295**	*eP*		**Pn**	**21**	**44**	**19.5**	**+1.1**
BOQS				*e*S		**Sn**	**21**	**44**	**51.7**	**+0.9**
BOQS	**Boqueron**	**2.43**	**295**	*eP*		**Pn**	**21**	**44**	**19.5**	**+1.1**
BOQS				*e*S		**Sn**	**21**	**44**	**51.7**	**+0.9**
PMON	**Piamonte**	**2.45**	**295**	*eP*		**Pn**	**21**	**44**	**19.4**	**+0.8**
PMON				*e*S		**Sn**	**21**	**44**	**50.8**	**-0.2**
PMON	**Piamonte**	**2.45**	**295**	*eP*		**Pn**	**21**	**44**	**19.4**	**+0.8**
PMON				*e*S		**Sn**	**21**	**44**	**50.8**	**-0.2**
BUEV	**Buena Vista**	**2.46**	**140**	*i* P		**Pn**	**21**	**44**	**20.1**	**+1.4**
BUEV				*i* S		**Sn**	**21**	**44**	**50.1**	**-1.2**
LAPC	**Finca la Perla**	**2.47**	**141**	*i* P		**Pn**	**21**	**44**	**18.7**	**0.0**
GPS2	**Hotel Rincn d**	**2.53**	**140**	*i* P		**Pn**	**21**	**44**	**20.8**	**+1.2**
GPS2				*i* S		**Sn**	**21**	**44**	**51.2**	**-1.5**
JAYA	**Jayaque - finc**	**2.55**	**292**	*eP*		**Pn**	**21**	**44**	**20.4**	**+0.7**
JAYA				*e*S		**Sn**	**21**	**44**	**52.5**	**-0.6**
JAYA	**Jayaque - finc**	**2.55**	**292**	*eP*		**Pn**	**21**	**44**	**20.4**	**+0.7**
JAYA				*e*S		**Sn**	**21**	**44**	**52.5**	**-0.6**
TACO	**Tacachico**	**2.60**	**299**	*eP*		**Pn**	**21**	**44**	**21.1**	**+0.9**
TACO	**Tacachico**	**2.60**	**299**	*eP*		**Pn**	**21**	**44**	**21.1**	**+0.9**
LIM1	**Limonal**	**2.64**	**139**	*i* P		**Pn**	**21**	**44**	**21.6**	**+0.8**
LIM1				*i* S		**Sn**	**21**	**44**	**53.8**	**-1.1**
HORNC	**Hornillas**	**2.67**	**137**	*i* P		**Pn**	**21**	**44**	**22.3**	**+1.0**
ESPN	**Las Esperanzas**	**2.71**	**100**	Pn		**Pn**	**21**	**44**	**21.3**	**-0.2**
CUI	**Cuipilapa**	**2.72**	**138**	*i* P		**Pn**	**21**	**44**	**22.2**	**+0.4**
SNJE	**San Jose**	**2.77**	**295**	*eP*		**Pn**	**21**	**44**	**23.6**	**+1.1**
SNJE	**San Jose**	**2.77**	**295**	*eP*		**Pn**	**21**	**44**	**23.6**	**+1.1**
SBLS	**San Blas**	**2.77**	**294**	*eP*		**Pn**	**21**	**44**	**23.6**	**+1.0**
SBLS	**San Blas**	**2.77**	**294**	*eP*		**Pn**	**21**	**44**	**23.6**	**+1.0**
ORTG	**Ortega, Santa**	**2.78**	**146**			**Pn**	**21**	**44**	**23.2**	**+0.6**
ORTG						Sn	**21**	**44**	**56.5**	**-1.6**
RTR	**El Retiro**	**2.82**	**295**	*eP*		**Pn**	**21**	**44**	**24.6**	**+1.5**
RTR	**El Retiro**	**2.82**	**295**	*eP*		**Pn**	**21**	**44**	**24.6**	**+1.5**
GUAI

comp=Z,7,4nm,0.9s
SSPA Standing Stone 28.97 14 P **P** **21 49 21.0 +1.0**
M53A WI Miller and 29.17 10 P **P** **21 49 23.1 +1.3**
M53A IAmb IAmb 21 49 33.0
comp=Z,11nm,1.1s
M54A Oil Creek Stat 29.42 11 P **P** **21 49 24.4 +0.5**
N58A Sunbury 29.46 16 P **P** **21 49 25.4 +1.0**
N58A IAmb IAmb 21 49 25.9
comp=Z,10nm,1.0s
N59A State Game Lan 29.80 17 P **P** **21 49 28.5 +1.1**
N59A IAmb IAmb 21 49 29.9
comp=Z,5.2nm,0.6s
M57A Sunshine Farm, 29.82 15 P **P** **21 49 28.4 +0.9**
M57A IAmb IAmb 21 49 29.3
comp=Z,6.8nm,0.8s
BRNJ Basking Ridge 29.95 19 P **P** **21 49 29.5 +0.8**
ODNJ Ogdensburg 30.30 19 P **P** **21 49 32.6 +0.8**
ODNJ IAmb IAmb 21 49 48.9
comp=Z,6.5nm,1.0s
KSPA Keystone Colle 30.39 17 P **P** **21 49 33.5 +1.0**
KSPA IAmb IAmb 21 49 40.7
comp=Z,7.5nm,1.1s
PAL Palisades 30.46 20 P **P** **21 49 33.6 +0.5**
PAL IAmb IAmb 21 49 44.6
comp=Z,12nm,0.9s
L59A Walton 31.18 17 P **P** **21 49 40.2 +0.6**
UCCT U. Connecticut 31.73 21 P **P** **21 49 45.4 +1.1**
L61B Northampton 32.16 20 P **P** **21 49 48.1 +0.1**
L61B IAmb IAmb 21 49 56.9
comp=Z,10nm,1.1s
J58A Remsen 32.19 16 P **P** **21 49 48.9 +0.5**
J58A IAmb IAmb 21 50 08.2
comp=Z,7.1nm,0.9s
SADO Sadowa 32.67 10 P **P** **21 49 52.4 -0.1**
SADO IAmb IAmb 21 50 02.3
comp=Z,6.6nm,0.9s
LONY Lake Ozonia 33.55 16 P **P** **21 50 00.4 +0.3**
LONY IAmb IAmb 21 50 09.1
comp=Z,9.2nm,1.1s
I62A Tamworth 33.88 21 P **P** **21 50 04.1 +1.2**
I63A Otisfield 34.29 21 P **P** **21 50 07.1 +0.6**
I63A IAmb IAmb 21 50 26.3
comp=Z,13nm,1.1s
G62A West of Eustis 35.33 20 P **P** **21 50 16.4 +1.0**
PB16 IPOC Station P 35.35 150 P **P** **21 50 17.3 +0.9**
PDAR Pinedale Array 35.76 331 P **P** **21 50 19.4 +0.1**
comp=Z,0.3nm,0.5s,baz=132,slow=11,SNR=3.6
PKME Peaks-Kenny Pk 35.80 22 P **P** **21 50 20.2 +0.8**
F63A Nahmakanta, Br 36.25 21 P **P** **21 50 23.6 +0.4**
F63A IAmb IAmb 21 50 33.7
comp=Z,11nm,1.1s
G65A Princeton 36.39 23 P **P** **21 50 25.3 +0.9**
GO01 Chusmiza 36.64 151 P **P** **21 50 28.4 +1.1**
F64A Sherman 36.66 22 P **P** **21 50 26.0 -0.6**
REDW Red Top Meadow 36.83 331 P **P** **21 50 29.2 +0.8**
LMQ La Malbaie 37.45 19 P **P** **21 50 32.9 -0.5**
D62A Allapoint, All 37.46 20 P **P** **21 50 34.3 +0.9**
D62A IAmb IAmb 21 50 35.4
comp=Z,5.1nm,0.7s
ULM Lac du Bonnet 38.15 351 P **P** **21 50 37.5 -1.6**
comp=Z,3.1nm,0.6s,baz=161,slow=9.2,SNR=5.2
ULM Lac du Bonnet 38.15 351 IAmb IAmb 21 50 37.9
comp=Z,2.9nm,0.5s
DGMT Dagmar 38.42 342 P **P** **21 50 42.2 +0.7**
MCMT McKenzie Canyo 38.88 330 P **P** **21 50 47.3 +1.7**
FFC Flin Flon 43.55 347 P **P** **21 51 23.4 +0.1**
SCHQ Schefferville 44.93 16 P **P** **21 51 33.3 -0.9**
comp=Z,4.7nm,0.6s,baz=220,slow=6.1,SNR=22
SCHQ Schefferville 44.93 16 P **P** **21 51 33.3 -0.9**
SCHQ IAmb IAmb 21 51 33.5
comp=Z,4.9nm,0.6s
FCC Fort Churchill 46.28 355 P **P** **21 51 44.0 -0.7**
YKA Yellowknife Ar 53.49 344 P **P** **21 52 37.9 -1.0**
comp=Z,0.9nm,0.7s,baz=141,slow=7.4,SNR=18
PLCA Paso Flores 55.30 165 P **P** **21 52 52.5 0.0**
comp=Z,0.9nm,0.7s,baz=321,slow=4.6,SNR=3.5
PLCA Paso Flores 55.30 165 P **P** **21 52 52.5 0.0**
ESDC Sonseca Array 76.71 52 P **P** **21 55 09.3 +0.2**
comp=Z,0.4nm,0.9s,baz=256,slow=3.8,SNR=1.6
WRA Warramunga Arr 139.74 254 PKhKP PKPpre 22 02 38.0
comp=Z,0.2nm,0.4s,baz=92,slow=3.5,SNR=4.7
WRA PKP **PKPdf 22 02 44.4 -0.5**
comp=Z,1.4nm,0.5s,baz=89,slow=2.6,SNR=34
ASAR Alice Springs 139.75 248 PKhKP PKPpre 22 02 38.0
comp=Z,0.1nm,0.3s,baz=107,slow=3.6,SNR=4.1
ASAR PKP **PKPdf 22 02 44.8 -0.2**
comp=Z,1.0nm,0.6s,baz=89,slow=1.8,SNR=9.4

IDC 25 22:00:46.3±3.6, 17°20N×146°82E, h161km±29km, mb3.0/4, mb1 3.3/5, mb1mx3.0/35, mbtmp3.5/5, Error ellipse: s-maj=60.6km s-min=21.6km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.05**	**208**	P	Pn	22 01 48.5	+1.0
	7.2nm,0.3s,baz=0.0,slow=17,SNR=4.1						
GUMO				S	Sn	22 02 35.0	-0.3
	13nm,0.3s,baz=208,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**38.89**	**199**	P	P	22 07 56.4	0.0
	0.7nm,0.4s,baz=30,slow=8.9,SNR=20						
WRA				PcP	PcP	22 10 02.7	-1.3
	0.1nm,0.5s,baz=25,slow=4.6,SNR=0.9						
ASAR	**Alice Springs**	**42.53**	**198**	P	P	22 08 26.3	+0.1
	0.3nm,0.5s,baz=18,slow=6.8,SNR=9.4						
SONM	**Songino Array**	**44.98**	**322**	P	P	22 08 45.5	-0.1
	0.2nm,0.5s,baz=132,slow=8.2,SNR=1.5						
YKA	**Yellowknife Ar**	**78.81**	**28**	P	P	22 12 31.1	0.0
	0.3nm,0.8s,baz=287,slow=5.4,SNR=4.3						

*FUNV **25** 22:12:19.0, 8°35N×71°88W, h5km, MW4.3*
*IDC **25** 22:12:21.5±1.1, 8°20N×71°60W, h61km±10km, mb3.4/10, mb1 3.7/12, mb1mx3.5/30, mbtmp3.8/12, MS3.5/3, Ms1 3.5/3, ms1mx2.9/37, Error ellipse: s-maj=21.3km s-min=9.2km az=130.0*
ISC 25 22:12:17.6±1.3, 8°37N±0°03×71°76W±0°02, h13km±9km, n47, σ1°80/72, mb3.7/10, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.75**	**227**	*e*P	**Pg**	**22 12 31.4**	**-0.7**
CAPV				*e*S	**Sg**	**22 12 40.8**	**-1.3**
SOCV	**Socops**	**0.90**	**96**	*i* P	**Pb**	**22 12 35.6**	**+0.6**
SOCV				*e*S	**Sb**	**22 12 47.8**	**+0.9**
SDV	**Santo Domingo**	**1.22**	**65**	P	**Pn**	**22 12 41.9**	**+1.3**
	240nm,0.3s,baz=242,slow=10.0,SNR=1081						
SDV				S	**Sb**	**22 12 57.4**	**+0.9**
	524nm,0.3s,baz=353,slow=7.5,SNR=26						
SDV				LR	LR	22 13 24.7	
	comp=Z,692nm,18.5s,baz=126,slow=54						
SDV	**Santo Domingo**	**1.22**	**65**	*e*P	**Pn**	**22 12 41.9**	**+1.3**
SDV				*e*S	**Sn**	**22 12 58.5**	**+1.5**
PAMC	**Pamplona, Colo**	**1.39**	**222**	*e*P	**Pn**	**22 13 43.4**	**+0.3**
PAMC				*e*S	**Sg**	**22 13 01.9**	**-0.6**
PAMC				*i*		22 13 06.6	
	comp=Z,2μm,0.1s						
OCAC	**Ocana**	**1.55**	**265**	⇓*i*P	**Pn**	**22 12 45.2**	**+0.2**
OCAC				*e*S	**Sn**	**22 13 04.4**	**-0.6**
OCAC				*i*		22 13 07.8	
	comp=Z,7μm,0.6s						
MCQV	**Machiques**	**1.83**	**335**	*e*P	**Pn**	**22 12 50.1**	**+1.3**
MCQV				*e*S	**Sn**	**22 13 13.6**	**+1.7**
TAMC	**Tame, Arauca**	**1.93**	**181**	*e*P	**Pn**	**22 12 51.9**	**+1.8**
TAMC				*e*S	**Sg**	**22 13 20.9**	**+1.3**
LL6C	**La Loma 6 Bece**	**2.02**	**312**	*e*P	**Pn**	**22 12 52.2**	**+0.9**
LL6C				*e*S	**Sn**	**22 13 18.3**	**+1.9**
LL1C	**La Loma 1 Cana**	**2.12**	**303**	*e*P	**Pn**	**22 12 53.5**	**+0.8**
LL1C				*e*S	**Sb**	**22 13 23.7**	**+1.6**
BARC	**Barichara**	**2.26**	**219**	*e*P	**Pb**	**22 12 58.8**	**+0.3**
BARC				*e*S	**Sb**	**22 13 28.1**	**+1.6**
BARC				*i*		22 13 31.0	
	comp=Z,1μm,0.4s						
LL5C	**La Loma 5 El P**	**2.37**	**305**	*e*S	**Sb**	**22 13 31.8**	**+2.5**
CURV	**Curarigua**	**2.41**	**47**	*e*S	**Sb**	**22 13 30.5**	**0.0**
SANV	**Sanarito**	**2.46**	**63**	*e*P	**Pb**	**22 13 01.3**	**-0.6**
SANV				*e*S	**Sb**	**22 13 32.4**	**+0.3**
ELOV	**Elorza**	**2.64**	**121**	*e*P	**Pn**	**22 13 02.6**	**+2.8**
ELOV				*e*S	**Sn**	**22 13 34.8**	**+3.1**
DABV	**Dabajuro**	**2.76**	**24**	*e*P	**Pn**	**22 13 03.1**	**+1.5**
DABV				*e*S	**Sn**	**22 13 37.3**	**+2.5**
RUSC	**La Rusia**	**2.79**	**208**	*e*P	**Pn**	**22 13 04.1**	**+1.6**
RUSC				*e*S	**Sb**	**22 13 44.0**	**+2.0**
RUSC				*i*		22 13 49.6	
	comp=Z,237nm,0.3s						
SIQV	**Siquisique**	**2.97**	**40**	*e*P	**Pn**	**22 13 07.3**	**+2.9**
SIQV				*e*S	**Sn**	**22 13 43.2**	**+3.3**
MAPV	**Macapo**	**3.57**	**66**	*e*P	**Pn**	**22 13 15.7**	**+3.0**
MAPV				*e*S	**Sn**	**22 13 57.3**	**+2.5**
JACV	**Jacura**	**3.95**	**47**	*e*P	**Pn**	**22 13 21.0**	**+3.1**
JACV				*e*S	**Sn**	**22 14 06.3**	**+2.1**
CHIC	**Chingaza**	**4.21**	**208**	*e*P	**Pn**	**22 13 23.2**	**+1.4**
CHIC				*e*S	**Sn**	**22 14 11.0**	**0.0**
CHIC				*i*		22 14 48.4	
	comp=Z,39nm,0.6s						
HELC	**Santa Helena**	**4.32**	**240**	*e*P	**Pn**	**22 13 25.1**	**+1.7**
HELC				*e*S	**Sb**	**22 14 28.2**	**+2.3**
HELC				*i*		22 14 35.3	
	comp=Z,110nm,0.4s						
ROSC	**El Rosal**	**4.34**	**216**	P	**Pn**	**22 13 24.9**	**+1.3**
	comp=Z,2.9nm,0.3s,baz=134,slow=16,SNR=5.3						
ROSC				S	**Sn**	**22 14 13.6**	**-0.6**
	comp=Z,16nm,0.3s,baz=130,slow=23,SNR=2.7						
BENV	**Beln**	**4.40**	**69**	*e*P	**Pn**	**22 13 25.9**	**+1.8**
BENV				*e*S	**Sn**	**22 14 16.0**	**+0.7**
GUY2C	**Guyana, Caldas**	**4.76**	**229**	*e*P	**Pn**	**22 13 30.9**	**+1.5**
GUY2C				*e*S	**Sb**	**22 14 42.7**	**+4.3**
GUY2C				*i*		22 14 57.9	
	comp=Z,80nm,0.6s						
PAYV	**Puerto Ayacuch**	**5.02**	**126**	*e*P	**Pn**	**22 13 34.3**	**+1.7**
PAYV				*e*S	**Sn**	**22 14 29.9**	**-0.6**
CACV	**CAICARA DEL OR**	**5.23**	**98**	*e*P	Pb	22 13 44.5	-4.4
CACV				*e*S	**Sb**	**22 14 48.3**	**-3.4**
FUNV	**FUNVISIS**	**5.31**	**67**	*e*P	**Pn**	**22 13 38.4**	**+1.7**
FUNV				*e*S	**Sn**	**22 14 38.7**	**+0.9**
MERV	**Las Mercedes**	**5.47**	**80**	*e*P	**Pn**	**22 13 41.4**	**+2.6**
MERV				*e*S	**Sn**	**22 14 41.7**	**+0.1**
BIRV	**Birongo**	**5.80**	**68**	*e*P	**Pn**	**22 13 45.2**	**+1.7**
BIRV				*e*S	**Sn**	**22 14 49.8**	**-0.2**
PRGV	**PARIAGUAN**	**7.04**	**86**	*e*P	**Pn**	**22 14 01.7**	**+1.2**
PRGV				*e*S	**Sn**	**22 15 18.1**	**-2.4**
SJG	**San Juan**	**11.11**	**29**	P	**Pn**	**22 14 57.4**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=204,slow=19,SNR=1.7						
MDP	**Montagnes des**	**19.26**	**99**	LR	LR	22 24 21.5	
	comp=Z,97nm,20.3s,baz=7.5,slow=38						
LPAZ	**La Paz**	**24.77**	**172**	P	**P**	**22 17 37.5**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=352,slow=7.1,SNR=2.3						
LPAZ				LR	LR	22 28 06.6	
	comp=Z,69nm,19.9s,baz=318,slow=38						
SIV	**San Ignacio**	**26.42**	**156**	P	**P**	**22 17 51.1**	**-3.2**
	comp=Z,1.9nm,1.0s,baz=321,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**36.49**	**309**	P	**P**	**22 19 23.6**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=124,slow=8.0,SNR=1.3						
SCHQ	**Schefferville**	**46.50**	**4**	P	**P**	**22 20 44.1**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=211,slow=6.6,SNR=7.2						
PDAR	**Pinedale Array**	**47.65**	**322**	P	**P**	**22 20 54.3**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=125,slow=9.1,SNR=2.1						
YKA	**Yellowknife Ar**	**62.29**	**339**	P	**P**	**22 22 38.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=127,slow=7.1,SNR=6.1						
BORG	**Borgarnes**	**66.36**	**21**	LR	LR	22 51 25.0	
	comp=Z,63nm,18.8s,baz=121,slow=35						
ESDC	**Sonseca Array**	**67.63**	**51**	P	**P**	**22 23 12.7**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=259,slow=4.3,SNR=2.1						
GERES	**GERESS Array B**	**80.77**	**42**	P	P	22 24 27.0	-4.1
	comp=Z,0.4nm,0.7s,baz=298,slow=4.1,SNR=3.2						
ARCES	**ARCESS Array B**	**84.75**	**21**	P	**P**	**22 24 49.9**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=283,slow=4.3,SNR=6.7						
FINES	**FINESS Array B**	**86.44**	**28**	P	**P**	**22 24 58.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=283,slow=6.7,SNR=1.6						
ASAR	**Alice Springs**	**151.10**	**235**	PKPbc	**PKPdf**	**22 32 05.0**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=101,slow=2.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**151.80**	**19**	PKPbc	**PKPdf**	**22 32 08.4**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=328,slow=3.2,SNR=6.4						
WRA	**Warramunga Arr**	**152.25**	**243**	PKPbc	**PKPbc**	**22 32 12.5**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=109,slow=2.0,SNR=24						

*TUL **25** 22:25:47.7±1.1, 36°882N±0°009×97°80W±0°01, h5km±4km, ML2.8, mb_Lg2.4/22(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=111.0*
NEIC 25 22:25:47.8±0.7, 36°849N±0°010×97°79W±0°01, h5km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=109.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.03**	**86**	Pg	Pg	22 26 07.2	-0.3
U32A	**Winter Ranch,**	**1.08**	**245**	Pg	Pg	22 26 07.5	-1.0
OKCFA	**Oklahoma City**	**1.46**	**169**	Pn	Pn	22 26 14.1	-0.7
OKCSW	**OKLAHOMA CITY**	**1.47**	**169**	Pn	Pn	22 26 14.8	-0.1
FNO	**Franklin**	**1.62**	**169**	Pn	Pn	22 26 16.9	-0.1
FNO				IAmb_Lg		22 26 43.5	
	comp=Z,17nm,0.8s						
R32A	**Long Quarter,**	**1.73**	**335**		Pn	22 26 18.3	-0.3
TUL1	**Leonard**	**1.86**	**120**		Pn	22 26 20.5	+0.1
TUL1				Sg	Sg	22 26 47.9	-0.7
TUL1				IAmb_Lg		22 26 49.9	
	comp=Z,20nm,0.7s						
X34A	**Smith Ranch, M**	**2.24**	**181**	Pn	Pn	22 26 26.0	+0.4
X34A				IAmb_Lg		22 27 02.4	
	comp=Z,12nm,0.7s						
WMOK	**Wichita Mounta**	**2.25**	**201**	Pn	Pn	22 26 26.4	+0.6
KSU1	**Kansas State U**	**2.43**	**22**	Pn	Pn	22 26 27.8	-0.4
X37A	**Clayton**	**2.99**	**138**	IAmb_Lg		22 27 27.6	
	comp=Z,8.9nm,0.9s						
HHAR	**Hobbs**	**3.15**	**99**		Pn	22 26 38.8	+0.7
W39A	**Magazine**	**3.64**	**116**		Pg	22 26 55.8	-1.8
AMTX	**Amarillo**	**3.72**	**239**	IAmb_Lg		22 27 55.8	
	comp=Z,13nm,0.9s						
U40A	**Yellville**	**4.00**	**96**	IAmb_Lg		22 28 02.8	
	comp=Z,7.7nm,1.1s						
P38A	**Dawn**	**4.35**	**49**		Pg	22 27 08.6	-2.5
KSCO	**Kaye Shedlock'**	**4.39**	**301**	Pg	Pb	22 27 06.8	+1.3
MGMO	**Mountain Grove**	**4.43**	**84**	IAmb_Lg		22 28 08.2	
	comp=Z,10nm,0.8s						
WHAR	**Wooly Hollow**	**4.72**	**108**		Sg	22 28 16.1	-3.3
WHAR				IAmb_Lg		22 28 25.9	
	comp=Z,7.0nm,1.0s						
N38A	**Joes South For**	**5.31**	**41**	IAmb_Lg		22 28 47.6	
	comp=Z,8.8nm,0.9s						
PBMO	**Poplar Bluff**	**5.91**	**88**	IAmb_Lg		22 29 04.5	
	comp=Z,6.1nm,0.7s						

*IDC **25** 22:28:45.1±0.7, 35°70N×3°60W, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.7/42, mbtmp3.6/13, ML3.4/4, MS3.1/3, Ms1 3.2/3, ms1mx2.7/94, Error ellipse: s-maj=23.8km s-min=11.6km az=100.0*
*MDD **25** 22:28:46.9±0.4, 35°66N×3°63W, h2km±2km, mb_Lg3.7/35, Error ellipse: s-maj=2.6km s-min=1.9km az=167.0*
*LDG **25** 22:28:47.7±0.2, 35°67N×3°57W, h2km, Ml3.4/12, Error ellipse: s-maj=4.9km s-min=3.3km az=17.0*
*INMG **25** 22:28:47.8±2.0, 35°57N×3°61W, h21km±15km, ML3.5, Error ellipse: s-maj=10.7km s-min=3.8km az=152.0*
*CNRM **25** 22:28:47.1, 35°66N×3°56W, h28km, ml4.1*
*IGIL **25** 22:28:47.5, 35°55N×3°58W, h23km, ML3.5*
*SFS **25** 22:28:48.0, 35°50N×3°50W, ML3.9, ALBORAN SUR*
*CRAAG **25** 22:28:48.0, 35°55N×3°58W, Ml3.9*
ISC 25 22:28:46.6±0.9, 35°70N±0°02×3°62W±0°02, h15km±7km, n143, σ2°06/240, mb3.9/9, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.53**	**63**	⇑P	**Pb**	**22 28 57.9**	**+0.3**
EALB				Pg	**Pg**	**22 28 58.0**	**+1.0**
EALB				Sg	**Sb**	**22 29 05.7**	**+0.7**
EALB				*i* Vmb_Lg		22 29 08.1	
PALE	**Palemas**	**0.55**	**209**	P	**Pg**	**22 28 57.4**	**-0.1**
PALE				S	**Sg**	**22 29 00.0**	**-4.8**
EMEL	**Melilla**	**0.67**	**126**	⇓Pg	**Pg**	**22 28 58.9**	**-0.8**
EMEL				Sg	**Sg**	**22 29 07.2**	**-1.3**
GOG	**Mont Gurugu**	**0.70**	**133**	P	**Pg**	**22 28 59.1**	**-1.1**
GOG				S	**Sg**	**22 29 09.1**	**-0.4**
PVLZ	**Peæn de**	**0.77**	**227**	P	**Pg**	**22 29 01.2**	**-0.3**
PVLZ				S	**Sn**	**22 29 13.6**	**-0.5**
ELGU	**Los Guajares,**	**1.16**	**360**	Pn	**Pb**	**22 29 07.8**	**-0.6**
ELGU				Sg	**Sb**	**22 29 23.6**	**+0.2**
ELGU				Sn	**Sg**	**22 29 23.7**	**-0.6**
ELGU				*i* Vmb_Lg		22 29 28.2	
EMAL	**Malaga-Limoner**	**1.25**	**328**	P	**Pb**	**22 29 09.7**	**-0.1**
EMAL				S	**Sn**	**22 29 26.2**	**+0.2**
EMIJ	**Mijas**	**1.27**	**313**	Pn	**Pn**	**22 29 09.0**	**-0.8**
EMIJ				Sn	**Sb**	**22 29 25.2**	**-1.2**
EMIJ				Sg	**Sb**	**22 29 25.3**	**-1.2**
EMIJ				*i* Vmb_Lg		22 29 27.7	
TAF	**Taforalt**	**1.32**	**132**	P	**Pn**	**22 29 09.0**	**-1.6**
TAF				S	**Sb**	**22 29 24.6**	**-3.3**
EBER	**Berja**	**1.33**	**26**	Pn	**Pn**	**22 29 10.4**	**-0.4**
EBER				Sn	**Sg**	**22 29 29.5**	**-0.1**
EBER				*i* Vmb_Lg		22 29 35.2	
SMIR	**Smir Dam**	**1.44**	**270**	P	**Pn**	**22 29 10.3**	**-1.8**
SMIR				S	Sn	22 29 19.0	-12
ECEU	**Ceuta**	**1.44**	**278**	Pn	**Pn**	**22 29 10.9**	**-1.2**
ECEU				Sn	**Sn**	**22 29 28.9**	**-2.0**
ECEU				*i* Vmb_Lg		22 29 32.5	
EGOR	**Sierra Gorda,**	**1.46**	**344**	Pn	**Pn**	**22 29 12.5**	**-0.1**
EGOR				Sn	**Sg**	**22 29 33.3**	**-0.4**
EGOR				*i* Vmb_Lg		22 29 38.8	
EQUE	**Quentar**	**1.51**	**5**	Pn	**Pb**	**22 29 13.8**	**-0.5**
EQUE				Sn	**Sn**	**22 29 32.8**	**+0.2**
EQUE				Sg	**Sg**	**22 29 34.2**	**-1.0**
EQUE				*i* Vmb_Lg		22 29 38.0	
JBK	**JBK**	**1.61**	**147**	P	**Pn**	**22 29 13.0**	**-1.6**
JBK				S	**Pn**	**22 29 13.1**	**-1.6**
EJIF	**Jimena Fronter**	**1.68**	**297**	Pn	**Pn**	**22 29 15.2**	**-0.2**
ENIJ	**Nijar**	**1.70**	**42**	Pn	**Pn**	**22 29 14.6**	**-1.1**
ENIJ				Sn	**Sn**	**22 29 37.0**	**-0.3**
ENIJ				*i* Vmb_Lg		22 29 38.5	
OLHC	**Oulhaca**	**1.85**	**103**	P	**Pn**	**22 29 16.5**	**-1.3**
LIJA	**Lijar**	**1.88**	**310**	P	**Pg**	**22 29 22.9**	**+0.2**
LIJA				S	**Sg**	**22 29 48.3**	**+1.3**
RSA	**Sarsar**	**1.98**	**246**	P	**Pb**	**22 29 21.4**	**-1.0**
CNIL	**Conil**	**2.09**	**289**	P	**Pb**	**22 29 25.0**	**+0.9**
SICH	**Sidi Chahed**	**2.12**	**222**	P	**Pg**	**22 29 31.0**	**+3.7**
ESPR	**Espera**	**2.15**	**303**	Pn	**Pb**	**22 29 23.9**	**-1.4**
ESPR				Sn	**Sb**	**22 29 50.3**	**-1.4**
ESPR				Sg	**Sg**	**22 29 55.6**	**-0.2**
ESPR				*i* Vmb_Lg		22 29 59.3	
LCRM	**LCR**	**2.26**	**207**	P	**Pn**	**22 29 24.0**	**+0.5**
LCRM				S	**Sn**	**22 29 53.1**	**+1.9**
TLOR	**Lorca, Murcia**	**2.49**	**38**	Sn	**Sn**	**22 29 57.2**	**+0.5**
IFR	**Ifrane**	**2.51**	**210**	P	**Pn**	**22 29 26.4**	**-0.7**
IFR				S	**Sn**	**22 29 55.9**	**-1.5**
EADA	**Adamuz**	**2.58**	**343**	Pn	**Pn**	**22 29 29.2**	**+1.4**
EADA				Sn	**Sn**	**22 30 00.2**	**+1.2**
EADA				Sg	**Sb**	**22 30 06.0**	**+1.9**
EADA				*i* Vmb_Lg		22 30 07.4	
EZAR	**Zarzadilla de**	**2.66**	**35**	Pn	**Pn**	**22 29 29.0**	**-0.1**
EZAR				Sn	**Sn**	**22 30 00.7**	**-0.3**
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pn**	**22 29 31.8**	**+1.3**
ECAB				Sn	**Sn**	**22 30 05.6**	**+1.9**
ECAB				Sg	**Sg**	**22 30 13.0**	**-2.8**
ECAB				*i* Vmb_Lg		22 30 16.7	
CART	**Cartagena**	**2.82**	**47**	P	**Pn**	**22 29 30.7**	**-0.4**
CART				S	**Sn**	**22 30 02.2**	**-2.6**
CART	**Cartagena**	**2.82**	**47**	P	**Pn**	**22 29 30.9**	**-0.2**
ODJA	**Bouhanifia**	**2.85**	**96**	P	**Pb**	**22 29 39.0**	**+1.8**
CZD	**Col de Zad**	**2.91**	**204**	P	**Pn**	**22 29 33.0**	**+0.3**
CZD				S	**Sg**	**22 30 27.3**	**+7.1**
TDRA	**Tendrara**	**2.96**	**153**	P	**Pn**	**22 29 33.0**	**-0.3**
MD31	**MD31**	**2.98**	**199**	P	**Pn**	**22 29 33.2**	**-0.2**
MDT	**Midelt**	**3.00**	**196**	Pn	**Pn**	**22 29 33.0**	**-0.6**
	4.2nm,0.3s,baz=185,slow=14,SNR=98						
MDT				Pg	**Pb**	**22 29 41.0**	**+1.4**
	20nm,0.3s,baz=198,slow=14,SNR=30						
MDT				Sn	**Sn**	**22 30 08.0**	**-1.3**
	17nm,0.3s,baz=4.5,slow=12,SNR=5.2						
MDT				Lg	Lg	22 30 18.4	
	19nm,0.3s,baz=255,slow=20,SNR=8.1						
MDT	**Midelt**	**3.00**	**196**	P	**Pn**	**22 29 33.0**	**-0.6**
EMIN	**Mina Concepcio**	**3.21**	**311**	Pn	**Pn**	**22 29 37.0**	**+0.7**
EMIN				Sn	**Sn**	**22 30 13.9**	**-0.5**
EMIN				*i* Vmb_Lg		22 30 16.4	
ETOB	**Tobarra**	**3.37**	**29**	Pn	**Pn**	**22 29 40.2**	**+1.5**
ETOB				Sn	**Sn**	**22 30 20.1**	**+1.6**
ETOB				*i* Vmb_Lg		22 30 36.8	
EGRO	**El Granado**	**3.61**	**302**	Pn	**Pn**	**22 29 42.5**	**+0.6**
EGRO				Sn	**Sn**	**22 30 23.4**	**-0.8**
EGRO				*i* Vmb_Lg		22 30 29.5	
PBAR	**Barrancos**	**3.69**	**313**	*e*Pn	**Pn**	**22 29 43.9**	**+0.9**
PBAR				*e*Sn	**Sn**	**22 30 26.8**	**+0.5**
PBAR				A	A	22 30 31.4	
	65nm,0.7s						
PVAQ	**Vaqueiros**	**3.71**	**298**	⇑*e*Pn	**Pn**	**22 29 43.8**	**+0.4**
PVAQ				*e*Sn	**Sn**	**22 30 25.8**	**-1.0**
PVAQ				A	A	22 30 34.7	
	92nm,0.3s						
PVAQ	**Vaqueiros**	**3.71**	**298**	P	**Pn**	**22 29 43.7**	**+0.4**
PVAQ				S	**Pn**	**22 29 43.9**	**+0.6**
PBDV	**Barranco-do-Ve**	**3.80**	**295**	*e*Pn	**Pn**	**22 29 45.0**	**+0.4**
PBDV				*e*Sn	**Sn**	**22 30 28.2**	**-0.9**
PBDV				A	A	22 30 33.3	
	88nm,0.5s						
PAB	**San Pablo**	**3.88**	**352**	Pn	**Pn**	**22 29 47.5**	**+1.7**
PAB				Sn	**Sn**	**22 30 32.4**	**+1.2**
PAB				Sg	**Sg**	**22 30 47.2**	**-4.0**
PAB				*i* Vmb_Lg		22 30 50.5	
AVE	**Averroes**	**3.95**	**234**	P	**Pn**	**22 29 46.5**	**-0.1**
AVE				S	**Sn**	**22 30 29.0**	**-3.6**
**AVE

GUD				*i* Vmb_Lg			22 31 30.6		
PMTG	**Montargil**	**4.98**	**314**	*e*Pn		**Pn**	**22 30 01.8**	**+1.1**	
PMTG				*e*Sn		**Sn**	**22 30 57.5**	**-0.5**	
PMTG				A		A	22 31 35.1		
	comp=E,44nm,0.6s								
PCBR	**Castelo Branco**	**5.14**	**325**	*e*Pn		**Pn**	**22 30 04.7**	**+1.7**	
PCBR				*e*Sn		**Sn**	**22 31 01.7**	**-0.3**	
PCBR				A		A	22 31 06.5		
	comp=E,36nm,0.4s								
PACT	**Alcochete**	**5.17**	**308**	*e*Pn		**Pn**	**22 30 04.8**	**+1.5**	
PACT				*e*Sn		**Sn**	**22 31 02.8**	**+0.2**	
PACT				A		A	22 31 36.8		
	comp=E,52nm,0.6s								
TZRR	**Tazzarine**	**5.17**	**199**	P		**Pn**	**22 30 04.0**	**+0.5**	
ETOR	**Torete**	**5.25**	**13**	Pn		**Pn**	**22 30 06.2**	**+1.6**	
ETOR				Sn		**Sn**	**22 31 08.3**	**+3.3**	
ETOR				*i* Vmb_Lg			22 31 51.2		
EMOS	**Mosqueruela**	**5.27**	**27**	Pn		**Pn**	**22 30 07.2**	**+2.2**	
EMOS				Sn		**Sn**	**22 31 10.3**	**+4.7**	
EMOS				*i* Vmb_Lg			22 32 04.1		
LIS	**Lisbon**	**5.34**	**306**	*e*Pn		**Pn**	**22 30 07.8**	**+2.0**	
LIS				*e*Sn		**Sn**	**22 31 07.6**	**+0.6**	
PMST	**Lisbon--Monsan**	**5.38**	**306**	*e*Pn		**Pn**	**22 30 07.6**	**+1.4**	
PMST				*e*Sn		**Sn**	**22 31 08.0**	**+0.1**	
PMST				A		A	22 31 12.7		
	comp=E,40nm,0.8s								
ECOL	**Islas Columbre**	**5.40**	**38**	Pn		**Pn**	**22 30 07.7**	**+1.2**	
OUZM	**OUZ**	**5.46**	**210**	P		**Pn**	**22 30 08.0**	**+0.5**	
PMAFR	**Mafra**	**5.56**	**307**	*e*Pn		**Pn**	**22 30 09.9**	**+1.1**	
PMAFR				*e*Sn		**Sn**	**22 31 11.8**	**-0.6**	
PMAFR				A		A	22 31 19.2		
	comp=E,62nm,0.6s								
PSBE	**So Bento**	**5.60**	**314**	*e*Pn		**Pn**	**22 30 11.1**	**+1.7**	
PSBE				*e*Sn		**Sn**	**22 31 12.3**	**-1.2**	
PSBE				A		A	22 32 00.3		
	comp=E,33nm,0.6s								
MTE	**Manteigas**	**5.62**	**328**	*e*Pn		**Pn**	**22 30 11.7**	**+2.0**	
MTE				*e*Sn		**Sn**	**22 31 13.5**	**-0.5**	
OUK	**Oukaimeden**	**5.72**	**220**	P		**Pn**	**22 30 10.4**	**-0.8**	
PCAS	**Casmilo, Conde**	**5.81**	**320**	*e*Pn		**Pn**	**22 30 13.9**	**+1.7**	
PCAS				*e*Sn		**Sn**	**22 31 17.2**	**-1.4**	
PCAS				A		A	22 32 00.0		
	comp=E,49nm,0.7s								
ZGR	**Zagora**	**5.82**	**197**	P		**Pn**	**22 30 12.4**	**-0.1**	
COI	**Coimbra**	**5.88**	**321**	*e*Pn		**Pn**	**22 30 15.0**	**+1.9**	
COI				*e*Sn		**Sn**	**22 31 19.8**	**-0.5**	
COI				A		A	22 31 53.9		
	comp=E,50nm,0.5s								
PVIS	**Viseu**	**6.03**	**327**	*e*Pn		**Pn**	**22 30 17.0**	**+1.7**	
PVIS				*e*Sn		**Sn**	**22 31 22.5**	**-1.6**	
PVIS				A		A	22 31 28.0		
	comp=E,22nm,0.7s								
MVO	**Moncorvo**	**6.08**	**335**	*e*Pn		**Pn**	**22 30 18.0**	**+2.1**	
MVO				*e*Sn		**Sn**	**22 31 24.0**	**-1.2**	
MVO				A		A	22 32 03.8		
	comp=E,38nm,0.7s								
ERTA	**Horta de San J**	**6.10**	**29**	Pn		**Pn**	**22 30 18.5**	**+2.4**	
ERTA				Sn		**Sn**	**22 31 29.1**	**+3.5**	
ERTA				*i* Vmb_Lg			22 32 22.9		
EAH	**EAH**	**6.41**	**233**	P		**Pn**	**22 30 20.2**	**-0.3**	
PVRL	**Vila Real**	**6.43**	**331**	*e*Pn		**Pn**	**22 30 22.5**	**+1.8**	
PVRL				*e*Sn		**Sn**	**22 31 32.9**	**-0.9**	
PVRL				A		A	22 31 36.8		
	comp=E,49nm,0.9s								
POLO	**Lamas de Olo**	**6.54**	**331**	*e*Pn		**Pn**	**22 30 24.3**	**+2.0**	
POLO				*e*Sn		**Sn**	**22 31 34.2**	**-2.5**	
POLO				A		A	22 31 42.7		
	comp=E,14nm,0.7s								
TTIG	**Tnine Tigouga,**	**6.54**	**220**	P		**Pn**	**22 30 19.9**	**-2.5**	
PBRG	**Braganca**	**6.56**	**339**	*e*Pn		**Pn**	**22 30 24.2**	**+1.6**	
PBRG				*e*Sn		**Sn**	**22 31 36.4**	**-0.8**	
PBRG				A		A	22 32 21.1		
	comp=E,20nm,0.6s								
PTO	**Porto**	**6.69**	**326**	*e*Pn		**Pn**	**22 30 26.0**	**+1.7**	
PTO				*e*Sn		**Sn**	**22 31 37.7**	**-2.5**	
PTO				A		A	22 31 43.2		
	comp=E,48nm,0.8s								
EPOB	**Poblet**	**6.74**	**32**	Pn		**Pn**	**22 30 26.3**	**+1.3**	
EPOB				*i* Vmb_Lg			22 34 13.7		
PCAB	**Cabril**	**6.92**	**331**	*e*Pn		**Pn**	**22 30 29.4**	**+2.0**	
PCAB				*e*Sn		**Sn**	**22 31 44.2**	**-1.7**	
PCAB				A		A	22 32 26.1		
	comp=E,29nm,0.6s								
ELOB	**Lobios**	**7.07**	**332**	Pn		**Pn**	**22 30 31.4**	**+1.9**	
ELOB				Sn		**Sn**	**22 31 47.1**	**-2.5**	
ELOB				*i* Vmb_Lg			22 34 23.9		
PGAV	**Gavieira, Arco**	**7.23**	**331**	*e*Pn		**Pn**	**22 30 33.9**	**+2.1**	
PGAV				*e*Sn		**Sn**	**22 31 52.1**	**-1.6**	
EORO	**Oroz-Betelu**	**7.40**	**13**	Pn		**Pn**	**22 30 36.4**	**+2.3**	
EORO				*i* Vmb_Lg			22 32 51.9		
ELAN	**Lanestosa**	**7.52**	**1**	Pn		**Pn**	**22 30 38.1**	**+2.4**	
ELAN				Sn		**Sn**	**22 32 00.4**	**-0.3**	
ELAN				*i* Vmb_Lg			22 33 16.7		
EZAM	**Zamans**	**7.56**	**330**	Pn		**Pn**	**22 30 37.7**	**+1.5**	
EZAM				*i* Vmb_Lg			22 31 22.8		
ETSF	**Etsaut**	**7.57**	**17**	*e*Pn		**Pn**	**22 30 39.2**	**+2.8**	
ETSF				*e*Sn		**Sn**	**22 31 57.6**	**-4.3**	
	comp=E,1.6nm,0.3s								
SJPF	**Ste Jean**	**7.63**	**13**	*e*Pn		**Pn**	**22 30 39.9**	**+2.7**	
SJPF				*e*Sn		**Sn**	**22 31 59.0**	**-4.3**	
	comp=E,6.9nm,0.6s								
EALK	**Alkurruntz**	**7.68**	**12**	Pn		**Pn**	**22 30 40.2**	**+2.2**	
EALK				Sn		**Sn**	**22 32 04.4**	**-0.3**	
EARI	**Arriondas**	**7.69**	**351**	Pn		**Pn**	**22 30 39.8**	**+1.8**	
EARI				Sn		**Sn**	**22 32 02.4**	**-2.4**	
EARI				*i* Vmb_Lg			22 33 42.0		
EAGO	**Agolada(Pontev**	**7.89**	**335**	Pn		**Pn**	**22 30 43.2**	**+2.5**	
EAGO				Sn		**Sn**	**22 32 11.9**	**+2.1**	
EAGO				*i* Vmb_Lg			22 33 17.1		
EPF	**Esparros**	**7.93**	**22**	*e*Pn		**Pn**	**22 30 43.5**	**+2.1**	
EPF				*e*Sn		**Sn**	**22 32 06.8**	**-4.1**	
	comp=E,2.0nm,0.3s								
EPF				*e*Sg		**Sg**	**22 32 57.0**	**-4.0**	
	comp=E,2.5nm,0.6s								
MTLF	**Montolieu**	**8.86**	**29**	*e*Pn		**Pn**	**22 30 54.1**	**+0.1**	
MTLF				*e*Sn		**Sn**	**22 32 27.9**	**-5.6**	
	comp=E,0.2nm,0.2s								
TANT	**Tantan**	**9.73**	**224**	P		**Pn**	**22 31 05.1**	**-0.9**	
LFF	**La Frestale**	**9.81**	**18**	*e*Pn		**Pn**	**22 31 07.1**	**+0.1**	
LASF	**Ste Croix**	**10.14**	**32**	*e*Pn		**Pn**	**22 31 10.8**	**-0.8**	
CAF	**Calviac**	**10.18**	**23**	*e*Pn		**Pn**	**22 31 11.9**	**-0.2**	
CAF				*e*Sn		**Sn**	**22 32 59.9**	**-6.1**	
	comp=E,1.0nm,0.3s								
KEST	**Kesra**	**10.54**	**86**	Pn		**Pn**	**22 31 17.2**	**0.0**	
	comp=E,0.1nm,0.3s,baz=254,slow=15,SNR=1.8								
PMPST	**Porto Santo, M**	**10.83**	**260**	*e*P		**Pn**	**22 31 22.9**	**+1.9**	
PMPST				*e*S		**Sn**	**22 33 14.0**	**-8.0**	
SMRF	**Simiane la Rot**	**10.87**	**38**	*e*Pn		**Pn**	**22 31 20.8**	**-0.7**	
LMR	**La Mourre**	**10.91**	**43**	*e*Pn		**Pn**	**22 31 22.1**	**0.0**	
MFF	**Saint Martin d**	**11.20**	**12**	*e*Pn		**Pn**	**22 31 25.9**	**-0.1**	
MFF				*e*Sn		**Sn**	**22 33 24.5**	**-6.4**	
	comp=E,0.5nm,0.3s								
PMAR	**Madeira**	**11.40**	**259**	*e*P		**Pn**	**22 31 31.9**	**+2.8**	
PMAR				*e*S		Sn	22 33 14.6	-22	
TCF	**Toulx Ste Croi**	**11.45**	**21**	*e*Pn		**Pn**	**22 31 29.3**	**-0.2**	
PMOZ	**Porto Moniz, M**	**11.60**	**260**	*e*P		**Pn**	**22 31 30.8**	**-0.9**	
PMOZ				*e*S		**Sn**	**22 33 33.8**	**-7.2**	
PMOZ	**Porto Moniz, M**	**11.60**	**260**	P		**Pn**	**22 31 30.1**	**-1.6**	
BGF	**Bois d'Agland**	**11.88**	**22**	*e*Pn		**Pn**	**22 31 34.8**	**-0.6**	
PGF	**Pioggiola**	**11.94**	**51**	*e*Pn		**Pn**	**22 31 37.5**	**+1.2**	
QUIF	**Quistinic**	**12.21**	**1**	*e*Pn		**Pn**	**22 31 40.2**	**+0.4**	
QUIF				*e*Sn		**Sn**	**22 33 48.7**	**-6.9**	
	comp=E,1.9nm,0.5s								
SMF	**Signal de Mont**	**12.28**	**25**	*e*Pn		**Pn**	**22 31 40.5**	**-0.4**	
SGMF	**Saint Gilles**	**12.57**	**3**	*e*Pn		**Pn**	**22 31 44.3**	**-0.4**	
SGMF				*e*Sn		**Sn**	**22 33 57.2**	**-7.2**	
	comp=E,2.0nm,0.5s								
ROSF	**Rostrenen**	**12.63**	**1**	*e*Pn		**Pn**	**22 31 47.2**	**+1.6**	
ROSF				*e*Sn		**Sn**	**22 33 58.7**	**-7.2**	
	comp=E,1.9nm,0.3s								
LDF	**La Druitiere**	**13.14**	**10**	*e*Pn		**Pn**	**22 31 52.6**	**+0.1**	
FLN	**La Foliniere**	**13.26**	**9**	*e*Pn		**Pn**	**22 31 54.4**	**+0.3**	
GERES	**GERESS Array B**	**18.29**	**39**	P		**P**	**22 33 01.9**	**+2.0**	
	comp=E,0.1nm,0.3s,baz=9.3,slow=26,SNR=1.9								
CLL	**Collm**	**19.64**	**32**	*e*P		**Pn**	**22 33 17.0**	**+1.1**	
	comp=Z,5.0nm,1.3s								
CLL				*e*(PP)			22 33 35.0		
TORD	**Torodi Ar. Bea**	**22.96**	**167**	P		**P**	**22 33 51.8**	**+1.3**	
	comp=Z,5.3nm,1.0s,baz=348,slow=10,SNR=16								
NOA	**NORSAR Array B**	**27.07**	**16**	LR		LR	22 45 48.6		
	comp=Z,30nm,20.5s,baz=240,slow=38								
FINES	**FINESS Array B**	**31.87**	**27**	P		**P**	**22 35 10.6**	**-0.2**	
	comp=Z,2.5nm,1.0s,baz=251,slow=12,SNR=4.0								

KURBB	**Kurchatov Arra**	**58.75**	**48**	LR		LR	23 03 31.0		
	comp=Z,42nm,21.9s,baz=82,slow=36								
ZALV	**Zalesovo Beam**	**61.20**	**42**	P		**P**	**22 39 00.6**	**+0.1**	
	comp=Z,0.3nm,0.3s,baz=292,slow=7.6,SNR=1.7								
MKAR	**Makanchi Array**	**62.48**	**51**	P		**P**	**22 39 10.2**	**+0.9**	
	comp=Z,1.7nm,0.8s,baz=288,slow=6.1,SNR=18								
YKA	**Yellowknife Ar**	**67.72**	**332**	P		**P**	**22 39 43.9**	**+0.9**	
	comp=Z,1.8nm,0.7s,baz=59,slow=6.4,SNR=30								
ILAR	**Eielson Array**	**75.80**	**345**	P		**P**	**22 40 33.2**	**+1.7**	
	comp=Z,0.1nm,0.5s,baz=66,slow=7.0,SNR=1.5								
SONM	**Songino Array**	**76.02**	**41**	P		**P**	**22 40 34.0**	**+0.8**	
	comp=Z,0.1nm,0.6s,baz=90,slow=23,SNR=2.4								
PDAR	**Pinedale Array**	**76.79**	**313**	P		**P**	**22 40 38.3**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=54,slow=4.6,SNR=1.8								
TXAR	**Lajitas Array**	**80.84**	**299**	P		**P**	**22 41 02.6**	**+2.4**	
	comp=Z,0.2nm,0.7s,baz=88,slow=8.2,SNR=2.0								

IDC ***25*** *22:36:00.7±2.7,35.°10S×70.°93W,h82km±24km,mb4.2/12, mb1 4.2/15,mb1mx4.2/26,mbtmp4.4/15,MS3.1/3, Ms1 3.1/3,ms1mx2.8/47,Error ellipse: s-maj=20.3km s-min=14.4km az=79.0*

SJA ***25*** *22:36:02.1±1.9,35.°21S×71.°07W,h75km,ML4.3,MW4.1*

VAO ***25*** *22:36:02.1±0.5,35.°22S×70.°95W,h94km,mb4.5*

NEIC ***25*** *22:36:02.4±1.4,35.°19S±0.°04×71.°18W±0.°07,h93km±3km, mb4.7/166,Mwr4.5/20,ML4.6(GUC),Error ellipse: s-maj=9.1km s-min=4.9km az=113.0*

GUC ***25*** *22:36:02.6±0.7,35.°18S×71.°14W,h96km±3km,ML4.6*

NEIC ***25*** *22:36:02.3,35.°21S×71.°14W,h97km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=4.40; $M_{\theta\theta}$=0.13; $M_{\phi\phi}$=4.53; $M_{r\theta}$=0.35; $M_{\theta\phi}$=1.47; $M_{r\phi}$=-3.92; Fault plane solution: M_0=6.13000×10^{15} NP1:ϕ=211.28000°, δ=27.57000°, λ=-63.77000°. NP2:ϕ=21.21000°, δ=65.47000°, λ=-103.00000°. Principal axes: T 6.2563, Plg19.0000°, Azm102.0000°; N -0.2533, Plg12.0000°, Azm8.0000°; P -6.0030, Plg67.0000°, Azm248.0000°;*

ISC 25 22:36:02.3±0.5,35.17S±0.03×71.11W±0.03,h99km±4km, n332,σ1º11/372,mb4.6/88,15C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
BO02	**Sierra Bellavi**	**0.47**	**36**			**Pn**	**Sn**	**22 36 17.3**			**-0.4**
BO02					Sn		**Sn**	**22 36 29.3**			**0.0**
BO02	**Sierra Bellavi**	**0.47**	**36**	⇓	*i*P		**Pn**	**22 36 17.3**			**-0.4**
BO02					*i* S		**Sn**	**22 36 29.3**			**0.0**
BO02	**Sierra Bellavi**	**0.47**	**36**		*e*P		**Pn**	**22 36 17.4**			**-0.4**
BO02					*e*S		**Sn**	**22 36 30.1**			**+0.8**
ML02	**Panimavida**	**0.64**	**203**		Pn		**Pn**	**22 36 18.3**			**-0.7**
ML02					Sn		**Sn**	**22 36 30.7**			**-0.8**
ML02	**Panimavida**	**0.64**	**203**	⇓	*i*P		**Pn**	**22 36 18.4**			**-0.7**
ML02					*i* S		**Sn**	**22 36 30.8**			**-0.8**
GO05	**Huala**	**0.69**	**283**		Pn		**Pn**	**22 36 18.9**			**-0.6**
GO05					Sn		**Sn**	**22 36 31.5**			**-0.8**
GO05	**Huala**	**0.69**	**283**	⇑	*i*P		**Pn**	**22 36 18.9**			**-0.6**
GO05					*i* S		**Sn**	**22 36 31.6**			**-0.8**
GO05	**Huala**	**0.69**	**283**		*e*P		**Pn**	**22 36 18.9**			**-0.6**
GO05					*e*S		**Sn**	**22 36 31.9**			**-0.5**
BO01	**Tunca**	**0.78**	**2**		Pn		**Pn**	**22 36 20.1**			**-0.1**
BO01					Sn		**Sn**	**22 36 33.5**			**-0.2**
BO01	**Tunca**	**0.78**	**2**	⇓	*i*P		**Pn**	**22 36 20.2**			**-0.1**
BO01					*i* S		**Sn**	**22 36 33.6**			**-0.2**
BO01					IAML			22 36 34.3			
	comp=E,57µm,0.3s										
BO01	**Tunca**	**0.78**	**2**	*i*	P		**Pn**	**22 36 20.2**			**-0.1**
BO01					*e*S		**Sn**	**22 36 33.7**			**-0.1**
BO03	**Pichilemu**	**0.97**	**314**	⇑	*i*P		**Pn**	**22 36 22.3**			**+0.1**
BO03					*i* S		**Sn**	**22 36 37.4**			**+0.1**
BO03					IAML			22 36 39.0			
	comp=N,13µm,0.2s										
COIS	**El Sosneado**	**1.25**	**88**	*i*	P		**Pn**	**22 36 25.0**			**-0.4**
BO04	**La Punta**	**1.25**	**20**				**Pn**	**22 36 25.8**			**+0.3**
BO04					Sn		**Sn**	**22 36 44.2**			**+1.2**
BO04	**La Punta**	**1.25**	**20**	⇑	*i*P		**Pn**	**22 36 27.7**			**+0.3**
BO04					*i* S		**Sn**	**22 36 43.4**			**+0.4**
BO04					IAML			22 36 46.0			
	comp=N,8µm,0.5s										
MT01	**Popeta**	**1.31**	**355**				**Pn**	**22 36 26.1**			**0.0**
MT01					Sn		**Sn**	**22 36 44.1**			**0.0**
MT01	**Popeta**	**1.31**	**355**	⇑	*i*P		**Pn**	**22 36 26.1**			**0.0**
MT01					*i* S		**Sn**	**22 36 44.1**			**0.0**
MT01					IAML			22 36 45.5			
	comp=E,25µm,0.2s										
MT01	**Popeta**	**1.31**	**355**		*e*P		**Pn**	**22 36 26.1**			**0.0**
MT01					*e*S		**Sn**	**22 36 44.2**			**0.0**
MT09	**Talagante**	**1.40**	**4**				**Pn**	**22 36 27.5**			**+0.2**
MT09					Sn		**Sn**	**22 36 46.4**			**+0.1**
MT09	**Talagante**	**1.40**	**4**	⇑	*i*P		**Pn**	**22 36 27.5**			**+0.2**
MT09					*i* S		**Sn**	**22 36 46.1**			**-0.1**
MT09					IAML			22 36 49.4			
	comp=E,15µm,0.4s										
LMEL	**Las Melosas**	**1.52**	**30**		Pn		**Pn**	**22 36 29.9**			**+1.0**
LMEL					Sn		**Sn**	**22 36 50.8**			**+1.8**
LMEL	**Las Melosas**	**1.52**	**30**	⇑	*i*P		**Pn**	**22 36 29.8**			**+1.0**
LMEL					*i* S		**Sn**	**22 36 51.3**			**+2.4**
LMEL					IAML			22 36 53.3			
	comp=N,9µm,0.6s										
EDS3	**Malargue**	**1.52**	**114**	*e*P			**Pn**	**22 36 29.0**			**+0.1**
EDS3				*e*S			**Sn**	**22 36 49.6**			**+0.6**
VA05	**Santo Domingo**	**1.57**	**345**		Pn		**Pn**	**22 36 29.4**			**+0.1**
VA05					Sn		**Sn**	**22 36 49.8**			**0.0**
VA05	**Santo Domingo**	**1.57**	**345**	⇑	*i*P		**Pn**	**22 36 29.3**			**+0.1**
VA05					*i* S		**Sn**	**22 36 49.0**			**-0.7**
VA05					IAML			22 36 55.2			
	comp=N,16µm,0.4s										
MT03	**Universidad Ad**	**1.75**	**17**		Pn		**Pn**	**22 36 32.2**			**+0.5**
MT03					Sn		**Sn**	**22 36 54.7**			**+0.7**
MT03	**Universidad Ad**	**1.75**	**17**		*e*P		**Pn**	**22 36 32.3**			**+0.7**
MT03					*i* S		**Sn**	**22 36 54.2**			**+0.2**
MT03					IAML			22 36 56.4			
	comp=N,7µm,0.2s										
MT05	**Renca**	**1.80**	**10**				**Pn**	**22 36 32.9**			**+0.6**
MT05	**Renca**	**1.80**	**10**	⇑	*e*P		**Pn**	**22 36 32.7**			**+0.4**
MT05					*i* S		**Sn**	**22 36 55.4**			**+0.3**
MT05					IAML			22 37 00.6			
	comp=E,11µm,0.3s										
MT05	**Renca**	**1.80**	**10**		*e*P		**Pn**	**22 36 33.1**			**+0.8**
MT05					*e*S		**Sn**	**22 36 53.3**			**-1.9**
MT05					IAML			22 37 01.6			
	comp=Z,2µm,0.2s										
MT02	**Curacav**	**1.91**	**359**				**Pn**	**22 36 33.9**			**+0.3**
MT02	**Curacav**	**1.91**	**359**	⇑	*i*P		**Pn**	**22 36 34.0**			**+0.3**
MT02					*i* S		**Sn**	**22 36 57.3**			**-0.2**
MT02					IAML			22 36 59.6			
	comp=N,3µm,0.4s										
MT02	**Curacav**	**1.91**	**359**		*e*P		**Pn**	**22 36 34.0**			**+0.3**
MT02					*e*S		**Sn**	**22 36 54.6**			**-2.8**
PEL	**Peldehue**	**2.05**	**10**				**Pn**	**22 36 37.2**			**+0.3**
PEL	**Peldehue**	**2.05**	**10**	⇓	*i*P		**Pn**	**22 36 36.0**			**+0.3**
PEL					*i* S		**Sn**	**22 37 00.7**			**-0.2**
PEL					IAML			22 37 05.7			
	comp=N,4µm,0.4s										
PEL	**Peldehue**	**2.05**	**10**		*e*P		**Pn**	**22 36 36.2**			**+0.6**
PEL					*e*S		**Sn**	**22 36 58.4**			**-2.6**
VA01	**Torpederas**	**2.19**	**348**				**Pn**	**22 36 37.5**			**+0.3**
VA01	**Torpederas**	**2.19**	**348**	⇑	*i*P		**Pn**	**22 36 37.4**			**+0.3**
VA01					*i* S		**Sn**	**22 37 03.3**			**-0.6**
VA01					IAML			22 37 05.2			
	comp=E,4µm,0.1s										
VA01	**Torpederas**	**2.19**	**348**		*e*P		**Pn**	**22 36 37.5**			**+0.3**
VA01					IAML			22 37 07.3			
	comp=Z,1µm,0.7s										
ROC1	**El Roble**	**2.19**	**2**		Pn		**Pn**	**22 36 36.1**			**-1.5**
ROC1	**El Roble**	**2.19**	**2**	*i*	P		**Pn**	**22 36 36.1**			**-1.5**
ROC1					*e*S		**Sn**	**22 37 03.4**			**-1.1**
ROCH	**El Roble**	**2.19**	**2**	⇑	*i*P		**Pn**	**22 36 37.9**			**+0.3**
ROCH				⇑	*e*P		**Pn**	**22 36 35.7**			**-1.8**
ROCH					IAML			22 37 06.4			
	comp=E,5µm,0.3s										
ROCH					IAML			22 37 09.1			
	comp=N,8µm,0.7s										
RFA	**San Rafael**	**2.21**	**80**	*e*P			**Pn**	**22 36 37.0**			**-0.6**
RFA				*e*P			**Pn**	**22 36 37.4**			**-0.2**
RFA				*i* P			**Pn**	**22 36 37.5**			**-0.1**
RFA				*e*S			Sn	22 37 17.8			+1.3
BI05	**Punta Hualpn**	**2.31**	**226**	Pn			**Pn**	**22 36 37.1**			**-1.6**
BI05	**Punta Hualpn**	**2.31**	**226**	*e*P			**Pn**	**22 36 36.6**			**-2.1**
BI05				IAML				22 37 14.0			
	comp=N,2µm,0.4s										
VA03	**San Esteban**	**2.45**	**11**				**Pn**	**22 36 40.6**			**-0.1**
VA03	**San Esteban**	**2.45**	**11**	⇑	*i*P		**Pn**	**22 36 41.2**			**+0.5**
VA03					*i* S		**Sn**	**22 37 10.6**			**+0.4**
VA03					IAML			22 37 14.8			
	comp=E,4µm,0.1s										
VA06	**Catapilco**	**2.61**	**357**				**Pn**	**22 36 42.8**			**+0.1**
VA06	**Catapilco**	**2.61**	**357**	*e*P			**Pn**	**22 36 42.9**			**+0.1**
VA06					IAML			22 37 15.8			
	comp=E,4µm,0.5s										
CANA	**Caviahue**	**2.71**	**179**	*e*P			**Pn**	**22 36 46.0**			**+1.7**
AUSP	**Uspallata**	**3.27**	**27**	*e*P			**Pn**	**22 36 49.0**			**-2.9**
LC01	**Cunco**	**3.77**	**189**	Pn			**Pn**	**22 36 57.1**			**-1.2**
LC01	**Cunco**	**3.77**	**189**	*e*P			**Pn**	**22 36 57.0**			**-1.2**
LC02	**Puerto Saavedr**	**4.04**	**206**	Pn			**Pn**	**22 37 01.2**			**-0.7**
ZON	**Zonda**	**4.15**	**30**	Pn			**Pn**	**22 37 03.8**			**+0.3**
CO03	**El Pedregal**	**4.33**	**5**	Pn			**Pn**	**22 37 05.8**			**-0.3**
CO03	**El Pedregal**	**4.33**	**5**	⇑	*i*P		**Pn**	**22 37 06.2**			**+0.2**
CO03					*i* S		**Sn**	**22 37 54.8**			**-0.8**
RTLL	**Cerro Villicun**	**4.42**	**31**	*e*P			**Pn**	**22 37 07.0**			**-0.2**
RTLL				*e*S			**Sn**	**22 37 53.8**			**-3.8**
CO06	**Fray Jorge**	**4.51**	**354**	⇑	*i*P		**Pn**	**22 37 07.7**			**-0.6**
CO06					*i* S		**Sn**	**22 37 54.1**			**-5.4**
LR03	**Panguipulli**	**4.56**	**192**	Pn			**Pn**	**22 37 07.1**			**-1.9**
GO04	**Tololo Observa**	**4.99**	**3**	Pn			**Pn**	**22 37 15.1**			**0.0**
LR04	**Corral**	**5.05**	**201**	Pn			**Pn**	**22 37 13.1**			**-2.5**
CO05	**La Serena**	**5.24**	**359**	Pn			**Pn**	**22 37 18.0**			**-0.2**
MRA	**San Martin**	**5.26**	**60**	*e*P			**Pn**	**22 37 18.0**			**-0.7**
MRA				IAML				22 39 11.6			
	comp=Z,130nm,0.7s										
PLCA	**Paso Flores**	**5.57**	**176**	P			**Pn**	**22 37 21.7**			**-1.0**
	comp=Z,0.9nm,0.3s,baz=336,slow=11,SNR=26										
PLCA				LR			LR	22 39 26.6			
	comp=Z,139nm,21.0s,baz=343,slow=37										
PLCA	**Paso Flores**	**5.57**	**176**	*e*P			**Pn**	**22 37 21.8**			**-0.9**
PLCA	**Paso Flores**	**5.57**	**176**	*e*P			**Pn**	**22 37 22.0**			**-0.7**
LL04	**Puerto Octay**	**5.82**	**190**	Pn			**Pn**	**22 37 23.8**			**-2.2**
LL03	**Petrohue**	**6.04**	**189**	Pn			**Pn**	**22 37 28.4**			**-0.7**
APLL	**PU

OBIP	Obispado Ponce	53.09	5	P		P	22 45 08.3	-1.2
PDPR	Patillas Dam,	53.12	6	P		P	22 45 08.3	-1.5
CELP	Cerrillos	53.13	5	P		P	22 45 09.8	-0.1
CBYP	Canovanas	53.38	6	P		P	22 45 10.9	-0.8
AOPR	Arecibo Observ	53.38	5	P		P	22 45 12.2	+0.5
GCPR	Guaynabo City	53.40	6	P		P	22 45 10.7	-1.1
SDDR	Presa de Saban	53.85	360	P		P	22 45 16.3	+1.1
SDDR				IAmb	IAmb		22 45 17.7	
	comp=Z,11nm,0.8s							
CCIG	Comitan	54.92	335	P		P	22 45 23.8	+0.7
CCIG				IAmb	IAmb		22 45 25.2	
	comp=Z,9.8nm,0.8s							
QSPA	South Pole Qui	55.07	180	P		P	22 45 24.3	+0.6
QSPA				IAmb	IAmb		22 45 25.2	
	comp=Z,6.6nm,1.1s							
SOR	Soroa	58.74	347	P		P	22 45 50.0	+0.2
VNDA	Vanda	63.10	191	P		P	22 46 20.2	+1.5
	comp=Z,0.7nm,0.7s,baz=110,slow=4.1,SNR=6.0							
VNDA	Vanda	63.10	191	IAmb	IAmb		22 46 25.1	
	comp=Z,0.5nm,0.7s							
553A	Crawfordville	66.21	347	P		P	22 46 40.2	+0.8
352A	Blakely	67.56	347	P		P	22 46 47.9	0.0
TAOE	Nuku Hiva Isla	67.83	275	P		P	22 46 48.7	-1.5
346A	Big Creek Wild	68.42	343	P		P	22 46 54.5	+1.2
833A	Chaparral WMA,	68.57	333	P		P	22 46 55.9	+1.6
SLBS	Sierra La Lagu	69.14	322	P		P	22 47 00.0	+1.9
GOGA	Godfrey	69.20	349	P		P	22 46 58.1	0.0
GOGA				IAmb	IAmb		22 46 59.1	
	comp=Z,11nm,1.1s							
LRAL	Lakeview Retre	69.47	346	P		P	22 47 00.0	+0.2
LRAL				IAmb	IAmb		22 47 01.0	
	comp=Z,10nm,1.1s							
Y52A	Lilburn	69.74	349	P		P	22 47 01.8	+0.4
Y52A				IAmb	IAmb		22 47 02.6	
	comp=Z,12nm,0.8s							
Z47A	Carrollton	69.85	345	P		P	22 47 02.8	+0.7
Y49A	Blount Mountai	70.15	347	P		P	22 47 04.3	+0.4
W57A	Gilead	70.45	352	P		P	22 47 05.8	0.0
W57A				IAmb	IAmb		22 47 06.6	
	comp=Z,12nm,0.9s							
FPAL	Fort Paine	70.66	347	P		P	22 47 07.9	+0.8
JCT	Junction City	70.67	334	P		P	22 47 08.3	+1.0
JCT				IAmb	IAmb		22 47 09.4	
	comp=Z,13nm,0.7s							
V61A	Roper	70.78	355	P		P	22 47 09.2	+1.5
Y45A	Yeager Farm, C	70.81	344	P		P	22 47 08.8	+0.8
X48A	Hartselle	70.85	346	IAmb	IAmb		22 47 10.4	
	comp=Z,12nm,0.9s							
V58A	Windy Hill, Pi	71.00	353	P		P	22 47 09.0	-0.1
V58A				IAmb	IAmb		22 47 09.5	
	comp=Z,5.5nm,0.7s							
TX31	Lajitas Ar. Si	71.13	330	P		P	22 47 11.6	+1.4
TX32	Lajitas Array	71.13	330	P		P	22 47 11.5	+1.3
TX32				IAmb	IAmb		22 47 12.3	
	comp=Z,5.8nm,0.7s							
TXAR	Lajitas Array	71.13	330	P		P	22 47 11.5	+1.3
	comp=Z,4.4nm,0.5s,baz=152,slow=8.7,SNR=88							
WHTX	Lake Whitney,	71.25	337	P		P	22 47 11.1	+0.4
WHTX				IAmb	IAmb		22 47 12.5	
	comp=Z,20nm,0.9s							
W50A	Signal Mountai	71.25	348	P		P	22 47 11.4	+0.7
W50A				IAmb	IAmb		22 47 11.7	
	comp=Z,11nm,0.8s							
V55A	Taylorsville	71.28	351	P		P	22 47 11.1	+0.3
V55A				IAmb	IAmb		22 47 12.0	
	comp=Z,18nm,1.1s							
V53A	Saluda	71.32	350	P		P	22 47 11.3	+0.2
V53A				IAmb	IAmb		22 47 12.0	
	comp=Z,7.9nm,1.1s							
CPCT	Cooper Cave	71.36	348	P		P	22 47 11.6	+0.3
CPCT				IAmb	IAmb		22 47 12.3	
	comp=Z,8.8nm,0.8s							
SWET	Sewanee	71.38	347	P		P	22 47 12.1	+0.7
OXF	Oxford	71.40	344	P		P	22 47 11.3	-0.2
TKL	Tuckaleechee C	71.45	349	P		P	22 47 11.5	-0.3
TKL				IAmb	IAmb		22 47 12.1	
	comp=Z,6.6nm,0.9s							
PLAL	Pickwick Lake	71.57	345	P		P	22 47 12.9	+0.4
V52A	Sevierville	71.60	349	P		P	22 47 12.6	-0.2
V48A	Smith Brothers	72.05	347	P		P	22 47 16.0	+0.6
TZTN	Tazewell	72.28	350	P		P	22 47 16.7	-0.1
TZTN				IAmb	IAmb		22 47 34.3	
	comp=Z,9.9nm,1.1s							
CLTN	Cedars of Leba	72.30	347	P		P	22 47 17.7	+0.8
Z35A	Perchaven, San	72.42	337	P		P	22 47 18.5	+0.9
ABTX	Abilene, Hawle	72.56	335	P		P	22 47 18.9	+0.4
ABTX				IAmb	IAmb		22 47 20.3	
	comp=Z,17nm,0.8s							
U49A	Red Boiling Sp	72.61	348	P		P	22 47 18.5	-0.2
U49A				IAmb	IAmb		22 47 19.2	
	comp=Z,5.1nm,0.7s							
WVT	Waverly	72.63	346	P		P	22 47 19.2	+0.4
W41B	Gary Mavity, V	72.71	342	P		P	22 47 19.8	+0.5
WHAR	Wooly Hollow	72.83	342	P		P	22 47 20.7	+0.7
WHAR				IAmb	IAmb		22 47 21.7	
	comp=Z,15nm,1.1s							
W39A	Magazine	73.14	341	P		P	22 47 23.1	+1.2
W39A				IAmb	IAmb		22 47 24.4	
	comp=Z,22nm,1.1s							
FCAR	Ozark Folk Cen	73.36	342	IAmb	IAmb		22 47 24.2	
	comp=Z,9.1nm,1.0s							
S51A	Beattyville	73.36	350	P		P	22 47 23.2	0.0
S51A				IAmb	IAmb		22 47 24.4	
	comp=Z,7.0nm,0.8s							
R55A	Marlinton	73.56	353	P		P	22 47 25.0	+0.7
R55A				IAmb	IAmb		22 47 26.4	
	comp=Z,15nm,1.1s							
SUR	Sutherland	73.60	118	P		P	22 47 26.7	+1.5
PBMO	Poplar Bluff	73.81	344	P		P	22 47 26.2	+0.5
MNTX	Cornudas Mount	73.90	330	IAmb	IAmb		22 47 27.4	
	comp=Z,5.8nm,0.7s							
U40A	Yellville	73.99	342	IAmb	IAmb		22 47 27.7	
	comp=Z,10nm,0.6s							
HHAR	Hobbs	74.20	341	P		P	22 47 28.4	+0.4
HHAR				IAmb	IAmb		22 47 28.8	
	comp=Z,5.4nm,0.6s							
WCI	Wyandotte Cave	74.38	348	P		P	22 47 28.3	-0.7
S44A	Carbondale	74.43	345	P		P	22 47 29.2	-0.1
S44A				IAmb	IAmb		22 47 47.3	
	comp=Z,7.4nm,0.9s							
LIC	Lamto	74.43	71	*e*P		P	22 47 29.6	-0.3
	comp=Z,7.2nm,0.8s							
MGMO	Mountain Grove	74.60	343	P		P	22 47 30.9	+0.6
TIC	Toumodi	74.70	70	*e*P		P	22 47 29.2	-2.3
KIC	Kosan Boka	74.74	71	*e*P		P	22 47 31.2	-0.5
	comp=Z,6.2nm,0.6s							
DBIC	Dimbokro	74.84	70	P		P	22 47 31.6	-0.7
	comp=Z,2.7nm,0.6s,baz=225,slow=3.4,SNR=4.7							
DBIC	Dimbokro	74.84	70	P		P	22 47 31.9	-0.4
MSTX	Muleshoe	74.89	333	P		P	22 47 33.3	+1.0
MSTX				IAmb	IAmb		22 47 33.9	
	comp=Z,8.0nm,0.8s							
FVM	French Village	74.96	344	P		P	22 47 32.7	+0.3
FVM				IAmb	IAmb		22 47 33.2	
	comp=Z,8.2nm,0.7s							
CCM	Cathedral Cave	75.21	344	P		P	22 47 34.5	+0.7
CCM				IAmb	IAmb		22 47 35.3	
	comp=Z,22nm,1.0s							
S39A	Bolivar	75.37	342	IAmb	IAmb		22 47 36.9	
	comp=Z,7.1nm,0.8s							
P48A	Milroy	75.43	349	P		P	22 47 34.9	-0.2
P48A				IAmb	IAmb		22 47 35.0	
	comp=Z,11nm,0.7s							
T35A	Sooner Cattle	75.51	339	P		P	22 47 36.5	+0.8
T35A				IAmb	IAmb		22 47 37.4	
	comp=Z,13nm,0.9s							
R40A	Maddies Statio	75.68	343	P		P	22 47 37.0	+0.5
U32A	Winter Ranch,	75.78	337	P		P	22 47 36.5	-0.7
Q49A	Covington	75.97	350	P		P	22 47 38.3	+0.1
O49A				IAmb	IAmb		22 47 38.8	
	comp=Z,8.7nm,0.7s							
N49A	Columbus Grove	76.67	350	P		P	22 47 41.8	-0.2
N49A				IAmb	IAmb		22 47 54.8	
	comp=Z,7.5nm,1.0s							
M54A	Oil Creek Stat	76.71	353	P		P	22 47 42.2	-0.1
M54A				IAmb	IAmb		22 47 43.2	
	comp=Z,11nm,1.0s							
P40A	Paris	76.81	344	P		P	22 47 43.5	+0.7
N47A	Urbana	76.86	349	P		P	22 47 42.5	-0.6
N47A				IAmb	IAmb		22 47 43.4	
	comp=Z,16nm,1.0s							
P38A	Dawn	77.25	342	P		P	22 47 45.6	+0.3
P38A				IAmb	IAmb		22 47 46.5	
	comp=Z,23nm,1.1s							
214A	Organ Pipe Nat	77.41	325	P		P	22 47 48.5	+2.0
N38A	Joes South For	78.29	343	P		P	22 47 51.8	+0.7
T25A	Trinidad	78.32	333	P		P	22 47 53.6	+1.9
T25A				IAmb	IAmb		22 47 54.6	
	comp=Z,16nm,0.9s							
X16A	Lo Mia Camp, P	78.83	327	P		P	22 47 55.7	+1.2
X16A				IAmb	IAmb		22 47 58.1	
	comp=Z,8.1nm,1.0s							
BOSA	Boshof	78.86	117	P		P	22 47 54.6	-0.4
	comp=Z,3.0nm,0.5s,baz=241,slow=3.7,SNR=16							
BOSA	Boshof	78.86	117	IAmb	IAmb		22 47 58.9	
	comp=Z,4.5nm,0.6s							
N35A	Tabor	78.95	341	P		P	22 47 54.9	+0.1
SDCO	Great Sand Dun	79.26	333	P		P	22 47 57.7	+0.8
Q24A	Divide	80.20	334	P		P	22 48 03.1	+1.1
Q24A				IAmb	IAmb		22 48 04.5	
	comp=Z,7.9nm,0.8s							
I42A	Draeger Farm,	80.34	347	P		P	22 48 01.9	-0.3
I42A				IAmb	IAmb		22 48 03.2	
	comp=Z,8.6nm,0.9s							
KOWA	Kowa	80.44	65	P		P	22 48 03.9	+0.6
KOWA				IAmb	IAmb		22 48 07.1	
	comp=Z,4.4nm,0.6s							
F63A	Nahmakanta, Br	80.52	1	P		P	22 48 05.2	+2.1
PFO	Pinyon Flats O	80.53	323	P		P	22 48 04.6	+1.0
PFO				IAmb	IAmb		22 48 07.0	
	comp=Z,13nm,1.1s							
PV01	Paradox Valley	80.78	331	P		P	22 48 04.6	-0.3
PV01				IAmb	IAmb		22 48 07.6	
	comp=Z,8.9nm,1.0s							
U15A	North Rim	80.89	327	P		P	22 48 06.6	+0.9
PV13	Radium Mtn., P	80.90	331	P		P	22 48 06.9	+1.3
PV13				IAmb	IAmb		22 48 08.0	
	comp=Z,7.4nm,0.8s							
PV05	Paradox Valley	80.94	331	P		P	22 48 07.2	+1.3
PV05				IAmb	IAmb		22 48 08.1	
	comp=Z,9.2nm,0.8s							
PV03	Paradox Valley	81.00	331	P		P	22 48 07.3	+1.2
PV18	Skein Mesa, Pa	81.01	331	P		P	22 48 07.4	+1.2
PV18				IAmb	IAmb		22 48 08.4	
	comp=Z,8.1nm,0.8s							
SMCO	Snowmass	81.07	333	P		P	22 48 08.3	+1.6
SMCO				IAmb	IAmb		22 48 09.6	
	comp=Z,8.8nm,0.8s							
ISCO	Idaho Springs	81.11	334	P		P	22 48 07.9	+1.1
PV10	Paradox Valley	81.18	331	P		P	22 48 06.9	-0.2
PV10				IAmb	IAmb		22 48 08.9	
	comp=Z,11nm,0.8s							
PV23	Carpenter Ridg	81.23	331	P		P	22 48 05.8	-1.6
PV23				IAmb	IAmb		22 48 09.7	
	comp=Z,11nm,0.9s							
K31A	O'Neill	81.44	340	P		P	22 48 09.2	+1.1
MACI	Morro de la Ar	81.45	47	P		P	22 48 09.5	+0.8
KNB	Kanab	81.62	327	P		P	22 48 11.1	+1.7
KNB				IAmb	IAmb		22 48 12.5	
	comp=Z,8.8nm,0.9s							
ECSD	EROS Data Cent	81.90	342	P		P	22 48 11.1	+0.6
ECSD				IAmb	IAmb		22 48 11.9	
	comp=Z,11nm,0.8s							
E46A	Sault Ste Mari	82.03	351	P		P	22 48 11.3	+0.2
E46A				IAmb	IAmb		22 48 12.1	
	comp=Z,19nm,0.9s							
SHPR	Sheep Range	82.25	326	P		P	22 48 14.1	+1.4
CCUT	Cedar City	82.30	327	P		P	22 48 15.0	+2.0
CCUT				IAmb	IAmb		22 48 16.5	
	comp=Z,9.7nm,1.0s							
PHWY	Pilot Hill	82.38	335	P		P	22 48 14.2	+0.8
PHWY				IAmb	IAmb		22 48 15.1	
	comp=Z,7.0nm,0.8s							
O20A	White River Ci	82.38	332	P		P	22 48 13.8	+0.5
O20A				IAmb	IAmb		22 48 15.6	
	comp=Z,5.5nm,0.8s							
SRU	San Rafael Swe	82.40	330	P		P	22 48 14.0	+0.6
SRU				IAmb	IAmb		22 48 15.6	
	comp=Z,8.4nm,0.8s							
E43A	Lone Tree Farm	82.43	349	P		P	22 48 13.6	+0.5
E43A				IAmb	IAmb		22 48 14.7	
	comp=Z,19nm,1.1s							
Q16A	Castle Valley	82.51	330	P		P	22 48 14.5	+0.5
Q16A				IAmb	IAmb		22 48 16.7	
	comp=Z,9.0nm,0.8s							
ODZ	Otahua Downs	82.55	219	P		P	22 48 14.7	+0.5
MSU	Marysvale	82.59	329	P		P	22 48 16.3	+1.9
P18A	Preston Nutter	82.73	331	P		P	22 48 16.0	+0.7
P18A				IAmb	IAmb		22 48 17.9	
	comp=Z,12nm,0.9s							
PRN	Pahroc Range	82.94	326	P		P	22 48 18.3	+2.1
PRN				IAmb	IAmb		22 48 19.6	
	comp=Z,10nm,0.9s							
TPNV	Topopah Spring	83.12	325	P		P	22 48 18.9	+1.7
F36A	Milaca	83.16	344	P		P	22 48 17.0	+0.1
F36A				IAmb	IAmb		22 48 17.7	
	comp=Z,7.3nm,0.8s							
LTZ	Lake Taylor	83.23	222	P		P	22 48 19.2	+1.4
RDMU	Red Mountain	83.27	332	P		P	22 48 18.9	+1.0
RDMU				IAmb	IAmb		22 48 20.0	
	comp=Z,12nm,0.9s							
PSUT	Pine Spring	83.33	328	P		P	22 48 19.8	+1.6
PSUT				IAmb	IAmb		22 48 21.2	
	comp=Z,7.9nm,0.9s							
RWWY	Rawlins	83.35	334	P		P	22 48 19.2	+0.8
RWWY				IAmb	IAmb		22 48 20.5	
	comp=Z,16nm,1.1s							
D41A	Chassel	83.35	348	P		P	22 48 18.8	+1.0
NLU	North Lily Min	83.76	330	P		P	22 48 21.4	+1.0
TOA0	Torodi Ar. Sit	83.90	69	P		P	22 48 21.7	+0.2
TORD	Torodi Ar. Bea	83.90	69	P		P	22 48 21.5	0.0
	comp=Z,2.9nm,0.8s,baz=253,slow=3.7,SNR=18							
TORD	Torodi Ar. Bea	83.90	69	P		P	22 48 21.7	+0.2
R11A	Troy Canyon, C	83.95	326	P		P	22 48 23.2	+1.8
R11A				IAmb	IAmb		22 48 24.5	
	comp=Z,5.1nm,0.8s							
DUG	Dugway, Tooele	84.27	329	P		P	22 48 24.5	+1.6
DUG				IAmb	IAmb		22 48 24.9	
	comp=Z,5.0nm,0.8s							
RSSD	Black Hills	84.41	337	P		P	22 48 24.4	+0.8
RSSD				IAmb	IAmb		22 48 25.4	
	comp=Z,4.6nm,0.8s							
QRZ	Quartz Range	84.41	223	P		P	22 48 24.1	+0.4
QRZ				IAmb	IAmb		22 48 29.5	
	comp=Z,14nm,1.2s							
DRLN	Deer Lake	84.92	9	P		P	22 48 26.7	+0.9
HWUT	Hardware Ranch	84.94	331	P		P	22 48 27.4	+1.0
HWUT				IAmb	IAmb		22 48 29.0	
	comp=Z,11nm,1.0s							
PDAR	Pinedale Array	85.15	333	P		P	22 48 27.9	+0.6
	comp=Z,3.0nm,0.6s,baz=144,slow=5.8,SNR=36							
PDAR	Pinedale Array	85.15	333	P		P	22 48 28.0	+0.6
NVAR	Mina Array Bea	85.28	325	P		P	22 48 29.8	+1.6
	comp=Z,3.0nm,0.8s,baz=153,slow=6.2,SNR=14							
ULM	Lac du Bonnet	87.83	344	P		P	22 48 39.6	-0.4
	comp=Z,10.0nm,0.9s,baz=167,slow=3.6,SNR=12							
ULM	Lac du Bonnet	87.83	344	IAmb	IAmb		22 48 41.0	
	comp=Z,9.7nm,0.8s							
SCHQ	Scheffer ville	89.72	2	P		P	22 48 47.5	-1.2
	comp=Z,1.1nm,0.5s,baz=168,slow=5.3,SNR=4.0							
YKA	Yellowknife Ar	103.41	341	Pdiff		Pdif	22 49 50.3	-0.3
	comp=Z,0.3nm,0.7s,baz=143,slow=4.8,SNR=8.3							
ILAR	Eielson Array	115.58	333	PKP		PKPdf	22 54 31.1	-0.7
	comp=Z,0.3nm,0.6s,baz=155,slow=3.4,SNR=4.5							
ILAR	Eielson Array	115.58	333	PKPdf		PKiKP	22 54 32.4	+0.5
ASAR	Alice Springs	116.86	206	PKP		PKPdf	22 54 34.7	-1.1
	comp=Z,0.4nm,0.7s,baz=130,slow=1.7,SNR=5.4							
WRA	Warramunga Arr	120.10	208	PKP		PKPdf	22 54 41.3	-0.7
	comp=Z,0.8nm,0.5s,baz=157,slow=1.7,SNR=20							
BRTR	Keskin Array B	121.73	61	PKP		PKPdf	22 54 43.8	-0.8
	comp=Z,0.5nm,0.8s,baz=284,slow=0.6,SNR=2.4							
BRTR	Keskin Array B	121.73	61			PKPdf	22 54 44.3	-0.3
ARCES	ARCESS Array B	124.75	25	PKP		PKPdf	22 54 49.3	0.0
	comp=Z,5.9nm,1.2s,baz=318,slow=1.6,SNR=3.6							
HYBB	Hyderabad (bro	147.75	115	*e*PKPbc		PKPbc	22 55 35.5	-0.5
ZALV	Zalesovo Beam	154.78	34	PKPbc		PKiKP	22 55 51.5	+0.1
	comp=Z,1.8nm,0.5s,baz=305,slow=2.7,SNR=9.1							
ZALV				PKPab		PKPab	22 56 07.3	+0.5
	comp=Z,0.8nm,0.5s,baz=298,slow=2.8,SNR=2.2							
MKAR	Makanchi Array	156.92	52	PKP		PKPdf	22 55 45.7	0.0
	comp=Z,0.4nm,0.7s,baz=5.7,slow=1.2,SNR=5.7							
MKAR				PKPab		pPKPdf	22 56 14.7	+1.4
	comp=Z,1.1nm,0.7s,baz=285,slow=4.0,SNR=9.9							
KSRS	Korea Array	164.48	284	PKPab		PKPab	22 56 50.0	+0.5
	comp=Z,1.7nm,0.8s,baz=94,slow=4.5,SNR=4.9							
SONM	Songino Array	167.21	8	PKPab		PKPab	22 57 02.3	+1.0
	comp=Z,1.1nm,0.7s,baz=333,slow=4.6,SNR=10							
PZH	PanZhiHua	169.41	143	PKP		PKPdf	22 55 54.3	-4.1
LZH	Lanzhou	175.79	76	*e*PKP		PKPdf	22 55 58.8	-2.1
LZH				pPKP	pPKPdf		22 56 30.0	+1.6

IDC **25** *22:56:11.1±1.0,35.°70N×3.°65W,h0km,mb3.7/4,mb1 3.7/6, mb1mx3.4/62,mbtmp3.6/6,ML3.2/2,Error ellipse: s-maj=30.7km s-min=12.1km az=99.0*

MDD **25** *22:56:12.6±0.3,35.°65N×3.°64W,h0km,mb_Lg3.4/22, Error ellipse: s-maj=2.6km s-min=1.9km az=160.0*

SFS **25** *22:56:12.0,35.°60N×3.°60W,ML3.5,ALBORAN SUR*

CNRM **25** *22:56:12.3,35.°72N×3.°54W,h25km,ml3.7*

IGIL **25** *22:56:13.0,35.°64N×3.°65W,h0km,ML3.3*

LDG **25** *22:56:13.4±0.2,35.°60N×3.°62W,h2km,Ml2.9/7,Error ellipse: s-maj=5.0km s-min=3.4km az=15.0*

INMG **25** *22:56:14.2±2.2,35.°72N×3.°73W,h0km,ML3.3,Error ellipse: s-maj=5.7km s-min=5.0km az=10.0*

ISC 25 22:56:12.3±1.1,35.°65N±0.°02×3.°61W±0.°02,h15km±8km, n114,σ1°90/191,mb3.9/4,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		ISC	h	m	s	ISC
PALE	Palemas	0.51	213	P		Pb	22 56	23.5	+0.7
PALE				S		Sg	22 56	28.0	-1.1
EALB	Alboran	0.55	58	Pg		Pb	22 56	24.1	+0.4
EALB				Sg		Sb	22 56	31.9	+0.6
EALB				*i* Vmb_Lg			22 56	34.0	
EMEL	Melilla	0.63	123	Pg		Pg	22 56	24.8	+0.1
EMEL				Sg		Sg	22 56	33.1	0.0
GOG	Mont Gurugu	0.65	130	P		Pg	22 56	25.2	+0.1
GOG				S		Sg	22 56	28.0	-5.8
PVLZ	Peæn de	0.74	231	P		Pb	22 56	27.4	+0.6
PVLZ				S		Sn	22 56	38.4	-0.7
AKLM	AKL	1.15	191	P		Pn	22 56	34.2	+0.2
AKLM				S		Sg	22 56	50.1	+0.6
ELGU	Los Guajares,	1.22	359	Pg		Pn	22 56	34.0	-0.9
ELGU				Sg		Sb	22 56	48.5	-2.2
ELGU				*i* Vmb_Lg			22 56	54.2	
TAF	Taforalt	1.28	130	P		Pn	22 56	35.1	-0.6
TAF				S		Sb	22 56	51.1	-1.3
EMAL	Malaga-Limoner	1.30	329	P		Pn	22 56	35.5	-0.4
EMAL				S		Sb	22 56	52.2	-0.7
EMIJ	Mijas	1.32	315	Pg		Pn	22 56	35.5	-0.6
EMIJ				Sg		Sb	22 56	51.9	-1.5
EBER	Berja	1.38	25	Pn		Pn	22 56	36.3	-0.8
EBER				Sn		Sn	22 56	55.3	+0.1
EBER				*i* Vmb_Lg			22 57	01.2	
SMIR	Smir Dam	1.45	272	P		Pn	22 56	36.3	-1.6
SMIR				S		Pn	22 56	36.5	-1.4
ECEU	Ceuta	1.46	280	Pn		Pn	22 56	37.1	-1.0
ECEU				Sn		Sn	22 56	54.7	-2.3
ECEU				*i* Vmb_Lg			22 56	57.8	
EGOR	Sierra Gorda,	1.52	345	Pn		Pn	22 56	39.1	+0.1
EGOR				Sn		Sn	22 56	58.9	+0.3
EGOR				*i* Vmb_Lg			22 57	04.9	
JBK	JBK	1.56	147	P		Pn	22 56	39.0	-0.7
JBK				S		Sn	22 56	58.0	-1.7
EQUE	Quentar	1.56	5	Pn		Pn	22 56	40.2	+0.6
EQUE				Sn		Sn	22 56	59.3	-0.4
EQUE				*i* Vmb_Lg			22 57	12.5	
EJIF	Jimena Fronter	1.71	299	Pn		Pn	22 56	41.4	-0.2
EJIF				Sn		Sn	22 57	03.5	+0.4
ENIJ	Nijar	1.74	40	Pn		Pn	22 56	40.8	-1.2
ENIJ				Sn		Sn	22 57	03.3	-0.7
ENIJ				*i* Vmb_Lg			22 57	20.6	
LIJA	Lijar	1.92	311	P		Pg	22 56	49.0	-0.2
LIJA				S		Sn	22 57	04.5	-4.1
RSA	Sarsar	1.96	248	P		Pb	22 56	47.5	-0.3
SICH	Sidi Chahed	2.08	223	P		Pb	22 56	49.0	-0.8
SICH				S		Sn	22 57	05.3	-7.0
SICH	Sidi Chahed	2.08	223	P		Pb	22 56	49.0	-0.8
CNIL	Conil	2.11	291	P		Pb	22 56	51.2	+1.0
ESPR	Espera	2.19	305	Pn		Pn	22 56	49.3	+1.2
ESPR				Sn		Sb	22 57	18.2	-0.4
ESPR				*i* Vmb_Lg			22 57	25.6	
LCRM	LCR	2.21	208	P		Pn	22 56	49.2	+0.7
LCRM				S		Sn	22 57	01.0	-15
LCRM	LCR	2.21	208	P		Pn	22 56	49.2	+0.7
LCRM				S		Sn	22 57	01.0	-15
IFR	Ifrane	2.47	211	P		Pn	22 56	52.4	+0.3
IFR				S		Sn	22 57	22.0	-0.1
EADA	Adamuz	2.63	343	Pn		Pn	22 56	55.4	+1.1
EADA				Sn		Sn	22 57	27.4	+1.4
EADA				*i* Vmb_Lg			22 57	33.4	
EZAR	Zarzadilla de	2.70	34	Pn		Pn	22 56	55.6	+0.3
EZAR				Sn

PFVI				*e*Sn		**Sn**	**22 58 08.8**	**-2.3**
PFVI				A		A	22 58 19.1	
	comp=N,26nm,0.5s							
PFVI	**Vila Bisbo**	**4.47**	**291**	P		**Pn**	**22 57 19.9**	**+0.5**
PESTR	**Estremoz**	**4.52**	**317**	*e*Pn		**Pn**	**22 57 21.3**	**+1.1**
PESTR				*e*Sn		**Sn**	**22 58 11.8**	**-0.7**
PESTR				A		A	22 58 48.3	
	comp=N,34nm,0.6s							
PESTR	**Estremoz**	**4.52**	**317**	P		**Pn**	**22 57 21.2**	**+0.9**
PTEO	**Sao Teotonio**	**4.53**	**296**	*e*Pn		**Pn**	**22 57 21.3**	**+1.0**
PTEO				*e*Sn		**Sn**	**22 58 11.8**	**-1.0**
PTEO				A		A	22 58 23.5	
	comp=N,34nm,0.5s							
EVO	**Evora**	**4.55**	**311**	P		**Pb**	**22 57 31.5**	**-0.3**
EVO				S		**Sb**	**22 58 22.8**	**-3.7**
EVO	**Evora**	**4.55**	**311**	*e*Pn		**Pn**	**22 57 21.6**	**+1.0**
EVO				*e*Sn		**Sn**	**22 58 11.3**	**-1.9**
PNCL	**Nicolau / Gran**	**4.65**	**303**	*e*Pn		**Pn**	**22 57 22.4**	**+0.4**
PNCL				*e*Sn		**Sn**	**22 58 13.9**	**-1.8**
PNCL				A		A	22 58 26.9	
	comp=N,18nm,0.5s							
UCM	**Universidad Co**	**4.66**	**3**	P		**Pn**	**22 57 23.6**	**+1.5**
UCM				S		**Sn**	**22 58 19.5**	**+3.4**
EPLA	**Plasencia**	**4.83**	**337**	Pn		**Pn**	**22 57 25.8**	**+1.3**
EPLA				*i* Vmb_Lg			22 58 44.6	
PMRV	**Marv??o**	**4.83**	**323**	*e*Pn		**Pn**	**22 57 25.7**	**+1.3**
PMRV				*e*Sn		**Sn**	**22 58 17.8**	**-2.3**
PMRV				A		A	22 58 50.8	
	comp=N,35nm,0.5s							
GUD	**Guadarrama**	**5.01**	**355**	Pn		**Pn**	**22 57 28.5**	**+1.5**
GUD				*i* Vmb_Lg			22 58 55.9	
PMTG	**Montargil**	**5.02**	**314**	*e*Pn		**Pn**	**22 57 28.0**	**+0.9**
PMTG				*e*Sn		**Sn**	**22 58 23.7**	**-1.1**
PMTG				A		A	22 59 01.4	
	comp=N,26nm,0.5s							
TZRR	**Tazzarine**	**5.12**	**199**	P		**Pn**	**22 57 29.2**	**+0.7**
PCBR	**Castelo Branco**	**5.19**	**325**	*e*Pn		**Pn**	**22 57 31.2**	**+1.8**
PCBR				*e*Sn		**Sn**	**22 58 27.6**	**-1.4**
PCBR				A		A	22 58 29.1	
	comp=N,25nm,0.4s							
PACT	**Alcochete**	**5.21**	**308**	*e*Pn		**Pn**	**22 57 31.0**	**+1.4**
PACT				*e*Sn		**Sn**	**22 58 28.8**	**-0.6**
PACT				A		A	22 58 34.7	
	comp=N,33nm,0.6s							
ETOR	**Torete**	**5.31**	**13**	Pn		**Pn**	**22 57 33.2**	**+2.1**
ETOR				*i* Vmb_Lg			22 59 01.2	
LIS	**Lisbon**	**5.38**	**306**	*e*Pn		**Pn**	**22 57 33.5**	**+1.5**
LIS				*e*Sn		**Sn**	**22 58 33.8**	**+0.1**
OUZM	**OUZ**	**5.41**	**210**	P		**Pn**	**22 57 33.9**	**+1.3**
OUZM	**OUZ**	**5.41**	**210**	P		**Pn**	**22 57 34.0**	**+1.5**
PMST	**Lisbon--Monsan**	**5.42**	**306**	*e*Pn		**Pn**	**22 57 33.7**	**+1.2**
PMST				*e*Sn		**Sn**	**22 58 34.0**	**-0.6**
PMST				A		A	22 58 42.3	
	comp=N,23nm,0.4s							
PMAFR	**Mafra**	**5.60**	**308**	*e*Pn		**Pn**	**22 57 36.1**	**+1.0**
PMAFR				*e*Sn		**Sn**	**22 58 37.8**	**-1.4**
PMAFR				A		A	22 58 45.1	
	comp=N,30nm,0.7s							
PSBE	**So Bento**	**5.65**	**315**	*e*Pn		**Pn**	**22 57 37.3**	**+1.6**
PSBE				*e*Sn		**Sn**	**22 58 38.4**	**-1.9**
PSBE				A		A	22 58 42.6	
	comp=N,22nm,0.4s							
MTE	**Manteigas**	**5.67**	**328**	*e*Pn		**Pn**	**22 57 38.0**	**+1.9**
MTE				*e*Sn		**Sn**	**22 58 39.6**	**-1.4**
MTE				A		A	22 59 14.3	
	comp=N,42nm,0.6s							
OUK	**Oukaimeden**	**5.68**	**220**	P		**Pn**	**22 57 36.5**	**+0.1**
ZGR	**Zagora**	**5.76**	**198**	P		**Pn**	**22 57 38.4**	**+1.0**
PCAS	**Casmilo, Conde**	**5.86**	**320**	*e*Pn		**Pn**	**22 57 39.9**	**+1.3**
PCAS				*e*Sn		**Sn**	**22 58 43.3**	**-2.2**
PCAS				A		A	22 59 26.0	
	comp=N,25nm,0.7s							
COI	**Coimbra**	**5.93**	**322**	*e*Pn		**Pn**	**22 57 41.1**	**+1.6**
COI				*e*Sn		**Sn**	**22 58 46.3**	**-0.9**
PVIS	**Viseu**	**6.08**	**328**	*e*Pn		**Pn**	**22 57 43.6**	**+1.9**
PVIS				*e*Sn		**Sn**	**22 58 48.8**	**-2.3**
PVIS				A		A	22 58 54.2	
	comp=N,16nm,0.4s							
MVO	**Moncorvo**	**6.13**	**335**	*e*Pn		**Pn**	**22 57 44.0**	**+1.6**
MVO				*e*Sn		**Sn**	**22 58 50.1**	**-2.2**
MVO				A		A	22 59 29.8	
	comp=N,22nm,0.6s							
EAH	**EAH**	**6.38**	**233**	P		**Pn**	**22 57 47.0**	**+1.2**
PVRL	**Vila Real**	**6.48**	**331**	*e*Pn		**Pn**	**22 57 48.7**	**+1.6**
PVRL				*e*Sn		**Sn**	**22 58 59.0**	**-1.8**
PVRL				A		A	22 59 02.8	
	comp=N,27nm,0.7s							
TTIG	**Tnine Tigouga,**	**6.50**	**220**	P		**Pn**	**22 57 45.3**	**-2.3**
POLO	**Lamas de Olo**	**6.59**	**331**	*e*Pn		**Pn**	**22 57 50.7**	**+1.9**
POLO				*e*Sn		**Sn**	**22 59 00.5**	**-3.2**
POLO				A		A	22 59 08.2	
	comp=N,9.0nm,0.5s							
PBRG	**Braganca**	**6.62**	**339**	*e*Pn		**Pn**	**22 57 49.9**	**+0.8**
PBRG				*e*Sn		**Sn**	**22 59 02.6**	**-1.7**
PBRG				A		A	22 59 47.5	
	comp=N,12nm,0.6s							
PTO	**Porto**	**6.74**	**326**	*e*Pn		**Pn**	**22 57 52.4**	**+1.7**
PTO				*e*Sn		**Sn**	**22 59 03.7**	**-3.5**
PCAB	**Cabril**	**6.97**	**332**	*e*Pn		**Pn**	**22 57 55.9**	**+2.0**
PCAB				Sn		**Sn**	**22 59 10.5**	**-2.4**
ELOB	**Lobios**	**7.12**	**332**	Pn		**Pn**	**22 57 57.4**	**+1.4**
ELOB				Sn		**Sn**	**22 59 14.1**	**-2.5**
ELOB				*i* Vmb_Lg			22 59 18.1	
PGAV	**Gavieira, Arco**	**7.28**	**331**	*e*Pn		**Pn**	**22 58 00.6**	**+2.4**
PGAV				*e*Sn		**Sn**	**22 59 19.3**	**-1.4**
ETSF	**Etsaut**	**7.62**	**17**	*e*Pn		**Pn**	**22 58 04.9**	**+2.1**
ETSF				*e*Sn		**Sn**	**22 59 25.5**	**-3.4**
	comp=N,0.8nm,0.4s							
SJPF	**Ste Jean**	**7.68**	**13**	*e*Pn		**Pn**	**22 58 05.5**	**+1.9**
SJPF				*e*Sn		**Sn**	**22 59 26.7**	**-3.7**
	comp=N,1.1nm,0.3s							
EALK	**Alkurruntz**	**7.74**	**11**	Pn		**Pn**	**22 58 07.3**	**+2.9**
EALK				Sn		**Sn**	**22 59 30.6**	**-1.2**
EARI	**Arriondas**	**7.75**	**351**	Pn		**Pn**	**22 58 06.3**	**+1.8**
EARI				Sn		**Sn**	**22 59 29.8**	**-2.1**
EARI				*i* Vmb_Lg			22 59 31.3	
EPF	**Esparros**	**7.98**	**21**	*e*Pn		**Pn**	**22 58 09.2**	**+1.4**
EPF				*e*Sn		**Sn**	**22 59 34.1**	**-3.7**
	comp=N,0.7nm,0.3s							
MTLF	**Montolieu**	**8.90**	**29**	*e*Pn		**Pn**	**22 58 21.6**	**+1.2**
LFF	**La Frestale**	**9.86**	**18**	*e*Pn		**Pn**	**22 58 33.4**	**0.0**
CAF	**Calviac**	**10.23**	**23**	*e*Pn		**Pn**	**22 58 39.0**	**+0.5**
RJF	**Les Rejaudoux**	**10.40**	**20**	*e*Pn		**Pn**	**22 58 41.0**	**+0.1**
RJF				*e*Sn		**Sn**	**23 00 31.9**	**-5.3**
	comp=N,0.6nm,0.2s							
MFF	**Saint Martin d**	**11.25**	**12**	*e*Pn		**Pn**	**22 58 53.1**	**+0.6**
MFF				*e*Sn		**Sn**	**23 00 52.0**	**-5.9**
	comp=N,0.9nm,0.4s							
PMAR	**Madeira**	**11.40**	**259**	*e*P		Pn	22 58 49.4	-5.3
PGF	**Pioggiola**	**11.97**	**51**	*e*Pn		**Pn**	**22 59 04.2**	**+1.8**
QUIF	**Quistinic**	**12.27**	**1**	*e*Pn		**Pn**	**22 59 06.7**	**+0.4**
ROSF	**Rostrenen**	**12.69**	**1**	*e*Pn		**Pn**	**22 59 12.7**	**+0.7**
ROSF				*e*Sn		**Sn**	**23 01 25.8**	**-7.2**
	comp=N,0.2nm,0.2s							
FLN	**La Foliniere**	**13.31**	**9**	*e*Pn		**Pn**	**22 59 20.4**	**-0.2**
	baz=189							
TORD	**Torodi Ar. Bea**	**22.91**	**167**	P		**P**	**23 01 17.2**	**+1.6**
	comp=N,1.5nm,0.9s,baz=352,slow=9.5,SNR=5.1							
KURBB	**Kurchatov Arra**	**58.79**	**48**	P		**P**	**23 06 10.5**	**+0.8**
	comp=N,0.7nm,0.7s,baz=292,slow=7.5,SNR=5.5							
MKAR	**Makanchi Arra**	**62.51**	**51**	P		**P**	**23 06 36.2**	**+1.0**
	comp=N,0.8nm,0.8s,baz=286,slow=5.9,SNR=8.6							
YKA	**Yellowknife Ar**	**67.77**	**332**	P		**P**	**23 07 10.1**	**+1.1**
	comp=N,0.7nm,0.6s,baz=59,slow=6.4,SNR=12							

*TUL **25** 23:36:38.2±0.9, 36°.52N±0°.01×98°.99W±0°.02, h4km±4km, ML2.6, mb_Lg2.5/31(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=101.0*

NEIC 25 23:36:38.9±0.8, 36°.505N±0°.006×98°.97W±0°.02, h3km±4km, Error ellipse: s-maj=2.5km s-min=0.9km az=93.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.13**	**190**	Pg	Pg	23 36 41.4	0.0
U32A				Sg	Sg	23 36 43.4	+0.2
OKCFA	**Oklahoma City**	**1.65**	**131**		Pn	23 37 08.2	-0.5
WMOK	**Wichita Mounta**	**1.77**	**175**	Pn	Pn	23 37 10.4	0.0
WMOK				IAmb_Lg		23 37 37.7	
	comp=Z,26nm,0.7s						
FNO	**Franklin**	**1.78**	**134**	Pn	Pn	23 37 10.2	-0.3
R32A	**Long Quarter,**	**1.93**	**6**	Pn	Pn	23 37 12.5	-0.1
R32A				IAmb_Lg		23 37 40.7	
	comp=Z,14nm,0.8s						
T35A	**Sooner Cattle**	**2.02**	**78**	Pn	Pn	23 37 13.9	+0.1
T35A				IAmb_Lg		23 37 44.2	
	comp=Z,17nm,0.8s						
X34A	**Smith Ranch, M**	**2.12**	**154**	Pn	Pn	23 37 15.7	+0.5
X34A				IAmb_Lg		23 37 47.5	
	comp=Z,22nm,0.8s						
CBKS	**Cedar Bluff**	**2.38**	**345**	Pn	Pn	23 37 19.2	+0.3
AMTX	**Amarillo**	**2.73**	**235**	Pn	Pn	23 37 23.6	-0.1
AMTX				IAmb_Lg		23 38 11.1	
	comp=Z,16nm,0.7s						
KSU1	**Kansas State U**	**3.20**	**35**	IAmb_Lg		23 38 24.1	
	comp=Z,8.2nm,1.1s						
X37A	**Clayton**	**3.50**	**122**	IAmb_Lg		23 38 38.1	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.83**	**312**	IAmb_Lg		23 38 47.5	
	comp=Z,16nm,0.9s						
MSTX	**Muleshoe**	**4.01**	**232**	IAmb_Lg		23 38 54.6	
	comp=Z,8.4nm,0.8s						
HHAR	**Hobbs**	**4.07**	**92**	IAmb_Lg		23 38 48.5	
	comp=Z,10nm,1.0s						
T25A	**Trinidad**	**4.41**	**280**	IAmb_Lg		23 39 03.9	
	comp=Z,7.5nm,0.7s						
W39A	**Magazine**	**4.41**	**106**	IAmb_Lg		23 39 08.0	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**4.94**	**90**	IAmb_Lg		23 39 22.5	
	comp=Z,8.3nm,1.0s						
P38A	**Dawn**	**5.30**	**52**	IAmb_Lg		23 39 40.1	
	comp=Z,7.0nm,0.8s						
Q24A	**Divide**	**5.47**	**298**	IAmb_Lg		23 39 32.9	
	comp=Z,8.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.57**	**94**	IAmb_Lg		23 39 40.1	
	comp=Z,6.2nm,0.9s						

IDC 25 23:39:46.3±2.0, 9°.47S×124°.19E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.1/27, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=38.1km s-min=26.4km az=89.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.90**	**215**	Pn	Pn	23 40 06.0	-0.2
	247nm,0.3s,baz=86,slow=4.8,SNR=132						
BATI				LR	LR	23 40 10.1	
	comp=Z,62nm,19.5s,baz=163,slow=26						
BATI				Sn	Sg	23 40 15.2	-0.1
	277nm,0.3s,baz=336,slow=23,SNR=14						
FITZ	**Fitzroy Crossi**	**8.70**	**171**	Pn	Pn	23 41 53.0	-0.4
	0.1nm,0.3s,baz=355,slow=9.6,SNR=10						
FITZ				Sn	Sn	23 43 20.4	-12
	0.9nm,0.3s,baz=219,slow=8.9,SNR=10						
WRA	**Warramunga Arr**	**14.30**	**138**	Pn	Pn	23 43 11.1	+0.9
	0.1nm,0.3s,baz=316,slow=14,SNR=8.9						
WRA				Sn	Sn	23 45 44.0	-5.8
	0.4nm,0.3s,baz=22,slow=5.1,SNR=9.5						
ASAR	**Alice Springs**	**16.90**	**148**	Pn	Pn	23 43 44.6	+0.2
	0.1nm,0.3s,baz=326,slow=12,SNR=9.0						
ASAR				Sn	Sn	23 46 45.4	-7.6
	0.1nm,0.3s,baz=120,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**67.31**	**330**	P	P	23 50 43.1	+0.1
	0.1nm,0.5s,baz=146,slow=4.5,SNR=2.8						

*MAN **25** 23:46:50.8, 14°.97N×122°.64E, h3km, mb4.6, ML3.5, MS3.4*
*IDC **25** 23:46:54.2±8.4, 14°.96N×122°.84E, h39km±77km, mb3.2/5, mb1 3.5/6, mb1mx3.1/42, mbtmp3.5/6, ML4.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/33, Error ellipse: s-maj=59.5km s-min=21.9km az=62.0*

ISC 25 23:46:49.5±0.8, 14°.99N±0°.04×122°.70E±0°.05, h10km, n26, σ1§18/25, mb3.3/5, 4C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.11**	**193**	*i*P	**Pn**	**23 47 10.8**	**-0.3**
GQP				*i* S	**Sg**	**23 47 24.8**	**-0.4**
BALP	**Baler**	**1.32**	**305**	*e*P	**Pg**	**23 47 14.8**	**-0.1**
LQP	**Lukban**	**1.42**	**232**	*e*P	**Pg**	**23 47 16.2**	**-0.7**
LQP				*e*S	**Sn**	**23 47 34.0**	**-0.5**
PCPH	**Palayan**	**1.65**	**290**	*e*P	**Pb**	**23 47 19.1**	**-1.0**
PCPH				*e*S	**Sb**	**23 47 40.3**	**-0.6**
QVP	**Quezon City--P**	**1.68**	**258**	*e*P	**Pb**	**23 47 20.0**	**-0.6**
BOAC	**Boac**	**1.73**	**209**	*e*P	**Pb**	**23 47 21.3**	**-0.2**
TGY	**Tagaytay City**	**1.92**	**243**	Pn	**Pg**	**23 47 25.2**	**-1.2**
	185nm,0.3s,baz=91,slow=3.3,SNR=7.5						
TGY				Sn	**Sg**	**23 47 50.3**	**-1.1**
	254nm,0.3s,baz=146,slow=1.8,SNR=4.9						
TGY	**Tagaytay City**	**1.92**	**243**	*e*P	**Pg**	**23 47 25.3**	**-1.2**
TGY				*i* S	**Sb**	**23 47 49.8**	**+0.9**
PVCP	**Virac**	**1.98**	**134**	*e*P	**Pg**	**23 47 25.9**	**-1.6**
MACP	**Maragondon, Ca**	**2.05**	**250**	*e*P	**Pb**	**23 47 26.5**	**-0.4**
PGP	**Puerto Galera**	**2.25**	**229**	*e*P	**Pb**	**23 47 30.6**	**+0.3**
PGP				*i* S	**Sn**	**23 47 55.7**	**+1.0**
SMPP	**San Manuel, Pa**	**2.26**	**301**	*e*P	**Pb**	**23 47 28.3**	**-2.3**
LUBP	**Lubang**	**2.69**	**243**	*e*P	**Pb**	**23 47 35.4**	**-2.3**
APYP	**Conner**	**3.18**	**334**	*e*P	**Pn**	**23 47 38.9**	**-0.8**
DAV	**Davao City (W)**	**8.36**	**160**	LR	LR	23 51 48.4	
	comp=Z,117nm,19.2s,baz=36,slow=36						
CMAR	**Chiang Mai Arr**	**23.01**	**282**	P	**P**	**23 51 57.1**	**+2.2**
	1.3nm,0.4s,baz=96,slow=7.3,SNR=6.8						
SONM	**Songino Array**	**35.43**	**341**	P	**P**	**23 53 46.9**	**+0.9**
	0.1nm,0.3s,baz=155,slow=8.1,SNR=2.2						
SONM				LR	LR	00 09 36.3	
	comp=Z,35nm,18.5s,baz=89,slow=38						
WRA	**Warramunga Arr**	**36.55**	**161**	P	**P**	**23 53 55.8**	**+0.1**
	0.3nm,0.6s,baz=343,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**39.95**	**164**	P	**P**	**23 54 24.5**	**+0.2**
	0.2nm,0.4s,baz=336,slow=7.2,SNR=2.3						
ASAR				LR	LR	00 11 21.8	
	comp=Z,48nm,19.0s,baz=158,slow=37						
H11S3	**WAKE ISLAND Hy**	**42.19**	**79**	T	T	00 39 42.8	
	baz=271,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**42.20**	**79**	T	T	00 39 52.5	
	baz=271,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**42.21**	**79**	T	T	00 39 44.1	
	baz=271,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**42.35**	**77**	T	T	00 40 05.4	
	baz=271,slow=75,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**42.36**	**77**	T	T	00 40 07.3	
	baz=271,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**42.37**	**77**	T	T	00 40 16.9	
	baz=271,slow=75,SNR=6.0						
MKAR	**Makanchi Array**	**46.19**	**322**	P	**P**	**23 55 16.1**	**+1.5**
	0.4nm,0.8s,baz=109,slow=6.6,SNR=4.5						

*MDD **25** 23:51:39.9±0.4, 35°.66N×3°.67W, h0km, mb_Lg2.1/12, Error ellipse: s-maj=3.5km s-min=2.7km az=18.0*
*CNRM **25** 23:51:39.4, 35°.73N×3°.55W, h26km, ml2.6*

ISC 25 23:51:39.4±1.2, 35°.67N±0°.02×3°.62W±0°.03, h12km±10km, n27, σ1§09/56, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**210**	P	**Pb**	**23 51 51.0**	**+0.6**
PALE				S	**Sb**	**23 51 59.0**	**+1.1**
EALB	**Alboran**	**0.55**	**60**	Pg	**Pb**	**23 51 51.6**	**+0.7**
EALB				Sg	**Sb**	**23 51 59.0**	**+0.2**
EALB				*i* Vmb_Lg		23 52 01.1	
EMEL	**Melilla**	**0.65**	**124**	Pg	**Pg**	**23 51 52.1**	**+0.1**
EMEL				Sg	**Sg**	**23 52 00.4**	**-0.2**
GOG	**Mont Gurugu**	**0.67**	**131**	P	**Pg**	**23 51 52.7**	**+0.2**
GOG				S	**Sg**	**23 52 02.0**	**+0.6**
ELGU	**Los Guajares,**	**1.20**	**360**	Pg	**Pb**	**23 52 01.1**	**-1.0**
ELGU				Sg	**Sb**	**23 52 16.3**	**-1.4**
ELGU				*i* Vmb_Lg		23 52 20.1	
EMIJ	**Mijas**	**1.29**	**314**	Pn	**Pn**	**23 52 02.6**	**-0.7**
EMIJ				Sn	**Sb**	**23 52 19.8**	**-0.5**
EMIJ				*i* Vmb_Lg		23 52 19.9	
TAF	**Taforalt**	**1.30**	**130**	P	**Pn**	**23 52 02.0**	**-1.5**
TAF				S	**Sb**	**23 52 18.6**	**-2.0**
EBER	**Berja**	**1.36**	**25**	Pn	**Pb**	**23 52 04.8**	**-0.2**
EBER				Sn	**Sg**	**23 52 23.3**	**0.0**
EBER				*i* Vmb_Lg		23 52 30.4	
SMIR	**Smir Dam**	**1.43**	**271**	P	**Pn**	**23 52 03.7**	**-1.5**
SMIR				S	**Sn**	**23 52 23.2**	**-0.8**
ECEU	**Ceuta**	**1.45**	**280**	Pn	**Pn**	**23 52 05.2**	**-0.2**
ECEU				Sn	**Sn**	**23 52 23.5**	**-0.9**
ECEU				*i* Vmb_Lg		23 52 24.6	
EGOR	**Sierra Gorda,**	**1.50**	**345**	Pn	**Pn**	**23 52 06.5**	**+0.3**
EGOR				Sn	**Sb**	**23 52 26.3**	**+0.1**
EGOR				*i* Vmb_Lg		23 52 35.1	
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**23 52 06.6**	**-0.9**
JBK				S	**Sn**	**23 52 25.1**	**-2.8**
EJIF	**Jimena Fronter**	**1.69**	**298**	Pn	**Pn**	**23 52 09.0**	**+0.3**
EJIF				Sn	**Sn**	**23 52 29.9**	**-0.5**
ESPR	**Espera**	**2.17**	**304**	Pn	**Pn**	**23 52 14.9**	**-0.4**
ESPR				Sn	**Sn**	**23 52 41.4**	**-0.8**
ESPR				Sg	**Sb**	**23 52 47.1**	**+1.7**
ESPR				*i* Vmb_Lg		23 52 50.7	
LCRM	**LCR**	**2.22**	**208**	P	**Pb**	**23 52 18.6**	**-1.0**
LCRM				S	**Sb**	**23 52 47.1**	**0.0**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**23 52 23.2**	**+1.7**
EADA				Sn	**Sn**	**23 52 53.9**	**+0.7**
EADA				Sg	**Sb**	**23 52 59.3**	**+1.1**
EADA				*i* Vmb_Lg		23 53 00.2	
ECAB	**El Cabril**	**2.81**	**330**	Pn	**Pn**	**23 52 25.5**	**+1.4**
ECAB				Sn	**Sn**	**23 52 57.9**	**0.0**
ECAB				Sg	**Sg**	**23 53 07.4**	**-2.1**
ECAB				*i* Vmb_Lg		23 53 11.7	
CZD	**Col de Zad**	**2.88**	**205**	P	**Pn**	**23 52 26.6**	**+1.3**
CZD				S	**Sn**	**23 53 01.5**	**+1.5**
TDRA	**Tendrara**	**2.93**	**153**	P	**Pn**	**23 52 26.6**	**+0.6**
TDRA				S	**Sn**	**23 53 00.5**	**-0.7**
MD31	**MD31**	**2.95**	**199**	P	**Pn**	**23 52 27.6**	**+1.5**
MD31				S	**Sn**	**23 53 02.2**	**+0.8**
MDT	**Midelt**	**2.96**	**196**	P	**Pn**	**23 52 28.1**	**+1.8**
MDT				S	**Sn**	**23 53 02.7**	**+0.9**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**23 52 30.3**	**+0.4**
EMIN				Sn	**Sn**	**23 53 07.4**	**-0.9**
ETOB	**Tobarra**	**3.40**	**28**	Pn	**Pn**	**23 52 34.3**	**+1.9**
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**23 52 35.7**	**+0.3**
EGRO				Sn	**Sn**	**23 53 17.7**	**-0.3**
EGRO				*i* Vmb_Lg		23 53 19.8	
PAB	**San Pablo**	**3.92**	**352**	Pn	**Pn**	**23 52 40.7**	**+1.3**
PAB				Sn	**Sn**	**23 53 25.5**	**+0.1**
ESDC	**Sonseca Array**	**4.01**	**356**	Pn	**Pn**	**23 52 41.8**	**+1.1**
ESDC				Sn	**Sn**	**23 53 27.9**	**+0.2**
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**23 52 42.7**	**+0.8**
EBAD				Sn	**Sn**	**23 53 29.0**	**-0.9**
EBAD				*i* Vmb_Lg		23 53 31.7	

KRSC 25 23:55:19.4±2.8, 49°.72N×156°.91E, h17km±39km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**333**	*e*P	Pb	23 55 38.7	-1.2
SKR				*e*S	Sb	23 55 51.6	-2.3
PAU	**Pauzhetka**	**1.75**	**358**	*e*P	Pb	23 55 50.3	-0.9
PAU				*e*S	Sb	23 56 12.4	-0.5
KDTR	**Khodutka, Kamc**	**2.22**	**19**	*e*P	Pb	23 55 58.2	-0.9
KDTR				*e*S	Sb	23 56 25.8	-0.6
MIPR	**Malaya Ipel'ka**	**2.56**	**358**	*e*P	Pn	23 56 01.2	+1.0
RUS	**Russkaya**	**2.90**	**20**	*e*P	Pn	23 56 07.3	+2.5
RUS				*e*S	Sn	23 56 41.4	+2.1
GRL	**Gorelyy**	**2.93**	**14**	*e*P	Pb	23 56 08.8	-2.5
GRL				*e*S	Sb	23 56 44.6	-2.3
KRMR	**Karymshinskiy**	**3.21**	**13**	*e*P	Pn	23 56 12.3	+3.2
APC	**Apacha**	**3.22**	**3**	*e*P	Pn	23 56 11.8	+2.6
DALK	**Dalny**	**3.52**	**18**	*e*P	Pn	23 56 16.7	+3.4
DALK				*e*S	Sn	23 56 58.9	+4.5
UGLR	**Uglovaya**	**3.70**	**18**	*e*P	Pn	23 56 20.1	+4.2
AVH	**Avacha**	**3.73**	**17**	*e*P	Pb	23 56 21.7	-3.2
KOK	**Koryaka**	**3.74**	**16**	*e*P	Pb	23 56 20.9	-4.2
SMAR	**Somma**	**3.74**	**18**	*e*P	Pb	23 56 21.2	-4.0
KRER	**Koryakskii**	**3.77**	**17**	*e*P	Pb	23 56 21.5	-4.2
SDLR	**Sedlovina**	**3.77**	**18**	*e*P	Pn	23 56 20.5	+3.5
SPN	**Mys Shipunski**	**3.91**	**29**	*e*P	Pn	23 56 22.3	+3.6
GNL	**Ganaly**	**4.04**	**9**	*e*P	Pn	23 56 24.1	+3.5
KMNR	**Kamenistaya**	**6.38**	**17**	*e*P	Pn	23 56 58.0	+5.3
KBTR	**Krutoberegovo**	**7.42**	**26**	*e*P	Pn	23 57 09.3	+2.5

*IDC **25** 23:56:32.4±1.6, 6°.57S×154°.34E, h58km±14km, mb3.6/11, mb1 3.9/14, mb1mx3.8/30, mbtmp4.0/14, MS

K20K					IAmb	IAmb	00 08 38.4		
	comp=Z,2.5nm,1.1s								
SML	**Sawmill**	**81.09**	**24**	P	**P**	**00 08 44.3**	**+2.6**
TRF	**Thorofare Moun**	**81.24**	**22**	P	**P**	**00 08 46.0**	**+3.4**
TRF				IAmb	IAmb	00 08 59.8			
	comp=Z,3.8nm,1.2s								
IMAR	**Indian Mountai**	**81.53**	**19**	P	**P**	**00 08 41.7**	**-2.1**
IMAR				PcP	**PcP**	**00 08 47.1**	**-2.5**
H21K	**Melozitna Rive**	**81.64**	**20**	P	**P**	**00 08 45.4**	**+1.0**
RND	**Reindeer**	**81.75**	**22**	P	**P**	**00 08 47.0**	**+1.8**
RND				IAmb	IAmb	00 09 01.4			
	comp=Z,3.2nm,1.2s								
MCK	**McKinley**	**81.90**	**22**	P	**P**	**00 08 46.8**	**+0.9**
MKAR	**Makanchi Array**	**82.65**	**319**	P	**P**	**00 08 49.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=114,slow=6.2,SNR=4.6								
ILAR	**Eielson Array**	**83.21**	**22**	P	**P**	**00 08 53.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=243,slow=5.7,SNR=4.9								
QSPA	**South Pole Qui**	**83.41**	**180**	P	**P**	**00 08 54.4**	**+0.5**
ZALV	**Zalesovo Beam**	**83.46**	**326**	P	**P**	**00 08 53.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=103,slow=4.6,SNR=1.5								
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**00 09 34.9**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=276,slow=3.4,SNR=3.2								
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**00 09 52.3**	**-2.3**
	comp=Z,0.2nm,0.7s,baz=265,slow=5.2,SNR=3.1								
TORD	**Torodi Ar. Bea**	**152.28**	**286**	PKPbc	**PKPbc**	**00 16 22.6**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=61,slow=2.5,SNR=16								

*IDC **26** 00:26:27.1±2.0,56.72S×27.55W,h0km,mb4.2/1, mb1 4.2/1,mb1mx3.6/19,mbtmp4.2/1,Error ellipse: s-maj=112.2km s-min=66.0km az=137.0*
*NEIC **26** 00:26:43.3±0.6,56.3S±0.1×27.6W±0.3,h108km±5km, mb4.2/10,Error ellipse: s-maj=21.4km s-min=15.3km az=60.0*
ISC 26 00:26:43.3±0.8,56.3S±0.1×27.5W±0.1,h112km,n17, σ0s76/17,mb4.1/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.49**	**288**	Pn	**Pn**	**00 28 02.7**	**0.0**
SNAA	**Sanae**	**18.61**	**156**	P	**P**	**00 30 51.6**	**-0.1**
SNAA				IAmb	IAmb	00 30 52.5	
	comp=Z,4.9nm,0.5s						
BELA	**Belgrano 2**	**21.84**	**184**	P	**P**	**00 31 25.9**	**-0.3**
MG02	**Cerro Sombrero**	**24.17**	**261**	P	**P**	**00 31 47.7**	**-1.0**
MG02				IAmb	IAmb	00 31 55.4	
	comp=Z,39nm,1.1s						
QSPA	**South Pole Qui**	**33.97**	**180**	P	**P**	**00 33 16.8**	**+1.0**
GO01	**Chusmiza**	**47.90**	**302**	P	**P**	**00 35 10.6**	**0.0**
GO01				IAmb	IAmb	00 35 11.3	
	comp=Z,3.2nm,0.8s						
PB16	**IPOC Station P**	**49.20**	**303**	P	**P**	**00 35 20.7**	**0.0**
PB16				IAmb	IAmb	00 35 38.8	
	comp=Z,1.2nm,0.9s						
TOA0	**Torodi Ar. Sit**	**73.35**	**30**	P	**P**	**00 38 03.0**	**+0.3**
TOA0				IAmb	IAmb	00 38 03.5	
	comp=Z,1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.35**	**30**	P	**P**	**00 38 02.9**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=201,slow=6.4,SNR=18						
TORD	**Torodi Ar. Bea**	**73.35**	**30**	P	**P**	**00 38 03.0**	**+0.3**
JACO	**JACO, Garabito**	**80.78**	**303**	P	**P**	**00 38 45.7**	**+1.3**
CUPR	**Culebra, Puert**	**80.80**	**324**	P	**P**	**00 38 44.1**	**-0.1**
CELP	**Cerrillos**	**81.02**	**323**	P	**P**	**00 38 45.2**	**-0.2**
CELP				IAmb	IAmb	00 38 55.2	
	comp=Z,11nm,1.0s						
BANI	**BANI**	**82.64**	**319**	P	**P**	**00 38 54.8**	**+0.8**
YKA	**Yellowknife Ar**	**136.21**	**318**	PKP	**PKPdf**	**00 45 48.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=128,slow=2.2,SNR=8.0						
ILAR	**Eielson Array**	**150.12**	**311**	PKPbc	**PKPbc**	**00 46 18.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=125,slow=2.0,SNR=6.6						
SONM	**Songino Array**	**150.94**	**87**	PKPbc	**PKPbc**	**00 46 20.7**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=227,slow=3.5,SNR=3.8						

*KRNET **26** 00:36:08.5±0.1,41.24N×73.22E,h15km,mb3.4*
*KNET **26** 00:36:10.5±0.5,41.33N×73.30E,h7km,1km,ml2.8,Error ellipse: s-maj=4.8km s-min=2.8km az=112.0*
*NNC **26** 00:36:10.3±1.3,41.30N×73.17E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=11.4km s-min=5.7km az=175.0*
*SOME **26** 00:36:11.3,41.30N×73.12E,h15km*
ISC 26 00:36:06.8±1.0,41.19N±0.03×73.23E±0.02,h17km±9km, n68,σ1s57/110,43C-16D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.75**	**207**	↑*i*P	**Pn**	**00 36 23.8**	**+1.1**
	baz=5.0						
OHH				↑*i*S	**Sn**	**00 36 34.4**	**+0.7**
	baz=5.0						
AML	**Almayashu**	**1.00**	**20**	P	**Pn**	**00 36 27.4**	**+0.9**
	57nm,0.1s,SNR=233						
AML				↑S	**Sn**	**00 36 40.3**	**-0.2**
	198nm,0.2s						
ARLS	**Aral**	**1.06**	**50**	↑*e*P	**Pn**	**00 36 28.3**	**+1.2**
	baz=53						
ARLS				↑*i*S	**Sn**	**00 36 42.2**	**+0.7**
	baz=53						
ARK	**Arkit**	**1.13**	**303**	↑*i*P	**Pn**	**00 36 28.8**	**+0.8**
	baz=1.0						
ARK				↑*i*S	**Sn**	**00 36 44.6**	**+1.4**
	baz=1.0						
UCH	**Uchtor**	**1.41**	**42**	↓P	**Pg**	**00 36 34.9**	**+0.8**
	44nm,0.2s,SNR=158						
UCH				↑S	**Sg**	**00 36 53.7**	**+1.2**
	131nm,0.3s						
UCH	**Uchtor**	**1.41**	**42**	↓*i*P	**Pg**	**00 36 34.4**	**+0.3**
	baz=44						
UCH				↓*i*S	**Sg**	**00 36 53.3**	**+0.8**
	baz=44						
EKS2	**Erkin-Say**	**1.52**	**15**	↓P	**Pg**	**00 36 36.4**	**+0.2**
	14nm,0.1s,SNR=68						
EKS2	**Erkin-Say**	**1.52**	**15**	↑*e*P	**Pg**	**00 36 36.1**	**-0.1**
	baz=16						
EKS2				↑*i*S	**Sg**	**00 36 56.5**	**+0.5**
	baz=16						
MRKS	**Merke**	**1.55**	**360**	*e*P	**Pg**	**00 36 39.2**	**+2.5**
	59nm,0.1s						
MRKS				*e*S	**Sg**	**00 36 58.8**	**+1.9**
	160nm,0.2s						
MRKS	**Merke**	**1.55**	**360**	P	**Pg**	**00 36 39.2**	**+2.5**
	59nm,0.1s						
MRKS				S	**Sg**	**00 36 58.9**	**+2.0**
	160nm,0.2s						
TRKS	**Terek-Say**	**1.61**	**283**	↑*i*P	**Pg**	**00 36 37.2**	**-0.6**
	baz=79						
TRKS				↑*e*S	**Sg**	**00 36 58.7**	**0.0**
	baz=79						
AAK	**Ala-Archa**	**1.73**	**33**	↓P	**Pg**	**00 36 40.6**	**+0.7**
	21nm,0.1s,SNR=49						
AAK				↑S	**Sg**	**00 37 03.6**	**+1.2**
	108nm,0.2s						
AAK	**Ala-Archa**	**1.73**	**33**	↑*i*P	**Pg**	**00 36 39.7**	**-0.3**
	baz=34						
AAK				↑*i*S	**Sg**	**00 37 02.9**	**+0.5**
	baz=34						
AAK	**Ala-Archa**	**1.73**	**33**	Pg	**Pg**	**00 36 41.2**	**+1.3**
	11nm,0.3s						
AAK				↑Lg	Lg	00 37 03.7	
	29nm,0.2s						
FRU1	**Bishkek**	**1.93**	**32**	↑*e*P	**Pg**	**00 36 43.6**	**-0.2**
	baz=33						
FRU1				↑*i*S	**Sg**	**00 37 09.5**	**+0.7**
	baz=33						
KBK	**Karagaybulak**	**1.95**	**41**	↓P	**Pg**	**00 36 44.7**	**+0.5**
	26nm,0.1s,SNR=77						
KBK				↓S	**Sg**	**00 37 11.0**	**+1.5**
	150nm,0.3s						
KBK	**Karagaybulak**	**1.95**	**41**	↑*i*P	**Pg**	**00 36 43.6**	**-0.6**
	baz=42						
KBK				↑*i*S	**Sg**	**00 37 09.7**	**+0.3**
	baz=42						
DRK	**Karamyk**	**2.03**	**213**	↑*i*P	**Pg**	**00 36 46.1**	**+0.3**
	baz=12						
DRK				↑*i*S	**Sg**	**00 37 13.4**	**+1.3**
	baz=12						
CHMS	**Chumysh**	**2.13**	**32**	↓P	**Pg**	**00 36 47.5**	**-0.2**
	15nm,0.2s,SNR=29						
CHMS				↑S	**Sg**	**00 37 15.5**	**+0.1**
	87nm,0.4s						
CHMS	**Chumysh**	**2.13**	**32**	↑*i*P	**Pg**	**00 36 46.2**	**-1.5**
	baz=32						
CHMS				↑*i*S	**Sg**	**00 37 14.1**	**-1.3**
	baz=32						
BTK	**Batken**	**2.16**	**239**	↑*i*P	**Pg**	**00 36 47.4**	**-0.8**
	baz=38						
BTK				↑*i*S	**Sg**	**00 37 15.7**	**-0.5**
	baz=38						
USP	**Ospenovka**	**2.28**	**24**	↓P	**Pg**	**00 36 49.3**	**-1.2**
	16nm,0.2s,SNR=10.0						
USP				↑S	**Sg**	**00 37 19.7**	**-0.3**
	165nm,0.3s						
USP	**Ospenovka**	**2.28**	**24**	↑*i*P	**Pb**	**00 36 48.1**	**+0.6**
	baz=25						
USP				↑*i*S	**Sg**	**00 37 17.5**	**-2.6**
	baz=25						
BOOM	**Boomskoye usch**	**2.40**	**56**	↑*i*P	**Pb**	**00 36 50.5**	**+0.8**
	baz=57						
BOOM				↑*i*S	**Sb**	**00 37 21.1**	**+1.9**
	baz=57						
TKM2	**Tokmak 2**	**2.47**	**45**	↑P	**Pg**	**00 36 52.5**	**-1.7**
	30nm,0.2s,SNR=38						
TKM2	**Tokmak 2**	**2.47**	**45**	↑*e*P	**Pb**	**00 36 51.2**	**+0.4**
	baz=46						
TKM2				↑*e*S	**Sb**	**00 37 22.7**	**+1.6**
	baz=46						
TKM2	**Tokmak 2**	**2.47**	**45**	↑Pn	**Pg**	**00 36 52.4**	**-1.7**
	26nm,0.6s						
TKM2				↓Lg	Lg	00 37 25.3	
	20nm,0.5s						
ULHL	**Ulahol**	**2.49**	**64**	↑*i*P	**Pb**	**00 36 51.7**	**+0.5**
	baz=65						
ULHL				↑*i*S	**Sb**	**00 37 23.4**	**+1.8**
	baz=65						
IUG	**Iuzhnay**	**2.58**	**293**	*e*P	**Pg**	**00 36 55.6**	**-0.7**
	862nm,0.3s						
IUG				*e*S	**Sg**	**00 37 26.9**	**-2.9**
	333nm,0.4s						
IUG	**Iuzhnay**	**2.58**	**293**	Pg	**Pg**	**00 36 55.6**	**-0.7**
	862nm,0.3s						
IUG				Lg	Lg	00 37 26.8	
	333nm,0.4s						
DGS	**Degeres**	**2.79**	**42**	*e*P	**Pg**	**00 37 00.0**	**-0.2**
	19nm,0.4s						
DGS				*e*S	**Sg**	**00 37 34.5**	**-1.8**
	33nm,0.4s						
DGS	**Degeres**	**2.79**	**42**	Pg	**Pg**	**00 37 01.3**	**+1.1**
	19nm,0.4s						
DGS				Lg	Lg	00 37 36.6	
	33nm,0.4s						
KK08	**Karatay Array**	**2.80**	**314**	↑Pg	**Pg**	**00 36 58.2**	**-2.2**
	8.9nm,0.4s,baz=131,slow=17						
KK08				↑Lg	Lg	00 37 34.5	
	40nm,0.5s,baz=133,slow=28						
MTBS	**Maitube**	**3.07**	**50**	*e*P	**Pg**	**00 37 05.4**	**-0.2**
	4.5nm,0.2s						
MTBS				*e*S	**Sg**	**00 37 43.5**	**-1.8**
	20nm,0.4s						
MTBS	**Maitube**	**3.07**	**50**	Pg	**Pg**	**00 37 05.4**	**-0.2**
	4.5nm,0.2s						
MTBS				Lg	Lg	00 37 43.5	
	20nm,0.4s						
KRBS	**Karabastau**	**3.09**	**35**	*e*P	**Pg**	**00 37 05.5**	**-0.4**
	9.8nm,0.2s						
KRBS				*e*S	**Sg**	**00 37 43.8**	**-2.2**
	36nm,0.6s						
KRBS	**Karabastau**	**3.09**	**35**	Pg	**Pg**	**00 37 05.5**	**-0.4**
	9.8nm,0.2s						
KRBS				Lg	Lg	00 37 43.8	
	36nm,0.6s						
KDJ	**Kajisay**	**3.10**	**71**	↑*i*P	**Pb**	**00 37 00.4**	**-1.3**
	baz=72						
KDJ				↑*i*S	**Sb**	**00 37 38.1**	**-1.2**
	baz=72						
BRLS	**Boroldday**	**3.12**	**307**	*e*P	**Pg**	**00 37 04.2**	**-2.4**
	47nm,0.4s						
BRLS				*e*S	**Sb**	**00 37 41.5**	**+1.7**
	5.2nm,0.5s						
BRLS	**Boroldday**	**3.12**	**307**	Pg	**Pg**	**00 37 04.2**	**-2.4**
	47nm,0.4s						
BRLS				Lg	Lg	00 37 41.5	
	5.2nm,0.5s						
GAR	**Garm**	**3.13**	**227**	↓*i*P	**Pb**	**00 37 01.1**	**-0.9**
	baz=26						
GAR				↓*i*S	**Sb**	**00 37 39.2**	**-0.8**
	baz=26						
TNSS	**Tian-Shan**	**3.32**	**55**	*e*P	**Pg**	**00 37 10.4**	**-0.1**
	4.7nm,0.4s						
TNSS				*e*S	**Sg**	**00 37 52.1**	**-1.4**
	15nm,0.5s						
TNSS	**Tian-Shan**	**3.32**	**55**	Pg	**Pg**	**00 37 10.4**	**-0.1**
	4.7nm,0.4s						
TNSS				Lg	Lg	00 37 52.2	
	15nm,0.5s						
AAA	**Alma-Ata**	**3.40**	**52**	*e*P	**Pg**	**00 37 13.4**	**+1.5**
	26nm,0.2s						
AAA				*e*S	**Sg**	**00 37 57.5**	**+1.5**
	35nm,0.2s						
AAA	**Alma-Ata**	**3.40**	**52**	Pg	**Pg**	**00 37 13.4**	**+1.5**
	26nm,0.2s						
AAA				Lg	Lg	00 37 57.5	
	35nm,0.2s						
MDOK	**Medeo**	**3.45**	**54**	*e*P	**Pg**	**00 37 12.7**	**-0.3**
	6.0nm,0.3s						
MDOK				*e*S	**Sg**	**00 37 56.0**	**-1.7**
	28nm,0.6s						
MDOK	**Medeo**	**3.45**	**54**	↓Pg	**Pg**	**00 37 18.4**	**+5.5**
	4.5nm,0.4s						
MDOK				Lg	Lg	00 37 58.0	
	6.9nm,0.5s						
MDOK	**Medeo**	**3.45**	**54**	Pg	**Pg**	**00 37 12.7**	**-0.3**
	6.0nm,0.3s						
MDOK				Lg	Lg	00 37 56.0	
	28nm,0.6s						
KOTS	**Kotyrbulak**	**3.53**	**53**	*e*P	**Pg**	**00 37 15.7**	**+1.2**
	11nm,0.3s						
KOTS				*e*S	**Sg**	**00 38 01.7**	**+1.5**
	47nm,0.7s						
KOTS	**Kotyrbulak**	**3.53**	**53**	Pg	**Pg**	**00 37 15.7**	**+1.2**
	11nm,0.3s						
KOTS				Lg	Lg	00 38 01.7	
	47nm,0.7s						
KUU	**Kurty**	**3.54**	**39**	*e*P	**Pg**	**00 37 13.7**	**-1.0**
	3.8nm,0.3s						
KUU				*e*S	**Sg**	**00 37 57.8**	**-2.8**
	19nm,0.6s						
KUU	**Kurty**	**3.54**	**39**	Pg	**Pg**	**00 37 13.7**	**-1.0**
	3.8nm,0.3s						
KUU				Lg	Lg	00 37 57.8	
	19nm,0.6s						
ANVS	**Anan'yevo**	**3.67**	**63**	↓*i*P	**Pb**	**00 37 08.0**	**-3.3**
	baz=64						
ANVS				↓*i*S	**Sb**	**00 37 51.5**	**-4.1**
	baz=64						
CHKK	**Chushkaly**	**3.85**	**45**	*e*P	**Pg**	**00 37 19.5**	**-0.9**
	2.2nm,0.3s						
CHKK				*e*S	**Sg**	**00 38 07.7**	**-2.5**
	20nm,0.2s						
CHKK	**Chushkaly**	**3.85**	**45**	Pg	**Pg**	**00 37 19.5**	**-0.9**
	2.2nm,0.3s						
CHKK				Lg	Lg	00 38 07.7	
	20nm,0.2s						
BTLS	**Baital**	**3.89**	**9**	*e*P	**Pg**	**00 37 18.8**	**-2.6**
	4.4nm,0.3s						
BTLS				*e*S	**Sg**	**00 38 06.4**	**-5.4**
	15nm,0.4s						
BTLS	**Baital**	**3.89**	**9**	Pg	**Pg**	**00 37 18.8**	**-2.6**
	4.4nm,0.3s						
BTLS				Lg	Lg	00 38 06.4	
	15nm,0.3s						
SATY	**Saty**	**4.28**	**62**	*e*P	**Pg**	**00 37 28.6**	**-0.1**
	8.1nm,0.3s						
SATY				*e*S	**Sg**	**00 38 23.3**	**-0.8**
	9.6nm,0.4s						
SATY	**Saty**	**4.28**	**62**	Pg	**Pg**	**00 37 28.6**	**-0.1**
	8.1nm,0.3s						
SATY				Lg	Lg	00 38 23.3	
	9.6nm,0.4s						
ZHN	**Zhinishke**	**4.34**	**61**	*e*P	**Pg**	**00 37 29.1**	**-0.8**
	16nm,0.1s						
ZHN				*e*S	**Sg**	**00 38 24.1**	**-2.0**
	13nm,0.1s						
ZHN	**Zhinishke**	**4.34**	**61**	Pg	**Pg**	**00 37 29.1**	**-0.8**
	16nm,0.1s						
ZHN				Lg	Lg	00 38 24.1	
	13nm,0.1s						
UZB	**Uzynbulak**	**4.73**	**64**	*e*P	**Pg**	**00 37 35.9**	**-1.4**
	5.0nm,0.5s						
UZB				*e*S	**Sg**	**00 38 35.8**	**-2.7**
	6.3nm,0.4s						
UZB	**Uzynbulak**	**4.73**	**64**	Pg	**Pg**	**00 37 35.9**	**-1.4**
	5.0nm,0.5s						
UZB				Lg	Lg	00 38 35.8	
	6.3nm,0.4s						
BLB	**Baldybastay**	**4.84**	**51**	*e*P	**Pg**	**00 37 37.4**	**-2.0**
	5.9nm,0.4s						
BLB				*e*S	**Sg**	**00 38 38.4**	**-3.6**
	13nm,0.5s						
BLB	**Baldybastay**	**4.84**	**51**	Pg	**Pg**	**00 37 37.4**	**-2.0**
	5.9nm,0.4s						
BLB				Lg	Lg	00 38 38.4	
	13nm,0.5s						
PDGK	**Podgornoye**	**5.11**	**63**	Pg	**Pg**	**00 37 43.5**	**-1.2**
	1.0nm,0.4s						
PDGK				Lg	Lg	00 38 48.8	
	5.9nm,0.9s						
PDGK	**Podgornoye**	**5.11**	**63**	↑Pg	**Pg**	**00 37 44.7**	**+0.1**
	3.6nm,0.7s						
PDGK				↓Lg	Lg	00 38 48.5	
	14nm,0.7s						
AB31	**Akbulak array**	**12.35**	**315**	P	**Pn**	**00 39 03.3**	**+1.6**
	0.3nm,0.5s,baz=116,slow=15,SNR=12						

*UPP **26** 00:39:19.4±0.1,67.86N×20.21E,h0km,ML2.4,Explosion*
*KOLA **26** 00:39:19.5,67.67N×20.13E,h0km,ML2.1*
*IDC **26** 00:39:20.9±1.2,67.82N×20.67E,h0km,mb1 3.2/4, mb1mx2.9/49,mbtmp3.1/4,ML2.2/4,Error ellipse: s-maj=19.6km s-min=10.1km az=102.0*
*HEL **26** 00:39:20.0±0.1,67.85N×20.22E,h0km,ML2.2, ML2.4(UPP),Suspected explosion*
ISC 26 00:39:19.3±0.7,67.84N±0.02×20.23E±0.02,h0km,n41, σ1s05/69,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**267**	P	**Pg**	**00 39 24.1**	**+0.2**
RATU				S	**Sg**	**00 39 27.6**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**267**	*i* P	**Pg**	**00 39 24.1**	**+0.2**
RATU				*i* S	**Sg**	**00 39 27.6**	**+0.5**
KVU	**Salmi**	**0.39**	**356**	P	**Pg**	**00 39 26.5**	**-0.2**
KOVU				S	**Sg**	**00 39 31.6**	**0.0**
KOVU	**Salmi**	**0.39**	**356**	*i* P	**Pg**	**00 39 26.5**	**-0.2**
KOVU				*i* S	**Sg**	**00 39 31.6**	**0.0**
LANU	**Lannavaara**	**0.70**	**72**	*e*P	**Pg**	**00 39 32.4**	**-0.2**
LANU				*e*S	**Sg**	**00 39 42.1**	**+0.6**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**00 39 34.4**	**+0.3**
MASU				S	**Sg**	**00 39 45.2**	**+1.0**
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P	**Pg**	**00 39 34.4**	**+0.3**
MASU				*i* S	**Sg**	**00 39 45.2**	**+1.0**
SALU	**Saltoluokta**	**0.81**	**236**	P	**Pg**	**00 39 34.6**	**-0.1**
SALU	**Saltoluokta**	**0.81**	**236**	*i* P	**Pg**	**00 39 34.6**	**-0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pn**	**00 39 43.3**	**+0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**00 39 41.7**	**-0.3**
KIF				MSG		00 39 57.2	
	comp=Z,35nm,0.2s						
KIF				*e*S	**Sg**	**00 39 57.9**	**+0.5**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 39 45.0**	**-0.7**
PAJU				S	**Sg**	**00 40 03.5**	**0.0**
PAJU	**Pajala**	**1.38**	**125**	*e*P	**Pg**	**00 39 44.7**	**-1.0**
PAJU				*e*SB	**Sg**	**00 40 03.8**	**+0.3**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**00 39 45.1**	**-0.9**
HEF	**Hetta**	**1.41**	**64**	*e*PG	**Pn**	**00 39 45.2**	**-0.9**
	baz=246						
HEF				MSG		00 40 02.6	
	comp=Z,14nm,0.2s						
HEF				*e*SN	**Sb**	**00 40 05.1**	**+0.3**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**00 39 47.1**	**-0.3**
ERTU				S	**Sg**	**00 40 07.8**	**+0.4**
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	**Pn**	**00 39 46.9**	**-0.5**
ERTU				*e*SB	**Sg**	**00 40 07.5**	**+0.2**
KLF	**Kolari**	**1.56**	**111**	*e*PG	**Pn**	**00 39 47.9**	**-0.2**
KLF				*e*SN	**Sg**	**00 40 09.8**	**+0.6**
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**00 39 50.6**	**+0.3**
HARU	**Harads**	**1.71**	**170**	*e*P	**Pn**	**00 39 50.6**	**+0.3**
KALU	**Kalix**	**2.34**	**147**	*e*PB	**Pn**	**00 40 00.3**	**+1.4**
KALU				*e*SB	**Sb**	**00 40 30.8**	**-0.8**
TOF	**Tornio**	**2.39**	**136**	*e*PB	**Pn**	**00 40 01.3**	**+1.8**
TOF				MSG		00 40 29.8	
	comp=Z,14nm,0.2s						
TOF				*e*SG	**Sb**	**00 40 33.6**	**+0.5**
SGF	**Sodankyl**	**2.44**	**96**	*e*P	**Pn**	**00 40 01.3**	**+1.0**
SGF				*e*SG	**Sg**	**00 40 37.0**	**-0.6**
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pn**	**00 40 03.9**	**+1.9**
RNF				*e*SG	**Sb**	**00 40 38.3**	**+0.2**
ARA0	**ARCESS Array S**	**2.57**	**46**	*e*P	**Pn**	**00 40 02.6**	**+0.5**
	baz=230						
ARA0				*e*SB	**Sn**	**00 40 36.4**	**+2.3**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**00 40 02.4**	**+0.2**
	baz=227,slow=15,SNR=48						
ARCES				Sn	**Sn**	**00 40 35.0**	**+0.9**
	baz=227,slow=23,SNR=3.3						
ARCES	**ARCESS Array B**	**2.57**	**46**	P	**Pn**	**00 40 02.9**	**+0.8**
ARCES				S	**Sb**	**00 40 38.1**	**-0.3**
KEV	**Kevo**	**3.12**	**49**	*e*P	**Pn**	**00 40 11.0**	**+1.3**
KEV				*e*S	**Sn**	**00 40 49.0**	**+1.3**
KEV				MSG		00 40 52.1	
	comp=Z,5.6nm,0.2s						
VRF	**Varrio**	**3.56**	**87**	*e*P	**Pn**	**00 40 17.4**	**+1.7**
OUL	**Oulu**	**3.58**	**138**	*e*PG	**Pb**	**00 40 23.5**	**+0.2**
OUL				*e*SB	**Sb**	**00 41 08.2**	**+1.0**
OLKF	**Oulanka, Finla**	**3.90**	**109**	*e*P	**Pn**	**00 40 21.7**	**+1.4**
MSF	**Maaselka**	**3.98**	**115**	*e*P	**Pn**	**00 40 22.7**	**+1.3**
UMAU	**Umeaa**	**3.98**	**177**	*e*P	**Pn**	**00 40 23.2**	**+1.8**
	baz=352						
KU6	**Riekki**	**4.21**	**111**	*e*P	**Pn**	**00 40 25.6**	**+1.0**
	baz=299						
PRVG	**Vayda Guba**	**4.74**	**61**	P	**Pn**	**00 40 33.6**	**+1.7**
PRVG				S	**Sn**	**00 41 26.4**	**-1.1**
APA0	**Apatity Array**	**4.86**	**87**	P	**Pn**	**00 40 33.1**	**-0.5**
APA0				S	**Sn**	**00 41 29.6**	**-0.8**
TERR	**Teriberka**	**5.63**	**69**	P	**Pn**	**00 40 44.1**	**0.0**
TERR				S	**Sn**	**00 41 47.1**	**-2.2**
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**00 41 01.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=3.7						
FINES				Sn	**Sn**	**00 42 19.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=5.8						
FINES				Lg	Lg	00 42 51.4	
	comp=Z,0.3nm,0.3s,baz=355,slow=23,SNR=2.5						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**00 41 15.4**	**+0.8**
	comp=Z

NACB	**Ninganchiao**	**11.74**	**344**	Pn		**Pn**	**00 46 31.9**	**-1.8**
TNTI	**Ternate**	**12.21**	**169**	Pn		**Pn**	**00 46 39.9**	**-0.1**
KSRS	**Korea Array**	**24.64**	**5**	P		**P**	**00 49 05.4**	**-1.3**
	0.5nm,0.3s,baz=193,slow=12,SNR=4.7							
CMAR	**Chiang Mai Arr**	**25.77**	**286**	P		**P**	**00 49 15.5**	**-1.7**
	2.3nm,0.3s,baz=107,slow=14,SNR=2.4							
MTN	**Manton Dam**	**26.22**	**167**	P		**P**	**00 49 20.3**	**-0.8**
MTN				IAmb		IAmb	00 49 31.3	
	comp=Z,3.7nm,0.8s							
KNRA	**Kununurra**	**28.57**	**173**	P		**P**	**00 49 41.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.75**	**179**	P		**P**	**00 50 00.2**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=4.9,slow=11,SNR=1.5							
FITZ	**Fitzroy Crossi**	**30.75**	**179**	P		**P**	**00 50 00.7**	**-0.9**
WB0	**Warramunga Arr**	**33.68**	**164**	P		**P**	**00 50 26.1**	**-1.1**
WRA	**Warramunga Arr**	**33.83**	**164**	P		**P**	**00 50 26.1**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=343,slow=9.3,SNR=5.7							
WRA	**Warramunga Arr**	**33.83**	**164**	P		**P**	**00 50 27.4**	**-1.3**
WB2	**Warramunga Arr**	**33.83**	**164**	P		**P**	**00 50 27.5**	**-1.1**
WB2				IAmb		IAmb	00 50 34.6	
	comp=Z,2.5nm,0.9s							
WR0	**Warramunga Arr**	**33.90**	**164**	P		**P**	**00 50 28.7**	**-0.6**
WR0				IAmb		IAmb	00 50 33.4	
	comp=Z,2.9nm,1.1s							
ASAR	**Alice Springs**	**37.30**	**167**	P		**P**	**00 50 57.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=341,slow=6.9,SNR=19							
SONM	**Songino Array**	**38.22**	**340**	P		**P**	**00 51 06.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=153,slow=8.5,SNR=2.7							
H11S3	**WAKE ISLAND Hy**	**40.38**	**77**	T		T	01 34 35.6	
	baz=268,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy**	**40.40**	**77**	T		T	01 34 32.6	
	baz=268,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**40.40**	**77**	T		T	01 34 30.5	
	baz=268,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**40.63**	**75**	T		T	01 34 45.4	
	baz=266,slow=75,SNR=54							
H11N2	**WAKE ISLAND Hy**	**40.63**	**75**	T		T	01 34 45.0	
	baz=266,slow=75,SNR=41							
H11N3	**WAKE ISLAND Hy**	**40.65**	**75**	T		T	01 34 51.0	
	baz=266,slow=75,SNR=54							
STKA	**Stephens Creek**	**47.20**	**161**	P		**P**	**00 52 22.2**	**+3.2**
	comp=Z,0.9nm,0.4s,baz=340,slow=16,SNR=4.2							
STKA				LR		LR	01 16 57.4	
	comp=Z,60nm,18.1s,baz=199,slow=42							
MKAR	**Makanchi Array**	**49.29**	**322**	P		**P**	**00 52 36.5**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=122,slow=9.1,SNR=3.1							
ZALV	**Zalesovo Beam**	**51.83**	**331**	P		**P**	**00 52 53.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=93,slow=9.1,SNR=2.5							
KURK	**Kurchatov**	**53.30**	**325**	P		**P**	**00 53 05.0**	**0.0**
KURK				IAmb		IAmb	00 53 07.3	
	comp=Z,2.1nm,0.8s							
KURBB	**Kurchatov Arra**	**53.31**	**325**	P		**P**	**00 53 04.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.2,SNR=4.4							

*IDC **26** 00:54:08.6±1.7, 10°.21S×118°.01E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.5/36, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=53.0km s-min=20.8km az=52.0*
*DJA **26** 00:54:18.3±0.9, 10°.S±4°×11°.8E±°, h27km±9km, M4.1/14, mb4.2/4, mB5.1/1, MLv4.1/14, Mw(mB)4.4/1*
ISC 26 00:54:14.2±0.8, 10°.21S±0°.06×118°.41E±0°.05, h37km, n21, σ2s92/28, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.50**	**335**	P		**Pn**	**00 54 39.0**	**+0.4**
PLAI				S		**Sn**	**00 54 54.8**	**-2.2**
BASI	**Baing, Sumba**	**2.13**	**91**	P		Pn	00 54 55.6	+8.4
IGBI	**Denpasar**	**3.50**	**293**	P		**Pn**	**00 55 06.6**	**+0.5**
DNP	**Denpasar**	**3.50**	**295**	P		**Pn**	**00 55 09.5**	**+3.4**
DNP				S		**Sn**	**00 55 48.3**	**+2.0**
SRBI	**Singaraja**	**3.79**	**303**	P		**Pn**	**00 55 12.5**	**+2.4**
MMRI	**Maumere**	**4.09**	**68**	P		Pn	00 55 19.7	+5.6
BSSI	**Bau Bau, Buton**	**4.53**	**27**	P		**Pn**	**00 55 23.2**	**+3.0**
BSSI				S		**Sn**	**00 56 12.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.54**	**292**	P		**Pn**	**00 55 23.5**	**+3.1**
JAGI				S		**Sn**	**00 56 11.1**	**-0.9**
ABJI	**Asem Bagus**	**4.77**	**300**	P		**Pn**	**00 55 22.1**	**-1.4**
ABJI				S		**Sn**	**00 56 18.8**	**+1.3**
BKSI	**Bulukumba**	**5.14**	**19**	P		**Pn**	**00 55 31.3**	**+2.7**
BATI	**Baumata**	**5.17**	**90**	Pn		**Pn**	**00 55 31.6**	**+2.5**
	3.6nm,0.3s,baz=263,slow=4.3,SNR=1.6							
BATI				Sn		**Sn**	**00 56 31.2**	**+3.7**
	9.5nm,0.3s,baz=231,slow=20,SNR=2.5							
BATI	**Baumata**	**5.17**	**90**	P		**Pn**	**00 55 33.8**	**+4.7**
GMJI	**Gumukmas**	**5.26**	**291**	P		**Pn**	**00 55 32.7**	**+2.4**
	0.2nm2μm28nm,1.0s							
KAPI	**Kappang**	**5.33**	**15**	Pn		**Pn**	**00 55 32.9**	**+1.7**
	1.8nm,0.3s,baz=232,slow=12,SNR=7.2							
KAPI				Sn		**Sn**	**00 56 30.8**	**-0.5**
	4.6nm,0.3s,baz=252,slow=20,SNR=3.5							
BLJI	**Banyuglugur**	**5.35**	**297**	P		**Pn**	**00 55 33.4**	**+2.0**
	0.2nm17nm,0.5s							
KMMI	**Kalianget**	**5.40**	**305**	P		**Pn**	**00 55 30.5**	**-1.6**
	0.1nm15nm,0.8s							
FITZ	**Fitzroy Crossi**	**10.52**	**139**	Pn		**Pn**	**00 56 44.3**	**+1.9**
	0.9nm,0.3s,baz=317,slow=13,SNR=38							
FITZ				Sn		**Sn**	**00 58 35.8**	**-3.3**
	0.4nm,0.3s,baz=229,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**18.16**	**124**	P		**P**	**00 58 24.6**	**+1.1**
	0.2nm,0.3s,baz=298,slow=13,SNR=7.0							
WRA				S		**Sn**	**01 01 36.5**	**-8.8**
	0.1nm,0.3s,baz=292,slow=24,SNR=3.0							
ASAR	**Alice Springs**	**19.94**	**134**	P		Pn	00 58 47.0	+2.0
	0.9nm,0.4s,baz=319,slow=11,SNR=13							
ASAR				S		**S**	**01 02 24.3**	**-1.4**
	0.3nm,0.8s,baz=317,slow=29,SNR=1.8							
SONM	**Songino Array**	**58.76**	**351**	P		**P**	**01 04 08.4**	**-0.2**
	0.2nm,0.5s,baz=159,slow=8.4,SNR=3.6							
MKAR	**Makanchi Array**	**65.26**	**334**	P		**P**	**01 04 50.4**	**-1.7**
	0.4nm,0.6s,baz=142,slow=7.7,SNR=6.8							

*IDC **26** 01:03:32.5±3.5, 11°.18S×112°.89E, h0km, mb3.2/4, mb1 3.5/5, mb1mx3.1/41, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=151.9km s-min=24.0km az=47.0*
*DJA **26** 01:03:34.2±0.6, 11°.S±4°×11°.3E±°, h10km, M4.0/12, mb4.2/4, MLv4.0/12*
ISC 26 01:03:35.0±1.0, 11°.41S±0°.08×112°.53E±0°.06, h35km, n19, σ1s22/29, mb3.3/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.24**	**16**	P		**Pn**	**01 04 24.1**	**+0.6**
GMJI				S		**Sn**	**01 05 00.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.33**	**29**	P		**Pn**	**01 04 25.5**	**+0.8**
JAGI				S		**Sn**	**01 05 02.8**	**-0.2**
PWJI	**Pagerwojo**	**3.44**	**348**	P		**Pn**	**01 04 25.9**	**-0.2**
PWJI				S		**Sn**	**01 05 05.1**	**-0.6**
PCJI	**Pacitan**	**3.46**	**337**	P		**Pn**	**01 04 25.8**	**-0.6**
PCJI				S		**Sn**	**01 05 04.4**	**-1.8**
BLJI	**Banyuglugur**	**3.79**	**16**	P		**Pn**	**01 04 28.2**	**-2.8**
BLJI				S		**Sn**	**01 05 14.1**	**-0.2**
ABJI	**Asem Bagus**	**3.96**	**25**	P		**Pn**	**01 04 32.0**	**-1.4**
ABJI				S		**Sn**	**01 05 18.8**	**+0.1**
UGM	**Wanagama**	**4.00**	**330**	P		**Pn**	**01 04 33.5**	**-0.3**
UGM				S		**Sn**	**01 05 18.5**	**-1.0**
YOGI	**Yogyakarta**	**4.19**	**328**	P		**Pn**	**01 04 35.8**	**-0.7**
SRBI	**Singaraja**	**4.23**	**39**	P		**Pn**	**01 04 36.6**	**-0.5**
SRBI				S		**Sn**	**01 05 25.7**	**+0.4**
GRJI	**Gresik**	**4.47**	**359**	S		**Sn**	**01 05 29.5**	**-1.5**
KMMI	**Kalianget**	**4.56**	**18**	P		**Pn**	**01 04 40.4**	**-1.1**
KMMI				S		**Sn**	**01 05 32.7**	**-0.6**
KPJI	**Karang Pucung**	**5.38**	**318**	P		**Pn**	**01 04 53.0**	**+0.1**
	0.1nm15nm,0.5s							
CMJI	**Cimerak**	**5.40**	**311**	P		**Pn**	**01 04 52.7**	**-0.4**
	0.1nm16nm,0.6s							
PLAI	**Plampang**	**5.77**	**64**	P		**Pn**	**01 04 59.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**14.31**	**119**	Pn		**Pn**	**01 06 52.6**	**-2.7**
	0.1nm,0.3s,baz=295,slow=9.9,SNR=1.5							
FITZ				Sn		Sn	01 09 16.2	-17
	0.1nm,0.3s,baz=269,slow=7.6,SNR=1.4							
WRA	**Warramunga Arr**	**22.63**	**115**	P		**P**	**01 08 33.3**	**+0.1**
	0.5nm,0.7s,baz=290,slow=11,SNR=2.6							
WRA				S		**S**	**01 12 38.7**	**-0.3**
	0.1nm,0.6s,baz=289,slow=26,SNR=1.6							
ASAR	**Alice Springs**	**23.71**	**124**	P		**P**	**01 08 44.4**	**+0.5**
	0.4nm,0.7s,baz=306,slow=8.6,SNR=5.3							
SONM	**Songino Array**	**59.23**	**355**	P		**P**	**01 13 34.7**	**+1.9**
	0.3nm,0.6s,baz=177,slow=6.4,SNR=2.5							
MKAR	**Makanchi Array**	**63.95**	**337**	P		**P**	**01 14 06.7**	**+2.1**
	0.4nm,0.6s,baz=143,slow=7.7,SNR=4.0							

*KRNET **26** 01:08:21.0±0.1, 42°.30N×73°.07E, h23km, mb2.6*

*NNC **26** 01:08:22.6±1.0, 42°.28N×73°.13E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=8.3km s-min=5.4km az=179.0*
*SOME **26** 01:08:22.9, 42°.32N×73°.12E, h15km*
ISC 26 01:08:20.9±1.1, 42°.32N±0°.03×73°.11E±0°.02, h4km±10km, n52, σ1s10/84, 25C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.43**	**12**	⇓*eP*		**Pn**	**01 08 33.1**	**-1.0**
	51nm,0.1s							
MRKS				*eS*		**Sb**	**01 08 39.3**	**+1.1**
	168nm,0.2s							
MRKS	**Merke**	**0.43**	**12**	P		**Pn**	**01 08 33.1**	**-1.0**
	51nm,0.1s							
MRKS				S		**Sb**	**01 08 39.3**	**+1.1**
	168nm,0.2s							
EKS2	**Erkin-Say**	**0.60**	**55**	⇓*iP*		**Pg**	**01 08 33.2**	**+0.7**
	baz=55							
EKS2				⇓*iS*		**Sb**	**01 08 42.2**	**-0.8**
	baz=55							
ARK	**Arkit**	**1.00**	**239**	⇑*iP*		**Pg**	**01 08 39.0**	**-1.0**
	baz=39							
ARK				⇑*iS*		**Sg**	**01 08 52.1**	**-0.9**
	baz=39							
ARLS	**Aral**	**1.01**	**116**	⇓*iP*		**Pg**	**01 08 40.3**	**0.0**
	baz=15							
ARLS				⇓*iS*		**Sg**	**01 08 54.3**	**+0.8**
	baz=15							
UCH	**Uchtor**	**1.05**	**95**	⇑*iP*		**Pg**	**01 08 41.1**	**+0.1**
	baz=93							
UCH				⇑*iS*		**Sg**	**01 08 55.8**	**+1.2**
	baz=93							
AAK	**Ala-Archa**	**1.07**	**72**	⇑*iP*		**Pg**	**01 08 41.6**	**+0.1**
	baz=72							
AAK				⇑*iS*		**Sb**	**01 08 56.4**	**-0.2**
	baz=72							
AAK	**Ala-Archa**	**1.07**	**72**	⇑P		**Pg**	**01 08 42.2**	**+0.7**
	1.4nm,0.3s							
AAK				S		**Sb**	**01 08 57.0**	**+0.3**
	5.3nm,0.3s							
FRU1	**Bishkek**	**1.23**	**66**	⇑*iP*		**Pb**	**01 08 44.3**	**-0.4**
	baz=65							
FRU1				⇑*iS*		**Sb**	**01 09 01.1**	**+0.1**
	baz=65							
USP	**Ospenovka**	**1.40**	**47**	⇑*iP*		**Pn**	**01 08 47.1**	**-0.1**
	baz=47							
USP				⇑*iS*		**Sg**	**01 09 06.2**	**+0.5**
	baz=47							
KBK	**Karagaybulak**	**1.40**	**76**	⇑*iP*		**Pn**	**01 08 47.3**	**-0.1**
	baz=75							
KBK				⇑*iS*		**Sg**	**01 09 06.7**	**+0.7**
	baz=75							
SGDS	**Sogindy**	**1.59**	**44**	*eP*		**Pg**	**01 08 53.5**	**+2.1**
	8.8nm,0.2s							
SGDS				*eS*		**Sg**	**01 09 14.0**	**+2.0**
	65nm,0.1s							
SGDS	**Sogindy**	**1.59**	**44**	P		**Pg**	**01 08 53.5**	**+2.1**
	8.8nm,0.2s							
SGDS				S		**Sg**	**01 09 14.0**	**+2.0**
	65nm,0.1s							
TRKS	**Terek-Say**	**1.67**	**242**	⇑*iP*		**Pn**	**01 08 51.0**	**0.0**
	baz=40							
TRKS				⇑*iS*		**Sn**	**01 09 12.7**	**-0.3**
	baz=40							
OHH	**Osh**	**1.81**	**188**	⇑*iP*		**Pn**	**01 08 53.5**	**+0.6**
	baz=87							
OHH				⇑*iS*		**Sn**	**01 09 16.1**	**-0.3**
	baz=87							
TKM2	**Tokmak 2**	**1.93**	**71**	⇓*iP*		**Pn**	**01 08 55.7**	**+0.9**
	baz=71							
TKM2				⇓*iS*		**Sb**	**01 09 20.8**	**-0.6**
	baz=71							
TKM2	**Tokmak 2**	**1.93**	**71**	⇑Pg		**Pb**	**01 08 57.8**	**+0.9**
	2.1nm,0.3s							
TKM2				⇑Lg		Lg	01 09 23.7	
	4.0nm,0.2s							
KK08	**Karatay Array**	**2.08**	**293**	⇑Pg		**Pb**	**01 08 59.2**	**-0.1**
	1.6nm,0.3s,baz=114,slow=14							
KK08				⇑Lg		Lg	01 09 27.6	
	3.7nm,0.3s,baz=119,slow=24							
BOOM	**Boomskoye usch**	**2.10**	**84**	⇑*iP*		**Pn**	**01 08 57.8**	**+0.7**
	baz=84							
BOOM				⇑*iS*		**Sn**	**01 09 24.9**	**+1.1**
	baz=84							
DGS	**Degeres**	**2.17**	**64**	*eP*		**Pg**	**01 09 03.5**	**+1.1**
	11nm,0.7s							
DGS				*eS*		**Sg**	**01 09 31.1**	**+0.5**
	35nm,0.3s							
DGS	**Degeres**	**2.17**	**64**	Pg		**Pg**	**01 09 03.5**	**+1.1**
	11nm,0.7s							
DGS				Lg		Lg	01 09 31.1	
	35nm,0.3s							
IUG	**Iuzhnay**	**2.29**	**267**	*eP*		**Pg**	**01 09 05.8**	**+1.0**
	166nm,0.4s							
IUG				*eS*		**Sg**	**01 09 35.5**	**+1.0**
	44nm,0.3s							
IUG	**Iuzhnay**	**2.29**	**267**	Pg		**Pg**	**01 09 05.8**	**+1.0**
	166nm,0.4s							
IUG				Lg		Lg	01 09 35.5	
	44nm,0.3s							
ULHL	**Ulahol**	**2.33**	**91**	⇓*iP*		**Pn**	**01 09 00.9**	**+0.7**
	baz=90							
ULHL				⇓*iS*		**Sn**	**01 09 29.9**	**+0.5**
	baz=90							
KRBS	**Karabastau**	**2.33**	**53**	*eP*		**Pg**	**01 09 06.0**	**+0.4**
	6.8nm,0.3s							
KRBS				*eS*		**Sg**	**01 09 35.5**	**-0.4**
	70nm,0.3s							
KRBS	**Karabastau**	**2.33**	**53**	Pg		**Pg**	**01 09 06.0**	**+0.4**
	6.8nm,0.3s							
KRBS				Lg		Lg	01 09 35.5	
	70nm,0.3s							
MTBS	**Maitube**	**2.58**	**71**	*eP*		**Pg**	**01 09 11.0**	**+0.7**
	2.8nm,0.3s							
MTBS				*eS*		**Sg**	**01 09 44.0**	**+0.3**
	18nm,0.5s							
MTBS	**Maitube**	**2.58**	**71**	Pg		**Pg**	**01 09 11.0**	**+0.7**
	2.8nm,0.3s							
MTBS				Lg		Lg	01 09 44.0	
	18nm,0.5s							
IZV	**Izvestkoviy**	**2.68**	**73**	*eP*		**Pg**	**01 09 13.0**	**+0.7**
	3.8nm,0.2s							
IZV				*eS*		**Sg**	**01 09 47.5**	**+0.5**
	18nm,0.4s							
IZV	**Izvestkoviy**	**2.68**	**73**	Pg		**Pg**	**01 09 13.0**	**+0.7**
	3.8nm,0.2s							
IZV				Lg		Lg	01 09 47.5	
	18nm,0.4s							
BTLS	**Baital**	**2.81**	**14**	*eP*		**Pb**	**01 09 11.5**	**-0.1**
	2.2nm,0.3s							
BTLS				*eS*		**Sb**	**01 09 45.0**	**-1.3**
	12nm,0.2s							
BTLS	**Baital**	**2.81**	**14**	Pg		**Pb**	**01 09 11.3**	**-0.3**
	2.2nm,0.3s							
BTLS				Lg		Lg	01 09 44.7	
	12nm,0.2s							
KUU	**Kurty**	**2.84**	**55**	*eP*		**Pg**	**01 09 14.7**	**-0.6**
	1.7nm,0.2s							
KUU				*eS*		**Sg**	**01 09 50.4**	**-1.8**
	11nm,0.2s							
KUU	**Kurty**	**2.84**	**55**	Pg		**Pg**	**01 09 14.7**	**-0.6**
	1.7nm,0.2s							
KUU				Lg		Lg	01 09 50.4	
	11nm,0.2s							
TNSS	**Tian-Shan**	**2.92**	**75**	*eP*		**Pg**	**01 09 16.9**	**0.0**
	2.1nm,0.3s							
TNSS				*eS*		**Sg**	**01 09 54.1**	**-0.6**
	5.4nm,0.5s							
TNSS	**Tian-Shan**	**2.92**	**75**	Pg		**Pg**	**01 09 16.9**	**0.0**
	2.1nm,0.3s							
TNSS				Lg		Lg	01 09 54.1	
	5.4nm,0.5s							
KTBS	**Karatobe**	**2.97**	**61**	*eP*		**Pg**	**01 09 17.1**	**-0.7**
	1.6nm,0.3s							
KTBS				*eS*		**Sg**	**01 09 54.4**	**-1.8**
	22nm,0.8s							
KTBS	**Karatobe**	**2.97**	**61**	Pg		**Pg**	**01 09 17.1**	**-0.7**
	1.6nm,0.3s							
KTBS				Lg		Lg	01 09 54.4	
	22nm,0.8s							
MDOK	**Medeo**	**3.02**	**72**	*eP*		**Pg**	**01 09 18.4**	**-0.4**
	2.2nm,0.2s							
MDOK				*eS*		**Sg**	**01 09 56.8**	**-1.2**
	8.1nm,0.5s							
MDOK	**Medeo**	**3.02**	**72**	Pg		**Pg**	**01 09 20.4**	**+1.6**
	2.3nm,0.6s							
MDOK				Lg		Lg	01 09 57.1	
	4.6nm,0.5s							
MDOK	**Medeo**	**3.02**	**72**	Pg		**Pg**	**01 09 18.4**	**-0.4**
	2.2nm,0.2s							
MDOK				Lg		Lg	01 09 56.8	
	8.1nm,0.5s							
KDJ	**Kajisay**	**3.03**	**92**	⇑*iP*		**Pn**	**01 09 10.7**	**+0.9**
	baz=92							
KDJ				⇑*iS*		**Sn**	**01 09 47.4**	**+0.7**
	baz=92							
KOTS	**Kotyrbulak**	**3.09**	**71**	*eP*		**Pg**	**01 09 19.9**	**-0.1**
	2.7nm,0.5s							
KOTS				*eS*		**Sg**	**01 09 59.3**	**-0.7**
	11nm,0.5s							
KOTS	**Kotyrbulak**	**3.09**	**71**	Pg		**Pg**	**01 09 19.9**	**-0.1**
	2.7nm,0.5s							
KOTS				Lg		Lg	01 09 59.3	
	11nm,0.5s							
CHKK	**Chushkaly**	**3.23**	**60**	*eP*		**Pg**	**01 09 21.2**	**-1.6**
	0.6nm,0.1s							
CHKK				*eS*		**Sg**	**01 10 01.5**	**-3.2**
	7.3nm,0.2s							
CHKK	**Chushkaly**	**3.23**	**60**	Pg		**Pg**	**01 09 21.2**	**-1.6**
	0.6nm,0.1s							
CHKK				Lg		Lg	01 10 01.5	
	7.3nm,0.2s							
SATY	**Saty**	**3.98**	**78**	*eP*		**Pg**	**01 09 36.6**	**-0.5**
	0.9nm,0.2s							
SATY				*eS*		**Sg**	**01 10 27.9**	**-0.7**
	3.4nm,0.2s							
SATY	**Saty**	**3.98**	**78**	Pg		**Pg**	**01 09 36.6**	**-0.5**
	0.9nm,0.2s							
SATY				Lg		Lg	01 10 27.9	
	3.4nm,0.2s							
BLB	**Baldybastay**	**4.31**	**64**	*eP*		**Pg**	**01 09 41.3**	**-2.1**
	10nm,0.5s							
BLB				*eS*		**Sg**	**01 10 36.2**	**-3.1**
	5.8nm,0.3s							
BLB	**Baldybastay**	**4.31**	**64**	Pg		**Pg**	**01 09 41.3**	**-2.1**
	10nm,0.5s							
BLB				Lg		Lg	01 10 36.2	
	5.8nm,0.3s							
PDGK	**Podgornoye**	**4.80**	**76**	Pg		**Pg**	**01 09 50.8**	**-2.1**
	0.6nm,0.3s							
PDGK				Lg		Lg	01 10 53.1	
	1.0nm,0.5s							
MK31	**Makanchi Array**	**7.94**	**53**	⇓Lg		Lg	01 12 30.9	
	0.5nm,0.6s							

*IDC **26** 01:08:36.3±0.7, 2°.49S×68°.17E, h0km, mb3.9/17, mb1 4.0/18, mb1mx3.9/45, mbtmp3.9/18, ML3.9/1, MS4.0/68, Ms1 4.0/68, ms1mx3.9/83, Error ellipse: s-maj=20.2km s-min=17.6km az=155.0*
*NEIC **26** 01:08:38.4±2.5, 2°.6S±0°.1×68°.00E±0°.10, h10km±1km, mb4.2/21, Error ellipse: s-maj=24.2km s-min=15.4km az=159.0*
*GCMT **26** 01:08:39.4±0.2, 2°.80S±0°.02×68°.02E±0°.02, h12km, MW4.9/105, Moment Tensor Solution. s35,c41; s105,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.67±.06; Mθθ1.40±.06; Mϕϕ1.27±.06; Mrθ0.49±.24; Mθϕ-1.48±.05; Mϕr-0.38±.23; Best double couple: M₀2.81200×10^16 NP1:ϕs135.00000°, δ39.00000°, λ-88.00000°. NP2:ϕs312.00000°, δ51.00000°, λ-92.00000°. Principal axes: T 2.8840, Plg6.0000°, Azm44.0000°; N -0.1450, Plg1.0000°, Azm313.0000°; P -2.7400, Plg84.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 01:08:38.2±0.7, 2°.5S±0°.1×68°.10E±0°.09, h11km, n99, σ1s02/44, mb4.1/25, MS4.0/67, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**5.74**	**59**	Pn		**Pn**	**01 10 02.8**	**-0.6**
MSEY	**Mahe Island**	**12.78**	**260**	Pn		Pn	01 11 35.2	-4.9
PALK	**Pallekele**	**15.90**	**52**	Pn		**Pn**	**01 12 22.7**	**+0.5**
	0.5nm,0.3s,baz=291,slow=22,SNR=1.6							
PALK				LR		LR	01 17 13.6	
	comp=Z,1μm,20.6s,baz=330,slow=33							
OPO	**Ambohidratompo**	**25.96**	**231**	LR		LR	01 22 06.7	
	comp=Z,572nm,18.6s,baz=194,slow=31							
WSAR	**Wadi Sarin**		**27.23 341**	LR		LR	01 23 07.1	
	comp=Z,272nm,20.4s,baz=169,slow=32							
ATD	**Arta Tunnel**	**28.74**	**300**	LR		LR	01 25 03.0	
	comp=Z,55nm,18.8s,baz=97,slow=34							
KMBO	**Kilima Mbogo**	**30.87**	**272**	LR		LR	01 24 38.9	
	comp=Z,240nm,21.9s,baz=95,slow=31							
PSI	**Prapat**	**31.26**	**80**	LR		LR	01 25 20.1	
	comp=Z,696nm,21.5s,baz=270,slow=32							
SHL	**Shillong**	**36.20**	**38**	P		**P**	**01 15 42.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**36.83**	**54**	P		**P**	**01 15 46.0**	**-0.7**
	0.7nm,0.3s,baz=242,slow=10.0,SNR=7.4							
CMAR				LR		LR	01 29 04.6	
	comp=Z,273nm,21.8s,baz=245,slow=33							
KBL	**Kabul**	**36.88**	**1**	P		**P**	**01 15 47.4**	**+0.2**
KBL				IAmb		IAmb	01 16 02.5	
	comp=Z,5.6nm,1.3s							
CHTO	**Chiang Mai**	**37.02**	**54**	P		**P**	**01 15 49.5**	**+1.2**
CHTO				IAmb		IAmb	01 15 51.6	
	comp=Z,4.0nm,0.8s							
HRA	**Herat**	**37.13**	**352**	P		**P**	**01 15 50.9**	**+1.6**
MBAR	**Mbarara**	**37.40**	**272**	LR		LR	01 29 52.1	
	comp

comp=Z,72nm,18.3s,baz=162,slow=36
KURBB **Kurchatov Arra 53.70 8** LR LR 01 39 41.3
comp=Z,136nm,21.9s,baz=178,slow=35
KURK **Kurchatov 53.80 8** P **P** **01 18 02.3 +1.5**
KURK IAmb IAmb 01 18 07.0
comp=Z,5.3nm,1.1s
BATI **Baumata 55.67 101** LR LR 01 41 17.9
comp=Z,155nm,20.9s,baz=274,slow=35
ZAA0 **Zalesovo Array 57.98 12** P **P** **01 18 30.4 -0.3**
ZAA0 IAmb IAmb 01 18 36.4
comp=Z,2.3nm,1.0s
ZALV **Zalesovo Beam 57.98 12** P **P** **01 18 30.2 -0.5**
comp=Z,1.2nm,0.7s,baz=208,slow=6.0,SNR=5.5
ZALV LR LR 01 42 53.0
comp=Z,140nm,20.8s,baz=198,slow=36
DAV **Davao City (W) 58.15 80** LR LR 01 46 00.9
comp=Z,79nm,18.6s,baz=340,slow=39
FITZ **Fitzroy Crossi 58.43 110** LR LR 01 40 05.0
comp=Z,52nm,20.0s,baz=290,slow=32
ARU **Arti 59.28 354** LR LR 01 45 00.9
comp=Z,72nm,18.0s,baz=150,slow=37
SONM **Songino Array 60.27 29** P **P** **01 18 47.3 +0.4**
SONM LR LR 01 44 43.3
comp=Z,526nm,21.1s,baz=221,slow=36
SONM **Songino Array 60.27 29** IAmb IAmb 01 18 54.2
comp=Z,2.5nm,1.0s
MLR **Muntele Rosu 60.67 327** LR LR 01 45 21.7
comp=Z,112nm,18.1s,baz=138,slow=36
AKASG **Malin Array Be 62.56 333** P **P** **01 19 01.6 -0.6**
comp=Z,0.1nm,0.3s,baz=136,slow=5.5,SNR=1.8
KIRV **Kirov 62.72 349** LR LR 01 48 17.2
comp=Z,63nm,18.1s,baz=160,slow=38
JOW **Kunigami 64.89 59** LR LR 01 49 27.4
comp=Z,82nm,18.0s,baz=334,slow=38
MAW **Mawson 65.06 182** LR LR 01 40 16.9
comp=Z,231nm,21.8s,baz=356,slow=29
WRA **Warramunga Arr 66.82 111** P **P** **01 19 28.9 -1.7**
comp=Z,1.9nm,0.8s,baz=285,slow=6.0,SNR=9.7
WRA LR LR 01 44 46.6
comp=Z,81nm,21.6s,baz=74,slow=32
WB2 **Warramunga Arr 66.83 111** P **P** **01 19 29.4 -1.3**
WB0 **Warramunga Arr 66.85 110** P **P** **01 19 30.6 -0.2**
ASAR **Alice Springs 66.86 115** P **P** **01 19 30.6 -0.3**
comp=Z,1.1nm,0.8s,baz=270,slow=5.8,SNR=5.2
ASAR LR LR 01 45 47.0
comp=Z,66nm,20.0s,baz=315,slow=33
AS31 **Alice Springs 66.86 115** P **P** **01 19 30.1 -0.8**
AS31 IAmb IAmb 01 19 45.7
comp=Z,1.2nm,0.8s
VRAC **Vranov 68.05 326** LR LR 01 50 43.7
comp=Z,70nm,18.5s,baz=330,slow=37
KSRS **Korea Array 68.09 48** P **P** **01 19 38.7 +0.4**
comp=Z,0.5nm,0.3s,baz=213,slow=8.7,SNR=1.4
KSRS LR LR 01 50 34.2
comp=Z,111nm,19.8s,baz=265,slow=37
JNU **Nakatsue 68.92 53** LR LR 01 51 46.3
comp=Z,130nm,18.0s,baz=164,slow=38
GEC2 **GERESS Array S 69.44 325** P **P** **01 19 46.8 +0.2**
DAVOX **Davos/Dischmat 70.75 322** LR LR 01 52 52.2
comp=Z,82nm,18.1s,baz=92,slow=38
FINES **FINESS Array B 71.45 340** LR LR 01 52 09.4
comp=Z,51nm,21.3s,baz=122,slow=37
USRK **Ussuriysk Ar. 73.39 42** LR LR 01 55 45.5
comp=Z,85nm,19.3s,baz=240,slow=39
DBIC **Dimbokro 73.40 278** LR LR 01 51 40.6
comp=Z,85nm,19.8s,baz=117,slow=35
STKA **Stephens Creek 74.66 122** LR LR 01 50 09.7
comp=Z,72nm,19.7s,baz=206,slow=33
KLR **Kul'dur 75.07 37** LR LR 01 55 39.4
comp=Z,167nm,19.1s,baz=232,slow=38
MJAR **Matsushiro Arr 75.65 51** LR LR 01 55 17.9
comp=Z,116nm,18.4s,baz=246,slow=37
JHJ **Hachijo jima 2 76.13 55** LR LR 01 56 21.3
comp=Z,42nm,18.2s,baz=284,slow=38
NOA **NORSAR Array B 76.86 335** P **P** **01 20 29.7 -0.5**
comp=Z,0.5nm,0.9s,baz=103,slow=9.4,SNR=1.1
NOA LR LR 01 56 37.6
comp=Z,40nm,18.5s,baz=115,slow=38
MDT **Midelt 76.92 304** LR LR 01 55 40.2
comp=Z,47nm,18.6s,baz=126,slow=37
JCJ **Chichijima 77.03 62** LR LR 01 54 28.9
comp=Z,39nm,18.4s,baz=211,slow=36
ARCES **ARCESS Array B 77.33 346** LR LR 01 54 30.5
comp=Z,113nm,21.8s,baz=126,slow=36
GUMO **Guam 77.75 76** LR LR 01 51 34.0
comp=Z,24nm,21.6s,baz=96,slow=33
ESDC **Sonseca Array 77.90 311** P **P** **01 20 35.6 -0.9**
comp=Z,1.1nm,1.0s,baz=84,slow=4.1,SNR=9.3
ESDC LR LR 01 53 04.7
comp=Z,32nm,20.2s,baz=44,slow=34
ESDC **Sonseca Array 77.90 311** IAmb IAmb 01 20 38.3
comp=Z,4.5nm,1.4s
CTA **Charters Tower 78.01 110** LR LR 01 50 54.2
comp=Z,46nm,19.8s,baz=263,slow=33
YAK **Yakutsk 79.31 25** LR LR 01 56 41.8
comp=Z,240nm,21.4s,baz=268,slow=36
ASAJ **Asahikawa 80.68 45** LR LR 01 58 06.1
comp=Z,53nm,19.3s,baz=12,slow=37
SNAA **Sanae 81.67 198** LR LR 01 48 42.4
comp=Z,194nm,20.3s,baz=44,slow=29
TIXI **Tiksi 83.50 176** LR LR 01 59 30.4
comp=Z,179nm,19.5s,baz=188,slow=37
TIXI **Tiksi 83.51 16** P **P** **01 21 05.2 -0.6**
SPITS **Spitsbergen Ar 85.14 351** LR LR 02 02 28.8
comp=Z,36nm,20.1s,baz=110,slow=38
QSPA **South Pole Qui 87.47 180** LR LR 01 54 13.7
comp=Z,173nm,19.8s,baz=258,slow=31
VNDA **Vanda 88.36 167** LR LR 01 55 45.5
comp=Z,167nm,18.5s,baz=252,slow=32
MA2 **Magadan 88.44 30** LR LR 02 02 37.4
comp=Z,195nm,19.4s,baz=278,slow=37
SEY **Seymchan 89.62 27** LR LR 02 03 10.9
comp=Z,270nm,21.7s,baz=326,slow=37
PETK **Petropavlovsk- 91.76 37** LR LR 02 05 53.1
comp=Z,71nm,18.6s,baz=272,slow=38
BORG **Borgarnes 92.03 335** LR LR 02 03 31.0
comp=Z,87nm,19.4s,baz=58,slow=36
DZM **Mont Dzumac 96.78 112** LR LR 02 00 49.1
comp=Z,48nm,21.7s,baz=190,slow=32
YKA **Yellowknife Ar 120.14 1** PKP **PKPdf** **01 27 27.2 -1.8**
comp=Z,0.2nm,0.8s,baz=349,slow=1.7,SNR=2.5
PDAR **Pinedale Array 139.88 357** PKP **PKPdf** **01 28 07.0 -0.3**
comp=Z,0.1nm,0.3s,baz=87,slow=1.9,SNR=2.0
NVAR **Mina Array Bea 143.79 9** PKP **PKPdf** **01 28 15.7 +1.3**
comp=Z,0.1nm,0.3s,baz=28,slow=2.1,SNR=2.0
SZCU **Shurtz Canyon 145.09 2** PKPbc **PKPbc** **01 28 16.3 +0.3**
CCUT **Cedar City 145.12 2** PKPbc **PKPbc** **01 28 17.2 +1.1**
LCMT **Little Creek M 145.66 2** **PKPdf** **01 28 18.4 +0.9**
TXAR **Lajitas Array 152.22 344** PKPbc **PKPbc** **01 28 34.7 -0.2**
comp=Z,0.4nm,0.8s,baz=112,slow=2.0,SNR=3.8
TXAR **Lajitas Array 152.22 344** **PKPbc** **01 28 33.2 -1.8**

IDC 26 01:19:00.1±1.4, 20°84.N×146°13.E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.4/27, mbtmp3.3/6, Error ellipse: s-maj=56.6km s-min=26.3km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.75**	**320**	P		01 26 51.8	+0.6
	0.1nm,0.3s,baz=131,slow=8.2,SNR=1.5						
WRA	**Warramunga Arr**	**42.14**	**197**	P		01 26 54.1	-0.3
	0.4nm,0.7s,baz=17,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**45.81**	**196**	P		01 27 24.1	+0.2
	0.1nm,0.5s,baz=13,slow=6.4,SNR=1.8						
MKAR	**Makanchi Array**	**57.29**	**313**	P		01 28 49.5	-0.2
	0.1nm,0.4s,baz=89,slow=7.3,SNR=5.2						
YKA	**Yellowknife Ar**	**75.92**	**28**	P		01 30 48.7	+0.3
	0.1nm,0.5s,baz=291,slow=5.1,SNR=2.1						
FINES	**FINESS Array B**	**85.12**	**335**	P		01 31 37.0	-0.8
	1.8nm,1.0s,baz=66,slow=4.6,SNR=3.4						

*IDC **26** 01:40:41.5±1.0, 39°.78N×19°.58E, h0km, mb3.6/9, mb1 3.6/18, mb1mx3.5/43, mbtmp3.5/18, ML3.5/8, MS3.4/3, Ms1 3.4/3, ms1mx2.6/81, Error ellipse: s-maj=16.3km s-min=14.8km az=159.0*
*BEO **26** 01:40:44.4±0.7, 39°.78N×19°.57E, h12km±3km, ML3.5/13*
*PDG **26** 01:40:45.5±0.5, 40°.07N×19°.60E, h0km±11km, ML3.4/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*TIR **26** 01:40:45.8, 39°.97N×19°.77E, h13km, Md3.6, Ml3.6*
*THE **26** 01:40:47.4, 39°.98N×19°.77E, h0km±2km, ML3.2/11, Error ellipse: s-maj=2.6km s-min=1.0km az=243.0*

*ATH **26** 01:40:47.7, 39°.98N×19°.77E, h6km±3km, ML2.8/3, Error ellipse: s-maj=4.0km s-min=1.3km az=151.0*
*VIE **26** 01:40:47.6±1.9, 40°.06N×19°.74E, h10km, mb3.2/11, ms3.9/8, Error ellipse: s-maj=24.6km s-min=14.3km az=52.0 140 km S of Durres*

ISC 26 01:40:45.6±0.9, 39°.96N±0°.02×19°.71E±0°.02, h13km±6km, n175, σ1♀92/238, mb3.6/8, 15C-14D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.24**	**109**	P	**Pg**	**01 40 50.6**	**-0.1**
SRN				S	**Sg**	**01 40 54.6**	**+0.5**
	5μm,0.2s						
SRN	**Sarande**	**0.24**	**109**	P	**Pg**	**01 40 50.7**	**-0.1**
	baz=117						
SRN				S	**Sg**	**01 40 53.8**	**-0.3**
	baz=117						
SRN				AMP			
	comp=N,19nm,0.3s,baz=117						
KEK	**Kerkira**	**0.25**	**164**	P	**Pb**	**01 40 52.7**	**+0.6**
KEK				S	**Sb**	**01 40 57.2**	**+0.8**
KEK				AML	AML	01 41 06.3	
	comp=N,6321μm,0.4s						
KEK				AML	AML	01 41 07.7	
	comp=E,6571μm,0.6s						
KEK	**Kerkira**	**0.25**	**164**	P	**Pg**	**01 40 51.8**	**+0.8**
KASA	**Kassiopi**	**0.27**	**140**	P	**Pb**	**01 40 52.4**	**0.0**
KASA				S	**Sb**	**01 40 56.6**	**-0.3**
KASA				AML	AML	01 40 59.0	
	comp=E,8344μm,0.3s						
KASA				AML	AML	01 40 59.4	
	comp=N,5543μm,0.4s						
VLO	**Vlora**	**0.54**	**342**	P	**Pg**	**01 40 56.5**	**+0.3**
VLO				S	**Sb**	**01 41 05.5**	**+0.9**
	comp=N,13μm,0.5s						
VLO	**Vlora**	**0.54**	**342**	P	**Pb**	**01 40 56.8**	**-0.1**
	baz=337						
VLO				S	**Sb**	**01 41 05.2**	**+0.6**
	baz=337						
IGT	**Igoumenitsa**	**0.64**	**131**	P	**Pb**	**01 40 58.9**	**+0.2**
IGT				S	**Sb**	**01 41 07.7**	**+0.1**
IGT				AML	AML	01 41 16.6	
	comp=N,3479μm,0.3s						
IGT				AML	AML	01 41 17.3	
	comp=E,2568μm,0.5s						
IGT	**Igoumenitsa**	**0.64**	**131**	P	**Pb**	**01 40 58.8**	**+0.1**
IGT				S	**Sb**	**01 41 10.1**	**+2.5**
	comp=E,4μm,0.8s						
IGT	**Igoumenitsa**	**0.64**	**131**	P	**Pg**	**01 40 59.3**	**-0.2**
	baz=73						
LSK				S	**Sb**	**01 41 09.0**	**-0.6**
	baz=73						
LSK				AMP			
	comp=E,13nm,0.8s,baz=73						
SCTE	**Santa Cesarea**	**0.96**	**277**	P	**Pb**	**01 41 05.5**	**+1.3**
	baz=277						
SCTE				S	**Sn**	**01 41 20.5**	**+2.1**
	baz=277						
KBN	**Korca**	**1.06**	**51**	P	**Pg**	**01 41 05.0**	**-1.1**
KBN				S	**Sn**	**01 41 21.2**	**+0.2**
	comp=E,2μm,0.5s						
KBN	**Korca**	**1.06**	**51**	P	**Pg**	**01 41 05.3**	**-0.7**
	baz=49						
KBN				S	**Sb**	**01 41 20.7**	**+1.0**
	baz=49						
KBN				AMP			
	comp=N,7.0nm,0.5s,baz=49						
PENT	**Pentalofos**	**1.12**	**77**	P	**Pb**	**01 41 07.3**	**+0.3**
PENT	**Pentalofos**	**1.12**	**77**	P	**Pb**	**01 41 07.3**	**+0.3**
NEST	**Nestorio**	**1.12**	**66**	P	**Pn**	**01 41 07.8**	**+0.6**
NEST	**Nestorio**	**1.12**	**66**	P	**Pb**	**01 41 07.0**	**0.0**
NEST				S	**Sb**	**01 41 22.1**	**+0.5**
	comp=N,822nm,0.9s						
KPRO	**Kipourio**	**1.27**	**90**	P	**Pn**	**01 41 11.2**	**+2.0**
KPRO	**Kipourio**	**1.27**	**90**	P	**Pn**	**01 41 09.9**	**+0.7**
KPRO				S	**Sn**	**01 41 28.3**	**+2.1**
	comp=N,1μm,0.9s						
TSLK	**Tsoukalades, L**	**1.35**	**147**	P	**Pg**	**01 41 13.1**	**+1.6**
TSLK				S	**Sn**	**01 41 31.6**	**+3.7**
	comp=N,890nm,0.5s						
LKD2	**Lefkada island**	**1.38**	**147**	P	**Pg**	**01 41 13.2**	**+1.0**
LKD2	**Lefkada island**	**1.38**	**147**	P	**Pg**	**01 41 13.0**	**+0.8**
LKD2				S	**Sn**	**01 41 32.3**	**+3.5**
	comp=N,715nm,0.5s						
LKD2	**Lefkada island**	**1.38**	**147**	P	**Pg**	**01 41 13.1**	**+1.0**
	baz=149						
TIR	**Tirane**	**1.39**	**5**	↓P	**Pg**	**01 41 12.9**	**+0.5**
TIR				↓S	**Sn**	**01 41 35.6**	**+6.5**
TIR	**Tirane**	**1.39**	**5**	*e*Pg	**Pg**	**01 41 12.6**	**+0.1**
TIR				*e*Sg	**Sn**	**01 41 35.1**	**+6.0**
TIR	**Tirane**	**1.39**	**5**	P	**Pg**	**01 41 13.2**	**+0.8**
TIR	**Tirane**	**1.39**	**5**	P	**Pg**	**01 41 12.5**	**+0.1**
TIR				S	**Sn**	**01 41 33.7**	**+4.6**
	comp=N,865nm,0.7s						
TIR	**Tirane**	**1.39**	**5**	P	**Pg**	**01 41 12.6**	**+0.1**
	baz=2.0						
TIR				S	**Sn**	**01 41 32.6**	**+3.5**
	baz=2.0						
TIR				AMP			
	comp=N,3.6nm,0.5s,baz=2.0						
OHR	**Ohrid**	**1.42**	**35**	*e*Pg	**Pg**	**01 41 13.0**	**0.0**
OHR				*e*Sg	**Sn**	**01 41 36.2**	**+6.4**
OHR	**Ohrid**	**1.42**	**35**	*i* Pn	**Pg**	**01 41 12.8**	**-0.2**
OHR				*i* Sg	**Sn**	**01 41 35.6**	**+5.7**
DRAG	**Dragano-Lefkad**	**1.44**	**152**	P	**Pg**	**01 41 14.8**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.46**	**148**	P	**Pg**	**01 41 13.8**	**+0.1**
FNA	**Florina**	**1.52**	**57**	P	**Pg**	**01 41 14.6**	**-0.2**
FNA	**Florina**	**1.52**	**57**	P	**Pb**	**01 41 13.9**	**+0.2**
FNA				S	**Sg**	**01 41 36.3**	**+1.8**
	comp=N,1μm,0.6s						
FNA	**Florina**	**1.52**	**57**	P	**Pg**	**01 41 14.1**	**-0.7**
	baz=56						
EVGI	**Lefkada island**	**1.52**	**151**	P	**Pg**	**01 41 16.3**	**+1.4**
KZN	**Kozani**	**1.62**	**77**	P	**Pg**	**01 41 16.8**	**+0.1**
FSK	**Fiskardo**	**1.64**	**156**	P	**Pg**	**01 41 16.9**	**-0.1**
PHP	**Peshkopia**	**1.81**	**18**	P	**Pb**	**01 41 19.5**	**+0.8**
PHP				S	**Sg**	**01 41 42.7**	**-1.3**
PHP	**Peshkopia**	**1.81**	**18**	P	**Pb**	**01 41 19.5**	**+0.8**
	baz=16						
PHP				S	**Sg**	**01 41 44.4**	**+0.5**
	baz=16						
PHP				AMP			
	comp=N,4.1nm,0.9s,baz=16						
THL	**Klokotos Trika**	**1.82**	**102**	P	**Pg**	**01 41 20.0**	**-0.5**
EVR	**Evrytania**	**1.93**	**122**	P	**Pg**	**01 41 22.0**	**-0.7**
ULC	**Ulcinj**	**2.04**	**350**	↓*i* Pn	**Pn**	**01 41 19.9**	**+0.2**
ULC				*i* Sn	**Sb**	**01 41 47.9**	**+0.2**
DRME	**Dracevica, Mon**	**2.26**	**350**	*e*Pn	**Pn**	**01 41 23.3**	**+0.5**
DRME	**Dracevica, Mon**	**2.26**	**350**	↑*i* Pn	**Pn**	**01 41 23.4**	**+0.6**
DRME				*i* Sn	**Sn**	**01 41 53.2**	**+2.7**
MATE	**Matera**	**2.40**	**288**	↑P	**Pn**	**01 41 26.1**	**+1.5**
MATE				↑S	**Sb**	**01 41 59.2**	**+1.1**
SKO	**Skopje**	**2.40**	**33**	*i* Pn	**Pn**	**01 41 24.8**	**+0.1**
TIP	**Timpagrande**	**2.41**	**252**	↓P	**Pn**	**01 41 26.2**	**+1.3**
BUM	**Brajici-Budva**	**2.42**	**346**	↓*i* Pn	**Pn**	**01 41 25.8**	**+0.8**
BUM				*i* Sn	**Sn**	**01 41 57.5**	**+3.0**
BCI	**Bajram Curri**	**2.42**	**6**	P	**Pb**	**01 41 28.5**	**-0.6**
	baz=5.0						
BCI				AMP			
	comp=N,3.0nm,1.4s,baz=5.0						
PDG	**Podgorica**	**2.49**	**352**	↓P	**Pn**	**01 41 28.5**	**+2.6**
PDG	**Podgorica**	**2.49**	**352**	*e*Pn	**Pn**	**01 41 27.8**	**+1.9**
PDG				*e*Sn	**Sb**	**01 41 59.8**	**-1.1**
PDG	**Podgorica**	**2.49**	**352**	*e*Pn	**Pn**	**01 41 27.2**	**+1.3**
TTG	**Podgorica**	**2.49**	**352**	↑*i* Pn	**Pn**	**01 41 26.7**	**+0.8**
TTG				*i* Sn	**Sn**	**01 41 58.9**	**+2.7**
STIP	**Stip**	**2.56**	**46**	*i* Pn	**Pb**	**01 41 30.8**	**-0.6**
VAY	**Valandovo**	**2.57**	**57**	*i* Pn	**Pb**	**01 41 28.6**	**+1.7**
VAY				*e*Sn	**Sb**	**01 42 02.2**	**-0.8**
VAY	**Valandovo**	**2.57**	**57**	*i* Pn	**Pn**	**01 41 28.8**	**+1.9**
PVY	**Plav**	**2.64**	**4**	↑*i* Pn	**Pn**	**01 41 29.0**	**+0.9**
PVY				*i* Sn	**Sn**	**01 42 02.6**	**+2.5**
HCY	**Herceg Novi**	**2.65**	**340**	*e*Pn	**Pn**	**01 41 28.0**	**-0.1**
HCY	**Herceg Novi**	**2.65**	**340**	↑*i* Pn	**Pn**	**01 41 28.6**	**+0.5**
HCY				*i* Sn	**Sn**	**01 42 02.4**	**+2.3**
CEME	**Cevo**	**2.66**	**347**	↓*i* Pn	**Pn**	**01 41 28.5**	**+0.3**
CEME				*i* Sn	**Sn**	**01 42 02.8**	**+2.5**
NKME	**Niksic**	**2.86**	**349**	↓*i* Pn	**Pn**	**01 41 31.6**	**+0.5**
NKME				*i* Sn	**Sn**	**01 42 07.7**	**+2.3**
KOME	**Kolasin**	**2.89**	**357**	↓*i* Pn	**Pn**	**01 41 32.6**	**+1.1**
KOME				*i* Sn	**Sn**	**01 42 09.1**	**+2.9**
IVA	**Berane**	**2.92**	**3**	↓*i* Pn	**Pn**	**01 41 33.1**	**+1.3**
IVA				*i* Sn	**Sn**	**01 42 09.1**	**+2.3**
TREB	**Trebinje**	**2.94**	**340**	*e*Pn	**Pn**	**01 41 31.9**	**-0.2**
DBRK	**Dubrovnik**	**2.95**	**337**	*e*Pn	**Pn**	**01 41 32.5**	**+0.3**
BRY	**Bratogost**	**3.07**	**344**	*e*Pn	**Pn**	**01 41 35.4**	**+1.4**
BRY	**Bratogost**	**3.07**	**344**	↓*i* Pn	**Pn**	**01 41 34.5**	**+0.5**
BRY				*i* Sn	**Sn**	**01 42 12.2**	**+1.5**
PRVS	**Prvonek**	**3.11**	**34**	*e*Pn	**Pn**	**01 41 35.5**	**+1.0**
PRVS				*e*Sn	**Sb**	**01 42 16.1**	**-2.6**
BARS	**Barje**	**3.27**	**28**	*e*Pn	**Pn**	**01 41 37.7**	**+1.1**
BARS	**Barje**	**3.27**	**28**	*e*Pn	Pg	01 41 55.7	+7.5
BARS				*e*Sn	**Sn**	**01 42 18.1**	**+2.8**
STON	**Ston**	**3.28**	**333**	*e*Pn	**Pn**	**01 41 37.3**	**+0.6**
STON	**Ston**	**3.28**	**333**	*i* Pn	**Pn**	**01 41 36.8**	**+0.1**
BOSS	**Bosilegrad**	**3.29**	**39**	*e*Pn	**Pn**	**01 41 38.5**	**+1.7**
BOSS				*e*Sn	**Sn**	**01 42 17.9**	**+2.1**
UPM	**Unac-Piva**	**3.30**	**350**	*e*Pn	**Pn**	**01 41 38.6**	**+1.4**
UPM	**Unac-Piva**	**3.30**	**350**	↑*i* Pn	**Pn**	**01 41 37.8**	**+0.6**
UPM				*i* Sn	**Sn**	**01 42 18.2**	**+1.8**
SJES	**Sjenica**	**3.31**	**3**	*e*Pn	**Pn**	**01 41 39.0**	**+1.8**
SJES				*e*Sn	**Sn**	**01 42 19.1**	**+2.6**
PLE	**Pljevlja**	**3.38**	**356**	*e*Pn	**Pn**	**01 41 38.9**	**+0.7**
PLE				*e*Sn	**Sn**	**01 42 20.3**	**+2.1**
SELS	**Selova**	**3.43**	**18**	*e*Pn	**Pn**	**01 41 40.2**	**+1.4**
LSTV	**Lastovo**	**3.52**	**324**	*i* Pn	**Pn**	**01 41 39.6**	**-0.4**
IVAS	**Ivanjica**	**3.63**	**5**	*e*Pn	**Pn**	**01 41 42.1**	**+0.5**
IVAS				*e*Sn	**Sn**	**01 42 27.1**	**+2.7**
RUDO	**Rudo**	**3.67**	**356**	*e*Pn	**Pn**	**01 41 43.1**	**+1.0**
VTS	**Vitosha**	**3.76**	**44**	↑P	**Pn**	**01 41 45.1**	**+1.6**
VTS	**Vitosha**	**3.76**	**44**	*e*Pn	**Pn**	**01 41 45.3**	**+1.8**
MAKA	**Makarska**	**3.89**	**330**	*e*Pn	**Pn**	**01 41 45.3**	**+0.2**
BBLS	**Lazić**	**3.91**	**357**	*e*Pn	**Pn**	**01 41 47.1**	**+1.6**
BBLS	**Lazić**	**3.91**	**357**	*e*Pn	**Pn**	**01 41 46.0**	**+0.5**
ZAPS	**Zavoj**	**3.97**	**33**	*e*Pn	**Pn**	**01 41 47.6**	**+1.3**
ZAPS				*e*Sn	**Sn**	**01 42 34.5**	**+1.7**
GRUS	**Gruza**	**4.00**	**10**	*e*Pn	**Pn**	**01 41 47.7**	**+1.1**
RICI	**Ricice**	**4.03**	**332**	*e*Pn	**Pn**	**01 41 47.5**	**+0.4**
HVAR	**Hvar**	**4.04**	**324**	*e*Pn	**Pn**	**01 41 46.8**	**-0.4**
DIVS	**Divibare**	**4.14**	**3**	*e*Pn	**Pn**	**01 41 49.4**	**+0.7**
DIVS				*e*Sn	**Sn**	**01 42 38.5**	**+1.5**
DIVS	**Divibare**	**4.14**	**3**	*e*Pn	**Pn**	**01 41 49.4**	**+0.7**
ZAGS	**Zajecar**	**4.29**	**25**	*e*Pn	**Pn**	**01 41 52.8**	**+2.2**
ZAGS				*e*Sn	**Sn**	**01 42 42.5**	**+2.0**
TRUS	**Trudelj**	**4.29**	**7**	*e*Pn	**Pn**	**01 41 51.4**	**+0.7**
TRUS				*e*Sn	**Sn**	**01 42 42.7**	**+1.6**
KIJV	**Kijevo**	**4.74**	**330**	*e*Pn	**Pn**	**01 41 57.2**	**+0.4**
ZIRJ	**Zirje**	**4.78**	**322**	*e*Pn	**Pn**	**01 41 57.1**	**-0.3**
VAE	**Valguarnera**	**4.83**	**241**	Pn	Pn	01 41 52.1	-5.9
	comp=N,0.5nm,0.3s,baz=13,slow=14,SNR=1.3						
VAE				Pg	**Pb**	**01 42 08.0**	**-2.1**
	comp=N,0.4nm,0.3s,baz=18,slow=12,SNR=3.9						
VAE				Sn	**Sn**	**01 42 52.3**	**-1.5**
	comp=N,0.2nm,0.3s,baz=187,slow=16,SNR=1.1						
MGRS	**Mrkonjic Grad**	**4.86**	**337**	*e*Pn	**Pn**	**01 41 59.8**	**+1.3**
MORI	**Morici**	**4.92**	**324**	*e*Pn	**Pn**	**01 41 59.7**	**+0.5**
MDVR	**Moldovita**	**5.04**	**16**	↑P	**Pn**	**01 42 03.7**	**+2.7**
A050A	**Klekovaca**	**5.10**	**333**	*e*Pn	**Pn**	**01 42 03.4**	**+1.6**
BLY	**Branja Luka**	**5.14**	**339**	*e*Pn	**Pn**	**01 42 02.1**	**-0.2**
FRGS	**Fruska Gora**	**5.20**	**1**	*e*Pn	**Pn**	**01 42 02.1**	**-1.0**
FRGS	**Fruska Gora**	**5.20**	**1**	*e*Pn	**Pn**	**01 41 59.8**	**-3.3**
HERR	**Herculane**	**5.31**	**21**	↑P	**Pn**	**01 42 07.1**	**+2.4**
DUGI	**Dugi Otok**	**5.32**	**321**	*e*Pn	**Pn**	**01 42 05.1**	**+0.4**
AQU	**L'Aquila**	**5.33**	**299**	*e*Pn	**Pn**	**01 42 04.2**	**-0.8**
UDBI	**Udbina**	**5.42**	**329**	*e*Pn	**Pn**	**01 42 07.5**	**+1.2**
A051A	**Mrakovica**	**5.46**	**339**	*e*Pn	**Pn**	**01 42 07.1**	**+0.3**
VIRC	**Vir**	**5.54**	**323**	*e*Pn	**Pn**	**01 42 08.2**	**+0.3**
A252A	**Venje**	**5.64**	**347**	*e*Pn	**Pn**	**01 42 10.4**	**+1.2**
A251A	**Rujevac**	**5.76**	**335**	*e*Pn	**Pn**	**01 42 12.3**	**+1.5**
PLIT	**Plitvice**	**5.77**	**330**	*e*Pn	**Pn**	**01 42 12.3**	**+1.3**
PLIT				Sn	**Sn**	**01 43 15.3**	**-1.8**
BZS	**Buzias**	**5.83**	**13**	↓P	**Pn**	**01 42 13.9**	**+2.2**
NVLJ	**Novalja**	**5.84**	**324**	*e*Pn	**Pn**	**01 42 11.9**	**+0.1**
GZR	**Gura Zlata**	**5.88**	**22**	↑P	**Pn**	**01 42 15.5**	**+2.9**
RABC	**Rab**	**6.02**	**324**	*e*Pn	**Pn**	**01 42 14.7**	**+0.3**
MOSL	**Moslavina**	**6.06**	**340**	*e*Pn	**Pn**	**01 42 14.3**	**-0.6**
IDI	**Anoyia**	**6.21**	**137**	Pn	**Pn**	**01 42 14.5**	**-2.6**
	comp=N,0.2nm,0.3s,baz=302,slow=19,SNR=3.5						
IDI				Sn	**Sn**	**01 43 23.9**	**-4.2**
	comp=N,1.3nm,0.3s,baz=319,slow=14,SNR=2.3						
A250A	**Rusevo Krmpots**	**6.23**	**327**	*e*Pn	**Pn**	**01 42 17.7**	**+0.4**
KOVH	**Kovagotottos**	**6.24**	**350**	SN	**Sn**	**01 43 23.2**	**-5.3**
MORH	**Mrgy, Hungar**	**6.30**	**353**	*e*Pn	**Pn**	**01 42 17.3**	**-0.9**
SMRN	**Sveta Marina**	**6.53**	**323**	*e*Pn	**Pn**	**01 42 22.0**	**+0.7**
RIY	**Rijeka**	**6.60**	**326**	*e*Pn	**Pn**	**01 42 20.2**	**-2.2**
RIY	**Rijeka**	**6.60**	**326**	*e*Pn	**Pn**	**01 42 22.6**	**+0.2**
BRJN	**Brijuni**	**6.62**	**320**	*e*Pn	**Pn**	**01 42 22.6**	**0.0**
GBRS	**Gornja Briga**	**6.63**	**329**	*i* Pn	**Pn**	**01 42 23.6**	**+0.7**
CRES	**Cresnjev**	**6.64**	**333**	*e*Pn	**Pn**	**01 42 23.1**	**0.0**
VOIR		**6.74**	**34**	↓P	**Pn**	**01 42 27.3**	**+2.9**
CEY	**Cerknica**	**6.96**	**328**	*e*Pn	**Pn**	**01 42 27.5**	**+0.2**
SKDS	**Skadanscina**	**6.98**	**325**	*e*Pn	**Pn**	**01 42 27.3**	**-0.3**
SKDS	**Skadanscina**	**6.98**	**325**	*i* Pn	**Pn**	**01 42 27.4**	**-0.3**
**L

MMAI	**Mount Meron Ar**	**14.39**	**114**	Pn		**Pn**	**01 44 07.9**	**-1.2**
	comp=N,0.4nm,0.3s,baz=269,slow=35,SNR=1.5							
MMAI				Sn		Sn	01 46 39.6	-9.0
	comp=N,0.3nm,0.3s,baz=313,slow=16,SNR=2.0							
KBZ	**Khabaz**	**17.67**	**70**	Pn		**P**	**01 44 54.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=246,slow=17,SNR=2.6							
ESDC	**Sonseca Array**	**18.18**	**277**	P		**Pn**	**01 44 56.0**	**-1.8**
	comp=N,0.0nm,0.3s,baz=98,slow=22,SNR=2.1							
HFS	**Hagfors**	**20.55**	**351**	P		**P**	**01 45 23.2**	**-0.4**
	comp=N,0.9nm,0.7s,baz=156,slow=22,SNR=1.5							
NB2	**NORSAR Subarra**	**21.75**	**349**	P		**P**	**01 45 36.8**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=161,slow=11							
NOA	**NORSAR Array B**	**21.75**	**349**	P		**P**	**01 45 35.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=166,slow=13,SNR=2.6							
FINES	**FINESS Array B**	**21.87**	**8**	P		**P**	**01 45 36.3**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=186,slow=10,SNR=7.3							
GEYT	**Allbeck**	**29.79**	**81**	P		**P**	**01 46 49.8**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=233,slow=29,SNR=2.2							
ARCES	**ARCESS Array B**	**29.80**	**4**	P		**P**	**01 46 50.1**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=182,slow=9.7,SNR=1.4							
ARU	**Arti**	**30.18**	**44**	LR		LR	01 59 58.6	
	comp=Z,75nm,20.6s,baz=254,slow=38							
TORD	**Torodi Ar. Bea**	**31.06**	**216**	P		P	01 46 57.9	-5.5
	comp=Z,0.3nm,0.9s,baz=337,slow=8.0,SNR=1.9							
MKAR	**Makanchi Array**	**44.93**	**60**	P		**P**	**01 48 59.9**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=280,slow=7.0,SNR=24							
ZALV	**Zalesovo Beam**	**44.99**	**49**	P		**P**	**01 49 00.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=287,slow=9.8,SNR=2.6							
YKA	**Yellowknife Ar**	**71.50**	**339**	P		**P**	**01 52 05.8**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=62,slow=9.3,SNR=3.0							
ULM	**Lac du Bonnet**	**73.90**	**323**	LR		LR	02 24 35.9	
	comp=Z,73nm,18.2s,baz=12,slow=36							

*IDC **26** 01:40:54.4±1.5, 19°.76S×177°.76W, h558km±19km, mb3.4/13, mb1 3.6/15, mb1mx3.5/29, mbtmp4.4/15, Error ellipse: s-maj=19.4km s-min=11.8km az=145.0*
*NOU **26** 01:40:54.8, 19°.855S×177°.45W, h572km, mb4.2/10, Fiji Islands Region*
*NEIC **26** 01:40:54.5±1.6, 19°.8S±0°.2×177°.62W±0°.10, h561km±10km, mb4.1/18, Error ellipse: s-maj=24.3km s-min=10.5km az=158.0*

ISC 26 01:40:53.4±0.5, **19°.71S**±0°.09×**177°.67W**±0°.08, **h550**km, **n46**, σ1**s41**/47, **mb4.0**/22, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**7.34**	**86**	P		**P**	**01 42 44.7**	**+0.1**
AFI	**Afiamalu**	**8.07**	**45**	P		**P**	**01 42 52.8**	**+0.8**
	7.2nm,0.3s,baz=252,slow=8.6,SNR=5.9							
AFI				S		**S**	**01 44 26.5**	**-2.6**
	4.4nm,0.3s,baz=25,slow=22,SNR=5.7							
RAO	**Raoul Island**	**9.51**	**181**	P		**P**	**01 43 06.4**	**+0.2**
	391nm,0.3s,baz=114,slow=21,SNR=5.6							
RAO	**Raoul Island**	**9.51**	**181**	P		**P**	**01 43 06.8**	**+0.6**
DVP	**Devils Point**	**13.54**	**276**	P		**P**	**01 43 50.8**	**+2.9**
PINNC	**Pines Island,**	**14.18**	**256**	P		**P**	**01 43 55.0**	**+0.5**
DZM	**Mont Dzumac**	**15.03**	**258**	P		**P**	**01 44 06.1**	**+2.8**
	1.0nm,0.3s,baz=93,slow=17,SNR=10							
DZM	**Mont Dzumac**	**15.03**	**258**	IAmb		IAmb	01 44 07.6	
	comp=Z,8.6nm,0.6s							
DZM	**Mont Dzumac**	**15.03**	**258**	P		**P**	**01 44 06.2**	**+2.9**
KOUNC	**Koumac, New Ca**	**16.96**	**264**	P		**P**	**01 44 24.6**	**+2.7**
OUZ	**Omahuta**	**17.27**	**205**	P		**P**	**01 44 25.8**	**+1.4**
OUZ	**Omahuta**	**17.27**	**205**	P		**P**	**01 44 25.2**	**+0.8**
URZ	**Urewera**	**19.03**	**193**	P		**P**	**01 44 39.1**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=263,slow=2.1,SNR=9.9							
URZ	**Urewera**	**19.03**	**193**	IAmb		IAmb	01 44 40.1	
	comp=Z,9.9nm,0.7s							
URZ	**Urewera**	**19.03**	**193**	P		**P**	**01 44 39.2**	**-1.4**
QRZ	**Quartz Range**	**22.66**	**200**	P		**P**	**01 45 13.4**	**+0.2**
KHZ	**Kahutara**	**23.83**	**196**	P		**P**	**01 45 22.4**	**-1.2**
RPZ	**Rata Peaks**	**25.73**	**199**	P		**P**	**01 45 39.8**	**-0.6**
	comp=Z,3.7nm,0.6s,baz=80,slow=15,SNR=2.2							
WHZ	**Wether Hill Ro**	**28.68**	**201**	P		**P**	**01 46 04.9**	**-1.3**
WHZ				IAmb		IAmb	01 46 16.9	
	comp=Z,3.9nm,0.8s							
ARMA	**Armidale**	**29.70**	**243**	P		**P**	**01 46 15.5**	**+0.1**
ARMA				IAmb		IAmb	01 46 26.2	
	comp=Z,13nm,1.5s							
CTA	**Charters Tower**	**33.88**	**263**	P		**P**	**01 46 51.6**	**+0.6**
	comp=Z,9.8nm,0.4s,baz=86,slow=10.0,SNR=6.8							
COEN	**Coen**	**37.85**	**272**	P		**P**	**01 47 24.1**	**+0.2**
STKA	**Stephens Creek**	**38.41**	**243**	P		**P**	**01 47 28.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=106,slow=22,SNR=3.1							
STKA	**Stephens Creek**	**38.41**	**243**	IAmb		IAmb	01 47 29.7	
	comp=Z,0.6nm,0.8s							
BBOO	**Buckleboo**	**43.18**	**243**	P		**P**	**01 48 06.2**	**+0.1**
BBOO				IAmb		IAmb	01 48 21.8	
	comp=Z,9.7nm,1.1s							
WR0	**Warramunga Arr**	**44.83**	**261**	P		**P**	**01 48 18.4**	**-0.7**
WR0				IAmb		IAmb	01 48 20.2	
	comp=Z,3.2nm,0.5s							
AS31	**Alice Springs**	**45.00**	**256**	P		**P**	**01 48 20.2**	**-0.3**
AS31				IAmb		IAmb	01 48 22.5	
	comp=Z,3.1nm,0.5s							
ASAR	**Alice Springs**	**45.00**	**256**	P		**P**	**01 48 20.6**	**+0.2**
	comp=Z,5.1nm,0.3s,baz=88,slow=8.5,SNR=162							
ASAR				PcP		**PcP**	**01 49 49.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=105,slow=3.3,SNR=1.2							
ASAR				S		**S**	**01 54 16.9**	**-2.5**
	comp=Z,2.5nm,0.8s,baz=93,slow=16,SNR=22							
WB2	**Warramunga Arr**	**45.01**	**261**	P		**P**	**01 48 20.7**	**+0.2**
WB2				IAmb		IAmb	01 48 21.1	
	comp=Z,14nm,1.2s							
WRA	**Warramunga Arr**	**45.02**	**261**	P		**P**	**01 48 20.4**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=97,slow=8.1,SNR=138							
WRA				S		**S**	**01 54 15.7**	**-3.9**
	comp=Z,0.2nm,0.8s,baz=115,slow=13,SNR=1.7							
WRA	**Warramunga Arr**	**45.02**	**261**	P		**P**	**01 48 20.4**	**-0.1**
MTN	**Manton Dam**	**49.47**	**270**	P		**P**	**01 48 54.0**	**0.0**
KNRA	**Kununurra**	**51.02**	**265**	P		**P**	**01 49 03.5**	**-1.8**
KNRA				IAmb		IAmb	01 49 20.9	
	comp=Z,6.4nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.44**	**262**	P		**P**	**01 49 22.6**	**0.0**
MJAR	**Matsushiro Arr**	**69.76**	**323**	P		**P**	**01 51 08.0**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=48,slow=1.8,SNR=2.2							
QSPA	**South Pole Qui**	**70.36**	**180**	P		**P**	**01 51 11.3**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=117,slow=4.5,SNR=3.2							
PETK	**Petropavlovsk-**	**75.59**	**345**	P		**P**	**01 51 41.5**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=116,slow=20,SNR=1.8							
NVAR	**Mina Array Bea**	**80.24**	**43**	P		**P**	**01 52 09.2**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=210,slow=8.8,SNR=1.9							
BLYC	**Blythe**	**80.26**	**49**	P		**P**	**01 52 07.1**	**-0.3**
MAW	**Mawson**	**82.41**	**200**	P		**P**	**01 52 19.2**	**+1.4**
	comp=Z,4.6nm,0.5s,baz=180,slow=7.1,SNR=3.7							
I07A	**Izee**	**82.78**	**38**	P		**P**	**01 52 21.1**	**+0.9**
I07A				IAmb		IAmb	01 52 22.6	
	comp=Z,3.7nm,1.0s							
GAMB	**Gambell**	**83.34**	**3**	P		**P**	**01 52 21.1**	**-1.2**
GAMB				IAmb		IAmb	01 52 29.7	
	comp=Z,4.5nm,1.4s							
TXAR	**Lajitas Array**	**86.37**	**57**	P		**P**	**01 52 39.6**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=215,slow=6.4,SNR=9.5							
ILAR	**Eielson Array**	**87.48**	**13**	P		**P**	**01 52 41.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=212,slow=6.2,SNR=7.0							
PDAR	**Pinedale Array**	**88.18**	**43**	P		**P**	**01 52 46.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=205,slow=2.4,SNR=6.1							
GERES	**GERESS Array B**	**149.52**	**345**	PKPbc		**PKPbc**	**01 59 40.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=315,slow=3.5,SNR=2.0							

IDC 26 02:27:31.4±3.0, **31°.29S×177°.39W, h0km, mb3.7**/2, **mb1 3.9**/3, **mb1mx3.7**/20, **mbtmp3.7**/3, **ML3.3**/1, **Error ellipse: s-maj=77.4km s-min=45.9km az=127.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**8.29**	**212**	Pn		Pn	02 29 32.8	-0.1
	0.4nm,0.3s,baz=169,slow=12,SNR=1.8							
URZ				Sn		Sn	02 31 03.9	-3.4
	1.5nm,0.3s,baz=222,slow=22,SNR=8.8							
ASAR	**Alice Springs**	**43.59**	**268**	P		P	02 35 37.8	+0.1
	0.8nm,0.6s,baz=107,slow=7.1,SNR=11							
WRA	**Warramunga Arr**	**44.66**	**273**	P		P	02 35 45.7	-0.5
	0.5nm,0.4s,baz=113,slow=7.7,SNR=5.5							
FINES	**FINESS Array B**	**146.16**	**340**	PKPbc		PKPdf	02 47 12.1	+0.2
	0.5nm,0.5s,baz=76,slow=3.9,SNR=9.0							

IDC 26 02:51:35.6±1.7, **18°.61S×176°.54W, h0km, mb3.6**/4, **mb1 3.9**/4, **mb1mx3.6**/23, **mbtmp3.6**/4, **Error ellipse: s-maj=51.0km s-min=37.9km az=135.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.26**	**260**	P		P	03 00 02.2	-0.9
	0.3nm,0.7s,baz=97,slow=7.2,SNR=5.8							
ASAR	**Alice Springs**	**46.32**	**255**	P		P	03 00 04.0	+0.5
	1.6nm,0.6s,baz=89,slow=8.6,SNR=41							
VNDA	**Vanda**	**59.91**	**185**	P		P	03 01 42.8	-0.1
	0.2nm,0.4s,baz=345,slow=12,SNR=1.4							
ILAR	**Eielson Array**	**86.18**	**12**	P		P	03 04 18.3	0.0
	0.3nm,0.8s,baz=220,slow=4.9,SNR=5.4							

*IDC **26** 03:10:13.4±2.8, 2°.87S×68°.02E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.8/62, Error ellipse: s-maj=95.0km s-min=34.6km az=64.0*

ISC 26 03:10:14.9±2.9, **2°.9S**±0°.3×**68°.0E**±0°.6, **h11**km, **n6**, σ0**s13**/5, **mb3.7**/4, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**16.23**	**52**	LR		LR	03 18 39.2	
	comp=Z,74nm,20.9s,baz=320,slow=31							
MKAR	**Makanchi Array**	**51.05**	**13**	P		**P**	**03 19 17.1**	**-0.1**
	0.2nm,0.7s,baz=191,slow=7.0,SNR=2.6							
SONM	**Songino Array**	**60.64**	**29**	P		**P**	**03 20 26.2**	**+0.1**
	0.6nm,0.7s,baz=228,slow=4.6,SNR=4.0							
WRA	**Warramunga Arr**	**66.84**	**110**	P		**P**	**03 21 07.5**	**+0.1**
	0.5nm,0.6s,baz=285,slow=5.9,SNR=7.8							
ASAR	**Alice Springs**	**66.85**	**114**	P		**P**	**03 21 07.4**	**-0.1**
	0.2nm,0.6s,baz=280,slow=6.2,SNR=4.1							
TXAR	**Lajitas Array**	**152.51**	**344**	PKPbc		**PKiKP**	**03 30 12.6**	**+0.1**
	0.2nm,0.8s,baz=144,slow=4.5,SNR=2.3							

*MEX **26** 03:18:45.0±1.6, 15°.14N×92°.08W, h10km, MD4.1*
*GCG **26** 03:18:45.9±1.0, 14°.81N×92°.21W, h45km±543km, MD3.8*

ISC 26 03:18:42.5±1.0, **15°.24N**±0°.04×**92°.02W**±0°.02, **h8**km±8km, **n18**, σ2**s13**/34, **1C, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAVE	**Pavencul**	**0.16**	**253**	*e*P		**Pg**	**03 18 46.4**	**+0.5**
PAVE				*i* S		**Sg**	**03 18 49.5**	**+1.2**
CHUJ	**Union Juarez**	**0.17**	**210**	*e*P		**Pg**	**03 18 46.1**	**-0.1**
CHUJ				*i* S		**Sg**	**03 18 48.5**	**-0.2**
PATR	**El Naranjo**	**0.24**	**239**	*e*P		**Pg**	**03 18 47.7**	**+0.2**
PATR				*e*S		**Sg**	**03 18 50.8**	**+0.1**
THIG		**0.41**	**215**	*e*P		**Pb**	**03 18 51.3**	**-0.6**
THIG				*i* S		**Sb**	**03 18 57.1**	**-1.2**
STG3	**Santiaguito 3,**	**0.68**	**140**	*e*P		**Pg**	**03 18 55.7**	**-0.1**
CCIG	**Comitan**	**1.04**	**354**	*e*P		**Pn**	**03 19 03.7**	**+0.2**
CCIG				*e*S		**Sb**	**03 19 18.2**	**+1.4**
PCIG		**1.24**	**292**	*i* P		**Pb**	**03 19 06.2**	**0.0**
PCIG				*i* S		**Sn**	**03 19 23.8**	**+0.6**
FUG	**Fuego 3**	**1.39**	**125**	*e*P		**Pg**	**03 19 08.9**	**-0.2**
FUG				*e*S		**Sg**	**03 19 27.1**	**-0.1**
PCG	**Pacaya**	**1.61**	**122**	*e*P		**Pg**	**03 19 13.3**	**-0.1**
NBG	**Las Nubes**	**1.74**	**112**	*e*P		**Pg**	**03 19 15.7**	**-0.3**
NBG				*e*S		**Sg**	**03 19 42.1**	**+3.4**
TGIG		**1.86**	**325**	*e*P		**Pb**	**03 19 16.2**	**-0.6**
TGIG				*e*S		**Sb**	**03 19 41.8**	**+1.6**
CARR	**Arriaga**	**2.08**	**299**	*e*P		**Pb**	**03 19 19.3**	**-1.2**
CARR				*e*S		**Sb**	**03 19 46.4**	**-0.1**
MRL	**Marmol**	**2.26**	**94**	*e*P		**Pb**	**03 19 24.1**	**+0.3**
MRL				*e*S		**Sg**	**03 19 54.6**	**-0.7**
UXUV	**UXUV**	**2.90**	**316**	*e*P		**Pb**	**03 19 32.2**	**-2.3**
UXUV				*e*S		**Sb**	**03 20 08.1**	**-2.2**
CMIG	**Matias Romero**	**3.31**	**304**	*e*P		**Pb**	**03 19 38.4**	**-3.1**
CMIG				*e*S		**Sn**	**03 20 16.7**	**+2.5**
SCIG	**Sabancuy**	**3.79**	**12**	*e*P		**Pn**	**03 19 38.0**	**-3.3**
SCIG				*e*S		**Sn**	**03 20 27.0**	**+1.0**
HUIG	**Huatulco**	**3.98**	**278**	*e*P		**Pn**	**03 19 43.9**	**+0.1**
HUIG				*i* S		**Sn**	**03 20 25.3**	**-5.3**
VHO	**Vista Hermosa**	**4.88**	**293**	*e*P		**Pn**	**03 19 59.2**	**+2.8**
VHO				*i* S		**Sn**	**03 20 59.5**	**+6.3**

*BJI **26** 03:24:15.0±0.0, 3°.36S×67°.44E, h10km, mb5.3/85, mB5.5/71, Ms5.7/93, Ms7 5.6/87*
*IDC **26** 03:24:21.3±0.4, 2°.72S×68°.09E, h0km, mb4.8/42, mb1 4.9/43, mb1mx4.8/46, mbtmp4.8/43, ML4.5/1, MS5.2/73, Ms1 5.2/73, ms1mx5.2/84, Error ellipse: s-maj=10.9km s-min=10.7km az=23.0*
*MOS **26** 03:24:21.5±1.0, 2°.59S×68°.00E, h10km, mb5.7/97, MS5.2/30, Error ellipse: s-maj=6.3km s-min=3.9km az=96.2*
*NEIC **26** 03:24:24.1±2.4, 2°.65S±0°.07×68°.03E±0°.07, h10km±1km, mb5.7/219, Ms_20 5.6/311, Mww5.6, Error ellipse: s-maj=12.5km s-min=11.7km az=133.0*
*GCMT **26** 03:24:24.4±0.1, 2°.76S±0°.01×68°.01E±0°.01, h12km, MW5.7/163, Moment Tensor Solution. s133,c247; s163,c370; Duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr=4.39±.03; Mθθ2.58±.03; Mφφ 1.81±.04; Mrθ 1.41±.09; Mrφ=-2.34±.03; Mθφ=-0.43±.10; Best double couple: M0 4.71600×10^17 NP1:φs138.00000°, δ37.00000°, λ-78.00000°. NP2:φs303.00000°, δ54.00000°, λ-99.00000°. Principal axes: T 4.7680, Plg8.0000°, Azm39.0000°; N -0.1030, Plg7.0000°, Azm308.0000°; P -4.6650, Plg79.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 03:24:25.2°.67S×67°.99E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr=3.31; Mθθ2.21; Mφφ 1.10; Mrθ 0.20; Mrφ=-1.40; Mθφ=-0.20; Fault plane solution: M0 3.25000×10^17 NP1: φs123.00000°, δ43.00000°, λ-91.00000°. NP2: φs305.00000°, δ47.00000°, λ-88.00000°. Principal axes: T 3.1769, Plg2.0000°, Azm34.0000°; N 0.1468, Plg1.0000°, Azm124.0000°; P -3.3237, Plg87.0000°, Azm234.0000°;*
*BGR **26** 03:24:35.9±0.0, 1°.22S×66°.40E, h10km, mb5.8, Ms4.6*

ISC 26 03:24:24.6±0.3, **2°.65S**±0°.03×**67°.97E**±0°.03, **h17**km±1km, **h18**km:**pP-P, n1394**, σ1**s60**/1334, **mb5.6**/411, **MS5.5**/284, **57C-47D, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**5.92**	**58**	Pn		Pn	03 25 45.0	-6.4
KAAM	**Kaadhehdhoo**	**5.92**	**58**	P		**Pn**	**03 25 48.2**	**-3.3**
	SNR=14							
DGAR	**Diego Garcia**	**6.50**	**137**	*ce*P		**Pn**	**03 25 58.3**	**-1.2**
DGAR				pmax		pmax		
	comp=Z,2μm,1.3s							
DGAR	**Diego Garcia**	**6.50**	**137**			**Pn**	**03 25 58.1**	**-1.4**
DGAR	**Diego Garcia**	**6.50**	**137**	P		**Pn**	**03 25 57.9**	**-1.6**
DGAR				P		**Pn**	**03 25 57.9**	**-1.6**
H08S3	**Diego Garcia H**	**6.68**	**138**	T		T	03 32 45.0	
	baz=307,slow=75,SNR=30							
H08S1	**Diego Garcia H**	**6.69**	**138**	T		T	03 32 44.7	
	baz=307,slow=75,SNR=43							
H08S2	**Diego Garcia H**	**6.70**	**138**	T		T	03 32 45.8	
	baz=307,slow=75,SNR=30							
HMDM	**Hanimaadhoo**	**10.71**	**29**	Pn		**Pn**	**03 26 55.3**	**-1.9**
HMDM	**Hanimaadhoo**	**10.71**	**29**	P		**Pn**	**03 27 00.2**	**+3.0**
	SNR=13							
MNCY	**Minicoy**	**11.96**	**25**	*ex*		Pg	03 27 30.1	
MSEY	**Mahe Island**	**12.62**	**260**	P		**Pn**	**03 27 21.3**	**-2.2**
MSEY	**Mahe Island**	**12.62**	**260**	Pn		**Pn**	**03 27 21.3**	**-2.2**
MSEY	**Mahe Island**	**12.62**	**260**	P		**Pn**	**03 27 24.5**	**+0.9**
MSEY				P		**Pn**	**03 27 24.5**	**+0.9**
MSEY				P		**Pn**	**03 27 24.5**	**+0.9**
MSEY	**Mahe Island**	**12.62**	**260**	*i* P		**Pn**	**03 27 22.3**	**-1.2**
	SNR=21							
TRD	**Trivandrum**	**14.26**	**39**	*e*P		**Pn**	**03 27 42.9**	**-2.9**
TRD				IAmb		IAmb	03 28 05.5	
	comp=Z,34nm,0.0s							
TRD				IAMs_20		IAMs_20	03 37 21.5	
	comp=Z,10μm,9.0s							
KOD	**Kodaikanal**	**15.91**	**36**	*i* x		Sg	03 31 54.5	
PALK	**Pallekele**	**16.08**	**52**	Pn		**Pn**	**03 28 09.2**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=350,slow=8.1,SNR=11							
PALK				LR		LR	03 32 58.9	
	comp=Z,33μm,20.5s,baz=327,slow=32							
PALK	**Pallekele**	**16.08**	**52**	Pn		**Pn**	**03 28 04.3**	**-5.8**
PALK	**Pallekele**	**16.08**	**52**	P		**Pn**	**03 28 10.4**	**+0.3**
PALK				P		**Pn**	**03 28 10.4**	**+0.3**
GOA	**Goa**	**18.94**	**18**	*e*P		**P**	**03 28 45.0**	**+0.2**
GOA				IAmb		IAmb	03 28 57.3	
	comp=Z,474nm,2.1s							
GOA				IAMs_20		IAMs_20	03 34 28.2	
	comp=Z,27μm,18.1s							
MDRS	**Chennai**	**19.81**	**38**	*e*P		**P**	**03 28 48.4**	**-6.0**
SOCY	**Socotra**	**20.26**	**317**			**P**	**03 28 59.3**	**0.0**
SOCY	**Socotra**	**20.26**	**317**	P		Pn	03 29 09.3	+7.9
	SNR=12							
KAD	**Karad**	**20.76**	**17**	*e*P		Pn	03 29 07.1	0.0
SBV	**Sambava**	**20.82**	**238**	P		Pn	03 29 07.5	-0.4
	SNR=14							
SBV	**Sambava**	**20.82**	**238**	P		Pn	03 29 08.3	+0.4
POO	**Poona**	**21.83**	**15**	*e*P		**P**	**03 29 16.2**	**-0.1**
POO				IAMs_20		IAMs_20	03 36 05.5	
	comp=Z,22μm,16.4s							
RER	**Riviere de l'E**	**21.91**	**212**	P		**P**	**03 29 16.8**	**-0.4**
RER				IAmb		IAmb	03 29 26.5	
	comp=Z,402nm,1.6s							
RER	**Riviere de l'E**	**21.91**	**212**	P		**P**	**03 29 18.3**	**+1.1**
BOM	**Bombay**	**21.94**	**12**	*e*P		**P**	**03 29 17.7**	**+0.4**
BOM				*i* x		x	03 34 45.9	
HYB	**Hyderabad**	**22.51**	**27**	*e*P		**P**	**03 29 22.8**	**-0.8**
HYB				IAMs_20		IAMs_20	03 36 30.2	
	comp=Z,23μm,23.8s							
HYBB	**Hyderabad (bro**	**22.51**	**27**	*e*P		**P**	**03 29 23.4**	**-0.2**
HYBB				IVmB_BB			03 29 28.4	
	comp=Z,896nm,3.0s							
HYBB				*e*S		**S**	**03 33 32.4**	**+2.4**
HYBB				IVMs_BB		IVMs_BB	03 36 57.5	
	comp=Z,4μm,17.0s							
LATR	**Latur**	**22.58**	**22**	*e*P		**P**	**03 29 23.0**	**-1.2**
LATR				*i* x		x	03 35 13.8	
VJD	**Vijayawada**	**22.80**	**33**	*e*P		**P**	**03 29 26.9**	**+0.3**
VJD				*i* x		x	03 35 13.8	
SHAO	**Shalim**	**23.88**	**330**	P		**P**	**03 29 42.0**	**+4.6**
	SNR=8.9							
SHAO				P		P	**03 29 42.0**	**+4.6**
	SNR=8.9							
SHAO				P		P	**03 29 42.0**	**+4.6**
	SNR=8.9							
SHAO	**Shalim**	**23.88**	**330**	*i* P		**P**	**03 29 38.1**	**+0.8**
	SNR=11							
DMTO	**DMTO**	**23.97**	**328**	P		**P**	**03 29 43.0**	**+4.8**
	SNR=8.9							
DMTO				P		**P**	**03 29 43.0**	**+4.8**
	SNR=8.9							
RBK	**Rabkut**	**24.20**	**326**	P		**P**	**03 29 45.0**	**+4.6**
	SNR=11							
RBK				P		**P**	**03 29 45.0**	**+4.6**
	SNR=11							
ABTO	**Aybut**	**24.59**	**324**	P		**P**	**03 29 48.0**	**+3.9**
	SNR=37							
ABTO				P		**P**	**03 29 48.0**	**+3.9**
	SNR=37							
BHV	**Bhavnagar**	**24.59**	**9**	*e*P		**P**	**03 29 46.6**	**+2.7**
BHV				*i* x		x	03 36 01.6	
DQM	**DQM**	**24.67**	**336**	P		**P**	**03 29 48.0**	**+3.4**
	SNR=27							
DQM				P		**P**	**03 29 48.0**	**+3.4**
	SNR=27							
WHFO	**Wadi Hawf**	**24.77**	**326**	P		**P**	**03 29 49.0**	**+3.3**
	SNR=15							
WHFO				P		**P**	**03 29 49.0**	**+3.3**
	SNR=15							
AKL	**Akola**	**24.85**	**21**	*e*P		**P**	**03 29 46.1**	**-0.1**
AKL				*i* x		x	03 36 13.6	
DOK	**Doka**	**25.15**	**328**	P		**P**	**03 29 52.0**	**+3.0**
	SNR=35							
DOK				P		**P**	**03 29 52.0**	**+3.0**
	SNR=35							
DOK				P		**P**	**03 29 52.0**	**+3.0**
	SNR=35							
MHTO	**MHTO**	**25.45**	**338**	P		**P**	**03 29 54.0**	**+2.3**
	SNR=21							
MHTO				P		**P**	**03 29 54.0**	**+2.3**
	SNR=21							
MHTO				P		**P**	**03 29 54.0**	**+2.3**
	SNR=21							
OPO	**Ambohidratompo**	**25.78**	**231**	P		**P**	**03 29 53.9**	**-1.0**
	comp=Z,15nm,1.1s,baz=52,slow=9.0,SNR=5.4							
OPO				LR		LR	03 38 01.9	
	comp=Z,13μm,18.1s,baz=200,slow=32							
ABPO	**Ambohimpanom**	**26.01**	**230**	P		**P**	**03 29 57.1**	**+0.1**
ABPO				pmax		pmax		
	comp=

DGPR IAMs_20 IAMs_20 03 40 16.1
comp=Z,183nm,1.6s
ASHO Ashiyiah 29.53 338 P **P** **03 30 30.2 +1.9**
ASHO P **P** **03 30 30.2 +1.9**
ASHO P **P** **03 30 31.0 +2.6**
SNR=24
ASHO P **P** **03 30 31.0 +2.6**
SNR=24
ASHO Ashiyiah 29.53 338 *i* P **P** **03 30 29.7 +1.3**
SNR=16
HATD Hatta, Dubai 29.63 338 P **P** **03 30 32.0 +2.8**
SNR=18
HATD P **P** **03 30 32.0 +2.8**
SNR=18
HATD Hatta, Dubai 29.63 338 *i* P **P** **03 30 30.4 +1.2**
SNR=19
AJM Ajmer 29.67 12 *e*P **P** **03 30 29.9 +0.4**
AJM *i* x x 03 38 25.2
UOSS Minazif 29.71 338 P **P** **03 30 29.6 -0.3**
UOSS Minazif 29.71 338 P **P** **03 30 31.4 +1.4**
UOSS P **P** **03 30 31.4 +1.4**
UOSS P **P** **03 30 31.4 +1.4**
UOSS Minazif 29.71 338 *i* P **P** **03 30 29.8 -0.1**
SNR=10
ASUD Al Ashush, Dub 29.77 336 P **P** **03 30 35.0 +4.6**
SNR=6.2
ASUD P **P** **03 30 35.0 +4.6**
SNR=6.2
ASUD Al Ashush, Dub 29.77 336 *i* P **P** **03 30 32.0 +1.6**
SNR=7.3
FAQ Al Faqa, Dubai 29.77 337 P **P** **03 30 33.0 +2.6**
SNR=16
FAQ P **P** **03 30 33.0 +2.6**
SNR=16
FAQ Al Faqa, Dubai 29.77 337 *i* P **P** **03 30 31.1 +0.7**
SNR=8.2
JHNI Jhansi 29.77 20 *e*P **P** **03 30 29.9 -0.5**
JHNI *i* x x 03 38 49.1
GSI Gunungsitoli 29.86 83 IAMs_20 IAMs_20 03 39 37.1
comp=Z,14µm,20.0s
KIBK Kibwezi 29.89 270 P **P** **03 30 32.2 +0.4**
KIBK Kibwezi 29.89 270 P **P** **03 30 33.9 +2.1**
SNR=21
NAZ Nazwa, Dubai 29.96 337 P **P** **03 30 34.0 +1.9**
SNR=13
NAZ P **P** **03 30 34.0 +1.9**
SNR=13
NAZ Nazwa, Dubai 29.96 337 *i* P **P** **03 30 34.0 +1.9**
SNR=12
NAZ *i* P **pP** **03 30 35.0 -1.3**
SNR=11
LHMI Lhok Sumawe 29.99 75 P **P** **03 30 35.4 +2.9**
comp=Z,3µmcomp=Z,162nm,1.7s
LHMI Lhok Sumawe 29.99 75 P **P** **03 30 35.3 +2.8**
MSFE Esma-Masafi 30.11 338 *i* P **P** **03 30 34.2 +0.8**
SNR=14
MASF Masafi 30.12 338 P **P** **03 30 36.1 +2.5**
SNR=19
KCSI Kotacane, Aceh 30.41 79 P **P** **03 30 37.3 +1.0**
comp=Z,1µmcomp=Z,69nm,1.3s
BANOM Banah 30.57 339 P **P** **03 30 40.0 +2.4**
SNR=8.4
BANOM P **P** **03 30 40.0 +2.4**
SNR=8.4
BANOM Banah 30.57 339 *i* P **P** **03 30 38.1 +0.6**
SNR=9.4
ANKE Ethiopia-Afar 30.65 294 *e*P **P** **03 30 40.4 +1.6**
ANKE Ethiopia-Afar 30.65 294 *e*P P 03 30 46.9 +8.2
KMBO Kilima Mbogo 30.74 272 P **P** **03 30 40.8 +1.4**
comp=Z,5.4nm,0.9s,baz=89,slow=10,SNR=22
KMBO LR LR 03 40 36.2
comp=Z,5µm,21.4s,baz=92,slow=32
KMBO Kilima Mbogo 30.74 272 *i* P **P** **03 30 41.5 +2.1**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 30.74 272 P **P** **03 30 41.2 +1.8**
KMBO IAmb IAmb 03 30 48.6
comp=Z,175nm,2.0s
KMBO Kilima Mbogo 30.74 272 *e*P **P** **03 30 37.1 -2.3**
KMBO Kilima Mbogo 30.74 272 *e*P **P** **03 30 36.1 -3.3**
KMBO *e*S **S** **03 35 44.0 +1.8**
KMBO Kilima Mbogo 30.74 272 *e*P **P** **03 30 36.1 -3.3**
KMBO *e*S **S** **03 35 44.0 +1.8**
KMBO IAMs_20 IAMs_20 03 37 33.7
comp=Z,6µm,52.2s
KMBO Kilima Mbogo 30.74 272 *i* P **P** **03 30 41.0 +1.6**
SNR=14
SHME Shamm 30.74 339 P **P** **03 30 42.6 +3.6**
SNR=6.6
SHME P **P** **03 30 42.6 +3.6**
SNR=6.6
SHME Shamm 30.74 339 *i* P **P** **03 30 39.4 +0.5**
SNR=6.3
ALBI Allahabad 30.87 25 *e*P **P** **03 30 41.0 +0.9**
ALBI *i* x x 03 39 13.0
DILA Dilla 30.98 287 *e*P **P** **03 30 41.7 +0.2**
DILA Dilla 30.98 287 *e*P **P** **03 30 44.3 +2.8**
JRN Qarnain Island 31.11 333 P **P** **03 30 44.3 +2.1**
JRN P **P** **03 30 44.3 +2.1**
JRN P **pP** **03 30 46.4 -0.1**
SNR=5.8
JRN P **pP** **03 30 46.4 -0.1**
SNR=5.8
SISI Saibi 31.13 88 P **P** **03 30 45.3 +2.7**
comp=Z,3µmcomp=Z,66nm,0.7s
TSI Tuntungan 31.18 79 P **P** **03 30 45.6 +2.5**
comp=Z,88nm,1.5s
AAE Adis Abeba 31.34 292 *e*P P 03 30 37.1 -7.7
AAE Adis Abeba 31.34 292 *e*P P 03 30 38.9 -5.8
AAE *e*S S 03 36 06.4 +15
AAE Adis Abeba 31.34 292 *e*P **P** **03 30 44.8 +0.1**
AAE Adis Abeba 31.34 292 *e*P P 03 30 38.9 -5.8
AAE *e*S S 03 36 06.4 +15
AAE IAMs_20 IAMs_20 03 39 20.1
comp=E,5µm,25.7s
FURI Furi 31.37 292 P **P** **03 30 46.8 +1.7**
FURI IAmb IAmb 03 31 00.1
comp=Z,329nm,1.9s
FURI Furi 31.37 292 *e*P **P** **03 30 46.3 +1.2**
FURI Furi 31.37 292 *e*P **P** **03 30 45.7 +0.6**
FURI *e*S S 03 36 07.8 +16
FURI Furi 31.37 292 *e*P **P** **03 30 45.4 +0.3**
FURI Furi 31.37 292 *e*P **P** **03 30 45.7 +0.6**
FURI *e*S S 03 36 07.8 +16
FURI IAMs_20 IAMs_20 03 42 17.1
comp=Z,5µm,17.9s
PSI Prapat 31.41 80 LR LR 03 41 15.9
comp=Z,15µm,21.3s,baz=267,slow=32
BOK Bokaro 31.55 33 IAMs_20 IAMs_20 03 40 32.6
comp=Z,8µm,27.9s
KUDL Kundal 31.70 14 *e*P **P** **03 30 48.7 +1.3**
NDI New Delhi 32.40 15 *e*P **P** **03 30 54.0 +0.5**
NDI *i* x x 03 40 20.8
PPI Padang Panjang 32.49 87 P **P** **03 30 52.7 -1.8**
comp=Z,61nm,0.7s
SHMA Al-Shehemyia 32.78 331 P **P** **03 30 58.7 +1.9**
LODK Lodwar 33.15 280 P **P** **03 31 02.1 +1.7**
LODK Lodwar 33.15 280 P **P** **03 31 03.6 +3.2**
SNR=39
LODK Lodwar 33.15 280 *e*P **P** **03 30 59.4 -1.0**
LODK Lodwar 33.15 280 *e*P **P** **03 31 01.3 +0.9**
LODK ⇓*e*S **S** **03 36 24.6 +5.2**
LODK Lodwar 33.15 280 *e*P **P** **03 31 01.3 +0.9**
LODK ⇓*e*S **S** **03 36 24.6 +5.2**
LODK IAMs_20 IAMs_20 03 44 13.9
comp=N,2µm,16.0s
BKNI Bangkinang 33.19 85 P **P** **03 31 02.0 +1.3**
BKNI Bangkinang 33.19 85 P **P** **03 31 02.8 +2.1**
comp=N,3µmcomp=N,304nm,1.2s
BKNI Bangkinang 33.19 85 P **P** **03 31 03.4 +2.7**
SRIT Nakonsritamara 33.46 70 P **P** **03 31 04.4 +1.4**
SRIT IAmb IAmb 03 31 06.5
comp=Z,150nm,1.4s
KRJI Kerinci 33.47 90 P **P** **03 31 06.3 +3.0**
VLK Valmikinagar 33.51 26 *e*P **P** **03 31 05.5 +2.3**
VLK *i* x x 03 41 08.6
KULM Kulim 33.59 76 P **P** **03 31 05.0 +0.9**
KULM IAMs_20 IAMs_20 03 42 46.8
comp=Z,13µm,20.0s
KOLN Koldanda 33.78 25 *e*P **P** **03 31 07.2 +1.3**
comp=Z,488nm,1.6s
PYUN Piuthan 33.82 24 *e*P **P** **03 31 07.3 +1.1**
comp=Z,444nm,1.6s
RAYN Ar Rayn 33.99 321 P **P** **03 31 08.1 +0.5**

RAYN pmax pmax
comp=Z,151nm,1.8s
RAYN Ar Rayn 33.99 321 P **P** **03 31 08.1 +0.5**
RAYN IAmb IAmb 03 31 11.4
comp=Z,151nm,1.8s
RAYN Ar Rayn 33.99 321 *i* P **P** **03 31 08.7 +1.0**
SNR=25
LGTI Lohaghat 34.02 19 *e*P **P** **03 31 08.4 +0.8**
LGTI *i* x x 03 41 08.6
PTH Pithoragarh 34.10 19 *e*P **P** **03 31 10.3 +1.7**
PTH *i* x x 03 40 56.7
DDI Dehra Dun 34.18 16 *e*P **P** **03 31 11.9 +2.8**
MASI Maura Aman, Be 34.23 92 P **P** **03 31 10.9 +1.1**
comp=Z,3µmcomp=Z,156nm,1.6s
DMN Daman 34.32 28 *e*P **P** **03 31 12.2 +1.6**
DANN Dangsing 34.36 25 *e*P **P** **03 31 12.1 +1.1**
comp=Z,371nm,1.5s
PKI Pulchoki 34.43 28 *e*P **P** **03 31 12.7 +1.0**
RGRI Rengat 34.43 87 P **P** **03 31 13.8 +2.3**
comp=Z,3µmcomp=Z,56µmcomp=Z,134nm,0.4s
GKN Gorkha 34.44 27 *e*P **P** **03 31 12.9 +1.3**
comp=Z,678nm,1.6s
KKN Kakani 34.55 28 *e*P **P** **03 31 14.1 +1.5**
SMLA Simla 34.72 14 *e*P **P** **03 31 14.4 +0.8**
ODAN Odare 34.82 31 *e*P **P** **03 31 16.7 +1.8**
BHK Bhakra 34.82 13 *i* x **PKiKP** **03 41 12.6 +2.1**
JIRN Jiri 34.88 29 *e*P **P** **03 31 16.6 +1.0**
comp=Z,131nm,1.3s
GUN Gumba 34.94 28 *e*P **P** **03 31 17.5 +1.4**
MNAI Manna 34.96 94 P **P** **03 31 15.1 -1.0**
MNAI Manna 34.96 94 P **P** **03 31 16.0 -0.1**
comp=Z,257nm,1.4s
TAPN Taplejung 35.38 31 *e*P **P** **03 31 21.4 +1.5**
comp=Z,457nm,1.5s
THN Thein Dam 35.66 11 *e*P **P** **03 31 23.8 +2.0**
THN *i* x x 03 41 36.5
JMU Jammu 35.78 10 *e*P **P** **03 31 25.2 +2.4**
LWLI Liwa 36.08 95 P **P** **03 31 27.7 +1.8**
MYKOM Kota Tinggi 36.14 83 IAmb IAmb 03 31 29.2
MYKOM IAMs_20 IAMs_20 03 44 21.7
comp=Z,7µm,19.0s
MDSI Maura Dua 36.18 94 P **P** **03 31 27.5 +0.9**
comp=Z,1µmcomp=Z,74nm,1.6s
SHL Shillong 36.38 38 P **P** **03 31 28.8 +0.5**
SHL pmax pmax
comp=Z,374nm,1.8s
SHL Shillong 36.38 38 P **P** **03 31 28.8 +0.5**
SHL IAmb IAmb 03 31 36.6
comp=Z,374nm,1.8s
SHL Shillong 36.38 38 *e*P **P** **03 31 28.9 +0.5**
SHL Shillong 36.38 38 P **P** **03 31 30.2 +1.9**
SNR=61
KASI Kota Agung 36.54 96 P **P** **03 31 30.6 +1.0**
comp=Z,2µmcomp=Z,173nm,1.4s
DSRI Dabo 36.66 87 P **P** **03 31 32.0 +1.3**
comp=Z,2µmcomp=Z,81nm,1.5s
KLSI 36.74 94 P **P** **03 31 32.3 +1.0**
comp=Z,1µmcomp=Z,80nm,1.5s
PMBI Palembang 36.76 91 P **P** **03 31 32.1 +0.6**
comp=Z,38µmcomp=Z,390nm,0.5s
KLI Kotabumi 36.87 95 P **P** **03 31 33.3 +0.8**
comp=Z,96nm,1.2s
KBL Kabul 37.01 1 P **P** **03 31 34.7 +1.1**
KBL pmax pmax
comp=Z,87nm,1.3s
KBL Kabul 37.01 1 P **P** **03 31 34.7 +1.1**
KBL Kabul 37.01 1 P **P** **03 31 35.6 +2.0**
CM31 Chiang Mai Arr 37.01 54 P **P** **03 31 34.3 +0.7**
CM31 IAmb IAmb 03 31 42.1
comp=Z,139nm,1.3s
CMAR Chiang Mai Arr 37.01 54 P **P** **03 31 34.4 +0.8**
comp=Z,26nm,1.0s,baz=245,slow=9.1,SNR=73
CMAR PcP **PcP** **03 33 55.2 +0.6**
comp=Z,2.0nm,0.4s,baz=239,slow=4.8,SNR=4.6
CMAR LR LR 03 44 49.7
comp=Z,6µm,21.9s,baz=240,slow=33
CMAR Chiang Mai Arr 37.01 54 P **P** **03 31 33.9 +0.3**
CMAR PcP **PcP** **03 33 54.7 +0.2**
CHTO Chiang Mai 37.20 54 P **P** **03 31 35.7 +0.5**
CHTO pmax pmax
comp=Z,113nm,1.2s
CHTO Chiang Mai 37.20 54 P **P** **03 31 35.6 +0.5**
CHTO IAmb IAmb 03 31 39.3
comp=Z,113nm,1.2s
CHTO Chiang Mai 37.20 54 P **P** **03 31 35.7 +0.5**
CHTO P **P** **03 31 35.7 +0.5**
CHTO Chiang Mai 37.20 54 P **P** **03 31 36.9 +1.7**
HRA Herat 37.23 352 P **P** **03 31 36.3 +0.8**
MBAR Mbarara 37.27 272 P **P** **03 31 38.2 +2.1**
comp=Z,9.2nm,0.8s,baz=58,slow=7.2,SNR=40
MBAR LR LR 03 45 38.7
comp=Z,3µm,20.1s,baz=74,slow=34
MBAR Mbarara 37.27 272 P **P** **03 31 37.0 +0.9**
MBAR IAmb IAmb 03 31 42.5
comp=Z,273nm,1.9s
MBAR Mbarara 37.27 272 P **P** **03 31 38.3 +2.3**
MBAR Mbarara 37.27 272 *e*P **P** **03 31 35.6 -0.5**
MBAR Mbarara 37.27 272 *e*P **P** **03 31 37.7 +1.6**
MBAR *e*S **S** **03 37 23.5 +0.4**
MBAR Mbarara 37.27 272 *e*P **P** **03 31 37.7 +1.6**
MBAR *e*S **S** **03 37 23.5 +0.4**
BLSI Bandar Lampung 37.28 95 P **P** **03 31 36.7 +0.8**
comp=Z,181nm,0.9s
CGJI Cibinong 37.80 97 P **P** **03 31 41.2 +0.9**
comp=Z,3µmcomp=Z,171nm,1.5s
PPBI Pangkal Pinang 38.14 90 P **P** **03 31 43.6 +0.4**
comp=Z,17µmcomp=Z,119nm,1.6s
MQOL MQOL 38.15 309 *i* P **P** **03 31 44.5 +1.3**
MQOL AMP 03 31 47.7
comp=E,157nm,0.5s
MQOL *i* 03 31 49.2
baz=261,slow=22
XMIS Christmas Isla 38.20 104 P **P** **03 31 43.1 -0.7**
XMIS Christmas Isla 38.20 104 P **P** **03 31 45.2 +1.5**
XMI Christmas Isla 38.23 103 P **P** **03 31 45.9 +1.9**
SKJI Sukabumi 38.68 98 P **P** **03 31 48.7 +0.9**
comp=E,126nm,1.0s
TNG Tangerang 38.71 97 P **P** **03 31 48.6 +0.6**
comp=E,15µmcomp=E,658nm,0.4s
TNG P **pP** **03 31 51.1 -1.3**
comp=E,9µmcomp=E,443nm,0.4s
DBJI Dramaga 38.84 97 P **P** **03 31 50.3 +1.2**
comp=E,8µmcomp=E,149nm,1.4s
CBJI Citeko 38.93 97 P **P** **03 31 51.7 +1.8**
comp=E,329nm,1.3s
LSA Lhasa 39.08 33 P **P** **03 31 52.0 +0.6**
LSA pmax pmax
comp=Z,324nm,1.8s
LSA Lhasa 39.08 33 P **P** **03 31 52.0 +0.6**
LSA IAmb IAmb 03 31 55.7
comp=Z,324nm,1.8s
LSA Lhasa 39.08 33 P **P** **03 31 53.5 +2.1**
LSA pmax pmax
comp=Z,85nm,1.5s
LSA LR LR
comp=Z,9µm,22.1s
LSA LR LR
comp=Z,7µm,19.9s
LSA LR LR
comp=Z,11µm,19.2s
LSA Lhasa 39.08 33 P **P** **03 31 53.4 +2.0**
CNJI Cibinong 39.27 98 P **P** **03 31 53.1 +0.4**
comp=Z,2µmcomp=Z,115nm,1.4s
TPI Tanjungpandan 39.64 91 P **P** **03 31 55.9 +0.1**
LEM Lembang 39.72 97 LR LR 03 45 21.1
comp=Z,6µm,21.5s,baz=267,slow=32
LEM Lembang 39.72 97 P **P** **03 31 57.9 +1.2**
comp=Z,3µmcomp=Z,231nm,1.5s
JCJI Jatiwangi 40.34 97 P **P** **03 32 02.8 +1.2**
comp=Z,176nm,0.5s
CMJI Cimerak 40.62 99 P **P** **03 32 02.7 -1.2**
comp=Z,63nm,1.6s
MOPA Mopani 41.01 236 *e*P **P** **03 32 06.4 -0.7**
MOPA IAmb IAmb 03 32 13.7
comp=Z,105nm,1.2s
KPJI Karang Pucung 41.05 98 P **P** **03 32 08.7 +1.2**
comp=Z,2µmcomp=Z,39nm,1.5s
CHGR Chuyangaron 41.12 1 P **P** **03 32 07.2 -0.5**
LSZ Lusaka 41.15 250 P **P** **03 32 08.7 +0.3**
comp=Z,6.3nm,0.5s,baz=80,slow=8.3,SNR=24
LSZ LR LR 03 46 54.6
comp=Z,10µm,18.3s,baz=89,slow=33
LSZ Lusaka 41.15 250 *e*P **P** **03 32 08.8 +0.3**
LSZ IAmb IAmb 03 32 10.7
comp=Z,2µm,2.0s
LSZ Lusaka 41.15 250 P **P** **03 32 08.1 -0.4**
LSZ Lusaka 41.15 250 IAMs_20 IAMs_20 03 46 25.0
comp=Z,10µm,19.0s
UBPT Khong Chiam 41.17 63 P **P** **03 32 05.8 -2.6**
GEYT Alibeck 41.40 348 P **P** **03 32 10.3 +0.3**
comp=Z,11nm,1.1s,baz=201,slow=16,SNR=12
GEYT PcP **PcP** **03 34 08.8 +0.8**
comp=Z,1.5nm,0.4s,baz=246,slow=44,SNR=2.2
GEYT LR LR 03 48 17.6
comp=Z,7µm,22.0s,baz=165,slow=35
GEYT Alibeck 41.40 348 P **P** **03 32 10.7 +0.7**
CNG Changalane 41.60 232 *e*P **P** **03 32 11.3 -0.6**
CNG IAmb IAmb 03 32 19.2
comp=Z,34nm,1.4s
MSNA Messina 41.70 239 *e*P **P** **03 32 13.1 +0.4**
MSNA IAmb IAmb 03 32 20.2
comp=Z,266nm,1.4s
DRK Karamyk 42.07 4 P **P** **03 32 15.7 -0.2**
BLWY Bulawayo 42.15 243 *e*P **P** **03 32 16.6 +0.1**
BLWY IAmb IAmb 03 32 23.6
comp=Z,563nm,1.4s
MATP Matopo 42.34 242 LR LR 03 47 39.9
comp=Z,4µm,20.6s,baz=92,slow=33
POGA Pongola 42.48 231 *e*P **P** **03 32 19.1 0.0**
POGA IAmb IAmb 03 32 25.1
comp=Z,66nm,1.3s
KSM Kuching 42.53 85 P **P** **03 32 19.2 -0.4**
KSM IAmb IAmb 03 32 23.1
comp=Z,226nm,1.5s
KSM IAMs_20 IAMs_20 03 48 38.0
comp=Z,7µm,19.0s
KSM Kuching 42.53 85 P **P** **03 32 21.2 +1.6**
SMRI Semarang 42.53 97 P **P** **03 32 19.5 -0.1**
SMRI IAmb IAmb 03 32 22.8
comp=Z,401nm,1.8s
SMRI Semarang 42.53 97 P **P** **03 32 19.3 -0.3**
comp=Z,88nm,1.6s
SMRI Semarang 42.53 97 P **P** **03 32 20.1 +0.5**
BTK Batken 42.58 3 IAmb IAmb 03 32 23.1
comp=Z,487nm,2.0s
KSH Kashi 42.60 9 P **P** **03 32 16.8 -3.2**
KSH pP pP 03 32 22.3 -2.1
KSH PP **PP** **03 34 02.5 +3.5**
KSH S **S** **03 38 35.5 -6.7**
KSH SS **SS** **03 41 43.0 -10**
KSH ScS **ScS** **03 42 13.5 -7.5**
KSH pmax pmax
comp=Z,73nm,1.4s
KSH LR LR
comp=Z,5µm,22.9s
KSH LR LR
comp=Z,3µm,19.0s
KSH LR LR
comp=Z,7µm,27.3s
UGM Wanagama 42.67 99 IAmb IAmb 03 32 22.9
comp=Z,381nm,1.4s
UGM Wanagama 42.67 99 P **P** **03 32 19.8 -1.0**
comp=Z,190nm,1.7s
UGM Wanagama 42.67 99 P **P** **03 32 20.5 -0.3**
DLV T Lat 42.80 69 IAmb IAmb 03 32 25.8
comp=Z,250nm,1.6s
DLV IAMs_20 IAMs_20 03 49 28.3
comp=Z,5µm,18.0s
DLV T Lat 42.80 69 P **P** **03 32 23.8 +1.8**
UWJI Ujung Watu 42.99 97 P **P** **03 32 23.1 -0.3**
comp=Z,5µmcomp=Z,34nm,1.3s
CRLN Carolina, Mapu 43.20 234 *e*P **P** **03 32 24.5 -0.6**
PCJI Pacitan 43.34 99 P **P** **03 32 24.8 -1.4**
comp=Z,53nm,1.5s
STKI Sintang 43.58 87 P **P** **03 32 29.1 +1.0**
comp=Z,13µmcomp=Z,157nm,1.4s
KMI Kunming 43.58 49 ⇑P **P** **03 32 29.5 +1.3**
KMI sP sP 03 32 34.8 +0.5
KMI PcP **PcP** **03 34 16.8 +1.0**
KMI S **S** **03 38 57.5 +0.4**
KMI SS **SS** **03 42 11.3 -1.0**
KMI pmax pmax
comp=Z,28nm,1.7s
KMI pmax pmax
comp=Z,400nm,4.3s
KMI LR LR
comp=Z,3µm,16.8s
KMI LR LR
comp=Z,4µm,18.8s
KMI LR LR
comp=Z,4µm,19.3s
PZH PanZhiHua 43.64 46 P **P** **03 32 29.0 +0.4**
PZH pP **pP** **03 32 33.3 +0.3**
PZH sP **sP** **03 32 35.5 +0.9**
PZH PP **PcP** **03 34 17.5 +1.6**
PZH S **S** **03 38 59.0 +1.2**
PZH SS **SS** **03 42 10.3 -3.0**
PZH pmax pmax
comp=Z,100nm,1.6s
PZH pmax pmax
comp=Z,730nm,3.9s
PZH LR LR
comp=Z,5µm,19.8s
PZH LR LR
comp=Z,4µm,18.2s
PZH LR LR
comp=Z,5µm,19.2s
PBKI Pangkalan Bun 43.65 91 P **P** **03 32 28.9 +0.2**
comp=Z,117nm,1.1s
TAS Tashkent 43.78 1 P **P** **03 32 30.8 +1.4**
TAS pmax pmax
comp=Z,359nm,1.5s
TAS Tashkent 43.78 1 P **P** **03 32 30.8 +1.4**
TBJI Tambak Boyo 43.91 97 P **P** **03 32 30.2 -0.6**
comp=Z,2µmcomp=Z,86nm,1.4s
PWJI Pagerwojo 43.95 99 P **P** **03 32 32.4 +1.3**
comp=Z,37nm,1.1s
NWCL Newcastle 44.09 232 *e*P **P** **03 32 31.1 -1.1**
NWCL IAmb IAmb 03 32 38.9
comp=Z,88nm,1.2s
SLR Silverton 44.50 235 *e*P **P** **03 32 35.8 +0.2**
SLR IAmb IAmb 03 32 42.6
comp=Z,248nm,1.3s
SBUM Sibu 44.53 84 P **P** **03 32 35.0 -0.8**
GRJI Gresik 44.54 97 P **P** **03 32 35.8 0.0**
comp=Z,84nm,1.2s
IUG Iuzhnay 44.63 2 *i* P **P** **03 32 36.4 +0.2**
IUG Iuzhnay 44.63 2 *i* P **P** **03 32 36.4 +0.2**
baz=2.0
AML Almayashu 44.88 6 P **P** **03 32 39.3 +0.8**
SNR=20
AML Almayashu 44.88 6 P **P** **03 32 39.2 +0.6**
AML Almayashu 44.88 6 *i* P **P** **03 32 39.0 +0.4**
SNR=20
EIL Elat 45.06 318 P **P** **03 32 40.6 +0.9**
comp=Z,5.9nm,0.8s,baz=161,slow=6.5,SNR=10
EIL PcP **PcP** **03 34 20.9 +0.4**
comp=Z,5.6nm,1.0s,baz=285,slow=1.4,SNR=3.5
UCH Uchtor 45.06 7 P **P** **03 32 41.2 +1.1**
SNR=63
ULHL Ulahol 45.31 9 P **P** **03 32 43.2 +1.4**
SNR=35
KDJ Kajisay 45.35 10 IAmb IAmb 03 32 45.6
comp=Z,240nm,2.0s
EKS2 Erkin-Say 45.41 6 P **P** **03 32 44.8 +2.4**
SNR=71
DZA Taraz 45.44 3 *e*P **P** **03 32 42.5 0.0**
DZA pmax pmax
comp=Z,34nm,1.2s
DZA Taraz 45.44 3 *e*P **P** **03 32 42.5 0.0**
comp=Z,34nm,1.2s,baz=3.3
AAK Ala-Archa 45.47 7 P **P** **03 32 43.5 +0.5**
comp=Z,25nm,1.1s,baz=198,slow=8.3,SNR=66
AAK LR LR 03 51 47.8
comp=Z,4µm,19.6s,baz=188,slow=36
AAK Ala-Archa 45.47 7 P **P** **03 32 44.2 +1.3**
AAK pmax pmax
comp=Z,118nm,1.4s
AAK MLR MLR
comp=Z,4µm,21.0s
AAK Ala-Archa 45.47 7 P **P** **03 32 44.2 +1.3**
AAK IAmb IAmb 03 32 47.6
comp=Z,118nm,1.4s
AAK Ala-Archa 45.47 7 P **P** **03 32 44.3 +1.3**
AAK Ala-Archa 45.47 7 *i* P **P** **03 32 43.8 +0.9**
SNR=59
ASF Jabal al Asfar 45.47 322 P **P** **03 32 44.9 +1.8**
comp=Z,14nm,0.8s,baz=22,slow=9.3,SNR=3.8
BRLS Borolday 45.50 2 *e*P **P** **03 32 41.1 -1.9**
BRLS *e*S **S** **03 39 21.4 -2.8**

BRLS	**Borolday**	**45.50**	**2**	*e*P		**P**	**03 32 41.1**	**-1.9**
	baz=1.6								
BRLS				*e*S		**S**	**03 39 21.4**	**-2.8**
	baz=1.6								
BOOM	**Boomskoye usch**	**45.51**	**8**	P		**P**	**03 32 43.2**	**-0.1**
BOOM				pmax	pmax				
	comp=Z,100nm,1.4s								
BOOM	**Boomskoye usch**	**45.51**	**8**	P		**P**	**03 32 43.1**	**-0.1**
BOOM				IAmb	IAmb		03 32 50.2		
	comp=Z,100nm,1.4s								
KBK	**Karagaybulak**	**45.54**	**7**	P		**P**	**03 32 45.2**	**+1.7**
	SNR=42								
GMJI	**Gumukmas**	**45.59**	**99**	P		**P**	**03 32 42.8**	**-1.3**
	comp=Z,24nm,1.5s								
FRU1	**Bishkek**	**45.65**	**7**	IAmb	IAmb		03 32 53.8		
	comp=Z,194nm,1.4s								
KSR	**Koster**	**45.69**	**236**	*e*P		**P**	**03 32 46.6**	**+1.6**
KSR				IAmb	IAmb		03 32 53.2		
	comp=Z,87nm,1.4s								
BLJI	**Banyuglugur**	**45.70**	**98**	P		**P**	**03 32 43.7**	**-1.3**
	comp=Z,1µmcomp=Z,27nm,1.5s								
GHAJ	**Ghor Haditha**	**45.72**	**320**	P		**P**	**03 32 45.5**	**+0.7**
GHAJ				IAmb	IAmb		03 32 49.4		
	comp=Z,91nm,1.4s								
PRYS	**Parys**	**45.75**	**234**	*e*P		**P**	**03 32 44.2**	**-1.2**
PRYS				IAmb	IAmb		03 32 52.0		
	comp=Z,51nm,1.2s								
CHMS	**Chumysh**	**45.85**	**7**	P		**P**	**03 32 47.0**	**+1.1**
	SNR=12								
TKM2	**Tokmak 2**	**45.88**	**8**	P		**P**	**03 32 46.9**	**+0.6**
	SNR=68								
TKM2	**Tokmak 2**	**45.88**	**8**	P		**P**	**03 32 46.1**	**-0.2**
SNKL	**Senekal, Frees**	**46.00**	**232**	*e*P		**P**	**03 32 46.6**	**-0.9**
SNKL				IAmb	IAmb		03 32 54.2		
	comp=Z,180nm,1.3s								
KMMI	**Kalianget**	**46.02**	**97**	P		**P**	**03 32 46.0**	**-1.6**
	comp=Z,3µmcomp=Z,178nm,1.5s								
GOMU	**GeErMu**	**46.06**	**30**	P		**P**	**03 32 48.0**	**0.0**
GOMU				pP		pP	03 32 51.5	-1.0	
GOMU				sP		sP	03 32 52.5	-1.6	
GOMU				PcP		**PcP**	**03 34 23.5**	**-0.8**	
GOMU				PP		**PP**	**03 34 36.0**	**-0.2**	
GOMU				S		**S**	**03 39 35.3**	**+2.2**	
GOMU				pmax	pmax				
	comp=Z,26nm,1.6s								
GOMU				pmax	pmax				
	comp=Z,470nm,9.1s								
GOMU				LR	LR				
	comp=Z,4µm,21.6s								
GOMU				LR	LR				
	comp=Z,4µm,20.0s								
GOMU				LR	LR				
	comp=Z,5µm,18.9s								
USP	**Ospenovka**	**46.09**	**7**	P		**P**	**03 32 48.3**	**+0.6**
	SNR=16								
TNSS	**Tian-Shan**	**46.20**	**9**	*e*P		**P**	**03 32 48.6**	**-0.3**
	baz=8.9								
SGDS	**Sogindy**	**46.28**	**7**	*e*P		**P**	**03 32 48.8**	**-0.4**
	comp=Z,76nm,1.4s,baz=6.5								
JAGI	**Jajag, Banyuwa**	**46.30**	**99**	P		**P**	**03 32 46.3**	**-3.5**
JAGI				IAmb	IAmb		03 32 55.2		
	comp=Z,50nm,0.9s								
JAGI	**Jajag, Banyuwa**	**46.30**	**99**	P		**P**	**03 32 47.8**	**-2.0**
	comp=Z,58nm,1.3s								
JAGI	**Jajag, Banyuwa**	**46.30**	**99**	P		**P**	**03 32 48.3**	**-1.5**
ABJI	**Asem Bagus**	**46.33**	**98**	P		**P**	**03 32 49.3**	**-0.7**
	comp=Z,2µmcomp=Z,106nm,1.3s								
MDOK	**Medeo**	**46.34**	**9**	*i* P		**P**	**03 32 49.5**	**-0.3**
MDOK				*i* S		**S**	**03 39 37.1**	**+0.7**
MDOK	**Medeo**	**46.34**	**9**	*i* P		**P**	**03 32 49.5**	**-0.3**
	baz=9.0								
MDOK				*i* S		**S**	**03 39 37.2**	**+0.7**
	baz=9.0								
MDOK				LR	LR		03 48 49.3		
	baz=9.0								
AAA	**Alma-Ata**	**46.36**	**9**	*e*P		**P**	**03 32 50.5**	**+0.7**
AAA	**Alma-Ata**	**46.36**	**9**	*e*P		**P**	**03 32 50.6**	**+0.7**
	baz=8.9								
LBTB	**Lobatse**	**46.46**	**238**	LR		LR	03 50 02.0		
	comp=Z,6µm,21.4s,baz=69,slow=33								
LBTB	**Lobatse**	**46.46**	**238**	*e*P		**P**	**03 32 50.9**	**-0.1**
LBTB				IAmb	IAmb		03 32 57.8		
	comp=Z,113nm,1.4s								
LBTB	**Lobatse**	**46.46**	**238**	P		**P**	**03 32 51.6**	**+0.6**
LBTB				pmax	pmax				
	comp=Z,129nm,1.5s								
LBTB	**Lobatse**	**46.46**	**238**	P		**P**	**03 32 51.6**	**+0.6**
LBTB				IAmb	IAmb		03 32 58.8		
	comp=Z,129nm,1.4s								
QIZ	**Qiongzhong**	**46.47**	**61**	IAmb	IAmb		03 32 54.8		
	comp=Z,109nm,1.3s								
QIZ	**Qiongzhong**	**46.47**	**61**	IAMs_20	IAMs_20		03 51 48.2		
	comp=Z,6µm,19.0s								
QIZ	**Qiongzhong**	**46.47**	**61**	P		**P**	**03 32 51.8**	**+0.8**
QIZ				PP		**PP**	**03 34 36.5**	**-3.9**	
QIZ				S		**S**	**03 39 40.0**	**+1.3**	
QIZ				SS		**SS**	**03 43 07.0**	**+2.1**	
QIZ				pmax	pmax				
	comp=Z,47nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,530nm,6.0s								
QIZ				LR	LR				
	comp=Z,2µm,18.3s								
QIZ				LR	LR				
	comp=Z,5µm,19.1s								
QIZ				LR	LR				
	comp=Z,5µm,20.7s								
QIZ	**Qiongzhong**	**46.47**	**61**	P		**P**	**03 32 52.6**	**+1.6**
ZHN	**Zhinishke**	**46.58**	**11**	*e*P		**P**	**03 32 50.6**	**-1.0**
ZHN	**Zhinishke**	**46.58**	**11**	*e*P		**P**	**03 32 50.6**	**-1.0**
	baz=10								
UZB	**Uzynbulak**	**46.67**	**11**	*i* P		**P**	**03 32 51.8**	**-0.6**
UZB				*i* S		**S**	**03 39 41.0**	**-0.2**
UZB				pmax	pmax				
	comp=Z,55nm,1.8s								
UZB	**Uzynbulak**	**46.67**	**11**	*i* P		**P**	**03 32 51.8**	**-0.6**
	comp=Z,55nm,1.8s,baz=11								
UZB				*i* S		**S**	**03 39 41.0**	**-0.2**
	baz=11								
BBKI	**Banjar Baru**	**46.81**	**92**	P		**P**	**03 32 53.5**	**-0.3**
	comp=Z,9µmcomp=Z,31nm,0.8s								
KPKS	**Kokpek**	**46.91**	**11**	*i* P		**P**	**03 32 53.9**	**-0.3**
KPKS				*e*S		**S**	**03 39 45.9**	**+1.4**
KPKS				pmax	pmax				
	comp=Z,67nm,1.7s								
KPKS	**Kokpek**	**46.91**	**11**	*i* P		**P**	**03 32 54.0**	**-0.3**
	comp=Z,67nm,1.7s,baz=10								
KPKS				*e*S		**S**	**03 39 45.9**	**+1.4**
	baz=10								
MTKI	**Muara Teweh, K**	**46.93**	**89**	P		**P**	**03 32 55.1**	**+0.3**
	comp=Z,104nm,1.6s								
PDGK	**Podgornoye**	**46.93**	**12**	P		**P**	**03 32 54.0**	**-0.4**
KUU	**Kurty**	**46.94**	**8**	*e*P		**P**	**03 32 53.6**	**-0.7**
KUU				*i* S		**S**	**03 39 45.9**	**+1.1**
KUU				pmax	pmax				
	comp=Z,150nm,1.8s								
KUU	**Kurty**	**46.94**	**8**	*e*P		**P**	**03 32 53.7**	**-0.7**
	comp=Z,150nm,1.8s,baz=8.1								
KUU				*i* S		**S**	**03 39 45.9**	**+1.1**
	baz=8.1								
KUU				LR	LR		03 50 14.4		
	baz=8.1								
MMAI	**Mount Meron Ar**	**46.97**	**322**	P		**P**	**03 32 56.4**	**+1.5**
	comp=Z,6.2nm,0.9s,baz=241,slow=14,SNR=5.6								
MMAI				PcP		**PcP**	**03 34 27.4**	**+0.2**	
	comp=Z,9.0nm,1.1s,baz=236,slow=21,SNR=4.1								
MMAI				LR	LR		03 51 03.6		
	comp=Z,2µm,20.3s,baz=289,slow=34								
SHBL	**Chebaa**	**46.98**	**322**	*e*P		**P**	**03 32 54.5**	**-0.5**
CHKK	**Chushkaly**	**47.00**	**9**	*e*P		**P**	**03 32 54.0**	**-0.8**
	baz=8.8								
MARD	**Mardin**	**47.10**	**330**	P		**P**	**03 32 56.7**	**+0.9**
GYA	**Guiyang**	**47.27**	**50**	⇓*i*P		**P**	**03 32 57.8**	**+0.5**
GYA				PcP		**PcP**	**03 34 28.8**	**+0.3**	
GYA				PP		**PP**	**03 34 47.3**	**-1.3**	
GYA				S		**S**	**03 39 47.8**	**-2.4**	
GYA				pmax	pmax				
	comp=Z,57nm,1.6s								
GYA				pmax	pmax				
	comp=Z,520nm,3.5s								
GYA				LR	LR				
	comp=Z,3µm,17.9s								
GYA				LR	LR				
	comp=Z,2µm,15.3s								
GYA				LR	LR				
	comp=Z,3µm,18.4s								
IGBI	**Denpasar**	**47.30**	**99**	P		**P**	**03 32 56.0**	**-1.7**
	comp=Z,92nm,1.1s								
SRBI	**Singaraja**	**47.32**	**99**	P		**P**	**03 32 56.8**	**-1.0**
	comp=Z,2µmcomp=Z,151nm,1.3s								
BHL	**Bhannes**	**47.42**	**323**	*e*P		**P**	**03 32 59.3**	**+0.9**
SWZ	**Schweizer**	**47.51**	**235**	*e*P		**P**	**03 32 57.9**	**-1.4**
SWZ				IAmb	IAmb		03 33 06.2		
	comp=Z,218nm,1.4s								
GNI	**Garni**	**47.62**	**336**	P		**P**	**03 33 00.7**	**+0.9**
	comp=Z,33nm,0.9s,baz=206,slow=2.0,SNR=32								
GNI				LR	LR		03 52 09.2		
	comp=Z,1µm,21.3s,baz=135,slow=35								
GNI	**Garni**	**47.62**	**336**	*ce*P		**P**	**03 33 00.9**	**+1.0**
GNI				pmax	pmax				
	comp=Z,208nm,1.7s								
GNI				MLR	MLR				
	comp=Z,2µm,23.0s								
GNI	**Garni**	**47.62**	**336**	P		**P**	**03 33 00.2**	**+0.4**
GNI	**Garni**	**47.62**	**336**	P		**P**	**03 33 01.3**	**+1.5**
GNI	**Garni**	**47.62**	**336**	P		**P**	**03 33 01.1**	**+1.2**
CD2	**Chengdu**	**47.70**	**43**	P		**P**	**03 33 00.0**	**-0.6**
CD2				S		**S**	**03 39 53.0**	**-3.1**
CD2				pmax	pmax				
	comp=Z,110nm,1.8s								
CD2				pmax	pmax				
	comp=Z,380nm,5.3s								
CD2				LR	LR				
	comp=Z,4µm,17.2s								
CD2				LR	LR				
	comp=Z,5µm,18.6s								
BTLS	**Baital**	**47.79**	**6**	*e*P		**P**	**03 33 00.2**	**-0.7**
BTLS				pmax	pmax				
	comp=Z,60nm,1.7s								
BTLS	**Baital**	**47.79**	**6**	*e*P		**P**	**03 33 00.2**	**-0.7**
	comp=Z,60nm,1.7s,baz=5.6								
BOSA	**Boshof**	**48.15**	**233**	P		**P**	**03 33 03.6**	**-0.6**
	comp=Z,9.0nm,0.9s,baz=72,slow=7.5,SNR=15								
BOSA				LR	LR		03 50 07.2		
	comp=Z,4µm,21.1s,baz=75,slow=32								
BOSA	**Boshof**	**48.15**	**233**	*e*P		**P**	**03 33 03.6**	**-0.6**
BOSA				IAmb	IAmb		03 33 12.2		
	comp=Z,87nm,1.2s								
BOSA	**Boshof**	**48.15**	**233**	P		**P**	**03 33 02.4**	**-1.7**
BOSA				IAmb	IAmb		03 33 12.5		
	comp=Z,81nm,1.1s								
TDK	**Taldyqorghan**	**48.35**	**10**	*e*P		**P**	**03 33 04.7**	**-0.5**
TDK				*i* S		**S**	**03 40 05.1**	**+0.3**
TDK				pmax	pmax				
	comp=Z,122nm,1.6s								
TDK	**Taldyqorghan**	**48.35**	**10**	*e*P		**P**	**03 33 04.8**	**-0.5**
	comp=Z,122nm,1.6s,baz=9.7								
TDK				*i* S		**S**	**03 40 05.1**	**+0.3**
	baz=9.7								
TDK				LR	LR		03 50 41.2		
	baz=9.7								
HVD	**Gariep Dam**	**48.81**	**231**	*e*P		**P**	**03 33 08.7**	**-0.6**
HVD				IAmb	IAmb		03 33 16.5		
	comp=Z,151nm,1.2s								
BKB	**Balikpapan**	**48.92**	**89**	IAMs_20	IAMs_20		03 52 00.8		
	comp=Z,5µm,20.0s								
BKB	**Balikpapan**	**48.92**	**89**	P		**P**	**03 33 12.2**	**+2.1**
	comp=Z,4µmcomp=Z,210nm,1.4s								
BKB	**Balikpapan**	**48.92**	**89**	P		**P**	**03 33 12.1**	**+2.0**
KKM	**Kota Kinabalu**	**48.95**	**80**	P		**P**	**03 33 09.9**	**-0.6**
KKM				IAmb	IAmb		03 33 14.1		
	comp=Z,208nm,1.6s								
KKM				IAMs_20	IAMs_20		03 52 51.3		
	comp=Z,6µm,21.0s								
KKM	**Kota Kinabalu**	**48.95**	**80**	P		**P**	**03 33 11.5**	**+1.0**
MAK	**Makhachkala**	**49.02**	**340**	*e*P		**P**	**03 33 06.1**	**-4.3**
MAK				*e*			03 34 57.3		
MAK				*e*S		**S**	**03 40 07.5**	**-6.6**	
MAK				*e*SS		**SS**	**03 43 41.1**	**-4.3**	
MAK				pmax	pmax				
	comp=Z,175nm,1.1s								
MAK				MLR	MLR				
	comp=Z,731nm,14.0s								
GIRL	**Giralia**	**49.04**	**118**	P		**P**	**03 33 10.8**	**-0.1**
GIRL	**Giralia**	**49.04**	**118**	P		**P**	**03 33 11.9**	**+1.0**
AKH	**Akhalkalaki**	**49.19**	**336**	⇑P		**P**	**03 33 13.6**	**+1.6**
WMQ	**Urumqi**	**49.54**	**19**	*e*P		**P**	**03 33 15.5**	**+1.0**
WMQ				PP		**PP**	**03 35 13.5**	**+4.5**	
WMQ				S		**S**	**03 40 25.0**	**+3.3**	
WMQ				pmax	pmax				
	comp=Z,92nm,1.9s								
WMQ				pmax	pmax				
	comp=Z,700nm,3.8s								
WMQ				LR	LR				
	comp=Z,9µm,19.7s								
WMQ				LR	LR				
	comp=Z,6µm,20.5s								
WMQ				LR	LR				
	comp=Z,8µm,24.7s								
CSS	**Mathiatis**	**49.55**	**322**	P		**P**	**03 33 15.2**	**+0.5**
GROC	**Groznyy**	**49.83**	**339**	*e*P		**P**	**03 33 17.9**	**+1.3**
GROC				*e*			03 34 37.8		
GROC				*e*S		**S**	**03 40 27.0**	**+1.5**	
GROC				pmax	pmax				
	comp=Z,133nm,1.6s								
PLAI	**Plampang**	**49.90**	**99**	P		**P**	**03 33 16.0**	**-1.7**
	comp=Z,1µmcomp=Z,46nm,1.8s								
PLAI	**Plampang**	**49.90**	**99**	P		**P**	**03 33 15.9**	**-1.7**
ONI	**Oni**	**50.19**	**336**	P		**P**	**03 33 19.1**	**-0.4**
ONI				pmax	pmax				
	comp=Z,49nm,1.7s								
ONI	**Oni**	**50.19**	**336**	P		**P**	**03 33 19.1**	**-0.4**
KTUT	**Trabzon**	**50.47**	**332**	⇑P		**P**	**03 33 23.2**	**+1.7**
MAKZ	**Makanchi**	**50.78**	**12**	P		**P**	**03 33 22.4**	**-1.4**
MAKZ				pmax	pmax				
	comp=Z,45nm,1.3s								
MAKZ	**Makanchi**	**50.78**	**12**	P		**P**	**03 33 22.4**	**-1.4**
BNN	**Bunyan**	**50.81**	**328**	IAmb	IAmb		03 33 27.1		
	comp=Z,179nm,1.3s								
MK31	**Makanchi Array**	**50.83**	**13**	*i* P		**P**	**03 33 23.1**	**-1.1**
MK31	**Makanchi Array**	**50.83**	**13**	P		**P**	**03 33 22.5**	**-1.7**
MKAR	**Makanchi Array**	**50.83**	**13**	P		**P**	**03 33 23.6**	**-0.6**
	comp=Z,11nm,0.8s,baz=202,slow=9.2,SNR=56								
MKAR				PcP		**PcP**	**03 34 40.9**	**+0.1**	
	comp=Z,6.0nm,1.0s,baz=190,slow=6.0,SNR=4.6								
MKAR				LR	LR		03 55 34.3		
	comp=Z,2µm,18.1s,baz=186,slow=37								
MKAR	**Makanchi Array**	**50.83**	**13**	P		**P**	**03 33 22.7**	**-1.5**
OTUK	**Ortayu**	**50.83**	**4**	P		**P**	**03 33 24.0**	**-0.1**
NCK	**Nalchik**	**50.90**	**337**	*i* P		**P**	**03 33 25.1**	**+0.3**
NCK				pmax	pmax				
	comp=Z,44nm,1.2s								
NEY	**Neytrino**	**51.04**	**336**	*i* P		**P**	**03 33 26.9**	**+0.9**
NEY				pmax	pmax				
	comp=Z,31nm,2.0s								
LZH	**Lanzhou**	**51.05**	**38**	⇑P		**P**	**03 33 26.5**	**+0.3**
LZH				pP		pP	03 33 31.0	+0.3	
LZH				S		**S**	**03 40 41.8**	**-1.3**	
LZH				SS		**SS**	**03 44 18.3**	**-0.2**	
LZH				pmax	pmax				
	comp=Z,74nm,1.3s								
LZH				pmax	pmax				
	comp=Z,530nm,6.0s								
LZH				LR	LR				
	comp=Z,4µm,14.6s								
LZH				LR	LR				
	comp=Z,4µm,14.8s								
LZH				LR	LR				
	comp=Z,8µm,18.0s								
GTA	**Gaotai**	**51.07**	**32**	⇑P		**P**	**03 33 26.5**	**+0.2**
GTA				pP		sP	03 33 32.0	-0.4	
GTA				sP		pwP	03 33 36.0	+1.0	
GTA				S		**S**	**03 40 39.3**	**-4.0**	
GTA				pmax	pmax				
	comp=Z,32nm,1.4s								
GTA				pmax	pmax				
	comp=Z,340nm,6.9s								
GTA				LR	LR				
	comp=Z,8µm,21.5s								
GTA				LR	LR				
	comp=Z,6µm,19.6s								
GTA				LR	LR				
	comp=Z,11µm,24.4s								
MYLDM	**Lahad Datu**	**51.08**	**81**	P		**P**	**03 33 25.5**	**-1.1**
MYLDM				IAmb	IAmb		03 33 30.1		
	comp=Z,112nm,1.3s								
MYLDM				IAMs_20	IAMs_20		03 54 50.7		
	comp=Z,7µm,20.0s								
GZH	**Guangzhou**	**51.08**	**57**	P		P	03 33 32.0	+5.6	
GZH				S		S	03 40 54.5	+11	
GZH				LR	LR				
	comp=Z,2µm,17.4s								
GZH				LR	LR				
	comp=Z,2µm,17.9s								
UPI	**Upington**	**51.30**	**235**	*e*P		**P**	**03 33 26.9**	**-1.1**
UPI				IAmb	IAmb		03 33 35.3		
	comp=Z,83nm,1.2s								
KBZ	**Khabaz**	**51.37**	**337**	P		**P**	**03 33 29.2**	**+1.0**
	comp=Z,23nm,1.0s,baz=154,slow=4.2,SNR=34								
KBZ				LR	LR		03 56 01.6		
	comp=Z,743nm,20.2s,baz=140,slow=37								
ENH	**Enshi**	**51.39**	**47**	P		**P**	**03 33 27.6**	**-1.0**
ENH				IAmb	IAmb		03 33 35.6		
	comp=Z,172nm,1.3s								
ENH				IAMs_20	IAMs_20		03 56 09.7		
	comp=Z,6µm,18.0s								
SHA1	**Shidzhatmaz**	**51.47**	**337**	*c i* P		**P**	**03 33 30.1**	**+0.8**
TOKA	**Tokat**	**51.56**	**329**	P		**P**	**03 33 29.4**	**-0.4**
KIV	**Kislovodsk**	**51.64**	**337**	⇑P		**P**	**03 33 31.6**	**+1.2**
KIV	**Kislovodsk**	**51.64**	**337**	*e*P		**P**	**03 33 30.3**	**-0.1**
KIV				*e*			03 35 28.4		
KIV				*e*S		**S**	**03 40 52.4**	**+1.5**	
KIV				pmax	pmax				
	comp=Z,21nm,1.0s								
KIV				MLR	MLR				
	comp=Z,490nm,17.0s								
KIV	**Kislovodsk**	**51.64**	**337**	P		**P**	**03 33 30.5**	**+0.1**
KIV				IAmb	IAmb		03 33 33.7		
	comp=Z,151nm,2.0s								
KIV	**Kislovodsk**	**51.64**	**337**	*i* P		**P**	**03 33 30.6**	**+0.1**
	SNR=9.4								
KEIM	**Keimoes**	**51.65**	**235**	*e*P		**P**	**03 33 29.8**	**-1.0**
KEIM				IAmb	IAmb		03 33 38.0		
	comp=Z,116nm,1.2s								
KAPI	**Kappang**	**51.71**	**94**	LR		LR	03 53 03.0		
	comp=Z,4µm,21.5s,baz=272,slow=33								
KAPI	**Kappang**	**51.71**	**94**	P		**P**	**03 33 30.5**	**-0.8**
KAPI				pmax	pmax				
	comp=Z,94nm,1.5s								
KAPI	**Kappang**	**51.71**	**94**	P		**P**	**03 33 30.5**	**-0.8**
KAPI				IAmb	IAmb		03 33 51.8		
	comp=Z,94nm,1.4s								
KAPI	**Kappang**	**51.71**	**94**	P		**P**	**03 33 30.2**	**-1.1**
SPSI	**Sidrap Palu**	**51.72**	**93**	P		**P**	**03 33 29.7**	**-1.7**
	comp=Z,777nmcomp=Z,25nm,1.5s								
TTSI	**Tana Toraja**	**51.78**	**92**	P		**P**	**03 33 31.2**	**-0.7**
	comp=Z,2µmcomp=Z,96nm,1.4s								
TSUM	**Tsumeb**	**51.90**	**248**	LR		LR	03 53 08.8		
	comp=Z,6µm,20.1s,baz=73,slow=33								
TSUM	**Tsumeb**	**51.90**	**248**	*e*P		**P**	**03 33 32.2**	**-0.7**
TSUM				IAmb	IAmb		03 33 40.4		
	comp=Z,760nm,1.3s								
TSUM	**Tsumeb**	**51.90**	**248**	P		**P**	**03 33 32.8**	**-0.1**
TSUM				IAmb	IAmb		03 33 41.5		
	comp=Z,142nm,1.6s								
TSUM	**Tsumeb**	**51.90**	**248**	IAMs_20	IAMs_20		03 52 57.3		
	comp=Z,6µm,20.0s								
MPSI	**Mapaga**	**52.00**	**88**	P		**P**	**03 33 33.7**	**+0.2**
	comp=Z,2µmcomp=Z,103nm,1.3s								
ZSN	**Zaisan**	**52.05**	**14**	*e*P		**P**	**03 33 32.4**	**-0.9**
ZSN				pmax	pmax				
	comp=Z,44nm,1.7s								
ZSN	**Zaisan**	**52.05**	**14**	*e*P		**P**	**03 33 32.5**	**-0.9**
	comp=Z,44nm,1.7s,baz=14								
BNSI	**Bone**	**52.06**	**93**	P		**P**	**03 33 33.4**	**-0.5**
	comp=Z,1µmcomp=Z,94nm,1.6s								
BKSI	**Bulukumba**	**52.08**	**95**	P		**P**	**03 33 32.6**	**-1.5**
	comp=Z,1µmcomp=Z,84nm,1.4s								
GRAN	**Grantham**	**52.10**	**230**	*e*P		**P**	**03 33 33.3**	**-0.7**
GRAN				IAmb	IAmb		03 33 41.1		
	comp=Z,35nm,0.9s								
AB31	**Akbulak array**	**52.17**	**353**	*i* P		**P**	**03 33 33.5**	**-0.6**
ABKAR	**Akbulak array**	**52.17**	**353**	P		**P**	**03 33 34.0**	**-0.1**
GOF	**Gofitskoye**	**52.44**	**338**	⇑*i*P		**P**	**03 33 36.5**	**+0.3**
GOF				pmax	pmax				
	comp=Z,262nm,1.8s								
BSSI	**Bau Bau, Buton**	**52.46**	**96**	P		**P**	**03 33 35.2**	**-1.7**
	comp=Z,2µmcomp=Z,138nm,1.5s								
SOC	**Sochi**	**52.56**	**334**	*e*P		**P**	**03 33 33.3**	**-3.8**
SOC				*e*			03 35 33.2		
SOC				*e*S		**S**	**03 41 00.1**	**-3.3**	
SOC				*e*SS		**SS**	**03 44 39.3**	**-2.6**	
SOC				*e*SSS		SSS	03 46 25.6		
SOC				pmax	pmax				
	comp=Z,39nm,1.2s								
SOC				MLR	MLR				
	comp=Z,963nm,19.0s								
BRZS	**Berezniki**	**52.58**	**4**	*i* P		**P**	**03 33 36.6**	**-0.6**
BRZS				pmax	pmax				
	comp=Z,39nm,1.5s								
BRZS	**Berezniki**	**52.58**	**4**	*i* P		**P**	**03 33 36.7**	**-0.5**
	comp=Z,40nm,1.5s,baz=3.7								
BR131	**Keskin Array S**	**52.63**	**327**	P		**P**	**03 33 36.8**	**-1.1**
BR131				pmax	pmax				
	comp=Z,44nm,1.2s								
BR131	**Keskin Array S**	**52.63**	**327**	P		**P**	**03 33 36.8**	**-1.1**
BRTR	**Keskin Array B**	**52.63**	**327**	P		**P**	**03 33 38.2**	**+0.3**
	comp=Z,8.7nm,0.9s,baz=146,slow=9.0,SNR=45								
BRTR				LR	LR		03 56 24.6		
	comp=Z,3µm,18.4s,baz=132,slow=36								
MORW	**Morawa**	**52.66**	**125**	P		**P**	**03 33 38.5**	**+0.3**
	baz=53,SNR=5.6								
MORW	**Morawa**	**52.66**	**125**	P		**P**	**03 33 37.0**	**-1.1**
MORW				IAmb	IAmb		03 33 46.1		
	comp=Z,158nm,1.4s								
MORW	**Morawa**	**52.66**	**125**	P		**P**	**03 33 38.9**	**+0.7**
BASI	**Baing, Sumba**	**52.76**	**101**	P		**P**	**03 33 39.3**	**+0.2**
	comp=Z,2µmcomp=Z,169nm,1.5s								
TOLI2	**Tolitoli**	**52.93**	**87**	P		**P**	**03 33 38.1**	**-2.3**
TOLI2				IAmb	IAmb		03 33 46.6		
	comp=Z,117nm,1.2s								
TOLI2	**Tolitoli**	**52.93**	**87**	P		**P**	**03 33 39.6**	**-0.8**
XAN	**Xi'an**

MUN	**Mundaring**	**53.87**	**128**	P		**P**		**03 33 47.0**	**-0.1**
	baz=54,SNR=3.8									
MUN	**Mundaring**	**53.87**	**128**	P		**P**		**03 33 48.4**	**+1.4**
SEM	**Semipalatinsk**	**53.90**	**10**	*e*P		**P**		**03 33 46.3**	**-0.8**
SEM				pmax	pmax					
	comp=Z,103nm,1.6s									
SEM	**Semipalatinsk**	**53.90**	**10**	*e*P		**P**		**03 33 46.3**	**-0.8**
	comp=Z,103nm,1.6s,baz=9.6									
SEM				LR	LR			03 54 02.8		
	baz=9.6									
KURK	**Kurchatov**	**53.94**	**8**	P		**P**		**03 33 46.0**	**-1.1**
KURK								03 34 52.1		
KURK	**Kurchatov**	**53.94**	**8**	P		**P**		**03 33 46.6**	**-0.5**
KURK				IAmb	IAmb			03 33 50.3		
	comp=Z,105nm,1.2s									
KURK	**Kurchatov**	**53.94**	**8**	IAMs_20	IAMs_20			03 57 04.2		
	comp=Z,3µm,18.0s									
MEEK	**Meekatharra**	**54.02**	**121**	P		**P**		**03 33 48.1**	**-0.2**
	baz=54,SNR=4.4									
MEEK	**Meekatharra**	**54.02**	**121**	P		**P**		**03 33 48.8**	**+0.5**
MRSI	**Marisa**	**54.04**	**88**	P		**P**		**03 33 46.7**	**-1.9**
	comp=Z,1µmcomp=Z,53nm,1.1s									
MMRI	**Maumere**	**54.29**	**99**	P		**P**		**03 33 48.2**	**-2.2**
	comp=Z,4µmcomp=Z,229nm,1.5s									
MMRI	**Maumere**	**54.29**	**99**	P		**P**		**03 33 48.6**	**-1.8**
BBSI	**Bau Bau**	**54.52**	**95**	P		**P**		**03 33 52.6**	**+0.5**
	comp=Z,238nmcomp=Z,17nm,1.2s									
ANN	**Anapa**	**54.53**	**334**	*e*P		**P**		**03 33 50.1**	**-1.4**
ANN				*e**PP		**pP**		**03 33 53.4**	**-2.5**
ANN				*e*				03 34 50.6		
ANN				*e*				03 35 51.7		
ANN				*e*S		**S**		**03 41 30.8**	**+0.8**
ANN				*e*SS		**SS**		**03 45 12.5**	**-0.4**
ANN				pmax	pmax					
	comp=Z,67nm,1.3s									
LUWI	**Luwuk**	**54.79**	**89**	P		**P**		**03 33 51.6**	**-2.5**
LUWI	**Luwuk**	**54.79**	**89**	P		**P**		**03 33 52.4**	**-1.6**
	comp=Z,3µmcomp=Z,112nm,1.5s									
KLBR	**Kellerberrin**	**54.95**	**127**	P		**P**		**03 33 55.6**	**+0.7**
	baz=55,SNR=6.3									
KLBR	**Kellerberrin**	**54.95**	**127**	P		**P**		**03 33 54.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**55.03**	**129**	P		**P**		**03 33 53.9**	**-1.6**
NWAO				pmax	pmax					
	comp=Z,121nm,1.3s									
NWAO	**Narrogin (SRO)**	**55.03**	**129**	P		**P**		**03 33 53.9**	**-1.6**
NWAO				IAmb	IAmb			03 34 02.4		
	comp=Z,122nm,1.3s									
TGY	**Tagaytay City**	**55.07**	**71**	LR		LR		03 55 59.3		
	comp=Z,2µm,20.5s,baz=258,slow=34									
TGY	**Tagaytay City**	**55.07**	**71**	*e*P		P		03 34 02.6	+6.6	
GTOI	**Gorontalo**	**55.12**	**87**	P		**P**		**03 33 54.7**	**-1.7**
	comp=Z,534nmcomp=Z,35nm,1.5s									
WHN	**Wuhan**	**55.16**	**50**	⇓P		**P**		**03 33 57.0**	**+0.6**
WHN				S		**S**		**03 41 42.0**	**+3.0**
WHN				SS		**SS**		**03 45 32.0**	**+8.7**
WHN				pmax	pmax					
	comp=Z,500nm,2.0s									
WHN				LR	LR					
	comp=Z,4µm,15.4s									
WHN				LR	LR					
	comp=Z,3µm,13.9s									
WHN				LR	LR					
	comp=Z,7µm,17.3s									
IDI	**Anoyia**	**55.22**	**317**	P		**P**		**03 33 57.4**	**+0.6**
	comp=Z,26nm,1.1s,baz=195,slow=5.6,SNR=3.1									
IDI				LR	LR			03 57 02.5		
	comp=Z,507nm,22.0s,baz=93,slow=35									
IDI	**Anoyia**	**55.22**	**317**	IAmb	IAmb			03 33 58.9		
	comp=Z,117nm,1.4s									
BVAR	**Borovoye Array**	**55.51**	**2**	P		**P**		**03 33 58.6**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=64,slow=15,SNR=41									
BRVK	**Borovoye**	**55.54**	**2**	P		**P**		**03 33 58.7**	**0.0**
BRVK				pmax	pmax					
	comp=Z,67nm,1.4s									
BRVK				MLR	MLR					
	comp=Z,3µm,22.0s									
BRVK	**Borovoye**	**55.54**	**2**	P		**P**		**03 33 58.7**	**0.0**
LQP	**Lukban**	**55.64**	**71**⇑	*e*P		**P**		**03 34 00.2**	**-0.1**
BATI	**Baumata**	**55.78**	**100**	LR		LR		03 56 51.6		
	comp=Z,4µm,21.1s,baz=280,slow=35									
BATI	**Baumata**	**55.78**	**100**	P		**P**		**03 34 00.6**	**-0.6**
	comp=Z,1µmcomp=Z,88nm,1.3s									
LYN	**LuoYang**	**55.80**	**44**	⇑P		**P**		**03 34 01.5**	**+0.6**
LYN				PP		**PP**		**03 36 03.8**	**-1.8**
LYN				S		**S**		**03 41 45.5**	**-1.9**
LYN				pmax	pmax					
	comp=Z,10.0nm,0.7s									
LYN				pmax	pmax					
	comp=Z,630nm,10.8s									
LYN				LR	LR					
	comp=Z,3µm,17.5s									
LYN				LR	LR					
	comp=Z,2µm,20.6s									
LYN				LR	LR					
	comp=Z,2µm,20.6s									
SIM	**Simferopol'**	**56.17**	**332**	*e*P		**P**		**03 34 02.9**	**-0.5**
SIM				pmax	pmax					
	comp=Z,135nm,2.0s									
QZH	**Quanzhou**	**56.22**	**58**⇑	*i*P		**P**		**03 34 03.8**	**-0.3**
QZH				S		**S**		**03 41 57.5**	**+4.3**
QZH				SS	SS			03 45 51.0	+11	
QZH				pmax	pmax					
	comp=Z,370nm,7.2s									
QZH				LR	LR					
	comp=Z,2µm,16.6s									
QZH				LR	LR					
	comp=Z,2µm,17.1s									
QZH				LR	LR					
	comp=Z,3µm,19.4s									
SOEI	**Soe**	**56.35**	**100**	P		**P**		**03 34 04.8**	**-0.6**
SOEI				IAMs_20	IAMs_20			03 54 35.5		
	comp=Z,4µm,22.0s									
SOEI	**Soe**	**56.35**	**100**	P		**P**		**03 34 05.2**	**-0.2**
	comp=Z,2µmcomp=Z,161nm,1.4s									
SOEI	**Soe**	**56.35**	**100**	P		**P**		**03 34 05.4**	**0.0**
TPUB	**Ta-pu**	**57.39**	**60**	IAMs_20	IAMs_20			03 56 58.4		
	comp=Z,5µm,21.0s									
TIY	**Taiyuan**	**57.49**	**41**	⇓P		**P**		**03 34 13.3**	**+0.3**
TIY				PP		**PP**		**03 36 26.8**	**+6.0**
TIY				S		**S**		**03 42 11.8**	**+1.9**
TIY				pmax	pmax					
	comp=Z,27nm,1.6s									
TIY				pmax	pmax					
	comp=Z,380nm,5.3s									
TIY				LR	LR					
	comp=Z,2µm,20.6s									
TIY				LR	LR					
	comp=Z,2µm,17.9s									
TIY				LR	LR					
	comp=Z,2µm,19.2s									
TWG	**Pinlang**	**57.61**	**61**	IAMs_20	IAMs_20			03 59 05.6		
	comp=Z,5µm,19.0s									
BTO	**Baotou**	**57.66**	**37**	*e*P		**P**		**03 34 14.0**	**-0.2**
BTO				S		**S**		**03 42 08.0**	**-4.0**
BTO				LR	LR					
	comp=Z,5µm,22.4s									
BTO				LR	LR					
	comp=Z,7µm,22.6s									
ALN	**Alexandroupoli**	**57.76**	**323**	IAmb	IAmb			03 34 17.7		
	comp=Z,247nm,2.0s									
KCP	**Kidapawan**	**57.81**	**80**⇑	*e*P		**P**		**03 34 14.8**	**-0.8**
SSLB	**Suanglung**	**57.83**	**60**	IAMs_20	IAMs_20			03 57 23.1		
	comp=Z,4µm,21.0s									
SSLB	**Suanglung**	**57.83**	**60**	P		**P**		**03 34 17.0**	**+1.4**
EDRB	**Edirne**	**57.94**	**324**	P		**P**		**03 34 13.1**	**-2.9**
SANI	**Sanana**	**57.97**	**91**	P		**P**		**03 34 14.9**	**-1.8**
	comp=Z,933nmcomp=Z,50nm,1.5s									
SANI	**Sanana**	**57.97**	**91**	P		**P**		**03 34 15.4**	**-1.3**
YULB	**Yu-li**	**57.99**	**60**	P		**P**		**03 34 17.6**	**+0.8**
YULB				IAmb	IAmb			03 34 26.5		
	comp=Z,176nm,1.4s									
YULB				IAMs_20	IAMs_20			03 57 28.6		
	comp=Z,5µm,21.0s									
LTK	**Loutraki**	**58.02**	**319**	P		P		03 34 25.9	+9.3	
ZAA0	**Zalesovo Array**	**58.13**	**12**	IAmb	IAmb			03 34 18.9		
	comp=Z,216nm,1.9s									
ZALV	**Zalesovo Beam**	**58.13**	**12**	P		**P**		**03 34 16.4**	**-0.7**
	comp=Z,16nm,0.8s,baz=216,slow=7.3,SNR=54									
ZALV				LR		LR		03 59 34.0		
	comp=Z,3µm,19.1s,baz=198,slow=36									
ZALV	**Zalesovo Beam**	**58.13**	**12**	P		**P**		**03 34 16.1**	**-1.0**
VRH	**Novokhopyorsk**	**58.13**	**341**	*e*P		**P**		**03 34 15.5**	**-1.6**
VRH				pmax	pmax					
	comp=Z,150nm,1.8s									
VRH				MLR	MLR					
	comp=Z,2µm,21.0s									
RDO	**Rodhopi**	**58.22**	**323**	P		**P**		**03 34 17.1**	**-0.8**
RDO	**Rodhopi**	**58.22**	**323**	P		**P**		**03 34 16.9**	**-1.0**
ITM	**Ithomi**	**58.25**	**317**	P		**P**		**03 34 18.7**	**+0.4**
ITM				IAmb	IAmb			03 34 21.9		
	comp=Z,75nm,1.4s									
DAV	**Davao City (W)**	**58.30**	**80**	P		**P**		**03 34 18.6**	**-0.5**
DAV	**Davao City (W)**	**58.30**	**80**	P		**P**		**03 34 20.0**	**+1.0**
YHNB	**Yeheng**	**58.49**	**59**	IAMs_20	IAMs_20			04 00 48.6		
	comp=Z,3µm,18.0s									
NACB	**Ninganchiao**	**58.51**	**60**	IAMs_20	IAMs_20			03 56 52.2		
	comp=Z,4µm,21.0s									
FITZ	**Fitzroy Crossi**	**58.51**	**110**	LR	LR			03 55 50.7		
	comp=Z,1µm,20.9s,baz=292,slow=32									
FITZ	**Fitzroy Crossi**	**58.51**	**110**	P		**P**		**03 34 18.8**	**-1.6**
FITZ				IAmb	IAmb			03 34 27.6		
	comp=Z,80nm,1.2s									
KLV	**Kalavryta, Ach**	**58.57**	**318**	P		**P**		**03 34 19.5**	**-1.0**
KDZ	**Kurdzhali**	**58.60**	**324**	*e*P		**P**		**03 34 20.6**	**0.0**
OUR	**Ouranopolis**	**58.68**	**322**	P		**P**		**03 34 20.1**	**-1.1**
TIRR	**Tirgusor**	**58.70**	**328**	⇓P		**P**		**03 34 21.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**58.74**	**38**	*e*P		**P**		**03 34 22.5**	**+0.7**
HHC				S		**S**		**03 42 27.5**	**+1.3**
HHC				pmax	pmax					
	comp=Z,46nm,1.4s									
HHC				pmax	pmax					
	comp=Z,440nm,7.7s									
HHC				LR	LR					
	comp=Z,2µm,14.4s									
HHC				LR	LR					
	comp=Z,3µm,18.1s									
HHC				LR	LR					
	comp=Z,4µm,18.0s									
VORD	**Divnogorie**	**58.76**	**339**	*e*P		**P**		**03 34 20.5**	**-1.0**
VORD				pmax	pmax					
	comp=Z,60nm,0.8s									
KNGR	**Kungurtug, Tuv**	**58.78**	**22**⇓	*i*P		**P**		**03 34 22.3**	**+0.5**
DRO	**Drossia**	**58.81**	**318**	P		**P**		**03 34 20.6**	**-1.6**
HNS	**HongShan**	**58.84**	**43**	⇑P		**P**		**03 34 23.0**	**+0.7**
HNS				S		**S**		**03 42 29.3**	**+2.0**
HNS				pmax	pmax					
	comp=Z,33nm,1.7s									
HNS				LR	LR					
	comp=Z,1µm,19.6s									
HNS				LR	LR					
	comp=Z,3µm,20.6s									
HNS				LR	LR					
	comp=Z,3µm,20.0s									
EFP	**Efpalio**	**58.94**	**319**	P		**P**		**03 34 22.9**	**-0.1**
TPGR	**Topolog**	**58.97**	**328**	⇑P		**P**		**03 34 22.8**	**-0.3**
AGG	**Agios Georgios**	**58.99**	**319**	P		**P**		**03 34 21.8**	**-1.6**
AGG	**Agios Georgios**	**58.99**	**319**	P		**P**		**03 34 22.5**	**-0.9**
AGG				pmax	pmax					
	comp=Z,301nm,1.9s									
AGG	**Agios Georgios**	**58.99**	**319**	P		**P**		**03 34 22.5**	**-0.9**
ANX	**Ano Chora**	**59.02**	**319**	P		**P**		**03 34 23.3**	**-0.4**
RLS	**Riolos of Patr**	**59.03**	**318**	P		**P**		**03 34 23.8**	**+0.1**
RZN	**Rozhen**	**59.04**	**323**	*e*P		**P**		**03 34 24.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**59.11**	**319**	P		**P**		**03 34 23.6**	**-0.7**
EVR	**Evrytania**	**59.27**	**319**	P		**P**		**03 34 23.4**	**-2.0**
LTHK	**Lithakia**	**59.27**	**317**	P		**P**		**03 34 25.3**	**0.0**
NJ2	**Nanjing**	**59.28**	**50**⇑	*i*P		**P**		**03 34 25.5**	**0.0**
NJ2				pP		**pP**		**03 34 29.8**	**-0.3**
NJ2				sP		**sP**		**03 34 31.3**	**-0.4**
NJ2				S		**S**		**03 42 35.8**	**+2.6**
NJ2				sS		**sS**		**03 42 44.5**	**+3.8**
NJ2				SS		**SS**		**03 46 29.3**	**+1.2**
NJ2				pmax	pmax					
	comp=Z,66nm,1.4s									
NJ2				pmax	pmax					
	comp=Z,420nm,3.5s									
NJ2				LR	LR					
	comp=Z,2µm,17.0s									
NJ2				LR	LR					
	comp=Z,4µm,17.8s									
NJ2				LR	LR					
	comp=Z,3µm,19.2s									
CFR	**Carcaliu**	**59.33**	**328**	⇓P		**P**		**03 34 25.3**	**-0.3**
NVR	**Nevrokopi**	**59.35**	**322**	P		**P**		**03 34 24.1**	**-1.8**
SOH	**Sokhos**	**59.35**	**322**	P		**P**		**03 34 25.5**	**-0.4**
VORR	**Voronezh**	**59.38**	**340**	*e*P		**P**		**03 34 24.8**	**-1.0**
VORR				pmax	pmax					
	comp=Z,133nm,1.4s									
SRS	**Serrai**	**59.38**	**322**	P		**P**		**03 34 25.4**	**-0.6**
ARU	**Arti**	**59.38**	**354**	P		**P**		**03 34 25.7**	**0.0**
	comp=Z,7.4nm,1.0s,baz=171,slow=6.1,SNR=35									
ARU				LR	LR			04 02 04.0		
	comp=Z,1µm,18.1s,baz=147,slow=38									
ARU	**Arti**	**59.38**	**354**	*c i*P		**P**		**03 34 25.6**	**-0.1**
ARU								03 35 11.1		
ARU								03 36 36.2		
ARU				PPP		PPP		03 38 00.2		
ARU				S		**S**		**03 42 37.2**	**+3.5**
ARU				SS		**SS**		**03 46 30.2**	**+1.3**
ARU				pmax	pmax					
	comp=Z,130nm,1.5s									
ARU				MLR	MLR					
	comp=Z,2µm,17.0s									
ARU	**Arti**	**59.38**	**354**	P		**P**		**03 34 25.5**	**-0.3**
ARU				IAmb	IAmb			03 34 29.0		
	comp=Z,162nm,1.5s									
TNTI	**Ternate**	**59.48**	**88**	P		**P**		**03 34 25.0**	**-2.2**
TNTI	**Ternate**	**59.48**	**88**	P		**P**		**03 34 27.0**	**-0.2**
	comp=Z,2µmcomp=Z,143nm,1.5s									
TNTI	**Ternate**	**59.48**	**88**	P		**P**		**03 34 27.0**	**-0.2**
LIT	**Litokhoron**	**59.48**	**321**	P		**P**		**03 34 26.0**	**-0.8**
LIT				pmax	pmax					
	comp=Z,154nm,1.8s									
LIT	**Litokhoron**	**59.48**	**321**	P		**P**		**03 34 26.0**	**-0.8**
LIT				IAmb	IAmb			03 34 28.5		
	comp=Z,154nm,1.8s									
LBMI	**Labuha**	**59.54**	**89**	P		**P**		**03 34 27.2**	**-0.4**
	comp=Z,3µmcomp=Z,191nm,1.3s									
MMB	**Musomiste**	**59.57**	**323**	*e*P		**P**		**03 34 27.1**	**-0.3**
SVE	**Sverdlovsk**	**59.58**	**355**	*de*P		**P**		**03 34 26.9**	**-0.2**
SVE				*e*S		**S**		**03 42 34.7**	**-1.6**
SVE				*e*				03 46 29.8		
SVE				pmax	pmax					
	comp=Z,112nm,1.6s									
SVE				MLR	MLR					
	comp=Z,2µm,18.0s									
SCHL	**Schela**	**59.71**	**328**	⇓P		**P**		**03 34 29.3**	**+1.2**
SCTR	**Scanteiesti**	**59.74**	**329**	⇓P		**P**		**03 34 29.0**	**+0.6**
IZVR	**Izvoarele**	**59.77**	**328**	⇓P		**P**		**03 34 29.3**	**+0.7**
SLCR	**Slobozia Conac**	**59.80**	**328**	⇑P		**P**		**03 34 28.5**	**-0.3**
VLDR	**Vladesti**	**59.81**	**329**	⇓P		**P**		**03 34 29.4**	**+0.5**
KNT	**Kendrikon**	**59.83**	**322**	P		**P**		**03 34 27.6**	**-1.6**
EVGI	**Lefkada island**	**59.87**	**318**	P		**P**		**03 34 27.5**	**-2.0**
KTI	**Kastanea**	**59.88**	**321**	P		**P**		**03 34 29.2**	**-0.5**
NYDR	**Nydri-Lefkada**	**59.89**	**318**	P		**P**		**03 34 29.2**	**-0.4**
TIA	**Tai'an**	**59.91**	**45**	⇑P		**P**		**03 34 30.0**	**+0.2**
TIA				S		**S**		**03 42 42.8**	**+1.5**
TIA				pmax	pmax					
	comp=Z,30nm,1.4s									
TIA				pmax	pmax					
	comp=Z,330nm,5.3s									
TIA				LR	LR					
	comp=Z,2µm,21.6s									
TIA				LR	LR					
	comp=Z,2µm,20.8s									
TIA				LR	LR					
	comp=Z,4µm,21.7s									
TSLK	**Tsoukalades, L**	**59.98**	**318**	P		**P**		**03 34 29.6**	**-0.6**
GRG	**Griva**	**60.02**	**321**	P		**P**		**03 34 29.9**	**-0.6**
KZN	**Kozani**	**60.06**	**320**	P		**P**		**03 34 29.9**	**-0.9**
KPRO	**Kipourio**	**60.12**	**320**	P		**P**		**03 34 29.6**	**-1.7**
KKB	**Krupnik**	**60.13**	**323**	*e*P		**P**		**03 34 31.0**	**-0.2**
VAY	**Valandovo**	**60.13**	**322**	*i* P		**P**		**03 34 30.1**	**-1.1**
AAI	**Ambon**	**60.13**	**93**	P		**P**		**03 34 30.3**	**-1.4**
	comp=Z,83nm,0.7s									
ISR	**Istrita**	**60.14**	**327**	⇑P		**P**		**03 34 32.2**	**+0.9**
MILM	**Milestii Mici**	**60.16**	**330**	⇑P		**P**		**03 34 30.8**	**-0.5**
COPA	**Copaceanca**	**60.25**	**326**	⇑P		**P**		**03 34 32.2**	**+0.3**
LPSR	**Galich'ya Gora**	**60.25**	**340**	*e*P		**P**		**03 34 30.8**	**-0.9**
LPSR				pmax	pmax					
	comp=Z,100nm,1.0s									
LPSR				MLR	MLR					
	comp=Z,620nm,14.0s									
GHRR		**60.30**	**329**	⇓P		**P**		**03 34 33.0**	**+0.8**
PANC	**Panciu**	**60.31**	**328**	⇓P		**P**		**03 34 32.1**	**-0.2**
BISRR	**Bisoca**	**60.33**	**328**	⇑P		**P**		**03 34 31.9**	**-0.7**
PENT	**Pentalofos**	**60.40**	**320**	P		**P**		**03 34 32.9**	**-0.3**
SONM	**Songino Array**	**60.44**	**29**	P		**P**		**03 34 33.1**	**-0.3**
	comp=Z,41nm,1.0s,baz=223,slow=6.4,SNR=141									
SONM				LR	LR			04 00 29.1		
	comp=Z,13µm,20.9s,baz=190,slow=36									
SONM	**Songino Array**	**60.44**	**29**	P		**P**		**03 34 34.2**	**+0.8**
SONM				pmax	pmax					
	comp=Z,169nm,1.3s									
SONM	**Songino Array**	**60.44**	**29**	P		**P**		**03 34 34.1**	**+0.8**
NEHR	**Nehoiu**	**60.47**	**327**	⇑P		**P**		**03 34 34.2**	**+0.7**
VTS	**Vitosha**	**60.48**	**323**	⇑P		**P**		**03 34 33.9**	**+0.2**
VTS	**Vitosha**	**60.48**	**323**	P		**P**		**03 34 33.7**	**0.0**
VTS				pmax	pmax					
	comp=Z,97nm,1.5s									
VTS	**Vitosha**	**60.48**	**323**	P		**P**		**03 34 33.7**	**0.0**
VTS				IAmb	IAmb			03 34 36.4		
	comp=Z,97nm,1.5s									
VTS	**Vitosha**	**60.48**	**323**	*e*P		**P**		**03 34 33.3**	**-0.4**
VASR	**Vaslui**	**60.49**	**329**	⇑P		**P**		**03 34 34.2**	**+0.7**
VRI	**Vrincioaia**	**60.53**	**328**	⇓P		**P**		**03 34 34.4**	**+0.5**
PLOR	**Plostina**	**60.56**	**328**	⇑P		**P**		**03 34 34.9**	**+0.8**
IGT	**Igoumenitsa**	**60.57**	**319**	P		**P**		**03 34 33.1**	**-1.1**
FNA	**Florina**	**60.57**	**321**	P		**P**		**03 34 33.2**	**-1.1**
FNA	**Florina**	**60.57**	**321**	IAmb	IAmb			03 34 36.2		
	comp=Z,112nm,1.9s									
NEST	**Nestorio**	**60.58**	**320**	P		**P**		**03 34 33.9**	**-0.5**
STIP	**Stip**	**60.58**	**322**	*i* P		**P**		**03 34 32.5**	**-1.7**
VLAD	**Vladila**	**60.62**	**325**	⇓P		**P**		**03 34 35.0**	**+0.5**
SSE	**Sheshan**	**60.69**	**52**	P		**P**		**03 34 36.3**	**+1.1**
SSE				S		**S**		**03 42 53.8**	**+2.4**
SSE				pmax	pmax					
	comp=Z,34nm,0.7s									
SSE				pmax	pmax					
	comp=Z,260nm,3.5s									
SSE				LR	LR					
	comp=Z,960nm,18.1s									
MLR	**Muntele Rosu**	**60.70**	**327**	⇓P		**P**		**03 34 36.1**	**+0.9**
MLR	**Muntele Rosu**	**60.70**	**327**	P		**P**		**03 34 35.2**	**0.0**
	comp=Z,84nm,1.4s,baz=184,slow=2.4,SNR=32									
MLR	**Muntele Rosu**	**60.70**	**327**	P		**P**		**03 34 35.6**	**+0.4**
MLR				pmax	pmax					
	comp=Z,207nm,1.6s									
MLR				MLR	MLR					
	comp=Z,1µm,21.0s									
MLR	**Muntele Rosu**	**60.70**	**327**	P		**P**		**03 34 35.6**	**+0.4**
ULN	**Ulaanbaatar**	**60.78**	**29***c i*P			**P**		**03 34 36.1**	**+0.4**
ULN				pmax	pmax					
	comp=Z,100nm,1.7s									
ULN	**Ulaanbaatar**	**60.78**	**29**	P		**P**		**03 34 34.8**	**-0.9**
ULN				IAmb	IAmb			03 34 39.5		
	comp=Z,119nm,1.6s									
COVR	**Voineasa-Covas**	**60.79**	**328**	⇓P		**P**		**03 34 35.9**	**+0.2**
KBN	**Korca**	**60.86**	**320**	P		**P**		**03 34 36.0**	**-0.3**
KBN	**Korca**	**60.86**	**320**	IAmb	IAmb			03 35 02.6		
	comp=Z,58nm,1.3s									
MSAI	**Masohi**	**60.87**	**92**	P		**P**		**03 34 36.7**	**-0.1**
	comp=Z,843nmcomp=Z,6.2nm,0.4s									
ZAK	**Zakamensk**	**60.88**	**25**	*e*P		**P**		**03 34 36.3**	**0.0**
ZAK				pmax	pmax					
	comp=Z,64nm,1.6s									
MOY	**Mondy**	**60.94**	**23**	*e*P		**P**		**03 34 36.7**	**0.0**
MOY				pmax	pmax					
	comp=Z,68nm,1.7s									
TESR	**Tescani**	**60.99**	**329**	⇓P		**P**		**03 34 37.3**	**+0.3**
KEK	**Kerkira**	**61.01**	**319**	P		**P**		**03 34 37.1**	**-0.1**
OHR	**Ohrid**	**61.12**	**321**	*i* P		**P**		**03 34 37.5**	**-0.5**
VOIR		**61.16**	**327**	⇑P		**P**		**03 34 38.6**	**+0.3**
OZUR		**61.18**	**328**	⇑P		**P**		**03 34 38.0**	**-0.3**
BJT	**Baijiatuau**	**61.19**	**41**	P		**P**		**03 34 38.6**	**+0.1**
BJT				pmax	pmax					
	comp=Z,153nm,1.7s									
BJT				MLR	MLR					
	comp=Z,2µm,19.0s									
BJT	**Baijiatuau**	**61.19**	**41**	P		**P**		**03 34 38.6**	**+0.1**
BJT				IAmb	IAmb			03 34 41.6		
	comp=Z,153nm,1.7s									
KNRA	**Kununurra**	**61.19**	**106**	P		**P**		**03 34 37.9**	**-0.9**
	baz=61,SNR=11									
KNRA	**Kununurra**	**61.19**	**106**	P		**P**		**03 34 38.3**	**-0.6**
KNRA	**Kununurra**	**61.19**	**106**	P		**P**		**03 34 38.5**	**-0.4**
SKO	**Skopje**	**61.19**	**322**	*i* P		**P**		**03 34 37.6**	**-0.8**
BJI	**Beijing**	**61.21**	**41**	P		**P**		**03 34 39.3**	**+0.8**
BJI				S		**S**		**03 43 00.3**	**+2.7**
BJI				SS		**SS**		**03 47 02.8**	**+4.7**
BJI				pmax	pmax					
	comp=Z,35nm,1.4s									
BJI				pmax	pmax					
	comp=Z,470nm,5.2s									
BJI				LR	LR					
	comp=Z,2µm,17.4s									
BJI				LR	LR					
	comp=Z,

XLT					SS	SS	03 47 41.3	+11	
XLT					pmax	pmax			
	comp=Z,30nm,1.5s								
XLT					pmax	pmax			
	comp=Z,500nm,8.4s								
XLT					LR	LR			
	comp=Z,280nm,18.1s								
XLT					LR	LR			
	comp=Z,2μm,21.1s								
XLT					LR	LR			
	comp=Z,3μm,19.0s								
MTN	**Manton Dam**	**63.26**	**103**		P	**P**	**03 34 51.9**	**-0.8**	
	baz=63,SNR=7.3								
MTN	**Manton Dam**	**63.26**	**103**		P	**P**	**03 34 52.0**	**-0.8**	
MTN					IAmb	IAmb	03 34 59.4		
	comp=Z,54nm,1.1s								
MTN	**Manton Dam**	**63.26**	**103**		P	**P**	**03 34 52.5**	**-0.3**	
DIVS	**Divibare**	**63.26**	**323**		*e*P	**P**	**03 34 51.3**	**-1.1**	
DRGR		**63.27**	**327**		⇓P	**P**	**03 34 52.5**	**+0.1**	
MOS	**Moscow**	**63.28**	**341**		*e*P	**P**	**03 34 48.9**	**-3.2**	
MOS					*e*		03 35 27.9		
MOS					*e*		03 37 13.6		
MOS					*e*S	**S**	**03 43 22.0**	**-1.2**	
MOS					pmax	pmax			
	comp=Z,304nm,1.7s								
MOS					MLR	MLR			
	comp=Z,1μm,21.0s								
SWI	**Sorong**	**63.28**	**90**		P	**P**	**03 34 52.2**	**-0.8**	
	comp=Z,2μmcomp=Z,114nm,1.5s								
HCY	**Herceg Novi**	**63.29**	**321**		*e*P	**P**	**03 34 48.5**	**-4.0**	
SlJI	**Sorong**	**63.29**	**90**		LR	LR	04 01 01.9		
	comp=Z,416nm,20.8s,baz=238,slow=35								
MESR	**Meseseni**	**63.36**	**327**		⇑P	**P**	**03 34 53.1**	**+0.2**	
RUDO	**Rudo**	**63.37**	**322**		*e*P	**P**	**03 34 51.5**	**-1.5**	
BMR	**Baia Mare**	**63.39**	**328**		⇑P	**P**	**03 34 53.2**	**+0.1**	
UPM	**Unac-Piva**	**63.43**	**322**		*e*P	**P**	**03 34 52.8**	**-0.9**	
BBLS	**Lazići**	**63.49**	**323**		*e*P	**P**	**03 34 53.1**	**-0.7**	
BRY	**Bratogost**	**63.50**	**321**		*e*P	**P**	**03 34 53.7**	**-0.3**	
TREB	**Trebinje**	**63.52**	**321**		*e*P	**P**	**03 34 52.8**	**-1.2**	
MATE	**Matera**	**63.53**	**318**		⇑P	**P**	**03 34 54.2**	**+0.1**	
DBRK	**Dubrovnik**	**63.62**	**321**		*i* P	**P**	**03 34 54.8**	**+0.1**	
FRGS	**Fruska Gora**	**63.96**	**324**		⇓P	**P**	**03 34 56.0**	**-0.9**	
FRGS	**Fruska Gora**	**63.96**	**324**		*e*P	**P**	**03 34 54.9**	**-2.0**	
STON	**Ston**	**64.01**	**321**		*e*P	**P**	**03 34 55.8**	**-1.4**	
STON	**Ston**	**64.01**	**321**		*i* P	**P**	**03 34 56.3**	**-0.9**	
LTVH	**Ltavrtes, Hu**	**64.07**	**327**		⇑P	**P**	**03 34 58.0**	**+0.5**	
LTVH	**Ltavrtes, Hu**	**64.07**	**327**		P	**P**	**03 34 57.3**	**-0.2**	
AMBH	**Ambrzfalva**	**64.11**	**326**		P	**P**	**03 34 58.4**	**+0.6**	
FAKI	**Fak Fak**	**64.20**	**92**		P	**P**	**03 34 59.7**	**+0.6**	
FAKI	**Fak Fak**	**64.20**	**92**		P	**P**	**03 34 59.1**	**+0.1**	
	comp=Z,2μmcomp=Z,156nm,1.3s								
FAKI	**Fak Fak**	**64.20**	**92**		P	**P**	**03 35 00.0**	**+1.0**	
DL2	**Dalian**	**64.33**	**44**		P	**P**	**03 35 00.5**	**+1.1**	
DL2					S	**S**	**03 43 40.8**	**+3.8**	
DL2					pmax	pmax			
	comp=Z,41nm,1.3s								
DL2					pmax	pmax			
	comp=Z,350nm,4.7s								
DL2					LR	LR			
	comp=Z,2μm,21.6s								
DL2					LR	LR			
	comp=Z,2μm,21.8s								
DL2					LR	LR			
	comp=Z,3μm,22.6s								
LSTV	**Lastovo**	**64.47**	**321**		*i* P	**P**	**03 34 59.9**	**-0.3**	
LVV	**L'vov**	**64.47**	**330**		*e*P	**P**	**03 34 58.7**	**-1.4**	
LVV					*e*		03 35 34.0		
LVV					*e*S	**S**	**03 43 38.6**	**+0.3**	
LVV					*e*PS	PnS	03 44 12.6	+16	
LVV					*e*		03 44 56.0		
LVV					*e*SS	**SS**	**03 47 50.4**	**+1.5**	
LVV					pmax	pmax			
	comp=Z,200nm,1.5s								
LVV					MLR	MLR			
	comp=N,200nm,21.0s								
LVV					MLR	MLR			
	comp=Z,900nm,21.0s								
LVV					MLR	MLR			
	comp=Z,1μm,20.0s								
CLTB	**Caltabellotta**	**64.53**	**314**		IAmb	IAmb	03 35 12.9		
	comp=Z,106nm,1.6s								
KDU	**Kakadu**	**64.55**	**103**		P	**P**	**03 35 00.6**	**-0.7**	
	baz=64,SNR=18								
KDU	**Kakadu**	**64.55**	**103**		P	**P**	**03 35 01.1**	**-0.2**	
UZH	**Uzhgorod**	**64.62**	**328**	⇓	*i*P	**P**	**03 35 00.0**	**-1.1**	
UZH					*i*		03 35 05.2		
MAKA	**Makarska**	**64.65**	**321**		*i* P	**P**	**03 35 01.2**	**-0.2**	
RICI	**Ricice**	**64.69**	**321**		P	**P**	**03 35 01.2**	**-0.5**	
MAW	**Mawson**	**64.93**	**182**		P	**P**	**03 35 02.7**	**-0.1**	
	comp=Z,7.6nm,0.8s,baz=1.7,slow=8.3,SNR=7.2								
MAW					LR	LR	03 56 12.5		
	comp=Z,5μm,21.4s,baz=354,slow=30								
MAW	**Mawson**	**64.93**	**182**		P	**P**	**03 35 03.1**	**+0.3**	
	baz=65,SNR=11								
MAW	**Mawson**	**64.93**	**182**		P	**P**	**03 35 03.0**	**+0.3**	
MAW					pmax	pmax			
	comp=Z,15nm,1.2s								
MAW	**Mawson**	**64.93**	**182**		P	**P**	**03 35 03.0**	**+0.3**	
HVAR	**Hvar**	**64.95**	**321**		*i* P	**P**	**03 35 03.2**	**-0.2**	
KWP	**Kalwaria Pacla**	**65.02**	**329**		*e*P	**P**	**03 35 03.3**	**-0.4**	
JOW	**Kunigami**	**65.07**	**59**		LR	LR	04 05 20.8		
	comp=Z,2μm,18.1s,baz=264,slow=38								
PAOL	**Paolisi**	**65.13**	**318**		P	**P**	**03 35 03.5**	**-1.2**	
MGRS	**Mrkonjic Grad**	**65.19**	**322**		*e*P	**P**	**03 35 03.8**	**-1.2**	
CRVS	**Cervenica-Dubn**	**65.22**	**328**		*e*P	**P**	**03 35 04.9**	**-0.1**	
CRVS					pmax	pmax			
	comp=Z,151nm,1.6s								
CRVS	**Cervenica-Dubn**	**65.22**	**328**		*e*P	**P**	**03 35 04.9**	**-0.1**	
A252A	**Venje**	**65.27**	**323**		*i* P	**P**	**03 35 04.6**	**-0.9**	
A052A	**Srbac**	**65.29**	**323**		*e*P	**P**	**03 35 05.0**	**-0.5**	
BLY	**Banja Luka**	**65.31**	**323**		*e*P	**P**	**03 35 04.9**	**-0.7**	
KIJV	**Kijevo**	**65.40**	**322**		*i* P	**P**	**03 35 06.0**	**-0.3**	
KOVH	**Kovagotottos**	**65.47**	**324**		P	**P**	**03 35 05.5**	**-1.3**	
PSZ	**Piszkesteto**	**65.48**	**327**		⇑P	**P**	**03 35 06.6**	**-0.2**	
PSZ	**Piszkesteto**	**65.48**	**327**		IAmb	IAmb	03 35 08.3		
	comp=Z,57nm,1.6s								
PSZ	**Piszkesteto**	**65.48**	**327**		P	**P**	**03 35 05.1**	**-1.7**	
A050A	**Klekovaca**	**65.56**	**322**		*e*P	**P**	**03 35 06.1**	**-1.3**	
A051A	**Mrakovica**	**65.61**	**323**		*e*P	**P**	**03 35 07.1**	**-0.6**	
ZIRJ	**Zirje**	**65.70**	**321**		*i* P	**P**	**03 35 07.9**	**-0.3**	
BUD	**Budapest**	**65.72**	**326**		P	**P**	**03 35 08.5**	**+0.3**	
MORI	**Morici**	**65.77**	**321**		*i* P	**P**	**03 35 08.1**	**-0.5**	
MNK	**Minsk**	**65.89**	**336**		*i* P	**P**	**03 35 08.1**	**-1.1**	
MNK					*i*		03 37 33.0		
MNK					*i* PPP	PPP	03 39 06.8		
MNK					*i* S	**S**	**03 43 56.2**	**+0.7**	
MNK					*i* SS	**SS**	**03 48 10.7**	**0.0**	
MNK					pmax	pmax			
	comp=Z,83nm,1.6s								
MNK					pmax	pmax			
	comp=N,51nm,1.6s								
MNK					pmax	pmax			
	comp=E,15nm,1.6s								
MNK					MLR	MLR			
	comp=E,129nm,20.0s								
MNK					MLR	MLR			
	comp=N,950nm,27.0s								
MNK					MLR	MLR			
	comp=Z,1μm,24.0s								
MNK	**Minsk**	**65.89**	**336**		*i* P	**P**	**03 35 08.1**	**-1.1**	
	comp=E,15nm,1.6s,baz=135								
MNK					*i* P	**P**	**03 35 08.1**	**-1.1**	
	comp=N,51nm,1.6s								
MNK					*i* P	**P**	**03 35 08.1**	**-1.1**	
	comp=Z,83nm,1.6s								
MNK					*i* PP	**PP**	**03 37 33.1**	**-1.4**	
MNK					*i* PPP	PPP	03 39 06.9		
MNK					*i* S	**S**	**03 43 56.2**	**+0.7**	
MNK					*i* SS	**SS**	**03 48 10.8**	**0.0**	
MNK					*i* SSS	SSS	03 51 18.0		
MNK					*i* LQ	LQ	03 59 16.4		
MNK					*i* LR	LR	04 04 17.5		
MNK					*i* LRM	MLR	04 06 04.7		
	comp=E,129nm,19.8s								
MNK					*i* LRM	MLR	04 06 10.5		
	comp=N,950nm,27.5s								
MNK					*i* LRM	MLR	04 07 06.7		
	comp=Z,1μm,24.3s								
IZAB	**Izabela**	**65.96**	**327**		*e*P	**P**	**03 35 09.5**	**-0.3**	
IZAB					pmax	pmax			
	comp=Z,45nm,1.7s								
MOSL	**Moslavina**	**66.02**	**323**		*i* P	**P**	**03 35 08.8**	**-1.5**	
A251A	**Rujevac**	**66.06**	**323**		*i* P	**P**	**03 35 09.8**	**-0.7**	
UDBI	**Udbina**	**66.06**	**322**		*i* P	**P**	**03 35 10.2**	**-0.4**	
NIE	**Niedzica**	**66.14**	**328**		*e*P	**P**	**03 35 11.4**	**+0.4**	
SRO2	**Moca**	**66.23**	**326**		*e*P	**P**	**03 35 09.9**	**-1.6**	
SRO2					pmax	pmax			
	comp=Z,64nm,1.3s								
SRO2	**Moca**	**66.23**	**326**		*e*P	**P**	**03 35 09.9**	**-1.6**	
DUGI	**Dugi Otok**	**66.23**	**321**		*i* P	**P**	**03 35 10.9**	**-0.8**	
SRO	**Srobarova**	**66.30**	**326**		*e*P	**P**	**03 35 12.0**	**0.0**	
SRO					pmax	pmax			
	comp=Z,144nm,1.8s								
SRO	**Srobarova**	**66.30**	**326**		*e*P	**P**	**03 35 12.0**	**0.0**	
PLIT	**Plitvice**	**66.33**	**322**		*i* P	**P**	**03 35 11.3**	**-1.0**	
PRGR	**Permogore**	**66.37**	**349**		*e*P	**P**	**03 35 08.7**	**-3.4**	
PRGR					pmax	pmax			
	comp=Z,33nm,1.5s								
VIRC	**Vir**	**66.39**	**321**		*i* P	**P**	**03 35 11.9**	**-0.7**	
MPLH	**Magyarpolny**	**66.39**	**325**		P	**P**	**03 35 11.9**	**-0.7**	
VYHS	**Vyhne**	**66.39**	**327**		*e*P	**P**	**03 35 11.8**	**-0.8**	
VYHS					pmax	pmax			
	comp=Z,18nm,1.2s								
VYHS	**Vyhne**	**66.39**	**327**		*e*P	**P**	**03 35 11.8**	**-0.8**	
LANS	**Liptovska Anna**	**66.43**	**328**		*e*P	**P**	**03 35 12.9**	**+0.1**	
LANS					pmax	pmax			
	comp=Z,44nm,1.4s								
LANS	**Liptovska Anna**	**66.43**	**328**		*e*P	**P**	**03 35 12.9**	**+0.1**	
KALN	**Kalnik**	**66.47**	**324**		*i* P	**P**	**03 35 12.0**	**-1.1**	
AQU	**L'Aquila**	**66.52**	**319**		IAmb	IAmb	03 35 25.3		
	comp=Z,85nm,1.4s								
AQU	**L'Aquila**	**66.52**	**319**		*e*P	**P**	**03 35 13.6**	**0.0**	
ZAG	**Zagreb**	**66.59**	**323**		*e*P	**P**	**03 35 13.5**	**-0.3**	
ZAG	**Zagreb**	**66.59**	**323**		P	**P**	**03 35 13.5**	**-0.3**	
NACGM	**Naroch**	**66.63**	**336**	⇓	*e*P	**P**	**03 35 14.5**	**+0.6**	
NVLJ	**Novalja**	**66.63**	**321**		*i* P	**P**	**03 35 13.1**	**-1.0**	
PTJ	**Puntijarka**	**66.64**	**323**		P	**P**	**03 35 13.7**	**-0.7**	
KEST	**Kesra**	**66.64**	**311**		P	**P**	**03 35 15.9**	**+1.4**	
	comp=Z,16nm,1.1s,baz=64,slow=3.3,SNR=9.5								
KEST					LR	LR	04 01 27.3		
	comp=Z,657nm,21.8s,baz=52,slow=33								
KEST	**Kesra**	**66.64**	**311**		IAmb	IAmb	03 35 18.5		
	comp=Z,92nm,1.5s								
CIT	**Chita**	**66.68**	**29**		*e*P	**P**	**03 35 14.8**	**+0.4**	
CIT					*e*		03 35 38.2		
CIT					pmax	pmax			
	comp=Z,227nm,1.8s								
KOLL	**Kolacno**	**66.68**	**327**		*e*P	**P**	**03 35 14.0**	**-0.4**	
LOBO	**Lobor**	**66.71**	**323**		*i* P	**P**	**03 35 13.5**	**-1.1**	
KOGS	**Kog**	**66.75**	**324**		*e*P	**P**	**03 35 14.1**	**-0.8**	
RABC	**Rab**	**66.78**	**322**		*i* P	**P**	**03 35 14.5**	**-0.6**	
OZLJ	**Ozalj**	**66.79**	**323**		*i* P	**P**	**03 35 14.1**	**-1.0**	
SUJ	**Sinuiju**	**66.85**	**44**		P	**P**	**03 35 14.9**	**-0.8**	
SUJ					pP	**pwP**	**03 35 25.7**	**+1.3**	
SUJ					S	**S**	**03 44 08.0**	**+0.3**	
SUJ					AmB				
	comp=Z,198nm,1.7s								
SUJ					AMS	AMS			
	comp=N,735nm,7.1s								
SUJ					AMS	AMS			
	comp=E,902nm,8.8s								
SUJ					AMS	AMS			
	comp=Z,733nm,7.1s								
A250A	**Rusevo Krmpots**	**66.87**	**322**		*i* P	**P**	**03 35 15.1**	**-0.7**	
OJC	**Ojcow**	**66.88**	**329**		*e*P	**P**	**03 35 14.7**	**-0.9**	
OJC	**Ojcow**	**66.88**	**329**		IAmb	IAmb	03 35 17.2		
	comp=Z,151nm,2.0s								
HJU	**Haeju**	**66.88**	**47**		P	**P**	**03 35 15.8**	**-0.1**	
HJU					pP	**pwP**	**03 35 26.3**	**+1.6**	
HJU					S	**S**	**03 44 07.6**	**-0.6**	
HJU					AmB				
	comp=Z,564nm,2.8s								
HJU					AMS	AMS			
	comp=N,2μm,10.2s								
HJU					AMS	AMS			
	comp=E,694nm,4.3s								
HJU					AMS	AMS			
	comp=Z,828nm,5.2s								
WRA	**Warramunga Arr**	**66.90**	**110**		P	**P**	**03 35 15.1**	**-1.4**	
	comp=Z,44nm,1.1s,baz=281,slow=5.8,SNR=80								
WRA					LR	LR	04 00 31.5		
	comp=Z,2μm,21.6s,baz=286,slow=32								
CRES	**Cresnjev**	**66.91**	**323**		*e*P	**P**	**03 35 15.4**	**-0.5**	
WRAB	**Tennant Creek**	**66.91**	**110**		*d* iP	**P**	**03 35 15.7**	**-0.9**	
WRAB					pmax	pmax			
	comp=Z,233nm,1.7s								
WRAB	**Tennant Creek**	**66.91**	**110**		P	**P**	**03 35 15.6**	**-0.9**	
WRAB	**Tennant Creek**	**66.91**	**110**		P	**P**	**03 35 16.1**	**-0.4**	
ASAR	**Alice Springs**	**66.93**	**115**		P	**P**	**03 35 14.8**	**-1.8**	
	comp=Z,16nm,1.0s,baz=280,slow=5.8,SNR=62								
ASAR					LR	LR	04 00 01.0		
	comp=Z,1μm,22.0s,baz=295,slow=32								
ASAR	**Alice Springs**	**66.93**	**115**		P	**P**	**03 35 15.4**	**-1.2**	
ASAR	**Alice Springs**	**66.93**	**115**		P	**P**	**03 35 15.4**	**-1.2**	
IDID	**Didziasalis**	**66.94**	**336**		*e*P	**P**	**03 35 15.8**	**-0.1**	
SNY	**Shenyang**	**66.97**	**42**	⇑	P	**P**	**03 35 16.0**	**-0.4**	
SNY					S	**S**	**03 44 10.5**	**+1.4**	
SNY					pmax	pmax			
	comp=Z,30nm,1.5s								
SNY					pmax	pmax			
	comp=Z,510nm,9.2s								
SNY					LR	LR			
	comp=Z,2μm,21.4s								
SNY					LR	LR			
	comp=Z,2μm,19.8s								
SNY					LR	LR			
	comp=Z,2μm,24.0s								
KLMR	**Klimovskoe**	**67.05**	**345**		*e*P	**P**	**03 35 14.1**	**-2.4**	
KLMR					*e*		03 35 42.2		
KLMR					*e*		03 37 42.3		
KLMR					*e*S	**S**	**03 44 10.4**	**+1.0**	
KLMR					*e*SS	**SS**	**03 48 30.2**	**+1.8**	
KLMR					pmax	pmax			
	comp=Z,267nm,1.5s								
KLMR	**Klimovskoe**	**67.05**	**345**		*e*P	**P**	**03 35 14.2**	**-2.3**	
KLMR					AMP		03 35 19.5		
	comp=Z,267nm,1.5s								
KLMR					*e*PcP	**PcP**	**03 35 42.3**	**-2.4**	
KLMR					*e*PP	**PP**	**03 37 42.4**	**-2.0**	
KLMR					*e*S	**S**	**03 44 10.4**	**+1.0**	
KLMR					*e*S	**S**	**03 44 10.4**	**+1.0**	
KLMR					*e*SS	**SS**	**03 48 30.3**	**+1.8**	
KLMR					*e*SS	**SS**	**03 48 30.3**	**+1.8**	
KLMR					LQ	LQ	03 58 19.3		
KLMR					LQ	LQ	03 58 19.3		
KLMR					LR	LR	04 01 17.7		
WR0	**Warramunga Arr**	**67.09**	**110**		P	**P**	**03 35 16.6**	**-1.1**	
WR0					IAmb	IAmb	03 35 24.5		
	comp=Z,98nm,1.1s								
IIGN	**Ignalina**	**67.17**	**336**		*e*P	**P**	**03 35 17.0**	**-0.4**	
SMOL	**Smolenice**	**67.18**	**326**		*e*P	**P**	**03 35 16.6**	**-1.0**	
SMOL					pmax	pmax			
	comp=Z,39nm,2.0s								
SMOL	**Smolenice**	**67.18**	**326**		*e*P	**P**	**03 35 16.6**	**-1.0**	
ZST	**Bratislava**	**67.19**	**326**		*e*P	**P**	**03 35 17.3**	**-0.4**	
ZST					pmax	pmax			
	comp=Z,161nm,1.7s								
ZST	**Bratislava**	**67.19**	**326**		*e*P	**P**	**03 35 17.2**	**-0.4**	
SOP	**Sopron**	**67.22**	**325**		P	**P**	**03 35 16.8**	**-1.1**	
JAVC	**Velka Javorina**	**67.24**	**327**		*e*P	**P**	**03 35 18.2**	**+0.2**	
RIY	**Rijeka**	**67.25**	**322**		*e*P	**P**	**03 35 16.1**	**-2.0**	
RIY	**Rijeka**	**67.25**	**322**		P	**P**	**03 35 16.1**	**-2.0**	
PYAG	**Pyongyang**	**67.31**	**46**		P	**P**	**03 35 18.4**	**-0.2**	
PYAG					pP	**pP**	**03 35 23.1**	**-0.1**	
PYAG					S	**S**	**03 44 15.4**	**+2.2**	
PYAG					AmB				
	comp=Z,108nm,1.3s								
PYAG					AMS	AMS			
	comp=N,388nm,3.7s								
PYAG					AMS	AMS			
	comp=E,394nm,3.7s								
PYAG					AMS	AMS			
	comp=Z,273nm,2.6s								
SMRN	**Sveta Marina**	**67.31**	**322**		*i* P	**P**	**03 35 16.5**	**-2.0**	
INCN	**Inchon**	**67.33**	**47**		P	**P**	**03 35 19.5**	**+0.7**	
INCN					pmax	pmax			
	comp=Z,98nm,1.6s								
INCN					MLR	MLR			
	comp=Z,3μm,19.0s								
INCN	**Inchon**	**67.33**	**47**		P	**P**	**03 35 19.5**	**+0.7**	
INCN					IAmb	IAmb	03 35 25.7		
	comp=Z,98nm,1.6s								
INCN	**Inchon**	**67.33**	**47**		IAMs_20	IAMs_20	04 07 51.3		
	comp=Z,3μm,19.0s								
INCN	**Inchon**	**67.33**	**47**		P	**P**	**03 35 18.9**	**+0.1**	
BEL	**Belsk**	**67.34**	**330**		*e*P	**P**	**03 35 18.6**	**0.0**	
ISAL	**Salakas**	**67.37**	**336**		*e*P	**P**	**03 35 18.3**	**-0.3**	
TJN	**Taejon**	**67.46**	**49**		*c* iP	**P**	**03 35 19.6**	**0.0**	
TJN	**Taejon**	**67.46**	**49**		P	**P**	**03 35 19.9**	**+0.3**	
CEY	**Cerknica**	**67.49**	**322**		*e*P	**P**	**03 35 18.6**	**-1.0**	
BRJN	**Brijuni**	**67.50**	**321**		*i* P	**P**	**03 35 16.6**	**-3.0**	
MURB	**Monte Urbino**	**67.51**	**319**		IAmb	IAmb	03 35 56.0		
	comp=Z,102nm,1.5s								
OKC	**Ostrava-Krasne**	**67.53**	**328**		AMS	AMS	04 05 50.0		
	comp=Z,1μm,19.2s								
LJU	**Ljubljana**	**67.58**	**323**		*e*P	**P**	**03 35 19.2**	**-1.0**	
LJU	**Ljubljana**	**67.58**	**323**		*i* P	**P**	**03 35 19.8**	**-0.4**	
SUW	**Suwalki**	**67.58**	**333**		*e*P	**P**	**03 35 19.5**	**-0.6**	
SUW	**Suwalki**	**67.58**	**333**		*e*P	**P**	**03 35 18.9**	**-1.1**	
SOKA	**Soboth**	**67.59**	**324**		*i* P	**P**	**03 35 19.8**	**-0.5**	
	comp=Z,41nm,1.5s,SNR=19								
ARSA	**Arzberg**	**67.59**	**324**		*i* P	**P**	**03 35 20.1**	**-0.2**	
	comp=Z,59nm,1.4s,SNR=32								
ARSA	**Arzberg**	**67.59**	**324**		*e*P	**P**	**03 35 19.2**	**-1.1**	
TOA0	**Torodi Ar. Sit**	**67.59**	**285**		P	**P**	**03 35 20.8**	**-0.1**	
TOA0					IAmb	IAmb	03 35 24.6		
	comp=Z,87nm,1.8s								
TORD	**Torodi Ar. Bea**	**67.59**	**285**		P	**P**	**03 35 21.0**	**+0.1**	
	comp=Z,70nm,1.6s,baz=99,slow=3.0,SNR=30								
SKDS	**Skadanscina**	**67.64**	**322**		*e*P	**P**	**03 35 19.8**	**-0.8**	
SKDS	**Skadanscina**	**67.64**	**322**		*e*P	**P**	**03 35 19.4**	**-1.2**	
CONA	**Conrad Observa**	**67.75**	**325**		*e*P	**P**	**03 35 20.2**	**-1.1**	
	comp=Z,93nm,1.6s,SNR=52								
OBKA	**Obir**	**67.80**	**323**		*i* P	**P**	**03 35 21.3**	**-0.4**	
	comp=Z,65nm,1.6s,SNR=16								
OBKA	**Obir**	**67.80**	**323**		*e*P	**P**	**03 35 21.0**	**-0.7**	
MORC	**Moravsky Berou**	**67.82**	**327**	⇓	P	**P**	**03 35 21.6**	**-0.1**	
MORC	**Moravsky Berou**	**67.82**	**327**		*e*P	**P**	**03 35 20.7**	**-1.0**	
MORC					*e*PP	**PP**	**03 37 45.9**	**-5.5**	
TRI	**Trieste**	**67.88**	**322**		IAmb	IAmb	03 35 22.7		
	comp=Z,47nm,1.2s								
KRUC	**Moravsky**	**68.05**	**326**		*e*P	**P**	**03 35 22.2**	**-0.9**	
VRAC	**Vranov**	**68.08**	**327**	⇓	P	**P**	**03 35 23.3**	**0.0**	
VRAC	**Vranov**	**68.08**	**327**		*e*P	**P**	**03 35 22.7**	**-0.6**	
MULG	**Mulgathing**	**68.08**	**122**		P	**P**	**03 35 22.7**	**-1.0**	
BAKI	**Biak**	**68.11**	**90**		P	**P**	**03 35 24.6**	**+0.4**	
	comp=Z,128nm,1.5s								
SRPI	**Serui, Papua**	**68.22**	**91**		P	**P**	**03 35 25.7**	**+0.9**	
KSAR	**Wonju Array Be**	**68.24**	**48**		P	**P**	**03 35 23.9**	**-0.6**	
KSAR	**Wonju Array Be**	**68.24**	**48**		P	**P**	**03 35 23.9**	**-0.6**	
KS19	**Wonju Array Si**	**68.25**	**48**		P	**P**	**03 35 24.8**	**+0.2**	
KS19					IAmb	IAmb	03 35 26.2		
	comp=Z,115nm,1.9s								
KSRS	**Korea Array**	**68.27**	**48**		P	**P**	**03 35 24.9**	**+0.2**	
	comp=Z,8.7nm,1.0s,baz=250,slow=7.3,SNR=26								
KSRS					LR	LR	04 06 29.1		
	comp=Z,3μm,19.6s,baz=245,slow=37								
HIA	**Hailar**	**68.27**	**34**		P	**P**	**03 35 23.8**	**-0.7**	
HIA					pmax	pmax			
	comp=Z,136nm,1.5s								
HIA					MLR	MLR			
	comp=Z,4μm,18.0s								
HIA	**Hailar**	**68.27**	**34**		P	**P**	**03 35 23.8**	**-0.7**	
HIA					IAmb	IAmb	03 35 32.7		
	comp=Z,136nm,1.5s								
HIA	**Hailar**	**68.27**	**34**		IAMs_20	IAMs_20	04 06 21.1		
	comp=Z,4μm,18.0s								
KRLC	**Kraliky**	**68.39**	**327**		*e*P	**P**	**03 35 24.4**	**-0.9**	
KRLC					MLR	MLR			
	comp=Z,800nm,20.6s								
KRLC	**Kraliky**	**68.39**	**327**		*e*P	**P**	**03 35 24.4**	**-0.9**	
KRLC					AMS	AMS	04 06 30.0		
	comp=Z,800nm,20.6s								
MYKA	**Terra Mystica**	**68.40**	**323**		*i* P	**P**	**03 35 24.9**	**-0.5**	
	comp=Z,52nm,1.4s,SNR=21								
MOA	**Molln**	**68.63**	**324**		*i* P	**P**	**03 35 26.2**	**-0.6**	
	comp=Z,70nm,1.4s,SNR=24								
TREC	**Trest**	**68.68**	**326**		*e*P	**P**	**03 35 26.6**	**-0.5**	
TREC					MLR	MLR			
	comp=Z,1μm,22.1s								
TREC	**Trest**	**68.68**	**326**		*e*P	**P**	**03 35 26.6**	**-0.5**	
TREC					AMS	AMS	04 08 40.0		
	comp=Z,1μm,22.1s								
DPC	**Dobruska-Polom**	**68.79**	**327**		*e*P	**P**	**03 35 27.0**	**-0.8**	
DPC					MLR	MLR			
	comp=Z,900nm,23.1s								
DPC	**Dobruska-Polom**	**68.79**	**327**		*e*P	**P**	**03 35 27.0**	**-0.8**	
DPC					AMS

GKP Gorka Klasztor 69.94 330 eP P 03 35 34.6 -0.1
WATA Walderalm 69.98 323 i P P 03 35 34.4 -0.9
comp=Z,72nm,1.4s,SNR=25
WET Wettzell 70.08 325 eP P 03 35 34.7 -1.1
comp=Z,52nm,1.7s,baz=119,slow=6.1
CASY Casey 70.14 163 P P 03 35 37.0 +1.2
SQTA Sankt Quirin 70.15 323 i P P 03 35 35.6 -0.7
comp=Z,81nm,1.4s,SNR=40
BBOO Buckleboo 70.20 124 P P 03 35 36.0 -0.9
baz=70,SNR=6.8
BBOO Buckleboo 70.20 124 P P 03 35 35.0 -1.9
BBOO IAmb IAmb 03 35 38.9
comp=Z,86nm,1.5s
BBOO Buckleboo 70.20 124 P P 03 35 35.9 -0.9
MOTA Moosalm 70.27 323 i P P 03 35 36.2 -0.9
comp=Z,98nm,2.0s,SNR=24
SLIT Slitere, Latvi 70.32 336 eP P 03 35 36.5 -0.5
FETA Feichten 70.35 322 i P P 03 35 37.3 -0.3
comp=Z,61nm,1.3s,SNR=23
BRG Berggiesshubel 70.35 327 eP P 03 35 37.2 -0.2
BRG Amp 03 35 40.6
comp=Z,72nm,1.5s
BRG Berggiesshubel 70.35 327 eP P 03 35 37.1 -0.2
BRG pmax pmax
comp=Z,72nm,1.5s
BRG Berggiesshubel 70.35 327 eP P 03 35 37.6 +0.2
comp=Z,72nm,1.5s,baz=119,slow=6.1
MTSE Matsula 70.44 337 eP P 03 35 38.0 +0.4
RETA Reutte 70.54 323 i P P 03 35 38.0 -0.7
comp=Z,52nm,1.4s,SNR=18
FUR Furstenfeldbru 70.54 324 eP P 03 35 38.2 -0.4
comp=Z,187nm,1.5s,baz=119,slow=6.1
BOD Bodaibo 70.59 24 eP P 03 35 37.4 -1.2
BOD pmax pmax
comp=Z,65nm,1.6s
FBE Freiberg 70.70 327 eP P 03 35 39.9 +0.4
comp=Z,114nm,1.6s,baz=119,slow=6.1
DAVOX Davos/Dischmat 70.76 322 LR LR 04 07 18.8
comp=Z,352nm,21.2s,baz=103,slow=36
ROTZ Rotzenmuhle 70.76 325 eP P 03 35 39.8 -0.1
comp=Z,12nm,1.5s,baz=119,slow=6.1
NKC Novy Kostel 70.86 326 eP P 03 35 40.6 +0.1
NKC Novy Kostel 70.86 326 eP P 03 35 40.6 +0.1
WERN Wernitzgruen 70.92 326 eP P 03 35 41.4 +0.5
comp=Z,273nm,1.9s,baz=119,slow=6.1
MANZ Manzenberg 70.93 326 eP P 03 35 40.8 -0.1
comp=Z,16nm,1.5s,baz=119,slow=6.1
TANN Tannenbergstha 70.94 326 eP P 03 35 41.5 +0.5
comp=Z,97nm,1.9s,baz=119,slow=6.1
TUE Stuetta 70.96 321 IAmb IAmb 03 35 47.7
comp=Z,145nm,1.5s
DAVA Damuels 70.98 322 i P P 03 35 41.3 -0.2
comp=Z,129nm,1.2s,SNR=50
GUNZ Gunzen 70.98 326 eP P 03 35 41.9 +0.7
comp=Z,179nm,1.8s,baz=119,slow=6.1
UBR Ueberruh 71.02 323 eP P 03 35 41.7 +0.1
comp=Z,401nm,1.7s,baz=119,slow=6.1
WERD Werda 71.04 326 eP P 03 35 42.2 +0.6
comp=Z,162nm,2.2s,baz=119,slow=6.1
CLL Collm 71.08 327 i P P 03 35 40.9 -0.9
CLL eS S 03 44 52.0 -5.5
CLL pmax pmax
comp=Z,216nm,1.9s
CLL MLR MLR
comp=Z,600nm,21.2s
CLL Collm 71.08 327 IAmb IAmb 03 35 45.3
comp=Z,70nm,1.3s
CLL Collm 71.08 327 i P P 03 35 40.9 -0.9
comp=Z,216nm,1.9s
CLL ePP PP 03 38 17.0 -2.5
CLL eS S 03 44 55.0 -2.5
CLL ePS 03 45 28.0
CLL ex x 03 46 12.0
CLL eSS SS 03 49 28.0 -3.1
CLL ex x 03 53 42.0
CLL eSSSS 03 54 42.0
CLL LmV 04 15 00.0
comp=Z,600nm,21.2s
CLL Collm 71.08 327 eP P 03 35 42.2 +0.4
comp=Z,216nm,1.9s,baz=119,slow=6.1
PLN Plauen 71.14 326 eP P 03 35 43.0 +0.8
comp=Z,136nm,2.0s,baz=119,slow=6.1
BNX BinXian 71.16 40 ⇑P P 03 35 41.5 -0.8
BNX pP pP 03 35 45.0 -2.1
BNX sP sP 03 35 46.5 -2.1
BNX PP PP 03 38 25.3 +5.0
BNX S S 03 44 53.0 -5.6
BNX pmax pmax
comp=Z,520nm,2.0s
BNX pmax pmax
comp=Z,620nm,5.2s
BNX LR LR
comp=Z,2μm,14.2s
BNX LR LR
comp=Z,3μm,17.1s
BNX LR LR
comp=Z,5μm,18.9s
MEF Metsahovi 71.25 339 eP P 03 35 42.4 -0.1
RUE Ruedersdorf 71.27 328 eP P 03 35 43.4 +0.6
RUE Ruedersdorf 71.27 328 eP P 03 35 43.1 +0.2
comp=Z,143nm,1.3s,baz=119,slow=6.1
GRF Grafenberg Arr 71.29 325 eP P 03 35 42.9 -0.2
comp=Z,199nm,1.4s,baz=119,slow=6.1
GRF eL L 04 06 29.4
comp=Z,376nm,20.3s
GRFO Grafenberg 71.29 325 P P 03 35 42.8 -0.3
GRFO pmax pmax
comp=Z,485nm,2.0s
GRFO Grafenberg 71.29 325 P P 03 35 42.8 -0.3
JHS Saijyo 71.43 52 IAmb IAmb 03 35 51.0
comp=Z,162nm,1.8s
FIA1 FINESS Array S 71.52 340 IAmb IAmb 03 35 46.5
comp=Z,78nm,1.5s
FINES FINESS Array B 71.52 340 P P 03 35 43.8 -0.4
comp=Z,4.3nm,0.9s,baz=339,slow=4.9,SNR=9.7
FINES LR LR 04 10 18.1
comp=Z,794nm,18.8s,baz=122,slow=38
MOX Moxa 71.52 326 eP P 03 35 45.0 +0.5
comp=Z,51nm,1.5s,baz=119,slow=6.1
LNIZ Loecknitz 71.58 329 eP P 03 35 44.9 +0.2
comp=Z,283nm,1.7s,baz=119,slow=6.1
LCRK Leigh Creek 71.66 121 P P 03 35 45.5 -0.2
NEUB Neuenburg 71.71 327 eP P 03 35 45.9 +0.4
comp=Z,86nm,1.4s,baz=119,slow=6.1
QIS Mount Isa 71.88 111 P P 03 35 46.5 -0.7
baz=72,SNR=5.6
QIS Mount Isa 71.88 111 P P 03 35 47.1 -0.2
STU Stuttgart 72.05 324 IAmb IAmb 03 35 50.5
comp=Z,103nm,1.4s
STU Stuttgart 72.05 324 eP P 03 35 47.4 -0.3
comp=Z,243nm,1.4s,baz=119,slow=6.1
BNI Bardonecchia 72.08 319 P P 03 35 47.7 -0.4
BNI pmax pmax
comp=Z,31nm,1.4s
BNI Bardonecchia 72.08 319 P P 03 35 47.7 -0.4
MDJ Mudanjiang 72.13 41 P P 03 35 48.5 +0.3
MDJ IAmb IAmb 03 35 50.4
comp=Z,75nm,1.2s
MDJ Mudanjiang 72.13 41 P P 03 35 48.8 +0.6
MDJ pP pP 03 35 52.3 -0.6
MDJ sP sP 03 35 53.3 -1.2
MDJ S S 03 45 11.0 +1.2
MDJ pmax pmax
comp=Z,49nm,1.4s
MDJ pmax pmax
comp=Z,630nm,3.9s
MDJ LR LR
comp=Z,800nm,22.1s
MDJ LR LR
comp=Z,720nm,25.0s
MDJ LR LR
comp=Z,1μm,23.3s
MDJ Mudanjiang 72.13 41 P P 03 35 49.0 +0.8
MSHR Mys Shultsa 72.43 44 i P P 03 35 50.4 +0.3
MSHR pmax pmax
comp=Z,28nm,1.2s
MILB Miltenberg 72.46 325 eP P 03 35 50.0 -0.2
comp=Z,100nm,2.0s,baz=119,slow=6.1
UBBA Unterbreizbach 72.51 326 eP P 03 35 50.8 +0.6
comp=Z,129nm,1.6s,baz=119,slow=6.1
FLTG Flechtingen 72.54 327 eP P 03 35 50.5 0.0
comp=Z,77nm,1.6s,baz=119,slow=6.1
RGN Rugen 72.58 330 eP P 03 35 51.4 +0.7
comp=Z,104nm,1.1s,baz=119,slow=6.1
JAY Jayapura 72.65 92 LR LR 04 08 45.0
comp=Z,397nm,20.3s,baz=263,slow=37

HTT Hallett 72.67 124 P P 03 35 51.5 -0.4
baz=73,SNR=6.5
HTT Hallett 72.67 124 P P 03 35 52.0 +0.2
ASSE Asse, Remlinge 72.75 327 eP P 03 35 52.2 +0.5
comp=Z,92nm,1.7s,baz=119,slow=6.1
CLZ Clausthal 72.78 327 eP P 03 35 51.7 -0.3
comp=Z,115nm,1.7s,baz=119,slow=6.1
GTTG Gottingen 72.86 326 eP P 03 35 53.1 +0.7
comp=Z,177nm,1.9s,baz=119,slow=6.1
ECH Echery 73.04 322 P P 03 35 53.2 -0.4
ECH pmax pmax
comp=Z,116nm,2.0s
ECH Echery 73.04 322 P P 03 35 53.2 -0.4
ECH IAmb IAmb 03 36 00.4
comp=Z,116nm,2.0s
VLA Vladivostok 73.12 43 i P P 03 35 52.7 -1.4
VLA pmax pmax
comp=Z,114nm,1.6s
TNS Taunus Mts 73.13 325 eP P 03 35 54.6 +0.5
comp=Z,140nm,1.6s,baz=119,slow=6.1
KIC Kosan Boka 73.14 277 eP P 03 35 55.3 +0.4
comp=Z,156nm,1.9s
VIKU Vikbolandet 73.20 335 eP P 03 35 54.4 +0.1
NRDL Niedersach Rie 73.23 327 eP P 03 35 55.4 +0.9
comp=Z,123nm,1.7s,baz=119,slow=6.1
KOWA Kowa 73.27 286 P P 03 35 56.9 +1.3
KOWA IAmb IAmb 03 36 04.8
comp=Z,79nm,1.4s
KOWA IAMs_20 IAMs_20 04 06 26.8
comp=Z,2μm,21.0s
DBIC Dimbokro 73.28 278 P P 03 35 56.2 +0.6
comp=Z,12nm,1.1s,baz=99,slow=8.1,SNR=7.3
DBIC LR LR 04 06 08.4
comp=Z,1μm,21.4s,baz=108,slow=34
DBIC Dimbokro 73.28 278 P P 03 35 56.3 +0.6
DBIC pmax pmax
comp=Z,48nm,1.2s
DBIC Dimbokro 73.28 278 P P 03 35 56.3 +0.6
DEL Delary 73.33 332 eP P 03 35 54.7 -0.4
LIC Lamto 73.41 277 eP P 03 35 54.0 -2.5
comp=Z,100nm,1.9s
TIC Toumodi 73.44 278 eP P 03 35 57.1 +0.5
INKA Innaminka 73.53 118 P P 03 35 57.2 +0.3
SSB Saint Sauveur 73.56 319 IAmb IAmb 03 35 59.4
comp=Z,78nm,1.5s
USRK Ussuriysk Ar. 73.57 42 P P 03 35 56.1 -0.7
comp=Z,6.1nm,0.8s,baz=251,slow=3.4,SNR=16
USRK LR LR 04 11 22.0
comp=Z,2μm,19.5s,baz=238,slow=38
KASTN Kahler Asten 73.58 326 eP P 03 35 57.4 +0.7
comp=Z,70nm,1.7s,baz=119,slow=6.1
UPP Uppsala 73.62 336 eP P 03 35 56.9 +0.2
RETH Rethem/Aller, 73.75 327 eP P 03 35 58.2 +0.6
comp=Z,160nm,1.8s,baz=119,slow=6.1
BSEG Bad Segeberg 73.80 329 eP P 03 35 58.2 +0.3
comp=Z,91nm,1.8s,baz=119,slow=6.1
FIGM Figuig 73.97 304 P P 03 36 02.0 +2.5
AHRW Bad Neuenahr-A 74.06 325 eP P 03 36 00.6 +1.1
comp=Z,79nm,1.7s,baz=119,slow=6.1
APA Apatity 74.14 347 ⇓i P P 03 35 57.9 -1.7
APA i 03 36 12.2
APA i S SKiKP 03 45 24.0 -2.9
APA i 03 46 09.0
APA i SS SS 03 50 17.0 -0.2
APA MLR MLR
comp=Z,3μm,23.0s
WLF Walferdange 74.24 323 eP P 03 36 00.8 +0.2
comp=Z,88nm,1.5s,baz=119,slow=6.1
WLF Walferdange 74.24 323 dP P 03 36 00.5 -0.1
comp=Z,16nm,1.3s
BUG Bochum--Univer 74.33 325 eP P 03 36 01.6 +0.5
comp=Z,107nm,1.8s,baz=119,slow=6.1
IBBN Ibbenburen 74.43 326 eP P 03 36 02.5 +0.9
comp=Z,159nm,1.7s,baz=119,slow=6.1
ZEA Zeya 74.56 32 eP P 03 36 02.8 +0.4
ZEA eS S 03 45 41.4 +4.4
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.5s
ZEA pmax pmax
comp=Z,200nm,4.7s
ZEA smax smax
comp=E,500nm,9.1s
ZEA MLR MLR
comp=N,1μm,17.0s
ZEA MLR MLR
comp=E,4μm,17.0s
ZEA MLR MLR
comp=Z,5μm,18.0s
INU Inuyama 74.60 52 IAMs_20 IAMs_20 04 07 13.5
comp=Z,2μm,22.0s
INU Inuyama 74.60 52 P P 03 36 03.3 +0.3
BHOU Houvegnez 74.60 324 dP P 03 36 03.1 +0.4
comp=Z,19nm,1.7s
SKMB Sankelmark Bun 74.62 329 eP P 03 36 03.6 +0.9
comp=Z,289nm,1.8s,baz=119,slow=6.1
BTNL Ternell 74.63 324 dP P 03 36 03.1 +0.2
comp=Z,18nm,1.5s
MEM Membach 74.71 324 dP P 03 36 03.4 +0.2
comp=Z,11nm,1.4s
STKA Stephens Creek 74.71 122 P P 03 36 01.7 -2.1
comp=Z,6.7nm,1.1s,baz=277,slow=7.6,SNR=9.1
STKA LR LR 04 07 41.8
comp=Z,1μm,18.5s,baz=277,slow=35
STKA Stephens Creek 74.71 122 P P 03 36 03.1 -0.6
baz=75,SNR=9.4
STKA Stephens Creek 74.71 122 P P 03 36 03.0 -0.8
STKA pmax pmax
comp=Z,9.0nm,1.3s
STKA Stephens Creek 74.71 122 P P 03 36 03.0 -0.8
STKA Stephens Creek 74.71 122 P P 03 36 03.1 -0.6
TDRA Tendrara 74.81 305 P P 03 36 07.0 +2.5
BSTI Sart Tilman 74.95 324 dP P 03 36 05.1 +0.4
RCHB Rochefort 74.98 324 dP P 03 36 04.0 -0.9
comp=Z,11nm,1.6s
COEN Coen 75.01 104 P P 03 36 04.9 -0.9
COEN Coen 75.01 104 P P 03 36 06.4 +0.6
BCLA Clavier 75.04 324 dP P 03 36 05.7 +0.4
comp=Z,18nm,1.6s
BGES Gesves 75.16 324 dP P 03 36 06.5 +0.6
HLG Helgoland 75.19 328 eP P 03 36 06.6 +0.6
comp=Z,223nm,1.0s,baz=119,slow=6.1
KLR Kul'dur 75.25 37 LR LR 04 11 34.8
comp=Z,4μm,18.8s,baz=246,slow=38
KLR Kul'dur 75.25 37 d i P P 03 36 05.0 -1.5
KLR pmax pmax
comp=Z,71nm,1.7s
KLR MLR MLR
comp=Z,4μm,18.0s
BMRD Maredsous 75.31 324 dP P 03 36 07.2 +0.4
comp=Z,8.6nm,1.4s
DOU Dourbes 75.33 323 dP P 03 36 06.7 -0.3
comp=Z,15nm,1.6s
JBK JBK 75.54 306 P P 03 36 11.0 +2.2
UCC Uccle 75.74 324 dP P 03 36 09.2 0.0
MJB9 Matsu-Tunnel 75.83 51 IAmb IAmb 03 36 14.6
comp=Z,75nm,1.4s
MAJO Matsushiro 75.83 51 i P P 03 36 09.7 -0.4
MAJO pmax pmax
comp=Z,60nm,1.5s
MAJO Matsushiro 75.83 51 P P 03 36 08.8 -1.3
MAJO IAmb IAmb 03 36 14.6
comp=Z,83nm,1.5s
MAJO Matsushiro 75.83 51 IAMs_20 IAMs_20 04 10 32.8
comp=Z,2μm,19.0s
MAJO Matsushiro 75.83 51 P P 03 36 10.1 0.0
MJAR Matsushiro Arr 75.83 51 P P 03 36 09.9 -0.2
comp=Z,10nm,0.9s,baz=264,slow=6.0,SNR=24
MJAR LR LR 04 10 53.9
comp=Z,2μm,18.8s,baz=250,slow=37
MJAR Matsushiro Arr 75.83 51 IAmb IAmb 03 36 13.7
comp=Z,201nm,1.9s
MTSU Mount Surprise 76.21 108 P P 03 36 12.5 -0.2
baz=76,SNR=7.4
MTSU Mount Surprise 76.21 108 P P 03 36 12.8 +0.2
JHJ Hachijo jima 2 76.31 55 LR LR 04 11 57.4
comp=Z,787nm,18.4s,baz=254,slow=37
QLP Quilpie 76.54 117 P P 03 36 14.5 +0.2
NVL N'lazarevskaya 76.83 196 eP P 03 36 25.3 +10
NVL pmax pmax
comp=Z,97nm,1.8s
MDT Midelt 76.87 304 LR LR 04 10 33.4
comp=Z,918nm,20.4s,baz=124,slow=36

MDT Midelt 76.87 304 P P 03 36 18.6 +2.4
KONO Kongsberg 76.91 334 P P 03 36 16.2 +0.5
KONO pmax pmax
comp=Z,93nm,1.5s
KONO Kongsberg 76.91 334 P P 03 36 16.2 +0.5
KONO IAmb IAmb 03 36 18.3
comp=Z,93nm,1.4s
NB2 NORSAR Subarra 76.92 335 P P 03 36 14.8 -0.9
comp=Z,171nm,2.0s,baz=120,slow=6.2
NB2 NORSAR Subarra 76.92 335 P P 03 36 14.8 -0.9
baz=120,slow=6.2
NOA NORSAR Array B 76.92 335 P P 03 36 15.2 -0.6
comp=Z,6.9nm,1.1s,baz=113,slow=6.0,SNR=9.4
NOA PP PP 03 39 12.6 +3.6
comp=Z,1.1nm,0.8s,baz=123,slow=8.2,SNR=3.4
NOA LR LR 04 12 24.7
comp=Z,668nm,19.8s,baz=120,slow=37
GOLM Goulmima 76.94 303 P P 03 36 20.0 +3.3
TEY Ternei 76.96 43 ⇑i eP P 03 36 15.5 -0.8
TEY e 03 45 57.5
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=E,10.0nm,1.1s
TEY pmax pmax
comp=Z,20nm,1.1s
ZGR Zagora 77.20 302 P P 03 36 21.0 +2.9
JCJ Chichijima 77.21 62 LR LR 04 06 48.7
comp=Z,800nm,21.6s,baz=244,slow=33
LCRM LCR 77.26 305 P P 03 36 22.0 +3.5
CZD Col de Zad 77.28 305 P P 03 36 21.0 +2.3
TZRR Tazzarine 77.28 302 P P 03 36 22.0 +3.4
JYT Yasato 77.32 52 P P 03 36 18.2 -0.3
KEV Kevo 77.32 346 IAMs_20 IAMs_20 04 10 34.3
comp=Z,3μm,22.0s
ARCES ARCESS Array B 77.52 346 P P 03 36 19.3 +0.4
comp=Z,6.8nm,1.0s,baz=128,slow=2.0,SNR=6.7
ARCES LR LR 04 11 27.0
comp=Z,2μm,21.9s,baz=126,slow=36
ARCES ARCESS Array B 77.52 346 IAmb IAmb 03 36 22.4
comp=Z,83nm,1.7s
SICH Sidi Chahed 77.72 306 P P 03 36 24.0 +3.2
ESBB Sonseca Array 77.88 311 IAmb IAmb 03 36 23.4
comp=Z,84nm,1.4s
ESDC Sonseca Array 77.88 311 P P 03 36 22.1 +0.4
comp=Z,14nm,0.8s,baz=90,slow=4.6,SNR=68
ESDC Sonseca Array 77.88 311 IAmb IAmb 03 36 25.0
comp=Z,208nm,2.0s
GUMO Guam 77.91 76 LR LR 04 07 18.8
comp=Z,634nm,21.4s,baz=258,slow=33
SMIR Smir Dam 78.09 307 P P 03 36 26.0 +3.2
CTA Charters Tower 78.09 110 LR LR 04 07 12.2
comp=Z,814nm,21.8s,baz=270,slow=33
CTA Charters Tower 78.09 110 P P 03 36 23.1 -0.1
CTAO Charters Tower 78.09 110 P P 03 36 22.5 -0.7
CTAO pmax pmax
comp=Z,115nm,1.9s
CTAO Charters Tower 78.09 110 P P 03 36 22.5 -0.7
CTAO IAmb IAmb 03 36 26.2
comp=Z,114nm,1.9s
PAB San Pablo 78.14 311 P P 03 36 24.2 +1.1
PAB pmax pmax
comp=Z,63nm,1.2s
PAB San Pablo 78.14 311 P P 03 36 24.2 +1.1
PAB IAmb IAmb 03 36 32.5
comp=Z,63nm,1.1s
PAB San Pablo 78.14 311 P P 03 36 24.2 +1.1
JMM Marumori 78.15 51 IAmb IAmb 03 36 24.9
comp=Z,86nm,1.4s
CMSA Cobar Meteorol 78.15 122 P P 03 36 23.2 0.0
baz=78,SNR=7.2
CMSA Cobar Meteorol 78.15 122 P P 03 36 23.3 0.0
OUZM OUZ 78.31 302 P P 03 36 28.0 +3.7
TOO Toolangi 78.50 128 P P 03 36 26.6 +1.5
baz=78,SNR=4.0
TOO Toolangi 78.50 128 P P 03 36 25.1 0.0
TOO pmax pmax
comp=Z,59nm,1.5s
TOO Toolangi 78.50 128 P P 03 36 25.1 0.0
TOO Toolangi 78.50 128 P P 03 36 25.6 +0.5
GRNR Gornyy 78.61 37 ⇑i P P 03 36 25.3 -0.1
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR MLR MLR
comp=E,780nm,14.0s
GRNR MLR MLR
comp=N,910nm,20.0s
GRNR MLR MLR
comp=Z,2μm,17.0s
SFS San Fernando 78.91 308 IAMs_20 IAMs_20 04 13 52.2
comp=Z,2μm,19.0s
PMG Port Moresby 78.91 99 LR LR 04 12 28.8
comp=Z,905nm,19.3s,baz=269,slow=37
PMG Port Moresby 78.91 99 P P 03 36 27.7 -0.1
PMG pmax pmax
comp=Z,258nm,1.9s
PMG MLR MLR
comp=Z,1μm,19.0s
PMG Port Moresby 78.91 99 P P 03 36 27.6 -0.1
PMG IAmb IAmb 03 36 31.1
comp=Z,258nm,1.9s
PMG Port Moresby 78.91 99 P P 03 36 28.2 +0.4
PMG Port Moresby 78.91 99 P P 03 36 28.1 +0.3
OUK Oukaimeden 79.29 302 P P 03 36 33.0 +3.0
YAK Yakutsk 79.48 25 LR LR 04 12 27.3
comp=Z,5μm,21.8s,baz=252,slow=36
YAK Yakutsk 79.48 25 c i P P 03 36 29.0 -0.8
YAK e* PP sP 03 36 36.2 +0.1
YAK e PPP PPP 03 41 15.4
YAK eS S 03 46 27.3 -2.9
YAK eSSS SSS 03 55 01.9
YAK pmax pmax
comp=Z,44nm,1.4s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,31nm,1.6s
YAK pmax pmax
comp=N,20nm,2.0s
YAK pmax pmax
comp=E,48nm,2.7s
YAK smax smax
comp=E,52nm,3.8s
YAK smax smax
comp=N,59nm,4.0s
YAK MLR MLR
comp=Z,5μm,23.0s
YAK MLR MLR
comp=N,3μm,23.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK Yakutsk 79.48 25 P P 03 36 29.3 -0.6
YAK IAmb IAmb 03 36 32.1
comp=Z,264nm,1.9s
SRHM Skhour des Reh 79.53 304 P P 03 36 35.0 +4.1
TTIG Tninc Tinguga, 79.67 302 P P 03 36 36.0 +4.2
PBAR Barrancos 79.90 309 eP P 03 36 33.2 +0.5
comp=Z,112nm,1.7s
TROLL Troll, Antarti 80.05 197 P P 03 36 33.3 +0.3
TROLL S S 03 46 39.3 +2.9
PVAQ Vaqueiros 80.28 308 eP P 03 36 35.7 +1.0
comp=Z,87nm,1.6s
PBDV Barranco-do-Ve 80.42 308 eP P 03 36 36.8 +1.3
comp=Z,98nm,1.5s
PMRV Marv??o 80.42 311 eP P 03 36 36.5 +1.0
comp=Z,142nm,1.6s
PBRG Braganca 80.42 313 eP P 03 36 36.8 +1.3
comp=Z,142nm,1.6s
PESTR Estremoz 80.46 310 eP P 03 36 36.1 +0.4
comp=Z,130nm,1.6s
PESTR Estremoz 80.46 310 P P 03 36 37.4 +1.6
MVO Moncorvo 80.50 312 eP P 03 36 37.9 +2.0
comp=Z,121nm,1.5s
PBEJ Beja 80.51 309 eP P 03 36 37.1 +1.1
comp=Z,68nm,1.9s
PCBR Castelo Branco 80.56 311 eP P 03 36 37.5 +1.3
comp=Z,119nm,1.6s
PCVE Castro Verde 80.57 309 eP P 03 36 37.5 +1.2
comp=Z,112nm,1.6s
RMQ Roma 80.58 116 P P 03 36 36.9 +0.2
baz=80,SNR=7.6
RMQ Roma 80.58 116 P P 03 36 37.2 +0.6
TRIS Tristan da Cun 80.65 233 IAMs_20 IAMs_20 04 04 17.5
comp=Z,3μm,21.0s
EVO Evora 80.72 310 eP P 03 36 48.5 +11
comp=Z,94nm,1.6s

MTE	**Manteigas**	**80.72**	**311**	*e*P		**P**		**03 36 38.8**	**+1.6**	
	comp=Z,119nm,1.6s									
MTE	**Manteigas**	**80.72**	**311**	IAmb		IAmb		03 36 41.8		
	comp=Z,98nm,1.4s									
ERM	**Erimo**	**80.81**	**47**	IAMs_20		IAMs_20		04 13 31.3		
	comp=Z,2µm,18.0s									
ASAJ	**Asahikawa**	**80.86**	**45**	LR		LR		04 14 01.8		
	comp=Z,1µm,19.4s,baz=292,slow=37									
PMTG	**Montargil**	**80.98**	**310**	*e*P		**P**		**03 36 39.7**	**+1.2**	
	comp=Z,190nm,1.6s									
MORF	**Marmelete**	**80.99**	**308**	*e*P		**P**		**03 36 39.7**	**+1.0**	
MORF				IAmb		IAmb		03 36 43.2		
	comp=Z,142nm,1.7s									
MORF	**Marmelete**	**80.99**	**308**	*e*P		**P**		**03 36 38.6**	**0.0**	
	comp=Z,124nm,1.7s									
MORF	**Marmelete**	**80.99**	**308**	*e*P		**P**		**03 36 39.6**	**+1.0**	
PVRL	**Vila Real**	**81.03**	**312**	*e*P		**P**		**03 36 40.3**	**+1.6**	
	comp=Z,191nm,2.0s									
PNCL	**Nicolau / Gran**	**81.04**	**309**	*e*P		**P**		**03 36 39.9**	**+1.1**	
	comp=Z,96nm,1.6s									
PVIS	**Viseu**	**81.05**	**312**	*e*P		**P**		**03 36 40.6**	**+1.7**	
	comp=Z,163nm,1.7s									
PTEO	**Sao Teotonio**	**81.09**	**308**	*e*P		**P**		**03 36 40.8**	**+1.7**	
	comp=Z,118nm,1.6s									
PFVI	**Vila Bisbo**	**81.10**	**308**	*e*P		**P**		**03 36 40.2**	**+1.1**	
	comp=Z,164nm,1.5s									
PFVI	**Vila Bisbo**	**81.10**	**308**	IAmb		IAmb		03 36 44.0		
	comp=Z,104nm,1.3s									
POLO	**Lamas de Olo**	**81.10**	**312**	*e*P		**P**		**03 36 40.6**	**+1.4**	
	comp=Z,62nm,1.6s									
COI	**Coimbra**	**81.34**	**311**	*e*P		**P**		**03 36 41.6**	**+1.3**	
	comp=Z,188nm,1.7s									
COI	**Coimbra**	**81.34**	**311**	IAmb		IAmb		03 36 44.4		
	comp=Z,165nm,1.6s									
PCAB	**Cabril**	**81.34**	**313**	*e*P		**P**		**03 36 42.1**	**+1.7**	
	comp=Z,241nm,1.6s									
PCAS	**Casmilo, Conde**	**81.38**	**311**	*e*P		**P**		**03 36 42.0**	**+1.4**	
	comp=Z,200nm,1.8s									
PSBE	**So Bento**	**81.50**	**310**	*e*P		**P**		**03 36 42.2**	**+0.9**	
	comp=Z,123nm,1.8s									
SNAA	**Sanae**	**81.52**	**198**	P		**P**		**03 36 40.9**	**+0.1**	
SNAA	**Sanae**	**81.52**	**198**	LR		LR		04 06 10.3		
	comp=Z,3µm,19.6s,baz=50,slow=31									
SNAA	**Sanae**	**81.52**	**198**	*e*P		**P**		**03 36 40.2**	**-0.5**	
SNAA				IAmb		IAmb		03 36 53.5		
	comp=Z,4µm,1.4s									
SNAA	**Sanae**	**81.52**	**198**	P		**P**		**03 36 40.8**	**0.0**	
EKA	**Eskdalemuir Ar**	**81.55**	**327**	LR		LR		04 17 25.5		
	comp=Z,185nm,18.7s,baz=78,slow=39									
PGAV	**Gavieira, Arco**	**81.57**	**313**	*e*P		**P**		**03 36 41.8**	**+0.1**	
	comp=Z,175nm,1.8s									
ESK	**Eskdalemuir**	**81.57**	**327**	P		**P**		**03 36 42.0**	**+0.8**	
ESK				pmax		pmax				
	comp=Z,141nm,1.6s									
ESK	**Eskdalemuir**	**81.57**	**327**	P		**P**		**03 36 42.0**	**+0.8**	
ESK				IAmb		IAmb		03 36 43.4		
	comp=Z,141nm,1.6s									
YSS	**Yuzh-Sakhalins**	**81.60**	**42**⇑	*e*P		**P**		**03 36 40.8**	**-0.8**	
YSS				*e*				03 36 46.7		
YSS				*e*PPP		PPP		03 39 47.1		
YSS				*e*S		**S**		**03 46 49.6**	**-3.5**	
YSS				*e*PPS		PPS		03 47 43.8		
YSS				*e*SS		**SS**		**03 52 05.6**	**-4.8**	
YSS				pmax		pmax				
	comp=Z,90nm,1.3s									
YSS				MLR		MLR				
	comp=Z,2µm,19.0s									
YSS				MLR		MLR				
	comp=N,2µm,21.0s									
YSS				MLR		MLR				
	comp=E,900nm,19.0s									
YSS	**Yuzh-Sakhalins**	**81.60**	**42**	P		**P**		**03 36 40.8**	**-0.8**	
YSS				IAmb		IAmb		03 36 42.4		
	comp=Z,146nm,1.2s									
YSS	**Yuzh-Sakhalins**	**81.60**	**42**	P		**P**		**03 36 41.5**	**-0.1**	
UGL	**Uglegorsk**	**81.64**	**40**	*e*P		**P**		**03 36 41.5**	**-0.2**	
UGL				pmax		pmax				
	comp=Z,70nm,1.4s									
UGL				MLR		MLR				
	comp=N,2µm,17.0s									
UGL				MLR		MLR				
	comp=E,3µm,20.0s									
UGL				MLR		MLR				
	comp=Z,3µm,20.0s									
PTO	**Porto**	**81.66**	**312**	*e*P		**P**		**03 36 44.4**	**+2.4**	
	comp=Z,218nm,1.5s									
PMST	**Lisbon--Monsan**	**81.66**	**310**	*e*P		**P**		**03 36 44.8**	**+2.7**	
	comp=Z,238nm,1.6s									
PMAFR	**Mafra**	**81.77**	**310**	*e*P		**P**		**03 36 44.8**	**+2.1**	
	comp=Z,193nm,1.9s									
NKL	**Nikolayevsk**	**81.83**	**36**	*e*P		**P**		**03 36 42.1**	**-0.5**	
NKL				*e*S		**S**		**03 46 49.2**	**-5.9**	
NKL				pmax		pmax				
	comp=E,7.0nm,0.7s									
NKL				pmax		pmax				
	comp=N,171nm,0.6s									
NKL				pmax		pmax				
	comp=Z,77nm,1.4s									
NKL				smax		smax				
	comp=E,2.0nm,1.4s									
NKL				smax		smax				
	comp=N,398nm,1.5s									
NKL				MLR		MLR				
	comp=E,47nm,19.0s									
NKL				MLR		MLR				
	comp=N,2µm,14.0s									
NKL				MLR		MLR				
	comp=Z,3µm,16.0s									
TYV	**Tymovskoe**	**82.44**	**38**	*e*P		**P**		**03 36 46.8**	**+0.9**	
TYV				*e*S		**S**		**03 47 05.7**	**+4.2**	
TYV				pmax		pmax				
	comp=Z,26nm,2.0s									
TYV				pmax		pmax				
	comp=Z,400nm,4.4s									
TYV				smax		smax				
	comp=N,700nm,7.2s									
TYV				smax		smax				
	comp=E,400nm,7.2s									
EIDS	**Eidsvold**	**82.65**	**115**	P		**P**		**03 36 46.9**	**-0.6**	
EIDS				IAmb		IAmb		03 36 50.2		
	comp=Z,75nm,1.9s									
EIDS	**Eidsvold**	**82.65**	**115**	P		**P**		**03 36 47.4**	**-0.2**	
VNA2	**Neumayer--Watz**	**82.74**	**199**	P		**P**		**03 36 47.0**	**-0.1**	
	baz=57,slow=5.0									
VNA1	**Neumayer--Stat**	**82.96**	**199**	P		**P**		**03 36 49.0**	**+0.8**	
YUK	**Yuzh-Kuril'sk**	**83.15**	**45**	*e*P		**P**		**03 36 50.2**	**+0.5**	
YUK				*e*				03 40 00.8		
YUK				*e*PPP		PPP		03 41 52.5		
YUK				*e*S		**S**		**03 47 10.4**	**+1.3**	
YUK				*e*SS		**SS**		**03 52 35.9**	**+2.4**	
YUK				*e*SSS		SSS		03 56 04.5		
YUK				pmax		pmax				
	comp=Z,238nm,0.8s									
YUK				pmax		pmax				
	comp=N,152nm,0.9s									
YUK				MLR		MLR				
	comp=Z,2µm,19.0s									
YUK				MLR		MLR				
	comp=N,2µm,17.0s									
YUK				MLR		MLR				
	comp=E,1µm,17.0s									
ARMA	**Armidale**	**83.20**	**120**	P		**P**		**03 36 50.7**	**+0.2**	
	baz=83,SNR=4.6									
ARMA	**Armidale**	**83.20**	**120**	P		**P**		**03 36 51.2**	**+0.7**	
ARMA				IAmb		IAmb		03 36 59.0		
	comp=Z,67nm,1.6s									
ARMA	**Armidale**	**83.20**	**120**	P		**P**		**03 36 50.3**	**-0.2**	
VNA3	**Neumayer Olymp**	**83.53**	**199**	P		**P**		**03 36 51.2**	**-0.1**	
TIXI	**Tiksi**	**83.67**	**16**	LR		LR		04 15 16.7		
	comp=Z,4µm,19.5s,baz=185,slow=36									
TIXI	**Tiksi**	**83.67**	**16**	P		**P**		**03 36 50.9**	**-0.9**	
TIXI				pmax		pmax				
	comp=Z,127nm,1.3s									
TIXI				MLR		MLR				
	comp=Z,4µm,20.0s									
TIXI	**Tiksi**	**83.67**	**16**	P		**P**		**03 36 50.9**	**-0.9**	
SPITS	**Spitsbergen Ar**	**85.24**	**351**	LR		LR		04 18 03.9		
	comp=Z,1µm,19.7s,baz=183,slow=38									
MBO	**M'Bour**	**85.74**	**285**	IAMs_20		IAMs_20		04 14 30.4		
	comp=Z,2µm,21.0s									
QSPA	**South Pole Qui**	**87.35**	**180**	LR		LR		04 10 00.4		
	comp=Z,4µm,21.8s,baz=278,slow=31									
QSPA	**South Pole Qui**	**87.35**	**180**	P		**P**		**03 37 10.4**	**-0.1**	
JMIC	**Jan Mayen**	**88.10**	**341**	LR		LR		04 17 06.9		
	comp=Z,931nm,21.8s,baz=78,slow=36									
VNDA	**Vanda**	**88.27**	**167**	P		**P**		**03 37 14.8**	**+0.2**	
	comp=Z,3.8nm,0.9s,baz=288,slow=6.4,SNR=12									
VNDA				LR		LR		04 12 48.1		
	comp=Z,3µm,18.2s,baz=254,slow=33									
VNDA	**Vanda**	**88.27**	**167**	P		**P**		**03 37 14.8**	**+0.2**	
VNDA				IAmb		IAmb		03 37 22.7		
	comp=Z,52nm,1.6s									
MA2	**Magadan**	**88.62**	**30**	LR		LR		04 18 23.3		
	comp=Z,5µm,19.1s,baz=260,slow=37									
MA2	**Magadan**	**88.62**	**30**	P		**P**		**03 37 16.1**	**-0.4**	
MA2				pmax		pmax				
	comp=Z,59nm,1.2s									
MA2				MLR		MLR				
	comp=Z,5µm,19.0s									
MA2	**Magadan**	**88.62**	**30**	P		**P**		**03 37 16.1**	**-0.4**	
MA2				IAmb		IAmb		03 37 22.7		
	comp=Z,59nm,1.2s									
MA2	**Magadan**	**88.62**	**30**	P		**P**		**03 37 16.4**	**-0.1**	
SBA	**Scott Base**	**89.28**	**168**	P		**P**		**03 37 19.5**	**+0.2**	
SBA				pmax		pmax				
	comp=Z,124nm,1.7s									
SBA	**Scott Base**	**89.28**	**168**	P		**P**		**03 37 19.5**	**+0.2**	
SBA				IAmb		IAmb		03 37 29.2		
	comp=Z,124nm,1.6s									
SEY	**Seymchan**	**89.79**	**27**	LR		LR		04 18 56.9		
	comp=Z,6µm,21.5s,baz=260,slow=36									
SEY	**Seymchan**	**89.79**	**27**	*c*eP		**P**		**03 37 21.4**	**-0.5**	
SEY				pmax		pmax				
	comp=Z,40nm,1.5s									
SEY				MLR		MLR				
	comp=Z,6µm,21.0s									
BELA	**Belgrano 2**	**90.06**	**192**	P		**P**		**03 37 21.9**	**-1.0**	
BELA				IAmb		IAmb		03 37 30.5		
	comp=Z,52nm,1.2s									
DAG	**Danmarks Havn**	**91.79**	**347**	*i* P		**P**		**03 37 32.0**	**+1.1**	
PETK	**Petropavlovsk-**	**91.94**	**37**	LR		LR		04 21 39.2		
	comp=Z,2µm,18.8s,baz=272,slow=37									
BORG	**Borgarnes**	**92.08**	**335**	LR		LR		04 21 17.1		
	comp=Z,1µm,20.5s,baz=91,slow=37									
PET	**Petropavlovsk**	**92.51**	**37**	*e*P		**P**		**03 37 37.2**	**+2.5**	
PET				*e*				03 41 21.7		
PET				*e*S		**S**		**03 48 37.3**	**-0.8**	
PET				*e*SS		**SS**		**03 54 51.0**	**+1.4**	
PET				*e*SSS		SSS		03 58 29.8		
PET				pmax		pmax				
	comp=Z,200nm,8.0s									
PET				pmax		pmax				
	comp=Z,100nm,9.1s									
PET				MLR		MLR				
	comp=Z,2µm,19.0s									
PET				MLR		MLR				
	comp=Z,2µm,17.0s									
PET	**Petropavlovsk**	**92.51**	**37**	IAMs_20		IAMs_20		04 21 26.3		
	comp=Z,2µm,21.0s									
BILL	**Bilibino**	**95.56**	**22**	*c*eP		**P**		**03 37 48.4**	**0.0**	
BILL				*i*				03 41 35.3		
BILL				*e*S		**SKSac**		**03 48 23.2**	**-0.3**	
BILL				*e*SS		**SS**		**03 55 29.2**	**-3.2**	
BILL				pmax		pmax				
	comp=Z,17nm,1.7s									
BILL				MLR		MLR				
	comp=Z,3µm,19.0s									
BILL	**Bilibino**	**95.56**	**22**	P		**P**		**03 37 48.7**	**+0.3**	
BILL				IAmb		IAmb		03 37 51.1		
	comp=Z,41nm,2.0s									
DZM	**Mont Dzumac**	**96.86**	**112**	*e*SS		SS		03 55 49.0	-4.3	
	comp=Z,512nm,27.8s									
DZM	**Mont Dzumac**	**96.86**	**112**	*e*LR		LR		04 09 17.5		
	comp=Z,2µm,25.4s									
DZM	**Mont Dzumac**	**96.86**	**112**	LR		LR		04 21 03.4		
	comp=Z,782nm,18.9s,baz=256,slow=35									
NFK	**Norfolk Island**	**97.43**	**120**	P		**P**		**03 37 57.1**	**-0.7**	
	baz=97,SNR=4.1									
TULEG	**Thule**	**102.43**	**351**	IAMs_20		IAMs_20		04 30 30.5		
	comp=Z,2µm,19.0s									
ADK	**Adak**	**107.53**	**36**	IAMs_20		IAMs_20		04 27 51.3		
	comp=Z,1µm,21.0s									
TOLK	**Toolik Lake Re**	**109.45**	**14**	IAMs_20		IAMs_20		04 32 18.8		
	comp=Z,2µm,21.0s									
H24K	**Noodor Dome**	**112.04**	**15**	IAMs_20		IAMs_20		04 34 32.3		
	comp=Z,2µm,21.0s									
K20K	**Telida**	**112.06**	**19**	IAMs_20		IAMs_20		04 33 25.9		
	comp=Z,2µm,20.0s									
L19K	**White Mountain**	**112.60**	**20**	IAMs_20		IAMs_20		04 33 20.4		
	comp=Z,1µm,20.0s									
MDM	**Murphy Dome**	**112.62**	**16**	IAMs_20		IAMs_20		04 35 08.8		
	comp=Z,2µm,18.0s									
CAST	**Castle Rocks**	**112.65**	**18**	IAMs_20		IAMs_20		04 33 39.5		
	comp=Z,1µm,19.0s									
INK	**Inuvik**	**112.84**	**9**	PKiKP		**PKiKP**		**03 42 59.0**	**-1.0**	
	comp=Z,0.9nm,0.4s,baz=280,slow=13,SNR=2.0									
INK				PP		**PP**		**03 43 44.3**	**-3.3**	
	comp=Z,0.8nm,0.3s,baz=345,slow=14,SNR=5.0									
INK	**Inuvik**	**112.84**	**9**	*i* PKiKP		**PKiKP**		**03 42 59.0**	**-1.0**	
M19K	**Big River Lodg**	**112.95**	**20**	IAMs_20		IAMs_20		04 33 30.7		
	comp=Z,2µm,20.0s									
ILAR	**Eielson Array**	**113.13**	**15**	PKiKP		**PKiKP**		**03 43 01.9**	**+1.3**	
	comp=Z,0.5nm,0.7s,baz=300,slow=3.1,SNR=5.7									
ILAR				PP		**PP**		**03 43 46.7**	**-3.1**	
	comp=Z,1.4nm,1.1s,baz=289,slow=3.8,SNR=4.5									
ILAR	**Eielson Array**	**113.13**	**15**	*i* PKiKP		**PKiKP**		**03 43 02.0**	**+1.3**	
M20K	**Styx River**	**113.40**	**20**	IAMs_20		IAMs_20		04 37 15.4		
	comp=Z,1µm,19.0s									
CUT	**Chulitna**	**113.96**	**18**	IAMs_20		IAMs_20		04 33 51.2		
	comp=Z,2µm,22.0s									
EPYK	**Eagle Plains**	**114.07**	**11**	IAMs_20		IAMs_20		04 41 14.0		
	comp=Z,1µm,20.0s									
P18K	**Big Mountain,**	**114.34**	**23**	IAMs_20		IAMs_20		04 35 24.5		
	comp=Z,2µm,20.0s									
M22K	**Willow**	**114.49**	**19**	IAMs_20		IAMs_20		04 35 13.2		
	comp=Z,2µm,20.0s									
I29M	**Ogilvie Camp,**	**114.66**	**12**	IAMs_20		IAMs_20		04 36 49.5		
	comp=Z,2µm,20.0s									
GHO	**Glory Hole Cre**	**114.85**	**18**	IAMs_20		IAMs_20		04 34 49.8		
	comp=Z,2µm,20.0s									
FIS	**Fire Island**	**114.90**	**19**	IAMs_20		IAMs_20		04 35 18.3		
	comp=Z,2µm,19.0s									
RC01	**Rabbit Creek A**	**115.10**	**19**	IAMs_20		IAMs_20		04 35 23.5		
	comp=Z,2µm,19.0s									
Q19K	**Cape Douglas,**	**115.25**	**22**	IAMs_20		IAMs_20		04 36 01.7		
	comp=Z,2µm,19.0s									
SCM	**Sheep Creek Mo**	**115.30**	**18**	IAMs_20		IAMs_20		04 35 33.6		
	comp=Z,2µm,20.0s									
M24K	**Tolsona, Glenn**	**115.43**	**17**	IAMs_20		IAMs_20		04 36 17.0		
	comp=Z,1µm,19.0s									
HOM	**Homer**	**115.49**	**21**	IAMs_20		IAMs_20		04 35 38.7		
	comp=Z,1µm,19.0s									
DAWY	**Dawson**	**115.56**	**13**			**PKPdf**		**03 43 05.6**	**+0.1**	
BRLK	**Bradley Lake**	**115.68**	**21**	IAMs_20		IAMs_20		04 35 27.9		
	comp=Z,2µm,20.0s									
CNPM	**China Poot**	**115.73**	**21**	IAMs_20		IAMs_20		04 35 37.1		
	comp=Z,1µm,20.0s									
PWL	**Port Wells**	**115.73**	**19**	IAMs_20		IAMs_20		04 35 09.1		
	comp=Z,2µm,22.0s									
L27K	**Beaver Creek,**	**115.83**	**15**	IAMs_20		IAMs_20		04 37 58.6		
	comp=Z,1µm,20.0s									
BCAR	**Beaver Creek A**	**115.84**	**15**	PKPdf		**PKiKP**		**03 43 06.0**	**-0.1**	
KLU	**Klutina**	**115.99**	**17**	IAMs_20		IAMs_20		04 35 47.8		
	comp=Z,1µm,19.0s									
N25K	**Chitina, Valde**	**116.28**	**17**	IAMs_20		IAMs_20		04 37 12.6		
	comp=Z,2µm,20.0s									
M27K	**Edge Creek, AK**	**116.41**	**15**	IAMs_20		IAMs_20		04 35 56.8		
	comp=Z,2µm,20.0s									
GLB	**Gilahina Butte**	**116.64**	**16**	IAMs_20		IAMs_20		04 37 14.0		
	comp=Z,2µm,19.0s									
VRDI	**Verde Repeater**	**116.91**	**16**	IAMs_20		IAMs_20		04 37 32.2		
	comp=Z,2µm,20.0s									
M30M	**Minto, Yukon**	**117.43**	**13**	IAMs_20		IAMs_20		04 35 18.8		
	comp=Z,1µm,21.0s									
TGL	**Tana Glacier**	**117.48**	**16**	IAMs_20		IAMs_20		04 37 49.2		
	comp=Z,2µm,20.0s									
BERG	**Berg Lake**	**117.52**	**17**	IAMs_20		IAMs_20		04 36 57.4		
	comp=Z,2µm,20.0s									
WAX	**Waxell Ridge**	**117.72**	**17**	IAMs_20		IAMs_20		04 37 45.6		
	comp=Z,2µm,20.0s									
TABL	**Table Mountain**	**118.21**	**16**	IAMs_20		IAMs_20		04 38 12.4		
	comp=Z,1µm,19.0s									
M31M	**Drury Creek, Y**	**118.28**	**12**	IAMs_20		IAMs_20		04 40 56.0		
	comp=Z,1µm,20.0s									
N31M	**Braeburn, Yuko**	**118.62**	**13**	IAMs_20		IAMs_20		04 39 41.3		
	comp=Z,1µm,18.0s									
BCPM	**Bancas Point**	**119.03**	**15**	IAMs_20		IAMs_20		04 38 49.0		
	comp=Z,2µm,20.0s									
YKA	**Yellowknife Ar**	**120.27**	**1**	PKP		**PKPdf**		**03 43 13.2**	**-1.3**	
	comp=Z,2.1nm,0.8s,baz=348,slow=2.1,SNR=28									
YKA				PP		**PP**		**03 44 37.0**	**-2.4**	
	comp=Z,6.9nm,1.1s,baz=357,slow=5.7,SNR=7.6									
YKA				PKKPbc		**PKKPab**		**03 53 21.2**	**-2.4**	
	comp=Z,0.6nm,0.9s,baz=170,slow=4.0,SNR=8.9									
YKA	**Yellowknife Ar**	**120.27**	**1**			**PKPdf**		**03 43 12.4**	**-2.0**	
P33M	**Teslin, Yukon**	**120.41**	**12**	IAMs_20		IAMs_20		04 37 13.4		
	comp=Z,1µm,22.0s									
JIS	**Juneau Island**	**121.82**	**14**	IAMs_20		IAMs_20		04 40 54.7		
	comp=Z,1µm,18.0s									
PLCA	**Paso Flores**	**122.61**	**217**	PKP		**PKPdf**		**03 43 19.6**	**-0.1**	
	comp=Z,5.1nm,1.1s,baz=171,slow=6.1,SNR=3.4									
BO02	**Sierra Bellavi**	**126.30**	**222**			**PKPdf**		**03 43 26.9**	**-0.1**	
VA03	**San Esteban**	**127.29**	**225**			**PKPdf**		**03 43 28.3**	**-0.7**	
FFC	**Flin Flon**	**127.45**	**353**	PKiKP		**PKPdf**		**03 43 27.0**	**-1.5**	
FFC	**Flin Flon**	**127.45**	**353**			**PKPdf**		**03 43 27.0**	**-1.5**	
AC02	**Maricunga**	**129.29**	**232**	PKPdf		**PKPdf**		**03 43 33.5**	**0.0**	
LCO	**Las Campanas**	**129.41**	**228**	PKiKP		**PKiKP**		**03 43 34.0**	**-0.1**	
LCO	**Las Campanas**	**129.41**	**228**	PKPdf		**PKiKP**		**03 43 34.0**	**-0.1**	
SMRT	**St. Maarten**	**129.66**	**291**	IAMs_20		IAMs_20		04 33 06.7		
	comp=Z,1µm,19.0s									
SEUS	**St. Eustatius**	**129.68**	**291**	IAMs_20		IAMs_20		04 40 41.4		
	comp=Z,1µm,22.0s									
ULM	**Lac du Bonnet**	**130.63**	**346**	PKP		**PKPdf**		**03 43 32.6**	**-2.1**	
	comp=Z,1.5nm,0.4s,baz=359,slow=2.1,SNR=5.9									
LVC	**Limon Verde**	**131.01**	**237**	PKiKP		**PKPdf**		**03 43 36.7**	**0.0**	
LVC	**Limon Verde**	**131.01**	**237**	PKPdf		**PKPdf**		**03 43 36.7**	**0.0**	
ERPA	**Erie**	**131.35**	**328**	IAMs_20		IAMs_20		04 45 43.1		
	comp=Z,996nm,21.0s									
EYMN	**Ely**	**131.52**	**342**			**PKPdf**		**03 43 35.5**	**-0.9**	
GLMI	**Grayling**	**131.56**	**334**	IAMs_20		IAMs_20		04 42 51.8		
	comp=Z,1µm,22.0s									
M54A	**Oil Creek Stat**	**131.61**	**327**	IAMs_20		IAMs_20		04 42 27.0		
	comp=Z,964nm,22.0s									
COWI	**Conover**	**132.32**	**339**	IAMs_20		IAMs_20		04 53 10.7		
	comp=Z,969nm,20.0s									
AGMN	**Agassiz Nation**	**132.44**	**345**	IAMs_20		IAMs_20		04 43 45.2		
	comp=Z,977nm,22.0s									
GO01	**Chusmiza**	**132.45**	**240**			**PKPdf**		**03 43 39.1**	**-0.4**	
SJG	**San Juan**	**132.50**	**292**	IAMs_20		IAMs_20		04 42 17.9		
	comp=Z,984nm,20.0s									
CBN	**Corbin Frederi**	**132.50**	**323**	IAMs_20		IAMs_20		04 44 07.3		
	comp=Z,1µm,21.0s									
LPAZ	**La Paz**	**132.72**	**245**	PKP		**PKPdf**		**03 43 39.9**	**-0.4**	
	comp=Z,2.9nm,1.1s,baz=42,slow=3.2,SNR=10									
LPAZ	**La Paz**	**132.72**	**245**	*e*P		**PKPdf**		**03 43 40.2**	**-0.2**	
MCWV	**Mont Chateau**	**132.99**	**326**	IAMs_20		IAMs_20		04 44 42.7		
	comp=Z,1µm,22.0s									
AAM	**Ann Arbor**	**133.07**	**331**	IAMs_20		IAMs_20		04 55 11.1		
	comp=Z,1µm,22.0s									
O53A	**New Philadelph**	**133.33**	**327**	IAMs_20		IAMs_20		04 43 50.5		
	comp=Z,1µm,22.0s									
B05A	**Bryant**	**133.74**	**9**	P		**PKiKP**		**03 43 41.8**	**-0.1**	
	baz=346									
DGMT	**Dagmar**	**133.86**	**353**	PKPdf		**PKiKP**		**03 43 42.3**	**+0.1**	
DGMT	**Dagmar**	**133.86**	**353**	IAMs_20		IAMs_20		04 53 13.2		
	comp=Z,1µm,21.0s									
DGMT	**Dagmar**	**133.86**	**353**	P		**PKiKP**		**03 43 41.7**	**-0.4**	
	baz=11									
P52A	**Corning**	**134.26**	**327**	IAMs_20		IAMs_20		04 44 25.2		
	comp=Z,866nm,20.0s									
NEW	**Newport**	**134.35**	**5**	PKP		**PKPdf**		**03 43 41.5**	**-0.3**	
	comp=Z,3.5nm,1.1s,baz=346,slow=4.8,SNR=3.3									
NEW	**Newport**	**134.35**	**5**	IAMs_20		IAMs_20		04 49 04.0		
	comp=Z,1µm,20.0s									
CNNC	**Cliffs of the**	**134.68**	**320**	IAMs_20		IAMs_20		04 52 51.3		
	comp=Z,747nm,18.0s									
EGMT	**Eagleton**	**134.76**	**358**	IAMs_20		IAMs_20		04 52 14.9		
	comp=Z,1µm,20.0s									

	comp=Z,919nm,21.0s							
HWUT	**Hardware Ranch**	141.22	359		IAMs_20	IAMs_20	04 54 29.7	
	comp=Z,1µm,19.0s							
DWPF	**Disney Wildern**	141.36	314		IAMs_20	IAMs_20	04 48 41.9	
	comp=Z,851nm,20.0s							
O02D	**Mt. Diablo Mer**	141.40	13		PKPdf	**PKiKP**	**03 43 57.2**	**-0.7**
N23A	**Red Feather La**	141.53	353		P	**PKPdf**	**03 43 51.1**	**-4.5**
	baz=9.7							
CHIC	**Chingaza**	141.73	274	*eP*		**PKPdf**	**03 43 54.0**	**-2.8**
LRAL	**Lakeview Retre**	141.74	325		IAMs_20	IAMs_20	04 59 26.4	
	comp=Z,885nm,20.0s							
OXF	**Oxford**	141.94	329		IAMs_20	IAMs_20	04 54 28.2	
	comp=Z,789nm,20.0s							
ELK	**Elko**	141.97	4		PKhKP	PKPpre	03 43 52.2	
	comp=Z,1.7nm,0.9s,baz=129,slow=5.2,SNR=4.1							
ELK					PP	**PP**	**03 47 00.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=352,slow=6.9,SNR=3.4							
U40A	**Yellville**	142.07	334		IAMs_20	IAMs_20	04 53 25.0	
	comp=Z,1µm,21.0s							
ROSC	**El Rosal**	142.31	274		PKP	**PKPdf**	**03 43 56.2**	**-1.6**
	comp=Z,2.5nm,0.3s,baz=93,slow=9.2,SNR=8.0							
PTBC	**PUERTO BERRIO**	142.36	277	*eP*		**PKPdf**	**03 43 50.6**	**-6.9**
O20A	**White River Ci**	142.53	355		P	**PKPdf**	**03 43 54.0**	**-3.3**
	baz=6.2							
ISCO	**Idaho Springs**	142.57	352		IAMs_20	IAMs_20	04 54 03.7	
	comp=Z,1µm,21.0s							
ISCO	**Idaho Springs**	142.57	352		P	**PKPdf**	**03 43 55.1**	**-2.4**
	baz=10							
DUG	**Dugway, Tooele**	142.62	1		IAMs_20	IAMs_20	04 53 02.9	
	comp=Z,1µm,21.0s							
DUG	**Dugway, Tooele**	142.62	1		P	**PKPdf**	**03 43 53.5**	**-3.9**
	baz=359							
ZARC	**Zaragoza, Cauc**	142.68	279			**PKPdf**	**03 43 56.6**	**-1.4**
ZARC	**Zaragoza, Cauc**	142.68	279	*eP*		**PKPdf**	**03 43 56.1**	**-1.8**
ORTC	**Ortega, Tolima**	143.26	273	*eP*		PKPab	03 43 52.7	-2.2
UREC	**San Jos de Ur**	143.32	279	*eP*		PKPbc	03 43 56.8	+0.7
Q24A	**Divide**	143.32	351		P	PKPbc	03 43 57.3	+1.5
	baz=12							
GUY2C	**Guyana, Caldas**	143.34	275	*eP*		PKPbc	03 43 57.6	+0.8
HELC	**Santa Helena**	143.44	277	*eP*		PKPbc	03 43 58.1	+1.1
W39A	**Magazine**	143.45	334		IAMs_20	IAMs_20	04 57 35.6	
	comp=Z,856nm,20.0s							
W39A	**Magazine**	143.45	334		P	PKPbc	03 43 56.3	+0.4
	baz=32							
X40A	**Basin Creek Fa**	143.63	333		IAMs_20	IAMs_20	04 55 13.4	
	comp=Z,899nm,20.0s							
X40A	**Basin Creek Fa**	143.63	333		P	PKPbc	03 43 57.2	+0.7
	baz=34,SNR=6.5							
FLOC	**Florencia**	143.63	269	*eP*		PKPab	03 43 54.2	-2.1
TUL1	**Leonard**	143.65	337		IAMs_20	IAMs_20	05 00 11.5	
	comp=Z,925nm,20.0s							
TUL1	**Leonard**	143.65	337		P	PKPbc	03 43 57.5	+1.1
	baz=28							
NVAR	**Mina Array Bea**	143.93	8		PKP	PKPbc	03 43 58.0	+0.5
	comp=Z,5.1nm,1.1s,baz=306,slow=1.1,SNR=13							
NVAR					PP	**PP**	**03 47 11.7**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=33,slow=1.8,SNR=4.4							
CBOC	**Ciudad Bolivar**	143.94	276	*eP*		PKPab	03 43 57.5	-0.1
NV11	**Mina Array Sit**	143.95	8			PKPbc	03 43 57.9	+0.4
CMB	**Columbia Colle**	143.96	11		IAMs_20	IAMs_20	04 49 29.5	
	comp=Z,1µm,22.0s							
DBBC	**Dabeiba**	144.05	278	*eP*		**PKPdf**	**03 43 59.8**	**-0.7**
CBCY	**The Bluff, Cay**	144.20	301			**PKPab**	**03 43 57.8**	**-0.4**
PLMC	**San Jos del P**	144.26	275	*eP*		**PKPab**	**03 43 57.1**	**-1.6**
VBMS	**Vicksburg**	144.30	328		P	**PKPdf**	**03 43 59.8**	**-0.5**
	baz=39							
PV04	**Paradox Valley**	144.31	356		PKPdf	PKPbc	03 43 58.9	+0.3
R11A	**Troy Canyon, C**	144.32	5		P	PKPbc	03 43 59.1	+0.4
	baz=354							
YOTC	**Yotoco, Valle**	144.35	273	*eP*		**PKPab**	**03 43 57.3**	**-1.8**
SDCO	**Great Sand Dun**	144.56	351			PKPbc	03 43 59.6	-0.1
SDCO					IAMs_20	IAMs_20	04 53 15.6	
	comp=Z,910nm,22.0s							
SDCO	**Great Sand Dun**	144.56	351		P	PKPbc	03 43 59.7	+0.1
	baz=11							
Z41A	**Richland Creek**	144.63	332		P	**PKPdf**	**03 44 00.2**	**-0.6**
	baz=34,SNR=8.9							
POPC	**Popayan, Colom**	144.68	271	*eP*		**PKPab**	**03 43 59.2**	**-1.3**
S22A	**4UR Ranch, Cre**	144.75	353		P	PKPbc	03 44 00.3	0.0
	baz=8.9							
T25A	**Trinidad**	144.97	349			**PKPdf**	**03 44 01.3**	**-0.4**
T25A	**Trinidad**	144.97	349		P	**PKPdf**	**03 44 01.3**	**-0.4**
	baz=13							
TIN	**Tinemaha, Big**	145.29	9		P	**PKPdf**	**03 44 03.4**	**+1.3**
	baz=349							
GCUF	**Volcan Galeras**	145.31	268	*eP*		**PKPdf**	**03 44 03.9**	**+0.6**
MVCO	**Mesa Verde**	145.46	355			**PKPbc**	**03 44 02.3**	**-0.2**
MVCO	**Mesa Verde**	145.46	355		P	**PKPab**	**03 44 03.0**	**+0.4**
	baz=6.2							
GRAC	**Grapevine Rang**	145.47	8		P	**PKPab**	**03 44 03.3**	**+0.8**
	baz=351,SNR=36							
TPNV	**Topopah Spring**	145.65	6		P	**PKPbc**	**03 44 02.9**	**-0.1**
	baz=352							
WMOK	**Wichita Mounta**	145.78	340		IAMs_20	IAMs_20	04 52 18.5	
	comp=Z,853nm,21.0s							
WMOK	**Wichita Mounta**	145.78	340		P	**PKPbc**	**03 44 03.3**	**+0.1**
	baz=24							
VOG	**Valley Oaks Go**	145.81	11		P	**PKPab**	**03 44 04.0**	**+0.3**
	baz=347							
CWC	**Cottonwood Cre**	145.92	9		P	**PKPab**	**03 44 04.4**	**+0.1**
	baz=349							
FURC	**Furnace Creek,**	146.06	7		P	**PKPab**	**03 44 05.2**	**+0.7**
	baz=351,SNR=21							
VES	**Vestal, Richgr**	146.34	10		P	**PKPdf**	**03 44 04.0**	**+0.2**
	baz=347							
OTAV	**Otavalo**	146.35	266	*eP*		PKPdf	03 43 56.6	-8.4
MPMC	**Manual Prospec**	146.38	8		P	**PKPab**	**03 44 05.9**	**-0.1**
	baz=350,SNR=36							
AMTX	**Amarillo**	146.52	344			**PKPdf**	**03 44 04.0**	**-0.2**
AMTX	**Amarillo**	146.52	344		P	**PKPdf**	**03 44 04.5**	**+0.3**
	baz=19							
ISA	**Isabella, Lake**	146.62	10		P	**PKPdf**	**03 44 04.9**	**+0.6**
	baz=348							
SMMC	**Simmler**	146.67	12		P	**PKPdf**	**03 44 04.9**	**+0.6**
	baz=345							
SHOC	**Shoshone, Teco**	146.69	6		P	**PKPab**	**03 44 07.1**	**+0.1**
	baz=352,SNR=8.3							
NATX	**Nacogdoches**	146.74	332		IAMs_20	IAMs_20	05 04 03.9	
	comp=Z,976nm,20.0s							
NATX	**Nacogdoches**	146.74	332		P	**PKPbc**	**03 44 05.8**	**-0.4**
	baz=33,SNR=11							
LRMC	**Laurel Mtn Rad**	146.92	8		P	**PKPbc**	**03 44 06.7**	**0.0**
	baz=350,SNR=9.8							
TUQ	**Turquoise Moun**	147.18	6		P	**PKPab**	**03 44 08.7**	**-0.4**
	baz=353,SNR=20							
GSC	**Goldstone, Bar**	147.21	7		P	**PKPbc**	**03 44 08.2**	**+0.6**
	baz=351,SNR=23							
WUAZ	**Wupatki**	147.29	359		P	**PKPbc**	**03 44 06.9**	**-1.0**
	baz=1.2							
BCIP	**Isla Barro Col**	147.35	283		IAMs_20	IAMs_20	04 52 20.2	
	comp=Z,927nm,21.0s							
ANMO	**Albuquerque**	147.45	351		PKPbc	**PKPdf**	**03 44 06.3**	**+0.4**
	comp=Z,9.1nm,1.2s,baz=91,slow=1.2,SNR=16							
ANMO	**Albuquerque**	147.45	351		PKP2	**PKPdf**	**03 44 06.6**	**+0.7**
ANMO	**Albuquerque**	147.45	351			**PKPdf**	**03 44 06.6**	**+0.7**
ANMO	**Albuquerque**	147.45	351		IAMs_20	IAMs_20	04 56 45.1	
	comp=Z,1µm,20.0s							
ANMO	**Albuquerque**	147.45	351		P	**PKPdf**	**03 44 06.8**	**+0.9**
	baz=10							
EDW2	**Edwards Air Fo**	147.46	9		P	**PKPbc**	**03 44 08.8**	**+0.6**
	baz=349,SNR=16							
W18A	**Petrified Fore**	147.63	356		P	**PKPab**	**03 44 09.9**	**-1.0**
	baz=4.2							
MSTX	**Muleshoe**	147.66	346		P	**PKPbc**	**03 44 08.1**	**-0.8**
	baz=17,SNR=21							
WHTX	**Lake Whitney,**	147.75	336		P	**PKPbc**	**03 44 07.7**	**-1.4**
	baz=28							
GMRC	**Granite Mounta**	147.85	6		P	**PKPbc**	**03 44 09.1**	**-0.3**
	baz=353,SNR=16							
ABTX	**Abilene, Hawle**	148.00	340		P	**PKPbc**	**03 44 08.9**	**-0.8**
	baz=24,SNR=5.8							
BFSC	**Mount Baldy Ra**	148.14	9		P	**PKPdf**	**03 44 08.1**	**+1.1**
	baz=349							
Y22D	**IRIS PASSCAL I**	148.38	352		IAMs_20	IAMs_20	04 55 57.5	
	comp=Z,1µm,21.0s							
PDMCI	**Parker Dam,Lak**	148.45	3		P	**PKPdf**	**03 44 08.6**	**+1.3**
	baz=356,SNR=9.9							
IRM	**Iron Mountain**	148.52	5		P	**PKPbc**	**03 44 09.4**	**-1.7**
	baz=354,SNR=35							
BELC	**Belle Mtn. Jos**	148.59	6		P	**PKPbc**	**03 44 09.6**	**-1.8**
	baz=352,SNR=8.6							
HKT	**Hockley**	148.80	332		PKP2	**PKPdf**	**03 44 09.4**	**+1.5**
HKT	**Hockley**	148.80	332			**PKPdf**	**03 44 09.4**	**+1.5**
HKT	**Hockley**	148.80	332		IAMs_20	IAMs_20	05 01 17.4	
	comp=Z,1µm,20.0s							
MURC	**Murrieta**	148.84	8		P	**PKPdf**	**03 44 09.5**	**+1.5**
	baz=350,SNR=6.5							
435B	**Jarrell**	148.86	335		IAMs_20	IAMs_20	05 01 11.7	
	comp=Z,1µm,19.0s							
435B	**Jarrell**	148.86	335		P	**PKPdf**	**03 44 09.0**	**+0.9**
	baz=29							
PFO	**Pinyon Flats O**	148.92	7		PKPbc	**PKPbc**	**03 44 10.4**	**-1.8**
	comp=Z,16nm,1.1s,baz=354,slow=2.4,SNR=8.8							
PFO	**Pinyon Flats O**	148.92	7			**PKPdf**	**03 44 10.1**	**+1.8**
PFO					IAMs_20	IAMs_20	04 58 57.8	
	comp=Z,817nm,20.0s							
PFO	**Pinyon Flats O**	148.92	7		P	**PKiKP**	**03 44 12.9**	**-0.7**
	baz=351,SNR=9.6							
BC3	**Big Chuckawall**	148.99	6		P	**PKPdf**	**03 44 10.2**	**+1.8**
	baz=353,SNR=12							
MONP2	**Monument Peak**	149.64	7		P	**PKPdf**	**03 44 10.9**	**+1.3**
	baz=351							
GLA	**Glamis**	149.65	5		P	**PKPdf**	**03 44 10.7**	**+1.4**
	baz=354							
SWSC	**Sam W. Stewart**	149.66	6		P	**PKPdf**	**03 44 10.3**	**+1.0**
	baz=352							
TAOE	**Nuku Hiva Isla**	149.73	112	*e*	LR	LR	04 33 39.5	
	comp=Z,676nm,23.6s							
TKX	**Tecate**	149.93	8			**PKPbc**	**03 44 12.5**	**-2.1**
JCT	**Junction City**	150.00	339		IAMs_20	IAMs_20	05 02 14.5	
	comp=Z,1µm,21.0s							
JCT	**Junction City**	150.00	339		P	**PKPdf**	**03 44 10.6**	**+0.7**
	baz=25							
121A	**Cholos Peak, D**	150.01	353		P	**PKPdf**	**03 44 10.6**	**+0.5**
	baz=8.4,SNR=7.5							
MNTX	**Cornudas Mount**	150.44	348		P	**PKPdf**	**03 44 11.6**	**+1.0**
	baz=13,SNR=54							
TUC	**Tucson**	150.47	358		IAMs_20	IAMs_20	04 56 24.8	
	comp=Z,1µm,22.0s							
TUC	**Tucson**	150.47	358		P	**PKPdf**	**03 44 11.4**	**+0.7**
	baz=2.5							
735A	**Kenedy**	150.63	334			**PKPdf**	**03 44 13.2**	**+2.3**
214A	**Organ Pipe Nat**	150.84	1		P	**PKPdf**	**03 44 12.4**	**+1.1**
	baz=358							
833A	**Chaparral WMA,**	151.77	336		P	**PKPdf**	**03 44 13.3**	**+0.7**
	baz=27							
TXAR	**Lajitas Array**	152.30	344		PKP	**PKPdf**	**03 44 13.7**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=56,slow=0.5,SNR=20							
TXAR					PKPbc	**sPKPdf**	**03 44 20.1**	**+0.1**
	comp=Z,9.5nm,1.0s,baz=90,slow=0.5,SNR=34							
TGUH	**Tegucigalpa,Un**	153.05	296	*eP*		**PKPbc**	**03 44 21.9**	**-0.5**
MTO3	**Montecristo**	154.76	299		IAMs_20	IAMs_20	04 50 08.2	
	comp=Z,1µm,22.0s							
SNET	**Serv Nac Est T**	154.94	297		IAMs_20	IAMs_20	04 51 45.0	
	comp=Z,1µm,22.0s							

*IDC **26** 03:30:02.5±8.2,0.°32N×99.°84E,h0km,mb3.8/4,mb1 3.8/4, mb1mx3.4/51,mbtmp3.8/4,Error ellipse: s-maj=199.6km s-min=134.2km az=127.0*

ISC 26 03:30:03.8±1.2,0.°34N±0.°09×100.°0E±0.°1,h10km,n8, σ0.°58/8,mb3.9/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JMBI	**JAMBI**	**4.17**	**118**	P		**Pg**	**03 31 23.7**	**0.0**
IPM	**Ipoh**	**4.25**	**14**	P		**Pn**	**03 31 07.8**	**-0.9**
TPRI	**Tanjung Pinang**	**4.60**	**83**	P		**Pg**	**03 31 32.4**	**+0.3**
	182nm,0.7s							
KSI	**Kapahiang**	**4.75**	**146**	P		**Pn**	**03 31 15.1**	**-0.5**
	10µm74nm,0.9s							
SONM	**Songino Array**	**47.64**	**6**	P		**P**	**03 38 40.8**	**+0.5**
	0.4nm,0.4s,baz=188,slow=12,SNR=2.1							
MKAR	**Makanchi Array**	**48.79**	**344**	P		**P**	**03 38 49.3**	**+0.3**
	0.6nm,0.5s,baz=156,slow=8.3,SNR=13							
ZALV	**Zalesovo Beam**	**54.88**	**349**	P		**P**	**03 39 34.1**	**-0.3**
	1.2nm,0.4s,baz=165,slow=7.7,SNR=4.9							
ARCES	**ARCESS Array B**	**84.28**	**340**	P		**P**	**03 42 35.8**	**+0.3**
	0.3nm,0.4s,baz=96,slow=6.4,SNR=5.3							

*IDC **26** 03:49:31.8±0.9,21.°11N×121.°65E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.7/42,mbtmp3.9/11,ML3.5/2,Error ellipse: s-maj=25.4km s-min=17.7km az=76.0*
*TAP **26** 03:49:34.8,21.°40N×121.°53E,h46km,ML4.1,D*
*JMA **26** 03:49:36.0±0.4,21.°38N×121.°75E,h42km,M4.1*

ISC 26 03:49:33.0±1.9,21.°42N±0.°06×121.°58E±0.°03,h6km±11km, n102,σ1§46/111,mb3.8/8,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.58**	**0**	*i* P		**Pn**	**03 49 47.3**	**-0.4**
	baz=5.0							
LYUB				S		**Sn**	**03 49 57.2**	**-0.4**
	baz=5.0							
LAY	**Lan-yu**	**0.62**	**358**	*i* P		**Pn**	**03 49 47.7**	**-0.7**
	baz=2.0							
TSEB	**Hengchuen, Pin**	**0.79**	**307**	*i* P		**Pn**	**03 49 50.4**	**-0.3**
	baz=309							
TSEB				S		**Sn**	**03 50 02.2**	**-0.7**
	baz=309							
TWKBT	**Hengchun**	**0.88**	**306**	*i* P		**Pn**	**03 49 51.1**	**-0.9**
	baz=309							
TWKBT				*e*S		**Sb**	**03 50 03.1**	**+0.4**
	baz=309							
TWK1	**Hengchun**	**0.89**	**306**	*i* P		**Pn**	**03 49 51.1**	**-0.9**
	baz=309							
SMST	**Manzhou Townsh**	**0.91**	**311**	*eP*		**Pb**	**03 49 51.3**	**+0.1**
	baz=322							
HEN	**Hengchun**	**0.98**	**307**	P		**Pg**	**03 49 52.7**	**+1.0**
	baz=310							
HEN				*e*S		**Sn**	**03 50 06.2**	**-1.2**
	baz=310							
SLIU	**Shizi**	**1.07**	**318**	P		**Pn**	**03 49 53.5**	**-1.2**
	baz=328							
SLIU				*e*S		**Sb**	**03 50 08.6**	**+0.3**
	baz=328							
TAWH	**Dawu Township**	**1.12**	**325**	↓*i* P		**Pn**	**03 49 54.1**	**-1.1**
	baz=337							
TAWH				S		**Sb**	**03 50 08.5**	**-1.1**
	baz=337							
TAW	**Tawu**	**1.13**	**326**	*eP*		**Pn**	**03 49 54.1**	**-1.2**
	baz=329							
TAW				*e*S		**Sb**	**03 50 08.7**	**-1.1**
	baz=329							
LDUT	**Ludao**	**1.25**	**355**	*eP*		**Pb**	**03 49 57.2**	**+0.2**
	baz=357							
SCZT	**Fangliau**	**1.30**	**317**	P		**Pb**	**03 49 57.4**	**-0.5**
	baz=330							
ECL	**Taimali**	**1.31**	**334**	*i* P		**Pn**	**03 49 56.5**	**-1.3**
	baz=336							
ECL				S		**Sn**	**03 50 12.4**	**-3.2**
	baz=336							
TTN	**Taitung**	**1.39**	**343**	*eP*		**Pb**	**03 49 58.8**	**-0.6**
	baz=346							
SSPT	**Xinbi**	**1.42**	**319**	*eP*		**Pb**	**03 49 59.8**	**0.0**
	baz=332							
TWGBT	**Beinan**	**1.47**	**342**	P		**Pn**	**03 49 59.0**	**-1.0**
	baz=344							
TWG	**Pinlang**	**1.47**	**341**	P		**Pn**	**03 49 59.1**	**-1.0**
	baz=344							
MASBT	**Mashibuluo**	**1.48**	**324**	P		**Pn**	**03 49 59.8**	**-0.4**
	baz=334							
LONT	**Longtian**	**1.54**	**344**	P		**Pn**	**03 50 00.2**	**-0.8**
	baz=337							
TSMG	**Majia**	**1.55**	**326**	*eP*		**Pn**	**03 50 00.7**	**-0.4**
	baz=336							
EDH	**Donghe**	**1.57**	**351**	P		**Pn**	**03 50 01.1**	**-0.3**
	baz=360							
EDH				*e*S		**Sn**	**03 50 21.4**	**-0.6**
	baz=360							
SSD	**Sandimen**	**1.59**	**327**	*i* P		**Pn**	**03 50 01.1**	**-0.6**
	baz=336							
TWM1	**Shoushan**	**1.76**	**323**	*eP*		**Pg**	**03 50 06.9**	**+0.1**
	baz=325							
SCST	**Cishan**	**1.77**	**326**	*eP*		**Pb**	**03 50 05.8**	**-0.1**
	baz=327							
FULB	**Fuli**	**1.79**	**352**	*eP*		**Pn**	**03 50 04.8**	**+0.3**
	baz=343							
ELDTW	**Lidau**	**1.84**	**344**	*eP*		**Pn**	**03 50 04.2**	**-1.0**
	baz=345							
SGST	**Jiashian**	**1.90**	**331**	*eP*		**Pn**	**03 50 05.9**	**0.0**
	baz=341							
STYH	**Taoyuan**	**1.90**	**337**	*eP*		**Pn**	**03 50 06.5**	**+0.6**
	baz=346							
STYT	**Tauyuan**	**1.90**	**336**	P		**Pb**	**03 50 06.8**	**-1.3**
	baz=346							
EYUL	**Yuli**	**1.93**	**353**	*eP*		**Pn**	**03 50 06.3**	**-0.1**
	baz=344							
TWF1	**Yuli**	**1.94**	**352**	*eP*		**Pn**	**03 50 06.3**	**-0.2**
	baz=344							
YULB	**Yu-li**	**1.98**	**352**	*eP*		**Pn**	**03 50 06.8**	**-0.3**
	baz=345							
CHN1	**Nanshi**	**2.01**	**331**	*eP*		**Pn**	**03 50 08.2**	**+0.8**
	baz=333							
SNST	**Tainan City**	**2.05**	**331**	*eP*		**Pb**	**03 50 09.8**	**-0.9**
	baz=333							
HGSD	**Ruisui**	**2.07**	**356**	*eP*		**Pn**	**03 50 08.9**	**+0.6**
	baz=6.0							
TPUB	**Ta-pu**	**2.07**	**335**	*eP*		**Pb**	**03 50 09.9**	**-1.1**
	baz=324							
TPUB	**Ta-pu**	**2.07**	**335**	P		**Pb**	**03 50 10.3**	**-0.7**
EHY	**Hungye**	**2.09**	**354**	*eP*		**Pn**	**03 50 08.1**	**-0.5**
	baz=345							
TWK	**Hsinying**	**2.10**	**331**	*eP*		**Pb**	**03 50 10.1**	**-1.4**
	baz=333							
CHN4	**Tsaushan**	**2.13**	**335**	*eP*		**Pb**	**03 50 10.7**	**-1.3**
	baz=336							
ALS	**Alishan**	**2.20**	**341**	*eP*		**Pb**	**03 50 11.4**	**-1.9**
	baz=349							
ICHU	**Yijhu**	**2.28**	**328**	*eP*		**Pn**	**03 50 11.9**	**+0.8**
	baz=330							
CHN5	**Tsauling**	**2.32**	**339**	*eP*		**Pb**	**03 50 13.9**	**-1.4**
	baz=341							
SSLB	**Suanglung**	**2.43**	**346**	*eP*		**Pb**	**03 50 15.1**	**-1.9**
	baz=348							
SSLB	**Suanglung**	**2.43**	**346**	P		**Pb**	**03 50 15.2**	**-1.9**
WDLH	**Douliu**	**2.46**	**337**	*eP*		**Pb**	**03 50 15.5**	**-2.0**
	baz=338							
WTK	**Tuku**	**2.51**	**334**	*eP*		**Pn**	**03 50 15.6**	**+1.2**
	baz=335							
WJS	**Zhushan**	**2.52**	**342**	*eP*		**Pb**	**03 50 16.7**	**-1.9**
	baz=332							
OWD	**Renai**	**2.55**	**352**	*eP*		**Pn**	**03 50 16.1**	**+1.1**
	baz=359							
TYC	**Yuchr**	**2.56**	**345**	*eP*		**Pb**	**03 50 16.8**	**-2.6**
	baz=334							
WNT	**Mingjian**	**2.58**	**341**	*eP*		**Pb**	**03 50 17.4**	**-2.3**
	baz=329							
WUSB	**Renai**	**2.60**	**351**	*eP*		**Pn**	**03 50 17.0**	**+1.3**
	baz=358							
CHGB	**Renai**	**2.66**	**352**	*eP*		**Pn**	**03 50 17.4**	**+0.9**
	baz=2.0							
VCHM	**Qimei**	**2.67**	**312**	*eP*		**Pn**	**03 50 15.8**	**-0.7**
	baz=313							
VCHM				*e*S		**Sn**	**03 50 46.9**	**-2.3**
	baz=313							
WCS	**Beigang Elemen**	**2.70**	**347**	*eP*		**Pb**	**03 50 19.5**	**-2.2**
	baz=335							
WHF	**Hehuan Shan**	**2.73**	**354**	*eP*		**Pn**	**03 50 18.9**	**+1.2**
	baz=3.0							
NACB	**Ninganchiao**	**2.74**	**0**	*eP*		**Pn**	**03 50 17.8**	**+0.2**
	baz=352							
ETLH	**Xiulin Townshi**	**2.78**	**358**	*eP*		**Pn**	**03 50 18.3**	**+0.2**
	baz=352							
PHUB	**P'eng-hu**	**2.79**	**319**	*eP*		**Pn**	**03 50 17.7**	**-0.5**
	baz=320							
FUSS	**Fushou**	**2.83**	**354**	*eP*		**Pn**	**03 50 19.5**	**+0.5**
	baz=2.0							
WHP	**Taichung City**	**2.90**	**349**	*eP*		**Pn**	**03 50 20.9**	**+1.1**
	baz=337							
NNSB	**Datong**	**3.00**	**357**	*eP*		**Pn**	**03 50 22.9**	**+1.7**
	baz=357							
LATG	**Datong**	**3.10**	**359**	*eP*		**Pn**	**03 50 23.9**	**+1.3**
	baz=360							
NDT	**Datong Townshi**	**3.17**	**359**	*eP*		**Pn**	**03 50 25.1**	**+1.7**
	baz=360							
TWC	**Suao**	**3.19**	**4**	*eP*		**Pn**	**03 50 25.0**	**+1.4**
	baz=13							
ENTT	**Nioudou**	**3.21**	**360**	*eP*		**Pn**	**03 50 26.0**	**+2.0**
	baz=354							
NFF	**Wufeng Townshi**	**3.23**	**353**	*eP*		**Pb**	**03 50 28.0**	**-2.8**
	baz=340							
YHNB	**Yeheng**	**3.24**	**357**	*eP*		**Pn**	**03 50 26.6**	**+2.2**
	baz=5.0							
YHNB	**Yeheng**	**3.24**	**357**	P		**Pn**	**03 50 26.9**	**+2.4**
NSK	**Sanguang**	**3.25**	**356**	*eP*		**Pn**	**03 50 26.9**	**+2.4**
	baz=5.0							
JYNG	**Yonaguni jima**	**3.27**	**22**	*e*S		**Sn**	**03 51 03.8**	**-0.2**
YOJ	**Yonaguni jima**	**3.30**	**23**	P		**Pb**	**03 50 29.9**	**-2.1**
FUSB	**Fushanzhiwuyua**	**3.33**	**0**	*eP*		**Pn**	**03 50 27.6**	**+2.0**
	baz=1.0							
HATJ	**Hateruma jima**	**3.33**	**38**	P		**Pn**	**03 50 26.6**	**+0.9**
HATJ				S		**Sn**	**03 51 04.5**	**-1.1**
IRIF	**Iriomote-Funau**	**3.52**	**34**	P		**Pn**	**03 50 29.6**	**+1.4**
IRIF				S		**Sn**	**03 51 10.2**	**+0.1**
TIPB	**Shuangxi**	**3.54**	**4**	*eP*		Pb	03 50 31.8	-4.4
	baz=355							
JKRS	**Kuro-shima**	**3.59**	**38**	P		**Pn**	**03 50 30.4**	**+1.2**
JKRS				S		**Sn**	**03 51 10.3**	**-1.6**
NWF	**Wu-fen Shan**	**3.64**	**3**	*eP*		**Pb**	**03 50 33

2.2nm,0.7s,baz=92,slow=7.3,SNR=29
WRA Warramunga Arr 43.25 265 P **P** **04 23 50.2 -0.6**
0.6nm,0.3s,baz=96,slow=8.3,SNR=28
VNDA Vanda 55.59 185 P **P** **04 25 23.4 +2.2**
0.5nm,0.5s,baz=7.0,slow=6.2,SNR=5.1
ILAR Eielson Array 90.73 13 P **P** **04 28 42.3 -0.5**
0.3nm,0.5s,baz=224,slow=4.5,SNR=2.1
AKASG Malin Array Be 144.39 329 PKP **PKPab** **04 35 12.7 -0.3**
0.5nm,0.4s,baz=45,slow=4.1,SNR=6.2
BRTR Keskin Array B 147.46 309 PKPbc **PKPbc** **04 35 22.3 +0.2**
1.0nm,0.9s,baz=300,slow=2.7,SNR=4.9
GERES GERESS Array B 152.01 342 PKPbc **PKiKP** **04 35 33.6 +0.8**
0.1nm,0.3s,baz=86,slow=5.5,SNR=5.3

*CNRM **26** 04:28:12.5,35˚.50N×3˚.66W,h16km,ml2.4*
*MDD **26** 04:28:13.7±0.5,35˚.47N×3˚.71W,h20km±5km,mb_Lg2.0/10, Error ellipse: s-maj=5.1km s-min=3.0km az=151.0*
*SFS **26** 04:28:14.0,35˚.47N×3˚.67W,ML2.6,ALBORAN SUR*
ISC 26 04:28:11.7±1.1,35˚.51N±0˚.02×3˚.64W±0˚.03,h14km±9km, n23,σ1§06/46,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.38**	**220**	P	**Pg**	**04 28 19.1**	**-0.3**
PALE				S	**Sg**	**04 28 24.1**	**-0.3**
EMEL	**Melilla**	**0.60**	**110**	Pg	**Pn**	**04 28 25.9**	**+0.1**
EMEL				Sg	**Sn**	**04 28 35.2**	**0.0**
EALB	**Alboran**	**0.66**	**49**	Pg	**Pn**	**04 28 27.0**	**+0.4**
EALB				Sg	**Sn**	**04 28 37.4**	**+0.7**
EALB				*i* Vmb_Lg		04 28 38.9	
AKLM	**AKL**	**1.01**	**190**	P	**Pn**	**04 28 31.3**	**-0.3**
AKLM				S	**Sn**	**04 28 45.7**	**+0.1**
TAF	**Taforalt**	**1.22**	**124**	P	**Pg**	**04 28 35.2**	**0.0**
TAF				S	**Sg**	**04 28 51.0**	**-0.1**
ELGU	**Los Guajares,**	**1.36**	**1**	Pn	**Pn**	**04 28 37.4**	**+0.4**
ELGU				Sn	**Sn**	**04 28 53.2**	**-1.0**
ELGU				*i* Vmb_Lg		04 28 57.9	
EMIJ	**Mijas**	**1.40**	**319**	Pn	**Pn**	**04 28 37.0**	**+0.1**
EMIJ				Sn	**Sn**	**04 28 53.5**	**-1.7**
EMIJ				*i* Vmb_Lg		04 29 02.9	
EMAL	**Malaga-Limoner**	**1.41**	**333**	P	**Pg**	**04 28 39.1**	**+0.4**
EMAL				S	**Sn**	**04 28 54.2**	**-1.0**
SMIR	**Smir Dam**	**1.43**	**278**	P	**Pn**	**04 28 36.9**	**-0.3**
SMIR				S	**Sn**	**04 28 54.4**	**-1.4**
JBK	**JBK**	**1.47**	**143**	P	**Pb**	**04 28 37.9**	**-1.0**
JBK				S	**Sg**	**04 28 58.5**	**-0.4**
EBER	**Berja**	**1.52**	**23**	Pn	**Pn**	**04 28 39.0**	**+0.4**
EBER				Sn	**Sn**	**04 28 57.2**	**-1.1**
EBER				*i* Vmb_Lg		04 29 04.4	
EGOR	**Sierra Gorda,**	**1.65**	**347**	Pn	**Pn**	**04 28 41.3**	**+0.9**
EGOR				Sn	**Sn**	**04 28 59.8**	**-1.6**
EGOR				*i* Vmb_Lg		04 29 11.8	
ENIJ	**Nijar**	**1.87**	**38**	Pn	**Pn**	**04 28 44.0**	**+0.7**
ENIJ				Sn	**Sn**	**04 29 06.2**	**-0.5**
ENIJ				*i* Vmb_Lg		04 29 07.4	
SICH	**Sidi Chahed**	**1.96**	**225**	P	**Pb**	**04 28 47.5**	**+0.2**
SICH				S	**Sb**	**04 29 12.8**	**+1.2**
LCRM	**LCR**	**2.08**	**209**	P	**Pb**	**04 28 49.5**	**+0.2**
LCRM				S	**Sb**	**04 29 14.3**	**-0.7**
IFR	**Ifrane**	**2.33**	**212**	P	**Pn**	**04 28 49.3**	**-0.6**
IFR				S	**Sn**	**04 29 15.9**	**-2.5**
CZD	**Col de Zad**	**2.73**	**206**	P	**Pn**	**04 28 56.3**	**+1.0**
CZD				S	**Sn**	**04 29 28.0**	**-0.3**
EADA	**Adamuz**	**2.76**	**344**	Pn	**Pn**	**04 28 56.5**	**+0.9**
EADA				Sn	**Sn**	**04 29 26.9**	**-1.8**
EADA				*i* Vmb_Lg		04 29 42.2	
MD31	**MD31**	**2.79**	**200**	P	**Pn**	**04 28 56.8**	**+0.8**
MD31				S	**Sn**	**04 29 30.5**	**+0.9**
MDT	**Midelt**	**2.80**	**197**	P	**Pn**	**04 28 57.8**	**+1.6**
MDT				S	**Sn**	**04 29 31.0**	**+1.1**
ECAB	**El Cabril**	**2.93**	**331**	Pn	**Pn**	**04 28 59.4**	**+1.4**
ECAB				Sn	**Sn**	**04 29 31.8**	**-1.3**
ECAB				*i* Vmb_Lg		04 29 39.7	
PVAQ	**Vaqueiros**	**3.79**	**301**	P	**Pn**	**04 29 11.3**	**+1.6**
PVAQ				S	**Sn**	**04 29 56.0**	**+1.9**
EBAD	**Badajoz**	**4.22**	**321**	Pn	**Pn**	**04 29 15.9**	**+0.3**
EBAD				Sn	**Sn**	**04 30 02.7**	**-1.9**
EBAD				*i* Vmb_Lg		04 30 07.1	

*IDC **26** 04:31:04.9±0.7,11˚.12S×165˚.15E,h0km,mb4.2/12, mb1 4.4/14,mb1mx4.2/35,mbtmp4.2/14,ML4.6/2,MS3.9/13, Ms1 3.9/13,ms1mx3.5/65, Error ellipse: s-maj=25.4km s-min=18.1km az=132.0*
*NEIC **26** 04:31:08.1±1.6,11˚.34S±0˚.09×165˚.0E±0˚.1,h10km±4km, mb4.6/25, Error ellipse: s-maj=16.3km s-min=11.1km az=57.0*
ISC 26 04:31:07.1±0.4,11˚.26S±0˚.07×165˚.07E±0˚.07,h10km,n97, σ1§35/82,mb4.6/28,MS3.8/12,2C,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.65**	**154**	Pn	**Pn**	**04 32 17.4**	**-0.1**
SANVU	**Saraoutou**	**4.65**	**154**	P	**Pn**	**04 32 17.9**	**+0.4**
HNR	**Honiara**	**5.36**	**289**	Pn	**Pn**	**04 32 28.5**	**+1.3**
	36nm,0.3s,baz=146,slow=8.8,SNR=4.2						
HNR				Sn	**Sn**	**04 33 25.4**	**-3.6**
	58nm,0.3s,baz=336,slow=23,SNR=8.6						
HNR				LR	LR	04 34 46.8	
	comp=Z,801nm,21.3s,baz=152,slow=41						
HNR	**Honiara**	**5.36**	**289**	Pn	**Pn**	**04 32 27.6**	**+0.4**
DVP	**Devils Point**	**7.10**	**155**	P	**Pn**	**04 32 51.5**	**+0.3**
KOUNC	**Koumac, New Ca**	**9.27**	**185**	Pn	**Pn**	**04 33 20.6**	**-0.4**
KOUNC	**Koumac, New Ca**	**9.27**	**185**	P	**Pn**	**04 33 22.2**	**+1.2**
DZM	**Mont Dzumac**	**10.83**	**173**	Pn	**Pn**	**04 33 43.8**	**+1.3**
	2.7nm,0.3s,baz=297,slow=12,SNR=28						
DZM				LR	LR	04 37 47.9	
	comp=Z,366nm,18.0s,baz=20,slow=37						
DZM	**Mont Dzumac**	**10.83**	**173**	Pn	**Pn**	**04 33 41.4**	**-1.1**
DZM	**Mont Dzumac**	**10.83**	**173**	P	**Pn**	**04 33 43.7**	**+1.3**
NOUC	**Port Laguerre**	**10.85**	**174**	P	**Pn**	**04 33 44.6**	**+2.0**
YATNC	**Mamie plateau,**	**10.88**	**171**	P	**Pn**	**04 33 44.2**	**+1.2**
ONTNC	**Ouen Toro**	**11.07**	**173**	P	**Pn**	**04 33 48.1**	**+2.5**
OUENC	**Ouen Island, N**	**11.23**	**172**	P	**Pn**	**04 33 50.2**	**+2.4**
PMG	**Port Moresby**	**17.72**	**274**	LR	LR	04 41 56.8	
	comp=Z,533nm,18.1s,baz=117,slow=37						
EIDS	**Eidsvold**	**19.30**	**221**	P	**P**	**04 35 32.7**	**+0.3**
MANU	**Manus Island**	**19.81**	**296**	P	**Pn**	**04 35 38.4**	**-1.2**
CTA	**Charters Tower**	**20.12**	**242**	P	Pn	04 35 43.1	-0.1
	14nm,0.8s,baz=61,slow=11,SNR=13						
CTA				LR	LR	04 42 27.1	
	comp=Z,273nm,18.3s,baz=44,slow=34						
COEN	**Coen**	**21.54**	**261**	P	**P**	**04 35 57.3**	**+0.6**
COEN	**Coen**	**21.54**	**261**	P	**P**	**04 35 58.3**	**+1.5**
RMQ	**Roma**	**21.59**	**223**	P	**P**	**04 35 59.8**	**+2.6**
AFI	**Afiamalu**	**22.75**	**99**	LR	LR	04 42 58.9	
	comp=Z,327nm,21.6s,baz=279,slow=32						
ARMA	**Armidale**	**22.79**	**211**	P	**P**	**04 36 10.9**	**+0.8**
ARMA				IAmb	IAmb	04 36 13.5	
	comp=Z,25nm,1.1s						
CMSA	**Cobar Meteorol**	**26.98**	**219**	P	**P**	**04 36 49.7**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.60**	**3**	T	T	05 08 10.0	
	baz=184,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.61**	**3**	T	T	05 08 10.6	
	baz=184,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**29.62**	**3**	T	T	05 08 10.6	
	baz=184,slow=76,SNR=6.6						
STKA	**Stephens Creek**	**29.84**	**223**	P	**P**	**04 37 15.6**	**+0.9**
	comp=Z,9.9nm,0.8s,baz=33,slow=10,SNR=22						
STKA				LR	LR	04 48 25.1	
	comp=Z,314nm,18.9s,baz=42,slow=35						
STKA	**Stephens Creek**	**29.84**	**223**	P	**P**	**04 37 14.8**	**+0.1**
STKA	**Stephens Creek**	**29.84**	**223**	P	**P**	**04 37 16.0**	**+1.3**
WR0	**Warramunga Arr**	**30.61**	**250**	P	**P**	**04 37 21.5**	**-0.2**
WB0	**Warramunga Arr**	**30.71**	**250**	P	**P**	**04 37 22.1**	**-0.4**
WRAB	**Tennant Creek**	**30.78**	**250**	P	**P**	**04 37 22.9**	**-0.3**
WB2	**Warramunga Arr**	**30.78**	**250**	P	**P**	**04 37 22.8**	**-0.4**
WRA	**Warramunga Arr**	**30.79**	**250**	P	**P**	**04 37 22.5**	**-0.8**
	comp=Z,8.5nm,0.7s,baz=82,slow=9.0,SNR=71						
WRA				LR	LR	04 49 31.1	
	comp=Z,177nm,18.6s,baz=98,slow=36						
H11N1	**WAKE ISLAND Hy**	**30.83**	**3**	T	T	05 09 37.9	
	baz=330,slow=74,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**30.83**	**3**	T	T	05 09 43.0	
	baz=182,slow=74,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**30.85**	**3**	T	T	05 09 42.6	
LCRK	**Leigh Creek**	**31.39**	**228**	P	**P**	**04 37 28.7**	**+0.2**
KHZ	**Kahutara**	**31.91**	**168**	P	**P**	**04 37 31.9**	**-0.9**
OOD	**Oodnadatta**	**32.09**	**235**	P	**P**	**04 37 35.0**	**+0.4**
AS31	**Alice Springs**	**32.11**	**243**	P	**P**	**04 37 34.3**	**-0.6**
ASAR	**Alice Springs**	**32.11**	**243**	P	**P**	**04 37 34.2**	**-0.7**
	comp=Z,8.7nm,0.7s,baz=64,slow=10,SNR=126						
ASAR				LR	LR	04 49 03.0	
	comp=Z,169nm,21.0s,baz=130,slow=33						
ASAR	**Alice Springs**	**32.11**	**243**	P	**P**	**04 37 33.4**	**-1.4**
HTT	**Hallett**	**32.57**	**223**	P	**P**	**04 37 39.6**	**+0.8**
MTN	**Manton Dam**	**33.22**	**264**	P	**P**	**04 37 43.0**	**-1.6**
BBOO	**Buckleboo**	**34.20**	**227**	P	**P**	**04 37 52.1**	**-1.0**
BBOO	**Buckleboo**	**34.20**	**227**	P	**P**	**04 37 53.4**	**+0.4**
MULG	**Mulgathing**	**34.45**	**232**	P	**P**	**04 37 55.0**	**-0.2**
KNRA	**Kununurra**	**35.55**	**259**	P	**P**	**04 38 04.2**	**-0.6**
KNRA	**Kununurra**	**35.55**	**259**	P	**P**	**04 38 04.5**	**-0.4**
WRKA	**Warakurna**	**37.40**	**243**	P	**P**	**04 38 20.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**38.69**	**255**	LR	LR	04 52 55.2	
	comp=Z,147nm,20.9s,baz=94,slow=34						
FORT	**Forrest**	**39.38**	**235**	P	**P**	**04 38 36.2**	**-1.0**
FORT				IAmb	IAmb	04 38 49.0	
	comp=Z,16nm,0.8s						
BATI	**Baumata**	**40.68**	**267**	LR	LR	04 57 28.1	
	comp=Z,134nm,18.7s,baz=84,slow=39						
KAPI	**Kappang**	**45.25**	**274**	LR	LR	04 59 01.5	
	comp=Z,55nm,20.7s,baz=26,slow=37						
MORW	**Morawa**	**48.94**	**241**	P	**P**	**04 39 53.6**	**-0.3**
MYLDM	**Lahad Datu**	**49.14**	**287**	P	**P**	**04 39 56.2**	**+0.7**
NJ2	**Nanjing**	**61.71**	**316**	*e*P	**P**	**04 41 28.3**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.84**	**334**	P	**P**	**04 41 36.0**	**+2.9**
USA0B				IAmb	IAmb	04 42 02.9	
	comp=Z,7.2nm,1.1s						
WHN	**Wuhan**	**64.04**	**312**	⇑P	P	04 41 50.8	+9.4
VNDA	**Vanda**	**66.27**	**181**	P	**P**	**04 41 56.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=348,slow=10,SNR=5.6						
VNDA	**Vanda**	**66.27**	**181**	IAmb	IAmb	04 42 07.9	
	comp=Z,5.3nm,1.1s						
XLT	**XiLinHaoTe**	**70.65**	**325**	*e*P	**P**	**04 42 26.0**	**+2.9**
XLT				pP	pwP	04 42 32.0	+0.1
XLT				sP	PcP	04 42 34.5	-10
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,150nm,5.4s						
KMI	**Kunming**	**70.67**	**302**	⇑P	**P**	**04 42 24.5**	**+0.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI				LR	LR		
	comp=E,190nm,15.8s						
KMI				LR	LR		
	comp=Z,210nm,17.3s						
HHC	**Hu-ho-hao-te**	**71.57**	**320**	*e*P	**P**	**04 42 32.0**	**+3.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,6.2s						
CMAR	**Chiang Mai Arr**	**71.59**	**294**	P	**P**	**04 42 29.2**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=104,slow=4.4,SNR=8.7						
CHTO	**Chiang Mai**	**71.71**	**294**	P	**P**	**04 42 29.1**	**-0.9**
CHTO				IAmb	IAmb	04 42 30.3	
	comp=Z,3.6nm,0.6s						
PZH	**PanZhiHua**	**72.03**	**303**	P	P	04 42 36.5	+4.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,6.8s						
LZH	**Lanzhou**	**74.41**	**313**	*e*P	**P**	**04 42 46.5**	**+0.7**
LZH				sP	pwP	04 42 53.8	-0.8
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				LR	LR		
	comp=N,300nm,16.7s						
LZH				LR	LR		
	comp=E,260nm,16.5s						
LZH				LR	LR		
	comp=Z,220nm,18.3s						
SONM	**Songino Array**	**78.45**	**324**	P	**P**	**04 43 08.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=94,slow=15,SNR=3.3						
GTA	**Gaotai**	**78.73**	**314**	*e*P	**P**	**04 43 10.8**	**+0.6**
GTA				sP	pwP	04 43 19.0	+0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	**78.75**	**180**	P	**P**	**04 43 09.9**	**0.0**
QSPA				IAmb	IAmb	04 43 24.7	
	comp=Z,8.3nm,0.9s						
BILL	**Bilibino**	**79.09**	**0**	P	**P**	**04 43 12.6**	**+1.2**
SHL	**Shillong**	**80.04**	**299**	P	**P**	**04 43 17.1**	**-0.6**
SHL				IAmb	IAmb	04 43 33.7	
	comp=Z,4.1nm,0.7s						
GOMU	**GeErMu**	**81.14**	**310**	P	**P**	**04 43 23.5**	**-0.1**
GOMU				pP	sP	04 43 27.0	+1.3
GOMU				sP	PcP	04 43 28.5	-1.4
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,60nm,5.5s						
ILAR	**Eielson Array**	**83.92**	**19**	P	**P**	**04 43 36.2**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=242,slow=5.1,SNR=5.7						
YBH	**Yreka Blue Hor**	**84.51**	**46**	LR	LR	05 16 23.2	
	comp=Z,231nm,18.0s,baz=152,slow=32						
BCAR	**Beaver Creek A**	**84.53**	**21**	P	**P**	**04 43 41.0**	**+0.7**
WRAK	**Wrangell Islan**	**84.85**	**30**	P	**P**	**04 43 43.9**	**+2.0**
NVAR	**Mina Array Bea**	**86.66**	**50**	P	**P**	**04 43 49.5**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=332,slow=25,SNR=2.2						
WMQ	**Urumqi**	**88.78**	**315**	*e*P	**P**	**04 44 03.5**	**+2.1**
PRN	**Pahroc Range**	**88.86**	**52**	P	**P**	**04 44 02.3**	**+0.3**
PRN				IAmb	IAmb	04 44 15.3	
	comp=Z,4.6nm,1.3s						
NEW	**Newport**	**90.33**	**41**	LR	LR	05 17 50.0	
	comp=Z,223nm,21.6s,baz=144,slow=31						
MK31	**Makanchi Array**	**93.22**	**317**	P	**P**	**04 44 21.6**	**-0.4**
MK31				IAmb	IAmb	04 44 34.6	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**93.22**	**317**	P	**P**	**04 44 21.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=104,slow=5.7,SNR=8.1						
MKAR	**Makanchi Array**	**93.22**	**317**	P	**P**	**04 44 20.6**	**-1.4**
MAKZ	**Makanchi**	**93.44**	**317**	P	**P**	**04 44 22.8**	**-0.2**
MAKZ				IAmb	IAmb	04 44 35.6	
	comp=Z,1.8nm,0.9s						
YKA	**Yellowknife Ar**	**95.46**	**27**	P	**P**	**04 44 28.8**	**-3.1**
	comp=Z,0.1nm,0.7s,baz=259,slow=4.5,SNR=2.4						
TROLL	**Troll, Antarti**	**96.11**	**185**	P	**P**	**04 44 33.1**	**-1.9**
TXAR	**Lajitas Array**	**96.51**	**61**	P	**P**	**04 44 37.5**	**0.0**
	comp=Z,0.1nm,0.7s,baz=224,slow=2.5,SNR=1.8						
ARCES	**ARCESS Array B**	**116.37**	**345**	PKP	**PKiKP**	**04 49 48.8**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=22,slow=1.3,SNR=4.8						
FINES	**FINESS Array B**	**121.72**	**338**	PKP	**PKPdf**	**04 49 59.2**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=116,slow=8.7,SNR=5.2						
BOSA	**Boshof**	**124.51**	**224**	PKP	**PKPdf**	**04 50 07.2**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=74,slow=3.2,SNR=5.0						
GERES	**GERESS Array B**	**135.60**	**333**	PKP	**PKPdf**	**04 50 27.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=268,slow=6.3,SNR=4.2						
KEST	**Kesra**	**147.18**	**322**	PKPbc	**PKPbc**	**04 50 50.5**	**-0.7**
	comp=Z,7.0nm,1.1s,baz=268,slow=6.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.64**	**278**	PKP	**PKPdf**	**04 51 10.3**	**-1.2**
	comp=Z,1.2nm,1.1s,baz=248,slow=6.4,SNR=4.3						
TORD				PKPab	**PKPab**	**04 52 02.5**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=93,slow=9.4,SNR=4.5						

*TEH **26** 04:43:02.4,28˚.98N×57˚.22E,h28km, ML3.6*
*DSN **26** 04:43:02.9±0.8,28˚.59N×57˚.64E,h10km,ML3.3/9, Error ellipse: s-maj=29.7km s-min=6.0km az=120.0*
*OMAN **26** 04:43:02.7±0.7,28˚.77N×57˚.46E,h18km±27km,mb4.0/7, ml3.6/9, Error ellipse: s-maj=49.4km s-min=3.5km az=5.0*
ISC 26 04:43:01.2±1.1,28˚.87N±0˚.05×57˚.28E±0˚.07,h10km,n33, σ0§97/42,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.91**	**328**	*e*Pg	**Pg**	**04 43 18.8**	**0.0**
NGRK				*e*		04 43 33.2	
	comp=Z,37µm,0.2s						
KHNJ	**Kahnooj**	**0.99**	**158**	*e*Pg	**Pn**	**04 43 23.6**	**+2.3**
KBAM	**BAM**	**1.06**	**75**	*e*Pg	**Pn**	**04 43 21.8**	**-0.4**
KBAM				*e*Sg	**Sn**	**04 43 37.8**	**+0.7**
TVBK	**TV Kerman**	**1.20**	**338**	*e*Pg	Pn	04 43 21.7	-2.7
TVBK				*e*		04 43 22.6	
	comp=Z,14µm,0.3s						
IBND	**Bandar-abas**	**1.56**	**205**	*e*Pn	**Pg**	**04 43 31.4**	**+0.2**
IBND				*e*Sg	**Sg**	**04 43 52.8**	**+1.3**
IBND				*e*		04 44 03.4	
	comp=Z,6µm,0.4s						
GENO	**Geno**	**1.77**	**214**	*e*Pn	**Pn**	**04 43 32.8**	**+0.8**
GENO				*e*		04 43 57.8	
	comp=Z,10µm,0.2s						
SHME	**Shamm**	**2.99**	**200**	P	**Pn**	**04 43 48.8**	**+0.1**
	SNR=15						
SHME				S	**Sn**	**04 44 23.3**	**-1.3**
SHME	**Shamm**	**2.99**	**200**	*e*P	**Pn**	**04 43 48.7**	**0.0**
	SNR=15						
SHME				S	**Sn**	**04 44 24.0**	**-0.6**
BANOM	**Banah**	**3.07**	**197**	P	**Pn**	**04 43 49.8**	**0.0**
	SNR=120						
BANOM				S	**Sn**	**04 44 26.1**	**-0.5**
BANOM	**Banah**	**3.07**	**197**	*e*P	**Pn**	**04 43 49.7**	**-0.1**
	SNR=25						
BANOM				S	**Sn**	**04 44 26.0**	**-0.5**
MASF	**Masafi**	**3.63**	**196**	P	**Pn**	**04 43 58.0**	**+0.5**
	SNR=6.1						
MASF				S	**Sn**	**04 44 39.7**	**-0.8**
MSFE	**Esma-Masafi**	**3.64**	**196**	*i* P	**Pn**	**04 43 57.9**	**+0.1**
	SNR=7.1						
UOSS	**Minazif**	**4.03**	**194**	P	**Pn**	**04 44 02.7**	**-0.3**
UOSS				S	**Sn**	**04 44 50.0**	**-0.3**
UOSS	**Minazif**	**4.03**	**194**	*i* P	**Pn**	**04 44 02.5**	**-0.5**
	SNR=6.8						
NAZ	**Nazwa, Dubai**	**4.13**	**201**	P	**Pn**	**04 44 04.2**	**-0.3**
HATD	**Hatta, Dubai**	**4.16**	**195**	P	**Pn**	**04 44 04.1**	**-0.8**
HATD				S	**Sn**	**04 44 53.8**	**+0.2**
HATD	**Hatta, Dubai**	**4.16**	**195**	P	**Pn**	**04 44 04.5**	**-0.3**
ASHO	**Ashiyiah**	**4.31**	**195**	P	**Pn**	**04 44 07.2**	**+0.3**
	SNR=16						
ASHO				P	Pb	04 44 07.3	-10
	SNR=9.1						
ASHO	**Ashiyiah**	**4.31**	**195**	*i* P	**Pn**	**04 44 07.0**	**+0.1**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**4.38**	**201**	P	**Pn**	**04 44 08.0**	**+0.2**
	SNR=7.8						
FAQ	**Al Faqa, Dubai**	**4.38**	**201**	*i* P	**Pn**	**04 44 07.5**	**-0.4**
	SNR=7.8						
ASUD	**Al Ashush, Dub**	**4.58**	**203**	P	**Pn**	**04 44 09.9**	**-0.6**
	SNR=18						
ASUD				S	**Sn**	**04 45 02.9**	**-0.9**
ASUD	**Al Ashush, Dub**	**4.58**	**203**	*i* P	**Pn**	**04 44 11.1**	**+0.6**
	SNR=18						
SOHO	**SOHO**	**4.77**	**188**	P	**Pn**	**04 44 11.1**	**-2.1**
SOHO	**SOHO**	**4.77**	**188**	*i* P	**Pn**	**04 44 11.1**	**-2.1**
	SNR=12						
HOQ	**Hoqain**	**5.27**	**180**	P	**Pn**	**04 44 17.9**	**-2.2**
ARQ	**Araqi**	**5.56**	**187**	P	**Pn**	**04 44 24.4**	**+0.3**
	SNR=29						
SMDO	**Samad**	**5.83**	**173**	P	**Pn**	**04 44 26.7**	**-1.2**
BSY	**Bisya**	**6.10**	**181**	P	**Pn**	**04 44 32.4**	**+0.9**
	SNR=9.1						
WBK	**Wadi Bani Khal**	**6.42**	**166**	P	**Pn**	**04 44 34.6**	**-1.4**
	SNR=18						
JMDO	**Jabal Madar**	**6.52**	**173**	P	**Pn**	**04 44 35.7**	**-1.6**
JLN	**Jalan Bani Buh**	**6.96**	**164**	P	**Pn**	**04 44 42.7**	**-0.7**
	SNR=9.4						
MHTO	**MHTO**	**7.88**	**175**	P	**Pn**	**04 44 57.0**	**+1.1**
	SNR=12						

*SJA **26** 04:45:38.5±1.1,31˚.82S×72˚.36W,h10km,ML4.0,MW3.9*
*IDC **26** 04:45:40.9±1.4,31˚.73S×71˚.79W,h0km,mb4.3/6, mb1 4.1/9,mb1mx3.9/32,mbtmp4.0/9,ML3.6/3, Error ellipse: s-maj=57.3km s-min=18.8km az=109.0*
*NEIC **26** 04:45:41.4±1.8,31˚.75S±0˚.03×72˚.1W±0˚.1,h13km±4km, mb4.4/8,Mwr4.1/32,ML3.8(GUC), Error ellipse: s-maj=13.3km s-min=4.9km az=89.0*
*NEIC **26** 04:45:41.7,31˚.74S×72˚.10W,h17km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.29; Mθθ0.02; Mϕϕ-1.31; Mrθ0.21; Mθϕ0.02; Mϕr-1.13; Fault plane solution: M₀1.74000×10¹⁵ NP1:φs172.78000°, δ65.83000°,λ84.60000°. NP2:φs5.79000°,δ24.73000°, λ101.85000°. Principal axes: T 1.7390, Plg69.0000°, Azm72.0000°; N 0.0007, Plg5.0000°, Azm175.0000°; P -1.7397, Plg21.0000°, Azm267.0000°;*
*GUC **26** 04:45:42.0±0.7,31˚.77S×72˚.16W,h33km±3km,ML3.8*
ISC 26 04:45:40.0±1.7,31˚.74S±0˚.03×72˚.17W±0˚.06,h4km±10km, n96,σ1§36/116,mb4.5/7,10C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.10**	**138**		**Pg**	**04 46 01.9**	**+0.7**
VA06	**Catapilco**	**1.10**	**138**	⇓*i*P	**Pb**	**04 46 01.6**	**0.0**
VA06				*i* S	**Sb**	**04 46 15.3**	**-1.0**
VA06				IAML		04 46 25.0	
	comp=E,4µm,0.5s						
CO06	**Fray Jorge**	**1.16**	**24**		**Pb**	**04 46 02.2**	**-0.4**
CO06	**Fray Jorge**	**1.16**	**24**	⇑*i*P	**Pb**	**04 46 02.8**	**+0.2**
CO06				*i* S	**Sb**	**04 46 17.8**	**-0.2**
VA01	**Torp

MT09	**Talagante**	**2.26**	**154**			**Pn**	**04 46 18.1**	**-0.1**
MT09	**Talagante**	**2.26**	**154**	*e*P		**Pn**	**04 46 19.0**	**+0.7**
MT09				*e*S		**Sn**	**04 46 45.3**	**-1.3**
MT09				IAML			04 47 01.1	
	comp=N,651nm,0.7s							
AUSP	**Uspallata**	**2.42**	**102**	*i* P		**Pb**	**04 46 23.0**	**-1.2**
AUSP				*e*S		**Sg**	**04 46 55.7**	**-2.0**
RTLS	**Leoncito**	**2.45**	**92**	*i* P		**Pb**	**04 46 24.0**	**-0.8**
RTLS				*e*S		**Sg**	**04 46 57.3**	**-1.4**
RTLS				IAML			04 47 04.1	
	comp=Z,250nm,1.1s							
BO04	**La Punta**	**2.60**	**150**			**Pn**	**04 46 23.6**	**+0.8**
BO04	**La Punta**	**2.60**	**150**	*i* P		**Pn**	**04 46 23.8**	**+1.0**
BO04				IAML			04 47 07.5	
	comp=N,488nm,0.3s							
LMEL	**Las Melosas**	**2.67**	**142**			**Pn**	**04 46 24.1**	**+0.1**
LMEL	**Las Melosas**	**2.67**	**142**	*i* P		**Pn**	**04 46 25.1**	**+1.2**
LMEL				*i* S		**Sn**	**04 46 57.1**	**+0.2**
LMEL				IAML			04 47 14.3	
	comp=E,401nm,0.5s							
BO03	**Pichilemu**	**2.75**	**176**	*e*P		**Pn**	**04 46 24.4**	**-0.5**
BO01	**Tunca**	**2.79**	**161**	Pn		**Pn**	**04 46 25.9**	**+0.5**
BO01	**Tunca**	**2.79**	**161**	*e*P		**Pn**	**04 46 26.0**	**+0.5**
BO01				*e*S		**Sn**	**04 46 58.3**	**-1.3**
BO01				IAML			04 47 14.7	
	comp=N,271nm,0.5s							
BO01	**Tunca**	**2.79**	**161**	*i* P		**Pn**	**04 46 26.0**	**+0.5**
BO01				IAML			04 47 18.8	
	comp=Z,274nm,0.6s							
AROD	**Rodeo**	**2.80**	**57**	*i* P		**Pb**	**04 46 29.0**	**-1.8**
ACCO	**Cerro Coronel**	**2.90**	**67**	*i* P		**Pb**	**04 46 31.0**	**-1.5**
ACCO				*e*S		**Sg**	**04 47 12.7**	**-0.6**
ACCO				IAML			04 47 13.3	
	comp=Z,453nm,0.8s							
ZON	**Zonda**	**2.99**	**87**	Pn		**Pn**	**04 46 29.3**	**+1.1**
ZON	**Zonda**	**2.99**	**87**	*i* P		**Pb**	**04 46 31.6**	**-2.1**
ZON				IAML			04 47 19.2	
	comp=Z,334nm,1.4s							
LCO	**Las Campanas**	**3.01**	**25**	Pn		**Pn**	**04 46 26.7**	**-1.9**
RTLL	**Cerro Villicun**	**3.19**	**84**	*i* P		**Pb**	**04 46 36.0**	**-1.2**
BO02	**Sierra Bellavi**	**3.26**	**159**	Pn		**Pn**	**04 46 33.0**	**+1.1**
BO02	**Sierra Bellavi**	**3.26**	**159**	*e*P		**Pn**	**04 46 32.9**	**+1.0**
BO02				IAML			04 47 36.1	
	comp=E,320nm,0.7s							
BO02	**Sierra Bellavi**	**3.26**	**159**	*i* P		**Pn**	**04 46 33.0**	**+1.1**
BO02				IAML			04 47 27.4	
	comp=Z,278nm,0.7s							
GO05	**Huala**	**3.26**	**176**			**Pn**	**04 46 33.6**	**+1.7**
GO05	**Huala**	**3.26**	**176**	*e*P		**Pn**	**04 46 31.4**	**-0.5**
GO05				IAML			04 47 37.7	
	comp=E,135nm,0.7s							
GO05	**Huala**	**3.26**	**176**	*i* P		**Pn**	**04 46 32.0**	**+0.1**
AC04	**Llanos de Chal**	**3.65**	**15**	*e*P		**Pn**	**04 46 38.3**	**+1.0**
AC04				IAML			04 47 47.9	
	comp=N,176nm,0.8s							
ML02	**Panimavida**	**4.06**	**171**	Pn		**Pn**	**04 46 43.1**	**+0.3**
AVFE	**Valle Fertil**	**4.18**	**76**	*i* P		**Pn**	**04 46 48.0**	**+3.4**
AVFE				IAML			04 47 52.3	
	comp=Z,260nm,0.7s							
VCA	**Vinchina**	**4.56**	**50**	*i* P		**Pn**	**04 46 54.0**	**+4.1**
VCA				IAML			04 48 08.1	
	comp=Z,301nm,1.7s							
AC06	**Mina Casimiro**	**4.65**	**20**	Pn		**Pn**	**04 46 50.3**	**-0.7**
ACHE	**Chepes**	**4.74**	**84**	*i* P		**Pn**	**04 46 56.0**	**+3.6**
APLL	**PUNTA DE LOS L**	**5.03**	**76**	*i* P		**Pn**	**04 47 00.0**	**+3.8**
APLL				IAML			04 48 08.8	
	comp=Z,151nm,1.0s							
ACLC	**CERRO LA CRUZ**	**5.06**	**64**	*i* P		**Pn**	**04 46 59.0**	**+2.2**
ACLC				IAML			04 48 12.6	
	comp=Z,268nm,0.7s							
MRA	**San Martin**	**5.52**	**99**	*i* P		**Pn**	**04 47 04.0**	**+1.0**
MRA				IAML			04 48 21.0	
	comp=Z,122nm,0.8s							
AC02	**Maricunga**	**5.57**	**29**	Pn		**Pn**	**04 47 04.8**	**+0.7**
AC02	**Maricunga**	**5.57**	**29**	*i* P		**Pn**	**04 47 05.0**	**+1.0**
AC02				IAML			04 48 41.8	
	comp=Z,131nm,1.1s							
AC01	**Pan de Azucar**	**5.74**	**14**	*i* P		**Pn**	**04 47 06.0**	**0.0**
AC01				IAML			04 48 51.6	
	comp=Z,79nm,0.8s							
TCA	**Tanti**	**6.48**	**88**	*i* P		**Pn**	**04 47 19.0**	**+2.8**
GO02	**Mina Guanaco**	**6.94**	**20**	*i* P		**Pn**	**04 47 25.0**	**+2.3**
LC01	**Cunco**	**7.14**	**178**	Pn		**Pn**	**04 47 24.7**	**-0.5**
LC01	**Cunco**	**7.14**	**178**	*i* P		**Pn**	**04 47 25.0**	**-0.2**
LC01				IAML			04 49 29.6	
	comp=Z,111nm,2.2s							
PLCA	**Paso Flores**	**9.07**	**172**	Pn		**Pn**	**04 47 52.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=334,slow=11,SNR=8.4							
LVC	**Limon Verde**	**9.55**	**18**	Pn		**Pn**	**04 47 58.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=233,slow=17,SNR=1.1							
LPAZ	**La Paz**	**15.82**	**14**	Pn		**Pn**	**04 49 25.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=237,slow=5.3,SNR=6.9							
LPAZ	**La Paz**	**15.82**	**14**	Pn		**Pn**	**04 49 23.5**	**-0.7**
USHA	**Ushuaia**	**23.23**	**175**	P		**P**	**04 50 51.9**	**+4.0**
	comp=Z,16nm,0.5s,baz=341,slow=17,SNR=2.0							
BDFB	**Brasilia**	**27.23**	**60**	P		**P**	**04 51 23.8**	**-1.4**
	comp=Z,6.6nm,1.0s,baz=232,slow=9.4,SNR=5.9							
BDFB	**Brasilia**	**27.23**	**60**	P		**P**	**04 51 22.3**	**-2.9**
BDFB				IAmb		IAmb	04 51 26.0	
	comp=Z,17nm,1.3s							
SNAA	**Sanae**	**53.72**	**158**	P		**P**	**04 55 03.4**	**+0.7**
	comp=Z,5.2nm,0.9s,baz=252,slow=7.7,SNR=6.2							
SNAA	**Sanae**	**53.72**	**158**	IAmb		IAmb	04 55 04.5	
	comp=Z,5.5nm,0.8s							
QSPA	**South Pole Qui**	**58.49**	**180**	P		**P**	**04 55 38.2**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=156,slow=2.6,SNR=8.7							
VNDA	**Vanda**	**66.29**	**191**	P		**P**	**04 56 31.6**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=86,slow=3.4,SNR=6.0							
VNDA	**Vanda**	**66.29**	**191**	P		**P**	**04 56 28.8**	**-0.1**
VNDA				IAmb		IAmb	04 56 40.3	
	comp=Z,4.7nm,1.4s							
DBIC	**Dimbokro**	**74.58**	**72**	P		**P**	**04 57 21.1**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=214,slow=5.4,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**83.56**	**70**	P		**P**	**04 58 08.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P		**P**	**04 58 09.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=244,slow=3.5,SNR=11							
ZALV	**Zalesovo Beam**	**152.36**	**30**	PKPbc		**PKiKP**	**05 05 37.1**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=299,slow=3.4,SNR=5.3							
ZALV	**Zalesovo Beam**	**152.36**	**30**			**PKPbc**	**05 05 35.1**	**-1.6**
MKAR	**Makanchi Array**	**155.31**	**45**	PKPbc		PKPdf	05 05 43.9	+10
	comp=Z,0.1nm,0.4s,baz=188,slow=27,SNR=1.7							
MKAR				PKPab		**PKPab**	**05 05 59.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=299,slow=2.5,SNR=5.2							
MKAR	**Makanchi Array**	**155.31**	**45**			**PKPab**	**05 05 58.1**	**-1.4**

NEIC 26 05:00:04.9±1.1, 35°93N±0°.01×96°744W±0°.008, h5km±1km, mb_Lg2.2/4, Error ellipse: s-maj=2.5km s-min=2.5km az=10.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	**Leonard**	**0.77**	**91**		Pg	05 00 18.9	-0.9
TUL1				Sg	Sg	05 00 29.2	-0.6
FNO	**Franklin**	**0.86**	**219**	Pg	Pg	05 00 19.9	-1.5
FNO				Sg	Sg	05 00 32.1	-0.4
T35A	**Sooner Cattle**	**1.00**	**11**		Pg	05 00 23.1	-1.1
T35A				Sg	Sg	05 00 36.6	-0.5
X34A	**Smith Ranch, M**	**1.60**	**214**		Pn	05 00 33.7	-0.2
X37A	**Clayton**	**1.75**	**140**	Pn	Pn	05 00 36.0	+0.1
X37A				IAmb_Lg		05 01 03.5	
	comp=Z,14nm,0.9s						
U32A	**Winter Ranch,**	**1.88**	**284**	Pn	Pn	05 00 37.9	+0.1
W39A	**Magazine**	**2.52**	**106**	Pn	Pn	05 00 46.6	0.0
MGMO	**Mountain Grove**	**3.81**	**70**	IAmb_Lg		05 02 10.8	
	comp=Z,5.5nm,0.8s						

*IDC **26** 05:12:31.9±1.1, 11°.11S×119°.59E, h0km, mb4.2/6, mb1 4.2/10, mb1mx3.8/33, mbtmp4.1/10, ML3.6/4, MS3.7/3, Ms1 3.7/3, ms1mx2.8/72, Error ellipse: s-maj=42.4km s-min=17.3km az=50.0*

ISC 26 05:12:36.0±0.9, 11°.24S±0°.09×119°.77E±0°.10, h35km, n13, σ3§48/15, mb4.2/6, MS4.1/3, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.96**	**75**	Pn	**Pn**	**05 13 35.5**	**+1.1**
	7.4nm,0.3s,baz=266,slow=15,SNR=1.9						
BATI				Sn	**Sn**	**05 14 21.6**	**+1.9**
	7.9nm,0.3s,baz=37,slow=20,SNR=1.7						
KAPI	**Kappang**	**6.19**	**360**	Pn	**Pn**	**05 14 03.9**	**-1.0**
	1.0nm,0.3s,baz=179,slow=9.6,SNR=1.9						
KAPI				Sn	Sn	05 15 06.0	-8.5
	baz=248,slow=19,SNR=0.9						
FITZ	**Fitzroy Crossi**	**8.87**	**141**	Pn	**Pn**	**05 14 44.1**	**+2.3**
	0.4nm,0.3s,baz=330,slow=9.0,SNR=16						
FITZ				Sn	**Sn**	**05 16 19.3**	**-1.3**
	2.4nm,0.3s,baz=190,slow=22,SNR=9.6						
WRA	**Warramunga Arr**	**16.48**	**123**	Pn	**Pn**	**05 16 24.7**	**+0.1**
	0.2nm,0.3s,baz=297,slow=15,SNR=23						
WRA				Sn	**Sn**	**05 19 18.0**	**-8.6**
	0.6nm,0.3s,baz=298,slow=20,SNR=10						
ASAR	**Alice Springs**	**18.27**	**134**	P	**Pn**	**05 16 50.5**	**+3.6**
	0.3nm,0.3s,baz=324,slow=15,SNR=30						
ASAR				S	**Sn**	**05 20 04.2**	**-5.9**
	0.2nm,0.3s,baz=307,slow=22,SNR=7.1						
PSI	**Prapat**	**24.99**	**303**	P	**P**	**05 17 55.6**	**-1.3**
	10nm,0.9s,baz=159,slow=7.6,SNR=5.6						
STKA	**Stephens Creek**	**28.77**	**139**	P	**P**	**05 18 33.4**	**+2.8**
	3.8nm,0.8s,baz=304,slow=8.4,SNR=6.1						
CMAR	**Chiang Mai Arr**	**35.96**	**325**	P	**P**	**05 19 33.2**	**-0.5**
	0.9nm,0.3s,baz=152,slow=6.1,SNR=1.6						
CMAR				LR	LR	05 35 31.5	
	comp=Z,22nm,21.4s,baz=195,slow=39						
SONM	**Songino Array**	**60.00**	**350**	P	**P**	**05 22 39.7**	**+0.5**
	2.1nm,0.8s,baz=168,slow=8.4,SNR=7.7						
MKAR	**Makanchi Array**	**66.78**	**333**	P	**P**	**05 23 23.9**	**-0.1**
	0.7nm,0.6s,baz=148,slow=7.6,SNR=9.4						
ZALV	**Zalesovo Beam**	**71.39**	**339**	P	**P**	**05 23 51.4**	**-1.0**
	0.9nm,0.4s,baz=162,slow=5.3,SNR=4.7						
AKTO	**Aktyubinsk**	**81.49**	**325**	LR	LR	06 04 43.3	
	comp=Z,109nm,19.9s,baz=360,slow=38						
BRTR	**Keskin Array B**	**94.14**	**310**	LR	LR	06 13 11.3	
	comp=Z,63nm,18.8s,baz=334,slow=39						

*GCG **26** 05:34:19.0±1.7, 14°.03N×91°.77W, h61km±39km, MD4.0*
*SNET **26** 05:34:20.0±2.1, 14°.09N×91°.39W, h0km±7km, ML3.7*
*IDC **26** 05:34:20.8±2.2, 14°.49N×91°.38W, h51km±24km, mb3.1/4, mb1 3.6/7, mb1mx3.4/45, mbtmp3.5/7, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.3/25, Error ellipse: s-maj=102.0km s-min=13.3km az=37.0*

ISC 26 05:34:19.8±1.2, 14°.0N±0°.1×91°.70W±0°.09, h59km±9km, n28, σ1§05/39, mb3.5/4, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.50**	**1**	*e*P	**Pn**	**05 34 31.0**	**-0.9**
RTAL				*e*S	**Sn**	**05 34 40.8**	**+0.2**
STG3	**Santiaguito 3,**	**0.70**	**10**	*e*P	**Pn**	**05 34 33.8**	**-0.5**
FUG	**Fuego 3**	**0.94**	**63**	*e*P	**Pn**	**05 34 36.9**	**-0.3**
PCG	**Pacaya**	**1.12**	**71**	*i*P	**Pn**	**05 34 40.0**	**+0.3**
HUEH	**Huehuetenango**	**1.31**	**8**	*e*P	**Pn**	**05 34 42.6**	**+0.5**
NBG	**Las Nubes**	**1.43**	**66**	*e*P	Pn	05 34 45.2	+1.4
NBG				*e*S	Sn	05 35 04.4	+2.6
SLOZ	**Alcaldia de Sa**	**1.86**	**89**	*e*P	**Pn**	**05 34 49.2**	**-0.2**
SLOZ				*e*S	**Sn**	**05 35 11.9**	**-0.1**
SLOZ				IAML		05 35 20.5	
	comp=Z,391nm,0.6s						
NUBE	**Las Nubes**	**1.87**	**93**	*e*P	**Pn**	**05 34 48.7**	**-1.0**
NUBE				*e*S	**Sn**	**05 35 10.5**	**-1.8**
RTR	**El Retiro**	**2.00**	**93**	*e*P	**Pn**	**05 34 52.2**	**+0.7**
CEVE	**Cerro Verde**	**2.02**	**95**	*e*P	**Pn**	**05 34 51.6**	**-0.2**
CEVE				*e*S	**Sn**	**05 35 17.3**	**+1.1**
CEVE				IAML		05 35 26.2	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**2.02**	**95**	*e*P	**Pn**	**05 34 51.6**	**-0.3**
JAYA	**Jayaque - finc**	**2.22**	**99**	*e*P	**Pn**	**05 34 53.6**	**-0.8**
JAYA				*e*S	**Sn**	**05 35 19.6**	**-1.2**
JAYA				IAML		05 35 21.2	
	comp=Z,1μm,0.2s						
MRL	**Marmol**	**2.22**	**61**	*e*P	Pn	05 34 58.8	+4.2
MRL				*e*S	Sn	05 35 27.9	+6.9
CEDA	**San Andres**	**2.25**	**95**	*e*P	**Pn**	**05 34 54.7**	**0.0**
CEDA				*e*S	**Sn**	**05 35 21.7**	**+0.3**
CEDA				IAML		05 35 29.0	
	comp=Z,478nm,0.4s						
TACO	**Tacachico**	**2.28**	**91**	*e*P	**Pn**	**05 34 54.8**	**-0.4**
TACO				*e*S	**Sn**	**05 35 22.0**	**-0.1**
LALI	**Alcalda de L**	**2.37**	**103**	*e*P	**Pn**	**05 34 55.8**	**-0.5**
LALI				*e*S	**Sn**	**05 35 23.9**	**-0.4**
LFRS	**El Faro**	**2.59**	**98**	*e*P	**Pn**	**05 35 00.0**	**+0.5**
COEG	**Centro de Oper**	**2.77**	**98**	*e*P	**Pn**	**05 35 02.6**	**+0.8**
COEG				*e*S	**Sn**	**05 35 34.2**	**+0.1**
COEG				IAML		05 35 41.9	
	comp=Z,320nm,0.4s						
COEB	**Comit de Eme**	**3.12**	**99**	*e*P	**Pn**	**05 35 04.8**	**-2.0**
LCND	**La Caada**	**3.77**	**100**	*e*P	Pn	05 35 17.6	+2.1
LCND				IAML		05 36 11.8	
	comp=Z,152nm,0.3s						
CMIG	**Matias Romero**	**4.33**	**315**	P	**Pn**	**05 35 23.1**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=133,slow=9.2,SNR=56						
CMIG				S	**Sn**	**05 36 11.2**	**-1.2**
	comp=Z,8.0nm,0.3s,baz=75,slow=17,SNR=6.3						
CMIG				LR	LR	05 36 38.9	
	comp=Z,56nm,21.6s,baz=56,slow=32						
JTS	**Las Juntas de**	**7.57**	**119**	P	**Pn**	**05 36 08.4**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=175,slow=22,SNR=6.8						
JTS				S	**Sn**	**05 37 32.8**	**+0.8**
	baz=281,slow=17,SNR=1.2						
TXAR	**Lajitas Array**	**18.84**	**326**	P	**P**	**05 38 36.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=14						
ANMO	**Albuquerque**	**24.73**	**330**	P	**P**	**05 39 35.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=135,slow=17,SNR=2.1						
NVAR	**Mina Array Bea**	**33.84**	**321**	P	**P**	**05 40 58.9**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=126,slow=9.1,SNR=4.7						
NVAR				pP	**pP**	**05 41 14.0**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=130,slow=8.7,SNR=7.9						
YKA	**Yellowknife Ar**	**51.08**	**347**	P	**P**	**05 43 14.2**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=152,slow=7.6,SNR=6.9						
YKA				pP	**pP**	**05 43 30.0**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=152,slow=7.6,SNR=5.9						
YKA				PcP	**PcP**	**05 44 29.8**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=151,slow=3.9,SNR=5.7						
ILAR	**Eielson Array**	**62.94**	**337**	P	**P**	**05 44 39.3**	**-0.6**
	comp=Z,8.4nm,0.7s,baz=138,slow=6.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**146.07**	**342**	PKPbc	**PKPdf**	**05 53 54.5**	**+1.3**
	comp=Z,1.9nm,0.4s,baz=348,slow=3.1,SNR=8.8						

IDC 26 05:38:04.4±2.4, 7°.63S×129°.47E, h0km, mb3.1/1, mb1 3.2/3, mb1mx3.1/40, mbtmp3.0/3, ML3.1/2, Error ellipse: s-maj=138.3km s-min=34.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.12**	**159**	Pn	Pn	05 41 13.9	+1.7
	0.1nm,0.3s,baz=342,slow=13,SNR=5.4						
WRA				Sn	Sn	05 43 35.6	-3.3
	0.2nm,0.3s,baz=334,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**16.50**	**166**	Pn	Pn	05 41 55.8	-1.7
	0.1nm,0.3s,baz=343,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**68.46**	**327**	P	P	05 49 08.5	0.0
	0.1nm,0.3s,baz=119,slow=5.6,SNR=1.9						

*IGIL **26** 05:46:51.5, 35°.13N×3°.44W, h11km, ML2.4*
*CNRM **26** 05:46:52.0, 35°.72N×3°.59W, h14km, ml3.2*
*SFS **26** 05:46:54.0, 35°.48N×3°.69W, ML3.1, ALBORAN SUR*
*LDG **26** 05:46:55.1±0.3, 35°.46N×3°.65W, h2km, MI2.5/3, Error ellipse: s-maj=6.7km s-min=4.1km az=16.0*
*MDD **26** 05:46:55.4±0.5, 35°.49N×3°.65W, h8km±5km, mb_Lg2.6/6, Error ellipse: s-maj=5.0km s-min=2.7km az=147.0*

ISC 26 05:46:52.8±1.1, 35°.56N±0°.02×3°.65W±0°.02, h7km±9km, n42, σ1§54/77, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**214**	P	**Pb**	**05 47 03.2**	**+0.7**
PALE	**Palemas**	**0.42**	**214**	P	**Pb**	**05 47 03.2**	**+0.7**
PALE				S	**Sb**	**05 47 09.3**	**+0.3**
EMEL	**Melilla**	**0.63**	**115**	Pg	**Pb**	**05 47 06.3**	**+0.2**
EMEL				Sg	**Sg**	**05 47 13.2**	**+0.2**
EALB	**Alboran**	**0.63**	**53**	Pg	**Pn**	**05 47 08.1**	**0.0**
EALB				Sg	**Sn**	**05 47 17.5**	**-0.8**
PVLZ	**Peæn de**	**0.66**	**234**	P	**Pn**	**05 47 08.0**	**-0.5**
PVLZ				S	**Sb**	**05 47 17.0**	**+1.1**
AKLM	**AKL**	**1.07**	**189**	P	**Pn**	**05 47 15.2**	**+1.0**
AKLM				S	**Sb**	**05 47 28.1**	**+0.3**
TAF	**Taforalt**	**1.26**	**126**	P	**Pg**	**05 47 16.0**	**-0.9**
TAF	**Taforalt**	**1.26**	**126**	P	**Pg**	**05 47 16.0**	**-0.9**
TAF				S	**Sn**	**05 47 36.5**	**+2.4**
ELGU	**Los Guajares,**	**1.30**	**1**	Pn	**Pg**	**05 47 18.3**	**+0.6**
ELGU				Sn	**Sn**	**05 47 34.8**	**-0.3**
EMIJ	**Mijas**	**1.35**	**318**	Pn	**Pg**	**05 47 18.7**	**0.0**
EMIJ				Sn	**Sn**	**05 47 37.0**	**+0.7**
EMAL	**Malaga-Limoner**	**1.35**	**332**	P	**Pg**	**05 47 18.9**	**+0.2**
EMAL				S	**Sn**	**05 47 36.4**	**+0.1**
SMIR	**Smir Dam**	**1.41**	**275**	P	**Pn**	**05 47 18.4**	**-0.5**
SMIR	**Smir Dam**	**1.41**	**275**	P	**Pn**	**05 47 18.4**	**-0.5**
SMIR				S	**Sg**	**05 47 40.2**	**+2.0**
ECEU	**Ceuta**	**1.44**	**284**	Pn	**Pn**	**05 47 19.5**	**+0.2**
ECEU				Sg	**Sn**	**05 47 35.0**	**-3.6**
ECEU				Sn	**Sb**	**05 47 37.4**	**-1.2**
ECEU				*i* Vmb_Lg		05 47 40.8	
EBER	**Berja**	**1.47**	**25**	Pn	**Pg**	**05 47 21.1**	**+0.1**
EBER				Sn	**Sg**	**05 47 40.3**	**+0.3**
EBER				*i* Vmb_Lg		05 47 43.7	
JBK	**JBK**	**1.52**	**144**	P	**Pn**	**05 47 20.0**	**-0.5**
JBK				S	**Sg**	**05 47 42.0**	**+0.4**
JBK	**JBK**	**1.52**	**144**	P	**Pn**	**05 47 20.0**	**-0.5**
JBK				S	**Sg**	**05 47 42.0**	**+0.4**
EGOR	**Sierra Gorda,**	**1.59**	**347**	Pn	**Pg**	**05 47 23.0**	**-0.2**
EGOR				Sn	**Sg**	**05 47 44.4**	**+0.6**
EGOR				*i* Vmb_Lg		05 47 49.8	
EJIF	**Jimena Fronter**	**1.72**	**302**	Pn	**Pb**	**05 47 24.3**	**-0.4**
SICH	**Sidi Chahed**	**2.00**	**224**	P	**Pg**	**05 47 31.0**	**-0.1**
SICH				S	**Sg**	**05 47 57.3**	**+0.3**
LCRM	**LCR**	**2.12**	**208**	P	**Pb**	**05 47 31.0**	**-0.6**
LCRM	**LCR**	**2.12**	**208**	P	**Pb**	**05 47 31.0**	**-0.6**
LCRM				S	**Sb**	**05 47 57.6**	**-0.7**
IFR	**Ifrane**	**2.38**	**211**	P	**Pn**	**05 47 33.1**	**+0.7**
IFR				S	**Sn**	**05 48 00.6**	**-1.2**
EADA	**Adamuz**	**2.70**	**344**	Pn	**Pb**	**05 47 39.4**	**-2.1**
EADA				Sn	**Sb**	**05 48 13.3**	**-1.6**
CZD	**Col de Zad**	**2.77**	**205**	P	**Pb**	**05 47 40.9**	**-2.0**
CZD				S	**Sn**	**05 48 12.8**	**+1.0**
MD31	**MD31**	**2.84**	**199**	P	**Pb**	**05 47 41.8**	**-2.1**
MD31				S	**Sn**	**05 48 14.3**	**+1.1**
MDT	**Midelt**	**2.85**	**196**	P	**Pb**	**05 47 42.3**	**-1.9**
MDT				S	**Sn**	**05 48 14.6**	**+1.0**
ECAB	**El Cabril**	**2.88**	**331**	Pn	**Pb**	**05 47 42.0**	**-2.5**
ECAB				Sn	**Sb**	**05 48 17.5**	**-2.4**
EMIN	**Mina Concepcio**	**3.28**	**313**	Pn	**Pn**	**05 47 46.3**	**+1.8**
EMIN				Sn	**Sn**	**05 48 22.2**	**-1.5**
ETOB	**Tobarra**	**3.50**	**28**	Pn	**Pn**	**05 47 51.2**	**+3.5**
ETOB				Sn	**Sn**	**05 48 31.7**	**+2.2**
EGRO	**El Granado**	**3.66**	**304**	Pn	**Pn**	**05 47 51.6**	**+1.9**
EGRO				Sn	**Sn**	**05 48 33.7**	**+0.5**
PVAQ	**Vaqueiros**	**3.75**	**300**	P	**Pn**	**05 47 52.9**	**+1.7**
PVAQ				S	**Sn**	**05 48 39.4**	**+3.9**
AVE	**Averroes**	**3.84**	**235**	P	**Pn**	**05 47 53.7**	**+1.3**
AVE				S	**Sn**	**05 48 38.2**	**+0.4**
PAB	**San Pablo**	**4.01**	**352**	Pn	**Pn**	**05 47 57.8**	**+3.1**
PAB				Sn	**Sn**	**05 48 42.6**	**+0.6**
ESDC	**Sonseca Array**	**4.11**	**357**	Pn	**Pn**	**05 47 59.3**	**+3.3**
ESDC				Sn	**Sn**	**05 48 44.6**	**+0.2**
ESDC				*i* Vmb_Lg		05 48 46.3	
EBAD	**Badajoz**	**4.17**	**321**	Pn	**Pn**	**05 47 58.8**	**+2.1**
EBAD				Sn	**Sn**	**05 48 46.1**	**+0.4**
MORF	**Marmelete**	**4.39**	**295**	*e*P	**Pn**	**05 48 01.1**	**+1.2**
MORF				*e*S	**Sn**	**05 48 51.6**	**+0.3**
MORF				IAML		05 48 56.7	
	comp=N,7.0nm,0.2s						
ETSF	**Etsaut**	**7.71**	**17**	*e*Pn	**Pn**	**05 48 46.9**	**+1.4**
ETSF	**Etsaut**	**7.71**	**17**	*e*Pg	**Pg**	**05 49 19.7**	**-0.6**
SJPF	**Ste Jean**	**7.77**	**13**	*e*Pn	**Pn**	**05 48 48.0**	**+1.7**
SJPF				*e*Sn	**Sn**	**05 50 12.2**	**-2.3**
	comp=N,0.3nm,0.3s						
EPF	**Esparros**	**8.07**	**21**	*e*Pn	**

comp=Z,270nm,19.1s,baz=95,slow=35
YSS Yuzh-Sakhalins 13.39 3 *i* P **Pn** **06 02 04.5 -1.3**
JOW Kunigami 13.44 244 LR LR 06 06 42.4
comp=Z,175nm,21.4s,baz=172,slow=35
CN2 Changchun 16.29 314 *e*P **Pn** **06 02 39.8 -4.4**
CN2 *es*P pP 06 02 55.3 +0.4
CN2 *e*S **Sn** **06 05 37.5 -6.3**
CN2 *es*S S 06 05 51.5 -3.6
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,220nm,13.0s
CN2 LR LR
comp=Z,170nm,14.0s
KLR Kul'dur 17.33 338 P **Pn** **06 02 56.2 -0.9**
comp=Z,0.2nm,0.3s,baz=148,slow=5.0,SNR=5.5
NJ2 Nanjing 19.30 272 *e*P **P** **06 03 20.0 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=N,310nm,16.1s
NJ2 LR LR
comp=E,460nm,16.1s
NJ2 LR LR
comp=Z,430nm,17.6s
HNS HongShan 22.32 288 ⇓P **P** **06 03 51.8 -0.6**
HNS S **S** **06 07 56.0 +0.7**
HNS pmax pmax
comp=Z,7.0nm,0.6s
HNS LR LR
comp=N,410nm,16.0s
HNS LR LR
comp=Z,440nm,16.1s
XLT XiLinHaoTe 22.44 305 ⇓*i*P **P** **06 03 56.5 +2.7**
XLT pP pP 06 04 00.5 -1.7
XLT sP sP 06 04 03.8 -2.8
XLT PP **PnPn** **06 04 23.3 +5.5**
XLT pmax pmax
comp=Z,24nm,0.8s
XLT pmax pmax
comp=Z,110nm,4.4s
PETK Petropavlovsk- 22.62 26 LR LR 06 15 30.4
comp=Z,90nm,18.2s,baz=197,slow=44
ZEA Zeya 22.64 337 *e*P **P** **06 03 56.4 +0.6**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.3s
ZEA MLR MLR
comp=Z,100nm,16.0s
WHN Wuhan 23.39 270 ⇑P **P** **06 04 02.5 -1.0**
HHC Hu-ho-hao-te 25.03 296 *e*P **P** **06 04 20.0 +1.3**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.2s
H11N2 WAKE ISLAND Hy 26.28 115 T T 06 31 55.2
baz=308,slow=74
H11N1 WAKE ISLAND Hy 26.29 115 T T 06 32 04.9
baz=308,slow=74
H11N3 WAKE ISLAND Hy 26.30 115 T T 06 32 06.6
baz=308,slow=74
MA2 Magadan 26.70 10 P **P** **06 04 33.9 +0.4**
comp=Z,6.3nm,0.8s,baz=183,slow=9.2,SNR=9.3
MA2 LR LR 06 16 20.4
comp=Z,62nm,19.0s,baz=150,slow=39
MA2 Magadan 26.70 10 P **P** **06 04 33.5 0.0**
MA2 IAmb IAmb 06 04 47.3
comp=Z,8.2nm,0.9s
HKPS Hong Kong Po S 26.77 252 P **P** **06 04 33.9 -0.7**
H11S3 WAKE ISLAND Hy 26.88 118 T T 06 32 46.4
baz=311,slow=74
H11S1 WAKE ISLAND Hy 26.88 118 T T 06 32 53.1
baz=311,slow=74
H11S2 WAKE ISLAND Hy 26.89 118 T T 06 32 50.2
baz=311
YAK Yakutsk 29.51 348 *i* P **P** **06 04 59.4 +0.9**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 29.51 348 P **P** **06 04 59.1 +0.6**
ULN Ulaanbaatar 29.64 309 *ce*P **P** **06 05 01.0 +0.9**
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 29.64 309 P **P** **06 05 00.9 +0.8**
ULN IAmb IAmb 06 05 03.2
comp=Z,14nm,1.4s
SONM Songino Array 30.06 309 P **P** **06 05 04.8 +1.0**
comp=Z,2.7nm,0.6s,baz=107,slow=9.3,SNR=10
SONM Songino Array 30.06 309 P **P** **06 05 02.2 -1.6**
SEY Seymchan 30.15 10 P **P** **06 05 05.0 +0.9**
comp=Z,2.3nm,0.6s,baz=185,slow=6.7,SNR=7.9
BOD Bodaibo 30.64 331 *e*P **P** **06 05 09.8 +1.2**
BOD pmax pmax
comp=Z,11nm,1.5s
LZH Lanzhou 31.09 285 *e*P **P** **06 05 11.5 -1.5**
LZH pP pP 06 05 16.5 -6.0
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=N,270nm,13.0s
LZH LR LR
comp=E,280nm,13.1s
LZH LR LR
comp=Z,320nm,15.3s
ZAK Zakamensk 32.72 313 *e*P **P** **06 05 28.9 +1.8**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
GTA Gaotai 33.98 292 *e*P **P** **06 05 39.3 +1.0**
GTA sP pP 06 05 48.0 +0.8
GTA pmax pmax
comp=Z,4.0nm,0.7s
PZH PanZhiHua 35.17 269 P **P** **06 05 49.0 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,6.3s
BILL Bilibino 37.29 15 *e*P **P** **06 06 06.8 +0.7**
BILL *e* 06 07 28.5
BILL pmax pmax
comp=Z,5.0nm,1.5s
GOMU GeErMu 38.30 288 P **P** **06 06 15.5 0.0**
GOMU pP pP 06 06 21.5 -3.0
GOMU sP sP 06 06 23.0 -5.5
GOMU PP **PP** **06 07 44.3 +0.9**
GOMU PcP **PcP** **06 08 30.0 +1.1**
GOMU S S **06 12 08.0 +0.8**
GOMU sS sS 06 12 24.0 +1.5
GOMU SS **SS** **06 14 56.0 +0.3**
GOMU pmax pmax
comp=Z,8.0nm,1.1s
GOMU pmax pmax
comp=Z,47nm,5.3s
GOMU LR LR
comp=N,120nm,17.8s
GOMU LR LR
comp=E,96nm,18.0s
GOMU LR LR
comp=Z,120nm,16.9s
TIXI Tiksi 38.76 354 P **P** **06 06 17.4 -1.0**
comp=Z,0.8nm,0.3s,baz=273,slow=21,SNR=5.5
TIXI LR LR 06 24 18.6
comp=Z,34nm,18.2s,baz=182,slow=39
CHTO Chiang Mai 40.83 260 P **P** **06 06 35.4 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 40.83 260 P **P** **06 06 35.4 -0.8**
CHTO IAmb IAmb 06 06 36.4
comp=Z,7.1nm,1.0s
CMAR Chiang Mai Arr 41.00 259 P **P** **06 06 36.9 -0.9**
comp=Z,2.0nm,0.4s,baz=47,slow=7.7,SNR=13
CMAR LR LR 06 25 25.2
comp=Z,101nm,18.4s,baz=40,slow=39
CMAR Chiang Mai Arr 41.00 259 *i* P **P** **06 06 37.9 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 41.00 259 P **P** **06 06 37.3 -0.4**
WMQ Urumqi 42.73 300 *e*P **P** **06 06 54.5 +2.8**
WMQ sP pP 06 07 02.0 +1.0
WMQ PcP **PcP** **06 08 44.5 +1.8**
WMQ pmax pmax
comp=Z,18nm,1.3s
ANM Nome 44.44 29 P **P** **06 07 05.8 +0.8**
ANM pmax pmax
comp=Z,17nm,1.6s
ANM Nome 44.44 29 P **P** **06 07 05.8 +0.8**
ANM IAmb IAmb 06 07 07.9

comp=Z,17nm,1.6s
ZAA0 Zalesovo Array 44.50 315 P **P** **06 07 05.9 +0.3**
ZALV Zalesovo Beam 44.50 315 P **P** **06 07 05.7 +0.1**
comp=Z,1.0nm,0.5s,baz=90,slow=6.2,SNR=6.9
ZALV PcP **PcP** **06 08 48.1 -0.2**
comp=Z,0.9nm,0.5s,baz=125,slow=2.2,SNR=3.6
ZALV Zalesovo Beam 44.50 315 P **P** **06 07 06.3 +0.7**
MK31 Makanchi Array 46.26 305 *i* P **P** **06 07 19.5 -0.2**
MK31 Makanchi Array 46.26 305 P **P** **06 07 19.2 -0.5**
MK31 IAmb IAmb 06 07 21.6
comp=Z,4.5nm,0.7s
MKAR Makanchi Array 46.26 305 P **P** **06 07 19.6 -0.1**
comp=Z,5.3nm,0.6s,baz=88,slow=9.1,SNR=66
MKAR PcP **PcP** **06 08 55.0 +0.4**
comp=Z,0.5nm,0.6s,baz=86,slow=9.2,SNR=1.7
MKAR Makanchi Array 46.26 305 P **P** **06 07 19.2 -0.5**
MAKZ Makanchi 46.47 305 P **P** **06 07 21.3 -0.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 46.47 305 P **P** **06 07 21.3 -0.1**
MAKZ IAmb IAmb 06 07 23.3
comp=Z,5.3nm,0.6s
MTN Manton Dam 47.24 194 P **P** **06 07 27.3 -0.3**
RAMN Ramite 47.62 277 *e*P **P** **06 07 31.1 +0.2**
JIRN Jiri 47.70 279 *e*P **P** **06 07 32.0 +0.4**
comp=Z,22nm,0.6s
GUN Gumba 47.86 279 *e*P **P** **06 07 33.4 +0.5**
KURK Kurchatov 48.34 311 P **P** **06 07 36.1 +0.4**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 48.34 311 P **P** **06 07 36.1 +0.4**
KURK IAmb IAmb 06 07 37.5
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 48.40 311 P **P** **06 07 35.6 -0.6**
comp=Z,4.4nm,0.7s,baz=84,slow=7.5,SNR=45
DANN Dangsing 49.45 280 *e*P **P** **06 07 45.0 0.0**
comp=Z,59nm,1.0s
KDAK Kodiak Island 49.54 40 P **P** **06 07 44.5 -0.3**
comp=Z,4.2nm,0.7s,baz=275,slow=5.8,SNR=14
KDAK LR LR 06 28 21.5
comp=Z,55nm,19.0s,baz=274,slow=36
PYUN Piuthan 50.17 280 *e*P **P** **06 07 49.8 -0.6**
comp=Z,17nm,0.6s
KNRA Kununurra 50.51 196 P **P** **06 07 52.2 -0.4**
KNRA IAmb IAmb 06 08 05.7
comp=Z,11nm,0.8s
MLY Manley 50.67 30 P **P** **06 07 54.4 +1.0**
MLY IAmb IAmb 06 07 55.9
comp=Z,11nm,1.8s
BOOM Boomskoye usch 51.43 300 P **P** **06 08 01.2 +1.6**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 51.43 300 P **P** **06 08 01.2 +1.6**
SML Sawmill 51.65 35 P **P** **06 08 02.7 +1.9**
SCM Sheep Creek Mo 52.13 35 P **P** **06 08 05.8 +1.4**
SCM pmax pmax
comp=Z,35nm,1.5s
SCM Sheep Creek Mo 52.13 35 P **P** **06 08 05.8 +1.4**
ILAR Eielson Array 52.30 31 P **P** **06 08 05.2 -0.3**
comp=Z,1.2nm,0.8s,baz=266,slow=6.1,SNR=8.8
AAK Ala-Archa 52.43 301 P **P** **06 08 07.9 +0.8**
comp=Z,2.0nm,0.8s,baz=101,slow=6.7,SNR=5.6
AAK Ala-Archa 52.43 301 *i* P **P** **06 08 08.1 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 52.43 301 P **P** **06 08 07.0 0.0**
BVAR Borovoye Array 53.14 314 P **P** **06 08 12.7 +0.7**
comp=Z,1.4nm,0.9s,baz=55,slow=25,SNR=7.9
BRVK Borovoye 53.20 314 P **P** **06 08 13.2 +0.9**
BRVK pmax pmax
comp=Z,21nm,1.9s
BRVK Borovoye 53.20 314 P **P** **06 08 13.2 +0.9**
BRVK IAmb IAmb 06 08 16.7
comp=Z,21nm,1.9s
WB0 Warramunga Arr 53.49 189 P **P** **06 08 14.8 0.0**
WRAB Tennant Creek 53.66 189 *i* P **P** **06 08 17.1 +1.1**
WRA Warramunga Arr 53.67 189 P **P** **06 08 14.7 -1.4**
comp=Z,2.5nm,0.5s,baz=4.2,slow=7.7,SNR=34
WRA Warramunga Arr 53.67 189 P **P** **06 08 16.4 +0.3**
WRA Warramunga Arr 53.67 189 P **P** **06 08 16.4 +0.3**
KKAR Karatay Array 55.15 302 P **P** **06 08 27.2 +0.5**
KKAR Karatay Array 55.15 302 P **P** **06 08 27.2 +0.5**
AS31 Alice Springs 57.40 189 P **P** **06 08 43.9 +1.1**
ASAR Alice Springs 57.40 189 P **P** **06 08 41.8 -1.0**
comp=Z,0.7nm,0.5s,baz=18,slow=13,SNR=19
ASAR Alice Springs 57.40 189 P **P** **06 08 44.3 +1.4**
ASAR Alice Springs 57.40 189 P **P** **06 08 44.3 +1.4**
CHGR Chuyangaron 57.45 298 P **P** **06 08 44.3 +1.0**
SVE Sverdlovsk 57.95 320 *e*P **P** **06 08 46.9 +0.5**
ARU Arti 59.16 320 P **P** **06 08 54.3 -0.5**
comp=Z,0.9nm,0.4s,baz=94,slow=8.3,SNR=4.6
ARU Arti 59.16 320 *c i*P **P** **06 08 55.6 +0.8**
ARU 06 09 38.8
ARU S **S** **06 17 04.7 +5.5**
ARU SS **SS** **06 20 53.0 -0.3**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 59.16 320 IAmb IAmb 06 09 09.9
comp=Z,5.2nm,0.8s
ABKAR Akbulak array 60.41 312 P **P** **06 09 03.3 -0.3**
ABKAR IAmb IAmb 06 09 12.4
comp=Z,7.8nm,1.7s
ABKAR Akbulak array 60.41 312 P **P** **06 09 03.1 -0.4**
DLBC Dease Lake 61.21 37 LR LR 06 37 49.7
comp=Z,37nm,18.2s,baz=210,slow=38
AKTO Aktyubinsk 61.22 314 P **P** **06 09 07.7 -1.4**
comp=Z,1.2nm,0.7s,baz=57,slow=14,SNR=2.0
STKA Stephens Creek 65.09 180 P **P** **06 09 34.6 -0.1**
comp=Z,0.4nm,0.3s,baz=344,slow=17,SNR=1.1
YKA Yellowknife Ar 66.68 29 P **P** **06 09 44.7 0.0**
comp=Z,0.5nm,0.9s,baz=296,slow=6.1,SNR=6.4
FINES FINESS Array B 72.01 333 P **P** **06 10 17.3 -0.3**
comp=Z,1.8nm,0.9s,baz=27,slow=9.4,SNR=1.7
YBH Yreka Blue Hor 72.27 51 LR LR 06 37 17.0
comp=Z,23nm,21.3s,baz=237,slow=32
KBZ Khabaz 73.38 312 P **P** **06 10 26.6 +0.5**
comp=Z,2.0nm,0.8s,baz=157,slow=5.2,SNR=3.6
KBZ Khabaz 73.38 312 *i* P **P** **06 10 27.1 +1.0**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 73.40 312 *e*P **P** **06 10 25.5 -0.8**
KIV pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 74.01 308 LR LR 06 44 30.7
comp=Z,54nm,20.0s,baz=62,slow=37
LRM Limekiln Ridge 76.45 44 P **P** **06 10 44.7 +0.6**
BMN Battle Mountai 76.50 50 P **P** **06 10 45.5 +1.1**
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 76.50 50 P **P** **06 10 45.5 +1.1**
BMN IAmb IAmb 06 13 03.1
comp=Z,3.6nm,1.0s
DLMT Dillon 76.62 44 P **P** **06 10 45.3 +0.3**
DLMT IAmb IAmb 06 10 51.6
comp=Z,4.1nm,1.1s
NVAR Mina Array Bea 76.86 53 P **P** **06 10 46.8 +0.2**
comp=Z,0.9nm,0.7s,baz=297,slow=6.0,SNR=7.0
NVAR LR LR 06 40 05.1
comp=Z,66nm,21.5s,baz=286,slow=32
AKASG Malin Array Be 77.21 323 P **P** **06 10 47.4 -0.6**
comp=Z,1.4nm,0.8s,baz=48,slow=6.2,SNR=6.5
NOA NORSAR Array B 77.49 338 P **P** **06 10 49.3 -0.1**
comp=Z,0.7nm,0.8s,baz=40,slow=5.7,SNR=1.9
PDAR Pinedale Array 79.91 45 P **P** **06 11 04.0 +0.6**
comp=Z,0.5nm,0.6s,baz=331,slow=1.6,SNR=7.6
PFO Pinyon Flats O 80.75 56 LR LR 06 40 45.2
comp=Z,70nm,20.2s,baz=240,slow=31
P17A Butcher Ranch, 81.14 48 P **P** **06 11 10.9 +0.9**
P17A IAmb IAmb 06 11 12.5
comp=Z,16nm,1.7s
Q16A Castle Valley 81.20 49 P **P** **06 11 11.3 +1.1**
Q16A IAmb IAmb 06 13 60.0
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 81.36 312 P **P** **06 11 12.0 +0.9**
comp=Z,1.0nm,0.9s,baz=108,slow=1.8,SNR=2.8
BRTR Keskin Array B 81.36 312 P **P** **06 11 12.0 +0.9**
SRU San Rafael Swe 81.50 49 P **P** **06 11 12.6 +0.8**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 81.50 49 P **P** **06 11 12.6 +0.8**
SRU IAmb IAmb 06 11 16.3
comp=Z,2.6nm,0.7s
VRAC Vranov 84.18 327 LR LR 06 54 08.8
comp=Z,59nm,18.2s,baz=338,slow=39
CLL Collm 84.24 331 *e*P **P** **06 11 27.0 +1.5**
CLL Collm 84.24 331 *e*P **P** **06 11 27.0 +1.5**
GERES GERESS Array B 85.80 329 P **P** **06 11 32.2 -1.4**
comp=Z,0.2nm,0.6s,baz=28,slow=6.7,SNR=2.5
ANMO Albuquerque 86.61 50 LR LR 06 43 07.5
comp=Z,32nm,21.0s,baz=315,slow=31
LPIG La Paz 90.67 60 LR LR 06 53 37.6
comp=Z,51nm,18.6s,baz=202,slow=36
LPAZ La Paz 148.07 65 PKPbc **PKPbc** **06 18 41.3 +0.4**
comp=Z,0.9nm,0.6s,baz=306,slow=3.7,SNR=5.1

IDC ***26*** *06:17:22.1±1.7, 3.7°S×145.5°E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.9/32, mbtmp4.0/9, ML3.7/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/56, Error ellipse: s-maj=53.8km s-min=18.5km az=89.0*
ISC 26 06:17:26.6±1.2, 3.8S±0.1×145.5E±0.3, h35km, n14, σ1.9/9, mb3.7/6, MS3.1/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**164**	Pn		**Pn**		**06 18 49.3**	**-0.6**
	1.4nm,0.3s,baz=322,slow=7.8,SNR=4.7								
CTA	**Charters Tower**	**16.18**	**178**	Pn		**P**		**06 21 13.6**	**-0.8**
	0.1nm,0.3s,baz=338,slow=12,SNR=5.5								
GUMO	**Guam**	**17.31**	**358**	LR		LR		06 25 57.5	
	comp=Z,99nm,21.1s,baz=132,slow=30								
WRA	**Warramunga Arr**	**19.38**	**213**	P		**Pn**		**06 21 49.9**	**-1.0**
	0.3nm,0.3s,baz=39,slow=12,SNR=34								
ASAR	**Alice Springs**	**22.69**	**209**	P		**P**		**06 22 25.9**	**+0.5**
	2.9nm,0.9s,baz=36,slow=8.6,SNR=20								
ASAR				LR		LR		06 32 06.2	
	comp=Z,108nm,20.1s,baz=152,slow=39								
FITZ	**Fitzroy Crossi**	**24.08**	**232**	P		**P**		**06 22 38.7**	**-0.3**
	2.0nm,0.7s,baz=59,slow=7.6,SNR=9.5								
FITZ				LR		LR		06 32 06.8	
	comp=Z,72nm,20.0s,baz=192,slow=37								
KAPI	**Kappang**	**25.71**	**266**	LR		LR		06 35 39.8	
	comp=Z,38nm,18.4s,baz=218,slow=43								
STKA	**Stephens Creek**	**28.15**	**187**	P		**P**		**06 23 17.5**	**+1.9**
	1.7nm,0.3s,baz=47,slow=16,SNR=3.6								
JOW	**Kunigami**	**34.74**	**332**	LR		LR		06 34 47.7	
	comp=Z,52nm,21.6s,baz=82,slow=30								
MJAR	**Matsushiro Arr**	**40.73**	**351**	LR		LR		06 40 02.8	
	comp=Z,31nm,21.9s,baz=26,slow=34								
KSRS	**Korea Array**	**44.21**	**340**	P		**P**		**06 25 31.2**	**-1.1**
	1.8nm,0.8s,baz=157,slow=9.8,SNR=5.8								
KSRS				LR		LR		06 40 34.0	
	comp=Z,20nm,21.1s,baz=220,slow=32								
PETK	**Petropavlovsk-**	**57.65**	**9**	LR		LR		06 47 48.1	
	comp=Z,18nm,21.6s,baz=162,slow=32								
SONM	**Songino Array**	**61.80**	**331**	P		**P**		**06 27 43.3**	**+1.2**
	0.4nm,0.6s,baz=108,slow=4.7,SNR=1.6								
MKAR	**Makanchi Array**	**74.89**	**321**	P		**P**		**06 29 03.8**	**-0.2**
	0.4nm,0.8s,baz=101,slow=6.0,SNR=3.4								

HLW ***26*** *06:33:34.7, 36.81N×25.43E, h29km±25km, Md4.3*
IDC ***26*** *06:33:36.8±0.8, 36.73N×25.38E, h144km±13km, mb3.3/8, mb1 3.4/14, mb1mx3.2/53, mbtmp3.7/14, Error ellipse: s-maj=18.7km s-min=14.0km az=154.0*
ATH ***26*** *06:33:38.4, 36.68N×25.32E, h148km±4km, ML3.7/8, Error ellipse: s-maj=5.0km s-min=1.5km az=136.0*
ISK ***26*** *06:33:38.5, 36.83N×25.33E, h10km, ML3.3/19*
DDA ***26*** *06:33:39.6±0.0, 36.52N×25.72E, h7km±4km, ML3.1*
THE ***26*** *06:33:40.9, 36.65N×25.30E, h144km±3km, ML3.5/6, Error ellipse: s-maj=3.8km s-min=1.5km az=16.0*
ISC 26 06:33:36.7±0.6, 36.65N±0.05×25.36E±0.04, h157km±6km, n114, σ2.9/104/142, mb3.5/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMBO	**Columbo, Santo**	**0.18**	**167**	P		**Pn**		**06 33 59.1**	**+1.3**
THR5	**Thira Island,**	**0.23**	**181**	P		**Pn**		**06 33 59.7**	**+1.7**
THR5	**Thira Island,**	**0.23**	**181**	P		**Pn**		**06 33 59.5**	**+1.6**
THR3	**Thira Island,**	**0.24**	**171**	P		**Pn**		**06 33 59.2**	**+1.3**
THR3	**Thira Island,**	**0.24**	**171**	P		**Pn**		**06 33 59.5**	**+1.6**
SNT5	**Nea Kammeni, S**	**0.25**	**172**	P		**Pn**		**06 33 59.7**	**+1.7**
THR8	**Santorini-Mono**	**0.26**	**157**	P		**Pn**		**06 33 59.4**	**+1.5**
THR8	**Santorini-Mono**	**0.26**	**157**	P		**Pn**		**06 33 59.5**	**+1.5**
THR9	**Santorini-Faro**	**0.29**	**180**	P		**Pn**		**06 33 59.8**	**+1.7**
THR6	**Thira Island,**	**0.29**	**173**	P		**Pn**		**06 33 59.9**	**+1.8**
THR6	**Thira Island,**	**0.29**	**173**	P		**Pn**		**06 33 59.8**	**+1.8**
APE	**Apeiranthos**	**0.44**	**19**	P		**Pn**		**06 33 59.5**	**+0.9**
APE	**Apeiranthos**	**0.44**	**19**	P		**Pn**		**06 33 59.7**	**+1.1**
APE				S		**Sn**		**06 34 14.9**	**-0.6**
MHLO	**Agia Marina, M**	**0.77**	**273**	P		**Pn**		**06 34 01.9**	**+1.5**
MHLO	**Agia Marina, M**	**0.77**	**273**	P		**Pn**		**06 34 02.0**	**+1.6**
MHLO				S		**Sn**		**06 34 16.1**	**-2.3**
	582nm,0.7s								
KOSK	**Kos Island**	**1.31**	**85**	PN		**Pn**		**06 34 03.6**	**-1.2**
HRKL	**Herakleio**	**1.35**	**189**	P		**Pn**		**06 34 07.2**	**+1.9**
HRKL				S		**Sn**		**06 34 27.4**	**+0.2**
	635nm,0.3s								
HRKL	**Herakleio**	**1.35**	**189**	PN		**Pn**		**06 34 06.9**	**+1.6**
HRKL				SN		**Sn**		**06 34 26.9**	**-0.3**
IACM	**Heraklion**	**1.36**	**190**	P		**Pn**		**06 34 07.1**	**+1.7**
IDI	**Anoyia**	**1.41**	**196**	P		**Pn**		**06 34 07.4**	**+1.3**
	64nm,0.3s,baz=201,slow=4.2,SNR=1630								
IDI				S		**Sn**		**06 34 28.0**	**-0.3**
	36nm,0.3s,baz=109,slow=20,SNR=8.7								
IDI	**Anoyia**	**1.41**	**196**	P		**Pn**		**06 34 07.3**	**+1.3**
IDI				S		**Sn**		**06 34 28.4**	**0.0**
IDI				AML		AML		06 34 29.6	
	comp=E,577μm,0.2s								
IDI				AML		AML		06 34 29.9	
	comp=N,535μm,0.1s								
IDI	**Anoyia**	**1.41**	**196**	P		**Pn**		**06 34 07.3**	**+1.3**
IDI	**Anoyia**	**1.41**	**196**	PN		**Pn**		**06 34 07.2**	**+1.2**
IDI				SN		**Sn**		**06 34 28.1**	**-0.3**
KARY	**Karystos**	**1.56**	**332**	P		**Pn**		**06 34 08.5**	**+1.1**
SMG	**Samos**	**1.59**	**48**	P		**Pn**		**06 34 09.1**	**+1.4**
BODT	**Bodrum**	**1.62**	**75**	PN		**Pn**		**06 34 08.4**	**+0.3**
IMMV	**Iera Moni Meta**	**1.63**	**224**	P		**Pn**		**06 34 10.0**	**+1.9**
IMMV				S		**Sn**		**06 34 32.8**	**+0.6**
IMMV				AML		AML		06 34 38.3	
	comp=N,1793μm,0.6s								
IMMV				AML		AML		06 34 39.3	
	comp=E,1969μm,0.4s								
IMMV	**Iera Moni Meta**	**1.63**	**224**	P		**Pn**		**06 34 10.0**	**+1.9**
IMMV	**Iera Moni Meta**	**1.63**	**224**	PN		**Pn**		**06 34 09.8**	**+1.7**
IMMV				SN		**Sn**		**06 34 32.7**	**+0.5**
ZKR	**Zakros**	**1.68**	**155**	P		**Pn**		**06 34 11.0**	**+2.2**
ZKR				S		**Sn**		**06 34 35.1**	**+1.7**
ZKR				AML		AML		06 34 37.6	
	comp=N,1167μm,0.4s								
ZKR				AML		AML		06 34 37.6	
	comp=E,2190μm,0.6s								
ZKR	**Zakros**	**1.68**	**155**	P		**Pn**		**06 34 10.9**	**+2.1**
ZKR	**Zakros**	**1.68**	**155**	PN		**Pn**		**06 34 11.0**	**+2.2**
SIVA	**Sivas**	**1.69**	**195**	P		**Pn**		**06 34 11.3**	**+2.5**
RODP	**Rodopos**	**1.69**	**230**	P		**Pn**		**06 34 10.9**	**+2.1**
RODP				S		**Sn**		**06 34 33.9**	**+0.5**
	comp=E,315nm,0.4s								
RODP	**Rodopos**	**1.69**	**230**	PN		**Pn**		**06 34 10.4**	**+1.6**
BDRM	**Kayabasi**	**1.73**	**75**	P		**Pn**		**06 34 10.7**	**+1.5**
BDRM				S		**Sn**		**06 34 42.7**	**+8.5**
VLY	**Voula,Athens**	**1.73**	**314**	P		**Pn**		**06 34 10.4**	**+1.2**
DAT	**Datca**	**1.79**	**87**	PN		**Pn**		**06 34 10.5**	**+0.5**
DAT	**Datca**	**1.79**	**87**	P		**Pn**		**06 34 11.6**	**+1.7**
DAT				S		Sn		06 34 55.8	+20
DION	**Dionisos Attik**	**1.82**	**322**	P		**Pn**		**06 34 11.6**	**+1.4**
KARP	**Karpathos**	**1.83**	**126**	P		**Pn**		**06 34 12.5**	**+2.1**
KARP				S		**Sn**		**06 34 36.9**	**+0.7**
KARP				AML		AML		06 34 37.3	
	comp=E,3619μm,0.4s								
KARP				AML		AML		06 34 37.6	
	comp=N,2677μm,0.2s								
KARP	**Karpathos**	**1.83**	**126**	P		**Pn**		**06 34 12.4**	**+2.0**
KARP				S		**Sn**		**06 34 36.9**	**+0.7**
	comp=N,2μm,0.3s								
KARP	**Karpathos**	**1.83**	**126**	PN		**Pn**		**06 34 12.5**	**+2.1**
GCAM	**G?zelcami?**	**1.83**	**54**	PN		**Pn**		**06 34 10.2**	**-0.1**
GCAM	**G?zelcami?**	**1.83**	**54**	P		**Pn**		**06 34 11.7**	**+1.4**
ANKY	**Antikythira Is**	**1.83**	**245**	P		**Pn**		**06 34 12.2**	**+1.9**
ANKY				S		**Sn**		**06 34 36.1**	**-0.1**
ANKY				AML		AML		06 34 36.6	
	comp=E,3696μm,0.5s								
ANKY				AML		AML		06 34 37.9	
	comp=N,3013μm,0.5s								
ANKY	**Antikythira Is**	**1.83**	**245**	P		**Pn**		**06 34 12.1**	**+1.7**
PTL	**Penteli**	**1.83**	**320**	P		**Pn**		**06 34 11.7**	**+1.3**
ATH	**Athens Observa**	**1.86**	**316**	P		**Pn**		**06 34 12.2**	**+1.6**

KTHA	**Kythira Island**	**1.89**	**259**	P	**Pn**	**06 34 12.8**	**+1.8**
KTHA				AML	AML	06 34 38.3	
	comp=N,2256µm,0.3s						
KTHA				AML	AML	06 34 39.8	
	comp=E,3006µm,0.2s						
KRND	**KRANIDI**	**1.91**	**293**	P	**Pn**	**06 34 12.8**	**+1.6**
KRND				AML	AML	06 34 38.6	
	comp=N,832µm,0.4s						
KRND				AML	AML	06 34 39.3	
	comp=E,939µm,0.7s						
KTHR	**Kythira**	**1.93**	**259**	P	**Pn**	**06 34 13.5**	**+2.0**
KTHR				S	**Sn**	**06 34 38.1**	**-0.2**
	comp=E,1µm,0.5s						
VLI	**Velíai**	**1.94**	**273**	P	**Pn**	**06 34 12.9**	**+1.3**
VLI				S	**Sn**	**06 34 37.1**	**-1.3**
VLI				AML	AML	06 34 37.8	
	comp=E,869µm,0.3s						
VLI				AML	AML	06 34 38.7	
	comp=N,1490µm,0.2s						
VLI	**Velíai**	**1.94**	**273**	P	**Pn**	**06 34 12.8**	**+1.2**
VLI				S	**Sn**	**06 34 37.3**	**-1.1**
	comp=N,595nm,0.2s						
KNDR	**Palaiochora Ch**	**1.96**	**224**	P	**Pn**	**06 34 15.0**	**+3.2**
KNDR	**Palaiochora Ch**	**1.96**	**224**	PN	**Pn**	**06 34 14.9**	**+3.2**
EPID	**Epidavros**	**2.03**	**299**	P	**Pn**	**06 34 14.5**	**+1.9**
MLSB	**Milas**	**2.04**	**71**	PN	**Pn**	**06 34 13.8**	**+1.0**
GVD	**Gavdhos**	**2.08**	**210**	P	**Pn**	**06 34 15.8**	**+2.6**
GVD	**Gavdhos**	**2.08**	**210**	PN	**Pn**	**06 34 15.6**	**+2.4**
AYDN	**Tasoluk**	**2.26**	**63**	P	**Pn**	**06 34 17.3**	**+2.0**
TURN	**Turunc**	**2.33**	**86**	PN	**Pn**	**06 34 18.2**	**+2.2**
TURN	**Turunc**	**2.33**	**86**	P	**Pn**	**06 34 18.0**	**+2.0**
TURN				S	**Sn**	**06 34 47.0**	**+0.6**
YER	**Yerkesik**	**2.40**	**77**	PN	**Pn**	**06 34 18.9**	**+1.9**
MULA	**Mugla, Merkez-**	**2.45**	**75**	P	**Pn**	**06 34 20.2**	**+2.6**
DALY	**Dalyan (Mula)**	**2.66**	**85**	PN	**Pn**	**06 34 22.9**	**+2.9**
ITM	**Ithomi**	**2.80**	**282**	PN	**Pn**	**06 34 23.7**	**+1.9**
TAVA	**DENIZLI_Tavas**	**2.96**	**73**	P	**Pn**	**06 34 26.3**	**+2.4**
TAVA				S	**Sn**	**06 35 00.7**	**+0.2**
FETY	**Fethiye**	**3.00**	**89**	PN	**Pn**	**06 34 27.8**	**+3.5**
FETY	**Fethiye**	**3.00**	**89**	P	**Pn**	**06 34 26.6**	**+2.3**
FETY				S	**Sn**	**06 35 00.6**	**-0.6**
CAME	**Cameli-Denizli**	**3.18**	**84**	PN	**Pn**	**06 34 29.3**	**+2.5**
CAEL	**Denizli, Camel**	**3.21**	**80**	P	**Pn**	**06 34 29.2**	**+2.0**
CAEL				*i* AML	AML	06 35 35.0	
	comp=N,58nm,2.1s						
CAEL				*i* AML	AML	06 35 42.0	
	comp=N,60nm,2.0s						
EZN	**Ezine**	**3.26**	**13**	PN	**Pn**	**06 34 28.2**	**+0.6**
AGG	**Agios Georgios**	**3.37**	**316**	PN	**Pn**	**06 34 30.8**	**+1.8**
GOLH	**Golhisar**	**3.42**	**79**	P	**Pn**	**06 34 33.0**	**+3.2**
AKAS	**Kas**	**3.45**	**96**	P	**Pn**	**06 34 32.2**	**+2.0**
AKAS				*i* AML	AML	06 35 15.0	
	comp=N,70nm,0.4s						
AKAS				*i* AML	AML	06 35 19.0	
	comp=N,87nm,0.7s						
KORT	**Korkueli**	**4.02**	**83**	P	**Pn**	**06 34 40.0**	**+2.4**
KORT				*i* AML	AML	06 36 14.0	
	comp=N,22nm,2.2s						
AKUM	**Antalya-Kumluc**	**4.03**	**93**	P	**Pn**	**06 34 39.9**	**+2.4**
AKUM				*i* AML	AML	06 35 32.0	
	comp=N,38nm,1.6s						
AKUM				*i* AML	AML	06 35 41.0	
	comp=N,56nm,1.7s						
AKUM				*i* AML	AML	06 36 30.0	
	comp=N,71nm,1.7s						
SLUM	**Salum**	**5.14**	**181**	P	**Pn**	**06 34 53.6**	**+1.5**
	baz=182						
BRTR	**Keskin Array B**	**7.21**	**62**	P	**Pn**	**06 35 20.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=5.6						
BRTR				S	**Sn**	**06 36 37.1**	**-3.4**
	comp=N,0.1nm,0.3s,baz=244,slow=24,SNR=2.2						
SWA2		**7.38**	**179**	P	**Pn**	**06 35 23.0**	**+1.1**
	baz=179						
SWA2				S	**Sn**	**06 36 42.2**	**-2.4**
	baz=179						
DBRK	**Dubrovnik**	**8.19**	**319**	*e*Pn	**Pn**	**06 35 29.8**	**-2.7**
HNAT	**Natroun**	**8.27**	**146**	P	**Pn**	**06 35 35.8**	**+2.1**
	baz=147						
STON	**Ston**	**8.56**	**319**	*e*Pn	**Pn**	**06 35 34.3**	**-3.1**
RYAN	**Fayoum**	**8.60**	**150**	P	**Pn**	**06 35 39.5**	**+1.3**
	baz=150						
RYAN				S	**Sn**	**06 37 11.1**	**-2.8**
	baz=150						
HSAF	**As Saff**	**8.72**	**142**	P	**Pn**	**06 35 41.1**	**+1.3**
	baz=142						
VAE	**Valguarnera**	**8.79**	**279**	P	**Pn**	**06 35 40.2**	**-0.4**
	comp=N,2.6nm,0.3s,baz=90,slow=20,SNR=2.3						
VAE				S	**Sn**	**06 37 14.8**	**-3.4**
	comp=N,2.9nm,0.3s,baz=9.5,slow=6.1,SNR=2.5						
GLL	**Jalalah**	**8.84**	**141**	P	**Pn**	**06 35 42.5**	**+1.3**
	baz=142						
MLR	**Muntele Rosu**	**8.85**	**3**	P	**Pn**	**06 35 40.0**	**-1.3**
	comp=N,0.2nm,0.3s,baz=194,slow=8.3,SNR=3.5						
LSTV	**Lastovo**	**8.93**	**316**	*i* Pn	**Pn**	**06 35 38.9**	**-3.5**
MMAI	**Mount Meron Ar**	**9.02**	**111**	P	**Pn**	**06 35 43.4**	**-0.3**
	comp=N,4.3nm,0.3s,baz=352,slow=34,SNR=4.7						
MMAI				S	**Sn**	**06 37 19.7**	**-4.3**
	comp=N,2.9nm,0.3s,baz=353,slow=33,SNR=2.7						
SUZ	**Suez**	**9.23**	**135**	P	**Pn**	**06 35 47.2**	**+0.7**
	baz=136						
RICI	**Ricice**	**9.29**	**320**	*e*Pn	**Pn**	**06 35 44.6**	**-2.6**
NBNS	**Bani Suef**	**9.44**	**146**	P	**Pn**	**06 35 50.8**	**+1.6**
	baz=147						
HVAR	**Hvar**	**9.45**	**316**	*e*Pn	**Pn**	**06 35 45.9**	**-3.3**
HFRF	**Wahat Farafira**	**9.80**	**164**	P	**Pn**	**06 35 56.2**	**+2.2**
	baz=165						
HFRF				S	**Sn**	**06 37 39.0**	**-3.7**
	baz=165						
KIJV	**Kijevo**	**10.03**	**320**	*e*Pn	**Pn**	**06 35 54.9**	**-2.0**
ZIRJ	**Zirje**	**10.20**	**316**	*e*Pn	**Pn**	**06 35 56.7**	**-2.4**
MORI	**Morici**	**10.31**	**317**	*e*Pn	**Pn**	**06 35 58.6**	**-1.9**
EIL	**Elat**	**10.63**	**128**	P	**Pn**	**06 36 04.2**	**-0.7**
	comp=N,0.5nm,0.3s,baz=211,slow=0.9,SNR=10						
EIL				S	**Sn**	**06 37 57.2**	**-5.4**
	comp=N,4.0nm,0.3s,baz=134,slow=1.5,SNR=12						
UDBI	**Udbina**	**10.72**	**320**	*e*Pn	**Pn**	**06 36 05.1**	**-1.0**
DUGI	**Dugi Otok**	**10.74**	**316**	*e*Pn	**Pn**	**06 36 04.3**	**-2.0**
VIRC	**Vir**	**10.94**	**317**	*e*Pn	**Pn**	**06 36 06.7**	**-2.2**
NVLJ	**Novalja**	**11.22**	**318**	*e*Pn	**Pn**	**06 36 10.5**	**-2.0**
AKASG	**Malin Array Be**	**14.32**	**10**	P	**Pn**	**06 36 52.4**	**+0.3**
	comp=N,2.9nm,0.3s,baz=204,slow=11,SNR=16						
KBZ	**Khabaz**	**15.14**	**57**	P	**P**	**06 37 05.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=237,slow=16,SNR=3.7						
ESDC	**Sonseca Array**	**23.20**	**286**	P	**P**	**06 38 31.1**	**+1.5**
	comp=N,0.7nm,0.6s,baz=81,slow=9.9,SNR=6.7						
FINES	**FINESS Array B**	**24.82**	**1**	P	**P**	**06 38 44.1**	**+0.1**
	comp=N,1.7nm,0.9s,baz=178,slow=9.7,SNR=4.7						
AKTO	**Aktyubinsk**	**27.14**	**49**	P	**P**	**06 39 04.2**	**-0.9**
	comp=N,0.6nm,0.3s,baz=254,slow=18,SNR=2.2						
TORD	**Torodi Ar. Bea**	**31.58**	**228**	P	**P**	**06 39 47.5**	**+2.9**
	comp=N,0.2nm,0.4s,baz=34,slow=8.8,SNR=2.0						
ARCES	**ARCESS Array B**	**32.94**	**0**	P	**P**	**06 39 56.5**	**+0.5**
	comp=N,0.6nm,0.7s,baz=186,slow=8.2,SNR=1.2						
MKAR	**Makanchi Array**	**42.84**	**58**	P	**P**	**06 41 20.4**	**+1.3**
	comp=N,1.3nm,0.3s,baz=271,slow=7.8,SNR=37						
ZALV	**Zalesovo Beam**	**43.87**	**47**	P	**P**	**06 41 27.9**	**+0.7**
	comp=N,1.5nm,0.4s,baz=274,slow=8.2,SNR=5.8						
YKA	**Yellowknife Ar**	**76.08**	**342**	P	**P**	**06 45 06.9**	**+0.4**
	comp=N,0.2nm,0.6s,baz=30,slow=5.1,SNR=3.1						

SNET 26 06:46:00.6±1.0, 12°.81N×88°.99W, h35km±999km, ML2.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.82**	**33**	*e*P		Pn	06 46 15.8	0.0
COEB				*e*S		Sn	06 46 27.4	+0.6
COEB				IAML			06 46 27.5	
	comp=Z,140nm,0.2s							
COEB	**Comit de Eme**	**0.82**	**33**	*e*P		Pn	06 46 15.8	0.0
PAVA	**Las Pavas**	**0.90**	**3**	*e*P		Pn	06 46 17.0	+0.1
PAVA	**Las Pavas**	**0.90**	**3**	*e*P		Pn	06 46 17.0	+0.1
PAVA				*e*S		Sn	06 46 31.5	+2.7
SNET	**Serv Nac Est T**	**0.90**	**345**	*e*P		Pn	06 46 16.7	-0.2
PQSS	**Presa 15 de Se**	**0.91**	**27**	*e*P		Pn	06 46 17.5	+0.6
PQSS				*e*S		Sn	06 46 30.5	+1.6
PQSS				IAML			06 46 30.9	
	comp=Z,219nm,0.1s							
SCLA	**Alcaldia de Sa**	**0.92**	**16**	*e*P		Pn	06 46 17.5	+0.3
SCLA				*e*S		Sn	06 46 30.6	+1.4
JAYA	**Jayaque - finc**	**0.95**	**332**	*i* P		Pn	06 46 17.5	-0.1
JAYA				*e*S		Sn	06 46 30.2	+0.2
LCND	**La Caada**	**1.18**	**65**	*e*P		Pn	06 46 20.9	+0.2
LCND				*e*S		Sn	06 46 36.1	+0.5
LCND				IAML			06 46 39.8	
	comp=Z,184nm,0.2s							
CEVE	**Cerro Verde**	**1.18**	**329**	*e*P		Pn	06 46 21.3	+0.4
FAGO	**Alcalda de S**	**1.23**	**44**	*e*P		Pn	06 46 09.5	-12
FAGO				*e*S		Sn	06 46 25.7	-11
NUBE	**Las Nubes**	**1.33**	**325**	*e*P		Pn	06 46 22.9	+0.1
NUBE				*e*S		Sn	06 46 39.8	+0.4

*DJA **26** 06:56:11.9±1.2, 4°.5S±6°.1×14°.0E±1°.0, h10km, M4.0/3, MLv4.0/3*
*IDC **26** 06:56:12.3±2.4, 3°.58S×140°.32E, h34km±21km, mb3.5/4, mb1 3.8/4, mb1mx3.4/35, mbtmp3.8/4, MS3.2/4, Ms1 3.2/4, ms1mx2.7/40, Error ellipse: s-maj=68.1km s-min=20.8km az=110.0*
ISC 26 06:56:09.7±1.1, 4°.01S±0°.07×140°.5E±0°.2, h35km, n12, σ2s69/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.44**	**348**	P		**Pn**	**06 56 33.0**	**-0.3**
GENI				S		**Sn**	**06 56 48.5**	**-2.4**
JAY	**Jayapura**	**1.50**	**9**	Pg		**Pn**	**06 56 34.4**	**+0.2**
	31nm,0.3s,baz=77,slow=22,SNR=91							
JAY				Lg		Lg	06 56 48.7	
	baz=177,slow=19							
JAY	**Jayapura**	**1.50**	**9**	P		**Pn**	**06 56 34.2**	**-0.1**
SMPI	**Sarmi**	**2.66**	**319**	P		**Pn**	**06 56 52.7**	**+2.6**
PMG	**Port Moresby**	**8.54**	**129**	LR		LR	07 02 24.2	
	comp=Z,79nm,19.4s,baz=336,slow=42							
WRA	**Warramunga Arr**	**16.92**	**200**	P		**P**	**07 00 07.7**	**+2.0**
	0.2nm,0.3s,baz=16,slow=12,SNR=14							
WRA				S		**Sn**	**07 03 09.6**	**-1.5**
	0.1nm,0.3s,baz=26,slow=24,SNR=3.5							
CTA	**Charters Tower**	**16.95**	**161**	LR		LR	07 08 17.6	
	comp=Z,43nm,18.2s,baz=270,slow=42							
FITZ	**Fitzroy Crossi**	**20.16**	**225**	P		Pn	07 00 45.0	+1.7
	1.4nm,0.4s,baz=47,slow=10,SNR=11							
FITZ				S		**S**	**07 04 19.9**	**-6.0**
	2.3nm,0.8s,baz=110,slow=12,SNR=3.5							
ASAR	**Alice Springs**	**20.54**	**197**	P		Pn	07 00 52.7	+5.0
	11nm,0.7s,baz=28,slow=9.5,SNR=123							
ASAR				S		**S**	**07 04 34.8**	**+1.3**
	0.2nm,0.6s,baz=9.3,slow=25,SNR=1.8							
ASAR				LR		LR	07 09 12.4	
	comp=Z,109nm,21.9s,baz=322,slow=37							
STKA	**Stephens Creek**	**27.74**	**178**	LR		LR	07 13 16.1	
	comp=Z,75nm,20.2s,baz=222,slow=36							
MKAR	**Makanchi Array**	**71.88**	**322**	P		**P**	**07 07 29.9**	**+0.6**
	0.2nm,0.6s,baz=107,slow=5.0,SNR=2.0							
ILAR	**Eielson Array**	**86.29**	**24**	P		**P**	**07 08 48.4**	**+0.7**
	0.3nm,0.7s,baz=243,slow=5.1,SNR=5.1							

NOU 26 06:59:39.6, 18°.44S×169°.16E, h212km, MLv4.3/17, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.95**	**313**	P		Pn	07 00 10.7	+0.4
DVP	**Devils Point**	**1.17**	**307**	P		Pn	07 00 11.9	+0.1
MARNC	**Mare, Loyalty**	**3.21**	**199**	P		Pn	07 00 31.7	-0.5
SANVU	**Saraoutou**	**3.52**	**328**	P		Pn	07 00 35.9	-0.1
YATNC	**Mamie plateau,**	**4.18**	**210**	P		Pn	07 00 42.7	-1.4
DZM	**Mont Dzumac**	**4.42**	**215**	P		Pn	07 00 47.3	+0.2
PINNC	**Pines Island,**	**4.45**	**201**	P		Pn	07 00 47.5	+0.1
OUENC	**Ouen Island, N**	**4.52**	**208**	P		Pn	07 00 48.3	+0.1
NOUC	**Port Laguerre**	**4.52**	**216**	P		Pn	07 00 48.6	+0.3
ONTNC	**Ouen Toro**	**4.61**	**213**	P		Pn	07 00 49.5	+0.1
KOUNC	**Koumac, New Ca**	**5.05**	**245**	P		Pn	07 00 55.8	+0.8

*IDC **26** 07:05:44.0±0.8, 51°.40N×100°.75E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.5/55, mbtmp3.6/11, ML2.9/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/94, Error ellipse: s-maj=25.2km s-min=15.0km az=20.0*
*BYKL **26** 07:05:43.9±0.3, 51°.10N×100°.90E*
*MOS **26** 07:05:44.2±1.4, 51°.16N×100°.82E, h12km, mb4.0/4, Error ellipse: s-maj=10.8km s-min=9.3km az=83.2*
ISC 26 07:05:45.0±0.5, 51°.16N±0°.03×100°.97E±0°.03, h10km, n62, σ2s47/106, mb3.6/10, 5C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.51**	**1**	⇓*i*Pg		**Pg**	**07 05 54.9**	**0.0**
MOY				*e*			07 06 03.0	
MOY				pmax		pmax		
	comp=Z,2µm,0.2s							
MOY				smax		smax		
	comp=E,7µm,0.2s							
MOY	**Mondy**	**0.51**	**1**	⇓*i*Pg		**Pg**	**07 05 54.9**	**0.0**
MOY				Pmax			07 05 55.1	
	comp=E,2µm,0.4s							
MOY				*e*Sg		**Sb**	**07 06 03.0**	**-0.6**
MOY				Smax			07 06 03.6	
	comp=E,7µm,0.3s							
ORL	**Orlik**	**1.56**	**333**	*e*PN		**Pn**	**07 06 13.2**	**+0.3**
ORL				*e*			07 06 33.4	
ORL				pmax		pmax		
	comp=Z,282nm,0.3s							
ORL				smax		smax		
	comp=E,3µm,0.5s							
ORL	**Orlik**	**1.56**	**333**	*e*Pg		**Pn**	**07 06 12.9**	**0.0**
ORL				Pmax			07 06 14.9	
	comp=E,302nm,0.6s							
ORL				*e*Sg		**Sb**	**07 06 33.5**	**-0.3**
ORL				Smax			07 06 38.0	
	comp=E,3µm,0.5s							
ZAK	**Zakamensk**	**1.66**	**117**	⇑*i*PN		**Pn**	**07 06 14.2**	**-0.1**
ZAK				*e*			07 06 36.1	
ZAK				pmax		pmax		
	comp=Z,273nm,0.5s							
ZAK				smax		smax		
	comp=N,2µm,0.2s							
ZAK	**Zakamensk**	**1.66**	**117**	⇑*i*Pn		**Pn**	**07 06 14.2**	**-0.1**
ZAK				*e*Pg		**Pb**	**07 06 14.7**	**-1.1**
ZAK				Pmax			07 06 18.8	
	comp=N,363nm,0.4s							
ZAK				*e*Sg		**Sn**	**07 06 36.3**	**+0.6**
ZAK				Smax			07 06 40.4	
	comp=N,2µm,0.2s							
TLY	**Talaya**	**1.75**	**72**	⇓*i*Pn		**Pn**	**07 06 16.4**	**+0.9**
TLY				*e*Pg		**Pb**	**07 06 17.5**	**+0.2**
TLY				Pmax			07 06 17.6	
	comp=N,417nm,0.3s							
TLY				*e*Sg		**Sg**	**07 06 41.2**	**-0.1**
TLY				Smax			07 06 48.4	
	comp=N,2µm,0.7s							
IVK	**Ivanovka**	**2.25**	**72**	*e*		**Pn**	**07 06 23.3**	**+1.1**
IVK				*e*Pg		**Pb**	**07 06 25.2**	**-0.5**
IVK				Pmax			07 06 25.7	
	comp=N,152nm,0.4s							
IVK				*e*			07 06 49.2	
IVK				*e*Sg		**Sg**	**07 06 56.1**	**-1.0**
IVK				Smax			07 07 01.7	
	comp=N,874nm,0.7s							
KNGR	**Kungurtug, Tuv**	**2.26**	**257**	*c i*PN		**Pn**	**07 06 22.4**	**-0.1**
KNGR	**Kungurtug, Tuv**	**2.26**	**257**	⇑*i*Pg		**Pn**	**07 06 22.7**	**+0.2**
KNGR				*e*Sg		**Sn**	**07 06 51.7**	**+1.2**
IRK	**Irkutsk**	**2.32**	**61**	*e*PN		**Pb**	**07 06 27.0**	**+0.1**
IRK				*e*			07 06 58.0	
IRK				pmax		pmax		
	comp=Z,1µm,0.3s							
IRK				smax		smax		
	comp=N,6µm,0.4s							
IRK	**Irkutsk**	**2.32**	**61**	*e*Pn		**Pn**	**07 06 24.7**	**+1.4**
IRK				*e*Pg		**Pb**	**07 06 26.8**	**-0.1**
IRK				Pmax			07 06 27.5	
	comp=N,1µm,0.3s							
IRK				*e*Sn		**Sn**	**07 06 53.0**	**+1.1**
IRK				*e*Sg		**Sg**	**07 06 58.4**	**-1.1**
IRK				Smax			07 06 58.9	
	comp=N,6µm,0.4s							
LSTR	**Listvyanka**	**2.51**	**72**	*e*Pn		**Pn**	**07 06 27.1**	**+1.2**
LSTR				*e*			07 06 29.9	
LSTR				*e*Pg		**Pb**	**07 06 31.0**	**+0.8**
LSTR				*e*PgPg		**PbPb**	**07 06 35.2**	**+1.8**
LSTR				max			07 06 35.5	
	comp=N,150nm,1.0s							
LSTR				*e*Sn		**Sn**	**07 06 56.8**	**+0.2**
LSTR				*e*Sg		**Sg**	**07 07 04.1**	**-1.6**
LSTR				Smax			07 07 06.4	
	comp=N,667nm,0.9s							
BGT	**Bolshoye Golou**	**2.90**	**71**	*e*		**Pn**	**07 06 32.2**	**+0.9**
BGT				*e*Pg		**Pb**	**07 06 36.6**	**-0.3**
BGT				Pmax			07 06 37.4	
	comp=N,241nm,0.2s							
BGT				*e*PgPg		**Pg**	**07 06 40.9**	**+0.3**
BGT				*e*Sn		**Sn**	**07 07 07.4**	**+1.2**
BGT				*e*Sg		**Sb**	**07 07 15.5**	**+3.1**
BGT				Smax			07 07 19.0	
	comp=N,5µm,1.1s							
STDB	**Stepnoy Dvoret**	**3.51**	**71**	*e*Pg		**Pb**	**07 06 47.7**	**+0.6**
STDB				*e*Sg		**Sg**	**07 07 35.6**	**-1.9**
KAB	**Kabansk**	**3.65**	**74**	*e*Pn		**Pn**	**07 06 41.3**	**-0.3**
KAB				*e*Pg		**Pb**	**07 06 50.0**	**+0.4**
KAB				Pmax			07 06 50.9	
	comp=N,200nm,0.7s							
KAB				*e*			07 07 27.8	
KAB				*e*Sg		**Sg**	**07 07 39.1**	**-3.1**
KAB				Smax			07 07 44.6	
	comp=N,1µm,0.6s							
TRG	**Tyrgan**	**3.69**	**62**	*e*PN		**Pn**	**07 06 42.6**	**+0.5**
TRG				*e*			07 06 50.8	
TRG				*e*S		**Sn**	**07 07 25.5**	**-0.2**
TRG				*e*			07 07 38.6	
TRG				pmax		pmax		
	comp=Z,186nm,0.3s							
TRG				smax		smax		
	comp=E,571nm,0.6s							
TRG	**Tyrgan**	**3.69**	**62**	*e*Pn		**Pn**	**07 06 42.6**	**+0.5**
TRG				*e*Pg		**Pb**	**07 06 50.7**	**+0.4**
TRG				*e*PgPg		**PbPb**	**07 06 52.5**	**-0.9**
TRG				max			07 06 53.5	
	comp=E,185nm,0.3s							
TRG				*e*			07 06 56.2	
TRG				*e*Sn		**Sn**	**07 07 25.7**	**0.0**
TRG				*e*Sg		**Sb**	**07 07 38.7**	**+3.6**
TRG				Smax			07 07 43.7	
	comp=E,574nm,0.6s							
ZRHB	**Zarechye**	**4.08**	**68**	*e*Sg		**Sg**	**07 07 52.4**	**-3.4**
KZLR	**Kyzyl**	**4.12**	**280**	*e*Pg		**Pb**	**07 06 57.7**	**+0.2**
KZLR				*e*Sn		**Sn**	**07 07 34.0**	**-2.1**
KZLR				*e*Sg		**Sb**	**07 07 49.8**	**+2.5**
UUDB	**Ulan-Yde**	**4.24**	**78**	*e*Pn		**Pn**	**07 06 51.0**	**+1.4**
UUDB				*e*Pg		**Pb**	**07 07 01.0**	**+1.4**
UUDB				Pmax			07 07 12.1	
	comp=E,79nm,1.0s							
UUDB				*e*Sn		**Sn**	**07 07 39.0**	**-0.2**
UUDB				*e*			07 07 52.9	
UUDB				*e*Sg		**Sg**	**07 07 56.9**	**-4.1**
UUDB				Smax			07 08 08.6	
	comp=E,524nm,1.4s							
KELR	**Kotokel**	**4.68**	**67**	*e*Pg		**Pb**	**07 07 09.5**	**+2.4**
KELR				*e*Sg		**Sg**	**07 08 09.8**	**-5.3**
OGRR	**Ongureny**	**4.75**	**56**	*e*PN		**Pn**	**07 07 00.5**	**+3.8**
OGRR				*e*			07 07 13.1	
OGRR				*e*			07 08 12.6	
OGRR				pmax		pmax		
	comp=Z,111nm,0.5s							
OGRR				smax		smax		
	comp=E,478nm,1.0s							
OGRR	**Ongureny**	**4.75**	**56**	*e*		**Pn**	**07 07 00.6**	**+3.8**
OGRR				*e*Pg		**Pb**	**07 07 10.5**	**+2.1**
OGRR				Pmax			07 07 15.2	
	comp=E,112nm,0.5s							
OGRR				*e*			07 07 21.9	
OGRR				*e*			07 07 59.7	
OGRR				*e*Sg		**Sg**	**07 08 12.7**	**-4.9**
OGRR				*e*			07 08 16.9	
OGRR				max			07 08 17.5	
	comp=E,442nm,0.5s							
SONM	**Songino Array**	**4.86**	**131**	Pn		**Pn**	**07 07 00.1**	**+1.9**
	comp=E,0.8nm,0.3s,baz=312,slow=15,SNR=4.4							
SONM				Pg		**Pb**	**07 07 09.6**	**-0.6**
	comp=E,5.3nm,0.3s,baz=306,slow=17,SNR=19							
SONM				Lg		Lg	07 08 15.5	
	comp=E,31nm,0.3s,baz=322,slow=29,SNR=20							
SONM	**Songino Array**	**4.86**	**131**	*e*PN		**Pn**	**07 07 00.3**	**+2.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ULN	**Ulaanbaatar**	**5.16**	**127**	*i* PN		**Pn**	**07 07 02.7**	**+0.3**
MXMB	**Maximikha**	**5.22**	**63**	*e*Pg		**Pb**	**07 07 18.5**	**+2.1**
MXMB				*e*Sg		**Sg**	**07 08 27.6**	**-4.9**
SYVR	**Suvo**	**6.06**	**62**	*e*		**Pn**	**07 07 18.9**	**+4.2**
SYVR				*e*Pg		**Pb**	**07 07 33.2**	**+2.5**
SYVR				Pmax			07 07 42.2	
	comp=Z,22nm,1.4s							
SYVR				*e*			07 08 48.2	
SYVR				*e*Sg		**Sg**	**07 08 53.5**	**-6.0**
SYVR				Smax			07 09 08.5	
	comp=Z,91nm,1.7s							
NIZ	**Nizh Angarsk**	**6.89**	**45**	*e*PN		**Pn**	**07 07 26.5**	**+0.5**
NIZ				*e*			07 07 48.8	
NIZ				*e*			07 09 20.3	
NIZ				pmax		pmax		
	comp=Z,26nm,1.4s							
NIZ				smax		smax		
	comp=N,239nm,1.4s							
NIZ	**Nizh Angarsk**	**6.89**	**45**	*e*Pn		**Pn**	**07 07 26.3**	**+0.3**
NIZ				max			07 08 01.6	
	comp=N,26nm,0.8s							
NIZ				*e*			07 08 48.7	
NIZ				*e*Sg		**Sg**	**07 09 20.0**	**-6.0**
NIZ				Smax			07 09 25.1

KURK	**Kurchatov**	**14.10**	**277**	*i* P		**Pn**	**07 09 05.0**	**+0.4**
KURK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KURBB	**Kurchatov Arra**	**14.17**	**277**	Pn		**Pn**	**07 09 04.0**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=79,slow=13,SNR=8.2								
KURBB				Lg	Lg		07 13 04.5		
	comp=Z,0.0nm,0.3s,baz=81,slow=32,SNR=6.2								
BRVK	**Borovoye**	**18.88**	**288**	*i* P		**P**	**07 10 03.7**	**-1.5**
KLR	**Kul'dur**	**19.73**	**84**	Lg	Lg		07 16 10.2		
	comp=Z,0.1nm,0.3s,baz=222,slow=21,SNR=1.9								
AAK	**Ala-Archa**	**19.91**	**255**	LR	LR		07 17 56.5		
	comp=Z,71nm,18.5s,baz=303,slow=37								
AAK	**Ala-Archa**	**19.91**	**255**	*i* P		**P**	**07 10 15.8**	**-1.0**
AAK				pmax	pmax				
	comp=Z,5.0nm,2.1s								
USRK	**Ussuriysk Ar.**	**21.90**	**96**	LR	LR		07 20 18.8		
	comp=Z,52nm,19.2s,baz=38,slow=40								
KSRS	**Korea Array**	**23.49**	**115**	P		**P**	**07 10 57.7**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=317,slow=8.2,SNR=7.6								
KSRS	**Korea Array**	**23.49**	**115**	*eP*		**P**	**07 10 59.4**	**+4.6**
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**24.06**	**21**	P		**P**	**07 10 59.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=274,slow=19,SNR=8.2								
TIXI	**Tiksi**	**24.06**	**21**	*i* P		**P**	**07 10 59.7**	**-0.2**
TIXI				pmax	pmax				
	comp=Z,10.0nm,2.6s								
ARU	**Arti**	**25.28**	**299***c*	*i* P		**P**	**07 11 10.4**	**-0.8**
ARU				S	S		**07 15 38.6**	**+1.9**
ARU				SS	SnSn		**07 16 29.7**	**+2.4**
ARU				pmax	pmax				
	comp=Z,8.0nm,1.4s								
SEY	**Seymchan**	**29.48**	**47**	*i* P		**P**	**07 11 50.1**	**+1.3**
SEY				pmax	pmax				
	comp=Z,1.0nm,1.3s								
FINES	**FINESS Array B**	**40.52**	**314**	P		**P**	**07 13 21.0**	**-2.8**
	comp=Z,1.1nm,0.8s,baz=72,slow=8.9,SNR=4.9								
FINES	**FINESS Array B**	**40.52**	**314**	*eP*		**P**	**07 13 24.0**	**+0.2**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**43.53**	**299**	P		**P**	**07 13 46.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=54,slow=9.3,SNR=1.7								
NOA	**NORSAR Array B**	**47.16**	**318**	P		**P**	**07 14 15.8**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=55,slow=7.7,SNR=2.1								
WRA	**Warramunga Arr**	**76.62**	**148**	P		**P**	**07 17 37.6**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=344,slow=6.2,SNR=3.4								
ASAR	**Alice Springs**	**79.95**	**150**	P		**P**	**07 17 57.0**	**+2.9**
	comp=Z,0.8nm,0.9s,baz=346,slow=6.5,SNR=9.1								
TORD	**Torodi Ar. Bea**	**85.60**	**285**	P		**P**	**07 18 21.8**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=16,slow=5.5,SNR=1.7								

*IDC **26** 07:14:55.1±4.3, 30.31°S×178.19°W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/28, mbtmp3.9/4, Error ellipse: s-maj=106.6km s-min=25.8km az=132.0*

ISC 26 07:15:00.7±2.9, 30.2°S±0.2°×178.0°W±0.4, h50km, n6, σ1°21°, 7, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97**	**4**	P	**Pn**	**07 15 17.5**	**-0.5**
	124nm,0.3s,baz=144,slow=19,SNR=1.8						
RAO				Sn	**Sn**	**07 15 31.1**	**+0.4**
	366nm,0.3s,baz=97,slow=20,SNR=4.0						
CTA	**Charters Tower**	**33.77**	**279**	P	**P**	**07 21 39.1**	**+1.2**
	2.0nm,0.8s,baz=96,slow=9.2,SNR=1.3						
STKA	**Stephens Creek**	**34.52**	**257**	P	**P**	**07 21 44.8**	**+0.4**
	1.3nm,0.5s,baz=112,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**07 22 55.0**	**-1.4**
	0.4nm,0.5s,baz=102,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**07 23 03.1**	**-1.2**
	0.7nm,0.3s,baz=110,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**144.98**	**340**	PKPbc	**PKPdf**	**07 34 32.3**	**+0.7**
	0.3nm,0.3s,baz=20,slow=4.4,SNR=5.1						

NNC 26 07:27:33.5±0.4, 50.02°N×78.76°E, h0km, mb3.5, mpv3.1, 18C-12D, Error ellipse: s-maj=6.4km s-min=2.3km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.59**	**345**	⇑P	Pg	07 27 45.2	+0.4
KUR07				⇓S	Sg	07 27 53.9	+1.5
KUR06	**Kurchatov Arra**	**0.61**	**346**	⇓P	Pg	07 27 45.4	+0.3
KUR06				⇓S	Sg	07 27 54.2	+1.2
KUR14	**Kurchatov Arra**	**0.61**	**350**	⇑P	Pg	07 27 45.1	-0.1
KUR14				⇓S	Sg	07 27 53.8	+0.7
KUR15	**Kurchatov Arra**	**0.62**	**348**	⇑P	Pg	07 27 45.4	+0.1
KUR15				⇓S	Sg	07 27 54.1	+0.8
KURBB	**Kurchatov Arra**	**0.62**	**347**	⇑P	Pg	07 27 45.8	+0.3
	24nm,0.2s						
KURBB				⇑S	Sg	07 27 54.8	+1.2
	156nm,0.5s						
KUR16	**Kurchatov Arra**	**0.63**	**345**	⇓P	Pg	07 27 45.8	+0.1
KUR16				⇑S	Sg	07 27 54.6	+0.7
KUR05	**Kurchatov Arra**	**0.64**	**348**	⇑P	Pg	07 27 45.9	+0.1
KUR05				⇑S	Sg	07 27 54.9	+0.7
KUR17	**Kurchatov Arra**	**0.64**	**344**	⇑P	Pg	07 27 46.2	+0.4
KUR17				⇓S	Sg	07 27 55.3	+1.1
KUR04	**Kurchatov Arra**	**0.66**	**348**	⇑P	Pg	07 27 46.4	+0.2
KUR04				⇑S	Sg	07 27 55.9	+1.1
KURK	**Kurchatov**	**0.71**	**353**	⇑P	Pg	07 27 46.9	-0.2
	21nm,0.5s						
KURK				⇓S	Sg	07 27 57.4	+1.2
	27nm,0.4s						
MAKZ	**Makanchi**	**3.86**	**145**	⇓Pg	Pg	07 28 45.5	-2.0
	1.5nm,0.3s						
MAKZ				⇑Lg	Lg	07 29 33.5	
	9.1nm,0.6s						
MK31	**Makanchi Array**	**3.99**	**143**	⇑Pg	Pb	07 28 45.8	+1.0
	0.2nm,0.1s,baz=320,slow=13,SNR=21						
MK31				⇓Lg	Lg	07 29 41.6	
	5.0nm,0.5s,baz=328,slow=25,SNR=15						
OTUK	**Ortayu**	**4.57**	**250**	⇑Pn	Pn	07 28 44.8	+0.9
	2.4nm,0.3s						
OTUK				⇑Pg	Pg	07 28 58.1	-3.0
	0.3nm,0.2s						
OTUK				⇓Lg	Lg	07 29 56.4	
	5.4nm,0.4s						
BVA4	**Borovoye Array**	**6.03**	**303**	⇑Pn	Pn	07 29 05.0	+1.2
	0.9nm,0.3s						
BVA4				⇑Sn	Sn	07 30 13.4	-0.1
	3.8nm,0.5s						
BVA4				⇓Lg	Lg	07 30 40.8	
	4.5nm,0.5s						

IDC 26 07:33:16.6±3.8, 20.17°S×175.76°W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/32, mbtmp4.1/2, Error ellipse: s-maj=244.6km s-min=74.2km az=161.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.64**	**256**	P	P	07 41 47.5	+0.3
	1.8nm,0.5s,baz=96,slow=7.6,SNR=55						
ASAR				PcP	PcP	07 43 19.6	-1.6
	0.2nm,0.6s,baz=116,slow=4.2,SNR=2.4						
WRA	**Warramunga Arr**	**46.73**	**261**	P	P	07 41 47.6	-0.2
	0.8nm,0.4s,baz=97,slow=7.9,SNR=42						
AKASG	**Malin Array Be**	**143.71**	**333**	PKP	PKPdf	07 52 54.4	+0.9
	0.7nm,0.4s,baz=41,slow=3.7,SNR=11						

*NOU **26** 07:41:53.8, 38.34°S×176.22°E, h236km, MLv3.5/6, North Island, New Zealand*
*WEL **26** 07:42:03.2, 39.3°S±7.7°×177.6°E±, h147km±13km, M2.5/45, ML2.3/30, MLv2.5/45, Error ellipse: s-maj=0.0km s-min=0.0km az=90.1*

ISC 26 07:41:57.8±1.9, 38.47°S±0.05°×175.87°E±0.06, h199km±12km, n93, σ0°55°, 93, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRRZ	**Galatos Road**	**0.22**	**58**	P	**Pn**	**07 42 23.6**	**-0.5**
WPRZ	**Whakapapatarin**	**0.23**	**103**	P	**Pn**	**07 42 23.3**	**-0.8**
WATZ	**Wairara**	**0.27**	**204**	P	**Pn**	**07 42 23.9**	**-0.2**
HSRZ	**Hossack Road**	**0.33**	**62**	P	**Pn**	**07 42 23.7**	**-0.6**
ALRZ	**Allen Road**	**0.38**	**105**	P	**Pn**	**07 42 23.8**	**-0.6**
RATZ	**Rangitukua**	**0.41**	**191**	P	**Pn**	**07 42 24.0**	**-0.5**
RITZ	**Rihia Road**	**0.51**	**181**	P	**Pn**	**07 42 24.8**	**0.0**
KATZ	**Kakaramea**	**0.53**	**195**	P	**Pn**	**07 42 24.8**	**-0.2**
MRHZ	**Matea Rd**	**0.56**	**131**	P	**Pn**	**07 42 24.4**	**-0.7**
NTVZ	**North Tongarir**	**0.65**	**194**	P	**Pn**	**07 42 25.6**	**+0.1**
KRVZ	**Karewarewa**	**0.65**	**196**	P	**Pn**	**07 42 25.5**	**0.0**
TMVZ	**Te Maari**	**0.66**	**191**	P	**Pn**	**07 42 25.7**	**+0.1**
ETVZ	**East Tongariro**	**0.68**	**191**	P	**Pn**	**07 42 25.7**	**0.0**
WTVZ	**West Tongariro**	**0.68**	**199**	P	**Pn**	**07 42 25.6**	**-0.1**
TWVZ	**Taurewa**	**0.69**	**209**	P	**Pn**	**07 42 25.6**	**-0.2**
NNVZ	**North Ngauruho**	**0.69**	**197**	P	**Pn**	**07 42 25.8**	**0.0**
MUGZ	**Murupara**	**0.70**	**91**	P	**Pn**	**07 42 24.8**	**-0.8**
OTVZ	**Oturere**	**0.71**	**193**	P	**Pn**	**07 42 25.8**	**-0.1**
NGZ	**Ngauruhoe**	**0.74**	**197**	P	**Pn**	**07 42 26.1**	**0.0**
SNVZ	**South Ngauruho**	**0.74**	**194**	P	**Pn**	**07 42 25.9**	**-0.2**
TOZ	**Tahuroa Road**	**0.79**	**338**	P	**Pn**	**07 42 25.9**	**-0.3**
HIZ	**Hauiti**	**0.80**	**266**	P	**Pn**	**07 42 28.1**	**+1.9**
TUVZ	**Tukino**	**0.82**	**192**	P	**Pn**	**07 42 26.5**	**0.0**
FWVZ	**Far West T-bar**	**0.83**	**198**	P	**Pn**	**07 42 26.4**	**-0.3**
BKZ	**Black Stump Fm**	**0.85**	**145**	P	**Pn**	**07 42 26.3**	**-0.2**
BKZ	**Black Stump Fm**	**0.85**	**145**	P	**Pn**	**07 42 26.4**	**-0.2**
MTHZ	**Maungataniwha**	**0.85**	**117**	P	**Pn**	**07 42 26.4**	**-0.2**
TRVZ	**Turoa**	**0.87**	**197**	P	**Pn**	**07 42 26.9**	**+0.1**
RTZ	**Ruatahuna**	**0.88**	**100**	P	**Pn**	**07 42 26.2**	**-0.5**
WNVZ	**Wahianoa**	**0.89**	**194**	P	**Pn**	**07 42 26.9**	**0.0**
PKVZ	**Pokaka**	**0.92**	**206**	P	**Pn**	**07 42 27.0**	**0.0**
MOVZ	**Moawhango**	**0.94**	**186**	P	**Pn**	**07 42 26.9**	**-0.3**
NMHZ	**Naumai**	**0.96**	**131**	P	**Pn**	**07 42 28.0**	**+0.8**
URZ	**Urewera**	**0.99**	**78**	P	**Pn**	**07 42 26.5**	**-0.9**
URZ	**Urewera**	**0.99**	**78**	P	**Pn**	**07 42 26.5**	**-0.9**
BHHZ	**Black Hill Sta**	**1.03**	**172**	P	**Pn**	**07 42 27.6**	**-0.1**
KWHZ	**Kaweka Forest**	**1.05**	**156**	P	**Pn**	**07 42 28.2**	**+0.3**
RAHZ	**Arahi**	**1.05**	**116**	P	**Pn**	**07 42 28.2**	**+0.4**
VRZ	**Vera Road**	**1.09**	**233**	P	**Pn**	**07 42 28.4**	**+0.4**
MCHZ	**McNeill Hill**	**1.17**	**147**	P	**Pn**	**07 42 29.6**	**+1.0**
ARHZ	**Aropaoanui**	**1.18**	**133**	P	**Pn**	**07 42 29.5**	**+0.7**
SNGZ	**Shannon Statio**	**1.19**	**106**	P	**Pn**	**07 42 29.2**	**+0.3**
RAGZ	**Rawiri**	**1.21**	**92**	P	**Pn**	**07 42 29.0**	**+0.1**
KRHZ	**Kereru**	**1.24**	**162**	P	**Pn**	**07 42 29.6**	**+0.4**
MWZ	**Matawai**	**1.31**	**85**	P	**Pn**	**07 42 29.5**	**-0.3**
WAZ	**Wanganui**	**1.46**	**208**	P	**Pn**	**07 42 31.5**	**+0.5**
PNHZ	**Pukenui**	**1.47**	**170**	P	**Pn**	**07 42 31.4**	**+0.3**
MKAZ	**Moumakai**	**1.47**	**337**	P	**Pn**	**07 42 31.3**	**+0.1**
RIGZ	**Rimuhau**	**1.50**	**100**	P	**Pn**	**07 42 31.8**	**+0.4**
RUGZ	**Raukumara Rang**	**1.51**	**71**	P	**Pn**	**07 42 30.5**	**-1.1**
KAHZ	**Kahuranaki**	**1.54**	**150**	P	**Pn**	**07 42 32.7**	**+1.0**
TKGZ	**Te Karaka**	**1.55**	**90**	P	**Pn**	**07 42 32.6**	**+0.8**
TSZ	**Takapari Road**	**1.59**	**178**	P	**Pn**	**07 42 32.6**	**+0.4**
NEZ	**North Egmont**	**1.60**	**239**	P	**Pn**	**07 42 33.7**	**+1.3**
PKE	**Pukeiti**	**1.64**	**243**	P	**Pn**	**07 42 33.7**	**+1.0**
WPHZ	**Waipukurau**	**1.66**	**165**	P	**Pn**	**07 42 33.3**	**+0.5**
HAZ	**Te Kaha**	**1.67**	**65**	P	**Pn**	**07 42 32.3**	**-0.6**
ETAZ	**East Tamaki Re**	**1.69**	**333**	P	**Pn**	**07 42 33.2**	**+0.1**
AWAZ	**Awhitu Peninsu**	**1.71**	**325**	P	**Pn**	**07 42 33.7**	**+0.4**
KUZ	**Kuaotunu**	**1.72**	**356**	P	**Pn**	**07 42 33.6**	**0.0**
MHGZ	**Mahia Peninsul**	**1.73**	**114**	P	**Pn**	**07 42 34.3**	**+0.8**
PXZ	**Pawanui**	**1.74**	**154**	P	**Pn**	**07 42 34.3**	**+0.7**
WIAZ	**Waiheke Island**	**1.77**	**340**	P	**Pn**	**07 42 34.2**	**+0.2**
PKGZ	**Pakihiroa**	**1.83**	**72**	P	**Pn**	**07 42 36.3**	**+1.7**
DVHZ	**Dannevirke**	**1.84**	**173**	P	**Pn**	**07 42 34.8**	**+0.2**
MBAZ	**Motutapu North**	**1.86**	**335**	P	**Pn**	**07 42 35.1**	**+0.3**
PRHZ	**Porangahau**	**1.89**	**162**	P	**Pn**	**07 42 35.8**	**+0.7**
PUZ	**Puketiti**	**1.92**	**79**	P	**Pn**	**07 42 35.7**	**+0.3**
POWZ	**Post Office Ro**	**1.92**	**182**	P	**Pn**	**07 42 35.7**	**+0.3**
PRWZ	**Pori Road**	**2.09**	**178**	P	**Pn**	**07 42 37.7**	**+0.6**
MRZ	**Mangatainoka R**	**2.20**	**186**	P	**Pn**	**07 42 38.4**	**0.0**
BFZ	**Birch Farm**	**2.23**	**173**	P	**Pn**	**07 42 38.8**	**+0.2**
BFZ	**Birch Farm**	**2.23**	**173**	P	**Pn**	**07 42 39.0**	**+0.4**
TIWZ	**Tintock**	**2.31**	**180**	P	**Pn**	**07 42 39.7**	**+0.2**
OGWZ	**Otaki Gorge**	**2.41**	**193**	P	**Pn**	**07 42 40.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.44**	**186**	P	**Pn**	**07 42 40.8**	**-0.1**
KIW	**Kapiti Island**	**2.50**	**197**	P	**Pn**	**07 42 41.4**	**-0.2**
TMWZ	**Te Maipa**	**2.64**	**180**	P	**Pn**	**07 42 43.2**	**+0.1**
MTW	**Mount Morrison**	**2.70**	**186**	P	**Pn**	**07 42 43.5**	**-0.3**
CAW	**Cannon Point**	**2.71**	**193**	P	**Pn**	**07 42 43.8**	**-0.1**
DUWZ	**D'Urville Isla**	**2.78**	**212**	P	**Pn**	**07 42 44.6**	**-0.2**
PAWZ	**Paruwai Farm**	**2.93**	**187**	P	**Pn**	**07 42 46.2**	**-0.3**
TRWZ	**Traveller**	**2.93**	**183**	P	**Pn**	**07 42 46.5**	**0.0**
SNZO	**South Karori**	**2.98**	**197**	P	**Pn**	**07 42 46.8**	**-0.2**
MSWZ	**Moikau Station**	**2.98**	**189**	P	**Pn**	**07 42 46.8**	**-0.4**
TCW	**Tory Channel**	**3.00**	**204**	P	**Pn**	**07 42 47.1**	**-0.2**
PLWZ	**Palliser**	**3.13**	**189**	P	**Pn**	**07 42 48.5**	**-0.5**
TUWZ	**Tuamarina**	**3.31**	**206**	P	**Pn**	**07 42 50.6**	**-0.5**
NNZ	**Nelson**	**3.35**	**214**	P	**Pn**	**07 42 50.9**	**-0.6**
KHZ	**Kahutara**	**4.33**	**204**	P	**Pn**	**07 43 03.4**	**-0.1**
KHZ	**Kahutara**	**4.33**	**204**	P	**Pn**	**07 43 03.7**	**+0.1**
LTZ	**Lake Taylor**	**5.11**	**211**	P	**Pn**	**07 43 13.2**	**-0.3**
TMZ	**Timaru**	**6.95**	**210**	P	**Pn**	**07 43 36.4**	**-0.9**

*IDC **26** 07:53:29.4±2.6, 31.42°S×69.33°W, h96km±22km, mb3.3/2, mb1 3.6/6, mb1mx3.4/22, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.6/15, Error ellipse: s-maj=36.5km s-min=24.4km az=99.0*
*GUC **26** 07:53:31.1±0.6, 31.38°S×69.73°W, h169km±5km, ML4.0*
*NEIC **26** 07:53:31.2±1.8, 31.38°S±0.06°×69.39°W±0.07, h108km±8km, mb4.1/4, Md3.9(SJA), ML4.0(GUC), Error ellipse: s-maj=9.3km s-min=7.5km az=219.0*

ISC 26 07:53:30.7±0.8, 31.33°S±0.04°×69.34°W±0.06, h112km±8km, n58, σ1°37°, 74, mb3.8/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZON	**Zonda**	**0.61**	**111**	Pn	**Pn**	**07 53 48.3**	**-0.3**
CO03	**El Pedregal**	**1.25**	**293**		**Pn**	**07 53 56.4**	**+1.5**
CO03	**El Pedregal**	**1.25**	**293**	*eP*	**Pn**	**07 53 56.8**	**+1.9**
CO03				*i* S	**Sn**	**07 54 16.1**	**+2.9**
GO04	**Tololo Observa**	**1.71**	**312**		**Pn**	**07 54 01.2**	**+0.8**
GO04	**Tololo Observa**	**1.71**	**312**	*eP*	**Pn**	**07 54 01.8**	**+1.4**
GO04				*i* S	**Sn**	**07 54 24.9**	**+2.0**
VA03	**San Esteban**	**1.76**	**215**		**Pn**	**07 54 01.7**	**+0.8**
VA03	**San Esteban**	**1.76**	**215**	*eP*	**Pn**	**07 54 01.9**	**+1.0**
VA03				*i* S	**Sn**	**07 54 25.4**	**+1.5**
VA03				IAML		07 54 28.0	
	comp=E,1μm,0.5s						
VA06	**Catapilco**	**2.06**	**233**		**Pn**	**07 54 04.1**	**-0.5**
CO06	**Fray Jorge**	**2.07**	**288**	Pn	**Pn**	**07 54 04.6**	**-0.1**
CO06	**Fray Jorge**	**2.07**	**288**	*eP*	**Pn**	**07 54 05.0**	**+0.2**
CO06				*i* S	**Sn**	**07 54 29.5**	**-1.3**
CO06				IAML		07 54 41.4	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**2.13**	**212**		**Pn**	**07 54 05.6**	**+0.1**
CO05	**La Serena**	**2.16**	**310**		**Pn**	**07 54 06.1**	**+0.3**
ROC1	**El Roble**	**2.17**	**220**		**Pn**	**07 54 04.0**	**-2.2**
MT05	**Renca**	**2.37**	**210**	Pn	**Pn**	**07 54 08.9**	**+0.3**
MT05	**Renca**	**2.37**	**210**	*eP*	**Pn**	**07 54 09.1**	**+0.5**
MT05				*i* S	**Sn**	**07 54 37.7**	**+0.1**
MT05				IAML		07 54 41.2	
	comp=E,2μm,0.3s						
MT03	**Universidad Ad**	**2.37**	**204**		**Pn**	**07 54 09.2**	**+0.6**
MT03	**Universidad Ad**	**2.37**	**204**	*eP*	**Pn**	**07 54 09.2**	**+0.6**
MT03				*i* S	**Sn**	**07 54 37.9**	**+0.1**
MT03				IAML		07 54 42.9	
	comp=E,918nm,0.2s						
MT02	**Curacav**	**2.45**	**218**		**Pn**	**07 54 09.5**	**-0.1**
MT02	**Curacav**	**2.45**	**218**	*eP*	**Pn**	**07 54 09.1**	**-0.5**
MT02				*i* S	**Sn**	**07 54 38.0**	**-1.4**
VA01	**Torpederas**	**2.58**	**229**	Pn	**Pn**	**07 54 10.9**	**-0.4**
LCO	**Las Campanas**	**2.59**	**333**	Pn	**Pn**	**07 54 12.7**	**+1.0**
LMEL	**Las Melosas**	**2.61**	**196**		**Pn**	**07 54 12.1**	**+0.3**
LMEL	**Las Melosas**	**2.61**	**196**	*eP*	**Pn**	**07 54 12.6**	**+0.8**
LMEL				*i* S	**Sn**	**07 54 44.8**	**+1.4**
LMEL				IAML		07 54 54.6	
	comp=N,281nm,0.7s						
MT09	**Talagante**	**2.81**	**209**		**Pn**	**07 54 14.1**	**-0.2**
MT09	**Talagante**	**2.81**	**209**	*eP*	**Pn**	**07 54 14.0**	**-0.4**
MT09				*i* S	**Sn**	**07 54 46.6**	**-1.3**
MT09				IAML		07 54 51.7	
	comp=N,502nm,0.1s						
BO04	**La Punta**	**2.86**	**202**		**Pn**	**07 54 14.6**	**-0.4**
BO04	**La Punta**	**2.86**	**202**	*eP*	**Pn**	**07 54 15.1**	**+0.2**
BO04				*i* S	**Sn**	**07 54 48.6**	**-0.4**
BO04				IAML		07 54 50.6	
	comp=E,361nm,0.6s						
MT01	**Popeta**	**3.00**	**212**		**Pn**	**07 54 15.4**	**-1.3**
MT01	**Popeta**	**3.00**	**212**	*eP*	**Pn**	**07 54 15.7**	**-1.1**
MT01				*i* S	**Sn**	**07 54 49.9**	**-2.3**
VA05	**Santo Domingo**	**3.01**	**219**	Pn	**Pn**	**07 54 15.9**	**-1.0**
BO01	**Tunca**	**3.39**	**205**	Pn	**Pn**	**07 54 20.9**	**-1.0**
BO01	**Tunca**	**3.39**	**205**	*eP*	**Pn**	**07 54 20.6**	**-1.3**
BO01				*i* S	**Sn**	**07 54 59.2**	**-2.2**
BO01				IAML		07 55 00.9	
	comp=E,88nm,0.2s						
AC04	**Llanos de Chal**	**3.46**	**334**	Pn	**Pn**	**07 54 23.0**	**+0.1**
AC04	**Llanos de Chal**	**3.46**	**334**	*eP*	**Pn**	**07 54 23.1**	**+0.1**
AC04				*i* S	**Sn**	**07 55 02.6**	**-0.6**
BO02	**Sierra Bellavi**	**3.66**	**199**	Pn	**Pn**	**07 54 24.7**	**-0.8**
BO02	**Sierra Bellavi**	**3.66**	**199**	*eP*	**Pn**	**07 54 25.0**	**-0.6**
BO02				*i* S	**Sn**	**07 55 06.1**	**-1.9**
GO03	**Copiap**	**3.81**	**348**		**Pn**	**07 54 28.0**	**+0.4**
AC06	**Mina Casimiro**	**4.06**	**347**		**Pn**	**07 54 31.6**	**+0.7**
GO05	**Huala**	**4.26**	**210**		**Pn**	**07 54 32.1**	**-1.5**
AC02	**Maricunga**	**4.48**	**2**	Pn	**Pn**	**07 54 37.9**	**+0.8**
AC02	**Maricunga**	**4.48**	**2**	*eP*	**Pn**	**07 54 38.6**	**+1.5**
AC02				*i* S	**Sn**	**07 55 29.9**	**+1.3**
ML02	**Panimavida**	**4.75**	**201**	Pn	**Pn**	**07 54 38.3**	**-1.8**
AC01	**Pan de Azucar**	**5.28**	**348**	Pn	**Pn**	**07 54 47.2**	**-0.2**
GO02	**Mina Guanaco**	**6.15**	**358**	Pn	**Pn**	**07 54 59.1**	**-0.4**
LVC	**Limon Verde**	**8.70**	**3**	P	**Pn**	**07 55 31.8**	**-2.2**
	comp=E,1.4nm,0.3s,baz=163,slow=7.0,SNR=14						
LVC				S	**Sn**	**07 57 04.2**	**-6.3**
	comp=E,0.2nm,0.3s,baz=45,slow=20,SNR=1.2						
LVC	**Limon Verde**	**8.70**	**3**		**Pn**	**07 55 32.4**	**-1.7**
PLCA	**Paso Flores**	**9.43**	**186**	P	**Pn**	**07 55 42.0**	**-1.6**
	comp=E,0.1nm,0.3s,baz=0.0,slow=11,SNR=1.2						
PB09	**IPOC Station P**	**9.50**	**1**	Pn	**Pn**	**07 55 43.6**	**-1.1**
CPUP	**Villa Florida**	**11.65**	**68**	P	**Pn**	**07 56 13.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=203,slow=8.1,SNR=4.1						
CPUP				LR	LR	08 01 11.4	
	comp=E,82nm,18.8s,baz=185,slow=40						
LPAZ	**La Paz**	**15.02**	**4**	P	**Pn**	**07 56 59.1**	**+1.4**
	comp=E,0.4nm,0.3s,baz=187,slow=7.9,SNR=21						
ZARC	**Zaragoza, Cauc**	**38.96**	**351**	P	**P**	**08 00 46.7**	**+0.6**
ZARC				IAmb	IAmb	08 01 13.8	
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**68.60**	**328**	P	**P**	**08 04 23.6**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=146,slow=6.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**81.15**	**69**	P	**P**	**08 05 34.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=271,slow=5.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**81.15**	**69**	IAmb	IAmb	08 05 35.3	
	comp=Z,1.8nm,0.9s						
ASAR	**Alice Springs**	**120.95**	**205**	PKP	**PKPdf**	**08 12 09.9**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=136,slow=1.3,SNR=4.4						
WRA	**Warramunga Arr**	**124.18**	**207**	PKP	**PKPdf**	**08 12 16.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=154,slow=1.8,SNR=18						
ZALV	**Zalesovo Beam**	**150.76**	**32**	PKPbc	**PKPbc**	**08 13 10.6**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=294,slow=2.6,SNR=10						
MKAR	**Makanchi Array**	**153.29**	**47**	PKPbc	**PKPbc**	**08 13 15.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=322,slow=3.4,SNR=4.8						
MKAR				PKPab	**PKPab**	**08 13 28.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=284,slow=3.7,SNR=5.8

BLB Lg Lg 08 39 22.5
3.7nm,0.9s

SJA ***26*** *08:56:24.8±0.8,30.˙71S×71.˙85W,h10km±4km,ML4.4, MW4.1*
GUC ***26*** *08:56:30.7±0.6,30.˙74S×71.˙45W,h51km±1km,ML4.5, MW4.5*
VAO ***26*** *08:56:30.6±0.4,30.˙74S×71.˙46W,h38km,mb4.4*
IDC ***26*** *08:56:30.5±3.2,30.˙74S×71.˙37W,h38km±27km,mb4.1/13, mb1 4.2/17,mb1mx4.1/28,mbtmp4.2/17,ML4.0/4,MS3.5/10, Ms1 3.5/10,ms1mx3.2/50,Error ellipse: s-maj=20.9km s-min=13.9km az=89.0*
NEIC ***26*** *08:56:31.1±1.4,30.˙72S±0.˙04×71.˙51W±0.˙09,h38km±3km, mb4.7/36,Mwr4.3/46,Mwr4.5(GUC),Error ellipse: s-maj=11.1km s-min=6.3km az=98.0*
NEIC ***26*** *08:56:31.1,30.˙73S×71.˙51W,h49km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.95; Mθθ0.24; Mϕϕ-3.19; Mrθ0.37; Mθϕ-0.08; Mϕr1.01; Fault plane solution: M₀3.26000×10¹⁵ NP1:φs174.38000°, δ36.25000°,λ78.98000°. NP2:φs7.96000°,δ54.52000°, λ97.98000°. Principal axes: T 3.1535, Plg79.0000°, Azm308.0000°; N 0.2005, Plg6.0000°, Azm183.0000°; P -3.3540, Plg9.0000°, Azm92.0000°;*
ISC 26 08:56:29.7±0.7,30.˙75S±0.˙02×71.˙43W±0.˙03,h32km±2km, n208,σ1$75/243,mb4.8/24,MS3.9/5,7C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.19**	**292**			**Pn**		**08 56 38.6**	**+2.2**
CO06	**Fray Jorge**	**0.19**	**292**	⇑*i*P		**Pn**		**08 56 38.6**	**+2.2**
CO06				*i* S		**Sb**		**08 56 44.1**	**+3.6**
CO06				IAML				08 56 45.2	
	comp=E,62μm,0.5s								
CO03	**El Pedregal**	**0.64**	**99**			**Pn**		**08 56 44.2**	**+1.6**
CO03	**El Pedregal**	**0.64**	**99**	⇓*i*P		**Pn**		**08 56 44.2**	**+1.6**
CO03				*i* S		**Sn**		**08 56 54.0**	**+2.2**
CO03	**El Pedregal**	**0.64**	**99**	*e*P		**Pn**		**08 56 44.0**	**+1.4**
CO03				*e*S		**Sn**		**08 56 54.3**	**+2.5**
CO03				IAML				08 56 56.6	
	comp=Z,10μm,1.3s								
GO04	**Tololo Observa**	**0.79**	**44**			**Pb**		**08 56 46.4**	**+1.3**
GO04	**Tololo Observa**	**0.79**	**44**	*i* P		**Pb**		**08 56 46.1**	**+1.0**
GO04				*i* S		**Sn**		**08 56 57.8**	**+2.2**
GO04				IAML				08 57 03.4	
	comp=N,64μm,0.6s								
GO04	**Tololo Observa**	**0.79**	**44**	*e*P		**Pn**		**08 56 41.5**	**-3.3**
GO04				*e*P		**Pn**		**08 56 46.0**	**+1.2**
CO05	**La Serena**	**0.84**	**11**			**Pb**		**08 56 46.5**	**+0.7**
CO05	**La Serena**	**0.84**	**11**	⇓*i*P		**Pb**		**08 56 46.7**	**+0.9**
CO05				*i* S		**Sb**		**08 56 57.2**	**+0.4**
AROD	**Rodeo**	**1.78**	**72**	*e*P		**Pb**		**08 57 03.0**	**+1.1**
AROD				*e*S		**Sn**		**08 57 20.9**	**+0.7**
VA06	**Catapilco**	**1.81**	**177**			**Pn**		**08 57 00.0**	**+1.3**
VA06	**Catapilco**	**1.81**	**177**	*i* P		**Pn**		**08 57 00.4**	**+1.7**
VA06				*i* S		**Sn**		**08 57 22.6**	**+2.1**
VA06				IAML				08 57 37.8	
	comp=E,5μm,0.5s								
LCO	**Las Campanas**	**1.84**	**20**			**Pn**		**08 57 00.9**	**+1.7**
LCO	**Las Campanas**	**1.84**	**20**	⇓*i*P		**Pb**		**08 57 01.2**	**-1.6**
LCO				*e*S		**Sb**		**08 57 23.8**	**-1.8**
LCO	**Las Campanas**	**1.84**	**20**	*e*P		**Pn**		**08 57 01.0**	**+1.7**
ACCO	**Cerro Coronel**	**2.04**	**86**	*e*P		**Pb**		**08 57 07.0**	**+0.7**
ACDV	**Cuesta del Vie**	**2.07**	**75**	*e*P		**Pb**		**08 57 07.0**	**+0.3**
ACDV				*e*S		**Sb**		**08 57 36.5**	**+4.3**
ACDV				IAML				08 57 40.9	
	comp=Z,956nm,0.5s								
RTLS	**Leoncito**	**2.10**	**120**	*e*P		**Pb**		**08 57 07.0**	**-0.3**
RTLS				*e*P		**Pb**		**08 57 07.5**	**+0.2**
RTLS				IAML				08 57 45.2	
	comp=Z,1μm,0.6s								
VA03	**San Esteban**	**2.15**	**160**			**Pn**		**08 57 05.8**	**+2.4**
VA03	**San Esteban**	**2.15**	**160**	*i* P		**Pn**		**08 57 05.5**	**+2.1**
VA03				*e*S		**Sn**		**08 57 32.0**	**+3.1**
VA03				IAML				08 57 38.0	
	comp=E,4μm,0.8s								
VA03	**San Esteban**	**2.15**	**160**	*e*P		**Pn**		**08 57 05.9**	**+2.6**
VA03				*e*S		**Sb**		**08 57 35.7**	**+1.5**
VA03				IAML				08 57 53.2	
	comp=Z,2μm,0.7s								
ROCH	**El Roble**	**2.25**	**171**	⇑*i*P		**Pn**		**08 57 06.8**	**+1.9**
ROCH				*e*S		**Sn**		**08 57 34.7**	**+3.0**
ROCH				IAML				08 57 41.5	
	comp=N,3μm,0.5s								
ROC1	**El Roble**	**2.25**	**171**			**Pn**		**08 57 05.0**	**0.0**
ROC1	**El Roble**	**2.25**	**171**	*e*P		**Pn**		**08 57 04.7**	**-0.3**
ROC1				*e*S		**Sn**		**08 57 33.0**	**+1.2**
VA01	**Torpederas**	**2.28**	**185**			**Pn**		**08 57 05.8**	**+0.8**
VA01	**Torpederas**	**2.28**	**185**	IAML				08 57 43.0	
	comp=E,2μm,0.9s								
AUSP	**Uspallata**	**2.28**	**131**	*e*P		**Pb**		**08 57 09.0**	**-1.4**
AUSP				*e*P		**Pb**		**08 57 09.9**	**-0.5**
AUSP				*e*S		**Sb**		**08 57 38.0**	**-0.3**
PEL	**Peldehue**	**2.47**	**165**			**Pn**		**08 57 09.9**	**+2.2**
PEL	**Peldehue**	**2.47**	**165**	*e*P		**Pn**		**08 57 10.1**	**+2.3**
PEL				*e*S		**Sn**		**08 57 40.0**	**+3.1**
PEL	**Peldehue**	**2.47**	**165**	*e*P		**Pn**		**08 57 10.0**	**+2.2**
PEL				*e*S		**Sb**		**08 57 41.5**	**-2.1**
ZON	**Zonda**	**2.49**	**109**	Pn		**Pb**		**08 57 11.9**	**-1.8**
ZON	**Zonda**	**2.49**	**109**	*e*P		**Pn**		**08 57 07.0**	**-1.0**
ZON				*e*P		**Pb**		**08 57 12.8**	**-1.0**
ZON				*e*S		Sb		08 57 58.0	+14
ZON				IAML				08 58 07.5	
	comp=Z,1μm,0.6s								
MT02	**Curacav**	**2.52**	**175**			**Pn**		**08 57 10.4**	**+2.0**
MT02	**Curacav**	**2.52**	**175**	*e*P		**Pn**		**08 57 09.6**	**+1.2**
MT02				*e*S		**Sn**		**08 57 40.3**	**+2.3**
MT02				IAML				08 57 55.8	
	comp=E,1μm,0.4s								
MT02	**Curacav**	**2.52**	**175**	*e*P		**Pn**		**08 57 09.0**	**+0.6**
MT02				*e*S		**Sb**		**08 57 45.4**	**+0.6**
MT02				*e*S		**Sb**		**08 57 50.7**	**+5.9**
MT02				IAML				08 57 53.0	
	comp=Z,945nm,0.5s								
AC04	**Llanos de Chal**	**2.55**	**7**			**Pn**		**08 57 10.2**	**+1.4**
AC04	**Llanos de Chal**	**2.55**	**7**	⇑*i*P		**Pn**		**08 57 10.5**	**+1.6**
AC04				*i* S		**Sn**		**08 57 40.5**	**+1.7**
AC04				IAML				08 57 51.0	
	comp=E,3μm,0.5s								
AC04	**Llanos de Chal**	**2.55**	**7**	*e*P		**Pn**		**08 57 10.0**	**+1.2**
AC04				*e*P		**Pn**		**08 57 10.4**	**+1.6**
AC04				*e*S		**Sb**		**08 57 53.7**	**+8.0**
AC04				IAML				08 57 58.7	
	comp=Z,2μm,0.8s								
RTLL	**Cerro Villicun**	**2.60**	**104**	*e*P		**Pn**		**08 57 13.0**	**+3.5**
RTLL				*e*P		**Pb**		**08 57 13.7**	**-2.0**
RTLL				*e*S		**Sb**		**08 57 50.7**	**+3.5**
MT05	**Renca**	**2.70**	**168**			**Pn**		**08 57 12.9**	**+2.0**
MT05	**Renca**	**2.70**	**168**	⇑*i*P		**Pn**		**08 57 13.2**	**+2.2**
MT05				IAML				08 58 00.2	
	comp=E,3μm,0.2s								
MT05	**Renca**	**2.70**	**168**	*e*P		**Pn**		**08 57 13.0**	**+2.0**
MT05				*e*S		**Sb**		**08 57 50.5**	**+0.4**
MT05				IAML				08 57 56.1	
	comp=Z,1μm,0.9s								
RTCV	**Cerro Valdivia**	**2.71**	**115**	*e*P		**Pb**		**08 57 16.0**	**-1.5**
RTCV				*e*S		**Sb**		**08 57 53.5**	**+3.2**
FCH	**Farellones**	**2.75**	**160**	*e*P		**Pn**		**08 57 14.8**	**+2.9**
FCH				*e*S		**Sn**		**08 57 47.8**	**+3.6**
FCH				IAML				08 57 55.7	
	comp=E,1μm,0.7s								
MT03	**Universidad Ad**	**2.85**	**164**			**Pn**		**08 57 15.4**	**+2.4**
MT03	**Universidad Ad**	**2.85**	**164**	⇑*i*P		**Pn**		**08 57 15.5**	**+2.5**
MT03				*e*S		**Sn**		**08 57 48.7**	**+2.5**
MT03				IAML				08 58 03.5	
	comp=N,2μm,0.5s								
MT03	**Universidad Ad**	**2.85**	**164**	*e*P		**Pn**		**08 57 15.0**	**+2.0**
MT03				*e*S		**Sb**		**08 57 53.7**	**-0.7**
MT03				IAML				08 58 15.6	
	comp=Z,2μm,0.7s								
ASAL	**Salagasta**	**2.88**	**130**	*e*P		**Pb**		**08 57 18.0**	**-2.3**
ASAL				*e*S		Sb		08 58 10.4	+15
VA05	**Santo Domingo**	**2.91**	**183**			**Pn**		**08 57 14.7**	**+1.0**
VA05	**Santo Domingo**	**2.91**	**183**	*e*P		**Pn**		**08 57 14.3**	**+0.6**
VA05				IAML				08 58 02.7	
	comp=E,1μm,0.6s								
ARCO	**CERRO ARCO**	**2.98**	**135**	*e*P		**Pb**		**08 57 20.0**	**-2.2**
ARCO				*e*S		**Sb**		**08 57 59.5**	**+1.3**
ARCO				IAML				08 58 09.6	
	comp=Z,995nm,0.7s								
MT09	**Talagante**	**3.04**	**173**			**Pn**		**08 57 17.7**	**+1.9**
MT09	**Talagante**	**3.04**	**173**	⇑*i*P		**Pn**		**08 57 17.7**	**+1.9**
MT09				*i* S		**Sn**		**08 57 53.4**	**+2.2**
MT09				IAML				08 58 09.9	
	comp=N,2μm,0.8s								
MT01	**Popeta**	**3.11**	**177**			**Pn**		**08 57 17.9**	**+1.3**
MT01	**Popeta**	**3.11**	**177**	⇑*e*P		**Pn**		**08 57 17.8**	**+1.3**
MT01				IAML				08 58 14.0	
	comp=E,846nm,0.2s								
MT01	**Popeta**	**3.11**	**177**	*e*P		**Pn**		**08 57 17.9**	**+1.3**
MT01				*e*P		**Pn**		**08 57 18.0**	**+1.4**
MT01				*e*S		**Sn**		**08 57 56.0**	**+3.3**
MT01				IAML				08 58 03.6	
	comp=E,519nm,0.7s								
LMEL	**Las Melosas**	**3.26**	**162**			**Pn**		**08 57 21.9**	**+3.2**
LMEL	**Las Melosas**	**3.26**	**162**	*e*P		**Pn**		**08 57 21.2**	**+2.4**
LMEL				*e*S		**Sn**		**08 57 58.8**	**+2.2**
LMEL				IAML				08 58 17.0	
	comp=N,804nm,0.2s								
BO04	**La Punta**	**3.31**	**168**			**Pn**		**08 57 21.1**	**+1.8**
BO04	**La Punta**	**3.31**	**168**	*e*P		**Pn**		**08 57 21.2**	**+1.9**
BO04				*e*S		**Sn**		**08 57 59.5**	**+2.0**
BO04				IAML				08 58 20.8	
	comp=N,686nm,0.6s								
GO03	**Copiap**	**3.31**	**19**			**Pn**		**08 57 21.2**	**+1.9**
GO03	**Copiap**	**3.31**	**19**	*e*P		**Pn**		**08 57 21.2**	**+1.9**
GO03	**Copiap**	**3.31**	**19**	*e*P		**Pn**		**08 57 21.6**	**+2.3**
GO03				*e*S		**Sn**		**08 57 59.5**	**+1.9**
GO03				*e*S		**Sn**		**08 58 00.9**	**+3.4**
AVFE	**Valle Fertil**	**3.42**	**90**	*e*P		**Pn**		**08 57 24.4**	**+3.5**
AVFE				*e*S		**Sb**		**08 58 08.9**	**-1.8**
AVFE				IAML				08 58 16.7	
	comp=Z,2μm,0.4s								
VCA	**Vinchina**	**3.44**	**55**	*e*P		**Pb**		**08 57 27.0**	**-3.1**
VCA				*e*S		**Sb**		**08 58 12.7**	**+1.2**
VCA				*e*S		**Sb**		**08 58 12.8**	**+1.2**
VCA				*e*S		**Sb**		**08 58 13.4**	**+1.9**
VCA				IAML				08 58 23.2	
	comp=Z,3μm,0.3s								
AC06	**Mina Casimiro**	**3.50**	**16**			**Pn**		**08 57 23.6**	**+1.6**
BO01	**Tunca**	**3.65**	**176**			**Pn**		**08 57 25.2**	**+1.3**
BO01	**Tunca**	**3.65**	**176**	*e*P		**Pn**		**08 57 25.0**	**+1.1**
BO01	**Tunca**	**3.65**	**176**	*e*P		**Pn**		**08 57 25.1**	**+1.3**
BO01				*e*S		**Sn**		**08 58 09.9**	**+4.1**
BO01				*e*S		**Sn**		**08 58 13.4**	**+7.6**
BO01				IAML				08 58 33.3	
	comp=Z,392nm,0.7s								
BO02	**Sierra Bellavi**	**4.07**	**173**			**Pn**		**08 57 31.1**	**+1.2**
BO02	**Sierra Bellavi**	**4.07**	**173**	*e*P		**Pn**		**08 57 31.2**	**+1.4**
BO02				*e*S		**Sn**		**08 58 17.8**	**+1.4**
BO02				IAML				08 58 32.4	
	comp=N,669nm,0.5s								
BO02	**Sierra Bellavi**	**4.07**	**173**	*e*P		**Pn**		**08 57 31.0**	**+1.2**
GO05	**Huala**	**4.27**	**186**			**Pn**		**08 57 32.1**	**-0.4**
ML02	**Panimavida**	**5.00**	**180**			**Pn**		**08 57 42.9**	**+0.4**
GO02	**Mina Guanaco**	**5.79**	**17**			**Pn**		**08 57 54.4**	**+0.7**
GO02	**Mina Guanaco**	**5.79**	**17**	*e*S		**Sb**		**08 59 13.4**	**-5.8**
H03N1	**Juan Fernandez**	**6.90**	**245**	Pn		**Pn**		**08 58 08.1**	**-0.2**
	baz=115,slow=19,SNR=129								
H03N1					T	T		09 05 06.6	
	baz=73,slow=72,SNR=1544								
H03N3	**Juan Fernandez**	**6.91**	**245**	Pn		**Pn**		**08 58 07.9**	**-0.6**
	baz=115,slow=19,SNR=169								
H03N3					T	T		09 04 58.7	
	baz=73,slow=72,SNR=978								
H03N2	**Juan Fernandez**	**6.91**	**245**	Pn		**Pn**		**08 58 08.2**	**-0.2**
	baz=115,slow=19,SNR=106								
H03N2					T	T		09 05 05.7	
	baz=73,slow=72,SNR=1562								
H03S3	**Juan Fernandez**	**7.04**	**242**	Pn		**Pn**		**08 58 09.1**	**-1.1**
	SNR=6.7								
H03S1	**Juan Fernandez**	**7.05**	**242**	Pn		**Pn**		**08 58 09.2**	**-1.2**
	SNR=8.6								
H03S2	**Juan Fernandez**	**7.06**	**242**	Pn		**Pn**		**08 58 09.2**	**-1.3**
	SNR=7.3								
PB15	**IPOC Station P**	**7.71**	**14**			**Pn**		**08 58 20.4**	**+0.5**
LC01	**Cunco**	**8.14**	**182**			**Pn**		**08 58 26.4**	**+0.8**
LVC	**Limon Verde**	**8.41**	**16**	Pn		**Pn**		**08 58 28.0**	**-1.7**
	comp=N,1.1nm,0.3s,baz=197,slow=9.7,SNR=8.7								
LVC					Sn	**Sn**		**09 00 02.9**	**-0.8**
	comp=N,3.2nm,0.3s,baz=186,slow=10,SNR=2.5								
LVC					LR	LR		09 01 36.6	
	comp=N,191nm,20.4s,baz=200,slow=36								
LVC	**Limon Verde**	**8.41**	**16**	Pn		**Pn**		**08 58 30.0**	**+0.4**
PB09	**IPOC Station P**	**9.12**	**13**	*e*P		**Pn**		**08 58 39.8**	**+0.4**
PB09				*e*P		**Pn**		**08 58 39.8**	**+0.4**
PLCA	**Paso Flores**	**9.99**	**176**	Pn		**Pn**		**08 58 51.5**	**+0.5**
	comp=N,0.2nm,0.3s,baz=348,slow=10,SNR=7.8								
PLCA					LR	LR		09 02 39.0	
	comp=N,225nm,19.1s,baz=337,slow=37								
PLCA	**Paso Flores**	**9.99**	**176**	*e*P		**Pn**		**08 58 52.1**	**+1.1**
PB12	**IPOC Station P**	**12.12**	**5**			**Pn**		**08 59 20.1**	**-0.1**
PB16	**IPOC Station P**	**12.48**	**8**			**Pn**		**08 59 25.2**	**-0.4**
ITQB	**Itaqui**	**12.85**	**89**	*e*P		**Pn**		**08 59 29.7**	**-0.3**
CPUP	**Villa Florida**	**13.15**	**74**	Pn		**Pn**		**08 59 33.2**	**-0.9**
	comp=N,0.3nm,0.3s,baz=45,slow=9.2,SNR=2.1								
CPUP					Sn	**Sn**		**09 02 02.0**	**+2.7**
	comp=N,0.4nm,0.3s,baz=306,slow=7.7,SNR=1.9								
CPUP					LR	LR		09 05 07.3	
	comp=N,211nm,18.5s,baz=246,slow=39								
CPUP	**Villa Florida**	**13.15**	**74**	*e*P		**Pn**		**08 59 34.9**	**+0.7**
LPAZ	**La Paz**	**14.70**	**13**	Pn		**Pn**		**08 59 58.0**	**+2.0**
	comp=N,0.4nm,0.3s,baz=200,slow=5.5,SNR=21								
LPAZ	**La Paz**	**14.70**	**13**	Pn		**Pn**		**08 59 55.9**	**-0.2**
PLTB	**Pedras Altas**	**15.28**	**98**	*e*P		**Pn**		**09 00 04.0**	**+1.0**
CPSB	**Cacapava Do Su**	**15.50**	**93**	*e*P		**Pn**		**09 00 06.0**	**+0.1**
ITAB	**Concordia**	**17.24**	**83**	*e*P		**Pn**		**09 00 28.4**	**+0.3**
AQDB	**Aquidauana**	**17.46**	**58**	P		**Pn**		**09 00 31.2**	**+0.3**
AQDB	**Aquidauana**	**17.46**	**58**	*e*P		**Pn**		**09 00 30.8**	**-0.1**
SIV	**San Ignacio**	**17.48**	**35**	LR		LR		09 08 08.8	
	comp=N,96nm,20.8s,baz=201,slow=40								
PTGB	**Pitanga**	**18.15**	**75**	*e*P		**P**		**09 00 41.7**	**+2.2**
TRCB	**Terra Rica**	**18.54**	**69**	*e*P		**Pn**		**09 00 44.6**	**+0.5**
PTLB	**Pontes e Lacer**	**18.94**	**39**	*e*P		**P**		**09 00 48.7**	**+0.6**
NNA	**Nana**	**19.33**	**344**	LR		LR		09 06 28.8	
	comp=N,68nm,21.1s,baz=157,slow=31								
TER01	**Tubarao-SC**	**19.50**	**89**	*e*P		**P**		**09 00 55.0**	**+0.7**
PCMB	**Pacaembu**	**20.23**	**68**	*e*P		**P**		**09 01 02.9**	**+0.7**
TIJ01	**Guaruva-PR**	**20.50**	**80**	*e*P		**P**		**09 01 06.3**	**+1.1**
VILB	**Vilhena**	**20.52**	**33**	*e*P		**P**		**09 01 05.8**	**+0.4**
SALV	**Santo Antonio**	**20.63**	**48**	*e*P		**P**		**09 01 06.7**	**+0.2**
MG05	**Puerto Natales**	**20.93**	**182**	P		Pn		09 01 11.3	-0.8
MG05				IAML		IAmb	IAmb	09 01 17.2	
	comp=Z,33nm,1.4s								
ETMB	**Extrema**	**21.38**	**14**	*e*P		**P**		**09 01 15.6**	**+1.0**
ITRB	**Iturama**	**21.96**	**65**	*e*P		**P**		**09 01 20.8**	**-0.1**
PET01	**Itanhaem-SP**	**22.34**	**79**	*e*P		**P**		**09 01 26.5**	**+1.6**
RCLB	**Rio Claro- Sao**	**22.89**	**75**	*e*P		**P**		**09 01 31.5**	**+0.7**
CZSB	**Cruzeiro do Su**	**22.93**	**357**	*e*P		**P**		**09 01 32.4**	**+1.3**
VAO	**Valinhos**	**23.11**	**76**	*e*P		**P**		**09 01 34.0**	**+0.9**
PDRB	**Porto dos Gac**	**23.41**	**39**	*e*P		**P**		**09 01 36.6**	**+0.6**
USHA	**Ushuaia**	**24.17**	**176**	P		**P**		**09 01 43.2**	**+0.4**
	comp=Z,10nm,0.7s,baz=10,slow=7.8,SNR=7.9								
CLDB	**Colider**	**24.53**	**40**	*e*P		**P**		**09 01 46.6**	**+0.1**
IPMB	**Ipameri, GO**	**24.61**	**64**	*e*P		**P**		**09 01 46.8**	**-0.5**
BSCB	**Bom Sucesso**	**25.82**	**74**	*e*P		**P**		**09 01 58.2**	**0.0**
BDFB	**Brasilia**	**26.17**	**60**	P		**P**		**09 02 01.4**	**-0.1**
	comp=Z,6.8nm,0.6s,baz=230,slow=8.1,SNR=13								
BDFB	**Brasilia**	**26.17**	**60**	P		**P**		**09 02 01.1**	**-0.3**
BDFB				IAML		IAmb	IAmb	09 02 01.5	
	comp=Z,25nm,1.5s								
VAS01	**Vassouras-RJ**	**26.37**	**78**	*e*P		**P**		**09 02 04.5**	**+1.3**
SNDB	**Serra Nova Dou**	**26.38**	**49**	*e*P		**P**		**09 02 04.2**	**+0.9**
TBTG	**Tabatinga, AM**	**26.46**	**3**	*e*P		**P**		**09 02 04.6**	**+0.8**
NPGB	**Novo Progresso**	**27.98**	**36**	*e*P		**P**		**09 02 17.1**	**-0.5**
DIAM	**Diamantina, MG**	**28.04**	**70**	*e*P		**P**		**09 02 18.4**	**+0.1**
CAM01	**Campos-RJ**	**28.06**	**79**	*e*P		**P**		**09 02 19.6**	**+1.3**
PEXB	**Peixe**	**28.31**	**54**	*e*P		**P**		**09 02 21.1**	**+0.5**
MACA	**Manacapuru-AM**	**29.25**	**22**	*e*P		**P**		**09 02 29.1**	**+0.2**
JANB	**Januaria**	**29.34**	**64**	*e*P		**P**		**09 02 29.5**	**-0.3**
ITTB	**Itaituba**	**30.12**	**33**	*e*P		**P**		**09 02 36.2**	**-0.4**
RIB01	**Linhares ES**	**30.23**	**75**	*e*P		**P**		**09 02 39.4**	**+1.8**
SDBA	**SAO DESIDERIO**	**30.55**	**59**	*e*P		**P**		**09 02 40.6**	**+0.1**
NAN01	**Guarapari, ES**	**31.17**	**73**	*e*P		**P**		**09 02 45.9**	**0.0**
PRPB	**Paraiapebas**	**31.77**	**44**	*e*P		**P**		**09 02 50.8**	**-0.4**
GUA01	**Guaratinga, BA**	**32.08**	**71**	*e*P		**P**		**09 02 53.3**	**-0.6**
CMC01	**Camacan, BA**	**32.97**	**70**	*e*P		**P**		**09 03 01.6**	**0.0**
MALB	**Monte Alegre**	**33.01**	**33**	*e*P		**P**		**09 03 01.2**	**-0.9**
NBIT	**Itapeh - BA**	**33.27**	**69**	*e*P		**P**		**09 03 04.4**	**+0.1**
GDU01	**Guandu, BA**	**33.84**	**67**	*e*P		**P**		**09 03 09.1**	**-0.2**
BOAV	**Boa Vista**	**34.56**	**19**	*e*P		**P**		**09 03 15.6**	**+0.1**
MCPB	**Macapa, AP**	**35.38**	**35**	*e*P		**P**		**09 03 23.5**	**+1.0**
ROSB	**Rosrio**	**37.85**	**48**	*e*P		**P**		**09 03 45.2**	**+1.6**
ZARC	**Zaragoza, Cauc**	**38.16**	**354**	P		**P**		**09 03 46.8**	**+0.6**
NBMA	**Muriti-CE**	**38.40**	**60**	*e*P		**P**		**09 03 49.2**	**+0.8**
NBPS	**Pedro II - PI**	**38.53**	**53**	*e*P		**P**		**09 03 49.1**	**-0.3**
MDP	**Montagnes des**	**39.92**	**30**	LR		LR		09 23 24.8	
	comp=Z,51nm,20.1s,baz=240,slow=40								
RCBR	**Riachuelo**	**41.55**	**61**	LR		LR		09 22 44.3	
	comp=Z,104nm,18.3s,baz=336,slow=38								
RCBR	**Riachuelo**	**41.55**	**61**	*e*P		**P**		**09 04 15.1**	**+0.7**
NBPV	**Pedro Velho**	**41.62**	**62**	*e*P		**P**		**09 04 16.3**	**+1.2**
MLPR	**Magueyes Islan**	**48.62**	**6**	P		**P**		**09 05 10.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.65**	**5**	P		**P**		**09 05 10.3**	**-0.4**
SNAA	**Sanae**	**54.41**	**159**	P		**P**		**09 05 53.2**	**-0.1**
SNAA				IAmb		IAmb		09 05 53.8	
	comp=Z,5.2nm,0.7s								
SNAA				PcP		**PcP**		**09 06 56.2**	**-0.5**
QSPA	**South Pole Qui**	**59.48**	**180**	P		**P**		**09 06 29.3**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=207,slow=0.9,SNR=26								
QSPA	**South Pole Qui**	**59.48**	**180**	P		**P**		**09 06 29.3**	**-0.1**
QSPA				IAmb		IAmb		09 06 30.8	
	comp=Z,6.2nm,1.1s								
SLBS	**Sierra La Lagu**	**65.52**	**321**	P		**P**		**09 07 11.2**	**+1.0**
V58A	**Windy Hill, Pi**	**66.58**	**353**	P		**P**		**09 07 16.5**	**-0.1**
V58A				IAmb		IAmb		09 07 22.5	
	comp=Z,11nm,1.2s								
JCT	**Junction City**	**66.60**	**333**	P		**P**		**09 07 17.4**	**+0.6**
TXAR	**Lajitas Array**	**67.17**	**330**	P		**P**		**09 07 21.4**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=153,slow=8.5,SNR=29								
TX31	**Lajitas Ar. Si**	**67.18**	**330**	P		**P**		**09 07 21.1**	**+0.5**
TX31				IAmb		IAmb		09 07 22.3	
	comp=Z,6.6nm,0.8s								
TX32	**Lajitas Array**	**67.18**	**330**	P		**P**		**09 07 21.4**	**+0.7**
V52A	**Sevierville**	**67.22**	**349**	P		**P**		**09 07 20.3**	**-0.3**
V52A				IAmb		IAmb		09 07 21.2	
	comp=Z,6.5nm,0.7s								
VNDA	**Vanda**	**67.39**	**191**	P		**P**		**09 07 21.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=201,slow=17,SNR=2.4								
VNDA	**Vanda**	**67.39**	**191**	P		**P**		**09 07 22.1**	**+0.9**
S54A	**Dingess, Beckl**	**68.81**	**352**	P		**P**		**09 07 30.5**	**-0.2**
S54A				IAmb		IAmb		09 07 40.0	
	comp=Z,18nm,1.5s								
PBMO	**Poplar Bluff**	**69.49**	**344**	P		**P**		**09 07 34.8**	**0.0**
PBMO				IAmb		IAmb		09 07 35.7	
	comp=Z,7.0nm,0.7s								
FVM	**French Village**	**70.64**	**344**	P		**P**

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**158**	P	P	09 48 24.5	-0.9
	0.8nm,0.4s,baz=336,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.25**	**162**	P	P	09 48 57.2	+0.9
	0.3nm,0.7s,baz=342,slow=7.1,SNR=8.0						
MKAR	**Makanchi Array**	**58.72**	**327**	P	P	09 53 18.7	-0.2
	0.2nm,0.3s,baz=115,slow=7.9,SNR=6.5						

JMA ***26*** *10:12:11.9±0.2, 39°.55N×144°.58E, h45km, M4.1*
IDC ***26*** *10:12:12.3±3.0, 39°.44N×144°.26E, h40km±27km, mb3.4/15, mb1 3.7/19, mb1mx3.5/53, mbtmp3.7/19, ML3.6/3, MS2.7/6, Ms1 2.7/6, ms1mx2.5/54, Error ellipse: s-maj=22.8km s-min=15.0km az=102.0*

ISC 26 10:12:12.0±0.8, 39°.53N±0°.06×144°.60E±0°.08, h37km±2km, n40, σ1$ 57/56, mb3.7/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.15**	**282**	P	**Pn**	**10 12 46.1**	**+0.8**
JTH				*eS*	**Sn**	**10 13 11.2**	**+0.5**
MIYJ	**Miyakonagasawa**	**2.15**	**272**	P	**Pn**	**10 12 46.2**	**+0.9**
MIYJ				S	**Sn**	**10 13 11.5**	**+0.7**
OFUJ	**Ofunato**	**2.32**	**260**	P	**Pn**	**10 12 48.2**	**+0.6**
OFUJ				S	**Sn**	**10 13 14.9**	**0.0**
JKEN	**Kujiedanarisaw**	**2.33**	**288**	P	**Pn**	**10 12 48.6**	**+0.9**
JKEN				*eS*	**Sn**	**10 13 15.5**	**+0.5**
JANG	**Nango**	**2.52**	**290**	P	**Pn**	**10 12 51.1**	**+0.7**
JANG				S	**Sn**	**10 13 20.1**	**+0.3**
JOM	**Ohasama**	**2.56**	**270**	P	**Pn**	**10 12 52.3**	**+1.3**
JOM				*eS*	**Sn**	**10 13 22.2**	**+1.3**
JMK	**Ichinoseki**	**2.69**	**259**	P	**Pn**	**10 12 53.6**	**+0.9**
JMK				S	**Sn**	**10 13 24.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**3.08**	**334**	P	**Pn**	**10 12 59.3**	**+1.2**
JNBK				*eS*	**Sn**	**10 13 36.6**	**+2.9**
JCH	**Churui**	**3.22**	**343**	P	**Pn**	**10 13 00.2**	**+0.2**
JCH				S	**Sn**	**10 13 37.3**	**+0.2**
JOT	**Ohata**	**3.28**	**305**	P	**Pn**	**10 13 02.5**	**+1.7**
JOT				*eS*	**Sn**	**10 13 40.5**	**+1.9**
JYK	**Kaneyama**	**3.35**	**261**	P	**Pn**	**10 13 03.3**	**+1.5**
JYK				*eS*	**Sn**	**10 13 42.9**	**+2.5**
JAK	**Akkeshi**	**3.46**	**1**	P	**Pn**	**10 13 02.6**	**-0.7**
JAK				S	**Sn**	**10 13 43.2**	**+0.2**
JKB	**Kayabe**	**3.59**	**312**	P	**Pn**	**10 13 06.6**	**+1.5**
JKB				*eS*	**Sn**	**10 13 47.9**	**+1.7**
JAR	**Ashorobuto**	**3.81**	**351**	P	**Pn**	**10 13 07.7**	**-0.5**
JAR				S	**Sn**	**10 13 50.8**	**-0.9**
NEM2	**Nemuro 2**	**3.92**	**12**	P	Pn	10 13 07.9	-1.8
NEM2				S	**Sn**	**10 13 50.8**	**-3.6**
JTKR	**Abashiri--Toko**	**4.47**	**354**	P	**Pn**	**10 13 17.3**	**+0.2**
JTKR				S	**Sn**	**10 14 07.4**	**-0.4**
JHR	**Hokuryu**	**4.73**	**334**	P	**Pn**	**10 13 23.5**	**+2.8**
JHR				*eS*	**Sn**	**10 14 17.1**	**+2.9**
ASAJ	**Asahikawa**	**4.82**	**343**	Pn	**Pn**	**10 13 23.1**	**+1.2**
	4.9nm,0.3s,baz=190,slow=11,SNR=50						
ASAJ				Sn	**Sn**	**10 14 17.1**	**+0.6**
	0.9nm,0.3s,baz=234,slow=31,SNR=1.5						
ASAJ				LR	LR	10 15 43.1	
	comp=Z,92nm,20.4s,baz=168,slow=44						
JRY	**Ryogami san**	**5.72**	**234**	P	**Pn**	**10 13 33.7**	**-0.7**
JRY				S	**Sn**	**10 14 35.6**	**-3.1**
MJAR	**Matsushiro Arr**	**5.86**	**241**	Pn	**Pn**	**10 13 37.2**	**+0.8**
	0.8nm,0.3s,baz=59,slow=11,SNR=22						
MJAR				Sn	**Sn**	**10 14 44.1**	**+1.8**
	0.1nm,0.3s,baz=66,slow=11,SNR=1.3						
MJAR				LR	LR	10 15 58.7	
	comp=Z,49nm,21.4s,baz=55,slow=40						
JHJ	**Hachijo jima 2**	**7.49**	**213**	Pn	Pn	10 13 55.1	-3.5
	3.5nm,0.3s,baz=83,slow=23,SNR=1.6						
JHJ				Sn	Sn	10 15 10.9	-11
	12nm,0.3s,baz=90,slow=20,SNR=1.5						
JHJ				LR	LR	10 16 45.0	
	comp=Z,37nm,18.6s,baz=67,slow=38						
USRK	**Ussuriysk Ar.**	**10.50**	**300**	Pn	**Pn**	**10 14 36.1**	**-3.7**
	baz=101,slow=13,SNR=1.7						
KSRS	**Korea Array**	**13.23**	**266**	Pn	**Pn**	**10 15 14.8**	**-2.4**
	0.1nm,0.3s,baz=75,slow=12,SNR=1.2						
KSRS				LR	LR	10 19 34.2	
	comp=Z,26nm,21.3s,baz=75,slow=34						
MA2	**Magadan**	**20.44**	**9**	P	**P**	**10 16 47.8**	**+1.9**
	1.1nm,0.3s,baz=163,slow=9.2,SNR=6.2						
MA2				LR	LR	10 25 42.0	
	comp=Z,15nm,18.7s,baz=186,slow=39						
SEY	**Seymchan**	**23.90**	**9**	P	**P**	**10 17 23.4**	**+1.5**
	1.1nm,0.4s,baz=203,slow=7.0,SNR=11						
SONM	**Songino Array**	**28.61**	**300**	P	**P**	**10 18 03.5**	**-1.3**
	0.2nm,0.4s,baz=106,slow=6.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**42.15**	**310**	P	**P**	**10 20 00.5**	**0.0**
	0.6nm,0.4s,baz=98,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**44.97**	**301**	P	**P**	**10 20 21.7**	**-1.6**
	0.1nm,0.4s,baz=46,slow=4.2,SNR=1.9						
ILAR	**Eielson Array**	**46.04**	**34**	P	**P**	**10 20 33.0**	**+1.5**
	0.3nm,0.7s,baz=255,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**59.94**	**191**	P	**P**	**10 22 13.3**	**-1.1**
	0.6nm,0.5s,baz=8.6,slow=7.0,SNR=13						
FITZ	**Fitzroy Crossi**	**60.01**	**201**	LR	LR	10 48 35.1	
	comp=Z,32nm,19.9s,baz=166,slow=36						
YKA	**Yellowknife Ar**	**60.38**	**32**	P	**P**	**10 22 17.9**	**+1.0**
	0.1nm,0.6s,baz=299,slow=6.1,SNR=2.2						
ASAR	**Alice Springs**	**63.66**	**191**	P	**P**	**10 22 38.6**	**-0.7**
	0.6nm,0.6s,baz=8.1,slow=6.1,SNR=7.7						
FINES	**FINESS Array B**	**67.76**	**333**	P	**P**	**10 23 05.2**	**-0.2**
	0.8nm,0.7s,baz=63,slow=8.8,SNR=3.8						
KBZ	**Khabaz**	**71.16**	**311**	P	**P**	**10 23 25.8**	**-0.9**
	1.3nm,0.6s,baz=127,slow=5.1,SNR=1.7						
NVAR	**Mina Array Bea**	**71.49**	**55**	P	**P**	**10 23 31.0**	**+1.9**
	0.8nm,0.7s,baz=276,slow=5.6,SNR=5.1						
NB2	**NORSAR Subarra**	**72.83**	**338**	P	P	10 23 48.9	+12
	comp=Z,0.6nm,0.6s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**72.83**	**338**	P	**P**	**10 23 36.3**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=29,slow=6.2,SNR=1.2						
AKASG	**Malin Array Be**	**73.83**	**323**	P	**P**	**10 23 41.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=44,slow=5.7,SNR=4.7						
TXAR	**Lajitas Array**	**86.62**	**54**	P	**P**	**10 24 53.2**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=307,slow=4.8,SNR=2.5						

IDC ***26*** *10:27:18.8±1.8, 7°.26S×156°.31E, h57km±16km, mb3.9/12, mb1 4.1/15, mb1mx3.8/49, mbtmp4.2/15, MS3.1/8, Ms1 3.2/8, ms1mx2.8/59, Error ellipse: s-maj=17.7km s-min=13.3km az=3.0*
NEIC ***26*** *10:27:22.3±1.3, 7°.27S±0°.07×156°.23E±0°.09, h78km±7km, mb4.3/21, Error ellipse: s-maj=13.8km s-min=9.4km az=62.0*

ISC 26 10:27:18.2±0.5, 7°.28S±0°.07×156°.32E±0°.07, h45km, n59, σ1$ 41/54, mb4.3/20, MS3.2/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.18**	**121**	P	**Pn**	**10 28 21.6**	**+2.2**
	3.9nm,0.3s,baz=208,slow=15,SNR=1.2						
HNR				S	**Sn**	**10 29 08.8**	**+1.7**
	13nm,0.3s,baz=261,slow=19,SNR=1.9						
HNR	**Honiara**	**4.18**	**121**		Pn	10 28 24.9	+5.5
RABL	**Rabaul**	**5.15**	**306**	Pn	**Pn**	**10 28 36.1**	**+3.3**
PMG	**Port Moresby**	**9.31**	**256**	P	**Pn**	**10 29 32.1**	**+2.3**
	2.3nm,0.3s,baz=67,slow=10,SNR=9.9						
PMG				S	**Sn**	**10 31 15.9**	**+2.7**
	1.2nm,0.3s,baz=37,slow=20,SNR=1.8						
PMG				LR	LR	10 32 57.5	
	comp=Z,66nm,18.4s,baz=46,slow=36						
PMG	**Port Moresby**	**9.31**	**256**		**Pn**	**10 29 32.5**	**+2.6**
PATS	**Pohnpei**	**14.16**	**9**	Pn	**Pn**	**10 30 37.8**	**+1.6**
COEN	**Coen**	**14.52**	**242**	Pn	**Pn**	**10 30 42.5**	**+1.5**
CTA	**Charters Tower**	**16.04**	**216**	P	**P**	**10 31 03.0**	**-0.7**
	0.2nm,0.3s,baz=17,slow=7.4,SNR=4.8						
CTA				LR	LR	10 36 36.2	
	comp=Z,44nm,18.4s,baz=68,slow=35						
GUMO	**Guam**	**23.64**	**331**	LR	LR	10 41 28.5	
	comp=Z,15nm,19.0s,baz=86,slow=36						
WR0	**Warramunga Arr**	**24.59**	**237**	P	**P**	**10 32 34.0**	**-0.3**
WR0				IAmb	IAmb	10 32 35.8	
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**24.63**	**238**	P	**P**	**10 32 34.3**	**-0.3**
WRAB	**Tennant Creek**	**24.74**	**237**	P	**P**	**10 32 35.7**	**0.0**
WB2	**Warramunga Arr**	**24.74**	**237**	P	**P**	**10 32 35.1**	**-0.6**
WRA	**Warramunga Arr**	**24.75**	**237**	P	**P**	**10 32 35.2**	**-0.6**
	comp=Z,19nm,0.7s,baz=60,slow=9.7,SNR=185						
WRA				ScP	**ScP**	**10 39 45.9**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=71,slow=2.9,SNR=6.8						
WRA	**Warramunga Arr**	**24.75**	**237**	P	**P**	**10 32 34.3**	**-1.5**
MTN	**Manton Dam**	**25.40**	**255**	P	**P**	**10 32 40.8**	**-0.9**
MTN				IAmb	IAmb	10 32 42.9	
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**26.99**	**230**	P	**P**	**10 32 55.0**	**-1.0**
ASAR	**Alice Springs**	**26.99**	**230**	P	**P**	**10 32 54.8**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=58,slow=10.0,SNR=44						
ASAR				PcP	**PcP**	**10 36 15.8**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=75,slow=2.8,SNR=1.9						
ASAR				ScP	**ScP**	**10 39 52.2**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=46,slow=11,SNR=4.9						
ASAR				LR	LR	10 43 02.8	
	comp=Z,61nm,20.5s,baz=170,slow=35						
ASAR	**Alice Springs**	**26.99**	**230**	P	**P**	**10 32 54.4**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**27.58**	**22**	T	T	11 01 28.8	
	baz=202,slow=76,SNR=182						
H11S2	**WAKE ISLAND Hy**	**27.58**	**22**	T	T	11 01 16.7	
	baz=202,slow=76,SNR=215						
H11S1	**WAKE ISLAND Hy**	**27.59**	**22**	T	T	11 01 18.8	
	baz=202,slow=76,SNR=108						
STKA	**Stephens Creek**	**28.06**	**207**	P	**P**	**10 33 05.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=13,slow=9.0,SNR=2.8						
STKA				LR	LR	10 43 41.0	
	comp=Z,106nm,18.4s,baz=197,slow=35						
STKA	**Stephens Creek**	**28.06**	**207**	P	**P**	**10 33 05.5**	**+0.1**
KNRA	**Kununurra**	**28.24**	**250**	P	**P**	**10 33 06.1**	**-1.1**
KNRA				IAmb	IAmb	10 33 26.4	
	comp=Z,19nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**28.77**	**21**	T	T	11 03 04.6	
	baz=202,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.78**	**21**	T	T	11 03 01.6	
	baz=202,slow=76,SNR=60						
H11N2	**WAKE ISLAND Hy**	**28.79**	**21**	T	T	11 02 58.1	
	baz=202,slow=76,SNR=16						
FITZ	**Fitzroy Crossi**	**31.75**	**247**	P	**P**	**10 33 36.1**	**-2.2**
	comp=Z,6.6nm,0.6s,baz=84,slow=8.2,SNR=29						
FITZ	**Fitzroy Crossi**	**31.75**	**247**	P	**P**	**10 33 37.0**	**-1.3**
FITZ				IAmb	IAmb	10 33 37.5	
	comp=Z,6.6nm,0.7s						
BATI	**Baumata**	**32.40**	**262**	LR	LR	10 47 49.1	
	comp=Z,53nm,18.5s,baz=176,slow=38						
FORT	**Forrest**	**35.30**	**225**	P	**P**	**10 34 08.6**	**-0.4**
PSA00	**Pilbara Seismi**	**37.95**	**244**	P	**P**	**10 34 30.4**	**-1.4**
KSRS	**Korea Array**	**51.81**	**331**	P	**P**	**10 36 21.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=148,slow=8.6,SNR=4.7						
PETK	**Petropavlovsk-**	**60.16**	**1**	LR	LR	11 00 43.7	
	comp=Z,16nm,21.2s,baz=128,slow=33						
VNDA	**Vanda**	**70.27**	**179**	P	**P**	**10 38 27.0**	**+0.7**
VNDA				IAmb	IAmb	10 38 36.4	
	comp=Z,2.9nm,1.3s						
SONM	**Songino Array**	**70.29**	**327**	P	**P**	**10 38 26.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=141,slow=7.1,SNR=12						
SONM	**Songino Array**	**70.29**	**327**	P	**P**	**10 38 27.2**	**+0.1**
SONM				IAmb	IAmb	10 38 27.7	
	comp=Z,1.8nm,0.9s						
IMAR	**Indian Mountai**	**81.57**	**18**	P	**P**	**10 39 30.9**	**+0.1**
QSPA	**South Pole Qui**	**82.70**	**180**	P	**P**	**10 39 37.7**	**+0.7**
ILAR	**Eielson Array**	**83.16**	**21**	P	**P**	**10 39 37.7**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=233,slow=5.7,SNR=1.7						
ILAR				LR	LR	11 12 36.9	
	comp=Z,19nm,19.5s,baz=299,slow=33						
MK31	**Makanchi Array**	**84.48**	**318**	P	**P**	**10 39 45.8**	**-0.6**
MK31				IAmb	IAmb	10 39 46.4	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**84.48**	**318**	P	**P**	**10 39 45.6**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=101,slow=6.2,SNR=55						
MKAR	**Makanchi Array**	**84.48**	**318**	P	**P**	**10 39 45.9**	**-0.5**
TOLK	**Toolik Lake Re**	**84.49**	**17**	P	**P**	**10 39 47.9**	**+1.9**
MAKZ	**Makanchi**	**84.70**	**318**	P	**P**	**10 39 47.0**	**-0.4**
MAKZ				IAmb	IAmb	10 39 47.4	
	comp=Z,5.2nm,0.8s						
ZAA0	**Zalesovo Array**	**85.15**	**326**	P	**P**	**10 39 48.0**	**-1.5**
ZAA0				IAmb	IAmb	10 39 48.4	
	comp=Z,1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	**P**	**10 39 47.8**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=119,slow=6.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	**P**	**10 39 48.1**	**-1.4**
KURK	**Kurchatov**	**87.87**	**322**	P	**P**	**10 40 01.4**	**-1.4**
KURK				IAmb	IAmb	10 40 01.6	
	comp=Z,3.2nm,1.3s						
KURBB	**Kurchatov Arra**	**87.90**	**321**	P	**P**	**10 40 01.5**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=107,slow=3.9,SNR=9.2						
AAK	**Ala-Archa**	**88.90**	**313**	P	**P**	**10 40 07.6**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=204,slow=12,SNR=1.7						
AAK	**Ala-Archa**	**88.90**	**313**	P	**P**	**10 40 07.1**	**-1.1**
AAK				IAmb	IAmb	10 40 12.8	
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**10 40 37.5**	**-2.6**
	comp=Z,0.2nm,0.7s,baz=268,slow=4.4,SNR=4.2						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**10 40 39.1**	**-1.1**
GERES	**GERESS Array B**	**127.97**	**329**	PKP	**PKiKP**	**10 46 19.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=4.5						
BDFB	**Brasilia**	**146.84**	**133**	PKPbc	**PKPdf**	**10 46 55.3**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=186,slow=6.4,SNR=5.6						
BDFB	**Brasilia**	**146.84**	**133**		**PKPdf**	**10 46 53.0**	**-1.9**
MDT	**Midelt**	**149.03**	**328**	PKPbc	**PKPbc**	**10 47 01.8**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=98,slow=2.6,SNR=4.1						

IDC 26 10:31:56.2±2.2, 1°.53N×125°.56E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/50, mbtmp3.1/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/21, Error ellipse: s-maj=188.1km s-min=28.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.18**	**113**	LR	LR	10 36 25.1	
	comp=Z,78nm,20.9s,baz=177,slow=44						
WRA	**Warramunga Arr**	**23.01**	**158**	P	P	10 37 02.6	-0.4
	0.4nm,0.5s,baz=337,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**26.33**	**163**	P	P	10 37 34.4	+0.4
	0.1nm,0.5s,baz=350,slow=10,SNR=1.3						
MKAR	**Makanchi Array**	**58.71**	**327**	P	P	10 41 55.7	-0.1
	0.1nm,0.4s,baz=118,slow=8.5,SNR=2.0						

NEIC ***26*** *10:58:08.1±0.8, 18°.93N±0°.06×67°.39W±0°.04, h23km±9km, Error ellipse: s-maj=9.4km s-min=5.4km az=189.0*
RSPR ***26*** *10:58:09.3, 18°.90N×67°.38W, h4km±1km, MD2.8/9*
OSPL ***26*** *10:58:12.4±1.7, 18°.69N×67°.48W, h0km±12km, ML2.2*

ISC 26 10:58:07.7±1.6, 18°.94N±0°.07×67°.37W±0°.03, h17km±9km, n40, σ0$ 98/50, 9C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.53**	**152**	*eP*	**Pg**	**10 58 19.0**	**+0.6**
AGPR	**Aguadilla, PR**	**0.53**	**152**	*eS*	**Sb**	**10 58 26.8**	**+0.8**
AGPR	**Aguadilla, PR**	**0.53**	**152**		**Pg**	**10 58 18.8**	**+0.4**
AGPR					**Sg**	**10 58 26.7**	**+1.1**
AGPR				IAML		10 58 26.8	
	comp=E,290nm,0.3s						
AGPR				IAML		10 58 28.5	
	comp=N,361nm,0.3s						
AGPR	**Aguadilla, PR**	**0.53**	**152**	*i* P	**Pg**	**10 58 18.9**	**+0.4**
AGPR				*eS*	**Sg**	**10 58 26.5**	**+0.9**
AGPR				IAML		10 58 28.5	
	comp=Z,176nm,0.2s						
IDE	**Isla Desecheo**	**0.56**	**190**	*eP*	**Pg**	**10 58 19.6**	**+0.6**
IDE	**Isla Desecheo**	**0.56**	**190**	*eS*	**Sb**	**10 58 27.5**	**+0.6**
PRSN	**Puerto Rico Se**	**0.75**	**163**	*eS*	**Sg**	**10 58 33.1**	**+0.6**
PRSN	**Puerto Rico Se**	**0.75**	**163**	Pg	**Pg**	**10 58 22.3**	**-0.1**
PRSN					**Sb**	**10 58 33.4**	**+1.0**
LSP	**Las Mesas**	**0.81**	**160**	*eP*	**Pg**	**10 58 23.6**	**+0.1**
LSP	**Las Mesas**	**0.81**	**160**	*eS*	**Sb**	**10 58 35.2**	**+1.2**
AOPR	**Arecibo Observ**	**0.83**	**135**	*eP*	**Pg**	**10 58 23.5**	**-0.5**
AOPR	**Arecibo Observ**	**0.83**	**135**	*eS*	**Sg**	**10 58 35.6**	**+0.6**
AOPR	**Arecibo Observ**	**0.83**	**135**		**Pg**	**10 58 23.4**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.92**	**138**	*eP*	**Pg**	**10 58 25.1**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.92**	**138**	*eS*	**Sg**	**10 58 37.9**	**0.0**
UUPR	**Utuado, UPR, P**	**0.92**	**138**		**Pg**	**10 58 25.1**	**-0.6**
UUPR					**Sg**	**10 58 37.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.96**	**165**	*eP*	**Pg**	**10 58 25.8**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.96**	**165**	*eS*	**Sg**	**10 58 38.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.96**	**165**	Pg	**Pg**	**10 58 26.1**	**-0.4**
CRPR				IAML		10 58 38.8	
	comp=N,99nm,0.3s						
CRPR					**Sg**	**10 58 38.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.96**	**165**	*i* P	**Pg**	**10 58 25.9**	**-0.6**
CRPR				*eS*	**Sg**	**10 58 36.0**	**-3.1**
CRPR				IAML		10 58 38.7	
	comp=Z,108nm,0.2s						
MLPR	**Magueyes Islan**	**1.02**	**162**	*eP*	**Pg**	**10 58 26.5**	**-0.9**
MLPR	**Magueyes Islan**	**1.02**	**162**	*eS*	**Sg**	**10 58 40.0**	**-0.8**
MLPR	**Magueyes Islan**	**1.02**	**162**		**Pg**	**10 58 26.4**	**-1.0**
MLPR					**Sg**	**10 58 39.7**	**-1.1**
MLPR				IAML		10 58 40.2	
	comp=E,122nm,0.4s						
MLPR				IAML		10 58 45.5	
	comp=N,65nm,1.0s						
PCDR	**Punta Cana, DR**	**1.05**	**246**	Pg	**Pg**	**10 58 27.1**	**-1.0**
PCDR				IAML		10 58 56.4	
	comp=E,140nm,2.1s						
PCDR	**Punta Cana, DR**	**1.05**	**246**	*i* P	**Pg**	**10 58 27.3**	**-0.8**
PCDR				*eS*	**Sg**	**10 58 39.9**	**-1.9**
PCDR				IAML		10 58 48.3	
	comp=Z,151nm,1.2s						
CELP	**Cerrillos**	**1.15**	**139**	Pg	**Pg**	**10 58 28.2**	**-1.7**
CELP				IAML		10 58 46.6	
	comp=N,65nm,0.3s						
OBIP	**Obispado Ponce**	**1.15**	**141**	*eP*	**Pg**	**10 58 28.7**	**-1.4**
OBIP				*eS*	**Sg**	**10 58 43.6**	**-1.6**
OBIP	**Obispado Ponce**	**1.15**	**141**	Pg	**Pg**	**10 58 28.6**	**-1.5**
OBIP					**Pb**	**10 58 29.4**	**+0.1**
GCPR	**Guaynabo City**	**1.38**	**117**	Pn	**Pn**	**10 58 31.6**	**-0.5**
GCPR				IAML		10 58 52.1	
	comp=N,37nm,2.2s						
SJG	**San Juan**	**1.42**	**125**	Pn	**Pn**	**10 58 32.4**	**-0.4**
SJG				IAML		10 58 52.4	
	comp=N,43nm,0.3s						
SJG				IAML		10 58 55.6	
	comp=N,61nm,0.4s						
IGPR	**InterUniversit**	**1.54**	**129**	*eP*	**Pn**	**10 58 34.3**	**-0.2**
IGPR	**InterUniversit**	**1.54**	**129**	*eS*	**Sn**	**10 58 53.5**	**-0.6**
PDPR	**Patillas Dam,**	**1.58**	**125**	Pn	**Pn**	**10 58 34.6**	**-0.3**
PDPR				IAML		10 58 57.1	
	comp=E,37nm,1.0s						
CBYP	**Canovanas**	**1.58**	**115**	Pn	**Pn**	**10 58 35.4**	**+0.3**
HUMP	**Col San Antoni**	**1.65**	**119**	*eP*	**Pn**	**10 58 35.9**	**0.0**
HUMP	**Col San Antoni**	**1.65**	**119**	*eS*	**Sn**	**10 58 56.6**	**-0.1**
HUMP	**Col San Antoni**	**1.65**	**119**		**Pn**	**10 58 35.7**	**-0.2**
HUMP				IAML		10 59 05.4	
	comp=N,43nm,0.3s						
DR12	**Loma Pena Alta**	**1.91**	**266**	Pn	**Pn**	**10 58 41.2**	**+1.7**
CUPR	**Culebra, Puert**	**2.08**	**107**	Pn	**Pn**	**10 58 42.3**	**+0.4**
STVI	**Saint Thomas**	**2.37**	**104**	Pn	**Pn**	**10 58 47.4**	**+1.6**

IDC ***26*** *11:02:33.3±5.2, 13°.17S×166°.85E, h135km±52km, mb3.4/7, mb1 3.6/8, mb1mx3.4/30, mbtmp3.7/8, Error ellipse: s-maj=40.1km s-min=28.3km az=144.0*

ISC 26 11:02:34.9±0.8, 13°.21S±0°.09×166°.7E±0°.1, h150km, n10, σ1$ 16/12, mb3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.62**	**299**	S	**Sn**	**11 05 46.8**	**-1.5**
	9.5nm,0.3s,baz=217,slow=14,SNR=2.0						
DZM	**Mont Dzumac**	**8.81**	**182**	P	**Pn**	**11 04 39.7**	**+0.4**
	0.6nm,0.3s,baz=18,slow=20,SNR=18						
DZM				S	**Sn**	**11 06 15.6**	**-1.6**
	0.5nm,0.3s,baz=307,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**31.70**	**253**	P	**P**	**11 08 44.8**	**+0.2**
	0.2nm,0.5s,baz=82,slow=8.8,SNR=2.5						
ASAR	**Alice Springs**	**32.73**	**247**	P	**P**	**11 08 54.6**	**+1.0**
	0.4nm,0.6s,baz=78,slow=9.1,SNR=13						
ASAR				PcP	**PcP**	**11 11 36.5**	**+0.8**
	0.5nm,1.1s,baz=97,slow=1.4,SNR=4.3						
MJAR	**Matsushiro Arr**	**56.31**	**332**	P	**P**	**11 11 59.8**	**-0.3**
	0.6nm,0.5s,baz=154,slow=11,SNR=4.2						
SONM	**Songino Array**	**80.96**	**324**	P	**P**	**11 14 34.1**	**+1.4**
	0.2nm,0.4s,baz=113,slow=3.7,SNR=2.8						
ILAR	**Eielson Array**	**85.26**	**18**	P	**P**	**11 14 53.8**	**-0.5**
	0.7nm,0.6s,baz=236,slow=5.1

SGST				*e*S	Sb	11 18 35.8	-0.3
	baz=254							
ALS	**Alishan**	**0.36**	**338**	P	Pb	11 18 29.7	-0.8
	baz=338							
ALS				S	Sb	11 18 35.6	-1.1
	baz=338							
TWGBT	**Beinan**	**0.37**	**162**	*e*P	Pb	11 18 29.9	-0.6
	baz=161							
CHN4	**Tsaushan**	**0.38**	**298**	*e*P	Pb	11 18 30.0	-0.5
	baz=298							
CHN4				*e*S	Sb	11 18 36.7	-0.1
	baz=298							

IDC 26 11:46:16.1±2.1, 8°60S×129°92E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/26, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=112.1km s-min=26.5km az=72.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.06**	**160**	Pn	Pn	11 49 08.1	-1.3
	0.1nm,0.3s,baz=346,slow=14,SNR=6.9						
WRA				Sn	Sn	11 51 27.1	+2.4
	0.1nm,0.3s,baz=334,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**15.46**	**166**	Pn	Pn	11 49 56.4	+0.7
	0.0nm,0.3s,baz=341,slow=12,SNR=5.8						
ASAR				Sn	Sn	11 52 50.4	+2.7
	0.0nm,0.3s,baz=355,slow=31,SNR=2.3						
SONM	**Songino Array**	**59.93**	**342**	P	P	11 56 24.1	0.0
	0.1nm,0.4s,baz=153,slow=7.4,SNR=1.7						

*NOU **26** 12:02:57.3, 37°72S×176°39E, h270km, mb3.8/6, North Island, New Zealand*
*WEL **26** 12:03:12.6, 38°S×17°6E±1°3, h154km±16km, M2.5/41, MLv2.5/41, Error ellipse: s-maj=0.0km s-min=0.0km az=114.0*

ISC 26 12:03:05.5±1.7, 38°09S±0°08×176°16E±0°07, h203km, n87, σ0.97/87, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPRZ	**Whakapapatarin**	**0.43**	**180**	P	Pn	12 03 33.5	+0.8
PRRZ	**Plateau Road**	**0.45**	**156**	P	Pn	12 03 33.2	+0.5
TLZ	**Tolley Road**	**0.55**	**243**	P	Pn	12 03 34.0	+0.8
MUGZ	**Murupara**	**0.62**	**129**	P	Pn	12 03 33.8	+0.4
URZ	**Urewera**	**0.77**	**103**	P	Pn	12 03 33.8	-0.3
URZ	**Urewera**	**0.77**	**103**	P	Pn	12 03 33.8	-0.3
MRHZ	**Matea Rd**	**0.77**	**165**	P	Pn	12 03 34.8	+0.6
HATZ	**Hinemaiaia**	**0.81**	**184**	P	Pn	12 03 35.0	+0.6
RTZ	**Ruatahuna**	**0.83**	**130**	P	Pn	12 03 34.9	+0.3
RATZ	**Rangitukua**	**0.84**	**201**	P	Pn	12 03 35.5	+0.9
MTHZ	**Maungataniwha**	**0.93**	**145**	P	Pn	12 03 35.8	+0.7
KATZ	**Kakaramea**	**0.96**	**202**	P	Pn	12 03 36.7	+1.3
NTVZ	**North Tongarir**	**1.08**	**200**	P	Pn	12 03 37.3	+1.1
KRVZ	**Karewarewa**	**1.09**	**202**	P	Pn	12 03 37.1	+0.9
TMVZ	**Te Maari**	**1.09**	**199**	P	Pn	12 03 37.3	+1.0
RAHZ	**Arahi**	**1.10**	**139**	P	Pn	12 03 37.4	+1.2
MWZ	**Matawai**	**1.10**	**103**	P	Pn	12 03 36.4	+0.1
ETVZ	**East Tongariro**	**1.11**	**198**	P	Pn	12 03 37.2	+0.8
BKZ	**Black Stump Fm**	**1.11**	**167**	P	Pn	12 03 37.1	+0.7
BKZ	**Black Stump Fm**	**1.11**	**167**	P	Pn	12 03 37.2	+0.9
HIZ	**Hauiti**	**1.11**	**247**	P	Pn	12 03 37.3	+1.1
HIZ	**Hauiti**	**1.11**	**247**	P	Pn	12 03 37.4	+1.1
WTVZ	**West Tongariro**	**1.12**	**203**	P	Pn	12 03 37.5	+1.0
NNVZ	**North Ngauruho**	**1.13**	**202**	P	Pn	12 03 37.8	+1.2
NMHZ	**Naumai**	**1.13**	**154**	P	Pn	12 03 38.3	+1.8
TWVZ	**Taurewa**	**1.14**	**210**	P	Pn	12 03 37.6	+1.1
OTVZ	**Oturere**	**1.14**	**200**	P	Pn	12 03 38.0	+1.3
SNGZ	**Shannon Statio**	**1.16**	**127**	P	Pn	12 03 37.7	+1.0
SNVZ	**South Ngauruho**	**1.17**	**200**	P	Pn	12 03 38.0	+1.0
NGZ	**Ngauruhoe**	**1.17**	**202**	P	Pn	12 03 38.1	+1.2
RUGZ	**Raukumara Rang**	**1.20**	**85**	P	Pn	12 03 36.0	-1.1
TUVZ	**Tukino**	**1.25**	**198**	P	Pn	12 03 38.6	+1.1
FWVZ	**Far West T-bar**	**1.26**	**202**	P	Pn	12 03 38.7	+1.1
TRVZ	**Turoa**	**1.30**	**201**	P	Pn	12 03 39.2	+1.2
WNVZ	**Wahianoa**	**1.31**	**199**	P	Pn	12 03 39.0	+0.9
HAZ	**Te Kaha**	**1.32**	**76**	P	Pn	12 03 36.9	-1.0
ARHZ	**Aropaoanui**	**1.34**	**151**	P	Pn	12 03 39.6	+1.5
KWHZ	**Kaweka Forest**	**1.35**	**171**	P	Pn	12 03 39.5	+1.2
MOVZ	**Moawhango**	**1.36**	**193**	P	Pn	12 03 39.0	+0.7
PKVZ	**Pokaka**	**1.36**	**208**	P	Pn	12 03 39.4	+1.1
TKGZ	**Te Karaka**	**1.38**	**105**	P	Pn	12 03 38.9	+0.6
RIGZ	**Rimuhau**	**1.40**	**117**	P	Pn	12 03 39.6	+1.0
BHHZ	**Black Hill Sta**	**1.40**	**183**	P	Pn	12 03 39.4	+0.8
MCHZ	**McNeill Hill**	**1.42**	**163**	P	Pn	12 03 40.4	+1.7
TWGZ	**Tauwhareparae**	**1.44**	**94**	P	Pn	12 03 39.5	+0.5
VRZ	**Vera Road**	**1.51**	**226**	P	Pn	12 03 41.0	+1.6
PKGZ	**Pakihiroa**	**1.53**	**83**	P	Pn	12 03 39.9	+0.2
KRHZ	**Kereru**	**1.56**	**174**	P	Pn	12 03 41.2	+1.2
PUZ	**Puketiti**	**1.66**	**90**	P	Pn	12 03 40.5	-0.4
CNGZ	**Carnagh Statio**	**1.66**	**104**	P	Pn	12 03 42.1	+1.3
CKHZ	**Cape Kidnapper**	**1.73**	**158**	P	Pn	12 03 43.0	+1.6
MZ	**Matakaoa Point**	**1.78**	**74**	P	Pn	12 03 42.2	+0.2
KAHZ	**Kahuranaki**	**1.79**	**162**	P	Pn	12 03 43.7	+1.5
WMGZ	**Waiomatatini S**	**1.80**	**82**	P	Pn	12 03 42.1	-0.1
PNHZ	**Pukenui**	**1.83**	**179**	P	Pn	12 03 43.4	+0.9
TSZ	**Takapari Road**	**1.98**	**184**	P	Pn	12 03 44.8	+0.8
WPHZ	**Waipukurau**	**1.99**	**174**	P	Pn	12 03 45.1	+1.1
NEZ	**North Egmont**	**2.00**	**233**	P	Pn	12 03 46.3	+2.0
PKE	**Pukeiti**	**2.03**	**236**	P	Pn	12 03 46.3	+1.8
PRHZ	**Porangahau**	**2.21**	**171**	P	Pn	12 03 47.5	+1.2
DVHZ	**Dannevirke**	**2.21**	**180**	P	Pn	12 03 46.8	+0.5
PRWZ	**Pori Road**	**2.47**	**183**	P	Pn	12 03 49.8	+0.7
BFZ	**Birch Farm**	**2.59**	**179**	P	Pn	12 03 51.0	+0.4
BFZ	**Birch Farm**	**2.59**	**179**	P	Pn	12 03 51.0	+0.4
MRZ	**Mangatainoka R**	**2.61**	**190**	P	Pn	12 03 50.9	+0.1
TIWZ	**Tintock**	**2.69**	**184**	P	Pn	12 03 52.1	+0.4
OGWZ	**Otaki Gorge**	**2.83**	**195**	P	Pn	12 03 53.5	+0.2
HOWZ	**Holdsworth Sta**	**2.85**	**190**	P	Pn	12 03 53.4	-0.1
KIW	**Kapiti Island**	**2.94**	**199**	P	Pn	12 03 54.2	-0.3
TMWZ	**Te Maipa**	**3.02**	**184**	P	Pn	12 03 55.7	+0.2
MTW	**Mount Morrison**	**3.11**	**189**	P	Pn	12 03 56.1	-0.4
CAW	**Cannon Point**	**3.13**	**195**	P	Pn	12 03 56.5	-0.3
DUWZ	**D'Urville Isla**	**3.22**	**212**	P	Pn	12 03 57.3	-0.5
TRWZ	**Traveller**	**3.33**	**186**	P	Pn	12 03 58.8	-0.3
PAWZ	**Paruwai Farm**	**3.34**	**190**	P	Pn	12 03 58.7	-0.5
MSWZ	**Moikau Station**	**3.40**	**192**	P	Pn	12 03 59.2	-0.7
SNZO	**South Karori**	**3.41**	**199**	P	Pn	12 03 59.3	-0.7
TCW	**Tory Channel**	**3.44**	**204**	P	Pn	12 04 00.0	-0.4
PLWZ	**Palliser**	**3.55**	**191**	P	Pn	12 04 01.0	-0.8
TUWZ	**Tuamarina**	**3.75**	**206**	P	Pn	12 04 03.5	-0.7
NNZ	**Nelson**	**3.79**	**214**	P	Pn	12 04 03.7	-1.0
QRZ	**Quartz Range**	**3.92**	**225**	P	Pn	12 04 05.2	-1.1
THZ	**Tophouse**	**4.44**	**213**	P	Pn	12 04 12.3	-0.6
KHZ	**Kahutara**	**4.77**	**204**	P	Pn	12 04 16.1	-0.7
KHZ	**Kahutara**	**4.77**	**204**	P	Pn	12 04 15.9	-1.0
GVZ	**Greta Valley S**	**5.43**	**205**	P	Pn	12 04 24.0	-1.3
LTZ	**Lake Taylor**	**5.55**	**211**	P	Pn	12 04 25.3	-1.6

*KRSC **26** 12:10:16.8±1.5, 54°16N×163°18E, h60km±21km, ML4.2*
*IDC **26** 12:10:23.2±2.6, 54°28N×162°87E, h63km±23km, mb3.3/12, mb1 3.5/15, mb1mx3.2/54, mbtmp3.6/15, ML2.9/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/50, Error ellipse: s-maj=29.4km s-min=12.8km az=142.0*

ISC 26 12:10:20.6±0.7, 54°17N±0°04×163°19E±0°04, h43km±7km, n54, σ1.35/76, mb3.4/12, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.94**	**295**	*e*P	Pn	12 10 35.7	-1.6
MKZ				*e*S	Sn	12 10 47.6	-2.0
BKI	**Bering**	**1.92**	**56**	*e*P	Pn	12 10 49.9	-0.8
BKI				*e*S	Sn	12 11 10.9	-2.7
TUMD	**Tumrok D**	**1.93**	**304**	*e*P	Pn	12 10 49.7	-1.2
TUMD				*e*S	Sn	12 11 12.0	-1.9
KBTR	**Krutoberegovo**	**2.06**	**354**	*e*P	Pn	12 10 50.4	-2.2
KBTR				*e*S	Sn	12 11 14.6	-2.5
TUMR	**Tumrok**	**2.09**	**304**	*e*P	Pn	12 10 52.9	-0.3
TUMR				*e*S	Sn	12 11 18.2	+0.1
KBG	**Krutoberegovo**	**2.11**	**353**	*e*P	Pn	12 10 51.2	-2.2
KBG				*e*S	Sn	12 11 16.6	-1.8
SPN	**Mys Shipunski**	**2.17**	**242**	*e*P	Pn	12 10 52.8	-1.4
SPN				*e*S	Sn	12 11 17.1	-2.7
KII	**Karymskiy**	**2.21**	**268**	*e*P	Pn	12 10 53.9	-0.9
BZGR	**Bezymyannyi-Gr**	**2.29**	**322**	*e*P	Pn	12 10 55.0	-0.9
BZGR				*e*S	Sn	12 11 22.0	-0.8
ZLN	**Zelenaya**	**2.31**	**324**	*e*P	Pn	12 10 55.6	-0.6
KMNR	**Kamenistaya**	**2.33**	**314**	*e*P	Pn	12 10 55.7	-0.8
KMNR				*e*S	Sn	12 11 23.0	-1.0
BZWR	**Bezymyannyi-We**	**2.38**	**320**	*e*P	Pn	12 10 56.7	-0.5
LGNR	**Loginova**	**2.40**	**324**	*e*P	Pn	12 10 57.2	-0.4
KIRR	**Kirishev**	**2.43**	**319**	*e*P	Pn	12 10 59.6	+1.7
KPT	**Kopyto**	**2.48**	**318**	*e*P	Pn	12 10 58.3	-0.3
KRSR	**Krestovskiy**	**2.55**	**325**	*e*P	Pn	12 10 58.3	-1.2
KLY	**Klyuchi**	**2.60**	**327**	*e*S	Sn	12 11 28.5	-1.8
SMKR	**Semkarok**	**2.61**	**339**	*e*P	Pn	12 10 59.0	-1.4
SMKR				*e*S	Sn	12 11 30.5	-0.4
BDR	**Baidarnaya**	**2.66**	**336**	*e*P	Pn	12 11 00.3	-0.7
BDR				*e*S	Sn	12 11 33.4	+1.4
SDLR	**Sedlovina**	**2.71**	**253**	*e*P	Pn	12 11 01.0	-0.7
SRKR	**Sorokina**	**2.75**	**336**	*e*P	Pn	12 11 01.3	-0.9
SMAR	**Somma**	**2.76**	**253**	*e*P	Pn	12 11 02.3	-0.2
UGLR	**Uglovaya**	**2.77**	**252**	*e*P	Pn	12 11 02.2	-0.3
UGLR				*e*S	Sn	12 11 33.9	-0.8
KRER	**Koryakskii**	**2.78**	**254**	*e*P	Pn	12 11 02.3	-0.4
KRER				*e*S	Sn	12 11 34.7	-0.4
AVH	**Avacha**	**2.80**	**253**	*e*P	Pn	12 11 03.0	+0.1
AVH				*e*S	Sn	12 11 35.2	-0.2
KOK	**Koryaka**	**2.84**	**254**	*e*P	Pn	12 11 03.0	-0.5
DALK	**Dalny**	**2.88**	**249**	*e*P	Pn	12 11 03.2	-0.7
DALK				*e*S	Sn	12 11 35.1	-2.1
PET	**Petropavlovsk**	**2.94**	**249**	*e*P	Pn	12 11 04.0	-0.7
PET				*e*S	Sn	12 11 36.9	-1.8
ESO	**Esso**	**3.13**	**306**	*e*P	Pn	12 11 07.3	-0.1
ESO				*e*S	Sn	12 11 43.4	-0.1
GNL	**Ganaly**	**3.14**	**263**	*e*P	Pn	12 11 07.9	+0.3
RUS	**Russkaya**	**3.30**	**240**	*e*P	Pn	12 11 09.2	-0.5
RUS				*e*S	Sn	12 11 46.1	-1.5
KRMR	**Karymshinskiy**	**3.31**	**248**	*e*P	Pn	12 11 09.8	0.0
KRMR				*e*S	Sn	12 11 46.5	-1.3
PETK	**Petropavlovsk-**	**3.44**	**254**	P	Pn	12 11 12.1	+0.5
	1.6nm,0.3s,baz=79,slow=17,SNR=48						
PETK				S	Sn	12 11 50.8	-0.3
	9.0nm,0.3s,baz=274,slow=17,SNR=14						
PETK				LR	LR	12 12 45.6	
	comp=Z,51nm,20.5s,baz=18,slow=43						
MTVR	**Mutnovka**	**3.44**	**243**	*e*P	Pn	12 11 11.7	-0.1
MTVR				*e*S	Sn	12 11 49.0	-2.4
GRL	**Gorelyy**	**3.47**	**244**	*e*P	Pn	12 11 12.2	+0.1
GRL				*e*S	Sn	12 11 50.4	-1.5
APC	**Apacha**	**3.81**	**253**	*e*S	Sn	12 12 02.1	+2.0
KDTR	**Khodutka, Kamc**	**3.89**	**235**	*e*P	Pn	12 11 17.0	-0.8
KDTR				*e*S	Sn	12 11 58.5	-3.6
SEY	**Seymchan**	**10.43**	**332**	P	Pn	12 12 47.4	0.0
	0.1nm,0.3s,baz=127,slow=20,SNR=1.2						
ASAJ	**Asahikawa**	**16.75**	**242**	P	Pn	12 14 12.1	+0.2
	0.2nm,0.3s,baz=47,slow=19,SNR=2.8						
ASAJ				LR	LR	12 21 19.6	
	comp=Z,39nm,18.4s,baz=196,slow=40						
MJAR	**Matsushiro Arr**	**24.67**	**235**	P	P	12 15 37.7	+0.5
	0.6nm,0.5s,baz=34,slow=8,SNR=2.4						
KDAK	**Kodiak Island**	**24.67**	**64**	P	P	12 15 38.4	+1.5
	2.3nm,0.8s,baz=248,slow=11,SNR=1.2						
ILAR	**Eielson Array**	**26.74**	**47**	P	P	12 15 56.7	+1.1
	0.4nm,0.7s,baz=252,slow=9.3,SNR=7.1						
KSRS	**Korea Array**	**29.33**	**250**	P	P	12 16 19.5	+0.6
	0.5nm,0.5s,baz=38,slow=9.1,SNR=2.7						
JNU	**Nakatsue**	**31.03**	**240**	P	P	12 16 31.9	-2.1
	2.2nm,0.3s,baz=301,slow=24,SNR=26						
H11N2	**WAKE ISLAND Hy**	**34.49**	**174**	T	T	12 54 58.7	
	baz=357						
H11N3	**WAKE ISLAND Hy**	**34.51**	**174**	T	T	12 54 48.0	
	baz=357						
H11N1	**WAKE ISLAND Hy**	**34.51**	**174**	T	T	12 54 39.4	
	baz=357						
YKA	**Yellowknife Ar**	**41.11**	**44**	P	P	12 18 00.6	+0.9
	0.2nm,0.8s,baz=292,slow=6.9,SNR=2.6						
YKA				pP	sP	12 18 16.4	+2.1
	0.2nm,0.7s,baz=300,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**49.34**	**297**	P	P	12 19 02.9	-2.3
	0.3nm,0.6s,baz=52,slow=7.9,SNR=4.6						
FINES	**FINESS Array B**	**59.85**	**338**	P	P	12 20 20.5	-0.5
	1.2nm,0.7s,baz=16,slow=7.2,SNR=5.6						
CMAR	**Chiang Mai Arr**	**60.20**	**260**	P	P	12 20 24.4	+0.4
	0.8nm,0.3s,baz=24,slow=7.0,SNR=5.0						
TXAR	**Lajitas Array**	**68.52**	**70**	P	P	12 21 20.5	+2.0
	0.2nm,0.7s,baz=298,slow=3.8,SNR=1.9						
TXAR				pP	pwP	12 21 36.9	+0.2
	0.2nm,0.5s,baz=296,slow=4.6,SNR=3.7						
WRA	**Warramunga Arr**	**77.86**	**208**	P	P	12 22 13.7	+0.3
	0.2nm,0.6s,baz=25,slow=6.0,SNR=2.1						
ASAR	**Alice Springs**	**81.53**	**207**	P	P	12 22 33.9	+0.6
	0.2nm,0.6s,baz=20,slow=4.9,SNR=5.2						

*BEO **26** 12:11:17.1±1.0, 40°25N×20°12E, h10km±3km, ML2.3/7*
*ATH **26** 12:11:18.6, 40°59N×19°91E, h9km±3km, ML2.2/5, Error ellipse: s-maj=3.2km s-min=1.2km az=133.0*
*TIR **26** 12:11:20.8, 40°49N×20°07E, h12km, Md2.6*
*THE **26** 12:11:21.0, 40°48N×20°05E, h2km±9km, ML2.2/5, Error ellipse: s-maj=9.0km s-min=1.1km az=357.0*

ISC 26 12:11:20.4±1.1, 40°47N±0°02×20°04E±0°02, h17km±9km, n46, σ1.35/78, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.41**	**270**	P	Pg	12 11 28.6	-0.3
VLO	**Vlora**	**0.41**	**270**	P	Pb	12 11 29.7	+0.5
	baz=268						
VLO				S	Sb	12 11 36.7	+1.5
	baz=268						
LSK	**Leskovik**	**0.54**	**127**	P	Pb	12 11 30.2	-1.2
LSK				S	Sb	12 11 38.5	-0.3
LSK	**Leskovik**	**0.54**	**127**	P	Pb	12 11 30.7	-0.7
	baz=129						
LSK				S	Sn	12 11 40.6	-1.3
	baz=129						
KBN	**Korca**	**0.59**	**75**	P	Pg	12 11 30.7	-1.5
KBN				S	Sb	12 11 40.8	+0.4
	368nm,0.6s						
KBN	**Korca**	**0.59**	**75**	P	Pb	12 11 31.7	-0.6
	baz=76						
KBN				S	Sb	12 11 41.3	+0.9
	baz=76						
SRN	**Sarande**	**0.59**	**183**	P	Pb	12 11 32.1	-0.1
SRN				S	Sb	12 11 41.1	+0.8
	270nm,0.5s						
SRN	**Sarande**	**0.59**	**183**	P	Pb	12 11 32.2	-0.1
	baz=185						
SRN				S	Sn	12 11 43.4	+0.3
	baz=185						
KASA	**Kassiopi**	**0.73**	**186**	P	Pb	12 11 34.6	0.0
KASA				S	Sn	12 11 46.1	-0.5
NEST	**Nestorio**	**0.77**	**94**	P	Pb	12 11 34.8	-0.6
NEST	**Nestorio**	**0.77**	**94**	P	Pn	12 11 35.8	-0.8
NEST				S	Sn	12 11 46.2	-1.6
	68nm,0.3s						
OHR	**Ohrid**	**0.86**	**42**	*e*Pg	Pg	12 11 35.5	-1.7
OHR				*e*Sg	Sb	12 11 48.9	+0.7
OHR	**Ohrid**	**0.86**	**42**	*e*Pg	Pg	12 11 36.2	-1.0
OHR				*e*Sg	Sn	12 11 49.7	-0.3
PENT	**Pentalofos**	**0.88**	**108**	P	Pn	12 11 37.4	-0.7
PENT				S	Sn	12 11 50.8	+0.2
PENT	**Pentalofos**	**0.88**	**108**	P	Pn	12 11 38.0	-0.1
TIR	**Tirane**	**0.89**	**351**	*e*Pg	Pg	12 11 37.1	-0.6
TIR				*e*Sg	Sn	12 11 52.8	+2.3
TIR	**Tirane**	**0.89**	**351**	P	Pg	12 11 33.7	-4.0
TIR				AML	AML	12 11 57.6	
	comp=E,890μm,0.7s						
TIR				AML	AML	12 11 57.9	
	comp=N,576μm,0.4s						
TIR	**Tirane**	**0.89**	**351**	P	Pb	12 11 37.6	+0.3
TIR	**Tirane**	**0.89**	**351**	P	Pn	12 11 38.6	+0.6
	baz=351						
TIR				S	Sn	12 11 52.8	+2.3
	baz=351						
IGT	**Igoumenitsa**	**0.96**	**166**	P	Pn	12 11 39.3	+0.2
IGT				S	Sn	12 11 54.7	+2.2
IGT				AML	AML	12 11 58.8	
	comp=N,318μm,0.4s						
IGT				AML	AML	12 12 01.6	
	comp=E,316μm,0.5s						
IGT	**Igoumenitsa**	**0.96**	**166**	P	Pn	12 11 39.2	+0.1
IGT				S	Sn	12 11 52.7	+0.3
	comp=E,158nm,0.6s						
IGT	**Igoumenitsa**	**0.96**	**166**	P	Pn	12 11 39.7	+0.6
	baz=167						
IGT				S	Sn	12 11 55.0	+2.6
	baz=167						
FNA	**Florina**	**1.06**	**73**	P	Pb	12 11 39.8	-0.6
FNA				S	Sn	12 11 55.0	0.0
FNA				AML	AML	12 12 00.2	
	comp=E,199μm,0.3s						
FNA				AML	AML	12 12 02.5	
	comp=N,223μm,0.4s						
FNA	**Florina**	**1.06**	**73**	P	Pb	12 11 39.8	-0.6
FNA				S	Sn	12 11 56.2	+1.2
	comp=N,110nm,0.5s						
FNA	**Florina**	**1.06**	**73**	P	Pg	12 11 40.0	-1.1
	baz=73						
FNA				S	Sn	12 11 56.6	+1.6
	baz=73						
KPRO	**Kipourio**	**1.14**	**117**	P	Pg	12 11 42.3	-0.1
KPRO				AML	AML	12 12 06.0	
	comp=N,153μm,0.4s						
KPRO				AML	AML	12 12 10.9	
	comp=E,136μm,0.5s						
KPRO	**Kipourio**	**1.14**	**117**	P	Pg	12 11 42.3	-0.1
PHP	**Peshkopia**	**1.25**	**14**	P	Pg	12 11 45.2	+0.6
PHP				S	Sg	12 12 01.7	+0.8
PHP	**Peshkopia**	**1.25**	**14**	P	Pg	12 11 45.5	+0.9
	baz=13						
PHP				S	Sg	12 12 04.4	+3.5
	baz=13						
SCTE	**Santa Cesarea**	**1.27**	**252**	P	Pn	12 11 41.0	-2.3
SCTE				AML	AML	12 12 03.8	
	comp=N,105μm,0.3s						
SCTE				AML	AML	12 12 04.6	
	comp=E,81μm,0.4s						
THL	**Klokotos Trika**	**1.77**	**120**	P	Pg	12 11 54.6	+0.2
GRG	**Griva**	**1.86**	**74**	P	Pb	12 11 53.7	-0.2
BCI	**Bajram Curri**	**1.89**	**1**	P	Pg	12 11 55.4	-1.4
	baz=0.0						
BCI				S	Sg	12 12 22.6	+1.2
	baz=0.0						
PDG	**Podgorica**	**2.04**	**344**	*e*Pn	Pn	12 11 53.9	-0.1
PDG				*e*Sn	Sb	12 12 23.0	+0.9
NOCI	**Noci**	**2.29**	**279**	P	Pn	12 11 57.0	-0.3
NOCI				S	Sn	12 12 24.8	-0.2
PRVS	**Prvonek**	**2.55**	**36**	*e*Pn	Pn	12 12 00.1	-0.8
PRVS				*e*Sn	Sb	12 12 34.1	-2.5
BARS	**Barje**	**2.69**	**29**	*e*Pn	Pn	12 12 02.6	-0.3
BARS				*e*Sn	Sn	12 12 37.0	+1.9
BOSS	**Bosilegrad**	**2.73**	**41**	*e*Pn	Pn	12 12 03.7	+0.3
BOSS				*e*Sn	Sn	12 12 36.5	+0.5
SJES	**Sjenica**	**2.79**	**359**	*e*Pn	Pn	12 12 05.6	+1.3
SJES				*e*Sn	Sn	12 12 40.6	+3.0
STON	**Ston**	**2.97**	**325**	*e*Pn	Pn	12 12 06.1	-0.6
LSTV	**Lastovo**	**3.29**	**315**	*e*Pn	Pn	12 12 10.2	-0.9
HVAR	**Hvar**	**3.81**	**316**	*e*Pn	Pn	12 12 15.1	-3.1
ZIRJ	**Zirje**	**4.56**	**316**	*e*Pn	Pn	12 12 26.4	-2.2
ZIRJ				Sn	Sn	12 13 20.4	-0.7
MORI	**Morici**	**4.68**	**318**	*e*Pn	Pn	12 12 29.2	-0.9
DUGI	**Dugi Otok**	**5.10**	**315**	*e*Pn	Pn	12 12 34.8	-1.2
DUGI				Sn	Sn	12 13 33.0	-1.4
VIRC	**Vir**	**5.31**	**318**	*e*Pn	Pn	12 12 38.8	0.0
VIRC				Sn	Sn	12 13 37.5	-2.0

IDC 26 13:16:37.5±2.5, 63°51S×143°71E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.4/32, mbtmp3.2/3, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.2/6, Error ellipse: s-maj=174.6km s-min=37.6km az=71.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.18**	**165**	Pn	Pn	13 20 12.7	-0.2
	0.1nm,0.3s,baz=323,slow=14,SNR=11						
VNDA				Sn	Sn	13 22 55.5	-5.9
	0.1nm,0.3s,baz=45,slow=20,SNR=1.8						
VNDA				LR	LR	13 26 32.6	
	comp=Z,140nm,20.5s,baz=32,slow=39						
RPZ	**Rata Peaks**	**25.26**	**51**	LR	LR	13 29 31.4	
	comp=Z,92nm,19.4s,baz=196,slow=31						
H01W1	**Cape Leeuwin H**	**33.94**	**313**	T	T	13 59 38.1	
	baz=155						
H01W2	**Cape Leeuwin H**	**33.94**	**313**	T	T	13 59 33.2	
	baz=155						
H01W3	**Cape Leeuwin H**	**33.95**	**313**	T	T	13 59 42.1	
	baz=155						
ASAR	**Alice Springs**	**40.36**	**346**	P	P	13 24 17.8	+1.0
	0.1nm,0.8s,baz=166,slow=10.0,SNR=0.8						
WRA	**Warramunga Arr**	**44.00**	**347**	P	P	13 24 45.2	-1.2
	0.4nm,0.9s,baz=172,slow=6.7,SNR=6.1

Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$0.08; $M_{r\theta}$0.23; $M_{r\phi}$-0.31; $M_{\theta\phi}$0.56; Fault plane solution: $M_0$1.03000×10^{15} NP1:ϕ_s46.00000°, δ64.00000°, λ61.00000°. NP2:ϕ_s277.00000°, δ38.00000°, λ134.00000°.

*NEIC **26** 13:33:28.2± 1.5, 36.01N± 0.04× 139.93E± 0.08, h43km± 6km, mb4.2/5 Error ellipse: s-maj=9.2km s-min=5.7km az=105.0*

*JMA **26** 13:33:28.5, 36.04N× 139.88E, h43km± 1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s44.00000°, δ70.00000°, λ87.00000°. NP2:ϕ_s232.00000°, δ20.00000°, λ98.00000°. Principal axes: T Plg65.0000°, Azm309.0000°; N Plg3.0000°, Azm45.0000°; P Plg25.0000°, Azm136.0000°;*

JMA Felt II J1.

*IDC **26** 13:33:33.5± 0.7, 35.49N× 138.58E, h62km± 8km, mb3.3/6, mb1 3.5/7, mb1mx3.3/36, mbtmp3.6/7, MS2.8/4, Ms1 2.8/4, ms1mx2.5/36 Error ellipse: s-maj=29.6km s-min=6.4km az=71.0*

ISC 26 13:33:28.4± 0.8, 36.04N± 0.04× 139.94E± 0.05, h60km, n44, σ1$ 25/38, mb3.9/9, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.28**	**48**	⇑P			**Pn**	**13 33 37.1**	**-1.2**
JYT				S			**Sn**	**13 33 43.3**	**-2.2**
JYT	**Yasato**	**0.28**	**48**				**Pn**	**13 33 37.0**	**-1.2**
JYT							**Sn**	**13 33 43.2**	**-2.2**
JAG	**Ashikaga**	**0.55**	**314**	⇓P			**Pn**	**13 33 39.6**	**-1.2**
JRY	**Ryogami san**	**0.84**	**269**	⇓P			**Pn**	**13 33 43.0**	**-1.4**
JKT	**Katashina**	**0.91**	**323**	⇓P			**Pn**	**13 33 44.4**	**-0.9**
JOD2	**Odawara 2**	**1.04**	**222**	P			**Pn**	**13 33 46.3**	**-0.7**
JOD2					*e*S		**Sn**	**13 33 59.4**	**-1.3**
JYN	**Shimok**	**1.26**	**245**	P			**Pn**	**13 33 49.9**	**0.0**
BSO3	**Boso 3**	**1.32**	**159**	⇓P			**Pn**	**13 33 50.0**	**-0.4**
JFNN	**Fujinakano**	**1.33**	**231**	*e*S			**Sn**	**13 34 06.7**	**-0.7**
MJAR	**Matsushiro Arr**	**1.48**	**290**	P			**Pn**	**13 33 52.3**	**-0.6**
	2.0nm,0.3s,baz=86,slow=12,SNR=215								
MJAR				S			**Sn**	**13 34 07.1**	**-4.2**
	3.5nm,0.3s,baz=158,slow=18,SNR=7.4								
MJAR				LR			LR	13 34 31.0	
	comp=Z,183nm,19.6s,baz=146,slow=52								
MAJO	**Matsushiro**	**1.48**	**290**	Pn			**Pn**	**13 33 52.4**	**-0.4**
MJB9	**Matsu-Tunnel**	**1.49**	**290**	Pn			**Pn**	**13 33 52.6**	**-0.3**
JMM	**Marumori**	**1.94**	**20**				**Pn**	**13 33 59.8**	**+0.7**
JGF	**Kuroka**	**2.14**	**259**	Pn			**Pn**	**13 34 02.9**	**+1.1**
JSD	**Sado**	**2.40**	**327**	Pn			**Pn**	**13 34 04.8**	**-0.5**
INU	**Inuyama**	**2.48**	**255**	Pn			**Pn**	**13 34 06.6**	**+0.3**
JHJ	**Hachijo jima 2**	**2.92**	**183**	P			**Pn**	**13 34 11.9**	**-0.5**
	181nm,0.3s,baz=48,slow=22,SNR=66								
JHJ				S			**Sn**	**13 34 43.9**	**-2.3**
	94nm,0.3s,baz=9.5,slow=18,SNR=12								
JHJ				LR			LR	13 35 03.9	
	comp=Z,46nm,18.5s,baz=70,slow=35								
JHJ2	**Mitsune**	**2.93**	**182**				**Pn**	**13 34 11.6**	**-0.9**
JHS	**Saijyo**	**5.66**	**261**	Pn			**Pn**	**13 34 50.4**	**+0.5**
ERM	**Erimo**	**6.47**	**22**	Pn			**Pn**	**13 35 02.1**	**+1.2**
KLR	**Kul'dur**	**14.48**	**338**	LR			LR	13 41 56.3	
	comp=Z,52nm,19.1s,baz=253,slow=34								
GUMO	**Guam**	**22.79**	**168**	LR			LR	13 46 33.1	
	comp=Z,38nm,19.7s,baz=122,slow=35								
YAK	**Yakutsk**	**26.80**	**349**	LR			LR	13 49 27.8	
	comp=Z,45nm,19.0s,baz=88,slow=35								
H11N2	**WAKE ISLAND Hy**	**28.71**	**117**	T			T	14 09 02.8	
	baz=309,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**28.71**	**117**	T			T	14 08 59.7	
	baz=309,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**28.73**	**117**	T			T	14 09 04.1	
	baz=309,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy**	**29.37**	**119**	T			T	14 10 24.9	
	baz=314,slow=76,SNR=29								
H11S3	**WAKE ISLAND Hy**	**29.37**	**119**	T			T	14 10 03.7	
	baz=314,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**29.38**	**119**	T			T	14 10 20.8	
	baz=314,slow=76,SNR=16								
ZALV	**Zalesovo Beam**	**41.71**	**313**	P			**P**	**13 41 11.9**	**+0.8**
	1.5nm,0.7s,baz=86,slow=5.9,SNR=7.4								
ZALV	**Zalesovo Beam**	**41.71**	**313**	P			**P**	**13 41 12.4**	**+1.3**
MKAR	**Makanchi Array**	**43.65**	**303**	P			**P**	**13 41 27.1**	**+0.1**
	0.4nm,0.8s,baz=76,slow=12,SNR=3.1								
KURK	**Kurchatov**	**45.61**	**309**	P			**P**	**13 41 42.9**	**+0.4**
KURK				IAmb		IAmb	IAmb	13 41 43.6	
	comp=Z,3.1nm,0.8s								
ILAR	**Eielson Array**	**50.96**	**32**	P			P	13 42 36.2	+13
	comp=Z,0.8nm,0.9s,baz=279,slow=6.0,SNR=6.7								
BCAR	**Beaver Creek A**	**53.38**	**34**	P			**P**	**13 42 42.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**55.52**	**197**	P			**P**	**13 42 58.4**	**+1.0**
WB0	**Warramunga Arr**	**55.75**	**186**	P			**P**	**13 42 58.6**	**-0.5**
WB2	**Warramunga Arr**	**55.93**	**186**	P			**P**	**13 43 01.1**	**+0.8**
WB2						IAmb	IAmb	13 43 15.8	
	comp=Z,1.9nm,0.7s								
WR0	**Warramunga Arr**	**55.93**	**186**	P			**P**	**13 43 00.2**	**-0.1**
WR0						IAmb	IAmb	13 43 15.6	
	comp=Z,3.0nm,1.0s								
WRA	**Warramunga Arr**	**55.93**	**186**	P			**P**	**13 43 00.2**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=0.9,slow=7.6,SNR=16								
WRA	**Warramunga Arr**	**55.93**	**186**				**P**	**13 43 00.3**	**-0.1**
ABKAR	**Akbulak array**	**57.67**	**310**	P			**P**	**13 43 13.1**	**+0.7**
ASAR	**Alice Springs**	**59.66**	**186**	P			**P**	**13 43 27.1**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=4.9,slow=7.0,SNR=12								
YKA	**Yellowknife Ar**	**65.26**	**30**	P			P	13 44 14.6	+11
	comp=Z,0.2nm,0.7s,baz=300,slow=6.5,SNR=4.5								

DJA 26 14:11:51.0± 1.2, 8°S± 3°× 12°E± °, h12km± 9km, M4.2/16, mb4.4/15, MLv4.1/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.54**	**237**	P			Pn	14 12 47.4	+1.5
SOEI				S			Sn	14 13 28.0	+0.2
SAUI	**Saumlaki**	**3.97**	**92**	P			Pn	14 12 53.2	+1.4
AAI	**Ambon**	**4.23**	**12**	P			Pn	14 12 56.7	+1.3
BATI	**Baumata**	**4.28**	**237**	P			Pn	14 12 56.4	+0.4
BATI				S			Sn	14 13 46.1	+0.1
MMRI	**Maumere**	**5.06**	**261**	P			Pn	14 13 06.6	-0.2
	0.2nm31nm,1.0s								
BBSI	**Bau Bau**	**5.24**	**296**	P			Pn	14 13 09.3	0.0
	0.0nm1.8nm,1.3s								
SANI	**Sanana**	**5.91**	**347**	P			Pn	14 13 19.3	+0.9
	0.1nm7.3nm,0.8s								
BSSI	**Bau Bau, Buton**	**6.96**	**284**	P			Pn	14 13 32.3	-0.6
	0.1nm19nm,0.9s								
LBMI	**Labuha**	**7.17**	**2**	P			Pn	14 13 35.9	+0.2
	0.1nm7.1nm,0.7s								
KMPI	**Kaimana, Papua**	**7.62**	**57**	P			Pn	14 13 42.2	+0.3
	14nm2µm,0.7s								
BNSI	**Bone**	**7.92**	**295**	P			Pn	14 13 45.8	-0.3
	0.1nm12nm,1.2s								
WBSI	**Waikabubak, Su**	**8.01**	**257**	P			Pn	14 13 46.0	-1.3
	0.2nm19nm,1.1s								
SPSI	**Sidrap Palu**	**8.42**	**297**	P			Pn	14 13 51.9	-1.0
	14nm,0.9s								
TNTI	**Ternate**	**8.56**	**1**	P			Pn	14 13 54.0	-0.9
	24nm,1.1s								
KMSI	**Cibinong**	**9.00**	**338**	P			Pn	14 14 00.5	-0.3
	45nm,0.8s								
PLAI	**Plampang**	**9.46**	**263**	P			Pn	14 14 06.1	-1.2
	22nm,1.0s								
WAMI	**Wamena**	**12.02**	**72**	P			Pn	14 14 43.1	+0.8
	113nm,0.7s								
MMPI	**Merauke**	**12.98**	**94**	P			Pn	14 14 54.2	-1.2

*BJI **26** 14:12:03.3± 0.0, 6.31S× 149.24E, h75km, mb4.7/34, mB4.9/20, Ms4.3/5, Ms7 4.1/5*

*IDC **26** 14:12:06.3± 1.9, 6.01S× 148.83E, h62km± 16km, mb4.3/16, mb1 4.6/19, mb1mx4.3/30, mbtmp4.7/19, MS3.6/40, Ms1 3.6/40, ms1mx3.5/60, Error ellipse: s-maj=17.0km s-min=10.6km az=92.0*

*NEIC **26** 14:12:07.6± 2.0, 6.09S± 0.03× 148.85E± 0.07, h69km± 7km, mb4.8/68, Error ellipse: s-maj=11.3km s-min=2.6km az=69.0*

*DJA **26** 14:12:07.0± 0.4, 6°S± 3°× 14°9E± °, h66km± 4km, M4.9/31, mb5.0/31, mB5.2/6, MLv5.2/3, Mw(mB)4.6/6, MwMwp5.1/1, Mwp5.3/1*

ISC 26 14:12:05.9± 0.3, 6.10S± 0.05× 148.83E± 0.06, h60km, n221, σ1$ 52/190, mb4.8/64, MS3.7/36, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**207**	P			**Pn**	**14 13 02.1**	**+1.8**
	111nm,0.3s,baz=36,slow=5.8,SNR=427								
PMG					S		**Sn**	**14 13 45.2**	**+2.8**
	142nm,0.3s,baz=133,slow=14,SNR=11								
PMG	**Port Moresby**	**3.68**	**207**	Pn			**Pn**	**14 13 01.9**	**+1.6**
RABL	**Rabaul**	**3.83**	**60**				**Pn**	**14 13 03.7**	**+1.4**
MANU	**Manus Island**	**4.28**	**340**				**Pn**	**14 13 10.6**	**+1.9**
JAY	**Jayapura**	**8.85**	**293**	P			Pn	14 14 16.6	+5.4
	2.3nm,0.3s,baz=127,slow=4.5,SNR=7.7								
JAY					LR		LR	14 18 16.2	
	comp=Z,257nm,19.1s,baz=52,slow=42								
COEN	**Coen**	**9.59**	**215**	Pn			**Pn**	**14 14 21.6**	**+0.3**
MTSU	**Mount Surprise**	**12.75**	**200**	P			**Pn**	**14 15 05.6**	**+1.1**
	baz=13,SNR=47								
CTA	**Charters Tower**	**14.13**	**190**	P			**Pn**	**14 15 25.1**	**+2.0**
	1.2nm,0.3s,baz=22,slow=15,SNR=25								
CTA					LR		LR	14 20 59.6	
	comp=Z,241nm,18.3s,baz=7.0,slow=38								
CTAO	**Charters Tower**	**14.13**	**190**	P			**Pn**	**14 15 25.0**	**+1.9**
KMPI	**Kaimana, Papua**	**15.26**	**278**	P			**Pn**	**14 15 37.4**	**-0.4**
	1µm,0.5s								
QIS	**Mount Isa**	**16.93**	**211**	P			**Pn**	**14 15 59.1**	**+0.2**
	baz=17,SNR=15								
SAUI	**Saumlaki**	**17.50**	**263**	P			P	14 16 23.0	+17
SIJI	**Sorong**	**18.28**	**286**	LR			LR	14 25 29.4	
	comp=Z,60nm,19.4s,baz=104,slow=44								
SWI	**Sorong**	**18.28**	**286**	P			**P**	**14 16 11.6**	**-3.4**
	25nm,0.9s								
MTN	**Manton Dam**	**18.69**	**248**	P			**Pn**	**14 16 20.6**	**+0.3**
MTN						IAmb	IAmb	14 16 34.8	
	comp=Z,25nm,0.6s								
EIDS	**Eidsvold**	**19.28**	**174**	P			**P**	**14 16 27.5**	**+1.6**
	baz=19,SNR=11								
EIDS	**Eidsvold**	**19.28**	**174**	P			**P**	**14 16 26.8**	**+0.9**
WB0	**Warramunga Arr**	**19.53**	**225**	P			**P**	**14 16 28.0**	**-0.6**
WB0						IAmb	IAmb	14 16 31.4	
	comp=Z,43nm,0.7s								
WR0	**Warramunga Arr**	**19.56**	**224**	P			**P**	**14 16 29.8**	**+0.9**
WR0						IAmb	IAmb	14 16 32.2	
	comp=Z,52nm,1.1s								
WRAB	**Tennant Creek**	**19.67**	**224**	P			**P**	**14 16 31.1**	**+0.9**
WB2	**Warramunga Arr**	**19.68**	**224**	P			**P**	**14 16 31.4**	**+1.1**
WRA	**Warramunga Arr**	**19.69**	**224**	P			**P**	**14 16 32.1**	**+1.7**
	comp=Z,6.2nm,0.3s,baz=50,slow=11,SNR=78								
WRA					S		**S**	**14 20 00.9**	**-8.4**
	comp=Z,0.3nm,0.3s,baz=44,slow=23,SNR=6.3								
WRA					PcP		**PcP**	**14 20 47.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=44,slow=2.3,SNR=5.6								
WRA					LR		LR	14 24 02.7	
	comp=Z,192nm,21.0s,baz=4.5,slow=36								
WRA					ScP		**ScP**	**14 24 19.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=49,slow=2.5,SNR=4.6								
WRA	**Warramunga Arr**	**19.69**	**224**	P			**P**	**14 16 30.7**	**+0.4**
GUMO	**Guam**	**19.95**	**349**	P			**Pn**	**14 16 35.8**	**+0.4**
	comp=Z,9.3nm,0.3s,baz=174,slow=9.2,SNR=10.0								
GUMO					LR		LR	14 23 33.3	
	comp=Z,69nm,21.3s,baz=178,slow=35								
RMQ	**Roma**	**20.27**	**180**	P			Pn	14 16 38.8	-0.3
	baz=20,SNR=15								
SANVU	**Saraoutou**	**20.29**	**119**	P			**P**	**14 16 37.3**	**+0.4**
SANVU						IAmb	IAmb	14 17 00.8	
	comp=Z,43nm,1.0s								
QLP	**Quilpie**	**20.84**	**192**	P			**P**	**14 16 44.8**	**+2.1**
	baz=21,SNR=18								
KNRA	**Kununurra**	**21.86**	**243**	P			**P**	**14 16 54.9**	**+1.1**
	baz=22,SNR=18								
KNRA	**Kununurra**	**21.86**	**243**	P			**P**	**14 16 53.9**	**+0.1**
AS31	**Alice Springs**	**22.61**	**218**	P			**P**	**14 17 02.9**	**+1.1**
AS31						IAmb	IAmb	14 17 22.6	
	comp=Z,16nm,0.7s								
ASAR	**Alice Springs**	**22.61**	**218**	P			**P**	**14 17 03.0**	**+1.1**
	comp=Z,22nm,0.6s,baz=51,slow=9.6,SNR=258								
ASAR					PcP		**PcP**	**14 20 54.0**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=59,slow=2.0,SNR=7.5								
ASAR					ScP		**ScP**	**14 24 26.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=46,slow=2.2,SNR=3.9								
ASAR					LR		LR	14 26 48.8	
	comp=Z,201nm,21.5s,baz=48,slow=39								
ASAR	**Alice Springs**	**22.61**	**218**	P			**P**	**14 17 02.8**	**+1.0**
SANI	**Sanana**	**23.13**	**279**	P			**P**	**14 17 07.4**	**+0.2**
	comp=Z,19nm,1.0s								
DZM	**Mont Dzumac**	**23.28**	**135**	*e*P			**P**	**14 17 06.9**	**-1.8**
	comp=Z,36nm,0.8s								
DZM					*e*S		**S**	**14 21 07.1**	**-10**
	comp=Z,278nm,25.6s								
DZM					*e*LR		LR	14 22 47.7	
	comp=Z,620nm,23.4s								
DZM	**Mont Dzumac**	**23.28**	**135**	P			**P**	**14 17 08.4**	**-0.3**
	comp=Z,8.7nm,0.7s,baz=157,slow=21,SNR=9.5								
DZM					LR		LR	14 24 59.4	
	comp=Z,412nm,20.9s,baz=288,slow=33								
DZM	**Mont Dzumac**	**23.28**	**135**	P			**P**	**14 17 08.7**	**0.0**
DZM						IAmb	IAmb	14 17 30.7	
	comp=Z,27nm,1.1s								
ARMA	**Armidale**	**24.34**	**174**	P			**P**	**14 17 19.5**	**+1.2**
	baz=24,SNR=5.7								
ARMA	**Armidale**	**24.34**	**174**	P			**P**	**14 17 19.3**	**+1.0**
SOEI	**Soe**	**24.59**	**260**	P			**P**	**14 17 21.4**	**+0.6**
SOEI						IAmb	IAmb	14 17 33.8	
	comp=Z,43nm,0.9s								
SOEI	**Soe**	**24.59**	**260**	P			**P**	**14 17 22.6**	**+1.8**
	comp=Z,48nm,0.8s								
BATI	**Baumata**	**25.23**	**259**	P			**P**	**14 17 27.7**	**+1.2**
	comp=Z,91nm,0.7s,baz=16,slow=2.3,SNR=12								
BATI					LR		LR	14 28 29.2	
	comp=Z,172nm,20.0s,baz=89,slow=39								
BATI	**Baumata**	**25.23**	**259**	P			**P**	**14 17 27.9**	**+1.3**
	comp=Z,652nmcomp=Z,76nm,0.8s								
CMSA	**Cobar Meteorol**	**25.48**	**186**	P			**P**	**14 17 28.2**	**-0.3**
	baz=26,SNR=11								
FITZ	**Fitzroy Crossi**	**25.57**	**240**	P			**P**	**14 17 30.3**	**+0.7**
	comp=Z,30nm,0.5s,baz=70,slow=7.6,SNR=27								
FITZ					LR		LR	14 29 02.0	
	comp=Z,198nm,21.4s,baz=78,slow=40								
FITZ	**Fitzroy Crossi**	**25.57**	**240**	P			**P**	**14 17 30.4**	**+0.9**
MMRI	**Maumere**	**26.49**	**263**	P			**P**	**14 17 36.5**	**-1.3**
MMRI	**Maumere**	**26.49**	**263**	P			**P**	**14 17 36.8**	**-1.1**
	comp=Z,95nm,0.8s								
STKA	**Stephens Creek**	**26.52**	**194**	P			**P**	**14 17 40.4**	**+2.5**
	comp=Z,5.8nm,0.8s,baz=16,slow=11,SNR=8.7								
STKA					LR		LR	14 28 09.7	
	comp=Z,313nm,20.3s,baz=22,slow=36								
STKA	**Stephens Creek**	**26.52**	**194**	P			**P**	**14 17 40.6**	**+2.7**
	baz=27,SNR=5.5								
STKA	**Stephens Creek**	**26.52**	**194**	P			**P**	**14 17 40.5**	**+2.5**
DAV	**Davao City (W)**	**26.63**	**299**	LR			LR	14 26 50.7	
	comp=Z,17nm,19.1s,baz=111,slow=33								
WRKA	**Warakurna**	**27.23**	**224**	P			**P**	**14 17 45.1**	**+0.6**
	baz=27,SNR=14								
BASI	**Baing, Sumba**	**28.25**	**260**	P			**P**	**14 17 53.6**	**-0.1**
	comp=Z,75nm,1.4s								
HTT	**Hallett**	**28.71**	**197**	P			**P**	**14 17 58.4**	**+0.8**
	baz=29,SNR=5.8								
KAPI	**Kappang**	**28.96**	**271**	LR			LR	14 31 25.6	
	comp=Z,56nm,18.1s,baz=85,slow=40								
CAN	**Canberra**	**29.08**	**180**	P			**P**	**14 18 00.8**	**0.0**
CAN						IAmb	IAmb	14 18 05.5	
	comp=Z,28nm,1.4s								
BBOO	**Buckleboo**	**29.12**	**202**	P			**P**	**14 18 01.8**	**+0.6**
BBOO						IAmb	IAmb	14 18 14.9	
	comp=Z,18nm,1.3s								
WBSI	**Waikabubak, Su**	**29.36**	**261**	P			P	14 17 59.2	-4.4
	comp=Z,54nm,0.9s								
FORT	**Forrest**	**31.35**	**216**	P			**P**	**14 18 21.6**	**+0.7**
	baz=31,SNR=6.9								
FORT	**Forrest**	**31.35**	**216**	P			**P**	**14 18 21.1**	**+0.1**
FORT						IAmb	IAmb	14 18 35.5	
	comp=Z,28nm,0.9s								
MBWA	**Marble Bar**	**31.90**	**239**	P			**P**	**14 18 25.2**	**-0.7**
PSA00	**Pilbara Seismi**	**31.98**	**238**	P			**P**	**14 18 26.7**	**+0.2**
PSA00						IAmb	IAmb	14 18 40.9	
	comp=Z,18nm,0.8s								
JCJ	**Chichijima**	**33.62**	**349**	LR			LR	14 31 03.6	
	comp=Z,30nm,20.9s,baz=116,slow=34								
MEEK	**Meekatharra**	**35.29**	**231**	P			**P**	**14 18 56.2**	**+0.8**
	baz=35,SNR=14								
GIRL	**Giralia**	**37.19**	**240**	P			**P**	**14 19 12.0**	**+0.5**
	baz=37,SNR=4.5								
GIRL	**Giralia**	**37.19**	**240**	P			**P**	**14 19 13.5**	**+1.9**
JOW	**Kunigami**	**38.31**	**330**	LR			LR	14 32 14.7	
	comp=Z,126nm,19.8s,baz=311,slow=32								
MORW	**Morawa**	**38.48**	**230**	P			**P**	**14 19 22.9**	**+0.5**
	baz=38,SNR=12								
MORW	**Morawa**	**38.48**	**230**	P			**P**	**14 19 23.1**	**+0.8**
MORW						IAmb	IAmb	14 19 40.5	
	comp=Z,20nm,1.1s								
KLBR	**Kellerberrin**	**38.57**	**225**	P			**P**	**14 19 23.5**	**+0.4**
	baz=39,SNR=7.7								
AFI	**Afiamalu**	**39.52**	**104**	LR			LR	14 34 06.8	
	comp=Z,129nm,18.7s,baz=263,slow=33								
KPJI	**Karang Pucung**	**39.63**	**266**	P			**P**	**14 19 32.9**	**+0.7**
	comp=Z,32nm,0.9s								
YULB	**Yu-li**	**39.78**	**318**	P			**P**	**14 19 33.4**	**+0.2**
JHJ	**Hachijo jima 2**	**39.94**	**348**	LR			LR	14 33 38.6	
	comp=Z,118nm,19.2s,baz=133,slow=32								
LEM	**Lembang**	**40.95**	**267**	P			**P**	**14 19 42.1**	**-1.1**
	comp=Z,14nm,0.5s,baz=47,slow=19,SNR=4.4								
LEM					LR		LR	14 40 42.6	
	comp=Z,80nm,18.9s,baz=79,slow=42								
LEM	**Lembang**	**40.95**	**267**	P			**P**	**14 19 43.4**	**+0.1**
	comp=Z,13nm,0.9s								
URZ	**Urewera**	**41.02**	**145**	P			**P**	**14 19 43.3**	**0.0**
	comp=Z,3.4nm,0.6s,baz=252,slow=9.6,SNR=1.7								
URZ					LR		LR	14 35 35.2	
	comp=Z,94nm,19.3s,baz=25,slow=34								
CNJI	**Cibinong**	**41.42**	**266**	P			**P**	**14 19 45.8**	**-1.1**
	comp=Z,1µmcomp=Z,123nm,1.1s								
RPZ	**Rata Peaks**	**42.26**	**156**	LR			LR	14 36 30.9	
	comp=Z,143nm,18.6s,baz=334,slow=35								
JNU	**Nakatsue**	**42.57**	**338**	P			**P**	**14 19 56.3**	**+0.3**
MJAR	**Matsushiro Arr**	**43.57**	**348**	P			**P**	**14 20 04.0**	**-0.1**
	comp=Z,7.3nm,0.9s,baz=174,slow=7.7,SNR=16								
MJAR					LR		LR	14 36 09.6	
	comp=Z,62nm,20.4s,baz=173,slow=33								
MJAR	**Matsushiro Arr**	**43.57**	**348**	P			**P**	**14 20 03.4**	**-0.7**
MJAR						IAmb	IAmb	14 20 19.7	
	comp=Z,15nm,1.1s								
MAJO	**Matsushiro**	**43.57**	**348**	P			**P**	**14 20 03.3**	**-0.7**
NJ2	**Nanjing**	**47.49**	**325**	*e*P			**P**	**14 20 37.0**	**+1.9**
NJ2						pmax	pmax		
	comp=Z,9.0nm,0.5s								
KSRS	**Korea Array**	**47.52**	**337**	P			**P**	**14 20 34.9**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=151,slow=8.3,SNR=27								
KSAR	**Wonju Array Be**	**47.52**	**337**	P			**P**	**14 20 33.7**	**-1.5**
KS19	**Wonju Array Si**	**47.58**	**337**	P			**P**	**14 20 34.5**	**-1.2**
KS19						IAmb	IAmb	14 20 37.3	
	comp=Z,10.0nm,0.9s								
MCQ	**Macquarie Isla**	**48.95**	**172**	P			**P**	**14 20 47.3**	**+1.3**
	baz=49,SNR=3.6								
PSI	**Prapat**	**50.61**	**279**	LR			LR	14 47 56.4	
	comp=Z,77nm,18.9s,baz=148,slow=42								
GYA	**Guiyang**	**52.12**	**310**	⇓P			**P**	**14 21 11.0**	**+0.5**
GYA						pmax	pmax		
	comp=Z,16nm,0.7s								
USRK	**Ussuriysk Ar.**	**52.32**	**345**	P			**P**	**14 21 11.4**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=176,slow=7.8,SNR=6.9								
USRK					LR		LR	14 41 19.5	
	comp=Z,42nm,21.2s,baz=185,slow=34								
CN2	**Changchun**	**53.98**	**339**	*e*P			**P**	**14 21 21.5**	**-2.2**
CN2					*e*S		**S**	**14 28 51.3**	**-3.8**
CN2					LR		LR		
	comp=Z,70nm,17.0s								
CN2					LR		LR		
	comp=Z,100nm,17.0s								
CN2					LR		LR		
	comp=Z,130nm,17.0s								
CMAR	**Chiang Mai Arr**	**54.90**	**297**	P			**P**	**14 21 29.4**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=116,slow=6.1,SNR=2.1								
BNX	**BinXian**	**55.04**	**342**	⇓P			**P**	**14 21 32.3**	**+0.9**
BNX						pmax	pmax		
	comp=Z,23nm,1.1s								
BNX						pmax	pmax		
	comp=Z,210nm,5.4s								
PZH	**PanZhiHua**	**55.95**	**308**	P			**P**	**14 21 41.0**	**+2.5**
PZH						pmax	pmax		
	comp=Z,10.0nm,0.5s								
PZH						pmax	pmax		
	comp=Z,90nm,5.9s								
CD2	**Chengdu**	**56.66**	**313**	P	

comp=Z,6.8nm,0.8s
M20K Styx River 81.00 24 P **P** 14 24 14.9 +0.9
baz=239
L20K Farewell, AK 81.02 23 P **P** 14 24 15.1 +1.1
baz=238,SNR=7.3
GCSA Galena City Sc 81.16 21 P **P** 14 24 15.7 +1.0
baz=235
K20K Telida 81.42 23 IAmb IAmb 14 24 18.4
comp=Z,8.8nm,0.8s
K20K Telida 81.42 23 P **P** 14 24 17.4 +1.2
baz=238,SNR=12
BOOM Boomskoye usch 81.64 314 IAmb IAmb 14 24 20.6
comp=Z,5.2nm,0.6s
J20K Nowinta River 81.83 22 P **P** 14 24 19.6 +1.3
baz=237,SNR=6.9
CAST Castle Rocks 82.21 23 IAmb IAmb 14 24 21.7
comp=Z,13nm,0.8s
CAST Castle Rocks 82.21 23 P **P** 14 24 20.3 0.0
baz=239,SNR=16
CHUM Lake Minchumin 82.36 22 P **P** 14 24 21.9 +0.9
baz=239,SNR=17
KURBB Kurchatov Arra 82.40 323 PKKPbc PKKPbc 14 42 49.3 -1.1
comp=Z,0.4nm,0.5s,baz=290,slow=3.1,SNR=4.5
CUT Chulitna 82.43 24 IAmb IAmb 14 24 21.9
comp=Z,16nm,1.0s
CUT Chulitna 82.43 24 P **P** 14 24 20.9 -0.5
baz=241
PMR Palmer 82.52 25 P **P** 14 24 21.7 -0.1
baz=242
PWL Port Wells 82.52 26 P **P** 14 24 22.2 +0.3
baz=243
AAK Ala-Archa 82.71 314 LR LR 15 02 57.6
comp=Z,36nm,18.3s,baz=94,slow=37
AAK Ala-Archa 82.71 314 P **P** 14 24 21.9 -1.7
KTH Kantishna Hill 82.73 23 IAmb IAmb 14 24 23.1
comp=Z,8.8nm,0.7s
MAW Mawson 82.86 203 P **P** 14 24 23.5 -0.1
comp=Z,4.0nm,0.8s,baz=75,slow=5.0,SNR=3.0
TRF Thorofare Moun 82.93 23 IAmb IAmb 14 24 25.9
comp=Z,18nm,1.4s
TRF Thorofare Moun 82.93 23 P **P** 14 24 23.6 -0.6
baz=241,SNR=6.8
SML Sawmill 82.95 25 P **P** 14 24 24.5 +0.3
baz=243
BPAW Bear Paw Mtn. 82.97 23 P **P** 14 24 24.1 -0.1
baz=240,SNR=5.3
I21K Tanana 83.15 21 P **P** 14 24 26.5 +1.4
baz=239,SNR=6.6
SCM Sheep Creek Mo 83.39 25 P **P** 14 24 26.7 +0.2
baz=244
MLY Manley 83.53 22 IAmb IAmb 14 24 28.5
comp=Z,8.0nm,0.8s
MLY Manley 83.53 22 P **P** 14 24 27.6 +0.5
baz=240,SNR=11
WAT6 Susitna Watana 83.55 25 P **P** 14 24 27.2 -0.2
baz=244
MCK McKinley 83.59 23 P **P** 14 24 27.2 -0.3
baz=242,SNR=15
KLU Klutina 83.85 26 P **P** 14 24 29.6 +0.7
baz=245
QSPA South Pole Qui 83.87 180 P **P** 14 24 29.1 +0.1
QSPA IAmb IAmb 14 24 30.3
comp=Z,11nm,0.8s
DHY Denali Highway 83.92 24 P **P** 14 24 29.5 +0.2
baz=244,SNR=7.7
NEA2 Nenana 83.94 23 P **P** 14 24 29.1 -0.1
baz=242
M24K Tolsona, Glenn 84.00 25 P **P** 14 24 30.6 +0.9
baz=245
I23K Minto, Yukon-K 84.10 22 P **P** 14 24 29.8 -0.1
baz=242
WRH Wood River Hil 84.26 23 IAmb IAmb 14 24 32.2
comp=Z,9.3nm,1.0s
TCOL CIGO, UAF Yank 84.53 23 P **P** 14 24 32.0 -0.1
baz=243,SNR=5.4
PAX Paxson 84.66 25 P **P** 14 24 33.3 +0.3
baz=246
COLD Coldfoot 84.80 20 P **P** 14 24 34.1 +0.7
COLD IAmb IAmb 14 24 35.7
comp=Z,7.1nm,1.3s
COLD Coldfoot 84.80 20 P **P** 14 24 34.3 +0.9
baz=241
IL31 84.86 23 P **P** 14 24 32.5 -1.3
IL31 IAmb IAmb 14 24 33.8
comp=Z,7.7nm,0.8s
ILAR Eielson Array 84.86 23 P **P** 14 24 32.8 -1.0
comp=Z,6.3nm,0.7s,baz=252,slow=5.2,SNR=59
ILAR LR LR 14 55 01.0
comp=Z,29nm,21.9s,baz=274,slow=30
ILAR Eielson Array 84.86 23 P **P** 14 24 32.2 -1.6
H24K Noodor Dome 84.97 22 P **P** 14 24 34.0 -0.4
baz=243
A21K Barrow 85.07 15 P **P** 14 24 35.6 +0.9
baz=234
RIDG Independent Ri 85.23 24 P **P** 14 24 35.9 +0.1
baz=246
MENT Mentasta 85.38 25 P **P** 14 24 36.8 +0.3
MENT IAmb IAmb 14 24 37.6
comp=Z,4.3nm,0.6s
J25K Salcha River, 85.39 23 P **P** 14 24 36.6 0.0
baz=246,SNR=16
DOT Dot Lake 85.52 24 IAmb IAmb 14 24 38.1
comp=Z,9.8nm,0.9s
L26K Log Cabin Wild 85.57 25 P **P** 14 24 38.0 +0.5
baz=247
SCRK Sand Creek 85.68 24 P **P** 14 24 38.3 +0.3
baz=247
CTG Chitna Glacier 85.69 27 P **P** 14 24 39.1 +0.9
baz=249
TOLK Toolik Lake Re 85.70 19 P **P** 14 24 39.2 +1.2
baz=241
M27K Edge Creek, AK 85.95 26 IAmb IAmb 14 24 41.2
comp=Z,10.0nm,0.8s
M27K Edge Creek, AK 85.95 26 P **P** 14 24 40.5 +1.0
baz=249,SNR=6.4
J26L Joseph Creek 86.05 24 P **P** 14 24 40.3 +0.4
baz=247,SNR=5.8
L27K Beaver Creek, 86.23 25 IAmb IAmb 14 24 42.8
comp=Z,6.7nm,0.9s
L27K Beaver Creek, 86.23 25 P **P** 14 24 41.6 +0.9
baz=249,SNR=6.0
EGAK Eagle 87.12 24 IAmb IAmb 14 24 46.7
comp=Z,11nm,1.1s
EGAK Eagle 87.12 24 P **P** 14 24 45.7 +0.7
baz=249
DAWY Dawson 87.60 25 P **P** 14 24 48.3 +1.0
baz=251,SNR=8.7
M30M Minto, Yukon 88.26 26 P **P** 14 24 51.4 +0.9
baz=253
I29M Ogilvie Camp, 88.45 24 P **P** 14 24 51.9 +0.5
baz=252
BBB Bella Bella 90.53 38 LR LR 14 59 48.4
comp=Z,53nm,19.5s,baz=274,slow=32
DLBC Dease Lake 90.53 31 LR LR 15 05 44.2
comp=Z,28nm,18.3s,baz=302,slow=36
INK Inuvik 91.08 21 P **P** 14 25 03.3 -0.2
baz=256
YBH Yreka Blue Hor 92.87 49 LR LR 14 59 14.7
comp=Z,56nm,21.8s,baz=258,slow=30
A36M Sachs Harbour 94.49 18 P **P** 14 25 19.2 0.0
baz=264
AKTO Aktyubinsk 95.17 320 LR LR 15 11 03.3
comp=Z,29nm,18.2s,baz=1.7,slow=37
ARU Arti 95.18 326 LR LR 15 09 39.1
comp=Z,47nm,18.9s,baz=40,slow=36
NVAR Mina Array Bea 96.00 52 LR LR 15 00 51.9
comp=Z,50nm,20.0s,baz=233,slow=30
NEW Newport 97.21 42 LR LR 15 03 28.3
comp=Z,24nm,20.5s,baz=265,slow=32
PFO Pinyon Flats O 97.26 57 LR LR 15 01 25.4
comp=Z,35nm,20.3s,baz=260,slow=30
YKA Yellowknife Ar 98.41 28 P **P** 14 25 37.0 -0.1
comp=Z,0.7nm,0.9s,baz=271,slow=4.8,SNR=9.3
YKA PKKPbc **PKKPbc** 14 42 06.8 -3.4
comp=Z,0.9nm,0.6s,baz=86,slow=2.8,SNR=21
ELK Elko 98.44 50 LR LR 15 04 45.2
comp=Z,45nm,19.8s,baz=243,slow=32
PDAR Pinedale Array 102.64 48 PKKPbc PKKPbc 14 41 54.9 -2.8
comp=Z,0.2nm,0.4s,baz=76,slow=3.8,SNR=4.4
TXAR Lajitas Array 108.22 61 PKKPbc PKKPbc 14 41 39.2 -0.8
comp=Z,0.3nm,0.6s,baz=117,slow=3.1,SNR=4.3
TXAR PKKP **PKKPab** 14 41 52.6 -0.3
comp=Z,0.5nm,0.9s,baz=108,slow=5.8,SNR=5.0
PLCA Paso Flores 121.03 146 PKP **PKPdf** 14 30 52.0 -0.3
comp=Z,5.1nm,0.8s,baz=234,slow=2.0,SNR=14
GERES GERESS Array B 123.01 326 PKP **PKPdf** 14 30 55.1 -0.7
comp=Z,0.7nm,0.7s,baz=72,slow=1.2,SNR=6.6
LPAZ La Paz 137.20 122 PKP **PKPdf** 14 31 23.5 -0.8
comp=Z,3.6nm,0.8s,baz=253,slow=2.7,SNR=9.0
CPUP Villa Florida 138.98 143 PKP **PKPdf** 14 31 26.5 0.0
comp=Z,3.4nm,0.7s,baz=216,slow=18,SNR=5.1
TORD Torodi Ar. Bea 146.87 285 PKPbc **PKPdf** 14 31 40.5 -0.2
comp=Z,1.7nm,0.4s,baz=84,slow=2.4,SNR=30
TORD Torodi Ar. Bea 146.87 285 **PKPbc** 14 31 42.0 -0.6
BDFB Brasilia 152.71 143 PKP **PKPdf** 14 31 50.4 +0.3
comp=Z,4.3nm,0.8s,baz=169,slow=5.2,SNR=4.7
BDFB PKPbc **PKPbc** 14 31 57.3 +0.1
comp=Z,26nm,0.5s,baz=205,slow=1.1,SNR=29
DBIC Dimbokro 153.84 273 PKPbc **PKPbc** 14 31 59.1 -0.5
comp=Z,1.4nm,0.5s,baz=51,slow=2.6,SNR=3.6

IDC 26 14:22:13.9±2.5, 0°.19N×97°.86E, h0km, mb3.2/3, mb1 3.3/4, mb1mx2.9/37, mbtmp3.1/4, ML2.3/1, Error ellipse: s-maj=77.8km s-min=27.2km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.81**	**22**	Pn		Pn	14 22 59.5	-0.7
	0.5nm,0.3s,baz=149,slow=18,SNR=2.2							
H08S2	**Diego Garcia H**	**26.46**	**252**	T		T	14 55 07.9	
	baz=74,slow=75,SNR=50							
H08S3	**Diego Garcia H**	**26.47**	**252**	T		T	14 55 08.2	
	baz=74,slow=75,SNR=58							
H08S1	**Diego Garcia H**	**26.48**	**252**	T		T	14 55 09.2	
	baz=74,slow=75,SNR=61							
WRA	**Warramunga Arr**	**40.94**	**121**	P		P	14 29 58.1	-0.5
	0.2nm,0.9s,baz=304,slow=8.9,SNR=1.5							
ASAR	**Alice Springs**	**42.26**	**127**	P		P	14 30 09.6	+0.1
	0.2nm,0.7s,baz=293,slow=7.2,SNR=4.2							
MKAR	**Makanchi Array**	**48.38**	**346**	P		P	14 30 57.3	-0.3
	0.3nm,0.5s,baz=158,slow=8.9,SNR=6.2							

*IDC **26** 14:34:11.1±3.9, 17°.46S×64°.78W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/24, mbtmp3.5/3, ML3.2/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/48, Error ellipse: s-maj=154.2km s-min=19.8km az=11.0*
*SCB **26** 14:34:12.4±5.3, 18°.22S×65°.04W, h81km±46km, ML3.4/3, MW3.8, Error ellipse: s-maj=19.4km s-min=11.0km az=1.0*
ISC 26 14:34:09.7±1.0, 18°.20S±0°.07×64°.97W±0°.06, h10km, n17, σ2s32/20, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**3.10**	**192**	P		**Pn**	**14 35 01.5**	**+2.4**
MOCB				S		**Sn**	**14 35 32.7**	**-3.8**
BBOE	**La Paz, Chanca**	**3.19**	**295**	P		**Pn**	**14 35 03.4**	**+3.0**
BBOE				S		**Sn**	**14 35 35.9**	**-2.9**
BBOE				IAML			14 35 57.6	
	96nm,0.4s							
LPAZ	**La Paz**	**3.57**	**302**	Pn		**Pn**	**14 35 07.1**	**+1.4**
	1.9nm,0.3s,baz=117,slow=8.9,SNR=20							
LPAZ				Pg		**Pb**	**14 35 13.4**	**+0.1**
	15nm,0.3s,baz=111,slow=15,SNR=42							
LPAZ				Lg		Lg	14 35 58.6	
	22nm,0.3s,baz=238,slow=18,SNR=7.1							
LPAZ				LR		LR	14 36 44.9	
	comp=Z,35nm,20.2s,baz=31,slow=45							
LPAZ	**La Paz**	**3.57**	**302**	P		**Pn**	**14 35 07.8**	**+2.1**
LPAZ				S		**Sn**	**14 35 44.9**	**-3.4**
LPAZ				IAML			14 36 07.4	
	66nm,0.5s							
BBOD	**La Paz, Gloria**	**3.80**	**294**	P		**Pn**	**14 35 11.1**	**+2.3**
BBOD				S		**Sn**	**14 35 50.1**	**-3.7**
BBOD				IAML			14 36 18.4	
	63nm,0.4s							
YJA	**Yavi**	**3.99**	**187**	P		**Pn**	**14 35 13.0**	**+1.6**
PB16	**IPOC Station P**	**4.31**	**267**	P		**Pn**	**14 35 18.6**	**+2.7**
SIV	**San Ignacio**	**4.33**	**60**	P		**Pn**	**14 35 16.2**	**+0.6**
PB11	**IPOC Station P**	**4.70**	**250**	P		**Pn**	**14 35 22.3**	**+1.4**
PB01	**IPOC Station P**	**5.11**	**236**	P		**Pn**	**14 35 28.6**	**+2.1**
PTLB	**Pontes e Lacer**	**6.22**	**65**	P		**Pn**	**14 35 41.3**	**-0.3**
VILB	**Vilhena**	**6.95**	**42**	P		**Pn**	**14 35 52.1**	**+0.4**
ETMB	**Extrema**	**8.42**	**352**	P		**Pn**	**14 36 12.6**	**+0.7**
SNAA	**Sanae**	**64.21**	**162**	LR		LR	15 12 16.6	
	comp=Z,83nm,19.2s,baz=170,slow=35							
TORD	**Torodi Ar. Bea**	**72.75**	**69**	P		**P**	**14 45 38.6**	**-0.1**
	0.4nm,0.6s,baz=242,slow=5.4,SNR=2.0							
SUR	**Sutherland**	**77.02**	**120**	LR		LR	15 17 29.5	
	comp=Z,56nm,18.4s,baz=155,slow=34							
YKA	**Yellowknife Ar**	**89.38**	**339**	P		**P**	**14 47 06.8**	**+0.6**
	0.3nm,0.7s,baz=126,slow=4.5,SNR=4.1							

*IDC **26** 15:19:49.2±1.9, 0°.14N×97°.76E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.5/44, mbtmp3.7/8, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/83, Error ellipse: s-maj=58.1km s-min=19.2km az=63.0*
*DJA **26** 15:19:53.1±1.3, 0°.N±2°×9°.8E±°, h20km±13km, M4.5/17, mB5.8/4, mb4.6/10, MLv4.2/17, Mw(mB)5.3/4*
ISC 26 15:19:54.3±0.9, 0°.21N±0°.06×97°.94E±0°.07, h30km, n30, σ1s11/29, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.14**	**342**	P		**Pn**	**15 20 12.7**	**-1.6**
GSI				S		**Sb**	**15 20 32.0**	**+2.0**
MNSI	**Mandailing Nat**	**1.74**	**71**	P		**Pb**	**15 20 24.9**	**-0.7**
MNSI				S		**Sb**	**15 20 46.9**	**-0.2**
SISI	**Saibi**	**1.91**	**143**	P		**Pn**	**15 20 26.2**	**+1.4**
SISI				S		**Sb**	**15 20 50.6**	**-1.4**
PPI	**Padang Panjang**	**2.55**	**105**	P		**Pn**	**15 20 35.2**	**+1.6**
PSI	**Prapat**	**2.76**	**21**	Pn		**Pn**	**15 20 36.1**	**-0.4**
	1.5nm,0.3s,baz=195,slow=12,SNR=4.7							
BKNI	**Bangkinang**	**3.11**	**88**	P		**Pn**	**15 20 43.2**	**+1.9**
KCSI	**Kotacane, Aceh**	**3.29**	**357**	P		**Pn**	**15 20 42.2**	**-1.7**
PPSI	**Pulau Pagai**	**3.61**	**145**	P		**Pn**	**15 20 49.4**	**+1.2**
KRJI	**Kerinci**	**4.20**	**123**	P		**Pn**	**15 20 56.1**	**-0.3**
LHMI	**Lhok Sumawe**	**5.08**	**349**	P		**Pn**	**15 21 08.9**	**+0.5**
	0.5nm128nm,1.0s							
MASI	**Maura Aman, Be**	**5.44**	**128**	P		**Pn**	**15 21 15.0**	**+1.6**
	0.3nm40nm,1.3s							
BSI	**Banda Aceh**	**5.88**	**333**	P		**Pn**	**15 21 18.9**	**-0.5**
TPRI	**Tanjung Pinang**	**6.63**	**84**	P		**Pn**	**15 21 30.9**	**+1.2**
DSRI	**Dabo**	**6.68**	**96**	P		**Pn**	**15 21 31.2**	**+0.8**
	0.1nm10nm,1.6s							
MNAI	**Manna**	**6.77**	**132**	P		**Pn**	**15 21 32.3**	**+0.7**
	0.8nm182nm,1.3s							
PMBI	**Palembang**	**7.51**	**115**	P		**Pn**	**15 21 41.9**	**+0.1**
	1.4nm25µm193nm,0.5s							
LWLI	**Liwa**	**8.02**	**130**	P		**Pn**	**15 21 50.3**	**+1.3**
	8µm107nm,0.8s							
SKJI	**Sukabumi**	**11.20**	**130**	P		**Pn**	**15 22 33.4**	**+1.0**
	73nm,0.5s							
CNJI	**Cibinong**	**11.83**	**129**	P		**Pn**	**15 22 42.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**18.16**	**3**	P		**Pn**	**15 24 04.2**	**-0.2**
	0.1nm,0.3s,baz=199,slow=11,SNR=7.3							
H08S2	**Diego Garcia H**	**26.54**	**252**	T		T	15 52 42.8	
	baz=73,slow=76,SNR=429							
H08S3	**Diego Garcia H**	**26.55**	**252**	T		T	15 52 43.1	
	baz=73,slow=76,SNR=484							
H08S1	**Diego Garcia H**	**26.56**	**252**	T		T	15 52 45.4	
	baz=73,slow=76,SNR=568							
JOW	**Kunigami**	**39.39**	**45**	LR		LR	15 43 04.0	
	comp=Z,50nm,20.4s,baz=239,slow=35							
WRA	**Warramunga Arr**	**40.89**	**121**	P		**P**	**15 27 34.0**	**-0.1**
	0.6nm,0.6s,baz=302,slow=8.9,SNR=10.0							
ASAR	**Alice Springs**	**42.22**	**127**	P		**P**	**15 27 45.5**	**+0.5**
	0.8nm,0.6s,baz=298,slow=7.8,SNR=18							
KSRS	**Korea Array**	**46.25**	**33**	P		**P**	**15 28 16.8**	**-0.2**
	1.1nm,0.9s,baz=218,slow=8.9,SNR=5.0							
SONM	**Songino Array**	**48.00**	**8**	P		**P**	**15 28 30.6**	**0.0**
	0.9nm,0.8s,baz=181,slow=5.8,SNR=6.9							
MKAR	**Makanchi Array**	**48.38**	**346**	P		**P**	**15 28 33.3**	**-0.1**
	1.3nm,0.5s,baz=155,slow=8.2,SNR=24							
ZALV	**Zalesovo Beam**	**54.65**	**351**	P		**P**	**15 29 19.6**	**-0.6**
	2.7nm,0.7s,baz=177,slow=5.9,SNR=13							

IDC 26 16:06:21.2±2.8, 6°.58S×129°.70E, h139km±39km, mb3.0/1, mb1 3.0/5, mb1mx2.7/32, mbtmp3.4/5, Error ellipse: s-maj=69.5km s-min=21.0km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.88**	**15**	P		Pn	16 07 46.4	0.0
	0.4nm,0.3s,baz=162,slow=20,SNR=14							
SIJI				S		Sn	16 08 47.6	-5.1
	1.3nm,0.3s,baz=248,slow=23,SNR=10							
FITZ	**Fitzroy Crossi**	**12.12**	**199**	P		Pn	16 09 09.7	+0.4
	0.1nm,0.3s,baz=31,slow=12,SNR=7.6							
FITZ				S		Sn	16 11 16.4	-6.8
	0.1nm,0.3s,baz=184,slow=14,SNR=1.3							
WRA	**Warramunga Arr**	**14.03**	**162**	P		Pn	16 09 32.8	-1.3
	0.1nm,0.3s,baz=340,slow=13,SNR=2.6							
WRA				S		Sn	16 11 59.6	-10
	0.4nm,0.3s,baz=338,slow=22,SNR=10.0							
ASAR	**Alice Springs**	**17.46**	**167**	P		Pn	16 10 16.1	-0.2
	0.2nm,0.3s,baz=344,slow=11,SNR=16							
ASAR				S		S	16 13 24.4	-5.9
	0.1nm,0.3s,baz=358,slow=27,SNR=2.6							
MKAR	**Makanchi Array**	**67.71**	**327**	P		P	16 17 03.6	-0.1
	0.2nm,0.5s,baz=117,slow=7.6,SNR=4.2							

*TUL **26** 16:07:26.7±0.8, 36°.88N±0°.02×98°.01W±0°.02, h5km±7km, ML3.0, mb_Lg2.7/44(NEIC), Error ellipse: s-maj=2.8km s-min=1.5km az=149.0*
NEIC 26 16:07:26.9±0.5, 36°.86N±0°.01×98°.00W±0°.02, h5km±7km, Error ellipse: s-maj=2.7km s-min=1.1km az=122.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.94**	**240**			Pg	16 07 44.7	-0.1
T35A	**Sooner Cattle**	**1.20**	**87**			Pg	16 07 49.2	-0.6
OKCSW	**OKLAHOMA CITY**	**1.52**	**162**			Pn	16 07 54.4	-0.3
R32A	**Long Quarter,**	**1.66**	**340**			Pn	16 07 57.1	+0.4
FNO	**Franklin**	**1.67**	**163**			Pb	16 07 57.6	-0.5
TUL1	**Leonard**	**2.02**	**117**			Pb	16 08 02.8	-1.2
X34A	**Smith Ranch, M**	**2.25**	**176**			Pn	16 08 06.1	+1.3
CBKS	**Cedar Bluff**	**2.39**	**325**			Pn	16 08 08.2	+1.5
CBKS				IAmb_Lg			16 08 45.3	
	comp=Z,23nm,0.8s							
KSU1	**Kansas State U**	**2.50**	**26**	IAmb_Lg			16 08 48.0	
	comp=Z,33nm,0.8s							
X37A	**Clayton**	**3.11**	**136**	Pn		Pn	16 08 17.5	+0.9
HHAR	**Hobbs**	**3.32**	**99**			Pn	16 08 20.2	+0.8
S39A	**Bolivar**	**3.82**	**76**	Pn		Pn	16 08 26.9	+0.5
S39A				IAmb_Lg			16 09 32.7	
	comp=Z,13nm,0.9s							
U40A	**Yellville**	**4.17**	**95**	Pn		Pn	16 08 31.3	+0.1
U40A				IAmb_Lg			16 09 40.2	
	comp=Z,16nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.24**	**302**	IAmb_Lg			16 09 45.9	
	comp=Z,18nm,0.7s							
Z38A	**Mt. Pleasant**	**4.36**	**145**	IAmb_Lg			16 09 47.1	
	comp=Z,19nm,0.7s							
ABTX	**Abilene, Hawle**	**4.43**	**198**	IAmb_Lg			16 09 50.8	
	comp=Z,9.9nm,0.8s							
P38A	**Dawn**	**4.47**	**50**	IAmb_Lg			16 09 49.8	
	comp=Z,13nm,0.8s							
MGMO	**Mountain Grove**	**4.60**	**85**	Pn		Pn	16 08 37.5	+0.4
X40A	**Basin Creek Fa**	**4.83**	**118**	IAmb_Lg			16 10 01.0	
	comp=Z,12nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.84**	**100**	IAmb_Lg			16 10 07.2	
	comp=Z,15nm,0.9s							
WHAR	**Wooly Hollow**	**4.88**	**107**	IAmb_Lg			16 10 01.4	
	comp=Z,11nm,0.8s							
T25A	**Trinidad**	**5.14**	**275**	IAmb_Lg			16 10 15.3	
	comp=Z,14nm,1.1s							
P40A	**Paris**	**5.39**	**59**	IAmb_Lg			16 10 21.6	
	comp=Z,17nm,0.8s							
N38A	**Joes South For**	**5.41**	**42**	IAmb_Lg			16 10 25.0	
	comp=Z,14nm,0.7s							
CCM	**Cathedral Cave**	**5.51**	**75**	IAmb_Lg			16 10 25.6	
	comp=Z,8.2nm,0.8s							
LCAR	**Lake Charles**	**5.57**	**96**	IAmb_Lg			16 10 28.3	
	comp=Z,11nm,0.9s							
JCT	**Junction City**	**6.54**	**194**	IAmb_Lg			16 11 01.6	
	comp=Z,11nm,1.0s							
S44A	**Carbondale**	**7.02**	**81**	IAmb_Lg			16 11 17.8	
	comp=Z,12nm,1.0s							
N23A	**Red Feather La**	**7.39**	**305**	IAmb_Lg			16 11 26.4	
	comp=Z,10nm,0.7s							
O44A	**Mansfield**	**8.17**	**63**	IAmb_Lg			16 12 05.4	
	comp=Z,9.6nm,0.8s							
JFWS	**Jewell Farm**	**8.49**	**42**	IAmb_Lg			16 12 06.4	
	comp=Z,7.6nm,0.7s							

*GUC **26** 16:17:43.5±0.7, 23°.22S×68°.90W, h95km±3km, ML3.9*
*IDC **26** 16:18:21.9±8.4, 19°.63S×68°.04W, h353km±68km, mb4.0/1, mb1 4.0/1, mb1mx2.9/25, mbtmp4.6/1, Error ellipse: s-maj=144.8km s-min=89.5km az=174.0*
ISC 26 16:17:43.4±1.1, 23°.22S±0°.04×68°.90W±0°.09, h93km±8km, n21, σ0s75/31, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.52**	**271**	⇑*i*P		**Pn**	**16 17 58.9**	**-0.1**
PB15				*i* S		**Sn**	**16 18 10.8**	**+0.3**
LVC	**Limon Verde**	**0.61**	**359**	*e*P		**Pn**	**16 17 59.5**	**-0.4**
LVC				*i* S		**Sn**	**16 18 11.3**	**-0.6**
PB06	**IPOC Station P**	**0.80**	**309**	⇑*i*P		**Pn**	**16 18 01.4**	**0.0**
PB06				*i* S		**Sn**	**16 18 14.8**	**0.0**
PB06				IAML			16 18 15.3	
	comp=E,4µm,0.1s							
PB04	**IPOC Station P**	**1.45**	**307**	⇑*i*P		**Pn**	**16 18 08.7**	**-0.2**
PB04				*i* S		**Sn**	**16 18 28.0**	**-0.1**
PB04				IAML			16 18 34.3	
	comp=N,2µm,0.5s							
PB09	**IPOC Station P**	**1.45**	**347**	⇓*e*P		**Pn**	**16 18 09.8**	**+0.9**
PB09				*i* S		**Sn**	**16 18 28.9**	**+0.8**
PB09				IAML			16 18 30.8	
	comp=N,2µm,0.5s							
PB10	**IPOC Station P**	**1.55**	**259**	⇓*i*P		**Pn**	**16 18 10.0**	**0.0**
PB10				*i* S		**Sn**	**16 18 30.8**	**+0.7**
PB10				IAML			16 18 36.8	
	comp=E,1µm,0.5s							
PB07	**IPOC Station P**	**1.74**	**328**	⇑*i*P		**Pn**	**16 18 12.7**	**+0.1**
PB07				*i* S		**Sn**	**16 18 35.0**	**+0.3**
PB07				IAML			16 18 37.9	
	comp=E,1µm,0.5s							
PB14	**IPOC Station P**	**1.96**	**224**	*e*P		**Pn**	**16 18 16.1**	**+0.6**
PB14				*i* S		**Sn**	**16 18 40.3**	**+0.3**
PB14				IAML			16 18 47.6	
	comp=N,533nm,0.3s							
GO02	**Mina Guanaco**	**2.04**	**198**	⇓*i*P		**Pn**	**16 18 17.0**	**+0.5**
GO02				IAML			16 18 52.2	
	comp=N,618nm,0.6s							
PB02	**IPOC Station P**	**2.10**	**334**	*e*P		**Pn**	**16 18 17.3**	**+0.1**
PB02				*i* S		**Sn**	**16 18 43.5**	**+0.5**
PB02				IAML			16 18 46.7	
	comp=E,2µm,0.3s							
PB01	**IPOC Station P**	**2.23**	**346**	⇑*i*P		**Pn**	**16 18 19.2**	**+0.3**
PB01				*i* S		**Sn**	**16 18 46.8**	**+0.7**
PB01				IAML			16 18 52.6	
	comp=E,1µm,0.2s							
TA01	**Diego Aracena**	**2.90**	**336**	*e*P		**Pn**	**16 18 27.1**	**-0.5**
TA01				IAML			16 19 13.7	
	comp=N,500nm,0.3s							
PB08	**IPOC Station P**	**3.07**	**356**	⇑*i*P		**Pn**	**16 18 30.4**	**0.0**
PB08				IAML			16 19 18.1	
	comp=N,276nm,0.3s							
TA02	**Huaiquique**	**3.15**	**338**	*e*P		**Pn**	**16 18 32.1**	**+1.1**
AC01	**Pan de Azucar**	**3.30**	**208**	*e*P		**Pn**	**16 18 31.8**	**-1.3**
PB11	**IPOC Station P**	**3.51**	**348**	*e*P		**Pn**	**16 18 35.0**	**-1.1**
GO01	**Chusmiza**	**3.54**	**356**	*e*P		**Pn**	**16 18 36.8**	**-0.1**
AC02	**Maricunga**	**3.61**	**183**	*e*P		**Pn**	**16 18 38.4**	**+0.8**
LPAZ	**La Paz**	**6.93**	**6**	P		**Pn**	**16 19 25.3**	**+2.3**
	comp=N,0.4nm,0.3s,baz=205,slow=5.9,SNR=3.5							
LPAZ				S		Sn	16 20 16.6	-24
	comp=N

Islands Region
GCMT ***26*** *16:18:55.8±0.1,14°.65S±0°.01×173°.84W±0°.01,h12km, MW5.2/125,Moment Tensor Solution. s71,c116; s125,c211; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}4.92±.13; $M_{\theta\theta}$-2.47±.13; $M_{\phi\phi}$-2.45±.11; $M_{r\theta}$-2.41±.33; $M_{r\phi}$5.47±.10; $M_{\theta\phi}$3.29±.34; Best double couple: $M_0$7.64200×10^{16} NP1:ϕ_s121.00000°,δ30.00000°, λ70.00000° NP2:ϕ_s324.00000°,δ62.00000°,λ101.00000°. Principal axes: T 6.1930, Plg71.0000°, Azm260.0000°; N 2.8990, Plg10.0000°, Azm139.0000°; P -9.0920, Plg16.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 16:18:48.3±0.2,14°.91S±0°.05×173°.82W±0°.04,h10km, n690,σ1§56/666,mb5.2/135,MS4.6/78,46C-41D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**64**	Pn		**Pn**	**16 19 21.8**	**-3.4**
	301nm,0.3s,baz=51,slow=1.1,SNR=341							
AFI				Sn		**Sn**	**16 19 46.4**	**-6.3**
	430nm,0.3s,baz=123,slow=24,SNR=10							
AFI				LR		LR	16 20 19.7	
	comp=Z,14μm,21.5s,baz=280,slow=39							
AFI	**Afiamalu**	**2.22**	**64**	P		Pn	16 19 21.6	-3.6
AFI	**Afiamalu**	**2.22**	**64**	Pn		Pn	16 19 21.6	-3.6
AFI				Sn		Sn	16 19 43.0	-10
NIUE	**Niue**	**5.57**	**139**	P		**Pn**	**16 20 11.4**	**+0.1**
	baz=5.7,SNR=18							
NIUE	**Niue**	**5.57**	**139**	Pn		**Pn**	**16 20 12.6**	**+1.3**
NIUE				Sn		**Sn**	**16 21 12.8**	**-2.5**
NIUE	**Niue**	**5.57**	**139**	P		**Pn**	**16 20 12.5**	**+1.3**
KNTN	**Kanton**	**12.24**	**10**	P		Pn	16 21 37.8	-5.0
RAR	**Rarotonga**	**14.75**	**117**	Pn		**Pn**	**16 22 18.0**	**+0.9**
	1.0nm,0.3s,baz=317,slow=19,SNR=4.0							
RAR	**Rarotonga**	**14.75**	**117**	P		**Pn**	**16 22 15.1**	**-2.0**
RAR	**Rarotonga**	**14.75**	**117**	Pn		**Pn**	**16 22 15.1**	**-2.0**
RAO	**Raoul Island**	**14.76**	**194**	LR		LR	16 27 03.0	
	comp=Z,2μm,19.6s,baz=352,slow=34							
SANVU	**Saraoutou**	**18.32**	**266**	P		**P**	**16 23 02.8**	**-0.1**
SANVU				IAmb		IAmb	16 23 06.5	
	comp=Z,449nm,1.3s							
SANVU	**Saraoutou**	**18.32**	**266**	P		**P**	**16 23 04.3**	**+1.4**
MARNC	**Mare, Loyalty**	**18.43**	**247**	P		**Pn**	**16 23 02.3**	**-1.7**
OUENC	**Ouen Island, N**	**19.77**	**245**	P		**Pn**	**16 23 19.1**	**-1.2**
OUENC				IAmb		IAmb	16 23 23.3	
	comp=Z,243nm,1.3s							
DZM	**Mont Dzumac**	**20.01**	**246**	*e*P		**Pn**	**16 23 23.4**	**+0.2**
DZM				*e*LQ		LQ	16 27 16.6	
	comp=Z,4μm,24.4s							
DZM				*e*LR		LR	16 28 09.8	
	comp=Z,6μm,26.6s							
DZM	**Mont Dzumac**	**20.01**	**246**	P		**Pn**	**16 23 22.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=85,slow=12,SNR=16							
DZM				LR		LR	16 29 44.6	
	comp=Z,3μm,19.4s,baz=77,slow=33							
DZM	**Mont Dzumac**	**20.01**	**246**	Pn		**Pn**	**16 23 22.9**	**-0.3**
DZM				IAmb		IAmb	16 23 27.6	
	comp=Z,250nm,1.3s							
DZM	**Mont Dzumac**	**20.01**	**246**	P		**Pn**	**16 23 23.6**	**+0.4**
ONTNC	**Ouen Toro**	**20.08**	**246**	P		**Pn**	**16 23 23.3**	**-0.6**
ONTNC				IAmb		IAmb	16 23 30.2	
	comp=Z,252nm,1.1s							
NOUC	**Port Laguerre**	**20.15**	**246**	P		Pn	16 23 25.3	+0.6
OUZ	**Omahuta**	**23.17**	**207**	P		**P**	**16 23 53.8**	**-1.3**
PPT	**Papeete**	**23.42**	**100**	P		**P**	**16 24 00.8**	**+3.0**
	comp=Z,30nm,0.8s,baz=302,slow=10,SNR=2.7							
PPT				LR		LR	16 30 35.7	
	comp=Z,786nm,21.5s,baz=273,slow=30							
PAE	**Paea**	**23.42**	**100**	*e*P		**P**	**16 23 58.1**	**+0.3**
	comp=Z,29nm,1.6s							
PAE	**Paea**	**23.42**	**100**	*e*T		T	16 48 14.5	
	comp=Z,11nm,0.3s							
PPT2	**Papeete2**	**23.42**	**100**	*e*P		**P**	**16 23 58.7**	**+0.8**
	comp=Z,85nm,1.4s							
PPT2				*e*LQ		LQ	16 28 45.0	
	comp=Z,3μm,26.2s							
PPT2				*e*LR		LR	16 29 44.0	
	comp=Z,2μm,25.0s,baz=267							
PPT2	**Papeete2**	**23.42**	**100**	*e*T		T	16 48 15.3	
	comp=Z,15nm,0.3s							
PPTF	**Pamatai, Papee**	**23.43**	**100**	P		**P**	**16 23 56.4**	**-1.6**
TBI	**Tubuai**	**24.47**	**114**	*e*LQ		LQ	16 29 05.4	
	comp=Z,3μm,26.2s							
TBI				*e*LR		LR	16 30 05.9	
	comp=Z,2μm,26.8s,baz=290							
TBI	**Tubuai**	**24.47**	**114**	*e*T		T	16 49 37.3	
	comp=Z,55nm,0.3s							
URZ	**Urewera**	**24.60**	**197**	P		**P**	**16 24 08.5**	**-0.2**
	comp=Z,7.4nm,0.7s,baz=0.0,slow=4.0,SNR=3.5							
URZ				LR		LR	16 32 22.3	
	comp=Z,3μm,20.3s,baz=25,slow=33							
PMOR	**Pomariorio Ree**	**25.04**	**94**	*e*P		**P**	**16 24 13.4**	**+0.5**
	comp=Z,429nm,1.5s							
PMOR	**Pomariorio Ree**	**25.04**	**94**	*e*T		T	16 50 13.8	
	comp=Z,7.8nm,0.2s							
VAH	**Vaihoa**	**25.29**	**94**	*e*P		**P**	**16 24 15.6**	**+0.4**
	comp=Z,208nm,1.4s							
VAH	**Vaihoa**	**25.29**	**94**	*e*T		T	16 50 31.4	
	comp=Z,11nm,0.3s							
BKZ	**Black Stump Fm**	**25.62**	**198**	P		**P**	**16 24 18.1**	**+0.1**
HNR	**Honiara**	**26.20**	**279**	LR		LR	16 33 06.5	
	comp=Z,1μm,18.0s,baz=131,slow=33							
HNR	**Honiara**	**26.20**	**279**	P		**P**	**16 24 19.3**	**-4.2**
HNR				pmax		pmax		
	comp=Z,63nm,0.8s							
HNR	**Honiara**	**26.20**	**279**	P		**P**	**16 24 19.3**	**-4.2**
HNR				IAmb		IAmb	16 24 37.9	
	comp=Z,63nm,0.8s							
LTZ	**Lake Taylor**	**30.24**	**201**	P		**P**	**16 24 58.5**	**-0.8**
LTZ				IAmb		IAmb	16 25 22.4	
	comp=Z,38nm,1.3s							
RPZ	**Rata Peaks**	**31.48**	**201**	P		**P**	**16 25 11.7**	**+1.5**
	comp=Z,6.5nm,0.7s,baz=18,slow=9.6,SNR=2.5							
RPZ				LR		LR	16 37 34.9	
	comp=Z,2μm,19.2s,baz=25,slow=36							
TAOE	**Nuku Hiva Isla**	**33.47**	**83**	*e*LR		LR	16 34 14.3	
	comp=Z,3μm,25.7s,baz=254							
TAOE	**Nuku Hiva Isla**	**33.47**	**83**	*e*T		T	17 00 40.4	
	comp=Z,21nm,0.2s							
EIDS	**Eidsvold**	**34.46**	**247**	P		**P**	**16 25 35.6**	**-0.9**
	baz=34,SNR=6.5							
EIDS	**Eidsvold**	**34.46**	**247**	P		**P**	**16 25 34.6**	**-1.9**
EIDS				IAmb		IAmb	16 25 36.6	
	comp=Z,33nm,1.2s							
EIDS	**Eidsvold**	**34.46**	**247**	P		**P**	**16 25 35.7**	**-0.8**
ARMA	**Armidale**	**35.25**	**238**	P		**P**	**16 25 43.1**	**-0.3**
	baz=35,SNR=6.9							
ARMA	**Armidale**	**35.25**	**238**	P		**P**	**16 25 41.2**	**-2.2**
ARMA	**Armidale**	**35.25**	**238**	P		**P**	**16 25 43.1**	**-0.3**
RMQ	**Roma**	**36.72**	**246**	P		**P**	**16 25 55.0**	**-1.0**
	baz=37,SNR=7.8							
RMQ	**Roma**	**36.72**	**246**	P		**P**	**16 25 55.9**	**-0.1**
SYDH	**Sydney Hard Ro**	**37.09**	**233**	P		**P**	**16 25 59.4**	**+0.4**
RKT	**Rikitea**	**37.53**	**109**	*e*T		T	17 05 54.2	
	comp=Z,19nm,0.3s							
CTA	**Charters Tower**	**38.36**	**256**	P		**P**	**16 26 08.4**	**-1.5**
	comp=Z,19nm,1.0s,baz=87,slow=10,SNR=12							
CTA				LR		LR	16 40 24.2	
	comp=Z,630nm,18.9s,baz=90,slow=34							
CTA	**Charters Tower**	**38.36**	**256**	P		**P**	**16 26 09.3**	**-0.6**
PMG	**Port Moresby**	**38.50**	**274**	P		**P**	**16 26 10.6**	**-0.5**
	comp=Z,32nm,1.0s,baz=90,slow=10,SNR=8.9							
PMG				LR		LR	16 39 52.6	
	comp=Z,652nm,18.2s,baz=96,slow=33							
PMG	**Port Moresby**	**38.50**	**274**	*ce*P		**P**	**16 26 10.8**	**-0.3**
PMG				pmax		pmax		
	comp=Z,98nm,1.7s							
PMG	**Port Moresby**	**38.50**	**274**	P		**P**	**16 26 07.5**	**-3.6**
PMG				IAmb		IAmb	16 26 13.9	
	comp=Z,71nm,1.2s							
CNB	**Canberra Magne**	**38.73**	**232**	P		**P**	**16 26 12.6**	**-0.3**
	baz=39,SNR=15							
CNB	**Canberra Magne**	**38.73**	**232**	P		**P**	**16 26 12.6**	**-0.3**
CAN	**Canberra**	**39.01**	**232**	P		**P**	**16 26 14.5**	**-0.7**
CAN				pmax		pmax		
	comp=Z,83nm,1.3s							
CAN	**Canberra**	**39.01**	**232**	P		**P**	**16 26 14.5**	**-0.7**
CAN				IAmb		IAmb	16 26 16.6	
	comp=Z,83nm,1.3s							
CAN	**Canberra**	**39.01**	**232**	P		**P**	**16 26 15.3**	**+0.1**
H11N3	**WAKE ISLAND Hy**	**39.29**	**331**	T		T	17 07 38.9	
	baz=150,slow=76,SNR=75							
H11N1	**WAKE ISLAND Hy**	**39.30**	**331**	T		T	17 07 39.2	
	baz=150,slow=76,SNR=111							
H11N2	**WAKE ISLAND Hy**	**39.31**	**331**	T		T	17 07 40.0	
	baz=150,slow=76,SNR=76							
MTSU	**Mount Surprise**	**40.20**	**259**	P		**P**	**16 26 24.4**	**-1.0**
	baz=40,SNR=22							
MTSU	**Mount Surprise**	**40.20**	**259**	P		**P**	**16 26 25.1**	**-0.3**
CMSA	**Cobar Meteorol**	**40.45**	**239**	P		**P**	**16 26 26.8**	**-0.5**
	baz=41,SNR=14							
CMSA	**Cobar Meteorol**	**40.45**	**239**	P		**P**	**16 26 26.4**	**-0.9**
QLP	**Quilpie**	**40.74**	**247**	P		**P**	**16 26 28.7**	**-1.0**
	baz=41,SNR=11							
QLP	**Quilpie**	**40.74**	**247**	P		**P**	**16 26 28.5**	**-1.1**
COEN	**Coen**	**41.61**	**266**	P		**P**	**16 26 34.3**	**-2.7**
COEN	**Coen**	**41.61**	**266**	P		**P**	**16 26 37.5**	**+0.5**
TOO	**Toolangi**	**42.46**	**230**	P		**P**	**16 26 43.6**	**-0.1**
	baz=43,SNR=13							
TOO	**Toolangi**	**42.46**	**230**	P		**P**	**16 26 42.0**	**-1.7**
TOO				pmax		pmax		
	comp=Z,149nm,1.1s							
TOO	**Toolangi**	**42.46**	**230**	P		**P**	**16 26 42.0**	**-1.7**
TOO	**Toolangi**	**42.46**	**230**	P		**P**	**16 26 44.4**	**+0.7**
CORO	**Coronation Par**	**42.85**	**224**	P		**P**	**16 26 47.7**	**+1.0**
GEXS	**Deakin Univers**	**43.57**	**230**	P		**P**	**16 26 53.6**	**+1.0**
BRAT	**Ballarat**	**43.62**	**231**	P		**P**	**16 26 53.8**	**+0.8**
STKA	**Stephens Creek**	**43.93**	**239**	P		**P**	**16 26 54.6**	**-1.0**
	comp=Z,24nm,1.1s,baz=78,slow=5.1,SNR=17							
STKA				LR		LR	16 44 20.8	
	comp=Z,868nm,18.1s,baz=82,slow=35							
STKA	**Stephens Creek**	**43.93**	**239**	P		**P**	**16 26 55.5**	**-0.2**
	baz=44,SNR=12							
STKA	**Stephens Creek**	**43.93**	**239**	*i* P		**P**	**16 26 56.0**	**+0.4**
STKA	**Stephens Creek**	**43.93**	**239**	P		**P**	**16 26 54.9**	**-0.7**
STKA	**Stephens Creek**	**43.93**	**239**	P		**P**	**16 26 55.6**	**0.0**
INKA	**Innaminka**	**43.97**	**245**	P		**P**	**16 26 55.8**	**-0.2**
QIS	**Mount Isa**	**44.60**	**256**	P		**P**	**16 27 00.1**	**-1.1**
	baz=45,SNR=3.7							
QIS	**Mount Isa**	**44.60**	**256**	P		**P**	**16 27 00.0**	**-1.2**
ARPS	**Mount Arapiles**	**44.96**	**233**	P		**P**	**16 27 03.8**	**+0.1**
	baz=45,SNR=7.4							
ARPS	**Mount Arapiles**	**44.96**	**233**	P		**P**	**16 27 03.9**	**+0.1**
MMPI	**Merauke**	**45.24**	**273**	P		**P**	**16 27 05.7**	**-0.6**
	comp=Z,843nm,0.9s							
HTT	**Hallett**	**46.45**	**238**	P		**P**	**16 27 15.3**	**-0.4**
	baz=47,SNR=3.8							
HTT	**Hallett**	**46.45**	**238**	P		**P**	**16 27 15.2**	**-0.5**
JAY	**Jayapura**	**46.50**	**281**	LR		LR	16 44 59.0	
	comp=Z,714nm,20.2s,baz=82,slow=34							
JAY	**Jayapura**	**46.50**	**281**	P		**P**	**16 27 16.4**	**+0.1**
	comp=Z,592nmcomp=Z,26nm,1.6s							
LCRK	**Leigh Creek**	**46.53**	**242**	P		**P**	**16 27 15.9**	**-0.4**
GENI	**Genyem**	**46.98**	**281**	P		**P**	**16 27 21.0**	**+1.0**
	comp=Z,2μmcomp=Z,95nm,2.3s							
TWOA	**Tennyson Woods**	**47.07**	**236**	P		**P**	**16 27 21.1**	**+0.6**
OOD	**Oonadatta**	**48.43**	**246**	P		**P**	**16 27 30.8**	**-0.3**
BBOO	**Buckleboo**	**48.71**	**239**	P		**P**	**16 27 32.5**	**-0.7**
	baz=49,SNR=8.1							
BBOO	**Buckleboo**	**48.71**	**239**	P		**P**	**16 27 31.9**	**-1.3**
BBOO				IAmb		IAmb	16 27 33.4	
	comp=Z,58nm,1.4s							
BBOO	**Buckleboo**	**48.71**	**239**	P		**P**	**16 27 32.5**	**-0.7**
WR0	**Warramunga Arr**	**49.37**	**256**	P		**P**	**16 27 37.0**	**-1.5**
WB0	**Warramunga Arr**	**49.52**	**257**	P		**P**	**16 27 37.6**	**-2.1**
WB2	**Warramunga Arr**	**49.55**	**256**	P		**P**	**16 27 38.5**	**-1.3**
WRAB	**Tennant Creek**	**49.55**	**256**	*c* *i*P		**P**	**16 27 37.7**	**-2.2**
WRAB				pmax		pmax		
	comp=Z,191nm,1.9s							
WRAB	**Tennant Creek**	**49.55**	**256**	P		**P**	**16 27 38.7**	**-1.2**
WRA	**Warramunga Arr**	**49.56**	**256**	P		**P**	**16 27 38.0**	**-1.9**
	comp=Z,35nm,1.1s,baz=89,slow=7.2,SNR=159							
WRA				LR		LR	16 47 04.4	
	comp=Z,692nm,20.2s,baz=80,slow=34							
WRA	**Warramunga Arr**	**49.56**	**256**	P		**P**	**16 27 38.0**	**-1.9**
WRA				pmax		pmax		
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**49.56**	**256**	P		**P**	**16 27 38.0**	**-1.9**
GUMO	**Guam**	**49.73**	**303**	LR		LR	16 46 24.0	
	comp=Z,270nm,19.1s,baz=108,slow=33							
AS31	**Alice Springs**	**49.88**	**252**	P		**P**	**16 27 41.1**	**-1.2**
ASAR	**Alice Springs**	**49.88**	**252**	P		**P**	**16 27 41.4**	**-0.9**
	comp=Z,230nm,0.9s,baz=85,slow=8.3,SNR=784							
ASAR				LR		LR	16 46 32.2	
	comp=Z,727nm,20.5s,baz=96,slow=34							
ASAR	**Alice Springs**	**49.88**	**252**	P		**P**	**16 27 40.8**	**-1.5**
ASAR	**Alice Springs**	**49.88**	**252**	P		**P**	**16 27 40.8**	**-1.5**
MULG	**Mulgathing**	**50.08**	**243**	P		**P**	**16 27 42.9**	**-0.8**
SRPI	**Serui, Papua**	**50.94**	**280**	P		**P**	**16 27 51.1**	**+0.7**
	comp=Z,46nm,1.3s							
BAKI	**Biak**	**51.27**	**281**	P		**P**	**16 27 54.5**	**+1.6**
	comp=Z,96nm,1.2s							
KDU	**Kakadu**	**52.10**	**265**	P		**P**	**16 27 58.2**	**-0.9**
	baz=52,SNR=7.6							
KMPI	**Kaimana, Papua**	**52.85**	**277**	P		**P**	**16 28 03.8**	**-0.9**
	comp=Z,2μm,0.6s							
MTN	**Manton Dam**	**53.37**	**265**	P		**P**	**16 28 07.6**	**-0.9**
	baz=53,SNR=29							
MTN	**Manton Dam**	**53.37**	**265**	P		**P**	**16 28 06.7**	**-1.8**
MTN				IAmb		IAmb	16 28 08.5	
	comp=Z,52nm,1.0s							
MTN	**Manton Dam**	**53.37**	**265**	P		**P**	**16 28 07.8**	**-0.7**
SAUI	**Saumlaki**	**54.12**	**271**	P		**P**	**16 28 12.6**	**-1.4**
SAUI	**Saumlaki**	**54.12**	**271**	P		**P**	**16 28 14.4**	**+0.4**
	comp=Z,5μmcomp=Z,155nm,1.8s							
SAUI	**Saumlaki**	**54.12**	**271**	P		**P**	**16 28 14.4**	**+0.4**
WRKA	**Warakurna**	**54.98**	**250**	P		**P**	**16 28 19.2**	**-1.0**
	baz=55,SNR=108							
WRKA	**Warakurna**	**54.98**	**250**	P		**P**	**16 28 19.9**	**-0.3**
KNRA	**Kununurra**	**55.24**	**261**	P		**P**	**16 28 21.8**	**-0.3**
	baz=55,SNR=8.2							
KNRA	**Kununurra**	**55.24**	**261**	P		**P**	**16 28 20.3**	**-1.8**
KNRA				IAmb		IAmb	16 28 26.3	
	comp=Z,46nm,1.1s							
KNRA	**Kununurra**	**55.24**	**261**	P		**P**	**16 28 21.6**	**-0.5**
FORT	**Forrest**	**55.27**	**243**	P		**P**	**16 28 21.6**	**-0.6**
	baz=55,SNR=9.8							
FORT	**Forrest**	**55.27**	**243**	P		**P**	**16 28 20.4**	**-1.8**
FORT	**Forrest**	**55.27**	**243**	P		**P**	**16 28 21.7**	**-0.5**
SIJI	**Sorong**	**55.98**	**279**	P		**P**	**16 28 27.3**	**-0.2**
	comp=Z,110nm,1.0s,baz=83,slow=6.0,SNR=48							
SIJI				LR		LR	16 51 20.1	
	comp=Z,505nm,20.4s,baz=96,slow=35							
SWI	**Sorong**	**55.99**	**279**	P		**P**	**16 28 27.7**	**+0.2**
	comp=Z,2μmcomp=Z,160nm,1.2s							
BNDI	**Bandanaira**	**56.28**	**275**	P		**P**	**16 28 29.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**57.91**	**258**	P		**P**	**16 28 40.2**	**-0.9**
	comp=Z,6.1nm,1.0s,baz=105,slow=6.6,SNR=7.1							
FITZ				LR		LR	16 51 51.3	
	comp=Z,553nm,19.0s,baz=98,slow=34							
FITZ	**Fitzroy Crossi**	**57.91**	**258**	P		**P**	**16 28 41.9**	**+0.8**
	baz=58,SNR=5.4							
FITZ	**Fitzroy Crossi**	**57.91**	**258**	P		**P**	**16 28 40.7**	**-0.5**
FITZ				IAmb		IAmb	16 28 46.1	
	comp=Z,43nm,1.4s							
FITZ	**Fitzroy Crossi**	**57.91**	**258**	P		**P**	**16 28 40.2**	**-0.9**
AAI	**Ambon**	**58.14**	**275**	P		**P**	**16 28 42.5**	**-0.3**
	comp=Z,1μmcomp=Z,78nm,1.2s							
LBMI	**Labuha**	**59.65**	**278**	P		**P**	**16 28 53.8**	**+0.5**
	comp=Z,882nmcomp=Z,70nm,1.2s							
JCJ	**Chichijima**	**59.73**	**314**	LR		LR	16 49 36.1	
	comp=Z,174nm,19.9s,baz=92,slow=31							
SOEI	**Soe**	**60.55**	**267**	P		**P**	**16 28 59.3**	**-0.3**
SOEI	**Soe**	**60.55**	**267**	P		**P**	**16 29 00.6**	**+1.0**
	comp=Z,1μmcomp=Z,100nm,1.1s							
SOEI	**Soe**	**60.55**	**267**	P		**P**	**16 29 00.3**	**+0.7**
SANI	**Sanana**	**60.70**	**276**	P		**P**	**16 28 59.1**	**-1.4**
	comp=Z,876nmcomp=Z,65nm,1.3s							
SANI	**Sanana**	**60.70**	**276**	P		**P**	**16 28 59.5**	**-1.0**
BATI	**Baumata**	**61.04**	**266**	P		**P**	**16 29 03.3**	**+0.5**
	comp=Z,28nm,1.1s,baz=36,slow=2.2,SNR=6.9							
BATI				LR		LR	16 53 43.2	
	comp=Z,455nm,20.6s,baz=126,slow=34							
BATI	**Baumata**	**61.04**	**266**	P		**P**	**16 29 03.7**	**+0.9**
	comp=Z,23nm,1.1s							
MMRI	**Maumere**	**62.74**	**268**	P		**P**	**16 29 13.5**	**-0.7**
	comp=Z,42nm,1.1s							
SGSI	**Sangihe**	**62.84**	**282**	P		**P**	**16 29 14.6**	**-0.3**
	comp=Z,4μmcomp=Z,185nm,0.6s							
BBSI	**Bau Bau**	**63.12**	**271**	P		**P**	**16 29 16.8**	**0.0**
	comp=Z,81nmcomp=Z,3.8nm,1.0s							
KMSI	**Cibinong**	**63.36**	**278**	P		**P**	**16 29 18.9**	**+0.5**
	comp=Z,63nm,0.9s							
MEEK	**Meekatharra**	**63.62**	**247**	P		**P**	**16 29 18.7**	**-1.3**
	baz=64,SNR=8.6							
MEEK	**Meekatharra**	**63.62**	**247**	P		**P**	**16 29 19.2**	**-0.8**
VNDA	**Vanda**	**63.82**	**186**	P		**P**	**16 29 21.2**	**+0.9**
	comp=Z,3.8nm,1.0s,baz=357,slow=5.5,SNR=12							
VNDA				LR		LR	16 52 08.5	
	comp=Z,191nm,21.5s,baz=14,slow=31							
VNDA	**Vanda**	**63.82**	**186**	P		**P**	**16 29 21.8**	**+1.5**
VNDA				pmax		pmax		
	comp=Z,15nm,1.1s							
VNDA	**Vanda**	**63.82**	**186**	P		**P**	**16 29 21.8**	**+1.5**
VNDA				IAmb		IAmb	16 29 30.6	
	comp=Z,15nm,1.1s							
DAV	**Davao City (W)**	**63.91**	**286**	LR		LR	16 55 46.1	
	comp=Z,475nm,18.0s,baz=112,slow=35							
LUWI	**Luwuk**	**64.07**	**276**	P		**P**	**16 29 20.8**	**-2.3**
LUWI	**Luwuk**	**64.07**	**276**	P		**P**	**16 29 23.3**	**+0.2**
	comp=Z,2μmcomp=Z,120nm,1.2s							
LUWI	**Luwuk**	**64.07**	**276**	P		**P**	**16 29 23.7**	**+0.6**
KLBR	**Kellerberrin**	**64.11**	**242**	P		**P**	**16 29 21.2**	**-1.9**
	baz=64,SNR=8.4							
KLBR	**Kellerberrin**	**64.11**	**242**	P		**P**	**16 29 22.3**	**-0.8**
BSSI	**Bau Bau, Buton**	**64.98**	**270**	P		**P**	**16 29 28.9**	**-0.1**
	comp=Z,35nm,1.1s							
BLDU	**Ballidu**	**65.05**	**243**	P		**P**	**16 29 28.1**	**-1.2**
	baz=65,SNR=6.2							
BLDU	**Ballidu**	**65.05**	**243**	P		**P**	**16 29 29.1**	**-0.1**
APSI	**Ampana**	**65.18**	**276**	P		**P**	**16 29 31.2**	**+0.9**
	comp=Z,1μmcomp=Z,82nm,1.3s							
WBSI	**Waikabubak, Su**	**65.28**	**266**	P		**P**	**16 29 30.5**	**-0.5**
	comp=Z,42nm,1.0s							
MRSI	**Marisa**	**65.29**	**278**	P		**P**	**16 29 29.9**	**-1.1**
	comp=Z,23nm,1.3s							
BKSI	**Bulukumba**	**65.53**	**271**	P		**P**	**16 29 31.5**	**-1.1**
	comp=Z,17nm,1.4s							
MORW	**Morawa**	**65.72**	**245**	P		**P**	**16 29 32.6**	**-1.0**
	baz=66,SNR=7.8							
MORW	**Morawa**	**65.72**	**245**	P		**P**	**16 29 33.9**	**+0.2**
BNSI	**Bone**	**65.77**	**272**	P		**P**	**16 29 34.8**	**+0.7**
	comp=Z,668nmcomp=Z,45nm,1.3s							
KAPI	**Kappang**	**65.96**	**271**	LR		LR	16 56 39.2	
	comp=Z,125nm,21.9s,baz=100,slow=34							
SPSI	**Sidrap Palu**	**66.20**	**272**	P		**P**	**16 29 35.2**	**-1.7**
	comp=Z,66nm,1.1s							
TTSI	**Tana Toraja**	**66.39**	**273**	P		**P**	**16 29 39.0**	**+0.9**
	comp=Z,23nm,1.3s							
TOLI2	**Tolitoli**	**66.58**	**278**	P		**P**	**16 29 37.4**	**-2.0**
TOLI2				IAmb		IAmb	16 29 39.9	
	comp=Z,46nm,1.2s							
TOLI2	**Tolitoli**	**66.58**	**278**	P		**P**	**16 29 39.1**	**-0.3**
PLAI	**Plampang**	**67.00**	**267**	P		**P**	**16 29 42.5**	**+0.4**
	comp=Z,58nm,1.1s							
MPSI	**Mapaga**	**67.21**	**277**	P		**P**	**16 29 42.8**	**-0.6**
	comp=Z,672nmcomp=Z,49nm,1.3s							
SHEM	**Shemya Is, Ala**	**68.17**	**352**	LR		LR	16 53 33.8	
	comp=Z,439nm,21.3s,baz=302,slow=31							
MJAR	**Matsushiro Arr**	**68.31**	**320**	P		**P**	**16 29 48.8**	**-1.0**
	comp=Z,10.0nm,1.1s,baz=160,slow=4.4,SNR=16							
MJAR				LR		LR	16 53 35.7	
	comp=Z,131nm,21.1s,baz=134,slow=31							
MJAR	**Matsushiro Arr**	**68.31**	**320**	P		**P**	**16 29 47.3**	**-2.5**
MJAR				pmax		pmax		
	comp=Z,15nm,1.3s							
MJAR	**Matsushiro Arr**	**68.31**	**320**	P		**P**	**16 29 47.3**	**-2.5**
MAJO	**Matsushiro**	**68.31**	**320**	*i* P		**P**	**16 29 49.9**	**+0.1**
MAJO				pmax		pmax		
	comp=Z,15nm,1.2s							
DNP	**Denpasar**	**69.51**	**266**	P		**P**	**16 29 56.2**	**-1.6**
SMKI	**Samarinda**	**69.58**	**275**	P		**P**	**16 30 00.9**	**+2.7**
	comp=Z,4μmcomp=Z,114nm,1.4s							
SRBI	**Singaraja**	**69.64**	**267**	P	

UWJI Ujung Watu 74.14 267 P P 16 30 25.5 -0.1
comp=Z,2µmcomp=Z,53nm,0.8s
RYN Ryan 74.21 42 P P 16 30 21.4 -4.4
RYN IAmb IAmb 16 30 35.4
comp=Z,52nm,1.5s
NVAR Mina Array Bea 74.24 42 LR LR 16 55 45.9
comp=Z,804nm,20.9s,baz=223,slow=30
NVAR Mina Array Bea 74.24 42 P P 16 30 21.5 -4.5
I03D Drain, OR 74.32 36 P P 16 30 28.4 +2.3
baz=231
NV11 Mina Array Sit 74.34 42 P P 16 30 22.0 -4.5
NV11 IAmb IAmb 16 30 36.3
comp=Z,55nm,1.4s
PBKI Pangkalan Bun 74.34 271 P P 16 30 27.1 +0.3
comp=Z,70nm,1.2s
YOGI Yogyakarta 74.45 266 P P 16 30 27.2 -0.2
comp=Z,82nm,1.3s
SMRI Semarang 74.48 267 P P 16 30 27.3 -0.4
comp=Z,84nm,1.5s
TPUB Ta-pu 74.50 300 P P 16 30 26.6 -0.9
KDAK Kodiak Island 74.53 12 P P 16 30 26.6 -0.2
comp=Z,9.2nm,1.1s,baz=225,slow=7.1,SNR=2.1
KDAK LR LR 16 55 54.3
comp=Z,558nm,21.9s,baz=230,slow=30
KDAK Kodiak Island 74.53 12 P P 16 30 23.1 -3.8
KDAK pmax pmax
comp=Z,45nm,1.5s
KDAK Kodiak Island 74.53 12 P P 16 30 23.1 -3.8
KDAK IAmb IAmb 16 30 31.3
comp=Z,45nm,1.4s
214A Organ Pipe Nat 74.72 50 P P 16 30 30.7 +2.0
baz=241
J04D Umpqua Nationa 74.74 36 P P 16 30 30.8 +2.1
baz=232,SNR=11
TPNV Topopah Spring 74.80 44 P P 16 30 26.2 -3.0
TPNV pmax pmax
comp=Z,16nm,1.3s
TPNV Topopah Spring 74.80 44 P P 16 30 26.2 -3.0
TPNV Topopah Spring 74.80 44 P P 16 30 31.2 +2.0
baz=238,SNR=7.6
PDMCI Parker Dam,Lak 74.90 48 P P 16 30 31.7 +2.1
baz=240
I04A Tendick Farm, 74.91 36 P P 16 30 30.8 +1.3
baz=232
QSPA South Pole Qui 75.13 180 LR LR 16 58 33.4
comp=Z,263nm,21.2s,baz=39,slow=32
H04D Lebanon 75.19 35 P P 16 30 32.5 +1.5
baz=231
STKI Sintang 75.24 274 P P 16 30 33.4 +1.4
J05D Fort Rock, OR 75.27 37 P P 16 30 33.5 +1.7
baz=233,SNR=13
G03D McMinnville, O 75.33 34 P P 16 30 34.0 +2.1
baz=231
KSRS Korea Array 75.53 316 P P 16 30 34.0 +0.8
comp=Z,5.5nm,1.1s,baz=129,slow=7.6,SNR=10.0
KSRS LR LR 17 00 11.6
comp=Z,61nm,19.7s,baz=135,slow=33
P18K Big Mountain, 75.57 10 P P 16 30 33.0 0.0
baz=198,SNR=12
TYV Tymovskoe 75.74 333 *e*P P 16 30 34.2 +0.2
TYV *e*S S 16 40 15.7 0.0
TYV pmax pmax
comp=Z,300nm,4.9s
TYV pmax pmax
comp=Z,16nm,1.2s
TYV smax smax
comp=N,300nm,8.8s
TYV smax smax
comp=E,600nm,8.8s
I05D Terrebonne, OR 75.86 36 P P 16 30 36.8 +1.8
baz=232
KPJI Karang Pucung 75.87 266 P P 16 30 36.0 +0.4
comp=E,12nm,0.9s
R11A Troy Canyon, C 75.99 44 P P 16 30 37.6 +1.6
baz=238,SNR=20
P19K Oil Pt 76.16 11 P P 16 30 40.4 +4.2
baz=200
VLA Vladivostok 76.18 322 *i* P P 16 30 36.9 +0.2
VLA pmax pmax
comp=Z,9.0nm,0.9s
CMJI Cimerak 76.23 265 P P 16 30 37.2 -0.5
comp=Z,27nm,1.1s
TUC Tucson 76.40 51 P P 16 30 40.4 +2.0
baz=243
G05D Wamic, OR 76.42 35 P P 16 30 39.7 +1.6
baz=232
O19K Port Alsworth 76.48 10 P P 16 30 38.4 +0.3
baz=199,SNR=13
E04D Cinebar 76.56 34 P P 16 30 40.3 +1.5
baz=231,SNR=8.0
O20K Slope Mountain 76.67 11 P P 16 30 39.3 0.0
baz=201
BRSE Bradley Lake S 76.71 12 P P 16 30 42.5 +3.1
baz=203
KSM Kuching 76.74 275 P P 16 30 40.8 +0.2
USRK Ussuriysk Ar. 76.75 323 P P 16 30 41.3 +1.3
comp=Z,6.2nm,1.0s,baz=114,slow=4.6,SNR=11
USRK LR LR 16 58 52.9
comp=Z,171nm,20.5s,baz=124,slow=31
USRK Ussuriysk Ar. 76.75 323 P P 16 30 36.8 -3.2
USRK Ussuriysk Ar. 76.75 323 P P 16 30 36.8 -3.2
D04E Lakebay 76.84 33 P P 16 30 42.9 +2.6
baz=231
LCMT Little Creek M 76.89 46 P P 16 30 37.4 -3.7
LCMT IAmb IAmb 16 30 48.0
comp=Z,33nm,1.2s
D03D Eldon 76.91 33 P P 16 30 42.4 +1.6
baz=230,SNR=7.0
N19K Bonanza Creek 77.04 10 P P 16 30 37.6 -3.8
N19K IAmb IAmb 16 30 45.2
comp=Z,41nm,1.4s
N19K Bonanza Creek 77.04 10 P P 16 30 41.5 +0.1
baz=199,SNR=8.4
LEM Lembang 77.26 266 LR LR 17 04 32.3
comp=Z,160nm,19.4s,baz=166,slow=36
LEM Lembang 77.26 266 P P 16 30 44.8 +1.1
comp=Z,17nm,0.9s
SEW Seward 77.30 12 P P 16 30 43.5 +0.8
baz=204
WUAZ Wupatki 77.47 48 P P 16 30 46.9 +2.5
baz=242
ELK Elko 77.49 42 LR LR 17 00 46.4
comp=Z,482nm,18.1s,baz=224,slow=32
CNJI Cibinong 77.61 266 P P 16 30 45.5 0.0
comp=Z,27nm,0.8s
BBB Bella Bella 77.64 27 LR LR 16 57 11.7
comp=Z,580nm,21.2s,baz=237,slow=30
A04D Lummi Island 77.86 32 P P 16 30 47.8 +1.7
baz=230,SNR=6.6
B05A Bryant 77.89 32 P P 16 30 47.7 +1.5
baz=231,SNR=7.0
M19K Big River Lodg 78.09 9 P P 16 30 47.7 +0.6
baz=199
PWL Port Wells 78.22 12 P P 16 30 47.7 -0.2
baz=205
M20K Styx River 78.27 10 P P 16 30 48.1 -0.1
baz=200
L19K White Mountain 78.28 9 P P 16 30 50.7 +2.5
baz=199,SNR=5.1
MDJ Mudanjiang 78.39 323 P P 16 30 48.5 -0.6
MDJ S S 16 40 42.3 -2.6
MDJ pmax pmax
comp=Z,5.0nm,2.1s
MDJ pmax pmax
comp=Z,210nm,9.4s
GAMB Gambell 78.46 1 P P 16 30 49.4 +0.4
baz=182
GRNR Gornyy 78.52 330 *e*P P 16 30 50.2 +0.5
GRNR MLR MLR
comp=E,620nm,13.0s
GRNR MLR MLR
comp=N,740nm,14.0s
GRNR MLR MLR
comp=Z,120nm,15.0s
M22K Willow 78.69 11 P P 16 30 47.5 -2.8
M22K Willow 78.69 11 P P 16 30 51.1 +0.8
baz=203
KNK Knik Glacier 78.70 12 P P 16 30 52.2 +1.8
baz=205
L20K Farewell, AK 78.72 9 P P 16 30 50.9 +0.4
baz=200,SNR=13
PMR Palmer 78.73 12 P P 16 30 50.9 +0.4
baz=204
121A Cookes Peak, D 78.77 52 P P 16 30 54.3 +2.6
baz=244
DUG Dugway, Tooele 78.78 43 P P 16 30 53.1 +1.5
baz=240,SNR=15

TTA Tatalina 78.83 8 P P 16 30 52.2 +0.9
baz=198,SNR=13
SML Sawmill 79.08 12 P P 16 30 53.2 +0.6
baz=205
WAX Waxell Ridge 79.12 15 P P 16 30 49.9 -2.9
WAX IAmb IAmb 16 31 09.2
comp=Z,31nm,1.1s
CGJI Cibinong 79.17 266 P P 16 30 53.5 -0.6
comp=Z,668nmcomp=Z,28nm,1.2s
F10A Beach Ranch, E 79.17 36 P P 16 30 50.6 -2.9
CUT Chulitna 79.26 11 P P 16 30 53.8 +0.4
baz=203,SNR=9.9
KLU Klutina 79.31 13 P P 16 30 55.0 +1.1
baz=207
SCM Sheep Creek Mo 79.31 12 P P 16 30 54.1 +0.2
baz=206
ANM Nome 79.50 4 P P 16 30 56.3 +1.5
baz=188,SNR=7.4
HLID Hailey 79.51 40 P P 16 30 57.2 +1.7
baz=238
K20K Telida 79.52 9 P P 16 30 55.9 +1.0
baz=199,SNR=21
NJ2 Nanjing 79.55 307 *e*P P 16 30 53.5 -2.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
MA2 Magadan 79.58 343 P P 16 30 55.2 -0.1
comp=Z,7.8nm,0.9s,baz=131,slow=5.9,SNR=15
MA2 LR LR 17 03 22.7
comp=Z,63nm,19.4s,baz=146,slow=34
MA2 Magadan 79.58 343 *ce*P P 16 30 55.0 -0.3
MA2 pmax pmax
comp=Z,30nm,1.7s
MA2 MLR MLR
comp=Z,86nm,18.0s
MA2 Magadan 79.58 343 P P 16 30 54.1 -1.2
N25K Chitina, Valde 79.71 14 P P 16 30 57.1 +1.0
baz=209
M24K Tolsona, Glenn 79.80 13 P P 16 30 58.2 +1.6
baz=207
PPBI Pangkal Pinang 79.83 270 P P 16 30 58.9 +1.2
CAST Castle Rocks 79.89 10 P P 16 30 56.0 -0.9
baz=201
KLR Kul'dur 79.89 327 P P 16 30 57.1 -0.1
comp=Z,1.8nm,0.8s,baz=126,slow=6.0,SNR=4.3
KLR LR LR 17 02 05.1
comp=Z,111nm,20.4s,baz=201,slow=33
KLR Kul'dur 79.89 327 *ce*P P 16 30 56.9 -0.3
KLR pmax pmax
comp=Z,8.0nm,1.7s
KLR MLR MLR
comp=Z,98nm,18.0s
WAT6 Susitna Watana 79.91 12 P P 16 30 58.3 +1.0
baz=206
CTG Chitna Glacier 79.94 15 P P 16 30 58.7 +1.2
baz=212
KTH Kantishna Hill 80.21 10 P P 16 30 56.6 -2.1
TRF Thorofare Moun 80.22 10 P P 16 30 59.4 +0.5
baz=203,SNR=12
MNTX Cornudas Mount 80.26 54 P P 16 31 01.8 +2.1
baz=246,SNR=21
J20K Nowinta River 80.28 9 P P 16 30 56.8 -2.2
J20K IAmb IAmb 16 31 02.9
comp=Z,61nm,1.4s
J20K Nowinta River 80.28 9 P P 16 30 59.7 +0.7
baz=199,SNR=22
CHUM Lake Minchumin 80.28 9 P P 16 30 59.0 +0.1
baz=201,SNR=17
BNX BinXian 80.30 323 ⇓P P 16 30 59.5 0.0
BNX pP sP 16 31 04.3 +1.5
BNX sP PcP 16 31 06.5 -0.1
BNX PP PP 16 34 04.0 +1.5
BNX S S 16 41 06.0 +0.8
BNX sS SKSac 16 41 13.3 -4.1
BNX pmax pmax
comp=Z,12nm,0.8s
BNX pmax pmax
comp=Z,380nm,5.4s
BNX LR LR
comp=Z,380nm,18.1s
MVCO Mesa Verde 80.31 47 P P 16 31 02.0 +1.9
baz=243
TNA Tin City 80.36 2 P P 16 31 00.4 +1.0
baz=186
SKAG Skagway 80.41 19 P P 16 31 01.9 +2.1
baz=218
DHY Denali Highway 80.42 12 P P 16 31 00.4 +0.4
baz=206
CN2 Changchun 80.45 320 *e*P P 16 30 59.3 -1.1
CN2 *e*pP sP 16 31 04.0 +0.3
CN2 *e*PP PP 16 34 04.8 +1.0
CN2 *e*S S 16 41 04.5 -2.3
CN2 *e*sS SKSac 16 41 12.5 -6.0
CN2 *e*SS SS 16 46 20.0 +0.8
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,110nm,20.0s
CN2 LR LR
comp=Z,130nm,20.0s
CN2 LR LR
comp=Z,100nm,20.0s
GCSA Galena City Sc 80.46 7 P P 16 31 02.2 +2.2
baz=197
NEW Newport 80.54 34 LR LR 17 00 42.7
comp=Z,564nm,19.6s,baz=218,slow=31
NEW Newport 80.54 34 P P 16 30 58.3 -2.5
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 80.54 34 P P 16 30 58.3 -2.5
NEW Newport 80.54 34 P P 16 31 01.3 +0.5
baz=235
SNY Shenyang 80.64 318 ⇓P P 16 31 02.5 +1.1
SNY S S 16 41 14.5 +5.6
SNY pmax pmax
comp=Z,21nm,1.4s
SNY pmax pmax
comp=Z,250nm,3.5s
SNY LR LR
comp=Z,120nm,16.5s
SNY LR LR
comp=Z,140nm,12.4s
SNY LR LR
comp=Z,270nm,19.6s
TXAR Lajitas Array 80.68 56 P P 16 31 04.3 +2.3
comp=Z,14nm,1.0s,baz=231,slow=6.0,SNR=72
TXAR LR LR 16 59 10.9
comp=Z,604nm,20.8s,baz=230,slow=30
BPAW Bear Paw Mtn. 80.70 10 P P 16 30 59.8 -1.5
BPAW Bear Paw Mtn. 80.70 10 P P 16 31 00.8 -0.5
baz=202,SNR=7.6
PAX Paxson 80.72 13 P P 16 31 01.8 +0.3
baz=208,SNR=8.1
MCK McKinley 80.72 11 P P 16 31 01.6 +0.2
baz=204,SNR=20
ANMO Albuquerque 80.80 50 LR LR 17 00 26.3
comp=Z,887nm,19.4s,baz=227,slow=31
ANMO Albuquerque 80.80 50 *ce*P P 16 31 02.5 -0.2
ANMO pmax pmax
comp=Z,55nm,1.7s
ANMO Albuquerque 80.80 50 P P 16 31 04.7 +2.0
baz=245
M27K Edge Creek, AK 81.00 14 P P 16 31 04.5 +1.4
baz=211,SNR=12
MENT Mentasta 81.08 13 P P 16 31 00.3 -3.1
MENT IAmb IAmb 16 31 07.2
comp=Z,35nm,1.4s
L26K Log Cabin Wild 81.24 14 P P 16 31 05.3 +1.1
baz=210,SNR=8.4
DLBC Dease Lake 81.40 22 LR LR 16 59 17.5
comp=Z,563nm,21.3s,baz=233,slow=30
NEA2 Nenana 81.49 11 P P 16 31 05.7 +0.3
baz=204,SNR=7.5
WHY Whitehorse 81.50 18 P P 16 31 06.1 +0.4
baz=218
MSO Missoula 81.54 37 P P 16 31 07.0 +0.7
baz=238,SNR=9.3
RIDG Independent Ri 81.54 13 P P 16 31 06.0 +0.2
baz=208,SNR=8.4
I21K Tanana 81.55 9 P P 16 31 06.4 +0.7
baz=201,SNR=11
MLY Manley 81.61 10 P P 16 31 06.2 +0.1
baz=202,SNR=17
L27K Beaver Creek, 81.62 14 P P 16 31 06.0 -0.2
baz=211,SNR=8.7
BCAR Beaver Creek A 81.63 14 P P 16 31 03.3 -3.0
S22A 4UR Ranch, Cre 81.74 48 P P 16 31 10.1 +2.3
baz=244,SNR=40

P33M Teslin, Yukon 81.80 19 P P 16 31 08.0 +0.7
baz=220
O20A White River Ci 81.82 45 P P 16 31 09.8 +1.7
baz=243,SNR=6.6
H21K Melozitna Rive 81.88 9 P P 16 31 08.8 +1.3
baz=200,SNR=11
N31M Braeburn, Yuko 81.90 17 P P 16 31 08.9 +1.1
baz=217
SCRK Sand Creek 81.93 13 P P 16 31 05.8 -2.2
SCRK IAmb IAmb 16 31 17.2
comp=Z,29nm,1.2s
SCRK Sand Creek 81.93 13 P P 16 31 08.4 +0.5
baz=209,SNR=23
I23K Minto, Yukon-K 81.95 10 P P 16 31 08.2 +0.4
baz=204,SNR=14
SEY Seymchan 81.95 345 P P 16 31 07.4 -0.5
comp=Z,8.2nm,0.9s,baz=141,slow=5.8,SNR=35
SEY LR LR 17 02 06.8
comp=Z,138nm,20.8s,baz=124,slow=32
SEY Seymchan 81.95 345 *ce*P P 16 31 08.0 +0.1
SEY pmax pmax
comp=Z,40nm,1.7s
TCOL CIGO, UAF Yank 81.96 11 P P 16 31 08.5 +0.6
baz=205,SNR=6.0
COLA College 81.96 11 *i* P P 16 31 08.3 +0.4
COLA pmax pmax
comp=Z,28nm,0.9s
IL31 82.05 11 P P 16 31 05.3 -3.0
IL31 IAmb IAmb 16 31 16.6
comp=Z,40nm,1.4s
ILAR Eielson Array 82.05 11 P P 16 31 08.3 -0.1
comp=Z,10nm,1.2s,baz=213,slow=6.0,SNR=28
ILAR LR LR 17 00 47.2
comp=Z,276nm,22.0s,baz=223,slow=31
ILAR Eielson Array 82.05 11 P P 16 31 07.8 -0.6
ILAR Eielson Array 82.05 11 P P 16 31 07.8 -0.6
IMAR Indian Mountai 82.05 8 P P 16 31 08.8 +0.5
BW06 Boulder Array 82.18 42 P P 16 31 10.6 +0.8
baz=242,SNR=18
PDAR Pinedale Array 82.18 42 P P 16 31 10.7 +0.8
comp=Z,4.5nm,0.9s,baz=208,slow=2.9,SNR=32
PDAR LR LR 17 02 54.5
comp=Z,506nm,18.6s,baz=238,slow=32
PDAR Pinedale Array 82.18 42 P P 16 31 07.2 -2.6
J25K Salcha River, 82.20 12 P P 16 31 09.8 +0.5
baz=208,SNR=18
POKR Poker Plat Res 82.26 11 P P 16 31 09.8 +0.3
baz=206
BOZ Bozeman (W) 82.27 39 P P 16 31 11.7 +1.5
baz=240,SNR=13
H17A Grant Village 82.32 40 P P 16 31 13.5 +2.9
baz=241,SNR=11
QIZ Qiongzhong 82.35 292 P P 16 31 07.5 -3.5
QIZ S S 16 41 24.8 -2.7
QIZ LR LR
comp=Z,190nm,19.9s
QIZ LR LR
comp=Z,260nm,26.3s
QIZ LR LR
comp=Z,250nm,23.9s
J26L Joseph Creek 82.48 13 P P 16 31 11.9 +1.1
baz=209,SNR=22
M30M Minto, Yukon 82.49 16 P P 16 31 11.0 +0.2
baz=216,SNR=5.4
TIA Tai'an 82.58 310 ⇓P P 16 31 13.0 +1.1
TIA S S 16 41 32.5 +3.2
TIA pmax pmax
comp=Z,20nm,1.1s
TIA pmax pmax
comp=Z,240nm,6.5s
SDCO Great Sand Dun 82.69 48 P P 16 31 14.4 +1.6
baz=245,SNR=31
H24K Noodor Dome 82.83 10 P P 16 31 11.6 -0.9
baz=205
M31M Drury Creek, Y 82.87 17 P P 16 31 12.7 0.0
baz=218,SNR=6.5
DAWY Dawson 83.05 15 P P 16 31 15.1 +1.3
baz=213,SNR=11
MSTX Muleshoe 83.18 52 P P 16 31 17.0 +1.8
baz=247
T25A Trinidad 83.23 49 P P 16 31 17.0 +1.6
baz=246,SNR=14
EGAK Eagle 83.24 13 P P 16 31 15.5 +0.8
baz=212
Q24A Divide 83.46 47 P P 16 31 18.6 +1.9
baz=245,SNR=21
RLMT Red Lodge 83.48 40 P P 16 31 18.2 +1.6
baz=242,SNR=13
ISCO Idaho Springs 83.49 46 P P 16 31 18.5 +1.7
baz=245,SNR=21
J29M Klondike Camp 83.66 15 P P 16 31 18.4 +1.5
baz=214,SNR=8.2
COLD Coldfoot 83.73 9 P P 16 31 19.0 +1.9
baz=203
N23A Red Feather La 83.73 45 P P 16 31 20.0 +1.9
baz=244,SNR=12
833A Chaparral WMA, 83.79 59 P P 16 31 19.0 +0.7
baz=250
BILL Bilibino 83.98 353 *ce*P P 16 31 18.4 +0.1
BILL *i* 16 31 26.1
BILL *e* 16 34 31.1
BILL *i* S S 16 41 44.8 +2.8
BILL *i* SS SS 16 47 15.4 +4.8
BILL pmax pmax
comp=Z,33nm,1.7s
CMIG Matias Romero 84.10 71 LR LR 17 02 11.9
comp=Z,575nm,18.1s,baz=228,slow=31
K22A Casper 84.11 43 P P 16 31 21.2 +1.4
baz=244,SNR=12
JCT Junction City 84.22 57 P P 16 31 21.2 +0.7
baz=249
TGTN Hyland Airport 84.26 20 P P 16 31 21.6 +1.6
baz=224,SNR=14
AMTX Amarillo 84.37 52 P P 16 31 17.6 -3.6
AMTX Amarillo 84.37 52 P P 16 31 22.8 +1.6
baz=248
I29M Ogilvie Camp, 84.39 14 P P 16 31 21.3 +0.7
baz=214,SNR=7.8
BELA Belgrano 2 84.53 172 P P 16 31 20.5 -0.7
BELA IAmb IAmb 16 31 30.7
comp=Z,14nm,1.0s
EGMT Eagleton 84.59 37 P P 16 31 17.6 -4.4
EGMT IAmb IAmb 16 31 31.8
comp=Z,21nm,1.1s
EGMT Eagleton 84.59 37 P P 16 31 23.0 +1.0
baz=241
PMSA Palmer Station 84.78 156 LR LR 17 03 52.1
comp=Z,201nm,18.1s,baz=122,slow=32
ZEA Zeya 84.80 329 *e*P P 16 31 22.7 -0.1
ZEA *e*S S 16 41 51.4 +0.6
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA smax smax
comp=E,100nm,8.3s
ZEA smax smax
comp=N,200nm,11.9s
ZEA MLR MLR
comp=Z,100nm,20.0s
HNS HongShan 84.84 311 ⇑P P 16 31 24.5 +1.1
HNS pmax pmax
comp=Z,38nm,1.4s
BJI Beijing 84.84 314 P P 16 31 20.8 -2.5
BJI PcP pP 16 31 24.0 -1.8
BJI S S 16 41 47.8 -4.0
BJI ScS SKKSac 16 41 57.3 +3.5
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,280nm,6.0s
ABTX Abilene, Hawle 85.11 55 P P 16 31 26.5 +1.5
baz=249
TOLK Toolik Lake Re 85.13 9 P P 16 31 25.4 +1.2
baz=204
KSCO Kaye Shedlock' 85.27 48 P P 16 31 21.6 -4.1
KSCO Kaye Shedlock' 85.27 48 P P 16 31 27.8 +2.1
baz=247
LYN LuoYang 85.44 307 ⇑P P 16 31 27.3 +0.8
LYN pmax pmax
comp=Z,20nm,1.1s
LYN pmax pmax
comp=Z,200nm,3.7s
LYN LR LR
comp=Z,170nm,13.9s
LYN LR LR
comp=Z,160nm,14.6s
LYN LR LR
comp=Z,200nm,19.4s

H03S2 Juan Fernandez 85.81 124 T T 18 06 45.3
baz=252,SNR=13
H03S1 Juan Fernandez 85.82 124 T T 18 06 51.4
baz=252,SNR=11
H03S3 Juan Fernandez 85.82 124 T T 18 06 47.4
baz=252,SNR=12
H03N2 Juan Fernandez 85.91 123 T T 18 06 43.3
baz=257,slow=73,SNR=4.6
H03N3 Juan Fernandez 85.91 123 T T 18 06 52.7
baz=257,slow=73,SNR=5.1
H03N1 Juan Fernandez 85.92 123 T T 18 06 47.0
baz=257,slow=73,SNR=6.6
LAO LASA Array 86.09 40 P **P** **16 31 31.5 +1.9**
baz=244,SNR=7.0
RSSD Black Hills 86.38 43 P **P** **16 31 31.9 +0.7**
baz=246
IPM Ipoh 86.47 276 P **P** **16 31 31.4 -0.7**
XLT XiLinHaoTe 86.49 317 *e*P **P** **16 31 32.0 +0.4**
XLT pP pwP 16 31 40.5 +2.9
XLT sP sP 16 31 44.3 +9.4
XLT PP **PP** **16 34 57.8 +4.4**
XLT SKS **SKSac** **16 41 56.0 -2.4**
XLT S **S** **16 42 10.8 +2.7**
XLT sS ScS 16 42 21.3 +4.8
XLT SS **SS** **16 47 48.3 -0.6**
XLT pmax pmax
comp=Z,12nm,1.5s
XLT pmax pmax
comp=Z,180nm,5.8s
WMOK Wichita Mounta 86.53 53 P **P** **16 31 33.4 +1.4**
baz=250
TIY Taiyuan 86.63 310 ⇓P **P** **16 31 34.0 +1.6**
TIY S **S** **16 42 15.3 +5.6**
TIY pmax pmax
comp=Z,30nm,0.6s
TIY pmax pmax
comp=Z,230nm,3.6s
TIY LR LR
comp=Z,140nm,11.7s
TIY LR LR
comp=Z,69nm,10.7s
TIY LR LR
comp=Z,170nm,16.5s
HKT Hockley 87.27 58 *i*P **P** **16 31 35.8 +0.3**
HKT pmax pmax
comp=Z,52nm,1.6s
GYA Guiyang 87.46 298 ⇓*i*P **P** **16 31 38.0 +1.3**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,350nm,3.6s
INK Inuvik 87.89 14 P **P** **16 31 38.0 +0.4**
comp=Z,2.0nm,0.4s,baz=238,slow=4.5,SNR=3.7
INK LR LR 17 03 01.3
comp=Z,177nm,21.8s,baz=176,slow=30
INK Inuvik 87.89 14 P **P** **16 31 35.4 -2.3**
INK pmax pmax
comp=Z,21nm,1.3s
INK Inuvik 87.89 14 P **P** **16 31 35.4 -2.3**
INK IAmb IAmb 16 31 46.7
comp=Z,20nm,1.2s
INK Inuvik 87.89 14 P **P** **16 31 38.6 +1.0**
baz=219,SNR=5.2
XAN Xi'an 88.02 306 P **P** **16 31 40.0 +0.8**
XAN pP pwP 16 31 50.0 +4.8
XAN pmax pmax
comp=Z,38nm,1.5s
XAN pmax pmax
comp=Z,230nm,3.9s
PSI Prapat 88.06 273 LR LR 17 12 48.1
comp=Z,91nm,19.5s,baz=136,slow=37
DGMT Dagmar 88.10 39 P **P** **16 31 40.8 +1.7**
baz=245,SNR=5.0
MAW Mawson 88.12 199 P **P** **16 31 38.4 -0.5**
comp=Z,3.6nm,0.8s,baz=222,slow=12,SNR=2.7
MAW LR LR 17 09 18.2
comp=Z,490nm,18.0s,baz=113,slow=34
MAW Mawson 88.12 199 P **P** **16 31 38.2 -0.8**
MAW pmax pmax
comp=Z,3.0nm,1.2s
MAW Mawson 88.12 199 P **P** **16 31 38.2 -0.8**
HHC Hu-ho-hao-te 88.40 313 *e*P **P** **16 31 42.0 +1.1**
HHC S **S** **16 42 26.0 -0.6**
HHC sS ScS 16 42 32.5 0.0
HHC pmax pmax
comp=Z,49nm,1.2s
HHC pmax pmax
comp=Z,130nm,6.2s
YAK Yakutsk 88.51 337 P **P** **16 31 39.7 -1.0**
comp=Z,6.6nm,0.8s,baz=350,slow=0.7,SNR=6.3
YAK LR LR 17 05 41.6
comp=Z,29nm,20.2s,baz=88,slow=32
YAK Yakutsk 88.51 337 *e*P **P** **16 31 39.6 -1.1**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.3s
YKA Yellowknife Ar 89.81 24 P **P** **16 31 47.4 +0.6**
comp=E,4.2nm,0.9s,baz=237,slow=4.4,SNR=44
YKA PP **PP** **16 35 19.8 +0.3**
comp=E,0.5nm,0.9s,baz=232,slow=7.0,SNR=3.3
YKA LR LR 17 06 58.7
comp=E,408nm,19.0s,baz=228,slow=32
PLCA Paso Flores 90.14 132 P **P** **16 31 51.7 +2.5**
comp=E,1.1nm,0.8s,baz=235,slow=12,SNR=2.0
PLCA LR LR 17 04 57.7
comp=E,210nm,18.1s,baz=225,slow=31
KMI Kunming 90.45 296 ⇓P **P** **16 31 53.3 +2.3**
KMI pmax pmax
comp=E,13nm,0.7s
KMI LR LR
comp=E,190nm,15.8s
KMI LR LR
comp=E,210nm,17.3s
MDND Maddock 90.68 40 P **P** **16 31 51.3 0.0**
baz=249
C36M Paulatuk 91.00 16 P **P** **16 31 52.8 +0.6**
baz=228,SNR=5.7
ECSD EROS Data Cent 91.20 45 P **P** **16 31 53.7 -0.2**
baz=251
JTS Las Juntas de 91.52 80 LR LR 17 03 26.9
comp=E,477nm,20.1s,baz=4.5,slow=29
U40A Yellville 91.63 53 P **P** **16 31 56.7 +0.8**
baz=253
PZH PanZhiHua 91.69 297 P **P** **16 31 54.0 -2.6**
PZH S **S** **16 43 02.5 +4.7**
PZH pmax pmax
comp=E,10.0nm,0.6s
PZH pmax pmax
comp=E,150nm,5.7s
PZH LR LR
comp=E,270nm,20.0s
PZH LR LR
comp=E,400nm,21.4s
PZH LR LR
comp=E,660nm,21.2s
CMAR Chiang Mai Arr 92.08 288 P **P** **16 31 59.3 +0.9**
comp=E,3.9nm,0.9s,baz=90,slow=2.7,SNR=27
CMAR LR LR 17 07 36.0
comp=E,117nm,21.5s,baz=95,slow=32
CMAR Chiang Mai Arr 92.08 288 *i*P **P** **16 32 00.0 +1.6**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 92.17 289 P **P** **16 31 55.2 -3.6**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 92.17 289 P **P** **16 31 55.2 -3.6**
A36M Sachs Harbour 92.52 14 P **P** **16 31 60.0 +0.8**
baz=226
LZH Lanzhou 92.61 307 ⇑P **P** **16 32 02.0 +1.3**
LZH sP pwP 16 32 14.8 +8.1
LZH PP **PP** **16 35 47.5 +5.0**
LZH SKS **SKSac** **16 42 36.3 +1.5**
LZH *e*S **ScS** **16 43 09.3 +1.5**
LZH SS **SS** **16 49 14.5 -3.7**
LZH pmax pmax
comp=Z,36nm,1.4s
LZH pmax pmax
comp=Z,170nm,8.6s
LZH LR LR
comp=Z,240nm,17.0s
LZH LR LR
comp=Z,200nm,17.1s
LZH LR LR
comp=Z,270nm,19.4s
AGMN Agassiz Nation 93.19 41 P **P** **16 32 03.4 +0.5**
baz=251
CCM Cathedral Cave 93.35 52 P **P** **16 32 04.0 +0.2**
baz=254
NNA Nana 93.56 103 LR LR 17 04 18.1
comp=Z,158nm,21.2s,baz=254,slow=29
NNA Nana 93.56 103 *i*P **P** **16 32 06.6 +1.1**
NNA pmax pmax
comp=Z,22nm,1.3s
ULN Ulaanbaatar 93.80 318 *ce*P **P** **16 32 06.5 +0.6**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 93.80 318 P **P** **16 32 03.9 -2.0**
ULN IAmb IAmb 16 32 07.6
comp=Z,14nm,1.2s
ULM Lac du Bonnet 93.81 39 P **P** **16 32 05.2 -0.5**
comp=Z,2.8nm,0.7s,baz=231,slow=6.5,SNR=4.4
ULM LR LR 17 09 42.7
comp=Z,702nm,18.9s,baz=266,slow=32
ULM Lac du Bonnet 93.81 39 *i*P **P** **16 32 06.0 +0.3**
OXF Oxford 93.81 55 P **P** **16 32 08.1 +2.1**
baz=255
SONM Songino Array 94.21 318 P **P** **16 32 08.0 +0.2**
comp=Z,1.7nm,1.0s,baz=127,slow=3.6,SNR=12
SONM PP **PP** **16 35 59.3 +4.5**
comp=Z,0.9nm,1.1s,baz=108,slow=4.8,SNR=4.1
SONM LR LR 17 10 36.7
comp=Z,50nm,19.2s,baz=179,slow=33
SONM Songino Array 94.21 318 P **P** **16 32 05.4 -2.4**
SONM pmax pmax
comp=Z,8.0nm,1.4s
SONM Songino Array 94.21 318 P **P** **16 32 05.4 -2.4**
TIXI Tiksi 94.43 344 P **P** **16 32 07.7 -0.3**
comp=Z,2.0nm,0.9s,baz=90,slow=23,SNR=11
TIXI LR LR 17 08 16.3
comp=Z,67nm,21.2s,baz=181,slow=32
TIXI Tiksi 94.43 344 *ce*P **P** **16 32 06.8 -1.2**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TIXI MLR MLR
comp=Z,70nm,18.0s
JFWS Jewell Farm 95.39 47 P **P** **16 32 14.0 +0.9**
baz=255
GTA Gaotai 96.56 309 ⇑P **P** **16 32 19.0 +0.3**
GTA pP pwP 16 32 25.5 +0.8
GTA sP sP 16 32 30.8 +8.8
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,73nm,7.3s
GTA LR LR
comp=Z,65nm,12.0s
GTA LR LR
comp=Z,150nm,18.9s
GTA LR LR
comp=Z,150nm,16.7s
ZAK Zakamensk 96.89 320 *e*P P 16 32 10.9 -9.0
ZAK pmax pmax
comp=Z,5.0nm,1.3s
LVC Limon Verde 97.59 116 LR LR 17 06 33.3
comp=Z,180nm,22.0s,baz=239,slow=29
TKL Tuckaleechee C 98.57 55 LR LR 17 10 24.3
comp=Z,531nm,20.8s,baz=254,slow=31
MKAR Makanchi Array 110.20 315 Pdiff **Pdif** **16 33 25.6 +6.4**
comp=Z,0.4nm,0.9s,baz=100,slow=4.4,SNR=3.5
BRVK Borovoye 117.31 322 *ci*PKIKP **PKiKP** **16 37 34.3 +0.4**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
ARU Arti 122.72 328 *i*PKIKP **PKPdf** **16 37 43.8 -0.4**
ARU 16 39 20.9
ARU 16 44 52.6
ARU SS SS 16 56 06.5 +2.6
ARCES ARCESS Array B 124.07 352 PKP **PKiKP** **16 37 48.5 +1.7**
comp=Z,3.5nm,1.0s,baz=40,slow=1.5,SNR=6.2
APA Apatity 124.48 348 ⇓*i*PKIKP **PKPdf** **16 37 41.4 -5.9**
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,900nm,25.0s
PRGR Permogore 125.53 338 *e*PKIKP **PKPdf** **16 37 48.2 -1.2**
KIRV Kirov 125.93 334 *ci*PKIKP **PKPdf** **16 37 50.6 +0.3**
KLMR Klimovskoe 128.20 340 *e*PKIKP **PKPdf** **16 37 53.4 -1.1**
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 128.20 340 *e*PKPdf **PKPdf** **16 37 53.5 -1.1**
KLMR AMP 16 37 56.4
comp=Z,33nm,1.4s
VALR Valaam 130.34 345 *i*PKIKP **PKiKP** **16 38 00.5 +1.1**
VALR pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 131.38 347 PKP **PKPdf** **16 38 01.1 +0.5**
comp=Z,1.8nm,0.8s,baz=22,slow=4.5,SNR=2.2
OBN Obninsk 133.51 336 *ci*PKIKP **PKiKP** **16 38 07.3 +1.3**
OBN *i* 16 38 14.7
OBN *e* 16 40 34.0
OBN pmax pmax
comp=Z,26nm,1.7s
VSU Vasula 133.90 345 *i*PKIKP **PKiKP** **16 38 06.8 +0.1**
NACGM Naroch 137.00 343 *e*PKP **PKPdf** **16 38 10.3 -1.0**
MNK Minsk 137.02 342 *i*PKIKP **PKPdf** **16 38 10.2 -1.2**
MNK *i* 16 40 53.2
MNK *i* PPP PPP 16 43 50.3
MNK *i* 16 45 21.0
MNK *i* SS SS 16 58 58.8 -0.3
MNK *i* SSS SSS 17 04 03.7
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK Minsk 137.02 342 *i*PKP **PKPdf** **16 38 10.2 -1.2**
comp=E,2.0nm,0.9s,baz=32
MNK *i*PKP **PKPdf** **16 38 10.2 -1.2**
MNK *i*PP **PP** **16 40 53.2 -1.2**
MNK *i*PPP PPP 16 43 50.4
MNK *i*SKS **SKSdf** **16 45 21.1 -1.2**
MNK *i*SKKS **SKKSdf** **16 55 00.5 -1.6**
MNK *i*SS **SS** **16 58 58.8 -0.3**
MNK *i*SSS SSS 17 04 03.7
MNK *i*LR LR 17 38 46.7
MNK *i*LRM MLR 17 42 30.6
comp=Z,156nm,14.4s
MNK *i*LRM MLR 17 43 29.1
comp=E,18nm,12.3s
MNK *i*LRM MLR 17 43 30.0
comp=N,281nm,22.0s
KBZ Khabaz 137.56 320 *i*PKIKP **PKPdf** **16 38 13.7 +1.0**
KBZ pmax pmax
comp=Z,1.0nm,1.0s
KIV Kislovodsk 137.57 320 *i*PKIKP **PKiKP** **16 38 14.4 -0.4**
KIV pmax pmax
comp=Z,4.0nm,1.1s
SHA1 Shidzhatmaz 137.70 320 *i*PKIKP **PKiKP** **16 38 14.9 -0.4**
AKASG Malin Array Be 139.74 337 PKP **PKPdf** **16 38 17.3 +0.8**
comp=Z,1.0nm,0.7s,baz=22,slow=2.4,SNR=8.8
AKASG PP **PP** **16 41 16.8 +5.4**
comp=Z,0.7nm,0.7s,baz=31,slow=5.5,SNR=4.3
ANN Anapa 140.17 325 *i*PKIKP **PKPdf** **16 38 17.6 +0.2**
ANN *e* 16 41 12.5
ANN *e*PPP PPP 16 44 17.8
ANN pmax pmax
comp=Z,32nm,1.3s
LVV L'vov 142.27 341 *e*PKHKP PKPpre 16 38 16.8
CLL Collm 143.28 353 *e*PKIKP PKPbc 16 38 21.0 +1.2
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 143.28 353 *e*PKPdf PKPbc 16 38 21.0 +1.2
comp=Z,10.0nm,1.1s
OSTC Ostas 143.53 349 *e*PKP **PKPdf** **16 38 22.6 -0.7**
BRG Berggiesshubel 143.59 352 *e*PKP PKPbc 16 38 21.9 +1.2
BRG Amp 16 38 25.6
comp=Z,9.5nm,1.3s
BRG *ex* x 16 38 37.8
BRG Amp 16 38 38.8
comp=Z,13nm,1.5s
BRG Berggiesshubel 143.59 352 *e*PKIKP PKPbc 16 38 21.9 +1.2
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG pmax pmax
comp=Z,13nm,1.5s
DPC Dobruska-Polom 143.71 349 *e*PKIKP **PKPdf** **16 38 22.7 -1.0**
DPC Dobruska-Polom 143.71 349 *e*PKP **PKPdf** **16 38 22.7 -1.0**
BURAR Bucovina Array 143.77 338 ⇓P **PKPdf** **16 38 24.8 +0.8**
BURAR Bucovina Array 143.77 338 ⇓PKIKP **PKPdf** **16 38 24.8 +0.8**
UZH Uzhgorod 143.85 342 *e*PKIKP PKPab 16 38 20.8 -0.1
CRVS Cervenica-Dubn 143.85 343 *e*PKIKP PKPbc 16 38 22.9 +1.3
CRVS Cervenica-Dubn 143.85 343 *e*PKP PKPbc 16 38 22.9 +1.3

KRLC Kraliky 143.88 348 *e*PKIKP **PKPdf** **16 38 23.9 -0.1**
KRLC Kraliky 143.88 348 *e*PKP **PKPdf** **16 38 23.9 -0.1**
MORC Moravsky Berou 144.01 347 ⇑P PKPbc 16 38 22.8 +0.7
MORC Moravsky Berou 144.01 347 ⇑PKIKP PKPbc 16 38 22.8 +0.7
MORC Moravsky Berou 144.01 347 *e*PKP PKPbc 16 38 23.0 +0.9
TESR Tescani 144.14 336 ⇑P PKPbc 16 38 23.3 +0.8
LANS Liptovska Anna 144.16 345 *e*PKIKP **PKPdf** **16 38 25.5 +1.0**
LANS Liptovska Anna 144.16 345 *e*PKP **PKPdf** **16 38 25.5 +1.0**
TRPA Tarpa 144.22 341 ⇑P PKPbc 16 38 23.8 +1.2
TRPA Tarpa 144.22 341 PKPpB 16 38 23.6
PRU Pruhonice 144.36 351 *e*PKIKP **PKPdf** **16 38 25.6 +0.8**
PRU Pruhonice 144.36 351 *e*PKP **PKPdf** **16 38 25.6 +0.8**
NKC Novy Kostel 144.41 353 *e*PKIKP **PKPdf** **16 38 26.9 +2.0**
NKC Novy Kostel 144.41 353 *e*PKP **PKPdf** **16 38 26.9 +2.0**
KECS Kecovo 144.51 344 *e*PKIKP **PKiKP** **16 38 27.4 -1.3**
KECS Kecovo 144.51 344 *e*PKP **PKiKP** **16 38 27.4 -1.3**
ARCR ARCALIA 144.53 338 ⇓P **PKPdf** **16 38 25.1 -0.1**
BCLA Clavier 144.58 1 *d*PKP **PKiKP** **16 38 27.7 -1.1**
CFR Carcaliu 144.58 333 ⇑P **PKPdf** **16 38 24.9 -0.4**
CFR Carcaliu 144.58 333 ⇑PKIKP **PKPdf** **16 38 24.9 -0.4**
VRAC Vranov 144.65 348 ⇓P **PKPdf** **16 38 25.9 +0.6**
VRAC Vranov 144.65 348 ⇓PKIKP **PKPdf** **16 38 25.9 +0.6**
VRAC Vranov 144.65 348 *e*PKP **PKPdf** **16 38 25.6 +0.3**
TPGR Topolog 144.71 332 ⇓P **PKPdf** **16 38 25.8 +0.3**
PBCC Pribram 144.74 351 *e*PKP **PKPdf** **16 38 26.0 +0.5**
OZUR 144.82 336 ⇑P **PKPdf** **16 38 26.3 +0.5**
RCHB Rochefort 144.84 1 *d*PKP **PKiKP** **16 38 27.9 -1.5**
JAVC Velka Javorina 144.85 347 *e*PKP **PKPdf** **16 38 27.1 +1.3**
COVR Voineasa-Covas 144.86 335 ⇑P **PKPdf** **16 38 26.1 +0.3**
DOU Dourbes 144.89 2 *d*PKP **PKPdf** **16 38 26.2 +0.5**
VYHS Vyhne 144.93 345 *e*PKIKP **PKPdf** **16 38 26.3 +0.5**
VYHS Vyhne 144.93 345 *e*PKP **PKPdf** **16 38 26.3 +0.5**
KRUC Moravsky 144.93 348 *e*PKP **PKPdf** **16 38 26.1 +0.3**
TIRR Tirgusor 145.02 332 ⇑P **PKPdf** **16 38 26.8 +0.7**
TIRR Tirgusor 145.02 332 ⇑PKIKP **PKPdf** **16 38 26.8 +0.7**
TIRR Tirgusor 145.02 332 PKPdf PKPbc 16 38 25.7 +0.3
HARR Harsova 145.06 333 ⇑P **PKPdf** **16 38 26.9 +0.8**
HARR Harsova 145.06 333 ⇑PKIKP **PKPdf** **16 38 26.9 +0.8**
GRF Grafenberg Arr 145.07 354 *e*PKP **PKPdf** **16 38 26.3 +0.2**
comp=Z,28nm,1.2s,baz=8.6,slow=2.8
DOPR Dopca 145.09 336 ⇑P **PKPdf** **16 38 27.6 +1.4**
NEHR Nehoiu 145.17 335 ⇓P **PKPdf** **16 38 27.2 +0.8**
PSZ Piszkesteto 145.18 344 ⇓P **PKPdf** **16 38 27.0 +0.6**
PSZ Piszkesteto 145.18 344 ⇓PKIKP **PKPdf** **16 38 27.0 +0.6**
PSZ Piszkesteto 145.18 344 **PKPdf** **16 38 26.8 +0.5**
PSZ Piszkesteto 145.18 344 PKPDF **PKPdf** **16 38 26.9 +0.5**
PSZ Piszkesteto 145.18 344 ⇑PKP **PKPdf** **16 38 27.1 +0.8**
MFTR Murfatlar 145.23 331 ⇑P **PKPdf** **16 38 27.4 +1.0**
MLR Muntele Rosu 145.26 335 ⇓P **PKPdf** **16 38 27.7 +1.0**
MLR Muntele Rosu 145.26 335 ⇓PKIKP **PKPdf** **16 38 27.7 +1.0**
ISR Istrita 145.32 334 ⇓P **PKPdf** **16 38 27.6 +0.9**
ISR Istrita 145.32 334 ⇓PKIKP **PKPdf** **16 38 27.6 +0.9**
KHC Kasperske Hory 145.34 351 *e*PKIKP **PKPdf** **16 38 27.8 +1.2**
KHC *e* 16 38 34.1
KHC Kasperske Hory 145.34 351 *e*PKP **PKPdf** **16 38 27.8 +1.2**
KHC *ex* x 16 38 34.1
WLF Walferdange 145.34 0 *d*PKP **PKPdf** **16 38 28.6 +2.1**
DRGR 145.35 340 ⇓P **PKPab** **16 38 26.8 +0.2**
KMBO Kilima Mbogo 145.37 245 PKPbc **PKPbc** **16 38 27.6 -0.2**
comp=Z,7.9nm,1.0s,baz=67,slow=5.3,SNR=11
AMRR Amara 145.38 333 ⇓P **PKPdf** **16 38 28.3 +1.6**
AMRR Amara 145.38 333 ⇓PKIKP **PKPdf** **16 38 28.3 +1.6**
MANR Mangalia 145.43 331 ⇑P **PKPab** **16 38 27.8 +0.9**
BR131 Keskin Array S 145.53 321 PKIKP **PKPdf** **16 38 27.4 +0.1**
BR131 Keskin Array S 145.53 321 **PKPdf** **16 38 27.4 +0.1**
BRTR Keskin Array B 145.53 321 PKPbc **PKPab** **16 38 28.2 +0.6**
comp=Z,41nm,1.0s,baz=79,slow=2.5,SNR=102
BRTR Keskin Array B 145.53 321 PKIKP **PKPab** **16 38 28.6 +1.0**
BRTR Keskin Array B 145.53 321 **PKPab** **16 38 28.6 +1.0**
CKRC Cesky Krumlov 145.53 350 *e*PKP **PKPab** **16 38 28.5 +1.3**
SECR 145.58 335 ⇑P **PKPab** **16 38 28.5 +1.0**
GERES GERESS Array B 145.60 351 PKPbc **PKPab** **16 38 28.0 +0.5**
comp=Z,5.9nm,1.0s,baz=27,slow=4.5,SNR=37
ZST Bratislava 145.61 347 *e*PKIKP **PKPab** **16 38 28.7 +1.3**
ZST Bratislava 145.61 347 *e*PKP **PKPab** **16 38 28.7 +1.3**
VOIR 145.66 336 ⇓P **PKPab** **16 38 28.6 +0.8**
VOIR 145.66 336 ⇓PKIKP **PKPab** **16 38 28.6 +0.8**
SRO Srobarova 145.69 345 *e*PKIKP **PKPab** **16 38 28.6 +0.9**
SRO Srobarova 145.69 345 *e*PKP **PKPab** **16 38 28.6 +0.9**
SULR 145.79 334 ⇑P **PKPab** **16 38 28.4 +0.2**
BUD Budapest 145.81 344 ⇑PKP **PKiKP** **16 38 31.6 +0.2**
ARR Arges 145.88 337 ⇑P **PKPab** **16 38 29.5 +0.9**
DEV Deva 146.07 339 ⇓P **PKPab** **16 38 29.8 +0.5**
DEV Deva 146.07 339 ⇓PKP2 **PKPab** **16 38 29.8 +0.5**
CONA Conrad Observa 146.12 348 *i*P **PKPbc** **16 38 29.3 +0.5**
comp=Z,59nm,1.5s,SNR=22
SIRR Siria 146.15 341 ⇓P **PKPab** **16 38 29.9 +0.3**
SOP Sopron 146.21 347 PKPDF **PKPab** **16 38 30.0 +0.4**
SOP Sopron 146.21 347 ⇑PKP **PKPab** **16 38 31.1 +1.5**
EGYH Egyhazaskeszo 146.29 346 PKPDF **PKPab** **16 38 30.1 +0.1**
EGYH Egyhazaskeszo 146.29 346 ⇑PKP **PKPab** **16 38 31.1 +1.1**
AMBH Ambrzfalva 146.37 342 ⇑PKP **PKPab** **16 38 31.7 +1.4**
MPLH Magyarpolny 146.47 346 PKPDF **PKPbc** **16 38 29.8 0.0**
MPLH Magyarpolny 146.47 346 ⇑PKP **PKPbc** **16 38 30.7 0.0**
MOA Molin 146.48 350 *i*P **PKPab** **16 38 31.2 +0.4**
comp=Z,33nm,1.3s,SNR=14
GZR Gura Zlata 146.54 339 ⇑P **PKPdf** **16 38 29.7 +0.9**
GZR Gura Zlata 146.54 339 ⇑PKIKP **PKPdf** **16 38 29.7 +0.9**
RAZG Razgrad 146.57 333 ⇑P **PKPab** **16 38 31.1 -0.2**
BIOA Bad Ischl, Aus 146.74 351 *e*P **PKPab** **16 38 31.5 -0.3**
comp=Z,34nm,1.8s
BZS Buzias 146.74 340 ⇓P **PKPdf** **16 38 30.0 +1.0**
BZS Buzias 146.74 340 ⇓PKP2 **PKPdf** **16 38 30.0 +1.0**
ARSA Arzberg 146.83 348 *i*P **PKPbc** **16 38 31.5 +0.6**
comp=Z,19nm,1.4s,SNR=8.4
ARSA Arzberg 146.83 348 *e*P **PKPbc** **16 38 30.3 -0.6**
SRE Strehaia 147.01 337 ⇓P **PKPab** **16 38 32.8 -0.1**
SRE Strehaia 147.01 337 ⇓PKP2 **PKPab** **16 38 32.8 -0.1**
HERR Herculane 147.11 339 ⇓P **PKPbc** **16 38 32.4 +0.7**
RETA Reutte 147.30 354 *i*P **PKPbc** **16 38 32.9 +0.6**
comp=Z,26nm,1.3s,SNR=6.7
BEHE Becsehely 147.31 346 PKPDF **PKPbc** **16 38 31.4 -0.8**
BEHE Becsehely 147.31 346 ⇑PKP **PKPab** **16 38 34.4 +0.4**
BEHE PKIKP **PKiKP** **16 38 34.7 +0.1**
KOVH Kovagotottos 147.35 345 PKPDF **PKPdf** **16 38 31.1 +1.1**
KOVH Kovagotottos 147.35 345 ⇑PKP **PKPbc** **16 38 32.1 -0.3**
BHL Bhannes 147.35 311 *e*P **PKPbc** **16 38 32.4 -0.5**
WATA Walderalm 147.36 353 *i*P **PKPdf** **16 38 30.5 +0.3**
comp=Z,18nm,1.2s,SNR=6.2
KBA Koelnbreinsper 147.38 351 *e*P **PKPbc** **16 38 33.0 +0.4**
comp=Z,9.1nm,0.9s
MOTA Moosalm 147.41 354 *i*P **PKPdf** **16 38 31.2 +1.0**
comp=Z,37nm,1.3s,SNR=9.0
WTTA Wattenberg 147.43 353 *i*P **PKPbc** **16 38 32.4 -0.4**
comp=Z,21nm,1.0s,SNR=7.4
MDVR Moldovita 147.44 339 ⇓P **PKPbc** **16 38 33.5 +0.8**
SOKA Soboth 147.48 349 *i*P **PKPdf** **16 38 31.3 +1.0**
comp=Z,20nm,1.0s,SNR=23
SQTA Sankt Quirin 147.52 354 *i*P **PKPdf** **16 38 31.4 +1.0**
comp=Z,16nm,1.2s,SNR=8.3
SHBL Chebaa 147.54 310 *e*P **PKPbc** **16 38 32.8 -0.7**
DAVA Damuels 147.58 355 *i*P **PKPbc** **16 38 32.7 -0.5**
comp=Z,30nm,1.4s,SNR=8.3
FRGS Fruska Gora 147.72 342 ⇑P **PKPbc** **16 38 33.1 -0.3**
FRGS Fruska Gora 147.72 342 *e*P **PKPbc** **16 38 32.3 -1.2**
OBKA Obir 147.73 349 *i*P **PKPbc** **16 38 33.1 -0.5**
comp=Z,13nm,1.1s,SNR=7.0
OBKA Obir 147.73 349 *e*P **PKPdf** **16 38 32.2 +1.4**
FETA Feichten 147.76 354 *i*P **PKPdf** **16 38 32.2 +1.3**
comp=Z,20nm,1.1s,SNR=10
MYKA Terra Mystica 147.77 350 *i*P **PKPdf** **16 38 31.5 +0.7**
comp=Z,26nm,1.3s,SNR=8.0
ABTA Abfaltersbach 147.82 352 *i*P **PKPdf** **16 38 30.6 -0.3**
comp=Z,11nm,1.5s,SNR=7.9
LJU Ljubljana 148.18 349 *e*P **PKPbc** **16 38 34.8 +0.2**
LJU Ljubljana 148.18 349 *e*PKPbc **PKPbc** **16 38 34.9 +0.2**
CRES Cresnjev 148.21 348 *e*P **PKPbc** **16 38 33.5 -1.2**
JAVS Javornik 148.41 349 *e*PKPbc **PKPbc** **16 38 35.2 -0.1**
CEY Cerknica 148.50 349 *e*P **PKPdf** **16 38 33.0 +1.0**
BOJS Bojanci 148.56 348 *e*PKPbc **PKPbc** **16 38 36.2 +0.6**
DIVS Divibare 148.62 341 *e*P **PKPbc** **16 38 36.4 +0.4**
A051A Mrakovica 148.65 345 *e*P **PKPbc** **16 38 35.9 -0.1**
VTS Vitosha 148.73 335 ⇓P **PKiKP** **16 38 37.3 -0.4**
VTS Vitosha 148.73 335 ⇓PKP2 **PKiKP** **16 38 37.5 -0.4**
SKDS Skadanscina 148.76 349 *e*P **PKPbc** **16 38 35.4 -0.8**
BLY Banja Luka 148.83 345 *e*P **PKPbc** **16 38 37.0 +0.7**
RIY Rijeka 148.88 349 *e*P **PKPbc** **16 38 36.4 -0.1**
BBLS Lazići 149.01 341 *e*P **PKPbc** **16 38 37.6 +0.7**
MGRS Mrkonjic Grad 149.16 345 *e*P **PKiKP** **16 38 38.3 -0.2**
A050A Klekovaca 149.24 345 *e*P **PKPdf** **16 38 33.9 +0.6**
RUDO Rudo 149.25 341 *e*P **PKPbc** **16 38 37.3 -0.2**

UPM	**Unac-Piva**	**149.77**	**341**	*e*P	**PKPbc**	**16 38 38.8**	**-0.2**
STIP	**Stip**	**149.93**	**336**	*i* P	**PKPbc**	**16 38 39.2**	**0.0**
SKO	**Skopje**	**149.98**	**337**	*i* P	**PKPbc**	**16 38 39.5**	**+0.2**
VAY	**Valandovo**	**150.09**	**335**	*i* P	**PKPbc**	**16 38 39.5**	**-0.1**
BRY	**Bratogost**	**150.15**	**342**	*e*P	**PKPbc**	**16 38 39.5**	**-0.4**
PDG	**Podgorica**	**150.35**	**340**	⇓P	**PKPbc**	**16 38 40.2**	**+0.1**
PDG	**Podgorica**	**150.35**	**340**	*e*P	**PKPbc**	**16 38 40.1**	**-0.1**
DRME	**Dracevica, Mon**	**150.59**	**340**	*e*P	**PKPbc**	**16 38 41.1**	**+0.3**
PCAB	**Cabril**	**150.60**	**22**	*e*PKPab	**PKiKP**	**16 38 43.3**	**+1.7**
PBRG	**Braganca**	**150.96**	**20**	*e*PKPab	**PKiKP**	**16 38 43.3**	**+1.0**
PBRG				*i* LQ	LQ	16 38 56.0	
OHR	**Ohrid**	**150.97**	**337**	*i* P	**PKiKP**	**16 38 42.4**	**+0.1**
POLO	**Lamas de Olo**	**150.98**	**22**	*e*PKPab	**PKiKP**	**16 38 43.7**	**+1.3**
POLO				*i* LQ	LQ	16 38 59.0	
PVRL	**Vila Real**	**151.09**	**22**	*e*PKPab	**PKiKP**	**16 38 43.9**	**+1.3**
PVRL				*i* LQ	LQ	16 38 56.1	
MBAR	**Mbarara**	**151.23**	**240**	*e*P	**PKPbc**	**16 38 42.2**	**-1.1**
MBAR				*e*S		16 39 04.5	
MVO	**Moncorvo**	**151.44**	**21**	*e*PKPab	**PKiKP**	**16 38 44.8**	**+1.4**
MVO				*i* LQ	LQ	16 38 57.2	
PVIS	**Viseu**	**151.52**	**23**	*e*PKPab	**PKPbc**	**16 38 41.4**	**-1.7**
PCAS	**Casmilo, Conde**	**151.85**	**24**	*e*PKPab	**PKPbc**	**16 38 42.8**	**-1.0**
PCAS				*i* LQ	LQ	16 38 58.0	
MTE	**Manteigas**	**151.92**	**23**	*e*PKPab	**PKiKP**	**16 38 45.6**	**+1.2**
MTE				*i* LQ	LQ	16 38 58.3	
PSBE	**So Bento**	**152.19**	**25**	*e*PKPab	**PKiKP**	**16 38 49.4**	**+4.5**
PSBE				*i* LQ	LQ	16 38 59.1	
PCBR	**Castelo Branco**	**152.44**	**23**	*e*PKPab	**PKiKP**	**16 38 46.6**	**+1.3**
PCBR				*i* LQ	LQ	16 38 59.3	
PMTG	**Montargil**	**152.80**	**25**	*e*PKPab	**PKiKP**	**16 38 46.7**	**+0.6**
PMTG				*i* LQ	LQ	16 38 59.6	
PMRV	**Marv??o**	**152.82**	**23**	*e*PKPab	**PKiKP**	**16 38 47.6**	**+1.4**
PMRV				*i* LQ	LQ	16 39 00.0	
PESTR	**Estremoz**	**153.23**	**24**	*e*PKPab	**PKPbc**	**16 38 47.1**	**+0.2**
PESTR				*i* LQ	LQ	16 39 01.2	
EVO	**Evora**	**153.34**	**25**	*e*PKPab	**PKPab**	**16 38 55.1**	**-3.9**
EVO				*i* LQ	LQ	16 39 11.4	
PNCL	**Nicolau / Gran**	**153.48**	**27**	*e*PKPab	**PKiKP**	**16 38 48.9**	**+1.4**
PNCL				*i* LQ	LQ	16 39 01.2	
ESDC	**Sonseca Array**	**153.78**	**18**	PKPbc	**PKiKP**	**16 38 49.1**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=339,slow=2.2,SNR=14						
ESDC				PKPab	**PKPab**	**16 39 01.8**	**+0.9**
	comp=Z,11nm,1.0s,baz=327,slow=3.0,SNR=13						
PBAR	**Barrancos**	**154.05**	**24**	*e*PKPab	**PKiKP**	**16 38 50.8**	**+2.1**
PBAR				*i* LQ	LQ	16 39 02.8	
PCVE	**Castro Verde**	**154.09**	**27**	*e*PKPab	**PKiKP**	**16 38 53.0**	**+4.2**
PCVE				*i* LQ	LQ	16 39 03.3	
TORD	**Torodi Ar. Bea**	**175.31**	**111**	PKP	**PKPdf**	**16 38 58.5**	**-1.1**
	comp=Z,1.7nm,1.0s,baz=254,slow=2.4,SNR=7.2						
TORD				PKPab	**sPKPab**	**16 40 39.6**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=255,slow=4.3,SNR=2.3						

*IDC **26** 16:36:11.2±1.2,8.6°S×79.2°W,h0km,mb3.6/4,mb1 3.8/6, mb1mx3.6/36,mbtmp3.7/6,ML3.1/2,MS3.6/5,Ms1 3.6/5, ms1mx3.2/40,Error ellipse: s-maj=49.6km s-min=20.2km az=58.0*

ISC 26 16:36:12.5±0.9,8.5°S±0.1°×79.2°W±0.2°,h10km,n22, σ1§91/11,mb3.5/4,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.17**	**146**	Pn	**Pn**	**16 37 16.7**	**+0.4**
	1.8nm,0.3s,baz=294,slow=8.7,SNR=2.0						
NNA				Pg	**Pb**	**16 37 26.8**	**+0.8**
	6.5nm,0.3s,baz=304,slow=11,SNR=8.9						
NNA				Sn	**Sn**	**16 38 07.6**	**+2.5**
	5.2nm,0.3s,baz=162,slow=22,SNR=2.0						
LPAZ	**La Paz**	**13.31**	**126**	Pn	**P**	**16 39 28.5**	**-3.5**
	0.0nm,0.3s,baz=197,slow=9.3,SNR=1.7						
LPAZ				LR	LR	16 45 25.0	
	comp=Z,185nm,19.3s,baz=319,slow=42						
SIV	**San Ignacio**	**19.23**	**114**	LR	LR	16 49 27.8	
	comp=Z,75nm,19.9s,baz=358,slow=41						
SDV	**Santo Domingo**	**19.31**	**27**	P	**Pn**	**16 40 40.0**	**+0.9**
	0.4nm,0.3s,baz=225,slow=8.6,SNR=3.7						
SDV				LR	LR	16 49 05.8	
	comp=Z,142nm,20.2s,baz=200,slow=40						
H03N2	**Juan Fernandez**	**24.79**	**179**	T	T	17 07 02.8	
	baz=357,slow=75,SNR=79						
H03N1	**Juan Fernandez**	**24.79**	**179**	T	T	17 07 09.7	
	baz=357,slow=75,SNR=132						
H03N3	**Juan Fernandez**	**24.80**	**179**	T	T	17 07 26.3	
	baz=357,slow=75,SNR=102						
MDP	**Montagnes des**	**29.78**	**64**	LR	LR	16 56 01.0	
	comp=Z,69nm,19.8s,baz=201,slow=40						
TXAR	**Lajitas Array**	**44.40**	**329**	P	**P**	**16 44 24.2**	**+0.6**
	0.3nm,0.8s,baz=145,slow=9.9,SNR=2.3						
PDAR	**Pinedale Array**	**58.06**	**334**	P	**P**	**16 46 06.3**	**+0.1**
	0.3nm,0.6s,baz=123,slow=4.4,SNR=2.3						
VNA3	**Neumayer Olymp**	**75.46**	**162**	P	P	16 47 44.8	-12
YKA	**Yellowknife Ar**	**75.88**	**344**	P	**P**	**16 48 00.2**	**+1.4**
	0.4nm,0.9s,baz=145,slow=5.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.20**	**76**	P	**P**	**16 48 39.6**	**-0.1**
	1.8nm,0.8s,baz=258,slow=4.1,SNR=8.3						
BORG	**Borgarnes**	**84.71**	**21**	LR	LR	17 27 28.1	
	comp=Z,141nm,19.3s,baz=317,slow=36						
H11N3	**WAKE ISLAND Hyl**	**15.22**	**288**	T	T	18 59 01.7	
	baz=93,slow=74,SNR=5.6						
H11N2	**WAKE ISLAND Hyl**	**15.24**	**288**	T	T	18 59 02.8	
	baz=93,slow=74,SNR=5.0						
H11N1	**WAKE ISLAND Hyl**	**15.24**	**288**	T	T	18 59 03.0	
	baz=93,slow=74,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**15.41**	**286**	T	T	18 59 16.9	
	baz=94						
H11S1	**WAKE ISLAND Hyl**	**15.41**	**286**	T	T	18 59 13.8	
	baz=94						
H11S3	**WAKE ISLAND Hyl**	**15.42**	**286**	T	T	18 59 32.7	
	baz=94						
ASAR	**Alice Springs**	**134.47**	**225**	PKhKP	PKPpre	16 55 23.1	
	0.2nm,0.8s,baz=114,slow=2.3,SNR=1.9						
ASAR				PKP	**PKiKP**	**16 55 31.8**	**-1.5**
	0.2nm,0.7s,baz=126,slow=2.2,SNR=1.8						
WRA	**Warramunga Arr**	**136.49**	**229**	PKP	**PKiKP**	**16 55 35.4**	**-2.1**
	1.0nm,0.9s,baz=103,slow=1.6,SNR=5.8						

*IDC **26** 17:13:43.7±3.4,40.2°S×176.7°E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.5/20,mbtmp3.4/4,ML3.0/2,MS2.6/1, Ms1 2.6/1,ms1mx2.5/28,Error ellipse: s-maj=74.0km s-min=24.4km az=122.0*

*WEL **26** 17:13:48.1,40.5°S±2.1°×177.7°E±.1°,h18km±3km,M3.8/134, ML4.2/45,MLv3.8/134,Error ellipse: s-maj=0.0km s-min=0.0km az=80.5*

ISC 26 17:13:46.6±1.1,40.3°S±0.03°×176.8°E±0.04,h23km±7km, n136,σ1§10/147,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRHZ	**Porangahau**	**0.16**	**302**	P	**Pb**	**17 13 51.7**	**+0.1**
PRHZ				S	**Sb**	**17 13 54.8**	**-0.1**
ANWZ	**Angora Road**	**0.28**	**247**	P	**Pn**	**17 13 55.2**	**0.0**
ANWZ				S	**Sn**	**17 14 01.5**	**+0.9**
PXZ	**Pawanui**	**0.32**	**7**	P	**Pn**	**17 13 54.9**	**-0.8**
PXZ				S	**Sn**	**17 14 00.9**	**-0.8**
WPHZ	**Waipukurau**	**0.40**	**315**	P	**Pb**	**17 13 54.8**	**-0.3**
WPHZ				S	**Sb**	**17 14 00.3**	**-0.6**
DVHZ	**Dannevirke**	**0.50**	**276**	P	**Pb**	**17 13 57.1**	**+0.4**
DVHZ				S	**Sb**	**17 14 04.0**	**+0.5**
BFZ	**Birch Farm**	**0.54**	**232**	P	**Pn**	**17 13 59.8**	**+1.0**
KAHZ	**Kahuranaki**	**0.56**	**5**	P	**Pn**	**17 13 59.2**	**+0.1**
PNHZ	**Pukenui**	**0.64**	**313**	P	**Pb**	**17 13 58.9**	**-0.2**
PNHZ				S	**Sb**	**17 14 07.7**	**0.0**
PRWZ	**Pori Road**	**0.67**	**252**	P	**Pn**	**17 14 01.5**	**+0.9**
TSZ	**Takapari Road**	**0.71**	**294**	P	**Pb**	**17 14 00.2**	**-0.1**
CKHZ	**Cape Kidnapper**	**0.72**	**17**	P	**Pn**	**17 14 02.3**	**+1.0**
CPWZ	**Castlepoint**	**0.73**	**220**	P	**Pn**	**17 14 03.3**	**+2.0**
KRHZ	**Kereru**	**0.78**	**334**	P	**Pn**	**17 14 01.6**	**-0.6**
KRHZ				S	**Sn**	**17 14 12.6**	**-0.6**
POWZ	**Post Office Ro**	**0.80**	**267**	P	**Pn**	**17 14 02.9**	**+0.5**
TIWZ	**Tintock**	**0.82**	**239**	P	**Pn**	**17 14 03.8**	**+1.1**
TIWZ				S	**Sn**	**17 14 16.8**	**+2.6**
MCHZ	**McNeill Hill**	**0.91**	**354**	P	**Pn**	**17 14 04.4**	**+0.6**
KWHZ	**Kaweka Forest**	**0.97**	**342**	P	**Pn**	**17 14 04.8**	**0.0**
MRZ	**Mangatainoka R**	**0.99**	**251**	P	**Pb**	**17 14 05.6**	**+0.4**
TMWZ	**Te Maipa**	**1.03**	**223**	P	**Pb**	**17 14 06.6**	**+0.8**
BHHZ	**Black Hill Sta**	**1.03**	**326**	P	**Pb**	**17 14 05.4**	**-0.3**
BHHZ				S	**Sn**	**17 14 19.0**	**-0.5**
ARHZ	**Aropaoanui**	**1.10**	**8**	P	**Pb**	**17 14 07.3**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.13**	**241**	P	**Pb**	**17 14 07.5**	**+0.1**
OHWZ	**Ohakea**	**1.15**	**277**	P	**Pb**	**17 14 08.9**	**+1.1**
BKZ	**Black Stump Fm**	**1.21**	**348**	P	**Pn**	**17 14 08.1**	**+0.1**
MOVZ	**Moawhango**	**1.25**	**319**	P	**Pb**	**17 14 09.0**	**-0.4**
NMHZ	**Naumai**	**1.25**	**360**	P	**Pb**	**17 14 09.5**	**0.0**
MTW	**Mount Morrison**	**1.28**	**231**	P	**Pn**	**17 14 09.3**	**+0.3**
WHHZ	**Waihua**	**1.31**	**15**	P	**Pb**	**17 14 10.2**	**-0.4**
OGWZ	**Otaki Gorge**	**1.33**	**249**	P	**Pb**	**17 14 10.5**	**-0.3**
TRWZ	**Traveller**	**1.35**	**219**	P	**Pn**	**17 14 10.7**	**+0.8**
WNVZ	**Wahianoa**	**1.39**	**317**	P	**Pb**	**17 14 11.6**	**-0.3**
TUVZ	**Tukino**	**1.40**	**320**	P	**Pb**	**17 14 11.9**	**-0.3**
MTVZ	**Mangateitei**	**1.41**	**313**	P	**Pb**	**17 14 12.2**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.42**	**318**	P	**Pb**	**17 14 12.5**	**-0.1**
TRVZ	**Turoa**	**1.43**	**317**	P	**Pb**	**17 14 12.8**	**+0.1**
DRZ	**Dome Shelter**	**1.44**	**318**	P	**Pb**	**17 14 13.2**	**+0.3**
RAHZ	**Arahi**	**1.45**	**9**	P	**Pn**	**17 14 11.9**	**+0.6**
FWVZ	**Far West T-bar**	**1.46**	**318**	P	**Pb**	**17 14 12.9**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.47**	**36**	P	**Pn**	**17 14 12.1**	**+0.6**
PAWZ	**Paruwai Farm**	**1.47**	**225**	P	**Pn**	**17 14 12.2**	**+0.6**
SNVZ	**South Ngauruho**	**1.47**	**322**	P	**Pb**	**17 14 12.8**	**-0.5**
OTVZ	**Oturere**	**1.48**	**323**	P	**Pb**	**17 14 12.9**	**-0.6**
ETVZ	**East Tongariro**	**1.48**	**325**	P	**Pb**	**17 14 13.1**	**-0.4**
KNZ	**Kokohu**	**1.48**	**27**	P	**Pn**	**17 14 12.2**	**+0.5**
MTHZ	**Maungataniwha**	**1.50**	**1**	P	**Pn**	**17 14 12.6**	**+0.6**
NGZ	**Ngauruhoe**	**1.50**	**321**	P	**Pb**	**17 14 13.5**	**-0.3**
TMVZ	**Te Maari**	**1.50**	**325**	P	**Pb**	**17 14 13.3**	**-0.5**
WAZ	**Wanganui**	**1.52**	**292**	P	**Pb**	**17 14 14.1**	**0.0**
CAW	**Cannon Point**	**1.53**	**240**	P	**Pn**	**17 14 12.7**	**+0.4**
NNVZ	**North Ngauruho**	**1.53**	**322**	P	**Pb**	**17 14 13.7**	**-0.6**
NTVZ	**North Tongarir**	**1.53**	**325**	P	**Pb**	**17 14 13.6**	**-0.7**
KIW	**Kapiti Island**	**1.54**	**250**	P	**Pn**	**17 14 13.2**	**+0.7**
KRVZ	**Karewarewa**	**1.55**	**324**	P	**Pb**	**17 14 14.3**	**-0.3**
MRHZ	**Matea Rd**	**1.55**	**349**	P	**Pb**	**17 14 13.4**	**-1.1**
PKVZ	**Pokaka**	**1.55**	**313**	P	**Pb**	**17 14 14.1**	**-0.5**
WTVZ	**West Tongariro**	**1.55**	**322**	P	**Pb**	**17 14 14.4**	**-0.3**
RITZ	**Rihia Road**	**1.56**	**332**	P	**Pb**	**17 14 14.4**	**-0.3**
HATZ	**Hinemaiaia**	**1.56**	**339**	P	**Pb**	**17 14 15.6**	**+0.8**
MSWZ	**Moikau Station**	**1.59**	**228**	P	**Pn**	**17 14 13.4**	**+0.1**
SNGZ	**Shannon Statio**	**1.62**	**15**	P	**Pn**	**17 14 14.2**	**+0.6**
KATZ	**Kakaramea**	**1.62**	**328**	P	**Pb**	**17 14 16.0**	**+0.2**
PRGZ	**Paritu Road**	**1.65**	**30**	P	**Pn**	**17 14 14.5**	**+0.4**
TWVZ	**Taurewa**	**1.66**	**320**	P	**Pb**	**17 14 16.1**	**-0.4**
RATZ	**Rangitukua**	**1.69**	**331**	P	**Pb**	**17 14 16.8**	**-0.1**
PLWZ	**Palliser**	**1.69**	**224**	P	**Pn**	**17 14 14.7**	**0.0**
RTZ	**Ruatahuna**	**1.74**	**4**	P	**Pn**	**17 14 15.7**	**+0.4**
RIGZ	**Rimuhau**	**1.80**	**24**	P	**Pn**	**17 14 16.4**	**+0.3**
WHTZ	**Whakaora**	**1.81**	**338**	P	**Pb**	**17 14 20.1**	**+1.1**
WEL	**Wellington**	**1.81**	**238**	P	**Pn**	**17 14 16.5**	**+0.3**
ALRZ	**Allen Road**	**1.82**	**348**	P	**Pb**	**17 14 17.8**	**-1.4**
WATZ	**Wairara**	**1.84**	**333**	P	**Pb**	**17 14 21.4**	**+1.9**
MUGZ	**Murupara**	**1.87**	**359**	P	**Pn**	**17 14 17.8**	**+0.6**
PRRZ	**Plateau Road**	**1.88**	**350**	P	**Pn**	**17 14 18.1**	**+0.9**
WPRZ	**Whakapapatarin**	**1.90**	**344**	P	**Pb**	**17 14 21.0**	**+0.5**
RAGZ	**Rawiri**	**1.91**	**14**	P	**Pn**	**17 14 17.9**	**+0.2**
HRRZ	**Handcock Road**	**2.00**	**348**	P	**Pb**	**17 14 23.4**	**+1.1**
VRZ	**Vera Road**	**2.00**	**307**	P	**Pb**	**17 14 20.7**	**-1.6**
KUTZ	**Kaahu Road**	**2.01**	**337**	P	**Pb**	**17 14 22.3**	**-0.2**
RRRZ	**Republican Roa**	**2.02**	**353**	P	**Pb**	**17 14 23.7**	**+1.1**
LREZ	**Lake Rotokare**	**2.06**	**295**	P	**Pb**	**17 14 24.1**	**+0.9**
GRRZ	**Galatos Road**	**2.07**	**345**	P	**Pb**	**17 14 24.2**	**+0.7**
TKGZ	**Te Karaka**	**2.07**	**23**	P	**Pn**	**17 14 20.3**	**+0.4**
HSRZ	**Hossack Road**	**2.08**	**348**	P	**Pb**	**17 14 22.3**	**-1.4**
MWZ	**Matawai**	**2.09**	**16**	P	**Pn**	**17 14 20.0**	**-0.2**
URZ	**Urewera**	**2.10**	**6**	Pn	**Pn**	**17 14 19.7**	**-0.6**
	5.7nm,0.3s,baz=233,slow=7.8,SNR=29						
URZ				Sn	**Sn**	**17 14 45.6**	**-0.1**
	12nm,0.3s,baz=263,slow=2.5,SNR=12						
URZ				LR	LR	17 15 07.3	
	comp=Z,150nm,19.4s,baz=211,slow=41						
URZ	**Urewera**	**2.10**	**6**	P	**Pn**	**17 14 20.2**	**-0.1**
TCW	**Tory Channel**	**2.11**	**245**	P	**Pn**	**17 14 20.5**	**+0.1**
HLRZ	**Highlands Stat**	**2.13**	**350**	P	**Pb**	**17 14 27.1**	**+2.6**
TARZ	**Mount Tarawera**	**2.13**	**354**	P	**Pn**	**17 14 21.4**	**+0.7**
CNGZ	**Carnagh Statio**	**2.16**	**31**	P	**Pn**	**17 14 21.4**	**+0.4**
DUWZ	**D'Urville Isla**	**2.25**	**258**	P	**Pn**	**17 14 23.2**	**+0.9**
TLZ	**Tolley Road**	**2.25**	**334**	P	**Pb**	**17 14 25.1**	**-1.4**
OMRZ	**Omania**	**2.27**	**351**	P	**Pb**	**17 14 27.6**	**+0.8**
MHEZ	**Mangahewa**	**2.30**	**303**	P	**Pb**	**17 14 29.3**	**+1.9**
TWGZ	**Tauwhareparae**	**2.35**	**23**	P	**Pn**	**17 14 24.5**	**+0.7**
NEZ	**North Egmont**	**2.35**	**296**	P	**Pb**	**17 14 27.1**	**-1.2**
MARZ	**Manawahe**	**2.37**	**357**	P	**Pb**	**17 14 30.8**	**+2.3**
HIZ	**Hauiti**	**2.38**	**320**	P	**Pb**	**17 14 26.2**	**-2.5**
KHEZ	**Kahui Hut**	**2.40**	**295**	P	**Pb**	**17 14 29.6**	**+0.5**
CMWZ	**Cape Campbell**	**2.41**	**234**	P	**Pn**	**17 14 24.8**	**+0.3**
TUWZ	**Tuamarina**	**2.43**	**243**	P	**Pn**	**17 14 24.4**	**-0.4**
NMEZ	**Namu Road**	**2.44**	**292**	P	**Pb**	**17 14 32.5**	**+2.7**
PKE	**Pukeiti**	**2.46**	**297**	P	**Pb**	**17 14 29.2**	**-1.0**
RUGZ	**Raukumara Rang**	**2.48**	**16**	P	**Pn**	**17 14 25.5**	**-0.1**
NBEZ	**Newall Road No**	**2.51**	**295**	P	**Pb**	**17 14 32.1**	**+1.2**
PUZ	**Puketiti**	**2.54**	**27**	P	**Pn**	**17 14 25.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.60**	**238**	P	**Pn**	**17 14 26.8**	**-0.4**
PKGZ	**Pakihiroa**	**2.65**	**22**	P	**Pn**	**17 14 28.2**	**+0.4**
HAZ	**Te Kaha**	**2.70**	**17**	P	**Pn**	**17 14 28.6**	**+0.2**
NNZ	**Nelson**	**2.75**	**251**	P	**Pn**	**17 14 29.8**	**+0.7**
TOZ	**Tahuroa Road**	**2.81**	**338**	P	**Pn**	**17 14 32.7**	**+2.7**
WMGZ	**Waiomatatini S**	**2.82**	**27**	P	**Pn**	**17 14 30.2**	**+0.1**
TKNZ	**Takaka Hill**	**3.01**	**256**	P	**Pn**	**17 14 33.7**	**+1.0**
KHZ	**Kahutara**	**3.21**	**229**	P	**Pn**	**17 14 34.4**	**-1.1**
MRNZ	**Matariki Terra**	**3.25**	**250**	P	**Pn**	**17 14 36.7**	**+0.7**
THZ	**Tophouse**	**3.27**	**245**	P	**Pn**	**17 14 35.8**	**-0.6**
QRZ	**Quartz Range**	**3.29**	**260**	P	**Pn**	**17 14 36.9**	**+0.2**
MKAZ	**Moumakai**	**3.49**	**338**	P	**Pn**	**17 14 41.5**	**+2.2**
ETAZ	**East Tamaki Re**	**3.70**	**336**	P	**Pn**	**17 14 46.2**	**+4.0**
GVZ	**Greta Valley S**	**3.85**	**226**	P	**Pn**	**17 14 43.3**	**-1.0**
MBAZ	**Motutapu North**	**3.88**	**337**	P	**Pn**	**17 14 45.6**	**+0.9**
DSZ	**Denniston Nort**	**4.03**	**248**	P	**Pn**	**17 14 47.3**	**+0.4**
LTZ	**Lake Taylor**	**4.18**	**233**	P	**Pn**	**17 14 47.2**	**-1.7**
OKCZ	**Okains Bay**	**4.38**	**218**	P	**Pn**	**17 14 50.5**	**-1.1**
AKCZ	**Akaroa Harbour**	**4.56**	**218**	P	**Pn**	**17 14 54.7**	**+0.7**
MQZ	**McQueen's Vall**	**4.56**	**221**	P	**Pn**	**17 14 52.3**	**-1.8**
OXZ	**Oxford**	**4.64**	**229**	P	**Pn**	**17 14 54.1**	**-1.1**
INZ	**Inchbonnie**	**4.67**	**238**	P	**Pn**	**17 14 54.6**	**-1.1**
RPZ	**Rata Peaks**	**5.45**	**230**	Pn	**Pn**	**17 15 05.5**	**-0.8**
	0.5nm,0.3s,baz=263,slow=1.2,SNR=6.2						
RPZ				Sn	**Sn**	**17 16 03.0**	**-5.2**
	3.5nm,0.3s,baz=160,slow=22,SNR=11						
TMZ	**Timaru**	**5.89**	**225**	P	**Pn**	**17 15 11.4**	**-0.9**
CTZ	**Chatham Island**	**5.95**	**127**	P	**Pn**	**17 15 16.1**	**+3.0**
LBZ	**Lake Benmore**	**6.35**	**228**	P	**Pn**	**17 15 17.3**	**-1.3**
ODZ	**Otahua Downs**	**6.53**	**222**	P	**Pn**	**17 15 19.7**	**-1.4**
ASAR	**Alice Springs**	**39.59**	**282**	P	**P**	**17 21 16.2**	**+0.1**
	0.6nm,0.9s,baz=119,slow=6.0,SNR=9.0						
WRA	**Warramunga Arr**	**41.50**	**287**	P	**P**	**17 21 32.1**	**+0.1**
	0.3nm,0.4s,baz=124,slow=8.3,SNR=14						
ARCES	**ARCESS Array B**	**147.09**	**342**	PKPbc	**PKPbc**	**17 33 26.5**	**+0.2**
	6.8nm,1.1s,baz=45,slow=2.7,SNR=3.7						

*CNRM **26** 17:26:07.1,35.7°N×3.6°W,h26km,ml2.2*
*MDD **26** 17:26:08.1±0.6,35.7°N×3.6°W,h14km±5km,mb_Lg2.2/14, Error ellipse: s-maj=5.1km s-min=3.1km az=168.0*
*SFS **26** 17:26:08.0,35.6°N×3.5°W,ML2.5,ALBORAN SUR*

ISC 26 17:26:07.0±1.1,35.7°N±0.02°×3.6°W±0.03,h20km±6km, n25,σ0§80/50,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.51**	**64**	Pg	**Pn**	**17 26 18.7**	**-0.5**
EALB				Sg	**Sn**	**17 26 26.8**	**-0.5**
EALB				*i* Vmb_Lg		17 26 27.9	
PALE	**Palemas**	**0.57**	**209**	P	**Pb**	**17 26 18.7**	**+0.4**
PALE				S	**Sb**	**17 26 25.4**	**-0.8**
EMEL	**Melilla**	**0.67**	**128**	Pg	**Pn**	**17 26 20.4**	**-0.8**
EMEL				Sg	**Sb**	**17 26 29.2**	**+0.4**
GOG	**Mont Gurugu**	**0.70**	**135**	P	**Pb**	**17 26 20.6**	**+0.1**
GOG				S	**Sb**	**17 26 29.9**	**+0.2**
ELGU	**Los Guajares,**	**1.15**	**359**	Pg	**Pn**	**17 26 27.7**	**-0.3**
ELGU				Sg	**Sb**	**17 26 42.8**	**0.0**
ELGU				*i* Vmb_Lg		17 26 46.4	
EMAL	**Malaga-Limoner**	**1.24**	**328**	P	**Pb**	**17 26 29.4**	**-0.3**
EMAL				S	**Sb**	**17 26 45.6**	**+0.3**
EMIJ	**Mijas**	**1.27**	**312**	Pn	**Pn**	**17 26 29.1**	**-0.5**
EMIJ				Sn	**Sn**	**17 26 45.3**	**-0.9**
EMIJ				*i* Vmb_Lg		17 26 48.1	
EBER	**Berja**	**1.31**	**26**	Pn	**Pn**	**17 26 29.9**	**-0.5**
EBER				Sn	**Sb**	**17 26 47.8**	**+0.2**
EBER				*i* Vmb_Lg		17 26 51.3	
TAF	**Taforalt**	**1.32**	**132**	P	**Pn**	**17 26 30.3**	**-0.1**
TAF				S	**Sn**	**17 26 46.9**	**-0.5**
SMIR	**Smir Dam**	**1.45**	**269**	P	**Pn**	**17 26 30.7**	**-1.3**
SMIR				S	**Sn**	**17 26 49.5**	**-0.9**
EGOR	**Sierra Gorda,**	**1.45**	**344**	Pn	**Pb**	**17 26 33.2**	**-0.2**
EGOR				Sn	**Sn**	**17 26 50.8**	**0.0**
EGOR				*i* Vmb_Lg		17 26 58.5	
ECEU	**Ceuta**	**1.45**	**278**	Pn	**Pb**	**17 26 32.8**	**-0.5**
ECEU				Sn	**Sn**	**17 26 49.2**	**-1.4**
EQUE	**Quentar**	**1.50**	**5**	Pn	**Pn**	**17 26 33.2**	**+0.5**
EQUE				Sn	**Sn**	**17 26 51.7**	**0.0**
JBK	**JBK**	**1.62**	**148**	P	**Pn**	**17 26 34.4**	**-0.1**
JBK				S	**Sn**	**17 26 54.0**	**-0.8**
ENIJ	**Nijar**	**1.69**	**41**	Pn	**Pn**	**17 26 35.8**	**+0.5**
ENIJ				Sn	**Sn**	**17 26 55.6**	**-0.7**
ENIJ				*i* Vmb_Lg		17 27 11.8	
ESPR	**Espera**	**2.16**	**303**	Pn	**Pn**	**17 26 42.4**	**+0.7**
ESPR				Sn	**Sn**	**17 27 07.4**	**-0.4**
ESPR				*i* Vmb_Lg		17 27 18.3	
EADA	**Adamuz**	**2.57**	**343**	Pn	**Pn**	**17 26 48.3**	**+0.8**
EADA				Sn	**Sn**	**17 27 19.0**	**+0.8**
EADA				*i* Vmb_Lg		17 27 29.7	
ECAB	**El Cabril**	**2.77**	**329**	Pn	**Pn**	**17 26 51.9**	**+1.6**
ECAB				Sn	**Sn**	**17 27 22.7**	**-0.4**
ECAB				*i* Vmb_Lg		17 27 39.1	
MD31	**MD31**	**3.00**	**199**	P	**Pn**	**17 26 55.3**	**+2.0**
MD31				S	**Sn**	**17 27 29.3**	**+0.6**
EMIN	**Mina Concepcio**	**3.21**	**311**	Pn	**Pn**	**17 26 56.5**	**+0.3**
EMIN				Sn	**Sn**	**17 27 33.3**	**-0.5**
EMIN				*i* Vmb_Lg		17 27 35.3	
ETOB	**Tobarra**	**3.35**	**29**	Pn	**Pn**	**17 26 58.6**	**+0.3**
ETOB				Sn	**Sn**	**17 27 36.3**	**-1.3**
ETOB				*i* Vmb_Lg		17 27 40.4	
EGRO	**El Granado**	**3.61**	**301**	Pn	**Pn**	**17 27

PHWY	**Pilot Hill**	**2.71**	**183**			**Pn**	**18 05 06.2**	**+0.9**
RWWY	**Rawlins**	**2.73**	**213**			**Pn**	**18 05 05.3**	**-0.2**
RWWY					IAML		18 05 47.9	
	comp=E,53nm,1.4s							
RWWY					IAML		18 05 56.1	
	comp=E,43nm,0.9s							
LAO	**LASA Array**	**2.77**	**346**			**Pn**	**18 05 05.5**	**-0.4**
LAO					IAML		18 05 56.3	
	comp=E,92nm,0.8s							
RLMT	**Red Lodge**	**3.08**	**293**			**Pn**	**18 05 11.2**	**+1.0**
RLMT					IAML		18 06 03.8	
	comp=E,36nm,1.2s							
RLMT					IAML		18 06 33.2	
	comp=E,37nm,1.4s							
N23A	**Red Feather La**	**3.15**	**190**			**Pn**	**18 05 12.1**	**+0.8**
N23A					IAML		18 06 49.5	
	comp=E,27nm,1.6s							
BW06	**Boulder Array**	**3.37**	**250**			**Pn**	**18 05 15.1**	**+0.8**
PD31	**Pinedale Array**	**3.37**	**250**			**Pn**	**18 05 15.1**	**+0.8**
PDAR	**Pinedale Array**	**3.37**	**250**	Pn		**Pn**	**18 05 15.1**	**+0.8**
	comp=E,4.2nm,0.3s,baz=66,slow=15,SNR=42							
PDAR				Pg		**Pb**	**18 05 20.2**	**-0.8**
	comp=E,4.4nm,0.3s,baz=67,slow=19,SNR=35							
PDAR				Lg		Lg	18 05 59.5	
	comp=E,5.0nm,0.3s,baz=63,slow=30,SNR=21							
YMP	**Mirror Lake Pl**	**3.59**	**283**			**Pn**	**18 05 18.0**	**+0.6**
YMP					IAML		18 06 17.6	
	comp=E,34nm,0.6s							
YMP					IAML		18 06 21.7	
	comp=N,29nm,0.9s							
GCMT	**Greycliff**	**3.61**	**301**			**Pn**	**18 05 18.0**	**+0.5**
LKWY	**Lake**	**3.74**	**280**			**Pn**	**18 05 20.2**	**+0.8**
LKWY					IAML		18 06 20.5	
	comp=N,21nm,2.2s							
LKWY					IAML		18 07 07.8	
	comp=N,17nm,2.6s							
H17A	**Grant Village**	**3.85**	**278**			**Pn**	**18 05 21.5**	**+0.6**
H17A					IAML		18 06 28.1	
	comp=E,16nm,1.3s							
H17A					IAML		18 06 28.2	
	comp=N,16nm,1.4s							
OGNE	**Ogallala**	**3.88**	**141**	Pn		**Pn**	**18 05 21.0**	**-0.2**
LOHW	**Long Hollow**	**3.89**	**266**			**Pn**	**18 05 20.5**	**-0.9**
LOHW					IAML		18 06 56.7	
	comp=N,15nm,1.8s							
FLWY	**Flagg Ranch**	**3.93**	**273**			**Pn**	**18 05 22.5**	**+0.6**
FLWY					IAML		18 06 28.8	
	comp=N,31nm,2.5s							
MOOW	**Moose Ponds**	**3.98**	**268**			**Pn**	**18 05 20.9**	**-1.7**
SNOW	**Snow King Moun**	**4.02**	**264**			**Pn**	**18 05 23.2**	**-0.1**
SNOW					IAML		18 06 32.0	
	comp=N,32nm,1.5s							
YHH	**Holmes Hill**	**4.09**	**283**			**Pn**	**18 05 24.3**	**+0.1**
REDW	**Red Top Meadow**	**4.11**	**263**			**Pn**	**18 05 24.6**	**+0.1**
REDW					IAML		18 06 43.9	
	comp=N,32nm,1.6s							
REDW					IAML		18 07 02.9	
	comp=N,30nm,1.5s							
E28A	**Huff**	**4.12**	**50**	Pn		**Pn**	**18 05 23.9**	**-0.4**
YMR	**Madison River**	**4.15**	**281**	Pn		**Pn**	**18 05 24.3**	**-0.7**
YMR					IAML		18 06 46.6	
	comp=E,18nm,1.2s							
YMR					IAML		18 07 18.5	
	comp=N,22nm,1.4s							
TPAW	**Teton Pass**	**4.16**	**265**			**Pn**	**18 05 26.0**	**+0.8**
TPAW					IAML		18 06 45.0	
	comp=N,16nm,2.2s							
FXWY	**Fox Creek**	**4.19**	**267**	Pn		**Pn**	**18 05 26.1**	**+0.4**
FXWY					IAML		18 07 01.5	
	comp=N,24nm,4.6s							
FXWY					IAML		18 07 33.6	
	comp=N,19nm,3.5s							
ISCO	**Idaho Springs**	**4.21**	**184**			**Pn**	**18 05 26.0**	**0.0**
YHL	**Hebgen Lake**	**4.33**	**283**			**Pn**	**18 05 28.1**	**+0.5**
AHID	**Auburn Hatcher**	**4.44**	**256**			**Pn**	**18 05 30.2**	**+1.2**
DGMT	**Dagmar**	**4.53**	**9**			**Pn**	**18 05 30.6**	**+0.6**
ECR	**Eagle Creek**	**4.55**	**260**	Pn		**Pn**	**18 05 29.3**	**-1.2**
RDMU	**Red Mountain**	**4.69**	**224**	Pn		**Pn**	**18 05 32.4**	**-0.1**
RDMU					IAML		18 07 06.2	
	comp=E,14nm,2.7s							
RDMU					IAML		18 07 32.5	
	comp=N,15nm,1.6s							
BOZ	**Bozeman (W)**	**4.81**	**292**	Pn		**Pn**	**18 05 33.2**	**-0.8**
BOZ					IAML		18 06 50.4	
	comp=N,14nm,2.4s							
BOZ					IAML		18 07 44.0	
	comp=N,8.7nm,4.4s							
SMCO	**Snowmass**	**4.99**	**196**	Pn		**Pn**	**18 05 36.4**	**-0.4**
SMCO					IAML		18 07 12.2	
	comp=N,12nm,0.9s							
Q24A	**Divide**	**5.04**	**179**	Pn		**Pn**	**18 05 37.8**	**+0.5**
Q24A					IAML		18 06 47.2	
	comp=N,10nm,3.8s							
Q24A					IAML		18 07 01.8	
	comp=E,10.0nm,2.1s							
EGMT	**Eagleton**	**5.09**	**324**			**Pn**	**18 05 38.5**	**+0.7**
HWUT	**Hardware Ranch**	**5.22**	**245**			**Pn**	**18 05 39.9**	**+0.2**
HWUT					IAML		18 07 47.4	
	comp=E,15nm,1.7s							
HRY	**Holter Researc**	**5.37**	**303**	Pn		**Pn**	**18 05 42.4**	**+0.8**
LRM	**Limekiln Ridge**	**5.42**	**292**	Pn		**Pn**	**18 05 43.1**	**+0.6**
MCMT	**McKenzie Canyo**	**5.50**	**281**	Pn		**Pn**	**18 05 43.8**	**+0.2**
P18A	**Preston Nutter**	**5.75**	**222**	Pn		**Pn**	**18 05 47.8**	**+0.8**
BGNE	**Belgrade**	**5.84**	**114**	Pn		**Pn**	**18 05 48.8**	**+0.7**
CTU	**Camp Tracy**	**5.84**	**238**	Pn		**Pn**	**18 05 49.0**	**+0.8**
PV15	**Paradox Valley**	**6.16**	**204**	Pn		**Pn**	**18 05 52.3**	**-0.4**
ECSD	**EROS Data Cent**	**6.25**	**90**	Pn		**Pn**	**18 05 54.3**	**+0.6**
SDCO	**Great Sand Dun**	**6.26**	**182**	Pn		**Pn**	**18 05 54.1**	**+0.1**
SRU	**San Rafael Swe**	**6.29**	**221**	Pn		**Pn**	**18 05 53.7**	**-0.7**
S22A	**4UR Ranch, Cre**	**6.37**	**191**	Pn		**Pn**	**18 05 55.6**	**+0.1**
I10CA	**LAC DU BONNET**	**8.83**	**42**	*i*			18 56 30.0	
	baz=225,slow=327,SNR=3.8							
ULM	**Lac du Bonnet**	**8.93**	**42**	Pn		**Pn**	**18 06 30.6**	**+0.1**
	comp=E,0.4nm,0.3s,baz=236,slow=11,SNR=2.0							
ULM				Lg		Lg	18 08 59.9	
	comp=E,0.2nm,0.3s,baz=288,slow=9.7,SNR=2.3							
NVAR	**Mina Array Bea**	**11.29**	**245**	Pn		**Pn**	**18 07 04.7**	**+1.7**
	comp=E,0.0nm,0.3s,baz=48,slow=14,SNR=2.2							

*IDC **26** 18:21:32.6±2.1,6°.66S×130°.05E,h161km±28km,mb2.8/1, mb1 2.9/6,mb1mx2.8/35,mbtmp3.3/6, Error ellipse: s-maj=39.7km s-min=20.1km az=96.0*

ISC 26 18:21:30.1±0.9,6°.75S±0°.06×130°.1E±0°.1,h146km,n6, σ4§09/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.95**	**11**	P	**Pn**	**18 22 58.0**	**+1.8**
	0.4nm,0.3s,baz=243,slow=23,SNR=14						
SIJI				S	**Sn**	**18 23 58.2**	**-5.3**
	0.9nm,0.3s,baz=95,slow=24,SNR=9.4						
BATI	**Baumata**	**7.24**	**241**	P	**Pn**	**18 23 16.0**	**+2.6**
	0.8nm,0.3s,baz=18,slow=6.4,SNR=1.3						
BATI				S	**Sn**	**18 24 31.8**	**-2.6**
	0.5nm,0.3s,baz=279,slow=23,SNR=1.1						
FITZ	**Fitzroy Crossi**	**12.09**	**201**	P	**Pn**	**18 24 20.1**	**+2.4**
	0.1nm,0.3s,baz=43,slow=8.6,SNR=8.2						
FITZ				S	**Sn**	**18 26 25.0**	**-6.4**
	0.1nm,0.3s,baz=40,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**13.75**	**163**	P	**Pn**	**18 24 41.1**	**+2.1**
	0.1nm,0.3s,baz=347,slow=13,SNR=1.9						
WRA				S	**Sn**	**18 27 07.8**	**-3.4**
	0.1nm,0.3s,baz=344,slow=22,SNR=2.4						
ASAR	**Alice Springs**	**17.21**	**168**	P	**Pn**	**18 25 24.9**	**+3.0**
	0.1nm,0.3s,baz=338,slow=9.2,SNR=8.2						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**18 32 14.1**	**+0.1**
	0.1nm,0.4s,baz=119,slow=7.8,SNR=2.1						

DJA 26 18:22:46.1±0.6,1°N±3°×12°3E±°,h23km±5km,M4.0/19, mb4.2/11,MLv3.9/19,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.76**	**157**	P	Pb	18 22 57.7	-2.9
GTOI				S	Sb	18 23 05.9	-4.6
MRSI	**Marisa**	**1.16**	**222**	P	Pn	18 23 06.4	-0.5
MRSI				S	Sb	18 23 22.3	+0.2
KMSI	**Cibinong**	**1.47**	**121**	P	Pb	18 23 13.0	+0.2
KMSI				S	Sb	18 23 30.9	-0.2
LUWI	**Luwuk**	**2.37**	**179**	P	Pn	18 23 25.0	+1.4
APSI	**Ampana**	**2.48**	**206**	P	Pb	18 23 28.8	-1.2
MPSI	**Mapaga**	**2.99**	**251**	P	Pn	18 23 32.5	+0.3
SANI	**Sanana**	**4.69**	**136**	P	Pn	18 23 55.2	-0.4

LBMI	**Labuha**	**5.17**	**112**	P		Pn	18 24 03.0	+0.9
	0.1nm8.6nm,0.8s							
SMKI	**Samarinda**	**5.79**	**252**	P		Pn	18 24 10.8	+0.1
	0.8nm161nm,0.4s							
SPSI	**Sidrap Palu**	**6.04**	**209**	P		Pn	18 24 14.5	+0.4
	0.1nm12nm,1.4s							
BNSI	**Bone**	**6.27**	**205**	P		Pn	18 24 17.8	+0.5
	0.1nm21nm,0.9s							
BBSI	**Bau Bau**	**6.78**	**181**	P		Pn	18 24 24.9	+0.6
	0.0nm2.6nm,0.8s							
BSSI	**Bau Bau, Buton**	**7.76**	**197**	P		Pn	18 24 38.5	+0.8

*IDC **26** 18:39:31.8±3.6,36°.30N×70°.45E,h186km±34km,mb3.3/12, mb1 3.4/17,mb1mx3.2/55,mbtmp3.9/17,MS3.6/1, Ms1 3.6/1,ms1mx2.5/50,Error ellipse: s-maj=22.9km s-min=14.0km az=39.0*

*NEIC **26** 18:39:33.6±2.5,36°.50N±0°.05×70°.31E±0°.09,h204km±6km, mb4.2/18,Error ellipse: s-maj=10.3km s-min=6.8km az=89.0*

*BJI **26** 18:39:33.1±0.0,36°.40N×70°.48E,h197km,mb4.0/10, mB4.6/6*

*MOS **26** 18:39:33.0±0.8,36°.48N×70°.41E,h203km,mb4.0/7,Error ellipse: s-maj=12.9km s-min=6.0km az=79.0*

*NNC **26** 18:39:40.6±5.1,37°.14N×70°.30E,h208km±48km,mb3.0, mpv4.1,Error ellipse: s-maj=52.0km s-min=26.1km az=174.0*

*SOME **26** 18:39:42.2,37°.28N×70°.32E,h10km*

ISC 26 18:39:33.9±0.4,36°.47N±0°.04×70°.41E±0°.04,h204km,n136, σ1§70/157,mb4.0/24,5C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.23**	**210**	PN	**Pn**	**18 40 15.4**	**0.0**
KBL						18 40 45.7	
KBL	**Kabul**	**2.23**	**210**	Pn	**Pn**	**18 40 15.4**	**0.0**
KBL				Sn	**S**	**18 40 45.6**	**-1.4**
CHGR	**Chuyangaron**	**2.40**	**336**	PN	**Pn**	**18 40 16.1**	**-0.9**
CHGR	**Chuyangaron**	**2.40**	**336**		**Pn**	**18 40 16.1**	**-0.9**
CHGR				Sn	**S**	**18 40 46.7**	**-3.4**
GAR	**Garm**	**2.52**	**358**		**Pn**	**18 40 17.6**	**-0.8**
GAR				Sn	**S**	**18 40 49.7**	**-3.0**
CEP	**Cherat**	**2.92**	**155**	P	**Pn**	**18 40 23.4**	**+0.4**
CEP				S	**S**	**18 41 01.0**	**+0.3**
DRK	**Karamyk**	**3.20**	**20**		**Pn**	**18 40 26.2**	**-0.1**
BTK	**Batken**	**3.59**	**5**	PN	**Pn**	**18 40 30.9**	**0.0**
BTK						18 41 13.3	
BTK	**Batken**	**3.59**	**5**		**Pn**	**18 40 30.9**	**0.0**
BTK				Sn	**S**	**18 41 13.3**	**-1.8**
CHCP	**Chirah Chowk**	**3.66**	**139**	P	**Pn**	**18 40 32.2**	**+0.5**
THW	**Thamme Wali**	**3.83**	**163**	P	**Pn**	**18 40 34.0**	**+0.1**
SARP	**Sargodha**	**4.91**	**157**	P	**Pn**	**18 40 47.0**	**-0.3**
TAS	**Tashkent**	**4.92**	**350**	Pn	**Pn**	**18 40 47.4**	**+0.1**
TAS				Sn	**S**	**18 41 42.6**	**-2.4**
JMU	**Jammu**	**5.27**	**134**	*e*P	**Pn**	**18 40 50.4**	**-1.4**
JMU				*e*S	**S**	**18 41 49.7**	**-3.3**
KSH	**Kashi**	**5.34**	**54**	P	Pn	18 40 47.8	-5.0
KSH				S	S	18 41 44.3	-11
KSH				pmax	pmax		
	comp=Z,15nm,0.3s						
KSH				smax	smax		
	comp=N,150nm,0.6s						
KSH				smax	smax		
	comp=E,90nm,0.6s						
IUG	**Iuzhnay**	**5.67**	**357**	*e*P	**Pn**	**18 40 56.9**	**-0.1**
	1μm,0.3s						
IUG				*e*S	**S**	**18 41 56.5**	**-6.1**
	404nm,0.6s						
THN	**Thein Dam**	**5.95**	**131**	*e*P	**Pn**	**18 41 00.7**	**0.0**
THN				*e*S	**S**	**18 42 07.0**	**-2.0**
AML	**Almayashu**	**6.20**	**23**	P	**Pn**	**18 41 03.4**	**-0.7**
	SNR=105						
DZA	**Taraz**	**6.45**	**6**	*e*P	**Pn**	**18 41 07.5**	**+0.5**
	50nm,0.1s						
DZA				*e*S	**S**	**18 42 16.4**	**-4.3**
	416nm,0.4s						
BRLS	**Borolday**	**6.56**	**356**	*e*P	**Pn**	**18 41 04.5**	**-4.0**
	2.9nm,0.4s						
BRLS				*e*S	S	18 42 10.4	-13
	77nm,0.5s						
UCH	**Uchtor**	**6.57**	**28**	P	**Pn**	**18 41 08.5**	**-0.4**
	SNR=44						
KK02	**Karatay Array**	**6.62**	**1**	⇑P	**Pn**	**18 41 08.1**	**-1.1**
	7.6nm,0.6s						
KK02				⇑S	S	18 42 14.2	-10
	39nm,0.7s						
KKAR	**Karatay Array**	**6.62**	**1**	PN	**Pn**	**18 41 07.9**	**-1.3**
KKAR	**Karatay Array**	**6.62**	**1**	Pn	**Pn**	**18 41 07.9**	**-1.3**
MRKS	**Meke**	**6.63**	**18**	*e*P	**Pn**	**18 41 11.3**	**+2.0**
	13nm,0.4s						
MRKS				*e*S	**S**	**18 42 22.7**	**-2.3**
	110nm,0.5s						
EKS2	**Erkin-Say**	**6.70**	**22**	P	**Pn**	**18 41 10.1**	**-0.3**
	SNR=30						
AAK	**Ala-Archa**	**6.92**	**26**	P	**Pn**	**18 41 12.9**	**-0.2**
	3.9nm,0.3s,baz=180,slow=6.6,SNR=62						
AAK				S	**S**	**18 42 28.3**	**-3.5**
	5.7nm,0.3s,baz=323,slow=22,SNR=8.7						
BHK	**Bhakra**	**7.09**	**134**	*e*P	Pn	18 41 31.7	+16
BHK				*e*S	**S**	**18 42 31.8**	**-4.2**
KBK	**Karagaybulak**	**7.10**	**28**	P	**Pn**	**18 41 15.5**	**-0.1**
	SNR=5.5						
FRU1	**Bishkek**	**7.12**	**26**	PN	**Pn**	**18 41 15.4**	**-0.2**
FRU1						18 42 34.4	
FRU1	**Bishkek**	**7.12**	**26**		**Pn**	**18 41 15.4**	**-0.2**
FRU1				Sn	**S**	**18 42 34.4**	**-2.0**
CHMS	**Chumysh**	**7.32**	**26**	P	**Pn**	**18 41 18.2**	**-0.1**
	SNR=5.0						
BOOM	**Boomskoye usch**	**7.37**	**34**	PN	**Pn**	**18 41 18.0**	**-1.1**
BOOM	**Boomskoye usch**	**7.37**	**34**		**Pn**	**18 41 18.0**	**-1.1**
USP	**Ospenovka**	**7.48**	**24**	P	**Pn**	**18 41 19.9**	**-0.4**
	SNR=9.7						
TKM2	**Tokmak 2**	**7.58**	**30**	P	**Pn**	**18 41 21.3**	**-0.4**
	SNR=35						
TKM2	**Tokmak 2**	**7.58**	**30**	⇑P	**Pn**	**18 41 20.9**	**-0.9**
	8.4nm,0.4s						
TKM2				⇓S	**S**	**18 42 43.7**	**-3.8**
	14nm,0.8s						
SGDS	**Sogindy**	**7.69**	**24**	*e*P	**Pn**	**18 41 24.2**	**+1.2**
SGDS				*e*S	**S**	**18 42 45.7**	**-4.2**
KDJ	**Kajisay**	**7.71**	**41**	PN	**Pn**	**18 41 22.2**	**-1.2**
KDJ	**Kajisay**	**7.71**	**41**		**Pn**	**18 41 22.2**	**-1.2**
SMLA	**Simla**	**7.75**	**132**	*e*P	**Pn**	**18 41 22.9**	**-1.0**
SMLA				*e*S	**S**	**18 42 47.1**	**-4.3**
SMLA				IAML		18 42 49.7	
	comp=N,105nm,0.2s						
SMLA				IAML		18 42 49.8	
	comp=E,90nm,0.5s						
KST	**Kastek**	**7.83**	**31**	*e*P	**Pn**	**18 41 27.3**	**+2.3**
	comp=E,3.4nm,0.5s						
KST				*e*S	**S**	**18 42 51.1**	**-2.3**
	comp=E,23nm,0.8s						
KUDL	**Kundal**	**9.77**	**147**	*e*P	**Pn**	**18 41 49.1**	**-1.0**
AYAN	**Aya Nagar**	**9.78**	**143**	*e*P	**Pn**	**18 41 49.5**	**-0.8**
GEYT	**Alibeck**	**9.91**	**282**	S	**S**	**18 43 36.9**	**-6.2**
	comp=E,0.5nm,0.3s,baz=24,slow=44,SNR=2.1						
PTH	**Pithoragarh**	**10.74**	**127**	*e*P	**Pn**	**18 42 00.9**	**-1.9**
LGTI	**Lohaghat**	**10.83**	**128**	*e*P	**Pn**	**18 42 01.6**	**-2.1**
JHNI	**Jhansi**	**12.99**	**145**	*e*P	**Pn**	**18 42 32.4**	**+1.2**
MAKZ	**Makanchi**	**13.45**	**36**	P	**Pn**	**18 42 36.2**	**-0.6**
MAKZ	**Makanchi**	**13.45**	**36**		**Pn**	**18 42 36.2**	**-0.6**
PYUN	**Piuthan**	**13.52**	**125**	*e*P	**Pn**	**18 42 37.8**	**-0.1**
	comp=E,12nm,0.3s						
MK31	**Makanchi Array**	**13.59**	**37**	*i* P	**Pn**	**18 42 39.0**	**+0.5**
MK31	**Makanchi Array**	**13.59**	**37**	Pn	**Pn**	**18 42 38.2**	**-0.3**
MK31	**Makanchi Array**	**13.59**	**37**	⇑P	**Pn**	**18 42 38.6**	**+0.1**
	comp=E,1.4nm,0.7s,baz=213,slow=11,SNR=12						
MKAR	**Makanchi Array**	**13.59**	**37**	P	**Pn**	**18 42 37.5**	**-1.0**
	comp=E,0.2nm,0.3s,baz=210,slow=11,SNR=13						
MKAR	**Makanchi Array**	**13.59**	**37**	*e*P	**Pn**	**18 42 39.1**	**+0.6**
MKAR	**Makanchi Array**	**13.59**	**37**	Pn	**Pn**	**18 42 38.1**	**-0.5**
DANN	**Dangsing**	**13.87**	**122**	*e*P	**Pn**	**18 42 42.0**	**-0.5**
	comp=E,15nm,0.4s						
KOLN	**Koldanda**	**14.14**	**124**	*e*P	**Pn**	**18 42 44.3**	**-1.3**
	comp=E,4.7nm,0.3s						
GKN	**Gorkha**	**14.69**	**121**	*e*P	**Pn**	**18 42 52.5**	**+0.1**
	comp=E,9.4nm,0.3s						
AB31	**Akbulak array**	**14.88**	**332**	⇑P	**Pn**	**18 42 53.0**	**-1.3**
	comp=E,1.4nm,0.5s,baz=145,slow=11,SNR=49						
ABKAR	**Akbulak array**	**14.88**	**332**		**Pn**	**18 42 52.9**	**-1.5**
ABKAR	**Akbulak array**	**14.88**	**332**		**Pn**	**18 42 52.8**	**-1.5**
WMQ	**Urumqi**	**15.10**	**56**	*e*P	**P**	**18 42 59.5**	**+1.9**
DMN	**Daman**	**15.26**	**121**	*e*P	**P**	**18 42 59.9**	**+0.1**

	comp=E,6.0nm,0.3s							
KKN	**Kakani**	**15.27**	**120**	*e*P		**P**	**18 43 00.3**	**+0.5**
	comp=E,8.9nm,0.4s							
KURBB	**Kurchatov Arra**	**15.30**	**20**	P		**Pn**	**18 42 58.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=209,slow=10.0,SNR=14							
KURBB	**Kurchatov Arra**	**15.30**	**20**	⇓P		**Pn**	**18 42 57.9**	**-1.5**
	comp=E,1.6nm,0.5s							
KURK	**Kurchatov**	**15.41**	**20**	*i* P		**P**	**18 43 00.9**	**0.0**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**15.41**	**20**	P		**Pn**	**18 42 59.7**	**-1.0**
KURK	**Kurchatov**	**15.41**	**20**	⇓P		**Pn**	**18 43 00.0**	**-0.7**
	comp=Z,0.8nm,0.6s							
PKIN	**Phulchoki**	**15.48**	**121**	*e*P		**P**	**18 43 03.5**	**+1.3**
	comp=Z,10nm,0.3s							
PKI	**Pulchoki**	**15.50**	**121**	*e*P		**P**	**18 43 03.3**	**+0.9**
	comp=Z,11nm,0.4s							
GUN	**Gumba**	**15.62**	**119**	*e*P		**Pn**	**18 43 05.5**	**+1.7**
	comp=Z,10.0nm,0.4s							
JIRN	**Jiri**	**15.99**	**119**	*e*P		**Pn**	**18 43 09.7**	**+1.4**
	comp=Z,19nm,0.4s							
BVAR	**Borovoye Array**	**16.55**	**360**	P		**Pn**	**18 43 14.7**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=177,slow=10.0,SNR=18							
BVAR				S		**S**	**18 46 16.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=174,slow=26,SNR=4.5							
AKTO	**Aktyubinsk**	**16.57**	**331**	P		**Pn**	**18 43 14.8**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=145,slow=11,SNR=40							
AKTO				S		**S**	**18 46 11.6**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=131,slow=15,SNR=1.9							
AKTO	**Aktyubinsk**	**16.57**	**331**	⇓P		**Pn**	**18 43 14.6**	**-0.1**
	comp=Z,16nm,0.7s							
BRVK	**Borovoye**	**16.58**	**360**	*i* P		**Pn**	**18 43 14.6**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**16.58**	**360**			**Pn**	**18 43 13.7**	**-1.1**
BRVK				IAmb	IAmb		18 43 17.5	
	comp=Z,3.7nm,0.8s							
RAMN	**Ramite**	**16.71**	**120**	*e*P		**Pn**	**18 43 17.0**	**+0.2**
	comp=Z,11nm,0.3s							
TAPN	**Taplejung**	**17.26**	**117**	*e*P		**Pn**	**18 43 24.0**	**+0.7**
	comp=Z,9.4nm,0.5s							
ODAN	**Odare**	**17.32**	**119**	*e*P		**Pn**	**18 43 24.7**	**+0.7**
	comp=Z,9.5nm,0.5s							
ZAA0	**Zalesovo Array**	**20.14**	**25**	P		**P**	**18 43 51.5**	**-0.7**
ZAA0				IAmb	IAmb		18 43 54.0	
	comp=Z,2.8nm,0.7s							
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**	**18 43 52.3**	**0.0**
	comp=Z,1.9nm,0.3s,baz=219,slow=11,SNR=17							
ZALV	**Zalesovo Beam**	**20.14**	**25**	*i* P		**P**	**18 43 53.0**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**	**18 43 51.4**	**-0.8**
ARU	**Arti**	**21.51**	**342**	P		**P**	**18 44 08.5**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=144,slow=6.9,SNR=13							
ARU	**Arti**	**21.51**	**342**	*d* iP		**P**	**18 44 08.9**	**+2.3**
ARU				S		**S**	**18 47 56.5**	**+5.2**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KBZ	**Khabaz**	**22.19**	**298**	*i* P		**P**	**18 44 13.9**	**+0.5**
ANN	**Anapa**	**26.23**	**299**	*e*P		**P**	**18 44 51.5**	**+1.6**
ANN				*e**PP		**pP**	**18 45 30.4**	**-0.5**
ANN				*e*S		**S**	**18 49 10.9**	**+4.2**
ANN				*e**SS		**sS**	**18 50 22.3**	**+0.5**
ANN				pmax	pmax			
	comp=Z,30nm,1.3s							
PZH	**PanZhiHua**	**28.40**	**102**	P		**P**	**18 45 12.0**	**+2.4**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,70nm,5.0s							
SONM	**Songino Array**	**28.74**	**55**	P		**P**	**18 45 13.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=273,slow=9.7,SNR=3.3							
SONM	**Songino Array**	**28.74**	**55**	IAmb	IAmb		18 45 32.7	
	comp=Z,2.7nm,1.6s							
ULN	**Ulaanbaatar**	**29.18**	**56**	*i* P		**P**	**18 45 17.0**	**+0.7**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**30.86**	**118**	P		**P**	**18 45 30.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=302,slow=9.0,SNR=4.9							
CMAR	**Chiang Mai Arr**	**30.86**	**118**	*e*P		**P**	**18 45 32.8**	**+1.6**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**32.22**	**69**	*e*P		**P**	**18 45 43.8**	**+0.8**
HHC				pmax	pmax			
	comp=Z,15nm,0.8s							
HHC				pmax	pmax			
	comp=Z,150nm,6.2s			

comp=Z,0.7nm,0.6s,baz=312,slow=5.0,SNR=18
ASAR Alice Springs 84.63 124 P **P** **18 51 44.3 -0.4**
ASAR Alice Springs 84.63 124 P **P** **18 51 44.3 -0.4**

IDC 26 19:03:38.3±5.5, 10°64′N×93°41′E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/53, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=121.9km s-min=44.0km az=92.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.44**	**34**	Pn	Pn	19 05 55.5	-0.1
	0.1nm,0.3s,baz=226,slow=15,SNR=4.4						
H08S3	**Diego Garcia H**	**27.62**	**230**	T	T	19 37 33.3	
	baz=47,slow=76,SNR=6.6						
H08S2	**Diego Garcia H**	**27.63**	**230**	T	T	19 37 33.1	
	baz=47,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**27.64**	**230**	T	T	19 37 34.4	
	baz=47,slow=76,SNR=7.7						
WRA	**Warramunga Ar**	**50.47**	**127**	P	P	19 12 38.2	-0.1
	0.2nm,0.5s,baz=306,slow=8.7,SNR=8.2						
ASAR	**Alice Springs**	**52.25**	**131**	P	P	19 12 51.6	-0.1
	0.3nm,0.5s,baz=306,slow=6.5,SNR=7.6						

*IDC **26** 19:11:20.1±2.9, 12°.56N×142°.48E, h144km±36km, mb3.0/7, mb1 3.2/8, mb1mx3.1/50, mbtmp3.5/8, Error ellipse: s-maj=43.7km s-min=15.6km az=95.0*

ISC 26 19:11:16.5±0.9, 12°.6N±0°.1×142°.1E±0°.1, h100km, n8, σ1°52/9, mb3.4/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.88**	**69**	P	**Pn**	**19 12 02.5**	**+1.9**
	2.6nm,0.3s,baz=30,slow=13,SNR=1.9						
GUMO				S	**Sn**	**19 12 33.7**	**-0.9**
	18nm,0.3s,baz=121,slow=22,SNR=15						
WRA	**Warramunga Arr**	**33.19**	**193**	P	**P**	**19 17 43.9**	**0.0**
	0.6nm,0.6s,baz=12,slow=9.4,SNR=10						
FITZ	**Fitzroy Crossi**	**34.53**	**208**	P	**P**	**19 17 55.3**	**-0.1**
	1.2nm,0.9s,baz=26,slow=11,SNR=1.2						
ASAR	**Alice Springs**	**36.89**	**193**	P	**P**	**19 18 15.6**	**0.0**
	0.2nm,0.4s,baz=5.3,slow=9.1,SNR=14						
SONM	**Songino Array**	**46.07**	**327**	P	**P**	**19 19 31.5**	**+1.0**
	0.1nm,0.4s,baz=145,slow=5.3,SNR=1.6						
MKAR	**Makanchi Array**	**60.38**	**317**	P	**P**	**19 21 16.1**	**+0.7**
	0.2nm,0.6s,baz=100,slow=8.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**63.69**	**320**	P	**P**	**19 21 37.4**	**+0.1**
	0.6nm,0.5s,baz=108,slow=6.4,SNR=7.8						
ILAR	**Eielson Array**	**70.65**	**25**	P	**P**	**19 22 18.2**	**-2.8**
	0.2nm,0.6s,baz=244,slow=5.6,SNR=1.5						

*IDC **26** 19:15:32.6±1.7, 42°.96N×104°.90W, h0km, mb4.1/3, mb1 3.9/7, mb1mx3.5/43, mbtmp3.7/7, ML2.6/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/88, Error ellipse: s-maj=45.4km s-min=10.3km az=150.0*

*NEIC **26** 19:15:39.2±1.6, 43°.63N±0°.05×105°.23W±0°.08, h0km±2km, ML3.4/50, Error ellipse: s-maj=10.0km s-min=7.6km az=119.0*

ISC 26 19:15:36.9±0.9, 43°.64N±0°.06×105°.14W±0°.07, h0km, n57, σ1°88/50, mb4.5/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.93**	**58**		**Pn**	**19 15 58.2**	**+0.7**
K22A	**Casper**	**1.41**	**226**		**Pn**	**19 16 02.7**	**-1.4**
K22A				IAML		19 16 26.1	
	comp=N,384nm,0.6s						
PHWY	**Pilot Hill**	**2.34**	**186**		**Pn**	**19 16 18.6**	**+1.7**
RWWY	**Rawlins**	**2.48**	**219**		**Pn**	**19 16 20.7**	**+1.9**
RWWY				IAML		19 16 56.1	
	comp=N,276nm,0.9s						
N23A	**Red Feather La**	**2.80**	**193**	Pn	**Pn**	**19 16 25.4**	**+2.1**
N23A				IAML		19 17 08.0	
	comp=N,218nm,0.6s						
N23A				IAML		19 17 17.4	
	comp=E,117nm,0.8s						
LAO	**LASA Array**	**3.15**	**346**	Pn	**Pn**	**19 16 30.6**	**+2.8**
RLMT	**Red Lodge**	**3.31**	**298**		**Pn**	**19 16 31.2**	**+1.0**
RLMT				IAML		19 17 31.2	
	comp=E,98nm,0.9s						
RLMT				IAML		19 17 31.5	
	comp=E,77nm,0.8s						
PD31	**Pinedale Array**	**3.35**	**256**		**Pn**	**19 16 31.1**	**+0.4**
PDAR	**Pinedale Array**	**3.35**	**256**	Pn	**Pn**	**19 16 31.3**	**+0.6**
	comp=E,2.5nm,0.3s,baz=75,slow=16,SNR=51						
PDAR				Lg	Lg	19 17 15.8	
	comp=E,16nm,0.3s,baz=89,slow=24,SNR=3.1						
PDAR	**Pinedale Array**	**3.35**	**256**		**Pn**	**19 16 31.6**	**+0.8**
OGNE	**Ogallala**	**3.54**	**138**	Pn	**Pn**	**19 16 36.7**	**+3.5**
YMP	**Mirror Lake PI**	**3.78**	**289**		**Pn**	**19 16 37.8**	**+1.1**
ISCO	**Idaho Springs**	**3.85**	**185**	Pn	**Pn**	**19 16 39.9**	**+2.2**
GCMT	**Greyclift**	**3.88**	**305**		**Pn**	**19 16 39.5**	**+1.5**
LKWY	**Lake**	**3.90**	**286**		**Pn**	**19 16 40.9**	**+2.4**
LKWY				IAML		19 17 48.9	
	comp=E,79nm,1.1s						
LKWY				IAML		19 17 51.4	
	comp=E,54nm,1.0s						
LOHW	**Long Hollow**	**3.97**	**272**		**Pn**	**19 16 40.3**	**+1.0**
LOHW				IAML		19 17 45.1	
	comp=E,41nm,1.2s						
LOHW				IAML		19 17 45.2	
	comp=E,39nm,1.2s						
H17A	**Grant Village**	**4.00**	**283**		**Pn**	**19 16 41.5**	**+1.9**
H17A				IAML		19 17 44.8	
	comp=E,49nm,1.9s						
H17A				IAML		19 17 46.7	
	comp=N,67nm,1.6s						
MOOW	**Moose Ponds**	**4.07**	**274**	Pn	**Pn**	**19 16 42.2**	**+1.6**
REDW	**Red Top Meadow**	**4.17**	**268**		**Pn**	**19 16 43.6**	**+1.6**
O20A	**White River Ci**	**4.20**	**215**		**Pn**	**19 16 44.5**	**+2.1**
O20A				IAML		19 17 56.8	
	comp=E,75nm,1.0s						
O20A				IAML		19 18 05.4	
	comp=N,88nm,1.4s						
YHH	**Holmes Hill**	**4.27**	**288**		**Pn**	**19 16 44.7**	**+1.3**
YHH				IAML		19 18 03.6	
	comp=N,35nm,1.2s						
YHH				IAML		19 18 11.0	
	comp=E,34nm,1.3s						
E28A	**Huff**	**4.30**	**45**	Pn	**Pn**	**19 16 46.5**	**+2.8**
RDMU	**Red Mountain**	**4.50**	**229**		**Pn**	**19 16 47.9**	**+1.4**
RDMU				IAML		19 18 04.3	
	comp=E,59nm,1.0s						
RDMU				IAML		19 18 10.5	
	comp=N,41nm,1.0s						
Q24A	**Divide**	**4.67**	**180**		**Pn**	**19 16 50.9**	**+1.9**
DGMT	**Dagmar**	**4.88**	**7**		**Pn**	**19 16 54.9**	**+3.3**
KSCO	**Kaye Shedlock'**	**4.99**	**157**		**Pn**	**19 16 54.0**	**+0.8**
BOZ	**Bozeman (W)**	**5.03**	**295**		**Pn**	**19 16 54.7**	**+0.9**
BOZ				IAML		19 18 16.0	
	comp=N,18nm,0.9s						
BOZ				IAML		19 18 22.5	
	comp=N,23nm,1.0s						
HWUT	**Hardware Ranch**	**5.16**	**249**	Pn	**Pn**	**19 16 55.6**	**+0.1**
EGMT	**Eagleton**	**5.45**	**325**	Pn	**Pn**	**19 17 00.5**	**+1.1**
P18A	**Preston Nutter**	**5.54**	**225**		**Pn**	**19 17 01.7**	**+0.8**
JLU	**Jordanelle**	**5.59**	**239**		**Pn**	**19 17 01.2**	**-0.4**
HRY	**Holter Researc**	**5.64**	**305**		**Pn**	**19 17 03.4**	**+1.3**
LRM	**Limekiln Ridge**	**5.65**	**295**		**Pn**	**19 17 03.0**	**+0.6**
MDND	**Maddock**	**5.72**	**41**		**Pn**	**19 17 05.8**	**+2.6**
PV07	**Paradox Valley**	**5.83**	**208**	Pn	**Pn**	**19 17 07.1**	**+2.2**
SDCO	**Great Sand Dun**	**5.89**	**183**	Pn	**Pn**	**19 17 06.2**	**+0.5**
S22A	**4UR Ranch, Cre**	**6.02**	**193**		**Pn**	**19 17 10.3**	**+2.8**
ECSD	**EROS Data Cent**	**6.18**	**86**	Pn	**Pn**	**19 17 12.7**	**+3.2**
T25A	**Trinidad**	**6.51**	**175**	Pn	**Pn**	**19 17 16.8**	**+2.6**
DUG	**Dugway, Tooele**	**6.68**	**242**		**Pn**	**19 17 16.5**	**+0.1**
HLID	**Hailey**	**6.74**	**273**		**Pn**	**19 17 19.3**	**+2.1**
MSO	**Missoula**	**6.99**	**300**	Pn	**Pn**	**19 17 22.1**	**+1.5**
AGMN	**Agassiz Nation**	**7.96**	**51**	Pn	**Pn**	**19 17 36.5**	**+2.6**
ELK	**Elko**	**8.04**	**252**	Pn	**Pn**	**19 17 32.6**	**-2.6**
	comp=N,0.0nm,0.3s,baz=86,slow=14,SNR=1.1						
ELK				Lg	Lg	19 19 42.8	
	comp=N,0.1nm,0.3s,baz=74,slow=22,SNR=1.3						
WALA	**Waterton Lakes**	**8.14**	**315**	Pn	**Pn**	**19 17 36.4**	**0.0**
I10CA	**LAC DU BONNET**	**9.05**	**40**	*i*		20 07 45.0	
	baz=222,slow=322,SNR=13						
ULM	**Lac du Bonnet**	**9.15**	**40**	Pn	**Pn**	**19 17 49.3**	**-0.9**
	comp=N,1.0nm,0.3s,baz=224,slow=12,SNR=4.3						
ULM				Lg	Lg	19 20 26.1	
	comp=N,0.5nm,0.3s,baz=135,slow=22,SNR=2.3						
NEW	**Newport**	**9.54**	**303**	Lg	Lg	19 20 42.8	
	comp=N,0.2nm,0.3s,baz=51,slow=17,SNR=3.4						
I56US	**NEWPORT INFRAS**	**9.55**	**303**	*i*		20 24 30.0	
	baz=114,slow=305,SNR=6.0						
NVAR	**Mina Array Bea**	**11.22**	**247**	Pn	Pn	19 18 14.6	-4.1
	comp=N,0.1nm,0.3s,baz=70,slow=12,SNR=1.4						
YBH	**Yreka Blue Hor**	**13.07**	**268**	LR	LR	19 24 01.8	
	comp=N,80nm,18.6s,baz=152,slow=38						
TXAR	**Lajitas Array**	**14.32**	**175**	LR	LR	19 24 38.8	
	comp=N,33nm,19.8s,baz=353,slow=40						
YKA	**Yellowknife Ar**	**19.69**	**347**	P	**Pn**	**19 20 09.1**	**+0.3**
	comp=N,0.2nm,0.5s,baz=154,slow=11,SNR=6.9						
DLBC	**Dease Lake**	**21.37**	**323**	LR	LR	19 30 11.6	
	comp=N,71nm,18.8s,baz=85,slow=40						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 25 55.2**	**+0.3**
	comp=N,4.6nm,1.1s,baz=327,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**68.09**	**23**	P	**P**	**19 26 37.3**	**-0.7**
	comp=N,3.4nm,1.0s,baz=327,slow=9.9,SNR=3.3						
ESDC	**Sonseca Array**	**70.81**	**53**	P	**P**	**19 26 51.8**	**-3.5**
	comp=N,0.2nm,0.3s,baz=318,slow=8.6,SNR=3.4						

*IDC **26** 19:30:38.2±8.3, 22°.08N×94°.52E, h122km±57km, mb3.2/5, mb1 3.3/6, mb1mx3.0/35, mbtmp3.5/6, Error ellipse: s-maj=240.3km s-min=16.5km az=59.0*

ISC 26 19:30:35.1±1.9, 21°.9N±0°.4×94°.0E±0°.5, h100km, n6, σ0°53/7, mb3.4/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.72**	**125**	P	**Pn**	**19 31 58.0**	**+0.3**
	0.2nm,0.3s,baz=309,slow=14,SNR=10.0						
MKAR	**Makanchi Array**	**26.64**	**342**	P	**P**	**19 36 05.2**	**+0.8**
	0.6nm,0.5s,baz=153,slow=9.3,SNR=18						
MKAR				PcP	**PcP**	**19 39 26.0**	**+0.2**
	0.1nm,0.3s,baz=150,slow=2.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**32.80**	**350**	P	**P**	**19 36 58.4**	**-0.3**
	0.3nm,0.3s,baz=156,slow=6.3,SNR=2.8						
WRA	**Warramunga Ar**	**57.25**	**134**	P	**P**	**19 40 12.0**	**-0.5**
	0.1nm,0.4s,baz=320,slow=7.6,SNR=9.1						
ASAR	**Alice Springs**	**59.61**	**137**	P	**P**	**19 40 28.7**	**-0.1**
	0.2nm,0.6s,baz=313,slow=6.4,SNR=5.7						
ARCES	**ARCESS Array B**	**62.22**	**338**	P	**P**	**19 40 45.7**	**-0.1**
	3.2nm,1.0s,baz=75,slow=5.1,SNR=3.8						

*TUL **26** 19:49:51.4±0.5, 36°.92N±0°.02×97°.36W±0°.02, h7km±4km, ML2.9, mb_Lg2.7/40(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=191.0*

NEIC 26 19:49:52.0±0.3, 36°.91N±0°.01×97°.358W±0°.008, h1km±5km, Error ellipse: s-maj=1.8km s-min=0.9km az=183.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.68**	**89**		Pg	19 50 04.4	-0.6
T35A				Sg	Sg	19 50 13.8	0.0
U32A	**Winter Ranch,**	**1.42**	**249**		Pn	19 50 17.8	-1.2
OKCFA	**Oklahoma City**	**1.49**	**183**		Pn	19 50 19.1	-0.8
OKCSW	**OKLAHOMA CITY**	**1.50**	**183**	Pg	Pn	19 50 19.3	-0.8
TUL1	**Leonard**	**1.61**	**128**		Pn	19 50 20.8	-0.8
FNO	**Franklin**	**1.65**	**181**		Pn	19 50 21.4	-0.7
R32A	**Long Quarter,**	**1.85**	**325**	Pn	Pn	19 50 24.6	-0.3
KSU1	**Kansas State U**	**2.27**	**15**		Pn	19 50 30.1	-0.5
X34A	**Smith Ranch, M**	**2.34**	**190**		Pn	19 50 31.8	+0.2
X34A				IAmb_Lg		19 51 09.2	
	comp=Z,28nm,0.9s						
WMOK	**Wichita Mounta**	**2.46**	**209**		Pn	19 50 33.0	-0.2
HHAR	**Hobbs**	**2.82**	**102**		Pn	19 50 37.5	-0.7
X37A	**Clayton**	**2.82**	**145**		Pn	19 50 36.9	-1.3
X37A				IAmb_Lg		19 51 24.3	
	comp=Z,22nm,0.9s						
S39A	**Bolivar**	**3.31**	**75**		Pn	19 50 44.5	-0.5
U40A	**Yellville**	**3.66**	**97**		Pn	19 50 49.4	-0.4
AMTX	**Amarillo**	**4.05**	**241**	Pn	Pn	19 50 55.4	+0.2
AMTX				IAmb_Lg		19 52 11.0	
	comp=Z,13nm,0.7s						
P38A	**Dawn**	**4.05**	**47**		Pn	19 50 53.9	-1.1
P38A				IAmb_Lg		19 52 00.9	
	comp=Z,21nm,0.8s						
MGMO	**Mountain Grove**	**4.08**	**85**		Pn	19 50 55.2	-0.3
MGMO				IAmb_Lg		19 52 02.4	
	comp=Z,16nm,1.0s						
N35A	**Tabor**	**4.17**	**18**	Pn	Pn	19 50 56.5	-0.2
R40A	**Maddies Statio**	**4.27**	**70**		Pn	19 50 57.2	-0.9
FCAR	**Ozark Folk Cen**	**4.34**	**102**	IAmb_Lg		19 52 08.8	
	comp=Z,15nm,0.8s						
X40A	**Basin Creek Fa**	**4.40**	**122**	IAmb_Lg		19 52 20.9	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.41**	**110**	Pn	Pn	19 50 59.4	-0.7
BGNE	**Belgrade**	**4.54**	**352**	IAmb_Lg		19 52 20.6	
	comp=Z,18nm,0.7s						
ABTX	**Abilene, Hawle**	**4.67**	**204**	IAmb_Lg		19 52 27.6	
	comp=Z,13nm,1.2s						
WLAR	**White Oak Lake**	**4.73**	**132**	IAmb_Lg		19 52 25.1	
	comp=Z,11nm,0.9s						
P40A	**Paris**	**4.93**	**56**	IAmb_Lg		19 52 34.0	
	comp=Z,12nm,0.8s						
N38A	**Joes South For**	**5.04**	**38**	IAmb_Lg		19 52 32.3	
	comp=Z,18nm,0.8s						
OGNE	**Ogallala**	**5.43**	**319**	IAmb_Lg		19 52 44.5	
	comp=Z,16nm,0.9s						
PBMO	**Poplar Bluff**	**5.56**	**89**	IAmb_Lg		19 52 58.8	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**5.65**	**274**	IAmb_Lg		19 53 03.7	
	comp=Z,7.8nm,0.8s						
SIUC	**Southern Illin**	**6.54**	**80**	IAmb_Lg		19 53 19.1	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**6.73**	**198**	IAmb_Lg		19 53 34.7	
	comp=Z,11nm,0.9s						
HDIL	**Hopedale**	**7.28**	**58**	IAmb_Lg		19 54 01.9	
	comp=Z,9.0nm,0.7s						
N23A	**Red Feather La**	**7.79**	**303**	IAmb_Lg		19 54 18.7	
	comp=Z,6.5nm,0.8s						
K22A	**Casper**	**9.09**	**312**	IAmb_Lg		19 55 04.2	
	comp=Z,5.3nm,1.0s						

*IDC **26** 19:58:51.0±0.7, 34°.83N×110°.93E, h0km, mb3.7/18, mb1 3.9/21, mb1mx3.7/51, mbtmp3.7/21, ML3.4/3, MS3.0/6, Ms1 3.1/6, ms1mx2.7/93, Error ellipse: s-maj=19.3km s-min=14.5km az=42.0*

*NEIC **26** 19:58:53.2±1.5, 34°.90N±0°.09×111°.1E±0°.1, h15km±6km, mb3.9/11, ML4.0(BJI), Error ellipse: s-maj=18.7km s-min=11.6km az=115.0*

ISC 26 19:58:51.8±0.6, 34°.90N±0°.08×110°.95E±0°.08, h4km, n44, σ0°90/41, mb3.9/22, MS3.3/4, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**4.78**	**195**	Pn	**Pn**	**20 00 05.5**	**+0.9**
BJT	**Baijiatuau**	**6.58**	**38**	Pn	**Pn**	**20 00 27.7**	**-1.6**
ULN	**Ulaanbaatar**	**13.28**	**348**	Pn	**Pn**	**20 02 01.2**	**0.0**
SONM	**Songino Array**	**13.37**	**347**	Pn	**Pn**	**20 02 02.4**	**0.0**
	0.2nm,0.3s,baz=162,slow=9.9,SNR=13						
SONM				Lg	Lg	20 05 46.3	
	0.2nm,0.3s,baz=172,slow=22,SNR=3.9						
SONM				LR	LR	20 07 50.7	
	comp=Z,19nm,19.2s,baz=181,slow=40						
SONM	**Songino Array**	**13.37**	**347**	Pn	**Pn**	**20 02 02.6**	**+0.2**
KSRS	**Korea Array**	**13.95**	**75**	Pn	**Pn**	**20 02 11.4**	**+1.3**
	0.1nm,0.3s,baz=264,slow=14,SNR=4.5						
KSRS				Lg	Lg	20 06 11.8	
	0.2nm,0.3s,baz=264,slow=29,SNR=4.2						
KSRS				LR	LR	20 07 53.2	
	comp=Z,48nm,18.2s,baz=320,slow=39						
LSA	**Lhasa**	**17.52**	**258**	Pn	**Pn**	**20 02 56.1**	**-1.3**
SHL	**Shillong**	**18.89**	**246**	P	**P**	**20 03 13.0**	**-0.6**
SHL				IAmb	IAmb	20 03 17.1	
	comp=Z,9.2nm,1.2s						
CM31	**Chiang Mai Arr**	**19.55**	**216**	P	**P**	**20 03 20.4**	**-0.2**
CM31				IAmb	IAmb	20 03 30.4	
	comp=Z,9.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**19.55**	**216**	P	**P**	**20 03 19.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=22,slow=9.6,SNR=2.4						
CMAR				LR	LR	20 11 54.8	
	comp=Z,42nm,18.0s,baz=60,slow=40						
CMAR	**Chiang Mai Arr**	**19.55**	**216**	P	**P**	**20 03 19.8**	**-0.8**
KLR	**Kul'dur**	**20.96**	**41**	P	**P**	**20 03 35.2**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=215,slow=6.3,SNR=3.0						
MJAR	**Matsushiro Arr**	**22.17**	**78**	P	**P**	**20 03 47.6**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=320,slow=7.7,SNR=1.5						
MJAR				LR	LR	20 12 05.2	
	comp=Z,44nm,20.5s,baz=203,slow=36						
MK31	**Makanchi Array**	**24.58**	**308**	P	**P**	**20 04 12.1**	**-0.8**
MKAR	**Makanchi Array**	**24.58**	**308**	P	**P**	**20 04 11.7**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=104,slow=11,SNR=17						
MKAR	**Makanchi Array**	**24.58**	**308**	P	**P**	**20 04 12.3**	**-0.6**
MAKZ	**Makanchi**	**24.79**	**307**	P	**P**	**20 04 14.9**	**+0.1**
MAKZ				IAmb	IAmb	20 04 17.3	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**26.42**	**324**	P	**P**	**20 04 29.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=114,slow=10.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**26.42**	**324**	P	**P**	**20 04 28.4**	**-1.0**
KDJ	**Kajisay**	**27.27**	**295**	P	**P**	**20 04 36.8**	**-0.6**
KDJ				IAmb	IAmb	20 04 41.0	
	comp=Z,2.7nm,1.1s						
BOOM	**Boomskoye usch**	**28.21**	**296**	P	**P**	**20 04 46.6**	**+0.8**
BOOM				IAmb	IAmb	20 05 05.7	
	comp=Z,2.9nm,1.2s						
KURK	**Kurchatov**	**28.22**	**314**	P	**P**	**20 04 46.1**	**+0.6**
KURK				IAmb	IAmb	20 04 47.5	
	comp=Z,4.9nm,1.4s						
KURBB	**Kurchatov Arra**	**28.24**	**314**	P	**P**	**20 04 45.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=118,slow=8.4,SNR=3.0						
AAK	**Ala-Archa**	**29.29**	**296**	P	**P**	**20 04 54.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=71,slow=1.5,SNR=4.9						
YAK	**Yakutsk**	**29.63**	**18**	LR	LR	20 17 47.5	
	comp=Z,38nm,18.4s,baz=287,slow=38						
TIXI	**Tiksi**	**38.01**	**9**	P	**P**	**20 06 11.2**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=270,slow=20,SNR=11						
TIXI	**Tiksi**	**38.01**	**9**	P	**P**	**20 06 09.8**	**-0.7**
ABKAR	**Akbulak array**	**39.73**	**307**	P	**P**	**20 06 25.6**	**+0.3**
ABKAR	**Akbulak array**	**39.73**	**307**	P	**P**	**20 06 25.3**	**0.0**
ABKAR				IAmb	IAmb	20 06 32.9	
	comp=Z,1.7nm,1.0s						
ARU	**Arti**	**41.22**	**318**	P	**P**	**20 06 35.8**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=101,slow=10,SNR=3.2						
ARU	**Arti**	**41.22**	**318**	P	**P**	**20 06 36.9**	**-0.6**
GNI	**Garni**	**51.69**	**297**	LR	LR	20 34 28.3	
	comp=Z,42nm,19.9s,baz=334,slow=41						
KBZ	**Khabaz**	**52.05**	**301**	P	**P**	**20 08 01.6**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=81,slow=9.3,SNR=3.9						
FINES	**FINESS Array B**	**57.67**	**326**	P	**P**	**20 08 43.4**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=64,slow=6.5,SNR=2.3						
WRA	**Warramunga Arr**	**58.89**	**154**	P	**P**	**20 08 51.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=348,slow=7.8,SNR=15						
AKASG	**Malin Array Be**	**59.02**	**313**	P	**P**	**20 08 53.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=59,slow=6.4,SNR=4.7						
BRTR	**Keskin Array B**	**59.88**	**300**	P	**P**	**20 08 58.0**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=92,slow=8.7,SNR=2.4						
ASAR	**Alice Springs**	**62.18**	**156**	P	**P**	**20 09 13.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=345,slow=7.4,SNR=9.8						
NB2	**NORSAR Subarra**	**64.54**	**328**	P	**P**	**20 09 30.6**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=64,slow=6.9						
NOA	**NORSAR Array B**	**64.54**	**328**	P	**P**	**20 09 30.8**	**+1.0**
	comp=Z,1.7nm,1.2s,baz=76,slow=5.4,SNR=7.6						
GERES	**GERESS Array B**	**68.96**	**315**	P	**P**	**20 09 59.8**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=30,slow=3.7,SNR=5.2						
VAE	**Valguarnera**	**74.30**	**305**	LR	LR	20 50 36.1	
	comp=Z,145nm,19.4s,baz=330,slow=42						
YKA	**Yellowknife Ar**	**76.28**	**20**	P	**P**	**20 10 42.3**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=328,slow=5.3,SNR=5.2						
ESDC	**Sonseca Array**	**84.56**	**315**	P	**P**	**20 11 27.8**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=40,slow=4.3,SNR=3.5						

DJA 26 20:16:49.3±0.4, 9°S±4°×111°2E±°, h10km, M3.8/15, mb4.5/3, MLv3.5/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.35**	**347**	P	Pb	20 17 14.5	-0.1
PWJI				S	Sb	20 17 30.3	-1.6
PCJI	**Pacitan**	**1.47**	**321**	P	Pn	20 17 15.7	-0.2
PCJI				S	Sn	20 17 32.1	-3.1
GMJI	**Gumukmas**	**1.68**	**51**	P	Pn	20 17 19.0	+0.2
UGM	**Wanagama**	**2.12**	**312**	P	Pn	20 17 25.2	+0.3
UGM				S	Sn	20 17 49.5	-1.9
BLJI	**Banyuglugur**	**2.15**	**43**	P	Pn	20 17 25.4	+0.1
JAGI	**Jajag, Banyuwa**	**2.19**	**67**	P	Pn	20 17 25.8	+0.1
GRJI	**Gresik**	**2.44**	**8**	P	Pn	20 17 29.8	+0.6
TBJI	**Tambak Boyo**	**2.52**	**354**	P	Pn	20 17 30.9	+0.6
ABJI	**Asem Bagus**	**2.59**	**54**	P	Pn	20 17 31.4	+0.1
SMRI	**Semarang**	**2.82**	**324**	P	Pn	20 17 34.8	+0.3
KMMI	**Kalianget**	**2.92**	**39**	P	Pn	20 17 35.5	-0.3
IGBI	**Denpasar**	**3.03**	**80**	P	Pn	20 17 37.2	-0.2
DNP	**Denpasar**	**3.12**	**78**	P	Pn	20 17 38.4

ETLH	**Xiulin Townshi** baz=253	**0.30**	**253**	*e*P	Pb	20 37 10.1	-0.5
ETLH				*e*S	Sb	20 37 14.9	-0.3
TWC	**Suao** baz=10.0	**0.32**	**9**	*e*P	Pb	20 37 10.7	-0.1
TWC				*e*S	Sb	20 37 15.6	0.0
LATG	**Datong** baz=314	**0.34**	**315**	P	Pb	20 37 10.7	-0.5
LATG				*e*S	Sb	20 37 16.5	+0.1
NDS	**Dongshan** baz=348	**0.35**	**348**	*e*P	Pb	20 37 11.1	-0.1
NDS				*e*S	Sb	20 37 16.3	0.0
NNSB	**Datong** baz=289	**0.40**	**290**	*i* P	Pb	20 37 12.0	-0.2
NNSB				S	Sb	20 37 17.9	0.0
NDT	**Datong Townshi** baz=320	**0.40**	**320**	*e*P	Pb	20 37 11.8	-0.3
NDT				*e*S	Sb	20 37 17.9	0.0
ENTT	**Nioudou** baz=329	**0.40**	**329**	*e*P	Pb	20 37 11.7	-0.4
ENTT				*e*S	Sb	20 37 17.9	0.0
NNS	**Nan Shan** baz=290	**0.41**	**291**	*i* P	Pb	20 37 12.0	-0.3
NNS				S	Sb	20 37 18.1	-0.1
ETM	**Tongmen** baz=220	**0.43**	**220**	*e*P	Pb	20 37 12.2	-0.4
ETM				*e*S	Sb	20 37 18.7	+0.1
TWE	**Neicheng** baz=346	**0.44**	**345**	P	Pb	20 37 12.5	-0.3
TWE				*e*S	Sb	20 37 19.0	0.0
TEYL	**Yanliau Villag** baz=204	**0.46**	**203**	*e*P	Pb	20 37 12.3	-0.9
FUSB	**Fushanzhiwuyua** baz=337	**0.50**	**338**	*e*P	Pb	20 37 13.4	-0.5
FUSB				*e*S	Sb	20 37 20.2	-0.6
FUSS	**Fushou** baz=264	**0.50**	**265**	*e*P	Pb	20 37 12.7	-1.4
FUSS				*e*S	Sb	20 37 19.4	-1.6
WHF	**Hehuan Shan** baz=252	**0.51**	**253**	*e*P	Pb	20 37 13.5	-0.6
WHF				*e*S	Sb	20 37 20.5	-0.8
YHNB	**Yeheng** baz=314	**0.53**	**315**	*e*P	Pb	20 37 14.0	-0.5
YHNB				*e*S	Sb	20 37 21.2	-0.6
NWLT	**Wulai** baz=331	**0.55**	**331**	*e*P	Pb	20 37 14.1	-0.6
NWLT				*e*S	Sb	20 37 21.4	-0.9
TWT	**Tachien** baz=265	**0.57**	**266**	*e*P	Pb	20 37 14.8	-0.3
TWT				*e*S	Sb	20 37 22.9	0.0
ESL	**Shilin** baz=213	**0.58**	**215**	*e*P	Pb	20 37 14.5	-0.7
CHGB	**Renai** baz=247	**0.61**	**248**	*e*P	Pb	20 37 15.6	-0.3
CHGB				*e*S	Sb	20 37 23.9	-0.3
OWD	**Renai** baz=239	**0.66**	**239**	*e*P	Pb	20 37 16.1	-0.5
OWD				*e*S	Sb	20 37 25.1	-0.3
TIPB	**Shuangxi** baz=2.0	**0.68**	**2**	*e*P	Pb	20 37 16.7	-0.2
TIPB				*e*S	Sb	20 37 25.6	-0.3
WUSB	**Renai** baz=244	**0.69**	**244**	P	Pb	20 37 16.8	-0.3
WUSB				S	Sb	20 37 26.1	-0.1
NFF	**Wufeng Townshi** baz=298	**0.70**	**299**	*e*P	Pn	20 37 17.9	-0.4
NFF				*e*S	Sb	20 37 26.6	0.0
TWB1	**Santiao Chiao** baz=14	**0.73**	**14**	*e*S	Sb	20 37 27.4	0.0
NWF	**Wu-fen Shan** baz=359	**0.77**	**359**	*e*P	Pb	20 37 18.4	-0.2
NWF				*e*S	Sb	20 37 28.4	-0.2
WFSB	**Wu-fen Shan** baz=359	**0.77**	**359**	*e*P	Pb	20 37 18.4	-0.1
WFSB				*e*S	Sb	20 37 29.4	+0.8
WHP	**Taichung City** baz=268	**0.77**	**269**	*e*P	Pb	20 37 18.9	+0.4
WHP				*e*S	Sb	20 37 28.4	-0.3
LIOB	**Emei** baz=296	**0.79**	**296**	*e*P	Pn	20 37 19.4	-0.2
LIOB				*e*S	Sb	20 37 29.3	+0.2
NSTT	**Nanjuang** baz=295	**0.80**	**295**	*e*P	Pb	20 37 17.8	-1.1
NSTT				*e*S	Sb	20 37 29.1	-0.1
SXI1	**Grass Mountain** baz=5.0	**0.80**	**5**	*e*P	Pb	20 37 18.7	-0.3
SXI1				*e*S	Sb	20 37 29.8	+0.4
VWDT	**VWDT** baz=227	**0.80**	**228**	*e*P	Pb	20 37 18.2	-0.8
VWDT				*e*S	Sb	20 37 30.6	-0.3
DPDB	**Guoxing** baz=251	**0.83**	**252**	*e*P	Pb	20 37 19.2	-0.4
DPDB				*e*S	Sb	20 37 30.6	+0.3
WCS	**Beigang Elemen** baz=253	**0.84**	**254**	*e*P	Pb	20 37 19.1	-0.5
WCS				*e*S	Sb	20 37 30.4	0.0
HGSD	**Ruisui** baz=202	**0.87**	**203**	*e*P	Pn	20 37 20.5	0.0
YM01	**YM01** baz=346	**0.87**	**347**	*e*P	Pn	20 37 20.6	-0.1
EHY	**Hungye** baz=208	**0.90**	**209**	*e*P	Pb	20 37 20.0	-0.6
EHY				*e*S	Sb	20 37 31.9	-0.1
ANP	**Anpu** baz=344	**0.92**	**344**	*e*P	Pb	20 37 20.4	-0.7
YULB	**Yu-li** baz=206	**1.01**	**207**	*e*P	Pb	20 37 21.4	-1.0
FULB	**Fuli** baz=202	**1.18**	**203**	*e*P	Pn	20 37 24.7	-0.3

IDC ***26*** *20:37:31.7±2.3, 16°.45S×167°.11E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/29, mbtmp4.0/5, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/57, Error ellipse: s-maj=51.7km s-min=37.1km az=104.0*

NOU ***26*** *20:37:32.6, 16°.44S×167°.61E, h19km, MLv5.0/16, Vanuatu Islands*

NEIC ***26*** *20:37:33.4±1.8, 16°.43S±0°.05×167°.5E±0°.2, h29km±8km, mb4.2/11, Error ellipse: s-maj=22.2km s-min=7.3km az=80.0*

ISC 26 20:37:32.4±0.7, 16°48S±0°.06×167°50E±0°.10, h20km, n42, σ1§03/43, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.06**	**345**		**Pb**	**20 37 51.5**	**-0.7**
SANVU					**Sb**	**20 38 05.4**	**-0.2**
SANVU	**Saraoutou**	**1.06**	**345**	P	**Pb**	**20 37 51.7**	**-0.4**
DVP	**Devils Point**	**1.40**	**152**	P	**Pn**	**20 37 56.8**	**0.0**
RTV	**Rentapao**	**1.58**	**146**	P	**Pn**	**20 38 00.0**	**+0.7**
LIFNC	**LIFOU**	**4.28**	**183**	Pn	**Pn**	**20 38 35.1**	**-1.3**
LIFNC	**LIFOU**	**4.28**	**183**	P	**Pn**	**20 38 39.0**	**+2.6**
MARNC	**Mare, Loyalty**	**5.00**	**174**	Pn	**Pn**	**20 38 45.2**	**-1.1**
MARNC	**Mare, Loyalty**	**5.00**	**174**	P	**Pn**	**20 38 45.8**	**-0.5**
KOUNC	**Koumac, New Ca**	**5.07**	**216**		**Pn**	**20 38 48.1**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.07**	**216**	P	**Pn**	**20 38 48.8**	**+1.5**
DZM	**Mont Dzumac**	**5.65**	**190**	Pn	**Pn**	**20 38 55.4**	**+0.1**
DZM	2.6nm,0.3s,baz=19,slow=7.0,SNR=46			Sn	**Sn**	**20 39 58.5**	**-1.3**
DZM	**Mont Dzumac** 2.8nm,0.3s,baz=330,slow=11,SNR=3.9	**5.65**	**190**	P	**Pn**	**20 38 55.5**	**+0.1**
NOUC	**Port Laguerre**	**5.71**	**191**	P	**Pn**	**20 38 56.7**	**+0.7**
ONTNC	**Ouen Toro**	**5.88**	**189**		**Pn**	**20 38 58.9**	**+0.5**
ONTNC	**Ouen Toro**	**5.88**	**189**	P	**Pn**	**20 38 59.4**	**+1.0**
OUENC	**Ouen Island, N**	**5.94**	**186**		**Pn**	**20 39 00.5**	**+1.3**
PINNC	**Pines Island,**	**6.10**	**180**	Pn	**Pn**	**20 39 02.5**	**+1.4**
OUZ	**Omahuta**	**19.44**	**165**	P	**P**	**20 41 58.1**	**+0.5**
OUZ	comp=Z,6.6nm,1.2s			IAmb	IAmb	20 42 21.6	
BKZ	**Black Stump Fm**	**23.93**	**163**	P	**P**	**20 42 45.4**	**+0.2**
BKZ	comp=Z,6.3nm,1.0s			IAmb	IAmb	20 42 48.5	
STKA	**Stephens Creek** comp=Z,1.7nm,0.6s,baz=41,slow=9.3,SNR=5.2	**28.06**	**232**	P	**P**	**20 43 22.6**	**0.0**
STKA	**Stephens Creek**	**28.06**	**232**	P	**P**	**20 43 22.8**	**+0.1**
WB0	**Warramunga Arr**	**31.60**	**259**	P	**P**	**20 43 52.6**	**-1.5**
WB0	comp=Z,6.6nm,1.4s			IAmb	IAmb	20 44 03.1	
WRA	**Warramunga Arr** comp=Z,0.8nm,0.8s,baz=86,slow=9.2,SNR=9.4	**31.66**	**259**	P	**P**	**20 43 53.8**	**-0.8**
WRA	**Warramunga Arr**	**31.66**	**259**	P	**P**	**20 43 53.0**	**-1.6**
AS31	**Alice Springs**	**32.29**	**252**	P	**P**	**20 43 59.5**	**-0.7**
AS31	comp=Z,1.9nm,0.6s			IAmb	IAmb	20 44 00.6	
ASAR	**Alice Springs** comp=Z,5.6nm,0.7s,baz=79,slow=8.4,SNR=107	**32.30**	**252**	P	**P**	**20 43 59.9**	**-0.4**
ASAR	**Alice Springs**	**32.30**	**252**	P	**P**	**20 43 59.5**	**-0.8**
KNRA	**Kununurra**	**37.19**	**266**	P	**P**	**20 44 41.5**	**-1.0**
FORT	**Forrest**	**38.62**	**241**	P	**P**	**20 44 53.5**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,86nm,18.8s,baz=150,slow=35	**39.94**	**261**	LR	LR	21 00 51.7	
FITZ	**Fitzroy Crossi**	**39.94**	**261**	P	**P**	**20 45 05.2**	**-0.4**
FITZ	comp=Z,9.6nm,1.4s			IAmb	IAmb	20 45 06.2	
SBA	**Scott Base** comp=Z,2.7nm,1.4s	**61.40**	**180**	P	**P**	**20 47 47.6**	**+1.0**
SBA				IAmb	IAmb	20 48 13.7	
QSPA	**South Pole Qui** comp=Z,4.3nm,1.4s	**73.56**	**180**	P	**P**	**20 49 02.7**	**-1.2**
QSPA				IAmb	IAmb	20 49 03.1	
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=124,slow=4.8,SNR=2.0	**75.86**	**294**	P	**P**	**20 49 18.1**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.6s,baz=64,slow=2.1,SNR=5.0	**121.99**	**345**	PKP	**PKiKP**	**20 56 27.5**	**+2.6**
SOKA	**Soboth** comp=Z,1.6nm,0.2s	**142.21**	**329**	*e*P	**PKiKP**	**20 57 06.8**	**+0.3**
KBA	**Koelnbreinsper** comp=Z,0.4nm,0.3s	**142.74**	**331**	*e*P	**PKiKP**	**20 57 08.3**	**+0.6**
WATA	**Walderalm** comp=Z,0.3nm,0.2s	**143.37**	**332**	*e*P	**PKiKP**	**20 57 08.2**	**-0.8**
ABTA	**Abfaltersbach** comp=Z,1.0nm,0.6s	**143.38**	**331**	*e*P	**PKPdf**	**20 57 06.5**	**+0.9**
WTTA	**Wattenberg** comp=Z,0.4nm,0.4s	**143.39**	**332**	*e*P	**PKiKP**	**20 57 09.5**	**+0.4**
MOTA	**Moosalm** comp=Z,0.3nm,0.3s	**143.57**	**333**	*e*P	**PKiKP**	**20 57 08.8**	**-0.6**
FETA	**Feichten** comp=Z,0.7nm,0.6s	**143.98**	**333**	*e*P	**PKPdf**	**20 57 07.7**	**+1.0**

JMA 26 20:38:02.5±0.1, 24°.30N×123°.45E, h47km±1km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.26**	**82**	P	Pn	20 38 10.8	-0.2
IRIF				S	Sn	20 38 17.0	+0.1
HATJ	**Hateruma jima**	**0.41**	**127**	P	Pn	20 38 12.4	0.0
HATJ				S	Sn	20 38 19.2	-0.3
YOJ	**Yonaguni jima**	**0.43**	**292**	P	Pn	20 38 12.8	0.0
YOJ				S	Sn	20 38 20.1	+0.1
JYNG	**Yonagunijimaku**	**0.48**	**288**	P	Pn	20 38 13.4	0.0
JYNG				S	Sn	20 38 20.9	-0.2
JKRS	**Kuro-shima**	**0.51**	**97**	P	Pn	20 38 13.7	0.0
JKRS				S	Sn	20 38 22.6	+0.8
JIJ	**Ishigaki jima**	**0.64**	**84**	P	Pn	20 38 15.2	-0.1
JIJ				S	Sn	20 38 24.4	-0.1
JISG	**Ishigakijimahi**	**0.83**	**70**	P	Pn	20 38 18.0	+0.1
JISG				S	Sn	20 38 29.1	-0.1

IDC ***26*** *21:09:06.3±0.6, 2°.96S×141°.26E, h0km, mb4.0/13, mb1 4.2/18, mb1mx4.0/33, mbtmp4.0/18, ML3.9/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/59, Error ellipse: s-maj=17.5km s-min=8.3km az=49.0*

DJA ***26*** *21:09:08.7±0.3, 3°.5±4°×14°.1E±°, h10km, M4.7/15, mB4.8/3, mb4.6/15, MLv4.8/5, Mw(mB)4.1/3*

NEIC ***26*** *21:09:08.3±1.4, 2°.94S±0°.08×141°.19E±0°.08, h10km±1km, mb4.5/41, Error ellipse: s-maj=17.3km s-min=7.8km az=44.0*

ISC 26 21:09:09.6±0.4, 3°.00S±0°.04×141°.19E±0°.05, h23km, n107, σ1§44/108, mb4.5/36, MS3.2/6, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 287nm,0.3s,baz=146,slow=10.0,SNR=754	**0.68**	**315**	Pg	**Pb**	**21 09 20.4**	**-2.5**
JAY	879nm,0.3s,baz=282,slow=14,SNR=23			Lg	Lg	21 09 29.0	
JAY	**Jayapura**	**0.68**	**315**	P	**Pb**	**21 09 20.3**	**-2.5**
JAY				S	**Sb**	**21 09 28.8**	**-3.0**
GENI	**Genyem**	**1.09**	**291**	P	**Pn**	**21 09 28.1**	**-1.4**
GENI				S	**Sb**	**21 09 41.1**	**-2.6**
WAMI	**Wamena**	**2.62**	**250**	P	**Pn**	**21 09 49.3**	**-1.3**
WAMI				S	**Sb**	**21 10 30.0**	**+2.2**
SRPI	**Serui, Papua**	**5.07**	**283**	P	**Pn**	**21 10 24.4**	**+0.2**
BAKI	**Biak** 76nm,0.8s	**5.38**	**289**	P	**Pn**	**21 10 27.6**	**-1.0**
KMPI	**Kaimana, Papua** 16nm3µm,0.6s	**7.50**	**265**	P	**Pn**	**21 10 57.5**	**-0.2**
PMG	**Port Moresby** 0.9nm,0.3s,baz=294,slow=20,SNR=2.2	**8.71**	**137**	Pn	**Pn**	**21 11 13.5**	**-0.7**
PMG	comp=Z,308nm,21.8s,baz=74,slow=44			LR	LR	21 15 25.9	
PMG	**Port Moresby**	**8.71**	**137**	Pn	**Pn**	**21 11 13.2**	**-1.0**
SIJI	**Sorong** 0.9nm,0.3s,baz=198,slow=22,SNR=2.7	**10.14**	**282**	Pn	**Pn**	**21 11 34.5**	**+0.6**
SIJI	comp=Z,128nm,18.5s,baz=274,slow=40			LR	LR	21 15 59.0	
SWI	**Sorong** 14nm,1.0s	**10.14**	**282**	P	**Pn**	**21 11 33.6**	**-0.4**
COEN	**Coen**	**11.07**	**170**	Pn	**Pn**	**21 11 48.1**	**+1.4**
COEN	**Coen**	**11.07**	**170**	P	**Pn**	**21 11 49.8**	**+3.1**
BNDI	**Bandanaira**	**11.36**	**262**	P	Pn	21 11 58.5	+7.9
KDU	**Kakadu**	**12.93**	**221**	P	**Pn**	**21 12 13.0**	**+1.0**
LBMI	**Labuha** 24nm,1.3s	**13.88**	**279**	P	**Pn**	**21 12 24.7**	**-0.4**
MTN	**Manton Dam**	**13.95**	**225**	Pn	**Pn**	**21 12 25.4**	**-0.7**
MTN	**Manton Dam**	**13.95**	**225**	P	**Pn**	**21 12 26.0**	**-0.1**
TNTI	**Ternate** 18nm,1.0s	**14.31**	**285**	P	**Pn**	**21 12 30.6**	**-0.4**
QIS	**Mount Isa**	**17.52**	**185**	P	**P**	**21 13 14.9**	**+1.3**
KNRA	**Kununurra**	**17.56**	**223**	P	**Pn**	**21 13 13.7**	**+0.6**
KNRA	comp=Z,25nm,0.7s			IAmb	IAmb	21 13 24.9	
KNRA	**Kununurra**	**17.56**	**223**	P	**P**	**21 13 14.4**	**+0.4**
CTA	**Charters Tower** comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=1.6	**17.69**	**164**	P	**Pn**	**21 13 14.3**	**-0.4**
CTA	comp=Z,113nm,19.5s,baz=340,slow=41			LR	LR	21 21 08.8	
WB0	**Warramunga Arr**	**17.94**	**201**		**Pn**	**21 13 17.9**	**+0.1**
WR0	**Warramunga Arr**	**18.07**	**201**		**Pn**	**21 13 19.1**	**-0.2**
SOEI	**Soe**	**18.10**	**247**	P	**Pn**	**21 13 18.5**	**-1.3**
SOEI	comp=Z,29nm,0.8s			IAmb	IAmb	21 13 44.6	
SOEI	**Soe**	**18.10**	**247**	P	**P**	**21 13 25.6**	**+5.5**
WRAB	**Tennant Creek**	**18.11**	**201**	P	**Pn**	**21 13 19.4**	**-0.5**
WRAB	comp=Z,13nm,0.6s			IAmb	IAmb	21 13 32.6	
WRAB	**Tennant Creek**	**18.11**	**201**	P	**Pn**	**21 13 20.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.3s,baz=20,slow=13,SNR=30	**18.12**	**201**	P	**Pn**	**21 13 20.0**	**0.0**
WRA	comp=Z,0.2nm,0.3s,baz=8.9,slow=22,SNR=2.8			S	**Sn**	**21 16 37.7**	**-4.0**
WRA	**Warramunga Arr**	**18.12**	**201**		**Pn**	**21 13 18.6**	**-1.4**
BATI	**Baumata** comp=Z,1.8nm,0.3s,baz=45,slow=14,SNR=2.2	**18.81**	**247**	P	**Pn**	**21 13 29.8**	**+1.3**
MRSI	**Marisa**	**19.54**	**280**	P	**Pn**	**21 13 37.2**	**-0.1**
TOLI2	**Tolitoli** comp=Z,11nm,0.6s	**20.80**	**281**	P	**P**	**21 13 50.0**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,2.5nm,0.6s,baz=50,slow=10,SNR=13	**21.39**	**224**	P	**P**	**21 13 55.9**	**0.0**
FITZ	comp=Z,2.8nm,0.7s,baz=79,slow=16,SNR=3.2			S	**S**	**21 17 49.6**	**-2.8**
FITZ	**Fitzroy Crossi**	**21.39**	**224**	P	**P**	**21 13 55.6**	**-0.2**
KAPI	**Kappang** comp=Z,57nm,19.7s,baz=137,slow=40	**21.47**	**264**	LR	LR	21 23 38.2	
AS31	**Alice Springs**	**21.72**	**198**	P	**P**	**21 13 59.4**	**0.0**
ASAR	**Alice Springs** comp=Z,2.2nm,0.5s,baz=28,slow=10,SNR=42	**21.72**	**198**	P	**P**	**21 13 59.1**	**-0.3**
ASAR	comp=Z,0.4nm,0.7s,baz=13,slow=27,SNR=2.2			S	**S**	**21 17 54.3**	**-4.6**
ASAR	**Alice Springs**	**21.72**	**198**	P	**P**	**21 13 59.3**	**-0.1**
MYLDM	**Lahad Datu**	**24.07**	**290**	P	**P**	**21 14 24.3**	**+0.7**
MYLDM	comp=Z,7.8nm,0.8s			IAmb	IAmb	21 14 48.6	
EIDS	**Eidsvold**	**24.20**	**158**	P	**P**	**21 14 25.5**	**+0.9**
EIDS	comp=Z,9.0nm,0.6s			IAmb	IAmb	21 14 27.5	
KKM	**Kota Kinabalu**	**26.50**	**290**	P	**P**	**21 14 45.1**	**-0.7**
PSA00	**Pilbara Seismi**	**27.77**	**227**	P	**P**	**21 14 59.7**	**+2.7**
PSA00	comp=Z,17nm,1.4s			IAmb	IAmb	21 15 18.9	
STKA	**Stephens Creek** comp=Z,1.4nm,0.7s,baz=4.3,slow=9.2,SNR=3.8	**28.73**	**179**	P	**P**	**21 15 05.0**	**-0.5**
STKA	**Stephens Creek**	**28.73**	**179**	P	**P**	**21 15 05.1**	**-0.4**
ARMA	**Armidale**	**29.01**	**161**	P	**P**	**21 15 08.5**	**+0.4**
ARMA	comp=Z,9.0nm,1.1s			IAmb	IAmb	21 15 35.3	
BBOO	**Buckleboo**	**30.05**	**189**	P	**P**	**21 15 16.4**	**-0.7**
FORT	**Forrest**	**30.29**	**203**	P	**P**	**21 15 19.4**	**+0.1**
DZM	**Mont Dzumac** comp=Z,121nm,18.9s,baz=355,slow=35	**31.00**	**130**	LR	LR	21 27 01.9	
DZM	**Mont Dzumac**	**31.00**	**130**	P	**P**	**21 15 24.8**	**-0.9**
CAN	**Canberra**	**32.97**	**168**	P	**P**	**21 15 43.7**	**+0.8**
MORW	**Morawa**	**35.27**	**220**	P	**P**	**21 16 02.8**	**0.0**
MORW	comp=Z,6.6nm,1.0s			IAmb	IAmb	21 16 06.3	
JHJ	**Hachijo jima 2** comp=Z,53nm,20.3s,baz=288,slow=30	**35.94**	**358**	LR	LR	21 27 15.3	
MJAR	**Matsushiro Arr** comp=Z,0.3nm,0.3s,baz=171,slow=8.6,SNR=1.5	**39.43**	**356**	P	**P**	**21 16 35.8**	**-2.2**
NJ2	**Nanjing**	**40.80**	**330**	*e*P	**P**	**21 16 50.5**	**+1.1**
NJ2	comp=Z,6.0nm,0.5s			pmax	pmax		
JSD	**Sado**	**40.92**	**356**	P	**P**	**21 16 49.6**	**-0.6**
KSAR	**Wonju Array Be**	**42.09**	**344**	P	**P**	**21 16 59.1**	**-0.8**
KSRS	**Korea Array** comp=Z,0.4nm,0.5s,baz=163,slow=8.9,SNR=2.0	**42.09**	**344**	P	**P**	**21 16 58.7**	**-1.2**
KSRS	comp=Z,26nm,20.8s,baz=145,slow=32			LR	LR	21 31 29.6	
PSI	**Prapat** comp=Z,66nm,18.6s,baz=190,slow=38	**42.63**	**277**	LR	LR	21 36 19.9	
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.8s,baz=113,slow=6.9,SNR=6.4	**46.73**	**299**	P	**P**	**21 17 39.6**	**+2.2**
CMAR				LR	LR	21 38 52.4	
CMAR	**Chiang Mai Arr** comp=Z,12nm,19.2s,baz=210,slow=38	**46.73**	**299**	P	**P**	**21 17 37.5**	**+0.1**
BKZ	**Black Stump Fm**	**48.23**	**143**	P	**P**	**21 17 48.6**	**-0.2**
BKZ	comp=Z,9.7nm,1.3s			IAmb	IAmb	21 17 54.5	
MLZ	**Mavora Lakes**	**48.36**	**155**	P	**P**	**21 17 49.3**	**-0.3**
BNX	**BinXian**	**50.05**	**347**	⇑P	**P**	**21 18 02.5**	**0.0**
BNX	comp=Z,21nm,0.9s			pmax	pmax		
BNX	comp=Z,110nm,4.1s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**51.34**	**331**	*e*P	**P**	**21 18 16.3**	**+3.8**
HHC	comp=Z,7.0nm,0.9s			pmax	pmax		
HHC	comp=Z,110nm,5.5s			pmax	pmax		
XLT	**XiLinHaoTe**	**51.84**	**337**	*e*P	**P**	**21 18 17.5**	**+1.4**
XLT				pP	sP	21 18 29.0	+2.8
XLT				sP	pP	21 18 31.3	+7.8
XLT	comp=Z,7.0nm,0.8s			pmax	pmax		
XLT	comp=Z,110nm,4.6s			pmax	pmax		
LZH	**Lanzhou**	**52.22**	**322**	*e*P	**P**	**21 18 22.0**	**+2.8**
LZH				pP	pP	21 18 26.8	+0.4
LZH	comp=Z,19nm,1.3s			pmax	pmax		
KLR	**Kul'dur** comp=Z,1.5nm,0.6s,baz=103,slow=4.8,SNR=5.6	**52.66**	**352**	P	**P**	**21 18 21.6**	**-0.4**
GTA	**Gaotai**	**56.79**	**322**	*e*P	**P**	**21 18 53.8**	**+1.5**
GTA				pP	sP	21 19 04.3	+1.9
GTA				sP	pP	21 19 09.8	+10
GTA	comp=Z,2.0nm,1.2s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.6nm,0.7s,baz=158,slow=6.2,SNR=4.6	**59.06**	**333**	P	**P**	**21 19 09.5**	**+1.4**
SONM	**Songino Array**	**59.06**	**333**	P	**P**	**21 19 08.1**	**+0.1**
YAK	**Yakutsk**	**65.44**	**354**	P	**P**	**21 19 50.7**	**+0.3**
WMQ	**Urumqi**	**66.78**	**321**	*e*P	**P**	**21 20 01.8**	**+2.3**
MK31	**Makanchi Array**	**71.53**	**322**	P	**P**	**21 20 29.2**	**+0.3**
MK31	comp=Z,2.8nm,0.9s			IAmb	IAmb	21 20 34.0	
MKAR	**Makanchi Array** comp=Z,4.0nm,0.9s,baz=101,slow=8.0,SNR=22	**71.53**	**322**	P	**P**	**21 20 30.1**	**+1.2**
MKAR	**Makanchi Array**	**71.53**	**322**	P	**P**	**21 20 29.6**	**+0.8**
MAKZ	**Makanchi**	**71.73**	**322**	P	**P**	**21 20 30.5**	**+0.5**
MAKZ	comp=Z,4.2nm,0.7s			IAmb	IAmb	21 20 35.1	
KDJ	**Kajisay**	**73.09**	**316**	P	**P**	**21 20 38.6**	**+0.2**
KDJ	comp=Z,2.8nm,1.1s			IAmb	IAmb	21 20 44.0	
ZALV	**Zalesovo Beam** comp=Z,2.5nm,0.7s,baz=109,slow=5.5,SNR=11	**73.44**	**329**	P	**P**	**21 20 41.3**	**+1.3**
ZALV	**Zalesovo Beam**	**73.44**	**329**	P	**P**	**21 20 40.9**	**+0.9**
BOOM	**Boomskoye usch**	**74.08**	**316**	P	**P**	**21 20 44.5**	**+0.2**
BOOM	comp=Z,2.5nm,0.8s			IAmb	IAmb	21 20 49.1	
TIXI	**Tiksi**	**74.94**	**356**	P	**P**	**21 20 47.8**	**-0.6**
GAMB	**Gambell**	**75.20**	**20**		**P**	**21 20 50.3**	**+0.2**
GAMB	comp=Z,8.7nm,1.5s			IAmb	IAmb	21 21 13.6	
VNDA	**Vanda** comp=Z,0.8nm,0.7s,baz=328,slow=5.0,SNR=6.9	**75.29**	**175**	P	**P**	**21 20 49.5**	**-0.9**
VNDA	**Vanda**	**75.29**	**175**	P	**P**	**21 20 49.9**	**-0.5**
KKAR	**Karatay Array**	**78.07**	**315**	P	**P**	**21 21 07.2**	**+0.4**
SVW2	**Sparrevohn**	**80.03**	**26**	P	**P**	**21 21 17.2**	**+0.1**
SVW2	comp=Z,5.9nm,1.3s			IAmb	IAmb	21 21 22.0	
KDAK	**Kodiak Island**	**80.11**	**30**	P	**P**	**21 21 17.4**	**-0.2**
N19K	**Bonanza Creek**	**80.40**	**27**	P	**P**	**21 21 19.6**	**+0.3**
N19K	comp=Z,7.6nm,0.9s			IAmb	IAmb	21 21 24.2	
TTA	**Tatalina**	**80.64**	**24**	P	**P**	**21 21 20.9**	**+0.4**
TTA	comp=Z,3.6nm,1.0s			IAmb	IAmb	21 21 21.9	
L19K	**White Mountain**	**80.80**	**25**	P	**P**	**21 21 21.7**	**+0.4**
L19K	comp=Z,4.8nm,0.9s			IAmb	IAmb	21 21 26.9	
BRVK	**Borovoye**	**81.04**	**325**	P	**P**	**21 21 23.1**	**+0.4**
BRVK	comp=Z,3.8nm,0.8s			IAmb	IAmb	21 21 27.6	
K20K	**Telida**	**81.62**	**24**	P	**P**	**21 21 26.3**	**+0.7**
J20K	**Nowinta River**	**81.92**	**24**	P	**P**	**21 21 27.6**	**+0.5**
J20K	comp=Z,5.3nm,0.9s			IAmb	IAmb	21 21 29.1	
IMAR	**Indian Mountai**	**82.82**	**22**	P	**P**	**21 21 32.2**	**+0.4**
ILAR	**Eielson Array** comp=Z,3.2nm,1.0s,baz=262,slow=5.1,SNR=10.0	**85.07**	**24**	P	**P**	**21 21 42.0**	**-1.3**
ILAR	**Eielson Array**	**85.07**	**24**	P	**P**	**21 21 41.4**	**-2.0**
BMAR	**Burnt Mountain**	**86.74**	**22**	P	**P**	**21 21 52.6**	**+1.0**
BCAR	**Beaver Creek A**	**86.80**	**26**	P	**P**	**21 21 52.3**	**+0.4**
QSPA	**South Pole Qui**	**86.95**	**180**	P	**P**	**21 21 52.4**	**-0.4**
Q

JMA 26 21:10:11.8±0.2, 37°.21N×144°.26E, h58km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.47**	**297**	P	Pn	21 10 50.8	+1.2
JIKH				*eS*	Sn	21 11 20.1	+1.5
JIO	**Ouri**	**2.62**	**299**	P	Pn	21 10 52.9	+1.3
JIO				*eS*	Sn	21 11 23.6	+1.4
JFK	**Kawauchi**	**2.70**	**274**	P	Pn	21 10 53.9	+1.0
JFK				S	Sn	21 11 25.5	+1.1
JKMT	**Kesennumamotoy**	**2.72**	**307**	P	Pn	21 10 53.9	+0.9
JKMT				S	Sn	21 11 25.5	+0.8
JMST	**Minamisoumatoc**	**2.73**	**282**	*eS*	Sn	21 11 26.3	+1.3
ONAJ	**Iwakimizuishiy**	**2.77**	**269**	P	Pn	21 10 54.8	+1.1
ONAJ				*eS*	Sn	21 11 27.0	+1.0
JMK	**Ichinoseki**	**2.96**	**307**	P	Pn	21 10 57.9	+1.6
JMK				*eS*	Sn	21 11 32.4	+1.7
JFT	**Otama**	**3.14**	**277**	P	Pn	21 11 01.0	+2.2
JFT				S	Sn	21 11 37.5	+2.4
JOM	**Ohasama**	**3.25**	**315**	P	Pn	21 11 01.7	+1.4
JOM				*eS*	Sn	21 11 38.9	+1.2
JRY	**Ryogami san**	**4.47**	**256**	P	Pn	21 11 18.0	+0.9
JRY				*eS*	Sn	21 12 08.1	+0.3
JOD2	**Odawara 2**	**4.61**	**247**	P	Pn	21 11 20.1	+1.2
JOD2				*eS*	Sn	21 12 10.8	-0.4
JOT	**Ohata**	**4.85**	**330**	P	Pn	21 11 24.6	+2.4
JKB	**Kayabe**	**5.29**	**333**	P	Pn	21 11 29.3	+1.0
JCH	**Churui**	**5.44**	**353**	P	Pn	21 11 29.0	-1.3
JCH				*eS*	Sn	21 12 28.0	-3.5
JHJ2	**Mitsune**	**5.47**	**223**	P	Pn	21 11 29.5	-1.3
NEM2	**Nemuro 2**	**6.25**	**10**	P	Pn	21 11 37.7	-3.6
NEM2				*eS*	Sn	21 12 44.4	-7.0
JTKR	**Abashiri--Toko**	**6.76**	**358**	P	Pn	21 11 47.1	-1.2
JTKR				*eS*	Sn	21 12 59.0	-4.8

IDC 26 21:35:53.3±3.4, 4°.26S×152°.17E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/31, Error ellipse: s-maj=126.7km s-min=47.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.34**	**227**	P	P	21 41 04.2	+0.7
	0.5nm,0.7s,baz=53,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**26.13**	**221**	P	P	21 41 29.4	+0.1
	0.2nm,0.7s,baz=56,slow=9.1,SNR=1.6						
FITZ	**Fitzroy Crossi**	**29.37**	**240**	P	P	21 41 58.5	+0.1
	1.0nm,0.9s,baz=80,slow=11,SNR=1.7						
JHJ	**Hachijo jima 2**	**38.98**	**343**	LR	LR	21 56 48.6	
	comp=Z,44nm,21.2s,baz=114,slow=32						
TORD	**Torodi Ar. Bea**	**149.54**	**289**	PKPbc	PKPbc	21 55 44.6	-1.3
	0.3nm,0.8s,baz=80,slow=2.6,SNR=1.4						

*IDC **26** 21:59:17.2±1.4, 48°.03S×99°.80E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/39, mbtmp3.8/4, MS3.8/26, Ms1 3.8/26, ms1mx3.6/55, Error ellipse: s-maj=52.9km s-min=27.3km az=110.0*

ISC 26 21:59:18.8±1.4, 48°.05S±0°.2×99°.8E±0°.4, h10km, n35, σ0°.79/6, mb3.7/4, MS3.8/26, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.91**	**44**	T	T	22 20 36.2	
	baz=215,slow=74,SNR=26						
H01W1	**Cape Leeuwin H**	**16.92**	**44**	T	T	22 20 35.4	
	baz=215,slow=74,SNR=25						
H01W3	**Cape Leeuwin H**	**16.92**	**44**	T	T	22 20 36.7	
	baz=215,slow=74,SNR=19						
MAW	**Mawson**	**27.09**	**210**	LR	LR	22 13 57.3	
	comp=Z,124nm,18.3s,baz=64,slow=32						
ASAR	**Alice Springs**	**36.33**	**60**	P	**P**	**22 06 22.7**	**-0.1**
	1.4nm,1.0s,baz=210,slow=8.5,SNR=6.4						
ASAR				LR	LR	22 18 34.0	
	comp=Z,135nm,19.3s,baz=170,slow=32						
FITZ	**Fitzroy Crossi**	**36.53**	**44**	LR	LR	22 20 06.9	
	comp=Z,81nm,18.2s,baz=206,slow=34						
VNDA	**Vanda**	**37.62**	**162**	LR	LR	22 20 37.0	
	comp=Z,192nm,19.6s,baz=294,slow=34						
WRA	**Warramunga Arr**	**39.50**	**57**	P	**P**	**22 06 49.7**	**+0.2**
	1.5nm,1.1s,baz=218,slow=9.9,SNR=7.6						
LEM	**Lembang**	**41.60**	**12**	LR	LR	22 21 15.3	
	comp=Z,170nm,18.3s,baz=208,slow=32						
QSPA	**South Pole Qui**	**42.10**	**180**	P	**P**	**22 07 10.6**	**-0.1**
	0.8nm,0.6s,baz=353,slow=16,SNR=6.6						
QSPA				LR	LR	22 22 48.1	
	comp=Z,127nm,19.4s,baz=282,slow=34						
BATI	**Baumata**	**42.71**	**36**	LR	LR	22 24 34.0	
	comp=Z,75nm,18.1s,baz=208,slow=36						
KAPI	**Kappang**	**46.14**	**28**	LR	LR	22 26 58.8	
	comp=Z,44nm,18.3s,baz=188,slow=36						
H08S2	**Diego Garcia H**	**46.45**	**321**	T	T	22 57 03.6	
	baz=158,slow=76,SNR=4.3						
H08S1	**Diego Carcia H**	**46.46**	**321**	T	T	22 57 02.5	
	baz=158						
H08S3	**Diego Garcia H**	**46.47**	**321**	T	T	22 57 01.3	
	baz=158,slow=76,SNR=4.7						
CTA	**Charters Tower**	**46.53**	**70**	LR	LR	22 24 48.7	
	comp=Z,112nm,18.1s,baz=232,slow=33						
SNAA	**Sanae**	**48.95**	**204**	LR	LR	22 26 14.2	
	comp=Z,260nm,19.4s,baz=154,slow=33						
PSI	**Prapat**	**50.63**	**359**	LR	LR	22 27 40.5	
	comp=Z,67nm,18.5s,baz=180,slow=34						
PALK	**Pallekele**	**57.60**	**337**	LR	LR	22 30 05.6	
	comp=Z,63nm,18.9s,baz=261,slow=32						
DZM	**Mont Dzumac**	**58.40**	**89**	LR	LR	22 30 39.0	
	comp=Z,53nm,19.6s,baz=226,slow=32						
BOSA	**Boshof**	**59.32**	**260**	LR	LR	22 29 07.7	
	comp=Z,65nm,19.0s,baz=189,slow=30						
DAV	**Davao City (W)**	**59.38**	**30**	LR	LR	22 38 13.0	
	comp=Z,31nm,18.0s,baz=182,slow=39						
SUR	**Sutherland**	**59.78**	**254**	LR	LR	22 29 39.2	
	comp=Z,92nm,18.4s,baz=154,slow=30						
LBTB	**Lobatse**	**61.49**	**264**	LR	LR	22 31 14.9	
	comp=Z,47nm,18.6s,baz=169,slow=31						
MATP	**Matopo**	**62.70**	**269**	LR	LR	22 30 37.3	
	comp=Z,82nm,20.4s,baz=116,slow=30						
CMAR	**Chiang Mai Arr**	**66.19**	**359**	P	**P**	**22 10 06.5**	**-0.1**
	0.5nm,0.3s,baz=190,slow=4.6,SNR=5.4						
CMAR				LR	LR	22 35 56.9	
	comp=Z,52nm,19.4s,baz=165,slow=33						
LSZ	**Lusaka**	**66.54**	**273**	LR	LR	22 33 10.5	
	comp=Z,52nm,19.2s,baz=150,slow=31						
PMSA	**Palmer Station**	**66.83**	**187**	LR	LR	22 36 59.0	
	comp=Z,90nm,18.4s,baz=104,slow=34						
TSUM	**Tsumeb**	**70.85**	**262**	LR	LR	22 37 24.9	
	comp=Z,79nm,18.1s,baz=156,slow=32						
MBAR	**Mbarara**	**75.68**	**285**	LR	LR	22 40 51.1	
	comp=Z,29nm,18.1s,baz=201,slow=33						
MJAR	**Matsushiro Arr**	**90.91**	**30**	LR	LR	22 51 51.4	
	comp=Z,13nm,18.6s,baz=94,slow=35						
PLCA	**Paso Flores**	**91.20**	**187**	LR	LR	22 52 12.7	
	comp=Z,91nm,18.9s,baz=180,slow=35						
AAK	**Ala-Archa**	**93.02**	**342**	LR	LR	22 54 52.0	
	comp=Z,50nm,18.5s,baz=235,slow=36						
NVAR	**Mina Array Bea**	**150.87**	**95**	PKPbc	**PKPbc**	**22 19 10.5**	**-0.8**
	0.1nm,0.4s,baz=211,slow=5.1,SNR=1.8						
TXAR	**Lajitas Array**	**154.00**	**127**	PKPbc	**PKiKP**	**22 19 19.6**	**+1.1**
	0.2nm,0.6s,baz=172,slow=2.7,SNR=3.4						

IDC 26 22:03:28.3±2.8, 30°.82S×178°.69W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=66.7km s-min=45.4km az=121.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.19**	**204**	Pn	Pn	22 05 28.3	-0.1
	0.1nm,0.3s,baz=306,slow=20,SNR=1.1						
URZ				Sn	Sn	22 06 55.9	-5.8
	0.6nm,0.3s,baz=164,slow=16,SNR=1.8						
ASAR	**Alice Springs**	**42.50**	**268**	P	P	22 11 25.4	-0.2
	0.4nm,0.6s,baz=109,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**43.52**	**273**	P	P	22 11 33.8	-0.1
	0.8nm,0.7s,baz=111,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**145.33**	**339**	PKPbc	PKPbc	22 23 06.3	-0.8
	1.0nm,0.6s,baz=47,slow=3.4,SNR=15						

IDC 26 22:07:03.8±12.0, 21°.60N×143°.18E, h351km±129km, mb2.8/5, mb1 3.1/5, mb1mx2.7/42, mbtmp3.6/5, Error ellipse: s-maj=78.1km s-min=18.6km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.59**	**323**	P	P	22 11 16.9	0.0
	0.6nm,0.5s,baz=144,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**42.19**	**192**	P	P	22 14 23.3	-0.2
	0.6nm,0.6s,baz=11,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**45.89**	**192**	P	P	22 14 52.5	-0.2
	0.3nm,0.7s,baz=16,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	P	22 18 15.7	-0.1
	0.1nm,0.5s,baz=293,slow=5.5,SNR=2.6						
FINES	**FINESS Array B**	**83.26**	**334**	P	P	22 18 51.5	+0.1
	1.4nm,0.9s,baz=42,slow=5.9,SNR=7.4						

*NEIC **26** 22:12:07.1±1.2, 20°.1S±0°.1×177°.6W±0°.2, h502km±6km, mb4.3/27, Error ellipse: s-maj=24.0km s-min=16.0km az=115.0*
*IDC **26** 22:12:08.8±2.3, 20°.13S×177°.68W, h522km±26km, mb3.6/6, mb1 3.8/8, mb1mx3.3/30, mbtmp4.5/8, Error ellipse: s-maj=29.4km s-min=19.9km az=127.0*

ISC 26 22:12:06.9±0.8, 20°.1S±0°.1×177°.7W±0°.1, h500km, n51, σ1s16/52, mb4.4/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.33**	**44**	P	**P**	**22 14 09.7**	**+2.7**
	3.3nm,0.3s,baz=238,slow=20,SNR=3.2						
AFI				S	**S**	**22 15 44.7**	**-0.7**
	6.2nm,0.3s,baz=154,slow=18,SNR=5.7						
AFI	**Afiamalu**	**8.33**	**44**	P	**P**	**22 14 06.7**	**-0.3**
MARNC	**Mare, Loyalty**	**13.44**	**262**	P	**P**	**22 15 01.2**	**+0.3**
DZM	**Mont Dzumac**	**14.96**	**260**	P	**P**	**22 15 21.7**	**+4.9**
	0.5nm,0.3s,baz=126,slow=16,SNR=2.5						
DZM	**Mont Dzumac**	**14.96**	**260**	P	**P**	**22 15 19.6**	**+2.7**
OUZ	**Omahuta**	**16.94**	**205**	P	**P**	**22 15 38.7**	**+1.6**
OUZ				IAmb	IAmb	22 15 56.9	
	comp=Z,19nm,1.4s						
URZ	**Urewera**	**18.68**	**193**	P	**P**	**22 15 53.6**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=280,slow=3.1,SNR=17						
URZ	**Urewera**	**18.68**	**193**	P	**P**	**22 15 52.9**	**-0.4**
URZ				IAmb	IAmb	22 15 56.1	
	comp=Z,12nm,1.1s						
BKZ	**Black Stump Fm**	**19.68**	**194**	P	**P**	**22 16 01.3**	**-1.3**
BKZ				IAmb	IAmb	22 16 08.8	
	comp=Z,3.0nm,0.6s						
BFZ	**Birch Farm**	**21.19**	**193**	P	**P**	**22 16 15.4**	**-0.8**
CTAO	**Charters Tower**	**33.84**	**264**	P	**P**	**22 18 08.1**	**+0.8**
CTAO				IAmb	IAmb	22 18 09.8	
	comp=Z,17nm,1.4s						
COEN	**Coen**	**37.86**	**273**	P	**P**	**22 18 40.7**	**-0.1**
COEN				IAmb	IAmb	22 18 44.5	
	comp=Z,26nm,1.5s						
BBOO	**Buckleboo**	**43.01**	**243**	P	**P**	**22 19 21.3**	**-0.5**
BBOO				IAmb	IAmb	22 19 48.1	
	comp=Z,16nm,1.3s						
JAY	**Jayapura**	**44.20**	**288**	P	**P**	**22 19 32.1**	**+0.8**
	comp=Z,7.3nm,0.5s,baz=172,slow=6.2,SNR=6.2						
WR0	**Warramunga Arr**	**44.77**	**262**	P	**P**	**22 19 34.9**	**-0.7**
WR0				IAmb	IAmb	22 19 38.6	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**44.91**	**256**	P	**P**	**22 19 36.5**	**-0.3**
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**22 19 36.8**	**0.0**
	comp=Z,4.2nm,0.8s,baz=91,slow=7.7,SNR=62						
ASAR				PcP	**PcP**	**22 21 06.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=98,slow=3.8,SNR=4.6						
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**22 19 36.4**	**-0.4**
WB0	**Warramunga Arr**	**44.94**	**262**	P	**P**	**22 19 36.4**	**-0.5**
WB0				IAmb	IAmb	22 19 37.1	
	comp=Z,5.1nm,0.4s						
WB2	**Warramunga Arr**	**44.95**	**262**	P	**P**	**22 19 36.5**	**-0.6**
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**22 19 36.8**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=97,slow=8.0,SNR=123						
WRA				PcP	**PcP**	**22 21 07.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=95,slow=5.1,SNR=2.4						
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**22 19 36.4**	**-0.8**
MTN	**Manton Dam**	**49.46**	**270**	P	**P**	**22 20 10.7**	**-0.5**
MTN				IAmb	IAmb	22 20 11.2	
	comp=Z,5.2nm,0.8s						
FORT	**Forrest**	**49.74**	**246**	P	**P**	**22 20 12.4**	**-0.6**
FORT				IAmb	IAmb	22 20 25.3	
	comp=Z,15nm,1.0s						
KNRA	**Kununurra**	**50.99**	**266**	P	**P**	**22 20 21.9**	**-0.5**
KNRA				IAmb	IAmb	22 20 31.2	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.39**	**262**	P	**P**	**22 20 39.4**	**-0.2**
KKM	**Kota Kinabalu**	**69.95**	**285**	P	**P**	**22 22 27.4**	**-0.7**
KKM				IAmb	IAmb	22 22 28.4	
	comp=Z,13nm,1.0s						
MJAR	**Matsushiro Arr**	**70.05**	**323**	P	**P**	**22 22 27.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=168,slow=5.2,SNR=6.8						
MJAR	**Matsushiro Arr**	**70.05**	**323**	P	**P**	**22 22 27.8**	**-0.4**
MAJO	**Matsushiro**	**70.05**	**323**	P	**P**	**22 22 27.9**	**-0.3**
MAJO				IAmb	IAmb	22 22 33.7	
	comp=Z,9.6nm,1.1s						
MJB9	**Matsu-Tunnel**	**70.06**	**323**	P	**P**	**22 22 27.9**	**-0.4**
MJB9				IAmb	IAmb	22 22 33.6	
	comp=Z,9.1nm,1.1s						
UGM	**Wanagama**	**70.28**	**269**	P	**P**	**22 22 28.9**	**-1.2**
KSM	**Kuching**	**73.66**	**278**	P	**P**	**22 22 49.3**	**-0.4**
KSM				IAmb	IAmb	22 22 51.0	
	comp=Z,15nm,1.1s						
NACB	**Ninganchiao**	**73.69**	**304**	P	**P**	**22 22 48.3**	**-1.3**
SSLB	**Suanglung**	**74.00**	**303**	P	**P**	**22 22 49.9**	**-1.6**
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**22 23 17.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=175,slow=5.4,SNR=4.8						
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**22 23 17.4**	**+0.1**
IPM	**Ipoh**	**83.38**	**277**	P	**P**	**22 23 41.4**	**-0.4**
GAMB	**Gambell**	**83.71**	**3**	P	**P**	**22 23 42.9**	**+0.8**
IMAR	**Indian Mountai**	**87.69**	**10**	P	**P**	**22 24 01.4**	**0.0**
CMAR	**Chiang Mai Arr**	**90.26**	**289**	P	**P**	**22 24 15.2**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=96,slow=3.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**90.26**	**289**	P	**P**	**22 24 14.5**	**0.0**
AKASG	**Malin Array Be**	**142.79**	**332**	PKhKP	PKPpre	22 30 38.4	
	comp=Z,0.8nm,0.4s,baz=41,slow=4.6,SNR=11						
LODK	**Lodwar**	**143.79**	**247**	PKPbc	PKPab	22 30 42.8	-1.9
BR131	**Keskin Array S**	**146.78**	**313**	PKPbc	**PKPdf**	**22 30 51.7**	**+1.4**
BRTR	**Keskin Array B**	**146.78**	**313**	PKPbc	**PKPdf**	**22 30 51.9**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=137,slow=5.0,SNR=8.8						
BRTR	**Keskin Array B**	**146.78**	**313**		**PKPdf**	**22 30 51.7**	**+1.4**
BUR08	**Bucovina Ar. S**	**146.83**	**331**	PKPbc	**PKPbc**	**22 30 53.0**	**+0.2**
BURAR	**Bucovina Array**	**146.84**	**331**	PKPbc	**PKPbc**	**22 30 52.6**	**-0.2**
CLL	**Collm**	**147.72**	**347**	PKPbc	**PKPbc**	**22 30 54.3**	**-0.5**
GERES	**GERESS Array B**	**149.87**	**345**	PKPbc	**PKPbc**	**22 30 59.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=2.9,slow=2.7,SNR=6.5						

*GUC **26** 22:25:21.2±0.7, 21°.40S×68°.42W, h121km±4km, ML3.5*
*IDC **26** 22:25:23.1±7.4, 21°.27S×68°.17W, h133km±54km, mb3.6/2, mb1 3.7/3, mb1mx3.3/16, mbtmp3.9/3, Error ellipse: s-maj=65.4km s-min=46.9km az=29.0*

ISC 26 22:25:21.3±1.0, 21°.38S±0°.04×68°.53W±0°.09, h126km±8km, n21, σ0°.54/35, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.78**	**238**	⇑*iP*	**Pn**	**22 25 42.2**	**+0.1**
PB09				*i* S	**Sn**	**22 25 58.3**	**+0.5**
PB09				IAML		22 25 59.0	
	comp=N,428nm,0.3s						
PB01	**IPOC Station P**	**0.96**	**291**	⇑*iP*	**Pn**	**22 25 43.1**	**-0.4**
PB01				*i* S	**Sn**	**22 25 59.9**	**-0.5**
PB01				IAML		22 26 03.0	
	comp=N,789nm,0.4s						
LVC	**Limon Verde**	**1.27**	**196**	*eP*	**Pn**	**22 25 46.1**	**-0.8**
LVC				*i* S	**Sn**	**22 26 06.2**	**-0.3**
PB02	**IPOC Station P**	**1.28**	**273**	⇑*iP*	**Pn**	**22 25 46.6**	**-0.1**
PB02				*i* S	**Sn**	**22 26 06.5**	**+0.4**
PB02				IAML		22 26 07.8	
	comp=E,968nm,0.6s						
PB07	**IPOC Station P**	**1.31**	**255**	⇑*iP*	**Pn**	**22 25 47.1**	**-0.1**
PB07				*i* S	**Sn**	**22 26 07.1**	**+0.3**
PB07				IAML		22 26 08.2	
	comp=E,656nm,0.5s						
PB08	**IPOC Station P**	**1.37**	**334**	⇑*iP*	**Pn**	**22 25 48.3**	**+0.3**
PB08				*i* S	**Sn**	**22 26 08.7**	**+0.4**
PB08				IAML		22 26 11.7	
	comp=N,569nm,0.6s						
PB06	**IPOC Station P**	**1.64**	**216**	⇑*iP*	**Pn**	**22 25 50.7**	**-0.1**
PB06				*i* S	**Sn**	**22 26 13.8**	**+0.5**
PB06				IAML		22 26 15.4	
	comp=E,280nm,0.3s						
TA01	**Diego Aracena**	**1.75**	**297**	⇑*iP*	**Pn**	**22 25 51.8**	**-0.2**
TA01				*i* S	**Sn**	**22 26 15.3**	**-0.1**
TA01				IAML		22 26 17.1	
	comp=E,902nm,0.2s						
PB04	**IPOC Station P**	**1.78**	**238**	⇑*iP*	**Pn**	**22 25 52.2**	**-0.3**
PB04				*i* S	**Sn**	**22 26 16.8**	**+0.4**
PB04				IAML		22 26 25.6	
	comp=N,323nm,0.1s						
GO01	**Chusmiza**	**1.82**	**340**	*eP*	**Pn**	**22 25 53.5**	**+0.2**
GO01				*i* S	**Sn**	**22 26 17.9**	**+0.2**
GO01				IAML		22 26 20.7	
	comp=N,505nm,0.4s						
TA02	**Huaiquique**	**1.87**	**306**	*eP*	**Pn**	**22 25 52.7**	**-0.6**
TA02				*i* S	**Sn**	**22 26 18.2**	**+0.3**
TA02				IAML		22 26 19.3	
	comp=N,662nm,0.1s						
PB11	**IPOC Station P**	**1.93**	**327**	⇑*iP*	**Pn**	**22 25 53.9**	**-0.5**
PB11				*i* S	**Sn**	**22 26 19.6**	**-0.1**
PB11				IAML		22 26 21.7	
	comp=E,512nm,0.3s						
PB15	**IPOC Station P**	**2.02**	**206**	⇑*iP*	**Pn**	**22 25 55.4**	**-0.1**
PB15				*i* S	**Sn**	**22 26 22.0**	**+0.4**
PB10	**IPOC Station P**	**2.83**	**221**	*eP*	**Pn**	**22 26 05.3**	**-0.2**
PB10				IAML		22 26 51.6	
	comp=E,57nm,0.8s						
PB16	**IPOC Station P**	**3.17**	**343**	*eP*	**Pn**	**22 26 10.9**	**+0.3**
PB12	**IPOC Station P**	**3.23**	**328**	*eP*	**Pn**	**22 26 09.7**	**-1.3**
PB12				IAML		22 26 59.8	
	comp=N,124nm,0.3s						
LPAZ	**La Paz**	**5.08**	**4**	P	**Pn**	**22 26 36.8**	**+0.8**
	comp=N,0.7nm,0.3s,baz=172,slow=4.6,SNR=12						
LPAZ				S	**Sn**	**22 27 33.2**	**-0.9**
	comp=N,0.2nm,0.3s,baz=229,slow=19,SNR=1.5						
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P	**P**	**22 36 59.4**	**-1.2**
	comp=N,1.0nm,0.8s,baz=253,slow=5.5,SNR=8.9						
YKA	**Yellowknife Ar**	**91.20**	**340**	P	**P**	**22 38 12.2**	**+0.7**
	comp=N,0.5nm,0.4s,baz=134,slow=4.5,SNR=19						
WRA	**Warramunga Arr**	**133.23**	**210**	PKP	**PKPdf**	**22 44 23.5**	**+0.4**
	comp=N,0.2nm,0.6s,baz=149,slow=1.6,SNR=4.9						
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPdf**	**22 44 44.8**	**+0.6**
	comp=N,0.6nm,0.7s,baz=317,slow=2.9,SNR=8.3						

*IDC **26** 23:13:10.2±1.9, 7°.43S×128°.93E, h143km±19km, mb3.7/6, mb1 3.9/11, mb1mx3.6/29, mbtmp4.3/11, Error ellipse: s-maj=21.1km s-min=15.9km az=101.0*
*DJA **26** 23:13:12.5±0.2, 7°.5±2°×12°.9E±°, h152km±4km, M4.6/22, mB5.4/10, mb4.3/22, MLv4.6/12, Mw(mB)4.8/10*
*NEIC **26** 23:13:12±1.4, 7°.34S±0°.08×128°.87E±0°.08, h149km±1km, mb4.2/25, Error ellipse: s-maj=11.8km s-min=10.6km az=222.0*

ISC 26 23:13:11.6±0.4, 7°.36S±0°.05×128°.80E±0°.05, h150km, n94, σ1s15/98, mb4.2/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.55**	**104**		**Pn**	**23 13 54.3**	**+0.9**
SAUI					Sn	**23 14 25.5**	**-0.1**
SAUI	**Saumlaki**	**2.55**	**104**	P	**Pn**	**23 13 54.4**	**+1.0**
SAUI					S	**Sn**	**23 14 26.1**	**+0.5**
SAUI	**Saumlaki**	**2.55**	**104**	P	**Pn**	**23 13 55.6**	**+2.2**
BNDI	**Bandanaira**	**3.02**	**21**	P	**Pn**	**23 14 00.9**	**+1.6**
AAI	**Ambon**	**3.70**	**351**	P	**Pn**	**23 14 09.6**	**+1.6**
MSAI	**Masohi**	**3.99**	**2**	P	**Pn**	**23 14 13.8**	**+2.0**
SOEI	**Soe**	**5.08**	**242**		**Pn**	**23 14 27.5**	**+1.2**
SOEI	**Soe**	**5.08**	**242**	P	**Pn**	**23 14 27.8**	**+1.5**
	1.0nm4µm209nm,0.5s						
SOEI	**Soe**	**5.08**	**242**	P	**Pn**	**23 14 28.1**	**+1.8**
BATI	**Baumata**	**5.82**	**241**	P	**Pn**	**23 14 37.0**	**+1.1**
	73nm,0.3s,baz=115,slow=1.4,SNR=71						
BATI				S	**Sn**	**23 15 41.7**	**-0.2**
	34nm,0.3s,baz=316,slow=22,SNR=4.8						
BATI	**Baumata**	**5.82**	**241**	P	**Pn**	**23 14 36.9**	**+0.9**
	0.6nm3µm180nm,0.8s						
MTN	**Manton Dam**	**5.91**	**157**		**Pn**	**23 14 36.8**	**-0.4**
MTN	**Manton Dam**	**5.91**	**157**	P	**Pn**	**23 14 37.2**	**0.0**
KDU	**Kakadu**	**6.41**	**146**	P	**Pn**	**23 14 43.3**	**-0.5**
BBSI	**Bau Bau**	**6.47**	**286**	P	**Pn**	**23 14 45.8**	**+1.2**
	0.0nm8.1nm,0.7s						
MMRI	**Maumere**	**6.63**	**259**		**Pn**	**23 14 47.6**	**+0.8**
MMRI	**Maumere**	**6.63**	**259**	P	**Pn**	**23 14 48.3**	**+1.5**
	0.3nm57nm,1.0s						
MMRI	**Maumere**	**6.63**	**259**	P	**Pn**	**23 14 48.6**	**+1.8**
LBMI	**Labuha**	**6.80**	**349**	P	**Pn**	**23 14 50.8**	**+1.7**
	0.2nm1µm15

GUN	**Gumba**	**54.30**	**312**	*eP*		**P**		**23 22 23.0**	**-0.1**
	comp=Z,111nm,0.6s								
PKI	**Pulchoki**	**54.46**	**311**	*eP*		**P**		**23 22 23.9**	**-0.4**
GKN	**Gorkha**	**55.27**	**311**	*eP*		**P**		**23 22 29.8**	**-0.1**
	comp=Z,8.0nm,0.4s								
KOLN	**Koldanda**	**55.92**	**311**	*eP*		**P**		**23 22 34.6**	**0.0**
PYUN	**Piuthan**	**56.56**	**311**	*eP*		**P**		**23 22 39.2**	**+0.1**
	comp=Z,9.4nm,0.6s								
SONM	**Songino Array**	**58.41**	**342**	P		**P**		**23 22 51.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=160,slow=6.9,SNR=8.5								
SONM	**Songino Array**	**58.41**	**342**	P		**P**		**23 22 51.6**	**+0.1**
PEA0B	**Petropavlovsk-**	**65.04**	**19**	P		**P**		**23 23 36.0**	**+0.3**
PETK	**Petropavlovsk-**	**65.04**	**19**	P		**P**		**23 23 35.3**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=196,slow=3.5,SNR=5.4								
PETK	**Petropavlovsk-**	**65.04**	**19**	P		**P**		**23 23 35.0**	**-0.6**
KSH	**Kashi**	**67.49**	**318**	P		**P**		**23 23 52.5**	**+0.8**
KSH				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**	**67.88**	**327**	P		**P**		**23 23 54.1**	**+0.2**
MK31				IAmb	IAmb			23 23 55.4	
	comp=Z,1.9nm,0.5s								
MKAR	**Makanchi Array**	**67.88**	**327**	P		**P**		**23 23 54.3**	**+0.4**
	comp=Z,3.4nm,0.4s,baz=127,slow=7.3,SNR=48								
MKAR	**Makanchi Array**	**67.88**	**327**	P		**P**		**23 23 54.2**	**+0.3**
MAKZ	**Makanchi**	**68.06**	**327**	P		**P**		**23 23 55.1**	**+0.1**
MAKZ				IAmb	IAmb			23 23 56.3	
	comp=Z,2.1nm,0.5s								
KDJ	**Kajisay**	**68.10**	**321**	P		**P**		**23 23 55.6**	**0.0**
BOOM	**Boomskoye usch**	**69.07**	**321**	P		**P**		**23 24 01.7**	**+0.1**
BOOM				IAmb	IAmb			23 24 03.3	
	comp=Z,1.9nm,0.8s								
AAK	**Ala-Archa**	**70.05**	**320**	P		**P**		**23 24 08.5**	**+0.9**
AAK				IAmb	IAmb			23 24 09.6	
	comp=Z,2.6nm,0.8s								
GAR	**Garm**	**71.08**	**315**	P		**P**		**23 24 14.0**	**+0.1**
BTK	**Batken**	**71.22**	**317**	P		**P**		**23 24 15.1**	**+0.5**
BTK				IAmb	IAmb			23 24 16.9	
	comp=Z,4.4nm,1.4s								
ZAA0	**Zalesovo Array**	**71.38**	**334**	P		**P**		**23 24 14.0**	**-1.2**
ZALV	**Zalesovo Beam**	**71.38**	**334**	P		**P**		**23 24 14.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=136,slow=5.5,SNR=7.9								
ZALV	**Zalesovo Beam**	**71.38**	**334**	P		**P**		**23 24 14.0**	**-1.2**
KURK	**Kurchatov**	**72.21**	**329**	P		**P**		**23 24 20.2**	**+0.1**
KURK				IAmb	IAmb			23 24 21.7	
	comp=Z,4.4nm,0.8s								
KKAR	**Karatay Array**	**72.83**	**319**	P		**P**		**23 24 23.8**	**-0.3**
TIXI	**Tiksi**	**78.84**	**0**	P		**P**		**23 24 57.0**	**-0.5**
TIXI				IAmb	IAmb			23 24 57.6	
	comp=Z,2.9nm,0.5s								
ABKAR	**Akbulak array**	**82.05**	**322**	P		**P**		**23 25 14.9**	**-0.2**
ABKAR	**Akbulak array**	**82.05**	**322**	P		**P**		**23 25 14.9**	**-0.2**
QSPA	**South Pole Qui**	**82.62**	**180**	P		**P**		**23 25 18.1**	**+0.1**
QSPA				IAmb	IAmb			23 25 29.2	
	comp=Z,10nm,1.4s								
RAYN	**Ar Rayn**	**86.81**	**294**	P		**P**		**23 25 39.4**	**-0.3**
PDAR	**Pinedale Array**	**117.98**	**45**	PKP		**PKPdf**		**23 31 39.6**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=180,slow=1.5,SNR=1.8								
TORD	**Torodi Ar. Bea**	**127.71**	**281**	PKP		**PKPdf**		**23 32 00.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=81,slow=1.8,SNR=4.9								
TORD	**Torodi Ar. Bea**	**127.71**	**281**			**PKPdf**		**23 32 00.6**	**+0.3**
CPUP	**Villa Florida**	**145.99**	**170**	PKPbc		**PKPdf**		**23 32 33.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=164,slow=6.0,SNR=4.4								
CPUP	**Villa Florida**	**145.99**	**170**			**PKPbc**		**23 32 34.7**	**+0.1**

*IDC **26** 23:30:20.8±9.5, 12°.53S×166°.87E, h356km±118km, mb3.1/6, mb1 3.3/7, mb1mx3.1/27, mbtmp3.7/7, Error ellipse: s-maj=97.9km s-min=27.0km az=159.0*

ISC 26 23:30:08.0±1.0, 12°.02S±0°.10×166°.8E±0°.2, h220km, n7, σ0s85/8, mb3.3/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**10.00**	**182**	P		**P**	**23 32 33.2**	**-1.0**
	0.9nm,0.3s,baz=122,slow=23,SNR=13							
DZM				S		**S**	**23 34 20.7**	**+1.2**
	0.1nm,0.3s,baz=232,slow=22,SNR=1.1							
WRA	**Warramunga Arr**	**32.18**	**252**	P		**P**	**23 36 15.0**	**-0.5**
	0.5nm,0.7s,baz=81,slow=8.8,SNR=4.7							
ASAR	**Alice Springs**	**33.34**	**245**	P		**P**	**23 36 25.5**	**-0.1**
	0.5nm,0.6s,baz=74,slow=9.8,SNR=7.0							
SONM	**Songino Array**	**80.08**	**323**	P		**P**	**23 41 53.6**	**+0.2**
	0.3nm,0.8s,baz=138,slow=8.9,SNR=2.9							
ILAR	**Eielson Array**	**84.09**	**18**	P		**P**	**23 42 14.2**	**+0.4**
	0.8nm,0.7s,baz=244,slow=4.9,SNR=13							
MKAR	**Makanchi Array**	**94.96**	**317**	P		**P**	**23 43 06.2**	**+0.7**
	0.4nm,0.6s,baz=89,slow=7.0,SNR=4.9							
YKA	**Yellowknife Ar**	**95.34**	**27**	P		**P**	**23 43 06.2**	**-0.5**
	0.1nm,0.4s,baz=262,slow=4.7,SNR=2.2							

*WEL **26** 23:30:57.6±0.3, 40°.5S×174°.5E±1°, h19km±3km, M3.6/40, ML3.8/41, MLv3.6/40, Error ellipse: s-maj=0.0km s-min=0.0km az=77.1*
*NOU **26** 23:30:58.9, 40°.15S×174°.83E, h75km, MLv4.0/10, Cook Strait, New Zealand*

ISC 26 23:30:58.5±1.0, 40°.13S±0°.02×174°.84E±0°.03, h27km±9km, n135, σ0s88/153, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OHWZ	**Ohakea**	**0.37**	**102**	P		**Pb**	**23 31 06.6**	**-0.1**
OHWZ				S		**Sb**	**23 31 13.2**	**+0.9**
WAZ	**Wanganui**	**0.39**	**17**	P		**Pb**	**23 31 07.1**	**0.0**
WAZ				S		**Sb**	**23 31 13.3**	**+0.4**
OGWZ	**Otaki Gorge**	**0.73**	**160**	P		**Pb**	**23 31 12.2**	**-0.5**
OGWZ				S		**Sb**	**23 31 22.0**	**-0.4**
KIW	**Kapiti Island**	**0.73**	**176**	P		**Pb**	**23 31 12.0**	**-0.7**
KIW				S		**Sb**	**23 31 21.3**	**-1.1**
LREZ	**Lake Rotokare**	**0.75**	**333**	P		**Pb**	**23 31 13.2**	**+0.3**
LREZ				S		**Sn**	**23 31 24.8**	**+1.2**
POWZ	**Post Office Ro**	**0.76**	**111**	P		**Pb**	**23 31 12.8**	**-0.3**
POWZ				S		**Sb**	**23 31 23.3**	**+0.2**
MRZ	**Mangatainoka R**	**0.78**	**134**	P		**Pb**	**23 31 13.1**	**-0.3**
MRZ				S		**Sb**	**23 31 23.9**	**+0.3**
TSZ	**Takapari Road**	**0.86**	**86**	P		**Pb**	**23 31 14.2**	**-0.7**
TSZ				S		**Sb**	**23 31 25.6**	**-0.5**
MTVZ	**Mangateitei**	**0.89**	**33**	P		**Pb**	**23 31 13.9**	**-1.5**
MTVZ				S		**Sb**	**23 31 27.2**	**+0.4**
HOWZ	**Holdsworth Sta**	**0.92**	**146**	P		**Pn**	**23 31 15.3**	**-0.5**
HOWZ				S		**Sb**	**23 31 27.9**	**+0.1**
PKVZ	**Pokaka**	**0.92**	**25**	P		**Pb**	**23 31 14.5**	**-1.5**
PRWZ	**Pori Road**	**0.96**	**117**	P		**Pn**	**23 31 16.5**	**+0.2**
DUWZ	**D'Urville Isla**	**0.97**	**226**	P		**Pn**	**23 31 15.5**	**-0.9**
WNVZ	**Wahianoa**	**0.99**	**36**	P		**Pn**	**23 31 15.5**	**-1.2**
TRVZ	**Turoa**	**0.99**	**34**	P		**Pn**	**23 31 15.5**	**-1.3**
CAW	**Cannon Point**	**0.99**	**170**	P		**Pn**	**23 31 16.1**	**-0.6**
CAW				S		**Sb**	**23 31 29.2**	**-0.6**
VRZ	**Vera Road**	**1.00**	**356**	P		**Pn**	**23 31 16.5**	**-0.2**
VRZ				S		**Sn**	**23 31 30.8**	**+0.8**
MOVZ	**Moawhango**	**1.01**	**45**	P		**Pn**	**23 31 15.5**	**-1.4**
MOVZ				S		**Sb**	**23 31 28.8**	**-1.5**
DRZ	**Dome Shelter**	**1.02**	**33**	P		**Pn**	**23 31 16.2**	**-1.1**
WHVZ	**Whangaehu Hut**	**1.02**	**35**	P		**Pn**	**23 31 16.0**	**-1.2**
TIWZ	**Tintock**	**1.03**	**129**	P		**Pn**	**23 31 17.4**	**+0.3**
TIWZ				S		**Sn**	**23 31 32.2**	**+1.6**
DVHZ	**Dannevirke**	**1.03**	**100**	P		**Pn**	**23 31 17.3**	**+0.1**
DVHZ				S		**Sn**	**23 31 31.6**	**+1.0**
NMEZ	**Namu Road**	**1.03**	**314**	P		**Pn**	**23 31 17.6**	**+0.4**
FWVZ	**Far West T-bar**	**1.03**	**32**	P		**Pn**	**23 31 16.1**	**-1.3**
FWVZ				S		**Sb**	**23 31 29.8**	**-1.2**
NEZ	**North Egmont**	**1.03**	**326**	P		**Pn**	**23 31 17.5**	**+0.2**
KHEZ	**Kahui Hut**	**1.05**	**322**	P		**Pn**	**23 31 18.0**	**+0.5**
KHEZ				S		**Sn**	**23 31 33.1**	**+1.9**
DREZ	**Durham Road**	**1.06**	**332**	P		**Pn**	**23 31 18.0**	**+0.4**
TUVZ	**Tukino**	**1.06**	**36**	P		**Pn**	**23 31 16.8**	**-0.9**
TUVZ				S		**Sb**	**23 31 31.6**	**-0.3**
PNHZ	**Pukenui**	**1.06**	**79**	P		**Pn**	**23 31 17.1**	**-0.5**
NGZ	**Ngauruhoe**	**1.12**	**32**	P		**Pn**	**23 31 17.4**	**-1.1**
MHEZ	**Mangahewa**	**1.12**	**339**	P		**Pn**	**23 31 19.1**	**+0.7**
SNVZ	**South Ngauruho**	**1.12**	**34**	P		**Pn**	**23 31 17.7**	**-0.9**
BHHZ	**Black Hill Sta**	**1.14**	**56**	P		**Pn**	**23 31 17.3**	**-1.4**
NBEZ	**Newall Road No**	**1.14**	**319**	P		**Pn**	**23 31 19.3**	**+0.7**
PKE	**Pukeiti**	**1.14**	**324**	P		**Pn**	**23 31 16.6**	**-2.1**
MTW	**Mount Morrison**	**1.15**	**154**	P		**Pn**	**23 31 18.5**	**-0.2**
TWVZ	**Taurewa**	**1.15**	**24**	P		**Pn**	**23 31 17.6**	**-1.3**
OTVZ	**Oturere**	**1.16**	**34**	P		**Pn**	**23 31 18.1**	**-0.9**
WEL	**Wellington**	**1.16**	**183**	P		**Pn**	**23 31 18.7**	**-0.2**
NNVZ	**North Ngauruho**	**1.16**	**31**	P		**Pn**	**23 31 17.9**	**-1.2**
TCW	**Tory Channel**	**1.16**	**201**	P		**Pn**	**23 31 18.1**	**-0.9**
WTVZ	**West Tongariro**	**1.17**	**30**	P		**Pn**	**23 31 17.9**	**-1.2**
SNZO	**South Karori**	**1.19**	**185**	P		**Pn**	**23 31 19.2**	**-0.1**
ETVZ	**East Tongariro**	**1.20**	**34**	P		**Pn**	**23 31 18.5**	**-1.0**
KRVZ	**Karewarewa**	**1.20**	**31**	P		**Pn**	**23 31 18.5**	**-1.1**
BFZ	**Birch Farm**	**1.21**	**118**	P		**Pn**	**23 31 19.4**	**-0.2**
BFZ	**Birch Farm**	**1.21**	**118**	P		**Pn**	**23 31 20.2**	**+0.6**
TMVZ	**Te Maari**	**1.21**	**34**	P		**Pn**	**23 31 18.8**	**-1.0**
NTVZ	**North Tongarir**	**1.21**	**32**	P		**Pn**	**23 31 18.8**	**-1.0**
WPHZ	**Waipukurau**	**1.23**	**88**	P		**Pn**	**23 31 20.5**	**+0.6**
TMWZ	**Te Maipa**	**1.26**	**141**	P		**Pn**	**23 31 20.2**	**-0.2**
KRHZ	**Kereru**	**1.27**	**68**	P		**Pn**	**23 31 20.4**	**-0.1**
BHW	**Baring Head**	**1.28**	**179**	P		**Pn**	**23 31 20.5**	**-0.1**
CPWZ	**Castlepoint**	**1.30**	**127**	P		**Pb**	**23 31 22.4**	**+0.1**
MSWZ	**Moikau Station**	**1.32**	**167**	P		**Pn**	**23 31 21.6**	**+0.4**
KATZ	**Kakaramea**	**1.33**	**30**	P		**Pn**	**23 31 20.5**	**-0.8**
PAWZ	**Paruwai Farm**	**1.33**	**161**	P		**Pn**	**23 31 21.8**	**+0.5**
PRHZ	**Porangahau**	**1.38**	**96**	P		**Pn**	**23 31 22.0**	**0.0**
RITZ	**Rihia Road**	**1.39**	**35**	P		**Pn**	**23 31 22.1**	**-0.1**
KWHZ	**Kaweka Forest**	**1.41**	**61**	P		**Pn**	**23 31 22.1**	**-0.3**
TRWZ	**Traveller**	**1.42**	**153**	P		**Pn**	**23 31 23.5**	**+0.9**
RATZ	**Rangitukua**	**1.45**	**30**	P		**Pn**	**23 31 23.0**	**0.0**
TUWZ	**Tuamarina**	**1.47**	**207**	P		**Pn**	**23 31 22.3**	**-0.9**
PLWZ	**Palliser**	**1.47**	**168**	P		**Pn**	**23 31 23.8**	**+0.6**
PXZ	**Pawanui**	**1.55**	**87**	P		**Pn**	**23 31 24.2**	**-0.1**
NNZ	**Nelson**	**1.56**	**225**	P		**Pn**	**23 31 23.3**	**-1.0**
HATZ	**Hinemaiaia**	**1.57**	**38**	P		**Pn**	**23 31 24.4**	**-0.2**
WATZ	**Wairara**	**1.58**	**26**	P		**Pn**	**23 31 25.3**	**+0.6**
MCHZ	**McNeill Hill**	**1.58**	**65**	P		**Pb**	**23 31 26.4**	**-0.7**
BKZ	**Black Stump Fm**	**1.60**	**54**	P		**Pn**	**23 31 25.5**	**+0.5**
BKZ	**Black Stump Fm**	**1.60**	**54**	P		**Pn**	**23 31 26.3**	**+1.3**
KAHZ	**Kahuranaki**	**1.60**	**79**	P		**Pn**	**23 31 25.5**	**+0.5**
HIZ	**Hauiti**	**1.61**	**0**	P		**Pn**	**23 31 25.1**	**-0.1**
HIZ	**Hauiti**	**1.61**	**0**	P		**Pn**	**23 31 25.6**	**+0.4**
CMWZ	**Cape Campbell**	**1.69**	**196**	P		**Pb**	**23 31 28.0**	**-0.9**
TKNZ	**Takaka Hill**	**1.69**	**237**	P		**Pn**	**23 31 26.6**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.75**	**204**	P		**Pn**	**23 31 27.7**	**+0.8**
MRHZ	**Matea Rd**	**1.78**	**44**	P		**Pn**	**23 31 27.9**	**+0.5**
NMHZ	**Naumai**	**1.83**	**56**	P		**Pn**	**23 31 29.6**	**+1.3**
ARHZ	**Aropaoanui**	**1.87**	**63**	P		**Pn**	**23 31 29.6**	**+0.9**
TLZ	**Tolley Road**	**1.88**	**17**	P		**Pn**	**23 31 27.7**	**-1.1**
QRZ	**Quartz Range**	**1.90**	**248**	P		**Pn**	**23 31 28.9**	**-0.1**
QRZ	**Quartz Range**	**1.90**	**248**	P		**Pn**	**23 31 29.1**	**+0.1**
ALRZ	**Allen Road**	**1.95**	**37**	P		**Pn**	**23 31 29.6**	**-0.2**
MTHZ	**Maungataniwha**	**2.00**	**51**	P		**Pn**	**23 31 30.5**	**0.0**
PRRZ	**Plateau Road**	**2.02**	**37**	P		**Pn**	**23 31 30.7**	**-0.1**
MRNZ	**Matariki Terra**	**2.03**	**231**	P		**Pn**	**23 31 31.5**	**+0.7**
GRRZ	**Galatos Road**	**2.03**	**29**	P		**Pb**	**23 31 33.9**	**-0.8**
HRRZ	**Handcock Road**	**2.07**	**33**	P		**Pn**	**23 31 32.3**	**+0.8**
RAHZ	**Arahi**	**2.12**	**56**	P		**Pn**	**23 31 32.8**	**+0.7**
WHHZ	**Waihua**	**2.13**	**61**	P		**Pn**	**23 31 32.7**	**+0.5**
THZ	**Tophouse**	**2.19**	**221**	P		**Pn**	**23 31 33.9**	**+0.6**
RRRZ	**Republican Roa**	**2.21**	**37**	P		**Pn**	**23 31 33.4**	**0.0**
HLRZ	**Highlands Stat**	**2.21**	**33**	P		**Pb**	**23 31 36.3**	**-1.5**
MUGZ	**Murupara**	**2.23**	**43**	P		**Pn**	**23 31 34.4**	**+0.8**
RTZ	**Ruatahuna**	**2.24**	**48**	P		**Pn**	**23 31 33.7**	**-0.2**
TARZ	**Mount Tarawera**	**2.29**	**35**	P		**Pn**	**23 31 35.3**	**+0.7**
OMRZ	**Omania**	**2.34**	**31**	P		**Pn**	**23 31 37.4**	**+2.2**
MKRZ	**Makatiti**	**2.35**	**33**	P		**Pn**	**23 31 37.8**	**+2.4**
SNGZ	**Shannon Statio**	**2.36**	**56**	P		**Pn**	**23 31 36.1**	**+0.7**
KHZ	**Kahutara**	**2.49**	**203**	P		**Pn**	**23 31 37.1**	**0.0**
KHZ	**Kahutara**	**2.49**	**203**	P		**Pn**	**23 31 37.1**	**0.0**
MHGZ	**Mahia Peninsul**	**2.56**	**69**	P		**Pn**	**23 31 38.1**	**-0.1**
URZ	**Urewera**	**2.57**	**44**	P		**Pn**	**23 31 37.6**	**-0.6**
URZ	**Urewera**	**2.57**	**44**	P		**Pn**	**23 31 37.8**	**-0.5**
RAGZ	**Rawiri**	**2.58**	**52**	P		**Pn**	**23 31 40.0**	**+1.5**
TGRZ	**Tauranga**	**2.64**	**25**	P		**Pn**	**23 31 41.9**	**+2.6**
OPRZ	**Ohinepanea**	**2.64**	**31**	P		**Pn**	**23 31 40.9**	**+1.6**
MWZ	**Matawai**	**2.75**	**50**	P		**Pn**	**23 31 40.9**	**+0.1**
DSZ	**Denniston Nort**	**2.81**	**230**	P		**Pn**	**23 31 42.0**	**+0.4**
TKGZ	**Te Karaka**	**2.88**	**55**	P		**Pn**	**23 31 42.3**	**+0.3**
MKAZ	**Moumakai**	**3.03**	**5**	P		**Pn**	**23 31 44.0**	**-0.6**
AWAZ	**Awhitu Peninsu**	**3.06**	**357**	P		**Pn**	**23 31 45.5**	**+0.4**
RUGZ	**Raukumara Rang**	**3.09**	**47**	P		**Pn**	**23 31 45.0**	**-0.6**
TWGZ	**Tauwhareparae**	**3.12**	**52**	P		**Pn**	**23 31 46.2**	**+0.2**
GVZ	**Greta Valley S**	**3.14**	**205**	P		**Pn**	**23 31 45.5**	**-0.7**
ETAZ	**East Tamaki Re**	**3.17**	**1**	P		**Pn**	**23 31 46.6**	**+0.1**
LTZ	**Lake Taylor**	**3.28**	**215**	P		**Pn**	**23 31 47.9**	**-0.2**
HAZ	**Te Kaha**	**3.30**	**45**	P		**Pn**	**23 31 47.1**	**-1.1**
MBAZ	**Motutapu North**	**3.35**	**1**	P		**Pn**	**23 31 49.1**	**0.0**
PUZ	**Puketiti**	**3.36**	**53**	P		**Pn**	**23 31 48.4**	**-0.8**
RVAZ	**Riverhead Bore**	**3.36**	**356**	P		**Pn**	**23 31 49.7**	**+0.6**
PKGZ	**Pakihiroa**	**3.37**	**49**	P		**Pn**	**23 31 48.9**	**-0.4**
WMGZ	**Waiomatatini S**	**3.62**	**52**	P		**Pn**	**23 31 51.7**	**-1.0**
INZ	**Inchbonnie**	**3.64**	**223**	P		**Pn**	**23 31 53.3**	**+0.3**
OKCZ	**Okains Bay**	**3.83**	**200**	P		**Pn**	**23 31 54.0**	**-1.7**
AKCZ	**Akaroa Harbour**	**4.01**	**200**	P		**Pn**	**23 31 56.2**	**-1.9**
WVZ	**Waitaha Valley**	**4.26**	**225**	P		**Pn**	**23 32 00.6**	**+1.1**
RPZ	**Rata Peaks**	**4.56**	**217**	P		**Pn**	**23 32 05.5**	**-0.2**
OUZ	**Omahuta**	**5.00**	**348**	P		**Pn**	**23 32 11.5**	**-0.2**
OUZ	**Omahuta**	**5.00**	**348**	P		**Pn**	**23 32 11.6**	**-0.1**
TMZ	**Timaru**	**5.12**	**213**	P		**Pn**	**23 32 12.4**	**-0.9**
ODZ	**Otahua Downs**	**5.81**	**211**	P		**Pn**	**23 32 20.9**	**-1.9**
ODZ	**Otahua Downs**	**5.81**	**211**	P		**Pn**	**23 32 21.7**	**-1.1**
JCZ	**Jackson Bay**	**5.99**	**227**	P		**Pn**	**23 32 24.8**	**-0.5**

*NNC **26** 23:51:01.6±8.0, 38°.33N×56°.40E, h0km, mb3.6, Error ellipse: s-maj=89.8km s-min=24.9km az=44.0*
*TEH **26** 23:51:01.2, 38°.17N×56°.35E, h7km, ML3.5*
*AZER **26** 23:51:04.3±0.7, 37°.95N×55°.59E, h8km, Error ellipse: s-maj=18.7km s-min=8.3km az=38.0*

ISC 26 23:51:02.0±0.7, 38°.19N±0°.04×56°.34E±0°.03, h10km, n67, σ2s15/90, 4C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MRVT	**Maraveh tapeh**	**0.56**	**201**	*e*Pg		**Pb**	**23 51 12.7**	**-1.3**
BJRD	**Bojnurd**	**0.97**	**120**	*e*Pg		**Pg**	**23 51 19.2**	**-1.5**
IMND	**Minoodasht**	**1.19**	**219**	*e*Pg		**Pg**	**23 51 25.2**	**+0.5**
IMND				*e*Sg		**Sn**	**23 51 41.1**	**+0.3**
GYA0	**ALIBECK ARRAY**	**1.43**	**100**	P		**Pn**	**23 51 26.3**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**1.43**	**100**	S		**Sg**	**23 51 47.0**	**-0.9**
ISFR	**Sfrayin**	**1.74**	**130**	*e*Pn		**Pb**	**23 51 33.1**	**-1.0**
ISFR				*e*			23 52 02.0	
	comp=Z,9μm,0.4s							
SBZV	**Sabzevar**	**2.06**	**150**	*e*Pn		**Pb**	**23 51 38.4**	**-1.2**
SHRO	**Shahrood**	**2.21**	**187**	*e*Pn		**Pb**	**23 51 40.2**	**-1.9**
IAKL	**Akhelmad**	**2.49**	**129**	*e*Pn		**Pb**	**23 51 45.2**	**-1.8**
IAKL				*e*			23 52 24.4	
	comp=Z,2μm,0.4s							
IGLO	**Ghaloghah**	**2.61**	**231**	*e*Pn		**Pb**	**23 51 46.0**	**-3.0**
IPAY	**Payeh**	**2.74**	**128**	*e*Pn		**Pb**	**23 51 48.2**	**-2.9**
IPAY				*e*			23 52 30.6	
	comp=Z,2μm,0.6s							
IKRD	**Kardeh**	**2.89**	**118**	*e*Pn		**Pn**	**23 51 50.0**	**+1.7**
IKRD				*e*			23 52 48.8	
	comp=Z,1μm,0.6s							
IANJ	**Anjilo**	**3.34**	**216**	*e*Pn		**Pn**	**23 51 57.0**	**+2.5**
IANJ				*e*			23 52 56.8	
	comp=Z,708nm,0.5s							
ISHM	**Shahmirzad**	**3.40**	**227**	*e*Pn		**Pb**	**23 51 58.6**	**-4.0**
ISHM				*e*			23 52 45.9	
	comp=Z,1μm,0.3s							
IMYA	**Miami**	**3.52**	**120**	*e*Pn		**Pn**	**23 51 58.3**	**+1.4**
IMYA				*e*			23 53 20.7	
	comp=Z,300nm,0.9s							
IPRN	**Peran**	**3.74**	**240**	*e*Pn		**Pn**	**23 52 01.2**	**+1.4**
IFIR	**Firoozkooh**	**3.83**	**230**	*e*Pn		**Pn**	**23 52 03.9**	**+2.6**
IFIR				*e*			23 52 53.1	
	comp=Z,460nm,0.4s							
JRKH	**Jarkhoshk**	**3.93**	**124**	*e*Pn		**Pn**	**23 52 04.1**	**+1.6**
TNSJ	**Nastanj**	**4.22**	**177**	*e*Pn		**Pn**	**23 52 08.7**	**+2.2**
TBJM	**Torbat-e-JAM**	**4.33**	**131**	*e*Pn		**Pn**	**23 52 10.0**	**+2.0**
DAMV	**Damavand**	**4.33**	**235**	*e*Pn		**Pn**	**23 52 10.9**	**+2.8**
TABS	**Tabas**	**4.57**	**172**	*e*Pn		**Pn**	**23 52 12.7**	**+1.4**
TKDS	**Koohdasht(Taba**	**4.61**	**172**	*e*Pn		**Pn**	**23 52 14.0**	**+2.2**
CHTH	**Charan**	**4.75**	**243**	*e*Pn		**Pn**	**23 52 16.6**	**+2.7**
QALM	**Alamut, Qazvin**	**4.86**	**251**	*e*Pn		**Pn**	**23 52 17.1**	**+1.7**
QALM				*e*			23 53 21.3	
	comp=Z,314nm,0.4s							
ISFB	**Sefidab**	**5.06**	**222**	*e*Pn		**Pn**	**23 52 20.4**	**+2.4**
LHJ2	**Lahijan - Gila**	**5.08**	**260**	*e*Pn		**Pn**	**23 52 19.9**	**+1.7**
TPRV	**Parvadeh(Tabas**	**5.15**	**177**	*e*Pn		**Pn**	**23 52 21.2**	**+1.9**
AFRZ	**Afriz**	**5.22**	**155**	*e*Pn		**Pn**	**23 52 22.3**	**+2.0**
KRSH	**Karshahi**	**5.41**	**220**	*e*Pn		**Pn**	**23 52 25.3**	**+2.4**
ANAR	**Anarak**	**5.42**	**204**	*e*Pn		**Pn**	**23 52 24.7**	**+1.7**
SHRT	**Shahrakht**	**5.55**	**144**	*e*Pn		**Pn**	**23 52 25.8**	**+1.1**
ASTR	**Astara**	**5.94**	**276**	P		**Pn**	**23 52 30.7**	**+0.7**
	SNR=4.8							
ASTR				S		**Sn**	**23 53 36.8**	**-1.4**
QABG	**Abgarm-Qazvin**	**5.95**	**247**	*e*Pn		**Pn**	**23 52 31.2**	**+0.9**
YZKH	**Yazd**	**5.96**	**194**	*e*Pn		**Pn**	**23 52 32.2**	**+1.9**
ALIB	**Äli-Bayra**	**5.97**	**290**	P		**Pn**	**23 52 34.5**	**+4.0**
ICHK	**Chekchek**	**6.13**	**196**	*e*Pn		**Pn**	**23 52 34.5**	**+1.6**
ZNJK	**Zanjan**	**6.28**	**258**	*e*Pn		**Pn**	**23 52 37.0**	**+2.2**
LRK	**Lerik**	**6.30**	**277**	P		**Pn**	**23 52 35.8**	**+0.7**
LRK				S		**Sn**	**23 53 44.2**	**-2.9**
GLBA	**Clilabad**	**6.30**	**282**	P		**Pn**	**23 52 36.1**	**+1.2**
	SNR=4.0							
GLBA				S		**Sn**	**23 53 46.2**	**-0.8**
YRD	**Yardimli**	**6.39**	**279**	P		**Pn**	**23 52 36.1**	**-0.2**
	SNR=6.0							
YRD				S		**Sn**	**23 53 46.4**	**-3.1**
SIZA	**Siyzn**	**6.43**	**299**	P		**Pn**	**23 52 39.5**	**+2.8**
SIZA				S		**Sn**	**23 53 50.9**	**+0.8**
PQL	**Pirkuli**	**6.53**	**296**	P		**Pn**	**23 52 40.5**	**+2.2**
PQL				S		**Sn**	**23 53 55.5**	**+2.7**
BSRN	**Basiran**	**6.61**	**159**	*e*Pn		**Pn**	**23 52 40.5**	**+1.1**
GRMI	**Germi**	**6.65**	**278**	*e*Pn		**Pn**	**23 52 40.1**	**+0.2**
QUBA	**Quba

RAYN	**Ar Rayn**	**80.26**	**293**	P	**P**	**00 07 18.2**	**-0.6**
RAYN				IAmb	IAmb	00 07 43.5	
	comp=Z,4.6nm,1.4s						
J20K	**Nowinta River**	**81.30**	**26**	P	**P**	**00 07 24.8**	**+1.3**
M20K	**Styx River**	**81.46**	**28**	P	**P**	**00 07 24.9**	**+0.5**
M20K				IAmb	IAmb	00 07 32.8	
	comp=Z,3.6nm,1.1s						
IMAR	**Indian Mountai**	**81.71**	**24**	P	**P**	**00 07 26.1**	**+0.5**
CAST	**Castle Rocks**	**82.11**	**27**	P	**P**	**00 07 28.6**	**+0.8**
MLY	**Manley**	**82.85**	**25**	P	**P**	**00 07 32.2**	**+0.5**
MLY				IAmb	IAmb	00 07 33.1	
	comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**85.44**	**23**	P	**P**	**00 07 46.4**	**+1.6**
BRTR	**Keskin Array B**	**89.62**	**310**	P	**P**	**00 08 03.4**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=117,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**89.62**	**310**	P	**P**	**00 08 04.5**	**-1.1**
ARCES	**ARCESS Array B**	**89.83**	**340**	P	**P**	**00 08 04.8**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=97,slow=5.6,SNR=1.4						
FINES	**FINESS Array B**	**91.26**	**332**	P	**P**	**00 08 11.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=72,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**91.40**	**321**	P	**P**	**00 08 12.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=69,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**98.87**	**24**	P	**P**	**00 08 45.7**	**-1.5**
	comp=Z,0.1nm,0.6s,baz=297,slow=4.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**122.75**	**289**	PKP	**PKiKP**	**00 14 04.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=90,slow=1.3,SNR=1.6						

*ARE **27** 00:00:23.1±1.6, 13.07°S±0.05°×75.09°W±0.08, h91km±6km, Error ellipse: s-maj=11.6km s-min=6.3km az=103.0*
*NEIC **27** 00:00:24.3±1.1, 13.07°S±0.09°×75.02°W±0.10, h90km±11km, mb4.1/8,ML4.4(ARE),Error ellipse: s-maj=15.5km s-min=11.1km az=46.0*
*IDC **27** 00:00:24.5±1.4, 13.11°S×75.08W, h92km±16km, mb3.6/5, mb1 3.7/8, mb1mx3.5/39, mbtmp4.0/8, MS2.7/2, Ms1 2.7/2, ms1mx2.5/48, Error ellipse: s-maj=37.7km s-min=12.2km az=40.0*

ISC 27 00:00:24.3±0.6, 13°21S±0°08'×75°14W±0°09, h96km, n46, σ1§16/42, mb4.0/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.05**	**306**	P	**Pn**	**00 00 57.9**	**+0.4**
	110nm,0.3s,baz=130,slow=11,SNR=161						
NNA				S	**Sn**	**00 01 23.0**	**+0.2**
	417nm,0.3s,baz=192,slow=16,SNR=22						
NNA				LR	LR	00 01 53.3	
	comp=Z,129nm,19.3s,baz=259,slow=43						
NNA	**Nana**	**2.05**	**306**		**Pn**	**00 00 57.5**	**0.0**
NNA				Sn	**Sn**	**00 01 22.6**	**-0.2**
PB12	**IPOC Station P**	**7.10**	**140**		**Pn**	**00 02 06.4**	**+0.8**
LPAZ	**La Paz**	**7.44**	**115**	P	**Pn**	**00 02 12.1**	**+1.3**
	1.3nm,0.3s,baz=302,slow=9.4,SNR=28						
LPAZ	**La Paz**	**7.44**	**115**		**Pn**	**00 02 11.4**	**+0.6**
LPAZ	**La Paz**	**7.44**	**115**	*eP*	**Pn**	**00 02 11.4**	**+0.6**
PB16	**IPOC Station P**	**7.44**	**134**		**Pn**	**00 02 10.8**	**+0.1**
PB11	**IPOC Station P**	**8.38**	**142**	Pn	**Pn**	**00 02 22.2**	**-0.9**
GO01	**Chusmiza**	**8.59**	**139**		**Pn**	**00 02 26.7**	**+0.4**
PB08	**IPOC Station P**	**8.97**	**141**	Pn	**Pn**	**00 02 31.4**	**+0.1**
PB01	**IPOC Station P**	**9.48**	**146**	Pn	**Pn**	**00 02 38.2**	**+0.2**
PB02	**IPOC Station P**	**9.50**	**149**	Pn	**Pn**	**00 02 37.3**	**-1.0**
PB09	**IPOC Station P**	**10.23**	**147**	Pn	**Pn**	**00 02 49.3**	**+1.1**
PB04	**IPOC Station P**	**10.24**	**153**	Pn	**Pn**	**00 02 48.6**	**+0.1**
LVC	**Limon Verde**	**11.07**	**148**	P	**Pn**	**00 03 01.4**	**+1.5**
	0.2nm,0.3s,baz=276,slow=10,SNR=1.6						
LVC				S	**Sn**	**00 05 01.1**	**-0.8**
	0.5nm,0.3s,baz=106,slow=20,SNR=2.0						
SIV	**San Ignacio**	**13.90**	**103**	LR	LR	00 08 37.1	
	comp=Z,47nm,18.9s,baz=65,slow=36						
AC02	**Maricunga**	**14.68**	**158**		**P**	**00 03 52.5**	**+1.1**
POPC	**Popayan, Colom**	**15.72**	**354**	*eP*	**P**	**00 04 01.8**	**-0.8**
ORTC	**Ortega, Tolima**	**17.01**	**360**	*eP*	**P**	**00 04 16.8**	**+0.1**
CHIC	**Chingaza**	**17.78**	**5**	*eP*	**Pn**	**00 04 28.7**	**+2.6**
PLMC	**San Jos del P**	**18.03**	**356**	*eP*	**Pn**	**00 04 28.6**	**-0.2**
GUY2C	**Guyana, Caldas**	**18.31**	**359**	*eP*	**P**	**00 04 31.3**	**-0.2**
RUSC	**La Rusia**	**19.09**	**6**	*eP*	**P**	**00 04 39.9**	**-0.1**
PTBC	**PUERTO BERRIO,**	**19.63**	**2**	*eP*	**P**	**00 04 41.2**	**-4.2**
H03N1	**Juan Fernandez**	**20.43**	**189**	T	T	00 24 29.9	
	baz=12,slow=74,SNR=35						
H03N2	**Juan Fernandez**	**20.43**	**189**	T	T	00 24 30.4	
	baz=12,slow=74,SNR=29						
H03N3	**Juan Fernandez**	**20.45**	**189**	T	T	00 24 29.7	
	baz=12,slow=74,SNR=41						
PAMC	**Pamplona, Colo**	**20.56**	**7**	*eP*	**P**	**00 04 55.7**	**-0.2**
ZARC	**Zaragoza, Cauc**	**20.57**	**1**	P	**P**	**00 04 54.0**	**-1.5**
ZARC				IAmb	IAmb	00 04 56.0	
	comp=Z,6.3nm,0.6s						
ZARC	**Zaragoza, Cauc**	**20.57**	**1**	*eP*	**P**	**00 04 54.5**	**-1.0**
MT09	**Talagante**	**20.82**	**170**	P	**P**	**00 04 57.7**	**-0.6**
MT09				IAmb	IAmb	00 05 04.5	
	comp=Z,14nm,1.4s						
SDV	**Santo Domingo**	**22.40**	**12**	P	**P**	**00 05 14.9**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=187,slow=14,SNR=8.7						
SDV	**Santo Domingo**	**22.40**	**12**	P	**P**	**00 05 13.8**	**-1.4**
SDV				IAmb	IAmb	00 05 15.8	
	comp=Z,7.2nm,0.8s						
SJCC	**San Jacinto, C**	**22.95**	**360**	*eP*	**P**	**00 05 19.2**	**-1.4**
TXAR	**Lajitas Array**	**50.47**	**327**	P	**P**	**00 09 12.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=144,slow=10.0,SNR=2.8						
DBIC	**Dimbokro**	**72.54**	**79**	P	**P**	**00 11 41.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=274,slow=5.2,SNR=3.7						
DBIC	**Dimbokro**	**72.54**	**79**	P	**P**	**00 11 40.0**	**-1.5**
TOA0	**Torodi Ar. Sit**	**80.52**	**74**	P	**P**	**00 12 25.2**	**-1.3**
TOA0				IAmb	IAmb	00 12 29.4	
	comp=Z,4.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**80.52**	**74**	P	**P**	**00 12 26.2**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=262,slow=4.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**80.52**	**74**	P	**P**	**00 12 25.6**	**-0.9**
YKA	**Yellowknife Ar**	**81.49**	**343**	P	**P**	**00 12 30.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=137,slow=5.7,SNR=14						
H11S2	**WAKE ISLAND Hy**	**120.50**	**284**	T	T	02 30 07.6	
	baz=98						
H11S1	**WAKE ISLAND Hy**	**120.51**	**284**	T	T	02 30 10.1	
	baz=98						
H11S3	**WAKE ISLAND Hy**	**120.52**	**284**	T	T	02 30 09.4	
	baz=98						
WRA	**Warramunga Arr**	**136.10**	**222**	PKP	**PKPdf**	**00 19 36.8**	**+1.6**
	comp=Z,0.8nm,1.0s,baz=131,slow=1.6,SNR=4.8						
SONM	**Songino Array**	**145.46**	**358**	PKPbc	**PKPab**	**00 19 52.6**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=312,slow=3.2,SNR=21						

*BUL **27** 00:07:24.2±0.8, 20.44S×32.85E, h10km, MD4.2*
*EAF **27** 00:07:24.2±0.8, 20.44S×32.85E, h10km, MD3.9*

ISC 27 00:07:20.9±1.4, 20°37S±0.05'×32°90E±0.07, h10km, n16, σ2§33/28, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.32**	**233**	*iP*	**Pn**	**00 08 15.6**	**+2.6**
MSNA				*iS*	**Sn**	**00 08 52.0**	**-0.6**
MSNA	**Messina**	**3.32**	**233**	*iP*	**Pn**	**00 08 15.6**	**+2.6**
MSNA				*iS*	**Sn**	**00 08 52.0**	**-0.6**
BLWY	**Bulawayo**	**4.04**	**273**	*iP*	**Pn**	**00 08 24.7**	**+1.7**
BLWY				*iS*	**Sn**	**00 09 10.1**	**-0.3**
BLWY	**Bulawayo**	**4.04**	**273**	*iP*	**Pn**	**00 08 24.7**	**+1.7**
BLWY				*iS*	**Sn**	**00 09 10.1**	**-0.3**
MATP	**Matopo**	**4.13**	**269**	*iP*	**Pn**	**00 08 26.9**	**+2.7**
MATP				*iS*	**Sn**	**00 09 11.3**	**-1.4**
MATP	**Matopo**	**4.13**	**269**	*iP*	**Pn**	**00 08 26.9**	**+2.7**
MATP				*iS*	**Sn**	**00 09 11.3**	**-1.4**
CLK	**Chileka**	**5.07**	**23**	*iP*	**Pn**	**00 08 38.2**	**+1.1**
CLK				S	**Sn**	**00 09 32.2**	**-3.6**
CLK	**Chileka**	**5.07**	**23**	*iP*	**Pn**	**00 08 38.2**	**+1.1**
CLK				S	**Sn**	**00 09 32.2**	**-3.6**
CNG	**Changalane**	**5.93**	**186**	*iP*	**Pn**	**00 08 50.3**	**+1.5**
CNG				*iS*	**Sn**	**00 09 53.0**	**-3.9**
CNG	**Changalane**	**5.93**	**186**	*iP*	**Pn**	**00 08 50.3**	**+1.5**
CNG				*iS*	**Sn**	**00 09 53.0**	**-3.9**
LSZ	**Lusaka**	**6.77**	**318**	*iP*	**Pn**	**00 09 03.0**	**+2.5**
LSZ				*iS*	**Sn**	**00 10 14.6**	**-3.2**
LSZ	**Lusaka**	**6.77**	**318**	*iP*	**Pn**	**00 09 03.0**	**+2.5**
LSZ				*iS*	**Sn**	**00 10 14.6**	**-3.2**
LBTB	**Lobatse**	**8.17**	**234**	*iP*	**Pn**	**00 09 20.7**	**+0.9**
LBTB				*iS*	Sn	00 10 44.5	-7.8
LBTB	**Lobatse**	**8.17**	**234**	*iP*	**Pn**	**00 09 20.7**	**+0.9**
LBTB				*iS*	Sn	00 10 44.5	-7.8
BOSA	**Boshof**	**10.76**	**219**	*iP*	**Pn**	**00 09 54.4**	**-0.8**
BOSA				*iS*	Sn	00 11 43.7	-12
BOSA	**Boshof**	**10.76**	**219**	*iP*	**Pn**	**00 09 54.4**	**-0.8**
BOSA				*iS*	Sn	00 11 43.7	-12

IDC 27 00:13:36.3±0.6, 0.21°40S×173°33W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/37, mbtmp4.0/3, Error ellipse: s-maj=1135.0km s-min=185.7km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.37**	**246**	P	P	00 21 24.4	0.0
	1.7nm,0.6s,baz=63,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**48.57**	**257**	P	P	00 22 21.6	-0.3
	1.5nm,0.7s,baz=99,slow=6.9,SNR=25						
WRA	**Warramunga Arr**	**48.80**	**262**	P	P	00 22 23.6	-0.1
	1.3nm,0.7s,baz=101,slow=8.3,SNR=28						

*IDC **27** 00:14:07.2±3.6, 38.11°N×72.91E, h97km±30km, mb3.3/12, mb1 3.5/16, mb1mx3.3/44, mbtmp3.7/16, MS3.6/1, Ms1 3.6/1, ms1mx2.5/58, Error ellipse: s-maj=25.8km s-min=16.1km az=11.0*
*NNC **27** 00:14:08.2±7.1, 38.66°N×72.46E, h14km±26km, mb3.9, mpv3.6, Error ellipse: s-maj=52.7km s-min=22.1km az=8.0*

ISC 27 00:14:08.3±0.9, 38°32N±0.09'×72°70E±0.09, h100km, n28, σ2§17/30, mb3.6/11, 7C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.53**	**17**	P	**Pn**	**00 15 14.7**	**0.0**
	1.2nm,0.3s,baz=202,slow=7.8,SNR=25						
AAK				S	**Sn**	**00 16 10.4**	**+4.1**
	1.1nm,0.3s,baz=178,slow=11,SNR=4.0						
AAK	**Ala-Archa**	**4.53**	**17**	⇓Pn	**Pn**	**00 15 14.2**	**-0.5**
	6.6nm,0.8s						
AAK				Pg		00 15 25.9	
	8.5nm,0.6s						
KK02	**Karatay Array**	**5.06**	**342**	⇑Pn	**Pn**	**00 15 19.8**	**-2.0**
	3.6nm,0.4s,baz=155,slow=12						
KK02				⇑Pg		00 15 32.3	
	5.7nm,0.6s						
KK02				⇑Lg	Lg	00 16 40.7	
	15nm,0.7s,baz=155,slow=24						
TKM2	**Tokmak 2**	**5.10**	**25**	⇓Pn	**Pn**	**00 15 22.1**	**-0.4**
	2.1nm,0.5s						
TKM2				⇓Pg		00 15 35.6	
	8.1nm,0.7s						
TKM2				⇓Lg	Lg	00 16 47.0	
	28nm,1.0s						
MDOK	**Medeo**	**5.86**	**33**	⇓Pn	**Pn**	**00 15 34.5**	**+1.7**
	2.1nm,0.6s						
MDOK				⇑Pg		00 15 50.3	
	11nm,0.8s						
MDOK				Lg	Lg	00 17 13.3	
	37nm,1.2s						
PDGK	**Podgornoye**	**7.18**	**44**	⇓Pn	**Pn**	**00 15 48.8**	**-1.8**
	5.3nm,0.8s						
OTUK	**Ortayu**	**9.93**	**359**	⇑Pn	**Pn**	**00 16 25.2**	**-2.7**
	1.6nm,0.7s						
MK31	**Makanchi Array**	**11.03**	**37**	Pn	**Pn**	**00 16 43.7**	**+0.9**
	0.4nm,0.6s,baz=223,slow=13,SNR=7.5						
MKAR	**Makanchi Array**	**11.03**	**37**	P	**Pn**	**00 16 42.1**	**-0.7**
	0.1nm,0.3s,baz=225,slow=14,SNR=8.9						
KURBB	**Kurchatov Arra**	**12.98**	**17**	P	**Pn**	**00 17 06.0**	**-2.7**
	0.0nm,0.3s,baz=207,slow=12,SNR=5.2						
AB31	**Akbulak array**	**14.28**	**324**	P	Pn	00 17 20.8	-4.8
	1.8nm,0.8s,baz=134,slow=14,SNR=20						
AB31				⇓S	Sn	00 19 54.4	-8.3
	2.3nm,0.8s,baz=131,slow=29,SNR=4.6						
BVAR	**Borovoye Array**	**14.80**	**355**	P	**Pn**	**00 17 30.2**	**-2.0**
	0.2nm,0.3s,baz=197,slow=22,SNR=7.4						
BRVK	**Borovoye**	**14.84**	**354**	⇓P	**Pn**	**00 17 29.2**	**-3.5**
	2.0nm,0.8s						
AKTO	**Aktyubinsk**	**15.99**	**324**	P	**Pn**	**00 17 48.1**	**+0.9**
	0.1nm,0.3s,baz=119,slow=11,SNR=5.0						
AKTO				S	**Sn**	**00 20 40.4**	**-3.8**
	0.1nm,0.3s,baz=72,slow=20,SNR=2.7						
AKTO	**Aktyubinsk**	**15.99**	**324**	⇑P	**Pn**	**00 17 46.4**	**-0.8**
	3.2nm,0.6s						
AKTO				⇑S	**Sn**	**00 20 39.7**	**-4.5**
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**17.70**	**24**	P	**Pn**	**00 18 07.2**	**-0.5**
	0.3nm,0.3s,baz=213,slow=11,SNR=11						
ARU	**Arti**	**20.42**	**337**	P	**Pn**	**00 18 37.9**	**+0.7**
	0.5nm,0.4s,baz=130,slow=5.7,SNR=5.0						
GNI	**Garni**	**21.70**	**284**	P	**Pn**	**00 18 54.3**	**+3.0**
	3.2nm,0.9s,baz=177,slow=18,SNR=2.2						
KBZ	**Khabaz**	**23.05**	**293**	P	**Pn**	**00 19 07.7**	**+2.8**
	1.0nm,0.9s,baz=207,slow=13,SNR=1.9						
SONM	**Songino Array**	**26.20**	**58**	P	**Pn**	**00 19 34.2**	**+0.6**
	0.5nm,0.5s,baz=257,slow=10,SNR=7.2						
FINES	**FINESS Array B**	**36.77**	**324**	P	**Pn**	**00 21 07.0**	**+1.2**
	1.2nm,0.9s,baz=124,slow=7.4,SNR=8.2						
ARCES	**ARCESS Array B**	**40.00**	**336**	P	**Pn**	**00 21 34.1**	**+1.3**
	2.6nm,1.0s,baz=118,slow=9.6,SNR=1.9						
ARCES				LR	LR	00 37 06.2	
	comp=Z,83nm,20.4s,baz=268,slow=34						
ESDC	**Sonseca Array**	**57.81**	**297**	P	**Pn**	**00 23 50.0**	**+0.7**
	0.5nm,0.7s,baz=54,slow=6.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**67.11**	**269**	P	**Pn**	**00 24 51.5**	**+0.1**
	0.3nm,0.5s,baz=56,slow=6.0,SNR=2.5						
ILAR	**Eielson Array**	**72.66**	**17**	P	**Pn**	**00 25 24.6**	**0.0**
	0.7nm,0.8s,baz=321,slow=5.1,SNR=6.6						
YKA	**Yellowknife Ar**	**79.36**	**3**	P	**Pn**	**00 26 02.7**	**+0.1**
	0.6nm,0.6s,baz=344,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**81.83**	**123**	P	**Pn**	**00 26 14.2**	**-2.2**
	0.8nm,0.6s,baz=322,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**84.21**	**126**	P	**Pn**	**00 26 26.4**	**-2.3**
	0.5nm,0.8s,baz=315,slow=5.0,SNR=7.4						

*NEIC **27** 00:25:18.3±1.8, 18.34N±0.08°×121.07E±0.10, h43km±7km, mb4.2/30, Error ellipse: s-maj=13.7km s-min=11.1km az=92.0*
*IDC **27** 00:25:19.1±4.1, 18.41N×121.23E, h53km±38km, mb3.6/17, mb1 3.8/19, mb1mx3.6/53, mbtmp4.0/19, ML4.0/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/85, Error ellipse: s-maj=21.1km s-min=12.8km az=77.0*
*MAN **27** 00:25:22.4, 18.49N×120.91E, h29km, mb4.7, ML3.6, MS3.5*

ISC 27 00:25:19.5±0.4, 18°57N±0.04'×121°03E±0.05, h50km, n88, σ1§93/86, mb4.1/28, 3C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.73**	**164**	⇓*eP*	**Pn**	**00 25 36.1**	**+2.4**
APYP				*eS*	**Sn**	**00 25 47.9**	**+3.9**
SIPP	**Brgy, Tapao**	**0.84**	**220**	⇑*iP*	**Pn**	**00 25 36.8**	**+1.7**
SIPP				*iS*	**Sn**	**00 25 52.6**	**+6.1**
SGCP	**Gonzaga**	**1.02**	**108**	⇓*eP*	**Pn**	**00 25 41.0**	**+3.4**
CVP	**Callao Caves**	**1.15**	**138**	⇑*iP*	**Pn**	**00 25 42.2**	**+2.9**
CVP				*iS*	**Sn**	**00 25 58.5**	**+4.7**
SAMP	**Sagada Mountai**	**1.48**	**185**	⇓*eP*	**Pn**	**00 25 45.1**	**+1.7**
BOLP	**Bolinao**	**2.42**	**206**	⇓*eP*	**Pn**	**00 26 00.1**	**+3.5**
SMPP	**San Manuel, Pa**	**2.43**	**188**	⇓*eP*	**Pn**	**00 25 58.6**	**+1.8**
BALP	**Baler**	**2.86**	**169**	⇓*eP*	**Pn**	**00 26 06.6**	**+3.9**
SCZP	**Santa Cruz**	**2.97**	**201**	⇑*eP*	**Pn**	**00 26 07.5**	**+3.3**
TWG	**Pinlang**	**4.23**	**1**	Pn	**Pn**	**00 26 24.0**	**+2.5**
TPUB	**Ta-pu**	**4.72**	**356**	Pn	**Pn**	**00 26 29.8**	**+1.5**
YULB	**Yu-li**	**4.81**	**3**		**Pn**	**00 26 32.1**	**+2.6**
SSLB	**Suanglung**	**5.20**	**359**		**Pn**	**00 26 37.3**	**+2.6**
NACB	**Ninganchiao**	**5.60**	**5**	Pn	**Pn**	**00 26 42.0**	**+1.6**
YHNB	**Yeheng**	**6.08**	**3**		**Pn**	**00 26 50.5**	**+3.5**
HKPS	**Hong Kong Po S**	**7.43**	**301**	Pn	**Pn**	**00 27 05.4**	**-0.1**
QIZ	**Qiongzhong**	**10.60**	**274**	Pn	**Pn**	**00 27 47.8**	**-1.0**
MYLDM	**Lahad Datu**	**13.53**	**191**	Pn	Pn	00 28 24.3	-4.6
JNU	**Nakatsue**	**16.98**	**29**	P	**P**	**00 29 14.7**	**-0.2**
	0.4nm,0.3s,baz=152,slow=3.7,SNR=5.7						
JNU	**Nakatsue**	**16.98**	**29**	P	**P**	**00 29 14.8**	**0.0**
JNU				IAmb	IAmb	00 29 19.4	
	comp=Z,18nm,1.0s						
JHS	**Saijyo**	**19.57**	**31**	P	**P**	**00 29 43.0**	**-0.4**
JHS				IAmb	IAmb	00 29 49.0	
	comp=Z,26nm,1.5s						
KSRS	**Korea Array**	**19.77**	**16**	P	**P**	**00 29 46.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=201,slow=11,SNR=12						
KSRS				LR	LR	00 38 02.0	
	comp=Z,16nm,18.7s,baz=185,slow=38						
CHTO	**Chiang Mai**	**20.92**	**274**	P	**P**	**00 29 58.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.94**	**273**	P	Pn	00 30 00.0	-1.4
	comp=Z,1.3nm,0.3s,baz=85,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**20.94**	**273**	P	**P**	**00 29 58.2**	**-0.1**
JCJ	**Chichijima**	**21.25**	**63**	LR	LR	00 37 06.8	
	comp=Z,19nm,20.7s,baz=93,slow=34						
INU	**Inuyama**	**21.92**	**37**	P	**P**	**00 30 08.5**	**-0.1**
JGF	**Kuroka**	**22.29**	**37**	P	**P**	**00 30 11.9**	**-0.8**
JGF				IAmb	IAmb	00 30 13.4	
	comp=Z,6.2nm,0.6s						
MJAR	**Matsushiro Arr**	**23.44**	**37**	P	**P**	**00 30 23.9**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=241,slow=9.4,SNR=2.4						
MJAR				LR	LR	00 39 44.7	
	comp=Z,27nm,18.3s,baz=9.0,slow=37						
FAKI	**Fak Fak**	**24.04**	**152**	P	**P**	**00 30 27.4**	**-2.8**
JMM	**Marumori**	**25.84**	**38**	P	**P**	**00 30 45.4**	**-1.0**
JMM				IAmb	IAmb	00 30 45.7	
	comp=Z,7.8nm,0.9s						
SONM	**Songino Array**	**31.54**	**341**	P	**P**	**00 31 38.9**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=164,slow=9.8,SNR=4.0						
SONM				PcP	**PcP**	**00 34 28.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=159,slow=2.4,SNR=4.1						
SONM	**Songino Array**	**31.54**	**341**	P	**P**	**00 31 39.4**	**+2.3**
KLR	**Kul'dur**	**31.79**	**13**	P	**P**	**00 31 39.3**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=234,slow=9.1,SNR=8.2						
FITZ	**Fitzroy Crossi**	**36.72**	**173**	P	**P**	**00 32 19.6**	**-2.4**
FITZ				IAmb	IAmb	00 32 23.9	
	comp=Z,6.5nm,1.4s						
PSA00	**Pilbara Seismi**	**39.91**	**182**	P	**P**	**00 32 45.7**	**-3.1**
WB0	**Warramunga Arr**	**40.29**	**160**	P	P	00 32 48.1	-3.9
WRA	**Warramunga Arr**	**40.44**	**160**	P	**P**	**00 32 49.7**	**-3.6**
	comp=Z,0.8nm,0.4s,baz=342,slow=9.1,SNR=19						
WRA				PcP	**PcP**	**00 34 54.6**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=348,slow=3.1,SNR=19						
WRA	**Warramunga Arr**	**40.44**	**160**	P	**P**	**00 32 49.7**	**-3.6**
WR0	**Warramunga Arr**	**40.52**	**160**	P	**P**	**00 32 50.2**	**-3.7**
WR0				IAmb	IAmb	00 33 10.2	
	comp=Z,6.6nm,1.5s						
MK31	**Makanchi Array**	**42.41**	**320**	P	**P**	**00 33 09.4**	**+0.2**
MKAR	**Makanchi Array**	**42.41**	**320**	P	**P**	**00 33 10.8**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=112,slow=9.6,SNR=20						
MKAR				PcP	**PcP**	**00 35 01.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=110,slow=3.8,SNR=8.9						
MKAR	**Makanchi Array**	**42.41**	**320**	P	**P**	**00 33 09.3**	**+0.1**
MKAR				PcP	**PcP**	**00 35 01.3**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**43.20**	**83**	T	T	01 18 57.0	
	baz=276,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**43.21**	**82**	T	T	01 18 47.7	
	baz=276,slow=74,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**43.22**	**83**	T	T	01 18 52.4	
	baz=276,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**43.24**	**81**	T	T	01 19 04.7	
	baz=276,slow=74						
H11N2	**WAKE ISLAND Hy**	**43.25**	**81**	T	T	01 19 05.6	
	baz=276,slow=74						
H11N3	**WAKE ISLAND Hy**	**43.26**	**81**	T	T	01 19 06.2	
	baz=276						
ASAR	**Alice Springs**	**43.82**	**163**	P	**P**	**00 33 18.2**	**-2.6**
	comp=Z,0.7nm,0.5s,baz=343,slow=7.3,SNR=26						
ASAR				PcP	**PP**	**00 35 05.4**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=342,slow=3.0,SNR=5.6						
ASAR	**Alice Springs**	**43.82**	**163**	P	**P**	**00 33 18.1**	**-2.7**
PETK	**Petropavlovsk-**	**44.67**	**31**	P	**P**	**00 33 27.1**	**-0.1**
	comp=Z,4.5nm,1.1s,baz=220,slow=6.6,SNR=1.7						
PETK	**Petropavlovsk-**	**44.67**	**31**	P	**P**	**00 33 27.0**	**-0.3**
ZALV	**Zalesovo Beam**	**44.95**	**330**	P	**P**	**00 33 30.1**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=114,slow=7.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**44.95**	**330**	P	**P**	**00 33 31.1**	**+1.6**
KURBB	**Kurchatov Arra**	**46.41**	**324**	P	**P**	**00 33 42.1**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=121,slow=7.9,SNR=12						
KKAR	**Karatay Array**	**48.91**	**311**	P	**P**	**00 34 01.5**	**+0.9**
BBOO	**Buckleboo**	**53.07**	**164**	P	**P

GO04	**Tololo Observa**	**0.90**	**74**	⇑*eP*		**Pn**	**00 28 10.0**	**-0.9**
GO04				*eS*		**Sb**	**00 28 21.1**	**-1.6**
GO04				IAML			00 28 26.6	
	comp=N,56μm,0.4s							
GO04	**Tololo Observa**	**0.90**	**74**	*eP*		**Pn**	**00 28 10.0**	**-0.9**
GO04				*eS*		**Sb**	**00 28 21.6**	**-1.1**
CO03	**El Pedregal**	**1.04**	**114**			**Pn**	**00 28 11.9**	**-0.8**
CO03	**El Pedregal**	**1.04**	**114**	*eP*		**Pn**	**00 28 12.0**	**-0.8**
CO03				*eS*		**Sn**	**00 28 24.5**	**-1.9**
CO03				IAML			00 28 26.7	
	comp=E,14μm,0.1s							
CO03	**El Pedregal**	**1.04**	**114**	*eP*		**Pn**	**00 28 11.9**	**-0.8**
CO03				*eP*		**Pn**	**00 28 12.0**	**-0.8**
CO03				*eS*		**Sn**	**00 28 25.4**	**-1.0**
CO03				IAML			00 28 26.5	
	comp=Z,7μm,0.3s							
LCO	**Las Campanas**	**1.70**	**34**	Pn		**Pn**	**00 28 22.4**	**+0.5**
LCO	**Las Campanas**	**1.70**	**34**	*eP*		**Pn**	**00 28 22.5**	**+0.5**
LCO				*eS*		**Sb**	**00 28 44.0**	**-1.7**
LCO	**Las Campanas**	**1.70**	**34**	*eP*		**Pn**	**00 28 22.0**	**0.0**
AROD	**Rodeo**	**2.03**	**83**	*eP*		**Pb**	**00 28 28.8**	**-1.4**
AROD				*eS*		**Sb**	**00 28 56.3**	**+1.2**
VA06	**Catapilco**	**2.17**	**169**			**Pn**	**00 28 28.9**	**+0.7**
VA06	**Catapilco**	**2.17**	**169**	⇑*eP*		**Pn**	**00 28 28.8**	**+0.6**
VA06				*eS*		**Sn**	**00 28 54.0**	**-0.2**
VA06				IAML			00 29 07.8	
	comp=N,4μm,0.4s							
AC04	**Llanos de Chal**	**2.30**	**16**	Pn		**Pn**	**00 28 30.2**	**+0.3**
AC04	**Llanos de Chal**	**2.30**	**16**	⇑*eP*		**Pn**	**00 28 30.2**	**+0.3**
AC04				⇓*eS*		**Sb**	**00 29 00.7**	**-2.0**
AC04	**Llanos de Chal**	**2.30**	**16**	*eP*		**Pn**	**00 28 30.0**	**0.0**
AC04				*eS*		**Sn**	**00 28 59.4**	**+2.0**
AC04				IAML			00 29 09.0	
	comp=Z,2μm,0.8s							
ACDV	**Cuesta del Vie**	**2.33**	**84**	*eP*		**Pb**	**00 28 34.0**	**-1.3**
ACDV				*eS*		**Sb**	**00 29 06.3**	**+2.6**
ACDV				IAML			00 29 10.3	
	comp=Z,1μm,0.5s							
ACCO	**Cerro Coronel**	**2.36**	**95**	*eP*		**Pb**	**00 28 34.0**	**-1.9**
ACCO				*eS*		**Sb**	**00 29 07.2**	**+2.4**
RTLS	**Leoncito**	**2.54**	**123**	*eP*		**Pb**	**00 28 37.0**	**-2.0**
RTLS				*eS*		**Sb**	**00 29 12.8**	**+2.8**
RTLS				IAML			00 29 17.9	
	comp=Z,887nm,0.4s							
VA03	**San Esteban**	**2.56**	**156**			**Pn**	**00 28 35.2**	**+1.6**
VA03	**San Esteban**	**2.56**	**156**	⇑*eP*		**Pn**	**00 28 35.3**	**+1.6**
VA03				*eS*		**Sb**	**00 29 10.0**	**-0.4**
VA03				IAML			00 29 16.5	
	comp=N,3μm,0.5s							
VA03	**San Esteban**	**2.56**	**156**	*eP*		**Pn**	**00 28 35.0**	**+1.3**
VA03				*eS*		**Sb**	**00 29 07.9**	**-2.5**
VA03				IAML			00 29 25.2	
	comp=Z,1μm,0.6s							
VA01	**Torpederas**	**2.59**	**177**	Pn		**Pn**	**00 28 34.5**	**+0.5**
VA01	**Torpederas**	**2.59**	**177**	⇑*eP*		**Pb**	**00 28 37.5**	**-2.1**
VA01				*eS*		**Sb**	**00 29 09.7**	**-1.4**
VA01				IAML			00 29 23.2	
	comp=E,828nm,0.5s							
ROCH	**El Roble**	**2.63**	**165**	*eP*		Pb	00 28 35.6	-4.8
ROCH				*eP*		**Pn**	**00 28 33.4**	**-1.3**
ROCH				*eS*		**Sb**	**00 29 10.6**	**-1.7**
ROCH				*eS*		**Sn**	**00 29 10.8**	**+5.1**
ROCH				IAML			00 29 15.5	
	comp=N,2μm,0.6s							
ROCH				IAML			00 29 18.9	
	comp=N,3μm,0.4s							
ROC1	**El Roble**	**2.63**	**166**			**Pn**	**00 28 33.6**	**-1.1**
ROC1	**El Roble**	**2.63**	**166**	*eP*		**Pn**	**00 28 33.0**	**-1.7**
ROC1				*eP*		Pb	00 28 33.9	-6.5
ROC1				*eS*		**Sn**	**00 29 09.1**	**+3.3**
AUSP	**Uspallata**	**2.73**	**132**	*eP*		**Pn**	**00 28 34.4**	**-1.8**
AUSP				*eP*		**Pb**	**00 28 39.0**	**-3.2**
AUSP				*eS*		**Sb**	**00 29 13.9**	**-1.5**
PEL	**Peldehue**	**2.87**	**161**			**Pn**	**00 28 38.5**	**+0.6**
PEL	**Peldehue**	**2.87**	**161**	⇑*eP*		**Pn**	**00 28 39.2**	**+1.3**
PEL				*eS*		**Sn**	**00 29 14.1**	**+2.5**
PEL				IAML			00 29 31.8	
	comp=N,1μm,0.5s							
PEL	**Peldehue**	**2.87**	**161**	*eP*		**Pn**	**00 28 39.0**	**+1.1**
PEL				*eS*		**Sb**	**00 29 16.9**	**-2.3**
MT02	**Curacav**	**2.88**	**169**			**Pn**	**00 28 38.3**	**+0.3**
MT02	**Curacav**	**2.88**	**169**	⇑*eP*		**Pn**	**00 28 38.6**	**+0.7**
MT02				*eS*		**Sn**	**00 29 14.7**	**+3.0**
MT02				IAML			00 29 31.9	
	comp=N,664nm,0.6s							
MT02	**Curacav**	**2.88**	**169**	*eP*		**Pn**	**00 28 34.4**	**-3.6**
MT02				*eP*		Pb	00 28 39.0	-5.5
MT02				*eS*		**Sb**	**00 29 17.9**	**-1.5**
MT02				IAML			00 29 31.2	
	comp=Z,874nm,0.7s							
ZON	**Zonda**	**2.90**	**113**			**Pn**	**00 28 39.8**	**+1.5**
ZON	**Zonda**	**2.90**	**113**	*eP*		**Pn**	**00 28 41.0**	**+2.7**
ZON				*eS*		**Sb**	**00 29 20.9**	**+0.8**
ZON				IAML			00 29 29.7	
	comp=Z,665nm,1.0s							
RTLL	**Cerro Villicun**	**3.00**	**108**	*eP*		**Pn**	**00 28 42.0**	**+2.4**
RTLL				*eS*		**Sb**	**00 29 23.9**	**+1.1**
MT05	**Renca**	**3.09**	**163**	Pn		**Pn**	**00 28 41.7**	**+0.8**
MT05	**Renca**	**3.09**	**163**	*eP*		**Pn**	**00 28 44.6**	**+3.7**
MT05				*eS*		**Sn**	**00 29 21.1**	**+4.1**
MT05				IAML			00 29 32.4	
	comp=E,3μm,0.4s							
MT05	**Renca**	**3.09**	**163**	*eP*		**Pn**	**00 28 43.0**	**+2.1**
MT05				*eS*		**Sb**	**00 29 23.4**	**-2.1**
MT05				IAML			00 29 36.9	
	comp=Z,2μm,0.9s							
GO03	**Copiap**	**3.14**	**26**			**Pn**	**00 28 42.4**	**+0.9**
GO03	**Copiap**	**3.14**	**26**	*eP*		**Pn**	**00 28 42.7**	**+1.2**
GO03				*eP*		**Pn**	**00 28 43.0**	**+1.5**
GO03				*eS*		Sb	00 29 35.4	+8.6
FCH	**Farellones**	**3.17**	**156**	*eP*		**Pn**	**00 28 43.9**	**+1.8**
FCH				*eS*		**Sb**	**00 29 25.3**	**-2.6**
FCH				IAML			00 29 34.2	
	comp=E,624nm,0.3s							
VA05	**Santo Domingo**	**3.23**	**177**	Pn		**Pn**	**00 28 43.3**	**+0.6**
VA05	**Santo Domingo**	**3.23**	**177**	*eP*		**Pn**	**00 28 43.0**	**+0.3**
VA05				*eS*		**Sn**	**00 29 23.7**	**+3.5**
VA05				IAML			00 29 42.4	
	comp=E,1μm,0.6s							
MT03	**Universidad Ad**	**3.25**	**161**			**Pn**	**00 28 44.3**	**+1.2**
MT03	**Universidad Ad**	**3.25**	**161**	*eP*		**Pn**	**00 28 44.9**	**+1.8**
MT03				*eS*		**Sn**	**00 29 23.8**	**+2.9**
MT03				IAML			00 29 41.3	
	comp=N,2μm,0.3s							
MT03	**Universidad Ad**	**3.25**	**161**	*eP*		**Pn**	**00 28 45.0**	**+1.9**
MT03				*eS*		**Sn**	**00 29 24.5**	**+3.5**
MT03				IAML			00 29 39.7	
	comp=Z,1μm,0.9s							
AC06	**Mina Casimiro**	**3.31**	**23**	Pn		**Pn**	**00 28 44.1**	**+0.3**
MT09	**Talagante**	**3.41**	**169**			**Pn**	**00 28 46.3**	**+0.9**
MT09	**Talagante**	**3.41**	**169**	*eP*		**Pn**	**00 28 46.7**	**+1.3**
MT09				*eS*		**Sn**	**00 29 28.7**	**+3.7**
MT09				IAML			00 29 49.1	
	comp=N,995nm,0.6s							
MT01	**Popeta**	**3.46**	**172**			**Pn**	**00 28 46.2**	**+0.2**
MT01	**Popeta**	**3.46**	**172**	*eP*		**Pn**	**00 28 46.8**	**+0.9**
MT01				*eS*		**Sb**	**00 29 33.4**	**-2.7**
MT01				IAML			00 29 42.8	
	comp=Z,573nm,0.4s							
VCA	**Vinchina**	**3.55**	**63**	*eP*		**Pb**	**00 28 52.0**	**-4.1**
VCA				*eS*		**Sn**	**00 29 32.9**	**+4.3**
VCA				IAML			00 29 53.9	
	comp=Z,1μm,1.0s							
LMEL	**Las Melosas**	**3.67**	**159**			**Pn**	**00 28 50.5**	**+1.6**
LMEL	**Las Melosas**	**3.67**	**159**	*eP*		**Pn**	**00 28 51.7**	**+2.7**
LMEL				*eS*		**Sn**	**00 29 34.5**	**+3.0**
LMEL				IAML			00 29 56.8	
	comp=N,681nm,0.4s							
BO04	**La Punta**	**3.69**	**164**			**Pn**	**00 28 50.4**	**+1.2**
AVFE	**Valle Fertil**	**3.75**	**95**	*eP*		**Pn**	**00 28 52.0**	**+2.0**
AVFE				*eS*		**Sb**	**00 29 41.4**	**-3.2**
AVFE				IAML			00 29 48.5	
	comp=Z,550nm,0.5s							
BO01	**Tunca**	**4.00**	**172**	Pn		**Pn**	**00 28 54.1**	**+0.7**
BO01	**Tunca**	**4.00**	**172**	*eP*		**Pn**	**00 28 54.8**	**+1.4**
BO01				*eP*		**Pn**	**00 28 56.0**	**+2.7**
BO01				*eS*		**Sb**	**00 29 50.4**	**-1.2**
BO01				IAML			00 30 04.5	
	comp=Z,348nm,1.4s							
AC02	**Maricunga**	**4.28**	**34**	Pn		**Pn**	**00 28 59.0**	**+1.4**
AC02	**Maricunga**	**4.28**	**34**	*eP*		**Pn**	**00 28 59.3**	**+1.7**
AC02				*eS*		**Sn**	**00 29 51.9**	**+5.0**
AC02				IAML			00 30 18.9	
	comp=E,614nm,0.9s							
ACLC	**CERRO LA CRUZ**	**4.32**	**78**	*eP*		**Pn**	**00 29 00.5**	**+2.6**
ACLC				*eS*		**Sb**	**00 29 55.4**	**-5.6**
ACLC				IAML			00 30 11.7	
	comp=Z,697nm,0.7s							
AC01	**Pan de Azucar**	**4.39**	**14**	Pn		**Pn**	**00 28 57.4**	**-1.3**
BO02	**Sierra Bellavi**	**4.44**	**169**			**Pn**	**00 29 00.2**	**+0.7**
BO02	**Sierra Bellavi**	**4.44**	**169**	*eP*		**Pn**	**00 29 00.7**	**+1.2**
BO02				*eS*		**Sn**	**00 29 55.4**	**+5.1**
BO02				IAML			00 30 11.1	
	comp=Z,440nm,0.8s							
APLL	**PUNTA DE LOS L**	**4.55**	**91**	*eP*		**Pn**	**00 29 03.3**	**+2.3**
APLL				*eS*		**Sn**	**00 29 57.4**	**+4.3**
GO05	**Huala**	**4.57**	**181**			**Pn**	**00 29 00.5**	**-0.8**
GO05	**Huala**	**4.57**	**181**	*eP*		**Pn**	**00 29 01.1**	**-0.1**
GO05				*eS*		**Sb**	**00 30 09.9**	**+1.8**
ML02	**Panimavida**	**5.33**	**177**			**Pn**	**00 29 12.8**	**+1.1**
GO02	**Mina Guanaco**	**5.59**	**21**			**Pn**	**00 29 14.8**	**-0.7**
H03N1	**Juan Fernandez**	**6.75**	**242**	T		T	00 36 27.4	
	baz=70,slow=72,SNR=5880							
H03N2	**Juan Fernandez**	**6.77**	**242**	T		T	00 36 26.2	
	baz=70,slow=72,SNR=6215							
H03N3	**Juan Fernandez**	**6.77**	**242**	T		T	00 36 26.4	
	baz=70,slow=72,SNR=3822							
PB15	**IPOC Station P**	**7.48**	**17**			**Pn**	**00 29 41.8**	**+0.4**
LVC	**Limon Verde**	**8.20**	**19**	Pn		**Pn**	**00 29 50.4**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=121,slow=5.4,SNR=6.2							
LVC				Sn		**Sn**	**00 31 28.2**	**+4.8**
	baz=165,slow=20,SNR=1.6							
LVC				LR		LR	00 33 04.1	
	comp=Z,457nm,21.8s,baz=212,slow=38							
LVC	**Limon Verde**	**8.20**	**19**	Pn		**Pn**	**00 29 50.1**	**-1.3**
LC01	**Cunco**	**8.45**	**180**			**Pn**	**00 29 53.3**	**-1.2**
LC01	**Cunco**	**8.45**	**180**	*eP*		**Pn**	**00 29 56.0**	**+1.5**
PB09	**IPOC Station P**	**8.89**	**16**	Pn		**Pn**	**00 29 59.6**	**-1.2**
PB02	**IPOC Station P**	**9.23**	**11**	Pn		**Pn**	**00 30 03.4**	**-1.8**
PLCA	**Paso Flores**	**10.34**	**175**	Pn		**Pn**	**00 30 20.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=347,slow=11,SNR=8.3							
PLCA				LR		LR	00 34 23.7	
	comp=Z,310nm,19.2s,baz=352,slow=39							
PLCA	**Paso Flores**	**10.34**	**175**	Pn		**Pn**	**00 30 19.7**	**-0.6**
LL04	**Puerto Octay**	**10.47**	**183**			**Pn**	**00 30 21.1**	**-1.0**
ITQB	**Itaqui**	**13.17**	**91**	Pn		**Pn**	**00 30 58.2**	**-0.9**
CPUP	**Villa Florida**	**13.37**	**76**	Pn		**P**	**00 31 06.5**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=239,slow=12,SNR=8.0							
CPUP				LR		LR	00 36 30.9	
	comp=Z,287nm,21.7s,baz=254,slow=39							
CPUP	**Villa Florida**	**13.37**	**76**	Pn		**Pn**	**00 31 00.2**	**-1.7**
LPAZ	**La Paz**	**14.47**	**14**	Pn		**Pn**	**00 31 19.2**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=178,slow=12,SNR=8.6							
LPAZ	**La Paz**	**14.47**	**14**			**Pn**	**00 31 18.9**	**+1.5**
PLTB	**Pedras Altas**	**15.65**	**100**	Pn		**Pn**	**00 31 32.3**	**-0.1**
PLTB				IAmb		IAmb	00 31 41.0	
	comp=Z,37nm,1.3s							
SIV	**San Ignacio**	**17.41**	**37**	LR		LR	00 39 54.3	
	comp=Z,300nm,21.4s,baz=230,slow=42							
ITAB	**Concordia**	**17.52**	**84**			**P**	**00 31 57.5**	**+0.3**
ITAB				IAmb		IAmb	00 32 07.4	
	comp=Z,39nm,1.3s							
AQDB	**Aquidauana**	**17.57**	**59**			**Pn**	**00 31 57.0**	**+0.1**
NNA	**Nana**	**18.93**	**345**	LR		LR	00 37 54.1	
	comp=Z,97nm,21.0s,baz=172,slow=32							
BDFB	**Brasilia**	**26.30**	**61**	P		**P**	**00 33 26.6**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=236,slow=8.8,SNR=8.0							
BDFB				LR		LR	00 44 53.7	
	comp=Z,315nm,18.8s,baz=256,slow=39							
BDFB	**Brasilia**	**26.30**	**61**	P		**P**	**00 33 26.0**	**-1.4**
ZARC	**Zaragoza, Cauc**	**37.81**	**355**	P		**P**	**00 35 07.7**	**-0.4**
ZARC				IAmb		IAmb	00 35 21.5	
	comp=Z,10nm,1.5s							
SDV	**Santo Domingo**	**39.10**	**2**	LR		LR	00 53 45.8	
	comp=Z,81nm,18.1s,baz=158,slow=40							
MDP	**Montagnes des**	**39.80**	**31**	LR		LR	00 53 51.4	
	comp=Z,136nm,18.2s,baz=197,slow=39							
RCBR	**Riachuelo**	**41.67**	**61**	LR		LR	00 52 14.6	
	comp=Z,100nm,18.8s,baz=352,slow=35							
CMIG	**Matias Romero**	**52.21**	**332**	LR		LR	00 55 32.6	
	comp=Z,27nm,19.3s,baz=48,slow=32							
SNAA	**Sanae**	**54.82**	**159**	P		**P**	**00 37 20.9**	**-0.2**
TXAR	**Lajitas Array**	**66.74**	**330**	P		**P**	**00 38 44.7**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=149,slow=7.4,SNR=2.5							
TXAR	**Lajitas Array**	**66.74**	**330**	P		**P**	**00 38 44.0**	**+1.4**
V52A	**Sevierville**	**66.84**	**350**	P		**P**	**00 38 43.5**	**+0.4**
ANMO	**Albuquerque**	**72.76**	**331**	LR		LR	01 07 10.6	
	comp=Z,33nm,18.3s,baz=186,slow=32							
DBIC	**Dimbokro**	**73.86**	**72**	P		**P**	**00 39 26.4**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=249,slow=5.2,SNR=4.6							
DBIC				LR		LR	01 09 50.3	
	comp=Z,83nm,19.4s,baz=218,slow=34							
DBIC	**Dimbokro**	**73.86**	**72**	P		**P**	**00 39 26.0**	**-0.6**
DBIC				IAmb		IAmb	00 39 49.1	
	comp=Z,11nm,1.5s							
RAR	**Rarotonga**	**77.89**	**252**	LR		LR	01 05 36.4	
	comp=Z,82nm,21.8s,baz=174,slow=29							
KOWA	**Kowa**	**78.99**	**66**	P		**P**	**00 39 55.5**	**-0.1**
KOWA				IAmb		IAmb	00 39 57.3	
	comp=Z,2.7nm,0.8s							
TSUM	**Tsumeb**	**80.01**	**106**	LR		LR	01 14 38.7	
	comp=Z,35nm,18.1s,baz=116,slow=35							
PDAR	**Pinedale Array**	**80.68**	**333**	P		**P**	**00 40 06.0**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=134,slow=5.2,SNR=1.6							
PDAR	**Pinedale Array**	**80.68**	**333**	P		**P**	**00 40 05.6**	**+1.2**
BOSA	**Boshof**	**81.56**	**118**	LR		LR	01 14 02.7	
	comp=Z,33nm,18.9s,baz=192,slow=34							
TOA0	**Torodi Ar. Sit**	**82.81**	**70**	P		**P**	**00 40 15.4**	**-0.5**
TOA0				IAmb		IAmb	00 40 16.7	
	comp=Z,2.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.81**	**70**	P		**P**	**00 40 16.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=275,slow=5.0,SNR=9.9							
TORD	**Torodi Ar. Bea**	**82.81**	**70**	P		**P**	**00 40 15.9**	**0.0**
LBTB	**Lobatse**	**83.63**	**115**	LR		LR	01 16 54.0	
	comp=Z,58nm,18.1s,baz=202,slow=35							
O02D	**Mt. Diablo Mer**	**84.68**	**323**	P		**P**	**00 40 26.7**	**+1.6**
O02D				IAmb		IAmb	00 40 39.8	
	comp=Z,6.0nm,1.4s							
YKA	**Yellowknife Ar**	**98.75**	**341**	P		Pdif	00 41 30.7	+0.5
	comp=Z,0.1nm,0.5s,baz=142,slow=4.5,SNR=2.1							
AKASG	**Malin Array Be**	**119.60**	**46**	PKP		**PKPdf**	**00 46 40.2**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=265,slow=2.8,SNR=5.0							
ASAR	**Alice Springs**	**120.83**	**208**	PKP		**PKPdf**	**00 46 43.5**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=129,slow=2.5,SNR=1.8							
WRA	**Warramunga Arr**	**123.96**	**210**	PKP		**PKPdf**	**00 46 49.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=157,slow=1.6,SNR=6.8							
WRA	**Warramunga Arr**	**123.96**	**210**			**PKPdf**	**00 46 49.2**	**-0.9**
H11S2	**WAKE ISLAND Hyl**	**25.95**	**272**	T		T	03 05 33.1	
	baz=114,slow=75,SNR=200							
H11S1	**WAKE ISLAND Hyl**	**25.95**	**272**	T		T	03 05 33.9	
	baz=114,slow=75,SNR=208							
H11S3	**WAKE ISLAND Hyl**	**25.97**	**272**	T		T	03 05 33.8	
	baz=114,slow=75,SNR=266							
H11N3	**WAKE ISLAND Hyl**	**26.27**	**273**	T		T	03 05 58.2	
	baz=117,slow=74,SNR=8.2							
H11N1	**WAKE ISLAND Hyl**	**26.29**	**273**	T		T	03 06 05.5	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.29**	**273**	T		T	03 06 05.3	
	baz=117,slow=74							
ZALV	**Zalesovo Beam**	**151.05**	**29**	PKP		**PKPdf**	**00 47 38.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=297,slow=3.2,SNR=5.6							
ZALV				PKPbc		**PKiKP**	**00 47 44.5**	**+0.1**
	comp=Z,11nm,0.7s,baz=300,slow=3.1,SNR=53							
ZALV	**Zalesovo Beam**	**151.05**	**29**			**PKPdf**	**00 47 38.4**	**+0.5**
ZALV				PKPbc		**PKiKP**	**00 47 44.6**	**+0.3**
MKAR	**Makanchi Array**	**154.15**	**44**	PKPbc		**PKiKP**	**00 47 51.2**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=309,slow=1.9,SNR=13							
MKAR				PKPab		**PKPab**	**00 48 03.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=297,slow=4,SNR=5.8							
MKAR	**Makanchi Array**	**154.15**	**44**	PKPdf		**PKPdf**	**00 47 43.1**	**+0.3**
MKAR						**PKPbc**	**00 47 50.8**	**-0.2**
PZH	**PanZhiHua**	**173.10**	**123**	PKP		**PKPdf**	**00 48 01.0**	**0.0**

*IDC **27** 00:46:25.4±4.1,37.°51N×78.°23E,h0km,mb3.6/2, mb1 3.7/4,mb1mx3.3/49,mbtmp3.6/4,ML3.1/2,Error ellipse: s-maj=90.0km s-min=42.3km az=129.0*

ISC 27 00:46:28.8±2.3,37.6N±0.2×78.1E±0.1,h17km,n8,σ2°28/8, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.53**	**319**	Pn	**Pn**	**00 47 11.5**	**+2.2**
KSH				Sn	**Sn**	**00 47 41.3**	**+1.5**
KSH				smax	smax		
	comp=N,190nm,0.5s						
KSH				smax	smax		

	comp=E,220nm,0.6s							
UCH	**Uchtor**	**5.37**	**330**	P		**Pn**	**00 47 44.8**	**-3.8**
	SNR=7.0							
TKM2	**Tokmak 2**	**5.63**	**341**	P		Pn	00 47 45.8	-6.1
	SNR=5.2							
AAK	**Ala-Archa**	**5.73**	**332**	P		Pn	00 47 44.4	-8.8
	SNR=8.5							
MKAR	**Makanchi Array**	**9.68**	**17**	Pn		**Pn**	**00 48 48.8**	**+1.6**
	comp=E,0.6nm,0.3s,baz=200,slow=13,SNR=34							
MKAR				Sn		**Sn**	**00 50 35.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=188,slow=24,SNR=2.6							
ZALV	**Zalesovo Beam**	**16.97**	**14**	P		**P**	**00 50 25.8**	**-1.3**
	comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=1.9							
FINES	**FINESS Array B**	**39.84**	**324**	P		**P**	**00 54 01.4**	**+0.4**
	comp=E,2.5nm,1.0s,baz=123,slow=10,SNR=5.7							
YKA	**Yellowknife Ar**	**79.70**	**6**	P		**P**	**00 58 35.0**	**-0.2**
	comp=E,0.1nm,0.6s,baz=346,slow=5.5,SNR=4.2							

*IDC **27** 00:49:45.7±2.2,5.°10S×153.°22E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.6/37,mbtmp3.6/8,MS3.4/1,Ms1 3.4/1, ms1mx2.5/50,Error ellipse: s-maj=79.5km s-min=22.4km az=116.0*

ISC 27 00:49:51.7±2.0,5.2S±0.3×153.3E±0.4,h43km,n10, σ0°53/9,mb3.6/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**230**	P	**P**	**00 54 57.9**	**-0.6**
	1.4nm,0.8s,baz=53,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**26.19**	**223**	P	**P**	**00 55 22.6**	**+0.1**
	0.8nm,0.8s,baz=56,slow=9.0,SNR=8.8						
FITZ	**Fitzroy Crossi**	**29.88**	**242**	P	**P**	**00 55 56.0**	**+0.4**
	1.2nm,0.9s,baz=50,slow=10,SNR=2.1						
JCJ	**Chichijima**	**33.80**	**342**	LR	LR	01 08 32.6	
	comp=Z,62nm,20.6s,baz=54,slow=33						
KLR	**Kul'dur**	**57.31**	**343**	P	**P**	**00 59 35.8**	**+0.7**
	0.4nm,0.4s,baz=157,slow=7.7,SNR=4.0						
SONM	**Songino Array**	**66.86**	**328**	P	**P**	**01 00 39.1**	**-0.4**
	0.3nm,0.5s,baz=129,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**01 02 01.2**	**-0.3**
	0.1nm,0.5s,baz=98,slow=7.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**01 02 04.8**	**-0.7**
	0.4nm,0.4s,baz=120,slow=5.2,SNR=3.6						
ILAR	**Eielson Array**	**82.32**	**22**	P	**P**	**01 02 08.8**	**+0.2**
	0.3nm,0.7s,baz=231,slow=6.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**150.84**	**288**	PKPbc	**PKiKP**	**01 09 41.0**	**-0.3**
	0.7nm,0.9s,baz=87,slow=2.8,SNR=5.2						

*IDC **27** 00:52:26.2±1.0,41.°84N×133.°71E,h482km±14km,mb2.8/4, mb1 2.9/9,mb1mx2.6/46,mbtmp3.6/9,Error ellipse: s-maj=30.6km s-min=18.3km az=79.0*

ISC 27 00:52:25.8±1.0,41.°8N±0.1×133.°7E±0.1,h462km,n9, σ1°63/9,mb3.1/4,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**2.70**	**333**	P	**P**	**00 53 33.6**	**+2.1**
	baz=146,slow=5.3,SNR=26						
KSRS	**Korea Array**	**6.22**	**228**	P	**P**	**00 54 04.5**	**+1.7**
	0.8nm,0.3s,baz=41,slow=10,SNR=22						
MJAR	**Matsushiro Arr**	**6.32**	**145**	P	**P**	**00 54 05.5**	**+1.5**
	0.0nm,0.3s,baz=328,slow=12,SNR=5.4			

EQUE	**Quentar**	**1.73**	**9**	Pn		**Pn**	**01 05 29.4**	**+1.6**
EQUE				Sn		**Sn**	**01 05 50.3**	**+0.7**
SICH	**Sidi Chahed**	**1.88**	**223**	P		**Pg**	**01 05 35.0**	**+0.7**
ENIJ	**Nijar**	**1.94**	**40**	Pn		**Pn**	**01 05 29.9**	**-0.7**
ENIJ				Sn		**Sn**	**01 05 52.7**	**-2.1**
ENIJ				*i* Vmb_Lg			01 05 54.3	
LCRM	**LCR**	**2.02**	**207**	P		**Pb**	**01 05 36.0**	**+1.4**
LCRM	**LCR**	**2.02**	**207**	P		**Pn**	**01 05 31.9**	**+0.1**
LCRM				S		**Sn**	**01 05 58.8**	**+2.0**
ESPR	**Espera**	**2.17**	**310**	Pn		**Pb**	**01 05 37.8**	**+0.7**
ESPR				Sn		**Sn**	**01 06 01.6**	**+1.2**
IFR	**Ifrane**	**2.27**	**210**	P		**Pn**	**01 05 35.2**	**-0.1**
IFR				S		Sg	01 06 49.2	+38
CZD	**Col de Zad**	**2.67**	**204**	P		**Pn**	**01 05 42.0**	**+1.0**
CZD	**Col de Zad**	**2.67**	**204**	P		**Pn**	**01 05 41.4**	**+0.4**
CZD				S		**Sn**	**01 06 12.8**	**-0.4**
EADA	**Adamuz**	**2.74**	**347**	Pn		**Pn**	**01 05 43.3**	**+1.6**
EADA				Sn		**Sn**	**01 06 15.5**	**+0.9**
MD31	**MD31**	**2.75**	**198**	P		**Pn**	**01 05 41.2**	**-0.6**
MD31				S		**Sn**	**01 06 13.1**	**-1.7**
MDT	**Midelt**	**2.76**	**195**	P		**Pn**	**01 05 42.1**	**+0.1**
MDT	**Midelt**	**2.76**	**195**	P		**Pn**	**01 05 42.1**	**+0.1**
MDT				S		**Sn**	**01 06 17.6**	**+2.4**
TDRA	**Tendrara**	**2.84**	**149**	P		**Pn**	**01 05 43.1**	**-0.1**
ECAB	**El Cabril**	**2.89**	**333**	Pn		**Pn**	**01 05 45.0**	**+1.3**
ECAB				Sn		**Sn**	**01 06 18.8**	**+0.5**
EZAR	**Zarzadilla de**	**2.90**	**35**	Sn		**Sn**	**01 06 18.1**	**-0.5**
CART	**Cartagena**	**3.05**	**46**	P		**Pn**	**01 05 47.4**	**+1.5**
CART				S		**Sn**	**01 06 19.7**	**-2.5**
CART	**Cartagena**	**3.05**	**46**	P		**Pn**	**01 05 47.0**	**+1.1**
CART				S		**Sn**	**01 06 20.2**	**-1.9**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn		**Pn**	**01 05 48.6**	**-0.1**
EMIN				Sn		**Sn**	**01 06 27.4**	**+0.3**
ETOB	**Tobarra**	**3.61**	**29**	Pn		**Pn**	**01 05 55.4**	**+1.8**
ETOB				Sn		**Sn**	**01 06 37.5**	**+1.5**
ETOB				*i* Vmb_Lg			01 06 40.3	
EGRO	**El Granado**	**3.62**	**305**	Pn		**Pn**	**01 05 53.5**	**-0.1**
EGRO				Sn		**Sn**	**01 06 34.7**	**-1.4**
EGRO				*i* Vmb_Lg			01 06 36.8	
PVAQ	**Vaqueiros**	**3.71**	**302**	P		**Pn**	**01 05 55.2**	**+0.3**
PVAQ	**Vaqueiros**	**3.71**	**302**	P		**Pn**	**01 05 54.8**	**0.0**
PVAQ				S		**Sn**	**01 06 36.2**	**-2.1**
AVE	**Averroes**	**3.73**	**235**	P		**Pb**	**01 06 07.0**	**+3.4**
AVE				S		**Sb**	**01 06 49.2**	**+0.6**
FIGM	**Figuig**	**3.95**	**147**	P		**Pn**	**01 05 57.4**	**-0.9**
FIGM				S		**Sn**	**01 06 44.3**	**-0.2**
PAB	**San Pablo**	**4.07**	**354**	Pn		**Pn**	**01 06 00.7**	**+0.8**
PAB				Sn		**Sn**	**01 06 46.9**	**-0.4**
PAB				*i* Vmb_Lg			01 07 31.0	
EBAD	**Badajoz**	**4.16**	**322**	Pn		**Pn**	**01 06 02.2**	**+1.1**
EBAD				Sn		**Sn**	**01 06 50.0**	**+0.5**
EBAD				*i* Vmb_Lg			01 06 54.1	
ESDC	**Sonseca Array**	**4.17**	**358**	Pn		**Pn**	**01 06 03.1**	**+1.7**
ESDC				Sn		**Sn**	**01 06 49.9**	**0.0**
ESDC				*i* Vmb_Lg			01 07 40.7	
MORF	**Marmelete**	**4.33**	**296**	*e*P		**Pn**	**01 06 03.7**	**+0.2**
MORF				*e*S		**Sn**	**01 06 51.3**	**-2.5**
MORF				IAML			01 06 53.5	
	comp=N,8.4nm,0.2s							
EVO	**Evora**	**4.55**	**313**	P		**Pb**	**01 06 17.1**	**-0.6**
EVO				S		**Sb**	**01 07 08.6**	**-3.7**
UCM	**Universidad Co**	**4.82**	**5**	P		**Pb**	**01 06 19.9**	**-2.4**
UCM				S		**Sn**	**01 07 11.9**	**+6.1**
EPLA	**Plasencia**	**4.91**	**339**	Pn		**Pn**	**01 06 14.3**	**+2.8**
EPLA				Sn		**Sn**	**01 07 10.0**	**+1.9**
EPLA				*i* Vmb_Lg			01 09 09.0	
TZRR	**Tazzarine**	**4.94**	**198**	P		**Pn**	**01 06 13.1**	**+1.2**
ETOR	**Torete**	**5.48**	**14**	Pn		**Pn**	**01 06 21.3**	**+1.9**
ETOR				*i* Vmb_Lg			01 07 03.4	
TTIG	**Tnine Tigouga,**	**6.30**	**220**	P		**Pn**	**01 06 29.4**	**-1.3**
ERTA	**Horta de San J**	**6.34**	**29**	Sn		**Sn**	**01 07 45.6**	**+2.5**
EPOB	**Poblet**	**6.97**	**32**	Sn		**Sn**	**01 08 01.6**	**+2.6**
ELOB	**Lobios**	**7.19**	**333**	Pn		**Pn**	**01 06 44.8**	**+2.0**
ELOB				Sn		**Sn**	**01 08 06.2**	**+2.0**

*STR **27** 01:09:32.2±0.4,43˚N±5˚×±˚, h21km±2km, MLv2.5/7, preliminary*
*INMG **27** 01:09:34.8±1.8,43˚.08N×1˚.23W, h4km±5km, ML2.1, Error ellipse: s-maj=3.6km s-min=3.6km az=48.0*
*LDG **27** 01:09:34.0±0.1,43˚.12N×1˚.14W, h2km, Md2.6/2, Ml2.6/29, Error ellipse: s-maj=1.4km s-min=1.3km az=138.0*

ISC 27 01:09:32.3±0.8,43˚.17N±0˚.03×1˚.15W±0˚.02,h16km±5km, n47,σ1s33/97,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.08**	**224**	*e*Pg	**Pg**	**01 09 34.9**	**-0.6**
SJPF				*e*Sg	**Sg**	**01 09 36.0**	**-1.6**
	2µm,0.3s						
OSSF	**Osses**	**0.12**	**318**	Pg	**Pg**	**01 09 36.6**	**+0.6**
OSSF				Sg	**Sg**	**01 09 38.9**	**+0.5**
EALK	**Alkurruntz**	**0.26**	**282**	Pg	**Pg**	**01 09 38.9**	**+0.7**
EALK				Sg	**Sg**	**01 09 42.5**	**+0.4**
ATE	**Arette**	**0.34**	**104**	Pg	**Pg**	**01 09 39.7**	**+0.3**
ATE				Sg	**Sg**	**01 09 44.7**	**+0.4**
EARA	**Aranguren**	**0.50**	**219**	Pg	**Pb**	**01 09 42.8**	**0.0**
ETSF	**Etsaut**	**0.51**	**121**	*e*Pg	**Pg**	**01 09 42.2**	**-0.3**
ETSF				*e*Sg	**Sg**	**01 09 48.7**	**-0.7**
	82nm,0.2s						
TERF	**Tercis-les-Bai**	**0.51**	**3**	Pg	**Pn**	**01 09 44.9**	**-0.1**
CANF	**Canfranc**	**0.62**	**131**	Pg	**Pg**	**01 09 44.1**	**-0.4**
CANF				Pn	**Pb**	**01 09 45.6**	**+0.8**
VIEF	**Viey**	**0.91**	**108**	Pg	**Pb**	**01 09 49.7**	**-0.1**
VIEF				Sg	**Sb**	**01 10 01.6**	**0.0**
EPF	**Esparros**	**1.10**	**97**	*e*Pg	**Pg**	**01 09 54.0**	**+0.4**
EPF				*e*Sg	**Sn**	**01 10 08.4**	**+0.4**
	28nm,0.2s						
ECHI	**Chisagues Biel**	**1.11**	**116**	Pn	**Pb**	**01 09 52.9**	**-0.4**
ECHI				Pg	**Pg**	**01 09 57.1**	**+3.3**
ECHI				Sn	**Sn**	**01 10 09.0**	**+0.6**
LRVF	**chteau la Riv**	**1.88**	**19**	Pn	**Pn**	**01 10 00.8**	**-2.9**
LRVF				Pg	**Pg**	**01 10 09.7**	**+1.2**
LRVF				Sn	**Sn**	**01 10 28.6**	**+1.5**
LRVF				Sg	**Sg**	**01 10 35.1**	**+2.2**
LFF	**La Frestale**	**2.24**	**37**	*e*Pg	**Pg**	**01 10 15.6**	**+0.4**
LFF				*e*Sn	**Sn**	**01 10 37.9**	**+2.0**
LFF				*e*Sg	**Sg**	**01 10 46.3**	**+2.1**
	21nm,0.3s						
MTLF	**Montolieu**	**2.47**	**85**	*e*Pn	**Pn**	**01 10 13.8**	**+1.9**
MTLF	**Montolieu**	**2.47**	**85**	*e*Pg	**Pg**	**01 10 19.2**	**-0.4**
MTLF				*e*Sn	**Sn**	**01 10 41.9**	**+0.2**
MTLF				*e*Sg	**Sg**	**01 10 51.0**	**-0.7**
	9.9nm,0.4s						
RJF	**Les Rejaudoux**	**2.87**	**41**	*e*Pn	**Pn**	**01 10 19.1**	**+1.7**
RJF	**Les Rejaudoux**	**2.87**	**41**	*e*Pg	**Pg**	**01 10 28.1**	**+0.8**
RJF				*e*Sn	**Sn**	**01 10 51.7**	**+0.1**
RJF				*e*Sg	**Sg**	**01 11 05.1**	**+0.5**
	12nm,0.3s						
CAF	**Calviac**	**2.91**	**52**	*e*Pn	**Pn**	**01 10 19.1**	**+1.1**
CAF				*e*Sn	**Sn**	**01 10 53.7**	**+1.1**
CAF				*e*Sg	**Sg**	**01 11 06.6**	**+0.8**
	8.9nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**11**	*e*Pn	**Pn**	**01 10 27.8**	**+1.6**
MFF	**Saint Martin d**	**3.51**	**11**	*e*Pg	**Pg**	**01 10 39.9**	**+0.4**
MFF				*e*Sn	**Sn**	**01 11 07.6**	**+0.3**
MFF				*e*Sg	**Sg**	**01 11 26.0**	**+1.0**
	4.1nm,0.3s						
LASF	**Ste Croix**	**3.75**	**74**	*e*Pn	**Pn**	**01 10 30.0**	**+0.5**
LASF				*e*Sn	**Sn**	**01 11 12.5**	**-0.8**
LASF				*e*Sg	**Sg**	**01 11 31.7**	**-1.0**
	2.1nm,0.3s						
TCF	**Toulx Ste Croi**	**3.93**	**36**	*e*Pg	**Pg**	**01 10 47.3**	**-0.4**
TCF				*e*Sn	**Sn**	**01 11 18.3**	**+0.4**
TCF				*e*Sg	**Sg**	**01 11 38.9**	**+0.3**
	3.9nm,0.3s						
PBRG	**Braganca**	**4.35**	**254**	*e*Pn	**Pn**	**01 10 41.6**	**+3.8**
PBRG				*e*Sn	**Sn**	**01 11 29.8**	**+1.6**
BGF	**Bois d'Agland**	**4.42**	**39**	*e*Pg	**Pg**	**01 10 56.5**	**-0.5**
BGF				*e*Sg	**Sg**	**01 11 53.9**	**-0.4**
	17nm,0.4s						
VIVF	**Saint-Julien-l**	**4.53**	**66**	*e*Pn	**Pn**	**01 10 41.3**	**+1.1**
VIVF				*e*Sn	**Sn**	**01 11 31.9**	**-0.6**
	0.7nm,0.2s						
VIVF				*e*Sg	**Sg**	**01 11 56.5**	**-1.2**
	3.0nm,0.4s						
MVO	**Moncorvo**	**4.80**	**247**	*e*Pn	**Pn**	**01 10 46.4**	**+2.4**
MVO				*e*Sn	**Sn**	**01 11 38.8**	**-0.6**
MVO				A	A	01 12 06.2	
	3.4nm,0.6s						
AVF	**Avril sur Loir**	**4.83**	**40**	*e*Pn	**Pn**	**01 10 45.7**	**+1.4**
AVF	**Avril sur Loir**	**4.83**	**40**	*e*Pg	**Pg**	**01 11 03.8**	**-1.0**
AVF				*e*Sn	**Sn**	**01 11 39.7**	**-0.2**
AVF				*e*Sg	**Sg**	**01 12 06.8**	**-0.5**
	5.8nm,0.5s						
QUIF	**Quistinic**	**4.96**	**344**	*e*Pn	**Pn**	**01 10 47.9**	**+1.9**
QUIF				*e*Sn	**Sn**	**01 11 42.2**	**-0.7**
	0.5nm,0.2s						
SMRF	**Simiane la Rot**	**4.96**	**78**	*e*Pn	**Pn**	**01 10 46.8**	**+0.7**
SMF	**Signal de Mont**	**4.97**	**44**	*e*Pn	**Pn**	**01 10 46.5**	**+0.3**
SMF	**Signal de Mont**	**4.97**	**44**	*e*Pg	**Pg**	**01 11 06.4**	**-1.0**
SMF				*e*Sg	**Sg**	**01 12 10.9**	**-0.8**
	3.2nm,0.4s						
SSF	**Saint Saulge**	**5.10**	**39**	*e*Pn	**Pn**	**01 10 49.5**	**+1.5**
SSF	**Saint Saulge**	**5.10**	**39**	*e*Pg	**Pg**	**01 11 08.9**	**-1.1**
SSF				*e*Sn	**Sn**	**01 11 46.3**	**-0.3**
	1.5nm,0.3s						
SSF				*e*Sg	**Sg**	**01 12 15.3**	**-0.7**
	3.5nm,0.5s						
GRR	**Gorron**	**5.23**	**2**	*e*Pn	**Pn**	**01 10 52.3**	**+2.6**
GRR	**Gorron**	**5.23**	**2**	*e*Pg	**Pg**	**01 11 10.0**	**-2.3**
GRR				*e*Sn	**Sn**	**01 11 47.4**	**-2.2**
	2.8nm,0.3s						
GRR				*e*Sg	**Sg**	**01 12 19.9**	**-0.1**
	0.5nm,0.2s						
ROSF	**Rostrenen**	**5.38**	**345**	*e*Pn	**Pn**	**01 10 54.0**	**+2.2**
ROSF				*e*Sn	**Sn**	**01 11 52.5**	**-0.9**
	1.7nm,0.3s						
LOR	**Lormes**	**5.42**	**39**	*e*Pn	**Pn**	**01 10 53.7**	**+1.3**
LOR	**Lormes**	**5.42**	**39**	*e*Pg	**Pg**	**01 11 14.7**	**-1.3**
LOR				*e*Sn	**Sn**	**01 11 53.7**	**-0.7**
	1.0nm,0.2s						
LOR				*e*Sg	**Sg**	**01 12 25.2**	**-0.9**
	2.0nm,0.4s,baz=219						
LDF	**La Druitiere**	**5.47**	**7**	*e*Pn	**Pn**	**01 10 55.1**	**+1.9**
LDF	**La Druitiere**	**5.47**	**7**	*e*Pg	**Pg**	**01 11 16.4**	**-0.7**
LDF				*e*Sn	**Sn**	**01 11 54.9**	**-0.8**
	0.3nm,0.2s						
LDF				*e*Sg	**Sg**	**01 12 27.4**	**-0.5**
	0.5nm,0.2s						
FLN	**La Foliniere**	**5.62**	**5**	*e*Pg	**Pg**	**01 11 18.4**	**-1.4**
	baz=185						
FLN				*e*Sn	**Sn**	**01 11 58.5**	**-0.7**
FLN				*e*Sg	**Sg**	**01 12 32.0**	**-0.5**
	0.6nm,0.2s						
FRF	**La Foret Royal**	**5.70**	**83**	*e*Pn	**Pn**	**01 10 56.9**	**+0.6**
FRF				*e*Sn	**Sn**	**01 11 59.2**	**-2.1**
	0.3nm,0.3s						
PMRV	**Marv??o**	**6.00**	**234**	*e*Pn	**Pn**	**01 11 02.0**	**+1.6**
PMRV				*e*Sn	**Sn**	**01 12 07.1**	**-1.7**
PMRV				A	A	01 12 18.6	
	2.1nm,0.7s						
PESTR	**Estremoz**	**6.49**	**231**	*e*Pn	**Pn**	**01 11 08.6**	**+1.4**
PESTR				*e*Sn	**Sn**	**01 12 18.0**	**-2.9**
PBAR	**Barrancos**	**6.70**	**224**	*e*Sn	**Sn**	**01 12 24.7**	**-1.2**
PVAQ	**Vaqueiros**	**7.63**	**223**	*e*Sn	**Sn**	**01 12 46.6**	**-2.4**

*IDC **27** 01:20:37.3±6.2, 7˚.00S×129˚.54E, h125km±53km, mb3.6/3, mb1 4.0/6, mb1mx3.4/28, mbtmp4.3/6, Error ellipse: s-maj=72.4km s-min=21.5km az=57.0*
*DJA **27** 01:20:41.0±0.2, 7˚S±2˚×12˚9E±˚, h199km±6km, M4.4/22, mB4.9/7, mb4.3/22, MLv4.5/10, Mw(mB)4.2/7*

ISC 27 01:20:40.1±0.6,7˚.35S±0˚.06×129˚.22E±0˚.06,h150km,n41, σ2s63/47,mb3.6/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.15**	**107**	P	Pn	01 21 22.0	+5.0
FAKI	**Fak Fak**	**5.33**	**35**	P	**Pn**	**01 21 57.3**	**-0.7**
	0.2nm39nm,1.1s						
FAKI				S	**Sn**	**01 22 53.7**	**-5.1**
	0.2nm39nm,1.1s						
SOEI	**Soe**	**5.45**	**244**	P	**Pn**	**01 22 02.3**	**+2.6**
	0.7nm2µm177nm,0.7s						
SOEI				S	**Sn**	**01 23 03.7**	**+1.9**
	0.7nm2µm177nm,0.7s						
SOEI	**Soe**	**5.45**	**244**	P	**Pn**	**01 22 02.9**	**+3.2**
MTN	**Manton Dam**	**5.78**	**161**	P	**Pn**	**01 22 07.3**	**+3.5**
BATI	**Baumata**	**6.18**	**242**	P	**Pn**	**01 22 12.0**	**+2.7**
	68nm,0.3s,baz=84,slow=2.0,SNR=84						
BATI				S	**Sn**	**01 23 19.1**	**-0.1**
	28nm,0.3s,baz=104,slow=22,SNR=16						
BATI	**Baumata**	**6.18**	**242**	P	**Pn**	**01 22 11.5**	**+2.2**
	0.6nm2µm150nm,0.6s						
BATI				S	**Sn**	**01 23 19.6**	**+0.4**
	0.6nm2µm150nm,0.6s						
KDU	**Kakadu**	**6.20**	**149**	P	**Pn**	**01 22 12.9**	**+3.5**
SWI	**Sorong**	**6.75**	**18**	P	**Pn**	**01 22 19.5**	**+2.6**
	0.1nm10nm,0.8s						
BBSI	**Bau Bau**	**6.86**	**285**	P	**Pn**	**01 22 19.3**	**+0.9**
	0.0nm5.9nm,1.1s						
LBMI	**Labuha**	**6.88**	**345**	P	**Pn**	**01 22 20.1**	**+1.5**
	0.2nm36nm,0.4s						
MMRI	**Maumere**	**7.04**	**259**	P	**Pn**	**01 22 22.5**	**+1.8**
	0.2nm2µm33nm,0.7s						
TNTI	**Ternate**	**8.28**	**347**	P	**Pn**	**01 22 38.1**	**+0.9**
	26nm,0.8s						
KNRA	**Kununurra**	**8.29**	**183**	P	**Pn**	**01 22 39.3**	**+1.9**
BASI	**Baing, Sumba**	**9.01**	**251**	P	**Pn**	**01 22 47.6**	**+0.6**
	807nm34nm,0.5s						
BAKI	**Biak**	**9.19**	**49**	P	**Pn**	**01 22 50.9**	**+1.5**
WBSI	**Waikabubak, Su**	**9.99**	**256**	P	**Pn**	**01 22 58.9**	**-1.1**
	49nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.24**	**198**	P	**Pn**	**01 23 16.7**	**+0.2**
	0.3nm,0.3s,baz=25,slow=10,SNR=38						
FITZ				S	**Sn**	**01 25 16.3**	**-4.5**
	1.2nm,0.3s,baz=133,slow=22,SNR=14						
PLAI	**Plampang**	**11.43**	**262**	P	**Pn**	**01 23 16.4**	**-2.6**
	27nm,0.5s						
MPSI	**Mapaga**	**12.03**	**309**	P	**Pn**	**01 23 25.6**	**-1.3**
WRAB	**Tennant Creek**	**13.46**	**159**	P	**P**	**01 23 49.3**	**0.0**
WRA	**Warramunga Arr**	**13.47**	**159**	P	**Pn**	**01 23 45.0**	**-0.3**
	0.7nm,0.3s,baz=345,slow=13,SNR=24						
WRA				S	**Sn**	**01 26 07.3**	**-7.2**
	1.0nm,0.3s,baz=327,slow=23,SNR=8.9						
DNP	**Denpasar**	**13.94**	**264**	P	**Pn**	**01 23 49.8**	**-1.5**
	279nm,1.1s						
IGBI	**Denpasar**	**14.01**	**263**	P	**Pn**	**01 23 50.5**	**-1.8**
	52nm,0.9s						
BBKI	**Banjar Baru**	**14.83**	**284**	P	**Pn**	**01 24 00.5**	**-2.0**
ABJI	**Asem Bagus**	**14.87**	**267**	P	**Pn**	**01 24 01.1**	**-1.8**
	23nm,0.4s						
JAGI	**Jajag, Banyuwa**	**14.97**	**265**	P	**Pn**	**01 24 02.5**	**-1.8**
	1µm20nm,0.6s						
KMMI	**Kalianget**	**15.14**	**270**	P	**Pn**	**01 24 04.7**	**-1.7**
	31nm,1.4s						
BLJI	**Banyuglugur**	**15.50**	**268**	P	**Pn**	**01 24 08.8**	**-2.0**
	15nm,0.6s						
QIS	**Mount Isa**	**16.54**	**144**	P	**Pn**	**01 24 26.8**	**+3.3**
ASAR	**Alice Springs**	**16.84**	**165**	P	**Pn**	**01 24 29.7**	**+2.6**
	3.0nm,0.3s,baz=342,slow=10,SNR=393						
ASAR				S	**S**	**01 27 30.4**	**-4.0**
	0.2nm,0.3s,baz=348,slow=25,SNR=6.6						
WRKA	**Warakurna**	**17.61**	**183**	P	**Pn**	**01 24 38.2**	**+1.8**
PCJI	**Pacitan**	**17.90**	**266**	P	**P**	**01 24 35.0**	**-3.4**
MTSU	**Mount Surprise**	**18.20**	**128**	P	**Pn**	**01 24 45.4**	**+2.1**
OOD	**Oodnadatta**	**21.24**	**164**	P	**P**	**01 25 16.6**	**+2.3**
INKA	**Innaminka**	**23.04**	**153**	P	**P**	**01 25 35.3**	**+3.1**
QLP	**Quilpie**	**23.87**	**145**	P	**P**	**01 25 43.6**	**+3.8**
LCRK	**Leigh Creek**	**24.48**	**161**	P	**P**	**01 25 48.2**	**+2.9**
STKA	**Stephens Creek**	**27.00**	**156**	P	**P**	**01 26 10.1**	**+2.0**
	2.5nm,0.5s,baz=340,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**01 31 23.0**	**-0.7**
	0.3nm,0.5s,baz=120,slow=7.2,SNR=8.6						
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**01 31 49.3**	**+1.1**
	1.0nm,0.9s,baz=313,slow=7.5,SNR=8.0						

*MAN **27** 02:10:52.6, 11˚.13N×126˚.92E, h11km, mb4.4, ML3.3, MS3.1*

IDC 27 02:10:52.0±1.3,11˚.16N×127˚.25E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.4/50,mbtmp3.5/5,MS2.8/2,Ms1 2.8/2, ms1mx2.4/60,Error ellipse: s-maj=76.3km s-min=23.0km az=75.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.39**	**202**	LR	LR	02 13 54.4	
	comp=Z,102nm,20.9s,baz=326,slow=42						
JAY	**Jayapura**	**19.07**	**135**	LR	LR	02 22 51.9	
	comp=Z,31nm,18.9s,baz=282,slow=38						
FITZ	**Fitzroy Crossi**	**29.11**	**183**	P	P	02 16 55.9	+1.2
	0.5nm,0.4s,baz=8.4,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**31.68**	**167**	P	P	02 17 16.7	-0.7
	0.3nm,0.6s,baz=350,slow=9.3,SNR=4.8						
ASAR	**Alice Springs**	**35.22**	**169**	P	P	02 17 47.9	-0.4
	0.2nm,0.3s,baz=348,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**51.92**	**322**	P	P	02 20 02.1	-0.5
	0.9nm,0.8s,baz=116,slow=7.9,SNR=8.4						
YKA	**Yellowknife Ar**	**92.56**	**24**	P	P	02 24 05.8	+0.6
	0.3nm,1.0s,baz=302,slow=6.6,SNR=4.5						

IDC 27 02:15:47.2±3.0,32˚.74S×178˚.50W,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.6/36,mbtmp3.6/3,ML3.4/1,Error ellipse: s-maj=70.0km s-min=45.2km az=123.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.57**	**212**	Pn	Pn	02 17 24.3	-0.7
	0.8nm,0.3s,baz=30,slow=17,SNR=8.4						
URZ				Sn	Sn	02 18 37.2	-3.4
	0.5nm,0.3s,baz=162,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**42.62**	**270**	P	P	02 23 45.4	0.0
	0.3nm,0.5s,baz=110,slow=7.7,SNR=9.3						
WRA	**Warramunga Arr**	**43.81**	**275**	P	P	02 23 55.1	-0.1
	0.6nm,0.4s,baz=114,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**147.17**	**338**	PKPbc	PKPbc	02 35 30.8	-0.8
	4.6nm,1.0s,baz=29,slow=3.2,SNR=7.1						

*JMA **27** 02:23:11.4±0.2, 33˚.63N×137˚.39E, h362km, M2.4*
*IDC **27** 02:23:11.3±6.0, 33˚.50N×136˚.75E, h332km±239km, mb2.8/3, mb1 3.0/4, mb1mx2.6/49, mbtmp3.4/4, Error ellipse: s-maj=321.0km s-min=151.3km az=7.0*

ISC 27 02:23:12.1±1.0,33˚.6N±0˚.1×137˚.36E±0˚.08,h352km,n10, σ0s57/12,mb2.9/3,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**1.58**	**292**	P	**Pn**	**02 24 02.0**	**+1.0**
JWT	**Wachi**	**2.30**	**316**	P	**Pn**	**02 24 06.2**	**+0.5**
JWT				*e*S	**S**	**02 24 48.2**	**-0.6**
JAI	**Aioi**	**2.43**	**274**	P	**Pn**	**02 24 07.1**	**+0.3**
JMN	**Monobe**	**2.90**	**273**	P	**Pn**	**02 24 11.2**	**+0.4**
MJAR	**Matsushiro Arr**	**2.98**	**13**	P	**Pn**	**02 24 11.7**	**+0.3**
	0.2nm,0.3s,baz=209,slow=9.5,SNR=9.0						
BSO1	**Boso 1**	**3.17**	**70**	P	**Pn**	**02 24 12.8**	**+0.4**
BSO1				*e*S	**S**	**02 25 01.5**	**+0.4**
JAG	**Ashikaga**	**3.26**	**31**	P	**Pn**	**02 24 13.9**	**0.0**
FITZ	**Fitzroy Crossi**	**52.65**	**194**	P	**P**	**02 31 51.2**	**-0.2**
	0.5nm,0.5s,baz=49,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**53.36**	**184**	P	**P**	**02 31 56.0**	**-0.6**
	0.2nm,0.3s,baz=1.0,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**57.09**	**184**	P	**P**	**02 32 22.4**	**-0.4**
	0.2nm,0.5s,baz=356,slow=5.7,SNR=4.8						

*LDG **27** 02:42:05.8±0.1, 43˚.32N×0˚.88W, h3km, Md1.7/2, Ml1.7/9, Error ellipse: s-maj=1.4km s-min=0.9km az=145.0*
*STR **27** 02:42:06.8±1.5, 43˚˚N±16˚×±˚, h16km±10km, MLv1.0/4, preliminary*
*MDD **27** 02:42:07.7±0.5, 43˚.22N×0˚.91W, h0km, mb_Lg2.5/4, Error ellipse: s-maj=4.3km s-min=2.7km az=17.0*

ISC 27 02:42:04.6±1.0,43˚.34N±0˚.03×0˚.85W±0˚.02,h14km±9km, n20,σ0s76/40,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.28**	**156**	Pg	**Pb**	**02 42 11.5**	**+0.2**
ATE				Sg	**Sb**	**02 42 15.3**	**-0.5**
OSSF	**Osses**	**0.31**	**255**	Pg	**Pb**	**02 42 11.9**	**0.0**
OSSF				Sg	**Sg**	**02 42 15.9**	**+0.5**
SJPF	**Ste Jean**	**0.35**	**231**	*e*Pg	**Pb**	**02 42 12.4**	**-0.3**
SJPF				*e*Sg	**Sg**	**02 42 16.3**	**-0.4**
	26nm,0.2s						
ETSF	**Etsaut**	**0.49**	**154**	*e*Pg	**Pb**	**02 42 14.8**	**-0.2**
ETSF				*e*Sg	**Sg**	**02 42 21.1**	**+0.3**

0.3nm,0.3s,baz=93,slow=8.5,SNR=10
WRA Warramunga Arr 44.60 263 P P 03 37 54.8 -0.4
0.3nm,0.3s,baz=96,slow=7.4,SNR=22
AKASG Malin Array Be 143.85 331 PKP PKPdf 03 49 06.5 -0.5
0.4nm,0.6s,baz=45,slow=4.5,SNR=5.2

JMA ***27*** *03:49:03.8±1.1, 45.05N×148.70E, h30km, M3.9*
SKHL ***27*** *03:49:03.6±0.6, 44.80N×148.90E, h48km±7km, mb3.9/3*
ISC 27 03:49:01.8±4.0, 44.76N±0.08×149.0E±0.2, h35km, n20, σ1§92/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.93**	**301**	*e*P		**Pn**	**03 49 18.1**	**-0.2**
KUR				AMB		AMB	03 49 18.6	
	80nm,0.3s							
KUR				*i* S		**Sn**	**03 49 29.0**	**-1.3**
KUR				A		A	03 49 32.8	
	390nm,0.4s							
KUR				A		A	03 49 32.8	
	320nm,0.4s							
SHO	**Shikotan**	**1.79**	**241**	*e*P		**Pn**	**03 49 31.5**	**+1.4**
SHO				AMB		AMB	03 49 33.2	
	20nm,0.2s							
SHO				*e*S		**Sn**	**03 49 50.9**	**-0.6**
SHO				A		A	03 50 00.6	
	180nm,0.2s							
SHO				A		A	03 50 00.6	
	80nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.35**	**253**	*e*P		**Pn**	**03 49 38.9**	**+1.0**
YUK				AMB		AMB	03 49 39.8	
	20nm,0.3s							
YUK				*e*S		**Sn**	**03 50 05.6**	**+0.1**
YUK				A		A	03 50 08.7	
	320nm,0.5s							
YUK				A		A	03 50 08.7	
	180nm,0.5s							
NEM2	**Nemuro 2**	**2.72**	**240**	P		**Pn**	**03 49 44.3**	**+1.4**
NEM2				*e*S		**Sn**	**03 50 13.6**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.73**	**241**	*e*P		**Pn**	**03 49 44.4**	**+1.4**
NMR				*e*S		**Sn**	**03 50 13.8**	**-1.0**
JRA	**Rausu**	**2.89**	**255**	P		**Pn**	**03 49 47.3**	**+2.0**
JNK	**Nakash**	**3.29**	**251**	P		**Pn**	**03 49 52.9**	**+2.2**
AKK	**Akkeshi**	**3.46**	**241**	*e*P		**Pn**	**03 49 54.4**	**+1.2**
AKK				*e*S		**Sn**	**03 50 32.8**	**-0.1**
JAK	**Akkeshi**	**3.57**	**242**	P		**Pn**	**03 49 55.8**	**+1.3**
JTKR	**Abashiri--Toko**	**3.73**	**260**	P		**Pn**	**03 49 58.0**	**+1.3**
JAR	**Ashorobuto**	**4.04**	**251**	P		**Pn**	**03 50 03.7**	**+2.7**
JAR				*e*S		**Sn**	**03 50 48.4**	**+1.4**
JOB	**Onbets**	**4.16**	**245**	P		**Pn**	**03 50 04.3**	**+1.6**
JOB				*e*S		**Sn**	**03 50 50.0**	**-0.1**
JKK2	**Kamakawa 2**	**4.56**	**261**	P		**Pn**	**03 50 09.9**	**+1.6**
JCH	**Churui**	**4.61**	**244**	P		**Pn**	**03 50 10.3**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.17**	**244**	P		**Pn**	**03 50 17.0**	**+0.5**
JBT2	**Biratori 2**	**5.19**	**250**	P		**Pn**	**03 50 18.7**	**+1.9**
JNB	**Noboribetsu**	**6.21**	**251**	P		**Pn**	**03 50 31.6**	**+0.8**
JKB	**Kayabe**	**6.47**	**246**	P		**Pn**	**03 50 34.8**	**+0.4**
JANG	**Nango**	**7.04**	**234**	P		**Pn**	**03 50 41.9**	**-0.4**
JANG				*e*S		Sn	03 51 52.8	-8.3
JTM	**Tenmabayashi**	**7.05**	**238**	*e*S		**Sn**	**03 51 54.4**	**-6.8**

NEIC ***27*** *04:00:19.9±1.5, 32.20S×70.05W×0.07, h115km±5km, mb4.4/21, Md3.9(SJA), Error ellipse: s-maj=8.7km s-min=6.9km az=100.0*
GUC ***27*** *04:00:20.6±0.8, 32.27S×70.32W, h107km±3km, ML4.6*
VAO ***27*** *04:00:21.9±0.5, 32.31S×69.86W, h116km, mb4.4*
IDC ***27*** *04:00:21.9±0.5, 32.14S×69.99W, h108km±4km, mb3.8/11, mb1 4.0/12, mb1mx3.8/38, mbtmp4.2/12, MS3.0/1, Ms1 3.0/1, ms1mx2.5/47, Error ellipse: s-maj=17.3km s-min=14.7km az=81.0*
ISC 27 04:00:20.0±0.5, 32.19S±0.03×70.17W±0.05, h108km±4km, n169, σ1§36/186, mb4.3/15, 11C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.65**	**209**			**Pn**	**04 00 37.8**	**-0.1**
VA03	**San Esteban**	**0.65**	**209**	⇑*i*P		**Pn**	**04 00 38.1**	**+0.2**
VA03				*e*S		**Sn**	**04 00 51.2**	**-0.2**
VA03				IAML			04 00 52.8	
	comp=N,43μm,0.3s							
VA06	**Catapilco**	**1.02**	**249**			**Pn**	**04 00 41.0**	**-0.3**
VA06	**Catapilco**	**1.02**	**249**	⇑*i*P		**Pn**	**04 00 40.9**	**-0.3**
VA06				*i* S		**Sn**	**04 00 56.3**	**-0.9**
VA06				IAML			04 00 57.7	
	comp=E,23μm,0.6s							
PEL	**Peldehue**	**1.04**	**204**			**Pn**	**04 00 41.5**	**0.0**
PEL	**Peldehue**	**1.04**	**204**	⇑*i*P		**Pn**	**04 00 41.6**	**+0.1**
PEL				*e*S		**Sn**	**04 00 57.7**	**-0.1**
ROCH	**El Roble**	**1.05**	**222**	⇑*i*P		**Pn**	**04 00 41.9**	**+0.1**
ROCH				⇑*i*P		**Pn**	**04 00 39.7**	**-2.1**
ROCH				*e*S		**Sn**	**04 00 56.2**	**-2.0**
ROCH				*e*S		**Sn**	**04 00 58.1**	**-0.2**
ROCH				IAML			04 01 00.4	
	comp=N,28μm,0.4s							
ROC1	**El Roble**	**1.06**	**222**			**Pn**	**04 00 39.6**	**-2.3**
FCH	**Farellones**	**1.14**	**185**	⇑*i*P		**Pn**	**04 00 43.7**	**+0.9**
FCH				*e*S		**Sn**	**04 01 01.5**	**+1.4**
FCH				IAML			04 01 05.0	
	comp=E,11μm,0.2s							
MT05	**Renca**	**1.29**	**202**	P		**Pn**	**04 00 44.8**	**+0.6**
MT05	**Renca**	**1.29**	**202**	⇑*i*P		**Pn**	**04 00 44.7**	**+0.4**
MT05				*e*S		**Sn**	**04 01 02.8**	**+0.1**
MT05				IAML			04 01 05.6	
	comp=E,32μm,0.3s							
MT03	**Universidad Ad**	**1.33**	**192**			**Pn**	**04 00 45.5**	**+0.7**
MT03	**Universidad Ad**	**1.33**	**192**	⇑*i*P		**Pn**	**04 00 45.5**	**+0.7**
MT03				*i* S		**Sn**	**04 01 04.5**	**+1.0**
MT03				IAML			04 01 05.6	
	comp=N,23μm,0.3s							
MT02	**Curacav**	**1.34**	**217**			**Pn**	**04 00 44.5**	**-0.3**
MT02	**Curacav**	**1.34**	**217**	⇑*i*P		**Pn**	**04 00 44.5**	**-0.3**
MT02				*e*S		**Sn**	**04 01 02.5**	**-1.0**
CO03	**El Pedregal**	**1.42**	**342**			**Pn**	**04 00 46.2**	**+0.4**
CO03	**El Pedregal**	**1.42**	**342**	⇑*i*P		**Pn**	**04 00 46.3**	**+0.5**
CO03				*i* S		**Sn**	**04 01 06.8**	**+1.4**
CO03				IAML			04 01 07.8	
	comp=E,19μm,0.3s							
ZON	**Zonda**	**1.43**	**64**			**Pn**	**04 00 46.2**	**+0.4**
VA01	**Torpederas**	**1.50**	**236**	Pn		**Pn**	**04 00 46.1**	**-0.5**
VA01	**Torpederas**	**1.50**	**236**	⇑*i*P		**Pn**	**04 00 46.1**	**-0.5**
VA01				*e*S		**Sn**	**04 01 06.0**	**-0.8**
LMEL	**Las Melosas**	**1.65**	**181**			**Pn**	**04 00 49.6**	**+0.9**
LMEL	**Las Melosas**	**1.65**	**181**	*e*P		**Pn**	**04 00 49.7**	**+0.9**
LMEL				*e*S		**Sn**	**04 01 12.3**	**+1.8**
LMEL				IAML			04 01 18.1	
	comp=N,5μm,0.4s							
MT09	**Talagante**	**1.72**	**203**			**Pn**	**04 00 49.4**	**-0.2**
MT09	**Talagante**	**1.72**	**203**	*e*P		**Pn**	**04 00 49.4**	**-0.2**
MT09				*e*S		**Sn**	**04 01 10.8**	**-1.3**
MT09				IAML			04 01 16.8	
	comp=N,6μm,0.4s							
BO04	**La Punta**	**1.83**	**191**			**Pn**	**04 00 51.5**	**+0.7**
BO04	**La Punta**	**1.83**	**191**	⇓*i*P		**Pn**	**04 00 51.3**	**+0.5**
BO04				*i* S		**Sn**	**04 01 14.7**	**+0.4**
BO04				IAML			04 01 16.4	
	comp=E,7μm,0.4s							
MT01	**Popeta**	**1.90**	**208**			**Pn**	**04 00 51.5**	**-0.2**
MT01	**Popeta**	**1.90**	**208**	*i* P		**Pn**	**04 00 51.4**	**-0.2**
MT01				*e*S		**Sn**	**04 01 14.8**	**-1.0**
VA05	**Santo Domingo**	**1.90**	**219**	Pn		**Pn**	**04 00 51.8**	**+0.2**
VA05	**Santo Domingo**	**1.90**	**219**	*e*P		**Pn**	**04 00 51.3**	**-0.3**
VA05				*i* S		**Sn**	**04 01 15.2**	**-0.5**
VA05				IAML			04 01 23.5	
	comp=E,9μm,0.2s							
CO06	**Fray Jorge**	**1.96**	**320**	Pn		**Pn**	**04 00 52.9**	**+0.4**
CO06	**Fray Jorge**	**1.96**	**320**	*e*P		**Pn**	**04 00 52.4**	**0.0**
CO06				*e*S		**Sn**	**04 01 16.1**	**-1.1**
CO06				IAML			04 01 25.7	
	comp=E,4μm,0.2s							
GO04	**Tololo Observa**	**2.08**	**345**	*i* P		**Pn**	**04 00 54.6**	**+0.4**
GO04				*i* S		**Sn**	**04 01 21.6**	**+1.3**
BO01	**Tunca**	**2.32**	**199**	Pn		**Pn**	**04 00 56.7**	**-0.3**
BO01	**Tunca**	**2.32**	**199**	*i* P		**Pn**	**04 00 56.8**	**-0.3**
BO01				*e*S		**Sn**	**04 01 24.1**	**-1.3**
CO05	**La Serena**	**2.44**	**338**	*e*P		**Pn**	**04 00 58.4**	**-0.3**
CO05				IAML			04 01 30.1	
	comp=E,2μm,0.4s							
BO02	**Sierra Bellavi**	**2.64**	**191**	Pn		**Pn**	**04 01 01.5**	**+0.2**
BO02	**Sierra Bellavi**	**2.64**	**191**	⇓*i*P		**Pn**	**04 01 01.5**	**+0.2**
BO02				*e*S		**Sn**	**04 01 32.9**	**-0.1**
BO03	**Pichilemu**	**2.74**	**213**	*e*P		**Pn**	**04 01 01.2**	**-1.3**
GO05	**Huala**	**3.17**	**207**			**Pn**	**04 01 07.0**	**-1.3**
GO05	**Huala**	**3.17**	**207**	*i* P		**Pn**	**04 01 06.6**	**-1.6**
GO05				*e*S		**Sn**	**04 01 43.5**	**-1.9**
LCO	**Las Campanas**	**3.20**	**352**	Pn		**Pn**	**04 01 09.0**	**+0.1**
LCO	**Las Campanas**	**3.20**	**352**	*e*P		**Pn**	**04 01 09.1**	**+0.1**
LCO				*e*S		**Sn**	**04 01 44.1**	**-2.5**
ML02	**Panimavida**	**3.71**	**196**	Pn		**Pn**	**04 01 14.2**	**-1.2**
ML02	**Panimavida**	**3.71**	**196**	*e*P		**Pn**	**04 01 14.5**	**-0.9**
ML02				*e*S		**Sn**	**04 01 55.1**	**-3.2**
AC04	**Llanos de Chal**	**4.05**	**349**	Pn		**Pn**	**04 01 20.2**	**+0.2**
AC04	**Llanos de Chal**	**4.05**	**349**	*e*P		**Pn**	**04 01 20.1**	**+0.1**
GO03	**Copiap**	**4.58**	**359**			**Pn**	**04 01 27.9**	**+0.6**
GO03	**Copiap**	**4.58**	**359**	*e*P		**Pn**	**04 01 27.2**	**-0.1**
AC06	**Mina Casimiro**	**4.82**	**358**	Pn		**Pn**	**04 01 30.3**	**-0.2**
AC06	**Mina Casimiro**	**4.82**	**358**	*e*P		**Pn**	**04 01 30.2**	**-0.3**
BI05	**Punta Hualpn**	**5.18**	**208**			**Pn**	**04 01 34.7**	**-0.5**
BI05	**Punta Hualpn**	**5.18**	**208**	*e*P		**Pn**	**04 01 32.1**	**-3.2**
AC02	**Maricunga**	**5.41**	**10**	Pn		**Pn**	**04 01 39.0**	**+0.1**
AC01	**Pan de Azucar**	**6.03**	**356**			**Pn**	**04 01 46.6**	**-0.3**
GO02	**Mina Guanaco**	**7.02**	**4**			**Pn**	**04 01 59.7**	**-0.8**
H03N1	**Juan Fernandez**	**7.46**	**258**	T		T	04 08 46.4	
	baz=86,slow=73,SNR=402							
H03N3	**Juan Fernandez**	**7.47**	**258**	T		T	04 08 58.2	
	baz=86,slow=73,SNR=361							
H03N2	**Juan Fernandez**	**7.48**	**258**	T		T	04 08 43.1	
	baz=86,slow=73,SNR=380							
H03S1	**Juan Fernandez**	**7.52**	**255**	P		**Pn**	**04 02 08.1**	**+1.4**
	SNR=4.1							
H03S1				T		T	04 08 43.2	
	baz=83,SNR=78							
H03S3	**Juan Fernandez**	**7.52**	**255**	P		**Pn**	**04 02 08.3**	**+1.7**
	SNR=2.9							
H03S3				T		T	04 08 43.4	
	baz=83,SNR=94							
H03S2	**Juan Fernandez**	**7.53**	**255**	P		**Pn**	**04 02 08.2**	**+1.4**
	SNR=5.7							
H03S2				T		T	04 08 47.7	
	baz=83,SNR=95							
PLCA	**Paso Flores**	**8.53**	**182**	P		**Pn**	**04 02 19.9**	**-0.8**
	comp=E,0.6nm,0.3s,baz=353,slow=12,SNR=29							
PLCA	**Paso Flores**	**8.53**	**182**	*e*P		**Pn**	**04 02 20.7**	**0.0**
LVC	**Limon Verde**	**9.61**	**7**	P		**Pn**	**04 02 32.5**	**-3.2**
	comp=E,0.7nm,0.3s,baz=184,slow=9.0,SNR=2.7							
LVC	**Limon Verde**	**9.61**	**7**			**Pn**	**04 02 36.4**	**+0.7**
ITQB	**Itaqui**	**11.90**	**81**			**Pn**	**04 03 05.0**	**-1.2**
ITQB	**Itaqui**	**11.90**	**81**	*e*P		**Pn**	**04 03 03.2**	**-3.0**
CPUP	**Villa Florida**	**12.64**	**66**	P		**Pn**	**04 03 12.4**	**-3.5**
	comp=E,0.5nm,0.3s,baz=242,slow=12,SNR=11							
CPUP	**Villa Florida**	**12.64**	**66**			**Pn**	**04 03 15.2**	**-0.7**
CPUP	**Villa Florida**	**12.64**	**66**	*e*P		**Pn**	**04 03 14.1**	**-1.8**
COYC	**Coyhaique**	**13.44**	**186**	Pn		**Pn**	**04 03 26.3**	**0.0**
PLTB	**Pedras Altas**	**14.07**	**93**	*e*P		**Pn**	**04 03 32.0**	**-2.6**
CPSB	**Cacapava Do Su**	**14.42**	**87**	*e*P		**Pn**	**04 03 35.8**	**-3.2**
LPAZ	**La Paz**	**15.94**	**7**	P		**P**	**04 04 00.0**	**-0.3**
	comp=E,0.2nm,0.3s,baz=188,slow=10,SNR=16							
LPAZ	**La Paz**	**15.94**	**7**	Pn		**Pn**	**04 03 57.6**	**-1.2**
LPAZ	**La Paz**	**15.94**	**7**	*e*P		**P**	**04 03 59.7**	**-0.6**
ITAB	**Concordia**	**16.43**	**77**	*e*P		**Pn**	**04 04 02.5**	**-1.7**
CNLB	**Canela**	**16.85**	**85**	*e*P		**Pn**	**04 04 07.3**	**-2.1**
AQDB	**Aquidauana**	**17.43**	**51**	P		**Pn**	**04 04 16.8**	**+0.4**
AQDB				IAmb		IAmb	04 04 19.8	
	comp=Z,7.9nm,0.6s							
AQDB	**Aquidauana**	**17.43**	**51**	*e*P		**Pn**	**04 04 16.7**	**+0.4**
PTGB	**Pitanga**	**17.57**	**69**	*e*P		**P**	**04 04 17.0**	**-0.6**
SIV	**San Ignacio**	**18.13**	**29**	LR		LR	04 11 49.8	
	comp=Z,55nm,21.3s,baz=50,slow=38							
TRCB	**Terra Rica**	**18.14**	**63**	P		**P**	**04 04 22.9**	**-1.0**
TRCB				IAmb		IAmb	04 04 26.6	
	comp=Z,34nm,1.1s							
TRCB	**Terra Rica**	**18.14**	**63**	*e*P		**P**	**04 04 24.0**	**+0.1**
TER01	**Tubaro-SC**	**18.52**	**84**	*e*P		**P**	**04 04 26.5**	**-1.5**
PTLB	**Pontes e Lacer**	**19.46**	**34**	*e*P		**Pn**	**04 04 39.7**	**-0.9**
TIJ01	**Guaruva-PR**	**19.76**	**75**	*e*P		**P**	**04 04 39.9**	**-1.8**
PCMB	**Pacaembu**	**19.86**	**63**	*e*P		**P**	**04 04 41.2**	**-1.4**
PP1B	**Ponte de Pedra**	**20.05**	**47**	*e*P		**P**	**04 04 45.8**	**+1.0**
SALV	**Santo Antonio**	**20.89**	**42**	*e*P		**P**	**04 04 53.7**	**0.0**
VILB	**Vilhena**	**21.22**	**28**	*e*P		**P**	**04 04 58.4**	**+1.0**
PET01	**Itanhaem-SP**	**21.63**	**74**	*e*P		**P**	**04 05 00.4**	**-1.2**
ITRB	**Iturama**	**21.68**	**60**	*e*P		**P**	**04 05 02.0**	**-0.2**
BB19B	**Bebedouro**	**22.25**	**65**	*e*P		**P**	**04 05 07.0**	**-1.2**
VAO	**Valinhos**	**22.48**	**72**	*e*P		**P**	**04 05 09.4**	**-1.2**
ETMB	**Extrema**	**22.57**	**10**	*e*P		**P**	**04 05 12.5**	**+1.1**
MG01	**Puerto William**	**22.80**	**176**	P		**P**	**04 05 11.5**	**-1.9**
PARB	**Paraibuna**	**23.41**	**74**	*e*P		**P**	**04 05 18.2**	**-1.3**
PDRB	**Porto dos Gac**	**23.93**	**34**	*e*P		**P**	**04 05 24.0**	**-0.2**
IPMB	**Ipameri, GO**	**24.34**	**60**	*e*P		**P**	**04 05 27.7**	**-0.3**
CZSB	**Cruzeiro do Su**	**24.45**	**354**	*e*P		**P**	**04 05 32.1**	**+3.1**
MAN01	**Angra dos Reis**	**24.98**	**75**	*e*P		**P**	**04 05 33.0**	**-0.8**
BDFB	**Brasilia**	**26.02**	**56**	P		**P**	**04 05 43.1**	**-0.2**
	comp=Z,8.9nm,0.6s,baz=236,slow=6.3,SNR=21							
BDFB	**Brasilia**	**26.02**	**56**	P		**P**	**04 05 42.1**	**-1.2**
BDFB				IAmb		IAmb	04 05 44.7	
	comp=Z,24nm,1.4s							
SNDB	**Serra Nova Dou**	**26.58**	**45**	*e*P		**P**	**04 05 48.3**	**+0.1**
DIAM	**Diamantina, MG**	**27.58**	**66**	*e*P		**P**	**04 05 57.4**	**+0.1**
TBTG	**Tabatinga, AM**	**27.86**	**1**	*e*P		**P**	**04 06 00.8**	**+1.2**
PEXB	**Peixe**	**28.35**	**50**	*e*P		**P**	**04 06 04.4**	**+0.4**
NPGB	**Novo Progresso**	**28.57**	**32**	*e*P		**P**	**04 06 06.5**	**+0.5**
ALF01	**Guarapari-ES**	**28.69**	**74**	*e*P		**P**	**04 06 05.9**	**-1.1**
JANB	**Januaria**	**29.08**	**60**	*e*P		**P**	**04 06 10.1**	**-0.4**
SJMB	**Sao Joao De Ma**	**29.31**	**70**	*e*P		**P**	**04 06 12.4**	**-0.1**
MACA	**Manacapuru-AM**	**30.22**	**19**	*e*P		**P**	**04 06 21.0**	**+0.5**
SDRA	**SAO DESIDERIO**	**30.43**	**55**	*e*P		**P**	**04 06 21.8**	**-0.6**
NAN01	**Guarapari, ES**	**30.62**	**69**	*e*P		**P**	**04 06 23.8**	**-0.3**
ITTB	**Itaituba**	**30.81**	**29**	*e*P		**P**	**04 06 26.9**	**+1.2**
SMTB	**Santa Maria do**	**31.27**	**47**	*e*P		**P**	**04 06 30.2**	**+0.5**
GUA01	**Guaratinga, BA**	**31.58**	**68**	*e*P		**P**	**04 06 32.7**	**+0.2**
CMC01	**Camacan, BA**	**32.52**	**66**	*e*P		**P**	**04 06 40.8**	**+0.1**
NBIT	**Itapeh - BA**	**32.84**	**66**	*e*P		**P**	**04 06 43.9**	**+0.4**
GDU01	**Guandu, BA**	**33.47**	**64**	*e*P		**P**	**04 06 48.7**	**-0.3**
MALB	**Monte Alegre**	**33.69**	**30**	*e*P		**P**	**04 06 51.0**	**+0.1**
NBPS	**Pedro II - PI**	**38.58**	**50**	*e*P		**P**	**04 07 32.0**	**-0.7**
NBPB	**Pedra_Branca-C**	**38.98**	**54**	*e*P		**P**	**04 07 36.4**	**+0.5**
BELA	**Belgrano 2**	**48.39**	**171**	P		**P**	**04 08 49.2**	**-1.3**
BELA				IAmb		IAmb	04 08 54.1	
	comp=Z,5.0nm,0.7s							
VNA3	**Neumayer Olymp**	**50.45**	**159**	P		**P**	**04 09 08.7**	**+2.4**
VNA2	**Neumayer--Watz**	**51.08**	**158**	P		**P**	**04 09 12.5**	**+1.5**
	baz=293,slow=7.0							
VNA2	**Neumayer--Watz**	**51.08**	**158**	pP		pP	04 09 38.4	+0.6
SNAA	**Sanae**	**52.68**	**158**	P		**P**	**04 09 24.7**	**+1.8**
SNAA	**Sanae**	**52.68**	**158**	P		**P**	**04 09 24.7**	**+1.8**
	comp=Z,4.9nm,0.7s,baz=300,slow=11,SNR=9.3							
TROLL	**Troll, Antarti**	**54.39**	**159**	P		**P**	**04 09 37.5**	**+2.0**
QSPA	**South Pole Qui**	**58.04**	**180**	P		**P**	**04 10 03.7**	**+2.2**
	comp=Z,3.8nm,0.6s,baz=210,slow=0.7,SNR=39							
QSPA	**South Pole Qui**	**58.04**	**180**	IAmb		IAmb	04 10 04.6	
	comp=Z,13nm,1.4s							
VNDA	**Vanda**	**66.17**	**191**	P		**P**	**04 10 58.7**	**+3.3**
	comp=Z,0.7nm,0.6s,baz=111,slow=5.4,SNR=6.2							
TXAR	**Lajitas Array**	**68.96**	**329**	P		**P**	**04 11 16.0**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=161,slow=9.1,SNR=22							
TXAR				pP		**pP**	**04 11 43.6**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=162,slow=7.3,SNR=2.7							
TXAR	**Lajitas Array**	**68.96**	**329**	P		**P**	**04 11 12.2**	**-1.5**
TX31	**Lajitas Ar. Si**	**68.96**	**329**	P		**P**	**04 11 10.7**	**-3.1**
TX31				IAmb		IAmb	04 11 16.5	
	comp=Z,3.8nm,0.7s							
WVT	**Waverly**	**69.95**	**345**	P		**P**	**04 11 19.5**	**0.0**
LCAR	**Lake Charles**	**70.69**	**342**	P		**P**	**04 11 24.0**	**0.0**
LIC	**Lamto**	**72.71**	**71**	*e*PKP2		**P**	**04 11 37.8**	**+1.1**
	comp=Z,14nm,1.5s							
TIC	**Toumodi**	**72.96**	**71**	*e*PKP2		**P**	**04 11 38.8**	**+0.6**
KIC	**Kosan Boka**	**73.02**	**71**	*e*PKP2		**P**	**04 11 39.2**	**+0.7**
	comp=Z,5.3nm,0.7s							
DBIC	**Dimbokro**	**73.11**	**71**	P		**P**	**04 11 40.2**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=237,slow=8.4,SNR=3.5							
DBIC	**Dimbokro**	**73.11**	**71**	P		P	04 11 32.8	-6.2
DBIC				IAmb		IAmb	04 11 34.8	
	comp=Z,14nm,1.5s							
LBTB	**Lobatse**	**81.63**	**114**	P		**P**	**04 12 27.7**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=233,slow=7.0,SNR=5.7							
LBTB				pP		**pP**	**04 12 55.7**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=239,slow=7.6,SNR=2.3							
LBTB	**Lobatse**	**81.63**	**114**	P		**P**	**04 12 22.4**	**-4.1**
LBTB				IAmb		IAmb	04 12 43.5	
	comp=Z,12nm,1.3s							
TORD	**Torodi Ar. Bea**	**82.11**	**69**	P		**P**	**04 12 30.1**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=283,slow=6.8,SNR=14							
TORD				pP		**pP**	**04 12 57.6**	**0.0**
	comp=Z,2.2nm,0.8s,baz=242,slow=4.1,SNR=7.9							
TORD	**Torodi Ar. Bea**	**82.11**	**69**	P		**P**	**04 12 25.1**	**-3.9**
PDAR	**Pinedale Array**	**82.88**	**332**	P		**P**	**04 12 34.0**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=142,slow=6.0,SNR=6.3							
NVAR	**Mina Array Bea**	**83.32**	**324**	P		**P**	**04 12 37.5**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=139,slow=5.6,SNR=6.8							
ELK	**Elko**	**83.67**	**327**	P		**P**	**04 12 38.9**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=168,slow=3.0,SNR=3.8							
ASAR	**Alice Springs**	**119.88**	**206**	PKP		**PKiKP**	**04 18 59.4**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=182,slow=8.8,SNR=4.9							
WRA	**Warramunga Arr**	**123.09**	**208**	PKP		**PKiKP**	**04 19 05.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=154,slow=1.8,SNR=20							
WRA				pPKP		**pPKPdf**	**04 19 36.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.5,SNR=2.6							
WRA	**Warramunga Arr**	**123.09**	**208**			**PKPdf**	**04 19 01.0**	**-3.5**
H11S2	**WAKE ISLAND Hyd**	**27.36**	**269**	T		T	06 38 56.6	
	baz=117,slow=74,SNR=73							
H11S1	**WAKE ISLAND Hyd**	**27.37**	**269**	T		T	06 38 57.9	
	baz=117,slow=74,SNR=44							
H11S3	**WAKE ISLAND Hyd**	**27.38**	**269**	T		T	06 38 57.8	
	baz=117,slow=74,SNR=48							
H11N3	**WAKE ISLAND Hyd**	**27.73**	**271**	T		T	06 39 01.2	
	baz=114,slow=74,SNR=5.2							
H11N1	**WAKE ISLAND Hyd**	**27.74**	**271**	T		T	06 38 58.5	
	baz=114							
H11N2	**WAKE ISLAND Hyd**	**27.74**	**271**	T		T	06 39 20.9	
	baz=114,slow=74							
AAK	**Ala-Archa**	**150.25**	**59**	pPKPbc		pPKPbc	04 20 30.3	+1.1
	comp=Z,1.9nm,0.6s,baz=159,slow=2.9,SNR=3.7							
AAK	**Ala-Archa**	**150.25**	**59**	PKPbc		**PKPbc**	**04 19 57.0**	**-1.5**
KURBB	**Kurchatov Arra**	**150.48**	**42**	PKPbc		**PKiKP**	**04 20 00.5**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=298,slow=3.1,SNR=13							
KURBB				pPKPbc		**pPKPbc**	**04 20 29.7**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=298,slow=3.1,SNR=6.6							
KURK	**Kurchatov**	**150.49**	**42**	PKPbc		**PKPdf**	**04 19 53.9**	**+0.7**
ZALV	**Zalesovo Beam**	**151.87**	**32**	PKPbc		**PKiKP**	**04 20 03.5**	**+1.5**
	comp=Z,4.8nm,0.4s,baz=316,slow=3.2,SNR=17							
ZALV				pPKPbc		**pPKPbc**	**04 20 32.6**	**+0.1**
	comp=Z,7.7nm,0.6s,baz=299,slow=3.1,SNR=10.0							
MKAR	**Makanchi Array**	**154.39**	**47**	PKPbc		**PKiKP**	**04 20 08.9**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=332,slow=7.4,SNR=3.6							
MKAR				pPKPbc		**pPKPbc**	**04 20 37.

ULHL	**Ulahol** baz=12	**2.36**	**9**	⇑*iP*	**Pg**	04 43 22.5	-0.2
ULHL				⇑*iS*	**Sg**	04 43 52.3	-1.0
KDJ	**Kajisay** baz=30	**2.47**	**26**	⇓*iP*	**Pg**	04 43 24.3	-0.5
KDJ				⇓*iS*	**Sg**	04 43 55.4	-1.5
UCH	**Uchtor** SNR=6.5	**2.48**	**339**	P	**Pg**	04 43 25.0	0.0
BOOM	**Boomskoye usch** baz=6.0	**2.58**	**4**	⇑*iP*	**Pg**	04 43 25.5	-1.3
BOOM				⇑*iS*	**Sb**	04 43 57.1	+1.5
KBK	**Karagaybulak** SNR=46	**2.80**	**348**	P	**Pb**	04 43 28.2	+0.5
KBK	**Karagaybulak** baz=50	**2.80**	**348**	⇓*iP*	**Pb**	04 43 28.1	+0.5
KBK				⇓*iS*	**Sb**	04 44 02.0	0.0
AAK	**Ala-Archa** 3.9nm,0.3s,baz=170,slow=14,SNR=51	**2.87**	**342**	P	**Pb**	04 43 29.1	+0.3
AAK				S	**Sb**	04 44 04.7	+0.6
TKM2	**Tokmak 2** SNR=25	**3.00**	**358**	P	**Pb**	04 43 31.1	-0.1
TKM2	**Tokmak 2** baz=0.0	**3.00**	**358**	⇑*eP*	**Pb**	04 43 30.9	-0.2
TKM2				⇑*iS*	**Sb**	04 44 07.3	-0.7
TKM2	**Tokmak 2** 5.4nm,0.5s	**3.00**	**358**	⇑Pn	**Pb**	04 43 30.5	-0.6
TKM2				⇑Pg	**Pg**	04 43 34.9	0.0
TKM2	15nm,0.6s			⇑Lg	Lg	04 44 13.6	
DRK	**Karamyk** baz=60	**3.05**	**263**	⇑*iP*	**Pb**	04 43 32.7	+0.7
DRK				⇑*iS*	**Sb**	04 44 09.7	+0.2
EKS2	**Erkin-Say** SNR=6.0	**3.11**	**333**	P	**Pb**	04 43 32.5	-0.4
EKS2	**Erkin-Say** baz=33	**3.11**	**333**	⇑*iP*	**Pb**	04 43 32.2	-0.7
EKS2				⇑*iS*	**Sb**	04 44 09.0	-1.9
KST	**Kastek** 7.9nm,0.1s	**3.13**	**3**	*eP*	**Pg**	04 43 36.6	-0.8
KST	26nm,0.1s			*eS*	**Sg**	04 44 17.1	-0.8
CHMS	**Chumysh** SNR=6.7	**3.17**	**347**	P	**Pb**	04 43 32.9	-0.9
CHMS	**Chumysh** baz=48	**3.17**	**347**	⇓*iP*	**Pb**	04 43 33.0	-0.8
CHMS				⇓*iS*	**Sb**	04 44 10.4	-2.0
IZV	**Izvestkoviy** 26nm,0.2s	**3.19**	**12**	*eP*	**Pg**	04 43 38.6	0.0
IZV	26nm,0.1s			*eS*	**Sg**	04 44 20.4	+0.6
ANVS	**Anan'yevo** baz=29	**3.22**	**26**	⇑*iP*	**Pb**	04 43 35.3	+0.5
ANVS				⇑*iS*	**Sb**	04 44 13.3	-0.8
TNSS	**Tian-Shan** 9.1nm,0.2s	**3.25**	**16**	*eP*	**Pg**	04 43 39.9	+0.1
TNSS	12nm,0.6s			*eS*	**Sg**	04 44 22.7	+0.8
MTBS	**Maitube** 8.7nm,0.1s	**3.26**	**9**	*eP*	**Pg**	04 43 39.1	-0.7
MTBS	13nm,0.5s			*eS*	**Sg**	04 44 21.2	-0.7
DGS	**Degeres** 6.7nm,0.1s	**3.32**	**1**	*eP*	**Pg**	04 43 39.6	-1.5
DGS	11nm,0.7s			*eS*	**Sg**	04 44 22.3	-1.9
MRKS	**Merke** 9.5nm,0.3s	**3.39**	**327**	*eP*	**Pg**	04 43 42.8	+0.4
MRKS	30nm,0.0s			*eS*	**Sg**	04 44 27.8	+1.4
MDOK	**Medeo** 11nm,0.5s	**3.40**	**17**	*eP*	**Pg**	04 43 41.9	-0.6
MDOK	16nm,0.1s			*eS*	**Sg**	04 44 25.9	-0.6
MDOK	**Medeo** 11nm,0.6s	**3.40**	**17**	⇑Pn	**Pb**	04 43 36.7	-1.0
MDOK	21nm,0.6s			⇓Lg	Lg	04 44 26.0	
ARK	**Arkit** baz=4.0	**3.41**	**305**	⇓*iP*	**Pb**	04 43 36.0	-2.0
ARK	baz=4.0			⇓*iS*	**Sb**	04 44 15.9	-3.7
USP	**Ospenovka** SNR=11	**3.47**	**345**	P	**Pb**	04 43 36.7	-2.3
KOTS	**Kotyrbulak** 9.2nm,0.1s	**3.48**	**17**	*eP*	**Pg**	04 43 43.8	-0.2
KOTS	40nm,0.2s			*eS*	**Sg**	04 44 29.3	+0.2
SGDS	**Sogindy** 4.1nm,0.1s	**3.63**	**347**	*eP*	**Pg**	04 43 45.9	-1.0
SGDS	7.6nm,0.3s			*eS*	**Sg**	04 44 33.1	-0.8
SATY	**Saty** 3.4nm,0.1s	**3.73**	**32**	*eP*	**Pg**	04 43 47.2	-1.7
SATY	10nm,0.8s			*eS*	**Sg**	04 44 35.2	-2.1
BTK	**Batken** baz=72	**3.77**	**274**	⇓*iP*	**Pb**	04 43 42.2	-1.9
BTK	baz=72			⇓*iS*	**Sb**	04 44 27.3	-2.5
KRBS	**Karabastau** 6.8nm,0.2s	**3.78**	**360**	*eP*	**Pg**	04 43 48.3	-1.5
KRBS	10nm,0.0s			*eS*	**Sg**	04 44 37.4	-1.3
TRKS	**Terek-Say** baz=94	**3.83**	**296**	⇑*iP*	**Pb**	04 43 41.8	-3.5
TRKS	baz=94			⇑*iS*	**Sn**	04 44 25.5	+3.6
KTBS	**Karatobe** 16nm,0.2s	**3.86**	**10**	*eP*	**Pg**	04 43 50.4	-1.0
KTBS	15nm,0.5s			*eS*	**Sg**	04 44 40.9	-0.5
KUU	**Kurty** 5.1nm,1.5s	**4.00**	**6**	*eP*	**Pg**	04 43 52.6	-1.4
KUU	19nm,0.2s			*eS*	**Sg**	04 44 44.5	-1.3
KURS	**Kuram** 9.0nm,0.1s	**4.01**	**26**	*eP*	**Pg**	04 43 53.4	-0.9
KURS	9.9nm,0.1s			*eS*	**Sg**	04 44 45.7	-0.6
CHKK	**Chushkaly** 10nm,0.1s	**4.05**	**13**	*eP*	**Pg**	04 43 53.7	-1.2
CHKK	15nm,0.2s			*eS*	**Sg**	04 44 46.6	-0.8
UZB	**Uzynbulak** 3.2nm,0.1s	**4.07**	**36**	*eP*	**Pg**	04 43 54.5	-0.9
UZB	9.0nm,0.2s			*eS*	**Sg**	04 44 47.7	-0.5
KPKS	**Kokpek** 6.2nm,0.1s	**4.18**	**31**	*eP*	**Pg**	04 43 55.8	-1.8
KPKS	22nm,0.6s			*eS*	**Sg**	04 44 50.0	-1.8
KTMS	**Ketmen** 2.3nm,0.2s	**4.95**	**43**	*eP*	**Pg**	04 44 10.2	-2.0
KTMS	1.9nm,0.0s			*eS*	**Sg**	04 45 14.5	-1.7
KK03	**Karatay Array** 0.6nm,0.5s	**5.05**	**311**	⇑Pn	**Pn**	04 43 56.1	+2.9
KK03	3.6nm,0.8s,baz=126,slow=16			⇓Pg	**Pg**	04 44 10.8	-3.3
KK03	3.5nm,0.6s,baz=125,slow=29			⇑Lg	Lg	04 45 16.2	
BTLS	**Baital** 2.6nm,0.1s	**5.27**	**347**	*eP*	**Pg**	04 44 16.8	-1.5
BTLS	3.5nm,0.2s			*eS*	**Sg**	04 45 25.5	-1.0
BRLS	**Borolday** 5.2nm,0.1s	**5.40**	**307**	*eP*	**Pg**	04 44 20.5	-0.4
BRLS	6.9nm,0.1s			*eS*	**Sg**	04 45 31.8	+1.0
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=204,slow=12,SNR=5.2	**8.38**	**33**	P	Pn	04 44 44.1	+5.3
FINES	**FINESS Array B** 1.7nm,0.9s,baz=106,slow=9.0,SNR=3.6	**36.89**	**322**	P	**P**	04 49 46.7	+1.0
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=346,slow=5.5,SNR=5.6	**77.60**	**5**	P	**P**	04 54 33.6	+0.3

*IDC **27** 04:57:09.4±0.8, 7.29°S×121.32°E, h551km±9km, mb3.2/5, mb1 3.3/9, mb1mx2.9/35, mbtmp4.1/9, Error ellipse: s-maj=98.2km s-min=10.6km az=59.0*
*DJA **27** 04:57:09.5±0.7, 7.5°S×121.5°E, h536km±9km, M3.8/13, mb3.9/4, mB4.2/1, MLv3.7/13, Mw(mB)3.2/1*
ISC 27 04:57:08.9±0.8, **7.48S**±0.09×**121.2E**±0.1, **h550**km, **n20, σ1°13/25, mb3.8/4, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
BSSI	**Bau Bau, Buton**	**1.49**	**333**	P	**P**	**04 58 17.0**	**+0.3**
MMRI	**Maumere**	**1.56**	**137**	P	**P**	**04 58 15.1**	**-1.8**
WBSI	**Waikabubak, Su**	**2.78**	**219**	P	**P**	**04 58 22.3**	**-0.4**
WBSI				S	**S**	**04 59 19.8**	**-2.9**
BASI	**Baing, Sumba**	**2.78**	**192**	P	**P**	**04 58 23.1**	**+0.5**
BASI				S	**S**	**04 59 21.3**	**-1.4**
KAPI	**Kappang** 3.1nm,0.3s,baz=126,slow=2.3,SNR=7.0	**2.83**	**330**	P	**P**	**04 58 23.9**	**+1.0**
KAPI	2.2nm,0.3s,baz=199,slow=16,SNR=3.9			S	**S**	**04 59 23.4**	**+0.4**
BNSI	**Bone**	**3.24**	**341**	P	**P**	**04 58 25.7**	**+0.2**
PLAI	**Plampang**	**3.62**	**248**	P	**P**	**04 58 27.7**	**-0.3**
BATI	**Baumata** 11nm,0.3s,baz=86,slow=2.2,SNR=7.1	**3.66**	**138**	P	**P**	**04 58 28.8**	**+0.4**
BATI	12nm,0.3s,baz=307,slow=23,SNR=9.0			S	**S**	**04 59 30.5**	**-2.6**
BATI	**Baumata**	**3.66**	**138**	P	**P**	**04 58 28.4**	**0.0**
SPSI	**Sidrap Palu**	**3.76**	**338**	P	**P**	**04 58 29.4**	**+0.3**
SOEI	**Soe**	**3.81**	**127**	P	**P**	**04 58 29.5**	**0.0**
MPSI	**Mapaga** 0.1nm27nm,0.8s	**7.87**	**351**	P	**P**	**04 59 05.2**	**-0.2**
GTOI	**Gorontalo**	**8.27**	**13**	P	**P**	**04 59 08.7**	**-0.7**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=342,slow=6.9,SNR=16	**11.42**	**158**	P	**P**	**04 59 42.3**	**+0.9**
WRA	**Warramunga Arr** 1.2nm,0.3s,baz=316,slow=1.1,SNR=61	**17.79**	**135**	P	**P**	**05 00 45.7**	**+0.7**
ASAR	**Alice Springs** 1.4nm,0.4s,baz=319,slow=8.2,SNR=35	**20.21**	**144**	P	**P**	**05 01 07.9**	**+0.9**
ASAR	0.2nm,0.7s,baz=346,slow=1.9,SNR=4.3			ScP	**ScP**	**05 07 41.1**	**+0.4**
STKA	**Stephens Creek** 3.7nm,0.4s,baz=321,slow=9.0,SNR=14	**30.85**	**145**	P	**P**	**05 02 42.1**	**+1.4**
SONM	**Songino Array** 0.7nm,0.4s,baz=159,slow=8.6,SNR=5.8	**56.60**	**348**	P	**P**	**05 05 59.4**	**-0.4**
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=146,slow=6.8,SNR=20	**64.12**	**331**	P	**P**	**05 06 49.5**	**+0.1**
ZALV	**Zalesovo Beam** 1.3nm,0.4s,baz=120,slow=4.5,SNR=6.9	**68.42**	**338**	P	**P**	**05 07 14.7**	**-1.2**

*SOF **27** 05:03:44.0, 40.55N×28.72E, h15km, MD3.8*
*ISK **27** 05:03:54.6, 40.83N×27.90E, h15km, ML3.6/15*
*DDA **27** 05:03:55.7±0.0, 40.83N×27.85E, h11km, MW3.5*
*THE **27** 05:03:57.3, 40.88N×27.97E, h31km±10km, ML3.2/4, Error ellipse: s-maj=10.4km s-min=1.7km az=97.0*
ISC 27 05:03:54.2±1.0, **40.89N**±0.02×**27.93E**±0.02, **h14**km±9km, **n64, σ1°04/86, 8C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
TKR	**Tekirdag**	**0.31**	**289**	PG	**Pb**	**05 04 02.1**	**+0.6**
TKR				SG	**Sb**	**05 04 07.0**	**+0.5**
SLVT	**Silivri**	**0.40**	**32**	PG	**Pn**	**05 04 04.9**	**-0.7**
ELBA	**Catalca**	**0.46**	**56**	P	**Pn**	**05 04 05.5**	**-0.9**
EDC	**Edincik**	**0.55**	**185**	PG	**Pg**	**05 04 05.1**	**+0.2**
EDC				SG	**Sg**	**05 04 11.7**	**-0.5**
CTKS	**Kestanelik-??a**	**0.56**	**52**	PG	**Pn**	**05 04 07.2**	**-0.5**
CTKS				SG	**Sn**	**05 04 15.7**	**-1.1**
SART	**Tekirdag**	**0.60**	**251**	P	**Pg**	**05 04 05.6**	**-0.4**
SART				S	**Sg**	**05 04 13.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.60**	**251**	PG	**Pg**	**05 04 05.7**	**-0.3**
AVCI	**Avcilar-stanb**	**0.61**	**80**	PG	**Pn**	**05 04 07.9**	**-0.5**
AVCI				SG	**Sn**	**05 04 17.2**	**-0.9**
KNL	**Balıkesir**	**0.69**	**206**	P	**Pg**	**05 04 07.2**	**-0.4**
KNL				S	**Sg**	**05 04 16.9**	**+0.2**
KRBG	**Karabiga-Canak**	**0.69**	**224**	PG	**Pg**	**05 04 07.2**	**-0.4**
VIZE	**Kirklareli, Vi**	**0.69**	**355**	P	**Pn**	**05 04 09.7**	**+0.1**
VIZE				S	**Sn**	**05 04 19.1**	**-1.0**
BGKT	**Bogazkoy**	**0.70**	**65**	PG	**Pn**	**05 04 09.5**	**-0.2**
PHSR	**Pinarhisar**	**0.80**	**338**	PG	**Pn**	**05 04 11.4**	**+0.4**
ESNK	**Esenk¶y**	**0.84**	**108**	P	**Pn**	**05 04 11.4**	**-0.2**
GONE	**Gonen-Balikesi**	**0.86**	**192**	PG	**Pb**	**05 04 10.6**	**-0.3**
ISK	**Istanbul-Kandi**	**0.88**	**78**	P	**Pn**	**05 04 12.1**	**0.0**
ISK	**Istanbul-Kandi**	**0.88**	**78**	PG	**Pn**	**05 04 11.9**	**-0.2**
KAVV	**Kandilli-Istan**	**0.88**	**78**	PG	**Pn**	**05 04 12.1**	**0.0**
YYLC	**Yaylacik**	**0.90**	**130**	P	**Pg**	**05 04 11.9**	**+0.4**
YYLC				S	**Sn**	**05 04 24.5**	**-0.6**
KESN	**Edirne-Kesan**	**0.95**	**267**	P	**Pb**	**05 04 12.4**	**-0.2**
KESN				S	**Sb**	**05 04 24.3**	**-0.8**
TRML	**Termal-Yalova**	**0.99**	**106**	PG	**Pn**	**05 04 14.0**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.01**	**284**	PG	**Pn**	**05 04 14.1**	**+0.2**
TUZL	**Tuzla-Istanbul**	**1.02**	**94**	P	**Pg**	**05 04 14.5**	**+0.6**
KURT	**Yalova, Merkez**	**1.02**	**107**	P	**Pn**	**05 04 14.1**	**+0.1**
KURT				P	**Pg**	**05 04 14.4**	**+0.6**
KURT				S	**Sn**	**05 04 28.6**	**+0.5**
ARMN	**Kirklareli, Me**	**1.04**	**339**	P	**Pg**	**05 04 15.4**	**+1.1**
ARMN				S	**Sn**	**05 04 29.3**	**+0.6**
GEMT	**Gemlik**	**1.06**	**115**	PG	**Pg**	**05 04 14.9**	**+0.2**
KIRK	**Kırklareli**	**1.09**	**325**	P	**Pg**	**05 04 16.1**	**+0.9**
KIRK				S	**Sn**	**05 04 30.3**	**+0.5**
ERIK	**Erikli-Kesan**	**1.09**	**259**	PG	**Pb**	**05 04 14.8**	**-0.1**
AVDN	**Avdancik/Bursa**	**1.12**	**122**	P	**Pg**	**05 04 16.0**	**+0.3**
AVDN				S	**Sn**	**05 04 31.3**	**+0.7**
YLV	**Yalova**	**1.15**	**106**	PN	**Pg**	**05 04 16.8**	**+0.5**
IGD	**Bursa**	**1.16**	**122**	P	**Pg**	**05 04 17.0**	**+0.6**
IGD				S	**Sg**	**05 04 31.8**	**+0.2**
BALY	**Balya**	**1.17**	**192**	P	**Pb**	**05 04 16.3**	**+0.1**
BALY				S	**Sb**	**05 04 30.7**	**-0.6**
ULDT	**Uludag**	**1.19**	**129**	P	**Pg**	**05 04 17.9**	**+0.8**
ULDT				S	**Sg**	**05 04 33.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.21**	**246**	PN	**Pn**	**05 04 16.4**	**-0.2**
IZI	**Iznik**	**1.30**	**115**	PN	**Pg**	**05 04 19.4**	**+0.2**
EDRB	**Edirne**	**1.31**	**317**	P	**Pb**	**05 04 18.9**	**+0.4**
EDRB	388nm,0.5s			S	**Sg**	**05 04 36.2**	**-0.1**
EDRB	**Edirne**	**1.31**	**317**	PN	**Pg**	**05 04 19.2**	**-0.1**
HRT	**Hereke**	**1.32**	**92**	PN	**Pg**	**05 04 19.8**	**+0.1**
DURS	**Dursunbey**	**1.35**	**162**	P	**Pg**	**05 04 20.6**	**+0.4**
DURS				S	**Sb**	**05 04 36.7**	**+0.1**
ALN	**Alexandroupoli**	**1.43**	**271**	P	**Pb**	**05 04 20.8**	**+0.3**
ALN	742nm,0.7s			S	**Sg**	**05 04 39.5**	**-0.6**
EZN	**Ezine**	**1.62**	**230**	P	**Pb**	**05 04 24.1**	**+0.3**
EZN	982nm,0.2s			S	**Sn**	**05 04 43.1**	**+0.2**
RDO	**Rodhopi**	**1.82**	**279**	P	**Pn**	**05 04 25.5**	**+0.4**
RDO	498nm,0.2s			S	**Sn**	**05 04 48.5**	**+0.5**
KDZ	**Kurdzhali**	**2.04**	**293**	P	**Pn**	**05 04 28.9**	**+0.8**
ANDZ	**Kutahya, Merke**	**2.05**	**132**	P	**Pn**	**05 04 29.5**	**+1.2**
ANDZ				S	**Sg**	**05 04 58.9**	**-1.1**
DIM	**Dimitrovgrad**	**2.14**	**304**	P	**Pn**	**05 04 30.0**	**+0.6**
PRD	**Provadia**	**2.34**	**351**	P	**Pg**	**05 04 39.6**	**+0.5**
RZN	**Rozhen**	**2.55**	**289**	P	**Pn**	**05 04 35.6**	**+0.4**
PLD	**Plovdiv**	**2.71**	**298**	P	**Pn**	**05 04 37.9**	**+0.7**
MANR	**Mangalia**	**2.97**	**9**	⇓P	**Pb**	**05 04 45.9**	**-0.9**
ICOR	**Ion Corvin**	**3.23**	**358**	⇑P	**Pn**	**05 04 46.2**	**+1.8**
MMB	**Musomiste**	**3.24**	**284**	P	**Pn**	**05 04 45.2**	**+0.6**
TIRR	**Tirgusor**	**3.58**	**6**	⇓P	**Pn**	**05 04 52.1**	**+2.8**
SGRR	**Singureni**	**3.63**	**337**	⇑P	**Pn**	**05 04 45.9**	**-4.0**
KKB	**Krupnik**	**3.77**	**287**	P	**Pn**	**05 04 52.8**	**+0.9**
VTS	**Vitosha**	**3.91**	**298**	⇑P	**Pn**	05 04 49.0	-5.0
VTS	**Vitosha**	**3.91**	**298**	P	**Pn**	**05 04 55.3**	**+1.4**
TPGR	**Topolog**	**3.98**	**5**	⇓P	**Pn**	**05 04 57.9**	**+3.1**
CFR	**Carcaliu**	**4.29**	**2**	⇓P	**Pn**	**05 05 00.5**	**+1.5**
NEHR	**Nehoiu**	**4.69**	**346**	⇑P	**Pn**	**05 05 01.8**	**-2.7**
MLR	**Muntele Rosu**	**4.82**	**343**	⇑P	**Pn**	**05 05 03.5**	**-2.9**
PLOR	**Plostina**	**5.04**	**350**	⇑P	**Pn**	**05 05 08.5**	**-0.9**
VRI	**Vrincioaia**	**5.05**	**350**	⇑P	**Pn**	**05 05 07.9**	**-1.6**
COVR	**Voineasa-Covas**	**5.11**	**346**	⇓P	**Pn**	**05 05 07.6**	**-2.7**
TESR	**Tescani**	**5.70**	**351**	⇑P	**Pn**	**05 05 17.9**	**-0.4**

*IDC **27** 05:13:49.2±7.0, 5.60S×153.61E, h52km±51km, mb3.1/4, mb1 3.4/5, mb1mx3.2/27, mbtmp3.4/5, ML3.4/1, MS2.9/2, Ms1 2.8/2, ms1mx2.5/23, Error ellipse: s-maj=57.1km s-min=26.0km az=88.0*
ISC 27 05:13:47.6±2.1, **5.6S**±0.2×**153.7E**±0.3, **h43**km, **n8, σ0°36/7, mb3.2/4, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KRVT	**Keravat (AS076** 13nm,0.3s,baz=222,slow=0.9,SNR=8.8	**2.13**	**307**	P	**Pn**	**05 14 20.7**	**0.0**
KRVT	9.3nm,0.3s,baz=143,slow=20,SNR=9.8			S	**Sn**	**05 14 46.0**	**+0.1**
PMG	**Port Moresby** comp=Z,56nm,18.0s,baz=112,slow=40	**7.52**	**240**	LR	LR	05 18 45.4	
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=54,slow=9.6,SNR=8.1	**23.63**	**231**	P	**P**	**05 18 55.6**	**+0.5**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=56,slow=9.6,SNR=3.6	**26.20**	**225**	P	**P**	**05 19 18.7**	**+0.2**
STKA	**Stephens Creek** comp=Z,29nm,19.5s,baz=204,slow=35	**28.49**	**202**	LR	LR	05 30 14.5	
FITZ	**Fitzroy Crossi** 0.6nm,0.5s,baz=52,slow=9.5,SNR=8.8	**30.10**	**243**	P	**P**	**05 19 52.9**	**-0.4**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=110,slow=3.8,SNR=1.8	**81.54**	**319**	P	**P**	**05 26 00.7**	**-0.1**
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=54,slow=3.7,SNR=4.9	**151.43**	**287**	PKPbc	**PKPbc**	**05 33 38.1**	**+0.1**

*KMA **27** 05:52:53.5±0.7, 35.33N×130.04E, h12km±4km, Error ellipse: s-maj=5.9km s-min=4.0km az=40.0*
*JMA **27** 05:52:53.8±0.1, 35.25N×129.99E, h26km±3km, M2.5*
ISC 27 05:52:52.1±1.7, **35.26N**±0.05×**130.05E**±0.04, **h10**km±13km, **n12, σ0°51/17, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KSBUS	**Busan** SNR=8.2	**0.77**	**270**	P	**Pb**	**05 53 08.0**	**+0.4**
KSUSN	**Ulsan** SNR=9.6	**0.88**	**301**	P	**Pb**	**05 53 09.9**	**+0.4**
JTU	**Tsushima**	**0.91**	**217**	P	**Pg**	**05 53 09.9**	**+0.3**
JTU				*eS*	**Sg**	**05 53 20.9**	**-0.5**
JHGM	**Hagimishima**	**1.01**	**118**	*eS*	**Sn**	**05 53 26.9**	**+0.3**
JTSM	**Tsushimamitsus**	**1.07**	**211**	P	**Pb**	**05 53 12.3**	**-0.4**
JTSM				S	**Sb**	**05 53 25.9**	**-0.8**
KSDAG	**Daegu** SNR=28	**1.07**	**299**	P	**Pn**	**05 53 13.3**	**0.0**
KSDAG				S	**Sn**	**05 53 27.5**	**-0.8**
JTY	**Toyota**	**1.29**	**140**	P	**Pn**	**05 53 16.7**	**+0.4**
JTY				*eS*	**Sb**	**05 53 33.8**	**+0.5**
JII	**Iki**	**1.48**	**190**	P	**Pn**	**05 53 19.1**	**+0.2**
JII				*eS*	**Sn**	**05 53 38.6**	**+0.3**
KSULJ	**Uljin** SNR=6.0	**1.53**	**340**	P	**Pn**	**05 53 19.6**	**0.0**
YKDB	**Yokjido** SNR=9.5	**1.59**	**247**	P	**Pb**	**05 53 21.6**	**0.0**
JHIK	**Hikimi**	**1.70**	**115**	*eS*	**Sb**	**05 53 45.2**	**+0.1**
JGT2	**ShimaneMisato**	**2.02**	**95**	P	**Pb**	**05 53 28.2**	**-0.7**

*IDC **27** 06:01:46.1±1.1, 36.62N×97.88W, h0km, mb1 3.7/4, mb1mx3.3/50, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=16.8km s-min=12.1km az=110.0*
*NEIC **27** 06:01:47.1±0.8, 36.58N±0.01×97.83W±0.02, h6km±6km, Error ellipse: s-maj=2.3km s-min=1.7km az=120.0*
*TUL **27** 06:01:47±1.2, 36.60N±0.01×97.83W±0.02, h7km±6km, ML3.9, mb_Lg3.6/102(NEIC), Mwr3.3/77(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=122.0*
*ANF **27** 06:01:47.1±0.3, 36.60N×97.82W, h5km, ML4.4/15, Error ellipse: s-maj=4.4km s-min=2.8km az=30.0*
*NEIC **27** 06:01:47, 36.60N×97.83W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-1.55; $M_{\theta\theta}$9.27; $M_{\phi\phi}$-7.71; $M_{r\theta}$0.97; $M_{r\phi}$-4.20; $M_{\theta\phi}$-1.29; Fault plane solution: $M_0$9.70000×10^{13} NP1:ϕ_s327.92000°, δ88.43000°, λ-10.02000°. NP2:ϕ_s58.20000°, δ79.98000°, λ-178.41000°. Principal axes: T 10.3762, Plg6.0000°, Azm13.0000°; N -1.5327, Plg80.0000°, Azm139.0000°; P -8.8435, Plg8.0000°, Azm283.0000°;*
ISC 27 06:01:46.2±0.7, **36.61N**±0.04×**97.83W**±0.03, **h10**km, **n106, σ1°95/97, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
U32A	**Winter Ranch,**	**0.98**	**257**		**Pg**	**06 02 05.2**	**+0.2**
T35A	**Sooner Cattle**	**1.10**	**74**		**Pb**	**06 02 07.8**	**+0.5**
OKCFA	**Oklahoma City**	**1.23**	**166**		**Pn**	**06 02 09.7**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.25**	**165**	Pn	**Pn**	**06 02 10.0**	**+0.3**
FNO	**Franklin**	**1.40**	**166**		**Pn**	**06 02 12.4**	**+0.6**
TUL1	**Leonard**	**1.79**	**113**		**Pn**	**06 02 18.6**	**+1.4**
TUL1	comp=Z,383nm,0.9s			lAmb_Lg		06 02 44.7	
TUL1	**Leonard** baz=293	**1.79**	**113**	P	**Pn**	**06 02 18.6**	**+1.4**
TUL1	baz=293			S	**Sb**	**06 02 43.1**	**+1.5**
R32A	**Long Quarter,**	**1.94**	**339**		**Pn**	**06 02 21.5**	**+2.2**
X34A	**Smith Ranch, M**	**2.01**	**180**		**Pn**	**06 02 21.9**	**+1.7**
WMOK	**Wichita Mounta**	**2.03**	**203**		**Pn**	**06 02 21.8**	**+0.9**
WMOK	comp=Z,200nm,1.0s			lAmb_Lg		06 02 49.3	
WMOK	**Wichita Mounta** baz=22,SNR=9.5	**2.03**	**203**	P	**Pn**	**06 02 21.8**	**+1.3**
WMOK	baz=22			S	**Sb**	**06 02 49.1**	**+0.6**
KSU1	**Kansas State U**	**2.66**	**21**		**Pn**	**06 02 31.2**	**+2.0**
KSU1	**Kansas State U** baz=202,SNR=133	**2.66**	**21**	P	**Pn**	**06 02 31.3**	**+2.0**
CBKS	**Cedar Bluff**	**2.67**	**326**		**Pn**	**06 02 31.1**	**+1.7**
CBKS	**Cedar Bluff** baz=145,SNR=18	**2.67**	**326**	P	**Pn**	**06 02 31.8**	**+2.4**
CBKS	baz=145			S	**Sn**	**06 03 04.7**	**+2.9**
X37A	**Clayton**	**2.84**	**135**		**Pn**	**06 02 33.4**	**+1.7**
X37A	comp=Z,239nm,0.7s			lAmb_Lg		06 03 22.6	
HHAR	**Hobbs**	**3.15**	**95**		**Pn**	**06 02 37.3**	**+1.3**
Z35A	**Perchaven, San**	**3.31**	**172**		**Pn**	**06 02 39.4**	**+1.3**
W39A	**Magazine**	**3.57**	**112**		**Pn**	**06 02 44.1**	**+2.4**
W39A	comp=Z,154nm,0.7s			lAmb_Lg		06 03 48.4	
W39A	**Magazine** baz=294	**3.57**	**112**	Pn	**Pn**	**06 02 43.0**	**+1.2**
W39A	baz=294			Pb	**Pb**	**06 02 51.6**	**+2.0**
AMTX	**Amarillo**	**3.58**	**242**		**Pn**	**06 02 43.4**	**+1.5**
AMTX	comp=Z,179nm,0.8s			lAmb_Lg		06 03 46.1	
AMTX	**Amarillo** baz=60	**3.58**	**242**	Sb	**Sb**	**06 03 38.0**	**+4.7**
S39A	**Bolivar**	**3.75**	**72**		**Pn**	**06 02 45.6**	**+1.4**
S39A	comp=Z,169nm,0.8s			lAmb_Lg		06 03 51.1	
U40A	**Yellville**	**4.01**	**92**		**Pn**	**06 02 49.2**	**+1.4**
U40A				lAmb_Lg		06 04 01.2	
U40A	**

FCAR				IAmb_Lg			06 04 13.1	
	comp=Z,80nm,1.0s							
WHAR	**Wooly Hollow**	**4.68**	**105**			**Pn**	**06 02 58.7**	**+1.7**
WHAR				IAmb_Lg			06 04 18.0	
	comp=Z,99nm,0.9s							
R40A	**Maddies Statio**	**4.73**	**68**			**Pn**	**06 02 59.0**	**+1.4**
R40A				IAmb_Lg			06 04 26.5	
	comp=Z,109nm,0.8s							
W41B	**Gary Mavity, V**	**4.75**	**106**			**Pn**	**06 02 59.1**	**+1.2**
W41B				IAmb_Lg			06 04 20.2	
	comp=Z,107nm,1.0s							
W41B	**Gary Mavity, V**	**4.75**	**106**	P		**Pn**	**06 02 58.9**	**+1.0**
	baz=289,SNR=11							
BGNE	**Belgrade**	**4.79**	**357**			**Pn**	**06 02 59.7**	**+1.2**
BGNE				IAmb_Lg			06 04 21.6	
	comp=Z,143nm,0.8s							
BGNE	**Belgrade**	**4.79**	**357**	P		**Pn**	**06 02 59.8**	**+1.3**
	baz=177,SNR=7.6							
WLAR	**White Oak Lake**	**4.84**	**126**			**Pn**	**06 03 00.3**	**+1.2**
WLAR				IAmb_Lg			06 04 28.8	
	comp=Z,96nm,0.8s							
T25A	**Trinidad**	**5.30**	**278**			**Pn**	**06 03 07.2**	**+1.4**
T25A				IAmb_Lg			06 04 45.7	
	comp=Z,142nm,1.2s							
T25A	**Trinidad**	**5.30**	**278**	P		**Pn**	**06 03 07.8**	**+2.0**
	baz=94,SNR=18							
T25A				Sb		**Sg**	**06 04 31.4**	**-5.2**
	baz=94							
Z41A	**Richland Creek**	**5.31**	**128**	IAmb_Lg			06 04 49.7	
	comp=Z,83nm,0.7s							
Z41A	**Richland Creek**	**5.31**	**128**	S		**Sn**	**06 04 05.8**	**-1.1**
	baz=310							
LCAR	**Lake Charles**	**5.41**	**94**			**Pn**	**06 03 08.4**	**+1.4**
OGNE	**Ogallala**	**5.43**	**324**	Pn		**Pn**	**06 03 10.3**	**+2.9**
OGNE				IAmb_Lg			06 04 48.3	
	comp=Z,145nm,0.8s							
OGNE	**Ogallala**	**5.43**	**324**	P		**Pn**	**06 03 10.7**	**+3.3**
	baz=142,SNR=5.0							
OGNE				Sb		**Sg**	**06 04 35.5**	**-5.1**
	baz=142							
CCM	**Cathedral Cave**	**5.44**	**73**	Pn		**Pn**	**06 03 08.2**	**+0.9**
CCM				IAmb_Lg			06 04 38.8	
	comp=Z,102nm,0.9s							
CCM	**Cathedral Cave**	**5.44**	**73**	P		**Pn**	**06 03 09.1**	**+1.7**
	baz=256							
L34A	**Svendsen Farm,**	**5.46**	**11**	IAmb_Lg			06 04 52.2	
	comp=Z,146nm,0.7s							
N38A	**Joes South For**	**5.50**	**39**			**Pn**	**06 03 09.8**	**+1.5**
NATX	**Nacogdoches**	**5.51**	**151**	IAmb_Lg			06 04 53.2	
	comp=Z,91nm,0.8s							
CCAR	**Cane Creek**	**5.64**	**117**	IAmb_Lg			06 04 58.4	
	comp=Z,66nm,0.8s							
435B	**Jarrell**	**5.82**	**178**	IAmb_Lg			06 05 05.7	
	comp=Z,65nm,0.9s							
435B	**Jarrell**	**5.82**	**178**	P		**Pn**	**06 03 13.1**	**+0.5**
	baz=358							
HBAR	**Harrisburg**	**5.90**	**98**	IAmb_Lg			06 05 00.7	
	comp=Z,148nm,0.9s							
PBMO	**Poplar Bluff**	**5.95**	**86**	IAmb_Lg			06 05 02.9	
	comp=Z,105nm,0.7s							
K31A	**O'Neill**	**6.04**	**353**			**Pn**	**06 03 17.0**	**+1.3**
FVM	**French Village**	**6.05**	**75**	IAmb_Lg			06 04 57.7	
	comp=Z,79nm,0.8s							
SDCO	**Great Sand Dun**	**6.23**	**283**	P		**Pn**	**06 03 21.5**	**+3.0**
	baz=98							
SDCO				Sb		**Sg**	**06 05 00.8**	**-5.6**
	baz=98							
Q24A	**Divide**	**6.26**	**294**			**Pn**	**06 03 20.1**	**+1.2**
Q24A				IAmb_Lg			06 05 07.6	
	comp=Z,64nm,1.0s							
Q24A	**Divide**	**6.26**	**294**	P		**Pn**	**06 03 20.4**	**+1.5**
	baz=110,SNR=11							
Q24A				S		**Sn**	**06 04 31.9**	**+1.3**
	baz=110							
JCT	**Junction City**	**6.34**	**196**			**Pn**	**06 03 20.2**	**+0.5**
JCT				IAmb_Lg			06 05 12.8	
	comp=Z,88nm,1.1s							
JCT	**Junction City**	**6.34**	**196**	P		**Pn**	**06 03 20.1**	**+0.3**
	baz=14							
GNAR	**Gosnell**	**6.34**	**94**	IAmb_Lg			06 05 13.5	
	comp=Z,135nm,0.8s							
SLM	**Saint Louis**	**6.35**	**69**	IAmb_Lg			06 05 10.6	
	comp=Z,90nm,0.8s							
SCIA	**State Center**	**6.38**	**33**	P		**Pn**	**06 03 22.4**	**+2.1**
	baz=216,SNR=5.4							
SCIA				S		**Sn**	**06 04 32.7**	**-0.5**
	baz=216							
PVMO	**Portageville**	**6.55**	**89**	IAmb_Lg			06 05 21.3	
	comp=Z,83nm,0.8s							
143A	**Socs Landing,**	**6.57**	**125**	IAmb_Lg			06 05 21.0	
	comp=Z,60nm,0.8s							
GLAT	**Glass**	**6.89**	**90**	IAmb_Lg			06 05 28.1	
	comp=Z,107nm,0.8s							
HALT	**Halls**	**6.89**	**93**	IAmb_Lg			06 05 38.5	
	comp=Z,119nm,1.0s							
ISCO	**Idaho Springs**	**6.91**	**300**			**Pn**	**06 03 29.4**	**+1.5**
ISCO				IAmb_Lg			06 05 31.2	
	comp=Z,46nm,0.7s							
ISCO	**Idaho Springs**	**6.91**	**300**	P		**Pn**	**06 03 29.3**	**+1.5**
	baz=115							
ISCO				S		**Sn**	**06 04 46.2**	**-0.4**
	baz=115							
W45A	**Hickory Valley**	**7.16**	**99**	IAmb_Lg			06 05 40.2	
	comp=Z,75nm,0.7s							
ECSD	**EROS Data Cent**	**7.17**	**7**			**Pn**	**06 03 31.1**	**-0.1**
ECSD	**EROS Data Cent**	**7.17**	**7**	P		**Pn**	**06 03 31.3**	**+0.1**
	baz=188,SNR=10							
ECSD				S		**Sn**	**06 04 51.6**	**-1.1**
	baz=188							
OXF	**Oxford**	**7.17**	**105**			**Pn**	**06 03 31.9**	**+0.7**
K38A	**Parkersburg**	**7.18**	**31**	IAmb_Lg			06 05 48.8	
	comp=Z,88nm,0.8s							
T45A	**Paducah**	**7.38**	**84**	IAmb_Lg			06 05 37.9	
	comp=Z,75nm,0.7s							
L40A	**Anamosa**	**7.47**	**41**	IAmb_Lg			06 05 50.5	
	comp=Z,74nm,0.8s							
PHWY	**Pilot Hill**	**7.57**	**311**	IAmb_Lg			06 06 00.2	
	comp=Z,43nm,0.8s							
N23A	**Red Feather La**	**7.65**	**306**	Pn		**Pn**	**06 03 40.4**	**+2.4**
N23A				IAmb_Lg			06 06 00.2	
	comp=Z,91nm,0.8s							
N23A	**Red Feather La**	**7.65**	**306**	P		**Pn**	**06 03 40.4**	**+2.4**
	baz=122							
HDIL	**Hopedale**	**7.75**	**57**	P		**Pn**	**06 03 42.1**	**+2.9**
	baz=242							
HDIL				S		**Sn**	**06 05 04.0**	**-3.0**
	baz=242							
Y22D	**IRIS PASSCAL I**	**7.85**	**254**	IAmb_Lg			06 06 12.1	
	comp=Z,92nm,0.8s							
SUSD	**Miller**	**7.87**	**354**	IAmb_Lg			06 06 05.5	
	comp=Z,69nm,0.8s							
SUSD	**Miller**	**7.87**	**354**	P		**Pn**	**06 03 41.6**	**+0.8**
	baz=173							
SUSD				S		**Sn**	**06 05 07.7**	**-2.2**
	baz=173							
L42A	**Oliver, Polo**	**8.30**	**47**	IAmb_Lg			06 06 25.8	
	comp=Z,84nm,0.8s							
JFWS	**Jewell Farm**	**8.58**	**41**			**Pn**	**06 03 51.0**	**+0.6**
JFWS				IAmb_Lg			06 06 31.2	
	comp=Z,50nm,0.8s							
JFWS	**Jewell Farm**	**8.58**	**41**	P		**Pn**	**06 03 51.3**	**+0.9**
	baz=225,SNR=5.5							
JFWS				S		**Sn**	**06 05 24.6**	**-2.6**
	baz=225							
T47A	**Sharon Grove**	**8.61**	**84**	Pn		**Pn**	**06 03 52.1**	**+1.2**
TX32	**Lajitas Array**	**8.76**	**216**	Pn		**Pn**	**06 03 53.2**	**+0.2**
TXAR	**Lajitas Array**	**8.76**	**216**	Pn		**Pn**	**06 03 51.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=26							
TXAR				Lg		Lg	06 06 19.8	
	comp=Z,1.7nm,0.3s,baz=34,slow=27,SNR=3.7							
RWWY	**Rawlins**	**8.88**	**308**	IAmb_Lg			06 06 49.1	
	comp=Z,35nm,0.7s							
I40A	**Norwalk**	**9.12**	**35**	Pn		**Pn**	**06 03 58.2**	**+0.3**
I40A				IAmb_Lg			06 06 43.8	
	comp=Z,48nm,0.8s							
WCI	**Wyandotte Cave**	**9.31**	**77**	P		**Pn**	**06 04 02.3**	**+1.7**
	baz=264							
SPMN	**Marine on St.**	**9.40**	**22**	P		**Pn**	**06 04 03.1**	**+1.4**
	baz=206,SNR=6.9							
I42A	**Draeger Farm,**	**9.96**	**40**	IAmb_Lg			06 07 01.9	
	comp=Z,36nm,0.9s							
PDAR	**Pinedale Array**	**10.93**	**308**	Pn		**Pn**	**06 04 24.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=122,slow=16,SNR=2.8							
PDAR				Lg		Lg	06 07 27.1	
	comp=Z,0.5nm,0.3s,baz=110,slow=21,SNR=3.9							
TKL	**Tuckaleechee C**	**11.40**	**91**	Pn		**Pn**	**06 04 30.7**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=262,slow=7.1,SNR=2.0							
TKL				Lg		Lg	06 07 44.2	
	comp=Z,1.3nm,0.3s,baz=3.8,slow=20,SNR=8.2							
ULM	**Lac du Bonnet**	**13.70**	**5**	Pn		Pn	06 04 56.0	-4.5
	comp=Z,0.3nm,0.3s,baz=183,slow=13,SNR=2.5							
ULM				Sn		Sn	06 07 22.9	-10
	comp=Z,0.4nm,0.3s,baz=120,slow=22,SNR=1.8							
ULM				Lg		Lg	06 08 54.2	
	comp=Z,0.6nm,0.3s,baz=279,slow=22,SNR=3.7							

ANF ***27*** *06:09:23.7±0.5, 36°.58N×97°.82W, h1km, ML4.1/14, Error ellipse: s-maj=6.0km s-min=4.7km az=29.0*
TUL ***27*** *06:09:23.9±1.3, 36°.599N±0°.009×97°.84W±0°.01, h7km±6km, ML3.3, mb_Lg3.3/98(NEIC), Error ellipse: s-maj=1.8km s-min=0.7km az=133.0*
NEIC ***27*** *06:09:23.9±0.9, 36°.59N±0°.01×97°.83W±0°.01, h3km±7km, Error ellipse: s-maj=1.9km s-min=1.5km az=123.0*

ISC 27 06:09:23.0±0.7, 36°.60N±0°.03×97°.95W±0°.03, h10km, n80, σ1§78/43, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.88**	**256**			**Pn**	**06 09 42.0**	**+0.5**
T35A	**Sooner Cattle**	**1.20**	**74**			**Pn**	**06 09 44.7**	**-1.1**
OKCFA	**Oklahoma City**	**1.25**	**161**			**Pg**	**06 09 46.5**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.26**	**161**			**Pg**	**06 09 46.7**	**-0.5**
FNO	**Franklin**	**1.41**	**162**			**Pg**	**06 09 49.2**	**-0.9**
TUL1	**Leonard**	**1.87**	**111**			**Pn**	**06 09 55.4**	**+0.3**
TUL1				IAmb_Lg			06 10 22.4	
	comp=Z,230nm,1.0s							
TUL1	**Leonard**	**1.87**	**111**	P		**Pn**	**06 09 55.6**	**+0.5**
	baz=293							
TUL1				S		**Sb**	**06 10 19.9**	**-0.8**
	baz=293							
R32A	**Long Quarter,**	**1.92**	**342**			**Pb**	**06 09 58.2**	**+0.1**
WMOK	**Wichita Mounta**	**1.98**	**200**	Pn		**Pb**	**06 09 58.7**	**-0.4**
WMOK				IAmb_Lg			06 10 27.3	
	comp=Z,87nm,0.8s							
WMOK	**Wichita Mounta**	**1.98**	**200**	P		**Pb**	**06 09 58.7**	**-0.4**
	baz=22,SNR=9.2							
WMOK				S		**Sg**	**06 10 25.5**	**-1.1**
	baz=22							
X34A	**Smith Ranch, M**	**2.00**	**177**			**Pb**	**06 09 59.0**	**-0.5**
CBKS	**Cedar Bluff**	**2.63**	**328**	P		**Pb**	**06 10 09.9**	**-0.3**
	baz=145,SNR=8.1							
CBKS				S		**Sb**	**06 10 45.8**	**+3.3**
	baz=145							
KSU1	**Kansas State U**	**2.71**	**23**	Pn		**Pn**	**06 10 07.9**	**+1.3**
KSU1	**Kansas State U**	**2.71**	**23**	P		**Pn**	**06 10 08.2**	**+1.5**
	baz=202,SNR=19							
X37A	**Clayton**	**2.90**	**133**	IAmb_Lg			06 10 59.5	
	comp=Z,105nm,0.8s							
HHAR	**Hobbs**	**3.25**	**94**	Pn		**Pn**	**06 10 14.4**	**+0.4**
AMTX	**Amarillo**	**3.49**	**242**	IAmb_Lg			06 11 23.4	
	comp=Z,74nm,0.8s							
AMTX	**Amarillo**	**3.49**	**242**	Pb		**Pg**	**06 10 28.0**	**-1.8**
	baz=60							
AMTX				Sb		**Sg**	**06 11 14.9**	**-0.1**
	baz=60							
W39A	**Magazine**	**3.66**	**111**	IAmb_Lg			06 11 25.3	
	comp=Z,81nm,0.8s							
W39A	**Magazine**	**3.66**	**111**	Pb		**Pb**	**06 10 28.3**	**+0.6**
	baz=294,SNR=12							
W39A				Sb		**Sb**	**06 11 14.9**	**+2.7**
	baz=294							
S39A	**Bolivar**	**3.85**	**72**	IAmb_Lg			06 11 25.5	
	comp=Z,90nm,0.8s							
U40A	**Yellvlle**	**4.11**	**92**	Pn		**Pn**	**06 10 26.4**	**+0.4**
U40A	**Yellville**	**4.11**	**92**	P		**Pn**	**06 10 26.4**	**+0.4**
	baz=275,SNR=17							
ABTX	**Abilene, Hawle**	**4.21**	**200**	IAmb_Lg			06 11 40.4	
	comp=Z,68nm,1.1s							
ABTX	**Abilene, Hawle**	**4.21**	**200**	Pb		**Pb**	**06 10 38.1**	**+1.0**
	baz=20							
KSCO	**Kaye Shedlock'**	**4.42**	**304**			**Pn**	**06 10 32.5**	**+2.2**
KSCO	**Kaye Shedlock'**	**4.42**	**304**	P		**Pn**	**06 10 33.6**	**+3.3**
	baz=121,SNR=7.9							
KSCO				Sb		**Sg**	**06 11 44.9**	**0.0**
	baz=121							
MGMO	**Mountain Grove**	**4.59**	**81**			**Pn**	**06 10 32.8**	**+0.4**
MGMO				IAmb_Lg			06 11 45.7	
	comp=Z,55nm,0.7s							
P38A	**Dawn**	**4.61**	**48**	IAmb_Lg			06 11 46.3	
	comp=Z,58nm,0.7s							
WHTX	**Lake Whitney,**	**4.62**	**175**			**Pn**	**06 10 33.7**	**+0.8**
WHTX	**Lake Whitney,**	**4.62**	**175**	P		**Pn**	**06 10 34.0**	**+1.2**
	baz=356							
X40A	**Basin Creek Fa**	**4.67**	**115**	IAmb_Lg			06 11 55.3	
	comp=Z,65nm,0.8s							
X40A	**Basin Creek Fa**	**4.67**	**115**	P		**Pn**	**06 10 35.5**	**+1.9**
	baz=299,SNR=7.0							
X40A				Sb		**Sb**	**06 11 46.0**	**+4.7**
	baz=299							
WHAR	**Wooly Hollow**	**4.77**	**104**	IAmb_Lg			06 11 54.9	
	comp=Z,54nm,0.7s							
BGNE	**Belgrade**	**4.80**	**358**			**Pn**	**06 10 36.3**	**+0.8**
BGNE				IAmb_Lg			06 11 58.7	
	comp=Z,68nm,0.9s							
BGNE	**Belgrade**	**4.80**	**358**	P		**Pn**	**06 10 36.8**	**+1.4**
	baz=177							
R40A	**Maddies Statio**	**4.82**	**68**	IAmb_Lg			06 12 03.4	
	comp=Z,52nm,0.8s							
W41B	**Gary Mavity, V**	**4.84**	**105**	IAmb_Lg			06 11 57.1	
	comp=Z,66nm,1.0s							
WLAR	**White Oak Lake**	**4.91**	**125**	IAmb_Lg			06 12 08.3	
	comp=Z,52nm,0.7s							
T25A	**Trinidad**	**5.21**	**278**	IAmb_Lg			06 12 22.9	
	comp=Z,59nm,1.2s							
T25A	**Trinidad**	**5.21**	**278**	Sb		**Sg**	**06 12 08.1**	**-2.2**
	baz=94							
Z41A	**Richland Creek**	**5.38**	**127**	IAmb_Lg			06 12 23.4	
	comp=Z,43nm,0.8s							
Z41A	**Richland Creek**	**5.38**	**127**	S		**Sn**	**06 11 42.7**	**-2.7**
	baz=310							
OGNE	**Ogallala**	**5.39**	**325**	IAmb_Lg			06 12 19.9	
	comp=Z,69nm,0.8s							
OGNE	**Ogallala**	**5.39**	**325**	Sb		**Sg**	**06 12 12.2**	**-3.7**
	baz=142							
CCM	**Cathedral Cave**	**5.54**	**73**	IAmb_Lg			06 12 20.0	
	comp=Z,44nm,0.8s							
NATX	**Nacogdoches**	**5.54**	**150**	IAmb_Lg			06 12 30.0	
	comp=Z,43nm,0.8s							
CCAR	**Cane Creek**	**5.72**	**116**	IAmb_Lg			06 12 35.6	
	comp=Z,44nm,0.7s							
435B	**Jarrell**	**5.81**	**177**	IAmb_Lg			06 12 42.5	
	comp=Z,31nm,0.9s							
PBMO	**Poplar Bluff**	**6.04**	**86**	IAmb_Lg			06 12 42.4	
	comp=Z,49nm,0.7s							
SDCO	**Great Sand Dun**	**6.14**	**283**	Pg		**Pg**	**06 11 19.1**	**-1.5**
	baz=98,SNR=8.8							
SDCO				Sb		**Sg**	**06 12 36.8**	**-3.4**
	baz=98							
FVM	**French Village**	**6.15**	**75**	IAmb_Lg			06 12 37.1	
	comp=Z,36nm,0.7s							
Q24A	**Divide**	**6.17**	**295**	IAmb_Lg			06 12 45.5	
	comp=Z,33nm,0.9s							
Q24A	**Divide**	**6.17**	**295**	S		**Sn**	**06 12 07.9**	**+2.5**
	baz=110							
JCT	**Junction City**	**6.30**	**195**	IAmb_Lg			06 12 51.5	
	comp=Z,30nm,0.9s							
GNAR	**Gosnell**	**6.44**	**93**	IAmb_Lg			06 12 52.8	
	comp=Z,52nm,0.8s							
SLM	**Saint Louis**	**6.45**	**69**	IAmb_Lg			06 12 49.3	
	comp=Z,34nm,0.8s							
143A	**Socs Landing,**	**6.65**	**124**	IAmb_Lg			06 13 08.0	
	comp=Z,34nm,0.8s							
ISCO	**Idaho Springs**	**6.83**	**300**	IAmb_Lg			06 13 06.9	
	comp=Z,23nm,0.7s							
GLAT	**Glass**	**6.99**	**90**	IAmb_Lg			06 13 08.3	
	comp=Z,57nm,0.7s							
HALT	**Halls**	**6.99**	**93**	IAmb_Lg			06 13 21.4	
	comp=Z,42nm,1.0s							
ECSD	**EROS Data Cent**	**7.20**	**8**	P		**Pn**	**06 11 09.3**	**+1.0**
	baz=188							
ECSD				S		**Sn**	**06 12 29.1**	**-1.0**
	baz=188							
K38A	**Parkersburg**	**7.24**	**32**	IAmb_Lg			06 13 17.2	
	comp=Z,45nm,0.8s							
W45A	**Hickory Valley**	**7.26**	**99**	IAmb_Lg			06 13 17.1	
	comp=Z,38nm,0.7s							
OXF	**Oxford**	**7.26**	**104**	IAmb_Lg			06 13 12.6	
	comp=Z,34nm,1.0s							
Y45A	**Yeager Farm, C**	**7.40**	**109**	IAmb_Lg			06 13 27.1	
	comp=Z,41nm,1.3s							
T45A	**Paducah**	**7.47**	**84**	IAmb_Lg			06 13 35.6	
	comp=Z,53nm,0.8s							
PHWY	**Pilot Hill**	**7.50**	**311**	IAmb_Lg			06 13 41.7	
	comp=Z,24nm,0.9s							
L40A	**Anamosa**	**7.54**	**42**	IAmb_Lg			06 13 27.4	
	comp=Z,40nm,0.8s							
N23A	**Red Feather La**	**7.58**	**307**	IAmb_Lg			06 13 37.0	
	comp=Z,41nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.75**	**254**	IAmb_Lg			06 13 48.8	
	comp=Z,38nm,0.8s							
SUSD	**Miller**	**7.87**	**355**	IAmb_Lg			06 13 41.9	
	comp=Z,28nm,0.8s							
L42A	**Oliver, Polo**	**8.38**	**47**	IAmb_Lg			06 13 52.0	
	comp=Z,43nm,0.8s							
JFWS	**Jewell Farm**	**8.65**	**41**	IAmb_Lg			06 14 07.7	
	comp=Z,29nm,0.8s							
RWWY	**Rawlins**	**8.81**	**308**	IAmb_Lg			06 14 20.7	
	comp=Z,21nm,1.0s							
K22A	**Casper**	**8.96**	**315**	IAmb_Lg			06 14 20.1	
	comp=Z,22nm,0.7s							
121A	**Cookes Peak, D**	**9.07**	**246**	IAmb_Lg			06 14 27.8	
	comp=Z,16nm,1.2s							
M44A	**Midewin, Midew**	**9.07**	**55**	IAmb_Lg			06 14 15.3	
	comp=Z,39nm,0.9s							
I40A	**Norwalk**	**9.19**	**35**	IAmb_Lg			06 14 20.6	
	comp=Z,24nm,0.7s							
I42A	**Draeger Farm,**	**10.03**	**41**	IAmb_Lg			06 14 42.3	
	comp=Z,16nm,0.8s							

IDC 27 06:19:21.4±1.8, 27°.36N×140°.37E, h316km±22km, mb2.9/3, mb1 3.2/3, mb1mx2.6/49, mbtmp3.6/3, Error ellipse: s-maj=65.1km s-min=19.6km az=94.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.64**	**99**	P		Pn	06 20 08.6	+1.5
	19nm,0.3s,baz=356,slow=19,SNR=29							
JCJ				S		S	06 20 43.5	0.0
	15nm,0.3s,baz=288,slow=22,SNR=10							
WRA	**Warramunga Arr**	**47.39**	**188**	P		P	06 27 24.2	-0.5
	0.3nm,0.3s,baz=5.5,slow=7.7,SNR=20							
YKA	**Yellowknife Ar**	**72.67**	**28**	P		P	06 30 15.2	+0.5
	0.1nm,0.4s,baz=299,slow=6.2,SNR=2.4							
FINES	**FINESS Array B**	**76.99**	**333**	P		P	06 30 39.3	0.0
	0.7nm,0.3s,baz=68,slow=4.5,SNR=13							

IDC ***27*** *06:29:22.9±0.7, 6°.73N×72°.96W, h160km±10km, mb3.1/3, mb1 3.5/5, mb1mx3.1/28, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/13, Error ellipse: s-maj=34.6km s-min=7.5km az=131.0*
RSNC ***27*** *06:29:24.1±1.1, 6°.84N×73°.14W, h150km±5km, ML3.4, Mw3.7, Fault plane solution: NP1:φs48.00000°, δ88.00000°, λ-164.00000°.*

ISC 27 06:29:22.9±0.8, 6°.83N±0°.03×73°.12W±0°.03, h159km±6km, n43, σ1§62/78, mb3.1/3, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**195**	⇓*i*	P	**Pn**	**06 29 44.5**	**-0.2**
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇑*e*	P	**Pn**	**06 29 47.4**	**+0.7**
PAMC				*e*	S	**Sn**	**06 30 04.3**	**-0.5**
PAMC				*i*			06 30 06.7	
	comp=Z,974nm,0.5s							
RUSC	**La Rusia**	**0.93**	**178**	⇓*e*	P	**Pn**	**06 29 48.5**	**-0.1**
RUSC				*e*	S	**Sn**	**06 30 07.3**	**-0.9**
RUSC				*i*			06 30 08.2	
	comp=Z,228nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*	P	**Pn**	**06 29 51.0**	**-0.8**
PTBC				*e*	S	**Sn**	**06 30 12.3**	**-1.6**
PTBC				*i*			06 30 19.4	
	comp=Z,258nm,0.1s							
TAMC	**Tame, Arauca**	**1.37**	**106**	⇓*i*	P	**Pn**	**06 29 52.9**	**+1.0**
TAMC				*i*			06 30 13.7	
	comp=Z,105nm,0.3s							
TAMC				*e*	S	**Sn**	**06 30 14.4**	**+0.3**
OCAC	**Ocana**	**1.42**	**352**	⇑*i*	P	**Pn**	**06 29 52.5**	**+0.1**
OCAC				*e*	S	**Sn**	**06 30 14.2**	**-1.1**
OCAC				*i*			06 30 24.0	
	comp=Z,489nm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**219**	*e*	P	**Pn**	**06 29 53.3**	**0.0**
SPBC				*e*	S	**Sn**	**06 30 15.7**	**-1.0**
SPBC				*i*			06 30 20.3	
	comp=Z,321nm,0.5s							
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*	P	**Pn**	**06 29 57.1**	**+0.3**
ZARC				*e*	S	**Sn**	**06 30 22.2**	**-0.8**
ZARC				*i*			06 30 28.5	
	comp=Z,390nm,0.3s							
NORC	**Norcasia**	**2.15**	**234**	*e*	P	**Pn**	**06 30 00.5**	**+0.2**
NORC				*e*	S	**Sn**	**06 30 28.2**	**-0.9**
NORC				*i*			06 30 34.4	
	comp=Z,155nm,0.2s							
CHIC	**Chingaza**	**2.27**	**196**	*e*	P	**Pn**	**06 30 02.6**	**+0.5**
CHIC				*e*	S	**Sn**	**06 30 31.7**	**-0.7**
CHIC				*i*			06 30 35.5	
	comp=Z,189nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**06 30 04.3**	**+1.8**
	comp=Z,22nm,0.3s,baz=104,slow=19,SNR=59							
ROSC				S		**Sn**	**06 30 33.3**	**+0.2**
	comp=Z,46nm,0.3s,baz=110,slow=16,SNR=27							
ROSC	**El Rosal**	**2.31**	**211**	*e*	P	**Pn**	**06 30 04.3**	**+1.8**
ROSC				*e*	S	**Sn**	**06 30 32.4**	**-0.8**
ROSC				*i*

CRJC				*i*			06 31 15.4
	comp=Z,70nm,0.5s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*	**Pn**	**06 30 27.0**	**-0.1**
YOTC				*eS*	**Sn**	**06 31 15.5**	**-1.7**
GUVC	**San Jose del G**	**4.28**	**173**	*eP*	**Pn**	**06 30 26.3**	**-0.8**
GUVC				*eS*	**Sn**	**06 31 15.2**	**-2.0**
GUVC				*i*		06 31 21.7	
	comp=Z,140nm,0.2s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**06 30 28.6**	**-0.6**
SMRC				*eS*	**Sn**	**06 31 17.1**	**-3.9**
SMRC				*i*		06 31 23.0	
	comp=Z,30nm,0.1s						
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*	**Pn**	**06 30 31.4**	**-1.3**
MACC				*eS*	**Sn**	**06 31 22.3**	**-4.9**
MACC				*i*		06 31 29.2	
	comp=Z,27nm,0.3s						
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*	**Pn**	**06 30 38.4**	**-0.7**
GARC				*eS*	**Sn**	**06 31 34.2**	**-4.5**
GARC				*i*		06 31 41.0	
	comp=Z,41nm,0.2s						
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*	**Pn**	**06 30 42.2**	**-1.7**
POPC				*eS*	**Sn**	**06 31 44.2**	**-3.0**
FLOC	**Florencia**	**5.79**	**206**	*eP*	**Pn**	**06 30 46.7**	**-0.3**
FLOC				*eS*	**Sn**	**06 31 53.1**	**+0.3**
FLOC				*i*		06 31 55.6	
	comp=Z,13nm,0.3s						
NNA	**Nana**	**19.05**	**191**	LR	LR	06 41 21.2	
	comp=Z,30nm,18.1s,baz=171,slow=38						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**06 36 14.3**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=128,slow=9.4,SNR=5.5						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**06 37 47.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=6.6,SNR=2.5						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**06 39 35.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=133,slow=6.6,SNR=27						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**06 48 52.8**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=123,slow=3.5,SNR=4.9						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**06 48 56.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=105,slow=2.9,SNR=10.0						

IDC ***27*** *06:52:10.8±6.1,36°.39N×71°.03E,h168km±50km,mb3.1/6, mb1 3.2/9,mb1mx3.0/37,mbtmp3.6/9, Error ellipse: s-maj=50.3km s-min=23.8km az=43.0*

ISC 27 06:52:13.3±1.3,36°.5N±0°.1×71°.1E±0°.2,h188km,n15, σ0$83/16,mb3.2/5,2C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.95**	**19**	P	**Pn**	**06 53 39.9**	**-0.1**
	SNR=40						
UCH	**Uchtor**	**6.28**	**24**	P	**Pn**	**06 53 44.6**	**+0.2**
	SNR=7.1						
EKS2	**Erkin-Say**	**6.47**	**18**	P	**Pn**	**06 53 47.3**	**+0.8**
	SNR=9.4						
KK06	**Karatay Array**	**6.56**	**357**	⇑Pn	**Pn**	**06 53 46.6**	**-1.0**
	2.2nm,0.5s,baz=183,slow=12						
KK06				⇑Sn	Sn	06 54 53.7	-8.5
	13nm,0.8s,baz=185,slow=22						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**06 53 49.4**	**+0.6**
	2.2nm,0.3s,baz=192,slow=4.6,SNR=22						
AAK				S	**Sn**	**06 55 02.9**	**-1.5**
	0.7nm,0.3s,baz=0.4,slow=18,SNR=8.3						
USP	**Ospenovka**	**7.22**	**20**	P	**Pn**	**06 53 56.1**	**-0.2**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.27**	**27**	P	**Pn**	**06 53 57.8**	**+0.6**
	SNR=9.5						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**06 55 14.6**	**+0.5**
	0.1nm,0.3s,baz=214,slow=9.3,SNR=6.8						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**P**	**06 55 38.3**	**+0.8**
	0.1nm,0.3s,baz=208,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**19.86**	**24**	P	**P**	**06 56 30.5**	**+0.8**
	1.7nm,0.5s,baz=218,slow=12,SNR=10						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**06 59 08.4**	**+0.1**
	1.9nm,1.0s,baz=116,slow=8.7,SNR=3.8						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**07 00 04.4**	**-0.3**
	0.4nm,0.5s,baz=95,slow=7.7,SNR=1.5						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**07 04 08.6**	**+1.0**
	0.2nm,0.5s,baz=349,slow=5.3,SNR=8.9						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**07 04 11.4**	**-0.9**
	0.2nm,0.8s,baz=334,slow=5.3,SNR=5.3						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**07 04 23.1**	**-0.8**
	0.3nm,0.6s,baz=311,slow=4.8,SNR=4.5						

CNRM ***27*** *06:55:58.6,35°.56N×3°.67W,h26km,ml2.2*
MDD ***27*** *06:55:58.2±0.6,35°.47N×3°.69W,h0km,mb_Lg2.5/9, Error ellipse: s-maj=5.6km s-min=2.8km az=5.0*

ISC 27 06:55:57.8±1.5,35°.50N±0°.03×3°.70W±0°.03,h9km±12km, n27,σ1$40/46,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.35**	**215**	P	**Pb**	**06 56 06.9**	**+0.7**
PALE				S	**Sb**	**06 56 12.4**	**+0.6**
EMEL	**Melilla**	**0.64**	**108**	Pg	**Pg**	**06 56 10.1**	**0.0**
EMEL				Sg	**Sg**	**06 56 17.9**	**-0.5**
EALB	**Alboran**	**0.69**	**51**	Pg	**Pb**	**06 56 12.5**	**+0.4**
EALB				Sg	**Sb**	**06 56 22.2**	**+0.5**
EALB				*i* Vmb_Lg		06 56 23.1	
TAF	**Taforalt**	**1.25**	**123**	P	**Pn**	**06 56 20.5**	**-1.1**
TAF				S	**Sb**	**06 56 35.4**	**-2.6**
ELGU	**Los Guajares,**	**1.36**	**2**	Pn	**Pn**	**06 56 22.8**	**-0.3**
ELGU				Sn	**Sb**	**06 56 39.7**	**-1.5**
ELGU				*i* Vmb_Lg		06 56 40.2	
EMIJ	**Mijas**	**1.37**	**321**	Pg	**Pn**	**06 56 22.4**	**-0.9**
EMIJ				Sn	**Sn**	**06 56 40.9**	**-0.7**
SMIR	**Smir Dam**	**1.39**	**278**	P	**Pn**	**06 56 21.8**	**-1.6**
SMIR				S	**Sn**	**06 56 39.4**	**-2.4**
EMAL	**Malaga-Limoner**	**1.39**	**335**	P	**Pn**	**06 56 22.9**	**-0.5**
EMAL				S	**Sn**	**06 56 39.5**	**-2.4**
ECEU	**Ceuta**	**1.43**	**287**	Sn	**Sn**	**06 56 41.2**	**-1.6**
ECEU				*i* Vmb_Lg		06 56 42.2	
JBK	**JBK**	**1.49**	**141**	P	**Pn**	**06 56 24.9**	**-0.1**
JBK				S	**Sn**	**06 56 43.7**	**-0.9**
EBER	**Berja**	**1.54**	**25**	Pg	**Pn**	**06 56 25.0**	**-0.7**
EBER				Pn	**Pb**	**06 56 25.3**	**-1.3**
EBER				Sn	**Sn**	**06 56 44.1**	**-1.8**
EGOR	**Sierra Gorda,**	**1.64**	**348**	Pn	**Pn**	**06 56 26.4**	**-0.6**
EGOR				Sn	**Sn**	**06 56 48.3**	**0.0**
EGOR				*i* Vmb_Lg		06 57 37.0	
ENIJ	**Nijar**	**1.90**	**39**	Pn	**Pn**	**06 56 29.5**	**-1.0**
ENIJ				*i* Vmb_Lg		06 57 00.2	
LCRM	**LCR**	**2.05**	**208**	P	**Pb**	**06 56 36.4**	**+1.0**
EADA	**Adamuz**	**2.75**	**345**	Pn	**Pn**	**06 56 43.4**	**+1.2**
EADA				Sn	**Sn**	**06 57 16.4**	**+0.8**
EADA				*i* Vmb_Lg		06 57 22.6	
MD31	**MD31**	**2.77**	**199**	P	**Pn**	**06 56 44.3**	**+1.8**
MDT	**Midelt**	**2.79**	**196**	P	**Pn**	**06 56 43.4**	**+0.7**
EZAR	**Zarzadilla de**	**2.86**	**34**	Sn	**Sn**	**06 57 19.0**	**+0.6**
ECAB	**El Cabril**	**2.92**	**332**	Pn	**Pn**	**06 56 44.0**	**-0.5**
ECAB				Sn	**Sn**	**06 57 20.8**	**+1.2**
EMIN	**Mina Concepcio**	**3.29**	**314**	Pn	**Pn**	**06 56 49.3**	**-0.3**
EMIN				Sn	**Sn**	**06 57 28.0**	**-0.8**
ETOB	**Tobarra**	**3.58**	**28**	Pn	**Pn**	**06 56 55.1**	**+1.6**
ETOB				Sn	**Sn**	**06 57 37.6**	**+1.6**
EGRO	**El Granado**	**3.66**	**305**	Pn	**Pn**	**06 56 55.4**	**+0.8**
EGRO				Sn	**Sn**	**06 57 37.5**	**-0.5**
PVAQ	**Vaqueiros**	**3.76**	**302**	P	**Pn**	**06 56 56.1**	**+0.1**
PVAQ				S	**Sn**	**06 57 39.1**	**-1.2**
PAB	**San Pablo**	**4.07**	**353**	Pn	**Pn**	**06 57 02.2**	**+1.9**
PAB				*i* Vmb_Lg		06 57 30.6	
EBAD	**Badajoz**	**4.19**	**322**	Pn	**Pn**	**06 57 02.7**	**+0.7**
EBAD				Sn	**Sn**	**06 57 52.0**	**+1.0**
EBAD				*i* Vmb_Lg		06 57 54.9	
ETOR	**Torete**	**5.46**	**13**	Pn	**Pn**	**06 57 23.6**	**+4.1**
ETOR				*i* Vmb_Lg		07 00 12.4	
ELOB	**Lobios**	**7.21**	**333**	Sn	**Sn**	**06 59 08.0**	**+2.4**

WEL 27 06:58:59.5,41°S±2°×17°5E±°,h26km±3km,M2.8/22, ML3.1/22,MLv2.8/22,Error ellipse: s-maj=0.6km s-min=0.0km az=106.1,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.11**	**79**	S	**Sb**	**06 59 08.9**	**+1.2**
HOWZ	**Holdsworth Sta**	**0.22**	**165**	P	**Pb**	**06 59 06.2**	**+0.6**
HOWZ				S	**Sb**	**06 59 11.5**	**+1.7**
OGW	**Otaki Gorge**	**0.24**	**236**	S	**Sb**	**06 59 11.5**	**+1.3**
TIWZ	**Tintock**	**0.35**	**106**	P	**Pb**	**06 59 07.9**	**+0.5**
TIWZ				S	**Sn**	**06 59 14.4**	**-0.8**
POWZ	**Post Office Ro**	**0.38**	**41**	P	**Pb**	**06 59 07.9**	**0.0**
PRWZ	**Pori Road**	**0.42**	**73**	P	**Pb**	**06 59 09.0**	**+0.5**
PRWZ				S	**Sn**	**06 59 16.5**	**-0.5**
KIW	**Kapiti Island**	**0.44**	**246**	P	**Pb**	**06 59 09.4**	**+0.6**
KIW				S	**Sb**	**06 59 16.1**	**+1.0**
MTW	**Mount Morrison**	**0.48**	**174**	P	**Pb**	**06 59 09.9**	**+0.4**
OHWZ	**Ohakea**	**0.48**	**349**	P	**Pn**	**06 59 10.3**	**-0.5**
CAW	**Cannon Point**	**0.51**	**213**	P	**Pb**	**06 59 10.3**	**+0.4**
TMWZ	**Te Maipa**	**0.55**	**141**	P	**Pb**	**06 59 11.0**	**+0.4**
BFZ	**Birch Farm**	**0.61**	**90**	P	**Pb**	**06 59 11.9**	**+0.2**
CPWZ	**Castlepoint**	**0.62**	**112**	P	**Pn**	**06 59 12.7**	**0.0**
DVHZ	**Dannevirke**	**0.68**	**56**	P	**Pb**	**06 59 12.6**	**-0.1**
PAWZ	**Paruwai Farm**	**0.70**	**181**	P	**Pb**	**06 59 13.0**	**-0.1**
TRWZ	**Traveller**	**0.74**	**165**	P	**Pb**	**06 59 14.0**	**+0.1**
TSZ	**Takapari Road**	**0.74**	**33**	P	**Pb**	**06 59 13.4**	**-0.4**
MSWZ	**Moikau Station**	**0.75**	**191**	P	**Pb**	**06 59 13.5**	**-0.4**
WEL	**Wellington**	**0.79**	**220**	P	**Pb**	**06 59 14.7**	**+0.1**
ANWZ	**Angora Road**	**0.82**	**75**	P	**Pb**	**06 59 14.7**	**-0.4**
BHW	**Baring Head**	**0.84**	**210**	P	**Pb**	**06 59 15.2**	**-0.3**
PLWZ	**Palliser**	**0.90**	**189**	P	**Pb**	**06 59 15.4**	**-1.1**
PNHZ	**Pukenui**	**0.96**	**37**	P	**Pn**	**06 59 17.1**	**-0.3**
WPHZ	**Waipukurau**	**0.98**	**51**	P	**Pn**	**06 59 17.2**	**-0.4**
WAZ	**Wanganui**	**0.99**	**339**	P	**Pb**	**06 59 18.6**	**+0.6**
PRHZ	**Porangahau**	**1.00**	**66**	P	**Pn**	**06 59 16.8**	**-1.1**
TCW	**Tory Channel**	**1.03**	**239**	P	**Pn**	**06 59 18.1**	**-0.1**
DUWZ	**D'Urville Isla**	**1.16**	**264**	P	**Pb**	**06 59 21.1**	**+0.3**
KRHZ	**Kereru**	**1.26**	**35**	P	**Pn**	**06 59 21.0**	**-0.4**
MOVZ	**Moawhango**	**1.30**	**11**	P	**Pn**	**06 59 22.3**	**+0.3**
MTVZ	**Mangateitei**	**1.30**	**1**	P	**Pb**	**06 59 22.8**	**-0.4**
WNVZ	**Wahianoa**	**1.36**	**5**	P	**Pb**	**06 59 23.7**	**-0.7**
TRVZ	**Turoa**	**1.38**	**4**	P	**Pb**	**06 59 24.2**	**-0.7**
PKVZ	**Pokaka**	**1.39**	**357**	P	**Pn**	**06 59 24.1**	**+0.8**
WHVZ	**Whangaehu Hut**	**1.40**	**5**	P	**Pb**	**06 59 24.4**	**+0.8**
CMWZ	**Cape Campbell**	**1.41**	**220**	P	**Pb**	**06 59 28.7**	**+3.5**
KAHZ	**Kahuranaki**	**1.41**	**52**	P	**Pn**	**06 59 23.2**	**-0.4**
TUVZ	**Tukino**	**1.42**	**7**	P	**Pb**	**06 59 24.7**	**-0.8**
FWVZ	**Far West T-bar**	**1.43**	**4**	P	**Pn**	**06 59 24.7**	**+0.8**
SNVZ	**South Ngauruho**	**1.50**	**6**	P	**Pn**	**06 59 25.3**	**+0.4**
OTVZ	**Oturere**	**1.53**	**7**	P	**Pn**	**06 59 26.1**	**+0.8**
NNVZ	**North Ngauruho**	**1.55**	**5**	P	**Pb**	**06 59 26.8**	**-1.0**
ETVZ	**East Tongariro**	**1.56**	**8**	P	**Pn**	**06 59 26.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.57**	**228**	P	**Pn**	**06 59 26.5**	**+0.9**
MCHZ	**McNeill Hill**	**1.57**	**38**	P	**Pb**	**06 59 28.4**	**+0.5**
WTVZ	**West Tongariro**	**1.57**	**4**	P	**Pb**	**06 59 26.9**	**-1.0**
TMVZ	**Te Maari**	**1.58**	**8**	P	**Pn**	**06 59 26.8**	**+0.9**
NTVZ	**North Tongariro**	**1.59**	**7**	P	**Pb**	**06 59 27.3**	**-1.1**
KRVZ	**Karewarewa**	**1.59**	**6**	P	**Pb**	**06 59 27.4**	**-0.9**
TWVZ	**Taurewa**	**1.61**	**360**	P	**Pn**	**06 59 27.2**	**+0.9**
VRZ	**Vera Road**	**1.64**	**341**	P	**Pn**	**06 59 27.7**	**+1.0**
NNZ	**Nelson**	**1.65**	**250**	P	**Pb**	**06 59 29.1**	**-0.1**
BKZ	**Black Stump Fm**	**1.72**	**29**	P	**Pn**	**06 59 26.9**	**-0.9**
NMEZ	**Namu Road**	**1.74**	**316**	P	**Pb**	**06 59 29.8**	**-1.0**
NEZ	**North Egmont**	**1.75**	**323**	P	**Pb**	**06 59 29.8**	**-1.1**
KHEZ	**Kahui Hut**	**1.77**	**321**	P	**Pb**	**06 59 30.5**	**-0.8**
ARHZ	**Aropaoanui**	**1.85**	**41**	P	**Pb**	**06 59 32.9**	**+0.2**
NBEZ	**Newall Road No**	**1.86**	**319**	P	**Pb**	**06 59 31.8**	**-0.9**
PKE	**Pukeiti**	**1.86**	**323**	P	**Pb**	**06 59 32.1**	**-0.7**
NMHZ	**Naumai**	**1.90**	**34**	P	**Pb**	**06 59 34.2**	**+0.6**
MTHZ	**Maungataniwha**	**2.12**	**31**	P	**Pn**	**06 59 32.3**	**-1.0**
MRNZ	**Matariki Terra**	**2.15**	**250**	P	**Pb**	**06 59 37.3**	**-0.4**
THZ	**Tophouse**	**2.19**	**240**	P	**Pn**	**06 59 33.5**	**-0.8**
HIZ	**Hauiti**	**2.21**	**348**	P	**Pn**	**06 59 35.9**	**+1.3**
QRZ	**Quartz Range**	**2.21**	**265**	P	**Pb**	**06 59 38.0**	**-0.8**
ALRZ	**Allen Road**	**2.23**	**19**	P	**Pb**	**06 59 39.0**	**-0.1**
KHZ	**Kahutara**	**2.24**	**219**	P	**Pn**	**06 59 34.0**	**-0.9**
PRRZ	**Plateau Road**	**2.30**	**19**	P	**Pn**	**06 59 40.3**	**-0.1**
TLZ	**Tolley Road**	**2.35**	**2**	P	**Pn**	**06 59 38.8**	**+2.4**
TARZ	**Mount Tarawera**	**2.58**	**19**	P	**Pn**	**06 59 38.0**	**-0.9**
EDRZ	**Edgecumbe**	**2.76**	**22**	P	**Pn**	**06 59 41.2**	**-0.9**
MARZ	**Manawahe**	**2.86**	**20**	P	**Pn**	**06 59 43.7**	**+0.2**

TUL ***27*** *07:19:53.8±1.6,36°.93N±0°.01×97°.35W±0°.02,h7km±4km, ML3.0,mb_Lg2.7/43(NEIC),Error ellipse: s-maj=2.1km s-min=1.7km az=207.0*

NEIC 27 07:19:54.0±0.7,36°.89N±0°.01×97°.362W±0°.009,h5km±7km, Error ellipse: s-maj=2.1km s-min=1.0km az=192.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.68**	**88**	Pg	Pg	07 20 06.7	-0.4
T35A				Sg	Sg	07 20 16.1	+0.2
U32A	**Winter Ranch,**	**1.42**	**249**	Pn	Pn	07 20 20.4	0.0
OKCFA	**Oklahoma City**	**1.48**	**183**		Pn	07 20 21.4	-0.2
OKCSW	**OKLAHOMA CITY**	**1.48**	**182**	Pn	Pn	07 20 21.6	+0.3
TUL1	**Leonard**	**1.60**	**127**		Pn	07 20 23.3	+0.4
FNO	**Franklin**	**1.63**	**181**		Pn	07 20 23.6	+0.3
R32A	**Long Quarter,**	**1.87**	**325**		Pn	07 20 27.2	+0.6
KSU1	**Kansas State U**	**2.28**	**15**	Pn	Pn	07 20 33.1	+0.8
KSU1	**Kansas State U**	**2.28**	**15**	IAmb_Lg		07 21 09.2	
	comp=Z,32nm,0.9s						
X34A	**Smith Ranch, M**	**2.32**	**190**	Pn	Pn	07 20 32.5	-0.3
CBKS	**Cedar Bluff**	**2.69**	**316**	Pn	Pn	07 20 36.6	-1.3
X37A	**Clayton**	**2.81**	**144**	Pn	Pn	07 20 38.5	-1.0
X37A				IAmb_Lg		07 21 26.2	
	comp=Z,17nm,0.8s						
HHAR	**Hobbs**	**2.82**	**101**	Pn	Pn	07 20 39.7	0.0
U40A	**Yellvile**	**3.67**	**97**	Pn	Pn	07 20 52.0	+0.6
AMTX	**Amarillo**	**4.04**	**242**	IAmb_Lg		07 22 02.1	
	comp=Z,20nm,1.1s						
P38A	**Dawn**	**4.07**	**47**	IAmb_Lg		07 22 02.7	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**4.08**	**85**	Pn	Pn	07 20 58.0	+0.9
R40A	**Maddies Statio**	**4.28**	**69**	Pn	Pn	07 20 59.8	+0.1
FCAR	**Ozark Folk Cen**	**4.34**	**102**	IAmb_Lg		07 22 11.1	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Fa**	**4.40**	**122**	IAmb_Lg		07 22 21.4	
	comp=Z,12nm,0.7s						
WHAR	**Wooly Hollow**	**4.41**	**110**	IAmb_Lg		07 22 11.6	
	comp=Z,19nm,0.7s						
W41B	**Gary Mavity, V**	**4.49**	**111**	IAmb_Lg		07 22 15.8	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**4.55**	**353**	IAmb_Lg		07 22 23.8	
	comp=Z,14nm,0.7s						
P40A	**Paris**	**4.94**	**56**	IAmb_Lg		07 22 36.3	
	comp=Z,8.4nm,0.7s						
Z41A	**Richland Creek**	**5.21**	**133**	IAmb_Lg		07 22 46.0	
	comp=Z,18nm,1.1s						
PBMO	**Poplar Bluff**	**5.56**	**89**	IAmb_Lg		07 23 01.2	
	comp=Z,13nm,0.7s						
T25A	**Trinidad**	**5.65**	**275**	IAmb_Lg		07 23 06.9	
	comp=Z,9.2nm,0.9s						
435B	**Jarrell**	**6.10**	**182**	IAmb_Lg		07 23 21.7	
	comp=Z,7.2nm,0.7s						
N41A	**Harden Midland**	**6.35**	**51**	IAmb_Lg		07 23 23.9	
	comp=Z,13nm,0.8s						
Q24A	**Divide**	**6.49**	**291**	IAmb_Lg		07 23 26.7	
	comp=Z,9.9nm,0.8s						
S44A	**Carbondale**	**6.51**	**81**	IAmb_Lg		07 23 23.2	
	comp=Z,12nm,0.8s						
T45A	**Paducah**	**6.98**	**86**	IAmb_Lg		07 23 40.2	
	comp=Z,12nm,0.7s						
ISCO	**Idaho Springs**	**7.11**	**297**	IAmb_Lg		07 23 40.1	
	comp=Z,5.8nm,0.8s						
HDIL	**Hopedale**	**7.29**	**57**	IAmb_Lg		07 24 03.9	
	comp=Z,10nm,0.7s						
OLIL	**Olney**	**7.56**	**73**	IAmb_Lg		07 24 09.7	
	comp=Z,9.2nm,1.1s						
N23A	**Red Feather La**	**7.79**	**303**	IAmb_Lg		07 24 08.0	
	comp=Z,6.9nm,0.8s						
MNTX	**Cornudas Mount**	**8.42**	**234**	IAmb_Lg		07 24 26.5	
	comp=Z,5.1nm,1.1s						

NNC ***27*** *07:21:47.7±0.4,50°.03N×78°.90E,h0km,mb2.8,mpv2.5, Error ellipse: s-maj=10.0km s-min=1.8km az=67.0, Suspected Mining explosion.*
IDC ***27*** *07:21:52.0±4.2,49°.95N×79°.01E,h0km,mb1 2.6/2, mb1mx2.5/41,mbtmp2.6/2,ML2.2/2, Error ellipse: s-maj=54.0km s-min=18.5km az=92.0*

ISC 27 07:21:47.5±2.3,49°.95N±0°.07×78°.5E±0°.3,h0km,n15, σ0$65/27,6C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.63**	**3**	P	**Pg**	**07 21 59.4**	**-0.2**
KUR07				S	**Sg**	**07 22 08.8**	**+1.0**
KUR06	**Kurchatov Arra**	**0.65**	**3**	P	**Pg**	**07 21 59.7**	**-0.3**
KUR06				S	**Sg**	**07 22 09.3**	**+0.8**
KUR14	**Kurchatov Arra**	**0.67**	**7**	P	**Pg**	**07 21 59.7**	**-0.6**
KUR14				S	**Sg**	**07 22 08.5**	**-0.5**
KUR15	**Kurchatov Arra**	**0.67**	**5**	P	**Pg**	**07 21 59.9**	**-0.5**
KUR15				S	**Sg**	**07 22 08.9**	**-0.1**
KURBB	**Kurchatov Arra**	**0.67**	**3**	⇑P	**Pg**	**07 22 00.2**	**-0.2**
	15nm,0.5s						
KURBB				⇑S	**Sg**	**07 22 09.1**	**0.0**
	70nm,0.6s						
KUR16	**Kurchatov Arra**	**0.68**	**2**	P	**Pg**	**07 22 00.1**	**-0.3**
KUR16				S	**Sg**	**07 22 09.1**	**-0.1**
KUR17	**Kurchatov Arra**	**0.68**	**360**	P	**Pg**	**07 22 00.4**	**-0.1**
KUR17				S	**Sg**	**07 22 09.7**	**+0.4**
KUR05	**Kurchatov Arra**	**0.69**	**4**	P	**Pg**	**07 22 00.4**	**-0.3**
KUR05				S	**Sg**	**07 22 09.4**	**-0.3**
KUR04	**Kurchatov Arra**	**0.71**	**4**	P	**Pg**	**07 22 00.7**	**-0.5**
KUR04				S	**Sg**	**07 22 09.7**	**-0.6**
KURK	**Kurchatov**	**0.77**	**7**	⇑P	**Pg**	**07 22 01.3**	**-0.9**
	4.5nm,0.4s						
KURK				⇑S	**Sg**	**07 22 11.4**	**-0.8**
	10nm,0.4s						
MAKZ	**Makanchi**	**3.92**	**142**	⇑Pn	**Pn**	**07 22 48.0**	**-1.0**
	0.4nm,0.6s						
MAKZ				⇑Pg	**Pb**	**07 22 57.0**	**-0.4**
	1.9nm,0.6s						
MAKZ				⇓Lg	Lg	07 23 47.1	
	2.4nm,0.5s						
MK31	**Makanchi Array**	**4.06**	**140**	⇓Pn	**Pn**	**07 22 51.8**	**+1.0**
	0.1nm,0.2s,baz=322,slow=10,SNR=9.4						
MK31				⇓Pg	**Pb**	**07 22 59.6**	**-0.2**
	0.4nm,0.3s,baz=318,slow=16,SNR=14						
MK31				⇓Lg	Lg	07 23 53.2	
	3.6nm,0.5s,baz=330,slow=27,SNR=11						
MKAR	**Makanchi Array**	**4.06**	**140**	Pn	**Pn**	**07 22 52.3**	**+1.5**
	0.2nm,0.3s,baz=322,slow=10,SNR=12						
MKAR				Pg	**Pb**	**07 22 60.0**	**+0.1**
	0.4nm,0.3s,baz=312,slow=16,SNR=16						
MKAR				Lg	Lg	07 23 51.4	
	1.0nm,0.3s,baz=341,slow=30,SNR=13						
ZALV	**Zalesovo Beam**	**5.60**	**42**	Pn	**Pn**	**07 23 12.8**	**+0.8**
	0.4nm,0.3s,baz=234,slow=14,SNR=5.9						
ZALV				Lg	Lg	07 24 43.3	
	0.3nm,0.3s,baz=226,slow=23,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**5.61**	**42**	*i*		07 53 40.0	
	baz=225,slow=327,SNR=1.9						

WEL 27 07:25:26.0±1.0,32°S±19°×17°9E±3°5,h350km±43km, M4.0/7,mB4.4/4,ML4.3/11,MLv4.2/7,Mw(mB)3.5/4,Error ellipse: s-maj=0.0km s-min=0.0km az=110.9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.27**	**182**	P	Pn	07 26 48.1	-0.4
HAZ	**Te Kaha**	**5.50**	**186**	P	Pn	07 26 51.6	+0.7
HAZ				S	S	07 28 00.8	+1.0
WMGZ	**Waiomatatini S**	**5.53**	**181**	P	Pn	07 26 52.1	+0.8
WMGZ				S	S	07 28 03.3	+2.8
PKGZ	**Pakihiroa**	**5.61**	**184**	P	Pn	07 26 52.7	+0.4
PKGZ				S	S	07 28 01.5	-0.8
RUGZ	**Raukumara Rang**	**5.71**	**187**	P	Pn	07 26 52.9	-0.7
RUGZ				S	S	07 28 03.1	-1.4
PUZ	**Puketiti**	**5.78**	**182**	P	Pn	07 26 53.7	-0.5
PUZ				S	S	07 28 05.6	-0.2
TWGZ	**Tauwhareparae**	**5.90**	**184**	P	Pn	07 26 57.0	+1.5
TWGZ				S	S	07 28 08.7	+0.4
URZ	**Urewera**	**6.08**	**190**	P	Pn	07 26 57.4	-0.1
URZ				S	S	07 28 12.5	+0.7
MWZ	**Matawai**	**6.09**	**187**	P	Pn	07 26 56.6	-1.2
MWZ

comp=Z,0.6nm,0.5s,baz=16,slow=12,SNR=28
ABKAR **Akbulak array** 60.11 312 P P 07 45 48.8 +0.4
GNI **Garni** 73.68 307 LR LR 08 20 59.2
comp=Z,35nm,18.8s,baz=36,slow=37

*DJA **27** 07:58:03.4±0.3,8°S±6′×11°7E±°, h295km±4km, M4.2/17, mb4.4/7, mB4.9/2, MLv4.2/17, Mw(mB)4.2/2*
*IDC **27** 07:58:07.8±4.7, 7°36S×117°98E, h330km±37km, mb3.1/3, mb1 3.4/6, mb1mx2.9/34, mbtmp3.9/6, Error ellipse: s-maj=102.5km s-min=17.8km az=60.0*
ISC 27 07:58:03.3±0.8, 7°72S±0°08×117°34E±0°06, h300km, n26, σ1§87/33, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PLAI	**Plampang**	**1.18**	**159**	P	**Pn**		**07 58 44.1**	**-0.5**
PLAI				S	**S**		**07 59 15.2**	**-2.3**
DNP	**Denpasar**	**2.31**	**246**	P	**Pn**		**07 58 52.3**	**-0.4**
DNP				S	**S**		**07 59 31.5**	**-0.6**
IGBI	**Denpasar**	**2.43**	**243**	P	**Pn**		**07 58 53.6**	**-0.1**
IGBI				S	**S**		**07 59 31.1**	**-2.8**
WBSI	**Waikabubak, Su**	**2.78**	**133**	P	**Pn**		**07 58 55.1**	**-1.9**
WBSI				S	**S**		**07 59 35.6**	**-4.3**
ABJI	**Asem Bagus**	**3.08**	**268**	P	**Pn**		**07 59 00.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.25**	**257**	P	**Pn**		**07 59 01.5**	**-0.1**
JAGI				S	**S**		**07 59 44.9**	**-3.2**
KMMI	**Kalianget**	**3.41**	**281**	P	**Pn**		**07 59 04.3**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.50**	**64**	P	**Pn**		**07 59 04.4**	**+0.2**
KAPI	**Kappang**	**3.60**	**42**	P	**Pn**		**07 59 05.4**	**+0.1**
	2.4nm,0.3s,baz=174,slow=9.2,SNR=4.0							
BKSI	**Bulukumba**	**3.65**	**49**	P	**Pn**		**07 59 06.2**	**+0.4**
BLJI	**Banyuglugur**	**3.71**	**269**	P	**Pn**		**07 59 07.7**	**+1.2**
GMJI	**Gumukmas**	**3.90**	**262**	P	**Pn**		**07 59 08.6**	**+0.1**
BASI	**Baing, Sumba**	**4.05**	**128**	P	**Pn**		**07 59 09.6**	**-0.5**
BNSI	**Bone**	**4.29**	**40**	P	**Pn**		**07 59 14.4**	**+1.6**
MMRI	**Maumere**	**4.93**	**101**	P	**Pn**		**07 59 19.3**	**-0.8**
PWJI	**Pagerwojo**	**5.50**	**267**	P	**Pn**		**07 59 27.1**	**+0.4**
	0.3nm40nm,0.6s							
PCJI	**Pacitan**	**6.12**	**265**	P	**Pn**		**07 59 34.4**	**+0.2**
	0.5nm2um115nm,0.8s							
BATI	**Baumata**	**6.71**	**112**	P	**Pn**		**07 59 40.6**	**-0.7**
	6.5nm,0.3s,baz=273,slow=4.0,SNR=7.6							
BATI				S	**S**		**08 00 57.6**	**-2.9**
	5.5nm,0.3s,baz=217,slow=22,SNR=1.4							
UGM	**Wanagama**	**6.76**	**268**	P	**Pn**		**07 59 42.1**	**+0.2**
	0.4nm36nm,1.0s							
KPJI	**Karang Pucung**	**8.35**	**272**	P	**Pn**		**08 00 01.2**	**0.0**
	11nm,0.4s							
CNJI	**Cibinong**	**10.13**	**272**	P	**Pn**		**08 00 23.0**	**-0.2**
	41nm,1.0s							
CGJI	**Cibinong**	**11.61**	**275**	P	**P**		**08 00 42.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.10**	**143**	P	**P**		**08 01 01.2**	**+1.7**
	0.6nm,0.3s,baz=342,slow=14,SNR=9.9							
FITZ				S	**S**		**08 03 30.4**	**+6.2**
	0.2nm,0.3s,baz=23,slow=22,SNR=2.2							
WRA	**Warramunga Ar**	**20.47**	**128**	P	**P**		**08 02 18.9**	**-0.3**
	0.9nm,0.3s,baz=311,slow=9.7,SNR=43							
ASAR	**Alice Springs**	**22.44**	**137**	P	**P**		**08 02 38.4**	**+0.9**
	2.3nm,0.4s,baz=312,slow=8.9,SNR=45							
SONM	**Songino Array**	**56.16**	**351**	P	**P**		**08 07 12.0**	**-0.4**
	0.6nm,0.6s,baz=157,slow=7.8,SNR=2.5							

*MOS **27** 08:11:42.5±1.0,36°61N×71°10E, h217km, mb4.4/22, Error ellipse: s-maj=8.4km s-min=4.9km az=84.6*
*NEIC **27** 08:11:43.9±1.8,36°62N±0°06×70°94E±0°08, h217km±5km, mb4.3/45, Error ellipse: s-maj=10.6km s-min=8.2km az=133.0*
*BJI **27** 08:11:43.1±0.0,36°69N×71°14E, h192km, mb4.5/13, mB4.7/3*
*NNC **27** 08:11:44.9±3.5,36°93N×70°74E, h196km±33km, mb3.4, mpv4.4, Error ellipse: s-maj=34.7km s-min=17.7km az=163.0*
*IDC **27** 08:11:44.0±0.8,36°57N×71°10E, h224km±7km, mb3.8/17, mb1 3.9/22, mb1mx3.6/57, mbtmp4.3/22, Error ellipse: s-maj=12.1km s-min=10.1km az=44.0*
*SOME **27** 08:11:49.9,38°03N×71°33E, h10km, MS3.9*
ISC 27 08:11:43.3±0.4, 36°63N±0°04×71°09E±0°04, h216km±4km, h216km:pP-P, n236, σ1§72/262, mb4.3/49, 23C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GAR	**Garm**	**2.45**	**346**		**Pn**		**08 12 27.8**	**+0.2**
CHGR	**Chuyangaron**	**2.54**	**324**		**Pn**		**08 12 28.1**	**-0.5**
KBL	**Kabul**	**2.67**	**219**	PN	**Pn**		**08 12 29.9**	**-0.3**
KBL	**Kabul**	**2.67**	**219**	Pn	**Pn**		**08 12 29.9**	**-0.3**
CEP	**Cherat**	**2.88**	**166**	⇓P	**Pn**		**08 12 33.2**	**+0.6**
CEP				S	**S**		**08 13 11.0**	**+0.2**
BTK	**Batken**	**3.43**	**357**	PN	**Pn**		**08 12 39.9**	**+1.1**
BTK	**Batken**	**3.43**	**357**		**Pn**		**08 12 39.9**	**+1.1**
CHCP	**Chirah Chowk**	**3.46**	**140**	P	**Pn**		**08 12 40.0**	**+0.8**
THW	**Thamme Wali**	**3.86**	**172**	P	**Pn**		**08 12 44.4**	**+0.3**
KSH	**Kashi**	**4.81**	**52**	P	**Pn**		**08 12 51.5**	**-4.3**
KSH				sP			08 13 29.8	
KSH				S	S		08 13 42.8	-10
KSH				pmax	pmax			
	comp=Z,140nm,0.6s							
KSH				smax	smax			
	comp=N,670nm,0.6s							
KSH				smax	smax			
	comp=E,560nm,0.8s							
SARP	**Sargodha**	**4.87**	**164**	P	**Pn**		**08 12 56.1**	**-0.4**
TAS	**Tashkent**	**4.89**	**344**	PN	**Pn**		**08 12 57.1**	**+0.4**
TAS	**Tashkent**	**4.89**	**344**	Pn	**Pn**		**08 12 57.1**	**+0.4**
JMU	**Jammu**	**5.01**	**140**	*e*P	**Pn**		**08 12 57.9**	**-0.3**
JMU				*e*S	**S**		**08 13 54.2**	**-2.9**
IUG	**Iuzhnay**	**5.57**	**352**	*d* iPN	**Pn**		**08 13 05.6**	**+0.3**
IUG	**Iuzhnay**	**5.57**	**352**	*e*P	**Pn**		**08 13 08.6**	**+3.3**
	941nm,0.2s							
IUG				*e*S	**S**		**08 14 05.6**	**-4.7**
	857nm,0.6s							
IUG	**Iuzhnay**	**5.57**	**352**	⇓ *i*P	**Pn**		**08 13 05.6**	**+0.3**
	baz=351							
THN	**Thein Dam**	**5.67**	**136**	*e*P	**Pn**		**08 13 07.2**	**+0.7**
THN				*e*S	**S**		**08 14 09.7**	**-2.6**
CHM	**Chimkent**	**5.80**	**349**	*e*P	**Pn**		**08 13 12.1**	**+4.0**
	1.3nm,0.1s							
CHM				*e*S	**S**		**08 14 11.5**	**-3.8**
	1um,0.2s							
AML	**Almayashu**	**5.86**	**19**	P	**Pn**		**08 13 09.4**	**+0.1**
	SNR=226							
UCH	**Uchtor**	**6.19**	**24**	P	**Pn**		**08 13 14.1**	**+0.5**
	SNR=58							
DZA	**Taraz**	**6.26**	**2**	*e*PN	**Pn**		**08 13 13.6**	**-0.4**
DZA				pmax	pmax			
	comp=Z,27nm,0.6s							
DZA	**Taraz**	**6.26**	**2**	*e*P	**Pn**		**08 13 18.8**	**+4.8**
	comp=Z,61nm,0.0s							
DZA				*e*S	**S**		**08 14 22.5**	**-3.6**
	comp=Z,764nm,0.1s							
DZA	**Taraz**	**6.26**	**2**	*e*P	**Pn**		**08 13 13.7**	**-0.3**
	comp=Z,27nm,0.6s,baz=1.1							
MRKS	**Merke**	**6.33**	**14**	*e*P	Pn		08 13 21.1	+6.1
	comp=Z,20nm,0.1s							
MRKS				*e*S	**S**		**08 14 26.8**	**-1.0**
	comp=Z,165nm,0.2s							
EKS2	**Erkin-Say**	**6.37**	**18**	P	**Pn**		**08 13 16.0**	**+0.4**
	SNR=12							
BRLS	**Boroldaу**	**6.47**	**352**	*e*PN	**Pn**		**08 13 14.7**	**-1.9**
BRLS	**Boroldaу**	**6.47**	**352**	*e*P	**Pn**		**08 13 19.9**	**+3.2**
	comp=Z,4.5nm,0.1s							
BRLS				*e*S	**S**		**08 14 24.2**	**-6.7**
	comp=Z,70nm,0.2s							
BRLS	**Boroldaу**	**6.47**	**352**	*e*P	**Pn**		**08 13 14.8**	**-1.9**
	baz=350							
KK07	**Karatay Array**	**6.47**	**356**	⇑P	**Pn**		**08 13 16.2**	**-0.5**
	comp=Z,12nm,0.4s,baz=179,slow=12							
KK07				⇑S	**S**		**08 14 25.5**	**-5.5**
	comp=Z,78nm,0.5s,baz=186,slow=24							
KKAR	**Karatay Array**	**6.48**	**356**	PN	**Pn**		**08 13 16.4**	**-0.5**
KKAR	**Karatay Array**	**6.48**	**356**	Pn	**Pn**		**08 13 16.4**	**-0.5**
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**		**08 13 18.6**	**+0.7**
	comp=Z,7.2nm,0.3s,baz=176,slow=6.1,SNR=50							
AAK				S	**S**		**08 14 31.4**	**-1.7**
	comp=Z,7.9nm,0.3s,baz=152,slow=23,SNR=14							
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**		**08 13 18.8**	**+0.8**
	SNR=16							
AAK	**Ala-Archa**	**6.55**	**23**	Pn	**Pn**		**08 13 18.4**	**+0.5**
AAK	**Ala-Archa**	**6.55**	**23**	⇑P	**Pn**		**08 13 18.2**	**+0.3**
	comp=Z,15nm,0.5s							
KBK	**Karagaybulak**	**6.72**	**25**	P	**Pn**		**08 13 21.1**	**+1.1**
	SNR=14							
BHK	**Bhakra**	**6.82**	**138**	*e*P	**Pn**		**08 13 21.4**	**-0.1**
BHK				*e*S	**S**		**08 14 36.3**	**-3.1**
ULHL	**Ulahol**	**6.88**	**34**	P	**Pn**		**08 13 23.0**	**+0.8**
	SNR=9.9							
BOOM	**Boomskoye usch**	**6.95**	**31**	PN	**Pn**		**08 13 23.4**	**+0.4**
BOOM	**Boomskoye usch**	**6.95**	**31**		**Pn**		**08 13 23.4**	**+0.4**
CHMS	**Chumysh**	**6.96**	**23**	P	**Pn**		**08 13 24.0**	**+1.0**
	SNR=6.9							
USP	**Ospenovka**	**7.13**	**21**	P	**Pn**		**08 13 25.8**	**+0.6**
	SNR=12							
TKM2	**Tokmak 2**	**7.18**	**28**	P	**Pn**		**08 13 26.9**	**+0.9**
	SNR=13							
TKM2	**Tokmak 2**	**7.18**	**28**	⇑P	**Pn**		**08 13 26.7**	**+0.7**
	comp=Z,18nm,0.5s							
TKM2				⇓S	**S**		**08 14 42.8**	**-5.1**
	comp=Z,30nm,0.7s							
KDJ	**Kajisay**	**7.24**	**39**	PN	**Pn**		**08 13 27.2**	**+0.4**
KDJ	**Kajisay**	**7.24**	**39**	Pn	**Pn**		**08 13 27.2**	**+0.4**
TARG	**Taragay, Kyrgy**	**7.29**	**44**		**Pn**		**08 13 27.6**	**-0.1**
SGDS	**Sogindy**	**7.34**	**21**	*e*P	Pn		08 13 41.0	+13
	comp=Z,7.5nm,0.2s							
SGDS				*e*S	S		08 15 01.1	+10
	comp=Z,9.9nm,0.3s							
SGDS	**Sogindy**	**7.34**	**21**	*i* P	**Pn**		**08 13 27.4**	**-0.5**
	baz=20							
SMLA	**Simla**	**7.46**	**136**	*e*P	**Pn**		**08 13 29.4**	**-0.1**
SMLA				*ex*	x		08 14 49.5	
SMLA				IAML			08 14 52.0	
	comp=E,463nm,0.5s							
SMLA				IAML			08 14 52.1	
	comp=N,440nm,0.2s							
DGS	**Degeres**	**7.52**	**27**	*e*P	Pn		08 13 46.1	+16
	comp=N,4.4nm,0.2s							
DGS				*e*S	S		08 15 09.9	+14
	comp=N,18nm,0.2s							
HRA	**Herat**	**7.55**	**255**	Pn	**Pn**		**08 13 30.2**	**-0.7**
TNSS	**Tian-Shan**	**7.83**	**33**	*e*P	**Pn**		**08 13 34.6**	**0.0**
	baz=33							
KUU	**Kurty**	**8.29**	**27**	*e*PN	**Pn**		**08 13 40.0**	**-0.2**
KUU	**Kurty**	**8.29**	**27**	*e*P	**Pn**		**08 13 40.0**	**-0.2**
	baz=27							
SATY	**Saty**	**8.54**	**39**	*e*PN	**Pn**		**08 13 43.0**	**-0.4**
SATY	**Saty**	**8.54**	**39**	*e*P	**Pn**		**08 13 43.1**	**-0.4**
	baz=39							
DDI	**Dehra Dun**	**8.57**	**135**	*e*P	**Pn**		**08 13 43.7**	**-0.2**
DDI				IAML			08 15 21.1	
	comp=E,377nm,0.3s							
DDI				IAML			08 15 21.9	
	comp=N,288nm,0.5s							
UZB	**Uzynbulak**	**8.92**	**41**	*e*PN	**Pn**		**08 13 48.3**	**-0.1**
UZB	**Uzynbulak**	**8.92**	**41**	*e*P	**Pn**		**08 13 48.4**	**-0.1**
	baz=40							
KPKS	**Kokpek**	**8.97**	**38**	*e*PN	**Pn**		**08 13 48.6**	**-0.4**
KPKS	**Kokpek**	**8.97**	**38**	*e*P	**Pn**		**08 13 48.7**	**-0.4**
	baz=38							
NDI	**New Delhi**	**9.45**	**145**	*e*P	**Pn**		**08 13 54.8**	**-0.5**
NDI				*e*P	P		08 13 55.0	-8.4
NDI				*e*S	**S**		**08 15 37.0**	**-4.6**
AYAN	**Aya Nagar**	**9.59**	**146**	*e*P	**Pn**		**08 13 56.2**	**-0.8**
KUDL	**Kundal**	**9.61**	**150**	*e*P	**Pn**		**08 13 55.8**	**-1.5**
SONA	**Sohna**	**9.77**	**147**	*e*P	**Pn**		**08 13 58.2**	**-1.1**
GEYT	**Ailbeck**	**10.42**	**281**	P	**Pn**		**08 14 04.9**	**-2.7**
	comp=N,3.6nm,0.3s,baz=122,slow=14,SNR=14							
GYA0B	**ALIBECK ARRAY**	**10.42**	**281**	Pn	**Pn**		**08 14 05.0**	**-2.7**
GYA0B	**ALIBECK ARRAY**	**10.42**	**281**	⇓P	**Pn**		**08 14 05.1**	**-2.5**
GYA0B				⇑S	**S**		**08 15 57.2**	**-7.2**
LGTI	**Lohaghat**	**10.50**	**130**	*e*P	**Pn**		**08 14 07.0**	**-1.7**
AJM	**Ajmer**	**10.56**	**162**	*e*P	**Pn**		**08 14 08.7**	**-0.8**
OTUK	**Ortayu**	**11.65**	**4**	P	**Pn**		**08 14 22.6**	**-0.5**
JHNI	**Jhansi**	**12.82**	**148**	*e*P	**Pn**		**08 14 37.4**	**-0.7**
MAKZ	**Makanchi**	**13.01**	**35**	P	**Pn**		**08 14 40.3**	**+0.1**
MAKZ	**Makanchi**	**13.01**	**35**	P	**Pn**		**08 14 40.3**	**+0.1**
MAKZ	**Makanchi**	**13.01**	**35**	⇑P	**Pn**		**08 14 40.1**	**-0.2**
	comp=N,6.9nm,0.6s							
MK31	**Makanchi Array**	**13.15**	**36**	P	**Pn**		**08 14 42.3**	**+0.4**
MK31	**Makanchi Array**	**13.15**	**36**	-	**Pn**		**08 14 42.3**	**+0.4**
MK31	**Makanchi Array**	**13.15**	**36**	P	**Pn**		**08 14 42.4**	**+0.4**
	comp=N,5.1nm,0.3s,baz=208,slow=12,SNR=24							
MKAR	**Makanchi Array**	**13.15**	**36**	P	**Pn**		**08 14 42.0**	**+0.1**
	comp=N,0.4nm,0.3s,baz=207,slow=12,SNR=17							
MKAR	**Makanchi Array**	**13.15**	**36**		**Pn**		**08 14 42.1**	**+0.2**
PYUN	**Piuthan**	**13.16**	**127**	*e*P	**Pn**		**08 14 41.0**	**-1.5**
	comp=N,134nm,0.6s							
DANN	**Dangsing**	**13.50**	**124**	*e*P	**Pn**		**08 14 45.6**	**-1.2**
	comp=N,43nm,0.3s							
KOLN	**Koldanda**	**13.78**	**126**	*e*P	**Pn**		**08 14 50.0**	**-0.2**
	comp=N,83nm,0.3s							
GKN	**Gorkha**	**14.31**	**123**	*e*P	**Pn**		**08 14 56.6**	**-0.1**
	comp=N,185nm,0.5s							
GKN				*e*S	**S**		**08 17 27.0**	**-8.2**
BHPL	**Bhopal**	**14.42**	**156**	*e*P	**P**		**08 15 00.8**	**+2.0**
ALBI	**Allahabad**	**14.54**	**138**	*e*P	**Pn**		**08 14 58.6**	**-0.7**
DMN	**Daman**	**14.88**	**123**	*e*P	**Pn**		**08 15 03.5**	**-0.2**
	comp=N,198nm,0.5s							
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**		**08 15 03.2**	**-0.5**
	comp=N,165nm,0.6s							
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**Pn**		**08 15 03.8**	**-0.6**
	comp=N,0.2nm,0.3s,baz=208,slow=11,SNR=16							
KURBB	**Kurchatov Arra**	**14.98**	**19**	⇓P	**Pn**		**08 15 04.2**	**-0.1**
	comp=N,3.9nm,0.5s							
AB31	**Akbulak array**	**15.01**	**331**	⇑P	**Pn**		**08 15 03.6**	**-1.1**
	comp=N,9.8nm,0.5s,baz=143,slow=12,SNR=335							
AB31				⇑S	**S**		**08 17 47.0**	**-3.5**
	comp=N,4.8nm,0.6s,baz=151,slow=26,SNR=4.3							
ABKAR	**Akbulak array**	**15.01**	**331**		**Pn**		**08 15 03.8**	**-0.9**
ABKAR	**Akbulak array**	**15.01**	**331**		**Pn**		**08 15 03.6**	**-1.1**
KURK	**Kurchatov**	**15.09**	**19**	P	**P**		**08 15 06.1**	**+0.2**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**15.09**	**19**	P	**P**		**08 15 06.1**	**+0.2**
KURK	**Kurchatov**	**15.09**	**19**	⇑P	**Pn**		**08 15 05.6**	**-0.1**
	comp=Z,4.7nm,0.9s							
PKIN	**Phulchoki**	**15.10**	**123**	*e*P	**Pn**		**08 15 05.9**	**-0.5**
	comp=Z,94nm,0.3s							
PKI	**Pulchoki**	**15.11**	**123**	*e*P	**Pn**		**08 15 06.2**	**-0.4**
	comp=Z,100nm,0.3s							
GUN	**Gumba**	**15.22**	**121**	*e*P	**Pn**		**08 15 07.4**	**-0.5**
	comp=Z,104nm,0.4s							
JIRN	**Jiri**	**15.59**	**121**	*e*P	**Pn**		**08 15 12.6**	**+0.2**
	comp=Z,226nm,0.4s							
BVA1	**Borovoye Array**	**16.40**	**359**	⇓P	**Pn**		**08 15 21.6**	**+0.1**
	comp=Z,2.5nm,0.4s							
BRVK	**Borovoye**	**16.44**	**358**	*ce*P	**Pn**		**08 15 21.8**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,12nm,1.7s							
BRVK	**Borovoye**	**16.44**	**358**		**Pn**		**08 15 21.6**	**-0.3**
BRVK	**Borovoye**	**16.44**	**358**	⇑P	**P**		**08 15 20.8**	**0.0**
	comp=Z,2.0nm,0.9s							
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**		**08 15 24.8**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=141,slow=9.3,SNR=26							
AKTO				S	**S**		**08 18 24.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=352,slow=22,SNR=1.6							
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓P	**P**		**08 15 24.1**	**+0.4**
	comp=Z,8.6nm,0.5s							
AKTO				⇓S	**S**		**08 18 24.1**	**-3.0**
	comp=Z,11nm,1.1s							
UOSS	**Minazif**	**17.27**	**232**	P	**P**		**08 15 29.9**	**-0.2**
BOK	**Bokaro**	**18.06**	**131**	*e*P	**Pn**		**08 15 41.4**	**+0.2**
LSA	**Lhasa**	**18.15**	**107**	P	**Pn**		**08 15 41.9**	**-0.8**
LSA				pmax	pmax			
	comp=Z,16nm,0.7s							
LSA	**Lhasa**	**18.15**	**107**	P	**Pn**		**08 15 41.9**	**-0.8**
GOMU	**GeErMu**	**19.10**	**84**	P	**P**		**08 15 51.0**	**+0.8**
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.5s							
GOMU				pmax	pmax			
	comp=Z,140nm,5.2s							
ZAA0	**Zalesovo Array**	**19.77**	**25**	P	**P**		**08 15 57.4**	**+0.6**
ZAA0				IAmb	IAmb		08 16 00.4	
	comp=Z,7.4nm,0.8s							
ZAA0	**Zalesovo Array**	**19.77**	**25**	⇑P	**P**		**08 15 56.7**	**-0.1**
	comp=Z,1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**		**08 15 57.2**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=221,slow=11,SNR=28							
ZALV	**Zalesovo Beam**	**19.77**	**25**	*i* P	**P**		**08 15 57.5**	**+0.6**
ZALV				pmax	pmax			
	comp=Z,9.0nm,0.4s							
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**		**08 15 57.4**	**+0.6**
SHL	**Shillong**	**20.90**	**116**	P	**P**		**08 16 10.4**	**+1.0**
SHL				pmax	pmax			
	comp=Z,26nm,0.7s							
SHL	**Shillong**	**20.90**	**116**	P	**P**		**08 16 10.3**	**+1.0**
GNI	**Garni**	**20.92**	**288**	*ce*P	**P**		**08 16 11.7**	**+2.3**
GNI				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ARU	**Arti**	**21.54**	**341**	*c i*P	**P**		**08 16 15.7**	**+0.4**
ARU				*P	**pP**		**08 16 53.4**	**+0.9**
ARU				S	**S**		**08 20 01.1**	**+1.9**
ARU				pmax	pmax			
	comp=Z,11nm,0.8s							
ARU	**Arti**	**21.54**	**341**	P	**P**		**08 16 15.6**	**+0.2**
ARU				IAmb	IAmb		08 16 18.2	
	comp=Z,9.0nm,0.7s							
KBZ	**Khabaz**	**22.61**	**297**	P	**P**		**08 16 26.7**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=95,slow=8.5,SNR=4.0							
GOF	**Gofitskoye**	**22.74**	**300**	⇑ *e*P	**P**		**08 16 29.3**	**+2.6**
KIV	**Kislovodsk**	**22.79**	**298**	*e*P	**P**		**08 16 29.7**	**+2.4**
KIV				*e*SP	**sP**		**08 17 36.6**	**+3.6**
KIV				*e*S	**S**		**08 20 23.3**	**+3.5**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
RAYN	**Ar Rayn**	**25.61**	**246**	P	**P**		**08 16 52.2**	**-0.8**
RAYN				pmax	pmax			
	comp=Z,10.0nm,1.3s							
RAYN	**Ar Rayn**	**25.61**	**246**	P	**P**		**08 16 52.2**	**-0.8**
RAYN				IAmb	IAmb		08 16 54.5	
	comp=Z,9.9nm,1.2s							
KIRV	**Kirov**	**26.16**	**334**	*ce*P	**P**		**08 16 58.9**	**+1.5**
PZH	**PanZhiHua**	**27.90**	**102**	P	**P**		**08 17 18.0**	**+4.5**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,110nm,5.9s							
BR131	**Keskin Array S**	**29.46**	**288**	P	**P**		**08 17 27.7**	**+0.5**
BR131				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BR131	**Keskin Array S**	**29.46**	**288**	P	**P**		**08 17 27.7**	**+0.5**
BR131				IAmb	IAmb		08 17 30.2	
	comp=Z,2.4nm,0.7s							
BRTR	**Keskin Array B**	**29.46**	**288**	P	**P**		**08 17 28.4**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=98,slow=8.2,SNR=6.5							
BRTR	**Keskin Array B**	**29.46**	**288**	P	**P**		**08 17 27.9**	**+0.7**
OBN	**Obninsk**	**29.89**	**319**	⇑ *e*P	**P**		**08 17 29.9**	**-0.6**
OBN				*e*PP	**pP**		**08 18 18.3**	**+4.1**
OBN				*e*			08 18 38.3	
OBN				*e*S	**S**		**08 22 11.4**	**+0.1**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ANTO	**Ankara**	**30.09**	**288**	P	**P**		**08 17 32.1**	**-0.6**
ANTO				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ANTO	**Ankara**	**30.09**	**288**	P	**P**		**08 17 32.1**	**-0.6**
ANTO				IAmb	IAmb		08 17 34.8	
	comp=Z,6.9nm,0.7s							
CHTO	**Chiang Mai**	**30.22**	**118**	P	**P**		**08 17 33.8**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,6.0nm,1.4s							
CHTO	**Chiang Mai**	**30.22**	**118**	P	**P**		**08 17 33.8**	**-0.1**
CHTO				IAmb	IAmb		08 17 49.7	
	comp=Z,5.8nm,1.4s							
CMAR	**Chiang Mai Arr**	**30.45**	**119**	P	**P**		**08 17 37.1**	**+1.2**
	comp=Z,2.8nm,0.3s,baz=301,slow=8.7,SNR=5.2							
PALK	**Pallekele**	**30.51**	**161**	P	**P**		**08 17 36.3**	**-0.2**
PALK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
PALK	**Pallekele**	**30.51**	**161**	P	**P**		**08 17 36.3**	**-0.2**
PALK				IAmb	IAmb		08 17 37.6	
	comp=Z,9.0nm,1.2s							
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P	**P**		**08 17 41.8**	**-2.0**
KLMR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P	**P**		**08 17 41.8**	**-2.0**
KLMR				AMP			08 17 44.8	
	comp=Z,8.0nm,0.8s							
AKASG	**Malin Array Be**	**32.92**	**309**	P	**P**		**08 17 57.7**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=80,slow=6.9,SNR=16							
AKASG				PcP	**PcP**		**08 20 35.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=81,slow=3.3,SNR=4.3							
AKASG	**Malin Array Be**	**32.92**	**309**	P	**P**		**08 17 56.6**	**-0.5**
AKBB	**Malin Array Si**	**32.92**	**309

ANM	**Nome**	**69.89**	**23**	P		**P**	**08 22 31.6**	**+1.3**
TOLK	**Toolik Lake Re**	**70.78**	**15**	P		**P**	**08 22 37.4**	**+1.6**
A36M	**Sachs Harbour**	**71.07**	**5**	P		**P**	**08 22 38.6**	**+1.3**
IMAR	**Indian Mountai**	**72.03**	**18**	P		**P**	**08 22 43.9**	**+0.7**
MLY	**Manley**	**73.54**	**17**	P		**P**	**08 22 53.3**	**+1.1**
MLY				IAmb		IAmb	08 22 54.0	
	comp=Z,3.9nm,1.0s							
C36M	**Paulatuk**	**73.75**	**6**	P		**P**	**08 22 53.7**	**+0.6**
INK	**Inuvik**	**73.77**	**9**	P		**P**	**08 22 54.8**	**+1.5**
INK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
INK	**Inuvik**	**73.77**	**9**	P		**P**	**08 22 54.8**	**+1.5**
PSA00	**Pilbara Seismi**	**73.95**	**133**	P		**P**	**08 22 55.3**	**+0.3**
PSA00				IAmb		IAmb	08 23 18.7	
	comp=Z,11nm,1.1s							
K20K	**Telida**	**74.07**	**19**	P		**P**	**08 22 56.8**	**+1.6**
K20K				IAmb		IAmb	08 22 57.4	
	comp=Z,4.5nm,0.7s							
ILAR	**Eielson Array**	**74.64**	**16**	P		**P**	**08 22 58.5**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=311,slow=4.6,SNR=18							
ILAR				pP		**pP**	**08 23 51.5**	**+0.8**
	comp=Z,1.0nm,1.1s,baz=284,slow=3.6,SNR=3.6							
DBIC	**Dimbokro**	**74.77**	**267**	P		**P**	**08 22 58.8**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=70,slow=3.5,SNR=5.2							
DBIC	**Dimbokro**	**74.77**	**267**	P		**P**	**08 22 58.8**	**-1.2**
DBIC				IAmb		IAmb	08 23 08.4	
	comp=Z,14nm,1.5s							
LBTB	**Lobatse**	**74.82**	**222**	P		**P**	**08 23 00.7**	**+0.6**
LBTB				pmax		pmax		
	comp=Z,13nm,1.4s							
LBTB	**Lobatse**	**74.82**	**222**	P		**P**	**08 23 00.7**	**+0.6**
LBTB				IAmb		IAmb	08 23 22.6	
	comp=Z,13nm,1.4s							
KIC	**Kosan Boka**	**74.86**	**267**	*e*PKP1		**P**	**08 22 59.3**	**-1.2**
	comp=Z,5.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**74.91**	**127**	P		**P**	**08 23 00.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=343,slow=6.1,SNR=9.0							
FITZ	**Fitzroy Crossi**	**74.91**	**127**	P		**P**	**08 23 00.9**	**+0.3**
TIC	**Toumodi**	**74.92**	**267**	*e*PKP1		**P**	**08 22 59.2**	**-1.7**
LIC	**Lamto**	**75.17**	**267**	*e*PKP1		**P**	**08 22 58.4**	**-3.9**
	comp=Z,4.6nm,0.6s							
KNRA	**Kununurra**	**75.24**	**123**	P		**P**	**08 23 02.8**	**+0.3**
KNRA				IAmb		IAmb	08 23 04.0	
	comp=Z,13nm,1.4s							
DAWY	**Dawson**	**76.78**	**13**	P		**P**	**08 23 11.6**	**+1.0**
DAWY				IAmb		IAmb	08 23 12.6	
	comp=Z,5.4nm,1.1s							
BCAR	**Beaver Creek A**	**77.22**	**15**	P		**P**	**08 23 14.9**	**+1.8**
BOSA	**Boshof**	**77.89**	**220**	P		**P**	**08 23 16.9**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=24,slow=3.3,SNR=7.7							
BOSA	**Boshof**	**77.89**	**220**	P		**P**	**08 23 17.0**	**-0.3**
BOSA				pmax		pmax		
	comp=Z,15nm,1.2s							
BOSA	**Boshof**	**77.89**	**220**	P		**P**	**08 23 17.0**	**-0.2**
WHY	**Whitehorse**	**80.75**	**13**	P		**P**	**08 23 33.0**	**+0.7**
WHY				IAmb		IAmb	08 23 53.7	
	comp=Z,4.3nm,1.1s							
YKA	**Yellowknife Ar**	**81.11**	**3**	P		**P**	**08 23 34.8**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=351,slow=5.4,SNR=137							
YKA				pP		**pP**	**08 24 27.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=348,slow=5.3,SNR=3.9							
WB0	**Warramunga Arr**	**81.92**	**122**	P		**P**	**08 23 38.5**	**-0.4**
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**08 23 38.5**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=321,slow=4.9,SNR=22							
WRA	**Warramunga Arr**	**82.00**	**122**	*i* P		**P**	**08 23 38.7**	**-0.6**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**08 23 38.4**	**-0.9**
WRAB	**Tennant Creek**	**82.00**	**122**	*ce*P		**P**	**08 23 39.1**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,15nm,2.5s							
WB2	**Warramunga Arr**	**82.01**	**122**	P		**P**	**08 23 38.7**	**-0.7**
WB2				IAmb		IAmb	08 23 39.5	
	comp=Z,5.9nm,1.1s							
WR0	**Warramunga Arr**	**82.15**	**122**	P		**P**	**08 23 39.2**	**-0.9**
WR0				IAmb		IAmb	08 23 40.5	
	comp=Z,5.0nm,1.2s							
FCC	**Fort Churchill**	**84.16**	**352**	P		**P**	**08 23 51.1**	**+1.3**
FCC				pmax		pmax		
	comp=Z,1.0nm,1.0s							
FCC	**Fort Churchill**	**84.16**	**352**	P		**P**	**08 23 51.1**	**+1.3**
ASAR	**Alice Springs**	**84.27**	**125**	P		**P**	**08 23 50.1**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=309,slow=5.0,SNR=33							
ASAR				pP		**pP**	**08 24 44.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.6,SNR=2.1							
ASAR	**Alice Springs**	**84.27**	**125**	P		**P**	**08 23 50.6**	**-0.3**
FORT	**Forrest**	**85.70**	**134**	P		**P**	**08 23 57.8**	**0.0**
PLCA	**Paso Flores**	**149.94**	**250**	PKPbc		**PKPbc**	**08 31 08.0**	**+0.1**
	comp=Z,3.8nm,1.1s,baz=92,slow=3.0,SNR=6.8							
PLCA	**Paso Flores**	**149.94**	**250**	PKP2		**PKPbc**	**08 31 08.0**	**+0.1**
PLCA	**Paso Flores**	**149.94**	**250**			**PKiKP**	**08 31 08.6**	**0.0**

DDA ***27*** *08:20:25.5±0.0,40.˚74N×29.˚19E,h7km±1km,ML2.0*
ISK ***27*** *08:20:25.3,40.˚76N×29.˚19E,h7km,ML2.5/13*
ISC 27 08:20:25.7±0.9,40.˚75N±0.˚02×29.˚18E±0.˚03,h10km±6km,
n28,σ0°58/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRML	**Termal-Yalova**	**0.14**	**182**	PG	**Pg**	**08 20 28.9**	**0.0**
TRML				SG	**Sg**	**08 20 31.5**	**+0.3**
KURT	**Yalova, Merkez**	**0.16**	**172**	P	**Pg**	**08 20 29.0**	**-0.2**
KURT				S	**Sg**	**08 20 31.9**	**+0.2**
KURT				*i* AML	AML	08 20 32.0	
	comp=E,817nm,0.2s						
KURT				*i* AML	AML	08 20 32.0	
	comp=N,341nm,0.2s						
YLV	**Yalova**	**0.24**	**141**	PG	**Pg**	**08 20 30.5**	**-0.1**
YLV				SG	**Sg**	**08 20 34.5**	**+0.6**
GEMT	**Gemlik**	**0.32**	**179**	PG	**Pg**	**08 20 31.9**	**-0.1**
GEMT				SG	**Sg**	**08 20 36.5**	**+0.3**
KAVV	**Kandilli-Istan**	**0.33**	**344**	PG	**Pg**	**08 20 32.3**	**+0.1**
KAVV				SG	**Sg**	**08 20 36.9**	**+0.3**
ISK	**Istanbul-Kandi**	**0.33**	**344**	PG	**Pg**	**08 20 32.3**	**+0.1**
ISK				SG	**Sg**	**08 20 36.8**	**+0.2**
HRT	**Hereke**	**0.38**	**79**	PG	**Pg**	**08 20 33.1**	**-0.1**
HRT				SG	**Sg**	**08 20 38.3**	**+0.1**
AVDN	**Avdancik/Bursa**	**0.46**	**181**	P	**Pb**	**08 20 35.0**	**-0.9**
AVDN				*i* AML	AML	08 20 41.0	
	comp=E,320nm,0.2s						
AVDN				*i* AML	AML	08 20 41.0	
	comp=N,158nm,0.2s						
AVDN				S	**Sb**	**08 20 41.4**	**-1.3**
IGD	**Bursa**	**0.49**	**178**	P	**Pg**	**08 20 35.3**	**+0.1**
IGD				*i* AML	AML	08 20 42.0	
	comp=E,283nm,0.2s						
IGD				*i* AML	AML	08 20 42.0	
	comp=N,135nm,0.2s						
IGD				S	**Sg**	**08 20 42.0**	**+0.4**
KLYT	**Kilyos**	**0.51**	**348**	PG	**Pg**	**08 20 35.9**	**+0.2**
KLYT				SG	**Sg**	**08 20 42.9**	**+0.5**
SILT	**Sile**	**0.53**	**41**	PG	**Pg**	**08 20 36.1**	**0.0**
SILT				SG	**Sg**	**08 20 43.7**	**+0.6**
ULDT	**Uludag**	**0.61**	**183**	P	**Pg**	**08 20 37.6**	**+0.1**
ULDT				*i* AML	AML	08 20 46.0	
	comp=E,144nm,0.3s						
ULDT				*i* AML	AML	08 20 46.0	
	comp=N,60nm,0.3s						
ULDT				S	**Sg**	**08 20 46.0**	**+0.5**
CTKS	**Kestanelik-??a**	**0.70**	**314**	PG	**Pg**	**08 20 39.0**	**-0.3**
BILE	**Bilecik/Merkez**	**0.79**	**138**	P	**Pg**	**08 20 40.9**	**-0.1**
BILE				S	**Sb**	**08 20 52.5**	**0.0**
BILE				*i* AML	AML	08 20 57.0	
	comp=N,59nm,0.2s						
BILE				*i* AML	AML	08 20 57.0	
	comp=E,34nm,0.3s						
SAUV	**Serdivan-Sakar**	**0.87**	**90**	PG	**Pg**	**08 20 42.0**	**-0.5**
GEYV	**SAKARYA_Geyve**	**0.89**	**107**	P	**Pb**	**08 20 42.8**	**-0.4**
GEYV				S	**Sb**	**08 20 55.0**	**-0.1**
GEYV				*i* AML	AML	08 20 58.0	
	comp=N,47nm,0.3s						
GEYV				*i* AML	AML	08 20 59.0	
	comp=E,55nm,0.5s						
KAYN	**Sakarya, Kayna**	**0.91**	**76**	P	**Pg**	**08 20 42.8**	**-0.4**
KAYN				*i* AML	AML	08 20 54.0	
	comp=N,46nm,0.5s						
KAYN				S	**Sg**	**08 20 54.5**	**-0.5**
KAYN				*i* AML	AML	08 20 56.0	
	comp=E,42nm,0.2s						
GULT	**Gulveren**	**1.07**	**107**	PG	**Pb**	**08 20 46.4**	**+0.1**
DURS	**Dursunbey**	**1.27**	**205**	P	**Pn**	**08 20 49.4**	**-0.2**
DURS				S	**Sn**	**08 21 06.9**	**+0.2**
DURS				*i* AML	AML	08 21 09.0	
	comp=E,44nm,0.4s						
DURS				*i* AML	AML	08 21 10.0	
	comp=N,46nm,0.3s						
SAHE	**Sakarya_HENDEK**	**1.27**	**85**	P	**Pn**	**08 20 49.2**	**-0.4**
SAHE				S	**Sb**	**08 21 06.0**	**-0.2**
SAHE				*i* AML	AML	08 21 09.0	
	comp=E,46nm,0.4s						
SAHE				*i* AML	AML	08 21 10.0	
	comp=N,52nm,0.9s						
BORA	**Eskisehir**	**1.31**	**131**	PN	**Pg**	**08 20 50.3**	**-0.5**
BORA	**Eskisehir**	**1.31**	**131**	P	**Pn**	**08 20 50.0**	**0.0**
BORA				S	**Sn**	**08 21 10.3**	**+2.7**
BORA				*i* AML	AML	08 21 11.0	
	comp=E,43nm,0.3s						
BORA				*i* AML	AML	08 21 13.0	
	comp=N,21nm,0.2s						
VIZE	**Kirklareli, Vi**	**1.31**	**310**	P	**Pn**	**08 20 49.4**	**-0.6**
VIZE				S	**Sb**	**08 21 07.2**	**+0.1**
VIZE				*i* AML	AML	08 21 08.0	
	comp=E,86nm,0.2s						
SRCK	**Saricakaya, Es**	**1.31**	**122**	PN	**Pb**	**08 20 50.3**	**-0.1**
TVSB	**Tavsanli**	**1.32**	**170**	PN	**Pb**	**08 20 50.5**	**-0.1**
ANDZ	**Kutahya, Merke**	**1.36**	**156**	P	**Pn**	**08 20 50.2**	**-0.6**
ANDZ				S	**Sn**	**08 21 09.2**	**+0.3**
ANDZ				*i* AML	AML	08 21 12.0	
	comp=N,12nm,0.2s						
ANDZ				*i* AML	AML	08 21 13.0	
	comp=E,29nm,0.6s						
MDUB	**Mudurnu**	**1.56**	**100**	PN	**Pb**	**08 20 54.2**	**-0.5**
SIMA	**Simav-Kutahya**	**1.67**	**185**	PN	**Pn**	**08 20 55.7**	**+0.6**

TUL ***27*** *08:25:14.8±0.3,36.˚288N±0.˚010×97.˚49W±0.˚01,h6km±4km,*
ML2.5,mb_Lg2.4/33(NEIC),Error ellipse: s-maj=1.4km
s-min=1.3km az=150.0
NEIC 27 08:25:15.3±0.3,36.˚29N±0.˚01×97.˚49W±0.˚01,h5km±2km,
Error ellipse: s-maj=1.9km s-min=1.4km az=56.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.87**	**178**	Pg	Pg	08 25 31.2	-0.9
OKCSW	**OKLAHOMA CITY**	**0.88**	**177**	Pg	Pg	08 25 31.4	-0.8
T35A	**Sooner Cattle**	**1.01**	**51**	Pg	Pg	08 25 33.9	-0.9
FNO	**Franklin**	**1.03**	**176**	Pg	Pg	08 25 34.1	-1.0
U32A	**Winter Ranch,**	**1.22**	**275**		Pg	08 25 37.2	-1.6
TUL1	**Leonard**	**1.43**	**105**		Pn	08 25 40.5	-1.4
X34A	**Smith Ranch, M**	**1.71**	**189**	Pn	Pn	08 25 46.0	+0.3
X37A	**Clayton**	**2.42**	**134**	IAmb_Lg		08 26 32.6	
	comp=Z,12nm,0.9s						
KSU1	**Kansas State U**	**2.90**	**14**	IAmb_Lg		08 26 48.3	
	comp=Z,11nm,0.8s						
CBKS	**Cedar Bluff**	**3.09**	**325**	Pn	Pn	08 26 03.2	-1.6
S39A	**Bolivar**	**3.62**	**66**	Pn	Pn	08 26 13.1	+1.0
S39A				IAmb_Lg		08 27 08.7	
	comp=Z,6.0nm,0.8s						
U40A	**Yellville**	**3.75**	**88**	Pn	Pn	08 26 14.7	+0.9
X40A	**Basin Creek Fa**	**4.21**	**114**	Pn	Pn	08 26 20.7	+0.5
X40A				IAmb_Lg		08 27 29.3	
	comp=Z,9.3nm,0.8s						
MGMO	**Mountain Grove**	**4.29**	**77**	IAmb_Lg		08 27 30.5	
	comp=Z,7.2nm,0.7s						
W41B	**Gary Mavity, V**	**4.41**	**103**	Pn	Pn	08 26 22.2	-0.7
WLAR	**White Oak Lake**	**4.43**	**125**	IAmb_Lg		08 27 47.6	
	comp=Z,15nm,1.2s						
P38A	**Dawn**	**4.57**	**42**	IAmb_Lg		08 27 36.8	
	comp=Z,3.5nm,0.7s						
R40A	**Maddies Statio**	**4.62**	**63**	Pn	Pn	08 26 25.6	-0.2
N35A	**Tabor**	**4.79**	**17**	IAmb_Lg		08 27 49.7	
	comp=Z,10nm,0.7s						
KSCO	**Kaw Shedlock'**	**4.90**	**305**	IAmb_Lg		08 27 50.9	
	comp=Z,6.6nm,0.7s						
LCAR	**Lake Charles**	**5.13**	**91**	IAmb_Lg		08 28 07.1	
	comp=Z,4.5nm,0.8s						
CCM	**Cathedral Cave**	**5.29**	**69**	IAmb_Lg		08 28 01.0	
	comp=Z,7.9nm,0.9s						
P40A	**Paris**	**5.39**	**51**	IAmb_Lg		08 28 07.2	
	comp=Z,8.3nm,0.8s						
FVM	**French Village**	**5.89**	**71**	IAmb_Lg		08 28 22.3	
	comp=Z,6.3nm,0.8s						
JCT	**Junction City**	**6.11**	**199**	IAmb_Lg		08 28 31.0	
	comp=Z,10nm,1.1s						
K31A	**O'Neill**	**6.40**	**352**	IAmb_Lg		08 28 47.1	
	comp=Z,10nm,0.9s						
K38A	**Parkersburg**	**7.33**	**28**	IAmb_Lg		08 29 25.1	
	comp=Z,8.5nm,0.9s						

IDC ***27*** *08:31:21.5±2.5,29.˚89N×114.˚47W,h0km,mb3.9/1,*
mb1 3.7/7,mb1mx3.4/53,mbtmp3.4/7,ML3.5/6,MS3.7/46,
Ms1 3.7/46,ms1mx3.6/82,Error ellipse: s-maj=37.1km
s-min=11.6km az=34.0
NEIC ***27*** *08:31:24.7±1.9,30.˚08N±0.˚05×114.˚39W±0.˚08,h10km±2km,*
mb4.2/16,Md4.2/16(MEX),ML4.0(ECX), Error ellipse:
s-maj=12.8km s-min=6.5km az=238.0
MEX ***27*** *08:31:25.8±0.5,29.˚98N×114.˚25W,h13km±24km,MD4.2*
ECX ***27*** *08:31:26.0±0.4,30.˚11N×114.˚38W,h10km±28km,ML4.0,*
Fault plane solution: NP1:φs4.00000°,δ68.00000°,
λ138.00000°.
ISC 27 08:31:24.6±1.8,30.˚10N±0.˚04×114.˚39W±0.˚05,
h12km±14km,n140,σ1s37/106,mb4.1/3,MS3.8/40,8C-1D,
Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**1.01**	**337**	Pn	**Pb**	**08 31 43.7**	**-0.4**
SFX				Sg	**Sb**	**08 31 57.7**	**+0.2**
SFX	**San Felipe**	**1.01**	**337**	*e*P	**Pb**	**08 31 43.7**	**-0.4**
SFX				IAML		08 31 59.6	
	comp=E,12μm,0.8s						
SFX				IAML		08 32 00.1	
	comp=N,5μm,0.5s						
SPIG	**San Pedro Mart**	**1.32**	**316**		**Pn**	**08 31 49.1**	**-0.1**
SPIG					**Sb**	**08 32 06.9**	**+0.3**
SPIG	**San Pedro Mart**	**1.32**	**316**	*e*P	**Pn**	**08 31 49.1**	**-0.1**
SPIG				*i* S	**Sb**	**08 32 06.9**	**+0.3**
SPIG	**San Pedro Mart**	**1.32**	**316**	*e*P	**Pn**	**08 31 49.3**	**+0.1**
SPIG				IAML		08 32 27.0	
	comp=N,2μm,0.7s						
BAHB	**Baha de los**	**1.36**	**148**	*e*P	**Pn**	**08 31 47.9**	**-1.5**
BAHB				*i* S	**Sn**	**08 32 03.1**	**-4.3**
BAHB	**Baha de los**	**1.36**	**148**	*e*P	**Pn**	**08 31 49.0**	**-0.4**
BAHB				*e*S	**Sb**	**08 32 07.9**	**+0.5**
SVX	**San Vicente**	**2.01**	**308**	*e*P	**Pn**	**08 31 59.4**	**+1.0**
SVX				IAML		08 32 40.9	
	comp=E,1μm,1.4s						
RITX	**Riito Sonora**	**2.12**	**347**	*e*P	**Pb**	**08 32 03.7**	**+0.7**
GUVIX	**Guadalupe Vict**	**2.27**	**345**		**Pn**	**08 32 02.3**	**+0.3**
214A	**Organ Pipe Nat**	**2.30**	**36**		**Pn**	**08 32 01.0**	**-1.4**
214A	**Organ Pipe Nat**	**2.30**	**36**	*e*P	**Pn**	**08 32 00.7**	**-1.7**
214A				*i* S	**Sn**	**08 32 28.0**	**-2.7**
214A	**Organ Pipe Nat**	**2.30**	**36**	*e*P	**Pn**	**08 32 00.7**	**-1.7**
MBIG	**Mexicali**	**2.40**	**344**	*i*	**Pg**	**08 32 09.9**	**-0.8**
MBIG				*e*		08 32 41.2	
CPBX	**Cerro Prieto**	**2.44**	**342**		**Pn**	**08 32 05.8**	**+1.5**
YMD	**Yuma Desert**	**2.45**	**357**	*e*P	**Pn**	**08 32 04.2**	**-0.3**
CCX	**Cicese**	**2.63**	**313**		**Pn**	**08 32 09.2**	**+2.3**
UABX	**UABC, Campus M**	**2.68**	**341**		**Pn**	**08 32 09.2**	**+1.6**
113A	**Mohawk Valley,**	**2.71**	**11**		**Pn**	**08 32 07.2**	**-0.8**
YUH	**Yuha Desert**	**2.86**	**333**	Pn	**Pn**	**08 32 10.2**	**+0.1**
YUH2	**Yuha Desert**	**2.86**	**333**	*e*P	**Pn**	**08 32 11.0**	**+0.9**
RMX	**La Rumorosa**	**2.88**	**330**	Pn	**Pn**	**08 32 09.5**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**2.94**	**330**	*e*P	**Pb**	**08 32 15.4**	**-1.5**
CBX	**Cerro Bola**	**2.94**	**319**		**Pn**	**08 32 10.8**	**-0.6**
CBX	**Cerro Bola**	**2.94**	**319**	*e*P	**Pn**	**08 32 11.6**	**+0.3**
CBX				*e*S	**Sn**	**08 32 46.0**	**-0.7**
GLA	**Glamis**	**2.97**	**353**		**Pn**	**08 32 12.1**	**+0.5**
GLA	**Glamis**	**2.97**	**353**	*e*P	**Pn**	**08 32 14.5**	**+2.9**
TJIG	**Tijuana**	**3.04**	**321**		**Pn**	**08 32 13.2**	**+0.7**
TJIG	**Tijuana**	**3.04**	**321**	*e*P	**Pn**	**08 32 13.2**	**+0.7**
TJIG				*i* S	**Sn**	**08 32 51.1**	**+2.2**
TKX	**Tecate**	**3.11**	**323**		**Pn**	**08 32 12.2**	**-1.3**
HSIG		**3.19**	**109**		**Pn**	**08 32 11.9**	**-2.7**
HSIG		**3.19**	**109**	*e*	**Pb**	**08 32 23.1**	**+1.9**
HSIG				*e*		08 32 55.9	
HSIG		**3.19**	**109**	*e*P	**Pn**	**08 32 12.7**	**-1.9**
BAR	**Barrett**	**3.23**	**323**	Pn	**Pn**	**08 32 15.2**	**0.0**
SRIG	**Santa Rosalia**	**3.35**	**145**		**Pn**	**08 32 12.5**	**-4.3**
SRIG	**Santa Rosalia**	**3.35**	**145**	*e*P	**Pb**	**08 32 26.0**	**+2.0**
109C	**Camp Elliot, M**	**3.62**	**321**		**Pn**	**08 32 22.5**	**+2.0**
BLYC	**Blythe**	**3.64**	**358**		**Pn**	**08 32 20.1**	**-0.8**
GUYB	**Guaymas**	**3.78**	**125**	*e*P	**Pn**	**08 32 21.7**	**-1.0**

TUC	**Tucson**	**3.80**	**54**			**Pn**	**08 32 21.1**	**-1.9**
TUC	**Tucson**	**3.80**	**54**	*e*P		**Pn**	**08 32 21.1**	**-1.9**
TUC				*e*S		Sn	08 32 58.1	-10
PFO	**Pinyon Flats O**	**3.92**	**334**	Pn		**Pn**	**08 32 25.5**	**+0.8**
	comp=E,1.4nm,0.3s,baz=153,slow=12,SNR=10							
PFO				Lg	Lg		08 33 29.1	
	comp=E,8.7nm,0.3s,baz=302,slow=22,SNR=8.8							
PFO	**Pinyon Flats O**	**3.92**	**334**			**Pn**	**08 32 25.1**	**+0.3**
Y14A	**Wickenburg**	**4.01**	**17**			**Pn**	**08 32 26.2**	**+0.3**
ELS	**Elsinore Mount**	**4.38**	**325**			**Pn**	**08 32 32.4**	**+1.4**
319A	**Douglas**	**4.58**	**73**	Pn		**Pn**	**08 32 33.7**	**-0.2**
X16A	**Lo Mia Camp, P**	**4.98**	**29**	Pn		**Pn**	**08 32 38.9**	**-0.5**
W13A	**Hualapai Mount**	**5.00**	**5**			**Pn**	**08 32 40.9**	**+1.1**
PASC	**Pasadena Art C**	**5.18**	**323**			**Pn**	**08 32 41.8**	**-0.1**
GSC	**Goldstone, Bar**	**5.57**	**339**			**Pn**	**08 32 47.3**	**-0.1**
X18A	**Snowflake**	**5.80**	**39**	Pn		**Pn**	**08 32 50.8**	**+0.1**
CCAC	**Calif City Air**	**5.89**	**330**			**Pn**	**08 32 52.0**	**+0.2**
WUAZ	**Wupatki**	**5.97**	**24**			**Pn**	**08 32 53.9**	**+0.9**
121A	**Cookes Peak, D**	**6.15**	**65**	Pn		**Pn**	**08 32 55.8**	**+0.3**
W18A	**Petrified Fore**	**6.36**	**37**	Pn		**Pn**	**08 32 58.7**	**+0.3**
SHPR	**Sheep Range**	**6.42**	**354**			**Pn**	**08 33 00.3**	**+1.1**
ISA	**Isabella, Lake**	**6.52**	**329**			**Pn**	**08 33 01.5**	**+1.0**
U15A	**North Rim**	**6.55**	**15**			**Pn**	**08 33 02.4**	**+1.3**
LCMT	**Little Creek M**	**6.96**	**8**			**Pn**	**08 33 07.8**	**+1.2**
LPIG	**La Paz**	**6.99**	**148**	LR		LR	08 35 53.4	
	comp=E,790nm,18.8s,baz=344,slow=40							
KNB	**Kanab**	**7.02**	**10**			**Pn**	**08 33 08.6**	**+1.2**
PRN	**Pahroc Range**	**7.31**	**356**			**Pn**	**08 33 09.5**	**-1.9**
Y22D	**IRIS PASSCAL I**	**7.48**	**56**			**Pn**	**08 33 13.8**	**+0.1**
CCUT	**Cedar City**	**7.48**	**6**	Pn		**Pn**	**08 33 15.5**	**+1.7**
LENM	**Lemitar**	**7.49**	**55**			**Pn**	**08 33 10.4**	**-3.4**
PKCU	**Pink Cliffs**	**7.53**	**13**	Pn		**Pn**	**08 33 16.1**	**+1.6**
SZCU	**Shurtz Canyon**	**7.56**	**8**			**Pn**	**08 33 14.9**	**0.0**
BNM	**Barren Site**	**7.73**	**56**			**Pn**	**08 33 16.7**	**-0.5**
MTPU	**Mount Pierson**	**8.13**	**12**			**Pn**	**08 33 23.3**	**+0.4**
ANMO	**Albuquerque**	**8.26**	**52**	Pn		**Pn**	**08 33 23.4**	**-1.0**
	comp=E,0.4nm,0.3s,baz=12,SNR=11							
ANMO				Lg	Lg		08 35 50.4	
	comp=E,0.1nm,0.3s,baz=133,slow=23,SNR=1.2							
ANMO				LR		LR	08 36 27.0	
	comp=E,474nm,21.9s,baz=232,slow=36							
ANMO	**Albuquerque**	**8.26**	**52**			**Pn**	**08 33 24.2**	**-0.3**
R11A	**Troy Canyon, C**	**8.29**	**353**			**Pn**	**08 33 25.0**	**+0.1**
NVAR	**Mina Array Bea**	**8.92**	**340**	Pn		**Pn**	**08 33 34.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=170,slow=16,SNR=2.1							
TX31	**Lajitas Ar. Si**	**9.36**	**92**			**Pn**	**08 33 39.8**	**+0.3**
TX32	**Lajitas Array**	**9.36**	**92**	Pn		**Pn**	**08 33 40.1**	**+0.6**
TXAR	**Lajitas Array**	**9.36**	**92**	Pn		**Pn**	**08 33 39.7**	**+0.3**
	comp=E,0.3nm,0.3s,baz=263,slow=15,SNR=23							
TXAR				Lg	Lg		08 36 18.6	
	comp=E,0.2nm,0.3s,baz=269,slow=28,SNR=3.6							
TXAR				LR		LR	08 36 57.0	
	comp=E,248nm,19.4s,baz=272,slow=36							
P18A	**Preston Nutter**	**10.10**	**19**	Pn		**Pn**	**08 33 50.5**	**+0.7**
RUBR	**Rubicon Trail**	**10.11**	**334**	Pn		**Pn**	**08 33 50.6**	**+0.7**
ELK	**Elko**	**10.64**	**357**	Pn		**Pn**	**08 34 01.8**	**+4.7**
	comp=E,0.1nm,0.3s,baz=225,slow=13,SNR=2.6							
ELK				LR		LR	08 38 07.3	
	comp=E,129nm,18.1s,baz=176,slow=37							
PDAR	**Pinedale Array**	**13.22**	**16**	Pn		P	08 34 37.7	-4.7
	comp=E,0.1nm,0.3s,baz=174,slow=13,SNR=3.5							
PDAR				LR		LR	08 39 53.5	
	comp=E,357nm,18.1s,baz=204,slow=38							
YBH	**Yreka Blue Hor**	**13.41**	**332**	LR		LR	08 39 32.9	
	comp=E,182nm,22.0s,baz=148,slow=36

	comp=Z,80nm,21.3s,baz=261,slow=34							
MDT	**Midelt**		**88.74**	**52**	LR	LR	09 21 53.1	
	comp=Z,55nm,19.0s,baz=314,slow=34							
GERES	**GERESS Array B**		**88.78**	**31**	LR	LR	09 27 03.1	
	comp=Z,57nm,20.8s,baz=306,slow=38							
VRAC	**Vranov**		**89.70**	**30**	LR	LR	09 25 08.5	
	comp=Z,78nm,18.4s,baz=310,slow=36							
KSRS	**Korea Array**		**91.05**	**315**	LR	LR	09 20 29.5	
	comp=Z,11nm,20.7s,baz=275,slow=32							
GUMO	**Guam**		**92.32**	**287**	LR	LR	09 17 01.9	
	comp=Z,30nm,21.2s,baz=85,slow=30							
ARU	**Arti**		**93.61**	**4**	LR	LR	09 31 00.8	
	comp=Z,51nm,18.0s,baz=8.5,slow=38							
MLR	**Muntele Rosu**		**96.58**	**27**	LR	LR	09 33 10.5	
	comp=Z,84nm,18.1s,baz=321,slow=38							

NNC ***27*** *08:46:29.2±0.8, 50.35N×73.35E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=9.0km s-min=6.8km az=129.0, Suspected Mining explosion.*

IDC ***27*** *08:46:30.3±0.8, 50.24N×73.36E, h0km, mb3.0/1, mb1 3.2/6, mb1mx3.1/49, mbtmp3.1/6, ML2.6/4, Error ellipse: s-maj=12.5km s-min=7.9km az=54.0*

ISC 27 08:46:29.0±0.7, 50.28N±0.05×73.34E±0.05, h0km, n18, σ1.9s25/24, 11C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.14**	**198**	⇓Pn		**Pb**	**08 47 08.1**	**-0.5**
	10nm,0.4s							
OTUK				⇑Sn		**Sg**	**08 47 36.6**	**-1.1**
	32nm,0.5s							
BVA1	**Borovoye Array**	**3.31**	**327**	Pg		**Pb**	**08 47 28.4**	**-0.1**
BVAR	**Borovoye Array**	**3.31**	**327**	Pn		**Pn**	**08 47 25.2**	**+3.1**
	0.7nm,0.3s,baz=184,slow=19,SNR=15							
BVAR				Pg		**Pb**	**08 47 28.4**	**-0.2**
	2.6nm,0.3s,baz=159,slow=18,SNR=34							
BVAR				Lg		Lg	08 48 10.5	
	2.2nm,0.3s,baz=164,slow=31,SNR=4.1							
BVB5	**Borovoye Array**	**3.32**	**327**	Lg		Lg	08 48 12.9	
KURBB	**Kurchatov Arra**	**3.33**	**82**	Pn		**Pn**	**08 47 23.6**	**+1.2**
	0.2nm,0.3s,baz=270,slow=13,SNR=5.3							
KURBB				Pg		**Pb**	**08 47 28.8**	**-0.2**
	0.6nm,0.3s,baz=270,slow=16,SNR=11							
KURBB				Lg		Lg	08 48 12.2	
	0.8nm,0.3s,baz=264,slow=33,SNR=4.0							
KURBB	**Kurchatov Arra**	**3.33**	**82**	⇑Pn		**Pn**	**08 47 23.8**	**+1.4**
	1.0nm,0.2s							
KURBB				⇓Pg		**Pg**	**08 47 31.2**	**-1.7**
	6.6nm,0.6s,baz=268,slow=17							
KURBB				⇓Lg		Lg	08 48 14.8	
	28nm,0.5s							
BRVK	**Borovoye**	**3.37**	**327**	Pg		**Pb**	**08 47 29.1**	**-0.6**
BRVK				Lg		Lg	08 48 13.4	
KURK	**Kurchatov**	**3.40**	**81**	⇑Pn		**Pn**	**08 47 23.1**	**-0.1**
	0.7nm,0.8s							
KURK				⇑Pg		**Pb**	**08 47 30.0**	**-0.1**
	8.2nm,1.4s							
KURK				⇑Lg		Lg	08 48 14.3	
	15nm,0.6s							
MAKZ	**Makanchi**	**6.70**	**118**	⇑Pg		Pb	08 48 30.9	+4.5
	3.4nm,1.1s							
MAKZ				⇓Lg		Lg	08 49 59.4	
	3.9nm,0.6s							
MK31	**Makanchi Array**	**6.89**	**117**	⇓Pn		**Pn**	**08 48 11.7**	**+0.5**
	0.2nm,0.4s,baz=296,slow=11,SNR=9.6							
MK31				⇑Pg		**Pb**	**08 48 32.6**	**+3.1**
	0.5nm,0.3s,baz=296,slow=13,SNR=14							
MK31				⇑Lg		Lg	08 50 04.2	
	2.8nm,0.5s,baz=311,slow=26,SNR=7.0							
MKAR	**Makanchi Array**	**6.89**	**117**	Pn		**Pn**	**08 48 11.8**	**+0.6**
	0.2nm,0.3s,baz=310,slow=15,SNR=8.8							
MKAR				Lg		Lg	08 50 02.3	
	0.4nm,0.3s,baz=314,slow=25,SNR=11							
KK09	**Karatay Array**	**7.42**	**196**	⇑Pn		**Pn**	**08 48 18.5**	**0.0**
	0.3nm,0.3s							
KK08	**Karatay Array**	**7.44**	**196**	⇑Sn		**Sn**	**08 49 42.7**	**-1.2**
	0.7nm,0.4s							
KK08				⇓Lg		Lg	08 50 21.9	
	1.6nm,0.6s							
AAK	**Ala-Archa**	**7.68**	**174**	Pn		**Pn**	**08 48 23.3**	**+1.0**
	1.6nm,0.3s,baz=266,slow=0.3,SNR=11							
AAK				Sn		**Sn**	**08 49 49.5**	**-0.5**
	0.4nm,0.3s,baz=88,slow=22,SNR=2.3							
AAK				Lg		Lg	08 50 30.9	
	0.4nm,0.3s,baz=134,slow=18,SNR=6.2							
I46RU	**ZALESOVO INFRA**	**7.96**	**58**	*i*			09 31 40.0	
	baz=246,slow=326,SNR=2.7							
ZALV	**Zalesovo Beam**	**7.96**	**58**	Pn		**Pn**	**08 48 26.5**	**+0.6**
	0.5nm,0.3s,baz=252,slow=13,SNR=7.5							
ZALV				Sn		**Sn**	**08 49 55.9**	**-0.7**
	0.4nm,0.3s,baz=244,slow=25,SNR=6.1							
AB31	**Akbulak array**	**8.74**	**268**	Pn		**Pn**	**08 48 37.2**	**+0.7**
	0.7nm,0.7s,baz=84,slow=10,SNR=19							
AB31				⇑Sn		**Sn**	**08 50 16.2**	**+0.5**
	0.5nm,0.6s							
AB31				⇓Lg		Lg	08 51 06.1	
	1.4nm,0.8s							
YKA	**Yellowknife Ar**	**67.40**	**4**	P		**P**	**08 57 25.4**	**-0.2**
	0.1nm,0.4s,baz=353,slow=6.4,SNR=4.5							

ARE ***27*** *08:56:57±3.3, 14.42S±0.07×75.78W±0.09, h51km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=161.0*

NEIC ***27*** *08:56:58.8±1.8, 14.33S±0.02×75.8W±0.1, h50km±9km, mb4.1/13, ML4.5(ARE), Error ellipse: s-maj=15.0km s-min=2.3km az=84.0*

IDC ***27*** *08:57:00.7±1.9, 14.32S×75.78W, h65km±17km, mb3.4/4, mb1 3.7/8, mb1mx3.5/33, mbtmp3.8/8, MS3.1/4, Ms1 3.1/4, ms1mx2.8/23, Error ellipse: s-maj=39.4km s-min=12.3km az=56.0*

ISC 27 08:56:56.1±0.6, 14.34S±0.07×76.0W±0.1, h29km, n40, σ1.9s94/41, mb3.6/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.48**	**340**	P		**Pb**	**08 57 38.7**	**-1.4**
	16nm,0.3s,baz=211,slow=7.2,SNR=38							
NNA				S		**Sb**	**08 58 10.4**	**+0.2**
	120nm,0.3s,baz=119,slow=15,SNR=8.1							
NNA	**Nana**	**2.48**	**340**			**Pb**	**08 57 38.0**	**-2.1**
NNA				Sn		**Sb**	**08 58 06.5**	**-3.7**
PB12	**IPOC Station P**	**6.89**	**129**			**Pn**	**08 58 33.5**	**-2.0**
PB12	**IPOC Station P**	**6.89**	**129**	*eP*		**Pn**	**08 58 33.4**	**-2.0**
PB12				*eS*		**Sn**	**08 59 56.8**	**+3.8**
PB16	**IPOC Station P**	**7.38**	**123**			**Pn**	**08 58 42.5**	**0.0**
LPAZ	**La Paz**	**7.82**	**105**	P		**Pn**	**08 58 50.7**	**+2.1**
	0.9nm,0.3s,baz=274,slow=9.8,SNR=24							
LPAZ	**La Paz**	**7.82**	**105**			**Pn**	**08 58 50.6**	**+2.0**
PB11	**IPOC Station P**	**8.11**	**133**			**Pn**	**08 58 50.1**	**-2.0**
GO01	**Chusmiza**	**8.38**	**130**			**Pn**	**08 58 54.7**	**-1.5**
PB08	**IPOC Station P**	**8.71**	**132**			**Pn**	**08 58 59.0**	**-1.7**
PB02	**IPOC Station P**	**9.04**	**141**			**Pn**	**08 59 04.7**	**-0.3**
PB01	**IPOC Station P**	**9.10**	**138**			**Pn**	**08 59 05.4**	**-0.3**
PB07	**IPOC Station P**	**9.36**	**143**			**Pn**	**08 59 09.7**	**+0.4**
PB04	**IPOC Station P**	**9.69**	**146**	Pn		**Pn**	**08 59 14.3**	**+0.4**
PB09	**IPOC Station P**	**9.80**	**140**			**Pn**	**08 59 16.6**	**+1.2**
LVC	**Limon Verde**	**10.62**	**142**	P		**Pn**	**08 59 27.5**	**+0.8**
	0.4nm,0.3s,baz=355,slow=8.7,SNR=2.2							
LVC				S		**Sn**	**09 01 18.9**	**-6.0**
	0.4nm,0.3s,baz=68,slow=22,SNR=3.3							
LVC				LR	LR		09 03 14.2	
	comp=Z,28nm,18.8s,baz=271,slow=36							
LVC	**Limon Verde**	**10.62**	**142**			**Pn**	**08 59 27.1**	**+0.4**
SIV	**San Ignacio**	**14.49**	**98**	P		**Pn**	**09 00 20.9**	**+1.5**
	0.3nm,0.3s,baz=306,slow=10,SNR=5.6							
SIV				LR	LR		09 06 57.0	
	comp=Z,66nm,18.7s,baz=317,slow=42							
OTAV	**Otavalo**	**14.68**	**350**	Pn		**Pn**	**09 00 22.3**	**-0.1**
H03N1	**Juan Fernandez**	**19.21**	**187**	T		T	09 20 41.5	
	baz=9.6,slow=74,SNR=86							
H03N2	**Juan Fernandez**	**19.21**	**188**	T		T	09 20 47.7	
	baz=9.6,slow=74,SNR=92							
H03N3	**Juan Fernandez**	**19.22**	**187**	T		T	09 20 40.2	
	baz=9.6,slow=74,SNR=94							
MT02	**Curacav**	**19.35**	**168**	P		**P**	**09 01 18.9**	**-0.5**
MT02				IAmb		IAmb	09 01 28.7	
	comp=Z,11nm,1.1s							
MT09	**Talagante**	**19.88**	**168**	P		**Pn**	**09 01 27.3**	**+0.2**
MT09				IAmb		IAmb	09 02 11.0	
	comp=Z,14nm,1.4s							
AQDB	**Aquidauana**	**20.29**	**110**	P		**P**	**09 01 28.1**	**-1.6**
AQDB				IAmb		IAmb	09 01 35.5	
	comp=Z,15nm,1.3s							
BO02	**Sierra Bellavi**	**20.90**	**168**	P		**P**	**09 01 36.4**	**0.0**
ZARC	**Zaragoza, Cauc**	**21.71**	**3**	P		**P**	**09 01 45.9**	**+0.7**
LC01	**Cunco**	**24.73**	**172**	P		**P**	**09 02 15.3**	**+0.2**
LC01				IAmb		IAmb	09 02 19.7	
	comp=Z,11nm,1.4s							
PLCA	**Paso Flores**	**26.72**	**171**	P		**P**	**09 02 34.1**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=358,slow=9.8,SNR=6.8							
PLCA	**Paso Flores**	**26.72**	**171**	P		**P**	**09 02 33.8**	**+0.6**
BDFB	**Brasilia**	**27.04**	**96**	LR		LR	09 13 60.0	
	comp=Z,123nm,20.6s,baz=79,slow=38							
RCBR	**Riachuelo**	**40.30**	**82**	LR		LR	09 23 33.2	
	comp=Z,35nm,18.3s,baz=320,slow=40							
TXAR	**Lajitas Array**	**50.98**	**329**	P		**P**	**09 05 56.9**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=157,slow=8.8,SNR=7.0							
TXAR				pP		**sP**	**09 06 12.2**	**+4.1**
	comp=Z,0.3nm,0.6s,baz=149,slow=9.5,SNR=4.4							
QSPA	**South Pole Qui**	**75.81**	**180**	P		**P**	**09 08 40.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**81.61**	**74**	P		**P**	**09 09 10.6**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=267,slow=5.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**81.61**	**74**	P		**P**	**09 09 09.8**	**-2.3**
YKA	**Yellowknife Ar**	**82.32**	**343**	P		**P**	**09 09 14.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=143,slow=6.0,SNR=13							
ASAR	**Alice Springs**	**132.24**	**218**	PKP		**PKPdf**	**09 16 08.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=132,slow=2.2,SNR=5.2							
WRA	**Warramunga Arr**	**134.72**	**222**	PKP		**PKPdf**	**09 16 13.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=139,slow=2.1,SNR=4.2							
WRA				pPKP		**sPKPdf**	**09 16 29.3**	**+3.2**
	comp=Z,0.5nm,0.8s,baz=142,slow=2.1,SNR=3.8							
SONM	**Songino Array**	**146.54**	**357**	PKPbc		**PKPbc**	**09 16 34.8**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=358,slow=3.1,SNR=4.8							

IDC 27 08:58:47.4±5.8, 28.06S×177.40W, h53km±53km, mb3.3/2, mb1 3.6/2, mb1mx3.3/22, mbtmp3.6/2, Error ellipse: s-maj=49.3km s-min=41.3km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**201**	P		Pn	08 59 09.1	+0.2
	1µm,0.3s,baz=26,slow=23,SNR=28							
RAO				S		Sn	08 59 24.9	0.0
	4µm,0.3s,baz=87,slow=23,SNR=49							
ASAR	**Alice Springs**	**43.82**	**264**	P		P	09 06 48.4	0.0
	0.3nm,0.6s,baz=94,slow=7.3,SNR=8.9							
WRA	**Warramunga Arr**	**44.59**	**269**	P		P	09 06 54.1	-0.5
	1.2nm,0.9s,baz=107,slow=7.9,SNR=11							
AKASG	**Malin Array Be**	**149.72**	**326**	PKPbc		PKPbc	09 18 30.6	-0.2
	2.9nm,1.1s,baz=42,slow=3.4,SNR=5.3							

NEIC 27 09:04:06.1±1.2, 35.38N±0.03×113.02W±0.04, h7km±7km, ML2.7/75, Error ellipse: s-maj=6.2km s-min=1.0km az=138.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
W13A	**Hualapai Mount**	**0.76**	**249**			Pg	09 04 20.8	0.0
W13A					IAML	Sg	09 04 30.8	+0.1
	comp=E,162nm,0.2s							
W13A					Sg	Sg	09 04 30.8	+0.1
W13A					IAML		09 04 30.9	
	comp=N,255nm,0.3s							
U15A	**North Rim**	**1.20**	**29**	Pg		Pg	09 04 28.9	-0.2
U15A					Sg	Sg	09 04 44.4	-0.3
U15A					IAML		09 04 46.7	
	comp=N,107nm,0.3s							
U15A					IAML		09 04 47.7	
	comp=E,144nm,0.8s							
WUAZ	**Wupatki**	**1.35**	**84**	Pn		Pn	09 04 31.6	+0.1
Y14A	**Wickenburg**	**1.44**	**180**	Pn		Pb	09 04 33.2	0.0
Y14A					IAML		09 04 52.9	
	comp=E,81nm,0.5s							
Y14A					IAML		09 04 54.5	
	comp=N,104nm,0.6s							
X16A	**Lo Mia Camp, P**	**1.61**	**126**	Pn		Pb	09 04 35.8	-0.5
LCMT	**Little Creek M**	**1.64**	**354**			Pb	09 04 36.4	-0.3
LCMT					IAML		09 04 58.3	
	comp=N,58nm,0.2s							
LCMT					IAML		09 05 00.1	
	comp=E,96nm,0.3s							
KNB	**Kanab**	**1.64**	**5**	Pn		Pb	09 04 36.7	-0.2
KNB					IAML		09 05 04.2	
	comp=E,59nm,0.7s							
KNB					IAML		09 05 04.9	
	comp=N,65nm,0.6s							
BLYC	**Blythe**	**2.04**	**218**			Pn	09 04 41.6	+0.7
BLYC					IAML		09 05 11.3	
	comp=E,93nm,0.5s							
BLYC					IAML		09 05 11.4	
	comp=N,66nm,0.5s							
SHPR	**Sheep Range**	**2.07**	**304**			Pn	09 04 41.6	+0.1
PKCU	**Pink Cliffs**	**2.14**	**15**			Pn	09 04 42.6	0.0
CCUT	**Cedar City**	**2.19**	**353**	Pn		Pb	09 04 44.6	-1.5
CCUT					IAML		09 05 15.2	
	comp=E,30nm,0.7s							
SZCU	**Shurtz Canyon**	**2.21**	**359**			Pb	09 04 46.4	-0.2
PRN	**Pahroc Range**	**2.61**	**322**			Pn	09 04 48.4	-0.4
PRN					IAML		09 05 31.2	
	comp=N,26nm,0.4s							
PRN					IAML		09 05 40.1	
	comp=E,23nm,0.4s							
X18A	**Snowflake**	**2.66**	**108**	Pn		Pn	09 04 48.9	-0.7
X18A					IAML		09 05 30.5	
	comp=N,44nm,0.6s							
113A	**Mohawk Valley,**	**2.68**	**194**			Pn	09 04 49.9	+0.3
W18A	**Petrified Fore**	**2.70**	**95**			Pn	09 04 49.9	-0.2
MTPU	**Mount Pierson**	**2.74**	**14**			Pb	09 04 55.2	-0.5
MTPU					IAML		09 05 34.6	
	comp=N,23nm,0.7s							
MTPU					IAML		09 05 35.3	
	comp=E,28nm,0.4s							
GLA	**Glamis**	**2.76**	**213**			Pn	09 04 50.3	-0.5
GLA					Pg	Pg	09 04 57.6	-1.4
GLA					IAML		09 05 37.8	
	comp=N,44nm,0.6s							
TPNV	**Topopah Spring**	**3.05**	**302**			Pn	09 04 55.2	+0.3
GWY	**Greenwater Val**	**3.08**	**286**			Pn	09 04 55.6	+0.3
GWY					IAML		09 05 52.9	
	comp=N,18nm,0.5s							
GWY					IAML		09 05 58.9	
	comp=E,16nm,1.2s							
GSC	**Goldstone, Bar**	**3.10**	**270**			Pn	09 04 54.4	-1.1
GSC					IAML		09 05 47.5	
	comp=E,27nm,1.4s							
GSC					IAML		09 05 47.7	
	comp=N,20nm,0.6s							
S11A	**Rachel**	**3.15**	**317**	Pn		Pn	09 04 56.6	+0.3
S11A					IAML		09 05 56.8	
	comp=E,23nm,3.6s							
S11A					IAML		09 05 58.6	
	comp=N,18nm,2.8s							
QSM	**Queen of Sheba**	**3.19**	**282**			Pn	09 04 57.2	+0.5
QSM					IAML		09 05 52.4	
	comp=E,12nm,0.6s							
QSM					IAML		09 05 53.1	
	comp=N,12nm,1.2s							
MSU	**Marysvale**	**3.20**	**12**	Pn		Pn	09 04 57.0	-0.1
PSUT	**Pine Spring**	**3.22**	**348**			Pn	09 04 56.3	-1.0
PFO	**Pinyon Flats O**	**3.34**	**239**			Pn	09 04 58.0	-1.0
PFO					IAML		09 05 56.3	
	comp=N,9.5nm,3.6s							
214A	**Organ Pipe Nat**	**3.42**	**177**	Pn		Pn	09 04 59.2	-0.7
214A					IAML		09 05 54.7	
	comp=E,16nm,0.5s							
214A					IAML		09 05 54.8	
	comp=N,13nm,0.5s							
TUC	**Tucson**	**3.58**	**148**	Pn		Pn	09 05 00.6	-1.5
R11A	**Troy Canyon, C**	**3.61**	**326**			Pn	09 05 02.0	-0.7
Q16A	**Castle Valley**	**3.83**	**22**	Pn		Pn	09 05 06.2	+0.6
ELS	**Elsinore Mount**	**4.03**	**246**	Pn		Pn	09 05 08.0	-0.3
ELS					IAML		09 06 21.8	
	comp=E,7.7nm,3.5s							
ELS					IAML		09 06 22.1	
	comp=N,10.0nm,4.8s							
MVCO	**Mesa Verde**	**4.08**	**62**	Pn		Pn	09 05 08.9	-0.3
TMUT	**Trail Mountain**	**4.17**	**20**			Pn	09 05 10.5	0.0
SRU	**San Rafael Swe**	**4.22**	**27**			Pn	09 05 11.4	+0.3
CBX	**Cerro Bola**	**4.31**	**226**	Pn		Pn	09 05 12.9	+0.7
PV10	**Paradox Valley**	**4.37**	**46**			Pn	09 05 12.1	-1.0
PV11	**David Mesa, Pa**	**4.42**	**48**			Pn	09 05 13.6	-0.2
P17A	**Butcher Ranch,**	**4.47**	**23**			Pn	09 05 14.6	+0.1
SFX	**San Felipe**	**4.59**	**200**			Pn	09 05 16.3	+0.3
NLU	**North Lily Min**	**4.63**	**9**			Pn	09 05 16.0	-0.7
CCX	**Cicese**	**4.64**	**222**	Pn		Pn	09 05 17.0	+0.4
PV07	**Paradox Valley**	**4.65**	**48**			Pn	09 05 15.9	-1.0
PV15	**Paradox Valley**	**4.69**	**50**			Pn	09 05 16.2	-1.3
P18A	**Preston Nutter**	**4.78**	**27**			Pn	09 05 18.6	-0.2
DUG	**Dugway, Tooele**	**4.81**	**2**	Pn		Pn	09 05 18.5	-0.6
DUG					IAML		09 06 43.2	
	comp=N,4.0nm,4.9s							
DUG					IAML		09 06 49.5	
	comp=N,6.0nm,4.4s							
319A	**Douglas**	**5.07**	**141**	Pn		Pn	09 05 21.9	-0.7
121A	**Cookes Peak, D**	**5.19**	**122**	Pn		Pn	09 05 24.2	-0.2
121A					IAML		09 06 37.4	
	comp=N,6.5nm,4.3s							
121A					IAML		09 07 49.1	
	comp=E,6.5nm,4.4s							
ANMO	**Albuquerque**	**5.39**	**93**			Pn	09 05 26.6	-0.5
ANMO					IAML		09 07 05.0	
	comp=E,6.2nm,4.1s							
ANMO					IAML		09 07 34.7	
	comp=E,4.4nm,4.9s							
S22A	**4UR Ranch, Cre**	**5.51**	**63**			Pn	09 05 28.6	-0.3
RDMU	**Red Mountain**	**5.86**	**27**	Pn		Pn	09 05 33.0	-0.6
O20A	**White River Ci**	**6.07**	**37**	Pn		Pn	09 05 36.3	-0.2
SMCO	**Snowmass**	**6.13**	**50**	Pn		Pn	09 05 37.3	-0.2
WVOR	**Wild Horse Val**	**8.29**	**330**	Pn		Pn	09 06 06.3	-0.6

JMA ***27*** *09:11:17.7±0.2, 24.06N×122.42E, h19km±3km, M2.3*

TAP ***27*** *09:11:18.3, 24.14N×122.39E, h42km±1km, ML2.8, D*

ISC 27 09:11:17.6±1.0, 24.08N±0.03×122.41E±0.02, h28km±11km, n62, σ0.9s47/118, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.61**	**53**	P		**Pb**	**09 11 29.7**	**-0.2**
JYNG				S		**Sb**	**09 11 38.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.67**	**55**	P		**Pb**	**09 11 30.7**	**-0.1**
YOJ				*eS*		**Sb**	**09 11 39.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.67**	**55**	*eP*		**Pn**	**09 11 31.4**	**+0.2**
	baz=60							
YOJ				*eS*		**Sn**	**09 11 41.1**	**+0.3**
	baz=60							
EWUT	**Wuta**	**0.68**	**302**	*eP*		**Pb**	**09 11 30.7**	**-0.2**
	baz=305							
EWUT				*eS*		**Sb**	**09 11 40.4**	**+0.4**
	baz=305							
ENA	**Nanau**	**0.70**	**300**	*eP*		**Pb**	**09 11 31.4**	**+0.1**
	baz=302							
ENA				*eS*		**Sn**	**09 11 41.2**	**-0.3**
	baz=302							
ETL	**Fush Village**	**0.72**	**276**	*eP*		**Pn**	**09 11 32.2**	**+0.3**
	baz=259							
ETL				*eS*		**Sn**	**09 11 42.9**	**+0.8**
	baz=259							
TWC	**Suao**	**0.73**	**316**	P		**Pb**	**09 11 31.4**	**-0.4**
	baz=307							
TWC				*eS*		**Sb**	**09 11 41.1**	**-0.4**
	baz=307							
TWD	**Chiawan**	**0.74**	**270**	*eP*		**Pn**	**09 11 32.6**	**+0.4**
	baz=254							
TWD				*eS*		**Sn**	**09 11 42.4**	**-0.1**
	baz=254							
NACB	**Ninganchiao**	**0.75**	**277**	P		**Pb**	**09 11 32.0**	**-0.1**
	baz=261							
NACB				S		**Sb**	**09 11 42.1**	**+0.2**
	baz=261							
NDS	**Dongshan**	**0.83**	**311**	*eP*		**Pn**	**09 11 33.6**	**0.0**
	baz=308							
NDS				*eS*		**Sb**	**09 11 44.6**	**+0.1**
	baz=308							
ETLH	**Xiulin Townshi**	**0.85**	**279**	P		**Pn**	**09 11 33.8**	**-0.1**
	baz=274							
ETLH				S		**Sb**	**09 11 45.1**	**+0.1**
	baz=274							
EGS	**Sand**	**0.87**	**331**	*eP*		**Pn**	**09 11 33.2**	**-0.8**
	baz=321							
EGS				*eS*		**Sb**	**09 11 45.0**	**-0.6**
	baz=321							
LATG	**Datong**	**0.92**	**300**	P		**Pb**	**09 11 35.2**	**+0.1**
	baz=286							
LATG				*eS*		**Sb**	**09 11 47.0**	**0.0**
	baz=286							
TWE	**Neicheng**	**0.93**	**314**	*eP*		**Pb**	**09 11 35.0**	**-0.1**
	baz=311							
TWE				*eS*		**Sn**	**09 11 47.4**	**+0.2**
	baz=311							
ESL	**Shilin**	**0.93**	**254**	*eP*		**Pn**	**09 11 34.9**	**+0.1**
	baz=240							
ESL				*eS*		**Sb**	**09 11 47.0**	**-0.2**
	baz=240							
NTC	**Toucheng**	**0.93**	**326**	*eP*		**Pb**	**09 11 35.3**	**+0.1**
	baz=324							
NTC				*eS*		**Sb**	**09 11 47.0**	**-0.3**
	baz=324							
ENTT	**Nioudou**	**0.95**	**306**	*eP*		**Pb**	**09 11 35.6**	**+0.2**
	baz=303							
ENTT				*eS*		**Sb**	**09 11 48.4**	**+0.8**
	baz=303							
NDT	**Datong Townshi**	**0.96**	**303**	*eP*		**Pb**	**09 11 35.8**	**0.0**
	baz=290							
NDT				*eS*		**Sb**	**09 11 48.2**	**0.0**
	baz=290							
EGFH	**Guangfu**	**0.98**	**246**	*eP*		**Pb**	**09 11 36.5**	**+0.4**
	baz=242							
EGFH				*eS*		**Sb**	**09 11 49.6**	**+0.8**
	baz=242							
NNSB	**Datong**	**0.99**	**291**	*eP*		**Pb**	**09 11 36.1**	**-0.2**
	baz=287							
NNSB				*eS*		**Sb**	**09 11 49.2**	**+0.1**
	baz=287				

	baz=262							
WUSB				*eS*		**Sn**	**09 11 53.2**	**-0.4**
	baz=262							
NHDH	**Xindian Distri**	**1.19**	**318**	*eP*		**Pn**	**09 11 38.6**	**+0.3**
	baz=328							
NHDH				*eS*		**Sn**	**09 11 53.5**	**-0.1**
	baz=328							
VWDT	**VWDT**	**1.20**	**255**	*eP*		**Pb**	**09 11 39.3**	**-0.5**
	baz=242							
VWDT				*eS*		**Sb**	**09 11 55.1**	**+0.2**
	baz=242							
YULB	**Yu-li**	**1.23**	**236**	*eP*		**Pn**	**09 11 39.1**	**+0.2**
	baz=246							
YULB				*eS*		**Sn**	**09 11 54.2**	**-0.3**
	baz=246							
EYUL	**Yuli**	**1.23**	**234**	*eP*		**Pn**	**09 11 38.8**	**-0.2**
	baz=222							
EYUL				*eS*		**Sn**	**09 11 54.8**	**+0.1**
	baz=222							
IRIF	**Iriomote-Funau**	**1.24**	**78**	P		**Pb**	**09 11 39.9**	**-0.4**
IRIF				*eS*		**Sb**	**09 11 55.7**	**-0.2**
HATJ	**Hateruma jima**	**1.28**	**91**	P		**Pb**	**09 11 41.1**	**0.0**
HATJ				*eS*		**Sb**	**09 11 57.0**	**-0.1**
NFF	**Wufeng Townshi**	**1.30**	**295**	*eP*		**Pb**	**09 11 41.0**	**-0.4**
	baz=292							
NFF				*eS*		**Sn**	**09 11 56.9**	**+0.6**
	baz=292							
YM01	**YM01**	**1.30**	**325**	*eP*		**Pn**	**09 11 39.9**	**-0.1**
	baz=336							
YM01				*eS*		**Sn**	**09 11 56.3**	**-0.2**
	baz=336							
WHP	**Taichung City**	**1.35**	**279**	*eP*		**Pb**	**09 11 42.2**	**-0.1**
	baz=266							
WHP				*eS*		**Sn**	**09 11 58.4**	**+0.7**
	baz=266							
SSLB	**Suanglung**	**1.36**	**258**	*eP*		**Pn**	**09 11 41.4**	**+0.7**
	baz=255							
SSLB				*eS*		**Sb**	**09 11 59.3**	**-0.2**
	baz=255							
WCS	**Beigang Elemen**	**1.37**	**269**	*eP*		**Pb**	**09 11 42.0**	**-0.6**
	baz=260							
WCS				*eS*		**Sn**	**09 11 58.8**	**+0.8**
	baz=260							
LIOB	**Emei**	**1.39**	**294**	*eP*		**Pn**	**09 11 42.0**	**+0.9**
	baz=291							
LIOB				*eS*		**Sn**	**09 11 59.1**	**+0.6**
	baz=291							
SMLT	**Sun Moon Lake**	**1.39**	**262**	*eP*		**Pb**	**09 11 42.2**	**-0.9**
	baz=259							
SMLT				*eS*		**Sn**	**09 11 59.0**	**+0.2**
	baz=259							
NSTT	**Nanjuang**	**1.39**	**293**	*eS*		**Sn**	**09 11 59.5**	**+0.8**
	baz=291							
NCU	**National Centr**	**1.42**	**309**	*eS*		**Sn**	**09 11 58.6**	**-0.7**
	baz=306							
TYC	**Yuchr**	**1.43**	**263**	*eP*		**Pn**	**09 11 42.1**	**+0.5**
	baz=260							
TYC				*eS*		**Sn**	**09 11 59.8**	**+0.4**
	baz=260							
JKRS	**Kuro-shima**	**1.47**	**84**	P		**Pb**	**09 11 44.3**	**-0.1**
JKRS				*eS*		**Sb**	**09 12 02.5**	**-0.2**
EDH	**Donghe**	**1.50**	**223**	*eP*		**Pn**	**09 11 41.6**	**-1.0**
	baz=214							
EDH				*eS*		**Sn**	**09 11 59.4**	**-1.8**
	baz=214							
WJS	**Zhushan**	**1.56**	**261**	*eS*		**Sb**	**09 12 04.2**	**-0.9**
	baz=258							
ALS	**Alishan**	**1.57**	**249**	*eP*		**Pn**	**09 11 44.3**	**+0.4**
	baz=246							
ALS				*eS*		**Sn**	**09 12 04.1**	**+0.6**
	baz=246							
ALS	**Alishan**	**1.57**	**249**	*eS*		**Pn**	**09 11 44.5**	**+0.6**
	baz=340							
WNT	**Mingjian**	**1.59**	**263**	*eS*		**Sb**	**09 12 05.8**	**-0.2**
	baz=260							
JIJ	**Ishigaki jima**	**1.61**	**80**	P		**Pn**	**09 11 44.6**	**+0.4**
JIJ				*eS*		**Sn**	**09 12 04.6**	**+0.6**
LDUT	**Ludao**	**1.64**	**212**	*eP*		**Pn**	**09 11 44.8**	**+0.1**
	baz=210							
LDUT				*eS*		**Sn**	**09 12 04.3**	**-0.5**
	baz=210							
CHN5	**Tsauling**	**1.65**	**253**	*eP*		**Pn**	**09 11 46.2**	**+1.4**
	baz=251							
CHN5				*eS*		**Sn**	**09 12 06.4**	**+1.2**
	baz=251							
JISG	**Ishigakijimahi**	**1.81**	**73**	P		**Pn**	**09 11 47.7**	**+0.8**
JISG				S		**Sn**	**09 12 09.1**	**+0.2**

TAP 27 09:11:28.5, 23.11N×120.97E, h3km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.09**	**30**	P	Pg	09 11 31.3	+0.9
	baz=34						
ELDTW				S	Sg	09 11 32.5	+0.8
	baz=34						
STYH	**Taoyuan**	**0.19**	**289**	P	Pg	09 11 33.4	+1.2
	baz=292						
STYH				S	Sg	09 11 36.0	+1.4
	baz=292						
LONT	**Longtian**	**0.25**	**144**	*eP*	Pb	09 11 34.8	-0.9
	baz=143						
LONT				*eS*	Sg	09 11 38.4	+1.8
	baz=143						
TWG	**Pinlang**	**0.30**	**162**	*eP*	Pb	09 11 35.7	-0.9
	baz=160						
TWG				*eS*	Sg	09 11 39.7	+1.4
	baz=160						
TWGBT	**Beinan**	**0.31**	**160**	*eP*	Pb	09 11 35.7	-1.0
	baz=160						
TWGBT				*eS*	Sb	09 11 41.7	-0.4
	baz=160						
FULB	**Fuli**	**0.31**	**74**	*eP*	Pb	09 11 36.3	-0.5
	baz=73						
FULB				S	Sb	09 11 41.3	-1.0
	baz=73						
EDH	**Donghe**	**0.34**	**114**	*eP*	Pb	09 11 37.1	0.0
	baz=113						
EDH				*eS*	Sb	09 11 42.2	-0.7
	baz=113						
WTP	**Ta-pu**	**0.35**	**293**	*eP*	Pb	09 11 36.9	-0.6
	baz=292						
WTP				*eS*	Sb	09 11 42.6	-0.9
	baz=292						
SGST	**Jiashian**	**0.36**	**266**	*eP*	Pb	09 11 36.8	-0.6
	baz=265						
SGST				*eS*	Sb	09 11 43.0	-0.5
	baz=265						
TPUB	**Ta-pu**	**0.36**	**301**	*eP*	Pb	09 11 36.8	-0.8
	baz=301						
TPUB				*eS*	Sb	09 11 43.0	-0.8
	baz=301						
CHKT	**Chengkung**	**0.37**	**92**	*eP*	Pb	09 11 37.6	0.0
	baz=91						
CHKT				*eS*	Sb	09 11 44.2	+0.5
	baz=91						
CHN1	**Nanshi**	**0.41**	**281**	*eP*	Pb	09 11 38.2	-0.2
	baz=280						
CHN1				*eS*	Sb	09 11 45.3	+0.2
	baz=280						
CHN4	**Tsaushan**	**0.42**	**305**	*eP*	Pb	09 11 38.2	-0.4
	baz=304						
CHN4				*eS*	Sb	09 11 45.4	0.0
	baz=304						
ALS	**Alishan**	**0.43**	**339**	*eP*	Pb	09 11 37.9	-1.0
	baz=340						
SNST	**Tainan City**	**0.45**	**284**	*eP*	Pb	09 11 39.1	0.0
	baz=284						
SNST				*eS*	Sb	09 11 46.7	+0.6
	baz=284						
TWK	**Hsinying**	**0.47**	**290**	*eP*	Pb	09 11 39.6	+0.2
	baz=289						
TWK				*eS*	Sb	09 11 47.1	+0.3
	baz=289						
HGSD	**Ruisui**	**0.57**	**48**	*eP*	Pb	09 11 40.6	-0.5
	baz=47						
HGSD				*eS*	Sb	09 11 48.5	-1.0
	baz=47						

*IDC **27** 09:39:23.4±1.1, 16.89N×85.21W, h0km, mb4.2/13, mb1 4.5/16, mb1mx4.2/36, mbtmp4.3/16, ML4.3/3, MS3.7/37, Ms1 3.7/37, ms1mx3.6/69, Error ellipse: s-maj=28.6km s-min=17.4km az=35.0*
*UCR **27** 09:39:28.3±1.1, 17.06N×85.32W, h36km±999km, ML3.7, mb4.5(NEIC)*

*SNET **27** 09:39:28.0±0.9, 17.05N×85.28W, h35km±73km, ML4.2*
*NEIC **27** 09:39:28.2±2.6, 17.04N±0.05×85.18W±0.07, h17km±5km, mb4.5/106, Error ellipse: s-maj=9.5km s-min=7.1km az=91.0*
*INET **27** 09:39:29.3±1.4, 16.99N×85.39W, h15km, MW4.7*
*GCMT **27** 09:39:32.2±0.3, 17.24N±0.02×85.22W±0.03, h33km±1km, MW4.9/86, Moment Tensor Solution. s24,c27; s86,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.11±.16; Mθθ-1.31±.11; Mφφ 1.20±.12; Mrθ-0.22±.12; Mθφ2.16±.08; Mφr0.45±.12; Best double couple: M₀2.54700×10¹⁶ NP1:φs165.00000°, δ79.00000°, λ-1.00000°. NP2: φs165.00000°, δ89.00000°, λ-169.00000°. Principal axes: T 2.4770, Plg7.0000°, Azm299.0000°; N 0.1410, Plg79.0000°, Azm172.0000°; P -2.6170, Plg9.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 09:39:29.2±0.4, 16.98N±0.05×85.31W±0.05, h35km, n420, σ1s50/395, mb4.5/44, MS3.7/32, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.47**	**213**	Pn	**Pn**	**09 40 20.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**3.47**	**213**	*eP*	**Pn**	**09 40 20.7**	**-0.2**
TGUH				*eS*	**Sn**	**09 41 01.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.47**	**213**	*eP*	**Pn**	**09 40 20.4**	**-0.5**
TGUH	**Tegucigalpa,Un**	**3.47**	**213**	*eP*	**Pn**	**09 40 20.7**	**-0.2**
TGUH				*eS*	**Sn**	**09 41 01.8**	**+1.0**
MATN	**Matagalpa**	**4.07**	**189**		**Pn**	**09 40 28.7**	**-0.4**
MATN	**Matagalpa**	**4.07**	**189**	*eP*	**Pn**	**09 40 29.1**	**0.0**
PETF	**Flores**	**4.36**	**270**	Pn	**Pn**	**09 40 32.4**	**-0.6**
PETF	**Flores**	**4.36**	**270**	*eP*	**Pn**	**09 40 32.5**	**-0.6**
PETF	**Flores**	**4.36**	**270**	*eP*	**Pn**	**09 40 32.5**	**-0.6**
BOAB	**BOACO BROADBAN**	**4.51**	**184**	Pn	**Pn**	**09 40 35.2**	**0.0**
BOAB	**BOACO BROADBAN**	**4.51**	**184**	*eP*	**Pn**	**09 40 35.1**	**-0.1**
CSGN	**Cosiguina Volc**	**4.53**	**209**	*eP*	**Pn**	**09 40 35.1**	**-0.4**
FSCY	**Frank Sound, G**	**4.56**	**59**		Pn	09 40 31.4	-4.4
ESQI	**Esquipulas**	**4.57**	**239**		**Pn**	**09 40 36.3**	**+0.4**
ESQI	**Esquipulas**	**4.57**	**239**	*eP*	**Pn**	**09 40 36.0**	**+0.1**
CRIN	**San Cristobal**	**4.57**	**202**		**Pn**	**09 40 36.5**	**+0.4**
CRIN	**San Cristobal**	**4.57**	**202**	*eP*	**Pn**	**09 40 36.7**	**+0.7**
PQSS	**Presa 15 de Se**	**4.58**	**224**	*eP*	**Pn**	**09 40 35.8**	**-0.2**
PQSS	**Presa 15 de Se**	**4.58**	**224**	*eP*	**Pn**	**09 40 35.8**	**-0.2**
SCLA	**Alcaldia de Sa**	**4.64**	**226**	*eP*	**Pn**	**09 40 37.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**4.64**	**226**	*eP*	**Pn**	**09 40 37.4**	**+0.5**
CNGN	**Cerro Negro**	**4.65**	**197**		**Pn**	**09 40 37.6**	**+0.5**
COEB	**Comit de Eme**	**4.65**	**222**	*eP*	**Pn**	**09 40 37.0**	**-0.1**
COEB	**Comit de Eme**	**4.65**	**222**	*eP*	**Pn**	**09 40 37.0**	**-0.1**
COEB	**Comit de Eme**	**4.65**	**222**	*eP*	**Pn**	**09 40 37.7**	**+0.5**
MTO3	**Montecristo**	**4.67**	**237**		**Pn**	**09 40 37.6**	**+0.1**
MTO3	**Montecristo**	**4.67**	**237**	*eP*	**Pn**	**09 40 37.3**	**-0.1**
MTO3	**Montecristo**	**4.67**	**237**	*eP*	**Pn**	**09 40 37.3**	**-0.1**
MTO3	**Montecristo**	**4.67**	**237**	*eP*	**Pn**	**09 40 37.4**	**-0.1**
HUEN		**4.69**	**190**	*eP*	**Pn**	**09 40 38.3**	**+0.8**
MOMN	**Momotombo**	**4.70**	**195**	*eP*	**Pn**	**09 40 38.8**	**+1.1**
UESV	**Universidad de**	**4.72**	**226**	*eP*	**Pn**	**09 40 38.3**	**+0.3**
UESV	**Universidad de**	**4.72**	**226**	*eP*	**Pn**	**09 40 38.3**	**+0.3**
PAVA	**Las Pavas**	**4.77**	**228**	*eP*	**Pn**	**09 40 39.0**	**+0.2**
PAVA	**Las Pavas**	**4.77**	**228**	*eP*	**Pn**	**09 40 39.0**	**+0.2**
PAVA	**Las Pavas**	**4.77**	**228**	*eP*	**Pn**	**09 40 38.9**	**0.0**
COEG	**Centro de Oper**	**4.80**	**226**	*eP*	**Pn**	**09 40 39.5**	**+0.4**
COEG	**Centro de Oper**	**4.80**	**226**	*eP*	**Pn**	**09 40 39.5**	**+0.4**
ESPN	**Las Esperanzas**	**4.85**	**168**		**Pn**	**09 40 40.1**	**+0.3**
ESPN	**Las Esperanzas**	**4.85**	**168**	*eP*	**Pn**	**09 40 39.7**	**0.0**
TACO	**Tacachico**	**4.92**	**233**	*eP*	**Pn**	**09 40 40.5**	**-0.2**
TACO	**Tacachico**	**4.92**	**233**	*eP*	**Pn**	**09 40 40.5**	**-0.2**
LFRS	**El Faro**	**4.92**	**228**	*eP*	**Pn**	**09 40 41.8**	**+1.0**
LFRS	**El Faro**	**4.92**	**228**	*eP*	**Pn**	**09 40 41.8**	**+1.0**
COPN	**Copalitepe**	**4.93**	**195**	*eP*	**Pn**	**09 40 41.0**	**+0.2**
UDBS	**Universidad Do**	**4.93**	**229**	*eP*	**Pn**	**09 40 41.6**	**+0.7**
UDBS	**Universidad Do**	**4.93**	**229**	*eP*	**Pn**	**09 40 41.6**	**+0.7**
ACON	**Acoyapa**	**4.98**	**178**		**Pn**	**09 40 41.7**	**+0.1**
ACON	**Acoyapa**	**4.98**	**178**	*eP*	**Pn**	**09 40 41.7**	**+0.1**
SNET	**Serv Nac Est T**	**5.00**	**230**		**Pn**	**09 40 42.5**	**+0.5**
PMON	**Piamonte**	**5.05**	**231**	*eP*	**Pn**	**09 40 43.6**	**+1.1**
PMON	**Piamonte**	**5.05**	**231**	*eP*	**Pn**	**09 40 43.6**	**+1.1**
CEDA	**San Andres**	**5.05**	**232**	*eP*	**Pn**	**09 40 43.2**	**+0.6**
CEDA				IAML		09 41 28.1	
	comp=Z,157nm,0.5s						
CEDA	**San Andres**	**5.05**	**232**	*eP*	**Pn**	**09 40 43.2**	**+0.6**
CEDA				IAML		09 41 28.1	
	comp=Z,157nm,0.5s						
UNIC	**Universidad Ca**	**5.06**	**235**	*eP*	**Pn**	**09 40 42.9**	**+0.2**
UNIC	**Universidad Ca**	**5.06**	**235**	*eP*	**Pn**	**09 40 42.9**	**+0.2**
JAYA	**Jayaque - finc**	**5.18**	**231**	*eP*	**Pn**	**09 40 45.2**	**+0.7**
JAYA	**Jayaque - finc**	**5.18**	**231**	*eP*	**Pn**	**09 40 45.2**	**+0.7**
CEVE	**Cerro Verde**	**5.21**	**234**	*eP*	**Pn**	**09 40 46.1**	**+1.2**
CEVE	**Cerro Verde**	**5.21**	**234**	*eP*	**Pn**	**09 40 46.1**	**+1.2**
SLOZ	**Alcaldia de Sa**	**5.22**	**236**	*eP*	**Pn**	**09 40 44.8**	**0.0**
PRVC	**Isla de Provid**	**5.23**	**133**	Pn	**Pn**	**09 40 43.0**	**-1.9**
PRVC	**Isla de Provid**	**5.23**	**133**	*eP*	**Pn**	**09 40 42.0**	**-2.9**
NUBE	**Las Nubes**	**5.29**	**235**	*eP*	**Pn**	**09 40 46.5**	**+0.6**
NUBE	**Las Nubes**	**5.29**	**235**	*eP*	**Pn**	**09 40 46.5**	**+0.6**
CONN	**Concepcion**	**5.39**	**183**	*eP*	**Pn**	**09 40 48.3**	**+1.1**
LCCY	**Blossom Villag**	**5.64**	**61**	Pn	**Pn**	**09 40 48.8**	**-1.8**
CBCY	**The Bluff, Cay**	**5.94**	**62**	Pn	Pn	09 40 50.4	-4.4
BUAI	**Buenos Aires**	**6.06**	**180**	*eP*	**Pn**	**09 40 57.9**	**+1.4**
GB1A	**Borinquen Arri**	**6.12**	**181**	*eP*	**Pn**	**09 40 57.9**	**+0.5**
VMAR	**Armenia, Volca**	**6.13**	**178**	*eP*	**Pn**	**09 40 58.2**	**+0.7**
BUEV	**Buena Vista**	**6.14**	**181**	*eP*	**Pn**	**09 40 58.3**	**+1.7**
GBS3	**Finca Las Img**	**6.16**	**181**	*eP*	**Pn**	**09 40 57.9**	**0.0**
LAPC	**Finca la Perla**	**6.17**	**181**	*eP*	**Pn**	**09 40 58.8**	**+0.8**
SOR	**Soroa**	**6.18**	**20**	Pn	**Pn**	**09 40 58.1**	**+0.2**
HUEH	**Huehuetenango**	**6.18**	**255**	Pn	**Pn**	**09 40 59.0**	**+0.8**
GPS2	**Hotel Rincn d**	**6.19**	**180**	*eP*	**Pn**	**09 40 59.3**	**+1.1**
HORNC	**Hornillas**	**6.23**	**179**	*eP*	**Pn**	**09 40 59.3**	**+0.5**
GUAB	**Guayabo de Bag**	**6.23**	**179**	*eP*	**Pn**	**09 40 60.0**	**+1.1**
HZTE	**Horizontes, Gu**	**6.23**	**183**	Pn	**Pn**	**09 40 59.8**	**+1.0**
HZTE	**Horizontes, Gu**	**6.23**	**183**	*eP*	**Pn**	**09 41 00.5**	**+1.7**
PTEN	**Parque Tenorio**	**6.23**	**177**	*eP*	**Pn**	**09 40 59.6**	**+0.8**
LIM1	**Limonal**	**6.24**	**180**	*eP*	**Pn**	**09 41 00.0**	**+1.1**
COLC	**Colonia**	**6.28**	**179**	*eP*	**Pn**	**09 41 00.7**	**+1.3**
COVE	**Coope Vega, Sa**	**6.28**	**172**		**Pn**	**09 41 00.2**	**+0.7**
COVE	**Coope Vega, Sa**	**6.28**	**172**	*eP*	**Pn**	**09 41 00.1**	**+0.7**
CUI	**Cuipilapa**	**6.28**	**179**	*eP*	**Pn**	**09 41 00.0**	**+0.5**
ACAL	**Aguas Claras**	**6.31**	**178**	*eP*	**Pn**	**09 41 01.5**	**+1.5**
CEDE	**Laguna Cedeo**	**6.48**	**175**	*eP*	**Pn**	**09 41 04.0**	**+1.7**
ARE1	**Arenal 1**	**6.50**	**175**	*eP*	**Pn**	**09 41 03.7**	**+1.4**
ORTG	**Ortega, Santa**	**6.58**	**181**		**Pn**	**09 41 05.0**	**+1.4**
CCIG	**Comitan**	**6.58**	**265**	Pn	**Pn**	**09 41 03.9**	**+0.2**
RTAL	**Retalhuleu**	**6.62**	**249**	Pn	**Pn**	**09 41 07.1**	**+3.1**
JTS	**Las Juntas de**	**6.66**	**177**	Pn	**Pn**	**09 41 05.2**	**+0.6**
	comp=Z,24nm,0.3s,baz=101,slow=9.0,SNR=127						
JTS				Sn	**Sn**	**09 42 17.7**	**-1.6**
	comp=Z,10.0nm,0.3s,baz=299,slow=20,SNR=6.3						
JTS	**Las Juntas de**	**6.66**	**177**	*eP*	**Pn**	**09 41 05.0**	**+0.4**
JTS	**Las Juntas de**	**6.66**	**177**	*eP*	**Pn**	**09 41 05.7**	**+1.1**
GUAI	**GUAI**	**6.67**	**182**	*eP*	**Pn**	**09 41 06.4**	**+1.6**
DUNO	**Dulce Nombre,**	**6.86**	**182**		**Pn**	**09 41 09.8**	**+2.4**
SAJU	**San Juanillo,**	**6.88**	**183**	*eP*	**Pn**	**09 41 09.3**	**+1.7**
BATAN	**Batan**	**7.09**	**164**	Pn	**Pn**	**09 41 11.1**	**+0.6**
CAO2	**Cobano, Puntar**	**7.25**	**178**	Pn	**Pn**	**09 41 14.9**	**+2.2**
CAO2	**Cobano, Puntar**	**7.25**	**178**	*eP*	**Pn**	**09 41 14.8**	**+2.1**
JACO	**JACO, Garabito**	**7.30**	**175**		**Pn**	**09 41 14.2**	**+0.8**
JACO	**JACO, Garabito**	**7.30**	**175**	*eP*	**Pn**	**09 41 14.6**	**+1.1**
LCR2	**La Lucha 2**	**7.30**	**170**	*eP*	**Pn**	**09 41 14.2**	**+0.5**
RIMA	**Rio Macho**	**7.30**	**169**	Pn	**Pn**	**09 41 14.4**	**+0.7**
MTDJ	**Mount Denham**	**7.52**	**79**	Pn	**Pn**	**09 41 15.5**	**-1.0**
CDM	**Cerro de Muert**	**7.53**	**168**	*eP*	**Pn**	**09 41 17.6**	**+0.6**
PEZE	**Perez Zeledon,**	**7.71**	**168**	Pn	**Pn**	**09 41 20.0**	**+0.8**
DRK0	**Durika**	**7.93**	**165**	Pn	**Pn**	**09 41 22.4**	**+0.2**
SRBA	**San Rafael, Bu**	**7.93**	**166**	Pn	**Pn**	**09 41 23.7**	**+1.6**
RIOS	**Rincon, Osa**	**8.41**	**168**		**Pn**	**09 41 29.8**	**+1.1**
CDITO	**Canoas**	**8.68**	**164**	Pn	**Pn**	**09 41 33.6**	**+1.2**
CMIG	**Matias Romero**	**9.16**	**272**	Pn	**Pn**	**09 41 36.8**	**-2.2**
	comp=Z,3.1nm,0.3s,baz=97,slow=9.2,SNR=97						
CMIG				Sn	**Sn**	**09 43 14.2**	**-6.7**
	comp=Z,3.9nm,0.3s,baz=223,slow=23,SNR=2.2						
CMIG				LR	LR	09 45 33.1	
	comp=Z,929nm,19.4s,baz=94,slow=40						
061Z	**Ochoppi**	**9.75**	**24**	Pn	**Pn**	**09 41 45.1**	**-1.9**
GTBY	**Guantanamo Bay**	**10.11**	**72**	Pn	**Pn**	**09 41 49.0**	**-3.0**
060A	**Indiantown**	**11.01**	**24**	Pn	**Pn**	**09 42 03.7**	**-0.6**
DWPF	**Disney Wildern**	**11.64**	**17**		**Pn**	**09 42 12.7**	**-0.2**
DWPF	**Disney Wildern**	**11.64**	**17**	P	**Pn**	**09 42 11.9**	**-1.0**
	baz=198						
656A	**Willston**	**12.60**	**11**		**Pn**	**09 42 23.9**	**-2.0**
553A	**Crawfordville**	**13.18**	**3**	Pn	**Pn**	**09 42 32.9**	**-1.0**
ZARC	**Zaragoza, Cauc**	**13.89**	**131**		**Pn**	**09 42 41.5**	**-2.2**
ZARC	**Zaragoza, Cauc**	**13.89**	**131**	*eP*	**Pn**	**09 42 41.7**	**-2.0**
CBOC	**Ciudad Bolivar**	**14.31**	**139**	*eP*	**Pn**	**09 42 48.6**	**-1.0**
352A	**Blakely**	**14.44**	**1**		**Pn**	**09 42 48.9**	**-2.3**
TIGA	**Tifton**	**14.48**	**6**	P	**Pn**	**09 42 51.3**	**-0.4**
	baz=186						
250A	**Grady**	**14.96**	**357**		**Pn**	**09 42 55.4**	**-2.8**
255A	**Hazlehurst**	**15.10**	**9**		**Pn**	**09 42 59.1**	**-0.9**
152A	**Waverly Hall**	**15.63**	**2**	P	**Pn**	**09 43 05.7**	**-1.3**
KVTX	**Kingsville**	**15.68**	**314**	P	**Pn**	**09 43 07.6**	**0.0**
BARC	**Barichara**	**15.72**	**130**	*eP*	**Pn**	**09 43 02.0**	**-6.4**
146A	**Union**	**15.96**	**348**	P	**Pn**	**09 43 11.2**	**+0.1**
LRAL	**Lakeview Retre**	**16.06**	**355**		**Pn**	**09 43 10.3**	**-2.1**
LRAL	**Lakeview Retre**	**16.06**	**355**	P	**Pn**	**09 43 10.8**	**-1.6**
	baz=174						
HKT	**Hockley**	**16.11**	**325**		**Pn**	**09 43 13.4**	**+0.4**
HKT				IAmb	IAmb	09 43 17.0	
	comp=Z,67nm,0.9s						
ROSC	**El Rosal**	**16.17**	**137**	LR	LR	09 50 18.3	
	comp=Z,279nm,19.1s,baz=8.5,slow=41						
Z51A	**Franklin**	**16.27**	**0**	P	**Pn**	**09 43 16.3**	**+1.2**
Z51A				IAmb	IAmb	09 43 17.0	
	comp=Z,54nm,0.9s						
Z47A	**Carrollton**	**16.34**	**352**	P	**Pn**	**09 43 15.4**	**-0.7**
Z47A				IAmb	IAmb	09 43 29.1	
	comp=Z,26nm,0.7s						
SDV	**Santo Domingo**	**16.40**	**118**	Pn	**Pn**	**09 43 15.3**	**-1.7**
	comp=Z,5.3nm,0.3s,baz=295,slow=9.8,SNR=38						
SDV				LR	LR	09 51 19.6	
	comp=Z,153nm,18.4s,baz=290,slow=44						
SDV	**Santo Domingo**	**16.40**	**118**		**Pn**	**09 43 16.7**	**-0.4**
SDV				IAmb	IAmb	09 43 22.5	
	comp=Z,23nm,1.0s						
SDV	**Santo Domingo**	**16.40**	**118**	*eP*	**Pn**	**09 43 15.8**	**-1.2**
GOGA	**Godfrey**	**16.45**	**5**	P	**Pn**	**09 43 16.7**	**-0.7**
	baz=186						
SOCV	**Socops**	**16.53**	**120**	*eP*	**Pn**	**09 43 16.5**	**-2.0**
143A	**Socs Landing,**	**16.60**	**342**	P	**Pn**	**09 43 20.1**	**+0.9**
143A				IAmb	IAmb	09 43 33.5	
	comp=Z,28nm,0.4s						
CHIC	**Chingaza**	**16.71**	**136**	*eP*	**Pn**	**09 43 19.9**	**-1.3**
NHSC	**New Hope**	**16.71**	**15**	P	**Pn**	**09 43 21.8**	**+1.1**
NHSC	**New Hope**	**16.71**	**15**	P	**Pn**	**09 43 21.5**	**+0.8**
	baz=197						
Y49A	**Blount Mountai**	**16.84**	**357**		**Pn**	**09 43 21.4**	**-0.9**
NATX	**Nacogdoches**	**16.99**	**332**	P	**Pn**	**09 43 22.5**	**-1.7**
	baz=148						
VILC	**Villavicencio,**	**17.12**	**137**	*eP*	**P**	**09 43 30.5**	**+3.0**
833A	**Chaparral WMA,**	**17.20**	**313**	P	**Pn**	**09 43 25.3**	**-1.6**
	baz=128,SNR=100						
ZAIG	**Zacatecas**	**17.22**	**292**	P	**Pn**	**09 43 27.8**	**+0.3**
Y45A	**Yeager Farm, C**	**17.24**	**348**	P	**Pn**	**09 43 26.7**	**-0.6**
Y45A				IAmb	IAmb	09 43 50.0	
	comp=Z,27nm,0.6s						
HODGE	**Hodges**	**17.40**	**8**	P	**Pn**	**09 43 28.8**	**-0.4**
X48A	**Hartselle**	**17.47**	**355**	P	**Pn**	**09 43 30.3**	**+0.2**
FPAL	**Fort Paine**	**17.49**	**359**	P	**P**	**09 43 32.6**	**+1.3**
Y57A	**Sumter**	**17.53**	**14**	P	**Pn**	**09 43 31.4**	**+0.5**
Y57A				IAmb	IAmb	09 43 34.2	
	comp=Z,22nm,1.0s						
Y58A	**Scranton**	**17.60**	**16**	P	**Pn**	**09 43 32.5**	**+0.7**
Y58A				IAmb	IAmb	09 43 45.9	
	comp=Z,53nm,0.9s						
JSC	**Jenkinsville**	**17.61**	**11**	P	**Pn**	**09 43 32.4**	**+0.5**
JSC				IAmb	IAmb	09 43 48.5	
	comp=Z,36nm,1.5s						
435B	**Jarrell**	**17.73**	**323**	P	**P**	**09 43 35.8**	**+1.9**
	baz=138						
237A	**Washetta, Mont**	**17.73**	**329**	P	**P**	**09 43 35.0**	**+1.0**
OXF	**Oxford**	**17.

R40A					IAmb	IAmb	09 44 37.5	
	comp=Z,11nm,0.9s							
P49A	**Miami Univ. Ec**	**22.48**	**1**	P	**P**		**09 44 25.7**	**+0.2**
	baz=181,SNR=7.8							
P52A	**Corning**	**22.74**	**6**	P	**P**		**09 44 29.3**	**+0.9**
P52A	**Corning**	**22.74**	**6**	P	**P**		**09 44 29.1**	**+0.8**
	baz=188,SNR=16							
AMTX	**Amarillo**	**23.07**	**324**	P	**P**		**09 44 32.2**	**+0.3**
	baz=136							
MSTX	**Muleshoe**	**23.07**	**320**	P	**P**		**09 44 31.6**	**-0.2**
	baz=133							
MCWV	**Mont Chateau**	**23.09**	**11**	P	**P**		**09 44 32.8**	**+0.8**
MCWV					IAmb	IAmb	09 44 35.8	
	comp=Z,26nm,1.1s							
MCWV	**Mont Chateau**	**23.09**	**11**	P	**P**		**09 44 33.4**	**+1.5**
	baz=193							
O48B	**Farmland**	**23.20**	**0**	P	**P**		**09 44 33.3**	**+0.3**
	baz=180,SNR=8.1							
ACSO	**Alum Creek Sta**	**23.26**	**5**	P	**P**		**09 44 34.8**	**+1.2**
	baz=185							
SFIN	**Lafayette**	**23.37**	**357**	P	**P**		**09 44 35.5**	**+0.8**
	baz=175							
MNTX	**Cornudas Mount**	**23.38**	**312**	P	**P**		**09 44 34.3**	**-0.6**
MNTX					IAmb	IAmb	09 44 37.5	
	comp=Z,23nm,1.1s							
MNTX	**Cornudas Mount**	**23.38**	**312**	P	**P**		**09 44 34.2**	**-0.6**
	baz=124,SNR=36							
O53A	**New Philadelph**	**23.46**	**8**	P	**P**		**09 44 36.1**	**+0.5**
	baz=190							
SDMD	**Soldier's Deli**	**23.54**	**17**	P	**P**		**09 44 37.4**	**+1.1**
KSU1	**Kansas State U**	**24.15**	**338**	P	**P**		**09 44 43.4**	**+1.3**
	baz=152							
PAGS	**Pennsylvania G**	**24.34**	**16**	P	**P**		**09 44 45.2**	**+1.5**
PAGS					IAmb	IAmb	09 44 46.0	
	comp=Z,20nm,0.8s							
N54A	**Moraine State**	**24.34**	**10**	P	**P**		**09 44 44.3**	**+0.6**
	baz=192							
SSPA	**Standing Stone**	**24.43**	**14**	P	**P**		**09 44 46.3**	**+1.6**
	baz=197							
LPIG	**La Paz**	**24.44**	**291**	LR	LR		09 55 25.0	
	comp=Z,181nm,18.8s,baz=106,slow=39							
M53A	**WI Miller and**	**24.70**	**8**	P	**P**		**09 44 49.0**	**+2.0**
M53A	**WI Miller and**	**24.70**	**8**	P	**P**		**09 44 48.4**	**+1.3**
	baz=190,SNR=9.6							
M54A	**Oil Creek Stat**	**24.93**	**10**	P	**P**		**09 44 51.2**	**+2.0**
	baz=193							
N59A	**State Game Lan**	**25.24**	**17**	P	**P**		**09 44 53.3**	**+1.4**
	baz=202,SNR=6.1							
AAM	**Ann Arbor**	**25.28**	**3**	P	**P**		**09 44 55.6**	**+3.3**
	baz=183							
ERPA	**Erie**	**25.47**	**9**	P	**P**		**09 44 57.4**	**+3.5**
	baz=192							
121A	**Cookes Peak, D**	**25.54**	**311**	P	**P**		**09 44 57.3**	**+2.3**
	baz=122,SNR=15							
PAL	**Palisades**	**25.89**	**20**	P	**P**		**09 45 01.3**	**+3.5**
	baz=205							
L56A	**Greenwood**	**25.94**	**13**	P	**P**		**09 45 00.1**	**+1.8**
L56A					IAmb	IAmb	09 45 02.6	
	comp=Z,17nm,0.9s							
ANMO	**Albuquerque**	**26.02**	**317**	P	**P**		**09 44 59.8**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=137,slow=10,SNR=17							
ANMO					LR	LR	09 57 28.9	
	comp=Z,70nm,20.0s,baz=112,slow=42							
ANMO	**Albuquerque**	**26.02**	**317**	P	**P**		**09 45 00.6**	**+1.2**
	baz=128							
T25A	**Trinidad**	**26.22**	**324**	P	**P**		**09 45 02.9**	**+1.7**
	baz=135,SNR=7.6							
KSCO	**Kaye Shedlock'**	**26.66**	**329**	P	**P**		**09 45 06.5**	**+1.5**
	baz=140							
SDCO	**Great Sand Dun**	**27.27**	**323**	P	**P**		**09 45 12.4**	**+1.8**
SDCO	**Great Sand Dun**	**27.27**	**323**	P	**P**		**09 45 12.3**	**+1.6**
	baz=134							
TUC	**Tucson**	**27.64**	**308**	P	**P**		**09 45 16.2**	**+2.4**
TUC					IAmb	IAmb	09 45 20.2	
	comp=Z,9.4nm,0.8s							
TUC	**Tucson**	**27.64**	**308**	P	**P**		**09 45 16.7**	**+2.9**
	baz=117							
Q24A	**Divide**	**27.93**	**326**	P	**P**		**09 45 17.9**	**+1.2**
	baz=136							
S22A	**4UR Ranch, Cre**	**28.04**	**322**	P	**P**		**09 45 19.0**	**+1.4**
	baz=132							
SADO	**Sadowa**	**28.19**	**9**	P	**P**		**09 45 18.9**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=251,slow=4.1,SNR=5.2							
SADO					LR	LR	09 55 19.0	
	comp=Z,52nm,20.5s,baz=206,slow=34							
SADO	**Sadowa**	**28.19**	**9**	P	**P**		**09 45 18.3**	**-0.1**
SADO					IAmb	IAmb	09 45 24.7	
	comp=Z,5.7nm,0.9s							
W18A	**Petrified Fore**	**28.30**	**314**	P	**P**		**09 45 21.2**	**+1.4**
	baz=123							
ECSD	**EROS Data Cent**	**28.34**	**343**	P	**P**		**09 45 20.8**	**+1.0**
	baz=156							
MVCO	**Mesa Verde**	**28.71**	**319**	P	**P**		**09 45 26.0**	**+2.4**
	baz=128							
ISCO	**Idaho Springs**	**28.78**	**326**	P	**P**		**09 45 26.4**	**+2.2**
ISCO	**Idaho Springs**	**28.78**	**326**	P	**P**		**09 45 25.4**	**+1.2**
	baz=136,SNR=6.3							
214A	**Organ Pipe Nat**	**29.03**	**306**	P	**P**		**09 45 28.4**	**+2.2**
214A	**Organ Pipe Nat**	**29.03**	**306**	P	**P**		**09 45 28.4**	**+2.2**
	baz=114,SNR=14							
LBNH	**Lisbon**	**29.43**	**20**	P	**P**		**09 45 30.3**	**+0.8**
	baz=206							
N23A	**Red Feather La**	**29.75**	**327**	P	**P**		**09 45 34.4**	**+1.6**
	baz=137							
113A	**Mohawk Valley,**	**30.10**	**307**	P	**P**		**09 45 37.8**	**+2.2**
113A					IAmb	IAmb	09 45 38.5	
	comp=Z,9.4nm,0.8s							
O20A	**White River Ci**	**30.46**	**324**	P	**P**		**09 45 40.8**	**+1.9**
	baz=132							
GLA	**Glamis**	**31.03**	**307**	P	**P**		**09 45 46.7**	**+2.8**
	baz=114,SNR=7.2							
PDMCI	**Parker Dam,Lak**	**31.04**	**309**	P	**P**		**09 45 45.9**	**+2.0**
	baz=116,SNR=5.4							
PKME	**Peaks-Kenny Pk**	**31.23**	**22**	P	**P**		**09 45 47.4**	**+2.0**
	baz=210							
K22A	**Casper**	**31.34**	**329**	P	**P**		**09 45 48.3**	**+1.6**
K22A					IAmb	IAmb	09 45 48.9	
	comp=Z,7.4nm,0.7s							
K22A	**Casper**	**31.34**	**329**	P	**P**		**09 45 48.1**	**+1.4**
	baz=138,SNR=6.7							
VLDQ	**Val d'Or**	**31.71**	**10**	P	**P**		**09 45 50.0**	**+0.4**
VLDQ					IAmb	IAmb	09 45 51.7	
	comp=Z,4.2nm,0.8s							
YUH	**Yuha Desert**	**31.72**	**305**	P	**P**		**09 45 53.3**	**+3.4**
IRM	**Iron Mountain**	**31.73**	**308**	P	**P**		**09 45 53.0**	**+3.0**
	baz=115							
SWSC	**Sam W. Stewart**	**31.74**	**306**	P	**P**		**09 45 52.0**	**+1.9**
	baz=112							
BC3	**Big Chuckawall**	**31.75**	**307**	P	**P**		**09 45 52.4**	**+2.1**
	baz=114,SNR=12							
IKP	**In-Ko-Pah, Jac**	**31.87**	**305**	P	**P**		**09 45 53.6**	**+2.3**
	baz=112							
MONP2	**Monument Peak**	**32.20**	**305**	P	**P**		**09 45 56.9**	**+2.5**
	baz=112							
BELC	**Belle Mtn. Jos**	**32.31**	**307**	P	**P**		**09 45 57.0**	**+1.8**
	baz=114,SNR=18							
GMRC	**Granite Mounta**	**32.38**	**309**	P	**P**		**09 45 57.7**	**+1.9**
	baz=115							
PFO	**Pinyon Flats O**	**32.51**	**307**	LR	LR		10 01 31.1	
	comp=Z,186nm,19.0s,baz=148,slow=41							
PFO	**Pinyon Flats O**	**32.51**	**307**	P	**P**		**09 45 59.2**	**+2.3**
PFO	**Pinyon Flats O**	**32.51**	**307**	P	**P**		**09 45 59.0**	**+2.1**
	baz=113,SNR=18							
TUQ	**Turquoise Moun**	**32.86**	**310**	P	**P**		**09 46 01.8**	**+1.8**
	baz=116,SNR=8.2							
HEC	**Hector,Ludlow**	**32.90**	**309**	P	**P**		**09 46 02.6**	**+2.3**
	baz=115,SNR=16							
PSUT	**Pine Spring**	**32.93**	**316**	P	**P**		**09 46 02.4**	**+1.7**
PSUT					IAmb	IAmb	09 46 03.3	
	comp=Z,8.6nm,1.1s							
BW06	**Boulder Array**	**32.98**	**326**	P	**P**		**09 46 01.5**	**+0.4**
BW06					IAmb	IAmb	09 46 02.7	
	comp=Z,5.2nm,0.9s							
BW06	**Boulder Array**	**32.98**	**326**	P	**P**		**09 46 01.5**	**+0.4**
	baz=134,SNR=8.0							
PD31	**Pinedale Array**	**32.98**	**326**	P	**P**		**09 46 01.7**	**+0.6**
PD31					IAmb	IAmb	09 46 02.7	
	comp=Z,5.1nm,1.0s							
PDAR	**Pinedale Array**	**32.98**	**326**	P	**P**		**09 46 01.5**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=128,slow=11,SNR=33							
PDAR					LR	LR	10 01 40.1	
	comp=Z,75nm,21.1s,baz=131,slow=40							
PDAR	**Pinedale Array**	**32.98**	**326**	P	**P**		**09 46 01.9**	**+0.8**
MURC	**Murrieta**	**33.07**	**306**	P	**P**		**09 46 04.0**	**+2.2**
	baz=112,SNR=7.3							
DUG	**Dugway, Tooele**	**33.20**	**320**	P	**P**		**09 46 04.5**	**+1.5**
	baz=126							
HWUT	**Hardware Ranch**	**33.33**	**323**	P	**P**		**09 46 05.3**	**+1.3**
HWUT					IAmb	IAmb	09 46 06.9	
	comp=Z,4.7nm,0.8s							
GSC	**Goldstone, Bar**	**33.45**	**309**	P	**P**		**09 46 06.9**	**+1.8**
	baz=115							
TPNV	**Topopah Spring**	**33.78**	**312**	P	**P**		**09 46 10.2**	**+2.2**
	baz=118,SNR=5.4							
R11A	**Troy Canyon, C**	**33.99**	**315**	P	**P**		**09 46 10.8**	**+0.8**
	baz=120							
FURC	**Furnace Creek,**	**34.00**	**311**	P	**P**		**09 46 11.7**	**+2.0**
	baz=116,SNR=5.8							
REDW	**Red Top Meadow**	**34.08**	**326**	P	**P**		**09 46 11.9**	**+1.2**
MDP	**Montagnes des**	**34.10**	**106**	LR	LR		10 02 48.9	
	comp=Z,116nm,18.7s,baz=286,slow=41							
LOHW	**Long Hollow**	**34.12**	**326**	P	**P**		**09 46 12.2**	**+1.2**
LOHW					IAmb	IAmb	09 46 13.2	
	comp=Z,6.1nm,0.8s							
EDW2	**Edwards Air Fo**	**34.17**	**308**	P	**P**		**09 46 12.9**	**+1.6**
	baz=113,SNR=9.2							
LRMC	**Laurel Mtn Rad**	**34.18**	**309**	P	**P**		**09 46 13.5**	**+2.0**
	baz=114,SNR=6.4							
ULM	**Lac du Bonnet**	**34.27**	**348**	P	**P**		**09 46 11.1**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=158,slow=9.5,SNR=3.0							
MPMC	**Manual Prospec**	**34.27**	**310**	P	**P**		**09 46 14.0**	**+1.6**
	baz=115,SNR=12							
MOOW	**Moose Ponds**	**34.29**	**326**	P	**P**		**09 46 13.7**	**+1.2**
MOOW					IAmb	IAmb	09 46 14.6	
	comp=Z,16nm,1.4s							
CCAC	**Calif City Air**	**34.29**	**308**	P	**P**		**09 46 15.1**	**+2.7**
LAO	**LASA Array**	**34.33**	**334**	P	**P**		**09 46 13.2**	**+0.6**
	baz=143							
RLMT	**Red Lodge**	**34.51**	**330**	P	**P**		**09 46 14.6**	**+0.3**
	baz=136,SNR=15							
OSI	**Osito Audit: C**	**34.62**	**307**	P	**P**		**09 46 17.4**	**+2.1**
	baz=112							
H17A	**Grant Village**	**34.64**	**327**	P	**P**		**09 46 17.7**	**+2.2**
	baz=134							
ISA	**Isabella, Lake**	**34.84**	**309**	P	**P**		**09 46 18.9**	**+1.8**
ISA	**Isabella, Lake**	**34.84**	**309**	P	**P**		**09 46 19.2**	**+2.1**
	baz=114,SNR=8.0							
CWC	**Cottonwood Cre**	**34.87**	**310**	P	**P**		**09 46 19.1**	**+1.6**
	baz=115							
ARVC	**Arvin**	**34.90**	**308**	P	**P**		**09 46 19.6**	**+2.0**
	baz=112,SNR=14							
DGMT	**Dagmar**	**35.00**	**338**	P	**P**		**09 46 18.4**	**+0.1**
	baz=147							
YHH	**Holmes Hill**	**35.06**	**328**	P	**P**		**09 46 20.9**	**+1.8**
YHH					IAmb	IAmb	09 46 24.1	
	comp=Z,5.1nm,1.0s							
YHL	**Hebgen Lake**	**35.27**	**327**	P	**P**		**09 46 22.3**	**+1.3**
YHL					IAmb	IAmb	09 46 23.8	
	comp=Z,5.3nm,0.9s							
VES	**Vestal, Richgr**	**35.37**	**309**	P	**P**		**09 46 23.7**	**+2.1**
	baz=113							
SMMC	**Simmler**	**35.85**	**307**	P	**P**		**09 46 28.5**	**+2.6**
	baz=112							
NVAR	**Mina Array Bea**	**35.90**	**313**	P	**P**		**09 46 27.4**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=117,slow=8.6,SNR=24							
NVAR					LR	LR	10 05 47.0	
	comp=Z,133nm,18.7s,baz=168,slow=44							
NVAR	**Mina Array Bea**	**35.90**	**313**	P	**P**		**09 46 28.0**	**+1.6**
BOZ	**Bozeman (W)**	**36.02**	**328**	P	**P**		**09 46 28.6**	**+1.3**
BOZ					IAmb	IAmb	09 46 29.7	
	comp=Z,11nm,0.9s							
BOZ	**Bozeman (W)**	**36.02**	**328**	P	**P**		**09 46 28.4**	**+1.2**
	baz=134,SNR=16							
MCMT	**McKenzie Canyo**	**36.13**	**326**	P	**P**		**09 46 30.6**	**+2.3**
HLID	**Hailey**	**36.19**	**323**	P	**P**		**09 46 30.0**	**+1.2**
	baz=128							
PAGB	**Antelope Grade**	**36.20**	**308**	P	**P**		**09 46 30.8**	**+2.1**
LRM	**Limekiln Ridge**	**36.59**	**328**	P	**P**		**09 46 33.5**	**+1.2**
EGMT	**Eagleton**	**36.88**	**332**	P	**P**		**09 46 36.0**	**+1.6**
EGMT	**Eagleton**	**36.88**	**332**	P	**P**		**09 46 36.0**	**+1.6**
	baz=139,SNR=10.0							
LPAZ	**La Paz**	**37.14**	**152**	LR	LR		10 02 14.1	
	comp=Z,93nm,18.7s,baz=309,slow=37							
BEKR	**Beckworth**	**37.98**	**314**	P	**P**		**09 46 45.7**	**+1.7**
BEKR					IAmb	IAmb	09 46 46.5	
	comp=Z,9.3nm,1.1s							
MSO	**Missoula**	**38.03**	**328**	P	**P**		**09 46 45.0**	**+0.7**
	baz=132,SNR=8.0							
MOD	**Modoc Plateau**	**38.89**	**317**	P	**P**		**09 46 51.9**	**+0.3**
MOD					IAmb	IAmb	09 46 53.1	
	comp=Z,9.4nm,1.1s							
WALA	**Waterton Lakes**	**39.54**	**330**	P	**P**		**09 46 58.8**	**+2.0**
M04C	**Macdoel**	**39.85**	**316**	P	**P**		**09 47 00.5**	**+0.9**
	baz=117							
PINE	**Pine Mountain**	**40.24**	**319**	P	**P**		**09 47 03.5**	**+0.6**
PINE					IAmb	IAmb	09 47 04.2	
	comp=Z,10.0nm,0.8s							
SCHQ	**Schefferville**	**40.38**	**16**	P	**P**		**09 47 02.6**	**-1.0**
	comp=Z,6.3nm,1.1s,baz=246,slow=12,SNR=4.4							
SCHQ					LR	LR	10 03 07.6	
	comp=Z,137nm,21.0s,baz=202,slow=35							
SCHQ	**Schefferville**	**40.38**	**16**	P	**P**		**09 47 03.0**	**-0.6**
SCHQ					IAmb	IAmb	09 47 04.5	
	comp=Z,8.0nm,1.1s							
YBH	**Yreka Blue Hor**	**40.41**	**315**	LR	LR		10 06 39.7	
	comp=Z,82nm,20.0s,baz=116,slow=40							
YBH	**Yreka Blue Hor**	**40.41**	**315**	P	**P**		**09 47 04.0**	**-0.2**
YBH					IAmb	IAmb	09 47 10.0	
	comp=Z,12nm,1.5s							
SIV	**San Ignacio**	**40.55**	**143**	P	**P**		**09 47 03.6**	**-1.9**
	comp=Z,1.1nm,0.2s,baz=320,slow=8.4,SNR=6.1							
SIV					LR	LR	10 06 11.5	
	comp=Z,122nm,19.3s,baz=314,slow=40							
NEW	**Newport**	**40.60**	**327**	LR	LR		10 06 23.9	
	comp=Z,58nm,21.4s,baz=118,slow=40							
NEW	**Newport**	**40.60**	**327**	P	**P**		**09 47 06.4**	**+0.7**
NEW	**Newport**	**40.60**	**327**	P	**P**		**09 47 06.1**	**+0.5**
	baz=129							
J04D	**Umpqua Nationa**	**40.71**	**318**	P	**P**		**09 47 07.2**	**+0.4**
	baz=118							
HUMO	**Hull Mountain**	**40.96**	**317**	P	**P**		**09 47 08.1**	**-0.5**
H04A	**Detroit Lake**	**41.46**	**320**	P	**P**		**09 47 13.8**	**+1.0**
I03D	**Drain, OR**	**41.72**	**318**	P	**P**		**09 47 15.7**	**+0.9**
	baz=118							
FCC	**Fort Churchill**	**42.22**	**353**	P	**P**		**09 47 17.9**	**-0.7**
FCC					IAmb	IAmb	09 47 20.0	
	comp=Z,4.3nm,0.8s							
I02E	**Swisshome, OR**	**42.23**	**318**	P	**P**		**09 47 20.0**	**+1.0**
LVC	**Limon Verde**	**42.49**	**157**	LR	LR		10 04 16.4	
	comp=Z,107nm,22.0s,baz=319,slow=35							
D03D	**Eldon**	**43.45**	**323**	P	**P**		**09 47 29.0**	**+0.2**
	baz=121							
LLLB	**Lillooet**	**44.49**	**327**	P	**P**		**09 47 38.3**	**+1.1**
LLLB					IAmb	IAmb	09 47 39.1	
	comp=Z,13nm,1.0s							
FRB	**Frobisher Bay**	**48.13**	**10**	LR	LR		10 09 22.2	
	comp=Z,224nm,18.3s,baz=204,slow=37							
RPN	**Rapa Nui**	**49.66**	**208**	LR	LR		10 04 35.3	
	comp=Z,62nm,19.0s,baz=110,slow=30							
YKA	**Yellowknife Ar**	**49.87**	**343**	P	**P**		**09 48 18.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=139,slow=7.7,SNR=29							
CPUP	**Villa Florida**	**50.92**	**147**	LR	LR		10 13 42.1	
	comp=Z,19nm,18.9s,baz=323,slow=40							
DLBC	**Dease Lake**	**52.81**	**332**	P	**P**		**09 48 43.0**	**+1.9**
RCBR	**Riachuelo**	**53.83**	**111**	LR	LR		10 12 59.1	
	comp=Z,153nm,20.1s,baz=84,slow=38							
SFJD	**Kangerlussuaq**	**54.82**	**16**	LR	LR		10 11 40.7	
	comp=Z,87nm,20.2s,baz=217,slow=35							
RES	**Resolute Bay**	**57.96**	**357**	LR	LR		10 17 16.4	
	comp=Z,55nm,18.8s,baz=98,slow=39							
INK	**Inuvik**	**59.57**	**341**	LR	LR		10 19 13.7	
	comp=Z,59nm,18.0s,baz=91,slow=40							
A36M	**Sachs Harbour**	**59.73**	**347**	P	**P**		**09 49 30.9**	**+0.9**
A36M					IAmb	IAmb	09 49 47.8	
	comp=Z,6.6nm,0.8s							
A36M	**Sachs Harbour**	**59.73**	**347**	P	**P**		**09 49 30.5**	**+0.5**
	baz=134							
BCAR	**Beaver Creek A**	**60.06**	**334**	P	**P**		**09 49 34.3**	**+1.7**
KLU	**Klutina**	**61.32**	**332**	P	**P**		**09 49 41.6**	**+0.4**
	baz=108							
RIDG	**Independent Ri**	**61.59**	**334**	P	**P**		**09 49 44.3**	**+1.3**
	baz=110							
PAX	**Paxson**	**61.60**	**333**	P	**P**		**09 49 44.1**	**+1.0**
PAX	**Paxson**	**61.60**	**333**	P	**P**		**09 49 43.9**	**+0.8**
	baz=109,SNR=5.2							
J25K	**Salcha River,**	**62.11**	**335**	P	**P**		**09 49 48.0**	**+1.5**
J25K					IAmb	IAmb	09 50 10.2	
	comp=Z,5.1nm,1.0s							
J25K	**Salcha River,**	**62.11**	**335**	P	**P**		**09 49 47.3**	**+0.8**
	baz=110							
WAT6	**Susitna Watana**	**62.47**	**332**	P	**P**		**09 49 50.0**	**+1.0**
	baz=107							
IL31		**62.78**	**335**	P	**P**		**09 49 51.7**	**+0.9**
ILAR	**Eielson Array**	**62.78**	**335**	P	**P**		**09 49 51.3**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=120,slow=4.9,SNR=45							
ILAR	**Eielson Array**	**62.78**	**335**	P	**P**		**09 49 51.8**	**+0.9**
PMR	**Palmer**	**62.82**	**331**	P	**P**		**09 49 51.5**	**+0.3**
PMR					IAmb	IAmb	09 50 03.1	
	comp=Z,5.4nm,1.4s							
PMR	**Palmer**	**62.82**	**331**	P	**P**		**09 49 51.6**	**+0.5**
	baz=105							
BMAR	**Burnt Mountain**	**62.84**	**338**	P	**P**		**09 49 52.6**	**+1.3**
RC01	**Rabbit Creek A**	**62.98**	**331**	P	**P**		**09 49 53.2**	**+0.9**
	baz=104							
MCK	**McKinley**	**63.32**	**334**	P	**P**		**09 49 55.5**	**+1.0**
	baz=106							
H24K	**Noodor Dome**	**63.52**	**336**	P	**P**		**09 49 56.7**	**+0.9**
	baz=108							
NEA2	**Nenana**	**63.62**	**334**	P	**P**		**09 49 56.7**	**+0.3**
	baz=106							
BWN	**Browne**	**63.67**	**334**	P	**P**		**09 49 57.8**	**+1.1**
KDAK	**Kodiak Island**	**63.70**	**327**	LR	LR		10 19 27.8	
	comp=Z,36nm,18.1s,baz=125,slow=38							
TRF	**Thorofare Moun**	**63.83**	**333**	P	**P**		**09 49 59.3**	**+1.3**
TRF	**Thorofare Moun**	**63.83**	**333**	P	**P**		**09 49 58.8**	**+0.8**
	baz=105,SNR=6.6							
I23K	**Minto, Yukon-K**	**63.90**	**335**	P	**P**		**09 49 59.2**	**+1.0**
	baz=106,SNR=8.4							
BPAW	**Bear Paw Mtn.**	**64.29**	**334**	P	**P**		**09 50 01.5**	**+0.7**
	baz=104,SNR=9.2							
MLY	**Manley**	**64.43**	**335**	P	**P**		**09 50 02.6**	**+0.8**
	baz=105,SNR=6.7							
PPLA	**Purkeypile**	**64.53**	**332**	P	**P**		**09 50 02.9**	**+0.3**
	baz=103							
CAST	**Castle Rocks**	**64.60**	**333**	P	**P**		**09 50 03.0**	**+0.1**
	baz=103							
M20K	**Styx River**	**64.74**	**331**	P	**P**		**09 50 04.1**	**+0.2**
	baz=101							
CHUM	**Lake Minchumin**	**64.81**	**333**	P	**P**		**09 50 05.4**	**+1.2**
	baz=103							
I21K	**Tanana**	**64.97**	**335**	P	**P**		**09 50 06.0**	**+0.7**
	baz=104,SNR=5.2							
TOLK	**Toolik Lake Re**	**65.02**	**339**	P	**P**		**09 50 07.1**	**+1.5**
TOLK					IAmb	IAmb	09 50 29.3	
	comp=Z,3.9nm,1.1s							
TOLK	**Toolik Lake Re**	**65.02**	**339**	P	**P**		**09 50 06.7**	**+1.1**
	baz=108							
N19K	**Bonanza Creek**	**65.19**	**330**	P	**P**		**09 50 07.0**	**+0.2**
	baz=100							
L20K	**Farewell, AK**	**65.20**	**332**	P	**P**		**09 50 07.0**	**+0.2**
	baz=101,SNR=6.1							
M19K	**Big River Lodg**	**65.33**	**331**	P	**P**		**09 50 08.1**	**+0.5**
	baz=100							
H21K	**Melozitna Rive**	**65.42**	**335**	P	**P**		**09 50 08.6**	**+0.4**
	baz=103							
K20K	**Telida**	**65.46**	**332**	P	**P**		**09 50 08.8**	**+0.3**
	baz=101,SNR=5.8							
J20K	**Nowinta River**	**65.66**	**333**	P	**P**		**09 50 10.1**	**+0.4**
	baz=102							
IMAR	**Indian Mountai**	**65.88**	**335**	P	**P**		**09 50 11.6**	**+0.5**
TTA	**Tatalina**	**66.25**	**332**	P	**P**		**09 50 13.6**	**-0.1**
	baz=99							
ESDC	**Sonseca Array**	**72.80**	**53**	P	**P**		**09 50 54.4**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=288,slow=6.9,SNR=8.5							
ESDC					LR	LR	10 16 21.3	
	comp=Z,102nm,21.0s,baz=322,slow=30							
ESDC	**Sonseca Array**	**72.80**	**53**	P	**P**		**09 50 55.1**	**+0.5**
MDT	**Midelt**	**73.34**	**60**	LR	LR		10 16 51.5	
	comp=Z,101nm,19.1s,baz=305,slow=31							
SPITS	**Spitsbergen Ar**	**75.88**	**12**	LR	LR		10 24 19.2	
	comp=Z,99nm,19.0s,baz=35,slow=36							
NOA	**NORSAR Array B**	**78.43**	**30**	LR	LR		10 23 45.8	
	comp=Z,35nm,19.5s,baz=295,slow=34							
NC405	**NORSAR Array S**	**78.65**	**29**	P	**P**		**09 51 28.0**	**+0.5**
DBIC	**Dimbokro**	**78.98**	**86**	LR	LR		10 21 14.8	
	comp=Z,37nm,22.0s,baz=300,slow=32							
SENIN	**Lac Senin/Sane**	**79.68**	**45**	P	**P**		**09 51 32.7**	**-0.9**
SENIN					IAmb	IAmb	09 51 59.8	
	comp=Z,7.3nm,1.1s							
HFS	**Hagfors**	**79.85**	**30**	LR	LR		10 26 27.1	
	comp=Z,38nm,18.7s,baz=343,slow=35							
ARCES	**ARCESS Array B**	**81.25**	**19**	LR	LR		10 26 13.2	
	comp=Z,56nm,18.0s,baz=263,slow=35							
ARCES	**ARCESS Array B**	**81.25**	**19**	P	**P**		**09 51 40.4**	**-1.0**
GERES	**GERESS Array B**	**83.17**	**41**	P	**P**		**09 51 50.7**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=355,slow=5.9,SNR=3.8							
GERES	**GERESS Array B**	**83.17

	comp=Z,509nm,21.2s,baz=22,slow=31							
VNDA	**Vanda**	**13.67**	**193**		**Pn**	**10 34 35.1**	**-0.6**
RPZ	**Rata Peaks**	**21.06**	**351**	LR	LR	10 43 43.1	
	comp=Z,314nm,18.0s,baz=173,slow=35						
QSPA	**South Pole Qui**	**25.51**	**180**	P	**P**	**10 36 51.4**	**+0.9**
	5.0nm,0.9s,baz=17,slow=3.5,SNR=12						
QSPA				LR	LR	10 45 15.0	
	comp=Z,250nm,18.5s,baz=39,slow=33						
QSPA	**South Pole Qui**	**25.51**	**180**	P	**P**	**10 36 51.8**	**+1.2**
QSPA				IAmb	IAmb	10 36 58.0	
	comp=Z,9.5nm,1.1s						
URZ	**Urewera**	**26.38**	**3**	LR	LR	10 45 01.4	
	comp=Z,266nm,21.9s,baz=210,slow=31						
LHI	**Lord Howe Isla**	**34.64**	**335**	P	**P**	**10 38 11.4**	**0.0**
STKA	**Stephens Creek**	**38.85**	**311**	LR	LR	10 51 53.4	
	comp=Z,67nm,19.6s,baz=207,slow=32						
MAW	**Mawson**	**39.69**	**214**	LR	LR	10 54 31.9	
	comp=Z,81nm,19.1s,baz=188,slow=35						
OUENC	**Ouen Island, N**	**42.54**	**348**	P	**P**	**10 39 17.9**	**+0.2**
OUENC				IAmb	IAmb	10 39 28.5	
	comp=Z,40nm,1.2s						
DZM	**Mont Dzumac**	**42.92**	**348**	*e*LR	LR	10 50 41.4	
	comp=Z,353nm,26.6s						
DZM	**Mont Dzumac**	**42.92**	**348**	LR	LR	10 54 50.7	
	comp=Z,56nm,18.2s,baz=210,slow=33						
PMSA	**Palmer Station**	**43.83**	**148**	LR	LR	10 54 18.1	
	comp=Z,206nm,18.9s,baz=310,slow=31						
SNAA	**Sanae**	**44.01**	**181**	LR	LR	10 56 06.6	
	comp=Z,262nm,18.6s,baz=188,slow=34						
FORT	**Forrest**	**44.73**	**296**	P	**P**	**10 39 33.5**	**-1.9**
FORT				IAmb	IAmb	10 39 48.6	
	comp=Z,15nm,1.1s						
RAR	**Rarotonga**	**46.34**	**33**	LR	LR	10 53 37.8	
	comp=Z,82nm,20.7s,baz=238,slow=29						
NIUE	**Niue**	**46.52**	**19**	P	**P**	**10 39 48.1**	**-1.5**
H01W1	**Cape Leeuwin H**	**46.87**	**279**	T	T	11 30 47.5	
	baz=148,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**46.87**	**279**	T	T	11 30 48.3	
	baz=148,slow=76,SNR=5.0						
H01W3	**Cape Leeuwin H**	**46.88**	**279**	T	T	11 30 49.4	
	baz=148,slow=76,SNR=5.0						
TBI	**Tubuai**	**47.13**	**46**	*e*LR	LR	10 52 44.0	
	comp=Z,125nm,28.2s						
TBI	**Tubuai**	**47.13**	**46**	*e*T	T	11 29 53.2	
	comp=Z,17nm,0.3s						
CTA	**Charters Tower**	**48.56**	**322**	LR	LR	10 57 39.0	
	comp=Z,82nm,18.2s,baz=180,slow=32						
ASAR	**Alice Springs**	**49.01**	**306**	P	**P**	**10 40 09.3**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=152,slow=7.8,SNR=18						
ASAR				LR	LR	10 59 22.8	
	comp=Z,36nm,18.4s,baz=152,slow=34						
ASAR	**Alice Springs**	**49.01**	**306**	P	**P**	**10 40 09.5**	**+0.4**
AS31	**Alice Springs**	**49.01**	**306**	P	**P**	**10 40 09.7**	**+0.7**
SANVU	**Saraoutou**	**49.41**	**349**	P	**P**	**10 40 12.7**	**+0.7**
AFI	**Afiamalu**	**51.37**	**16**	LR	LR	10 57 38.8	
	comp=Z,40nm,20.8s,baz=201,slow=31						
WR0	**Warramunga Arr**	**52.22**	**309**	P	**P**	**10 40 33.5**	**+0.2**
WR0				IAmb	IAmb	10 40 41.5	
	comp=Z,6.7nm,1.2s						
WB2	**Warramunga Arr**	**52.30**	**308**	P	**P**	**10 40 34.0**	**+0.2**
WB2				IAmb	IAmb	10 40 35.8	
	comp=Z,6.2nm,1.2s						
WRA	**Warramunga Arr**	**52.31**	**308**	P	**P**	**10 40 33.2**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=159,slow=6.6,SNR=11						
WRA				LR	LR	10 59 52.0	
	comp=Z,184nm,21.5s,baz=149,slow=33						
WRA	**Warramunga Arr**	**52.31**	**308**	P	**P**	**10 40 33.9**	**0.0**
WRAB	**Tennant Creek**	**52.31**	**308**	P	**P**	**10 40 34.1**	**+0.2**
RKT	**Rikitea**	**52.39**	**62**	*e*T	T	11 36 26.2	
	comp=Z,3.7nm,0.2s						
WB0	**Warramunga Arr**	**52.45**	**309**	P	**P**	**10 40 34.7**	**-0.2**
WB0				IAmb	IAmb	10 41 00.3	
	comp=Z,8.8nm,1.4s						
PPT2	**Papeete2**	**52.51**	**43**	*e*LR	LR	10 55 12.4	
	comp=Z,125nm,28.0s						
PPT	**Papeete**	**52.53**	**43**	LR	LR	10 59 14.8	
	comp=Z,36nm,18.8s,baz=114,slow=32						
VAH	**Vaihoa**	**55.32**	**45**	*e*T	T	11 40 07.1	
	comp=Z,110nm,0.2s						
FITZ	**Fitzroy Crossi**	**57.11**	**300**	LR	LR	11 03 25.4	
	comp=Z,58nm,19.1s,baz=156,slow=34						
PMG	**Port Moresby**	**58.59**	**327**	LR	LR	11 04 21.3	
	comp=Z,85nm,18.2s,baz=134,slow=34						
PLCA	**Paso Flores**	**63.04**	**129**	LR	LR	11 05 32.6	
	comp=Z,64nm,18.2s,baz=206,slow=32						
TAOE	**Nuku Hiva Isla**	**63.70**	**50**	*e*LR	LR	11 00 25.9	
	comp=Z,64nm,26.9s						
BATI	**Baumata**	**65.09**	**301**	LR	LR	11 07 17.4	
	comp=Z,95nm,20.2s,baz=264,slow=33						
SIJI	**Sorong**	**71.17**	**313**	LR	LR	11 14 00.5	
	comp=Z,52nm,19.5s,baz=160,slow=36						
KAPI	**Kappang**	**71.33**	**300**	LR	LR	11 11 13.1	
	comp=Z,56nm,19.5s,baz=171,slow=34						
LEM	**Lembang**	**74.47**	**287**	LR	LR	11 12 47.4	
	comp=Z,66nm,18.4s,baz=178,slow=33						
LVC	**Limon Verde**	**80.06**	**122**	LR	LR	11 10 54.1	
	comp=Z,49nm,20.5s,baz=208,slow=30						
DAV	**Davao City (W)**	**80.48**	**310**	LR	LR	11 17 58.8	
	comp=Z,31nm,19.1s,baz=164,slow=35						
SUR	**Sutherland**	**81.34**	**201**	LR	LR	11 17 57.1	
	comp=Z,110nm,18.8s,baz=172,slow=34						
BOSA	**Boshof**	**84.25**	**206**	LR	LR	11 18 48.9	
	comp=Z,70nm,19.6s,baz=190,slow=34						
LPAZ	**La Paz**	**86.13**	**120**	LR	LR	11 14 50.4	
	comp=Z,40nm,18.8s,baz=212,slow=30						
PSI	**Prapat**	**86.78**	**283**	LR	LR	11 19 05.9	
	comp=Z,101nm,18.2s,baz=197,slow=33						
LBTB	**Lobatse**	**87.68**	**207**	LR	LR	11 21 35.9	
	comp=Z,83nm,18.1s,baz=182,slow=34						
MATP	**Matopo**	**91.53**	**211**	LR	LR	11 23 08.0	
	comp=Z,84nm,18.4s,baz=158,slow=34						
TSUM	**Tsumeb**	**94.77**	**201**	LR	LR	11 24 22.5	
	comp=Z,92nm,21.0s,baz=150,slow=34						
JOW	**Kunigami**	**98.23**	**318**	LR	LR	11 25 01.4	
	comp=Z,26nm,21.8s,baz=341,slow=33						
ILAR	**Eielson Array**	**131.95**	**21**	PKP	**PKPdf**	**10 50 33.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=204,slow=2.0,SNR=5.6						
ILAR	**Eielson Array**	**131.95**	**21**		**PKPdf**	**10 50 35.8**	**+1.7**
BRTR	**Keskin Array B**	**146.73**	**240**	PKPbc	**PKPdf**	**10 51 03.1**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=126,slow=6.3,SNR=6.0						

MAN 27 10:41:23.1,10°23N×123°37E,h33km,mb3.8,ML2.6, MS2.1,3C,Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNOP	**Candoni, Negro**	**0.82**	**241**↑	*e*P	Pn	10 41 38.0	-0.4
GUIM	**Jordan**	**0.86**	**297**↑	*e*P	Pb	10 41 39.6	0.0
MSLP	**Maasin**	**1.47**	**94**↑	*e*P	Pb	10 41 51.0	+1.2

*TIR **27** 10:57:16.9,41°.34N×19°.99E,h20km±1km,Md2.8,Ml2.4*
*BEO **27** 10:57:17.1±0.7,41°.20N×19°.93E,h7km±2km,ML2.2/10*
*PDG **27** 10:57:17.5±0.4,41°.33N×19°.98E,h11km,ML2.5/11,Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
*SKO **27** 10:57:17.0,41°.15N×19°.85E,h0km*

ISC 27 10:57:16.4±1.2,41°26N±0°.04×19°97E±0°.03,h13km±9km, n54,σ1$04/84,10C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.12**	**320**	*e*Pg	**Pb**	**10 57 20.1**	**-0.4**
TIR				*e*Sg	**Sb**	**10 57 23.2**	**-0.1**
TIR	**Tirane**	**0.12**	**320**↑	*i*Pg	**Pb**	**10 57 20.1**	**-0.4**
TIR	**Tirane**	**0.12**	**320**	P	**Pb**	**10 57 20.1**	**-0.4**
	baz=278						
TIR				S	**Sb**	**10 57 22.7**	**-0.6**
	baz=278						
TIR				AMP			
	comp=E,5.2nm,0.3s,baz=278						
PHP	**Peshkopia**	**0.56**	**39**	P	**Pg**	**10 57 26.4**	**-0.9**
	baz=43						
PHP				S	**Sg**	**10 57 34.6**	**-0.2**
	baz=43						
PHP				AMP			
	comp=N,0.8nm,0.3s,baz=43						
OHR	**Ohrid**	**0.64**	**103**	*e*Pg	**Pb**	**10 57 29.5**	**0.0**
OHR				*e*Sg	**Sn**	**10 57 39.4**	**-1.9**
OHR	**Ohrid**	**0.64**	**103**	*i*Pg	**Pn**	**10 57 30.0**	**-1.2**
OHR				*i*Sg	**Sn**	**10 57 39.7**	**-1.6**
KBN	**Korca**	**0.88**	**135**	P	**Pn**	**10 57 35.0**	**+0.5**
	baz=139						
KBN				S	**Sn**	**10 57 48.6**	**+1.3**
	baz=139						
KBN				AMP			
	comp=N,0.5nm,0.7s,baz=139						

ULC	**Ulcinj**	**0.89**	**323**↑	*i*Pg	**Pg**	**10 57 32.6**	**-1.1**
ULC				*i*Sg	**Sb**	**10 57 46.3**	**+0.7**
DRME	**Dracevica, Mon**	**1.10**	**328**	*e*Pn	**Pb**	**10 57 36.5**	**-0.7**
DRME	**Dracevica, Mon**	**1.10**	**328**↑	*i*Pg	**Pb**	**10 57 36.6**	**-0.7**
DRME				*i*Sg	**Sn**	**10 57 53.4**	**+0.9**
BCI	**Bajram Curri**	**1.11**	**4**	P	**Pb**	**10 57 37.1**	**-0.4**
	baz=3.0						
BCI				S	**Sn**	**10 57 52.3**	**-0.6**
	baz=3.0						
FNA	**Florina**	**1.16**	**113**	P	**Pg**	**10 57 39.2**	**+0.4**
	baz=117						
FNA				S	**Sn**	**10 57 56.8**	**+2.6**
	baz=117						
PDG	**Podgorica**	**1.29**	**336**	*e*Pg	**Pg**	**10 57 41.1**	**-0.1**
PDG				*e*Sg	**Sg**	**10 58 00.0**	**+2.0**
PDG	**Podgorica**	**1.29**	**336**	*e*Pn	**Pb**	**10 57 40.5**	**0.0**
PDG	**Podgorica**	**1.29**	**336**	*i*Pg	**Pg**	**10 57 41.1**	**-0.1**
PDG				*i*Sg	**Sg**	**10 58 00.1**	**+2.0**
TTG	**Podgorica**	**1.29**	**336**↑	*i*Pg	**Pn**	**10 57 39.9**	**-0.2**
TTG				*i*Sg	**Sg**	**10 57 59.6**	**+1.6**
BUM	**Brajici-Budva**	**1.32**	**323**↑	*i*Pg	**Pb**	**10 57 41.0**	**0.0**
BUM				*i*Sg	**Sg**	**10 58 00.5**	**+1.6**
PVY	**Plav**	**1.34**	**360**↓	*i*Pg	**Pb**	**10 57 40.9**	**-0.5**
PVY				*i*Sg	**Sg**	**10 58 00.9**	**+1.3**
CEME	**Cevo**	**1.51**	**329**↓	*i*Pg	**Pb**	**10 57 44.1**	**-0.2**
CEME				*e*Sg	**Sg**	**10 58 05.8**	**+0.7**
IVA	**Berane**	**1.62**	**358**↓	*i*Pg	**Pb**	**10 57 45.9**	**-0.2**
IVA				*i*Sg	**Sg**	**10 58 08.7**	**+0.2**
HCY	**Herceg Novi**	**1.62**	**318**	*e*Pn	**Pn**	**10 57 44.6**	**-0.1**
HCY	**Herceg Novi**	**1.62**	**318**↑	*i*Pg	**Pb**	**10 57 46.1**	**-0.1**
HCY				*i*Sg	**Sg**	**10 58 09.2**	**+0.6**
KOME	**Kolasin**	**1.63**	**348**↑	*i*Pg	**Pb**	**10 57 46.0**	**-0.3**
KOME				*i*Sg	**Sg**	**10 58 08.9**	**0.0**
TREB	**Trebinje**	**1.90**	**321**	*e*Pn	**Pn**	**10 57 48.5**	**+0.1**
BRY	**Bratogost**	**1.96**	**328**	*e*Pn	**Pb**	**10 57 51.0**	**-1.0**
BRY	**Bratogost**	**1.96**	**328**↑	*i*Pn	**Pb**	**10 57 50.9**	**-1.0**
BRY				*i*Sn	**Sb**	**10 58 16.6**	**+0.2**
SJES	**Sjenica**	**2.00**	**0**	*e*Pn	**Pb**	**10 57 51.8**	**-1.0**
SJES				*e*Sn	**Sb**	**10 58 18.2**	**+0.5**
PRVS	**Prvonek**	**2.01**	**51**	*e*Pn	**Pb**	**10 57 50.9**	**-1.9**
PRVS				*e*Sn	**Sb**	**10 58 18.5**	**+0.8**
BARS	**Barje**	**2.08**	**41**	*e*Pn	**Pb**	**10 57 53.3**	**-0.7**
BARS				*e*Sn	**Sb**	**10 58 20.7**	**+1.0**
UPM	**Unac-Piva**	**2.10**	**338**	*e*Pn	**Pb**	**10 57 53.1**	**-1.3**
UPM	**Unac-Piva**	**2.10**	**338**↑	*i*Pn	**Pb**	**10 57 52.7**	**-1.7**
UPM				*i*Sn	**Sb**	**10 58 20.1**	**-0.4**
PLE	**Pljevlja**	**2.12**	**348**↑	*i*Pn	**Pb**	**10 57 52.9**	**-1.8**
PLE				*i*Sn	**Sb**	**10 58 20.8**	**-0.1**
SELS	**Selova**	**2.14**	**23**	*e*Pn	**Pb**	**10 57 53.8**	**-1.2**
SELS				*e*Sn	**Sb**	**10 58 21.4**	**-0.1**
BOSS	**Bosilegrad**	**2.25**	**56**	*e*Pn	**Pn**	**10 57 54.4**	**+1.1**
BOSS				*e*Sn	**Sb**	**10 58 23.2**	**-1.4**
STON	**Ston**	**2.34**	**314**	*e*Pn	**Pn**	**10 57 53.6**	**-0.8**
STON	**Ston**	**2.34**	**314**	*e*Pn	**Pn**	**10 57 54.1**	**-0.3**
RUDO	**Rudo**	**2.40**	**350**	*e*Pn	**Pb**	**10 57 59.2**	**-0.3**
BBLS	**Lazići**	**2.64**	**351**	*e*Pn	**Pb**	**10 58 01.7**	**-1.9**
BBLS				*e*Sn	**Sb**	**10 58 34.2**	**-1.8**
BBLS	**Lazići**	**2.64**	**351**	*e*Pn	**Pb**	**10 58 04.8**	**+1.2**
LSTV	**Lastovo**	**2.75**	**304**	*e*Pn	**Pn**	**10 57 59.5**	**-0.6**
DIVS	**Divibare**	**2.84**	**0**	*e*Pn	**Pn**	**10 58 03.4**	**+2.2**
DIVS				*e*Sn	**Sn**	**10 58 37.0**	**+1.4**
DIVS	**Divibare**	**2.84**	**0**	*e*Pn	**Pn**	**10 58 03.1**	**+1.6**
MAKA	**Makarska**	**2.99**	**314**	*e*Pn	**Pn**	**10 58 03.0**	**-0.3**
RICI	**Ricice**	**3.07**	**318**	*e*Pn	**Pn**	**10 58 03.6**	**-0.9**
HVAR	**Hvar**	**3.25**	**307**	*e*Pn	**Pn**	**10 58 04.9**	**-2.0**
KIJV	**Kijevo**	**3.80**	**317**	*e*Pn	**Pn**	**10 58 14.3**	**-0.3**
KIJV				Sn	**Sn**	**10 58 59.4**	**+0.2**
ZIRJ	**Zirje**	**4.00**	**308**	*e*Pn	**Pn**	**10 58 16.9**	**-0.4**
MORI	**Morici**	**4.09**	**311**	*e*Pn	**Pn**	**10 58 18.7**	**+0.2**
UDBI	**Udbina**	**4.50**	**318**	*e*Pn	**Pn**	**10 58 25.1**	**+0.9**
DUGI	**Dugi Otok**	**4.54**	**309**	*e*Pn	**Pn**	**10 58 24.5**	**-0.2**
VIRC	**Vir**	**4.72**	**312**	*e*Pn	**Pn**	**10 58 27.1**	**-0.1**
NVLJ	**Novalja**	**5.00**	**313**	*e*Pn	**Pn**	**10 58 30.5**	**-0.4**
CRES	**Cresnjev**	**5.62**	**326**	*e*Pn	**Pn**	**10 58 39.5**	**-0.1**
CEY	**Cerknica**	**6.03**	**320**	*e*Pn	**Pn**	**10 58 45.2**	**0.0**

*NOU **27** 11:06:49.4,40°.47S×177°.03E,h49km,MLv4.0/8,Off E. Coast of N. Island, N.Z.*
*WEL **27** 11:06:50.2±0.5,40°.5±.3°S×17°.7E±.°,h18km±3km,M3.5/21, ML3.9/21,MLv3.5/21,Error ellipse: s-maj=0.0km s-min=0.0km az=115.7*

ISC 27 11:06:48.2±1.3,40°41S±0°.03×176°91E±0°.04,h11km±9km, n125,σ0$93/136,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRHZ	**Porangahau**	**0.26**	**303**	P	**Pg**	**11 06 54.8**	**+1.3**
PRHZ				S	**Sg**	**11 06 57.7**	**+0.7**
ANWZ	**Angora Road**	**0.34**	**261**	P	**Pn**	**11 06 58.3**	**-0.8**
ANWZ				S	**Sb**	**11 07 04.0**	**+2.3**
PXZ	**Pawanui**	**0.38**	**354**	P	**Pb**	**11 06 58.2**	**+1.3**
PXZ				S	**Sb**	**11 07 03.5**	**+0.7**
WPHZ	**Waipukurau**	**0.50**	**313**	P	**Pg**	**11 06 58.0**	**0.0**
WPHZ				S	**Sg**	**11 07 03.5**	**-1.1**
BFZ	**Birch Farm**	**0.58**	**241**	P	**Pn**	**11 07 03.0**	**+0.6**
BFZ				S	**Sn**	**11 07 12.8**	**+0.9**
BFZ	**Birch Farm**	**0.58**	**241**	P	**Pn**	**11 07 03.4**	**+1.0**
DVHZ	**Dannevirke**	**0.58**	**280**	P	**Pb**	**11 07 00.3**	**-0.1**
DVHZ				S	**Sg**	**11 07 07.0**	**-0.2**
KAHZ	**Kahuranaki**	**0.61**	**357**	P	**Pn**	**11 07 02.5**	**-0.4**
PRWZ	**Pori Road**	**0.73**	**258**	P	**Pn**	**11 07 04.7**	**+0.2**
PRWZ				S	**Sn**	**11 07 15.4**	**-0.3**
PNHZ	**Pukenui**	**0.74**	**312**	P	**Pg**	**11 07 02.1**	**-0.4**
PNHZ				S	**Sg**	**11 07 10.3**	**-1.8**
CPWZ	**Castlepoint**	**0.74**	**227**	P	**Pn**	**11 07 07.3**	**+2.7**
CKHZ	**Cape Kidnapper**	**0.76**	**10**	P	**Pn**	**11 07 05.4**	**+0.5**
TSZ	**Takapari Road**	**0.81**	**295**	P	**Pg**	**11 07 03.4**	**-0.4**
TSZ				S	**Sg**	**11 07 12.9**	**-1.5**
TIWZ	**Tintock**	**0.86**	**244**	P	**Pn**	**11 07 07.1**	**+0.7**
KRHZ	**Kereru**	**0.87**	**331**	P	**Pg**	**11 07 04.9**	**-0.1**
KRHZ				S	**Sg**	**11 07 15.3**	**-1.0**
POWZ	**Post Office Ro**	**0.88**	**271**	P	**Pn**	**11 07 06.1**	**+0.6**
MCHZ	**McNeill Hill**	**0.98**	**350**	P	**Pn**	**11 07 07.8**	**0.0**
TMWZ	**Te Maipa**	**1.04**	**228**	P	**Pn**	**11 07 09.9**	**+1.0**
MRZ	**Mangatainoka R**	**1.05**	**256**	P	**Pb**	**11 07 08.7**	**+0.3**
KWHZ	**Kaweka Forest**	**1.05**	**339**	P	**Pg**	**11 07 08.2**	**-0.2**
BHHZ	**Black Hill Sta**	**1.13**	**324**	P	**Pg**	**11 07 08.7**	**-1.2**
ARHZ	**Aropaoanui**	**1.14**	**3**	P	**Pn**	**11 07 10.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.17**	**245**	P	**Pg**	**11 07 10.6**	**-0.1**
OHWZ	**Ohakea**	**1.24**	**279**	P	**Pn**	**11 07 12.3**	**+0.9**
BKZ	**Black Stump Fm**	**1.28**	**345**	P	**Pg**	**11 07 11.5**	**-1.4**
BKZ	**Black Stump Fm**	**1.28**	**345**	P	**Pg**	**11 07 11.5**	**-1.4**
MTW	**Mount Morrison**	**1.31**	**235**	P	**Pn**	**11 07 12.4**	**0.0**
NMHZ	**Naumai**	**1.31**	**356**	P	**Pn**	**11 07 12.8**	**+0.3**
MOVZ	**Moawhango**	**1.34**	**318**	P	**Pn**	**11 07 12.3**	**-0.6**
WHHZ	**Waihua**	**1.35**	**11**	P	**Pn**	**11 07 13.2**	**+0.2**
TRWZ	**Traveller**	**1.36**	**223**	P	**Pb**	**11 07 14.0**	**+0.3**
OGWZ	**Otaki Gorge**	**1.39**	**252**	P	**Pn**	**11 07 13.4**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.47**	**32**	P	**Pn**	**11 07 15.4**	**+0.7**
WNVZ	**Wahianoa**	**1.48**	**316**	P	**Pn**	**11 07 15.2**	**+0.3**
PAWZ	**Paruwai Farm**	**1.49**	**229**	P	**Pn**	**11 07 15.1**	**+0.1**
RAHZ	**Arahi**	**1.50**	**5**	P	**Pn**	**11 07 15.2**	**+0.2**
TUVZ	**Tukino**	**1.50**	**319**	P	**Pn**	**11 07 15.7**	**+0.5**
KNZ	**Kokohu**	**1.50**	**23**	P	**Pn**	**11 07 15.3**	**+0.2**
MTVZ	**Mangateitei**	**1.51**	**312**	P	**Pb**	**11 07 16.1**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.52**	**317**	P	**Pn**	**11 07 16.0**	**+0.4**
TRVZ	**Turoa**	**1.53**	**316**	P	**Pn**	**11 07 16.1**	**+0.4**
DRZ	**Dome Shelter**	**1.54**	**317**	P	**Pb**	**11 07 17.0**	**+0.1**
MTHZ	**Maungataniwha**	**1.55**	**358**	P	**Pn**	**11 07 15.8**	**0.0**
FWVZ	**Far West T-bar**	**1.56**	**317**	P	**Pn**	**11 07 16.4**	**+0.4**
SNVZ	**South Ngauruho**	**1.56**	**321**	P	**Pn**	**11 07 16.7**	**+0.6**
CAW	**Cannon Point**	**1.57**	**243**	P	**Pn**	**11 07 15.9**	**-0.1**
OTVZ	**Oturere**	**1.57**	**322**	P	**Pn**	**11 07 16.2**	**0.0**
ETVZ	**East Tongariro**	**1.57**	**323**	P	**Pn**	**11 07 16.8**	**+0.6**
KIW	**Kapiti Island**	**1.59**	**253**	P	**Pn**	**11 07 16.3**	**0.0**
TMVZ	**Te Maari**	**1.59**	**324**	P	**Pn**	**11 07 17.0**	**+0.6**
NGZ	**Ngauruhoe**	**1.59**	**320**	P	**Pn**	**11 07 17.1**	**+0.6**
MSWZ	**Moikau Station**	**1.61**	**231**	P	**Pn**	**11 07 16.6**	**-0.1**
WAZ	**Wanganui**	**1.62**	**293**	P	**Pb**	**11 07 18.0**	**-0.1**
MRHZ	**Matea Rd**	**1.62**	**346**	P	**Pn**	**11 07 16.8**	**+0.1**
NTVZ	**North Tongarir**	**1.62**	**323**	P	**Pn**	**11 07 17.4**	**+0.6**
NNVZ	**North Ngauruho**	**1.62**	**321**	P	**Pn**	**11 07 17.5**	**+0.7**
KRVZ	**Karewarewa**	**1.64**	**323**	P	**Pb**	**11 07 18.5**	**0.0**
HATZ	**Hinemaiaia**	**1.64**	**337**	P	**Pb**	**11 07 18.9**	**+0.4**
PKVZ	**Pokaka**	**1.64**	**312**	P	**Pn**	**11 07 17.8**	**+0.7**
RITZ	**Rihia Road**	**1.64**	**330**	P	**Pb**	**11 07 18.9**	**+0.4**
WTVZ	**West Tongariro**	**1.65**	**321**	P	**Pn**	**11 07 17.9**	**+0.8**
SNGZ	**Shannon Statio**	**1.66**	**12**	P	**Pn**	**11 07 17.5**	**+0.2**
PLWZ	**Palliser**	**1.71**	**227**	P	**Pn**	**11 07 18.0**	**0.0**
KATZ	**Kakaramea**	**1.71**	**326**	P	**Pb**	**11 07 20.2**	**+0.4**
TWVZ	**Taurewa**	**1.75**	**319**	P	**Pn**	**11 07 19.4**	**+0.7**
RATZ	**Rangitukua**	**1.77**	**330**	P	**Pb**	**11 07 20.8**	**+0.1**
RTZ	**Ruatahuna**	**1.79**	**2**	P	**Pn**	**11 07 19.3**	**+0.2**
RIGZ	**Rimuhau**	**1.82**	**21**	P	**Pn**	**11 07 19.7**	**+0.2**
BHW	**Baring Head**	**1.84**	**236**	P	**Pn**	**11 07 19.3**	**-0.5**
WEL	**Wellington**	**1.85**	**241**	P	**Pn**	**11 07 19.5**	**-0.3**
WHTZ	**Whakaora**	**1.89**	**337**	P	**Pn**	**11 07 24.7**	**+0.2**
ALRZ	**Allen Road**	**1.90**	**346**	P	**Pb**	**11 07 22.7**	**-0.1**
SNZO	**South Karori**	**1.90**	**241**	P	**Pn**	**11 07 20.3**	**-0.3**
WATZ	**Wairara**	**1.93**	**331**	P	**Pg**	**11 07 25.3**	**+0.1**
MUGZ	**Murupara**	**1.93**	**357**	P	**Pn**	**11 07 20.9**	**-0.1**
PRRZ	**Plateau Road**	**1.95**	**348**	P	**Pg**	**11 07 24.7**	**-0.9**
RAGZ	**Rawiri**	**1.95**	**12**	P	**Pn**	**11 07 21.3**	**+0.1**
WPRZ	**Whakapapatarin**	**1.97**	**343**	P	**Pg**	**11 07 25.5**	**-0.5**
HRRZ	**Handcock Road**	**2.07**	**346**	P	**Pg**	**11 07 26.9**	**-1.1**
RRRZ	**Republican Roa**	**2.09**	**351**	P	**Pb**	**11 07 27.6**	**-0.7**
KUTZ	**Kaahu Road**	**2.09**	**336**	P	**Pb**	**11 07 25.7**	**-0.5**
TKGZ	**Te Karaka**	**2.09**	**21**	P	**Pn**	**11 07 23.4**	**+0.2**
VRZ	**Vera Road**	**2.10**	**307**	P	**Pn**	**11 07 24.9**	**+1.6**
MWZ	**Matawai**	**2.12**	**13**	P	**Pn**	**11 07 23.2**	**-0.4**
GRRZ	**Galatos Road**	**2.15**	**343**	P	**Pg**	**11 07 28.8**	**-0.6**
LREZ	**Lake Rotokare**	**2.15**	**295**	P	**Pb**	**11 07 27.6**	**+0.4**
URZ	**Urewera**	**2.15**	**4**	P	**Pn**	**11 07 23.5**	**-0.4**
URZ	**Urewera**	**2.15**	**4**	P	**Pn**	**11 07 23.7**	**-0.3**
HSRZ	**Hossack Road**	**2.16**	**346**	P	**Pb**	**11 07 27.4**	**+0.1**
TCW	**Tory Channel**	**2.16**	**247**	P	**Pn**	**11 07 23.5**	**-0.6**
TARZ	**Mount Tarawera**	**2.19**	**352**	P	**Pn**	**11 07 24.5**	**-0.1**
HLRZ	**Highlands Stat**	**2.20**	**348**	P	**Pg**	**11 07 29.8**	**-0.5**
EDRZ	**Edgecumbe**	**2.30**	**357**	P	**Pg**	**11 07 33.5**	**+1.1**
DUWZ	**D'Urville Isla**	**2.31**	**259**	P	**Pn**	**11 07 26.4**	**+0.1**
TLZ	**Tolley Road**	**2.33**	**332**	P	**Pn**	**11 07 28.6**	**+2.1**
OMRZ	**Omania**	**2.34**	**349**	P	**Pg**	**11 07 32.6**	**-0.4**
TWGZ	**Tauwhareparae**	**2.38**	**21**	P	**Pn**	**11 07 27.1**	**-0.1**
DREZ	**Durham Road**	**2.42**	**299**	P	**Pb**	**11 07 31.8**	**+0.1**
MARZ	**Manawahe**	**2.43**	**356**	P	**Pg**	**11 07 34.5**	**-0.2**
NEZ	**North Egmont**	**2.45**	**297**	P	**Pb**	**11 07 31.5**	**-0.8**

STLK	Strandline Lak	1.92	18			Pn	11 26 28.7 +1.0
KDAK	Kodiak Island	1.93	173			Pn	11 26 27.3 -0.5
FIS	Fire Island	2.03	43			Pn	11 26 30.9 +2.0
FIS					IAML		11 27 04.4
	comp=N,1µm,0.6s						
FIS					IAML		11 27 04.6
	comp=E,1µm,0.4s						
RC01	Rabbit Creek A	2.17	48	Pn		Pn	11 26 31.8 +1.1
RC01					IAML		11 26 59.0
	comp=N,893nm,0.4s						
RC01	Rabbit Creek A	2.17	48	P		Pn	11 26 31.7 +0.9
	baz=231						
M20K	Styx River	2.20	359			Pn	11 26 32.4 +1.2
M19K	Big River Lodg	2.32	344			Pn	11 26 33.4 +0.8
OHAK	Old Harbor	2.48	183			Pn	11 26 33.7 -0.9
M22K	Willow	2.52	34			Pn	11 26 30.9 -4.4
PWL	Port Wells	2.63	61			Pn	11 26 36.9 +0.3
PWL	Port Wells	2.63	61		IAML		11 27 08.3
	comp=E,767nm,0.4s						
PWL	Port Wells	2.63	61	P		Pn	11 26 36.9 +0.3
	baz=246						
L19K	White Mountain	2.65	341			Pn	11 26 37.5 +0.5
L19K	White Mountain	2.65	341	P		Pn	11 26 37.5 +0.5
	baz=161						
PMR	Palmer	2.72	44			Pn	11 26 37.8 +0.1
PMR	Palmer	2.72	44		IAML		11 27 10.3
	comp=E,254nm,0.5s						
PMR					IAML		11 27 11.2
	comp=N,236nm,0.3s						
PMR	Palmer	2.72	44	P		Pn	11 26 37.8 +0.1
	baz=227						
L20K	Farewell, AK	2.83	352			Pn	11 26 40.2 +1.0
L20K	Farewell, AK	2.83	352	P		Pn	11 26 40.2 +1.0
	baz=172						
KNK	Knik Glacier	2.85	51	Pn		Pn	11 26 39.9 +0.4
KNK					IAML		11 27 13.4
	comp=E,628nm,0.7s						
KNK	Knik Glacier	2.85	51	P		Pn	11 26 39.8 +0.4
	baz=235						
GHO	Glory Hole Cre	2.91	42			Pn	11 26 40.5 +0.1
GHO	Glory Hole Cre	2.91	42		IAML		11 27 16.6
	comp=N,254nm,0.3s						
GHO					IAML		11 27 16.9
	comp=E,401nm,0.7s						
CUT	Chulitna	3.04	25			Pn	11 26 42.9 +1.0
CUT	Chulitna	3.04	25		IAML		11 27 19.9
	comp=N,434nm,0.4s						
CUT					IAML		11 27 22.2
	comp=E,502nm,0.4s						
CUT	Chulitna	3.04	25	P		Pn	11 26 43.5 +1.6
	baz=208						
SML	Sawmill	3.15	45			Pn	11 26 43.5 +0.2
SML	Sawmill	3.15	45		IAML		11 27 26.7
	comp=E,245nm,0.6s						
SML					IAML		11 27 31.1
	comp=N,228nm,0.6s						
SML	Sawmill	3.15	45	P		Pn	11 26 43.5 +0.2
	baz=230						
SII	Sitkinak Islan	3.19	191	Pn		Pn	11 26 42.4 -1.6
SII					IAML		11 27 31.8
	comp=N,107nm,0.9s						
SII					IAML		11 28 29.1
	comp=E,103nm,2.2s						
GLI	Glacier Island	3.20	65			Pn	11 26 43.6 -0.3
GLI	Glacier Island	3.20	65		IAML		11 27 20.9
	comp=E,313nm,0.2s						
GLI					IAML		11 27 22.8
	comp=N,289nm,0.4s						
GLI	Glacier Island	3.20	65	P		Pn	11 26 43.6 -0.3
	baz=251						
PPLA	Purkeypile	3.25	7			Pn	11 26 46.3 +1.6
PPLA	Purkeypile	3.25	7	P		Pn	11 26 46.3 +1.6
	baz=188						
Q23K	Middleton Isla	3.42	91	Pn		Pn	11 26 47.1 +0.2
Q23K					IAML		11 27 36.1
	comp=N,361nm,2.9s						
Q23K					IAML		11 27 59.8
	comp=E,280nm,2.8s						
MID	Middleton Isla	3.43	91	Pn		Pn	11 26 47.5 +0.6
MID					IAML		11 27 34.8
	comp=N,351nm,2.4s						
MID					IAML		11 27 36.0
	comp=E,309nm,3.3s						
FID	Port Fidalgo	3.45	69			Pn	11 26 46.9 -0.4
JPK	Jack Peak	3.49	64			Pn	11 26 48.0 +0.2
SCM	Sheep Creek Mo	3.54	50			Pn	11 26 49.0 +0.5
SCM	Sheep Creek Mo	3.54	50		IAML		11 27 31.8
	comp=E,343nm,0.2s						
SCM	Sheep Creek Mo	3.54	50	P		Pn	11 26 49.0 +0.5
	baz=235						
TTA	Tatalina	3.55	338			Pn	11 26 49.0 +0.3
TTA	Tatalina	3.55	338	P		Pn	11 26 49.0 +0.3
	baz=156						
K20K	Telida	3.71	353			Pn	11 26 51.8 +1.0
K20K	Telida	3.71	353	P		Pn	11 26 51.8 +1.0
	baz=172						
EYAK	Cordova Ski Ar	3.75	74			Pn	11 26 51.8 +0.5
EYAK	Cordova Ski Ar	3.75	74	P		Pn	11 26 51.7 +0.5
	baz=260						
CAST	Castle Rocks	3.77	7			Pn	11 26 51.9 +0.3
WAT6	Susitna Watana	3.88	39			Pn	11 26 53.5 +0.4
WAT6	Susitna Watana	3.88	39	P		Pn	11 26 53.5 +0.4
	baz=224						
DIV	Divide	3.89	65			Pn	11 26 53.6 +0.4
KLU	Klutina	3.96	60			Pn	11 26 54.6 +0.6
KLU	Klutina	3.96	60	P		Pn	11 26 54.6 +0.6
	baz=246						
TRF	Thorofare Moun	4.00	18			Pn	11 26 55.3 +0.6
TRF					IAML		11 27 43.3
	comp=N,95nm,0.5s						
TRF					IAML		11 28 08.6
	comp=E,55nm,1.2s						
TRF	Thorofare Moun	4.00	18	P		Pn	11 26 54.7 0.0
	baz=201						
KTH	Kantishna Hill	4.01	14			Pn	11 26 54.9 +0.2
KTH	Kantishna Hill	4.01	14		IAML		11 28 08.4
	comp=E,46nm,1.5s						
KTH					IAML		11 28 15.7
	comp=N,53nm,0.9s						
CHIR	Chirikof Islan	4.11	201	Pn		Pn	11 26 55.0 -1.1
CHIR					IAML		11 28 33.8
	comp=N,122nm,1.9s						
CHIR					IAML		11 29 05.3
	comp=E,90nm,1.5s						
M24K	Tolsona, Glenn	4.14	51			Pn	11 26 57.7 +1.2
M24K	Tolsona, Glenn	4.14	51		IAML		11 27 55.4
	comp=E,209nm,0.8s						
M24K	Tolsona, Glenn	4.14	51	P		Pn	11 26 57.7 +1.2
	baz=237						
CHUM	Lake Minchumin	4.23	4			Pn	11 26 58.3 +0.8
CHUM	Lake Minchumin	4.23	4	P		Pn	11 26 58.3 +0.8
	baz=186						
RND	Reindeer	4.24	26			Pn	11 26 58.5 +0.7
RND	Reindeer	4.24	26		IAML		11 27 47.2
	comp=E,109nm,0.6s						
RND					IAML		11 27 47.6
	comp=N,97nm,0.8s						
GOAT	Goat Mountain	4.26	74			Pn	11 26 58.7 +0.6
DHY	Denali Highway	4.36	36			Pn	11 26 59.9 +0.5
DHY	Denali Highway	4.36	36		IAML		11 27 50.8
	comp=E,165nm,0.4s						
DHY					IAML		11 27 52.9
	comp=N,167nm,0.5s						
DHY	Denali Highway	4.36	36	P		Pn	11 26 59.9 +0.5
	baz=222						
KAIM	Kayak Island	4.37	83			Pn	11 27 00.3 +0.9
PS11	TAPS Pump St11	4.41	54			Pn	11 27 01.1 +1.1
CHGN	Chignik	4.43	222	Pn		Pn	11 27 00.8 +0.5
CHGN					IAML		11 27 50.8
	comp=E,52nm,0.2s						
CHGN					IAML		11 29 07.5
	comp=N,41nm,0.1s						
HMT	Hamilton	4.46	78			Pn	11 27 01.5 +0.8
MCK	McKinley	4.51	24			Pn	11 27 02.1 +0.8
MCK					IAML		11 27 55.2
	comp=N,78nm,0.3s						
MCK					IAML		11 27 55.4
	comp=E,89nm,0.3s						
MCK	McKinley	4.51	24	P		Pn	11 27 02.0 +0.8
	baz=208						
BPAW	Bear Paw Mtn.	4.54	12			Pn	11 27 01.6 -0.1
BPAW	Bear Paw Mtn.	4.54	12	P		Pn	11 27 01.6 -0.1
	baz=194						
J20K	Nowinta River	4.54	354			Pn	11 27 02.6 +1.0
J20K	Nowinta River	4.54	354	P		Pn	11 27 02.6 +1.0
	baz=173						
N25K	Chitina, Valde	4.58	62			Pn	11 27 03.0 +0.6
N25K	Chitina, Valde	4.58	62		IAML		11 27 56.0
	comp=E,131nm,0.8s						
N25K					IAML		11 27 56.4
	comp=N,166nm,0.4s						
N25K	Chitina, Valde	4.58	62	P		Pn	11 27 04.1 +1.7
	baz=249						
NICHA	Nichawak Mount	4.60	79			Pn	11 27 03.8 +1.2
SUCK	Suckling Hills	4.69	81	Pn		Pn	11 27 05.1 +1.4
SUCK					IAML		11 28 07.5
	comp=E,91nm,3.4s						
HARP	HAARP	4.70	51			Pn	11 27 04.8 +0.9
BERG	Berg Lake	4.74	77			Pn	11 27 05.3 +0.8
BERG	Berg Lake	4.74	77		IAML		11 27 59.7
	comp=N,131nm,0.4s						
BWN	Browne	4.81	19			Pn	11 27 06.5 +1.2
BWN	Browne	4.81	19		IAML		11 28 31.4
	comp=N,60nm,0.7s						
BWN					IAML		11 28 43.3
	comp=E,58nm,2.8s						
GLB	Gilahina Butte	4.89	65			Pn	11 27 07.3 +0.9
GLB	Gilahina Butte	4.89	65		IAML		11 28 01.7
	comp=N,129nm,0.5s						
PAX	Paxson	4.92	45			Pn	11 27 08.2 +1.3
GRIN	Grindle Hills	4.92	79			Pn	11 27 08.3 +1.3
KHIT	Khitrov Hills	4.97	77			Pn	11 27 08.5 +0.9
VRDI	Verde Repeater	5.00	68			Pn	11 27 08.8 +0.8
PS10	TAPS Pump St10	5.12	40			Pn	11 27 10.9 +1.4
SNH	Sunshine Point	5.16	80	Pn		Pn	11 27 11.5 +1.4
SNH					IAML		11 28 49.1
	comp=E,97nm,2.8s						
WAX	Waxell Ridge	5.17	77			Pn	11 27 11.1 +0.9
TGL	Tana Glacier	5.21	74			Pn	11 27 11.7 +0.9
TGL	Tana Glacier	5.21	74		IAML		11 28 11.5
	comp=N,82nm,0.5s						
TGL					IAML		11 28 14.0
	comp=E,64nm,0.6s						
MCARA	McCarthy VSAT	5.24	67			Pn	11 27 12.2 +1.1
NEA2	Nenana	5.26	19			Pn	11 27 11.6 +0.2
NEA2					IAML		11 28 11.7
	comp=N,18nm,0.3s						
NEA2					IAML		11 28 12.1
	comp=E,18nm,0.5s						
WRH	Wood River Hil	5.34	24			Pn	11 27 12.3 0.0
WRH	Wood River Hil	5.34	24		IAML		11 28 12.2
	comp=N,24nm,0.5s						
WRH					IAML		11 28 12.3
	comp=E,38nm,0.4s						
GCSA	Galena City Sc	5.38	342			Pn	11 27 13.7 +0.7
ISLE	Juniper Island	5.43	76			Pn	11 27 15.1 +1.3
PTPK	Patty Peak	5.45	69			Pn	11 27 15.5 +1.4
KIAG	Kiagna River	5.46	72			Pn	11 27 15.6 +1.4
MLY	Manley	5.47	10			Pn	11 27 14.5 +0.2
BALM	Baldy	5.48	71			Pn	11 27 15.5 +1.0
I21K	Tanana	5.54	5			Pn	11 27 15.9 +0.9
BAGL	Bagley Icefiel	5.55	77			Pn	11 27 16.5 +1.3
MENT	Mentasta	5.55	50			Pn	11 27 16.7 +1.4
RIDG	Independent Ri	5.63	40	Pn		Pn	11 27 18.0 +1.6
PS08	TAPS Pump Stn8	5.68	28			Pn	11 27 17.4 +0.4
YAH	Yahtse	5.71	78			Pn	11 27 19.1 +1.5
GRNC	Granite Creek	5.73	75			Pn	11 27 18.8 +0.8
TCOL	CIGO, UAF Yank	5.74	23			Pn	11 27 18.1 +0.3
COLA	College	5.74	23			Pn	11 27 18.5 +0.7
I23K	Minto, Yukon-K	5.74	16			Pn	11 27 18.2 +0.4
L26K	Log Cabin Wild	5.74	50			Pn	11 27 19.0 +1.1
MDM	Murphy Dome	5.75	21			Pn	11 27 18.1 +0.2
BARN	Barnard Glacie	5.82	71			Pn	11 27 20.4 +1.3
DOT	Dot Lake	5.84	43			Pn	11 27 20.6 +1.4
IL31		5.86	27			Pn	11 27 19.2 -0.1
ILAR	Eielson Array	5.86	27	P		Pn	11 27 19.2 -0.2
	comp=E,8.7nm,0.3s,baz=217,slow=14,SNR=502						
ILAR				S		Sn	11 28 21.1 -4.2
	comp=E,5.6nm,0.3s,baz=215,slow=22,SNR=13						
ILAR	Eielson Array	5.86	27			Pn	11 27 19.5 +0.1
CTGM	Chitina Glacie	5.96	73			Pn	11 27 22.5 +1.6
H21K	Melozitna Rive	5.99	1			Pn	11 27 22.2 +1.0
TABL	Table Mountain	6.01	78			Pn	11 27 23.4 +1.7
POKR	Poker Plat Res	6.04	23			Pn	11 27 22.2 +0.4
M27K	Edge Creek, AK	6.05	59			Pn	11 27 23.6 +1.4
PS07	TAPS Pump Stn7	6.06	19			Pn	11 27 22.7 +0.6
SCRK	Sand Creek	6.08	41			Pn	11 27 22.8 +0.4
LOGN	Logan Glacier	6.11	74			Pn	11 27 24.4 +1.4
J25K	Salcha River,	6.11	33			Pn	11 27 23.2 +0.4
IM03		6.33	357			Pn	11 27 26.2 +0.6
IMAR	Indian Mountai	6.33	357			Pn	11 27 26.7 +0.9
L27K	Beaver Creek,	6.37	53			Pn	11 27 27.6 +1.4
PS06	TAPS Pump Stn6	6.38	12			Pn	11 27 27.3 +1.0
BCAR	Beaver Creek A	6.38	53	Pn		Pn	11 27 28.4 +1.9
PCA	Pinnacle	6.45	81			Pn	11 27 28.6 +1.0
H24K	Noodor Dome	6.61	19			Pn	11 27 29.5 -0.1
BCPM	Bancas Point	6.77	82	Pn		Pn	11 27 33.4 +1.6
PNL	Peninsula	6.92	84			Pn	11 27 34.7 +1.0
EGAK	Eagle	7.54	42			Pn	11 27 42.2 +0.2
COLD	Coldfoot	7.68	8			Pn	11 27 44.0 +0.2
DAWY	Dawson	7.80	50			Pn	11 27 46.6 +1.0
M30M	Minto, Yukon	8.38	63	Pn		Pn	11 27 55.5 +2.1
BM03	Burnt Mountain	8.62	22			Pn	11 27 56.6 0.0
BMAR	Burnt Mountain	8.63	22			Pn	11 27 56.9 +0.1
N31M	Braeburn, Yuko	8.69	71			Pn	11 28 00.1 +2.5
I29M	Ogilvie Camp,	8.86	44			Pn	11 28 02.0 +2.2
SKAG	Skagway	9.00	84			Pn	11 28 03.6 +2.0
WHY	Whitehorse	9.11	76			Pn	11 28 03.8 +0.5
TOLK	Toolik Lake Re	9.12	8			Pn	11 28 03.9 +0.6
M31M	Drury Creek, Y	9.41	66	Pn		Pn	11 28 09.5 +2.1
BESE	Bessie Mountai	9.42	89	Pn		Pn	11 28 08.6 +1.1
SIT	Sitka	9.67	98	Pn		Pn	11 28 11.4 +0.6
JIS	Juneau Island	9.74	90	Pn		Pn	11 28 14.8 +3.1
EPYK	Eagle Plains	9.97	41			Pn	11 28 17.6 +2.8
P33M	Teslin, Yukon	10.16	78	Pn		Pn	11 28 20.6 +3.2
A21K	Barrow	11.78	354	Pn		Pn	11 28 37.3 -1.4
DLBC	Dease Lake	11.90	86	P		P	11 28 46.0 -2.2
	comp=E,1.8nm,0.3s,baz=273,slow=8.8,SNR=37						
DLBC				S		Sn	11 30 50.7 -0.8
	comp=E,0.1nm,0.3s,baz=322,slow=21,SNR=1.6						
C36M	Paulatuk	15.60	40			Pn	11 29 26.9 -0.7
YKA	Yellowknife Ar	18.61	65	P		Pn	11 30 04.9 +1.0
	comp=E,0.2nm,0.3s,baz=276,slow=10.0,SNR=35						
YKA				PcP		PcP	11 34 27.2 +2.0
	comp=E,0.0nm,0.3s,baz=280,slow=1.3,SNR=5.5						
YKA	Yellowknife Ar	18.61	65	P		P	11 30 02.8 +0.6
MKAR	Makanchi Array	64.66	321	P		P	11 36 19.5 +0.6
	comp=E,0.2nm,0.7s,baz=41,slow=7.4,SNR=2.5						

*IDC **27** 11:34:35.0±1.8, 6°.70S×128°.82E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/27, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=114.3km s-min=30.3km az=67.0*

ISC 27 11:34:37.1±1.3, 6°.8S±0°.1×128°.7E±0°.2, h10km, n14, σ2s18/10, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	5.25	235	P	Pb	11 36 05.4	-3.8
MTN	Manton Dam	6.51	158	P	Pb	11 36 19.9	-11
KDU	Kakadu	6.98	148	P	Pb	11 36 27.2	-11
KNRA	Kununurra	8.85	179	P	Pn	11 36 48.3	+3.1
PLAI	Plampang	10.96	259	P	Pn	11 37 25.2	+11
	9.3nm,1.0s						
WRA	Warramunga Arr	14.21	158	Pn	Pn	11 37 57.5	-1.1
	0.5nm,0.3s,baz=337,slow=13,SNR=36						
WRA				Sn	Sn	11 40 20.9	-16
	0.8nm,0.3s,baz=330,slow=23,SNR=7.0						
COEN	Coen	15.97	118	P	P	11 38 28.8	+3.2
QIS	Mount Isa	17.34	143	P	P	11 38 40.7	-0.1
ASAR	Alice Springs	17.54	164	P	P	11 38 41.5	-1.6
	0.4nm,0.3s,baz=336,slow=11,SNR=11						
ASAR				S	Sn	11 41 41.8	-16
	baz=322,slow=20,SNR=2.0						
WRKA	Warakurna	18.17	181	P	Pn	11 38 48.0	-1.7
OOD	Oodnadatta	21.95	163	P	P	11 39 29.2	-1.8
INKA	Innaminka	23.80	153	P	P	11 39 48.7	-1.6
	9.0nm,0.9s						
MKAR	Makanchi Array	67.31	327	P	P	11 45 31.3	-0.9
	0.1nm,0.3s,baz=119,slow=5.3,SNR=1.7						
KURBB	Kurchatov Arra	71.62	329	P	P	11 45 59.2	+0.5
	0.4nm,0.6s,baz=136,slow=5.5,SNR=2.9						

IDC 27 11:36:22.7±14.0, 4°.83S×104°.06W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.5/3, Error ellipse: s-maj=482.0km s-min=194.2km az=117.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	Juan Fernandez	36.85	144	T	T	12 23 48.5	
	baz=317,slow=77,SNR=5.2						
H03N1	Juan Fernandez	36.86	144	T	T	12 23 53.4	
	baz=317,slow=77,SNR=27						
H03N3	Juan Fernandez	36.86	144	T	T	12 23 54.9	
	baz=317,slow=77,SNR=16						
PDAR	Pinedale Array	47.63	355	P	P	11 45 01.3	+0.3
	0.2nm,0.6s,baz=163,slow=8.0,SNR=3.1						
YKA	Yellowknife Ar	67.62	355	P	P	11 47 20.9	-0.2
	0.3nm,0.8s,baz=170,slow=6.2,SNR=5.9						
ILAR	Eielson Array	76.25	343	P	P	11 48 12.9	0.0
	0.9nm,1.0s,baz=178,slow=5.1,SNR=6.7						
H11N3	WAKE ISLAND Hy	90.69	290	T	T	13 28 35.0	
	baz=96,slow=75,SNR=8.6						
H11N2	WAKE ISLAND Hy	90.71	290	T	T	13 28 35.8	
	baz=96,slow=75,SNR=8.3						
H11N1	WAKE ISLAND Hy	90.71	290	T	T	13 28 37.6	
	baz=96,slow=75,SNR=7.2						
H11S2	WAKE ISLAND Hy	90.78	288	T	T	13 28 48.5	
	baz=94,slow=74,SNR=16						
H11S1	WAKE ISLAND Hy	90.78	288	T	T	13 28 44.9	
	baz=94,slow=74,SNR=10						
H11S3	WAKE ISLAND Hy	90.80	288	T	T	13 28 47.9	
	baz=94,slow=74,SNR=8.8						

*IDC **27** 11:47:28.0±1.2, 35°.90N×143°.27E, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/42, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=39.2km s-min=22.4km az=122.0*

*JMA **27** 11:47:32.3±0.2, 36°.16N×143°.02E, h45km, M3.2*

ISC 27 11:47:30.6±0.8, 36°.00N±0°.06×143°.21E±0°.08, h35km, n22, σ2s70/22, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	2.15	280	P	Pn	11 48 04.5	+0.6
JHYU				eS	Sn	11 48 28.0	-1.3
JHO	Hitachi	2.22	287	P	Pn	11 48 05.2	+0.3
JHO				eS	Sn	11 48 29.0	-2.1
ONAJ	Iwakimizuishiy	2.23	300	P	Pn	11 48 04.9	-0.2
ONAJ				eS	Sn	11 48 28.8	-2.7
JFT	Otama	2.76	304	P	Pn	11 48 13.1	+0.7
JAG	Ashikaga	3.07	279	P	Pn	11 48 17.6	+1.0
JMK	Ichinoseki	3.35	332	P	Pn	11 48 20.1	-0.3
JOD2	Odawara 2	3.44	259	P	Pn	11 48 23.4	+1.8
JYK	Kaneyama	3.69	323	P	Pn	11 48 25.3	+0.1
JHJ	Hachijo jima 2	4.03	226	Pn	Pn	11 48 29.7	-0.1
	9.8nm,0.3s,baz=48,slow=14,SNR=6.5						
JHJ				Sn	Sn	11 49 13.9	-1.8
	47nm,0.3s,baz=219,slow=21,SNR=8.2						
MJAR	Matsushiro Arr	4.08	279	Pn	Pn	11 48 32.4	+1.9
	0.2nm,0.3s,baz=99,slow=7.5,SNR=8.0						
ASAJ	Asahikawa	8.12	357	Pn	Pn	11 49 24.7	-1.3
	0.6nm,0.3s,baz=229,slow=16,SNR=8.5						
ASAJ				Sn	Sn	11 50 50.7	-5.8
	0.3nm,0.3s,baz=73,slow=14,SNR=2.0						
JCJ	Chichijima	8.92	186	Pn	Pn	11 49 35.2	-1.7
	2.0nm,0.3s,baz=9.0,slow=19,SNR=2.0						
JCJ				Sn	Sn	11 51 09.3	-6.8
	3.1nm,0.3s,baz=96,slow=20,SNR=1.4						
H11N2	WAKE ISLAND Hy	26.37	122	T	T	12 20 36.5	
	baz=313,slow=75,SNR=5.3						
H11N1	WAKE ISLAND Hy	26.38	122	T	T	12 20 44.0	
	baz=313,slow=75,SNR=3.3						
H11N3	WAKE ISLAND Hy	26.39	122	T	T	12 20 35.7	
	baz=313,slow=75,SNR=4.2						
H11S1	WAKE ISLAND Hy	27.08	124	T	T	12 21 32.6	
	baz=315						
H11S3	WAKE ISLAND Hy	27.08	124	T	T	12 21 35.2	
	baz=315						
H11S2	WAKE ISLAND Hy	27.10	124	T	T	12 21 28.5	
	baz=315						
ILAR	Eielson Array	49.60	32	P	P	11 56 20.2	+2.2
	0.3nm,0.9s,baz=267,slow=8.0,SNR=1.4						
WRA	Warramunga Arr	56.26	190	P	P	11 57 09.7	+2.1
	0.5nm,0.7s,baz=7.3,slow=7.2,SNR=11						
ASAR	Alice Springs	59.99	190	P	P	11 57 36.2	+2.6
	0.2nm,0.6s,baz=8.3,slow=7.0,SNR=4.4						
NVAR	Mina Array Bea	74.44	54	P	P	11 59 08.9	+3.3
	0.2nm,0.5s,baz=297,slow=4.0,SNR=3.8						

*NEIC **27** 12:01:39.5±1.6, 45°.63S±0°.06×77°.2W±0°.1, h10km±1km, mb4.7/20, Error ellipse: s-maj=17.6km s-min=10.9km az=272.0*

*IDC **27** 12:01:40.4±0.7, 45°.78S×77°.30W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/30, mbtmp4.1/10, MS4.1/22, Ms1 4.1/22, ms1mx3.8/43, Error ellipse: s-maj=33.0km s-min=18.7km az=102.0*

*GCMT **27** 12:01:43.5±0.4, 45°.64S±0°.02×77°.32W±0°.04, h36km±2km, MW5.0/71, Moment Tensor Solution. s16,c16; s71,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.81±.36; Mθθ 1.49±.25; Mϕϕ -2.29±.26; Mrθ -0.38±.20; Mrϕ -2.86±.14; Mθϕ -0.93±.22; Best double couple: Mo 3.53400×10^16 NP1: ϕs 343.00000°, δ 84.00000°, λ -10.00000°. NP2: ϕs 343.00000°, δ 84.00000°, λ -10.00000°. Principal axes: T 3.0330, Plg 3.0000°, Azm 29.0000°; N 1.0070, Plg 78.0000°, Azm 132.0000°; P -4.0350, Plg 12.0000°, Azm 298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 12:01:43.0±0.4, 45°.62S±0°.07×77°.2W±0°.1, h35km, n91, σ1s89/66, mb4.3/15, MS4.1/24, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY01	Puyuhuapi	3.45	71		Pn	12 02 31.5	-2.6
GO07	Milladeo Hill,	3.57	47		Pn	12 02 34.3	-1.4
COYC	Coyhaique	3.60	91	Pn	Pn	12 02 36.0	-0.3
LL07	Hotel Espejo d	3.87	45		Pn	12 02 38.2	-1.7
LR04	Corral	6.37	27		Pn	12 03 13.8	-0.5
MG05	Puerto Natales	6.82	155	Pn	Pn	12 03 19.4	-1.0
PLCA	Paso Flores	6.89	47	Pn	Pn	12 03 21.2	-0.4
	0.3nm,0.3s,baz=238,slow=15,SNR=20

comp=Z,186nm,18.6s,baz=189,slow=31
BELA Belgrano 2 36.35 166 P **P** 12 08 42.6 -0.4
BELA IAmb IAmb 12 09 00.7
comp=Z,12nm,1.5s
BDFB Brasilia 38.63 49 LR LR 12 26 20.9
comp=Z,876nm,18.8s,baz=208,slow=38
SNAA Sanae 42.65 153 P **P** **12 09 37.3 +1.8**
comp=Z,5.7nm,0.9s,baz=234,slow=8.7,SNR=2.5
SNAA Sanae 42.65 153 P **P** **12 09 34.4 -1.2**
SNAA IAmb IAmb 12 09 46.4
comp=Z,17nm,1.0s
QSPA South Pole Qui 44.63 180 P **P** **12 09 52.7 +1.0**
comp=Z,1.8nm,0.8s,baz=122,slow=13,SNR=6.1
QSPA LR LR 12 26 37.3
comp=Z,78nm,18.2s,baz=174,slow=34
QSPA South Pole Qui 44.63 180 P **P** **12 09 51.0 -0.7**
QSPA IAmb IAmb 12 10 06.8
comp=Z,9.0nm,1.2s
OTAV Otavalo 45.67 358 P **P** **12 09 58.6 -2.2**
OTAV IAmb IAmb 12 10 22.7
comp=Z,11nm,1.4s
VNDA Vanda 51.92 194 P **P** **12 10 49.4 +1.9**
comp=Z,1.9nm,1.1s,baz=127,slow=5.1,SNR=4.5
VNDA LR LR 12 30 13.9
comp=Z,86nm,18.4s,baz=128,slow=33
VNDA Vanda 51.92 194 P **P** **12 10 46.7 -0.8**
ZARC Zaragoza, Cauc 52.91 3 P **P** **12 10 55.3 -0.2**
RCBR Riachuelo 53.39 55 LR LR 12 32 37.3
comp=Z,228nm,18.4s,baz=348,slow=35
SDV Santo Domingo 54.57 8 LR LR 12 32 52.2
comp=Z,128nm,18.6s,baz=274,slow=34
MDP Montagnes des 55.05 30 LR LR 12 35 32.4
comp=Z,106nm,20.8s,baz=240,slow=37
TBI Tubuai 61.48 265 *e*LR LR 12 30 10.8
comp=Z,109nm,28.0s
MAW Mawson 63.15 164 LR LR 12 38 01.6
comp=Z,264nm,20.3s,baz=208,slow=35
TAOE Nuku Hiva Isla 64.88 284 *e*LR LR 12 31 49.0
comp=Z,72nm,24.7s
CASY Casey 68.28 183 P **P** **12 12 39.8 +0.1**
MCQ Macquarie Isla 69.47 211 P **P** **12 12 45.5 -1.8**
RAR Rarotonga 70.06 260 LR LR 12 36 41.6
comp=Z,125nm,21.6s,baz=196,slow=30
RPZ Rata Peaks 72.42 225 LR LR 12 36 20.1
comp=Z,257nm,19.3s,baz=180,slow=29
SUR Sutherland 72.74 119 LR LR 12 40 34.3
comp=Z,78nm,20.2s,baz=170,slow=32
URZ Urewera 73.14 232 LR LR 12 38 32.5
comp=Z,146nm,19.5s,baz=212,slow=30
LBTB Lobatse 80.89 116 LR LR 12 46 38.2
comp=Z,84nm,18.9s,baz=206,slow=33
HDBT Hernando Brdge 81.23 349 P **P** **12 13 55.7 +0.9**
DBIC Dimbokro 82.58 73 P **P** **12 14 05.6 +3.1**
comp=Z,2.4nm,0.8s,baz=193,slow=4.1,SNR=2.5
ANMO Albuquerque 84.44 336 P **P** **12 14 15.3 +3.6**
comp=Z,0.8nm,0.7s,baz=130,slow=7.9,SNR=3.6
ANMO LR LR 12 45 34.3
comp=Z,67nm,18.3s,baz=153,slow=31
ANMO Albuquerque 84.44 336 P **P** **12 14 10.9 -0.9**
MATP Matopo 86.05 115 LR LR 12 49 54.4
comp=Z,68nm,18.7s,baz=254,slow=34
LSZ Lusaka 89.62 111 LR LR 12 51 04.4
comp=Z,76nm,18.6s,baz=220,slow=33
DZM Mont Dzumac 91.31 236 *e*LR LR 12 43 55.9
comp=Z,127nm,27.8s
TORD Torodi Ar. Bea 91.69 73 P P 12 14 51.9 +5.2
comp=Z,0.5nm,0.8s,baz=219,slow=4.6,SNR=2.7
TORD Torodi Ar. Bea 91.64 73 P **P** **12 14 46.6 -0.2**
ELK Elko 92.47 332 LR LR 12 49 59.0
comp=Z,40nm,19.3s,baz=164,slow=31
PDAR Pinedale Array 92.59 337 P P 12 14 55.6 +5.0
comp=Z,0.2nm,0.5s,baz=187,slow=3.6,SNR=2.3
WDC Whiskeytown Da 94.92 327 P **P** **12 14 59.1 -1.9**
WDC IAmb IAmb 12 14 59.5
comp=Z,3.2nm,0.7s
STKA Stephens Creek 95.22 212 LR LR 12 50 13.0
comp=Z,90nm,18.4s,baz=200,slow=31
YBH Yreka Blue Hor 95.98 328 LR LR 12 49 13.9
comp=Z,33nm,18.1s,baz=141,slow=30
H11N3 WAKE ISLAND Hyl 21.84 266 T T 14 33 58.1
baz=132
H11N1 WAKE ISLAND Hyl 21.85 266 T T 14 34 03.2
baz=132
H11N2 WAKE ISLAND Hyl 21.85 266 T T 14 34 09.1
baz=132
ILAR Eielson Array 122.62 332 PKP **PKiKP** **12 20 34.6 +0.9**
comp=Z,0.4nm,0.9s,baz=106,slow=2.0,SNR=4.7
GERES GERESS Array B 122.83 52 PKP **PKiKP** **12 20 39.1 +4.4**
comp=Z,0.1nm,0.4s,baz=211,slow=3.4,SNR=2.2
GERES GERESS Array B 122.83 52 **PKiKP** **12 20 38.8 +4.0**
GEYT Alibeck 146.17 87 PKPbc **PKiKP** **12 21 21.2 -1.1**
comp=Z,2.3nm,0.7s,baz=220,slow=12,SNR=2.1
SEY Seymchan 147.30 320 PKPbc **PKiKP** **12 21 24.1 +0.4**
comp=Z,1.2nm,0.6s,baz=96,slow=4.3,SNR=6.6
MA2 Magadan 148.46 314 PKPbc **PKPab** **12 21 27.6 -0.6**
comp=Z,1.0nm,0.3s,baz=117,slow=2.5,SNR=4.8
MA2 Magadan 148.46 314 **PKiKP** **12 21 26.5 +0.3**
MA2 PKPab **pPKPdf** **12 21 31.0 -0.5**
MJAR Matsushiro Arr 151.99 264 PKPbc **PKiKP** **12 21 37.1 +2.8**
comp=Z,0.8nm,0.8s,baz=151,slow=2.8,SNR=2.1
MJAR Matsushiro Arr 151.99 264 PKPdf **PKPdf** **12 21 24.1 -3.4**
MJAR **PKPab** **12 21 43.4 -0.1**
CMAR Chiang Mai Arr 152.73 172 PKPbc **PKiKP** **12 21 38.4 +2.0**
comp=Z,1.3nm,0.8s,baz=211,slow=3.6,SNR=6.4
CMAR Chiang Mai Arr 152.73 172 PKPdf **PKPdf** **12 21 27.3 -1.7**
CMAR **pPKPdf** **12 21 37.6 -1.8**
CMAR PKPab **PKPab** **12 21 46.8 0.0**
PZH PanZhiHua 160.91 177 PKP **PKPdf** **12 21 38.8 -0.7**
KURBB Kurchatov Arra 163.08 64 PKPab **PKPab** **12 22 32.9 +2.0**
comp=Z,1.2nm,0.9s,baz=283,slow=4.8,SNR=5.2
KURK Kurchatov 163.12 64 PKPdf **PKPdf** **12 21 39.9 -0.8**
KURK **PKPab** **12 22 30.5 -0.6**
MKAR Makanchi Array 165.76 78 PP PP 12 26 35.8 +5.0
comp=Z,0.8nm,1.0s,baz=277,slow=3.8,SNR=5.1
SONM Songino Array 176.67 313 PKP **PKPdf** **12 21 51.2 +2.3**
comp=Z,0.2nm,0.5s,baz=130,slow=2.3,SNR=1.6

MEX 27 12:01:51.6±1.0, 30.16°N×114.09°W, h10km, MD4.3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAHB	**Baha de los**	**1.29**	**159**	*e*P	Pn	12 02 12.3	-3.4
SPIG	**San Pedro Mart**	**1.48**	**307**	*e*P	Pn	12 02 14.3	-4.4
SPIG				*e*S	Sn	12 02 34.3	-4.0
214A	**Organ Pipe Nat**	**2.10**	**31**	*e*P	Pn	12 02 23.8	-3.1
MBIG	**Mexicali**	**2.44**	**337**	*e*P	Pg	12 02 48.1	+10
CBX	**Cerro Bola**	**3.08**	**315**	*e*P	Pn	12 02 42.5	+2.0
TJIG	**Tijuana**	**3.17**	**316**	*e*P	Pb	12 02 45.0	-3.0

ECX 27 12:02:44.5±0.4, 30.21N×114.21W, h0km±26km, ML3.9, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.99**	**326**	*e*P	Pg	12 03 02.2	-1.3
SFX				⇓*e*		12 03 25.4	
SFX				IAML		12 03 25.4	
	comp=E,2μm,0.7s						
SPIG	**San Pedro Mart**	**1.36**	**308**	*e*P	Pg	12 03 08.3	-2.3
SPIG				*e*S	Sg	12 03 27.8	-0.6
SPIG				IAML		12 03 47.2	
	comp=N,1μm,1.3s						
BAHB	**Baha de los**	**1.39**	**156**	*e*P	Pg	12 03 08.9	-2.2
CPBX	**Cerro Prieto**	**2.39**	**337**	IAML		12 04 49.1	
	comp=E,2μm,2.0s						
CPBX				IAML		12 04 57.4	
	comp=N,2μm,1.0s						
CPBX				⇑*e*		12 04 57.4	
HSIG		**3.08**	**112**	*e*P	Pn	12 03 34.7	+0.3
SRIG	**Santa Rosalia**	**3.36**	**149**	*e*P	Pn	12 03 38.7	+0.4
SRIG				IAML		12 04 52.3	
	comp=E,256nm,1.1s						
SRIG				⇓*e*		12 05 04.2	
SRIG				IAML		12 05 04.2	
	comp=N,328nm,1.8s						

KRNET 27 12:43:17.9±0.1, 41.68N×70.08E, h26km, mb2.8, 10C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.69**	**239**	⇑*i*P	Pb	12 43 31.5	+0.2
	baz=39						
TAS				⇑*i*S	Sb	12 43 40.5	+0.1
	baz=39						
TRKS	**Terek-Say**	**0.81**	**100**	⇑*i*P	Pn	12 43 34.1	+0.3
	baz=4.0						
TRKS				⇑*i*S	Sn	12 43 45.7	+0.6
	baz=4.0						
ARK	**Arkit**	**1.42**	**85**	⇑*e*P	Pb	12 43 43.6	-0.1
	baz=84						
ARK				⇑*e*S	Sb	12 44 02.6	+1.2
	baz=84						
BTK	**Batken**	**1.71**	**161**	⇑*e*P	Pb	12 43 48.0	-0.8
	baz=61						
BTK				⇑*i*S	Sb	12 44 10.4	+0.5
	baz=61						
OHH	**Osh**	**2.35**	**119**	⇑*e*P	Pb	12 43 57.3	-2.3
	baz=19						
OHH				⇑*i*S	Sb	12 44 25.8	-2.4
	baz=19						
ARLS	**Aral**	**3.18**	**85**	⇓*i*P	Pn	12 44 08.5	+2.1
	baz=85						
ARLS				⇓*i*S	Sn	12 44 45.3	+1.7
	baz=85						
UCH	**Uchtor**	**3.35**	**79**	⇓*i*P	Pn	12 44 11.1	+2.0
	baz=79						
UCH				⇓*i*S	Sn	12 44 49.9	+1.6
	baz=79						

*DJA **27** 12:48:06.5±0.7, 0.°N±2.°×12.°7E±.°, h14km±6km, M4.6/13, mb5.0/3, mB5.2/4, MLv4.3/13, Mw(mB)4.6/4*
*NEIC **27** 12:48:08.4±1.2, 0.°01N±0.°08×126.°76E±0.°08, h64km±8km, mb4.0/20, Error ellipse: s-maj=13.6km s-min=9.8km az=136.0*
*IDC **27** 12:48:09.8±2.2, 0.°05S×126.°76E, h82km±20km, mb3.7/6, mb1 3.9/9, mb1mx3.4/46, mbtmp4.1/9, MS3.3/1, Ms1 3.3/1, ms1mx2.3/74, Error ellipse: s-maj=28.8km s-min=15.3km az=71.0*
ISC 27 12:48:08.9±0.5, 0.°01S±0.°05×126.°72E±0.°05, h73km, n53, σ1§22/59, mb4.1/17, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.00**	**128**	P	**Pn**	**12 48 27.1**	**-0.4**
LBMI				S	**Sn**	**12 48 41.4**	**0.0**
TNTI	**Ternate**	**1.01**	**40**	Pn	**Pn**	**12 48 25.9**	**-1.8**
TNTI	**Ternate**	**1.01**	**40**	P	**Pn**	**12 48 25.9**	**-1.8**
TNTI				S	**Sn**	**12 48 38.8**	**-2.9**
SANI	**Sanana**	**2.15**	**200**	P	**Pn**	**12 48 41.4**	**-1.2**
KMSI	**Cibinong**	**2.80**	**282**	P	**Pn**	**12 48 50.2**	**-1.2**
LUWI	**Luwuk**	**4.08**	**255**	Pn	**Pn**	**12 49 07.9**	**-0.9**
LUWI	**Luwuk**	**4.08**	**255**	P	**Pn**	**12 49 07.9**	**-0.9**
SWI	**Sorong**	**4.62**	**101**	P	**Pn**	**12 49 17.0**	**+0.8**
SIJI	**Sorong**	**4.63**	**101**	P	**Pn**	**12 49 16.9**	**+0.6**
	3.8nm,0.3s,baz=305,slow=12,SNR=15						
SIJI				S	**Sn**	**12 50 07.0**	**-1.9**
	1.1nm,0.3s,baz=208,slow=23,SNR=1.4						
MRSI	**Marisa**	**4.80**	**276**	P	**Pn**	**12 49 16.4**	**-2.3**
APSI	**Ampana**	**5.15**	**260**	P	**Pn**	**12 49 22.8**	**-0.6**
TOLI2	**Tolitoli**	**6.04**	**281**	Pn	**Pn**	**12 49 36.2**	**+0.5**
TTSI	**Tana Toraja**	**7.53**	**246**	P	**Pn**	**12 49 55.6**	**-0.4**
	0.3nm2μm82nm,0.7s						
BNSI	**Bone**	**7.91**	**237**	P	**Pn**	**12 50 01.9**	**+0.6**
	0.2nm30nm,0.6s						
SPSI	**Sidrap Palu**	**7.98**	**240**	P	**Pn**	**12 50 02.7**	**+0.6**
	0.6nm2μm106nm,0.5s						
BKSI	**Bulukumba**	**8.44**	**231**	P	**Pn**	**12 50 09.6**	**+1.2**
KAPI	**Kappang**	**8.55**	**234**	P	**Pn**	**12 50 11.5**	**+1.6**
	6.3nm,0.3s,baz=39,slow=11,SNR=22						
KAPI				S	**Sn**	**12 51 41.3**	**-3.6**
	5.5nm,0.3s,baz=162,slow=20,SNR=19						
KAPI	**Kappang**	**8.55**	**234**		**Pn**	**12 50 11.0**	**+1.1**
MTN	**Manton Dam**	**13.48**	**161**	Pn	**Pn**	**12 51 15.0**	**-2.0**
KNRA	**Kununurra**	**15.69**	**173**	P	**Pn**	**12 51 45.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.00**	**183**	P	**P**	**12 52 13.9**	**+0.1**
	0.2nm,0.3s,baz=14,slow=11,SNR=7.8						
FITZ	**Fitzroy Crossi**	**18.00**	**183**	P	**P**	**12 52 13.0**	**-0.8**
WB0	**Warramunga Arr**	**21.02**	**159**	P	**P**	**12 52 46.6**	**-0.2**
WB0				IAmb	IAmb	12 52 49.5	
	comp=Z,7.1nm,0.5s						
WRAB	**Tennant Creek**	**21.16**	**160**	P	**P**	**12 52 48.0**	**-0.2**
WRA	**Warramunga Arr**	**21.17**	**160**	P	**P**	**12 52 47.3**	**-0.9**
	comp=Z,3.4nm,0.3s,baz=338,slow=10,SNR=125						
WRA				PcP	**PcP**	**12 56 49.8**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=345,slow=1.6,SNR=1.9						
WRA	**Warramunga Arr**	**21.17**	**160**	P	**P**	**12 52 47.4**	**-0.9**
WB2	**Warramunga Arr**	**21.17**	**160**	P	**P**	**12 52 47.8**	**-0.6**
WB2				IAmb	IAmb	12 52 51.0	
	comp=Z,7.8nm,0.8s						
WR0	**Warramunga Arr**	**21.25**	**159**	P	**P**	**12 52 48.8**	**-0.4**
WR0				IAmb	IAmb	12 52 49.3	
	comp=Z,5.8nm,1.0s						
COEN	**Coen**	**21.39**	**131**	P	**P**	**12 52 51.5**	**+0.8**
PSA00	**Pilbara Seismi**	**22.45**	**197**	P	**P**	**12 53 02.5**	**+0.4**
PSA00				IAmb	IAmb	12 53 20.2	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**24.52**	**164**	P	**P**	**12 53 22.7**	**+1.0**
ASAR	**Alice Springs**	**24.52**	**164**	P	**P**	**12 53 21.4**	**-0.3**
	comp=Z,5.1nm,0.4s,baz=343,slow=11,SNR=108						
ASAR				PcP	**PcP**	**12 56 57.0**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=346,slow=1.7,SNR=4.0						
ASAR				ScP	**ScP**	**13 00 30.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=346,slow=2.9,SNR=1.5						
ASAR	**Alice Springs**	**24.52**	**164**	P	**P**	**12 53 21.9**	**+0.1**
FORT	**Forrest**	**30.62**	**178**	P	**P**	**12 54 16.1**	**-0.1**
BBOO	**Buckleboo**	**33.79**	**166**	P	**P**	**12 54 43.3**	**-0.7**
STKA	**Stephens Creek**	**34.68**	**157**	P	**P**	**12 54 51.5**	**-0.1**
	comp=Z,4.0nm,0.5s,baz=336,slow=11,SNR=16						
STKA	**Stephens Creek**	**34.68**	**157**	P	**P**	**12 54 51.3**	**-0.3**
STKA				IAmb	IAmb	12 54 52.3	
	comp=Z,0.9nm,0.6s						
PZH	**PanZhiHua**	**35.69**	**320**	P	**P**	**12 55 04.0**	**+3.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.9s						
KSRS	**Korea Array**	**37.30**	**2**	P	**P**	**12 55 13.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=188,slow=8.2,SNR=1.8						
ARMA	**Armidale**	**38.41**	**144**	P	**P**	**12 55 22.9**	**-0.7**
CAN	**Canberra**	**40.81**	**152**	P	**P**	**12 55 44.0**	**+0.6**
ASAJ	**Asahikawa**	**46.16**	**16**	LR	LR	13 14 36.6	
	comp=Z,33nm,21.1s,baz=128,slow=34						
GOMU	**GeErMu**	**46.64**	**324**	P	**P**	**12 56 31.0**	**+0.4**
GOMU				pP	pP	12 56 35.8	-12
GOMU				sP	pwP	12 56 38.0	-13
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,110nm,6.7s						
SONM	**Songino Array**	**50.83**	**342**	P	**P**	**12 57 04.1**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=151,slow=6.6,SNR=2.2						
MK31	**Makanchi Array**	**60.63**	**327**	P	**P**	**12 58 12.7**	**+0.4**
MK31				IAmb	IAmb	12 58 13.3	
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**60.63**	**327**	P	**P**	**12 58 11.9**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=118,slow=8.3,SNR=15						
MKAR	**Makanchi Array**	**60.63**	**327**	P	**P**	**12 58 12.0**	**-0.2**
KURK	**Kurchatov**	**64.89**	**328**	P	**P**	**12 58 40.8**	**+0.4**
KURK				IAmb	IAmb	12 58 41.7	
	comp=Z,1.8nm,0.7s						
KKAR	**Karatay Array**	**65.97**	**318**	P	**P**	**12 58 47.8**	**+0.2**
TIXI	**Tiksi**	**71.56**	**1**	P	**P**	**12 59 21.2**	**-0.6**
TIXI				IAmb	IAmb	12 59 38.3	
	comp=Z,4.2nm,1.5s						
ABKAR	**Akbulak array**	**75.04**	**321**	P	**P**	**12 59 43.3**	**+0.7**
VNDA	**Vanda**	**79.74**	**173**	P	**P**	**13 00 09.1**	**+0.7**
VNDA				IAmb	IAmb	13 00 24.7	
	comp=Z,2.2nm,1.5s						
QSPA	**South Pole Qui**	**89.92**	**180**	P	**P**	**13 01 00.2**	**+0.4**
QSPA				IAmb	IAmb	13 01 15.5	
	comp=Z,0.8nm,1.0s						

WEL 27 12:58:58.8±1.1, 35.°S±18.°×177.°9E±3.°3, h317km±15km, M3.8/4, MLv3.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**2.96**	**193**	P	Pn	12 59 55.2	0.0
HAZ				S		13 00 40.8	+0.4
PKGZ	**Pakihiroa**	**3.04**	**189**	P	Pn	12 59 56.7	+0.6
PKGZ				S	S	13 00 40.9	-1.1
RUGZ	**Raukumara Rang**	**3.18**	**194**	P	Pn	12 59 57.0	-0.6
RUGZ				S	S	13 00 44.2	-0.4
MWZ	**Matawai**	**3.57**	**194**	P	Pn	12 59 60.0	-1.3
MWZ				S	S	13 00 52.5	+1.0
URZ	**Urewera**	**3.60**	**200**	P	Pn	13 00 01.0	-0.5
URZ				S	S	13 00 53.3	+1.4
MUGZ	**Murupara**	**3.90**	**202**	P	Pn	13 00 05.5	+0.7
SNGZ	**Shannon Statio**	**4.04**	**195**	P	Pn	13 00 06.7	+0.5
SNGZ				S	S	13 01 01.9	+1.5
BKZ	**Black Stump Fm**	**4.62**	**201**	P	Pn	13 00 13.0	+0.4
OTVZ	**Oturere**	**4.90**	**208**	P	Pn	13 00 17.0	+1.1
BHHZ	**Black Hill Sta**	**5.05**	**203**	P	Pn	13 00 17.5	+0.1
BHHZ				S	S	13 01 21.3	+0.4
KRHZ	**Kereru**	**5.09**	**200**	P	Pn	13 00 18.0	+0.1
KRHZ				S	S	13 01 21.6	-0.2
KAHZ	**Kahuranaki**	**5.11**	**196**	P	Pn	13 00 18.8	+0.7
KAHZ				S	S	13 01 24.0	+1.9
PXZ	**Pawanui**	**5.34**	**195**	P	Pn	13 00 21.0	+0.3
TSZ	**Takapari Road**	**5.60**	**202**	P	Pn	13 00 23.5	-0.3
TSZ				S	S	13 01 32.7	+0.4
BFZ	**Birch Farm**	**6.10**	**197**	P	Pn	13 00 29.6	0.0
BFZ				S	S	13 01 41.9	-1.1

*RSNC **27** 13:00:25.3±1.1, 6.°84N×73.°15W, h142km±4km, ML3.0, Mw3.4*
*IDC **27** 13:00:27.2±4.3, 6.°73N×73.°87W, h174km±24km, mb2.6/1, mb1 2.9/1, mb1mx2.7/32, mbtmp3.0/1, Error ellipse: s-maj=183.5km s-min=40.7km az=93.0*
ISC 27 13:00:23.2±0.9, 6.88N±0.04×73.13W±0.04, h155km±6km, n27, σ1§31/51, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**190**	⇑*i*P	**Pn**	**13 00 44.7**	**+0.2**
BARC				*e*S	**Sn**	**13 00 59.4**	**-1.5**
BARC				*i*		13 01 02.4	
	comp=Z,183nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**43**	*e*P	**Pn**	**13 00 47.4**	**+1.1**
PAMC				*e*S	**Sn**	**13 01 04.4**	**+0.4**
PAMC				*i*		13 01 06.6	
	comp=Z,295nm,0.5s						
RUSC	**La Rusia**	**0.98**	**177**	*e*P	**Pn**	**13 00 48.9**	**+0.1**
RUSC				*e*S	**Sn**	**13 01 07.5**	**-0.9**
RUSC				*i*		13 01 09.3	
	comp=Z,175nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**256**	*e*P	**Pn**	**13 00 51.5**	**-0.2**
PTBC				*e*S	**Sn**	**13 01 12.1**	**-1.4**
PTBC				*i*		13 01 15.0	
	comp=Z,62nm,0.2s						
OCAC	**Ocana**	**1.37**	**352**	*e*P	**Pn**	**13 00 52.9**	**+1.0**
OCAC				*e*S	**Sn**	**13 01 14.0**	**-0.1**
OCAC				*i*		13 01 19.2	
	comp=Z,270nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**108**	⇑*i*P	**Pn**	**13 00 53.2**	**+1.0**
TAMC				*e*S	**Sn**	**13 01 14.5**	**+0.2**
TAMC				*i*		13 01 15.9	
	comp=Z,44nm,0.3s						
SPBC	**San Pablo de B**	**1.53**	**218**	*e*P	**Pn**	**13 00 53.9**	**+0.3**
SPBC				*e*S	**Sn**	**13 01 15.6**	**-1.2**
SPBC				*i*		13 01 19.7	
	comp=Z,130nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*e*P	**Pn**	**13 00 57.5**	**+1.0**
ZARC				*e*S	**Sn**	**13 01 22.9**	**+0.8**
ZARC				*i*		13 01 28.5	
	comp=Z,170nm,0.2s						
NORC	**Norcasia**	**2.16**	**233**	*e*P	**Pn**	**13 01 01.0**	**+0.4**
NORC				*e*S	**Sn**	**13 01 28.7**	**-0.7**
NORC				*i*		13 01 30.5	
	comp=Z,57nm,0.2s						
CHIC	**Chingaza**	**2.31**	**195**	*e*P	**Pn**	**13 01 03.2**	**+0.5**
CHIC				*e*S	**Sn**	**13 01 32.5**	**-0.5**
CHIC				*i*		13 01 39.7	
	comp=Z,41nm,0.5s						
ROSC	**El Rosal**	**2.34**	**210**	P	**Pn**	**13 01 04.5**	**+1.4**
	comp=Z,14nm,0.3s,baz=41,slow=19,SNR=36						
ROSC				S	**Sn**	**13 01 31.5**	**-2.2**
	comp=Z,8.6nm,0.3s,baz=125,slow=21,SNR=5.9						
ROSC	**El Rosal**	**2.34**	**210**	*e*P	**Pn**	**13 01 04.9**	**+1.9**
ROSC				*e*S	**Sn**	**13 01 35.4**	**+1.7**
ROSC				*i*		13 01 41.7	
	comp=Z,103nm,0.5s						
HELC	**Santa Helena**	**2.48**	**254**	*e*P	**Pn**	**13 01 05.7**	**+1.1**
HELC				*e*S	**Sn**	**13 01 37.3**	**+0.8**
HELC				*i*		13 01 43.7	
	comp=Z,45nm,0.2s						
UREC	**San Jos de Ur**	**2.53**	**290**	*e*P	**Pn**	**13 01 05.0**	**+0.1**
UREC				*e*S	**Sn**	**13 01 35.6**	**-1.6**
UREC				*i*		13 01 47.0	
	comp=Z,81nm,0.2s						
SOCV	**Socops**	**2.66**	**58**	*e*P	**Pn**	**13 01 06.5**	**0.0**
SOCV				*e*S	**Sn**	**13 01 38.0**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	*e*P	**Pn**	**13 01 09.3**	**+1.1**
GUY2C				*e*S	**Sn**	**13 01 44.0**	**+1.1**
GUY2C				*i*		13 01 51.3	
	comp=Z,49nm,0.4s						
VILC	**Villavicencio,**	**2.80**	**192**	*e*P	**Pn**	**13 01 08.3**	**-0.2**
VILC				*e*S	**Sn**	**13 01 43.6**	**+0.1**
CBOC	**Ciudad Bolivar**	**3.03**	**251**	*e*P	**Pn**	**13 01 12.8**	**+1.5**
CBOC				*e*S	**Sn**	**13 01 47.3**	**-1.2**
CBOC				*i*		13 01 53.9	
	comp=Z,13nm,0.4s						
MOTC	**Monteria, Cord**	**3.14**	**307**	*e*P	**Pn**	**13 01 12.1**	**-0.4**
MOTC				*e*S	**Sn**	**13 01 50.5**	**-0.2**
MOTC				*i*		13 02 05.0	
	comp=Z,26nm,0.5s						
SDV	**Santo Domingo**	**3.18**	**51**	*e*P	**Pn**	**13 01 14.2**	**+1.0**
SDV				*e*S	**Sn**	**13 01 51.5**	**-0.5**
ANIL	**Santa Ana**	**3.27**	**224**	*e*P	**Pn**	**13 01 16.3**	**+1.8**
ANIL				*e*S	**Sn**	**13 01 55.2**	**+0.9**
ANIL				*i*		13 01 59.2	
	comp=Z,86nm,0.3s						
ORTC	**Ortega, Tolima**	**3.62**	**216**	*e*P	**Pn**	**13 01 19.4**	**+0.7**
ORTC				*e*S	**Sn**	**13 02 02.6**	**+0.7**
ORTC				*i*		13 02 09.8	
	comp=Z,25nm,0.2s						
PLMC	**San Jos del P**	**3.69**	**238**	*e*P	**Pn**	**13 01 20.8**	**+1.1**
PLMC				*e*S	**Sn**	**13 02 03.3**	**-0.3**
PLMC				*i*		13 02 09.4	
	comp=Z,18nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30**	**228**	*e*P	**Pn**	**13 01 27.8**	**+0.2**
YOTC				*e*S	**Sn**	**13 02 12.3**	**-5.4**
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**13 10 35.5**	**+0.8**
	comp=Z,0.1nm,0.7s,baz=133,slow=6.9,SNR=2.2						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**13 19 53.6**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=121,slow=3.9,SNR=4.2						
WRA	**Warramunga Arr

Plg46.0000°, Azm143.0000°; P -2.0200, Plg1.0000°, Azm52.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

BEO 27 13:09:30.6±0.5,41°.40N×19°.48E,h11km±2km, ML3.9/21

ISC 27 13:09:29.2±0.8,41°.31N±0°.01×19°.37E±0°.02,h17km±5km, n477,σ1♀36/568,mb4.3/41,MS3.5/6,67C-32D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**84**	⇑P		**Pg**	**13 09 36.1**	**-0.9**
TIR				⇓S		**Sb**	**13 09 42.5**	**-0.4**
TIR	**Tirane**	**0.37**	**84**	*e*Pg		**Pg**	**13 09 36.0**	**-1.0**
TIR				*e*Sg		**Sg**	**13 09 41.3**	**-0.9**
TIR	**Tirane**	**0.37**	**84**	P		**Pg**	**13 09 36.0**	**-1.0**
TIR				S		**Sg**	**13 09 42.1**	**-0.1**
TIR				AML	AML		13 09 45.3	
	comp=N,55482μm,0.4s							
TIR				AML	AML		13 09 47.4	
	comp=E,51554μm,0.5s							
TIR	**Tirane**	**0.37**	**84**	P		**Pg**	**13 09 35.9**	**-1.0**
TIR							13 09 42.5	
TIR	**Tirane**	**0.37**	**84**			**Pg**	**13 09 35.9**	**-1.0**
TIR	**Tirane**	**0.37**	**84**	⇑P		**Pg**	**13 09 35.8**	**-1.2**
TIR	**Tirane**	**0.37**	**84**	P		**Pg**	**13 09 36.0**	**-1.0**
	baz=91							
TIR				S		**Sb**	**13 09 43.6**	**+0.8**
	baz=91							
TIR				AMP				
	comp=E,28nm,0.4s,baz=91							
ULC	**Ulcinj**	**0.66**	**352**	⇓*i*Pg		**Pb**	**13 09 41.8**	**-0.5**
ULC				*i* Sg		**Sb**	**13 09 51.8**	**+0.5**
VLO	**Vlora**	**0.84**	**174**	P		**Pn**	**13 09 47.1**	**+0.9**
VLO	**Vlora**	**0.84**	**174**	Pn		**Pn**	**13 09 47.1**	**+0.9**
PHP	**Peshkopia**	**0.89**	**64**	P		**Pb**	**13 09 44.2**	**-2.0**
	baz=68							
PHP				S		**Sn**	**13 09 59.3**	**-0.1**
	baz=68							
PHP				AMP				
	comp=N,37nm,0.5s,baz=68							
DRME	**Dracevica, Mon**	**0.89**	**351**	⇑*i*Pg		**Pg**	**13 09 45.8**	**-0.7**
DRME				*e*Sg		**Sn**	**13 09 59.8**	**+0.4**
DRME	**Dracevica, Mon**	**0.89**	**351**	⇑*i*Pg		**Pg**	**13 09 45.9**	**-0.6**
DRME				*i* Sg		**Sn**	**13 09 58.9**	**-0.5**
BUM	**Brajici-Budva**	**1.05**	**340**	*e*Pg		**Pg**	**13 09 48.8**	**-0.9**
BUM				*i* Sg		**Sn**	**13 10 04.8**	**+1.2**
OHR	**Ohrid**	**1.09**	**100**	*e*Pg		**Pg**	**13 09 49.9**	**-0.5**
OHR				*e*Sg		**Sb**	**13 10 03.8**	**+0.1**
OHR	**Ohrid**	**1.09**	**100**	*i* Pn		**Pb**	**13 09 49.0**	**-0.7**
PDG	**Podgorica**	**1.12**	**356**	P		**Pg**	**13 09 51.4**	**+0.4**
PDG				⇓S		**Sg**	**13 10 08.3**	**+2.5**
PDG	**Podgorica**	**1.12**	**356**	*e*Pg		**Pg**	**13 09 50.3**	**-0.8**
PDG				*e*Sg		**Sn**	**13 10 04.6**	**-0.6**
PDG	**Podgorica**	**1.12**	**356**			**Pg**	**13 09 50.2**	**-0.8**
PDG	**Podgorica**	**1.12**	**356**			**Sg**	**13 10 08.3**	**+2.5**
PDG	**Podgorica**	**1.12**	**356**	⇑*i*Pg		**Pg**	**13 09 50.2**	**-0.8**
PDG				*e*Sg		**Sg**	**13 10 07.9**	**+2.2**
PDG	**Podgorica**	**1.12**	**356**	⇑P		**Pn**	**13 09 49.8**	**-0.4**
TTG	**Podgorica**	**1.12**	**356**	⇑*i*Pg		**Pb**	**13 09 49.6**	**-0.6**
TTG				*i* Sg		**Sg**	**13 10 07.2**	**+1.5**
BCI	**Bajram Curri**	**1.18**	**26**	P		**Pn**	**13 09 49.7**	**-1.2**
	baz=28							
BCI				S		**Sb**	**13 10 06.1**	**0.0**
	baz=28							
BCI				AMP				
	comp=E,29nm,0.3s,baz=28							
KBN	**Korca**	**1.27**	**122**	P		**Pg**	**13 09 53.2**	**-0.6**
KBN	**Korca**	**1.27**	**122**			**Pg**	**13 09 53.2**	**-0.6**
KBN	**Korca**	**1.27**	**122**	P		**Pb**	**13 09 52.5**	**-0.2**
	baz=123							
KBN				S		**Sg**	**13 10 11.4**	**+1.1**
	baz=123							
KBN				AMP				
	comp=N,16nm,0.5s,baz=123							
CEME	**Cevo**	**1.28**	**345**	⇓*i*Pg		**Pb**	**13 09 52.3**	**-0.7**
CEME				*i* Sg		**Sg**	**13 10 12.2**	**+1.4**
HCY	**Herceg Novi**	**1.31**	**330**	⇑*i*Pg		**Pg**	**13 09 53.5**	**-1.1**
HCY				*e*Sg		**Sg**	**13 10 12.7**	**+0.9**
HCY	**Herceg Novi**	**1.31**	**330**	⇑*i*Pg		**Pb**	**13 09 53.0**	**-0.4**
HCY				*i* Sg		**Sg**	**13 10 13.1**	**+1.3**
PVY	**Plav**	**1.36**	**19**	⇑*i*Pg		**Pb**	**13 09 53.8**	**-0.5**
PVY				*i* Sg		**Sg**	**13 10 14.6**	**+1.4**
SCTE	**Santa Cesarea**	**1.41**	**209**	P		**Pg**	**13 09 56.7**	**+0.3**
SCTE				S		**Sg**	**13 10 16.4**	**+1.5**
SCTE				AML	AML		13 10 20.4	
	comp=N,3112μm,0.6s							
SCTE				AML	AML		13 10 24.1	
	comp=E,3308μm,0.4s							
SCTE	**Santa Cesarea**	**1.41**	**209**			**Pb**	**13 09 54.1**	**-1.0**
SCTE	**Santa Cesarea**	**1.41**	**209**	P		**Pb**	**13 09 54.3**	**-0.8**
	baz=208							
LSK	**Leskovik**	**1.48**	**141**	S		**Sg**	**13 10 17.7**	**+0.5**
	baz=140							
LSK				AMP				
	comp=E,12nm,0.7s,baz=140							
NKME	**Niksic**	**1.49**	**348**	⇓*i*Pg		**Pb**	**13 09 55.9**	**-0.6**
NKME				*i* Sg		**Sg**	**13 10 17.5**	**+0.1**
SRN	**Sarande**	**1.50**	**161**	P		**Pb**	**13 09 56.4**	**-0.2**
	baz=160							
SRN				S		**Sg**	**13 10 17.3**	**-0.4**
	baz=160							
SRN				AMP				
	comp=N,9.9nm,0.6s,baz=160							
NKY	**Niksic**	**1.53**	**349**	*e*Pg		**Pb**	**13 09 56.4**	**-0.8**
NKY				*i* Sg		**Sg**	**13 10 18.3**	**-0.4**
KOME	**Kolasin**	**1.54**	**4**	⇓*i*Pg		**Pb**	**13 09 57.0**	**-0.4**
KOME				*i* Sg		**Sg**	**13 10 18.9**	**-0.2**
NEST	**Nestorio**	**1.55**	**125**	P		**Pg**	**13 09 58.0**	**-1.1**
NEST				S		**Sg**	**13 10 21.3**	**+1.9**
FNA	**Florina**	**1.60**	**108**	P		**Pb**	**13 09 58.1**	**-0.3**
FNA				S		**Sg**	**13 10 20.4**	**-0.6**
FNA				AML	AML		13 10 21.1	
	comp=N,18669μm,0.5s							
FNA				AML	AML		13 10 24.8	
	comp=E,19669μm,0.4s							
FNA	**Florina**	**1.60**	**108**	P		**Pb**	**13 09 57.9**	**-0.5**
FNA	**Florina**	**1.60**	**108**	Pn		**Pb**	**13 09 57.9**	**-0.5**
FNA	**Florina**	**1.60**	**108**	⇑P		**Pb**	**13 09 57.9**	**-0.5**
FNA	**Florina**	**1.60**	**108**	P		**Pb**	**13 09 58.0**	**-0.5**
	baz=109							
FNA				S		**Sg**	**13 10 20.3**	**-0.6**
	baz=109							
TREB	**Trebinje**	**1.60**	**332**	*e*Pn		**Pb**	**13 09 57.3**	**-1.1**
TREB				*e*Sn		**Sg**	**13 10 19.5**	**-1.4**
TREB	**Trebinje**	**1.60**	**332**	⇑*i*Pn		**Pb**	**13 09 57.2**	**-1.1**
TREB				*e*Sn		**Sg**	**13 10 19.2**	**-1.7**
IVA	**Berane**	**1.61**	**14**	⇓*i*Pn		**Pb**	**13 09 57.7**	**-0.8**
IVA				*i* Sn		**Sg**	**13 10 20.5**	**-0.7**
KEK	**Kerkira**	**1.63**	**168**	P		**Pg**	**13 10 01.0**	**+0.5**
KEK				S		**Sg**	**13 10 23.1**	**+1.5**
KEK				AML	AML		13 10 27.5	
	comp=E,5333μm,0.5s							
KEK				AML	AML		13 10 27.6	
	comp=N,4140μm,0.4s							
KEK	**Kerkira**	**1.63**	**168**	⇑P		**Pn**	**13 09 56.5**	**-0.6**
DBRK	**Dubrovnik**	**1.64**	**326**	*e*Pn		**Pb**	**13 09 57.5**	**-1.5**
SKO	**Skopje**	**1.68**	**66**	*i* Pn		**Pb**	**13 09 59.1**	**-0.6**
BRY	**Bratogost**	**1.71**	**339**	⇑*i*Pn		**Pb**	**13 09 58.9**	**-1.3**
BRY				*e*Sn		**Sb**	**13 10 21.5**	**0.0**
BRY	**Bratogost**	**1.71**	**339**	*e*Pn		**Pb**	**13 09 59.0**	**-1.3**
BRY				*i* Sn		**Sg**	**13 10 22.5**	**-1.9**
PENT	**Pentalofos**	**1.74**	**129**	P		**Pb**	**13 10 01.0**	**+0.2**
PENT				S		**Sg**	**13 10 25.8**	**+0.5**
PENT				AML	AML		13 10 33.4	
	comp=E,3101μm,0.6s							
PENT				AML	AML		13 10 36.7	
	comp=N,1051μm,0.6s							
NOCI	**Noci**	**1.82**	**254**	P		**Pb**	**13 10 00.3**	**-1.8**
	baz=253							
IGT	**Igoumenitsa**	**1.92**	**157**	P		**Pb**	**13 10 02.7**	**-1.1**
IGT				S		**Sg**	**13 10 30.8**	**-0.1**
IGT				AML	AML		13 10 35.0	
	comp=N,3446μm,0.4s							
IGT				AML	AML		13 10 35.4	
	comp=E,4678μm,0.4s							
IGT	**Igoumenitsa**	**1.92**	**157**	P		**Pb**	**13 10 02.6**	**-1.1**
	baz=156							
IGT				S		**Sg**	**13 10 29.5**	**-1.5**
	baz=156							
UPM	**Unac-Piva**	**1.93**	**350**	⇑*i*Pn		**Pb**	**13 10 02.5**	**-1.5**
UPM				*e*Sn		**Sb**	**13 10 27.2**	**-0.6**
UPM	**Unac-Piva**	**1.93**	**350**	*e*Pn		**Pn**	**13 10 02.0**	**+0.6**
UPM				*i* Sn		**Sb**	**13 10 27.9**	**+0.1**
STON	**Ston**	**2.00**	**322**	⇑*i*Pn		**Pn**	**13 10 02.4**	**+0.3**
STON				*e*Sn		**Sb**	**13 10 28.8**	**-0.8**
SJES	**Sjenica**	**2.00**	**13**	*e*Pn		**Pb**	**13 10 04.7**	**-0.5**
SJES				*e*Sn		**Sn**	**13 10 27.5**	**+0.5**
PLE	**Pljevlja**	**2.02**	**0**	⇑*i*Pn		**Pn**	**13 10 03.3**	**+0.7**
PLE				*i* Sn		**Sb**	**13 10 30.3**	**-0.1**
KPRO	**Kipourio**	**2.03**	**131**	P		**Pb**	**13 10 04.8**	**-0.9**
KZN	**Kozani**	**2.08**	**118**	P		**Pb**	**13 10 04.8**	**-1.6**
KZN				S		**Sb**	**13 10 32.3**	**+0.3**
KZN				AML	AML		13 10 37.0	
	comp=E,3275μm,0.4s							
KZN				AML	AML		13 10 44.0	
	comp=N,2865μm,0.5s							
MATE	**Matera**	**2.12**	**253**	⇑P		**Pn**	**13 10 04.4**	**+0.5**
MATE	**Matera**	**2.12**	**253**			**Pn**	**13 10 04.4**	**+0.5**
MATE	**Matera**	**2.12**	**253**	⇑P		**Pn**	**13 10 04.4**	**+0.5**
STIP	**Stip**	**2.15**	**79**	*i* Pn		**Pb**	**13 10 07.3**	**-0.4**
SELS	**Selova**	**2.31**	**34**	*e*Pn		**Pn**	**13 10 07.0**	**+0.5**
SELS				*e*Sn		**Sn**	**13 10 34.3**	**-0.2**
RUDO	**Rudo**	**2.31**	**360**	*e*P		**Pn**	**13 10 07.2**	**+0.7**
RUDO				*e*Sn		**Sn**	**13 10 35.9**	**+1.4**
GRG	**Griva**	**2.31**	**98**	P		**Pn**	**13 10 07.5**	**+1.0**
GRG				S		**Sn**	**13 10 36.3**	**+1.7**
GRG				AML	AML		13 10 52.7	
	comp=N,2027μm,0.7s							
GRG				AML	AML		13 10 53.8	
	comp=E,3266μm,1.1s							
PRVS	**Prvonek**	**2.35**	**58**	*e*Pn		**Pn**	**13 10 07.9**	**+0.9**
PRVS				*e*Sn		**Sn**	**13 10 35.7**	**+0.3**
LSTV	**Lastovo**	**2.36**	**309**	*e*Pn		**Pn**	**13 10 07.0**	**0.0**
LSTV				Sn		**Sn**	**13 10 34.9**	**-0.7**
BARS	**Barje**	**2.36**	**50**	*e*Pn		**Pn**	**13 10 08.3**	**+1.1**
BARS	**Barje**	**2.36**	**50**	*e*Pn		Pg	13 10 20.9	+6.4
BARS				*e*Sn		**Sn**	**13 10 35.8**	**0.0**
BARS				*e*Sn		Sg	13 10 59.6	+14
VAY	**Valandovo**	**2.41**	**89**	*e*Pn		**Pn**	**13 10 08.5**	**+0.8**
VAY				*e*Sn		**Sn**	**13 10 37.9**	**+1.1**
VAY	**Valandovo**	**2.41**	**89**	*i* Pn		**Pn**	**13 10 08.6**	**+0.8**
MRVN	**Minervino Murg**	**2.41**	**265**	⇑P		**Pn**	**13 10 08.6**	**+0.7**
BBLS	**Lazići**	**2.56**	**1**	*e*Pn		**Pn**	**13 10 11.4**	**+1.5**
BBLS				*e*Sn		**Sn**	**13 10 41.5**	**+0.8**
BBLS	**Lazići**	**2.56**	**1**	⇑*i*Pn		**Pn**	**13 10 11.2**	**+1.3**
BBLS				*e*Sn		**Sn**	**13 10 42.5**	**+1.8**
BOSS	**Bosilegrad**	**2.60**	**62**	*e*Pn		**Pn**	**13 10 11.2**	**+0.7**
BOSS				*e*Sn		**Sn**	**13 10 41.2**	**-0.6**
MAKA	**Makarska**	**2.64**	**319**	*e*Pn		**Pn**	**13 10 11.2**	**+0.2**
LIT	**Litokhoron**	**2.66**	**116**	P		**Pn**	**13 10 12.0**	**+0.8**
LIT	**Litokhoron**	**2.66**	**116**	P		**Pn**	**13 10 11.9**	**+0.6**
LIT	**Litokhoron**	**2.66**	**116**	Pn		**Pn**	**13 10 11.9**	**+0.6**
LIT	**Litokhoron**	**2.66**	**116**	⇑P		**Pn**	**13 10 11.8**	**+0.5**
KNT	**Kendrikon**	**2.66**	**92**	P		**Pn**	**13 10 12.0**	**+0.7**
KNT				S		**Sn**	**13 10 43.8**	**+0.6**
THL	**Klokotos Trika**	**2.66**	**130**	P		**Pn**	**13 10 12.6**	**+1.3**
THL				AML	AML		13 10 58.1	
	comp=N,1032μm,0.5s							
THL				AML	AML		13 11 13.2	
	comp=E,766μm,0.7s							
RICI	**Ricice**	**2.74**	**324**	*e*Pn		**Pn**	**13 10 12.9**	**+0.5**
SGRT	**San Giovanni R**	**2.76**	**280**	Pn		**Pn**	**13 10 13.1**	**+0.3**
GRUS	**Gruza**	**2.76**	**21**	*e*Pn		**Pn**	**13 10 14.2**	**+1.5**
GRUS				*e*Sn		**Sn**	**13 10 46.0**	**+0.4**
DIVS	**Divibare**	**2.83**	**9**	*e*Pn		**Pn**	**13 10 14.4**	**+0.8**
DIVS				*e*Sn		**Sn**	**13 10 46.8**	**-0.5**
DIVS	**Divibare**	**2.83**	**9**			**Pn**	**13 10 14.3**	**+0.8**
DIVS	**Divibare**	**2.83**	**9**	⇑*i*Pn		**Pn**	**13 10 14.3**	**+0.7**
DIVS				*e*Sn		**Sn**	**13 10 48.4**	**+1.1**
DIVS	**Divibare**	**2.83**	**9**	⇑P		**Pn**	**13 10 14.4**	**+0.7**
HVAR	**Hvar**	**2.87**	**312**	*e*Pn		**Pn**	**13 10 14.1**	**0.0**
BOVS	**Bovan**	**2.90**	**36**	⇓P		**Pn**	**13 10 16.9**	**+2.4**
BOVS	**Bovan**	**2.90**	**36**			**Pn**	**13 10 16.9**	**+2.4**
HORT	**Hortiatis**	**2.91**	**103**	P		**Pn**	**13 10 15.0**	**+0.2**
HORT				AML	AML		13 10 53.9	
	comp=N,805μm,0.6s							
HORT				AML	AML		13 10 55.1	
	comp=E,607μm,0.5s							
TIP	**Timpagrande**	**2.92**	**224**	Pn		**Pn**	**13 10 15.4**	**+0.5**
TIP	**Timpagrande**	**2.92**	**224**	⇑P		**Pn**	**13 10 15.4**	**+0.5**
TRUS	**Trudelj**	**3.01**	**14**	*e*Pn		**Pn**	**13 10 17.0**	**+0.9**
TRUS				*e*Sn		**Sn**	**13 10 51.1**	**-0.7**
VTS	**Vitosha**	**3.16**	**64**	⇓P		**Pn**	**13 10 20.3**	**+1.9**
VTS	**Vitosha**	**3.16**	**64**	*e*Pn		**Pn**	**13 10 19.5**	**+1.2**
VTS				*e*Sn		**Sn**	**13 10 54.5**	**-1.2**
VTS	**Vitosha**	**3.16**	**64**	P		**Pn**	**13 10 19.2**	**+0.9**
VTS	**Vitosha**	**3.16**	**64**	Pn		**Pn**	**13 10 19.2**	**+0.9**
VTS	**Vitosha**	**3.16**	**64**	⇓P		**Pn**	**13 10 19.3**	**+0.9**
AGG	**Agios Georgios**	**3.22**	**134**	P		**Pn**	**13 10 20.1**	**+1.2**
AGG	**Agios Georgios**	**3.22**	**134**	Pn		**Pn**	**13 10 20.1**	**+1.2**
AGG	**Agios Georgios**	**3.22**	**134**	⇑P		**Pn**	**13 10 20.1**	**+1.2**
PLG	**Polygyros**	**3.23**	**105**	P		**Pn**	**13 10 19.6**	**+0.5**
PLG				AML	AML		13 11 01.4	
	comp=E,762μm,0.4s							
PLG				AML	AML		13 11 02.9	
	comp=N,1013μm,0.5s							
TEKS	**Tekeris**	**3.24**	**2**	*e*Pn		**Pn**	**13 10 19.0**	**-0.3**
TEKS				*e*Sn		**Sn**	**13 10 56.6**	**-0.9**
TEKS	**Tekeris**	**3.24**	**2**	*e*Pn		**Pn**	**13 10 20.4**	**+1.1**
SVIS	**Svilajnac**	**3.25**	**24**	*e*Pn		**Pn**	**13 10 19.2**	**-0.2**
SVIS				*e*Sn		**Sn**	**13 10 57.5**	**-0.2**
ZAGS	**Zajecar**	**3.27**	**39**	*e*Pn		**Pn**	**13 10 20.1**	**+0.4**
ZAGS				*e*Sn		**Sn**	**13 10 56.6**	**-1.6**
ANX	**Ano Chora**	**3.34**	**143**	P		**Pn**	**13 10 22.9**	**+2.1**
BLKB	**Belogradchik**	**3.36**	**45**	⇓S		**Sn**	**13 11 03.6**	**+3.0**
BLKB	**Belogradchik**	**3.36**	**45**			**Sn**	**13 11 03.6**	**+3.0**
NVR	**Nevrokopi**	**3.38**	**88**	P		**Pn**	**13 10 22.2**	**+1.0**
NVR				S		**Sn**	**13 11 01.0**	**+0.1**
NVR				AML	AML		13 11 20.3	
	comp=E,341μm,1.0s							
NVR				AML	AML		13 11 23.7	
	comp=N,498μm,1.5s							
KIJV	**Kijevo**	**3.47**	**322**	*e*Pn		**Pn**	**13 10 23.4**	**+1.0**
BLJ	**Bijeljina**	**3.47**	**359**	*e*Pn		**Pn**	**13 10 22.3**	**-0.1**
BLJ				*e*Sn		**Sn**	**13 11 03.2**	**+0.1**
KUBS	**Kucevo**	**3.53**	**28**	*e*Pn		**Pn**	**13 10 23.0**	**-0.3**
KUBS				*e*Sn		**Sn**	**13 11 02.5**	**-2.2**
MGRS	**Mrkonjic Grad**	**3.53**	**332**	⇑*i*Pn		**Pn**	**13 10 24.4**	**+1.1**
MGRS				*e*Sn		**Sn**	**13 11 05.8**	**+1.1**
DOB	**Doboj**	**3.55**	**345**	*e*Pn		**Pn**	**13 10 24.9**	**+1.4**
ZIRJ	**Zirje**	**3.62**	**312**	*e*Pn		**Pn**	**13 10 24.9**	**+0.4**
PAOL	**Paolisi**	**3.64**	**267**			**Pn**	**13 10 25.9**	**+1.2**
MORI	**Morici**	**3.72**	**315**	*e*Pn		**Pn**	**13 10 26.6**	**+0.8**
BLY	**Banja Luka**	**3.79**	**336**	⇑*i*Pn		**Pn**	**13 10 27.9**	**+1.1**
BLY				*e*Sn		**Sn**	**13 11 11.4**	**+0.3**
BLY	**Banja Luka**	**3.79**	**336**	⇑P		**Pn**	**13 10 28.0**	**+1.1**
A050A	**Klekovaca**	**3.80**	**328**	⇑*i*Pn		**Pn**	**13 10 28.0**	**+1.0**
A050A				*e*Sn		**Sn**	**13 11 12.1**	**+0.8**
LKR	**Lokris**	**3.85**	**132**	P		**Pn**	**13 10 30.6**	**+3.0**
FRGS	**Fruska Gora**	**3.86**	**5**	*e*Pn		**Pn**	**13 10 26.9**	**-0.9**
FRGS				*e*Sn		**Sn**	**13 11 10.1**	**-2.6**
FRGS	**Fruska Gora**	**3.86**	**5**	*e*Pn		**Pn**	**13 10 27.7**	**-0.1**
MDVR	**Moldovita**	**3.87**	**25**	⇓P		**Pn**	**13 10 29.5**	**+1.6**
MDVR	**Moldovita**	**3.87**	**25**			**Pn**	**13 10 29.5**	**+1.6**
KAVA	**Kavala**	**3.89**	**93**	P		**Pn**	**13 10 28.9**	**+0.6**
KLV	**Kalavryta, Ach**	**3.90**	**146**	P		**Pn**	**13 10 30.2**	**+1.8**
A052A	**Srbac**	**4.03**	**341**	⇑*i*Pn		**Pn**	**13 10 30.6**	**+0.5**
A052A				*e*Sn		**Sn**	**13 11 17.6**	**+0.8**
CEL	**Celeste**	**4.06**	**222**	Pn		**Pn**	**13 10 30.5**	**0.0**
DJES	**Djerdap**	**4.07**	**33**	⇓P		**Pn**	**13 10 33.1**	**+2.4**
DJES	**Djerdap**	**4.07**	**33**			**Pn**	**13 10 33.1**	**+2.4**
A051A	**Mrakovica**	**4.12**	**335**	⇑*i*Pn		**Pn**	**13 10 32.2**	**+0.8**
A051A				*e*Sn		**Sn**	**13 11 19.6**	**+0.4**
DUGI	**Dugi Otok**	**4.16**	**312**	*e*Pn		**Pn**	**13 10 32.8**	**+0.8**
UDBI	**Udbina**	**4.17**	**322**	*e*Pn		**Pn**	**13 10 33.7**	**+1.7**
HERR	**Herculane**	**4.21**	**31**	⇓P		**Pn**	**13 10 34.7**	**+2.1**
HERR	**Herculane**	**4.21**	**31**			**Pn**	**13 10 34.7**	**+2.1**
BANR	**Banloc**	**4.27**	**17**	⇑P		**Pn**	**13 10 34.7**	**+1.3**
BANR	**Banloc**	**4.27**	**17**			**Pn**	**13 10 34.7**	**+1.3**
A252A	**Venje**	**4.27**	**345**	*e*Pn		**Pn**	**13 10 33.1**	**-0.3**
VIRC	**Vir**	**4.36**	**315**	*e*Pn		**Pn**	**13 10 35.3**	**+0.7**
SRE	**Strehaia**	**4.37**	**39**	⇑P		**Pn**	**13 10 36.8**	**+2.0**
SRE	**Strehaia**	**4.37**	**39**	P		**Pn**	**13 10 36.9**	**+2.0**
SRE	**Strehaia**	**4.37**	**39**			**Pn**	**13 10 36.9**	**+2.0**
A251A	**Rujevac**	**4.44**	**330**	*e*Pn		**Pn**	**13 10 34.7**	**+0.3**
PLIT	**Plitvice**	**4.50**	**324**	*e*Pn		**Pn**	**13 10 37.7**	**+1.1**
ITM	**Ithomi**	**4.57**	**154**	Pn		**Pn**	**13 10 38.4**	**+0.8**
ITM	**Ithomi**	**4.57**	**154**	⇑P		**Pn**	**13 10 38.7**	**+1.1**
AQU	**L'Aquila**	**4.58**	**285**	P		**Pn**	**13 10 38.5**	**+0.7**
AQU	**L'Aquila**	**4.58**	**285**	Pn		**Pn**	**13 10 38.5**	**+0.7**
AQU	**L'Aquila**	**4.58**	**285**	*e*Pn		**Pn**	**13 10 38.1**	**+0.4**
AQU	**L'Aquila**	**4.58**	**285**	⇑P		**Pn**	**13 10 37.8**	**+0.1**
BZS	**Buzias**	**4.61**	**20**	⇑P		**Pn**	**13 10 38.8**	**+0.8**
BZS	**Buzias**	**4.61**	**20**	P		**Pn**	**13 10 38.8**	**+0.8**
BZS	**Buzias**	**4.61**	**20**			**Pn**	**13 10 38.8**	**+0.8**
NVLJ	**Novalja**	**4.64**	**316**	*e*Pn		**Pn**	**13 10 38.8**	**+0.4**
NVLJ				*e*Sn		**Sn**	**13 11 30.7**	**-1.1**
LIA	**Limnos Island**	**4.64**	**106**	P		**Pn**	**13 10 40.0**	**+1.5**
RDO	**Rodhopi**	**4.65**	**90**	⇓P		**Pn**	**13 10 39.3**	**+0.7**
MOSL	**Moslavina**	**4.71**	**337**	*e*Pn		**Pn**	**13 10 39.4**	**-0.1**
GZR	**Gura Zlata**	**4.78**	**30**	⇑P		**Pn**	**13 10 42.8**	**+2.3**
GZR	**Gura Zlata**	**4.78**	**30**	P		**Pn**	**13 10 42.8**	**+2.3**
GZR	**Gura Zlata**	**4.78**	**30**			**Pn**	**13 10 42.8**	**+2.3**
RABC	**Rab**	**4.81**	**317**	*e*Pn		**Pn**	**13 10 41.2**	**+0.3**
KOVH	**Kovagotottos**	**4.87**	**349**	PN		**Pn**	**13 10 42.2**	**+0.6**
KOVH				SN		**Sn**	**13 11 36.0**	**-1.5**
NRCA	**Norcia**	**4.90**	**290**			**Pn**	**13 10 43.4**	**+1.2**
A250A	**Lousevo Krmpots**	**4.99**	**321**	*e*Pn		**Pn**	**13 10 43.6**	**+0.3**
ALN	**Alexandroupoli**	**5.06**	**92**	P		**Pn**	**13 10 44.9**	**+0.7**
ALN	**Alexandroupoli**	**5.06**	**92**			**Pn**	**13 10 44.9**	**+0.7**
ALN	**Alexandroupoli**	**5.06**	**92**	⇓P		**Pn**	**13 10 45.0**	**+0.7**
AMBH	**Ambrzfalva**	**5.13**	**11**	SN		**Sn**	**13 11 41.7**	**-2.3**
ZAG	**Zagreb**	**5.14**	**333**	⇑*i*Pn		**Pn**	**13 10 45.8**	**+0.4**
OZLJ	**Ozalj**	**5.16**	**328**	*e*Pn		**Pn**	**13 10 46.1**	**+0.6**
PTJ	**Puntijarka**	**5.22**	**333**	*e*Pn		**Pn**	**13 10 46.1**	**-0.4**
HUMR	**Humele**	**5.22**	**50**	⇓P		**Pn**	**13 10 48.9**	**+2.4**
HUMR	**Humele**	**5.22**	**50**			**Pn**	**13 10 48.9**	**+2.4**
SIRR	**Siria**	**5.23**	**18**	⇓P		**Pn**	**13 10 47.4**	**+0.9**
SIRR	**Siria**	**5.23**	**18**			**Pn**	**13 10 47.4**	**+0.9**
LOT	**Lotru**	**5.23**	**36**	⇓P		**Pn**	**13 10 48.7**	**+2.0**
LOT	**Lotru**	**5.23**	**36**			**Pn**	**13 10 48.7**	**+2.0**
KALN	**Kalnik**	**5.26**	**337**	*e*Pn		**Pn**	**13 10 46.7**	**-0.4**
SMRN	**Sveta Marina**	**5.33**	**316**	*e*Pn		**Pn**	**13 10 48.1**	**+0.2**
CRES	**Cresnjev**	**5.34**	**329**	⇑*i*Pn		**Pn**	**13 10 48.5**	**+0.4**
CRES				*e*Sn		**Sn**	**13 11 47.7**	**-1.4**
RIY	**Rijeka**	**5.37**	**320**	⇑*i*Pn		**Pn**	**13 10 48.6**	**+0.1**
RIY				*e*Sn		**Sn**	**13 11 49.2**	**+0.7**
RIY	**Rijeka**	**5.37**	**320**	*e*Pn		**Pn**	**13 10 48.7**	**+0.1**
LOBO	**Lobor**	**5.41**	**335**	*e*Pn		**Pn**	**13 10 49.1**	**+0.1**
VAE	**

IDI	**Anoyia**	**7.41**	**142**	Pn	**Pn**	**13 11 14.5**	**-2.1**		
	comp=N,0.8nm,0.3s,baz=267,slow=7.0,SNR=7.2								
IDI				Sn	**Sn**	**13 12 35.3**	**-5.0**		
	comp=N,3.1nm,0.3s,baz=113,slow=23,SNR=5.7								
CFR	**Carcaliu**	**7.47**	**56**	⇓P	**Pn**	**13 11 18.1**	**+0.7**		
CFR	**Carcaliu**	**7.47**	**56**	P	**Pn**	**13 11 18.1**	**+0.7**		
CFR	**Carcaliu**	**7.47**	**56**		**Pn**	**13 11 18.1**	**+0.7**		
PRMA	**PARMA**	**7.48**	**301**	Pn	**Pn**	**13 11 18.2**	**+0.8**		
MOA	**Molln**	**7.49**	**333**	*e*Pn	**Pn**	**13 11 18.7**	**+1.1**		
	comp=N,2.5nm,0.3s								
MOA				*e*Sn	**Sn**	**13 12 46.6**	**+4.6**		
	comp=N,15nm,0.4s								
MOA	**Molln**	**7.49**	**333**	*e*Pn	**Pn**	**13 11 18.7**	**+1.1**		
TPGR	**Topolog**	**7.51**	**59**	⇑P	**Pn**	**13 11 19.7**	**+1.8**		
TPGR	**Topolog**	**7.51**	**59**		**Pn**	**13 11 19.7**	**+1.8**		
BURAR	**Bucovina Array**	**7.56**	**32**	⇑P	**Pn**	**13 11 21.7**	**+3.0**		
BURAR	**Bucovina Array**	**7.56**	**32**		**Pn**	**13 11 21.7**	**+3.0**		
BIOA	**Bad Ischl, Aus**	**7.58**	**329**	*e*Pn	**Pn**	**13 11 19.6**	**+0.7**		
	comp=N,11nm,0.3s								
UZH	**Uzhgorod**	**7.61**	**15**	*e*P	**Pn**	**13 11 20.8**	**+1.6**		
UZH				*e*S	**Sn**	**13 12 46.0**	**+1.0**		
CRVS	**Cervenica-Dubn**	**7.74**	**10**	*e*P	**Pn**	**13 11 23.4**	**+2.4**		
CRVS				*e*		13 12 47.8			
CRVS	**Cervenica-Dubn**	**7.74**	**10**	*e*PN	**Pn**	**13 11 23.4**	**+2.4**		
CRVS				*e*SN	**Sn**	**13 12 47.8**	**-0.3**		
SALO	**Salr**	**7.74**	**307**		**Pn**	**13 11 20.8**	**-0.3**		
SALO	**Salr**	**7.74**	**307**	⇑P	**Pn**	**13 11 20.9**	**-0.3**		
PGF	**Pioggiola**	**7.83**	**283**	*e*Pn	**Pn**	**13 11 21.8**	**-0.6**		
VSL	**Villasalto**	**7.84**	**260**	Pn	**Pn**	**13 11 22.6**	**+0.1**		
MSSA	**Maissana**	**7.84**	**296**	Pn	**Pn**	**13 11 22.2**	**-0.3**		
TLCR		**7.91**	**57**	⇓P	**Pn**	**13 11 25.2**	**+1.9**		
TLCR		**7.91**	**57**	P	**Pn**	**13 11 25.2**	**+1.9**		
TLCR		**7.91**	**57**		**Pn**	**13 11 25.2**	**+1.9**		
RJOB	**Jochberg**	**7.96**	**326**	*e*Pn	**Pn**	**13 11 25.2**	**+1.1**		
BOB	**Bobbio (Coli)**	**8.05**	**299**	⇑P	**Pn**	**13 11 26.7**	**+1.3**		
WTTA	**Wattenberg**	**8.14**	**320**	*i* Pn	**Pn**	**13 11 27.1**	**+0.4**		
	comp=N,33nm,0.4s,SNR=17								
WTTA	**Wattenberg**	**8.14**	**320**	*e*Pn	**Pn**	**13 11 27.1**	**+0.4**		
WTTA				*e*Sn	**Sn**	**13 12 55.7**	**-2.6**		
WATA	**Walderalm**	**8.22**	**320**	*i* Pn	**Pn**	**13 11 28.0**	**+0.3**		
	comp=N,21nm,0.3s,SNR=15								
VRAC	**Vranov**	**8.24**	**347**	Sn	**Sn**	**13 12 58.2**	**-2.2**		
	comp=N,0.4nm,0.3s,baz=145,slow=11,SNR=2.1								
SQTA	**Sankt Quirin**	**8.32**	**318**	*i* Pn	**Pn**	**13 11 30.2**	**+1.1**		
	comp=N,13nm,0.4s,SNR=8.0								
FETA	**Feichten**	**8.44**	**315**	*e*Pn	**Pn**	**13 11 30.7**	**-0.1**		
	comp=N,2.6nm,0.3s								
MOTA	**Moosalm**	**8.46**	**318**	*i* Pn	**Pn**	**13 11 31.5**	**+0.5**		
	comp=N,12nm,0.4s,SNR=7.4								
MOTA				*e*Sn	**Sn**	**13 13 06.9**	**+0.8**		
	comp=N,12nm,0.7s								
GEC2	**GERESS Array S**	**8.54**	**334**	Pn	**Pn**	**13 11 31.8**	**-0.2**		
GEC2	**GERESS Array S**	**8.54**	**334**	*e*Pn	**Pn**	**13 11 31.7**	**-0.4**		
GERES	**GERESS Array B**	**8.54**	**334**	Pn	**Pn**	**13 11 32.0**	**0.0**		
	comp=N,0.9nm,0.3s,baz=156,slow=13,SNR=25								
GERES				Sn	**Sn**	**13 13 08.1**	**+0.1**		
	comp=N,1.1nm,0.3s,baz=156,slow=22,SNR=4.9								
GERES				LR	LR	13 15 27.9			
	comp=N,178nm,21.7s,baz=170,slow=42								
GERES	**GERESS Array B**	**8.54**	**334**	Pn	**Pn**	**13 11 31.2**	**-0.9**		
RETA	**Reutte**	**8.72**	**318**	*e*Pn	**Pn**	**13 11 35.4**	**+0.8**		
	comp=N,3.9nm,0.3s								
DAVOX	**Davos/Dischmat**	**8.75**	**312**	Pn	**Pn**	**13 11 35.4**	**+0.3**		
	comp=N,1.8nm,0.3s,baz=128,slow=15,SNR=18								
DAVOX				Sn	**Sn**	**13 13 13.1**	**-0.4**		
	comp=N,1.0nm,0.3s,baz=108,slow=16,SNR=2.0								
KHC	**Kasperske Hory**	**8.82**	**334**	*e*P	**Pn**	**13 11 35.6**	**-0.3**		
KHC				*e*		13 13 14.6			
KHC	**Kasperske Hory**	**8.82**	**334**	*e*PN	**Pn**	**13 11 35.6**	**-0.3**		
KHC				*ex*	x	13 11 48.0			
KHC				*e*SN	**Sn**	**13 13 14.6**	**-0.3**		
KHC				*ex*	x	13 13 41.5			
KHC	**Kasperske Hory**	**8.82**	**334**	Pn	**Pn**	**13 11 36.0**	**+0.1**		
KHC	**Kasperske Hory**	**8.82**	**334**	⇓P	**Pn**	**13 11 36.2**	**+0.3**		
TUE	**Stuetta**	**8.89**	**309**	Pn	**Pn**	**13 11 37.2**	**+0.2**		
TUE	**Stuetta**	**8.89**	**309**	⇓P	**Pn**	**13 11 37.1**	**+0.2**		
DAVA	**Damuels**	**9.05**	**314**	*e*Pn	**Pn**	**13 11 39.4**	**+0.2**		
	comp=N,8.1nm,0.3s								
MONC	**Moncucco Torin**	**9.17**	**298**	⇓P	**Pn**	**13 11 41.1**	**+0.5**		
SBF	**Sospel**	**9.17**	**290**	*e*Pn	**Pn**	**13 11 38.1**	**-2.6**		
UBR	**Ueberruh**	**9.18**	**317**	*e*Pn	**Pn**	**13 11 40.5**	**-0.4**		
PRU	**Pruhonice**	**9.31**	**340**	*e*P	**Pn**	**13 11 43.2**	**+0.6**		
PRU	**Pruhonice**	**9.31**	**340**	*e*PN	**Pn**	**13 11 43.2**	**+0.6**		
NORI	**Noerdlinger Ri**	**9.65**	**323**	*e*Pn	**Pn**	**13 11 47.1**	**-0.1**		
FRF	**La Foret Royal**	**9.68**	**288**	*e*Pn	**Pn**	**13 11 47.9**	**+0.3**		
FRF				*e*Sn	Sn	13 13 26.3	-10		
	comp=N,2.4nm,0.4s								
LMR	**La Mourre**	**9.74**	**286**	*e*Pn	**Pn**	**13 11 48.5**	**0.0**		
LMR				*e*Sn	Sn	13 13 28.2	-9.2		
	comp=N,1.8nm,0.5s								
MBDF	**Montbardon**	**9.84**	**295**	*e*Pn	**Pn**	**13 11 48.4**	**-1.6**		
MBDF				*e*Sn	Sn	13 13 29.4	-11		
	comp=N,15nm,0.8s								
BNI	**Bardonecchia**	**10.00**	**296**	⇑P	**Pn**	**13 11 52.3**	**+0.2**		
SENIN	**Lac Senin/Sane**	**10.08**	**304**	Pn	**Pn**	**13 11 52.8**	**-0.5**		
LPG	**La Plagne**	**10.09**	**299**	*e*Pn	**Pn**	**13 11 52.4**	**-1.2**		
LPG				*e*Sn	Sn	13 13 37.0	-9.5		
	comp=N,18nm,0.7s								
LPL	**La Plagne**	**10.11**	**299**	*e*Pn	**Pn**	**13 11 52.6**	**-1.2**		
LPL				*e*Sn	Sn	13 13 37.0	-10		
	comp=N,35nm,0.7s								
ORIF	**Oris-en-Rattie**	**10.50**	**295**	*e*Pn	**Pn**	**13 11 58.1**	**-0.9**		
ORIF				*e*Sn	Sn	13 13 46.4	-10		
	comp=N,12nm,0.6s								
SMRF	**Simiane la Rot**	**10.51**	**289**	*e*Pn	**Pn**	**13 11 56.8**	**-2.3**		
SMRF				*e*Sn	Sn	13 13 46.3	-10		
	comp=N,4.4nm,0.7s								
BFO	**Black Forest**	**10.52**	**316**	*e*Pn	**Pn**	**13 11 57.8**	**-1.4**		
MOX	**Moxa**	**10.78**	**333**	*e*Pn	**Pn**	**13 12 02.5**	**-0.1**		
CLL	**Collm**	**10.92**	**338**	*e*Pn	Pn	13 11 58.0	-6.6		
CLL				*e*Sn	Sn	13 13 48.0	-18		
CLL				*ex*	x	13 14 52.0			
CLL				*e*Sg		13 15 18.0			
CABF	**La Chapelle**	**10.94**	**303**	*e*Pn	**Pn**	**13 12 02.9**	**-2.1**		
CABF				*e*Sn	Sn	13 13 57.1	-10		
	comp=N,2.6nm,0.4s								
BR131	**Keskin Array S**	**10.98**	**94**	*i* P	**Pn**	**13 12 06.3**	**+0.8**		
BRTR	**Keskin Array B**	**10.98**	**94**	LR	LR	13 16 59.3			
	comp=N,242nm,18.9s,baz=303,slow=41								
HINF	**Hinteralfeld**	**11.04**	**310**	*e*Pn	**Pn**	**13 12 04.3**	**-2.0**		
HINF				*e*Sn	Sn	13 13 59.8	-10		
	comp=N,6.2nm,0.5s								
ECH	**Echery**	**11.09**	**313**	P	**Pn**	**13 12 05.9**	**-1.0**		
ECH	**Echery**	**11.09**	**313**	Pn	**Pn**	**13 12 05.9**	**-1.0**		
CDF	**Champ du Feu**	**11.13**	**314**	*e*Pn	**Pn**	**13 12 06.2**	**-1.4**		
VIVF	**Saint-Julien-l**	**11.32**	**293**	*e*Pn	**Pn**	**13 12 09.3**	**-0.8**		
VIVF				*e*Sn	Sn	13 14 06.6	-10		
	comp=N,1.5nm,0.4s								
HAU	**Haudompre**	**11.43**	**310**	*e*Pn	**Pn**	**13 12 09.2**	**-2.4**		
HAU				*e*Sn	Sn	13 14 08.7	-10		
	comp=N,18nm,0.7s								
AKBB	**Malin Array Si**	**11.62**	**33**	*i* P	**Pn**	**13 12 15.3**	**+1.2**		
PAGF	**Fort de Pagny**	**12.07**	**311**	*e*Pn	**Pn**	**13 12 17.8**	**-2.6**		
SFTF	**Sexfontaines**	**12.29**	**309**	*e*Pn	**Pn**	**13 12 22.1**	**-1.3**		
	baz=121								
SMF	**Signal de Mont**	**12.39**	**301**	*e*Pn	**Pn**	**13 12 22.4**	**-2.3**		
SMF				*e*Sn	Sn	13 14 31.5	-11		
	comp=N,15nm,0.7s								
MEZF	**Maizieres J'vi**	**12.43**	**310**	*e*Pn	**Pn**	**13 12 23.1**	**-2.1**		
	baz=122								
SAVF	**Savonnieres en**	**12.45**	**311**	*e*Pn	**Pn**	**13 12 23.0**	**-2.4**		
LOR	**Lormes**	**12.60**	**303**	*e*Pn	**Pn**	**13 12 25.0**	**-2.6**		
	baz=113								
LOR				*e*Sn	Sn	13 14 36.8	-11		
	comp=N,7.1nm,0.6s								
SSF	**Saint Saulge**	**12.75**	**302**	*e*Pn	**Pn**	**13 12 27.0**	**-2.6**		
SSF				*e*Sn	Sn	13 14 39.9	-11		
	comp=N,5.3nm,0.6s								
AVF	**Avril sur Loir**	**12.76**	**301**	*e*Pn	**Pn**	**13 12 26.9**	**-2.8**		
AVF				*e*Sn	Sn	13 14 39.9	-11		
	comp=N,2.8nm,0.6s								
MTLF	**Montolieu**	**12.86**	**285**	*e*Pn	**Pn**	**13 12 29.5**	**-1.6**		
BGF	**Bois d'Agland**	**13.01**	**299**	*e*Pn	**Pn**	**13 12 31.5**	**-1.7**		
TCF	**Toulx Ste Croi**	**13.35**	**298**	*e*Pn	**Pn**	**13 12 35.5**	**-2.4**		
TCF				*e*Sn	Sn	13 14 54.5	-11		
	comp=N,1.0nm,0.4s								
MNK	**Minsk**	**14.37**	**20**	*i* P	**Pn**	**13 12 50.6**	**-0.9**		
MNK				*i* S	**Sn**	**13 15 30.6**	**+0.2**		
MNK				MLR	MLR				
	comp=E,25nm,15.0s								
MNK				MLR	MLR				
	comp=Z,238nm,15.0s								
MNK				MLR	MLR				
	comp=N,230nm,17.0s								
MNK	**Minsk**	**14.37**	**20**	*i* P	**Pn**	**13 12 50.7**	**-0.9**		
MNK				*i* P	**Pn**	**13 12 50.7**	**-0.9**		
MNK				*i* P	**Pn**	**13 12 50.7**	**-0.9**		
	baz=206								
MNK				*i* PP	**PnPn**	**13 12 58.6**	**-0.9**		
MNK				*i* S	**Sn**	**13 15 30.6**	**+0.2**		
MNK				*i* SS	**SnSn**	**13 15 44.3**	**+1.5**		
MNK				*i* LQ	LQ	13 17 02.8			
MNK				*i* LR	LR	13 18 08.2			
MNK				*i* LRM	MLR	13 18 57.6			
	comp=E,25nm,14.7s								
MNK				*i* LRM	MLR	13 18 57.6			
	comp=N,230nm,17.2s								
MNK				*i* LRM	MLR	13 18 57.6			
	comp=Z,238nm,14.7s								
MFF	**Saint Martin d**	**15.01**	**297**	*e*Pn	**Pn**	**13 12 57.7**	**-2.7**		
EIL	**Elat**	**17.17**	**128**	LR	LR	13 21 10.4			
	comp=Z,75nm,21.1s,baz=236,slow=41								
KIV	**Kislovodsk**	**17.35**	**73**	*e*P	**P**	**13 13 32.6**	**+0.8**		
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KBZ	**Khabaz**	**17.50**	**74**	Pn	**P**	**13 13 35.1**	**+1.8**		
	comp=Z,0.2nm,0.3s,baz=278,slow=6.3,SNR=2.6								
VSU	**Vasula**	**17.80**	**13**	*i* P	**P**	**13 13 36.6**	**+0.1**		
VSU				pmax	pmax				
	comp=Z,61nm,0.6s								
VSU	**Vasula**	**17.80**	**13**	⇓P	**P**	**13 13 37.0**	**+0.6**		
ESDC	**Sonseca Array**	**17.82**	**272**	P	**P**	**13 13 35.9**	**-1.1**		
	comp=Z,0.0nm,0.3s,baz=73,slow=11,SNR=2.3								
ESDC	**Sonseca Array**	**17.82**	**272**	IAmb	IAmb	13 13 45.0			
	comp=Z,1.8nm,1.2s								
OBN	**Obninsk**	**17.88**	**34**	⇑*e*P	**P**	**13 13 36.9**	**-0.5**		
OBN				pmax	pmax				
	comp=Z,8.0nm,0.5s								
OBN				MLR	MLR				
	comp=Z,84nm,11.0s								
HFS	**Hagfors**	**19.18**	**351**	P	**P**	**13 13 51.3**	**-0.4**		
	comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=2.1								
GNI	**Garni**	**19.25**	**85**	P	**P**				
	comp=Z,0.5nm,0.3s,baz=294,slow=20,SNR=2.1					**13 13 51.9**	**-0.9**		
NC602	**NORSAR Array S**	**20.04**	**349**	P	**P**	**13 13 57.3**	**-3.8**		
NB2	**NORSAR Subarra**	**20.38**	**349**	P	**P**	**13 14 02.8**	**-2.0**		
	comp=Z,0.8nm,0.6s,baz=166,slow=11								
NOA	**NORSAR Array B**	**20.38**	**349**	P	**P**	**13 14 04.0**	**-0.8**		
	comp=Z,0.9nm,0.8s,baz=158,slow=9.6,SNR=2.4								
EKA	**Eskdalemuir Ar**	**20.40**	**321**	P	**P**	**13 14 05.2**	**+0.2**		
	comp=Z,1.1nm,0.4s,baz=108,slow=9.2,SNR=10								
FINES	**FINESS Array B**	**20.57**	**9**	P	**P**	**13 14 04.5**	**-2.3**		
	comp=Z,1.5nm,0.3s,baz=192,slow=9.7,SNR=21								
FINES				LR	LR	13 23 30.6			
	comp=Z,184nm,19.0s,baz=254,slow=41								
FIA1	**FINESS Array S**	**20.57**	**9**	P	**P**	**13 14 04.7**	**-2.1**		
FIA1				IAmb	IAmb	13 14 25.3			
	comp=Z,17nm,1.4s								
NC204	**NORSAR Array S**	**20.67**	**348**	P	**P**	**13 14 06.9**	**-1.1**		
MDT	**Midelt**	**20.88**	**254**	P	Pn	13 14 11.6	-1.5		
	comp=Z,1.7nm,0.8s,baz=81,slow=15,SNR=4.9								
MDT				LR	LR	13 22 44.6			
	comp=Z,51nm,18.2s,baz=30,slow=38								
KLMR	**Klimovskoe**	**23.12**	**25**	*e*P	**P**	**13 14 31.3**	**-2.8**		
KLMR				pmax	pmax				
	comp=Z,20nm,1.1s								
KLMR	**Klimovskoe**	**23.12**	**25**	*e*P	**P**	**13 14 31.4**	**-2.7**		
KLMR				AMP		13 14 41.9			
	comp=Z,20nm,1.1s								
KIRV	**Kirov**	**25.61**	**37**	LR	LR	13 26 50.0			
	comp=Z,83nm,18.7s,baz=234,slow=41								
PRGR	**Permogore**	**25.79**	**29**	*e*P	**P**	**13 14 55.0**	**-3.9**		
ARCES	**ARCESS Array B**	**28.47**	**5**	P	**P**	**13 15 22.5**	**-0.5**		
	comp=Z,5.9nm,1.0s,baz=189,slow=11,SNR=2.9								
ABKAR	**Akbulak array**	**29.34**	**60**	P	**P**	**13 15 30.5**	**-0.3**		
ARU	**Arti**	**29.40**	**46**	P	**P**	**13 15 29.9**	**-1.4**		
	comp=Z,0.5nm,0.3s,baz=274,slow=16,SNR=3.2								
ARU	**Arti**	**29.40**	**46**	*i* P	**P**	**13 15 31.5**	**+0.1**		
ARU				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ARU	**Arti**	**29.40**	**46**	IAmb	IAmb	13 15 48.0			
	comp=Z,10nm,1.4s								
TORD	**Torodi Ar. Bea**	**32.02**	**214**	P	**P**	**13 15 55.4**	**+0.5**		
	comp=Z,0.7nm,0.6s,baz=21,slow=9.6,SNR=4.7								
TORD	**Torodi Ar. Bea**	**32.02**	**214**	IAmb	IAmb	13 15 57.1			
	comp=Z,3.8nm,1.4s								
BRVK	**Borovoye**	**35.80**	**53**	*i* P	**P**	**13 16 27.0**	**-0.3**		
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.5s								
BRVK	**Borovoye**	**35.80**	**53**	P	**P**	**13 16 26.4**	**-1.0**		
BRVK	**Borovoye**	**35.80**	**53**	⇓P	**P**	**13 16 27.4**	**0.0**		
DBIC	**Dimbokro**	**40.69**	**219**	P	**P**	**13 17 08.8**	**0.0**		
	comp=Z,1.3nm,0.6s,baz=42,slow=7.1,SNR=2.0								
DBIC	**Dimbokro**	**40.69**	**219**	P	**P**	**13 17 09.1**	**+0.3**		
DBIC				pmax	pmax				
	comp=Z,4.0nm,1.1s								
DBIC	**Dimbokro**	**40.69**	**219**	P	**P**	**13 17 09.1**	**+0.3**		
KURK	**Kurchatov**	**41.19**	**56**	*i* P	**P**	**13 17 14.1**	**+1.5**		
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MAKZ	**Makanchi**	**44.27**	**61**	P	**P**	**13 17 37.1**	**-0.6**		
MAKZ				pmax	pmax				
	comp=Z,2.0nm,1.1s								
MAKZ	**Makanchi**	**44.27**	**61**	P	**P**	**13 17 37.1**	**-0.6**		
ZAA0	**Zalesovo Array**	**44.32**	**50**	P	**P**	**13 17 37.4**	**-0.5**		
ZAA0				IAmb	IAmb	13 17 37.8			
	comp=Z,3.5nm,0.6s								
ZALV	**Zalesovo Beam**	**44.32**	**50**	P	**P**	**13 17 37.3**	**-0.6**		
	comp=Z,3.8nm,0.5s,baz=288,slow=9.4,SNR=13								
ZALV	**Zalesovo Beam**	**44.32**	**50**	P	**P**	**13 17 37.4**	**-0.5**		
MK31	**Makanchi Array**	**44.48**	**61**	P	**P**	**13 17 38.6**	**-0.8**		
MK31				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MK31	**Makanchi Array**	**44.48**	**61**	P	**P**	**13 17 38.6**	**-0.8**		
MKAR	**Makanchi Array**	**44.48**	**61**	P	**P**	**13 17 38.6**	**-0.8**		
	comp=Z,2.9nm,0.6s,baz=282,slow=7.6,SNR=46								
MKAR				PcP	**PcP**	**13 19 21.5**	**-1.1**		
	comp=Z,0.5nm,0.7s,baz=282,slow=2.1,SNR=3.1								
MKAR	**Makanchi Array**	**44.48**	**61**	P	**P**	**13 17 38.5**	**-0.9**		
WMQ	**Urumqi**	**49.07**	**63**	*e*P	**P**	**13 18 18.3**	**+2.9**		
SCHQ	**Schefferville**	**55.58**	**316**	P	**P**	**13 19 03.3**	**-0.2**		
	comp=Z,1.7nm,0.6s,baz=58,slow=6.7,SNR=8.0								
SCHQ	**Schefferville**	**55.58**	**316**	P	**P**	**13 19 03.1**	**-0.4**		
SCHQ				IAmb	IAmb	13 19 21.9			
	comp=Z,4.5nm,1.3s								
RES	**Resolute Bay**	**56.52**	**343**	P	**P**	**13 19 09.8**	**0.0**		
RES				pmax	pmax				
	comp=Z,4.0nm,1.5s								
RES	**Resolute Bay**	**56.52**	**343**	P	**P**	**13 19 09.8**	**0.0**		
RES				IAmb	IAmb	13 19 33.1			
	comp=Z,4.2nm,1.4s								
TIXI	**Tiksi**	**57.04**	**21**	LR	LR	13 47 52.0			
	comp=Z,54nm,18.5s,baz=341,slow=40								
GOMU	**GeErMu**	**57.33**	**68**	P	**P**	**13 19 16.3**	**-0.3**		
GOMU				pP	pP	13 19 19.8	-2.4		
GOMU				sP	sP	13 19 21.0	-3.3		
GOMU				pmax	pmax				
	comp=Z,2.0nm,0.6s								
GOMU				pmax	pmax				
	comp=Z,120nm,6.5s								
SONM	**Songino Array**	**59.18**	**52**	P	**P**	**13 19 28.5**	**-0.6**		
	comp=Z,0.5nm,0.6s,baz=20,slow=4.7,SNR=3.9								
SONM	**Songino Array**	**59.18**	**52**	IAmb	IAmb	13 19 37.6			
	comp=Z,1.6nm,1.0s								
D62A	**Allapoint, All**	**60.38**	**308**	P	**P**	**13 19 37.8**	**+0.6**		
LZH	**Lanzhou**	**63.61**	**64**	*e*P	**P**	**13 19 58.3**	**-1.0**		
LZH				sP	pP	13 20 02.3	-2.6		
LZH				pmax	pmax				
	comp=Z,14nm,1.3s								
A36M	**Sachs Harbour**	**64.29**	**348**	P	**P**	**13 20 02.7**	**-0.2**		
A36M				IAmb	IAmb	13 20 03.8			
	comp=Z,2.8nm,0.7s								
HHC	**Hu-ho-hao-te**	**66.01**	**56**	*e*P	**P**	**13 20 15.0**	**+0.2**		
HHC				pmax	pmax				
	comp=Z,18nm,1.1s								
HHC				pmax	pmax				
	comp=Z,110nm,5.8s								
FCC	**Fort Churchill**	**66.11**	**328**	P	**P**	**13 20 15.1**	**+0.1**		
FCC				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FCC	**Fort Churchill**	**66.11**	**328**	P	**P**	**13 20 15.1**	**+0.1**		
PZH	**PanZhiHua**	**67.57**	**74**	P	**P**	**13 20 27.3**	**+2.3**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,100nm,5.1s								
WVNY	**West Valley, N**	**68.63**	**308**	P	**P**	**13 20 32.1**	**+0.8**		
INK	**Inuvik**	**68.83**	**350**	P	**P**	**13 20 31.1**	**-0.9**		
INK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
INK	**Inuvik**	**68.83**	**350**	P	**P**	**13 20 31.1**	**-0.9**		
INK				IAmb	IAmb	13 20 56.7			
	comp=Z,2.9nm,1.4s								
KMI	**Kunming**	**69.11**	**75**	⇑P	**P**	**13 20 34.8**	**0.0**		
KMI				pmax	pmax				
	comp=Z,15nm,0.6s								
BOSA	**Boshof**	**69.78**	**174**	P	**P**	**13 20 39.1**	**+0.6**		
BOSA				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BOSA	**Boshof**	**69.78**	**174**	P	**P**	**13 20 39.1**	**+0.6**		
YKA	**Yellowknife Ar**	**70.15**	**339**	P	**P**	**13 20 40.1**	**-0.2**		
	comp=Z,2.1nm,0.6s,baz=38,slow=5.4,SNR=67								
YKA	**Yellowknife Ar**	**70.15**	**339**	P	**P**	**13 20 39.5**	**-0.7**		
CMAR	**Chiang Mai Arr**	**70.34**	**82**	P	**P**	**13 20 40.4**	**-1.8**		
	comp=Z,0.5nm,0.7s,baz=310,slow=7.0,SNR=4.2								
CMAR	**Chiang Mai Arr**	**70.34**	**82**	*i* P	**P**	**13 20 42.5**	**+0.3**		
BMAR	**Burnt Mountain**	**70.91**	**354**	P	**P**	**13 20 46.0**	**+1.1**		
MA2	**Magadan**	**71.79**	**24**	LR	LR	13 56 23.3			
	comp=Z,40nm,19.7s,baz=317,slow=39								
FFC	**Flin Flon**	**72.05**	**329**	P	**P**	**13 20 52.1**	**+0.2**		
FFC				pmax	pmax				
	comp=Z,1.0nm,0.9s								
FFC	**Flin Flon**	**72.05**	**329**	P	**P**	**13 20 52.0**	**+0.2**		
ULM	**Lac du Bonnet**	**72.67**	**323**	P	**P**	**13 20 55.5**	**-0.3**		
	comp=Z,1.5nm,0.6s,baz=14,slow=6.5,SNR=3.6								
IMAR	**Indian Mountai**	**72.91**	**357**	P	**P**	**13 20 57.4**	**+0.5**		
H21K	**Melozitna Rive**	**73.20**	**357**	P	**P**	**13 20 59.2**	**+0.6**		
H21K				IAmb	IAmb	13 21 14.0			
	comp=Z,5.3nm,1.4s								
I23K	**Minto, Yukon-K**	**73.52**	**355**	P	**P**	**13 21 01.1**	**+0.6**		
I23K				IAmb	IAmb	13 21 01.7			
	comp=Z,5.0nm,1.2s								
DAWY	**Dawson**	**73.63**	**350**	P	**P**	**13 21 01.6**	**+0.4**		
DAWY				IAmb	IAmb	13 21 02.0			
	comp=Z,2.4nm,0.8s								
ILAR	**Eielson Array**	**73.71**	**354**	P	**P**	**13 21 01.6**	**-0.1**		
	comp=Z,0.5nm,0.7s,baz=4.0,slow=4.5,SNR=9.6								
ILAR	**Eielson Array**	**73.71**	**354**	P	**P**	**13 21 01.4**	**-0.2**		
WRH	**Wood River Hil**	**74.10**	**354**	P	**P**	**13 21 03.3**	**-0.6**		
WRH				IAmb	IAmb	13 21 16.7			
	comp=Z,6.6nm,1.4s								
SCRK	**Sand Creek**	**74.23**	**352**	P	**P**	**13 21 05.4**	**+0.6**		
RIDG	**Independent Ri**	**74.55**	**353**	P	**P

WRA	**Warramunga Arr**	**29.97**	**118**	P	**P**	**13 21 20.6**	**-0.6**
WRAB	**Tennant Creek**	**29.98**	**118**	P	**P**	**13 21 20.9**	**-0.4**
WRAB				IAmb	IAmb	13 21 39.2	
	comp=Z,4.5nm,1.4s						
WB2	**Warramunga Arr**	**29.98**	**118**	P	**P**	**13 21 20.8**	**-0.6**
WB2				IAmb	IAmb	13 21 40.5	
	comp=Z,2.9nm,1.2s						
WR0	**Warramunga Arr**	**30.15**	**118**	P	**P**	**13 21 22.7**	**-0.1**
WR0				IAmb	IAmb	13 21 29.4	
	comp=Z,4.0nm,1.2s						
ASAR	**Alice Springs**	**31.17**	**125**	P	**P**	**13 21 32.3**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=303,slow=8.0,SNR=46						
AS31	**Alice Springs**	**31.17**	**125**	P	**P**	**13 21 32.4**	**+0.6**
COEN	**Coen**	**36.72**	**104**	P	**P**	**13 22 18.6**	**-1.1**
COEN				IAmb	IAmb	13 22 43.6	
	comp=Z,4.2nm,1.2s						
STKA	**Stephens Creek**	**41.09**	**132**	P	**P**	**13 22 57.0**	**+1.0**
	comp=Z,4.0nm,0.3s,baz=319,slow=9.5,SNR=9.5						
STKA	**Stephens Creek**	**41.09**	**132**	P	**P**	**13 22 57.2**	**+1.2**

NEIC ***27*** *13:22:33.7±1.8,56°.14S±0°.10×27°.2W±0°.2,h65km±4km, mb4.8/55, Error ellipse: s-maj=15.8km s-min=11.1km az=222.0*

IDC ***27*** *13:22:37.8±0.6,56°.09S×27°.26W,h107km±5km,mb4.3/11, mb1 4.4/12,mb1mx4.2/26,mbtmp4.7/12,MS3.5/12, Ms1 3.5/12,ms1mx3.3/38, Error ellipse: s-maj=19.1km s-min=12.5km az=73.0*

ISC 27 13:22:32.9±0.4,56°.20S±0°.06×27°.10W±0°.08,h63km,n107, σ2s18/106,mb4.8/32,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HOPE	**Hope Point**	**5.70**	**286**	Pn		**Pn**	**13 23 57.5**	**+2.6**
VNA1	**Neumayer--Stat**	**16.64**	**158**	P		**P**	**13 26 27.3**	**+4.3**
VNA3	**Neumayer Olymp**	**16.83**	**160**	P		**P**	**13 26 27.6**	**+2.4**
VNA3				S		**Sn**	**13 29 22.8**	**-7.2**
VNA2	**Neumayer--Watz** baz=311,slow=13	**17.03**	**158**	P		**P**	**13 26 30.0**	**+2.5**
VNA2				S		**Sn**	**13 29 28.7**	**-6.1**
SNAA	**Sanae**	**18.58**	**156**	P		**Pn**	**13 26 47.7**	**+2.3**
SNAA	**Sanae**	**18.58**	**156**	PcP		**PcP**	**13 31 11.8**	**+1.0**
SNAA				S		**S**	**13 30 07.5**	**-5.1**
SNAA	**Sanae** 10.0nm,0.3s,baz=294,slow=10,SNR=165	**18.58**	**156**	P		**Pn**	**13 26 47.6**	**+2.1**
SNAA				S		**S**	**13 30 10.0**	**-2.6**
	0.2nm,0.3s,baz=342,slow=4.0,SNR=2.9							
SNAA	**Sanae**	**18.58**	**156**	Pn		**Pn**	**13 26 47.1**	**+1.7**
EFI	**East Falkland**	**18.69**	**271**	Pn		**Pn**	**13 26 46.5**	**-0.2**
EFI				IAmb		IAmb	13 26 59.3	
	comp=Z,60nm,1.1s							
TROLL	**Troll, Antarti**	**20.09**	**153**	P		**P**	**13 27 03.9**	**+2.9**
SMAI	**San Martin Ant**	**21.68**	**221**	P		**P**	**13 27 17.9**	**-0.1**
BELA	**Belgrano 2**	**21.93**	**184**	P		**P**	**13 27 22.0**	**+1.4**
BELA				IAmb		IAmb	13 27 25.6	
	comp=Z,56nm,1.0s							
DSPA	**Despedida**	**23.43**	**258**	P		**P**	**13 27 35.0**	**-1.1**
MG02	**Cerro Sombrero**	**24.42**	**260**	P		**P**	**13 27 44.3**	**-0.9**
MG03	**Isla Dawson**	**24.66**	**257**	P		**P**	**13 27 47.2**	**-0.2**
MG03				IAmb		IAmb	13 28 11.5	
	comp=Z,36nm,1.4s							
PLTB	**Pedras Altas**	**30.64**	**312**	P		**P**	**13 28 40.7**	**-0.3**
PLTB				IAmb		IAmb	13 28 56.5	
	comp=Z,37nm,1.4s							
SYO	**Syowa Base**	**31.43**	**141**	*eX*		**P**	**13 28 50.3**	**+2.7**
SYO	**Syowa Base**	**31.43**	**141**	*ep*		*p*P	13 29 02.1	0.0
PLCA	**Paso Flores**	**32.08**	**280**	LR		LR	13 43 14.6	
	comp=Z,61nm,18.3s,baz=184,slow=39							
LL07	**Hotel Espejo d**	**32.29**	**275**	P		**P**	**13 28 55.9**	**+0.5**
QSPA	**South Pole Qui**	**34.05**	**180**	P		**P**	**13 29 12.7**	**+2.0**
QSPA				PcP		**PcP**	**13 31 46.3**	**-0.5**
	comp=Z,23nm,0.6s,baz=203,slow=2.4,SNR=189							
QSPA				LR		LR	13 41 48.1	
	comp=Z,2.5nm,0.5s,baz=153,slow=2.3,SNR=2.9							
SYO	**Syowa Base**	**31.43**	**141**	*eX*		**P**	**13 28 50.3**	**+2.7**
SYO	**Syowa Base**	**31.43**	**141**	*ep*		*p*P	13 29 02.1	0.0
PLCA	**Paso Flores**	**32.08**	**280**	LR		LR	13 43 14.6	
	comp=Z,61nm,18.3s,baz=184,slow=39							
LL07	**Hotel Espejo d**	**32.29**	**275**	P		**P**	**13 28 55.9**	**+0.5**
QSPA	**South Pole Qui**	**34.05**	**180**	P		**P**	**13 29 12.7**	**+2.0**
QSPA				PcP		**PcP**	**13 31 46.3**	**-0.5**
	comp=Z,23nm,0.6s,baz=203,slow=2.4,SNR=189							
QSPA				LR		LR	13 41 48.1	
	comp=Z,2.5nm,0.5s,baz=153,slow=2.3,SNR=2.9							
QSPA				LR		LR	13 41 48.1	
	comp=Z,95nm,19.2s,baz=213,slow=34							
QSPA	**South Pole Qui**	**34.05**	**180**	P		**P**	**13 29 12.5**	**+1.7**
BO02	**Sierra Bellavi**	**36.52**	**287**	P		**P**	**13 29 32.9**	**+0.8**
CPUP	**Villa Florida**	**36.95**	**311**	P		**P**	**13 29 35.3**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=167,slow=11,SNR=4.6							
CPUP				PcP		**PcP**	**13 31 55.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=45,slow=1.4,SNR=1.7							
CPUP				LR		LR	13 46 17.6	
	comp=Z,18nm,19.2s,baz=185,slow=39							
CPUP	**Villa Florida**	**36.95**	**311**	P		**P**	**13 29 35.2**	**-0.4**
CPUP				IAmb		IAmb	13 29 49.3	
	comp=Z,15nm,1.4s							
MT09	**Talagante**	**37.40**	**288**	P		**P**	**13 29 37.2**	**-2.5**
MT01	**Popeta**	**37.48**	**288**	P		**P**	**13 29 37.5**	**-2.7**
MT02	**Curacav**	**37.88**	**288**	P		**P**	**13 29 41.4**	**-2.2**
MT02				IAmb		IAmb	13 30 06.1	
	comp=Z,12nm,1.4s							
ZON	**Zonda**	**37.94**	**293**	P		**P**	**13 29 42.4**	**-1.8**
ZON				IAmb		IAmb	13 30 03.7	
	comp=Z,13nm,1.5s							
VA03	**San Esteban**	**37.96**	**290**	P		**P**	**13 29 43.0**	**-1.3**
ROC1	**El Roble**	**38.04**	**289**	P		**P**	**13 29 42.5**	**-2.7**
VA06	**Catapilco**	**38.51**	**289**	P		**P**	**13 29 47.1**	**-1.7**
VA06				IAmb		IAmb	13 29 47.2	
	comp=Z,11nm,1.1s							
MAW	**Mawson**	**40.00**	**143**	P		**P**	**13 30 02.8**	**+2.0**
	comp=Z,11nm,0.6s,baz=224,slow=6.3,SNR=16							
MAW	**Mawson**	**40.00**	**143**	P		**P**	**13 30 03.0**	**+2.2**
CO06	**Fray Jorge**	**40.17**	**290**	P		**P**	**13 30 00.7**	**-2.0**
SUR	**Sutherland**	**40.63**	**75**	LR		LR	13 43 50.2	
	comp=Z,69nm,19.9s,baz=164,slow=31							
AC04	**Llanos de Chal**	**41.85**	**293**	P		**P**	**13 30 15.6**	**-1.0**
AC04				IAmb		IAmb	13 30 41.7	
	comp=Z,39nm,1.5s							
AC02	**Maricunga**	**41.99**	**297**	P		**P**	**13 30 18.1**	**-0.1**
AC01	**Pan de Azucar**	**43.29**	**296**	P		**P**	**13 30 27.2**	**-1.1**
AC01				IAmb		IAmb	13 30 55.5	
	comp=Z,20nm,1.1s							
GO02	**Mina Guanaco**	**43.61**	**297**	P		**P**	**13 30 30.3**	**-0.8**
GO02				IAmb		IAmb	13 30 32.1	
	comp=Z,13nm,0.6s							
LVC	**Limon Verde**	**45.42**	**300**	P		**P**	**13 30 45.5**	**-0.1**
LVC				IAmb		IAmb	13 30 47.9	
	comp=Z,9.5nm,0.6s							
PB06	**IPOC Station P**	**45.66**	**299**	P		**P**	**13 30 46.6**	**-0.7**
SBA	**Scott Base**	**45.93**	**184**	P		**P**	**13 30 51.0**	**+2.4**
SBA				IAmb		IAmb	13 30 53.6	
	comp=Z,15nm,1.1s							
BOSA	**Boshof**	**45.96**	**76**	P		**P**	**13 30 51.1**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=198,slow=9.6,SNR=1.4							
BOSA				LR		LR	13 47 22.0	
	comp=Z,63nm,18.1s,baz=208,slow=32							
BOSA	**Boshof**	**45.96**	**76**	IAmb		IAmb	13 30 56.1	
	comp=Z,14nm,1.5s							
PB04	**IPOC Station P**	**46.26**	**299**	P		**P**	**13 30 51.5**	**-0.5**
PB09	**IPOC Station P**	**46.27**	**300**	P		**P**	**13 30 52.4**	**+0.2**
PB09				IAmb		IAmb	13 30 53.2	
	comp=Z,32nm,1.5s							
VNDA	**Vanda**	**46.42**	**183**	P		**P**	**13 30 54.3**	**+1.8**
	comp=Z,7.5nm,0.8s,baz=190,slow=6.3,SNR=56							
VNDA				LR		LR	13 51 19.4	
	comp=Z,56nm,18.3s,baz=167,slow=37							
VNDA	**Vanda**	**46.42**	**183**	P		**P**	**13 30 54.5**	**+2.0**
VNDA				IAmb		IAmb	13 30 57.0	
	comp=Z,12nm,0.9s							
PB07	**IPOC Station P**	**46.64**	**300**	P		**P**	**13 30 54.4**	**-0.7**
PB02	**IPOC Station P**	**46.99**	**300**	P		**P**	**13 30 57.2**	**-0.5**
PB01	**IPOC Station P**	**47.03**	**301**	P		**P**	**13 30 57.6**	**-0.4**
PB01				IAmb		IAmb	13 30 58.6	
	comp=Z,12nm,0.6s							
PB08	**IPOC Station P**	**47.64**	**302**	P		**P**	**13 31 02.6**	**-0.5**
PB08				IAmb		IAmb	13 31 04.5	
	comp=Z,7.9nm,0.5s							
GO01	**Chusmiza**	**48.07**	**302**	P		**P**	**13 31 06.0**	**-0.6**
GO01				IAmb		IAmb	13 31 07.3	
	comp=Z,10nm,0.7s							
H10S2	**ASCENSION HYDR** baz=31,slow=74,SNR=8.5	**48.13**	**17**	T		T	14 23 55.5	
H10S3	**ASCENSION HYDR** baz=189,slow=74,SNR=12	**48.13**	**17**	T		T	14 23 45.2	
PB11	**IPOC Station P**	**48.21**	**301**	P		**P**	**13 31 07.0**	**-0.3**
LBTB	**Lobatse**	**49.00**	**73**	LR		LR	13 49 01.9	
	comp=Z,38nm,18.4s,baz=204,slow=32							
H10N1	**ASCENSION HYDR** baz=189	**49.25**	**17**	T		T	14 25 27.4	
H10N3	**ASCENSION HYDR** baz=189,slow=74	**49.25**	**17**	T		T	14 25 26.1	
H10N2	**ASCENSION HYDR** baz=189,slow=74	**49.27**	**17**	T		T	14 25 32.6	
PB16	**IPOC Station P**	**49.36**	**302**	P		**P**	**13 31 16.3**	**-0.3**
PB16				IAmb		IAmb	13 31 17.1	
	comp=Z,4.8nm,0.3s							
TSUM	**Tsumeb**	**49.71**	**61**	LR		LR	13 49 33.0	
	comp=Z,58nm,18.1s,baz=340,slow=32							
LPAZ	**La Paz**	**50.50**	**305**	P		**P**	**13 31 25.0**	**-0.2**
	comp=Z,5.4nm,0.5s,baz=124,slow=4.7,SNR=37							
LPAZ				pP		**sP**	**13 31 50.2**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=161,slow=6.7,SNR=3.5							
LPAZ	**La Paz**	**50.50**	**305**	P		**P**	**13 31 24.9**	**-0.4**
LPAZ				IAmb		IAmb	13 31 26.8	
	comp=Z,9.1nm,1.1s							
RCBR	**Riachuelo**	**50.72**	**349**	LR		LR	13 47 14.6	
	comp=Z,160nm,21.0s,baz=232,slow=29							
CASY	**Casey**	**53.75**	**160**	P		**P**	**13 31 49.9**	**+1.9**
CASY				IAmb		IAmb	13 31 51.3	
	comp=Z,8.2nm,1.2s							
LSZ	**Lusaka**	**58.38**	**69**	LR		LR	13 55 29.7	
	comp=Z,53nm,18.5s,baz=242,slow=34							
LIC	**Lamto**	**64.81**	**24**	*e*P		**P**	**13 33 05.9**	**+1.0**
	comp=Z,9.6nm,0.6s							
KIC	**Kosan Boka**	**65.01**	**25**	*e*P		**P**	**13 33 06.5**	**+0.3**
	comp=Z,6.4nm,0.6s							
TIC	**Toumodi**	**65.22**	**24**	*e*P		**P**	**13 33 07.9**	**+0.3**
DBIC	**Dimbokro**	**65.28**	**24**	P		**P**	**13 33 08.2**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=198,slow=6.5,SNR=12							
DBIC				LR		LR	13 55 52.1	
	comp=Z,43nm,21.1s,baz=170,slow=31							
DBIC	**Dimbokro**	**65.28**	**24**	P		**P**	**13 33 08.0**	**+0.1**
DBIC				IAmb		IAmb	13 33 09.0	
	comp=Z,16nm,1.4s							
MBAR	**Mbarara**	**72.17**	**63**	LR		LR	14 01 36.9	
	comp=Z,34nm,18.9s,baz=178,slow=32							
TOA0	**Torodi Ar. Sit**	**73.16**	**29**	P		**P**	**13 33 56.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		**P**	**13 33 56.9**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=201,slow=6.6,SNR=23							
TORD				pP		**sP**	**13 34 22.9**	**+3.2**
	comp=Z,1.4nm,0.5s,baz=208,slow=7.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P		**P**	**13 33 56.9**	**+0.3**
BIRV	**Birongo**	**73.96**	**320**	P		**P**	**13 34 01.3**	**0.0**
SDV	**Santo Domingo**	**74.15**	**315**	P		**P**	**13 34 01.6**	**-1.2**
RPZ	**Rata Peaks**	**79.28**	**193**	P		**P**	**13 34 31.0**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=167,slow=19,SNR=1.5							
RPZ	**Rata Peaks**	**79.28**	**193**	P		**P**	**13 34 30.9**	**-0.2**
RPZ				IAmb		IAmb	13 34 42.5	
	comp=Z,24nm,1.2s							
LTZ	**Lake Taylor**	**80.03**	**194**	P		**P**	**13 34 35.2**	**-0.1**
LTZ				IAmb		IAmb	13 34 38.7	
	comp=Z,9.2nm,1.1s							
THZ	**Tophouse**	**80.94**	**195**	P		**P**	**13 34 41.1**	**+0.9**
THZ				IAmb		IAmb	13 34 46.4	
	comp=Z,14nm,0.7s							
TAU	**Tasmania Unive**	**81.15**	**176**	P		**P**	**13 34 41.3**	**+0.2**
NNZ	**Nelson**	**81.41**	**195**	P		**P**	**13 34 42.5**	**0.0**
BANI	**BANI**	**82.74**	**319**	P		**P**	**13 34 48.1**	**-1.7**
OUZ	**Omahuta**	**87.25**	**197**	P		**P**	**13 35 11.0**	**-1.2**
MTO3	**Montecristo**	**87.30**	**301**	P		**P**	**13 35 12.2**	**-0.7**
STKA	**Stephens Creek**	**91.74**	**170**	P		**P**	**13 35 33.5**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=176,slow=7.5,SNR=4.2							
ASAR	**Alice Springs**	**98.83**	**162**	P		**P**	**13 36 05.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=189,slow=4.2,SNR=9.9							
ASAR				PP		**PP**	**13 40 04.8**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=190,slow=6.3,SNR=7.8							
WRA	**Warramunga Arr**	**102.55**	**162**	P		**Pdif**	**13 36 22.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=194,slow=4.4,SNR=4.7							
WRA				PP		**PP**	**13 40 37.5**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=185,slow=6.3,SNR=4.8							
PDAR	**Pinedale Array**	**120.47**	**302**	PKP		**PKPdf**	**13 41 14.4**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=111,slow=4.0,SNR=4.4							
NVAR	**Mina Array Bea**	**121.50**	**293**	PKP		**PKPdf**	**13 41 18.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=152,slow=2.8,SNR=6.2							
FINES	**FINESS Array B**	**124.49**	**28**	PKP		**PKPdf**	**13 41 22.2**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=166,slow=2.3,SNR=13							
CMAR	**Chiang Mai Arr**	**124.97**	**111**	PKP		**PKPdf**	**13 41 23.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=231,slow=2.9,SNR=2.3							
ARCES	**ARCESS Array B**	**131.06**	**22**	PKP		**PKPdf**	**13 41 34.7**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=225,slow=1.1,SNR=6.9							
PZH	**PanZhiHua**	**133.01**	**107**	PKP		**PKPdf**	**13 41 40.8**	**-0.1**
YKA	**Yellowknife Ar**	**136.32**	**318**	PKhKP		PKPpre	13 41 33.9	
	comp=Z,0.1nm,0.4s,baz=124,slow=2.8,SNR=5.0							
YKA				PKP		**PKPdf**	**13 41 44.5**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=132,slow=2.0,SNR=37							
YKA				SKPbc		**SKPbc**	**13 45 03.0**	**-9.1**
	comp=Z,0.6nm,0.6s,baz=132,slow=3.3,SNR=12							
YKA	**Yellowknife Ar**	**136.32**	**318**	PKPdf		**PKPdf**	**13 41 46.6**	**+0.9**
MKAR	**Makanchi Array**	**136.89**	**71**	PKP		**PKPdf**	**13 41 45.4**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=288,slow=0.5,SNR=1.5							
MKAR				SKPbc		**SKPbc**	**13 45 06.5**	**-7.9**
	comp=Z,0.4nm,0.9s,baz=180,slow=3.5,SNR=2.9							
ZALV	**Zalesovo Beam**	**142.39**	**64**	PKhKP		PKPpre	13 41 51.3	
	comp=Z,0.3nm,0.3s,baz=198,slow=9.5,SNR=2.2							
INK	**Inuvik**	**145.95**	**320**	PKPbc		**PKPdf**	**13 42 02.5**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=79,slow=2.0,SNR=24							
INK				pPKPbc		sPKPab	13 42 29.4	+0.7
	comp=Z,9.8nm,1.1s,baz=123,slow=2.6,SNR=6.7							
INK				PP		**PP**	**13 45 29.6**	**+3.0**
	comp=Z,1.4nm,0.8s,baz=116,slow=7.4,SNR=3.7							
INK	**Inuvik**	**145.95**	**320**	PKPdf		**PKPdf**	**13 42 02.9**	**+0.1**
ILAR	**Eielson Array**	**150.25**	**311**	PKPbc		**PKPbc**	**13 42 13.9**	**-1.3**
	comp=Z,3.3nm,0.6s,baz=140,slow=2.5,SNR=48							
ILAR				pPKPbc		**sPKPab**	**13 42 43.1**	**-2.8**
	comp=Z,3.7nm,0.9s,baz=119,slow=1.6,SNR=6.2							
ILAR	**Eielson Array**	**150.25**	**311**			**PKPbc**	**13 42 13.7**	**-1.5**
SONM	**Songino Array**	**150.69**	**87**	PKPbc		**PKPbc**	**13 42 16.1**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=220,slow=3.3,SNR=10.0							
KDAK	**Kodiak Island**	**150.93**	**296**	PKPbc		**PKPbc**	**13 42 16.2**	**-0.8**
	comp=Z,11nm,0.4s,baz=161,slow=1.9,SNR=34							

NEIC ***27*** *13:26:51.0±1.3,15°.38S±0°.09×173°.9W±0°.1,h51km±4km, mb4.6/32, Error ellipse: s-maj=17.4km s-min=12.0km az=108.0*

IDC ***27*** *13:26:52.3±3.1,15°.25S×174°.02W,h62km±30km,mb3.7/8, mb1 4.0/9,mb1mx3.7/39,mbtmp4.0/9,ML4.3/1, Error ellipse: s-maj=52.1km s-min=16.3km az=139.0*

ISC 27 13:26:54.6±0.5,15°.4S±0°.1×173°.8W±0°.1,h94km,n55, σ1s21/53,mb4.4/23,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**2.42**	**53**	P		**Pn**	**13 27 31.6**	**-1.0**
	65nm,0.3s,baz=243,slow=11,SNR=141							
AFI				S		**Sn**	**13 27 58.0**	**-3.6**
	256nm,0.3s,baz=58,slow=23,SNR=19							
NIUE	**Niue**	**5.20**	**136**			Pn	13 28 06.6	-3.3
KNTN	**Kanton**	**12.69**	**9**	Pn		Pn	13 29 47.2	-4.5
MARNC	**Mare, Loyalty**	**18.30**	**248**	P		**P**	**13 30 58.6**	**-2.7**
URZ	**Urewera**	**24.17**	**198**	P		**P**	**13 32 03.3**	**+1.3**
	5.2nm,0.5s,baz=18,slow=3.2,SNR=3.0							
URZ	**Urewera**	**24.17**	**198**	P		**P**	**13 32 00.6**	**-1.4**
URZ				IAmb		IAmb	13 32 04.7	
	comp=Z,40nm,1.4s							
BKZ	**Black Stump Fm**	**25.19**	**198**	P		**P**	**13 32 10.4**	**-1.1**
BKZ				IAmb		IAmb	13 32 37.1	
	comp=Z,17nm,1.4s							
BFZ	**Birch Farm**	**26.67**	**197**	P		**P**	**13 32 22.4**	**-2.2**
QRZ	**Quartz Range**	**28.01**	**202**	P		**P**	**13 32 35.6**	**-1.1**
QRZ				IAmb		IAmb	13 32 46.8	
	comp=Z,35nm,1.4s							
THZ	**Tophouse**	**28.70**	**201**	P		**P**	**13 32 42.5**	**-0.4**
THZ				IAmb		IAmb	13 32 46.6	
	comp=Z,23nm,1.2s							
WHZ	**Wether Hill Ro**	**34.07**	**203**	P		**P**	**13 33 30.3**	**+0.4**
ARMA	**Armidale**	**35.05**	**239**	P		**P**	**13 33 37.3**	**-1.4**
ARMA				IAmb		IAmb	13 33 59.5	
	comp=Z,16nm,1.4s							
CAN	**Canberra**	**38.76**	**232**	P		**P**	**13 34 08.9**	**-1.1**
H11N3	**WAKE ISLAND Hy** baz=146	**39.72**	**331**	T		T	14 16 13.9	
H11N1	**WAKE ISLAND Hy** baz=146	**39.72**	**331**	T		T	14 16 28.5	
H11N2	**WAKE ISLAND Hy** baz=146	**39.73**	**331**	T		T	14 16 23.0	
COEN	**Coen**	**41.62**	**266**	P		**P**	**13 34 35.5**	**+1.6**
TOO	**Toolangi**	**42.20**	**231**	P		**P**	**13 34 38.5**	**+0.1**
TOO				IAmb		IAmb	13 35 02.3	
	comp=Z,15nm,1.3s							
MIDW	**Midway**	**43.48**	**355**	P		**P**	**13 34 47.6**	**-0.9**
STKA	**Stephens Creek**	**43.74**	**240**	P		**P**	**13 34 50.3**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=96,slow=11,SNR=7.6							
BBOO	**Buckleboo**	**48.51**	**240**	P		**P**	**13 35 27.0**	**-1.3**
WR0	**Warramunga Arr**	**49.31**	**257**	P		**P**	**13 35 33.5**	**-1.0**
WR0				IAmb		IAmb	13 35 55.2	
	comp=Z,5.7nm,1.5s							
WB0	**Warramunga Arr**	**49.46**	**257**	P		**P**	**13 35 34.8**	**-0.9**
WB0				IAmb		IAmb	13 35 35.5	
	comp=Z,2.8nm,0.8s							
WB2	**Warramunga Arr**	**49.49**	**257**	P		**P**	**13 35 34.9**	**-1.0**
WB2				IAmb		IAmb	13 35 36.1	
	comp=Z,7.1nm,1.4s							
WRAB	**Tennant Creek**	**49.49**	**257**	P		**P**	**13 35 34.8**	**-1.1**
WRAB				IAmb		IAmb	13 35 37.1	
	comp=Z,6.2nm,1.4s							
WRA	**Warramunga Arr**	**49.50**	**257**	P		**P**	**13 35 35.1**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=92,slow=6.7,SNR=93							
WRA				PcP		**PcP**	**13 36 56.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=93,slow=4.1,SNR=2.2							
WRA	**Warramunga Arr**	**49.50**	**257**	P		**P**	**13 35 34.8**	**-1.2**
AS31	**Alice Springs**	**49.77**	**252**	P		**P**	**13 35 37.2**	**-0.8**
AS31				IAmb		IAmb	13 35 38.7	
	comp=Z,3.3nm,0.7s							
ASAR	**Alice Springs**	**49.78**	**252**	P		**P**	**13 35 37.5**	**-0.6**
	comp=Z,12nm,0.6s,baz=87,slow=8.2,SNR=343							
ASAR				PcP		**PcP**	**13 36 57.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=107,slow=3.2,SNR=1.5							
ASAR	**Alice Springs**	**49.78**	**252**	P		**P**	**13 35 37.3**	**-0.8**
FORT	**Forrest**	**55.11**	**243**	P		**P**	**13 36 16.0**	**-1.3**
KNRA	**Kununurra**	**55.22**	**261**	P		**P**	**13 36 18.2**	**-0.1**
KNRA				IAmb		IAmb	13 36 40.7	
	comp=Z,8.8nm,1.2s							
FITZ	**Fitzroy Crossi**	**57.86**	**258**	P		**P**	**13 36 37.5**	**+0.4**
SBA	**Scott Base**	**63.24**	**185**	P		**P**	**13 37 13.9**	**+1.3**
SBA				IAmb		IAmb	13 37 30.9	
	comp=Z,8.4nm,1.5s							
VNDA	**Vanda**	**63.36**	**186**	P		**P**	**13 37 14.3**	**+0.9**
NVAR	**Mina Array Bea**	**74.55**	**42**	P		**P**	**13 38 25.4**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=223,slow=9.2,SNR=4.7							
QSPA	**South Pole Qui**	**74.67**	**180**	P		**P**	**13 38 23.6**	**-0.1**
MOD	**Modoc Plateau**	**75.33**	**38**	P		**P**	**13 38 29.3**	**+1.5**
GHO	**Glory Hole Cre**	**79.38**	**12**	P		**P**	**13 38 50.7**	**+0.8**
GHO				IAmb		IAmb	13 39 04.1	
	comp=Z,5.5nm,1.1s							
CUT	**Chulitna**	**79.70**	**11**	P		**P**	**13 38 52.5**	**+1.0**
SCM	**Sheep Creek Mo**	**79.75**	**12**	P		**P**	**13 38 53.2**	**+1.2**
SCM				IAmb		IAmb	13 39 04.8	
	comp=Z,14nm,1.2s							
TRF	**Thorofare Moun**	**80.67**	**10**	P		**P**	**13 38 57.7**	**+0.7**
TRF				IAmb		IAmb	13 39 00.8	
	comp=Z,13nm,1.5s							
RND	**Reindeer**	**80.89**	**11**	P		**P**	**13 38 58.9**	**+0.9**
CCB	**Clear Creek Bu**	**82.21**	**11**	P		**P**	**13 39 05.8**	**+1.0**
PDAR	**Pinedale Array**	**82.49**	**42**	P		**P**	**13 39 08.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=226,slow

comp=E,142nm,19.9s,baz=4.0,slow=36
KDAK Kodiak Island 38.15 328 LR LR 14 16 46.7
comp=E,214nm,19.6s,baz=134,slow=34
INK Inuvik 39.81 349 LR LR 14 21 46.8
comp=E,299nm,20.3s,baz=165,slow=40
ILAR Eielson Array 40.14 339 P **P 14 03 03.7 +3.4**
comp=E,0.3nm,0.9s,baz=146,slow=8.3,SNR=4.9
ILAR LR LR 14 19 09.4
comp=E,142nm,18.6s,baz=204,slow=36
SCHQ Schefferville 41.73 40 LR LR 14 21 23.0
comp=E,92nm,19.7s,baz=270,slow=37
FRB Frobisher Bay 44.25 27 LR LR 14 22 15.2
comp=E,332nm,19.3s,baz=207,slow=36
RES Resolute Bay 45.66 7 LR LR 14 22 33.2
comp=E,201nm,18.9s,baz=194,slow=36
SDV Santo Domingo 45.93 108 LR LR 14 26 38.1
comp=E,84nm,18.1s,baz=288,slow=41
TAOE Nuku Hiva Isla 46.05 217 eLR LR 14 16 23.3
comp=E,296nm,26.4s
SFJD Kangerlussuaq 52.38 26 LR LR 14 27 47.2
comp=E,266nm,19.2s,baz=254,slow=37
NNA Nana 55.30 134 LR LR 14 24 55.8
comp=E,85nm,19.3s,baz=306,slow=32
PPT Papeete 58.35 220 LR LR 14 25 33.3
comp=E,76nm,20.0s,baz=358,slow=31
PPT2 Papeete2 58.37 220 eLR LR 14 22 06.0
comp=E,254nm,28.0s
TBI Tubuai 63.00 216 eLR LR 14 24 13.5
comp=E,142nm,25.2s
MDP Montagnes des 63.04 100 LR LR 14 35 49.6
comp=E,47nm,18.8s,baz=226,slow=38
LPAZ La Paz 64.12 130 LR LR 14 30 60.0
comp=E,58nm,18.9s,baz=303,slow=33
BORG Borgarnes 64.40 28 LR LR 14 33 45.1
comp=E,188nm,20.2s,baz=314,slow=36
PETK Petropavlovsk- 65.34 318 LR LR 14 29 30.8
comp=E,31nm,20.2s,baz=78,slow=31
MA2 Magadan 66.89 327 LR LR 14 33 12.6
comp=E,57nm,21.2s,baz=49,slow=34
RAR Rarotonga 67.22 226 LR LR 14 28 16.0
comp=E,98nm,22.0s,baz=92,slow=29
SPITS Spitsbergen Ar 68.12 10 LR LR 14 38 23.9
comp=E,99nm,18.5s,baz=345,slow=38
LVC Limon Verde 68.24 135 LR LR 14 32 56.7
comp=E,59nm,19.7s,baz=310,slow=33
SIV San Ignacio 68.81 124 LR LR 14 34 24.5
comp=E,57nm,18.6s,baz=344,slow=34
TIXI Tiksi 69.49 342 LR LR 14 38 52.5
comp=E,61nm,18.1s,baz=359,slow=38
AFI Afiamalu 70.54 240 LR LR 14 31 32.9
comp=E,91nm,21.3s,baz=92,slow=31
YAK Yakutsk 74.82 334 LR LR 14 40 11.7
comp=E,52nm,19.9s,baz=87,slow=36
NOA NORSAR Array B 78.95 24 LR LR 14 43 52.3
comp=E,77nm,19.8s,baz=245,slow=37
KSRS Korea Array 91.05 315 LR LR 14 43 10.6
comp=E,19nm,21.3s,baz=45,slow=31

*IDC **27** 13:57:51.7±0.9,20.82N×121.74E,h0km,mb3.4/8, mb1 3.7/8,mb1mx3.4/63,mbtmp3.4/8,MS2.7/2,Ms1 2.8/2, ms1mx2.4/48,Error ellipse: s-maj=36.1km s-min=19.2km az=68.0*
*JMA **27** 13:57:58.4±0.6,20.9N×121.39E,h101km,M3.4*
ISC 27 13:57:59.4±0.9,**20.8N**±0.1×**121.6E**±0.1,**h60km**,**n17**, σ0**9**66/22,**mb3.4**/8,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**3.89**	**32**	P	**Pn**	**13 58 56.5**	**-0.2**
HATJ				*eS*	**Sn**	**13 59 40.8**	**-0.4**
IRIF	**Iriomote-Funau**	**4.09**	**29**	P	**Pn**	**13 58 59.3**	**-0.2**
IRIF				*eS*	**Sn**	**13 59 46.6**	**+0.5**
JKRS	**Kuro-shima**	**4.14**	**33**	P	**Pn**	**13 59 00.9**	**+0.7**
JKRS				S	**Sn**	**13 59 48.3**	**+0.9**
JIJ	**Ishigaki jima**	**4.32**	**33**	P	**Pn**	**13 59 01.9**	**-0.7**
JIJ				S	**Sn**	**13 59 51.1**	**-0.5**
JISG	**Ishigakijimahi**	**4.59**	**33**	P	**Pn**	**13 59 05.6**	**-0.6**
JISG				*eS*	**Sn**	**13 59 58.3**	**+0.1**
JTJ	**Tarama**	**4.84**	**36**	*eS*	**Sn**	**14 00 04.9**	**+0.5**
JIRB	**Irabujima**	**5.25**	**39**	P	**Pn**	**13 59 16.0**	**+0.6**
JIRB				*eS*	**Sn**	**14 00 14.2**	**-0.4**
JMJ2	**Miyako jima3**	**5.28**	**41**	*eS*	**Sn**	**14 00 15.7**	**+0.5**
DAV	**Davao City (W)**	**14.15**	**163**	LR	LR	14 07 26.1	
	comp=Z,28nm,19.1s,baz=218,slow=40						
CMAR	**Chiang Mai Arr**	**21.43**	**268**	P	**P**	**14 02 42.5**	**-0.2**
	0.4nm,0.5s,baz=70,slow=11,SNR=2.0						
CMAR				LR	LR	14 10 48.6	
	comp=Z,22nm,19.6s,baz=295,slow=36						
SONM	**Songino Array**	**29.67**	**339**	P	**P**	**14 03 58.8**	**-0.8**
	0.5nm,0.5s,baz=154,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**41.08**	**319**	P	**P**	**14 05 37.6**	**+0.3**
	0.3nm,0.7s,baz=111,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**			P	**P**	**14 05 47.1**	**-0.6**
	1.1nm,0.7s,baz=344,slow=9.0,SNR=13						
KURBB	**Kurchatov Arra**	**44.98**	**322**	P	**P**	**14 06 10.2**	**+1.5**
	0.3nm,0.7s,baz=114,slow=8.2,SNR=2.2						
ASAR	**Alice Springs**	**45.76**	**164**	P	**P**	**14 06 15.8**	**+0.7**
	0.4nm,0.5s,baz=347,slow=8.2,SNR=17						
ILAR	**Eielson Array**	**72.10**	**27**	P	**P**	**14 09 16.5**	**-0.6**
	0.2nm,0.5s,baz=286,slow=5.5,SNR=1.6						
YKA	**Yellowknife Ar**	**85.99**	**23**	P	**P**	**14 10 33.0**	**0.0**
	0.4nm,0.8s,baz=308,slow=4.8,SNR=8.8						

*GUC **27** 14:13:11.7±0.7,20.56S×69.03W,h100km±3km,ML3.8*
*NEIC **27** 14:13:11.5±1.8,20.58S±0.05×69.21W±0.07, h104km±10km,Error ellipse: s-maj=9.1km s-min=7.7km az=104.0*
*IDC **27** 14:13:11.3±1.1,20.72S×69.04W,h101km±7km,mb3.3/2, mb1 3.4/4,mb1mx3.2/24,mbtmp3.6/4,MS2.5/1,Ms1 2.6/1, ms1mx2.5/16,Error ellipse: s-maj=46.1km s-min=27.0km az=94.0*
ISC 27 14:13:10.9±0.7,**20.57S**±0.03×**69.10W**±0.06,**h102**km±5km, **n48**,σ0**99**/62,**8C-2D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.43**	**353**		**Pn**	**14 13 27.1**	**+0.1**
PB08	**IPOC Station P**	**0.43**	**353**	⇓*iP*	**Pn**	**14 13 27.2**	**+0.3**
PB08				*i* S	**Sn**	**14 13 38.8**	**-0.1**
PB08				IAML		14 13 40.6	
	comp=E,4μm,0.2s						
PB01	**IPOC Station P**	**0.59**	**218**		**Pn**	**14 13 28.0**	**+0.3**
PB01	**IPOC Station P**	**0.59**	**218**	⇑*iP*	**Pn**	**14 13 28.0**	**+0.3**
PB01				*i* S	**Sn**	**14 13 40.9**	**+0.5**
GO01	**Chusmiza**	**0.90**	**354**		**Pn**	**14 13 31.4**	**+0.3**
GO01	**Chusmiza**	**0.90**	**354**	⇓*iP*	**Pn**	**14 13 31.4**	**+0.3**
GO01				*i* S	**Sn**	**14 13 46.8**	**+0.8**
PB11	**IPOC Station P**	**0.96**	**327**	Pn	**Pn**	**14 13 31.6**	**+0.3**
PB11	**IPOC Station P**	**0.96**	**327**	⇑*iP*	**Pn**	**14 13 31.6**	**+0.3**
PB11				*i* S	**Sn**	**14 13 47.2**	**+0.6**
PB11				IAML		14 13 49.7	
	comp=N,4μm,0.2s						
TA02	**Huaiquique**	**1.01**	**287**		**Pn**	**14 13 31.9**	**+0.3**
TA02	**Huaiquique**	**1.01**	**287**	*eP*	**Pn**	**14 13 32.3**	**+0.7**
TA02				*i* S	**Sn**	**14 13 48.3**	**+1.1**
TA02				IAML		14 13 52.3	
	comp=E,7μm,0.1s						
TA01	**Diego Aracena**	**1.01**	**270**		**Pn**	**14 13 31.9**	**+0.2**
TA01	**Diego Aracena**	**1.01**	**270**	⇑*iP*	**Pn**	**14 13 32.0**	**+0.4**
TA01				*i* S	**Sn**	**14 13 47.6**	**+0.4**
TA01				IAML		14 13 49.1	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.05**	**225**		**Pn**	**14 13 32.6**	**+0.4**
PB02	**IPOC Station P**	**1.05**	**225**	⇑*iP*	**Pn**	**14 13 32.8**	**+0.6**
PB02				*i* S	**Sn**	**14 13 49.4**	**+1.2**
PB09	**IPOC Station P**	**1.23**	**186**		**Pn**	**14 13 34.9**	**+0.6**
PB09	**IPOC Station P**	**1.23**	**186**	⇑*iP*	**Pn**	**14 13 35.0**	**+0.8**
PB09				*i* S	**Sn**	**14 13 53.3**	**+1.5**
PB09				IAML		14 13 56.0	
	comp=E,1μm,0.4s						
PB07	**IPOC Station P**	**1.36**	**212**		**Pn**	**14 13 36.0**	**+0.2**
PB07	**IPOC Station P**	**1.36**	**212**	⇑*iP*	**Pn**	**14 13 36.3**	**+0.4**
PB07				*i* S	**Sn**	**14 13 55.4**	**+0.7**
PB07				IAML		14 13 58.9	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**2.01**	**209**		**Pn**	**14 13 44.3**	**+0.4**
PB04	**IPOC Station P**	**2.01**	**209**	*eP*	**Pn**	**14 13 44.0**	**+0.1**
PB04				IAML		14 14 16.7	
	comp=E,900nm,0.4s						
LVC	**Limon Verde**	**2.04**	**175**		**Pn**	**14 13 45.4**	**+0.9**
LVC	**Limon Verde**	**2.04**	**175**	*eP*	**Pn**	**14 13 45.5**	**+1.1**
LVC				*i* S	**Sn**	**14 14 11.5**	**+1.5**
PB06	**IPOC Station P**	**2.17**	**192**		**Pn**	**14 13 46.0**	**+0.1**
PB06	**IPOC Station P**	**2.17**	**192**	*eP*	**Pn**	**14 13 46.0**	**+0.1**
PB16	**IPOC Station P**	**2.26**	**350**		**Pn**	**14 13 48.9**	**+1.4**
PB16	**IPOC Station P**	**2.26**	**350**	⇑*iP*	**Pn**	**14 13 49.1**	**+1.6**
PB12	**IPOC Station P**	**2.27**	**329**		**Pn**	**14 13 47.1**	**0.0**
PB12	**IPOC Station P**	**2.27**	**329**	⇑*iP*	**Pn**	**14 13 47.2**	**0.0**
PB12				*i* S	**Sn**	**14 14 15.3**	**+0.5**
PB12				IAML		14 14 23.6	
	comp=E,559nm,0.1s						
AP01	**Chacalluta**	**2.48**	**332**	Pn	**Pn**	**14 13 50.3**	**+0.4**
PB15	**IPOC Station P**	**2.65**	**187**		**Pn**	**14 13 52.0**	**-0.3**
PB15	**IPOC Station P**	**2.65**	**187**	*eP*	**Pn**	**14 13 53.0**	**+0.7**
PB10	**IPOC Station P**	**3.23**	**204**		**Pn**	**14 13 58.8**	**-1.0**
PB10	**IPOC Station P**	**3.23**	**204**	*eP*	**Pn**	**14 13 59.2**	**-0.6**
PB14	**IPOC Station P**	**4.21**	**196**		**Pn**	**14 14 14.0**	**+0.6**
LPAZ	**La Paz**	**4.36**	**12**	P	**Pn**	**14 14 18.1**	**+2.5**
	comp=E,1.8nm,0.3s,baz=183,slow=7.5,SNR=52						
LPAZ				S	**Sn**	**14 15 04.9**	**-0.8**
	comp=E,0.7nm,0.3s,baz=182,slow=6.8,SNR=1.5						
LPAZ				LR	LR	14 16 11.9	
	comp=E,57nm,20.2s,baz=48,slow=40						
LPAZ	**La Paz**	**4.36**	**12**	Pn	**Pn**	**14 14 16.4**	**+0.9**
GO02	**Mina Guanaco**	**4.59**	**186**	Pn	**Pn**	**14 14 17.9**	**-0.6**
AC01	**Pan de Azucar**	**5.72**	**194**	Pn	**Pn**	**14 14 30.5**	**-3.0**
AC02	**Maricunga**	**6.24**	**180**	Pn	**Pn**	**14 14 38.8**	**-2.1**
AC06	**Mina Casimiro**	**6.85**	**189**	Pn	**Pn**	**14 14 46.9**	**-2.0**
GO03	**Copiap**	**7.07**	**188**	Pn	**Pn**	**14 14 50.6**	**-1.2**
AC04	**Llanos de Chal**	**7.81**	**193**	Pn	Pn	14 14 56.8	-5.0
PLCA	**Paso Flores**	**20.14**	**183**	P	**P**	**14 17 36.0**	**-1.0**
	comp=E,0.0nm,0.3s,baz=20,slow=15,SNR=1.9						
PLCA	**Paso Flores**	**20.14**	**183**	P	**P**	**14 17 37.8**	**+0.8**
PLCA				IAmb	IAmb	14 18 01.3	
	comp=Z,14nm,1.5s						
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	**P**	**14 24 54.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=257,slow=5.5,SNR=1.8						
TORD				pP	**pP**	**14 25 19.7**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=243,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**90.26**	**341**	P	**P**	**14 26 00.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=133,slow=4.6,SNR=8.8						
YKA				pP	**pP**	**14 26 27.3**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=134,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**130.65**	**208**	PKP	**PKPdf**	**14 32 10.6**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=143,slow=1.6,SNR=1.5						
MKAR	**Makanchi Array**	**144.98**	**35**	PKPbc	**PKPdf**	**14 32 36.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=308,slow=3.3,SNR=8.9						
MKAR				pPKPbc	**pPKPdf**	**14 33 04.2**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=350,slow=3.7,SNR=2.5						

*IDC **27** 14:27:56.2±1.5,40.40S×174.12E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.5/31,mbtmp3.8/4,ML3.7/2,MS3.8/1, Ms1 3.8/1,ms1mx2.7/46,Error ellipse: s-maj=41.8km s-min=23.8km az=148.0*
*WEL **27** 14:28:03.9,41°S±4°×17°4E±°,h64km±8km,M3.7/24, ML4.0/24,MLv3.7/24,Error ellipse: s-maj=0.0km s-min=0.0km az=119.9*
*NEIC **27** 14:28:03.3±1.1,40.68S±0.05×174.43E±0.03,h73km±8km, mb4.3/10,Error ellipse: s-maj=7.1km s-min=3.5km az=190.0*
ISC 27 14:28:03.6±0.8,**40.72S**±0.03×**174.47E**±0.03,**h83**km±5km, **n200**,σ1**66**/218,**mb4.3**/8,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.36**	**113**	P	**Pn**	**14 28 15.7**	**-0.9**
KIW				S	**Sn**	**14 28 24.1**	**-2.2**
DUWZ	**D'Urville Isla**	**0.42**	**259**	P	**Pn**	**14 28 15.7**	**-1.4**
DUWZ				S	**Sn**	**14 28 24.8**	**-2.2**
TCW	**Tory Channel**	**0.51**	**197**	P	**Pn**	**14 28 17.5**	**-0.2**
TCW				S	**Sn**	**14 28 27.7**	**-0.5**
OGWZ	**Otaki Gorge**	**0.54**	**100**	P	**Pn**	**14 28 17.6**	**-0.4**
OGWZ				S	**Sn**	**14 28 27.4**	**-1.2**
CAW	**Cannon Point**	**0.59**	**131**	P	**Pn**	**14 28 18.3**	**-0.2**
CAW				S	**Sn**	**14 28 29.3**	**-0.2**
WEL	**Wellington**	**0.60**	**158**	P	**Pn**	**14 28 18.5**	**-0.1**
SNZO	**South Karori**	**0.61**	**163**		**Pn**	**14 28 18.4**	**-0.3**
SNZO				Sn	**Sn**	**14 28 28.9**	**-0.8**
BHW	**Baring Head**	**0.75**	**156**		**Pn**	**14 28 19.6**	**-0.4**
BHW	**Baring Head**	**0.75**	**156**	P	**Pn**	**14 28 19.9**	**-0.1**
TUWZ	**Tuamarina**	**0.81**	**209**		**Pn**	**14 28 20.4**	**-0.2**
TUWZ				Sn	**Sn**	**14 28 32.0**	**-1.4**
TUWZ	**Tuamarina**	**0.81**	**209**	P	**Pn**	**14 28 20.5**	**-0.1**
TUWZ				S	**Sn**	**14 28 32.1**	**-1.4**
HOWZ	**Holdsworth Sta**	**0.81**	**103**	P	**Pn**	**14 28 20.2**	**-0.5**
HOWZ				S	**Sn**	**14 28 31.6**	**-1.9**
OHWZ	**Ohakea**	**0.83**	**52**	P	**Pn**	**14 28 20.6**	**-0.3**
OHWZ				S	**Sn**	**14 28 33.6**	**0.0**
MRZ	**Mangatainoka R**	**0.84**	**86**	P	**Pn**	**14 28 20.0**	**-0.7**
MRZ				S	**Sn**	**14 28 32.6**	**-1.5**
MTW	**Mount Morrison**	**0.89**	**119**	P	**Pn**	**14 28 21.3**	**-0.3**
MTW				S	**Sn**	**14 28 33.7**	**-1.4**
MSWZ	**Moikau Station**	**0.91**	**140**		**Pn**	**14 28 21.6**	**-0.2**
MSWZ	**Moikau Station**	**0.91**	**140**	P	**Pn**	**14 28 21.8**	**0.0**
NNZ	**Nelson**	**0.96**	**239**		**Pn**	**14 28 21.8**	**-0.6**
NNZ				Sn	**Sn**	**14 28 34.9**	**-1.5**
NNZ	**Nelson**	**0.96**	**239**	P	**Pn**	**14 28 21.6**	**-0.8**
NNZ				S	**Sn**	**14 28 35.1**	**-1.3**
PAWZ	**Paruwai Farm**	**0.98**	**133**	P	**Pn**	**14 28 22.6**	**-0.1**
PAWZ				S	**Sn**	**14 28 35.9**	**-1.0**
PLWZ	**Palliser**	**1.03**	**145**		**Pn**	**14 28 23.0**	**-0.2**
PLWZ	**Palliser**	**1.03**	**145**	P	**Pn**	**14 28 23.3**	**0.0**
CMWZ	**Cape Campbell**	**1.04**	**191**		**Pn**	**14 28 23.8**	**+0.4**
CMWZ	**Cape Campbell**	**1.04**	**191**	P	**Pn**	**14 28 24.3**	**+0.9**
POWZ	**Post Office Ro**	**1.04**	**72**	P	**Pn**	**14 28 22.5**	**-0.8**
WAZ	**Wanganui**	**1.04**	**22**	P	**Pn**	**14 28 23.2**	**-0.2**
TIWZ	**Tintock**	**1.08**	**93**	P	**Pn**	**14 28 23.2**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.09**	**204**		**Pn**	**14 28 23.5**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.09**	**204**	P	**Pn**	**14 28 23.9**	**0.0**
TRWZ	**Traveller**	**1.14**	**127**	P	**Pn**	**14 28 24.4**	**-0.1**
TMWZ	**Te Maipa**	**1.14**	**110**	P	**Pn**	**14 28 24.2**	**-0.4**
PRWZ	**Pori Road**	**1.15**	**82**	P	**Pn**	**14 28 24.1**	**-0.6**
TKNZ	**Takaka Hill**	**1.19**	**254**	P	**Pn**	**14 28 24.5**	**-0.6**
LREZ	**Lake Rotokare**	**1.26**	**358**	P	**Pn**	**14 28 25.3**	**-0.7**
TSZ	**Takapari Road**	**1.32**	**60**	P	**Pn**	**14 28 25.6**	**-1.2**
CPWZ	**Castlepoint**	**1.33**	**99**	P	**Pn**	**14 28 26.9**	**+0.1**
BFZ	**Birch Farm**	**1.35**	**89**		**Pn**	**14 28 26.0**	**-1.2**
BFZ	**Birch Farm**	**1.35**	**89**	P	**Pn**	**14 28 26.4**	**-0.8**
DVHZ	**Dannevirke**	**1.36**	**72**	P	**Pn**	**14 28 26.1**	**-1.2**
NMEZ	**Namu Road**	**1.39**	**341**	P	**Pn**	**14 28 27.0**	**-0.5**
MRNZ	**Matariki Terra**	**1.46**	**242**	P	**Pn**	**14 28 28.4**	**-0.1**
KHEZ	**Kahui Hut**	**1.47**	**346**	P	**Pn**	**14 28 28.3**	**-0.4**
QRZ	**Quartz Range**	**1.48**	**265**		**Pn**	**14 28 27.5**	**-1.2**
QRZ	**Quartz Range**	**1.48**	**265**	P	**Pn**	**14 28 27.6**	**-1.1**
QRZ				S	**Sn**	**14 28 45.5**	**-2.3**
NEZ	**North Egmont**	**1.48**	**349**	P	**Pn**	**14 28 28.4**	**-0.5**
NBEZ	**Newall Road No**	**1.52**	**342**	P	**Pn**	**14 28 28.9**	**-0.4**
MTVZ	**Mangateitei**	**1.54**	**30**	P	**Pn**	**14 28 29.0**	**-0.7**
DREZ	**Durham Road**	**1.55**	**352**	P	**Pn**	**14 28 29.5**	**-0.2**
ANWZ	**Angora Road**	**1.55**	**81**	P	**Pn**	**14 28 28.8**	**-0.8**
PNHZ	**Pukenui**	**1.55**	**59**	P	**Pn**	**14 28 28.4**	**-1.4**
PKE	**Pukeiti**	**1.57**	**346**	P	**Pn**	**14 28 29.6**	**-0.4**
THZ	**Tophouse**	**1.57**	**228**		**Pn**	**14 28 29.9**	**-0.2**
THZ	**Tophouse**	**1.57**	**228**	P	**Pn**	**14 28 29.8**	**-0.2**
PKVZ	**Pokaka**	**1.58**	**25**	P	**Pn**	**14 28 29.2**	**-1.0**
VRZ	**Vera Road**	**1.61**	**8**	P	**Pn**	**14 28 30.3**	**-0.2**
WNVZ	**Wahianoa**	**1.64**	**32**	P	**Pn**	**14 28 30.4**	**-0.6**
MOVZ	**Moawhango**	**1.64**	**37**	P	**Pn**	**14 28 29.8**	**-1.1**
WPHZ	**Waipukurau**	**1.64**	**67**	P	**Pn**	**14 28 29.6**	**-1.3**
TRVZ	**Turoa**	**1.65**	**31**	P	**Pn**	**14 28 30.6**	**-0.6**
DRZ	**Dome Shelter**	**1.67**	**31**	P	**Pn**	**14 28 31.2**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.68**	**31**	P	**Pn**	**14 28 31.0**	**-0.6**
FWVZ	**Far West T-bar**	**1.69**	**30**	P	**Pn**	**14 28 30.9**	**-0.8**
PRHZ	**Porangahau**	**1.71**	**75**	P	**Pn**	**14 28 29.8**	**-2.0**
TUVZ	**Tukino**	**1.71**	**32**	P	**Pn**	**14 28 31.5**	**-0.5**
BHHZ	**Black Hill Sta**	**1.73**	**45**	P	**Pn**	**14 28 31.1**	**-1.1**
NGZ	**Ngauruhoe**	**1.77**	**30**	P	**Pn**	**14 28 32.0**	**-0.8**
SNVZ	**South Ngauruho**	**1.78**	**31**	P	**Pn**	**14 28 32.5**	**-0.4**
OTVZ	**Oturere**	**1.81**	**31**	P	**Pn**	**14 28 32.6**	**-0.6**
TWVZ	**Taurewa**	**1.81**	**25**	P	**Pn**	**14 28 32.0**	**-1.2**
KRHZ	**Kereru**	**1.81**	**54**	P	**Pn**	**14 28 31.7**	**-1.4**
NNVZ	**North Ngauruho**	**1.82**	**29**	P	**Pn**	**14 28 32.5**	**-0.9**
WTVZ	**West Tongariro**	**1.82**	**29**	P	**Pn**	**14 28 32.4**	**-0.9**
KHZ	**Kahutara**	**1.83**	**202**		**Pn**	**14 28 33.2**	**-0.1**
KHZ	**Kahutara**	**1.83**	**202**	P	**Pn**	**14 28 33.3**	**0.0**
ETVZ	**East Tongariro**	**1.85**	**31**	P	**Pn**	**14 28 33.1**	**-0.7**
KRVZ	**Karewarewa**	**1.86**	**29**	P	**Pn**	**14 28 33.4**	**-0.5**
TMVZ	**Te Maari**	**1.86**	**31**	P	**Pn**	**14 28 33.2**	**-0.7**
NTVZ	**North Tongariro**	**1.87**	**30**	P	**Pn**	**14 28 33.4**	**-0.5**
PXZ	**Pawanui**	**1.95**	**70**	P	**Pn**	**14 28 33.3**	**-1.6**
KWHZ	**Kaweka Forest**	**1.98**	**50**	P	**Pn**	**14 28 34.0**	**-1.4**
KATZ	**Kakaramea**	**1.98**	**29**	P	**Pn**	**14 28 35.2**	**-0.3**
RITZ	**Rihia Road**	**2.04**	**32**	P	**Pn**	**14 28 35.4**	**-0.8**
KAHZ	**Kahuranaki**	**2.06**	**64**	P	**Pn**	**14 28 34.9**	**-1.5**
RATZ	**Rangitukua**	**2.11**	**29**	P	**Pn**	**14 28 36.4**	**-0.7**
MCHZ	**McNeill Hill**	**2.13**	**54**	P	**Pn**	**14 28 36.0**	**-1.4**
BKZ	**Black Stump Fm**	**2.20**	**46**		**Pn**	**14 28 36.4**	**-1.9**
BKZ	**Black Stump Fm**	**2.20**	**46**	P	**Pn**	**14 28 36.6**	**-1.7**
HATZ	**Hinemaiaia**	**2.22**	**35**	P	**Pn**	**14 28 36.7**	**-1.8**
HIZ	**Hauiti**	**2.23**	**8**		**Pn**	**14 28 38.1**	**-0.6**
HIZ	**Hauiti**	**2.23**	**8**	P	**Pn**	**14 28 38.2**	**-0.4**
WATZ	**Wairara**	**2.24**	**26**	P	**Pn**	**14 28 38.1**	**-0.7**
DSZ	**Denniston Nort**	**2.25**	**242**	P	**Pn**	**14 28 37.9**	**-1.1**
MRHZ	**Matea Rd**	**2.41**	**39**	P	**Pn**	**14 28 39.0**	**-2.1**
NMHZ	**Naumai**	**2.42**	**49**	P	**Pn**	**14 28 39.7**	**-1.6**
ARHZ	**Aropaoanui**	**2.43**	**54**	P	**Pn**	**14 28 39.4**	**-1.8**
KUTZ	**Kaahu Road**	**2.46**	**26**	P	**Pn**	**14 28 41.7**	**-0.1**
GVZ	**Greta Valley S**	**2.49**	**205**	P	**Pn**	**14 28 41.4**	**-0.7**
TLZ	**Tolley Road**	**2.53**	**19**	P	**Pn**	**14 28 41.6**	**-1.1**
WPRZ	**Whakapapatarin**	**2.56**	**31**	P	**Pn**	**14 28 41.5**	**-1.6**
ALRZ	**Allen Road**	**2.60**	**34**	P	**Pn**	**14 28 41.8**	**-1.8**
MTHZ	**Maungataniwha**	**2.61**	**45**	P	**Pn**	**14 28 41.7**	**-2.1**
LTZ	**Lake Taylor**	**2.63**	**218**		**Pn**	**14 28 43.0**	**-1.0**
LTZ	**Lake Taylor**	**2.63**	**218**	P	**Pn**	**14 28 43.1**	**-1.0**
PRRZ	**Plateau Road**	**2.67**	**34**	P	**Pn**	**14 28 42.7**	**-1.9**
GRRZ	**Galatos Road**	**2.69**	**29**	P	**Pn**	**14 28 43.7**	**-1.1**
WHHZ	**Waihua**	**2.69**	**53**	P	**Pn**	**14 28 42.0**	**-2.8**
RAHZ	**Arahi**	**2.70**	**49**	P	**Pn**	**14 28 42.7**	**-2.3**
HRRZ	**Handcock Road**	**2.72**	**32**	P	**Pn**	**14 28 44.0**	**-1.3**
HSRZ	**Hossack Road**	**2.77**	**30**	P	**Pn**	**14 28 44.6**	**-1.3**
AMCZ	**Amberley**	**2.80**	**208**	P	**Pn**	**14 28 45.0**	**-1.3**
RRRZ	**Republican Roa**	**2.86**	**34**	P	**Pn**	**14 28 45.4**	**-1.7**
RTZ	**Ruatahuna**	**2.86**	**43**	P	**Pn**	**14 28 44.5**	**-2.7**
MUGZ	**Murupara**	**2.86**	**39**	P	**Pn**	**14 28 44.3**	**-2.9**
HLRZ	**Highlands Stat**	**2.87**	**31**	P	**Pn**	**14 28 46.3**	**-0.9**
UTU	**Utuhina**	**2.87**	**28**	P	**Pn**	**14 28 46.2**	**-1.1**
NGRZ	**Ngongotaha**	**2.94**	**27**	P	**Pn**	**14 28 47.1**	**-1.1**
SNGZ	**Shannon Statio**	**2.94**	**50**	P	**Pn**	**14 28 45.6**	**-2.6**
TARZ	**Mount Tarawera**	**2.94**	**33**	P	**Pn**	**14 28 46.8**	**-1.5**
KNZ	**Kokohu**	**2.99**	**56**	P	**Pn**	**14 28 46.0**	**-2.9**
OMRZ	**Omania**	**3.00**	**30**	P	**Pn**	**14 28 47.6**	**-1.5**
INZ	**Inchbonnie**	**3.02**	**228**	P	**Pn**	**14 28 48.2**	**-1.1**
KARZ	**Kaharoa**	**3.03**	**28**	P	**Pn**	**14 28 48.3**	**-1.2**
MHGZ	**Mahia Peninsul**	**3.07**	**60**	P	**Pn**	**14 28 47.4**	**-2.6**
KMRZ	**Kaimai**	**3.09**	**22**	P	**Pn**	**14 28 49.5**	**-0.8**
TOZ	**Tahuroa Road**	**3.09**	**15**	P	**Pn**	**14 28 49.3**	**-1.0**
OXZ	**Oxford**	**3.17**	**214**		**Pn**	**14 28 48.8**	**-2.4**
OXZ	**Oxford**	**3.17**	**214**	P	**Pn**	**14 28 48.7**	**-2.6**
OKCZ	**Okains Bay**	**3.18**	**199**	P	**Pn**	**14 28 49.8**	**-1.6**
RAGZ	**Rawiri**	**3.18**	**47**	P	**Pn**	**14 28 48.8**	**-2.8**
PRGZ	**Paritu Road**	**3.18**	**57**	P	**Pn**	**14 28 48.4**	**

California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**1.02**	**334**		**Pb**	**14 33 57.7**	**-1.3**
SFX				Sg	**Sb**	**14 34 09.7**	**-3.1**
SFX	**San Felipe**	**1.02**	**334**	*eP*	**Pb**	**14 33 57.3**	**-1.8**
SFX				*eS*	**Sb**	**14 34 11.0**	**-1.8**
SFX	comp=E,13µm,0.7s			IAML		14 34 13.9	
SFX	comp=N,6µm,0.5s			IAML		14 34 22.0	
SPIG	**San Pedro Mart**	**1.34**	**314**		**Pb**	**14 34 04.0**	**-0.8**
SPIG					**Sb**	**14 34 20.1**	**-2.4**
SPIG	**San Pedro Mart**	**1.34**	**314**	*eP*	**Pn**	**14 34 04.0**	**-0.8**
SPIG				*eS*	**Sb**	**14 34 20.1**	**-2.4**
SPIG	**San Pedro Mart**	**1.34**	**314⇑**	*eP*	**Pn**	**14 34 03.8**	**-1.0**
SPIG				*eS*	**Sb**	**14 34 22.0**	**-0.6**
SPIG	comp=E,3µm,0.8s			IAML		14 34 25.8	
SPIG	comp=N,4µm,1.3s			IAML		14 34 29.4	
BAHB	**Baha de los**	**1.35**	**150**	*eP*	**Pn**	**14 34 04.2**	**-0.4**
BAHB	**Baha de los**	**1.35**	**150⇑**	*eP*	**Pn**	**14 34 04.1**	**-0.4**
BAHB				*eS*	**Sn**	**14 34 23.2**	**+0.2**
ECBX	**El Chinero**	**1.48**	**336⇑**	*eP*	**Pn**	**14 34 04.8**	**-1.6**
SVX	**San Vicente**	**2.04**	**307⇑**	*eP*	**Pn**	**14 34 14.4**	**+0.3**
SVX	comp=N,2µm,0.9s			IAML		14 34 46.1	
SVX	comp=E,4µm,0.8s			IAML		14 34 46.2	
214A	**Organ Pipe Nat**	**2.25**	**35**	Pn	**Pn**	**14 34 14.7**	**-2.2**
214A	**Organ Pipe Nat**	**2.25**	**35**	*eP*	**Pn**	**14 34 15.0**	**-1.9**
214A	**Organ Pipe Nat**	**2.25**	**35⇓**	*eP*	**Pn**	**14 34 15.1**	**-1.9**
214A	**Organ Pipe Nat** baz=218,SNR=11	**2.25**	**35**	P	**Pn**	**14 34 15.0**	**-1.9**
214A	baz=218			S	**Sn**	**14 34 41.7**	**-3.5**
YMD	**Yuma Desert**	**2.43**	**356⇑**	*iP*	**Pn**	**14 34 18.6**	**-0.9**
CPBX	**Cerro Prieto**	**2.44**	**340**		**Pn**	**14 34 18.8**	**-0.8**
CCX	**Cicese**	**2.65**	**312**	Pn	**Pn**	**14 34 23.4**	**+0.9**
CCX	**Cicese**	**2.65**	**312**	*eP*	**Pb**	**14 34 27.7**	**+0.8**
113A	**Mohawk Valley,**	**2.68**	**10**	Pn	**Pn**	**14 34 21.3**	**-1.6**
YUH2	**Yuha Desert**	**2.86**	**332**	*eP*	**Pg**	**14 34 33.2**	**-0.5**
RMX	**La Rumorosa**	**2.89**	**329**	Pn	**Pn**	**14 34 25.1**	**-0.8**
IKP	**In-Ko-Pah, Jac** baz=145,SNR=22	**2.94**	**329**	Pg	**Pg**	**14 34 35.0**	**-0.2**
IKP	baz=145			Sg	**Sg**	**14 35 12.3**	**-1.1**
GLA	**Glamis**	**2.95**	**352**		**Pn**	**14 34 25.3**	**-1.4**
GLA	**Glamis**	**2.95**	**352**	*eP*	**Pn**	**14 34 26.0**	**-0.7**
CBX	**Cerro Bola**	**2.96**	**318**	Pn	**Pn**	**14 34 27.0**	**+0.1**
CBX	**Cerro Bola**	**2.96**	**318**	*eP*	**Pb**	**14 34 30.2**	**-2.1**
TKX	**Tecate**	**3.12**	**322**	Pn	**Pn**	**14 34 29.2**	**+0.3**
BAR	**Barrett**	**3.24**	**323**	Pn	**Pn**	**14 34 30.6**	**0.0**
MONP2	**Monument Peak** baz=143,SNR=18	**3.29**	**328**	Pg	**Pg**	**14 34 42.3**	**+0.4**
MONP2	baz=143			Sb	**Sg**	**14 35 22.5**	**-2.1**
SRIG	**Santa Rosalia**	**3.34**	**146**		**Pb**	**14 34 37.4**	**-1.3**
BLYC	**Blythe**	**3.62**	**357**		**Pn**	**14 34 36.2**	**+0.4**
109C	**Camp Elliot, M**	**3.63**	**320**	Pn	**Pn**	**14 34 37.0**	**+1.0**
109C	**Camp Elliot, M** baz=135	**3.63**	**320**	Pn	**Pn**	**14 34 37.2**	**+1.1**
109C	baz=135,SNR=14			Pb	**Pb**	**14 34 46.7**	**+3.0**
109C	baz=135			Sb	**Sb**	**14 35 31.2**	**+3.0**
TUC	**Tucson**	**3.74**	**53**	Pn	**Pn**	**14 34 35.7**	**-1.8**
TUC	**Tucson** baz=238	**3.74**	**53**	P	**Pn**	**14 34 35.9**	**-1.6**
TPFO	**Pinon Flats** baz=149,SNR=10.0	**3.92**	**333**	Pg	**Pg**	**14 34 55.3**	**+1.4**
TPFO	baz=149			Sg	**Sg**	**14 35 43.6**	**-1.0**
PFO	**Pinyon Flats O** comp=E,1.1nm,0.3s,baz=147,slow=13,SNR=4.7	**3.92**	**333**	Pn	**Pn**	**14 34 39.9**	**-0.1**
PFO	comp=E,1.2nm,0.3s,baz=166,slow=15,SNR=13			Pg	**Pb**	**14 34 51.2**	**+2.5**
PFO	comp=E,15nm,0.3s,baz=252,slow=10,SNR=12			Lg	Lg	14 35 43.2	
PFO	**Pinyon Flats O** baz=149,SNR=14	**3.92**	**333**	Pg	**Pg**	**14 34 55.3**	**+1.3**
Y14A	**Wickenburg**	**3.97**	**16**		**Pn**	**14 34 39.5**	**-1.2**
IRM	**Iron Mountain** baz=168	**4.08**	**351**	Pg	**Pg**	**14 34 59.9**	**+2.8**
BELC	**Belle Mtn. Jos** baz=157	**4.12**	**340**	Pg	**Pg**	**14 34 59.5**	**+1.8**
PDMCI	**Parker Dam,Lak** baz=181,SNR=5.2	**4.17**	**2**	P	**Pn**	**14 34 43.6**	**+0.2**
MURC	**Murrieta** baz=142,SNR=13	**4.24**	**326**	Pb	**Pb**	**14 34 55.5**	**+1.5**
MURC	baz=142			Sb	**Sb**	**14 35 50.1**	**+4.5**
BBRC	**Big Bear Solar** baz=149	**4.67**	**333**	Pg	**Pg**	**14 35 08.9**	**+0.4**
BBRC	baz=149			Sg	**Sg**	**14 36 11.2**	**+2.2**
CIS	**Catalina Islan** baz=130	**4.77**	**314**	Sb	**Sb**	**14 36 05.8**	**+4.8**
BFSC	**Mount Baldy Ra** baz=142,SNR=15	**4.98**	**326**	Pb	**Pb**	**14 35 09.3**	**+2.6**
BFSC	baz=142			Sb	**Sg**	**14 36 13.8**	**-5.0**
RRX	**Edison Barstow** baz=152	**5.25**	**335**	Sg	**Sg**	**14 36 29.1**	**+1.7**
DECC	**Green Verdugo** baz=137	**5.34**	**322**	Sb	**Sg**	**14 36 24.6**	**-5.7**
GSC	**Goldstone, Bar** baz=156	**5.57**	**339**	Pg	**Pg**	**14 35 27.6**	**+2.0**
GSC	baz=156			Sg	**Sg**	**14 36 39.9**	**+2.2**
EDW2	**Edwards Air Fo** baz=144	**5.66**	**328**	Sb	**Sg**	**14 36 34.2**	**-6.6**
X18A	**Snowflake**	**5.75**	**39**	Pn	**Pn**	**14 35 05.5**	**+0.3**
WUAZ	**Wupatki**	**5.93**	**24**	Pn	**Pn**	**14 35 08.4**	**+0.7**
WUAZ	**Wupatki** baz=206,SNR=6.6	**5.93**	**24**	P	**Pn**	**14 35 08.9**	**+1.2**
LRMC	**Laurel Mtn Rad** baz=150	**6.04**	**333**	Pg	**Pg**	**14 35 33.2**	**-1.4**
LRMC	baz=150			Sg	**Sg**	**14 36 49.9**	**-3.0**
121A	**Cookes Peak, D**	**6.10**	**65**	Pn	**Pn**	**14 35 09.4**	**-0.6**
121A	**Cookes Peak, D** baz=250	**6.10**	**65**	P	**Pn**	**14 35 09.9**	**-0.1**
W18A	**Petrified Fore**	**6.31**	**37**	Pn	**Pn**	**14 35 13.4**	**+0.4**
W18A	**Petrified Fore** baz=220	**6.31**	**37**	P	**Pn**	**14 35 14.2**	**+1.2**
W18A	baz=220			Sg	**Sg**	**14 37 03.6**	**+2.0**
SHPR	**Sheep Range**	**6.41**	**354**	Pn	**Pn**	**14 35 15.4**	**+1.2**
MPMC	**Manual Prospec** baz=154	**6.49**	**337**	Sg	**Sg**	**14 37 07.0**	**-0.2**
U15A	**North Rim**	**6.52**	**15**	Pn	**Pn**	**14 35 17.3**	**+1.4**
LCMT	**Little Creek M**	**6.93**	**7**		**Pn**	**14 35 22.8**	**+1.3**
LPIG	**La Paz** comp=E,702nm,18.4s,baz=336,slow=38	**6.99**	**148**	LR	LR	14 38 07.5	
KNB	**Kanab**	**6.99**	**10**	Pn	**Pn**	**14 35 23.7**	**+1.4**
PRN	**Pahroc Range**	**7.29**	**355**	Pn	**Pn**	**14 35 27.9**	**+1.5**
LENM	**Lemitar**	**7.43**	**55**		**Pn**	**14 35 24.9**	**-3.4**
CCUT	**Cedar City**	**7.45**	**6**	Pn	**Pn**	**14 35 30.7**	**+2.0**
SLBS	**Sierra La Lagu**	**7.51**	**148**	Pn	**Pn**	**14 35 32.6**	**+3.3**
BNM	**Barren Site**	**7.67**	**56**	Pn	**Pn**	**14 35 31.1**	**-0.6**
ANMO	**Albuquerque** comp=E,0.2nm,0.3s,baz=245,slow=10,SNR=6.8	**8.21**	**52**	Pn	**Pn**	**14 35 39.1**	**+0.1**
ANMO	comp=E,0.1nm,0.3s,baz=260,slow=17,SNR=1.7			Lg	Lg	14 37 49.8	
ANMO	comp=E,31nm,20.5s,baz=228,slow=33			LR	LR	14 38 04.4	
ANMO	**Albuquerque** baz=237	**8.21**	**52**	P	**Pn**	**14 35 39.3**	**+0.3**
R11A	**Troy Canyon, C** baz=172	**8.27**	**353**	P	**Pn**	**14 35 41.9**	**+2.0**
NVAR	**Mina Array Bea** comp=E,0.1nm,0.3s,baz=165,slow=14,SNR=2.4	**8.91**	**339**	Pn	**Pn**	**14 35 51.2**	**+2.5**
TX31	**Lajitas Ar. Si**	**9.31**	**92**		**Pn**	**14 35 54.0**	**0.0**
TX32	**Lajitas Array**	**9.31**	**92**		**Pn**	**14 35 54.3**	**+0.3**
TXAR	**Lajitas Array** comp=E,0.5nm,0.3s,baz=266,slow=16,SNR=10.0	**9.31**	**92**	Pn	**Pn**	**14 35 54.8**	**+0.8**
TXAR	comp=E,0.2nm,0.3s,baz=269,slow=32,SNR=1.8			Lg	Lg	14 38 30.0	
TXAR	comp=E,408nm,20.7s,baz=271,slow=39			LR	LR	14 39 38.7	
SRU	**San Rafael Swe**	**9.50**	**18**		**Pn**	**14 35 55.9**	**-0.9**
SDCO	**Great Sand Dun**	**10.56**	**42**	Pn	**Pn**	**14 36 09.9**	**-1.5**
SDCO	**Great Sand Dun**	**10.56**	**42**	P	Pn	14 36 16.4	+5.1
	baz=227						
ELK	**Elko** comp=E,0.1nm,0.3s,baz=274,slow=6.4,SNR=1.9	**10.63**	**356**	Pn	**Pn**	**14 36 13.8**	**+1.6**
ELK	comp=E,120nm,21.9s,baz=178,slow=37			LR	LR	14 40 13.4	
T25A	**Trinidad**	**10.83**	**47**	Pn	**Pn**	**14 36 12.6**	**-2.4**
T25A	**Trinidad** baz=233,SNR=12	**10.83**	**47**	P	Pn	14 36 20.6	+5.6
HWUT	**Hardware Ranch**	**11.68**	**10**	Pn	**Pn**	**14 36 25.8**	**-0.8**
ISCO	**Idaho Springs** baz=219,SNR=5.1	**12.01**	**34**	P	Pn	14 36 39.2	+8.0
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=7.3	**13.19**	**16**	Pn	Pn	14 36 50.5	+3.3
PDAR	comp=E,53nm,21.4s,baz=202,slow=37			LR	LR	14 41 40.4	
YBH	**Yreka Blue Hor** comp=E,146nm,21.7s,baz=156,slow=36	**13.42**	**332**	LR	LR	14 41 46.9	
435B	**Jarrell**	**14.46**	**83**	P	**P**	**14 37 12.4**	**+1.0**
I07A	**Izee**	**14.53**	**345**	P	**P**	**14 37 11.3**	**-0.9**
X34A	**Smith Ranch, M**	**14.64**	**68**	Pn	**Pn**	**14 37 07.0**	**0.0**
OGNE	**Ogallala**	**14.71**	**39**	P	**P**	**14 37 12.7**	**-1.5**
MCMT	**McKenzie Canyo**	**14.73**	**4**	P	**P**	**14 37 12.4**	**-2.2**
PLID	**Pearl Lake**	**15.00**	**355**	P	**P**	**14 37 17.3**	**-0.3**
LRM	**Limekiln Ridge**	**15.74**	**5**	P	**P**	**14 37 24.8**	**-1.0**
HKT	**Hockley**	**16.03**	**86**	Pn	**Pn**	**14 37 25.3**	**+0.2**
RSSD	**Black Hills**	**16.19**	**28**	Pn	**Pn**	**14 37 25.4**	**-2.0**
TUL1	**Leonard**	**16.58**	**65**	Pn	**P**	**14 37 32.2**	**-2.7**
X37A	**Clayton**	**16.63**	**70**		**P**	**14 37 36.1**	**+0.6**
X37A	comp=Z,38nm,1.4s			IAmb	IAmb	14 37 39.2	
Z38A	**Mt. Pleasant**	**16.76**	**74**	P	**P**	**14 37 37.1**	**+0.2**
Z38A	comp=Z,44nm,1.1s			IAmb	IAmb	14 37 40.9	
KSU1	**Kansas State U**	**17.10**	**54**		**P**	**14 37 40.9**	**+0.3**
KSU1	comp=Z,26nm,1.1s			IAmb	IAmb	14 37 44.0	
JTMT	**Jette**	**17.60**	**0**	P	**P**	**14 37 45.5**	**-0.8**
ECSD	**EROS Data Cent**	**19.57**	**41**		**Pn**	**14 38 08.3**	**-0.8**
ECSD	comp=Z,24nm,1.2s			IAmb	IAmb	14 38 12.2	
R40A	**Maddies Statio**	**19.95**	**60**	P	**Pn**	**14 38 13.3**	**-0.4**
N38A	**Joes South For**	**20.17**	**52**	P	Pn	14 38 15.2	-1.0
N38A	comp=Z,13nm,0.8s			IAmb	IAmb	14 38 22.6	
CCM	**Cathedral Cave**	**20.66**	**61**	P	Pn	14 38 20.4	-1.6
MDND	**Maddock**	**21.02**	**29**	P	**P**	**14 38 22.9**	**-0.7**
FVM	**French Village**	**21.27**	**62**	P	**P**	**14 38 26.7**	**+0.4**
N41A	**Harden Midland**	**21.79**	**55**	P	**P**	**14 38 30.7**	**-1.2**
CMIG	**Matias Romero** comp=Z,319nm,18.5s,baz=277,slow=38	**22.00**	**122**	LR	LR	14 47 34.9	
L40A	**Anamosa**	**22.08**	**51**	P	**P**	**14 38 35.6**	**+0.7**
S44A	**Carbondale**	**22.10**	**63**	P	**P**	**14 38 35.9**	**+0.6**
S44A	comp=Z,14nm,1.0s			IAmb	IAmb	14 38 37.8	
P43A	**Skaggs, Pawnee**	**22.40**	**58**	P	**P**	**14 38 38.9**	**+0.5**
P43A	comp=Z,14nm,0.9s			IAmb	IAmb	14 38 40.7	
Q44A	**Meyer Farm, Va**	**22.57**	**60**	P	**P**	**14 38 40.9**	**+0.7**
Q44A	comp=Z,19nm,0.9s			IAmb	IAmb	14 38 42.6	
F36A	**Milaca**	**22.61**	**40**	P	**P**	**14 38 40.7**	**0.0**
F36A	comp=Z,13nm,1.1s			IAmb	IAmb	14 38 44.2	
WVT	**Waverly**	**22.95**	**68**	P	**P**	**14 38 44.9**	**+0.6**
WVT	comp=Z,25nm,1.4s			IAmb	IAmb	14 38 49.8	
AGMN	**Agassiz Nation**	**23.01**	**33**	P	**P**	**14 38 45.2**	**+0.3**
L42A	**Oliver, Polo**	**23.11**	**52**	P	**P**	**14 38 46.1**	**+0.1**
OLIL	**Oliver**	**23.22**	**61**	P	**P**	**14 38 47.7**	**+0.6**
I40A	**Norwalk**	**23.30**	**47**	P	**P**	**14 38 47.9**	**+0.1**
I40A	comp=Z,16nm,1.1s			IAmb	IAmb	14 38 51.4	
G40A	**Rib Lake**	**24.23**	**45**	P	**P**	**14 38 57.2**	**+0.4**
G40A	comp=Z,16nm,1.0s			IAmb	IAmb	14 39 00.1	
BBB	**Bella Bella** comp=Z,211nm,18.7s,baz=168,slow=35	**24.28**	**339**	LR	LR	14 47 47.7	
I42A	**Draeger Farm,**	**24.39**	**49**	P	**P**	**14 38 58.9**	**+0.5**
ULM	**Lac du Bonnet** comp=Z,84nm,19.1s,baz=336,slow=37	**24.43**	**29**	LR	LR	14 48 47.8	
ULM	**Lac du Bonnet**	**24.43**	**29**	P	**P**	**14 38 58.2**	**-0.5**
WCI	**Wyandotte Cave**	**24.50**	**63**	P	**P**	**14 39 00.2**	**+0.8**
WCI	comp=Z,16nm,1.4s			IAmb	IAmb	14 39 05.6	
COWI	**Conover**	**25.30**	**44**	P	**P**	**14 39 06.6**	**+0.1**
COWI	comp=Z,9.3nm,0.8s			IAmb	IAmb	14 39 10.2	
FFC	**Flin Flon**	**26.15**	**16**	P	**P**	**14 39 14.0**	**-0.1**
FFC	comp=Z,6.9nm,1.1s			IAmb	IAmb	14 39 16.3	
TKL	**Tuckaleechee C** comp=Z,129nm,19.8s,baz=260,slow=37	**26.19**	**70**	LR	LR	14 49 33.9	
N49A	**Columbus Grove**	**26.68**	**58**	P	**P**	**14 39 18.9**	**-0.2**
N49A	comp=Z,5.8nm,0.9s			IAmb	IAmb	14 39 20.1	
DLBC	**Dease Lake** comp=Z,185nm,19.3s,baz=216,slow=35	**30.30**	**344**	LR	LR	14 51 24.2	
YKA	**Yellowknife Ar** comp=Z,122nm,19.3s,baz=325,slow=40	**32.38**	**360**	LR	LR	14 54 55.6	
JTS	**Las Juntas de** comp=Z,125nm,20.7s,baz=18,slow=34	**33.72**	**120**	LR	LR	14 52 46.5	
J59A	**Piesco**	**34.24**	**56**	P	**P**	**14 40 25.9**	**+0.1**
KDAK	**Kodiak Island** comp=Z,139nm,19.4s,baz=170,slow=32	**38.18**	**328**	LR	LR	14 54 04.4	
INK	**Inuvik** comp=Z,90nm,19.0s,baz=160,slow=36	**39.85**	**349**	LR	LR	14 57 29.0	
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=149,slow=8.0,SNR=12	**40.17**	**339**	P	**P**	**14 41 17.6**	**+1.6**
ILAR	comp=Z,55nm,21.0s,baz=210,slow=39			LR	LR	14 59 55.1	
SCHQ	**Schefferville** comp=Z,51nm,21.8s,baz=206,slow=35	**41.76**	**40**	LR	LR	14 58 12.2	
IMAR	**Indian Mountai**	**43.15**	**338**	P	**P**	**14 41 42.0**	**+1.6**
SJG	**San Juan** comp=Z,42nm,21.2s,baz=197,slow=40	**45.28**	**94**	LR	LR	15 03 43.5	
RES	**Resolute Bay** comp=Z,70nm,19.1s,baz=107,slow=37	**45.69**	**7**	LR	LR	15 01 32.0	
SDV	**Santo Domingo** comp=Z,43nm,18.1s,baz=299,slow=41	**45.92**	**108**	LR	LR	15 04 53.3	
SFJD	**Kangerlussuaq** comp=Z,62nm,18.8s,baz=84,slow=37	**52.41**	**26**	LR	LR	15 05 36.2	
MDP	**Montagnes des** comp=Z,36nm,18.1s,baz=65,slow=39	**63.04**	**100**	LR	LR	15 14 40.8	
LPAZ	**La Paz** comp=Z,51nm,18.4s,baz=268,slow=34	**64.11**	**130**	LR	LR	15 09 25.8	
MA2	**Magadan** comp=Z,21nm,19.4s,baz=95,slow=34	**66.91**	**327**	LR	LR	15 11 24.7	
ASAJ	**Asahikawa** comp=Z,24nm,19.5s,baz=85,slow=32	**78.16**	**314**	LR	LR	15 14 42.5	
PLCA	**Paso Flores** comp=Z,74nm,19.2s,baz=212,slow=31	**81.33**	**148**	LR	LR	15 15 16.8	
KLR	**Kul'dur** comp=Z,16nm,18.3s,baz=51,slow=37	**81.56**	**323**	LR	LR	15 23 39.4	
RCBR	**Riachuelo** comp=Z,24nm,18.1s,baz=342,slow=39	**82.96**	**101**	LR	LR	15 27 52.4	
MJAR	**Matsushiro Arr** comp=Z,40nm,18.9s,baz=51,slow=31	**85.03**	**310**	LR	LR	15 17 57.3	
JHJ	**Hachijo jima 2** comp=Z,16nm,20.3s,baz=68,slow=33	**85.84**	**306**	LR	LR	15 20 58.3	
JCJ	**Chichijima** comp=Z,77nm,21.8s,baz=125,slow=30	**87.36**	**300**	LR	LR	15 17 28.8	
GUMO	**Guam** comp=Z,36nm,21.7s,baz=73,slow=30	**92.36**	**287**	LR	LR	15 19 16.0	
SONM	**Songino Array** comp=Z,41nm,18.4s,baz=58,slow=36	**94.21**	**334**	LR	LR	15 29 36.9	

MEX ***27*** *14:54:53.4±0.3,29.°98N×114.°54W, h5km, MD4.3*
ECX ***27*** *14:54:54.6±0.6, 30.°25N×114.°15W, h0km±18km, ML3.6*
IDC ***27*** *14:54:55.6±2.7, 30.°32N×114.°08W, h0km, mb3.3/1, mb1 3.5/6, mb1mx3.3/43, mbtmp3.1/6, ML3.6/4, MS3.3/9, Ms1 3.3/9, ms1mx3.0/29, Error ellipse: s-maj=46.1km s-min=12.4km az=31.0*

ISC 27 14:54:54.9±1.0, 30.°10N±0.°06×114.°51W±0.°06, h9km, n27, σ2°83/26, MS3.3/5, 3C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.98**	**342**	*eP*	**Pg**	**14 55 12.6**	**-1.2**
SFX				*eS*	**Sg**	**14 55 25.6**	**-0.9**
SFX	comp=E,2µm,0.8s			IAML		14 55 28.3	
SFX				⇑*e*		14 55 28.3	
SFX				⇑*e*		14 55 35.1	
SFX				IAML		14 55 35.1	
SPIG	comp=N,1µm,0.7s **San Pedro Mart**	**1.25**	**319**	*eP*	**Pn**	**14 55 14.8**	**-4.2**
SPIG	**San Pedro Mart**	**1.25**	**319**	*eP*	**Pg**	**14 55 18.4**	**-0.6**
SPIG				*eS*	**Sn**	**14 55 38.6**	**+2.5**
SPIG	comp=E,653nm,0.5s			IAML		14 55 40.4	
SPIG				*e*		14 55 40.4	
SPIG				⇓*e*		14 55 43.5	
SPIG	comp=N,932nm,1.2s			IAML		14 55 43.5	
BAHB	**Baha de los**	**1.42**	**144**	*eP*	**Pn**	**14 55 17.9**	**-2.9**
BAHB	**Baha de los**	**1.42**	**144**	*eP*	**Pn**	**14 55 19.1**	**-1.7**
214A	**Organ Pipe Nat**	**2.35**	**38⇓**	*eP*	**Pn**	**14 55 29.8**	**-3.9**
MBIG	**Mexicali**	**2.38**	**346**	*eP*	**Pg**	**14 55 42.2**	**+1.7**
MBIG				*eS*	**Sg**	**14 56 11.8**	**+0.5**
CPBX	**Cerro Prieto** comp=E,949nm,0.5s	**2.41**	**344**	IAML		14 56 31.2	
CPBX				⇓*e*		14 56 31.2	
CPBX	comp=N,890nm,0.8s			IAML		14 56 37.3	
CPBX				⇑*e*		14 56 37.3	
CBX	**Cerro Bola**	**2.88**	**321**	*eP*	**Pn**	**14 55 38.3**	**-2.8**
CBX	**Cerro Bola**	**2.88**	**321**	*eP*	**Pn**	**14 55 40.8**	**-0.3**
CBX				*e*		14 56 33.0	
CBX	comp=E,228nm,0.8s			IAML		14 56 33.0	
TJIG	**Tijuana**	**2.98**	**322**	*eP*	**Pn**	**14 55 39.8**	**-2.5**
TJIG				*eS*	**Sn**	**14 56 15.5**	**-2.6**
HSIG		**3.28**	**108**	*eP*	**Pn**	**14 55 41.8**	**-4.7**
HSIG				*eS*	**Sn**	**14 56 27.1**	**+1.4**
HSIG		**3.28**	**108**	*eP*	**Pn**	**14 55 42.1**	**-4.4**
HSIG				⇓*e*		14 57 00.5	
TUC	**Tucson**	**3.88**	**54**	*eP*	**Pn**	**14 55 50.5**	**-4.3**
TUC				*eS*	**Sn**	**14 56 43.3**	**+2.8**
PFO	**Pinyon Flats O** comp=E,0.6nm,0.3s,baz=154,slow=10,SNR=7.1	**3.88**	**335**	Pn	**Pn**	**14 55 54.8**	**0.0**
PFO	comp=E,1.7nm,0.3s,baz=173,slow=14,SNR=14			Pg	**Pg**	**14 56 07.6**	**-1.6**
PFO	comp=E,4.6nm,0.3s,baz=58,slow=21,SNR=7.7			Lg	Lg	14 56 57.6	
PFO	comp=E,158nm,21.2s,baz=174,slow=38			LR	LR	14 57 21.6	
LPIG	**La Paz** comp=E,258nm,21.0s,baz=2.5,slow=37	**7.05**	**147**	LR	LR	14 59 13.8	
ANMO	**Albuquerque** comp=E,0.1nm,0.3s,baz=234,slow=3.4,SNR=2.4	**8.34**	**52**	Pn	**Pn**	**14 56 53.1**	**-3.1**
NVAR	**Mina Array Bea** baz=159,slow=15,SNR=1.5	**8.88**	**340**	Pn	**Pn**	**14 57 07.4**	**+3.8**
TXAR	**Lajitas Array** comp=E,0.3nm,0.3s,baz=276,slow=14,SNR=7.3	**9.46**	**92**	Pn	**Pn**	**14 57 08.9**	**-2.5**
TXAR	comp=E,0.1nm,0.3s,baz=279,slow=31,SNR=1.9			Lg	Lg	14 59 43.6	
TXAR	comp=E,227nm,18.7s,baz=280,slow=40			LR	LR	15 01 02.3	
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=183,slow=16,SNR=2.2	**13.25**	**16**	Pn	**Pn**	**14 58 03.9**	**+0.5**
YBH	**Yreka Blue Hor** comp=E,99nm,18.3s,baz=163,slow=38	**13.37**	**332**	LR	LR	15 03 18.9	
CMIG	**Matias Romero** comp=E,97nm,20.2s,baz=231,slow=37	**22.11**	**121**	LR	LR	15 08 31.2	
BBB	**Bella Bella** comp=E,104nm,19.0s,baz=239,slow=36	**24.25**	**339**	LR	LR	15 09 14.9	
TKL	**Tuckaleechee C** comp=E,60nm,18.1s,baz=264,slow=39	**26.34**	**70**	LR	LR	15 11 39.6	
JTS	**Las Juntas de** comp=E,69nm,18.5s,baz=46,slow=37	**33.85**	**119**	LR	LR	15 15 47.3	
KDAK	**Kodiak Island** comp=E,50nm,18.8s,baz=112,slow=33	**38.11**	**328**	LR	LR	15 15 41.1	
ILAR	**Eielson Array** comp=E,0.3nm,0.7s,baz=148,slow=7.6,SNR=5.8	**40.14**	**339**	P	**P**	**15 02 33.0**	**+2.2**

SNET ***27*** *15:04:33.3±0.9, 13.°10N×89.°84W, h31km±4km, ML3.0*
GCG ***27*** *15:04:33.9±0.3, 13.°08N×90.°04W, h93km±68km, MD3.7*

ISC 27 15:04:34.1±2.0, 13.°13N±0.°09×89.°80W±0.°04, h31km±13km, n37, σ0°40/49, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.59**	**52**	*eP*	**Pn**	**15 04 46.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.62**	**33**	*eP*	**Pn**	**15 04 46.9**	**-0.1**
JAYA				*eS*	**Sn**	**15 04 56.5**	**+0.4**
JAYA	comp=Z,2µm,0.2s			IAML		15 04 58.0	
JAYA	**Jayaque - finc**	**0.62**	**33**	*eP*	**Pn**	**15 04 46.9**	**-0.1**
JAYA				*eS*	**Sn**	**15 04 56.4**	**+0.4**
CEVE	**Cerro Verde**	**0.72**	**14**	*eP*	**Pb**	**15 04 48.1**	**-0.3**
CEVE	comp=Z,908nm,0.2s			IAML		15 05 04.0	
CEVE	**Cerro Verde**	**0.72**	**14**	*eP*	**Pb**	**15 04 48.1**	**-0.3**
SBLS	**San Blas**	**0.73**	**14**	*eP*	**Pb**	**15 04 48.2**	**-0.4**
ITCA	**Escuela Especi**	**0.74**	**43**	*eP*	**Pn**	**15 04 48.3**	**-0.2**
PMON	**Piamonte**	**0.75**	**39**	*eP*	**Pn**	**15 04 48.5**	**-0.2**
SNJE	**San Jose**	**0.76**	**14**	*eP*	**Pn**	**15 04 48.8**	**-0.2**
NUBE	**Las Nubes**	**0.77**	**1⇑**	*eP*	**Pn**	**15 04 48.6**	**-0.4**
NUBE	comp=Z,214nm,0.1s			IAML		15 05 00.6	
NUBE	**Las Nubes**	**0.77**	**1**	*eP*	**Pn**	**15 04 48.6**	**-0.4**
NUBE				*eS*	**Sn**	**15 04 59.5**	**-0.1**
NUBE	comp=Z,208nm,0.1s			IAML		15 05 00.6	
RTR	**El Retiro**	**0.78**	**11**	*eP*	**Pn**	**15 04 49.0**	**-0.1**
RTR	comp=Z,293nm,0.2s			IAML		15 05 04.3	
RTR	**El Retiro**	**0.78**	**11**	*eP*	**Pn**	**15 04 49.1**	**-0.1**
RTR	comp=Z,292nm,0.2s			IAML		15 05 04.3	
BOQS	**Boqueron**	**0.79**	**40**	*eP*	**Pn**	**15 04 49.0**	**-0.3**
BOQS	comp=Z,280nm,0.2s			IAML		15 05 02.7	
BOQS	**Boqueron**	**0.79**	**40**	*eP*	**Pn**	**15 04 49.0**	**-0.3**
BOQS	comp=Z,286nm,0.2s			IAML		15 05 02.7	
UDBS	**

SAUI	**Saumlaki**	**2.06**	**110**			**Pn**	**15 11 24.4**	**+2.1**
SAUI	**Saumlaki**	**2.06**	**110**	P		**Pn**	**15 11 24.4**	**+2.1**
SAUI				S		**Sn**	**15 11 51.9**	**+2.1**
AAI	**Ambon**	**3.75**	**342**	P		**Pn**	**15 11 46.2**	**+2.6**
MSAI	**Masohi**	**3.93**	**354**	P		**Pn**	**15 11 49.8**	**+3.8**
SOEI	**Soe**	**5.59**	**244**			**Pn**	**15 12 09.2**	**+1.2**
SOEI	**Soe**	**5.59**	**244**	P		**Pn**	**15 12 09.3**	**+1.4**
	0.5nm823nm54nm,0.8s							
MTN	**Manton Dam**	**5.80**	**162**			**Pn**	**15 12 11.1**	**+0.5**
BATI	**Baumata**	**6.32**	**242**	P		**Pn**	**15 12 19.0**	**+1.5**
	7.6nm,0.3s,baz=302,slow=3.6,SNR=18							
BATI				S		**Sn**	**15 13 27.8**	**-1.0**
	8.5nm,0.3s,baz=297,slow=23,SNR=10							
BATI	**Baumata**	**6.32**	**242**	P		**Pn**	**15 12 19.1**	**+1.5**
	0.2nm530nm15nm,0.5s							
SIJI	**Sorong**	**6.65**	**17**	P		**Pn**	**15 12 21.8**	**-0.2**
	1.3nm,0.3s,baz=30,slow=23,SNR=18							
SIJI				S		**Sn**	**15 13 32.0**	**-4.9**
	2.4nm,0.3s,baz=82,slow=22,SNR=10							
KNRA	**Kununurra**	**8.36**	**184**			**Pn**	**15 12 43.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.34**	**198**	P		**Pn**	**15 13 22.7**	**-1.5**
	1.9nm,0.3s,baz=15,slow=9.0,SNR=103							
FITZ				S		Sn	15 15 21.1	-8.4
	2.8nm,0.3s,baz=242,slow=20,SNR=7.9							
FITZ	**Fitzroy Crossi**	**11.34**	**198**			**Pn**	**15 13 21.8**	**-2.4**
WB0	**Warramunga Arr**	**13.34**	**159**			**Pn**	**15 13 47.6**	**-2.6**
WRAB	**Tennant Creek**	**13.48**	**159**	Pn		**Pn**	**15 13 49.4**	**-2.4**
WRA	**Warramunga Arr**	**13.48**	**159**	P		**Pn**	**15 13 49.7**	**-2.3**
	0.4nm,0.3s,baz=337,slow=13,SNR=78							
WRA				S		Sn	15 16 10.1	-11
	3.9nm,0.3s,baz=332,slow=22,SNR=15							
WRA	**Warramunga Arr**	**13.48**	**159**			**Pn**	**15 13 48.9**	**-3.1**
WB2	**Warramunga Arr**	**13.49**	**159**			**Pn**	**15 13 49.2**	**-2.8**
WR0	**Warramunga Arr**	**13.57**	**159**			**Pn**	**15 13 50.5**	**-2.5**
JAGI	**Jajag, Banyuwa**	**15.10**	**265**	Pn		**Pn**	**15 14 12.2**	**-0.1**
JAGI				IAmb		IAmb	15 14 35.5	
	comp=Z,13nm,0.9s							
COEN	**Coen**	**15.12**	**117**			**Pn**	**15 14 13.4**	**+0.9**
COEN				IAmb		IAmb	15 14 17.8	
	comp=Z,3.0nm,0.7s							
AS31	**Alice Springs**	**16.87**	**165**	P		**P**	**15 14 33.4**	**-0.1**
AS31				IAmb		IAmb	15 14 38.0	
	comp=Z,3.8nm,0.4s							
ASAR	**Alice Springs**	**16.87**	**165**	P		**P**	**15 14 34.3**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=337,slow=10.0,SNR=139							
ASAR				S		S	15 17 31.6	-10
	comp=Z,0.5nm,0.3s,baz=330,slow=14,SNR=4.5							
ASAR	**Alice Springs**	**16.87**	**165**	P		**P**	**15 14 33.7**	**+0.2**
PSA00	**Pilbara Seismi**	**16.91**	**212**	P		**P**	**15 14 33.8**	**-0.1**
PSA00				IAmb		IAmb	15 14 38.0	
	comp=Z,21nm,1.4s							
KSM	**Kuching**	**20.89**	**294**	P		**P**	**15 15 17.8**	**+0.6**
STKA	**Stephens Creek**	**27.00**	**157**	P		**P**	**15 16 14.0**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=324,slow=14,SNR=2.3							
CMAR	**Chiang Mai Arr**	**39.42**	**311**	P		**P**	**15 18 02.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=148,slow=7.6,SNR=5.7							
CMAR	**Chiang Mai Arr**	**39.42**	**311**	P		**P**	**15 18 00.4**	**-1.7**
MJAR	**Matsushiro Arr**	**44.38**	**10**	P		**P**	**15 18 40.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=203,slow=9.1,SNR=4.1							
QRZ	**Quartz Range**	**50.88**	**138**	P		**P**	**15 19 30.7**	**-1.5**
MDJ	**Mudanjiang**	**51.66**	**0**	P		**P**	**15 19 37.0**	**-0.9**
SONM	**Songino Array**	**58.51**	**342**	P		**P**	**15 20 29.2**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=153,slow=4.8,SNR=2.0							
MK31	**Makanchi Array**	**68.11**	**327**	P		**P**	**15 21 31.3**	**+1.1**
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**15 21 31.3**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=120,slow=7.1,SNR=13							
MKAR				pP		**PcP**	**15 21 56.2**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=111,slow=6.9,SNR=6.3							
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**15 21 30.9**	**+0.7**
MAKZ	**Makanchi**	**68.29**	**327**	P		**P**	**15 21 32.2**	**+0.9**
MAKZ				IAmb		IAmb	15 21 57.9	
	comp=Z,3.0nm,1.3s							
ZALV	**Zalesovo Beam**	**71.55**	**334**	P		**P**	**15 21 51.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=119,slow=5.2,SNR=5.1							
ZALV	**Zalesovo Beam**	**71.55**	**334**	P		**P**	**15 21 51.2**	**+0.2**
TIXI	**Tiksi**	**78.77**	**360**	P		**P**	**15 22 32.8**	**+0.8**
TIXI				IAmb		IAmb	15 22 33.9	
	comp=Z,5.5nm,1.5s							
ABKAR	**Akbulak array**	**82.33**	**322**	P		**P**	**15 22 52.0**	**+0.5**
QSPA	**South Pole Qui**	**82.69**	**180**	P		**P**	**15 22 54.4**	**+1.2**
QSPA				IAmb		IAmb	15 22 58.0	
	comp=Z,5.5nm,1.4s							

*IDC **27** 15:42:17.6±2.2,59.76N×153.53W,h92km±33km,mb2.8/1, mb1 3.1/6,mb1mx2.9/42,mbtmp3.3/6,MS2.9/1,Ms1 2.9/1, ms1mx2.4/11,Error ellipse: s-maj=36.9km s-min=17.6km az=107.0*

*NEIC **27** 15:42:19.3±0.7,59.73N±0.04×153.12W±0.06, h115km±5km,Error ellipse: s-maj=5.5km s-min=4.5km az=191.0*

*AEIC **27** 15:42:20±0.8,59.73N±0.03×153.07W±0.08,h110km±4km, ML2.8,ML3.1/108(NEIC),Error ellipse: s-maj=6.3km s-min=4.3km az=100.0*

ISC 27 15:42:19.3±1.1,59.74N±0.04×153.07W±0.06, h117km±6km,n157,σ0.75/144,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPT	**Oil Point**	**0.12**	**224**			**Pn**	**15 42 35.2**	**-0.2**
IVE	**Iliamna Volcan**	**0.28**	**6**			**Pn**	**15 42 35.6**	**-0.3**
IVE						**Sn**	**15 42 47.7**	**-0.8**
AU22	**Augustine Moun**	**0.40**	**202**			**Pn**	**15 42 36.1**	**-0.1**
AU22						**Sn**	**15 42 48.6**	**-0.5**
AU2	**Augustine Isla**	**0.40**	**203**			**Pn**	**15 42 36.2**	**-0.1**
AUL	**Augustine Lava**	**0.40**	**208**			**Pn**	**15 42 36.3**	**0.0**
AUL						**Sn**	**15 42 48.8**	**-0.4**
O20K	**Slope Mountain**	**0.41**	**33**			**Pn**	**15 42 36.4**	**-0.1**
O20K						**Sn**	**15 42 49.0**	**-0.4**
AUH	**Augustine H**	**0.42**	**207**			**Pn**	**15 42 36.5**	**0.0**
AUQ	**Augustine Qik'**	**0.42**	**205**			**Pn**	**15 42 36.4**	**-0.1**
RED	**Redoubt Volcan**	**0.70**	**12**			**Pn**	**15 42 38.2**	**-0.3**
RED						**Sn**	**15 42 52.0**	**-0.9**
HOM	**Homer**	**0.73**	**96**			**Pn**	**15 42 38.8**	**+0.2**
HOM						**Sn**	**15 42 53.4**	**+0.3**
HOM	**Homer**	**0.73**	**96**	IAML			15 42 54.5	
	comp=N,917nm,0.4s							
HOM				IAML			15 42 54.9	
	comp=E,855nm,0.6s							
RSO	**Redoubt South**	**0.74**	**12**			**Pn**	**15 42 38.8**	**-0.2**
RDWB	**Redoubt West**	**0.76**	**9**			**Pn**	**15 42 38.8**	**-0.2**
RDWB						**Sn**	**15 42 53.2**	**-0.7**
RDJH	**Redoubt Jeurge**	**0.87**	**9**			**Pn**	**15 42 39.9**	**-0.1**
DFR	**Drift River**	**0.88**	**13**			**Pn**	**15 42 39.9**	**-0.1**
CNPM	**China Poot**	**0.96**	**102**			**Pn**	**15 42 40.5**	**-0.1**
CNPM						**Sn**	**15 42 56.1**	**-0.6**
CNPM	**China Poot**	**0.96**	**102**	IAML			15 42 57.9	
	comp=N,436nm,0.3s							
BRLK	**Bradley Lake**	**1.11**	**88**			**Pn**	**15 42 41.9**	**-0.2**
BRLK						**Sn**	**15 42 58.8**	**-0.7**
BRLK	**Bradley Lake**	**1.11**	**88**	IAML			15 43 00.1	
	comp=N,554nm,0.1s							
BRLK				IAML			15 43 01.2	
	comp=E,367nm,0.2s							
P18K	**Big Mountain,**	**1.15**	**253**			**Pn**	**15 42 42.0**	**-0.6**
BRSE	**Bradley Lake S**	**1.18**	**89**			**Pn**	**15 42 42.9**	**0.0**
BRSE						**Sn**	**15 42 59.9**	**-0.9**
N19K	**Bonanza Creek**	**1.29**	**328**			**Pn**	**15 42 44.2**	**+0.1**
CAPN	**Captain Cook N**	**1.41**	**42**			**Pn**	**15 42 47.3**	**+2.0**
CKL	**Chakachamna La**	**1.51**	**14**			**Pn**	**15 42 47.0**	**+0.3**
SPCR	**Spurr Chakacha**	**1.53**	**16**			**Pn**	**15 42 47.1**	**+0.2**
SPU	**Mount Spurr**	**1.54**	**19**			**Pn**	**15 42 47.0**	**+0.1**
SPCN	**Chakachatna No**	**1.56**	**16**			**Pn**	**15 42 47.6**	**+0.4**
SPBG	**Spurr Blockage**	**1.57**	**13**			**Pn**	**15 42 47.9**	**+0.5**
SLKM	**Skilak Lake**	**1.62**	**60**			**Pn**	**15 42 47.8**	**-0.2**
SPCG	**Spurr Capps Gl**	**1.65**	**18**			**Pn**	**15 42 48.7**	**+0.4**
O22K	**Cooper Landing**	**1.84**	**65**			**Pn**	**15 42 50.9**	**+0.4**
O22K	**Cooper Landing**	**1.84**	**65**	IAML			15 43 15.0	
	comp=E,304nm,0.4s							
O22K				IAML			15 43 20.2	
	comp=N,342nm,0.6s							
SVW2	**Sparrevohn**	**1.85**	**319**			**Pn**	**15 42 50.5**	**-0.2**
SEW	**Seward**	**1.86**	**77**			**Pn**	**15 42 50.7**	**0.0**
STLK	**Strandline Lak**	**1.87**	**19**			**Pn**	**15 42 51.6**	**+0.6**
KDAK	**Kodiak Island**	**1.98**	**172**	P		**Pn**	**15 42 51.5**	**-0.7**
	comp=N,4.2nm,0.3s,baz=27,slow=9.0,SNR=95							
KDAK				S		**Sn**	**15 43 15.6**	**-1.8**
	comp=N,9.0nm,0.3s,baz=342,slow=19,SNR=31							
KDAK	**Kodiak Island**	**1.98**	**172**	IAML			15 43 17.8	
	comp=N,123nm,0.3s							
KDAK				IAML			15 43 17.8	
	comp=N,78nm,0.3s							
FIS	**Fire Island**	**2.00**	**44**	Pn		**Pn**	**15 42 52.9**	**+0.4**
FIS				IAML			15 43 12.4	
	comp=E,168nm,3.5s							
FIS				IAML			15 43 48.5	
	comp=N,174nm,0.8s							
RC01	**Rabbit Creek A**	**2.14**	**49**			**Pn**	**15 42 54.9**	**+0.6**
RC01	**Rabbit Creek A**	**2.14**	**49**	IAML			15 43 21.6	
	comp=N,108nm,0.4s							
RC01				IAML			15 43 24.0	
	comp=E,111nm,0.3s							
M20K	**Styx River**	**2.15**	**359**			**Pn**	**15 42 55.0**	**+0.5**
M19K	**Big River Lodg**	**2.27**	**344**			**Pn**	**15 42 56.1**	**+0.2**
M22K	**Willow**	**2.49**	**34**			**Pn**	**15 42 59.4**	**+0.7**
M22K	**Willow**	**2.49**	**34**	IAML			15 43 34.5	
	comp=N,137nm,0.8s							
M22K				IAML			15 43 34.5	
	comp=E,148nm,0.4s							
OHAK	**Old Harbor**	**2.52**	**183**			**Pn**	**15 42 58.2**	**-1.0**
L19K	**White Mountain**	**2.60**	**341**			**Pn**	**15 43 00.4**	**+0.2**
PWL	**Port Wells**	**2.61**	**62**			**Pn**	**15 43 00.5**	**+0.1**
PWL	**Port Wells**	**2.61**	**62**	IAML			15 43 32.3	
	comp=E,116nm,0.4s							
PWL				IAML			15 43 32.9	
	comp=N,124nm,0.3s							
PMR	**Palmer**	**2.69**	**44**			**Pn**	**15 43 01.5**	**+0.2**
L20K	**Farewell, AK**	**2.78**	**352**			**Pn**	**15 43 03.2**	**+0.6**
KNK	**Knik Glacier**	**2.83**	**52**			**Pn**	**15 43 03.0**	**-0.2**
KNK	**Knik Glacier**	**2.83**	**52**	IAML			15 43 36.8	
	comp=E,57nm,0.7s							
KNK				IAML			15 43 38.3	
	comp=N,71nm,0.4s							
GHO	**Glory Hole Cre**	**2.88**	**43**			**Pn**	**15 43 03.3**	**-0.6**
GHO	**Glory Hole Cre**	**2.88**	**43**	IAML			15 43 39.5	
	comp=N,39nm,0.4s							
GHO				IAML			15 43 39.9	
	comp=E,49nm,0.4s							
CUT	**Chulitna**	**3.00**	**26**			**Pn**	**15 43 05.9**	**+0.5**
CUT	**Chulitna**	**3.00**	**26**	IAML			15 43 44.6	
	comp=E,47nm,0.5s							
CUT				IAML			15 44 17.9	
	comp=N,54nm,3.3s							
SML	**Sawmill**	**3.12**	**46**			**Pn**	**15 43 06.5**	**-0.5**
SML	**Sawmill**	**3.12**	**46**	IAML			15 43 52.3	
	comp=E,30nm,0.8s							
GLI	**Glacier Island**	**3.19**	**66**			**Pn**	**15 43 07.5**	**-0.3**
GLI				IAML			15 43 44.9	
	comp=E,68nm,0.5s							
GLI				IAML			15 43 45.1	
	comp=N,60nm,0.5s							
PPLA	**Purkeypile**	**3.20**	**7**	Pn		**Pn**	**15 43 08.6**	**+0.5**
SII	**Sitkinak Islan**	**3.24**	**191**	Pn		**Pn**	**15 43 08.3**	**-0.3**
SII				IAML			15 44 41.4	
	comp=E,94nm,1.3s							
Q23K	**Middleton Isla**	**3.43**	**92**			**Pn**	**15 43 11.0**	**0.0**
MID	**Middleton Isla**	**3.44**	**92**			**Pn**	**15 43 11.0**	**-0.1**
FID	**Port Fidalgo**	**3.44**	**70**			**Pn**	**15 43 09.7**	**-1.5**
FID				IAML			15 43 49.9	
	comp=N,80nm,0.5s							
JPK	**Jack Peak**	**3.48**	**65**			**Pn**	**15 43 11.9**	**+0.2**
TT01	**Tatalina**	**3.48**	**337**			**Pn**	**15 43 11.8**	**0.0**
TTA	**Tatalina**	**3.50**	**337**	Pn		**Pn**	**15 43 11.8**	**-0.3**
SCM	**Sheep Creek Mo**	**3.52**	**51**			**Pn**	**15 43 12.5**	**+0.2**
SCM	**Sheep Creek Mo**	**3.52**	**51**	IAML			15 44 11.8	
	comp=N,25nm,2.9s							
SCM				IAML			15 44 14.7	
	comp=E,36nm,3.4s							
K20K	**Telida**	**3.66**	**353**			**Pn**	**15 43 14.3**	**+0.2**
CAST	**Castle Rocks**	**3.73**	**7**			**Pn**	**15 43 15.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.75**	**74**			**Pn**	**15 43 15.0**	**-0.3**
WAT6	**Susitna Watana**	**3.85**	**40**			**Pn**	**15 43 16.7**	**-0.1**
DIV	**Divide**	**3.88**	**66**			**Pn**	**15 43 17.4**	**+0.3**
KLU	**Klutina**	**3.94**	**60**			**Pn**	**15 43 18.3**	**+0.3**
KLU	**Klutina**	**3.94**	**60**	IAML			15 44 03.1	
	comp=N,54nm,0.4s							
KLU				IAML			15 44 05.1	
	comp=E,37nm,0.5s							
TRF	**Thorofare Moun**	**3.96**	**18**			**Pn**	**15 43 18.9**	**+0.6**
TRF	**Thorofare Moun**	**3.96**	**18**	IAML			15 43 54.1	
	comp=E,20nm,3.5s							
TRF				IAML			15 44 47.5	
	comp=N,20nm,4.2s							
KTH	**Kantishna Hill**	**3.96**	**14**			**Pn**	**15 43 18.6**	**+0.3**
KTH	**Kantishna Hill**	**3.96**	**14**	IAML			15 44 06.1	
	comp=N,14nm,3.5s							
KTH				IAML			15 44 36.0	
	comp=E,15nm,3.3s							
M24K	**Tolsona, Glenn**	**4.12**	**52**			**Pn**	**15 43 20.9**	**+0.6**
CHUM	**Lake Minchumin**	**4.18**	**5**			**Pn**	**15 43 21.3**	**+0.3**
RND	**Reindeer**	**4.20**	**27**			**Pn**	**15 43 21.6**	**+0.2**
RND	**Reindeer**	**4.20**	**27**	IAML			15 44 38.8	
	comp=N,13nm,3.9s							
GOAT	**Goat Mountain**	**4.26**	**75**			**Pn**	**15 43 22.4**	**+0.3**
DHY	**Denali Highway**	**4.33**	**37**			**Pn**	**15 43 23.3**	**+0.1**
DHY	**Denali Highway**	**4.33**	**37**	IAML			15 44 34.7	
	comp=N,13nm,3.6s							
KAIM	**Kayak Island**	**4.37**	**84**			**Pn**	**15 43 24.1**	**+0.5**
HMT	**Hamilton**	**4.46**	**78**			**Pn**	**15 43 24.9**	**+0.1**
MCK	**McKinley**	**4.47**	**24**			**Pn**	**15 43 25.2**	**+0.3**
MCK	**McKinley**	**4.47**	**24**	IAML			15 44 45.0	
	comp=E,17nm,3.7s							
MCK				IAML			15 46 06.3	
	comp=N,15nm,4.4s							
J20K	**Nowinta River**	**4.49**	**354**			**Pn**	**15 43 25.0**	**-0.1**
J20K	**Nowinta River**	**4.49**	**354**	IAML			15 44 15.3	
	comp=E,10nm,4.8s							
J20K				IAML			15 45 46.6	
	comp=N,11nm,4.5s							
N25K	**Chitina, Valde**	**4.57**	**62**			**Pn**	**15 43 26.8**	**+0.5**
N25K	**Chitina, Valde**	**4.57**	**62**	IAML			15 44 25.3	
	comp=E,20nm,3.8s							
N25K				IAML			15 46 28.7	
	comp=N,15nm,3.5s							
SUCK	**Suckling Hills**	**4.69**	**82**	Pn		**Pn**	**15 43 28.8**	**+0.8**
BERG	**Berg Lake**	**4.74**	**78**			**Pn**	**15 43 28.9**	**+0.3**
BWN	**Browne**	**4.76**	**19**	Pn		**Pn**	**15 43 28.3**	**-0.6**
BWN				IAML			15 44 24.9	
	comp=E,24nm,3.2s							
GLB	**Gilahina Butte**	**4.88**	**65**			**Pn**	**15 43 30.5**	**0.0**
GLB	**Gilahina Butte**	**4.88**	**65**	IAML			15 45 01.2	
	comp=N,15nm,4.5s							
GLB				IAML			15 45 19.2	
	comp=E,15nm,3.4s							
PAX	**Paxson**	**4.89**	**45**			**Pn**	**15 43 31.0**	**+0.3**
GRIN	**Grindle Hills**	**4.93**	**79**			**Pn**	**15 43 31.7**	**+0.6**
KHIT	**Khitrov Hills**	**4.97**	**78**			**Pn**	**15 43 32.1**	**+0.4**
VRDI	**Verde Repeater**	**4.99**	**68**			**Pn**	**15 43 32.4**	**+0.3**
VRDI	**Verde Repeater**	**4.99**	**68**	IAML			15 44 14.0	
	comp=N,16nm,3.7s							
VRDI				IAML			15 46 07.3	
	comp=E,17nm,3.3s							
SNH	**Sunshine Point**	**5.16**	**81**	Pn		**Pn**	**15 43 34.8**	**+0.5**
WAX	**Waxell Ridge**	**5.17**	**78**			**Pn**	**15 43 34.5**	**+0.2**
TGL	**Tana Glacier**	**5.21**	**74**			**Pn**	**15 43 35.4**	**+0.5**
NEA2	**Nenana**	**5.22**	**19**			**Pn**	**15 43 34.7**	**-0.4**
NEA2	**Nenana**	**5.22**	**19**	IAML			15 45 16.8	
	comp=N,12nm,4.8s							
NEA2				IAML			15 45 36.7	
	comp=E,13nm,3.8s							
MCARA	**McCarthy VSAT**	**5.23**	**67**			**Pn**	**15 43 35.2**	**+0.1**
WRH	**Wood River Hil**	**5.29**	**24**			**Pn**	**15 43 35.7**	**-0.3**
WRH	**Wood River Hil**	**5.29**	**24**	IAML			15 46 13.2	
	comp=N,10nm,3.6s							
WRH				IAML			15 46 57.2	
	comp=E,14nm,3.9s							
MLY	**Manley**	**5.42**	**11**			**Pn**	**15 43 38.2**	**+0.5**
ISLE	**Juniper Island**	**5.43**	**76**			**Pn**	**15 43 38.4**	**+0.4**
PTPK	**Patty Peak**	**5.45**	**70**			**Pn**	**15 43 39.0**	**+0.7**
KIAG	**Kiagna River**	**5.46**	**73**			**Pn**	**15 43 38.9**	**+0.5**
BALM	**Baldy**	**5.48**	**72**			**Pn**	**15 43 38.8**	**+0.2**
I21K	**Tanana**	**5.49**	**5**			**Pn**	**15 43 39.1**	**+0.5**
CCB	**Clear Creek Bu**	**5.51**	**24**			**Pn**	**15 43 38.5**	**-0.4**
BAGL	**Bagley Icefiel**	**5.55**	**77**			**Pn**	**15 43 39.8**	**+0.4**
RIDG	**Independent Ri**	**5.60**	**41**			**Pn**	**15 43 40.5**	**+0.3**
I23K	**Minto, Yukon-K**	**5.70**	**16**			**Pn**	**15 43 41.6**	**+0.3**
COLA	**College**	**5.70**	**23**	Pn		**Pn**	**15 43 41.3**	**-0.1**
MDM	**Murphy Dome**	**5.70**	**21**			**Pn**	**15 43 41.4**	**-0.2**
YAH	**Yahtse**	**5.71**	**79**			**Pn**	**15 43 42.4**	**+0.6**
GRNC	**Granite Creek**	**5.73**	**75**			**Pn**	**15 43 42.5**	**+0.5**
BARN	**Barnard Glacie**	**5.81**	**72**			**Pn**	**15 43 43.5**	**+0.3**
IL31		**5.82**	**27**			**Pn**	**15 43 43.1**	**+0.1**
ILAR	**Eielson Array**	**5.82**	**27**	P		**Pn**	**15 43 42.8**	**-0.3**
	comp=E,0.2nm,0.3s,baz=218,slow=14,SNR=17							
ILAR				S		**Sn**	**15 44 43.2**	**-5.2**
	comp=E,0.6nm,0.3s,baz=199,slow=19,SNR=14							
H21K	**Melozitna Rive**	**5.95**	**1**			**Pn**	**15 43 45.0**	**+0.2**
CTGM	**Chitina Glacie**	**5.96**	**73**			**Pn**	**15 43 45.9**	**+0.8**
TABL	**Table Mountain**	**6.01**	**78**			**Pn**	**15 43 46.5**	**+0.5**
M27K	**Edge Creek, AK**	**6.04**	**59**	Pn		**Pn**	**15 43 46.6**	**+0.4**
SCRK	**Sand Creek**	**6.05**	**41**			**Pn**	**15 43 45.6**	**-0.7**
J25K	**Salcha River,**	**6.08**	**33**			**Pn**	**15 43 46.5**	**-0.1**
LOGN	**Logan Glacier**	**6.10**	**75**			**Pn**	**15 43 47.3**	**+0.2**
IM03		**6.28**	**357**			**Pn**	**15 43 49.1**	**-0.1**
IMAR	**Indian Mountai**	**6.28**	**357**	Pn		**Pn**	**15 43 49.6**	**+0.3**
L27K	**Beaver Creek,**	**6.34**	**53**	Pn		**Pn**	**15 43 51.6**	**+1.4**
BC03		**6.36**	**54**			**Pn**	**15 43 50.0**	**-0.4**
BCAR	**Beaver Creek A**	**6.36**	**54**	Pn		**Pn**	**15 43 51.8**	**+1.3**
PCA	**Pinnacle**	**6.46**	**81**			**Pn**	**15 43 52.7**	**+0.9**
H24K	**Noodor Dome**	**6.57**	**19**	Pn		**Pn**	**15 43 53.2**	**0.0**
PNL	**Peninsula**	**6.92**	**85**			**Pn**	**15 43 57.9**	**-0.1**
EGAK	**Eagle**	**7.51**	**43**	Pn		**Pn**	**15 44 05.9**	**0.0**
COLD	**Coldfoot**	**7.63**	**8**	Pn		**Pn**	**15 44 07.7**	**+0.2**
BM03	**Burnt Mountain**	**8.58**	**22**			**Pn**	**15 44 20.2**	**-0.2**
BMAR	**Burnt Mountain**	**8.59**	**22**	Pn		**Pn**	**15 44 20.1**	**-0.4**
N31M	**Braeburn, Yuko**	**8.68**	**71**	Pn		**Pn**	**15 44 23.0**	**+1.2**
WHY	**Whitehorse**	**9.11**	**76**	Pn		**Pn**	**15 44 28.8**	**+1.2**
JIS	**Juneau Island**	**9.75**	**91**	Pn		**Pn**	**15 44 36.8**	**+0.6**
DLBC	**Dease Lake**	**11.91**	**86**	P		**Pn**	**15 45 08.4**	**+3.3**
	comp=E,0.2nm,0.3s,baz=280,slow=6.7,SNR=7.9							
DLBC				LR		LR	15 50 16.5	
	comp=E,49nm,18.4s,baz=282,slow=40							
DLBC	**Dease Lake**	**11.91**	**86**			**Pn**	**15 45 05.5**	**+0.4**
INK	**Inuvik**	**12.07**	**37**	P		**Pn**	**15 45 05.8**	**-1.3**
	comp=E,0.6nm,0.3s,baz=231,slow=6.5,SNR=3.0							
YKA	**Yellowknife Ar**	**18.60**	**65**	P		**P**	**15 46 28.5**	**+1.6**
	comp=E,0.0nm,0.3s,baz=276,slow=9.9,SNR=4.6							
MKAR	**Makanchi Array**	**64.61**	**321**	P		**P**	**15 52 44.0**	**+0.2**
	comp=E,0.1nm,0.6s,baz=36,slow=7.5,SNR=1.9							

*TIR **27** 15:46:54.4,41.27N×19.48E,h20km±1km,Md2.7,Ml1.9*
*ATH **27** 15:46:55.3,41.19N×19.51E,h19km±2km,ML2.0/2,Error ellipse: s-maj=3.9km s-min=1.5km az=342.0*
*PDG **27** 15:46:56.4±0.1,41.41N×19.37E,h13km,ML2.3/12,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*

ISC 27 15:46:54.3±1.0,41.29N±0.02×19.38E±0.03,h14km±9km, n35,σ0.81/54,8C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.37**	**82**	P		**Pg**	**15 47 01.5**	**-0.3**
TIR				S		**Sg**	**15 47 07.2**	**+0.3**
TIR				AML		AML	15 47 11.9	
	comp=N,385μm,0.2s							
TIR				AML		AML	15 47 12.4	
	comp=E,459μm,0.4s							
TIR	**Tirane**	**0.37**	**82**	P		**Pg**	**15 47 01.3**	**-0.5**
	baz=75							
TIR				S		**Sg**	**15 47 06.8**	**-0.1**
	baz=75							
TIR				AMP				
	comp=N,0.3nm,0.2s,baz=75							
ULC	**Ulcinj**	**0.68**	**351**	↑*i*Pg		**Pg**	**15 47 07.1**	**-0.4**
ULC				*i* Sg		**Sg**	**15 47 16.3**	**-0.2**
PHP	**Peshkopia**	**0.89**	**64**	P		**Pg**	**15 47 10.5**

HUIG Sn 15 49 07.0 -4.7
HUIG Huatulco 1.58 309⇑ eP Pn 15 48 49.3 -2.2
HUIG *i* S Sn 15 49 07.0 -4.7
CARR Arriaga 1.71 31 eP Pn 15 48 49.5 -3.8
CARR eS Sn 15 49 07.6 -7.3
PCIG 1.81 59 Pn 15 48 51.2 -3.5
PCIG Sn 15 49 10.8 -6.6
PCIG 1.81 59⇑ iP Pn 15 48 51.2 -3.5
PCIG eS Sn 15 49 10.8 -6.6
CMIG Matias Romero 2.30 359 Pn Pn 15 48 59.7 -1.8
38nm,0.3s,baz=176,slow=11,SNR=613
CMIG Sn Sn 15 49 27.1 -2.4
160nm,0.3s,baz=132,slow=8.0,SNR=10.0
CMIG LR LR 15 49 31.8
comp=Z,12µm,18.1s,baz=250,slow=32
CMIG Matias Romero 2.30 359⇑ iP Pn 15 48 59.7 -1.8
CMIG eS Sn 15 49 27.3 -2.3
THIG 2.49 87 Pn 15 49 01.2 -2.8
THIG Sn 15 49 24.5 -10
THIG Sb 15 49 29.9 -9.0
THIG 2.49 87⇑ eP Pn 15 49 01.0 -3.0
THIG ⇑ eP Pn 15 49 01.2 -2.8
THIG eS Sn 15 49 24.5 -10
THIG eS Sn 15 49 29.9 -4.2
PATR El Naranjo 2.54 82⇑ eP Pn 15 49 01.5 -3.5
PATR eS Sn 15 49 30.0 -5.3
PEIG Puerto Escondi 2.54 299⇑ eP Pn 15 49 03.5 -1.3
PEIG *i* S Sn 15 49 30.6 -4.9
TGIG 2.59 39 Pn 15 49 03.6 -1.8
TGIG Sn 15 49 28.6 -8.0
TGIG 2.59 39⇑ eP Pn 15 49 03.6 -1.8
TGIG eS Sn 15 49 28.6 -8.0
PAVE Pavencul 2.60 80⇑ eP Pn 15 49 02.7 -3.2
PAVE eS Sn 15 49 31.2 -6.0
TGBT Tuxtla Gutierr 2.60 40 Pn 15 49 04.3 -1.3
TGBT Sn 15 49 36.5 -0.4
TGBT Tuxtla Gutierr 2.60 40 eP Pn 15 49 04.3 -1.3
TGBT eS Sn 15 49 36.5 -0.4
UXUV UXUV 2.61 15⇑ eP Pn 15 49 04.5 -1.3
UXUV eS Sn 15 49 38.0 +0.7
CHUJ Union Juarez 2.65 83⇑ eP Pn 15 49 03.7 -2.9
CHUJ eS Sn 15 49 31.9 -6.7
OXBJ Oaxaca 2.92 322 Pn 15 49 11.1 +1.0
OXBJ Sn 15 49 43.2 -1.7
OXBJ Oaxaca 2.92 322 eP Pn 15 49 11.1 +1.0
OXBJ eS Sn 15 49 43.2 -1.7
VHO Vista Hermosa 2.92 322⇑ eP Pn 15 49 10.8 +0.6
VHO eS Sn 15 49 43.3 -1.9
CCIG Comitan 3.00 60 Pn Pn 15 49 10.2 -1.0
CCIG Comitan 3.00 60 Sn 15 49 48.2 +1.2
CCIG Comitan 3.00 60⇑ eP Pn 15 49 09.8 -1.5
CCIG eS Sn 15 49 48.2 +1.2
RTAL Retalhuleu 3.05 94 Pn Pn 15 49 10.1 -1.7
HUEH Huehuetenango 3.26 80 Pn Pn 15 49 13.6 -1.4
TUIG Tuzandepetl 3.27 7 Pn 15 49 12.8 -2.0
TUIG Sn 15 49 54.7 +1.4
TUIG Tuzandepetl 3.27 7⇑ eP Pn 15 49 12.8 -2.0
TUIG eS Sn 15 49 54.7 +1.4
YOIG Yosondua 3.33 309⇑ eP Pn 15 49 16.5 +0.6
YOIG eS Sn 15 49 48.5 -6.9
PNIG Pinotepa 3.56 297 Pn 15 49 18.5 -0.3
PNIG Sn 15 49 55.0 -5.5
PNIG Pinotepa 3.56 297⇑ eP Pn 15 49 18.5 -0.3
PNIG eS Sn 15 49 55.0 -5.5
TXIG Tlaxiaco 3.75 312⇑ eP Pn 15 49 22.1 +0.5
TXIG eS Sn 15 50 02.7 -2.9
TOIG Toxpalan 3.94 327⇑ eP Pn 15 49 25.7 +1.7
TOIG eS Sn 15 50 08.9 -1.1
HLIG Huajuapan de L 4.17 317⇑ eP Pn 15 49 28.9 +1.6
HLIG eS Sn 15 50 13.7 -2.2
TPIG Tehuac#an 4.36 327 Pn 15 49 31.8 +1.9
TPIG Sn 15 50 19.7 -0.9
TPIG Tehuac#an 4.36 327⇑ eP Pn 15 49 31.8 +1.9
TPIG eS Sn 15 50 19.7 -0.9
FTIG Fresnillo de T 4.44 315⇑ eP Pn 15 49 32.9 +1.9
FTIG eS Sn 15 50 19.6 -2.9
TLIG Tlapa 4.53 308 Pn Pn 15 49 33.4 +1.1
TLIG Tlapa 4.53 308 Sn 15 50 19.9 -4.8
TLIG Tlapa 4.53 308⇑ eP Pn 15 49 33.4 +1.1
TLIG eS Sn 15 50 19.9 -4.8
CRIG Cruz Grande 4.57 296 Pn 15 49 33.1 +0.4
CRIG Sn 15 50 19.4 -6.2
CRIG Cruz Grande 4.57 296⇓ eP Pn 15 49 33.1 +0.4
CRIG eS Sn 15 50 19.4 -6.2
DAIG Los Arroyos 5.14 296 Pn 15 49 38.5 -2.1
DAIG Sn 15 50 28.6 -11
DAIG Los Arroyos 5.14 296⇓ eP Pn 15 49 38.5 -2.1
DAIG eS Sn 15 50 28.6 -11
MTO3 Montecristo 5.31 93 Pn Pn 15 49 41.0 -2.1
ESQI Esquipulas 5.32 92 Pn Pn 15 49 39.9 -3.2
MEIG Mezcala 5.56 305 Pn 15 49 49.5 +3.1
MEIG Sn 15 50 45.3 -4.8
MEIG Mezcala 5.56 305⇑ eP Pn 15 49 49.5 +3.1
MEIG eS Sn 15 50 45.3 -4.8
PPM Popocatepetl 5.60 320⇑ eP Pn 15 49 51.3 +4.0
PPM eS Sn 15 50 42.1 -10
CAIG El Cayaco 5.69 294 Pn 15 49 40.0 +0.8
CAIG Sn 15 50 45.5 -7.7
CAIG El Cayaco 5.69 294⇓ eP Pn 15 49 49.0 +0.8
CAIG eS Sn 15 50 45.5 -7.7
YAIG Yautepec 5.74 316 Pn 15 49 52.0 +3.1
YAIG Sn 15 50 49.5 -5.1
YAIG Yautepec 5.74 316⇑ eP Pn 15 49 52.0 +3.1
YAIG eS Sn 15 50 49.5 -5.1
PLIG Platanillo 5.74 309 Pn 15 49 50.5 +1.6
PLIG Sn 15 50 51.4 -3.2
PLIG Platanillo 5.74 309⇑ eP Pn 15 49 50.5 +1.6
PLIG eS Sn 15 50 51.4 -3.2
ARIG Puente Sto Nin 6.33 304 Pn 15 49 59.7 +2.8
ARIG Sn 15 51 04.1 -4.9
ARIG Puente Sto Nin 6.33 304⇑ eP Pn 15 49 59.7 +2.8
ARIG eS Sn 15 51 04.1 -4.9
DEIG Demacu 6.80 325⇓ eP Pn 15 50 09.5 +6.0
DEIG *e* 15 51 52.2
ZIIG Zihuatanejo 6.96 295 Pn 15 50 07.4 +1.8
ZIIG Sn 15 51 15.5 -9.0
ZIIG Zihuatanejo 6.96 295⇓ eP Pn 15 50 07.4 +1.8
ZIIG eS Sn 15 51 15.5 -9.0
TGUH Tegucigalpa,Un 7.36 95 Pn Pn 15 50 10.2 -0.9
TGUH Tegucigalpa,Un 7.36 95 eP Pn 15 50 18.6 +7.4
MOIG Morelia 7.79 310 Pn 15 50 18.0 +0.9
MATN Matagalpa 8.85 101 Pn Pn 15 50 30.8 -0.7
MMIG Aquila 8.88 294 Pn 15 50 34.0 +2.1
MMIG Aquila 8.88 294⇑ eP Pn 15 50 34.0 +2.1
BOAB BOACO BROADBAN 9.21 103 Pn Pn 15 50 36.1 -0.3
COIG Colima 9.54 299 eP Pn 15 50 43.8 +2.8
JUBC Volcan de Coli 9.59 301 eP Pn 15 50 47.0 +5.2
EZ5V 9.60 300 Pn 15 50 46.4 +4.4
EZ5V 9.60 300 eP Pn 15 50 46.4 +4.4
MNGA Volcan de Coli 9.61 300 eP Pn 15 50 47.2 +5.1
INCO Volcan de Coli 9.62 301 eP Pn 15 50 47.9 +5.5
CDAR Ciudad de Arme 9.71 297 eP Pn 15 50 46.0 +2.7
R15V 9.78 298 Pn 15 50 48.5 +4.1
R15V 9.78 298 eP Pn 15 50 48.5 +4.1
HZTE Horizontes, Gu 9.88 113 Pn 15 50 46.7 +1.1
ORTG Ortega, Santa 10.15 115 Pn Pn 15 50 49.9 +0.5
JTS Las Juntas de 10.63 114 Pn Pn 15 50 56.2 +0.3
0.3nm,0.3s,baz=34,slow=12,SNR=3.4
JTS Las Juntas de 10.63 114 Pn Pn 15 50 55.9 0.0
JTS Las Juntas de 10.63 114 eP Pn 15 50 56.7 +0.8
ZAIG Zacatecas 10.81 319 Pn Pn 15 50 58.3 -0.2
RIMA Rio Macho 11.82 114 Pn Pn 15 51 12.4 0.0
PEZE Perez Zeledon, 12.15 115 Pn 15 51 16.8 0.0
SRBA San Rafael, Bu 12.50 115 Pn 15 51 21.8 +0.1
DRK0 Durika 12.59 114 Pn 15 51 22.7 -0.2
SOR Soroa 13.74 53 Pn Pn 15 51 34.8 -3.7
833A Chaparral WMA, 14.13 343 Pn Pn 15 51 41.0 -2.7
833A Chaparral WMA, 14.13 343 P Pn 15 51 45.0 +1.2
baz=161
HKT Hockley 15.13 357 Pn Pn 15 51 56.5 -0.8
CACAO El Cacao, Vera 15.57 117 eP P 15 52 08.2 +0.9
AZU Azuero 15.87 114 eP P 15 52 09.9 -0.8
441A DeRidder 15.97 5 Pn Pn 15 52 06.7 -1.6
441A LR IAmb IAmb 15 52 33.7
comp=Z,127nm,1.4s
PAYG Puerto Ayora 16.00 163 Pn P 15 52 11.2 -0.9
UPA Univ. de Panam 16.04 109 eP Pn 15 52 00.9 -8.3
435B Jarrell 16.13 351 P Pn 15 52 11.4 +1.0
baz=170
JCT Junction City 16.29 345 Pn Pn 15 52 12.1 -0.3
baz=162,SNR=14
JCT Junction City 16.29 345 P Pn 15 52 12.7 +0.4
TX32 Lajitas Array 16.63 332 Pn Pn 15 52 16.0 -0.8
TXAR Lajitas Array 16.63 332 Pn P 15 52 18.6 -0.6
comp=Z,0.2nm,0.3s,baz=154,slow=15,SNR=38
TXAR LR LR 15 58 04.0
comp=Z,674nm,18.7s,baz=158,slow=35
TXAR Lajitas Array 16.63 332 Pn Pn 15 52 16.6 -0.2
TX31 Lajitas Ar. Si 16.63 332 Pn 15 52 16.8 0.0
TX31 IAmb IAmb 15 52 33.1
comp=Z,187nm,1.2s
SLBS Sierra La Lagu 16.78 304 Pn P 15 52 20.3 -0.6
NATX Nacogdoches 16.91 1 Pn Pn 15 52 18.7 -1.5
LPIG La Paz 17.28 305 P P 15 52 26.2 -0.1
comp=Z,1.6nm,0.3s,baz=112,slow=5.4,SNR=1.5
ABTX Abilene, Hawle 18.30 347 Pn 15 52 36.7 -0.8
ABTX Abilene, Hawle 18.30 347 P P 15 52 38.1 +0.6
baz=164
PTAC Punta Ardita, 18.34 113 eP Pn 15 52 35.9 -2.2
Z41A Richland Creek 18.49 5 P P 15 52 39.0 -0.6
Z41A Richland Creek 18.49 5 P Pn 15 52 40.5 +0.7
baz=186
Z47A Carrollton 19.34 17 P P 15 52 47.0 -1.9
MNTX Cornudas Mount 19.41 332 P P 15 52 50.1 +0.4
MNTX Cornudas Mount 19.41 332 P Pn 15 52 52.6 +1.7
baz=147,SNR=12
GTBY Guantanamo Bay 19.51 72 Pn P 15 52 50.4 -0.5
GTBY IAmb IAmb 15 52 55.6
comp=Z,97nm,1.4s
GTBY Guantanamo Bay 19.51 72 eP P 15 52 41.7 -9.2
LRAL Lakeview Retre 19.52 20 P P 15 52 49.2 -1.7
LRAL Lakeview Retre 19.52 20 P P 15 52 50.1 -0.8
baz=203,SNR=7.1
Y45A Yeager Farm, C 19.60 13 P P 15 52 51.0 -0.8
Y45A IAmb IAmb 15 53 09.8
comp=Z,130nm,1.3s
MOTC Monteria, Cord 19.68 105 eP P 15 52 50.5 -2.3
X40A Basin Creek Fa 19.71 5 P P 15 52 51.7 -1.3
X40A Basin Creek Fa 19.71 5 P P 15 52 52.6 -0.3
baz=185
X37A Clayton 19.73 359 P P 15 52 51.3 -1.9
PIZC Pizarro, Choco 19.77 118 eP Pn 15 52 59.3 +4.0
SJCC San Jacinto, C 19.80 102 P P 15 52 53.2 -1.0
SJCC San Jacinto, C 19.80 102 eP P 15 52 49.8 -4.4
DBRC Dabeiba 19.84 111 eP Pn 15 52 56.5 +0.3
X34A Smith Ranch, M 19.93 353 P P 15 52 54.5 -0.8
X34A IAmb IAmb 15 53 13.5
comp=Z,83nm,1.2s
UREC San Jos de Ur 20.16 108 eP P 15 52 55.3 -2.8
GR1C Gorgona, Isla 20.18 124 eP P 15 52 59.4 +1.2
WMOK Wichita Mounta 20.19 351 P P 15 52 59.2 +0.9
baz=168
OXF Oxford 20.25 13 P P 15 52 56.3 -2.5
W39A Magazine 20.36 2 P P 15 52 58.4 -1.6
W39A IAmb IAmb 15 53 25.7
comp=Z,74nm,1.4s
W39A Magazine 20.36 2 P P 15 52 59.5 -0.5
baz=182
MSTX Muleshoe 20.42 341 P P 15 53 00.7 -0.1
MSTX IAmb IAmb 15 53 27.1
comp=Z,104nm,1.4s
MSTX Muleshoe 20.42 341 P P 15 53 01.6 +0.8
baz=157,SNR=22
W41B Gary Mavity, V 20.45 6 P P 15 52 59.5 -1.5
W41B Gary Mavity, V 20.45 6 P P 15 52 59.9 -1.1
baz=187
Y49A Blount Mountai 20.47 20 P 15 52 59.5 -1.8
CBOC Ciudad Bolivar 20.51 114 eP Pn 15 53 03.8 -0.4
FNO Franklin 20.53 354 P P 15 53 01.1 -0.7
WHAR Wooly Hollow 20.56 6 P P 15 53 00.7 -1.5
WHAR IAmb IAmb 15 53 21.0
comp=Z,66nm,1.5s
OKCFA Oklahoma City 20.69 354 P P 15 53 02.6 -1.0
PLMC San Jos del P 20.72 116 eP Pn 15 53 07.2 +0.5
HELC Santa Helena 20.80 112 eP P 15 53 06.9 +1.6
X48A Hartselle 20.82 18 P P 15 53 01.9 -3.1
ZARC Zaragoza, Cauc 20.88 108 P P 15 53 05.6 -0.3
ZARC Zaragoza, Cauc 20.88 108 eP P 15 53 02.7 -3.2
AMTX Amarillo 20.95 344 P P 15 53 06.0 -0.6
AMTX IAmb IAmb 15 53 20.2
comp=Z,51nm,0.8s
AMTX Amarillo 20.95 344 P P 15 53 07.6 +1.0
baz=161
PLAL Pickwick Lake 21.02 16 P P 15 53 04.1 -3.1
TUL1 Leonard 21.07 358 P 15 53 06.6 -1.1
TUL1 IAmb IAmb 15 53 35.0
comp=Z,55nm,1.1s
TUL1 Leonard 21.07 358 P P 15 53 07.5 -0.2
baz=177
YOTC Yotoco, Valle 21.14 119 eP P 15 53 07.2 -1.6
319A Douglas 21.17 324 P P 15 53 10.6 +1.6
319A IAmb IAmb 15 53 27.7
comp=Z,99nm,1.2s
FCAR Ozark Folk Cen 21.17 6 P P 15 53 06.5 -2.2
GOGA Godfrey 21.23 27 P P 15 53 07.9 -1.5
GOGA Godfrey 21.23 27 P P 15 53 08.4 -1.0
baz=212
121A Cookes Peak, D 21.25 329 P P 15 53 11.5 +1.6
121A Cookes Peak, D 21.25 329 P P 15 53 13.2 +3.3
baz=143,SNR=32
Y52A Lilburn 21.36 25 P P 15 53 09.1 -1.8
FPAL Fort Paine 21.37 21 P P 15 53 08.2 -2.8
GUY2C Guyana, Caldas 21.37 114 eP P 15 53 05.8 -5.9
HHAR Hobbs 21.43 2 P P 15 53 09.2 -2.4
LCAR Lake Charles 21.46 8 P P 15 53 08.9 -3.0
U40A Yellville 21.57 4 P P 15 53 14.3 +1.2
baz=185
PTBC PUERTO BERRIO, 21.62 110 eP P 15 53 03.5 -10
POPC Popayan, Colom 21.65 122 eP P 15 53 15.5 +1.1
NORC Norcasia 21.66 113 eP P 15 53 13.9 -0.4
ANIL Santa Ana 21.69 116 eP P 15 53 13.2 -1.7
CRJC Cerrejon, Guaj 21.72 97 eP P 15 53 03.9 -11
U32A Winter Ranch, 21.84 351 P 15 53 14.8 -1.2
SWET Sewanee 21.87 20 P P 15 53 13.6 -2.8
TULM Tulcn-Chalpat 21.89 128 P P 15 53 18.0 +0.8
TULM IAmb IAmb 15 53 23.9
comp=Z,82nm,1.1s
GCUF Volcan Galeras 21.90 126 eP P 15 53 18.2 +0.8
BNM Barren Site 22.04 333 P P 15 53 17.9 -0.6
OCAC Ocana 22.05 105 P P 15 53 17.5 -1.1
OCAC Ocana 22.05 105 eP P 15 53 16.0 -2.6
W50A Signal Mountai 22.07 21 P P 15 53 16.4 -2.1
V48A Smith Brothers 22.08 18 P P 15 53 17.9 -0.7
T35A Sooner Cattle 22.10 356 P P 15 53 16.7 -2.1
T35A IAmb IAmb 15 53 29.8
comp=Z,48nm,1.1s
ORTC Ortega, Tolima 22.11 117 eP P 15 53 19.0 -0.2
WVT Waverly 22.17 15 P P 15 53 17.5 -2.0
WVT Waverly 22.17 15 P P 15 53 18.7 -0.8
baz=198
PBMO Poplar Bluff 22.26 9 P P 15 53 18.6 -1.9
SPBC San Pablo de B 22.33 112 eP P 15 53 21.9 +0.3
MGMO Mountain Grove 22.41 5 P P 15 53 20.7 -1.4
URIC Uribia, Colomb 22.44 95 eP P 15 53 15.7 -6.9
ROSC El Rosal 22.47 114 P P 15 53 24.4 +1.0
comp=Z,30nm,0.9s,baz=323,slow=20,SNR=7.1
ROSC El Rosal 22.47 114 eP P 15 53 21.9 -1.5
CLTN Cedars of Leba 22.55 18 P P 15 53 21.1 -2.5
CPCT Cooper Cave 22.57 22 P P 15 53 20.9 -3.0
ANMO Albuquerque 22.65 335 P P 15 53 25.6 +0.7
comp=Z,3.0nm,0.8s,baz=147,slow=11,SNR=15
ANMO LR LR 16 02 46.3
comp=Z,1µm,18.3s,baz=157,slow=38
ANMO Albuquerque 22.65 335 P P 15 53 24.0 -0.9
ANMO Albuquerque 22.65 335 P P 15 53 26.8 +1.9
baz=149
TUC Tucson 22.72 323 P P 15 53 28.6 +3.1
baz=136
BARC Barichara 22.76 109 eP P 15 53 26.9 +0.6
BG3 Lake Jocassee 22.81 26 P P 15 53 23.8 -2.6
GARC Garzon, Huila 22.82 121 eP P 15 53 27.8 +0.8
S39A Bolivar 22.86 3 P P 15 53 23.9 -3.0
PAMC Pamplona, Colo 22.93 106 eP P 15 53 27.4 -1.0
V51A Loudon 22.95 22 P P 15 53 24.4 -3.5
V51A IAmb IAmb 15 53 44.9
comp=Z,38nm,1.3s
FLOC Florencia 23.04 123 eP P 15 53 29.9 +0.9
TKL Tuckaleechee C 23.04 24 P P 15 53 27.0 -1.8
comp=Z,5.0nm,0.5s,baz=185,slow=12,SNR=14
TKL LR LR 16 04 47.5
comp=Z,1µm,19.1s,baz=200,slow=43
TKL Tuckaleechee C 23.04 24 P P 15 53 25.9 -2.9
TKL IAmb IAmb 15 53 41.1
comp=Z,70nm,1.4s
CHIC Chingaza 23.09 114 eP P 15 53 30.4 +0.5
U49A Red Boiling Sp 23.11 19 P P 15 53 26.1 -3.4
U49A IAmb IAmb 15 53 42.8
comp=Z,38nm,1.4s
RUSC La Rusia 23.13 110 eP P 15 53 26.4 -4.0
T47A Sharon Grove 23.17 16 P P 15 53 27.4 -2.6
SIUC Southern Illin 23.39 11 P P 15 53 29.9 -2.4
SIUC IAmb IAmb 15 53 59.4
comp=Z,29nm,1.1s
CCM Cathedral Cave 23.41 7 P P 15 53 29.7 -2.8
CCM IAmb IAmb 15 53 40.2
comp=Z,36nm,1.2s
CCM Cathedral Cave 23.41 7 P P 15 53 31.0 -1.4
baz=188
FVM French Village 23.45 9 P P 15 53 30.9 -1.9
R40A Maddies Statio 23.53 5 P P 15 53 31.5 -2.2
R40A IAmb IAmb 15 53 41.8
comp=Z,30nm,1.1s
KMSC Kings Mountain 23.64 29 P P 15 53 32.1 -2.6
baz=214
214A Organ Pipe Nat 23.70 319 P P 15 53 39.9 +4.4
baz=132,SNR=5.9
R32A Long Quarter, 23.80 352 P P 15 53 34.5 -1.9
T25A Trinidad 23.85 341 P P 15 53 37.8 +0.7
T25A Trinidad 23.85 341 P P 15 53 39.6 +2.6
baz=156,SNR=52
T50A Nancy 23.88 20 P P 15 53 34.3 -2.7
TZTN Tazewell 23.91 23 P P 15 53 34.2 -3.2
TZTN IAmb IAmb 15 53 47.8
comp=Z,43nm,1.2s
TZTN Tazewell 23.91 23 P P 15 53 34.6 -2.7
baz=208,SNR=6.0
X18A Snowflake 23.93 328 P P 15 53 38.6 +0.8
X18A IAmb IAmb 15 53 46.4
comp=Z,38nm,1.3s
USIN University of 23.96 14 P P 15 53 35.4 -2.4
USIN IAmb IAmb 15 53 41.0
comp=Z,17nm,0.7s
TAMC Tame, Arauca 24.10 108 eP P 15 53 37.7 -1.7
SLM Saint Louis 24.11 9 P P 15 53 37.6 -1.6
SLM IAmb IAmb 15 53 47.4
comp=Z,39nm,1.1s
MACC Macarena, Meta 24.22 119 eP P 15 53 40.7 +0.3
KSU1 Kansas State U 24.28 357 P P 15 53 39.8 -1.0
KSU1 IAmb IAmb 15 53 52.0
comp=Z,40nm,0.9s
KSU1 Kansas State U 24.28 357 P P 15 53 41.0 +0.2
baz=175,SNR=6.1
W57A Gilead 24.29 31 P P 15 53 37.9 -3.0
W18A Petrified Fore 24.29 329 P P 15 53 44.5 +3.4
baz=142
CBKS Cedar Bluff 24.33 351 P P 15 53 40.4 -0.9
CBKS Cedar Bluff 24.33 351 P P 15 53 42.8 +1.5
baz=168,SNR=7.6
SDV Santo Domingo 24.39 101 P P 15 53 42.9 +0.7
comp=Z,7.4nm,0.7s,baz=292,slow=8.3,SNR=8.5
SDV LR LR 16 03 11.8
comp=Z,884nm,18.6s,baz=290,slow=37
SDV Santo Domingo 24.39 101 P P 15 53 41.6 -0.6
SDV IAmb IAmb 15 53 54.6
comp=Z,23nm,1.0s
SDV Santo Domingo 24.39 101 eP P 15 53 42.3 +0.1
WCI Wyandotte Cave 24.55 16 P P 15 53 40.8 -2.4
WCI IAmb IAmb 15 53 45.4
comp=Z,30nm,0.8s
WCI Wyandotte Cave 24.55 16 P P 15 53 41.5 -1.8
baz=200
PTLC Puerto Leguiza 24.56 124 eP P 15 53 46.3 +2.8
Q44A Meyer Farm, Va 24.58 11 P P 15 53 39.7 -3.8
Q44A IAmb IAmb 15 53 45.5
comp=Z,27nm,0.8s
OLIL Olney 24.59 13 P P 15 53 41.4 -2.2
OLIL IAmb IAmb 15 53 47.1
comp=Z,28nm,0.9s
X16A Lo Mia Camp, P 24.64 325 P P 15 53 45.7 +1.4
X16A IAmb IAmb 15 53 51.7
comp=Z,34nm,1.0s
PTGC Puerto Gaitan, 24.70 113 eP P 15 53 44.8 -0.1
SDCO Great Sand Dun 24.76 339 P P 15 53 47.2 +1.8
baz=154,SNR=26
P38A Dawn 24.78 2 P P 15 53 43.2 -2.1
P38A IAmb IAmb 15 53 54.2
comp=Z,47nm,1.2s
P40A Paris 24.78 5 P P 15 53 42.8 -2.5
P40A IAmb IAmb 15 53 46.5
comp=Z,27nm,0.6s
113A Mohawk Valley, 24.85 319 P P 15 53 46.8 +0.8
113A IAmb IAmb 15 54 08.4
comp=Z,48nm,1.3s
R49A Shelbyville 24.93 18 P P 15 53 44.0 -2.7
U56A King 25.07 28 P P 15 53 45.4 -2.5
U56A IAmb IAmb 15 53 48.9
comp=Z,13nm,0.7s
KSCO Kaye Shedlock' 25.10 346 P P 15 53 48.6 +0.3
P43A Skaggs, Pawnee 25.21 10 P P 15 53 47.7 -1.4
P43A IAmb IAmb 15 53 48.9
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 25.23 337 P P 15 53 51.8 +2.0
baz=151,SNR=9.4
BLO Bloomington 25.38 15 P P 15 53 48.1 -2.6
BLO IAmb IAmb 15 53 52.8
comp=Z,29nm,0.8s
WUAZ Wupatki 25.43 327 P P 15 53 51.7 +0.3
WUAZ Wupatki 25.43 327 P P 15 53 56.0 +4.5
baz=140,SNR=24
MVCO Mesa Verde 25.44 334 P P 15 53 51.2 -0.4
MVCO IAmb IAmb 15 54 07.7
comp=Z,51nm,1.4s
MVCO Mesa Verde 25.44 334 P P 15 53 53.9 +2.3
baz=147,SNR=7.9
P46A Rosedale 25.64 14 P P 15 53 50.8 -2.3
GLA Glamis 25.70 319 P P 15 53 58.6 +4.7
baz=130
Q24A Divide 25.75 341 P P 15 53 56.8 +2.3
baz=156
S54A Dingess, Beckl 25.88 25 P P 15 53 52.7 -2.6
P48A Milroy 25.94 17 P P 15 53 53.1 -2.7
P48A IAmb IAmb 15 53 57.8
comp=Z,44nm,1.4s
N38A Joes South For 25.96 3 P P 15 53 55.0 -1.0
N35A Tabor 26.00 359 P P 15 53 55.7 -0.6
ELOV Elorza 26.05 105 eP P 15 53 57.8 +0.8
N41A Harden Midland 26.07 7 P P 15 53 54.6 -2.4
N41A IAmb IAmb 15 54 04.4
comp=Z,32nm,0.9s
PDMCI Parker Dam,Lak 26.11 322 P P 15 54 00.8 +3.3
baz=133
HDIL Hopedale 26.14 10 P P 15 53 54.9 -2.6
HDIL IAmb IAmb 15 54 04.9
comp=Z,30nm,1.0s
HDIL Hopedale 26.14 10 P P 15 53 55.9 -1.6
baz=192
Q51A Peebles 26.19 21 P P 15 53 55.3 -2.8
Q51A IAmb IAmb 15 53 59.1
comp=Z,15nm,0.8s
SWSC Sam W. Stewart 26.27 317 P P 15 54 03.8 +4.9
baz=128
IKP In-Ko-Pah, Jac 26.29 316 P P 15 54 04.7 +5.5
baz=127
BC3 Big Chuckawall 26.49 319 P P 15 54 03.8 +2.7
baz=130,SNR=17
Q52A Bidwell 26.52 22 P P 15 53 58.0 -3.1
Q52A IAmb IAmb 15 54 02.8
comp=Z,27nm,0.9s
PV11 David Mesa, Pa 26.52 335 P P 15 54 01.7 +0.4
PV11 IAmb IAmb 15 54 21.5
comp=Z,42nm,1.3s
IRM Iron Mountain 26.63 320 P P 15 54 05.3 +3.1
baz=131
MONP2 Monument Peak 26.65 316 P P 15 54 05.4 +2.8
baz=127
ISCO Idaho Springs 26.66 341 P P 15 54 02.9 +0.1
ISCO Idaho Springs 26.66 341 P P 15 54 04.4 +1.7
baz=156,SNR=9.2
BGNE Belgrade 26.69 354 P P 15 54 01.3 -1.3
BGNE IAmb IAmb 15 54 15.8
comp=Z,24nm,0.8s
P51A Williamsport 26.70 21 P P 15 53 59.3 -3.3
P51A IAmb IAmb 15 54 03.6
comp=Z,13nm,0.6s
PV23 Carpenter Ridg 26.70 335 P P 15 54 01.9 -1.1
PV23 IAmb IAmb 15 54 25.6
comp=Z,23nm,1.0s
O48B Farmland 26.76 17 P P 15 54 00.5 -2.7
baz=201

OGNE Ogallala 26.82 348 P P 15 54 03.2 -0.7
OGNE Ogallala 26.82 348 P P 15 54 05.9 +2.0
baz=164
O49A Covington 26.93 18 P P 15 54 01.9 -2.9
O49A IAmb IAmb 15 54 11.8
comp=Z,53nm,1.4s
T59A Double "B" Far 26.94 32 P P 15 54 02.8 -2.0
T59A IAmb IAmb 15 54 15.9
comp=Z,31nm,1.5s
BELC Belle Mtn. Jos 27.06 319 P P 15 54 09.1 +2.9
baz=129,SNR=7.1
SCIA State Center 27.07 3 P P 15 54 02.8 -3.2
SCIA State Center 27.07 3 P P 15 54 05.2 -0.8
baz=183
Q54A Coxs Mills 27.09 24 P P 15 54 04.0 -2.2
TPFO Pinon Flats 27.11 318 P P 15 54 11.7 +5.0
baz=128
PFO Pinyon Flats O 27.12 318 P P 15 54 08.6 +1.9
comp=Z,3.2nm,0.9s,baz=108,slow=14,SNR=4.1
PFO LR LR 16 05 16.8
comp=Z,3µm,18.9s,baz=132,slow=37
PFO Pinyon Flats O 27.12 318 P P 15 54 07.4 +0.7
L34A Svendsen Farm, 27.13 357 P P 15 54 05.6 -0.9
P52A Corning 27.16 22 P P 15 54 03.2 -3.6
P52A IAmb IAmb 15 54 07.8
comp=Z,17nm,0.8s
P52A Corning 27.16 22 P P 15 54 04.0 -2.8
baz=208,SNR=7.6
N47A Urbana 27.20 15 P P 15 54 03.6 -3.6
N47A IAmb IAmb 15 54 13.9
comp=Z,23nm,1.1s
P53A Whipple 27.30 23 P P 15 54 06.1 -2.0
P53A IAmb IAmb 15 54 12.8
comp=Z,38nm,1.4s
GMRC Granite Mounta 27.36 320 P P 15 54 11.9 +3.0
baz=131
L40A Anamosa 27.37 6 P P 15 54 06.7 -1.9
L40A IAmb IAmb 15 54 16.3
comp=Z,41nm,1.1s
ACSO Alum Creek Sta 27.40 20 P P 15 54 06.5 -2.5
ACSO Alum Creek Sta 27.40 20 P P 15 54 06.3 -2.7
baz=205
L42A Oliver, Polo 27.50 8 P P 15 54 07.5 -2.4
L42A IAmb IAmb 15 54 17.1
comp=Z,34nm,0.9s
R58B Mineral 27.55 30 P P 15 54 08.9 -1.5
N49A Columbus Grove 27.65 18 P P 15 54 08.0 -3.3
O52A Adamsville 27.69 22 P P 15 54 08.5 -3.1
O52A IAmb IAmb 15 54 12.0
comp=Z,18nm,0.7s
O20A White River Ci 27.86 338 P P 15 54 15.5 +2.2
baz=151
SRU San Rafael Swe 27.90 333 P P 15 54 12.6 -1.1
SZCU Shurtz Canyon 27.91 328 P P 15 54 13.7 -0.2
SZCU IAmb IAmb 15 54 32.5
comp=Z,29nm,1.4s
TUQ Turquoise Moun 27.96 321 P P 15 54 17.5 +3.3
baz=132,SNR=6.5
O53A New Philadelph 28.04 23 P P 15 54 11.2 -3.5
O53A IAmb IAmb 15 54 21.8
comp=Z,29nm,1.4s
O53A New Philadelph 28.04 23 P P 15 54 12.1 -2.6
baz=209
P18A Preston Nutter 28.21 334 P P 15 54 16.7 +0.1
P18A IAmb IAmb 15 54 42.2
comp=Z,34nm,1.4s
SHPR Sheep Range 28.24 324 P P 15 54 17.1 +0.4
P17A Butcher Ranch, 28.29 333 P P 15 54 17.0 -0.2
JFWS Jewell Farm 28.32 7 P P 15 54 14.7 -2.4
JFWS Jewell Farm 28.32 7 P P 15 54 15.7 -1.5
baz=189,SNR=8.7
K43A Burlington 28.39 10 P P 15 54 15.6 -2.2
K43A IAmb IAmb 15 54 18.1
comp=Z,14nm,0.6s
L48A N Adams 28.53 16 P P 15 54 15.4 -3.7
L48A IAmb IAmb 15 54 20.9
comp=Z,12nm,0.7s
N53A Lisbon 28.66 23 P P 15 54 18.1 -2.1
N53A IAmb IAmb 15 54 31.4
comp=Z,16nm,1.1s
ECSD EROS Data Cent 28.90 357 P P 15 54 21.0 -1.4
ECSD IAmb IAmb 15 54 31.1
comp=Z,32nm,1.4s
ECSD EROS Data Cent 28.90 357 P P 15 54 21.7 -0.7
baz=176,SNR=8.5
LRMC Laurel Mtn Rad 29.07 319 P P 15 54 29.4 +5.3
baz=129,SNR=5.1
N54A Moraine State 29.11 24 P P 15 54 21.8 -2.4
I37A Lemond, Waseca 29.17 2 P P 15 54 23.3 -1.4
I37A IAmb IAmb 15 54 34.0
comp=Z,38nm,1.4s
TPNV Topopah Spring 29.18 323 P P 15 54 28.0 +2.9
baz=133
M53A WI Miller and 29.27 22 P P 15 54 22.6 -3.0
M53A WI Miller and 29.27 22 P P 15 54 23.4 -2.3
baz=209
MPMC Manual Prospec 29.32 320 P P 15 54 29.1 +2.7
baz=130
I42A Draeger Farm, 29.46 9 P P 15 54 25.1 -2.1
I42A IAmb IAmb 15 54 34.7
comp=Z,16nm,0.9s
K22A Casper 29.55 342 P P 15 54 30.2 +1.9
baz=156
R11A Troy Canyon, C 29.79 326 P P 15 54 33.6 +3.0
baz=136
DUG Dugway, Tooele 29.81 332 P P 15 54 31.3 +0.7
DUG Dugway, Tooele 29.81 332 P P 15 54 31.9 +1.3
baz=143
GRAC Grapevine Rang 29.86 322 P P 15 54 34.4 +3.4
baz=132
CWC Cottonwood Cre 29.93 320 P P 15 54 34.5 +2.8
baz=130
VES Vestal, Richgr 30.19 318 P P 15 54 37.2 +3.4
baz=127,SNR=5.7
RSSD Black Hills 30.28 347 P P 15 54 34.2 -0.6
SPMN Marine on St. 30.40 3 P P 15 54 33.8 -1.8
SPMN Marine on St. 30.40 3 P P 15 54 34.4 -1.2
baz=184
HWUT Hardware Ranch 30.41 335 P P 15 54 35.6 -0.4
BW06 Boulder Array 30.64 338 P P 15 54 38.4 +0.4
BW06 Boulder Array 30.64 338 P P 15 54 39.4 +1.4
baz=151
PD31 Pinedale Array 30.64 338 P P 15 54 37.5 -0.5
PDAR Pinedale Array 30.64 338 P P 15 54 39.0 +1.0
comp=Z,2.8nm,0.9s,baz=140,slow=8.4,SNR=13
PDAR PcP PcP 15 57 36.4 +0.2
comp=Z,0.3nm,0.6s,baz=151,slow=5.8,SNR=1.9
PDAR LR LR 16 08 11.6
comp=Z,2µm,18.4s,baz=167,slow=39
PDAR Pinedale Array 30.64 338 P P 15 54 38.0 0.0
G40A Rib Lake 30.65 6 P P 15 54 35.1 -2.7
G40A IAmb IAmb 15 54 45.1
comp=Z,22nm,1.3s
N59A State Game Lan 30.88 29 P P 15 54 37.6 -2.3
F33A 5 Mile Ranch, 30.99 358 P P 15 54 39.0 -1.8
F36A Milaca 31.01 2 P P 15 54 39.1 -1.8
F36A IAmb IAmb 15 54 48.9
comp=Z,25nm,1.2s
G45A Suttons Bay 31.15 13 P P 15 54 39.7 -2.5
G45A IAmb IAmb 15 54 47.6
comp=Z,17nm,0.8s
GLMI Grayling 31.18 14 P P 15 54 39.8 -2.8
GLMI Grayling 31.18 14 P P 15 54 40.1 -2.4
baz=199
AHID Auburn Hatcher 31.21 337 P P 15 54 43.4 +0.4
AHID IAmb IAmb 15 55 09.6
comp=Z,24nm,1.3s
CZSB Cruzeiro do Su 31.33 134 eP P 15 54 46.4 +2.3
NVAR Mina Array Bea 31.38 323 P P 15 54 47.4 +2.8
comp=Z,6.2nm,0.9s,baz=138,slow=8.4,SNR=18
NVAR PcP PcP 15 57 39.9 +1.7
comp=Z,1.1nm,0.9s,baz=135,slow=3.3,SNR=4.6
NVAR LR LR 16 07 29.3
comp=Z,2µm,18.2s,baz=136,slow=37
ELK Elko 31.39 329 LR LR 16 08 33.7
comp=Z,2µm,18.6s,baz=154,slow=39
ELK Elko 31.39 329 P P 15 54 45.5 +0.8
ELK IAmb IAmb 15 55 03.1
comp=Z,16nm,1.3s
ECR Eagle Creek 31.56 337 P P 15 54 47.0 +0.9
COWI Conover 31.59 8 P P 15 54 43.6 -2.5
COWI IAmb IAmb 15 54 50.7
comp=Z,11nm,0.9s
REDW Red Top Meadow 31.62 337 P P 15 54 47.2 +0.5
SNOW Snow King Moun 31.67 338 P P 15 54 46.5 -0.7
LOHW Long Hollow 31.75 338 P P 15 54 48.4 +0.6
TPAW Teton Pass 31.77 337 P P 15 54 49.0 +1.0
MOOW Moose Ponds 31.92 338 P P 15 54 49.9 +0.6
MOOW IAmb IAmb 15 55 06.7
comp=Z,20nm,1.4s
NNA Nana 32.01 145 LR LR 16 05 16.2
comp=Z,972nm,19.4s,baz=328,slow=32
E28A Huff 32.08 352 P P 15 54 50.0 -0.4
E43A Lone Tree Farm 32.18 10 P P 15 54 49.4 -1.9
E43A IAmb IAmb 15 54 57.8
comp=Z,22nm,1.4s
L59A Walton 32.22 28 P P 15 54 49.9 -1.9
H17A Grant Village 32.42 339 P P 15 54 53.7 0.0
H17A IAmb IAmb 15 55 08.4
comp=Z,15nm,1.4s
LKWY Lake 32.51 339 P P 15 54 54.3 -0.2
LKWY IAmb IAmb 15 55 01.8
comp=Z,15nm,1.2s
RLMT Red Lodge 32.62 341 P P 15 54 53.5 -2.0
E46A Sault Ste Mari 32.71 14 P P 15 54 52.2 -3.7
E46A IAmb IAmb 15 55 16.8
comp=Z,27nm,1.5s
SADO Sadowa 32.73 21 LR LR 16 10 20.9
comp=Z,1µm,18.9s,baz=188,slow=40
SADO Sadowa 32.73 21 P P 15 54 52.1 -4.0
SADO IAmb IAmb 15 54 53.2
comp=Z,16nm,1.2s
MPK Martis Peak 32.96 323 P P 15 54 59.6 +1.1
MPK IAmb IAmb 15 55 17.6
comp=Z,21nm,1.1s
DELO Deloro Mine 33.06 23 P P 15 54 57.6 -1.3
DELO IAmb IAmb 15 55 07.5
comp=Z,23nm,1.5s
EYMN Ely 33.19 4 P P 15 54 58.5 -1.6
EYMN IAmb IAmb 15 55 08.3
comp=Z,22nm,1.4s
MDND Maddock 33.21 354 P P 15 54 59.7 -0.6
LAO LASA Array 33.21 346 P P 15 55 00.3 -0.1
LAO IAmb IAmb 15 55 12.6
comp=Z,31nm,1.2s
LAO LASA Array 33.21 346 P P 15 55 01.1 +0.7
baz=159
HLID Hailey 33.22 334 P P 15 55 01.6 +1.0
HLID IAmb IAmb 15 55 20.6
comp=Z,13nm,1.1s
HLID Hailey 33.22 334 P P 15 55 02.6 +2.0
baz=143,SNR=12
GCMT Greycliff 33.35 341 P P 15 55 01.8 +0.1
AGMN Agassiz Nation 33.44 359 P P 15 55 00.8 -1.5
AGMN Agassiz Nation 33.44 359 P P 15 55 01.6 -0.6
baz=178,SNR=10
J59A Piesco 33.47 27 P P 15 55 02.3 -0.3
J59A IAmb IAmb 15 55 14.4
comp=Z,20nm,1.4s
B35A Bob, Littlefor 33.50 1 P P 15 55 01.5 -1.3
B35A IAmb IAmb 15 55 10.7
comp=Z,27nm,1.1s
MCMT McKenzie Canyo 33.63 337 P P 15 55 06.1 +1.8
MFID Camas Ranch 33.73 332 P P 15 55 06.1 +1.1
MFID IAmb IAmb 15 55 14.7
comp=Z,20nm,1.5s
BOZ Bozeman (W) 33.83 339 P P 15 55 06.8 +0.8
BOZ Bozeman (W) 33.83 339 P P 15 55 08.0 +2.0
baz=150
LRM Limekiln Ridge 34.32 338 P P 15 55 10.2 -0.1
WVOR Wild Horse Val 34.35 328 P P 15 55 11.4 +1.0
LONY Lake Ozonia 34.36 26 P P 15 55 08.8 -1.6
LONY IAmb IAmb 15 55 22.7
comp=Z,17nm,1.4s
DGMT Dagmar 34.48 349 P P 15 55 11.7 +0.4
O03E Paynes Creek 34.64 322 P P 15 55 17.4 +4.5
baz=129
HRY Holter Researc 34.87 339 P P 15 55 12.8 -2.0
J08A Circle Bar Ran 34.94 329 P P 15 55 15.6 +0.1
PLID Pearl Lake 35.12 334 P P 15 55 17.7 +0.5
EGMT Eagleton 35.38 343 P P 15 55 18.3 -0.8
EGMT Eagleton 35.38 343 P P 15 55 20.8 +1.6
baz=154,SNR=10
ULM Lac du Bonnet 35.39 359 P P 15 55 17.9 -1.2
comp=Z,7.0nm,1.0s,baz=186,slow=9.9,SNR=6.9
ULM LR LR 16 14 09.0
comp=Z,685nm,18.2s,baz=172,slow=44
ULM Lac du Bonnet 35.39 359 P P 15 55 17.3 -1.8
ULM IAmb IAmb 15 55 27.1
comp=Z,18nm,1.1s
MSO Missoula 35.72 337 P P 15 55 22.2 0.0
MSO IAmb IAmb 15 55 33.1
comp=Z,23nm,1.4s
MSO Missoula 35.72 337 P P 15 55 23.9 +1.7
baz=147,SNR=9.1
I63A Otisfield 35.75 30 P P 15 55 20.2 -2.1
I63A IAmb IAmb 15 55 26.8
comp=Z,22nm,1.5s
YBH Yreka Blue Hor 36.09 324 LR LR 16 09 32.1
comp=Z,4µm,18.9s,baz=148,slow=35
YBH Yreka Blue Hor 36.09 324 P P 15 55 25.6 +0.2
F10A Beach Ranch, E 36.35 333 P P 15 55 28.0 +0.4
F10A IAmb IAmb 15 55 34.2
comp=Z,28nm,1.1s
JTMT Jette 36.62 338 P P 15 55 29.9 +0.1
JTMT IAmb IAmb 15 55 53.5
comp=Z,31nm,1.5s
G62A West of Eustis 36.64 29 P P 15 55 28.2 -1.7
G62A IAmb IAmb 15 55 33.3
comp=Z,18nm,1.2s
J04D Umpqua Nationa 36.74 326 P P 15 55 36.0 +4.9
baz=132
ETMB Extrema 37.44 129 eP P 15 55 36.8 -0.3
H04A Detroit Lake 37.77 328 P P 15 55 40.4 +0.9
H04A IAmb IAmb 15 55 50.7
comp=Z,42nm,1.3s
NEW Newport 38.13 336 LR LR 16 13 45.6
comp=Z,1µm,20.1s,baz=161,slow=40
NEW Newport 38.13 336 P P 15 55 44.1 +1.5
baz=143
FFC Flin Flon 40.25 354 P P 15 55 59.8 -0.3
LPAZ La Paz 40.60 138 P P 15 56 05.6 +1.5
comp=Z,2.7nm,0.7s,baz=339,slow=15,SNR=9.7
LPAZ LR LR 16 11 14.3
comp=Z,816nm,20.8s,baz=326,slow=34
LPAZ La Paz 40.60 138 P P 15 56 05.1 +1.0
LPAZ La Paz 40.60 138 eP P 15 56 06.1 +2.0
LLLB Lillooet 41.90 334 P P 15 56 15.1 +1.2
LLLB IAmb IAmb 15 56 30.4
comp=Z,24nm,1.3s
PB11 IPOC Station P 42.33 143 P P 15 56 19.0 +1.3
PB11 IAmb IAmb 15 56 34.9
comp=Z,20nm,1.1s
GO01 Chusmiza 42.52 143 P P 15 56 21.6 +1.9
GO01 IAmb IAmb 15 56 24.9
comp=Z,30nm,1.4s
MDP Montagnes des 42.58 99 LR LR 16 14 50.8
comp=Z,1µm,20.6s,baz=272,slow=37
TA01 Diego Aracena 42.67 145 P P 15 56 22.4 +2.1
TA01 IAmb IAmb 15 56 34.5
comp=Z,28nm,1.2s
ITTB Itaituba 43.16 113 eP P 15 56 24.8 +0.3
FCC Fort Churchill 43.91 1 P P 15 56 28.9 -1.0
FCC IAmb IAmb 15 56 51.0
comp=Z,21nm,1.3s
RPN Rapa Nui 43.97 199 LR LR 16 10 32.9
comp=Z,446nm,21.2s,baz=45,slow=30
VILB Vilhena 43.99 127 eP P 15 56 31.9 +0.8
LVC Limon Verde 45.00 145 LR LR 16 14 27.2
comp=Z,469nm,18.9s,baz=314,slow=35
LVC Limon Verde 45.00 145 P P 15 56 40.5 +1.0
LVC IAmb IAmb 15 56 43.1
comp=Z,21nm,1.3s
SCHQ Schefferville 45.50 22 P P 15 56 41.3 -1.4
comp=Z,2.0nm,0.8s,baz=235,slow=12,SNR=3.9
SCHQ LR LR 16 17 26.5
comp=Z,2µm,20.0s,baz=220,slow=38
BBB Bella Bella 45.76 332 LR LR 16 15 07.8
comp=Z,958nm,18.9s,baz=161,slow=35
CLDB Colider 46.33 121 eP P 15 56 48.8 -1.0
PTLB Pontes e Lacer 46.33 129 eP P 15 56 49.4 -0.4
GO02 Mina Guanaco 46.71 148 P P 15 56 53.1 +0.2
AC02 Maricunga 48.32 149 P P 15 57 06.8 +1.2
PRPB Parauapebas 49.25 112 eP P 15 57 12.7 +0.2
YKA Yellowknife Ar 49.67 348 P P 15 57 14.8 -0.2
comp=Z,4.2nm,0.7s,baz=154,slow=7.2,SNR=71
YKA PcP PcP 15 58 35.9 -0.2
comp=Z,1.1nm,0.9s,baz=149,slow=4.2,SNR=3.9
YKA Yellowknife Ar 49.67 348 P P 15 57 14.6 -0.4
TAOE Nuku Hiva Isla 50.69 245 eS S 16 04 35.7 -2.8
comp=Z,481nm,24.3s
TAOE eLR LR 16 11 48.6
comp=Z,1µm,24.8s,baz=56
DLBC Dease Lake 50.85 337 LR LR 16 18 57.0
comp=Z,939nm,18.9s,baz=133,slow=36
PP1B Ponte de Pedra 50.87 128 eP P 15 57 25.0 +0.3
CO03 El Pedregal 50.95 153 P P 15 57 26.7 +1.5
CO03 IAmb IAmb 15 57 38.6
comp=Z,12nm,1.1s
AQDB Aquidauana 52.02 131 P P 15 57 33.1 -0.1
FRB Frobisher Bay 52.22 14 LR LR 16 21 21.0
comp=Z,1µm,20.8s,baz=206,slow=38
SMTB Santa Maria do 52.40 114 eP P 15 57 36.5 +0.3
ZON Zonda 52.45 152 P P 15 57 37.9 +1.5
ZON IAmb IAmb 15 57 41.7
comp=Z,14nm,1.3s
TGTN Hyland Airport 52.46 341 P P 15 57 38.3 +2.3
baz=138
ROSB Rosrio 53.20 105 eP P 15 57 45.8 +3.7
PEXB Peixe 53.27 118 eP P 15 57 43.1 +0.5
CPUP Villa Florida 54.77 138 P P 15 57 53.5 +0.2
comp=Z,9.5nm,1.1s,baz=345,slow=8.3,SNR=4.4
CPUP LR LR 16 22 06.1
comp=Z,466nm,18.6s,baz=328,slow=37
CPUP Villa Florida 54.77 138 P P 15 57 53.4 0.0
BDFB Brasilia 55.26 121 P P 15 57 56.5 -0.7
comp=Z,8.9nm,1.0s,baz=268,slow=6.4,SNR=7.9
BDFB Brasilia 55.26 121 P P 15 57 56.3 -0.9
M30M Minto, Yukon 56.10 338 P P 15 58 04.0 +1.5
baz=129
LC01 Cunco 57.55 159 P P 15 58 14.2 +1.2
MCARA McCarthy VSAT 57.82 335 P P 15 58 16.0 +1.4
MCARA McCarthy VSAT 57.82 335 P P 15 58 17.2 +2.5
baz=121
JANB Januaria 58.08 119 eP P 15 58 19.7 +2.5
BCAR Beaver Creek A 58.24 337 P P 15 58 18.7 +1.0
L27K Beaver Creek, 58.26 337 P P 15 58 21.2 +3.5
baz=124
EYAK Cordova Ski Ar 58.55 333 P P 15 58 20.1 +0.3
EYAK IAmb IAmb 15 58 25.8
comp=Z,16nm,1.0s
N25K Chitina, Valde 58.58 335 P P 15 58 22.6 +2.5
baz=120
INK Inuvik 58.94 344 LR LR 16 25 35.4
comp=Z,2µm,18.4s,baz=155,slow=38
INK Inuvik 58.94 344 P P 15 58 22.4 +0.1
EGAK Eagle 58.99 339 P P 15 58 25.2 +2.4
baz=125
KLU Klutina 59.08 334 P P 15 58 25.9 +2.3
baz=118
LL04 Puerto Octay 59.18 160 P P 15 58 25.5 +1.2
LL04 IAmb IAmb 15 58 28.2
comp=Z,15nm,1.3s
MC01 Montes Claros 59.18 120 eP P 15 58 25.2 +0.3
HARP HAARP 59.21 335 P P 15 58 26.8 +2.5
baz=120
SCRK Sand Creek 59.57 337 P P 15 58 27.9 +1.0
SCRK IAmb IAmb 15 58 31.9
comp=Z,7.8nm,1.0s
SCRK Sand Creek 59.57 337 P P 15 58 29.1 +2.2
baz=122,SNR=5.3
PAX Paxson 59.62 336 P P 15 58 28.1 +0.8
baz=102
SFJD Kangerlussuaq 59.63 19 LR LR 16 26 21.2
comp=Z,886nm,18.1s,baz=228,slow=38
PLCA Paso Flores 59.65 159 P P 15 58 28.6 +0.9
comp=Z,12nm,1.1s,baz=347,slow=7.4,SNR=10
PLCA LR LR 16 18 00.6
comp=Z,504nm,21.3s,baz=348,slow=30
PLCA Paso Flores 59.65 159 P P 15 58 28.8 +1.1
J26L Joseph Creek 59.69 338 P P 15 58 29.3 +1.6
baz=122
RIDG Independent Ri 59.77 337 P P 15 58 29.2 +0.9
RIDG Independent Ri 59.77 337 P P 15 58 29.6 +1.3
baz=121,SNR=5.2
RES Resolute Bay 59.91 360 LR LR 16 26 07.2
comp=Z,400nm,19.0s,baz=182,slow=38
RES Resolute Bay 59.91 360 P P 15 58 28.1 -0.9
RES IAmb IAmb 15 58 38.1
comp=Z,16nm,1.3s
A36M Sachs Harbour 59.97 350 P P 15 58 29.0 -0.5
A36M Sachs Harbour 59.97 350 P P 15 58 29.7 +0.3
baz=145
WAT6 Susitna Watana 60.35 335 P P 15 58 33.7 +1.3
baz=117
J25K Salcha River, 60.41 337 P P 15 58 33.6 +0.9
J25K IAmb IAmb 15 58 36.8
comp=Z,9.1nm,1.3s
J25K Salcha River, 60.41 337 P P 15 58 34.2 +1.5
baz=121
PMR Palmer 60.49 333 P P 15 58 34.0 +0.9
PMR IAmb IAmb 15 58 37.4
comp=Z,7.6nm,1.0s
PMR Palmer 60.49 333 P P 15 58 34.0 +0.9
baz=115
BRLK Bradley Lake 60.53 331 P P 15 58 34.1 +0.6
KDAK Kodiak Island 60.62 329 LR LR 16 23 51.2
comp=Z,855nm,18.0s,baz=141,slow=35
IL31 61.06 337 P P 15 58 37.7 +0.7
IL31 IAmb IAmb 15 58 41.3
comp=Z,16nm,1.1s
ILAR Eielson Array 61.06 337 P P 15 58 37.6 +0.6
comp=Z,8.4nm,1.1s,baz=150,slow=5.0,SNR=26
ILAR LR LR 16 26 06.8
comp=Z,903nm,19.0s,baz=144,slow=37
ILAR Eielson Array 61.06 337 P P 15 58 38.0 +1.1
RND Reindeer 61.18 335 P P 15 58 38.6 +0.7
CUT Chulitna 61.33 334 P P 15 58 39.2 +0.4
CUT Chulitna 61.33 334 P P 15 58 40.4 +1.6
baz=114
CCB Clear Creek Bu 61.34 337 P P 15 58 39.0 +0.1
CCB IAmb IAmb 15 58 43.5
comp=Z,12nm,1.4s
MCK McKinley 61.36 336 P P 15 58 40.0 +0.9
MCK IAmb IAmb 15 59 00.8
comp=Z,18nm,1.4s
MCK McKinley 61.36 336 P P 15 58 40.1 +1.0
baz=116
WRH Wood River Hil 61.37 337 P P 15 58 39.1 0.0
WRH IAmb IAmb 15 58 50.5
comp=Z,7.9nm,1.3s
GDU01 Guandu, BA 61.58 115 eP P 15 58 44.4 +3.1
SPU Mount Spurr 61.61 332 P P 15 58 41.8 +1.0
BMAR Burnt Mountain 61.63 340 P P 15 58 41.6 +0.7
MDM Murphy Dome 61.65 337 P P 15 58 41.8 +0.8
MDM IAmb IAmb 15 58 44.8
comp=Z,15nm,1.4s
RSO Redoubt South 61.66 332 P P 15 58 42.1 +0.7
TRF Thorofare Moun 61.78 335 P P 15 58 42.8 +0.7
TRF Thorofare Moun 61.78 335 P P 15 58 43.3 +1.2
baz=115,SNR=5.9
NEA2 Nenana 61.80 337 P P 15 58 43.4 +1.4
baz=117
RCBR Riachuelo 61.90 105 LR LR 16 29 21.3
comp=Z,1µm,18.6s,baz=86,slow=40
H24K Noodor Dome 61.94 338 P P 15 58 43.3 +0.3
H24K Noodor Dome 61.94 338 P P 15 58 44.3 +1.3
baz=119,SNR=5.8
KTH Kantishna Hill 62.08 335 P P 15 58 44.3 +0.3
KTH IAmb IAmb 15 58 48.1
comp=Z,14nm,1.1s
I23K Minto, Yukon-K 62.16 337 P P 15 58 45.3 +0.9
I23K Minto, Yukon-K 62.16 337 P P 15 58 45.8 +1.4
baz=117,SNR=11
AY01 Puyuhuapi 62.28 162 P P 15 58 47.2 +1.9
BPAW Bear Paw Mtn. 62.33 336 P P 15 58 45.0 -0.7
BPAW Bear Paw Mtn. 62.33 336 P P 15 58 46.5 +0.8
baz=115,SNR=5.3
M20K Styx River 62.35 333 P P 15 58 46.6 +0.7
M20K IAmb IAmb 15 58 49.7
comp=Z,7.9nm,1.1s
M20K Styx River 62.35 333 P P 15 58 45.9 0.0
baz=112
CAST Castle Rocks 62.50 335 P P 15 58 47.2 +0.4
CAST IAmb IAmb 15 58 50.6
comp=Z,13nm,1.2s
CAST Castle Rocks 62.50 335 P P 15 58 47.4 +0.7
baz=113,SNR=5.1
N19K Bonanza Creek 62.58 332 P P 15 58 48.6 +1.1
baz=110
GUA01 Guaratinga, BA 62.63 118 eP P 15 58 52.5 +4.2
MLY Manley 62.64 337 P P 15 58 48.1 +0.4
MLY IAmb IAmb 15 58 51.9
comp=Z,12nm,0.9s
MLY Manley 62.64 337 P P 15 58 48.4 +0.7
baz=115,SNR=12

ROSA	Rosais	62.71	54	P		P	15 58 47.5	-1.1
PPT	Papeete	62.83	241	LR		LR	16 17 45.2	
	comp=Z,527nm,21.5s,baz=50,slow=28							
PPT2	Papeete2	62.84	241	*e*S		S	16 07 18.4	-0.6
	comp=Z,269nm,25.5s							
PPT2				*e*LR		LR	16 17 12.5	
	comp=Z,1μm,26.8s,baz=54							
L20K	Farewell, AK	62.90	333	P		P	15 58 50.1	+0.7
	baz=111							
I21K	Tanana	63.18	337	P		P	15 58 51.5	+0.3
I21K	Tanana	63.18	337	P		P	15 58 51.9	+0.7
	baz=114							
TULEG	Thule	63.25	7	P		P	15 58 51.1	-0.4
TULEG				IAmb		IAmb	15 59 15.8	
	comp=Z,11nm,1.1s							
K20K	Telida	63.30	334	P		P	15 58 52.4	+0.3
K20K	Telida	63.30	334	P		P	15 58 52.5	+0.4
	baz=111							
COLD	Coldfoot	63.42	339	P		P	15 58 54.3	+1.5
	baz=117,SNR=5.4							
COYC	Coyhaique	63.50	162	P		P	15 58 55.0	+1.5
J20K	Nowinta River	63.64	335	P		P	15 58 54.5	+0.2
J20K				IAmb		IAmb	15 58 58.2	
	comp=Z,13nm,1.1s							
J20K	Nowinta River	63.64	335	P		P	15 58 54.2	-0.1
	baz=112							
H21K	Melozitna Rive	63.69	337	P		P	15 58 54.6	0.0
H21K				IAmb		IAmb	15 59 11.1	
	comp=Z,8.4nm,1.4s							
H21K	Melozitna Rive	63.69	337	P		P	15 58 54.7	0.0
	baz=114							
TOLK	Toolik Lake Re	63.87	341	P		P	15 58 56.2	+0.4
TOLK				IAmb		IAmb	15 59 09.8	
	comp=Z,16nm,1.4s							
TOLK	Toolik Lake Re	63.87	341	P		P	15 58 56.8	+1.0
	baz=118							
TTA	Tatalina	63.98	334	P		P	15 58 56.5	-0.2
TTA				IAmb		IAmb	15 59 00.1	
	comp=Z,12nm,1.4s							
TTA	Tatalina	63.98	334	P		P	15 58 57.1	+0.5
	baz=109							
IMAR	Indian Mountai	64.17	337	P		P	15 58 56.1	-1.7
ICESG	Greenland Ices	64.23	19	*i* P		P	15 58 56.9	-1.6
ICESG				IAmb		IAmb	15 59 02.6	
	comp=Z,9.2nm,0.7s							
TBI	Tubuai	65.49	235	*e*S		S	16 07 52.2	+0.6
	comp=Z,176nm,23.5s							
TBI	Tubuai	65.49	235	*e*LR		LR	16 18 40.6	
	comp=Z,947nm,28.2s,baz=61							
SOEG	Soedalen	66.64	21	*i* P		P	15 59 21.5	+7.9
TNA	Tin City	69.66	335	P		P	15 59 33.3	+0.6
TNA	Tin City	69.66	335	P		P	15 59 34.0	+1.3
	baz=99							
BORG	Borgarnes	69.71	26	LR		LR	16 28 35.8	
	comp=Z,377nm,21.7s,baz=280,slow=35							
MG04	Isla Riesco	70.28	165	P		P	15 59 38.8	+2.3
GAMB	Gambell	71.05	333	P		P	15 59 42.3	+1.1
GAMB				IAmb		IAmb	15 59 45.9	
	comp=Z,9.4nm,1.3s							
DAG	Danmarks Havn	72.55	14	*i* P		P	15 59 48.5	-1.5
DAG				IAmb		IAmb	15 59 52.1	
	comp=Z,4.1nm,0.8s							
USHA	Ushuaia	72.87	164	LR		LR	16 27 20.3	
	comp=Z,730nm,19.0s,baz=21,slow=32							
RAR	Rarotonga	73.07	242	LR		LR	16 23 10.7	
	comp=Z,223nm,18.5s,baz=92,slow=28							
NOR	Nord	73.75	9	*i* P		P	15 59 56.7	-0.4
NOR				IAmb		IAmb	16 00 00.1	
	comp=Z,2.8nm,0.8s							
JMIC	Jan Mayen	74.95	20	LR		LR	16 33 24.5	
	comp=Z,840nm,21.6s,baz=262,slow=36							
EKA	Eskdalemuir Ar	78.94	36	LR		LR	16 32 07.7	
	comp=Z,481nm,21.9s,baz=242,slow=33							
SHEM	Shemya Is, Ala	79.03	322	LR		LR	16 31 45.2	
	comp=Z,127nm,21.8s,baz=116,slow=33							
BILL	Bilibino	79.71	338	P		P	16 00 30.9	0.0
BILL				IAmb		IAmb	16 00 35.5	
	comp=Z,22nm,1.1s							
SPITS	Spitsbergen Ar	79.87	11	LR		LR	16 39 17.7	
	comp=Z,645nm,18.1s,baz=2.5,slow=38							
PAB	San Pablo	81.12	51	P		P	16 00 38.1	-1.1
AFI	Afiamalu	81.28	253	LR		LR	16 27 48.7	
	comp=Z,285nm,20.6s,baz=75,slow=29							
ESDC	Sonseca Array	81.39	51	P		P	16 00 40.7	+0.1
	comp=Z,4.3nm,1.0s,baz=291,slow=5.5,SNR=12							
ESDC				LR		LR	16 31 06.3	
	comp=Z,423nm,21.4s,baz=299,slow=32							
ESDC	Sonseca Array	81.39	51	P		P	16 00 39.5	-1.1
ESBB	Sonseca Array	81.39	51	P		P	16 00 39.6	-1.0
MDT	Midelt	82.33	58	LR		LR	16 36 19.2	
	comp=Z,286nm,18.2s,baz=310,slow=35							
PMSA	Palmer Station	82.69	167	LR		LR	16 30 34.2	
	comp=Z,347nm,18.4s,baz=304,slow=31							
DOU	Dourbes	84.73	40	*ds*P		sP	16 01 09.0	+6.7
NB2	NORSAR Subarra	84.77	28	P		P	16 00 58.2	+0.6
	comp=Z,2.9nm,0.7s,baz=293,slow=5.1							
NOA	NORSAR Array B	84.77	28	P		P	16 00 57.4	-0.2
	comp=Z,1.4nm,0.8s,baz=292,slow=5.1,SNR=7.9							
NOA				LR		LR	16 38 49.8	
	comp=Z,116nm,19.4s,baz=285,slow=36							
BMRD	Maredsous	84.78	39	*d*P		P	16 00 55.5	-2.4
HFS	Hagfors	86.24	28	LR		LR	16 39 12.2	
	comp=Z,265nm,18.6s,baz=276,slow=35							
ARCES	ARCESS Array B	86.25	18	P		P	16 01 05.4	+0.6
	comp=Z,5.1nm,0.9s,baz=328,slow=4.3,SNR=6.8							
ARCES				LR		LR	16 40 28.4	
	comp=Z,472nm,19.6s,baz=294,slow=36							
SEY	Seymchan	86.91	335	LR		LR	16 41 34.1	
	comp=Z,374nm,19.0s,baz=75,slow=37							
KOWA	Kowa	87.15	76	P		P	16 01 08.9	-1.4
DBIC	Dimbokro	88.30	84	P		P	16 01 15.8	+0.1
	comp=Z,4.7nm,0.9s,baz=239,slow=3.1,SNR=4.1							
DBIC				LR		LR	16 40 15.0	
	comp=Z,278nm,18.6s,baz=300,slow=35							
DBIC	Dimbokro	88.30	84	IAmb		IAmb	16 01 18.1	
	comp=Z,8.2nm,1.1s							
PETK	Petropavlovsk-	88.44	325	LR		LR	16 37 54.1	
	comp=Z,199nm,21.9s,baz=42,slow=34							
TIXI	Tiksi	88.92	347	LR		LR	16 45 49.2	
	comp=Z,394nm,20.7s,baz=1.0,slow=39							
DAVOX	Davos/Dischmat	89.13	42	LR		LR	16 36 52.2	
	comp=Z,593nm,21.9s,baz=270,slow=33							
MA2	Magadan	89.15	332	LR		LR	16 42 28.9	
	comp=Z,190nm,18.8s,baz=56,slow=36							
CLL	Collm	89.35	37	*e*SKSac		SKSac	16 11 49.0	-0.6
CLL				*e*S		S	16 12 12.0	+2.6
CLL				*e*PS		PS	16 13 18.0	+2.2
CLL				*e*SSS		SSS	16 21 36.0	
CLL				*e*SSSS			16 24 42.0	
GERES	GERESS Array B	90.74	39	P		P	16 01 28.1	+1.5
	comp=Z,0.6nm,0.8s,baz=338,slow=2.9,SNR=5.9							
GERES				LR		LR	16 39 36.3	
	comp=Z,402nm,21.5s,baz=302,slow=34							
FINES	FINESS Array B	90.95	24	P		P	16 01 28.8	+1.6
	comp=Z,2.2nm,0.8s,baz=318,slow=2.6,SNR=7.5							
FINES				LR		LR	16 43 42.1	
	comp=Z,310nm,18.4s,baz=306,slow=37							
RAO	Raoul Island	91.23	240	LR		LR	16 31 53.1	
	comp=Z,145nm,20.0s,baz=338,slow=28							
VRAC	Vranov	92.28	38	LR		LR	16 44 05.3	
	comp=Z,306nm,18.2s,baz=292,slow=36							
KEST	Kesra	92.61	52	LR		LR	16 38 07.1	
	comp=Z,257nm,21.5s,baz=251,slow=32							
TORD	Torodi Ar. Bea	92.86	76	P		P	16 01 36.6	-0.4
	comp=Z,0.4nm,0.6s,baz=302,slow=6.4,SNR=2.9							
NACGM	Naroch	94.93	30	⇓*e*P		P	16 01 43.5	-2.2
	baz=304							
VAE	Valguarnera	95.75	49	LR		LR	16 42 39.9	
	comp=Z,579nm,18.1s,baz=342,slow=34							
YAK	Yakutsk	95.84	341	LR		LR	16 49 11.1	
	comp=Z,297nm,18.2s,baz=75,slow=38							
KLMR	Klimovskoe	96.32	21	*e*P		P	16 01 53.3	+1.4
KLMR				AMP			16 01 58.1	
	comp=Z,19nm,1.4s							
KLMR				LQ		LQ	16 39 28.3	
KLMR				LQ		LQ	16 39 28.3	
KLMR				LR		LR	16 41 00.4	
URZ	Urewera	97.49	233	LR		LR	16 35 25.0	
	comp=Z,231nm,21.6s,baz=54,slow=29							
AKASG	Malin Array Be	98.56	32	LR		LR	16 45 05.7	
	comp=Z,301nm,21.7s,baz=299,slow=35							
OBN	Obninsk	99.22	26	LR		LR	16 49 24.5	
	comp=Z,76nm,18.3s,baz=335,slow=37							
DZM	Mont Dzumac	103.34	250	*e*PS		PS	16 15 47.3	-2.5
	comp=Z,120nm,26.9s							
DZM	Mont Dzumac	103.34	250	*e*LR		LR	16 36 23.6	
	comp=Z,682nm,22.9s							
CN2	Changchun	111.07	330	LR		LR		
	comp=Z,300nm,16.0s							
CN2				LR		LR		
	comp=Z,300nm,15.0s							
MKAR	Makanchi Array	118.66	2	PKP		PKPdf	16 07 11.3	-0.5
	comp=Z,0.4nm,0.7s,baz=22,slow=1.3,SNR=5.0							
SYO	Syowa Base	118.71	163	⇓*e*Pdiff		Pdif	16 03 30.0	-1.3
SYO	Syowa Base	118.71	163	⇓*e*PDdiff		Pdif	16 03 33.2	+1.9
HHC	Hu-ho-hao-te	119.48	337	*e*PKP		PKPdf	16 07 13.0	-0.6
WMQ	Urumqi	121.64	358	*e*PKP		PKPdf	16 07 18.0	+0.4
WMQ				LR		LR		
	comp=Z,350nm,19.3s							
WMQ				LR		LR		
	comp=Z,280nm,20.9s							
NJ2	Nanjing	123.34	326	*e*PKP		PKiKP	16 07 22.0	+0.7
GTA	Gaotai	124.39	346	*e*PKP		PKiKP	16 07 25.8	+2.4
GOMU	GeErMu	128.49	350	Pdif		Pdif	16 04 15.0	-1.2
GOMU				AMB		AMB		
	comp=Z,130nm,5.2s							
GOMU				LR		LR		
	comp=Z,140nm,16.1s							
GOMU				LR		LR		
	comp=Z,170nm,15.7s							
GOMU				LR		LR		
	comp=Z,140nm,22.0s							
WRA	Warramunga Arr	132.91	256	PKP		PKPdf	16 07 40.1	+0.5
	comp=Z,1.8nm,1.0s,baz=87,slow=2.4,SNR=11							
ASAR	Alice Springs	133.32	251	PKP		PKPdf	16 07 41.4	+1.0
	comp=Z,0.9nm,0.9s,baz=90,slow=1.3,SNR=7.4							
PZH	PanZhiHua	135.92	338	PKP		PKPdf	16 07 44.3	-1.0
PZH				PP		PP	16 10 26.5	+4.0
PZH				AMB		AMB		
	comp=Z,210nm,6.5s							
PZH				LR		LR		
	comp=Z,150nm,18.6s							
PZH				LR		LR		
	comp=Z,210nm,18.6s							
PZH				LR		LR		
	comp=Z,210nm,19.6s							
QIZ	Qiongzhong	138.54	323	PKP		PKPdf	16 07 50.5	+0.4
QIZ				PP		PP	16 10 40.5	+1.2
QIZ				SS		SS	16 28 54.3	+2.0
QIZ				LR		LR		
	comp=Z,140nm,12.2s							
QIZ				LR		LR		
	comp=Z,280nm,17.3s							
CMAR	Chiang Mai Arr	144.29	337	PKP		PKPab	16 07 58.7	+0.4
	comp=Z,4.4nm,0.9s,baz=342,slow=3.4,SNR=14							
HYBB	Hyderabad (bro	147.35	12	*e*PKPab		PKPbc	16 08 08.2	+0.1

WEL 27 16:20:08.2±1.2, 34°S±22″×18°0W±3″1, h208km±31km, M3.7/8, mB4.0/3, MLv3.8/8, Mw(mB)3.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	4.05	205	S	S	16 22 00.9	+1.3
WMGZ	Waiomatatini S	4.24	202	P	Pn	16 21 14.4	+1.3
WMGZ				S	S	16 22 04.9	+0.9
HAZ	Te Kaha	4.41	209	P	Pn	16 21 14.2	-1.1
HAZ				S	S	16 22 10.5	+2.7
PKGZ	Pakihiroa	4.42	205	P	Pn	16 21 15.1	-0.3
PKGZ				S	S	16 22 07.5	-0.5
PUZ	Puketiti	4.52	202	P	Pn	16 21 16.0	-0.7
PUZ				S	S	16 22 09.8	-0.6
RUGZ	Raukumara Rang	4.63	208	P	Pn	16 21 18.4	+0.2
RUGZ				S	S	16 22 13.8	+0.7
TWGZ	Tauwhareparae	4.71	204	P	Pn	16 21 19.5	+0.4
TWGZ				S	S	16 22 15.8	+1.1
CNGZ	Carnagh Statio	4.92	201	P	Pn	16 21 21.8	+0.2
TKGZ	Te Karaka	4.99	204	P	Pn	16 21 22.9	+0.4
TKGZ				S	S	16 22 21.8	+0.7
MWZ	Matawai	5.01	207	P	Pn	16 21 22.2	-0.7
MWZ				S	S	16 22 21.4	-0.2
URZ	Urewera	5.12	211	P	Pn	16 21 22.8	-1.4
URZ				S	S	16 22 25.0	+1.1
RIGZ	Rimuhau	5.26	203	P	Pn	16 21 26.6	+0.6
RIGZ				S	S	16 22 27.6	+0.2
MUGZ	Murupara	5.45	212	P	Pn	16 21 28.2	-0.1
MUGZ				S	S	16 22 32.6	+1.0
SNGZ	Shannon Statio	5.48	206	P	Pn	16 21 29.2	+0.4
SNGZ				S	S	16 22 32.0	-0.3
MTHZ	Maungataniwha	5.73	209	P	Pn	16 21 32.8	+0.8
MTHZ				S	S	16 22 38.3	0.0
BKZ	Black Stump Fm	6.14	210	P	Pn	16 21 36.7	-0.6
KAHZ	Kahuranaki	6.54	205	P	Pn	16 21 42.4	-0.1
KAHZ				S	S	16 22 58.8	+1.7

SKO ***27*** *16:46:07.4, 41.16N×19.19E, h0km*
ATH ***27*** *16:46:07.2, 41.34N×19.33E, h17km±2km, ML2.3/3, Error ellipse: s-maj=4.3km s-min=1.4km az=342.0*
RHSSO ***27*** *16:46:08.4±0.8, 41.23N×19.31E, h16km±3km, ML2.6/8*
TIR ***27*** *16:46:09.2, 41.30N×19.48E, h20km, Md2.8, Ml2.1*
PDG ***27*** *16:46:09.3±0.2, 41.33N×19.43E, h12km, ML2.5/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
BEO ***27*** *16:46:11.7±0.7, 41.39N×19.50E, h7km±2km, ML2.1/10*
ISC 27 16:46:09.0±1.0, 41.31N±0.02×19.40E±0.02, h16km±8km, n73, σ1°01/120, 7C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	Tirane	0.35	84	*e*Pg	Pg	16 46 15.4	-0.9
TIR				*e*Sg	Sb	16 46 22.0	-0.4
TIR	Tirane	0.35	84	P	Pg	16 46 15.4	-0.9
TIR				S	Sb	16 46 21.6	-0.8
TIR				AML	AML	16 46 25.5	
	comp=E,966μm,0.2s						
TIR				AML	AML	16 46 25.5	
	comp=N,1020μm,0.2s						
TIR	Tirane	0.35	84	*i* Pg	Pg	16 46 15.4	-0.9
TIR	Tirane	0.35	84	P	Pg	16 46 15.6	-0.8
	baz=80						
TIR				S	Sb	16 46 21.6	-0.8
	baz=80						
TIR				AMP			
	comp=N,0.8nm,0.3s,baz=80						
ULC	Ulcinj	0.66	350	⇑*i* Pg	Pg	16 46 21.7	-0.3
ULC				*i* Sg	Sb	16 46 31.5	+0.3
PHP	Peshkopia	0.87	64	P	Pb	16 46 24.9	-0.9
	baz=61						
PHP				S	Sb	16 46 36.0	-1.2
	baz=61						
PHP				AMP			
	comp=N,0.3nm,0.5s,baz=61						
DRME	Dracevica, Mon	0.89	350	*e*Pg	Pb	16 46 25.5	-0.6
DRME				*e*Sg	Sn	16 46 39.2	-0.3
DRME	Dracevica, Mon	0.89	350	⇑*i* Pg	Pb	16 46 26.1	0.0
DRME				*i* Sg	Sn	16 46 39.6	+0.1
BUM	Brajici-Budva	1.05	339	⇓*i* Pg	Pb	16 46 29.0	0.0
BUM				*i* Sg	Sn	16 46 45.1	+1.4
OHR	Ohrid	1.08	100	*e*Pg	Pg	16 46 29.7	-0.2
OHR				*e*Sg	Sn	16 46 44.7	+0.4
OHR	Ohrid	1.08	100	*i* Pg	Pg	16 46 29.9	+0.1
OHR				*i* Sg	Sn	16 46 46.5	+2.2
PDG	Podgorica	1.12	355	*e*Pg	Pg	16 46 30.5	-0.2
PDG				*e*Sg	Sg	16 46 46.0	+0.7
PDG	Podgorica	1.12	355	*e*Pg	Pb	16 46 30.0	-0.1
PDG				*e*Sg	Sg	16 46 46.8	+1.5
PDG	Podgorica	1.12	355	*i* Pg	Pg	16 46 30.4	-0.2
PDG				*i* Sg	Sg	16 46 47.8	+2.5
TTG	Podgorica	1.12	355	⇓*i* Pg	Pb	16 46 29.9	-0.1
TTG				*i* Sg	Sg	16 46 47.2	+1.9
BCI	Bajram Curri	1.17	25	P	Pg	16 46 31.9	+0.3
	baz=22						
BCI				S	Sg	16 46 47.8	+1.0
	baz=22						
CEME	Cevo	1.28	344	⇓*i* Pg	Pb	16 46 32.8	-0.1
CEME				*i* Sg	Sg	16 46 51.9	+1.4
HCY	Herceg Novi	1.32	330	*e*Pg	Pn	16 46 33.3	+0.5
HCY				*e*Sg	Sg	16 46 51.3	-0.3
HCY	Herceg Novi	1.32	330	⇑*i* Pg	Pb	16 46 33.4	0.0
HCY				*e*Sg	Sg	16 46 52.9	+1.3
PVY	Plav	1.35	18	⇓*i* Pg	Pb	16 46 33.7	-0.3
PVY				*i* Sg	Sg	16 46 54.9	+2.3
SCTE	Santa Cesarea	1.43	210	P	Pn	16 46 34.3	0.0
SCTE	Santa Cesarea	1.43	210	P	Pg	16 46 36.7	+0.2
	baz=213						
SCTE				S	Sg	16 46 56.2	+1.2
	baz=213						
NKME	Niksic	1.49	347	⇑*i* Pg	Pb	16 46 36.6	+0.2
NKME				*i* Sg	Sg	16 46 58.3	+1.2
SRN	Sarande	1.50	162	P	Pb	16 46 36.8	+0.3
	baz=164						
SRN				S	Sg	16 46 57.9	+0.4
	baz=164						
NKY	Niksic	1.53	349	⇑*i* Pg	Pb	16 46 37.2	+0.1
NKY				*i* Sg	Sg	16 46 59.6	+1.3
KOME	Kolasin	1.54	3	⇑*i* Pg	Pb	16 46 37.3	+0.1
KOME				*i* Sg	Sg	16 46 59.7	+1.1
NEST	Nestorio	1.54	125	P	Pb	16 46 37.5	+0.2
NEST				AML	AML	16 47 05.2	
	comp=N,72μm,0.5s						
NEST				AML	AML	16 47 06.2	
	comp=E,99μm,0.5s						
FNA	Florina	1.59	109	P	Pb	16 46 38.0	-0.1
FNA				AML	AML	16 47 02.0	
	comp=N,294μm,0.6s						
FNA				AML	AML	16 47 02.8	
	comp=E,280μm,0.4s						
FNA	Florina	1.59	109	P	Pb	16 46 38.1	+0.1
	baz=109						
FNA				S	Sg	16 46 59.2	-1.0
	baz=109						
IVA	Berane	1.60	13	⇓*i* Pn	Pb	16 46 38.1	-0.2
IVA				*i* Sn	Sg	16 47 00.7	+0.1
TREB	Trebinje	1.60	331	*e*Pn	Pn	16 46 37.2	+0.4
TREB				*e*Sn	Sn	16 46 57.6	+0.4
KEK	Kerkira	1.63	169	P	Pn	16 46 37.2	+0.1
DBRK	Dubrovnik	1.64	326	*e*Pn	Pb	16 46 39.4	+0.4
BRY	Bratogost	1.71	338	*e*Pn	Pn	16 46 38.9	+0.5
BRY				*e*Sn	Sn	16 47 00.6	+0.6
BRY	Bratogost	1.71	338	⇓*i* Pn	Pb	16 46 40.1	-0.1
BRY				*e*Sn	Sg	16 47 04.1	0.0
PENT	Pentalofos	1.73	130	P	Pn	16 46 39.5	+0.9
NOCI	Noci	1.84	254	P	Pn	16 46 39.7	-0.3
IGT	Igoumenitsa	1.92	158	P	Pn	16 46 42.4	+1.3
UPM	Unac-Piva	1.92	349	*e*Pn	Pn	16 46 41.3	0.0
UPM				*e*Sn	Sn	16 47 06.0	+0.7
UPM	Unac-Piva	1.92	349	⇑*i* Pn	Pb	16 46 42.9	-1.0
UPM				*i* Sn	Sb	16 47 09.0	+1.3
SJES	Sjenica	1.99	12	*e*Pn	Pb	16 46 44.0	-1.0
SJES				*e*Sn	Sb	16 47 08.7	-1.0
STON	Ston	2.00	322	*e*Pn	Pn	16 46 42.2	0.0
STON				*e*Sn	Sn	16 47 07.1	+0.1
STON	Ston	2.00	322	*e*Pn	Pn	16 46 42.4	+0.2
STON				Sn	Sn	16 47 06.6	-0.4
KPRO	Kipourio	2.02	132	P	Pb	16 46 44.5	-0.9
SELS	Selova	2.29	33	*e*Pn	Pb	16 46 50.1	0.0
SELS				*e*Sn	Sn	16 47 14.1	-0.1
GRG	Griva	2.30	98	P	Pn	16 46 47.0	+0.6
RUDO	Rudo	2.30	360	*e*Pn	Pn	16 46 46.2	0.0
RUDO				*e*Sn	Sb	16 47 16.6	-1.9
PRVS	Prvonek	2.33	58	*e*Pn	Pb	16 46 49.4	-1.3
PRVS				*e*Sn	Sb	16 47 17.0	-2.3
BARS	Barje	2.34	49	*e*Pn	Pb	16 46 50.1	-0.8
BARS				*e*Sn	Sb	16 47 16.9	-2.8
LSTV	Lastovo	2.36	309	*e*Pn	Pn	16 46 46.9	-0.3
VAY	Valandovo	2.39	89	*e*Pn	Pb	16 46 51.0	-0.7
BBLS	Lazići	2.55	0	*e*Pn	Pb	16 46 53.1	-1.4
BBLS				*e*Sn	Sb	16 47 23.7	-2.0
BBLS	Lazići	2.55	0	*e*Pn	Pn	16 46 50.5	+0.7
BBLS				*e*Sn	Sn	16 47 22.4	+1.8
BOSS	Bosilegrad	2.59	62	*e*Pn	Pn	16 46 52.0	+1.7
BOSS				*e*Sn	Sn	16 47 22.6	+1.1
MAKA	Makarska	2.65	319	*e*Pn	Pn	16 46 51.2	+0.2
KNT	Kendrikon	2.65	92	P	Pn	16 46 51.9	+0.8
THL	Klokotos Trika	2.66	130	P	Pn	16 46 53.1	+1.9
RICI	Ricice	2.75	323	*e*Pn	Pn	16 46 52.7	+0.2
NYDR	Nydri-Lefkada	2.78	159	P	Pn	16 46 53.1	+0.2
DIVS	Divibare	2.82	9	*e*Pn	Pn	16 46 54.2	+0.7
DIVS				*e*Sn	Sn	16 47 29.0	+1.8
DIVS	Divibare	2.82	9	*e*Pn	Pn	16 46 53.9	+0.4
DIVS				*e*Sn	Sn	16 47 28.2	+1.0
EVGI	Lefkada island	2.86	160	P	Pn	16 46 53.9	-0.1
HVAR	Hvar	2.87	311	*e*Pn	Pn	16 46 53.5	-0.7
AGG	Agios Georgios	3.21	135	P	Pn	16 47 00.1	+1.3
KIJV	Kijevo	3.48	322	*e*Pn	Pn	16 47 03.2	+0.7
KIJV				Sn	Sn	16 47 44.0	+0.6
ZIRJ	Zirje	3.63	311	*e*Pn	Pn	16 47 04.2	-0.4
ZIRJ				Sn	Sn	16 47 47.0	0.0
MORI	Morici	3.73	314	*e*Pn	Pn	16 47 06.7	+0.7
DUGI	Dugi Otok	4.17	311	*e*Pn	Pn	16 47 12.6	+0.6
UDBI	Udbina	4.17	322	*e*Pn	Pn	16 47 13.8	+1.7
VIRC	Vir	4.37	314	*e*Pn	Pn	16 47 15.3	+0.7
NVLJ	Novalja	4.64	316	*e*Pn	Pn	16 47 19.5	+0.9
CRES	Cresnjev	5.34	329	*e*Pn	Pn	16 47 27.9	-0.2
CRES				*e*Sn	Sn	16 48 26.6	-2.7
CRES	Cerknica	5.71	322	*e*Pn	Pn	16 47 32.2	-1.0
CEY				*e*Sn	Sn	16 48 36.0	-2.4

SOF ***27*** *17:06:07.0, 42.11N×23.61E, h12km, MD3.0*
SKO ***27*** *17:06:08.5, 42.12N×23.59E, h0km*
BEO ***27*** *17:06:08.1±0.3, 42.14N×23.58E, h6km±2km, ML2.6/12*
THE ***27*** *17:06:10.4, 41.97N×23.55E, h4km±1km, ML2.5/7, Error ellipse: s-maj=2.1km s-min=1.0km az=155.0*
ISC 27 17:06:07.4±1.1, 42.11N±0.02×23.56E±0.02, h3km±10km, n57, σ1°07/79, 10C-12D, Bulgaria

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

SELS	Selova	2.11	302	*e*Pn	Pn	17 06 43.7	+0.1
SELS				*e*Sn	Sn	17 07 11.2	+0.8
ALN	Alexandroupoli	2.23	122	P	Pn	17 06 46.1	+0.9
JMB	Yambol	2.27	80	*e*P	Pn	17 06 45.7	-0.1
COPA	Copaceanca	2.36	30	⇓P	Pb	17 06 49.1	-1.4
HUMR	Humele	2.63	23	⇑P	Pn	17 06 51.4	+0.7
KUBS	Kucevo	2.68	330	*e*Pn	Pn	17 06 50.9	-0.5
KUBS				*e*Sn	Sn	17 07 23.6	-0.8
GRUS	Gruza	2.74	311	*e*Pn	Pn	17 06 51.8	-0.4
SGRR	Singureni	2.75	39	⇓P	Pn	17 06 53.9	+1.5
SJES	Sjenica	2.88	295	*e*Pn	Pn	17 06 54.3	0.0
SJES				*e*Sn	Sn	17 07 29.5	0.0
HERR	Herculane	2.89	344	⇓P	Pn	17 06 54.2	-0.1
HERR				⇑S	Sn	17 07 28.4	-1.1
MDVR	Moldovita	2.99	334	⇓P	Pn	17 06 56.1	+0.4
TRUS	Trudelj	3.13	314	*e*Pn	Pn	17 06 58.0	+0.5
DIVS	Divibare	3.28	308	*e*Pn	Pn	17 07 00.0	+0.3
DIVS				*e*Sn	Sn	17 07 39.6	+0.3
GZR	Gura Zlata	3.33	350	⇑P	Pn	17 07 00.3	-0.1
ARR	Arges	3.35	13	⇑P	Pn	17 07 01.7	+1.0
ARR				⇑S	Sn	17 07 40.1	-0.8
VOIR		3.50	18	⇓P	Pn	17 07 04.2	+1.5
BZS	Buzias	3.77	339	⇓P	Pn	17 07 06.5	0.0
MLR	Muntele Rosu	3.80	26	⇑P	Pn	17 07 08.9	+2.1
NEHR	Nehoiu	3.86	30	⇓P	Pn	17 07 09.3	+1.6
DOPR	Dopca	4.08	18	⇓P	Pn	17 07 11.8	+1.2
OZUR		4.29	21	⇑P	Pn	17 07 14.2	+0.6
PLOR	Plostina	4.36	30	⇑P	Pn	17 07 16.7	+2.3
VRI	Vrincioaia	4.40	30	⇑P	Pn	17 07 17.4	+2.4
TPGR	Topolog	4.48	51	⇓P	Pn	17 07 16.8	+0.7
CFR	Carcaliu	4.52	46	⇓P	Pn	17 07 17.5	+0.8
DRGR		4.72	353	⇓P	Pn	17 07 19.7	+0.2

MAN ***27*** *17:06:22.3,5.″22N×126.″44E,h33km,mb4.7,ML3.5,MS3.4*
DJA ***27*** *17:06:25.8±0.6,6.″6N±4.″×12.″6E±.″,h133km±8km,M4.3/11, mB4.6/5,mb4.5/7,MLv4.5/11,Mw(mB)3.8/5*
IDC ***27*** *17:06:26.2±1.0,5.″61N×126.″38E,h94km±8km,mb3.6/14, mb1 3.8/16,mb1mx3.6/38,mbtmp3.9/16,Error ellipse: s-maj=28.2km s-min=8.5km az=68.0*

ISC 27 17:06:23.8±0.6,5.″66N±0.″04×126.″52E±0.″07,h66km,n39, σ2°72/45,mb3.9/13,3C-7D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	Don Marcelino,	0.92	299	⇓*e*P	Pn	17 06 43.1	+2.1
MATI	Mati	1.31	348	⇓*e*P	Pn	17 06 49.4	+3.4
GSPH	General Santos	1.62	285	⇓*e*P	Pn	17 06 50.3	-0.1
DAV	Davao City (W)	1.69	326	P	Pn	17 06 54.1	+3.0
	25nm,0.3s,baz=232,slow=17,SNR=1.4						
DAV				S	Sn	17 07 15.4	+3.6
	136nm,0.3s,baz=241,slow=19,SNR=14						
KCP	Kidapawan	1.96	313	⇑*e*P	Pn	17 06 56.6	+1.7
KCP				*i* S	Sn	17 07 20.3	+1.9
SGSI	Sangihe	2.19	207	P	Pn	17 07 02.1	+4.1
SGSI				S	Sn	17 07 30.1	+6.0
CTBH	Cotabato--PC H	2.74	305	⇑*i*P	Pn	17 07 06.9	+1.5
CGP	Cagayan de Oro	3.32	327	⇓*e*P	Pn	17 07 17.6	+4.3
CGP				*e*S	Sn	17 07 59.8	+8.3
BUTP	Butuan	3.41	345	⇑*e*P	Pn	17 07 18.1	+3.6
PAGZ	Pagadian	3.80	305	⇓*e*P	Pn	17 07 23.8	+3.9
ZCP	Zamboanga City	4.60	286	⇓*e*P	Pn	17 07 32.8	+2.0
ZCP				*e*S	Sn	17 08 25.7	+2.8
MSLP	Maasin	4.74	340	⇓*e*P	Pn	17 07 34.7	+1.9
TNTI	Ternate	4.92	170	P	Pn	17 07 38.7	+3.4
KMSI	Cibinong	5.65	207	P	Pn	17 07 47.2	+2.0
	0.4nm81nm,0.7s						
GTOI	Gorontalo	6.10	215	P	Pn	17 07 53.2	+1.9
	0.1nm508nm41nm,0.6s						
LBMI	Labuha	6.33	171	P	Pn	17 07 57.5	+3.0
	0.2nm554nm27nm,0.6s						
MRSI	Marisa	6.88	222	P	Pn	17 08 05.1	+3.0
	0.4nm1μm118nm,0.6s						
LUWI	Luwuk	7.63	209	P	Pn	17 08 18.9	+6.5
SANI	Sanana	7.67	184	P	Pn	17 08 12.2	-0.7
SIJI	Sorong	8.03	144	P	Pn	17 08 20.8	+3.0
	1.9nm,0.3s,baz=334,slow=14,SNR=7.7						
SIJI				S	Sn	17 09 48.3	+1.1
	0.2nm,0.3s,baz=17,slow=19,SNR=1.5						
APSI	Ampana	8.14	217	P	Pn	17 08 26.1	+6.8
KAPI	Kappang	12.57	213	P	Pn	17 09 20.4	+0.5
	2.3nm,0.3s,baz=31,slow=8.7,SNR=5.2						
BATI	Baumata	16.01	190	P	Pn	17 10 05.5	+0.4
	9.0nm,0.3s,baz=319,slow=8.7,SNR=30						
FITZ	Fitzroy Crossi	23.62	182	P	P	17 11 29.1	0.0
	2.2nm,0.4s,baz=7.5,slow=8.2,SNR=27						
WRA	Warramunga Arr	26.58	163	P	P	17 11 55.4	-0.5
	1.6nm,0.4s,baz=343,slow=10,SNR=13						
CMAR	Chiang Mai Arr	29.76	298	P	P	17 12 22.8	-1.5
	0.2nm,0.7s,baz=106,slow=7.1,SNR=4.3						
ASAR	Alice Springs	30.02	166	P	P	17 12 26.6	0.0
	0.6nm,0.5s,baz=345,slow=7.0,SNR=50						
ASAR				PcP	PcP	17 15 27.1	-0.4
	0.7nm,0.6s,baz=354,slow=1.9,SNR=9.4						
ASAR				ScP	ScP	17 19 01.5	-2.6
	0.2nm,0.6s,baz=345,slow=3.2,SNR=1.5						
KSRS	Korea Array	31.68	2	P	P	17 12 41.7	+0.8
	1.7nm,1.2s,baz=200,slow=8.4,SNR=1.7						
STKA	Stephens Creek	40.00	160	P	P	17 13 52.0	-0.2
	2.2nm,0.6s,baz=333,slow=11,SNR=6.7						
SONM	Songino Array	45.42	341	PcP	PcP	17 16 13.8	-0.5
	0.3nm,0.4s,baz=178,slow=5.2,SNR=2.5						
MKAR	Makanchi Array	55.87	325	P	P	17 15 53.0	-1.7
	1.1nm,0.5s,baz=120,slow=7.8,SNR=23						
MKAR				PcP	PcP	17 16 51.8	-1.0
	0.4nm,0.6s,baz=114,slow=4.6,SNR=2.0						
ZALV	Zalesovo Beam	58.79	333	P	P	17 16 14.2	-0.9
	1.7nm,0.9s,baz=123,slow=5.3,SNR=5.6						
ILAR	Eielson Array	83.46	26	P	P	17 18 43.5	-0.5
	0.2nm,0.5s,baz=240,slow=5.3,SNR=5.6						
VNDA	Vanda	85.35	173	P	P	17 18 52.1	-1.1
	0.4nm,0.7s,baz=30,slow=5.2,SNR=2.2						
ARCES	ARCESS Array B	86.58	340	P	P	17 19 07.6	-1.5
	4.2nm,1.0s,baz=52,slow=7.9,SNR=4.5						
BRTR	Keskin Array B	88.64	310	P	P	17 19 09.1	-1.1
	0.5nm,0.7s,baz=64,slow=11,SNR=2.4						
FINES	FINESS Array B	90.05	332	P	P	17 19 13.7	-2.4
	1.2nm,0.7s,baz=357,slow=3.8,SNR=6.1						
YKA	Yellowknife Ar	97.84	24	P	Pdif	17 19 52.9	+1.0
	0.6nm,1.1s,baz=276,slow=5.8,SNR=3.7						
TORD	Torodi Ar. Bea	122.11	289	PKP	PKPdf	17 25 09.5	-2.5
	1.0nm,0.9s,baz=33,slow=1.6,SNR=4.1						

IDC 27 17:22:58.8±2.2,13.″36N×92.″00E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.1/53,mbtmp3.2/4,ML3.3/1,Error ellipse: s-maj=64.6km s-min=29.7km az=69.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	8.38	52	Pn	Pn	17 25 01.8	0.0
	0.1nm,0.3s,baz=238,slow=16,SNR=6.8						
MKAR	Makanchi Array	34.32	348	P	P	17 29 46.9	-0.2
	0.1nm,0.5s,baz=158,slow=8.4,SNR=1.2						
WRA	Warramunga Arr	53.20	128	P	P	17 32 18.7	-0.6
	0.2nm,0.6s,baz=307,slow=9.6,SNR=4.8						
ASAR	Alice Springs	55.07	132	P	P	17 32 33.2	+0.3
	0.2nm,0.4s,baz=308,slow=6.8,SNR=20						

NEIC ***27*** *17:37:47.6±1.4,18.″0S±0.″1×178.″2W±0.″1,h589km±7km, mb4.4/38,Error ellipse: s-maj=16.2km s-min=13.4km az=219.0*
IDC ***27*** *17:37:49.7±1.4,17.″86S×178.″49W,h602km±16km, mb3.6/16,mb1 3.8/18,mb1mx3.6/33,mbtmp4.5/18,Error ellipse: s-maj=19.7km s-min=9.3km az=152.0*

ISC 27 17:37:47.1±0.5,18.″01S±0.″08×178.″33W±0.″08,h579km, n96,σ1°13/99,mb4.3/36,2C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.50	58	P	P	17 39 43.4	+2.3
	7.3nm,0.3s,baz=247,slow=3.6,SNR=14						
AFI	Afiamalu	7.50	58	P	P	17 39 41.2	0.0
NIUE	Niue	8.04	99	P	P	17 39 45.4	-0.8
FUNA	Funafuti	9.72	345	P	P	17 40 04.7	+1.9
MARNC	Mare, Loyalty	13.30	253	P	P	17 40 40.0	+1.0
SANVU	Saraoutou	14.09	278	P	P	17 40 48.7	+1.6
PINNC	Pines Island,	14.11	249	P	P	17 40 48.6	+1.3
OUENC	Ouen Island, N	14.59	250	P	P	17 40 52.1	+0.1
DZM	Mont Dzumac	14.87	252	P	P	17 40 55.4	+0.7
	1.7nm,0.3s,baz=72,slow=16,SNR=16						

ONTNC	Ouen Toro	14.91	251	P	P	17 40 56.0	+1.0
ONTNC				IAmb	IAmb	17 41 08.0	
	comp=Z,19nm,0.9s						
KOUNC	Koumac, New Ca	16.61	258	P	P	17 41 13.7	+2.7
OUZ	Omahuta	18.59	201	P	P	17 41 32.6	+3.8
OUZ				IAmb	IAmb	17 41 34.4	
	comp=Z,17nm,1.0s						
BKZ	Black Stump Fm	21.56	191	P	P	17 41 54.8	-0.9
THZ	Tophouse	24.84	196	P	P	17 42 25.6	+0.8
THZ				IAmb	IAmb	17 42 34.5	
	comp=Z,6.4nm,1.0s						
LTZ	Lake Taylor	25.96	196	P	P	17 42 33.9	-0.7
LTZ				IAmb	IAmb	17 42 42.0	
	comp=Z,7.3nm,0.9s						
OXZ	Oxford	26.53	196	P	P	17 42 39.3	-0.3
EIDS	Eidsvold	29.30	250	P	P	17 43 04.5	+0.5
EIDS				IAmb	IAmb	17 43 05.5	
	comp=Z,16nm,1.1s						
ARMA	Armidale	29.96	240	P	P	17 43 10.2	+0.5
ARMA				IAmb	IAmb	17 43 12.3	
	comp=Z,5.9nm,0.8s						
CTAO	Charters Tower	33.50	261	P	P	17 43 40.1	+0.2
CTAO				IAmb	IAmb	17 43 41.0	
	comp=Z,7.6nm,0.8s						
CAN	Canberra	33.70	233	P	P	17 43 42.3	+0.9
PMG	Port Moresby	34.55	280	P	P	17 43 49.9	+1.3
TOO	Toolangi	37.17	231	P	P	17 44 11.3	+1.3
COEN	Coen	37.18	271	P	P	17 44 11.4	+1.1
STKA	Stephens Creek	38.65	241	P	P	17 44 23.4	+1.3
	comp=Z,9.0nm,0.4s,baz=88,slow=9.9,SNR=38						
STKA	Stephens Creek	38.65	241	P	P	17 44 23.4	+1.3
JAY	Jayapura	43.00	286	P	P	17 44 57.7	+0.9
	comp=Z,13nm,0.8s,baz=207,slow=14,SNR=3.4						
BBOO	Buckleboo	43.42	241	P	P	17 45 00.2	+0.4
BBOO				IAmb	IAmb	17 45 01.6	
	comp=Z,13nm,0.8s						
WR0	Warramunga Arr	44.50	260	P	P	17 45 07.7	-0.6
WB0	Warramunga Arr	44.65	260	P	P	17 45 09.0	-0.5
WB0				IAmb	IAmb	17 45 10.3	
	comp=Z,18nm,1.1s						
WB2	Warramunga Arr	44.67	260	P	P	17 45 09.4	-0.2
WB2				IAmb	IAmb	17 45 09.9	
	comp=Z,6.8nm,0.6s						
WRAB	Tennant Creek	44.68	260	P	P	17 45 09.4	-0.3
WRAB				IAmb	IAmb	17 45 09.8	
	comp=Z,6.9nm,0.6s						
WRA	Warramunga Arr	44.69	260	P	P	17 45 09.4	-0.4
	comp=Z,8.5nm,0.4s,baz=95,slow=7.4,SNR=71						
WRA				S	S	17 51 01.7	-3.4
	comp=Z,0.5nm,0.5s,baz=116,slow=1.9,SNR=3.1						
WRA	Warramunga Arr	44.69	260	P	P	17 45 09.4	-0.4
AS31	Alice Springs	44.83	254	P	P	17 45 11.2	+0.3
AS31				IAmb	IAmb	17 45 12.5	
	comp=Z,18nm,1.1s						
ASAR	Alice Springs	44.84	254	P	P	17 45 11.1	+0.2
	comp=Z,25nm,0.4s,baz=89,slow=8.5,SNR=979						
ASAR				PcP	PcP	17 46 40.0	-0.1
	comp=Z,0.9nm,0.5s,baz=100,slow=3.8,SNR=3.0						
ASAR				ScP	ScP	17 49 37.4	-0.5
	comp=Z,0.9nm,1.0s,baz=97,slow=3.9,SNR=4.4						
ASAR				S	S	17 51 03.6	-3.5
	comp=Z,0.7nm,0.9s,baz=85,slow=14,SNR=6.6						
ASAR	Alice Springs	44.84	254	P	P	17 45 10.9	+0.1
ASAR				PcP	PcP	17 46 39.7	-0.4
MTN	Manton Dam	48.87	268	P	P	17 45 40.9	-0.3
MTN				IAmb	IAmb	17 45 42.4	
	comp=Z,5.7nm,0.7s						
FORT	Forrest	50.03	245	P	P	17 45 48.8	-0.8
KNRA	Kununurra	50.55	264	P	P	17 45 53.4	-0.1
KNRA				IAmb	IAmb	17 45 54.7	
	comp=Z,6.7nm,0.7s						
SIJI	Sorong	52.33	283	P	P	17 46 06.5	+0.1
	comp=Z,7.3nm,0.4s,baz=159,slow=7.1,SNR=17						
FITZ	Fitzroy Crossi	53.08	261	P	P	17 46 11.8	0.0
	comp=Z,1.2nm,0.4s,baz=64,slow=7.7,SNR=15						
FITZ	Fitzroy Crossi	53.08	261	P	P	17 46 11.7	0.0
MBWA	Marble Bar	58.12	256	P	P	17 46 45.8	-0.7
VNDA	Vanda	60.35	185	P	P	17 47 01.9	+1.5
	comp=Z,0.8nm,0.6s,baz=352,slow=6.7,SNR=7.3						
MJAR	Matsushiro Arr	68.03	323	P	P	17 47 49.1	-0.5
	comp=Z,0.9nm,0.6s,baz=168,slow=5.1,SNR=8.6						
MJAR	Matsushiro Arr	68.03	323	P	P	17 47 48.8	-0.9
MAJO	Matsushiro	68.03	323	P	P	17 47 48.5	-1.1
UGM	Wanagama	69.72	268	P	P	17 48 00.0	-0.3
NACB	Ninganchiao	72.03	304	P	P	17 48 12.4	-1.2
NACB				IAmb	IAmb	17 48 23.5	
	comp=Z,14nm,0.9s						
QSPA	South Pole Qui	72.05	180	P	P	17 48 13.8	+0.7
QSPA				IAmb	IAmb	17 48 14.9	
	comp=Z,7.2nm,0.8s						
LEM	Lembang	72.79	268	P	P	17 48 18.6	+0.3
	comp=Z,3.2nm,0.3s,baz=88,slow=11,SNR=3.8						
PEA0B	Petropavlovsk-	73.79	345	P	P	17 48 21.9	-1.0
PEA0B				IAmb	IAmb	17 48 27.3	
	comp=Z,7.2nm,1.0s						
PETK	Petropavlovsk-	73.79	345	P	P	17 48 22.7	-0.3
	comp=Z,3.1nm,0.8s,baz=122,slow=7.7,SNR=9.2						
NVAR	Mina Array Bea	79.44	44	P	P	17 48 55.2	+0.7
	comp=Z,3.1nm,0.8s,baz=225,slow=9.1,SNR=23						
MOD	Modoc Plateau	80.11	40	P	P	17 48 57.8	0.0
RND	Reindeer	84.35	13	P	P	17 49 18.1	-0.5
WRH	Wood River Hil	85.45	13	P	P	17 49 22.3	-1.4
WRH				IAmb	IAmb	17 49 24.6	
	comp=Z,9.8nm,1.2s						
ILAR	Eielson Array	85.96	13	P	P	17 49 25.0	-1.2
	comp=Z,1.4nm,0.4s,baz=218,slow=5.0,SNR=45						
ILAR	Eielson Array	85.96	13	P	P	17 49 25.4	-0.9
TXAR	Lajitas Array	85.98	58	P	P	17 49 29.0	+1.7
	comp=Z,6.6nm,1.0s,baz=219,slow=6.0,SNR=35						
PDAR	Pinedale Array	87.37	43	P	P	17 49 34.1	+0.4
	comp=Z,2.4nm,0.9s,baz=214,slow=3.2,SNR=19						
HHC	Hu-ho-hao-te	87.39	314	*e*P	P	17 49 31.5	-2.2
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
COLD	Coldfoot	87.50	11	P	P	17 49 32.2	-1.1
COLD				IAmb	IAmb	17 49 34.5	
	comp=Z,3.6nm,0.9s						
CMAR	Chiang Mai Arr	88.99	290	P	P	17 49 42.6	+1.1
	comp=Z,0.2nm,0.3s,baz=96,slow=2.9,SNR=4.4						
PZH	PanZhiHua	89.27	298	P	P	17 49 44.0	+1.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,6.3s						
VNA3	Neumayer Olymp	90.64	176	P	P	17 49 46.6	-1.6
LZH	Lanzhou	91.01	308	⇑P	P	17 49 50.8	+0.2
LZH				pP	PcP	17 49 56.0	+4.8
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
YKA	Yellowknife Ar	94.39	25	P	P	17 50 04.3	-0.9
	comp=Z,0.6nm,0.8s,baz=241,slow=4.2,SNR=10						
ARCES	ARCESS Array B	126.42	350	PKP	PKPdf	17 55 43.0	-1.2
	comp=Z,1.5nm,0.7s,baz=86,slow=1.0,SNR=8.7						
FINES	FINESS Array B	133.30	344	PKhKP	PKPpre	17 55 53.0	
	comp=Z,3.4nm,1.1s,baz=153,slow=1.3,SNR=3.4						
AKASG	Malin Array Be	140.68	332	PKP	PKiKP	17 56 12.7	-1.5
	comp=Z,0.3nm,0.5s,baz=44,slow=2.7,SNR=4.4						
BRTR	Keskin Array B	144.90	315	PKP	PKPbc	17 56 19.4	-0.6
	comp=Z,0.8nm,0.4s,baz=83,slow=1.9,SNR=10						
CRVS	Cervenica-Dubn	145.25	337	*e*PKP	PKPab	17 56 20.9	-0.9
OSTC	Ostas	145.50	344	*e*PKP	PKPbc	17 56 21.6	+0.3
CHVC	Chvalec	145.52	344	*e*PKP	PKPdf	17 56 19.8	-0.1
CLL	Collm	145.57	347	⇑*i*PKPbc	PKPbc	17 56 20.9	-0.5
	comp=Z,9.0nm,1.0s						
DPC	Dobruska-Polom	145.66	343	*e*PKP	PKPbc	17 56 21.6	-0.2
BRG	Berggiesshubel	145.78	346	*e*PKP	PKPbc	17 56 21.8	-0.2
BRG				Amp		17 56 24.2	
	comp=Z,5.4nm,0.8s						
KRLC	Kraliky	145.78	343	*e*PKP	PKPbc	17 56 21.9	-0.2
PRU	Pruhonice	146.46	345	*e*PKP	PKPbc	17 56 23.4	-0.5
VYHS	Vyhne	146.53	339	*e*PKP	PKPbc	17 56 24.6	+0.4
NKC	Novy Kostel	146.71	347	*e*PKP	PKPbc	17 56 24.6	0.0
KHC	Kasperske Hory	147.49	345	*e*PKP	PKPbc	17 56 26.4	-0.3
KHC				*ex*	x	17 56 30.6	
CKRC	Cesky Krumlov	147.59	344	*e*PKP	PKPbc	17 56 26.7	-0.3
GERES	GERESS Array B	147.72	345	PKPbc	PKPbc	17 56 27.0	-0.4
	comp=Z,1.0nm,0.4s,baz=27,slow=3.3,SNR=18						
CONA	Conrad Observa	147.98	342	*e*P	PKPbc	17 56 26.9	-1.1
	comp=Z,7.0nm,1.2s						
MOA	Molln	148.50	344	*e*P	PKPbc	17 56 29.1	-0.1
	comp=Z,4.3nm,1.6s						
SOKA	Soboth	149.35	342	*e*P	PKPbc	17 56 30.2	-1.3
	comp=Z,3.3nm,1.2s						

KBA	Koelnbreinsper	149.45	344	*e*P	PKPbc	17 56 30.0	-1.8
	comp=Z,4.8nm,0.9s						
WATA	Walderalm	149.63	347	*e*P	PKPbc	17 56 31.4	-0.8
	comp=Z,2.6nm,0.7s						
WTTA	Wattenberg	149.69	346	*e*P	PKPbc	17 56 31.8	-0.6
	comp=Z,3.5nm,0.5s						
SQTA	Sankt Quirin	149.82	347	*e*P	PKPbc	17 56 31.6	-1.0
	comp=Z,2.7nm,0.6s						
ABTA	Abfaltersbach	149.97	345	*e*P	PKPbc	17 56 31.4	-1.6
	comp=Z,5.5nm,0.7s						
DAVA	Damuels	150.03	349	*e*P	PKPbc	17 56 33.0	-0.1
	comp=Z,12nm,1.2s						
FETA	Feichten	150.12	348	*e*P	PKPbc	17 56 32.4	-0.9
	comp=Z,4.7nm,1.0s						
DAVOX	Davos/Dischmat	150.51	348	PKPbc	PKPbc	17 56 33.8	-0.5
	comp=Z,3.5nm,0.5s,baz=353,slow=2.9,SNR=9.3						

CNRM ***27*** *17:44:50.5,35.″55N×3.″70W,h19km,ml3.6*
MDD ***27*** *17:44:51.9±0.4,35.″46N×3.″76W,h15km±4km,mb_Lg2.9/14, Error ellipse: s-maj=3.6km s-min=2.0km az=169.0*
SFS ***27*** *17:44:51.0,35.″43N×3.″75W,ML3.0,ALBORAN SUR*
CRAAG ***27*** *17:44:52.1,35.″51N×3.″73W,Ml3.0*

ISC 27 17:44:51.2±1.1,35.″50N±0.″02×3.″74W±0.″02,h20km±4km, n58,σ1°78/102,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	Palemas	0.33	210	P	Pg	17 44 58.0	-0.3
PALE	Palemas	0.33	210	P	Pg	17 44 58.0	-0.3
PALE				S	Sb	17 45 02.7	-0.5
PVLZ	Peæn de	0.56	235	P	Pg	17 45 01.5	-1.0
PVLZ				S	Sb	17 45 11.1	+1.2
GOG	Mont Gurugu	0.67	114	P	Pg	17 45 04.5	+0.1
GOG	Mont Gurugu	0.67	114	P	Pg	17 45 04.7	+0.3
GOG				S	Sb	17 45 14.2	+1.1
EMEL	Melilla	0.67	107	Pg	Pg	17 45 05.0	+0.5
EMEL				Sg	Sg	17 45 14.2	+0.7
EALB	Alboran	0.72	52	Pg	Pg	17 45 05.4	0.0
EALB				Sg	Sg	17 45 15.5	+0.4
TAF	Taforalt	1.28	122	P	Pn	17 45 14.0	-0.1
TAF	Taforalt	1.28	122	P	Pn	17 45 13.9	-0.2
TAF				S	Sb	17 45 30.9	0.0
SMIR	Smir Dam	1.35	278	P	Pn	17 45 13.2	-1.7
SMIR	Smir Dam	1.35	278	P	Pn	17 45 12.9	-2.0
SMIR				S	Sg	17 45 34.6	-0.2
EMIJ	Mijas	1.35	322	Pn	Pn	17 45 14.3	-0.6
EMIJ				Sn	Sn	17 45 32.2	-0.2
ELGU	Los Guajares,	1.37	4	Pn	Pn	17 45 14.3	-0.9
ELGU				Sn	Sn	17 45 34.4	+1.6
EMAL	Malaga-Limoner	1.38	336	P	Pn	17 45 15.8	+0.5
EMAL				S	Sn	17 45 32.2	-0.7
ECEU	Ceuta	1.39	287	Pn	Pn	17 45 14.7	-1.4
ECEU				Sn	Sn	17 45 30.1	-3.1
JBK	JBK	1.51	140	P	Pn	17 45 17.1	-0.2
JBK	JBK	1.51	140	P	Pn	17 45 17.0	-0.4
JBK				S	Sn	17 45 35.0	-1.6
EBER	Berja	1.56	26	Pn	Pn	17 45 17.3	-0.6
EBER				Sn	Sn	17 45 37.8	+0.1
EBER				*i* Vmb_Lg		17 45 47.3	
EGOR	Sierra Gorda,	1.63	350	Pn	Pn	17 45 19.4	+0.4
EGOR				Sn	Sn	17 45 41.0	+1.5
EGOR				*i* Vmb_Lg		17 45 45.5	
EQUE	Quentar	1.72	8	Pn	Pn	17 45 21.5	+1.4
EQUE				Sn	Sn	17 45 41.8	+0.2
EQUE				*i* Vmb_Lg		17 45 47.3	
SICH	Sidi Chahed	1.90	223	S	Sn	17 45 29.0	-17
SICH	Sidi Chahed	1.90	223	P	Pb	17 45 25.1	-0.1
SICH				S	Sg	17 45 50.5	-2.0
ENIJ	Nijar	1.92	40	Pn	Pn	17 45 22.4	-0.4
ENIJ				Sn	Sn	17 45 46.0	-0.4
ENIJ				*i* Vmb_Lg		17 45 50.5	
LCRM	LCR	2.03	207	P	Pn	17 45 26.0	+1.5
LCRM	LCR	2.03	207	P	Pn	17 45 25.4	+1.0
LCRM				S	Sb	17 45 52.6	+0.2
ESPR	Espera	2.19	309	Pn	Pn

CAHL	Cahill	0.42	259			Pn	17 58 09.2	-0.3
ACHA	Angle Creek He	0.43	281			Pn	17 58 09.3	-0.3
ANCK	Angle Creek	0.52	278			Pn	17 58 10.1	0.0
ANCK						Sn	17 58 23.0	+0.6
KJL	Kejulik	0.56	262			Pn	17 58 10.3	-0.1
KELA	Mount Kelaz	0.71	296			Pn	17 58 11.5	-0.2
PLK2	Peulik 2	1.03	250			Pn	17 58 14.8	+0.1
PLK3	Peulik 3	1.03	245			Pn	17 58 14.8	+0.1
PLK3						Sn	17 58 29.8	-0.9
KDAK	Kodiak Island	1.09	108	P		Pn	17 58 15.6	+0.2
	45nm,0.3s,baz=332,slow=1.2,SNR=2061							
KDAK				S		Sn	17 58 31.8	+0.1
	145nm,0.3s,baz=202,slow=22,SNR=14							
KDAK	Kodiak Island	1.09	108	IAML			17 58 36.9	
	1µm,0.3s							
KDAK				IAML			17 58 37.1	
	708nm,0.5s							
OHAK	Old Harbor	1.13	143			Pn	17 58 15.6	-0.2
OHAK						Sn	17 58 31.3	-1.1
OHAK	Old Harbor	1.13	143	IAML			17 58 31.5	
	comp=E,2µm,0.3s							
OHAK				IAML			17 58 31.5	
	comp=N,2µm,0.4s							
OHAK	Old Harbor	1.13	143	P		Pn	17 58 15.6	-0.2
	baz=323							
OHAK				S		Sn	17 58 31.0	-1.4
	baz=323							
PLK1	Peulik 1	1.16	254			Pn	17 58 16.1	0.0
P18K	Big Mountain,	1.32	344			Pn	17 58 17.6	-0.3
AUH	Augustine H	1.36	24			Pn	17 58 19.5	+1.0
AUL	Augustine Lava	1.38	24			Pn	17 58 19.6	+0.9
AU2	Augustine Isla	1.38	25			Pn	17 58 19.6	+1.0
SII	Sitkinak Islan	1.59	173			Pn	17 58 20.9	-0.4
SII						Sn	17 58 40.6	-1.5
SII	Sitkinak Islan	1.59	173	IAML			17 58 43.3	
	comp=N,976nm,0.6s							
SII				IAML			17 58 50.4	
	comp=E,997nm,0.6s							
SII	Sitkinak Islan	1.59	173	P		Pn	17 58 20.9	-0.4
	baz=352							
SII				S		Sn	17 58 40.2	-1.9
	baz=352							
OPT	Oil Point	1.67	23			Pn	17 58 23.2	+1.0
OPT	Oil Point	1.67	23	P		Pn	17 58 23.2	+1.0
	baz=205							
IVE	Iliamna Volcan	2.04	22			Pn	17 58 28.0	+1.0
O19K	Port Alsworth	2.07	3			Pn	17 58 27.7	+0.5
O19K	Port Alsworth	2.07	3	IAML			17 58 43.7	
	comp=N,319nm,0.4s							
O19K				IAML			17 59 12.5	
	comp=E,624nm,0.4s							
O19K	Port Alsworth	2.07	3	P		Pn	17 58 27.6	+0.3
	baz=184							
O20K	Slope Mountain	2.19	26			Pn	17 58 30.1	+1.2
O20K	Slope Mountain	2.19	26	P		Pn	17 58 30.1	+1.2
	baz=208							
CNPM	China Poot	2.21	49			Pn	17 58 30.0	+1.0
CNPM	China Poot	2.21	49	IAML			17 58 58.1	
	comp=E,262nm,0.3s							
CNPM				IAML			17 58 58.9	
	comp=N,238nm,0.3s							
ANNE	Aniakchak Nort	2.27	239			Pn	17 58 28.8	-1.1
CHIR	Chirikof Islan	2.39	195			Pn	17 58 30.5	-1.0
CHIR	Chirikof Islan	2.39	195	P		Pn	17 58 30.5	-1.0
	baz=14							
RED	Redoubt Volcan	2.46	21			Pn	17 58 33.5	+1.0
BRLK	Bradley Lake	2.50	47			Pn	17 58 33.2	+0.4
BRLK	Bradley Lake	2.50	47	IAML			17 59 03.4	
	comp=E,213nm,0.4s							
BRLK				IAML			17 59 04.3	
	comp=N,258nm,0.1s							
RSO	Redoubt South	2.51	20			Pn	17 58 34.0	+0.9
RDWB	Redoubt West	2.52	19			Pn	17 58 34.3	+1.1
BRSE	Bradley Lake S	2.54	49			Pn	17 58 34.0	+0.6
BRSE	Bradley Lake S	2.54	49	P		Pn	17 58 33.9	+0.6
	baz=232							
NCT	North Crescent	2.57	18			Pn	17 58 35.0	+1.2
RDJH	Redoubt Jeurge	2.62	19			Pn	17 58 35.6	+1.1
DFR	Drift River	2.64	20			Pn	17 58 35.9	+1.1
N19K	Bonanza Creek	2.69	0			Pn	17 58 36.1	+0.7
N19K	Bonanza Creek	2.69	0	P		Pn	17 58 36.1	+0.7
	baz=181							
CHGN	Chignik	2.80	231			Pn	17 58 36.0	-0.8
CHGN	Chignik	2.80	231	IAML			17 59 08.2	
	comp=E,244nm,0.1s							
CHGN				IAML			17 59 11.1	
	comp=N,201nm,0.2s							
CHGN	Chignik	2.80	231	P		Pn	17 58 36.0	-0.8
	baz=48							
SVW2	Sparrevohn	3.02	350			Pn	17 58 39.9	+0.2
VNHG	Veniaminof 1	3.17	235			Pn	17 58 41.9	+0.1
SLKM	Skilak Lake	3.25	41			Pn	17 58 43.0	+0.3
SEW	Seward	3.28	51			Pn	17 58 43.5	+0.4
SEW	Seward	3.28	51	P		Pn	17 58 43.5	+0.4
	baz=235							
SPCR	Spurr Chakacha	3.29	20			Pn	17 58 44.4	+0.9
SPCR	Spurr Chakacha	3.29	20	P		Pn	17 58 44.4	+0.9
	baz=202							
VNFG	Fog Glacier, M	3.30	238			Pn	17 58 43.6	0.0
VNFG	Fog Glacier, M	3.30	238	P		Pn	17 58 43.6	0.0
	baz=54							
SPU	Mount Spurr	3.31	21			Pn	17 58 44.2	+0.7
SPBG	Spurr Blockage	3.32	18			Pn	17 58 45.1	+1.3
SPCN	Chakachatna No	3.32	20			Pn	17 58 44.8	+1.0
O22K	Cooper Landing	3.41	44			Pn	17 58 45.6	+0.8
O22K	Cooper Landing	3.41	44	P		Pn	17 58 45.6	+0.8
	baz=228							
SPCG	Spurr Capps Gl	3.41	21			Pn	17 58 46.2	+1.1
STLK	Strandline Lak	3.64	21			Pn	17 58 49.1	+1.1
M19K	Big River Lodg	3.78	1			Pn	17 58 50.8	+0.8
M20K	Styx River	3.83	10			Pn	17 58 51.8	+1.2
M20K	Styx River	3.83	10	P		Pn	17 58 51.8	+1.2
	baz=191							
RC01	Rabbit Creek A	3.83	37			Pn	17 58 51.0	+0.4
RC01	Rabbit Creek A	3.83	37	IAML			17 59 38.2	
	comp=E,109nm,0.2s							
RC01				IAML			17 59 38.4	
	comp=N,97nm,0.3s							
RC01	Rabbit Creek A	3.83	37	P		Pn	17 58 51.0	+0.4
	baz=221							
L19K	White Mountain	4.07	358			Pn	17 58 54.6	+0.8
L19K	White Mountain	4.07	358	IAML			17 59 56.7	
	comp=N,33nm,2.1s							
L19K	White Mountain	4.07	358	P		Pn	17 58 54.6	+0.8
	baz=178							
PWL	Port Wells	4.17	46			Pn	17 58 55.5	+0.3
PWL	Port Wells	4.17	46	IAML			17 59 42.9	
	comp=E,93nm,0.3s							
PWL	Port Wells	4.17	46	P		Pn	17 58 55.5	+0.3
	baz=232							
M22K	Willow	4.25	30			Pn	17 58 56.9	+0.7
SDPT	Sand Point	4.30	232			Pn	17 58 56.1	-0.8
SDPT	Sand Point	4.30	232	IAML			17 59 43.9	
	comp=N,84nm,2.4s							
L20K	Farewell, AK	4.37	4			Pn	17 58 58.9	+1.1
PMR	Palmer	4.41	36			Pn	17 58 58.5	+0.3
PMR	Palmer	4.41	36	IAML			17 59 47.4	
	comp=E,39nm,0.3s							
PMR				IAML			17 59 48.4	
	comp=N,42nm,0.4s							
KNK	Knik Glacier	4.50	40			Pn	17 58 59.6	0.0
KNK	Knik Glacier	4.50	40	IAML			17 59 51.6	
	comp=N,48nm,0.3s							
GHO	Glory Hole Cre	4.61	35			Pn	17 59 01.2	+0.1
GHO	Glory Hole Cre	4.61	35	IAML			17 59 55.7	
	comp=E,58nm,0.4s							
GHO				IAML			17 59 56.3	
	comp=N,57nm,0.4s							
GLI	Glacier Island	4.68	51			Pn	17 59 01.8	-0.2
GLI	Glacier Island	4.68	51	IAML			17 59 58.3	
	comp=E,77nm,0.2s							
CUT	Chulitna	4.78	24			Pn	17 59 03.6	+0.3
SML	Sawmill	4.82	38			Pn	17 59 04.0	+0.1
SML	Sawmill	4.82	38	IAML			17 59 56.6	
	comp=E,26nm,2.3s							
SML				IAML			18 00 07.4	
	comp=N,35nm,0.9s							
TT01	Tatalina	4.85	352			Pn	17 59 05.2	+1.0
TTA	Tatalina	4.87	352			Pn	17 59 05.0	+0.4
FID	Port Fidalgo	4.87	54			Pn	17 59 04.1	-0.5
FID	Port Fidalgo	4.87	54	IAML			18 00 01.9	
	comp=E,68nm,0.4s							
PPLA	Purkeypile	4.92	13			Pn	17 59 06.5	+1.2
JPK	Jack Peak	4.98	51			Pn	17 59 06.3	+0.2
EYAK	Cordova Ski Ar	5.10	58			Pn	17 59 08.5	+0.8
SCM	Sheep Creek Mo	5.18	41			Pn	17 59 08.9	+0.1
K20K	Telida	5.25	2			Pn	17 59 10.2	+0.5
K20K	Telida	5.25	2	IAML			18 00 30.8	
	comp=E,14nm,4.7s							
K20K				IAML			18 01 11.7	
	comp=N,15nm,4.5s							
DIV	Divide	5.36	52			Pn	17 59 12.0	+0.7
CAST	Castle Rocks	5.44	12			Pn	17 59 13.2	+1.0
KLU	Klutina	5.49	49			Pn	17 59 13.5	+0.4
KAIM	Kayak Island	5.52	67			Pn	17 59 14.2	+0.8
WAT6	Susitna Watana	5.59	34			Pn	17 59 14.3	-0.1
HMT	Hamilton	5.71	93			Pn	17 59 17.1	+1.1
KTH	Kantishna Hill	5.72	16			Pn	17 59 16.4	+0.4
TRF	Thorofare Moun	5.72	19			Pn	17 59 16.5	+0.2
M24K	Tolsona, Glenn	5.77	43			Pn	17 59 17.4	+0.6
NICHA	Nichawak Mount	5.82	64			Pn	17 59 18.5	+1.0
CHUM	Lake Minchumin	5.87	10			Pn	17 59 17.5	-0.5
RND	Reindeer	5.97	25			Pn	17 59 19.0	-0.6
BERG	Berg Lake	5.99	63			Pn	17 59 20.5	+0.7
PS11	TAPS Pump St11	6.01	45			Pn	17 59 21.6	+1.6
J20K	Nowinta River	6.07	2			Pn	17 59 21.1	+0.3
DHY	Denali Highway	6.08	32			Pn	17 59 20.9	-0.1
N25K	Chitina, Valde	6.09	51			Pn	17 59 22.0	+0.8
GRIN	Grindle Hills	6.14	65			Pn	17 59 22.9	+1.1
KHIT	Khitrov Hills	6.22	63			Pn	17 59 23.8	+0.8
BPAW	Bear Paw Mtn.	6.23	14			Pn	17 59 23.5	+0.5
MCK	McKinley	6.24	23			Pn	17 59 23.1	0.0
HARP	HAARP	6.32	43			Pn	17 59 25.2	+1.0
GLB	Gilahina Butte	6.34	54			Pn	17 59 25.3	+0.8
SNH	Sunshine Point	6.35	66	Pn		Pn	17 59 26.3	+1.6
VRDI	Verde Repeater	6.41	56			Pn	17 59 26.0	+0.4
WAX	Waxell Ridge	6.41	64			Pn	17 59 26.4	+0.9
TGL	Tana Glacier	6.52	61			Pn	17 59 28.0	+1.1
BWN	Browne	6.53	20	Pn		Pn	17 59 26.5	-0.5
PAX	Paxson	6.59	39			Pn	17 59 28.2	+0.3
MCARA	McCarthy VSAT	6.66	56			Pn	17 59 29.9	+1.2
ISLE	Juniper Island	6.70	63			Pn	17 59 30.6	+1.1
BAGL	Bagley Icefiel	6.79	64			Pn	17 59 31.9	+1.3
KIAG	Kiagna River	6.79	61			Pn	17 59 31.4	+0.6
PS10	TAPS Pump St10	6.82	35			Pn	17 59 31.6	+0.7
PTPK	Patty Peak	6.83	58			Pn	17 59 32.4	+1.1
BALM	Baldy	6.83	60			Pn	17 59 32.0	+0.7
YAH	Yahtse	6.92	66			Pn	17 59 34.0	+1.4
NEA2	Nenana	6.99	20			Pn	17 59 32.1	-1.2
GRNC	Granite Creek	7.01	63			Pn	17 59 35.1	+1.3
WRH	Wood River Hil	7.07	23			Pn	17 59 33.2	-1.1
MLY	Manley	7.15	13			Pn	17 59 34.6	-0.9
BARN	Barnard Glacie	7.16	60			Pn	17 59 36.8	+1.1
I21K	Tanana	7.17	9			Pn	17 59 36.0	+0.3
MENT	Mentasta	7.18	43			Pn	17 59 36.8	+0.9
TABL	Table Mountain	7.23	66			Pn	17 59 38.5	+1.7
CTGM	Chitina Glacie	7.28	61			Pn	17 59 38.5	+1.2
CCB	Clear Creek Bu	7.28	23			Pn	17 59 35.8	-1.4
RIDG	Independent Ri	7.33	36			Pn	17 59 38.4	+0.5
L26K	Log Cabin Wild	7.37	44			Pn	17 59 39.8	+1.4
LOGN	Logan Glacier	7.39	63			Pn	17 59 39.5	+0.6
I23K	Minto, Yukon-K	7.45	17			Pn	17 59 38.7	-0.9
TCOL	CIGO, UAF Yank	7.47	22			Pn	17 59 39.5	-0.3
COLA	College	7.47	22	Pn		Pn	17 59 38.1	-1.7
MDM	Murphy Dome	7.48	21			Pn	17 59 38.9	-1.0
DOT	Dot Lake	7.52	38			Pn	17 59 41.2	+0.7
M27K	Edge Creek, AK	7.58	51			Pn	17 59 42.4	+1.0
IL31		7.59	26			Pn	17 59 40.2	-1.2
ILAR	Eielson Array	7.59	26	P		Pn	17 59 39.9	-1.5
	comp=N,1.1nm,0.3s,baz=218,slow=14,SNR=44							
ILAR				S		Sn	18 01 00.5	-5.3
	comp=N,1.4nm,0.3s,baz=214,slow=27,SNR=9.3							
H21K	Melozitna Rive	7.59	5			Pn	17 59 42.0	+0.5
SCRK	Sand Creek	7.77	37			Pn	17 59 43.5	-0.4
J25K	Salcha River,	7.84	30			Pn	17 59 44.1	-0.8
IM03		7.89	2			Pn	17 59 45.4	0.0
L27K	Beaver Creek,	7.96	46			Pn	17 59 47.5	+1.1
BC03		7.98	46			Pn	17 59 47.3	+0.7
BCAR	Beaver Creek A	7.98	46	Pn		Pn	17 59 47.3	+0.5
MSW	Makushin Switc	8.06	244			Pn	17 59 46.8	-1.1
ANM	Nome	8.29	326	Pn		Pn	17 59 53.3	+2.5
H24K	Noodor Dome	8.34	19			Pn	17 59 50.4	-1.1
DAWY	Dawson	9.42	45			Pn	18 00 07.1	+0.8
M30M	Minto, Yukon	9.83	56			Pn	18 00 13.1	+1.2
N31M	Braeburn, Yuko	10.01	63			Pn	18 00 15.5	+1.2
WHY	Whitehorse	10.32	68	Pn		Pn	18 00 19.9	+1.3
BMAR	Burnt Mountain	10.36	22	Pn		Pn	18 00 17.1	-1.9
TOLK	Toolik Lake Re	10.78	10	Pn		Pn	18 00 26.2	+1.5
M31M	Drury Creek, Y	10.81	59	Pn		Pn	18 00 26.4	+1.3
C36M	Paulatuk	17.30	37	P		P	18 01 47.4	-0.7
C36M				IAmb		IAmb	18 01 48.8	
	comp=Z,2.2nm,0.8s							
A36M	Sachs Harbour	18.27	29	P		Pn	18 02 00.5	+0.5
A36M				IAmb		IAmb	18 02 31.8	
	comp=Z,3.0nm,0.9s							
YKA	Yellowknife Ar	20.00	61	P		P	18 02 19.8	+2.1
	comp=Z,0.1nm,0.3s,baz=273,slow=9.7,SNR=8.4							
YKA	Yellowknife Ar	20.00	61	P		P	18 02 19.2	+1.6
SPITS	Spitsbergen Ar	43.83	3	P		P	18 05 48.8	+0.2
	comp=Z,12nm,1.0s,baz=354,slow=1.4,SNR=1.9							
SONM	Songino Array	55.25	306	P		P	18 07 16.8	+1.0
	comp=Z,0.5nm,0.6s,baz=45,slow=6.3,SNR=4.5							
EKA	Eskdalemuir Ar	64.56	18	P		P	18 08 18.6	-0.5
	comp=Z,0.3nm,0.4s,baz=334,slow=5.9,SNR=4.6							
AKASG	Malin Array Be	71.48	357	P		P	18 09 01.0	-1.5
	comp=Z,0.5nm,0.4s,baz=7.9,slow=5.9,SNR=5.5							
ESDC	Sonseca Array	79.49	23	P		P	18 09 50.4	+1.9
	comp=Z,1.2nm,1.1s,baz=345,slow=5.4,SNR=4.5							
CMAR	Chiang Mai Arr	82.91	294	P		P	18 10 06.8	0.0
	comp=Z,0.4nm,0.7s,baz=16,slow=5.9,SNR=3.1							

*BJI **27** 18:01:27.0±0.0,52.°20N×168.°70W,h10km,mb5.7/89, mB5.9/82,Ms6.1/99,Ms7 6.1/91*

*NEIC **27** 18:01:29.9,52.°21N×168.°68W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.26; Mθθ-2.46; Mϕϕ0.20; Mrθ2.65; Mθϕ-1.11; Mϕr1.44; Fault plane solution: Mo4.00000×10^17^ NP1:ϕs260.64000°, δ20.88000°,λ106.88000°. NP2:ϕs62.64000°,δ70.06000°, λ83.68000°. Principal axes: T 3.6863, Plg64.0000°, Azm322.0000°; N 0.5593, Plg6.0000°, Azm65.0000°; P -4.2456, Plg25.0000°, Azm158.0000°;*

*MOS **27** 18:01:29.4±1.1,52.°27N×168.°77W,h16km,mb6.0/59, MS5.7/64 Error ellipse: s-maj=8.0km s-min=4.6km az=102.0*

*NEIC **27** 18:01:31.0±2.2,52.°18N±0.°05×168.°66W±0.°07,h16km±1km, mb5.8/426,Ms_20 5.6/287,Mwb5.7/58,Mww5.8, ML5.2(AEIC),Error ellipse: s-maj=8.3km s-min=6.7km az=206.0*

*IDC **27** 18:01:31.4±1.2,52.°37N×168.°81W,h16km±7km,mb5.2/61, mb1 5.3/62,mb1mx5.2/71,mbtmp5.3/62,ML4.3/1,MS5.3/4, Ms1 5.3/4,ms1mx4.8/22,Error ellipse: s-maj=10.3km s-min=6.5km az=173.0*

*AEIC **27** 18:01:32±2.2,52.°15N±0.°06×168.°60W±0.°07,h26km±3km, Error ellipse: s-maj=9.2km s-min=6.2km az=176.0*

*GCMT **27** 18:01:35.0±0.1,52.°11N±0.°01×168.°63W±0.°01,h19km, MW5.7/163,Moment Tensor Solution. s140,c268; s163,c490; Duration: 1ŝ8 Moment tensor: Scale 10^17^ Nm; Mrr3.97±.04; Mθθ-2.66±.03; Mϕϕ-1.32±.03; Mrθ2.42±.08; Mθϕ-1.78±.02; Mϕr1.49±.08; Best double couple: Mo4.85100×10^17^ NP1:ϕs234.00000°,δ27.00000°, λ87.00000°. NP2:ϕs57.00000°,δ63.00000°,λ92.00000°. Principal axes: T 4.8920, Plg72.0000°, Azm331.0000°; N -0.0920, Plg1.0000°, Azm236.0000°; P -4.8100, Plg18.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 18:01:36,52.°02N×168.°98W,h18km,Moment Tensor Solution. Duration: 12ŝ0 Moment tensor: Scale 10^17^Nm; Mrr3.17; Mθθ-2.48; Mϕϕ-0.69; Mrθ5.08; Mθϕ-1.42; Mϕr3.99; Fault plane solution: Mo7.22000×10^17^ NP1: ϕs249.00000°,δ14.00000°,λ106.00000°. NP2: ϕs53.00000°,δ77.00000°,λ86.00000°. Principal axes: T 7.2028, Plg58.0000°, Azm318.0000°; N 0.0263, Plg4.0000°, Azm54.0000°; P -7.2291, Plg32.0000°, Azm146.0000°;*

*BGR **27** 18:01:52.5±0.0,53.°68N×168.°39W,h131km±2km,mb6.0*

ISC 27 18:01:31.1±0.4,52.°16N±0.°03×168.°75W±0.°02,h17km±1km, h17km:pP-P,n1596,σ1ŝ85/1662,mb5.8/448,MS5.7/228, 167C-51D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.82	356	Pg	Pg	18 01 47.2	+0.1
NIKH	Nikolski High	0.82	356		Sn	18 01 59.8	+0.3
NIKH	Nikolski High	0.82	356	P	Pg	18 01 47.0	-0.1
	baz=170,SNR=610						
OKSO	Okmok South	1.26	16		Pn	18 01 53.4	-0.5
OKSO					Sn	18 02 10.3	0.0
OKFG	Magazine Ridge	1.36	22		Pn	18 01 54.4	-0.8
OKFG					Sn	18 02 11.1	-1.7
MSW	Makushin Switc	2.12	33		Pn	18 02 05.7	-0.1
MSW					Sn	18 02 32.0	+0.2
UNV	Unalaska Valle	2.17	38	Pn	Pn	18 02 05.7	-0.7
UNV	Unalaska Valle	2.17	38		Sn	18 02 32.5	-0.3
UNV	Unalaska Valle	2.17	38	P	Pn	18 02 05.5	-0.8
	baz=218,SNR=192						
MTBL	Makushin Table	2.21	34		Pn	18 02 06.9	0.0
AKMO	Akutan Morgan	2.25	39		Pn	18 02 11.5	-0.1
AKBBA	Akutan Broad B	2.58	40		Pn	18 02 12.2	+0.1
AHB	Akutan Harbor	2.64	41		Pn	18 02 13.2	+0.4
AKSA	Akutan Strait	2.71	42		Pn	18 02 14.1	+0.3
KOFP	Korovin Flat P	3.29	274		Pn	18 02 24.2	+2.4
ATKA	Atka Island	3.35	273		Pn	18 02 24.5	+1.9
ATKA					Sn	18 03 04.7	+2.8
KOKL	Mount Kliuchef	3.35	275		Pn	18 02 25.1	+2.3
WESE	West Dahl East	3.41	45		Pn	18 02 23.7	+0.2
SSLN	Shishaldin Nor	3.89	45		Pn	18 02 30.6	+0.5
BRPK	Brown Peak	3.90	48		Pn	18 02 30.5	+0.3
FALS	False Pass	4.18	48	Pn	Pn	18 02 33.2	-0.8
FALS	False Pass	4.18	48	P	Pn	18 02 34.6	+0.6
	baz=231						
GSTR	Great Sitkin T	4.50	272	Pn	Pn	18 02 40.0	+1.5
GSMY	Great Sitkin M	4.51	271		Pn	18 02 40.3	+1.8
GSTD	Great Sitkin T	4.56	272		Pn	18 02 41.4	+2.1
GSTD					Sn	18 03 34.6	+2.8
GSCK	Great Sitkin C	4.57	271		Pn	18 02 41.4	+2.0
ADK	Adak	4.91	270	P	Pn	18 02 45.4	+1.4
ADK						18 03 43.5	
ADK	Adak	4.91	270	Pn	Pn	18 02 45.4	+1.4
SPIA	Saint Paul Isl	5.11	351	Pn	Pn	18 02 49.1	+2.5
SPIA	Saint Paul Isl	5.11	351	P	Pn	18 02 49.2	+2.5
	baz=169,SNR=16						
PS4A	Pavlof South-4	5.19	49		Pn	18 02 48.9	+1.0
KIWB	Kanaga Island	5.20	270		Pn	18 02 49.8	+1.8
KIKV	Kanaga Island	5.21	270		Pn	18 02 50.3	+2.2
KICM	Kanaga Island	5.22	271		Pn	18 02 50.7	+2.4
KIMD	Kanaga Island	5.26	269		Pn	18 02 50.7	+1.9
BLHA	Black Hill	5.31	45		Pn	18 02 50.5	+1.0
TAPA	Tanaga Point A	5.61	270		Pn	18 02 55.9	+2.2
TAFP	Tanaga Falls P	5.71	271		Pn	18 02 57.3	+2.3
TASE	Tanaga Southea	5.75	270		Pn	18 02 58.2	+2.6
SDPT	Sand Point	5.86	54	Pn	Pn	18 02 57.2	+0.2
SDPT	Sand Point	5.86	54	P	Pn	18 02 57.4	+0.4
	baz=240						
VNFG	Fog Glacier, M	6.79	49		Pn	18 03 11.6	+1.6
VNHG	Veniaminof 1	6.94	50		Pn	18 03 12.6	+0.6
CHGN	Chignik	7.34	51		Pn	18 03 17.7	+0.4
CHGN	Chignik	7.34	51	P	Pn	18 03 19.1	+1.7
	baz=240,SNR=22						
AZAC	Aniakchak	7.74	48		Pn	18 03 25.1	+2.1
ANNE	Aniakchak Nort	7.83	48		Pn	18 03 26.1	+2.0
CHIR	Chirikof Islan	8.56	59		Pn	18 03 33.3	-0.8
CHIR	Chirikof Islan	8.56	59	P	Pn	18 03 33.6	-0.4
	baz=250						
SII	Sitkinak Islan	9.57	57		Pn	18 03 47.8	-0.2
SII	Sitkinak Islan	9.57	57	P	Pn	18 03 48.9	+0.9
	baz=249,SNR=9.9						
CAHL	Cahill	9.70	47		Pn	18 03 51.3	+1.6
KELA	Mount Kelaz	9.72	45		Pn	18 03 51.9	+1.9
OHAK	Old Harbor	10.28	54	Pn	Pn	18 03 56.9	-1.2
OHAK	Old Harbor	10.28	54	P	Pn	18 03 56.5	-1.1
	baz=247,SNR=12						
SHEM	Shemya Is, Ala	10.49	280	Pn	Pn	18 03 56.8	-3.7
	19nm,0.3s,baz=111,slow=23,SNR=1.9						
P18K	Big Mountain,	10.50	41	Pn	Pn	18 04 02.0	+1.4
P18K	Big Mountain,	10.50	41	P	Pn	18 04 01.9	+1.2
	baz=232						
KDAK	Kodiak Island	10.86	52	Pn	Pn	18 04 04.0	-1.5
	22nm,0.3s,baz=258,slow=6.4,SNR=66						
KDAK					Sn	18 05 58.9	-7.4
	baz=275,slow=23,SNR=0.7						
KDAK	Kodiak Island	10.86	52	Pn	Pn	18 04 03.7	-1.7
KDAK	Kodiak Island	10.86	52	P	Pn	18 04 03.9	-1.5
	baz=246						
O19K	Port Alsworth	11.36	39		Pn	18 04 13.9	+1.6
O19K	Port Alsworth	11.36	39	P	Pn	18 04 14.6	+2.3
	baz=231						
N19K	Bonanza Creek	11.70	37	Pn	Pn	18 04

MCK S **Sn** **18 08 08.2 +6.8**
baz=231
KAIM **Kayak Island** **15.59 51** IAmb IAmb 18 05 30.6
comp=Z,586nm,1.1s
KAIM **Kayak Island** **15.59 51** P **Pn** **18 05 08.4 -1.4**
baz=251
I21K **Tanana** **15.62 27** P **Pn** **18 05 10.6 +0.5**
baz=221,SNR=178
BWN **Browne** **15.67 32** IAmb IAmb 18 05 23.7
comp=Z,716nm,1.3s
M24K **Tolsona, Glenn** **15.70 42** IAmb IAmb 18 05 15.9
comp=Z,547nm,0.8s
M24K **Tolsona, Glenn** **15.70 42** P **Pn** **18 05 08.4 -2.9**
baz=241,SNR=66
DHY **Denali Highway** **15.74 38** P **Pn** **18 05 08.8 -3.0**
baz=236,SNR=62
H21K **Melozitna Rive** **15.77 25** P **Pn** **18 05 12.5 +0.4**
baz=218,SNR=159
HMT **Hamilton** **15.80 49** IAmb IAmb 18 05 32.7
comp=Z,980nm,1.4s
MLY **Manley** **15.87 29** IAmb IAmb 18 05 18.9
comp=Z,768nm,1.2s
MLY **Manley** **15.87 29** P **Pn** **18 05 12.8 -0.6**
baz=224,SNR=535
MLY S **Sn** **18 08 11.5 +2.8**
baz=224
SUCK **Suckling Hills** **15.94 50** IAmb IAmb 18 05 34.0
comp=Z,2µm,1.5s
NEA2 **Nenana** **16.08 32** P **Pn** **18 05 15.7 -0.4**
baz=228,SNR=81
BERG **Berg Lake** **16.08 49** IAmb IAmb 18 05 36.1
comp=Z,508nm,0.8s
N25K **Chitina, Valde** **16.14 45** P **Pn** **18 05 13.9 -3.0**
baz=245,SNR=54
RDOG **Red Dog Mine** **16.20 8** P **P** **18 05 22.8 +2.1**
baz=193,SNR=20
RDOG S **S** **18 08 32.2 +2.7**
baz=193
HARP **HAARP** **16.26 42** P **Pn** **18 05 17.1 -1.3**
baz=242,SNR=90
I23K **Minto, Yukon-K** **16.37 30** IAmb IAmb 18 05 36.2
comp=Z,846nm,1.4s
I23K **Minto, Yukon-K** **16.37 30** P **Pn** **18 05 18.9 -0.8**
baz=226,SNR=237
I23K S **S** **18 08 37.0 +4.1**
baz=226
PAX **Paxson** **16.42 40** P **Pn** **18 05 19.0 -1.4**
baz=239,SNR=73
TGL **Tana Glacier** **16.61 49** IAmb IAmb 18 05 34.5
comp=Z,873nm,0.9s
TCOL **CIGO, UAF Yank** **16.66 32** P **Pn** **18 05 22.8 -0.6**
baz=230,SNR=47
TCOL S **S** **18 08 40.2 +1.3**
baz=230
COLA **College** **16.66 32** P **Pn** **18 05 20.9 -2.5**
COLA pmax pmax
comp=Z,207nm,1.0s
COLA **College** **16.66 32** **Pn** **18 05 20.9 -2.5**
MCARA **McCarthy VSAT** **16.75 46** P **Pn** **18 05 22.4 -2.1**
baz=248,SNR=60
ISLE **Juniper Island** **16.79 49** IAmb IAmb 18 05 47.3
comp=Z,866nm,1.0s
IL31 **16.92 33** **Pn** **18 05 25.1 -1.5**
ILAR **Eielson Array** **16.92 33** Pn **Pn** **18 05 22.3 -4.4**
comp=Z,1.0nm,0.3s,baz=232,slow=11,SNR=90
ILAR ScP **ScP** **18 13 46.9 +0.7**
baz=283,slow=3.6,SNR=6.9
ILAR **Eielson Array** **16.92 33** P **Pn** **18 05 24.3 -2.4**
ILAR **Eielson Array** **16.92 33** **Pn** **18 05 24.3 -2.4**
POKR **Poker Plat Res** **16.95 32** P **Pn** **18 05 25.4 -1.8**
baz=230,SNR=35
POKR S **S** **18 08 40.6 -4.3**
baz=230
RIDG **Independent Ri** **17.06 38** P **Pn** **18 05 26.5 -2.0**
baz=238,SNR=56
GRNC **Granite Creek** **17.10 49** IAmb IAmb 18 05 46.9
comp=Z,539nm,1.0s
H24K **Noodor Dome** **17.29 30** P **Pn** **18 05 29.6 -1.8**
baz=227,SNR=312
L26K **Log Cabin Wild** **17.29 41** P **Pn** **18 05 30.9 -0.6**
baz=243,SNR=80
L26K S S 18 09 12.7 +21
baz=243
TABL **Table Mountain** **17.31 51** IAmb IAmb 18 05 49.7
comp=Z,1µm,1.0s
J25K **Salcha River,** **17.35 35** P **Pn** **18 05 29.9 -2.3**
baz=235,SNR=169
CTG **Chitna Glacier** **17.37 49** P **Pn** **18 05 30.9 -1.6**
baz=252,SNR=66
CTGM **Chitina Glacie** **17.37 49** IAmb IAmb 18 05 49.1
comp=Z,658nm,1.0s
LOGN **Logan Glacier** **17.48 49** IAmb IAmb 18 05 51.6
comp=Z,570nm,1.0s
SCRK **Sand Creek** **17.51 38** P **Pn** **18 05 32.1 -2.1**
baz=239,SNR=90
M27K **Edge Creek, AK** **17.62 44** P **Pn** **18 05 33.6 -2.0**
baz=247,SNR=156
PCA **Pinnacle** **17.64 52** IAmb IAmb 18 05 52.6
comp=Z,588nm,1.1s
PINM **Pinnacle** **17.64 52** P **Pn** **18 05 35.0 -0.8**
baz=256
PINM S **S** **18 08 59.2 +0.1**
baz=256
COLD **Coldfoot** **17.65 24** P **Pn** **18 05 36.0 +0.2**
baz=220,SNR=77
BCPM **Bancas Point** **17.91 53** IAmb IAmb 18 05 55.4
comp=Z,529nm,1.1s
L27K **Beaver Creek,** **17.93 42** P **Pn** **18 05 37.0 -2.4**
baz=245,SNR=48
L27K S **S** **18 09 15.2 +10**
baz=245
J26L **Joseph Creek** **17.94 37** P **Pn** **18 05 37.2 -2.3**
baz=238,SNR=300
PNL **Peninsula** **17.97 54** P **Pn** **18 05 39.5 -0.3**
baz=258,SNR=16
PNL S **S** **18 09 06.7 +1.1**
baz=258
TOLK **Toolik Lake Re** **18.90 22** P **P** **18 05 50.3 -0.2**
baz=218,SNR=36
TOLK S **S** **18 09 23.2 -1.2**
baz=218
EGAK **Eagle** **18.97 38** P **P** **18 05 49.3 -2.0**
baz=241,SNR=56
DAWY **Dawson** **19.34 41** P **P** **18 05 54.5 -0.9**
baz=246,SNR=120
DAWY S **S** **18 09 40.9 +7.5**
baz=246
PET **Petropavlovsk** **19.73 285***c i* P **P** **18 05 59.4 -0.2**
PET *e*S **S** **18 09 32.9 -8.3**
PET pmax pmax
comp=Z,319nm,0.7s
PET pmax pmax
comp=Z,4µm,7.3s
PET pmax pmax
comp=Z,252nm,1.3s
PET MLR MLR
comp=Z,19µm,20.0s
PET MLR MLR
comp=Z,16µm,21.0s
PET **Petropavlovsk** **19.73 285** P **P** **18 05 59.3 -0.2**
SIT **Sitka** **19.84 62** P **Pn** **18 06 01.7 -0.6**
baz=270,SNR=9.7
SIT S **Sn** **18 09 48.4 +3.8**
baz=270
M30M **Minto, Yukon** **19.92 46** P **P** **18 06 01.1 -0.5**
M30M **Minto, Yukon** **19.92 46** P **P** **18 06 01.6 -0.1**
baz=253,SNR=69
M30M S **Sn** **18 09 48.3 +1.7**
baz=253
BILL **Bilibino** **19.97 332***d i* P **P** **18 06 02.3 +0.3**
BILL pmax pmax
comp=Z,446nm,1.2s
BILL MLR MLR
comp=Z,15µm,16.0s
BILL **Bilibino** **19.97 332** P **P** **18 06 01.5 -0.5**
BILL IAmb IAmb 18 06 13.4
comp=Z,356nm,1.1s
J29M **Klondike Camp** **19.97 40** P **Pn** **18 06 03.3 -0.6**
baz=246,SNR=17
SKAG **Skagway** **19.98 55** IAmb IAmb 18 06 30.4
comp=Z,516nm,1.1s
SKAG **Skagway** **19.98 55** P **Pn** **18 06 03.9 0.0**
baz=263,SNR=42
SKAG S **Sn** **18 09 48.7 +0.7**
baz=263
A21K **Barrow** **19.99 11** P **P** **18 06 02.1 -0.2**
baz=202,SNR=26
N31M **Braeburn, Yuko** **20.10 49** P Pn 18 06 05.4 -0.1
baz=257,SNR=284
N31M S **S** **18 09 49.4 +0.9**
baz=257
BESE **Bessie Mountai** **20.14 58** P **P** **18 06 03.2 -0.9**
BESE IAmb IAmb 18 06 22.1
comp=Z,816nm,1.4s
PEA0B **Petropavlovsk-** **20.28 286***c i* P **P** **18 06 05.4 -0.2**
PEA0B **Petropavlovsk-** **20.28 286** P **P** **18 06 05.0 -0.7**
PEA0B IAmb IAmb 18 06 08.1
comp=Z,352nm,0.8s
PETK **Petropavlovsk-** **20.28 286** P **P** **18 06 05.1 -0.5**
comp=Z,162nm,0.6s,baz=87,slow=13,SNR=204
PETK PcP **PcP** **18 10 19.5 +1.0**
comp=Z,8.5nm,0.9s,baz=113,slow=3.7,SNR=2.8
PETK ScP **ScP** **18 13 55.4 +1.6**
comp=Z,15nm,1.0s,baz=100,slow=6.2,SNR=7.8
PETK **Petropavlovsk-** **20.28 286** P **P** **18 06 05.3 -0.3**
PETK 18 10 19.6
PETK **Petropavlovsk-** **20.28 286** P **P** **18 06 05.3 -0.3**
PETK **PcP** **18 10 19.6 +1.1**
PETK ScP **ScP** **18 13 55.2 +1.4**
I29M **Ogilvie Camp,** **20.32 38** P **P** **18 06 03.6 -2.3**
I29M IAMs_20 IAMs_20 18 14 21.0
comp=Z,26µm,18.0s
I29M **Ogilvie Camp,** **20.32 38** P **P** **18 06 03.9 -2.1**
baz=244,SNR=54
WHY **Whitehorse** **20.37 52** P **P** **18 06 07.7 +1.0**
baz=260,SNR=115
WHY S Sn 18 09 57.6 0.0
baz=260
JIS **Juneau Island** **20.37 59** P **P** **18 06 05.1 -1.4**
JIS IAmb IAmb 18 06 30.8
comp=Z,364nm,1.2s
M31M **Drury Creek, Y** **20.90 48** IAmb IAmb 18 06 32.8
comp=Z,368nm,0.9s
M31M IAMs_20 IAMs_20 18 15 27.4
comp=Z,24µm,19.0s
M31M **Drury Creek, Y** **20.90 48** P **P** **18 06 12.9 +0.6**
baz=257,SNR=152
M31M S Sn 18 10 08.4 -1.9
baz=257
CRAG **Craig** **21.15 67** P **P** **18 06 18.4 +3.5**
baz=276,SNR=5.8
CRAG S Sn 18 10 14.3 -1.8
baz=276
P33M **Teslin, Yukon** **21.32 54** P **P** **18 06 17.9 +1.0**
P33M IAmb IAmb 18 06 36.3
comp=Z,663nm,1.2s
P33M IAMs_20 IAMs_20 18 15 17.5
comp=Z,20µm,20.0s
P33M **Teslin, Yukon** **21.32 54** P **P** **18 06 18.6 +1.7**
baz=264,SNR=110
P33M S **S** **18 10 14.1 +1.2**
baz=264
EPYK **Eagle Plains** **21.35 36** IAMs_20 IAMs_20 18 15 12.3
comp=Z,24µm,18.0s
EPYK **Eagle Plains** **21.35 36** P **P** **18 06 14.9 -2.2**
baz=244,SNR=408
WRAK **Wrangell Islan** **21.50 64** P P 18 06 26.8 +8.1
baz=274,SNR=11
WRAK S Sn 18 10 23.6 -0.9
baz=274
SKR **Severo-Kuril's** **21.83 280***e* P **P** **18 06 21.4 -0.9**
SKR *e*S Sn 18 10 29.3 -3.3
SKR pmax pmax
comp=Z,77nm,0.9s
SKR pmax pmax
comp=Z,2µm,10.0s
SKR MLR MLR
comp=Z,6µm,21.0s
DLBC **Dease Lake** **22.67 59** P **P** **18 06 32.1 +0.8**
comp=Z,52nm,1.0s,baz=258,slow=8.2,SNR=33
DLBC S **S** **18 10 38.8 +0.2**
comp=Z,16nm,1.0s,baz=186,slow=18,SNR=1.3
SEY **Seymchan** **23.09 313** P **P** **18 06 34.4 -1.2**
comp=Z,47nm,0.7s,baz=102,slow=9.8,SNR=91
SEY PcP **PcP** **18 10 24.6 +0.8**
comp=Z,20nm,0.8s,baz=161,slow=1.8,SNR=4.8
SEY S **S** **18 10 50.9 +5.3**
comp=Z,8.4nm,0.8s,baz=141,slow=6.5,SNR=1.1
SEY **Seymchan** **23.09 313***c i* P **P** **18 06 35.0 -0.6**
SEY pmax pmax
comp=Z,258nm,1.6s
SEY MLR MLR
comp=Z,27µm,16.0s
INK **Inuvik** **23.32 33** P **P** **18 06 34.9 -2.9**
comp=Z,52nm,0.5s,baz=230,slow=11,SNR=60
INK S **S** **18 10 43.3 -5.9**
comp=Z,28nm,0.9s,baz=221,slow=22,SNR=3.1
INK ScP **ScP** **18 14 02.2 +1.1**
comp=Z,6.1nm,0.9s,baz=222,slow=7.8,SNR=4.3
INK **Inuvik** **23.32 33** P **P** **18 06 34.2 -3.6**
INK pmax pmax
comp=Z,172nm,1.1s
INK **Inuvik** **23.32 33** P **P** **18 06 34.2 -3.6**
INK **Inuvik** **23.32 33** P **P** **18 06 35.8 -2.0**
baz=244,SNR=66
INK S **S** **18 10 43.1 -6.1**
baz=244
MA2 **Magadan** **23.58 304** P **P** **18 06 40.0 -0.4**
comp=Z,37nm,0.6s,baz=87,slow=9.5,SNR=78
MA2 PP **PnPn** **18 07 07.9 +0.6**
comp=Z,22nm,0.7s,baz=106,slow=17,SNR=6.5
MA2 S **S** **18 10 56.7 +3.1**
comp=Z,13nm,0.8s,baz=166,slow=12,SNR=2.6
MA2 LR LR 18 16 21.2
comp=Z,15µm,18.0s,baz=88,slow=38
MA2 **Magadan** **23.58 304***c i* P **P** **18 06 40.2 -0.2**
MA2 pmax pmax
comp=Z,235nm,2.0s
MA2 MLR MLR
comp=Z,18µm,17.0s
MA2 **Magadan** **23.58 304** P **P** **18 06 39.4 -1.0**
TGTN **Hyland Airport** **23.66 51** P **P** **18 06 41.4 0.0**
baz=265,SNR=171
TGTN S **S** **18 10 58.1 +3.0**
baz=265
BBB **Bella Bella** **24.70 74** P **P** **18 06 52.2 +1.3**
comp=Z,42nm,1.2s,baz=243,slow=6.8,SNR=2.4
BBB S **S** **18 11 14.9 +3.3**
comp=Z,34nm,1.3s,baz=265,slow=9.9,SNR=1.4
C36M **Paulatuk** **26.89 33** IAmb IAmb 18 07 15.0
comp=Z,226nm,1.4s
C36M IAMs_20 IAMs_20 18 18 41.8
comp=Z,12µm,18.0s
C36M **Paulatuk** **26.89 33** P **P** **18 07 09.3 -1.2**
baz=253,SNR=135
C36M S **S** **18 11 44.5 -1.6**
baz=253
A36M **Sachs Harbour** **27.43 28** P **P** **18 07 13.9 -1.4**
A36M **Sachs Harbour** **27.43 28** P **P** **18 07 14.5 -0.8**
baz=247,SNR=89
KUR **Kuril'sk** **29.10 274***c i* P **P** **18 07 27.8 -2.7**
KUR *e* 18 08 19.8
KUR *i* PPP PPP 18 08 34.5
KUR *e*SSS SSS 18 14 16.0
KUR pmax pmax
comp=E,2µm,4.8s
KUR pmax pmax
comp=Z,2µm,4.8s
KUR pmax pmax
comp=N,164nm,1.3s
KUR pmax pmax
comp=E,295nm,1.3s
KUR pmax pmax
comp=Z,447nm,1.3s
KUR MLR MLR
comp=Z,8µm,16.0s
KUR MLR MLR
comp=E,2µm,13.0s
KUR MLR MLR
comp=N,8µm,15.0s
A04D **Lummi Island** **29.14 78** S **S** **18 12 26.3 +4.4**
baz=294
D03D **Eldon** **29.42 81** P **P** **18 07 35.5 +2.1**
baz=296
D03D S **S** **18 12 32.1 +5.8**
baz=296
B05A **Bryant** **29.70 79** P **P** **18 07 39.3 +3.5**
baz=295,SNR=10.0
B05A S **S** **18 12 34.0 +3.3**
baz=295
TYV **Tymovskoe** **29.82 287***e* P **P** **18 07 37.9 +1.0**
TYV *e*S **S** **18 12 36.8 +4.2**
TYV pmax pmax
comp=Z,41nm,1.2s
TYV pmax pmax
comp=Z,1µm,5.0s
TYV smax smax
comp=N,9,0nm,1.7s
TYV smax smax
comp=E,10.0nm,1.7s
TYV smax smax
comp=N,600nm,7.4s
TYV smax smax
comp=E,500nm,7.4s
YKA **Yellowknife Ar** **30.10 49** P **P** **18 07 39.3 +0.1**
comp=E,31nm,0.7s,baz=274,slow=7.9,SNR=364
YKA PcP **PcP** **18 10 41.4 +1.2**
comp=E,3.9nm,0.8s,baz=274,slow=3.1,SNR=2.4
YKA ScP **ScP** **18 14 22.2 +0.8**
comp=E,11nm,1.0s,baz=278,slow=3.3,SNR=8.8
YKA P3KPbc 18 39 33.8
comp=E,0.4nm,0.7s,baz=93,slow=5.5,SNR=5.3
YKA P3KP 18 40 44.5
comp=E,3.0nm,0.9s,baz=17,slow=5.1,SNR=26
NKL **Nikolayevsk** **30.18 292***e* P **P** **18 07 38.8 -1.2**
NKL pmax pmax
comp=N,120nm,1.2s
NKL pmax pmax
comp=Z,116nm,1.4s
NKL pmax pmax
comp=E,3.0nm,0.9s
NKL MLR MLR
comp=E,101nm,13.0s
NKL MLR MLR
comp=N,1.0nm,12.0s
NKL MLR MLR
comp=Z,14µm,17.0s
E04D **Cinebar** **30.18 82** P **P** **18 07 43.7 +3.6**
baz=298,SNR=15
E04D S **S** **18 12 44.1 +5.7**
baz=298
C06D **Leavenworth** **30.58 79** S **S** **18 12 48.1 +3.5**
baz=296
UGL **Uglegorsk** **30.88 284***e* P **P** **18 07 47.6 +1.4**
UGL *e*S **S** **18 12 45.9 -3.2**
UGL pmax pmax
comp=Z,120nm,0.9s
UGL smax smax
comp=N,3µm,11.0s
UGL smax smax
comp=E,6µm,11.0s
UGL MLR MLR
comp=E,11µm,17.0s
UGL MLR MLR
comp=N,5µm,12.0s
UGL MLR MLR
comp=Z,13µm,14.0s
YUK **Yuzh-Kuril'sk** **30.94 273***c i* P **P** **18 07 46.3 -0.5**
YUK *i* 18 08 46.6
YUK *i* S **S** **18 12 50.6 +0.4**
YUK *i* SS **SnSn** **18 14 32.1 +1.8**
YUK pmax pmax
comp=Z,1µm,1.3s
YUK pmax pmax
comp=N,389nm,1.4s
YUK pmax pmax
comp=E,557nm,1.2s
J01E **Myrtle Point** **31.06 89** P P 18 07 54.7 +6.8
baz=303
H04D **Lebanon** **31.07 86** P **P** **18 07 51.4 +3.4**
baz=301
H04D S **S** **18 12 57.7 +5.4**
baz=301
I03D **Drain, OR** **31.13 87** P **P** **18 07 50.2 +1.7**
baz=302
I03D S **S** **18 12 58.2 +5.1**
baz=302
F05D **White Salmon** **31.18 82** P P 18 07 53.8 +4.9
baz=299
B08A **Colville Reser** **31.33 77** P **P** **18 07 51.8 +1.5**
B08A IAmb IAmb 18 08 16.1
comp=Z,134nm,1.4s
H04A **Detroit Lake** **31.33 85** P **P** **18 07 51.9 +1.6**
H04A IAmb IAmb 18 08 14.2
comp=Z,96nm,1.0s
YSS **Yuzh-Sakhalins** **31.40 280***ce* P **P** **18 07 50.6 -0.3**
YSS *e**SP **pwP** **18 08 00.0 +0.4**
YSS *e* 18 09 01.0
YSS *e*S **S** **18 12 55.0 -2.4**
YSS *e*SS **SS** **18 15 11.0 -0.6**
YSS pmax pmax
comp=Z,2µm,4.5s
YSS pmax pmax
comp=E,900nm,4.1s
YSS pmax pmax
comp=Z,70nm,0.9s
YSS smax smax
comp=N,2µm,11.7s
YSS MLR MLR
comp=Z,9µm,15.0s
YSS MLR MLR
comp=N,4µm,15.1s
YSS MLR MLR
comp=E,7µm,15.0s
YSS **Yuzh-Sakhalins** **31.40 280** P **P** **18 07 49.3 -1.6**
YSS IAMs_20 IAMs_20 18 18 14.7
comp=Z,13µm,22.0s
K02D **Willamette Mer** **31.47 89** P **P** **18 07 54.6 +2.9**
baz=304
K02D S **S** **18 13 04.3 +5.5**
baz=304
G05D **Wamic, OR** **31.58 83** P **P** **18 07 56.0 +3.5**
baz=300,SNR=5.8
G05D S **S** **18 13 05.2 +4.8**
baz=300
I04A **Tendick Farm,** **31.66 87** P **P** **18 07 56.2 +3.0**
baz=302,SNR=10.0
I04A S **S** **18 13 06.5 +4.9**
baz=302
KIP **Kipapa** **31.79 161** P **P** **18 07 55.8 +1.3**
KIP pmax pmax
comp=Z,249nm,1.5s
KIP MLR MLR
comp=Z,13µm,19.0s
KIP **Kipapa** **31.79 161** P **P** **18 07 55.8 +1.3**
KIP IAmb IAmb 18 08 09.7
comp=Z,249nm,1.4s
KIP **Kipapa** **31.79 161** IAMs_20 IAMs_20 18 21 35.3
comp=Z,13µm,19.0s
L02E **Cave Junction** **31.81 90** P **P** **18 07 58.2 +3.7**
baz=304,SNR=6.7
L02E S **S** **18 13 10.6 +6.7**
baz=304
HON **Honolulu** **31.89 161** P **P** **18 07 56.8 +1.5**
HON pmax pmax
comp=Z,209nm,1.2s
HON **Honolulu** **31.89 161** P **P** **18 07 56.8 +1.5**
HON IAmb IAmb 18 08 18.0
comp=Z,209nm,1.2s
HUMO **Hull Mountain** **31.96 89** IAMs_20 IAMs_20 18 17 04.0
comp=Z,8µm,22.0s
I05D **Terrebonne, OR** **32.03 85** P **P** **18 07 59.6 +3.1**
baz=301,SNR=12
J04D **Umpqua Nationa** **32.14 87** P **P** **18 08 00.9 +3.3**
baz=303
JCC **Jacoby Creek,** **32.31 93** IAMs_20 IAMs_20 18 19 50.4
comp=Z,7µm,18.0s
PINE **Pine Mountain** **32.56 86** P **P** **18 08 01.3 0.0**
PINE IAmb IAmb 18 08 26.5
comp=Z,160nm,1.3s
L04D **Klamath Falls** **32.58 89** P **P** **18 08 04.6 +3.2**
baz=304
L04D S **S** **18 13 20.9 +4.8**
baz=304
YBH **Yreka Blue Hor** **32.60 90** P **P** **18 08 04.2 +2.6**
comp=Z,18nm,1.0s,baz=318,slow=5.7,SNR=14
YBH S **S** **18 13 15.1 -1.3**
comp=Z,1.9nm,1.1s,baz=207,slow=15,SNR=1.4
YBH ScP **ScP** **18 14 30.2 -0.1**
comp=Z,0.5nm,0.3s,baz=42,slow=2.5,SNR=3.7
YBH **Yreka Blue Hor** **32.60 90** P **P** **18 08 03.6 +2.0**
YBH pmax pmax
comp=Z,55nm,1.1s
YBH MLR MLR
comp=Z,6µm,18.0s
YBH **Yreka Blue Hor** **32.60 90** P **P** **18 08 03.6 +2.0**
J05D **Fort Rock, OR** **32.65 87** P **P** **18 08 05.4 +3.4**
baz=303,SNR=13
J05D S **S** **18 13 23.0 +5.8**
baz=303
K04D **Chiloquin, OR** **32.69 88** S **S** **18 13 22.9 +5.1**
baz=304

NEW Newport 32.69 76 P **P** 18 08 03.1 +0.9
comp=Z,15nm,0.8s,baz=299,slow=6.2,SNR=21
NEW S **S** 18 13 15.8 -1.9
comp=Z,4.1nm,1.0s,baz=324,slow=11,SNR=2.2
NEW Newport 32.69 76 IAmb IAmb 18 08 18.7
comp=Z,58nm,0.8s
NEW Newport 32.69 76 IAMs_20 IAMs_20 18 21 24.2
comp=Z,7µm,19.0s
NEW Newport 32.69 76 P **P** 18 08 03.2 +0.9
baz=297,SNR=20
NEW S **S** 18 13 19.1 +1.4
baz=297
M02C Callahan 32.71 91 P **P** 18 08 06.0 +3.5
baz=305,SNR=18
M02C S **S** 18 13 25.0 +6.9
baz=305
JKA Kamikawa-asahi 32.90 276 P **P** 18 08 04.4 +0.3
ASAJ Asahikawa 32.91 276 P **P** 18 08 04.0 0.0
comp=Z,196nm,1.0s,baz=27,slow=5.4,SNR=50
ASAJ LR LR 18 21 02.6
comp=Z,9µm,20.4s,baz=86,slow=36
ASAJ Asahikawa 32.91 276 P **P** 18 08 04.4 +0.3
ASAJ pmax pmax
comp=Z,341nm,1.1s
N02D Trinity Center 33.04 91 P **P** 18 08 08.9 +3.5
baz=306,SNR=18
N02D S **S** 18 13 29.5 +6.3
baz=306
M04C Macdoel 33.11 89 P **P** 18 08 09.3 +3.2
baz=305,SNR=25
M04C S **S** 18 13 29.9 +5.5
baz=305
TIXI Tiksi 33.11 329 P **P** 18 08 04.4 -1.2
comp=Z,41nm,0.7s,baz=90,slow=20,SNR=105
TIXI PcP **PcP** 18 10 48.0 -0.2
comp=Z,19nm,0.9s,baz=90,slow=24,SNR=3.7
TIXI S **S** 18 13 29.9 +6.4
comp=Z,1.9nm,0.7s,baz=272,slow=24,SNR=1.4
TIXI ScP **ScP** 18 14 32.3 +0.9
comp=Z,11nm,1.1s,baz=268,slow=23,SNR=9.2
TIXI Tiksi 33.11 329*c i* P **P** 18 08 05.2 -0.4
TIXI pmax pmax
comp=Z,57nm,0.8s
TIXI MLR MLR
comp=Z,7µm,16.0s
TIXI Tiksi 33.11 329 P **P** 18 08 03.8 -1.8
TIXI IAMs_20 IAMs_20 18 19 41.7
comp=Z,8µm,19.0s
O02D Mt. Diablo Mer 33.46 92 P **P** 18 08 12.3 +3.2
baz=307,SNR=19
O02D S **S** 18 13 36.0 +6.3
baz=307
GRNR Gornyy 33.50 290⇓ *i* P **P** 18 08 09.2 -0.1
GRNR *e*S **S** 18 13 32.6 +2.5
GRNR pmax pmax
comp=E,60nm,0.9s
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=Z,140nm,1.0s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=E,9µm,17.0s
GRNR MLR MLR
comp=N,3µm,16.0s
GRNR MLR MLR
comp=Z,11µm,17.0s
YAK Yakutsk 33.60 311 P **P** 18 08 08.0 -2.0
comp=Z,46nm,0.6s,baz=78,slow=3.8,SNR=66
YAK PcP **PcP** 18 10 49.5 -0.2
comp=Z,33nm,0.8s,baz=323,slow=0.5,SNR=6.6
YAK S **S** 18 13 29.3 -2.0
comp=Z,2.2nm,0.5s,baz=41,slow=16,SNR=1.7
YAK Yakutsk 33.60 311*c i* P **P** 18 08 07.9 -2.0
YAK *e* 18 10 49.2
YAK *e*S **S** 18 13 27.3 -3.9
YAK *e*SS **SS** 18 16 01.6 +5.6
YAK *e* 18 18 33.3
YAK pmax pmax
comp=Z,87nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=E,115nm,1.5s
YAK smax smax
comp=N,749nm,15.6s
YAK smax smax
comp=E,3µm,18.3s
YAK MLR MLR
comp=Z,27µm,17.0s
YAK MLR MLR
comp=E,18µm,16.0s
YAK MLR MLR
comp=N,8µm,18.0s
YAK Yakutsk 33.60 311 P **P** 18 08 07.3 -2.6
YAK IAmb IAmb 18 08 26.9
comp=Z,116nm,0.8s
YAK PcP **PcP** 18 10 49.2 -0.6
HPAH Hawaii Prepara 33.64 157 P **P** 18 08 11.9 +1.1
HPAH IAmb IAmb 18 08 31.1
comp=Z,78nm,1.0s
ERM Erimo 33.70 272 P **P** 18 08 12.6 +1.5
ERM pmax pmax
comp=Z,371nm,1.3s
ERM MLR MLR
comp=Z,11µm,19.0s
ERM Erimo 33.70 272 P **P** 18 08 12.6 +1.5
ERM Erimo 33.70 272 IAMs_20 IAMs_20 18 24 23.9
comp=Z,11µm,19.0s
POHA Pohakuloa 33.95 157 IAMs_20 IAMs_20 18 24 14.2
comp=Z,14µm,18.0s
O03E Paynes Creek 33.99 91 P **P** 18 08 16.1 +2.4
baz=307,SNR=18
O03E S **S** 18 13 41.7 +3.6
baz=307
HOPS Hopland Field 34.00 94 IAMs_20 IAMs_20 18 21 41.0
comp=Z,11µm,18.0s
HMH Humu'ula Sheep 34.11 157 P **P** 18 08 16.1 +1.0
HMH IAmb IAmb 18 08 45.0
comp=Z,261nm,1.5s
WALA Waterton Lakes 34.24 73 P **P** 18 08 16.2 +0.3
JTMT Jette 34.63 75 IAmb IAmb 18 08 44.5
comp=Z,93nm,1.0s
MCCM Marconi Confer 34.64 95 IAMs_20 IAMs_20 18 21 34.1
comp=Z,6µm,18.0s
PLID Pearl Lake 34.90 80 IAMs_20 IAMs_20 18 20 17.7
comp=Z,7µm,20.0s
MSO Missoula 35.27 76 P **P** 18 08 26.5 +1.8
baz=299,SNR=32
MSO S **S** 18 13 57.0 -0.6
baz=299
JOHN Johnston Islan 35.35 181 IAMs_20 IAMs_20 18 24 24.0
comp=Z,12µm,18.0s
RES Resolute Bay 36.40 25 P **P** 18 08 32.5 -1.4
comp=Z,10nm,0.5s,baz=275,slow=10,SNR=58
RES S **S** 18 14 11.8 -2.3
comp=Z,2.4nm,0.8s,baz=178,slow=23,SNR=1.1
SAO San Andreas Ge 36.40 96 IAMs_20 IAMs_20 18 22 47.6
comp=Z,6µm,18.0s
HLID Hailey 36.68 81 P **P** 18 08 37.8 +0.9
baz=303,SNR=58
HLID S **S** 18 14 20.9 +1.6
baz=303
KLR Kul'dur 36.89 290 P **P** 18 08 37.0 -1.3
comp=Z,64nm,1.0s,baz=57,slow=8.6,SNR=96
KLR S **S** 18 14 17.1 -5.0
comp=Z,1.3nm,0.6s,baz=172,slow=18,SNR=1.0
KLR ScP **ScP** 18 14 44.5 -0.9
comp=Z,3.6nm,0.9s,baz=325,slow=16,SNR=4.3
KLR Kul'dur 36.89 290*c i* P **P** 18 08 37.6 -0.8
KLR pmax pmax
comp=Z,129nm,1.1s
KLR MLR MLR
comp=Z,22µm,17.0s
EGMT Eagleton 37.17 72 IAMs_20 IAMs_20 18 24 39.6
comp=Z,5µm,18.0s
EGMT Eagleton 37.17 72 P **P** 18 08 41.6 +0.7
baz=299,SNR=25
EGMT S **S** 18 14 26.8 +0.2
baz=299
BOZ Bozeman (W) 37.28 77 P **P** 18 08 41.7 -0.2
BOZ pmax pmax
comp=Z,109nm,1.2s
BOZ MLR MLR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 37.28 77 P **P** 18 08 41.7 -0.2
BOZ Bozeman (W) 37.28 77 P **P** 18 08 42.5 +0.5
baz=301,SNR=39
BOZ S **S** 18 14 28.2 -0.2
baz=301
NVAR Mina Array Bea 37.28 91 P **P** 18 08 43.2 +1.1
comp=Z,8.4nm,0.9s,baz=294,slow=8.0,SNR=27
NVAR S **S** 18 14 28.1 -0.6
comp=Z,0.5nm,0.7s,baz=278,slow=10.0,SNR=1.4
NVAR ScP **ScP** 18 14 47.4 +0.1
comp=Z,5.3nm,1.1s,baz=283,slow=4.5,SNR=4.6
NVAR PKPPKP **P'P'df** 18 41 36.1 +1.9
comp=Z,0.5nm,0.8s,baz=122,slow=2.7,SNR=3.6
NVAR Mina Array Bea 37.28 91 P **P** 18 08 40.6 -1.5
ZEA Zeya 37.43 299 *e*P **P** 18 08 41.4 -1.6
ZEA *e* 18 10 10.9
ZEA *e*PPP PPP 18 10 33.7
ZEA *e*S **S** 18 14 22.7 -7.5
ZEA *e*SS **SS** 18 17 27.0 +13
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA pmax pmax
comp=E,200nm,3.4s
ZEA pmax pmax
comp=Z,500nm,5.5s
ZEA pmax pmax
comp=N,300nm,9.3s
ZEA pmax pmax
comp=E,600nm,9.3s
ZEA pmax pmax
comp=Z,1µm,9.2s
ZEA smax smax
comp=E,1µm,15.6s
ZEA MLR MLR
comp=N,4µm,16.0s
ZEA MLR MLR
comp=E,5µm,16.0s
ZEA MLR MLR
comp=Z,8µm,17.0s
MLAC Mammoth, Mammo 37.45 93 S **S** 18 14 37.9 +6.6
baz=309
H11N2 WAKE ISLAND Hy 37.53 220 T T 18 49 40.8
baz=24,slow=76,SNR=57
H11N3 WAKE ISLAND Hy 37.53 220 T T 18 49 36.7
baz=24,slow=76,SNR=201
H11N1 WAKE ISLAND Hy 37.55 220 T T 18 49 40.8
baz=24,slow=76,SNR=61
JMM Marumori 37.64 268 IAmb IAmb 18 09 04.7
comp=Z,168nm,1.2s
ELK Elko 37.77 86 P **P** 18 08 47.4 +1.2
comp=Z,9.8nm,1.1s,baz=302,slow=6.2,SNR=11
ELK S **S** 18 14 32.2 -4.0
comp=Z,2.0nm,1.1s,baz=300,slow=19,SNR=1.8
ELK Elko 37.77 86 IAMs_20 IAMs_20 18 21 38.7
comp=Z,7µm,21.0s
YHL Hebgen Lake 37.94 78 IAmb IAmb 18 09 13.6
comp=Z,201nm,1.2s
VOG Valley Oaks Go 37.95 95 P **P** 18 08 50.4 +2.8
baz=311
YHH Holmes Hill 38.17 77 IAmb IAmb 18 09 15.4
comp=Z,167nm,1.1s
TIN Tinemaha, Big 38.19 93 P **P** 18 08 53.1 +3.4
baz=310,SNR=5.3
VES Vestal, Richgr 38.45 95 P **P** 18 08 53.3 +1.5
baz=311,SNR=11
FFC Flin Flon 38.51 59 P **P** 18 08 51.4 -0.6
FFC pmax pmax
comp=Z,44nm,0.9s
FFC MLR MLR
comp=Z,10µm,20.0s
FFC Flin Flon 38.51 59 P **P** 18 08 51.4 -0.6
FFC Flin Flon 38.51 59 IAMs_20 IAMs_20 18 25 23.7
comp=Z,10µm,20.0s
H17A Grant Village 38.55 78 P **P** 18 08 55.0 +2.2
baz=303,SNR=64
CWC Cottonwood Cre 38.68 94 P **P** 18 08 55.7 +1.8
baz=310
CWC S **S** 18 14 54.6 +4.8
baz=310
H11S1 WAKE ISLAND Hy 38.71 219 T T 18 50 38.4
baz=23,slow=76,SNR=1120
H11S2 WAKE ISLAND Hy 38.73 219 T T 18 51 01.7
baz=23,slow=76,SNR=519
H11S3 WAKE ISLAND Hy 38.73 219 T T 18 50 54.2
baz=23,slow=76,SNR=721
GRAC Grapevine Rang 38.76 92 P **P** 18 08 57.2 +2.8
baz=310,SNR=7.3
ISA Isabella, Lake 38.94 95 P **P** 18 08 57.6 +1.6
baz=311,SNR=12
ISA S **S** 18 14 55.8 +2.2
baz=311
RLMT Red Lodge 38.94 76 IAmb IAmb 18 09 21.5
comp=Z,177nm,1.1s
RLMT Red Lodge 38.94 76 P **P** 18 08 56.6 +0.6
baz=302
RLMT S **S** 18 14 54.6 +0.8
baz=302
R11A Troy Canyon, C 39.00 89 P **P** 18 08 58.4 +1.8
baz=309,SNR=50
R11A S **S** 18 14 57.0 +2.3
baz=309
JSD Sado 39.09 270 IAmb IAmb 18 09 00.2
comp=Z,229nm,1.0s
MPMC Manual Prospec 39.29 93 P **P** 18 09 01.2 +2.2
baz=311,SNR=20
MPMC S **S** 18 15 02.5 +3.5
baz=311
USRK Ussuriysk Ar. 39.31 283 P **P** 18 08 57.5 -1.3
comp=Z,22nm,0.6s,baz=52,slow=7.7,SNR=20
USRK PcP **PcP** 18 11 08.9 +1.7
comp=Z,23nm,0.9s,baz=48,slow=2.6,SNR=7.0
FURC Furnace Creek, 39.41 92 P **P** 18 09 02.2 +2.5
baz=310,SNR=15
TPNV Topopah Spring 39.48 91 IAMs_20 IAMs_20 18 24 40.0
comp=Z,7µm,18.0s
TPNV Topopah Spring 39.48 91 P **P** 18 09 02.8 +2.3
baz=310,SNR=28
TPNV S **S** 18 15 05.5 +3.7
baz=310
OSI Osito Audit: C 39.48 96 S **S** 18 15 05.7 +4.0
baz=312
LRMC Laurel Mtn Rad 39.55 94 S **S** 18 15 05.7 +2.9
baz=311
DUG Dugway, Tooele 39.59 85 P **P** 18 09 03.7 +2.3
baz=307,SNR=58
DUG S **S** 18 15 07.6 +4.3
baz=307
EDW2 Edwards Air Fo 39.75 95 P **P** 18 09 04.6 +1.9
baz=312
EDW2 S **S** 18 15 08.1 +2.3
baz=312
LAO LASA Array 39.92 72 IAMs_20 IAMs_20 18 26 27.2
comp=Z,7µm,18.0s
LAO LASA Array 39.92 72 P **P** 18 09 05.0 +1.0
baz=302
LAO S **S** 18 15 09.5 +1.5
baz=302
DECC Green Verdugo 39.96 96 S **S** 18 15 12.5 +3.6
baz=312
VLA Vladivostok 39.97 281*c i* P **P** 18 09 04.8 +0.4
VLA pmax pmax
comp=Z,255nm,1.6s
VLA MLR MLR
comp=Z,11µm,16.0s
MAJO Matsushiro 40.07 269*c i* P **P** 18 09 06.2 +0.9
MAJO pmax pmax
comp=Z,171nm,1.1s
MAJO MLR MLR
comp=Z,8µm,19.0s
MAJO Matsushiro 40.07 269 P **P** 18 09 05.0 -0.3
MAJO IAmb IAmb 18 09 25.7
comp=Z,302nm,1.1s
MAJO Matsushiro 40.07 269 IAMs_20 IAMs_20 18 24 48.5
comp=Z,8µm,20.0s
MJAR Matsushiro Arr 40.07 269 P **P** 18 09 05.8 +0.5
comp=Z,49nm,0.9s,baz=35,slow=6.8,SNR=83
MJAR PcP **PcP** 18 11 10.8 +1.0
comp=Z,17nm,1.0s,baz=20,slow=2.7,SNR=2.2
MJAR Matsushiro Arr 40.07 269 PcP **PcP** 18 11 09.6 -0.2
MJB9 Matsu-Tunnel 40.07 269 P **P** 18 09 05.0 -0.3
MJB9 IAmb IAmb 18 09 25.6
comp=Z,299nm,1.1s
BW06 Boulder Array 40.07 79 IAMs_20 IAMs_20 18 25 55.4
comp=Z,6µm,18.0s
BW06 Boulder Array 40.07 79 P **P** 18 09 06.0 +0.5
baz=305,SNR=78
BW06 S **S** 18 15 11.3 +0.6
baz=305
PDAR Pinedale Array 40.07 79 P **P** 18 09 05.2 -0.3
comp=Z,18nm,0.6s,baz=304,slow=3.8,SNR=137
PDAR S **S** 18 15 04.2 -6.6
comp=Z,0.4nm,0.6s,baz=14,slow=3.6,SNR=0.9
SHOC Shoshone, Teco 40.14 93 P **P** 18 09 08.3 +2.5
baz=311
DGMT Dagmar 40.17 69 IAMs_20 IAMs_20 18 25 23.0
comp=Z,7µm,20.0s
DGMT Dagmar 40.17 69 P **P** 18 09 06.4 +0.3
baz=300
DGMT S **S** 18 15 13.0 +1.2
baz=300
GSC Goldstone, Bar 40.20 94 P **P** 18 09 08.6 +2.1
baz=312,SNR=18
GSC S **S** 18 15 15.9 +3.3
baz=312
BFSC Mount Baldy Ra 40.38 96 P **P** 18 09 10.2 +2.1
baz=312,SNR=9.3
BFSC S **S** 18 15 18.6 +3.3
baz=312
MDJ Mudanjiang 40.52 285 IAMs_20 IAMs_20 18 27 46.8
comp=Z,9µm,18.0s
MDJ Mudanjiang 40.52 285 P **P** 18 09 08.5 -0.4
MDJ pP pP 18 09 13.5 +0.3
MDJ sP sP 18 09 15.5 +0.5
MDJ S **S** 18 15 16.0 -0.8
MDJ sS sS 18 15 24.0 0.0
MDJ pmax pmax
comp=Z,30nm,1.0s
MDJ pmax pmax
comp=Z,1µm,10.2s
MDJ LR LR
comp=Z,6µm,24.2s
MDJ LR LR
comp=Z,3µm,21.6s
TUQ Turquoise Moun 40.66 93 P **P** 18 09 12.6 +2.3
baz=311
TUQ S **S** 18 15 22.4 +3.0
baz=311
ALE Alert 40.71 11 IAMs_20 IAMs_20 18 28 27.3
comp=Z,7µm,18.0s
MSHR Mys Shultsa 40.72 281*c i* P **P** 18 09 11.4 +0.8
MSHR pmax pmax
comp=Z,299nm,1.3s
MSHR MLR MLR
comp=Z,5µm,16.0s
FCC Fort Churchill 40.78 50 IAmb IAmb 18 09 24.4
comp=Z,313nm,1.2s
HEC Hector,Ludlow 40.80 94 P **P** 18 09 13.8 +2.4
baz=312,SNR=6.0
HEC S **S** 18 15 24.9 +3.4
baz=312
BBRC Big Bear Solar 40.82 95 S **S** 18 15 25.9 +3.8
baz=312
MURC Murrieta 41.10 96 P **P** 18 09 15.8 +1.9
baz=313
MURC S **S** 18 15 29.4 +3.6
baz=313
BNX BinXian 41.20 287 ⇑P **P** 18 09 13.0 -1.5
BNX pP **pP** 18 09 16.3 -2.5
BNX sP **sP** 18 09 17.8 -2.8
BNX PP **PP** 18 10 48.8 -0.6
BNX S **S** 18 15 22.0 -5.0
BNX pmax pmax
comp=Z,230nm,0.8s
BNX pmax pmax
comp=Z,1µm,5.2s
BNX LR LR
comp=Z,14µm,16.1s
BNX LR LR
comp=Z,13µm,14.9s
BNX LR LR
comp=Z,21µm,16.5s
JGF Kuroka 41.20 268 IAmb IAmb 18 09 36.2
comp=Z,217nm,1.4s
GMRC Granite Mounta 41.25 93 P **P** 18 09 17.1 +1.9
baz=312,SNR=19
RDMU Red Mountain 41.34 82 IAmb IAmb 18 09 24.8
comp=Z,170nm,1.0s
PFO Pinyon Flats O 41.54 95 P **P** 18 09 18.5 +0.9
comp=Z,5.0nm,0.9s,baz=309,slow=6.0,SNR=7.9
PFO ScP **ScP** 18 15 02.4 -1.4
comp=Z,6.6nm,1.2s,baz=306,slow=4.8,SNR=4.0
PFO S **S** 18 15 31.2 -1.4
comp=Z,6.0nm,1.1s,baz=277,slow=9.2,SNR=4.2
PFO Pinyon Flats O 41.54 95 P **P** 18 09 17.9 +0.3
PFO pmax pmax
comp=Z,49nm,1.4s
PFO MLR MLR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 41.54 95 P **P** 18 09 17.9 +0.3
PFO Pinyon Flats O 41.54 95 P **P** 18 09 19.3 +1.7
baz=313
PFO S **S** 18 15 35.1 +2.5
baz=313
TPFO Pinon Flats 41.55 95 P **P** 18 09 19.4 +1.7
baz=313
BELC Belle Mtn. Jos 41.56 95 P **P** 18 09 19.2 +1.4
baz=312,SNR=11
109C Camp Elliot, M 41.64 97 P **P** 18 09 20.7 +2.5
baz=314
109C S **S** 18 15 37.8 +4.0
baz=314
NEE2 Needles Airpor 41.90 93 S **S** 18 15 41.2 +3.6
baz=312
K22A Casper 41.97 77 P **P** 18 09 22.7 +1.7
baz=306
K22A S **S** 18 15 37.9 -0.9
baz=306
IRM Iron Mountain 41.98 94 P **P** 18 09 23.1 +2.0
baz=312,SNR=15
IRM S **S** 18 15 42.5 +3.5
baz=312
MONP2 Monument Peak 42.05 96 P **P** 18 09 24.3 +2.4
baz=314
MONP2 S **S** 18 15 44.8 +4.4
baz=314
RWWY Rawlins 42.12 79 P **P** 18 09 21.9 -0.4
BC3 Big Chuckawall 42.13 95 P **P** 18 09 24.1 +1.7
baz=313
TULEG Thule 42.19 20 *i* P **P** 18 09 21.4 -0.8
TULEG IAmb IAmb 18 09 24.2
comp=Z,21nm,0.5s
TULEG Thule 42.19 20 P **P** 18 09 21.3 -1.0
TULEG IAMs_20 IAMs_20 18 29 59.3
comp=Z,8µm,19.0s
SWSC Sam W. Stewart 42.40 96 P **P** 18 09 26.5 +2.0
baz=313
IKP In-Ko-Pah, Jac 42.41 96 P **P** 18 09 26.6 +1.9
baz=314
O20A White River Ci 42.42 82 IAmb IAmb 18 09 33.0
comp=Z,256nm,1.1s
O20A White River Ci 42.42 82 P **P** 18 09 25.5 +0.7
baz=308,SNR=104
O20A S **S** 18 15 46.2 +0.6
baz=308
BOD Bodaibo 42.42 309 *e*P **P** 18 09 22.4 -1.9
BOD pmax pmax
comp=Z,180nm,0.9s
PDMCI Parker Dam,Lak 42.50 93 P **P** 18 09 26.4 +1.1
baz=312,SNR=5.8
PDMCI S **S** 18 15 50.4 +3.9
baz=312
RSSD Black Hills 42.61 74 P **P** 18 09 26.0 -0.3
RSSD pmax pmax
comp=Z,118nm,1.4s
RSSD MLR MLR
comp=Z,6µm,21.0s
RSSD Black Hills 42.61 74 P **P** 18 09 26.0 -0.3
RSSD Black Hills 42.61 74 IAMs_20 IAMs_20 18 25 05.5
comp=Z,6µm,21.0s
RSSD Black Hills 42.61 74 P **P** 18 09 26.2 -0.1
baz=305
RSSD S **S** 18 15 46.8 -1.6
baz=305
GLA Glamis 42.92 95 P **P** 18 09 31.0 +2.2
baz=313
MDND Maddock 43.12 67 P **P** 18 09 30.7 +0.5
baz=303,SNR=50
MDND S **S** 18 15 55.6 +0.3
baz=303
PV11 David Mesa, Pa 43.16 84 IAmb IAmb 18 09 48.5

comp=Z,136nm,0.8s
PV13 Radium Mtn., P 43.28 84 IAmb IAmb 18 09 48.6
comp=Z,180nm,0.9s
N23A Red Feather La 43.35 79 P **P** **18 09 34.4 +1.9**
baz=307,SNR=14
WUAZ Wupatki 43.41 89 P **P** **18 09 35.0 +2.2**
baz=311,SNR=13
CN2 Changchun 43.44 286⇑ *i* P **P** **18 09 32.0 -0.7**
CN2 PcP **PcP** **18 11 22.3 +1.6**
CN2 *e*S **S** **18 16 05.5 +5.5**
CN2 pmax pmax
comp=Z,130nm,0.7s
CN2 pmax pmax
comp=Z,2µm,4.0s
CN2 LR LR
comp=Z,9µm,16.0s
CN2 LR LR
comp=Z,12µm,16.0s
CN2 LR LR
comp=Z,14µm,17.0s
HIA Hailar 43.68 296 IAmb IAmb 18 09 36.4
comp=Z,106nm,0.8s
HIA Hailar 43.68 296 IAMs_20 IAMs_20 18 28 34.3
comp=Z,8µm,20.0s
ULM Lac du Bonnet 43.91 62 P **P** **18 09 35.8 -0.7**
comp=Z,14nm,0.8s,baz=300,slow=8.2,SNR=13
ULM S **S** **18 16 03.5 -3.4**
comp=Z,3.1nm,0.6s,baz=26,slow=22,SNR=1.0
ULM Lac du Bonnet 43.91 62 *i* P **P** **18 09 36.2 -0.3**
ULM Lac du Bonnet 43.91 62 P **P** **18 09 34.8 -1.6**
MVCO Mesa Verde 44.08 85 P **P** **18 09 39.6 +1.4**
baz=310,SNR=17
MVCO S **S** **18 16 12.5 +2.4**
baz=310
JHS Saijyo 44.21 271 IAmb IAmb 18 10 01.2
comp=Z,120nm,1.0s
JCJ Chichijima 44.22 255 P **P** **18 09 39.2 0.0**
comp=Z,189nm,1.0s,baz=325,slow=6.6,SNR=6.2
ISCO Idaho Springs 44.22 80 IAMs_20 IAMs_20 18 26 16.3
comp=Z,6µm,20.0s
ISCO Idaho Springs 44.22 80 P **P** **18 09 41.2 +1.7**
baz=308,SNR=21
ISCO S **S** **18 16 14.2 +2.0**
baz=308
HHU Hamhung 44.50 280 P **P** **18 09 42.5 +1.2**
HHU pP **sP** **18 09 48.2 +1.2**
HHU S **S** **18 16 17.7 +2.2**
HHU AmB
comp=Z,496nm,1.3s
HHU AMS AMS
comp=N,424nm,27.0s
HHU AMS AMS
comp=E,31nm,2.0s
HHU AMS AMS
comp=Z,26nm,1.7s
W18A Petrified Fore 44.68 88 P **P** **18 09 47.2 +4.2**
baz=312
W18A S **S** **18 16 22.6 +3.9**
baz=312
S22A 4UR Ranch, Cre 44.76 83 P **P** **18 09 45.9 +2.0**
baz=310,SNR=69
S22A S **S** **18 16 23.8 +3.7**
baz=310
214A Organ Pipe Nat 44.91 94 P **P** **18 09 46.0 +1.3**
baz=314
AGMN Agassiz Nation 44.98 65 IAMs_20 IAMs_20 18 29 46.0
comp=Z,9µm,18.0s
AGMN Agassiz Nation 44.98 65 P **P** **18 09 44.4 -0.6**
baz=304,SNR=47
AGMN S **S** **18 16 20.6 -1.7**
baz=304
Q24A Divide 45.02 81 P **P** **18 09 47.7 +1.8**
baz=309
Q24A S **S** **18 16 25.6 +1.8**
baz=309
SUSD Miller 45.41 71 P **P** **18 09 48.3 -0.2**
baz=306,SNR=27
SUSD S **S** **18 16 27.5 -1.2**
baz=306
CIT Chita 45.54 302 *e*P **P** **18 09 48.9 -0.6**
CIT *e* 18 09 55.0
CIT pmax pmax
comp=Z,207nm,1.6s
SDCO Great Sand Dun 45.58 82 P **P** **18 09 51.3 +1.1**
baz=310,SNR=58
SDCO S **S** **18 16 34.9 +3.1**
baz=310
NOR Nord 45.65 6 *i* P **P** **18 09 49.2 -0.7**
NOR IAmb IAmb 18 09 55.3
comp=Z,9.5nm,0.7s
OGNE Ogallala 45.68 77 P **P** **18 09 51.9 +1.1**
baz=308,SNR=7.6
OGNE S **S** **18 16 33.4 +0.5**
baz=308
SNY Shenyang 45.71 285⇑ P **P** **18 09 51.3 +0.4**
SNY S **S** **18 16 33.5 +0.5**
SNY pmax pmax
comp=Z,180nm,1.9s
SNY pmax pmax
comp=Z,3µm,3.5s
SNY LR LR
comp=Z,13µm,16.9s
SNY LR LR
comp=Z,14µm,16.7s
SNY LR LR
comp=Z,23µm,16.3s
KSRS Korea Array 45.81 277 P **P** **18 09 52.6 +0.9**
comp=Z,119nm,0.9s,baz=56,slow=7.6,SNR=257
KSRS S **S** **18 16 37.4 +2.8**
comp=Z,0.4nm,0.4s,baz=78,slow=41,SNR=1.6
TUC Tucson 45.92 92 P **P** **18 09 53.0 +0.2**
TUC pmax pmax
comp=Z,41nm,1.1s
TUC Tucson 45.92 92 P **P** **18 09 53.0 +0.2**
TUC Tucson 45.92 92 P **P** **18 09 54.6 +1.8**
baz=314
TUC S **S** **18 16 40.0 +3.6**
baz=314
PYAG Pyongyang 46.11 281 P **P** **18 09 56.2 +2.2**
PYAG pP **pP** **18 09 59.0 +0.5**
PYAG S **S** **18 16 42.3 +3.4**
PYAG AmB
comp=Z,615nm,1.2s
PYAG AMS AMS
comp=N,2µm,16.8s
PYAG AMS AMS
comp=E,552nm,6.0s
PYAG AMS AMS
comp=Z,183nm,2.0s
B35A Bob, Littlefor 46.12 63 P **P** **18 09 53.1 -1.0**
B35A IAmb IAmb 18 10 00.4
comp=Z,57nm,0.8s
SUJ Sinuiju 46.22 283 P **P** **18 09 56.0 +1.1**
SUJ sP **pwP** **18 10 02.8 -1.0**
SUJ S **S** **18 16 43.6 +3.3**
SUJ AmB
comp=Z,580nm,1.3s
SUJ AMS AMS
comp=N,11µm,18.0s
SUJ AMS AMS
comp=E,12µm,19.8s
SUJ AMS AMS
comp=Z,13µm,21.6s
KSCO Kaye Shedlock' 46.52 79 P **P** **18 09 58.6 +1.1**
baz=309,SNR=32
KSCO S **S** **18 16 46.7 +1.7**
baz=309
INCN Inchon 46.58 278 P **P** **18 09 58.3 +0.5**
INCN P **P** **18 09 58.3 +0.5**
T25A Trinidad 46.63 82 P **P** **18 09 59.5 +1.0**
baz=310,SNR=68
T25A S **S** **18 16 50.3 +3.5**
baz=310
HJU Haeju 46.77 280 P **P** **18 10 00.9 +1.6**
HJU pP **sP** **18 10 04.6 -0.4**
HJU S **S** **18 16 51.2 +2.9**
HJU AmB
comp=Z,818nm,1.3s
HJU AMS AMS
comp=N,112nm,6.3s
HJU AMS AMS
comp=E,68nm,3.8s
HJU AMS AMS
comp=Z,19nm,1.1s
ANMO Albuquerque 46.81 86 P **P** **18 09 59.8 0.0**
comp=Z,26nm,1.3s,baz=315,slow=9.1,SNR=12
ANMO S **S** **18 16 46.9 -2.4**
comp=Z,1.0nm,0.7s,baz=313,slow=20,SNR=1.6
ANMO Albuquerque 46.81 86⇑ *e*P **P** **18 10 01.6 +1.7**
ANMO pmax pmax
comp=Z,45nm,1.3s
ANMO MLR MLR
comp=Z,6µm,16.0s
ANMO Albuquerque 46.81 86 P **P** **18 10 00.3 +0.4**
ANMO Albuquerque 46.81 86 P **P** **18 10 00.8 +0.9**
baz=312
ANMO S **S** **18 16 51.8 +2.5**
baz=312
TJN Taejon 46.84 277 *c* *i* P **P** **18 10 00.9 +1.0**
JNU Nakatsue 46.84 271 P **P** **18 10 00.2 +0.2**
comp=Z,120nm,1.0s,baz=38,slow=8.4,SNR=32
UPNV Upernavik 47.05 22 *i* P **P** **18 09 59.2 -1.8**
UPNV IAmb IAmb 18 10 03.3
comp=Z,53nm,1.0s
Y22D IRIS PASSCAL I 47.10 87 IAMs_20 IAMs_20 18 27 21.8
comp=Z,8µm,19.0s
ECSD EROS Data Cent 47.19 70 IAmb IAmb 18 10 22.0
comp=Z,139nm,1.4s
ECSD EROS Data Cent 47.19 70 IAMs_20 IAMs_20 18 28 58.6
comp=Z,7µm,21.0s
ECSD EROS Data Cent 47.19 70 P **P** **18 10 01.5 -1.0**
baz=307,SNR=22
ECSD S **S** **18 16 51.5 -2.7**
baz=307
EYMN Ely 47.59 63 IAmb IAmb 18 10 23.2
comp=Z,77nm,0.9s
EYMN Ely 47.59 63 IAMs_20 IAMs_20 18 29 34.0
comp=Z,7µm,22.0s
EYMN Ely 47.59 63 P **P** **18 10 05.0 -0.6**
baz=306,SNR=16
EYMN S **S** **18 16 57.2 -2.7**
baz=306
121A Cookes Peak, D 47.61 89 P **P** **18 10 07.8 +1.6**
baz=313,SNR=18
121A S **S** **18 17 04.0 +3.2**
baz=313
F36A Milaca 47.68 66 IAmb IAmb 18 10 32.4
comp=Z,60nm,1.1s
BGNE Belgrade 47.70 74 P **P** **18 10 06.4 -0.1**
baz=308,SNR=24
BGNE S **S** **18 17 01.3 -0.4**
baz=308
E38A The Farm, Brul 48.34 64 IAmb IAmb 18 10 19.5
comp=Z,139nm,1.1s
CBKS Cedar Bluff 48.39 77 IAMs_20 IAMs_20 18 32 54.5
comp=Z,4µm,18.0s
CBKS Cedar Bluff 48.39 77 P **P** **18 10 12.5 +0.6**
baz=310,SNR=43
CBKS S **S** **18 17 12.5 +1.1**
baz=310
SPMN Marine on St. 48.47 66 IAmb IAmb 18 10 39.7
comp=Z,106nm,1.2s
SPMN Marine on St. 48.47 66 P **P** **18 10 12.0 -0.4**
baz=307,SNR=17
SPMN S **S** **18 17 10.2 -2.1**
baz=307
NUUG Nuugaatsiaq 48.55 23 *i* P **P** **18 10 09.5 -3.1**
NUUG IAmb IAmb 18 10 14.0
comp=Z,19nm,0.9s
DL2 Dalian 48.69 283 P **P** **18 10 14.0 -0.2**
DL2 PP **PP** **18 12 07.8 +0.8**
DL2 S **S** **18 17 17.5 +1.9**
DL2 pmax pmax
comp=Z,130nm,1.1s
DL2 pmax pmax
comp=Z,860nm,6.0s
DL2 LR LR
comp=Z,7µm,16.5s
DL2 LR LR
comp=Z,3µm,16.7s
DL2 LR LR
comp=Z,8µm,17.5s
XLT XiLinHaoTe 48.83 292⇑ *i* P **P** **18 10 15.3 0.0**
XLT pP pP 18 10 18.5 -1.2
XLT sP sP 18 10 21.3 -0.2
XLT PcP **PcP** **18 11 41.0 +1.3**
XLT PP **PP** **18 12 10.5 +2.2**
XLT ScP **ScP** **18 15 35.0 +1.4**
XLT S **S** **18 17 20.0 +2.3**
XLT sS sS 18 17 33.8 +8.9
XLT ScS **ScS** **18 20 05.8 -0.9**
XLT pmax pmax
comp=Z,68nm,1.4s
XLT pmax pmax
comp=Z,2µm,10.8s
XLT LR LR
comp=Z,11µm,16.3s
XLT LR LR
comp=Z,13µm,16.4s
KBS Kingsbay 49.18 360 P **P** **18 10 18.0 +0.6**
KBS pmax pmax
comp=Z,120nm,1.2s
KBS MLR MLR
comp=Z,6µm,19.0s
KBS Kingsbay 49.18 360 P **P** **18 10 18.0 +0.6**
KBS IAmb IAmb 18 10 19.4
comp=Z,120nm,1.1s
KBS Kingsbay 49.18 360 IAMs_20 IAMs_20 18 33 14.4
comp=Z,6µm,19.0s
KBS Kingsbay 49.18 360 *e*P **P** **18 10 17.5 +0.1**
MNTX Cornudas Mount 49.66 88 P **P** **18 10 23.4 +1.7**
baz=314,SNR=20
MNTX S **S** **18 17 33.9 +4.5**
baz=314
D41A Chassel 49.71 62 IAmb IAmb 18 10 43.5
comp=Z,100nm,1.1s
MSTX Muleshoe 49.72 84 P **P** **18 10 23.5 +1.2**
baz=313,SNR=40
MSTX S **S** **18 17 32.6 +2.2**
baz=313
AMTX Amarillo 49.78 83 IAMs_20 IAMs_20 18 32 00.4
comp=Z,4µm,19.0s
AMTX Amarillo 49.78 83 P **P** **18 10 23.7 +1.0**
baz=312
AMTX S **S** **18 17 31.7 +0.6**
baz=312
SPA0 Spitsbergen Ar 49.89 359 *e*P **P** **18 10 22.4 -0.5**
SPITS Spitsbergen Ar 49.89 359 P **P** **18 10 19.9 -3.0**
comp=Z,12nm,0.4s,baz=79,slow=4.3,SNR=16
SPITS PcP **PcP** **18 11 44.2 +1.3**
comp=Z,5.8nm,0.6s,baz=55,slow=7.2,SNR=0.8
SPITS Spitsbergen Ar 49.89 359 P **P** **18 10 22.2 -0.7**
SPITS pmax pmax
comp=Z,157nm,1.4s
SPB2 Spitsbergen Ar 49.90 359 P **P** **18 10 22.2 -0.7**
SPB2 IAmb IAmb 18 10 30.6
comp=Z,64nm,1.0s
G40A Rib Lake 49.90 65 IAmb IAmb 18 10 31.0
comp=Z,82nm,1.1s
DAG Danmarks Havn 49.95 9 *i* P **P** **18 10 22.1 -1.1**
DAG IAmb IAmb 18 10 25.3
comp=Z,35nm,0.6s
COWI Conover 49.98 63 IAMs_20 IAMs_20 18 30 59.4
comp=Z,5µm,22.0s
KSU1 Kansas State U 50.08 75 IAMs_20 IAMs_20 18 29 42.1
comp=Z,4µm,22.0s
KSU1 Kansas State U 50.08 75 P **P** **18 10 24.7 0.0**
baz=310,SNR=8.8
KSU1 S **S** **18 17 33.6 -1.4**
baz=310
IRK Irkutsk 50.12 307 *e*P **P** **18 10 23.8 -1.1**
IRK pmax pmax
comp=Z,260nm,1.8s
SCIA State Center 50.28 70 IAMs_20 IAMs_20 18 30 56.5
comp=Z,8µm,22.0s
SCIA State Center 50.28 70 P **P** **18 10 26.0 -0.2**
baz=309,SNR=6.3
SCIA S **S** **18 17 35.4 -2.4**
baz=309
U32A Winter Ranch, 50.41 79 IAmb IAmb 18 10 35.0
comp=Z,119nm,0.9s
ILULI Ilulissat 50.67 24 *i* P **P** **18 10 27.8 -1.1**
ILULI IAmb IAmb 18 10 30.1
comp=Z,18nm,0.8s
XMAS Kiritimati 50.83 165 IAMs_20 IAMs_20 18 32 00.9
comp=Z,6µm,18.0s
E43A Lone Tree Farm 50.98 62 IAmb IAmb 18 10 49.2
comp=Z,77nm,0.8s
HSPB Hornsund (broa 51.09 359 *e*P **P** **18 10 30.8 -1.0**
HSPB *e*L L 18 35 32.9
comp=Z,13µm,16.6s
HSPB Hornsund (broa 51.09 359 *e*P **P** **18 10 31.8 -0.1**
BJI Beijing 51.20 288 P **P** **18 10 33.5 +0.3**
BJI S **S** **18 17 54.0 +3.4**
BJI ScS **ScS** **18 20 23.0 +0.3**
BJI pmax pmax
comp=Z,730nm,2.3s
BJI pmax pmax
comp=Z,2µm,5.2s
BJI LR LR
comp=Z,14µm,16.9s
BJI LR LR
comp=Z,9µm,17.0s
BJI LR LR
comp=Z,20µm,17.5s
HOPEN Hopen 51.30 356 *e*P **P** **18 10 33.7 +0.2**
L40A Anamosa 51.33 69 IAmb IAmb 18 10 41.4
comp=Z,108nm,1.0s
JFWS Jewell Farm 51.35 67 IAmb IAmb 18 10 53.2
comp=Z,194nm,1.4s
JFWS Jewell Farm 51.35 67 P **P** **18 10 33.0 -1.3**
baz=310,SNR=15
JFWS S **S** **18 17 49.1 -3.4**
baz=310
ULN Ulaanbaatar 51.37 301 *c* *i* P **P** **18 10 34.3 -0.3**
ULN pmax pmax
comp=Z,77nm,0.9s
ULN MLR MLR
comp=Z,14µm,17.0s
ULN Ulaanbaatar 51.37 301 P **P** **18 10 33.8 -0.8**
ULN IAmb IAmb 18 10 36.7
comp=Z,61nm,0.8s
ULN PcP **PcP** **18 11 49.3 +0.2**
ULN Ulaanbaatar 51.37 301 P **P** **18 10 33.8 -0.8**
ULN P **P** **18 10 33.8 -0.8**
I42A Draeger Farm, 51.48 65 P **P** **18 10 34.0 -1.3**
I42A IAmb IAmb 18 10 42.9
comp=Z,89nm,1.1s
P38A Dawn 51.56 72 IAmb IAmb 18 10 55.3
comp=Z,164nm,1.0s
T35A Sooner Cattle 51.56 77 **P** **18 10 34.8 -1.2**
T35A IAmb IAmb 18 10 42.9
comp=Z,106nm,1.1s
WMOK Wichita Mounta 51.64 81 IAmb IAmb 18 10 59.5
comp=Z,86nm,1.1s
WMOK Wichita Mounta 51.64 81 IAMs_20 IAMs_20 18 33 18.7
comp=Z,4µm,18.0s
WMOK Wichita Mounta 51.64 81 P **P** **18 10 36.1 -0.5**
baz=313,SNR=49
WMOK S **S** **18 17 57.3 +0.4**
baz=313
SONM Songino Array 51.73 301 P **P** **18 10 36.5 -0.8**
comp=Z,30nm,0.6s,baz=58,slow=5.5,SNR=148
SONM PcP **PcP** **18 11 52.5 +2.1**
comp=Z,17nm,0.8s,baz=50,slow=3.7,SNR=1.6
SONM ScP **ScP** **18 15 47.0 +0.9**
comp=Z,4.9nm,0.9s,baz=59,slow=3.6,SNR=3.9
SONM S **S** **18 17 55.8 -2.3**
comp=Z,0.6nm,0.7s,baz=124,slow=5.9,SNR=1.5
SONM PKP2bc 18 41 32.9
comp=Z,0.2nm,0.4s,baz=19,slow=38,SNR=2.5
SONM Songino Array 51.73 301 IAmb IAmb 18 10 39.8
comp=Z,85nm,1.0s
ZAK Zakamensk 51.75 305 *e*P **P** **18 10 36.1 -1.2**
ZAK pmax pmax
comp=Z,136nm,1.6s
ZAK pmax pmax
comp=Z,37nm,1.5s
H43A Windswept, Lux 51.75 64 IAmb IAmb 18 10 44.0
comp=Z,106nm,0.9s
DBG Daneborg 52.05 10 *i* P **P** **18 10 37.8 -1.3**
DBG IAmb IAmb 18 10 39.7
comp=Z,36nm,0.8s
MOY Mondy 52.08 308 *e*P **P** **18 10 39.5 -0.3**
MOY pmax pmax
comp=Z,146nm,1.6s
TX32 Lajitas Array 52.37 89 IAmb IAmb 18 11 06.1
comp=Z,101nm,1.1s
TXAR Lajitas Array 52.37 89 P **P** **18 10 41.1 -1.1**
comp=Z,16nm,0.8s,baz=299,slow=5.0,SNR=98
TXAR S **S** **18 18 06.3 -0.8**
comp=Z,0.2nm,0.5s,baz=232,slow=10.0,SNR=1.8
SFJD Kangerlussuaq 52.40 26 P **P** **18 10 40.8 -1.0**
comp=Z,31nm,0.8s,baz=329,slow=7.1,SNR=12
SFJD Kangerlussuaq 52.40 26 P **P** **18 10 41.6 -0.2**
SFJD pmax pmax
comp=Z,134nm,1.4s
SFJD MLR MLR
comp=Z,8µm,19.0s
SFJD Kangerlussuaq 52.40 26 *i* P **P** **18 10 41.7 -0.2**
SFJD IAmb IAmb 18 10 44.0
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 52.40 26 P **P** **18 10 41.5 -0.2**
SFJD IAmb IAmb 18 10 43.6
comp=Z,134nm,1.4s
SFJD Kangerlussuaq 52.40 26 IAMs_20 IAMs_20 18 37 12.3
comp=Z,8µm,19.0s
E46A Sault Ste Mari 52.44 60 IAmb IAmb 18 11 03.7
comp=Z,108nm,1.1s
ABTX Abilene, Hawle 52.55 83 P **P** **18 10 44.9 +1.5**
baz=314,SNR=18
ABTX S **S** **18 18 08.6 -0.8**
baz=314
PATS Pohnpei 52.66 223 IAMs_20 IAMs_20 18 35 50.4
comp=Z,6µm,19.0s
TUL1 Leonard 52.66 77 P **P** **18 10 43.8 -0.4**
baz=312,SNR=13
TUL1 S **S** **18 18 08.9 -1.9**
baz=312
JOW Kunigami 52.86 267 P **P** **18 10 45.8 +0.1**
comp=Z,54nm,1.0s,baz=75,slow=3.6,SNR=5.8
L44A Lake County Fo 53.14 67 P **P** **18 10 46.6 -1.1**
baz=311,SNR=5.3
L44A S **S** **18 18 14.0 -3.2**
baz=311
TIA Tai'an 53.16 284 P **P** **18 10 48.0 +0.2**
TIA pP **pwP** **18 10 55.3 -1.5**
TIA PP **PP** **18 12 51.8 +4.2**
TIA S **S** **18 18 20.3 +2.7**
TIA pmax pmax
comp=Z,88nm,1.5s
TIA pmax pmax
comp=Z,830nm,2.6s
TIA LR LR
comp=Z,3µm,17.1s
TIA LR LR
comp=Z,4µm,19.2s
TIA LR LR
comp=Z,3µm,18.5s
GLMI Grayling 53.26 62 IAMs_20 IAMs_20 18 35 12.1
comp=Z,5µm,18.0s
GLMI Grayling 53.26 62 P **P** **18 10 48.5 0.0**
baz=310,SNR=9.5
GUMO Guam 53.33 241 P **P** **18 10 47.6 -1.7**
comp=Z,126nm,0.8s,baz=139,slow=20,SNR=5.4
GUMO Guam 53.33 241 P **P** **18 10 47.2 -2.1**
GUMO pmax pmax
comp=Z,208nm,1.0s
GUMO Guam 53.33 241 P **P** **18 10 47.2 -2.1**
HHC Hu-ho-hao-te 53.35 292⇑ *i* P **P** **18 10 50.0 +0.7**
HHC sP pwP 18 10 57.8 -0.5
HHC PP **PP** **18 12 54.8 +5.5**
HHC S **S** **18 18 18.3 -2.0**
HHC sS sS 18 18 34.8 +7.2
HHC pmax pmax
comp=Z,89nm,1.5s
HHC pmax pmax
comp=Z,2µm,7.0s
HHC LR LR
comp=Z,6µm,16.4s
HHC LR LR
comp=Z,7µm,16.7s
HHC LR LR
comp=Z,15µm,16.8s
HDIL Hopedale 53.41 69 IAMs_20 IAMs_20 18 33 23.3
comp=Z,6µm,20.0s
HDIL Hopedale 53.41 69 P **P** **18 10 48.5 -1.2**
baz=311,SNR=24
HDIL S **S** **18 18 18.1 -2.8**
baz=311
ICESG Greenland Ices 53.44 20 *i* P **P** **18 10 48.2 -1.6**
ICESG IAmb IAmb 18 10 51.7
comp=Z,66nm,0.9s
BJO1 Bjornoya 53.52 357 *e*P **P** **18 10 50.2 +0.3**
HNS HongShan 53.80 286⇑ *i* P **P** **18 10 53.5 +1.0**
HNS PP **PP** **18 12 54.8 +1.5**
HNS S **S** **18 18 26.5 +0.3**
HNS ScS **ScS** **18 20 38.8 -2.1**
HNS pmax pmax
comp=Z,300nm,1.3s
HNS LR LR

HNS LR LR
comp=Z,11µm,17.1s

P43A Skaggs, Pawnee **53.88 70** IAmb IAmb 18 10 59.1
comp=Z,100nm,0.8s

MGMO Mountain Grove **53.93 74** IAmb IAmb 18 10 59.0
comp=Z,84nm,1.1s

CCM Cathedral Cave **53.93 72** P **P** **18 10 51.6 -1.9**
CCM pmax pmax
comp=Z,90nm,1.2s

CCM MLR MLR
comp=Z,5µm,22.0s

CCM Cathedral Cave **53.93 72** P **P** **18 10 51.5 -1.9**
CCM IAmb IAmb 18 11 12.3
comp=Z,90nm,1.2s

CCM Cathedral Cave **53.93 72** IAMs_20 IAMs_20 18 32 12.2
comp=Z,5µm,22.0s

CCM Cathedral Cave **53.93 72** P **P** **18 10 51.9 -1.6**
CCM S **S** **18 18 22.6 -5.4**
baz=312
baz=312

DY2G Dye2 **53.94 25** *i* P **P** **18 10 52.5 -0.9**
DY2G IAmb IAmb 18 10 54.8
comp=Z,39nm,0.5s

JCT Junction City **53.94 85** IAMs_20 IAMs_20 18 31 52.8
comp=Z,3µm,19.0s

JCT Junction City **53.94 85** P **P** **18 10 54.7 +1.0**
JCT S **S** **18 18 27.8 -0.6**
baz=315,SNR=33
baz=315

U40A Yellville **54.12 75** IAmb IAmb 18 11 01.6
comp=Z,66nm,0.8s

U40A IAMs_20 IAMs_20 18 36 48.2
comp=Z,4µm,18.0s

U40A Yellville **54.12 75** P **P** **18 10 53.5 -1.4**
baz=313,SNR=39
U40A S **S** **18 18 25.5 -5.1**
baz=313

O44A Mansfield **54.15 69** IAmb IAmb 18 11 00.8
comp=Z,46nm,0.7s

SSE Sheshan **54.20 276** P **P** **18 10 56.5 +1.1**
SSE S **S** **18 18 31.0 -0.6**
SSE LR LR
comp=Z,630nm,17.1s

SSE LR LR
comp=Z,1µm,18.9s

WHTX Lake Whitney, **54.33 82** P **P** **18 11 00.4 +4.0**
baz=314,SNR=17
WHTX S **S** **18 18 34.4 +0.9**
baz=314

W39A Magazine **54.35 77** IAmb IAmb 18 11 17.4
comp=Z,108nm,1.0s

W39A Magazine **54.35 77** P **P** **18 10 56.0 -0.6**
baz=313,SNR=36
W39A S **S** **18 18 31.5 -2.2**
baz=313

BTO Baotou **54.39 292** *e*P **P** **18 10 57.0 +0.1**
BTO S S 18 18 23.8 -11
BTO LR LR
comp=Z,31µm,21.6s

BTO LR LR
comp=Z,33µm,18.6s

FVM French Village **54.46 72** IAmb IAmb 18 11 16.6
comp=Z,161nm,1.2s

SFIN Lafayette **54.79 68** P **P** **18 10 59.3 -0.3**
baz=312,SNR=6.4
SFIN S **S** **18 18 36.5 -2.9**
baz=312

VLDQ Val d'Or **54.88 55** IAmb IAmb 18 11 11.4
comp=Z,69nm,1.1s

TIY Taiyuan **54.93 288** ⇑P **P** **18 11 01.8 +1.0**
TIY PP **PP** **18 13 04.3 +0.8**
TIY S **S** **18 18 39.3 -2.3**
TIY pmax pmax
comp=Z,91nm,1.8s

TIY pmax pmax
comp=Z,2µm,6.3s

TIY LR LR
comp=Z,4µm,26.1s

TIY LR LR
comp=Z,2µm,30.0s

TIY LR LR
comp=Z,9µm,15.7s

NJ2 Nanjing **54.95 279** ⇑*i*P **P** **18 11 00.5 -0.5**
NJ2 pP **pP** **18 11 05.0 -0.2**
NJ2 sP **sP** **18 11 07.8 +1.0**
NJ2 S **S** **18 18 42.3 +0.5**
NJ2 sS **sS** **18 18 49.3 +0.1**
NJ2 pmax pmax
comp=Z,110nm,0.9s

NJ2 pmax pmax
comp=Z,2µm,3.9s

NJ2 LR LR
comp=Z,5µm,15.5s

NJ2 LR LR
comp=Z,4µm,15.7s

NJ2 LR LR
comp=Z,6µm,16.9s

435B Jarrell **55.09 83** IAMs_20 IAMs_20 18 35 18.1
comp=Z,5µm,19.0s

435B Jarrell **55.09 83** P **P** **18 11 05.4 +3.4**
baz=315
435B S **S** **18 18 45.1 +1.4**
baz=315

WHAR Wooly Hollow **55.18 76** P **P** **18 11 02.0 -0.6**
P46A Rosedale **55.23 68** IAmb IAmb 18 11 21.8
comp=Z,77nm,1.1s

W41B Gary Mavity, V **55.28 76** P **P** **18 11 02.4 -0.9**
baz=313,SNR=15
W41B S **S** **18 18 43.0 -3.2**
baz=313

SCHQ Schefferville **55.33 43** P **P** **18 11 02.4 -1.0**
comp=Z,29nm,0.9s,baz=304,slow=9.1,SNR=40
SCHQ S **S** **18 18 39.4 -7.0**
comp=Z,1.5nm,0.7s,baz=257,slow=13,SNR=0.8

SCHQ Schefferville **55.33 43** IAmb IAmb 18 11 07.5
comp=Z,179nm,1.4s

SCO Scoresbysund **55.35 13** P **P** **18 11 02.2 -1.1**
SCO pmax pmax
comp=Z,119nm,1.4s

SCO MLR MLR
comp=Z,7µm,18.0s

SCO Scoresbysund **55.35 13** *i* P **P** **18 11 02.5 -0.7**
SCO IAmb IAmb 18 11 05.3
comp=Z,24nm,0.6s

SCO Scoresbysund **55.35 13** P **P** **18 11 02.2 -1.1**
SCO IAmb IAmb 18 11 07.1
comp=Z,119nm,1.4s

X40A Basin Creek Fa **55.40 77** IAMs_20 IAMs_20 18 35 54.2
comp=Z,4µm,19.0s

X40A Basin Creek Fa **55.40 77** P **P** **18 11 05.4 +1.3**
baz=314,SNR=7.9
X40A S **S** **18 18 45.1 -2.7**
baz=314

AAM Ann Arbor **55.44 64** IAMs_20 IAMs_20 18 33 54.8
comp=Z,5µm,22.0s

833A Chaparral WMA, **55.72 87** P **P** **18 11 08.1 +1.6**
baz=316
833A S **S** **18 18 52.4 +0.2**
baz=316

SOEG Soedalen **55.85 18** *i* P **P** **18 11 06.5 -0.4**
SOEG IAmb IAmb 18 11 10.7
comp=Z,9.7nm,1.0s

O48B Farmland **55.97 67** P **P** **18 11 06.6 -1.6**
baz=312,SNR=23
O48B S **S** **18 18 50.3 -5.0**
baz=312

N49A Columbus Grove **56.07 65** IAmb IAmb 18 11 27.4
comp=Z,56nm,0.9s

NATX Nacogdoches **56.19 80** IAmb IAmb 18 11 17.8
comp=Z,183nm,1.2s

NATX IAMs_20 IAMs_20 18 34 09.2
comp=Z,4µm,19.0s

NATX Nacogdoches **56.19 80** P **P** **18 11 14.5 +4.6**
baz=315,SNR=8.4
NATX S **S** **18 18 58.7 +0.3**
baz=315

Z41A Richland Creek **56.27 78** P **P** **18 11 13.9 +3.5**
baz=314,SNR=9.5
Z41A S **S** **18 18 59.0 -0.4**
baz=314

ISOG Isortoq, Green **56.49 23** *i* P **P** **18 11 09.1 -2.4**
ISOG IAmb IAmb 18 11 12.9
comp=Z,33nm,0.7s

WCI Wyandotte Cave **56.70 69** P **P** **18 11 11.8 -1.6**
WCI pmax pmax
comp=Z,122nm,1.2s

WCI MLR MLR
comp=Z,7µm,20.0s

WCI Wyandotte Cave **56.70 69** P **P** **18 11 11.8 -1.6**
WCI IAmb IAmb 18 11 32.8
comp=Z,122nm,1.2s

WCI Wyandotte Cave **56.70 69** IAMs_20 IAMs_20 18 35 25.2
comp=Z,7µm,20.0s

WCI Wyandotte Cave **56.70 69** P **P** **18 11 12.4 -1.0**
baz=313
WCI S **S** **18 19 01.1 -3.8**
baz=313

P49A Miami Univ. Ec **56.71 67** IAmb IAmb 18 11 18.7
comp=Z,70nm,0.8s

P49A Miami Univ. Ec **56.71 67** P **P** **18 11 11.9 -1.6**
baz=313,SNR=25
P49A S **S** **18 19 00.3 -4.8**
baz=313

ANGG Ammassalik, Gr **56.74 22** *i* P **P** **18 11 11.6 -1.6**
ANGG IAmb IAmb 18 11 14.2
comp=Z,38nm,0.6s

ANGG Ammassalik, Gr **56.74 22** P **P** **18 11 11.5 -1.8**
ANGG IAmb IAmb 18 11 15.5
comp=Z,98nm,1.1s

HKT Hockley **56.75 83** IAMs_20 IAMs_20 18 35 33.7
comp=Z,5µm,20.0s

LYN LuoYang **57.07 285** ⇑*i*P **P** **18 11 16.5 +0.4**
LYN PP **PP** **18 13 23.8 +1.2**
LYN S **S** **18 19 11.0 +1.1**
LYN sS sS 18 19 19.3 +2.0
LYN pmax pmax
comp=Z,120nm,1.5s

LYN pmax pmax
comp=Z,2µm,3.5s

LYN LR LR
comp=Z,10µm,16.7s

LYN LR LR
comp=Z,4µm,16.9s

LYN LR LR
comp=Z,8µm,16.3s

HAMF Hammerfest **57.18 355** *e*P **P** **18 11 15.3 -1.0**
DELO Deloro Mine **57.20 58** IAmb IAmb 18 11 36.2
comp=Z,108nm,1.2s

ACSO Alum Creek Sta **57.21 65** IAMs_20 IAMs_20 18 36 01.7
comp=Z,5µm,19.0s

ACSO Alum Creek Sta **57.21 65** P **P** **18 11 16.0 -1.1**
baz=313
ACSO S **S** **18 19 08.8 -2.9**
baz=313

WVT Waverly **57.24 72** P **P** **18 11 16.3 -1.0**
WVT pmax pmax
comp=Z,105nm,1.2s

WVT MLR MLR
comp=Z,6µm,22.0s

WVT Waverly **57.24 72** P **P** **18 11 16.3 -1.0**
WVT IAmb IAmb 18 11 24.2
comp=Z,105nm,1.1s

WVT Waverly **57.24 72** IAMs_20 IAMs_20 18 34 02.8
comp=Z,6µm,22.0s

WVT Waverly **57.24 72** P **P** **18 11 17.0 -0.3**
baz=314
WVT S **S** **18 19 10.0 -2.2**
baz=314

OXF Oxford **57.43 74** IAMs_20 IAMs_20 18 40 16.8
comp=Z,3µm,18.0s

OXF Oxford **57.43 74** P **P** **18 11 18.0 -0.6**
baz=314,SNR=30
OXF S **S** **18 19 12.2 -2.4**
baz=314

J54A Appleton **57.51 60** P **P** **18 11 18.2 -0.9**
J54A IAmb IAmb 18 11 41.1
comp=Z,88nm,0.9s

ERPA Erie **57.57 62** P **P** **18 11 19.2 -0.3**
baz=313
ERPA S **S** **18 19 13.1 -3.3**
baz=313

M53A WI Miller and **57.66 63** IAmb IAmb 18 11 28.5
comp=Z,122nm,1.1s

M53A IAMs_20 IAMs_20 18 37 50.7
comp=Z,6µm,18.0s

M53A WI Miller and **57.66 63** P **P** **18 11 19.7 -0.5**
baz=313,SNR=12
M53A S **S** **18 19 14.0 -3.7**
baz=313

R50A Paris **57.79 68** P **P** **18 11 19.2 -1.9**
R50A IAmb IAmb 18 11 27.2
comp=Z,70nm,0.8s

ALLY Alegheny Colle **57.81 62** P **P** **18 11 20.4 -0.8**
ZAA0 Zalesovo Array **57.84 318** P **P** **18 11 19.6 -1.5**
ZALV Zalesovo Beam **57.84 318** P **P** **18 11 20.2 -1.0**
comp=Z,12nm,0.7s,baz=40,slow=6.3,SNR=43
ZALV PcP **PcP** **18 12 14.9 +1.4**
comp=Z,7.6nm,0.5s,baz=42,slow=4.4,SNR=2.0

ZALV Zalesovo Beam **57.84 318** *i* P **P** **18 11 20.7 -0.5**
ZALV pmax pmax
comp=Z,12nm,0.7s

ZALV Zalesovo Beam **57.84 318** P **P** **18 11 19.7 -1.5**
KEV Kevo **57.86 354** P **P** **18 11 19.9 -1.2**
KEV pmax pmax
comp=Z,91nm,0.8s

KEV MLR MLR
comp=Z,5µm,19.0s

KEV Kevo **57.86 354** P **P** **18 11 19.9 -1.2**
KEV IAmb IAmb 18 11 23.7
comp=Z,91nm,0.8s

KEV IAMs_20 IAMs_20 18 39 48.7
comp=Z,5µm,19.0s

PLAL Pickwick Lake **57.89 73** IAmb IAmb 18 11 41.5
comp=Z,97nm,1.1s

PLAL IAMs_20 IAMs_20 18 38 05.2
comp=Z,4µm,20.0s

P52A Corning **58.10 65** IAMs_20 IAMs_20 18 36 40.2
comp=Z,5µm,19.0s

P52A Corning **58.10 65** P **P** **18 11 22.6 -0.6**
baz=314,SNR=7.2
P52A S **S** **18 19 19.5 -3.8**
baz=314

M54A Oil Creek Stat **58.17 62** IAmb IAmb 18 11 30.5
comp=Z,99nm,1.2s

M54A IAMs_20 IAMs_20 18 36 59.0
comp=Z,7µm,21.0s

M54A Oil Creek Stat **58.17 62** P **P** **18 11 23.0 -0.7**
baz=314,SNR=21
M54A S **S** **18 19 20.8 -3.5**
baz=314

ARA0 ARCESS Array S **58.17 354** *e*P **P** **18 11 22.6 -0.8**
ARCES ARCESS Array B **58.17 354** P **P** **18 11 21.8 -1.6**
comp=Z,47nm,0.8s,baz=10,slow=6.6,SNR=47

ARCES ARCESS Array B **58.17 354** IAmb IAmb 18 11 24.3
comp=Z,155nm,1.4s

O53A New Philadelph **58.18 64** IAmb IAmb 18 11 31.1
comp=Z,124nm,1.4s

O53A IAMs_20 IAMs_20 18 37 26.5
comp=Z,6µm,19.0s

O53A New Philadelph **58.18 64** P **P** **18 11 22.7 -1.1**
baz=314,SNR=11
O53A S **S** **18 19 20.3 -4.1**
baz=314

NRS Narsarsuaq **58.35 28** *i* P **P** **18 11 23.4 -1.2**
NRS IAmb IAmb 18 11 26.5
comp=Z,28nm,0.7s

NRS Narsarsuaq **58.35 28** IAmb IAmb 18 11 26.4
comp=Z,170nm,1.3s

T50A Nancy **58.36 69** IAmb IAmb 18 11 44.9
comp=Z,176nm,1.4s

N54A Moraine State **58.37 63** IAmb IAmb 18 11 33.3
comp=Z,70nm,1.0s

N54A IAMs_20 IAMs_20 18 37 08.3
comp=Z,5µm,21.0s

N54A Moraine State **58.37 63** P **P** **18 11 24.2 -0.9**
baz=314,SNR=10
N54A S **S** **18 19 24.0 -2.8**
baz=314

VBMS Vicksburg **58.37 77** IAMs_20 IAMs_20 18 40 04.8
comp=Z,5µm,18.0s

VBMS Vicksburg **58.37 77** S **S** **18 19 26.5 -0.5**
baz=315

TATO Taipei **58.39 271** IAMs_20 IAMs_20 18 36 01.4
comp=Z,4µm,20.0s

TATO Taipei **58.39 271** P **P** **18 11 24.7 -0.7**
TRO Tromso **58.39 357** *e*P **P** **18 11 24.3 -0.5**
JETT Jettan, Norway **58.42 356** *e*P **P** **18 11 25.5 +0.4**
Q52A Bidwell **58.48 66** IAmb IAmb 18 11 33.1
comp=Z,61nm,1.1s

P53A Whipple **58.61 65** IAmb IAmb 18 11 33.4
comp=Z,72nm,1.1s

S51A Beattyville **58.65 68** IAmb IAmb 18 11 33.6
comp=Z,84nm,1.1s

YHNB Yeheng **58.68 271** IAMs_20 IAMs_20 18 37 23.3
comp=Z,3µm,20.0s

M55A Ridgway **58.68 62** IAmb IAmb 18 11 34.5
comp=Z,136nm,1.1s

O54A Avella **58.69 64** IAmb IAmb 18 11 35.5
comp=Z,111nm,1.0s

LONY Lake Ozonia **58.71 56** IAMs_20 IAMs_20 18 38 50.2
comp=Z,6µm,18.0s

LONY Lake Ozonia **58.71 56** P **P** **18 11 26.8 -0.7**
baz=314,SNR=14

WHN Wuhan **58.75 281** ⇑P **P** **18 11 28.3 +0.4**
WHN pP **sP** **18 11 33.5 -0.2**
WHN sP **pwP** **18 11 38.5 +1.6**
WHN S **S** **18 19 33.3 +1.3**
WHN pmax pmax
comp=Z,680nm,1.2s

WHN pmax pmax
comp=Z,4µm,2.8s

WHN LR LR
comp=Z,5µm,16.3s

WHN LR LR
comp=Z,10µm,18.3s

WHN LR LR
comp=Z,7µm,19.2s

LMQ La Malbaie **58.78 52** IAmb IAmb 18 11 46.2
comp=Z,61nm,1.0s

J57A Williamstown **58.81 58** IAmb IAmb 18 11 49.8
comp=Z,74nm,0.9s

KTK1 Kautokeino **58.82 355** *e*P **P** **18 11 27.8 -0.1**
NACB Ninganchiao **58.91 270** IAMs_20 IAMs_20 18 33 40.3
comp=Z,4µm,22.0s

SWET Sewanee **58.99 71** P **P** **18 11 29.0 -0.6**
LVZ Lovozero **58.99 350** P **P** **18 11 27.9 -1.2**
LVZ pmax pmax
comp=Z,156nm,0.8s

LVZ MLR MLR
comp=Z,5µm,18.0s

LVZ Lovozero **58.99 350** P **P** **18 11 27.9 -1.2**
LVZ IAMs_20 IAMs_20 18 40 51.9
comp=Z,5µm,18.0s

R53A Hurricane **59.10 66** IAmb IAmb 18 11 49.4
comp=Z,98nm,1.0s

Z47A Carrollton **59.14 75** PcP **PcP** **18 12 18.7 -0.4**
Q54A Coxs Mills **59.27 65** IAmb IAmb 18 11 38.2
comp=Z,178nm,1.5s

NCB Newcomb **59.34 57** IAmb IAmb 18 11 50.4
comp=Z,69nm,1.1s

MCWV Mont Chateau **59.35 64** P **P** **18 11 31.4 -0.6**
baz=314,SNR=14
MCWV S **S** **18 19 36.4 -3.2**
baz=314

W50A Signal Mountai **59.36 71** IAmb IAmb 18 11 38.6
comp=Z,114nm,1.1s

TZTN Tazewell **59.44 69** P **P** **18 11 31.9 -0.7**
baz=315,SNR=7.3
TZTN S **S** **18 19 38.4 -2.4**
baz=315

APA Apatity **59.44 350** ⇑*i*P **P** **18 11 31.2 -1.0**
APA *i* PPP PPP 18 15 12.0
APA *i* S **S** **18 19 37.0 -3.0**
APA *i* 18 21 18.0
APA pmax pmax
comp=Z,26nm,1.0s

XAN Xi'an **59.52 287** P **P** **18 11 33.5 +0.2**
XAN S **S** **18 19 44.5 +2.4**
XAN pmax pmax
comp=Z,210nm,1.7s

XAN pmax pmax
comp=Z,2µm,6.2s

XAN LR LR
comp=Z,7µm,16.7s

XAN LR LR
comp=Z,11µm,17.3s

XAN LR LR
comp=Z,11µm,17.2s

J59A Piesco **59.55 57** IAmb IAmb 18 11 54.6
comp=Z,43nm,0.9s

SSLB Suanglung **59.59 270** IAMs_20 IAMs_20 18 34 13.3
comp=Z,5µm,22.0s

O56A Blue Knob Stat **59.63 62** IAmb IAmb 18 11 52.7
comp=Z,82nm,1.1s

O56A IAMs_20 IAMs_20 18 37 43.6
comp=Z,6µm,21.0s

O56A Blue Knob Stat **59.63 62** P **P** **18 11 33.3 -0.7**
baz=314,SNR=19
O56A S **S** **18 19 40.0 -3.3**
baz=314

CPCT Cooper Cave **59.64 70** IAmb IAmb 18 11 53.3
comp=Z,82nm,1.4s

Y49A Blount Mountai **59.66 73** IAmb IAmb 18 11 39.7
comp=Z,57nm,0.9s

M57A Sunshine Farm, **59.66 61** IAmb IAmb 18 11 57.4
comp=Z,46nm,0.9s

BINY Binghamton **59.66 59** IAmb IAmb 18 11 55.8
comp=Z,90nm,0.9s

BINY IAMs_20 IAMs_20 18 38 38.5
comp=Z,5µm,19.0s

BINY Binghamton **59.66 59** P **P** **18 11 34.3 +0.1**
baz=315,SNR=20
BINY S **S** **18 19 43.8 +0.2**
baz=315

YULB Yu-li **59.67 270** IAMs_20 IAMs_20 18 35 03.5
comp=Z,3µm,20.0s

D62A Allapoint, All **59.73 51** IAmb IAmb 18 11 53.2
comp=Z,57nm,1.1s

SSPA Standing Stone **59.74 62** P **P** **18 11 33.7 -1.0**
SSPA IAmb IAmb 18 11 53.7
comp=Z,94nm,0.9s

SSPA Standing Stone **59.74 62** P **P** **18 11 34.3 -0.3**
baz=315
SSPA S **S** **18 19 42.8 -1.8**
baz=315

S54A Dingess, Beckl **59.83 66** IAmb IAmb 18 11 41.7
comp=Z,67nm,0.8s

LRAL Lakeview Retre **59.89 74** IAmb IAmb 18 11 41.8
comp=Z,74nm,1.4s

LRAL IAMs_20 IAMs_20 18 39 08.9
comp=Z,4µm,18.0s

LRAL Lakeview Retre **59.89 74** P **P** **18 11 35.0 -0.8**
baz=315,SNR=7.2
LRAL S **S** **18 19 42.1 -4.6**
baz=315

V52A Sevierville **59.90 69** IAmb IAmb 18 11 54.8
comp=Z,87nm,1.1s

LOF Lofoten **60.02 359** *e*P **P** **18 11 35.4 -0.7**
TPUB Ts-pu **60.15 270** IAMs_20 IAMs_20 18 34 41.1
comp=Z,5µm,22.0s

QZH Quanzhou **60.19 273** ⇑*i*P **P** **18 11 38.5 +0.6**
QZH S **S** **18 19 53.0 +2.2**
QZH sS **sS** **18 19 57.8 0.0**
QZH pmax pmax
comp=Z,140nm,1.5s

QZH pmax pmax
comp=Z,1µm,5.0s

QZH LR LR
comp=Z,2µm,15.1s

QZH LR LR
comp=Z,2µm,16.6s

QZH LR LR
comp=Z,2µm,15.6s

STEI Steigen **60.20 358** *e*P **P** **18 11 36.3 -1.0**
N58A Sunbury **60.23 61** IAmb IAmb 18 11 59.4
comp=Z,77nm,1.1s

KSPA Keystone Colle **60.23 60** IAmb IAmb 18 11 59.6
comp=Z,48nm,0.9s

LBNH Lisbon **60.33 55** P **P** **18 11 38.1 -0.5**
LBNH Lisbon **60.33 55** P **P** **18 11 38.1 -0.5**
LBNH Lisbon **60.33 55** P **P** **18 11 38.2 -0.5**
baz=315

G62A West of Eustis **60.33 54** P **P** **18 11 37.5 -1.1**
G62A IAmb IAmb 18 11 57.9
comp=Z,83nm,1.2s

V53A Saluda **60.48 69** IAmb IAmb 18 11 59.1
comp=Z,126nm,1.3s

H62A Milan **60.48 54** IAmb IAmb 18 11 58.3
comp=Z,60nm,0.9s

P57A Homestead Farm **60.48 63** IAmb IAmb 18 11 58.9
comp=Z,104nm,1.2s

TRY Troy **60.51 57** IAMs_20 IAMs_20 18 39 16.8
comp=Z,5µm,18.0s

J61A Chester **60.65 56** IAmb IAmb 18 12 02.3
comp=Z,67nm,1.1s

PAGS Pennsylvania G **60.66 61** IAmb IAmb 18 12 02.0
comp=Z,112nm,1.0s

N59A State Game Lan **60.68 60** IAmb IAmb 18 12 00.5
comp=Z,97nm,1.3s

N59A State Game Lan **60.68 60** P **P** **18 11 41.1 -0.1**

baz=315,SNR=8.3
N59A S **S** **18 19 55.4 -1.4**
baz=315
F63A Nahmakanta, Br 60.69 52 IAmb IAmb 18 11 50.2
comp=Z,38nm,0.8s
BORG Borgarnes 60.74 15 P **P** **18 11 41.4 +0.4**
comp=Z,19nm,0.6s,baz=331,slow=3.9,SNR=11
BORG Borgarnes 60.74 15 P **P** **18 11 40.4 -0.7**
BORG pmax pmax
comp=Z,66nm,1.3s
BORG Borgarnes 60.74 15 P **P** **18 11 40.4 -0.7**
BORG IAmb IAmb 18 11 53.1
comp=Z,66nm,1.2s
FAUS Fauske 60.75 358 *eP* **P** **18 11 40.6 -0.5**
BLA Blacksburg 60.75 66 IAMs_20 IAMs_20 18 38 32.4
comp=Z,5µm,20.0s
BLA Blacksburg 60.75 66 P **P** **18 11 41.4 -0.3**
baz=315,SNR=38
BLA S **S** **18 19 55.8 -2.0**
baz=315
Z51A Franklin 60.77 72 IAmb IAmb 18 11 47.6
comp=Z,84nm,1.1s
I62A Tamworth 60.89 55 P **P** **18 11 42.0 -0.4**
PKME Peaks-Kenny Pk 60.91 53 P **P** **18 11 42.8 +0.2**
baz=316
GTA Gaotai 60.91 298 ⇑P **P** **18 11 42.3 -0.6**
GTA pP pP 18 11 47.8 +0.4
GTA sP pwP 18 11 54.0 +2.1
GTA S **S** **18 20 04.0 +4.0**
GTA sS sS 18 20 15.3 +7.9
GTA ScS SKKSac 18 21 30.0 -3.0
GTA pmax pmax
comp=Z,68nm,1.7s
GTA pmax pmax
comp=Z,1µm,6.8s
GTA LR LR
comp=Z,7µm,18.7s
GTA LR LR
comp=Z,13µm,17.9s
GTA LR LR
comp=Z,12µm,18.7s
LZH Lanzhou 61.02 292 ⇑P **P** **18 11 44.3 +0.6**
LZH pP sP 18 11 49.5 -0.4
LZH sP pwP 18 11 55.3 +2.6
LZH S **S** **18 20 03.0 +1.5**
LZH sS sS 18 20 10.5 +1.6
LZH pmax pmax
comp=Z,210nm,1.3s
LZH pmax pmax
comp=Z,2µm,6.2s
LZH LR LR
comp=Z,16µm,16.3s
LZH LR LR
comp=Z,19µm,16.8s
LZH LR LR
comp=Z,24µm,18.4s
Y52A Lilburn 61.03 71 IAmb IAmb 18 11 50.0
comp=Z,63nm,1.1s
I63A Otisfield 61.14 55 IAmb IAmb 18 12 03.2
comp=Z,93nm,1.4s
S57A Dark Hollow, R 61.18 65 IAmb IAmb 18 12 04.2
comp=Z,124nm,1.2s
ODNJ Ogdensburg 61.19 59 IAmb IAmb 18 12 00.8
comp=Z,38nm,0.8s
BRAL Brewton 61.19 75 IAMs_20 IAMs_20 18 39 31.4
comp=Z,3µm,20.0s
BRAL Brewton 61.19 75 P P 18 11 50.0 +5.3
baz=316,SNR=6.0
L61B Northampton 61.22 57 IAMs_20 IAMs_20 18 40 34.6
comp=Z,5µm,18.0s
L61B Northampton 61.22 57 P **P** **18 11 44.4 -0.3**
baz=316
L61B S **S** **18 20 03.7 +0.2**
baz=316
V55A Taylorsville 61.26 68 IAmb IAmb 18 11 52.0
comp=Z,66nm,1.0s
K62A Royalston 61.29 57 IAmb IAmb 18 12 01.7
comp=Z,48nm,0.8s
KSCT Kent School, K 61.32 58 IAmb IAmb 18 12 02.0
comp=Z,58nm,0.9s
BRNJ Basking Ridge 61.49 60 IAmb IAmb 18 12 08.2
comp=Z,81nm,0.9s
152A Waverly Hall 61.50 73 IAmb IAmb 18 12 05.6
comp=Z,83nm,1.4s
QUA2 Belchertown 61.51 57 IAmb IAmb 18 12 07.6
comp=Z,51nm,1.1s
QUA2 IAMs_20 IAMs_20 18 40 25.3
comp=Z,5µm,19.0s
T57A Hurt 61.55 66 IAmb IAmb 18 11 53.9
comp=Z,83nm,0.9s
PAL Palisades 61.61 59 IAMs_20 IAMs_20 18 39 58.0
comp=Z,5µm,19.0s
PAL Palisades 61.61 59 P **P** **18 11 47.5 +0.2**
baz=316,SNR=8.7
PAL S **S** **18 20 08.2 -0.2**
baz=316
PAULI Pauline 61.65 69 IAmb IAmb 18 12 07.2
comp=Z,95nm,1.2s
KONS Konsvik 61.66 359 *eP* **P** **18 11 47.0 -0.3**
KMSC Kings Mountain 61.70 68 IAmb IAmb 18 11 54.8
comp=Z,116nm,1.1s
KMSC Kings Mountain 61.70 68 P **P** **18 11 47.2 -0.9**
baz=316,SNR=23
GOGA Godfrey 61.70 71 IAmb IAmb 18 11 54.0
comp=Z,62nm,1.1s
GOGA Godfrey 61.70 71 IAMs_20 IAMs_20 18 37 49.8
comp=Z,6µm,22.0s
GOGA Godfrey 61.70 71 P **P** **18 11 47.0 -1.1**
baz=316,SNR=8.2
GOGA S **S** **18 20 04.9 -5.0**
baz=316
CBN Corbin Frederi 61.74 63 IAMs_20 IAMs_20 18 39 01.6
comp=Z,4µm,20.0s
CBN Corbin Frederi 61.74 63 P **P** **18 11 48.0 -0.3**
baz=316
CBN S **S** **18 20 08.8 -1.4**
baz=316
HRV Adam Dziewonsk 61.76 56 P **P** **18 11 47.3 -1.0**
HRV pmax pmax
comp=Z,58nm,1.2s
HRV MLR MLR
comp=Z,7µm,18.0s
HRV Adam Dziewonsk 61.76 56 P **P** **18 11 47.3 -1.0**
HRV IAmb IAmb 18 12 09.8
comp=Z,58nm,1.1s
HRV Adam Dziewonsk 61.76 56 P **P** **18 11 48.0 -0.3**
baz=316
WSPT Westport, CT 61.80 59 IAMs_20 IAMs_20 18 41 19.9
comp=Z,3µm,19.0s
HODGE Hodges 61.82 70 IAmb IAmb 18 11 54.7
comp=Z,37nm,0.8s
STOK Stokkvaagen 61.83 359 *eP* **P** **18 11 47.5 -1.0**
ENH Enshi 61.87 284 IAMs_20 IAMs_20 18 42 55.0
comp=Z,5µm,18.0s
YLE Yale 61.90 58 IAMs_20 IAMs_20 18 40 09.6
comp=Z,4µm,19.0s
UCCT U. Connecticut 61.92 57 IAmb IAmb 18 12 10.2
comp=Z,58nm,1.0s
WES Weston 61.97 56 IAmb IAmb 18 12 11.1
comp=Z,80nm,1.1s
MOR8 Moi Rana 61.98 359 *eP* **P** **18 11 48.0 -1.4**
BRYW Bryant College 62.19 57 IAmb IAmb 18 12 08.8
comp=Z,37nm,0.8s
BRYW IAMs_20 IAMs_20 18 40 56.3
comp=Z,6µm,19.0s
GGN Saint George 62.21 52 P **P** **18 11 50.8 -0.5**
GGN IAmb IAmb 18 12 16.3
comp=Z,68nm,1.4s
SEM Semipalatinsk 62.35 318 *c iP* **P** **18 11 50.9 -1.6**
SEM pmax pmax
comp=Z,46nm,1.4s
SEM MLR MLR
comp=Z,4µm,16.0s
SEM Semipalatinsk 62.35 318 ⇑ *iP* **P** **18 11 51.0 -1.6**
comp=Z,46nm,1.4s,baz=318
SEM LR LR 18 40 12.0
comp=Z,4µm,16.0s,baz=318
JSC Jenkinsville 62.36 69 IAmb IAmb 18 12 12.2
comp=Z,144nm,1.3s
W57A Gilead 62.46 68 IAmb IAmb 18 12 12.9
comp=Z,119nm,1.4s
BIRD Birdtown, Kers 62.55 68 IAmb IAmb 18 12 00.6
comp=Z,85nm,1.2s
BIRD PcP **PcP** **18 12 32.9 +0.1**
ZSN Zaisan 62.58 313 *c iP* **P** **18 11 53.4 -0.4**
ZSN pmax pmax
comp=Z,145nm,1.8s
ZSN Zaisan 62.58 313 ⇑ *iP* **P** **18 11 53.4 -0.4**
comp=Z,145nm,1.8s,baz=313
KURK Kurchatov 62.78 319 *c iP* **P** **18 11 54.7 -0.4**
KURK pmax pmax
comp=Z,136nm,1.2s
KURK MLR MLR
comp=Z,18µm,16.0s
KURK Kurchatov 62.78 319 P **P** **18 11 53.8 -1.2**
KURK IAmb IAmb 18 11 58.1
comp=Z,81nm,0.8s
KURK Kurchatov 62.78 319 P **P** **18 11 54.1 -0.9**
KURK P **P** **18 11 54.1 -0.9**
U59A Littleton 62.84 65 IAmb IAmb 18 12 15.3
comp=Z,77nm,1.1s
PRGR Permogore 63.30 342 *eP* **P** **18 11 56.0 -2.3**
PRGR pmax pmax
comp=Z,28nm,0.6s
553A Crawfordville 63.45 74 P **P** **18 11 59.7 -0.1**
CNNC Cliffs of the 63.59 66 P **P** **18 12 01.3 +0.7**
baz=317
NSS Namsos 63.65 360 *eP* **P** **18 12 00.2 -0.3**
NHSC New Hope 63.83 69 P **P** **18 12 02.3 0.0**
baz=317,SNR=7.6
WMQ Urumqi 63.96 308 ⇑P **P** **18 12 03.5 +0.4**
WMQ sP pwP 18 12 14.5 +2.4
WMQ PcP **PcP** **18 12 36.0 -2.5**
WMQ S **S** **18 20 39.0 +0.9**
WMQ ScS **SKKSac** **18 21 53.8 -2.0**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,2µm,4.9s
WMQ LR LR
comp=Z,6µm,14.7s
WMQ LR LR
comp=Z,9µm,17.3s
WMQ LR LR
comp=Z,7µm,16.9s
SVE Sverdlovsk 64.06 332 *c eP* **P** **18 12 02.1 -1.3**
SVE *e* 18 14 22.0
SVE *e* 18 15 53.4
SVE *eS* **S** **18 20 46.5 +7.8**
SVE *e* 18 24 41.9
SVE pmax pmax
comp=Z,178nm,1.5s
BVAR Borovoye Array 64.10 325 P **P** **18 12 03.5 -0.3**
comp=Z,30nm,0.5s,baz=296,slow=2.5,SNR=182
BRVK Borovoye 64.11 325 *c iP* **P** **18 12 03.7 -0.1**
BRVK pmax pmax
comp=Z,154nm,1.3s
BRVK MLR MLR
comp=Z,25µm,17.0s
BRVK Borovoye 64.11 325 P **P** **18 12 03.1 -0.7**
BRVK IAmb IAmb 18 12 06.1
comp=Z,83nm,0.9s
BRVK Borovoye 64.11 325 P **P** **18 12 03.2 -0.6**
BRVK P **P** **18 12 03.2 -0.6**
MK31 Makanchi Array 64.23 314 P **P** **18 12 04.4 -0.3**
MK31 pmax pmax
comp=Z,37nm,0.8s
MK31 Makanchi Array 64.23 314 P **P** **18 12 04.4 -0.3**
MK31 IAmb IAmb 18 12 07.2
comp=Z,37nm,0.8s
MKAR Makanchi Array 64.23 314 P **P** **18 12 03.8 -0.9**
comp=Z,52nm,0.7s,baz=50,slow=6.5,SNR=142
MKAR S **S** **18 20 36.8 -4.4**
comp=Z,1.9nm,1.1s,baz=328,slow=5.1,SNR=3.7
MKAR PKPPKP P'P'df 18 40 53.1 -8.0
comp=Z,1.5nm,1.0s,baz=267,slow=2.4,SNR=3.7
MKAR Makanchi Array 64.23 314 P **P** **18 12 04.3 -0.4**
MKAR Makanchi Array 64.23 314 P **P** **18 12 04.3 -0.4**
Y60A Bolivia 64.30 67 P **P** **18 12 04.9 -0.4**
MAKZ Makanchi 64.36 314 P **P** **18 12 04.1 -1.5**
MAKZ pmax pmax
comp=Z,160nm,1.4s
MAKZ MLR MLR
comp=Z,8µm,18.0s
MAKZ Makanchi 64.36 314 P **P** **18 12 04.1 -1.5**
GZH Guangzhou 64.79 276 P **P** **18 12 05.0 -3.6**
GZH PP **PP** **18 14 28.5 -2.5**
GZH S **S** **18 20 43.0 -5.6**
GZH pmax pmax
comp=Z,2µm,4.8s
GZH LR LR
comp=Z,4µm,16.6s
GZH LR LR
comp=Z,3µm,15.2s
CD2 Chengdu 64.80 288 ⇑P **P** **18 12 09.5 +0.8**
CD2 PcP **PcP** **18 12 41.5 -0.6**
CD2 S **S** **18 20 47.0 -1.7**
CD2 SS **SS** **18 25 01.5 +2.0**
CD2 pmax pmax
comp=Z,230nm,1.2s
CD2 pmax pmax
comp=Z,2µm,5.7s
CD2 LR LR
comp=Z,9µm,17.3s
CD2 LR LR
comp=Z,8µm,17.7s
HKPS Hong Kong Po S 64.90 274 IAMs_20 IAMs_20 18 45 25.9
comp=Z,3µm,18.0s
TBLU Trondheim 64.93 0 *eP* **P** **18 12 07.8 -1.2**
GULI GuiLin 64.97 279 ⇓P **P** **18 12 12.0 +2.1**
GULI S **S** **18 20 58.3 +7.4**
GULI pmax pmax
comp=Z,90nm,1.1s
GULI LR LR
comp=Z,5µm,14.9s
GULI LR LR
comp=Z,3µm,15.7s
GULI LR LR
comp=Z,7µm,16.4s
ARU Arti 64.98 333 P **P** **18 12 08.7 -0.8**
comp=Z,18nm,0.6s,baz=12,slow=2.0,SNR=75
ARU PKPPKP P'P'df 18 40 52.2 -8.6
comp=Z,0.4nm,0.3s,baz=270,slow=22,SNR=1.3
ARU PKP2ab 18 41 05.9
comp=Z,0.3nm,0.3s,baz=208,slow=2.9,SNR=3.7
ARU Arti 64.98 333 *c iP* **P** **18 12 09.0 -0.4**
ARU 18 12 40.6
ARU 18 14 27.7
ARU S **S** **18 20 51.4 +1.3**
ARU 18 22 01.8
ARU SS **SS** **18 25 00.1 -0.8**
ARU pmax pmax
comp=Z,155nm,1.1s
ARU MLR MLR
comp=Z,10µm,18.0s
ARU Arti 64.98 333 P **P** **18 12 08.7 -0.8**
ARU PcP **PcP** **18 12 41.5 -0.8**
KLMR Klimovskoe 65.09 345 *eP* **P** **18 12 07.1 -2.9**
KLMR *e* 18 12 39.9
KLMR *eS* **S** **18 20 50.0 -1.2**
KLMR pmax pmax
comp=Z,171nm,1.5s
KLMR Klimovskoe 65.09 345 *eP* **P** **18 12 07.1 -2.9**
KLMR AMP 18 12 13.1
comp=Z,171nm,1.5s
KLMR *e*PcP **PcP** **18 12 40.0 -2.7**
KLMR *eS* **S** **18 20 50.0 -1.2**
KLMR *eS* **S** **18 20 50.0 -1.2**
KLMR LQ LQ 18 36 47.2
KLMR LQ LQ 18 36 47.2
KLMR LR LR 18 41 00.4
KLMR AMP 18 47 48.6
comp=Z,4µm,14.1s
KIRV Kirov 65.34 339 P **P** **18 12 11.2 -0.5**
comp=Z,80nm,0.7s,baz=9.6,slow=4.6,SNR=36
TAOE Nuku Hiva Isla 65.54 149 *eS* **S** **18 20 56.9 -1.0**
comp=Z,2µm,25.4s
TAOE *eSS* **SS** **18 25 11.6 -0.5**
comp=Z,1µm,25.0s
TAOE *eLR* LR 18 31 48.6
comp=Z,7µm,29.2s,baz=354
TAOE Nuku Hiva Isla 65.54 149 *eT* T 19 23 12.1
comp=Z,39nm,0.2s
MOL Molde 65.58 2 *eP* **P** **18 12 13.5 +0.3**
VALR Valaam 65.75 350 *d iP* **P** **18 12 14.1 -0.2**
VALR pmax pmax
comp=Z,152nm,1.0s
AKN Aaknes 65.96 2 *eP* **P** **18 12 16.1 +0.3**
GOMU GeErMu 65.96 298 P **P** **18 12 16.3 -0.3**
GOMU pP pP 18 12 19.5 -1.7
GOMU sP sP 18 12 21.0 -1.9
GOMU PcP **PcP** **18 12 48.5 +1.2**
GOMU PP **PP** **18 14 40.0 -1.4**
GOMU S **S** **18 21 02.5 -1.0**
GOMU SS **SS** **18 25 19.3 +1.4**
GOMU pmax pmax
comp=Z,41nm,1.5s
GOMU pmax pmax
comp=Z,880nm,4.6s
GOMU LR LR
comp=Z,4µm,17.7s
GOMU LR LR
comp=Z,4µm,19.5s
GOMU LR LR
comp=Z,3µm,20.0s
FINES FINESS Array B 66.13 352 P **P** **18 12 14.8 -1.9**
comp=Z,86nm,0.7s,baz=19,slow=7.4,SNR=251
FINES PKPPKP P'P'df 18 40 51.2 -8.0
comp=Z,3.5nm,0.9s,baz=248,slow=7.4,SNR=3.1
DOMB Dombas 66.14 1 *eP* **P** **18 12 16.4 -0.5**
GYA Guiyang 66.35 283 ⇑P **P** **18 12 19.0 +0.1**
GYA S **S** **18 21 08.8 +0.9**
GYA pmax pmax
comp=Z,170nm,1.2s
GYA pmax pmax
comp=Z,2µm,3.5s
GYA LR LR
comp=Z,3µm,19.0s
GYA LR LR
comp=Z,1µm,16.8s
GYA LR LR
comp=Z,3µm,22.2s
FOO Floro 66.49 3 *eP* **P** **18 12 18.4 -0.6**
DWPF Disney Wildern 66.75 74 IAMs_20 IAMs_20 18 43 32.7
comp=Z,3µm,19.0s
CMIG Matias Romero 66.81 92 S **S** **18 21 10.7 -2.7**
comp=Z,0.9nm,0.7s,baz=285,slow=20,SNR=6.9
RAF Rauma 66.86 354 *eP* **P** **18 12 21.4 0.0**
HYA Hoyanger 66.95 3 *eP* **P** **18 12 21.8 -0.2**
HNR Honiara 66.97 214 LR LR 18 38 16.3
comp=Z,678nm,19.3s,baz=3.0,slow=33
NOA NORSAR Array B 67.15 0 P **P** **18 12 22.4 -1.0**
comp=Z,39nm,0.7s,baz=0.3,slow=6.3,SNR=61
NOA PKKP PKKPdf 18 32 19.0 -8.8
comp=Z,1.1nm,0.9s,baz=147,slow=12,SNR=1.5
TDK Taldyqorghan 67.33 315 *c iP* **P** **18 12 24.4 -0.3**
TDK pmax pmax
comp=Z,149nm,1.2s
TDK MLR MLR
comp=Z,6µm,16.0s
TDK Taldyqorghan 67.33 315 ⇑ *iP* **P** **18 12 24.4 -0.3**
comp=Z,149nm,1.2s,baz=315
TDK LR LR 18 42 31.2
comp=Z,6µm,15.6s,baz=315
NAO01 NORSAR Array S 67.35 0 P **P** **18 12 24.1 -0.4**
NAO01 IAmb IAmb 18 12 27.0
comp=Z,145nm,1.4s
PUL Pulkovo 67.37 350 *i* P **P** **18 12 24.3 -0.4**
PUL pmax pmax
comp=Z,120nm,0.4s
PUL Pulkovo 67.37 350 *eP* **P** **18 12 25.8 +1.1**
NC602 NORSAR Array S 67.46 360 *eP* **P** **18 12 25.4 +0.2**
MEF Metsahovi 67.48 353 *eP* **P** **18 12 25.6 +0.2**
SKAR Skarslia 67.49 2 *eP* **P** **18 12 25.5 -0.1**
ASK Askoy 67.61 3 *eP* **P** **18 12 26.2 +0.1**
BER Bergen 67.71 3 *eP* **P** **18 12 27.7 +0.9**
AAL Aland 67.80 355 *eP* **P** **18 12 28.2 +0.8**
HFS Hagfors 68.05 359 P **P** **18 12 27.9 -1.1**
comp=Z,54nm,0.7s,baz=101,slow=2.9,SNR=39
UPP Uppsala 68.22 357 *eP* **P** **18 12 29.5 -0.5**
ODD1 Odda 68.22 3 *eP* **P** **18 12 30.4 +0.2**
OSL Oslo 68.26 0 *eP* **P** **18 12 30.2 -0.1**
SHLS Shalkode 68.31 313 *c iP* **P** **18 12 30.0 -1.1**
SHLS pmax pmax
comp=Z,160nm,1.7s
SHLS Shalkode 68.31 313 ⇑ *iP* **P** **18 12 30.0 -1.1**
comp=Z,160nm,1.7s,baz=313
KPKS Kokpek 68.42 314 *c iP* **P** **18 12 31.4 -0.3**
KPKS pmax pmax
comp=Z,103nm,1.3s
KPKS Kokpek 68.42 314 ⇑ *iP* **P** **18 12 31.5 -0.3**
comp=Z,103nm,1.3s,baz=314
UZB Uzynbulak 68.52 313 *c iP* **P** **18 12 32.2 -0.2**
UZB pmax pmax
comp=Z,80nm,1.4s
UZB Uzynbulak 68.52 313 ⇑ *iP* **P** **18 12 32.2 -0.2**
comp=Z,80nm,1.4s,baz=313
KONO Kongsberg 68.54 1 P **P** **18 12 31.9 -0.2**
KONO pmax pmax
comp=Z,89nm,0.9s
KONO Kongsberg 68.54 1 P **P** **18 12 31.9 -0.2**
KONO IAmb IAmb 18 12 35.5
comp=Z,89nm,0.9s
KONO Kongsberg 68.54 1 *eP* **P** **18 12 31.9 -0.2**
BLS5 Blasjo 68.71 3 *eP* **P** **18 12 33.3 +0.1**
CHKK Chushkaly 68.86 315 *eP* **P** **18 12 33.0 -1.4**
baz=315
SATY Saty 68.86 314 *c iP* **P** **18 12 34.3 -0.2**
SATY *eS* **S** **18 21 38.0 +0.3**
SATY pmax pmax
comp=Z,121nm,1.9s
SATY Saty 68.86 314 ⇑ *iP* **P** **18 12 34.4 -0.2**
comp=Z,121nm,1.9s,baz=314
SATY *eS* **S** **18 21 38.1 +0.3**
baz=314
MTSE Matsula 69.02 353 *eP* **P** **18 12 35.0 0.0**
VSU Vasula 69.02 351 *c iP* **P** **18 12 34.7 -0.3**
VSU pmax pmax
comp=Z,404nm,0.8s
VSU MLR MLR
comp=Z,11µm,18.0s
VSU Vasula 69.02 351 *eP* **P** **18 12 35.4 +0.4**
KUU Kurty 69.11 315 *c iP* **P** **18 12 34.7 -1.2**
KUU pmax pmax
comp=Z,170nm,1.6s
KUU MLR MLR
comp=Z,5µm,15.0s
KUU Kurty 69.11 315 ⇑ *iP* **P** **18 12 34.7 -1.2**
comp=Z,170nm,1.6s,baz=315
KUU LR LR 18 43 50.3
comp=Z,5µm,14.8s,baz=315
CCIG Comitan 69.12 90 P **P** **18 12 35.9 -0.6**
BTLS Baital 69.16 318 *c iP* **P** **18 12 35.6 -0.5**
BTLS pmax pmax
comp=Z,99nm,1.5s
BTLS Baital 69.16 318 ⇑ *iP* **P** **18 12 35.7 -0.5**
comp=Z,99nm,1.5s,baz=318
PZH PanZhiHua 69.25 287 ⇑P **P** **18 12 37.8 +0.7**
PZH sP **pwP** **18 12 45.8 -0.3**
PZH S **S** **18 21 42.5 -0.1**
PZH sS sS 18 21 58.0 +7.9
PZH ScS **SKSac** **18 22 35.0 -1.5**
PZH SS **SS** **18 26 07.3 -1.4**
PZH pmax pmax
comp=Z,300nm,1.3s
PZH pmax pmax
comp=Z,2µm,5.0s
PZH LR LR
comp=Z,5µm,16.5s
PZH LR LR
comp=Z,3µm,15.7s
PZH LR LR
comp=Z,5µm,17.1s
PMOR Pomariorio Ree 69.28 158 *eP* **P** **18 12 37.5 +0.4**
comp=Z,153nm,1.3s
PMOR Pomariorio Ree 69.28 158 *eT* T 19 27 49.8
comp=Z,5.7nm,0.3s
MDOK Medeo 69.38 315 *i* P **P** **18 12 37.4 -0.4**
MDOK *i* S **S** **18 21 44.1 +0.3**
MDOK MLR MLR
comp=Z,4µm,15.0s
MDOK Medeo 69.38 315 *i* P **P** **18 12 37.4 -0.4**
baz=314
MDOK *i* S **S** **18 21 44.2 +0.3**
baz=314
MDOK LR LR 18 43 21.0
comp=Z,4µm,15.4s,baz=314
AAA Alma-Ata 69.41 315 *i* P **P** **18 12 38.1 +0.3**
AAA Alma-Ata 69.41 315 *eP* **P** **18 12 37.9 +0.1**
comp=Z,113nm,0.9s,baz=314
AAA LR LR 18 43 54.7
comp=Z,5µm,14.6s,baz=314
TNSS Tian-Shan 69.53 314 *i* P **P** **18 12 38.7 -0.3**
baz=314
VAH Vaihoa 69.57 158 *eP* **P** **18 12 39.0 +0.1**
comp=Z,90nm,1.0s
VIKU Vikbolandet 69.61 357 *eP* **P** **18 12 39.4 +0.7**
DAV Davao City (W) 69.62 255 IAMs_20 IAMs_20 18 38 36.7

	comp=Z,5μm,21.0s								
KMI	**Kunming**	**69.69**	**285**	⇑P		**P**		**18 12 40.8**	**+0.8**
KMI				pP		sP		18 12 46.3	+0.4
KMI				sP		pwP		18 12 50.0	+1.1
KMI				PcP		**PcP**		**18 13 00.5**	**-2.3**
KMI				PP		**PP**		**18 15 14.5**	**+0.7**
KMI				S		**S**		**18 21 50.3**	**+2.2**
KMI				sS		sS		18 22 03.3	+7.7
KMI				SKS		**SKSac**		**18 22 35.0**	**-5.1**
KMI				pmax		pmax			
	comp=Z,120nm,1.2s								
KMI				pmax		pmax			
	comp=Z,2μm,5.1s								
KMI				LR		LR			
	comp=Z,5μm,15.7s								
KMI				LR		LR			
	comp=Z,3μm,17.3s								
KMI				LR		LR			
	comp=Z,7μm,15.7s								
SNART	**Snartemo**	**69.81**	**2**	*e*P		**P**		**18 12 40.5**	**+0.6**
HOMB	**Homborsund**	**69.91**	**2**	*e*P		**P**		**18 12 40.2**	**-0.3**
QIZ	**Qiongzhong**	**69.98**	**275**	IAms_20		IAms_20		18 40 02.3	
	comp=Z,2μm,20.0s								
QIZ	**Qiongzhong**	**69.98**	**275**	P		**P**		**18 12 41.5**	**-0.1**
QIZ				S		**S**		**18 21 51.8**	**+0.7**
QIZ				pmax		pmax			
	comp=Z,45nm,2.5s								
QIZ				pmax		pmax			
	comp=Z,1μm,3.8s								
QIZ				LR		LR			
	comp=Z,2μm,18.2s								
QIZ				LR		LR			
	comp=Z,3μm,15.8s								
QIZ				LR		LR			
	comp=Z,3μm,16.1s								
MCD	**Coleburn Disti**	**69.98**	**8**	*e*P		**P**		**18 12 41.5**	**+0.5**
MDO	**Dochfour**	**70.02**	**9**	*e*P		**P**		**18 12 41.7**	**+0.4**
TARG	**Taragay, Kyrgy**	**70.19**	**313**	IAmb		IAmb		18 12 46.8	
	comp=Z,57nm,0.6s								
SGDS	**Sogindy**	**70.20**	**316**	⇑*i*P		**P**		**18 12 42.7**	**0.0**
	comp=Z,103nm,1.6s,baz=316								
SLIT	**Slitere, Latvi**	**70.20**	**354**	*e*P		**P**		**18 12 42.5**	**+0.1**
TKM2	**Tokmak 2**	**70.21**	**315**	P		**P**		**18 12 43.2**	**+0.2**
	SNR=54								
MOS	**Moscow**	**70.28**	**345**	*e*P		**P**		**18 12 40.3**	**-2.6**
MOS				*i*				18 13 12.2	
MOS				*e*S		**S**		**18 21 49.0**	**-4.6**
MOS				*e*				18 22 42.3	
MOS				*e*SS		**SS**		**18 26 21.3**	**-1.4**
MOS				pmax		pmax			
	comp=Z,242nm,0.9s								
MOS				pmax		pmax			
	comp=Z,200nm,0.9s								
AKTO	**Aktyubinsk**	**70.39**	**330**	P		**P**		**18 12 42.8**	**-0.8**
	comp=Z,99nm,0.8s,baz=37,slow=6.2,SNR=108								
USP	**Ospenovka**	**70.40**	**316**	P		**P**		**18 12 44.0**	**+0.1**
	SNR=125								
ULHL	**Ulahol**	**70.47**	**314**	P		**P**		**18 12 44.9**	**+0.2**
	SNR=78								
SANVU	**Saraoutou**	**70.48**	**205**	IAMs_20		IAMs_20		18 40 59.7	
	comp=Z,3μm,20.0s								
CHMS	**Chumysh**	**70.51**	**316**	P		**P**		**18 12 44.8**	**+0.2**
	SNR=65								
KBK	**Karagaybulak**	**70.71**	**316**	P		**P**		**18 12 46.2**	**+0.3**
	SNR=118								
DRUM	**Mains of Drumt**	**70.71**	**8**	*e*P		**P**		**18 12 45.8**	**+0.3**
ABKAR	**Akbulak array**	**70.81**	**329**	IAmb		IAmb		18 12 48.5	
	comp=Z,88nm,0.8s								
SRPI	**Serui, Papua**	**70.88**	**240**	P		**P**		**18 12 49.9**	**+2.8**
AAK	**Ala-Archa**	**70.92**	**316***c*	*i*P		**P**		**18 12 47.7**	**+0.5**
AAK				pmax		pmax			
	comp=Z,185nm,1.4s								
AAK				MLR		MLR			
	comp=Z,10μm,16.0s								
AAK	**Ala-Archa**	**70.92**	**316**	P		**P**		**18 12 47.0**	**-0.3**
AAK				IAmb		IAmb		18 12 49.9	
	comp=Z,83nm,0.8s								
AAK	**Ala-Archa**	**70.92**	**316**	P		**P**		**18 12 47.5**	**+0.3**
AAK				P		**P**		**18 12 47.5**	**+0.3**
AAK	**Ala-Archa**	**70.92**	**316**	*i*P		**P**		**18 12 47.7**	**+0.5**
	SNR=115								
EDU	**Dundee**	**71.02**	**8**	*e*P		**P**		**18 12 47.4**	**-0.1**
INVG	**Invergeldie, C**	**71.05**	**9**	*e*P		**P**		**18 12 48.6**	**+1.0**
OBN	**Obninsk**	**71.05**	**345**	P		**P**		**18 12 46.4**	**-1.1**
	comp=Z,27nm,0.7s,baz=28,slow=2.4,SNR=25								
OBN	**Obninsk**	**71.05**	**345***c*	*i*P		**P**		**18 12 46.4**	**-1.1**
OBN				*e*				18 15 27.1	
OBN				*e*PPP		PPP		18 17 04.3	
OBN				*i*S		**S**		**18 22 06.2**	**+3.7**
OBN				pmax		pmax			
	comp=Z,207nm,1.1s								
OBN				MLR		MLR			
	comp=Z,4μm,18.0s								
OBN	**Obninsk**	**71.05**	**345**	P		**P**		**18 12 46.1**	**-1.4**
LAWE	**Loch Awe, Argy**	**71.08**	**10**	*e*P		**P**		**18 12 47.6**	**-0.1**
EKS2	**Erkin-Say**	**71.20**	**316**	P		**P**		**18 12 49.2**	**+0.3**
	SNR=130								
PPT	**Papeete**	**71.41**	**161**	LR		LR		18 45 14.8	
	comp=Z,2μm,18.1s,baz=337,slow=37								
PPT2	**Papeete2**	**71.43**	**161**	*e*P		**P**		**18 12 50.0**	**-0.3**
	comp=Z,73nm,1.4s								
PPT2				*e*S		**S**		**18 22 06.9**	**-0.9**
	comp=Z,2μm,28.0s								
PPT2				*e*LQ		LQ		18 31 14.9	
	comp=Z,3μm,24.2s								
PPT2				*e*LR		LR		18 34 24.0	
	comp=Z,8μm,29.5s,baz=346								
AML	**Almayashu**	**71.67**	**316**	P		**P**		**18 12 52.7**	**+0.6**
	SNR=81								
AML	**Almayashu**	**71.67**	**316**	*i*P		**P**		**18 12 52.9**	**+0.8**
	SNR=81								
TVO	**Taravao**	**71.69**	**160**	*e*P		**P**		**18 12 52.0**	**+0.2**
	comp=Z,0.9nm,0.8s								
DEL	**Delary**	**71.72**	**358**	*e*P		**P**		**18 12 52.3**	**+0.8**
MUD	**Monsted U'grnd**	**71.74**	**1**	*i*P		**P**		**18 12 52.0**	**+0.4**
MUD				IAmb		IAmb		18 12 54.9	
	comp=Z,34nm,0.8s								
PBUR	**Paburge**	**71.82**	**354**	*e*P		**P**		**18 12 52.6**	**+0.3**
ISAL	**Salakas**	**71.93**	**351**	*e*P		**P**		**18 12 54.0**	**+1.1**
PMG	**Port Moresby**	**72.02**	**226**	P		**P**		**18 12 54.6**	**+0.7**
	comp=Z,32nm,0.9s,baz=6.8,slow=5.6,SNR=12								
PMG	**Port Moresby**	**72.02**	**226**	P		**P**		**18 12 54.3**	**+0.5**
PMG				pmax		pmax			
	comp=Z,44nm,1.0s								
PMG				MLR		MLR			
	comp=Z,2μm,20.0s								
PMG	**Port Moresby**	**72.02**	**226**	P		**P**		**18 12 54.3**	**+0.5**
DZA	**Taraz**	**72.04**	**318**	*i*P		**P**		**18 12 53.4**	**-0.4**
DZA	**Taraz**	**72.04**	**318**	*i*P		**P**		**18 12 53.4**	**-0.4**
	baz=318								
IDID	**Didziasalis**	**72.13**	**351**	*e*P		**P**		**18 12 54.4**	**+0.3**
IIGN	**Ignalina**	**72.14**	**351**	*e*P		**P**		**18 12 54.7**	**+0.6**
KKAR	**Karatay Array**	**72.20**	**319**	P		**P**		**18 12 54.2**	**-0.6**
KKAR	**Karatay Array**	**72.20**	**319**	P		**P**		**18 12 54.2**	**-0.6**
EKA	**Eskdalemuir Ar**	**72.21**	**9**	P		**P**		**18 12 54.4**	**-0.2**
	comp=Z,22nm,0.7s,baz=355,slow=4.2,SNR=37								
ESK	**Eskdalemuir**	**72.22**	**9**	*e*P		**P**		**18 12 54.1**	**-0.5**
ESK				IAmb		IAmb		18 12 56.2	
	comp=Z,268nm,1.6s								
ESK	**Eskdalemuir**	**72.22**	**9**	P		**P**		**18 12 54.7**	**+0.1**
ESK				pmax		pmax			
	comp=Z,83nm,1.1s								
ESK	**Eskdalemuir**	**72.22**	**9**	P		**P**		**18 12 54.7**	**+0.1**
ESK				IAmb		IAmb		18 12 58.4	
	comp=Z,83nm,1.1s								
NEWG	**New Galloway**	**72.32**	**9**	*e*P		**P**		**18 12 54.8**	**-0.5**
NEWG				IAmb		IAmb		18 12 57.5	
	comp=Z,301nm,1.8s								
NACGM	**Naroch**	**72.53**	**351**⇓	*e*P		**P**		**18 12 56.2**	**-0.2**
SWI	**Sorong**	**72.76**	**245**	P		**P**		**18 12 58.8**	**+0.4**
	comp=Z,2μmcomp=Z,119nm,1.1s								
KSH	**Kashi**	**72.80**	**313**	P		**P**		**18 13 01.8**	**+3.3**
KSH				sP		pwP		18 13 08.0	+0.4
KSH				S		**SKiKP**		**18 22 27.5**	**-3.4**
KSH				pmax		pmax			
	comp=Z,190nm,1.4s								
KSH				pmax		pmax			
	comp=Z,1μm,9.8s								
KSH				LR		LR			
	comp=Z,7μm,19.0s								
KSH				LR		LR			
	comp=Z,5μm,15.0s								
KSH				LR		LR			
	comp=Z,9μm,18.7s								
MNK	**Minsk**	**72.81**	**350**	*i*P		**P**		**18 12 57.8**	**-0.3**
MNK				*i*				18 15 36.3	
MNK				*i*PPP		PPP		18 17 32.4	
MNK				*i*S		**S**		**18 22 25.6**	**+2.8**
MNK				pmax		pmax			
	comp=Z,189nm,0.9s								
MNK				pmax		pmax			
	comp=N,181nm,1.5s								
MNK				pmax		pmax			
	comp=E,11nm,0.8s								
MNK				MLR		MLR			
	comp=Z,3μm,15.0s								
MNK				MLR		MLR			
	comp=N,3μm,18.0s								
MNK				MLR		MLR			
	comp=E,434nm,17.0s								
MNK	**Minsk**	**72.81**	**350**	*i*P		**P**		**18 12 57.9**	**-0.3**
	comp=E,11nm,0.8s								
MNK				*i*P		**P**		**18 12 57.9**	**-0.3**
	comp=N,181nm,1.6s								
MNK				*i*P		**P**		**18 12 57.9**	**-0.3**
	comp=Z,189nm,0.9s,baz=191								
MNK				*i*PP		**PP**		**18 15 36.4**	**-3.0**
MNK				*i*PPP		PPP		18 17 32.4	
MNK				*i*S		**S**		**18 22 25.7**	**+2.8**
MNK				*i*SS		SS		18 27 13.4	+12
MNK				*i*SSS		SSS		18 30 34.7	
MNK				*i*LQ		LQ		18 40 26.8	
MNK				*i*LR		LR		18 46 03.6	
MNK				*i*LRM		MLR		18 47 47.6	
	comp=E,434nm,17.4s								
MNK				*i*LRM		MLR		18 47 47.6	
	comp=N,3μm,17.6s								
MNK				*i*LRM		MLR		18 47 47.6	
	comp=Z,3μm,15.5s								
LSA	**Lhasa**	**72.89**	**296**	IAMs_20		IAMs_20		18 45 59.5	
	comp=Z,4μm,21.0s								
LSA	**Lhasa**	**72.89**	**296**	P		**P**		**18 13 00.8**	**+1.2**
LSA				S		**S**		**18 22 26.3**	**+0.9**
LSA				pmax		pmax			
	comp=Z,150nm,1.5s								
LSA				LR		LR			
	comp=Z,2μm,17.8s								
LSA				LR		LR			
	comp=Z,3μm,18.5s								
LSA				LR		LR			
	comp=Z,2μm,17.1s								
LSA	**Lhasa**	**72.89**	**296**	P		**P**		**18 13 01.4**	**+1.8**
BBSR	**BB Station**	**72.96**	**59**	IAMs_20		IAMs_20		18 48 45.4	
	comp=Z,3μm,20.0s								
BSD	**Bornholm Skovb**	**73.05**	**358**	*i*P		**P**		**18 12 59.2**	**-0.4**
BSD				IAmb		IAmb		18 13 01.9	
	comp=Z,19nm,0.9s								
BSD	**Bornholm Skovb**	**73.05**	**358**	*e*P		**P**		**18 13 02.2**	**+2.7**
LPSR	**Galich'ya Gora**	**73.06**	**343**	*e*P		**P**		**18 12 58.9**	**-0.7**
LPSR				*e*S		**S**		**18 22 21.1**	**-4.6**
LPSR				pmax		pmax			
	comp=Z,100nm,1.4s								
LPSR				smax		smax			
	comp=N,2μm,12.5s								
IUG	**Iuzhnay**	**73.19**	**318***c*	*i*P		**P**		**18 13 01.0**	**+0.2**
IUG	**Iuzhnay**	**73.19**	**318**	⇑*i*P		**P**		**18 13 01.0**	**+0.2**
	baz=318								
WIM	**Isle of Man**	**73.24**	**10**	*e*P		**P**		**18 13 00.0**	**-0.7**
KLNR	**Kaliningrad**	**73.35**	**355**	*i*P		**P**		**18 13 01.0**	**-0.3**
KLNR				pmax		pmax			
	comp=Z,87nm,0.7s								
SKMB	**Sankelmark Bun**	**73.48**	**1**	*e*P		**P**		**18 13 02.3**	**+0.2**
	comp=Z,564nm,1.6s,baz=360,slow=5.7								
RGN	**Rugen**	**73.65**	**359**	*e*P		**P**		**18 13 03.1**	**+0.1**
	comp=Z,146nm,1.0s,baz=360,slow=5.7								
SUW	**Suwalki**	**73.73**	**353**	*e*P		**P**		**18 13 02.7**	**-0.9**
SUW				*e*L		L		18 53 18.0	
	comp=Z,4μm,17.3s								
SUW	**Suwalki**	**73.73**	**353**	*e*P		**P**		**18 13 03.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**73.82**	**88**	*e*P		P		18 13 10.0	+5.1
VRH	**Novokhopyorsk**	**73.85**	**341**	*e*P		**P**		**18 13 03.2**	**-1.1**
VRH				*e*S		**SKiKP**		**18 22 31.6**	**-0.4**
VRH				pmax		pmax			
	comp=Z,190nm,1.4s								
VRH				smax		smax			
	comp=N,2μm,15.0s								
VORR	**Voronezh**	**73.89**	**342**	*e*P		**P**		**18 13 04.1**	**-0.5**
VORR				*e*S		**SKiKP**		**18 22 32.9**	**+0.9**
VORR				pmax		pmax			
	comp=Z,119nm,1.8s								
HLG	**Helgoland**	**73.99**	**2**	*e*P		**P**		**18 13 05.1**	**0.0**
	comp=Z,298nm,1.1s,baz=360,slow=5.7								
WME	**Myndd Eilian**	**74.02**	**10**	*e*P		**P**		**18 13 04.8**	**-0.5**
LBWR	**Ladybower, Pea**	**74.25**	**8**	*e*P		**P**		**18 13 07.4**	**+0.7**
LBWR				IAmb		IAmb		18 13 08.3	
	comp=Z,189nm,1.3s								
BSEG	**Bad Segeberg**	**74.28**	**1**	*e*P		**P**		**18 13 06.6**	**-0.1**
	comp=Z,161nm,1.3s,baz=360,slow=5.7								
STNC	**Stoke**	**74.52**	**8**	*e*P		**P**		**18 13 09.0**	**+0.8**
STNC				IAmb		IAmb		18 13 10.2	
	comp=Z,445nm,1.4s								
VORD	**Divnogorie**	**74.55**	**342**	*e*P		**P**		**18 13 07.9**	**-0.5**
VORD				pmax		pmax			
	comp=Z,90nm,0.8s								
FOEL	**Foel Wylfa**	**74.62**	**9**	*e*P		**P**		**18 13 09.4**	**+0.6**
FOEL				IAmb		IAmb		18 13 12.6	
	comp=Z,207nm,0.9s								
LNIZ	**Loecknitz**	**74.69**	**358**	*e*P		**P**		**18 13 09.0**	**-0.2**
	comp=Z,242nm,1.3s,baz=360,slow=5.7								
LBMI	**Labuha**	**74.71**	**248**	P		**P**		**18 13 13.6**	**+3.8**
	comp=Z,1μmcomp=Z,70nm,1.7s								
GKP	**Gorka Klasztor**	**74.83**	**356**	*e*P		**P**		**18 13 10.0**	**+0.1**
GKP				*e*L		L		18 55 09.0	
	comp=Z,4μm,18.4s								
GKP	**Gorka Klasztor**	**74.83**	**356**	*e*P		**P**		**18 13 11.7**	**+1.8**
HLM1	**Long Mynd**	**75.02**	**9**	*e*P		**P**		**18 13 11.9**	**+0.7**
HLM1				IAmb		IAmb		18 13 13.6	
	comp=Z,611nm,2.2s								
WACR	**West Acre**	**75.11**	**7**	*e*P		**P**		**18 13 12.2**	**+0.5**
WACR				IAmb		IAmb		18 13 13.1	
	comp=Z,410nm,1.2s								
RSBS	**Rosebush, Pemb**	**75.39**	**10**	*e*P		**P**		**18 13 13.0**	**-0.3**
RSBS				IAmb		IAmb		18 13 15.0	
	comp=Z,258nm,1.3s								
RETH	**Rethem/Aller,**	**75.47**	**1**	*e*P		**P**		**18 13 13.5**	**-0.1**
	comp=Z,191nm,1.5s,baz=360,slow=5.7								
UBPT	**Khong Chiam**	**75.52**	**276**	IAmb		IAmb		18 13 35.0	
	comp=Z,187nm,1.3s								
MCH1	**Michaelchurch**	**75.53**	**9**	*e*P		**P**		**18 13 14.7**	**+0.6**
MCH1				IAmb		IAmb		18 13 15.8	
	comp=Z,171nm,1.2s								
LIFNC	**LIFOU**	**75.59**	**203**	IAMs_20		IAMs_20		18 41 02.0	
	comp=Z,2μm,19.0s								
SHL	**Shillong**	**75.67**	**293**	*i*P		**P**		**18 13 14.7**	**-0.8**
SHL	**Shillong**	**75.67**	**293**	P		**P**		**18 13 15.0**	**-0.5**
	SNR=106								
RUE	**Ruedersdorf**	**75.72**	**358**	*e*P		**P**		**18 13 15.8**	**+0.8**
RUE	**Ruedersdorf**	**75.72**	**358**	*e*P		**P**		**18 13 14.9**	**-0.2**
	comp=Z,248nm,1.4s,baz=360,slow=5.7								
NRDL	**Niedersach Rie**	**75.72**	**1**	*e*P		**P**		**18 13 14.8**	**-0.2**
	comp=Z,146nm,1.4s,baz=360,slow=5.7								
STRD	**Stroud**	**75.83**	**9**	*e*P		**P**		**18 13 14.9**	**-0.8**
IBBN	**Ibbenburen**	**75.87**	**2**	*e*P		**P**		**18 13 15.8**	**-0.1**
	comp=Z,261nm,1.4s,baz=360,slow=5.7								
FLTG	**Flechtingen**	**75.89**	**0**	*e*P		**P**		**18 13 15.3**	**-0.7**
	comp=Z,162nm,1.5s,baz=360,slow=5.7								
BEL	**Belsk**	**76.07**	**354**	*e*P		**P**		**18 13 17.8**	**+0.6**
BEL				*e*L		L		18 54 59.4	
	comp=Z,4μm,16.2s								
KKM	**Kota Kinabalu**	**76.08**	**262**	P		**P**		**18 13 17.0**	**-0.8**
KKM				IAmb		IAmb		18 13 37.1	
	comp=Z,89nm,1.2s								
KKM				IAMs_20		IAMs_20		18 42 32.6	
	comp=Z,2μm,22.0s								
ASSE	**Asse, Remlinge**	**76.09**	**0**	*e*P		**P**		**18 13 17.0**	**-0.2**
	comp=Z,171nm,1.6s,baz=360,slow=5.7								
DLV	**T Lat**	**76.24**	**272**	IAMs_20		IAMs_20		18 53 05.3	
	comp=Z,3μm,18.0s								
CLZ	**Clausthal**	**76.37**	**1**	*e*P		**P**		**18 13 18.2**	**-0.8**
	comp=Z,210nm,1.4s,baz=360,slow=5.7								
AKASG	**Malin Array Be**	**76.39**	**348**	P		**P**		**18 13 17.6**	**-1.3**
	comp=Z,27nm,0.5s,baz=15,slow=5.8,SNR=114								
AKASG	**Malin Array Be**	**76.39**	**348**	P		**P**		**18 13 17.2**	**-1.8**
AKASG	**Malin Array Be**	**76.39**	**348**	P		**P**		**18 13 17.2**	**-1.8**
AKBB	**Malin Array Si**	**76.39**	**348**	P		**P**		**18 13 17.3**	**-1.7**
AKBB				pmax		pmax			
	comp=Z,84nm,1.1s								
AKBB	**Malin Array Si**	**76.39**	**348**	P		**P**		**18 13 17.3**	**-1.7**
AKBB				IAmb		IAmb		18 13 21.5	
	comp=Z,84nm,1.1s								
MTDJ	**Mount Denham**	**76.56**	**78**	IAMs_20		IAMs_20		18 53 32.6	
	comp=Z,3μm,20.0s								
TAPN	**Taplejung**	**76.60**	**297**	*e*P		**P**		**18 13 21.2**	**+0.2**
	comp=Z,734nm,1.5s								
GTTG	**Gottingen**	**76.67**	**1**	*e*P		**P**		**18 13 20.5**	**0.0**
	comp=Z,192nm,1.4s,baz=360,slow=5.7								
GTBY	**Guantanamo Bay**	**76.70**	**75**	IAMs_20		IAMs_20		18 48 46.2	
	comp=Z,3μm,20.0s								
SANI	**Sanana**	**76.72**	**249**	P		**P**		**18 13 21.0**	**-0.3**
	comp=Z,1μmcomp=Z,56nm,1.6s								
BUG	**Bochum--Univer**	**76.72**	**3**	*e*P		**P**		**18 13 20.3**	**-0.6**
	comp=Z,117nm,1.1s,baz=360,slow=5.7								
SLGI	**Shiliguri**	**76.72**	**296**⇑	*i*P		**P**		**18 13 21.9**	**+0.6**
CHTO	**Chiang Mai**	**76.76**	**284**	P		**P**		**18 13 21.2**	**-0.4**
CHTO				pmax		pmax			
	comp=Z,125nm,1.3s								
CHTO				MLR		MLR			
	comp=Z,4μm,18.0s								
CHTO	**Chiang Mai**	**76.76**	**284**	P		**P**		**18 13 21.2**	**-0.4**
CHTO				IAmb		IAmb		18 13 38.2	
	comp=Z,125nm,1.2s								
CHTO	**Chiang Mai**	**76.76**	**284**	IAMs_20		IAMs_20		18 53 51.6	
	comp=Z,4μm,18.0s								
CHTO	**Chiang Mai**	**76.76**	**284**	P		**P**		**18 13 21.8**	**+0.2**
CHTO				P		**P**		**18 13 21.8**	**+0.2**
CLL	**Collm**	**76.90**	**359**⇑	*i*P		**P**		**18 13 21.2**	**-0.6**
CLL				*i*				18 13 39.9	
CLL				*e*S		**S**		**18 23 06.0**	**-2.5**
CLL				pmax		pmax			
	comp=Z,146nm,1.4s								
CLL				MLR		MLR			
	comp=Z,3μm,18.5s								
CLL	**Collm**	**76.90**	**359**	IAmb		IAmb		18 13 23.8	
	comp=Z,130nm,1.4s								
CLL	**Collm**	**76.90**	**359**⇑	*i*P		**P**		**18 13 21.2**	**-0.6**
	comp=Z,146nm,1.4s								
CLL				*e*Pmax				18 13 28.0	
CLL				*i* sPcP				18 13 39.9	
CLL				*e*PP		**PP**		**18 16 14.0**	**-0.1**
CLL				*e*S		**S**		**18 23 06.0**	**-2.5**
CLL				*e*PS		**PnS**		**18 23 48.0**	**+0.8**
CLL				*e*x		x		18 25 48.0	
CLL				*e*SS		SS		18 28 18.0	+14
CLL				*e*(SSS)				18 32 06.0	
CLL				*e*SSSS				18 33 54.0	
CLL				LmV				18 51 00.0	
	comp=Z,3μm,18.5s								
CLL				Lmax				19 00 00.0	
CLL	**Collm**	**76.90**	**359**	*e*P		**P**		**18 13 21.3**	**-0.6**
	comp=Z,146nm,1.4s,baz=360,slow=5.7								
KASTN	**Kahler Asten**	**76.99**	**2**	*e*P		**P**		**18 13 22.2**	**-0.2**
	comp=Z,109nm,1.4s,baz=360,slow=5.7								
NEUB	**Neuenburg**	**77.01**	**360**	*e*P		**P**		**18 13 22.3**	**-0.2**
	comp=Z,272nm,1.4s,baz=360,slow=5.7								
DZM	**Mont Dzumac**	**77.03**	**204**	*e*P		**P**		**18 13 22.4**	**-0.5**
	comp=Z,142nm,1.6s								
DZM				*e*S		**S**		**18 23 08.3**	**-2.2**
	comp=Z,1μm,26.1s								
DZM				*e*SS		**SS**		**18 28 02.7**	**-5.7**
	comp=Z,2μm,26.8s								
DZM				*e*LR		LR		18 37 00.8	
	comp=Z,3μm,29.1s								
CMAR	**Chiang Mai Arr**	**77.03**	**283**	P		**P**		**18 13 23.3**	**+0.2**
	comp=Z,73nm,0.9s,baz=26,slow=5.8,SNR=281								
CMAR				S		**S**		**18 23 09.7**	**-1.3**
	comp=Z,0.2nm,0.2s,baz=98,slow=14,SNR=1.8								
CMAR	**Chiang Mai Arr**	**77.03**	**283**	*i*P		**P**		**18 13 23.7**	**+0.6**
CMAR				pmax		pmax			
	comp=Z,75nm,0.9s								
MRSI	**Marisa**	**77.05**	**254**	P		**P**		**18 13 23.8**	**+0.6**
	comp=Z,2μmcomp=Z,2μmcomp=Z,93nm,1.4s								
TBI	**Tubuai**	**77.06**	**162**	*e*S		**S**		**18 23 08.9**	**-1.7**
	comp=Z,1μm,29.5s								
TBI	**Tubuai**	**77.06**	**162**	*e*LQ		LQ		18 33 34.0	
	comp=Z,2μm,25.5s								
TBI				*e*LR		LR		18 37 06.3	
	comp=Z,5μm,32.0s,baz=345								
TBI	**Tubuai**	**77.06**	**162**	*e*T		T		19 37 31.5	
	comp=Z,6.0nm,0.3s								
GUN	**Gumba**	**77.16**	**299**	*e*P		**P**		**18 13 24.4**	**+0.2**
	comp=Z,465nm,1.1s								
ODAN	**Odare**	**77.16**	**297**	*e*P		**P**		**18 13 23.4**	**-0.7**
	comp=Z,113nm,0.9s								
JIRN	**Jiri**	**77.19**	**299**	*e*P		**P**		**18 13 25.0**	**+0.7**
	comp=Z,153nm,0.7s								
FBE	**Freiberg**	**77.28**	**359**	*e*P		**P**		**18 13 24.1**	**+0.1**
	comp=Z,338nm,1.6s,baz=360,slow=5.7								
KSP	**Ksiaz**	**77.29**	**357**	*e*P		**P**		**18 13 24.3**	**+0.3**
KSP				*e*L		L		18 57 06.5	
	comp=Z,4μm,17.1s								
BEBN	**Eben Emael**	**77.31**	**4**	*d*P		**P**		**18 13 24.5**	**+0.4**
BRG	**Berggiesshubel**	**77.32**	**358**	*e*P		**P**		**18 13 24.3**	**+0.1**
BRG				Amp				18 13 28.1	
	comp=Z,193nm,1.6s								
BRG		

comp=Z,248nm,1.8s,baz=360,slow=5.7
DMN Daman 77.81 299 *e*P P 18 13 28.0 +0.3
comp=Z,787nm,1.6s
LVV L'vov 77.82 352 *d* iP P 18 13 26.7 -0.4
LVV *e*S S 18 23 15.8 -2.8
LVV *e*PS PnS 18 24 02.4 +3.4
LVV pmax pmax
comp=Z,280nm,1.6s
LVV MLR MLR
comp=N,3µm,20.0s
LVV MLR MLR
comp=E,800nm,20.0s
LVV MLR MLR
comp=Z,3µm,20.0s
COEN Coen 77.83 228 P P 18 13 27.6 +0.1
GUNZ Gunzen 77.85 359 *e*P P 18 13 27.3 +0.1
comp=Z,315nm,1.9s,baz=360,slow=5.7
WERN Wernitzgruen 77.93 359 *e*P P 18 13 27.8 +0.1
comp=Z,189nm,1.5s,baz=360,slow=5.7
RCHB Rochefort 77.94 4 *d*P P 18 13 27.5 -0.1
DANN Dangsing 77.94 301 *e*P P 18 13 28.8 +0.3
comp=Z,623nm,0.9s
DOU Dourbes 77.97 4 *d*P P 18 13 28.0 +0.2
TNS Taunus Mts 77.97 2 *e*P P 18 13 27.7 -0.2
comp=Z,114nm,1.3s,baz=360,slow=5.7
NKC Novy Kostel 77.98 359 *e*P P 18 13 28.5 +0.5
NKC MLR MLR
comp=Z,3µm,16.4s
NKC Novy Kostel 77.98 359 *e*P P 18 13 28.5 +0.5
NKC AMS AMS 19 01 10.0
comp=Z,3µm,16.4s
KRLC Kraliky 78.04 356 *e*P P 18 13 28.9 +0.6
KRLC MLR MLR
comp=Z,4µm,17.9s
KRLC Kraliky 78.04 356 *e*P P 18 13 28.9 +0.6
KRLC AMS AMS 18 56 50.0
comp=Z,4µm,17.9s
KWP Kalwaria Pacla 78.12 352 *e*P P 18 13 29.0 +0.3
KWP *e*L L 18 51 00.5
comp=Z,3µm,21.5s
PRU Pruhonice 78.19 358 *e*P P 18 13 29.7 +0.6
PRU *e*S S 18 23 29.2 +6.6
PRU MLR MLR
comp=Z,4µm,16.1s
PRU Pruhonice 78.19 358 *e*P P 18 13 29.7 +0.6
PRU *e*S S 18 23 29.2 +6.6
PRU AMS AMS 19 01 10.0
comp=Z,4µm,16.1s
OKC Ostrava-Krasne 78.21 355 *e*P P 18 13 30.0 +0.8
OKC MLR MLR
comp=Z,4µm,16.2s
OKC Ostrava-Krasne 78.21 355 *e*P P 18 13 30.0 +0.8
OKC AMS AMS 18 56 40.0
comp=Z,4µm,16.2s
MANZ Manzenberg 78.23 359 *e*P P 18 13 29.3 -0.1
comp=Z,40nm,1.6s,baz=360,slow=5.7
MORC Moravsky Berou 78.30 356 ⇓P P 18 13 30.3 +0.5
MORC Moravsky Berou 78.30 356 IAmb IAmb 18 13 32.1
comp=Z,147nm,1.3s
MORC Moravsky Berou 78.30 356 ⇑ *i*P P 18 13 29.9 +0.1
MPSI Mapaga 78.37 255 P P 18 13 30.8 +0.3
comp=Z,2µmcomp=Z,1µmcomp=Z,78nm,1.7s
MILB Miltenberg 78.38 1 *e*P P 18 13 30.0 -0.1
comp=Z,140nm,1.2s,baz=360,slow=5.7
STHS Stebnicka Huta 78.45 353 *e*P P 18 13 31.3 +0.7
STHS Stebnicka Huta 78.45 353 *e*P P 18 13 31.2 +0.7
STHS *e* 18 14 02.4
ROTZ Rotzenmuhle 78.45 359 *e*P P 18 13 30.8 +0.2
comp=Z,61nm,1.7s,baz=360,slow=5.7
WLF Walferdange 78.46 3 *d*P P 18 13 31.2 +0.6
WLF Walferdange 78.46 3 *e*P P 18 13 30.8 +0.2
comp=Z,221nm,1.5s,baz=360,slow=5.7
KOLN Koldanda 78.49 300 *e*P P 18 13 31.4 0.0
comp=Z,548nm,1.4s
PBCC Pribram 78.51 358 *e*P P 18 13 31.1 +0.2
NIE Niedzica 78.51 354 *e*P P 18 13 32.2 +1.3
NIE *e*L L 18 56 47.1
comp=Z,4µm,16.7s
GRF Grafenberg Arr 78.53 0 *e*P P 18 13 31.4 +0.4
comp=Z,375nm,1.5s,baz=360,slow=5.7
GRFO Grafenberg 78.53 0 P P 18 13 31.6 +0.6
GRFO pmax pmax
comp=Z,266nm,1.4s
GRFO Grafenberg 78.53 0 P P 18 13 31.6 +0.6
PYUN Piuthan 78.55 301 *e*P P 18 13 31.5 -0.2
comp=Z,446nm,1.1s
THN Thein Dam 78.70 309 ⇑ *i*P P 18 13 32.3 +0.1
VLK Valmikinagar 78.71 300 *e*P P 18 13 32.3 0.0
VRAC Vranov 78.81 356 ⇑P P 18 13 33.4 +0.9
VRAC Vranov 78.81 356 P P 18 13 32.6 0.0
comp=Z,66nm,0.9s,baz=0.9,slow=6.3,SNR=64
VRAC Vranov 78.81 356 ⇑ *i*P P 18 13 33.0 +0.4
PTH Pithoragarh 78.82 304 ⇑ *i*P P 18 13 32.4 -0.8
LANS Liptovska Anna 78.83 355 *e*P P 18 13 34.1 +1.4
LANS Liptovska Anna 78.83 355 *e*P P 18 13 34.1 +1.4
LANS *e* 18 14 05.8
JMU Jammu 78.86 310 ⇑ *i*P P 18 13 33.9 +0.8
TREC Trest 78.86 357 *e*P P 18 13 34.4 +1.5
TREC MLR MLR
comp=Z,4µm,17.7s
TREC Trest 78.86 357 *e*P P 18 13 34.4 +1.5
TREC AMS AMS 18 57 50.0
comp=Z,4µm,17.7s
LGTI Lohaghat 78.89 304 ⇑ *i*P P 18 13 33.7 +0.4
CRVS Cervenica-Dubn 78.94 353 *e*P P 18 13 33.8 +0.5
CRVS pmax pmax
comp=Z,310nm,1.6s
CRVS Cervenica-Dubn 78.94 353 *e*P P 18 13 33.8 +0.5
SORM Soroca 79.02 348 ⇓P P 18 13 33.1 -0.6
KRUC Moravsky 79.06 357 ⇑P P 18 13 34.3 +0.4
WET Wettzell 79.07 359 *e*P P 18 13 34.3 +0.3
comp=Z,210nm,1.7s,baz=360,slow=5.7
SMLA Simla 79.07 307 *i*P P 18 13 33.9 -0.3
SMLA IAmb IAmb 18 13 41.3
comp=Z,260nm,1.0s
KHC Kasperske Hory 79.07 358 *e*P P 18 13 35.0 +1.0
KHC *e*S S 18 23 34.0 +1.9
KHC MLR MLR
comp=Z,4µm,19.7s
KHC Kasperske Hory 79.07 358 *e*P P 18 13 35.0 +1.0
KHC *e*S S 18 23 34.0 +1.9
KHC AMS AMS 18 53 00.0
comp=Z,4µm,19.7s
UZH Uzhgorod 79.15 353 *e*P P 18 13 33.2 -1.2
UZH *e* 18 13 41.6
UZH *e*S S 18 23 30.0 -2.8
UZH *e* 18 23 46.8
UZH *e* 18 24 17.0
UZH *e* 18 28 38.0
BHK Bhakra 79.20 308 ⇑ *i*P P 18 13 35.1 +0.1
JAVC Velka Javorina 79.21 356 ⇑ *i*P P 18 13 36.3 +1.5
DDI Dehra Dun 79.29 306 ⇑ *i*P P 18 13 35.4 -0.1
DDI IAmb IAmb 18 13 41.3
comp=Z,162nm,1.0s
GEC2 GERESS Array S 79.35 358 IAmb IAmb 18 13 38.0
comp=Z,144nm,1.4s
GEC2 GERESS Array S 79.35 358 *e*P P 18 13 35.6 -0.1
comp=Z,187nm,1.5s,baz=360,slow=5.7
GERES GERESS Array B 79.35 358 P P 18 13 35.7 +0.1
comp=Z,14nm,0.8s,baz=354,slow=4.0,SNR=82
GOF Gofitskoye 79.37 338 ⇑ *i*P P 18 13 36.2 +0.5
GOF *e*S S 18 23 36.8 +1.5
GOF pmax pmax
comp=Z,611nm,1.2s
GOF smax smax
comp=N,32nm,0.9s
GOF smax smax
comp=E,66nm,1.3s
CKRC Cesky Krumlov 79.37 358 *e*P P 18 13 36.1 +0.5
CKRC *e*S S 18 23 38.9 +3.7
CKRC AMS AMS 18 53 00.0
comp=E,3µm,19.3s
IZAB Izabela 79.39 354 *e*P P 18 13 37.1 +1.3
IZAB pmax pmax
comp=Z,87nm,1.4s
KECS Kecovo 79.43 354 *e*P P 18 13 37.0 +1.1
KECS Kecovo 79.43 354 *e*P P 18 13 37.0 +1.1
KECS *e* 18 14 09.0
STU Stuttgart 79.43 1 *e*P P 18 13 35.8 -0.2
comp=Z,444nm,1.5s,baz=360,slow=5.7
KOLL Kolacno 79.46 355 *e*P P 18 13 37.4 +1.3
VYHS Vyhne 79.52 355 *e*P P 18 13 37.3 +0.9
VYHS pmax pmax
comp=Z,41nm,1.1s
VYHS Vyhne 79.52 355 *e*P P 18 13 37.3 +0.9
VYHS *e* 18 14 09.1
SMOL Smolenice 79.57 356 *e*P P 18 13 38.1 +1.4
SMOL pmax pmax
comp=Z,370nm,2.3s
SMOL Smolenice 79.57 356 *e*P P 18 13 38.1 +1.4
SMOL *e* 18 14 10.0
TRPA Tarpa 79.63 352 ⇓P P 18 13 37.5 +0.6
TRPA Tarpa 79.63 352 P P 18 13 37.6 +0.6
SDDR Presa de Saban 79.69 72 IAMs_20 IAMs_20 18 47 29.4
comp=Z,4µm,22.0s
SDDR Presa de Saban 79.69 72 *e*P P 18 13 38.4 +0.6
BFO Black Forest 79.86 2 P P 18 13 38.7 +0.3
BFO pmax pmax
comp=Z,129nm,1.3s
BFO Black Forest 79.86 2 P P 18 13 38.6 +0.3
BFO IAmb IAmb 18 13 40.7
comp=Z,129nm,1.3s
BFO Black Forest 79.86 2 *e*P P 18 13 38.2 -0.2
comp=Z,161nm,1.4s,baz=360,slow=5.7
BURAR Bucovina Array 79.89 350 ⇑P P 18 13 38.3 -0.3
ZST Bratislava 79.90 356 *e*P P 18 13 40.0 +1.5
ZST pmax pmax
comp=Z,622nm,1.4s
ZST Bratislava 79.90 356 *e*P P 18 13 40.0 +1.5
ZST *e* 18 14 11.9
ECH Echery 79.94 3 IAmb IAmb 18 13 42.9
comp=Z,88nm,1.0s
BMR Baia Mare 80.00 352 ⇑P P 18 13 39.8 +0.7
KBL Kabul 80.01 315 P P 18 13 37.9 -1.7
KBL pmax pmax
comp=Z,159nm,1.1s
KBL Kabul 80.01 315 P P 18 13 37.9 -1.7
KBL IAmb IAmb 18 13 41.2
comp=Z,159nm,1.1s
KBL Kabul 80.01 315 P P 18 13 37.5 -2.1
SNR=100
KBL P P 18 13 37.5 -2.1
SNR=100
PSZ Piszkesteto 80.03 354 ⇓P P 18 13 40.5 +1.1
PSZ Piszkesteto 80.03 354 P P 18 13 39.7 +0.4
FUR Furstenfeldbru 80.06 360 *e*P P 18 13 39.6 +0.2
comp=Z,332nm,1.5s,baz=360,slow=5.7
MILM Milestii Mici 80.16 348 ⇑P P 18 13 39.2 -0.7
MAK Makhachkala 80.20 334 *e*P P 18 13 34.6 -5.6
MAK *e*S S 18 23 34.3 -10
MAK *e*SSS SSS 18 32 10.5
MAK pmax pmax
comp=Z,363nm,1.2s
CONA Conrad Observa 80.22 357 *e*P P 18 13 41.2 +0.8
comp=Z,154nm,1.2s,SNR=84
SRO Srobarova 80.22 355 *e*P P 18 13 41.8 +1.6
SRO pmax pmax
comp=Z,151nm,1.4s
SRO Srobarova 80.22 355 *e*P P 18 13 41.8 +1.6
SRO *e* 18 14 13.6
SRO2 Moca 80.27 355 *e*P P 18 13 40.8 +0.3
SRO2 pmax pmax
comp=Z,69nm,1.0s
SRO2 Moca 80.27 355 *e*P P 18 13 40.8 +0.3
SRO2 *e* 18 14 12.9
MOA Molln 80.34 358 *e*P P 18 13 41.4 +0.5
comp=Z,52nm,1.3s,SNR=20
BOK Bokaro 80.42 296 *i*P P 18 13 41.8 +0.1
BOK IAmb IAmb 18 13 50.2
comp=Z,80nm,1.3s
LTVH Ltavrtes, Hu 80.42 353 ⇓P P 18 13 42.1 +0.9
LTVH Ltavrtes, Hu 80.42 353 P P 18 13 42.4 +1.1
GROC Groznyy 80.43 335 *e*P P 18 13 41.2 -0.2
GROC *e* 18 13 49.0
GROC *e* 18 16 44.7
GROC *e*S S 18 23 49.1 +2.5
GROC pmax pmax
comp=Z,92nm,1.6s
SOP Sopron 80.44 356 P P 18 13 42.5 +1.1
RJOB Jochberg 80.48 359 *e*P P 18 13 41.8 +0.1
comp=Z,93nm,1.2s,baz=360,slow=5.7
KIV Kislovodsk 80.49 338 ⇑P P 18 13 42.9 +1.0
KIV Kislovodsk 80.49 338 *e*P P 18 13 42.7 +0.8
KIV *e* 18 16 45.4
KIV *e*S S 18 23 49.2 +1.8
KIV *e*SS SS 18 29 00.6 +2.6
KIV pmax pmax
comp=Z,103nm,1.1s
KIV pmax pmax
comp=Z,264nm,3.4s
KIV Kislovodsk 80.49 338 P P 18 13 41.5 -0.4
KIV IAmb IAmb 18 13 46.2
comp=Z,110nm,1.1s
KIV Kislovodsk 80.49 338 P P 18 13 41.6 -0.2
KIV P P 18 13 41.6 -0.2
KIV Kislovodsk 80.49 338 *i*P P 18 13 42.5 +0.6
SNR=48
ARCR ARCALIA 80.50 351 ⇑P P 18 13 42.5 +0.7
BIOA Bad Ischl, Aus 80.51 358 *i*P P 18 13 42.6 +0.8
comp=Z,112nm,1.3s
BUD Budapest 80.52 355 P P 18 13 43.0 +1.2
UBR Ueberruh 80.54 1 *e*P P 18 13 42.1 +0.1
comp=Z,225nm,1.5s,baz=360,slow=5.7
VASR Vaslui 80.56 349 ⇑P P 18 13 42.4 +0.4
MESR Meseseni 80.56 352 ⇑P P 18 13 43.3 +1.2
KBZ Khabaz 80.66 337 P P 18 13 42.5 -0.1
comp=Z,80nm,0.8s,baz=46,slow=1.6,SNR=100
KBZ S S 18 23 48.6 -0.2
comp=Z,1.3nm,0.9s,baz=23,slow=18,SNR=2.0
KBZ Khabaz 80.66 337 *c*iP P 18 13 43.8 +1.2
KBZ pmax pmax
comp=Z,105nm,0.9s
EGYH Egyhazaskeszo 80.67 356 P P 18 13 43.4 +0.8
SHA1 Shidzhatmaz 80.70 337 *c*iP P 18 13 44.0 +0.8
NCK Nalchik 80.71 337 *c*iP P 18 13 44.2 +1.2
NCK pmax pmax
comp=Z,354nm,1.4s
BORR Bors 80.72 353 ⇓P P 18 13 43.4 +0.5
RETA Reutte 80.73 0 *e*P P 18 13 43.7 +0.6
comp=Z,87nm,1.3s,SNR=20
VAR Varanasi 80.78 299 *e*P P 18 13 40.5 -3.0
ANN Anapa 80.82 341 *c*iP P 18 13 43.1 -0.4
ANN *i* 18 16 49.4
ANN *i*S S 18 23 51.8 +1.3
ANN *i* 18 24 01.1
ANN pmax pmax
comp=Z,329nm,2.0s
ANN pmax pmax
comp=N,8.0nm,0.6s
ANN pmax pmax
comp=E,63nm,2.0s
ANN pmax pmax
comp=N,54nm,1.3s
ANN pmax pmax
comp=E,40nm,1.4s
TESR Tescani 80.83 349 ⇓P P 18 13 43.2 -0.3
WATA Walderalm 80.89 360 *i*P P 18 13 44.7 +0.7
comp=E,170nm,1.3s,SNR=70
ARSA Arzberg 80.90 357 *i*P P 18 13 44.9 +1.0
comp=E,116nm,1.2s,SNR=60
ARSA Arzberg 80.90 357 ⇑ *i*P P 18 13 44.9 +1.0
MPLH Magyarpolny 80.91 356 P P 18 13 44.8 +0.9
DAVA Damuels 80.93 1 *e*P P 18 13 44.9 +0.6
comp=E,67nm,1.3s,SNR=22
DRGR 80.94 352 ⇓P P 18 13 44.5 +0.3
WTTA Wattenberg 80.96 360 *e*P P 18 13 45.3 +0.8
comp=E,129nm,0.9s,SNR=77
SQTA Sankt Quirin 81.00 0 *e*P P 18 13 45.3 +0.7
comp=E,167nm,1.1s,SNR=63
NDI New Delhi 81.05 306 ⇑ *i*P P 18 13 44.4 -0.6
TTSI Tana Toraja 81.12 253 P P 18 13 48.3 +2.8
KBA Koelnbreinsper 81.13 359 *e*P P 18 13 46.2 +0.9
comp=E,280nm,1.1s,SNR=180
NEY Neytrino 81.15 337 *d*iP P 18 13 47.5 +2.0
NEY pmax pmax
comp=Z,51nm,2.0s
TIH Tihany 81.16 355 P P 18 13 44.9 -0.3
FETA Feichten 81.20 0 *e*P P 18 13 46.2 +0.5
comp=Z,120nm,1.0s,SNR=39
AYAN Aya Nagar 81.25 306 *e*P P 18 13 46.4 +0.3
VARL Varlezi 81.28 348 ⇑P P 18 13 46.9 +0.9
SIM Simferopol' 81.29 344 *ce*P P 18 13 46.0 0.0
SIM *e*S S 18 23 52.6 -2.8
SIM pmax pmax
comp=Z,372nm,1.4s
VLDR Vladesti 81.31 348 ⇑P P 18 13 46.2 +0.2
OZUR 81.33 350 ⇑P P 18 13 46.7 +0.5
SBUM Sibu 81.34 263 P P 18 13 45.8 -0.9
PANC Panciu 81.40 349 ⇑P P 18 13 47.0 +0.5
ALBI Allahabad 81.41 300 ⇑ *i*P P 18 13 45.7 -1.3
GEYT Alibeck 81.43 324 P P 18 13 46.7 -0.2
comp=Z,66nm,0.9s,baz=288,slow=1.4,SNR=97
GEYT S S 18 23 52.9 -4.4
comp=Z,0.8nm,0.5s,baz=84,slow=16,SNR=1.2
GEYT Alibeck 81.43 324 IAmb IAmb 18 13 49.8
comp=Z,97nm,0.9s
GYA0B ALIBECK ARRAY 81.43 324 IAmb IAmb 18 13 49.7
comp=Z,133nm,1.0s
DAVOX Davos/Dischmat 81.44 1 P P 18 13 46.9 -0.1
comp=Z,32nm,0.6s,baz=336,slow=3.4,SNR=80
VRI Vrincioaia 81.45 349 ⇑P P 18 13 48.1 +1.2
ABTA Abfaltersbach 81.47 359 *i*P P 18 13 47.3 +0.3
comp=Z,148nm,1.4s,SNR=54
PLOR Plostina 81.48 349 ⇓P P 18 13 47.5 +0.4
SCTR Scanteiesti 81.49 348 ⇑P P 18 13 47.5 +0.5
SOKA Soboth 81.49 357 *i*P P 18 13 47.7 +0.6
comp=Z,193nm,1.2s,SNR=111
DOPR Dopca 81.50 350 ⇑P P 18 13 47.9 +0.8
SOC Sochi 81.52 339 *c*iP P 18 13 47.4 +0.2
SOC *e*S S 18 24 00.1 +2.3
SOC *e*SS SS 18 29 10.8 -2.2
SOC pmax pmax
comp=Z,97nm,0.8s
SOC MLR MLR
comp=Z,3µm,19.0s
ODBI Odobesti 81.52 349 ⇑P P 18 13 48.0 +0.8
PERS Pernice 81.53 357 *i*P P 18 13 47.4 0.0
COVR Voineasa-Covas 81.53 349 ⇑P P 18 13 48.1 +0.8
AMBH Ambrzfalva 81.53 353 ⇓P P 18 13 48.5 +1.2
AMBH Ambrzfalva 81.53 353 P P 18 13 49.7 +2.5
SIRR Siria 81.55 353 ⇑P P 18 13 47.6 +0.3
TATR Tatarca 81.56 348 ⇑P P 18 13 48.3 +1.0
MYKA Terra Mystica 81.57 358 *e*P P 18 13 47.8 +0.2
comp=Z,154nm,1.8s,SNR=44
SLCR Slobozia Conac 81.60 348 ⇓P P 18 13 48.2 +0.6
BEHE Becsehely 81.64 356 ⇑ *i*P P 18 13 48.7 +0.9
BEHE Becsehely 81.64 356 P P 18 13 48.8 +1.0
IZVR Izvoarele 81.65 348 ⇑P P 18 13 48.6 +0.7
OBKA Obir 81.67 358 *e*P P 18 13 48.5 +0.4
comp=Z,117nm,1.2s,SNR=55
OBKA Obir 81.67 358 ⇑ *i*P P 18 13 48.6 +0.4
SCHL Schela 81.68 348 ⇓P P 18 13 49.1 +1.1
KOGS Kog 81.68 357 *i*P P 18 13 48.5 +0.4
BISRR Bisoca 81.77 349 ⇓P P 18 13 49.1 +0.5
CHVG Ch'k'valeri 81.80 338 ⇑P P 18 13 49.9 +1.1
DEV Deva 81.83 352 ⇑P P 18 13 49.8 +1.0
KUDL Kundal 81.85 306 *e*P P 18 13 48.5 -0.7
TLCR 81.86 348 ⇑P P 18 13 49.6 +0.6
MLR Muntele Rosu 81.91 350 ⇑P P 18 13 49.4 0.0
MLR Muntele Rosu 81.91 350 P P 18 13 48.9 -0.6
comp=Z,13nm,0.7s,baz=347,slow=0.8,SNR=31
CTA Charters Tower 81.92 222 P P 18 13 49.6 +0.1
comp=Z,14nm,0.9s,baz=34,slow=8.3,SNR=14
CTAO Charters Tower 81.92 222 P P 18 13 50.0 +0.5
CTAO pmax pmax
comp=Z,37nm,1.0s
CTAO Charters Tower 81.92 222 P P 18 13 50.0 +0.5
NEHR Nehoiu 81.94 349 ⇓P P 18 13 49.8 +0.3
KOVH Kovagotottos 81.96 355 P P 18 13 49.6 +0.1
CFR Carcaliu 81.96 348 ⇑P P 18 13 49.3 -0.2
LOBO Lobor 81.98 357 *i*P P 18 13 49.4 -0.2
KALN Kalnik 81.99 356 *i*P P 18 13 50.0 +0.3
VOIR 82.06 350 ⇓P P 18 13 50.7 +0.5
LJU Ljubljana 82.14 358 ⇑ *i*P P 18 13 50.0 -0.5
ARR Arges 82.17 351 ⇓P P 18 13 51.2 +0.4
CTI Castel Tesino 82.17 360 IAmb IAmb 18 13 52.7
comp=Z,106nm,1.2s
BZS Buzias 82.20 353 ⇑P P 18 13 50.6 -0.2
ISR Istrita 82.21 349 ⇑P P 18 13 52.1 +1.1
PTJ Puntijarka 82.23 357 P P 18 13 51.5 +0.4
TPGR Topolog 82.24 348 ⇑P P 18 13 51.1 +0.1
GZR Gura Zlata 82.32 352 ⇓P P 18 13 51.7 +0.2
CRES Cresnjev 82.33 357 ⇑ *i*P P 18 13 51.4 -0.1
SECR 82.35 349 ⇓P P 18 13 51.8 +0.2
MTKI Muara Teweh, K 82.39 259 P P 18 13 52.9 +0.7
CEY Cerknica 82.45 358 ⇑ *i*P P 18 13 51.9 -0.2
HARR Harsova 82.47 348 ⇓P P 18 13 52.5 +0.3
BANR Banloc 82.47 353 ⇓P P 18 13 52.8 +0.6
MOSL Moslavina 82.49 356 *i*P P 18 13 52.4 0.0
OZLJ Ozalj 82.54 357 *i*P P 18 13 52.5 0.0
SALO Salr 82.60 1 P P 18 13 52.8 -0.2
A252A Venje 82.62 355 *i*P P 18 13 52.7 -0.3
TIRR Tirgusor 82.63 348 ⇓P P 18 13 53.0 0.0
SKDS Skadanscina 82.65 358 ⇑ *i*P P 18 13 52.5 -0.7
BOJS Bojanci 82.66 357 *i*P P 18 13 53.0 -0.2
SULR 82.68 349 ⇑P P 18 13 53.8 +0.5
KAPI Kappang 82.74 252 P P 18 13 52.8 -1.1
KAPI P P 18 13 52.8 -1.1
BKSI Bulukumba 82.77 252 P P 18 13 54.3 +0.2
comp=Z,1µmcomp=Z,94nm,1.4s
SSB Saint Sauveur 82.77 5 IAmb IAmb 18 13 56.6
comp=Z,97nm,1.2s
FRGS Fruska Gora 82.78 354 ⇑ *i*P P 18 13 52.7 -1.2
MTN Manton Dam 82.80 238 P P 18 13 54.1 -0.1
MTN IAmb IAmb 18 14 12.3
comp=Z,50nm,1.1s
LEHL Lehliu 82.81 349 ⇓P P 18 13 55.1 +1.1
RIY Rijeka 82.86 358 ⇑ *i*P P 18 13 54.1 -0.1
HERR Herculane 82.86 352 ⇑P P 18 13 53.8 -0.5
MFTR Murfatlar 82.91 348 ⇑P P 18 13 55.1 +0.6
CACAO El Cacao, Vera 82.96 87 *e*P P 18 13 46.5 -8.7
HUMR Humele 82.97 350 ⇑P P 18 13 54.8 0.0
A052A Srbac 82.97 356 *e*P P 18 13 54.6 -0.2
JHNI Jhansi 83.00 303 ⇑ *i*P P 18 13 53.4 -1.9
SRE Strehaia 83.01 351 ⇑P P 18 13 56.2 +1.1
MDVR Moldovita 83.02 353 ⇑P P 18 13 56.3 +1.1
ICOR Ion Corvin 83.05 348 ⇓P P 18 13 56.1 +0.9
A250A Rusevo Krmpots 83.09 357 *i*P P 18 13 55.1 -0.4
A051A Mrakovica 83.09 356 ⇑ *i*P P 18 13 55.2 -0.3
CELP Cerrillos 83.15 69 P P 18 13 55.7 -0.4
CELP IAmb IAmb 18 14 03.6
comp=Z,79nm,1.1s
SMRN Sveta Marina 83.15 358 *i*P P 18 13 55.2 -0.5
SGRR Singureni 83.16 349 ⇑P P 18 13 55.6 -0.2
JHSG JHARSUGUGA 83.20 297 ⇑ *i*P P 18 13 56.2 -0.1
MANR Mangalia 83.24 347 ⇓P P 18 13 55.7 -0.4
PLIT Plitvice 83.27 357 *i*P P 18 13 56.7 +0.3
BRJN Brijuni 83.29 358 *i*P P 18 13 56.3 -0.2
COPA Copaceanca 83.33 350 ⇑P P 18 13 56.5 -0.2
BLY Banja Luka 83.34 356 ⇑ *i*P P 18 13 56.6 -0.1
SJG San Juan 83.36 69 P P 18 13 55.7 -1.5
comp=Z,7.7nm,0.7s,baz=15,slow=16,SNR=1.8
SJG S S 18 24 14.7 -2.8
comp=Z,4.4nm,0.4s,baz=309,slow=13,SNR=1.8
SJG San Juan 83.36 69 IAMs_20 IAMs_20 18 55 23.6
comp=Z,3µm,19.0s
SJG San Juan 83.36 69 *e*P P 18 13 57.6 +0.4
TEKS Tekeris 83.41 354 *e*P P 18 13 55.8 -1.3
PUNG Punghina 83.42 352 ⇓P P 18 13 57.2 +0.1
PSN Preselentsi 83.42 348 *i*P P 18 13 57.7 +0.5
RABC Rab 83.42 357 *i*P P 18 13 58.2 +1.2
VLAD Vladila 83.55 350 ⇓P P 18 13 57.7 -0.1
GNI Garni 83.56 335 *c*iP P 18 13 59.6 +1.4
GNI pmax pmax
comp=Z,248nm,2.0s
GNI MLR MLR
comp=Z,4µm,16.0s
GNI Garni 83.56 335 P P 18 13 57.5 -0.7
GNI Garni 83.56 335 IAMs_20 IAMs_20 18 55 26.4
comp=Z,2µm,21.0s
GNI Garni 83.56 335 P P 18 13 57.7 -0.5
GNI P P 18 13 57.7 -0.5
GNI Garni 83.56 335 P P 18 13 59.9 +1.7
NVLJ Novalja 83.61 357 *i*P P 18 13 58.2 -0.9
UDBI Udbina 83.62 357 *i*P P 18 13 57.7 -0.5
A050A Klekovaca 83.63 356 ⇑ *i*P P 18 13 57.6 -0.8
BAIL Bailesti 83.63 351 ⇑P P 18 13 58.4 +0.2
MGRS Mrkonjic Grad 83.67 356 *e*P P 18 14 00.2 +1.7
BLSP Bilaspur 83.80 298 ⇑ *i*P P 18 13 58.3 -1.2
DIVS Divibare 83.83 354 IAmb IAmb 18 14 06.0
comp=Z,53nm,1.0s
DIVS IAMs_20 IAMs_20 18 53 41.4
comp=Z,2µm,20.0s
DIVS Divibare 83.83 354 ⇑ *i*P P 18 13 58.9 -0.5
VIRC Vir 83.87 357 *i*P P 18 13 59.7 +0.2
MSSA Maissana 83.89 1 IAmb IAmb 18 14 01.6
comp=Z,61nm,0.9s
PRD Provadia 84.00 348 *i*P P 18 14 00.3 +0.2
BBLS Lazi?i 84.10 354 ⇑ *i*P P 18 14 01.0 +0.3
SZH Strazhica 84.11 349 *i*P P 18 13 59.5 -1.2
KIJV Kijevo 84.11 356 *i*P P 18 14 00.4 -0.4

AJM	Ajmer	84.14	306	⇑iP	P	18 14 00.4	-0.8
BOVS	Bovan	84.16	352	⇓P	P	18 14 01.7	+0.8
DUGI	Dugi Otok	84.17	357	iP	P	18 14 01.0	0.0
MMRI	Maumere	84.22	248	P	P	18 14 02.3	+0.7
PVL	Pavlikeni	84.23	350	iP	P	18 14 01.6	+0.3
MPEP	Malo Peshtene	84.25	351	iP	P	18 14 02.3	+0.9
MORI	Morici	84.28	357	iP	P	18 14 00.8	-0.7
RUDO	Rudo	84.35	354	eP	P	18 14 01.2	-0.7
ZIRJ	Zirje	84.49	357	iP	P	18 14 01.6	-1.0
RICI	Ricice	84.59	356	P	P	18 14 02.6	-0.5
PLE	Pljevlja	84.63	354	⇑iP	P	18 14 03.9	+0.4
PGAV	Gavieira, Arco	84.74	14	eLR	LR	18 45 28.3	
	comp=Z,4µm,18.0s						
DGPR	DIGLIPUR	84.74	285	eP	P	18 14 04.0	-0.3
DGPR				IAmb	IAmb	18 14 06.1	
	comp=Z,101nm,1.3s						
UPM	Unac-Piva	84.79	354	eP	P	18 14 04.3	-0.1
UPM	Unac-Piva	84.79	354	⇑iP	P	18 14 03.8	-0.6
MAKA	Makarska	84.80	356	iP	P	18 14 03.9	-0.3
JMB	Yambol	84.82	349	iP	P	18 14 04.4	+0.1
HVAR	Hvar	84.94	356	iP	P	18 14 04.0	-0.9
PGB	Panagyurishte	85.01	350	iP	P	18 14 04.7	-0.6
MOTC	Monteria, Cord	85.03	82	eP	P	18 14 07.9	+2.2
VTS	Vitosha	85.03	351	⇑P	P	18 14 05.1	-0.4
VTS	Vitosha	85.03	351	IAmb	IAmb	18 14 08.8	
	comp=Z,41nm,1.0s						
VTS	Vitosha	85.03	351	iP	P	18 14 05.2	-0.4
IVA	Berane	85.06	354	⇑iP	P	18 14 05.5	-0.1
KOME	Kolasin	85.10	354	⇑iP	P	18 14 05.3	-0.5
BRY	Bratogost	85.11	355	eP	P	18 14 05.4	-0.6
BRY	Bratogost	85.11	355	⇑iP	P	18 14 05.2	-0.8
PBRG	Braganca	85.12	13	eP	P	18 14 07.2	+1.3
	comp=Z,133nm,2.1s						
SMRT	St. Maarten	85.17	67	IAMs_20	IAMs_20	18 51 30.2	
	comp=Z,4µm,21.0s						
NKY	Niksic	85.17	354	⇑iP	P	18 14 05.8	-0.4
STON	Ston	85.19	355	⇑iP	P	18 14 05.1	-1.0
STON	Ston	85.19	355	iP	P	18 14 05.0	-1.0
NKME	Niksic	85.22	354	⇑iP	P	18 14 05.9	-0.5
TREB	Trebinje	85.31	355	eP	P	18 14 06.3	-0.4
LSTV	Lastovo	85.33	356	iP	P	18 14 05.6	-1.2
POLO	Lamas de Olo	85.39	14	eP	P	18 14 09.5	+2.2
	comp=Z,46nm,1.7s						
PLD	Plovdiv	85.39	350	iP	P	18 14 07.2	0.0
RAGD	RAYAGADA	85.40	296	⇑iP	P	18 14 07.7	+0.1
BHPL	Bhopal	85.40	302	⇑iP	P	18 14 06.8	-0.8
EDRB	Edirne	85.41	348	P	P	18 14 06.9	-0.4
CEME	Cevo	85.44	354	⇑iP	P	18 14 06.9	-0.6
PVRL	Vila Real	85.50	14	eP	P	18 14 09.7	+1.9
	comp=Z,125nm,1.7s						
PVRL				iLQ	LQ	18 14 27.1	
PDG	Podgorica	85.54	354	⇑P	P	18 14 07.6	-0.3
PDG	Podgorica	85.54	354	IAMs_20	IAMs_20	18 57 43.6	
	comp=Z,2µm,18.0s						
PDG	Podgorica	85.54	354	⇑iP	P	18 14 07.5	-0.3
TTG	Podgorica	85.54	354	⇑iP	P	18 14 07.4	-0.5
HCY	Herceg Novi	85.57	355	eP	P	18 14 07.7	-0.4
HCY	Herceg Novi	85.57	355	⇑iP	P	18 14 08.0	-0.1
JASL	Jaisalmer	85.59	309	eP	P	18 14 08.7	+0.2
BUM	Brajici-Budva	85.69	354	⇑iP	P	18 14 08.1	-0.6
MVO	Moncorvo	85.71	14	eP	P	18 14 10.4	+1.5
	comp=Z,137nm,1.5s						
MVO				iLQ	LQ	18 14 28.0	
DRME	Dracevica, Mon	85.78	354	⇑iP	P	18 14 08.8	-0.3
DRME	Dracevica, Mon	85.78	354	⇑iP	P	18 14 09.0	-0.1
KKB	Krupnik	85.79	351	iP	P	18 14 09.8	+0.6
RZN	Rozhen	85.81	350	iP	P	18 14 09.8	+0.3
SKO	Skopje	85.83	352	iP	P	18 14 09.8	+0.4
AQU	L'Aquila	85.85	358	IAMs_20	IAMs_20	18 59 50.8	
	comp=Z,2µm,18.0s						
AQU	L'Aquila	85.85	358	⇑iP	P	18 14 09.9	+0.4
ISK	Istanbul-Kandi	85.87	347	P	P	18 14 09.5	-0.1
UREC	San Jos de Ur	85.91	83	eP	P	18 14 12.9	+2.7
ULC	Ulcinj	86.00	354	⇑iP	P	18 14 09.7	-0.6
PVIS	Viseu	86.02	14	eP	P	18 14 12.3	+1.9
	comp=Z,91nm,1.7s						
PVIS				iLQ	LQ	18 14 30.0	
STIP	Stip	86.05	352	iP	P	18 14 09.7	-0.7
PBA	Port Blair	86.05	284	iP	P	18 14 10.1	-0.7
DBBC	Dabeiba	86.07	84	eP	P	18 14 15.5	+4.5
PHP	Peshkopia	86.20	353	P	P	18 14 10.3	-1.0
ANWB	Willy Bob	86.20	66	IAMs_20	IAMs_20	18 51 55.6	
	comp=Z,4µm,22.0s						
NVR	Nevrokopi	86.23	351	P	P	18 14 10.6	-0.8
RDO	Rodhopi	86.25	349	P	P	18 14 11.4	0.0
MTE	Manteigas	86.38	14	eP	P	18 14 15.6	+3.4
	comp=Z,72nm,1.9s						
MTE				iLQ	LQ	18 14 30.9	
MTE	Manteigas	86.38	14	eLR	LR	18 45 41.4	
	comp=Z,4µm,16.0s						
VAY	Valandovo	86.38	351	iP	P	18 14 12.5	+0.4
DABV	Dabajuro	86.40	77	eP	P	18 14 14.4	+1.8
KNRA	Kununurra	86.41	239	IAmb	IAmb	18 14 34.4	
	comp=Z,33nm,0.8s						
COI	Coimbra	86.43	15	eP	P	18 14 19.3	+6.9
	comp=Z,153nm,1.4s						
COI				iLQ	LQ	18 14 30.7	
ALN	Alexandroupoli	86.44	349	P	P	18 14 11.8	-0.5
BR131	Keskin Array S	86.44	343	IAmb	IAmb	18 14 16.1	
	comp=Z,89nm,1.1s						
BRTR	Keskin Array B	86.44	343	P	P	18 14 12.8	+0.2
	comp=Z,21nm,0.8s,baz=9.8,slow=2.1,SNR=58						
BRTR				PKKPbc	PKKPbc	18 32 07.5	+0.4
	comp=Z,0.7nm,0.8s,baz=186,slow=5.4,SNR=3.4						
ANTO	Ankara	86.45	344	P	P	18 14 12.2	-0.4
ANTO				pmax	pmax		
	comp=Z,86nm,0.9s						
ANTO				MLR	MLR		
	comp=Z,4µm,18.0s						
ANTO	Ankara	86.45	344	P	P	18 14 12.2	-0.4
ANTO				IAmb	IAmb	18 14 17.5	
	comp=Z,86nm,0.9s						
SRS	Serrai	86.49	351	P	P	18 14 11.9	-0.7
KNT	Kendrikon	86.51	351	P	P	18 14 12.6	-0.2
KAVA	Kavala	86.51	350	P	P	18 14 12.7	0.0
ZARC	Zaragoza, Cauc	86.53	82	eP	P	18 14 15.9	+2.7
PCAS	Casmilo, Conde	86.57	15	eP	P	18 14 14.4	+1.3
	comp=Z,124nm,1.7s						
TIR	Tirane	86.57	354	⇓P	P	18 14 13.0	-0.1
TIR	Tirane	86.57	354	P	P	18 14 13.2	+0.2
TIR	Tirane	86.57	354	IAMs_20	IAMs_20	18 55 45.1	
	comp=Z,3µm,20.0s						
ENEZ	Enez	86.58	349	P	P	18 14 12.7	-0.4
IPM	Ipoh	86.63	273	IAMs_20	IAMs_20	18 58 28.9	
	comp=Z,2µm,18.0s						
OHR	Ohrid	86.74	353	iP	P	18 14 14.4	+0.5
GRG	Griva	86.76	352	P	P	18 14 14.0	0.0
SOH	Sokhos	86.80	351	P	P	18 14 13.6	-0.6
THAS	Thassos island	86.87	350	P	P	18 14 14.2	-0.3
SMTH	Samothraki Isl	86.92	349	P	P	18 14 14.6	-0.2
PCBR	Castelo Branco	86.94	14	eP	P	18 14 17.2	+2.4
	comp=Z,53nm,1.6s						
WB0	Warramunga Arr	87.00	232	IAmb	IAmb	18 14 33.1	
	comp=Z,65nm,1.4s						
MYKOM	Kota Tinggi	87.00	269	IAMs_20	IAMs_20	19 00 24.7	
	comp=Z,1µm,18.0s						
FNA	Florina	87.02	352	P	P	18 14 14.8	-0.5
HORT	Hortiatis	87.05	351	P	P	18 14 14.9	-0.6
PSBE	So Bento	87.05	15	eP	P	18 14 16.7	+1.3
	comp=Z,182nm,1.9s						
CBOC	Ciudad Bolivar	87.10	84	eP	P	18 14 20.7	+4.5
HELC	Santa Helena	87.14	84	eP	P	18 14 16.7	+0.1
WRAB	Tennant Creek	87.16	232	P	P	18 14 14.6	-1.4
WRAB				pmax	pmax		
	comp=Z,37nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,2µm,21.0s						
WRAB	Tennant Creek	87.16	232	P	P	18 14 14.6	-1.4
WRAB				IAmb	IAmb	18 14 35.7	
	comp=Z,37nm,1.1s						
WRAB	Tennant Creek	87.16	232	IAMs_20	IAMs_20	18 49 25.8	
	comp=Z,2µm,21.0s						
WB2	Warramunga Arr	87.17	232	IAmb	IAmb	18 14 34.1	
	comp=Z,54nm,1.2s						
WRA	Warramunga Arr	87.17	232	P	P	18 14 14.6	-1.5
	comp=Z,11nm,1.0s,baz=40,slow=5.9,SNR=66						
OUR	Ouranopolis	87.22	350	P	P	18 14 14.6	-1.6
KBN	Korca	87.22	353	P	P	18 14 15.8	-0.5
KTI	Kastanea	87.34	352	P	P	18 14 16.7	-0.3
PMRV	Marv??o	87.36	14	eLR	LR	18 46 29.7	
	comp=Z,2µm,16.0s						
NEST	Nestorio	87.41	353	P	P	18 14 16.8	-0.5
MATE	Matera	87.45	356	⇓P	P	18 14 17.6	+0.3
EZN	Ezine	87.46	348	P	P	18 14 16.8	-0.5
KZN	Kozani	87.46	352	P	P	18 14 16.5	-1.0
PTBC	PUERTO BERRIO,	87.52	83	eP	P	18 14 23.2	+5.1
LIA	Limnos Island	87.52	349	P	P	18 14 17.5	-0.1
ESBB	Sonseca Array	87.59	12	IAmb	IAmb	18 14 38.1	
	comp=Z,44nm,1.0s						
ESDC	Sonseca Array	87.59	12	P	P	18 14 18.0	-0.1
	comp=Z,21nm,0.9s,baz=346,slow=4.5,SNR=63						
ESDC	Sonseca Array	87.59	12	IAmb	IAmb	18 14 38.1	
	comp=Z,36nm,1.0s						
LIT	Litokhoron	87.60	351	P	P	18 14 16.6	-1.5
LIT	Litokhoron	87.60	351	IAmb	IAmb	18 14 20.7	
	comp=Z,57nm,0.9s						
PAIG	Paliouri	87.66	350	P	P	18 14 17.0	-1.3
PAB	San Pablo	87.67	12	P	P	18 14 18.6	+0.1
PAB				pmax	pmax		
	comp=Z,33nm,1.1s						
PAB				MLR	MLR		
	comp=Z,4µm,18.0s						
PAB	San Pablo	87.67	12	P	P	18 14 18.6	+0.1
PLMC	San Jos del P	87.68	85	eP	P	18 14 20.3	+1.4
AKL	Akola	87.70	301	⇑iP	P	18 14 18.5	-0.4
PMST	Lisbon--Monsan	87.74	16	iLQ	LQ	18 14 38.5	
KPRO	Kipourio	87.84	352	P	P	18 14 18.6	-0.7
PESTR	Estremoz	87.88	15	eP	P	18 14 20.2	+0.8
	comp=Z,80nm,1.6s						
PESTR				iLQ	LQ	18 14 32.1	
PAMC	Pamplona, Colo	87.96	81	eP	P	18 14 20.2	-0.5
GUY2C	Guyana, Caldas	87.99	84	eP	P	18 14 20.5	-0.4
SDV	Santo Domingo	88.00	78	P	P	18 14 24.2	+3.6
	comp=Z,11nm,0.8s,baz=320,slow=3.5,SNR=9.8						
SDV				S	S	18 24 48.2	-15
	comp=Z,1.0nm,0.5s,baz=336,slow=18,SNR=1.5						
SDV	Santo Domingo	88.00	78	IAMs_20	IAMs_20	18 56 25.8	
	comp=Z,2µm,21.0s						
SDV	Santo Domingo	88.00	78	eP	P	18 14 21.0	+0.5
SDV	Santo Domingo	88.00	78	eP	P	18 14 23.9	+3.4
SRN	Sarande	88.02	353	P	P	18 14 19.5	-0.5
NORC	Norcasia	88.03	84	eP	P	18 14 26.7	+6.2
PRK	Paraskevi	88.04	348	P	P	18 14 20.5	+0.4
SIGR	SIGRI	88.12	349	P	P	18 14 20.3	-0.2
EVO	Evora	88.14	15	eP	P	18 14 21.3	+0.7
	comp=Z,43nm,1.5s						
EVO				iLQ	LQ	18 14 38.9	
THL	Klokotos Trika	88.17	352	P	P	18 14 19.4	-1.4
KEK	Kerkira	88.20	353	P	P	18 14 19.8	-1.1
BARC	Barichara	88.26	82	eP	P	18 14 22.6	+0.7
XOR	Xorichti	88.26	351	P	P	18 14 19.4	-1.9
NEO	Neokhori	88.32	351	P	P	18 14 20.3	-1.2
DSRI	Dabo	88.33	267	P	P	18 14 31.0	+9.2
SOCV	Socops	88.34	79	eP	P	18 14 21.5	-0.5
IGT	Igoumenitsa	88.34	353	P	P	18 14 21.0	-0.6
YOTC	Yotoco, Valle	88.36	86	eP	P	18 14 22.3	+0.1
KULA	Kula-Manisa	88.43	346	P	P	18 14 22.0	-0.2
SPBC	San Pablo de B	88.45	83	eP	P	18 14 24.5	+1.9
PNCL	Nicolau / Gran	88.46	15	eP	P	18 14 23.8	+1.6
	comp=Z,82nm,1.6s						
ANIL	Santa Ana	88.55	85	eP	P	18 14 18.3	-4.9
LHMI	Lhok Sumawe	88.55	277	IAMs_20	IAMs_20	18 54 02.5	
	comp=Z,2µm,19.0s						
PBAR	Barrancos	88.64	14	eP	P	18 14 24.1	+1.1
	comp=Z,100nm,1.3s						
PBAR				iLQ	LQ	18 14 41.7	
PBEJ	Beja	88.65	15	eP	P	18 14 24.7	+1.6
	comp=Z,27nm,1.5s						
PBEJ				iLQ	LQ	18 14 42.3	
AGG	Agios Georgios	88.68	351	P	P	18 14 21.9	-1.4
AGG	Agios Georgios	88.68	351	IAmb	IAmb	18 14 24.0	
	comp=Z,84nm,1.3s						
MAKR	Makrakomi, Fth	88.71	352	P	P	18 14 22.9	-0.5
ISP	Isparta	88.83	345	IAMs_20	IAMs_20	19 01 45.6	
	comp=Z,3µm,19.0s						
EVR	Evrytania	88.83	352	P	P	18 14 23.0	-1.1
RUSC	La Rusia	88.86	82	eP	P	18 14 27.1	+2.1
KYMI	Kymi, Euboea I	88.89	350	P	P	18 14 22.2	-2.0
TIP	Timpagrande	88.91	356	⇓P	P	18 14 24.4	0.0
TIP	Timpagrande	88.91	356	IAMs_20	IAMs_20	19 00 01.9	
	comp=Z,3µm,20.0s						
ROSC	El Rosal	88.94	84	P	P	18 14 29.6	+4.5
	comp=Z,5.7nm,0.4s,baz=307,slow=7.6,SNR=2.7						
ROSC	El Rosal	88.94	84	eP	P	18 14 29.7	+4.5
ATAL	Atalanti	88.94	351	P	P	18 14 23.2	-1.3
LKR	Lokris	88.99	351	P	P	18 14 23.4	-1.2
PCVE	Castro Verde	89.01	15	eP	P	18 14 26.1	+1.3
	comp=Z,60nm,1.5s						
ORTC	Ortega, Tolima	89.10	85	eP	P	18 14 30.1	+4.5
ANX	Ano Chora	89.15	352	P	P	18 14 24.4	-1.1
VJD	Vijayawada	89.16	296	⇑iP	P	18 14 25.7	0.0
TAMC	Tame, Arauca	89.23	81	eP	P	18 14 32.6	+6.5
MORF	Marmelete	89.23	16	eP	P	18 14 25.4	-0.5
MORF				IAmb	IAmb	18 14 27.4	
	comp=Z,70nm,1.1s						
MORF	Marmelete	89.23	16	eP	P	18 14 27.2	+1.3
	comp=Z,126nm,1.4s						
MORF				iLQ	LQ	18 14 41.7	
MORF	Marmelete	89.23	16	eP	P	18 14 25.4	-0.5
PVAQ	Vaqueiros	89.29	15	eP	P	18 14 27.3	+1.2
	comp=Z,81nm,1.8s						
PVAQ	Vaqueiros	89.29	15	eLR	LR	18 48 53.5	
	comp=Z,3µm,18.0s						
POPC	Popayan, Colom	89.29	87	eP	P	18 14 27.4	+0.7
EFP	Efpalio	89.31	352	P	P	18 14 24.6	-1.6
PFVI	Vila Bisbo	89.37	16	iLQ	LQ	18 14 46.0	
PBDV	Barranco-do-Ve	89.41	15	eP	P	18 14 27.3	+0.6
	comp=Z,90nm,1.6s						
VILL	Villia	89.44	351	P	P	18 14 25.4	-1.4
DION	Dionisos Attik	89.46	350	P	P	18 14 25.6	-1.3
CHIC	Chingaza	89.46	83	eP	P	18 14 27.4	-0.3
LAKA	Lakka	89.49	352	P	P	18 14 26.7	-0.4
PTL	Penteli	89.50	350	P	P	18 14 25.1	-2.0
HYBB	Hyderabad (bro	89.58	298	eP	P	18 14 27.6	-0.1
HYBB				IVmBBB		18 14 28.5	
	comp=Z,858nm,1.3s						
HYBB				IVMs_BB	IVMs_BB	19 02 15.8	
	comp=Z,884nm,16.8s						
HYB	Hyderabad	89.58	298	iP	P	18 14 27.1	-0.7
HYB				IAmb	IAmb	18 14 39.5	
	comp=Z,53nm,0.3s						
LTK	Loutraki	89.61	351	P	P	18 14 24.4	-3.2
THAL	Thalero	89.63	351	P	P	18 14 25.9	-1.7
KLV	Kalavryta, Ach	89.67	351	P	P	18 14 27.4	-0.5
VLY	Voula,Athens	89.70	350	P	P	18 14 26.1	-1.9
DRO	Drossia	89.80	352	P	P	18 14 28.1	-0.4
YER	Yerkesik	89.84	346	P	P	18 14 28.9	+0.1
GCUF	Volcan Galeras	89.91	88	eP	P	18 14 31.3	+1.4
CART	Cartagena	89.99	10	IAMs_20	IAMs_20	18 59 38.2	
	comp=Z,3µm,20.0s						
DID	Didima	90.10	350	P	P	18 14 25.9	-4.0
KRND	KRANIDI	90.23	351	P	P	18 14 28.5	-2.0
GARC	Garzon, Huila	90.29	86	eP	P	18 14 33.7	+2.3
ASAR	Alice Springs	90.55	231	P	P	18 14 32.2	+0.2
	comp=Z,20nm,0.8s,baz=34,slow=4.4,SNR=163						
FLOC	Florencia	90.67	87	eP	P	18 14 33.3	+0.5
GRGR	Grenville	90.72	69	IAMs_20	IAMs_20	18 58 22.5	
	comp=Z,3µm,20.0s						
CSS	Mathiatis	91.12	342	IAMs_20	IAMs_20	19 02 08.0	
	comp=Z,2µm,20.0s						
POO	Poona	91.16	303	iP	P	18 14 34.7	-0.4
POO				IAmb	IAmb	18 14 37.4	
	comp=Z,38nm,1.6s						
CMAH	Djebel Manchou	91.53	3	P	P	18 14 41.0	+4.4
ABSA	Djebel Ababsia	91.88	3	P	P	18 14 42.0	+3.7
KAD	Karad	92.00	302	⇑iP	P	18 14 37.9	-1.1
CTEI	Djebel Teioual	92.05	4	P	P	18 14 39.0	-0.1
CKHR	Kef el Ahmar	92.05	5	P	P	18 14 40.0	+0.9
MDRS	Chennai	92.19	294	⇑iP	P	18 14 39.7	-0.1
KEST	Kesra	92.47	2	P	P	18 14 42.0	+1.0
	comp=Z,8.1nm,0.6s,baz=289,slow=1.8,SNR=11						
SHME	Shamm	92.78	321	P	P	18 14 41.3	-1.2
	SNR=13						
SHME				P	P	18 14 41.3	-1.2
	SNR=13						
SHME	Shamm	92.78	321	iP	P	18 14 41.7	-0.8
	SNR=9.9						
BANOM	Banah	92.84	320	P	P	18 14 42.1	-0.7
	SNR=14						
BANOM				P	P	18 14 42.1	-0.7
	SNR=14						
BANOM	Banah	92.84	320	iP	P	18 14 42.5	-0.3
	SNR=11						
MASF	Masafi	93.39	320	P	P	18 14 43.1	-2.2
	SNR=6.1						
MASF				P	P	18 14 43.1	-2.2
	SNR=6.1						
MSFE	Esma-Masafi	93.40	320	P	P	18 14 45.0	-0.4
GOA	Goa	93.70	301	iP	P	18 14 45.9	-1.0
UOSS	Minazif	93.75	320	P	P	18 14 45.3	-1.6
UOSS				IAmb	IAmb	18 15 02.2	
	comp=Z,24nm,0.9s						
UOSS	Minazif	93.75	320	IAMs_20	IAMs_20	19 02 19.1	
	comp=Z,2µm,18.0s						
UOSS	Minazif	93.75	320	P	P	18 14 46.1	-0.9
HATD	Hatta, Dubai	93.89	320	P	P	18 14 45.8	-1.8
	SNR=7.5						
HATD				P	P	18 14 45.8	-1.8
	SNR=7.5						
HATD	Hatta, Dubai	93.89	320	iP	P	18 14 46.6	-1.0
	SNR=6.5						
NAZ	Nazwa, Dubai	93.92	320	P	P	18 14 44.3	-3.5
	SNR=8.0						
NAZ				P	P	18 14 44.3	-3.5
	SNR=8.0						
ASHO	Ashiyiah	94.04	320	P	P	18 14 46.8	-1.6
	SNR=9.7						
ASHO				P	P	18 14 46.8	-1.6
	SNR=9.7						
ASHO	Ashiyiah	94.04	320	iP	P	18 14 47.0	-1.4
	SNR=9.5						
FAQ	Al Faqa, Dubai	94.17	320	P	P	18 14 47.2	-1.7
	SNR=6.2						
FAQ				P	P	18 14 47.2	-1.7
	SNR=6.2						
FAQ	Al Faqa, Dubai	94.17	320	iP	P	18 14 47.4	-1.5
	SNR=5.8						
GHAJ	Ghor Haditha	94.20	339	IAMs_20	IAMs_20	19 05 18.6	
	comp=Z,2µm,18.0s						
BIDO	Bidbid	94.24	318	P	P	18 14 45.8	-3.5
	SNR=8.2						
BIDO				P	P	18 14 45.8	-3.5
	SNR=8.2						
STKA	Stephens Creek	94.28	221	P	P	18 14 49.3	+0.4
	comp=Z,4.1nm,0.9s,baz=1.2,slow=5.9,SNR=5.7						
ASUD	Al Ashush, Dub	94.38	321	P	P	18 14 49.0	-0.9
	SNR=5.6						
ASUD				P	P	18 14 49.0	-0.9
	SNR=5.6						
ASUD	Al Ashush, Dub	94.38	321	iP	P	18 14 49.1	-0.8
	SNR=11						
SALM	Salem	94.49	295	eP	P	18 14 49.9	-0.6
HOQ	Hoqain	94.52	318	P	P	18 14 49.1	-1.4
	SNR=12						
HOQ				P	P	18 14 49.1	-1.4
	SNR=12						
AJN	Ajban	94.57	321	P	P	18 14 49.0	-1.7
	SNR=5.4						
AJN				P	P	18 14 49.0	-1.7
	SNR=5.4						
AJN	Ajban	94.57	321	iP	P	18 14 49.2	-1.5
	SNR=6.2						
SMDO	Samad	94.69	318	P	P	18 14 50.7	-0.7
	SNR=12						
SMDO				P	P	18 14 50.7	-0.7
	SNR=12						
WBK	Wadi Bani Khal	94.70	317	P	P	18 14 51.5	+0.1
WBK				P	P	18 14 51.5	+0.1
ALNE	Al Ain	94.73	320	P	P	18 14 50.1	-1.4
	SNR=17						
ALNE				P	P	18 14 50.1	-1.4
	SNR=17						
ALNE	Al Ain	94.73	320	iP	P	18 14 50.1	-1.4
	SNR=7.3						
JLN	Jalan Bani Buh	94.92	316	P	P	18 14 51.6	-0.8
	SNR=13						
JLN				P	P	18 14 51.6	-0.8
	SNR=13						
ARQ	Araqi	95.06	319	P	P	18 14 51.0	-2.1
	SNR=16						
ARQ				P	P	18 14 51.0	-2.1
	SNR=16						
JMDO	Jabal Madar	95.27	317	P	P	18 14 52.4	-1.6
	SNR=10						
JMDO				P	P	18 14 52.4	-1.6
	SNR=10						
BSY	Bisya	95.31	318	P	P	18 14 52.6	-1.7
	SNR=13						
BSY				P	P	18 14 52.6	-1.7
	SNR=13						
MZWR	Madinat Zayed	95.72	321	P	P	18 14 54.5	-1.4
MZWR				P	P	18 14 54.5	-1.4
TRNA	Turayna	95.83	324	P	P	18 14 55.7	-0.8
GHWR	Ruwais	95.92	322	P	P	18 14 55.7	-1.2
KOD	Kodaikanal	96.06	295	⇑iP	P	18 14 57.8	-0.2
UMZA	Um Al Zommool	96.17	320	P	P	18 14 55.4	-2.6
UMZA				P	P	18 14 55.4	-2.6
MHTO	MHTO	96.56	317	P	P	18 14 57.9	-2.0
	SNR=14						
MHTO				P	P	18 14 57.9	-2.0
	SNR=14						
MZR	Muzera	96.56	321	P	P	18 14 59.1	-0.8
	SNR=9.4						
MZR				P	P	18 14 59.1	-0.8
	SNR=9.4						
MZR	Muzera	96.56	321	iP	P	18 14 58.8	-1.0
	SNR=9.8						
PALK	Pallekele	96.63	291	P	P	18 15 00.5	+0.2
	comp=Z,23nm,0.9s,baz=96,slow=2.6,SNR=9.8						
PALK	Pallekele	96.63	291	P	P	18 15 00.4	+0.1
PALK				pmax	pmax		
	comp=Z,40nm,1.0s						
PALK				MLR	MLR		
	comp=Z,2µm,21.0s						
PALK	Pallekele	96.63	291	P	P	18 15 00.4	+0.1
PALK				IAmb	IAmb	18 15 20.1	
	comp=Z,40nm,1.0s						
PALK	Pallekele	96.63	291	IAMs_20	IAMs_20	19 00 45.7	
	comp=Z,2µm,21.0s						
PALK	Pallekele	96.63	291	P	P	18 14 58.1	-2.2
PALK				P	P	18 14 58.1	-2.2
RAYN	Ar Rayn	98.91	328	P	Pdif	18 15 10.5	0.0
RAYN				pmax	pmax		
	comp=Z,54nm,1.3s						
RAYN				MLR	MLR		
	comp=Z,4µm,18.0s						
RAYN	Ar Rayn	98.91	328		Pdif	18 15 10.5	0.0
RAYN	Ar Rayn	98.91	328	iP	P	18 15 10.2	-0.2
	SNR=22						
DOK	Doka	100.26	319	P	Pdif	18 15 13.0	-3.4
HMDM	Hanimaadhoo	101.28	297	IAMs_20	IAMs_20	19 07 11.5	
	comp=Z,3µm,19.0s						
SOCY	Socotra	106.09	316	IAMs_20	IAMs_20	19 07 28.5	
	comp=Z,3µm,22.0s						
NWAO	Narrogin (SRO)	106.47	237	IAMs_20	IAMs_20	19 11 50.1	
	comp=Z,1µm,18.0s						
KOWA	Kowa	112.32	16	IAMs_20	IAMs_20	19 08 10.6	
	comp=Z,2µm,20.0s						
SIV	San Ignacio	113.30	86	PP	PP	18 20 58.7	+0.3
	baz=0.0,slow=0.0						
TORD	Torodi Ar. Bea	114.44	10	PKP	PKiKP	18 20 09.5	-0.7
	comp=Z,2.2nm,0.9s,baz=335,slow=2.8,SNR=7.6						
TORD				PKKPbc	PKKPbc	18 30 47.2	+0.2
	comp=Z,1.6nm,1.0s,baz=197,slow=2.3,SNR=4.6						
H03N2	Juan Fernandez	115.49	112	T	T	20 27 07.0	
	baz=313,slow=74						
H03N1	Juan Fernandez	115.51	112	T	T	20 26 59.3	
	baz=313						
H03N3	Juan Fernandez	115.51	112	T	T	20 26 56.7	
	baz=313,slow=74						
RCBR	Riachuelo	119.75	57	IAMs_20	IAMs_20	19 06 37.3	
	comp=Z,2µm,20.0s						
TIC	Toumodi	119.80	19	ePKP1	PKPdf	18 20 20.3	-0.2
DBIC	Dimbokro	119.81	19	PKP	PKPdf	18 20 19.4	-1.0
	comp=Z,3.5nm,0.8s,baz=82,slow=4.0,SNR=3.5						
PEL	Peldehue	120.08	106	IAMs_20	IAMs_20	19 05 55.1	
	comp=Z,2µm,18.0s						
KIC	Kosan Boka	120.13	18	ePKP1	PKPdf	18 20 20.1	-1.0
	comp=Z,6.4nm,0.6s						
LIC	Lamto	120.21	19	ePKP1	PKPdf	18 20 21.0	-0.2
	comp=Z,26nm,1.2s						
MSEY	Mahe Island	120.25	306	IAMs_20	IAMs_20	19 14 25.4	
	comp=Z,2µm,18.0s						
CPUP	Villa Florida	123.33	91	PKP	PKPdf	18 20 26.2	-0.6
	comp=Z,2.3nm,0.9s,baz=43,slow=4.6,SNR=2.2						
KMBO	Kilima Mbogo	124.68	328	PKP	PKiKP	18 20 30.7	+0.3
	comp=Z,13nm,0.9s,baz=4.9,slow=3.4,SNR=31						
KMBO	Kilima Mbogo	124.68	328	iP	PKiKP	18 20 31.0	+0.5
	SNR=24						
PLCA	Paso Flores	125.36	113	PKP	PKPdf	18 20 30.1	-0.2
	comp=Z,2.4nm,0.8s,baz=302,slow=2.8,SNR=8.3						
PLCA	Paso Flores	125.36	113	PKIKP	PKiKP	18 20 30.7	0.0
PLCA	Paso Flores	125.36	113	PKPdf	PKiKP	18 20 30.7	0.0
PLCA	Paso Flores	125.36	113	eP	PKiKP	18 20 35.5	+4.8

KIBK	Kibwezi	125.55	326	IAMs_20	IAMs_20	19 17 30.8		
	comp=Z,2µm,20.0s							
NAN01	Guarapari, ES	127.32	69	*eP*	PKiKP	18 20 38.5	+3.4	
SJMB	Sao Joao De Ma	127.38	71	*eP*	PKiKP	18 20 39.1	+3.9	
VNDA	Vanda	130.70	188	PKhKP	PKPpre	18 20 36.1		
	comp=Z,0.6nm,0.9s,baz=327,slow=4.7,SNR=2.5							
VNDA				SKPbc	SKPbc	18 24 00.8	-1.3	
	comp=Z,3.0nm,1.0s,baz=5.7,slow=3.9,SNR=5.8							
OPO	Ambohidratompo	136.26	306	PKP	PKPdf	18 20 51.8	+0.1	
	comp=Z,13nm,1.0s,baz=84,slow=3.4,SNR=4.6							
OPO				SKPbc	SKPbc	18 24 19.7	-3.1	
	comp=Z,6.4nm,0.9s,baz=317,slow=8.4,SNR=3.1							
VOI	Vohitsoka	139.26	304	IAMs_20	IAMs_20	19 30 57.3		
	comp=Z,1µm,20.0s							
LSZ	Lusaka	140.81	334	PKhKP	PKPpre	18 20 56.4		
	comp=Z,4.0nm,0.6s,baz=16,slow=4.6,SNR=9.8							
LSZ				PP	PP	18 23 58.9	-0.7	
	comp=Z,5.8nm,0.9s,baz=2.0,slow=7.3,SNR=4.2							
BLWY	Bulawayo	145.30	330	*i* P	PKPdf	18 21 09.3	+1.4	
BLWY	Bulawayo	145.30	330	*i* P	PKPdf	18 21 09.3	+1.4	
MATP	Matopo	145.60	331	PKPbc	PKPdf	18 21 08.4	0.0	
	comp=Z,49nm,1.0s,baz=8.0,slow=3.0,SNR=49							
MATP	Matopo	145.60	331	*i* P	PKPab	18 21 09.3	+0.5	
MATP	Matopo	145.60	331	*i* P	PKPab	18 21 09.3	+0.5	
TSUM	Tsumeb	146.74	349	PKPbc	PKPbc	18 21 12.1	+0.1	
	comp=Z,15nm,0.5s,baz=9.9,slow=6.8,SNR=23							
TSUM	Tsumeb	146.74	349		PKPab	18 21 12.8	-0.5	
MSNA	Messina	146.91	327	*i* P	PKPab	18 21 13.3	-0.4	
MSNA	Messina	146.91	327	*i* P	PKPab	18 21 13.3	-0.4	
MOPA	Mopani	147.50	324	*i* P	PKPab	18 21 15.1	-1.0	
MOPA	Mopani	147.50	324	*i* P	PKPab	18 21 15.1	-1.0	
BELA	Belgrano 2	149.38	163		PKPbc	18 21 16.8	-0.4	
CNG	Changalane	149.72	320	*i* P	PKPbc	18 21 19.6	+0.1	
CNG	Changalane	149.72	320	*i* P	PKPbc	18 21 19.6	+0.1	
LBTB	Lobatse	150.78	333	PKPbc	PKPbc	18 21 21.7	-0.6	
	comp=Z,91nm,0.9s,baz=33,slow=1.7,SNR=55							
LBTB	Lobatse	150.78	333	PKIKP	PKiKP	18 21 23.8	+0.8	
LBTB	Lobatse	150.78	333	PKPdf	PKiKP	18 21 23.8	+0.8	
LBTB	Lobatse	150.78	333	*i* P	PKPbc	18 21 20.9	-1.4	
LBTB	Lobatse	150.78	333	*i* P	PKPbc	18 21 20.9	-1.4	
MAW	Mawson	150.94	218	PKPbc	PKiKP	18 21 21.5	-0.3	
	comp=Z,20nm,1.0s,baz=84,slow=3.1,SNR=8.1							
BOSA	Boshof	154.27	331	PKPbc	PKPbc	18 21 28.3	-1.8	
	comp=Z,11nm,0.8s,baz=29,slow=2.6,SNR=22							
BOSA	Boshof	154.27	331	PKIKP	PKiKP	18 21 31.1	+1.0	
BOSA	Boshof	154.27	331	PKPbc	PKiKP	18 21 31.1	+1.0	
SYO	Syowa Base	158.46	208	‖ *ep*PKPdf	pPKPdf	18 21 30.0	-0.3	
SUR	Sutherland	159.04	337	PKP	PKPdf	18 21 29.7	+1.8	
	comp=Z,12nm,1.0s,baz=297,slow=7.7,SNR=2.1							

IDC ***27*** *18:02:02.2s 1.2, 52.49N 168.88W, h0km, mb5.7/28, mb1 5.8/28, mb1mx5.4/72, mbtmp5.7/28, MS5.5/4, Ms1 5.5/4, ms1mx4.9/20, Error ellipse: s-maj=31.4km s-min=14.6km az=165.0*

ISC 27 18:02:07.5±1.1, 52.5N±0.2×168.84W±0.10, h33km, n117, σ0.971/110, mb5.8/30, 2C-12D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	Shemya Is, Ala	10.38	278	LR	LR	18 08 40.5	
	comp=Z,53µm,18.6s,baz=112,slow=38						
KDAK	Kodiak Island	10.67	54	Pn	Pn	18 04 36.2	-1.6
	39nm,0.3s,baz=286,slow=22,SNR=5.8						
ILAR	Eielson Array	16.63	34	ScP	ScP	18 14 17.8	-0.1
	baz=284,slow=4.5,SNR=6.9						
PETK	Petropavlovsk-	20.13	285	P	P	18 06 37.9	-0.5
	173nm,0.8s,baz=98,slow=14,SNR=6.8						
PETK				ScP	ScP	18 14 27.4	+1.7
	19nm,1.0s,baz=94,slow=4.5,SNR=6.7						
YKA	Yellowknife Ar	29.88	49	P	P	18 08 11.9	+0.4
	44nm,0.8s,baz=273,slow=9.9,SNR=9.0						
YKA				PcP	PcP	18 11 12.9	-0.7
	13nm,0.8s,baz=282,slow=2.2,SNR=4.1						
ASAJ	Asahikawa	32.82	275	P	P	18 08 37.2	-0.4
	212nm,1.1s,baz=22,slow=5.5,SNR=8.3						
YAK	Yakutsk	33.30	311	P	P	18 08 40.7	-0.9
	63nm,0.7s,baz=58,slow=1.9,SNR=9.1						
USRK	Ussuriysk Ar.	39.17	282	P	P	18 09 30.8	-1.1
	23nm,0.7s,baz=67,slow=8.1,SNR=6.0						
USRK				PcP	PcP	18 11 40.5	-0.3
	32nm,0.9s,baz=68,slow=2.6,SNR=5.2						
PDAR	Pinedale Array	40.05	80	P	P	18 09 39.4	-0.2
	73nm,0.8s,baz=318,slow=4.1,SNR=8.7						
CN2	Changchun	43.28	286	pmax	pmax		
	comp=Z,150nm,0.8s						
CN2	Changchun	43.28	286	*eP*	P	18 10 03.5	-2.1
KSRS	Korea Array	45.70	277	P	P	18 10 25.4	+0.3
	comp=Z,143nm,0.9s,baz=55,slow=6.3,SNR=7.4						
SPITS	Spitsbergen Ar	49.51	359	P	P	18 10 54.0	-0.1
	comp=Z,59nm,0.7s,baz=29,slow=5.3,SNR=11						
SONM	Songino Array	51.49	301	P	P	18 11 09.7	+0.1
	comp=Z,88nm,1.1s,baz=57,slow=6.2,SNR=11						
SONM				PcP	PcP	18 12 23.4	0.0
	comp=Z,30nm,1.0s,baz=85,slow=2.2,SNR=3.9						
SONM				ScP	ScP	18 16 19.5	+2.2
	comp=Z,11nm,1.1s,baz=87,slow=3.7,SNR=5.0						
SFJD	Kangerlussuaq	52.08	26	P	P	18 11 13.4	-0.1
	comp=Z,94nm,0.9s,baz=322,slow=9.7,SNR=11						
SADO	Sadowa	56.08	59	LR	LR	18 37 50.1	
	comp=Z,4µm,18.1s,baz=354,slow=38						
ARCES	ARCESS Array B	57.78	354	P	P	18 11 54.2	-0.5
	comp=Z,107nm,0.9s,baz=0.0,slow=7.3,SNR=15						
WHN	Wuhan	58.63	280	⇑P	P	18 12 00.3	-0.8
WHN	Wuhan	58.63	280	S	S	18 19 46.8	-16
WHN	Wuhan	58.63	280	LR	LR		
	comp=Z,12µm,17.0s						
WHN	Wuhan	58.63	280	LR	LR		
	comp=E,4µm,14.8s						
WHN	Wuhan	58.63	280	LR	LR		
	comp=N,11µm,16.7s						
WHN	Wuhan	58.63	280	pmax	pmax		
	comp=Z,3µm,2.6s						
WHN	Wuhan	58.63	280	pmax	pmax		
	comp=Z,550nm,1.0s						
BORG	Borgarnes	60.38	15	P	P	18 12 14.0	+1.3
	comp=Z,26nm,0.7s,baz=319,slow=4.6,SNR=5.7						
BVAR	Borovoye Array	63.75	325	P	P	18 12 36.1	+0.6
	comp=Z,55nm,0.8s,baz=340,slow=5.3,SNR=14						
MKAR	Makanchi Array	63.92	314	P	P	18 12 36.5	-0.3
	comp=Z,59nm,0.8s,baz=51,slow=6.1,SNR=5.4						
ARU	Arti	64.61	333	LR	LR	18 47 47.5	
	comp=Z,3µm,18.9s,baz=42,slow=42						
KIRV	Kirov	64.96	339	P	P	18 12 43.2	-0.1
	comp=Z,158nm,0.9s,baz=18,slow=6.3,SNR=12						
FIA1	FINESS Array S	65.74	352	PcP	P	18 12 48.0	-0.3
FINES	FINESS Array B	65.74	352	P	P	18 12 48.3	0.0
	comp=Z,152nm,0.8s,baz=21,slow=6.9,SNR=16						
FINES	FINESS Array B	65.74	352	PcP	P	18 12 48.3	0.0
NB2	NORSAR Subarra	66.77	360	P	P	18 12 54.9	-0.2
	comp=Z,32nm,0.7s,baz=4.0,slow=6.5						
NOA	NORSAR Array B	66.77	360	P	P	18 12 54.8	-0.2
	comp=Z,91nm,0.9s,baz=0.4,slow=6.3,SNR=12						
HFS	Hagfors	67.66	359	P	P	18 13 00.3	-0.3
	comp=Z,147nm,0.9s,baz=338,slow=3.2,SNR=15						
AKTO	Aktyubinsk	70.02	330	P	P	18 13 15.4	-0.1
	comp=Z,156nm,0.9s,baz=27,slow=6.4,SNR=16						
BOOM	Boomskoye usch	70.10	315	PcP	P	18 13 17.1	+0.8
ABKAR	Akbulak array	70.46	328	PcP	P	18 13 19.1	+0.9
PPT	Papeete	71.79	161	LR	LR	18 36 03.5	
	comp=Z,2µm,21.4s,baz=337,slow=28						
PABE	Paberze	71.80	352	PcP	P	18 13 26.7	+0.6
EKA	Eskdalemuir Ar	71.84	9	P	P	18 13 26.8	+0.4
	comp=Z,108nm,1.0s,baz=357,slow=4.3,SNR=15						
SKMB	Sankelmark Bun	73.10	1	*ep*P	P	18 13 34.8	+0.9
RGN	Rugen	73.26	359	*ep*P	P	18 13 35.8	+0.9
HLG	Helgoland	73.61	2	*ep*P	P	18 13 37.9	+1.0
BSEG	Bad Segeberg	73.89	1	*ep*P	P	18 13 39.3	+0.8
LNIZ	Loecknitz	74.30	358	*ep*P	P	18 13 41.6	+0.6
RETH	Rethem/Aller,	75.08	1	*ep*P	P	18 13 46.0	+0.6
RUE	Ruedersdorf	75.33	358	*ep*P	P	18 13 47.7	+0.8
NRDL	Niedersach Rie	75.33	1	*ep*P	P	18 13 47.6	+0.8
IBBN	Ibbenburen	75.48	2	*ep*P	P	18 13 48.5	+0.7
FLTG	Flechtingen	75.50	360	*ep*P	P	18 13 48.1	+0.2
ASSE	Asse, Remlinge	75.70	0	*ep*P	P	18 13 49.6	+0.7
CLZ	Clausthal	75.99	1	*ep*P	P	18 13 50.9	+0.1
AKASG	Malin Array Be	76.00	348	P	P	18 13 50.2	-0.6
	comp=Z,87nm,0.8s,baz=15,slow=5.8,SNR=13						
GTTG	Gottingen	76.28	1	*ep*P	P	18 13 53.3	+0.9
BUG	Bochum--Univer	76.34	3	*ep*P	P	18 13 53.1	+0.4
CLL	Collm	76.51	359	*i* P	P	18 13 54.1	+0.4
	comp=Z,164nm,1.2s						
KASTN	Kahler Asten	76.60	2	*ep*P	P	18 13 54.5	+0.2
CMAR	Chiang Mai Arr	76.89	283	P	P	18 13 56.2	-0.2
	comp=Z,106nm,0.9s,baz=31,slow=7.0,SNR=4.4						
FBE	Freiberg	76.89	359	*ep*P	P	18 13 56.5	+0.7
BEBN	Eben Emael	76.93	4	*dx*	P	18 13 55.1	-0.9
BRG	Berggiesshubel	76.93	358	*ep*P	P	18 13 56.8	+0.7
BRG	Berggiesshubel	76.93	358	*i* x	P	18 13 56.8	+0.7
BRG	Berggiesshubel	76.93	358	Amp		18 13 57.8	
	comp=Z,192nm,1.3s						
UBBA	Unterbreizbach	77.01	1	*ep*P	P	18 13 56.5	+0.1
MEM	Membach	77.13	3	*dx*	P	18 13 56.7	-0.6
BSTI	Sart Tilman	77.14	4	*dx*	P	18 13 57.4	+0.1
BTNL	Ternell	77.16	3	*dx*	P	18 13 57.0	-0.4
SNF	Seneffe	77.16	4	*dx*	P	18 13 57.6	+0.2
CHVC	Chvalec	77.19	357	*eP*	P	18 13 58.0	+0.6
MOX	Moxa	77.19	360	*ep*P	P	18 13 58.4	+0.8
OSTC	Ostas	77.19	357	*eP*	P	18 13 58.5	+0.9
AHRW	Bad Neuenahr-A	77.23	3	*ep*P	P	18 13 58.5	+0.7
UPC	Upice	77.24	357	*eP*	P	18 13 58.6	+0.7
BCLA	Clavier	77.29	4	*dx*	P	18 13 57.9	-0.2
BGES	Gesves	77.32	4	*dx*	P	18 13 58.2	-0.1
PLN	Plauen	77.34	359	*ep*P	P	18 13 59.0	+0.6
BHOU	Houvegnez	77.39	3	*dx*	P	18 13 57.8	-0.9
BMRD	Maredsous	77.39	4	*dx*	P	18 13 58.6	0.0
DPC	Dobruska-Polom	77.39	357	*eP*	P	18 13 59.6	+0.9
TANN	Tannenbergstha	77.41	359	*ep*P	P	18 13 59.2	+0.3
WERN	Wernitzgruen	77.54	359	*ep*P	P	18 14 00.1	+0.6
RCHB	Rochefort	77.55	4	*dx*	P	18 13 59.7	+0.1
TNS	Taunus Mts	77.58	2	*ep*P	P	18 14 00.3	+0.4
DOU	Dourbes	77.59	4	*dx*	P	18 13 59.7	-0.1
NKC	Novy Kostel	77.59	359	*eP*	P	18 14 00.6	+0.7
KRLC	Kraliky	77.65	356	*eP*	P	18 14 00.8	+0.6
PRU	Pruhonice	77.81	358	*eP*	P	18 14 01.8	+0.8
OKC	Ostrava-Krasne	77.82	355	*eP*	P	18 14 01.6	+0.5
MANZ	Manzenberg	77.84	359	*ep*P	P	18 14 01.9	+0.6
MORC	Moravsky Berou	77.91	356	*eP*	P	18 14 01.7	0.0
MILB	Miltenberg	77.99	1	*ep*P	P	18 14 02.7	+0.7
ROTZ	Rotzenmuhle	78.06	359	*ep*P	P	18 14 03.1	+0.6
WLF	Walferdange	78.08	3	*ep*P	P	18 14 03.4	+0.9
WLF	Walferdange	78.08	3	*dx*	P	18 14 03.4	+0.9
PBCC	Pribram	78.12	358	*eP*	P	18 14 03.2	+0.4
GRF	Grafenberg Arr	78.14	360	*ep*P	P	18 14 03.9	+1.0
VRAC	Vranov	78.42	356	P	P	18 14 05.3	+0.8
	comp=Z,140nm,1.0s,baz=4.0,slow=6.4,SNR=11						
VRAC	Vranov	78.42	356	*eP*	P	18 14 04.9	+0.5
KRUC	Moravsky	78.67	356	*eP*	P	18 14 06.1	+0.3
WET	Wettzell	78.68	359	*ep*P	P	18 14 06.7	+0.8
KHC	Kasperske Hory	78.68	358	*eP*	P	18 14 06.7	+0.8
JAVC	Velka Javorina	78.82	358	*eP*	P	18 14 08.0	+1.3
GEC2	GERESS Array S	78.97	358	*ep*P	P	18 14 08.5	+0.9
GERES	GERESS Array B	78.97	358	P	P	18 14 08.2	+0.7
	comp=Z,44nm,1.0s,baz=15,slow=5.7,SNR=17						
CKRC	Cesky Krumlov	78.98	358	*eP*	P	18 14 07.8	+0.3
STU	Stuttgart	79.05	1	*ep*P	P	18 14 07.9	0.0
BFO	Black Forest	79.48	2	*ep*P	P	18 14 10.7	+0.5
RJOB	Jochberg	80.09	359	*ep*P	P	18 14 14.5	+0.8
KBZ	Khabaz	80.28	337	P	P	18 14 15.9	+1.3
	comp=Z,105nm,0.9s,baz=24,slow=2.8,SNR=8.5						
DAVOX	Davos/Dischmat	81.05	1	P	P	18 14 19.9	+0.9
	comp=Z,70nm,0.9s,baz=335,slow=5.4,SNR=7.6						
PERS	Pernice	81.14	357	*i* pP	P	18 14 19.7	+0.4
KOGS	Kog	81.29	356	*i* pP	P	18 14 20.2	+0.2
ZAG	Zagreb	81.92	357	⇑ *i* P	P	18 14 23.4	+0.1
BOJS	Bojanci	82.27	357	*i* pP	P	18 14 25.2	0.0
BRTR	Keskin Array B	86.06	343	P	P	18 14 45.7	+1.0
	comp=Z,73nm,1.1s,baz=50,slow=2.3,SNR=15						
ESDC	Sonseca Array	87.22	12	P	P	18 14 50.4	+0.1
	comp=Z,37nm,0.8s,baz=347,slow=4.6,SNR=9.4						

NEIC ***27*** *18:06:39.1±1.8, 52.00N±0.02×168.45W±0.06, h10km±1km, mb4.5/17, ML3.9/19(AEIC), Error ellipse: s-maj=6.7km s-min=3.9km az=104.0*

AEIC ***27*** *18:06:41.1±2.1, 52.14N±0.05×168.49W±0.03, h9km±5km, Error ellipse: s-maj=7.6km s-min=2.4km az=173.0*

IDC ***27*** *18:06:41.2±1.1, 52.55N×168.89W, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.2/68, mbtmp4.3/21, Error ellipse: s-maj=29.0km s-min=16.6km az=164.0*

ISC 27 18:06:44.4±0.7, 52.29N±0.07×168.67W±0.06, h29km, n65, σ1.934/63, mb4.3/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	Nikolski High	0.69	351		Pb	18 06 57.9	0.0
NIKH					Sn	18 07 10.7	+2.8
OKSO	Okmok South	1.11	16		Pn	18 07 04.0	0.0
OKSO					Sb	18 07 20.8	+1.7
OKFG	Magazine Ridge	1.21	22		Pn	18 07 05.5	+0.1
OKFG					Sb	18 07 23.6	+1.6
MSW	Makushin Switc	1.98	34		Pn	18 07 16.1	+0.1
MSW					Sb	18 07 42.8	-1.3
MNAT	Makushin Natee	1.99	36		Pn	18 07 15.5	-0.7
UNV	Unalaska Vale	2.03	39		Pn	18 07 15.7	-0.9
MTBL	Makushin Table	2.06	35		Pn	18 07 16.4	-0.8
AKMO	Akutan Morgan	2.41	41		Pn	18 07 21.1	-0.7
ATKA	Atka Island	3.40	271		Pn	18 07 34.6	-0.8
ADK	Adak	4.96	268	Pn	Pn	18 07 56.4	-0.4
KIWB	Kanaga Island	5.25	269	Pn	Pn	18 08 01.9	+1.0
CHIR	Chirikof Islan	8.45	60	Pn	Pn	18 08 44.0	-0.7
OHAK	Old Harbor	10.16	55	Pn	Pn	18 09 07.4	-0.8
KDAK	Kodiak Island	10.73	53	Pn	Pn	18 09 15.2	-0.8
	1.9nm,0.3s,baz=231,slow=5.6,SNR=8.5						
GAMB	Gambell	11.63	353	Pn	Pn	18 09 29.9	+1.8
SEW	Seward	13.21	46	Pn	Pn	18 09 49.0	-0.8
O22K	Cooper Landing	13.28	44	Pn	Pn	18 09 48.5	-2.1
PWL	Port Wells	14.06	44	Pn	Pn	18 09 58.8	-2.5
GHO	Glory Hole Cre	14.28	41	Pn	Pn	18 10 03.5	-1.0
SCM	Sheep Creek Mo	14.96	42	Pn	Pn	18 10 12.7	-1.0
M24K	Tolsona, Glenn	15.57	42	Pn	Pn	18 10 20.2	-1.4
NEA2	Nenana	15.94	32	Pn	Pn	18 10 25.3	-1.0
BERG	Berg Lake	15.96	50	Pn	Pn	18 10 24.9	-1.7
BERG				IAmb	IAmb	18 10 43.2	
	comp=Z,54nm,1.2s						
N25K	Chitina, Valde	16.01	45	Pn	Pn	18 10 25.0	-2.3
VRDI	Verde Repeater	16.37	47	Pn	Pn	18 10 30.5	-1.4
TGL	Tana Glacier	16.48	49		Pn	18 10 33.8	+0.4
TGL				IAmb	IAmb	18 10 48.3	
	comp=Z,57nm,1.0s						
MCARA	McCarthy VSAT	16.62	47		Pn	18 10 34.1	-0.8
MCARA				IAmb	IAmb	18 10 42.3	
	comp=Z,46nm,1.1s						
ISLE	Juniper Island	16.66	50		Pn	18 10 35.2	-0.4
ISLE				IAmb	IAmb	18 10 39.2	
	comp=Z,61nm,1.2s						
ILAR	Eielson Array	16.78	33	Pn	Pn	18 10 35.4	-1.5
	baz=225,slow=14,SNR=0.9						
ILAR	Eielson Array	16.78	33	Pn	Pn	18 10 33.9	-3.0
M27K	Edge Creek, AK	17.49	44	Pn	Pn	18 10 43.1	-2.9
PCA	Pinnacle	17.52	52		Pn	18 10 44.9	-1.4
BCPM	Bancas Point	17.79	53		Pn	18 10 48.3	-1.2
BCPM				IAmb	IAmb	18 11 04.4	
	comp=Z,56nm,1.0s						
PEA0B	Petropavlovsk-	20.30	286	P	P	18 11 17.4	-0.2
PEA0B				IAmb	IAmb	18 11 28.0	
	comp=Z,13nm,0.8s						
PETK	Petropavlovsk-	20.30	286	P	P	18 11 16.6	-1.0
	comp=Z,9.3nm,0.5s,baz=88,slow=13,SNR=19						
EPYK	Eagle Plains	21.21	36	P	P	18 11 26.1	-1.3
YKA	Yellowknife Ar	29.97	49	P	P	18 12 50.7	+0.9
	comp=Z,1.5nm,0.6s,baz=275,slow=8.3,SNR=1.9						
H11N2	WAKE ISLAND Hy	37.66	220	T	T	18 55 06.8	
	baz=24						
H11N3	WAKE ISLAND Hy	37.67	220	T	T	18 55 08.2	
	baz=24						
H11N1	WAKE ISLAND Hy	37.68	220	T	T	18 55 09.2	
	baz=24						
H11S1	WAKE ISLAND Hy	38.85	219	T	T	18 56 23.5	
	baz=24						
H11S2	WAKE ISLAND Hy	38.86	219	T	T	18 56 20.2	
	baz=24						
H11S3	WAKE ISLAND Hy	38.87	219	T	T	18 56 22.2	
	baz=24						
PDAR	Pinedale Array	40.00	79	P	P	18 14 17.3	+0.7
	comp=Z,1.4nm,0.6s,baz=315,slow=1.6,SNR=4.9						
KSRS	Korea Array	45.84	277	P	P	18 15 03.2	-0.4
	comp=Z,3.6nm,0.8s,baz=52,slow=7.3,SNR=4.5						
KSAR	Wonju Array Be	45.87	277	P	P	18 15 02.3	-1.6
JNU	Nakatsue	46.89	271	P	P	18 15 11.8	-0.2
	baz=349,slow=13						
SPITS	Spitsbergen Ar	49.76	359	P	P	18 15 31.8	-1.7
	comp=Z,9.7nm,0.9s,baz=8.7,slow=6.1,SNR=8.0						
ULN	Ulaanbaatar	51.34	301	P	P	18 15 43.8	-2.2
ULN				IAmb	IAmb	18 15 57.2	
	comp=Z,5.9nm,1.1s						
SONM	Songino Array	51.71	301		P	18 15 48.0	-0.7
SONM				IAmb	IAmb	18 16 00.3	
	comp=Z,7.8nm,1.1s						
TXAR	Lajitas Array	52.32	89	P	P	18 15 55.4	+1.9
	comp=Z,0.8nm,0.8s,baz=326,slow=6.0,SNR=1.7						
ARCES	ARCESS Array B	58.04	354	P	P	18 16 33.3	-0.8
	comp=Z,5.6nm,0.9s,baz=12,slow=5.9,SNR=4.9						
BVAR	Borovoye Array	64.01	325	P	P	18 17 14.4	-0.4
	comp=Z,1.7nm,0.6s,baz=90,slow=5.5,SNR=4.3						
MKAR	Makanchi Array	64.17	314	P	P	18 17 14.9	-1.0
	comp=Z,3.8nm,0.8s,baz=41,slow=11,SNR=3.5						
FINES	FINESS Array B	66.00	352	P	P	18 17 26.9	-0.6
	comp=Z,10nm,0.8s,baz=9.2,slow=6.5,SNR=9.1						
NOA	NORSAR Array B	67.02	0	P	P	18 17 33.9	-0.2
	comp=Z,1.4nm,0.7s,baz=360,slow=6.3,SNR=3.0						
HFS	Hagfors	67.91	359	P	P	18 17 39.4	-0.3
	comp=Z,3.4nm,0.6s,baz=108,slow=4.7,SNR=2.6						
AKTO	Aktyubinsk	70.29	330	P	P	18 17 54.6	0.0
	comp=Z,6.8nm,0.8s,baz=63,slow=12,SNR=4.5						
EKA	Eskdalemuir Ar	72.07	9	P	P	18 18 05.5	+0.2
	comp=Z,2.8nm,0.9s,baz=348,slow=4.2,SNR=2.2						
AKASG	Malin Array Be	76.27	348	P	P	18 18 29.0	-0.8
	comp=Z,0.9nm,0.4s,baz=15,slow=5.8,SNR=6.1						
CMAR	Chiang Mai Arr	77.05	283	P	P	18 18 35.0	+0.2
	comp=Z,3.2nm,0.9s,baz=24,slow=6.5,SNR=6.7						
GERES	GERESS Array B	79.22	358	P	P	18 18 47.2	+0.7
	comp=Z,1.3nm,1.0s,baz=23,slow=7.9,SNR=2.7						
BRTR	Keskin Array B	86.32	343	P	P	18 19 24.3	+0.8
	comp=Z,1.1nm,0.7s,baz=358,slow=3.1,SNR=2.6						
ESDC	Sonseca Array	87.45	12	P	P	18 19 28.5	-0.4
	comp=Z,1.1nm,0.7s,baz=346,slow=5.1,SNR=4.4						
ASAR	Alice Springs	90.68	231	P	P	18 19 47.3	+3.2
	comp=Z,1.2nm,1.0s,baz=39,slow=3.7,SNR=1.8						

NEIC ***27*** *18:07:34.9±0.8, 61.42N±0.03×151.62W±0.01, h85km±4km, Error ellipse: s-maj=5.1km s-min=0.7km az=184.0*

AEIC 27 18:07:35±0.9, 61.44N±0.01×151.66W±0.07, h81km±4km, ML2.7/66, ML3.1/64(NEIC), Error ellipse: s-maj=4.9km s-min=2.0km az=92.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STLK	Strandline Lak	0.10	307		Pn	18 07 46.9	+0.2
SPCG	Spurr Capps Gl	0.23	230		Pn	18 07 47.3	+0.1
SPCG					Sn	18 07 56.6	+0.5
SPU	Mount Spurr	0.32	217		Pn	18 07 47.7	+0.2
SPCN	Chakachatna No	0.33	230		Pn	18 07 48.0	+0.4
SPCN					Sn	18 07 58.4	+1.4
SPCR	Spurr Chakacha	0.36	228		Pn	18 07 48.0	+0.2
SPCR					Sn	18 07 57.9	+0.6
CKL	Chakachamna La	0.41	234		Pn	18 07 48.5	+0.3
CAPN	Captain Cook N	0.71	160	IAML		18 08 02.1	
	comp=E,694nm,2.5s						
CAPN	Captain Cook N	0.71	160		Pn	18 07 52.4	+1.5
FIS	Fire Island	0.76	112		Pn	18 07 52.1	+0.9
FIS	Fire Island	0.76	112	IAML		18 08 01.4	
FIS	comp=E,368nm,3.7s	

NEA2	**Nenana**	**3.38**	**19**	IAML		18 10 28.1		
	comp=N,65nm,4.4s							
NEA2				IAML		18 10 38.1		
	comp=E,138nm,4.3s							
NEA2	**Nenana**	**3.38**	**19**	S	Pn	18 08 25.2	-0.2	
	baz=228							
WRH	**Wood River Hil**	**3.46**	**27**		Pn	18 08 26.4	0.0	
WRH	**Wood River Hil**	**3.46**	**27**	IAML		18 08 58.1		
	comp=N,55nm,4.5s							
COLA	**College**	**3.86**	**25**	Pn	Pn	18 08 30.6	-1.2	
H21K	**Melozitna Rive**	**4.27**	**354**	Pn	Pn	18 08 37.7	+0.3	

MAN 27 18:11:36.4, 6.4′N×124.68E, h2km, mb3.9, ML2.7, MS2.3, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.46**	**145⇑**	*e*P	Pn	18 11 48.7	-1.4
KCP	**Kidapawan**	**0.68**	**37⇑**	*e*P	Pg	18 11 49.6	+0.3
CTBH	**Cotabato--PC H**	**0.87**	**330⇑**	*i*P	Pg	18 11 53.1	+0.1
CTBH				*i* S	Sg	18 12 04.2	-0.1
DDMP	**Don Marcelino,**	**1.08**	**109⇓**	*e*P	Pg	18 11 57.2	+0.1
PAGZ	**Pagadian**	**1.89**	**317⇓**	*e*P	Pn	18 12 09.5	-0.1
BUTP	**Butuan**	**2.66**	**20⇓**	*e*P	Pg	18 12 30.7	+3.4
MSLP	**Maasin**	**3.65**	**3⇓**	*e*P	Pn	18 12 27.7	-6.2

*IDC **27** 18:13:56.3±0.7, 52.22N×168.80W, h0km, mb4.3/35, mb1 4.4/36, mb1mx4.3/57, mbtmp4.3/36, ML3.7/1, Error ellipse: s-maj=19.8km s-min=11.3km az=175.0*

*NEIC **27** 18:13:58.4±1.9, 52.13N±0.07×168.65W±0.06, h18km±5km, mb4.5/68, ML3.9(AEIC), Error ellipse: s-maj=10.2km s-min=5.8km az=174.0*

*AEIC **27** 18:13:58±2.4, 52.09N±0.03×168.62W±0.07, h26km±5km, Error ellipse: s-maj=6.9km s-min=4.6km az=111.0*

ISC 27 18:14:00.0±0.5, 52.18N±0.06×168.68W±0.05, h26km, n218, σ1§09/221, mb4.5/74, 2C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.81**	**353**		**Pb**	**18 14 15.2**	**-0.2**
NIKH	**Nikolski High**	**0.81**	**353**		**Sn**	**18 14 28.1**	**+1.3**
OKSO	**Okmok South**	**1.23**	**15**		**Pn**	**18 14 21.1**	**-0.5**
OKSO					**Sb**	**18 14 38.1**	**+0.1**
OKFG	**Magazine Ridge**	**1.32**	**20**		**Pn**	**18 14 22.5**	**-0.3**
OKFG					**Sb**	**18 14 41.0**	**+0.3**
MSW	**Makushin Switc**	**2.09**	**33**		**Pn**	**18 14 33.4**	**+0.1**
UNV	**Unalaska Valle**	**2.13**	**37**	Pn	**Pn**	**18 14 33.8**	**-0.1**
UNV	**Unalaska Valle**	**2.13**	**37**		**Sn**	**18 14 59.3**	**-0.1**
MTBL	**Makushin Table**	**2.17**	**33**		**Pn**	**18 14 34.6**	**+0.1**
AKMO	**Akutan Morgan**	**2.50**	**39**		**Pn**	**18 14 39.4**	**+0.4**
AKSA	**Akutan Strait**	**2.66**	**41**		**Pn**	**18 14 41.5**	**+0.3**
KOFP	**Korovin Flat P**	**3.33**	**274**		**Pn**	**18 14 50.3**	**-0.1**
ATKA	**Atka Island**	**3.39**	**273**		**Pn**	**18 14 51.3**	**0.0**
ATKA					**Sn**	**18 15 31.2**	**+0.6**
SSLN	**Shishaldin Nor**	**3.85**	**45**		**Pn**	**18 14 58.2**	**+0.6**
FALS	**False Pass**	**4.13**	**47**		**Pn**	**18 15 02.2**	**+0.8**
GSMY	**Great Sitkin M**	**4.55**	**271**		**Pn**	**18 15 07.1**	**-0.1**
GSTD	**Great Sitkin T**	**4.60**	**271**		**Pn**	**18 15 08.1**	**+0.2**
GSCK	**Great Sitkin C**	**4.62**	**271**		**Pn**	**18 15 08.2**	**+0.1**
ADK	**Adak**	**4.95**	**270**	Pn	**Pn**	**18 15 12.7**	**0.0**
SPIA	**Saint Paul Isl**	**5.09**	**350**	Pn	**Pn**	**18 15 16.5**	**+1.9**
KIWB	**Kanaga Island**	**5.24**	**270**		**Pn**	**18 15 17.0**	**+0.3**
KIMD	**Kanaga Island**	**5.30**	**269**		**Pn**	**18 15 17.4**	**-0.1**
TASE	**Tanaga Southea**	**5.79**	**270**		**Pn**	**18 15 24.6**	**+0.3**
SDPT	**Sand Point**	**5.81**	**54**	Pn	**Pn**	**18 15 25.6**	**+1.1**
CHGN	**Chignik**	**7.30**	**51**		**Pn**	**18 15 46.7**	**+1.9**
CHIR	**Chirikof Islan**	**8.52**	**59**	Pn	**Pn**	**18 16 00.8**	**-0.7**
SII	**Sitkinak Islan**	**9.53**	**57**	Pn	**Pn**	**18 16 15.2**	**-0.2**
OHAK	**Old Harbor**	**10.23**	**54**	Pn	**Pn**	**18 16 24.3**	**-0.8**
KDAK	**Kodiak Island**	**10.81**	**52**	Pn	**Pn**	**18 16 31.3**	**-1.6**
	2.4nm,0.3s,baz=242,slow=1.3,SNR=42						
KDAK					Sn	**18 18 27.1**	**-5.8**
	0.4nm,0.3s,baz=264,slow=9.1,SNR=1.0						
KDAK	**Kodiak Island**	**10.81**	**52**	Pn	**Pn**	**18 16 32.3**	**-0.6**
GAMB	**Gambell**	**11.74**	**353**	Pn	**Pn**	**18 16 45.0**	**-0.6**
RSO	**Redoubt South**	**12.10**	**40**		**Pn**	**18 16 49.3**	**-1.4**
CNPM	**China Poot**	**12.23**	**46**	Pn	**Pn**	**18 16 51.8**	**-0.6**
BRLK	**Bradley Lake**	**12.50**	**46**	Pn	**Pn**	**18 16 56.6**	**+0.5**
M20K	**Styx River**	**12.86**	**35**	Pn	**Pn**	**18 17 02.0**	**+1.0**
SEW	**Seward**	**13.30**	**46**	Pn	**Pn**	**18 17 05.7**	**-1.2**
O22K	**Cooper Landing**	**13.37**	**44**		**Pn**	**18 17 07.4**	**-0.4**
K20K	**Telida**	**13.61**	**29**	Pn	**Pn**	**18 17 11.8**	**+0.7**
RC01	**Rabbit Creek A**	**13.68**	**42**	Pn	**Pn**	**18 17 10.9**	**-1.1**
PWL	**Port Wells**	**14.15**	**44**	Pn	**Pn**	**18 17 16.2**	**-2.3**
J20K	**Nowinta River**	**14.21**	**27**		**Pn**	**18 17 22.1**	**+2.7**
CUT	**Chuilitna**	**14.23**	**37**		**Pn**	**18 17 20.7**	**+1.1**
CAST	**Castle Rocks**	**14.27**	**31**	Pn	**Pn**	**18 17 20.3**	**+0.2**
KNK	**Knik Glacier**	**14.37**	**42**		**Pn**	**18 17 20.3**	**-1.2**
SML	**Sawmill**	**14.63**	**41**	Pn	**Pn**	**18 17 23.5**	**-1.7**
GLI	**Glacier Island**	**14.69**	**45**	Pn	**Pn**	**18 17 22.9**	**-3.0**
FID	**Port Fidalgo**	**14.91**	**46**	Pn	**Pn**	**18 17 24.9**	**-3.9**
SCM	**Sheep Creek Mo**	**15.05**	**42**	Pn	**Pn**	**18 17 27.5**	**-3.3**
SCM				IAmb	IAmb	18 17 36.1	
	comp=Z,40nm,1.1s						
BPAW	**Bear Paw Mtn.**	**15.09**	**31**	Pn	**Pn**	**18 17 32.5**	**+1.2**
BPAW				IAmb	IAmb	18 17 54.1	
	comp=Z,17nm,1.0s						
EYAK	**Cordova Ski Ar**	**15.15**	**47**	Pn	**Pn**	**18 17 30.1**	**-2.0**
EYAK				IAmb	IAmb	18 17 49.6	
	comp=Z,21nm,1.2s						
KLU	**Klutina**	**15.48**	**44**	Pn	**Pn**	**18 17 33.8**	**-2.6**
KLU				IAmb	IAmb	18 17 46.2	
	comp=Z,35nm,0.8s						
M24K	**Tolsona, Glenn**	**15.66**	**42**		**Pn**	**18 17 37.1**	**-1.7**
H21K	**Melozitna Rive**	**15.73**	**25**		**Pn**	**18 17 39.5**	**-0.1**
H21K				IAmb	IAmb	18 18 08.2	
	comp=Z,36nm,1.4s						
HMT	**Hamilton**	**15.76**	**49**	Pn	**Pn**	**18 17 38.5**	**-1.5**
HMT				IAmb	IAmb	18 17 53.5	
	comp=Z,24nm,0.9s						
N25K	**Chitina, Valde**	**16.10**	**45**		**Pn**	**18 17 42.0**	**-2.4**
N25K				IAmb	IAmb	18 18 05.8	
	comp=Z,48nm,1.5s						
WRH	**Wood River Hil**	**16.29**	**33**	Pn	**Pn**	**18 17 45.9**	**-0.8**
I23K	**Minto, Yukon-K**	**16.33**	**30**	P	**Pn**	**18 17 48.9**	**+1.7**
I23K				IAmb	IAmb	18 18 03.1	
	comp=Z,33nm,1.2s						
GLB	**Gilahina Butte**	**16.38**	**46**	Pn	**Pn**	**18 17 45.7**	**-2.2**
PAX	**Paxson**	**16.38**	**40**	Pn	**Pn**	**18 17 47.5**	**-0.5**
SNH	**Sunshine Point**	**16.38**	**51**	Pn	**Pn**	**18 17 47.8**	**-0.1**
VRDI	**Verde Repeater**	**16.45**	**47**	Pn	**Pn**	**18 17 47.5**	**-1.5**
WAX	**Waxell Ridge**	**16.46**	**50**		**Pn**	**18 17 48.1**	**-0.8**
CCB	**Clear Creek Bu**	**16.49**	**33**		**Pn**	**18 17 48.8**	**-0.5**
MDM	**Murphy Dome**	**16.56**	**31**	Pn	**Pn**	**18 17 49.8**	**-0.3**
MDM				IAmb	IAmb	18 18 03.1	
	comp=Z,26nm,1.2s						
MCARA	**McCarthy VSAT**	**16.70**	**46**	Pn	**Pn**	**18 17 51.8**	**-0.2**
MCARA				IAmb	IAmb	18 18 15.8	
	comp=Z,34nm,1.0s						
ISLE	**Juniper Island**	**16.75**	**49**		**Pn**	**18 17 52.1**	**-0.6**
ISLE				IAmb	IAmb	18 18 08.7	
	comp=Z,40nm,0.8s						
ILAR	**Eielson Array**	**16.88**	**33**	Pn	**Pn**	**18 17 52.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=229,slow=9.2,SNR=11						
YAH	**Yahtse**	**16.95**	**51**	P	**Pn**	**18 17 55.6**	**+0.2**
RIDG	**Independent Ri**	**17.02**	**38**	Pn	**Pn**	**18 17 55.7**	**-0.3**
RIDG				IAmb	IAmb	18 18 16.2	
	comp=Z,41nm,1.5s						
GRNC	**Granite Creek**	**17.06**	**49**	P	**Pn**	**18 17 56.5**	**-0.2**
GRNC				IAmb	IAmb	18 18 12.6	
	comp=Z,50nm,1.0s						
MENT	**Mentasta**	**17.06**	**41**	P	**Pn**	**18 17 56.7**	**+0.2**
BARN	**Barnard Glacie**	**17.21**	**48**	P	**Pn**	**18 17 58.1**	**-0.4**
BARN				IAmb	IAmb	18 18 13.9	
	comp=Z,43nm,1.4s						
L26K	**Log Cabin Wild**	**17.25**	**41**	P	**Pn**	**18 17 59.1**	**+0.3**
H24K	**Noodor Dome**	**17.25**	**30**		**Pn**	**18 17 59.2**	**+0.3**
TABL	**Table Mountain**	**17.26**	**51**	P	**Pn**	**18 17 59.8**	**+0.6**
TABL				IAmb	IAmb	18 18 23.1	
	comp=Z,53nm,0.9s						
DOT	**Dot Lake**	**17.27**	**39**		**Pn**	**18 17 58.5**	**-0.6**
J25K	**Salcha River,**	**17.31**	**35**		**Pn**	**18 17 58.2**	**-1.4**
CTGM	**Chitina Glacie**	**17.33**	**49**	P	**Pn**	**18 18 00.3**	**+0.3**
CTGM				IAmb	IAmb	18 18 16.1	
	comp=Z,81nm,1.4s						
SCRK	**Sand Creek**	**17.47**	**38**	Pn	**Pn**	**18 18 00.8**	**-0.8**
M27K	**Edge Creek, AK**	**17.58**	**44**		**Pn**	**18 18 02.4**	**-0.7**
M27K				IAmb	IAmb	18 18 18.2	
	comp=Z,29nm,1.1s						
COLD	**Coldfoot**	**17.62**	**24**	P	**Pn**	**18 18 04.3**	**+1.0**
L27K	**Beaver Creek,**	**17.89**	**42**	P	**Pn**	**18 18 05.3**	**-1.5**
BCAR	**Beaver Creek A**	**17.91**	**42**	Pn	**Pn**	**18 18 05.3**	**-1.7**
EGAK	**Eagle**	**18.93**	**38**	P	**P**	**18 18 19.4**	**+0.7**
EGAK				IAmb	IAmb	18 18 33.7	
	comp=Z,23nm,1.4s						
BMAR	**Burnt Mountain**	**19.30**	**28**	P	**P**	**18 18 23.4**	**+0.7**
DAWY	**Dawson**	**19.30**	**41**	P	**P**	**18 18 23.5**	**+0.8**
DAWY				IAmb	IAmb	18 18 37.3	
	comp=Z,21nm,1.2s						
PET	**Petropavlovsk**	**19.77**	**285**	P	**P**	**18 18 26.9**	**-0.9**
PET				IAmb	IAmb	18 18 38.6	
	comp=Z,41nm,1.4s						
M30M	**Minto, Yukon**	**19.87**	**46**	P	**P**	**18 18 29.1**	**+0.1**
N31M	**Braeburn, Yuko**	**20.06**	**49**		**Pn**	**18 18 33.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**18 18 33.3**	**-0.5**
PETK	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**18 18 32.8**	**-1.1**
	comp=Z,24nm,0.5s,baz=88,slow=13,SNR=120						
M31M	**Drury Creek, Y**	**20.86**	**48**	P	**P**	**18 18 41.3**	**+1.6**
M31M				IAmb	IAmb	18 18 56.9	
	comp=Z,18nm,0.8s						
P33M	**Teslin, Yukon**	**21.28**	**54**	P	**P**	**18 18 45.5**	**+1.2**
P33M				IAmb	IAmb	18 19 08.6	
	comp=Z,18nm,0.9s						
EPYK	**Eagle Plains**	**21.31**	**36**	P	**P**	**18 18 42.9**	**-1.6**
DLBC	**Dease Lake**	**22.62**	**59**	P	**P**	**18 18 59.8**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=274,slow=13,SNR=2.0						
SEY	**Seymchan**	**23.11**	**313**	P	**P**	**18 19 02.4**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=107,slow=9.2,SNR=9.6						
SEY				PcP	**PcP**	**18 22 52.8**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=85,slow=12,SNR=4.8						
MA2	**Magadan**	**23.60**	**304**	P	**P**	**18 19 08.6**	**+0.1**
	comp=Z,4.4nm,0.6s						
MA2	**Magadan**	**23.60**	**304**	P	**P**	**18 19 08.1**	**-0.4**
MA2				IAmb	IAmb	18 19 23.7	
	comp=Z,7.2nm,0.9s						
C36M	**Paulatuk**	**26.85**	**33**	P	**P**	**18 19 38.2**	**+0.3**
C36M				IAmb	IAmb	18 20 00.7	
	comp=Z,5.1nm,0.8s						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**18 20 07.6**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=276,slow=8.9,SNR=29						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**18 20 07.3**	**+0.7**
TIXI	**Tiksi**	**33.12**	**329**	P	**P**	**18 20 32.3**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=90,slow=20,SNR=13						
MCMT	**McKenzie Canyo**	**36.90**	**79**	P	**P**	**18 21 07.6**	**+1.0**
NVAR	**Mina Array Bea**	**37.24**	**91**	P	**P**	**18 21 09.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=318,slow=1.2,SNR=1.2						
H11N2	**WAKE ISLAND Hy**	**37.57**	**220**	T	T	19 02 13.4		
	baz=24,slow=74						
H11N3	**WAKE ISLAND Hy**	**37.58**	**220**	T	T	19 02 09.4		
	baz=24,slow=74						
H11N1	**WAKE ISLAND Hy**	**37.59**	**220**	T	T	19 01 56.5		
	baz=24							
YHH	**Holmes Hill**	**38.13**	**77**	P	**P**	**18 21 17.3**	**+0.2**
YHH				IAmb	IAmb	18 21 31.9	
	comp=Z,14nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**38.75**	**219**	T	T	19 03 26.1		
	baz=23,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**38.77**	**219**	T	T	19 03 31.6		
	baz=23,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**38.77**	**219**	T	T	19 03 23.6		
	baz=23,slow=76,SNR=34						
USRK	**Uesuriysk Ar.**	**39.35**	**283**	P	**P**	**18 21 26.8**	**0.0**
	comp=Z,2.0nm,0.6s,baz=51,slow=8.3,SNR=2.2						
BW06	**Boulder Array**	**40.02**	**79**	P	**P**	**18 21 33.9**	**+1.1**
BW06				IAmb	IAmb	18 21 52.0	
	comp=Z,13nm,1.3s						
PDAR	**Pinedale Array**	**40.02**	**79**	P	**P**	**18 21 33.6**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=299,slow=3.8,SNR=26						
PDAR	**Pinedale Array**	**40.02**	**79**	P	**P**	**18 21 33.7**	**+0.9**
MJAR	**Matsushiro Arr**	**40.11**	**269**	P	**P**	**18 21 32.4**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=26,slow=6.5,SNR=9.4						
MAJO	**Matsushiro**	**40.11**	**269**	P	**P**	**18 21 33.2**	**-0.2**
MAJO				IAmb	IAmb	18 21 48.1	
	comp=Z,12nm,0.9s						
FCC	**Fort Churchill**	**40.74**	**50**	P	**P**	**18 21 38.9**	**+0.6**
BNX	**BinXian**	**41.23**	**287**	⇓P	**P**	**18 21 41.0**	**-1.5**
BNX				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2	**Changchun**	**43.47**	**286**	*e*P	**P**	**18 22 00.0**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**45.85**	**277**	P	**P**	**18 22 19.9**	**+0.2**
	comp=Z,8.5nm,0.9s,baz=55,slow=7.7,SNR=31						
KSAR	**Wonju Array Be**	**45.88**	**277**	P	**P**	**18 22 18.9**	**-1.0**
DAG	**Danmarks Havn**	**49.92**	**9**	*i* P	**P**	**18 22 49.0**	**-1.7**
SONM	**Songino Array**	**51.76**	**301**	P	**P**	**18 23 05.4**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=76,slow=6.0,SNR=9.0						
SONM	**Songino Array**	**51.76**	**301**	P	**P**	**18 23 04.5**	**-0.7**
SONM				IAmb	IAmb	18 23 06.1	
	comp=Z,3.6nm,1.0s						
TX31	**Lajitas Ar. Si**	**52.33**	**89**	P	**P**	**18 23 09.9**	**+0.3**
TX32	**Lajitas Array**	**52.33**	**89**	P	**P**	**18 23 09.9**	**+0.4**
TX32				IAmb	IAmb	18 23 28.8	
	comp=Z,13nm,1.5s						
TXAR	**Lajitas Array**	**52.33**	**89**	P	**P**	**18 23 09.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=304,slow=5.8,SNR=20						
TXAR	**Lajitas Array**	**52.33**	**89**	P	**P**	**18 23 09.9**	**+0.4**
SFJD	**Kangerlussuaq**	**52.37**	**26**	P	**P**	**18 23 10.0**	**+0.9**
	comp=Z,4.8nm,0.8s,baz=297,slow=4.5,SNR=2.1						
P40A	**Paris**	**52.44**	**72**	P	**P**	**18 23 09.3**	**-0.9**
HHC	**Hu-ho-hao-te**	**53.38**	**292**	*e*P	**P**	**18 23 18.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,520nm,7.3s						
ICESG	**Greenland Ices**	**53.41**	**20**	*i* P	**P**	**18 23 16.6**	**-0.7**
HNS	**HongShan**	**53.84**	**286**	⇑P	**P**	**18 23 21.3**	**+0.9**
HNS				pmax	pmax		
	comp=Z,25nm,0.9s						
NJ2	**Nanjing**	**54.99**	**279**	*e*P	**P**	**18 23 28.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SCHQ	**Schefferville**	**55.29**	**44**	P	**P**	**18 23 31.2**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=277,slow=8.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**57.85**	**318**	P	**P**	**18 23 47.1**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=6.0,SNR=3.5						
ZALV				PcP	**PcP**	**18 24 42.8**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=46,slow=4.3,SNR=2.1						
ARA0	**ARCESS Array S**	**58.16**	**354**	*e*P	**P**	**18 23 50.6**	**-0.3**
ARCES	**ARCESS Array B**	**58.16**	**354**	P	**P**	**18 23 50.2**	**-0.7**
	comp=Z,6.2nm,0.9s,baz=16,slow=9.8,SNR=13						
ARCES				PcP	**PcP**	**18 24 41.3**	**-0.9**
	comp=Z,4.3nm,1.0s,baz=27,slow=8.3,SNR=1.5						
ARCES	**ARCESS Array B**	**58.16**	**354**	P	**P**	**18 23 49.7**	**-1.2**
TRO	**Tromso**	**58.38**	**357**	*e*P	**P**	**18 23 52.2**	**-0.2**
JETT	**Jettan, Norway**	**58.40**	**356**	*e*P	**P**	**18 23 53.5**	**+0.9**
KTK1	**Kautokeino**	**58.81**	**355**	*e*P	**P**	**18 23 55.3**	**-0.2**
STEI	**Steigen**	**60.18**	**358**	*e*P	**P**	**18 24 04.3**	**-0.6**
FAUS	**Fauske**	**60.73**	**358**	*e*P	**P**	**18 24 08.1**	**-0.5**
GTA	**Gaotai**	**60.94**	**298**	*e*P	**P**	**18 24 10.3**	**-0.4**
GTA				sP	pP	18 24 18.8	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,390nm,7.6s						
GTA				LR	LR		
	comp=N,4μm,16.7s						
GTA				LR	LR		
	comp=E,4μm,17.9s						
GTA				LR	LR		
	comp=Z,4μm,16.3s						
LZH	**Lanzhou**	**61.05**	**292**	*e*P	**P**	**18 24 12.5**	**+1.0**
LZH				pP	pP	18 24 20.5	+2.0
LZH				sP	sP	18 24 23.0	+1.8
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
MOR8	**Moi Rana**	**61.96**	**359**	*e*P	**P**	**18 24 14.6**	**-2.4**
KURK	**Kurchatov**	**62.80**	**319**	P	**P**	**18 24 22.2**	**-0.7**
KURK				IAmb	IAmb	18 24 23.4	
	comp=Z,5.6nm,0.8s						
KURBB	**Kurchatov Arra**	**62.91**	**319**	P	**P**	**18 24 22.7**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=44,slow=7.8,SNR=29						
NSS	**Namsos**	**63.63**	**360**	*e*P	**P**	**18 24 27.8**	**-0.3**
WMQ	**Urumqi**	**63.98**	**308**	*e*P	**P**	**18 24 32.8**	**+1.9**
BVAR	**Borovoye Array**	**64.11**	**325**	P	**P**	**18 24 31.7**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=316,slow=3.7,SNR=39						
BRVK	**Borovoye**	**64.12**	**325**	P	**P**	**18 24 31.3**	**-0.2**
BRVK				IAmb	IAmb	18 24 32.4	
	comp=Z,5.5nm,0.8s						
MK31	**Makanchi Array**	**64.25**	**314**	P	**P**	**18 24 30.4**	**-2.1**
MK31				IAmb	IAmb	18 24 32.4	
	comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**64.25**	**314**	P	**P**	**18 24 31.8**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=48,slow=6.8,SNR=19						
MKAR	**Makanchi Array**	**64.25**	**314**	P	**P**	**18 24 31.6**	**-0.9**
CD2	**Chengdu**	**64.83**	**288**	P	**P**	**18 24 36.8**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**64.98**	**333**	P	**P**	**18 24 36.7**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=352,slow=7.3,SNR=7.6						
ARU	**Arti**	**64.98**	**333**	P	**P**	**18 24 36.8**	**-0.4**
KIRV	**Kirov**	**65.33**	**339**	P	**P**	**18 24 39.1**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=34,slow=2.2,SNR=3.2						
MOL	**Molde**	**65.56**	**2**	*e*P	**P**	**18 24 40.6**	**-0.1**
FINES	**FINESS Array B**	**66.12**	**352**	P	**P**	**18 24 44.0**	**-0.4**
	comp=Z,5.8nm,0.6s,baz=22,slow=7.8,SNR=64						
GYA	**Guiyang**	**66.39**	**283**	⇑P	**P**	**18 24 47.5**	**+0.7**
GYA				pmax	pmax		
	comp=Z,13nm,1.1s						
NB2	**NORSAR Subarra**	**67.14**	**0**	P	**P**	**18 24 51.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=358,slow=6.2						
NB2	**NORSAR Subarra**	**67.14**	**0**	P	**P**	**18 24 51.0**	**+0.1**
	baz=358,slow=6.2						
NOA	**NORSAR Array B**	**67.14**	**0**	P	**P**	**18 24 50.8**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=0.4,slow=6.3,SNR=6.4						
PZH	**PanZhiHua**	**69.28**	**287**	P	**P**	**18 25 06.0**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KDJ	**Kajisay**	**70.17**	**314**	P	**P**	**18 25 10.4**	**+0.1**
KDJ				IAmb	IAmb	18 25 11.4	
	comp=Z,5.6nm,0.9s						
TARG	**Taragay, Kyrgy**	**70.21**	**313**	P	**P**	**18 25 10.6**	**-0.3**
AKTO	**Aktyubinsk**	**70.39**	**330**	P	**P**	**18 25 11.4**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=39,slow=6.8,SNR=23						
BOOM	**Boomskoye usch**	**70.43**	**315**	P	**P**	**18 25 12.2**	**+0.3**
ABKAR	**Akbulak array**	**70.82**	**329**	P	**P**	**18 25 14.0**	**+0.1**
ABKAR	**Akbulak array**	**70.82**	**329**	P	**P**	**18 25 14.1**	**+0.1**
ABKAR				IAmb	IAmb	18 25 14.8	
	comp=Z,7.4nm,0.7s						
AAK	**Ala-Archa**	**70.93**	**316**	P	**P**	**18 25 14.9**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=41,slow=19,SNR=18						
AAK	**Ala-Archa**	**70.93**	**316**	P	**P**	**18 25 15.2**	**+0.2**
PABE	**Paberze**	**72.17**	**352**	P	**P**	**18 25 22.2**	**+0.2**
KKAR	**Karatay Array**	**72.22**	**319**	P	**P**	**18 25 22.0**	**-0.5**
AKASG	**Malin Array Be**	**76.38**	**348**	P	**P**	**18 25 46.0**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=16,slow=5.9,SNR=21						
AKASG	**Malin Array Be**	**76.38**	**348**	P	**P**	**18 25 45.0**	**-1.6**
AKBB	**Malin Array Si**	**76.38**	**348**	P	**P**	**18 25 44.9**	**-1.7**
AKBB				IAmb	IAmb	18 25 58.8	
	comp=Z,8.0nm,1.1s						
TAPN	**Taplejung**	**76.63**	**297**	*e*P	**P**	**18 25 48.8**	**0.0**
	comp=Z,10.0nm,0.6s						
CLL	**Collm**	**76.88**	**359**	*e*P	**P**	**18 25 49.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**77.07**	**283**	P	**P**	**18 25 51.4**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=27,slow=6.5,SNR=24						
GUN	**Gumba**	**77.19**	**299**	*e*P	**P**	**18 25 52.2**	**+0.3**
	comp=Z,16nm,0.6s						
JIRN	**Jiri**	**77.22**	**299**	*e*P	**P**	**18 25 52.5**	**+0.4**
	comp=Z,19nm,0.7s						
RAMN	**Ramite**	**77.55**	**298**	*e*P	**P**	**18 25 54.1**	**+0.2**
	comp=Z,10nm,0.4s						
**OSTC

	comp=Z,17nm,1.4s								
M24K	**Tolsona, Glenn**	**15.63**	**42**			**Pn**	**18 25 21.3**	**-1.6**
H21K	**Melozitna Rive**	**15.70**	**25**			**Pn**	**18 25 23.8**	**+0.1**
H21K					IAmb	IAmb	18 25 30.4	
	comp=Z,6.2nm,0.9s							
HMT	**Hamilton**	**15.72**	**49**	Pn		**Pn**	**18 25 22.1**	**-2.0**
MLY	**Manley**	**15.79**	**29**	P		**P**	**18 25 28.7**	**-0.1**
MLY					IAmb	IAmb	18 25 30.3	
	comp=Z,9.5nm,0.9s							
BERG	**Berg Lake**	**16.00**	**49**	Pn		**Pn**	**18 25 26.0**	**-1.7**
N25K	**Chitina, Valde**	**16.06**	**45**	Pn		**Pn**	**18 25 26.2**	**-2.3**
N25K					IAmb	IAmb	18 25 29.4	
	comp=Z,19nm,1.5s							
WRH	**Wood River Hil**	**16.25**	**33**	Pn		**Pn**	**18 25 29.1**	**-1.6**
WRH					IAmb	IAmb	18 25 57.3	
	comp=Z,15nm,1.5s							
I23K	**Minto, Yukon-K**	**16.29**	**30**			**Pn**	**18 25 31.1**	**-0.2**
GLB	**Gilahina Butte**	**16.34**	**46**	Pn		**Pn**	**18 25 29.7**	**-2.3**
GLB					IAmb	IAmb	18 25 40.1	
	comp=Z,12nm,1.3s							
PAX	**Paxson**	**16.34**	**40**	Pn		**Pn**	**18 25 30.1**	**-1.9**
VRDI	**Verde Repeater**	**16.42**	**47**	Pn		**Pn**	**18 25 31.3**	**-1.9**
VRDI					IAmb	IAmb	18 25 57.8	
	comp=Z,13nm,1.4s							
WAX	**Waxell Ridge**	**16.42**	**50**	Pn		**Pn**	**18 25 32.8**	**-0.3**
CCB	**Clear Creek Bu**	**16.46**	**33**	Pn		**Pn**	**18 25 31.8**	**-1.6**
TGL	**Tana Glacier**	**16.53**	**49**	Pn		**Pn**	**18 25 34.4**	**-0.2**
TGL					IAmb	IAmb	18 25 40.7	
	comp=Z,13nm,1.0s							
MCARA	**McCarthy VSAT**	**16.67**	**47**	Pn		**Pn**	**18 25 35.0**	**-1.1**
MCARA					IAmb	IAmb	18 25 60.0	
	comp=Z,14nm,1.1s							
ISLE	**Juniper Island**	**16.71**	**50**	Pn		**Pn**	**18 25 36.1**	**-0.7**
ILAR	**Eielson Array**	**16.84**	**33**	Pn		**Pn**	**18 25 36.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=5.6							
ILAR	**Eielson Array**	**16.84**	**33**	Pn		**Pn**	**18 25 36.0**	**-2.4**
RIDG	**Independent Ri**	**16.98**	**38**			**Pn**	**18 25 40.3**	**+0.1**
MENT	**Mentasta**	**17.02**	**41**	Pn		**Pn**	**18 25 38.8**	**-1.8**
GRNC	**Granite Creek**	**17.03**	**49**			**Pn**	**18 25 40.9**	**0.0**
GRNC					IAmb	IAmb	18 25 50.3	
	comp=Z,9.5nm,0.8s							
BARN	**Barnard Glacie**	**17.17**	**48**			**Pn**	**18 25 42.4**	**-0.3**
BARN					IAmb	IAmb	18 26 02.7	
	comp=Z,10nm,1.1s							
H24K	**Noodor Dome**	**17.22**	**30**	Pn		**Pn**	**18 25 42.2**	**-0.9**
H24K					IAmb	IAmb	18 25 45.6	
	comp=Z,7.5nm,1.1s							
DOT	**Dot Lake**	**17.23**	**39**	Pn		**Pn**	**18 25 42.3**	**-1.0**
J25K	**Salcha River,**	**17.27**	**35**	Pn		**Pn**	**18 25 42.7**	**-1.1**
M27K	**Edge Creek, AK**	**17.54**	**44**	Pn		**Pn**	**18 25 46.6**	**-0.6**
M27K					IAmb	IAmb	18 25 50.6	
	comp=Z,18nm,1.3s							
L27K	**Beaver Creek,**	**17.85**	**42**	Pn		**Pn**	**18 25 49.7**	**-1.2**
BCAR	**Beaver Creek A**	**17.87**	**42**	Pn		**Pn**	**18 25 49.7**	**-1.6**
EGAK	**Eagle**	**18.90**	**38**	P		**P**	**18 26 03.0**	**0.0**
BMAR	**Burnt Mountain**	**19.26**	**29**	P		**Pn**	**18 26 08.0**	**0.0**
DAWY	**Dawson**	**19.27**	**41**	P		**P**	**18 26 06.6**	**-0.5**
DAWY					IAmb	IAmb	18 26 10.3	
	comp=Z,7.7nm,1.3s							
N31M	**Braeburn, Yuko**	**20.02**	**50**	P		**P**	**18 26 15.5**	**+0.1**
I29M	**Ogilvie Camp,**	**20.24**	**38**	P		**P**	**18 26 16.5**	**-1.2**
I29M					IAmb	IAmb	18 26 22.8	
	comp=Z,4.0nm,0.9s							
PEA0B	**Petropavlovsk-**	**20.32**	**286**	P		**P**	**18 26 18.2**	**-0.5**
PETK	**Petropavlovsk-**	**20.32**	**286**	P		**P**	**18 26 18.0**	**-0.7**
	comp=Z,4.6nm,0.4s,baz=93,slow=13,SNR=40							
PETK	**Petropavlovsk-**	**20.32**	**286**	P		**P**	**18 26 17.9**	**-0.7**
EPYK	**Eagle Plains**	**21.27**	**36**	P		**P**	**18 26 27.7**	**-1.2**
SEY	**Seymchan**	**23.10**	**313**	P		**P**	**18 26 47.4**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=99,slow=7.7,SNR=6.9							
INK	**Inuvik**	**23.24**	**33**	P		**P**	**18 26 48.5**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=235,slow=12,SNR=3.8							
MA2	**Magadan**	**23.59**	**304**	P		**P**	**18 26 53.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=83,slow=9.4,SNR=5.6							
C36M	**Paulatuk**	**26.82**	**34**	P		**P**	**18 27 22.3**	**-0.2**
C36M					IAmb	IAmb	18 27 26.3	
	comp=Z,6.0nm,1.2s							
YKA	**Yellowknife Ar**	**30.02**	**49**	P		**P**	**18 27 52.4**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=275,slow=8.0,SNR=20							
YKA	**Yellowknife Ar**	**30.02**	**49**	P		**P**	**18 27 51.5**	**+0.4**
TIXI	**Tiksi**	**33.10**	**329**	P		**P**	**18 28 17.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=90,slow=22,SNR=8.8							
TIXI	**Tiksi**	**33.10**	**329**	P		**P**	**18 28 16.9**	**-1.2**
TIXI					IAmb	IAmb	18 28 20.8	
	comp=Z,1.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**37.60**	**220**	T		T	19 09 59.0	
	baz=24							
H11N3	**WAKE ISLAND Hy**	**37.61**	**220**	T		T	19 09 58.6	
	baz=24							
H11N1	**WAKE ISLAND Hy**	**37.62**	**220**	T		T	19 10 02.9	
	baz=24							
H11S1	**WAKE ISLAND Hy**	**38.79**	**219**	T		T	19 11 19.0	
	baz=23							
H11S2	**WAKE ISLAND Hy**	**38.80**	**219**	T		T	19 11 03.0	
	baz=23							
H11S3	**WAKE ISLAND Hy**	**38.81**	**219**	T		T	19 11 23.4	
	baz=23							
PDAR	**Pinedale Array**	**40.00**	**79**	P		**P**	**18 29 18.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=309,slow=2.5,SNR=7.2							
PDAR	**Pinedale Array**	**40.00**	**79**	P		**P**	**18 29 18.4**	**+0.7**
KSRS	**Korea Array**	**45.86**	**277**	P		**P**	**18 30 05.5**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=52,slow=7.9,SNR=7.1							
SPITS	**Spitsbergen Ar**	**49.84**	**359**	P		**P**	**18 30 34.7**	**-0.5**
	comp=Z,10nm,1.1s,baz=23,slow=4.5,SNR=10							
TXAR	**Lajitas Array**	**52.31**	**89**	P		**P**	**18 30 55.6**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=272,slow=6.1,SNR=2.4							
ARCES	**ARCESS Array B**	**58.13**	**354**	P		**P**	**18 31 34.2**	**-1.5**
	comp=Z,5.9nm,1.0s,baz=26,slow=6.7,SNR=7.6							
KURBB	**Kurchatov Arra**	**62.89**	**319**	P		**P**	**18 32 08.4**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=65,slow=4.4,SNR=1.8							
BVAR	**Borovoye Array**	**64.09**	**325**	P		**P**	**18 32 16.1**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=48,slow=2.2,SNR=2.2							
MKAR	**Makanchi Array**	**64.23**	**314**	P		**P**	**18 32 17.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=46,slow=3.5,SNR=2.4							
FINES	**FINESS Array B**	**66.09**	**352**	P		**P**	**18 32 28.9**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=13,slow=7.8,SNR=18							
FINES	**FINESS Array B**	**66.09**	**352**	P		**P**	**18 32 28.0**	**-1.2**
NB2	**NORSAR Subarra**	**67.10**	**0**	P		**P**	**18 32 35.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=357,slow=6.5							
AKTO	**Aktyubinsk**	**70.37**	**330**	P		**P**	**18 32 56.7**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=41,slow=7.4,SNR=6.9							
AKASG	**Malin Array Be**	**76.35**	**348**	P		**P**	**18 33 30.5**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=16,slow=5.8,SNR=5.9							
CMAR	**Chiang Mai Arr**	**77.08**	**283**	P		**P**	**18 33 36.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=23,slow=6.2,SNR=6.8							
ESDC	**Sonseca Array**	**87.53**	**12**	P		**P**	**18 34 31.5**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=340,slow=5.5,SNR=4.7							
ASAR	**Alice Springs**	**90.63**	**231**	P		**P**	**18 34 44.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=28,slow=4.6,SNR=4.9							

ASRS ***27*** *18:24:29.9±0.2,52°N±1°×9°2E±°, h2km, MLh4.5/12, Error ellipse: s-maj=2.7km s-min=2.3km az=161.7, confirmed*
IDC ***27*** *18:24:31.2±0.7,51.90N×92.43E, h0km, mb3.8/15, mb1 3.8/21, mb1mx3.6/64, mbtmp3.7/21, ML3.2/6, Error ellipse: s-maj=15.5km s-min=9.9km az=174.0*
NNC ***27*** *18:24:40.8±4.3,51.68N×91.27E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=35.8km s-min=28.6km az=102.0*

ISC 27 18:24:30.7±0.5, 51.78N±0.03×92.49E±0.02, h10km, n53, σ2s84/96, mb3.8/14, 12C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJOS	**Djoyskaya Sosn**	**1.22**	**327**	⇑Pg	**Pg**	**18 24 55.0**	**+0.9**
DJOS				Sg	**Sn**	**18 25 11.2**	**+0.9**
KZLR	**Kyzyl**	**1.22**	**93**	Pg	**Pn**	**18 24 53.7**	**-0.1**
KZLR				Sg	**Sb**	**18 25 10.2**	**+0.4**
CERR	**Cheremushki**	**1.26**	**329**	⇑Pg	**Pg**	**18 24 55.8**	**+0.9**
CERR				Sg	**Sn**	**18 25 11.8**	**+0.4**
DJO	**Djoy, Khakassi**	**1.27**	**323**	⇑Pg	**Pg**	**18 24 54.9**	**-0.2**
DJO				Sg	**Sn**	**18 25 12.2**	**+0.5**
ABNR	**Abakan**	**2.05**	**342**	Pg	**Pg**	**18 25 08.5**	**-1.4**
ABNR				Sg	**Sg**	**18 25 35.5**	**-1.0**
LUZB	**Luzhba, Kemero**	**2.88**	**312**	Pn	**Pb**	**18 25 19.2**	**-3.0**
LUZB				Pg	**Pg**	**18 25 23.0**	**-2.9**
LUZB				Sg	**Sg**	**18 26 00.4**	**-2.9**
TASR	**Tashtagol**	**3.00**	**291**	Pn	**Pb**	**18 25 21.4**	**-2.7**
TASR				Pg	**Pg**	**18 25 25.8**	**-2.2**
TASR				Sg	**Sg**	**18 26 03.3**	**-3.6**
ULGR	**Ulagan, Altay**	**3.07**	**250**	Pn	**Pb**	**18 25 24.8**	**-0.7**
ULGR				Pg	**Pg**	**18 25 29.1**	**-0.4**
ULGR				Sg	**Sg**	**18 26 09.0**	**-0.4**
CUR	**Chagan-Uzun**	**3.11**	**239**	Pn	**Pb**	**18 25 22.8**	**-3.3**
CUR				Pg	**Pg**	**18 25 29.5**	**-0.8**
CUR				Sg	**Sg**	**18 26 07.1**	**-3.5**
ARTR	**Artybash**	**3.23**	**272**	Pn	**Pb**	**18 25 24.4**	**-3.7**
ARTR				Pg	**Pg**	**18 25 29.9**	**-2.7**
ARTR				Sg	**Sg**	**18 26 10.4**	**-4.0**
MINR	**Mina**	**3.29**	**17**	Pn	**Pb**	**18 25 25.5**	**-3.6**
MINR				Pg	**Pg**	**18 25 30.7**	**-3.0**
MINR				Sg	**Sg**	**18 26 14.0**	**-2.2**
KNGR	**Kungurtug, Tuv**	**3.38**	**108**	Pn	**Pb**	**18 25 27.6**	**-3.0**
KNGR				Pg	**Pg**	**18 25 34.6**	**-0.7**
KNGR				Sg	**Sg**	**18 26 18.4**	**-0.6**
AKAR	**Aktash**	**3.40**	**246**	Pn	**Pb**	**18 25 27.2**	**-3.9**
AKAR				Pg	**Pg**	**18 25 34.3**	**-1.5**
AKAR				Sg	**Sg**	**18 26 18.9**	**-0.9**
CHBI	**Chibit, Altay**	**3.47**	**247**	Pn	**Pb**	**18 25 29.0**	**-3.2**
CHBI				Pg	**Pg**	**18 25 36.7**	**-0.4**
CHBI				Sg	**Sg**	**18 26 21.8**	**-0.3**
ELT	**Eltsovka**	**4.10**	**294**	Pn	**Pb**	**18 25 35.7**	**+2.5**
ELT				Pg	**Pb**	**18 25 42.5**	**-0.3**
ELT				Sg	**Sg**	**18 26 38.1**	**-3.9**
GZL	**Zheleznogorsk**	**4.54**	**7**	Pg	**Pg**	**18 25 54.2**	**-3.3**
GZL				Sg	**Sg**	**18 26 53.3**	**-2.9**
BRCR	**Berchikul'**	**4.59**	**329**	Pn	**Pn**	**18 25 42.5**	**+2.4**
BRCR				Pg	**Pb**	**18 25 53.2**	**+2.0**
BRCR				Sg	**Sg**	**18 26 52.2**	**-5.8**
SALR	**Pechorkino, Sa**	**4.87**	**306**	Pn	**Pn**	**18 25 47.1**	**+3.3**
SALR				Pg	**Pb**	**18 25 58.5**	**+2.6**
SALR				Sg	**Sg**	**18 27 03.6**	**-3.2**
UKR	**Ust'-Kan**	**4.91**	**263**	Pn	Pb	18 25 51.8	-4.9
UKR				Pg	**Pg**	**18 26 00.5**	**-4.1**
UKR				Sg	**Sg**	**18 27 04.9**	**-3.3**
ZAA0	**Zalesovo Array**	**5.13**	**298**	⇑Pn	**Pn**	**18 25 49.6**	**+2.2**
	0.5nm,0.5s						
ZAA0				⇑Pg	**Pb**	**18 26 00.5**	**+0.1**
	2.3nm,0.5s,baz=112,slow=15						
ZAA0				⇓Lg	Lg	18 27 06.2	
	53nm,0.8s,baz=126,slow=25						
ZALV	**Zalesovo Beam**	**5.13**	**298**	Pn	**Pn**	**18 25 48.9**	**+1.4**
	1.6nm,0.3s,baz=114,slow=11,SNR=22						
ZALV				Sn	Sn	18 26 37.0	-10
	5.3nm,0.3s,baz=112,slow=17,SNR=4.0						
ZALV				Lg	Lg	18 27 07.9	
	24nm,0.3s,baz=123,slow=28,SNR=12						
KEM	**Kemerovo**	**5.22**	**316**	Pg	**Pb**	**18 26 04.1**	**+2.1**
KEM				Sg	**Sg**	**18 27 13.1**	**-5.1**
NVSII	**Novosibirsk**	**6.34**	**303**	Pn	**Pn**	**18 26 06.2**	**+2.2**
NVSII				Pg	**Pb**	**18 26 24.5**	**+3.6**
NVSII				Sg	**Sg**	**18 27 47.7**	**-6.1**
ZAK	**Zakamensk**	**6.94**	**97**	Sg	**Sg**	**18 28 08.9**	**-4.5**
MK31	**Makanchi Array**	**8.32**	**237**	Pn	**Pn**	**18 26 34.1**	**+2.7**
	3.5nm,0.6s,baz=61,slow=9.6,SNR=42						
MK31				⇓Lg	Lg	18 28 45.5	
	22nm,0.7s,baz=46,slow=33,SNR=3.5						
MKAR	**Makanchi Array**	**8.32**	**237**	Pn	**Pn**	**18 26 34.0**	**+2.7**
	0.6nm,0.3s,baz=58,slow=14,SNR=17						
MKAR				Sn	**Sn**	**18 28 02.7**	**-2.7**
	1.8nm,0.3s,baz=54,slow=14,SNR=2.4						
MKAR				Lg	Lg	18 28 54.0	
	1.5nm,0.3s,baz=55,slow=31,SNR=3.2						
MKAR	**Makanchi Array**	**8.32**	**237**	Pn	**Pn**	**18 26 33.8**	**+2.5**
MKAR				Sg	**Sg**	**18 28 57.0**	**-0.7**
MAKZ	**Makanchi**	**8.48**	**238**	⇓Pn	**Pn**	**18 26 35.6**	**+2.2**
	2.3nm,0.5s						
MAKZ				⇑Lg	Lg	18 28 49.3	
	45nm,1.4s						
MAKZ	**Makanchi**	**8.48**	**238**	Pn	**Pn**	**18 26 37.0**	**+3.5**
TRG	**Tyrgan**	**8.56**	**78**	Sg	**Sg**	**18 28 57.0**	**-8.2**
KURK	**Kurchatov**	**8.77**	**268**	⇑Pn	**Pn**	**18 26 40.0**	**+2.6**
	12nm,1.1s						
KURK				⇑Sn	**Sn**	**18 28 11.7**	**-4.5**
	40nm,1.2s						
KURK				⇓Lg	Lg	18 28 59.7	
	65nm,1.0s						
KURBB	**Kurchatov Arra**	**8.84**	**268**	Pn	**Pn**	**18 26 40.7**	**+2.3**
	0.3nm,0.3s,baz=76,slow=16,SNR=23						
KURBB				Sn	**Sn**	**18 28 15.9**	**-2.1**
	0.1nm,0.3s,baz=74,slow=27,SNR=2.9						
KURBB				Lg	Lg	18 29 05.9	
	0.2nm,0.3s,baz=72,slow=30,SNR=3.5						
KURBB	**Kurchatov Arra**	**8.84**	**268**	⇑Pn	**Pn**	**18 26 41.0**	**+2.6**
	10nm,0.8s						
KURBB				⇓Sn	**Sn**	**18 28 12.4**	**-5.6**
	61nm,0.7s						
KURBB				⇓Lg	Lg	18 29 00.6	
	71nm,0.7s						
SONM	**Songino Array**	**9.82**	**108**	Pn	**Pn**	**18 26 53.5**	**+1.6**
	0.1nm,0.3s,baz=302,slow=14,SNR=1.5						
SONM				Sn	**Sn**	**18 28 41.6**	**-0.6**
	0.5nm,0.3s,baz=292,slow=17,SNR=2.4						
SONM				Lg	Lg	18 29 39.7	
	0.9nm,0.3s,baz=302,slow=24,SNR=17						
BVA1	**Borovoye Array**	**13.54**	**284**	⇓Pn	**Pn**	**18 27 41.4**	**-1.2**
	2.5nm,0.6s						
BVA1				⇑Sn	**Sn**	**18 30 09.8**	**-3.3**
	5.8nm,0.8s						
BVAR	**Borovoye Array**	**13.54**	**284**	Pn	**Pn**	**18 27 42.4**	**-0.3**
	0.5nm,0.3s,baz=97,slow=9.3,SNR=13						
BVAR				Sn	**Sn**	**18 30 04.9**	**-8.2**
	0.3nm,0.3s,baz=58,slow=24,SNR=2.1						
BRVK	**Borovoye**	**13.61**	**284**	⇑Pn	**Pn**	**18 27 42.8**	**-0.7**
	6.4nm,1.2s						
BRVK				⇑Sn	**Sn**	**18 30 12.3**	**-2.3**
	3.2nm,0.8s						
AAK	**Ala-Archa**	**15.23**	**240**	Pn	**Pn**	**18 28 07.9**	**+2.0**
	0.1nm,0.3s,baz=32,slow=17,SNR=1.5						
AAK				Lg	Lg	18 32 34.8	
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.8						
ARU	**Arti**	**20.29**	**297**	P	Pn	18 29 07.2	-1.1
	0.8nm,0.5s,baz=134,slow=9.7,SNR=5.7						
AKTO	**Aktyubinsk**	**21.57**	**280**	P	**P**	**18 29 21.2**	**+1.1**
	3.2nm,0.8s,baz=73,slow=7.6,SNR=9.0						
KLR	**Kul'dur**	**24.90**	**80**	P	**P**	**18 29 54.2**	**+0.8**
	1.0nm,0.9s,baz=293,slow=5.3,SNR=2.3						
KIRV	**Kirov**	**25.15**	**303**	P	**P**	**18 29 55.5**	**0.0**
	3.0nm,0.4s,baz=139,slow=20,SNR=2.1						
TIXI	**Tiksi**	**25.62**	**26**	P	**P**	**18 30 01.4**	**+1.7**
	0.9nm,0.7s,baz=297,slow=8.9,SNR=3.1						
ARCES	**ARCESS Array B**	**35.02**	**326**	P	**P**	**18 31 24.2**	**+1.4**
	3.4nm,0.9s,baz=62,slow=6.0,SNR=7.4						
FINES	**FINESS Array B**	**36.23**	**312**	P	**P**	**18 31 34.2**	**+0.9**
	1.0nm,0.6s,baz=93,slow=10,SNR=4.1						
AKASG	**Malin Array Be**	**38.51**	**294**	P	**P**	**18 31 53.1**	**+0.3**
	1.3nm,0.4s,baz=57,slow=9.0,SNR=7.8						
BRTR	**Keskin Array B**	**41.70**	**277**	P	**P**	**18 32 21.7**	**+2.2**
	2.9nm,0.8s,baz=102,slow=4.7,SNR=15						
NOA	**NORSAR Array B**	**43.08**	**315**	P	**P**	**18 32 31.2**	**+0.9**
	0.9nm,0.6s,baz=64,slow=7.9,SNR=2.6						
ILAR	**Eielson Array**	**55.09**	**27**	P	**P**	**18 34 04.0**	**+1.8**
	0.3nm,0.4s,baz=285,slow=10,SNR=1.5						
ESDC	**Sonseca Array**	**63.62**	**301**	P	**P**	**18 35 03.1**	**+1.5**
	1.0nm,0.8s,baz=46,slow=7.8,SNR=4.6						
WRA	**Warramunga Arr**	**80.23**	**140**	P	**P**	**18 36 44.6**	**+3.3**
	0.5nm,0.7s,baz=342,slow=6.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**80.29**	**279**	P	**P**	**18 36 42.9**	**+1.1**
	1.3nm,0.8s,baz=60,slow=5.3,SNR=4.8						
ASAR	**Alice Springs**	**83.43**	**142**	P	**P**	**18 37 00.4**	**+2.3**
	0.2nm,0.8s,baz=339,slow=6.1,SNR=4.7						

IDC ***27*** *18:27:22.1±0.6,52°.27N×168°.83W, h0km, mb4.6/37, mb1 4.7/38, mb1mx4.6/52, mbtmp4.6/38, ML3.9/1, Error ellipse: s-maj=17.1km s-min=9.3km az=179.0*
MOS ***27*** *18:27:23.0±1.0,52°.30N×168°.88W, h13km, mb5.2/40, Error ellipse: s-maj=10.2km s-min=5.5km az=102.4*
NEIC ***27*** *18:27:23.6±2.8,52°.10N±0°.05×168°.55W±0°.07, h12km±4km, mb4.8/101, ML4.2(AEIC), Error ellipse: s-maj=7.1km s-min=6.0km az=168.0*
AEIC ***27*** *18:27:24±2.6,52°.11N±0°.03×168°.58W±0°.07, h23km±4km, Error ellipse: s-maj=6.4km s-min=4.5km az=118.0*
BJI ***27*** *18:27:26.5±0.0,52°.54N×169°.35W, h26km, mb5.0/58, Ms4.7/1, Ms7 4.6/1*
BGR ***27*** *18:27:28.4±0.0,52°.06N×168°.94W, h33km, mb5.2*

ISC 27 18:27:25.9±1.1, 52.18N±0°.06×168.71W±0°.04, h26km±7km, n571, σ1s36/566, mb4.9/148, 47C-23D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.80**	**353**	Pn	**Pn**	**18 27 40.9**	**-0.4**
NIKH	**Nikolski High**	**0.80**	**353**		**Sn**	**18 27 53.9**	**+1.5**
NIKH	**Nikolski High**	**0.80**	**353**	P	**Pn**	**18 27 41.0**	**-0.4**
	baz=169,SNR=164						
OKSO	**Okmok South**	**1.22**	**15**		**Pn**	**18 27 47.0**	**-0.3**
OKSO					**Sb**	**18 28 03.9**	**+0.2**
OKCE	**Okmok Cone E**	**1.29**	**15**		**Pn**	**18 27 48.3**	**+0.1**
OKFG	**Magazine Ridge**	**1.32**	**21**		**Pn**	**18 27 48.2**	**-0.3**
OKFG					**Sb**	**18 28 06.7**	**+0.2**
MGOD	**Makushin Gods**	**1.96**	**34**		**Pn**	**18 27 57.0**	**-0.3**
MSW	**Makushin Switc**	**2.09**	**33**		**Pn**	**18 27 58.8**	**-0.3**
MSW					**Sn**	**18 28 24.2**	**-0.1**
MNAT	**Makushin Natee**	**2.10**	**35**		**Pn**	**18 27 59.0**	**-0.2**
UNV	**Unalaska Valle**	**2.13**	**38**	Pn	**Pn**	**18 27 59.5**	**-0.2**
UNV	**Unalaska Valle**	**2.13**	**38**		**Sn**	**18 28 24.7**	**-0.5**
UNV	**Unalaska Valle**	**2.13**	**38**	P	**Pn**	**18 27 59.2**	**-0.5**
	baz=217,SNR=39						
MTBL	**Makushin Table**	**2.17**	**34**		**Pn**	**18 27 60.0**	**-0.3**
AKMO	**Akutan Morgan**	**2.51**	**39**		**Pn**	**18 28 04.5**	**-0.4**
AKBBA	**Akutan Broad B**	**2.54**	**40**		**Pn**	**18 28 05.4**	**0.0**
AKV	**Akutan Volcano**	**2.55**	**39**		**Pn**	**18 28 05.5**	**-0.1**
AHB	**Akutan Harbor**	**2.60**	**41**		**Pn**	**18 28 06.2**	**0.0**
AKSA	**Akutan Strait**	**2.67**	**42**		**Pn**	**18 28 07.1**	**0.0**
KOFP	**Korovin Flat P**	**3.32**	**274**		**Pn**	**18 28 17.2**	**+1.1**
WESE	**West Dahl East**	**3.37**	**45**		**Pn**	**18 28 17.1**	**+0.3**
ATKA	**Atka Island**	**3.38**	**273**		**Pn**	**18 28 17.5**	**+0.7**
KOKL	**Mount Kliuchef**	**3.38**	**275**		**Pn**	**18 28 17.8**	**+0.9**
SSLN	**Shishaldin Nor**	**3.85**	**45**		**Pn**	**18 28 22.9**	**-0.5**
FALS	**False Pass**	**4.14**	**48**		**Pn**	**18 28 27.1**	**-0.2**
FALS	**False Pass**	**4.14**	**48**		Pn	18 28 32.9	+5.6
FALS	**False Pass**	**4.14**	**48**	P	**Pn**	**18 28 31.3**	**+4.0**
	baz=230						
GSMY	**Great Sitkin M**	**4.53**	**271**		**Pn**	**18 28 33.7**	**+1.0**
GSTD	**Great Sitkin T**	**4.59**	**271**		**Pn**	**18 28 34.5**	**+1.0**
GSCK	**Great Sitkin C**	**4.60**	**271**		**Pn**	**18 28 34.8**	**+1.1**
ADK	**Adak**	**4.94**	**270**	P	**Pn**	**18 28 39.1**	**+0.9**
ADK	**Adak**	**4.94**	**270**		**Pn**	**18 28 39.1**	**+0.9**
SPIA	**Saint Paul Isl**	**5.08**	**350**	Pn	**Pn**	**18 28 42.0**	**+1.7**
SPIA	**Saint Paul Isl**	**5.08**	**350**	P	**Pn**	**18 28 42.2**	**+2.0**
	baz=168						
KIWB	**Kanaga Island**	**5.23**	**270**		**Pn**	**18 28 43.3**	**+1.1**
KIKV	**Kanaga Island**	**5.24**	**270**		**Pn**	**18 28 43.4**	**+1.0**
KIMD	**Kanaga Island**	**5.29**	**269**		**Pn**	**18 28 44.0**	**+0.9**
TASE	**Tanaga Southea**	**5.78**	**270**		**Pn**	**18 28 51.3**	**+1.4**
SDPT	**Sand Point**	**5.82**	**54**	Pn	**Pn**	**18 28 53.6**	**+3.3**
SDPT	**Sand Point**	**5.82**	**54**	P	**Pn**	**18 28 53.0**	**+2.6**
	baz=239						
CHGN	**Chignik**	**7.30**	**52**		**Pn**	**18 29 12.6**	**+1.9**
CHGN	**Chignik**	**7.30**	**52**	P	**Pn**	**18 29 12.6**	**+1.9**
	baz=239						
CHIR	**Chirikof Islan**	**8.52**	**60**	Pn	**Pn**	**18 29 27.2**	**-0.2**
SII	**Sitkinak Islan**	**9.54**	**57**	Pn	**Pn**	**18 29 40.0**	**-1.3**
OHAK	**Old Harbor**	**10.24**	**54**	Pn	**Pn**	**18 29 50.1**	**-0.8**

M24K	**Tolsona, Glenn**	**15.66**	**42**	Pn	**Pn**	**18 31 02.8**	**-1.8**
M24K				IAmb	IAmb	18 31 08.9	
	comp=Z,65nm,0.7s						
M24K	**Tolsona, Glenn**	**15.66**	**42**	P	**Pn**	**18 31 02.8**	**-1.8**
	baz=240,SNR=14						
DHY	**Denali Highway**	**15.70**	**38**		**Pn**	**18 31 03.6**	**-1.5**
DHY	**Denali Highway**	**15.70**	**38**	P	**Pn**	**18 31 05.6**	**+0.4**
	baz=235,SNR=12						
H21K	**Melozitna Rive**	**15.73**	**25**	IAmb	IAmb	18 31 11.4	
	comp=Z,41nm,0.9s						
H21K	**Melozitna Rive**	**15.73**	**25**	P	**Pn**	**18 31 07.0**	**+1.6**
	baz=218,SNR=51						
IMAR	**Indian Mountai**	**15.76**	**23**		**Pn**	**18 31 06.9**	**+1.2**
HMT	**Hamilton**	**15.76**	**49**		**Pn**	**18 31 03.4**	**-2.5**
HMT				IAmb	IAmb	18 31 13.3	
	comp=Z,35nm,0.7s						
MLY	**Manley**	**15.83**	**29**	IAmb	IAmb	18 31 11.3	
	comp=Z,99nm,0.9s						
MLY	**Manley**	**15.83**	**29**	P	**Pn**	**18 31 06.7**	**0.0**
	baz=224,SNR=84						
NEA2	**Nenana**	**16.04**	**32**	P	**Pn**	**18 31 09.4**	**0.0**
	baz=228,SNR=15						
N25K	**Chitina, Valde**	**16.10**	**45**	P	**Pn**	**18 31 07.6**	**-2.6**
	baz=245,SNR=13						
HARP	**HAARP**	**16.22**	**42**	P	**Pn**	**18 31 10.0**	**-1.7**
	baz=241,SNR=23						
I23K	**Minto, Yukon-K**	**16.33**	**30**	IAmb	IAmb	18 31 16.7	
	comp=Z,67nm,1.2s						
I23K	**Minto, Yukon-K**	**16.33**	**30**	P	**Pn**	**18 31 13.1**	**+0.2**
	baz=226,SNR=37						
PAX	**Paxson**	**16.38**	**40**	P	**Pn**	**18 31 12.4**	**-1.4**
	baz=239,SNR=13						
WAX	**Waxell Ridge**	**16.46**	**50**		**Pn**	**18 31 13.6**	**-1.2**
TGL	**Tana Glacier**	**16.57**	**49**	IAmb	IAmb	18 31 22.2	
	comp=Z,85nm,0.9s						
TCOL	**CIGO, UAF Yank**	**16.62**	**32**	P	**Pn**	**18 31 16.0**	**-0.7**
	baz=230,SNR=11						
COLA	**College**	**16.62**	**32**	*i* P	**Pn**	**18 31 15.1**	**-1.6**
MCARA	**McCarthy VSAT**	**16.71**	**47**	Pn	**Pn**	**18 31 16.7**	**-1.1**
MCARA				IAmb	IAmb	18 31 24.7	
	comp=Z,44nm,0.9s						
MCARA	**McCarthy VSAT**	**16.71**	**47**	P	**Pn**	**18 31 16.9**	**-1.0**
	baz=248,SNR=7.9						
ISLE	**Juniper Island**	**16.75**	**49**	IAmb	IAmb	18 31 29.3	
	comp=Z,48nm,0.7s						
ILAR	**Eielson Array**	**16.88**	**33**	Pn	**Pn**	**18 31 18.1**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=239,slow=11,SNR=43						
POKR	**Poker Plat Res**	**16.92**	**32**	P	**Pn**	**18 31 19.0**	**-1.5**
	baz=230						
YAH	**Yahtse**	**16.96**	**51**	P	**Pn**	**18 31 21.8**	**+0.6**
RIDG	**Independent Ri**	**17.02**	**38**	P	**Pn**	**18 31 20.7**	**-1.1**
	baz=238						
GRNC	**Granite Creek**	**17.07**	**49**	IAmb	IAmb	18 31 30.4	
	comp=Z,65nm,0.8s						
H24K	**Noodor Dome**	**17.25**	**30**	IAmb	IAmb	18 31 27.0	
	comp=Z,55nm,1.1s						
H24K	**Noodor Dome**	**17.25**	**30**	P	**Pn**	**18 31 24.1**	**-0.6**
	baz=227,SNR=40						
L26K	**Log Cabin Wild**	**17.25**	**41**	P	**Pn**	**18 31 23.9**	**-0.8**
	baz=242,SNR=19						
TABL	**Table Mountain**	**17.27**	**51**	P	**Pn**	**18 31 25.2**	**+0.2**
TABL				IAmb	IAmb	18 31 30.0	
	comp=Z,61nm,0.8s						
DOT	**Dot Lake**	**17.27**	**39**		**Pn**	**18 31 23.6**	**-1.3**
J25K	**Salcha River,**	**17.31**	**35**		**Pn**	**18 31 23.8**	**-1.7**
J25K				IAmb	IAmb	18 31 25.3	
	comp=Z,46nm,1.1s						
J25K	**Salcha River,**	**17.31**	**35**	P	**Pn**	**18 31 23.7**	**-1.7**
	baz=235,SNR=31						
CTG	**Chitna Glacier**	**17.33**	**49**	P	**Pn**	**18 31 24.6**	**-1.1**
	baz=251,SNR=11						
CTGM	**Chitina Glacie**	**17.33**	**49**	IAmb	IAmb	18 31 29.4	
	comp=Z,49nm,0.9s						
LOGN	**Logan Glacier**	**17.45**	**49**	P	**Pn**	**18 31 28.1**	**+0.9**
LOGN				IAmb	IAmb	18 31 44.1	
	comp=Z,61nm,0.9s						
SCRK	**Sand Creek**	**17.47**	**38**	P	**Pn**	**18 31 25.5**	**-2.0**
	baz=239,SNR=12						
M27K	**Edge Creek, AK**	**17.58**	**44**	IAmb	IAmb	18 31 31.1	
	comp=Z,73nm,1.2s						
M27K	**Edge Creek, AK**	**17.58**	**44**	P	**Pn**	**18 31 28.0**	**-0.9**
	baz=246,SNR=24						
PINM	**Pinnacle**	**17.61**	**52**	P	**P**	**18 31 32.1**	**+2.2**
	baz=256						
COLD	**Coldfoot**	**17.61**	**24**	P	**P**	**18 31 30.0**	**+0.1**
	baz=220,SNR=22						
L27K	**Beaver Creek,**	**17.89**	**42**	P	**Pn**	**18 31 30.8**	**-1.8**
	baz=245,SNR=8.0						
J26L	**Joseph Creek**	**17.90**	**37**	P	**Pn**	**18 31 31.0**	**-1.7**
	baz=238,SNR=65						
PNL	**Peninsula**	**17.93**	**54**	P	**Pn**	**18 31 34.0**	**+0.9**
	baz=258						
YUK3	**Moose Creek**	**17.99**	**47**	P	**Pn**	**18 31 32.6**	**-1.5**
	baz=250						
TOLK	**Toolik Lake Re**	**18.86**	**22**	P	**P**	**18 31 44.2**	**+0.5**
	baz=218,SNR=20						
EGAK	**Eagle**	**18.94**	**38**	P	**P**	**18 31 43.0**	**-1.5**
	baz=241,SNR=23						
DAWY	**Dawson**	**19.30**	**41**	IAmb	IAmb	18 31 51.2	
	comp=Z,36nm,1.1s						
DAWY	**Dawson**	**19.30**	**41**	P	**P**	**18 31 48.2**	**-0.4**
	baz=245,SNR=25						
PET	**Petropavlovsk**	**19.75**	**285**	*i* P	**P**	**18 31 53.8**	**+0.3**
PET	**Petropavlovsk**	**19.75**	**285**	P	**P**	**18 31 53.3**	**-0.2**
PET				IAmb	IAmb	18 32 02.5	
	comp=Z,27nm,1.0s						
M30M	**Minto, Yukon**	**19.88**	**46**	P	**P**	**18 31 55.2**	**+0.3**
	baz=253,SNR=12						
J29M	**Klondike Camp**	**19.93**	**40**	P	**P**	**18 31 56.2**	**+0.8**
	baz=246						
SKAG	**Skagway**	**19.94**	**55**	P	**P**	**18 31 57.3**	**+1.8**
	baz=263,SNR=7.0						
BILL	**Bilibino**	**19.96**	**332**	*ce*P	**Pn**	**18 31 56.9**	**-0.5**
BILL				pmax	pmax		
	comp=Z,33nm,1.0s						
BILL				MLR	MLR		
	comp=Z,3µm,15.0s						
N31M	**Braeburn, Yuko**	**20.06**	**49**	P	Pn	18 31 59.1	+0.4
N31M	**Braeburn, Yuko**	**20.06**	**49**	P	Pn	18 31 59.1	+0.4
	baz=257,SNR=43						
I29M	**Ogilvie Camp,**	**20.28**	**38**	P	**P**	**18 31 57.7**	**-1.4**
I29M				IAmb	IAmb	18 32 03.0	
	comp=Z,35nm,1.1s						
I29M	**Ogilvie Camp,**	**20.28**	**38**	P	**P**	**18 31 57.5**	**-1.6**
	baz=244,SNR=17						
PEA0B	**Petropavlovsk-**	**20.30**	**286**	P	**P**	**18 31 59.5**	**0.0**
PEA0B				pmax	pmax		
	comp=Z,47nm,0.6s						
PEA0B	**Petropavlovsk-**	**20.30**	**286**	P	**P**	**18 31 59.5**	**0.0**
PEA0B				IAmb	IAmb	18 32 00.2	
	comp=Z,47nm,0.6s						
PETK	**Petropavlovsk-**	**20.30**	**286**	P	**P**	**18 31 58.7**	**-0.8**
	comp=Z,33nm,0.5s,baz=91,slow=13,SNR=164						
PETK	**Petropavlovsk-**	**20.30**	**286**	P	**P**	**18 31 58.8**	**-0.7**
WHY	**Whitehorse**	**20.33**	**52**	P	Pn	18 32 02.3	+0.3
WHY				IAmb	IAmb	18 32 25.0	
	comp=Z,38nm,1.0s						
WHY	**Whitehorse**	**20.33**	**52**	P	Pn	18 32 02.1	+0.2
	baz=260,SNR=19						
M31M	**Drury Creek, Y**	**20.86**	**48**	P	**P**	**18 32 06.1**	**+0.6**
M31M				IAmb	IAmb	18 32 07.9	
	comp=Z,33nm,0.8s						
M31M	**Drury Creek, Y**	**20.86**	**48**	P	**P**	**18 32 06.3**	**+0.8**
	baz=257,SNR=25						
P33M	**Teslin, Yukon**	**21.29**	**54**	P	**P**	**18 32 11.7**	**+1.6**
P33M				IAmb	IAmb	18 32 32.2	
	comp=Z,27nm,0.9s						
P33M	**Teslin, Yukon**	**21.29**	**54**	P	**P**	**18 32 11.8**	**+1.7**
	baz=264,SNR=19						
EPYK	**Eagle Plains**	**21.31**	**36**	P	**P**	**18 32 08.3**	**-2.0**
EPYK	**Eagle Plains**	**21.31**	**36**	P	**P**	**18 32 08.3**	**-2.0**
	baz=244,SNR=74						
DLBC	**Dease Lake**	**22.63**	**59**	P	**P**	**18 32 25.9**	**+1.4**
	comp=Z,6.9nm,0.9s,baz=276,slow=10,SNR=9.0						
SEY	**Seymchan**	**23.10**	**313**	P	**P**	**18 32 28.4**	**-0.8**
	comp=Z,14nm,0.8s,baz=102,slow=9.4,SNR=57						
SEY				PcP	**PcP**	**18 36 17.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=114,slow=5.5,SNR=5.7						
SEY	**Seymchan**	**23.10**	**313**	*ce*P	**P**	**18 32 28.7**	**-0.5**
SEY				pmax	pmax		
	comp=Z,17nm,1.0s						
INK	**Inuvik**	**23.28**	**33**	P	**P**	**18 32 29.6**	**-1.4**
	comp=Z,13nm,0.6s,baz=236,slow=11,SNR=25						
INK	**Inuvik**	**23.28**	**33**	P	**P**	**18 32 29.0**	**-2.0**
INK				pmax	pmax		
	comp=Z,14nm,0.7s						
INK	**Inuvik**	**23.28**	**33**	P	**P**	**18 32 29.0**	**-2.0**
INK				IAmb	IAmb	18 32 33.0	
	comp=Z,14nm,0.7s						
INK	**Inuvik**	**23.28**	**33**	P	**P**	**18 32 28.9**	**-2.1**
	baz=244,SNR=8.8						
MA2	**Magadan**	**23.59**	**304**	P	**P**	**18 32 33.5**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=85,slow=9.6,SNR=40						
MA2	**Magadan**	**23.59**	**304**	P	**P**	**18 32 34.8**	**+0.7**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MA2	**Magadan**	**23.59**	**304**	P	**P**	**18 32 34.8**	**+0.7**
TGTN	**Hyland Airport**	**23.62**	**51**	P	**P**	**18 32 35.3**	**+0.8**
	baz=265,SNR=22						
C36M	**Paulatuk**	**26.86**	**33**	P	**P**	**18 33 03.2**	**-0.5**
C36M				IAmb	IAmb	18 33 07.4	
	comp=Z,12nm,0.8s						
C36M	**Paulatuk**	**26.86**	**33**	P	**P**	**18 33 03.3**	**-0.5**
	baz=253,SNR=19						
A36M	**Sachs Harbour**	**27.39**	**28**	P	**P**	**18 33 08.7**	**+0.2**
A36M				IAmb	IAmb	18 33 18.6	
	comp=Z,17nm,0.8s						
A36M	**Sachs Harbour**	**27.39**	**28**	P	**P**	**18 33 08.2**	**-0.3**
	baz=247,SNR=14						
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**18 33 33.1**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=275,slow=8.0,SNR=107						
YKA				PcP	**PcP**	**18 36 34.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=281,slow=3.1,SNR=3.9						
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**18 33 32.7**	**+0.4**
YKA						18 36 34.2	
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**18 33 32.7**	**+0.4**
YKA					**PcP**	**18 36 34.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**31.43**	**280**	*e*P	**P**	**18 33 44.5**	**-0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,3µm,16.0s						
YBH	**Yreka Blue Hor**	**32.57**	**90**	P	**P**	**18 33 54.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=284,slow=16,SNR=1.7						
NEW	**Newport**	**32.66**	**76**	P	**P**	**18 33 56.6**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=297,slow=7.3,SNR=5.4						
NEW	**Newport**	**32.66**	**76**	P	**P**	**18 33 56.5**	**+1.0**
NEW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NEW	**Newport**	**32.66**	**76**	P	**P**	**18 33 56.5**	**+1.0**
NEW				IAmb	IAmb	18 34 11.1	
	comp=Z,9.2nm,1.0s						
NEW	**Newport**	**32.66**	**76**	P	**P**	**18 33 56.3**	**+0.8**
	baz=296						
ASAJ	**Asahikawa**	**32.93**	**276**	P	**P**	**18 33 57.2**	**-0.6**
	comp=Z,24nm,0.9s,baz=31,slow=12,SNR=8.8						
TIXI	**Tiksi**	**33.11**	**329**	P	**P**	**18 33 58.4**	**-0.7**
	comp=Z,9.1nm,0.7s,baz=91,slow=23,SNR=31						
TIXI				PcP	**PcP**	**18 36 41.7**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=91,slow=23,SNR=3.3						
TIXI	**Tiksi**	**33.11**	**329**	*ce*P	**P**	**18 33 58.6**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TIXI	**Tiksi**	**33.11**	**329**	P	**P**	**18 33 58.5**	**-0.5**
TIXI				IAmb	IAmb	18 33 59.9	
	comp=Z,8.7nm,0.8s						
YAK	**Yakutsk**	**33.60**	**311**	P	**P**	**18 34 01.8**	**-1.6**
	comp=Z,8.8nm,0.5s,baz=144,slow=0.6,SNR=14						
YAK				PcP	**PcP**	**18 36 43.4**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=0.0,slow=4.0,SNR=6.0						
YAK	**Yakutsk**	**33.60**	**311**	*e*P	**P**	**18 34 01.7**	**-1.8**
YAK				*e*		18 36 43.8	
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
MSO	**Missoula**	**35.24**	**76**	P	**P**	**18 34 19.9**	**+1.9**
	baz=299						
HLID	**Hailey**	**36.65**	**81**	P	**P**	**18 34 32.0**	**+1.9**
HLID	**Hailey**	**36.65**	**81**	P	**P**	**18 34 32.5**	**+2.4**
	baz=303						
KLR	**Kul'dur**	**36.91**	**290**	P	**P**	**18 34 30.7**	**-1.4**
	comp=Z,9.5nm,0.8s,baz=63,slow=8.2,SNR=29						
KLR	**Kul'dur**	**36.91**	**290**	*ce*P	**P**	**18 34 31.2**	**-0.8**
KLR				pmax	pmax		
	comp=Z,18nm,1.3s						
EGMT	**Eagleton**	**37.13**	**72**	P	**P**	**18 34 35.1**	**+0.9**
	baz=299						
BOZ	**Bozeman (W)**	**37.24**	**77**	P	**P**	**18 34 35.9**	**+0.7**
	baz=301						
NVAR	**Mina Array Bea**	**37.25**	**91**	P	**P**	**18 34 36.8**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=292,slow=8.1,SNR=6.6						
ZEA	**Zeya**	**37.45**	**299**	*e*P	**P**	**18 34 35.7**	**-0.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**37.57**	**220**	T	T	19 15 52.7	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.57**	**220**	T	T	19 15 40.7	
	baz=24,slow=74						
H11N1	**WAKE ISLAND Hy**	**37.58**	**220**	T	T	19 15 38.7	
	baz=24,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.75**	**219**	T	T	19 16 30.2	
	baz=23,slow=76,SNR=85						
H11S2	**WAKE ISLAND Hy**	**38.76**	**219**	T	T	19 16 31.4	
	baz=23,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**38.77**	**219**	T	T	19 16 29.0	
	baz=23,slow=76,SNR=67						
RLMT	**Red Lodge**	**38.91**	**76**	P	**P**	**18 34 51.3**	**+2.0**
	baz=302						
R11A	**Troy Canyon, C**	**38.98**	**89**	P	**P**	**18 34 53.2**	**+3.3**
	baz=308,SNR=5.5						
JSD	**Sado**	**39.12**	**270**	P	**P**	**18 34 50.2**	**-0.6**
JSD				IAmb	IAmb	18 34 52.9	
	comp=Z,23nm,0.9s						
TPNV	**Topopah Spring**	**39.45**	**91**	P	**P**	**18 34 56.0**	**+2.2**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TPNV	**Topopah Spring**	**39.45**	**91**	P	**P**	**18 34 56.0**	**+2.2**
TPNV	**Topopah Spring**	**39.45**	**91**	P	**P**	**18 34 57.1**	**+3.3**
	baz=310						
LAO	**LASA Array**	**39.88**	**72**	P	**P**	**18 35 01.0**	**+3.8**
	baz=302						
VLA	**Vladivostok**	**40.00**	**281**	*i* P	**P**	**18 34 58.2**	**+0.2**
VLA				pmax	pmax		
	comp=Z,41nm,1.7s						
BW06	**Boulder Array**	**40.04**	**79**	P	**P**	**18 35 00.6**	**+1.9**
BW06				IAmb	IAmb	18 35 07.5	
	comp=Z,11nm,0.9s						
BW06	**Boulder Array**	**40.04**	**79**	P	**P**	**18 34 59.6**	**+0.9**
	baz=305,SNR=18						
PD31	**Pinedale Array**	**40.04**	**79**	P	**P**	**18 35 00.6**	**+1.8**
PDAR	**Pinedale Array**	**40.04**	**79**	P	**P**	**18 34 59.2**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=300,slow=3.6,SNR=29						
PDAR	**Pinedale Array**	**40.04**	**79**	P	**P**	**18 34 59.6**	**+0.8**
MJAR	**Matsushiro Arr**	**40.10**	**269**	P	**P**	**18 34 58.9**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=34,slow=5.8,SNR=14						
MAJO	**Matsushiro**	**40.10**	**269**	*i* P	**P**	**18 34 59.1**	**+0.1**
MAJO	**Matsushiro**	**40.10**	**269**	P	**P**	**18 34 58.3**	**-0.8**
MAJO				IAmb	IAmb	18 35 13.4	
	comp=Z,39nm,1.5s						
GSC	**Goldstone, Bar**	**40.17**	**94**	P	**P**	**18 35 02.2**	**+2.4**
	baz=311						
MSHR	**Mys Shultsa**	**40.74**	**281**	*ce*P	**P**	**18 35 04.0**	**-0.2**
MSHR				pmax	pmax		
	comp=Z,21nm,0.7s						
FCC	**Fort Churchill**	**40.74**	**50**	P	**P**	**18 35 04.6**	**+0.6**
FCC				pmax	pmax		
	comp=Z,21nm,0.9s						
FCC	**Fort Churchill**	**40.74**	**50**	P	**P**	**18 35 04.6**	**+0.6**
FCC				IAmb	IAmb	18 35 05.7	
	comp=Z,21nm,0.8s						
BNX	**BinXian**	**41.22**	**287**	⇓P	**P**	**18 35 06.8**	**-1.3**
BNX				pmax	pmax		
	comp=Z,53nm,0.7s						
O20A	**White River Ci**	**42.38**	**82**	P	**P**	**18 35 18.1**	**+0.1**
O20A				IAmb	IAmb	18 35 26.7	
	comp=Z,16nm,0.8s						
O20A	**White River Ci**	**42.38**	**82**	P	**P**	**18 35 19.1**	**+1.1**
	baz=307						
BOD	**Bodaibo**	**42.43**	**309**	*e*P	**P**	**18 35 16.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,19nm,0.8s						
RSSD	**Black Hills**	**42.58**	**74**	P	**P**	**18 35 20.6**	**+1.0**
	baz=305						
WUAZ	**Wupatki**	**43.38**	**89**	P	P	18 35 32.2	+6.2
	baz=311						
CN2	**Changchun**	**43.46**	**286**	*e*P	**P**	**18 35 25.5**	**-0.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
ULM	**Lac du Bonnet**	**43.88**	**62**	P	**P**	**18 35 29.4**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=267,slow=6.9,SNR=4.3						
ISCO	**Idaho Springs**	**44.19**	**80**	P	**P**	**18 35 37.3**	**+4.7**
	baz=308						
S22A	**4UR Ranch, Cre**	**44.73**	**83**	P	P	18 35 42.2	+5.2
	baz=310						
AGMN	**Agassiz Nation**	**44.94**	**65**	P	**P**	**18 35 38.0**	**-0.2**
	baz=304						
SDCO	**Great Sand Dun**	**45.54**	**82**	P	**P**	**18 35 45.0**	**+1.6**
	baz=310						
NOR	**Nord**	**45.62**	**6**	*i* P	**P**	**18 35 42.3**	**-0.8**
NOR				IAmb	IAmb	18 35 47.3	
	comp=Z,1.8nm,0.6s						
KSRS	**Korea Array**	**45.83**	**277**	P	**P**	**18 35 45.8**	**+0.4**
	comp=Z,15nm,0.9s,baz=55,slow=7.5,SNR=54						
KSAR	**Wonju Array Be**	**45.86**	**277**	P	**P**	**18 35 44.7**	**-0.9**
KSAR	**Wonju Array Be**	**45.86**	**277**	P	**P**	**18 35 44.7**	**-0.9**
KSCO	**Kaye Shedlock'**	**46.49**	**79**	P	**P**	**18 35 54.3**	**+3.6**
	baz=309						
T25A	**Trinidad**	**46.60**	**82**	P	**P**	**18 35 53.4**	**+1.7**
	baz=310,SNR=6.5						
ANMO	**Albuquerque**	**46.78**	**86**	P	**P**	**18 35 54.5**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=319,slow=10,SNR=3.7						
ANMO	**Albuquerque**	**46.78**	**86**	*i* P	**P**	**18 35 55.0**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TJN	**Taejon**	**46.87**	**277**	*ce*P	**P**	**18 35 54.9**	**+1.4**
JNU	**Nakatsue**	**46.87**	**271**	P	**P**	**18 35 53.4**	**-0.3**
ECSD	**EROS Data Cent**	**47.15**	**70**	P	**P**	**18 35 54.7**	**-1.0**
ECSD				IAmb	IAmb	18 36 11.7	
	comp=Z,8.6nm,1.1s						
ECSD	**EROS Data Cent**	**47.15**	**70**	P	**P**	**18 35 54.6**	**-1.1**
	baz=307						
CBKS	**Cedar Bluff**	**48.35**	**77**	P	**P**	**18 36 07.2**	**+2.1**
	baz=310						
MSTX	**Muleshoe**	**49.69**	**84**	P	P	18 36 20.4	+4.9
	baz=312						
DAG	**Danmarks Havn**	**49.91**	**9**	*i* P	**P**	**18 36 15.0**	**-1.5**
DAG				IAmb	IAmb	18 36 16.2	
	comp=Z,8.4nm,0.7s						
ULN	**Ulaanbaatar**	**51.38**	**301**	*ce*P	**P**	**18 36 28.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s						
ULN	**Ulaanbaatar**	**51.38**	**301**	P	**P**	**18 36 26.9**	**-1.2**
ULN				IAmb	IAmb	18 36 29.3	
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**51.75**	**301**	P	**P**	**18 36 30.5**	**-0.3**
	comp=Z,6.3nm,0.8s,baz=67,slow=4.9,SNR=24						
SONM				PcP	**PcP**	**18 37 44.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=40,slow=3.6,SNR=5.2						
SONM	**Songino Array**	**51.75**	**301**	P	**P**	**18 36 30.9**	**+0.1**
SONM				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**51.75**	**301**	P	**P**	**18 36 30.9**	**+0.1**
SONM				IAmb	IAmb	18 36 31.9	
	comp=Z,7.7nm,1.0s						
ZAK	**Zakamensk**	**51.76**	**305**	*e*P	**P**	**18 36 29.1**	**-1.7**
ZAK				*e*		18 37 44.0	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DBG	**Daneborg**	**52.02**	**10**	*i* P	**P**	**18 36 30.2**	**-2.1**
DBG				IAmb	IAmb	18 36 31.9	
	comp=Z,10nm,0.7s						
TX31	**Lajitas Ar. Si**	**52.34**	**89**	IAmb	IAmb	18 36 53.4	
	comp=Z,20nm,0.8s						
TX32	**Lajitas Array**	**52.34**	**89**	IAmb	IAmb	18 36 53.4	
	comp=Z,6.7nm,0.8s						
TXAR	**Lajitas Array**	**52.34**	**89**	P	**P**	**18 36 35.7**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=301,slow=6.0,SNR=9.4						
TIA	**Tai'an**	**53.18**	**284**	P	**P**	**18 36 41.5**	**0.0**
TIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HHC	**Hu-ho-hao-te**	**53.37**	**292**	*e*P	**P**	**18 36 43.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
ICESG	**Greenland Ices**	**53.40**	**20**	*i* P	**P**	**18 36 41.2**	**-1.8**
ICESG				IAmb	IAmb	18 36 43.0	
	comp=Z,17nm,0.8s						
HNS	**HongShan**	**53.82**	**286**	⇑P	**P**	**18 36 47.0**	**+0.9**
HNS				pmax	pmax		
	comp=Z,53nm,1.0s						
DY2G	**Dye2**	**53.91**	**25**	*i* P	**P**	**18 36 46.0**	**-0.6**
DY2G				IAmb	IAmb	18 36 48.1	
	comp=Z,12nm,0.6s						
W39A	**Magazine**	**54.32**	**77**	P	**P**	**18 36 49.3**	**-0.4**
	baz=313						
NJ2	**Nanjing**	**54.98**	**279**	*e*P	**P**	**18 36 54.3**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SCHQ	**Schefferville**	**55.29**	**44**	P	**P**	**18 36 56.3**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=315,slow=7.1,SNR=13						
SCHQ	**Schefferville**	**55.29**	**44**	P	**P**	**18 36 56.5**	**-0.1**
SCHQ				IAmb	IAmb	18 37 08.6	
	comp=Z,9.3nm,0.9s						
O48B	**Farmland**	**55.93**	**67**	P	**P**	**18 36 59.9**	**-1.5**
	baz=312						
ZALV	**Zalesovo Beam**	**57.84**	**318**	P	**P**	**18 37 13.5**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=28,slow=6.7,SNR=15						
ZALV				PcP	**PcP**	**18 38 05.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=56,slow=2.8,SNR=4.6						
ZALV	**Zalesovo

comp=Z,22nm,0.9s
SVE Sverdlovsk 64.05 332 *e*P P 18 37 56.6 -0.1
SVE pmax pmax
comp=Z,27nm,1.0s
BRVK Borovoye 64.10 325*ce*P P 18 37 57.4 +0.2
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 64.10 325 P P 18 37 57.1 0.0
MK31 Makanchi Array 64.23 314 P P 18 37 57.3 -0.9
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 64.23 314 P P 18 37 57.3 -0.9
MK31 IAmb IAmb 18 37 58.2
comp=Z,9.2nm,0.8s
MKAR Makanchi Array 64.23 314 P P 18 37 57.2 -1.0
MKAR PP PP 18 40 16.8 -2.2
comp=Z,1.2nm,0.8s,baz=41,slow=8.0,SNR=3.6
MKAR Makanchi Array 64.23 314 P P 18 37 57.4 -0.8
MKAR Makanchi Array 64.23 314 P P 18 37 57.4 -0.8
MAKZ Makanchi 64.36 314 P P 18 37 58.1 -0.9
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 64.36 314 P P 18 37 58.1 -0.9
CD2 Chengdu 64.82 288 P P 18 38 03.0 +0.7
CD2 pmax pmax
comp=Z,30nm,1.1s
ARU Arti 64.97 333 P P 18 38 02.6 -0.2
comp=Z,9.6nm,0.8s,baz=5.9,slow=2.3,SNR=33
ARU Arti 64.97 333 P P 18 38 02.4 -0.4
KLMR Klimovskoe 65.07 345 *e*P P 18 38 01.0 -2.3
KLMR *e* 18 38 33.1
KLMR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 65.07 345 *e*P P 18 38 01.1 -2.3
KLMR AMP 18 38 03.5
comp=Z,24nm,1.1s
KLMR *e*PcP PcP 18 38 33.2 -2.8
KIRV Kirov 65.32 339 P P 18 38 05.0 0.0
comp=Z,22nm,0.6s,baz=0.0,slow=7.1,SNR=11
MOL Molde 65.55 2 *e*P P 18 38 06.3 -0.2
GOMU GeErMu 65.98 298 P P 18 38 10.0 -0.1
GOMU PcP PcP 18 38 42.8 +2.1
GOMU PP PP 18 40 33.0 -2.0
GOMU S S 18 46 53.3 -2.9
GOMU pmax pmax
comp=Z,16nm,0.9s
FIA1 FINESS Array S 66.11 352 P P 18 38 09.7 -0.4
FINES FINESS Array B 66.11 352 P P 18 38 09.6 -0.5
comp=Z,22nm,0.8s,baz=20,slow=8.0,SNR=101
FINES FINESS Array B 66.11 352 P P 18 38 09.6 -0.5
GYA Guiyang 66.37 283⇓*i*P P 18 38 13.0 +0.6
GYA pmax pmax
comp=Z,17nm,1.0s
NC204 NORSAR Array S 66.89 0 P P 18 38 15.0 -0.1
NC303 NORSAR Array S 66.94 360 P P 18 38 15.6 +0.2
NC405 NORSAR Array S 67.05 360 P P 18 38 16.2 +0.1
NB201 NORSAR Array S 67.12 0 P P 18 38 16.9 +0.3
NB2 NORSAR Subarra 67.13 0 P P 18 38 29.9 +13
comp=Z,1.6nm,0.7s,baz=360,slow=6.2
NOA NORSAR Array B 67.13 0 P P 18 38 16.5 -0.1
comp=Z,11nm,0.8s,baz=0.2,slow=6.3,SNR=24
TDK Taldyqorghan 67.33 315*c i*P P 18 38 18.2 0.0
TDK pmax pmax
comp=Z,23nm,0.8s
TDK Taldyqorghan 67.33 315⇑*i*P P 18 38 18.2 0.0
comp=Z,23nm,0.8s,baz=315
MEF Metsahovi 67.46 353 *e*P P 18 38 18.6 0.0
SHLS Shalkode 68.32 313*c i*P P 18 38 23.6 -0.9
SHLS pmax pmax
comp=Z,15nm,0.9s
SHLS Shalkode 68.32 313⇑*i*P P 18 38 23.7 -0.9
comp=Z,15nm,0.9s,baz=313
KPKS Kokpek 68.42 314 *i*P P 18 38 25.3 +0.2
KPKS pmax pmax
comp=Z,7.0nm,0.5s
KPKS Kokpek 68.42 314 *i*P P 18 38 25.4 +0.2
comp=Z,7.1nm,0.5s,baz=314
UZB Uzunbulak 68.52 313*c i*P P 18 38 25.9 0.0
UZB pmax pmax
comp=Z,7.0nm,0.8s
UZB Uzunbulak 68.52 313⇑*i*P P 18 38 25.9 0.0
comp=Z,7.4nm,0.8s,baz=313
CHKK Chushkaly 68.86 315 *e*P P 18 38 26.6 -1.1
baz=315
SATY Saty 68.87 314 *e*P P 18 38 28.1 +0.1
SATY pmax pmax
comp=Z,6.0nm,0.9s
SATY Saty 68.87 314 *e*P P 18 38 28.1 +0.1
comp=Z,6.4nm,0.9s,baz=314
MTSE Matsula 68.99 353 *e*P P 18 38 28.6 +0.3
VSU Vasula 69.00 351 *e*P P 18 38 28.6 +0.3
KUU Kurty 69.11 315*ce*P P 18 38 28.5 -0.8
KUU pmax pmax
comp=Z,6.0nm,0.8s
KUU Kurty 69.11 315⇑*e*P P 18 38 28.6 -0.8
comp=Z,6.5nm,0.8s,baz=315
BTLS Baital 69.16 318*c i*P P 18 38 29.3 -0.2
BTLS pmax pmax
comp=Z,5.0nm,0.5s
BTLS Baital 69.16 318⇑*i*P P 18 38 29.4 -0.2
comp=Z,5.2nm,0.5s,baz=318
PZH PanZhiHua 69.27 287 ⇑P P 18 38 31.5 +0.8
PZH pmax pmax
comp=Z,30nm,0.8s
MDOK Medeo 69.39 315 *i*P P 18 38 31.2 0.0
MDOK Medeo 69.39 315 *i*P P 18 38 31.2 0.0
baz=314
AAA Alma-Ata 69.41 315 *e*P P 18 38 31.4 +0.1
AAA pmax pmax
comp=Z,26nm,1.1s
AAA Alma-Ata 69.41 315 *e*P P 18 38 31.4 +0.1
comp=Z,26nm,1.1s,baz=315
TNSS Tian-Shan 69.53 315 *e*P P 18 38 32.6 +0.1
baz=314
SLIT Slitere, Latvi 70.18 354 *e*P P 18 38 35.8 +0.2
SGDS Sogindy 70.20 316⇑*i*P P 18 38 36.5 +0.4
baz=316
TKM2 Tokmak 2 70.21 315 P P 18 38 36.8 +0.4
SNR=8.2
MOS Moscow 70.26 345 *e*P P 18 38 35.1 -1.1
MOS *e* 18 41 16.5
MOS pmax pmax
comp=Z,54nm,0.6s
AKTO Aktyubinsk 70.38 330 P P 18 38 37.2 +0.2
comp=Z,27nm,0.8s,baz=46,slow=6.2,SNR=66
USP Ospenovka 70.40 316 P P 18 38 37.9 +0.5
SNR=16
BOOM Boomskoye usch 70.41 315 P P 18 38 37.9 +0.3
BOOM pmax pmax
comp=Z,21nm,0.8s
BOOM Boomskoye usch 70.41 315 P P 18 38 37.9 +0.3
ULHL Ulahol 70.48 314 P P 18 38 38.2 +0.2
SNR=18
CHMS Chumysh 70.51 316 P P 18 38 38.5 +0.5
SNR=10
KBK Karagaybulak 70.71 316 P P 18 38 39.8 +0.4
SNR=17
ABKAR Akbulak array 70.81 329 P P 18 38 39.9 +0.2
AAK Ala-Archa 70.92 316*ce*P P 18 38 41.2 +0.6
AAK pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 70.92 316 P P 18 38 41.1 +0.4
OBN Obninsk 71.03 345⇑*e*P P 18 38 40.1 -0.7
OBN *e* 18 38 58.7
OBN *e* 18 41 20.0
OBN *e*PPP PPP 18 43 03.1
OBN *e*SSS SSS 18 55 37.1
OBN pmax pmax
comp=Z,29nm,0.7s
EKS2 Erkin-Say 71.20 316 P P 18 38 43.0 +0.7
SNR=23
AML Almayashu 71.67 316 P P 18 38 46.4 +0.9
SNR=19
PBUR Paburge 71.80 354 *e*P P 18 38 45.9 +0.4
ISAL Salakas 71.91 351 *e*P P 18 38 46.4 +0.3
DZA Taraz 72.04 318 *e*P P 18 38 46.9 -0.3
DZA Taraz 72.04 318 *e*P P 18 38 47.0 -0.3
baz=318
IDID Didziasalis 72.11 351 *e*P P 18 38 47.5 +0.1
IIGN Ignalina 72.12 351 *e*P P 18 38 47.3 -0.1
NACGM Naroch 72.51 351⇑*e*P P 18 38 49.4 -0.4
MNK Minsk 72.79 350 *i*P P 18 38 52.0 +0.6
MNK *i* PPP PPP 18 43 14.9
MNK *i* S S 18 48 16.4 +1.3
MNK *i* SS SS 18 53 01.6 +7.8
MNK pmax pmax
comp=Z,43nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.4s
MNK pmax pmax
comp=N,39nm,1.2s
MNK Minsk 72.79 350 *i*P P 18 38 52.1 +0.6
comp=E,2.0nm,1.4s
MNK *i*P P 18 38 52.1 +0.6
comp=N,39nm,1.2s
MNK *i*P P 18 38 52.1 +0.6
comp=Z,43nm,1.0s,baz=190
MNK *i* PP PP 18 41 09.1 -24
MNK *i* PPP PPP 18 43 14.9
MNK *i* S S 18 48 16.4 +1.3
MNK *i* SS SS 18 53 01.7 +7.8
MNK *i* SSS SSS 18 56 22.4
KSH Kashi 72.80 313 P P 18 38 55.5 +3.5
KSH sP PcP 18 39 09.3 +0.2
KSH pmax pmax
comp=Z,36nm,1.0s
LPSR Galich'ya Gora 73.04 343 *e*P P 18 38 52.0 -0.9
LPSR pmax pmax
comp=Z,10.0nm,0.9s
IUG Iuzhnay 73.19 318*c i*P P 18 38 54.6 +0.4
IUG Iuzhnay 73.19 318⇑*i*P P 18 38 54.6 +0.4
baz=318
SUW Suwalki 73.71 353 *e*P P 18 38 56.4 -0.5
SUW Suwalki 73.71 353 *e*P P 18 38 56.8 -0.1
VRH Novokhopyorsk 73.83 341 *e*P P 18 38 56.7 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
GKP Gorka Klasztor 74.80 356 *e*P P 18 39 04.5 +1.2
GAR Garm 75.70 316 P P 18 39 09.2 +0.4
BEL Belsk 76.05 354 *e*P P 18 39 11.3 +0.9
AKASG Malin Array Be 76.37 348 P P 18 39 10.8 -1.5
comp=Z,7.2nm,0.6s,baz=14,slow=5.8,SNR=34
AKASG Malin Array Be 76.37 348 *i*P P 18 39 11.5 -0.8
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 76.37 348 P P 18 39 11.0 -1.3
AKBB Malin Array Si 76.37 348*ce*P P 18 39 11.7 -0.6
AKBB Malin Array Si 76.37 348 P P 18 39 11.6 -0.6
TAPN Taplejung 76.62 297 *e*P P 18 39 14.3 -0.1
comp=Z,20nm,0.6s
CHTO Chiang Mai 76.78 284 P P 18 39 15.5 +0.4
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO Chiang Mai 76.78 284 P P 18 39 15.5 +0.4
CHTO IAmb IAmb 18 39 16.4
comp=Z,9.6nm,1.3s
CLL Collm 76.87 359 *i*P P 18 39 15.0 -0.1
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 76.87 359 *i*P P 18 39 15.0 -0.1
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 77.06 283 P P 18 39 16.9 +0.2
comp=Z,7.9nm,0.8s,baz=26,slow=6.5,SNR=62
CMAR Chiang Mai Arr 77.06 283 *i*P P 18 39 17.2 +0.5
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 77.06 283 P P 18 39 16.8 +0.2
GUN Gumba 77.17 299 *e*P P 18 39 18.1 +0.5
comp=Z,30nm,0.6s
ODAN Odare 77.18 297 *e*P P 18 39 17.7 +0.2
comp=Z,9.7nm,0.6s
JIRN Jiri 77.20 299 *e*P P 18 39 18.4 +0.6
comp=Z,36nm,0.6s
KSP Ksiaz 77.26 357 *e*P P 18 39 17.9 +0.5
BRG Berggiesshubel 77.30 358 *e*P P 18 39 18.2 +0.7
BRG Amp 18 39 19.2
comp=Z,15nm,1.1s
BRG *ex* x 18 39 28.7
BRG Amp 18 39 30.8
comp=Z,8.7nm,1.2s
BRG Amp 18 53 04.0
comp=Z,3.1nm,20.3s
BRG Amp 18 53 10.0
comp=E,1.8nm,20.4s
BRG Amp 18 53 11.0
comp=N,2.2nm,16.9s
BRG Berggiesshubel 77.30 358 *e*P P 18 39 18.1 +0.7
BRG *e* 18 39 28.7
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG MLR MLR
comp=Z,3μm,20.3s
BRG MLR MLR
comp=E,2μm,20.4s
BRG MLR MLR
comp=N,2μm,16.9s
MEM Membach 77.49 3 *d*P P 18 39 18.0 -0.5
comp=Z,12nm,1.1s
BSTI Sart Tilman 77.50 4 *d*P P 18 39 19.6 +1.0
BTNL Ternell 77.51 3 *d*P P 18 39 19.9 +1.1
comp=Z,9.5nm,1.2s
CHVC Chvalec 77.53 357 *e*P P 18 39 19.5 +0.7
RAMN Ramite 77.54 298 *e*P P 18 39 19.8 +0.2
comp=Z,19nm,0.4s
OSTC Ostas 77.55 357 *e*P P 18 39 19.4 +0.4
KKN Kakani 77.59 299 *e*P P 18 39 20.0 +0.2
comp=Z,16nm,0.7s
UPC Upice 77.61 357 *e*P P 18 39 20.0 +0.7
UPC Upice 77.61 357 *e*P P 18 39 20.0 +0.7
BGES Gesves 77.67 4 *d*P P 18 39 20.5 +0.9
PKI Pulchoki 77.69 299 *e*P P 18 39 20.6 +0.1
comp=Z,27nm,1.0s
PKIN Phulchoki 77.69 299 *e*P P 18 39 20.5 0.0
comp=Z,8.9nm,0.5s
OJC Ojcow 77.72 354 *e*P P 18 39 20.4 +0.5
BMRD Maredsous 77.74 4 *d*P P 18 39 20.3 +0.3
comp=Z,12nm,0.9s
DPC Dobruska-Polom 77.75 357 *e*P P 18 39 20.9 +0.8
DPC *e* 18 39 33.1
DPC Dobruska-Polom 77.75 357 *e*P P 18 39 20.9 +0.8
DPC epP pwP 18 39 33.1 +1.3
GKN Gorkha 77.76 300 *e*P P 18 39 20.9 +0.2
comp=Z,23nm,0.7s
LVV L'vov 77.80 352 *e*P P 18 39 20.6 +0.3
DMN Daman 77.83 299 *e*P P 18 39 21.6 +0.4
comp=Z,19nm,0.9s
DANN Dangsing 77.95 301 *e*P P 18 39 22.3 +0.4
comp=Z,45nm,0.6s
NKC Novy Kostel 77.96 359 *e*P P 18 39 22.0 +0.8
NKC Novy Kostel 77.96 359 *e*P P 18 39 22.0 +0.8
KRLC Kraliky 78.01 356 *e*P P 18 39 22.5 +0.9
KRLC Kraliky 78.01 356 *e*P P 18 39 22.5 +0.9
KWP Kalwaria Pacla 78.10 352 *e*P P 18 39 22.6 +0.6
PRU Pruhonice 78.17 358 *e*P P 18 39 23.2 +0.8
PRU Pruhonice 78.17 358 *e*P P 18 39 23.2 +0.8
MORC Moravsky Berou 78.28 356 ⇓P P 18 39 23.4 +0.3
MORC Moravsky Berou 78.28 356 *e*P P 18 39 23.6 +0.5
PBCC Pribram 78.48 358 *e*P P 18 39 24.5 +0.4
NIE Niedzica 78.49 354 *e*P P 18 39 25.8 +1.6
KOLN Koldanda 78.50 301 *e*P P 18 39 25.1 +0.3
comp=Z,23nm,0.9s
GRF Grafenberg Arr 78.50 0 *e*P P 18 39 25.3 +1.1
comp=Z,26nm,1.1s,baz=1.9,slow=4.9
PYUN Piuthan 78.56 301 *e*P P 18 39 25.3 +0.1
comp=Z,41nm,1.0s
VRAC Vranov 78.79 356 ⇑P P 18 39 27.0 +1.2
VRAC Vranov 78.79 356 *e*P P 18 39 26.5 +0.7
LANS Liptovska Anna 78.81 355 *e*P P 18 39 27.5 +1.5
LANS pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 78.81 355 *e*P P 18 39 27.5 +1.5
CRVS Cervenica-Dubn 78.92 353 *e*P P 18 39 27.7 +1.1
CRVS Cervenica-Dubn 78.92 353 *e*P P 18 39 27.7 +1.1
SORM Soroca 79.00 348 ⇓P P 18 39 26.7 -0.3
KRUC Moravsky 79.04 357 *e*P P 18 39 27.9 +0.7
KHC Kasperske Hory 79.05 358 *e*P P 18 39 28.3 +1.0
KHC Kasperske Hory 79.05 358 *e*P P 18 39 28.3 +1.0
UZH Uzhgorod 79.13 353 *e*P P 18 39 28.0 +0.4
JAVC Velka Javorina 79.19 356 *e*P P 18 39 29.8 +1.7
GERES GERESS Array B 79.33 358 P P 18 39 28.7 -0.2
comp=Z,3.6nm,0.9s,baz=1.4,slow=5.3,SNR=28
CKRC Cesky Krumlov 79.34 358 *e*P P 18 39 29.5 +0.6
GOF Gofitskoye 79.35 338⇑*e*P P 18 39 29.7 +0.7
GOF pmax pmax
comp=Z,68nm,0.8s
KOLL Kolacno 79.43 355 *e*P P 18 39 30.9 +1.6
VYHS Vyhne 79.50 355 *e*P P 18 39 31.2 +1.5
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 79.50 355 *e*P P 18 39 31.2 +1.5
SMOL Smolenice 79.55 356 *e*P P 18 39 31.6 +1.6
SMOL pmax pmax
comp=Z,10.0nm,1.0s
SMOL Smolenice 79.55 356 *e*P P 18 39 31.6 +1.6
TRPA Tarpa 79.60 352 ⇑P P 18 39 31.0 +0.7
TRPA Tarpa 79.60 352 P P 18 39 30.3 0.0
BUR08 Bucovina Ar. S 79.84 350 P P 18 39 32.2 +0.5
BUR08 IAmb IAmb 18 39 33.0
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 79.87 350 ⇑P P 18 39 31.8 -0.1
BURAR Bucovina Array 79.87 350 P P 18 39 32.2 +0.3
BURAR IAmb IAmb 18 39 33.3
comp=Z,7.5nm,0.9s
ZST Bratislava 79.88 356 *e*P P 18 39 33.5 +1.8
ZST pmax pmax
comp=Z,64nm,1.2s
ZST Bratislava 79.88 356 *e*P P 18 39 33.5 +1.8
BMR Baia Mare 79.98 352 ⇑P P 18 39 32.8 +0.5
PSZ Piszkesteto 80.01 354 P P 18 39 33.5 +0.9
CONA Conrad Observa 80.19 357 *e*P P 18 39 34.7 +1.2
comp=Z,4.7nm,0.6s,SNR=5.8
SRO Srobarova 80.20 355 *e*P P 18 39 35.2 +1.7
SRO Srobarova 80.20 355 *e*P P 18 39 35.2 +1.7
SRO2 Moca 80.25 355 *e*P P 18 39 34.0 +0.3
SRO2 pmax pmax
comp=Z,14nm,1.1s
SRO2 Moca 80.25 355 *e*P P 18 39 34.0 +0.3
MOA Molln 80.31 358 *e*P P 18 39 34.8 +0.6
comp=Z,1.4nm,0.6s
SOP Sopron 80.41 356 P P 18 39 36.2 +1.6
KIV Kislovodsk 80.48 338 *e*P P 18 39 35.8 +0.6
KIV pmax pmax
comp=Z,18nm,1.1s
ARCR ARCALIA 80.48 351 ⇑P P 18 39 35.5 +0.5
BIOA Bad Ischl, Aus 80.48 358 *i*P P 18 39 35.9 +0.9
comp=Z,1.2nm,0.4s
VASR Vaslui 80.54 349 ⇓P P 18 39 35.5 +0.2
KBZ Khabaz 80.64 337 *e*P P 18 39 36.8 +0.9
comp=Z,14nm,0.9s,baz=27,slow=1.6,SNR=32
KBZ Khabaz 80.64 337*ce*P P 18 39 37.0 +1.1
KBZ pmax pmax
comp=Z,14nm,0.9s
EGYH Egyhazaskeszo 80.64 356 P P 18 39 38.1 +2.2
NCK Nalchik 80.69 337 *i*P P 18 39 37.1 +0.8
NCK pmax pmax
comp=Z,42nm,0.8s
TESR Tescani 80.81 349 ⇓P P 18 39 36.8 0.0
WATA Walderalm 80.86 360 *e*P P 18 39 38.2 +0.9
comp=Z,6.1nm,0.8s,SNR=6.0
ARSA Arzberg 80.88 357 *i*P P 18 39 38.5 +1.3
comp=Z,3.6nm,0.6s
MPLH Magyarpolny 80.88 356 P P 18 39 38.3 +1.2
WTTA Wattenberg 80.93 360 *i*P P 18 39 38.7 +1.0
comp=Z,7.9nm,0.6s,SNR=6.6
SQTA Sankt Quirin 80.98 0 *e*P P 18 39 38.9 +1.0
comp=Z,8.7nm,0.7s,SNR=7.0
KBA Koelnbreinsper 81.10 359 *e*P P 18 39 39.9 +1.3
comp=Z,12nm,0.6s,SNR=18
FETA Feichten 81.17 0 *e*P P 18 39 39.9 +1.0
comp=Z,6.3nm,0.7s,SNR=8.3
ZEI Tsey 81.29 336 *e*P P 18 39 39.7 0.0
ZEI pmax pmax
comp=Z,8.0nm,0.8s
OZUR 81.31 350 ⇑P P 18 39 39.4 -0.1
GEYT Alibeck 81.42 324 P P 18 39 40.7 +0.5
comp=Z,15nm,0.9s,baz=304,slow=3.4,SNR=19
ABTA Abfaltersbach 81.44 359 *e*P P 18 39 41.0 +0.7
comp=Z,4.0nm,0.5s,SNR=7.4
PLOR Plostina 81.46 349 ⇑P P 18 39 41.1 +0.8
SOKA Soboth 81.47 357 *e*P P 18 39 41.3 +0.9
comp=Z,6.2nm,0.7s,SNR=15
DOPR Dopca 81.48 350 ⇓P P 18 39 40.6 +0.2
PERS Pernice 81.51 357 *i*P P 18 39 41.6 +1.0
COVR Voineasa-Covas 81.51 350 ⇓P P 18 39 41.8 +1.2
OBKA Obir 81.65 358 *e*P P 18 39 42.2 +0.8
comp=Z,8.5nm,0.8s,SNR=8.0
KOGS Kog 81.66 357 *i*P P 18 39 41.9 +0.6
TUE Stuetta 81.71 1 P P 18 39 42.3 +0.5
TUE IAmb IAmb 18 39 44.3
comp=Z,20nm,1.1s
MLR Muntele Rosu 81.89 350 ⇑P P 18 39 43.7 +0.9
KOVH Kovagotottos 81.93 355 P P 18 39 43.1 +0.3
CFR Carcaliu 81.94 348 ⇓P P 18 39 43.4 +0.6
VOIR 82.04 350 ⇑P P 18 39 43.8 +0.3
CTI Castel Tesino 82.15 360 P P 18 39 44.6 +0.6
CTI pmax pmax
comp=Z,14nm,1.1s
CTI Castel Tesino 82.15 360 P P 18 39 44.6 +0.6
CTI IAmb IAmb 18 39 45.3
comp=Z,14nm,1.1s
ARR Arges 82.15 351 ⇓P P 18 39 44.9 +0.9
BZS Buzias 82.18 353 ⇓P P 18 39 44.6 +0.5
TPGR Topolog 82.22 348 ⇓P P 18 39 45.0 +0.7
GZR Gura Zlata 82.30 352 ⇓P P 18 39 45.4 +0.6
HARR Harsova 82.44 348 ⇓P P 18 39 46.1 +0.7
TIRR Tirgusor 82.61 348 ⇑P P 18 39 46.3 0.0
TIRR Tirgusor 82.61 348 P P 18 39 46.5 +0.2
TIRR pmax pmax
comp=Z,33nm,1.0s
TIRR Tirgusor 82.61 348 P P 18 39 46.5 +0.2
AKH Akhalkalaki 82.69 336 ⇓P P 18 39 48.5 +1.5
TEOL Teolo 82.84 360 P P 18 39 48.4 +0.9
HERR Herculane 82.84 352 ⇓P P 18 39 47.8 +0.3
GNI Garni 83.55 335*ce*P P 18 39 53.3 +1.8
GNI pmax pmax
comp=Z,14nm,1.7s
VTS Vitosha 85.01 351 ⇑P P 18 39 58.7 -0.2
NRCA Norcia 85.35 359 P P 18 40 01.5 +1.1
BRTR Keskin Array B 86.42 343 P P 18 40 05.5 -0.4
comp=Z,3.1nm,0.9s,baz=45,slow=2.2,SNR=16
BRTR Keskin Array B 86.42 343 P P 18 40 06.5 +0.6
BRTR Keskin Array B 86.42 343 P P 18 40 06.5 +0.6
WRA Warramunga Arr 87.21 232 P P 18 40 08.5 -1.1
comp=Z,0.6nm,0.7s,baz=33,slow=5.8,SNR=8.7
ESDC Sonseca Array 87.56 12 P P 18 40 11.4 0.0
comp=Z,4.1nm,0.8s,baz=345,slow=4.7,SNR=20
ESDC Sonseca Array 87.56 12 P P 18 40 11.6 +0.3
ESDC IAmb IAmb 18 40 13.3
comp=Z,4.5nm,0.9s
HYBB Hyderabad (bro 89.59 298 *e*P P 18 40 20.3 -0.9
AS31 Alice Springs 90.59 231 P P 18 40 24.8 -0.8
ASAR Alice Springs 90.59 231 P P 18 40 25.2 -0.3
comp=Z,1.9nm,0.8s,baz=25,slow=4.6,SNR=30
KMBO Kilima Mbogo 124.57 328 PKP **PKiKP** 18 46 24.8 +1.0
comp=Z,1.3nm,0.7s,baz=26,slow=7.1,SNR=4.6
BOSA Boshof 154.26 331 PKPbc **PKPbc** 18 47 23.6 +0.2
comp=Z,1.3nm,0.7s,baz=28,slow=3.3,SNR=5.1

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*WEL **27** 18:56:32.3±0.8,36°S±6°×17°9W±°, h33km, M4.2/41, mB4.8/7, ML4.6/43, MLv4.4/41, Mw(mB)4.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3*
*IDC **27** 18:56:35.8±2.4,35°.28S×179°.90E, h44km±19km, mb3.8/3, mb1 4.1/4, mb1mx3.7/29, mbtmp4.1/4, ML4.8/2, Error ellipse: s-maj=24.5km s-min=18.3km az=107.0*
*NEIC **27** 18:56:42.2±1.0,35°.8S±0°.1×179°.5E±0°.2, h72km±9km, mb4.2/9, Error ellipse: s-maj=22.2km s-min=11.3km az=55.0*

ISC 27 18:56:33.9±0.8,**35°.41S**±0°.07×**179°.63W**±0°.09,**h35**km,**n84,** σ1§**55**/95,**mb4.1**/8,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.72**	**217**		**Pn**	**18 57 13.9**	**-1.2**
MXZ	**Matakaoa Point**	**2.72**	**217**	P	**Pn**	**18 57 14.6**	**-0.5**
MXZ				S	**Sn**	**18 57 45.9**	**-0.8**
WMGZ	**Waiomatatini S**	**2.88**	**213**	P	**Pn**	**18 57 17.6**	**+0.4**
WMGZ				S	**Sn**	**18 57 55.9**	**+5.3**
PKGZ	**Pakihiroa**	**3.09**	**216**	P	**Pn**	**18 57 19.9**	**-0.3**
PKGZ				S	**Sn**	**18 57 56.5**	**+0.5**
HAZ	**Te Kaha**	**3.14**	**221**	P	**Pn**	**18 57 20.2**	**-0.6**
HAZ				S	**Sn**	**18 57 60.0**	**+2.9**
PUZ	**Puketiti**	**3.16**	**212**	P	**Pn**	**18 57 20.4**	**-0.7**
RUGZ	**Raukumara Rang**	**3.35**	**220**	P	**Pn**	**18 57 23.4**	**-0.4**
TWGZ	**Tauwhareparae**	**3.37**	**214**	P	**Pn**	**18 57 23.8**	**-0.3**
TWGZ				S	**Sn**	**18 58 03.8**	**+1.1**
CNGZ	**Carnagh Statio**	**3.53**	**209**	P	**Pn**	**18 57 26.2**	**0.0**
TKGZ	**Te Karaka**	**3.64**	**213**	P	**Pn**	**18 57 27.1**	**-0.6**
TKGZ				S	**Sn**	**18 58 08.1**	**-1.4**

MWZ	**Matawai**	**3.71 217**	P	**Pn**	**18 57 27.8**	**-0.9**
MWZ			S	**Sn**	**18 58 12.2**	**+1.1**
URZ	**Urewera**	**3.87 222**	P	**Pn**	**18 57 29.6**	**-1.2**
	20nm,0.3s,baz=47,slow=19,SNR=108					
URZ			S	**Sn**	**18 58 13.1**	**-1.9**
	5.5nm,0.3s,baz=308,slow=19,SNR=1.8					
URZ	**Urewera**	**3.87 222**	P	**Pn**	**18 57 29.7**	**-1.1**
URZ			S	**Sn**	**18 58 14.4**	**-0.6**
RAGZ	**Rawiri**	**3.89 217**	P	**Pn**	**18 57 30.1**	**-1.1**
RAGZ			S	**Sn**	**18 58 15.8**	**+0.2**
RIGZ	**Rimuhau**	**3.90 212**	P	**Pn**	**18 57 29.9**	**-1.5**
OPRZ	**Ohinepanea**	**3.92 231**	P	**Pn**	**18 57 30.8**	**-0.7**
MARZ	**Manawahe**	**3.93 228**	P	**Pn**	**18 57 31.3**	**-0.5**
EDRZ	**Edgecumbe**	**3.97 226**	P	**Pn**	**18 57 32.8**	**+0.4**
KUZ	**Kuaotunu**	**4.00 249**	P	**Pn**	**18 57 32.7**	**0.0**
PRGZ	**Paritu Road**	**4.03 209**	P	**Pn**	**18 57 31.9**	**-1.3**
TGRZ	**Tauranga**	**4.04 234**	P	**Pn**	**18 57 33.1**	**-0.1**
SNGZ	**Shannon Statio**	**4.15 215**	P	**Pn**	**18 57 33.5**	**-1.3**
SNGZ			S	**Sn**	**18 58 24.3**	**+2.2**
OMRZ	**Omania**	**4.19 229**	P	**Pn**	**18 57 35.1**	**-0.3**
RTZ	**Ruatahuna**	**4.20 219**	P	**Pn**	**18 57 34.3**	**-1.2**
RTZ			S	**Sn**	**18 58 22.6**	**-0.7**
KNZ	**Kokohu**	**4.20 210**	P	**Pn**	**18 57 33.8**	**-1.7**
MUGZ	**Murupara**	**4.21 222**	P	**Pn**	**18 57 34.7**	**-0.8**
MUGZ			S	**Sn**	**18 58 22.0**	**-1.5**
KARZ	**Kaharoa**	**4.22 231**	P	**Pn**	**18 57 35.3**	**-0.4**
RRRZ	**Republican Roa**	**4.26 225**	P	**Pn**	**18 57 37.7**	**+1.5**
HLRZ	**Highlands Stat**	**4.30 227**	P	**Pn**	**18 57 36.4**	**-0.4**
KMRZ	**Kaimai**	**4.32 234**	P	**Pn**	**18 57 37.1**	**0.0**
RAHZ	**Arahi**	**4.38 216**	P	**Pn**	**18 57 37.7**	**-0.2**
WHHZ	**Waihua**	**4.44 213**	P	**Pn**	**18 57 37.2**	**-1.5**
MTHZ	**Maungataniwha**	**4.45 218**	P	**Pn**	**18 57 37.4**	**-1.5**
WIAZ	**Waiheke Island**	**4.46 250**	P	**Pn**	**18 57 39.6**	**+0.6**
ALRZ	**Allen Road**	**4.51 225**	P	**Pn**	**18 57 39.1**	**-0.6**
MKAZ	**Moumakai**	**4.54 247**	P	**Pn**	**18 57 40.4**	**+0.3**
TOZ	**Tahuroa Road**	**4.55 238**	P	**Pn**	**18 57 40.2**	**-0.2**
MBAZ	**Motutapu North**	**4.64 251**	P	**Pn**	**18 57 42.8**	**+1.3**
ABAZ	**Army Bay**	**4.65 254**	P	**Pn**	**18 57 43.5**	**+2.0**
NMHZ	**Naumai**	**4.65 217**	P	**Pn**	**18 57 41.4**	**-0.3**
MRHZ	**Matea Rd**	**4.66 222**	P	**Pn**	**18 57 40.7**	**-1.1**
ETAZ	**East Tamaki Re**	**4.67 249**	P	**Pn**	**18 57 44.1**	**+2.3**
TLZ	**Tolley Road**	**4.85 232**	P	**Pn**	**18 57 43.6**	**-0.9**
BKZ	**Black Stump Fm**	**4.86 218**		**Pn**	**18 57 42.1**	**-2.5**
BKZ	**Black Stump Fm**	**4.86 218**	P	**Pn**	**18 57 42.3**	**-2.3**
RVAZ	**Riverhead Bore**	**4.88 252**	P	**Pn**	**18 57 45.8**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.92 249**	P	**Pn**	**18 57 47.7**	**+2.4**
MCHZ	**McNeill Hill**	**4.98 215**	P	**Pn**	**18 57 44.8**	**-1.3**
RATZ	**Rangitukua**	**5.04 225**	P	**Pn**	**18 57 46.6**	**-0.5**
RITZ	**Rihia Road**	**5.07 224**	P	**Pn**	**18 57 46.9**	**-0.5**
KWHZ	**Kaweka Forest**	**5.09 217**	P	**Pn**	**18 57 45.8**	**-2.0**
KAHZ	**Kahuranaki**	**5.18 211**	P	**Pn**	**18 57 46.0**	**-3.0**
TMVZ	**Te Maari**	**5.25 224**	P	**Pn**	**18 57 48.9**	**-1.1**
NTVZ	**North Tongarir**	**5.25 224**	P	**Pn**	**18 57 48.2**	**-1.8**
ETVZ	**East Tongariro**	**5.26 224**	P	**Pn**	**18 57 48.7**	**-1.4**
OTVZ	**Oturere**	**5.30 224**	P	**Pn**	**18 57 50.4**	**-0.4**
SNVZ	**South Ngauruho**	**5.33 224**	P	**Pn**	**18 57 50.6**	**-0.6**
NGZ	**Ngauruhoe**	**5.35 224**	P	**Pn**	**18 57 50.4**	**-1.0**
TUVZ	**Tukino**	**5.38 223**	P	**Pn**	**18 57 50.7**	**-1.2**
MOVZ	**Moawhango**	**5.43 221**	P	**Pn**	**18 57 50.2**	**-2.2**
WNVZ	**Wahianoa**	**5.46 223**	P	**Pn**	**18 57 51.1**	**-1.8**
OUZ	**Omahuta**	**5.54 270**		**Pn**	**18 57 53.1**	**-0.8**
RAO	**Raoul Island**	**5.31 14**	P	**Pn**	**18 58 05.0**	**+0.6**
	79nm,0.3s,baz=80,slow=19,SNR=1.9					
RPZ	**Rata Peaks**	**10.97 218**	P	Pn	18 59 01.7	-6.7
	0.3nm,0.3s,baz=36,slow=8.5,SNR=1.9					
RPZ			S	Sn	19 00 57.6	-12
	0.4nm,0.3s,baz=24,slow=20,SNR=1.6					
CTAO	**Charters Tower**	**33.64 288**	P	**P**	**19 03 10.3**	**-1.0**
AS31	**Alice Springs**	**41.75 273**	P	**P**	**19 04 18.4**	**-1.5**
ASAR	**Alice Springs**	**41.75 273**	P	**P**	**19 04 18.4**	**-1.5**
	0.6nm,0.4s,baz=116,slow=7.2,SNR=20					
ASAR			ScP	**ScP**	**19 09 59.2**	**-4.2**
	0.2nm,0.9s,baz=112,slow=4.0,SNR=4.4					
WR0	**Warramunga Arr**	**43.02 278**	P	**P**	**19 04 29.3**	**-0.9**
WR0			IAmb	IAmb	19 04 55.6	
	comp=Z,5.1nm,1.2s					
WB2	**Warramunga Arr**	**43.18 278**	P	**P**	**19 04 30.1**	**-1.4**
WRAB	**Tennant Creek**	**43.19 278**	P	**P**	**19 04 29.2**	**-2.3**
WRAB			IAmb	IAmb	19 04 35.6	
	comp=Z,7.1nm,1.2s					
WRA	**Warramunga Arr**	**43.19 278**	P	**P**	**19 04 30.1**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=119,slow=7.7,SNR=28					
WRA	**Warramunga Arr**	**43.19 278**	P	**P**	**19 04 28.5**	**-3.1**
WB0	**Warramunga Arr**	**43.24 279**	P	**P**	**19 04 30.5**	**-1.5**
WB0			IAmb	IAmb	19 04 30.7	
	comp=Z,7.6nm,1.5s					
FITZ	**Fitzroy Crossi**	**51.19 275**	P	**P**	**19 05 32.5**	**-1.4**
FITZ			IAmb	IAmb	19 05 56.0	
	comp=Z,2.0nm,0.9s					
QSPA	**South Pole Qui**	**54.72 180**	P	**P**	**19 06 01.7**	**+2.2**
	comp=Z,2.1nm,0.8s,baz=30,slow=1.0,SNR=7.5					
QSPA	**South Pole Qui**	**54.72 180**	P	**P**	**19 06 01.5**	**+2.0**
QSPA			IAmb	IAmb	19 06 07.7	
	comp=Z,1.3nm,0.8s					
PMSA	**Palmer Station**	**68.28 155**	P	**P**	**19 07 34.8**	**+3.9**
	comp=Z,98nm,1.2s,baz=270,slow=5.1,SNR=4.4					
H03N3	**Juan Fernandez**	**79.07 123**	T	T	20 37 02.3	
	baz=237,slow=72,SNR=6.8					
H03N2	**Juan Fernandez**	**79.07 123**	T	T	20 36 58.4	
	baz=237,slow=72,SNR=5.4					
H03N1	**Juan Fernandez**	**79.08 123**	T	T	20 37 08.7	
	baz=237,slow=72,SNR=7.1					
FINES	**FINESS Array B**	**149.26 336**	PKPbc	**PKPbc**	**19 16 16.7**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=28,slow=4.1,SNR=10					
DBIC	**Dimbokro**	**151.00 169**	PKPbc	**PKiKP**	**19 16 24.5**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=223,slow=3.3,SNR=4.4					
BRTR	**Keskin Array B**	**153.37 289**	PKPbc	**PKPbc**	**19 16 27.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=146,slow=4.3,SNR=4.7					
TORD	**Torodi Ar. Bea**	**157.80 183**	PKP	**PKPdf**	**19 16 28.2**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=236,slow=2.6,SNR=1.3					
TORD			PKPab	**PKPab**	**19 16 60.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=0.4,SNR=3.2					

*BUL **27** 19:25:28.5±0.8,20°.33S×32°.82E,h10km,MD4.1*
*EAF **27** 19:25:29.0±2.6,20°.27S×32°.79E,h10km,MD3.8*
ISC 27 19:25:25.7±1.1,**20°.19S**±0°.04×**32°.87E**±0°.05,**h10**km,**n18,**
σ3^{0}**03**/32,**Zimbabwe**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.41**	**231**	*i* P	**Pn**	**19 26 19.8**	**+0.7**
MSNA				*i* S	**Sn**	**19 26 57.5**	**-2.1**
MSNA	**Messina**	**3.41**	**231**	*i* P	**Pn**	**19 26 19.8**	**+0.7**
MSNA				*i* S	**Sn**	**19 26 57.5**	**-2.1**
MOPA	**Mopani**	**3.58**	**202**	*i* P	**Pn**	**19 26 24.6**	**+3.2**
MOPA				*i* S	**Sn**	**19 27 05.9**	**+2.1**
MOPA	**Mopani**	**3.58**	**202**	*i* P	**Pn**	**19 26 24.6**	**+3.2**
MOPA				*i* S	**Sn**	**19 27 05.9**	**+2.1**
BLWY	**Bulawayo**	**4.00**	**270**	*i* P	**Pn**	**19 26 29.3**	**+2.0**
BLWY				*i* Sg	**Sb**	**19 27 30.7**	**+5.8**
BLWY	**Bulawayo**	**4.00**	**270**	*i* P	**Pn**	**19 26 29.3**	**+2.0**
BLWY				*i* Sg	**Sb**	**19 27 30.7**	**+5.8**
MATP	**Matopo**	**4.11**	**266**	*i* P	**Pn**	**19 26 30.5**	**+1.8**
MATP				*i* Sg	**Sg**	**19 27 34.3**	**-3.4**
MATP	**Matopo**	**4.11**	**266**	*i* P	**Pn**	**19 26 30.5**	**+1.8**
MATP				*i* Sg	**Sg**	**19 27 34.3**	**-3.4**
CLK	**Chileka**	**4.92**	**24**	*i* P	**Pn**	**19 26 43.7**	**+3.9**
CLK				*i* S	**Sn**	**19 27 36.6**	**-0.2**
CLK	**Chileka**	**4.92**	**24**	*i* P	**Pn**	**19 26 43.7**	**+3.9**
CLK				*i* S	**Sn**	**19 27 36.6**	**-0.2**
CNG	**Changalane**	**6.11**	**186**	*i* P	**Pn**	**19 26 55.9**	**-0.1**
CNG				*i* S	**Sn**	**19 27 59.9**	**-6.1**
CNG	**Changalane**	**6.11**	**186**	*i* P	**Pn**	**19 26 55.9**	**-0.1**
CNG				*i* S	**Sn**	**19 27 59.9**	**-6.1**
LSZ	**Lusaka**	**6.61**	**317**	*i* P	**Pn**	**19 27 05.5**	**+2.2**
LSZ				*i* S	**Sn**	**19 28 17.1**	**-1.7**
LSZ	**Lusaka**	**6.61**	**317**	*i* P	**Pn**	**19 27 05.5**	**+2.2**
LSZ				*i* S	**Sn**	**19 28 17.1**	**-1.7**
LBTB	**Lobatse**	**8.25**	**233**	*i* P	**Pn**	**19 27 25.1**	**-0.6**
LBTB	**Lobatse**	**8.25**	**233**	*i* P	**Pn**	**19 27 25.1**	**-0.6**
BOSA	**Boshof**	**10.88**	**218**	*i* P	**Pn**	**19 28 01.2**	**-0.5**
BOSA				*i* S	Sn	19 29 50.4	-13
BOSA	**Boshof**	**10.88**	**218**	*i* P	**Pn**	**19 28 01.2**	**-0.5**
BOSA				*i* S	Sn	19 29 50.4	-13

*IDC **27** 19:32:12.1±2.3,7°.57S×128°.87E,h120km±30km,mb2.8/1,*
mb1 2.9/6,mb1mx2.8/42,mbtmp3.2/6, Error ellipse:
s-maj=26.6km s-min=21.2km az=128.0
ISC 27 19:32:12.3±1.0,**7°.72S**±0°.07×**128°.93E**±0°.10,**h131**km,**n6,**
σ2^{0}**21**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.76**	**244**	P	**Pn**	**19 33 35.8**	**+0.1**
	0.8nm,0.3s,baz=95,slow=23,SNR=1.9						
BATI				S	**Sn**	**19 34 40.9**	**+0.1**
	1.9nm,0.3s,baz=16,slow=18,SNR=6.7						
SIJI	**Sorong**	**7.19**	**19**	P	**Pn**	**19 33 54.0**	**-0.9**
	0.3nm,0.3s,baz=197,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**10.81**	**197**	P	**Pn**	**19 34 45.1**	**+1.7**
	0.1nm,0.3s,baz=26,slow=11,SNR=8.2						
FITZ				S	**Sn**	**19 36 40.0**	**-2.7**
	0.3nm,0.3s,baz=353,slow=14,SNR=6.6						
WRA	**Warramunga Arr**	**13.24**	**157**	P	**Pn**	**19 35 17.9**	**+2.6**
	0.1nm,0.3s,baz=339,slow=14,SNR=12						
WRA				S	**Sn**	**19 37 39.5**	**-2.0**
	0.4nm,0.3s,baz=336,slow=21,SNR=10						
ASAR	**Alice Springs**	**16.56**	**164**	P	**Pn**	**19 35 59.6**	**+2.6**
	0.0nm,0.3s,baz=350,slow=10,SNR=2.8						
ASAR				S	**Sn**	**19 38 59.2**	**-2.4**
	0.1nm,0.3s,baz=329,slow=18,SNR=2.5						
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**19 42 58.6**	**-0.3**
	0.1nm,0.4s,baz=105,slow=10,SNR=2.0						

*IDC **27** 19:35:31.3±1.8,7°.66S×126°.03E,h0km,mb3.4/1,*
mb1 3.9/6,mb1mx3.5/43,mbtmp3.7/6,ML3.7/5, Error
ellipse: s-maj=37.0km s-min=24.0km az=75.0
ISC 27 19:35:35.0±1.3,**7°.76S**±0°.09×**126°.2E**±0°.1,**h35**km,**n6,**
σ2^{0}**68**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.48**	**226**	Pn	**Pn**	**19 36 27.1**	**+0.4**
	16nm,0.3s,baz=38,slow=1.0,SNR=31						
BATI				Sn	**Sn**	**19 37 09.1**	**+2.4**
	10.0nm,0.3s,baz=117,slow=19,SNR=9.0						
KAPI	**Kappang**	**6.95**	**293**	Pn	**Pn**	**19 37 12.4**	**-2.0**
	1.3nm,0.3s,baz=134,slow=6.9,SNR=5.2						
FITZ	**Fitzroy Crossi**	**10.29**	**183**	Pn	**Pn**	**19 37 59.9**	**-0.3**
	0.8nm,0.3s,baz=7.6,slow=10,SNR=6.9						
FITZ				Sn	**Sn**	**19 39 49.2**	**-5.1**
	1.7nm,0.3s,baz=349,slow=20,SNR=13						
WRA	**Warramunga Arr**	**14.46**	**148**	Pn	**Pn**	**19 38 58.3**	**+1.0**
	0.1nm,0.3s,baz=319,slow=14,SNR=2.5						
WRA				Sn	**Sn**	**19 41 34.7**	**-1.8**
	0.3nm,0.3s,baz=325,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**17.46**	**156**	P	**P**	**19 39 39.8**	**+2.9**
	0.3nm,0.3s,baz=323,slow=11,SNR=14						
ASAR				S	**Sn**	**19 42 48.0**	**-1.4**
	0.1nm,0.3s,baz=309,slow=19,SNR=2.6						
MKAR	**Makanchi Array**	**66.85**	**329**	P	**P**	**19 46 23.9**	**+0.5**
	0.2nm,0.4s,baz=124,slow=7.9,SNR=5.2						

*DDA **27** 19:39:24.7±0.0,41°.05N×40°.05E,h7km±4km,ML2.1*
*ISK **27** 19:39:24.4,41°.03N×40°.00E,h16km±2km,ML2.5/4*
ISC 27 19:39:24.5±1.0,**41°.05N**±0°.06×**40°.01E**±0°.04,**h16**km±8km,
n13,σ0^{8}**60**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.20**	**252**	PG	**Pg**	**19 39 28.9**	**-0.3**
KTUT				SG	**Sg**	**19 39 32.6**	**+0.3**
MACK	**Trabzon**	**0.21**	**240**	P	**Pb**	**19 39 30.2**	**+0.2**
MACK				S	**Sg**	**19 39 33.5**	**+0.7**
MACK				*i* AML	AML	19 39 34.0	
	comp=E,548nm,0.1s						
MACK				*i* AML	AML	19 39 35.0	
	comp=Z,451nm,0.2s						
MACK				*i* AML	AML	19 39 35.0	
	comp=N,706nm,0.2s						
CHAY	**Cayeli-Rize**	**0.54**	**86**	PG	**Pb**	**19 39 35.7**	**+0.1**
CHAY				SG	**Sb**	**19 39 43.9**	**+0.8**
CHOM	**Cayeli-Rize**	**0.57**	**85**	PG	**Pb**	**19 39 36.2**	**+0.1**
CHOM				SG	**Sb**	**19 39 45.0**	**+1.0**
BAYT	**Aydıntepe-Bayb**	**0.66**	**172**	PG	**Pb**	**19 39 37.8**	**0.0**
BAYT				SG	**Sb**	**19 39 47.1**	**+0.3**
KRIK	**Erzurum-spir**	**0.99**	**135**	P	**Pn**	**19 39 44.1**	**+0.1**
KRIK				S	**Sb**	**19 39 56.7**	**+0.3**
KELT	**Kelkit**	**1.07**	**213**	P	**Pb**	**19 39 44.2**	**-0.6**
KELT				S	**Sg**	**19 39 58.1**	**-1.1**
KOPT	**Kop Dagi**	**1.09**	**160**	P	**Pn**	**19 39 45.9**	**+0.4**
KOPT				S	**Sn**	**19 40 01.1**	**+0.7**
ALUC	**Giresun/Alucra**	**1.18**	**234**	P	**Pb**	**19 39 46.1**	**-0.5**
ALUC				S	**Sb**	**19 40 01.5**	**-0.2**
ALUC				*i* AML	AML	19 40 05.0	
	comp=E,21nm,2.4s						
ALUC				*i* AML	AML	19 40 12.0	
	comp=N,22nm,2.1s						
DBAD	**Bademkaya**	**1.27**	**91**	P	**Pn**	**19 39 47.3**	**-0.5**
DBAD				S	**Sb**	**19 40 03.5**	**-0.9**
DBAD				*i* AML	AML	19 40 05.0	
	comp=N,30nm,0.6s						
DBAD				*i* AML	AML	19 40 05.0	
	comp=E,23nm,0.3s						
DDEM	**Demirkent**	**1.32**	**96**	P	**Pn**	**19 39 48.5**	**0.0**
DDEM				S	**Sb**	**19 40 04.8**	**-1.1**
DDEM				*i* AML	AML	19 40 08.0	
	comp=N,53nm,0.3s						
DDEM				*i* AML	AML	19 40 08.0	
	comp=E,45nm,0.4s						
DAGI	**Agillar**	**1.44**	**88**	P	**Pn**	**19 39 50.1**	**+0.1**
DAGI				S	**Sn**	**19 40 08.2**	**-0.4**
SUSE	**Susehri**	**1.61**	**239**	P	**Pg**	**19 39 55.5**	**0.0**
SUSE				S	**Sn**	**19 40 13.9**	**+0.8**

*ECX **27** 19:41:02.8±0.5,30°.12N×114°.20W,h20km±36km,MD3.6,*
ML3.6
*MEX **27** 19:41:10.8±0.3,29°.87N×114°.03W,h13km,MD4.0*
ISC 27 19:41:01.3±1.0,**30°.0N**±0°.1×**114°.3W**±0°.2,**h10**km,**n8,**
σ2^{9}**05**/10,**2C-1D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**1.13**	**333**	⇑*e*P	**Pb**	**19 41 21.4**	**-1.5**
SFX				*e*S	**Sb**	**19 41 35.1**	**-2.5**
SFX				IAML		19 41 37.8	
	comp=E,2μm,0.8s						
SFX				⇓*e*		19 41 37.8	
BAHB	**Baha de los**	**1.24**	**150**	*e*P	**Pg**	**19 41 26.6**	**+1.5**
BAHB				*e*S	**Sb**	**19 41 39.4**	**-1.4**
BAHB	**Baha de los**	**1.24**	**150**	*e*P	**Pn**	**19 41 24.7**	**0.0**
SVX	**San Vicente**	**2.15**	**308**	*e*P	**Pn**	**19 41 37.7**	**+0.5**
MBIG	**Mexicali**	**2.51**	**342**	*i* P	**Pg**	**19 41 51.2**	**+1.9**
CPBX	**Cerro Prieto**	**2.55**	**340**	IAML		19 42 57.2	
	comp=N,776nm,1.4s						
CPBX				⇑*e*		19 42 57.2	
CPBX				IAML		19 43 02.8	
	comp=E,688nm,1.3s						
CBX	**Cerro Bola**	**3.07**	**319**	*i* P	**Pg**	**19 42 00.1**	**-0.2**
TJIG	**Tijuana**	**3.17**	**320**	*i* P	**Pg**	**19 42 01.8**	**-0.2**
TJIG				*i* S	**Sb**	**19 42 40.0**	**+3.6**

*IDC **27** 19:41:06.2±0.9,63°.64N×19°.49E,h0km,mb1 2.8/4,*
mb1mx2.7/48,mbtmp2.7/4,ML1.4/4, Error ellipse:
s-maj=10.3km s-min=8.3km az=157.0
*UPP **27** 19:41:06.9±0.1,63°.66N×19°.72E,h11km±4km,ML2.0,*
Confirmed Earthquake
*HEL **27** 19:41:07.8,63°.67N×19°.68E,h10km,ML2.1, Confirmed*
Earthquake
*NAO **27** 19:41:07.3±1.8,63°.67N×19°.40E,h12km±15km,ML2.1*
*HEL **27** 19:41:07.4±0.1,63°.68N×19°.70E,h5km,ML2.1,*
ML2.0(UPP), Confirmed Earthquake
*BER **27** 19:41:08.2±3.8,63°.67N×19°.58E,h0km±7km,ML1.9,*
ML2.0(UPP), Confirmed Earthquake
ISC 27 19:41:06.5±1.0,**63°.67N**±0°.02×**19°.70E**±0°.02,**h9**km±8km,
n74,σ1^{9}**63**/143,**8C-8D,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUSU	**Husum**	**0.40**	**213**	⇑P	**Pg**	**19 41 14.3**	**0.0**
HUSU				S	**Sg**	**19 41 19.3**	**-0.2**
HUSU	**Husum**	**0.40**	**213**	⇑P	**Pg**	**19 41 14.3**	**0.0**
HUSU				S	**Sg**	**19 41 19.3**	**-0.2**
HUSU	**Husum**	**0.40**	**213**	*i* P	**Pg**	**19 41 14.3**	**0.0**
HUSU				*i* S	**Sg**	**19 41 19.2**	**-0.2**
UMAU	**Umeaa**	**0.48**	**64**	⇓P	**Pg**	**19 41 15.9**	**0.0**
UMAU				S	**Sg**	**19 41 22.0**	**-0.2**
UMAU	**Umeaa**	**0.48**	**64**	⇓P	**Pg**	**19 41 15.9**	**0.0**
UMAU				S	**Sg**	**19 41 22.0**	**-0.2**
UMAU	**Umeaa**	**0.48**	**64**	*i* P	**Pg**	**19 41 15.9**	**0.0**
UMAU				*i* S	**Sg**	**19 41 21.9**	**-0.4**
BREU	**Bredtraesk**	**0.55**	**294**	⇓P	**Pg**	**19 41 17.2**	**+0.2**
BREU				S	**Sg**	**19 41 24.5**	**+0.3**
BREU	**Bredtraesk**	**0.55**	**294**	⇓P	**Pg**	**19 41 17.2**	**+0.2**
BREU				S	**Sg**	**19 41 24.5**	**+0.3**
BREU	**Bredtraesk**	**0.55**	**294**	⇓*i*P	**Pg**	**19 41 17.2**	**+0.2**
BREU				*i* S	**Sg**	**19 41 24.5**	**+0.3**
SVAU	**Svanoeiden**	**0.83**	**356**	⇑P	**Pg**	**19 41 22.1**	**-0.3**
SVAU				S	**Sg**	**19 41 32.9**	**-0.3**
SVAU	**Svanoeiden**	**0.83**	**356**	⇑P	**Pg**	**19 41 22.1**	**-0.3**
SVAU				S	**Sg**	**19 41 32.9**	**-0.3**
SVAU	**Svanoeiden**	**0.83**	**356**	⇑*i*P	**Pg**	**19 41 22.1**	**-0.3**
SVAU				*i* S	**Sg**	**19 41 32.9**	**-0.3**
ODEU	**Stanfors**	**0.86**	**31**	⇑P	**Pg**	**19 41 22.8**	**-0.3**
ODEU				S	**Sg**	**19 41 33.7**	**-0.7**
ODEU	**Stanfors**	**0.86**	**31**	⇑P	**Pg**	**19 41 22.8**	**-0.3**
ODEU				S	**Sg**	**19 41 33.7**	**-0.7**
ODEU	**Stanfors**	**0.86**	**31**	⇑*i*P	**Pg**	**19 41 22.8**	**-0.3**
ODEU				*i* S	**Sg**	**19 41 33.7**	**-0.7**
SOLU	**Sollefteaa**	**1.18**	**250**	⇓P	**Pb**	**19 41 28.5**	**-0.5**
SOLU				S	**Sg**	**19 41 44.2**	**-0.2**
SOLU	**Sollefteaa**	**1.18**	**250**	⇓P	**Pb**	**19 41 28.5**	**-0.5**
SOLU				S	**Sg**	**19 41 44.2**	**-0.2**
SOLU	**Sollefteaa**	**1.18**	**250**	⇓*e*P	**Pb**	**19 41 28.5**	**-0.5**
SOLU				*e*S	**Sg**	**19 41 44.2**	**-0.2**
HEMU	**Hemsoen**	**1.25**	**218**	P	**Pn**	**19 41 29.2**	**-0.9**
HEMU				S	**Sb**	**19 41 46.1**	**-0.4**
HEMU	**Hemsoen**	**1.25**	**218**	P	**Pn**	**19 41 29.2**	**-0.9**
HEMU				S	**Sb**	**19 41 46.1**	**-0.4**
HEMU	**Hemsoen**	**1.25**	**218**	*e*P	**Pn**	**19 41 29.2**	**-0.9**
HEMU				*e*S	**Sb**	**19 41 46.1**	**-0.4**
VAF	**Ylistaro**	**1.48**	**114**	*e*P	**Pb**	**19 41 33.9**	**-0.2**
VAF				*e*S	**Sn**	**19 41 52.8**	**0.0**
VAF				MSG		19 41 54.4	
	comp=Z,18nm,0.1s						
VAF	**Ylistaro**	**1.48**	**114**	*e*P	**Pb**	**19 41 33.9**	**-0.2**
VAF				*e*S	**Sn**	**19 41 52.8**	**0.0**
VAF				MSG		19 41 54.4	
	comp=Z,18nm,0.1s						
LILU	**Lilltraesk**	**1.62**	**2**	P	**Pb**	**19 41 36.1**	**-0.5**
LILU				S	**Sb**	**19 41 56.8**	**-0.3**
LILU	**Lilltraesk**	**1.62**	**2**	P	**Pb**	**19 41 36.1**	**-0.5**
LILU				S	**Sb**	**19 41 56.8**	**-0.3**
LILU	**Lilltraesk**	**1.62**	**2**	*e*P	**Pb**	**19 41 36.1**	**-0.5**
LILU				*e*S	**Sb**	**19 41 56.8**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.16**	**65**	*e*P	**Pb**	**19 41 45.2**	**-0.6**
OBF0				*e*S	**Sb**	**19 42 12.3**	**-0.2**
OBF0				MSG		19 42 16.4	
	comp=Z,5.7nm,0.1s						
OBF0	**Syolatti, Pyha**	**2.16**	**65**	*e*P	**Pb**	**19 41 45.2**	**-0.6**
OBF0				*e*S	**Sb**	**19 42 12.3**	**-0.2**
OBF0				MSG		19 42 16.4	
	comp=Z,5.7nm,0.1s						
ARNU	**Arnoeviken**	**2.26**	**209**	*e*PB	**Pb**	**19 41 46.8**	**-0.6**
ARNU				*e*SB	**Sb**	**19 42 15.9**	**+0.5**
ARNU	**Arnoeviken**	**2.26**	**209**	*e*PB	**Pb**	**19 41 46.8**	**-0.6**
ARNU				*e*SB	**Sb**	**19 42 15.9**	**+0.5**
OUF	**Merijarvi**	**2.32**	**70**	*e*PB	**Pb**	**19 41 47.5**	**-1.0**
OUF				*e*SB	**Sb**	**19 42 17.4**	**+0.1**
OUF				MSG		19 42 19.1	
	comp=Z,7.9nm,0.2s						
OUF	**Merijarvi**	**2.32**	**70**	*e*PB	**Pb**	**19 41 47.5**	**-1.0**
OUF				*e*SB	**Sb**	**19 42 17.4**	**+0.1**
OUF				MSG		19 42 19.1	
	comp=Z,7.9nm,0.2s						
OBF4	**Vikkela, Lumij**	**2.62**	**62**	*e*

NB2	**NORSAR Subarra**	**4.75**	**240**	Pn	**Pn**	**19 42 19.4**	**+1.1**		
	baz=53,slow=16								
NB2				Lg	Lg	19 43 33.2			
	baz=56,slow=37								
NB2	**NORSAR Subarra**	**4.75**	**240**	Pn	**Pn**	**19 42 19.4**	**+1.1**		
	baz=53,slow=16								
NB2				Sg	**Sg**	**19 43 33.2**	**-5.8**		
	baz=56,slow=37								
NOA	**NORSAR Array B**	**4.75**	**240**	Pn	**Pn**	**19 42 16.9**	**-1.5**		
	comp=Z,0.0nm,0.3s,baz=82,slow=15,SNR=1.2								
NOA				Lg	Lg	19 43 33.3			
	comp=Z,0.1nm,0.3s,baz=106,slow=13,SNR=7.6								
NRA0	**NORESS Array S**	**4.82**	**236**	Pn	**Pn**	**19 42 20.0**	**+0.8**		
	baz=34,slow=14								
NRA0				Sn	**Sn**	**19 43 12.5**	**-2.6**		
	baz=51,slow=18								
NRA0				Lg	Lg	19 43 31.8			
	baz=50,slow=22								
NRA0	**NORESS Array S**	**4.82**	**236**	Pn	**Pn**	**19 42 20.0**	**+0.8**		
	baz=34,slow=14								
NRA0				Sn	**Sn**	**19 43 12.5**	**-2.6**		
	baz=51,slow=18								
HEF	**Hetta**	**5.02**	**17**	Pn	**Pn**	**19 42 23.5**	**+1.5**		
HEF				Sn	**Sn**	**19 43 18.0**	**-2.1**		
HEF	**Hetta**	**5.02**	**17**	Pn	**Pn**	**19 42 23.5**	**+1.5**		
HEF				Sn	**Sn**	**19 43 18.0**	**-2.1**		
KIF	**Kilpisjarvi**	**5.38**	**4**	*eP*	**Pn**	**19 42 29.6**	**+2.8**		
KIF				*eS*	**Sn**	**19 43 27.4**	**-1.3**		
KTK1	**Kautokeino**	**5.55**	**13**	*eP*	**Pn**	**19 42 30.4**	**+1.2**		
KTK1				*eS*	**Sn**	**19 43 28.9**	**-4.1**		
KTK1				IAML		19 43 32.8			
	comp=Z,1.9nm,0.7s								
ARA0	**ARCESS Array S**	**6.32**	**19**	Pn	**Pn**	**19 42 39.2**	**-0.6**		
	baz=202,slow=16								
ARA0				Sn	**Sn**	**19 43 48.5**	**-3.6**		
	baz=215,slow=28								
ARA0	**ARCESS Array S**	**6.32**	**19**	Pn	**Pn**	**19 42 39.2**	**-0.6**		
	baz=202,slow=16								
ARA0				Sn	**Sn**	**19 43 48.5**	**-3.6**		
	baz=215,slow=28								
ARCES	**ARCESS Array B**	**6.32**	**19**	Pn	**Pn**	**19 42 39.5**	**-0.3**		
	baz=201,slow=13,SNR=6.5								
ARCES				Sn	**Sn**	**19 43 48.0**	**-4.0**		
	baz=202,slow=24,SNR=2.2								
KEV	**Kevo**	**6.76**	**22**	*eP*	**Pn**	**19 42 46.4**	**+0.7**		
KEV				*eS*	**Sn**	**19 43 59.1**	**-3.6**		

IDC ***27*** *19:44:32.5±0.8, 52°.27N×168°.84W, h0km, mb3.9/25, mb1 4.1/26, mb1mx3.9/53, mbtmp3.9/26, ML3.4/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/103, Error ellipse: s-maj=21.4km s-min=12.8km az=180.0*
NEIC ***27*** *19:44:33.6±2.6, 52°.11N±0°.08×168°.69W±0°.08, h15km±6km, mb4.1/53, ML3.7/29(AEIC), Error ellipse: s-maj=11.2km s-min=7.5km az=179.0*
AEIC ***27*** *19:44:35±2.5, 52°.12N±0°.08×168°.63W±0°.07, h25km±6km, Error ellipse: s-maj=10.9km s-min=6.5km az=180.0*

ISC 27 19:44:35.6±0.5,**52°.16N**±0°.06×**168°.67W**±0°.05,**h26**km, **n168,**σ1$**22**/160,**mb4.1**/32,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.82**	**352**		**Pn**	**19 44 51.3**	**-0.1**
NIKH	**Nikolski High**	**0.82**	**352**		**Sn**	**19 45 04.6**	**+1.8**
NIKH	**Nikolski High**	**0.82**	**352**	P	**Pn**	**19 44 51.5**	**+0.1**
	baz=171,SNR=40						
OKSO	**Okmok South**	**1.24**	**14**		**Pn**	**19 44 57.3**	**+0.1**
OKSO					**Sb**	**19 45 14.0**	**+0.2**
OKFG	**Magazine Ridge**	**1.33**	**20**		**Pn**	**19 44 58.8**	**+0.3**
OKFG					**Sb**	**19 45 17.1**	**+0.5**
OKNC	**Okmok New Cone**	**1.34**	**14**		**Pb**	**19 44 59.5**	**-0.6**
MSW	**Makushin Switc**	**2.10**	**32**		**Pn**	**19 45 09.9**	**+0.9**
UNV	**Unalaska Valle**	**2.14**	**37**	Pn	**Pn**	**19 45 10.0**	**+0.5**
UNV	**Unalaska Valle**	**2.14**	**37**		**Sn**	**19 45 36.4**	**+1.3**
UNV	**Unalaska Valle**	**2.14**	**37**	P	**Pn**	**19 45 10.0**	**+0.5**
	baz=218,SNR=11						
MTBL	**Makushin Table**	**2.17**	**33**		**Pn**	**19 45 10.8**	**+0.6**
AKMO	**Akutan Morgan**	**2.51**	**39**		**Pn**	**19 45 15.9**	**+1.2**
AKMO					**Sn**	**19 45 46.8**	**+2.3**
AKBBA	**Akutan Broad B**	**2.55**	**39**		**Pn**	**19 45 16.4**	**+1.2**
AKSA	**Akutan Strait**	**2.67**	**41**		**Pn**	**19 45 17.6**	**+0.7**
KOFP	**Korovin Flat P**	**3.34**	**274**		**Pn**	**19 45 27.3**	**+1.2**
WESE	**West Dahl East**	**3.37**	**45**		**Pn**	**19 45 27.1**	**+0.5**
ATKA	**Atka Island**	**3.40**	**273**		**Pn**	**19 45 27.1**	**+0.2**
FALS	**False Pass**	**4.14**	**47**		**Pn**	**19 45 38.1**	**+1.1**
GSTD	**Great Sitkin T**	**4.61**	**272**		**Pn**	**19 45 44.3**	**+0.7**
GSCK	**Great Sitkin C**	**4.62**	**271**		**Pn**	**19 45 44.5**	**+0.8**
ADK	**Adak**	**4.96**	**270**	Pn	**Pn**	**19 45 48.7**	**+0.4**
KIWB	**Kanaga Island**	**5.25**	**270**		**Pn**	**19 45 53.0**	**+0.7**
KIMD	**Kanaga Island**	**5.31**	**269**		**Pn**	**19 45 53.8**	**+0.7**
SDPT	**Sand Point**	**5.82**	**53**	Pn	**Pn**	**19 46 02.4**	**+2.3**
CHGN	**Chignik**	**7.30**	**51**	Pn	**Pn**	**19 46 22.4**	**+2.0**
CHGN	**Chignik**	**7.30**	**51**	P	**Pn**	**19 46 23.0**	**+2.6**
	baz=239						
OHAK	**Old Harbor**	**10.24**	**54**	Pn	**Pn**	**19 47 00.7**	**+0.1**
KDAK	**Kodiak Island**	**10.81**	**52**	Pn	**Pn**	**19 47 07.7**	**-0.8**
	1.8nm,0.3s,baz=256,slow=8.0,SNR=25						
KDAK					**Sn**	**19 49 04.3**	**-4.2**
	0.2nm,0.3s,baz=150,slow=19,SNR=1.4						
KDAK	**Kodiak Island**	**10.81**	**52**	Pn	**Pn**	**19 47 08.0**	**-0.6**
RSO	**Redoubt South**	**12.11**	**40**	Pn	**Pn**	**19 47 26.0**	**-0.3**
BRLK	**Bradley Lake**	**12.51**	**46**	Pn	**Pn**	**19 47 31.1**	**-0.6**
SEW	**Seward**	**13.30**	**46**	P	**Pn**	**19 47 42.5**	**0.0**
	baz=242						
O22K	**Cooper Landing**	**13.37**	**44**		**Pn**	**19 47 42.3**	**-1.1**
O22K	**Cooper Landing**	**13.37**	**44**	P	**Pn**	**19 47 43.2**	**-0.2**
	baz=240						
CAST	**Castle Rocks**	**14.28**	**31**	Pn	**Pn**	**19 47 58.5**	**+2.7**
CAST	**Castle Rocks**	**14.28**	**31**	P	**P**	**19 48 03.2**	**+0.4**
	baz=225,SNR=6.8						
KTH	**Kantishna Hill**	**14.75**	**32**	Pn	**Pn**	**19 48 03.2**	**+0.9**
SCM	**Sheep Creek Mo**	**15.06**	**42**		**Pn**	**19 48 05.0**	**-1.4**
SCM				IAmb	IAmb	19 48 13.0	
	comp=Z,14nm,0.8s						
SCM	**Sheep Creek Mo**	**15.06**	**42**	P	**Pn**	**19 48 04.8**	**-1.7**
	baz=239						
BPAW	**Bear Paw Mtn.**	**15.10**	**31**		**Pn**	**19 48 08.6**	**+1.6**
BPAW				IAmb	IAmb	19 48 22.9	
	comp=Z,11nm,1.2s						
BPAW	**Bear Paw Mtn.**	**15.10**	**31**	P	**P**	**19 48 10.7**	**-1.3**
	baz=226						
EYAK	**Cordova Ski Ar**	**15.16**	**47**	Pn	**Pn**	**19 48 05.3**	**-2.4**
EYAK				IAmb	IAmb	19 48 23.6	
	comp=Z,12nm,1.0s						
WAT6	**Susitna Watana**	**15.29**	**39**	P	**Pn**	**19 48 08.7**	**-0.8**
	baz=236						
KLU	**Klutina**	**15.48**	**44**		**Pn**	**19 48 09.7**	**-2.3**
KLU				IAmb	IAmb	19 48 24.9	
	comp=Z,14nm,0.9s						
KLU	**Klutina**	**15.48**	**44**	P	**Pn**	**19 48 10.0**	**-2.0**
	baz=243,SNR=5.4						
MCK	**McKinley**	**15.54**	**34**	Pn	**Pn**	**19 48 11.0**	**-1.6**
MCK				IAmb	IAmb	19 48 34.7	
	comp=Z,12nm,1.5s						
RAGM	**Ragged Mountai**	**15.59**	**49**	Pn	**Pn**	**19 48 12.5**	**-0.8**
I21K	**Tanana**	**15.60**	**27**	P	**P**	**19 48 15.4**	**-2.0**
I21K				IAmb	IAmb	19 48 32.2	
	comp=Z,12nm,1.1s						
I21K	**Tanana**	**15.60**	**27**	P	**P**	**19 48 18.2**	**+0.9**
	baz=221						
M24K	**Tolsona, Glenn**	**15.67**	**42**		**Pn**	**19 48 13.4**	**-0.9**
M24K				IAmb	IAmb	19 48 16.7	
	comp=Z,15nm,0.7s						
M24K	**Tolsona, Glenn**	**15.67**	**42**	P	**Pn**	**19 48 12.9**	**-1.4**
	baz=241						
DHY	**Denali Highway**	**15.71**	**38**	Pn	**Pn**	**19 48 13.6**	**-1.4**
H21K	**Melozitna Rive**	**15.74**	**25**	P	**P**	**19 48 20.7**	**+1.7**
	baz=218						
HMT	**Hamilton**	**15.76**	**49**	Pn	**Pn**	**19 48 14.0**	**-1.6**
HMT				IAmb	IAmb	19 48 38.3	
	comp=Z,28nm,1.2s						
MLY	**Manley**	**15.84**	**29**	P	**P**	**19 48 18.7**	**-1.5**
MLY				IAmb	IAmb	19 48 21.5	
	comp=Z,8.7nm,0.8s						
MLY	**Manley**	**15.84**	**29**	P	**P**	**19 48 20.3**	**+0.1**
	baz=224,SNR=10.0						
NEA2	**Nenana**	**16.05**	**32**	P	**Pn**	**19 48 19.5**	**+0.2**
	baz=228						
N25K	**Chitina, Valde**	**16.10**	**45**		**Pn**	**19 48 18.1**	**-2.0**
N25K	**Chitina, Valde**	**16.10**	**45**	P	**Pn**	**19 48 18.3**	**-1.8**
	baz=245						
WRH	**Wood River Hil**	**16.30**	**33**	Pn	**Pn**	**19 48 20.3**	**-2.0**
I23K	**Minto, Yukon-K**	**16.34**	**30**		**Pn**	**19 48 23.0**	**+0.1**
I23K				IAmb	IAmb	19 48 48.2	
	comp=Z,13nm,1.2s						
I23K	**Minto, Yukon-K**	**16.34**	**30**	P	**P**	**19 48 24.1**	**-1.4**
	baz=226						
GLB	**Gilahina Butte**	**16.38**	**46**	Pn	**Pn**	**19 48 21.6**	**-1.9**
PAX	**Paxson**	**16.38**	**40**	Pn	**Pn**	**19 48 22.1**	**-1.5**
PAX	**Paxson**	**16.38**	**40**	P	**Pn**	**19 48 22.6**	**-1.0**
	baz=239						
VRDI	**Verde Repeater**	**16.46**	**47**	Pn	**Pn**	**19 48 23.2**	**-1.4**
VRDI				IAmb	IAmb	19 48 24.5	
	comp=Z,17nm,1.4s						
WAX	**Waxell Ridge**	**16.46**	**50**		**Pn**	**19 48 24.0**	**-0.5**
MCARA	**McCarthy VSAT**	**16.71**	**46**	Pn	**Pn**	**19 48 26.6**	**-1.0**
MCARA				IAmb	IAmb	19 48 55.0	
	comp=Z,11nm,0.9s						
ISLE	**Juniper Island**	**16.75**	**49**	Pn	**Pn**	**19 48 27.4**	**-0.8**
ISLE				IAmb	IAmb	19 48 28.6	
	comp=Z,38nm,1.3s						
ILAR	**Eielson Array**	**16.89**	**33**	Pn	**Pn**	**19 48 28.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=6.7						
GRNC	**Granite Creek**	**17.06**	**49**	P	**Pn**	**19 48 32.5**	**+0.2**
GRNC				IAmb	IAmb	19 49 00.1	
	comp=Z,39nm,1.5s						
L26K	**Log Cabin Wild**	**17.26**	**41**	P	**P**	**19 48 35.3**	**-0.5**
	baz=242						
H24K	**Noodor Dome**	**17.26**	**29**		**Pn**	**19 48 34.0**	**-0.6**
H24K	**Noodor Dome**	**17.26**	**29**	P	**P**	**19 48 36.1**	**+0.2**
	baz=227						
DOT	**Dot Lake**	**17.28**	**39**	Pn	**Pn**	**19 48 33.2**	**-1.5**
J25K	**Salcha River,**	**17.32**	**35**		**Pn**	**19 48 34.3**	**-1.0**
J25K	**Salcha River,**	**17.32**	**35**	P	**Pn**	**19 48 33.6**	**-1.7**
	baz=235						
CTGM	**Chitina Glacie**	**17.33**	**49**	P	**Pn**	**19 48 35.4**	**-0.2**
CTGM				IAmb	IAmb	19 48 41.4	
	comp=Z,9.2nm,0.8s						
SCRK	**Sand Creek**	**17.47**	**38**		**Pn**	**19 48 34.8**	**-2.4**
SCRK	**Sand Creek**	**17.47**	**38**	P	**Pn**	**19 48 36.8**	**-0.5**
	baz=239						
M27K	**Edge Creek, AK**	**17.59**	**44**		**Pn**	**19 48 37.7**	**-1.0**
M27K				IAmb	IAmb	19 49 01.9	
	comp=Z,13nm,1.1s						
M27K	**Edge Creek, AK**	**17.59**	**44**	P	**Pn**	**19 48 38.3**	**-0.4**
	baz=247						
COLD	**Coldfoot**	**17.63**	**24**	P	**P**	**19 48 40.6**	**+0.8**
	baz=220						
L27K	**Beaver Creek,**	**17.90**	**42**		**Pn**	**19 48 41.5**	**-0.9**
L27K	**Beaver Creek,**	**17.90**	**42**	P	**Pn**	**19 48 41.6**	**-0.9**
	baz=245						
J26L	**Joseph Creek**	**17.91**	**37**	P	**Pn**	**19 48 42.2**	**-0.4**
	baz=238,SNR=8.1						
BCAR	**Beaver Creek A**	**17.91**	**42**		**Pn**	**19 48 41.9**	**-0.8**
EGAK	**Eagle**	**18.94**	**38**	P	**P**	**19 48 53.9**	**-0.4**
EGAK	**Eagle**	**18.94**	**38**	P	**Pn**	**19 48 55.4**	**+0.3**
	baz=241						
DAWY	**Dawson**	**19.31**	**41**	P	**P**	**19 48 58.4**	**+0.1**
N31M	**Braeburn, Yuko**	**20.06**	**49**	P	**P**	**19 49 06.1**	**-0.5**
N31M	**Braeburn, Yuko**	**20.06**	**49**	P	Pn	19 49 09.6	+1.2
	baz=257,SNR=8.3						
I29M	**Ogilvie Camp,**	**20.28**	**38**	P	**P**	**19 49 08.3**	**-0.6**
I29M				IAmb	IAmb	19 49 26.2	
	comp=Z,13nm,1.5s						
I29M	**Ogilvie Camp,**	**20.28**	**38**	P	**P**	**19 49 09.4**	**+0.4**
	baz=244						
WHY	**Whitehorse**	**20.33**	**52**	P	**P**	**19 49 09.0**	**-0.6**
WHY				IAmb	IAmb	19 49 25.1	
	comp=Z,13nm,1.1s						
WHY	**Whitehorse**	**20.33**	**52**	P	Pn	19 49 14.1	+2.4
	baz=260						
PEA0B	**Petropavlovsk-**	**20.33**	**286**	P	**P**	**19 49 08.9**	**-0.6**
PETK	**Petropavlovsk-**	**20.33**	**286**	P	**P**	**19 49 08.8**	**-0.7**
	comp=Z,5.6nm,0.5s,baz=95,slow=13,SNR=44						
PETK	**Petropavlovsk-**	**20.33**	**286**	P	**P**	**19 49 08.1**	**-1.4**
M31M	**Drury Creek, Y**	**20.86**	**48**		Pn	19 49 17.4	-0.4
M31M				IAmb	IAmb	19 49 18.2	
	comp=Z,5.8nm,0.8s						
M31M	**Drury Creek, Y**	**20.86**	**48**	P	Pn	19 49 17.6	-0.3
	baz=257,SNR=5.3						
P33M	**Teslin, Yukon**	**21.28**	**54**	P	**P**	**19 49 21.0**	**+1.1**
P33M				IAmb	IAmb	19 49 44.4	
	comp=Z,9.3nm,1.1s						
P33M	**Teslin, Yukon**	**21.28**	**54**	P	**P**	**19 49 22.7**	**+2.9**
	baz=264						
EPYK	**Eagle Plains**	**21.32**	**36**	P	**P**	**19 49 18.7**	**-1.4**
EPYK	**Eagle Plains**	**21.32**	**36**	P	**P**	**19 49 19.0**	**-1.1**
	baz=244,SNR=9.4						
SEY	**Seynchan**	**23.13**	**313**	P	**P**	**19 49 37.3**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=99,slow=12,SNR=5.4						
INK	**Inuvik**	**23.29**	**33**	P	**P**	**19 49 39.1**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=218,slow=7.4,SNR=4.8						
INK	**Inuvik**	**23.29**	**33**	IAmb	IAmb	19 49 55.8	
	comp=Z,3.1nm,0.7s						
MA2	**Magadan**	**23.61**	**304**	P	**P**	**19 49 44.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=92,slow=11,SNR=1.5						
C36M	**Paulatuk**	**26.86**	**33**	P	**P**	**19 50 14.2**	**+0.6**
C36M				IAmb	IAmb	19 50 32.0	
	comp=Z,2.2nm,0.7s						
C36M	**Paulatuk**	**26.86**	**33**	P	**P**	**19 50 15.2**	**+1.6**
	baz=253						
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**19 50 43.8**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=272,slow=7.7,SNR=31						
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**19 50 42.5**	**+0.4**
NEW	**Newport**	**32.65**	**76**	P	**P**	**19 51 06.8**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=287,slow=6.8,SNR=5.5						
TIXI	**Tiksi**	**33.14**	**329**	P	**P**	**19 51 08.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=4.5						
MCMT	**McKenzie Canyo**	**36.90**	**79**	P	**P**	**19 51 41.9**	**-0.2**
EGMT	**Eagleton**	**37.12**	**72**	P	**P**	**19 51 43.2**	**-0.6**
NVAR	**Mina Array Bea**	**37.23**	**91**	P	**P**	**19 51 47.6**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=304,slow=6.4,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**37.56**	**220**	T	T	20 32 39.3	
	baz=24,slow=74						
H11N3	**WAKE ISLAND Hy**	**37.57**	**220**	T	T	20 33 16.3	
	baz=24,slow=74						
H11N1	**WAKE ISLAND Hy**	**37.58**	**220**	T	T	20 32 39.6	
	baz=24						
ELK	**Elko**	**37.72**	**86**	LR	LR	20 05 25.3	
	comp=Z,295nm,18.5s,baz=24,slow=33						
YHH	**Holmes Hill**	**38.12**	**77**	P	**P**	**19 51 52.2**	**-0.3**
YHH				IAmb	IAmb	19 51 55.0	
	comp=Z,5.1nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**38.75**	**219**	T	T	20 33 23.9	
	baz=23,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**38.76**	**219**	T	T	20 33 25.1	
	baz=24,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**38.76**	**219**	T	T	20 33 50.3	
	baz=23,slow=76,SNR=35						
BW06	**Boulder Array**	**40.02**	**79**	P	**P**	**19 52 10.1**	**+1.7**
	baz=305,SNR=6.1						
PD31	**Pinedale Array**	**40.02**	**79**	P	**P**	**19 52 08.7**	**+0.4**
PD31				IAmb	IAmb	19 52 10.4	
	comp=Z,3.4nm,0.8s						
PDAR	**Pinedale Array**	**40.02**	**79**	P	**P**	**19 52 09.9**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=300,slow=3.5,SNR=31						
PDAR	**Pinedale Array**	**40.02**	**79**	P	**P**	**19 52 09.3**	**+0.9**
FCC	**Fort Churchill**	**40.74**	**50**	P	**P**	**19 52 14.4**	**+0.6**
FCC				IAmb	IAmb	19 52 16.0	
	comp=Z,3.3nm,0.8s						
O20A	**White River Ci**	**42.37**	**82**	P	**P**	**19 52 29.6**	**+2.0**
	baz=307						
SUSD	**Miller**	**45.36**	**71**	P	**P**	**19 52 52.1**	**+0.8**
	baz=306						
KSRS	**Korea Array**	**45.86**	**277**	P	**P**	**19 52 55.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=56,slow=7.5,SNR=11						
T25A	**Trinidad**	**46.58**	**82**	P	**P**	**19 53 03.0**	**+1.7**
	baz=310						
ECSD	**EROS Data Cent**	**47.14**	**70**	P	**P**	**19 53 04.9**	**-0.5**
ECSD	**EROS Data Cent**	**47.14**	**70**	P	**P**	**19 53 05.3**	**-0.1**
	baz=307						
SPITS	**Spitsbergen Ar**	**49.89**	**359**	P	**P**	**19 53 25.8**	**-0.3**
	comp=Z,5.4nm,0.9s,baz=5.7,slow=4.2,SNR=8.9						
TX31	**Lajitas Ar. Si**	**52.32**	**89**	P	**P**	**19 53 45.5**	**+0.4**
TX32	**Lajitas Array**	**52.32**	**89**	P	**P**	**19 53 45.1**	**+0.1**
TX32				IAmb	IAmb	19 54 04.1	
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	**52.32**	**89**	P	**P**	**19 53 46.2**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=296,slow=5.4,SNR=12						
TXAR	**Lajitas Array**	**52.32**	**89**	P	**P**	**19 53 43.3**	**-1.7**
P40A	**Paris**	**52.44**	**72**	P	**P**	**19 53 44.8**	**-0.9**
HHC	**Hu-ho-hao-te**	**53.40**	**292**	*eP*	**P**	**19 53 50.0**	**-2.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.0s						
U40A	**Yellville**	**54.07**	**75**	P	**P**	**19 53 57.1**	**-0.7**
	baz=313						
SCHQ	**Schefferville**	**55.29**	**44**	P	**P**	**19 54 06.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=265,slow=11,SNR=1.2						
SCHQ	**Schefferville**	**55.29**	**44**	P	**P**	**19 54 06.0**	**-0.3**
ARCES	**ARCESS Array B**	**58.17**	**354**	P	**P**	**19 54 25.6**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=356,slow=7.1,SNR=6.8						
SSPA	**Standing Stone**	**59.69**	**62**	P	**P**	**19 54 37.1**	**-0.4**
WMQ	**Urumqi**	**64.00**	**308**	*eP*	**P**	**19 55 07.5**	**+1.0**
BVAR	**Borovoye Array**	**64.12**	**325**	P	**P**	**19 55 08.8**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=161,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**64.26**	**314**	P	**P**	**19 55 07.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=53,slow=6.2,SNR=8.7						
MKAR	**Makanchi Array**	**64.26**	**314**	P	**P**	**19 55 07.0**	**-1.2**
ARU	**Arti**	**65.00**	**333**	P	**P**	**19 55 12.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=118,slow=15,SNR=2.5						
FIA1	**FINESS Array S**	**66.13**	**352**	P	**P**	**19 55 19.7**	**-0.3**
FINES	**FINESS Array B**	**66.14**	**352**	P	**P**	**19 55 19.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=14,slow=7.5,SNR=17						
FINES	**FINESS Array B**	**66.14**	**352**	P	**P**	**19 55 20.0**	**0.0**
NB201	**NORSAR Array S**	**67.14**	**0**	P	**P**	**19 55 26.4**	**-0.1**
NOA	**NORSAR Array B**	**67.15**	**0**	P	**P**	**19 55 26.4**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=359,slow=6.1,SNR=2.4						
PZH	**PanZhiHua**	**69.29**	**287**	P	**P**	**19 55 41.3**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKTO	**Aktyubinsk**	**70.41**	**330**	P	**P**	**19 55 47.6**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=24,slow=6.3,SNR=3.7						
BOOM	**Boomskoye usch**	**70.44**	**315**	P	**P**	**19 55 47.5**	**-0.1**
BOOM				IAmb	IAmb	19 56 07.2	
	comp=Z,3.9nm,1.4s						
ABKAR	**Akbulak array**	**70.84**	**329**	P	**P**	**19 55 50.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.08**	**283**	P	**P**	**19 56 27.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=30,slow=5.5,SNR=5.0						
BRTR	**Keskin Array B**	**86.45**	**343**	P	**P**	**19 57 16.7**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=316,slow=8.2,SNR=2.5						
WRA	**Warramunga Arr**	**87.21**	**232**	P	**P**	**19 57 19.5**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=27,slow=5.7,SNR=2.0						
ESDC	**Sonseca Array**	**87.58**	**12**	P	**P**	**19 57 22.2**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=352,slow=7.3,SNR=2.2						
ASAR	**Alice Springs**	**90.59**	**231**	P	**P**	**19 57 35.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=26,slow=4.5,SNR=8.8						

IDC ***27*** *20:03:58.8±2.9, 43°.44N×105°.30W, h0km, mb3.6/1, mb1 3.2/3, mb1mx3.0/42, mbtmp3.0/3, ML3.1/2, Error ellipse: s-maj=66.5km s-min=16.0km az=155.0*
NEIC ***27*** *20:04:00.3±2.4, 43°.83N±0°.07×105°.33W±0°.04, h0km±2km, ML3.0/22, Error ellipse: s-maj=12.1km s-min=4.1km az=341.0*

ISC 27 20:03:59.0±0.9,**43°.60N**±0°.05×**105°.37W**±0°.07,**h0**km,**n18,** σ1$**89**/17,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.10**	**61**	Pg	**Pg**	**20 04 19.8**	**-0.2**
K22A	**Casper**	**1.27**	**222**		**Pn**	**20 04 27.1**	**+2.9**
K22A				IAML		20 04 50.7	
	comp=N,242nm,0.9s						
K22A				IAML		20 04 56.6	
	comp=E,213nm,0.9s						
PHWY	**Pilot Hill**	**2.30**	**182**	Pn	**Pg**	**20 04 43.3**	**+0.1**
PHWY				IAML		20 05 18.5	
	comp=E,59nm,0.9s						
PHWY				IAML		20 05 22.5	
	comp=E,50nm,0.8s						
RWWY	**Rawlins**	**2.34**	**216**		**Pn**	**20 04 40.9**	**+1.9**
BW06	**Boulder Array**	**3.17**	**256**		**Pb**	**20 04 54.3**	**-2.1**
BW06				IAML		20 05 51.8	
	comp=E,29nm,0.8s						
BW06				IAML		20 05 55.3	
	comp=E,29nm,1.0s						
PD31	**Pinedale Array**	**3.17**	**256**	Pn	**Pn**	**20 04 52.8**	**+2.4**
PDAR	**Pinedale Array**	**3.17**	**256**	Pn	**Pb**	**20 04 53.9**	**-2.5**
	comp=E,0.

NKME				*i* Sg		**Sn**	**20 19 31.7**	**-0.8**
NKY	**Niksic**	**0.93**	**356**	⇑ *i* Pg		**Pg**	**20 19 18.8**	**0.0**
NKY				*i* Sg		**Sn**	**20 19 33.3**	**-0.3**
PVY	**Plav**	**0.96**	**42**	⇑ *i* Pg		**Pg**	**20 19 18.1**	**-1.3**
PVY				*i* Sg		**Sg**	**20 19 32.2**	**+0.2**
TREB	**Trebinje**	**0.99**	**327**	*e*Pg		**Pn**	**20 19 20.5**	**-0.4**
TREB				*e*Sg		**Sn**	**20 19 36.6**	**+1.6**
TREB	**Trebinje**	**0.99**	**327**	*e*Pg		**Pn**	**20 19 20.3**	**-0.6**
TREB				*e*Sg		**Sn**	**20 19 37.1**	**+2.1**
KOME	**Kolasin**	**1.02**	**18**	⇑ *i* Pg		**Pg**	**20 19 19.4**	**-1.0**
KOME				*i* Sg		**Sg**	**20 19 34.7**	**+1.0**
PHP	**Peshkopia**	**1.03**	**101**	P		**Pg**	**20 19 18.8**	**-1.9**
PHP				S		**Sg**	**20 19 34.4**	**+0.2**
PHP	**Peshkopia** baz=106	**1.03**	**101**	P		**Pg**	**20 19 19.1**	**-1.6**
PHP	baz=106			S		**Sg**	**20 19 33.3**	**-0.9**
PHP	comp=N,0.8nm,0.4s,baz=106			AMP				
DBRK	**Dubrovnik**	**1.05**	**319**	*e*Pg		**Pn**	**20 19 21.4**	**-0.3**
DBRK				Sg		**Sn**	**20 19 39.2**	**+2.9**
BRY	**Bratogost**	**1.09**	**339**	⇑ *i* Pg		**Pn**	**20 19 22.3**	**-0.2**
BRY				*e*Sg		**Sn**	**20 19 39.6**	**+1.8**
BRY	**Bratogost**	**1.09**	**339**	⇑ *i* Pg		**Pn**	**20 19 22.2**	**-0.2**
BRY				*i* Sg		**Sn**	**20 19 39.5**	**+1.8**
IVA	**Berane**	**1.16**	**31**	⇓ *i* Pg		**Pb**	**20 19 22.0**	**-1.0**
IVA				*i* Sg		**Sb**	**20 19 38.9**	**+0.8**
UPM	**Unac-Piva**	**1.32**	**354**	*e*Pg		**Pb**	**20 19 25.7**	**-0.3**
UPM				*e*Sg		**Sg**	**20 19 45.3**	**+1.8**
UPM	**Unac-Piva**	**1.32**	**354**	⇑ *i* Pg		**Pb**	**20 19 25.9**	**-0.1**
UPM				*i* Sg		**Sg**	**20 19 46.5**	**+3.0**
STON	**Ston**	**1.42**	**314**	*e*Pg		**Pg**	**20 19 28.9**	**+0.7**
STON				*e*Sg		**Sg**	**20 19 49.4**	**+2.8**
STON	**Ston**	**1.42**	**314**	⇑ *i* Pn		**Pg**	**20 19 28.6**	**+0.4**
STON				*e*Sn		**Sg**	**20 19 50.2**	**+3.6**
STON	**Ston**	**1.42**	**314**	*e*Pn		**Pg**	**20 19 27.4**	**-0.8**
PLE	**Pljevlja**	**1.46**	**9**	⇑ *i* Pg		**Pb**	**20 19 28.3**	**0.0**
PLE				*i* Sg		**Sg**	**20 19 49.7**	**+1.8**
OHR	**Ohrid**	**1.50**	**120**	*e*Pg		**Pg**	**20 19 29.8**	**+0.1**
OHR				*e*Sg		**Sg**	**20 19 49.9**	**+0.7**
OHR	**Ohrid**	**1.50**	**120**	*i* Pn		**Pb**	**20 19 29.6**	**+0.7**
SJES	**Sjenica**	**1.53**	**25**	*e*Pg		**Pn**	**20 19 28.8**	**+0.5**
SJES				*e*Sg		**Sb**	**20 19 50.1**	**+1.3**
RUDO	**Rudo**	**1.75**	**7**	*e*Pn		**Pn**	**20 19 31.9**	**+0.6**
RUDO				*e*Sn		**Sn**	**20 19 55.3**	**+0.3**
SKO	**Skopje**	**1.76**	**86**	*i* Pn		**Pn**	**20 19 32.2**	**+0.7**
LSTV	**Lastovo**	**1.85**	**299**	*e*Pn		**Pb**	**20 19 33.6**	**-1.1**
LSTV				Sn		**Sg**	**20 19 58.1**	**-2.2**
SCTE	**Santa Cesarea**	**1.87**	**195**	P		**Pn**	**20 19 32.0**	**-0.9**
SCTE	**Santa Cesarea** baz=197	**1.87**	**195**	P		**Pg**	**20 19 35.3**	**-1.4**
SCTE	baz=197			S		**Sg**	**20 20 00.6**	**-0.3**
NOCI	**Noci**	**1.87**	**235**	P		**Pb**	**20 19 33.4**	**-1.8**
BBLS	**Lazići**	**2.00**	**7**	*e*Pn		**Pb**	**20 19 36.5**	**-0.8**
BBLS				*e*Sn		**Sn**	**20 19 59.6**	**-0.2**
BBLS	**Lazići**	**2.00**	**7**	*e*Pn		**Pn**	**20 19 35.8**	**+1.1**
BBLS				*e*Sn		**Sb**	**20 20 01.5**	**-0.8**
SELS	**Selova**	**2.01**	**48**	*e*Pn		**Pn**	**20 19 35.0**	**+0.1**
SELS				*e*Sn		**Sn**	**20 19 59.1**	**-1.1**
FNA	**Florina**	**2.05**	**122**	P		**Pn**	**20 19 36.6**	**+1.1**
FNA	comp=E,163µm,0.5s			AML	AML		20 20 09.4	
FNA	comp=N,200µm,0.5s			AML	AML		20 20 10.9	
FNA	**Florina**	**2.05**	**122**	P		**Pn**	**20 19 36.4**	**+1.0**
FNA	comp=N,95nm,0.4s			S		**Sn**	**20 20 02.7**	**+1.7**
FNA	**Florina** baz=125	**2.05**	**122**	P		**Pn**	**20 19 36.5**	**+1.1**
FNA	baz=125			S		**Sn**	**20 20 02.8**	**+1.7**
MAKA	**Makarska**	**2.07**	**313**	*e*Pn		**Pb**	**20 19 37.2**	**-1.4**
NEST	**Nestorio**	**2.09**	**134**	P		**Pn**	**20 19 37.0**	**+1.0**
NEST	**Nestorio**	**2.09**	**134**	P		**Pn**	**20 19 36.8**	**+0.8**
SRN	**Sarande**	**2.12**	**161**	P		**Pn**	**20 19 36.2**	**-0.1**
SRN				S		**Sb**	**20 20 04.4**	**-1.3**
RICI	**Ricice**	**2.16**	**319**	*e*Pn		**Pb**	**20 19 38.4**	**-1.6**
RICI				Sn		**Sn**	**20 20 04.1**	**+0.3**
MATE	**Matera**	**2.18**	**236**	⇑ P		**Pg**	**20 19 43.1**	**+0.6**
BARS	**Barje**	**2.23**	**64**	*e*Pn		**Pn**	**20 19 38.3**	**+0.4**
BARS	**Barje**	**2.23**	**64**	*e*Pn		Pg	20 19 50.2	+6.6
BARS				*e*Sn		**Sn**	**20 20 04.3**	**-1.2**
BARS				*e*Sn		Sg	20 20 24.6	+12
KEK	**Kerkira**	**2.24**	**166**	P		**Pn**	**20 19 37.7**	**-0.3**
KEK	**Kerkira**	**2.24**	**166**	P		**Pn**	**20 19 37.8**	**-0.2**
PENT	**Pentalofos**	**2.29**	**137**	P		**Pn**	**20 19 39.8**	**+0.9**
PENT	**Pentalofos**	**2.29**	**137**	P		**Pn**	**20 19 40.4**	**+1.5**
PRVS	**Prvonek**	**2.31**	**73**	*e*Pn		**Pn**	**20 19 38.8**	**-0.2**
PRVS				*e*Sn		**Sn**	**20 20 06.5**	**-1.0**
DIVS	**Divibare**	**2.31**	**16**	*e*Pn		**Pn**	**20 19 40.0**	**+0.9**
DIVS				*e*Sn		**Sn**	**20 20 07.2**	**-0.5**
DIVS	**Divibare**	**2.31**	**16**	*e*Pn		**Pn**	**20 19 39.6**	**+0.5**
DIVS				*e*Sn		**Sn**	**20 20 08.3**	**+0.6**
STIP	**Stip**	**2.33**	**94**	*i* Pn		**Pb**	**20 19 41.9**	**-1.0**
GRUS	**Gruza**	**2.33**	**30**	*e*Pn		**Pn**	**20 19 40.5**	**+1.2**
GRUS				*e*Sn		**Sn**	**20 20 07.9**	**-0.2**
HVAR	**Hvar**	**2.34**	**304**	*e*Pn		**Pb**	**20 19 40.4**	**-2.7**
HVAR				Sn		**Sb**	**20 20 09.4**	**-2.6**
TRUS	**Trudelj**	**2.53**	**22**	*e*Pn		**Pn**	**20 19 42.8**	**+0.7**
TRUS				*e*Sn		**Sn**	**20 20 11.8**	**-1.2**
KPIO	**Kipourio**	**2.59**	**137**	P		**Pn**	**20 19 43.2**	**+0.3**
BOSS	**Bosilegrad**	**2.60**	**75**	*e*Pn		**Pn**	**20 19 43.2**	**+0.2**
BOSS				*e*Sn		**Sn**	**20 20 12.9**	**-1.7**
GRG	**Griva**	**2.66**	**109**	P		**Pn**	**20 19 44.6**	**+0.8**
GRG	**Griva**	**2.66**	**109**	P		**Pn**	**20 19 44.2**	**+0.3**
MGRS	**Mrkonjic Grad**	**2.92**	**331**	*e*Pn		**Pn**	**20 19 49.4**	**+1.9**
MGRS				*e*Sn		**Sb**	**20 20 26.2**	**-2.7**
KNT	**Kendrikon**	**2.95**	**103**	P		**Pn**	**20 19 48.3**	**+0.4**
KNT	**Kendrikon**	**2.95**	**103**	P		**Pn**	**20 19 48.1**	**+0.2**
KNT				S		**Sn**	**20 20 24.0**	**+0.6**
ZAGS	**Zajecar**	**3.01**	**49**	*e*Pn		**Pn**	**20 19 49.0**	**+0.3**
ZAGS				*e*Sn		**Sn**	**20 20 23.7**	**-1.1**
VTS	**Vitosha**	**3.17**	**75**	⇓ P		**Pn**	**20 19 50.9**	**-0.1**
BLY	**Banja Luka**	**3.18**	**335**	*e*Sn		**Sb**	**20 20 32.9**	**-3.4**
A050A	**Klekovaca**	**3.20**	**325**	*e*Pn		**Pn**	**20 19 53.5**	**+2.2**
A050A				*e*Sn		**Sb**	**20 20 32.6**	**-4.3**
THL	**Klokotos Trika**	**3.21**	**135**	P		**Pn**	**20 19 52.8**	**+1.4**
TYRN	**Tyrnavos**	**3.23**	**131**	P		**Pn**	**20 19 52.9**	**+1.3**
TIP	**Timpagrande**	**3.23**	**214**	P		**Pn**	**20 19 51.7**	**+1.0**
HORT	**Hortiatis**	**3.29**	**112**	P		**Pn**	**20 19 52.9**	**+0.3**
FRGS	**Fruska Gora**	**3.31**	**9**	⇑ S		**Sn**	**20 20 32.4**	**+0.1**
FRGS	**Fruska Gora**	**3.31**	**9**	*e*Pn		**Pn**	**20 19 52.4**	**-0.4**
FRGS				*e*Sn		**Sn**	**20 20 31.9**	**-0.4**
FRGS	**Fruska Gora**	**3.31**	**9**	*e*Pn		**Pn**	**20 19 52.4**	**-0.4**
MDVR	**Moldovita**	**3.47**	**33**	⇑ P		**Pn**	**20 19 54.5**	**-0.5**
A051A	**Mrakovica**	**3.51**	**334**	*e*Pn		**Pn**	**20 19 56.6**	**+1.1**
A051A				*e*Sn		**Sn**	**20 20 39.8**	**+2.7**
FSK	**Fiskardo**	**3.60**	**161**	P		**Pn**	**20 19 56.5**	**-0.3**
EVR	**Evrytania**	**3.62**	**144**	P		**Pn**	**20 19 58.4**	**+1.3**
NVR	**Nevrokopi**	**3.62**	**97**	P		**Pn**	**20 19 57.8**	**+0.7**
PLG	**Polygyros**	**3.62**	**113**	P		**Pn**	**20 19 57.3**	**+0.2**
A252A	**Venje**	**3.66**	**346**	*e*Pn		**Pn**	**20 19 59.6**	**+2.0**
MAKR	**Makrakomi, Fth**	**3.69**	**140**	P		**Pn**	**20 19 58.8**	**+0.8**
HERR	**Herculane**	**3.86**	**38**	⇑ P		**Pn**	**20 20 00.9**	**+0.6**
HERR				⇑ S		**Sn**	**20 20 44.8**	**-0.8**
PLIT	**Plitvice**	**3.91**	**321**	*e*Pn		**Pn**	**20 20 03.6**	**+2.5**
NVLJ	**Novalja**	**4.08**	**312**	*e*Pn		**Pn**	**20 20 04.4**	**+1.2**
MOSL	**Moslavina**	**4.09**	**336**	*e*Pn		**Pn**	**20 20 03.6**	**+0.1**
BZS	**Buzias**	**4.16**	**25**	⇑ P		**Pn**	**20 20 04.7**	**+0.3**
RABC	**Rab**	**4.25**	**314**	*e*Pn		**Pn**	**20 20 06.5**	**+0.9**
A250A	**Rusevo Krmpots**	**4.41**	**318**	*e*Pn		**Pn**	**20 20 09.5**	**+1.6**
GZR	**Gura Zlata**	**4.42**	**36**	⇑ P		**Pn**	**20 20 07.6**	**-0.4**
OZLJ	**Ozalj**	**4.56**	**326**	*e*Pn		**Pn**	**20 20 10.1**	**+0.2**
CRES	**Cresnjev**	**4.73**	**328**	*e*Pn		**Pn**	**20 20 13.5**	**+1.2**
CRES				*e*Sn		**Sn**	**20 21 09.1**	**+1.8**
SMRN	**Sveta Marina**	**4.77**	**313**	*e*Pn		**Pn**	**20 20 13.3**	**+0.5**
BRJN	**Brijuni**	**4.92**	**310**	*e*Pn		**Pn**	**20 20 15.9**	**+1.1**
CEY	**Cerknica**	**5.12**	**320**	*e*Pn		**Pn**	**20 20 19.3**	**+1.7**
CEY				*e*Sn		**Sn**	**20 21 18.8**	**+2.0**
SKDS	**Skadanscina**	**5.19**	**317**	*e*Pn		**Pn**	**20 20 19.0**	**+0.5**
LJU	**Ljubljana**	**5.30**	**323**	*e*Pn		**Pn**	**20 20 21.2**	**+1.1**
ARR	**Arges**	**5.33**	**47**	⇓ P		**Pn**	**20 20 20.8**	**+0.3**
DRGR		**5.55**	**27**	⇑ P		**Pn**	**20 20 25.0**	**+1.3**
SOKA	**Soboth** comp=N,0.5nm,0.3s	**5.61**	**330**	*e*Pn		**Pn**	**20 20 25.4**	**+1.0**
OBKA	**Obir** comp=N,0.3nm,0.1s	**5.66**	**326**	*e*Pn		**Pn**	**20 20 26.9**	**+1.8**
OBKA	**Obir**	**5.66**	**326**	*e*Pn		**Pn**	**20 20 26.4**	**+1.3**
MLR	**Muntele Rosu**	**6.14**	**52**	⇑ P		**Pn**	**20 20 32.4**	**+0.6**
WTTA	**Wattenberg** comp=N,0.7nm,0.2s	**7.56**	**318**	*e*Pn		**Pn**	**20 20 52.7**	**+1.5**
WATA	**Walderalm** comp=N,0.4nm,0.3s	**7.64**	**318**	*e*Pn		**Pn**	**20 20 53.7**	**+1.4**

*ECX **27** 20:21:28.0±0.3, 30.°10N×114.°19W, h12km±223km, MD4.0, ML3.6*
*MEX **27** 20:21:35.9±0.5, 30.°01N×113.°86W, h31km±999km, MD4.3*
ISC 27 20:21:26.6±2.5, 30.°2N±0.°2×114.°0W±0.°3, h10km, n7, σ1s57/9, 3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**1.14**	**318**	*e*P	**Pb**	**20 21 46.9**	**-1.6**
SFX				IAML		20 22 28.3	
SFX	comp=E,1µm,0.9s			⇓ *e*		20 22 28.3	
BAHB	**Baha de los**	**1.29**	**165**	*e*P	**Pg**	**20 21 52.7**	**+1.3**
BAHB				*e*S	**Sb**	**20 22 06.5**	**-1.2**
BAHB	**Baha de los**	**1.29**	**165**	*e*P	**Pn**	**20 21 49.9**	**-0.8**
SVX	**San Vicente**	**2.28**	**300**	*e*P	**Pn**	**20 22 03.4**	**-0.9**
SVX				*e*S	**Sn**	**20 22 31.6**	**-0.9**
CPBX	**Cerro Prieto** comp=N,870nm,1.2s	**2.50**	**333**	IAML		20 23 43.0	
CPBX				⇓ *e*		20 23 43.0	
CPBX	comp=E,905nm,1.2s			IAML		20 23 43.7	
CPBX				⇓ *e*		20 23 43.7	
CBX	**Cerro Bola**	**3.14**	**313**	*e*P	**Pb**	**20 22 25.0**	**+2.4**
CBX				*e*S	**Sb**	**20 23 01.2**	**+0.2**
TJIG	**Tijuana**	**3.23**	**314**	*e*P	**Pb**	**20 22 25.2**	**+1.2**

*WEL **27** 20:22:39.7±0.7, 45.°5S±3.°×16.°8E±.°, h72km±7km, M4.3/16, ML4.6/16, MLv4.3/16, Error ellipse: s-maj=0.0km s-min=0.0km azr=121.4*
*NEIC **27** 20:22:39.3±1.7, 45.°03S±0.°07×167.°5E±0.°1, h75km±6km, mb4.2/8, Error ellipse: s-maj=14.5km s-min=5.0km azr=132.0*
*IDC **27** 20:22:41.0±4.0, 44.°82S×167.°63E, h102km±33km, mb3.6/4, mb1 3.8/6, mb1mx3.4/24, mbtmp4.0/6, Error ellipse: s-maj=57.9km s-min=20.3km azr=9.0*
*NOU **27** 20:22:44.4, 44.°90S×167.°99E, h64km, MLv4.8/8, South Island, New Zealand*
ISC 27 20:22:39.3±0.7, 45.°09S±0.°04×167.°57E±0.°05, h87km±6km, n117, σ1s25/129, mb4.1/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**218**		**Pn**	**20 22 52.4**	**-1.1**
DCZ	**Deep Cove**	**0.47**	**218**	P	**Pn**	**20 22 52.4**	**-1.1**
DCZ				S	**Sn**	**20 23 03.2**	**-0.8**
MLZ	**Mavora Lakes**	**0.48**	**125**	P	**Pn**	**20 22 53.9**	**+0.3**
MLZ				Sn	**Sn**	**20 23 04.5**	**+0.4**
MLZ	**Mavora Lakes**	**0.48**	**125**	P	**Pn**	**20 22 53.9**	**+0.3**
MLZ				S	**Sn**	**20 23 04.6**	**+0.4**
MSZ	**Milford Sound**	**0.49**	**31**	P	**Pn**	**20 22 54.0**	**+0.4**
MSZ				S	**Sn**	**20 23 05.9**	**+1.6**
WHZ	**Wether Hill Ro**	**0.84**	**162**		**Pn**	**20 22 57.0**	**0.0**
WHZ	**Wether Hill Ro**	**0.84**	**162**	P	**Pn**	**20 22 57.1**	**+0.1**
WHZ				S	**Sn**	**20 23 09.7**	**-0.5**
WKZ	**Wanaka**	**1.06**	**76**	Pn	**Pn**	**20 23 00.9**	**+1.5**
WKZ				Sn	**Sn**	**20 23 16.5**	**+1.8**
WKZ	**Wanaka**	**1.06**	**76**	P	**Pn**	**20 23 01.0**	**+1.5**
WKZ				S	**Sn**	**20 23 16.3**	**+1.5**
EAZ	**Earnscleugh**	**1.24**	**97**	P	**Pn**	**20 23 03.0**	**+1.4**
EAZ				S	**Sn**	**20 23 19.5**	**+1.0**
PYZ	**Puysegur Point**	**1.24**	**210**	Pn	**Pn**	**20 23 02.9**	**+1.2**
PYZ	**Puysegur Point**	**1.24**	**210**	P	**Pn**	**20 23 02.6**	**+1.0**
JCZ	**Jackson Bay**	**1.34**	**41**	P	**Pn**	**20 23 03.8**	**+0.8**
TUZ	**Tuapeka**	**1.69**	**121**	P	**Pn**	**20 23 08.4**	**+1.2**
TUZ				S	**Sn**	**20 23 28.5**	**+0.1**
APZ	**The Paps**	**1.76**	**171**	P	**Pn**	**20 23 08.5**	**+0.1**
APZ				S	**Sn**	**20 23 29.7**	**-0.6**
SYZ	**Scrubby Hill**	**1.81**	**143**	P	**Pn**	**20 23 09.9**	**+1.0**
SYZ				S	**Sn**	**20 23 31.5**	**+0.1**
LBZ	**Lake Benmore**	**1.99**	**70**	Pn	**Pn**	**20 23 11.6**	**+0.3**
LBZ	**Lake Benmore**	**1.99**	**70**	P	**Pn**	**20 23 11.7**	**+0.3**
LBZ				S	**Sn**	**20 23 35.4**	**-0.3**
ODZ	**Otahua Downs**	**2.18**	**90**		**Pn**	**20 23 14.4**	**+0.7**
ODZ	**Otahua Downs**	**2.18**	**90**	P	**Pn**	**20 23 14.4**	**+0.7**
ODZ				S	**Sn**	**20 23 38.8**	**-1.3**
ODZ	**Otahua Downs**	**2.18**	**90**	P	**Pn**	**20 23 14.5**	**+0.7**
FOZ	**Fox Glacier**	**2.24**	**47**		**Pn**	**20 23 15.0**	**+0.4**
FOZ	**Fox Glacier**	**2.24**	**47**	P	**Pn**	**20 23 14.9**	**+0.4**
HHSZ	**Highcliff Hill**	**2.27**	**111**	P	**Pn**	**20 23 16.2**	**+1.2**
HHSZ				S	**Sn**	**20 23 41.0**	**-1.3**
TMZ	**Timaru**	**2.55**	**75**	P	**Pn**	**20 23 18.6**	**-0.1**
TMZ				S	**Sn**	**20 23 47.2**	**-1.7**
GCSZ	**Gaunt Creek Bo**	**2.66**	**49**	P	**Pn**	**20 23 19.7**	**-0.5**
GCSZ				S	**Sn**	**20 23 50.4**	**-1.2**
ARCZ	**Arundel**	**2.82**	**67**	P	**Pn**	**20 23 21.7**	**-0.6**
ARCZ				S	**Sn**	**20 23 54.2**	**-1.3**
RPZ	**Rata Peaks** 32nm,0.3s,baz=283,slow=6.1,SNR=296	**2.85**	**62**	P	**Pn**	**20 23 22.3**	**-0.4**
RPZ	190nm,0.3s,baz=115,slow=22,SNR=55			S	**Sn**	**20 23 55.6**	**-0.6**
RPZ	**Rata Peaks**	**2.85**	**62**	P	**Pn**	**20 23 22.4**	**-0.4**
RPZ				S	**Sn**	**20 23 55.7**	**-0.5**
RPZ	**Rata Peaks**	**2.85**	**62**	P	**Pn**	**20 23 22.6**	**-0.2**
WVZ	**Waitaha Valley**	**3.05**	**50**	P	**Pn**	**20 23 24.6**	**-0.7**
WACZ	**Wakanui South**	**3.26**	**71**	P	**Pn**	**20 23 27.8**	**-0.5**
RACZ	**Rakaia**	**3.55**	**69**	P	**Pn**	**20 23 32.8**	**+0.7**
INZ	**Inchbonnie**	**3.67**	**51**	P	**Pn**	**20 23 33.2**	**-0.5**
OXZ	**Oxford**	**3.67**	**63**		**Pn**	**20 23 32.2**	**-1.6**
OXZ	**Oxford**	**3.67**	**63**	P	**Pn**	**20 23 32.3**	**-1.4**
MQZ	**McQueen's Vall**	**3.90**	**71**	Pn	**Pn**	**20 23 36.0**	**-0.9**
MQZ	**McQueen's Vall**	**3.90**	**71**	P	**Pn**	**20 23 36.0**	**-0.9**
AKCZ	**Akaroa Harbour**	**4.01**	**74**	P	**Pn**	**20 23 38.0**	**-0.4**
LTZ	**Lake Taylor**	**4.11**	**57**	Pn	**Pn**	**20 23 38.3**	**-1.5**
LTZ	**Lake Taylor**	**4.11**	**57**	P	**Pn**	**20 23 38.5**	**-1.3**
AMCZ	**Amberley**	**4.13**	**64**	P	**Pn**	**20 23 39.4**	**-0.6**
OKCZ	**Okains Bay**	**4.17**	**73**	P	**Pn**	**20 23 40.8**	**+0.3**
GVZ	**Greta Valley S**	**4.48**	**64**	P	**Pn**	**20 23 43.7**	**-1.0**
DSZ	**Denniston Nort**	**4.55**	**44**	P	**Pn**	**20 23 44.9**	**-0.9**
KHZ	**Kahutara**	**5.08**	**60**	P	**Pn**	**20 23 52.2**	**-0.8**
KHZ	**Kahutara**	**5.08**	**60**	P	**Pn**	**20 23 53.3**	**+0.3**
THZ	**Tophouse**	**5.12**	**51**	Pn	**Pn**	**20 23 52.2**	**-1.3**
THZ	**Tophouse**	**5.12**	**51**	P	**Pn**	**20 23 52.3**	**-1.2**
MRNZ	**Matariki Terra**	**5.29**	**48**	P	**Pn**	**20 23 55.4**	**-0.4**
QRZ	**Quartz Range**	**5.61**	**42**	Pn	**Pn**	**20 23 59.8**	**-0.3**
QRZ	**Quartz Range**	**5.61**	**42**	P	**Pn**	**20 23 59.4**	**-0.7**
QRZ	**Quartz Range**	**5.61**	**42**	P	**Pn**	**20 24 00.5**	**+0.4**
TKNZ	**Takaka Hill**	**5.66**	**46**	P	**Pn**	**20 24 01.3**	**+0.5**
BSWZ	**Blackbirch Sta**	**5.70**	**56**	P	**Pn**	**20 24 02.2**	**+0.8**
NNZ	**Nelson**	**5.75**	**50**	P	**Pn**	**20 24 01.9**	**-0.2**
TUWZ	**Tuamarina**	**5.92**	**54**	P	**Pn**	**20 24 05.2**	**+0.9**
TCW	**Tory Channel**	**6.25**	**54**	P	**Pn**	**20 24 09.0**	**0.0**
DUWZ	**D'Urville Isla**	**6.33**	**50**	P	**Pn**	**20 24 10.3**	**+0.2**
SNZO	**South Karori**	**6.44**	**57**	P	**Pn**	**20 24 11.9**	**+0.5**
BHW	**Baring Head**	**6.48**	**58**	P	**Pn**	**20 24 12.2**	**+0.2**
MSWZ	**Moikau Station**	**6.70**	**59**	P	**Pn**	**20 24 14.2**	**-0.9**
CAW	**Cannon Point**	**6.78**	**57**	P	**Pn**	**20 24 15.2**	**-0.9**
KIW	**Kapiti Island**	**6.84**	**54**	P	**Pn**	**20 24 15.3**	**-1.7**
MTW	**Mount Morrison**	**7.01**	**59**	P	**Pn**	**20 24 18.1**	**-1.1**
OGWZ	**Otaki Gorge**	**7.02**	**55**	P	**Pn**	**20 24 18.3**	**-1.2**
HOWZ	**Holdsworth Sta**	**7.18**	**57**	P	**Pn**	**20 24 20.7**	**-0.8**
NBEZ	**Newall Road No**	**7.46**	**41**	P	**Pn**	**20 24 26.3**	**+0.8**
KHEZ	**Kahui Hut**	**7.51**	**42**	P	**Pn**	**20 24 26.8**	**+0.6**
NEZ	**North Egmont**	**7.57**	**42**	P	**Pn**	**20 24 28.8**	**+1.9**
PKE	**Pukeiti**	**7.58**	**41**	P	**Pn**	**20 24 28.7**	**+1.7**
BFZ	**Birch Farm**	**7.75**	**58**	P	**Pn**	**20 24 30.0**	**+0.7**
TRVZ	**Turoa**	**8.28**	**48**	P	Pn	20 24 41.0	+4.2
WNVZ	**Wahianoa**	**8.29**	**49**	P	**Pn**	**20 24 39.6**	**+2.9**
FWVZ	**Far West T-bar**	**8.31**	**48**	P	**Pn**	**20 24 40.1**	**+2.9**
NGZ	**Ngauruhoe**	**8.40**	**48**	P	**Pn**	**20 24 41.0**	**+2.7**
WTVZ	**West Tongariro**	**8.44**	**48**	P	**Pn**	**20 24 42.2**	**+3.4**
NNVZ	**North Ngauruho**	**8.44**	**48**	P	**Pn**	**20 24 41.1**	**+2.2**
ETVZ	**East Tongariro**	**8.48**	**48**	P	**Pn**	**20 24 43.0**	**+3.5**
NTVZ	**North Tongarir**	**8.49**	**48**	P	Pn	20 24 44.8	+5.2
TMVZ	**Te Maari**	**8.50**	**48**	P	**Pn**	**20 24 42.8**	**+3.2**
HIZ	**Hauiti**	**8.53**	**42**	P	**Pn**	**20 24 41.1**	**+1.2**
HIZ	**Hauiti**	**8.53**	**42**	P	**Pn**	**20 24 40.9**	**+0.9**
TLZ	**Tolley Road**	**9.01**	**44**	P	**Pn**	**20 24 48.6**	**+2.1**
HLRZ	**Highlands Stat**	**9.48**	**47**	P	**Pn**	**20 24 55.9**	**+3.0**
RTZ	**Ruatahuna**	**9.54**	**51**	P	**Pn**	**20 24 56.1**	**+2.2**
MKAZ	**Moumakai**	**9.82**	**38**	P	**Pn**	**20 24 59.6**	**+2.1**
URZ	**Urewera** 0.8nm,0.3s,baz=331,slow=23,SNR=1.9	**9.87**	**50**	P	**Pn**	**20 24 56.1**	**-2.1**
URZ	1.4nm,0.3s,baz=76,slow=18,SNR=2.8			S	Sn	20 26 37.1	-10
URZ	**Urewera**	**9.87**	**50**	P	**Pn**	**20 24 58.0**	**-0.2**
WIAZ	**Waiheke Island**	**10.07**	**37**	P	**Pn**	**20 25 03.4**	**+2.5**
WCZ	**Waipu Caves**	**10.49**	**32**	P	**Pn**	**20 25 07.0**	**+0.3**
AS31	**Alice Springs**	**34.68**	**297**	P	**P**	**20 29 19.7**	**-1.0**
ASAR	**Alice Springs** 2.7nm,1.2s,baz=135,slow=6.0,SNR=9.4	**34.68**	**297**	P	**P**	**20 29 19.4**	**-1.2**
ASAR	0.2nm,0.7s,baz=131,slow=4.3,SNR=1.7			PcP	**PcP**	**20 31 52.6**	**-0.2**
ASAR	**Alice Springs**	**34.68**	**297**	P	**P**	**20 29 19.8**	**-0.9**
WR0	**Warramunga Arr**	**37.04**	**302**	P	**P**	**20 29 41.0**	**+0.2**
WR0	comp=Z,2.6nm,1.1s			IAmb	IAmb	20 29 54.9	
WB2	**Warramunga Arr**	**37.17**	**301**	P	**P**	**20 29 41.8**	**0.0**
WB2	comp=Z,3.3nm,1.0s			IAmb	IAmb	20 29 43.2	
WRA	**Warramunga Arr** comp=Z,1.5nm,0.8s,baz=136,slow=7.9,SNR=9.0	**37.18**	**301**	P	**P**	**20 29 41.8**	**-0.2**
WRA	comp=Z,0.4nm,0.7s,baz=135,slow=3.2,SNR=3.6			PcP	**PcP**	**20 32 00.2**	**-0.1**
WRAB	**Tennant Creek**	**37.18**	**301**	P	**P**	**20 29 41.6**	**-0.4**
H01W1	**Cape Leeuwin H** baz=120,slow=76,SNR=17	**41.49**	**265**	T	T	21 14 14.4	
H01W2	**Cape Leeuwin H** baz=120,slow=76,SNR=16	**41.51**	**265**	T	T	21 14 15.3	
H01W3	**Cape Leeuwin H** baz=120,slow=76,SNR=18	**41.51**	**265**	T	T	21 14 15.1	
FITZ	**Fitzroy Crossi** comp=Z,0.9nm,0.5s,baz=159,slow=4.5,SNR=10.0	**44.01**	**294**	P	**P**	**20 30 37.7**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,6.3nm,1.3s	**44.01**	**294**	P	**P**	**20 30 37.9**	**-0.3**
FITZ				IAmb	IAmb	20 30 50.1	
MTN	**Manton Dam**	**44.63**	**304**	P	**P**	**20 30 42.6**	**-0.5**
MAW	**Mawson**	**54.33**	**207**	P	**

AFI				Sn	Sn	20 43 52.4	-10		
	1.3nm,0.3s,baz=65,slow=22,SNR=1.0								
RPZ	**Rata Peaks**	**24.82**	**205**	LR	LR	20 54 47.6			
	comp=Z,191nm,18.1s,baz=200,slow=35								
CTA	**Charters Tower**	**36.54**	**265**	P	**P**	**20 47 33.1**	**+0.2**		
	4.4nm,0.7s,baz=94,slow=10,SNR=6.8								
STKA	**Stephens Creek**	**40.10**	**246**	P	**P**	**20 48 03.1**	**+0.4**		
	1.4nm,0.8s,baz=94,slow=13,SNR=2.9								
ASAR	**Alice Springs**	**47.31**	**257**	P	**P**	**20 49 00.2**	**-0.7**		
	1.7nm,0.7s,baz=94,slow=8.0,SNR=22								
WRA	**Warramunga Arr**	**47.57**	**263**	P	**P**	**20 49 02.5**	**-0.5**		
	1.4nm,0.6s,baz=103,slow=8.1,SNR=20								
FITZ	**Fitzroy Crossi**	**56.00**	**262**	P	**P**	**20 50 06.0**	**+0.1**		
	1.3nm,0.8s,baz=121,slow=5.9,SNR=2.3								
NVAR	**Mina Array Bea**	**79.89**	**42**	P	**P**	**20 52 35.9**	**-0.1**		
	0.4nm,0.6s,baz=210,slow=8.9,SNR=2.9								
AKASG	**Malin Array Be**	**145.73**	**333**	PKPbc	**PKPbc**	**21 00 05.5**	**0.0**		
	1.1nm,0.6s,baz=40,slow=4.5,SNR=7.8								

*IDC **27** 20:40:38.3±1.1, 52˚.27N×168˚.76W, h0km, mb3.7/16, mb1 3.9/17, mb1mx3.7/57, mbtmp3.7/17, ML3.0/1, Error ellipse: s-maj=30.2km s-min=17.0km az=163.0*
*AEIC **27** 20:40:41±1.8, 52˚.17N±0˚.07×168˚.57W±0˚.03, h26km±9km, ML3.4, Error ellipse: s-maj=10.4km s-min=3.0km az=185.0*
*NEIC **27** 20:40:43.5±2.0, 52˚.22N±0˚.08×168˚.66W±0˚.08, h37km±35km, Error ellipse: s-maj=12.9km s-min=4.9km az=155.0*

ISC 27 20:40:42.0±0.7, 52˚.21N±0˚.08×168˚.59W±0˚.07, h26km, n42, σ0s93/39, mb3.7/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.79**	**348**		**Pb**	**20 40 56.5**	**-0.5**
NIKH					**Sb**	**20 41 08.8**	**+1.5**
OKFG	**Magazine Ridge**	**1.27**	**18**		**Pn**	**20 41 04.2**	**+0.1**
OKFG					**Sn**	**20 41 21.9**	**+1.6**
MSW	**Makushin Switc**	**2.03**	**32**		**Pn**	**20 41 14.6**	**+0.1**
UNV	**Unalaska Valle**	**2.07**	**37**		**Pn**	**20 41 15.3**	**+0.3**
UNV					**Sn**	**20 41 40.0**	**+0.1**
MTBL	**Makushin Table**	**2.11**	**32**		**Pn**	**20 41 16.3**	**+0.7**
AKMO	**Akutan Morgan**	**2.44**	**38**		**Pn**	**20 41 21.4**	**+1.3**
AKRB	**Akutan Reef Bi**	**2.45**	**37**		**Pn**	**20 41 20.9**	**+0.6**
AKSA	**Akutan Strait**	**2.60**	**41**		**Pn**	**20 41 23.3**	**+1.0**
WESE	**West Dahl East**	**3.30**	**45**		**Pn**	**20 41 32.7**	**+0.6**
KOFP	**Korovin Flat P**	**3.39**	**273**		**Pn**	**20 41 34.6**	**+1.4**
ATKA	**Atka Island**	**3.45**	**272**		**Pn**	**20 41 34.8**	**+0.8**
FALS	**False Pass**	**4.07**	**47**		**Pn**	**20 41 43.6**	**+1.2**
GSTD	**Great Sitkin T**	**4.66**	**271**		**Pn**	**20 41 51.9**	**+1.2**
GSCK	**Great Sitkin C**	**4.67**	**271**		**Pn**	**20 41 52.0**	**+1.1**
ADK	**Adak**	**5.01**	**270**		**Pn**	**20 41 56.3**	**+0.9**
SDPT	**Sand Point**	**5.75**	**54**		**Pn**	**20 42 06.5**	**+1.0**
OHAK	**Old Harbor**	**10.17**	**54**	Pn	**Pn**	**20 43 05.1**	**-1.0**
KDAK	**Kodiak Island**	**10.74**	**52**	Pn	**Pn**	**20 43 13.3**	**-0.6**
	0.5nm,0.3s,baz=190,slow=3.0,SNR=16						
KDAK	**Kodiak Island**	**10.74**	**52**		**Pn**	**20 43 13.8**	**-0.1**
ILAR	**Eielson Array**	**16.82**	**33**	Pn	**Pn**	**20 44 34.3**	**-1.1**
	0.1nm,0.3s,baz=224,slow=11,SNR=1.4						
PETK	**Petropavlovsk-**	**20.37**	**286**	P	**P**	**20 45 16.1**	**-0.3**
	2.7nm,0.5s,baz=84,slow=16,SNR=9.6						
SEY	**Seymchan**	**23.14**	**313**	P	**P**	**20 45 44.4**	**-1.4**
	0.8nm,0.6s,baz=88,slow=12,SNR=5.5						
INK	**Inuvik**	**23.22**	**33**	P	**P**	**20 45 45.4**	**-1.1**
	1.0nm,0.4s,baz=233,slow=5.1,SNR=1.5						
YKA	**Yellowknife Ar**	**29.99**	**49**	P	**P**	**20 46 48.8**	**+0.9**
	0.4nm,0.6s,baz=271,slow=7.7,SNR=12						
H11N2	**WAKE ISLAND Hy**	**37.63**	**220**	T	T	21 28 42.8	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.64**	**220**	T	T	21 29 07.2	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.65**	**220**	T	T	21 28 58.9	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.81**	**219**	T	T	21 29 51.2	
	baz=23,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.83**	**219**	T	T	21 30 10.5	
	baz=23,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**38.83**	**219**	T	T	21 29 53.6	
	baz=23,slow=76,SNR=9.7						
PDAR	**Pinedale Array**	**39.96**	**79**	P	**P**	**20 48 15.3**	**+1.1**
	0.8nm,0.8s,baz=300,slow=4.1,SNR=8.2						
KSRS	**Korea Array**	**45.90**	**277**	P	**P**	**20 49 01.5**	**-0.6**
	0.8nm,0.8s,baz=53,slow=6.3,SNR=2.8						
SONM	**Songino Array**	**51.80**	**301**	P	**P**	**20 49 47.5**	**+0.1**
	0.3nm,0.5s,baz=40,slow=7.0,SNR=3.1						
ARCES	**ARCESS Array B**	**58.13**	**354**	P	**P**	**20 50 32.8**	**+0.1**
	3.7nm,1.0s,baz=26,slow=8.3,SNR=1.8						
MKAR	**Makanchi Array**	**64.27**	**314**	P	**P**	**20 51 13.8**	**-0.9**
	0.6nm,0.7s,baz=50,slow=7.6,SNR=7.1						
FINES	**FINESS Array B**	**66.10**	**352**	P	**P**	**20 51 25.4**	**-0.8**
	1.6nm,0.6s,baz=28,slow=8.6,SNR=9.1						
AKASG	**Malin Array Be**	**76.36**	**348**	P	**P**	**20 52 27.0**	**-1.4**
	0.3nm,0.4s,baz=10,slow=5.8,SNR=2.2						
CMAR	**Chiang Mai Ar**	**77.21**	**283**	P	**P**	**20 52 33.0**	**-0.2**
	0.6nm,0.8s,baz=22,slow=8.1,SNR=2.8						
BRTR	**Keskin Array B**	**86.42**	**343**	P	**P**	**20 53 22.7**	**+0.6**
	0.3nm,0.5s,baz=27,slow=1.6,SNR=2.4						
WRA	**Warramunga Arr**	**87.28**	**232**	P	**P**	**20 53 26.4**	**+0.2**
	0.3nm,0.9s,baz=29,slow=5.7,SNR=1.3						
ESDC	**Sonseca Array**	**87.52**	**12**	P	**P**	**20 53 28.7**	**+1.4**
	0.7nm,0.9s,baz=351,slow=5.0,SNR=2.6						
ASAR	**Alice Springs**	**90.66**	**231**	P	**P**	**20 53 41.6**	**-0.5**
	0.3nm,0.8s,baz=32,slow=4.3,SNR=1.8						

*IDC **27** 21:05:37.0±2.5, 52˚.45N×168˚.81W, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.5/50, mbtmp3.7/9, Error ellipse: s-maj=65.0km s-min=21.3km az=178.0*
*AEIC **27** 21:05:37±2.2, 52˚.1N±0˚.1×168˚.57W±0˚.07, h13km±9km, ML3.0/12, Error ellipse: s-maj=16.4km s-min=5.8km az=170.0*
*NEIC **27** 21:05:38.5±0.1, 52˚.1N±0˚.2×168˚.67W±0˚.08, h16km±19km, Error ellipse: s-maj=23.4km s-min=5.8km az=170.0*

ISC 27 21:05:39.2±1.2, 52˚.1N±0˚.1×168˚.75W±0˚.09, h26km, n21, σ0s91/18, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.87**	**356**		**Pn**	**21 05 55.6**	**-0.2**
NIKH					**Sn**	**21 06 08.8**	**+1.2**
MSW	**Makushin Switc**	**2.17**	**32**		**Pn**	**21 06 13.8**	**+0.2**
MSW					**Sn**	**21 06 40.0**	**+0.4**
UNV	**Unalaska Valle**	**2.21**	**37**		**Pn**	**21 06 14.2**	**+0.1**
UNV					**Sn**	**21 06 40.2**	**-0.4**
MTBL	**Makushin Table**	**2.25**	**33**		**Pn**	**21 06 14.8**	**0.0**
AKBBA	**Akutan Broad B**	**2.62**	**39**		**Pn**	**21 06 19.8**	**0.0**
KDAK	**Kodiak Island**	**10.88**	**52**	Pn	**Pn**	**21 08 12.4**	**-0.7**
	0.5nm,0.3s,baz=260,slow=3.6,SNR=7.0						
PETK	**Petropavlovsk-**	**20.30**	**286**	P	**P**	**21 10 13.5**	**+0.7**
	1.7nm,0.4s,baz=90,slow=13,SNR=14						
SEY	**Seymchan**	**23.13**	**313**	P	**P**	**21 10 41.4**	**-1.5**
	0.3nm,0.3s,baz=101,slow=12,SNR=3.1						
INK	**Inuvik**	**23.36**	**33**	P	**P**	**21 10 44.0**	**-1.2**
	3.3nm,0.3s,baz=102,slow=9.0,SNR=7.9						
YKA	**Yellowknife Ar**	**30.13**	**49**	P	**P**	**21 11 47.7**	**+1.4**
	0.3nm,0.6s,baz=275,slow=8.1,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**37.49**	**220**	T	T	21 53 41.9	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.49**	**220**	T	T	21 54 05.7	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.51**	**220**	T	T	21 53 52.2	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.67**	**219**	T	T	21 55 15.4	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**38.69**	**219**	T	T	21 55 02.3	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**38.69**	**219**	T	T	21 55 07.0	
	baz=23						
PDAR	**Pinedale Array**	**40.08**	**79**	P	**P**	**21 13 13.2**	**+0.8**
	0.3nm,0.6s,baz=247,slow=1.1,SNR=3.7						
SONM	**Songino Array**	**51.77**	**301**	P	**P**	**21 14 45.5**	**+1.1**
	0.6nm,1.0s,baz=46,slow=6.2,SNR=2.4						
MKAR	**Makanchi Array**	**64.27**	**314**	P	**P**	**21 16 11.6**	**-0.2**
	0.6nm,0.8s,baz=38,slow=6.1,SNR=6.1						
FINES	**FINESS Array B**	**66.19**	**352**	P	**P**	**21 16 23.4**	**-0.6**
	0.9nm,0.6s,baz=49,slow=13,SNR=5.9						
AKASG	**Malin Array Be**	**76.45**	**348**	P	**P**	**21 17 24.7**	**-1.4**
	0.4nm,0.4s,baz=16,slow=5.9,SNR=3.0						

IDC 27 21:31:14.6±2.9, 4˚.45S×132˚.70E, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.6/33, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=129.5km s-min=24.8km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.83**	**338**	Pn	Pn	21 32 14.5	-0.4
	2.4nm,0.3s,baz=236,slow=23,SNR=20						
SIJI				Sn	Sn	21 32 55.0	-5.7
	8.3nm,0.3s,baz=54,slow=23,SNR=20						
FITZ	**Fitzroy Crossi**	**15.22**	**206**	Pn	Pn	21 34 51.0	0.0
	0.4nm,0.3s,baz=35,slow=14,SNR=15						
FITZ				Sn	Sn	21 37 33.8	-6.7
	0.2nm,0.3s,baz=230,slow=18,SNR=6.6						
WRA	**Warramunga Arr**	**15.48**	**174**	Pn	Pn	21 34 52.7	-1.8
	0.3nm,0.3s,baz=353,slow=13,SNR=20						
WRA				Sn	Sn	21 37 36.1	-11
	0.4nm,0.3s,baz=0.2,slow=22,SNR=11						
ASAR	**Alice Springs**	**19.14**	**177**	P	Pn	21 35 40.3	-0.1
	0.2nm,0.3s,baz=357,slow=13,SNR=19						
MKAR	**Makanchi Array**	**67.63**	**325**	P	P	21 42 13.5	+0.1
	0.1nm,0.4s,baz=118,slow=7.8,SNR=2.6						

IDC 27 21:44:17.7±21.0, 23˚.76S×69˚.87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/35, mbtmp3.4/3, Error ellipse: s-maj=690.9km s-min=43.9km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**16.22**	**9**	T	T	22 05 09.2	
	baz=190						
H08S2	**Diego Garcia H**	**16.22**	**9**	T	T	22 05 07.5	
	baz=190						
H08S3	**Diego Garcia H**	**16.24**	**9**	T	T	22 05 16.6	
	baz=190						
ASAR	**Alice Springs**	**58.15**	**104**	P	P	21 54 14.0	+0.3
	0.3nm,0.7s,baz=248,slow=5.9,SNR=9.2						
WRA	**Warramunga Arr**	**59.51**	**100**	P	P	21 54 22.6	-0.6
	0.3nm,0.7s,baz=257,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**71.12**	**9**	P	P	21 55 37.8	0.0
	0.3nm,0.8s,baz=203,slow=6.3,SNR=3.8						

IDC 27 21:45:52.0±15.0, 24˚.29S×69˚.15E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.2/35, mbtmp3.7/3, Error ellipse: s-maj=491.1km s-min=39.7km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**16.85**	**11**	T	T	22 06 45.4	
	baz=190,slow=76,SNR=8.7						
H08S2	**Diego Garcia H**	**16.86**	**12**	T	T	22 06 47.7	
	baz=190,slow=76,SNR=4.9						
H08S3	**Diego Garcia H**	**16.87**	**11**	T	T	22 06 46.8	
	baz=190,slow=76,SNR=5.7						
ASAR	**Alice Springs**	**58.66**	**104**	P	P	21 55 51.8	+0.2
	0.6nm,0.6s,baz=253,slow=6.2,SNR=12						
WRA	**Warramunga Arr**	**60.08**	**100**	P	P	21 56 01.1	-0.3
	0.4nm,0.6s,baz=255,slow=7.2,SNR=5.2						
H09W1	**TRISTAN DA CUN**	**69.28**	**238**	T	T	23 11 44.7	
	SNR=3.5						
MKAR	**Makanchi Array**	**71.74**	**9**	P	P	21 57 15.9	0.0
	0.6nm,0.7s,baz=198,slow=6.4,SNR=6.8						

*TUL **27** 21:50:07.3±0.6, 36˚.43N±0˚.01×97˚.36W±0˚.01, h7km±7km, ML2.5, mb_Lg2.2/19(NEIC), Error ellipse: s-maj=1.7km s-min=0.7km az=214.0*

NEIC 27 21:50:07.2±0.7, 36˚.428N±0˚.007×97˚.35W±0˚.01, h4km±7km, Error ellipse: s-maj=1.5km s-min=1.0km az=114.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.83**	**54**	Pg	Pg	21 50 23.2	0.0
OKCSW	**OKLAHOMA CITY**	**1.02**	**184**	Pg	Pg	21 50 26.5	-0.3
FNO	**Franklin**	**1.17**	**182**	Pg	Pg	21 50 28.8	-0.8
TUL1	**Leonard**	**1.36**	**112**	Pn	Pn	21 50 32.9	-0.2
X34A	**Smith Ranch, M**	**1.86**	**192**	Pn	Pn	21 50 39.8	-0.2
R32A	**Long Quarter,**	**2.27**	**332**	Pn	Pn	21 50 46.6	+1.0
R32A				lAmb_Lg		21 51 23.5	
	comp=Z,6.5nm,0.7s						
X37A	**Clayton**	**2.45**	**138**	lAmb_Lg		21 51 29.6	
	comp=Z,9.5nm,0.7s						
KSU1	**Kansas State U**	**2.73**	**12**	Pn	Pn	21 50 51.4	-0.5
HHAR	**Hobbs**	**2.76**	**92**	Pn	Pn	21 50 52.6	+0.3
S39A	**Bolivar**	**3.46**	**67**	Pn	Pn	21 51 01.7	-0.3
S39A				lAmb_Lg		21 52 01.9	
	comp=Z,6.1nm,1.0s						
AMTX	**Amarillo**	**3.84**	**248**	Pn	Pn	21 51 08.0	+0.7
AMTX				lAmb_Lg		21 52 14.4	
	comp=Z,5.8nm,0.9s						
MGMO	**Mountain Grove**	**4.14**	**78**	lAmb_Lg		21 52 25.5	
	comp=Z,4.8nm,0.8s						
X40A	**Basin Creek Fa**	**4.17**	**116**	lAmb_Lg		21 52 22.7	
	comp=Z,4.6nm,0.7s						
N33A	**J Bar K, Exete**	**4.30**	**359**	Pn	Pn	21 51 12.9	-0.6
P38A	**Dawn**	**4.39**	**42**	lAmb_Lg		21 52 27.2	
	comp=Z,6.6nm,0.8s						
R40A	**Maddies Statio**	**4.46**	**64**	lAmb_Lg		21 52 30.9	
	comp=Z,5.3nm,1.0s						
N35A	**Tabor**	**4.62**	**16**	Pn	Pn	21 51 16.7	-1.3
CCM	**Cathedral Cave**	**5.14**	**70**	lAmb_Lg		21 53 02.3	
	comp=Z,6.9nm,1.0s						
N38A	**Joes South For**	**5.42**	**35**	lAmb_Lg		21 53 07.2	
	comp=Z,6.3nm,0.8s						

*MDD **27** 21:55:50.7±1.3, 36˚.77N×12˚.08W, h0km, mb_Lg2.2/3, Error ellipse: s-maj=9.3km s-min=8.7km az=67.0*
*INMG **27** 21:55:52.8±1.6, 36˚.71N×12˚.06W, h10km, ML2.2, Error ellipse: s-maj=11.5km s-min=7.5km az=86.0*
*CNRM **27** 21:55:55.0, 36˚.51N×11˚.32W, h223km, ml2.6*

ISC 27 21:55:44.7±2.4, 36˚.53N±0˚.06×12˚.2W±0˚.1, h10km, n36, σ2s71/54, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.80**	**77**	*e*Pn	**Pb**	**21 56 32.4**	**-2.3**
PFVI				*e*Sn	**Sn**	**21 57 04.0**	**+0.8**
PFVI				A	A	21 57 07.2	
	20nm,0.6s						
MORF	**Marmelete**	**2.97**	**74**	*e*Pn	**Pb**	**21 56 35.8**	**-1.9**
MORF				*e*Sn	**Sn**	**21 57 08.0**	**+0.4**
MORF				A	A	21 57 11.8	
	4.4nm,0.4s						
PTEO	**Sao Teotonio**	**2.98**	**69**	*e*Sn	**Sn**	**21 57 07.6**	**-0.2**
PMST	**Lisbon--Monsan**	**3.27**	**47**	*e*Pn	**Pb**	**21 56 41.9**	**-0.9**
PMST				*e*Sn	**Sn**	**21 57 14.2**	**-0.7**
PNCL	**Nicolau / Gran**	**3.35**	**61**	*e*Pn	**Pn**	**21 56 40.1**	**+3.1**
PNCL				*e*Sn	**Sn**	**21 57 16.3**	**-0.5**
PNCL				A	A	21 57 19.0	
	3.3nm,0.2s						
PMAFR	**Mafra**	**3.36**	**43**	*e*Sn	**Sn**	**21 57 16.6**	**-0.7**
PMAFR				A	A	21 57 17.1	
	42nm,0.2s						
PACT	**Alcochete**	**3.50**	**49**	*e*Sn	**Sn**	**21 57 21.2**	**+0.6**
PACT				A	A	21 57 31.3	
	16nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.52**	**77**	*e*Pn	**Pb**	**21 56 43.7**	**-3.4**
PBDV				*e*Sn	**Sn**	**21 57 23.1**	**+2.0**
PBDV				A	A	21 57 26.2	
	4.8nm,0.8s						
PCVE	**Castro Verde**	**3.53**	**71**	*e*Pn	**Pn**	**21 56 42.8**	**+3.3**
PCVE				*e*Sn	**Sn**	**21 57 20.4**	**-0.9**
PCVE				A	A	21 57 33.9	
	2.8nm,0.9s						
PVAQ	**Vaqueiros**	**3.72**	**75**	*e*Pn	**Pn**	**21 56 45.8**	**+3.7**
PVAQ				*e*Sn	**Sn**	**21 57 26.0**	**0.0**
PVAQ				A	A	21 57 38.6	
	3.1nm,0.8s						
PVAQ	**Vaqueiros**	**3.72**	**75**	P	**Pn**	**21 56 43.9**	**+1.8**
PVAQ				S	**Sn**	**21 57 28.1**	**+2.1**
PBEJ	**Beja**	**3.79**	**65**	*e*Sn	**Sn**	**21 57 26.3**	**-1.4**
PBEJ				A	A	21 57 33.7	
	2.3nm,0.7s						
EVO	**Evora**	**3.90**	**58**	*e*Pn	**Pn**	**21 56 48.1**	**+3.4**
EVO				*e*Sn	**Sn**	**21 57 29.2**	**-1.3**
EVO				A	A	21 57 32.0	
	4.0nm,0.1s						
EGRO	**El Granado**	**3.93**	**74**	P	**Pb**	**21 56 51.2**	**-2.8**
EGRO				*i* Vmb_Lg		21 57 30.1	
EGRO				S	**Sn**	**21 57 31.0**	**-0.2**
PSBE	**So Bento**	**4.03**	**41**	*e*Pn	**Pb**	**21 56 52.2**	**-3.5**
PSBE				*e*Sn	**Sn**	**21 57 33.0**	**-0.7**
PSBE				A	A	21 57 40.8	
	4.2nm,0.9s						
PMTG	**Montargil**	**4.06**	**50**	*e*Pn	**Pn**	**21 56 49.8**	**+3.0**
PMTG				*e*Sn	**Sn**	**21 57 32.3**	**-2.1**
PMTG				A	A	21 57 38.3	
	4.0nm,0.5s						
PESTR	**Estremoz**	**4.36**	**56**	*e*Pn	Pn	21 56 54.9	+4.0
PESTR				*e*Sn	**Sn**	**21 57 39.8**	**-2.0**
PESTR				A	A	21 57 42.7	
	2.4nm,0.5s						
PESTR	**Estremoz**	**4.36**	**56**	P	Pn	21 56 55.0	+4.1
PESTR				S	**Sn**	**21 57 42.4**	**+0.7**
PBAR	**Barrancos**	**4.45**	**67**	*e*Pn	**Pn**	**21 56 55.5**	**+3.3**
PBAR				*e*Sn	**Sn**	**21 57 42.2**	**-1.8**
PBAR				A	A	21 57 47.6	
	2.2nm,0.4s						
PCAS	**Casmilo, Conde**	**4.58**	**39**	*e*Sn	**Sn**	**21 57 45.5**	**-1.8**
EMIN	**Mina Concepcio**	**4.61**	**73**	P	**Pn**	**21 56 57.4**	**+3.0**
EMIN				S	**Sn**	**21 57 46.5**	**-1.4**
EMIN				*i* Vmb_Lg		21 57 47.2	
EBAD	**Badajoz**	**4.70**	**60**	P	**Pn**	**21 56 58.1**	**+2.5**
EBAD				S	**Sn**	**21 57 47.9**	**-2.2**
EBAD				*i* Vmb_Lg		21 57 50.6	
PMRV	**Marv??o**	**4.79**	**51**	*e*Pn	**Pn**	**21 56 58.1**	**+1.2**
PMRV				*e*Sn	**Sn**	**21 57 49.6**	**-2.9**
PMRV				A	A	21 57 52.4	
	3.1nm,0.4s						
PCBR	**Castelo Branco**	**4.99**	**47**	*e*Sn	**Sn**	**21 57 56.0**	**-1.4**
ESPR	**Espera**	**5.13**	**84**	S	**Sn**	**21 58 01.0**	**+0.1**
MTE	**Manteigas**	**5.33**	**42**	*e*Sn	**Sn**	**21 58 04.8**	**-1.1**
PVIS	**Viseu**	**5.38**	**38**	*e*Sn	**Sn**	**21 58 03.6**	**-3.5**
PVIS				A	A	21 58 05.8	
	3.8nm,0.3s						
ECAB	**El Cabril**	**5.64**	**72**	S	**Sn**	**21 58 11.4**	**-2.1**
POLO	**Lamas de Olo**	**5.94**	**34**	*e*Sn	**Sn**	**21 58 16.5**	**-4.5**
EPLA	**Plasencia**	**5.99**	**52**	S	**Sn**	**21 58 19.9**	**-2.1**
MVO	**Moncorvo**	**6.15**	**40**	*e*Sn	**Sn**	**21 58 21.7**	**-4.4**
MVO				A	A	21 58 23.9	
	2.0nm,0.1s						
ELOB	**Lobios**	**6.23**	**30**	S	**Sn**	**21 58 23.5**	**-4.6**
PGAV	**Gavieira, Arco**	**6.24**	**28**	*e*Sn	**Sn**	**21 58 24.2**	**-4.0**
EADA	**Adamuz**	**6.31**	**73**	S	**Sn**	**21 58 28.7**	**-1.3**
MD31	**MD31**	**7.16**	**119**	P	**Pn**	**21 57 29.4**	**0.0**
MD31				S	**Sn**	**21 58 44.2**	**-6.6**
MDT	**Midelt**	**7.29**	**118**	P	**Pn**	**21 57 32.7**	**+1.3**
MDT				S	**Sn**	**21 58 46.9**	**-7.3**

*IDC **27** 22:10:54.2±7.9, 53˚.10N×173˚.48W, h164km±75km, mb3.1/6, mb1 3.6/8, mb1mx3.2/49, mbtmp3.8/8, Error ellipse: s-maj=60.8km s-min=27.2km az=161.0*
*NEIC **27** 22:10:59.4±1.7, 52˚.8N±0˚.2×173˚.0W±0˚.2, h210km±15km, Error ellipse: s-maj=34.4km s-min=12.1km az=162.0*
*AEIC **27** 22:11:00±1.3, 52˚.7N±0˚.2×173˚.0W±0˚.2, h218km±8km, ML3.6, mb4.2/23(NEIC), Error ellipse: s-maj=30.0km s-min=11.0km az=159.0*

ISC 27 22:10:58.8±0.8, 52˚.8N±0˚.2×172˚.96W±0˚.10, h200km, n58, σ1s24/59, mb3.2/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**2.46**	**250**	Pn	**Pn**	**22 11 42.8**	**+0.6**
ADK				Sn	**Sn**	**22 12 16.0**	**0.0**
NIKH	**Nikolski High**	**2.49**	**84**		**Pn**	**22 11 44.6**	**+2.1**
KIWB	**Kanaga Island**	**2.74**	**252**	Pn	**Pn**	**22 11 46.3**	**+0.9**
MGOD	**Makushin Gods**	**3.79**	**72**		**Pn**	**22 11 59.9**	**+2.0**
MSW	**Makushin Switc**	**3.87**	**71**		**Pn**	**22 12 00.8**	**+2.0**
MTBL	**Makushin Table**	**3.94**	**70**		**Pn**	**22 12 02.1**	**+2.2**
UNV	**Unalaska Valle**	**4.01**	**72**		**Pn**	**22 12 02.4**	**+1.8**
AKRB	**Akutan Reef Bi**	**4.33**	**69**		**Pn**	**22 12 06.5**	**+1.9**
AKBBA	**Akutan Broad B**	**4.40**	**70**		**Pn**	**22 12 07.4**	**+1.9**
AKSA	**Akutan Strait**	**4.54**	**70**		**Pn**	**22 12 09.4**	**+2.2**
WESE	**West Dahl East**	**5.26**	**68**		**Pn**	**22 12 18.2**	**+1.7**
SSLN	**Shishaldin Nor**	**5.68**	**66**		**Pn**	**22 12 23.8**	**+1.9**
FALS	**False Pass**	**6.02**	**66**		**Pn**	**22 12 27.7**	**+1.6**
SDPT	**Sand Point**	**7.78**	**66**		**Pn**	**22 12 48.3**	**-0.7**
CHGN	**Chignik**	**9.15**	**62**	Pn	**Pn**	**22 13 06.2**	**-0.7**
KDAK	**Kodiak Island**	**12.62**	**59**	P	**Pn**	**22 13 49.0**	**-2.2**
	2.4nm,0.3s,baz=260,slow=3.9,SNR=40						
KDAK				S	Sn	22 15 58.4	-13
	0.2nm,0.3s,baz=248,slow=7.0,SNR=1.7						
N19K	**Bonanza Creek**	**12.88**	**44**		**P**	**22 13 58.0**	**0.0**
L19K	**White Mountain**	**13.49**	**39**		**P**	**22 14 04.9**	**+0.2**
M19K	**Big River Lodg**	**13.51**	**40**	Pn	**Pn**	**22 14 03.9**	**+1.5**
TTA	**

ISC 27 22:24:57.2±0.9, **7.70S**±0.06×**129.17E**±0.10, **h150**km, **n6,** σ3**59**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.98**	**245**	P	**Pn**	**22 26 24.7**	**+1.0**
	2.3nm,0.3s,baz=67,slow=7.7,SNR=2.1						
BATI				S	**Sn**	**22 27 29.6**	**-1.8**
	8.4nm,0.3s,baz=92,slow=23,SNR=15						
SIJI	**Sorong**	**7.10**	**17**	P	**Pn**	**22 26 40.2**	**+1.6**
	0.4nm,0.3s,baz=225,slow=23,SNR=1.3						
SIJI				S	**Sn**	**22 27 52.5**	**-5.6**
	0.4nm,0.3s,baz=132,slow=23,SNR=1.3						
FITZ	**Fitzroy Crossi**	**10.90**	**198**	P	**Pn**	**22 27 29.9**	**+0.9**
	0.1nm,0.3s,baz=18,slow=20,SNR=8.8						
FITZ				S	**Sn**	**22 29 24.6**	**-5.0**
	0.7nm,0.3s,baz=74,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**13.17**	**158**	P	**Pn**	**22 28 01.2**	**+2.7**
	0.5nm,0.3s,baz=338,slow=13,SNR=14						
WRA				S	**Sn**	**22 30 22.0**	**-2.4**
	0.8nm,0.3s,baz=331,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**16.52**	**165**	P	**Pn**	**22 28 44.8**	**+4.5**
	0.2nm,0.3s,baz=344,slow=11,SNR=22						
ASAR				S	**S**	**22 31 41.7**	**-2.2**
	0.2nm,0.3s,baz=343,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**22 35 43.2**	**+0.8**
	0.7nm,0.4s,baz=120,slow=6.7,SNR=22						

NEIC ***27*** *22:25:43.6±1.6,24.2S×0.1×69.1E±0.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=36.6km s-min=7.3km az=241.0*

IDC ***27*** *22:25:43.8±1.4,24.22S×69.49E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/51, mbtmp3.8/8, MS3.4/6, Ms1 3.4/6, ms1mx2.9/76, Error ellipse: s-maj=46.7km s-min=25.0km az=66.0*

ISC 27 22:25:44.1±0.9, **24.3S**×0.1×**69.3E**±0.2, **h10**km, **n31,** σ1**9**09/20, **mb4.0**/12, **MS3.4/6, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**15.22**	**154**	Pn	**Pn**	**22 29 18.3**	**-0.9**
H08S1	**Diego Garcia H**	**16.82**	**11**	T	T	22 46 35.0	
	baz=190,slow=76,SNR=24						
H08S2	**Diego Garcia H**	**16.82**	**11**	T	T	22 46 37.0	
	baz=190,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**16.84**	**11**	T	T	22 46 43.6	
	baz=190,slow=76,SNR=20						
PALK	**Pallekele**	**33.28**	**21**	LR	LR	22 43 05.6	
	comp=Z,43nm,19.1s,baz=284,slow=31						
BOSA	**Boshof**	**39.49**	**254**	LR	LR	22 47 22.3	
	comp=Z,50nm,21.8s,baz=194,slow=33						
LSZ	**Lusaka**	**39.57**	**275**	LR	LR	22 46 40.0	
	comp=Z,52nm,18.4s,baz=177,slow=32						
H01W2	**Cape Leeuwin H**	**40.12**	**116**	T	T	23 15 53.9	
	baz=274						
H01W3	**Cape Leeuwin H**	**40.12**	**116**	T	T	23 15 52.2	
	baz=274						
H01W1	**Cape Leeuwin H**	**40.14**	**116**	T	T	23 15 49.9	
	baz=274						
SUR	**Sutherland**	**43.12**	**248**	LR	LR	22 50 44.2	
	comp=Z,66nm,18.8s,baz=149,slow=35						
TSUM	**Tsumeb**	**48.07**	**265**	LR	LR	22 51 45.9	
	comp=Z,51nm,18.5s,baz=157,slow=32						
CMAR	**Chiang Mai Arr**	**51.39**	**37**	P	**P**	**22 34 48.7**	**-0.6**
	0.5nm,0.3s,baz=226,slow=8.6,SNR=4.6						
CMAR				LR	LR	22 53 24.2	
	comp=Z,34nm,18.0s,baz=170,slow=32						
CMAR	**Chiang Mai Arr**	**51.39**	**37**	P	**P**	**22 34 49.6**	**+0.3**
ASAR	**Alice Springs**	**58.55**	**104**	P	**P**	**22 35 41.4**	**+0.1**
	0.8nm,0.7s,baz=251,slow=6.6,SNR=8.6						
WRA	**Warramunga Arr**	**59.95**	**100**	P	**P**	**22 35 51.4**	**+0.3**
	0.9nm,0.8s,baz=257,slow=7.2,SNR=5.6						
WRA	**Warramunga Arr**	**59.95**	**100**	P	**P**	**22 35 50.6**	**-0.4**
WB2	**Warramunga Arr**	**59.97**	**100**	P	**P**	**22 35 50.1**	**-1.0**
WB2				IAmb	IAmb	22 36 14.9	
	comp=Z,18nm,2.0s						
WB0	**Warramunga Arr**	**60.05**	**100**	P	**P**	**22 35 51.9**	**+0.2**
WB0				IAmb	IAmb	22 35 57.3	
	comp=Z,3.3nm,1.2s						
MARD	**Mardin**	**66.88**	**336**	P	**P**	**22 36 36.9**	**+0.3**
GEVA	**Gevas**	**66.95**	**338**	P	**P**	**22 36 35.3**	**-1.7**
GEVA				IAmb	IAmb	22 36 35.8	
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**67.04**	**166**	P	**P**	**22 36 38.0**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=270,slow=7.9,SNR=4.1						
VNDA	**Vanda**	**67.04**	**166**	P	**P**	**22 36 37.0**	**+0.1**
VNDA				IAmb	IAmb	22 36 44.2	
	comp=Z,4.5nm,1.5s						
MKAR	**Makanchi Array**	**71.71**	**9**	P	**P**	**22 37 06.8**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=190,slow=6.2,SNR=12						
MKAR	**Makanchi Array**	**71.71**	**9**	P	**P**	**22 37 05.1**	**-1.0**
ABKAR	**Akbulak array**	**73.67**	**354**	P	**P**	**22 37 16.6**	**-1.1**
ABKAR				IAmb	IAmb	22 37 39.5	
	comp=Z,11nm,2.0s						
ZALV	**Zalesovo Beam**	**79.05**	**9**	P	**P**	**22 37 49.6**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=206,slow=6.4,SNR=5.2						
SONM	**Songino Array**	**79.15**	**24**	P	**P**	**22 37 49.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=195,slow=4.5,SNR=4.2						
AKASG	**Malin Array Be**	**82.61**	**336**	P	**P**	**22 38 08.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=134,slow=4.4,SNR=4.8						
AKASG	**Malin Array Be**	**82.61**	**336**	P	**P**	**22 38 06.2**	**-1.0**
NVAR	**Mina Array Bea**	**164.48**	**23**	PKPab	**PKPab**	**22 46 45.5**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=271,slow=5.2,SNR=3.0						

THE ***27*** *22:28:21.9, 38.00N×20.22E, h22km±1km, ML3.0/7, Error ellipse: s-maj=2.0km s-min=0.8km az=74.0*

ATH ***27*** *22:28:21.5, 38.00N×20.15E, h18km±1km, ML2.7/11, Error ellipse: s-maj=3.2km s-min=1.3km az=63.0*

ISC 27 22:28:20.8±1.4, **37.98N**±0.05×**20.13E**±0.06, **h24**km±8km, **n44,** σ0**97**/65, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.28**	**38**	P	**Pb**	**22 28 27.8**	**+0.4**
KEF3				S	**Sb**	**22 28 32.1**	**+0.2**
KEF3	**Kipouria, Keph**	**0.28**	**38**	P	**Pb**	**22 28 27.8**	**+0.4**
KEF3				S	**Sb**	**22 28 32.2**	**+0.3**
	15µm,0.2s						
DMLN	**Damoulianata-K**	**0.32**	**37**	P	**Pb**	**22 28 28.0**	**0.0**
DMLN				S	**Sb**	**22 28 32.7**	**-0.3**
	10µm,0.2s						
LXRA	**Lixouri, Kepha**	**0.33**	**48**	P	**Pb**	**22 28 28.1**	**0.0**
LXRA				S	**Sb**	**22 28 32.5**	**-0.6**
LXRA				AML	AML	22 28 32.8	
	comp=E,20846µm,0.4s						
LXRA				AML	AML	22 28 33.0	
	comp=N,10557µm,0.2s						
KEF4	**Livadi, Kephal**	**0.36**	**40**	P	**Pb**	**22 28 28.6**	**0.0**
KEF4				S	**Sb**	**22 28 33.5**	**-0.5**
KEF4	**Livadi, Kephal**	**0.36**	**40**	P	**Pb**	**22 28 28.6**	**0.0**
KEF4				S	**Sb**	**22 28 33.7**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.38**	**70**	P	**Pb**	**22 28 28.6**	**-0.4**
PSDA				S	**Sb**	**22 28 33.6**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.38**	**70**	P	**Pb**	**22 28 28.6**	**-0.4**
PSDA				S	**Sb**	**22 28 34.0**	**-0.6**
VLS	**Valsamata**	**0.41**	**62**	P	**Pb**	**22 28 29.1**	**-0.4**
VLS				S	**Sb**	**22 28 34.5**	**-0.9**
VLS				AML	AML	22 28 38.5	
	comp=N,4686µm,0.3s						
VLS				AML	AML	22 28 38.6	
	comp=E,4424µm,0.2s						
VLS	**Valsamata**	**0.41**	**62**	P	**Pb**	**22 28 29.1**	**-0.4**
VLS				S	**Sb**	**22 28 34.5**	**-0.9**
	comp=E,2µm,0.1s						
FSK	**Fiskardo**	**0.59**	**36**	P	**Pb**	**22 28 32.5**	**+0.1**
FSK				S	**Sb**	**22 28 40.0**	**-0.3**
FSK				AML	AML	22 28 45.6	
	comp=E,2718µm,0.7s						
FSK				AML	AML	22 28 46.9	
	comp=N,1462µm,0.4s						
FSK	**Fiskardo**	**0.59**	**36**	P	**Pb**	**22 28 32.5**	**+0.1**
FSK				S	**Sb**	**22 28 40.1**	**-0.2**
	comp=N,1µm,0.3s						
LTHK	**Lithakia**	**0.62**	**116**	P	**Pb**	**22 28 33.0**	**0.0**
LTHK	**Lithakia**	**0.62**	**116**	P	**Pb**	**22 28 33.0**	**0.0**
LTHK				S	**Sb**	**22 28 41.6**	**+0.3**
EVGI	**Lefkada island**	**0.76**	**33**	P	**Pb**	**22 28 35.0**	**-0.3**
EVGI	**Lefkada island**	**0.76**	**33**	P	**Pb**	**22 28 35.1**	**-0.3**
EVGI				S	**Sb**	**22 28 45.2**	**-0.1**
	comp=N,885nm,0.3s						
DRAG	**Dragano-Lefkad**	**0.78**	**26**	P	**Pb**	**22 28 35.5**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.78**	**26**	P	**Pb**	**22 28 35.6**	**-0.2**
DRAG				S	**Sb**	**22 28 46.9**	**+0.9**
	comp=N,2µm,0.5s						
NYDR	**Nydri-Lefkada**	**0.86**	**31**	P	**Pb**	**22 28 36.6**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.86**	**31**	P	**Pb**	**22 28 36.3**	**-0.7**
NYDR				S	**Sn**	**22 28 49.0**	**-0.1**
TSLK	**Tsoukalades, L**	**0.94**	**26**	P	**Pb**	**22 28 38.2**	**-0.1**
TSLK	**Tsoukalades, L**	**0.94**	**26**	P	**Pb**	**22 28 38.5**	**+0.1**
TSLK				S	**Sn**	**22 28 52.0**	**+0.8**
	comp=N,1µm,0.5s						
RLS	**Riolos of Patr**	**1.06**	**86**	P	**Pn**	**22 28 40.1**	**-0.1**
RLS				AML	AML	22 28 59.6	
	comp=E,473µm,0.4s						
RLS				AML	AML	22 29 02.6	
	comp=N,404µm,0.3s						
DRO	**Drossia**	**1.25**	**91**	P	**Pb**	**22 28 44.4**	**+0.8**
DRO				AML	AML	22 29 07.6	
	comp=E,981µm,0.3s						
DRO				AML	AML	22 29 08.0	
	comp=N,1017µm,0.4s						
EFP	**Efpalio**	**1.47**	**72**	P	**Pb**	**22 28 47.4**	**0.0**
EFP				AML	AML	22 29 12.8	
	comp=E,296µm,0.5s						
EFP				AML	AML	22 29 18.4	
	comp=N,340µm,0.4s						
LAKA	**Lakka**	**1.48**	**79**	P	**Pb**	**22 28 47.6**	**-0.1**
LAKA				AML	AML	22 29 19.5	
	comp=E,203µm,0.6s						
LAKA				AML	AML	22 29 20.2	
	comp=N,188µm,0.9s						
ANX	**Ano Chora**	**1.54**	**66**	P	**Pb**	**22 28 49.0**	**+0.4**
ANX				AML	AML	22 29 22.2	
	comp=N,516µm,0.4s						
ANX				AML	AML	22 29 23.2	
	comp=E,415µm,0.5s						
KLV	**Kalavryta, Ach**	**1.60**	**87**	P	**Pb**	**22 28 50.0**	**+0.4**
KLV				AML	AML	22 29 20.4	
	comp=E,135µm,0.4s						
KLV				AML	AML	22 29 22.1	
	comp=N,254µm,0.6s						
EVR	**Evrytania**	**1.62**	**54**	P	**Pb**	**22 28 49.4**	**-0.5**
EVR				AML	AML	22 29 23.7	
	comp=N,168µm,0.7s						
EVR				AML	AML	22 29 25.6	
	comp=E,186µm,0.7s						
ITM	**Ithomi**	**1.64**	**119**	P	**Pb**	**22 28 50.0**	**-0.3**
KEK	**Kerkira**	**1.75**	**352**	P	**Pb**	**22 28 51.7**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.88**	**56**	P	**Pb**	**22 28 55.4**	**+1.0**
MAKR				AML	AML	22 29 35.4	
	comp=E,419µm,0.7s						
MAKR				AML	AML	22 29 37.3	
	comp=N,336µm,0.6s						
AGG	**Agios Georgios**	**2.02**	**58**	P	**Pb**	**22 28 57.0**	**+0.2**
STON	**Ston**	**5.22**	**340**	*e*Pn	**Pn**	**22 29 37.4**	**+0.1**
LSTV	**Lastovo**	**5.38**	**334**	*e*Pn	**Pn**	**22 29 40.2**	**+0.7**
LSTV				Sn	**Sn**	**22 30 37.2**	**-3.5**
MAKA	**Makarska**	**5.80**	**337**	*e*Pn	**Pn**	**22 29 46.7**	**+1.4**
MAKA				Sn	**Sn**	**22 30 50.4**	**-0.6**
HVAR	**Hvar**	**5.90**	**333**	*e*Pn	**Pn**	**22 29 46.7**	**+0.1**
RICI	**Ricice**	**5.96**	**339**	*e*Pn	**Pn**	**22 29 48.7**	**+1.2**
ZIRJ	**Zirje**	**6.61**	**330**	*e*Pn	**Pn**	**22 29 57.5**	**+1.1**
ZIRJ				Sn	**Sn**	**22 31 08.5**	**-2.4**
KIJV	**Kijevo**	**6.64**	**336**	*e*Pn	**Pn**	**22 29 59.1**	**+2.2**
KIJV				Sn	**Sn**	**22 31 11.3**	**-0.6**
MORI	**Morici**	**6.76**	**332**	*e*Pn	**Pn**	**22 30 00.7**	**+2.2**
UDBI	**Udbina**	**7.32**	**335**	*e*Pn	**Pn**	**22 30 08.9**	**+2.7**
VIRC	**Vir**	**7.37**	**330**	*e*Pn	**Pn**	**22 30 09.5**	**+2.6**
NVLJ	**Novalja**	**7.67**	**331**	*e*Pn	**Pn**	**22 30 10.7**	**-0.3**

UCR ***27*** *22:34:31.4±1.6, 8.99N×85.09W, h18km±5km, MWJ3.9*

INET ***27*** *22:34:32.3±1.1, 9.09N×84.91W, h1km±3km, MWJ3.0*

ISC 27 22:34:30.6±2.3, **9.00N**±0.08×**85.04W**±0.07, **h11**km±12km, **n27,** σ0**59**/33, **1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO2	**Cobano, Puntar**	**0.68**	**355**	*e*P	**Pg**	**22 34 44.7**	**+0.8**
JACO	**JACO, Garabito**	**0.76**	**30**	*e*P	**Pb**	**22 34 46.0**	**+0.1**
JACO				*e*S	**Sb**	**22 34 57.4**	**+1.2**
LAFE	**Finca La Fe, P**	**0.81**	**9**	*e*P	**Pg**	**22 34 46.4**	**+0.1**
LAFE	**Finca La Fe, P**	**0.81**	**9**	*e*P	**Pg**	**22 34 46.3**	**+0.1**
LAFE				*e*S	**Sb**	**22 34 57.7**	**0.0**
EDDO	**Dominical**	**1.19**	**78**	*e*P	**Pb**	**22 34 51.6**	**-1.6**
EDDO				*e*S	**Sn**	**22 35 09.4**	**-0.1**
LCR2	**La Lucha 2**	**1.26**	**54**	*e*P	**Pb**	**22 34 54.2**	**-0.3**
JTS	**Las Juntas de**	**1.28**	**4**	*e*P	**Pn**	**22 34 53.8**	**-0.7**
CDM	**Cerro de Muert**	**1.38**	**66**	*e*P	**Pn**	**22 34 56.2**	**0.0**
CDM	**Cerro de Muert**	**1.38**	**66**	*e*P	**Pn**	**22 34 56.2**	**0.0**
CDM				*e*S	**Sg**	**22 35 14.6**	**-0.5**
RIMA	**Rio Macho**	**1.39**	**57**	*e*P	**Pn**	**22 34 56.2**	**0.0**
RIMA	**Rio Macho**	**1.39**	**57**	*e*P	**Pn**	**22 34 56.2**	**0.0**
RIMA				*e*S	**Sg**	**22 35 15.0**	**-0.4**
ARE1	**Arenal 1**	**1.48**	**12**	*e*P	**Pn**	**22 34 57.6**	**+0.3**
CEDE	**Laguna Cedeo**	**1.51**	**13**	*i* P	**Pn**	**22 34 58.9**	**+1.2**
RIOS	**Rincon, Osa**	**1.54**	**101**	*e*P	**Pn**	**22 34 58.2**	**+0.2**
EDPN	**Palmar Norte**	**1.57**	**91**	*e*P	**Pn**	**22 34 59.0**	**+0.6**
ACAL	**Aguas Claras**	**1.62**	**0**	*i* P	**Pn**	**22 34 59.3**	**0.0**
CUI	**Cuipilapa**	**1.65**	**356**	*i* P	**Pn**	**22 34 59.5**	**-0.1**
COLC	**Colonia**	**1.66**	**355**	*i* P	**Pn**	**22 35 00.3**	**+0.5**
SRBA	**San Rafael, Bu**	**1.68**	**82**	*e*P	**Pn**	**22 35 00.6**	**+0.5**
LIM1	**Limonal**	**1.70**	**353**	*i* P	**Pn**	**22 35 00.5**	**+0.2**
LIM1				*i* S	**Sn**	**22 35 21.6**	**-0.4**
HORNC	**Hornillas**	**1.70**	**356**	*i* P	**Pn**	**22 35 00.1**	**-0.3**
EDBA	**Buenos Aires**	**1.75**	**85**	*e*P	**Pn**	**22 35 01.7**	**+0.6**
GPS2	**Hotel Rincn d**	**1.77**	**350**	*i* P	**Pn**	**22 35 01.1**	**-0.1**
PIRO	**Carate, Puerto**	**1.79**	**109**	*e*P	**Pn**	**22 35 02.0**	**+0.6**
PIRO	**Carate, Puerto**	**1.79**	**109**	*e*P	**Pn**	**22 35 02.0**	**+0.6**
DRK0	**Durika**	**1.79**	**82**	*e*P	**Pn**	**22 35 02.3**	**+0.6**
LAPC	**Finca la Perla**	**1.79**	**348**	*i* P	**Pn**	**22 35 01.2**	**-0.3**

IDC ***27*** *22:50:28.7±1.5, 21.48S×169.84E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/37, mbtmp4.0/13, ML3.6/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/62, Error ellipse: s-maj=52.4km s-min=20.1km az=149.0*

NOU ***27*** *22:50:31.0, 21.68S×169.69E, h0km, MLv4.4/8, Southeast of Loyalty Islands*

NEIC ***27*** *22:50:35.1±1.1, 21.65S±0.08×169.6E±0.1, h39km±5km, mb4.2/10, Error ellipse: s-maj=14.0km s-min=11.0km az=113.0*

ISC 27 22:50:31.8±0.7, **21.69S**±0.08×**169.73E**±0.08, **h21**km, **n71,** σ0**92**/67, **mb4.2**/15, **MS3.7**/11, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.60**	**277**		**Pn**	**22 50 58.4**	**-0.4**
MARNC				Sn	**Sn**	**22 51 18.0**	**-0.8**
MARNC	**Mare, Loyalty**	**1.60**	**277**	P	**Pn**	**22 50 59.7**	**+0.9**
PINNC	**Pines Island,**	**2.31**	**246**		**Pn**	**22 51 08.9**	**+0.3**
PINNC				Sn	**Sn**	**22 51 36.1**	**-0.3**
PINNC	**Pines Island,**	**2.31**	**246**	P	**Pn**	**22 51 09.5**	**+0.9**
LIFNC	**LIFOU**	**2.49**	**291**	Pn	**Pn**	**22 51 11.5**	**+0.3**
LIFNC	**LIFOU**	**2.49**	**291**	P	**Pn**	**22 51 11.3**	**+0.1**
YATNC	**Mamie plateau,**	**2.66**	**261**	P	**Pn**	**22 51 14.3**	**+0.8**
OUENC	**Ouen Island, N**	**2.78**	**254**		**Pn**	**22 51 15.8**	**+0.7**
OUENC	**Ouen Island, N**	**2.78**	**254**	P	**Pn**	**22 51 16.5**	**+1.4**
DZM	**Mont Dzumac**	**3.08**	**262**	*e*Pn	**Pn**	**22 51 20.2**	**+0.9**
	35nm,0.2s						
DZM				*e*Sn	**Sn**	**22 51 54.6**	**-0.9**
	132nm,0.2s						
DZM	**Mont Dzumac**	**3.08**	**262**	Pn	**Pn**	**22 51 20.0**	**+0.8**
	6.5nm,0.3s,baz=151,slow=6.1,SNR=164						
DZM				Sn	**Sn**	**22 51 54.7**	**-0.9**
	32nm,0.3s,baz=83,slow=21,SNR=12						
DZM				LR	LR	22 52 11.8	
	comp=Z,376nm,20.3s,baz=104,slow=32						
DZM	**Mont Dzumac**	**3.08**	**262**		**Pn**	**22 51 19.8**	**+0.5**
ONTNC	**Ouen Toro**	**3.10**	**258**		**Pn**	**22 51 20.1**	**+0.6**
ONTNC	**Ouen Toro**	**3.10**	**258**	P	**Pn**	**22 51 20.9**	**+1.4**
RTV	**Rentapao**	**4.07**	**342**	P	**Pn**	**22 51 35.0**	**+2.2**
KOUNC	**Koumac, New Ca**	**5.21**	**282**		**Pn**	**22 51 50.4**	**+1.9**
SANVU	**Saraoutou**	**6.65**	**338**	Pn	**Pn**	**22 52 09.3**	**+0.9**
URZ	**Urewera**	**17.70**	**161**	LR	LR	22 59 38.9	
	comp=Z,203nm,21.6s,baz=31,slow=31						
ARMA	**Armidale**	**18.42**	**238**	P	**P**	**22 54 44.7**	**-1.3**
ARMA				IAmb	IAmb	22 55 04.4	
	comp=Z,13nm,1.2s						
AFI	**Afiamalu**	**19.22**	**69**	LR	LR	23 00 34.9	
	comp=Z,157nm,21.4s,baz=282,slow=32						
CTA	**Charters Tower**	**21.99**	**270**	P	**P**	**22 55 27.4**	**+2.8**
	comp=Z,4.5nm,1.0s,baz=87,slow=14,SNR=2.0						
CTA				LR	LR	23 03 46.1	
PMG	**Port Moresby**	**24.90**	**296**	LR	LR	23 03 49.2	
	comp=Z,122nm,19.4s,baz=160,slow=32						
STKA	**Stephens Creek**	**27.02**	**242**	P	**P**	**22 56 14.1**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=100,slow=14,SNR=3.4						
STKA				LR	LR	23 06 03.7	
	comp=Z,185nm,19.1s,baz=26,slow=34						
STKA	**Stephens Creek**	**27.02**	**242**	P	**P**	**22 56 13.4**	**+0.8**
WR0	**Warramunga Arr**	**32.90**	**266**	P	**P**	**22 57 05.6**	**+0.9**
WR0				IAmb	IAmb	22 57 26.4	
	comp=Z,4.4nm,1.3s						
ASAR	**Alice Springs**	**33.06**	**260**	P	**P**	**22 57 07.0**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=84,slow=8.3,SNR=11						
ASAR				LR	LR	23 09 42.2	
	comp=Z,140nm,20.8s,baz=128,slow=35						
ASAR	**Alice Springs**	**33.06**	**260**	P	**P**	**22 57 06.1**	**-0.1**
WB0	**Warramunga Arr**	**33.06**	**267**	P	**P**	**22 57 05.7**	**-0.5**
WB0				IAmb	IAmb	22 57 26.1	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**33.08**	**266**	P	**P**	**22 57 05.6**	**-0.7**
WB2				IAmb	IAmb	22 57 23.4	
	comp=Z,5.7nm,1.4s						
WRA	**Warramunga Arr**	**33.09**	**266**	P	**P**	**22 57 06.9**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=97,slow=8.3,SNR=7.1						
WRA	**Warramunga Arr**	**33.09**	**266**	P	**P**	**22 57 05.3**	**-1.1**
JAY	**Jayapura**	**34.06**	**300**	LR	LR	23 10 46.6	
	comp=Z,52nm,18.9s,baz=62,slow=36						
FITZ	**Fitzroy Crossi**	**41.51**	**267**	P	**P**	**22 58 19.4**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=100,slow=6.1,SNR=2.6						
FITZ				LR	LR	23 16 06.2	
	comp=Z,193nm,18.2s,baz=105,slow=37						
FITZ	**Fitzroy Crossi**	**41.51**	**267**	P	**P**	**22 58 17.9**	**+0.1**
FITZ				IAmb	IAmb	22 58 34.1	
	comp=Z,6.1nm,1.0s						
GUMO	**Guam**	**42.71**	**323**	LR	LR	23 14 44.7	
	comp=Z,24nm,19.1s,baz=91,slow=34						
BATI	**Baumata**	**45.58**	**277**	LR	LR	23 19 35.1	
	comp=Z,256nm,18.2s,baz=193,slow=38						
LEM	**Lembang**	**61.62**	**274**	LR	LR	23 29 29.3	
	comp=Z,66nm,18.2s,baz=204,slow=38						
MJAR	**Matsushiro Arr**	**65.12**	**332**	P	**P**	**23 01 10.0**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=175,slow=7.4,SNR=4.7						
MJAR	**Matsushiro Arr**	**65.12**	**332**	P	**P**	**23 01 10.4**	**-0.7**
MJAR				IAmb	IAmb	23 01 32.2	
	comp=Z,5.1nm,1.4s						
JSD	**Sado**	**66.36**	**333**	P	**P**	**23 01 18.9**	**-0.1**
QSPA	**South Pole Qui**	**68.38**	**180**	P	**P**	**23 01 32.8**	**+1.1**
KSRS	**Korea Array**	**70.78**	**326**	P	**P**	**23 01 47.0**	**+0.4**
	comp=Z,0.6nm,0.2s,baz=140,slow=6.4,SNR=4.6						
PETK	**Petropavlovsk-**	**75.21**	**353**	P	**P**	**23 02 11.8**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=166,slow=7.0,SNR=2.4						
PETK				LR	LR	23 29 26.3	
	comp=Z,41nm,21.2s,baz=122,slow=31						
CMAR	**Chiang Mai Arr**	**79.93**	**294**	P	**P**	**23 02 40.3**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=131,slow=3.6,SNR=8.0						
CMAR	**Chiang Mai Arr**	**79.93**	**294**	P	**P**	**23 02 38.1**	**-1.5**
MA2	**Magadan**	**82.45**	**350**	LR	LR	23 33 41.9	
	comp=Z,33nm,21.5s,baz=143,slow=32						
SONM	**Songino Array**	**89.44**	**323**	P	**P**	**23 03 26.9**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=121,slow=3.3,SNR=7.7						
NVAR	**Mina Array Bea**	**90.07**	**48**	P	**P**	**23 03 30.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=237,slow=8.4,SNR=4.3						
NVAR	**Mina Array Bea**	**90.07**	**48**	P	**P**	**23 03 30.8**	**+0.3**
ILAR	**Eielson Array**	**92.42**	**17**	P	**P**	**23 03 38.2**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=224,slow=7.6,SNR=2.8						
ARCES	**ARCESS Array B**	**127.54**	**345**	PKP	**PKPdf**	**23 09 34.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=75,slow=3.1,SNR=9.5						
FINES	**FINESS Array B**	**133.01**	**337**	PKP	**PKiKP**	**23 09 46.0**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=11,slow=1.4,SNR=3.9						
AKASG	**Malin Array Be**	**137.73**	**323**	PKP	**PKPdf**	**23 09 54.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=70,slow=2.6,SNR=1.9						
CHVC	**Chvalec**	**144.53**	**331**	*e*PKP	**PKPdf**	**23 10 06.7**	**+0.1**
DPC	**Dobruska-Polom**	**144.58**	**330**	*e*PKP	**PKPdf**	**23 10 06.0**	**-0.7**
PVCC	**Panska Ves**	**145.24**	**332**	*e

X34A				IAmb_Lg			23 29 30.1			
	comp=Z,110nm,0.8s									
WMOK	**Wichita Mounta**	**2.06**	**205**			**Pn**	**23 28 58.5**	**+0.9**		
WMOK				IAmb_Lg			23 29 29.5			
	comp=Z,121nm,0.7s									
WMOK	**Wichita Mounta**	**2.06**	**205**	P		**Pn**	**23 28 58.6**	**+0.9**		
	baz=25									
WMOK				S		**Sb**	**23 29 26.2**	**+0.1**		
	baz=25									
KSU1	**Kansas State U**	**2.64**	**19**			**Pn**	**23 29 05.7**	**+0.1**		
KSU1	**Kansas State U**	**2.64**	**19**	P		**Pg**	**23 29 11.7**	**-1.8**		
	baz=199									
KSU1				Sb		**Sb**	**23 29 44.5**	**+1.7**		
	baz=199									
CBKS	**Cedar Bluff**	**2.73**	**324**			**Pn**	**23 29 07.1**	**+0.2**		
CBKS	**Cedar Bluff**	**2.73**	**324**	Sb		**Sg**	**23 29 48.7**	**-2.0**		
	baz=143									
X37A	**Clayton**	**2.77**	**136**			**Pn**	**23 29 08.3**	**+1.0**		
X37A				IAmb_Lg			23 29 56.5			
	comp=Z,103nm,0.8s									
HHAR	**Hobbs**	**3.05**	**95**			**Pn**	**23 29 12.0**	**+0.7**		
Z35A	**Perchaven, San**	**3.29**	**173**	Pn		**Pn**	**23 29 15.4**	**+0.9**		
Z35A						**Pb**	**23 29 21.8**	**+0.4**		
W39A	**Magazine**	**3.48**	**113**			**Pn**	**23 29 17.9**	**+0.8**		
W39A				Pg		**Pb**	**23 29 25.7**	**+1.1**		
W39A				IAmb_Lg			23 30 18.2			
	comp=Z,41nm,0.8s									
W39A	**Magazine**	**3.48**	**113**	Pb		**Pb**	**23 29 25.8**	**+1.1**		
	baz=295									
AMTX	**Amarillo**	**3.66**	**243**			**Pn**	**23 29 20.9**	**+1.1**		
AMTX				IAmb_Lg			23 30 21.7			
	comp=Z,59nm,0.8s									
AMTX	**Amarillo**	**3.66**	**243**	Sb		**Sg**	**23 30 18.3**	**-2.3**		
	baz=61									
S39A	**Bolivar**	**3.67**	**72**			**Pn**	**23 29 20.0**	**+0.3**		
S39A				IAmb_Lg			23 30 26.1			
	comp=Z,35nm,0.8s									
U40A	**Yellville**	**3.92**	**92**	Pn		**Pn**	**23 29 23.4**	**+0.2**		
U40A				IAmb_Lg			23 30 27.0			
	comp=Z,42nm,0.7s									
U40A	**Yellville**	**3.92**	**92**	P		**Pn**	**23 29 23.5**	**+0.4**		
	baz=275									
N33A	**J Bar K, Exete**	**4.13**	**3**	Pn		**Pn**	**23 29 25.5**	**-0.6**		
N33A				IAmb_Lg			23 30 35.1			
	comp=Z,46nm,1.1s									
ABTX	**Abilene, Hawle**	**4.28**	**202**			**Pn**	**23 29 28.6**	**+0.4**		
MGMO	**Mountain Grove**	**4.39**	**81**			**Pn**	**23 29 30.3**	**+0.6**		
P38A	**Dawn**	**4.46**	**46**			**Pn**	**23 29 31.5**	**+0.8**		
P38A				IAmb_Lg			23 30 43.3			
	comp=Z,52nm,0.8s									
X40A	**Basin Creek Fa**	**4.50**	**117**			**Pn**	**23 29 31.4**	**+0.2**		
N35A	**Tabor**	**4.54**	**20**	Pn		**Pn**	**23 29 32.3**	**+0.5**		
FCAR	**Ozark Folk Cen**	**4.57**	**97**			**Pn**	**23 29 32.1**	**0.0**		
KSCO	**Kaye Shedlock'**	**4.58**	**303**	Pn		**Pn**	**23 29 32.7**	**+0.3**		
KSCO				IAmb_Lg			23 30 52.0			
	comp=Z,33nm,0.7s									
WHAR	**Wooly Hollow**	**4.59**	**105**	IAmb_Lg			23 30 48.1			
	comp=Z,45nm,1.0s									
WHTX	**Lake Whitney,**	**4.61**	**177**	Pn		**Pn**	**23 29 33.2**	**+0.5**		
WHTX	**Lake Whitney,**	**4.61**	**177**	P		**Pn**	**23 29 33.5**	**+0.9**		
	baz=358									
R40A	**Maddies Statio**	**4.64**	**67**			**Pn**	**23 29 32.9**	**-0.2**		
R40A				IAmb_Lg			23 30 59.6			
	comp=Z,47nm,0.8s									
W41B	**Gary Mavity, V**	**4.66**	**106**	IAmb_Lg			23 30 51.9			
	comp=Z,32nm,0.7s									
WLAR	**White Oak Lake**	**4.76**	**126**	IAmb_Lg			23 30 57.5			
	comp=Z,32nm,0.7s									
BGNE	**Belgrade**	**4.81**	**356**	Pn		**Pn**	**23 29 35.4**	**0.0**		
BGNE	**Belgrade**	**4.81**	**356**	P		**Pn**	**23 29 35.5**	**0.0**		
	baz=176									
Z41A	**Richland Creek**	**5.23**	**128**	Pn		**Pn**	**23 29 41.7**	**+0.5**		
Z41A				IAmb_Lg			23 31 16.0			
	comp=Z,24nm,0.8s									
LCAR	**Lake Charles**	**5.32**	**94**	IAmb_Lg			23 31 13.7			
	comp=Z,44nm,1.0s									
T42A	**Van Buren**	**5.32**	**83**	Pn		**Pn**	**23 29 43.1**	**+0.6**		
T42A				IAmb_Lg			23 31 22.1			
	comp=Z,24nm,0.8s									
P40A	**Paris**	**5.33**	**55**	Pg		**Pg**	**23 30 01.4**	**-3.7**		
P40A				IAmb_Lg			23 31 12.7			
	comp=Z,47nm,0.7s									
T25A	**Trinidad**	**5.40**	**278**			**Pn**	**23 29 44.5**	**+0.8**		
T25A				IAmb_Lg			23 31 18.0			
	comp=Z,42nm,1.0s									
N38A	**Joes South For**	**5.45**	**39**	Pn		**Pn**	**23 29 44.3**	**+0.1**		
N38A				Pg		**Pb**	**23 30 02.4**	**+4.2**		
N38A				IAmb_Lg			23 31 21.3			
	comp=Z,50nm,0.8s									
L34A	**Svendsen Farm,**	**5.45**	**10**			**Pn**	**23 29 43.8**	**-0.5**		
L34A				IAmb_Lg			23 31 29.6			
	comp=Z,47nm,0.8s									
NATX	**Nacogdoches**	**5.45**	**152**	IAmb_Lg			23 31 30.3			
	comp=Z,21nm,0.8s									
OGNE	**Ogallala**	**5.50**	**323**	Pn		**Pn**	**23 29 45.2**	**+0.2**		
OGNE				IAmb_Lg			23 31 26.8			
	comp=Z,46nm,0.8s									
435B	**Jarrell**	**5.81**	**179**	IAmb_Lg			23 31 38.5			
	comp=Z,30nm,0.8s									
PBMO	**Poplar Bluff**	**5.85**	**86**	IAmb_Lg			23 31 31.9			
	comp=Z,43nm,0.7s									
SLM	**Saint Louis**	**6.27**	**69**	IAmb_Lg			23 31 42.2			
	comp=Z,35nm,0.9s									
SDCO	**Great Sand Dun**	**6.33**	**283**	Pn		**Pn**	**23 29 56.8**	**+0.3**		
SCIA	**State Center**	**6.34**	**32**	IAmb_Lg			23 31 47.5			
	comp=Z,36nm,0.7s									
Q24A	**Divide**	**6.35**	**294**			**Pn**	**23 29 57.6**	**+0.7**		
Q24A				IAmb_Lg			23 31 46.5			
	comp=Z,19nm,0.7s									
JCT	**Junction City**	**6.36**	**197**	Pn		**Pn**	**23 29 56.5**	**-0.2**		
143A	**Socs Landing,**	**6.49**	**125**	IAmb_Lg			23 32 00.5			
	comp=Z,29nm,0.9s									
ISCO	**Idaho Springs**	**7.00**	**300**	Pn		**Pn**	**23 30 06.7**	**+1.0**		
W45A	**Hickory Valley**	**7.07**	**99**	IAmb_Lg			23 32 16.3			
	comp=Z,29nm,0.8s									
OXF	**Oxford**	**7.08**	**105**	IAmb_Lg			23 32 17.1			
	comp=Z,24nm,0.8s									
ECSD	**EROS Data Cent**	**7.17**	**6**	Pn		**Pn**	**23 30 07.1**	**-0.8**		
ECSD	**EROS Data Cent**	**7.17**	**6**	P		**Pn**	**23 30 06.8**	**-1.1**		
	baz=187									
L40A	**Anamosa**	**7.41**	**41**	Pn		**Pn**	**23 30 10.2**	**-0.9**		
L40A				IAmb_Lg			23 32 22.6			
	comp=Z,27nm,1.1s									
PHWY	**Pilot Hill**	**7.64**	**310**	IAmb_Lg			23 32 44.0			
	comp=Z,14nm,0.8s									
N23A	**Red Feather La**	**7.73**	**306**	IAmb_Lg			23 32 48.3			
	comp=Z,22nm,0.8s									
SUSD	**Miller**	**7.89**	**353**	IAmb_Lg			23 32 44.6			
	comp=Z,19nm,0.8s									
Y22D	**IRIS PASSCAL I**	**7.94**	**254**	IAmb_Lg			23 32 56.3			
	comp=Z,31nm,0.8s									
I37A	**Lemond, Waseca**	**8.10**	**23**	IAmb_Lg			23 32 48.8			
	comp=Z,19nm,1.0s									
JFWS	**Jewell Farm**	**8.52**	**40**	IAmb_Lg			23 32 51.1			
	comp=Z,18nm,0.7s									
RSSD	**Black Hills**	**8.92**	**329**	IAmb_Lg			23 33 20.4			
	comp=Z,11nm,0.8s									
RWWY	**Rawlins**	**8.96**	**307**	IAmb_Lg			23 33 10.3			
	comp=Z,20nm,1.1s									
I40A	**Norwalk**	**9.07**	**34**	IAmb_Lg			23 33 25.8			
	comp=Z,11nm,0.8s									
K22A	**Casper**	**9.09**	**314**	IAmb_Lg			23 33 22.6			
	comp=Z,16nm,0.8s									
F33A	**5 Mile Ranch,**	**9.29**	**6**	IAmb_Lg			23 33 15.7			
	comp=Z,10nm,1.0s									
I42A	**Draeger Farm,**	**9.90**	**40**	IAmb_Lg			23 33 49.7			
	comp=Z,12nm,0.8s									

IDC 27 23:39:02.6±35.0, 24°45S×69°13E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/47, mbtmp3.5/3, Error ellipse: s-maj=1145.0km s-min=45.3km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.01**	**11**	T	T	23 59 56.8	
	baz=192						
H08S2	**Diego Garcia H**	**17.02**	**11**	T	T	23 59 59.2	
	baz=192						
H08S3	**Diego Garcia H**	**17.03**	**11**	T	T	23 59 59.0	
	baz=192						
ASAR	**Alice Springs**	**58.64**	**104**	P	P	23 49 01.8	-0.3
	0.5nm,0.8s,baz=251,slow=5.8,SNR=4.4						
WRA	**Warramunga Arr**	**60.06**	**100**	P	P	23 49 12.2	+0.2
	0.4nm,0.8s,baz=256,slow=8.8,SNR=3.3						

MKAR	**Makanchi Array**	**71.90**	**9**	P		P	23 50 27.5	0.0		
	0.4nm,0.7s,baz=194,slow=5.5,SNR=4.1									

CNRM ***27*** *23:40:10.9, 35°.67N×3°.82W, h15km, ml4.0*
IDC ***27*** *23:40:11.9±1.2, 35°.50N×3°.98W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/56, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=39.7km s-min=13.7km az=95.0*
SFS ***27*** *23:40:13.0, 35°.47N×3°.76W, ML3.0, ALBORAN SUR*
MDD ***27*** *23:40:14.2±0.4, 35°.41N×3°.74W, h7km±3km, mb_Lg3.1/15, Error ellipse: s-maj=3.3km s-min=1.9km az=163.0*
LDG ***27*** *23:40:15.2±0.3, 35°.40N×3°.71W, h10km, Ml3.0/9, Error ellipse: s-maj=7.4km s-min=3.5km az=175.0*
ISC 27 23:40:13.4±1.0, 35°.49N±0°.02×3°.73W±0°.02, h14km±7km, n80, σ1s87/130, mb3.5/3, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**212**	P	**Pg**	**23 40 20.0**	**-0.2**
PALE	**Palemas**	**0.33**	**212**	P	**Pg**	**23 40 19.9**	**-0.2**
PALE				S	**Sg**	**23 40 24.4**	**-0.3**
PVLZ	**Peæn de**	**0.57**	**236**	P	**Pg**	**23 40 23.9**	**-0.7**
PVLZ				S	**Sg**	**23 40 32.1**	**0.0**
GOG	**Mont Gurugu**	**0.66**	**114**	P	**Pb**	**23 40 27.0**	**+0.4**
GOG	**Mont Gurugu**	**0.66**	**114**	P	**Pb**	**23 40 26.8**	**+0.1**
GOG				S	**Sg**	**23 40 35.5**	**+0.6**
EMEL	**Melilla**	**0.66**	**107**	Pg	**Pb**	**23 40 26.9**	**+0.3**
EMEL				Sg	**Sb**	**23 40 36.5**	**+0.9**
EALB	**Alboran**	**0.72**	**51**	Pg	**Pb**	**23 40 28.4**	**+0.8**
EALB				Sg	**Sn**	**23 40 38.8**	**-1.1**
AKLM	**AKL**	**0.99**	**187**	P	**Pb**	**23 40 32.0**	**-0.3**
AKLM				S	**Sb**	**23 40 44.5**	**-0.7**
TAF	**Taforalt**	**1.27**	**122**	P	**Pn**	**23 40 36.0**	**-0.7**
TAF	**Taforalt**	**1.27**	**122**	P	**Pn**	**23 40 36.0**	**-0.7**
TAF				S	**Sb**	**23 40 51.5**	**-1.8**
SMIR	**Smir Dam**	**1.36**	**278**	P	**Pn**	**23 40 35.2**	**-2.8**
SMIR	**Smir Dam**	**1.36**	**278**	P	**Pn**	**23 40 35.1**	**-2.8**
SMIR				S	**Sn**	**23 40 54.3**	**-1.4**
EMIJ	**Mijas**	**1.36**	**322**	Pn	**Pn**	**23 40 37.4**	**-0.6**
ELGU	**Los Guajares,**	**1.37**	**3**	Pn	**Pn**	**23 40 37.3**	**-0.9**
ELGU				Sn	**Sn**	**23 40 55.1**	**-1.1**
EMAL	**Malaga-Limoner**	**1.39**	**336**	P	**Pb**	**23 40 39.0**	**-0.1**
EMAL				S	**Sb**	**23 40 56.7**	**+0.1**
ECEU	**Ceuta**	**1.40**	**287**	Pn	**Pn**	**23 40 36.4**	**-2.1**
ECEU				Sn	**Sn**	**23 40 52.6**	**-4.2**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**23 40 39.0**	**-1.0**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**23 40 38.8**	**-1.2**
JBK				S	**Sn**	**23 40 58.3**	**-1.1**
EBER	**Berja**	**1.56**	**26**	Pn	**Pn**	**23 40 40.3**	**-0.5**
EBER				Sn	**Sn**	**23 41 01.4**	**+0.5**
EGOR	**Sierra Gorda,**	**1.64**	**349**	Pn	**Pb**	**23 40 43.3**	**-0.3**
EGOR				Sn	**Sb**	**23 41 04.4**	**+0.3**
EQUE	**Quentar**	**1.72**	**8**	Pn	**Pb**	**23 40 44.5**	**-0.3**
EQUE				Sn	**Sb**	**23 41 05.9**	**-0.6**
EQUE				*i* Vmb_Lg		23 41 09.5	
SICH	**Sidi Chahed**	**1.91**	**224**	S	Sn	23 40 51.1	-18
SICH	**Sidi Chahed**	**1.91**	**224**	P	**Pn**	**23 40 45.4**	**0.0**
SICH				S	**Sb**	**23 41 11.8**	**+0.3**
ENIJ	**Nijar**	**1.92**	**39**	Pn	**Pn**	**23 40 45.2**	**-0.5**
ENIJ				Sn	**Sn**	**23 41 07.3**	**-2.3**
LCRM	**LCR**	**2.03**	**208**	P	**Pn**	**23 40 48.0**	**+0.7**
LCRM	**LCR**	**2.03**	**208**	P	**Pn**	**23 40 46.8**	**-0.5**
LCRM				S	**Sn**	**23 41 11.8**	**-0.7**
ESPR	**Espera**	**2.20**	**309**	Pn	**Pn**	**23 40 51.1**	**+1.6**
ESPR				Sn	**Sb**	**23 41 20.1**	**0.0**
ESPR				*i* Vmb_Lg		23 41 27.1	
IFR	**Ifrane**	**2.29**	**211**	P	**Pn**	**23 40 50.3**	**-0.5**
IFR				S	**Sn**	**23 41 17.6**	**-1.3**
CZD	**Col de Zad**	**2.69**	**204**	P	**Pn**	**23 40 56.6**	**+0.2**
CZD	**Col de Zad**	**2.69**	**204**	P	**Pn**	**23 40 56.7**	**+0.2**
CZD				S	**Sn**	**23 41 27.3**	**-1.5**
TLOR	**Lorca, Murcia**	**2.71**	**37**	Sn	**Sn**	**23 41 29.7**	**+0.6**
EADA	**Adamuz**	**2.75**	**346**	Pn	**Pn**	**23 40 59.2**	**+2.1**
EADA				Sn	**Sn**	**23 41 31.4**	**+1.2**
EADA				*i* Vmb_Lg		23 41 40.8	
MD31	**MD31**	**2.76**	**198**	P	**Pn**	**23 40 57.3**	**+0.1**
MD31				S	**Sn**	**23 41 29.0**	**-1.3**
MDT	**Midelt**	**2.77**	**196**	Pn	**Pn**	**23 40 57.4**	**0.0**
	3.1nm,0.3s,baz=174,slow=18,SNR=118						
MDT				Sn	**Sn**	**23 41 29.2**	**-1.4**
	7.9nm,0.3s,baz=135,slow=19,SNR=7.7						
MDT				Lg	Lg	23 41 39.0	
	15nm,0.3s,baz=94,slow=20,SNR=8.5						
MDT	**Midelt**	**2.77**	**196**	P	**Pn**	**23 40 57.2**	**-0.2**
MDT	**Midelt**	**2.77**	**196**	P	**Pn**	**23 40 57.2**	**-0.2**
MDT				S	**Sn**	**23 41 29.6**	**-1.1**
TDRA	**Tendrara**	**2.82**	**150**	P	**Pn**	**23 40 59.0**	**+0.8**
TDRA	**Tendrara**	**2.82**	**150**	P	**Pn**	**23 40 59.0**	**+0.8**
ECAB	**El Cabril**	**2.91**	**333**	Pn	**Pn**	**23 41 01.9**	**+2.5**
ECAB				Sn	**Sn**	**23 41 35.2**	**+1.1**
CART	**Cartagena**	**3.03**	**46**	P	**Pn**	**23 41 02.1**	**+1.3**
CART				S	**Sn**	**23 41 34.3**	**-2.6**
CART	**Cartagena**	**3.03**	**46**	P	**Pn**	**23 41 01.3**	**+0.4**
CART				S	**Sn**	**23 41 34.8**	**-2.1**
EMIN	**Mina Concepcio**	**3.28**	**315**	Pn	**Pn**	**23 41 04.2**	**-0.1**
EMIN				Sn	**Sn**	**23 41 44.0**	**+0.9**
EMIN				*i* Vmb_Lg		23 41 48.6	
ETRV	**Los Montesinos**	**3.47**	**42**	Pn	**Pn**	**23 41 08.5**	**+1.7**
ETRV				Sn	**Sn**	**23 41 45.9**	**-1.8**
ETRV				*i* Vmb_Lg		23 41 51.0	
ETOB	**Tobarra**	**3.60**	**28**	Pn	**Pn**	**23 41 11.2**	**+2.5**
ETOB				Sn	**Sn**	**23 41 53.1**	**+2.1**
EGRO	**El Granado**	**3.65**	**305**	Pn	**Pn**	**23 41 09.0**	**-0.3**
EGRO				Sn	**Sn**	**23 41 49.6**	**-2.6**
EGRO				*i* Vmb_Lg		23 41 57.1	
PVAQ	**Vaqueiros**	**3.74**	**302**	P	**Pn**	**23 41 10.3**	**-0.3**
PVAQ				S	**Sn**	**23 41 51.5**	**-3.0**
AVE	**Averroes**	**3.75**	**235**	P	**Pb**	**23 41 19.6**	**+0.2**
AVE				S	**Sb**	**23 42 05.2**	**+0.5**
AFON	**Font Roja**	**4.06**	**38**	Pn	**Pn**	**23 41 17.6**	**+2.4**
AFON				*i* Vmb_Lg		23 43 36.5	
PAB	**San Pablo**	**4.08**	**353**	Pn	**Pn**	**23 41 17.0**	**+1.6**
PAB				Sn	**Sn**	**23 42 04.8**	**+2.0**
ESDC	**Sonseca Array**	**4.18**	**357**	Pn	**Pn**	**23 41 18.1**	**+1.4**
	0.6nm,0.3s,baz=178,slow=12,SNR=34						
ESDC				Sn	**Sn**	**23 42 03.9**	**-1.4**
	0.5nm,0.3s,baz=174,slow=16,SNR=4.3						
ESDC				Lg	Lg	23 42 21.0	
	0.7nm,0.3s,baz=183,slow=28,SNR=4.8						
ESDC	**Sonseca Array**	**4.18**	**357**	Pn	**Pn**	**23 41 18.3**	**+1.6**
ESDC				Sn	**Sn**	**23 42 05.2**	**-0.1**
EBAD	**Badajoz**	**4.18**	**322**	Pn	**Pn**	**23 41 17.4**	**+0.7**
EBAD				Sn	**Sn**	**23 42 04.8**	**-0.6**
EBAD				*i* Vmb_Lg		23 42 10.0	
PESTR	**Estremoz**	**4.57**	**319**	P	**Pn**	**23 41 21.5**	**-0.5**
EVO	**Evora**	**4.58**	**313**	P	**Pn**	**23 41 22.5**	**+0.4**
EVO				S	**Sn**	**23 42 12.8**	**-2.3**
ECHE	**Chera**	**4.64**	**27**	Pn	**Pn**	**23 41 25.0**	**+2.0**
UCM	**Universidad Co**	**4.82**	**4**	P	**Pn**	**23 41 27.1**	**+1.6**
UCM				S	**Sn**	**23 42 27.9**	**+6.8**
EPLA	**Plasencia**	**4.93**	**338**	Pn	**Pn**	**23 41 29.7**	**+2.7**
EPLA				Sn	**Sn**	**23 42 25.3**	**+1.5**
EPLA				*i* Vmb_Lg		23 42 34.6	
TZRR	**Tazzarine**	**4.94**	**199**	P	**Pn**	**23 41 28.2**	**+0.9**
GUD	**Guadarrama**	**5.15**	**356**	Pn	**Pn**	**23 41 33.3**	**+3.2**
GUD				*i* Vmb_Lg		23 41 33.5	
OUZM	**OUZ**	**5.23**	**210**	P	**Pn**	**23 41 32.0**	**+0.7**
OUZM	**OUZ**	**5.23**	**210**	P	**Pn**	**23 41 31.2**	**0.0**
ETOR	**Torete**	**5.48**	**13**	Pn	**Pn**	**23 41 36.4**	**+1.8**
ETOR				Sn	**Sn**	**23 42 38.6**	**+1.1**
ETOR				*i* Vmb_Lg		23 43 46.1	
EMOS	**Mosqueruela**	**5.50**	**27**	Pn	**Pn**	**23 41 36.6**	**+1.6**
EMOS				Sn	**Sn**	**23 42 37.6**	**-0.5**
EMOS				*i* Vmb_Lg		23 43 19.5	
OUK	**Oukaimeden**	**5.50**	**220**	P	**Pn**	**23 41 34.3**	**-0.9**
ECOL	**Islas Columbre**	**5.62**	**37**	Pn	**Pn**	**23 41 37.8**	**+1.4**
ERTA	**Horta de San J**	**6.32**	**29**	Pn	**Pn**	**23 41 47.7**	**+1.6**
ERTA				Sn	**Sn**	**23 42 59.0**	**+0.9**
ERTA				*i* Vmb_Lg		23 45 05.2	
TTIG	**Tnine Tigouga,**	**6.32**	**220**	P	**Pn**	**23 41 44.0**	**-2.3**
TTIG	**Tnine Tigouga,**	**6.32**	**220**	P	**Pn**	**23 41 43.6**	**-2.7**
EPOB	**Poblet**	**6.96**	**31**	Pn	**Pn**	**23 41 57.3**	**+2.4**
EPOB				*i* Vmb_Lg		23 44 56.0	
ETSF	**Etsaut**	**7.79**	**17**	*e*Pn	**Pn**	**23 42 06.9**	**+0.5**
ETSF				*e*Sn	**Sn**	**23 43 29.9**	**-4.5**
	0.8nm,0.3s						
SJPF	**Ste Jean**	**7.85**	**14**	*e*Pn	**Pn**	**23 42 07.8**	**+0.7**
SJPF				*e*Sn	**Sn**	**23 43 31.5**	**-4.3**
	1.0nm,0.3s						
EPF	**Esparros**	**8.16**	**21**	*e*Pn	**Pn**	**23 42 11.6**	**+0.2**
EPF				*e*Sn	**Sn**	**23 43 38.6**	**-4.8**
	0.3nm,0.2s						
MTLF	**Montolieu**	**9.08**	**29**	*e*Pn	**Pn**	**23 42 24.2**	**+0.2**
MTLF				*e*Sn	**Sn**	**23 44 00.6**	**-5.4**
	0.3nm,0.3s						
LASF	**Ste Croix**	**10.36**	**32**	*e*Pn	**Pn**	**23 42 42.5**	**+1.0**
LASF				*e*Sn	**Sn**	**23 44 34.4**	**-3.1**
	0.1nm,0.4s						
LMR	**La Mourre**	**11.13**	**42**	*e*Pn	**Pn**	**23 42 54.7**	**+2.7**
LMR				*e*Sn	**Sn**	**23 44 51.7**	**-4.4**
	0.5nm,0.4s						
MFF	**Saint Martin d**	**11.42**	**13**	*e*Pn	**Pn**	**23 42 56.2**	**+0.2**
MFF				*e*Sn	**Sn**	**23 44 56.9**	**-6.4**
	1.6nm,0.2s						
PGF	**Pioggiola**	**12.14**	**51**	*e*Pn	**Pn**	**23 43 07.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**22.78**	**166**	P	**P**	**23 45 14.7**	**-0.8**
	0.6nm,0.9s,baz=338,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**62.68**	**50**	P	**P**	**23 50 39.5**	**+2.0**
	0.3nm,0.8s,baz=285,slow=5.7,SNR=2.8						
YKA	**Yellowknife Ar**	**67.86**	**332**	P	**P**	**23 51 11.7**	**+1.0**
	0.3nm,0.7s,baz=62,slow=6.2,SNR=5.4						

SFS ***27*** *23:56:02.2, 35°.31N×3°.73W, ML3.5, ALBORAN SUR*
IDC ***27*** *23:56:18.4±0.9, 35°.44N×3°.78W, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.6/57, mbtmp3.6/10, ML3.6/5, MS3.2/3, Ms1 3.2/3, ms1mx2.7/92, Error ellipse: s-maj=27.9km s-min=12.7km az=97.0*
CNRM ***27*** *23:56:19.4, 35°.54N×3°.78W, h23km, ml4.3*
MDD ***27*** *23:56:20.6±0.4, 35°.37N×3°.76W, h7km±3km, mb_Lg3.5/28, Error ellipse: s-maj=3.3km s-min=1.8km az=164.0*
IGIL ***27*** *23:56:20.5, 35°.31N×3°.74W, h16km, ML3.5*
CRAAG ***27*** *23:56:21.5, 35°.43N×3°.78W, Ml3.5*
LDG ***27*** *23:56:21.9±0.2, 35°.33N×3°.77W, h10km, Ml3.2/11, Error ellipse: s-maj=5.6km s-min=2.5km az=176.0*
INMG ***27*** *23:56:22.5±2.5, 35°.42N×3°.82W, h24km±12km, ML3.3, Error ellipse: s-maj=7.4km s-min=4.6km az=151.0*
ISC 27 23:56:21.4±0.6, 35°.46N±0°.03×3°.77W±0°.02, h21km±2km, n134, σ1s88/211, mb3.8/5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**209**	P	**Pb**	**23 56 26.8**	**-1.1**
PALE				S	**Sb**	**23 56 31.4**	**-0.9**
PVLZ	**Peæn de**	**0.52**	**237**	P	**Pb**	**23 56 30.4**	**-1.4**
PVLZ				S	**Sb**	**23 56 39.0**	**+0.1**
GOG	**Mont Gurugu**	**0.68**	**110**	P	**Pb**	**23 56 33.5**	**-1.2**
GOG				S	**Sb**	**23 56 42.6**	**-1.1**
EMEL	**Melilla**	**0.69**	**103**	Pg	**Pb**	**23 56 33.8**	**-0.9**
EMEL				Sg	**Sb**	**23 56 43.0**	**-0.8**
EALB	**Alboran**	**0.77**	**51**	Pg	**Pb**	**23 56 35.3**	**-0.8**
EALB				Sg	**Sb**	**23 56 45.7**	**-0.5**
EALB				*i* Vmb_Lg		23 56 47.3	
TAF	**Taforalt**	**1.29**	**120**	P	**Pn**	**23 56 43.0**	**-1.3**
TAF	**Taforalt**	**1.29**	**120**	P	Pb	23 56 52.0	+7.0
TAF	**Taforalt**	**1.29**	**120**	P	**Pn**	**23 56 41.7**	**-2.6**
TAF				S	**Sn**	**23 56 59.5**	**-1.4**
SMIR	**Smir Dam**	**1.33**	**280**	P	**Pn**	**23 56 42.1**	**-2.7**
SMIR	**Smir Dam**	**1.33**	**280**	P	**Pn**	**23 56 41.9**	**-2.9**
SMIR				S	**Sn**	**23 56 57.0**	**-4.9**
EMIJ	**Mijas**	**1.37**	**324**	Pn	**Pn**	**23 56 44.0**	**-1.3**
EMIJ				Sn	**Sn**	**23 57 01.2**	**-1.7**
EMIJ				*i* Vmb_Lg		23 57 05.7	
ECEU	**Ceuta**	**1.38**	**289**	Pn	**P

EANR 'Ain N'Sour 4.00 82 P Pb 23 57 38.7 +7.5
PCVE Castro Verde 4.06 304 *e*Pn **Pn** **23 57 21.6 -0.7**
PCVE *e*Sn **Sn** **23 58 07.7 -1.6**
PCVE A A 23 58 09.9
39nm,0.3s
PAB San Pablo 4.11 354 P **Pn** **23 57 23.9 +0.9**
PAB San Pablo 4.11 354 Pn **Pn** **23 57 23.7 +0.6**
PAB Sn **Sn** **23 58 11.1 +0.6**
PAB *i* Vmb_Lg 23 58 40.0
AFON Font Roja 4.11 38 Pn **Pn** **23 57 24.1 +1.0**
AFON Sn **Sn** **23 58 11.9 +1.2**
AFON *i* Vmb_Lg 23 58 14.7
PBEJ Beja 4.17 309 *e*Pn **Pn** **23 57 23.8 0.0**
PBEJ *e*Sn **Sn** **23 58 10.1 -1.8**
PBEJ A A 23 58 13.7
32nm,0.4s
EBAD Badajoz 4.19 323 Pn **Pn** **23 57 24.0 0.0**
EBAD Sn **Sn** **23 58 14.5 +2.2**
EBAD *i* Vmb_Lg 23 58 16.0
ESDC Sonseca Array 4.21 358 Pn **Pn** **23 57 25.3 +0.8**
2.2nm,0.3s,baz=178,slow=12,SNR=93
ESDC Sn **Sn** **23 58 09.3 -3.7**
1.5nm,0.3s,baz=183,slow=21,SNR=5.4
ESDC Lg Lg 23 58 31.2
2.5nm,0.3s,baz=173,slow=27,SNR=5.0
ESDC Sonseca Array 4.21 358 Pn **Pn** **23 57 25.2 +0.7**
ESDC Sn **Sn** **23 58 12.0 -1.1**
ESDC *i* Vmb_Lg 23 58 38.8
MORF Marmelete 4.35 297 *e*P **Pn** **23 57 25.5 -0.8**
MORF *e*S **Sn** **23 58 12.9 -3.4**
MORF IAML 23 58 17.0
comp=E,98nm,0.3s
MORF Marmelete 4.35 297 *e*Pn **Pn** **23 57 26.4 +0.1**
MORF *e*Sn **Sn** **23 58 13.7 -2.6**
MORF A A 23 58 21.8
comp=E,60nm,0.2s
PFVI Vila Bisbo 4.41 294 *e*Pn **Pn** **23 57 27.6 +0.5**
PFVI *e*Sn **Sn** **23 58 14.5 -3.3**
PFVI A A 23 58 25.4
comp=E,46nm,0.5s
PTEO Sao Teotonio 4.50 299 *e*Pn **Pn** **23 57 28.8 +0.5**
PTEO *e*Sn **Sn** **23 58 18.0 -2.0**
PTEO A A 23 58 24.9
comp=E,43nm,0.3s
PESTR Estremoz 4.57 319 *e*Pn **Pn** **23 57 29.8 +0.5**
PESTR *e*Sn **Sn** **23 58 19.8 -2.0**
PESTR A A 23 58 26.5
comp=E,14nm,0.2s
PESTR Estremoz 4.57 319 P **Pn** **23 57 30.6 +1.2**
EVO Evora 4.58 313 P **Pn** **23 57 29.7 +0.3**
EVO S **Sn** **23 58 20.1 -1.8**
EVO Evora 4.58 313 *e*Pn **Pn** **23 57 29.3 -0.1**
EVO *e*Sn **Sn** **23 58 20.2 -1.7**
EVO A A 23 58 20.8
comp=E,29nm,0.7s
PNCL Nicolau / Gran 4.65 306 *e*Pn **Pn** **23 57 29.8 -0.5**
PNCL *e*Sn **Sn** **23 58 20.7 -2.9**
PNCL A A 23 58 25.0
comp=E,23nm,0.6s
ECHE Chera 4.69 28 Pn **Pn** **23 57 32.0 +1.0**
ECHE Sn **Sn** **23 58 25.4 +0.6**
ECHE *i* Vmb_Lg 23 58 56.8
UCM Universidad Co 4.86 5 P **Pn** **23 57 34.1 +0.8**
UCM S **Sn** **23 58 27.0 -1.9**
PMRV Marv??o 4.90 325 *e*Pn **Pn** **23 57 34.2 +0.4**
PMRV *e*Sn **Sn** **23 58 27.0 -2.9**
PMRV A A 23 59 00.0
comp=E,16nm,0.4s
TZRR Tazzarine 4.90 198 P **Pn** **23 57 35.1 +1.1**
TZRR Tazzarine 4.90 198 P **Pn** **23 57 34.7 +0.7**
EPLA Plasencia 4.95 339 Pn **Pn** **23 57 35.7 +1.2**
EPLA Sn **Sn** **23 58 33.0 +1.8**
EPLA *i* Vmb_Lg 23 58 39.9
PMTG Montargil 5.06 317 *e*Pn **Pn** **23 57 36.0 0.0**
PMTG *e*Sn **Sn** **23 58 31.9 -1.9**
PMTG A A 23 58 35.9
comp=E,19nm,0.5s
OUZM OUZ 5.18 210 P **Pn** **23 57 39.0 +1.1**
OUZM OUZ 5.18 210 P **Pn** **23 57 38.2 +0.4**
GUD Guadarrama 5.18 357 Pn **Pn** **23 57 39.0 +1.1**
GUD *i* Vmb_Lg 23 59 08.8
PACT Alcochete 5.22 311 *e*Pn **Pn** **23 57 38.6 +0.4**
PACT *e*Sn **Sn** **23 58 35.5 -2.3**
PACT A A 23 58 45.4
comp=E,27nm,0.5s
PCBR Castelo Branco 5.27 327 *e*Pn **Pn** **23 57 39.3 +0.4**
PCBR *e*Sn **Sn** **23 58 36.0 -3.0**
PCBR A A 23 58 46.1
comp=E,15nm,0.5s
LIS Lisbon 5.39 309 *e*Pn **Pn** **23 57 40.9 +0.3**
PMST Lisbon--Monsan 5.42 309 *e*Pn **Pn** **23 57 41.2 +0.2**
OUK Oukaimeden 5.45 220 P **Pn** **23 57 41.3 -0.7**
ETOR Torete 5.52 14 Pn **Pn** **23 57 43.3 +0.8**
ETOR Sn **Sn** **23 58 45.1 -0.2**
ETOR *i* Vmb_Lg 23 59 08.1
EMOS Mosqueruela 5.55 27 Pn **Pn** **23 57 43.8 +0.8**
EMOS Sn **Sn** **23 58 44.4 -1.8**
EMOS *i* Vmb_Lg 23 58 47.6
PMAFR Mafra 5.61 310 *e*Pn **Pn** **23 57 45.0 +1.3**
PMAFR *e*Sn **Sn** **23 58 45.3 -2.2**
PMAFR A A 23 59 03.9
comp=E,29nm,0.7s
ECOL Islas Columbre 5.67 37 Pn **Pn** **23 57 44.5 +0.1**
ECOL Sn **Sn** **23 58 47.0 -1.8**
PSBE So Bento 5.69 317 *e*Pn **Pn** **23 57 45.0 +0.3**
PSBE *e*Sn **Sn** **23 58 46.9 -2.4**
PSBE A A 23 58 56.8
comp=E,16nm,0.6s
MTE Manteigas 5.76 330 *e*Pn **Pn** **23 57 47.3 +1.5**
MTE *e*Sn **Sn** **23 58 49.7 -1.6**
MTE A A 23 59 05.3
comp=E,16nm,0.5s
PCAS Casmilo, Conde 5.92 322 *e*Pn **Pn** **23 57 50.6 +2.7**
PCAS *e*Sn **Sn** **23 58 53.6 -1.4**
PCAS A A 23 58 55.7
comp=E,14nm,0.4s
EAH EAH 6.16 234 P **Pn** **23 57 50.4 -0.8**
PVIS Viseu 6.17 329 *e*Pn **Pn** **23 57 52.7 +1.3**
PVIS *e*Sn **Sn** **23 58 59.3 -2.0**
PVIS A A 23 59 16.7
comp=E,10nm,0.5s
MVO Moncorvo 6.25 337 *e*Pn **Pn** **23 57 53.3 +0.9**
MVO *e*Sn **Sn** **23 59 00.1 -3.1**
MVO A A 23 59 11.8
comp=E,22nm,0.5s
TTIG Tnine Tigouga, 6.27 220 P **Pn** **23 57 50.7 -2.2**
ERTA Horta de San J 6.37 29 Pn **Pn** **23 57 54.9 +0.9**
ERTA Sn **Sn** **23 59 05.8 -0.3**
ERTA *i* Vmb_Lg 23 59 09.7
PVRL Vila Real 6.58 333 *e*Pn **Pn** **23 57 57.6 +0.6**
PVRL *e*Sn **Sn** **23 59 07.2 -4.2**
PVRL A A 23 59 17.8
comp=E,19nm,0.5s
POLO Lamas de Olo 6.70 333 *e*Pn **Pn** **23 57 59.4 +0.8**
POLO *e*Sn **Sn** **23 59 10.5 -3.8**
POLO A A 23 59 25.7
comp=E,4.7nm,0.6s
PBRG Braganca 6.75 341 *e*Pn **Pn** **23 58 00.4 +1.1**
PBRG *e*Sn **Sn** **23 59 11.5 -4.0**
PTO Porto 6.82 328 *e*Pn **Pn** **23 58 01.7 +1.4**
EPOB Poblet 7.01 31 Pn **Pn** **23 58 04.4 +1.5**
EPOB *i* Vmb_Lg 00 02 51.9
PCAB Cabril 7.08 333 *e*Sn **Sn** **23 59 19.9 -3.6**
ELOB Lobios 7.22 334 Pn **Pn** **23 58 07.2 +1.3**
ELOB Sn **Sn** **23 59 26.8 -0.5**
PCAV Gavieira, Arco 7.39 333 *e*Pn **Pn** **23 58 13.2 +5.1**
EORO Oroz-Betelu 7.67 14 Pn **Pn** **23 58 14.3 +2.4**
ETSF Etsaut 7.84 18 *e*Pn **Pn** **23 58 16.6 +2.4**
ETSF *e*Sn **Sn** **23 59 39.8 -2.5**
comp=E,1.3nm,0.3s
SJPF Ste Jean 7.90 14 *e*Pn **Pn** **23 58 17.1 +2.1**
SJPF *e*Sn **Sn** **23 59 41.1 -2.6**
comp=E,1.0nm,0.3s
EARI Arriondas 7.91 352 Pn **Pn** **23 58 17.9 +2.7**
EARI Sn **Sn** **23 59 44.7 +0.6**
EPF Esparros 8.21 22 *e*Pn **Pn** **23 58 20.2 +0.9**
EPF *e*Sn **Sn** **23 59 48.5 -2.9**
comp=E,1.6nm,0.4s
MTLF Montolieu 9.13 29 *e*Pn **Pn** **23 58 32.8 +0.8**
MTLF *e*Sn **Sn** **00 00 10.2 -3.9**
comp=E,1.1nm,0.5s
LFF La Frestale 10.08 19 *e*Pn **Pn** **23 58 45.7 +0.8**
LFF *e*Sn **Sn** **00 00 32.9 -4.3**
comp=E,0.9nm,0.3s
CAF Calviac 10.45 23 *e*Pn **Pn** **23 58 50.5 +0.4**
CAF *e*Sn **Sn** **00 00 42.3 -4.2**
comp=E,0.5nm,0.2s
RJF Les Rejaudoux 10.63 21 *e*Pn **Pn** **23 58 53.4 +1.0**
PMPST Porto Santo, M 10.66 261 *e*P **Pn** **23 58 54.8 +1.9**
KEST Kesra 10.69 85 Pn **Pn** **23 58 54.1 +0.7**
comp=E,0.1nm,0.3s,baz=326,slow=8.6,SNR=1.0
KEST Sn **Sn** **00 00 48.0 -4.4**
comp=E,0.1nm,0.3s,baz=189,slow=15,SNR=1.5
KEST LR LR 00 03 59.9
comp=E,77nm,20.4s,baz=214,slow=43
LMR La Mourre 11.18 42 *e*Pn **Pn** **23 59 00.9 +0.9**
LMR *e*Sn **Sn** **00 00 58.8 -5.4**
comp=E,1.0nm,0.4s
FRF La Foret Royal 11.40 42 *e*Sn **Sn** **00 01 03.5 -6.3**
comp=E,0.4nm,0.2s
SBF Sospel 12.03 42 *e*Pn **Pn** **23 59 13.2 +1.5**
PGF Pioggiola 12.19 51 *e*Pn **Pn** **23 59 15.0 +1.1**
PGF *e*Sn **Sn** **00 01 22.5 -6.7**
comp=E,1.3nm,0.5s
VAE Valguarnera 14.77 77 LR LR 00 05 36.4
comp=E,111nm,19.9s,baz=294,slow=38
GERES GERESS Array B 18.56 39 P **P** **00 00 36.5 -0.4**
comp=E,0.1nm,0.3s,baz=221,slow=9.9,SNR=4.4
GERES LR LR 00 06 34.4
comp=E,82nm,20.5s,baz=349,slow=33
EKA Eskdalemuir Ar 19.88 1 P **P** **00 00 51.0 -0.2**
baz=172,slow=10.0,SNR=1.5
CLL Collm 19.91 32 *e*P **Pn** **00 00 53.0 -0.3**
TORD Torodi Ar. Bea 22.76 166 P **P** **00 01 21.4 -1.0**
comp=E,2.7nm,0.9s,baz=352,slow=9.0,SNR=11
MKAR Makanchi Array 62.73 50 P **P** **00 06 44.7 -0.2**
comp=E,0.5nm,0.8s,baz=271,slow=6.7,SNR=5.3
YKA Yellowknife Ar 67.87 332 P **P** **00 07 18.1 +0.3**
comp=E,1.0nm,0.7s,baz=60,slow=6.5,SNR=12
SONM Songino Array 76.28 41 P **P** **00 08 10.4 +1.8**
comp=E,0.7nm,1.1s,baz=282,slow=1.3,SNR=2.9
PDAR Pinedale Array 76.87 313 P **P** **00 08 13.0 +0.8**
comp=E,0.8nm,0.6s,baz=55,slow=7.8,SNR=5.5

*ECX **28** 00:03:37.7±0.4,30.˝12N×114.˝21W,h18km±14km,MD5.1, ML4.7,MW4.9,Fault plane solution: NP1:φs87.00000°, δ70.00000°,λ-22.00000°.*
*IDC **28** 00:03:38.7±0.6,30.˝34N×114.˝07W,h0km,mb4.0/24, mb1 4.1/33,mb1mx4.1/48,mbtmp3.9/33,ML3.5/8,MS4.4/4, Ms1 4.4/4,ms1mx3.8/81,Error ellipse: s-maj=14.6km s-min=7.7km az=40.0*
*MEX **28** 00:03:39.1±0.5,30.˝09N×114.˝27W,h10km,MD4.9*
*NEIC **28** 00:03:41.2±2.0,30.˝22N±0.˝04×114.˝28W±0.˝05,h10km±1km, mb5.1/302,Mwr4.8/95,Mww5.1,Md4.9/23(MEX),Error ellipse: s-maj=9.0km s-min=5.9km az=230.0*
*NEIC **28** 00:03:41.4,30.˝23N×114.˝25W,h6km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=-0.38; Mθθ-0.23; Mφφ 0.60; Mrθ 0.29; Mθφ 1.90; Mφr-0.84; Fault plane solution: M₀2.16000×10¹⁶ NP1:φs261.93000°, δ64.96000°,λ-9.95000°. NP2:φs356.18000°,δ81.00000°, λ-154.62000°. Principal axes: T 2.2220, Plg11.0000°, Azm127.0000°; N -0.1319, Plg63.0000°, Azm14.0000°; P -2.0901, Plg24.0000°, Azm222.0000°;*
*GCMT **28** 00:03:44.2±0.2,30.˝24N±0.˝01×114.˝17W±0.˝01,h12km, MW5.1/128,Moment Tensor Solution. s71,c90; s128,c205; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.10±.12; Mθθ-1.39±.13; Mφφ 2.49±.12; Mrθ-0.34±.33; Mθφ4.88±.10; Mφr-1.15±.32; Best double couple: M₀5.36300×10¹⁶ NP1:φs260.00000°,δ79.00000°, λ2.00000°. NP2:φs169.00000°,δ88.00000°,λ169.00000°. Principal axes: T 5.9860, Plg9.0000°, Azm124.0000°; N -1.2470, Plg79.0000°, Azm337.0000°; P -4.7390, Plg6.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 00:03:47,30.˝23N×114.˝24W,h12km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.32; Mθθ-0.26; Mφφ 1.58; Mrθ 1.23; Mθφ 5.06; Mφr 1.62; Fault plane solution: M₀5.65000×10¹⁶ NP1:φs86.00000°, δ78.00000°,λ9.00000°. NP2:φs354.00000°,δ81.00000°, λ168.00000°. Principal axes: T 6.3413, Plg15.0000°, Azm310.0000°; N -1.8504, Plg75.0000°, Azm138.0000°; P -4.4909, Plg2.0000°, Azm40.0000°;*

ISC 28 00:03:40.2±1.2,30.˝27N±0.˝04×114.˝32W±0.˝03,h10km±7km, n695,σ1s70/694,mb5.0/143,14C-4D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.89**	**329**	Pg		**Pg**	**00 03 55.6**	**-1.7**
SFX				Sg		**Sb**	**00 04 10.3**	**+0.6**
SFX	**San Felipe**	**0.89**	**329**	*i*P		**Pg**	**00 03 55.9**	**-1.4**
SFX				*e*S		**Sb**	**00 04 10.6**	**+0.9**
SFX				IAML			00 04 11.2	
	comp=N,14μm,0.7s							
SFX				IAML			00 04 19.6	
	comp=E,18μm,0.8s							
BAHB	**Baha de los**	**1.48**	**153**	*i* P		Pn	00 03 59.8	-7.1
BAHB				*i* S		Sn	00 04 15.3	-11
BAHB	**Baha de los**	**1.48**	**153**	⇑*i*P		Pn	00 03 59.9	-7.0
BAHB				*e*S		**Sn**	**00 04 23.2**	**-3.1**
RITX	**Riito Sonora**	**1.97**	**344**	⇑*e*P		**Pb**	**00 04 16.6**	**+0.5**
SVX	**San Vicente**	**1.97**	**303**	⇑*i*P		**Pn**	**00 04 12.1**	**-1.5**
SVX				IAML			00 04 52.6	
	comp=N,5μm,0.7s							
SVX				IAML			00 04 52.8	
	comp=E,7μm,1.0s							
214A	**Organ Pipe Nat**	**2.12**	**37**	Pn		**Pn**	**00 04 13.1**	**-2.7**
214A						**Sn**	**00 04 41.6**	**-0.6**
214A	**Organ Pipe Nat**	**2.12**	**37**	*i* P		**Pn**	**00 04 13.1**	**-2.7**
214A				*i* S		**Sn**	**00 04 39.0**	**-2.6**
214A	**Organ Pipe Nat**	**2.12**	**37**	⇑*e*P		**Pn**	**00 04 13.0**	**-2.7**
214A	**Organ Pipe Nat**	**2.12**	**37**	*e*P		**Pn**	**00 04 12.9**	**-2.9**
	baz=216,SNR=240							
GUVIX	**Guadalupe Vict**	**2.12**	**342**	Pn		**Pn**	**00 04 17.5**	**+1.7**
MBIG	**Mexicali**	**2.26**	**341**			Sn	00 04 36.4	-9.1
MBIG	**Mexicali**	**2.26**	**341**	*i* P		Pn	00 04 11.1	-6.5
MBIG				*e*P		**Pb**	**00 04 17.4**	**-3.7**
MBIG				*i* S		Sn	00 04 36.4	-9.1
MBIG				*i* S		**Sb**	**00 04 44.1**	**-4.9**
YMD	**Yuma Desert**	**2.28**	**355**	⇓*i*P		**Pn**	**00 04 16.6**	**-1.4**
CPBX	**Cerro Prieto**	**2.30**	**339**			**Pn**	**00 04 18.4**	**+0.2**
CPBX	**Cerro Prieto**	**2.30**	**339**	IAML			00 05 40.3	
	comp=E,11μm,1.6s							
CPBX				⇑*e*			00 05 40.3	
CPBX				IAML			00 05 60.0	
	comp=N,12μm,0.9s							
CPBX				⇑*e*			00 05 60.0	
113A	**Mohawk Valley,**	**2.53**	**11**			**Pn**	**00 04 19.4**	**-2.0**
UABX	**UABC, Campus M**	**2.54**	**338**			**Pn**	**00 04 21.6**	**+0.1**
CCX	**Cicese**	**2.56**	**309**	Pn		**Pn**	**00 04 21.0**	**-0.8**
CCX	**Cicese**	**2.56**	**309**	*e*P		**Pn**	**00 04 21.3**	**-0.6**
YUH2	**Yuha Desert**	**2.73**	**330**	*e*P		**Pn**	**00 04 23.3**	**-0.9**
YUH	**Yuha Desert**	**2.74**	**330**			**Pn**	**00 04 23.2**	**-1.0**
RMX	**La Rumorosa**	**2.77**	**328**			**Pn**	**00 04 24.4**	**-0.3**
GLA	**Glamis**	**2.80**	**351**			**Pn**	**00 04 23.8**	**-1.4**
GLA	**Glamis**	**2.80**	**351**	*e*P		**Pn**	**00 04 24.8**	**-0.4**
GLA	**Glamis**	**2.80**	**351**	P		**Pn**	**00 04 23.0**	**-2.2**
	baz=170,SNR=18							
IKP	**In-Ko-Pah, Jac**	**2.82**	**328**	⇑*e*P		**Pn**	**00 04 24.9**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**2.82**	**328**	P		**Pn**	**00 04 22.6**	**-2.9**
	baz=146,SNR=30							
CBX	**Cerro Bola**	**2.86**	**316**			**Sn**	**00 04 58.0**	**-2.6**
CBX	**Cerro Bola**	**2.86**	**316**			**Pn**	**00 04 24.2**	**-1.8**
CBX	**Cerro Bola**	**2.86**	**316**	*i* P		**Pn**	**00 04 24.2**	**-1.8**
CBX				*e*S		**Sn**	**00 04 58.0**	**-2.6**
CBX	**Cerro Bola**	**2.86**	**316**	⇑*e*P		**Pn**	**00 04 24.3**	**-1.8**
SWSC	**Sam W. Stewart**	**2.95**	**335**	P		**Pn**	**00 04 24.0**	**-3.2**
	baz=154,SNR=19							
TJIG	**Tijuana**	**2.95**	**318**			**Pn**	**00 04 23.9**	**-3.3**
TJIG						**Sn**	**00 04 59.8**	**-2.9**
TJIG	**Tijuana**	**2.95**	**318**	*e*P		**Pn**	**00 04 23.9**	**-3.3**
TJIG				*e*S		**Sn**	**00 04 59.8**	**-2.9**
TKX	**Tecate**	**3.01**	**320**			**Pn**	**00 04 26.5**	**-1.5**
BAR	**Barrett**	**3.13**	**321**			**Pn**	**00 04 28.1**	**-1.6**
BAR	**Barrett**	**3.13**	**321**	⇑*e*P		**Pn**	**00 04 28.3**	**-1.4**
MONP2	**Monument Peak**	**3.17**	**326**	P		**Pn**	**00 04 28.0**	**-2.3**
	baz=145,SNR=31							
TJX	**Tijuana**	**3.23**	**314**			**Pn**	**00 04 33.0**	**+2.0**
SRIG	**Santa Rosalia**	**3.46**	**148**	Pn		**Pn**	**00 04 30.9**	**-3.3**
SRIG	**Santa Rosalia**	**3.46**	**148**	*e*P		Pn	00 04 27.9	-6.3
BLYC	**Blythe**	**3.47**	**357**			**Pn**	**00 04 34.5**	**+0.2**
BC3	**Big Chuckawall**	**3.51**	**344**	P		**Pn**	**00 04 32.3**	**-2.7**
	baz=163,SNR=10							
109C	**Camp Elliot, M**	**3.53**	**318**	Pn		**Pn**	**00 04 34.2**	**-0.9**
109C	**Camp Elliot, M**	**3.53**	**318**	P		**Pn**	**00 04 32.9**	**-2.2**
	baz=137,SNR=20							
TUC	**Tucson**	**3.64**	**55**	Pn		**Pn**	**00 04 33.3**	**-3.5**
TUC	**Tucson**	**3.64**	**55**	*e*P		**Pn**	**00 04 34.5**	**-2.3**
TUC	**Tucson**	**3.64**	**55**	P		**Pn**	**00 04 33.7**	**-3.1**
	baz=236							
PFO	**Pinyon Flats O**	**3.79**	**332**	Pn		**Pn**	**00 04 37.7**	**-1.2**
	comp=N,1.7nm,0.3s,baz=150,slow=12,SNR=21							
PFO				Lg		Lg	00 05 39.2	
	comp=N,7.6nm,0.3s,baz=112,slow=19,SNR=2.2							
PFO	**Pinyon Flats O**	**3.79**	**332**	Pn		**Pn**	**00 04 37.4**	**-1.4**
PFO	**Pinyon Flats O**	**3.79**	**332**	P		**Pn**	**00 04 35.9**	**-3.0**
	baz=150							
Y14A	**Wickenburg**	**3.82**	**17**			**Pn**	**00 04 38.3**	**-0.9**
GUYB	**Guaymas**	**3.83**	**127**	*e*P		Pn	00 04 31.4	-7.9
GUYB	**Guaymas**	**3.83**	**127**	⇑*e*P		Pn	00 04 34.1	-5.2
GUYB				IAML			00 06 28.5	
	comp=N,1μm,1.6s							
IRM	**Iron Mountain**	**3.94**	**350**	P		**Pn**	**00 04 38.3**	**-2.5**
	baz=169,SNR=9.9							
BELC	**Belle Mtn. Jos**	**3.98**	**339**	P		**Pn**	**00 04 38.8**	**-2.7**
	baz=158							
PDMCI	**Parker Dam,Lak**	**4.02**	**2**	P		**Pn**	**00 04 39.6**	**-2.3**
	baz=181,SNR=25							
MURC	**Murrieta**	**4.12**	**324**	P		**Pn**	**00 04 41.3**	**-2.0**
	baz=143							
NZIG	**Nacozari, Sono**	**4.12**	**87**	*e*P		Pn	00 04 38.0	-5.4
ELS	**Elsinore Mount**	**4.28**	**323**			**Pn**	**00 04 44.2**	**-1.3**
319A	**Douglas**	**4.47**	**74**	Pn		**Pn**	**00 04 45.6**	**-2.6**
NEE2	**Needles Airpor**	**4.49**	**357**	P		**Pn**	**00 04 46.8**	**-1.5**
	baz=176							
SCI2	**San Clemente I**	**4.50**	**308**	P		**Pn**	**00 04 45.9**	**-2.6**
	baz=126							
GMRC	**Granite Mounta**	**4.64**	**346**	P		**Pn**	**00 04 47.5**	**-3.0**
	baz=165							
CIS	**Catalina Islan**	**4.68**	**313**	P		**Pn**	**00 04 48.4**	**-2.6**
	baz=131							
X16A	**Lo Mia Camp, P**	**4.80**	**30**			**Pn**	**00 04 52.4**	**-0.4**
W13A	**Hualapai Mount**	**4.83**	**4**	Pn		**Pn**	**00 04 53.1**	**0.0**
BFSC	**Mount Baldy Ra**	**4.86**	**325**	P		**Pn**	**00 04 52.1**	**-1.5**
	baz=143							
BFSC				Sb		**Sb**	**00 06 07.8**	**+3.6**
	baz=143							
PASC	**Pasadena Art C**	**5.08**	**321**			**Pg**	**00 05 17.3**	**-0.2**
DECC	**Green Verdugo**	**5.23**	**320**	P		**Pn**	**00 04 56.8**	**-1.7**
	baz=138							
DECC				Sb		**Sb**	**00 06 18.3**	**+3.7**
	baz=138							
SNCC	**San Nicolas Is**	**5.33**	**305**	Pn		**Pn**	**00 04 60.0**	**0.0**
SNCC	**San Nicolas Is**	**5.33**	**305**	P		**Pn**	**00 04 57.7**	**-2.2**
	baz=122							
GSC	**Goldstone, Bar**	**5.43**	**338**	Pn		**Pn**	**00 05 01.9**	**+0.5**
GSC	**Goldstone, Bar**	**5.43**	**338**	P		**Pn**	**00 04 58.8**	**-2.6**
	baz=156							
CGIG		**5.48**	**87**			**Pn**	**00 04 59.0**	**-3.2**
CGIG		**5.48**	**87**	⇓*e*P		**Pn**	**00 04 59.0**	**-3.2**
EDW2	**Edwards Air Fo**	**5.54**	**327**	P		**Pn**	**00 05 00.1**	**-2.8**
	baz=145							
EDW2				Sb		**Sb**	**00 06 28.4**	**+4.7**
	baz=145							
X18A	**Snowflake**	**5.63**	**40**			**Pn**	**00 05 03.2**	**-0.9**
OSI	**Osito Audit: C**	**5.71**	**320**	P		**Pn**	**00 05 03.1**	**-2.1**
	baz=138							
CCAC	**Calif City Air**	**5.78**	**328**			**Pn**	**00 05 06.8**	**+0.8**
WUAZ	**Wupatki**	**5.79**	**25**	Pn		**Pn**	**00 05 05.9**	**-0.4**
WUAZ	**Wupatki**	**5.79**	**25**	P		**Pn**	**00 05 05.3**	**-1.0**
	baz=205,SNR=48							
SHOC	**Shoshone, Teco**	**5.85**	**344**	P		**Pn**	**00 05 04.6**	**-2.4**
	baz=163							
LRMC	**Laurel Mtn Rad**	**5.91**	**332**	Sb		**Sg**	**00 06 53.1**	**+3.1**
	baz=150							
121A	**Cookes Peak, D**	**6.02**	**66**			**Sb**	**00 06 44.6**	**+7.0**
121A	**Cookes Peak, D**	**6.02**	**66**			**Pn**	**00 05 08.2**	**-1.4**
121A	**Cookes Peak, D**	**6.02**	**66**	⇓*e*P		**Pn**	**00 05 07.0**	**-2.6**
121A				*e*S		**Sb**	**00 06 44.6**	**+7.0**
121A	**Cookes Peak, D**	**6.02**	**66**	P		**Pn**	**00 05 07.8**	**-1.8**
	baz=249,SNR=16							
121A				Sb		**Sg**	**00 06 56.2**	**+2.6**
	baz=249							
QSM	**Queen of Sheba**	**6.07**	**340**	Pn		**Pn**	**00 05 11.3**	**+1.3**
ARVC	**Arvin**	**6.15**	**323**	P		**Pn**	**00 05 09.0**	**-2.2**
	baz=140							
ARVC				Sb		**Sg**	**00 07 00.3**	**+2.6**
	baz=140							
W18A	**Petrified Fore**	**6.19**	**37**			**Pn**	**00 05 11.4**	**-0.4**
W18A	**Petrified Fore**	**6.19**	**37**	P		**Pn**	**00 05 10.8**	**-1.0**
	baz=219,SNR=12							
GWY	**Greenwater Val**	**6.22**	**342**	Pn		**Pn**	**00 05 13.3**	**+1.1**
SHPR	**Sheep Range**	**6.26**	**354**	Pn		**Pn**	**00 05 13.7**	**+0.9**
BCW	**Bitter Crk WRg**	**6.33**	**319**			**Pn**	**00 05 14.6**	**+0.8**
MPMC	**Manual Prospec**	**6.35**	**336**	P		**Pn**	**00 05 12.4**	**-1.7**
	baz=154							
U15A	**North Rim**	**6.37**	**15**	Pn		**Pn**	**00 05 15.4**	**+1.0**
ISA	**Isabella, Lake**	**6.41**	**328**	Pn		**Pn**	**00 05 16.1**	**+1.4**
ISA	**Isabella, Lake**	**6.41**	**328**	P		**Pn**	**00 05 13.3**	**-1.5**
	baz=146							
ISA				Sb		**Sg**	**00 07 10.6**	**+4.7**
	baz=146							
LCMT	**Little Creek M**	**6.78**	**7**			**Pn**	**00 05 20.8**	**+0.8**
KNB	**Kanab**	**6.84**	**10**	Pn		**Pn**	**00 05 22.3**	**+1.5**
TPNV	**Topopah Spring**	**6.85**	**347**	Pn		**Pn**	**00 05 21.9**	**+1.0**
TPNV	**Topopah Spring**	**6.85**	**347**	P		**Pn**	**00 05 19.9**	**-1.0**
	baz=166							
CWC	**Cottonwood Cre**	**6.91**	**334**	P		**Pn**	**00 05 19.9**	**-1.8**
	baz=152							
LPIG	**La Paz**	**7.11**	**149**	Pn		**Pn**	**00 05 21.7**	**-2.6**
	baz=137,slow=3.3,SNR=1.7							
LPIG				Lg		Lg	00 07 20.9	
	comp=N,2.9nm,0.3s,baz=223,slow=20,SNR=1.1							
LPIG				LR		LR	00 07 58.3	
	comp=N,4μm,21.1s,baz=333,slow=37							
PRN	**Pahroc Range**	**7.14**	**355**			**Pn**	**00 05 25.8**	**+1.0**
GRAC	**Grapevine Rang**	**7.17**	**340**			**Pn**	**00 05 27.2**	**+2.0**
CCUT	**Cedar City**	**7.30**	**6**			**Pn**	**00 05 28.3**	**+1.1**
Y22D	**IRIS PASSCAL I**	**7.33**	**57**			**Pn**	**00 05 26.1**	**-1.3**
Y22D	**IRIS PASSCAL I**	**7.33**	**57**	P		**Pn**	**00 05 26.4**	**-1.0**
	baz=240							
LENM	**Lemitar**	**7.33**	**56**	Pn		**Pn**	**00 05 23.6**	**-4.0**
PKCU	**Pink Cliffs**	**7.34**	**13**			**Pn**	**00 05 28.9**	**+1.0**
SZCU	**Shurtz Canyon**	**7.38**	**8**			**Pn**	**00 05 29.3**	**+1.2**
PAGB	**Antelope Grade**	**7.38**	**319**			**Pn**	**00 05 28.

TCRU Three Creeks R 8.46 10 Pn Pn 00 05 45.8 +2.8
NVAR Mina Array Bea 8.78 339 Pn Pn 00 05 49.0 +1.6
comp=N,0.2nm,0.3s,baz=165,slow=11,SNR=1.3
NVAR Lg Lg 00 08 20.7
comp=N,0.1nm,0.3s,baz=144,slow=18,SNR=1.2
SAO San Andreas Ge 8.79 319 Pn Pn 00 05 48.6 +1.2
Q09A Carvers 8.86 345 Pn Pn 00 05 51.7 +3.2
Q16A Castle Valley 9.01 16 Pn 00 05 52.5 +2.0
RYN Ryan 9.03 339 Pn Pn 00 05 53.3 +2.6
PV13 Radium Mtn., P 9.09 29 Pn 00 05 53.4 +1.8
PV10 Paradox Valley 9.19 27 Pn Pn 00 05 52.6 -0.4
PV11 David Mesa, Pa 9.19 28 Pn 00 05 54.0 +1.0
CMB Columbia Colle 9.23 329 Pn Pn 00 05 55.5 +2.1
PV23 Carpenter Ridg 9.26 27 Pn 00 05 55.2 +1.1
TX31 Lajitas Ar. Si 9.30 93 Pn 00 05 51.9 -2.7
TX32 Lajitas Array 9.30 93 Pn Pn 00 05 52.4 -2.1
TXAR Lajitas Array 9.30 93 Pn Pn 00 05 51.6 -2.9
comp=N,0.9nm,0.3s,baz=260,slow=15,SNR=30
TXAR Sn Sn 00 07 32.6 -6.7
baz=316,slow=54,SNR=1.3
TXAR Lg Lg 00 08 27.9
comp=N,0.4nm,0.3s,baz=298,slow=30,SNR=2.6
TXAR Lajitas Array 9.30 93 Pn Pn 00 05 51.8 -2.7
SRU San Rafael Swe 9.35 18 Pn 00 05 57.1 +1.8
TMUT Trail Mountain 9.36 15 Pn 00 05 56.4 +1.0
PV15 Paradox Valley 9.38 29 Pn 00 05 57.7 +1.9
PV07 Paradox Valley 9.40 28 Pn 00 05 56.8 +1.0
P17A Butcher Ranch, 9.64 17 Pn 00 05 59.6 +0.5
S22A 4UR Ranch, Cre 9.70 38 Pn Pn 00 06 00.7 +0.5
S22A 4UR Ranch, Cre 9.70 38 P Pn 00 05 59.1 -1.1
baz=221
PNTR Pine Nut 9.81 335 Pn Pn 00 06 02.9 +1.4
NLU North Lily Min 9.83 10 Pn 00 06 01.8 0.0
EMB Emerald Bay 9.90 333 Pn Pn 00 06 03.1 +0.3
P18A Preston Nutter 9.91 19 Pn 00 06 03.9 +0.8
DUG Dugway, Tooele 9.98 7 Pn Pn 00 06 04.3 +0.5
DUG Dugway, Tooele 9.98 7 P Pn 00 06 03.0 -0.8
baz=187,SNR=5.8
VCNR Virginia City 10.01 335 Pn 00 06 06.5 +2.2
MPK Martis Peak 10.15 334 Pn Pn 00 06 08.9 +2.6
PAHR Pah Rah Range 10.29 338 Pn 00 06 10.7 +2.7
BMN Battle Mountai 10.41 348 Pn Pn 00 06 11.8 +2.1
SDCO Great Sand Dun 10.44 42 Pn 00 06 10.6 +0.3
SDCO Great Sand Dun 10.44 42 P Pn 00 06 08.5 -1.8
baz=226,SNR=14
MSTX Muleshoe 10.46 66 Pn Pn 00 06 10.0 -0.4
MSTX Muleshoe 10.46 66 P Pn 00 06 09.6 -0.8
baz=252
ELK Elko 10.48 356 Pn Pn 00 06 09.9 -0.8
comp=N,0.1nm,0.3s,baz=39,slow=13,SNR=2.2
ELK Lg Lg 00 09 11.5
comp=N,0.0nm,0.3s,baz=237,slow=10,SNR=1.5
ELK LR LR 00 09 56.0
comp=N,573nm,21.1s,baz=177,slow=36
ELK Elko 10.48 356 Pn Pn 00 06 12.1 +1.4
JLU Jordanelle 10.57 12 Pn Pn 00 06 13.8 +1.8
CTU Camp Tracy 10.61 11 Pn Pn 00 06 13.9 +1.5
BGU Big Grassy Mou 10.68 5 Pn Pn 00 06 16.3 +2.9
T25A Trinidad 10.72 48 Pn Pn 00 06 14.5 +0.4
T25A Trinidad 10.72 48 P Pn 00 06 13.8 -0.2
baz=233,SNR=12
SMCO Snowmass 10.74 32 Pn 00 06 15.7 +1.3
BEKR Beckworth 10.77 334 Pn Pn 00 06 17.4 +2.7
ORV Oroville 10.97 329 Pn Pn 00 06 19.5 +2.2
RDMU Red Mountain 10.98 19 Pn 00 06 18.7 +1.2
O20A White River Ci 11.02 25 Pn Pn 00 06 19.2 +1.0
O20A White River Ci 11.02 25 P Pn 00 06 19.1 +1.0
baz=208
Q24A Divide 11.49 39 Pn Pn 00 06 24.7 0.0
Q24A Divide 11.49 39 P Pn 00 06 23.0 -1.7
baz=223
HWUT Hardware Ranch 11.53 10 Pn 00 06 26.1 +1.1
AMTX Amarillo 11.61 63 Pn Pn 00 06 25.9 -0.1
AMTX Amarillo 11.61 63 P Pn 00 06 25.9 -0.1
baz=250
O03E Paynes Creek 11.71 331 Pn Pn 00 06 29.9 +2.4
ISCO Idaho Springs 11.88 35 Pn Pn 00 06 30.2 +0.3
ISCO Idaho Springs 11.88 35 P Pn 00 06 29.7 -0.2
baz=219,SNR=7.0
KMRM Mail Ridge 12.54 325 Pn Pn 00 06 40.7 +1.9
JCT Junction City 12.54 85 Pn Pn 00 06 38.2 -0.6
JCT Junction City 12.54 85 P Pn 00 06 37.3 -1.5
baz=272
MOD Modoc Plateau 12.57 339 Pn Pn 00 06 41.5 +2.2
N23A Red Feather La 12.59 30 Pn Pn 00 06 41.4 +1.7
WVOR Wild Horse Val 12.62 345 Pn Pn 00 06 42.8 +2.8
N02D Trinity Center 12.66 330 00 06 42.3 +1.8
N02D Trinity Center 12.66 330 P Pn 00 06 40.8 +0.3
baz=145
AHID Auburn Hatcher 12.73 11 Pn 00 06 41.7 +0.2
ABTX Abilene, Hawle 12.75 76 Pn Pn 00 06 41.2 -0.4
ABTX Abilene, Hawle 12.75 76 P Pn 00 06 40.9 -0.8
baz=263,SNR=5.2
RWWY Rawlins 12.76 25 Pn Pn 00 06 42.1 +0.2
KMPM Mount Pierce 12.89 324 Pn Pn 00 06 45.0 +1.5
ZAIG Zacatecas 12.90 123 Pn Pn 00 06 43.2 -0.7
ECR Eagle Creek 12.97 10 Pn Pn 00 06 46.3 +1.5
KSCO Kaye Shedlock' 12.98 45 Pn Pn 00 06 46.1 +1.3
M04C Macdoel 12.99 334 Pn Pn 00 06 47.7 +2.8
M04C Macdoel 12.99 334 P Pn 00 06 39.2 -5.8
baz=150
BW06 Boulder Array 13.04 16 Pn 00 06 46.6 +0.9
BW06 Boulder Array 13.04 16 P Pn 00 06 43.6 -2.1
baz=198
PD31 Pinedale Array 13.04 16 Pn 00 06 47.0 +1.2
PDAR Pinedale Array 13.04 16 Pn Pn 00 06 47.3 +1.5
comp=N,0.0nm,0.3s,baz=168,slow=9.0,SNR=3.5
PDAR Lg Lg 00 10 30.7
baz=203,slow=14,SNR=1.6
PDAR Pinedale Array 13.04 16 Pn Pn 00 06 47.5 +1.7
KHMM Horse Mountain 13.05 327 Pn Pn 00 06 47.8 +2.0
M02C Callahan 13.07 330 00 06 48.3 +2.3
M02C Callahan 13.07 330 P Pn 00 06 46.5 +0.5
baz=145
PHWY Pilot Hill 13.14 31 Pn Pn 00 06 49.1 +1.9
833A Chaparral WMA, 13.17 95 Pn Pn 00 06 47.4 0.0
833A Chaparral WMA, 13.17 95 P Pn 00 06 46.1 -1.3
baz=282
MFID Camas Ranch 13.17 355 Pn Pn 00 06 50.6 +3.1
HLID Hailey 13.27 360 Pn Pn 00 06 50.1 +1.4
HLID Hailey 13.27 360 P Pn 00 06 46.5 -2.3
baz=179
YBH Yreka Blue Hor 13.29 332 Pn Pn 00 06 51.1 +2.1
comp=N,0.1nm,0.3s,baz=147,slow=24,SNR=2.9
YBH LR LR 00 11 47.0
comp=N,1μm,19.5s,baz=148,slow=37
YBH Yreka Blue Hor 13.29 332 Pn Pn 00 06 50.2 +1.1
REDW Red Top Meadow 13.36 11 Pn Pn 00 06 51.7 +1.6
KRPM Rodgers 13.41 327 Pn Pn 00 06 51.1 +0.4
TPAW Teton Pass 13.46 11 Pn 00 06 53.3 +1.8
SNOW Snow King Moun 13.47 11 Pn Pn 00 06 54.0 +2.4
J08A Circle Bar Ran 13.47 347 Pn Pn 00 06 53.0 +1.4
K05A Summer Lake 13.50 339 Pn Pn 00 06 53.0 +1.0
L04D Klamath Falls 13.54 334 Pn 00 06 55.5 +3.0
L04D Klamath Falls 13.54 334 P Pn 00 06 49.7 -2.8
baz=149
LOHW Long Hollow 13.64 12 Pn Pn 00 06 56.7 +2.8
MOOW Moose Ponds 13.75 11 Pn Pn 00 06 57.5 +2.1
K22A Casper 13.85 25 Pn 00 06 57.9 +1.2
K22A Casper 13.85 25 P Pn 00 06 58.2 +1.5
baz=209
WMOK Wichita Mounta 13.85 67 Pn 00 06 56.5 -0.1
WMOK Wichita Mounta 13.85 67 P Pn 00 06 56.0 -0.6
baz=255
BCYI Bear Canyon 14.03 3 P P 00 07 05.8 -1.5
FLWY Flagg Ranch 14.08 11 Pn 00 07 01.7 +1.7
J05D Fort Rock, OR 14.11 339 P Pn 00 06 59.8 -0.5
baz=155
HUMO Hull Mountain 14.12 333 Pn Pn 00 07 03.5 +3.1
U32A Winter Ranch, 14.18 61 P P 00 07 06.3 -2.4
J04D Umpqua Nationa 14.36 336 Pn 00 07 05.5 +1.7
I07A Izee 14.38 345 Pn 00 07 06.7 +2.7
H17A Grant Village 14.40 11 Pn 00 07 06.1 +1.7
YFT Old Faithful 14.42 10 P P 00 07 09.9 -1.6
435B Jarrell 14.44 84 Pn 00 07 04.5 -0.2
735A Kenedy 14.44 91 Pn Pn 00 07 05.8 +1.0
K02D Willamette Mer 14.48 331 P Pn 00 07 07.1 +1.8
baz=146
PINE Pine Mountain 14.48 340 Pn Pn 00 07 08.5 +3.1
WHTX Lake Whitney, 14.55 79 Pn 00 07 09.0 +2.8
X34A Smith Ranch, M 14.57 68 Pn Pn 00 07 06.2 -0.3
MCMT McKenzie Canyo 14.58 4 Pn 00 07 09.4 +2.7
OGNE Ogallala 14.59 40 Pn Pn 00 07 07.2 +0.4
OGNE Ogallala 14.59 40 P Pn 00 07 07.9 +1.1
baz=227
YMR Madison River 14.61 10 Pn 00 07 08.3 +1.1
YNR Norris Junctio 14.70 10 P Pn 00 07 10.3 +1.9
QLMT Earthquake Lak 14.71 8 Pn 00 07 08.2 -0.4
CBKS Cedar Bluff 14.72 51 Pn Pn 00 07 08.9 +0.4
CBKS Cedar Bluff 14.72 51 P Pn 00 07 07.1 -1.5
baz=239
YUF Upper Falls 14.72 11 Pn Pn 00 07 08.9 +0.1
BMO Blue Mountains 14.74 352 Pn 00 07 10.6 +1.7
YHH Holmes Hill 14.75 10 Pn Pn 00 07 10.4 +1.3
YHL Hebgen Lake 14.76 9 Pn 00 07 11.0 +1.7
YMP Mirror Lake Pl 14.81 12 P P 00 07 15.0 -1.0
Z35A Perchaven, San 14.83 74 P P 00 07 16.2 +0.3
I04A Tendick Farm, 14.95 337 P Pn 00 07 12.1 +0.5
baz=152
J01E Myrtle Point 14.98 332 P P 00 07 18.9 +1.4
OKCFA Oklahoma City 15.07 66 P 00 07 18.9 +0.3
I05D Terrebonne, OR 15.10 340 P Pn 00 07 12.8 -0.9
baz=156
I03D Drain, OR 15.20 334 P Pn 00 07 15.0 +0.1
baz=149
R32A Long Quarter, 15.23 54 Pn 00 07 16.0 +0.6
R32A IAmb IAmb 00 07 30.2
comp=Z,118nm,1.5s
RLMT Red Lodge 15.35 14 P Pn 00 07 19.5 +2.4
RLMT IAmb IAmb 00 07 38.9
comp=Z,151nm,2.3s
RLMT Red Lodge 15.35 14 P Pn 00 07 19.8 +2.7
baz=196
G08A Pilot Rock 15.43 348 Pn 00 07 20.0 +2.0
BOZ Bozeman (W) 15.44 7 Pn 00 07 20.2 +2.0
LRM Limekiln Ridge 15.59 5 Pn 00 07 20.2 -0.1
F10A Beach Ranch, E 15.84 353 Pn 00 07 23.7 +0.3
GCMT Greycliff 15.92 12 P P 00 07 29.2 +1.1
237A Washetta, Mont 15.95 79 Pn Pn 00 07 22.2 -2.5
HKT Hockley 16.00 86 Pn Pn 00 07 24.5 -0.9
RSSD Black Hills 16.05 28 Pn Pn 00 07 27.0 +0.8
RSSD Black Hills 16.05 28 P Pn 00 07 26.2 0.0
baz=214
HOOD Mount Hood Mea 16.09 341 P Pn 00 07 28.1 +1.5
F07A Phinny Hill Vi 16.20 346 Pn P 00 07 30.4 -0.7
F07A IAmb IAmb 00 07 42.1
comp=Z,211nm,1.8s
T35A Sooner Cattle 16.24 61 P Pn 00 07 28.2 -0.2
T35A IAmb IAmb 00 07 44.6
comp=Z,211nm,1.8s
E09A Wood Farm, Sta 16.49 351 Pn Pn 00 07 28.8 -2.7
TUL1 Leonard 16.51 65 Pn 00 07 32.0 +0.1
TUL1 IAmb IAmb 00 07 45.5
comp=Z,198nm,1.6s
TUL1 Leonard 16.51 65 P Pn 00 07 31.4 -0.5
baz=255,SNR=6.8
HRY Holter Researc 16.53 6 Pn 00 07 33.5 +1.4
MSO Missoula 16.53 1 Pn 00 07 30.9 -1.4
MSO Missoula 16.53 1 P Pn 00 07 31.8 -0.5
baz=181
F05D White Salmon 16.56 342 Pn 00 07 31.4 -1.1
F05D White Salmon 16.56 342 P Pn 00 07 31.9 -0.6
baz=158
X37A Clayton 16.56 70 Pn 00 07 32.4 -0.3
X37A IAmb IAmb 00 07 46.2
comp=Z,331nm,1.9s
HAWA Hanford 16.60 347 Pn 00 07 34.4 +1.4
Z38A Mt. Pleasant 16.71 75 Pn 00 07 34.1 -0.4
E07A Sunnyside 16.82 347 P 00 07 37.5 -0.5
NATX Nacogdoches 16.92 80 Pn 00 07 38.5 +1.4
NATX IAmb IAmb 00 07 49.9
comp=Z,131nm,1.2s
NATX Nacogdoches 16.92 80 P Pn 00 07 34.7 -2.4
baz=270
KSU1 Kansas State U 17.00 54 P Pn 00 07 38.0 -0.1
KSU1 IAmb IAmb 00 07 51.6
comp=Z,257nm,1.5s
KSU1 Kansas State U 17.00 54 P Pn 00 07 37.7 -0.4
baz=244,SNR=7.7
D08A Wollman Farm, 17.14 349 Pn Pn 00 07 41.0 +1.2
BGNE Belgrade 17.16 45 Pn 00 07 40.8 +0.7
BGNE IAmb IAmb 00 07 53.6
comp=Z,175nm,1.3s
BGNE Belgrade 17.16 45 P Pn 00 07 39.2 -0.8
baz=234
N33A J Bar K, Exete 17.23 48 Pn Pn 00 07 40.6 -0.3
N33A IAmb IAmb 00 07 53.9
comp=Z,141nm,1.2s
JTMT Jette 17.45 0 P P 00 07 45.6 +0.6
E04D Cinebar 17.48 341 P Pn 00 07 44.9 +0.9
baz=156
K31A O'Neill 17.54 41 P Pn 00 07 45.7 +0.9
K31A IAmb IAmb 00 08 01.1
comp=Z,157nm,1.2s
LAO LAS Array 17.56 19 P Pn 00 07 45.3 +0.2
baz=204
LTY Liberty 17.66 346 P P 00 07 47.5 +0.2
C09A Chrisman Ranch 17.77 351 P Pn 00 07 47.4 -0.2
D05A Enumclaw 17.90 343 P 00 07 51.6 +1.7
W39A Magazine 17.95 69 P 00 07 51.3 +0.7
W39A Magazine 17.95 69 P Pn 00 07 47.9 -2.1
baz=260
HHAR Hobbs 18.05 65 Pn 00 07 50.0 -1.2
EGMT Eagleton 18.07 10 P P 00 07 52.6 +0.8
baz=193,SNR=9.4
NEW Newport 18.10 354 P Pn 00 07 52.0 +0.3
comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=3.5
NEW Newport 18.10 354 P 00 07 52.0 +0.3
NEW Newport 18.10 354 P P 00 07 53.6 +1.6
baz=172
441A DeRidder 18.21 83 P Pn 00 07 52.3 -1.0
441A IAmb IAmb 00 08 07.2
comp=Z,166nm,1.1s
WLAR White Oak Lake 18.31 74 Pn 00 07 52.9 -1.5
WLAR IAmb IAmb 00 08 03.9
comp=Z,244nm,1.5s
B08A Colville Reser 18.46 349 P P 00 07 53.0 -3.1
N35A Tabor 18.47 50 P P 00 07 56.0 -0.2
Z41A Richland Creek 18.53 75 P P 00 07 56.0 -0.9
Z41A IAmb IAmb 00 08 31.6
comp=Z,109nm,1.1s
Z41A Richland Creek 18.53 75 P P 00 07 56.7 -0.3
baz=266
L34A Svendsen Farm, 18.57 46 P P 00 07 56.6 -0.7
X40A Basin Creek Fa 18.62 71 P P 00 07 55.1 -2.8
X40A Basin Creek Fa 18.62 71 P P 00 07 56.8 -1.1
baz=263
SUSD Miller 18.64 36 P Pn 00 07 59.0 +0.6
WALA Waterton Lakes 18.77 1 Pn 00 08 00.5 +0.6
S39A Bolivar 18.90 61 P Pn 00 08 02.3 +0.8
342A Flagon Creek P 18.92 81 P 00 08 00.5 -0.7
342A IAmb IAmb 00 08 11.4
comp=Z,222nm,1.6s
U40A Yellville 18.92 66 P P 00 08 00.2 -1.0
baz=257
B06A Marblemount 19.03 345 P Pn 00 08 03.8 +0.9
TLIG Tlapa 19.14 128 P P 00 08 02.6 -1.2
WHAR Wooly Hollow 19.18 69 P 00 08 02.0 -2.0
W41B Gary Mavity, V 19.19 69 P P 00 08 03.7 -0.4
W41B Gary Mavity, V 19.19 69 P P 00 08 04.1 -0.1
baz=261,SNR=6.3
P38A Dawn 19.39 56 P 00 08 05.7 -0.6
P38A IAmb IAmb 00 08 18.7
comp=Z,289nm,2.1s
FCAR Ozark Folk Cen 19.41 67 P P 00 08 05.5 -1.1
E28A Huff 19.42 29 P P 00 08 07.0 +0.5
CCAR Cane Creek 19.44 73 P P 00 08 06.9 +0.1
ECSD EROS Data Cent 19.45 41 Pn 00 08 08.2 0.0
ECSD IAmb IAmb 00 08 21.7
comp=Z,133nm,1.4s
ECSD EROS Data Cent 19.45 41 P Pn 00 08 08.4 +0.3
baz=232,SNR=25
MGMO Mountain Grove 19.56 64 P P 00 08 08.3 +0.1
143A Socs Landing, 19.69 77 P P 00 08 08.8 -0.8
143A IAmb IAmb 00 08 21.8
comp=Z,185nm,1.3s
DGMT Dagmar 19.75 20 P Pn 00 08 11.8 +0.1
DGMT IAmb IAmb 00 08 24.9
comp=Z,110nm,1.2s
DGMT Dagmar 19.75 20 P P 00 08 10.7 +0.5
baz=206
N38A Joes South For 20.07 53 P P 00 08 13.6 -0.1
N38A IAmb IAmb 00 08 24.8
comp=Z,72nm,1.1s
LCAR Lake Charles 20.21 67 P P 00 08 15.5 +0.2
344A Westbrook Farm 20.28 81 P P 00 08 16.4 +0.3
344A IAmb IAmb 00 08 27.3
comp=Z,120nm,1.2s
P40A Paris 20.43 57 P P 00 08 17.5 -0.1
P40A IAmb IAmb 00 08 30.5
comp=Z,63nm,0.9s
VBMS Vicksburg 20.44 78 P P 00 08 18.0 +0.2
VBMS Vicksburg 20.44 78 P P 00 08 18.6 +0.9
baz=271,SNR=6.4
SCIA State Center 20.57 50 P 00 08 19.5 +0.3
SCIA IAmb IAmb 00 08 32.9
comp=Z,163nm,1.2s
SCIA State Center 20.57 50 P P 00 08 18.3 -0.9
baz=242
CCM Cathedral Cave 20.58 62 P 00 08 18.4 -0.9
CCM Cathedral Cave 20.58 62 P P 00 08 19.0 -0.3
baz=254
MDND Maddock 20.88 29 P P 00 08 23.4 +0.9
MDND Maddock 20.88 29 P P 00 08 22.6 +0.2
baz=218
PBMO Poplar Bluff 20.92 66 P P 00 08 22.6 -0.3
F33A 5 Mile Ranch, 20.97 37 P P 00 08 23.7 +0.2
LLLB Lillooet 21.09 347 P P 00 08 26.6 +1.8
GNAR Gosnell 21.11 68 P P 00 08 26.5 +1.5
FVM French Village 21.18 62 P P 00 08 25.7 -0.1
FVM IAmb IAmb 00 08 35.6
comp=Z,215nm,2.1s
K38A Parkersburg 21.21 48 P P 00 08 26.8 +0.7
Y45A Yeager Farm, C 21.29 74 P 00 08 28.6 +1.6
346A Big Creek Wild 21.36 81 P P 00 08 26.8 -1.0
346A IAmb IAmb 00 08 40.5
comp=Z,100nm,0.9s
CBB Campbell River 21.42 340 P P 00 08 30.0 +1.7
CBB IAmb IAmb 00 09 04.5
comp=Z,101nm,1.6s
PARMO Parma 21.43 66 P P 00 08 28.4 -0.1
PARMO IAmb IAmb 00 08 37.8
comp=Z,99nm,1.1s
OXF Oxford 21.44 72 P P 00 08 29.5 +1.0
OXF IAmb IAmb 00 08 38.9
comp=Z,86nm,1.3s
OXF Oxford 21.44 72 P P 00 08 27.4 -1.1
baz=265
SLM Saint Louis 21.50 61 P P 00 08 29.3 +0.1
SLM IAmb IAmb 00 08 39.1
comp=Z,201nm,1.8s
D32A Dogwood Acres, 21.50 34 P P 00 08 29.8 +0.6
D32A IAmb IAmb 00 08 42.7
comp=Z,89nm,1.3s
I37A Lemond, Waseca 21.51 45 P P 00 08 29.4 +0.1
146A Union 21.67 77 P P 00 08 30.0 -1.1
W45A Hickory Valley 21.68 70 P P 00 08 31.9 +0.7
W45A IAmb IAmb 00 08 44.8
comp=Z,110nm,1.3s
N41A Harden Midland 21.70 55 P P 00 08 31.2 -0.1
GLAT Glass 21.74 67 P P 00 08 32.6 +0.8
L40A Anamosa 21.98 51 P P 00 08 34.3 0.0
S44A Carbondale 22.02 64 P P 00 08 35.0 +0.2
S44A IAmb IAmb 00 08 47.2
comp=Z,96nm,1.2s
SIUC Southern Illin 22.05 64 P P 00 08 35.3 +0.1
SIUC IAmb IAmb 00 08 47.4
comp=Z,74nm,1.1s
CMIG Matias Romero 22.07 122 P P 00 08 33.4 -2.0
comp=Z,10nm,1.1s,baz=321,slow=8.7,SNR=15
P43A Skaggs, Pawnee 22.31 59 P P 00 08 38.2 +0.3
P43A IAmb IAmb 00 08 50.2
comp=Z,64nm,1.0s
Q44A Meyer Farm, Va 22.49 61 P P 00 08 39.6 -0.2
Q44A IAmb IAmb 00 08 54.1
comp=Z,89nm,1.1s
F36A Milaca 22.49 40 P P 00 08 40.8 +1.0
F36A IAmb IAmb 00 08 53.8
comp=Z,64nm,1.1s
Z47A Carrollton 22.50 76 P P 00 08 40.8 +0.9
Z47A IAmb IAmb 00 08 54.3
comp=Z,61nm,1.0s
SPMN Marine on St. 22.53 43 P P 00 08 39.2 -1.1
baz=236
PLAL Pickwick Lake 22.57 71 P P 00 08 41.1 +0.4
HDIL Hopedale 22.76 56 P P 00 08 43.4 +0.7
HDIL IAmb IAmb 00 08 56.7
comp=Z,93nm,1.1s
HDIL Hopedale 22.76 56 P P 00 08 42.4 -0.3
baz=251
AGMN Agassiz Nation 22.88 33 P P 00 08 44.4 +0.6
AGMN Agassiz Nation 22.88 33 P P 00 08 42.7 -1.1
baz=224
WVT Waverly 22.89 68 P P 00 08 44.6 +0.6
WVT Waverly 22.89 68 P P 00 08 41.9 -2.1
baz=263
JFWS Jewell Farm 22.99 50 P P 00 08 45.2 +0.1
JFWS IAmb IAmb 00 08 58.6
comp=Z,57nm,1.1s
JFWS Jewell Farm 22.99 50 P P 00 08 42.9 -2.1
baz=244
L42A Oliver, Polo 23.01 53 P P 00 08 45.5 +0.2
L42A IAmb IAmb 00 08 57.4
comp=Z,39nm,0.8s
OLIL Olney 23.14 62 P P 00 08 46.6 0.0
OLIL IAmb IAmb 00 08 58.5
comp=Z,65nm,1.1s
I40A Norwalk 23.19 48 P P 00 08 48.0 +0.9
O44A Mansfield 23.24 58 P P 00 08 48.0 +0.4
X48A Hartselle 23.38 73 P P 00 08 50.4 +1.2
LRAL Lakeview Retre 23.40 76 P P 00 08 49.1 -0.2
LRAL Lakeview Retre 23.40 76 P P 00 08 48.5 -0.8
baz=270,SNR=6.5
T47A Sharon Grove 23.58 66 P P 00 08 51.8 +0.7
T47A IAmb IAmb 00 09 02.1
comp=Z,84nm,1.6s
V48A Smith Brothers 23.66 69 P P 00 08 53.0 +1.2
V48A IAmb IAmb 00 09 01.2
comp=Z,86nm,1.7s
Y49A Blount Mountai 23.89 74 P P 00 08 54.2 +0.1
M44A Midewin, Midew 23.93 55 P P 00 08 55.4 +1.0
M44A IAmb IAmb 00 09 08.5
comp=Z,84nm,1.3s
B35A Bob, Littlefor 23.96 35 P P 00 08 55.4 +0.8
B35A IAmb IAmb 00 09 07.8
comp=Z,45nm,1.2s
P46A Rosedale 24.03 60 P P 00 08 56.0 +0.6
E38A The Farm, Brul 24.04 41 P P 00 08 56.7 +1.4
E38A IAmb IAmb 00 09 05.2
comp=Z,41nm,1.0s
250A Grady 24.05 79 P P 00 08 56.5 +0.8
CLTN Cedars of Leba 24.09 69 P P 00 08 57.0 +1.0
CLTN IAmb IAmb 00 09 09.6
comp=Z,64nm,1.3s
G40A Rib Lake 24.11 45 P P 00 08 57.3 +1.1
G40A IAmb IAmb 00 09 09.8
comp=Z,51nm,1.1s
K43A Burlington 24.19 52 P P 00 08 56.4 -0.5
K43A IAmb IAmb 00 09 09.6
comp=Z,69nm,1.1s
I42A Draeger Farm, 24.29 49 P P 00 08 57.8 +0.1
I42A IAmb IAmb 00 09 10.7
comp=Z,42nm,1.0s
L44A Lake County Fo 24.29 53 P P 00 08 57.1 -0.7
ULM Lac du Bonnet 24.30 30 P P 00 08 57.0 -0.7
comp=Z,6.6nm,0.8s,baz=226,slow=10.0,SNR=13
SFIN Lafayette 24.31 58 P P 00 08 58.5 +0.6
SFIN IAmb IAmb 00 09 10.9
comp=Z,63nm,1.1s
SFIN Lafayette 24.31 58 P P 00 08 56.0 -2.0
baz=254
SWET Sewanee 24.34 71 P P 00 08 58.0 -0.4
WCI Wyandotte Cave 24.42 64 P P 00 08 58.7 -0.3
WCI Wyandotte Cave 24.42 64 P P 00 08 58.4 -0.6
baz=259
BLO Bloomington 24.44 61 P P 00 08 60.0 +0.8
FPAL Fort Paine 24.57 72 P P 00 09 00.9 +0.4
FPAL IAmb IAmb 00 09 12.9
comp=Z,45nm,1.0s
U49A Red Boiling Sp 24.57 68 P P 00 09 01.4 +1.0
CCIG Comitan 24.62 119 P P 00 09 00.7 -0.4
W50A Signal Mountai 24.84 71 P P 00 09 02.9 -0.1
EYMN Ely 24.85 38 P P 00 09 02.3 -0.5
EYMN Ely 24.85 38 P P 00 09 02.3 -0.5
baz=233
Z51A Franklin 24.92 75 P P 00 09 04.6 +1.0
Z51A IAmb IAmb 00 09 25.6
comp=Z,84nm,1.7s
COWI Conover 25.18 44 P P 00 09 06.3 +0.5
COWI IAmb IAmb 00 09 16.4
comp=Z,30nm,0.7s
X51A Calhoun 25.19 72 P P 00 09 06.1 +0.1

H43A Windswept, Lux 25.28 49 IAmb IAmb 00 09 17.3
comp=Z,54nm,0.8s
R49A Shelbyville 25.30 64 P P **00 09 08.5 +1.5**
152A Waverly Hall 25.32 77 P P **00 09 08.0 +0.7**
P48A Milroy 25.33 61 P P **00 09 07.4 +0.2**
P48A IAmb IAmb 00 09 18.6
comp=Z,41nm,1.1s
L46A Eue Claire 25.37 55 P P **00 09 08.4 +0.9**
T50A Nancy 25.38 67 P P **00 09 08.8 +1.1**
T50A IAmb IAmb 00 09 18.9
comp=Z,89nm,1.9s
N47A Urbana 25.47 58 P P **00 09 08.7 +0.3**
N47A IAmb IAmb 00 09 19.7
comp=Z,41nm,1.3s
CPCT Cooper Cave 25.50 70 P P **00 09 07.9 -1.0**
CPCT IAmb IAmb 00 09 21.3
comp=Z,56nm,1.3s
V51A Loudon 25.66 70 P P **00 09 07.8 -2.5**
V51A IAmb IAmb 00 09 22.1
comp=Z,41nm,1.2s
O48B Farmland 25.71 59 P P **00 09 12.0 +1.4**
baz=256
R50A Paris 25.96 64 P P **00 09 15.0 +2.1**
R50A IAmb IAmb 00 09 25.3
comp=Z,62nm,1.9s
W52A Murphy 25.97 71 P P **00 09 13.7 +0.5**
W52A IAmb IAmb 00 09 40.0
comp=Z,91nm,1.8s
PETF Flores 25.98 115 P P **00 09 12.3 -1.0**
PETF IAmb IAmb 00 09 26.6
comp=Z,44nm,1.1s
FFC Flin Flon 26.00 16 P P **00 09 13.7 +0.6**
D41A Chassel 26.00 43 P P **00 09 12.0 -1.3**
D41A IAmb IAmb 00 09 25.5
comp=Z,52nm,1.1s
TKL Tuckaleechee C 26.12 70 P P **00 09 13.6 -0.9**
comp=Z,2.3nm,0.8s,baz=126,slow=11,SNR=1.9
TKL Tuckaleechee C 26.12 70 P P **00 09 14.5 0.0**
V52A Sevierville 26.28 70 P P **00 09 16.2 +0.3**
V52A IAmb IAmb 00 09 31.4
comp=Z,41nm,1.4s
O49A Covington 26.31 60 P P **00 09 16.7 +0.6**
O49A IAmb IAmb 00 09 28.8
comp=Z,40nm,1.2s
GOGA Godfrey 26.35 75 P P **00 09 16.9 +0.4**
GOGA IAmb IAmb 00 09 28.0
comp=Z,53nm,1.5s
GOGA Godfrey 26.35 75 P P **00 09 14.4 -2.1**
baz=272
TZTN Tazewell 26.37 68 P P **00 09 16.7 0.0**
N49A Columbus Grove 26.59 58 P P **00 09 19.5 +0.9**
N49A IAmb IAmb 00 09 30.1
comp=Z,31nm,0.9s
E43A Lone Tree Farm 26.61 45 P P **00 09 20.5 +1.7**
L48A N Adams 26.67 56 P P **00 09 18.9 -0.4**
L48A IAmb IAmb 00 09 31.0
comp=Z,32nm,0.9s
BG3 Lake Jocassee 26.79 72 P P **00 09 21.0 +0.5**
BG3 IAmb IAmb 00 09 36.3
comp=Z,50nm,1.3s
J47A Sunmer 26.79 53 P P **00 09 21.2 +0.8**
J47A IAmb IAmb 00 09 32.5
comp=Z,70nm,1.1s
Q51A Peebles 26.83 63 P P **00 09 22.2 +1.4**
Q51A IAmb IAmb 00 09 33.5
comp=Z,68nm,1.4s
G45A Suttons Bay 26.89 49 P P **00 09 22.7 +1.5**
V53A Saluda 26.91 70 P P **00 09 21.5 -0.1**
V53A IAmb IAmb 00 09 33.4
comp=Z,50nm,1.4s
P51A Williamsport 27.13 62 P P **00 09 23.8 +0.3**
AAM Ann Arbor 27.33 56 P P **00 09 25.6 +0.4**
AAM IAmb IAmb 00 09 34.2
comp=Z,111nm,1.9s
ACSO Alum Creek Sta 27.33 60 P P **00 09 25.3 0.0**
ACSO Alum Creek Sta 27.33 60 P P **00 09 23.7 -1.6**
baz=258
HODGE Hodges 27.34 73 P P **00 09 26.6 +1.2**
GLMI Grayling 27.48 50 P P **00 09 27.4 +0.8**
GLMI IAmb IAmb 00 09 39.4
comp=Z,38nm,0.9s
GLMI Grayling 27.48 50 P P **00 09 27.0 +0.3**
baz=248
M50A Fremont 27.54 58 P P **00 09 27.5 +0.4**
M50A IAmb IAmb 00 09 39.2
comp=Z,34nm,0.9s
Q52A Bidwell 27.66 63 P P **00 09 28.8 +0.5**
Q52A IAmb IAmb 00 09 39.8
comp=Z,40nm,1.4s
U54A Nelsons Funny 27.75 68 P P **00 09 28.9 -0.3**
U54A IAmb IAmb 00 09 42.3
comp=Z,37nm,1.4s
R53A Hurricane 27.82 64 P P **00 09 30.6 +0.9**
P52A Corning 27.86 62 P P **00 09 30.8 +0.7**
P52A IAmb IAmb 00 09 41.5
comp=Z,30nm,1.1s
P52A Corning 27.86 62 P P **00 09 26.8 -3.3**
baz=260
KMSC Kings Mountain 28.10 71 P P **00 09 33.2 +0.9**
KMSC IAmb IAmb 00 09 44.6
comp=Z,30nm,1.4s
KMSC Kings Mountain 28.10 71 P P **00 09 32.8 +0.5**
baz=269
O52A Adamsville 28.17 61 P P **00 09 34.0 +1.1**
V55A Taylorsville 28.21 70 P P **00 09 34.8 +1.5**
E46A Sault Ste Mari 28.29 47 P P **00 09 34.9 +1.1**
E46A IAmb IAmb 00 09 46.6
comp=Z,44nm,1.6s
P53A Whipple 28.41 62 P P **00 09 35.1 +0.1**
SNET Serv Nac Est T 28.42 120 P P **00 09 32.5 -2.8**
O53A New Philadelph 28.66 61 P P **00 09 38.4 +1.1**
O53A IAmb IAmb 00 09 49.6
comp=Z,50nm,1.4s
O53A New Philadelph 28.66 61 P P **00 09 39.3 +2.1**
baz=260
Q54A Coxs Mills 28.76 63 P P **00 09 39.5 +1.4**
Q54A IAmb IAmb 00 09 50.4
comp=Z,40nm,1.2s
BIRD Birdtown, Kers 28.82 72 P P **00 09 38.3 -0.3**
Y57A Sumter 28.89 74 P P **00 09 39.2 0.0**
N53A Lisbon 29.04 60 P P **00 09 41.5 +0.9**
N53A IAmb IAmb 00 09 53.2
comp=Z,43nm,1.2s
WRAK Wrangell Islan 29.05 339 P P **00 09 40.8 +0.4**
baz=146
R55A Marlinton 29.24 65 P P **00 09 43.9 +1.4**
O54A Avella 29.28 61 P P **00 09 42.9 +0.2**
O54A IAmb IAmb 00 09 51.7
comp=Z,86nm,1.7s
M53A WI Miller and 29.29 58 P P **00 09 44.5 +1.7**
M53A WI Miller and 29.29 58 P P **00 09 43.6 +0.9**
baz=258
Y58A Scranton 29.50 74 P P **00 09 45.0 +0.4**
MCWV Mont Chateau 29.61 62 P P **00 09 46.9 +1.3**
MCWV IAmb IAmb 00 09 57.3
comp=Z,23nm,1.1s
MCWV Mont Chateau 29.61 62 P P **00 09 47.3 +1.7**
baz=262
TGUH Tegucigalpa,Un 29.68 117 P P **00 09 47.2 +0.7**
N54A Moraine State 29.70 60 P P **00 09 46.9 +0.4**
N54A IAmb IAmb 00 09 58.5
comp=Z,50nm,1.2s
N54A Moraine State 29.70 60 P P **00 09 47.3 +0.8**
baz=260
ALLY Alegheny Colle 29.72 58 P P **00 09 47.9 +1.3**
ALLY IAmb IAmb 00 09 56.8
comp=Z,49nm,1.4s
X58A Rowland 29.75 72 P P **00 09 48.1 +1.2**
X58A IAmb IAmb 00 09 58.6
comp=Z,80nm,1.8s
T57A Hurt 29.84 68 P P **00 09 48.7 +1.0**
T57A IAmb IAmb 00 09 56.2
comp=Z,43nm,1.7s
M54A Oil Creek Stat 30.04 59 P P **00 09 47.6 -1.9**
baz=259
DLBC Dease Lake 30.16 344 P P **00 09 51.2 +0.9**
comp=Z,2.6nm,0.9s,baz=28,slow=18,SNR=3.6
O56A Blue Knob Stat 30.67 61 P P **00 09 55.8 +0.8**
O56A IAmb IAmb 00 10 06.9
comp=Z,32nm,1.1s
O56A Blue Knob Stat 30.67 61 P P **00 09 53.3 -1.7**
baz=262
M55A Ridgway 30.70 59 P P **00 09 56.0 +0.7**
WVNY West Valley, N 30.99 57 P P **00 09 58.6 +0.8**
WVNY IAmb IAmb 00 10 09.8
comp=Z,29nm,1.1s
P57A Homestead Farm 31.00 63 P P **00 09 59.0 +1.1**
P57A IAmb IAmb 00 10 10.1
comp=Z,35nm,1.3s
J54A Appleton 31.15 55 P P **00 09 59.5 +0.4**
J54A IAmb IAmb 00 10 11.4
comp=Z,36nm,1.1s
SADO Sadowa 31.16 52 P P **00 10 00.1 +0.9**
SADO IAmb IAmb 00 10 08.1
comp=Z,83nm,2.2s
SSPA Standing Stone 31.23 61 P P **00 10 00.1 +0.2**
SSPA IAmb IAmb 00 10 12.4
comp=Z,48nm,1.4s
SSPA Standing Stone 31.23 61 P P **00 09 58.8 -1.2**
baz=262
MEDO Medina 31.25 56 P P **00 10 02.2 +2.1**
MEDO IAmb IAmb 00 10 12.3
comp=Z,49nm,1.3s
FCC Fort Churchill 31.67 20 P P **00 10 04.4 +0.9**
L56A Greenwood 31.70 58 P P **00 10 04.0 -0.1**
J55A Hilton 31.73 56 P P **00 10 05.7 +1.4**
SDMD Soldier's Deli 31.89 63 P P **00 10 07.0 +1.2**
SDMD IAmb IAmb 00 10 16.4
comp=Z,59nm,2.5s
M57A Sunshine Farm, 31.90 59 P P **00 10 05.7 -0.1**
YKA Yellowknife Ar 32.23 360 P P **00 10 08.6 +0.2**
comp=Z,0.3nm,0.8s,baz=176,slow=8.4,SNR=4.0
YKA PcP PcP 00 12 56.4 -0.3
comp=Z,0.1nm,0.6s,baz=176,slow=2.9,SNR=1.6
PECO Prince Edward 32.45 55 P P **00 10 11.6 +1.0**
N59A State Game Lan 32.86 61 P P **00 10 15.7 +1.4**
N59A IAmb IAmb 00 10 26.1
comp=Z,25nm,1.3s
N59A State Game Lan 32.86 61 P P **00 10 15.2 +0.9**
baz=263
BINY Binghamton 32.87 58 P P **00 10 15.5 +1.1**
BINY IAmb IAmb 00 10 28.0
comp=Z,50nm,1.5s
BINY Binghamton 32.87 58 P P **00 10 14.7 +0.4**
baz=261
WUPA West Chester U 32.89 62 P P **00 10 15.7 +1.3**
J57A Williamstown 33.06 56 P P **00 10 17.1 +1.1**
J57A IAmb IAmb 00 10 27.9
comp=Z,25nm,1.1s
VLDQ Val d'Or 33.27 47 P P **00 10 17.1 -0.6**
VLDQ IAmb IAmb 00 10 29.0
comp=Z,30nm,1.3s
L59A Walton 33.56 58 P P **00 10 20.1 -0.3**
J59A Piesco 34.14 56 P P **00 10 26.3 +0.8**
J59A IAmb IAmb 00 10 38.2
comp=Z,48nm,1.4s
N31M Braeburn, Yuko 34.27 342 P P **00 10 27.4 +1.1**
baz=146
LONY Lake Ozonia 34.29 54 P P **00 10 27.3 +0.7**
LONY IAmb IAmb 00 10 40.3
comp=Z,23nm,1.4s
LONY Lake Ozonia 34.29 54 P P **00 10 25.7 -1.0**
baz=259
NCB Newcomb 34.43 55 P P **00 10 27.6 -0.3**
NCB IAmb IAmb 00 10 40.0
comp=Z,28nm,1.3s
M31M Drury Creek, Y 34.51 344 P P **00 10 28.8 +0.4**
baz=148
ACCN Adirondack Com 34.73 56 P P **00 10 31.9 +1.4**
ACCN IAmb IAmb 00 10 42.4
comp=Z,34nm,1.4s
M27K Edge Creek, AK 36.74 339 P P **00 10 45.4 -2.3**
baz=138
DAWY Dawson 37.34 342 P P **00 10 53.4 +0.8**
DAWY IAmb IAmb 00 11 13.1
comp=Z,44nm,1.7s
DAWY Dawson 37.34 342 P P **00 10 53.9 +1.3**
baz=143
PWL Port Wells 37.97 334 P P **00 10 57.8 -0.1**
baz=128
E62A Clayton Lake 38.14 52 P P **00 11 00.0 +0.5**
E62A IAmb IAmb 00 11 11.6
comp=Z,134nm,2.5s
KNK Knik Glacier 38.36 334 P P **00 11 02.1 +0.9**
baz=128
EGAK Eagle 38.38 342 P P **00 11 01.3 0.0**
baz=141
SML Sawmill 38.56 335 P P **00 11 01.1 -1.8**
baz=129
SCRK Sand Creek 38.58 340 P P **00 11 03.4 +0.3**
SCRK Sand Creek 38.58 340 P P **00 11 02.8 -0.3**
baz=137
EPYK Eagle Plains 38.61 346 P P **00 11 05.5 +2.3**
baz=148
RIDG Independent Ri 38.67 339 P P **00 11 02.6 -1.3**
baz=135
F64A Sherman 38.83 53 P P **00 11 05.2 -0.2**
F64A IAmb IAmb 00 11 15.5
comp=Z,61nm,2.0s
J26L Joseph Creek 38.84 340 P P **00 11 04.5 -0.8**
baz=138
WAT6 Susitna Watana 38.84 336 P P **00 11 07.0 +1.6**
baz=130
DHY Denali Highway 39.04 337 P P **00 11 05.0 -2.1**
baz=132
J25K Salcha River, 39.46 340 P P **00 11 07.2 -3.2**
baz=135
C36M Paulatuk 39.52 355 P P **00 11 09.3 -1.5**
baz=167
INK Inuvik 39.70 349 P P **00 11 13.5 +1.2**
comp=Z,0.8nm,0.3s,baz=139,slow=5.7,SNR=1.5
INK PcP PcP 00 13 19.9 +1.2
comp=Z,0.3nm,0.3s,baz=181,slow=7.3,SNR=1.4
MCK McKinley 40.00 337 P P **00 11 16.6 +1.6**
MCK McKinley 40.00 337 P P **00 11 17.0 +2.1**
baz=130
IL31 40.03 339 P P **00 11 16.0 +0.9**
ILAR Eielson Array 40.03 339 P P **00 11 14.8 -0.4**
comp=Z,1.2nm,0.7s,baz=150,slow=7.1,SNR=14
ILAR Eielson Array 40.03 339 P P **00 11 15.4 +0.3**
TRF Thorofare Moun 40.30 336 P P **00 11 17.5 0.0**
baz=128
N19K Bonanza Creek 40.42 331 P P **00 11 15.4 -3.2**
baz=121
M20K Styx River 40.44 333 P P **00 11 20.6 +1.9**
M20K Styx River 40.44 333 P P **00 11 20.8 +2.2**
baz=123
BWN Browne 40.47 337 P P **00 11 19.5 +0.8**
BWN IAmb IAmb 00 11 39.7
comp=Z,52nm,1.3s
NEA2 Nenana 40.61 338 P P **00 11 21.4 +1.5**
NEA2 Nenana 40.61 338 P P **00 11 17.7 -2.2**
baz=131
PPLA Purkeypile 40.65 334 P P **00 11 22.2 +1.8**
PPLA Purkeypile 40.65 334 P P **00 11 18.2 -2.2**
baz=125
CAST Castle Rocks 40.92 335 P P **00 11 24.3 +1.8**
CAST Castle Rocks 40.92 335 P P **00 11 20.2 -2.3**
baz=126
BPAW Bear Paw Mtn. 40.94 336 P P **00 11 23.8 +1.1**
BPAW Bear Paw Mtn. 40.94 336 P P **00 11 19.2 -3.5**
baz=128
M19K Big River Lodg 40.95 332 P P **00 11 21.7 -1.1**
baz=122
SVW2 Sparrevohn 41.03 331 P P **00 11 24.7 +1.2**
L20K Farewell, AK 41.06 333 P P **00 11 19.9 -3.8**
baz=123
I23K Minto, Yukon-K 41.07 338 P P **00 11 22.5 -1.2**
baz=131
H24K Noodor Dome 41.07 340 P P **00 11 26.2 +2.5**
H24K Noodor Dome 41.07 340 P P **00 11 22.2 -1.5**
baz=133
CHUM Lake Minchumin 41.28 336 P P **00 11 22.4 -3.0**
baz=126
L19K White Mountain 41.29 332 P P **00 11 26.6 +1.0**
L19K IAmb IAmb 00 11 45.2
comp=Z,46nm,1.5s
L19K White Mountain 41.29 332 P P **00 11 22.7 -2.9**
baz=122
LMN Caledonia Moun 41.30 54 P P **00 11 27.1 +1.3**
LMN IAmb IAmb 00 11 38.4
comp=Z,49nm,1.6s
BMAR Burnt Mountain 41.31 343 P P **00 11 27.5 +1.8**
MLY Manley 41.44 338 P P **00 11 24.3 -2.5**
baz=129
K20K Telida 41.62 334 P P **00 11 30.2 +1.9**
K20K IAmb IAmb 00 11 40.1
comp=Z,60nm,1.7s
K20K Telida 41.62 334 P P **00 11 25.7 -2.6**
baz=124
SCHQ Schefferville 41.64 40 P P **00 11 27.6 -0.9**
comp=Z,4.5nm,1.0s,baz=291,slow=8.7,SNR=3.0
SCHQ Schefferville 41.64 40 P P **00 11 30.0 +1.5**
SCHQ IAmb IAmb 00 11 40.8
comp=Z,64nm,1.6s
SJCC San Jacinto, C 41.69 111 P P **00 11 29.5 +0.1**
SJCC IAmb IAmb 00 11 40.2
comp=Z,49nm,1.4s
I21K Tanana 41.95 337 P P **00 11 30.5 -0.3**
baz=128
J20K Nowinta River 42.11 335 P P **00 11 34.1 +2.0**
J20K IAmb IAmb 00 11 44.0
comp=Z,43nm,1.5s
J20K Nowinta River 42.11 335 P P **00 11 31.1 -1.1**
baz=124
TTA Tatalina 42.13 333 P P **00 11 31.2 -1.4**
baz=121
A36M Sachs Harbour 42.19 355 P P **00 11 31.5 -1.2**
baz=166
H21K Melozitna Rive 42.51 338 P P **00 11 37.4 +1.9**
H21K IAmb IAmb 00 11 46.8
comp=Z,57nm,1.9s
H21K Melozitna Rive 42.51 338 P P **00 11 33.4 -2.1**
baz=127,SNR=5.8
COLD Coldfoot 42.70 340 P P **00 11 35.3 -1.8**
baz=132
ZARC Zaragoza, Cauc 43.34 113 P P **00 11 43.4 +0.5**
GCSA Galena City Sc 43.41 335 P P **00 11 43.3 +0.6**
baz=122
TOLK Toolik Lake Re 43.49 342 P P **00 11 45.3 +1.9**
TOLK Toolik Lake Re 43.49 342 P P **00 11 42.1 -1.3**
baz=133
PTBC PUERTO BERRIO, 44.23 114 eP P **00 11 49.0 -1.0**
GUY2C Guyana, Caldas 44.33 116 eP P **00 11 49.6 -1.7**
NORC Norcasia 44.50 116 eP P **00 11 56.8 +4.6**
ORTC Ortega, Tolima 45.25 118 eP P **00 12 00.1 +2.0**
ROSC El Rosal 45.38 116 P P **00 11 58.5 -1.1**
comp=Z,1.8nm,0.3s,baz=159,slow=23,SNR=1.4
ROSC El Rosal 45.38 116 P P **00 12 00.3 +0.7**
ROSC IAmb IAmb 00 12 11.8
comp=Z,30nm,1.3s
RES Resolute Bay 45.54 7 P P **00 12 03.3 +3.6**
comp=Z,0.7nm,0.9s,baz=108,slow=18,SNR=1.6
RES PcP PcP 00 13 38.7 +0.6
comp=Z,0.7nm,0.9s,baz=205,slow=17,SNR=1.5
RUSC La Rusia 45.71 114 eP P **00 12 01.3 -1.0**
SDV Santo Domingo 45.96 108 P P **00 12 04.5 +0.5**
SDV IAmb IAmb 00 12 24.9
comp=Z,28nm,1.5s
SOCV Socops 46.11 109 eP P **00 12 01.3 -3.7**
TAOE Nuku Hiva Isla 46.15 217 eS S **00 18 54.2 +2.7**
comp=Z,173nm,24.7s
TAOE eLR LR 00 25 06.4
comp=Z,1µm,24.4s,baz=42
TAOE Nuku Hiva Isla 46.15 217 P **00 12 02.5 -2.8**
DRLN Deer Lake 46.44 49 P P **00 12 09.3 +2.2**
ANM Nome 46.59 332 P P **00 12 10.4 +2.4**
ANM IAmb IAmb 00 12 18.9
comp=Z,22nm,1.6s
ANM Nome 46.59 332 P P **00 12 08.2 +0.2**
baz=112
RDOG Red Dog Mine 47.16 337 P P **00 12 13.5 +1.0**
baz=118
TNA Tin City 47.96 333 P P **00 12 21.2 +2.6**
TNA Tin City 47.96 333 P P **00 12 18.8 +0.1**
baz=110,SNR=6.6
GAMB Gambell 48.96 330 P P **00 12 23.5 -3.0**
baz=105
BILL Bilibino 58.36 334 P P **00 13 36.1 +0.8**
PPT2 Papeete2 58.46 220 eS S **00 21 42.7 +2.6**
comp=Z,206nm,26.2s
PPT2 eLR LR 00 30 31.9
comp=Z,1µm,30.5s,baz=33
LPAZ La Paz 64.19 130 P P **00 14 14.5 -1.7**
comp=Z,1.1nm,0.9s,baz=272,slow=12,SNR=2.4
LPAZ La Paz 64.19 130 P P **00 14 15.8 -0.4**
LPAZ IAmb IAmb 00 14 26.3
comp=Z,13nm,1.4s
PB16 IPOC Station P 64.78 132 P P **00 14 19.9 0.0**
PB16 IAmb IAmb 00 14 30.8
comp=Z,25nm,1.3s
SEY Seymchan 64.96 330 P P **00 14 20.8 +0.9**
comp=Z,0.9nm,0.3s,baz=89,slow=19,SNR=3.8
PETK Petropavlovsk- 65.26 318 P P **00 14 22.2 +0.2**
comp=Z,2.0nm,0.4s,baz=112,slow=16,SNR=1.1
PB08 IPOC Station P 66.33 133 P P **00 14 29.0 -0.8**
MA2 Magadan 66.79 327 P P **00 14 31.8 +0.1**
comp=Z,2.4nm,0.3s,baz=174,slow=22,SNR=1.2
MA2 Magadan 66.79 327 P P **00 14 33.5 +1.8**
MA2 IAmb IAmb 00 14 44.6
comp=Z,11nm,0.8s
PB07 IPOC Station P 67.06 135 P P **00 14 33.9 -0.2**
TIKI Tiksi 69.38 342 P P **00 14 49.8 +2.0**
GO02 Mina Guanaco 69.83 137 P P **00 14 51.2 -0.3**
GO02 IAmb IAmb 00 15 02.7
comp=Z,21nm,1.0s
AC04 Llanos de Chal 71.32 140 P P **00 14 59.8 -0.4**
AC04 IAmb IAmb 00 15 01.3
comp=Z,25nm,1.4s
AC02 Maricunga 71.36 138 P P **00 15 01.3 +0.2**
AC02 IAmb IAmb 00 15 10.0
comp=Z,35nm,1.9s
CO03 El Pedregal 73.58 142 P P **00 15 14.2 +0.5**
CO03 IAmb IAmb 00 15 24.2
comp=Z,16nm,0.9s
ZON Zonda 75.21 141 P P **00 15 24.7 +1.5**
ZON IAmb IAmb 00 15 34.3
comp=Z,35nm,1.3s
BO01 Tunca 76.16 144 P P **00 15 27.9 -0.6**
BO01 IAmb IAmb 00 15 39.2
comp=Z,14nm,1.1s
LMEL Las Melosas 76.18 143 P P **00 15 29.0 +0.2**
LMEL IAmb IAmb 00 15 39.9
comp=Z,16nm,0.9s
BO02 Sierra Bellavi 76.63 144 P P **00 15 31.6 +0.3**
BO02 IAmb IAmb 00 15 54.4
comp=Z,15nm,1.2s
CPUP Villa Florida 78.37 130 P P **00 15 39.7 -1.3**
comp=Z,6.2nm,1.2s,baz=272,slow=5.2,SNR=2.5
CPUP Villa Florida 78.37 130 P P **00 15 42.1 +1.1**
CPUP IAmb IAmb 00 15 51.4
comp=Z,23nm,1.3s
BDFB Brasilia 78.43 116 P P **00 15 42.5 +0.7**
comp=Z,0.9nm,0.4s,baz=40,slow=8.6,SNR=1.7
BDFB Brasilia 78.43 116 P P **00 15 42.4 +0.7**
BDFB IAmb IAmb 00 15 53.0
comp=Z,30nm,1.7s
NB2 NORSAR Subarra 78.84 24 P P 00 15 51.1 +7.8
comp=Z,0.8nm,0.7s,baz=313,slow=5.6
NOA NORSAR Array B 78.84 24 P P **00 15 43.2 -0.1**
comp=Z,0.3nm,0.7s,baz=318,slow=5.9,SNR=1.6
LC01 Cunco 79.37 148 P P **00 15 45.1 -1.1**
PLCA Paso Flores 81.45 148 P P **00 15 57.6 +0.1**
comp=Z,0.7nm,0.5s,baz=86,slow=7.9,SNR=2.3
PLCA Paso Flores 81.45 148 IAmb IAmb 00 16 09.0
comp=Z,14nm,1.1s
FINES FINESS Array B 83.13 18 P P **00 16 05.7 -0.3**
comp=Z,0.9nm,0.6s,baz=337,slow=13,SNR=1.1
COYC Coyhaique 84.67 152 P P **00 16 15.4 +1.4**
MJAR Matsushiro Arr 84.94 310 P P **00 16 16.9 +1.1**
comp=Z,1.0nm,0.3s,baz=31,slow=3.8,SNR=1.7
ESDC Sonseca Array 85.03 47 P P **00 16 15.7 -0.6**
comp=Z,0.1nm,0.3s,baz=278,slow=12,SNR=2.1
DAVA Damuels 87.92 34 eP P 00 16 36.3 +5.8
comp=Z,18nm,1.7s
RETA Reutte 88.20 34 eP P 00 16 38.0 +6.4
comp=Z,14nm,1.9s
FETA Feichten 88.52 34 eP P 00 16 41.0 +7.7
comp=Z,10nm,1.8s
GERES GERESS Array B 88.59 31 P P **00 16 31.4 -2.2**
comp=Z,0.1nm,0.4s,baz=311,slow=6.0,SNR=2.0
SQTA Sankt Quirin 88.61 34 eP P 00 16 40.6 +6.9
comp=Z,5.8nm,1.0s
WATA Walderalm 88.70 33 eP P 00 16 41.7 +7.6
comp=Z,13nm,2.0s
WTTA Wattenberg 88.78 33 eP P 00 16 42.0 +7.4
comp=Z,8.2nm,1.4s
NACGM Naroch 88.82 21⇑ eP P 00 16 44.0 +10
MNK Minsk 89.50 21 iP P **00 16 35.4 -2.1**
comp=E,1.0nm,0.9s
MNK iP P **00 16 35.4 -2.1**
comp=N,6.0nm,0.9s
MNK iP P **00 16 35.4 -2.1**
comp=Z,5.0nm,0.9s,baz=328
MNK iPP PP **00 20 06.5 -1.5**
MNK iPPP PPP 00 22 03.0
MNK iS SKSac **00 27 05.1 -2.7**

MNK				*i* SSS	SSS	00 36 58.5			
MNK				*i* LQ	LQ	00 57 09.6			
MNK				*i* LR	LR	00 59 33.8			
MNK				*i* LRM	MLR	01 05 17.9			
	comp=E,160nm,19.7s								
MNK				*i* LRM	MLR	01 06 18.7			
	comp=N,2μm,19.7s								
MNK				*i* LRM	MLR	01 06 21.2			
	comp=Z,2μm,19.7s								
ABTA	**Abfaltersbach**	**89.57**	**33**	*eP*	P	00 16 45.3	+7.2		
	comp=Z,4.9nm,1.3s								
MOA	**Molln**	**89.58**	**32**	*eP*	P	00 16 46.8	+8.7		
	comp=Z,10nm,2.1s								
KBA	**Koelnbreinsper**	**89.72**	**33**	*eP*	P	00 16 45.9	+6.9		
	comp=Z,5.0nm,1.2s								
CONA	**Conrad Observa**	**90.24**	**31**	*eP*	P	00 16 48.1	+6.9		
	comp=Z,9.2nm,1.9s								
OBKA	**Obir**	**90.70**	**33**	*eP*	P	00 16 49.5	+6.1		
	comp=Z,9.5nm,1.6s								
SOKA	**Soboth**	**90.80**	**32**	*eP*	P	00 16 50.4	+6.5		
	comp=Z,2.7nm,0.8s								
AKASG	**Malin Array Be**	**93.17**	**22**	P	**P**	**00 16 53.3**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=317,slow=10,SNR=1.7								
SONM	**Songino Array**	**94.08**	**334**	P	**P**	**00 16 59.4**	**+0.4**		
	comp=Z,0.6nm,0.8s,baz=66,slow=3.5,SNR=4.3								
SONM	**Songino Array**	**94.08**	**334**	IAmb	IAmb	00 17 13.1			
	comp=Z,15nm,1.7s								
ZALV	**Zalesovo Beam**	**94.50**	**349**	P	**P**	**00 16 59.5**	**-1.1**		
	comp=Z,0.3nm,0.4s,baz=350,slow=6.3,SNR=1.7								
HHC	**Hu-ho-hao-te**	**97.47**	**327**	*eP*	**P**	**00 17 14.3**	**-0.3**		
HHC	**Hu-ho-hao-te**	**97.47**	**327**	S	S	00 28 30.8	-8.8		
HHC				pmax	pmax				
	comp=Z,19nm,0.9s								
HHC				pmax	pmax				
	comp=Z,120nm,5.5s								
HHC				LR	LR				
	comp=N,750nm,15.2s								
HHC				LR	LR				
	comp=E,1μm,15.2s								
HHC				LR	LR				
	comp=Z,1μm,15.9s								
NJ2	**Nanjing**	**100.10**	**316**	*eP*	**Pdif**	**00 17 25.3**	**-1.1**		
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
GOMU	**GeErMu**	**108.44**	**335**	Pdif	**Pdif**	**00 18 07.3**	**+3.4**		
GOMU				pPKP	sPdif	00 18 18.0	+10		
GOMU				sPKP		00 18 21.5			
GOMU				PP	**PP**	**00 22 28.8**	**-4.3**		
GOMU	**GeErMu**	**108.44**	**335**	SKS	**SKSdf**	**00 29 26.3**	**+3.9**		
GOMU	**GeErMu**	**108.44**	**335**	SS	SS	00 37 54.0	+5.7		
GOMU				AMB	AMB				
	comp=Z,76nm,4.8s								
GOMU				LR	LR				
	comp=N,180nm,20.0s								
GOMU				LR	LR				
	comp=E,260nm,19.6s								
GOMU				LR	LR				
	comp=Z,130nm,17.6s								
PZH	**PanZhiHua**	**113.83**	**325**	PKP	**PKiKP**	**00 22 18.5**	**-1.4**		
QIZ	**Qiongzhong**	**115.12**	**313**	PKP	**PKPdf**	**00 22 23.3**	**+0.9**		
QIZ				PP	**PP**	**00 23 20.8**	**-0.5**		
QIZ	**Qiongzhong**	**115.12**	**313**	SS	SS	00 39 18.5	+0.6		
QIZ				LR	LR				
	comp=N,610nm,14.3s								
QIZ				LR	LR				
	comp=E,560nm,15.1s								
QIZ				LR	LR				
	comp=Z,470nm,20.2s								
WRA	**Warramunga Arr**	**117.79**	**262**	PKP	**PKPdf**	**00 22 27.3**	**-0.1**		
	comp=Z,0.6nm,1.1s,baz=64,slow=2.0,SNR=2.8								
ASAR	**Alice Springs**	**119.64**	**258**	PKP	**PKPdf**	**00 22 31.2**	**+0.3**		
	comp=Z,0.6nm,0.8s,baz=96,slow=3.7,SNR=4.2								
CMAR	**Chiang Mai Arr**	**121.92**	**322**	PKP	**PKiKP**	**00 22 36.8**	**+1.1**		
	comp=Z,1.2nm,0.3s,baz=335,slow=2.4,SNR=1.3								

JMA ***28*** *00:09:28.5±0.1,24.°53N×121.°69E,h36km±3km,M3.0*
TAP ***28*** *00:09:28.4,24.°57N×121.°69E,h39km,ML3.6,B*
IASPEI ***28*** *00:09:29.2±1.0,24.°56N±0.°02×121.°71E±0.°02,h34km±1km, Error ellipse: s-maj=3.1km s-min=2.2km az=106.2,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISC 28 00:09:29.2±0.9,24.°57N±0.°02×121.°71E±0.°02,h33km±2km, n107,σ0°78/182,23C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.07**	**7**	⇑*iP*		**Pb**	**00 09 35.3**	**+0.4**
	baz=19							
NDS				*i* S		**Sb**	**00 09 39.7**	**+0.9**
	baz=19							
TWC	**Suao**	**0.14**	**72**	⇑*iP*		**Pb**	**00 09 35.7**	**+0.5**
	baz=76							
TWC				*i* S		**Sb**	**00 09 40.5**	**+1.1**
	baz=76							
EWUT	**Wuta**	**0.14**	**152**	*i* P		**Pb**	**00 09 35.5**	**+0.2**
	baz=146							
ENA	**Nanau**	**0.14**	**167**	⇑*iP*		**Pb**	**00 09 35.5**	**+0.1**
	baz=159							
ENA				S		**Sb**	**00 09 40.1**	**+0.6**
	baz=159							
ENTT	**Nioudou**	**0.15**	**300**	⇓*iP*		**Pb**	**00 09 35.7**	**+0.3**
	baz=303							
ENTT				*i* S		**Sb**	**00 09 40.5**	**+0.9**
	baz=303							
TWE	**Neicheng**	**0.16**	**347**	⇑*iP*		**Pb**	**00 09 35.8**	**+0.4**
	baz=357							
TWE				*i* S		**Sb**	**00 09 40.9**	**+1.2**
	baz=357							
LATG	**Datong**	**0.17**	**259**	⇑*iP*		**Pb**	**00 09 35.9**	**+0.3**
	baz=257							
LATG				*i* S		**Sb**	**00 09 41.0**	**+0.9**
	baz=257							
NDT	**Datong Townshi**	**0.18**	**281**	⇓P		**Pb**	**00 09 36.0**	**+0.3**
	baz=289							
NDT				S		**Sb**	**00 09 40.8**	**+0.7**
	baz=289							
ILA	**Ilan**	**0.20**	**11**	P		**Pb**	**00 09 36.4**	**+0.5**
	baz=17							
ILA				S		**Sb**	**00 09 42.1**	**+1.7**
	baz=17							
FUSB	**Fushanzhiwuyua**	**0.22**	**331**	⇓*iP*		**Pb**	**00 09 36.3**	**+0.1**
	baz=328							
FUSB				*i* S		**Sb**	**00 09 41.2**	**+0.4**
	baz=328							
EHP	**Heping Village**	**0.26**	**173**	P		**Pn**	**00 09 36.4**	**0.0**
	baz=173							
EHP				*e*S		**Sb**	**00 09 42.2**	**+0.8**
	baz=173							
NWLT	**Wulai**	**0.28**	**318**	⇓*iP*		**Pn**	**00 09 36.8**	**0.0**
	baz=315							
NWLT				*i* S		**Sb**	**00 09 42.1**	**+0.1**
	baz=315							
NTC	**Toucheng**	**0.31**	**21**	P		**Pn**	**00 09 37.3**	**0.0**
	baz=24							
NTC				S		**Sb**	**00 09 43.3**	**+0.8**
	baz=24							
YHNB	**Yeheng**	**0.32**	**289**	⇓*iP*		**Pb**	**00 09 37.1**	**-0.2**
	baz=289							
YHNB				S		**Sn**	**00 09 42.7**	**+0.1**
	baz=289							
NNSB	**Datong**	**0.33**	**245**	⇑*iP*		**Pb**	**00 09 37.5**	**+0.1**
	baz=248							
NNSB				*i* S		**Sn**	**00 09 43.4**	**+0.5**
	baz=248							
NNS	**Nan Shan**	**0.33**	**248**	⇑*iP*		**Pb**	**00 09 37.6**	**+0.1**
	baz=249							
NNS				*i* S		**Sn**	**00 09 43.5**	**+0.5**
	baz=249							
NACB	**Ninganchiao**	**0.40**	**195**	⇑*iP*		**Pb**	**00 09 37.3**	**-1.1**
	baz=198							
NACB				S		**Sb**	**00 09 44.2**	**-0.5**
	baz=198							
ETL	**Fush Village**	**0.41**	**191**	P		**Pb**	**00 09 37.7**	**-0.9**
	baz=194							
ETL				*e*S		**Sb**	**00 09 45.2**	**+0.3**
	baz=194							
ETLH	**Xiulin Townshi**	**0.41**	**210**	P		**Pb**	**00 09 38.1**	**-0.5**
	baz=201							
ETLH				*e*S		**Sb**	**00 09 44.7**	**-0.3**
	baz=201							
TIPB	**Shuangxi**	**0.42**	**15**	⇑*iP*		**Pb**	**00 09 38.8**	**+0.2**
	baz=14							
TIPB				S		**Sn**	**00 09 45.6**	**+0.1**
	baz=14							
TWA	**Mucha**	**0.43**	**345**	P		**Pb**	**00 09 38.6**	**-0.1**
	baz=347							
TWA				S		**Sb**	**00 09 45.5**	**+0.1**
	baz=347							
NHDH	**Xindian Distri**	**0.43**	**337**	*eP*		**Pb**	**00 09 38.7**	**-0.1**
	baz=332							
NHDH				*e*S		**Sb**	**00 09 45.1**	**-0.2**
	baz=332							
TATO	**Taipei**	**0.45**	**334**	*eP*		**Pb**	**00 09 38.7**	**-0.4**
	baz=335							
TATO				*e*S		**Sb**	**00 09 45.5**	**-0.5**
	baz=335							
TWD	**Chiawan**	**0.49**	**192**	*i* P		**Pb**	**00 09 38.6**	**-1.1**
	baz=195							
TWD				S		**Sb**	**00 09 46.0**	**-1.0**
	baz=195							
TAP	**Taipei**	**0.51**	**339**	*eP*		**Pb**	**00 09 40.0**	**+0.1**
	baz=341							
TAP				*e*S		**Sb**	**00 09 47.1**	**-0.1**
	baz=341							
NWF	**Wu-fen Shan**	**0.51**	**8**	⇑*iP*		**Pb**	**00 09 39.9**	**-0.2**
	baz=9.0							
NWF				*i* S		**Sn**	**00 09 47.7**	**-0.1**
	baz=9.0							
WFSB	**Wu-fen Shan**	**0.51**	**8**	*eP*		**Pb**	**00 09 39.9**	**-0.1**
	baz=9.0							
WFSB				*e*S		**Sb**	**00 09 47.5**	**+0.1**
	baz=9.0							
TWB1	**Santiao Chiao**	**0.51**	**30**	⇑*iP*		**Pb**	**00 09 40.0**	**+0.1**
	baz=33							
TWB1				*i* S		**Sn**	**00 09 48.0**	**+0.3**
	baz=33							
FUSS	**Fushou**	**0.53**	**233**	⇑*iP*		**Pn**	**00 09 40.3**	**-0.3**
	baz=226							
FUSS				S		**Sb**	**00 09 48.2**	**0.0**
	baz=226							
NFF	**Wufeng Townshi**	**0.54**	**277**	P		**Pn**	**00 09 40.0**	**-0.6**
	baz=274							
NFF				S		**Sb**	**00 09 47.9**	**-0.4**
	baz=274							
SXI1	**Grass Mountain**	**0.55**	**16**	⇑*iP*		**Pn**	**00 09 40.3**	**-0.4**
	baz=8.0							
SXI1				S		**Sn**	**00 09 48.6**	**-0.1**
	baz=8.0							
TWT	**Tachien**	**0.58**	**237**	⇑*iP*		**Pn**	**00 09 41.3**	**+0.1**
	baz=231							
TWT				*i* S		**Sn**	**00 09 49.7**	**+0.1**
	baz=231							
WHF	**Hehuan Shan**	**0.58**	**224**	⇑*iP*		**Pn**	**00 09 40.8**	**-0.7**
	baz=215							
WHF				*i* S		**Sb**	**00 09 49.7**	**-0.2**
	baz=215							
TNOU	**National Taiwa**	**0.58**	**6**	P		**Pn**	**00 09 40.4**	**-0.8**
	baz=7.0							
TNOU				*e*S		**Sn**	**00 09 48.7**	**-0.8**
	baz=7.0							
YM01	**YM01**	**0.59**	**348**	⇑*iP*		**Pn**	**00 09 40.4**	**-0.9**
	baz=338							
YM01				S		**Sn**	**00 09 49.5**	**-0.3**
	baz=338							
TWS1	**Kuangyinshan**	**0.59**	**334**	⇑*iP*		**Pn**	**00 09 40.7**	**-0.5**
	baz=335							
TWS1				*i* S		**Sb**	**00 09 49.9**	**+0.3**
	baz=335							
HWA	**Hwalien**	**0.59**	**189**	*eP*		**Pn**	**00 09 40.1**	**-1.2**
	baz=193							
HWA				*e*S		**Sn**	**00 09 49.6**	**-0.2**
	baz=193							
NCU	**National Centr**	**0.62**	**310**	P		**Pn**	**00 09 41.4**	**-0.3**
	baz=311							
NCU				S		**Sn**	**00 09 50.4**	**-0.1**
	baz=311							
NCUH	**Zhongli**	**0.62**	**310**	P		**Pn**	**00 09 41.3**	**-0.3**
	baz=310							
NCUH				S		**Sn**	**00 09 50.6**	**+0.1**
	baz=310							
YM08	**YM08**	**0.63**	**350**	P		**Pn**	**00 09 40.8**	**-1.0**
	baz=341							
ETM	**Tongmen**	**0.63**	**198**	*i* P		**Pn**	**00 09 40.3**	**-1.5**
	baz=196							
LIOB	**Emei**	**0.63**	**277**	⇓*iP*		**Pn**	**00 09 41.8**	**0.0**
	baz=282							
LIOB				*e*S		**Sb**	**00 09 51.5**	**+0.8**
	baz=282							
NTST	**Danshui**	**0.64**	**339**	*eP*		**Pn**	**00 09 41.2**	**-0.7**
	baz=339							
NTST				*e*S		**Sn**	**00 09 50.8**	**-0.1**
	baz=339							
ANP	**Anpu**	**0.64**	**345**	*eP*		**Pn**	**00 09 41.0**	**-1.0**
	baz=347							
NSTT	**Nanjuang**	**0.65**	**276**	⇓*iP*		**Pn**	**00 09 41.8**	**-0.1**
	baz=280							
NSTT				*i* S		**Sn**	**00 09 51.4**	**+0.3**
	baz=280							
HSN1	**Hsinchu**	**0.66**	**289**	P		**Pn**	**00 09 42.6**	**+0.4**
	baz=301							
HSN1				*e*S		**Sb**	**00 09 52.0**	**+0.6**
	baz=301							
SBCB	**Hsinchu**	**0.69**	**289**	*eP*		**Pn**	**00 09 43.0**	**+0.3**
	baz=301							
SBCB				*e*S		**Sn**	**00 09 52.6**	**+0.3**
	baz=301							
CHGB	**Renai**	**0.70**	**224**	⇑*iP*		**Pn**	**00 09 42.6**	**-0.4**
	baz=216							
CHGB				S		**Sn**	**00 09 52.6**	**-0.1**
	baz=216							
TEYL	**Yanliau Villag**	**0.70**	**188**	*i* P		**Pn**	**00 09 42.1**	**-0.7**
	baz=194							
HSN	**Hsinchu**	**0.71**	**289**	*eP*		**Pn**	**00 09 42.6**	**-0.3**
	baz=303							
HSN				*e*S		**Sn**	**00 09 51.9**	**-0.8**
	baz=303							
TWY	**Chenhua**	**0.71**	**352**	P		**Pn**	**00 09 42.5**	**-0.5**
	baz=342							
TWY				S		**Sn**	**00 09 52.3**	**-0.4**
	baz=342							
NHW	**Xinwu Township**	**0.74**	**306**	P		**Pn**	**00 09 43.2**	**-0.2**
	baz=306							
NHW				*i* S		**Sn**	**00 09 53.6**	**+0.1**
	baz=306							
WHP	**Taichung City**	**0.75**	**248**	⇓*iP*		**Pn**	**00 09 44.1**	**+0.5**
	baz=244							
WHP				S		**Sn**	**00 09 53.9**	**+0.1**
	baz=244							
OWD	**Renai**	**0.78**	**219**	P		**Pn**	**00 09 43.7**	**-0.3**
	baz=213							
OWD				S		**Sn**	**00 09 53.5**	**-1.0**
	baz=213							
WUSB	**Renai**	**0.79**	**223**	⇑*iP*		**Pn**	**00 09 44.0**	**-0.1**
	baz=222							
WUSB				*i* S		**Sn**	**00 09 54.7**	**0.0**
	baz=222							
ESL	**Shilin**	**0.79**	**199**	⇑P		**Pn**	**00 09 42.0**	**-2.0**
	baz=185							
NMLH	**Miaoli**	**0.83**	**268**	P		**Pn**	**00 09 44.7**	**0.0**
	baz=280							
NMLH				S		**Sn**	**00 09 56.3**	**+0.5**
	baz=280							
NSY	**Sanyi**	**0.88**	**260**	*eP*		**Pn**	**00 09 45.5**	**+0.4**
	baz=259							
NSY				*e*S		**Sb**	**00 09 58.1**	**+0.7**
	baz=259							
TWQ1	**Liyutan**	**0.88**	**256**	P		**Pn**	**00 09 45.7**	**+0.4**
	baz=255							
TWQ1				*e*S		**Sb**	**00 09 58.2**	**+0.6**
	baz=255							
WCS	**Beigang Elemen**	**0.89**	**235**	*eP*		**Pn**	**00 09 45.8**	**+0.5**
	baz=236							
WCS				*e*S		**Sn**	**00 09 57.4**	**+0.4**
	baz=236							
EGFH	**Guangfu**	**0.93**	**196**	*eP*		**Pn**	**00 09 44.4**	**-1.6**
	baz=195							
EGFH				*e*S		**Sn**	**00 09 58.9**	**+0.8**
	baz=195							
VWDT	**VWDT**	**0.96**	**213**	⇑P		**Pn**	**00 09 46.0**	**-0.3**
	baz=210							
VWDT				S		**Sn**	**00 09 58.9**	**0.0**
	baz=210							
WDJ	**Dajia District**	**1.00**	**258**	*eP*		**Pn**	**00 09 47.0**	**+0.2**
	baz=257							
WDJ				*e*S		**Sb**	**00 10 01.2**	**+0.4**
	baz=257							
SMLT	**Sun Moon Lake**	**1.00**	**227**	⇑*iP*		**Pn**	**00 09 47.4**	**+0.4**
	baz=222							
SMLT				S		**Sn**	**00 10 00.9**	**+0.9**
	baz=222							
TYC	**Yuchr**	**1.02**	**230**	⇑*iP*		**Pn**	**00 09 47.8**	**+0.7**
	baz=223							
TYC				S		**Sn**	**00 10 01.6**	**+1.3**
	baz=223							
TCU	**Taichung**	**1.03**	**246**	*eP*		**Pb**	**00 09 49.8**	**+1.3**
	baz=244							
SSLB	**Suanglung**	**1.04**	**222**	*eP*		**Pn**	**00 09 47.4**	**0.0**
	baz=220							
SSLB				*e*S		**Sn**	**00 10 01.7**	**+0.9**
	baz=220							
HGSD	**Ruisui**	**1.10**	**194**	*eP*		**Pn**	**00 09 46.8**	**-1.5**
	baz=200							
PCYT	**Pengchaiyu**	**1.11**	**17**	*eP*		**Pn**	**00 09 47.7**	**-0.7**
	baz=19							
EHY	**Hungye**	**1.11**	**199**	P		Pn	00 09 46.0	-2.5
	baz=189							
EHY				*e*S		**Sn**	**00 09 59.7**	**-3.0**
	baz=189							
JYNG	**Yonagunijimaku**	**1.13**	**96**	P		**Pn**	**00 09 48.7**	**0.0**
JYNG				*e*S		**Sn**	**00 10 03.6**	**+0.5**
WNT	**Mingjian**	**1.16**	**234**	*eP*		**Pn**	**00 09 50.3**	**+1.2**
	baz=246							
WNT				*e*S		**Sb**	**00 10 05.6**	**+0.1**
	baz=246							
WJS	**Zhushan**	**1.16**	**231**	*eP*		**Pb**	**00 09 50.7**	**-0.1**
	baz=244							
WJS				*e*S		**Sb**	**00 10 06.7**	**+1.2**
	baz=244							
YOJ	**Yonaguni jima**	**1.19**	**95**	P		**Pn**	**00 09 49.5**	**0.0**
YOJ				*e*S		**Sn**	**00 10 05.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.19**	**95**	*eP*		**Pn**	**00 09 49.3**	**-0.3**
	baz=85							
YULB	**Yu-li**	**1.23**	**198**	*eP*		Pn	00 09 47.5	-2.6
	baz=188							
YULB				*e*S		**Sn**	**00 10 06.1**	**+0.6**
	baz=188							
EYUL	**Yuli**	**1.27**	**196**	*eP*		**Pn**	**00 09 50.9**	**+0.3**
	baz=194							
YUS	**Yu-Shan**	**1.27**	**213**	*eP*		**Pn**	**00 09 50.9**	**-0.3**
	baz=199							
ALS	**Alishan**	**1.34**	**218**	P		**Pn**	**00 09 52.5**	**+0.7**
	baz=216							
ALS				*e*S		**Sb**	**00 10 11.1**	**+0.3**
	baz=216							
CHN5	**Tsauling**	**1.35**	**224**	P		**Pn**	**00 09 53.0**	**+1.2**
	baz=222							
WDLH	**Douliu**	**1.38**	**231**	*eP*		**Pb**	**00 09 54.8**	**+0.3**
	baz=243							
WRL	**Guolierlin Hig**	**1.38**	**242**	*eP*		**Pn**	**00 09 53.7**	**+1.5**
	baz=239							
ELDTW	**Lidau**	**1.51**	**205**	*eP*		**Pn**	**00 09 53.5**	**-0.5**
	baz=192							
CHN4	**Tsaushan**	**1.58**	**220**	*eP*		**Pn**	**00 09 56.7**	**+1.8**
	baz=218							
CHN4				*e*S		**Sb**	**00 10 18.2**	**+0.7**
	baz=218							
TPUB	**Ta-pu**	**1.60**	**218**	*eP*		**Pn**	**00 09 56.7**	**+1.5**
	baz=216							
TPUB				*e*S		**Sb**	**00 10 17.5**	**-0.6**
	baz=216							
EDH	**Donghe**	**1.63**	**193**	*eP*		**Pn**	**00 09 54.0**	**-1.5**
	baz=192							
STYH	**Taoyuan**	**1.63**	**212**	*eP*		**Pn**	**00 09 56.3**	**+0.7**
	baz=196							
WTP	**Ta-pu**	**1.65**	**217**	*eP*		**Pn**	**00 09 57.6**	**+1.7**
	baz=216							
WTP				*e*S		**Sb**	**00 10 19.6**	**0.0**
	baz=216							
TWK	**Hsinying**	**1.71**	**221**	P		**Pn**	**00 09 58.2**	**+1.5**
	baz=219							
TWK				*e*S		**Sb**	**00 10 20.6**	**-0.6**
	baz=219							
LONT	**Longtian**	**1.73**	**198**	*eP*		**Pn**	**00 09 57.1**	**+0.1**
	baz=186							
SNST	**Tainan City**	**1.74**	**220**	*eP*		**Pn**	**00 09 58.4**	**+1.3**
	baz=218							
SNST				*e*S		**Sb**	**00 10 21.6**	**-0.5**
	baz=218							
CHN1	**Nanshi**	**1.75**	**218**	*eP*		**Pn**	**00 09 59.0**	**+1.8**
	baz=216							
CHN1				*e*S		**Sb**	**00 10 21.9**	**-0.5**
	baz=216							
ICHU	**Yijhu**	**1.77**	**228**	*eP*		**Pn**	**00 09 59.5**	**+1.9**
	baz=224							
IRIF	**Iriomote-Funau**	**1.86**	**97**	P		**Pn**	**00 09 58.5**	**-0.2**
IRIF				*e*S		**Sn**	**00 10 20.9**	**-0.1**
LDUT	**Ludao**	**1.90**	**187**	*eP*		**Pn**	**00 09 58.4**	**-0.8**
	baz=188							
HATJ	**Hateruma jima**	**1.98**	**104**	P		**Pn**	**00 10 01.4**	**+1.0**
SSD	**Sandimen**	**2.06**	**209**	*eP*		**Pn**	**00 10 03.4**	**+1.8**
	baz=205							
VWUC	**VWUC**	**2.10**	**282**	*eP*		**Pn**	**00 10 00.6**	**-1.3**
	baz=281							
JKRS	**Kuro-shima**	**2.12**	**98**	P		**Pn**	**00 10 02.6**	**+0.2**
JKRS				*e*S		**Sn**	**00 10 28.2**	**+0.6**
MASBT	**Mashibuluo**	**2.18**	**207**	*eP*		**Pn**	**00 10 03.5**	**+0.3**
	baz=194							
JIJ	**Ishigaki jima**	**2.23**	**95**	P		**Pn**	**00 10 03.6**	**-0.2**
JIJ				S		**Sn**	**00 10 29.9**	**-0.3**
MATB	**Ma-tsu**	**2.24**	**315**	*eP*		**Pn**	**00 10 02.4**	**-1.6**
	baz=314							
JISG	**Ishigakijimahi**	**2.37**	**89**	P		**Pn**	**00 10 05.8**	**0.0**
JISG				*e*S		**Sn**	**00 10 34.6**	**+0.9**
XPSS	**Dashiqiu**	**2.72**	**330**	*eP*		**Pn**	**00 10 08.4**	**-2.2**
	baz=330							
JTJ	**Tarama**	**2.73**	**88**	P		**Pn**	**00 10 11.6**	**+0.9**
JIRB	**Irabujima**	**3.16**	**85**	P		**Pn**	**00 10 17.6**	**+0.9**
AXDP	**Jialang**	**3.41**	**276**	*eP*		**Pn**	**00 10 19.1**	**-1.0**
	baz=275							

UCR ***28*** *00:09:39.1±1.7,9.°00N×85.°09W,h17km±7km,MW3.6*
INET ***28*** *00:09:41.0±0.4,9.°10N×85.°03W,h22km±5km,MW3.1*

ISC 28 00:09:39.4±1.9,9.°05N±0.°10×85.°09W±0.°08,h22km±8km, n27,σ0°41/32,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.74**	**34**	*eP*		**Pb**	**00 09 53.9**	**+0.3**
JACO				*e*S		**Sn**	**00 10 05.6**	**+0.3**
LAFE	**Finca La Fe, P**	**0.78**	**13**	*eP*		**Pb**	**00 09 54.1**	**-0.1**
LAFE				*e*S		**Sn**	**00 10 05.8**	**-0.3**
LAFE	**Finca La Fe, P**	**0.78**	**13**	*eP*		**Pb**	**00 09 54.1**	**-0.1**
JTS	**Las Juntas de**	**1.24**	**6**	*eP*		**Pn**	**00 10 01.0**	**-0.6**
JTS	**Las Juntas de**	**1.24**	**6**	*eP*		**Pn**	**00 10 00.6**	**-0.9**
LCR2	**La Lucha 2**	**1.27**	**57**	*eP*		**Pn**	**00 10 01.9**	**-0.1**
GUAI	**GUAI**	**1.29**	**341**	*eP*		**Pn**	**00 10 01.8**	**-0.3**
GUAI				*e*S		**Sn**	**00 10 18.1**	**-0.6**
ORTG	**Ortega, Santa**	**1.36**	**344**	*eP*		**Pn**	**00 10 03.1**	**-0.1**
CDM	**Cerro de Muert**	**1.40**	**69**	*eP*		**Pn**	**00 10 04.1**	**0.0**
CDM	**Cerro de Muert**	**1.40**	**69**	*eP*		**Pn**	**00 10 04.0**	**0.0**
CDM				*e*S		**Sb**	**00 10 22.8**	**+0.1**
RIMA	**Rio Macho**	**1.40**	**59**	*eP*		**Pn**	**00 10 04.0**	**+0.1**
RIMA	**Rio Macho**	**1.40**	**59**	*eP*		**Pn**	**00 10 04.0**	**+0.1**
PEZE	**Perez Zeledon,**	**1.43**	**76**	*eP*		**Pn**	**00 10 04.0**	**-0.1**
PEZE	**Perez Zeledon,**	**1.43**	**76**

ellipse: s-maj=7.9km s-min=2.7km az=19.0
*NEIC **28** 00:12:54.7±1.9, 30˚.21N±0˚.04×114˚.31W±0˚.05, h10km±1km, mb5.1/311, Ms_20 5.2/261, Mwr5.3/103, Mww5.5, Md5.1/26(MEX), Error ellipse: s-maj=8.9km s-min=5.3km az=234.0*
*GCMT **28** 00:12:54.7±0.1, 30˚.23N±0˚.01×114˚.20W±0˚.01, h12km, MW5.5/146, Moment Tensor Solution. s114,c185; s146,c296; Duration: 1ś3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.10±.02; $M_{\theta\theta}$-1.07±.02; $M_{\phi\phi}$1.17±.02; $M_{r\theta}$-0.10±.05; $M_{r\phi}$1.70±.02; $M_{\theta r}$-0.14±.05; Best double couple: M_o2.04300×10^{17} NP1:ϕ_s163.00000°,δ86.00000°, λ177.00000°. NP2:ϕ_s253.00000°,δ87.00000°,λ4.00000°. Principal axes: T 2.1000, Plg5.0000°, Azm118.0000°; N -0.1130, Plg85.0000°, Azm290.0000°; P -1.9860, Plg1.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 00:12:54.9, 30˚.24N×114˚.32W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.27; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$0.73; $M_{r\theta}$-0.42; $M_{\phi\phi}$0.94; $M_{\theta r}$-0.12; Fault plane solution: M_o1.22000×10^{17} NP1:ϕ_s71.70000°, δ82.88000°,λ-23.76000°. NP2:ϕ_s164.83000°,δ66.44000°, λ-172.23000°. Principal axes: T 1.3115, Plg11.0000°, Azm120.0000°; N -0.2087, Plg65.0000°, Azm236.0000°; P -1.1028, Plg22.0000°, Azm26.0000°;*
*NEIC **28** 00:12:59, 30˚.24N×114˚.32W, h12km, Moment Tensor Solution. Duration: 10ś4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$1.03; $M_{r\theta}$0.07; $M_{\theta\phi}$1.76; $M_{\theta r}$-0.40; Fault plane solution: M_o2.05000×10^{17} NP1: ϕ_s256.00000°,δ78.00000°,λ0.00000°. NP2:ϕ_s346.00000°, δ89.00000°,λ-168.00000°. Principal axes: T 2.1330, Plg8.0000°, Azm120.0000°; N -0.1889, Plg78.0000°, Azm349.0000°; P -1.9441, Plg9.0000°, Azm212.0000°;*

ISC 28 00:12:52.5±1.2, 30˚.29N±0˚.04×114˚.24W±0˚.03, h4km±7km, n892, σ1ś90/728, mb5.1/123, MS5.2/203, 18C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.91**	**325**	Pg	**Pg**	**00 13 08.4**	**-1.7**
SFX					**Sg**	**00 13 23.4**	**+1.5**
SFX	**San Felipe**	**0.91**	**325**	⇑ *i*P	**Pg**	**00 13 08.5**	**-1.6**
SFX				*e*S	**Sg**	**00 13 22.3**	**+0.4**
SFX				IAML		00 13 24.6	
	comp=E,101μm,0.8s						
SFX				IAML		00 13 34.4	
	comp=N,68μm,1.6s						
BAHB	**Baha de los**	**1.46**	**156**	*e*P	Pn	00 13 12.0	-7.7
BAHB				*e*S	Sn	00 13 28.9	-10
BAHB	**Baha de los**	**1.46**	**156**	⇑ *e*P	Pn	00 13 12.3	-7.3
BAHB				*e*S	**Sn**	**00 13 36.5**	**-2.8**
RITX	**Riito Sonora**	**1.97**	**342**	⇑ *e*P	**Pn**	**00 13 25.4**	**-1.3**
SVX	**San Vicente**	**2.02**	**301**	⇑ *e*P	**Pn**	**00 13 24.8**	**-2.5**
SVX				IAML		00 13 57.5	
	comp=N,18μm,1.0s						
SVX				IAML		00 14 12.2	
	comp=E,23μm,1.4s						
214A	**Organ Pipe Nat**	**2.07**	**36**		**Sn**	**00 13 51.9**	**-2.4**
214A	**Organ Pipe Nat**	**2.07**	**36**	Pn	**Pn**	**00 13 25.4**	**-2.7**
214A	**Organ Pipe Nat**	**2.07**	**36**	*e*P	**Pn**	**00 13 25.4**	**-2.7**
214A				*i* S	**Sn**	**00 13 51.9**	**-2.4**
214A	**Organ Pipe Nat**	**2.07**	**36**	‖ *e*P	**Pn**	**00 13 25.2**	**-2.9**
214A	**Organ Pipe Nat**	**2.07**	**36**	P	**Pn**	**00 13 25.2**	**-2.9**
	baz=214,SNR=39						
GUVIX	**Guadalupe Vict**	**2.13**	**341**		**Pn**	**00 13 29.8**	**+0.9**
MBIG	**Mexicali**	**2.27**	**339**	*e*P	**Pn**	**00 13 29.6**	**-1.2**
MBIG				*i* S	**Sn**	**00 13 58.1**	**-1.1**
YMD	**Yuma Desert**	**2.28**	**354**	⇑ *e*P	**Pn**	**00 13 29.0**	**-1.9**
CPBX	**Cerro Prieto**	**2.31**	**337**		**Pn**	**00 13 32.3**	**+0.9**
113A	**Mohawk Valley,**	**2.51**	**9**	Pn	**Pn**	**00 13 33.1**	**-1.0**
EMSC	**East Mesa**	**2.53**	**346**	*e*P	**Pn**	**00 13 33.2**	**-1.1**
UABX	**UABC, Campus M**	**2.55**	**337**		**Pn**	**00 13 35.5**	**+0.8**
UABX	**UABC, Campus M**	**2.55**	**337**	IAML		00 15 18.6	
	comp=E,44μm,1.1s						
CCX	**Cicese**	**2.61**	**308**	Pn	**Pn**	**00 13 35.1**	**-0.4**
CCX	**Cicese**	**2.61**	**308**	⇑ *e*P	**Pn**	**00 13 33.5**	**-2.0**
YUH	**Yuha Desert**	**2.76**	**329**	Pn	**Pn**	**00 13 36.5**	**-1.0**
YUH2	**Yuha Desert**	**2.76**	**329**	⇑ *e*P	**Pn**	**00 13 35.9**	**-1.6**
RMX	**La Rumorosa**	**2.79**	**326**		**Pn**	**00 13 37.4**	**-0.8**
GLA	**Glamis**	**2.80**	**350**		**Pn**	**00 13 37.1**	**-1.1**
GLA	**Glamis**	**2.80**	**350**	⇑ *e*P	**Pn**	**00 13 36.4**	**-1.8**
GLA	**Glamis**	**2.80**	**350**	P	**Pn**	**00 13 35.5**	**-2.7**
	baz=169,SNR=11						
IKP	**In-Ko-Pah, Jac**	**2.85**	**326**	P	**Pn**	**00 13 36.2**	**-2.7**
	baz=145,SNR=41						
CBX	**Cerro Bola**	**2.90**	**315**		**Sn**	**00 14 13.3**	**-1.6**
CBX	**Cerro Bola**	**2.90**	**315**	Pn	**Pn**	**00 13 37.3**	**-2.2**
CBX	**Cerro Bola**	**2.90**	**315**	*i* P	**Pn**	**00 13 37.5**	**-2.1**
CBX				*e*S	**Sn**	**00 14 13.3**	**-1.6**
CBX	**Cerro Bola**	**2.90**	**315**	⇑ *e*P	**Pn**	**00 13 37.7**	**-1.9**
SWSC	**Sam W. Stewart**	**2.97**	**334**	P	**Pn**	**00 13 37.6**	**-2.8**
	baz=153,SNR=25						
TJIG	**Tijuana**	**2.98**	**316**		**Pn**	**00 13 38.9**	**-1.8**
TJIG					**Sn**	**00 14 14.9**	**-2.0**
TJIG	**Tijuana**	**2.98**	**316**	*e*P	**Pn**	**00 13 38.9**	**-1.8**
TJIG				*i* S	**Sn**	**00 14 14.9**	**-2.0**
TKX	**Tecate**	**3.04**	**319**	Pn	**Pn**	**00 13 39.1**	**-2.4**
HSIG		**3.13**	**113**	Pn	**Pn**	**00 13 38.9**	**-3.8**
HSIG		**3.13**	**113**	‖ *e*P	Pn	00 13 37.1	-5.6
HSIG				*e*S	**Sn**	**00 14 12.9**	**-7.6**
BAR	**Barrett**	**3.16**	**320**	Pn	**Pn**	**00 13 41.6**	**-1.6**
MONP2	**Monument Peak**	**3.19**	**325**	P	**Pn**	**00 13 41.6**	**-2.2**
	baz=144,SNR=11						
TJX	**Tijuana**	**3.27**	**313**	Pn	**Pn**	**00 13 46.1**	**+1.5**
SRIG	**Santa Rosalia**	**3.44**	**149**		**Pn**	**00 13 44.3**	**-2.6**
SRIG	**Santa Rosalia**	**3.44**	**149**		Sn	00 14 18.2	-10
SRIG	**Santa Rosalia**	**3.44**	**149**	⇑ *e*P	**Pn**	**00 13 47.3**	**+0.4**
SRIG				*e*S	Sn	00 14 18.2	-10
BLYC	**Blythe**	**3.46**	**356**	Pn	**Pn**	**00 13 46.6**	**-0.6**
BC3	**Big Chuckawall**	**3.51**	**343**	P	**Pn**	**00 13 46.1**	**-1.9**
	baz=162,SNR=12						
109C	**Camp Elliot, M**	**3.56**	**317**		**Pn**	**00 13 47.0**	**-1.7**
109C	**Camp Elliot, M**	**3.56**	**317**	P	**Pn**	**00 13 46.4**	**-2.2**
	baz=136,SNR=30						
TUC	**Tucson**	**3.58**	**55**	Pn	**Pn**	**00 13 48.4**	**-0.5**
TUC	**Tucson**	**3.58**	**55**	P	**Pn**	**00 13 46.4**	**-2.6**
	baz=235						
GUYB	**Guaymas**	**3.79**	**128**	‖ *e*P	Pn	00 13 46.1	-5.5
Y14A	**Wickenburg**	**3.79**	**16**	Pn	**Pn**	**00 13 51.0**	**-0.8**
TPFO	**Pinon Flats**	**3.81**	**331**	P	**Pn**	**00 13 49.5**	**-2.6**
	baz=150,SNR=10						
PFO	**Pinyon Flats O**	**3.81**	**331**	Pn	**Pn**	**00 13 50.6**	**-1.6**
	comp=E,6.3nm,0.3s,baz=141,slow=12,SNR=22						
PFO				Sn	**Sn**	**00 14 34.6**	**-3.0**
	comp=E,26nm,0.3s,baz=139,slow=14,SNR=4.1						
PFO				Lg	Lg	00 14 54.7	
	comp=E,41nm,0.3s,baz=88,slow=20,SNR=4.2						
PFO	**Pinyon Flats O**	**3.81**	**331**	Pn	**Pn**	**00 13 51.6**	**-0.6**
PFO	**Pinyon Flats O**	**3.81**	**331**	P	**Pn**	**00 13 50.1**	**-2.1**
	baz=150,SNR=8.3						
PFO				Sb	**Sg**	**00 14 55.1**	**0.0**
	baz=150						
IRM	**Iron Mountain**	**3.94**	**349**	P	**Pn**	**00 13 52.0**	**-1.8**
	baz=168,SNR=6.3						
BELC	**Belle Mtn. Jos**	**3.99**	**339**	P	**Pn**	**00 13 53.3**	**-1.3**
	baz=157						
PDMCI	**Parker Dam,Lak**	**4.01**	**1**	P	**Pn**	**00 13 52.7**	**-2.0**
	baz=180,SNR=16						
MURC	**Murrieta**	**4.15**	**324**	P	**Pn**	**00 13 55.4**	**-1.3**
	baz=142,SNR=6.8						
MURC				Sb	**Sb**	**00 15 02.3**	**+5.7**
	baz=142						
ELS	**Elsinore Mount**	**4.31**	**322**	Pn	**Pn**	**00 13 58.4**	**-0.5**
319A	**Douglas**	**4.40**	**74**	Pn	**Pn**	**00 14 00.4**	**+0.1**
NEE2	**Needles Airpor**	**4.48**	**356**	P	**Pn**	**00 14 00.3**	**-0.9**
	baz=175,SNR=13						
SCI2	**San Clemente I**	**4.55**	**307**	P	**Pn**	**00 14 00.4**	**-1.7**
	baz=125						
BBRC	**Big Bear Solar**	**4.57**	**331**	P	**Pn**	**00 14 00.3**	**-2.3**
	baz=149						
GMRC	**Granite Mounta**	**4.64**	**345**	P	**Pn**	**00 14 02.4**	**-1.1**
	baz=164,SNR=5.7						
CIS	**Catalina Islan**	**4.72**	**312**	P	**Pn**	**00 14 03.6**	**-0.9**
	baz=130						
CIS				Sb	**Sg**	**00 15 20.7**	**-3.4**
	baz=130						
X16A	**Lo Mia Camp, P**	**4.75**	**29**	Pn	**Pn**	**00 14 04.9**	**-0.2**
W13A	**Hualapai Mount**	**4.81**	**3**	Pn	**Pn**	**00 14 06.8**	**+0.9**
HEC	**Hector,Ludlow**	**4.86**	**339**	P	**Pn**	**00 14 07.1**	**+0.5**
	baz=158						
BFSC	**Mount Baldy Ra**	**4.89**	**325**	P	**Pn**	**00 14 07.5**	**+0.5**
	baz=143,SNR=32						
BFSC				Sb	**Sg**	**00 15 26.3**	**-3.3**
	baz=143						
PASC	**Pasadena Art C**	**5.12**	**320**	Pn	**Pn**	**00 14 09.8**	**-0.2**
DECC	**Green Verdugo**	**5.26**	**320**	P	**Pn**	**00 14 12.4**	**+0.5**
	baz=138						
TUQ	**Turquoise Moun**	**5.33**	**345**	P	**Pn**	**00 14 13.2**	**+0.2**
	baz=164						
SNCC	**San Nicolas Is**	**5.38**	**305**		**Pn**	**00 14 13.7**	**+0.1**
SNCC	**San Nicolas Is**	**5.38**	**305**	P	**Pn**	**00 14 13.3**	**-0.3**
	baz=122						
SNCC				S	**Sn**	**00 15 20.6**	**+4.5**
	baz=122						
CGIG		**5.42**	**88**		**Pn**	**00 14 11.4**	**-2.9**
CGIG					**Sb**	**00 15 29.5**	**-3.8**
CGIG		**5.42**	**88**	*e*P	**Pn**	**00 14 11.4**	**-2.9**
CGIG				*i* S	**Sb**	**00 15 29.5**	**-3.8**
GSC	**Goldstone, Bar**	**5.45**	**337**	Pn	**Pn**	**00 14 15.8**	**+1.2**
GSC	**Goldstone, Bar**	**5.45**	**337**	P	**Pn**	**00 14 14.0**	**-0.6**
	baz=156						
EDW2	**Edwards Air Fo**	**5.57**	**326**	P	**Pn**	**00 14 16.4**	**+0.1**
	baz=144,SNR=7.2						
EDW2				Sb	**Sg**	**00 15 45.8**	**-5.6**
	baz=144						
X18A	**Snowflake**	**5.57**	**40**		**Pn**	**00 14 15.8**	**-0.6**
OSI	**Osito Audit: C**	**5.74**	**320**	P	**Pn**	**00 14 18.5**	**-0.1**
	baz=138,SNR=6.1						
WUAZ	**Wupatki**	**5.75**	**24**	Pn	**Pn**	**00 14 19.2**	**+0.4**
WUAZ	**Wupatki**	**5.75**	**24**	P	**Pn**	**00 14 19.0**	**+0.2**
	baz=205,SNR=20						
CCAC	**Calif City Air**	**5.80**	**328**		**Pn**	**00 14 20.7**	**+1.3**
SHOC	**Shoshone, Teco**	**5.85**	**344**	P	**Pn**	**00 14 20.6**	**+0.5**
	baz=162						
121A	**Cookes Peak, D**	**5.96**	**66**	Pn	**Pn**	**00 14 21.5**	**-0.2**
121A	**Cookes Peak, D**	**5.96**	**66**		**Sn**	**00 15 39.0**	**+8.6**
121A	**Cookes Peak, D**	**5.96**	**66**	‖ *e*P	**Pn**	**00 14 20.7**	**-1.0**
121A				*e*S	**Sn**	**00 15 39.0**	**+8.6**
121A	**Cookes Peak, D**	**5.96**	**66**	P	**Pn**	**00 14 20.1**	**-1.6**
	baz=249,SNR=14						
QSM	**Queen of Sheba**	**6.08**	**339**	Pn	**Pn**	**00 14 24.9**	**+1.7**
W18A	**Petrified Fore**	**6.13**	**37**		**Pn**	**00 14 24.4**	**+0.3**
W18A	**Petrified Fore**	**6.13**	**37**	P	**Pn**	**00 14 24.0**	**-0.2**
	baz=219,SNR=5.6						
ARVC	**Arvin**	**6.18**	**323**	P	**Pn**	**00 14 24.1**	**-0.5**
	baz=140						
CSIG	**Choix**	**6.21**	**122**	‖ *e*P	**Pn**	**00 14 22.1**	**-2.9**
CSIG				*e*S	**Sb**	**00 15 58.7**	**+2.8**
GWY	**Greenwater Val**	**6.22**	**342**		**Pn**	**00 14 27.2**	**+1.8**
SHPR	**Sheep Range**	**6.25**	**353**	Pn	**Pn**	**00 14 28.1**	**+2.4**
U15A	**North Rim**	**6.34**	**14**	Pn	**Pn**	**00 14 28.2**	**+1.1**
MPMC	**Manual Prospec**	**6.37**	**336**	P	**Pn**	**00 14 27.1**	**-0.2**
	baz=154						
BCW	**Bitter Crk WRg**	**6.37**	**318**		**Pn**	**00 14 27.4**	**+0.2**
ISA	**Isabella, Lake**	**6.43**	**328**	Pn	**Pn**	**00 14 29.7**	**+1.6**
ISA	**Isabella, Lake**	**6.43**	**328**	P	**Pn**	**00 14 27.9**	**-0.2**
	baz=145						
FURC	**Furnace Creek,**	**6.54**	**341**	P	**Pn**	**00 14 30.1**	**+0.6**
	baz=159						
TSIG	**Topolobambo**	**6.55**	**134**	‖ *e*P	**Pn**	**00 14 31.8**	**+2.1**
TSIG				*e*S	Sn	00 15 25.9	-19
LCMT	**Little Creek M**	**6.76**	**7**	Pn	**Pn**	**00 14 33.9**	**+1.2**
KNB	**Kanab**	**6.82**	**10**	Pn	**Pn**	**00 14 35.5**	**+2.0**
TPNV	**Topopah Spring**	**6.85**	**346**	Pn	**Pn**	**00 14 36.0**	**+2.1**
TPNV	**Topopah Spring**	**6.85**	**346**	P	**Pn**	**00 14 33.8**	**-0.2**
	baz=165						
VES	**Vestal, Richgr**	**6.87**	**325**	P	**Pn**	**00 14 34.5**	**+0.5**
	baz=142						
CWC	**Cottonwood Cre**	**6.93**	**333**	P	**Pn**	**00 14 36.2**	**+1.2**
	baz=151						
LPIG	**La Paz**	**7.08**	**149**	Pn	**Pn**	**00 14 35.4**	**-1.6**
	comp=E,6.2nm,0.3s,baz=57,slow=2.5,SNR=11						
LPIG				Lg	Lg	00 16 32.7	
	comp=E,10nm,0.3s,baz=353,slow=18,SNR=1.3						
LPIG				LR	LR	00 17 19.1	
	comp=E,33μm,18.5s,baz=336,slow=38						
GRAC	**Grapevine Rang**	**7.18**	**340**	Pn	**Pn**	**00 14 41.6**	**+3.2**
GRAC	**Grapevine Rang**	**7.18**	**340**	P	**Pn**	**00 14 40.1**	**+1.8**
	baz=158						
Y22D	**IRIS PASSCAL I**	**7.26**	**57**		**Pn**	**00 14 39.5**	**-0.1**
Y22D	**IRIS PASSCAL I**	**7.26**	**57**	P	**Pn**	**00 14 38.3**	**-1.3**
	baz=240,SNR=5.5						
LENM	**Lemitar**	**7.27**	**56**	Pn	**Pn**	**00 14 35.8**	**-4.0**
CCUT	**Cedar City**	**7.28**	**6**	Pn	**Pn**	**00 14 42.4**	**+2.5**
PKCU	**Pink Cliffs**	**7.32**	**12**	Pn	**Pn**	**00 14 42.9**	**+2.4**
SZCU	**Shurtz Canyon**	**7.35**	**7**		**Pn**	**00 14 42.9**	**+2.0**
PAGB	**Antelope Grade**	**7.41**	**319**	Pn	**Pn**	**00 14 42.6**	**+1.1**
S11A	**Rachel**	**7.45**	**351**		**Pn**	**00 14 44.2**	**+2.2**
LCH	**Last Change Ra**	**7.49**	**339**		**Pn**	**00 14 44.8**	**+2.1**
BNM	**Barren Site**	**7.51**	**57**	Pn	**Pn**	**00 14 42.4**	**-0.8**
SLBS	**Sierra La Lagu**	**7.61**	**149**		Pn	00 14 39.7	-4.6
SLBS					**Sn**	**00 16 18.9**	**+7.8**
SLBS	**Sierra La Lagu**	**7.61**	**149**	⇑ *e*P	Pn	00 14 39.7	-4.6
SLBS				*i* S	**Sn**	**00 16 18.9**	**+7.8**
SLBS	**Sierra La Lagu**	**7.61**	**149**	⇑ *e*P	**Pn**	**00 14 42.1**	**-2.2**
MNTX	**Cornudas Mount**	**7.74**	**77**	Pn	**Pn**	**00 14 48.8**	**+2.9**
MNTX	**Cornudas Mount**	**7.74**	**77**	P	**Pn**	**00 14 45.0**	**-1.0**
	baz=261						
MTPU	**Mount Pierson**	**7.92**	**12**	Pn	**Pn**	**00 14 51.5**	**+2.6**
ANMO	**Albuquerque**	**8.04**	**53**	Pn	**Pn**	**00 14 49.1**	**-1.2**
	comp=E,1.4nm,0.3s,baz=232,slow=11,SNR=24						
ANMO				Sn	**Sn**	**00 16 21.6**	**-0.3**
	comp=E,0.6nm,0.3s,baz=156,slow=8.8,SNR=3.3						
ANMO				Lg	Lg	00 17 04.4	
	comp=E,0.2nm,0.3s,baz=218,slow=16,SNR=2.0						
ANMO				LR	LR	00 17 52.7	
	comp=E,16μm,21.9s,baz=234,slow=38						
ANMO	**Albuquerque**	**8.04**	**53**	Pn	**Pn**	**00 14 50.0**	**-0.3**
ANMO	**Albuquerque**	**8.04**	**53**	P	**Pn**	**00 14 48.1**	**-2.2**
	baz=236						
PMPB	**Monarch Peak**	**8.07**	**319**	Pn	**Pn**	**00 14 51.0**	**+0.4**
R11A	**Troy Canyon, C**	**8.12**	**353**		**Pn**	**00 14 52.7**	**+1.3**
R11A	**Troy Canyon, C**	**8.12**	**353**	P	**Pn**	**00 14 51.2**	**-0.2**
	baz=171,SNR=7.3						
TPH	**Tonopah**	**8.15**	**343**		**Pn**	**00 14 53.7**	**+1.9**
PSUT	**Pine Spring**	**8.23**	**2**		**Pn**	**00 14 54.5**	**+1.5**
HPIG		**8.24**	**112**		**Pn**	**00 14 52.7**	**-0.4**
HPIG		**8.24**	**112**		Sb	00 16 44.9	-10
HPIG		**8.24**	**112**	*e*P	**Pn**	**00 14 48.8**	**-4.3**
HPIG				*e*S	Sb	00 16 44.9	-10
OMMB	**Old Mammoth Mi**	**8.31**	**333**	Pn	**Pn**	**00 14 56.5**	**+2.4**
MSU	**Marysvale**	**8.38**	**11**	Pn	**Pn**	**00 14 56.9**	**+1.9**
MVCO	**Mesa Verde**	**8.40**	**33**		**Pn**	**00 14 57.2**	**+1.9**
MVCO	**Mesa Verde**	**8.40**	**33**	P	**Pn**	**00 14 55.9**	**+0.6**
	baz=216						
TCRU	**Three Creeks R**	**8.44**	**10**	Pn	**Pn**	**00 14 58.3**	**+2.6**
BBGB	**Big Mountain B**	**8.46**	**320**	Pn	**Pn**	**00 14 57.7**	**+1.7**
LHV	**Little Huntoon**	**8.66**	**337**		**Pn**	**00 15 02.6**	**+2.5**
NV11	**Mina Gray Sit**	**8.74**	**339**		**Pn**	**00 15 03.6**	**+3.7**
NVAR	**Mina Array Bea**	**8.79**	**339**	Pn	**Pn**	**00 15 02.4**	**+1.9**
	comp=E,0.1nm,0.3s,baz=139,slow=8.4,SNR=1.6						
NVAR				Lg	Lg	00 17 33.8	
	baz=271,slow=22,SNR=0.7						
NVAR	**Mina Array Bea**	**8.79**	**339**	Pn	**Pn**	**00 15 03.6**	**+3.0**
SAO	**San Andreas Ge**	**8.82**	**319**	Pn	**Pn**	**00 15 02.5**	**+1.7**
Q09A	**Carvers**	**8.87**	**345**		**Pn**	**00 15 02.8**	**+1.2**
Q16A	**Castle Valley**	**8.97**	**16**		**Pn**	**00 15 06.3**	**+3.2**
RYN	**Ryan**	**9.04**	**338**		**Pn**	**00 15 06.9**	**+2.9**
PV13	**Radium Mtn., P**	**9.04**	**28**	Pn	**Pn**	**00 15 07.5**	**+3.5**
PV10	**Paradox Valley**	**9.14**	**27**	Pn	**Pn**	**00 15 06.7**	**+1.3**
PV23	**Carpenter Ridg**	**9.22**	**27**		**Pn**	**00 15 09.4**	**+2.8**
TX31	**Lajitas Ar. Si**	**9.24**	**93**	Pn	**Pn**	**00 15 05.5**	**-1.1**
TX32	**Lajitas Array**	**9.24**	**93**	Pn	**Pn**	**00 15 05.3**	**-1.4**
TXAR	**Lajitas Array**	**9.24**	**93**	Pn	**Pn**	**00 15 04.9**	**-1.7**
	comp=E,1.6nm,0.3s,baz=265,slow=12,SNR=41						
TXAR				Sn	**Sn**	**00 16 46.6**	**-4.5**
	comp=E,0.4nm,0.3s,baz=260,slow=13,SNR=1.0						
TXAR				Lg	Lg	00 17 39.7	
	comp=E,0.8nm,0.3s,baz=75,slow=40,SNR=3.0						
TXAR				LR	LR	00 18 50.9	
	comp=E,18μm,18.4s,baz=272,slow=39						
TXAR	**Lajitas Array**	**9.24**	**93**	Pn	**Pn**	**00 15 05.2**	**-1.4**
CMB	**Columbia Colle**	**9.25**	**328**		**Pn**	**00 15 08.4**	**+1.6**
KVN	**Kaiserville**	**9.30**	**341**	Pn	**Pn**	**00 15 09.7**	**+2.1**
SRU	**San Rafael Swe**	**9.32**	**18**		**Pn**	**00 15 09.4**	**+1.6**
TMUT	**Trail Mountain**	**9.33**	**15**		**Pn**	**00 15 10.2**	**+2.2**
PV15	**Paradox Valley**	**9.34**	**29**		**Pn**	**00 15 10.8**	**+2.6**
PV07	**Paradox Valley**	**9.35**	**28**		**Pn**	**00 15 10.6**	**+2.3**
YERR	**Yerington**	**9.60**	**336**	Pn	**Pn**	**00 15 14.0**	**+2.3**
P17A	**Butcher Ranch,**	**9.61**	**16**		**Pn**	**00 15 14.9**	**+3.1**
S22A	**4UR Ranch, Cre**	**9.65**	**38**		**Pn**	**00 15 15.5**	**+3.0**
S22A	**4UR Ranch, Cre**	**9.65**	**38**	P	**Pn**	**00 15 12.7**	**+0.2**
	baz=221						
NLU	**North Lily Min**	**9.81**	**10**	Pn	**Pn**	**00 15 16.7**	**+2.2**
PNTR	**Pine Nut**	**9.82**	**335**	Pn	**Pn**	**00 15 16.8**	**+2.0**
P18A	**Preston Nutter**	**9.88**	**18**		**Pn**	**00 15 16.5**	**+0.9**
EMB	**Emerald Bay**	**9.92**	**332**		**Pn**	**00 15 16.4**	**+0.3**
DUG	**Dugway, Tooele**	**9.96**	**6**	Pn	**Pn**	**00 15 19.6**	**+3.0**
DUG	**Dugway, Tooele**	**9.96**	**6**	P	**Pn**	**00 15 17.5**	**+1.0**
	baz=187						
RUBR	**Rubicon Trail**	**10.01**	**333**	Pn	**Pn**	**00 15 19.2**	**+2.0**
VCNR	**Virginia City**	**10.03**	**335**		**Pn**	**00 15 19.7**	**+2.2**
MPK	**Martis Peak**	**10.17**	**334**	Pn	**Pn**	**00 15 21.4**	**+1.9**
PAHR	**Pah Rah Range**	**10.30**	**337**		**Pn**	**00 15 23.4**	**+2.1**
SDCO	**Great Sand Dun**	**10.39**	**42**		**Pn**	**00 15 25.4**	**+2.9**
SDCO	**Great Sand Dun**	**10.39**	**42**	P	**Pn**	**00 15 23.9**	**+1.4**
	baz=226,SNR=11						
MSTX	**Muleshoe**	**10.39**	**66**	Pn	**Pn**	**00 15 24.8**	**+2.2**
MSTX	**Muleshoe**	**10.39**	**66**	P	**Pn**	**00 15 23.1**	**+0.6**
	baz=252						
BMN	**Battle Mountai**	**10.41**	**347**		**Pn**	**00 15 25.5**	**+2.8**
ELK	**Elko**	**10.47**	**356**	Pn	**Pn**	**00 15 23.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=159,slow=10,SNR=7.1						
ELK				Lg	Lg	00 18 25.6	
	baz=252,slow=16,SNR=2.0						
ELK				LR	LR	00 19 48.5	
	comp=E,5μm,19.5s,baz=175,slow=40						
ELK	**Elko**	**10.47**	**356**	Pn	**Pn**	**00 15 25.9**	**+2.3**
JLU	**Jordanelle**	**10.54**	**12**		**Pn**	**00 15 27.8**	**+3.1**
CTU	**Camp Tracy**	**10.58**	**10**	Pn	**Pn**	**00 15 28.0**	**+2.9**
T25A	**Trinidad**	**10.66**	**48**		**Pn**	**00 15 29.1**	**+2.9**
T25A	**Trinidad**	**10.66**	**48**	P	**Pn**	**00 15 26.8**	**+0.6**
	baz=232,SNR=24						
BGU	**Big Grassy Mou**	**10.66**	**5**	Pn	**Pn**	**00 15 28.6**	**+2.4**
SMCO	**Snowmass**	**10.69**	**32**		**Pn**	**00 15 29.5**	**+2.7**
BEKR	**Beckworth**	**10.79**	**334**	Pn	**Pn**	**00 15 29.5**	**+1.6**
RDMU	**Red Mountain**	**10.94**	**19**		**Pn**	**00 15 32.4**	**+2.3**
O20A	**White River Ci**	**10.98**	**25**		**Pn**	**00 15 33.1**	**+2.5**
O20A	**White River Ci**	**10.98**	**25**	P	**Pn**	**00 15 31.1**	**+0.6**
	baz=208						
ORV	**Oroville**	**10.99**	**329**	Pn	**Pn**	**00 15 32.4**	**+1.8**
GDXM	**Geysers**	**11.04**	**323**	Pn	**Pn**	**00 15 33.2**	**+1.9**
Q24A	**Divide**	**11.44**	**38**	P	**Pn**	**00 15 38.4**	**+1.4**
	baz=223						
HWUT	**Hardware Ranch**	**11.50**	**10**		**Pn**	**00 15 39.9**	**+2.2**
AMTX	**Amarillo**	**11.54**	**63**	Pn	**Pn**	**00 15 41.9**	**+3.6**
AMTX	**Amarillo**	**11.54**	**63**	P	**Pn**	**00 15 39.2**	**+1.0**
	baz=250						
O03E	**Paynes Creek**	**11.73**	**330**	Pn	**Pn**	**00 15 43.8**	**+3.0**
O03E	**Pa

BMO Blue Mountains 14.74 351 Pn Pn **00 16 25.0 +3.1**
Z35A Perchaven, San 14.76 74 Pn Pn **00 16 23.3 +1.2**
YMP Mirror Lake Pl 14.79 11 P Pn **00 16 25.6 +2.9**
PLID Pearl Lake 14.84 355 Pn Pn **00 16 25.4 +2.0**
I04A Tendick Farm, 14.97 337 P Pn **00 16 27.3 +2.4**
baz=152
J01E Myrtle Point 15.00 332 Pn **00 16 26.1 +0.9**
J01E IAmb IAmb 00 16 35.1
comp=Z,74nm,0.9s
J01E Myrtle Point 15.00 332 P Pn **00 16 28.3 +3.0**
baz=146
FNO Franklin 15.01 66 Pn **00 16 27.3 +1.8**
OKCFA Oklahoma City 15.01 66 Pn Pn **00 16 28.5 +3.1**
I05D Terrebonne, OR 15.11 340 P P **00 16 30.7 -1.5**
baz=156,SNR=8.7
R32A Long Quarter, 15.17 54 P Pn **00 16 30.3 +2.8**
RLMT Red Lodge 15.32 13 Pn **00 16 31.8 +2.1**
RLMT IAmb IAmb 00 16 42.5
comp=Z,206nm,2.0s
RLMT Red Lodge 15.32 13 P Pn **00 16 32.1 +2.4**
baz=196,SNR=8.3
BOZ Bozeman (W) 15.42 7 P P **00 16 34.0 -1.8**
BOZ IAmb IAmb 00 16 43.3
comp=Z,313nm,2.5s
BOZ Bozeman (W) 15.42 7 P Pn **00 16 33.7 +2.7**
baz=188,SNR=15
G08A Pilot Rock 15.43 347 Pn **00 16 33.5 +2.4**
G08A IAmb IAmb 00 16 41.4
comp=Z,389nm,2.6s
LRM Limekiln Ridge 15.57 5 P Pn **00 16 35.7 +2.6**
H04A Detroit Lake 15.68 339 Pn Pn **00 16 36.0 +1.7**
H04A IAmb IAmb 00 16 46.0
comp=Z,538nm,2.3s
H04D Lebanon 15.72 337 P Pn **00 16 37.3 +2.6**
baz=152
I02E Swisshome, OR 15.76 334 P P **00 16 37.8 -1.5**
baz=148
F10A Beach Ranch, E 15.84 352 P **00 16 38.9 -1.4**
MOIG Morelia 15.85 129 Pn Pn **00 16 38.0 +1.3**
MOIG IAmb IAmb 00 17 17.3
comp=Z,248nm,1.9s
GCMT Greycliff 15.89 12 P **00 16 40.2 -0.8**
G05D Wamic, OR 15.93 342 P P **00 16 40.0 -1.3**
baz=157
RSSD Black Hills 16.01 28 P Pn **00 16 40.8 +2.1**
RSSD Black Hills 16.01 28 P Pn **00 16 40.8 +2.1**
baz=213
HOOD Mount Hood Mea 16.10 341 P **00 16 42.6 -0.6**
HOOD IAmb IAmb 00 16 57.9
comp=Z,155nm,1.2s
T35A Sooner Cattle 16.17 61 Pn **00 16 41.8 +1.0**
F07A Phinny Hill Vi 16.21 346 Pn Pn **00 16 41.9 +0.9**
TUL1 Leonard 16.44 65 P **00 16 46.7 -0.3**
TUL1 Leonard 16.44 65 P Pn **00 16 44.7 +0.6**
baz=255
E09A Wood Farm, Sta 16.48 350 P **00 16 47.3 0.0**
X37A Clayton 16.50 70 P **00 16 48.0 +0.4**
X37A IAmb IAmb 00 17 11.4
comp=Z,186nm,1.6s
G03D McMinnville, O 16.50 337 P P **00 16 47.3 -0.2**
baz=151
HRY Holter Researc 16.51 6 P P **00 16 49.0 +1.2**
MSO Missoula 16.52 1 Pn P **00 16 47.5 -0.3**
MSO IAmb IAmb 00 17 14.7
comp=Z,381nm,2.5s
MSO Missoula 16.52 1 P P **00 16 47.6 -0.3**
baz=181,SNR=24
F05D White Salmon 16.57 342 P **00 16 47.5 -0.7**
F05D IAmb IAmb 00 17 21.4
comp=Z,270nm,2.0s
F05D White Salmon 16.57 342 P Pn **00 16 47.0 +1.3**
baz=158
HAWA Hanford 16.60 347 P **00 16 48.0 -0.7**
HAWA IAmb IAmb 00 17 22.9
comp=Z,231nm,1.8s
E08A Dider Farm, El 16.61 348 Pn **00 16 46.9 +0.7**
E08A IAmb IAmb 00 16 57.1
comp=Z,440nm,3.0s
Z38A Mt. Pleasant 16.64 75 Pn **00 16 48.0 +1.4**
Z38A IAmb IAmb 00 16 57.0
comp=Z,178nm,1.4s
E07A Sunnyside 16.82 347 Pn P **00 16 51.3 +0.2**
NATX Nacogdoches 16.85 80 Pn P **00 16 51.3 -0.2**
NATX IAmb IAmb 00 17 17.7
comp=Z,196nm,1.6s
NATX Nacogdoches 16.85 80 P Pn **00 16 49.5 +0.1**
baz=270
F04A Amboy 16.88 340 Pn Pn **00 16 51.0 +1.4**
F04A IAmb IAmb 00 17 01.1
comp=Z,249nm,2.1s
KSU1 Kansas State U 16.94 54 P Pn **00 16 51.6 +1.2**
KSU1 Kansas State U 16.94 54 P Pn **00 16 51.4 +1.0**
baz=244,SNR=6.4
BGNE Belgrade 17.10 45 P Pn **00 16 53.1 +0.7**
BGNE Belgrade 17.10 45 P Pn **00 16 53.4 +1.0**
baz=234
D08A Wollman Farm, 17.13 349 Pn **00 16 54.1 +1.3**
N33A J Bar K, Exete 17.17 48 P **00 16 54.5 -0.4**
N33A IAmb IAmb 00 17 25.4
comp=Z,171nm,1.4s
F04D Rainier, OR 17.19 339 P P **00 16 55.5 +0.3**
baz=154
JTMT Jette 17.44 360 P **00 16 58.8 +0.7**
K31A O'Neill 17.48 41 P **00 16 59.4 +1.0**
E04D Cinebar 17.49 341 P P **00 16 59.5 +1.1**
baz=155
LAO LASA Array 17.52 19 P **00 17 00.1 +1.2**
LAO IAmb IAmb 00 17 09.0
comp=Z,609nm,2.1s
LAO LASA Array 17.52 19 P P **00 16 59.7 +0.7**
baz=203,SNR=12
E03A Lebam 17.78 339 P P **00 17 03.0 +1.4**
E03A IAmb IAmb 00 17 13.9
comp=Z,191nm,1.1s
W39A Magazine 17.89 69 P Pn **00 17 02.3 +0.1**
baz=260
D05A Enumclaw 17.91 343 P **00 17 04.2 +1.1**
D05A IAmb IAmb 00 17 13.2
comp=Z,302nm,1.8s
HHAR Hobbs 17.98 65 P Pn **00 17 03.3 -0.2**
EGMT Eagleton 18.05 10 IAmb IAmb 00 17 20.6
comp=Z,477nm,2.5s
EGMT Eagleton 18.05 10 P P **00 17 07.0 +2.3**
baz=192,SNR=15
NEW Newport 18.09 354 P P **00 17 05.7 +0.6**
comp=Z,0.3nm,0.3s,baz=171,slow=11,SNR=10
NEW Lg Lg 00 22 14.1
comp=Z,0.1nm,0.3s,baz=260,slow=11,SNR=1.8
NEW LR LR 00 24 16.7
comp=Z,4µm,20.8s,baz=178,slow=38
NEW Newport 18.09 354 P P **00 17 06.2 +1.1**
NEW IAmb IAmb 00 17 38.1
comp=Z,262nm,2.4s
NEW Newport 18.09 354 P P **00 17 06.3 +1.1**
baz=172,SNR=5.6
441A DeRidder 18.15 83 P Pn **00 17 05.9 +0.4**
WLAR White Oak Lake 18.24 74 Pn **00 17 06.5 0.0**
WLAR IAmb IAmb 00 17 25.3
comp=Z,221nm,1.6s
C06D Leavenworth 18.34 346 P P **00 17 11.6 +3.7**
baz=161
N35A Tabor 18.41 50 P Pn **00 17 09.9 +1.3**
N35A IAmb IAmb 00 17 39.1
comp=Z,442nm,2.6s
B08A Colville Reser 18.46 349 P Pn **00 17 09.9 +0.6**
B08A IAmb IAmb 00 17 26.4
comp=Z,298nm,2.8s
Z41A Richland Creek 18.47 75 P Pn **00 17 10.4 +1.0**
baz=266
L34A Svendsen Farm, 18.51 46 P Pn **00 17 11.4 +1.5**
D03D Eldon 18.53 341 P Pn **00 17 12.9 +2.9**
baz=155
X40A Basin Creek Fa 18.55 71 P P **00 17 10.6 +0.3**
X40A Basin Creek Fa 18.55 71 P Pn **00 17 11.0 +0.6**
baz=263
SUSD Miller 18.59 36 P Pn **00 17 11.9 +1.1**
SUSD Miller 18.59 36 P Pn **00 17 11.9 +1.1**
baz=225,SNR=5.4
NLWA Neilton Lookou 18.63 339 P Pn **00 17 12.9 +1.7**
NLWA IAmb IAmb 00 17 21.0
comp=Z,586nm,2.5s
WALA Waterton Lakes 18.75 1 P Pn **00 17 14.5 +1.7**
WALA IAmb IAmb 00 17 32.7
comp=Z,727nm,3.0s
S39A Bolivar 18.83 61 P Pn **00 17 14.4 +0.6**

342A Flagon Creek P 18.85 81 P Pn **00 17 14.6 +0.5**
342A IAmb IAmb 00 17 31.9
comp=Z,318nm,1.9s
U40A Yellville 18.86 66 P Pn **00 17 14.9 +0.7**
U40A IAmb IAmb 00 17 23.5
comp=Z,280nm,2.3s
U40A Yellville 18.86 66 P Pn **00 17 15.2 +1.1**
baz=257
B06A Marblemount 19.03 345 Pn **00 17 17.1 +1.0**
TLIG Tlapa 19.10 128 P P **00 17 16.9 +0.4**
TLIG IAmb IAmb 00 17 25.6
comp=Z,317nm,2.8s
WHAR Wooly Hollow 19.11 69 P P **00 17 16.5 +0.1**
WHAR IAmb IAmb 00 17 26.8
comp=Z,160nm,1.7s
W41B Gary Mavity, V 19.12 69 P Pn **00 17 18.4 +1.1**
baz=261
P38A Dawn 19.33 56 P Pn **00 17 19.9 +0.1**
P38A IAmb IAmb 00 17 33.0
comp=Z,496nm,2.6s
FCAR Ozark Folk Cen 19.34 67 P Pn **00 17 21.2 +1.2**
CCAR Cane Creek 19.37 73 P Pn **00 17 20.9 +0.6**
E28A Huff 19.37 29 P Pn **00 17 21.6 +1.3**
E28A IAmb IAmb 00 17 44.3
comp=Z,298nm,1.6s
ECSD EROS Data Cent 19.40 41 Pn **00 17 21.2 +0.6**
ECSD IAmb IAmb 00 17 33.6
comp=Z,253nm,2.0s
ECSD EROS Data Cent 19.40 41 P P **00 17 20.4 +0.8**
baz=232,SNR=13
MGMO Mountain Grove 19.50 64 P Pn **00 17 23.0 +1.1**
143A Socs Landing, 19.62 77 P Pn **00 17 24.0 +0.7**
143A IAmb IAmb 00 17 32.6
comp=Z,228nm,1.5s
DGMT Dagmar 19.72 20 P Pn **00 17 25.3 +0.9**
DGMT Dagmar 19.72 20 P Pn **00 17 24.4 0.0**
baz=206,SNR=10.0
R40A Maddies Statio 19.80 60 IAmb IAmb 00 17 29.8
comp=Z,238nm,2.1s
N38A Joes South For 20.01 53 P Pn 00 17 28.4 +0.6
344A Westbrook Farm 20.21 81 P Pn 00 17 30.5 +0.1
VBMS Vicksburg 20.37 78 P Pn 00 17 31.6 -0.5
VBMS IAmb IAmb 00 17 39.2
comp=Z,207nm,1.4s
VBMS Vicksburg 20.37 78 P P **00 17 31.5 +1.3**
baz=271
CCM Cathedral Cave 20.51 62 P Pn 00 17 33.6 -0.2
CCM Cathedral Cave 20.51 62 P Pn 00 17 33.3 -0.5
baz=254
SCIA State Center 20.51 50 P Pn 00 17 33.2 -0.6
SCIA IAmb IAmb 00 17 39.2
comp=Z,137nm,1.3s
SCIA State Center 20.51 50 P Pn 00 17 33.5 -0.3
baz=242
MDND Maddock 20.84 29 P Pn 00 17 37.1 -0.5
MDND Maddock 20.84 29 P Pn 00 17 36.9 -0.6
baz=218,SNR=14
F33A 5 Mile Ranch, 20.92 37 P Pn 00 17 37.8 -0.8
F33A IAmb IAmb 00 17 54.6
comp=Z,367nm,2.6s
LLLB Lillooet 21.09 346 P P **00 17 39.6 +1.7**
LLLB IAmb IAmb 00 17 46.8
comp=Z,102nm,1.5s
FVM French Village 21.12 62 P P **00 17 40.3 +2.1**
FVM IAmb IAmb 00 17 48.9
comp=Z,282nm,2.2s
K38A Parkersburg 21.15 48 P P **00 17 40.4 +1.8**
Y45A Yeager Farm, C 21.22 74 P P **00 17 40.9 +1.5**
346A Big Creek Wild 21.30 81 P P **00 17 41.1 +0.9**
OXF Oxford 21.37 72 P P **00 17 43.1 +2.1**
baz=265
SLM Saint Louis 21.43 61 P P **00 17 43.6 +2.0**
SLM IAmb IAmb 00 18 01.2
comp=Z,118nm,1.6s
CBB Campbell River 21.43 340 P P **00 17 43.2 +1.7**
D32A Dogwood Acres, 21.45 34 P P **00 17 44.3 +2.5**
I37A Lemond, Waseca 21.46 45 P P **00 17 43.8 +2.0**
I37A IAmb IAmb 00 17 47.5
comp=Z,74nm,1.1s
HALT Halls 21.58 68 P P **00 17 45.3 +2.1**
HALT IAmb IAmb 00 17 55.1
comp=Z,138nm,1.0s
146A Union 21.60 77 P P **00 17 46.5 +3.0**
N41A Harden Midland 21.64 55 P P **00 17 45.3 +1.6**
N41A IAmb IAmb 00 18 01.5
comp=Z,214nm,1.7s
L40A Anamosa 21.91 51 P P **00 17 48.3 +1.6**
S44A Carbondale 21.96 64 P P **00 17 49.4 +2.2**
CMIG Matias Romero 22.02 122 P P **00 17 46.2 -1.8**
comp=Z,25nm,1.2s,baz=336,slow=11,SNR=20
CMIG S Sn 00 21 57.2 -4.6
comp=Z,0.6nm,0.4s,baz=293,slow=18,SNR=1.3
CMIG Lg Lg 00 24 27.3
comp=Z,0.3nm,0.4s,baz=157,slow=21,SNR=1.1
CMIG LR LR 00 26 37.7
comp=Z,17µm,18.1s,baz=288,slow=38
P43A Skaggs, Pawnee 22.25 59 IAmb IAmb 00 18 01.0
comp=Z,121nm,1.6s
Q44A Meyer Farm, Va 22.42 61 P **00 17 53.9 +1.6**
Q44A IAmb IAmb 00 18 00.2
comp=Z,60nm,1.0s
Z47A Carrollton 22.43 76 P P **00 17 54.1 +1.8**
Z47A IAmb IAmb 00 18 27.9
comp=Z,92nm,1.3s
F36A Milaca 22.44 40 P **00 17 54.1 +1.8**
SPMN Marine on St. 22.48 42 P P **00 17 55.2 +2.4**
SPMN IAmb IAmb 00 18 11.8
comp=Z,151nm,1.9s
SPMN Marine on St. 22.48 42 P P **00 17 54.2 +1.4**
baz=236
PLAL Pickwick Lake 22.50 71 P P **00 17 55.4 +2.3**
PLAL IAmb IAmb 00 18 09.4
comp=Z,96nm,1.5s
HDIL Hopedale 22.70 56 P P **00 17 56.6 +1.5**
HDIL IAmb IAmb 00 18 02.8
comp=Z,158nm,1.7s
HDIL Hopedale 22.70 56 P P **00 17 56.2 +1.0**
baz=251
WVT Waverly 22.82 68 P P **00 17 58.9 +2.4**
WVT Waverly 22.82 68 P P **00 17 56.8 +0.3**
baz=263
AGMN Agassiz Nation 22.83 33 P **00 17 57.6 +1.1**
AGMN IAmb IAmb 00 18 01.0
comp=Z,194nm,2.1s
AGMN Agassiz Nation 22.83 33 P P **00 17 57.2 +0.7**
baz=224,SNR=9.7
JFWS Jewell Farm 22.93 50 P **00 17 58.5 +1.0**
JFWS Jewell Farm 22.93 50 P P **00 17 58.4 +0.8**
baz=244
L42A Oliver, Polo 22.95 53 P P **00 17 58.9 +1.1**
L42A IAmb IAmb 00 18 10.8
comp=Z,215nm,2.0s
OLIL Olney 23.07 62 P P **00 18 01.2 +2.1**
OLIL IAmb IAmb 00 18 16.4
comp=Z,174nm,1.6s
I40A Norwalk 23.13 48 P P **00 18 00.7 +1.0**
O44A Mansfield 23.17 58 P P **00 18 01.1 +1.0**
X48A Hartselle 23.32 73 P P **00 18 04.1 +2.5**
X48A IAmb IAmb 00 18 18.4
comp=Z,74nm,1.4s
LRAL Lakeview Retre 23.33 76 P P **00 18 02.3 +0.5**
baz=270
BRAL Brewton 23.37 81 P P **00 18 03.9 +1.7**
baz=275
T47A Sharon Grove 23.51 66 P P **00 18 07.0 +3.4**
M44A Midewin, Midew 23.87 55 P P **00 18 08.6 +1.6**
B35A Bob, Littlefor 23.91 35 P P **00 18 08.8 +1.4**
B35A IAmb IAmb 00 18 37.8
comp=Z,208nm,2.1s
E38A The Farm, Brul 23.98 41 P **00 18 10.6 +2.5**
E38A IAmb IAmb 00 18 38.9
comp=Z,160nm,1.9s
CLTN Cedars of Leba 24.02 69 P P **00 18 10.7 +2.1**
CLTN IAmb IAmb 00 18 19.8
comp=Z,161nm,2.0s
G40A Rib Lake 24.06 45 IAmb IAmb 00 18 19.8
comp=Z,49nm,1.2s
K43A Burlington 24.13 52 P P **00 18 10.6 +1.1**
K43A IAmb IAmb 00 18 15.8
comp=Z,42nm,0.8s
BBB Bella Bella 24.16 339 LR LR 00 27 10.2
comp=Z,9µm,20.7s,baz=164,slow=36
I42A Draeger Farm, 24.23 49 IAmb IAmb 00 18 16.1
comp=Z,45nm,1.1s
L44A Lake County Fo 24.23 53 P P **00 18 12.6 +2.2**

L44A IAmb IAmb 00 18 15.9
comp=Z,69nm,1.2s
L44A IAMs_20 IAMs_20 00 27 08.0
comp=Z,6µm,18.0s
L44A Lake County Fo 24.23 53 P P **00 18 12.4 +2.0**
baz=249
SFIN Lafayette 24.24 58 P P **00 18 11.9 +1.3**
SFIN IAmb IAmb 00 18 16.4
comp=Z,144nm,1.8s
SFIN Lafayette 24.24 58 P P **00 18 11.3 +0.8**
baz=254
ULM Lac du Bonnet 24.25 30 P P **00 18 09.8 -0.7**
comp=Z,16nm,0.7s,baz=231,slow=10,SNR=21
ULM S S **00 22 33.2 +3.6**
comp=Z,1.0nm,0.5s,baz=178,slow=3.3,SNR=1.5
ULM Lg Lg 00 25 28.1
comp=Z,1.7nm,0.7s,baz=186,slow=7.4,SNR=3.6
ULM LR LR 00 27 58.1
comp=Z,10µm,19.7s,baz=220,slow=38
ULM Lac du Bonnet 24.25 30 IAmb IAmb 00 18 14.1
comp=Z,128nm,1.4s
SWET Sewanee 24.27 71 P P **00 18 12.6 +1.6**
WCI Wyandotte Cave 24.36 64 P P **00 18 13.5 +1.9**
WCI IAmb IAmb 00 18 24.9
comp=Z,147nm,1.9s
WCI Wyandotte Cave 24.36 64 P P **00 18 11.7 +0.1**
baz=259
BLO Bloomington 24.37 61 P P **00 18 13.3 +1.6**
BLO IAmb IAmb 00 18 18.4
comp=Z,64nm,0.8s
FPAL Fort Paine 24.50 73 IAmb IAmb 00 18 19.1
comp=Z,32nm,0.8s
U49A Red Boiling Sp 24.51 68 P P **00 18 15.5 +2.5**
U49A IAmb IAmb 00 18 19.1
comp=Z,193nm,2.1s
CCIG Comitan 24.57 120 P P **00 18 14.5 +0.7**
W50A Signal Mountai 24.78 71 IAmb IAmb 00 18 22.7
comp=Z,58nm,1.1s
EYMN Ely 24.80 38 P P **00 18 17.1 +1.5**
EYMN Ely 24.80 38 P P **00 18 16.7 +1.1**
baz=233
COWI Conover 25.12 44 IAmb IAmb 00 18 25.3
comp=Z,33nm,0.8s
COWI IAMs_20 IAMs_20 00 28 03.5
comp=Z,7µm,21.0s
X51A Calhoun 25.12 72 P P **00 18 20.7 +2.1**
352A Blakely 25.16 80 IAmb IAmb 00 18 31.2
comp=Z,106nm,1.3s
H43A Windswept, Lux 25.22 49 IAmb IAmb 00 18 25.6
comp=Z,40nm,0.7s
V51A Loudon 25.60 70 P P **00 18 24.8 +1.9**
O48B Farmland 25.65 59 P P **00 18 23.9 +0.6**
baz=256
P49A Miami Univ. Ec 25.82 61 IAMs_20 IAMs_20 00 28 20.1
comp=Z,7µm,20.0s
P49A Miami Univ. Ec 25.82 61 P P **00 18 25.9 +1.0**
baz=258
PETF Flores 25.93 115 P P **00 18 26.1 +0.1**
D41A Chassel 25.95 43 P P **00 18 27.2 +1.3**
D41A IAmb IAmb 00 18 28.3
comp=Z,120nm,1.6s
FFC Flin Flon 25.97 16 P P **00 18 26.3 +0.3**
FFC Flin Flon 25.97 16 IAMs_20 IAMs_20 00 29 01.8
comp=Z,8µm,19.0s
TKL Tuckaleechee C 26.06 70 P P **00 18 27.7 +0.7**
comp=Z,3.5nm,0.7s,baz=215,slow=15,SNR=4.4
TKL Lg Lg 00 26 31.0
comp=Z,3.5nm,1.0s,baz=62,slow=6.1,SNR=1.8
TKL Tuckaleechee C 26.06 70 P P **00 18 29.1 +2.0**
TKL IAmb IAmb 00 19 07.1
comp=Z,76nm,1.6s
TZTN Tazewell 26.30 68 IAMs_20 IAMs_20 00 29 34.9
comp=Z,7µm,18.0s
N49A Columbus Grove 26.53 58 P P **00 18 33.8 +2.6**
L48A N Adams 26.61 56 P P **00 18 33.2 +1.2**
BG3 Lake Jocassee 26.72 72 P P **00 18 35.2 +2.1**
J47A Sunmer 26.73 53 P P **00 18 35.3 +2.3**
Q51A Peebles 26.77 63 IAmb IAmb 00 18 44.1
comp=Z,139nm,2.0s
G45A Suttons Bay 26.83 49 P P **00 18 35.5 +1.6**
V53A Saluda 26.84 70 P P **00 18 35.5 +1.3**
P51A Williamsport 27.07 62 P P **00 18 37.7 +1.6**
P51A IAmb IAmb 00 18 41.6
comp=Z,30nm,0.9s
AAM Ann Arbor 27.27 55 P P **00 18 39.0 +1.2**
baz=254
ACSO Alum Creek Sta 27.27 60 P P **00 18 39.0 +1.0**
ACSO IAmb IAmb 00 18 43.5
comp=Z,34nm,0.9s
ACSO Alum Creek Sta 27.27 60 P P **00 18 39.1 +1.2**
baz=258
HODGE Hodges 27.27 73 P P **00 18 40.1 +2.1**
HODGE IAmb IAmb 00 18 47.0
comp=Z,122nm,2.3s
GLMI Grayling 27.42 50 P P **00 18 40.6 +1.3**
baz=248
Q52A Bidwell 27.59 63 P P **00 18 42.7 +1.8**
PAULI Pauline 27.64 72 P P **00 18 43.4 +2.1**
U54A Nelsons Funny 27.69 68 P P **00 18 44.0 +2.2**
R53A Hurricane 27.75 64 P P **00 18 44.6 +2.4**
P52A Corning 27.80 62 P P **00 18 44.7 +2.0**
P52A Corning 27.80 62 P P **00 18 43.3 +0.6**
baz=260
MTO3 Montecristo 27.83 119 P P **00 18 43.6 +0.3**
MTO3 IAMs_20 IAMs_20 00 30 29.2
comp=Z,9µm,19.0s
KMSC Kings Mountain 28.03 71 P P **00 18 47.0 +2.1**
KMSC Kings Mountain 28.03 71 P P **00 18 45.4 +0.6**
baz=269
CRAG Craig 28.53 337 P P **00 18 50.8 +1.8**
baz=144
O53A New Philadelph 28.60 61 P P **00 18 51.8 +2.0**
O53A New Philadelph 28.60 61 P P **00 18 49.2 -0.6**
baz=260
DWPF Disney Wildern 28.67 86 P P **00 18 50.3 -0.3**
baz=282
Q54A Coxs Mills 28.70 63 P P **00 18 52.7 +2.0**
M52A Chesterland 28.74 58 P P **00 18 53.3 +2.2**
M52A IAmb IAmb 00 19 22.4
comp=Z,95nm,1.6s
U56A King 28.84 69 P P **00 18 53.6 +1.6**
BLA Blacksburg 28.85 67 IAMs_20 IAMs_20 00 29 28.4
comp=Z,5µm,18.0s
BLA Blacksburg 28.85 67 P P **00 18 52.8 +0.6**
baz=266
N53A Lisbon 28.98 60 P P **00 18 54.8 +1.6**
NHSC New Hope 29.05 76 P P **00 18 54.2 +0.3**
baz=274
R55A Marlinton 29.18 65 P P **00 18 56.9 +1.8**
M53A WI Miller and 29.22 58 P P **00 18 57.5 +2.2**
M53A WI Miller and 29.22 58 P P **00 18 55.2 -0.2**
baz=258
MCWV Mont Chateau 29.55 62 P P **00 18 58.5 +0.2**
baz=262
N54A Moraine State 29.64 60 IAmb IAmb 00 19 04.8
comp=Z,28nm,1.0s
N54A Moraine State 29.64 60 P P **00 18 58.7 -0.4**
baz=260,SNR=5.1
ALLY Alegheny Colle 29.65 58 IAmb IAmb 00 19 19.7
comp=Z,100nm,1.9s
ERPA Erie 29.86 57 P P **00 19 02.9 +1.9**
ERPA IAmb IAmb 00 19 06.6
comp=Z,44nm,1.4s
ERPA Erie 29.86 57 P P **00 18 59.8 -1.2**
baz=258
M54A Oil Creek Stat 29.98 59 P P **00 19 04.4 +2.3**
M54A Oil Creek Stat 29.98 59 P P **00 19 00.6 -1.5**
baz=259
DLBC Dease Lake 30.16 343 P P **00 19 05.0 +1.4**
comp=Z,11nm,0.9s,baz=180,slow=8.4,SNR=14
DLBC LR LR 00 30 26.5
comp=Z,9µm,20.2s,baz=165,slow=35
DLBC Dease Lake 30.16 343 P P **00 19 05.3 +1.7**
O56A Blue Knob Stat 30.60 61 P P **00 19 08.7 +1.1**
O56A Blue Knob Stat 30.60 61 P P **00 19 07.3 -0.4**
baz=262
CRIN San Cristobal 30.64 119 IAMs_20 IAMs_20 00 32 14.7
comp=Z,5µm,18.0s
WVNY West Valley, N 30.93 57 P P **00 19 12.2 +1.7**
WVNY IAmb IAmb 00 19 16.1
comp=Z,22nm,1.1s
SADO Sadowa 31.10 52 LR LR 00 31 42.1
comp=Z,4µm,21.2s,baz=253,slow=36
SSPA Standing Stone 31.17 61 P P **00 19 11.9 -0.7**
baz=262
JIS Juneau Island 31.23 339 IAMs_20 IAMs_20 00 30 25.6

comp=Z,6µm,22.0s
FCC Fort Churchill 31.63 20 P **P** **00 19 16.9 +0.6**
FCC IAmb IAmb 00 19 23.1
comp=Z,59nm,2.1s
L56A Greenwood 31.64 58 IAmb IAmb 00 19 23.0
comp=Z,25nm,0.9s
J55A Hilton 31.67 56 P **P** **00 19 18.6 +1.7**
J55A IAmb IAmb 00 19 22.7
comp=Z,24nm,0.9s
M57A Sunshine Farm, 31.83 59 IAmb IAmb 00 19 24.0
comp=Z,16nm,0.9s
DELO Deloro Mine 32.09 53 P **P** **00 19 22.7 +2.1**
DELO IAmb IAmb 00 19 25.8
comp=Z,91nm,2.4s
YKA Yellowknife Ar 32.22 360 P **P** **00 19 22.0 +0.5**
comp=Z,0.5nm,0.7s,baz=177,slow=9.4,SNR=13
YKA PcP **PcP** **00 22 09.3 -0.7**
comp=Z,0.6nm,0.7s,baz=169,slow=3.0,SNR=6.2
YKA Lg Lg 00 29 53.2
comp=Z,0.1nm,0.8s,baz=181,slow=26,SNR=1.0
YKA LR LR 00 34 30.6
comp=Z,4µm,20.1s,baz=179,slow=40
YKA Yellowknife Ar 32.22 360 P **P** **00 19 23.8 +2.3**
P33M Teslin, Yukon 32.42 343 P **P** **00 19 25.7 +2.3**
baz=149
K57A Scipio Center 32.50 57 P **P** **00 19 25.8 +1.4**
K57A IAmb IAmb 00 19 30.0
comp=Z,24nm,1.1s
TGTN Hyland Airport 32.59 348 P **P** **00 19 26.2 +1.4**
baz=157
N59A State Game Lan 32.80 61 P **P** **00 19 27.4 +0.5**
baz=263
BINY Binghamton 32.80 58 P **P** **00 19 28.0 +1.0**
baz=261
J57A Williamstown 33.00 56 P **P** **00 19 30.4 +1.8**
J57A IAmb IAmb 00 19 34.3
comp=Z,23nm,1.2s
ESPN Las Esperanzas 33.05 117 IAMs_20 IAMs_20 00 33 46.8
comp=Z,4µm,20.0s
WHY Whitehorse 33.34 342 P **P** **00 19 33.2 +1.6**
baz=146
JTS Las Juntas de 33.75 120 LR LR 00 34 15.7
comp=Z,3µm,18.2s,baz=36,slow=38
JTS Las Juntas de 33.75 120 P **P** **00 19 35.2 -0.3**
JTS IAmb IAmb 00 19 38.0
comp=Z,34nm,1.6s
PAL Palisades 34.21 61 IAMs_20 IAMs_20 00 35 53.2
comp=Z,4µm,18.0s
BCPM Bancas Point 34.22 337 IAMs_20 IAMs_20 00 31 32.8
comp=Z,4µm,21.0s
LONY Lake Ozonia 34.23 54 P **P** **00 19 40.8 +1.5**
LONY Lake Ozonia 34.23 54 P **P** **00 19 39.2 -0.1**
baz=259
N31M Braeburn, Yuko 34.28 342 IAMs_20 IAMs_20 00 32 48.2
comp=Z,5µm,18.0s
N31M Braeburn, Yuko 34.28 342 P **P** **00 19 41.3 +1.7**
baz=146
NCB Newcomb 34.36 55 P **P** **00 19 42.8 +2.3**
M31M Drury Creek, Y 34.52 343 IAMs_20 IAMs_20 00 34 37.7
comp=Z,5µm,19.0s
M31M Drury Creek, Y 34.52 343 P **P** **00 19 42.3 +0.6**
baz=148
PCA Pinnacle 34.54 337 P **P** **00 19 43.4 +1.5**
HDC Heredia 34.56 119 IAMs_20 IAMs_20 00 34 00.5
comp=Z,4µm,21.0s
TRY Troy 34.58 58 IAMs_20 IAMs_20 00 34 04.4
comp=Z,3µm,19.0s
WSPT Westport, CT 34.66 60 IAMs_20 IAMs_20 00 32 27.6
comp=Z,5µm,18.0s
ACCN Adirondack Com 34.67 56 P **P** **00 19 44.8 +1.6**
RIMA Rio Macho 34.90 119 P **P** **00 19 45.2 -0.5**
RIMA IAmb IAmb 00 19 47.7
comp=Z,65nm,2.2s
MNTQ Montreal, Queb 35.07 53 P **P** **00 19 49.2 +2.7**
TABL Table Mountain 35.09 337 IAMs_20 IAMs_20 00 31 56.7
comp=Z,4µm,22.0s
L61B Northampton 35.27 58 P **P** **00 19 48.5 +0.1**
baz=264
LOGN Logan Glacier 35.33 338 IAMs_20 IAMs_20 00 32 16.9
comp=Z,4µm,20.0s
M30M Minto, Yukon 35.45 342 P **P** **00 19 52.6 +2.9**
M30M IAMs_20 IAMs_20 00 35 39.2
comp=Z,5µm,18.0s
M30M Minto, Yukon 35.45 342 P **P** **00 19 51.2 +1.5**
baz=145
QUA2 Belchertown 35.49 59 IAMs_20 IAMs_20 00 33 03.6
comp=Z,4µm,21.0s
SNH Sunshine Point 35.49 336 IAMs_20 IAMs_20 00 32 55.2
comp=Z,5µm,19.0s
GRNC Granite Creek 35.51 337 IAMs_20 IAMs_20 00 32 08.8
comp=Z,5µm,22.0s
CTGM Chitina Glacie 35.54 338 IAMs_20 IAMs_20 00 32 12.6
comp=Z,5µm,22.0s
CTG Chitna Glacier 35.54 338 P **P** **00 19 52.3 +1.6**
baz=137
ISLE Juniper Island 35.62 336 IAMs_20 IAMs_20 00 34 41.6
comp=Z,5µm,19.0s
WAX Waxell Ridge 35.69 336 IAMs_20 IAMs_20 00 35 12.4
comp=Z,5µm,18.0s
BARN Barnard Glacie 35.72 337 IAMs_20 IAMs_20 00 32 06.3
comp=Z,5µm,22.0s
SUCK Suckling Hills 35.76 335 IAMs_20 IAMs_20 00 31 28.2
comp=Z,4µm,22.0s
KAIM Kayak Island 35.89 334 IAMs_20 IAMs_20 00 31 28.9
comp=Z,4µm,21.0s
TGL Tana Glacier 35.90 336 IAMs_20 IAMs_20 00 35 15.9
comp=Z,4µm,18.0s
BERG Berg Lake 35.95 335 IAMs_20 IAMs_20 00 33 08.3
comp=Z,5µm,19.0s
LBNH Lisbon 36.04 55 IAMs_20 IAMs_20 00 34 06.6
comp=Z,4µm,20.0s
HMT Hamilton 36.11 335 IAMs_20 IAMs_20 00 33 37.7
comp=Z,4µm,18.0s
WES Weston 36.26 59 IAMs_20 IAMs_20 00 33 11.0
comp=Z,3µm,19.0s
RAGM Ragged Mountai 36.30 335 IAMs_20 IAMs_20 00 32 56.6
comp=Z,4µm,19.0s
Q23K Middleton Isla 36.31 333 IAMs_20 IAMs_20 00 31 19.8
comp=Z,4µm,22.0s
MCARA McCarthy VSAT 36.41 337 P **P** **00 20 00.1 +2.2**
MCARA IAmb IAmb 00 20 30.4
comp=Z,66nm,1.8s
MCARA IAMs_20 IAMs_20 00 34 41.5
comp=Z,4µm,19.0s
MCARA McCarthy VSAT 36.41 337 P **P** **00 20 00.0 +2.2**
baz=135
VRDI Verde Repeater 36.45 337 P **P** **00 20 01.6 +3.2**
VRDI IAmb IAmb 00 20 07.7
comp=Z,120nm,2.5s
VRDI IAMs_20 IAMs_20 00 34 23.5
comp=Z,3µm,18.0s
M65A Busby, Falmout 36.70 60 IAMs_20 IAMs_20 00 33 29.1
comp=Z,4µm,18.0s
GLB Gilahina Butte 36.72 337 P **P** **00 20 01.7 +1.2**
GLB IAMs_20 IAMs_20 00 34 59.7
comp=Z,4µm,18.0s
GTBY Guantanamo Bay 36.75 97 IAMs_20 IAMs_20 00 37 33.5
comp=Z,4µm,19.0s
M27K Edge Creek, AK 36.75 339 P **P** **00 20 01.2 +0.2**
M27K Edge Creek, AK 36.75 339 P **P** **00 20 01.1 +0.2**
baz=138
N25K Chitina, Valde 37.10 336 P **P** **00 20 03.7 -0.2**
baz=134
FID Port Fidalgo 37.21 334 IAMs_20 IAMs_20 00 32 29.4
comp=Z,3µm,20.0s
BCAR Beaver Creek A 37.25 340 P **P** **00 20 04.9 -0.2**
L27K Beaver Creek, 37.26 340 P **P** **00 20 05.7 +0.5**
L27K IAmb IAmb 00 20 14.5
comp=Z,83nm,2.4s
L27K IAMs_20 IAMs_20 00 33 40.1
comp=Z,4µm,21.0s
L27K Beaver Creek, 37.26 340 P **P** **00 20 05.5 +0.3**
baz=139
DAWY Dawson 37.35 342 P **P** **00 20 07.6 +1.7**
DAWY IAmb IAmb 00 20 13.9
comp=Z,50nm,1.6s
DAWY Dawson 37.35 342 P **P** **00 20 07.5 +1.7**
baz=143,SNR=9.7
KLU Klutina 37.49 336 IAMs_20 IAMs_20 00 33 57.2
comp=Z,4µm,20.0s
GLI Glacier Island 37.52 334 IAMs_20 IAMs_20 00 32 28.0
comp=Z,3µm,21.0s
WVL Waterville 37.70 55 IAMs_20 IAMs_20 00 34 34.8
comp=Z,4µm,18.0s
L26K Log Cabin Wild 37.70 339 P **P** **00 20 10.8 +1.9**
L26K IAmb IAmb 00 20 16.7
comp=Z,61nm,1.9s
L26K IAMs_20 IAMs_20 00 33 48.7
comp=Z,5µm,22.0s
LMQ La Malbaie 37.70 50 P **P** **00 20 10.5 +1.4**
LMQ IAmb IAmb 00 20 25.6
comp=Z,70nm,2.4s
M24K Tolsona, Glenn 37.99 336 IAMs_20 IAMs_20 00 36 14.4
comp=Z,3µm,21.0s
PKME Peaks-Kenny Pk 38.04 54 P **P** **00 20 12.8 +0.9**
baz=262
KDAK Kodiak Island 38.08 327 LR LR 00 33 16.3
comp=Z,5µm,20.7s,baz=135,slow=32
KDAK Kodiak Island 38.08 327 IAMs_20 IAMs_20 00 33 05.5
comp=Z,5µm,20.0s
I29M Ogilvie Camp, 38.12 344 P **P** **00 20 13.9 +1.4**
baz=145,SNR=5.9
OHAK Old Harbor 38.14 326 P **P** **00 20 14.2 +1.6**
baz=118
SCM Sheep Creek Mo 38.23 335 IAMs_20 IAMs_20 00 34 18.5
comp=Z,3µm,20.0s
SII Sitkinak Islan 38.28 325 IAMs_20 IAMs_20 00 32 34.7
comp=Z,4µm,21.0s
O22K Cooper Landing 38.30 332 IAMs_20 IAMs_20 00 34 28.5
comp=Z,3µm,18.0s
PAX Paxson 38.34 338 P **P** **00 20 16.5 +2.1**
PAX Paxson 38.34 338 P **P** **00 20 16.5 +2.1**
baz=134
BCIP Isla Barro Col 38.36 116 IAMs_20 IAMs_20 00 37 39.2
comp=Z,3µm,18.0s
KNK Knik Glacier 38.38 334 P **P** **00 20 16.0 +1.4**
KNK Knik Glacier 38.38 334 P **P** **00 20 16.2 +1.7**
baz=128
DOT Dot Lake 38.38 339 P **P** **00 20 16.5 +1.9**
EGAK Eagle 38.38 342 P **P** **00 20 16.2 +1.6**
EGAK IAmb IAmb 00 20 23.5
comp=Z,150nm,2.5s
EGAK IAMs_20 IAMs_20 00 34 41.8
comp=Z,4µm,20.0s
EGAK Eagle 38.38 342 P **P** **00 20 15.7 +1.1**
baz=141,SNR=7.7
CNPM China Poot 38.39 330 IAMs_20 IAMs_20 00 34 09.7
comp=Z,3µm,18.0s
D62A Allapoint, All 38.47 51 P **P** **00 20 18.2 +2.7**
D62A IAmb IAmb 00 20 47.9
comp=Z,63nm,2.1s
SCRK Sand Creek 38.59 339 P **P** **00 20 17.9 +1.4**
SCRK IAmb IAmb 00 20 25.3
comp=Z,112nm,2.6s
SCRK IAMs_20 IAMs_20 00 34 19.3
comp=Z,5µm,21.0s
SCRK Sand Creek 38.59 339 P **P** **00 20 17.3 +0.8**
baz=136,SNR=8.5
EPYK Eagle Plains 38.61 346 P **P** **00 20 18.0 +1.5**
EPYK Eagle Plains 38.61 346 P **P** **00 20 17.8 +1.3**
baz=148,SNR=6.0
RC01 Rabbit Creek A 38.67 333 IAMs_20 IAMs_20 00 32 58.2
comp=Z,3µm,22.0s
RIDG Independent Ri 38.69 339 P **P** **00 20 18.1 +0.9**
RIDG Independent Ri 38.69 339 P **P** **00 20 19.2 +2.0**
baz=135
CHIR Chirikof Islan 38.69 323 IAMs_20 IAMs_20 00 32 31.6
comp=Z,5µm,20.0s
PMR Palmer 38.74 334 P **P** **00 20 19.2 +1.7**
PMR IAmb IAmb 00 20 24.9
comp=Z,129nm,2.3s
PMR Palmer 38.74 334 P **P** **00 20 19.3 +1.7**
baz=128
F64A Sherman 38.77 53 P **P** **00 20 20.0 +2.0**
GHO Glory Hole Cre 38.77 334 P **P** **00 20 19.1 +1.1**
J26L Joseph Creek 38.85 340 P **P** **00 20 20.7 +2.1**
baz=138
WAT6 Susitna Watana 38.86 336 P **P** **00 20 21.1 +2.4**
baz=130
KHU Kahuku 38.95 263 P **P** **00 20 20.4 +0.2**
CAPN Captain Cook N 39.05 332 IAMs_20 IAMs_20 00 34 51.1
comp=Z,3µm,18.0s
CAPN Captain Cook N 39.05 332 P **P** **00 20 22.5 +2.4**
baz=124
DHY Denali Highway 39.06 337 P **P** **00 20 22.6 +2.2**
DHY IAMs_20 IAMs_20 00 35 02.5
comp=Z,4µm,20.0s
DHY Denali Highway 39.06 337 P **P** **00 20 22.1 +1.7**
baz=131
G65A Princeton 39.24 54 P **P** **00 20 22.3 +0.3**
EMMW East Machias 39.27 55 IAMs_20 IAMs_20 00 35 18.6
comp=Z,4µm,19.0s
J25K Salcha River, 39.47 339 IAMs_20 IAMs_20 00 34 56.5
comp=Z,4µm,21.0s
J25K Salcha River, 39.47 339 P **P** **00 20 24.6 +0.9**
baz=135,SNR=8.1
C36M Paulatuk 39.51 355 IAMs_20 IAMs_20 00 37 24.8
comp=Z,4µm,18.0s
C36M Paulatuk 39.51 355 P **P** **00 20 25.5 +1.6**
baz=166
GRTK Grand Turk 39.56 92 IAMs_20 IAMs_20 00 39 41.1
comp=Z,4µm,19.0s
CUT Chulitna 39.66 335 IAMs_20 IAMs_20 00 35 29.4
comp=Z,3µm,20.0s
INK Inuvik 39.70 349 P **P** **00 20 25.8 +0.2**
comp=Z,5.2nm,1.0s,baz=144,slow=8.8,SNR=9.3
INK LR LR 00 36 41.0
comp=Z,7µm,18.4s,baz=158,slow=36
INK Inuvik 39.70 349 P **P** **00 20 26.5 +1.0**
baz=153,SNR=6.7
RND Reindeer 39.78 336 P **P** **00 20 28.8 +2.5**
RND IAmb IAmb 00 20 33.9
comp=Z,119nm,2.4s
RND IAMs_20 IAMs_20 00 35 13.7
comp=Z,3µm,20.0s
MCK McKinley 40.02 337 P **P** **00 20 29.6 +1.3**
MCK McKinley 40.02 337 P **P** **00 20 29.6 +1.3**
baz=130
IL31 40.05 339 IAmb IAmb 00 20 34.8
comp=Z,154nm,2.6s
ILAR Eielson Array 40.05 339 P **P** **00 20 29.3 +0.8**
comp=Z,5.2nm,0.9s,baz=151,slow=7.1,SNR=41
ILAR LR LR 00 36 35.3
comp=Z,3µm,18.1s,baz=138,slow=36
O19K Port Alsworth 40.06 330 P **P** **00 20 29.4 +0.8**
O19K IAmb IAmb 00 20 52.5
comp=Z,88nm,2.0s
O19K IAMs_20 IAMs_20 00 34 55.0
comp=Z,3µm,18.0s
O19K Port Alsworth 40.06 330 P **P** **00 20 29.9 +1.3**
baz=120
P18K Big Mountain, 40.07 329 IAMs_20 IAMs_20 00 34 41.2
comp=Z,3µm,20.0s
WRH Wood River Hil 40.22 338 IAMs_20 IAMs_20 00 36 50.4
comp=Z,4µm,19.0s
TRF Thorofare Moun 40.31 336 IAmb IAmb 00 20 50.0
comp=Z,142nm,2.1s
TRF IAMs_20 IAMs_20 00 35 49.6
comp=Z,3µm,18.0s
TRF Thorofare Moun 40.31 336 P **P** **00 20 32.3 +1.4**
baz=128
COLA College 40.42 339 P **P** **00 20 34.2 +2.7**
COLA IAmb IAmb 00 20 38.7
comp=Z,71nm,2.0s
COLA College 40.42 339 IAMs_20 IAMs_20 00 36 53.6
comp=Z,4µm,18.0s
COLA College 40.42 339 P **P** **00 20 32.7 +1.2**
baz=132
SDDR Presa de Saban 40.42 96 IAMs_20 IAMs_20 00 39 18.9
comp=Z,3µm,18.0s
TCOL CIGO, UAF Yank 40.42 339 P **P** **00 20 33.8 +2.2**
TCOL IAmb IAmb 00 20 38.8
comp=Z,75nm,2.0s
TCOL IAMs_20 IAMs_20 00 36 53.6
comp=Z,4µm,18.0s
TCOL CIGO, UAF Yank 40.42 339 P **P** **00 20 33.2 +1.7**
baz=132
N19K Bonanza Creek 40.45 331 IAMs_20 IAMs_20 00 35 27.2
comp=Z,3µm,18.0s
N19K Bonanza Creek 40.45 331 P **P** **00 20 32.9 +0.9**
baz=120
POKR Poker Plat Res 40.45 339 P **P** **00 20 33.7 +1.8**
POKR IAmb IAmb 00 20 39.1
comp=Z,104nm,2.2s
POKR Poker Plat Res 40.45 339 P **P** **00 20 33.7 +1.8**
baz=133
M20K Styx River 40.46 333 IAMs_20 IAMs_20 00 35 56.5
comp=Z,4µm,18.0s
M20K Styx River 40.46 333 P **P** **00 20 33.2 +1.1**
baz=123
BWN Browne 40.48 337 IAMs_20 IAMs_20 00 35 54.7
comp=Z,4µm,19.0s
MDM Murphy Dome 40.59 339 IAmb IAmb 00 20 41.6
comp=Z,96nm,2.6s
MDM IAMs_20 IAMs_20 00 36 42.3
comp=Z,3µm,21.0s
KTH Kantishna Hill 40.60 336 IAmb IAmb 00 20 58.0
comp=Z,113nm,2.4s
KTH IAMs_20 IAMs_20 00 34 32.2
comp=Z,3µm,22.0s
NEA2 Nenana 40.62 338 IAmb IAmb 00 20 55.2
comp=Z,71nm,2.0s
NEA2 IAMs_20 IAMs_20 00 37 10.9
comp=Z,3µm,20.0s
NEA2 Nenana 40.62 338 P **P** **00 20 34.9 +1.6**
baz=131
PPLA Purkeypile 40.67 334 IAmb IAmb 00 20 58.3
comp=Z,104nm,1.5s
PPLA Purkeypile 40.67 334 P **P** **00 20 34.4 +0.5**
baz=125
CAST Castle Rocks 40.94 335 IAMs_20 IAMs_20 00 35 40.2
comp=Z,3µm,19.0s
CAST Castle Rocks 40.94 335 P **P** **00 20 36.7 +0.9**
baz=126
BPAW Bear Paw Mtn. 40.96 336 IAmb IAmb 00 20 55.0
comp=Z,125nm,2.2s
BPAW IAMs_20 IAMs_20 00 37 36.7
comp=Z,3µm,18.0s
BPAW Bear Paw Mtn. 40.96 336 P **P** **00 20 36.8 +0.7**
baz=128,SNR=5.9
M19K Big River Lodg 40.97 332 P **P** **00 20 37.9 +1.7**
baz=122
L20K Farewell, AK 41.08 333 P **P** **00 20 38.4 +1.4**
baz=123
I23K Minto, Yukon-K 41.08 338 IAMs_20 IAMs_20 00 38 37.0
comp=Z,4µm,18.0s
I23K Minto, Yukon-K 41.08 338 P **P** **00 20 39.0 +2.0**
baz=131
H24K Noodor Dome 41.08 340 P **P** **00 20 38.7 +1.6**
H24K IAMs_20 IAMs_20 00 35 45.2
comp=Z,4µm,22.0s
H24K Noodor Dome 41.08 340 P **P** **00 20 39.0 +1.9**
baz=133
LMN Caledonia Moun 41.23 54 P **P** **00 20 40.8 +2.2**
LMN IAmb IAmb 00 20 49.8
comp=Z,88nm,2.4s
CHUM Lake Minchumin 41.29 336 P **P** **00 20 40.4 +1.6**
baz=126
L19K White Mountain 41.31 332 P **P** **00 20 41.0 +2.1**
L19K IAMs_20 IAMs_20 00 37 26.9
comp=Z,3µm,19.0s
L19K White Mountain 41.31 332 P **P** **00 20 40.6 +1.7**
baz=122
MLY Manley 41.45 338 P **P** **00 20 41.8 +1.7**
MLY Manley 41.45 338 P **P** **00 20 41.2 +1.0**
baz=129,SNR=8.5
SCHQ Schefferville 41.59 40 P **P** **00 20 41.0 -0.3**
comp=Z,8.0nm,1.1s,baz=266,slow=7.1,SNR=8.1
SCHQ LR LR 00 37 40.6
comp=Z,5µm,21.0s,baz=256,slow=36
SCHQ Schefferville 41.59 40 P **P** **00 20 42.0 +0.7**
K20K Telida 41.63 334 P **P** **00 20 42.4 +0.8**
K20K IAmb IAmb 00 21 05.8
comp=Z,59nm,1.6s
K20K IAMs_20 IAMs_20 00 38 34.6
comp=Z,3µm,20.0s
K20K Telida 41.63 334 P **P** **00 20 42.6 +1.0**
baz=124,SNR=6.9
I21K Tanana 41.96 337 P **P** **00 20 45.6 +1.4**
baz=128,SNR=7.0
J20K Nowinta River 42.12 335 P **P** **00 20 46.9 +1.3**
J20K IAMs_20 IAMs_20 00 36 52.5
comp=Z,2µm,18.0s
J20K Nowinta River 42.12 335 P **P** **00 20 46.7 +1.2**
baz=124,SNR=5.7
TTA Tatalina 42.15 333 P **P** **00 20 47.1 +1.1**
TTA IAmb IAmb 00 20 51.4
comp=Z,172nm,3.0s
TTA Tatalina 42.15 333 P **P** **00 20 47.0 +1.1**
baz=121
A36M Sachs Harbour 42.18 355 P **P** **00 20 46.6 +0.7**
baz=166,SNR=12
H21K Melozitna Rive 42.52 338 IAmb IAmb 00 20 57.8
comp=Z,217nm,2.9s
H21K IAMs_20 IAMs_20 00 39 40.2
comp=Z,3µm,18.0s
H21K Melozitna Rive 42.52 338 P **P** **00 20 49.7 +0.9**
baz=127,SNR=7.7
UREC San Jos de Ur 42.60 114 *e*P **P** **00 20 51.0 +0.9**
COLD Coldfoot 42.71 340 P **P** **00 20 52.1 +1.8**
COLD IAmb IAmb 00 21 09.1
comp=Z,60nm,2.1s
COLD Coldfoot 42.71 340 P **P** **00 20 51.6 +1.3**
baz=132
ZARC Zaragoza, Cauc 43.29 113 P **P** **00 20 54.9 -0.7**
GCSA Galena City Sc 43.43 335 P **P** **00 20 57.1 +1.0**
baz=122
TOLK Toolik Lake Re 43.50 342 P **P** **00 20 58.2 +1.5**
TOLK IAMs_20 IAMs_20 00 37 31.9
comp=Z,4µm,20.0s
TOLK Toolik Lake Re 43.50 342 P **P** **00 20 56.9 +0.2**
baz=133,SNR=11
PLMC San Jos del P 43.77 118 *e*P **P** **00 21 00.8 +1.2**
FRB Frobisher Bay 44.10 27 LR LR 00 39 51.3
comp=Z,9µm,18.9s,baz=243,slow=37
PTBC PUERTO BERRIO, 44.18 114 *e*P **P** **00 21 02.0 -0.8**
GUY2C Guyana, Caldas 44.27 116 *e*P **P** **00 21 01.3 -2.8**
YOTC Yotoco, Valle 44.31 119 *e*P **P** **00 21 02.9 -1.1**
NORC Norcasia 44.45 116 *e*P **P** **00 21 05.5 +0.5**
POPC Popayan, Colom 45.00 121 *e*P **P** **00 21 07.4 -2.3**
BARC Barichara 45.16 113 *e*P **P** **00 21 08.5 -2.4**
ORTC Ortega, Tolima 45.20 118 *e*P **P** **00 21 10.5 -0.5**
ROSC El Rosal 45.32 116 P **P** **00 21 12.8 +0.4**
comp=Z,2.7nm,0.3s,baz=356,slow=3.2,SNR=4.6
ROSC LR LR 00 42 45.3
comp=Z,2µm,18.5s,baz=330,slow=40
ROSC El Rosal 45.32 116 P **P** **00 21 13.1 +0.7**
ROSC IAmb IAmb 00 21 37.8
comp=Z,29nm,1.4s
RES Resolute Bay 45.52 7 LR LR 00 41 03.1
comp=Z,6µm,19.1s,baz=210,slow=37
RUSC La Rusia 45.65 114 *e*P **P** **00 21 12.2 -2.9**
SDV Santo Domingo 45.90 108 LR LR 00 44 04.9
comp=Z,2µm,18.2s,baz=326,slow=41
SDV Santo Domingo 45.90 108 P **P** **00 21 16.4 -0.3**
SDV IAmb IAmb 00 21 28.2
comp=Z,61nm,2.1s
SOCV Socops 46.05 109 *e*P **P** **00 21 17.6 -0.2**
TAOE Nuku Hiva Isla 46.20 217 *e*S **S** **00 28 05.6 -0.5**
comp=Z,957nm,24.9s
TAOE *e*LQ LQ 00 32 18.8
comp=Z,2µm,23.7s
TAOE *e*LR LR 00 34 05.4
comp=Z,6µm,27.0s,baz=37
ANM Nome 46.61 332 P **P** **00 21 22.7 +1.3**
ANM IAmb IAmb 00 21 30.8
comp=Z,52nm,2.1s
ANM IAMs_20 IAMs_20 00 39 26.0
comp=Z,3µm,19.0s
ANM Nome 46.61 332 P **P** **00 21 21.3 -0.2**
baz=112,SNR=5.5
A21K Barrow 47.09 343 IAMs_20 IAMs_20 00 42 53.8
comp=Z,3µm,20.0s
RDOG Red Dog Mine 47.18 337 P **P** **00 21 26.7 +0.8**
RDOG IAMs_20 IAMs_20 00 42 29.2
comp=Z,3µm,19.0s
RDOG Red Dog Mine 47.18 337 P **P** **00 21 26.2 +0.3**
baz=118
BOSC San Juan Bosco 47.66 128 P **P** **00 21 31.9 +1.5**
BOSC IAmb IAmb 00 21 45.4
comp=Z,15nm,1.2s
TNA Tin City 47.98 333 P **P** **00 21 31.8 -0.2**
baz=110,SNR=5.8
SEUS St. Eustatius 48.20 93 IAMs_20 IAMs_20 00 45 37.1
comp=Z,3µm,19.0s
GAMB Gambell 48.99 330 P **P** **00 21 40.4 +0.6**
GAMB IAMs_20 IAMs_20 00 41 59.9
comp=Z,2µm,19.0s
GAMB Gambell 48.99 330 P **P** **00 21 39.9 +0.1**
baz=105
CBE Ff, Capester 50.00 94 IAMs_20 IAMs_20 00 44 30.7
comp=Z,2µm,21.0s
TULEG Thule 50.94 12 P **P** **00 21 55.1 +0.5**
BIM Bigot 51.16 96 IAMs_20 IAMs_20 00 45 32.6
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 52.23 26 LR LR 00 44 24.5
comp=Z,5µm,18.8s,baz=260,slow=36
ILULI Ilulissat 52.54 24 IAMs_20 IAMs_20 00 48 44.9
comp=Z,3µm,19.0s
NNA Nana 55.33 134 LR LR 00 42 12.9
comp=Z,1µm,19.2s,baz=325,slow=32

SHEM Shemya Is, Ala 55.68 316 LR LR 00 41 52.8
comp=Z,1µm,21.0s,baz=113,slow=31
RPN Rapa Nui 57.28 175 LR LR 00 41 11.4
comp=Z,921nm,19.8s,baz=358,slow=30
BILL Bilibino 58.38 334 P **P 00 22 49.3 +0.7**
BILL IAmb IAmb 00 22 55.4
comp=Z,27nm,1.3s
BILL IAMs_20 IAMs_20 00 48 34.3
comp=Z,2µm,18.0s
PPT Papeete 58.49 220 LR LR 00 40 53.5
comp=Z,1µm,19.3s,baz=7.0,slow=29
PPT2 Papeete2 58.51 220 *e*LR LR 00 39 45.8
comp=Z,5µm,28.2s,baz=24
MDP Montagnes des 62.99 100 LR LR 00 53 24.6
comp=Z,648nm,19.2s,baz=296,slow=39
TBI Tubuai 63.15 216 *e*LR LR 00 42 04.0
comp=Z,3µm,27.5s,baz=32
LPAZ La Paz 64.15 130 P **P 00 23 27.0 -2.2**
comp=Z,3.5nm,1.1s,baz=356,slow=4.3,SNR=2.8
LPAZ LR LR 00 50 09.6
comp=Z,1µm,20.1s,baz=322,slow=35
LPAZ La Paz 64.15 130 P **P 00 23 28.8 -0.4**
LPAZ IAmb IAmb 00 23 31.1
comp=Z,52nm,2.6s
BORG Borgarnes 64.25 28 LR LR 00 51 26.2
comp=Z,2µm,18.3s,baz=308,slow=36
PB16 IPOC Station P 64.74 132 P **P 00 23 32.4 -0.6**
PET Petropavlovsk 64.77 318 IAMs_20 IAMs_20 00 44 14.2
comp=Z,2µm,20.0s
SEY Seymchan 64.98 330 P **P 00 23 32.8 -0.4**
comp=Z,3.9nm,0.7s,baz=79,slow=4.8,SNR=9.0
SEY LR LR 00 49 18.0
comp=Z,2µm,21.8s,baz=73,slow=34
PETK Petropavlovsk- 65.29 318 P **P 00 23 34.7 -0.8**
comp=Z,9.8nm,0.8s,baz=89,slow=9.3,SNR=9.3
PETK LR LR 00 46 57.2
comp=Z,542nm,20.5s,baz=63,slow=31
PETK Petropavlovsk- 65.29 318 P **P 00 23 35.2 -0.2**
PB11 IPOC Station P 65.70 133 P **P 00 23 37.5 -1.2**
GO01 Chusmiza 65.92 133 P **P 00 23 39.9 -0.6**
GO01 IAmb IAmb 00 23 44.7
comp=Z,9.6nm,0.9s
PB08 IPOC Station P 66.29 133 IAmb IAmb 00 23 47.1
comp=Z,18nm,1.0s
JMIC Jan Mayen 66.60 20 LR LR 00 53 21.4
comp=Z,5µm,18.3s,baz=258,slow=36
PB02 IPOC Station P 66.71 135 P **P 00 23 44.8 -0.3**
PB02 IAmb IAmb 00 23 49.4
comp=Z,23nm,1.0s
PB01 IPOC Station P 66.76 134 IAmb IAmb 00 23 49.5
comp=Z,25nm,1.0s
MA2 Magadan 66.82 327 P **P 00 23 45.1 0.0**
comp=Z,11nm,0.8s,baz=81,slow=7.8,SNR=12
MA2 LR LR 00 51 11.8
comp=Z,1µm,21.1s,baz=57,slow=34
MA2 Magadan 66.82 327 P **P 00 23 45.3 +0.1**
MA2 IAmb IAmb 00 23 47.0
comp=Z,14nm,0.9s
MA2 IAMs_20 IAMs_20 00 50 40.3
comp=Z,1µm,22.0s
PB07 IPOC Station P 67.02 135 P **P 00 23 47.5 +0.3**
PB07 IAmb IAmb 00 23 50.1
comp=Z,11nm,0.9s
RAR Rarotonga 67.36 226 LR LR 00 44 52.4
comp=Z,657nm,21.4s,baz=33,slow=28
PB09 IPOC Station P 67.47 135 P **P 00 23 50.0 0.0**
PB09 IAmb IAmb 00 23 54.7
comp=Z,19nm,1.1s
PB06 IPOC Station P 67.95 136 P **P 00 23 53.1 +0.2**
PB06 IAmb IAmb 00 23 57.1
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 67.98 10 LR LR 00 54 06.7
comp=Z,3µm,18.8s,baz=338,slow=36
LVC Limon Verde 68.28 135 P **P 00 23 55.3 0.0**
comp=Z,8.5nm,0.9s,baz=240,slow=1.8,SNR=5.7
LVC LR LR 00 48 10.0
comp=Z,728nm,20.6s,baz=328,slow=31
LVC Limon Verde 68.28 135 P **P 00 23 54.1 -1.1**
LVC IAmb IAmb 00 23 60.0
comp=Z,17nm,1.1s
SIV San Ignacio 68.82 124 P **P 00 23 54.8 -3.6**
comp=Z,3.2nm,0.8s,baz=274,slow=5.8
SIV LR LR 00 52 29.6
comp=Z,847nm,20.5s,baz=309,slow=35
TIXI Tiksi 69.39 342 LR LR 00 57 44.6
comp=Z,1µm,18.2s,baz=2.0,slow=39
TIXI Tiksi 69.39 342 P **P 00 24 00.6 -0.5**
TIXI IAMs_20 IAMs_20 00 54 23.3
comp=Z,2µm,21.0s
GO02 Mina Guanaco 69.79 137 P **P 00 24 04.0 -0.5**
AFI Afiamalu 70.67 240 LR LR 00 46 46.3
comp=Z,813nm,20.8s,baz=56,slow=29
AC06 Mina Casimiro 71.03 139 P **P 00 24 13.0 +1.3**
AC02 Maricunga 71.33 138 P **P 00 24 14.0 -0.2**
AC02 IAmb IAmb 00 24 20.7
comp=Z,58nm,2.5s
LCO Las Campanas 72.12 141 P **P 00 24 21.0 +2.4**
CO03 El Pedregal 73.55 142 P **P 00 24 28.2 +1.3**
YAK Yakutsk 74.74 334 LR LR 00 57 47.2
comp=Z,2µm,19.0s,baz=56,slow=36
YAK Yakutsk 74.74 334 IAMs_20 IAMs_20 00 57 27.5
comp=Z,2µm,19.0s
VA03 San Esteban 75.12 143 P **P 00 24 36.9 +1.0**
ZON Zonda 75.18 141 P **P 00 24 36.7 +0.4**
BO04 La Punta 76.06 144 P **P 00 24 43.4 +2.1**
BO01 Tunca 76.13 144 P **P 00 24 42.4 +0.8**
BO01 IAmb IAmb 00 24 53.0
comp=Z,18nm,1.4s
LMEL Las Melosas 76.15 143 P **P 00 24 42.8 +0.9**
LMEL IAmb IAmb 00 24 53.7
comp=Z,24nm,1.6s
GO05 Huala 76.20 145 P **P 00 24 42.7 +0.7**
GO05 IAmb IAmb 00 24 59.8
comp=Z,42nm,1.6s
ARCES ARCESS Array B 76.26 14 LR LR 00 59 13.0
comp=Z,2µm,21.4s,baz=328,slow=36
EKA Eskdalemuir Ar 76.47 33 LR LR 00 58 01.8
comp=Z,2µm,18.2s,baz=305,slow=36
YSS Yuzh-Sakhalins 76.57 317 IAMs_20 IAMs_20 00 52 16.3
comp=Z,1µm,21.0s
BO02 Sierra Bellavi 76.60 144 P **P 00 24 45.4 +1.0**
BO02 IAmb IAmb 00 24 48.4
comp=Z,16nm,1.2s
ASAJ Asahikawa 78.10 314 LR LR 00 55 48.3
comp=Z,859nm,19.5s,baz=80,slow=33
CPUP Villa Florida 78.32 130 P **P 00 24 54.0 -0.1**
comp=Z,8.9nm,1.2s,baz=320,slow=9.4,SNR=4.1
CPUP LR LR 00 59 26.2
comp=Z,533nm,21.9s,baz=337,slow=36
CPUP Villa Florida 78.32 130 IAmb IAmb 00 24 58.6
comp=Z,31nm,1.6s
BDFB Brasilia 78.38 116 LR LR 01 01 48.2
comp=Z,604nm,19.7s,baz=316,slow=38
NOA NORSAR Array B 78.81 24 P **P 00 24 54.8 -1.5**
comp=Z,1.6nm,1.0s,baz=337,slow=9.2,SNR=3.3
NOA LR LR 01 01 17.5
comp=Z,2µm,18.1s,baz=305,slow=37
ERM Erimo 78.81 312 IAMs_20 IAMs_20 00 54 45.0
comp=Z,1µm,20.0s
HFS Hagfors 80.31 24 LR LR 01 02 04.4
comp=Z,3µm,18.0s,baz=312,slow=37
PLCA Paso Flores 81.42 148 P **P 00 25 11.9 +1.2**
comp=Z,4.7nm,0.9s,baz=359,slow=6.8,SNR=6.6
PLCA LR LR 00 54 21.8
comp=Z,1µm,19.7s,baz=326,slow=31
PLCA Paso Flores 81.42 148 P **P 00 25 11.8 +1.1**
PLCA IAmb IAmb 00 25 20.4
comp=Z,68nm,2.5s
KLR Kul'dur 81.48 323 LR LR 01 00 53.2
comp=Z,762nm,19.9s,baz=38,slow=35
RCBR Riachuelo 82.92 101 LR LR 01 07 32.4
comp=Z,592nm,18.2s,baz=86,slow=40
FINES FINESS Array B 83.10 18 P **P 00 25 19.1 -0.1**
comp=Z,2.8nm,0.7s,baz=318,slow=2.6,SNR=5.8
FINES LR LR 01 02 25.3
comp=Z,3µm,18.9s,baz=336,slow=36
FINES FINESS Array B 83.10 18 P **P 00 25 19.4 +0.2**
AY01 Puyuhuapi 83.48 151 P **P 00 25 22.8 +1.6**
JSD Sado 84.11 311 P **P 00 25 25.4 +0.5**
USRK Ussuriysk Ar. 84.38 319 P **P 00 25 26.0 -0.1**
comp=Z,3.5nm,0.9s,baz=48,slow=6.2,SNR=5.0
USRK Ussuriysk Ar. 84.38 319 P **P 00 25 25.7 -0.4**
RAO Raoul Island 84.76 232 LR LR 01 02 26.4
comp=Z,477nm,18.2s,baz=122,slow=35
ESDC Sonseca Array 84.97 47 P **P 00 25 28.3 -1.0**
comp=Z,0.9nm,0.7s,baz=317,slow=6.3,SNR=5.3
ESDC LR LR 01 01 36.1

comp=Z,2µm,18.6s,baz=304,slow=34
MJAR Matsushiro Arr 84.98 310 P **P 00 25 27.8 -1.6**
comp=Z,1.6nm,0.3s,baz=30,slow=4.3,SNR=5.6
MJAR LR LR 00 56 28.0
comp=Z,2µm,21.1s,baz=66,slow=31
MJAR Matsushiro Arr 84.98 310 IAmb IAmb 00 25 34.0
comp=Z,35nm,2.1s
MDJ Mudanjiang 85.48 320 IAMs_20 IAMs_20 01 07 07.0
comp=Z,1µm,18.0s
MDJ Mudanjiang 85.48 320 P **P 00 25 32.0 +0.4**
MDJ S **S 00 36 01.0 -2.8**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ LR LR
comp=Z,850nm,14.1s
MDJ LR LR
comp=Z,960nm,18.7s
MDJ LR LR
comp=Z,1µm,22.2s
JHJ Hachijo jima 2 85.81 306 LR LR 01 04 05.3
comp=Z,511nm,18.2s,baz=74,slow=36
BNX BinXian 85.96 322 ⇑P **P 00 25 34.0 0.0**
BNX pmax pmax
comp=Z,22nm,1.3s
BNX pmax pmax
comp=Z,210nm,4.2s
CLL Collm 86.44 30 *e*P **P 00 25 38.0 +1.7**
CLL *e*S **S 00 36 12.0 -1.0**
CLL *e*PS **PnS 00 37 13.0 +3.4**
CLL *e*PPS PPS 00 37 35.0
CLL *e*SS **SS 00 41 48.0 -3.5**
CLL *e*SSS SSS 00 45 42.0
CLL Lm MLR 01 04 00.0
comp=Z,2µm,18.8s
INU Inuyama 86.45 309 IAMs_20 IAMs_20 00 58 48.1
comp=Z,912nm,20.0s
KLMR Klimovskoe 86.69 13 *e*P **P 00 25 36.3 -1.0**
KLMR AMP 00 25 39.0
comp=Z,19nm,1.5s
KLMR LQ LQ 00 57 50.5
KLMR LQ LQ 00 57 50.5
KLMR LR LR 01 00 43.2
JCJ Chichijima 87.34 300 LR LR 00 57 23.9
comp=Z,1µm,21.0s,baz=100,slow=31
DAVOX Davos/Dischmat 88.22 35 LR LR 01 03 20.2
comp=Z,3µm,21.7s,baz=311,slow=34
MDT Midelt 88.52 53 LR LR 01 03 21.8
comp=Z,989nm,21.0s,baz=322,slow=34
GERES GERESS Array B 88.55 31 P **P 00 25 45.2 -1.4**
comp=Z,0.2nm,0.5s,baz=319,slow=5.9,SNR=4.0
GERES LR LR 01 05 38.5
comp=Z,2µm,18.8s,baz=306,slow=36
VRAC Vranov 89.47 30 LR LR 01 06 52.6
comp=Z,3µm,18.4s,baz=314,slow=36
KIRV Kirov 90.42 8 LR LR 01 10 30.1
comp=Z,1µm,18.2s,baz=344,slow=38
KSRS Korea Array 91.01 315 LR LR 01 02 05.0
comp=Z,332nm,19.8s,baz=55,slow=32
OBN Obninsk 91.33 16 LR LR 01 07 42.0
comp=Z,381nm,19.1s,baz=350,slow=36
CRVS Cervenica-Dubn 91.80 27 *e*P **P 00 26 01.0 -0.7**
JNU Nakatsue 91.86 310 LR LR 01 00 16.6
comp=Z,809nm,21.9s,baz=42,slow=31
GUMO Guam 92.39 287 LR LR 00 59 00.5
comp=Z,1µm,21.7s,baz=64,slow=30
AKASG Malin Array Be 93.14 22 P **P 00 26 07.0 -0.8**
comp=Z,0.5nm,0.7s,baz=317,slow=3.6,SNR=1.5
AKASG LR LR 01 09 38.6
comp=Z,1µm,18.9s,baz=341,slow=37
ARU Arti 93.41 4 LR LR 01 13 32.5
comp=Z,1µm,18.3s,baz=348,slow=39
USHA Ushuaia 93.47 155 LR LR 01 00 03.3
comp=Z,850nm,20.0s,baz=313,slow=30
URZ Urewera 93.53 227 LR LR 00 58 27.3
comp=Z,448nm,21.9s,baz=36,slow=29
ULN Ulaanbaatar 93.82 334 IAMs_20 IAMs_20 01 13 29.2
comp=Z,1µm,20.0s
SONM Songino Array 94.10 334 P **P 00 26 12.9 +0.4**
comp=Z,4.9nm,1.3s,baz=65,slow=1.9,SNR=11
SONM LR LR 01 08 27.3
comp=Z,1µm,21.0s,baz=355,slow=35
SONM Songino Array 94.10 334 P **P 00 26 13.2 +0.8**
SONM IAmb IAmb 00 26 19.2
comp=Z,18nm,1.8s
ZALV Zalesovo Beam 94.50 349 P **P 00 26 13.4 -0.6**
comp=Z,1.0nm,0.6s,baz=357,slow=3.4,SNR=5.3
ZALV LR LR 01 15 07.4
comp=Z,434nm,18.2s,baz=15,slow=40
ZALV Zalesovo Beam 94.50 349 P **P 00 26 14.7 +0.8**
KEST Kesra 95.60 43 LR LR 01 10 00.4
comp=Z,1µm,18.1s,baz=298,slow=36
MLR Muntele Rosu 96.36 27 LR LR 01 10 57.2
comp=Z,2µm,20.5s,baz=334,slow=36
VAE Valguarnera 97.23 39 LR LR 01 11 20.0
comp=Z,716nm,18.6s,baz=292,slow=36
HHC Hu-ho-hao-te 97.50 327 *e*P Pdif 00 26 29.0 +0.9
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,6.4s
HHC LR LR
comp=Z,730nm,19.0s
HHC LR LR
comp=Z,650nm,19.0s
HHC LR LR
comp=Z,880nm,18.4s
JOW Kunigami 97.55 307 LR LR 01 06 12.0
comp=Z,501nm,19.4s,baz=103,slow=33
KURK Kurchatov 98.56 352 IAMs_20 IAMs_20 01 14 35.1
comp=Z,951nm,18.0s
KURBB Kurchatov Arra 98.66 352 LR LR 01 16 31.2
comp=Z,740nm,19.0s,baz=338,slow=39
AKTO Aktyubinsk 99.34 5 LR LR 01 16 07.4
comp=Z,2µm,19.1s,baz=355,slow=38
NJ2 Nanjing 100.14 316 *e*P **Pdif 00 26 41.5 +1.6**
NJ2 LR LR
comp=Z,500nm,13.3s
NJ2 LR LR
comp=Z,850nm,15.2s
NJ2 LR LR
comp=Z,1µm,18.9s
MAKZ Makanchi 101.88 349 IAMs_20 IAMs_20 01 16 10.0
comp=Z,1µm,21.0s
YHNB Yeheng 103.66 309 IAMs_20 IAMs_20 01 14 18.9
comp=Z,583nm,20.0s
NACB Ninganchiao 103.84 309 IAMs_20 IAMs_20 01 09 34.9
comp=Z,896nm,20.0s
IDI Anoyia 104.27 34 IAMs_20 IAMs_20 01 13 59.4
comp=Z,861nm,22.0s
SSLB Suanglung 104.54 309 IAMs_20 IAMs_20 01 06 49.2
comp=Z,681nm,20.0s
YULB Yu-li 104.57 308 IAMs_20 IAMs_20 01 22 28.2
comp=Z,695nm,18.0s
TPUB Ta-pu 105.08 309 IAMs_20 IAMs_20 01 15 05.7
comp=Z,710nm,18.0s
TWG Pinlang 105.11 308 IAMs_20 IAMs_20 01 21 53.4
comp=Z,648nm,19.0s
ENH Enshi 106.80 321 IAMs_20 IAMs_20 01 19 08.2
comp=Z,669nm,19.0s
CTAO Charters Tower 107.79 257 IAMs_20 IAMs_20 01 10 60.0
comp=Z,570nm,20.0s
GOMU GeErMu 108.45 336 Pdif **Pdif 00 27 16.8 -0.5**
GOMU SS SS 00 47 03.8 +1.5
GOMU AMB AMB
comp=Z,110nm,7.1s
GOMU LR LR
comp=Z,680nm,20.7s
GOMU LR LR
comp=Z,670nm,20.8s
GOMU LR LR
comp=Z,390nm,21.8s
HKPS Hong Kong Po S 110.06 313 IAMs_20 IAMs_20 01 12 38.2
comp=Z,833nm,21.0s
GHAJ Ghor Haditha 112.37 28 IAMs_20 IAMs_20 01 22 52.2
comp=Z,817nm,21.0s
PZH PanZhiHua 113.86 325 PKP **PKiKP 00 31 33.0 -0.3**
QIZ Qiongzhong 115.16 313 IAMs_20 IAMs_20 01 16 55.4
comp=Z,520nm,20.0s
LSA Lhasa 115.63 336 IAMs_20 IAMs_20 01 22 02.5
comp=Z,860nm,21.0s
WRA Warramunga Arr 117.86 262 PKP **PKPdf 00 31 39.5 -1.3**
comp=Z,0.4nm,0.9s,baz=62,slow=2.7,SNR=2.3
ASAR Alice Springs 119.70 258 PKP **PKPdf 00 31 42.8 -1.5**
comp=Z,0.4nm,0.6s,baz=76,slow=2.0,SNR=1.7
CHTO Chiang Mai 121.66 322 IAMs_20 IAMs_20 01 25 59.9
comp=Z,508nm,20.0s
RAYN Ar Rayn 123.07 22 IAMs_20 IAMs_20 01 30 55.6

comp=Z,724nm,19.0s
BKB Balikpapan 123.61 291 IAMs_20 IAMs_20 01 17 08.4
comp=Z,476nm,18.0s
UOSS Minazif 124.32 11 IAMs_20 IAMs_20 01 32 18.6
comp=Z,418nm,20.0s
ATD Arta Tunnel 132.94 31 IAMs_20 IAMs_20 01 42 17.6
comp=Z,558nm,18.0s
PMBI Palembang 134.16 299 IAMs_20 IAMs_20 01 20 56.1
comp=Z,411nm,21.0s
BKNI Bangkinang 134.69 306 IAMs_20 IAMs_20 01 31 20.5
comp=Z,544nm,20.0s
SOCY Socotra 136.28 17 IAMs_20 IAMs_20 01 42 09.9
comp=Z,503nm,19.0s
LSZ Lusaka 142.47 75 PKP **PKPdf 00 32 24.4 -3.0**
comp=Z,0.6nm,0.2s,baz=138,slow=1.7,SNR=1.6
LBTB Lobatse 144.17 92 PKP **PKPdf 00 32 29.8 -0.5**
comp=Z,3.7nm,0.9s,baz=270,slow=10,SNR=3.6
BOSA Boshof 144.82 98 PKP **PKPab 00 32 29.6 -0.6**
comp=Z,4.8nm,1.1s,baz=11,slow=5.3,SNR=2.7
MATP Matopo 145.06 83 PKP **PKPbc 00 32 29.7 -1.6**
comp=Z,3.7nm,0.8s,baz=253,slow=1.7,SNR=6.0

IDC 28 00:13:41.6±2.0**, 3.°67N×125.°93E, h0**km**, mb3.3**/4**,**
mb1 3.5/4**, mb1mx3.1**/51**, mbtmp3.3**/4**, Error ellipse:**
s-maj=118.2km s-min=27.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.63**	**181**	P	P	00 18 33.2	-0.4
	0.8nm,0.8s,baz=5.2,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**24.88**	**161**	P	P	00 19 06.5	+0.3
	0.7nm,0.4s,baz=340,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**28.26**	**164**	P	P	00 19 36.7	-0.1
	0.4nm,0.8s,baz=349,slow=7.0,SNR=5.6						
MKAR	**Makanchi Array**	**57.15**	**326**	P	P	00 23 30.1	-0.1
	0.1nm,0.7s,baz=111,slow=7.9,SNR=1.5						

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*IDC **28** 00:13:37.3±2.4, 37.°91N×22.°53E, h0km, mb3.5/2,*
mb1 3.5/3, mb1mx3.2/43, mbtmp3.5/3, ML3.3/1, Error
ellipse: s-maj=148.2km s-min=26.6km az=145.0
*ISK **28** 00:13:49.5, 36.°13N×24.°47E, h24km, ML3.4/19*
*ATH **28** 00:13:49.7, 36.°06N×24.°37E, h62km±6km, ML3.1/2, Error*
ellipse: s-maj=6.9km s-min=1.3km az=187.0
*THE **28** 00:13:51.8, 36.°06N×24.°39E, h59km±3km, ML3.5/11, Error*
ellipse: s-maj=3.0km s-min=0.6km az=157.0
*DDA **28** 00:13:52.2±0.0, 36.°26N×24.°67E, h7km±3km, ML3.4*
*GII **28** 00:13:55.8±0.7, 35.°45N×24.°99E, h60km, MD3.6/2*
*HLW **28** 00:13:55.7, 35.°48N×24.°99E, h25km±30km, Md4.4, Ml4.0*
ISC 28 00:13:47.9±0.8**, 36.°01N**±0.°04×**24.°44E**±0.°03**, h88**km±8km**,**
n111, σ2.s62/136**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.67**	**214**	P	**Pn**	**00 14 05.7**	**+1.9**
IMMV				S	**Sn**	**00 14 15.9**	**+0.2**
IMMV				AML	AML	00 14 19.5	
	comp=N,3058µm,0.2s						
IMMV				AML	AML	00 14 20.4	
	comp=E,2817µm,0.2s						
IMMV	**Iera Moni Meta**	**0.67**	**214**	P	**Pn**	**00 14 05.7**	**+1.9**
IMMV				S	**Sn**	**00 14 16.3**	**+0.6**
	comp=E,2µm,0.2s						
IMMV	**Iera Moni Meta**	**0.67**	**214**	PG	**Pn**	**00 14 05.5**	**+1.7**
IMMV				SG	**Sn**	**00 14 16.5**	**+0.8**
MHLO	**Agia Marina, M**	**0.68**	**357**	P	**Pn**	**00 14 05.5**	**+1.6**
MHLO				S	**Sn**	**00 14 14.4**	**-1.5**
	comp=E,10µm,0.4s						
IDI	**Anoyia**	**0.81**	**153**	P	**Pn**	**00 14 07.3**	**+2.0**
IDI	**Anoyia**	**0.81**	**153**	P	**Pn**	**00 14 07.3**	**+2.0**
IDI				S	**Sn**	**00 14 19.3**	**+0.9**
	comp=E,2µm,0.4s						
IDI	**Anoyia**	**0.81**	**153**	PG	**Pn**	**00 14 07.4**	**+2.0**
IDI				SG	**Sn**	**00 14 19.8**	**+1.4**
THR9	**Santorini-Faro**	**0.82**	**65**	P	**Pn**	**00 14 07.7**	**+2.4**
THR9	**Santorini-Faro**	**0.82**	**65**	P	**Pn**	**00 14 07.7**	**+2.4**
THR5	**Thira Island,**	**0.84**	**61**	P	**Pn**	**00 14 07.6**	**+2.1**
THR5	**Thira Island,**	**0.84**	**61**	P	**Pn**	**00 14 07.6**	**+2.1**
SAP3	**Santorini-Thir**	**0.84**	**60**	P	**Pn**	**00 14 07.6**	**+1.9**
SAP3	**Santorini-Thir**	**0.84**	**60**	P	**Pn**	**00 14 07.7**	**+2.1**
SAP3				S	**Sn**	**00 14 19.5**	**+0.6**
	comp=E,15µm,0.8s						
THR6	**Thira Island,**	**0.85**	**66**	P	**Pn**	**00 14 08.1**	**+2.5**
SNT5	**Nea Kammeni, S**	**0.86**	**63**	P	**Pn**	**00 14 08.1**	**+2.3**
THR3	**Thira Island,**	**0.87**	**63**	P	**Pn**	**00 14 08.2**	**+2.3**
SAP4	**Santorini-Oia**	**0.88**	**58**	P	**Pn**	**00 14 08.2**	**+2.2**
SFIR	**Foira Santorin**	**0.90**	**63**	P	**Pn**	**00 14 09.0**	**+2.8**
SFIR				S	**Sn**	**00 14 22.0**	**+2.0**
	comp=E,3µm,0.6s						
THT2	**Imerovigli**	**0.90**	**62**	P	**Pn**	**00 14 08.9**	**+2.7**
THT2				S	**Sn**	**00 14 21.9**	**+1.9**
	comp=E,992nm,0.7s						
CMBO	**Columbo, Santo**	**0.90**	**59**	P	**Pn**	**00 14 08.5**	**+2.2**
CMBO				S	**Sn**	**00 14 21.4**	**+1.4**
	comp=E,7µm,0.2s						
THR8	**Santorini-Mono**	**0.93**	**65**	P	**Pn**	**00 14 08.6**	**+2.1**
ANKY	**Antikythira Is**	**0.94**	**261**	P	**Pn**	**00 14 08.5**	**+1.9**
ANKY				S	**Sn**	**00 14 21.3**	**+0.6**
ANKY				AML	AML	00 14 22.9	
	comp=N,2056µm,0.2s						
ANKY				AML	AML	00 14 26.4	
	comp=E,1946µm,0.3s						
ANKY	**Antikythira Is**	**0.94**	**261**	P	**Pn**	**00 14 08.5**	**+1.9**
ANKY				S	**Sn**	**00 14 21.6**	**+0.9**
	comp=E,1µm,0.8s						
KTHA	**Kythira Island**	**1.14**	**283**	P	**Pn**	**00 14 10.9**	**+1.8**
KTHA	**Kythira Island**	**1.14**	**283**	P	**Pn**	**00 14 10.9**	**+1.8**
KTHA				S	**Sn**	**00 14 24.8**	**-0.2**
	comp=E,2µm,0.4s						
GVD	**Gavdhos**	**1.21**	**194**	P	**Pn**	**00 14 13.3**	**+3.4**
GVD	**Gavdhos**	**1.21**	**194**	PN	**Pn**	**00 14 13.2**	**+3.4**
GVD				SN	**Sn**	**00 14 30.5**	**+4.2**
MNVA	**Monemvasia**	**1.32**	**301**	P	**Pn**	**00 14 13.2**	**+2.0**
APE	**Apeiranthos**	**1.37**	**39**	P	**Pn**	**00 14 13.6**	**+1.7**
APE	**Apeiranthos**	**1.37**	**39**	PN	**Pn**	**00 14 12.3**	**+0.4**
APE				SN	**Sn**	**00 14 28.6**	**-1.5**
VLI	**Veliai**	**1.40**	**301**	P	**Pn**	**00 14 14.1**	**+1.8**
VLI	**Veliai**	**1.40**	**301**	P	**Pn**	**00 14 14.1**	**+1.8**
VLI				S	**Sn**	**00 14 31.0**	**+0.3**
	comp=E,1µm,0.3s						
ZKR	**Zakros**	**1.70**	**121**	P	**Pn**	**00 14 19.4**	**+3.3**
ZKR	**Zakros**	**1.70**	**121**	PN	**Pn**	**00 14 19.3**	**+3.2**
KRND	**KRANIDI**	**1.72**	**323**	P	**Pn**	**00 14 18.3**	**+2.0**
KRND				S	**Sn**	**00 14 38.2**	**+0.4**
	comp=E,1µm,0.3s						
VLY	**Voula,Athens**	**1.91**	**344**	P	**Pn**	**00 14 21.1**	**+2.3**
ATH	**Athens Observa**	**2.04**	**344**	P	**Pn**	**00 14 23.0**	**+2.5**
PTL	**Penteli**	**2.08**	**347**	P	**Pn**	**00 14 23.6**	**+2.5**
DION	**Dionisos Attik**	**2.10**	**349**	P	**Pn**	**00 14 23.8**	**+2.5**
KARP	**Karpathos**	**2.26**	**101**	PN	**Pn**	**00 14 26.4**	**+3.0**
VILL	**Villia**	**2.33**	**338**	P	**Pn**	**00 14 26.9**	**+2.5**
ITM	**Ithomi**	**2.34**	**301**	P	**Pn**	**00 14 27.2**	**+2.8**
ITM	**Ithomi**	**2.34**	**301**	PN	**Pn**	**00 14 26.9**	**+2.5**
THAL	**Thalero**	**2.47**	**325**	P	**Pn**	**00 14 28.4**	**+2.2**
BODT	**Bodrum**	**2.54**	**65**	PN	**Pn**	**00 14 30.1**	**+3.0**
DAT	**Datca**	**2.63**	**73**	PN	**Pn**	**00 14 31.2**	**+2.8**
DAT	**Datca**	**2.63**	**73**	P	**Pn**	**00 14 31.2**	**+2.8**
DAT				S	**Sn**	**00 14 55.7**	**-3.9**
BDRM	**Kayabasi**	**2.64**	**66**	P	**Pn**	**00 14 31.1**	**+2.7**
BDRM				S	**Sn**	**00 14 56.1**	**-3.5**
KLV	**Kalavryta, Ach**	**2.73**	**319**	P	**Pn**	**00 14 31.9**	**+2.1**
ZEYE	**Izmir, Urla-Ze**	**2.77**	**36**	P	**Pn**	**00 14 32.0**	**+1.8**
GCAM	**G?zelcaml?**	**2.80**	**52**	PN	**Pn**	**00 14 32.9**	**+2.3**
DGB	**zmir**	**2.82**	**43**	P	**Pn**	**00 14 33.1**	**+2.2**
DGB				S	**Sn**	**00 15 04.8**	**+0.9**
LKR	**Lokris**	**2.87**	**337**	P	**Pn**	**00 14 34.2**	**+2.6**
URLA	**Izmir**	**2.91**	**36**	PN	**Pn**	**00 14 34.1**	**+2.0**
URLA	**Izmir**	**2.91**	**36**	P	**Pn**	**00 14 34.0**	**+1.9**
ALIK	**Aliki, Aigiali**	**2.92**	**321**	P	**Pn**	**00 14 34.2**	**+2.1**
DRO	**Drossia**	**2.92**	**312**	P	**Pn**	**00 14 35.1**	**+2.8**
MLSB	**Milas**	**2.97**	**63**	PN	**Pn**	**00 14 36.5**	**+3.6**
RLS	**Riolos of Patr**	**3.14**	**312**	P	**Pn**	**00 14 38.4**	**+3.3**
TURN	**Turunc**	**3.16**	**75**	PN	**Pn**	**00 14 39.1**	**+3.7**
TURN	**Turunc**	**3.16**	**75**	P	**Pn**	**00 14 39.3**	**+3.8**
TURN				S	**Sn**	**00 15 14.1**	**+1.9**
AYDN	**Tasoluk**	**3.21**	**58**	P	**Pn**	**00 14 40.1**	**+3.9**
YER	**Yerkesik**	**3.29**	**69**	PN	**Pn**	**00 14 41.2**	**+4.0**
MULA	**Mugla, Merkez-**	**3.36**	**67**	P	**Pn**	**00 14 41.7**	**+3.5**
AGG	**Agios Georgios**	**3.44**	**331**	P	**Pn**	**00 14 41.8**	**+2.5**
DALY	**Dalyan (Mula)**	**3.49**	**75**	PN	**Pn**	**00 14 43.5**	**+3.6**
FETY	**Fethiye**	**3.80**	**79**	PN	**Pn**	**00 14 47.9**	**+3.8**

FETY	**Fethiye**	**3.80**	**79**	P		**Pn**	**00 14 47.9**	**+3.8**
FETY				S		**Sn**	**00 15 29.5**	**+1.8**
TAVA	**DENIZLI_Tavas**	**3.87**	**67**	P		**Pn**	**00 14 49.7**	**+4.5**
CAME	**Cameli-Denizli**	**4.03**	**75**	PN		**Pn**	**00 14 50.9**	**+3.6**
BAYC	**CANAKKALE_Bayr**	**4.08**	**23**	P		**Pn**	**00 14 49.5**	**+1.7**
CAEL	**Denizli, Camel**	**4.08**	**73**	P		**Pn**	**00 14 52.5**	**+4.4**
CAEL				S		**Sn**	**00 15 41.3**	**+6.6**
CAEL				*i* AML		AML	00 16 24.0	
	comp=E,79nm,1.8s							
CAEL				*i* AML		AML	00 16 39.0	
	comp=E,56nm,1.5s							
AKAS	**Kas**	**4.19**	**85**	PN		**Pn**	**00 14 53.0**	**+3.5**
AKAS	**Kas**	**4.19**	**85**	P		**Pn**	**00 14 52.2**	**+2.7**
AKAS				*i* AML		AML	00 15 41.0	
	comp=E,64nm,1.3s							
AKAS				*i* AML		AML	00 16 31.0	
	comp=E,102nm,1.2s							
GOLH	**Golhisar**	**4.29**	**72**	P		**Pn**	**00 14 55.1**	**+4.1**
ELL	**Elmali**	**4.47**	**79**	PN		**Pn**	**00 14 57.2**	**+3.8**
SLUM	**Salum**	**4.55**	**172**	P		**Pn**	**00 14 55.5**	**+1.1**
	baz=177							
SLUM				S		Sn	00 15 38.2	-7.8
	baz=177							
AKUM	**Antalya-Kumluc**	**4.78**	**85**	P		**Pn**	**00 15 01.0**	**+3.5**
AKUM				*i* AML		AML	00 16 31.0	
	comp=E,48nm,1.8s							
AKUM				*i* AML		AML	00 17 17.0	
	comp=E,48nm,2.3s							
AKUM				*i* AML		AML	00 17 17.0	
	comp=E,62nm,2.1s							
KORT	**Korkueli**	**4.86**	**77**	PN		**Pn**	**00 15 02.8**	**+4.2**
KORT	**Korkueli**	**4.86**	**77**	P		**Pn**	**00 15 02.8**	**+4.2**
BASM	**Basmaki-Afyon**	**4.88**	**65**	PN		**Pn**	**00 15 02.8**	**+4.0**
BCK	**Bucak**	**5.14**	**72**	PN		**Pn**	**00 15 06.0**	**+3.5**
SWA2		**6.80**	**173**	P		**Pn**	**00 15 25.7**	**+0.7**
	baz=176							
BRTR	**Keskin Array B**	**8.16**	**60**	Pn		Pn	00 15 48.8	+5.1
	comp=E,0.3nm,0.3s,baz=265,slow=16,SNR=18							
HMYD	**Mayadein**	**8.18**	**137**	P		**Pn**	**00 15 44.6**	**+0.8**
	baz=137							
RYAN	**Fayoum**	**8.48**	**143**	P		**Pn**	**00 15 48.3**	**+0.3**
	baz=143							
STON	**Ston**	**8.61**	**325**	*e*Pn		**Pn**	**00 15 46.9**	**-2.6**
HSAF	**As Saff**	**8.74**	**135**	P		**Pn**	**00 15 51.5**	**0.0**
	baz=134							
GLL	**Jalalah**	**8.86**	**134**	P		**Pn**	**00 15 53.0**	**-0.2**
	baz=134							
LSTV	**Lastovo**	**8.92**	**321**	*e*Pn		**Pn**	**00 15 50.9**	**-2.9**
MAKA	**Makarska**	**9.25**	**324**	*e*Pn		**Pn**	**00 15 55.4**	**-2.8**
MAKA				Sn		Sn	00 17 30.8	-10
RICI	**Ricice**	**9.35**	**325**	*e*Pn		**Pn**	**00 15 57.0**	**-2.6**
HVAR	**Hvar**	**9.44**	**322**	*e*Pn		**Pn**	**00 15 59.0**	**-1.9**
NATI	**Neve Ativ**	**9.70**	**103**	Pn		**Pn**	**00 16 05.2**	**+0.7**
NATI				Sn		**Sn**	**00 17 47.5**	**-4.1**
KZIT	**Kziot**	**9.75**	**119**	Pn		**Pn**	**00 16 04.2**	**-1.0**
KZIT				Sn		Sn	00 17 45.3	-7.6
AMAZ	**Amatzia**	**9.79**	**114**	Pn		**Pn**	**00 16 05.6**	**-0.2**
AMAZ				Sn		**Sn**	**00 17 47.8**	**-6.2**
YTIR	**Yattir**	**10.03**	**114**	Pn		**Pn**	**00 16 08.2**	**-0.9**
YTIR				Sn		Sn	00 17 53.2	-6.6
KIJV	**Kijevo**	**10.08**	**325**	*e*Pn		**Pn**	**00 16 07.0**	**-2.6**
DSI	**Dead Sea**	**10.12**	**113**	Pn		**Pn**	**00 16 10.2**	**0.0**
DSI				Sn		**Sn**	**00 17 56.2**	**-5.7**
ZIRJ	**Zirje**	**10.19**	**321**	*e*Pn		**Pn**	**00 16 09.3**	**-1.8**
MORI	**Morici**	**10.31**	**322**	*e*Pn		**Pn**	**00 16 10.4**	**-2.3**
GHAJ	**Ghor Haditha**	**10.39**	**114**	Pn		**Pn**	**00 16 13.8**	**-0.1**
KRMI	**Paran Flat**	**10.44**	**121**	Pn		**Pn**	**00 16 14.0**	**-0.6**
KRMI				Sn		Sn	00 18 02.3	-7.4
PRNI	**Paran**	**10.49**	**120**	Pn		**Pn**	**00 16 14.8**	**-0.6**
PRNI				Sn		Sn	00 18 04.3	-6.8
HRFI	**Mount Harif**	**10.70**	**121**	Pn		**Pn**	**00 16 17.7**	**-0.5**
HRFI				Sn		Sn	00 18 08.9	-7.2
DUGI	**Dugi Otok**	**10.73**	**321**	*e*Pn		**Pn**	**00 16 16.9**	**-1.6**
MBRI	**Mt Berech**	**10.76**	**122**	Pn		**Pn**	**00 16 18.9**	**-0.2**
MBRI				Sn		Sn	00 18 11.1	-6.6
UDBI	**Udbina**	**10.78**	**325**	*e*Pn		**Pn**	**00 16 18.2**	**-1.0**
EIL	**Elat**	**10.86**	**123**	Pn		**Pn**	**00 16 19.9**	**-0.5**
EIL				Sn		Sn	00 18 11.7	-8.3
TORD	**Torodi Ar. Bea**	**30.61**	**228**	P		**P**	**00 19 55.4**	**+1.7**
	comp=E,0.3nm,0.5s,baz=32,slow=9.5,SNR=4.7							
MKAR	**Makanchi Array**	**43.80**	**57**	P		**P**	**00 21 47.1**	**+2.2**
	comp=E,0.2nm,0.3s,baz=274,slow=7.8,SNR=8.7							

*ISK **28** 00:26:24.9, 36.09N×35.69E, h3km, ML3.5/29*
*IDC **28** 00:26:26.5±1.2, 36.01N×35.41E, h0km, mb3.4/3, mb1 3.4/9, mb1mx3.2/45, mbtmp3.4/9, ML3.1/6, Error ellipse: s-maj=25.6km s-min=14.4km az=79.0*
*DDA **28** 00:26:26.5±0.0, 36.10N×35.76E, h17km, MW3.8*
*GII **28** 00:26:27.2±0.0, 36.00N×35.50E, h1km, MD3.7/3, Mm3.9/4*
*NIC **28** 00:26:27.6±0.0, 35.92N×35.54E, h0km±6km, Ml3.4/4*
ISC 28 00:26:26.8±1.1,**36.07N**±0.02×**35.71E**±0.02,**h8**km±8km, **n113,** σ0**98**/157**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.23**	**15**	P	**Pg**	**00 26 31.0**	**-0.3**
ASUZ				S	**Sg**	**00 26 34.9**	**+0.5**
ASUZ				*i* AML	AML	00 26 36.0	
	comp=N,7μm,0.3s						
ASUZ				*i* AML	AML	00 26 36.0	
	comp=E,1μm,0.2s						
YAYL	**Yayladag**	**0.32**	**97**	PG	**Pg**	**00 26 32.6**	**-0.6**
YAYL				SG	**Sg**	**00 26 38.1**	**+0.6**
YAYL	**Yayladag**	**0.32**	**97**	P	**Pg**	**00 26 32.6**	**-0.6**
YAYL				S	**Sg**	**00 26 38.0**	**+0.6**
TAHT	**Tahtakopru-Hat**	**0.49**	**51**	PG	**Pg**	**00 26 35.5**	**-0.7**
TAHT				SG	**Sg**	**00 26 42.4**	**-0.2**
YURE	**YUREGIR**	**0.75**	**355**	P	**Pg**	**00 26 41.0**	**-0.3**
YURE				S	**Sb**	**00 26 53.1**	**+0.5**
DED	**Mersin**	**1.15**	**321**	P	**Pb**	**00 26 48.2**	**-0.8**
DED				S	**Sn**	**00 27 05.6**	**+0.4**
MERS	**Mersin**	**1.25**	**310**	PN	**Pn**	**00 26 48.5**	**-2.1**
KARA	**Karaisali**	**1.30**	**336**	PN	**Pn**	**00 26 49.9**	**-1.4**
KARA				SN	**Sb**	**00 27 08.7**	**+0.4**
KUZU	**Kuzuini**	**1.30**	**57**	P	**Pn**	**00 26 50.1**	**-1.2**
KUZU				S	**Sb**	**00 27 07.6**	**-0.8**
KUZU				*i* AML	AML	00 27 13.0	
	comp=Z,854nm,0.4s						
KUZU				*i* AML	AML	00 27 14.0	
	comp=N,1μm,0.3s						
KUZU				*i* AML	AML	00 27 16.0	
	comp=E,2μm,0.3s						
KAMA	**Osmaniye**	**1.35**	**34**	P	**Pn**	**00 26 50.5**	**-1.6**
KAMA				S	**Sb**	**00 27 07.7**	**-2.2**
EREN	**Erenkoy**	**1.37**	**247**	PN	**Pn**	**00 26 52.2**	**0.0**
EREN	**Erenkoy**	**1.37**	**247**	P	**Pn**	**00 26 51.8**	**-0.3**
EREN				S	**Sn**	**00 27 10.8**	**+0.3**
AKO	**Adana**	**1.40**	**351**	P	**Pn**	**00 26 52.4**	**-0.3**
AKO				S	**Sb**	**00 27 10.9**	**-0.4**
KOZT	**Kozan**	**1.41**	**4**	PN	**Pn**	**00 26 52.4**	**-0.4**
GULE	**Gulek**	**1.42**	**328**	P	**Pn**	**00 26 51.7**	**-1.4**
GULE				S	**Sg**	**00 27 13.7**	**+1.1**
ANDN	**Andirin**	**1.59**	**18**	P	**Pn**	**00 26 54.6**	**-0.7**
ANDN				S	**Sn**	**00 27 15.2**	**-0.9**
HCB	**Kahramanmara**	**1.59**	**37**	P	**Pn**	**00 26 54.1**	**-1.2**
HCB				S	**Sn**	**00 27 14.5**	**-1.5**
KARG	**Kargicak-Mersi**	**1.63**	**275**	PN	**Pn**	**00 26 55.2**	**-0.6**
IKL	**Isikli**	**1.65**	**276**	PN	**Pn**	**00 26 55.2**	**-0.9**
TISA	**Tisan-Mersin**	**1.65**	**274**	PN	**Pn**	**00 26 55.2**	**-0.9**
KEBE	**Keben-Mersin**	**1.66**	**284**	PN	**Pn**	**00 26 55.8**	**-0.5**
CMRD	**Camardi-Nigde**	**1.69**	**340**	PN	**Pn**	**00 26 56.3**	**-0.4**
PARAL	**Paralimni**	**1.74**	**232**	P	**Pn**	**00 26 56.3**	**-1.0**
PARAL				S	**Sn**	**00 27 19.4**	**-0.3**
PARAL				AML	AML	00 27 31.7	
	1.2nm,0.8s						
PARAL				AML	AML	00 27 31.7	
	1.2nm,0.8s						
PARAL				AML	AML	00 27 31.7	
	1.5nm,0.7s						
PARAL				AML	AML	00 27 31.7	
	1.5nm,0.7s						
KHMN	**Narli-Kahraman**	**1.75**	**41**	PN	**Pn**	**00 26 57.4**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.75**	**273**	PN	**Pn**	**00 26 57.1**	**-0.4**
AKK2	**Akkuyu-Mersin**	**1.75**	**273**	PN	**Pn**	**00 26 57.1**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.76**	**274**	P	**Pn**	**00 26 56.5**	**-1.1**
GULN				S	**Sn**	**00 27 18.1**	**-2.1**
AKK1	**Akkuyu-Mersin**	**1.76**	**273**	PN	**Pn**	**00 26 57.1**	**-0.5**
TEPK	**Tepekoy-MERSIN**	**1.76**	**276**	PN	**Pn**	**00 26 56.6**	**-1.1**
KAHM	**Kahramanmaras,**	**1.77**	**35**	P	**Pb**	**00 26 59.7**	**+0.3**
KAHM				S	**Sn**	**00 27 18.2**	**-2.2**
HWQ	**Hawqa**	**1.80**	**174**	*e*P	**Pn**	**00 26 57.2**	**-1.1**
OREN	**Orenkoy-Mersin**	**1.83**	**275**	PN	**Pn**	**00 26 57.8**	**-0.7**
KERG	**Konya-Eregli**	**1.85**	**317**	P	**Pn**	**00 26 59.4**	**+0.5**
KERG				S	**Sb**	**00 27 24.0**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.87**	**282**	PN	**Pn**	**00 26 58.5**	**-0.7**
SAIM	**ADANA**	**1.92**	**9**	P	**Pn**	**00 26 59.7**	**-0.2**
SAIM				S	**Sn**	**00 27 23.9**	**-0.4**
LFK	**Lefkose**	**1.94**	**247**	PN	**Pn**	**00 26 59.5**	**-0.7**
GZT	**Gaziantep**	**1.96**	**49**	P	**Pn**	**00 26 59.0**	**-1.5**
GZT				S	**Sb**	**00 27 27.6**	**+0.1**
GZT				*i* AML	AML	00 27 37.0	
	comp=N,339nm,0.4s						
MVOU	**Mavrovouni**	**2.00**	**239**	P	**Pn**	**00 26 59.8**	**-1.1**
MVOU				S	**Sn**	**00 27 24.8**	**-1.3**
MVOU				AML	AML	00 27 33.4	
	0.5nm,0.7s						
MVOU				AML	AML	00 27 33.4	
	0.5nm,0.7s						
MVOU				AML	AML	00 27 35.8	
	0.6nm,1.1s						
MVOU				AML	AML	00 27 35.8	
	0.6nm,1.1s						
BERE	**Bereket-Mersin**	**2.03**	**278**	PN	**Pn**	**00 27 00.9**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**2.04**	**352**	P	**Pn**	**00 27 01.6**	**+0.1**
YAHY				S	**Sn**	**00 27 28.4**	**+1.2**
NIDE	**Nigde/Merkez-G**	**2.06**	**339**	P	**Pn**	**00 27 03.2**	**+1.3**
NIDE				S	**Sb**	**00 27 29.8**	**-0.7**
ATHAL	**Athalassa**	**2.11**	**244**	P	**Pn**	**00 27 01.1**	**-1.3**
TEKE	**Tekeli-Mersin**	**2.11**	**273**	PN	**Pn**	**00 27 02.5**	**+0.2**
BHL	**Bhannes**	**2.17**	**181**	*e*P	**Pn**	**00 27 02.6**	**-0.7**
NIG	**Nigde**	**2.22**	**337**	PN	**Pn**	**00 27 03.9**	**-0.2**
CSS	**Mathiatis**	**2.24**	**241**	PN	**Pn**	**00 27 03.8**	**-0.4**
CSS	**Mathiatis**	**2.24**	**241**	P	**Pn**	**00 27 02.7**	**-1.5**
CSS				S	**Sn**	**00 27 30.5**	**-1.5**
KRMN	**Karaman**	**2.26**	**300**	PN	**Pn**	**00 27 04.1**	**-0.4**
YESY	**Yesilyurt**	**2.33**	**318**	PN	**Pn**	**00 27 05.2**	**-0.3**
ERMK	**Ermenek**	**2.33**	**285**	P	**Pn**	**00 27 07.2**	**+1.5**
DQRL	**Deir Qamar**	**2.37**	**183**	*e*P	**Pn**	**00 27 05.8**	**-0.1**
AKDN	**Akdeniz- Kıbrı**	**2.37**	**252**	PN	**Pn**	**00 27 05.6**	**-0.3**
ASGA	**Asgata**	**2.39**	**238**	P	**Pn**	**00 27 05.9**	**-0.4**
ASGA				AML	AML	00 27 54.6	
	0.8nm,0.9s						
ASGA				AML	AML	00 27 55.9	
	0.8nm,0.7s						
SARI	**SarD1z-Kayseri**	**2.40**	**13**	PN	**Pn**	**00 27 06.4**	**-0.1**
SURC	**SANLIURFA_SURC**	**2.47**	**70**	P	**Pb**	**00 27 10.4**	**-1.0**
SURC				S	**Sb**	**00 27 40.8**	**-1.2**
SURC				*i* AML	AML	00 27 44.0	
	comp=N,256nm,0.3s						
SURC				*i* AML	AML	00 27 47.0	
	comp=E,413nm,0.4s						
SURC				*i* AML	AML	00 27 52.0	
	comp=Z,206nm,0.8s						
ATAB	**Bozova**	**2.50**	**55**	P	**Pb**	**00 27 12.4**	**+0.5**
ATAB				*i* AML	AML	00 27 52.0	
	comp=N,209nm,1.0s						
ATAB				*i* AML	AML	00 27 55.0	
	comp=E,252nm,0.4s						
KKBE	**Karaman, Kazim**	**2.51**	**298**	P	**Pn**	**00 27 09.4**	**+1.4**
KKBE				S	**Sb**	**00 27 41.5**	**-1.7**
ELBS	**KAHRAMANMARAS**	**2.52**	**26**	P	**Pn**	**00 27 08.5**	**+0.4**
GULA	**Gulagac**	**2.56**	**333**	PN	**Pn**	**00 27 08.0**	**-0.6**
RCY	**Rachaya**	**2.57**	**178**	*e*P	**Pn**	**00 27 08.1**	**-0.8**
SZAC	**Souni**	**2.66**	**241**	P	**Pn**	**00 27 09.6**	**-0.4**
SZAC				AML	AML	00 28 00.5	
	0.8nm,0.7s						
SZAC				AML	AML	00 28 00.6	
	0.9nm,0.6s						
ALFC	**Alefka**	**2.70**	**251**	S	**Sn**	**00 27 43.0**	**-0.4**
HDMB	**Hadim**	**2.75**	**290**	PN	**Pn**	**00 27 10.8**	**-0.6**
GAZI	**Gazipasa**	**2.75**	**274**	PN	**Pn**	**00 27 11.2**	**-0.1**
BNN	**Bunyan**	**2.77**	**2**	PN	**Pn**	**00 27 11.9**	**+0.2**
AVNS	**Nevsehir-Avano**	**2.81**	**346**	P	**Pn**	**00 27 12.9**	**+0.7**
AKCD	**Akcadag**	**2.83**	**38**	P	**Pn**	**00 27 12.3**	**-0.1**
AKCD				*i* AML	AML	00 28 06.0	
	comp=N,180nm,0.4s						
AKCD				*i* AML	AML	00 28 10.0	
	comp=E,160nm,0.5s						
SANL	**SANLIURFA_Merk**	**2.85**	**66**	P	**Pn**	**00 27 12.3**	**-0.3**
SANL				*i* AML	AML	00 27 58.0	
	comp=N,196nm,0.5s						
SANL				*i* AML	AML	00 28 10.0	
	comp=E,207nm,0.6s						
GEM	**Giv'at Ha'Em**	**2.86**	**181**	Pn	**Pn**	**00 27 13.0**	**+0.3**
AKMS	**Akamas**	**2.95**	**250**	P	**Pn**	**00 27 13.8**	**-0.2**
AKSY	**AKSARAY - Alti**	**3.01**	**329**	P	**Pn**	**00 27 14.8**	**0.0**
HNTI	**Hanita**	**3.02**	**189**	Pn	**Pn**	**00 27 15.2**	**+0.3**
HNTI				Sn	**Sn**	**00 27 50.3**	**-0.9**
MMA0B	**Mount Meron ar**	**3.06**	**185**	Pn	**Pn**	**00 27 15.5**	**-0.1**
MMA0B				Sn	**Sn**	**00 27 52.1**	**-0.3**
MMAI	**Mount Meron Ar**	**3.06**	**185**	Pn	**Pn**	**00 27 14.4**	**-1.2**
	9.8nm,0.3s,baz=357,slow=21,SNR=61						
MMAI				Sn	**Sn**	**00 27 51.6**	**-0.8**
	21nm,0.3s,baz=8.3,slow=40,SNR=3.9						
ALIN	**Konya, Altinte**	**3.17**	**315**	P	**Pn**	**00 27 17.8**	**+0.7**
KONT	**Konya--Tatoy**	**3.27**	**306**	PN	**Pn**	**00 27 18.9**	**+0.5**
SERE	**Sereflikochisa**	**3.34**	**330**	PN	**Pn**	**00 27 20.1**	**+0.7**
BLGI	**Bet Lehem HaGe**	**3.36**	**188**	Pn	**Pn**	**00 27 19.9**	**+0.3**
BLGI				Sn	**Sn**	**00 27 59.8**	**+0.1**
KIRS	**Kirsehir-Merke**	**3.37**	**335**	P	**Pn**	**00 27 20.6**	**+0.8**
SEDI	**Konya, Seydise**	**3.46**	**295**	P	**Pn**	**00 27 22.4**	**+1.3**
OFRI	**`Ofer**	**3.50**	**190**	Pn	**Pn**	**00 27 21.4**	**-0.1**
OFRI				Sn	**Sn**	**00 28 01.8**	**-1.3**
CUKAN	**kangal_SIVAS**	**3.52**	**23**	P	**Pn**	**00 27 22.6**	**+0.6**
ELZG	**Elazig**	**3.56**	**46**	P	**Pn**	**00 27 21.5**	**-1.0**
ELZG				*i* AML	AML	00 28 31.0	
	comp=E,83nm,0.5s						
MMLI	**Mount Malkishu**	**3.63**	**184**	P	**Pn**	**00 27 23.1**	**-0.3**
MMLI				S	**Sn**	**00 28 06.8**	**+0.3**
MMLI	**Mount Malkishu**	**3.63**	**184**	Pn	**Pn**	**00 27 24.0**	**+0.6**
MMLI				Sn	**Sn**	**00 28 06.1**	**-0.4**
ARPR	**Arapgir-MALATY**	**3.66**	**34**	PN	**Pn**	**00 27 24.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.67**	**50**	PN	**Pn**	**00 27 24.6**	**+0.5**
KKUL	**Konya-Kulu**	**3.81**	**325**	P	**Pn**	**00 27 26.4**	**+0.6**
HMDT	**Nahal Hemdat**	**3.81**	**182**	Pn	**Pn**	**00 27 26.3**	**+0.5**
HMDT				Sn	**Sn**	**00 28 11.6**	**+0.7**
DOGGA	**KONYA_Doganhis**	**3.82**	**303**	P	**Pn**	**00 27 26.5**	**+0.5**
SLTI	**Sal'it**	**3.86**	**189**	Pn	**Pn**	**00 27 27.0**	**+0.5**
SLTI				Sn	**Sn**	**00 28 11.3**	**-0.8**
DIYA	**Diyarbakir**	**3.98**	**61**	P	**Pn**	**00 27 27.7**	**-0.5**
DIYA				*i* AML	AML	00 28 44.0	
	comp=Z,63nm,1.1s						
DIYA				*i* AML	AML	00 28 46.0	
	comp=N,83nm,0.6s						
BRTR	**Keskin Array B**	**4.00**	**336**	Pn	**Pn**	**00 27 29.7**	**+1.2**
	0.3nm,0.3s,baz=168,slow=15,SNR=13						
BRTR				Sn	**Sn**	**00 28 17.4**	**+1.8**
	0.3nm,0.3s,baz=161,slow=18,SNR=1.9						
ASF	**Jabal al Asfar**	**4.01**	**166**	Pn	**Pn**	**00 27 29.3**	**+0.6**
	0.4nm,0.3s,baz=19,slow=13,SNR=7.3						
ASF				Lg	Lg	00 28 31.0	
	5.2nm,0.3s,baz=28,slow=24,SNR=7.5						
OSC2	**CSNet OBS 4**	**4.13**	**225**	P	**Pn**	**00 27 28.9**	**-1.2**
YVAC	**Isparta, Yalva**	**4.19**	**303**	P	**Pn**	**00 27 33.5**	**+2.3**
MARD	**Mardin**	**4.25**	**72**	P	**Pn**	**00 27 31.1**	**-0.9**
MARD				*i* AML	AML	00 28 46.0	
	comp=E,93nm,1.0s						
MARD				*i* AML	AML	00 28 47.0	
	comp=N,171nm,0.7s						
MARD				*i* AML	AML	00 28 51.0	
	comp=Z,67nm,0.5s						
DSI	**Dead Sea**	**4.50**	**184**	Pn	**Pn**	**00 27 36.5**	**+1.2**
AMAZ	**Amatzia**	**4.58**	**189**	P	**Pn**	**00 27 36.7**	**+0.3**
AMAZ	**Amatzia**	**4.58**	**189**	Pn	**Pn**	**00 27 37.0**	**+0.6**
AMAZ				Sn	**Sn**	**00 28 30.4**	**+0.6**
YTIR	**Yattir**	**4.72**	**186**	Pn	**Pn**	**00 27 38.9**	**+0.5**
YTIR				Sn	**Sn**	**00 28 34.1**	**+0.6**
KZIT	**Kziot**	**5.27**	**192**	P	**Pn**	**00 27 45.8**	**-0.1**
KZIT	**Kziot**	**5.27**	**192**	Pn	**Pn**	**00 27 46.1**	**+0.2**
KZIT				Sn	**Sn**	**00 28 45.9**	**-0.9**
KRMI	**Paran Flat**	**6.00**	**188**	Pn	**Pn**	**00 27 56.4**	**+0.5**
KRMI				Sn	**Sn**	**00 29 03.9**	**-0.9**
HRFI	**Mount Harif**	**6.05**	**186**	Pn	**Pn**	**00 27 57.7**	**+1.1**
HRFI				Sn	**Sn**	**00 29 06.6**	**+0.6**
MBRI	**Mt Berech**	**6.30**	**186**	Pn	**Pn**	**00 28 01.1**	**+1.0**
MBRI				Sn	**Sn**	**00 29 13.9**	**+1.6**
EIL	**Elat**	**6.42**	**186**	Pn	**Pn**	**00 28 01.9**	**+0.3**
	0.1nm,0.3s,baz=84,slow=22,SNR=1.7						
EIL				Sn	**Sn**	**00 29 15.3**	**+0.2**
	0.6nm,0.3s,baz=48,slow=14,SNR=2.2						
IDI	**Anoyia**	**8.84**	**268**	Pn	**Pn**	**00 28 34.1**	**-0.8**
	0.5nm,0.3s,baz=108,slow=6.4,SNR=6.1						
IDI				Sn	**Sn**	**00 30 10.6**	**-4.2**
	0.2nm,0.3s,baz=64,slow=7.4,SNR=2.3						
MLR	**Muntele Rosu**	**11.96**	**325**	Sn	**Sn**	**00 31 28.9**	**-2.5**
	0.1nm,0.3s,baz=164,slow=22,SNR=1.3						
AKASG	**Malin Array Be**	**15.35**	**344**	Pn	**Pn**	**00 30 04.4**	**+0.8**
	0.4nm,0.3s,baz=164,slow=11,SNR=2.0						
GERES	**GERESS Array B**	**20.57**	**315**	P	**P**	**00 31 04.9**	**-1.1**
	0.7nm,0.9s,baz=113,slow=10,SNR=6.8						
FINES	**FINESS Array B**	**26.12**	**349**	P	**P**	**00 32 01.5**	**+0.7**
	1.2nm,0.8s,baz=172,slow=14,SNR=1.6						
MKAR	**Makanchi Array**	**36.04**	**58**	P	**P**	**00 33 31.7**	**+3.1**
	0.3nm,0.7s,baz=266,slow=8.5,SNR=4.2						

*IDC **28** 00:27:55.3±0.6, 49.11S×30.66E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.1/34, mbtmp4.3/14, ML4.2/1, MS3.5/7, Ms1 3.4/7, ms1mx3.3/62, Error ellipse: s-maj=26.5km s-min=14.2km az=77.0*
*NEIC **28** 00:27:57.7±0.7, 49.12S±0.1×30.6E±0.2, h10km±1km, mb4.5/23, Error ellipse: s-maj=19.5km s-min=19.2km az=32.0*
ISC 28 00:27:56.9±0.5,**49.11S**±0.08×**30.7E**±0.1,**h10**km,**n43,** σ0**83**/41**, mb4.4**/19**, MS3.4**/7**, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.27**	**332**	P	**Pn**	**00 32 10.2**	**-0.5**
	0.8nm,0.3s,baz=154,slow=13,SNR=17						
SUR				S	Sn	00 35 19.2	-16
	0.1nm,0.3s,baz=142,slow=10,SNR=1.9						
SUR				LR	LR	00 37 30.2	
	comp=Z,262nm,19.0s,baz=153,slow=32						
SUR	**Sutherland**	**18.27**	**332**	P	**P**	**00 32 11.2**	**+0.3**
SUR				IAmb	IAmb	00 32 37.3	
	comp=Z,95nm,1.4s						
BOSA	**Boshof**	**20.88**	**347**	P	**P**	**00 32 38.5**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=177,slow=10,SNR=6.0						
BOSA				LR	LR	00 39 13.9	
	comp=Z,112nm,20.0s,baz=188,slow=32						
BOSA	**Boshof**	**20.88**	**347**	P	**P**	**00 32 39.9**	**+0.7**
LBTB	**Lobatse**	**24.38**	**349**	P	**P**	**00 33 15.2**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=178,slow=10.0,SNR=4.3						
LBTB				LR	LR	00 42 00.6	
	comp=Z,65nm,18.3s,baz=154,slow=35						
LBTB	**Lobatse**	**24.38**	**349**	P	**P**	**00 33 15.3**	**0.0**
LBTB				IAmb	IAmb	00 33 22.1	
	comp=Z,18nm,1.2s						
MAW	**Mawson**	**24.59**	**151**	LR	LR	00 40 57.1	
	comp=Z,50nm,18.8s,baz=288,slow=32						
SNAA	**Sanae**	**27.33**	**202**	P	**P**	**00 33 42.2**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=61,slow=19,SNR=1.3						
SNAA	**Sanae**	**27.33**	**202**	P	**P**	**00 33 41.6**	**+0.1**
MATP	**Matopo**	**28.67**	**356**	P	**P**	**00 33 54.5**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=174,slow=9.1,SNR=5.9						
MATP				LR	LR	00 44 13.3	
	comp=Z,83nm,18.1s,baz=152,slow=34						
TSUM	**Tsumeb**	**31.64**	**336**	LR	LR	00 45 53.2	
	comp=Z,116nm,20.0s,baz=144,slow=34						
TSUM	**Tsumeb**	**31.64**	**336**	P	**P**	**00 34 20.5**	**+0.2**
TSUM				IAmb	IAmb	00 34 32.8	
	comp=Z,8.1nm,1.1s						
LSZ	**Lusaka**	**33.80**	**356**	P	**P**	**00 34 38.3**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=184,slow=9.5,SNR=8.5						
LSZ				LR	LR	00 46 08.0	
	comp=Z,93nm,21.2s,baz=161,slow=32						
**LSZ

PDGK	**Podgornoye**	**3.09**	**257**	⇑Pn	**Pn**	**00 40 43.2**	**+1.9**
	6.6nm,0.4s						
PDGK				⇓Lg	Lg	00 41 31.1	
	21nm,0.5s						
SHLS	**Shalkode**	**3.16**	**254**	*eP*	**Pn**	**00 40 44.1**	**+1.9**
	14nm,0.5s						
SHLS				*eS*	**Sn**	**00 41 22.0**	**+2.0**
	72nm,0.6s						
SHLS	**Shalkode**	**3.16**	**254**	Pg	**Pn**	**00 40 44.2**	**+2.0**
	12nm,0.2s						
SHLS				Lg	Lg	00 41 22.0	
	72nm,0.6s						
KAPS	**Kapalarasan**	**3.27**	**293**	*eP*	**Pg**	**00 40 53.7**	**-1.2**
	12nm,0.2s						
KAPS				*eS*	**Sg**	**00 41 38.2**	**+1.0**
	56nm,0.3s						
KAPS	**Kapalarasan**	**3.27**	**293**	Pg	**Pg**	**00 40 53.7**	**-1.2**
	12nm,0.2s						
KAPS				Lg	Lg	00 41 38.2	
	56nm,0.3s						
UZB	**Uzynbulak**	**3.47**	**256**	*eP*	**Pb**	**00 40 56.2**	**+2.3**
	7.0nm,0.6s						
UZB				*eS*	**Sg**	**00 41 42.0**	**-1.7**
	24nm,0.4s						
UZB	**Uzynbulak**	**3.47**	**256**	Pg	**Pb**	**00 40 56.1**	**+2.3**
	6.5nm,0.4s						
UZB				Lg	Lg	00 41 42.0	
	18nm,0.3s						
ZSN	**Zaisan**	**3.47**	**14**	*eP*	**Pb**	**00 40 55.5**	**+1.7**
ZSN				*eS*	**Sg**	**00 41 41.0**	**-2.7**
KPKS	**Kokpek**	**3.63**	**262**	*eP*	**Pb**	**00 40 58.4**	**+1.8**
	7.8nm,0.1s						
KPKS				*eS*	**Sg**	**00 41 46.2**	**-2.6**
	44nm,0.2s						
BLB	**Baldybastay**	**3.71**	**272**	*eP*	**Pb**	**00 41 00.4**	**+2.5**
	17nm,0.2s						
BLB				*eS*	**Sg**	**00 41 50.0**	**-1.3**
	72nm,0.2s						
BLB	**Baldybastay**	**3.71**	**272**	Pg	**Pb**	**00 41 00.4**	**+2.5**
	17nm,0.2s						
BLB				Lg	Lg	00 41 50.0	
	72nm,0.2s						
TDK	**Taldyqorghan**	**3.84**	**286**	*eP*	**Pg**	**00 41 03.4**	**-2.4**
	28nm,0.5s						
TDK				*eS*	**Sg**	**00 41 55.1**	**-0.4**
	94nm,0.4s						
SATY	**Saty**	**3.93**	**257**	*eP*	**Pg**	**00 41 04.8**	**-2.7**
	5.6nm,0.4s						
SATY				*eS*	**Sg**	**00 41 57.1**	**-1.2**
	20nm,0.2s						
SATY	**Saty**	**3.93**	**257**	Pg	**Pg**	**00 41 04.8**	**-2.7**
	5.6nm,0.4s						
SATY				Lg	Lg	00 41 57.1	
	20nm,0.2s						
KURS	**Kuram**	**3.99**	**263**	*eP*	**Pb**	**00 41 04.6**	**+1.9**
	5.5nm,0.6s						
KURS				*eS*	**Sg**	**00 41 56.4**	**-4.1**
	18nm,0.6s						
KURS	**Kuram**	**3.99**	**263**	Pg	**Pb**	**00 41 04.6**	**+1.9**
	5.5nm,0.6s						
KURS				Lg	Lg	00 41 56.4	
	18nm,0.6s						
CHKK	**Chushkaly**	**4.79**	**269**	*eP*	**Pb**	**00 41 18.4**	**+2.0**
	3.1nm,0.3s						
CHKK				*eS*	**Sg**	**00 42 20.7**	**-5.5**
	21nm,0.2s						
KOTS	**Kotyrbulak**	**4.80**	**262**	*eP*	**Pb**	**00 41 20.2**	**+3.7**
	4.1nm,0.3s						
KOTS				*eS*	**Sg**	**00 42 23.8**	**-2.6**
	19nm,0.3s						
KOTS	**Kotyrbulak**	**4.80**	**262**	Pg	**Pb**	**00 41 20.2**	**+3.7**
	4.1nm,0.3s						
KOTS				Lg	Lg	00 42 23.8	
	19nm,0.3s						
MDOK	**Medeo**	**4.86**	**261**	*eP*	**Pg**	**00 41 22.9**	**-2.4**
	2.2nm,0.5s						
MDOK				*eS*	**Sg**	**00 42 27.4**	**-0.9**
	10nm,0.8s						
MDOK	**Medeo**	**4.86**	**261**	Pg	**Pg**	**00 41 24.1**	**-1.2**
	3.6nm,0.8s						
MDOK				⇑Lg	Lg	00 42 29.0	
	9.0nm,0.6s						
MDOK	**Medeo**	**4.86**	**261**	Pg	**Pg**	**00 41 22.6**	**-2.8**
	2.9nm,0.3s						
MDOK				Lg	Lg	00 42 27.4	
	7.3nm,0.5s						
TNSS	**Tian-Shan**	**4.96**	**260**	*eP*	**Pg**	**00 41 24.1**	**-3.2**
	2.1nm,0.3s						
TNSS				*eS*	**Sg**	**00 42 31.0**	**-0.6**
	4.5nm,0.3s						
TNSS	**Tian-Shan**	**4.96**	**260**	Pg	**Pg**	**00 41 24.1**	**-3.2**
	2.1nm,0.3s						
TNSS				Lg	Lg	00 42 31.0	
	4.5nm,0.3s						
KTBS	**Karatobe**	**5.03**	**268**	*eP*	**Pg**	**00 41 24.6**	**-4.0**
	3.2nm,0.6s						
KTBS				*eS*	**Sg**	**00 42 31.1**	**-2.6**
	28nm,0.4s						
KTBS	**Karatobe**	**5.03**	**268**	Pg	**Pg**	**00 41 24.6**	**-4.0**
	3.2nm,0.6s						
KTBS				Lg	Lg	00 42 31.1	
	28nm,0.4s						
KUU	**Kurty**	**5.26**	**270**	*eP*	**Pb**	**00 41 27.0**	**+2.7**
	1.9nm,0.2s						
KUU				*eS*	**Sg**	**00 42 35.0**	**-6.0**
	12nm,0.3s						
MTBS	**Maitube**	**5.31**	**262**	*eP*	**Pb**	**00 41 29.5**	**+4.3**
	1.7nm,0.2s						
MTBS				*eS*	**Sg**	**00 42 40.5**	**-2.2**
	11nm,0.3s						
MTBS	**Maitube**	**5.31**	**262**	Pg	**Pb**	**00 41 29.5**	**+4.3**
	1.7nm,0.2s						
MTBS				Lg	Lg	00 42 40.5	
	11nm,0.3s						
KST	**Kastek**	**5.66**	**262**	*eP*	**Pg**	**00 41 36.3**	**-4.4**
	2.3nm,0.4s						
KST				*eS*	**Sg**	**00 42 51.1**	**-2.9**
	7.2nm,0.3s						
KST	**Kastek**	**5.66**	**262**	Pg	**Pg**	**00 41 36.3**	**-4.4**
	2.3nm,0.4s						
KST				Lg	Lg	00 42 51.1	
	7.2nm,0.3s						
KRBS	**Karabastau**	**5.76**	**269**	*eP*	**Pb**	**00 41 37.0**	**+4.3**
	1.6nm,0.5s						
KRBS				*eS*	**Sg**	**00 42 52.5**	**-4.6**
	3.8nm,0.3s						
KRBS	**Karabastau**	**5.76**	**269**	Pg	**Pb**	**00 41 37.0**	**+4.3**
	1.6nm,0.5s						
KRBS				Lg	Lg	00 42 52.5	
	3.8nm,0.3s						
DGS	**Degeres**	**5.76**	**264**	*eP*	**Pb**	**00 41 37.5**	**+4.7**
	1.5nm,0.3s						
DGS				*eS*	**Sg**	**00 42 53.8**	**-3.3**
	4.7nm,0.3s						
DGS	**Degeres**	**5.76**	**264**	Pg	**Pb**	**00 41 37.5**	**+4.7**
	1.5nm,0.3s						
DGS				Lg	Lg	00 42 53.8	
	4.7nm,0.3s						
TKM2	**Tokmak 2**	**5.95**	**261**	⇑Pg	Pg	00 41 41.4	-4.9
	1.7nm,0.7s						
TKM2				⇓Lg	Lg	00 43 05.2	
	9.6nm,0.8s						
SGDS	**Sogindy**	**6.54**	**268**	*eP*	**Pg**	**00 41 55.4**	**-2.1**
	0.9nm,0.2s						
SGDS				*eS*	**Sg**	**00 43 23.7**	**+1.5**
	3.0nm,0.8s						
SGDS	**Sogindy**	**6.54**	**268**	Pg	**Pg**	**00 41 52.9**	**-4.6**
	0.6nm,0.3s						
SGDS				Lg	Lg	00 43 20.0	
	2.6nm,0.4s						
BTLS	**Baital**	**6.91**	**281**	Pg	**Pg**	**00 42 01.2**	**-3.3**
	0.8nm,0.4s						
BTLS				Lg	Lg	00 43 35.0	
	2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.39**	**334**	⇑Pn	**Pn**	**00 41 40.6**	**+0.5**
	2.5nm,1.0s						
KURBB				⇑Sn	**Sn**	**00 43 05.6**	**+1.6**
	4.6nm,0.7s						
KURBB				⇓Lg	Lg	00 43 48.0	
	10.0nm,0.6s						
KURK	**Kurchatov**	**7.45**	**335**	⇑Lg	Lg	00 43 49.9	
	5.2nm,0.7s						

*ECX **28** 00:49:19.4±0.3,30°.26N×114°.20W,h20km±21km,MD3.6, ML3.8*
*MEX **28** 00:49:19.6±0.4,30°.18N×114°.25W,h4km±18km,MD4.2*

*ANF **28** 00:49:29.9±2.1,30°.95N×113°.65W,h26km±14km,ML3.9/14, Error ellipse: s-maj=17.9km s-min=5.7km az=14.0*

ISC 28 00:49:15.8±0.9,30°.21N±0°.04×114°.25W±0°.04,h10km,n27, σ2§26/35,4C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.97**	**328**	⇑*eP*	**Pn**	**00 49 36.1**	**+0.6**
SFX				*eS*	**Sn**	**00 49 48.6**	**-0.8**
SFX				IAML		00 49 50.6	
	comp=N,2μm,0.3s						
SFX				IAML		00 49 51.1	
	comp=E,5μm,0.6s						
BAHB	**Baha de los**	**1.40**	**155**	*eP*	Pn	00 49 36.0	-5.4
BAHB				*i* S	**Sn**	**00 49 54.3**	**-5.5**
BAHB	**Baha de los**	**1.40**	**155**	⇑*eP*	**Pb**	**00 49 43.2**	**+1.2**
SVX	**San Vicente**	**2.05**	**303**	*eP*	**Pb**	**00 49 53.1**	**-0.1**
SVX				IAML		00 50 23.6	
	comp=E,1μm,0.7s						
SVX				IAML		00 50 27.9	
	comp=N,463nm,0.4s						
214A	**Organ Pipe Nat**	**2.13**	**35**	⇓*eP*	**Pb**	**00 49 52.9**	**-1.7**
214A	**Organ Pipe Nat**	**2.13**	**35**	Pb	**Pb**	**00 49 52.9**	**-1.7**
	baz=216						
214A				S	Sn	00 50 07.6	-10
	baz=216						
MBIG	**Mexicali**	**2.33**	**340**	*eP*	**Pg**	**00 50 04.4**	**+3.8**
MBIG				*i* S	**Sg**	**00 50 29.1**	**-1.8**
YMD	**Yuma Desert**	**2.35**	**354**	⇓*eP*	**Pb**	**00 49 56.6**	**-1.6**
CPBX	**Cerro Prieto**	**2.38**	**338**	⇓*e*		00 51 09.9	
CPBX				IAML		00 51 09.9	
	comp=N,2μm,1.4s						
CPBX				⇑*e*		00 51 10.6	
CPBX				IAML		00 51 10.6	
	comp=E,2μm,0.8s						
GLA	**Glamis**	**2.87**	**350**	P	**Pb**	**00 50 06.4**	**-0.9**
	baz=154						
IKP	**In-Ko-Pah, Jac**	**2.91**	**327**	P	**Pg**	**00 50 11.1**	**-0.4**
	baz=129,SNR=39						
CBX	**Cerro Bola**	**2.94**	**316**	*eP*	**Pn**	**00 50 04.5**	**+1.7**
CBX				*i* S	**Sn**	**00 50 39.8**	**+1.6**
CBX	**Cerro Bola**	**2.94**	**316**	⇑*eP*	**Pn**	**00 50 04.5**	**+1.7**
CBX				IAML		00 51 04.9	
	comp=E,301nm,0.5s						
CBX				IAML		00 51 06.9	
	comp=N,299nm,0.6s						
SWSC	**Sam W. Stewart**	**3.03**	**334**	Pb	**Pg**	**00 50 17.2**	**+3.3**
	baz=137,SNR=14						
TJIG	**Tijuana**	**3.04**	**317**	*eP*	**Pn**	**00 50 06.1**	**+2.2**
TJIG				*i* S	**Sn**	**00 50 42.1**	**+1.7**
MONP2	**Monument Peak**	**3.25**	**326**	P	**Pg**	**00 50 16.7**	**-1.5**
	baz=129,SNR=24						
MONP2				Sb	**Sg**	**00 50 59.9**	**-0.4**
	baz=129						
109C	**Camp Elliot, M**	**3.62**	**318**	P	**Pg**	**00 50 22.6**	**-2.5**
	baz=123,SNR=8.8						
109C				S	**Sb**	**00 51 05.1**	**+1.3**
	baz=123						
TUC	**Tucson**	**3.63**	**54**	P	**Pn**	**00 50 12.4**	**+0.3**
	baz=242						
TUC				Sb	**Sn**	**00 50 55.7**	**+0.6**
	baz=242						
GUYB	**Guaymas**	**3.75**	**127**	*eP*	**Pn**	**00 50 15.3**	**+1.6**
PFO	**Pinyon Flats O**	**3.88**	**332**	Pb	**Pg**	**00 50 31.9**	**+1.8**
	baz=138,SNR=8.8						
PFO				Sb	**Sg**	**00 51 19.2**	**-1.1**
	baz=138						
MURC	**Murrieta**	**4.21**	**324**	P	**Pb**	**00 50 29.2**	**-0.7**
	baz=131,SNR=12						
MURC				Sb	**Sg**	**00 50 28.9**	**-2.0**
	baz=131						
BBRC	**Big Bear Solar**	**4.63**	**331**	Pb	**Pg**	**00 50 44.7**	**+0.2**
	baz=139						
FMP	**Fort Macarthur**	**4.90**	**316**	Sb	**Sg**	**00 51 54.0**	**+0.9**
	baz=124						
BFSC	**Mount Baldy Ra**	**4.95**	**325**	Sb	**Sg**	**00 51 52.4**	**-2.3**
	baz=133						
EDW2	**Edwards Air Fo**	**5.63**	**327**	Sb	**Sg**	**00 52 11.7**	**-4.8**
	baz=136						
OSI	**Osito Audit: C**	**5.79**	**320**	Sb	**Sg**	**00 52 17.7**	**-4.2**
	baz=129						
121A	**Cookes Peak, D**	**5.99**	**66**	P	**Pn**	**00 50 47.3**	**+2.6**
	baz=254						

*ECX **28** 00:53:44.2±0.5,30°.17N×114°.21W,h4km±133km,MD3.2, ML3.5*
*MEX **28** 00:53:51.6±0.7,29°.98N×114°.54W,h35km±151km,MD3.5*

ISC 28 00:53:42.9±1.0,30°.00N±0°.10×114°.45W±0°.10,h9km,n8, σ2§20/13,1C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**1.09**	**342**	*eP*	**Pg**	**00 54 02.4**	**-1.5**
SFX				*eS*	**Sg**	**00 54 15.4**	**-2.6**
SFX				IAML		00 54 25.8	
	comp=E,1μm,1.1s						
SFX				⇓*e*		00 54 25.8	
BAHB	**Baha de los**	**1.31**	**143**	*eP*	**Pn**	**00 54 07.9**	**+0.5**
BAHB				*eS*	**Sb**	**00 54 23.6**	**-0.9**
BAHB	**Baha de los**	**1.31**	**143**	*eP*	**Pn**	**00 54 07.4**	**0.0**
SVX	**San Vicente**	**2.04**	**311**	*eP*	**Pn**	**00 54 19.3**	**+1.9**
SVX				*eS*	**Sg**	**00 54 47.8**	**-0.7**
CPBX	**Cerro Prieto**	**2.52**	**343**	⇓*e*		00 55 33.8	
CPBX				IAML		00 55 33.8	
	comp=E,654nm,1.7s						
CPBX				⇑*e*		00 55 35.9	
CPBX				IAML		00 55 35.9	
	comp=N,646nm,0.9s						
CBX	**Cerro Bola**	**2.98**	**321**	*eP*	**Pn**	**00 54 33.1**	**+2.5**
CBX				*eS*	**Sb**	**00 55 13.7**	**+0.7**
TJIG	**Tijuana**	**3.08**	**322**	*eP*	**Pb**	**00 54 36.5**	**-1.5**
TJIG				*eS*	**Sn**	**00 55 10.7**	**+1.8**
HSIG		**3.21**	**107**	*eP*	**Pb**	**00 54 39.0**	**-1.1**
HSIG				*eS*	**Sn**	**00 55 16.4**	**+4.6**

*IDC **28** 00:57:46.7±7.6,20°.35S×175°.08W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.7/42,mbtmp4.2/3,Error ellipse: s-maj=306.9km s-min=45.4km az=16.0*
*NEIC **28** 00:59:15.5±2.2,22°.26S±0°.07×179°.5E±0°.1,h495km±11km, mb4.1/14,Error ellipse: s-maj=16.1km s-min=4.2km az=54.0*

ISC 28 00:59:15.5±0.7,22°.28S±0°.09×179°.51E±0°.09,h500km,n36, σ1§18/31,mb3.7/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.32**	**162**	P	**P**	**01 01 05.3**	**+0.5**
RAO				S	**S**	**01 02 32.9**	**-1.5**
NIUE	**Niue**	**10.38**	**74**	P	**P**	**01 01 36.7**	**-0.2**
MARNC	**Mare, Loyalty**	**10.69**	**272**	P	**P**	**01 01 41.4**	**+1.2**
PINNC	**Pines Island,**	**11.17**	**266**	P	**P**	**01 01 43.9**	**-1.3**
LIFNC	**LIFOU**	**11.52**	**275**	P	**P**	**01 01 48.2**	**-0.8**
AFI	**Afiamalu**	**11.74**	**46**	P	**P**	**01 01 51.7**	**+0.3**
SANVU	**Saraoutou**	**13.48**	**298**	P	**P**	**01 02 09.2**	**-0.7**
URZ	**Urewera**	**16.06**	**187**	P	**P**	**01 02 38.0**	**+1.5**
URZ				IAmb	IAmb	01 02 40.6	
	comp=Z,9.0nm,1.1s						
MSWZ	**Moikau Station**	**19.42**	**190**	P	**P**	**01 03 09.4**	**+0.8**
PLWZ	**Palliser**	**19.57**	**190**	P	**P**	**01 03 07.0**	**-3.0**
TUWZ	**Tuamarina**	**19.66**	**193**	P	**P**	**01 03 12.1**	**+1.3**
CMWZ	**Cape Campbell**	**19.92**	**192**	P	**P**	**01 03 13.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**19.95**	**192**	P	**P**	**01 03 14.3**	**+0.9**
FOZ	**Fox Glacier**	**22.67**	**199**	P	**P**	**01 03 38.7**	**+0.7**
ARMA	**Armidale**	**26.22**	**246**	P	**P**	**01 04 09.2**	**-0.7**
ARMA				IAmb	IAmb	01 04 14.6	
	comp=Z,5.6nm,1.1s						
CTA	**Charters Tower**	**31.06**	**268**	P	**P**	**01 04 53.3**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=79,slow=10,SNR=1.6						
CTA	**Charters Tower**	**31.06**	**268**	P	**P**	**01 04 53.3**	**+1.2**
RABL	**Rabaul**	**32.02**	**300**	P	**P**	**01 04 59.7**	**-0.7**
STKA	**Stephens Creek**	**34.94**	**246**	P	**P**	**01 05 25.6**	**+0.7**
COEN	**Coen**	**35.44**	**277**	P	**P**	**01 05 27.7**	**-1.6**
COEN				IAmb	IAmb	01 05 28.4	
	comp=Z,2.6nm,1.0s						
ASAR	**Alice Springs**	**41.88**	**259**	P	**P**	**01 06 20.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=91,slow=6.9,SNR=2.9						
WR0	**Warramunga Arr**	**41.90**	**265**	P	**P**	**01 06 21.3**	**-0.5**
WB0	**Warramunga Arr**	**42.08**	**265**	P	**P**	**01 06 22.5**	**-0.6**
WB0				IAmb	IAmb	01 06 34.1	
	comp=Z,1.7nm,1.1s						
WB2	**Warramunga Arr**	**42.08**	**265**	P	**P**	**01 06 22.8**	**-0.4**
WB2				IAmb	IAmb	01 06 40.1	
	comp=Z,1.3nm,0.9s						
WRA	**Warramunga Arr**	**42.09**	**265**	P	**P**	**01 06 22.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=99,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**42.09**	**265**	P	**P**	**01 06 23.1**	**-0.2**
FORT	**Forrest**	**46.48**	**248**	P	**P**	**01 06 57.0**	**-0.1**
FORT				IAmb	IAmb	01 06 59.8	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.52**	**264**	P	**P**	**01 07 28.8**	**+1.4**
PASC	**Pasadena Art C**	**81.59**	**48**	P	**P**	**01 10 39.5**	**-1.3**
OHAK	**Old Harbor**	**82.42**	**15**	P	**P**	**01 10 46.2**	**+1.9**
OHAK				IAmb	IAmb	01 10 51.8	
	comp=Z,34nm,1.2s						
H03S2	**Juan Fernandez**	**86.88**	**125**	T	T	02 41 18.1	
	baz=244						
H03S1	**Juan Fernandez**	**86.89**	**125**	T	T	02 41 19.2	
	baz=244						
H03S3	**Juan Fernandez**	**86.90**	**125**	T	T	02 41 17.9	
	baz=244						
H03N2	**Juan Fernandez**	**87.04**	**125**	T	T	02 41 32.9	
	baz=250,slow=73,SNR=50						
H03N3	**Juan Fernandez**	**87.04**	**125**	T	T	02 41 28.0	
	baz=250,slow=73,SNR=84						
H03N1	**Juan Fernandez**	**87.06**	**125**	T	T	02 41 36.5	
	baz=250,slow=73,SNR=65						

MEX 28 01:04:03.4±0.5,29°.93N×114°.36W,h34km±179km,MD4.5, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAHB	**Baha de los**	**1.21**	**145**	*i* P	Pn	01 04 19.6	-4.3
BAHB				*i* S	Sb	01 04 40.1	-0.9
MBIG	**Mexicali**	**2.57**	**344**	*eP*	Pb	01 04 50.9	+2.1
CBX	**Cerro Bola**	**3.09**	**321**	*eP*	Pn	01 04 48.4	-1.5
CBX				*eS*	Sn	01 05 22.8	-2.9
HSIG		**3.11**	**106**	*eP*	Pn	01 04 51.5	+1.5
TJIG	**Tijuana**	**3.19**	**322**	*eP*	Pn	01 04 49.4	-1.7
TJIG				*eS*	Sn	01 05 31.3	+3.4
SRIG	**Santa Rosalia**	**3.20**	**144**	*eP*	Pn	01 04 49.6	-1.6
SRIG				*eS*	Sb	01 05 34.2	-4.0
GUYB	**Guaymas**	**3.67**	**123**	*eP*	Pn	01 04 50.9	-6.8
TUC	**Tucson**	**3.87**	**51**	*eP*	Pn	01 05 03.4	+2.8
TUC				*i* P	Pb	01 05 06.3	-4.7
TUC				*eS*	Sn	01 05 38.6	-6.4
TUC				*i* S	Sb	01 05 50.6	-7.0
CGIG		**5.54**	**84**	*eP*	Pn	01 05 22.8	-0.9

*IDC **28** 01:04:37.5±1.7,30°.18N×114°.21W,h0km,mb3.4/5, mb1 3.6/12,mb1mx3.5/42,mbtmp3.4/12,ML3.4/7,MS3.9/15, Ms1 3.9/15,ms1mx3.7/44,Error ellipse: s-maj=26.8km s-min=9.6km az=36.0*
*ECX **28** 01:04:39.0±0.4,30°.22N×114°.22W,h10km±11km,ML4.0*
*NEIC **28** 01:04:43.6±2.5,30°.5N±0°.1×114°.37W±0°.08,h10km±2km, mb4.1/18,Md4.5/4(MEX),Error ellipse: s-maj=17.4km s-min=11.6km az=188.0*

ISC 28 01:04:39.2±1.0,30°.18N±0°.08×114°.40W±0°.06,h9km,n82, σ1§75/77,mb4.0/13,MS3.9/11,4C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.94**	**336**	Pg	**Pg**	**01 04 55.5**	**-1.8**
SFX	**San Felipe**	**0.94**	**336**	⇑*eP*	**Pg**	**01 04 55.7**	**-1.5**
SFX				*eS*	**Sg**	**01 05 09.6**	**+0.1**
SFX				IAML		01 05 22.0	
	comp=N,6μm,0.7s						
SFX				⇓*e*		01 05 22.0	
BAHB	**Baha de los**	**1.44**	**149**	*eP*	**Pn**	**01 05 03.1**	**-2.3**
BAHB				⇓*e*		01 05 34.7	
BAHB				IAML		01 05 34.7	
	comp=N,2μm,1.4s						
BAHB				IAML		01 05 42.5	
	comp=E,870nm,1.5s						
BAHB				⇑*e*		01 05 42.5	
SVX	**San Vicente**	**1.96**	**306**	*eP*	**Pn**	**01 05 12.8**	**+0.2**
SVX				*eS*	**Sg**	**01 05 40.7**	**-1.6**
SVX				IAML		01 05 43.6	
	comp=E,1μm,0.7s						
SVX				⇑*e*		01 05 43.6	
SVX				IAML		01 05 47.7	
	comp=N,957nm,0.8s						
SVX				⇑*e*		01 05 47.7	
GUVIX	**Guadalupe Vict**	**2.19**	**345**		**Pn**	**01 05 14.6**	**-1.2**
214A	**Organ Pipe Nat**	**2.23**	**37**	Pn	**Pn**	**01 05 13.8**	**-2.7**
214A	**Organ Pipe Nat**	**2.23**	**37**	⇓*eP*	**Pn**	**01 05 14.1**	**-2.3**
CPBX	**Cerro Prieto**	**2.36**	**341**	IAML		01 06 27.6	
	comp=E,3μm,0.5s						
CPBX				*e*		01 06 27.6	
CCX	**Cicese**	**2.57**	**311**		**Pn**	**01 05 21.0**	**-0.1**
113A	**Mohawk Valley,**	**2.63**	**12**	Pn	**Pn**	**01 05 20.4**	**-1.5**
YUH	**Yuha Desert**	**2.78**	**332**	Pn	**Pn**	**01 05 23.4**	**-0.6**
TKX	**Tecate**	**3.04**	**322**	Pn	**Pn**	**01 05 28.6**	**+1.0**
BAR	**Barrett**	**3.16**	**323**	Pn	**Pn**	**01 05 28.7**	**-0.5**
109C	**Camp Elliot, M**	**3.55**	**320**	Pn	**Pn**	**01 05 34.5**	**0.0**
PFO	**Pinyon Flats O**	**3.84**	**333**	Pn	**Pn**	**01 05 37.7**	**-0.9**
	comp=E,1.4nm,0.3s,baz=138,slow=11,SNR=5.2						
PFO				Sn	**Sn**	**01 06 21.4**	**-2.6**
	comp=E,3.7nm,0.3s,baz=48,slow=2.5,SNR=5.0						
PFO				Lg	Lg	01 06 40.5	
	comp=E,16nm,0.3s,baz=112,slow=17,SNR=8.0						
PFO				LR	LR	01 06 41.4	
	comp=E,340nm,21.1s,baz=182,slow=32						
PFO	**Pinyon Flats O**	**3.84**	**333**		**Pn**	**01 05 37.3**	**-1.3**
Y14A	**Wickenburg**	**3.93**	**17**	Pn	**Pn**	**01 05 39.0**	**-0.8**
319A	**Douglas**	**4.56**	**74**	Pn	**Pn**	**01 05 51.2**	**+2.6**
X16A	**Lo Mia Camp, P**	**4.91**	**30**	Pn	**Pn**	**01 05 52.3**	**-1.1**
X18A	**Snowflake**	**5.74**	**40**	Pn	**Pn**	**01 06 03.1**	**-1.7**
WUAZ	**Wupatki**	**5.90**	**25**	Pn	**Pn**	**01 06 07.2**	**+0.3**
SHPR	**Sheep Range**	**6.34**	**354**	Pn	**Pn**	**01 06 12.6**	**-0.4**
U15A	**North Rim**	**6.47**	**15**	Pn	**Pn**	**01 06 15.2**	**+0.2**
LCMT	**Little Creek M**	**6.88**	**8**	Pn	**Pn**	**01 06 21.1**	**+0.7**
KNB	**Kanab**	**6.94**	**11**	Pn	**Pn**	**01 06 22.5**	**+1.2**
LPIG	**La Paz**	**7.07**	**148**	Lg	Lg	01 08 19.1	
	comp=E,34nm,0.3s,baz=6.8,slow=0.9,SNR=7.6						
LPIG				LR	LR	01 09 06.9	
	comp=E,833nm,20.2s,baz=334,slow=39						
PRN	**Pahroc Range**	**7.22**	**356**	Pn	**Pn**	**01 06 26.5**	**+1.3**
CCUT	**Cedar City**	**7.40**	**6**	Pn	**Pn**	**01 06 28.7**	**+1.0**
PKCU	**Pink Cliffs**	**7.45**	**13**	Pn	**Pn**	**01 06 29.2**	**+0.8**
BNM	**Barren Site**	**7.68**	**57**	Pn	**Pn**	**01 06 29.3**	**-2.3**
**ANM

YNR	**Norris Junctio**	**14.80**	**10**	P		**P**	**01 08 14.1**	**-0.9**
LRM	**Limekiln Ridge**	**15.69**	**5**	P		**P**	**01 08 24.3**	**-0.5**
RSSD	**Black Hills**	**16.16**	**28**	P		**Pn**	**01 08 28.0**	**+1.3**
KSU1	**Kansas State U**	**17.11**	**54**			**P**	**01 08 41.3**	**+1.0**
KSU1					IAmb	IAmb	01 08 44.3	
	comp=Z,15nm,1.1s							
LAO	**LASA Array**	**17.66**	**19**	P		**P**	**01 08 46.5**	**0.0**
P38A	**Dawn**	**19.50**	**56**	P		**Pn**	**01 09 08.9**	**+1.1**
ECSD	**EROS Data Cent**	**19.56**	**41**	P		**Pn**	**01 09 08.4**	**-0.2**
I37A	**Lemond, Waseca**	**21.62**	**45**	P		**P**	**01 09 30.3**	**+0.6**
I37A					IAmb	IAmb	01 09 34.2	
	comp=Z,16nm,1.1s							
N41A	**Harden Midland**	**21.80**	**55**	P		**P**	**01 09 34.7**	**+3.1**
CMIG	**Matias Romero**	**22.08**	**122**	P		**P**	**01 09 33.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=341,slow=9.2,SNR=4.2							
CMIG					LR	LR	01 18 24.4	
	comp=Z,365nm,19.9s,baz=289,slow=38							
F36A	**Milaca**	**22.60**	**40**	P		**P**	**01 09 41.8**	**+1.7**
F36A					IAmb	IAmb	01 09 43.7	
	comp=Z,6.8nm,1.1s							
I40A	**Norwalk**	**23.30**	**47**	P		**P**	**01 09 49.0**	**+1.6**
I40A					IAmb	IAmb	01 10 07.5	
	comp=Z,7.0nm,0.9s							
BBB	**Bella Bella**	**24.20**	**339**	LR		LR	01 18 49.4	
	comp=Z,369nm,19.6s,baz=158,slow=35							
G40A	**Rib Lake**	**24.23**	**45**	P		**P**	**01 09 58.7**	**+2.3**
G40A					IAmb	IAmb	01 10 00.3	
	comp=Z,7.4nm,1.1s							
I42A	**Draeger Farm,**	**24.40**	**49**	P		**P**	**01 09 59.1**	**+1.3**
ULM	**Lac du Bonnet**	**24.41**	**30**	P		**P**	**01 09 57.9**	**0.0**
	comp=Z,4.4nm,1.0s,baz=231,slow=9.7,SNR=6.9							
ULM					LR	LR	01 20 02.0	
	comp=Z,183nm,19.0s,baz=242,slow=38							
ULM	**Lac du Bonnet**	**24.41**	**30**	P		**P**	**01 09 57.1**	**-0.7**
FFC	**Flin Flon**	**26.10**	**16**	P		**P**	**01 10 13.7**	**+0.5**
FFC					IAmb	IAmb	01 10 15.7	
	comp=Z,4.7nm,1.2s							
DLBC	**Dease Lake**	**30.22**	**344**	LR		LR	01 22 26.2	
	comp=Z,282nm,19.5s,baz=143,slow=35							
SADO	**Sadowa**	**31.27**	**52**	LR		LR	01 24 39.9	
	comp=Z,332nm,18.6s,baz=3.5,slow=39							
YKA	**Yellowknife Ar**	**32.32**	**360**	P		**P**	**01 11 07.5**	**-0.8**
	comp=Z,0.1nm,0.7s,baz=173,slow=8.1,SNR=1.8							
JTS	**Las Juntas de**	**33.82**	**120**	LR		LR	01 25 53.1	
	comp=Z,184nm,19.0s,baz=18,slow=38							
ILAR	**Eielson Array**	**40.09**	**339**	P		**P**	**01 12 15.7**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=154,slow=6.1,SNR=5.3							
BMAR	**Burnt Mountain**	**41.37**	**343**			**P**	**01 12 27.4**	**+2.0**
MLY	**Manley**	**41.50**	**338**	P		**P**	**01 12 28.2**	**+1.8**
MLY					IAmb	IAmb	01 12 53.1	
	comp=Z,4.6nm,1.4s							
K20K	**Telida**	**41.67**	**334**	P		**P**	**01 12 29.4**	**+1.6**
K20K					IAmb	IAmb	01 12 40.9	
	comp=Z,4.7nm,1.4s							
SCHQ	**Schefferville**	**41.75**	**40**	P		**P**	**01 12 28.6**	**0.0**
	comp=Z,1.9nm,0.9s,baz=248,slow=5.1,SNR=3.0							
SCHQ					LR	LR	01 28 47.2	
	comp=Z,132nm,20.5s,baz=240,slow=35							
SCHQ	**Schefferville**	**41.75**	**40**	P		**P**	**01 12 30.9**	**+2.3**
IMAR	**Indian Mountai**	**43.07**	**338**	P		**P**	**01 12 40.6**	**+1.4**
TOLK	**Toolik Lake Re**	**43.55**	**342**	P		**P**	**01 12 45.3**	**+2.2**
TOLK					IAmb	IAmb	01 12 59.2	
	comp=Z,6.8nm,1.4s							
FRB	**Frobisher Bay**	**44.25**	**27**	LR		LR	01 30 28.8	
	comp=Z,282nm,18.0s,baz=211,slow=35							
SFJD	**Kangerlussuaq**	**52.38**	**26**	LR		LR	01 34 45.7	
	comp=Z,219nm,18.7s,baz=284,slow=35							
SIV	**San Ignacio**	**68.87**	**124**	LR		LR	01 46 43.7	
	comp=Z,177nm,18.2s,baz=328,slow=37							
TIXI	**Tiksi**	**69.44**	**342**	LR		LR	01 50 11.6	
	comp=Z,150nm,18.3s,baz=342,slow=39							

*NOU **28** 01:07:18.8,21.°77S×169.°77E,h0km,MLv4.7/15, Southeast of Loyalty Islands*
*IDC **28** 01:07:18.0±0.8,21.°52S×169.°79E,h0km,mb4.1/13, mb1 4.3/16,mb1mx4.2/27,mbtmp4.2/16,ML4.0/3,MS3.9/6, Ms1 3.9/6,ms1mx3.4/60,Error ellipse: s-maj=23.1km s-min=18.0km az=154.0*
*NEIC **28** 01:07:22.2±2.1,21.°67S±0.°07×169.°7E±0.°1,h19km±5km, mb4.5/16,Error ellipse: s-maj=13.6km s-min=9.5km az=83.0*

ISC 28 01:07:21.7±0.5,**21.°67S**±0.°06×**169.°68E**±0.°07,**h21**km,**n90,** σ1**s09**/92,**mb4.3**/19,**MS4.2**/3,**1C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.54**	**277**		**Pn**	**01 07 47.3**	**-0.7**
MARNC	**Mare, Loyalty**	**1.54**	**277**	P	**Pn**	**01 07 48.3**	**+0.3**
PINNC	**Pines Island,**	**2.27**	**245**	Pn	**Pn**	**01 07 57.3**	**-0.7**
PINNC	**Pines Island,**	**2.27**	**245**	P	**Pn**	**01 07 58.0**	**0.0**
LIFNC	**LIFOU**	**2.44**	**291**	Pn	**Pn**	**01 07 59.4**	**-0.9**
LIFNC	**LIFOU**	**2.44**	**291**	P	**Pn**	**01 08 00.5**	**+0.1**
YATNC	**Mamie plateau,**	**2.62**	**261**	P	**Pn**	**01 08 02.1**	**-0.7**
OUENC	**Ouen Island, N**	**2.73**	**254**	Pn	**Pn**	**01 08 04.2**	**-0.2**
OUENC	**Ouen Island, N**	**2.73**	**254**	P	**Pn**	**01 08 04.7**	**+0.3**
DZM	**Mont Dzumac**	**3.03**	**262**	*e*Pn	**Pn**	**01 08 08.7**	**+0.2**
	81nm,0.2s						
DZM				*e*Sn	**Sn**	**01 08 43.1**	**-1.2**
	277nm,0.2s						
DZM	**Mont Dzumac**	**3.03**	**262**	Pn	**Pn**	**01 08 08.8**	**+0.2**
	12nm,0.3s,baz=136,slow=6.6,SNR=305						
DZM				Sn	**Sn**	**01 08 43.7**	**-0.5**
	110nm,0.3s,baz=134,slow=21,SNR=14						
DZM				LR	LR	01 09 18.1	
	comp=Z,546nm,18.1s,baz=83,slow=38						
DZM	**Mont Dzumac**	**3.03**	**262**	P	**Pn**	**01 08 09.3**	**+0.8**
ONTNC	**Ouen Toro**	**3.06**	**258**		**Pn**	**01 08 08.8**	**0.0**
ONTNC	**Ouen Toro**	**3.06**	**258**	P	**Pn**	**01 08 09.3**	**+0.5**
NOUC	**Port Laguerre**	**3.16**	**262**	P	**Pn**	**01 08 10.7**	**+0.4**
RTV	**Rentapao**	**4.04**	**343**	P	**Pn**	**01 08 24.1**	**+1.8**
DVP	**Devils Point**	**4.17**	**340**	P	**Pn**	**01 08 25.7**	**+1.5**
KOUNC	**Koumac, New Ca**	**5.16**	**282**	Pn	**Pn**	**01 08 38.5**	**+0.8**
KOUNC	**Koumac, New Ca**	**5.16**	**282**	P	**Pn**	**01 08 39.2**	**+1.5**
	55nm,1.0s						
SANVU	**Saraoutou**	**6.62**	**339**	Pn	**Pn**	**01 08 58.5**	**+0.6**
SANVU	**Saraoutou**	**6.62**	**339**	P	**Pn**	**01 08 59.1**	**+1.2**
	63nm,0.9s						
OUZ	**Omahuta**	**13.93**	**167**	Pn	**Pn**	**01 10 39.1**	**+1.3**
URZ	**Urewera**	**17.73**	**160**	P	**P**	**01 11 29.0**	**+1.0**
	0.2nm,0.3s,baz=9.0,slow=19,SNR=3.8						
URZ				LR	LR	01 17 12.3	
	comp=Z,376nm,18.8s,baz=32,slow=33						
AFI	**Afiamalu**	**19.26**	**69**	P	**P**	**01 11 44.3**	**-0.8**
	1.4nm,0.3s,baz=315,slow=19,SNR=2.9						
AFI				LR	LR	01 17 10.8	
	comp=Z,149nm,19.1s,baz=284,slow=31						
AFI	**Afiamalu**	**19.26**	**69**	P	**P**	**01 11 46.0**	**+0.8**
AFI				IAmb	IAmb	01 11 47.2	
	comp=Z,37nm,0.8s						
CTA	**Charters Tower**	**21.94**	**270**	P	**P**	**01 12 16.1**	**+2.0**
	comp=Z,2.1nm,0.6s,baz=67,slow=9.4,SNR=2.8						
CTA				LR	LR	01 19 37.7	
	comp=Z,335nm,18.7s,baz=59,slow=34						
CAN	**Canberra**	**22.64**	**229**		**P**	**01 12 25.4**	**+4.0**
CAN				IAmb	IAmb	01 12 25.5	
	comp=Z,38nm,1.4s						
PMG	**Port Moresby**	**24.84**	**296**	P	**P**	**01 12 43.6**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=65,slow=18,SNR=1.5						
COEN	**Coen**	**26.34**	**283**	P	**P**	**01 13 00.0**	**+3.5**
STKA	**Stephens Creek**	**26.98**	**242**	P	**P**	**01 13 03.8**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=61,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**26.98**	**242**	P	**P**	**01 13 02.8**	**+0.7**
BBOO	**Buckleboo**	**31.76**	**242**	P	**P**	**01 13 44.3**	**-0.2**
WB0	**Warramunga Arr**	**33.02**	**267**	P	**P**	**01 13 54.9**	**-0.8**
WB0					IAmb	IAmb	01 14 06.6	
	comp=Z,5.1nm,1.1s							
AS31	**Alice Springs**	**33.02**	**260**	P	**P**	**01 13 56.0**	**+0.3**
ASAR	**Alice Springs**	**33.02**	**260**	P	**P**	**01 13 55.1**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=87,slow=8.9,SNR=1.9						
WB2	**Warramunga Arr**	**33.03**	**266**	P	**P**	**01 13 55.8**	**0.0**
WB2					IAmb	IAmb	01 14 18.9	
	comp=Z,9.2nm,1.5s							
WRAB	**Tennant Creek**	**33.03**	**266**	P	**P**	**01 13 57.0**	**+1.2**
WRA	**Warramunga Arr**	**33.04**	**266**	P	**P**	**01 13 55.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=98,slow=8.4,SNR=11						
WRA					LR	LR	01 27 33.3	
	comp=Z,444nm,19.0s,baz=46,slow=37							
WRA	**Warramunga Arr**	**33.04**	**266**	P	**P**	**01 13 55.3**	**-0.6**
MTN	**Manton Dam**	**37.76**	**277**	P	**P**	**01 14 34.4**	**-2.1**
MTN					IAmb	IAmb	01 14 48.1	
	comp=Z,7.2nm,0.8s							
KNRA	**Kununurra**	**39.13**	**272**	P	**P**	**01 14 48.4**	**+0.3**
KNRA					IAmb	IAmb	01 14 59.2	
	comp=Z,6.7nm,0.8s							
FITZ	**Fitzroy Crossi**	**41.46**	**267**	P	**P**	**01 15 07.9**	**+0.5**
FITZ					IAmb	IAmb	01 15 33.9	
	comp=Z,6.1nm,1.0s							
BATI	**Baumata**	**45.53**	**277**	LR	LR	01 36 22.3	
	comp=Z,385nm,18.4s,baz=218,slow=38							
VNDA	**Vanda**	**56.02**	**182**	P	**P**	**01 16 58.7**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=360,slow=4.8,SNR=6.1							
VNDA	**Vanda**	**56.02**	**182**	P	**P**	**01 16 57.7**	**-0.8**
VNDA					IAmb	IAmb	01 17 13.9	
	comp=Z,6.3nm,1.4s							
MJAR	**Matsushiro Arr**	**65.09**	**332**	P	**P**	**01 17 58.8**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=169,slow=6.2,SNR=4.7							
QSPA	**South Pole Qui**	**68.39**	**180**	P	**P**	**01 18 21.4**	**-0.2**
KSRS	**Korea Array**	**70.74**	**326**	P	**P**	**01 18 35.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=130,slow=5.4,SNR=5.0							
PEA0B	**Petropavlovsk-**	**75.19**	**353**	P	**P**	**01 19 03.8**	**+1.4**
PETK	**Petropavlovsk-**	**75.19**	**353**	P	**P**	**01 19 01.7**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=154,slow=8.1,SNR=3.7							
PETK	**Petropavlovsk-**	**75.19**	**353**	P	**P**	**01 19 02.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.88**	**294**	P	**P**	**01 19 30.9**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=131,slow=3.9,SNR=6.1							
SONM	**Songino Array**	**89.40**	**323**	P	**P**	**01 20 16.4**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=139,slow=4.8,SNR=11							
NVAR	**Mina Array Bea**	**90.10**	**48**	P	**P**	**01 20 19.3**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=218,slow=8.0,SNR=5.1							
ILAR	**Eielson Array**	**92.42**	**17**	P	**P**	**01 20 27.3**	**-3.1**
	comp=Z,0.6nm,0.9s,baz=229,slow=5.6,SNR=7.3							
YKA	**Yellowknife Ar**	**102.63**	**27**	P	**Pdif**	**01 21 15.7**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=248,slow=4.6,SNR=3.0							
ARCES	**ARCESS Array B**	**127.51**	**345**	PKP	**PKPdf**	**01 26 23.2**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=77,slow=1.7,SNR=20							
ARCES	**ARCESS Array B**	**127.51**	**345**		**PKPdf**	**01 26 23.4**	**-1.0**
FINES	**FINESS Array B**	**132.98**	**337**	PKP	**PKPdf**	**01 26 34.3**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=50,slow=3.0,SNR=10							
FINES	**FINESS Array B**	**132.98**	**337**	PKPdf	**PKPdf**	**01 26 34.6**	**-0.4**
AKASG	**Malin Array Be**	**137.69**	**323**	PKP	**PKPdf**	**01 26 43.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=59,slow=2.4,SNR=3.1							
NOA	**NORSAR Array B**	**137.89**	**345**	PKP	**PKPdf**	**01 26 44.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=37,slow=2.8,SNR=1.3							
OSTC	**Ostas**	**144.45**	**331**	*e*PKP	**PKPdf**	**01 26 56.5**	**+0.2**
CHVC	**Chvalec**	**144.50**	**331**	*e*PKP	**PKPab**	**01 26 54.6**	**-0.2**
KRLC	**Kraliky**	**144.52**	**330**	*e*PKP	**PKPab**	**01 26 54.5**	**-0.4**
DPC	**Dobruska-Polom**	**144.54**	**330**	*e*PKP	**PKPab**	**01 26 54.8**	**-0.2**
PVCC	**Panska Ves**	**145.20**	**332**	*e*PKP	**PKPbc**	**01 26 57.0**	**-0.2**
CLL	**Collm**	**145.28**	**334**	*i*PKPbc	**PKPbc**	**01 26 56.6**	**-0.8**
	comp=Z,20nm,1.3s							
CLL				*e*PKiKP	**PKiKP**	**01 27 01.0**	**-0.6**
PRU	**Pruhonice**	**145.61**	**331**	*e*PKP	**PKPdf**	**01 26 57.8**	**-0.5**
PBCC	**Pribram**	**146.07**	**331**	*e*PKP	**PKPdf**	**01 26 59.3**	**+0.2**
NKC	**Novy Kostel**	**146.33**	**333**	*e*PKP	**PKPdf**	**01 27 00.6**	**+1.0**
CONA	**Conrad Observa**	**146.42**	**328**	*e*P	**PKPdf**	**01 27 00.8**	**+0.9**
	comp=Z,8.2nm,1.2s							
CKRC	**Cesky Krumlov**	**146.55**	**330**	*e*PKP	**PKPdf**	**01 27 00.2**	**+0.2**
KHC	**Kasperske Hory**	**146.66**	**331**	*e*PKP	**PKPdf**	**01 27 00.3**	**+0.1**
KHC				*ex*	x	01 27 09.7	
GERES	**GERESS Array B**	**146.81**	**331**	PKPbc	**PKPdf**	**01 27 01.6**	**+1.0**
	comp=Z,8.7nm,1.0s,baz=28,slow=3.2,SNR=39							
GERES	**GERESS Array B**	**146.81**	**331**		**PKPbc**	**01 27 02.0**	**-0.4**
ARSA	**Arzberg**	**147.04**	**327**	*e*P	**PKPbc**	**01 27 03.0**	**+0.1**
	comp=Z,4.3nm,1.3s							
MOA	**Molln**	**147.26**	**329**	*e*P	**PKPbc**	**01 27 02.9**	**-0.6**
	comp=Z,6.3nm,1.4s							
BIOA	**Bad Ischl, Aus**	**147.67**	**329**	*e*P	**PKPbc**	**01 27 03.9**	**-0.8**
	comp=Z,6.9nm,1.5s							
SOKA	**Soboth**	**147.68**	**327**	*e*P	**PKPbc**	**01 27 04.5**	**-0.3**
	comp=Z,4.7nm,0.9s							
OBKA	**Obir**	**148.04**	**327**	*e*P	**PKPbc**	**01 27 04.8**	**-1.0**
	comp=Z,3.3nm,0.9s							
KBA	**Koelnbreinsper**	**148.24**	**329**	*e*P	**PKPbc**	**01 27 05.3**	**-1.1**
	comp=Z,5.9nm,1.0s							
MYKA	**Terra Mystica**	**148.41**	**328**	*e*P	**PKPbc**	**01 27 06.3**	**-0.4**
	comp=Z,4.9nm,0.9s							
ABTA	**Abfaltersbach**	**148.88**	**329**	*i* P	**PKPdf**	**01 27 06.4**	**+2.4**
	comp=Z,6.8nm,0.9s,SNR=7.3							
WATA	**Walderalm**	**148.89**	**331**	*e*P	**PKPbc**	**01 27 07.6**	**-0.4**
	comp=Z,11nm,1.2s							
WTTA	**Wattenberg**	**148.91**	**330**	*e*P	**PKPbc**	**01 27 07.8**	**-0.3**
	comp=Z,8.5nm,1.2s							
RETA	**Reutte**	**149.14**	**332**	*e*P	**PKPbc**	**01 27 08.1**	**-0.5**
	comp=Z,11nm,1.9s							
SQTA	**Sankt Quirin**	**149.14**	**331**	*i* P	**PKPbc**	**01 27 07.7**	**-0.9**
	comp=Z,9.0nm,0.9s,SNR=9.5							
FETA	**Feichten**	**149.51**	**331**	*e*P	**PKPbc**	**01 27 08.9**	**-0.7**
	comp=Z,14nm,1.0s							
DAVA	**Damuels**	**149.68**	**332**	*i* P	**PKPbc**	**01 27 09.5**	**-0.5**
	comp=Z,9.9nm,0.9s,SNR=4.1							

JMA 28 01:09:27.6,35.°77N×137.°10E,h10km,M0.9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.27**	**129**	P	Pg	01 09 33.0	-0.1
JGF				S	Sg	01 09 36.5	-0.2
JGF	**Kuroka**	**0.27**	**129**	P	Sg	01 09 36.8	+0.1
JYTA	**Yamagatataniai**	**0.34**	**239**	P	Pg	01 09 34.6	+0.1
JYTA				S	Sg	01 09 39.2	+0.2
JGN	**Niukaw**	**0.48**	**21**	P	Pg	01 09 37.0	-0.1
JGN				S	Sg	01 09 43.5	0.0

*IDC **28** 01:23:51.2±1.8,5.°09N×126.°51E,h0km,mb3.2/4, mb1 3.5/5,mb1mx3.4/36,mbtmp3.4/5,ML3.8/1,Error ellipse: s-maj=87.4km s-min=24.5km az=65.0*

ISC 28 01:23:59.9±1.3,**5.°1N**±0.°2×**126.°8E**±0.°3,**h76**km,**n7,**σ0**s62**/7, **mb3.2**/4,**1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.46**	**315**	*e*P	**Pn**	**01 24 24.2**	**-0.4**
KCP	**Kidapawan**	**2.54**	**320**	*e*P	**Pn**	**01 24 39.3**	**+0.3**
SIJI	**Sorong**	**7.43**	**142**	Pn	**Pn**	**01 25 45.1**	**-0.5**
	1.3nm,0.3s,baz=304,slow=24,SNR=2.2						
FITZ	**Fitzroy Crossi**	**23.04**	**183**	P	**P**	**01 28 58.5**	**-0.5**
	0.5nm,0.6s,baz=7.6,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**25.95**	**163**	P	**P**	**01 29 25.8**	**+0.4**
	0.3nm,0.4s,baz=344,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**29.40**	**167**	P	**P**	**01 29 57.1**	**+0.8**
	0.1nm,0.4s,baz=347,slow=7.9,SNR=1.3						
MKAR	**Makanchi Array**	**56.48**	**325**	P	**P**	**01 33 34.0**	**-0.1**
	0.2nm,0.4s,baz=117,slow=6.7,SNR=5.2						

*MDD **28** 01:33:41.2±0.8,37.°16N×13.°38W,h0km,Mb4.2/17, M_mb3.6/17,Error ellipse: s-maj=7.1km s-min=5.9km az=30.0,M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
*IGIL **28** 01:33:42.5,37.°16N×13.°38W,h10km,ML2.6*
*CNRM **28** 01:33:44.0,36.°68N×13.°02W,h114km,ml3.1*
*INMG **28** 01:33:43.3±1.2,36.°98N×13.°70W,h10km,ML2.7,Error ellipse: s-maj=4.7km s-min=2.8km az=121.0*

ISC 28 01:33:39.8±3.5,**37.°22N**±0.°10×**13.°4W**±0.°2,**h10**km,**n57,** σ1**s93**/87,**18C,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.64**	**90**	*e*Pn	**Pn**	**01 34 37.2**	**+1.0**
PFVI				*e*Sn	**Sn**	**01 35 17.1**	**-2.1**
PFVI				A	A	01 35 39.5	
	23nm,0.5s						
PMST	**Lisbon--Monsan**	**3.65**	**64**	*e*Pn	**Pn**	**01 34 38.4**	**+2.1**
PMST				*e*Sn	**Sn**	**01 35 19.3**	**-0.1**
PMST				A	A	01 35 23.8	
	20nm,0.9s						
PMAFR	**Mafra**	**3.67**	**61**	*e*Pn	**Pn**	**01 34 39.1**	**+2.5**
PMAFR				*e*Sn	**Sn**	**01 35 20.6**	**+0.6**
PMAFR				A	A	01 35 29.5	
	18nm,0.5s						
PTEO	**Sao Teotonio**	**3.73**	**84**	*e*Pn	**Pn**	**01 34 38.9**	**+1.5**
PTEO				*e*Sn	**Sn**	**01 35 19.1**	**-2.2**
PTEO				A	A	01 35 33.0	
	18nm,0.4s						
MORF	**Marmelete**	**3.78**	**87**	*e*P	**Pn**	**01 34 39.1**	**+1.0**
MORF				*e*S	**Sn**	**01 35 20.4**	**-2.3**
MORF				IAML		01 35 23.5	
	comp=E,16nm,0.1s						
MORF	**Marmelete**	**3.78**	**87**	*e*Pn	**Pn**	**01 34 39.1**	**+1.0**
MORF				*e*Sn	**Sn**	**01 35 20.1**	**-2.6**
MORF				A	A	01 35 25.9	
	comp=E,9.8nm,0.1s						
PNCL	**Nicolau / Gran**	**3.96**	**75**	*e*Pn	**Pn**	**01 34 41.8**	**+1.3**
PNCL				*e*Sn	**Sn**	**01 35 25.7**	**-1.3**
PNCL				A	A	01 35 26.8	
	comp=E,6.0nm,0.7s						
PSBE	**So Bento**	**4.28**	**56**	*e*Pn	**Pn**	**01 34 47.3**	**+2.4**
PSBE				*e*Sn	**Sn**	**01 35 35.4**	**+0.5**
PSBE				A	A	01 35 43.9	
	comp=E,5.1nm,1.0s						
PCVE	**Castro Verde**	**4.28**	**83**	*e*Pn	**Pn**	**01 34 46.2**	**+1.3**
PCVE				*e*Sn	**Sn**	**01 35 32.6**	**-2.3**
PCVE				A	A	01 35 44.2	
	comp=E,2.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.35**	**88**	*e*Pn	**Pn**	**01 34 47.5**	**+1.5**
PBDV				*e*Sn	**Sn**	**01 35 36.1**	**-0.7**
PBDV				A	A	01 35 37.4	
	comp=E,5.4nm,0.4s						
EVO	**Evora**	**4.45**	**71**	P	**Pn**	**01 34 48.7**	**+1.4**
EVO				S	**Sn**	**01 35 36.8**	**-2.3**
EVO	**Evora**	**4.45**	**71**	*e*Pn	**Pn**	**01 34 49.2**	**+1.9**
EVO				*e*Sn	**Sn**	**01 35 38.6**	**-0.5**
EVO				A	A	01 35 42.4	
	comp=E,5.9nm,1.0s						
PBEJ	**Beja**	**4.46**	**78**	*e*Pn	**Pn**	**01 34 49.0**	**+1.6**
PBEJ				*e*Sn	**Sn**	**01 35 38.0**	**-1.3**
PBEJ				A	A	01 35 41.6	
	comp=E,3.0nm,0.3s						
PMTG	**Montargil**	**4.47**	**64**	*e*Pn	**Pn**	**01 34 49.4**	**+1.8**
PMTG				*e*Sn	**Sn**	**01 35 40.8**	**+1.2**
PMTG				A	A	01 35 49.5	
	comp=E,3.5nm,0.1s						
PVAQ	**Vaqueiros**	**4.52**	**86**	*e*Pn	**Pn**	**01 34 50.1**	**+1.8**
PVAQ				*e*Sn	**Sn**	**01 35 38.4**	**-2.5**
PVAQ				A	A	01 35 44.5	
	comp=E,6.8nm,0.2s						
PVAQ	**Vaqueiros**	**4.52**	**86**	P	**Pn**	**01 34 48.9**	**+0.6**
PVAQ				S	**Sn**	**01 35 37.0**	**-3.9**
EGRO	**El Granado**	**4.71**	**84**	P	**Pn**	**01 34 52.1**	**+1.2**
EGRO				⇑*i*Vmb_V		01 34 53.3	
	comp=E,198nm,SNR=1.3						
EGRO				S	**Sn**	**01 35 43.9**	**-1.7**
PCAS	**Casmilo, Conde**	**4.76**	**52**	*e*Pn	**Pn**	**01 34 53.7**	**+2.1**
PCAS				*e*Sn	**Sn**	**01 35 46.9**	**+0.1**
PCAS				A	A	01 35 51.1	
	comp=E,5.5nm,0.7s						
PMPST	**Porto Santo, M**	**4.78**	**211**	*e*Sn	Sn	01 35 30.9	-16
PMPS	**Porto Santo**	**4.80**	**211**	*e*Sn	Sn	01 35 29.2	-19
PMPS				A	A	01 35 34.2	
	comp=E,46nm,0.8s						
PESTR	**Estremoz**	**4.86**	**68**	*e*Pn	**Pn**	**01 34 55.1**	**+2.1**
PESTR				*e*Sn	**Sn**	**01 35 48.9**	**-0.5**
PESTR				A	A	01 35 55.1	
	comp=E,1.4nm,0.3s						
PESTR	**Estremoz**	**4.86**	**68**	P	**Pn**	**01 34 54.7**	**+1.7**
PESTR				S	**Sn**	**01 35 48.2**	**-1.2**
PBAR	**Barrancos**	**5.12**	**77**	*e*Pn	**Pn**	**01 34 58.4**	**+1.8**
PBAR				*e*Sn	**Sn**	**01 35 53.9**	**-1.9**
PBAR				A	A	01 36 03.1	
	comp=E,2.8nm,0.3s						
PMRV	**Marv??o**	**5.21**	**63**	*e*Pn	**Pn**	**01 34 59.5**	**+1.8**
PMRV				*e*Sn	**Sn**	**01 35 56.9**	**-0.9**
PMRV				A	A	01 36 08.2	
	comp=E,3.0nm,0.5s						
EBAD	**Badajoz**	**5.26**	**71**	P	**Pn**	**01 34 59.9**	**+1.4**
EBAD				⇑*i*Vmb_V		01 35 01.5	
	comp=E,234nm,SNR=1.5						
EBAD				S	**Sn**	**01 35 59.6**	**+0.4**
PCBR	**Castelo Branco**	**5.32**	**59**	*e*Pn	**Pn**

EARI	**Arriondas**	**8.71**	**43**	⇑*i*Vmb_V			01 35 50.9	
	comp=E,12nm,SNR=2.5							
EARI				S		**Sn**	**01 37 21.5**	**-2.7**
ETOR	**Torete**	**9.52**	**64**	P		**Pn**	**01 35 59.0**	**+2.0**
ETOR				⇑*i*Vmb_V			01 36 00.9	
	comp=E,73nm,SNR=0.5							

*PRE **28** 01:34:47.5±0.8,26°.92S×26°.76E, h2km, ML2.9*
*EAF **28** 01:34:49.1±0.9,26°.95S×26°.81E, h0km±8km, MD3.9*
*BUL **28** 01:34:49.1±1.1,26°.95S×26°.81E, h0km±9km, MD4.2*
ISC 28 01:34:48.2±1.8,26°.93S±0°.04×26°.81E±0°.04, h8km±12km, n23, σ2s07/46, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSR	**Koster**	**1.07**	**4**	*e*P		**Pg**	**01 35 07.9**	**-1.0**
KSR				*e*S		**Sg**	**01 35 22.8**	**-0.1**
KSR				IAML			01 35 29.3	
	comp=Z,407nm,0.1s							
SWZ	**Schweizer**	**1.34**	**259**	*e*P		**Pn**	**01 35 12.4**	**-1.0**
SWZ				*e*S		**Sb**	**01 35 30.5**	**-0.7**
SWZ				IAML			01 35 33.5	
	comp=Z,172nm,0.7s							
SNKL	**Senekal, Frees**	**1.59**	**148**	*e*P		**Pn**	**01 35 18.3**	**+1.4**
SNKL				*e*S		**Sn**	**01 35 39.6**	**+1.9**
SNKL				IAML			01 35 40.6	
	comp=Z,72nm,0.6s							
BOSA	**Boshof**	**2.17**	**219**	*e*P		**Pn**	**01 35 25.3**	**+0.5**
BOSA				*e*S		**Sn**	**01 35 53.1**	**+1.1**
BOSA				IAML			01 36 10.0	
	comp=Z,40nm,5.0s							
BOSA	**Boshof**	**2.17**	**219**	*i* P		**Pn**	**01 35 25.8**	**+1.0**
BOSA				*i* Sg		**Sn**	**01 35 55.8**	**+3.8**
BOSA	**Boshof**	**2.17**	**219**	*i* P		**Pn**	**01 35 25.8**	**+1.0**
BOSA				*i* Sg		**Sn**	**01 35 55.8**	**+3.8**
LBTB	**Lobatse**	**2.20**	**330**	*i* P		**Pn**	**01 35 27.1**	**+1.9**
LBTB				*i* Sg		**Sb**	**01 35 57.5**	**+1.8**
LBTB	**Lobatse**	**2.20**	**330**	*i* P		**Pn**	**01 35 27.1**	**+1.9**
LBTB				*i* Sg		**Sb**	**01 35 57.5**	**+1.8**
CNG	**Changalane**	**4.86**	**84**	*i* P		**Pn**	**01 36 03.1**	**+1.5**
CNG				*i* S		**Sn**	**01 36 55.6**	**-2.5**
CNG	**Changalane**	**4.86**	**84**	*i* P		**Pn**	**01 36 03.1**	**+1.5**
CNG				*i* S		**Sn**	**01 36 55.6**	**-2.5**
UPI	**Upington**	**5.13**	**253**	*e*P		**Pn**	**01 36 06.3**	**+0.8**
UPI				*e*S		**Sn**	**01 37 03.5**	**-1.5**
UPI				IAML			01 37 35.2	
	comp=Z,18nm,3.9s							
MOPA	**Mopani**	**5.37**	**52**	*e*P		**Pn**	**01 36 09.5**	**+0.9**
MOPA				*e*S		**Sn**	**01 37 09.8**	**-0.8**
MOPA				IAML			01 37 10.4	
	comp=Z,13nm,7.1s							
MOPA	**Mopani**	**5.37**	**52**	*i* P		**Pn**	**01 36 10.2**	**+1.6**
MOPA				*i* S		**Sn**	**01 37 09.0**	**-1.7**
MOPA	**Mopani**	**5.37**	**52**	*i* P		**Pn**	**01 36 10.2**	**+1.6**
MOPA				*i* S		**Sn**	**01 37 09.0**	**-1.7**
MSNA	**Messina**	**5.42**	**33**	*e*P		**Pn**	**01 36 10.0**	**+0.6**
MSNA				*e*S		**Sn**	**01 37 09.5**	**-2.5**
MSNA				IAML			01 37 46.4	
	comp=Z,16nm,3.3s							
MSNA	**Messina**	**5.42**	**33**	*i* P		**Pn**	**01 36 10.0**	**+0.6**
MSNA				*i* S		**Sn**	**01 37 10.0**	**-2.0**
MSNA	**Messina**	**5.42**	**33**	*i* P		**Pn**	**01 36 10.0**	**+0.6**
MSNA				*i* S		**Sn**	**01 37 10.0**	**-2.0**
KEIM	**Keimoes**	**5.47**	**250**	*e*P		**Pn**	**01 36 09.7**	**-0.4**
KEIM				*e*S		**Sn**	**01 37 10.4**	**-2.9**
KEIM				IAML			01 37 46.3	
	comp=Z,37nm,3.6s							
MATP	**Matopo**	**6.65**	**14**	*i* P		**Pn**	**01 36 27.9**	**+1.5**
MATP				*i* S		**Sn**	**01 37 39.4**	**-3.2**
MATP	**Matopo**	**6.65**	**14**	*i* P		**Pn**	**01 36 27.9**	**+1.5**
MATP				*i* S		**Sn**	**01 37 39.4**	**-3.2**
BLWY	**Bulawayo**	**6.96**	**14**	*i* P		**Pn**	**01 36 32.1**	**+1.5**
BLWY				*i* S		**Sn**	**01 37 46.2**	**-3.8**
BLWY	**Bulawayo**	**6.96**	**14**	*i* P		**Pn**	**01 36 32.1**	**+1.5**
BLWY				*i* S		**Sn**	**01 37 46.2**	**-3.8**
CVNA	**Calvinia**	**7.65**	**232**	*e*P		**Pn**	**01 36 40.8**	**+0.7**
CVNA				*e*S		**Sn**	**01 38 03.6**	**-3.5**
CVNA				IAML			01 38 08.4	
	comp=Z,39nm,2.9s							

*IDC **28** 01:55:01.2±1.8,6°.38S×130°.33E, h90km±18km, mb3.8/10, mb1 4.0/14, mb1mx3.7/31, mbtmp4.2/14, Error ellipse: s-maj=18.1km s-min=11.9km az=90.0*
*DJA **28** 01:55:02.5±0.3,6°.5S×13°.0E±°, h137km±6km, M4.6/7, mb4.5/4, mB5.4/4, MLv4.6/7, Mw(mB)4.8/4*
*NEIC **28** 01:55:03.4±2.4,6°.38S±0°.07×130°.2E±0°.1, h108km±8km, mb4.1/13, Error ellipse: s-maj=14.7km s-min=9.6km az=88.0*
ISC 28 01:55:01.9±0.5,6°.41S±0°.04×130°.34E±0°.06, h100km, n62, σ2s11/63, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.83**	**149**	Pn		**Pn**	**01 55 35.5**	**+3.2**
SAUI	**Saumlaki**	**1.83**	**149**	P		**Pn**	**01 55 35.4**	**+3.2**
SAUI				S		**Sn**	**01 55 57.6**	**+2.2**
BNDI	**Bandanaira**	**1.93**	**347**	P		**Pn**	**01 55 37.1**	**+3.6**
MSAI	**Masohi**	**3.36**	**335**	P		Pn	01 55 56.5	+4.1
MSAI				S		**Sn**	**01 56 35.1**	**+3.6**
AAI	**Ambon**	**3.45**	**322**	P		**Pn**	**01 55 56.8**	**+3.1**
FAKI	**Fak Fak**	**3.96**	**29**	Pn		**Pn**	**01 56 02.0**	**+1.5**
FAKI	**Fak Fak**	**3.96**	**29**	P		**Pn**	**01 56 02.0**	**+1.5**
SIJI	**Sorong**	**5.58**	**10**	P		**Pn**	**01 56 23.3**	**+0.7**
	11nm,0.3s,baz=254,slow=22,SNR=49							
SIJI				S		**Sn**	**01 57 22.4**	**-3.1**
	20nm,0.3s,baz=70,slow=23,SNR=5.4							
SWI	**Sorong**	**5.59**	**9**	P		**Pn**	**01 56 24.8**	**+2.2**
SWI				S		**Sn**	**01 57 22.2**	**-3.4**
MTN	**Manton Dam**	**6.44**	**173**	Pn		**Pn**	**01 56 34.3**	**+0.2**
MTN	**Manton Dam**	**6.44**	**173**	P		**Pn**	**01 56 35.0**	**+0.9**
KDU	**Kakadu**	**6.58**	**162**	P		**Pn**	**01 56 35.9**	**-0.1**
BATI	**Baumata**	**7.61**	**240**	P		**Pn**	**01 56 51.0**	**+0.9**
	6.3nm,0.3s,baz=106,slow=3.3,SNR=6.8							
BATI				S		**Sn**	**01 58 12.6**	**-2.2**
	6.7nm,0.3s,baz=327,slow=22,SNR=2.0							
KNRA	**Kununurra**	**9.34**	**189**	Pn		**Pn**	**01 57 11.3**	**-2.2**
KNRA	**Kununurra**	**9.34**	**189**	P		**Pn**	**01 57 12.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.49**	**201**	P		**Pn**	**01 57 51.6**	**-4.4**
	2.5nm,0.3s,baz=33,slow=9.1,SNR=59							
FITZ				S		Sn	01 59 59.2	-14
	3.6nm,0.3s,baz=97,slow=14,SNR=12							
FITZ	**Fitzroy Crossi**	**12.49**	**201**	Pn		**Pn**	**01 57 52.9**	**-3.1**
WB0	**Warramunga Arr**	**13.85**	**164**	Pn		**Pn**	**01 58 09.5**	**-4.4**
WRA	**Warramunga Arr**	**14.00**	**164**	P		**Pn**	**01 58 11.6**	**-4.2**
	3.2nm,0.3s,baz=347,slow=13,SNR=85							
WRA				S		Sn	02 00 38.0	-12
	5.9nm,0.3s,baz=342,slow=22,SNR=20							
WRA	**Warramunga Arr**	**14.00**	**164**	Pn		Pn	01 58 10.7	-5.2
WB2	**Warramunga Arr**	**14.00**	**164**	Pn		**Pn**	**01 58 11.8**	**-4.1**
WR0	**Warramunga Arr**	**14.07**	**164**	Pn		**Pn**	**01 58 12.6**	**-4.2**
COEN	**Coen**	**14.68**	**122**	Pn		**Pn**	**01 58 22.3**	**-2.4**
COEN	**Coen**	**14.68**	**122**	P		**Pn**	**01 58 22.5**	**-2.2**
QIS	**Mount Isa**	**16.69**	**148**	P		**Pn**	**01 58 48.9**	**-0.8**
PMG	**Port Moresby**	**16.92**	**101**	P		**P**	**01 58 53.0**	**0.0**
	2.1nm,0.3s,baz=272,slow=16,SNR=2.6							
AS31	**Alice Springs**	**17.49**	**169**	P		**P**	**01 58 58.3**	**-1.0**
AS31				IAmb		IAmb	01 59 02.5	
	comp=Z,7.1nm,0.4s							
ASAR	**Alice Springs**	**17.49**	**169**	P		**P**	**01 58 58.1**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=336,slow=7.9,SNR=66							
ASAR				S		Sn	02 01 58.9	-16
	comp=Z,0.6nm,0.3s,baz=340,slow=21,SNR=5.8							
PSA00	**Pilbara Seismi**	**18.17**	**213**	P		**Pn**	**01 59 06.6**	**-1.1**
PSA00				IAmb		IAmb	01 59 11.0	
	comp=Z,11nm,1.1s							
WRKA	**Warakurna**	**18.62**	**186**	P		**Pn**	**01 59 12.4**	**-0.7**
CTA	**Charters Tower**	**20.58**	**133**	P		Pn	01 59 35.0	-1.0
	comp=Z,5.7nm,0.6s,baz=315,slow=10,SNR=8.0							
CTA	**Charters Tower**	**20.58**	**133**	P		Pn	01 59 34.0	-2.1
OOD	**Oodnadatta**	**21.86**	**167**	P		**P**	**01 59 46.7**	**+0.2**
INKA	**Innaminka**	**23.40**	**156**	P		**P**	**02 00 03.8**	**+1.9**
QLP	**Quilpie**	**24.03**	**148**	P		**P**	**02 00 08.9**	**+1.2**
FORT	**Forrest**	**24.33**	**185**	P		**P**	**02 00 10.7**	**+0.3**
BBOO	**Buckleboo**	**26.80**	**169**	P		**P**	**02 00 32.9**	**+0.2**
BBOO				IAmb		IAmb	02 01 00.0	
	comp=Z,7.1nm,1.1s							
STKA	**Stephens Creek**	**27.43**	**159**	P		**P**	**02 00 38.3**	**0.0**
	comp=Z,1.5nm,0.4s,baz=329,slow=11,SNR=8.0							
STKA	**Stephens Creek**	**27.43**	**159**	P		**P**	**02 00 38.8**	**+0.5**
CAN	**Canberra**	**33.50**	**152**	P		**P**	**02 01 33.8**	**+1.9**

CMAR	**Chiang Mai Arr**	**39.62**	**309**	P		**P**	**02 02 24.6**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=129,slow=8.3,SNR=1.3							
CMAR	**Chiang Mai Arr**	**39.62**	**309**	P		**P**	**02 02 23.3**	**-0.8**
PZH	**PanZhiHua**	**42.89**	**321**	P		**P**	**02 02 52.0**	**+1.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,120nm,5.1s							
MJAR	**Matsushiro Arr**	**43.36**	**9**	P		**P**	**02 02 54.1**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=207,slow=9.3,SNR=4.6							
MJAR	**Matsushiro Arr**	**43.36**	**9**	P		**P**	**02 02 54.4**	**0.0**
MJAR				IAmb	IAmb		02 02 54.8	
	comp=Z,1.4nm,0.5s							
HHC	**Hu-ho-hao-te**	**50.10**	**341**	*e*P		**P**	**02 03 50.5**	**+3.6**
HHC				pmax	pmax			
	comp=Z,14nm,0.9s							
HHC				pmax	pmax			
	comp=Z,92nm,4.7s							
ULN	**Ulaanbaatar**	**57.82**	**342**	P		**P**	**02 04 43.7**	**+0.7**
SONM	**Songino Array**	**58.00**	**341**	P		**P**	**02 04 44.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=159,slow=7.5,SNR=12							
SONM	**Songino Array**	**58.00**	**341**	P		**P**	**02 04 45.2**	**+1.0**
SONM				IAmb	IAmb		02 04 47.1	
	comp=Z,1.0nm,0.8s							
WMQ	**Urumqi**	**63.09**	**327**	*e*P		**P**	**02 05 22.3**	**+3.4**
PETK	**Petropavlovsk-**	**63.66**	**18**	P		**P**	**02 05 22.7**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=199,slow=8.5,SNR=2.7							
MK31	**Makanchi Array**	**67.92**	**327**	P		**P**	**02 05 50.5**	**+0.6**
MK31				IAmb	IAmb		02 05 51.3	
	comp=Z,2.5nm,0.6s							
MKAR	**Makanchi Array**	**67.92**	**327**	P		**P**	**02 05 50.6**	**+0.7**
	comp=Z,3.4nm,0.5s,baz=112,slow=8.8,SNR=66							
MKAR	**Makanchi Array**	**67.92**	**327**	P		**P**	**02 05 50.9**	**+1.0**
BOOM	**Boomskoye usch**	**69.32**	**320**	P		**P**	**02 05 59.7**	**+0.9**
BOOM				IAmb	IAmb		02 06 00.5	
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**71.21**	**334**	P		**P**	**02 06 09.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=117,slow=6.6,SNR=6.0							
ZALV	**Zalesovo Beam**	**71.21**	**334**	P		**P**	**02 06 09.7**	**-0.2**
VNDA	**Vanda**	**72.98**	**173**	P		**P**	**02 06 20.4**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=287,slow=16,SNR=2.0							
VNDA	**Vanda**	**72.98**	**173**	P		**P**	**02 06 21.3**	**+1.1**
ABKAR	**Akbulak array**	**82.26**	**321**	P		**P**	**02 07 11.4**	**-0.7**
QSPA	**South Pole Qui**	**83.56**	**180**	P		**P**	**02 07 18.4**	**-0.4**
ILAR	**Eielson Array**	**92.67**	**25**	P		**P**	**02 08 00.6**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=258,slow=4.5,SNR=2.3							

*CNRM **28** 01:56:55.0,35°.91N×3°.35W, h21km, ml2.4*
*SFS **28** 01:56:56.0,35°.81N×3°.49W, ML2.4, ALBORAN SUR*
*MDD **28** 01:56:56.7±0.3,35°.82N×3°.49W, h0km, mb_Lg2.5/11, Error ellipse: s-maj=2.9km s-min=2.2km az=20.0*
ISC 28 01:56:56.4±1.0,35°.78N±0°.02×3°.50W±0°.03, h14km±9km, n29, σ1s26/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EALB	**Alboran**	**0.41**	**67**	Pg		**Pg**	**01 57 04.4**	**-0.2**
EALB				Sg		**Sg**	**01 57 09.8**	**-0.4**
EALB				*i* Vmb_Lg			01 57 11.8	
EMEL	**Melilla**	**0.65**	**137**	Pg		**Pg**	**01 57 09.6**	**+0.5**
EMEL				Sg		**Sg**	**01 57 18.6**	**+0.9**
PALE	**Palemas**	**0.67**	**213**	P		**Pb**	**01 57 11.0**	**+1.1**
PALE				S		**Sn**	**01 57 21.8**	**+0.1**
GOG	**Mont Gurugu**	**0.69**	**144**	P		**Pg**	**01 57 10.3**	**+0.5**
GOG				S		**Sg**	**01 57 19.5**	**+0.6**
PVLZ	**Peæn de**	**0.89**	**228**	P		**Pb**	**01 57 11.2**	**-2.5**
PVLZ				S		**Sb**	**01 57 26.1**	**+0.7**
ELGU	**Los Guajares,**	**1.09**	**354**	Pn		**Pb**	**01 57 15.6**	**-1.6**
ELGU				Sn		**Sb**	**01 57 30.5**	**-0.9**
ELGU				*i* Vmb_Lg			01 57 33.5	
EBER	**Berja**	**1.22**	**23**	Pn		**Pn**	**01 57 18.4**	**-0.8**
EBER				Sn		**Sg**	**01 57 35.5**	**-0.4**
EBER				*i* Vmb_Lg			01 57 40.2	
EMAL	**Malaga-Limoner**	**1.24**	**323**	P		**Pn**	**01 57 18.0**	**-1.3**
EMAL				S		**Sb**	**01 57 32.6**	**-2.8**
EMIJ	**Mijas**	**1.30**	**308**	Pn		**Pn**	**01 57 18.7**	**-1.5**
EMIJ				Sn		**Sb**	**01 57 35.9**	**-1.2**
EMIJ				*i* Vmb_Lg			01 57 41.5	
TAF	**Taforalt**	**1.31**	**137**	P		**Pn**	**01 57 19.5**	**-0.8**
TAF				S		**Sb**	**01 57 33.8**	**-3.6**
EGOR	**Sierra Gorda,**	**1.42**	**340**	Pn		**Pn**	**01 57 22.0**	**+0.1**
EGOR				Sn		**Sb**	**01 57 40.7**	**0.0**
EGOR				Sg		**Sg**	**01 57 43.8**	**+1.6**
EGOR				*i* Vmb_Lg			01 57 48.7	
ECEU	**Ceuta**	**1.53**	**275**	Pg		**Pn**	**01 57 22.7**	**-0.7**
ECEU				Pn		**Pb**	**01 57 23.0**	**-1.6**
ECEU				Sn		**Sn**	**01 57 43.3**	**+0.3**
ECEU				*i* Vmb_Lg			01 57 48.5	
SMIR	**Smir Dam**	**1.54**	**267**	P		**Pn**	**01 57 22.7**	**-0.7**
SMIR				S		**Sb**	**01 57 44.9**	**+1.0**
ENIJ	**Nijar**	**1.58**	**41**	Pn		**Pb**	**01 57 25.4**	**-0.1**
ENIJ				Sn		**Sb**	**01 57 44.7**	**-0.7**
ENIJ				*i* Vmb_Lg			01 57 52.4	
JBK	**JBK**	**1.63**	**152**	P		**Pn**	**01 57 23.0**	**-1.9**
JBK				S		**Sb**	**01 57 48.4**	**+1.6**
ESPR	**Espera**	**2.19**	**300**	Sg		**Sb**	**01 58 03.9**	**+0.9**
LCRM	**LCR**	**2.37**	**209**	P		**Pn**	**01 57 36.4**	**+1.4**
LCRM				S		**Sg**	**01 58 11.6**	**-1.0**
EADA	**Adamuz**	**2.54**	**340**	Pn		**Pn**	**01 57 37.8**	**+0.6**
EADA				Pg		**Pb**	**01 57 41.5**	**-0.3**
EADA				Sn		**Sn**	**01 58 09.1**	**+1.2**
EADA				Sg		**Sb**	**01 58 14.1**	**+1.2**
EADA				*i* Vmb_Lg			01 58 20.8	
IFR	**Ifrane**	**2.63**	**211**	P		**Pn**	**01 57 39.0**	**+0.5**
IFR				S		**Sn**	**01 58 08.2**	**-2.2**
ECAB	**El Cabril**	**2.76**	**327**	Pn		**Pn**	**01 57 40.7**	**+0.4**
ECAB				Pg		**Pb**	**01 57 45.4**	**-0.2**
ECAB				Sn		**Sn**	**01 58 14.9**	**+1.5**
ECAB				Sg		**Sb**	**01 58 20.4**	**+1.1**
MD31	**MD31**	**3.09**	**200**	P		**Pn**	**01 57 45.6**	**+0.8**
MD31				S		**Sn**	**01 58 22.4**	**+0.9**
MDT	**Midelt**	**3.10**	**198**	P		**Pn**	**01 57 46.2**	**+1.3**
MDT				S		**Sn**	**01 58 24.3**	**+2.5**
EMIN	**Mina Concepcio**	**3.23**	**309**	Pn		**Pn**	**01 57 46.6**	**-0.1**
EMIN				Sn		**Sn**	**01 58 24.9**	**-0.1**
ETOB	**Tobarra**	**3.26**	**28**	Pn		**Pn**	**01 57 48.3**	**+1.2**
EGRO	**El Granado**	**3.65**	**300**	Pn		**Pn**	**01 57 53.2**	**+0.7**
EGRO				Sn		**Sn**	**01 58 35.9**	**+0.5**
PVAQ	**Vaqueiros**	**3.77**	**297**	P		**Pn**	**01 57 52.9**	**-1.2**
PVAQ				S		**Sn**	**01 58 37.0**	**-1.1**
PAB	**San Pablo**	**3.82**	**350**	Pn		**Pn**	**01 57 55.9**	**+1.0**
ESDC	**Sonseca Array**	**3.91**	**355**	Pn		**Pn**	**01 57 57.8**	**+1.7**
EBAD	**Badajoz**	**4.09**	**318**	Pn		**Pn**	**01 57 59.6**	**+1.2**
EBAD				Sn		**Sn**	**01 58 45.9**	**-0.2**

*NOU **28** 02:32:29.4,38°.98S×175°.43E, h18km, MLv3.6/6, North Island, New Zealand*
*WEL **28** 02:32:29.4,39°.S±2°.×17°.5E±°, h11km±3km, M2.8/19, ML3.0/19, MLv2.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=69.8*
ISC 28 02:32:28.5±1.0,39°.11S±0°.02×175°.32E±0°.03, h12km±8km, n88, σ0s87/97, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWVZ	**Taurewa**	**0.10**	**69**	P		**Pg**	**02 32 32.1**	**+0.7**
WTVZ	**West Tongariro**	**0.21**	**92**	P		**Pg**	**02 32 33.3**	**+0.2**
NGZ	**Ngauruhoe**	**0.23**	**107**	P		**Pg**	**02 32 33.5**	**-0.1**
NNVZ	**North Ngauruho**	**0.23**	**96**	P		**Pg**	**02 32 33.7**	**+0.1**
FWVZ	**Far West T-bar**	**0.24**	**129**	P		**Pg**	**02 32 33.4**	**-0.3**
FWVZ				S		**Sg**	**02 32 36.8**	**-0.3**
KRVZ	**Karewarewa**	**0.25**	**87**	P		**Pg**	**02 32 34.0**	**+0.1**
KRVZ				S		**Sg**	**02 32 37.8**	**+0.3**
DRZ	**Dome Shelter**	**0.26**	**131**	P		**Pg**	**02 32 33.7**	**-0.3**
TRVZ	**Turoa**	**0.26**	**137**	P		**Pg**	**02 32 33.7**	**-0.4**
TRVZ				S		**Sg**	**02 32 37.2**	**-0.6**
SNVZ	**South Ngauruho**	**0.27**	**107**	P		**Pg**	**02 32 34.0**	**0.0**
WHVZ	**Whangaehu Hut**	**0.28**	**130**	P		**Pg**	**02 32 33.8**	**-0.5**
OTVZ	**Oturere**	**0.28**	**102**	P		**Pg**	**02 32 34.3**	**0.0**
OTVZ				S		**Sg**	**02 32 38.6**	**+0.4**
NTVZ	**North Tongariro**	**0.28**	**88**	P		**Pg**	**02 32 34.4**	**+0.1**
NTVZ				S		**Sg**	**02 32 38.3**	**+0.1**
MTVZ	**Mangateitei**	**0.30**	**156**	P		**Pg**	**02 32 34.0**	**-0.7**
TMVZ	**Te Maari**	**0.30**	**92**	P		**Pg**	**02 32 34.8**	**+0.1**
TMVZ				S		**Sg**	**02 32 39.0**	**+0.1**
ETVZ	**East Tongariro**	**0.31**	**95**	P		**Pg**	**02 32 34.8**	**0.0**
TUVZ	**Tukino**	**0.31**	**121**	P		**Pg**	**02 32 34.7**	**-0.2**
WNVZ	**Wahianoa**	**0.31**	**135**	P		**Pg**	**02 32 34.5**	**-0.5**
WNVZ				S		**Sg**	**02 32 38.5**	**-0.7**

KATZ	**Kakaramea**	**0.32**	**66**	P		**Pg**	**02 32 35.5**	**+0.4**
KATZ				S		**Sg**	**02 32 40.3**	**+0.8**
RATZ	**Rangitukua**	**0.43**	**56**	P		**Pb**	**02 32 37.5**	**-0.6**
RITZ	**Rihia Road**	**0.44**	**73**	P		**Pg**	**02 32 37.5**	**+0.3**
MOVZ	**Moawhango**	**0.45**	**131**	P		**Pg**	**02 32 36.7**	**-0.8**
MOVZ				S		**Sg**	**02 32 41.9**	**-1.6**
WATZ	**Wairara**	**0.52**	**39**	P		**Pb**	**02 32 39.1**	**-0.5**
HATZ	**Hinemaiaia**	**0.64**	**71**	P		**Pg**	**02 32 41.1**	**+0.1**
WHTZ	**Whakaora**	**0.67**	**49**	P		**Pg**	**02 32 42.2**	**+0.7**
HIZ	**Hauiti**	**0.69**	**329**	P		**Pn**	**02 32 42.8**	**-1.5**
HIZ	**Hauiti**	**0.69**	**329**	P		**Pn**	**02 32 42.7**	**-1.5**
WAZ	**Wanganui**	**0.69**	**201**	P		**Pb**	**02 32 41.3**	**-1.4**
KUTZ	**Kaahu Road**	**0.73**	**33**	P		**Pg**	**02 32 42.8**	**0.0**
TLZ	**Tolley Road**	**0.80**	**13**	P		**Pb**	**02 32 43.4**	**-1.0**
WPRZ	**Whakapapatarin**	**0.89**	**49**	P		**Pg**	**02 32 45.5**	**-0.1**
MRHZ	**Matea Rd**	**0.90**	**73**	P		**Pb**	**02 32 45.3**	**-0.8**
KWHZ	**Kaweka Forest**	**0.92**	**111**	P		**Pb**	**02 32 45.8**	**-0.6**
BKZ	**Black Stump Fm**	**0.92**	**94**	P		**Pb**	**02 32 45.6**	**-0.9**
BKZ	**Black Stump Fm**	**0.92**	**94**	P		**Pb**	**02 32 45.8**	**-0.6**
KRHZ	**Kereru**	**0.98**	**124**	P		**Pb**	**02 32 46.7**	**-0.8**
GRRZ	**Galatos Road**	**0.98**	**40**	P		**Pg**	**02 32 47.4**	**0.0**
MCHZ	**McNeill Hill**	**1.12**	**108**	P		**Pg**	**02 32 50.7**	**+0.6**
NMHZ	**Naumai**	**1.16**	**90**	P		**Pg**	**02 32 50.9**	**+0.1**
NGRZ	**Ngongotaha**	**1.22**	**35**	P		**Pg**	**02 32 51.8**	**0.0**
MTHZ	**Maungataniwha**	**1.22**	**78**	P		**Pn**	**02 32 50.8**	**-0.6**
ARHZ	**Aropaoanui**	**1.32**	**97**	P		**Pg**	**02 32 54.5**	**+0.7**
POWZ	**Post Office Ro**	**1.33**	**165**	P		**Pn**	**02 32 52.5**	**-0.4**
TOZ	**Tahuroa Road**	**1.38**	**6**	P		**Pb**	**02 32 53.2**	**-1.1**
KAHZ	**Kahuranaki**	**1.39**	**120**	P		**Pb**	**02 32 54.8**	**+0.3**
RTZ	**Ruatahuna**	**1.39**	**70**	P		**Pb**	**02 32 53.5**	**-1.0**
RAHZ	**Arahi**	**1.39**	**83**	P		**Pg**	**02 32 55.4**	**+0.1**
PXZ	**Pawanui**	**1.51**	**128**	P		**Pg**	**02 32 59.7**	**+2.2**
PRWZ	**Pori Road**	**1.53**	**161**	P		**Pb**	**02 32 56.6**	**-0.3**
PRHZ	**Porangahau**	**1.54**	**139**	P		**Pb**	**02 32 56.8**	**-0.2**
TGRZ	**Tauranga**	**1.56**	**29**	P		**Pg**	**02 32 57.8**	**-0.7**
MRZ	**Mangatainoka R**	**1.56**	**173**	P		**Pn**	**02 32 56.2**	**0.0**
OPRZ	**Ohinepanea**	**1.59**	**38**	P		**Pb**	**02 32 58.0**	**+0.1**
ANWZ	**Angora Road**	**1.62**	**147**	P		**Pb**	**02 32 59.0**	**+0.6**
OGWZ	**Otaki Gorge**	**1.71**	**184**	P		**Pn**	**02 32 58.0**	**-0.2**
TIWZ	**Tintock**	**1.72**	**165**	P		**Pb**	**02 33 00.0**	**-0.1**
BFZ	**Birch Farm**	**1.73**	**156**	P		**Pb**	**02 32 59.2**	**-1.0**
BFZ	**Birch Farm**	**1.73**	**156**	P		**Pb**	**02 32 59.9**	**-0.3**
RAGZ	**Rawiri**	**1.75**	**70**	P		**Pg**	**02 33 01.3**	**-0.8**
KIW	**Kapiti Island**	**1.78**	**190**	P		**Pn**	**02 32 58.8**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.79**	**175**	P		**Pb**	**02 33 00.2**	**-1.2**
**DU

comp=Z,100nm,18.8s,baz=268,slow=43
FITZ Fitzroy Crossi 17.52 174 P **Pn 02 51 40.6 -0.8**
0.1nm,0.3s,baz=23,slow=11,SNR=6.3
FITZ Fitzroy Crossi 17.52 174 P **Pn 02 51 40.9 -0.5**
PSA00 Pilbara Seismi 21.19 190 P **P 02 52 23.1 +1.6**
PSA00 IAmb IAmb 02 52 24.8
comp=Z,12nm,0.7s
WB0 Warramunga Arr 21.79 152 P **P 02 52 27.1 -0.9**
WB0 IAmb IAmb 02 52 45.3
comp=Z,18nm,0.8s
WRA Warramunga Arr 21.92 152 P **P 02 52 28.4 -0.9**
comp=Z,3.5nm,0.7s,baz=328,slow=11,SNR=38
WRA LR LR 03 01 46.8
comp=Z,74nm,19.0s,baz=320,slow=38
WRA Warramunga Arr 21.92 152 P **P 02 52 28.5 -0.9**
WB2 Warramunga Arr 21.92 152 P **P 02 52 29.3 -0.1**
WB2 IAmb IAmb 02 52 36.9
comp=Z,9.3nm,0.8s
WR0 Warramunga Arr 22.03 152 P **P 02 52 29.5 -1.0**
WR0 IAmb IAmb 02 52 48.1
comp=Z,12nm,0.8s
COEN Coen 23.47 125 P **P 02 52 45.6 +0.2**
COEN PcP **PcP 02 56 31.7 +2.1**
UBPT Khong Chiam 23.88 312 P **P 02 52 49.5 +0.5**
UBPT IAmb IAmb 02 52 51.3
comp=Z,13nm,0.9s
YULB Yu-li 23.93 355 P **P 02 52 51.6 +2.3**
YULB IAmb IAmb 02 53 20.8
comp=Z,17nm,0.9s
PSI Prapat 24.92 278 LR LR 03 02 22.5
comp=Z,150nm,21.4s,baz=94,slow=36
PMG Port Moresby 25.01 111 P **P 02 52 59.6 +0.3**
comp=Z,12nm,0.7s,baz=201,slow=6.2,SNR=3.9
PMG Port Moresby 25.01 111 P **P 02 53 00.5 +1.2**
PMG IAmb IAmb 02 53 03.0
comp=Z,34nm,1.2s
AS31 Alice Springs 25.02 157 P **P 02 53 00.4 +1.0**
AS31 **PcP 02 56 34.2 +1.3**
ASAR Alice Springs 25.02 157 P **P 02 53 00.2 +0.9**
comp=Z,4.1nm,0.6s,baz=327,slow=6.3,SNR=60
ASAR PcP **PcP 02 56 33.7 +0.8**
comp=Z,2.6nm,0.7s,baz=349,slow=1.9,SNR=20
CTA Charters Tower 29.43 133 LR LR 03 06 03.5
comp=Z,50nm,18.6s,baz=260,slow=37
FORT Forrest 30.33 172 P **P 02 53 46.6 -0.1**
CM31 Chiang Mai Arr 30.77 309 P **P 02 53 53.0 +2.3**
CMAR Chiang Mai Arr 30.77 309 P **P 02 53 51.1 +0.4**
comp=Z,3.6nm,0.4s,baz=135,slow=6.6,SNR=18
CMAR PcP **PcP 02 56 47.7 +0.8**
comp=Z,1.0nm,0.3s,baz=198,slow=3.1,SNR=4.4
CMAR LR LR 03 06 35.5
comp=Z,69nm,21.1s,baz=130,slow=37
CMAR Chiang Mai Arr 30.77 309 P **P 02 53 51.9 +1.2**
CMAR **PcP 02 56 47.8 +0.9**
CHTO Chiang Mai 30.97 310 P **P 02 53 53.6 +1.1**
CHTO IAmb IAmb 02 53 55.3
comp=Z,10.0nm,1.0s
JCJ Chichijima 32.80 32 P **P 02 54 08.5 0.0**
comp=Z,38nm,0.4s,baz=278,slow=15,SNR=5.8
JCJ Chichijima 32.80 32 P **P 02 54 09.3 +0.9**
BBOO Buckleboo 34.13 161 P **P 02 54 20.5 +0.5**
PZH PanZhiHua 34.20 324 P **P 02 54 24.5 +3.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.9s
STKA Stephens Creek 35.46 153 P **P 02 54 31.6 +0.1**
comp=Z,2.1nm,0.7s,baz=315,slow=8.9,SNR=5.5
STKA PcP **PcP 02 57 00.5 +0.7**
comp=Z,1.6nm,0.5s,baz=342,slow=18,SNR=3.9
STKA Stephens Creek 35.46 153 P **P 02 54 32.1 +0.7**
STKA PcP **PcP 02 57 01.3 +1.5**
MJAR Matsushiro Arr 39.34 19 P **P 02 55 01.1 -3.1**
comp=Z,2.0nm,0.5s,baz=192,slow=8.5,SNR=4.3
MJAR LR LR 03 09 31.7
comp=Z,27nm,19.9s,baz=199,slow=34
ARMA Armidale 39.85 141 P **P 02 55 11.0 +2.3**
ARMA IAmb IAmb 02 55 11.7
comp=Z,7.1nm,0.9s
CAN Canberra 41.88 148 P **P 02 55 26.9 +1.7**
HHC Hu-ho-hao-te 42.67 346 *eP* **P 02 55 33.8 +2.2**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,140nm,6.6s
PALK Pallekele 43.52 281 LR LR 03 14 02.6
comp=Z,39nm,18.7s,baz=211,slow=36
ODAN Odare 44.27 311 *eP* **P 02 55 45.4 +0.5**
comp=Z,14nm,0.7s
TAPN Taplejung 44.30 312 *eP* **P 02 55 45.6 +0.4**
comp=Z,9.2nm,0.5s
RAMN Ramite 44.92 310 *eP* **P 02 55 51.1 +1.0**
comp=Z,14nm,0.4s
USA0B Ussuriysk Arra 45.20 8 P **P 02 55 52.9 +1.2**
USA0B IAmb IAmb 02 56 12.6
comp=Z,6.7nm,0.8s
USRK Ussuriysk Ar. 45.20 8 P **P 02 55 53.0 +1.3**
GOMU GeErMu 45.35 327 P P 02 56 01.0 +7.5
GOMU pP pP 02 56 04.3 -5.9
GOMU sP pwP 02 56 06.5 -6.4
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,110nm,6.2s
GTA Gaotai 45.38 334 *eP* **P 02 55 53.8 +0.4**
GTA pP pP 02 56 02.3 -7.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
GUN Gumba 45.97 311 *eP* **P 02 55 59.0 +0.5**
comp=Z,22nm,0.5s
DMN Daman 46.40 310 *eP* **P 02 56 02.1 +0.4**
GKN Gorkha 46.96 310 *eP* **P 02 56 06.2 +0.2**
KOLN Koldanda 47.63 310 *eP* **P 02 56 11.7 +0.4**
comp=Z,29nm,0.5s
DANN Dangsing 47.80 310 *eP* **P 02 56 13.1 +0.4**
comp=Z,59nm,0.6s
PYUN Piuthan 48.27 310 *eP* **P 02 56 16.8 +0.6**
comp=Z,51nm,0.6s
ULN Ulaanbaatar 50.36 346 P **P 02 56 30.4 -1.3**
ULN IAmb IAmb 02 56 34.8
comp=Z,2.8nm,0.5s
SONM Songino Array 50.50 345 P **P 02 56 31.8 -1.0**
comp=Z,2.9nm,0.7s,baz=159,slow=8.9,SNR=22
SONM PcP **PcP 02 57 49.2 -0.7**
comp=Z,1.6nm,0.7s,baz=163,slow=4.4,SNR=6.2
SONM Songino Array 50.50 345 P **P 02 56 31.6 -1.2**
SONM IAmb IAmb 02 56 35.5
comp=Z,2.9nm,1.0s
SONM PcP **PcP 02 57 49.2 -0.7**
WMQ Urumqi 54.61 329 *eP* P 02 57 07.8 +4.6
MK31 Makanchi Array 59.43 328 P **P 02 57 35.5 -1.7**
MK31 IAmb IAmb 02 57 59.8
comp=Z,3.7nm,1.4s
MKAR Makanchi Array 59.43 328 P **P 02 57 35.8 -1.3**
comp=Z,0.9nm,0.3s,baz=126,slow=8.1,SNR=21
MKAR PcP **PcP 02 58 22.6 -1.6**
comp=Z,1.0nm,0.6s,baz=182,slow=3.6,SNR=6.2
MKAR Makanchi Array 59.43 328 P **P 02 57 35.5 -1.6**
MKAR PcP **PcP 02 58 23.1 -1.2**
BKZ Black Stump Fm 61.60 135 P **P 02 57 53.0 +0.9**
ZALV Zalesovo Beam 63.09 335 P **P 02 57 59.3 -2.4**
comp=Z,0.6nm,0.3s,baz=118,slow=5.9,SNR=5.7
ZALV LR LR 03 26 25.8
comp=Z,28nm,18.2s,baz=219,slow=37
ZALV Zalesovo Beam 63.09 335 P **P 02 57 58.9 -2.8**
MA2 Magadan 63.62 15 P **P 02 58 03.6 -1.5**
comp=Z,3.3nm,0.4s,baz=180,slow=23,SNR=5.5
MA2 Magadan 63.62 15 P **P 02 58 04.5 -0.6**
MA2 IAmb IAmb 02 58 06.1
comp=Z,5.3nm,0.7s
KURK Kurchatov 63.79 330 P **P 02 58 04.6 -1.7**
SHEM Shemya Is, Ala 67.72 30 LR LR 03 22 27.0
comp=Z,103nm,21.0s,baz=54,slow=31
TIXI Tiksi 72.19 2 P **P 02 58 56.5 -2.1**
TIXI IAmb IAmb 02 58 58.2
comp=Z,12nm,1.3s
ABKAR Akbulak array 73.57 322 P **P 02 59 05.2 -2.0**
VOI Vohitsoka 77.57 248 P **P 02 59 32.2 +1.4**
VNDA Vanda 79.59 172 P **P 02 59 41.7 +1.0**
comp=Z,1.8nm,0.7s,baz=318,slow=6.6,SNR=12
VNDA Vanda 79.59 172 P **P 02 59 40.4 -0.3**
VNDA IAmb IAmb 02 59 42.9
comp=Z,3.7nm,1.0s
TNA Tin City 81.74 23 P **P 02 59 53.0 +0.7**
ANM Nome 82.44 24 P **P 02 59 57.2 +1.1**

RDOG Red Dog Mine 84.39 21 P **P 03 00 06.7 +0.6**
RDOG IAmb IAmb 03 00 07.9
comp=Z,8.4nm,1.1s
KDAK Kodiak Island 87.16 32 LR LR 03 35 12.0
comp=Z,57nm,21.4s,baz=223,slow=33
ILAR Eielson Array 90.30 25 P **P 03 00 32.9 -1.8**
comp=Z,0.4nm,0.6s,baz=249,slow=5.0,SNR=11
ARCES ARCESS Array B 93.39 340 P **P 03 00 46.5 -2.3**
comp=Z,2.3nm,0.8s,baz=57,slow=4.5,SNR=4.5
FINES FINESS Array B 94.12 331 P **P 03 00 49.7 -2.7**
comp=Z,2.2nm,0.9s,baz=32,slow=11,SNR=1.8
ULM Lac du Bonnet 120.20 28 PKP **PKPdf 03 06 24.6 -0.1**
comp=Z,1.7nm,0.6s,baz=187,slow=3.4,SNR=3.7
ULM Lac du Bonnet 120.20 28 **PKPdf 03 06 24.5 -0.3**
TORD Torodi Ar. Bea 121.16 285 PKP **PKPdf 03 06 27.2 -0.4**
comp=Z,1.2nm,0.7s,baz=47,slow=1.8,SNR=8.3
TORD Torodi Ar. Bea 121.16 285 **PKPdf 03 06 27.3 -0.3**
SCHQ Schefferville 125.25 7 PKP **PKiKP 03 06 34.7 0.0**
comp=Z,1.4nm,0.7s,baz=46,slow=4.1,SNR=6.3
SCHQ Schefferville 125.25 7 **PKiKP 03 06 34.9 +0.2**

*NIED **28** 02:57:43.1,37.31N×141.96E,h38km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.58; Mθθ0.27; Mφφ0.31; Mrθ0.67; Mθφ0.31; Mφr0.46; Fault plane solution: M₀1.01000×10¹⁵ NP1: φs233.00000°,δ72.00000°,λ-84.00000°. NP2:φs33.00000°, δ19.00000°,λ-109.00000°.*
*JMA **28** 02:57:43.0±0.2,37.31N×141.96E,h38km±4km,M4.2*
*NEIC **28** 02:57:44.8±1.6,37.28N±0.06×142.0E±0.1,h30km±5km, mb4.4/11,Error ellipse: s-maj=13.4km s-min=7.9km az=111.0*
*IDC **28** 02:57:46.2±2.2,37.24N×141.95E,h46km±21km,mb3.6/13, mb1 3.8/17,mb1mx3.7/39,mbtmp3.9/17,ML3.3/4,MS3.1/4, Ms1 3.1/4,ms1mx2.7/89,Error ellipse: s-maj=20.4km s-min=14.5km az=97.0*
ISC 28 02:57:45.1±0.5,37.31N±0.04×142.01E±0.06,h35km,n76, σ1°46/77,**mb4.1**/20,**1C,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.91**	**274**	P	**Pn**	**02 57 59.0**	**-2.4**
JFK				S	**Sn**	**02 58 09.8**	**-3.5**
JMST	**Minamisoumatoc**	**0.98**	**295**	P	**Pn**	**02 58 00.0**	**-2.4**
JMST				*eS*	**Sn**	**02 58 11.8**	**-3.3**
ONAJ	**Iwakimizuishiy**	**0.99**	**258**	P	**Pn**	**02 58 00.1**	**-2.5**
ONAJ				*eS*	**Sn**	**02 58 12.1**	**-3.3**
JIKH	**Ishinomakikobu**	**1.09**	**337**	P	**Pn**	**02 58 01.7**	**-2.1**
JMM	**Marumori**	**1.11**	**300**	↑P	**Pn**	**02 58 02.1**	**-2.1**
JIO	**Ouri**	**1.25**	**335**	P	**Pn**	**02 58 03.9**	**-2.2**
JIO				*eS*	**Sn**	**02 58 19.0**	**-2.8**
JFT	**Otama**	**1.35**	**279**	P	**Pn**	**02 58 06.3**	**-1.2**
JFT				*eS*	**Sn**	**02 58 22.3**	**-1.9**
JHO	**Hitachi**	**1.35**	**239**	P	**Pn**	**02 58 04.9**	**-2.6**
JOU	**Okura**	**1.50**	**315**	P	**Pn**	**02 58 08.2**	**-1.3**
JMK	**Ichinoseki**	**1.75**	**339**	P	**Pn**	**02 58 12.0**	**-1.0**
JYS	**Shirataka**	**1.79**	**301**	P	**Pn**	**02 58 13.1**	**-0.4**
JYS				*eS*	**Sn**	**02 58 35.3**	**+0.3**
JYT	**Yasato**	**1.82**	**234**		**Pn**	**02 58 13.3**	**-0.6**
JFY	**Yanaizu**	**1.84**	**274**	P	**Pn**	**02 58 13.2**	**-1.0**
JFY				*eS*	**Sn**	**02 58 35.6**	**-0.7**
JYK	**Kaneyama**	**2.07**	**321**	P	**Pn**	**02 58 16.0**	**-1.3**
JSD	**Sado**	**3.06**	**285**		**Pn**	**02 58 30.1**	**-0.8**
MJAR	**Matsushiro Arr**	**3.14**	**257**	P	**Pn**	**02 58 32.8**	**+0.6**
	0.6nm,0.3s,baz=79,slow=14,SNR=7.1						
MJAR				S	**Sn**	**02 59 11.3**	**+2.8**
	1.4nm,0.3s,baz=56,slow=4.7,SNR=7.1						
MJAR	**Matsushiro Arr**	**3.14**	**257**	Pn	**Pn**	**02 58 32.6**	**+0.5**
MAJO	**Matsushiro**	**3.15**	**257**	Pn	**Pn**	**02 58 31.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**3.15**	**257**	Pn	**Pn**	**02 58 32.1**	**0.0**
JTM	**Tenmabayashi**	**3.55**	**348**	Pn	**Pn**	**02 58 38.5**	**+0.8**
JGF	**Kuroka**	**4.12**	**247**	Pn	**Pn**	**02 58 46.3**	**+0.6**
INU	**Inuyama**	**4.48**	**246**	Pn	**Pn**	**02 58 52.0**	**+1.5**
JHJ2	**Mitsune**	**4.56**	**204**	Pn	**Pn**	**02 58 51.6**	**0.0**
JHJ	**Hachijo jima 2**	**4.56**	**204**	P	**Pn**	**02 58 50.6**	**-1.0**
	23nm,0.3s,baz=81,slow=18,SNR=6.0						
JHJ				S	**Sn**	**02 59 40.0**	**-3.5**
	23nm,0.3s,baz=79,slow=22,SNR=2.4						
JHJ				LR	LR	03 00 54.0	
	comp=Z,135nm,20.2s,baz=104,slow=42						
ERM	**Erimo**	**4.78**	**10**	Pn	**Pn**	**02 58 54.6**	**0.0**
JEW	**Eniwo**	**5.54**	**356**	Pn	**Pn**	**02 59 05.2**	**+0.2**
JKA	**Kamikawa-asahi**	**6.81**	**4**	Pn	**Pn**	**02 59 21.4**	**-1.1**
ASAJ	**Asahikawa**	**6.81**	**4**	P	**Pn**	**02 59 22.8**	**+0.4**
	1.4nm,0.3s,baz=152,slow=27,SNR=4.3						
ASAJ				S	**Sn**	**03 00 38.7**	**-0.1**
	1.0nm,0.3s,baz=18,slow=24,SNR=3.9						
JMN	**Monobe**	**7.53**	**244**	Pn	**Pn**	**02 59 33.8**	**+1.3**
JHS	**Saijyo**	**7.56**	**255**	Pn	**Pn**	**02 59 34.9**	**+2.1**
USA0B	**Ussuriysk Arra**	**10.25**	**315**	Pn	**Pn**	**03 00 11.7**	**+2.1**
USRK	**Ussuriysk Ar.**	**10.25**	**315**	P	**Pn**	**03 00 12.7**	**+3.1**
	baz=123,slow=14,SNR=17						
USRK				LR	LR	03 04 02.2	
	comp=Z,149nm,18.1s,baz=132,slow=37						
USRK	**Ussuriysk Ar.**	**10.25**	**315**	Pn	**Pn**	**03 00 10.9**	**+1.3**
KLR	**Kul'dur**	**14.05**	**331**	LR	LR	03 06 25.5	
	comp=Z,121nm,18.2s,baz=184,slow=37						
PETK	**Petropavlovsk-**	**19.21**	**30**	LR	LR	03 09 43.6	
	comp=Z,41nm,18.8s,baz=181,slow=37						
SEY	**Seymchan**	**26.43**	**11**	P	**P**	**03 03 19.6**	**+1.4**
	0.8nm,0.7s,baz=219,slow=6.2,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**27.88**	**122**	T	T	03 32 37.0	
	baz=314,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**27.89**	**122**	T	T	03 32 51.0	
	baz=314,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**27.90**	**122**	T	T	03 32 43.9	
	baz=314,slow=75,SNR=45						
SONM	**Songino Array**	**28.03**	**303**	P	**P**	**03 03 32.8**	**-0.1**
	2.4nm,0.6s,baz=103,slow=9.3,SNR=21						
SONM	**Songino Array**	**28.03**	**303**	P	**P**	**03 03 33.1**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	03 33 42.9	
	baz=316,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	03 34 05.6	
	baz=316,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**28.63**	**124**	T	T	03 33 53.2	
	baz=316,slow=76,SNR=32						
ZAA0	**Zalesovo Array**	**42.08**	**312**	P	**P**	**03 05 33.3**	**-0.1**
ZAA0				IAmb	IAmb	03 05 33.8	
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**42.08**	**312**	P	**P**	**03 05 33.5**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=87,slow=7.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**42.08**	**312**	P	**P**	**03 05 33.6**	**+0.3**
MK31	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 05 51.4**	**-0.6**
MK31				IAmb	IAmb	03 05 53.8	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 05 51.9**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=86,slow=9.0,SNR=37						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 05 51.7**	**-0.3**
KURK	**Kurchatov**	**46.14**	**308**	P	**P**	**03 06 05.5**	**-0.3**
KURK				IAmb	IAmb	03 06 07.8	
	comp=Z,6.6nm,0.6s						
ILAR	**Eielson Array**	**49.00**	**32**	P	**P**	**03 06 28.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=266,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**49.00**	**32**	P	**P**	**03 06 28.1**	**+0.2**
BMAR	**Burnt Mountain**	**49.86**	**29**	P	**P**	**03 06 37.0**	**+2.5**
KSH	**Kashi**	**50.73**	**294**	P	**P**	03 06 50.0	+8.4
COEN	**Coen**	**51.01**	**179**	P	**P**	**03 06 43.8**	**+0.2**
COEN				IAmb	IAmb	03 06 44.4	
	comp=Z,3.2nm,0.8s						
KNRA	**Kununurra**	**54.16**	**196**	P	**P**	**03 07 06.8**	**-0.1**
WB0	**Warramunga Arr**	**57.23**	**189**	P	**P**	**03 07 27.8**	**-1.1**
WB0				IAmb	IAmb	03 07 28.2	
	comp=Z,2.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.23**	**199**	P	**P**	**03 07 28.9**	**0.0**
WR0	**Warramunga Arr**	**57.40**	**188**	P	**P**	**03 07 28.9**	**-1.2**
WR0				IAmb	IAmb	03 07 29.9	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**57.40**	**189**	P	**P**	**03 07 29.1**	**-1.0**
WB2				IAmb	IAmb	03 07 29.9	
	comp=Z,2.4nm,0.8s						
WRA	**Warramunga Arr**	**57.41**	**189**	P	**P**	**03 07 29.1**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=6.8,slow=7.3,SNR=70						
WRA	**Warramunga Arr**	**57.41**	**189**	P	**P**	**03 07 29.1**	**-1.0**
ABKAR	**Akbulak array**	**58.13**	**310**	P	**P**	**03 07 34.5**	**-0.4**
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**03 07 55.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=15,slow=5.8,SNR=15						
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**03 07 55.5**	**-0.4**
YKA	**Yellowknife Ar**	**63.33**	**30**	P	**P**	**03 08 10.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=302,slow=6.6,SNR=6.4						
FINES	**FINESS Array B**	**68.79**	**332**	P	**P**	**03 08 45.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=70,slow=8.0,SNR=1.6						
FORT	**Forrest**	**68.98**	**193**	P	**P**	**03 08 46.8**	**+0.1**
AKASG	**Malin Array Be**	**74.37**	**322**	P	**P**	**03 09 18.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=46,slow=6.2,SNR=5.4						
NVAR	**Mina Array Bea**	**74.44**	**53**	P	**P**	**03 09 21.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=283,slow=5.5,SNR=2.3						
PDAR	**Pinedale Array**	**77.13**	**46**	P	**P**	**03 09 35.8**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=272,slow=1.3,SNR=4.3						
PDAR	**Pinedale Array**	**77.13**	**46**	P	**P**	**03 09 35.9**	**+0.6**
GERES	**GERESS Array B**	**82.73**	**329**	P	**P**	**03 10 05.2**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=26,slow=9.8,SNR=1.4						
LPAZ	**La Paz**	**146.14**	**60**	PKPbc	**PKPbc**	**03 17 22.7**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=186,slow=0.8,SNR=5.0						
LPAZ	**La Paz**	**146.14**	**60**		**PKPab**	**03 17 23.0**	**-0.4**

*WEL **28** 03:12:00,44.35S×168.52E,h8km,ML4.5,Mw4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr0.14; Mθθ0.37; Mφφ-0.51; Mrθ0.49; Mθφ-0.55; Mφr-0.72; Fault plane solution: M₀1.11000×10¹⁵ NP1: φs64.00000°,δ41.00000°,λ171.00000°. NP2: φs160.00000°,δ84.00000°,λ50.00000°. Principal axes: T 121.5400, Plg37.0000°, Azm35.0000°; N -20.1400, Plg40.0000°, Azm165.0000°; P -101.4000, Plg28.0000°, Azm282.0000°;*
*WEL **28** 03:12:05.6±0.5,44°S±4°×16°9E±°,h5km,M4.4/13, ML4.5/13,MLv4.4/13 Error ellipse: s-maj=0.0km s-min=0.0km az=138.9*
*IDC **28** 03:12:06.6±0.9,44.31S×168.60E,h0km,mb4.0/4, mb1 4.2/5,mb1mx4.0/23,mbtmp4.0/5,ML3.7/1,MS3.5/4, Ms1 3.5/4,ms1mx3.0/47,Error ellipse: s-maj=26.8km s-min=13.1km az=170.0*
*NEIC **28** 03:12:07.0±2.2,44.39S±0.02×168.65E±0.06,h10km±1km, mb4.1/9,ML4.4(WEL),Error ellipse: s-maj=6.9km s-min=4.0km az=101.0*
*NOU **28** 03:12:11.9,44.38S×169.10E,h112km,MLv4.9/10,South Island, New Zealand*
ISC 28 03:12:06.2±1.1,44.38S±0.03×168.60E±0.03,h5km±8km,
n133,σ1°63/133,**mb4.0**/9,**MS3.4**/3,**South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Jackson Bay**	**0.33**	**23**	P	**Pg**	**03 12 12.9**	**+0.2**
JCJ				S	**Sg**	**03 12 18.0**	**+0.8**
WKZ	**Wanaka**	**0.54**	**147**	Pg	**Pg**	**03 12 16.6**	**+0.1**
WKZ				Sg	**Sg**	**03 12 23.6**	**+0.1**
WKZ	**Wanaka**	**0.54**	**147**	P	**Pg**	**03 12 16.7**	**+0.1**
MSZ	**Milford Sound**	**0.56**	**239**	P	**Pg**	**03 12 16.5**	**-0.6**
MSZ				S	**Sg**	**03 12 23.8**	**-0.7**
EAZ	**Earnscleugh**	**0.99**	**150**	P	**Pg**	**03 12 24.9**	**-0.3**
MLZ	**Mavora Lakes**	**1.04**	**199**		**Pg**	**03 12 24.8**	**-1.4**
MLZ	**Mavora Lakes**	**1.04**	**199**	P	**Pg**	**03 12 25.0**	**-1.3**
LBZ	**Lake Benmore**	**1.14**	**91**		**Pg**	**03 12 28.2**	**+0.3**
LBZ				Sg	**Sb**	**03 12 43.0**	**-0.3**
LBZ	**Lake Benmore**	**1.14**	**91**	P	**Pg**	**03 12 28.3**	**+0.3**
FOZ	**Fox Glacier**	**1.22**	**46**		**Pb**	**03 12 28.9**	**-0.8**
FOZ				Sg	**Sb**	**03 12 44.4**	**-1.3**
FOZ	**Fox Glacier**	**1.22**	**46**	P	**Pb**	**03 12 28.3**	**-1.4**
DCZ	**Deep Cove**	**1.50**	**223**		**Pn**	**03 12 32.3**	**-1.3**
DCZ	**Deep Cove**	**1.50**	**223**	P	**Pn**	**03 12 32.4**	**-1.3**
DCZ				S	**Sn**	**03 12 51.8**	**-1.7**
WHZ	**Wether Hill Ro**	**1.58**	**197**	Pn	**Pn**	**03 12 34.2**	**-0.7**
WHZ	**Wether Hill Ro**	**1.58**	**197**	P	**Pn**	**03 12 34.4**	**-0.5**
WHZ				S	**Sn**	**03 12 55.5**	**-0.2**
ODZ	**Otahua Downs**	**1.60**	**115**	Pn	**Pn**	**03 12 35.3**	**+0.2**
ODZ	**Otahua Downs**	**1.60**	**115**	P	**Pn**	**03 12 35.3**	**+0.2**
ODZ				S	**Sg**	**03 12 57.4**	**-0.3**
ODZ	**Otahua Downs**	**1.60**	**115**	P	**Pb**	**03 12 36.5**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**1.64**	**50**	P	**Pn**	**03 12 34.9**	**-0.7**
TMZ	**Timaru**	**1.72**	**91**	P	**Pn**	**03 12 36.8**	**0.0**
TUZ	**Tuapeka**	**1.73**	**156**	P	**Pn**	**03 12 37.7**	**+0.8**
RPZ	**Rata Peaks**	**1.89**	**70**	Pn	**Pn**	**03 12 39.1**	**0.0**
	50nm,0.3s,baz=237,slow=6.0,SNR=108						
RPZ				Pg	**Pg**	**03 12 43.6**	**+1.2**
	253nm,0.3s,baz=226,slow=6.6,SNR=54						
RPZ				Lg	Lg	03 13 06.0	
	235nm,0.3s,baz=124,slow=23,SNR=24						
RPZ				LR	LR	03 13 35.6	
	comp=Z,996nm,19.7s,baz=246,slow=48						
RPZ	**Rata Peaks**	**1.89**	**70**	P	**Pn**	**03 12 39.1**	**0.0**
RPZ				S	**Sg**	**03 13 05.2**	**-1.6**
RPZ	**Rata Peaks**	**1.89**	**70**	P	**Pn**	**03 12 39.7**	**+0.6**
ARCZ	**Arundel**	**1.90**	**78**	P	**Pn**	**03 12 39.2**	**-0.1**
WVZ	**Waitaha Valley**	**2.02**	**51**	P	**Pn**	**03 12 40.5**	**-0.4**
HHSZ	**Highcliff Hill**	**2.06**	**137**	P	**Pn**	**03 12 42.6**	**+1.1**
SYZ	**Scrubby Hill**	**2.19**	**170**	P	**Pn**	**03 12 43.7**	**+0.5**
PYZ	**Puysegur Point**	**2.24**	**217**	P	**Pn**	**03 12 46.2**	**+2.3**
PYZ				S	**Sn**	**03 13 14.4**	**+2.5**
WACZ	**Wakanui South**	**2.37**	**80**	P	**Pn**	**03 12 45.3**	**-0.4**
APZ	**The Paps**	**2.49**	**190**	P	**Pn**	**03 12 47.3**	**-0.1**
RACZ	**Rakaia**	**2.63**	**77**	P	**Pn**	**03 12 49.4**	**+0.1**
INZ	**Inchbonnie**	**2.65**	**52**	P	**Pn**	**03 12 49.9**	**+0.4**
OXZ	**Oxford**	**2.70**	**68**		**Pn**	**03 12 48.8**	**-1.5**
OXZ	**Oxford**	**2.70**	**68**	P	**Pn**	**03 12 49.1**	**-1.2**
MQZ	**McQueen's Vall**	**3.00**	**78**	Pn	**Pn**	**03 12 53.5**	**-0.7**
MQZ	**McQueen's Vall**	**3.00**	**78**	P	**Pn**	**03 12 53.6**	**-0.7**
LTZ	**Lake Taylor**	**3.11**	**60**	Pn	**Pn**	**03 12 55.0**	**-0.9**
LTZ	**Lake Taylor**	**3.11**	**60**	P	**Pn**	**03 12 55.1**	**-0.7**
AKCZ	**Akaroa Harbour**	**3.14**	**82**	P	**Pn**	**03 12 55.6**	**-0.7**
AMCZ	**Amberley**	**3.17**	**69**	P	**Pn**	**03 12 56.1**	**-0.6**
OKCZ	**Okains Bay**	**3.28**	**80**	P	**Pn**	**03 12 58.1**	**-0.2**
GVZ	**Greta Valley S**	**3.51**	**68**	P	**Pn**	**03 13 01.7**	**+0.3**
DSZ	**Denniston Nort**	**3.53**	**43**	P	**Pn**	**03 13 00.8**	**-0.9**
THZ	**Tophouse**	**4.10**	**52**	Pn	**Pn**	**03 13 08.6**	**-0.9**
THZ	**Tophouse**	**4.10**	**52**	P	**Pn**	**03 13 09.0**	**-0.5**
KHZ	**Kahutara**	**4.10**	**63**	P	**Pn**	**03 13 08.4**	**-1.0**
KHZ	**Kahutara**	**4.10**	**63**	P	**Pn**	**03 13 08.2**	**-1.2**
MRNZ	**Matariki Terra**	**4.27**	**47**	P	**Pn**	**03 13 11.5**	**-

MTHZ	**Maungataniwha**	**8.28**	**51**	P		Pn	03 14 12.6	+5.7
TOZ	**Tahuroa Road**	**8.44**	**40**	P		**Pn**	**03 14 09.6**	**+0.6**
RTZ	**Ruatahuna**	**8.52**	**50**	P		Pn	03 14 15.5	+5.2
AWAZ	**Awhitu Peninsu**	**8.63**	**34**	P		**Pn**	**03 14 11.2**	**-0.4**
MKAZ	**Moumakai**	**8.81**	**37**	P		**Pn**	**03 14 15.2**	**+1.2**
RAGZ	**Rawiri**	**8.85**	**51**	P		Pn	03 14 20.4	+5.6
URZ	**Urewera**	**8.85**	**49**	Pn		**Pn**	**03 14 15.8**	**+1.2**
	0.9nm,0.3s,baz=250,slow=3.3,SNR=5.3							
URZ				Sn		**Sn**	**03 15 47.5**	**-7.2**
	0.5nm,0.3s,baz=199,slow=19,SNR=1.8							
URZ	**Urewera**	**8.85**	**49**	P		**Pn**	**03 14 15.6**	**+0.9**
URZ	**Urewera**	**8.85**	**49**	P		**Pn**	**03 14 12.6**	**-2.1**
	119nm,1.7s							
WIAZ	**Waiheke Island**	**9.06**	**35**	P		**Pn**	**03 14 20.0**	**+2.5**
WCZ	**Waipu Caves**	**9.51**	**29**	P		**Pn**	**03 14 23.6**	**-0.1**
OUZ	**Omahuta**	**9.92**	**24**	Pn		**Pn**	**03 14 29.1**	**-0.2**
OUZ	**Omahuta**	**9.92**	**24**	P		**Pn**	**03 14 29.7**	**+0.3**
OUZ	**Omahuta**	**9.92**	**24**	P		**Pn**	**03 14 29.3**	**0.0**
	48nm,0.7s							
RAO	**Raoul Island**	**18.52**	**40**	LR		LR	03 24 03.0	
	comp=Z,163nm,18.1s,baz=138,slow=39							
EIDS	**Eidsvold**	**23.71**	**317**	P		**P**	**03 17 20.4**	**+1.4**
EIDS				IAmb		IAmb	03 17 23.2	
	comp=Z,12nm,1.2s							
STKA	**Stephens Creek**	**24.52**	**291**	P		**P**	**03 17 28.1**	**+1.6**
	comp=Z,3.0nm,0.9s,baz=98,slow=15,SNR=3.9							
STKA				LR		LR	03 25 39.0	
	comp=Z,72nm,18.9s,baz=201,slow=33							
STKA	**Stephens Creek**	**24.52**	**291**	P		**P**	**03 17 27.1**	**+0.6**
VNDA	**Vanda**	**33.36**	**183**	LR		LR	03 30 14.8	
	comp=Z,70nm,19.2s,baz=345,slow=33							
AS31	**Alice Springs**	**35.04**	**295**	P		**P**	**03 19 01.4**	**+1.5**
AS31				IAmb		IAmb	03 19 05.5	
	comp=Z,2.5nm,1.5s							
ASAR	**Alice Springs**	**35.04**	**295**	P		**P**	**03 19 00.4**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=130,slow=6.8,SNR=23							
WR0	**Warramunga Arr**	**37.31**	**300**	P		**P**	**03 19 19.0**	**-0.4**
WR0				IAmb		IAmb	03 19 20.7	
	comp=Z,7.8nm,1.5s							
WB2	**Warramunga Arr**	**37.45**	**299**	P		**P**	**03 19 20.2**	**-0.2**
WB2				IAmb		IAmb	03 19 30.1	
	comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**37.45**	**299**	P		**P**	**03 19 20.8**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=135,slow=8.0,SNR=42							
WRA	**Warramunga Arr**	**37.45**	**299**	P		**P**	**03 19 20.0**	**-0.5**
WB0	**Warramunga Arr**	**37.55**	**300**	P		**P**	**03 19 21.1**	**-0.2**
WB0				IAmb		IAmb	03 19 26.7	
	comp=Z,2.0nm,0.8s							
MTN	**Manton Dam**	**44.84**	**303**	P		**P**	**03 20 21.9**	**+0.6**
QSPA	**South Pole Qui**	**45.74**	**180**	P		**P**	**03 20 29.6**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=8.6,slow=1.2,SNR=12							
QSPA	**South Pole Qui**	**45.74**	**180**	P		**P**	**03 20 29.9**	**+1.8**
MAW	**Mawson**	**55.30**	**207**	LR		LR	03 43 04.2	
	comp=Z,72nm,21.3s,baz=194,slow=34							
BRTR	**Keskin Array B**	**146.56**	**278**	PKPbc		**PKPab**	**03 31 50.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=110,slow=2.9,SNR=4.3							
BRTR	**Keskin Array B**	**146.56**	**278**			**PKPab**	**03 31 49.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.92**	**204**	PKPbc		**PKPbc**	**03 31 50.3**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=153,slow=2.1,SNR=9.7							
TORD	**Torodi Ar. Bea**	**146.92**	**204**			**PKPbc**	**03 31 49.8**	**-0.2**

*IDC **28** 03:23:03.4±2.7,52.28N×169.01W,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.4/48,mbtmp3.6/6,ML2.9/1,Error ellipse: s-maj=65.0km s-min=29.9km az=2.0*

*NEIC **28** 03:23:04.7±2.8,52.11N±0.07×168.67W±0.09,h10km±2km, mb3.8/15,ML2.9(AEIC),Error ellipse: s-maj=11.8km s-min=9.1km az=178.0*

*AEIC **28** 03:23:06±2.6,52.10N±0.07×168.65W±0.09,h38km±8km, Error ellipse: s-maj=10.9km s-min=7.9km az=160.0*

ISC 28 03:23:07.2±1.0,52.2N±0.1×168.70W±0.08,h26km,n41, σ1ᵖ26/39,mb3.7/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**353**			**Pn**	**03 23 23.0**	**+0.1**
NIKH				Sn		**Sn**	**03 23 36.2**	**+2.2**
OKFG	**Magazine Ridge**	**1.33**	**21**			**Pn**	**03 23 30.6**	**+0.6**
MSW	**Makushin Switc**	**2.09**	**33**			**Pn**	**03 23 41.3**	**+0.7**
UNV	**Unalaska Valle**	**2.14**	**37**			**Pn**	**03 23 41.4**	**+0.3**
AKRB	**Akutan Reef Bi**	**2.52**	**38**			**Pn**	**03 23 47.9**	**+1.5**
KOFP	**Korovin Flat P**	**3.32**	**274**			**Pn**	**03 23 59.0**	**+1.5**
ADK	**Adak**	**4.94**	**270**	Pn		**Pn**	**03 24 19.8**	**+0.2**
KDAK	**Kodiak Island**	**10.82**	**52**	Pn		**Pn**	**03 25 38.9**	**-1.3**
	0.5nm,0.3s,baz=242,slow=6.1,SNR=6.4							
KDAK	**Kodiak Island**	**10.82**	**52**	Pn		**Pn**	**03 25 39.7**	**-0.5**
SEW	**Seward**	**13.31**	**46**	Pn		**Pn**	**03 26 13.7**	**-0.5**
PWL	**Port Wells**	**14.16**	**44**	Pn		**Pn**	**03 26 24.1**	**-1.7**
CAST	**Castle Rocks**	**14.28**	**31**	P		**P**	**03 26 33.6**	**-0.7**
KNK	**Knik Glacier**	**14.38**	**42**	Pn		**Pn**	**03 26 27.1**	**-1.7**
GHO	**Glory Hole Cre**	**14.38**	**40**	Pn		**Pn**	**03 26 26.9**	**-2.0**
SCM	**Sheep Creek Mo**	**15.06**	**42**	Pn		**Pn**	**03 26 36.5**	**-1.6**
BPAW	**Bear Paw Mtn.**	**15.10**	**31**			**Pn**	**03 26 38.5**	**-0.1**
BPAW				IAmb		IAmb	03 26 42.5	
	comp=Z,7.8nm,1.4s							
KLU	**Klutina**	**15.49**	**44**	Pn		**Pn**	**03 26 41.5**	**-2.1**
KLU				IAmb		IAmb	03 27 04.7	
	comp=Z,15nm,1.4s							
I21K	**Tanana**	**15.59**	**27**	P		**P**	**03 26 47.7**	**-1.2**
I21K				IAmb		IAmb	03 26 56.1	
	comp=Z,9.5nm,1.4s							
H21K	**Melozitna Rive**	**15.74**	**25**	P		**P**	**03 26 48.7**	**-1.9**
H21K				IAmb		IAmb	03 26 52.9	
	comp=Z,6.8nm,1.4s							
MLY	**Manley**	**15.84**	**29**	P		**P**	**03 26 50.9**	**-0.8**
MLY				IAmb		IAmb	03 26 53.4	
	comp=Z,5.1nm,0.9s							
N25K	**Chitina, Valde**	**16.11**	**45**	Pn		**Pn**	**03 26 50.7**	**-1.0**
N25K				IAmb		IAmb	03 26 55.9	
	comp=Z,11nm,1.4s							
WRH	**Wood River Hil**	**16.29**	**33**	P		**Pn**	**03 26 54.6**	**+0.7**
GLB	**Gilahina Butte**	**16.39**	**46**	Pn		**Pn**	**03 26 53.1**	**-2.0**
GLB				IAmb		IAmb	03 27 14.1	
	comp=Z,10nm,1.2s							
ILAR	**Eielson Array**	**16.89**	**33**	Pn		**Pn**	**03 26 58.8**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=219,slow=13,SNR=2.3							
GRNC	**Granite Creek**	**17.07**	**49**	P		**Pn**	**03 27 03.5**	**-0.4**
J25K	**Salcha River,**	**17.32**	**35**	P		**Pn**	**03 27 06.2**	**-0.6**
J25K				IAmb		IAmb	03 27 22.0	
	comp=Z,9.3nm,1.5s							
BCAR	**Beaver Creek A**	**17.92**	**42**	P		**Pn**	**03 27 13.3**	**-1.0**
EGAK	**Eagle**	**18.94**	**38**	P		**Pn**	**03 27 27.0**	**+0.3**
BMAR	**Burnt Mountain**	**19.30**	**28**	P		**P**	**03 27 30.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**20.31**	**286**	P		**P**	**03 27 40.9**	**-0.1**
PETK	**Petropavlovsk-**	**20.31**	**286**	P		**P**	**03 27 39.8**	**-1.1**
YKA	**Yellowknife Ar**	**30.06**	**49**	P		**P**	**03 29 15.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=275,slow=8.2,SNR=8.5							
YKA	**Yellowknife Ar**	**30.06**	**49**	P		**P**	**03 29 14.4**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**38.74**	**219**	T		T	04 11 52.2	
	baz=33							
H11S2	**WAKE ISLAND Hy**	**38.76**	**219**	T		T	04 11 44.3	
	baz=33							
H11S3	**WAKE ISLAND Hy**	**38.76**	**219**	T		T	04 11 47.5	
	baz=33							
PDAR	**Pinedale Array**	**40.03**	**79**	P		**P**	**03 30 41.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=321,slow=3.8,SNR=4.3							
FCC	**Fort Churchill**	**40.75**	**50**	P		**P**	**03 30 46.5**	**+1.1**
FCC				IAmb		IAmb	03 30 47.1	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**64.24**	**314**	P		**P**	**03 33 38.3**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=57,slow=8.8,SNR=4.3							
FINES	**FINESS Array B**	**66.12**	**352**	P		**P**	**03 33 51.4**	**-0.1**
	comp=Z,5.0nm,1.2s,baz=353,slow=7.9,SNR=6.1							
AKASG	**Malin Array Be**	**76.39**	**348**	P		**P**	**03 34 53.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=16,slow=6.2,SNR=4.0							

*IDC **28** 03:56:57.6±0.5,4.26S×151.19E,h0km,mb4.7/26, mb1 4.7/28,mb1mx4.6/41,mbtmp4.6/28,ML3.0/2,MS4.5/57, Ms1 4.5/57,ms1mx4.4/63,Error ellipse: s-maj=11.8km s-min=11.1km az=124.0*

*BJI **28** 03:56:58.2±0.0,4.11S×151.46E,h14km,mb4.8/55, mB5.0/33,Ms4.8/39,Ms7 4.5/42*

*MOS **28** 03:56:58.3±1.1,4.18S×151.05E,h9km,mb5.1/24,Error ellipse: s-maj=12.1km s-min=7.0km az=89.9*

*DJA **28** 03:57:00.7±1.3,4°S±4°×15°1E±°,h21km±10km,M5.0/25, mb4.9/25,mB5.5/14,MLv5.2/3,Mw(mB)4.9/14, MwMwp4.9/6,Mwp5.2/6*

*NEIC **28** 03:57:00.6±2.0,4.18S±0.04×151.16E±0.04,h10km±1km, mb5.2/119,Error ellipse: s-maj=7.2km s-min=5.6km az=46.0*

*GCMT **28** 03:57:02.6±0.1,4.14S±0.01×151.06E±0.01,h16km, MW5.3/141,Moment Tensor Solution. s84,c118; s141,c242; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr-0.21±.02; Mθθ1.22±.02; Mϕϕ-1.01±.02; Mrθ-0.04±.04; Mrϕ0.10±.01; Mθϕ-0.34±.05; Best double couple: Mo1.18200×1017 NP1:ϕs311.00000°,δ74.00000°, λ-13.00000°. NP2:ϕs44.00000°,δ77.00000°, λ-164.00000°. Principal axes: T 1.2260, Plg2.0000°, Azm177.0000°; N -0.0920, Plg70.0000°, Azm81.0000°; P -1.1380, Plg20.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 03:57:00.1±0.3,4.24S±0.04×151.14E±0.04,h10km,n432, σ1ᵖ46/397,mb5.1/114,MS4.5/76,16C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.89**	**95**	Pn		**Pg**	**03 57 16.1**	**-1.1**
	16nm,0.3s,baz=149,slow=0.6,SNR=101							
KRVT				Sn		**Sg**	**03 57 29.4**	**+0.6**
	68nm,0.3s,baz=134,slow=24,SNR=6.2							
RABL	**Rabaul**	**1.02**	**88**			**Pg**	**03 57 18.2**	**-1.6**
RABL						**Sb**	**03 57 34.9**	**+1.4**
MANU	**Manus Island**	**4.35**	**300**	Pn		**Pn**	**03 58 06.8**	**+0.5**
PMG	**Port Moresby**	**6.48**	**217**	Pn		**Pn**	**03 58 36.4**	**+0.9**
	9.0nm,0.3s,baz=33,slow=9.6,SNR=23							
PMG				LR		LR	04 00 41.2	
	comp=Z,4μm,20.2s,baz=28,slow=34							
PMG	**Port Moresby**	**6.48**	**217**	*eP*		**Pn**	**03 58 37.2**	**+1.6**
PMG	**Port Moresby**	**6.48**	**217**	Pn		**Pn**	**03 58 36.6**	**+1.0**
PMG	**Port Moresby**	**6.48**	**217**	P		**Pn**	**03 58 37.5**	**+1.9**
JAY	**Jayapura**	**10.55**	**279**	Pn		**Pn**	**03 59 32.7**	**+1.1**
	0.4nm,0.3s,baz=324,slow=20,SNR=2.0							
JAY				LR		LR	04 03 00.2	
	comp=Z,5μm,20.5s,baz=90,slow=34							
JAY	**Jayapura**	**10.55**	**279**	P		**Pn**	**03 59 28.2**	**-3.4**
	3μm672nm27nm,1.9s							
GENI	**Genyem**	**11.07**	**278**	P		**Pn**	**03 59 36.4**	**-2.2**
	5μm2μm66nm,1.5s							
COEN	**Coen**	**12.45**	**219**	Pn		**Pn**	**03 59 58.3**	**+0.9**
COEN	**Coen**	**12.45**	**219**	P		**Pn**	**03 59 58.4**	**+0.9**
PATS	**Pohnpei**	**13.12**	**33**	P		**Pn**	**04 00 07.4**	**+0.7**
	baz=13							
SRPI	**Serui, Papua**	**15.06**	**279**	P		**Pn**	**04 00 31.8**	**-1.3**
	9μm87nm,0.4s							
CTA	**Charters Tower**	**16.46**	**196**	Pn		**P**	**04 00 54.0**	**0.0**
	0.5nm,0.3s,baz=18,slow=11,SNR=27							
CTA				LR		LR	04 06 56.2	
	comp=Z,1μm,19.1s,baz=18,slow=36							
CTA	**Charters Tower**	**16.46**	**196**	P		**P**	**04 00 54.0**	**0.0**
	baz=17							
CTA	**Charters Tower**	**16.46**	**196**	P		**P**	**04 00 54.0**	**0.0**
CTA	**Charters Tower**	**16.46**	**196**	P		**P**	**04 00 54.6**	**+0.6**
GUMO	**Guam**	**18.77**	**341**	LR		LR	04 07 33.3	
	comp=Z,642nm,18.1s,baz=158,slow=34							
FAKI	**Fak Fak**	**18.90**	**273**	P		**P**	**04 01 18.8**	**-2.2**
FAKI	**Fak Fak**	**18.90**	**273**	P		**P**	**04 01 20.1**	**-0.9**
RK1H	**Rockhampton Ha**	**19.05**	**182**	P		**Pn**	**04 01 24.8**	**+1.5**
SANVU	**Saraoutou**	**19.34**	**126**			**P**	**04 01 24.0**	**-1.7**
SANVU				IAmb		IAmb	04 01 32.8	
	comp=Z,88nm,0.9s							
SANVU	**Saraoutou**	**19.34**	**126**	P		**Pn**	**04 01 29.8**	**+3.0**
QIS	**Mount Isa**	**19.73**	**214**	P		**P**	**04 01 30.0**	**0.0**
	baz=20,SNR=27							
QIS	**Mount Isa**	**19.73**	**214**	P		**P**	**04 01 30.6**	**+0.5**
SIJI	**Sorong**	**20.13**	**279**	P		**P**	**04 01 34.0**	**-0.5**
	comp=Z,24nm,0.7s,baz=80,slow=8.7,SNR=16							
SWI	**Sorong**	**20.14**	**279**	P		**P**	**04 01 32.5**	**-2.0**
	comp=Z,40nm,0.8s							
KDU	**Kakadu**	**20.27**	**244**	P		**P**	**04 01 33.2**	**-2.7**
	baz=20,SNR=5.8							
KDU	**Kakadu**	**20.27**	**244**	P		**P**	**04 01 34.4**	**-1.5**
KOUNC	**Koumac, New Ca**	**20.66**	**143**	P		**P**	**04 01 41.7**	**+1.6**
KOUNC	**Koumac, New Ca**	**20.66**	**143**	P		Pn	04 01 44.7	+2.3
EIDS	**Eidsvold**	**21.01**	**180**	P		**P**	**04 01 44.5**	**+0.5**
	baz=21,SNR=14							
EIDS	**Eidsvold**	**21.01**	**180**	P		**P**	**04 01 45.3**	**+1.3**
EIDS				IAmb		IAmb	04 01 52.0	
	comp=Z,182nm,1.4s							
EIDS	**Eidsvold**	**21.01**	**180**	P		**P**	**04 01 46.7**	**+2.8**
BNDI	**Bandanaira**	**21.17**	**268**	P		**P**	**04 01 45.1**	**-0.7**
DVP	**Devils Point**	**21.41**	**130**	P		**P**	**04 01 51.7**	**+3.4**
MTN	**Manton Dam**	**21.54**	**245**	P		**P**	**04 01 47.6**	**-2.1**
	baz=22,SNR=7.0							
MTN	**Manton Dam**	**21.54**	**245**	P		**P**	**04 01 46.2**	**-3.5**
MTN	**Manton Dam**	**21.54**	**245**	P		**P**	**04 01 47.9**	**-1.8**
RMQ	**Roma**	**22.24**	**186**	P		**P**	**04 01 57.8**	**+0.6**
	baz=22,SNR=56							
RMQ	**Roma**	**22.24**	**186**	P		**P**	**04 02 00.3**	**+3.1**
WB0	**Warramunga Arr**	**22.47**	**225**	P		**P**	**04 01 57.2**	**-2.5**
WB0				IAmb		IAmb	04 02 42.7	
	comp=Z,123nm,1.6s							
WR0	**Warramunga Arr**	**22.49**	**225**	P		**P**	**04 01 57.1**	**-2.8**
WRAB	**Tennant Creek**	**22.61**	**225**	*ceP*		**P**	**04 01 59.3**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,28nm,0.6s							
WRAB	**Tennant Creek**	**22.61**	**225**	P		**P**	**04 01 58.2**	**-2.9**
WB2	**Warramunga Arr**	**22.61**	**225**	P		**P**	**04 01 58.6**	**-2.7**
	baz=23							
WB2	**Warramunga Arr**	**22.61**	**225**	P		**P**	**04 01 59.5**	**-1.8**
WRA	**Warramunga Arr**	**22.62**	**225**	P		**P**	**04 01 58.8**	**-2.6**
	comp=Z,9.5nm,0.7s,baz=50,slow=10,SNR=44							
WRA				S		**S**	**04 06 08.6**	**-0.7**
	comp=Z,5.9nm,1.2s,baz=46,slow=21,SNR=9.5							
WRA				LR		LR	04 10 35.0	
	comp=Z,1μm,21.8s,baz=42,slow=36							
WRA	**Warramunga Arr**	**22.62**	**225**	P		**P**	**04 01 59.8**	**-1.5**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.3s							
WRA	**Warramunga Arr**	**22.62**	**225**	P		**P**	**04 01 59.8**	**-1.5**
LIFNC	**LIFOU**	**22.71**	**138**	P		**P**	**04 02 00.3**	**-1.9**
LIFNC	**LIFOU**	**22.71**	**138**	P		**P**	**04 02 04.7**	**+2.5**
NOUC	**Port Laguerre**	**23.05**	**142**	P		**P**	**04 02 08.7**	**+2.9**
DZM	**Mont Dzumac**	**23.12**	**141**	*eP*		**P**	**04 02 07.3**	**+0.7**
	comp=Z,61nm,0.8s							
DZM				*e*LR		LR	04 07 41.3	
	comp=Z,5μm,27.5s							
DZM	**Mont Dzumac**	**23.12**	**141**	P		**P**	**04 02 06.2**	**-0.4**
	comp=Z,58nm,0.9s,baz=342,slow=7.5,SNR=16							
DZM	**Mont Dzumac**	**23.12**	**141**	P		**P**	**04 02 07.2**	**+0.7**
DZM				IAmb		IAmb	04 02 09.7	
	comp=Z,78nm,1.0s							
DZM	**Mont Dzumac**	**23.12**	**141**	P		**P**	**04 02 09.3**	**+2.7**
QLP	**Quilpie**	**23.18**	**196**	P		**P**	**04 02 06.9**	**-0.2**
	baz=23,SNR=31							
QLP	**Quilpie**	**23.18**	**196**	P		**P**	**04 02 09.2**	**+2.1**
ONTNC	**Ouen Toro**	**23.30**	**142**	P		**P**	**04 02 09.1**	**+0.8**
ONTNC				IAmb		IAmb	04 02 11.6	
	comp=Z,126nm,1.3s							
YATNC	**Mamie plateau,**	**23.39**	**141**	P		**P**	**04 02 12.0**	**+2.8**
OUENC	**Ouen Island, N**	**23.62**	**141**	P		**P**	**04 02 09.8**	**-1.7**
OUENC				IAmb		IAmb	04 02 15.2	
	comp=Z,120nm,1.3s							
OUENC	**Ouen Island, N**	**23.62**	**141**	P		**P**	**04 02 14.9**	**+3.4**
MARNC	**Mare, Loyalty**	**23.72**	**138**	P		**P**	**04 02 09.9**	**-2.6**
MARNC	**Mare, Loyalty**	**23.72**	**138**	P		**P**	**04 02 16.4**	**+3.9**
KNRA	**Kununurra**	**24.76**	**241**	P		**P**	**04 02 20.8**	**-1.3**
	baz=25,SNR=4.9							
KNRA	**Kununurra**	**24.76**	**241**	P		**P**	**04 02 19.7**	**-2.5**
KNRA				IAmb		IAmb	04 03 02.9	
	comp=Z,32nm,0.8s							
KNRA	**Kununurra**	**24.76**	**241**	P		**P**	**04 02 22.9**	**+0.7**
SANI	**Sanana**	**25.20**	**274**	P		**P**	**04 02 25.3**	**-0.9**
	comp=Z,2μmcomp=Z,1μmcomp=Z,22nm,0.9s							
SANI	**Sanana**	**25.20**	**274**	P		**P**	**04 02 26.6**	**+0.4**
INKA	**Innaminka**	**25.39**	**202**	P		**P**	**04 02 29.2**	**+1.5**
AS31	**Alice Springs**	**25.49**	**219**	P		**P**	**04 02 27.0**	**-1.8**
ASAR	**Alice Springs**	**25.49**	**219**	P		**P**	**04 02 26.9**	**-1.9**
	comp=Z,4.4nm,0.7s,baz=55,slow=7.8,SNR=42							
ASAR				LR		LR	04 12 44.7	
	comp=Z,988nm,19.2s,baz=50,slow=37							
ASAR	**Alice Springs**	**25.49**	**219**	P		**P**	**04 02 27.4**	**-1.4**
ASAR	**Alice Springs**	**25.49**	**219**	P		**P**	**04 02 27.4**	**-1.4**
ASPA	**Alice Springs**	**25.49**	**219**	P		**P**	**04 02 28.7**	**-0.1**
	baz=26							
ARMA	**Armidale**	**26.05**	**179**	P		**P**	**04 02 34.0**	**+0.2**
	baz=26,SNR=8.3							
ARMA	**Armidale**	**26.05**	**179**	P		**P**	**04 02 35.2**	**+1.4**
ARMA				IAmb		IAmb	04 02 38.7	
	comp=Z,45nm,1.2s							
ARMA	**Armidale**	**26.05**	**179**	P		**P**	**04 02 36.7**	**+2.9**
CMSA	**Cobar Meteorol**	**27.64**	**190**	P		**P**	**04 02 47.4**	**-0.6**
	baz=28,SNR=11							
CMSA	**Cobar Meteorol**	**27.64**	**190**	P		**P**	**04 02 49.6**	**+1.6**
OOD	**Oodnadatta**	**27.67**	**211**	P		**P**	**04 02 49.0**	**+0.7**
DAV	**Davao City (W)**	**27.87**	**294**	LR		LR	04 13 34.4	
	comp=Z,1μm,18.3s,baz=144,slow=36							
BATI	**Baumata**	**27.88**	**256**	P		**P**	**04 02 51.2**	**+0.7**
	comp=Z,22nm,0.4s,baz=146,slow=8.6,SNR=4.9							
BATI				LR		LR	04 17 20.4	
	comp=Z,2μm,19.1s,baz=93,slow=44							
FITZ	**Fitzroy Crossi**	**28.50**	**239**	P		**P**	**04 02 55.5**	**-0.3**
	comp=Z,10nm,0.8s,baz=64,slow=7.3,SNR=13							
FITZ				LR		LR	04 14 50.5	
	comp=Z,644nm,19.0s,baz=67,slow=38							
LUWI	**Luwuk**	**28.51**	**276**	P		**P**	**04 02 55.1**	**-0.9**
LUWI				IAmb		IAmb	04 03 05.9	
	comp=Z,36nm,0.9s							
LCRK	**Leigh Creek**	**28.79**	**204**	P		**P**	**04 02 58.8**	**+0.6**
STKA	**Stephens Creek**	**28.92**	**197**	P		**P**	**04 02 57.9**	**-1.6**
	comp=Z,6.4nm,0.7s,baz=22,slow=12,SNR=17							
STKA				LR		LR	04 14 02.5	
	comp=Z,2μm,21.8s,baz=11,slow=35							
STKA	**Stephens Creek**	**28.92**	**197**	P		**P**	**04 02 58.1**	**-1.3**
	baz=29,SNR=6.8							
STKA	**Stephens Creek**	**28.92**	**197**	P		**P**	**04 02 59.6**	**+0.2**
STKA				pmax		pmax		
	comp=Z,12nm,1.8s							
STKA	**Stephens Creek**	**28.92**	**197**	P		**P**	**04 02 59.6**	**+0.2**
STKA	**Stephens Creek**	**28.92**	**197**	P		**P**	**04 03 00.3**	**+0.9**
WRKA	**Warakurna**	**30.16**	**224**	P		**P**	**04 03 08.1**	**-2.5**
	baz=30,SNR=4.2							
WRKA	**Warakurna**	**30.16**	**224**	P		**P**	**04 03 11.5**	**+0.9**
MULG	**Mulgathing**	**30.52**	**210**	P		**P**	**04 03 15.1**	**+1.5**
TOLI2	**Tolitoli**	**30.80**	**279**	P		**P**	**04 03 14.7**	**-1.6**
TOLI2				IAmb		IAmb	04 04 07.9	
	comp=Z,44nm,1.9s							
BKSI	**Bulukumba**	**30.93**	**267**	P		**P**	**04 03 16.4**	**-1.0**
	comp=Z,6.7nm,1.2s							
CNB	**Canberra Magne**	**30.97**	**183**	P		**P**	**04 03 20.1**	**+2.5**
CAN	**Canberra**	**31.00**	**183**	P		**P**	**04 03 19.6**	**+1.8**
CAN				pmax		pmax		
	comp=Z,65nm,1.7s							
CAN	**Canberra**	**31.00**	**183**	P		**P**	**04 03 19.6**	**+1.8**
CAN				IAmb		IAmb	04 03 30.1	
	comp=Z,65nm,1.7s							
HTT	**Hallett**	**31.20**	**200**	P		**P**	**04 03 20.6**	**+0.9**
	baz=31,SNR=3.7							
SPSI	**Sidrap Palu**	**31.29**	**269**	P		**P**	**04 03 18.3**	**-2.3**
	comp=Z,13nm,1.6s							
KAPI	**Kappang**	**31.29**	**267**	P		**P**	**04 03 19.6**	**-1.1**
	comp=Z,5.8nm,0.7s,baz=118,slow=4.1,SNR=4.9							
KAPI				LR		LR	04 18 33.7	
	comp=Z,272nm,18.8s,baz=94,slow=41							
KAPI	**Kappang**	**31.29**	**267**	P		**P**	**04 03 19.8**	**-0.9**
KAPI				pmax		pmax		
	comp=Z,12nm,1.0s							
KAPI	**Kappang**	**31.29**	**267**	P		**P**	**04 03 19.8**	**-0.9**
MPSI	**Mapaga**	**31.54**	**278**	P		**P**	**04 03 19.8**	**-3.1**
	comp=Z,21nm,1.0s							
JCJ	**Chichijima**	**32.33**	**345**	LR		LR	04 15 27.2	
	comp=Z,908nm,21.0s,baz=141,slow=34							
ARPS	**Mount Arapiles**	**33.49**	**194**	P		**P**	**04 03 39.2**	**-0.5**
	baz=34,SNR=7.9							
ARPS	**Mount Arapiles**	**33.49**	**194**	P		**P**	**04 03 41.6**	**+2.0**
**T

comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 51.20 342 P **P** **04 06 02.4 -1.2**
comp=Z,9.4nm,0.8s,baz=182,slow=7.2,SNR=6.5
USRK LR LR 04 26 12.7
comp=Z,354nm,20.6s,baz=148,slow=34
USRK Ussuriysk Ar. 51.20 342 P **P** **04 06 02.1 -1.5**
USRK Ussuriysk Ar. 51.20 342 P **P** **04 06 02.1 -1.5**
YSS Yuzh-Sakhalins 51.51 353*ce*P **P** **04 06 06.2 +0.4**
YSS pmax pmax
comp=Z,8.0nm,0.3s
MDJ Mudanjiang 52.33 341 P **P** **04 06 12.5 +0.5**
MDJ pP sP 04 06 15.8 +0.3
MDJ sP pwP 04 06 17.3 -0.1
MDJ S **S** **04 13 39.8 +2.2**
MDJ sS sS 04 13 46.3 +4.6
MDJ ScS **ScS** **04 16 00.3 -1.9**
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,130nm,6.3s
MDJ LR LR
comp=Z,310nm,14.9s
MDJ LR LR
comp=Z,250nm,15.9s
MDJ LR LR
comp=Z,870nm,24.0s
PSI Prapat 52.64 277 LR LR 04 31 12.3
comp=Z,386nm,19.9s,baz=128,slow=39
GYA Guiyang 52.74 308 ⇑P **P** **04 06 19.5 +3.9**
GYA S **S** **04 13 45.5 +1.4**
GYA pmax pmax
comp=Z,11nm,0.9s
GYA LR LR
comp=Z,380nm,22.6s
LYN LuoYang 53.04 320 *e*P **P** **04 06 22.3 +4.8**
CN2 Changchun 53.12 337 *e*P P 04 06 11.5 -6.4
CN2 *e*S S 04 13 34.5 -14
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,500nm,22.0s
CN2 LR LR
comp=E,300nm,22.0s
CN2 LR LR
comp=Z,600nm,24.0s
HNS HongShan 53.51 324 ⇓P **P** **04 06 21.8 +0.9**
HNS S **S** **04 13 56.8 +2.9**
HNS LR LR
comp=Z,390nm,19.6s
HNS LR LR
comp=Z,510nm,23.0s
BNX BinXian 54.06 340 ⇓P **P** **04 06 25.0 +0.2**
BNX pmax pmax
comp=Z,54nm,1.1s
BNX pmax pmax
comp=Z,350nm,5.0s
BJI Beijing 54.52 327 P **P** **04 06 31.5 +3.3**
BJI S **S** **04 14 12.8 +5.4**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI pmax pmax
comp=Z,83nm,4.6s
BJI LR LR
comp=Z,310nm,18.5s
BJI LR LR
comp=Z,220nm,17.8s
BJI LR LR
comp=Z,480nm,18.8s
XAN Xi'an 55.08 317 P **P** **04 06 33.3 +0.8**
XAN pP pwP 04 06 43.3 +5.4
XAN pmax pmax
comp=Z,10.0nm,1.6s
KMI Kunming 55.30 304 ⇑P **P** **04 06 37.3 +2.8**
KMI pP pwP 04 06 41.0 +1.1
KMI S **S** **04 14 21.3 +2.3**
KMI SS **SS** **04 18 06.5 +2.9**
KMI pmax pmax
comp=Z,12nm,1.3s
KMI pmax pmax
comp=Z,83nm,4.4s
KMI LR LR
comp=Z,170nm,14.1s
KMI LR LR
comp=Z,310nm,21.8s
KMI LR LR
comp=Z,280nm,25.7s
KLR Kul'dur 55.85 345 P **P** **04 06 37.2 -0.5**
comp=Z,8.2nm,1.1s,baz=158,slow=6.5,SNR=11
KLR LR LR 04 29 45.6
comp=Z,187nm,19.5s,baz=186,slow=35
KLR Kul'dur 55.85 345*ce*P **P** **04 06 36.3 -1.4**
KLR pmax pmax
comp=Z,8.0nm,1.4s
CMAR Chiang Mai Arr 56.14 295 P **P** **04 06 39.8 -0.5**
comp=Z,5.2nm,0.8s,baz=110,slow=5.5,SNR=16
CMAR LR LR 04 31 17.7
comp=Z,99nm,18.5s,baz=125,slow=37
CMAR Chiang Mai Arr 56.14 295 P **P** **04 06 40.0 -0.3**
CMAR Chiang Mai Arr 56.14 295 P **P** **04 06 40.0 -0.3**
CHTO Chiang Mai 56.25 296 P **P** **04 06 41.5 +0.4**
CHTO pmax pmax
comp=Z,20nm,1.6s
CHTO Chiang Mai 56.25 296 P **P** **04 06 41.5 +0.4**
PZH PanZhiHua 56.70 306 P **P** **04 06 46.5 +2.2**
PZH S **S** **04 14 38.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,8.2s
PZH LR LR
comp=Z,550nm,24.0s
PZH LR LR
comp=Z,620nm,24.0s
PZH LR LR
comp=Z,800nm,22.5s
CD2 Chengdu 57.12 311 P **P** **04 06 48.8 +1.6**
CD2 S **S** **04 14 42.8 +0.2**
CD2 LR LR
comp=Z,240nm,17.0s
CD2 LR LR
comp=Z,230nm,17.0s
XLT XiLinHaoTe 57.35 330 *e*P **P** **04 06 49.5 +0.9**
XLT pP sP 04 06 52.5 +0.4
XLT sP pwP 04 06 57.0 +3.0
XLT S **S** **04 14 47.5 +2.2**
XLT sS sS 04 14 55.5 +6.0
XLT pmax pmax
comp=Z,21nm,1.0s
XLT pmax pmax
comp=Z,98nm,5.1s
XLT LR LR
comp=Z,400nm,18.5s
XLT LR LR
comp=Z,540nm,24.9s
PEA0B Petropavlovsk- 57.40 5*ce*P **P** **04 06 49.1 +0.5**
PEA0B Petropavlovsk- 57.40 5 P **P** **04 06 47.2 -1.4**
PEA0B IAmb IAmb 04 06 50.6
comp=Z,22nm,1.0s
PET Petropavlovsk 57.40 5 *e*P **P** **04 06 49.7 +1.1**
PET *e*S **S** **04 14 42.1 -3.2**
PET pmax pmax
comp=Z,23nm,1.2s
PET MLR MLR
comp=Z,500nm,20.0s
PETK Petropavlovsk- 57.40 5 P **P** **04 06 48.5 -0.2**
comp=Z,15nm,0.9s,baz=187,slow=10,SNR=16
PETK LR LR 04 26 55.1
comp=Z,478nm,21.3s,baz=188,slow=31
PETK Petropavlovsk- 57.40 5 P **P** **04 06 48.3 -0.3**
PETK Petropavlovsk- 57.40 5 P **P** **04 06 48.3 -0.3**
HHC Hu-ho-hao-te 57.63 325 *e*P **P** **04 06 52.5 +1.8**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,200nm,6.0s
HHC LR LR
comp=Z,360nm,15.2s
HHC LR LR
comp=Z,370nm,16.5s
HHC LR LR
comp=Z,680nm,17.1s
PPT Papeete 59.47 108 LR LR 04 28 46.9
comp=Z,154nm,21.7s,baz=296,slow=32
PPT2 Papeete2 59.48 108 *e*S **S** **04 15 06.9 -6.9**
comp=Z,225nm,26.5s
PPT2 *e*LQ LQ 04 21 55.6
comp=Z,585nm,29.2s
PPT2 *e*LR LR 04 24 21.0
comp=Z,1μm,35.8s
LZH Lanzhou 59.68 316 *e*P **P** **04 07 07.5 +2.4**
LZH sP pwP 04 07 11.3 +0.8
LZH S **S** **04 15 17.0 +0.9**
LZH pmax pmax
comp=Z,27nm,1.3s
LZH LR LR
comp=Z,440nm,15.0s
LZH LR LR
comp=Z,460nm,15.2s
LZH LR LR
comp=Z,540nm,17.6s
SHEM Shemya Is, Ala 59.99 16 LR LR 04 29 10.6
comp=Z,377nm,20.1s,baz=170,slow=32
TBI Tubuai 60.30 114 *e*LQ LQ 04 22 17.4
comp=Z,2μm,37.0s
TBI *e*LR LR 04 24 48.3
comp=Z,486nm,37.0s
ZEA Zeya 61.14 344 *e*P **P** **04 07 15.4 +0.9**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.4s
MA2 Magadan 63.62 360 P **P** **04 07 30.8 -0.1**
comp=Z,12nm,0.6s,baz=154,slow=7.4,SNR=17
MA2 Magadan 63.62 360*ce*P **P** **04 07 30.3 -0.7**
MA2 pmax pmax
comp=Z,20nm,0.9s
MA2 Magadan 63.62 360 P **P** **04 07 30.3 -0.7**
GTA Gaotai 64.12 318 *e*P **P** **04 07 37.3 +2.4**
GTA pP pwP 04 07 43.3 +3.0
GTA pmax pmax
comp=Z,4.0nm,1.5s
SHL Shillong 64.60 301 P **P** **04 07 37.8 -0.5**
SHL pmax pmax
comp=Z,14nm,1.1s
SHL Shillong 64.60 301 P **P** **04 07 37.8 -0.5**
SHL IAmb IAmb 04 07 42.7
comp=Z,14nm,1.1s
ULN Ulaanbaatar 64.65 329*ce*P **P** **04 07 39.5 +1.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 64.65 329 P **P** **04 07 37.9 -0.4**
ULN IAmb IAmb 04 07 41.7
comp=Z,41nm,1.9s
SONM Songino Array 64.97 328 P **P** **04 07 40.0 -0.3**
comp=Z,2.7nm,0.8s,baz=140,slow=5.0,SNR=19
SONM LR LR 04 35 38.7
comp=Z,509nm,21.4s,baz=178,slow=36
SONM Songino Array 64.97 328 P **P** **04 07 40.5 +0.2**
SONM pmax pmax
comp=Z,23nm,1.6s
SONM Songino Array 64.97 328 P **P** **04 07 40.5 +0.2**
SONM IAmb IAmb 04 07 43.5
comp=Z,23nm,1.6s
GOMU GeErMu 66.16 313 P **P** **04 07 46.3 -2.2**
GOMU PP **PP** **04 10 12.5 -1.8**
GOMU S **S** **04 16 33.5 -4.3**
GOMU SS **SS** **04 20 53.0 -0.8**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,84nm,4.2s
GOMU LR LR
comp=Z,100nm,18.8s
GOMU LR LR
comp=Z,150nm,19.0s
GOMU LR LR
comp=Z,190nm,18.1s
NIKH Nikolski High 66.20 25 P **P** **04 07 47.8 -0.1**
baz=224
SEY Seymchan 66.99 1 P **P** **04 07 52.5 -0.3**
comp=Z,7.9nm,0.9s,baz=180,slow=5.3,SNR=29
SEY LR LR 04 32 43.8
comp=Z,441nm,21.9s,baz=186,slow=32
SEY Seymchan 66.99 1*ce*P **P** **04 07 52.5 -0.3**
SEY pmax pmax
comp=Z,7.0nm,0.9s
UNV Unalaska Valle 67.82 26 P **P** **04 07 57.7 -0.5**
baz=226
YAK Yakutsk 68.11 349 LR LR 04 35 24.3
comp=Z,328nm,22.0s,baz=94,slow=34
YAK Yakutsk 68.11 349 P **P** **04 08 00.5 +0.7**
ZAK Zakamensk 68.16 329 *e*P **P** **04 07 59.5 -1.1**
ZAK *e* 04 08 29.0
ZAK pmax pmax
comp=Z,22nm,1.4s
ZAK pmax pmax
comp=Z,13nm,1.4s
TAOE Nuku Hiva Isla 68.34 98 *e*S **S** **04 16 57.5 -6.8**
comp=Z,350nm,32.5s
TAOE Nuku Hiva Isla 68.34 98 *e*LR LR 04 28 26.0
comp=Z,846nm,32.3s
BOD Bodaibo 68.68 340 *e*P **P** **04 08 03.2 -0.4**
BOD pmax pmax
comp=Z,11nm,1.6s
SPIA Saint Paul Isl 68.72 21 P **P** **04 08 03.1 -0.7**
baz=222
MOY Mondy 70.08 329 *e*P **P** **04 08 13.1 +0.6**
MOY pmax pmax
comp=Z,40nm,1.8s
KNGR Kungurtug, Tuv 71.31 327 *i* P **P** **04 08 18.3 -1.8**
SDPT Sand Point 71.45 27 P **P** **04 08 21.3 +0.7**
baz=232
BILL Bilibino 72.89 6⇑ *i*P **P** **04 08 29.5 +0.5**
BILL *i* 04 08 42.7
BILL pmax pmax
comp=Z,14nm,1.1s
BILL MLR MLR
comp=Z,178nm,18.0s
BILL Bilibino 72.89 6 P **P** **04 08 29.0 0.0**
BILL IAmb IAmb 04 08 31.6
comp=Z,16nm,1.0s
CHGN Chignik 72.96 27 P **P** **04 08 30.4 +0.8**
baz=234
GAMB Gambell 73.30 16 P **P** **04 08 32.5 +1.0**
GAMB Gambell 73.30 16 P **P** **04 08 32.3 +0.9**
baz=219,SNR=5.1
VNDA Vanda 73.45 178 P **P** **04 08 32.1 -0.1**
comp=Z,3.3nm,1.1s,baz=319,slow=6.9,SNR=6.8
VNDA LR LR 04 36 49.3
comp=Z,174nm,21.8s,baz=352,slow=33
VNDA Vanda 73.45 178 P **P** **04 08 31.9 -0.3**
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 73.45 178 P **P** **04 08 31.9 -0.3**
WMQ Urumqi 74.21 318 *e*P **P** **04 08 39.8 +2.4**
WMQ pP pwP 04 08 43.5 +0.7
WMQ pmax pmax
comp=Z,24nm,1.5s
WMQ LR LR
comp=Z,150nm,20.1s
SII Sitkinak Islan 75.04 28 P **P** **04 08 41.9 +0.1**
baz=237
TNA Tin City 75.72 16 P **P** **04 08 45.5 +0.1**
ANM Nome 75.74 18 P **P** **04 08 46.2 +0.6**
ANM pmax pmax
comp=Z,23nm,1.3s
ANM Nome 75.74 18 P **P** **04 08 46.2 +0.6**
ANM IAmb IAmb 04 08 49.1
comp=Z,23nm,1.3s
ANM Nome 75.74 18 P **P** **04 08 46.8 +1.1**
baz=225,SNR=8.6
OHAK Old Harbor 75.81 28 P **P** **04 08 46.9 +0.7**
baz=238
P18K Big Mountain, 76.14 25 P **P** **04 08 48.2 +0.1**
baz=236
KDAK Kodiak Island 76.43 27 LR LR 04 39 14.1
comp=Z,324nm,19.7s,baz=251,slow=33
KDAK Kodiak Island 76.43 27 P **P** **04 08 50.5 +0.8**
baz=239
SVW2 Sparrevohn 76.97 24 P **P** **04 08 52.1 -0.6**
SVW2 IAmb IAmb 04 08 55.9
comp=Z,23nm,0.9s
O19K Port Alsworth 76.97 25 P **P** **04 08 52.9 +0.2**
baz=236
TIXI Tiksi 77.13 353 P **P** **04 08 52.8 -0.6**
comp=Z,2.5nm,0.7s,baz=94,slow=23,SNR=6.8
TIXI Tiksi 77.13 353*ce*P **P** **04 08 53.1 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 77.13 353 P **P** **04 08 52.1 -1.3**
N19K Bonanza Creek 77.25 24 P **P** **04 08 54.0 -0.4**
baz=236
O20K Slope Mountain 77.62 25 P **P** **04 08 56.9 +0.4**
baz=238
TTA Tatalina 77.86 22 P **P** **04 08 57.5 -0.3**
TTA pmax pmax
comp=Z,22nm,1.0s
TTA Tatalina 77.86 22 P **P** **04 08 57.5 -0.3**
TTA IAmb IAmb 04 09 00.5
comp=Z,22nm,1.0s
TTA Tatalina 77.86 22 P **P** **04 08 58.4 +0.7**
baz=234
L19K White Mountain 77.87 23 P **P** **04 08 58.6 +0.9**
L19K White Mountain 77.87 23 P **P** **04 08 58.7 +0.9**
baz=236
M19K Big River Lodg 77.89 23 P **P** **04 08 58.8 +1.0**
baz=236
BRSE Bradley Lake S 78.26 26 P **P** **04 09 00.5 +0.5**
baz=240
M20K Styx River 78.38 24 P **P** **04 09 01.5 +0.8**
baz=237
L20K Farewell, AK 78.41 23 P **P** **04 09 01.5 +0.7**
baz=236
CAPN Captain Cook N 78.60 25 P **P** **04 09 02.2 +0.4**
baz=239
GCSA Galena City Sc 78.63 20 P **P** **04 09 02.8 +1.0**
baz=233
MK31 Makanchi Array 78.82 319 *i* P **P** **04 09 03.2 -0.2**
MK31 Makanchi Array 78.82 319 P **P** **04 09 02.9 -0.5**
MKAR Makanchi Array 78.82 319 P **P** **04 09 02.5 -0.8**
comp=Z,4.0nm,0.9s,baz=103,slow=6.1,SNR=27
MKAR LR LR 04 44 46.9
comp=Z,174nm,19.8s,baz=94,slow=36
K20K Telida 78.83 22 P **P** **04 09 04.2 +1.2**
baz=236,SNR=17
RDOG Red Dog Mine 78.89 16 P **P** **04 09 04.1 +0.8**
RDOG IAmb IAmb 04 09 05.9
comp=Z,28nm,1.2s
RDOG Red Dog Mine 78.89 16 P **P** **04 09 04.1 +0.8**
baz=227
SEW Seward 79.00 26 P **P** **04 09 04.5 +0.5**
baz=241
MAKZ Makanchi 79.03 319 P **P** **04 09 05.2 +0.7**
MAKZ pmax pmax
comp=Z,16nm,1.2s
MAKZ Makanchi 79.03 319 P **P** **04 09 05.2 +0.7**
O22K Cooper Landing 79.07 26 P **P** **04 09 04.8 +0.5**
baz=241
J20K Nowinta River 79.26 21 P **P** **04 09 07.0 +1.6**
J20K Nowinta River 79.26 21 P **P** **04 09 06.9 +1.6**
baz=236,SNR=13
PPLA Purkeypile 79.30 23 P **P** **04 09 06.3 +0.5**
baz=238
RC01 Rabbit Creek A 79.36 25 P **P** **04 09 06.2 +0.2**
baz=241
M22K Willow 79.53 24 P **P** **04 09 06.8 -0.1**
baz=240
CAST Castle Rocks 79.61 22 P **P** **04 09 07.0 -0.3**
CAST IAmb IAmb 04 09 09.2
comp=Z,28nm,1.0s
CAST Castle Rocks 79.61 22 P **P** **04 09 08.1 +0.8**
baz=238,SNR=15
ZAA0 Zalesovo Array 79.77 327 P **P** **04 09 07.8 -0.6**
ZALV Zalesovo Beam 79.77 327 P **P** **04 09 06.8 -1.5**
comp=Z,6.7nm,0.8s,baz=108,slow=5.5,SNR=19
ZALV LR LR 04 43 24.6
comp=Z,261nm,21.3s,baz=106,slow=35
CHUM Lake Minchumin 79.77 22 P **P** **04 09 08.9 +0.8**
baz=238,SNR=25
CUT Chulitna 79.80 24 P **P** **04 09 08.1 -0.3**
CUT Chulitna 79.80 24 P **P** **04 09 08.4 +0.1**
baz=240
PWL Port Wells 79.85 26 P **P** **04 09 07.7 -1.0**
baz=242
PMR Palmer 79.86 25 P **P** **04 09 09.0 +0.4**
baz=241
KNK Knik Glacier 80.06 25 IAmb IAmb 04 09 20.6
comp=Z,26nm,1.0s
KNK Knik Glacier 80.06 25 P **P** **04 09 09.7 -0.1**
baz=242
Q23K Middleton Isla 80.08 27 P **P** **04 09 10.4 +0.6**
baz=244
KTH Kantishna Hill 80.13 23 P **P** **04 09 09.9 -0.2**
KTH IAmb IAmb 04 09 11.4
comp=Z,31nm,1.0s
SML Sawmill 80.30 25 P **P** **04 09 11.7 +0.6**
SML Sawmill 80.30 25 P **P** **04 09 11.7 +0.6**
baz=242
TRF Thorofare Moun 80.32 23 IAmb IAmb 04 09 12.5
comp=Z,23nm,1.0s
TRF Thorofare Moun 80.32 23 P **P** **04 09 11.4 0.0**
baz=240
BPAW Bear Paw Mtn. 80.39 22 P **P** **04 09 11.9 +0.4**
BPAW Bear Paw Mtn. 80.39 22 P **P** **04 09 11.6 +0.1**
baz=239,SNR=9.5
GLI Glacier Island 80.40 26 P **P** **04 09 11.7 0.0**
baz=243
IMAR Indian Mountai 80.41 20 P **P** **04 09 12.4 +0.8**
H21K Melozitna Rive 80.56 20 P **P** **04 09 13.6 +1.2**
H21K Melozitna Rive 80.56 20 P **P** **04 09 12.8 +0.4**
baz=237,SNR=6.5
I21K Tanana 80.59 21 IAmb IAmb 04 09 16.0
comp=Z,29nm,1.1s
I21K Tanana 80.59 21 P **P** **04 09 13.3 +0.7**
baz=238,SNR=16
SCM Sheep Creek Mo 80.74 25 IAmb IAmb 04 09 15.9
comp=Z,31nm,1.0s
SCM Sheep Creek Mo 80.74 25 P **P** **04 09 13.9 +0.4**
baz=243,SNR=5.1
EYAK Cordova Ski Ar 80.84 27 P **P** **04 09 14.4 +0.4**
baz=244
RND Reindeer 80.86 23 P **P** **04 09 14.1 0.0**
RND pmax pmax
comp=Z,35nm,0.9s
RND Reindeer 80.86 23 P **P** **04 09 14.1 0.0**
WAT6 Susitna Watana 80.91 24 P **P** **04 09 15.1 +0.5**
baz=242,SNR=8.2
MLY Manley 80.96 21 IAmb IAmb 04 09 16.7
comp=Z,28nm,1.0s
MLY Manley 80.96 21 P **P** **04 09 15.1 +0.5**
baz=239,SNR=18
MCK McKinley 80.99 23 P **P** **04 09 14.2 -0.6**
MCK pmax pmax
comp=Z,61nm,1.0s
MCK McKinley 80.99 23 P **P** **04 09 14.2 -0.6**
MCK McKinley 80.99 23 P **P** **04 09 15.0 +0.3**
baz=241,SNR=16
BWN Browne 81.00 22 P **P** **04 09 14.8 +0.1**
DIV Divide 81.09 26 P **P** **04 09 15.8 +0.4**
DIV IAmb IAmb 04 09 17.9
comp=Z,26nm,1.0s
KAIM Kayak Island 81.18 27 P **P** **04 09 16.5 +0.7**
baz=246
KLU Klutina 81.18 26 P **P** **04 09 16.1 +0.2**
baz=244,SNR=9.6
DHY Denali Highway 81.29 24 P **P** **04 09 15.6 -0.9**
DHY IAmb IAmb 04 09 18.6
comp=Z,29nm,1.0s
DHY Denali Highway 81.29 24 P **P** **04 09 17.3 +0.8**
baz=242,SNR=8.3
KSH Kashi 81.31 311 P **P** **04 09 21.3 +4.1**
NEA2 Nenana 81.36 22 P **P** **04 09 15.9 -0.8**
NEA2 IAmb IAmb 04 09 17.9
comp=Z,19nm,0.9s
NEA2 Nenana 81.36 22 P **P** **04 09 17.2 +0.6**
baz=241,SNR=10
I23K Minto, Yukon-K 81.52 22 P **P** **04 09 18.0 +0.5**
baz=240
WRH Wood River Hil 81.67 22 P **P** **04 09 16.8 -1.5**
WRH IAmb IAmb 04 09 19.5
comp=Z,26nm,1.1s
N25K Chitina, Valde 81.80 26 P **P** **04 09 20.2 +1.0**
baz=245
HARP HAARP 81.90 25 P **P** **04 09 20.2 +0.6**
baz=245
TCOL CIGO, UAF Yank 81.95 22 P **P** **04 09 19.2 -0.5**
TCOL CIGO, UAF Yank 81.95 22 P **P** **04 09 19.6 -0.1**
baz=242
COLA College 81.95 22⇓ *i*P **P** **04 09 20.1 +0.4**
COLA pmax pmax
comp=Z,25nm,0.9s
COLA College 81.95 22 P **P** **04 09 19.1 -0.6**
COLA College 81.95 22 P **P** **04 09 20.0 +0.2**
baz=242
PAX Paxson 82.02 24 P **P** **04 09 20.0 -0.3**
baz=244
GLB Gilahina Butte 82.08 26 IAmb IAmb 04 09 23.0

comp=Z,14nm,0.9s
POKR Poker Plat Res 82.22 22 P **P 04 09 21.3 +0.1**
baz=242
IL31 82.27 22 P **P 04 09 19.8 -1.5**
IL31 IAmb IAmb 04 09 22.1
comp=Z,15nm,0.8s
ILAR Eielson Array 82.27 22 P **P 04 09 19.6 -1.8**
comp=Z,15nm,0.9s,baz=248,slow=5.0,SNR=74
ILAR LR LR 04 41 37.9
comp=Z,227nm,20.3s,baz=258,slow=33
COLD Coldfoot 82.28 20 P **P 04 09 21.7 +0.2**
COLD IAmb IAmb 04 09 24.3
comp=Z,23nm,1.3s
COLD Coldfoot 82.28 20 P **P 04 09 22.4 +0.9**
baz=239,SNR=9.9
KURK Kurchatov 82.31 322*ce***P P 04 09 21.6 -0.3**
KURK pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 82.31 322 P **P 04 09 21.2 -0.8**
KURK IAmb IAmb 04 09 24.2
comp=Z,18nm,1.1s
KURBB Kurchatov Arra 82.34 322 LR LR 04 46 37.6
comp=Z,252nm,20.8s,baz=77,slow=36
H24K Noodor Dome 82.40 21 P **P 04 09 22.2 0.0**
baz=242,SNR=6.1
MCARA McCarthy VSAT 82.40 26 IAmb IAmb 04 09 25.3
comp=Z,25nm,1.0s
MCARA McCarthy VSAT 82.40 26 P **P 04 09 22.8 +0.5**
baz=247,SNR=5.2
RIDG Independent Ri 82.61 24 P **P 04 09 23.6 +0.3**
baz=245,SNR=6.9
A21K Barrow 82.69 15 P **P 04 09 23.8 +0.4**
A21K IAmb IAmb 04 09 25.5
comp=Z,19nm,1.1s
A21K Barrow 82.69 15 P **P 04 09 24.4 +0.9**
baz=233
MENT Mentasta 82.73 25 IAmb IAmb 04 09 26.3
comp=Z,15nm,1.0s
J25K Salcha River, 82.78 23 P **P 04 09 24.9 +0.6**
baz=244,SNR=26
BARN Barnard Glacie 82.89 27 IAmb IAmb 04 09 27.7
comp=Z,16nm,1.0s
DOT Dot Lake 82.89 24 P **P 04 09 24.7 0.0**
L26K Log Cabin Wild 82.92 25 IAmb IAmb 04 09 27.2
comp=Z,11nm,0.8s
L26K Log Cabin Wild 82.92 25 P **P 04 09 25.9 +1.0**
baz=246,SNR=6.5
CTG Chitna Glacier 82.99 27 P **P 04 09 26.2 +0.7**
baz=248,SNR=6.9
CTGM Chitina Glacie 83.00 27 P **P 04 09 26.6 +1.1**
SCRK Sand Creek 83.05 24 IAmb IAmb 04 09 27.7
comp=Z,14nm,1.0s
SCRK Sand Creek 83.05 24 P **P 04 09 26.4 +0.6**
baz=245,SNR=7.9
AAK Ala-Archa 83.08 314 LR LR 04 45 59.4
comp=Z,138nm,20.7s,baz=106,slow=35
AAK Ala-Archa 83.08 314*ce***P P 04 09 27.8 +1.4**
AAK pmax pmax
comp=Z,10.0nm,2.5s
TOLK Toolik Lake Re 83.20 18 P **P 04 09 26.0 -0.4**
TOLK IAmb IAmb 04 09 28.8
comp=Z,14nm,0.9s
TOLK Toolik Lake Re 83.20 18 P **P 04 09 27.5 +1.2**
baz=240,SNR=10
M27K Edge Creek, AK 83.28 26 P **P 04 09 28.4 +1.4**
M27K Edge Creek, AK 83.28 26 P **P 04 09 28.1 +1.1**
baz=248,SNR=15
PNL Peninsula 83.44 29 P **P 04 09 28.5 +0.9**
baz=250
J26L Joseph Creek 83.44 23 P **P 04 09 28.6 +0.9**
baz=246,SNR=8.8
L27K Beaver Creek, 83.58 25 IAmb IAmb 04 09 30.9
comp=Z,16nm,1.1s
L27K Beaver Creek, 83.58 25 P **P 04 09 29.3 +0.9**
baz=248,SNR=12
DAWY Dawson 84.96 24 P **P 04 09 35.8 +0.5**
DAWY IAmb IAmb 04 09 38.1
comp=Z,16nm,1.1s
DAWY Dawson 84.96 24 P **P 04 09 36.2 +0.9**
baz=250,SNR=10
MAW Mawson 85.45 203 LR LR 04 44 52.6
comp=Z,602nm,22.0s,baz=92,slow=34
J29M Klondike Camp 85.57 24 P **P 04 09 38.8 +0.4**
baz=251,SNR=5.8
M30M Minto, Yukon 85.58 26 IAmb IAmb 04 09 41.9
comp=Z,22nm,1.3s
M30M Minto, Yukon 85.58 26 P **P 04 09 39.1 +0.6**
baz=252,SNR=7.7
N31M Braeburn, Yuko 85.70 27 IAmb IAmb 04 09 42.1
comp=Z,21nm,1.1s
N31M Braeburn, Yuko 85.70 27 P **P 04 09 39.7 +0.6**
baz=253,SNR=5.6
QSPA South Pole Qui 85.72 180 P **P 04 09 38.6 -0.6**
comp=Z,2.2nm,0.7s,baz=7.7,slow=1.8,SNR=6.3
QSPA LR LR 04 46 57.2
comp=Z,314nm,18.5s,baz=12,slow=35
QSPA South Pole Qui 85.72 180 P **P 04 09 38.0 -1.2**
QSPA IAmb IAmb 04 10 06.1
comp=Z,35nm,1.7s
I29M Ogilvie Camp, 85.84 23 IAmb IAmb 04 09 41.8
comp=Z,21nm,0.9s
I29M Ogilvie Camp, 85.84 23 P **P 04 09 40.3 +0.6**
baz=251
WHY Whitehorse 85.89 28 P **P 04 09 40.8 +0.7**
baz=254
KKAR Karatay Array 86.04 314 P **P 04 09 40.5 -0.7**
KKAR Karatay Array 86.04 314 P **P 04 09 40.5 -0.7**
M31M Drury Creek, Y 86.54 27 IAmb IAmb 04 09 45.4
comp=Z,14nm,1.1s
M31M Drury Creek, Y 86.54 27 P **P 04 09 43.7 +0.5**
baz=254,SNR=7.3
P33M Teslin, Yukon 86.76 29 P **P 04 09 45.1 +0.7**
baz=256
EPYK Eagle Plains 86.78 23 P **P 04 09 44.9 +0.5**
baz=252
BBB Bella Bella 87.66 37 LR LR 04 41 53.5
comp=Z,287nm,20.1s,baz=270,slow=31
DLBC Dease Lake 87.75 31 LR LR 04 45 40.7
comp=Z,400nm,18.1s,baz=276,slow=33
BRVK Borovoye 87.87 323*ce***P P 04 09 48.6 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 87.87 323 P **P 04 09 48.1 -1.7**
INK Inuvik 88.52 21 LR LR 04 47 04.8
comp=Z,240nm,19.5s,baz=244,slow=34
INK Inuvik 88.52 21 IAmb IAmb 04 09 54.1
comp=Z,19nm,1.1s
INK Inuvik 88.52 21 P **P 04 09 52.6 0.0**
baz=255
TGTN Hyland Airport 89.21 28 P **P 04 09 56.5 +0.4**
baz=260
K02D Willamette Mer 89.31 47 P **P 04 09 57.2 +0.2**
baz=264
I02E Swisshome, OR 89.34 46 P **P 04 09 57.2 +0.3**
baz=264
O02D Mt. Diablo Mer 89.70 50 P **P 04 09 59.2 +0.4**
baz=264
M02C Callahan 89.78 49 P **P 04 09 59.5 +0.3**
baz=264
N02D Trinity Center 89.85 49 P **P 04 09 59.6 0.0**
baz=264
YBH Yreka Blue Hor 89.92 48 LR LR 04 42 48.8
comp=Z,448nm,21.5s,baz=262,slow=31
O03E Paynes Creek 90.47 50 P **P 04 10 02.3 -0.1**
baz=265
E04D Cinebar 90.49 44 P **P 04 10 02.3 0.0**
baz=264
J04D Umpqua Nationa 90.50 47 P **P 04 10 02.4 -0.3**
baz=265
M04C Macdoel 90.57 48 P **P 04 10 02.6 -0.4**
baz=265
I05D Terrebonne, OR 91.16 46 P **P 04 10 04.5 -1.0**
baz=265
A36M Sachs Harbour 92.02 18 IAmb IAmb 04 10 10.2
comp=Z,10.0nm,0.9s
A36M Sachs Harbour 92.02 18 P **P 04 10 09.0 +0.2**
baz=263
C36M Paulatuk 92.09 21 IAmb IAmb 04 10 10.3
comp=Z,9.0nm,1.0s
C36M Paulatuk 92.09 21 P **P 04 10 09.5 +0.4**
baz=264
NVAR Mina Array Bea 93.04 52 LR LR 04 44 19.6
comp=Z,163nm,20.9s,baz=280,slow=30
CWC Cottonwood Cre 93.12 54 P **P 04 10 14.1 -0.8**
baz=267
MPMC Manual Prospec 93.58 54 P **P 04 10 16.8 -0.3**
baz=267
ABKAR Akbulak array 93.96 319 P **P 04 10 16.4 -1.8**

FURC Furnace Creek, 94.10 54 P **P 04 10 19.5 +0.3**
baz=268
GSC Goldstone, Bar 94.10 55 P **P 04 10 19.0 -0.3**
baz=268
NEW Newport 94.29 42 LR LR 04 47 01.8
comp=Z,179nm,20.9s,baz=267,slow=32
NEW Newport 94.29 42 P **P 04 10 20.2 +0.3**
baz=268
PFO Pinyon Flats O 94.32 57 LR LR 04 44 17.4
comp=Z,360nm,21.3s,baz=258,slow=30
PFO Pinyon Flats O 94.32 57 P **P 04 10 20.7 +0.3**
baz=268
MONP2 Monument Peak 94.32 57 P **P 04 10 19.8 -0.8**
baz=268
TPFO Pinon Flats 94.32 57 P **P 04 10 20.4 -0.1**
baz=268
HEC Hector Ludlow 94.47 56 P **P 04 10 20.5 -0.6**
baz=268
IKP In-Ko-Pah, Jac 94.58 58 P **P 04 10 21.2 -0.4**
baz=268
TPNV Topopah Spring 94.61 53 P **P 04 10 21.2 -0.5**
baz=268
ARU Arti 94.93 326 LR LR 04 53 03.5
comp=Z,289nm,20.7s,baz=83,slow=35
GEYT Alibeck 94.96 308 LR LR 04 55 18.8
comp=Z,112nm,20.5s,baz=92,slow=37
GMRC Granite Mounta 95.02 56 P **P 04 10 23.2 -0.4**
baz=268
R11A Troy Canyon, C 95.17 52 P **P 04 10 24.0 -0.3**
baz=269
AKTO Aktyubinsk 95.23 320 LR LR 04 53 48.6
comp=Z,239nm,20.7s,baz=79,slow=36
ELK Elko 95.48 50 LR LR 04 49 37.4
comp=Z,217nm,18.9s,baz=264,slow=33
YKA Yellowknife Ar 95.70 28 P **P 04 10 26.2 +0.3**
comp=Z,1.9nm,0.9s,baz=270,slow=4.4,SNR=20
YKA LR LR 04 49 44.5
comp=Z,283nm,20.3s,baz=287,slow=33
LPIG La Paz 99.52 66 LR LR 04 50 11.1
comp=Z,568nm,18.6s,baz=226,slow=32
PDAR Pinedale Array 99.69 47 P **Pdif 04 10 44.1 -0.7**
comp=Z,0.6nm,0.9s,baz=242,slow=3.2,SNR=4.2
PDAR LR LR 04 50 39.9
comp=Z,177nm,19.4s,baz=278,slow=32
SDCO Great Sand Dun 103.14 52 P **Pdif 04 10 59.5 -0.8**
baz=275
T25A Trinidad 104.06 53 P **Pdif 04 11 02.8 -1.5**
baz=275
CLL Collm 121.56 331*e***PKPdf PKPdf 04 15 54.0 0.0**
CLL *e*SS SS 04 34 06.0 +5.4
CLL Lm MLR 05 08 00.0
comp=Z,300nm,19.1s
GERES GERESS Array B 122.71 328 PKP **PKPdf 04 15 56.4 -0.1**
comp=Z,0.7nm,0.8s,baz=45,slow=2.6,SNR=7.8
GERES GERESS Array B 122.71 328 PKIKP **PKPdf 04 15 56.7 +0.2**
GERES GERESS Array B 122.71 328 PKPdf 04 15 56.7 +0.2
OBKA Obir 123.60 325*e***P PKPdf 04 15 58.8 +0.5**
comp=Z,8.9nm,1.4s
ABTA Abfaltersbach 124.60 326*e***P PKiKP 04 16 02.4 +1.9**
comp=Z,4.9nm,1.0s
MOTA Moosalm 125.00 328*e***P PKiKP 04 16 05.1 +3.7**
comp=Z,5.9nm,1.2s
TOA0 Torodi Ar. Sit 148.56 288 PKPbc 04 16 47.9 -0.5
TORD Torodi Ar. Bea 148.56 288 PKPbc **PKPbc 04 16 47.1 -1.2**
comp=Z,2.9nm,0.7s,baz=68,slow=3.1,SNR=12

*IDC **28** 04:13:13.4±1.2,38°.78N×74°.90E,h0km,mb3.8/7,*
mb1 3.9/12,mb1mx3.6/63,mbtmp3.8/12,ML3.1/5,MS4.4/5,
Ms1 4.4/5,ms1mx3.2/93,Error ellipse: s-maj=23.1km
s-min=19.1km az=140.0
*SOME **28** 04:13:17.5,38°.97N×75°.40E,h5km*
*NNC **28** 04:13:18.9±1.9,39°.04N×75°.18E,h0km,mb4.5,mpv4.1,*
Error ellipse: s-maj=13.6km s-min=9.4km az=165.0
ISC 28 04:13:17.2±1.0,39°02N±0°06×75°37E±0°03,h10km,n71,
σ2s83/93,mb3.9/7,MS4.5/5,5C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.68**	**350**	Op Pn	**Pn**	**04 14 17.6**	**+3.3**
	1.4nm,0.3s,baz=173,slow=5.5,SNR=13						
AAK				Sn	**Sn**	**04 14 56.1**	**-1.7**
	3.1nm,0.3s,baz=125,slow=20,SNR=1.8						
AAK				Lg	Lg	04 15 06.5	
	3.4nm,0.3s,baz=106,slow=12,SNR=1.6						
TKM2	**Tokmak 2**	**3.91**	**2**	⇓Pn	**Pn**	**04 14 21.7**	**+4.2**
	29nm,0.6s						
TKM2				⇑Sn	**Sb**	**04 15 10.7**	**-3.0**
	30nm,0.7s						
TKM2				⇑Lg	Lg	04 15 23.5	
	54nm,0.8s						
KST	**Kastek**	**4.05**	**6**	*e*P	**Pg**	**04 14 33.1**	**-1.7**
	19nm,0.4s						
KST				*e*S	**Sg**	**04 15 28.0**	**+0.8**
	78nm,0.8s						
KST	**Kastek**	**4.05**	**6**	Pg	**Pg**	**04 14 33.1**	**-1.7**
	19nm,0.4s						
KST				Lg	Lg	04 15 28.0	
	78nm,0.8s						
MRKS	**Merke**	**4.06**	**337**	*e*P	**Pb**	**04 14 33.1**	**+4.1**
	13nm,1.1s						
MRKS				*e*S	**Sg**	**04 15 27.1**	**-0.6**
	26nm,1.0s						
MRKS	**Merke**	**4.06**	**337**	Pg	**Pg**	**04 14 33.6**	**-1.4**
	23nm,0.6s						
MRKS				Lg	Lg	04 15 28.5	
	26nm,0.6s						
IZV	**Izvestkoviy**	**4.12**	**13**	*e*P	**Pg**	**04 14 35.7**	**-0.6**
	33nm,0.5s						
IZV				*e*S	**Sg**	**04 15 32.6**	**+2.9**
	62nm,0.8s						
IZV	**Izvestkoviy**	**4.12**	**13**	Pg	**Pb**	**04 14 34.1**	**+4.1**
	45nm,0.5s						
IZV				Lg	Lg	04 15 29.0	
	62nm,0.8s						
MTBS	**Maitube**	**4.19**	**11**	*e*P	**Pb**	**04 14 35.0**	**+4.0**
	22nm,0.5s						
MTBS				*e*S	**Sg**	**04 15 31.4**	**-0.3**
	37nm,0.5s						
MTBS	**Maitube**	**4.19**	**11**	Pg	**Pb**	**04 14 35.0**	**+4.0**
	22nm,0.5s						
MTBS				Lg	Lg	04 15 30.8	
	37nm,0.5s						
TNSS	**Tian-Shan**	**4.19**	**16**	*e*P	**Pg**	**04 14 36.4**	**-1.2**
	23nm,0.3s						
TNSS				*e*S	**Sg**	**04 15 33.6**	**+1.8**
	17nm,0.6s						
TNSS	**Tian-Shan**	**4.19**	**16**	Pg	**Pg**	**04 14 36.4**	**-1.2**
	23nm,0.3s						
TNSS				Lg	Lg	04 15 33.6	
	17nm,0.6s						
DGS	**Degeres**	**4.23**	**4**	*e*P	**Pg**	**04 14 37.8**	**-0.5**
	44nm,0.6s						
DGS				*e*S	**Sg**	**04 15 35.8**	**+2.7**
	28nm,0.6s						
DGS	**Degeres**	**4.23**	**4**	Pg	**Pg**	**04 14 37.8**	**-0.5**
	44nm,0.6s						
DGS				Lg	Lg	04 15 35.4	
	28nm,0.6s						
MDOK	**Medeo**	**4.33**	**17**	*e*P	**Pg**	**04 14 38.2**	**-2.0**
	22nm,0.5s						
MDOK				*e*S	**Sg**	**04 15 36.5**	**+0.2**
	41nm,0.6s						
MDOK	**Medeo**	**4.33**	**17**	Pg	**Pb**	**04 14 36.3**	**+2.7**
	16nm,0.5s						
MDOK				Lg	Lg	04 15 37.7	
	45nm,0.7s						
MDOK	**Medeo**	**4.33**	**17**	Pg	**Pg**	**04 14 38.0**	**-2.2**
	22nm,0.5s						
MDOK				Lg	Lg	04 15 36.1	
	41nm,0.6s						
AAA	**Alma-Ata**	**4.35**	**15**	*e*P	**Pb**	**04 14 37.7**	**+3.9**
	34nm,0.3s						
AAA				*e*S	**Sg**	**04 15 34.9**	**-1.9**
	81nm,0.4s						
KOTS	**Kotyrbulak**	**4.42**	**17**	*e*P	**Pg**	**04 14 41.1**	**-0.7**
	24nm,0.4s						
KOTS				*e*S	**Sg**	**04 15 41.0**	**+2.1**
	100nm,0.7s						
KOTS	**Kotyrbulak**	**4.42**	**17**	Pg	**Pg**	**04 14 41.1**	**-0.7**
	24nm,0.4s						
KOTS				Lg	Lg	04 15 41.0	
	100nm,0.7s						
SGDS	**Sogindy**	**4.47**	**353**	*e*P	**Pg**	**04 14 42.4**	**-0.4**
	24nm,0.6s						
SGDS				*e*S	**Sg**	**04 15 43.0**	**+2.4**
	18nm,0.7s						

SGDS Sogindy 4.47 353 Pg **Pb 04 14 40.3 +4.5**
24nm,0.8s
SGDS Lg Lg 04 15 40.3
14nm,0.6s
SATY Saty 4.65 29*e***P Pb 04 14 43.1 +4.3**
26nm,0.4s
SATY *e*S **Sg 04 15 45.4 -1.0**
SATY Saty 4.65 29 Pg **Pb 04 14 43.2 +4.3**
26nm,0.4s
SATY Lg Lg 04 15 45.4
KRBS Karabastau 4.68 3*e***P Pb 04 14 43.9 +4.4**
22nm,0.4s
KRBS *e*S **Sg 04 15 46.2 -1.3**
26nm,0.8s
KRBS Karabastau 4.68 3 Pg **Pb 04 14 43.9 +4.4**
22nm,0.4s
KRBS Lg Lg 04 15 46.2
26nm,0.8s
KTBS Karatobe 4.79 11*e***P Pb 04 14 45.5 +4.1**
27nm,0.4s
KTBS *e*S **Sg 04 15 49.0 -2.1**
46nm,0.7s
KTBS Karatobe 4.79 11 Pg **Pb 04 14 45.5 +4.1**
27nm,0.4s
KTBS Lg Lg 04 15 49.0
46nm,0.7s
KUU Kurty 4.93 8*e***P Pb 04 14 48.3 +4.7**
16nm,0.8s
KUU *e*S **Sg 04 15 53.8 -1.6**
67nm,0.6s
KUU Kurty 4.93 8 Pg **Pb 04 14 48.3 +4.7**
16nm,0.8s
KUU Lg Lg 04 15 53.8
67nm,0.6s
DZA Taraz 4.93 323*e***P Pg 04 14 50.9 -0.8**
63nm,0.4s
DZA *e*S **Sg 04 15 57.9 +2.3**
86nm,0.3s
KURS Kuram 4.94 24*e***P Pb 04 14 48.0 +4.1**
16nm,0.5s
KURS *e*S **Sg 04 15 53.0 -2.9**
19nm,0.9s
KURS Kuram 4.94 24 Pg **Pb 04 14 48.0 +4.1**
16nm,0.5s
KURS Lg Lg 04 15 53.0
19nm,0.9s
UZB Uzynbulak 4.97 33*e***P Pg 04 14 51.0 -1.4**
19nm,0.5s
UZB *e*S **Sg 04 15 58.4 +1.8**
23nm,0.8s
CHKK Chushkaly 4.99 14*e***P Pb 04 14 48.6 +4.0**
21nm,0.6s
CHKK *e*S **Sg 04 15 54.3 -2.9**
24nm,0.5s
KPKS Kokpek 5.10 28*e***P Pg 04 14 53.0 -1.9**
18nm,0.6s
KPKS *e*S **Sg 04 16 01.4 +0.4**
33nm,0.5s
IUG Iuzhnay 5.12 309*e***P Pg 04 14 54.6 -0.8**
356nm,0.7s
IUG *e*S **Sg 04 16 04.6 +2.8**
41nm,1.6s
SHLS Shalkode 5.17 35*e***P Pg 04 14 57.7 +1.5**
17nm,0.4s
SHLS *e*S **Sg 04 16 10.5 +7.4**
30nm,0.8s
SHLS Shalkode 5.17 35 Pg **Pg 04 14 57.7 +1.5**
17nm,0.4s
SHLS Lg Lg 04 16 10.5
30nm,0.8s
PDGK Podgornoye 5.32 35 Pg **Pg 04 14 55.5 -3.5**
13nm,0.6s
PDGK Lg Lg 04 16 05.9
16nm,0.7s
PDGK Podgornoye 5.32 35 ⇓Pn **Pn 04 14 41.1 +4.4**
4.2nm,0.6s
PDGK ⇑Pg **Pg 04 14 55.4 -3.6**
20nm,0.6s
PDGK ⇓Lg Lg 04 16 10.4
26nm,0.8s
CHM Chimkent 5.48 309*e***P Pg 04 15 02.1 -0.1**
113nm,0.2s
CHM *e*S **Sg 04 16 17.0 +3.7**
201nm,0.3s
KK09 Karatay Array 5.51 320 ⇑Pn **Pn 04 14 39.5 +0.2**
1.4nm,0.3s,baz=128,slow=13
KK09 ⇓Pg **Pb 04 14 55.8 +2.3**
5.3nm,0.8s
KK09 ⇓Sn **Sn 04 15 41.6 -1.1**
5.7nm,0.6s
KK09 ⇑Lg Lg 04 16 06.6
7.9nm,0.7s,baz=134,slow=29
BLB Baldybastay 5.59 24*e***P** Pb 04 15 00.1 +5.2
46nm,0.6s
BLB *e*S **Sg 04 16 13.5 -3.1**
23nm,0.4s
BLB Baldybastay 5.59 24 Pg Pb 04 15 00.1 +5.2
46nm,0.6s
BLB Lg Lg 04 16 13.5
23nm,0.4s
BRLS Boroldaу 5.79 316*e***P Pg 04 15 05.8 -2.4**
5.2nm,0.4s
BRLS *e*S **Sg 04 16 23.2 +0.1**
15nm,0.7s
BRLS Boroldaу 5.79 316 Pg **Pb 04 14 59.2 +0.9**
5.6nm,0.2s
BRLS Lg Lg 04 16 12.7
6.6nm,0.5s
KTMS Ketmen 5.81 39*e***P Pg 04 15 05.2 -3.2**
4.7nm,0.7s
KTMS *e*S **Sg 04 16 23.2 -0.4**
KTMS Ketmen 5.81 39 Pg **Pg 04 15 05.2 -3.2**
4.7nm,0.7s
KTMS Lg Lg 04 16 23.2
BTLS Baital 6.10 351*e***P Pg 04 15 10.7 -3.3**
4.0nm,0.6s
BTLS *e*S **Sg 04 16 31.7 -1.3**
4.0nm,0.5s
BTLS Baital 6.10 351 Pg **Pg 04 15 10.7 -3.3**
4.0nm,0.6s
BTLS Lg Lg 04 16 31.7
4.0nm,0.5s
DJR Jarkent 6.26 31*e***P Pg 04 15 13.6 -3.5**
8.7nm,0.7s
DJR *e*S **Sg 04 16 37.0 -1.0**
7.0nm,0.5s
DJR Jarkent 6.26 31 Pg **Pg 04 15 13.6 -3.5**
8.7nm,0.7s
DJR Lg Lg 04 16 37.0
7.0nm,0.5s
KAPS Kapalarasan 6.93 24*e***P** Pg 04 15 25.0 -4.8
6.4nm,0.5s
KAPS *e*S **Sg 04 16 56.9 -2.7**
5.2nm,0.5s
KAPS Kapalarasan 6.93 24 Pg Pg 04 15 25.0 -4.9
6.4nm,0.5s
KAPS Lg Lg 04 16 56.9
5.2nm,0.5s
MKAR Makanchi Array 9.28 31 Pn **Pn 04 15 35.3 +4.2**
0.3nm,0.3s,baz=203,slow=14,SNR=11
MKAR LR LR 04 19 40.7
comp=Z,81nm,19.7s,baz=6.0,slow=40
KURBB Kurchatov Arra 11.82 10 Pn **Pn 04 16 07.3 +1.5**
0.0nm,0.3s,baz=194,slow=12,SNR=4.6
GEYT Alibeck 13.56 271 Pn Pn 04 16 21.5 -8.2
0.6nm,0.3s,baz=76,slow=19,SNR=2.3
ZALV Zalesovo Beam 16.27 20 Pn **Pn 04 17 06.2 +0.5**
0.1nm,0.3s,baz=202,slow=11,SNR=6.5
SONM Songino Array 24.07 58 P **P 04 18 34.2 +1.4**
1.0nm,0.7s,baz=250,slow=11,SNR=5.3
CMAR Chiang Mai Arr 28.95 128 P **P 04 19 16.1 -0.7**
1.3nm,0.3s,baz=234,slow=8.7,SNR=1.6
BRTR Keskin Array B 32.06 285 P **P 04 19 41.2 -3.0**
0.6nm,0.8s,baz=68,slow=10,SNR=3.7
FINES FINESS Array B 37.44 323 P **P 04 20 27.4 -2.9**
1.4nm,0.7s,baz=134,slow=8.2,SNR=3.5
ARCES ARCESS Array B 40.22 335 P **P 04 20 51.2 -2.3**
4.3nm,1.0s,baz=87,slow=7.4,SNR=4.6
TORD Torodi Ar. Bea 69.20 270 P P 04 24 19.4 -5.0
0.6nm,0.6s,baz=46,slow=5.0,SNR=6.8
FRB Frobisher Bay 73.64 344 LR LR 05 03 10.5
comp=Z,322nm,19.4s,baz=356,slow=41
YKA Yellowknife Ar 78.52 5 P **P 04 25 17.3 -0.9**
0.3nm,0.6s,baz=347,slow=5.5,SNR=4.0
LBTB Lobatse 78.88 225 LR LR 05 02 27.6
comp=Z,130nm,18.9s,baz=110,slow=38
SCHQ Schefferville 81.07 339 LR LR 05 03 20.8
comp=Z,289nm,20.1s,baz=300,slow=37

BOSA	**Boshof**	**81.92**	**223**	LR	LR	05 03 14.9
	comp=Z,193nm,19.1s,baz=111,slow=37					
SUR	**Sutherland**	**87.24**	**224**	LR	LR	05 04 43.2
	comp=Z,211nm,21.7s,baz=130,slow=36					

IDC ***28*** *04:18:58.0±1.4, 61°.25N×149°.53W, h50km±14km, mb3.7/18, mb1 3.8/23, mb1mx3.7/49, mbtmp3.9/23, ML3.4/5, MS4.1/4, Ms1 4.1/4, ms1mx3.1/90, Error ellipse: s-maj=19.2km s-min=9.7km az=115.0*

ANF ***28*** *04:18:58.6±0.1, 61°.31N×149°.35W, h36km±1km, ML4.2/63, Error ellipse: s-maj=0.9km s-min=0.7km az=114.0*

NEIC ***28*** *04:18:58.9±1.5, 61°.31N±0°.02×149°.37W±0°.02, h36km±7km, Error ellipse: s-maj=3.3km s-min=0.7km az=155.0*

AEIC ***28*** *04:18:59±1.4, 61°.30N±0°.02×149°.36W±0°.04, h34km±4km, ML3.8, mb4.1/8(NEIC), MLA4.0/156(NEIC), Error ellipse: s-maj=3.4km s-min=2.5km az=129.0*

ISC 28 04:18:57.9±0.6, 61°.30N±0°.02×149°.36W±0°.02, h41km±6km, n276, σ1.9/16/306, mb4.0/20, MS4.2/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		ISC	h	m	s ISC
RC01	**Rabbit Creek A**	**0.28**	**221**		**Pn**	**04 19 06.2**			**+0.3**
RC01				Sg	**Sn**	**04 19 12.3**			**+0.6**
RC01	**Rabbit Creek A**	**0.28**	**221**	P	**Pn**	**04 19 06.3**			**+0.3**
	baz=41,SNR=1000								
RC01				S	**Sn**	**04 19 12.5**			**+0.9**
	baz=41								
PMR	**Palmer**	**0.31**	**21**		**Pn**	**04 19 06.4**			**+0.2**
PMR				Sg	**Sn**	**04 19 12.5**			**+0.3**
PMR				IAML		04 19 13.0			
	comp=N,13μm,0.6s								
PMR	**Palmer**	**0.31**	**21**	P	**Pn**	**04 19 06.5**			**+0.2**
	baz=199,SNR=869								
PMR				S	**Sn**	**04 19 12.5**			**+0.3**
	baz=199								
FIS	**Fire Island**	**0.44**	**249**		**Pn**	**04 19 08.6**			**+0.7**
FIS				IAML		04 19 22.8			
	comp=E,9μm,0.7s								
KNK	**Knik Glacier**	**0.45**	**75**		**Pn**	**04 19 08.3**			**+0.3**
KNK				Sg	**Sn**	**04 19 15.5**			**+0.4**
KNK				IAML		04 19 16.8			
	comp=N,15μm,0.4s								
KNK				IAML		04 19 17.0			
	comp=E,8μm,0.4s								
KNK	**Knik Glacier**	**0.45**	**75**	P	**Pn**	**04 19 08.3**			**+0.3**
	baz=257,SNR=294								
KNK				S	**Sn**	**04 19 15.8**			**+0.7**
	baz=257								
GHO	**Glory Hole Cre**	**0.52**	**24**		**Pn**	**04 19 09.1**			**+0.2**
GHO					**Sn**	**04 19 17.3**			**+0.6**
M22K	**Willow**	**0.58**	**322**		**Pn**	**04 19 09.3**			**-0.3**
M22K				Sn	**Sn**	**04 19 18.1**			**+0.1**
M22K				IAML		04 19 21.9			
	comp=N,10μm,0.4s								
M22K	**Willow**	**0.58**	**322**	P	**Pn**	**04 19 09.5**			**-0.1**
	baz=139,SNR=241								
M22K				S	**Sn**	**04 19 18.3**			**+0.2**
	baz=139								
PWL	**Port Wells**	**0.67**	**131**		**Pn**	**04 19 11.2**			**+0.3**
PWL				Sn	**Sn**	**04 19 20.9**			**+0.7**
PWL				IAML		04 19 23.7			
	comp=N,10μm,0.3s								
PWL				IAML		04 19 23.8			
	comp=E,9μm,0.4s								
PWL	**Port Wells**	**0.67**	**131**	P	**Pn**	**04 19 11.2**			**+0.3**
	baz=314,SNR=386								
PWL				S	**Sn**	**04 19 20.9**			**+0.7**
	baz=314								
SML	**Sawmill**	**0.71**	**44**	Pn	**Pn**	**04 19 11.5**			**0.0**
SML				Sn	**Sn**	**04 19 21.6**			**+0.4**
SML				IAML		04 19 22.7			
	comp=N,4μm,0.5s								
SML	**Sawmill**	**0.71**	**44**	P	**Pn**	**04 19 11.6**			**+0.2**
	baz=224,SNR=116								
SML				S	**Sn**	**04 19 22.0**			**+0.7**
	baz=224								
O22K	**Cooper Landing**	**0.84**	**192**		**Pn**	**04 19 13.2**			**0.0**
O22K				Sn	**Sn**	**04 19 24.9**			**+0.5**
O22K	**Cooper Landing**	**0.84**	**192**	P	**Pn**	**04 19 13.3**			**0.0**
	baz=13,SNR=62								
O22K				S	**Sn**	**04 19 26.0**			**+1.6**
	baz=13								
SLKM	**Skilak Lake**	**0.90**	**208**		**Pn**	**04 19 14.3**			**+0.2**
SLKM					**Sn**	**04 19 27.3**			**+1.4**
CAPN	**Captain Cook N**	**1.02**	**239**	Pn	**Pn**	**04 19 17.5**			**+1.9**
CAPN				IAML		04 19 50.7			
	comp=E,5μm,0.5s								
CAPN	**Captain Cook N**	**1.02**	**239**	P	**Pn**	**04 19 16.8**			**+1.1**
	baz=58								
SCM	**Sheep Creek Mo**	**1.11**	**60**		**Pn**	**04 19 17.6**			**+0.6**
SCM				Sn	**Sn**	**04 19 32.6**			**+1.5**
SCM				IAML		04 19 34.8			
	comp=E,5μm,0.5s								
SCM				IAML		04 19 34.9			
	comp=N,3μm,0.4s								
SCM	**Sheep Creek Mo**	**1.11**	**60**	P	**Pn**	**04 19 17.5**			**+0.6**
	baz=242,SNR=72								
GLI	**Glacier Island**	**1.18**	**110**		**Pn**	**04 19 18.2**			**+0.3**
GLI				Sn	**Sn**	**04 19 34.9**			**+2.2**
GLI	**Glacier Island**	**1.18**	**110**	P	**Pn**	**04 19 18.3**			**+0.4**
	baz=293								
CUT	**Chulitna**	**1.19**	**339**		**Pn**	**04 19 18.4**			**+0.5**
CUT					**Sn**	**04 19 34.1**			**+1.2**
CUT	**Chulitna**	**1.19**	**339**	P	**Pn**	**04 19 18.4**			**+0.5**
	baz=158,SNR=209								
CUT				S	**Sn**	**04 19 34.4**			**+1.5**
	baz=158								
SEW	**Seward**	**1.20**	**182**	Pn	**Pn**	**04 19 18.6**			**+0.5**
SEW	**Seward**	**1.20**	**182**		**Sn**	**04 19 34.5**			**+1.4**
SEW	**Seward**	**1.20**	**182**	P	**Pn**	**04 19 18.6**			**+0.5**
	baz=2.9,SNR=16								
SEW				S	**Sn**	**04 19 35.0**			**+1.8**
	baz=2.9								
STLK	**Strandline Lak**	**1.21**	**281**		**Pn**	**04 19 19.2**			**+0.9**
SPCG	**Spurr Capps Gl**	**1.28**	**271**		**Pn**	**04 19 20.3**			**+0.9**
SPU	**Mount Spurr**	**1.31**	**266**		**Pn**	**04 19 20.1**			**+0.4**
CRP	**Crater Peak**	**1.35**	**270**		**Pn**	**04 19 21.4**			**+1.1**
CRP					**Sn**	**04 19 38.1**			**+1.0**
JPK	**Jack Peak**	**1.36**	**99**		**Pn**	**04 19 21.3**			**+0.9**
SPCN	**Chakachatna No**	**1.37**	**268**		**Pn**	**04 19 21.5**			**+1.0**
VMT	**TAPS Tl Valdez**	**1.47**	**97**		**Pn**	**04 19 22.8**			**+1.1**
WAT6	**Susitna Watana**	**1.50**	**30**		**Pn**	**04 19 23.2**			**+0.9**
WAT6	**Susitna Watana**	**1.50**	**30**	P	**Pn**	**04 19 23.2**			**+0.9**
	baz=211,SNR=158								
FID	**Port Fidalgo**	**1.51**	**110**		**Pn**	**04 19 22.4**			**0.0**
FID					**Sn**	**04 19 42.3**			**+1.5**
FID				IAML		04 19 45.4			
	comp=N,2μm,0.3s								
FID				IAML		04 19 49.3			
	comp=E,2μm,0.5s								
KLU	**Klutina**	**1.67**	**82**		**Pn**	**04 19 25.6**			**+1.0**
KLU				IAML		04 19 51.0			
	comp=E,2μm,0.4s								
KLU	**Klutina**	**1.67**	**82**	P	**Pn**	**04 19 25.6**			**+1.0**
	baz=265,SNR=216								
BRSE	**Bradley Lake S**	**1.71**	**204**		**Pn**	**04 19 26.1**			**+0.9**
BRSE	**Bradley Lake S**	**1.71**	**204**	P	**Pn**	**04 19 26.0**			**+0.9**
	baz=23,SNR=18								
BRLK	**Bradley Lake**	**1.72**	**207**	Pn	**Pn**	**04 19 26.7**			**+1.5**
M24K	**Tolsona, Glenn**	**1.72**	**61**	Pn	**Pn**	**04 19 27.4**			**+2.1**
M24K	**Tolsona, Glenn**	**1.72**	**61**	P	**Pn**	**04 19 26.3**			**+1.0**
	baz=243,SNR=219								
DIV	**Divide**	**1.75**	**94**		**Pn**	**04 19 26.6**			**+0.9**
RDJH	**Redoubt Jeurge**	**1.82**	**248**		**Pn**	**04 19 28.1**			**+1.3**
RDJH					**Sn**	**04 19 51.6**			**+2.9**
RSO	**Redoubt South**	**1.86**	**245**	Pn	**Pn**	**04 19 28.4**			**+1.0**
RDWB	**Redoubt West**	**1.89**	**246**		**Pn**	**04 19 28.6**			**+1.0**
RED	**Redoubt Volcan**	**1.89**	**244**		**Pn**	**04 19 28.6**			**+1.0**
M20K	**Styx River**	**1.89**	**290**	Pn	**Pn**	**04 19 29.2**			**+1.5**
M20K	**Styx River**	**1.89**	**290**	P	**Pn**	**04 19 28.9**			**+1.1**
	baz=106,SNR=420								
EYAK	**Cordova Ski Ar**	**1.92**	**112**	Pn	**Pn**	**04 19 28.6**			**+0.6**
EYAK	**Cordova Ski Ar**	**1.92**	**112**	P	**Pn**	**04 19 28.5**			**+0.6**
	baz=295,SNR=35								
DHY	**Denali Highway**	**2.01**	**27**	Pn	**Pn**	**04 19 30.6**			**+1.2**
DHY				IAML		04 19 57.6			
	comp=N,1μm,0.5s								
DHY				IAML		04 19 58.2			
	comp=E,1μm,0.7s								
DHY	**Denali Highway**	**2.01**	**27**	P	**Pn**	**04 19 30.4**			**+1.0**
	baz=208,SNR=180								
CNPM	**China Poot**	**2.01**	**208**	Pn	**Pn**	**04 19 30.8**			**+1.5**
PS11	**TAPS Pump St11**	**2.01**	**65**		**Pn**	**04 19 31.2**			**+1.9**
PS11					**Sn**	**04 19 55.6**			**+2.4**
O20K	**Slope Mountain**	**2.02**	**234**		**Pn**	**04 19 31.0**			**+1.6**
O20K					**Sn**	**04 19 54.9**			**+1.5**
O20K	**Slope Mountain**	**2.02**	**234**	P	**Pn**	**04 19 30.6**			**+1.2**
	baz=51								
PS12	**TAPS Pump St12**	**2.04**	**83**		**Pn**	**04 19 31.2**			**+1.6**
PPLA	**Purkeypile**	**2.08**	**322**		**Pn**	**04 19 31.3**			**+0.9**
PPLA	**Purkeypile**	**2.08**	**322**	P	**Pn**	**04 19 31.3**			**+0.9**
	baz=138,SNR=92								
RND	**Reindeer**	**2.12**	**6**	Pn	**Pn**	**04 19 32.1**			**+1.2**
RND					**Sn**	**04 19 58.9**			**+2.8**
RND				IAML		04 20 00.9			
	comp=N,943nm,0.6s								
RND				IAML		04 20 02.6			
	comp=E,668nm,0.3s								
TRF	**Thorofare Moun**	**2.20**	**349**		**Pn**	**04 19 33.5**			**+1.5**
TRF				IAML		04 20 03.0			
	comp=E,936nm,0.5s								
TRF				IAML		04 20 05.3			
	comp=N,1μm,0.5s								
TRF	**Thorofare Moun**	**2.20**	**349**	P	**Pn**	**04 19 33.3**			**+1.3**
	baz=168,SNR=134								
HARP	**HAARP**	**2.28**	**59**		**Pn**	**04 19 34.7**			**+1.8**
HARP	**HAARP**	**2.28**	**59**	P	**Pn**	**04 19 33.5**			**+0.5**
	baz=243,SNR=70								
N25K	**Chitina, Valde**	**2.31**	**80**	Pn	**Pn**	**04 19 34.2**			**+0.8**
N25K				Sn	**Sn**	**04 20 01.5**			**+0.9**
N25K				IAML		04 20 06.9			
	comp=E,791nm,0.6s								
N25K				IAML		04 20 07.3			
	comp=N,1μm,0.5s								
N25K	**Chitina, Valde**	**2.31**	**80**	P	**Pn**	**04 19 34.1**			**+0.8**
	baz=265,SNR=87								
KTH	**Kantishna Hill**	**2.37**	**343**		**Pn**	**04 19 36.0**			**+1.7**
KTH				IAML		04 20 05.2			
	comp=E,831nm,0.6s								
KTH				IAML		04 20 06.7			
	comp=N,1μm,0.5s								
GOAT	**Goat Mountain**	**2.38**	**106**		**Pn**	**04 19 34.8**			**+0.5**
Q23K	**Middleton Isla**	**2.40**	**140**	Pn	**Pn**	**04 19 35.8**			**+1.2**
Q23K				IAML		04 20 26.0			
	comp=N,565nm,0.8s								
Q23K	**Middleton Isla**	**2.40**	**140**	P	**Pn**	**04 19 35.2**			**+0.6**
	baz=323								
MID	**Middleton Isla**	**2.41**	**140**	Pn	**Pn**	**04 19 35.6**			**+1.0**
MID				IAML		04 20 27.7			
	comp=N,515nm,1.1s								
MID				IAML		04 20 28.6			
	comp=E,489nm,1.1s								
L20K	**Farewell, AK**	**2.44**	**301**		**Pn**	**04 19 36.2**			**+1.0**
L20K					**Sn**	**04 20 07.2**			**+3.3**
L20K	**Farewell, AK**	**2.44**	**301**	P	**Pn**	**04 19 35.8**			**+0.5**
	baz=116,SNR=82								
MCK	**McKinley**	**2.45**	**4**	Pn	**Pn**	**04 19 36.9**			**+1.6**
MCK				IAML		04 20 19.0			
	comp=E,486nm,0.5s								
MCK				IAML		04 20 19.6			
	comp=N,597nm,1.1s								
MCK	**McKinley**	**2.45**	**4**	P	**Pn**	**04 19 35.8**			**+0.6**
	baz=184,SNR=120								
CAST	**Castle Rocks**	**2.48**	**330**		**Pn**	**04 19 36.6**			**+1.0**
CAST				IAML		04 20 11.0			
	comp=E,761nm,0.8s								
CAST				IAML		04 20 13.4			
	comp=N,487nm,0.5s								
CAST	**Castle Rocks**	**2.48**	**330**	P	**Pn**	**04 19 36.4**			**+0.8**
	baz=148,SNR=181								
M19K	**Big River Lodg**	**2.48**	**286**	Pn	**Pn**	**04 19 37.0**			**+1.3**
M19K	**Big River Lodg**	**2.48**	**286**	P	**Pn**	**04 19 36.5**			**+0.8**
	baz=102								
PAX	**Paxson**	**2.48**	**46**		**Pn**	**04 19 37.6**			**+1.9**
PAX	**Paxson**	**2.48**	**46**	P	**Pn**	**04 19 36.3**			**+0.5**
	baz=229,SNR=57								
N19K	**Bonanza Creek**	**2.54**	**261**		**Pn**	**04 19 37.6**			**+1.1**
N19K	**Bonanza Creek**	**2.54**	**261**	P	**Pn**	**04 19 37.1**			**+0.5**
	baz=76,SNR=27								
O19K	**Port Alsworth**	**2.68**	**248**	Pn	**Pn**	**04 19 39.0**			**+0.6**
O19K				IAML		04 20 23.9			
	comp=N,811nm,0.4s								
O19K				IAML		04 20 32.9			
	comp=E,730nm,0.5s								
O19K	**Port Alsworth**	**2.68**	**248**	P	**Pn**	**04 19 38.9**			**+0.6**
	baz=63								
GLB	**Gilahina Butte**	**2.68**	**85**		**Pn**	**04 19 39.3**			**+0.9**
GLB				IAML		04 20 21.8			
	comp=E,536nm,0.3s								
GLB				IAML		04 20 22.2			
	comp=N,766nm,0.9s								
HMT	**Hamilton**	**2.68**	**109**		**Pn**	**04 19 38.5**			**0.0**
PS10	**TAPS Pump St10**	**2.71**	**37**		**Pn**	**04 19 41.6**			**+2.7**
L19K	**White Mountain**	**2.76**	**291**		**Pn**	**04 19 40.7**			**+1.2**
L19K	**White Mountain**	**2.76**	**291**	P	**Pn**	**04 19 40.4**			**+0.9**
	baz=106,SNR=77								
NICHA	**Nichawak Mount**	**2.85**	**110**		**Pn**	**04 19 42.2**			**+1.4**
VRDI	**Verde Repeater**	**2.86**	**89**	Pn	**Pn**	**04 19 41.5**			**+0.4**
VRDI				IAML		04 20 28.9			
	comp=N,433nm,0.6s								
BWN	**Browne**	**2.88**	**359**	Pn	**Pn**	**04 19 43.9**			**+2.7**
BPAW	**Bear Paw Mtn.**	**2.91**	**346**		**Pn**	**04 19 42.6**			**+1.0**
BPAW				IAML		04 20 30.8			
	comp=E,436nm,1.0s								
BPAW				IAML		04 20 32.5			
	comp=N,470nm,1.0s								
BPAW	**Bear Paw Mtn.**	**2.91**	**346**	P	**Pn**	**04 19 42.4**			**+0.8**
	baz=164,SNR=35								
BERG	**Berg Lake**	**2.92**	**106**	Pn	**Pn**	**04 19 41.8**			**+0.1**
CHUM	**Lake Minchumin**	**2.93**	**333**		**Pn**	**04 19 42.7**			**+0.9**
CHUM	**Lake Minchumin**	**2.93**	**333**	P	**Pn**	**04 19 42.8**			**+0.9**
	baz=150,SNR=161								
SUCK	**Suckling Hills**	**3.01**	**112**	Pn	**Pn**	**04 19 41.9**			**-1.1**
SUCK				IAML		04 20 40.0			
	comp=N,447nm,0.5s								
SUCK				IAML		04 20 50.9			
	comp=E,368nm,1.3s								
K20K	**Telida**	**3.01**	**315**		**Pn**	**04 19 43.9**			**+0.8**
K20K				IAML		04 20 27.1			
	comp=N,299nm,0.7s								
K20K				IAML		04 20 27.6			
	comp=E,374nm,0.7s								
K20K	**Telida**	**3.01**	**315**	P	**Pn**	**04 19 43.6**			**+0.6**
	baz=131,SNR=73								
SVW2	**Sparrevohn**	**3.02**	**269**		**Pn**	**04 19 43.8**			**+0.7**
MCARA	**McCarthy VSAT**	**3.06**	**86**		**Pn**	**04 19 44.6**			**+1.0**
MCARA	**McCarthy VSAT**	**3.06**	**86**	P	**Pn**	**04 19 44.3**			**+0.7**
	baz=271,SNR=48								
KHIT	**Khitrov Hills**	**3.11**	**103**		**Pn**	**04 19 45.5**			**+1.1**
MENT	**Mentasta**	**3.12**	**56**	Pn	**Pn**	**04 19 45.5**			**+1.1**
GRIN	**Grindle Hills**	**3.13**	**106**		**Pn**	**04 19 45.0**			**+0.3**
RIDG	**Independent Ri**	**3.22**	**39**	Pn	**Pn**	**04 19 47.7**			**+1.8**
RIDG				IAML		04 20 32.5			
	comp=N,512nm,1.0s								
RIDG	**Independent Ri**	**3.22**	**39**	P	**Pn**	**04 19 46.8**			**+0.9**
	baz=222,SNR=67								
TGL	**Tana Glacier**	**3.23**	**97**	Pn	**Pn**	**04 19 46.5**			**+0.5**
WRH	**Wood River Hil**	**3.23**	**10**		**Pn**	**04 19 48.0**			**+1.9**
WRH				IAML		04 20 40.9			
	comp=E,341nm,0.8s								
WAX	**Waxell Ridge**	**3.30**	**102**		**Pn**	**04 19 47.5**			**+0.6**
NEA2	**Nenana**	**3.31**	**2**	Pn	**Pn**	**04 19 48.3**			**+1.2**
NEA2				IAML		04 20 43.7			
	comp=N,277nm,0.8s								
NEA2	**Nenana**	**3.31**	**2**	P	**Pn**	**04 19 47.4**			**+0.4**
	baz=182,SNR=37								
L26K	**Log Cabin Wild**	**3.31**	**56**	Pn	**Pn**	**04 19 48.1**			**+1.0**
L26K				IAML		04 20 51.3			
	comp=N,363nm,0.4s								
L26K	**Log Cabin Wild**	**3.31**	**56**	P	**Pn**	**04 19 47.6**			**+0.5**
	baz=241,SNR=58								
PTPK	**Patty Peak**	**3.33**	**89**		**Pn**	**04 19 48.6**			**+1.0**
SNH	**Sunshine Point**	**3.40**	**106**	Pn	**Pn**	**04 19 48.2**			**-0.1**
SNH				IAML		04 20 43.1			
	comp=E,348nm,0.8s								
SNH				IAML		04 20 50.1			
	comp=N,240nm,0.6s								
DOT	**Dot Lake**	**3.41**	**44**	Pn	**Pn**	**04 19 50.0**			**+1.6**
BALM	**Baldy**	**3.41**	**91**		**Pn**	**04 19 49.1**			**+0.5**
KIAG	**Kiagna River**	**3.42**	**93**		**Pn**	**04 19 49.2**			**+0.5**
P18K	**Big Mountain,**	**3.49**	**239**	Pn	**Pn**	**04 19 50.8**			**+1.3**
P18K	**Big Mountain,**	**3.49**	**239**	P	**Pn**	**04 19 50.2**			**+0.7**
	baz=54								
ISLE	**Juniper Island**	**3.50**	**98**	Pn	**Pn**	**04 19 50.9**			**+1.1**
TT01	**Tatalina**	**3.52**	**300**		**Pn**	**04 19 50.4**			**+0.4**
TTA	**Tatalina**	**3.52**	**301**		**Pn**	**04 19 50.6**			**+0.5**
TTA	**Tatalina**	**3.52**	**301**	P	**Pn**	**04 19 50.3**			**+0.2**
	baz=114,SNR=20								
J20K	**Nowinta River**	**3.63**	**325**		**Pn**	**04 19 52.2**			**+0.8**
J20K	**Nowinta River**	**3.63**	**325**	P	**Pn**	**04 19 51.8**			**+0.4**
	baz=140,SNR=144								
BAGL	**Bagley Icefiel**	**3.65**	**100**		**Pn**	**04 19 52.4**			**+0.7**
TCOL	**CIGO, UAF Yank**	**3.65**	**10**	Pn	**Pn**	**04 19 53.6**			**+1.9**
TCOL	**CIGO, UAF Yank**	**3.65**	**10**	P	**Pn**	**04 19 52.5**			**+0.8**
	baz=191,SNR=39								
COLA	**College**	**3.65**	**10**	Pn	**Pn**	**04 19 53.5**			**+1.8**
COLA	**College**	**3.65**	**10**	P	**Pn**	**04 19 52.4**			**+0.7**
	baz=191								
SCRK	**Sand Creek**	**3.66**	**40**	Pn	**Pn**	**04 19 52.7**			**+0.7**
SCRK				IAML		04 20 50.8			
	comp=E,232nm,0.8s								
SCRK				IAML		04 20 51.5			
	comp=N,303nm,1.0s								
SCRK	**Sand Creek**	**3.66**	**40**	P	**Pn**	**04 19 52.4**			**+0.4**
	baz=225,SNR=25								
IL31		**3.66**	**17**		**Pn**	**04 19 53.7**			**+1.8**
ILAR	**Eielson Array**	**3.66**	**17**	P	**Pn**	**04 19 53.4**			**+1.5**
	comp=N,3.5nm,0.3s,baz=198,slow=14,SNR=60								
ILAR				S	**Sn**	**04 20 36.5**			**+2.7**
	comp=N,13nm,0.3s,baz=198,slow=16,SNR=2.5								
ILAR				LR	LR	04 21 08.9			
	comp=N,117nm,18.1s,baz=238,slow=35								
M27K	**Edge Creek, AK**	**3.70**	**70**	Pn	**Pn**	**04 19 54.6**			**+2.0**
M27K	**Edge Creek, AK**	**3.70**	**70**	P	**Pn**	**04 19 53.8**			**+1.2**
	baz=257								
MDM	**Murphy Dome**	**3.71**	**7**	Pn	**Pn**	**04 19 54.1**			**+1.5**
MDM				IAML		04 20 55.4			
	comp=E,219nm,1.0s								
MDM				IAML		04 20 58.0			
	comp=N,173nm,0.9s								
BARN	**Barnard Glacie**	**3.74**	**90**	Pn	**Pn**	**04 19 54.5**			**+1.4**
BARN				IAML		04 20 59.2			
	comp=N,298nm,0.7s								
J25K	**Salcha River,**	**3.79**	**27**	Pn	**Pn**	**04 19 56.3**			**+2.5**
J25K				IAML		04 20 46.5			
	comp=N,209nm,0.5s								
J25K				IAML		04 20 47.1			
	comp=E,220nm,0.7s								
J25K	**Salcha River,**	**3.79**	**27**	P	**Pn**	**04 19 55.0**			**+1.3**
	baz=210,SNR=48								
MLY	**Manley**	**3.79**	**351**		**Pn**	**04 19 54.9**			**+1.1**
MLY	**Manley**	**3.79**	**351**	P	**Pn**	**04 19 54.7**			**+0.9**
	baz=170,SNR=172								
YAH	**Yahtse**	**3.85**	**101**	Pn	**Pn**	**04 19 55.0**			**+0.3**
YAH				IAML		04 21 01.5			
	comp=E,213nm,0.8s								
I23K	**Minto, Yukon-K**	**3.86**	**0**	Pn	**Pn**	**04 19 56.3**			**+1.7**
I23K				IAML		04 21 03.7			
	comp=E,183nm,0.9s								
I23K				IAML		04 21 09.1			
	comp=N,222nm,1.3s								
I23K	**Minto, Yukon-K**	**3.86**	**0**	P	**Pn**	**04 19 56.1**			**+1.5**
	baz=180,SNR=151								
KDAK	**Kodiak Island**	**3.89**	**206**	P	**Pn**	**04 19 55.2**			**+0.1**
	comp=N,1.0nm,0.3s,baz=66,slow=7.5,SNR=28								
KDAK				S	**Sn**	**04 20 37.2**			**-2.3**
	comp=N,4.8nm,0.3s,baz=333,slow=22,SNR=2.2								
KDAK	**Kodiak Island**	**3.89**	**206**	Pn	**Pn**	**04 19 55.1**			**+0.1**
KDAK	**Kodiak Island**	**3.89**	**206**	P	**Pn**	**04 19 56.1**			**+1.1**
	baz=24								
CTG	**Chitna Glacier**	**3.91**	**91**	P	**Pn**	**04 19 56.4**			**+1.0**
	baz=279,SNR=15								
CTGM	**Chitina Glacie**	**3.91**	**91**	Pn	**Pn**	**04 19 56.6**			**+1.2**
CTGM				IAML		04 21 03.4			
	comp=N,213nm,0.6s								
CTGM				IAML		04 21 03.8			
	comp=E,182nm,1.1s								
POKR	**Poker Plat Res**	**3.93**	**12**	Pn	**Pn**	**04 19 57.6**			**+2.1**
POKR				IAML		04 21 04.2			
	comp=N,171nm,0.8s								
POKR				IAML		04 21 07.0			
	comp=E,175nm,0.7s								
POKR	**Poker Plat Res**	**3.93**	**12**	P	**Pn**	**04 19 56.1**			**+0.6**
	baz=194								
L27K	**Beaver Creek,**	**3.95**	**60**	Pn	**Pn**	**04 19 56.9**			**+1.0**
L27K	**Beaver Creek,**	**3.95**	**60**	P	**Pn**	**04 19 56.6**			**+0.8**
	baz=247								
BC03		**3.97**	**60**		**Pn**	**04 19 57.4**			**+1.3**
BCAR	**Beaver Creek A**	**3.97**	**60**	Pn	**Pn**	**04 19 56.9**			**+0.7**
PS07	**TAPS Pump Stn7**	**4.05**	**6**		**Pn**	**04 19 59.3**			**+2.0**
I21K	**Tanana**	**4.07**	**344**		**Pn**	**04 19 58.6**			**+1.1**
I21K				IAML		04 21 04.8			
	comp=N,140nm,0.8s								
I21K				IAML		04 21 15.8			
	comp=E,126nm,0.7s								
I21K	**Tanana**	**4.

RDOG	Red Dog Mine	8.90	325	Pn		Pn	04 21 05.6	+1.9
RDOG	Red Dog Mine	8.90	325	P		Pn	04 21 05.0	+1.3
	baz=133,SNR=6.4							
TNA	Tin City	9.33	305	Pn		Pn	04 21 11.4	+1.8
TNA	Tin City	9.33	305	P		Pn	04 21 11.3	+1.8
	baz=108,SNR=26							
INK	Inuvik	9.71	37	P		Pn	04 21 17.9	+3.1
	comp=E,0.4nm,0.3s,baz=251,slow=12,SNR=5.9							
INK				S		Sn	04 23 05.0	+2.7
	comp=E,0.7nm,0.3s,baz=193,slow=12,SNR=4.5							
INK	Inuvik	9.71	37	P		Pn	04 21 16.4	+1.6
	baz=231							
WRAK	Wrangell Islan	10.07	112	Pn		Pn	04 21 20.3	+0.6
DLBC	Dease Lake	10.13	98	P		Pn	04 21 21.6	+1.1
	comp=E,0.3nm,0.3s,baz=218,slow=6.4,SNR=6.4							
DLBC	Dease Lake	10.13	98	Pn		Pn	04 21 20.9	+0.3
A21K	Barrow	10.47	347	Pn		Pn	04 21 24.7	-0.3
A21K	Barrow	10.47	347	P		Pn	04 21 24.8	-0.3
	baz=160							
GAMB	Gambell	10.59	293	Pn		Pn	04 21 29.2	+2.5
GAMB	Gambell	10.59	293	P		Pn	04 21 26.7	-0.1
	baz=93							
C36M	Paulatuk	13.18	42	Pn		Pn	04 21 59.5	-2.6
C36M	Paulatuk	13.18	42	P		Pn	04 22 00.5	-1.5
	baz=245							
A36M	Sachs Harbour	14.21	31	Pn		Pn	04 22 15.3	-0.8
A36M	Sachs Harbour	14.21	31	P		Pn	04 22 15.3	-0.8
	baz=233,SNR=8.3							
YKA	Yellowknife Ar	16.30	71	P		Pn	04 22 43.0	-0.4
	comp=E,0.1nm,0.3s,baz=285,slow=10,SNR=10							
YKA				PcP		PcP	04 27 34.8	0.0
	comp=E,0.1nm,0.3s,baz=284,slow=1.1,SNR=14							
YKA	Yellowknife Ar	16.30	71	Pn		Pn	04 22 45.0	+1.6
RES	Resolute Bay	23.24	33	P		P	04 24 00.6	-0.3
	comp=E,0.4nm,0.4s,baz=255,slow=12,SNR=7.3							
RES	Resolute Bay	23.24	33			P	04 24 00.4	-0.6
M04C	Macdoel	25.64	127	P		P	04 24 24.3	+0.7
	baz=329							
EGMT	Eagleton	26.00	103	P		P	04 24 26.0	-0.7
	baz=316							
O03E	Paynes Creek	26.94	129	P		P	04 24 35.5	+0.3
	baz=331							
FCC	Fort Churchill	27.03	70	P		P	04 24 36.4	+0.7
NVAR	Mina Array Bea	29.90	126	P		P	04 25 01.2	-0.6
	comp=E,0.2nm,0.4s,baz=335,slow=8.9,SNR=2.4							
DUG	Dugway, Tooele	30.68	117	P		P	04 25 09.5	+1.0
	baz=326							
R11A	Troy Canyon, C	31.06	122	P		P	04 25 12.9	+1.0
	baz=329							
RSSD	Black Hills	31.57	102	P		P	04 25 17.6	+1.2
RSSD				IAmb		IAmb	04 25 18.6	
	comp=Z,1.5nm,0.7s							
RSSD	Black Hills	31.57	102	P		P	04 25 16.1	-0.3
	baz=319							
GMRC	Granite Mounta	34.12	125	P		P	04 25 38.6	+0.1
	baz=332							
EYMN	Ely	34.82	86	P		P	04 25 45.0	+0.6
	baz=314							
PFO	Pinyon Flats O	34.84	127	P		P	04 25 46.2	+1.3
	baz=333							
PDMCI	Parker Dam,Lak	35.14	124	P		P	04 25 47.5	+0.2
	baz=331							
BC3	Big Chuckawall	35.19	126	P		P	04 25 48.5	+0.6
	baz=332							
SWSC	Sam W. Stewart	35.69	127	P		P	04 25 52.9	+0.9
	baz=333							
SDCO	Great Sand Dun	35.93	111	P		P	04 25 54.4	0.0
	baz=325							
GLA	Glamis	35.97	126	P		P	04 25 54.2	-0.3
	baz=332							
ILULI	Ilulissat	37.50	35	P		P	04 26 06.5	-0.5
KSU1	Kansas State U	38.97	100	P		P	04 26 20.1	+0.3
	baz=322							
JFWS	Jewell Farm	39.09	90	P		P	04 26 21.2	+0.6
	baz=319							
AMTX	Amarillo	40.02	109	P		P	04 26 28.2	-0.4
	baz=326							
T35A	Sooner Cattle	40.76	102	P		P	04 26 36.1	+1.4
T35A				IAmb		IAmb	04 26 37.3	
	comp=Z,3.3nm,0.7s							
WMOK	Wichita Mounta	41.48	106	P		P	04 26 41.3	+0.7
	baz=326							
O48B	Farmland	43.58	88	P		P	04 26 57.5	0.0
	baz=321							
N54A	Moraine State	45.52	83	P		P	04 27 12.8	-0.2
	baz=321							
SSPA	Standing Stone	46.77	82	P		P	04 27 22.8	-0.1
	baz=321							
ARCES	ARCESS Array B	49.40	2	P		P	04 27 41.7	-1.0
	comp=Z,5.9nm,1.0s,baz=12,slow=8.8,SNR=2.4							
KSRS	Korea Array	54.62	284	P		P	04 28 21.1	-0.8
	comp=Z,0.5nm,0.4s,baz=20,slow=8.1,SNR=2.5							
SONM	Songino Array	55.45	308	P		P	04 28 27.9	-0.1
	comp=Z,0.8nm,0.6s,baz=40,slow=44,SNR=6.0							
NOA	NORSAR Array B	57.08	11	P		P	04 28 38.0	-1.3
	comp=Z,0.8nm,0.6s,baz=350,slow=7.2,SNR=3.8							
ZALV	Zalesovo Beam	57.35	325	P		P	04 28 40.1	-1.1
	comp=Z,1.0nm,0.5s,baz=57,slow=11,SNR=4.4							
FINES	FINESS Array B	57.53	3	P		P	04 28 41.3	-1.1
	comp=Z,1.1nm,0.5s,baz=2.9,slow=9.0,SNR=16							
CMIG	Matias Romero	58.40	114	LR		LR	04 55 55.0	
	comp=Z,352nm,19.6s,baz=265,slow=38							
ARU	Arti	60.58	343	P		P	04 29 02.8	-0.8
	comp=Z,3.0nm,0.2s,baz=300,slow=1.1,SNR=6.2							
BVAR	Borovoye Array	61.72	334	P		P	04 29 10.5	-0.9
	comp=Z,0.6nm,0.4s,baz=103,slow=4.6,SNR=3.6							
KURBB	Kurchatov Arra	62.03	328	P		P	04 29 12.2	-1.2
	comp=Z,1.0nm,0.4s,baz=29,slow=6.8,SNR=9.9							
OBN	Obninsk	63.83	356	LR		LR	05 00 31.6	
	comp=Z,62nm,19.8s,baz=40,slow=39							
MKAR	Makanchi Array	64.50	323	P		P	04 29 28.3	-1.6
	comp=Z,0.5nm,0.5s,baz=35,slow=6.5,SNR=8.5							
AKTO	Aktyubinsk	66.47	341	P		P	04 29 41.6	-0.9
	comp=Z,1.3nm,0.5s,baz=43,slow=6.9,SNR=6.7							
AKASG	Malin Array Be	68.34	1	P		P	04 29 53.4	-1.0
	comp=Z,1.7nm,0.4s,baz=3.2,slow=6.2,SNR=18							
AKASG	Malin Array Be	68.34	1	P		P	04 29 53.3	-1.0
AKASG				IAmb		IAmb	04 30 14.0	
	comp=Z,2.3nm,1.4s							
AKBB	Malin Array Si	68.34	1	P		P	04 29 53.5	-0.8
GERES	GERESS Array B	69.36	12	P		P	04 30 00.5	-0.4
	comp=Z,0.3nm,0.6s,baz=262,slow=4.0,SNR=3.9							
GERES	GERESS Array B	69.36	12	P		P	04 30 00.9	0.0
MLR	Muntele Rosu	73.49	3	P		P	04 30 26.4	+0.5
	comp=Z,0.6nm,0.4s,baz=212,slow=4.7,SNR=3.1							
ESDC	Sonseca Array	75.51	27	P		P	04 30 37.1	-0.5
	comp=Z,1.0nm,0.5s,baz=342,slow=6.0,SNR=4.5							
ESDC	Sonseca Array	75.51	27	P		P	04 30 38.4	+0.8
ESDC				IAmb		IAmb	04 31 05.7	
	comp=Z,4.2nm,1.4s							
ROSC	El Rosal	78.61	101	LR		LR	05 08 41.0	
	comp=Z,151nm,19.1s,baz=270,slow=38							
BRTR	Keskin Array B	79.30	358	P		P	04 30 58.5	-0.3
	comp=Z,0.8nm,0.8s,baz=1.4,slow=4.9,SNR=5.0							
BRTR				LR		LR	05 11 55.9	
	comp=Z,64nm,18.1s,baz=69,slow=40							

*TIR **28** 04:26:24.9,41.˚83N×19.˚30E,h20km±1km,Md2.8,Ml2.4*
*RHSSO **28** 04:26:26.1±0.9,41.˚77N×19.˚39E,h8km±2km,ML2.1/7*
*PDG **28** 04:26:26.1±0.2,41.˚79N×19.˚37E,h11km,ML2.1/11,Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*
*BEO **28** 04:26:27.4±0.4,41.˚82N×19.˚30E,h13km±3km, ML1.8/9*

ISC 28 04:26:26.3±1.0,41.˚81N±0.˚03×19.˚38E±0.˚02,h12km±7km, n46,σ0s74/86,8C-4D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.18	327	*e*Pg		Pg		04 26 30.3	0.0
ULC				*i* Sg		Sg		04 26 33.4	+0.2
DRME	Dracevica, Mon	0.40	339	⇑*i*Pg		Pg		04 26 33.6	-0.6
DRME				*e*Sg		Sb		04 26 41.0	-0.3
DRME	Dracevica, Mon	0.40	339	⇓*i*Pg		Pg		04 26 34.0	-0.2
DRME				*i* Sg		Sb		04 26 40.8	-0.5
TIR	Tirane	0.59	142	*e*Pg		Pb		04 26 39.3	+0.8
TIR				*e*Sg		Sn		04 26 48.9	-1.1
TIR	Tirane	0.59	142	P		Pg		04 26 37.7	-0.1
	baz=138								
TIR				S		Sb		04 26 47.6	+0.7
	baz=138								
BUM	Brajici-Budva	0.60	324	⇓*i*Pg		Pg		04 26 37.7	-0.4
BUM				*i* Sg		Sb		04 26 47.5	+0.2
PDG	Podgorica	0.62	352	*e*Pg		Pg		04 26 37.8	-0.6
PDG				*e*Sg		Sb		04 26 48.5	+0.8
PDG	Podgorica	0.62	352	*e*Pg		Pg		04 26 37.7	-0.6
PDG				*e*Sg		Sb		04 26 47.5	-0.2
TTG	Podgorica	0.62	352	⇑*i*Pg		Pg		04 26 38.0	-0.4
TTG				*i* Sg		Sb		04 26 48.2	+0.5
BCI	Bajram Curri	0.76	43	P		Pg		04 26 40.4	-0.5
	baz=46								
BCI				S		Sb		04 26 51.9	+0.3
	baz=46								
BCI				AMP					
	comp=N,0.8nm,0.9s,baz=46								
PHP	Peshkopia	0.81	99	P		Pg		04 26 41.7	-0.2
	baz=99								
PHP				S		Sn		04 26 54.4	-0.9
	baz=99								
PHP				AMP					
	comp=N,0.5nm,0.6s,baz=99								
CEME	Cevo	0.81	335	⇑*i*Pg		Pg		04 26 41.6	-0.3
CEME				*i* Sg		Sn		04 26 54.6	-0.8
PVY	Plav	0.89	29	⇑*i*Pg		Pg		04 26 42.8	-0.7
PVY				*i* Sg		Sn		04 26 57.9	+0.3
HCY	Herceg Novi	0.91	314	*e*Pg		Pg		04 26 43.2	-0.7
HCY				*e*Sg		Sb		04 26 56.3	+0.2
HCY	Herceg Novi	0.91	314	⇑*i*Pg		Pg		04 26 43.0	-1.0
HCY				*i* Sg		Sn		04 26 57.9	0.0
NKME	Niksic	1.00	342	⇑*i*Pg		Pb		04 26 45.1	-0.5
NKME				*i* Sg		Sn		04 27 01.1	+0.9
NKY	Niksic	1.04	344	⇑*i*Pg		Pb		04 26 45.8	-0.4
NKY				*i* Sg		Sn		04 27 02.5	+1.3
KOME	Kolasin	1.04	6	⇓*i*Pg		Pb		04 26 45.7	-0.5
KOME				*i* Sg		Sn		04 27 02.4	+1.2
IVA	Berane	1.12	20	⇓*i*Pg		Pb		04 26 47.4	-0.3
IVA				*i* Sg		Sn		04 27 05.5	+2.2
TREB	Trebinje	1.18	320	*e*Pg		Pg		04 26 48.9	-0.1
TREB				*e*Sg		Sn		04 27 04.3	-0.2
TREB	Trebinje	1.18	320	*e*Pg		Pn		04 26 48.2	-0.3
TREB				*e*Sg		Sn		04 27 04.7	+0.2
DBRK	Dubrovnik	1.25	314	*e*Pg		Pb		04 26 49.7	-0.1
DBRK				Sg		Sg		04 27 06.9	+0.3
BRY	Bratogost	1.25	331	*e*Pg		Pb		04 26 49.8	-0.1
BRY				*e*Sg		Sg		04 27 07.5	+0.9
BRY	Bratogost	1.25	331	⇑*i*Pg		Pb		04 26 49.6	-0.3
BRY				*i* Sg		Sg		04 27 09.1	+2.5
UPM	Unac-Piva	1.43	346	*e*Pg		Pb		04 26 52.3	-0.7
UPM				*e*Sg		Sg		04 27 12.9	+0.5
SJES	Sjenica	1.51	17	*e*Pn		Pg		04 26 55.2	-0.1
SJES				*e*Sn		Sg		04 27 14.8	-0.2
STON	Ston	1.63	311	*e*Pg		Pb		04 26 55.4	-0.8
STON				*e*Sg		Sb		04 27 16.8	0.0
STON	Ston	1.63	311	*e*Pn		Pn		04 26 54.9	+0.2
STON				*e*Sn		Sb		04 27 16.7	0.0
STON	Ston	1.63	311	*e*Pg		Pn		04 26 54.6	-0.1
STON				Sg		Sb		04 27 15.9	-0.8
RUDO	Rudo	1.80	360	*e*Pn		Pb		04 26 58.4	-0.8
RUDO				*e*Sn		Sb		04 27 21.4	-0.3
SELS	Selova	1.91	42	*e*Pn		Pb		04 27 00.3	-0.6
SELS				*e*Sn		Sb		04 27 24.0	-0.7
BBLS	Lazići	2.05	1	*e*Pn		Pn		04 27 00.7	+0.1
BBLS				*e*Sn		Sb		04 27 27.7	-1.2
BBLS	Lazići	2.05	1	*e*Pn		Pn		04 27 01.6	+1.0
BBLS				*e*Sn		Sb		04 27 27.6	-1.3
LSTV	Lastovo	2.08	298	*e*Pn		Pn		04 27 00.6	-0.2
LSTV				Sn		Sn		04 27 25.4	-1.1
PRVS	Prvonek	2.12	70	*e*Pn		Pb		04 27 03.3	-1.3
PRVS				*e*Sn		Sb		04 27 29.7	-1.2
MAKA	Makarska	2.28	311	*e*Pn		Pn		04 27 03.9	+0.2
MAKA				Sn		Sn		04 27 31.9	+0.3
DIVS	Divibare	2.33	11	*e*Pn		Pn		04 27 05.2	+0.9
DIVS				*e*Sn		Sn		04 27 33.2	+0.3
DIVS	Divibare	2.33	11	*e*Pn		Pn		04 27 05.3	+0.9
DIVS				*e*Sn		Sn		04 27 34.6	+1.7
RICI	Ricice	2.36	316	*e*Pn		Pn		04 27 05.3	+0.6
HVAR	Hvar	2.56	303	*e*Pn		Pn		04 27 07.4	0.0
KIJV	Kijevo	3.09	316	*e*Pn		Pn		04 27 15.5	+0.7
KIJV				Sn		Sn		04 27 52.2	+0.5
ZIRJ	Zirje	3.31	305	*e*Pn		Pn		04 27 17.8	+0.1
MORI	Morici	3.39	308	*e*Pn		Pn		04 27 19.9	+1.0
MORI				Sn		Sn		04 27 58.9	-0.1
DUGI	Dugi Otok	3.85	306	*e*Pn		Pn		04 27 25.7	+0.5
VIRC	Vir	4.02	309	*e*Pn		Pn		04 27 27.8	+0.2
NVLJ	Novalja	4.29	311	*e*Pn		Pn		04 27 31.2	0.0

MEX 28 04:28:37.1±0.4,15.˚50N×94.˚86W,h10km±10km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.23	283	*e*P		Pn		04 28 57.5	-2.9
HUIG				*e*S		Sb		04 29 12.8	-3.7
CMIG	Matias Romero	1.58	359	*e*P		Pn		04 29 01.5	-3.7
CMIG				*e*S		Sn		04 29 20.8	-5.0
PCIG		1.59	83	*e*P		Pn		04 28 58.9	-6.5
PCIG				*e*S		Sn		04 29 16.3	-10
UXUV	UXUV	1.93	21	*e*P		Pn		04 29 06.9	-3.2
UXUV				*e*S		Sn		04 29 28.5	-6.0
TGIG		2.10	53	*e*P		Pn		04 29 09.1	-3.4
TGIG				*e*S		Sn		04 29 33.1	-5.6
PEIG	Puerto Escondi	2.26	283	*e*P		Pn		04 29 11.4	-3.1
PEIG				*e*S		Sn		04 29 37.1	-5.4
PATR	El Naranjo	2.56	98	*e*P		Pn		04 29 13.3	-5.7
PATR				*e*S		Sn		04 29 38.5	-12
PATR	El Naranjo	2.56	98	*e*P		Pn		04 29 12.3	-6.7
PATR				*e*S		Sn		04 29 38.5	-12
PAVE	Pavencul	2.61	96	*e*P		Pn		04 29 14.0	-5.6
PAVE				*e*S		Sn		04 29 41.5	-10
PAVE	Pavencul	2.61	96	*e*P		Pn		04 29 13.0	-6.6
PAVE				*e*S		Sn		04 29 41.5	-10
CHUJ	Union Juarez	2.69	98	*e*P		Pn		04 29 14.1	-6.6
CHUJ				*e*S		Sn		04 29 42.2	-11
CHUJ	Union Juarez	2.69	98	*e*P		Pn		04 29 13.1	-7.6
CHUJ				*e*S		Sn		04 29 42.2	-11
CCIG	Comitan	2.73	73	*e*P		Pn		04 29 16.4	-4.9
CCIG				*e*S		Sn		04 29 47.8	-6.7

*IDC **28** 04:35:47.4±1.8,27.˚56S×113.˚41W,h0km,mb3.9/4, mb1 4.3/4,mb1mx3.9/24,mbtmp3.9/4,MS4.0/13, Ms1 4.0/13,ms1mx3.6/54,Error ellipse: s-maj=103.5km s-min=47.7km az=104.0*

ISC 28 04:35:43.6±2.0,28.˚5S±0.˚4×112.˚6W±0.˚5,h10km,n24, σ0s62/7,mb4.2/4,MS4.1/12,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.23	66	LR		LR		04 37 22.7	
	comp=Z,1μm,18.6s,baz=298,slow=26								
H03N2	Juan Fernandez	29.23	108	T		T		05 12 27.8	
	baz=276,slow=74,SNR=503								
H03N3	Juan Fernandez	29.24	108	T		T		05 12 28.9	
	baz=276,slow=74,SNR=626								
H03N1	Juan Fernandez	29.25	108	T		T		05 12 21.2	
	baz=276,slow=74,SNR=747								
SDV	Santo Domingo	55.01	54	LR		LR		05 06 20.4	
	comp=Z,210nm,20.4s,baz=278,slow=33								
AFI	Afiamalu	56.51	272	LR		LR		05 02 41.0	
	comp=Z,56nm,22.0s,baz=183,slow=29								
TXAR	Lajitas Array	58.15	9	P		P		04 45 37.7	+0.1
	0.5nm,0.9s,baz=188,slow=18,SNR=2.2								
URZ	Urewera	58.21	241	LR		LR		05 06 00.6	
	comp=Z,202nm,18.1s,baz=211,slow=31								
VNDA	Vanda	61.42	194	LR		LR		05 08 15.8	
	comp=Z,108nm,19.2s,baz=88,slow=31								
RPZ	Rata Peaks	61.45	233	LR		LR		05 07 24.5	
	comp=Z,154nm,18.8s,baz=335,slow=31								
NVAR	Mina Array Bea	66.79	355	P		P		04 46 36.0	+0.5
	2.5nm,0.9s,baz=180,slow=9.1,SNR=8.3								
ELK	Elko	68.94	358	LR		LR		05 11 56.5	
	comp=Z,85nm,18.7s,baz=299,slow=32								
YBH	Yreka Blue Hor	70.50	352	LR		LR		05 11 00.7	
	comp=Z,96nm,18.1s,baz=192,slow=30								
PDAR	Pinedale Array	70.97	2	P		P		04 47 00.5	-0.9
	2.4nm,1.1s,baz=188,slow=6.0,SNR=6.5								
DZM	Mont Dzumac	72.17	254	LR		LR		05 10 23.2	
	comp=Z,102nm,20.4s,baz=33,slow=29								
NEW	Newport	76.52	357	LR		LR		05 16 02.6	
	comp=Z,80nm,18.4s,baz=322,slow=32								
STKA	Stephens Creek	87.37	235	LR		LR		05 20 30.9	
	comp=Z,80nm,18.9s,baz=46,slow=31								
YKA	Yellowknife Ar	90.69	359	P		P		04 48 45.8	-0.1
	1.0nm,0.8s,baz=172,slow=4.8,SNR=16								
KDAK	Kodiak Island	92.26	340	LR		LR		05 21 17.1	
	comp=Z,68nm,19.6s,baz=225,slow=30								
WRA	Warramunga Arr	99.38	241	LR		LR		05 29 10.3	
	comp=Z,87nm,18.5s,baz=124,slow=32								
SONM	Songino Array	144.24	313	PKhKP		PKPpre		04 55 19.0	
	0.7nm,0.6s,baz=113,slow=1.9,SNR=4.3								
CMAR	Chiang Mai Arr	149.44	258	PKPbc		PKPab		04 55 38.1	-0.3
	1.2nm,0.3s,baz=60,slow=1.3,SNR=5.7								
BRTR	Keskin Array B	150.08	59	PKPbc		PKPab		04 55 40.9	+0.2
	1.5nm,1.0s,baz=191,slow=2.5,SNR=4.9								
ZALV	Zalesovo Beam	151.55	338	PKPbc		PKiKP		04 55 38.5	+0.6
	1.3nm,0.7s,baz=37,slow=1.2,SNR=4.4								

*SSNC **28** 04:42:19.5±0.8,18.˚07N×77.˚41W,h34km±4km,MD3.4, ML3.1,MW3.2*
*NEIC **28** 04:42:19.8±1.8,18.˚16N±0.˚04×77.˚28W±0.˚05,h15km±6km, ML3.7/2,Error ellipse: s-maj=8.1km s-min=3.3km az=50.0*
*JSN **28** 04:42:20.2±0.8,18.˚06N×77.˚33W,h3km±16km,MD3.5*

ISC 28 04:42:19.6±0.8,18.˚15N±0.˚05×77.˚37W±0.˚04,h31km±6km, n36,σ1s85/48,4C-5D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVJ	Coleyville	0.17	296	⇑*i*P		Pb		04 42 25.4	-0.4
MTDJ	Mount Denham	0.17	296	Pg		Pb		04 42 25.3	-0.5
MTDJ				Sg		Sb		04 42 29.7	-0.3
MTDJ				IAML				04 42 30.3	
	10μm,0.7s								
MTDJ				IAML				04 42 30.4	
	17μm,0.3s								
MTDJ	Mount Denham	0.17	296	⇑*i*P		Pb		04 42 25.4	-0.4
MTDJ				*e*S		Sb		04 42 30.1	0.0
BBJ	Bamboo Saint A	0.25	24	⇓*i*P		Pb		04 42 26.8	+0.1
BBJ				*i* S		Sb		04 42 31.2	-0.2
MCJ	Malvern	0.38	233	⇓*i*P		Pb		04 42 27.3	-1.0
STH	Stony Hill	0.54	98	⇓*i*P		Pn		04 42 29.2	-2.1
HOJ	Hope	0.61	104	⇑*i*P		Pn		04 42 30.4	-1.8
GWJ	Greenwich	0.62	97	⇓*i*P		Pn		04 42 30.7	-1.7
YHJ	Yallahs	0.88	107	⇑*i*P		Pn		04 42 35.8	0.0
CMJ	Castle Mountai	0.95	91	⇓*i*P		Pn		04 42 36.5	-0.3
LMGC	Las Mercedes	1.93	10	*e*P		Pn		04 42 50.0	-0.4
LMGC				*e*S		Sn		04 43 11.8	-1.8
LMGC				IAML				04 43 12.6	
	comp=N,170nm,0.0s								
LMGC				IAML				04 43 13.3	
	comp=E,139nm,0.2s								
RCC	Rio Carpintero	2.42	41	*e*P		Pn		04 42 56.8	-0.3
RCC				*e*S		Sn		04 43 24.9	-0.8
RCC				IAML				04 43 26.9	
	comp=N,23nm,0.2s								
RCC				IAML				04 43 27.2	
	comp=E,38nm,0.3s								
CBCY	The Bluff, Cay	2.75	305	Pn		Pn		04 42 59.0	-2.7
GTBY	Guantanamo Bay	2.77	50	Pn		Pn		04 43 01.6	-0.3
GTBY	Guantanamo Bay	2.77	50	*e*P		Pn		04 43 01.8	-0.1
GTBY				*e*S		Sn		04 43 32.5	-1.9
LCCY	Blossom Villag	2.98	301	Pn		Pn		04 43 05.0	+0.3
HLGC	Holguin	2.99	24	*e*P		Pn		04 43 06.0	+1.1
HLGC				*e*S		Sn		04 43 40.8	+1.0
HLGC				IAML				04 43 44.0	
	comp=E,35nm,0.3s								
HLGC				IAML				04 43 45.9	
	comp=N,52nm,0.2s								
CCCC	Cccc	3.06	353	*e*P		Pn		04 43 07.1	+1.3
CCCC				*e*S		Sn		04 43 42.1	+0.8
CCCC				IAML				04 43 47.0	
	comp=N,11nm,0.3s								
CCCC				IAML				04 43 47.7	
	comp=E,20nm,0.2s								
MOAC	Moa	3.38	42	*e*P		Pn		04 43 08.7	-1.5
MOAC				*e*S		Sn		04 43 49.4	+0.1
MOAC				IAML				04 43 55.5	
	comp=N,66nm,0.4s								
MOAC				IAML				04 43 56.1	
	comp=E,21nm,0.3s								
MASC	Masc	3.59	55	*e*P		Pn		04 43 13.0	-0.1
MASC				*e*S		Sn		04 43 48.2	-6.2
MASC				IAML				04 43 55.2	
	comp=E,18nm,0.2s								
MASC				IAML				04 43 56.3	
	comp=N,14nm,0.1s								
FSCY	Frank Sound, G	3.79	288	Pn		Pn		04 43 14.2	-1.7
MGV	Manicaragua	4.64	329	*e*P		Pn		04 43 26.4	-1.1
MGV				*e*S		Sn		04 44 16.6	-3.7
MGV				IAML				04 44 19.2	
	comp=N,4.4nm,0.3s								
M

RUSC				*i*		04 59 16.6	
	comp=Z,3.2nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.30**	**258**	*eP*	**Pn**	04 58 59.5	-0.8
PTBC				*eS*	Sn	04 59 20.4	-0.5
PTBC				*i*		04 59 23.5	
OCAC	**Ocana**	**1.41**	**354**	*eS*	Sn	04 59 22.6	-0.6
SPBC	**San Pablo de B**	**1.47**	**217**	*eP*	**Pn**	04 59 01.7	-0.4
SPBC				*eS*	Sn	04 59 23.8	-0.3
SPBC				*i*		04 59 30.2	
	comp=Z,3.8nm,0.2s						
CHIC	**Chingaza**	**2.25**	**194**	*eP*	**Pn**	04 59 11.0	-0.5
CHIC				*eS*	Sn	04 59 40.1	-0.6
CHIC				*i*		04 59 43.5	
	comp=Z,1.1nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.69**	**234**	*eS*	Sn	04 59 51.1	+0.5

*TUL **28** 05:01:59.1±1.4,36.70N±0.02×98.37W±0.01,h6km±6km, ML2.5,mb_Lg1.9/8(NEIC),Error ellipse: s-maj=3.0km s-min=0.5km az=154.0*

NEIC 28 05:01:59.2±0.9,36.69N±0.02×98.36W±0.01,h12km±5km, Error ellipse: s-maj=3.1km s-min=0.5km az=154.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.60**	**239**	Pg	Pg	05 02 09.9	-1.0
U32A				Sg	Sg	05 02 19.4	+0.6
T35A	**Sooner Cattle**	**1.50**	**81**	Pn	Pn	05 02 26.2	+0.2
T35A				IAmb_Lg		05 02 47.3	
	comp=Z,3.6nm,1.0s						
FNO	**Franklin**	**1.63**	**151**	Pn	Pn	05 02 27.5	-0.3
FNO				IAmb_Lg		05 02 49.8	
	comp=Z,4.9nm,0.7s						
R32A	**Long Quarter,**	**1.75**	**351**		Pn	05 02 28.8	-0.7
WMOK	**Wichita Mounta**	**1.98**	**190**	Pn	Pn	05 02 32.1	-0.5
TUL1	**Leonard**	**2.22**	**110**	Pn	Pn	05 02 35.5	-0.3
CBKS	**Cedar Bluff**	**2.38**	**333**	IAmb_Lg		05 03 17.9	
	comp=Z,12nm,0.8s						

IDC 28 05:14:49.5±2.3,6.78S×129.90E,h0km,mb3.6/1, mb1 3.8/3,mb1mx3.5/21,mbtmp3.6/3,ML3.7/2,MS3.5/1, Ms1 3.5/1,ms1mx2.4/60,Error ellipse: s-maj=141.5km s-min=31.7km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.78**	**162**	Pn	Pn	05 18 05.9	-0.4
	0.3nm,0.3s,baz=345,slow=13,SNR=21						
WRA				Sn	Sn	05 20 27.2	-13
	1.2nm,0.3s,baz=334,slow=22,SNR=18						
ASAR	**Alice Springs**	**17.23**	**168**	P	Pn	05 18 52.0	+0.3
	0.3nm,0.3s,baz=343,slow=9.3,SNR=20						
SONM	**Songino Array**	**58.20**	**342**	LR	LR	05 50 16.5	
	comp=Z,42nm,21.1s,baz=170,slow=36						
MKAR	**Makanchi Array**	**67.99**	**327**	P	P	05 25 50.5	0.0
	0.3nm,0.4s,baz=126,slow=7.5,SNR=5.8						

IDC 28 05:20:30.0±2.2,9.87S×123.04E,h0km,mb3.7/1, mb1 3.7/3,mb1mx3.5/23,mbtmp3.6/3,ML3.5/2,Error ellipse: s-maj=220.6km s-min=32.5km az=54.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.81**	**134**	Pn	Pn	05 23 59.4	-1.5
	0.2nm,0.3s,baz=305,slow=14,SNR=2.3						
WRA				Sn	Sn	05 26 32.9	-13
	0.6nm,0.3s,baz=37,slow=32,SNR=11						
ASAR	**Alice Springs**	**17.20**	**144**	P	P	05 24 33.0	-0.7
	0.2nm,0.3s,baz=319,slow=11,SNR=7.3						
ASAR				S	Sn	05 27 33.0	-11
	0.2nm,0.3s,baz=318,slow=23,SNR=9.4						
MKAR	**Makanchi Array**	**67.09**	**331**	P	P	05 31 25.4	0.0
	0.4nm,0.5s,baz=138,slow=7.8,SNR=7.7						

*CNRM **28** 05:27:49.9,35.46N×3.98W,h16km,ml2.2*
*SFS **28** 05:27:49.0,35.47N×3.84W,h22km,ML2.6,ALBORAN SUR*
*MDD **28** 05:27:50.0±0.5,35.55N×3.85W,h18km±4km,mb_Lg2.2/10, Error ellipse: s-maj=4.0km s-min=2.9km az=144.0*

ISC 28 05:27:48.0±1.1,35.51N±0.02×3.82W±0.03,h16km±9km, n22,σ1§52/44,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.31**	**198**	P	**Pb**	**05 27 55.0**	**-0.1**
PALE				S	**Sb**	**05 27 59.2**	**-0.7**
PVLZ	**Peæn de**	**0.52**	**230**	P	**Pg**	**05 27 56.2**	**-2.1**
PVLZ				S	**Sb**	**05 28 05.1**	**-0.7**
EMEL	**Melilla**	**0.74**	**106**	Pg	**Pn**	**05 28 03.2**	**-0.5**
EMEL				Sg	**Sg**	**05 28 13.3**	**+1.2**
EALB	**Alboran**	**0.77**	**56**	Pg	**Pn**	**05 28 05.5**	**+1.3**
EALB				Sg	**Sn**	**05 28 16.2**	**+0.8**
EALB				*i* Vmb_Lg		05 28 17.8	
SMIR	**Smir Dam**	**1.28**	**278**	P	**Pg**	**05 28 12.2**	**-0.6**
SMIR				S	**Sn**	**05 28 27.6**	**-0.5**
EMIJ	**Mijas**	**1.30**	**324**	Pn	**Pn**	**05 28 11.2**	**-0.4**
EMIJ				Sn	**Sn**	**05 28 26.8**	**-1.8**
EMIJ				*i* Vmb_Lg		05 28 41.0	
ECEU	**Ceuta**	**1.32**	**287**	Pn	**Pb**	**05 28 12.0**	**-0.4**
ECEU				Sn	**Sn**	**05 28 28.4**	**-0.6**
ECEU				*i* Vmb_Lg		05 28 31.5	
EMAL	**Malaga-Limoner**	**1.34**	**339**	P	Pg	05 28 20.2	+6.3
EMAL				S	**Sg**	**05 28 35.4**	**+4.0**
ELGU	**Los Guajares,**	**1.36**	**7**	Pn	**Pn**	**05 28 12.1**	**-0.3**
ELGU				Sn	**Sn**	**05 28 28.7**	**-1.5**
ELGU				*i* Vmb_Lg		05 28 38.4	
JBK	**JBK**	**1.56**	**138**	P	**Pb**	**05 28 16.4**	**-0.2**
JBK				S	**Sg**	**05 28 38.4**	**0.0**
EBER	**Berja**	**1.58**	**28**	Pn	**Pn**	**05 28 16.3**	**+0.8**
EBER				Sn	**Sn**	**05 28 35.0**	**-0.6**
EBER				*i* Vmb_Lg		05 28 42.2	
EGOR	**Sierra Gorda,**	**1.61**	**352**	Pn	**Pn**	**05 28 14.1**	**-1.8**
EGOR				Sn	**Sn**	**05 28 34.8**	**-1.6**
EGOR				*i* Vmb_Lg		05 28 48.0	
ENIJ	**Nijar**	**1.96**	**41**	Pn	**Pn**	**05 28 20.7**	**+0.2**
ENIJ				Sn	**Sn**	**05 28 44.0**	**-0.7**
ENIJ				*i* Vmb_Lg		05 28 57.0	
LCRM	**LCR**	**2.01**	**205**	P	**Pb**	**05 28 24.4**	**+0.2**
LCRM				S	**Sb**	**05 28 48.9**	**-0.1**
IFR	**Ifrane**	**2.26**	**209**	P	**Pb**	**05 28 26.5**	**-2.0**
IFR				S	**Sn**	**05 28 53.5**	**+1.0**
EADA	**Adamuz**	**2.72**	**347**	Pn	**Pn**	**05 28 31.8**	**+0.8**
EADA				Sn	**Sn**	**05 29 01.6**	**-2.0**
EADA				Sg	**Sb**	**05 29 12.6**	**+3.3**
EADA				*i* Vmb_Lg		05 29 20.5	
MD31	**MD31**	**2.75**	**197**	P	**Pn**	**05 28 33.5**	**+2.1**
MD31				S	**Sn**	**05 29 05.4**	**+1.0**
MDT	**Midelt**	**2.77**	**194**	P	**Pn**	**05 28 31.8**	**+0.1**
MDT				S	**Sn**	**05 29 06.8**	**+1.9**
ECAB	**El Cabril**	**2.86**	**334**	Pn	**Pn**	**05 28 33.9**	**+0.9**
ECAB				Sn	**Sn**	**05 29 04.4**	**-2.7**
EGRO	**El Granado**	**3.58**	**305**	Pn	**Pn**	**05 28 44.5**	**+1.8**
EGRO				Sn	**Sn**	**05 29 22.2**	**-2.4**
EGRO				*i* Vmb_Lg		05 29 34.4	
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**05 28 43.6**	**+0.2**
ETOB				Sn	**Sn**	**05 29 24.3**	**-1.5**
PVAQ	**Vaqueiros**	**3.67**	**302**	P	**Pn**	**05 28 45.4**	**+1.4**
PVAQ				S	**Sn**	**05 29 27.8**	**+0.9**

*IDC **28** 05:31:43.2±1.7,6.86N×72.99W,h160km±46km,mb2.8/2, mb1 3.3/4,mb1mx3.0/38,mbtmp3.5/4,Error ellipse: s-maj=119.6km s-min=14.5km az=133.0*
*RSNC **28** 05:31:44.0±1.1,6.84N×73.14W,h146km±4km,ML3.2, Mw3.5*

ISC 28 05:31:42.2±0.9,6.84N±0.03×73.10W±0.03,h158km±6km, n36,σ1§57/69,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	*iP*	**Pn**	**05 32 04.0**	**+0.1**
BARC				*eS*	**Sn**	**05 32 18.8**	**-1.7**
BARC				*i*		05 32 20.8	
	comp=Z,369nm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**39**	*eP*	**Pn**	**05 32 06.8**	**+1.0**
PAMC				*eS*	**Sn**	**05 32 23.9**	**0.0**
PAMC				*i*		05 32 26.2	
	comp=Z,493nm,0.5s						
RUSC	**La Rusia**	**0.94**	**179**	*eP*	**Pn**	**05 32 08.0**	**+0.2**
RUSC				*eS*	**Sn**	**05 32 26.7**	**-0.8**
RUSC				*i*		05 32 27.9	
	comp=Z,204nm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**107**	*iP*	**Pn**	**05 32 12.4**	**+1.3**
TAMC				*eS*	**Sn**	**05 32 34.1**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*eP*	**Pn**	**05 32 10.7**	**-0.5**
PTBC				*eS*	**Sn**	**05 32 31.7**	**-1.6**
PTBC				*i*		05 32 34.8	
	comp=Z,120nm,0.1s						
OCAC	**Ocana**	**1.41**	**351**	*eP*	**Pn**	**05 32 12.1**	**+0.4**
OCAC				*eS*	**Sn**	**05 32 33.8**	**-0.5**
OCAC				*i*		05 32 37.5	
	comp=Z,308nm,0.2s						
SPBC	**San Pablo de B**	**1.52**	**219**	*eP*	**Pn**	**05 32 12.9**	**+0.1**
SPBC				*eS*	**Sn**	**05 32 34.7**	**-1.4**
SPBC				*i*		05 32 41.5	
	comp=Z,270nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*eP*	**Pn**	**05 32 16.3**	**+0.1**
ZARC				*eS*	**Sn**	**05 32 42.0**	**-0.4**
ZARC				*i*		05 32 48.2	
	comp=Z,92nm,0.1s						
NORC	**Norcasia**	**2.16**	**234**	*eP*	**Pn**	**05 32 20.0**	**+0.2**
NORC				*eS*	**Sn**	**05 32 47.6**	**-1.1**
NORC				*i*		05 32 55.9	
	comp=Z,116nm,0.2s						
CHIC	**Chingaza**	**2.28**	**196**	*eP*	**Pn**	**05 32 22.2**	**+0.6**
CHIC				*eS*	**Sn**	**05 32 51.6**	**-0.3**
CHIC				*i*		05 32 55.3	
	comp=Z,101nm,0.5s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**05 32 23.9**	**+1.8**
	comp=Z,46nm,0.3s,baz=108,slow=19,SNR=153						
ROSC				S	**Sn**	**05 32 50.1**	**-2.6**
	comp=Z,20nm,0.3s,baz=108,slow=18,SNR=12						
ROSC	**El Rosal**	**2.32**	**211**	*eP*	**Pn**	**05 32 23.5**	**+1.5**
ROSC				*eS*	**Sn**	**05 32 52.2**	**-0.5**
ROSC				*i*		05 32 57.9	
	comp=Z,170nm,0.4s						
HELC	**Santa Helena**	**2.49**	**255**	*eP*	**Pn**	**05 32 24.9**	**+0.9**
HELC				*eS*	**Sn**	**05 32 55.4**	**-0.9**
HELC				*i*		05 33 03.1	
	comp=Z,67nm,0.4s						
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*	**Pn**	**05 32 23.7**	**-0.9**
UREC				*eS*	**Sn**	**05 32 55.3**	**-2.1**
UREC				*i*		05 33 04.6	
	comp=Z,86nm,0.2s						
SOCV	**Socops**	**2.65**	**57**	*eP*	**Pn**	**05 32 25.8**	**+0.2**
SOCV				*eS*	**Sn**	**05 32 57.5**	**-1.7**
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*	**Pn**	**05 32 28.1**	**+0.7**
GUY2C				*eS*	**Sn**	**05 33 02.9**	**+0.6**
GUY2C				*i*		05 33 10.3	
	comp=Z,77nm,0.3s						
VILC	**Villavicencio,**	**2.77**	**192**	*eP*	**Pn**	**05 32 27.7**	**+0.5**
VILC				*eS*	**Sn**	**05 33 01.6**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*eP*	**Pn**	**05 32 27.1**	**-0.3**
PTGC				*eS*	**Sn**	**05 32 59.7**	**-2.6**
PTGC				*i*		05 33 05.4	
	comp=Z,101nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.88**	**357**	*eP*	**Pn**	**05 32 28.6**	**+0.1**
LL6C				*eS*	**Sn**	**05 33 02.0**	**-2.4**
LL6C				*i*		05 33 11.0	
	comp=Z,46nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*	**Pn**	**05 32 32.0**	**+1.3**
CBOC				*eS*	**Sn**	**05 33 08.0**	**-0.2**
CBOC				*i*		05 33 12.2	
	comp=Z,21nm,0.2s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**05 32 33.5**	**+1.1**
	comp=Z,4.4nm,0.3s,baz=213,slow=5.1,SNR=140						
SDV				S	**Sn**	**05 33 10.3**	**-1.0**
	comp=Z,16nm,0.3s,baz=42,slow=20,SNR=42						
SDV	**Santo Domingo**	**3.18**	**50**	*eP*	**Pn**	**05 32 33.5**	**+1.1**
SDV				*eS*	**Sn**	**05 33 10.8**	**-0.5**
SDV				*i*		05 33 14.1	
	comp=Z,32nm,0.3s						
MOTC	**Monteria, Cord**	**3.19**	**307**	*eP*	**Pn**	**05 32 31.1**	**-1.2**
MOTC				*eS*	**Sn**	**05 33 09.5**	**-1.6**
MOTC				*i*		05 33 11.5	
	comp=Z,29nm,0.2s						
ANIL	**Santa Ana**	**3.27**	**225**	*eP*	**Pn**	**05 32 35.1**	**+1.5**
ANIL				*eS*	**Sn**	**05 33 14.4**	**+1.1**
ANIL				*i*		05 33 18.7	
	comp=Z,160nm,0.2s						
ORTC	**Ortega, Tolima**	**3.61**	**216**	*eP*	**Pn**	**05 32 38.4**	**+0.7**
ORTC				*eS*	**Sn**	**05 33 21.0**	**+0.2**
ORTC				*i*		05 33 25.4	
	comp=Z,54nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*	**Pn**	**05 32 38.0**	**-0.5**
SJCC				*eS*	**Sn**	**05 33 19.2**	**-3.0**
SJCC				*i*		05 33 27.1	
	comp=Z,27nm,0.5s						
PLMC	**San Jos del P**	**3.70**	**239**	*eP*	**Pn**	**05 32 39.5**	**+0.7**
PLMC				*eS*	**Sn**	**05 33 23.1**	**+0.2**
PLMC				*i*		05 33 26.5	
	comp=Z,27nm,0.2s						
LCBC	**Los crdobas,**	**3.81**	**302**	*eS*	**Sn**	**05 33 26.8**	**+1.6**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*eP*	**Pn**	**05 32 44.0**	**-0.9**
CRJC				*eS*	**Sn**	**05 33 31.0**	**-2.8**
CRJC				*i*		05 33 39.2	
	comp=Z,59nm,0.4s						
GUVC	**San Jose del G**	**4.29**	**174**	*eP*	**Pn**	**05 32 46.5**	**0.0**
GUVC				*eS*	**Sn**	**05 33 34.5**	**-2.2**
GUVC				*i*		05 33 41.3	
	comp=Z,77nm,0.4s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*	**Pn**	**05 32 46.4**	**-0.2**
YOTC				*eS*	**Sn**	**05 33 36.9**	**0.0**
YOTC				*i*		05 33 48.7	
	comp=Z,13nm,0.9s						
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*	**Pn**	**05 32 49.4**	**+0.9**
SMRC				*eS*	**Sn**	**05 33 36.8**	**-3.3**
SMRC				*i*		05 33 40.5	
	comp=Z,33nm,0.2s						
MACC	**Macarena, Meta**	**4.72**	**189**	*eP*	**Pn**	**05 32 51.0**	**-1.1**
MACC				*eS*	**Sn**	**05 33 40.5**	**-6.3**
MACC				*i*		05 33 46.7	
	comp=Z,13nm,0.4s						
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*	**Pn**	**05 32 58.1**	**-0.6**
GARC				*eS*	**Sn**	**05 33 54.7**	**-3.6**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**05 38 33.6**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=116,slow=8.1,SNR=1.9						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**05 41 54.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=134,slow=6.6,SNR=9.8						

NOU 28 05:33:53.3,21.57S×168.80E,h0km,ML3.8/8,Loyalty Islands,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.72**	**277**	P	Pb	05 34 08.6	-0.2
LIFNC	**LIFOU**	**1.66**	**298**	P	Pn	05 34 22.3	-1.3
YATNC	**Mamie plateau,**	**1.84**	**254**	P	Pn	05 34 24.9	-1.3
OUENC	**Ouen Island, N**	**2.00**	**245**	P	Pn	05 34 29.1	+0.7
DZM	**Mont Dzumac**	**2.25**	**257**	P	Pn	05 34 31.9	+0.1
DVP	**Devils Point**	**3.87**	**351**	P	Pn	05 34 54.2	+0.1
KOUNC	**Koumac, New Ca**	**4.34**	**283**	P	Pn	05 34 59.7	-0.8
SANVU	**Saraoutou**	**6.28**	**346**	P	Pn	05 35 27.4	+0.2

*IDC **28** 05:34:35.8±1.9,52.73N×168.50W,h0km,mb3.4/6, mb1 3.7/8,mb1mx3.4/75,mbtmp3.5/8,ML3.1/2,Error ellipse: s-maj=46.6km s-min=21.6km az=178.0*
*NEIC **28** 05:34:36.6±1.2,52.1N±0.1×168.45W±0.07,h25km±9km, Error ellipse: s-maj=16.6km s-min=6.5km az=182.0*
*AEIC **28** 05:34:38.0±1.4,52.1N±0.1×168.40W±0.09,h23km±6km, ML2.8/16,mb3.9/22(NEIC),Error ellipse: s-maj=15.2km s-min=7.6km az=183.0*

ISC 28 05:34:37.5±3.5,52.1N±0.1×168.52W±0.09,h27km±23km, n47,σ1§34/52,mb3.5/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.89**	**347**		**Pn**	**05 34 53.9**	**-0.3**
NIKH					**Sn**	**05 35 07.0**	**+0.9**
OKSO	**Okmok South**	**1.27**	**10**		**Pn**	**05 34 59.4**	**-0.1**
OKSO					**Sn**	**05 35 16.2**	**+0.6**
OKFG	**Magazine Ridge**	**1.35**	**16**		**Pn**	**05 35 00.6**	**0.0**
OKFG					**Sb**	**05 35 19.2**	**+0.1**
MSW	**Makushin Switc**	**2.09**	**29**		**Pn**	**05 35 11.2**	**+0.5**
MSW					**Sn**	**05 35 37.1**	**+1.2**
UNV	**Unalaska Valle**	**2.12**	**34**		**Pn**	**05 35 11.3**	**+0.1**
UNV					**Sn**	**05 35 36.6**	**0.0**
OHAK	**Old Harbor**	**10.19**	**54**	Pn	**Pn**	**05 37 01.7**	**-0.1**
KDAK	**Kodiak Island**	**10.77**	**52**	Pn	**Pn**	**05 37 08.5**	**-1.3**
	0.4nm,0.3s,baz=244,slow=6.9,SNR=9.0						
SVW2	**Sparrevohn**	**11.46**	**3**	Pn	**Pn**	**05 37 19.1**	**-0.1**
GAMB	**Gambell**	**11.82**	**353**	Pn	**Pn**	**05 37 25.6**	**+1.6**
SEW	**Seward**	**13.27**	**45**	Pn	**Pn**	**05 37 43.6**	**-0.4**
KNK	**Knik Glacier**	**14.36**	**42**	Pn	**Pn**	**05 37 58.0**	**-0.7**
GHO	**Glory Hole Cre**	**14.36**	**40**	Pn	**Pn**	**05 37 58.5**	**-0.3**
FID	**Port Fidalgo**	**14.88**	**46**	Pn	**Pn**	**05 38 03.9**	**-2.0**
SCM	**Sheep Creek Mo**	**15.04**	**41**	Pn	**Pn**	**05 38 06.8**	**-1.2**
KLU	**Klutina**	**15.46**	**44**	Pn	**Pn**	**05 38 11.8**	**-1.6**
I21K	**Tanana**	**15.60**	**27**	Pn	**Pn**	**05 38 14.8**	**-0.4**
I21K				IAmb	IAmb	05 38 21.2	
	comp=Z,11nm,1.2s						
M24K	**Tolsona, Glenn**	**15.64**	**42**	Pn	**Pn**	**05 38 14.9**	**-1.0**
H21K	**Melozitna Rive**	**15.75**	**24**	Pn	**Pn**	**05 38 17.5**	**+0.3**
IMAR	**Indian Mountai**	**15.78**	**23**	Pn	**Pn**	**05 38 17.2**	**-0.4**
N25K	**Chitina, Valde**	**16.07**	**44**	Pn	**Pn**	**05 38 20.7**	**-0.8**
N25K				IAmb	IAmb	05 38 23.8	
	comp=Z,17nm,1.4s						
I23K	**Minto, Yukon-K**	**16.34**	**30**	Pn	**Pn**	**05 38 24.3**	**-0.3**
I23K				IAmb	IAmb	05 38 31.4	
	comp=Z,8.5nm,1.5s						
GLB	**Gilahina Butte**	**16.35**	**46**	Pn	**Pn**	**05 38 23.7**	**-1.3**
GLB				IAmb	IAmb	05 38 29.6	
	comp=Z,6.4nm,1.1s						
WAX	**Waxell Ridge**	**16.42**	**49**	Pn	**Pn**	**05 38 25.1**	**-0.8**
VRDI	**Verde Repeater**	**16.43**	**46**	Pn	**Pn**	**05 38 25.4**	**-0.7**
VRDI				IAmb	IAmb	05 38 39.2	
	comp=Z,17nm,1.3s						
MCARA	**McCarthy VSAT**	**16.68**	**46**	Pn	**Pn**	**05 38 28.4**	**-0.6**
MCARA				IAmb	IAmb	05 38 37.3	
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**16.88**	**33**	Pn	**Pn**	**05 38 24.8**	**-6.7**
	comp=Z,0.0nm,0.3s,baz=219,slow=13,SNR=1.9						
ILAR	**Eielson Array**	**16.88**	**33**	Pn	**Pn**	**05 38 31.3**	**-0.2**
YAH	**Yahtse**	**16.92**	**50**	Pn	**Pn**	**05 38 31.4**	**-0.8**
RIDG	**Independent Ri**	**17.01**	**38**	Pn	**Pn**	**05 38 31.5**	**-1.7**
BARN	**Barnard Glacie**	**17.18**	**48**	Pn	**Pn**	**05 38 34.3**	**-1.2**
BARN				IAmb	IAmb	05 39 01.7	
	comp=Z,14nm,1.3s						
L26K	**Log Cabin Wild**	**17.23**	**41**	Pn	**Pn**	**05 38 35.3**	**-0.7**
L26K				IAmb	IAmb	05 38 43.3	
	comp=Z,7.3nm,1.4s						
H24K	**Noodor Dome**	**17.26**	**29**	Pn	**Pn**	**05 38 36.4**	**0.0**
LOGN	**Logan Glacier**	**17.41**	**49**	Pn	**Pn**	**05 38 37.3**	**-1.0**
LOGN				IAmb	IAmb	05 38 41.6	
	comp=Z,17nm,1.3s						
SCRK	**Sand Creek**	**17.46**	**38**	Pn	**Pn**	**05 38 38.2**	**-0.6**
COLD	**Coldfoot**	**17.64**	**24**	Pn	**Pn**	**05 38 40.0**	**-0.9**
BCAR	**Beaver Creek A**	**17.89**	**42**	Pn	**Pn**	**05 38 43.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**20.43**	**286**	P	**P**	**05 39 12.9**	**+0.5**
PETK	**Petropavlovsk-**	**20.43**	**286**	P	**P**	**05 39 11.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=83,slow=13,SNR=6.0						
M31M	**Drury Creek, Y**	**20.83**	**48**	P	**P**	**05 39 16.4**	**-0.2**
M31M				IAmb	IAmb	05 39 43.3	
	comp=Z,9.7nm,1.4s						
EPYK	**Eagle Plains**	**21.30**	**36**	P	**P**	**05 39 20.6**	**-1.1**
EPYK				IAmb	IAmb	05 39 22.3	
	comp=Z,5.8nm,0.6s						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**05 40 42.6**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=274,slow=8.0,SNR=6.3						
PDAR	**Pinedale Array**	**39.94**	**79**	P	**P**	**05 42 10.8**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=302,slow=4.1,SNR=2.0						
TXAR	**Lajitas Array**	**52.23**	**89**	P	**P**	**05 43 48.4**	**+2.2**
	comp=Z,0.5nm,1.0s,baz=319,slow=3.7,SNR=1.8						
TXAR	**Lajitas Array**	**52.23**	**89**	P	**P**	**05 43 46.2**	**+0.1**
MKAR	**Makanchi Array**	**64.36**	**314**	P	**P**	**05 45 10.3**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=46,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**66.20**	**352**	P	**P**	**05 45 21.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=18,slow=8.0,SNR=5.7						
ABKAR	**Akbulak array**	**70.93**	**329**	P	**P**	**05 45 52.2**	**+0.3**

IDC 28 05:40:56.1±3.1,54.48N×87.14E,h0km,mb1 2.9/2, mb1mx2.9/53,mbtmp2.9/2,ML2.6/2,Error ellipse: s-maj=27.8km s-min=19.7km az=44.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**250**	*i*		05 49 40.0	
	baz=69,slow=326,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.46**	**250**	Pg	Pn	05 41 21.4	-2.3
	1.2nm,0.3s,baz=66,slow=16,SNR=9.2						
ZALV				Lg	Lg	05 41 42.5	
	2.3nm,0.3s,baz=70,slow=27,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.52**	**237**	Pn	Pn	05 42 34.0	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=9.8						
KURBB				Lg	Lg	05 44 24.1	
	0.0nm,0.3s,baz=98,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**8.29**	**204**	Pn	Pn	05 42 58.5	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=5.5						
BVAR	**Borovoye Array**	**10.03**	**268**	Sn	Sn	05 45 09.1	-5.3
	0.2nm,0.3s,baz=125,slow=38,SNR=2.4						

**IDC 28 05:44:28.1±3.2,14.85S×173.77W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.8/35,mbtmp3.8/5,MS3.1/1,Ms1 3.1/1, ms1mx2.6/64,Error ellip

GSTR	Great Sitkin T	4.60	272	Pn		Pn	06 03 47.6	+0.1
GSTD	Great Sitkin T	4.65	272			Pn	06 03 49.9	+1.7
GSCK	Great Sitkin C	4.67	272			Pn	06 03 50.0	+1.6
ADK	Adak	5.00	270	P		Pn	06 03 53.8	+0.9
ADK	Adak	5.00	270	Pn		Pn	06 03 53.8	+0.9
SPIA	Saint Paul Isl	5.15	350	Pn		Pn	06 03 53.8	-1.1
KIWB	Kanaga Island	5.29	270	Pn		Pn	06 03 58.8	+1.9
SDPT	Sand Point	5.80	53	Pn		Pn	06 04 04.0	+0.1
CHIR	Chirikof Islan	8.50	59	Pn		Pn	06 04 41.5	+0.6
OHAK	Old Harbor	10.22	54	Pn		Pn	06 05 04.8	+0.3
KDAK	Kodiak Island	10.80	52	Pn		Pn	06 05 11.2	-1.1
	1.0nm,0.3s,baz=190,slow=2.5,SNR=17							
GAMB	Gambell	11.79	353	Pn		Pn	06 05 26.4	+0.5
M19K	Big River Lodg	12.45	33	Pn		Pn	06 05 35.4	+0.4
BRLK	Bradley Lake	12.50	45	Pn		Pn	06 05 36.4	+0.7
L19K	White Mountain	12.50	31	Pn		Pn	06 05 33.4	-2.3
ANM	Nome	12.58	6	P		Pn	06 05 36.7	-0.1
ANM	Nome	12.58	6	Pn		Pn	06 05 36.7	-0.1
M20K	Styx River	12.87	35	Pn		Pn	06 05 38.7	-2.1
CAPN	Captain Cook N	12.92	41	Pn		Pn	06 05 38.5	-2.9
SEW	Seward	13.30	46	Pn		Pn	06 05 45.7	-0.8
O22K	Cooper Landing	13.36	44	Pn		Pn	06 05 44.4	-3.1
K20K	Telida	13.62	29	Pn		Pn	06 05 48.1	-2.8
PWL	Port Wells	14.15	44	Pn		Pn	06 05 57.0	-1.1
PMR	Palmer	14.20	41	P		Pn	06 05 56.8	-1.9
PMR	Palmer	14.20	41	Pn		Pn	06 05 56.8	-1.9
J20K	Nowinta River	14.23	26	Pn		Pn	06 05 58.0	-1.3
KNK	Knik Glacier	14.37	42	Pn		Pn	06 06 00.5	-0.7
GHO	Glory Hole Cre	14.38	40	Pn		Pn	06 05 59.7	-1.6
SML	Sawmill	14.63	41	Pn		Pn	06 06 04.4	-0.5
FID	Port Fidalgo	14.90	46	Pn		Pn	06 06 05.2	-3.3
SCM	Sheep Creek Mo	15.05	42	P		Pn	06 06 09.3	-1.2
SCM				pmax		pmax		
	comp=Z,35nm,1.2s							
SCM	Sheep Creek Mo	15.05	42	Pn		Pn	06 06 09.3	-1.2
KLU	Klutina	15.48	44	Pn		Pn	06 06 13.7	-2.5
KLU				IAmb		IAmb	06 06 31.4	
	comp=Z,13nm,1.1s							
M24K	Tolsona, Glenn	15.66	42	Pn		Pn	06 06 17.2	-1.3
M24K				IAmb		IAmb	06 06 20.1	
	comp=Z,17nm,0.8s							
DHY	Denali Highway	15.71	38	Pn		Pn	06 06 18.1	-1.1
DHY				IAmb		IAmb	06 06 38.5	
	comp=Z,20nm,1.4s							
HMT	Hamilton	15.75	49	Pn		Pn	06 06 18.3	-1.3
H21K	Melozitna Rive	15.75	25	Pn		Pn	06 06 18.2	-1.4
H21K				IAmb		IAmb	06 06 26.2	
	comp=Z,7.3nm,1.0s							
MLY	Manley	15.85	28	Pn		Pn	06 06 19.7	-1.2
MLY				IAmb		IAmb	06 06 25.6	
	comp=Z,10nm,1.0s							
N25K	Chitina, Valde	16.10	45	Pn		Pn	06 06 22.6	-1.5
N25K				IAmb		IAmb	06 06 26.2	
	comp=Z,16nm,1.4s							
WRH	Wood River Hil	16.30	33	Pn		Pn	06 06 25.3	-1.2
GLB	Gilahina Butte	16.37	46	Pn		Pn	06 06 26.6	-1.0
GLB				IAmb		IAmb	06 06 34.7	
	comp=Z,13nm,1.3s							
VRDI	Verde Repeater	16.45	47	Pn		Pn	06 06 27.9	-0.8
VRDI				IAmb		IAmb	06 06 45.5	
	comp=Z,12nm,1.2s							
WAX	Waxell Ridge	16.45	50	Pn		Pn	06 06 27.8	-0.9
TGL	Tana Glacier	16.56	49	Pn		Pn	06 06 29.0	-1.1
TGL				IAmb		IAmb	06 06 53.3	
	comp=Z,19nm,1.1s							
MDM	Murphy Dome	16.57	31	Pn		Pn	06 06 30.9	+0.8
MDM				IAmb		IAmb	06 06 51.4	
	comp=Z,17nm,1.4s							
COLA	College	16.64	32	*e*P		Pn	06 06 31.1	+0.2
MCARA	McCarthy VSAT	16.70	46	Pn		Pn	06 06 31.0	-0.7
MCARA				IAmb		IAmb	06 06 31.1	
	comp=Z,27nm,1.4s							
IL31		16.89	33	Pn		Pn	06 06 32.4	-1.6
ILAR	Eielson Array	16.89	33	Pn		Pn	06 06 30.8	-3.3
	comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=6.0							
ILAR	Eielson Array	16.89	33	*e*P		Pn	06 06 32.9	-1.2
RIDG	Independent Ri	17.02	38	Pn		Pn	06 06 35.2	-0.6
GRNC	Granite Creek	17.05	49	Pn		Pn	06 06 36.0	-0.4
GRNC				IAmb		IAmb	06 06 56.9	
	comp=Z,12nm,0.9s							
BARN	Barnard Glacie	17.20	48	Pn		Pn	06 06 36.9	-1.3
BARN				IAmb		IAmb	06 06 56.0	
	comp=Z,12nm,1.1s							
TABL	Table Mountain	17.25	50			Pn	06 06 39.0	+0.1
TABL				IAmb		IAmb	06 06 46.1	
	comp=Z,33nm,1.4s							
L26K	Log Cabin Wild	17.25	41	Pn		Pn	06 06 38.2	-0.5
H24K	Noodor Dome	17.27	29	Pn		Pn	06 06 37.3	-1.6
DOT	Dot Lake	17.27	39	Pn		Pn	06 06 38.8	-0.2
J25K	Salcha River,	17.32	35	Pn		Pn	06 06 38.3	-1.3
J25K				IAmb		IAmb	06 06 42.9	
	comp=Z,11nm,1.4s							
CTGM	Chitina Glacie	17.32	49	Pn		Pn	06 06 39.0	-0.7
CTGM				IAmb		IAmb	06 06 50.7	
	comp=Z,12nm,1.0s							
LOGN	Logan Glacier	17.43	49	Pn		Pn	06 06 40.1	-1.0
LOGN				IAmb		IAmb	06 06 59.6	
	comp=Z,25nm,1.2s							
SCRK	Sand Creek	17.47	38	Pn		Pn	06 06 39.8	-1.8
M27K	Edge Creek, AK	17.58	44	Pn		Pn	06 06 42.2	-0.7
M27K				IAmb		IAmb	06 07 00.7	
	comp=Z,9.8nm,1.1s							
COLD	Coldfoot	17.64	24	Pn		Pn	06 06 43.0	-0.4
L27K	Beaver Creek,	17.89	42			Pn	06 06 46.8	+0.2
BCAR	Beaver Creek A	17.91	42	Pn		Pn	06 06 45.2	-1.6
EGAK	Eagle	18.94	37	P		P	06 06 59.1	+0.4
DAWY	Dawson	19.30	40	P		P	06 07 04.2	+1.4
BMAR	Burnt Mountain	19.31	28	P		P	06 07 02.1	-0.8
BILL	Bilibino	20.03	332	*i* P		P	06 07 10.5	-0.1
BILL				pmax		pmax		
	comp=Z,5.0nm,1.1s							
PEA0B	Petropavlovsk-	20.38	286	P		P	06 07 14.7	+0.2
PEA0B				pmax		pmax		
	comp=Z,31nm,1.5s							
PEA0B	Petropavlovsk-	20.38	286	P		P	06 07 14.7	+0.2
PETK	Petropavlovsk-	20.38	286	P		P	06 07 13.6	-1.0
	comp=Z,5.4nm,0.4s,baz=91,slow=13,SNR=32							
M31M	Drury Creek, Y	20.85	48	P		P	06 07 19.6	0.0
M31M				IAmb		IAmb	06 07 23.1	
	comp=Z,8.1nm,1.1s							
EPYK	Eagle Plains	21.32	36	P		P	06 07 23.1	-1.5
SEY	Seymchan	23.18	313	P		P	06 07 42.3	-2.0
	comp=Z,2.0nm,0.7s,baz=58,slow=23,SNR=7.4							
INK	Inuvik	23.29	33	P		P	06 07 43.5	-1.8
	comp=Z,1.8nm,0.5s,baz=232,slow=8.5,SNR=6.5							
INK	Inuvik	23.29	33	P		P	06 07 44.8	-0.6
INK				pmax		pmax		
	comp=Z,6.0nm,1.3s							
INK	Inuvik	23.29	33	P		P	06 07 44.8	-0.6
INK				IAmb		IAmb	06 07 45.1	
	comp=Z,5.6nm,1.2s							
C36M	Paulatuk	26.86	33	P		P	06 08 18.0	-0.2
C36M				IAmb		IAmb	06 08 36.9	
	comp=Z,6.2nm,1.3s							
A36M	Sachs Harbour	27.41	28	P		P	06 08 23.5	+0.4
A36M				IAmb		IAmb	06 08 28.7	
	comp=Z,2.7nm,0.9s							
YKA	Yellowknife Ar	30.05	49	P		P	06 08 47.8	+1.2
	comp=Z,0.4nm,0.4s,baz=274,slow=7.9,SNR=22							
YKA	Yellowknife Ar	30.05	49	P		P	06 08 46.7	0.0
YKA	Yellowknife Ar	30.05	49	P		P	06 08 46.7	0.0
TIXI	Tiksi	33.18	329	P		P	06 09 11.7	-2.5
	comp=Z,0.8nm,0.4s,baz=90,slow=20,SNR=4.5							
TIXI	Tiksi	33.18	329	P		P	06 09 13.7	-0.4
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TIXI	Tiksi	33.18	329	P		P	06 09 13.7	-0.4
TIXI				IAmb		IAmb	06 09 14.7	
	comp=Z,1.7nm,0.8s							
RES	Resolute Bay	36.38	25	P		P	06 09 42.0	+0.3
RES	Resolute Bay	36.38	25	P		P	06 09 42.0	+0.3
MCMT	McKenzie Canyo	36.86	79	P		P	06 09 45.5	-1.0
KLR	Kul'dur	36.98	290	*de*P		P	06 09 45.9	-1.2
KLR				pmax		pmax		
	comp=Z,2.0nm,1.3s							
H11N2	WAKE ISLAND Hy	37.57	220	T		T	06 49 49.7	
	baz=24							
H11N3	WAKE ISLAND Hy	37.57	220	T		T	06 50 16.9	
	baz=24							
H11N1	WAKE ISLAND Hy	37.58	220	T		T	06 50 08.0	
	baz=24							
H11S1	WAKE ISLAND Hy	38.75	219	T		T	06 51 38.0	
	baz=23,slow=76							
H11S2	WAKE ISLAND Hy	38.76	219	T		T	06 51 44.3	
	baz=23,slow=76							
H11S3	WAKE ISLAND Hy	38.77	219	T		T	06 51 58.6	
	baz=23,slow=76							
PD31	Pinedale Array	39.98	79	P		P	06 10 12.0	-0.8
PDAR	Pinedale Array	39.98	79	P		P	06 10 14.3	+1.6
	comp=Z,0.3nm,0.5s,baz=286,slow=3.6,SNR=8.4							
FCC	Fort Churchill	40.73	50	P		P	06 10 19.7	+1.3
FCC				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FCC	Fort Churchill	40.73	50	P		P	06 10 19.7	+1.3
FCC				IAmb		IAmb	06 10 21.4	
	comp=Z,3.9nm,1.1s							
HIA	Hailar	43.78	296	*d* iP		P	06 10 42.8	-0.6
HIA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KSRS	Korea Array	45.90	277	P		P	06 11 00.8	+0.4
	comp=Z,1.6nm,0.6s,baz=47,slow=8.6,SNR=6.0							
KSRS	Korea Array	45.90	277	*e*P		P	06 11 02.1	+1.7
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SPITS	Spitsbergen Ar	49.92	359	P		P	06 11 29.9	-1.2
	comp=Z,5.5nm,0.9s,baz=337,slow=2.2,SNR=9.3							
SPITS	Spitsbergen Ar	49.92	359	P		P	06 11 29.9	-1.2
SPITS							06 11 30.8	
SPITS				pmax		pmax		
	comp=Z,32nm,1.5s							
ULN	Ulaanbaatar	51.46	301	*ce*P		P	06 11 42.5	-0.7
ULN				pmax		pmax		
	comp=Z,5.0nm,2.5s							
SONM	Songino Array	51.83	301	P		P	06 11 45.8	-0.1
	comp=Z,0.5nm,0.4s,baz=66,slow=6.8,SNR=4.3							
SONM	Songino Array	51.83	301	*e*P		P	06 11 46.2	+0.2
SONM				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SONM	Songino Array	51.83	301	IAmb		IAmb	06 11 48.4	
	comp=Z,2.3nm,1.4s							
TX31	Lajitas Ar. Si	52.28	89	P		P	06 11 48.8	-0.7
TX31				IAmb		IAmb	06 12 08.5	
	comp=Z,2.8nm,0.7s							
TX32	Lajitas Array	52.28	89	P		P	06 11 48.7	-0.8
TX32				IAmb		IAmb	06 12 08.5	
	comp=Z,1.0nm,0.8s							
TXAR	Lajitas Array	52.28	89	P		P	06 11 50.9	+1.4
	comp=Z,0.2nm,0.4s,baz=302,slow=5.2,SNR=2.3							
TXAR	Lajitas Array	52.28	89	P		P	06 11 48.4	-1.1
TXAR	Lajitas Array	52.28	89	P		P	06 11 48.4	-1.1
P40A	Paris	52.41	72	P		P	06 11 48.4	-1.8
SCHQ	Schefferville	55.28	44	LR		LR	06 38 34.6	
	comp=Z,49nm,19.0s,baz=120,slow=39							
ARCES	ARCESS Array B	58.21	354	P		P	06 12 30.5	-1.1
	comp=Z,3.1nm,0.9s,baz=29,slow=6.2,SNR=7.1							
ARCES	ARCESS Array B	58.21	354	*e*P		P	06 12 31.2	-0.4
ARCES				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KURK	Kurchatov	62.86	319	P		P	06 13 03.2	-0.4
KURK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KURK	Kurchatov	62.86	319	P		P	06 13 03.2	-0.4
KURK				IAmb		IAmb	06 13 04.5	
	comp=Z,2.1nm,0.8s							
BRVK	Borovoye	64.18	325	*e*P		P	06 13 12.1	-0.2
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.7s							
MK31	Makanchi Array	64.31	314	P		P	06 13 13.4	+0.1
MK31				pmax		pmax		
	comp=Z,1.0nm,1.0s							
MK31	Makanchi Array	64.31	314	P		P	06 13 13.4	+0.1
MK31				IAmb		IAmb	06 13 13.9	
	comp=Z,1.2nm,1.0s							
MKAR	Makanchi Array	64.31	314	P		P	06 13 12.6	-0.7
	comp=Z,1.3nm,0.7s,baz=51,slow=6.6,SNR=13							
ARU	Arti	65.05	333	*c* iP		P	06 13 17.3	-0.6
ARU				pmax		pmax		
	comp=Z,7.0nm,1.1s							
FIA1	FINESS Array S	66.17	352	P		P	06 13 24.9	-0.1
FINES	FINESS Array B	66.17	352	P		P	06 13 24.2	-0.8
	comp=Z,2.1nm,0.5s,baz=22,slow=8.1,SNR=23							
FINES	FINESS Array B	66.17	352	P		P	06 13 24.7	-0.3
FINES	FINESS Array B	66.17	352	P		P	06 13 24.7	-0.3
NC204	NORSAR Array S	66.94	0	P		P	06 13 30.2	+0.1
NC204				IAmb		IAmb	06 13 32.4	
	comp=Z,2.1nm,0.8s							
NC303	NORSAR Array S	66.99	0	P		P	06 13 30.2	-0.1
NC405	NORSAR Array S	67.11	360	P		P	06 13 31.2	+0.1
NOA	NORSAR Array B	67.18	0	P		P	06 13 30.8	-0.8
	comp=Z,1.1nm,0.7s,baz=359,slow=6.3,SNR=3.1							
ABKAR	Akbulak array	70.89	329	P		P	06 13 55.0	+0.3
AAK	Ala-Archa	71.00	316	*e*P		P	06 13 56.1	+0.4
AAK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
AAK	Ala-Archa	71.00	316	P		P	06 13 55.8	0.0
KKAR	Karatay Array	72.28	319	P		P	06 14 02.7	-0.6
KKAR	Karatay Array	72.28	319	P		P	06 14 02.6	-0.6
AKASG	Malin Array Be	76.44	348	P		P	06 14 26.6	-0.6
	comp=Z,0.4nm,0.3s,baz=14,slow=6.3,SNR=4.4							
CMAR	Chiang Mai Arr	77.13	283	P		P	06 14 31.9	+0.2
	comp=Z,3.1nm,0.4s,baz=25,slow=6.9,SNR=4.9							
CMAR	Chiang Mai Arr	77.13	283	*e*P		P	06 14 33.9	+2.2
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KBZ	Khabaz	80.72	337	*e*P		P	06 14 53.7	+2.8
KBZ				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ASAR	Alice Springs	90.61	231	P		P	06 15 39.5	-0.8
	comp=Z,0.1nm,0.3s,baz=27,slow=6.3,SNR=2.5							

NOU 28 06:18:49.8, 14°.30S×167°.07E, h70km, MLv5.0/12,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.15	174	P	Pn	06 19 10.6	+0.4
DVP	Devils Point	3.57	163	P	Pn	06 19 42.6	-0.2
RTV	Rentapao	3.71	160	P	Pn	06 19 45.3	+0.6
KOUNC	Koumac, New Ca	6.76	203	P	Pn	06 20 26.2	-0.2
YATNC	Mamie plateau,	7.72	181	P	Pn	06 20 39.3	-0.2
DZM	Mont Dzumac	7.75	184	P	Pn	06 20 39.7	-0.4
ONTNC	Ouen Toro	7.99	184	P	Pn	06 20 43.7	+0.5
OUENC	Ouen Island, N	8.08	182	P	Pn	06 20 44.7	+0.3

*NNC **28** 06:21:19.1±2.8, 53°.89N×90°.31E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.0km s-min=16.5km az=46.0, Suspected Mining explosion.*

IDC 28 06:21:14.7±3.4, 53°.62N×90°.95E, h0km, mb1 3.2/3, mb1mx3.0/59, mbtmp3.2/3, ML2.5/3, 4C-6D, Error ellipse: s-maj=32.5km s-min=24.9km az=35.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.65	278	*i*		06 45 10.0	
	baz=89,slow=329,SNR=9.2						
ZAA0	Zalesovo Array	3.65	278	⇓Pg	Pb	06 22 17.4	-2.7
ZAA0	1.4nm,0.8s			⇓Lg	Lg	06 23 04.1	
	4.5nm,0.8s						
ZALV	Zalesovo Beam	3.65	278	Pn	Pn	06 22 14.5	+2.0
ZALV	0.8nm,0.3s,baz=91,slow=15,SNR=17			Lg	Lg	06 23 09.3	
	1.8nm,0.3s,baz=90,slow=27,SNR=8.3						
KURK	Kurchatov	8.12	254	⇓Pn	Pn	06 23 13.1	-0.6
KURK	1.9nm,0.7s			⇑Sn	Sn	06 24 45.0	-1.2
KURK	4.7nm,0.8s			⇑Lg	Lg	06 25 27.2	
	14nm,1.2s						
KURBB	Kurchatov Arra	8.21	254	Pn	Pn	06 23 14.9	-0.1
KURBB	0.1nm,0.3s,baz=64,slow=14,SNR=10			Sn	Sn	06 24 46.7	-1.7
KURBB	0.0nm,0.3s,baz=68,slow=24,SNR=1.1			Lg	Lg	06 25 37.1	
KURBB	0.1nm,0.3s,baz=64,slow=35,SNR=8.5			⇑Pn	Pn	06 23 17.0	+1.9
KURBB	Kurchatov Arra	8.21	254	⇓Sn	Sn	06 24 46.4	-2.0
KURBB	2.5nm,0.6s			⇑Lg	Lg	06 25 33.1	
	11nm,0.7s						
MK31	23nm,0.8s	8.80	223	⇓Pn	Pn	06 23 28.2	+5.1
MK31	Makanchi Array			⇓Sn	Sn	06 25 06.8	+3.9
MK31	0.6nm,0.6s,baz=41,slow=12,SNR=6.2			Lg	Lg	06 25 55.9	
	1.0nm,0.7s,baz=44,slow=25,SNR=3.9						
	13nm,1.4s,baz=39,slow=27,SNR=3.7						
MKAR	Makanchi Array	8.80	223	Pn	Pn	06 23 23.5	+0.4
	0.1nm,0.3s,baz=41,slow=13,SNR=7.8						
MKAR				Lg	Lg	06 25 52.5	
	0.0nm,0.3s,baz=37,slow=22,SNR=2.4						

*IDC **28** 06:21:35.1±0.5, 4.°90S×140.°76E, h0km, mb4.6/20, mb1 4.6/28, mb1mx4.5/38, mbtmp4.6/28, ML4.5/5, MS4.0/42, Ms1 4.0/42, ms1mx3.9/59, Error ellipse: s-maj=16.1km s-min=10.8km az=81.0*

*NEIC **28** 06:21:37.5±2.1, 5.°02S±0.°07×140.°70E±0.°06, h10km±1km, mb5.1/80, Error ellipse: s-maj=11.8km s-min=10.2km az=197.0*

*MOS **28** 06:21:37.3±1.1, 5.°00S×140.°74E, h25km, mb5.2/35, Error ellipse: s-maj=10.6km s-min=5.2km az=111.7*

*BJI **28** 06:21:38.6±0.0, 5.°26S×141.°26E, h64km, mb4.9/52, mB5.1/30, Ms4.6/13, Ms7 4.3/12*

*DJA **28** 06:21:40.4±0.3, 5.°5S±3.°×14.°1E±.°, h59km±5km, M4.8/35, mB5.3/24, mb5.0/35, MLv5.3/7, Mw(mB)4.7/24*

ISC 28 06:21:40.3±0.3, 5.°05S±0.°04×140.°70E±0.°04, h35km, n358, σ1.°59/337, mb5.0/94, MS4.0/39, 15C-5D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	2.50	348	P	Pn	06 22 16.1	-2.3
JAY	Jayapura	2.52	0	Pn	Pn	06 22 14.8	-3.9
	68nm,0.3s,baz=190,slow=12,SNR=63						
JAY				Sn	Sn	06 22 46.0	-2.2
	39nm,0.3s,baz=300,slow=16,SNR=11						
JAY				LR	LR	06 22 53.0	
	comp=Z,2μm,18.8s,baz=162,slow=33						
JAY	Jayapura	2.52	0	P	Pn	06 22 14.6	-4.2
MMPI	Merauke	3.41	185	P	Pn	06 22 35.1	+4.0
SRPI	Serui, Papua	5.46	305	P	Pn	06 22 56.4	-2.8
	1.8nm204nm,0.6s						
MANU	Manus Island	7.29	66	Pn	Pn	06 23 25.3	+0.9
PMG	Port Moresby	7.73	124	Pn	Pn	06 23 30.8	+0.4
	5.7nm,0.3s,baz=316,slow=11,SNR=11						
PMG				Sn	Sn	06 24 58.7	+1.8
	1.7nm,0.3s,baz=336,slow=20,SNR=1.0						
PMG				LR	LR	06 27 32.2	
	comp=Z,1μm,18.5s,baz=9.0,slow=46						
PMG	Port Moresby	7.73	124	Pn	Pn	06 23 28.8	-1.6
FAKI	Fak Fak	8.69	284	Pn	Pn	06 23 42.0	-1.7
COEN	Coen	9.18	165	P	Pn	06 23 52.0	+1.6
	baz=9.4						
COEN	Coen	9.18	165	Pn	Pn	06 23 50.5	+0.1
SAUI	Saumlaki	9.79	252	Pn	Pn	06 23 57.1	-1.6
SAUI	Saumlaki	9.79	252	P	Pn	06 24 01.8	+3.1
	15μm516nm,0.8s						
SIJI	Sorong	10.29	293	Pn	Pn	06 24 05.0	-0.6
	4.8nm,0.3s,baz=80,slow=14,SNR=13						
SIJI				Sn	Sn	06 26 02.2	+2.3
	baz=231,slow=19,SNR=1.4						
SIJI				LR	LR	06 28 31.1	
	comp=Z,858nm,19.3s,baz=62,slow=40						
SWI	Sorong	10.30	293	P	Pn	06 24 02.7	-3.0
	2μm104nm,1.1s						
KDU	Kakadu	11.12	226	P	Pn	06 24 15.6	-1.4
	baz=11,SNR=82						
RABL	Rabaul	11.46	86	Pn	Pn	06 24 20.3	-1.2
MTN	Manton Dam	12.22	230	P	Pn	06 24 31.2	-0.7
	baz=12,SNR=18						
MTN	Manton Dam	12.22	230	Pn	Pn	06 24 30.0	-1.9
AAI	Ambon	12.54	276	P	Pn	06 24 36.6	+0.2
	61nm,1.3s						
MTSU	Mount Surprise	13.48	165	P	Pn	06 24 50.4	+1.2
	baz=14,SNR=8.0						
SANI	Sanana	14.98	281	P	Pn	06 25 09.2	-0.4
QIS	Mount Isa	15.46	184	P	Pn	06 25 13.7	-2.1
	baz=16,SNR=41						
KNRA	Kununurra	15.79	227	P	Pn	06 25 18.5	-1.5
	baz=16,SNR=58						
KNRA	Kununurra	15.79	227	Pn	Pn	06 25 17.6	-2.4
KNRA				IAmb	IAmb	06 25 40.6	
	comp=Z,183nm,1.2s						
WB0	Warramunga Arr	15.87	202	Pn	Pn	06 25 18.7	-2.5
CTA	Charters Tower	15.90	161	Pn	Pn	06 25 19.8	-1.7
	comp=Z,0.1nm,0.3s,baz=337,slow=13,SNR=1.8						
CTA				LR	LR	06 31 07.3	
	comp=Z,413nm,19.4s,baz=342,slow=36						
CTAO	Charters Tower	15.90	161	P	Pn	06 25 20.4	-1.1
CTAO				pmax	pmax		
	comp=Z,25nm,1.1s						
CTAO	Charters Tower	15.90	161		Pn	06 25 20.4	-1.1
WR0	Warramunga Arr	15.99	202	Pn	Pn	06 25 20.5	-2.3
WR0				IAmb	IAmb	06 25 36.0	
	comp=Z,78nm,0.7s						
WRAB	Tennant Creek	16.04	202	P	Pn	06 25 22.1	-1.2
WRAB				pmax	pmax		
	comp=Z,399nm,1.5s						
WRAB	Tennant Creek	16.04	202	Pn	Pn	06 25 22.1	-1.2
WB2	Warramunga Arr	16.05	202	P	Pn	06 25 24.2	+0.8
	baz=16						
WB2	Warramunga Arr	16.05	202	Pn	Pn	06 25 22.2	-1.2
WB2				IAmb	IAmb	06 25 30.2	
	comp=Z,341nm,1.4s						
WRA	Warramunga Ar	16.05	202	Pn	Pn	06 25 22.2	-1.2
	comp=Z,1.8nm,0.3s,baz=14,slow=13,SNR=59						
WRA				Sn	Sn	06 28 21.1	+0.6
	comp=Z,1.5nm,0.3s,baz=13,slow=22,SNR=4.9						
WRA				Lg

KAPI **Kappang** 20.87 269 P P 06 26 18.4 -1.1
SPSI **Sidrap Palu** 20.90 272 P P 06 26 17.6 -2.2
comp=Z,13nm,0.7s
TTSI **Tana Toraja** 20.93 275 P P 06 26 18.1 -2.0
comp=Z,40nm,1.1s
PATS **Pohnpei** 21.17 56 P P 06 26 23.3 +0.6
baz=21,SNR=5.3
PATS **Pohnpei** 21.17 56 P P 06 26 21.0 -1.8
WBSI **Waikabubak, Su** 21.62 257 P P 06 26 27.3 -0.3
comp=Z,1µmcomp=Z,85nm,0.9s
QLP **Quilpie** 21.68 171 P P 06 26 30.8 +2.7
baz=22,SNR=8.7
EIDS **Eidsvold** 22.53 155 P P 06 26 39.3 +2.0
baz=23,SNR=8.0
EIDS **Eidsvold** 22.53 155 P P 06 26 37.4 +0.1
EIDS IAmb IAmb 06 26 43.2
comp=Z,75nm,1.2s
RMQ **Roma** 22.67 161 P P 06 26 39.9 +1.2
baz=23,SNR=14
WRKA **Warakurna** 23.17 210 P P 06 26 45.0 +1.0
baz=23,SNR=74
MYLDM **Lahad Datu** 24.39 294 P P 06 26 53.5 -2.1
MBWA **Marble Bar** 25.90 230 P P 06 27 10.8 +1.6
PSA00 **Pilbara Seismi** 26.05 229 P P 06 27 09.8 -0.7
PSA00 **Pilbara Seismi** 26.05 229 P P 06 27 11.0 +0.5
PSA00 IAmb IAmb 06 27 45.7
comp=Z,6.0nm,0.8s
STKA **Stephens Creek** 26.70 178 P P 06 27 17.8 +1.4
comp=Z,3.4nm,0.6s,baz=14,slow=12,SNR=9.3
STKA LR LR 06 39 35.5
comp=Z,759nm,20.3s,baz=352,slow=40
STKA **Stephens Creek** 26.70 178 P P 06 27 18.5 +2.2
baz=27,SNR=8.6
STKA **Stephens Creek** 26.70 178 P P 06 27 17.4 +1.0
CMSA **Cobar Meteorol** 26.77 171 P P 06 27 18.1 +1.2
baz=27,SNR=7.8
TGY **Tagaytay City** 27.32 314 P P 06 27 21.4 -0.8
comp=Z,158nm,0.3s,baz=21,slow=14,SNR=1.6
BBOO **Buckleboo** 27.96 188 P P 06 27 29.9 +2.3
baz=28,SNR=8.2
FORT **Forrest** 28.23 203 P P 06 27 31.1 +1.1
FORT IAmb IAmb 06 28 23.8
comp=Z,39nm,0.8s
HTT **Hallett** 28.29 183 P P 06 27 32.2 +1.6
baz=28,SNR=4.4
MEEK **Meekatharra** 30.10 222 P P 06 27 47.7 +0.9
baz=30,SNR=4.0
DZM **Mont Dzumac** 30.12 127 *e*LR LR 06 35 46.0
comp=Z,264nm,21.4s
DZM **Mont Dzumac** 30.12 127 LR LR 06 41 05.6
comp=Z,283nm,18.4s,baz=15,slow=39
LEM **Lembang** 32.95 265 LR LR 06 43 59.7
comp=Z,60nm,19.1s,baz=124,slow=41
MORW **Morawa** 33.41 222 P P 06 28 16.6 +0.8
baz=34,SNR=4.0
MORW **Morawa** 33.41 222 P P 06 28 16.7 +0.9
MORW IAmb IAmb 06 28 18.2
comp=Z,29nm,1.1s
NACB **Ninganchiao** 34.50 328 P P 06 28 24.5 -0.8
NACB IAmb IAmb 06 28 41.3
comp=Z,19nm,0.9s
JHJ **Hachijo jima 2** 37.97 359 LR LR 06 41 00.6
comp=Z,375nm,21.7s,baz=246,slow=31
MJAR **Matsushiro Arr** 41.44 357 P P 06 29 21.8 -1.8
comp=Z,1.0nm,0.3s,baz=186,slow=9.7,SNR=2.2
MJAR LR LR 06 45 29.3
comp=Z,68nm,19.2s,baz=166,slow=35
NJ2 **Nanjing** 42.35 332 *e*P P 06 29 34.0 +2.8
NJ2 pmax pmax
comp=Z,13nm,0.6s
PSI **Prapat** 42.46 280 LR LR 06 50 50.9
comp=Z,168nm,18.3s,baz=65,slow=41
GSI **Gunungsitoli** 43.54 277 P P 06 29 40.5 -0.6
GSI IAmb IAmb 06 29 44.8
comp=Z,19nm,0.7s
KSAR **Wonju Array Be** 43.93 345 P P 06 29 43.7 -0.1
KSAR **Wonju Array Be** 43.93 345 P P 06 29 43.7 -0.1
KSRS **Korea Array** 43.93 345 P P 06 29 44.0 +0.3
comp=Z,3.3nm,0.8s,baz=159,slow=7.6,SNR=11
KSRS LR LR 06 45 32.6
comp=Z,119nm,20.9s,baz=165,slow=33
INCN **Inchon** 44.30 344 P P 06 29 47.8 +1.0
INCN pmax pmax
comp=Z,39nm,1.2s
INCN **Inchon** 44.30 344 P P 06 29 47.8 +1.0
INCN IAmb IAmb 06 29 50.7
comp=Z,39nm,1.2s
GYA **Guiyang** 45.47 315 ⇑P P 06 29 58.8 +2.3
GYA pmax pmax
comp=Z,20nm,1.4s
URZ **Urewera** 46.76 140 LR LR 06 51 13.8
comp=Z,158nm,18.0s,baz=240,slow=38
TUWZ **Tuamarina** 46.83 146 P P 06 30 08.1 +1.2
RPZ **Rata Peaks** 46.88 150 LR LR 06 48 57.4
comp=Z,276nm,19.2s,baz=315,slow=35
CMAR **Chiang Mai Arr** 47.33 301 P P 06 30 10.1 -0.9
comp=Z,9.8nm,0.9s,baz=121,slow=5.7,SNR=32
CMAR PcP PcP 06 31 44.5 +2.8
comp=Z,1.5nm,0.3s,baz=148,slow=1.6,SNR=6.5
CMAR **Chiang Mai Arr** 47.33 301 P P 06 30 11.0 0.0
CHTO **Chiang Mai** 47.48 301 P P 06 30 12.0 -0.2
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO **Chiang Mai** 47.48 301 P P 06 30 12.0 -0.2
CHTO IAmb IAmb 06 30 14.6
comp=Z,18nm,1.3s
LYN **LuoYang** 47.54 328 ⇓*i*P P 06 30 14.8 +2.4
LYN pmax pmax
comp=Z,10.0nm,1.0s
KMI **Kunming** 47.54 311 P P 06 30 16.0 +3.1
AFI **Afiamalu** 47.61 104 P P 06 30 12.6 -0.8
comp=Z,19nm,0.6s,baz=202,slow=4.4,SNR=4.1
AFI LR LR 06 49 46.2
comp=Z,113nm,18.4s,baz=278,slow=36
ASAJ **Asahikawa** 48.97 2 LR LR 06 49 09.9
comp=Z,58nm,21.4s,baz=150,slow=34
PZH **PanZhiHua** 49.05 312 P P 06 30 25.0 +0.6
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,120nm,7.5s
XAN **Xi'an** 49.12 325 P P 06 30 24.8 +0.1
XAN pmax pmax
comp=Z,16nm,1.5s
XAN pmax pmax
comp=Z,160nm,8.0s
USA0B **Ussuriysk Arra** 49.65 352 P P 06 30 29.0 +0.6
USA0B pmax pmax
comp=Z,8.0nm,0.9s
USA0B **Ussuriysk Arra** 49.65 352 P P 06 30 29.0 +0.6
USRK **Ussuriysk Ar.** 49.65 352 P P 06 30 26.0 -2.4
comp=Z,6.3nm,1.0s,baz=215,slow=31,SNR=4.2
USRK LR LR 06 47 44.6
comp=Z,170nm,21.7s,baz=159,slow=32
USRK **Ussuriysk Ar.** 49.65 352 P P 06 30 29.0 +0.6
USRK **Ussuriysk Ar.** 49.65 352 P P 06 30 29.0 +0.6
CD2 **Chengdu** 50.24 318 P P 06 30 34.3 +1.0
CD2 pmax pmax
comp=Z,50nm,1.2s
MDJ **Mudanjiang** 50.44 350 P P 06 30 35.3 +0.9
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,180nm,6.0s
CN2 **Changchun** 50.53 346 *e*P P 06 30 35.3 +0.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
YSS **Yuzh-Sakhalins** 51.81 2 *e*P P 06 30 45.0 +0.3
YSS pmax pmax
comp=Z,10.0nm,1.0s
BNX **BinXian** 51.93 348 ⇓P P 06 30 45.8 +0.1
BNX pmax pmax
comp=Z,49nm,1.0s
BNX pmax pmax
comp=Z,290nm,5.4s
HHC **Hu-ho-hao-te** 52.91 332 *e*P P 06 30 56.8 +3.7
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.6s
HHC LR LR
comp=Z,170nm,14.0s
HHC LR LR
comp=Z,260nm,14.0s
HHC LR LR
comp=Z,190nm,14.0s
LZH **Lanzhou** 53.53 323 ⇓P P 06 30 59.5 +1.6
LZH pP sP 06 31 12.5 -0.7
LZH sP pP 06 31 18.8 +10
LZH pmax pmax
comp=Z,29nm,1.3s
LZH LR LR
comp=Z,210nm,15.3s
LZH LR LR
comp=Z,210nm,15.6s
LZH LR LR
comp=Z,270nm,17.9s
KLR **Kul'dur** 54.61 353 P P 06 31 03.2 -2.1
comp=Z,11nm,0.8s,baz=190,slow=4.1,SNR=28
KLR LR LR 06 51 52.3
comp=Z,116nm,20.8s,baz=186,slow=33
KLR **Kul'dur** 54.61 353 *i*P P 06 31 04.2 -1.1
KLR pmax pmax
comp=Z,10.0nm,0.9s
SHL **Shillong** 56.29 305 P P 06 31 18.5 +0.4
SHL pmax pmax
comp=Z,22nm,1.2s
SHL **Shillong** 56.29 305 P P 06 31 18.5 +0.4
SHL IAmb IAmb 06 31 20.5
comp=Z,22nm,1.2s
GTA **Gaotai** 58.12 323 ⇓P P 06 31 32.0 +1.3
GTA pmax pmax
comp=Z,9.0nm,0.9s
GOMU **GeErMu** 59.37 318 P P 06 31 41.5 +1.8
GOMU PcP PcP 06 32 29.8 +2.4
GOMU PP PP 06 33 54.5 +3.3
GOMU S S 06 39 50.0 +3.4
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU pmax pmax
comp=Z,78nm,6.9s
ZEA **Zeya** 59.65 351 *e*P P 06 31 41.2 +0.4
ZEA pmax pmax
comp=Z,10.0nm,0.7s
PETK **Petropavlovsk-** 59.69 12 P P 06 31 40.5 -0.7
comp=Z,8.8nm,1.0s,baz=150,slow=6.7,SNR=6.8
PETK LR LR 06 53 10.2
comp=Z,73nm,21.8s,baz=200,slow=32
PETK **Petropavlovsk-** 59.69 12 P P 06 31 41.1 0.0
PETK **Petropavlovsk-** 59.69 12 P P 06 31 41.1 0.0
RAR **Rarotonga** 59.81 112 LR LR 06 55 28.7
comp=Z,91nm,19.1s,baz=298,slow=34
ULN **Ulaanbaatar** 60.41 335 *i*P P 06 31 46.8 +0.4
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN **Ulaanbaatar** 60.41 335 P P 06 31 45.0 -1.3
TAPN **Taplejung** 60.44 305 *e*P P 06 31 49.3 +2.2
comp=Z,11nm,0.5s
ODAN **Odare** 60.50 305 *e*P P 06 31 48.8 +1.3
SONM **Songino Array** 60.67 334 P P 06 31 48.1 0.0
comp=Z,0.9nm,0.5s,baz=152,slow=6.4,SNR=3.7
SONM LR LR 06 58 07.8
comp=Z,90nm,19.8s,baz=180,slow=36
SONM **Songino Array** 60.67 334 P P 06 31 47.6 -0.5
PALK **Pallekele** 61.11 281 LR LR 07 01 43.1
comp=Z,69nm,19.3s,baz=212,slow=39
GKN **Gorkha** 63.20 305 *e*P P 06 32 06.4 +0.8
comp=Z,47nm,0.8s
ZAK **Zakamensk** 63.94 334 *e*P P 06 32 08.9 -1.0
ZAK pmax pmax
comp=Z,20nm,1.1s
KOLN **Koldanda** 63.96 304 *e*P P 06 32 11.7 +1.0
DANN **Dangsing** 64.05 305 *e*P P 06 32 12.6 +1.3
comp=Z,50nm,0.9s
SHEM **Shemya Is, Ala** 64.12 22 LR LR 06 54 43.9
comp=Z,167nm,20.7s,baz=109,slow=31
PYUN **Piuthan** 64.59 304 *e*P P 06 32 15.1 +0.3
comp=Z,120nm,1.1s
MA2 **Magadan** 64.91 6 LR LR 06 55 59.9
comp=Z,36nm,21.5s,baz=170,slow=32
MA2 **Magadan** 64.91 6 P P 06 32 16.3 +0.3
MA2 pmax pmax
comp=Z,8.0nm,0.9s
MA2 **Magadan** 64.91 6 P P 06 32 16.3 +0.3
MA2 IAmb IAmb 06 32 19.4
comp=Z,8.3nm,0.9s
MOY **Mondy** 65.86 334 *e*P P 06 32 23.6 +1.2
MOY pmax pmax
comp=Z,18nm,1.6s
BOD **Bodaibo** 66.27 345 *e*P P 06 32 25.1 +0.4
BOD pmax pmax
comp=Z,15nm,1.5s
KNGR **Kungurtug, Tuv** 66.70 332 *i*P P 06 32 29.1 +1.3
YAK **Yakutsk** 67.42 354 LR LR 07 01 46.7
comp=Z,44nm,19.0s,baz=97,slow=36
YAK **Yakutsk** 67.42 354 *e*P P 06 32 34.2 +2.2
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
WMQ **Urumqi** 68.06 321 *e*P P 06 32 37.3 +0.8
WMQ pmax pmax
comp=E,42nm,0.9s
WMQ pmax pmax
comp=E,180nm,3.9s
WMQ LR LR
comp=E,380nm,20.1s
WMQ LR LR
comp=E,740nm,14.7s
WMQ LR LR
comp=E,33nm,21.7s
SEY **Seymchan** 68.37 6 LR LR 07 00 12.9
comp=E,32nm,21.8s,baz=12,slow=34
SEY **Seymchan** 68.37 6 *ce*P P 06 32 37.8 -0.2
comp=Z,4.0nm,0.9s
PPT **Papeete** 69.17 107 LR LR 07 00 43.3
comp=Z,38nm,19.7s,baz=279,slow=34
PPT2 **Papeete2** 69.17 107 *e*LR LR 06 53 41.0
comp=Z,137nm,23.8s
ZSN **Zaisan** 71.61 324 *e*P P 06 32 58.1 -0.1
ZSN **Zaisan** 71.61 324 *e*P P 06 32 58.2 0.0
baz=324
MK31 **Makanchi Array** 72.84 322 P P 06 33 06.5 +0.9
MK31 pmax pmax
comp=Z,20nm,1.0s
MK31 **Makanchi Array** 72.84 322 P P 06 33 06.5 +0.9
MK31 IAmb IAmb 06 33 09.7
comp=Z,20nm,1.0s
MKAR **Makanchi Array** 72.84 322 P P 06 33 06.2 +0.6
comp=Z,19nm,0.9s,baz=112,slow=7.2,SNR=74
MKAR **Makanchi Array** 72.84 322 P P 06 33 06.5 +0.9
MKAR **Makanchi Array** 72.84 322 P P 06 33 06.5 +0.9
MAKZ **Makanchi** 73.04 322 P P 06 33 08.0 +1.2
MAKZ pmax pmax
comp=Z,31nm,1.0s
MAKZ **Makanchi** 73.04 322 P P 06 33 08.0 +1.2
SHLS **Shalkode** 73.07 318 *e*P P 06 33 06.2 -1.0
SHLS pmax pmax
comp=Z,12nm,0.9s
SHLS **Shalkode** 73.07 318 *e*P P 06 33 06.3 -1.0
comp=Z,12nm,0.9s,baz=318
PDGK **Podgornoye** 73.12 318 P P 06 33 08.3 +0.8
VNDA **Vanda** 73.30 175 P P 06 33 09.1 +1.3
comp=Z,4.9nm,1.0s,baz=343,slow=5.5,SNR=9.6
VNDA LR LR 07 04 25.7
comp=Z,233nm,19.4s,baz=343,slow=35
VNDA **Vanda** 73.30 175 P P 06 33 09.6 +1.9
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA **Vanda** 73.30 175 P P 06 33 09.6 +1.9
UZB **Uzynbulak** 73.36 318 *ci*P P 06 33 09.7 +0.8
UZB pmax pmax
comp=Z,22nm,0.8s
UZB **Uzynbulak** 73.36 318 ⇑*i*P P 06 33 09.8 +0.8
comp=Z,22nm,0.8s,baz=318
TARG **Taragay, Kyrgy** 73.64 316 P P 06 33 12.5 +1.6
TARG IAmb IAmb 06 33 15.7
comp=Z,24nm,1.0s
KPKS **Kokpek** 73.72 318 *ci*P P 06 33 11.6 +0.7
KPKS pmax pmax
comp=Z,16nm,1.0s
KPKS **Kokpek** 73.72 318 ⇑*i*P P 06 33 11.7 +0.7
comp=Z,16nm,1.0s,baz=318
SATY **Saty** 73.74 317 *e*P P 06 33 12.2 +1.1
SATY pmax pmax
comp=Z,24nm,1.0s
SATY **Saty** 73.74 317 *e*P P 06 33 12.2 +1.1
comp=Z,24nm,1.0s,baz=318
ZHN **Zhinishke** 73.76 318 *e*P P 06 33 12.0 +0.8
ZHN **Zhinishke** 73.76 318 *e*P P 06 33 12.1 +0.8
baz=318
SBA **Scott Base** 74.04 174 P P 06 33 14.8 +2.7
SBA pmax pmax
comp=Z,12nm,1.2s
SBA **Scott Base** 74.04 174 P P 06 33 14.8 +2.7
KSH **Kashi** 74.12 313 P P 06 33 15.8 +2.4
KSH pP sP 06 33 29.5 +0.4
KSH pmax pmax
comp=Z,32nm,1.0s
KDJ **Kajisay** 74.22 316 P P 06 33 15.0 +1.0
KDJ pmax pmax
comp=Z,34nm,1.0s
KDJ **Kajisay** 74.22 316 P 06 33 15.0 +1.0
TDK **Taldyqorghan** 74.52 319 *e*P P 06 33 16.6 +1.1
TDK **Taldyqorghan** 74.52 319 *e*P P 06 33 16.6 +1.1
baz=319
MDOK **Medeo** 74.70 317 *e*P P 06 33 17.9 +1.2
MDOK **Medeo** 74.70 317 *e*P P 06 33 17.9 +1.2
baz=317
TNSS **Tian-Shan** 74.72 317 *e*P P 06 33 18.3 +1.1
baz=317
AAA **Alma-Ata** 74.81 317 *e*P P 06 33 18.5 +1.2
AAA **Alma-Ata** 74.81 317 *e*P P 06 33 18.5 +1.2
baz=317
ZAA0 **Zalesovo Array** 74.94 330 P 06 33 17.8 +0.1
ZAA0 IAmb IAmb 06 33 20.4
comp=Z,12nm,0.9s
ZALV **Zalesovo Beam** 74.94 330 P P 06 33 17.3 -0.4
comp=Z,14nm,1.0s,baz=117,slow=5.4,SNR=21
ZALV **Zalesovo Beam** 74.94 330 P P 06 33 17.7 0.0
ZALV **Zalesovo Beam** 74.94 330 P P 06 33 17.7 0.0
CHKK **Chushkaly** 75.00 318 *e*P P 06 33 18.7 +0.4
baz=318
BILL **Bilibino** 75.11 10 *i*P P 06 33 18.4 0.0
BILL *i* 06 33 33.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL **Bilibino** 75.11 10 P P 06 33 19.0 +0.6
BOOM **Boomskoye usch** 75.20 316 P P 06 33 20.1 +0.4
BOOM pmax pmax
comp=Z,28nm,0.8s
BOOM **Boomskoye usch** 75.20 316 P P 06 33 20.1 +0.4
KUU **Kurty** 75.45 318 *e*P P 06 33 21.4 +0.6
KUU pmax pmax
comp=Z,25nm,0.8s
KUU **Kurty** 75.45 318 *e*P P 06 33 21.5 +0.6
comp=Z,25nm,0.8s,baz=318
TKM2 **Tokmak 2** 75.60 317 P P 06 33 22.8 +0.8
SEM **Semipalatinsk** 75.69 325 *e*P P 06 33 21.5 -0.9
SEM **Semipalatinsk** 75.69 325 *e*P P 06 33 21.5 -0.9
baz=325
AAK **Ala-Archa** 76.26 316 P P 06 33 26.3 +0.6
comp=Z,14nm,1.1s,baz=128,slow=3.6,SNR=15
AAK **Ala-Archa** 76.26 316 *ce*P P 06 33 27.1 +1.4
AAK pmax pmax
comp=Z,20nm,1.2s
AAK **Ala-Archa** 76.26 316 P 06 33 26.8 +1.0
AAK IAmb IAmb 06 33 30.2
comp=Z,19nm,1.1s
SGDS **Sogindy** 76.45 317 *e*P P 06 33 27.1 +0.5
baz=317
KURK **Kurchatov** 76.76 325 *ce*P P 06 33 28.9 +0.8
KURK pmax pmax
comp=Z,24nm,1.2s
KURK **Kurchatov** 76.76 325 P 06 33 28.3 +0.2
KURK IAmb IAmb 06 33 31.8
comp=Z,20nm,1.1s
TIXI **Tiksi** 76.94 356 P P 06 33 28.0 -0.7
comp=Z,3.4nm,0.7s,baz=90,slow=24,SNR=8.7
TIXI LR LR 07 04 42.4
comp=Z,47nm,21.5s,baz=182,slow=34
TIXI **Tiksi** 76.94 356 P P 06 33 28.7 0.0
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI **Tiksi** 76.94 356 P 06 33 28.7 0.0
GAMB **Gambell** 77.28 20 P P 06 33 32.4 +1.6
baz=229
BTLS **Baital** 77.39 318 *ci*P P 06 33 32.5 +0.7
BTLS pmax pmax
comp=Z,11nm,0.9s
BTLS **Baital** 77.39 318 ⇑*i*P P 06 33 32.6 +0.7
comp=Z,11nm,0.9s,baz=318
KBL **Kabul** 77.91 307 P P 06 33 35.8 +0.5
KBL pmax pmax
comp=Z,17nm,1.2s
KBL **Kabul** 77.91 307 P 06 33 35.8 +0.5
KBL IAmb IAmb 06 33 38.5
comp=Z,17nm,1.1s
BTK **Batken** 78.06 313 P P 06 33 36.0 +0.2
BTK pmax pmax
comp=Z,31nm,1.3s
BTK **Batken** 78.06 313 P P 06 33 36.0 +0.2
BTK IAmb IAmb 06 33 40.1
comp=Z,31nm,1.3s
GAR **Garm** 78.12 311 P P 06 33 36.6 +0.4
TAOE **Nuku Hiva Isla** 78.54 98 *e*LR LR 06 58 10.6
comp=Z,58nm,20.6s
DZA **Taraz** 78.54 315 *e*P P 06 33 38.8 +0.5
DZA **Taraz** 78.54 315 *e*P P 06 33 38.8 +0.5
baz=316
CHGR **Chuyangaron** 78.90 311 P P 06 33 41.1 +0.6
KKAR **Karatay Array** 79.18 315 P P 06 33 42.2 +0.4
KKAR **Karatay Array** 79.18 315 P 06 33 42.2 +0.4
IUG **Iuzhnay** 79.23 314 *e*P P 06 33 42.9 +0.7
IUG **Iuzhnay** 79.23 314 *e*P P 06 33 43.0 +0.7
baz=314
OTUK **Ortayu** 79.60 321 P P 06 33 44.5 +0.5
BRLS **Boroldoy** 79.63 315 *e*P P 06 33 44.2 -0.1
BRLS **Boroldoy** 79.63 315 *e*P P 06 33 44.2 -0.1
baz=315
TNA **Tin City** 79.67 19 P P 06 33 45.1 +1.1
TNA IAmb IAmb 06 34 42.8
comp=Z,24nm,1.8s
TNA **Tin City** 79.67 19 P P 06 33 45.0 +1.1
baz=232
ANM **Nome** 79.95 21 P P 06 33 46.8 +1.3
baz=235
MAW **Mawson** 80.72 202 P P 06 33 50.8 +1.2
comp=Z,6.3nm,0.8s,baz=67,slow=7.9,SNR=3.6
MAW LR LR 07 07 46.6
comp=Z,230nm,18.2s,baz=80,slow=34
KDAK **Kodiak Island** 82.11 30 LR LR 07 03 07.7
comp=Z,160nm,21.5s,baz=256,slow=30
BRVK **Borovoye** 82.42 325 P P 06 34 00.1 +1.2
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK **Borovoye** 82.42 325 P 06 34 00.1 +1.2
RDOG **Red Dog Mine** 82.74 18 P P 06 34 01.4 +1.2
RDOG IAmb IAmb 06 34 05.9
comp=Z,8.2nm,0.8s
RDOG **Red Dog Mine** 82.74 18 P P 06 34 03.6 +3.3
baz=237
HRA **Herat** 83.36 305 P P 06 34 04.0 -0.5
HRA IAmb IAmb 06 34 07.3
comp=Z,27nm,1.6s
L20K **Farewell, AK** 83.39 25 P P 06 34 05.1 +1.3
baz=246
M20K **Styx River** 83.47 26 P P 06 34 05.3 +1.1
baz=247
K20K **Telida** 83.67 24 P P 06 34 06.7 +1.6
baz=246
J20K **Nowinta River** 83.98 24 P 06 34 08.2 +1.5
J20K IAmb IAmb 06 34 11.1
comp=Z,9.7nm,1.0s
J20K **Nowinta River** 83.98 24 P P 06 34 10.4 +3.7
baz=245
CAST **Castle Rocks** 84.52 25 P P 06 34 09.8 +0.3
CAST IAmb IAmb 06 34 13.3
comp=Z,9.0nm,0.9s
CAST **Castle Rocks** 84.52 25 P P 06 34 09.8 +0.3
baz=247
CHUM **Lake Minchumin** 84.60 24 P P 06 34 11.0 +1.2
baz=247
M22K **Willow** 84.74 27 P P 06 34 10.3 -0.2
QSPA **South Pole Qui** 84.92 180 LR LR 07 12 20.1
comp=Z,350nm,18.8s,baz=10.0,slow=36
QSPA **South Pole Qui** 84.92 180 P P 06 34 12.4 +0.8
PMR **Palmer** 85.13 27 P P 06 34 13.1 +0.6
baz=250
BPAW **Bear Paw Mtn.** 85.23 24 P P 06 34 13.1 +0.1
baz=248
I21K **Tanana** 85.24 23 P P 06 34 15.6 +2.6
baz=247
KNK **Knik Glacier** 85.37 27 P P 06 34 15.4 +1.6

baz=251
MLY Manley 85.67 23 P **P** 06 34 15.3 0.0
MLY Manley 85.67 23 P **P** 06 34 15.5 +0.3
baz=248
RND Reindeer 85.87 25 P **P** 06 34 15.6 -0.7
RND pmax pmax
comp=Z,15nm,0.8s
RND Reindeer 85.87 25 **P** 06 34 15.6 -0.7
RND IAmb IAmb 06 34 19.4
comp=Z,15nm,0.8s
MCK McKinley 85.94 25 P **P** 06 34 16.1 -0.5
MCK pmax pmax
comp=Z,34nm,1.6s
MCK McKinley 85.94 25 P **P** 06 34 16.1 -0.5
MCK IAmb IAmb 06 34 31.6
comp=Z,34nm,1.6s
MCK McKinley 85.94 25 P **P** 06 34 16.2 -0.5
baz=250
WAT6 Susitna Watana 86.08 26 P **P** 06 34 17.3 -0.1
baz=251
NEA2 Nenana 86.18 24 P **P** 06 34 17.5 -0.2
baz=250
DHY Denali Highway 86.39 26 P **P** 06 34 19.1 +0.1
DHY Denali Highway 86.39 26 P **P** 06 34 19.6 +0.6
baz=252
DIV Divide 86.52 28 P **P** 06 34 19.5 0.0
COLD Coldfoot 86.68 21 P **P** 06 34 20.6 +0.5
COLD IAmb IAmb 06 34 30.3
comp=Z,25nm,2.0s
IL31 87.13 24 P **P** 06 34 21.6 -0.7
IL31 IAmb IAmb 06 34 23.4
comp=Z,15nm,1.5s
ILAR Eielson Array 87.13 24 P **P** 06 34 20.6 -1.8
comp=Z,2.8nm,0.7s,baz=262,slow=4.1,SNR=18
ILAR LR LR 07 12 28.6
comp=Z,40nm,18.2s,baz=244,slow=35
PAX Paxson 87.19 26 P **P** 06 34 22.5 -0.3
baz=253
GEYT Alibeck 87.24 308 P **P** 06 34 23.2 -0.3
comp=Z,6.0nm,1.0s,baz=103,slow=4.6,SNR=2.4
GEYT Alibeck 87.24 308 IAmb IAmb 06 34 29.0
comp=Z,14nm,1.3s
TOLK Toolik Lake Re 87.41 20 P **P** 06 34 24.8 +1.1
TOLK IAmb IAmb 06 34 28.9
comp=Z,17nm,1.2s
TOLK Toolik Lake Re 87.41 20 P **P** 06 34 25.4 +1.7
baz=249
GLB Gilahina Butte 87.52 28 P **P** 06 34 24.7 +0.3
RIDG Independent Ri 87.68 25 P **P** 06 34 25.1 +0.1
RIDG Independent Ri 87.68 25 P **P** 06 34 25.6 +0.5
baz=254
J25K Salcha River, 87.70 24 P **P** 06 34 24.3 -0.9
J25K IAmb IAmb 06 34 27.3
comp=Z,9.3nm,1.2s
AB31 Akbulak array 87.78 320 *i* P **P** 06 34 24.9 -0.9
ABKAR Akbulak array 87.78 320 P **P** 06 34 25.3 -0.5
ABKAR IAmb IAmb 06 34 28.9
comp=Z,13nm,1.2s
ABKAR Akbulak array 87.78 320 P **P** 06 34 25.2 -0.6
MENT Mentasta 87.95 26 P **P** 06 34 26.7 +0.4
MENT IAmb IAmb 06 34 30.3
comp=Z,7.9nm,0.8s
DOT Dot Lake 87.99 26 P **P** 06 34 27.3 +0.8
DOT IAmb IAmb 06 34 30.7
comp=Z,11nm,1.0s
L26K Log Cabin Wild 88.14 26 P **P** 06 34 26.5 -0.7
L26K Log Cabin Wild 88.14 26 P **P** 06 34 28.3 +1.1
baz=255
J26L Joseph Creek 88.42 25 P **P** 06 34 29.5 +0.8
baz=255
M27K Edge Creek, AK 88.63 27 P **P** 06 34 29.8 0.0
M27K IAmb IAmb 06 34 34.1
comp=Z,10.0nm,0.8s
M27K Edge Creek, AK 88.63 27 P **P** 06 34 30.7 +0.9
baz=257
BMAR Burnt Mountain 88.81 22 P **P** 06 34 31.7 +1.4
L27K Beaver Creek, 88.82 26 P **P** 06 34 31.3 +0.8
L27K IAmb IAmb 06 34 34.7
comp=Z,8.6nm,0.9s
L27K Beaver Creek, 88.82 26 P **P** 06 34 31.5 +1.0
baz=257
BCAR Beaver Creek A 88.84 26 **P** 06 34 31.4 +0.8
AKTO Aktyubinsk 89.20 321 P **P** 06 34 31.8 -0.7
comp=Z,5.1nm,0.9s,baz=28,slow=6.6,SNR=3.8
SYO Syowa Base 89.29 201‖ *eP* **P** 06 34 32.6 0.0
EGAK Eagle 89.50 25 P **P** 06 34 34.5 +1.0
EGAK Eagle 89.50 25 P **P** 06 34 34.5 +1.0
baz=257
ARU Arti 89.83 327 P **P** 06 34 33.7 -1.6
comp=Z,1.8nm,0.4s,baz=120,slow=3.8,SNR=11
ARU Arti 89.83 327 *c i* P **P** 06 34 34.6 -0.7
ARU S **SKSac** 06 45 01.9 -1.3
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 89.83 327 P **P** 06 34 35.0 -0.3
DAWY Dawson 90.10 26 P **P** 06 34 36.4 -0.1
DAWY IAmb IAmb 06 34 40.8
comp=Z,7.5nm,0.8s
DAWY Dawson 90.10 26 P **P** 06 34 38.0 +1.5
baz=259
I29M Ogilvie Camp, 90.80 24 P **P** 06 34 40.8 +1.2
baz=260
INK Inuvik 93.08 22 LR LR 07 12 24.0
comp=Z,70nm,20.6s,baz=251,slow=33
DLBC Dease Lake 93.88 32 LR LR 07 12 12.5
comp=Z,62nm,19.5s,baz=278,slow=32
BBB Bella Bella 94.68 38 LR LR 07 09 39.9
comp=Z,64nm,21.5s,baz=262,slow=30
A36M Sachs Harbour 96.02 18 P **P** 06 35 03.5 0.0
A36M Sachs Harbour 96.02 18 P **P** 06 35 04.1 +0.6
baz=272
C36M Paulatuk 96.54 21 P **P** 06 35 06.4 +0.5
baz=273
YBH Yreka Blue Hor 98.25 49 LR LR 07 12 37.8
comp=Z,95nm,19.6s,baz=300,slow=31
ZEI Tsey 98.39 312 *eP* **P** 06 35 13.6 -1.6
ZEI pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 99.82 191 LR LR 07 21 19.9
comp=Z,221nm,18.1s,baz=140,slow=36
YKA Yellowknife Ar 101.23 27 P **Pdif** 06 35 25.4 -1.7
comp=Z,0.4nm,0.8s,baz=281,slow=4.8,SNR=6.7
S39A Bolivar 121.16 49 **PKiKP** 06 40 29.9 -0.2
EKA Eskdalemuir Ar 122.10 337 PKP **PKiKP** 06 40 31.6 +0.3
comp=Z,0.3nm,0.4s,baz=28,slow=3.2,SNR=1.8
HBAR Harrisburg 123.90 50 PKPdf **PKPdf** 06 40 34.5 -0.7
PLCA Paso Flores 126.18 151 PKP **PKiKP** 06 40 40.9 +0.8
comp=Z,2.5nm,0.8s,baz=209,slow=6.2,SNR=6.8
TORD Torodi Ar. Bea 138.78 284 PKP **PKPdf** 06 41 03.7 -0.1
comp=Z,0.9nm,0.8s,baz=51,slow=2.8,SNR=6.0
POPC Popayan, Colom 142.62 92 *eP* **PKPdf** 06 41 07.6 -3.6
YOTC Yotoco, Valle 143.06 90 *eP* PKPbc 06 41 07.9 -0.8
CBOC Ciudad Bolivar 143.45 87‖ *eP* PKPbc 06 41 10.4 +0.6
FLOC Florencia 143.55 94‖ *eP* PKPbc 06 41 10.4 +0.5
ANIL Santa Ana 144.02 89 *eP* PKPbc 06 41 12.3 +0.6
KOWA Kowa 144.04 288 PKPdf **PKPdf** 06 41 11.9 -1.4
GUY2C Guyana, Caldas 144.08 88‖ *eP* PKPbc 06 41 12.4 +0.3
CPUP Villa Florida 144.25 152 PKP **PKPdf** 06 41 14.7 +1.3
comp=Z,7.0nm,1.1s,baz=256,slow=2.8,SNR=3.7
LPAZ La Paz 144.46 127 PKP **PKPdf** 06 41 13.9 -0.9
comp=Z,5.5nm,0.9s,baz=172,slow=1.2,SNR=18
LPAZ La Paz 144.46 127 PKIKP **PKPdf** 06 41 14.4 -0.4
LPAZ La Paz 144.46 127 PKPdf **PKPdf** 06 41 14.4 -0.4
ZARC Zaragoza, Cauc 144.57 84 PKPbc 06 41 13.2 +0.1
ZARC Zaragoza, Cauc 144.57 84 *eP* **PKPab** 06 41 12.4 -0.5
PTBC PUERTO BERRIO 144.99 86 *eP* PKPbc 06 41 13.3 -1.1
ROSC El Rosal 145.11 89 PKPbc **PKPdf** 06 41 16.1 +0.4
comp=Z,12nm,0.5s,baz=43,slow=4.2,SNR=12
ROSC El Rosal 145.11 89 PKPbc **PKPbc** 06 41 13.7 -1.5
ROSC El Rosal 145.11 89 *eP* **PKPdf** 06 41 15.2 -0.5
SPBC San Pablo de B 145.37 87 *eP* **PKPbc** 06 41 15.2 -0.5
MACC Macarena, Meta 145.40 94 *eP* **PKPab** 06 41 16.4 +0.5
KIC Kosan Boka 145.59 274 *e*PKP2 **PKPab** 06 41 16.7 +0.1
comp=Z,49nm,0.8s
CHIC Chingaza 145.69 89 *i* P **PKPbc** 06 41 16.7 -0.4
DBIC Dimbokro 145.71 274 PKPbc **PKPab** 06 41 17.1 +0.1
comp=Z,22nm,0.7s,baz=96,slow=4.5,SNR=26
TIC Toumodi 145.87 274 *e*PKP2 **PKPbc** 06 41 16.8 -0.4
LIC Lamto 145.88 274 *e*PKP2 **PKPab** 06 41 17.9 +0.2
comp=Z,59nm,1.2s
OCAC Ocana 146.07 83 *eP* **PKPab** 06 41 19.1 +0.5
RUSC La Rusia 146.36 87 *eP* **PKPbc** 06 41 19.1 -0.2
PAMC Pamplona, Colo 146.72 84 *eP* **PKPbc** 06 41 19.1 -1.2
TAMC Tame, Arauca 147.64 86‖ *eP* **PKPbc** 06 41 22.0 -0.4
SOCV Socops 148.50 82 *eP* **PKPbc** 06 41 22.9 -1.6
SDV Santo Domingo 148.67 81 *eP* **PKPbc** 06 41 24.9 -0.3

*CNRM **28** 06:23:42.9, 35˚.52N×3˚.72W, h18km, ml2.9*
*MDD **28** 06:23:45.5±0.8, 35˚.43N×3˚.78W, h12km±6km, mb_Lg2.4/13, Error ellipse: s-maj=4.4km s-min=2.7km az=168.0*
*SFS **28** 06:23:46.0, 35˚.36N×3˚.74W, h34km, ML2.9, ALHUCEMAS (MARRUECOS)*
ISC 28 06:23:43.9±1.0, 35˚48N±0˚.02×3˚.79W±0˚.03, h18km±7km, n33, σ1s38/58, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**205**	P	**Pn**	**06 23 56.0**	**+2.6**
PALE	**Palemas**	**0.29**	**205**	P	**Pb**	**06 23 50.7**	**0.0**
PALE				S	**Sg**	**06 23 55.0**	**+0.3**
PVLZ	**Peæn de**	**0.52**	**234**	P	**Pb**	**06 23 54.7**	**+0.2**
PVLZ				S	**Sb**	**06 24 01.6**	**-0.1**
EMEL	**Melilla**	**0.70**	**105**	Pg	**Pg**	**06 23 58.1**	**+0.4**
EMEL				Sg	**Sn**	**06 24 08.5**	**-0.9**
EALB	**Alboran**	**0.77**	**53**	Pg	**Pn**	**06 23 59.5**	**-0.3**
EALB				Sg	**Sg**	**06 24 09.7**	**+0.7**
EALB				*i* Vmb_Lg		06 24 10.2	
TAF	**Taforalt**	**1.31**	**120**	P	**Pn**	**06 24 05.9**	**-1.5**
TAF				S	**Sn**	**06 24 23.5**	**-1.0**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**06 24 07.0**	**-0.4**
SMIR	**Smir Dam**	**1.31**	**279**	P	**Pn**	**06 24 05.4**	**-1.9**
SMIR				S	**Sg**	**06 24 25.8**	**-0.5**
EMIJ	**Mijas**	**1.34**	**324**	Pn	**Pg**	**06 24 10.0**	**+0.2**
EMIJ				Sn	**Sg**	**06 24 27.1**	**-0.2**
EMIJ				*i* Vmb_Lg		06 24 30.8	
ECEU	**Ceuta**	**1.36**	**288**	Pn	**Pn**	**06 24 07.3**	**-0.6**
ECEU				Sn	**Sn**	**06 24 24.7**	**-0.9**
ECEU				*i* Vmb_Lg		06 24 25.2	
EMAL	**Malaga-Limoner**	**1.38**	**338**	P	**Pg**	**06 24 12.4**	**+2.0**
EMAL				S	**Sg**	**06 24 27.5**	**-0.9**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**06 24 08.3**	**-0.2**
ELGU				Sn	**Sb**	**06 24 26.6**	**-0.2**
ELGU				*i* Vmb_Lg		06 24 29.5	
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**06 24 10.0**	**-0.5**
JBK	**JBK**	**1.52**	**138**	P	**Pn**	**06 24 10.0**	**-0.5**
EBER	**Berja**	**1.59**	**27**	Pn	**Pn**	**06 24 11.5**	**+0.2**
EBER				Sn	**Sb**	**06 24 33.1**	**+0.4**
EBER				*i* Vmb_Lg		06 24 35.4	
EGOR	**Sierra Gorda,**	**1.64**	**351**	Pn	**Pg**	**06 24 15.0**	**-0.6**
EGOR				Sn	**Sg**	**06 24 36.2**	**-0.8**
EGOR				*i* Vmb_Lg		06 24 45.6	
SICH	**Sidi Chahed**	**1.86**	**223**	P	**Pn**	**06 24 15.9**	**+0.9**
SICH				S	**Sg**	**06 24 42.9**	**-1.0**
ENIJ	**Nijar**	**1.96**	**40**	Sn	**Sn**	**06 24 39.6**	**-0.8**
ENIJ				*i* Vmb_Lg		06 24 40.0	
LCRM	**LCR**	**2.00**	**206**	P	**Pg**	**06 24 22.0**	**-0.3**
LCRM	**LCR**	**2.00**	**206**	P	**Pb**	**06 24 19.7**	**-0.2**
LCRM				S	**Sb**	**06 24 45.3**	**+0.9**
IFR	**Ifrane**	**2.25**	**210**	P	**Pn**	**06 24 21.6**	**+1.2**
IFR				S	**Sn**	**06 24 43.2**	**-4.7**
CZD	**Col de Zad**	**2.66**	**203**	P	**Pn**	**06 24 27.3**	**+1.1**
CZD				S	**Sn**	**06 24 59.1**	**+1.1**
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**06 24 26.8**	**-0.2**
MD31				S	**Sn**	**06 25 00.1**	**+0.5**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**06 24 29.2**	**+2.0**
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**06 24 29.2**	**+2.0**
MDT				S	**Sn**	**06 25 00.1**	**0.0**
EADA	**Adamuz**	**2.75**	**347**	Pn	**Pb**	**06 24 31.7**	**-0.9**
EADA				Sn	**Sn**	**06 25 01.5**	**+1.4**
EADA				*i* Vmb_Lg		06 25 13.5	
ECAB	**El Cabril**	**2.90**	**334**	Pn	**Pb**	**06 24 32.2**	**-2.8**
ECAB				Sn	**Sn**	**06 25 06.5**	**+2.8**
ECAB				*i* Vmb_Lg		06 25 17.8	
EZAR	**Zarzadilla de**	**2.92**	**35**	Pn	**Pn**	**06 24 30.6**	**+1.0**
EZAR				Sn	**Sn**	**06 25 04.9**	**+0.6**
EMIN	**Mina Concepcio**	**3.25**	**315**	Pn	**Pn**	**06 24 35.3**	**+1.3**
EMIN				Sn	**Sn**	**06 25 12.9**	**+0.6**
EMIN				*i* Vmb_Lg		06 25 16.4	
EGRO	**El Granado**	**3.61**	**306**	Pn	**Pn**	**06 24 40.2**	**+1.2**
EGRO				Sn	**Sn**	**06 25 20.1**	**-1.0**
EGRO				*i* Vmb_Lg		06 25 22.5	
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**06 24 42.0**	**+2.8**
ETOB				Sn	**Sn**	**06 25 24.2**	**+2.4**
ETOB				*i* Vmb_Lg		06 25 26.2	
PVAQ	**Vaqueiros**	**3.70**	**302**	P	**Pn**	**06 24 40.6**	**+0.4**
PVAQ				S	**Sn**	**06 25 23.8**	**+0.4**
OUK	**Oukaimeden**	**5.46**	**220**	P	**Pn**	**06 25 02.9**	**-1.8**

*IDC **28** 06:28:05.7±1.4, 35˚.54N×4˚.11W, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.3/45, mbtmp3.2/4, ML3.2/2, MS3.9/1, Ms1 3.9/1, ms1mx2.6/31, Error ellipse: s-maj=43.7km s-min=13.4km az=92.0*
*SFS **28** 06:28:06.0, 35˚.40N×3˚.80W, ML3.2, ALBORAN SUR*
*CNRM **28** 06:28:07.6, 35˚.47N×3˚.86W, h21km, ml3.4*
*MDD **28** 06:28:07.5±0.5, 35˚.40N×3˚.77W, h12km±5km, mb_Lg2.9/21, Error ellipse: s-maj=4.6km s-min=2.3km az=162.0*
*IGIL **28** 06:28:08.2, 35˚.46N×3˚.85W, h2km, ML3.1*
*LDG **28** 06:28:08.4, 35˚.29N×3˚.64W, h30km*
ISC 28 06:28:06.6±1.0, 35˚49N±0˚.02×3˚.81W±0˚.02, h13km±8km, n63, σ1s74/106, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.29**	**201**	P	**Pb**	**06 28 13.5**	**-0.3**
PALE	**Palemas**	**0.29**	**201**	P	**Pb**	**06 28 13.5**	**-0.3**
PALE				S	**Sb**	**06 28 17.7**	**-0.8**
PVLZ	**Peæn de**	**0.52**	**232**	P	**Pb**	**06 28 17.4**	**-0.1**
PVLZ				S	**Sg**	**06 28 22.7**	**-0.9**
EMEL	**Melilla**	**0.72**	**105**	Pg	**Pg**	**06 28 20.2**	**-0.5**
EMEL				Sg	**Sg**	**06 28 29.1**	**-1.1**
EALB	**Alboran**	**0.77**	**54**	Pg	**Pg**	**06 28 21.9**	**+0.3**
EALB				Sg	**Sg**	**06 28 31.9**	**+0.2**
EALB				*i* Vmb_Lg		06 28 33.1	
SMIR	**Smir Dam**	**1.30**	**279**	P	**Pn**	**06 28 29.0**	**-1.4**
SMIR	**Smir Dam**	**1.30**	**279**	P	**Pn**	**06 28 29.6**	**-0.8**
SMIR				S	**Sb**	**06 28 47.2**	**-0.2**
EMIJ	**Mijas**	**1.32**	**324**	Pn	**Pn**	**06 28 30.5**	**-0.4**
EMIJ				Sn	**Sb**	**06 28 47.7**	**-0.6**
EMIJ				*i* Vmb_Lg		06 28 56.7	
TAF	**Taforalt**	**1.33**	**120**	P	**Pn**	**06 28 30.1**	**-0.8**
TAF				S	**Sn**	**06 28 48.6**	**+0.2**
ECEU	**Ceuta**	**1.34**	**288**	Pn	**Pn**	**06 28 30.0**	**-1.0**
ECEU				Sn	**Sb**	**06 28 46.5**	**-2.2**
ECEU				*i* Vmb_Lg		06 28 48.2	
EMAL	**Malaga-Limoner**	**1.36**	**339**	P	**Pn**	**06 28 31.0**	**-0.3**
EMAL				S	**Sn**	**06 28 48.4**	**-0.8**
ELGU	**Los Guajares,**	**1.38**	**6**	Pn	**Pn**	**06 28 31.1**	**-0.6**
ELGU				Sn	**Sn**	**06 28 48.8**	**-1.0**
ELGU				*i* Vmb_Lg		06 28 52.9	
JBK	**JBK**	**1.54**	**138**	P	**Pn**	**06 28 34.0**	**+0.1**
JBK				S	**Sg**	**06 28 56.0**	**-0.3**
EBER	**Berja**	**1.59**	**28**	Pn	**Pn**	**06 28 34.2**	**-0.4**
EBER				Sn	**Sn**	**06 28 54.0**	**-1.1**
EBER				*i* Vmb_Lg		06 28 58.5	
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**06 28 35.6**	**+0.4**
EGOR				Sn	**Sg**	**06 29 00.6**	**+1.4**
EGOR				*i* Vmb_Lg		06 29 07.6	
EJIF	**Jimena Fronter**	**1.65**	**306**	Pn	**Pn**	**06 28 35.8**	**+0.5**
EJIF				Sn	**Sb**	**06 28 57.3**	**-0.4**
EQUE	**Quentar**	**1.73**	**10**	Pn	**Pn**	**06 28 37.4**	**+0.9**
EQUE				Sn	**Sn**	**06 28 59.2**	**+0.7**
EQUE				*i* Vmb_Lg		06 29 04.1	
SICH	**Sidi Chahed**	**1.86**	**222**	S	**Pg**	**06 28 44.0**	**+1.6**
SICH	**Sidi Chahed**	**1.86**	**222**	P	**Pn**	**06 28 38.6**	**+0.5**
SICH				S	**Sn**	**06 29 02.4**	**+0.9**
LIJA	**Lijar**	**1.91**	**318**	P	**Pb**	**06 28 41.0**	**-0.4**
ENIJ	**Nijar**	**1.96**	**41**	Pn	**Pn**	**06 28 39.1**	**-0.5**
ENIJ				Sn	**Sn**	**06 29 01.6**	**-2.5**
ENIJ				*i* Vmb_Lg		06 29 03.6	
LCRM	**LCR**	**2.00**	**206**	P	**Pg**	**06 28 44.0**	**-1.0**
LCRM	**LCR**	**2.00**	**206**	P	**Pn**	**06 28 41.5**	**+1.3**
LCRM				S	**Sb**	**06 29 07.6**	**-0.2**
ESPR	**Espera**	**2.15**	**310**	Pn	**Pb**	**06 28 44.5**	**-1.0**
ESPR				Sn	**Sb**	**06 29 11.2**	**-0.8**
ESPR				*i* Vmb_Lg		06 29 22.2	
IFR	**Ifrane**	**2.25**	**209**	P	**Pn**	**06 28 43.6**	**-0.1**
IFR				S	**Sn**	**06 29 10.2**	**-1.2**
CZD	**Col de Zad**	**2.66**	**203**	P	**Pn**	**06 28 51.0**	**+1.6**
CZD	**Col de Zad**	**2.66**	**203**	P	**Pn**	**06 28 50.0**	**+0.6**
CZD				S	**Sn**	**06 29 21.9**	**+0.3**
MD31	**MD31**	**2.73**	**197**	P	**Pn**	**06 28 51.0**	**+0.7**
MD31				S	**Sn**	**06 29 24.3**	**+1.0**
EADA	**Adamuz**	**2.74**	**347**	Pn	**Pn**	**06 28 52.1**	**+1.8**
EADA				Sn	**Sb**	**06 29 26.6**	**-2.4**
EADA				*i* Vmb_Lg		06 29 40.8	
MDT	**Midelt**	**2.75**	**194**	Pn	**Pn**	**06 28 51.6**	**+1.0**
	1.2nm,0.3s,baz=157,slow=7.7,SNR=17						
MDT				Sn	**Sn**	**06 29 23.6**	**0.0**
	4.7nm,0.3s,baz=67,slow=14,SNR=5.9						
MDT				Lg	Lg	06 29 34.0	
	6.5nm,0.3s,baz=320,slow=13,SNR=5.6						
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**06 28 52.1**	**+1.6**
MDT	**Midelt**	**2.75**	**194**	P	**Pn**	**06 28 52.1**	**+1.6**
MDT				S	**Sn**	**06 29 24.7**	**+1.0**
ECAB	**El Cabril**	**2.88**	**334**	Pn	**Pn**	**06 28 54.2**	**+2.0**
ECAB				Sn	**Sn**	**06 29 29.1**	**+2.3**
ECAB				*i* Vmb_Lg		06 29 38.6	
EZAR	**Zarzadilla de**	**2.92**	**35**	Pn	**Pn**	**06 28 53.0**	**+0.2**
EZAR				Sn	**Sn**	**06 29 26.4**	**-1.4**
CART	**Cartagena**	**3.08**	**46**	P	**Pn**	**06 28 56.0**	**+1.1**
CART				S	**Sn**	**06 29 26.5**	**-5.1**
EMIN	**Mina Concepcio**	**3.23**	**315**	Pn	**Pn**	**06 28 57.8**	**+0.8**
EMIN				Sn	**Sn**	**06 29 35.3**	**-0.2**
EMIN				*i* Vmb_Lg		06 29 40.1	
EGRO	**El Granado**	**3.59**	**306**	Pn	**Pn**	**06 29 02.8**	**+0.8**
EGRO				Sn	**Sn**	**06 29 42.8**	**-1.5**
EGRO				*i* Vmb_Lg		06 29 45.5	
ETOB	**Tobarra**	**3.63**	**29**	Pn	**Pn**	**06 29 05.1**	**+2.5**
ETOB				Sn	**Sn**	**06 29 46.7**	**+1.5**
ETOB				*i* Vmb_Lg		06 29 48.1	
PVAQ	**Vaqueiros**	**3.68**	**302**	P	**Pn**	**06 29 03.8**	**+0.6**
PVAQ	**Vaqueiros**	**3.68**	**302**	P	**Pn**	**06 29 03.8**	**+0.6**
PVAQ				S	**Sn**	**06 29 46.1**	**-0.4**
AVE	**Averroes**	**3.70**	**235**	P	Pn	06 28 54.3	-9.1
AVE				S	**Sg**	**06 30 01.4**	**-4.0**
PAB	**San Pablo**	**4.07**	**354**	P	**Pn**	**06 29 10.5**	**+1.9**
PAB	**San Pablo**	**4.07**	**354**	P	**Pn**	**06 29 10.5**	**+1.9**
PAB	**San Pablo**	**4.07**	**354**	Pn	**Pn**	**06 29 10.5**	**+1.9**
PAB				Sn	**Sn**	**06 29 57.8**	**+1.7**
PAB				*i* Vmb_Lg		06 30 16.2	
EBAD	**Badajoz**	**4.14**	**323**	Pn	**Pn**	**06 29 10.7**	**+1.2**
EBAD				Sn	**Sn**	**06 29 56.8**	**-1.0**
EBAD				*i* Vmb_Lg		06 29 59.9	
ESDC	**Sonseca Array**	**4.18**	**358**	Pn	**Pn**	**06 29 12.1**	**+2.1**
	1.1nm,0.3s,baz=178,slow=12,SNR=30						
ESDC				Sn	**Sn**	**06 29 59.2**	**+0.5**
	0.4nm,0.3s,baz=185,slow=23,SNR=2.9						
ESDC				Lg	Lg	06 30 16.1	
	1.0nm,0.3s,baz=182,slow=28,SNR=5.8						
ESDC	**Sonseca Array**	**4.18**	**358**	Pn	**Pn**	**06 29 12.2**	**+2.1**
ESDC				*i* Vmb_Lg		06 29 59.9	
MORF	**Marmelete**	**4.31**	**296**	*e*P	**Pn**	**06 29 12.6**	**+0.7**
MORF				*e*S	**Sn**	**06 29 59.5**	**-2.4**
MORF				IAML		06 30 04.0	
	comp=E,34nm,0.3s						
EVO	**Evora**	**4.53**	**313**	P	**Pn**	**06 29 15.8**	**+0.9**
EVO				S	**Sn**	**06 30 04.9**	**-2.5**
UCM	**Universidad Co**	**4.83**	**5**	P	**Pn**	**06 29 21.3**	**+2.3**
UCM				S	**Sn**	**06 30 15.8**	**+1.1**
OUZM	**OUZ**	**5.20**	**209**	P	**Pn**	**06 29 26.2**	**+2.0**
OUZM				S	**Sn**	**06 30 25.6**	**+1.5**
OUK	**Oukaimeden**	**5.46**	**220**	P	**Pn**	**06 29 28.5**	**+0.6**
OUK				S	**Sn**	**06 30 27.5**	**-3.3**
ETOR	**Torete**	**5.49**	**14**	Pn	**Pn**	**06 29 29.5**	**+1.3**
ETOR				Sn	**Sn**	**06 30 28.2**	**-3.1**
ETOR				*i* Vmb_Lg		06 30 54.6	
ETSF	**Etsaut**	**7.81**	**18**	*e*P	**Pn**	**06 30 03.2**	**+3.2**
ETSF				*e*Sn	**Sn**	**06 31 25.1**	**-3.2**
	comp=E,1.6nm,0.5s						
SJPF	**Ste Jean**	**7.87**	**14**	*e*Pn	**Pn**	**06 30 01.6**	**+0.9**
SJPF				*e*Sn	**Sn**	**06 31 24.3**	**-5.3**
	comp=E,2.1nm,0.4s						
EPF	**Esparros**	**8.19**	**22**	*e*Pn	**Pn**	**06 30 04.5**	**-0.6**
EPF	**Esparros**	**8.19**	**22**	*e*P	**Pn**	**06 30 09.7**	**+4.6**
EPF				*e*Sn	**Sn**	**06 31 32.2**	**-5.2**
	comp=E,1.5nm,0.4s						
FRF	**La Foret Royal**	**11.40**	**42**	*e*Pn	**Pn**	**06 30 48.1**	**-0.9**
SBF	**Sospel**	**12.03**	**43**	*e*Pn	**Pn**	**06 30 57.3**	**-0.4**
PGF	**Pioggiola**	**12.19**	**51**	*e*P	**Pn**	**06 31 03.6**	**+3.6**
TORD	**Torodi Ar. Bea**	**22.80**	**166**	P	**P**	**06 33 09.8**	**+0.7**
	comp=E,0.3nm,0.7s,baz=347,slow=8.9,SNR=2.0						
ARCES	**ARCESS Array B**	**37.69**	**16**	LR	LR	06 52 58.8	
	comp=E,160nm,19.9s,baz=301,slow=40						
YKA	**Yellowknife Ar**	**67.83**	**332**	P	**P**	**06 39 04.3**	**+0.3**
	comp=E,0.4nm,0.8s,baz=61,slow=6.4,SNR=6.1						

IDC 28 07:03:18.2±3.9, 2˚.74S×129˚.87E, h112km±34km, mb2.9/2, mb1 2.9/4, mb1mx2.6/54, mbtmp3.1/4, Error ellipse: s-maj=61.2km s-min=25.8km az=97.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.32**	**37**	P	Pn	07 03 55.3	-0.2
	1.6nm,0.3s,baz=314,slow=10,SNR=2.2						
SIJI				S	Sn	07 04 24.6	+0.7
	1.5nm,0.3s,baz=215,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**17.65**	**166**	P	P	07 07 15.6	-0.9
	0.0nm,0.3s,baz=347,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**21.17**	**170**	P	P	07 07 54.5	-0.2
	0.3nm,0.7s,baz=348,slow=12,SNR=4.9						
CTA	**Charters Tower**	**23.52**	**138**	P	P	07 08 19.1	+0.7
	0.6nm,0.3s,baz=326,slow=3.6,SNR=1.3						
TXAR	**Lajitas Array**	**122.79**	**57**	PKP	PKPdf	07 22 01.6	-0.3
	0.2nm,0.6s,baz=287,slow=3.5,SNR=2.4						

*IDC **28** 07:09:18.2±2.9, 50˚.01N×78˚.14E, h0km, mb1 2.8/2, mb1mx2.7/63, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=39.2km s-min=8.2km az=88.0*
*NNC **28** 07:09:20.3±0.5, 50˚.03N×78˚.84E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=8.6km s-min=2.3km az=73.0, Suspected Mining explosion.*
ISC 28 07:09:20.9±1.0, 50˚.10N±0˚.06×78˚.73E±0˚.10, h0km, n17, σ0s71/27, 15C-10D, Eastern Kazakhstan

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

0.5nm,0.3s,baz=236,slow=14,SNR=4.8
I46RU ZALESOVO INFRA 5.38 42 *i* 07 40 20.0
baz=225,slow=324,SNR=2.9

ANF ***28*** *07:09:23.9±0.8, 30°.08N×114°.37W, h0km, ML4.0/15, Error ellipse: s-maj=11.2km s-min=3.6km az=17.0*
IDC ***28*** *07:09:25.9±1.4, 30°.37N×114°.20W, h0km, mb3.7/4, mb1 3.6/10,mb1mx3.5/48,mbtmp3.3/10,ML3.2/5,MS3.4/3, Ms1 3.4/3,ms1mx2.8/83,Error ellipse: s-maj=23.2km s-min=9.5km az=38.0*
ECX ***28*** *07:09:26.7±0.4, 30°.21N×114°.16W, h7km±10km, MD3.8, ML4.0*
NEIC ***28*** *07:09:28.8±2.0, 30°.37N±0°.05×114°.31W±0°.06, h10km±2km, mb4.2/22,Md3.8/15(MEX),Error ellipse: s-maj=9.2km s-min=6.8km az=229.0*
MEX ***28*** *07:09:29.5±5.9, 30°.13N×114°.57W, h25km±999km, MD3.8*
ISC 28 07:09:26.7±0.6,30°.24N±0°.04×114°.31W±0°.04,h9km,n159,
σ1§38/173,mb4.2/13,2C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.92**	**330**	**Pg**	**Pg**	**07 09 44.6**	**+0.2**
SFX	**San Felipe**	**0.92**	**330**	⇓*iP*	**Pg**	**07 09 44.6**	**+0.2**
SFX				*eS*	**Sb**	**07 09 58.1**	**+0.8**
SFX				IAML		07 09 58.5	
	comp=E,5μm,0.7s						
SFX				⇑*e*		07 09 58.7	
SFX				IAML		07 09 58.7	
	comp=N,4μm,0.6s						
BAHB	**Baha de los**	**1.45**	**153**	*eP*	**Pn**	**07 09 50.2**	**-2.7**
BAHB				*eS*	**Sn**	**07 10 08.3**	**-3.8**
BAHB	**Baha de los**	**1.45**	**153**	*eP*	**Pn**	**07 09 50.1**	**-2.9**
SVX	**San Vicente**	**1.99**	**304**	*eP*	**Pn**	**07 10 01.2**	**+0.7**
SVX				*eS*	**Sg**	**07 10 30.7**	**0.0**
214A	**Organ Pipe Nat**	**2.14**	**37**	Pn	**Pn**	**07 10 01.9**	**-0.7**
214A	**Organ Pipe Nat**	**2.14**	**37**	⇓*eP*	**Pn**	**07 10 02.0**	**-0.7**
214A	**Organ Pipe Nat**	**2.14**	**37**	P	**Pn**	**07 10 01.9**	**-0.7**
	baz=221,SNR=103						
GUVIX	**Guadalupe Vict**	**2.16**	**343**	Pn	**Pn**	**07 10 02.5**	**-0.4**
MBIG	**Mexicali**	**2.29**	**341**	*eP*	**Pn**	**07 10 02.5**	**-2.2**
MBIG				*eS*	**Sn**	**07 10 30.8**	**-2.2**
YMD	**Yuma Desert**	**2.32**	**355**	⇓*eP*	**Pn**	**07 10 05.1**	**+0.1**
CPBX	**Cerro Prieto**	**2.34**	**339**		**Pn**	**07 10 04.9**	**-0.3**
113A	**Mohawk Valley,**	**2.57**	**10**	Pn	**Pn**	**07 10 08.3**	**-0.1**
UABX	**UABC, Campus M**	**2.58**	**338**	Pn	**Pn**	**07 10 09.2**	**+0.7**
CCX	**Cicese**	**2.59**	**309**	Pn	**Pn**	**07 10 09.4**	**+0.6**
DREC	**Desert Rsrch C**	**2.74**	**340**	⇑*e*		07 11 58.4	
DREC				IAML		07 11 58.4	
	comp=Z,582nm,1.3s						
YUH	**Yuha Desert**	**2.77**	**331**		**Pn**	**07 10 11.9**	**+0.6**
RMX	**La Rumorosa**	**2.80**	**328**	Pn	**Pn**	**07 10 10.8**	**-1.0**
GLA	**Glamis**	**2.84**	**351**		**Pn**	**07 10 12.6**	**+0.4**
GLA	**Glamis**	**2.84**	**351**	P	**Pn**	**07 10 12.2**	**-0.1**
	baz=171,SNR=13						
IKP	**In-Ko-Pah, Jac**	**2.85**	**328**	P	**Pn**	**07 10 12.2**	**-0.3**
	baz=146						
CBX	**Cerro Bola**	**2.89**	**316**		**Pn**	**07 10 13.2**	**+0.2**
CBX	**Cerro Bola**	**2.89**	**316**	*i* P	**Pn**	**07 10 13.2**	**+0.2**
CBX				*i* S	Sn	07 10 32.4	-15
CBX				*eS*	**Sb**	**07 10 47.1**	**-6.8**
TJIG	**Tijuana**	**2.98**	**318**		**Pn**	**07 10 14.2**	**0.0**
TJIG					**Sb**	**07 10 58.5**	**+2.0**
TJIG	**Tijuana**	**2.98**	**318**	*eP*	**Pn**	**07 10 14.2**	**0.0**
TJIG				*eS*	**Sb**	**07 10 58.5**	**+2.0**
SWSC	**Sam W. Stewart**	**2.98**	**335**	P	**Pn**	**07 10 13.7**	**-0.5**
	baz=154						
TKX	**Tecate**	**3.04**	**320**		**Pn**	**07 10 15.2**	**+0.2**
BAR	**Barrett**	**3.16**	**321**		**Pn**	**07 10 17.1**	**+0.4**
HSIG		**3.17**	**112**	Pn	**Pb**	**07 10 20.8**	**-2.4**
HSIG		**3.17**	**112**	*eP*	Pn	07 10 08.7	-8.0
HSIG				*eS*	**Sg**	**07 11 09.4**	**+0.9**
MONP2	**Monument Peak**	**3.20**	**326**	P	**Pn**	**07 10 17.0**	**-0.4**
	baz=144,SNR=5.9						
TJX	**Tijuana**	**3.26**	**315**	Pn	**Pn**	**07 10 18.1**	**+0.1**
SRIG	**Santa Rosalia**	**3.43**	**147**	Pn	**Pb**	**07 10 25.6**	**-1.9**
SRIG	**Santa Rosalia**	**3.43**	**147**	*eP*	**Pb**	**07 10 27.2**	**-0.4**
SRIG				*eS*	**Sg**	**07 11 16.7**	**-0.1**
BLYC	**Blythe**	**3.51**	**357**	Pn	**Pn**	**07 10 22.1**	**+0.7**
BC3	**Big Chuckawall**	**3.54**	**344**	P	**Pn**	**07 10 22.1**	**+0.1**
	baz=164						
109C	**Camp Elliot, M**	**3.56**	**319**	Pn	**Pn**	**07 10 22.8**	**+0.7**
109C	**Camp Elliot, M**	**3.56**	**319**	P	**Pn**	**07 10 21.7**	**-0.5**
	baz=136,SNR=9.1						
109C				Sb	**Sb**	**07 11 17.8**	**+4.7**
	baz=136						
TUC	**Tucson**	**3.66**	**55**	Pn	**Pn**	**07 10 23.0**	**-0.6**
TUC	**Tucson**	**3.66**	**55**	P	**Pn**	**07 10 22.9**	**-0.6**
	baz=239						
GUYB	**Guaymas**	**3.81**	**127**	*eP*	**Pn**	**07 10 24.0**	**-1.5**
PFO	**Pinyon Flats O**	**3.83**	**332**	Pn	**Pn**	**07 10 25.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=143,slow=12,SNR=18						
PFO				Sn	**Sn**	**07 11 10.0**	**-1.2**
	comp=Z,2.8nm,0.3s,baz=210,slow=15,SNR=4.4						
PFO				Lg	Lg	07 11 28.2	
	comp=Z,3.0nm,0.3s,baz=70,slow=8.8,SNR=4.7						
PFO	**Pinyon Flats O**	**3.83**	**332**		**Pn**	**07 10 26.4**	**+0.4**
PFO	**Pinyon Flats O**	**3.83**	**332**	P	**Pn**	**07 10 26.0**	**+0.1**
	baz=150						
Y14A	**Wickenburg**	**3.85**	**16**		**Pn**	**07 10 26.6**	**+0.4**
IRM	**Iron Mountain**	**3.97**	**350**	P	**Pn**	**07 10 28.6**	**+0.8**
	baz=170						
PDMCI	**Parker Dam,Lak**	**4.06**	**2**	P	**Pn**	**07 10 29.9**	**+1.0**
	baz=183,SNR=9.2						
MURC	**Murrieta**	**4.15**	**325**	P	**Pn**	**07 10 31.0**	**+0.7**
	baz=142						
MURC				Sb	**Sg**	**07 11 36.3**	**-3.8**
	baz=142						
ELS	**Elsinore Mount**	**4.31**	**323**		**Pn**	**07 10 33.7**	**+1.2**
319A	**Douglas**	**4.47**	**74**	Pn	**Pn**	**07 10 38.1**	**+3.3**
NEE2	**Needles Airpor**	**4.53**	**357**	P	**Pn**	**07 10 36.5**	**+1.1**
	baz=177						
GMRC	**Granite Mounta**	**4.68**	**346**	P	**Pn**	**07 10 38.1**	**+0.5**
	baz=165						
CIS	**Catalina Islan**	**4.71**	**313**	P	**Pn**	**07 10 38.5**	**+0.6**
	baz=130						
X16A	**Lo Mia Camp, P**	**4.83**	**29**		**Pn**	**07 10 40.8**	**+1.1**
W13A	**Hualapai Mount**	**4.86**	**4**	Pn	**Pn**	**07 10 40.4**	**+0.2**
GSC	**Goldstone, Bar**	**5.47**	**338**	Pn	**Pn**	**07 10 47.5**	**-0.9**
GSC	**Goldstone, Bar**	**5.47**	**338**	P	**Pn**	**07 10 47.5**	**-0.9**
	baz=156						
CGIG		**5.48**	**87**		**Pn**	**07 10 47.2**	**-1.4**
CGIG					**Sb**	**07 12 09.3**	**+0.8**
CGIG		**5.48**	**87**	*eP*	**Pn**	**07 10 47.2**	**-1.4**
CGIG				*eS*	**Sb**	**07 12 09.3**	**+0.8**
X18A	**Snowflake**	**5.65**	**40**		**Pn**	**07 10 51.5**	**+0.5**
CCAC	**Calif City Air**	**5.81**	**328**	Pn	**Pn**	**07 10 52.2**	**-0.9**
WUAZ	**Wupatki**	**5.82**	**24**	Pn	**Pn**	**07 10 53.5**	**+0.2**
WUAZ	**Wupatki**	**5.82**	**24**	P	**Pn**	**07 10 53.7**	**+0.4**
	baz=207,SNR=8.3						
121A	**Cookes Peak, D**	**6.03**	**66**	Pn	**Pn**	**07 10 57.2**	**+0.9**
121A	**Cookes Peak, D**	**6.03**	**66**	P	**Pn**	**07 10 56.7**	**+0.5**
	baz=251,SNR=5.4						
QSM	**Queen of Sheba**	**6.10**	**340**	Pn	**Pn**	**07 10 57.4**	**+0.4**
W18A	**Petrified Fore**	**6.21**	**37**		**Pn**	**07 10 58.3**	**-0.4**
W18A	**Petrified Fore**	**6.21**	**37**	P	**Pn**	**07 10 59.2**	**+0.5**
	baz=221,SNR=8.5						
GWY	**Greenwater Val**	**6.25**	**342**	Pn	**Pn**	**07 10 59.8**	**+0.5**
SHPR	**Sheep Range**	**6.29**	**354**	Pn	**Pn**	**07 10 59.6**	**-0.3**
BCW	**Bitter Crk WRg**	**6.37**	**319**	Pn	**Pn**	**07 11 00.6**	**-0.2**
U15A	**North Rim**	**6.40**	**15**	Pn	**Pn**	**07 11 03.4**	**+1.9**
ISA	**Isabella, Lake**	**6.44**	**328**	Pn	**Pn**	**07 11 01.0**	**-0.8**
LCMT	**Little Creek M**	**6.82**	**7**		**Pn**	**07 11 05.9**	**-1.1**
KNB	**Kanab**	**6.88**	**10**	Pn	**Pn**	**07 11 07.5**	**-0.4**
GRAC	**Grapevine Rang**	**7.21**	**340**	Pn	**Pn**	**07 11 10.9**	**-1.3**
CCUT	**Cedar City**	**7.34**	**6**	Pn	**Pn**	**07 11 15.1**	**+0.9**
Y22D	**IRIS PASSCAL I**	**7.34**	**57**	Pn	**Pn**	**07 11 16.0**	**+1.8**
LENM	**Lemitar**	**7.35**	**56**		**Pn**	**07 11 12.4**	**-1.9**
PKCU	**Pink Cliffs**	**7.38**	**12**	Pn	**Pn**	**07 11 17.1**	**+2.3**
S11A	**Rachel**	**7.48**	**351**	Pn	**Pn**	**07 11 18.1**	**+2.0**
BNM	**Barren Site**	**7.59**	**57**		**Pn**	**07 11 18.0**	**+0.3**
SLBS	**Sierra La Lagu**	**7.60**	**148**	Pn	**Pn**	**07 11 19.0**	**+1.3**
MNTX	**Cornudas Mount**	**7.80**	**77**	P	**Pn**	**07 11 20.0**	**-0.5**
	baz=263						
MTPU	**Mount Pierson**	**7.98**	**12**		**Pn**	**07 11 22.0**	**-1.2**
ANMO	**Albuquerque**	**8.12**	**53**	Pn	**Pn**	**07 11 24.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=223,slow=15,SNR=7.9						
ANMO				Sn	**Sn**	**07 12 53.8**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=1.4						
ANMO				Lg	Lg	07 13 50.3	
	comp=Z,0.0nm,0.3s,baz=4.0,slow=19,SNR=1.3						
ANMO	**Albuquerque**	**8.12**	**53**		**Pn**	**07 11 26.2**	**+1.3**
	baz=238						
R11A	**Troy Canyon, C**	**8.16**	**353**	P	**Pn**	**07 11 27.1**	**+1.6**
	baz=172						
TPH	**Tonopah**	**8.18**	**344**	Pn	**Pn**	**07 11 26.5**	**+0.7**
PSUT	**Pine Spring**	**8.29**	**2**		**Pn**	**07 11 27.1**	**-0.1**
OMMB	**Old Mammoth Mi**	**8.32**	**333**	Pn	**Pn**	**07 11 26.6**	**-1.2**
MSU	**Marysvale**	**8.44**	**11**	Pn	**Pn**	**07 11 28.4**	**-1.0**
BBGB	**Big Mountain B**	**8.46**	**320**	Pn	**Pn**	**07 11 30.5**	**+1.0**
MVCO	**Mesa Verde**	**8.47**	**33**	Pn	**Pn**	**07 11 30.1**	**+0.3**
MVCO	**Mesa Verde**	**8.47**	**33**	P	**Pn**	**07 11 31.2**	**+1.4**
	baz=217						
TCRU	**Three Creeks R**	**8.49**	**10**	Pn	**Pn**	**07 11 27.6**	**-2.5**
NVAR	**Mina Array Bea**	**8.81**	**339**	Pn	**Pn**	**07 11 33.2**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=162,slow=15,SNR=2.0						
NVAR				Lg	Lg	07 14 06.2	
	comp=Z,0.0nm,0.3s,baz=175,slow=33,SNR=1.4						
NVAR				LR	LR	07 15 11.5	
	comp=Z,137nm,19.7s,baz=300,slow=40						
Q16A	**Castle Valley**	**9.04**	**16**	Pn	**Pn**	**07 11 37.1**	**-0.4**
PV11	**David Mesa, Pa**	**9.21**	**28**	Pn	**Pn**	**07 11 39.9**	**0.0**
TX31	**Lajitas Ar. Si**	**9.29**	**93**		**Pn**	**07 11 42.0**	**+1.1**
TX32	**Lajitas Array**	**9.29**	**93**	Pn	**Pn**	**07 11 42.1**	**+1.1**
TXAR	**Lajitas Array**	**9.29**	**93**	Pn	**Pn**	**07 11 41.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=266,slow=14,SNR=5.1						
TXAR				Sn	**Sn**	**07 13 23.0**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=125,slow=28,SNR=1.7						
TXAR				Lg	Lg	07 14 23.6	
	comp=Z,0.1nm,0.3s,baz=140,slow=2.8,SNR=6.2						
TXAR	**Lajitas Array**	**9.29**	**93**	Pn	**Pn**	**07 11 42.0**	**+1.0**
SRU	**San Rafael Swe**	**9.38**	**18**	Pn	**Pn**	**07 11 40.4**	**-1.9**
TMUT	**Trail Mountain**	**9.39**	**15**		**Pn**	**07 11 42.7**	**+0.3**
P17A	**Butcher Ranch,**	**9.67**	**157**	Pn	**Pn**	**07 11 45.2**	**-0.9**
ELK	**Elko**	**10.51**	**356**	Pn	**Pn**	**07 11 56.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=201,slow=17,SNR=1.5						
ELK				Lg	Lg	07 14 56.9	
	comp=Z,0.1nm,0.3s,baz=235,slow=19,SNR=1.3						
T25A	**Trinidad**	**10.74**	**48**	Pn	**Pn**	**07 12 01.5**	**+0.6**
T25A	**Trinidad**	**10.74**	**48**	P	**Pn**	**07 12 01.4**	**+0.6**
	baz=234,SNR=8.1						
O20A	**White River Ci**	**11.05**	**25**	P	**Pn**	**07 12 05.9**	**+0.8**
	baz=209						
PDAR	**Pinedale Array**	**13.07**	**16**	Pn	**Pn**	**07 12 33.9**	**+1.1**
	baz=200,slow=7.7,SNR=1.9						
X34A	**Smith Ranch, M**	**14.58**	**68**		**Pn**	**07 12 53.3**	**+0.1**
YHH	**Holmes Hill**	**14.78**	**10**	Pn	**Pn**	**07 12 54.9**	**-1.2**
RSSD	**Black Hills**	**16.08**	**28**	Pn	**Pn**	**07 13 13.2**	**+0.1**
TUL1	**Leonard**	**16.52**	**65**		**P**	**07 13 21.3**	**+0.1**
KSU1	**Kansas State U**	**17.02**	**54**		**P**	**07 13 26.5**	**-0.2**
KSU1				IAmb	IAmb	07 13 31.2	
	comp=Z,21nm,1.4s						
KSU1	**Kansas State U**	**17.02**	**54**	P	**Pn**	**07 13 25.4**	**+0.5**
	baz=245						
LAO	**LASA Array**	**17.59**	**19**	P	**Pn**	**07 13 32.5**	**+0.5**
	baz=204						
EGMT	**Eagleton**	**18.11**	**10**		**Pn**	**07 13 38.2**	**-0.2**
EGMT	**Eagleton**	**18.11**	**10**	P	**P**	**07 13 39.9**	**+1.1**
	baz=193						
WLAR	**White Oak Lake**	**18.31**	**74**		**P**	**07 13 42.0**	**+0.9**
WLAR				IAmb	IAmb	07 13 45.1	
	comp=Z,16nm,1.2s						
ECSD	**EROS Data Cent**	**19.47**	**41**	P	**P**	**07 13 54.3**	**+0.5**
	baz=232,SNR=7.2						
143A	**Socs Landing,**	**19.69**	**77**	P	**Pn**	**07 13 57.5**	**-0.2**
143A				IAmb	IAmb	07 14 00.2	
	comp=Z,16nm,0.8s						
DGMT	**Dagmar**	**19.79**	**20**	P	**Pn**	**07 13 58.7**	**0.0**
DGMT				IAmb	IAmb	07 14 02.2	
	comp=Z,11nm,0.9s						
DGMT	**Dagmar**	**19.79**	**20**	P	**P**	**07 13 58.0**	**+0.8**
	baz=207						
R40A	**Maddies Statio**	**19.88**	**60**	P	**P**	**07 13 58.5**	**+0.3**
P40A	**Paris**	**20.44**	**57**	P	**P**	**07 14 05.5**	**+1.2**
CCM	**Cathedral Cave**	**20.59**	**62**	P	**P**	**07 14 05.9**	**0.0**
	baz=255						
SCIA	**State Center**	**20.59**	**50**	P	**P**	**07 14 07.0**	**+1.0**
	baz=243						
MDND	**Maddock**	**20.91**	**29**	P	**P**	**07 14 11.0**	**+1.7**
	baz=218						
I37A	**Lemond, Waseca**	**21.53**	**45**	P	**P**	**07 14 18.1**	**+2.0**
I37A				IAmb	IAmb	07 14 22.4	
	comp=Z,20nm,1.1s						
146A	**Union**	**21.67**	**77**	P	**P**	**07 14 18.9**	**+1.3**
146A				IAmb	IAmb	07 14 41.4	
	comp=Z,20nm,1.2s						
N41A	**Harden Midland**	**21.71**	**55**	P	**P**	**07 14 19.6**	**+1.5**
S44A	**Carbondale**	**22.03**	**64**	P	**P**	**07 14 23.3**	**+1.8**
S44A				IAmb	IAmb	07 14 24.9	
	comp=Z,23nm,1.5s						
CMIG	**Matias Romero**	**22.04**	**122**	P	**P**	**07 14 22.9**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=314,slow=6.8,SNR=3.6						
SIUC	**Southern Illin**	**22.07**	**64**	P	**P**	**07 14 24.0**	**+2.1**
SIUC				IAmb	IAmb	07 14 25.0	
	comp=Z,9.3nm,0.9s						
F36A	**Milaca**	**22.51**	**40**	P	**P**	**07 14 28.5**	**+1.9**
F36A				IAmb	IAmb	07 14 31.3	
	comp=Z,9.5nm,1.1s						
SPMN	**Marine on St.**	**22.56**	**42**	P	**P**	**07 14 28.4**	**+1.3**
	baz=236						
WVT	**Waverly**	**22.89**	**68**	P	**P**	**07 14 29.8**	**-0.9**
	baz=263						
JFWS	**Jewell Farm**	**23.01**	**50**	P	**P**	**07 14 31.3**	**-0.5**
	baz=245						
B35A	**Bob, Littlefor**	**23.98**	**35**	P	**P**	**07 14 41.6**	**+0.1**
B35A				IAmb	IAmb	07 14 45.8	
	comp=Z,4.9nm,1.0s						
ULM	**Lac du Bonnet**	**24.32**	**30**	P	**P**	**07 14 43.4**	**-1.2**
	comp=Z,6.7nm,1.0s,baz=229,slow=8.0,SNR=8.3						
ULM	**Lac du Bonnet**	**24.32**	**30**	P	**P**	**07 14 45.1**	**+0.5**
BLO	**Bloomington**	**24.45**	**61**	P	**P**	**07 14 47.8**	**+2.0**
U49A	**Red Boiling Sp**	**24.58**	**68**	P	**P**	**07 14 48.7**	**+1.6**
W50A	**Signal Mountai**	**24.85**	**71**	P	**P**	**07 14 51.9**	**+2.3**
O48B	**Farmland**	**25.72**	**59**	P	**P**	**07 14 55.6**	**-1.8**
	baz=257						
FFC	**Flin Flon**	**26.03**	**16**	P	**P**	**07 15 01.5**	**+1.5**
FFC				IAmb	IAmb	07 15 03.2	
	comp=Z,6.4nm,1.2s						
CBN	**Corbin Frederi**	**31.40**	**65**	P	**P**	**07 15 47.5**	**-0.6**
	baz=267						
YKA	**Yellowknife Ar**	**32.27**	**360**	P	**P**	**07 15 56.1**	**+0.8**
	comp=Z,0.1nm,0.8s,baz=168,slow=9.5,SNR=3.3						
YKA				PcP	**PcP**	**07 18 43.5**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=164,slow=2.7,SNR=3.9						
P33M	**Teslin, Yukon**	**32.45**	**343**	P	**P**	**07 15 57.8**	**+0.8**
	baz=149						
N25K	**Chitina, Valde**	**37.12**	**336**	P	**P**	**07 16 36.1**	**-1.4**
	baz=134						
PWL	**Port Wells**	**38.00**	**334**	P	**P**	**07 16 43.7**	**-1.1**
	baz=128						
ILAR	**Eielson Array**	**40.07**	**339**	P	**P**	**07 17 04.7**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=144,slow=7.7,SNR=4.2						
ILAR				LR	LR	07 33 02.6	
	comp=Z,47nm,18.6s,baz=262,slow=35						
SDV	**Santo Domingo**	**45.94**	**108**	LR	LR	07 39 38.4	
	comp=Z,75nm,19.1s,baz=270,slow=40						
FINES	**FINESS Array B**	**83.16**	**18**	P	**P**	**07 21 54.4**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=286,slow=7.1,SNR=1.8						
HHC	**Hu-ho-hao-te**	**97.50**	**327**	*eP*	**P**	**07 23 01.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,5.7s						
WRA	**Warramunga Arr**	**117.79**	**262**	PKP	**PKPdf**	**07 28 13.3**	**-0.7**
	comp=Z,0.4nm,1.1s,baz=58,slow=3.1,SNR=2.3						

SFS ***28*** *07:13:02.0, 35°.51N×3°.68W, ML2.5, ALBORAN SUR*
MDD ***28*** *07:13:03.4±0.7, 35°.48N×3°.65W, h11km±6km, mb_Lg2.4/12, Error ellipse: s-maj=4.4km s-min=2.6km az=158.0*
CNRM ***28*** *07:13:03.5, 35°.54N×3°.58W, h15km, ml2.7*
ISC 28 07:13:02.4±1.2,35°.54N±0°.02×3°.62W±0°.02,h13km±10km,
n32,σ1§37/64,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.42**	**219**	P	**Pb**	**07 13 12.1**	**+0.4**
PALE				S	**Sb**	**07 13 18.0**	**+0.1**
EMEL	**Melilla**	**0.59**	**114**	Pg	**Pb**	**07 13 14.3**	**-0.3**
EMEL				Sg	**Sb**	**07 13 21.7**	**-1.2**
EALB	**Alboran**	**0.62**	**50**	Pg	**Pn**	**07 13 16.2**	**-0.6**
EALB				Sg	**Sn**	**07 13 26.1**	**-0.5**
EALB				*i* Vmb_Lg		07 13 27.3	
PVLZ	**Peæn de**	**0.67**	**237**	P	**Pg**	**07 13 16.1**	**+0.7**
PVLZ				S	**Sg**	**07 13 24.3**	**0.0**
TAF	**Taforalt**	**1.23**	**126**	P	**Pn**	**07 13 24.3**	**-1.0**
TAF				S	**Sg**	**07 13 41.5**	**-0.4**
ELGU	**Los Guajares,**	**1.32**	**360**	Pn	**Pn**	**07 13 26.1**	**-0.5**
ELGU				Sn	**Sn**	**07 13 43.9**	**-0.2**
ELGU				*i* Vmb_Lg		07 13 46.7	
EMAL	**Malaga-Limoner**	**1.38**	**332**	P	**Pn**	**07 13 26.4**	**-1.0**
EMAL				S	**Sn**	**07 13 43.2**	**-2.3**
EMIJ	**Mijas**	**1.38**	**318**	Pn	**Pn**	**07 13 27.2**	**-0.2**
EMIJ				Sn	**Sn**	**07 13 45.0**	**-0.6**
EMIJ				*i* Vmb_Lg		07 13 51.3	
SMIR	**Smir Dam**	**1.44**	**276**	P	**Pn**	**07 13 27.8**	**-0.4**
SMIR				S	**Sn**	**07 13 46.8**	**-0.2**
EBER	**Berja**	**1.48**	**23**	Pn	**Pn**	**07 13 28.6**	**-0.2**
EBER				Sn	**Sb**	**07 13 48.0**	**-0.5**
EBER				*i* Vmb_Lg		07 13 51.8	
ECEU	**Ceuta**	**1.48**	**284**	Pn	**Pn**	**07 13 27.4**	**-1.3**
ECEU				Sn	**Sn**	**07 13 44.4**	**-3.4**
JBK	**JBK**	**1.48**	**144**	P	**Pg**	**07 13 30.4**	**-0.5**
JBK				S	**Sb**	**07 13 48.1**	**-0.6**
EGOR	**Sierra Gorda,**	**1.61**	**346**	Pn	**Pn**	**07 13 31.4**	**+0.7**
EGOR				Sn	**Sn**	**07 13 50.7**	**-0.7**
EGOR				*i* Vmb_Lg		07 14 01.1	
EQUE	**Quentar**	**1.67**	**5**	Pn	**Pn**	**07 13 31.5**	**+0.1**
EQUE				Sn	**Sn**	**07 13 52.4**	**-0.3**
EQUE				*i* Vmb_Lg		07 14 00.3	
LCRM	**LCR**	**2.12**	**209**	P	**Pg**	**07 13 42.9**	**-0.1**
LCRM				S	**Sg**	**07 14 09.8**	**-0.6**
ESPR	**Espera**	**2.24**	**307**	Pn	**Pn**	**07 13 39.7**	**+0.6**
ESPR				Sn	**Sn**	**07 14 05.4**	**-1.3**
ESPR				*i* Vmb_Lg		07 14 57.6	
IFR	**Ifrane**	**2.37**	**212**	P	**Pn**	**07 13 41.0**	**-0.1**
IFR				S	**Sn**	**07 14 07.7**	**-2.5**
EADA	**Adamuz**	**2.73**	**344**	Pn	**Pn**	**07 13 47.8**	**+1.8**
EADA				Sn	**Sn**	**07 14 18.3**	**-0.5**
EADA				*i* Vmb_Lg		07 14 26.8	
CZD	**Col de Zad**	**2.77**	**206**	P	**Pn**	**07 13 48.7**	**+2.0**
CZD				S	**Sb**	**07 14 23.6**	**-2.2**
TDRA	**Tendrara**	**2.82**	**152**	P	**Pn**	**07 13 48.4**	**+1.1**
TDRA				S	**Sn**	**07 14 22.1**	**+0.8**
MD31	**MD31**	**2.83**	**200**	P	**Pn**	**07 13 47.8**	**+0.4**
MD31				S	**Sn**	**07 14 23.5**	**+2.0**
MDT	**Midelt**	**2.84**	**197**	P	**Pn**	**07 13 48.8**	**+1.2**
MDT				S	**Sn**	**07 14 23.5**	**+1.8**
ECAB	**El Cabril**	**2.91**	**331**	Pn	**Pn**	**07 13 49.6**	**+1.1**
ECAB				Sn	**Sn**	**07 14 23.6**	**+0.3**
EMIN	**Mina Concepcio**	**3.31**	**313**	Pn	**Pn**	**07 13 54.2**	**+0.3**
EMIN				Sn	**Sn**	**07 14 31.7**	**-1.4**
EMIN				*i* Vmb_Lg		07 14 32.6	
ETOB	**Tobarra**	**3.51**	**28**	Pn	**Pn**	**07 13 58.8**	**+2.1**
ETOB				Sn	**Sn**	**07 14 39.1**	**+1.0**
EGRO	**El Granado**	**3.69**	**304**	Pn	**Pn**	**07 13 59.6**	**+0.5**
EGRO				Sn	**Sn**	**07 14 41.3**	**-1.2**
EGRO				*i* Vmb_Lg		07 14 42.2	
PVAQ	**Vaqueiros**	**3.79**	**301**	P	**Pn**	**07 14 02.5**	**+2.0**
PVAQ				S	**Sn**	**07 14 45.1**	**+0.2**
AFON	**Font Roja**	**3.97**	**37**	Pn	**Pn**	**07 14 04.6**	**+1.5**
AFON				Sn	**Sn**	**07 14 49.6**	**+0.1**
PAB	**San Pablo**	**4.04**	**352**	Pn	**Pn**	**07 14 05.5**	**+1.6**
PAB				Sn	**Sn**	**07 14 50.8**	**-0.4**
ESDC	**Sonseca Array**	**4.13**	**356**	Pn	**Pn**	**07 14 06.2**	**+1.0**
ESDC				Sn	**Sn**	**07 14 52.9**	**-0.5**
EBAD	**Badajoz**	**4.20**	**321**	Pn	**Pn**	**07 14 06.9**	**+0.7**
E

NVAR	**Mina Array Bea**	**8.89**	**340**	Pn		**Pn**	07 15 20.6	**-2.4**
	comp=N,0.0nm,0.3s,baz=160,slow=13,SNR=3.7							
NVAR				Lg		Lg	07 17 48.8	
	comp=N,0.0nm,0.3s,baz=173,slow=18,SNR=0.9							
TX31	**Lajitas Ar. Si**	**9.35**	**92**	Pn		**Pn**	07 15 30.2	**+1.1**
TX32	**Lajitas Array**	**9.35**	**92**	Pn		**Pn**	07 15 30.6	**+1.4**
TXAR	**Lajitas Array**	**9.35**	**92**	Pn		**Pn**	07 15 27.4	**-1.7**
	comp=N,0.3nm,0.3s,baz=267,slow=14,SNR=6.7							
TXAR				Sn		**Sn**	07 17 11.5	**-3.0**
	comp=N,0.2nm,0.3s,baz=31,slow=35,SNR=1.5							
TXAR				Lg		Lg	07 18 01.6	
	comp=N,0.1nm,0.3s,baz=266,slow=26,SNR=2.1							
TXAR				LR		LR	07 19 13.3	
	comp=N,393nm,19.3s,baz=270,slow=39							
PV23	**Carpenter Ridg**	**9.41**	**27**	Pn		**Pn**	07 15 31.7	**+1.6**
P18A	**Preston Nutter**	**10.06**	**19**	Pn		**Pn**	07 15 41.4	**+2.4**
ELK	**Elko**	**10.61**	**356**	Pn		**Pn**	07 15 47.3	**+0.8**
	comp=N,0.1nm,0.3s,baz=223,slow=19,SNR=2.6							
HWUT	**Hardware Ranch**	**11.67**	**10**			**Pn**	07 16 02.4	**+1.3**
ISCO	**Idaho Springs**	**12.02**	**34**	Pn		**Pn**	07 16 07.5	**+1.6**
MOD	**Modoc Plateau**	**12.68**	**339**	Pn		**Pn**	07 16 14.1	**-0.6**
WVOR	**Wild Horse Val**	**12.74**	**346**			**Pn**	07 16 14.9	**-0.7**
N02D	**Trinity Center**	**12.76**	**330**	Pn		**Pn**	07 16 16.3	**+0.6**
ABTX	**Abilene, Hawle**	**12.83**	**75**	Pn		**Pn**	07 16 17.8	**+0.9**
PD31	**Pinedale Array**	**13.19**	**16**	Pn		**Pn**	07 16 23.1	**+1.3**
PDAR	**Pinedale Array**	**13.19**	**16**	Pn		**Pn**	07 16 21.4	**-0.4**
	baz=213,slow=18,SNR=1.2							
PDAR				LR		LR	07 21 29.3	
	comp=N,93nm,19.8s,baz=219,slow=38							
PDAR	**Pinedale Array**	**13.19**	**16**	Pn		**Pn**	07 16 24.3	**+2.6**
MFID	**Camas Ranch**	**13.30**	**355**	Pn		**Pn**	07 16 22.8	**-0.5**
YBH	**Yreka Blue Hor**	**13.39**	**332**	Pn		**Pn**	07 16 24.6	**+0.3**
	comp=N,0.1nm,0.3s,baz=222,slow=6.9,SNR=1.7							
HLID	**Hailey**	**13.40**	**360**			**Pn**	07 16 25.0	**+0.3**
LOHW	**Long Hollow**	**13.78**	**12**			**Pn**	07 16 30.6	**+0.7**
MOOW	**Moose Ponds**	**13.89**	**11**			**Pn**	07 16 32.6	**+1.2**
K22A	**Casper**	**13.99**	**25**	Pn		**Pn**	07 16 34.4	**+1.7**
BCYI	**Bear Canyon**	**14.17**	**3**	Pn		**Pn**	07 16 35.5	**+0.3**
FLWY	**Flagg Ranch**	**14.22**	**11**			**Pn**	07 16 36.9	**+0.9**
WHTX	**Lake Whitney,**	**14.62**	**78**	Pn		**Pn**	07 16 42.1	**+0.9**
MCMT	**McKenzie Canyo**	**14.72**	**4**			**Pn**	07 16 43.5	**+0.8**
BMO	**Blue Mountains**	**14.87**	**352**	Pn		**Pn**	07 16 45.3	**+0.6**
Z35A	**Perchaven, San**	**14.92**	**73**	Pn		**Pn**	07 16 45.5	**+0.3**
Z35A				IAmb		IAmb	07 16 53.3	
	comp=Z,8.6nm,0.8s							
YMP	**Mirror Lake Pl**	**14.96**	**12**	Pn		**Pn**	07 16 46.1	**+0.1**
YMP				IAmb		IAmb	07 16 53.2	
	comp=Z,11nm,1.4s							
PLID	**Pearl Lake**	**14.98**	**356**	Pn		**Pn**	07 16 46.8	**+0.6**
PLID				IAmb		IAmb	07 16 55.9	
	comp=Z,9.6nm,0.8s							
RLMT	**Red Lodge**	**15.49**	**14**			**Pn**	07 16 54.7	**+1.6**
BOZ	**Bozeman (W)**	**15.59**	**7**	Pn		**Pn**	07 16 55.1	**+0.9**
RSSD	**Black Hills**	**16.19**	**28**	Pn		**Pn**	07 17 03.4	**+1.4**
MSO	**Missoula**	**16.67**	**1**	Pn		**Pn**	07 17 08.6	**+0.6**
HAWA	**Hanford**	**16.72**	**348**			**Pn**	07 17 10.7	**+2.2**
HAWA				IAmb		IAmb	07 17 24.1	
	comp=Z,15nm,1.4s							
E07A	**Sunnyside**	**16.94**	**347**			**Pn**	07 17 12.4	**+1.0**
KSU1	**Kansas State U**	**17.12**	**54**	Pn		**Pn**	07 17 14.7	**+1.0**
KSU1				IAmb		IAmb	07 17 18.7	
	comp=Z,26nm,1.3s							
BGNE	**Belgrade**	**17.29**	**45**			**Pn**	07 17 17.4	**+1.6**
BGNE				IAmb		IAmb	07 17 17.9	
	comp=Z,19nm,1.1s							
JTMT	**Jette**	**17.59**	**0**	Pn		**Pn**	07 17 18.5	**-1.1**
LAO	**LASA Array**	**17.70**	**19**			**Pn**	07 17 21.5	**+0.6**
LAO				IAmb		IAmb	07 17 25.7	
	comp=Z,12nm,0.9s							
EGMT	**Eagleton**	**18.21**	**10**	Pn		**P**	07 17 26.0	**-1.5**
EGMT				IAmb		IAmb	07 17 31.4	
	comp=Z,14nm,1.2s							
NEW	**Newport**	**18.23**	**354**	P		**P**	07 17 27.2	**-0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.1,SNR=3.9							
P38A	**Dawn**	**19.51**	**55**	P		**P**	07 17 42.8	**+1.1**
P38A				IAmb		IAmb	07 17 45.1	
	comp=Z,6.3nm,0.9s							
ECSD	**EROS Data Cent**	**19.59**	**41**	P		**P**	07 17 44.1	**+1.6**
ECSD				IAmb		IAmb	07 17 46.1	
	comp=Z,18nm,1.2s							
DGMT	**Dagmar**	**19.90**	**20**	P		**P**	07 17 47.8	**+1.9**
R40A	**Maddies Statio**	**19.98**	**60**	P		**P**	07 17 48.0	**+1.2**
R40A				IAmb		IAmb	07 17 48.8	
	comp=Z,6.5nm,1.1s							
LCAR	**Lake Charles**	**20.32**	**67**	P		**P**	07 17 51.2	**+0.8**
P40A	**Paris**	**20.54**	**57**	P		**P**	07 17 54.0	**+1.1**
P40A				IAmb		IAmb	07 17 58.1	
	comp=Z,11nm,1.1s							
I37A	**Lemond, Waseca**	**21.65**	**44**	P		**P**	07 18 06.0	**+1.3**
N41A	**Harden Midland**	**21.82**	**55**	P		**P**	07 18 07.9	**+1.3**
N41A				IAmb		IAmb	07 18 10.8	
	comp=Z,14nm,1.1s							
CMIG	**Matias Romero**	**22.04**	**122**	P		**P**	07 18 11.0	**+1.8**
	comp=Z,3.0nm,1.0s,baz=330,slow=8.1,SNR=6.0							
CMIG				LR		LR	07 26 38.0	
	comp=Z,94nm,20.4s,baz=256,slow=36							
L40A	**Anamosa**	**22.10**	**51**	P		**P**	07 18 10.2	**+0.6**
L40A				IAmb		IAmb	07 18 13.0	
	comp=Z,12nm,1.0s							
S44A	**Carbondale**	**22.13**	**63**	P		**P**	07 18 10.9	**+0.9**
S44A				IAmb		IAmb	07 18 11.9	
	comp=Z,14nm,1.2s							
SIUC	**Southern Illin**	**22.16**	**63**	P		**P**	07 18 10.8	**+0.4**
SIUC				IAmb		IAmb	07 18 12.0	
	comp=Z,15nm,1.2s							
Q44A	**Meyer Farm, Va**	**22.60**	**60**	P		**P**	07 18 15.9	**+0.9**
F36A	**Milaca**	**22.63**	**40**	P		**P**	07 18 15.7	**+0.4**
F36A				IAmb		IAmb	07 18 18.2	
	comp=Z,8.9nm,1.1s							
SPMN	**Marine on St.**	**22.67**	**42**	P		**P**	07 18 17.6	**+1.8**
G40A	**Rib Lake**	**24.25**	**45**	P		**P**	07 18 32.1	**+0.7**
ULM	**Lac du Bonnet**	**24.44**	**30**	P		**P**	07 18 32.5	**-0.6**
	comp=Z,6.9nm,0.9s,baz=234,slow=9.8,SNR=7.9							
ULM	**Lac du Bonnet**	**24.44**	**30**	P		**P**	07 18 33.1	**0.0**
BLO	**Bloomington**	**24.55**	**61**	P		**P**	07 18 35.7	**+1.5**
FFC	**Flin Flon**	**26.14**	**16**	P		**P**	07 18 48.8	**+0.3**
YKA	**Yellowknife Ar**	**32.37**	**360**	P		**P**	07 19 42.9	**-0.7**
	comp=Z,0.2nm,1.0s,baz=176,slow=8.6,SNR=2.5							
YKA				PcP		**PcP**	07 22 31.0	**-0.1**
	comp=Z,0.1nm,0.6s,baz=165,slow=3.1,SNR=4.1							
INK	**Inuvik**	**39.83**	**349**	LR		LR	07 37 05.3	
	comp=Z,64nm,21.6s,baz=134,slow=36							
ILAR	**Eielson Array**	**40.14**	**339**	P		**P**	07 20 51.4	**+1.3**
	comp=Z,0.8nm,0.8s,baz=147,slow=7.2,SNR=7.8							
FINES	**FINESS Array B**	**83.28**	**18**	LR		LR	08 05 14.2	
	comp=Z,59nm,19.8s,baz=256,slow=38							
SONM	**Songino Array**	**94.18**	**334**	P		**P**	07 26 35.7	**+2.2**
	comp=Z,0.6nm,1.0s,baz=52,slow=2.4,SNR=3.7							

*CNRM **28** 07:50:09.4, 35˚.51N×3˚.72W, h23km, ml2.6*
*MDD **28** 07:50:10.6±0.6, 35˚.57N×3˚.75W, h0km, mb_Lg1.9/5, Error ellipse: s-maj=5.3km s-min=3.4km az=21.0*
*SFS **28** 07:50:10.0, 35˚.56N×3˚.74W, ML1.9, ALBORAN SUR*

ISC 28 07:50:09.6±1.0, **35˚.49N**±0˚.03×**3˚.76W**±0˚.03, **h18**km±7km, **n19**, σ1§**29**/37, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALE	**Palemas**	**0.31**	**209**	P		**Pg**	**07 50 16.3**	**-0.1**
PALE				S		**Sg**	**07 50 21.0**	**+0.1**
PVLZ	**Peæn de**	**0.55**	**235**	P		**Pg**	**07 50 20.4**	**-0.1**
PVLZ				S		**Sg**	**07 50 27.2**	**-0.8**
GOG	**Mont Gurugu**	**0.68**	**113**	P		**Pg**	**07 50 23.7**	**+0.7**
GOG				S		**Sg**	**07 50 32.4**	**+0.4**
EMEL	**Melilla**	**0.68**	**106**	Pg		**Pb**	**07 50 23.9**	**+1.0**
EMEL				Sg		**Sg**	**07 50 32.0**	**-0.1**
EALB	**Alboran**	**0.74**	**53**	Pg		**Pb**	**07 50 24.1**	**+0.2**
EALB				Sg		**Sb**	**07 50 34.6**	**+1.0**
EALB				*i* Vmb_Lg			07 50 37.5	
TAF	**Taforalt**	**1.29**	**121**	P		**Pn**	**07 50 30.8**	**-2.0**
TAF				S		**Sb**	**07 50 47.8**	**-2.0**
SMIR	**Smir Dam**	**1.34**	**279**	P		**Pn**	**07 50 34.0**	**+0.6**
SMIR				S		**Sb**	**07 50 51.2**	**+0.2**
EMIJ	**Mijas**	**1.35**	**323**	Pg		**Pg**	**07 50 35.8**	**+0.1**
EMIJ				*i* Vmb_Lg			07 50 44.9	
EMIJ				Sg		**Sg**	**07 50 53.0**	**-0.3**
ELGU	**Los Guajares,**	**1.38**	**4**	Pg		**Pn**	**07 50 33.1**	**-1.0**
ELGU				Sg		**Sb**	**07 50 50.2**	**-2.0**
ELGU				*i* Vmb_Lg			07 50 52.5	
ECEU	**Ceuta**	**1.38**	**287**	Pg		**Pn**	**07 50 34.3**	**+0.3**
ECEU				Sg		**Sb**	**07 50 49.4**	**-2.8**
ECEU				*i* Vmb_Lg			07 50 54.5	

JBK	**JBK**	**1.51**	**139**	P		**Pn**	**07 50 34.8**	**-1.2**
JBK				S		**Sn**	**07 50 53.6**	**-1.8**
EBER	**Berja**	**1.57**	**26**	Pg		**Pn**	**07 50 36.9**	**+0.2**
EBER				Sg		**Sn**	**07 50 56.5**	**-0.2**
EBER				*i* Vmb_Lg			07 50 59.7	
EGOR	**Sierra Gorda,**	**1.64**	**350**	Pg		**Pb**	**07 50 39.6**	**+0.2**
EGOR				Sg		**Sg**	**07 51 00.5**	**-2.0**
EADA	**Adamuz**	**2.75**	**346**	Pn		**Pn**	**07 50 53.7**	**+0.8**
EADA				Sn		**Sn**	**07 51 27.6**	**+1.9**
MD31	**MD31**	**2.75**	**198**	P		**Pn**	**07 50 53.8**	**+0.9**
MD31				S		**Sn**	**07 51 26.9**	**+1.2**
MDT	**Midelt**	**2.76**	**195**	P		**Pn**	**07 50 54.4**	**+1.2**
MDT				S		**Sn**	**07 51 27.7**	**+1.6**
ECAB	**El Cabril**	**2.90**	**333**	Pn		**Pn**	**07 50 55.4**	**+0.4**
ECAB				Sn		**Sn**	**07 51 30.6**	**+1.2**
ETOB	**Tobarra**	**3.61**	**29**	Pn		**Pn**	**07 51 07.1**	**+2.4**
PVAQ	**Vaqueiros**	**3.72**	**302**	P		**Pn**	**07 51 07.1**	**+0.9**
PVAQ				S		**Sn**	**07 51 48.1**	**-1.5**

IDC 28 07:55:26.6±3.2, **5˚.67S×152˚.35E, h0km, mb3.3**/2, **mb1 3.7**/2, **mb1mx3.0**/37, **mbtmp3.4**/2, **Error ellipse: s-maj=79.4km s-min=14.8km az=92.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.39**	**347**	Pg		Pb	07 55 54.0	+0.5
	baz=232,slow=19							
KRVT				Lg		Lg	07 56 10.8	
	baz=127,slow=20							
WRA	**Warramunga Arr**	**22.54**	**229**	P		P	08 00 28.4	0.0
	0.4nm,0.6s,baz=52,slow=9.8,SNR=9.6							
ASAR	**Alice Springs**	**25.21**	**223**	P		P	08 00 54.8	+0.5
	1.1nm,0.7s,baz=54,slow=9.3,SNR=18							
TORD	**Torodi Ar. Bea**	**150.13**	**287**	PKPbc		PKPbc	08 15 18.4	-2.2
	0.3nm,0.4s,baz=85,slow=2.8,SNR=3.2							

*MDD **28** 07:59:10.6±0.5, 35˚.48N×3˚.82W, h0km±4km, mb_Lg2.5/6, Error ellipse: s-maj=3.6km s-min=3.0km az=141.0*
*CNRM **28** 07:59:10.9, 35˚.39N×3˚.90W, h5km, ml2.3*

ISC 28 07:59:09.8±1.2, **35˚.46N**±0˚.02×**3˚.79W**±0˚.03, **h6**km±10km, **n18**, σ1§**46**/35, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALE	**Palemas**	**0.28**	**207**	P		**Pg**	**07 59 13.2**	**-2.0**
PALE				S		**Sg**	**07 59 17.1**	**-1.7**
GOG	**Mont Gurugu**	**0.69**	**110**	P		**Pn**	**07 59 26.3**	**+0.2**
GOG				S		**Sn**	**07 59 36.1**	**-1.1**
EMEL	**Melilla**	**0.70**	**103**	Pg		**Pb**	**07 59 25.4**	**+1.0**
EMEL				Sg		**Sb**	**07 59 34.8**	**+0.6**
EALB	**Alboran**	**0.77**	**52**	Pg		**Pb**	**07 59 25.6**	**0.0**
EALB				Sg		**Sb**	**07 59 36.2**	**-0.2**
EALB				*i* Vmb_Lg			07 59 36.3	
SMIR	**Smir Dam**	**1.32**	**280**	P		**Pn**	**07 59 34.8**	**+0.1**
SMIR				S		**Sb**	**07 59 52.5**	**+0.4**
EMIJ	**Mijas**	**1.36**	**324**	Pg		**Pg**	**07 59 38.0**	**+2.1**
EMIJ				Sg		**Sg**	**07 59 56.5**	**+3.0**
ECEU	**Ceuta**	**1.37**	**289**	Pg		**Pn**	**07 59 34.2**	**-1.1**
ECEU				Sg		**Sb**	**07 59 50.2**	**-3.2**
ECEU				*i* Vmb_Lg			07 59 54.3	
ELGU	**Los Guajares,**	**1.41**	**5**	Pg		Pn	07 59 31.1	-4.9
ELGU				Sg		**Sb**	**07 59 52.6**	**-2.1**
JBK	**JBK**	**1.51**	**138**	P		**Pn**	**07 59 36.8**	**-0.7**
JBK				S		**Sg**	**07 59 59.1**	**+0.8**
EBER	**Berja**	**1.60**	**27**	Pg		**Pn**	**07 59 39.3**	**+0.5**
EBER				Sg		**Sn**	**07 59 59.3**	**-0.7**
EBER				*i* Vmb_Lg			08 00 07.0	
EGOR	**Sierra Gorda,**	**1.66**	**351**	Pg		**Pb**	**07 59 41.0**	**+0.1**
EGOR				Sg		**Sn**	**07 59 58.9**	**-2.4**
EGOR				*i* Vmb_Lg			08 00 03.2	
SICH	**Sidi Chahed**	**1.85**	**223**	P		**Pn**	**07 59 43.3**	**+1.3**
SICH				S		**Sn**	**08 00 06.3**	**+0.5**
LCRM	**LCR**	**1.98**	**207**	P		**Pn**	**07 59 46.0**	**+2.0**
LCRM				S		**Sb**	**08 00 13.5**	**+2.1**
CZD	**Col de Zad**	**2.64**	**204**	P		**Pn**	**07 59 54.5**	**+1.3**
CZD				S		**Sn**	**08 00 26.6**	**+0.9**
MD31	**MD31**	**2.71**	**198**	P		**Pn**	**07 59 54.5**	**+0.5**
MD31				S		**Sn**	**08 00 25.2**	**-1.9**
MDT	**Midelt**	**2.73**	**195**	P		**Pn**	**07 59 53.8**	**-0.4**
MDT				S		**Sn**	**08 00 26.6**	**-1.0**
EADA	**Adamuz**	**2.77**	**347**	*i* Vmb_Lg			07 59 52.5	
EADA				Pn		**Pn**	**07 59 54.0**	**-0.7**
EADA				Sn		**Sn**	**08 00 28.1**	**-0.4**
ECAB	**El Cabril**	**2.92**	**334**	Pn		**Pn**	**07 59 56.4**	**-0.4**
ECAB				*i* Vmb_Lg			08 00 24.6	
ECAB				Sn		**Sn**	**08 00 31.6**	**-0.5**

WEL 28 08:07:46.2±0.7, **33˚S**±11˚×**18˚0E**±1˚8, **h469**km±15km, **M3.8**/18, **mB4.4**/12, **MLv4.4**/18, **Mw(mB)3.5**/12, **Error ellipse: s-maj=0.0km s-min=0.0km az=115.7, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.13**	**195**	P		P	08 09 12.7	+0.2
MXZ				S		S	08 10 22.1	-1.0
WMGZ	**Waiomatatini S**	**5.35**	**193**	P		P	08 09 15.6	+1.0
WMGZ				S		S	08 10 29.3	+2.2
HAZ	**Te Kaha**	**5.44**	**198**	P		P	08 09 15.1	-0.4
HAZ				S		S	08 10 27.8	-0.7
PKGZ	**Pakihiroa**	**5.49**	**196**	P		P	08 09 17.0	+0.9
PKGZ				S		S	08 10 29.1	-0.5
PUZ	**Puketiti**	**5.63**	**194**	P		P	08 09 17.9	+0.5
PUZ				S		S	08 10 30.9	-1.1
RUGZ	**Raukumara Rang**	**5.66**	**198**	P		P	08 09 17.3	-0.5
RUGZ				S		S	08 10 31.8	-1.0
WIAZ	**Waiheke Island**	**5.75**	**222**	P		P	08 09 18.6	0.0
TWGZ	**Tauwhareparae**	**5.79**	**195**	P		P	08 09 19.7	+0.7
TWGZ				S		S	08 10 36.5	+1.6
OUZ	**Omahuta**	**5.88**	**242**	P		P	08 09 17.2	-2.7
OPRZ	**Ohinepanea**	**5.92**	**207**	P		P	08 09 20.9	+0.7
MKAZ	**Moumakai**	**5.96**	**220**	P		P	08 09 20.4	-0.3
CNGZ	**Carnagh Statio**	**6.04**	**193**	P		P	08 09 22.3	+0.9
CNGZ				S		S	08 10 43.0	+3.7
MWZ	**Matawai**	**6.05**	**198**	P		P	08 09 21.4	-0.2
MWZ				S		S	08 10 40.2	+0.5
TKGZ	**Te Karaka**	**6.07**	**196**	P		P	08 09 20.7	-1.0
TKGZ				S		S	08 10 40.3	+0.4
URZ	**Urewera**	**6.10**	**201**	P		P	08 09 20.3	-1.7
URZ				S		S	08 10 38.2	-2.3
RAGZ	**Rawiri**	**6.23**	**199**	P		P	08 09 22.4	-1.0
RAGZ				S		S	08 10 42.9	-0.2
TOZ	**Tahuroa Road**	**6.27**	**214**	P		P	08 09 25.3	+1.5
RIGZ	**Rimuhau**	**6.34**	**196**	P		P	08 09 25.6	+1.1
RIGZ				S		S	08 10 47.0	+1.9
MUGZ	**Murupara**	**6.41**	**203**	P		P	08 09 24.5	-0.6
MUGZ				S		S	08 10 46.5	+0.3
RTZ	**Ruatahuna**	**6.46**	**201**	P		P	08 09 25.3	-0.5
RTZ				S		S	08 10 47.9	+0.5
SNGZ	**Shannon Statio**	**6.52**	**198**	P		P	08 09 27.6	+1.3
SNGZ				S		S	08 10 49.1	+0.8
RAHZ	**Arahi**	**6.71**	**199**	P		P	08 09 28.8	+0.6
RAHZ				S		S	08 10 53.8	+1.8
MTHZ	**Maungataniwha**	**6.72**	**201**	P		P	08 09 29.0	+0.6
MTHZ				S		S	08 10 50.5	-1.8
MRHZ	**Matea Rd**	**6.84**	**204**	P		P	08 09 29.3	-0.3
MRHZ				S		S	08 10 56.4	+1.9
BKZ	**Black Stump Fm**	**7.12**	**202**	P		P	08 09 30.3	-2.2
BKZ				S		S	08 10 58.5	-1.3
HIZ	**Hauiti**	**7.20**	**214**	P		P	08 09 36.5	+3.2
NTVZ	**North Tongarir**	**7.35**	**207**	P		P	08 09 35.6	+0.7
NTVZ				S		S	08 11 08.5	+4.3
ETVZ	**East Tongariro**	**7.37**	**207**	P		P	08 09 35.1	0.0
OTVZ	**Oturere**	**7.41**	**207**	P		P	08 09 35.5	-0.2
OTVZ				S		S	08 11 06.4	+1.0
FWVZ	**Far West T-bar**	**7.53**	**207**	P		P	08 09 36.9	-0.1
BHHZ	**Black Hill Sta**	**7.55**	**203**	P		P	08 09 36.5	-0.6
BHHZ				S		S	08 11 07.0	-1.1
KAHZ	**Kahuranaki**	**7.59**	**198**	P		P	08 09 38.6	+1.1
KRHZ	**Kereru**	**7.59**	**201**	P		P	08 09 37.3	-0.1
PKVZ	**Pokaka**	**7.64**	**208**	P		P	08 09 38.2	+0.2
PXZ	**Pawanui**	**7.82**	**198**	P		P	08 09 40.3	+0.5
PNHZ	**Pukenui**	**7.89**	**201**	P		P	08 09 39.7	-0.9
PRHZ	**Porangahau**	**8.10**	**198**	P		P	08 09 43.8	+1.1
TSZ	**Takapari Road**	**8.10**	**202**	P		P	08 09 41.2	-1.7
BFZ	**Birch Farm**	**8.59**	**199**	P		P	08 09 48.8	+0.9
MRZ	**Mangatainoka R**	**8.77**	**202**	P		P	08 09 49.1	-0.8

OGWZ	**Otaki Gorge**	**9.05**	**204**	P		P	08 09 52.0	-0.9

*BJI **28** 08:07:57.6±0.0, 22˚.83N×121˚.13E, h8km, mb4.4/25, mB4.5/17, ML3.9/7, Ms3.9/21, Ms7 3.7/22*
*NIED **28** 08:07:58.8, 22˚.98N×121˚.35E, h0km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-0.40; Mθθ-1.43; Mϕϕ1.83; Mrθ1.17; Mθϕ-0.90; Mϕr-2.36; Fault plane solution: M₀3.02000×10¹⁵ NP1: ϕs319.00000°, δ83.00000°, λ-117.00000°. NP2: ϕs216.00000°, δ28.00000°, λ-15.00000°.*
*JMA **28** 08:07:58.7±0.4, 22˚.98N×121˚.35E, h0km, M4.7*
*TAP **28** 08:07:59.9, 22˚.80N×121˚.13E, h27km, ML4.8, B*
*NEIC **28** 08:08:00.2, 22˚.82N×121˚.21E, h33km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.69; Mθθ-2.26; Mϕϕ0.57; Mrθ0.90; Mθϕ-1.45; Mϕr-1.40; Fault plane solution: M₀3.01000×10¹⁵ NP1:ϕs214.26000°, δ53.99000°, λ36.88000°. NP2:ϕs100.46000°, δ60.96000°, λ137.74000°. Principal axes: T 3.1069, Plg49.0000°, Azm64.0000°; N -0.2119, Plg40.0000°, Azm252.0000°; P -2.8950, Plg4.0000°, Azm159.0000°;*
*NEIC **28** 08:08:00.7±1.9, 22˚.83N±0˚.06×121˚.26E±0˚.04, h34km±5km, mb4.5/74, Mwr4.3/10, ML4.9(TAP) Error ellipse: s-maj=9.5km s-min=4.0km az=164.0*
*IDC **28** 08:08:03.1±2.6, 22˚.78N×121˚.46E, h67km±22km, mb4.0/25, mb1 4.1/28, mb1mx3.9/57, mbtmp4.3/28, MS3.5/21, Ms1 3.5/21, ms1mx3.2/88, Error ellipse: s-maj=16.8km s-min=12.8km az=59.0*

ISC 28 08:07:59.8±0.6, **22.79N**±0˚.02×**121˚.26E**±0˚.02, **h30**km±4km, **n289**, σ1§**45**/396, **mb4.5**/62, **MS3.5**/19, **22C-57D, Fault plane solution: NP1**:ϕs230.76270°, δ80.36174°, λ42.41089°. **NP2**:ϕs132.06725°, δ48.32361°, λ167.04657°.
Principal axes: T Plg36.0549°, Azm100.5392°; N Plg46.7111°, Azm241.1489°; P Plg20.5964°, Azm354.6613°; **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTN	**Taitung**	**0.11**	**250**	⇑*i*P		**Pb**	**08 08 05.3**	**+0.1**
	baz=156							
TTN				*e*S		**Sb**	**08 08 09.1**	**+0.3**
	baz=156							
LONT	**Longtian**	**0.16**	**314**	⇑*i*P		**Pb**	**08 08 04.8**	**-0.8**
	baz=359							
LONT				*i* S		**Sb**	**08 08 08.4**	**-1.2**
	baz=359							
TWG	**Pinlang**	**0.17**	**280**	⇑*i*P		**Pb**	**08 08 04.6**	**-1.2**
	baz=290							
TWG				*i* S		**Sb**	**08 08 07.9**	**-1.9**
	baz=290							
EDH	**Donghe**	**0.18**	**14**	⇓*i*P		**Pn**	**08 08 06.1**	**-0.5**
	baz=43							
EDH				S		**Sb**	**08 08 10.6**	**+0.6**
	baz=43							
LDUT	**Ludao**	**0.23**	**121**	⇓*i*P		**Pb**	**08 08 07.4**	**+1.1**
	baz=112							
LDUT				S		**Sn**	**08 08 13.1**	**+1.3**
	baz=112							
ECS	**Chishang**	**0.30**	**353**	⇓*i*P		**Pb**	**08 08 07.0**	**-0.3**
	baz=15							
ECS				*e*S		**Sb**	**08 08 12.0**	**-0.4**
	baz=15							
CHKT	**Chengkung**	**0.32**	**18**	⇓*i*P		**Pn**	**08 08 07.8**	**-0.6**
	baz=37							
CHKT				S		**Sn**	**08 08 13.7**	**-0.4**
	baz=37							
ECL	**Taimali**	**0.34**	**235**	⇑*i*P		**Pb**	**08 08 06.2**	**-1.6**
	baz=218							
ECL				*i* S		**Sb**	**08 08 10.7**	**-2.5**
	baz=218							
FULB	**Fuli**	**

TWM1 eS Sn 08 08 26.6 +1.4
baz=272
CHN1 Nanshi 0.78 300 ⇓P Pn 08 08 14.2 -0.5
baz=305
CHN1 eS Sn 08 08 24.6 -0.8
baz=305
LAY Lan-yu 0.80 160 ⇓iP Pb 08 08 14.1 -1.1
baz=153
LAY eS Sb 08 08 24.9 -0.7
baz=153
SNST Tainan City 0.82 301 ⇓eP Pb 08 08 14.6 -0.9
baz=306
SNST eS Sn 08 08 25.6 -0.8
baz=306
CHN4 Tsaushan 0.83 312 ⇓eP Pn 08 08 15.0 -0.4
baz=318
CHN4 eS Sn 08 08 26.6 0.0
baz=318
ALS Alishan 0.83 330 ⇓eP Pb 08 08 15.0 -0.8
baz=337
ALS eS Sn 08 08 27.0 -0.1
baz=337
SNJT Kaohsiung City 0.85 268 eP Pn 08 08 16.5 +0.8
baz=266
SNJT eS Sn 08 08 29.8 +2.6
baz=266
TWK Hsinying 0.85 304 ⇓eP Pb 08 08 15.1 -1.0
baz=308
TWK eS Sn 08 08 26.5 -0.8
baz=308
SMST Manzhou Townsh 0.86 207 ⇓eP Pn 08 08 14.2 -1.7
baz=199
SMST eS Sb 08 08 24.5 -2.9
baz=199
SHHT Tainan City 0.87 285 ⇑eP Pn 08 08 16.6 +0.6
baz=287
SHHT eS Sn 08 08 29.0 +1.4
baz=287
CHN3 Shinhua 0.87 289 eP Pn 08 08 16.8 +0.9
baz=291
CHN3 eS Sn 08 08 29.5 +1.9
baz=291
EGFH Guangfu 0.89 10 eP Pn 08 08 14.4 -1.9
baz=17
KAU Kaohsiung 0.90 256 eP Pb 08 08 17.6 +0.6
baz=253
KAU eS Sn 08 08 31.5 +3.0
baz=253
HEN Hengchun 0.92 212 eP Pn 08 08 15.6 -1.0
baz=204
WLCH Liuqiu 0.92 242 eP Pb 08 08 18.9 +1.6
baz=237
WLCH eS Sn 08 08 34.4 +5.5
baz=237
WSSB Gushan 0.93 261 ⇑eP Pb 08 08 17.7 +0.3
baz=259
WSSB eS Sn 08 08 31.2 +2.1
baz=259
TWP Hsiaoliuchiu 0.94 242 eP Pb 08 08 18.7 +1.2
baz=237
TWP eS Sn 08 08 34.8 +5.5
baz=237
TWK1 Hengchun 0.94 206 ⇓eP Pn 08 08 15.7 -1.2
baz=199
TWK1 eS Sb 08 08 28.3 -1.4
baz=199
TSEB Hengchuen, Pin 0.95 200 eP Pn 08 08 16.1 -0.9
baz=196
TSEB eS Sb 08 08 29.3 -0.5
baz=196
TEGC Jichi Village 0.95 16 eP Pn 08 08 16.8 -0.3
baz=23
TEGC eS Sn 08 08 30.0 +0.4
baz=23
CHN5 Tsauling 0.96 327 ⇓eP Pb 08 08 17.4 -0.5
baz=332
CHN5 eS Sn 08 08 31.3 +1.2
baz=332
VWDT VWDT 0.96 354 ⇓eP Pn 08 08 16.7 -0.5
baz=1.0
VWDT eS Sn 08 08 29.6 -0.4
baz=1.0
TAI1 Yung-k'ang 0.98 285 eP Pb 08 08 20.4 +2.2
baz=286
TAI1 eS Sn 08 08 31.1 +0.7
baz=286
TAI Tainan 1.00 282 eP Pb 08 08 18.2 -0.3
baz=283
CHN2 Minshiung 1.03 316 ⇓eP Pb 08 08 18.7 -0.3
baz=320
CHN2 eS Sn 08 08 33.3 +1.7
baz=320
ESL Shilin 1.03 9 eP Pn 08 08 16.3 -1.9
baz=16
ESL eS Sn 08 08 28.9 -2.8
baz=16
CHY Chiayi 1.04 313 ⇓eP Pb 08 08 18.4 -0.8
baz=317
CHY eS Sn 08 08 32.4 +0.5
baz=317
SCLT Jiali 1.05 292 eP Pb 08 08 18.4 -1.0
baz=293
SCLT eS Sb 08 08 32.9 +0.1
baz=293
ICHU Yijhu 1.06 302 ⇓eP Pn 08 08 18.4 -0.2
baz=305
ICHU eS Sb 08 08 32.6 -0.6
baz=305
WGK Gukeng 1.10 324 ⇓eP Pb 08 08 19.7 -0.4
baz=330
WGK eS Sb 08 08 35.2 +1.1
baz=330
CHN8 Yiju 1.11 300 eP Pn 08 08 19.0 -0.3
baz=303
CHN8 eS Sb 08 08 33.5 -1.0
baz=303
WDLH Douliu 1.11 324 ⇓eP Pb 08 08 19.9 -0.5
baz=328
WDLH eS Sb 08 08 35.7 +1.1
baz=328
TEYL Yanliau Villag 1.12 16 eP Pn 08 08 19.2 -0.1
baz=21
TEYL eS Sn 08 08 33.6 -0.1
baz=21
WJS Zhushan 1.14 335 ⇓eP Pb 08 08 20.6 -0.2
baz=340
WJS eS Sb 08 08 36.5 +1.3
baz=340
OWD Renai 1.16 356 ⇓eP Pn 08 08 19.4 -0.8
baz=2.0
OWD eS Sn 08 08 33.7 -1.3
baz=2.0
TYC Yuchr 1.17 342 ⇓eP Pb 08 08 21.1 -0.3
baz=348
TYC eS Sb 08 08 37.2 +1.1
baz=348
ETM Tongmen 1.19 10 eP Pn 08 08 18.8 -1.5
baz=16
WTK Tuku 1.20 318 ⇓eP Pb 08 08 20.6 -1.3
baz=322
WTK eS Sb 08 08 36.7 -0.3
baz=322
WNT Mingjian 1.20 334 ⇓eP Pb 08 08 22.1 +0.1
baz=339
WNT eS Sb 08 08 38.4 +1.3
baz=339
HWA Hwalien 1.22 15 eP Pn 08 08 20.3 -0.5
baz=21
WNT1 Nantou City 1.23 335 eP Pb 08 08 22.4 -0.1
baz=339
WNT1 eS Sb 08 08 39.5 +1.5
baz=339
WSF Szhu 1.27 312 eP Pn 08 08 21.3 -0.1
baz=315
WSF eS Sb 08 08 38.0 -1.1
baz=315
DPDB Guoxing 1.27 346 eP Pb 08 08 22.8 -0.4
baz=351
DPDB eS Sb 08 08 39.5 +0.3
baz=351
WCS Beigang Elemen 1.30 346 ⇓eP Pb 08 08 23.1 -0.5
baz=351
WCS eS Sb 08 08 39.8 -0.1
baz=351
TWD Chiawan 1.32 14 eP Pb 08 08 23.1 -0.9
baz=19
WYL Yuanlin Townsh 1.32 332 eP Pb 08 08 23.2 -0.8
baz=336

WHF Hehuan Shan 1.35 0 eP Pn 08 08 22.2 -0.7
baz=6.0
WWF Wufeng 1.35 338 eP Pb 08 08 24.3 -0.1
baz=342
WWF eS Sb 08 08 42.7 +1.4
baz=342
WRL Guolierlin Hig 1.37 324 eP Pn 08 08 22.9 +0.1
baz=328
WMLT Mailiao 1.39 317 eP Pb 08 08 23.6 -1.4
baz=320
WTCT Ta-ch'eng 1.39 320 eP Pn 08 08 23.2 0.0
baz=324
ETL Fush Village 1.40 14 eP Pn 08 08 22.1 -1.2
baz=18
NACB Ninganchiao 1.41 13 Pn 08 08 22.0 -1.4
NACB Sn Sb 08 08 41.8 -1.3
NACB Ninganchiao 1.41 13 eP Pn 08 08 21.8 -1.7
baz=17
ETLH Xiulin Townshi 1.42 8 eP Pn 08 08 22.2 -1.5
baz=13
WCHH Zhanghua 1.43 334 eP Pb 08 08 24.8 -1.1
baz=338
WCHH eS Sb 08 08 44.4 +0.7
baz=338
FUSS Fushou 1.45 360 ⇓eP Pn 08 08 23.1 -1.1
baz=4.0
TCU Taichung 1.45 339 ⇓eP Pb 08 08 25.6 -0.6
baz=343
TCU eS Sb 08 08 45.0 +0.7
baz=343
TWT Tachien 1.46 357 eP Pn 08 08 24.8 +0.5
baz=1.0
TWT eS Sn 08 08 42.4 0.0
baz=1.0
TDCB Techi 1.46 356 ⇓eP Pn 08 08 24.7 +0.5
baz=1.0
TDCB eS Sn 08 08 41.5 -0.9
baz=1.0
WHP Taichung City 1.51 349 ⇑eP Pb 08 08 26.5 -0.7
baz=353
WHP eS Sb 08 08 47.3 +1.4
baz=353
WDGT Dungji 1.54 288 ⇓eP Pn 08 08 24.2 -1.0
baz=289
WDGT eS Sn 08 08 41.8 -2.5
baz=289
TWQ1 Liyutan 1.61 344 eP Pb 08 08 28.0 -0.9
baz=348
TWQ1 eS Sb 08 08 49.4 +0.5
baz=348
NNS Nan Shan 1.65 4 eP Pn 08 08 26.8 0.0
baz=8.0
NNS eS Sn 08 08 47.3 +0.3
baz=8.0
WDJ Dajia District 1.65 340 eP Pb 08 08 28.1 -1.5
baz=344
WDJ eS Sb 08 08 49.7 -0.2
baz=344
NSY Sanyi 1.68 344 eP Pb 08 08 29.0 -1.0
baz=348
NSY eS Sb 08 08 51.6 +0.8
baz=348
ENA Nanau 1.69 15 eP Pn 08 08 26.5 -0.8
baz=19
EWUT Wuta 1.71 16 eP Pn 08 08 27.7 +0.1
baz=20
EWUT eS Sn 08 08 48.0 -0.5
baz=20
VCHM Qimei 1.73 284 eP Pn 08 08 26.7 -1.1
baz=285
VCHM eS Sn 08 08 46.0 -2.9
baz=285
PNG Penghu 1.75 297 eP Pn 08 08 27.0 -1.0
baz=298
PNG eS Sn 08 08 46.8 -2.5
baz=298
NMLH Miaoli 1.79 346 eP Pb 08 08 30.2 -1.7
baz=350
NMLH eS Sn 08 08 50.4 +0.1
baz=350
NDT Datong Townshi 1.82 7 eP Pn 08 08 29.3 +0.2
baz=11
NDT eS Sb 08 08 53.7 -1.1
baz=11
NFF Wufeng Townshi 1.84 356 eP Pb 08 08 31.1 -1.7
baz=360
NFF eS Sb 08 08 54.6 -0.8
baz=360
NSTT Nanjuang 1.85 353 eP Pb 08 08 31.1 -1.8
baz=356
NSTT eS Sb 08 08 54.3 -1.3
baz=356
LIOB Emei 1.86 353 eP Pb 08 08 31.3 -1.8
baz=357
LIOB eS Sb 08 08 55.3 -0.6
baz=357
ENTT Nioudou 1.86 9 eP Pn 08 08 29.4 -0.2
baz=12
ENTT eS Sb 08 08 53.9 -2.2
baz=12
NDS Dongshan 1.88 13 eP Pn 08 08 30.9 +0.9
baz=16
TWC Suao 1.89 17 eP Pn 08 08 30.6 +0.6
baz=20
TWC eS Sn 08 08 53.4 +0.6
baz=20
TWE Neicheng 1.96 11 eP Pn 08 08 31.7 +0.8
baz=15
NWLT Wulai 1.99 6 eP Pn 08 08 32.3 +0.8
baz=10.0
NTC Toucheng 2.12 14 eP Pb 08 08 35.4 -2.2
baz=17
TATO Taipei 2.18 6 Pn 08 08 34.3 +0.3
TATO Sn Sn 08 09 00.9 +0.8
TATO Taipei 2.18 6 eP Pn 08 08 35.2 +1.1
baz=9.0
TIPB Shuangxi 2.23 13 eP Pn 08 08 35.5 +0.7
baz=16
JYNG Yonaguni jima 2.26 43 P Pn 08 08 36.3 +1.2
JYNG S Sn 08 09 03.3 +1.2
TWB1 Santiao Chiao 2.31 17 eP Pn 08 08 37.2 +1.5
baz=20
YOJ Yonaguni jima 2.31 44 P Pn 08 08 36.9 +1.1
YOJ eS Sn 08 09 04.4 +1.1
YOJ Yonaguni jima 2.31 44 Pn Pn 08 08 36.2 +0.3
YOJ Sn Sn 08 09 03.3 0.0
YOJ Yonaguni jima 2.31 44 eP Pn 08 08 36.9 +1.1
baz=46
YOJ eS Sn 08 09 04.4 +1.1
baz=46
NWF Wu-fen Shan 2.32 12 eP Pn 08 08 36.5 +0.5
baz=15
WFSB Wu-fen Shan 2.32 12 eP Pn 08 08 36.5 +0.6
baz=15
YM01 YM01 2.36 7 eP Pn 08 08 38.2 +1.7
baz=10.0
HATJ Hateruma jima 2.66 61 P Pn 08 08 41.4 +0.8
HATJ eS Sn 08 09 12.5 +0.7
IRIF Iriomote-Funau 2.74 55 P Pn 08 08 42.8 +1.1
IRIF S Sn 08 09 15.1 +1.3
JKRS Kuro-shima 2.91 60 P Pn 08 08 45.2 +1.2
JKRS eS Sn 08 09 19.5 +1.6
PTMZ Houxiangcun 2.97 319 eP Pn 08 08 42.3 -2.6
baz=320
KNM Kinmen 3.05 303 eP Pn 08 08 46.6 +0.6
baz=302
JIJ Ishigaki jima 3.08 59 P Pn 08 08 46.9 +0.6
JIJ eS Sn 08 09 21.5 -0.6
QZH Quanzhou 3.25 312 ⇓iPn Pn 08 08 47.8 -0.9
QZH Sn Sn 08 09 23.5 -2.8
QZH smax smax
comp=N,260nm,0.3s
QZH smax smax
comp=E,310nm,0.4s
JISG Ishigakijimahi 3.32 57 P Pn 08 08 50.1 +0.4
JISG S Sn 08 09 28.7 +0.6
ZPLA Ao Xicun 3.42 290 eP Pn 08 08 50.2 -0.7
baz=290
ZPLA eS Sn 08 09 27.3 -3.2
baz=290
MSUT Lienchiang 3.58 340 eP Pn 08 08 53.3 +0.1
baz=342
JTJ Tarama 3.66 59 P Pn 08 08 55.1 +0.8
JTJ S Sn 08 09 37.3 +0.9
AXDP Jialang 3.67 306 eP Pn 08 08 53.6 -0.9
baz=306
AXDP eS Sn 08 09 32.5 -4.3

baz=306
MHZQ Yeshan 3.87 329 eP Pn 08 08 56.9 -0.3
baz=330
LYJJ Jianjiangzhen 3.98 340 ⇓eP Pn 08 08 58.7 -0.1
baz=342
LYJJ eS Sn 08 09 42.4 -2.1
baz=342
JIRB Irabujima 4.12 60 P Pn 08 09 01.3 +0.6
JIRB S Sn 08 09 48.1 +0.2
JMJ2 Miyako jima3 4.20 62 P Pn 08 09 03.2 +1.4
JMJ2 eS Sn 08 09 50.6 +0.7
JMJ Miyako jima 2 4.21 61 eP Pn 08 09 02.9 +1.0
baz=62
JMJ eS Sn 08 09 50.5 +0.5
baz=62
JIKM Ikemajima 4.22 59 P Pn 08 09 03.6 +1.5
JIKM eS Sn 08 09 50.8 +0.3
XPSS Dashiqiu 4.23 347 eP Pn 08 09 02.2 -0.1
baz=348
JOGS Gusukube 4.28 62 P Pn 08 09 03.8 +1.0
JOGS S Sn 08 09 52.6 +0.9
SXFK Yanhouchang 4.87 318 ⇓eP Pn 08 09 10.2 -0.9
baz=318
CVP Callao Caves 5.09 174 eP Pn 08 09 14.9 +0.8
HKPS Hong Kong Po S 6.60 267 Pn Pn 08 09 35.0 +0.3
JOW Kunigami 7.54 56 P Pn 08 09 46.8 -0.9
6.1nm,0.3s,baz=149,slow=19,SNR=12
JOW S Sn 08 11 08.8 -3.4
1.3nm,0.3s,baz=323,slow=20,SNR=1.5
JOW Kunigami 7.54 56 Pn Pn 08 09 47.0 -0.6
WHN Wuhan 9.88 323 ⇑P Pn 08 10 18.3 -1.5
WHN S Sn 08 12 08.5 -1.3
WHN LR LR
comp=N,970nm,7.0s
WHN LR LR
comp=E,860nm,6.0s
WHN LR LR
comp=Z,970nm,15.7s
GULI GuiLin 10.26 286 P Pn 08 10 25.0 0.0
GULI S Sn 08 12 13.8 -5.2
GULI LR LR
comp=N,210nm,5.7s
GULI LR LR
comp=E,310nm,11.8s
GULI LR LR
comp=Z,330nm,16.4s
QIZ Qiongzhong 11.30 253 P Pn 08 10 37.8 -1.5
QIZ S Sn 08 12 45.5 +0.8
QIZ LR LR
comp=N,430nm,17.2s
QIZ LR LR
comp=E,360nm,12.9s
QIZ LR LR
comp=Z,390nm,11.3s
JNU Nakatsue 13.34 37 LR LR 08 17 35.4
comp=Z,70nm,19.4s,baz=198,slow=43
LYN LuoYang 14.02 329 eP Pn 08 11 19.0 +2.7
LYN S Sn 08 13 55.8 +4.9
LYN pmax pmax
comp=Z,90nm,6.7s
LYN LR LR
comp=N,380nm,13.0s
LYN LR LR
comp=E,180nm,13.7s
LYN LR LR
comp=Z,360nm,13.1s
XAN Xi'an 15.58 319 P P 08 11 43.3 +2.0
XAN pP pP 08 11 50.3 +0.9
XAN pmax pmax
comp=Z,9.0nm,1.0s
HNS HongShan 15.62 340 ⇓P P 08 11 44.0 +2.4
HNS S S 08 14 43.0 -1.3
HNS pmax pmax
comp=Z,14nm,1.0s
HNS LR LR
comp=N,280nm,13.0s
HNS LR LR
comp=Z,380nm,14.1s
KSRS Korea Array 15.70 20 P Pn 08 11 39.5 +0.7
comp=Z,0.3nm,0.3s,baz=199,slow=12,SNR=9.9
KSRS S Sn 08 14 28.1 -3.8
comp=Z,0.3nm,0.3s,baz=120,slow=23,SNR=2.0
KSRS LR LR 08 18 27.7
comp=Z,140nm,18.7s,baz=205,slow=40
DAV Davao City (W) 16.18 164 LR LR 08 18 18.8
comp=Z,154nm,19.0s,baz=332,slow=38
BJI Beijing 17.73 347 P P 08 12 06.5 +1.5
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,120nm,7.3s
BJI LR LR
comp=Z,220nm,15.7s
BJI LR LR
comp=Z,140nm,15.7s
BJI LR LR
comp=Z,310nm,15.8s
PZH PanZhiHua 18.12 286 P P 08 12 10.5 +1.0
PZH S Sn 08 15 28.0 -2.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.8s
PZH LR LR
comp=Z,190nm,13.3s
PZH LR LR
comp=Z,190nm,13.8s
PZH LR LR
comp=Z,160nm,15.0s
JHJ Hachijo jima 2 19.30 54 LR LR 08 19 21.0
comp=Z,70nm,20.5s,baz=233,slow=35
HHC Hu-ho-hao-te 19.77 338 eP Pn 08 12 30.0 +0.8
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,65nm,4.3s
HHC LR LR
comp=Z,320nm,13.6s
HHC LR LR
comp=Z,200nm,13.3s
HHC LR LR
comp=Z,280nm,14.6s
MAJO Matsushiro 20.07 43 P 08 12 31.1 +0.3
MJAR Matsushiro Arr 20.07 43 P P 08 12 30.8 0.0
comp=Z,0.1nm,0.3s,baz=240,slow=8.7,SNR=3.2
MJAR LR LR 08 20 28.5
comp=Z,83nm,21.3s,baz=222,slow=37
MJAR Matsushiro Arr 20.07 43 P P 08 12 30.3 -0.5
MJB9 Matsu-Tunnel 20.07 43 P P 08 12 30.8 0.0
LZH Lanzhou 20.09 315 eP Pn 08 12 34.5 +1.4
LZH pP pP 08 12 38.0 -1.4
LZH pmax pmax
comp=Z,23nm,1.2s
LZH LR LR
comp=Z,320nm,12.5s
LZH LR LR
comp=Z,290nm,12.1s
LZH LR LR
comp=Z,350nm,15.3s
JSD Sado 21.06 40 P P 08 12 44.4 +2.9
JSD lAmb lAmb 08 12 46.0
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 21.32 262 P P 08 12 47.2 +2.8
comp=Z,2.1nm,0.3s,baz=68,slow=8.2,SNR=6.2
CMAR LR LR 08 22 15.7
comp=Z,147nm,18.7s,baz=80,slow=40
JMM Marumori 22.52 44 P P 08 12 55.3 -1.7
JMM lAmb lAmb 08 12 60.0
comp=Z,20nm,0.7s
USRK Ussuriysk Ar. 23.11 20 P P 08 13 03.9 +0.8
comp=Z,1.3nm,0.5s,baz=190,slow=9.2,SNR=2.8
GUMO Guam 24.20 108 LR LR 08 20 34.0
comp=Z,50nm,21.5s,baz=260,slow=31
JTM Tenmabayashi 24.51 38 P P 08 13 15.3 -1.2
GOMU GeErMu 26.51 306 P P 08 13 38.8 +3.7
GOMU pP pP 08 13 42.8 -1.1
GOMU sP sP 08 13 44.5 -3.2
GOMU PcP PcP 08 17 02.8 +3.3
GOMU S S 08 18 15.0 +7.2
GOMU sS sS 08 18 21.0 -2.3
GOMU pmax pmax
comp=Z,3.0nm,1.2s
GOMU pmax pmax
comp=Z,79nm,7.7s
GOMU LR LR
comp=Z,110nm,11.5s

GOMU					LR	LR		
	comp=Z,180nm,15.4s							
GOMU					LR	LR		
	comp=Z,170nm,14.8s							
ULN	**Ulaanbaatar**	**27.48**	**339**		P	**P**	**08 13 42.9**	**-0.6**
ULN					IAmb	IAmb	08 13 46.7	
	comp=Z,19nm,1.3s							
ASAJ	**Asahikawa**	**27.59**	**34**		P	**P**	**08 13 44.0**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=215,slow=12,SNR=1.4							
ASAJ					LR	LR	08 24 05.0	
	comp=Z,64nm,21.1s,baz=172,slow=35							
JKA	**Kamikawa-asahi**	**27.59**	**34**		P	**P**	**08 13 44.0**	**-0.3**
JKA	**Kamikawa-asahi**	**27.59**	**34**		IAmb	IAmb	08 13 52.6	
	comp=Z,14nm,1.2s							
KLR	**Kul'dur**	**27.66**	**15**		LR	LR	08 25 54.8	
	comp=Z,151nm,19.3s,baz=210,slow=39							
SONM	**Songino Array**	**27.68**	**338**		P	**P**	**08 13 45.4**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=156,slow=9.5,SNR=20							
SONM					LR	LR	08 25 49.5	
	comp=Z,211nm,18.9s,baz=180,slow=38							
SONM	**Songino Array**	**27.68**	**338**		P	**P**	**08 13 44.7**	**-0.4**
SONM					IAmb	IAmb	08 13 47.0	
	comp=Z,7.2nm,1.1s							
PSI	**Prapat**	**29.39**	**231**		LR	LR	08 24 45.0	
	comp=Z,135nm,18.8s,baz=44,slow=34							
WMQ	**Urumqi**	**34.68**	**315**	*e*	P	**P**	**08 14 48.8**	**+2.0**
KNRA	**Kununurra**	**38.93**	**168**		P	**P**	**08 15 22.5**	**-0.6**
KNRA					IAmb	IAmb	08 15 26.4	
	comp=Z,9.3nm,1.2s							
MK31	**Makanchi Array**	**39.39**	**317**		P	**P**	**08 15 27.4**	**+0.6**
MK31					IAmb	IAmb	08 15 29.4	
	comp=Z,8.4nm,1.2s							
MKAR	**Makanchi Array**	**39.39**	**317**		P	**P**	**08 15 27.3**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=110,slow=9.7,SNR=23							
MKAR					PcP	**PcP**	**08 17 33.0**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=78,slow=2.1,SNR=4.7							
MKAR					LR	LR	08 32 59.1	
	comp=Z,120nm,19.1s,baz=98,slow=38							
MAKZ	**Makanchi**	**39.59**	**317**		P	**P**	**08 15 28.4**	**-0.1**
MAKZ					IAmb	IAmb	08 15 31.7	
	comp=Z,9.3nm,1.1s							
YAK	**Yakutsk**	**39.64**	**6**		LR	LR	08 33 11.6	
	comp=Z,65nm,20.9s,baz=267,slow=38							
FITZ	**Fitzroy Crossi**	**40.87**	**174**		P	**P**	**08 15 37.8**	**-1.3**
PEA0B	**Petropavlovsk-**	**40.98**	**33**		P	**P**	**08 15 38.1**	**-1.7**
PEA0B					IAmb	IAmb	08 16 02.9	
	comp=Z,18nm,1.4s							
PETK	**Petropavlovsk-**	**40.98**	**33**		LR	LR	08 32 56.5	
	comp=Z,57nm,18.4s,baz=231,slow=36							
PETK	**Petropavlovsk-**	**40.98**	**33**		P	**P**	**08 15 39.2**	**-0.7**
ZAA0	**Zalesovo Array**	**41.45**	**328**		P	**P**	**08 15 43.6**	**-0.1**
ZAA0					IAmb	IAmb	08 15 44.6	
	comp=Z,15nm,0.7s							
ZALV	**Zalesovo Beam**	**41.45**	**328**		P	**P**	**08 15 43.7**	**+0.1**
	comp=Z,17nm,0.7s,baz=114,slow=7.8,SNR=55							
ZALV					LR	LR	08 33 55.2	
	comp=Z,68nm,20.2s,baz=52,slow=37							
ZALV	**Zalesovo Beam**	**41.45**	**328**		P	**P**	**08 15 43.5**	**-0.1**
PALK	**Pallekele**	**41.92**	**255**		LR	LR	08 34 09.2	
	comp=Z,56nm,18.2s,baz=166,slow=37							
MA2	**Magadan**	**42.24**	**22**		P	**P**	**08 15 48.9**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=156,slow=20,SNR=4.9							
MA2					LR	LR	08 34 22.5	
	comp=Z,60nm,18.2s,baz=226,slow=37							
MA2	**Magadan**	**42.24**	**22**		IAmb	IAmb	08 15 52.1	
	comp=Z,3.9nm,1.0s							
COEN	**Coen**	**42.37**	**147**		P	**P**	**08 15 51.5**	**0.0**
H11N1	**WAKE ISLAND Hy**	**42.52**	**85**		T	T	09 01 13.5	
	baz=282,slow=74,SNR=43							
H11N2	**WAKE ISLAND Hy**	**42.52**	**85**		T	T	09 01 09.7	
	baz=282,slow=74,SNR=52							
H11N3	**WAKE ISLAND Hy**	**42.53**	**85**		T	T	09 01 12.5	
	baz=282,slow=74,SNR=68							
H11S3	**WAKE ISLAND Hy**	**42.60**	**87**		T	T	09 01 16.6	
	baz=284,slow=75,SNR=118							
H11S1	**WAKE ISLAND Hy**	**42.61**	**87**		T	T	09 01 17.4	
	baz=284,slow=75,SNR=66							
H11S2	**WAKE ISLAND Hy**	**42.62**	**87**		T	T	09 01 19.5	
	baz=284,slow=75,SNR=76							
KURK	**Kurchatov**	**43.20**	**321**		P	**P**	**08 15 58.5**	**+0.6**
KURK					IAmb	IAmb	08 15 59.6	
	comp=Z,8.4nm,0.8s							
KURBB	**Kurchatov Arra**	**43.22**	**321**		P	**P**	**08 15 58.9**	**+0.8**
	comp=Z,11nm,1.0s,baz=120,slow=6.9,SNR=42							
KURBB					PcP	**PcP**	**08 17 45.6**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=109,slow=2.9,SNR=3.7							
PSA00	**Pilbara Seismi**	**44.12**	**182**		P	**P**	**08 16 05.0**	**-0.5**
WB0	**Warramunga Arr**	**44.20**	**162**		P	**P**	**08 16 04.5**	**-1.8**
WRAB	**Tennant Creek**	**44.35**	**162**		P	**P**	**08 16 05.2**	**-2.3**
WRA	**Warramunga Arr**	**44.35**	**162**		P	**P**	**08 16 05.5**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=342,slow=8.4,SNR=15							
WRA					PcP	**PcP**	**08 17 50.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=347,slow=3.9,SNR=1.9							
WB2	**Warramunga Arr**	**44.36**	**162**		P	**P**	**08 16 06.2**	**-1.3**
WB2					IAmb	IAmb	08 16 19.9	
	comp=Z,7.8nm,1.5s							
WR0	**Warramunga Arr**	**44.43**	**162**		P	**P**	**08 16 06.5**	**-1.6**
WR0					IAmb	IAmb	08 16 10.0	
	comp=Z,10nm,1.4s							
KKAR	**Karatay Array**	**46.38**	**308**		P	**P**	**08 16 22.9**	**-0.5**
KKAR					PcP	**PcP**	**08 17 57.9**	**-0.1**
AS31	**Alice Springs**	**47.79**	**164**		P	**P**	**08 16 34.3**	**-0.3**
ASAR	**Alice Springs**	**47.79**	**164**		P	**P**	**08 16 33.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=340,slow=6.9,SNR=21							
ASAR					PcP	**PcP**	**08 18 02.0**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=351,slow=3.6,SNR=4.2							
ASAR					ScP	**ScP**	**08 21 49.2**	**-6.3**
	comp=Z,0.2nm,0.8s,baz=5.1,slow=5.2,SNR=1.7							
ASAR	**Alice Springs**	**47.79**	**164**		P	**P**	**08 16 35.1**	**+0.6**
BVAR	**Borovoye Array**	**48.79**	**321**		P	**P**	**08 16 41.9**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=180,slow=5.5,SNR=13							
BVAR					PcP	**PcP**	**08 18 06.1**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=218,slow=12,SNR=6.7							
BRVK	**Borovoye**	**48.87**	**321**		P	**P**	**08 16 43.4**	**+0.9**
TIXI	**Tiksi**	**49.08**	**3**		P	**P**	**08 16 43.0**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=261,slow=15,SNR=3.6							
TIXI					LR	LR	08 39 21.7	
	comp=Z,82nm,18.9s,baz=184,slow=38							
TIXI	**Tiksi**	**49.08**	**3**		IAmb	IAmb	08 16 44.2	
	comp=Z,6.7nm,1.5s							
ABKAR	**Akbulak array**	**54.46**	**315**		P	**P**	**08 17 25.4**	**+1.0**
ABKAR					IAmb	IAmb	08 17 26.1	
	comp=Z,4.1nm,0.8s							
GEYT	**Alibeck**	**55.56**	**301**		P	**P**	**08 17 33.5**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=45,slow=10,SNR=2.4							
AKTO	**Aktyubinsk**	**55.82**	**316**		P	**P**	**08 17 34.8**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=121,slow=8.4,SNR=7.2							
ARU	**Arti**	**56.26**	**324**		P	**P**	**08 17 36.9**	**-0.3**
	comp=Z,5.1nm,0.5s,baz=106,slow=3.9,SNR=19							
ARU	**Arti**	**56.26**	**324**		P	**P**	**08 17 37.2**	**0.0**
BBOO	**Buckleboo**	**57.07**	**165**		P	**P**	**08 17 43.6**	**+0.5**
WSAR	**Wadi Sarin**	**57.22**	**284**		LR	LR	08 46 24.9	
	comp=Z,24nm,18.4s,baz=112,slow=40							
STKA	**Stephens Creek**	**57.74**	**160**		P	**P**	**08 17 48.6**	**+0.7**
KIRV	**Kirov**	**61.40**	**325**		P	**P**	**08 18 12.1**	**-0.7**
	comp=Z,16nm,0.6s,baz=165,slow=2.7,SNR=5.2							
ANM	**Nome**	**62.52**	**28**		P	**P**	**08 18 21.6**	**+1.3**
GNI	**Garni**	**65.65**	**305**		LR	LR	08 51 12.5	
	comp=Z,23nm,18.9s,baz=153,slow=39							
ONI	**Oni**	**66.19**	**308**		P	**P**	**08 18 44.8**	**-0.1**
KLMR	**Klimovskoe**	**66.37**	**328**	*eP*		**P**	**08 18 42.5**	**-3.0**
KLMR					AMP		08 18 47.8	
	comp=Z,18nm,1.2s							
KBZ	**Khabaz**	**66.40**	**309**		P	**P**	**08 18 46.2**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=118,slow=4.3,SNR=20							
TTA	**Tatalina**	**66.68**	**30**			**P**	**08 18 47.7**	**+0.1**
TTA					IAmb	IAmb	08 18 55.0	
	comp=Z,5.8nm,1.3s							
J20K	**Nowinta River**	**67.40**	**28**		P	**P**	**08 18 51.9**	**-0.1**
J20K					IAmb	IAmb	08 18 58.6	
	comp=Z,5.1nm,1.1s							
K20K	**Telida**	**67.52**	**29**		P	**P**	**08 18 53.3**	**+0.5**
K20K					IAmb	IAmb	08 19 08.8	
	comp=Z,5.1nm,1.4s							
M19K	**Big River Lodg**	**67.53**	**31**		P	**P**	**08 18 53.6**	**+0.7**
H21K	**Melozitna River**	**67.81**	**27**		P	**P**	**08 18 55.0**	**+0.3**
H21K					IAmb	IAmb	08 18 55.6	
	comp=Z,5.8nm,1.4s							
M20K	**Styx River**	**68.12**	**31**		P	**P**	**08 18 55.5**	**-1.2**
M20K					IAmb	IAmb	08 18 58.0	
	comp=Z,3.9nm,1.2s							
PPLA	**Purkeypile**	**68.42**	**29**		P	**P**	**08 18 57.7**	**-1.0**
TOLK	**Toolik Lake Re**	**68.70**	**23**		P	**P**	**08 19 00.7**	**+0.5**
TOLK					IAmb	IAmb	08 19 07.3	
	comp=Z,5.1nm,1.4s							
OHAK	**Old Harbor**	**68.72**	**36**		P	**P**	**08 19 01.2**	**+0.8**
MLY	**Manley**	**68.75**	**27**		P	**P**	**08 19 00.9**	**+0.3**
MLY					IAmb	IAmb	08 19 03.9	
	comp=Z,6.7nm,1.5s							
BPAW	**Bear Paw Mtn.**	**68.78**	**28**		P	**P**	**08 18 59.8**	**-1.0**
BPAW					IAmb	IAmb	08 19 02.6	
	comp=Z,11nm,1.4s							
KDAK	**Kodiak Island**	**69.00**	**35**		P	**P**	**08 19 01.4**	**-0.7**
I23K	**Minto, Yukon-K**	**69.31**	**27**		P	**P**	**08 19 02.4**	**-1.6**
MCK	**McKinley**	**69.74**	**28**		P	**P**	**08 19 07.3**	**+0.6**
MCK					IAmb	IAmb	08 19 13.3	
	comp=Z,5.3nm,1.2s							
H24K	**Noodor Dome**	**69.80**	**26**		P	**P**	**08 19 07.0**	**-0.1**
MDM	**Murphy Dome**	**69.82**	**27**		P	**P**	**08 19 07.5**	**+0.4**
MDM					IAmb	IAmb	08 19 20.0	
	comp=Z,5.7nm,1.3s							
RND	**Reindeer**	**69.83**	**29**		P	**P**	**08 19 06.7**	**-0.7**
RND					IAmb	IAmb	08 19 19.4	
	comp=Z,6.8nm,1.2s							
WRH	**Wood River Hil**	**69.97**	**27**		P	**P**	**08 19 07.8**	**-0.3**
WRH					IAmb	IAmb	08 19 23.0	
	comp=Z,6.8nm,1.5s							
PMR	**Palmer**	**70.05**	**31**		P	**P**	**08 19 07.2**	**-1.4**
PMR					IAmb	IAmb	08 19 35.6	
	comp=Z,13nm,1.4s							
KEV	**Kevo**	**70.29**	**338**		P	**P**	**08 19 09.3**	**-0.6**
KEV					IAmb	IAmb	08 19 25.8	
	comp=Z,11nm,1.1s							
KNK	**Knik Glacier**	**70.40**	**31**		P	**P**	**08 19 10.3**	**-0.5**
ILAR	**Eielson Array**	**70.42**	**27**		P	**P**	**08 19 08.8**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=276,slow=4.2,SNR=4.4							
PWL	**Port Wells**	**70.57**	**31**		P	**P**	**08 19 11.3**	**-0.5**
BMAR	**Burnt Mountain**	**70.76**	**24**		P	**P**	**08 19 13.3**	**+0.4**
ARCES	**ARCESS Array B**	**70.85**	**338**		P	**P**	**08 19 13.1**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=74,slow=6.7,SNR=4.3							
J25K	**Salcha River,**	**71.09**	**27**		P	**P**	**08 19 12.7**	**-2.3**
M24K	**Tolsona, Glenn**	**71.31**	**30**		P	**P**	**08 19 13.3**	**-3.1**
RIDG	**Independent Ri**	**71.52**	**28**		P	**P**	**08 19 16.7**	**-0.9**
RIDG					IAmb	IAmb	08 19 20.4	
	comp=Z,8.0nm,1.2s							
KLU	**Klutina**	**71.57**	**30**		P	P	08 19 12.2	-5.7
DOT	**Dot Lake**	**71.88**	**28**		P	**P**	**08 19 20.2**	**+0.5**
DOT					IAmb	IAmb	08 19 41.3	
	comp=Z,9.1nm,1.4s							
GLB	**Gilahina Butte**	**72.56**	**30**		P	**P**	**08 19 23.2**	**-0.6**
GLB					IAmb	IAmb	08 19 51.1	
	comp=Z,15nm,1.3s							
FIA1	**FINESS Array S**	**72.68**	**330**		P	**P**	**08 19 24.9**	**+0.5**
FINES	**FINESS Array B**	**72.68**	**330**		P	**P**	**08 19 24.1**	**-0.3**
	comp=Z,6.0nm,1.0s,baz=66,slow=7.8,SNR=17							
FINES	**FINESS Array B**	**72.68**	**330**		P	**P**	**08 19 24.9**	**+0.4**
VRDI	**Verde Repeater**	**72.79**	**30**		P	**P**	**08 19 23.9**	**-1.5**
EGAK	**Eagle**	**72.79**	**26**		P	**P**	**08 19 25.4**	**+0.3**
EGAK					IAmb	IAmb	08 19 39.2	
	comp=Z,5.5nm,1.4s							
MCARA	**McCarthy VSAT**	**72.94**	**30**		P	**P**	**08 19 26.2**	**+0.2**
L27K	**Beaver Creek,**	**73.00**	**28**		P	**P**	**08 19 27.6**	**+1.1**
L27K					IAmb	IAmb	08 19 40.7	
	comp=Z,8.4nm,1.4s							
BCAR	**Beaver Creek A**	**73.02**	**28**		P	**P**	**08 19 26.7**	**+0.1**
M27K	**Edge Creek, AK**	**73.19**	**29**		P	**P**	**08 19 27.0**	**-0.7**
M27K					IAmb	IAmb	08 19 35.5	
	comp=Z,16nm,1.4s							
DAWY	**Dawson**	**73.74**	**27**		P	**P**	**08 19 30.4**	**-0.4**
CTGM	**Chitina Glacie**	**73.85**	**30**		P	**P**	**08 19 31.3**	**-0.3**
AKASG	**Malin Array Be**	**73.95**	**319**		P	**P**	**08 19 31.7**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=61,slow=5.9,SNR=9.6							
EPYK	**Eagle Plains**	**74.04**	**24**		P	**P**	**08 19 31.8**	**-0.7**
EPYK					IAmb	IAmb	08 19 51.0	
	comp=Z,6.8nm,1.3s							
BRTR	**Keskin Array B**	**74.05**	**307**		P	**P**	**08 19 33.6**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=111,slow=6.3,SNR=7.2							
BCPM	**Bancas Point**	**74.97**	**31**		P	**P**	**08 19 36.4**	**-1.5**
C36M	**Paulatuk**	**77.09**	**19**		P	**P**	**08 19 48.4**	**-1.4**
C36M					IAmb	IAmb	08 19 51.2	
	comp=Z,8.1nm,1.5s							
NB2	**NORSAR Subarra**	**79.48**	**332**		P	**P**	**08 20 02.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=59,slow=5.6							
NOA	**NORSAR Array B**	**79.48**	**332**		P	**P**	**08 20 02.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=60,slow=7.1,SNR=6.5							
NOA					LR	LR	08 58 44.8	
	comp=Z,129nm,18.2s,baz=60,slow=38							
TULEG	**Thule**	**80.70**	**2**		P	**P**	**08 20 09.4**	**-0.2**
TULEG					IAmb	IAmb	08 20 11.9	
	comp=Z,7.3nm,0.9s							
VYHS	**Vyhne**	**81.05**	**319**	*eP*		**P**	**08 20 13.8**	**+1.9**
CLL	**Collm**	**83.20**	**323**	*eP*		**P**	**08 20 24.0**	**+0.9**
GERES	**GERESS Array B**	**83.96**	**321**		P	**P**	**08 20 26.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=38,slow=5.1,SNR=6.0							
YKA	**Yellowknife Ar**	**84.22**	**23**		P	**P**	**08 20 27.0**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=307,slow=4.8,SNR=58							

IDC 28 08:08:47.4±2.8, 55°.31N×86°.20E, h0km, mb1 2.8/3, mb1mx2.8/58, mbtmp2.8/3, ML2.6/3 Error ellipse: s-maj=23.6km s-min=18.7km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**211**	*i*			08 20 32.4	
	baz=26,slow=331,SNR=15							
ZALV	**Zalesovo Beam**	**1.58**	**211**	Pg		Pn	08 09 14.7	-2.0
	1.8nm,0.3s,baz=30,slow=15,SNR=28							
ZALV				Lg		Lg	08 09 38.5	
	1.9nm,0.3s,baz=34,slow=25,SNR=7.9							
KURBB	**Kurchatov Arra**	**6.59**	**228**	Pn		Pn	08 10 25.8	+0.4
	0.0nm,0.3s,baz=43,slow=14,SNR=7.5							
KURBB				Sn		Sn	08 11 40.2	-1.0
	0.0nm,0.3s,baz=27,slow=16,SNR=1.4							
KURBB				Lg		Lg	08 12 16.2	
	0.1nm,0.3s,baz=49,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**8.88**	**198**	Pn		Pn	08 10 57.1	+0.3
	0.1nm,0.3s,baz=22,slow=16,SNR=2.1							
MKAR				Lg		Lg	08 13 26.8	
	0.1nm,0.3s,baz=29,slow=33,SNR=3.2							
BVAR	**Borovoye Array**	**9.55**	**263**	Pn		Pn	08 11 05.1	-1.0
	0.2nm,0.3s,baz=97,slow=6.1,SNR=3.0							

*JMA **28** 08:14:08.5±0.1, 34°.65N×140°.53E, h41km±1km, M3.1*
*IDC **28** 08:14:09.5±1.4, 34°.16N×138°.76E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/48, mbtmp3.3/3, ML2.0/1, Error ellipse: s-maj=37.6km s-min=18.7km az=69.0*

ISC 28 08:14:09.1±1.1, 34°.65N±0°.04×140°.49E±0°.05, h30km±9km, n20, σ0°.55/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO3	**Boso 3**	**0.15**	**6**	P		**Pn**	**08 14 15.6**	**+0.4**
BSO3				X			08 14 19.5	
BSO4	**Boso 4**	**0.36**	**340**	P		**Pb**	**08 14 18.0**	**+0.7**
BSO4				X			08 14 23.3	
BSO1	**Boso 1**	**0.40**	**89**	P		**Pb**	**08 14 17.4**	**-0.2**
BSO1				X			08 14 23.2	
KTR	**Katsuura**	**0.52**	**344**	P		**Pb**	**08 14 19.4**	**-0.4**
KTR				S		**Sb**	**08 14 27.0**	**-0.1**
JKUC	**kamogawauchiur**	**0.56**	**335**	P		**Pb**	**08 14 20.0**	**-0.5**
JKUC				S		**Sb**	**08 14 28.2**	**-0.2**
TATJ	**Tateyama 2**	**0.62**	**308**	P		**Pb**	**08 14 21.7**	**+0.2**
JIM2	**Oshima 3**	**0.88**	**275**	P		**Pn**	**08 14 24.9**	**-0.5**
JIM2				S		**Sb**	**08 14 37.1**	**0.0**
JSMT	**Sammumatsuo**	**0.99**	**358**	P		**Pn**	**08 14 26.3**	**-0.6**
JSMT				S		**Sn**	**08 14 39.5**	**-0.4**
JTHY	**Toshimahigashi**	**1.00**	**263**	P		**Pn**	**08 14 26.9**	**-0.1**
JTHY				S		**Sn**	**08 14 39.9**	**-0.2**
JMKN	**Mikurajimanish**	**1.06**	**225**	P		**Pn**	**08 14 27.7**	**-0.2**
JHJ	**Hachijo jima 2**	**1.64**	**201**	Pn		**Pn**	**08 14 35.8**	**0.0**
	18nm,0.3s,baz=248,slow=19,SNR=38							
JHJ				Sn		**Sn**	**08 14 55.1**	**-0.7**
	81nm,0.3s,baz=320,slow=22,SNR=15							
MJAR	**Matsushiro Arr**	**2.65**	**316**	Pn		**Pn**	**08 14 49.9**	**+0.2**
	0.3nm,0.3s,baz=157,slow=12,SNR=9.1							
MJAR				Sn		**Sn**	**08 15 21.0**	**+0.1**
	0.6nm,0.3s,baz=190,slow=29,SNR=6.5							
H11N2	**WAKE ISLAND Hy**	**27.68**	**116**	T		T	08 49 13.3	
	baz=309,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.69**	**116**	T		T	08 49 36.0	
	baz=309,slow=75							
H11N3	**WAKE ISLAND Hy**	**27.70**	**116**	T		T	08 49 20.3	
	baz=309,slow=75							
H11S3	**WAKE ISLAND Hy**	**28.30**	**118**	T		T	08 50 19.0	
	baz=310,slow=76							
H11S1	**WAKE ISLAND Hy**	**28.30**	**118**	T		T	08 50 18.6	
	baz=310,slow=76							
H11S2	**WAKE ISLAND Hy**	**28.32**	**118**	T		T	08 50 20.2	
	baz=310,slow=76							
WRA	**Warramunga Arr**	**54.60**	**187**	P		**P**	**08 23 34.3**	**-0.5**
	1.1nm,0.6s,baz=2.5,slow=7.6,SNR=29							
ASAR	**Alice Springs**	**58.33**	**187**	P		**P**	**08 24 02.9**	**+1.5**
	0.1nm,0.6s,baz=23,slow=11,SNR=5.5							

IDC 28 08:16:11.8±3.5, 53°.55N×87°.90E, h0km, mb1 2.7/2, mb1mx2.7/52, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.0km s-min=16.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**284**	*i*			08 28 50.6	
	baz=98,slow=326,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.87**	**284**	Pg		Pn	08 16 45.5	+0.5
	1.2nm,0.3s,baz=99,slow=16,SNR=8.6							
ZALV				Lg		Lg	08 17 11.0	
	1.9nm,0.3s,baz=103,slow=25,SNR=8.7							
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn		Pn	08 17 49.4	+1.2
	0.1nm,0.3s,baz=63,slow=14,SNR=3.4							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn		Pn	08 18 05.7	+1.2
	0.1nm,0.3s,baz=26,slow=13,SNR=1.2							
MKAR				Sn		Sn	08 19 30.7	-1.3
	0.3nm,0.3s,baz=23,slow=30,SNR=4.5							

*CNRM **28** 08:25:14.0, 35°.46N×3°.78W, h24km, ml2.6*
*MDD **28** 08:25:15.0±0.7, 35°.53N×3°.81W, h0km, mb_Lg2.6/7, Error ellipse: s-maj=5.4km s-min=3.2km az=14.0*

ISC 28 08:25:14.0±1.1, 35°.33N±0°.03×3°.78W±0°.03, h33km±4km, n19, σ1°.18/31, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALE	**Palemas**	**0.17**	**230**	P		**Pb**	**08 25 20.8**	**+0.3**
PALE				S		**Sb**	**08 25 25.1**	**+0.3**
GOG	**Mont Gurugu**	**0.65**	**99**	P		**Pn**	**08 25 27.5**	**+0.6**
GOG				S		**Sn**	**08 25 36.5**	**+0.4**
EMEL	**Melilla**	**0.67**	**92**	Pg		**Pn**	**08 25 29.0**	**+1.9**
EMEL				Sg		**Sn**	**08 25 37.4**	**+0.9**
EALB	**Alboran**	**0.86**	**45**	Pg		**Pn**	**08 25 28.9**	**-0.8**
EALB				Sg		**Sb**	**08 25 39.7**	**-2.0**
EALB				*i*	Vmb_Lg		08 25 42.5	
SMIR	**Smir Dam**	**1.36**	**285**	P		**Pn**	**08 25 37.5**	**+0.9**
JBK	**JBK**	**1.41**	**135**	P		**Pb**	**08 25 39.6**	**-0.2**
JBK				S		**Sb**	**08 25 58.3**	**+0.8**
ECEU	**Ceuta**	**1.42**	**294**	Sg		**Sn**	**08 25 53.8**	**-1.3**
EMIJ	**Mijas**	**1.47**	**327**	Pg		**Pb**	**08 25 40.2**	**-0.6**
EMIJ				Sg		**Sn**	**08 25 56.7**	**+0.2**
ELGU	**Los Guajares,**	**1.54**	**4**	Pg		**Pn**	**08 25 39.5**	**+0.3**
ELGU				Sg		**Sn**	**08 25 55.5**	**-2.6**
ELGU				*i*	Vmb_Lg		08 25 59.9	
EBER	**Berja**	**1.72**	**24**	Pg		**Pn**	**08 25 41.9**	**+0.1**
EBER				*i*	Vmb_Lg		08 26 01.6	
EBER				Sg		**Sn**	**08 26 02.8**	**+0.1**
SICH	**Sidi Chahed**	**1.76**	**227**	P		**Pn**	**08 25 42.9**	**+0.7**
EGOR	**Sierra Gorda,**	**1.80**	**351**	Pg		**Pb**	**08 25 46.3**	**-0.1**
EGOR				Sg		**Sn**	**08 26 05.6**	**+1.0**
EGOR				*i*	Vmb_Lg		08 26 22.4	
CZD	**Col de Zad**	**2.52**	**205**	P		**Pn**	**08 25 51.5**	**-1.4**
MD31	**MD31**	**2.59**	**199**	P		**Pb**	**08 25 58.3**	**-1.5**
MDT	**Midelt**	**2.60**	**196**	P		**Pb**	**08 25 59.5**	**-0.6**
EADA	**Adamuz**

comp=E,3μm,0.7s
SMG Samos 1.02 160 P **Pn** **08 41 18.7 +0.5**
SMG S **Sn** **08 41 32.9 +0.6**
SMG AML AML 08 41 35.8
comp=N,8090μm,0.2s
SMG AML AML 08 41 36.3
comp=E,8491μm,0.2s
SMG Samos 1.02 160 P **Pn** **08 41 18.9 +0.7**
SMG S **Sn** **08 41 33.6 +1.3**
comp=E,4μm,0.2s
BAYC CANAKKALE_Bayr 1.07 6 P **Pb** **08 41 18.0 -0.7**
BAYC S **Sb** **08 41 33.1 +0.5**
BAYC *i* AML AML 08 41 37.0
comp=E,1μm,0.3s
BAYC *i* AML AML 08 41 41.0
comp=E,700nm,0.5s
AKHS Akhisar 1.12 79 P **Pn** **08 41 19.5 -0.1**
AKHS S **Sn** **08 41 36.2 +1.3**
AKHS *i* AML AML 08 41 38.0
comp=E,1μm,0.5s
AKS Akhisar 1.12 79 PN **Pn** **08 41 19.5 -0.1**
EZN Ezine 1.15 357 P **Pn** **08 41 19.8 -0.2**
EZN S **Sb** **08 41 35.6 +0.8**
comp=E,2μm,0.4s
EZN Ezine 1.15 357 PN **Pn** **08 41 19.8 -0.2**
GCAM G?zelcaml? 1.17 146 PN **Pg** **08 41 20.8 -0.2**
GCAM G?zelcaml? 1.17 146 P **Pg** **08 41 20.4 -0.6**
GCAM S **Sn** **08 41 37.0 +1.0**
GCAM *i* AML AML 08 41 39.0
comp=E,1μm,0.4s
GCAM *i* AML AML 08 41 42.0
comp=E,633nm,0.4s
GOMA Golmarmara-Man 1.19 88 PN **Pg** **08 41 20.8 -0.5**
BOZC Bozcaada 1.20 347 PN **Pn** **08 41 20.4 -0.3**
BOZC Bozcaada 1.20 347 P **Pn** **08 41 20.2 -0.4**
BOZC S **Sb** **08 41 36.7 +0.6**
BOZC *i* AML AML 08 41 39.0
comp=E,615nm,0.3s
BOZC *i* AML AML 08 41 40.0
comp=E,1μm,0.5s
ECEA Canakkale, Ece 1.38 353 P **Pn** **08 41 23.0 -0.2**
ECEA S **Sn** **08 41 41.0 -0.2**
ECEA *i* AML AML 08 41 45.0
comp=E,4μm,0.5s
ECEA *i* AML AML 08 41 47.0
comp=E,2μm,0.6s
DDIM Aydin, Didim 1.38 151 P **Pg** **08 41 25.8 +0.8**
DDIM S **Sg** **08 41 44.5 +1.5**
DDIM *i* AML AML 08 41 47.0
comp=E,723nm,0.8s
DDIM *i* AML AML 08 41 52.0
comp=E,635nm,0.5s
BALY Balya 1.43 41 P **Pn** **08 41 23.9 0.0**
BALY S **Sb** **08 41 42.8 0.0**
BALY *i* AML AML 08 41 47.0
comp=E,2μm,0.5s
BALY *i* AML AML 08 41 53.0
comp=E,598nm,0.6s
SKY Skiros Island 1.46 279 P **Pn** **08 41 23.8 -0.4**
SKY AML AML 08 41 50.2
comp=N,843μm,0.4s
SKY AML AML 08 41 54.3
comp=E,631μm,0.4s
AYDN Tasoluk 1.54 130 P **Pb** **08 41 26.2 -0.5**
AYDN S **Sb** **08 41 45.4 -0.7**
AYDN *i* AML AML 08 41 52.0
comp=E,539nm,0.3s
AYDN *i* AML AML 08 41 52.0
comp=E,654nm,0.4s
LIA Limnos Island 1.55 323 P **Pn** **08 41 25.4 0.0**
LIA AML AML 08 41 49.8
comp=N,1092μm,0.6s
LIA AML AML 08 41 50.4
comp=E,1970μm,0.5s
LIA Limnos Island 1.55 323 P **Pn** **08 41 25.9 +0.5**
LIA S **Sn** **08 41 44.6 -0.6**
comp=E,765nm,0.5s
GONE Gonen-Balikesi 1.70 36 PN **Pn** **08 41 27.4 -0.1**
MANT Manisa 1.70 95 P **Pn** **08 41 28.3 +0.5**
MANT S **Sg** **08 41 52.5 -0.7**
MANT *i* AML AML 08 41 54.0
comp=E,286nm,0.3s
MANT *i* AML AML 08 41 55.0
comp=E,324nm,0.2s
GELI Tayfur-Gelibol 1.72 2 PN **Pn** **08 41 28.5 +0.6**
APE Apeiranthos 1.74 204 ⇑P **Pn** **08 41 27.9 -0.2**
APE Apeiranthos 1.74 204 P **Pn** **08 41 28.0 -0.2**
APE S **Sn** **08 41 49.5 -0.7**
APE Apeiranthos 1.74 204 P **Pn** **08 41 28.1 -0.1**
APE Apeiranthos 1.74 204 PN **Pn** **08 41 27.9 -0.2**
BODT Bodrum 1.76 156 P **Pn** **08 41 28.9 +0.5**
BODT Bodrum 1.76 156 PN **Pn** **08 41 28.9 +0.5**
KULA Kula-Manisa 1.78 94 P **Pn** **08 41 29.5 +0.8**
KULA Kula-Manisa 1.78 94 PN **Pn** **08 41 29.6 +0.8**
KYMI Kymi, Euboea I 1.80 269 P **Pn** **08 41 28.2 -0.7**
KYMI AML AML 08 42 00.5
comp=E,303μm,0.9s
KYMI AML AML 08 42 04.5
comp=N,284μm,0.6s
KYMI Kymi, Euboea I 1.80 269 P **Pn** **08 41 29.2 +0.3**
KRBG Karabiga-Canak 1.85 22 PN **Pn** **08 41 29.7 0.0**
DURS Dursunbey 1.86 59 P **Pn** **08 41 28.1 -0.4**
DURS S **Sn** **08 41 53.8 +0.6**
DURS *i* AML AML 08 42 00.0
comp=N,408nm,0.4s
DURS *i* AML AML 08 42 00.0
comp=N,338nm,0.5s
SMTH Samothraki Isl 1.92 340 P **Pn** **08 41 30.6 0.0**
SMTH AML AML 08 42 01.9
comp=N,581μm,0.3s
SMTH AML AML 08 42 08.1
comp=E,484μm,0.5s
SMTH Samothraki Isl 1.92 340 P **Pn** **08 41 30.6 0.0**
ERIK Erikli-Kesan 2.00 2 PN **Pn** **08 41 31.9 +0.3**
DION Dionisos Attik 2.03 254 P **Pn** **08 41 32.0 -0.1**
DION AML AML 08 42 07.8
comp=E,979μm,0.8s
DION AML AML 08 42 07.8
comp=N,1102μm,0.5s
DION Dionisos Attik 2.03 254 P **Pn** **08 41 32.3 +0.2**
DION S **Sn** **08 41 56.2 -1.0**
comp=N,790nm,0.6s
SIMA Simav-Kutahya 2.06 78 PN **Pn** **08 41 33.2 +0.6**
ENEZ Enez 2.07 355 PN **Pb** **08 41 34.5 -1.2**
PTL Penteli 2.09 253 P **Pn** **08 41 32.2 -0.7**
PTL AML AML 08 42 09.1
comp=N,860μm,0.6s
PTL AML AML 08 42 11.6
comp=E,606μm,0.6s
RKY Sarkoy-Tekirda 2.10 16 PN **Pb** **08 41 35.1 -1.1**
YER Yerkesik 2.14 135 P **Pn** **08 41 34.8 +1.2**
YER Yerkesik 2.14 135 PN **Pn** **08 41 34.9 +1.3**
DAT Datca 2.15 154 P **Pn** **08 41 34.3 +0.4**
DAT S **Sb** **08 42 01.8 -1.9**
DAT Datca 2.15 154 PN **Pn** **08 41 34.3 +0.4**
VLY Voula,Athens 2.21 249 P **Pn** **08 41 34.8 +0.3**
VLY AML AML 08 42 10.9
comp=N,639μm,0.6s
VLY AML AML 08 42 13.5
comp=E,786μm,0.4s
VLY Voula,Athens 2.21 249 P **Pn** **08 41 35.0 +0.5**
ALN Alexandroupoli 2.24 353 P **Pn** **08 41 35.4 +0.5**
ALN AML AML 08 42 11.7
comp=N,1050μm,0.5s
ALN AML AML 08 42 12.9
comp=E,673μm,0.4s
ALN Alexandroupoli 2.24 353 P **Pn** **08 41 35.1 +0.1**
ALN Alexandroupoli 2.24 353 PN **Pn** **08 41 35.5 +0.5**
THAS Thassos island 2.33 327 P **Pn** **08 41 36.2 0.0**
THAS AML AML 08 42 14.3
comp=E,266μm,0.5s
THAS AML AML 08 42 18.7
comp=N,189μm,0.5s
THAS Thassos island 2.33 327 P **Pn** **08 41 36.1 0.0**
THR2 Thira island, 2.35 199 P **Pn** **08 41 36.3 -0.2**
ORLT Orhaneli 2.37 54 PN **Pn** **08 41 37.6 +0.8**
THR8 Santorini-Mono 2.38 198 P **Pn** **08 41 36.6 -0.2**
GEDZ Gediz 2.38 80 PN **Pn** **08 41 37.8 +0.8**
TURN Turunc 2.39 142 PN **Pn** **08 41 37.8 +0.7**
THR3 Thira Island, 2.40 200 P **Pn** **08 41 37.2 +0.1**
THR5 Thira Island, 2.40 201 P **Pn** **08 41 37.1 -0.1**
THR6 Thira Island, 2.44 199 P **Pn** **08 41 38.0 +0.2**
PAIG Paliouri 2.45 302 P **Pn** **08 41 37.4 -0.6**
UKOP Uzunkopru-Edir 2.46 4 PN **Pn** **08 41 38.8 +0.8**

TKR Tekirdag 2.48 20 PN **Pn** **08 41 37.2 -1.0**
OUR Ouranopolis 2.50 312 P **Pn** **08 41 39.1 +0.6**
OUR AML AML 08 42 22.2
comp=E,214μm,0.5s
OUR AML AML 08 42 28.9
comp=N,289μm,0.9s
OUR Ouranopolis 2.50 312 P **Pn** **08 41 39.3 +0.8**
OUR S **Sn** **08 42 07.7 -1.1**
comp=N,125nm,0.7s
OUR Ouranopolis 2.50 312 PN **Pn** **08 41 38.4 -0.1**
TVSB Tavsanli 2.51 71 PN **Pn** **08 41 39.6 +0.9**
MHLO Agia Marina, M 2.54 219 P **Pn** **08 41 38.9 -0.1**
MHLO AML AML 08 42 25.0
comp=E,2009μm,0.6s
MHLO AML AML 08 42 32.6
comp=N,2080μm,1.1s
MHLO Agia Marina, M 2.54 219 P **Pn** **08 41 39.0 -0.1**
NEO Neokhori 2.56 285 P **Pn** **08 41 40.0 +0.6**
RDO Rodhopi 2.56 345 P **Pn** **08 41 40.0 +0.6**
RDO AML AML 08 42 26.1
comp=E,210μm,0.4s
RDO AML AML 08 42 27.9
comp=N,207μm,0.3s
RDO Rodhopi 2.56 345 P **Pn** **08 41 39.9 +0.6**
RDO Rodhopi 2.56 345 PN **Pn** **08 41 39.9 +0.6**
DALY Dalyan (Mula) 2.57 135 PN **Pn** **08 41 40.5 +1.0**
XOR Xorichti 2.59 286 P **Pn** **08 41 39.0 -0.9**
KAVA Kavala 2.74 329 P **Pn** **08 41 42.2 +0.4**
PLG Polygyros 2.85 308 P **Pn** **08 41 43.0 -0.4**
KDZ Kurdzhali 3.07 346 *i* P **Pn** **08 41 46.9 +0.5**
KARP Karpathos 3.18 169 P **Pn** **08 41 48.5 +0.5**
RZN Rozhen 3.28 337 *i* P **Pn** **08 41 50.1 +0.7**
NVR Nevrokopi 3.31 325 P **Pn** **08 41 50.5 +0.8**
NVR Nevrokopi 3.31 325 P **Pn** **08 41 50.6 +0.9**
DIM Dimitrovgrad 3.44 349 *i* P **Pn** **08 41 51.7 +0.3**
SZH Strazhica 4.60 356 *i* P **Pn** **08 42 07.8 +0.3**
VTS Vitosha 4.62 330 ⇑P **Pn** **08 42 09.1 +1.3**
TIRR Tirgusor 5.97 14 ⇑P Pn 08 42 20.9 -5.4
HARR Harsova 6.12 10 ⇓P Pn 08 42 23.1 -5.2
CFR Carcaliu 6.63 11 ⇑P Pn 08 42 29.8 -5.4
MLR Muntele Rosu 6.82 357 ⇑P **Pn** **08 42 36.1 -2.0**
VOIR 6.83 352 ⇑P **Pn** **08 42 37.4 -0.8**
HERR Herculane 6.88 336 ⇑P **Pn** **08 42 39.3 +0.5**
COVR Voineasa-Covas 7.17 359 ⇑P **Pn** **08 42 40.3 -2.4**
PLOR Plostina 7.18 1 ⇑P **Pn** **08 42 40.2 -2.6**
VRI Vrincioaia 7.19 2 ⇓P **Pn** **08 42 39.9 -3.2**
GZR Gura Zlata 7.24 339 ⇑P **Pn** **08 42 44.1 +0.5**
DRGR 8.55 343 ⇑P **Pn** **08 43 02.1 +0.3**

*CNRM **28** 08:52:03.4, 30.97N×8.40W, h1km, ml3.8*
*INMG **28** 08:52:07.7±1.7, 31.38N×8.43W, h10km, ML2.8, Error ellipse: s-maj=19.3km s-min=8.5km az=119.0*
ISC 28 08:52:03.1±1.0, 31.12N±0.03×8.37W±0.03, h15km±8km, n47, σ3.9s10/66, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**0.44**	**79**	P	**Pb**		**08 52 12.8**	**0.0**
OUK				S	**Sg**		**08 52 19.1**	**+1.1**
TTIG	**Tnine Tigouga,**	**0.58**	**186**	P	**Pg**		**08 52 11.7**	**-2.8**
TTIG				S	**Sg**		**08 52 17.0**	**-5.2**
EAH	**EAH**	**1.17**	**297**	P	**Sb**		**08 52 45.0**	**+5.1**
EAH	**EAH**	**1.17**	**297**	P	**Pg**		**08 52 25.7**	**+0.1**
EAH				S	**Sn**		**08 52 42.4**	**+1.9**
CGR	**Cap Guir**	**1.39**	**250**	P	**Sb**		**08 52 50.0**	**+3.6**
CGR	**Cap Guir**	**1.39**	**250**	P	**Pg**		**08 52 29.9**	**+0.1**
CGR				S	**Sg**		**08 52 48.2**	**+0.2**
OUZM	**OUZ**	**1.40**	**98**	P	**Pb**		**08 52 30.0**	**0.0**
OUZM	**OUZ**	**1.40**	**98**	P	**Pb**		**08 52 29.2**	**+0.3**
OUZM				S	**Sb**		**08 52 47.3**	**+0.6**
SRHM	**Skhour des Reh**	**1.40**	**16**	P	**Sb**		**08 52 49.0**	**+2.2**
SRHM	**Skhour des Reh**	**1.40**	**16**	P	**Pb**		**08 52 29.6**	**+0.5**
SRHM				S	**Sg**		**08 52 48.3**	**-0.1**
AVE	**Averroes**	**2.32**	**20**	S	**Sg**		**08 53 16.3**	**-1.3**
AVE	**Averroes**	**2.32**	**20**	P	**Pb**		**08 52 45.0**	**+0.5**
AVE	**Averroes**	**2.32**	**20**	P	**Pg**		**08 52 47.5**	**-0.1**
AVE	**Averroes**	**2.32**	**20**	P	**Pb**		**08 52 45.4**	**+0.9**
AVE				S	**Sg**		**08 53 17.6**	**0.0**
AVE	**Averroes**	**2.32**	**20**	P	**Pb**		**08 52 45.7**	**+1.1**
TZRR	**Tazzarine**	**2.43**	**97**	P	**Sb**		**08 53 22.0**	**+5.7**
TZRR	**Tazzarine**	**2.43**	**97**	P	**Pb**		**08 52 47.0**	**+0.5**
TZRR	**Tazzarine**	**2.43**	**97**	P	**Pb**		**08 52 46.3**	**-0.3**
ZGR	**Zagora**	**2.57**	**112**	P	**Sb**		**08 53 28.0**	**+7.6**
ZGR	**Zagora**	**2.57**	**112**	P	**Pb**		**08 52 51.0**	**+2.0**
ZGR	**Zagora**	**2.57**	**112**	P	**Pn**		**08 52 45.2**	**+1.1**
ZHG	**ZHG**	**2.74**	**32**	P	**Pb**		**08 52 53.0**	**+1.1**
ZHG	**ZHG**	**2.74**	**32**	P	**Pn**		**08 52 48.3**	**+1.7**
GOLM	**Goulmima**	**2.98**	**78**	P	**Pb**		**08 52 53.9**	**-2.0**
CZD	**Col de Zad**	**3.41**	**55**	P	**Pn**		**08 52 59.0**	**+3.0**
CZD	**Col de Zad**	**3.41**	**55**	P	**Pn**		**08 52 57.7**	**+1.7**
MD31	**MD31**	**3.52**	**59**	P	**Pn**		**08 52 58.9**	**+1.5**
MDT	**Midelt**	**3.61**	**61**	P	**Pn**		**08 53 00.6**	**+1.9**
MDT	**Midelt**	**3.61**	**61**	P	**Pn**		**08 53 00.2**	**+1.5**
IFR	**Ifrane**	**3.64**	**48**	P	**Pn**		**08 52 57.9**	**-1.2**
IFR				S	**Sb**		**08 53 53.0**	**+1.8**
TANT	**Tantan**	**3.68**	**223**	P	**Pn**		**08 53 00.4**	**+0.9**
TANT				S	**Sn**		**08 53 41.7**	**-0.9**
PFVI	**Vila Bisbo**	**6.01**	**356**	*e*Pn	**Pn**		**08 53 32.6**	**+1.2**
PFVI				*e*Sn	**Sn**		**08 54 36.5**	**-3.5**
PFVI				A	A		08 54 57.9	
	10nm,1.0s							
PBDV	**Barranco-do-Ve**	**6.12**	**3**	*e*Pn	**Pn**		**08 53 35.0**	**+2.0**
PBDV				*e*Sn	**Sn**		**08 54 38.7**	**-4.0**
PBDV				A	A		08 54 59.5	
	3.9nm,0.6s							
MORF	**Marmelete**	**6.17**	**358**	*e*Pn	**Pn**		**08 53 31.2**	**-2.6**
MORF				*e*Sn	**Sn**		**08 54 40.7**	**-3.4**
MORF				A	A		08 54 54.5	
	6.6nm,0.2s							
PVAQ	**Vaqueiros**	**6.29**	**5**	*e*Pn	**Pn**		**08 53 36.3**	**+1.0**
PVAQ				*e*Sn	**Sn**		**08 54 42.2**	**-4.7**
PVAQ				A	A		08 55 00.9	
	5.1nm,0.3s							
PTEO	**Sao Teotonio**	**6.42**	**357**	*e*Sn	**Sn**		**08 54 46.1**	**-3.9**
PCVE	**Castro Verde**	**6.50**	**2**	*e*Pn	**Pn**		**08 53 39.4**	**+1.2**
PCVE				*e*Sn	**Sn**		**08 54 46.9**	**-5.2**
PCVE				A	A		08 54 58.6	
	6.5nm,0.7s							
PNCL	**Nicolau / Gran**	**6.97**	**359**	*e*Pn	**Pn**		**08 53 46.5**	**+1.8**
PNCL				*e*Sn	**Sn**		**08 54 59.4**	**-4.4**
PNCL				A	A		08 55 14.7	
	3.9nm,0.7s							
PBAR	**Barrancos**	**7.12**	**8**	*e*Pn	**Pn**		**08 53 49.4**	**+2.7**
PBAR				*e*Sn	**Sn**		**08 55 03.0**	**-4.4**
PBAR				A	A		08 55 17.3	
	5.5nm,0.7s							
EVO	**Evora**	**7.40**	**2**	S	**Sn**		**08 55 07.4**	**-6.8**
EVO	**Evora**	**7.40**	**2**	*e*Pn	**Pn**		**08 53 51.5**	**+1.0**
EVO				*e*Sn	**Sn**		**08 55 08.8**	**-5.4**
EVO				A	A		08 55 19.7	
	3.7nm,0.4s							
EVO	**Evora**	**7.40**	**2**	P	**Pn**		**08 53 52.1**	**+1.6**
PESTR	**Estremoz**	**7.75**	**4**	*e*Pn	Pn		08 54 01.0	+5.6
PESTR				*e*Sn	**Sn**		**08 55 18.1**	**-4.9**
PESTR				A	A		08 55 25.8	
	2.8nm,0.6s							
PMAFR	**Mafra**	**7.85**	**355**	*e*Pn	Pn		08 54 02.6	+5.8
PMAFR				*e*Sn	**Sn**		**08 55 21.6**	**-3.8**
PMTG	**Montargil**	**7.93**	**1**	*e*Pn	**Pn**		**08 53 58.8**	**+1.0**
PMTG				*e*Sn	**Sn**		**08 55 22.4**	**-4.9**
PMTG				A	A		08 55 35.6	
	3.9nm,0.6s							
PMRV	**Marv??o**	**8.33**	**5**	*e*Pn	**Pn**		**08 54 04.9**	**+1.6**
PMRV				*e*Sn	**Sn**		**08 55 31.2**	**-5.9**
PMRV				A	A		08 55 47.5	
	3.4nm,0.4s							
MVO	**Moncorvo**	**10.08**	**6**	*e*Sn	**Sn**		**08 56 14.6**	**-5.6**

*IDC **28** 09:09:03.6±1.9, 18.14S×174.18W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.8/41, mbtmp4.2/5, ML3.8/1, Error ellipse: s-maj=55.3km s-min=28.3km az=127.0*
*NEIC **28** 09:09:07.4±2.8, 18.19S±0.08×173.91W±0.03, h35km±7km, mb4.8/13, Error ellipse: s-maj=11.3km s-min=3.0km az=166.0*
ISC 28 09:09:06.6±0.7, 18.16S±0.07×173.82W±0.08, h35km, n27, σ2s07/22, mb4.6/9, Tonga Islands

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

NIUE Niue 3.80 105 P **Pn** **09 10 04.4 +1.7**
NIUE S **Sn** **09 10 43.2 -3.0**
AFI Afiamalu 4.65 25 Pn **Pn** **09 10 17.4 +2.9**
4.0nm,0.3s,baz=223,slow=4.8,SNR=6.1
AFI Sn **Sn** **09 11 03.2 -4.2**
6.7nm,0.3s,baz=235,slow=14,SNR=7.6
RAO Raoul Island 11.67 198 Pn **Pn** **09 11 50.9 +0.3**
FUNA Funafuti 11.74 324 Pn **Pn** **09 11 53.2 +1.5**
URZ Urewera 21.54 200 P **P** **09 13 53.7 +0.9**
4.5nm,0.5s,baz=287,slow=3.6,SNR=7.2
URZ Urewera 21.54 200 IAmb IAmb 09 14 22.9
comp=Z,25nm,1.2s
BKZ Black Stump Fm 22.57 200 P **P** **09 14 02.6 -1.3**
PAE Paea 23.07 93 *e*T T 09 37 43.0
comp=Z,4.6nm,0.3s
PPT2 Papeete2 23.08 92 *e*LR LR 09 19 29.0
comp=Z,73nm,26.2s
PPT2 Papeete2 23.08 92 *e*T T 09 37 44.3
comp=Z,2.7nm,0.3s
TBI Tubuai 23.34 107 *e*LR LR 09 19 44.8
comp=Z,75nm,28.5s
TBI Tubuai 23.34 107 *e*T T 09 38 06.8
comp=Z,7.2nm,0.3s
TVO Taravao 23.37 93 *e*T T 09 38 04.7
comp=Z,0.3nm,0.2s
LTZ Lake Taylor 27.24 203 P **P** **09 14 50.3 +2.8**
CTA Charters Tower 37.72 260 P **P** **09 16 19.2 0.0**
comp=Z,2.6nm,0.7s,baz=94,slow=13,SNR=5.1
CTAO Charters Tower 37.72 260 P **P** **09 16 18.2 -1.0**
CTAO IAmb IAmb 09 16 39.2
comp=Z,25nm,1.8s
BBOO Buckleboo 47.13 242 P **P** **09 17 34.1 -1.5**
WR0 Warramunga Arr 48.69 259 P **P** **09 17 45.1 -2.8**
WR0 IAmb IAmb 09 17 52.6
comp=Z,13nm,1.0s
WB0 Warramunga Arr 48.85 259 P **P** **09 17 47.8 -1.4**
WB0 IAmb IAmb 09 18 00.7
comp=Z,9.6nm,0.8s
WB2 Warramunga Arr 48.87 259 P **P** **09 17 46.8 -2.5**
WB2 IAmb IAmb 09 18 08.5
comp=Z,14nm,0.9s
WRA Warramunga Arr 48.88 259 P **P** **09 17 48.5 -0.9**
comp=Z,1.8nm,0.7s,baz=98,slow=6.2,SNR=7.4
AS31 Alice Springs 48.93 254 P **P** **09 17 48.9 -0.8**
ASAR Alice Springs 48.93 254 P **P** **09 17 48.9 -0.9**
comp=Z,2.9nm,0.7s,baz=91,slow=8.6,SNR=35
KNRA Kununurra 54.80 263 P **P** **09 18 33.8 +0.2**
KNRA IAmb IAmb 09 18 43.1
comp=Z,16nm,1.2s
PSA00 Pilbara Seismi 62.07 255 P **P** **09 19 22.9 -1.3**
QSPA South Pole Qui 71.90 180 P **P** **09 20 28.7 +2.6**
QSPA IAmb IAmb 09 20 53.5
comp=Z,9.8nm,1.4s
GERES GERESS Array B 148.78 350 PKPbc **PKiKP** **09 28 52.4 +0.5**
comp=Z,0.2nm,0.4s,baz=44,slow=3.0,SNR=1.7

*JMA **28** 09:11:34.1±0.5, 46.39N×144.70E, h402km, M3.3*
*IDC **28** 09:11:34.3±1.5, 46.72N×144.65E, h389km±43km, mb2.4/2, mb1 2.8/6, mb1mx2.6/46, mbtmp3.5/6, Error ellipse: s-maj=54.1km s-min=37.6km az=6.0*
ISC 28 09:11:33.0±0.9, 46.40N±0.08×144.72E±0.10, h400km, n21, σ1s39/26, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**2.08**	**227**	P	**Pn**		**09 12 30.8**	**+1.3**
JWK2	**Keihoku**	**2.25**	**242**	P	**Pn**		**09 12 32.1**	**+1.5**
JWK2				*e*S	**S**		**09 13 17.9**	**+0.8**
JTKR	**Abashiri--Toko**	**2.50**	**194**	P	**Pn**		**09 12 34.4**	**+2.0**
JRBN	**Rebuntou**	**2.73**	**250**	P	**Pn**		**09 12 34.5**	**+0.4**
JRBN				*e*S	**S**		**09 13 21.9**	**-1.6**
ASAJ	**Asahikawa**	**2.73**	**214**	P	**Pn**		**09 12 36.5**	**+2.3**
	1.7nm,0.3s,baz=349,slow=5.2,SNR=19							
JKK2	**Kamakawa 2**	**2.89**	**210**	P	**Pn**		**09 12 37.7**	**+2.3**
NEM2	**Nemuro 2**	**3.12**	**166**	P	**Pn**		**09 12 37.5**	**+0.2**
JAR	**Ashorobuto**	**3.18**	**193**	P	**Pn**		**09 12 39.6**	**+1.8**
JAK	**Akkeshi**	**3.41**	**180**	P	**Pn**		**09 12 40.4**	**+0.7**
JAK				*e*S	**S**		**09 13 32.9**	**-0.8**
JCH	**Churui**	**3.91**	**195**	P	**Pn**		**09 12 45.0**	**+0.7**
JCH				*e*S	**S**		**09 13 40.7**	**-1.4**
JEW	**Eniwo**	**4.26**	**214**	P	**Pn**		**09 12 50.2**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.36**	**200**	P	**Pn**		**09 12 49.5**	**+0.9**
JKB	**Kayabe**	**5.24**	**212**	P	**Pn**		**09 12 58.3**	**+0.8**
JKB				*e*S	**S**		**09 14 05.2**	**-1.0**
JOT	**Ohata**	**5.68**	**209**	P	**Pn**		**09 13 03.3**	**+1.1**
JOSM	**Okushiri--Mats**	**5.73**	**223**	P	**Pn**		**09 13 03.7**	**+0.9**
JANG	**Nango**	**6.46**	**202**	P	**Pn**		**09 13 11.2**	**+0.4**
KLR	**Kul'dur**	**9.17**	**293**	P	**P**		**09 13 40.3**	**-1.0**
	0.1nm,0.3s,baz=100,slow=15,SNR=3.7							
USRK	**Ussuriysk Ar.**	**9.24**	**261**	P	**Pn**		**09 13 44.0**	**+1.8**
	baz=65,slow=11,SNR=6.7							
SEY	**Seymchan**	**17.12**	**12**	P	**P**		**09 15 06.9**	**-1.0**
	0.6nm,0.3s,baz=194,slow=10,SNR=17							
ILAR	**Eielson Array**	**40.41**	**38**	P	**P**		**09 18 33.8**	**0.0**
	0.2nm,0.5s,baz=272,slow=8.0,SNR=2.6							
YKA	**Yellowknife Ar**	**54.56**	**34**	P	**P**		**09 20 21.6**	**+0.4**
	0.2nm,0.8s,baz=316,slow=6.6,SNR=4.3							

*KRNET **28** 09:17:03.0±0.1, 43.46N×69.35E, mb2.8*
*NNC **28** 09:17:04.7±0.7, 43.18N×69.79E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=14.7km s-min=3.2km az=8.0, Suspected Mining explosion.*
*SOME **28** 09:17:05.3, 43.40N×69.85E*
ISC 28 09:17:07.5±2.7, 43.32N±0.06×70.0E±0.1, h0km, n21, σ1s87/35, 13C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.43**	**118**	⇑P	**Pg**		**09 17 14.8**	**-0.9**
	1.2nm,0.2s							
KK09				⇑S	**Sg**		**09 17 22.3**	**+1.1**
	50nm,0.6s							
KK08	**Karatay Array**	**0.43**	**121**	⇓P	**Pg**		**09 17 15.0**	**-0.8**
KK08				⇓S	**Sg**		**09 17 22.4**	**+1.1**
KK04	**Karatay Array**	**0.44**	**119**	⇑P	**Pg**		**09 17 15.1**	**-0.8**
KK04				⇓S	**Sg**		**09 17 22.8**	**+1.2**
KK03	**Karatay Array**	**0.44**	**120**	⇑P	**Pg**		**09 17 15.1**	**-0.8**
KK03				⇑S	**Sg**		**09 17 22.7**	**+1.1**
KK01	**Karatay Array**	**0.44**	**120**	⇓P	**Pg**		**09 17 15.1**	**-0.8**
KK01				⇓S	**Sg**		**09 17 22.8**	**+1.1**
KK02	**Karatay Array**	**0.45**	**119**	⇓P	**Pg**		**09 17 15.2**	**-0.8**
KK02				⇓S	**Sg**		**09 17 22.8**	**+1.0**
KK05	**Karatay Array**	**0.45**	**117**	⇑P	**Pg**		**09 17 15.1**	**-0.9**
KK05				⇓S	**Sg**		**09 17 22.9**	**+1.0**
KK07	**Karatay Array**	**0.45**	**122**	⇑P	**Pg**		**09 17 15.2**	**-0.9**
KK07				⇓S	**Sg**		**09 17 22.8**	**+1.0**
KK06	**Karatay Array**	**0.46**	**120**	⇓P	**Pg**		**09 17 15.5**	**-0.8**
KK06				⇑S	**Sg**		**09 17 23.4**	**+1.2**
TRKS	**Terek-Say**	**1.99**	**154**	⇓*i*P	**Pg**		**09 17 44.7**	**-0.9**
	baz=45							
TRKS				⇓*i*S	**Sg**		**09 18 15.1**	**+3.8**
	baz=45							
ARK	**Arkit**	**2.11**	**136**	⇑*i*P	**Pg**		**09 17 46.6**	**-1.4**
	baz=30							
ARK				⇑*i*S	**Sg**		**09 18 18.4**	**+3.0**
	baz=30							
EKS2	**Erkin-Say**	**2.86**	**102**	⇑*i*P	**Pb**		**09 17 57.5**	**-2.0**
	baz=2.0							
EKS2				⇑*i*S	**Sb**		**09 18 37.5**	**+2.4**
	baz=2.0							
USP	**Ospenovka**	**3.30**	**89**	⇑*i*P	**Pb**		**09 18 03.3**	**-3.6**
	baz=91							
USP				⇑*i*S	**Sb**		**09 18 47.6**	**0.0**
	baz=91							
BTLS	**Baital**	**3.39**	**58**	Pg	**Pg**		**09 18 11.9**	**-0.6**
	0.8nm,0.2s							
BTLS				Lg	Lg		09 18 57.8	
	1.9nm,0.4s							
SGDS	**Sogindy**	**3.39**	**86**	Pg	**Pb**		**09 18 09.8**	**+1.3**
	1.0nm,0.4s							
SGDS				Lg	Lg		09 18 53.5	
	3.1nm,0.4s							
ARLS	**Aral**	**3.52**	**113**	⇓*i*P	**Pb**		**09 18 06.8**	**-4.0**
	baz=12							
ARLS				⇓*i*S	**Sb**		**09 18 53.4**	**-0.8**
	baz=12							
KRBS	**Karabastau**	**4.16**	**83**	Pg	**Pg**		**09 18 24.7**	**-2.5**
	0.7nm,0.2s							
KRBS				Lg	Lg		09 19 19.0	
	2.8n

DGS					Lg	Lg	09 19 22.3			
	5.9nm,0.4s									
KST	**Kastek**	**4.38**	**92**	Pg	**Pb**	**09 18 27.8**	**+2.4**			
	0.9nm,0.3s									
KST					Lg	Lg	09 19 24.1			
	10.0nm,0.7s									
IZV	**Izvestkoviy**	**4.86**	**91**	Pg	**Pg**	**09 18 39.1**	**-1.5**			
	1.4nm,0.2s									
IZV					Lg	Lg	09 19 43.8			
	7.2nm,0.8s									
KTBS	**Karatobe**	**4.89**	**83**	Pg	**Pb**	**09 18 37.1**	**+3.1**			
	1.0nm,0.8s									
KTBS					Lg	Lg	09 19 41.0			
	4.8nm,0.5s									

IDC 28 09:24:51.4±6.6, 54°23S×142°77W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/23, mbtmp3.6/2, Error ellipse: s-maj=901.6km s-min=105.0km az=164.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**48.39**	**92**	T	T	10 25 08.6	
	baz=221						
H03S1	**Juan Fernandez**	**48.39**	**92**	T	T	10 25 18.9	
	baz=221						
H03S3	**Juan Fernandez**	**48.41**	**92**	T	T	10 25 15.8	
	baz=221						
H03N3	**Juan Fernandez**	**48.66**	**92**	T	T	10 25 28.0	
	baz=225,slow=72,SNR=4.4						
H03N2	**Juan Fernandez**	**48.66**	**92**	T	T	10 25 24.7	
	baz=225,slow=72,SNR=4.3						
H03N1	**Juan Fernandez**	**48.68**	**92**	T	T	10 25 28.3	
	baz=225,slow=72,SNR=5.1						
ASAR	**Alice Springs**	**67.31**	**261**	P	P	09 35 48.0	0.0
	0.5nm,0.7s,baz=137,slow=6.5,SNR=10						
WRA	**Warramunga Arr**	**69.95**	**264**	P	P	09 36 04.6	+0.1
	0.4nm,0.7s,baz=140,slow=5.5,SNR=6.5						
MKAR	**Makanchi Array**	**150.82**	**274**	PKPbc	PKPbc	09 44 44.5	-0.3
	0.9nm,0.8s,baz=139,slow=3.3,SNR=5.0						

IDC 28 09:27:58.5±3.0, 53°59N×88°04E, h0km, mb1 2.8/2, mb1mx2.7/56, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.6km s-min=17.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.94**	**282**	Pn	Pn	09 28 32.8	0.0
	1.0nm,0.3s,baz=97,slow=15,SNR=16						
ZALV				Lg	Lg	09 29 00.1	
	1.9nm,0.3s,baz=100,slow=25,SNR=18						
I46RU	**ZALESOVO INFRA**	**1.94**	**282**	*i*		09 40 30.0	
	baz=98,slow=328,SNR=1.4						
KURBB	**Kurchatov Arra**	**6.57**	**247**	Pn	Pn	09 29 36.9	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=7.0						
KURBB				Lg	Lg	09 31 26.7	
	0.0nm,0.3s,baz=65,slow=35,SNR=1.8						
MKAR	**Makanchi Array**	**7.74**	**211**	Pn	Pn	09 29 53.6	+1.2
	0.1nm,0.3s,baz=28,slow=12,SNR=5.4						
MKAR				Lg	Lg	09 32 04.2	
	0.1nm,0.3s,baz=29,slow=25,SNR=3.4						

*ECX **28** 09:30:51.8±0.5, 30°27N×114°13W, h10km±19km, MD3.5, ML3.4*
*MEX **28** 09:31:03.6±11.0, 30°00N×114°50W, h16km, MD3.7*
ISC 28 09:30:51.1±1.0, 30°32N±0°07×114°14W±0°07, h10km, n8, σ1°20/13, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.94**	**319**	⇓*iP*	**Pg**	**09 31 09.2**	**-0.1**
SFX				*eS*	**Sg**	**09 31 22.0**	**+0.5**
SFX				⇓*e*		09 31 24.0	
SFX				IAML		09 31 24.0	
	comp=N,954nm,0.4s						
SFX				IAML		09 31 24.6	
	comp=E,973nm,0.5s						
SFX				*e*		09 31 24.6	
BAHB	**Baha de los**	**1.46**	**160**	*eP*	**Pg**	**09 31 21.0**	**+1.9**
BAHB				*i* S	**Sg**	**09 31 36.5**	**-1.5**
BAHB	**Baha de los**	**1.46**	**160**	*eP*	**Pn**	**09 31 16.0**	**-1.5**
SVX	**San Vicente**	**2.08**	**299**	*eP*	**Pn**	**09 31 26.0**	**0.0**
SVX				*eS*	**Sb**	**09 31 55.2**	**+0.4**
CBX	**Cerro Bola**	**2.94**	**313**	*eP*	Pn	09 31 30.2	-7.8
CBX				*i* S	**Sb**	**09 32 19.6**	**-0.1**
TJIG	**Tijuana**	**3.02**	**315**	*eP*	**Pg**	**09 31 49.1**	**0.0**
TJIG				*eS*	**Sb**	**09 32 23.4**	**+1.3**
HSIG		**3.06**	**114**	*eP*	**Pg**	**09 31 51.2**	**+1.4**
HSIG				*eS*	**Sg**	**09 32 28.3**	**-1.1**
GUYB	**Guaymas**	**3.74**	**129**	*eP*	**Pn**	**09 31 48.1**	**-0.7**

ASRS 28 09:38:21.9±0.7, 47°N±4°×9°4E±°, h5km, MLh3.7/6, Error ellipse: s-maj=8.4km s-min=4.8km az=178.0, confirmed, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**4.01**	**36**	Pg	Pg	09 39 37.4	-1.4
KNGR				Sg	Sg	09 40 36.2	+5.5
CUR	**Chagan-Uzun**	**4.53**	**309**	Pn	Pn	09 39 32.7	+1.4
CUR				Pg	Pg	09 39 47.8	-1.0
CUR				Sg	Sg	09 40 50.6	+3.2
ULGR	**Ulagan, Altay**	**5.04**	**312**	Pn	Pn	09 39 37.5	-0.7
ULGR				Pg	Pg	09 39 55.4	-3.0
ULGR				Sg	Sg	09 41 11.3	+7.5
AKAR	**Aktash**	**5.04**	**308**	Pn	Pn	09 39 39.8	+1.5
AKAR				Pg	Pg	09 39 56.3	-2.2
AKAR				Sg	Sg	09 41 08.7	+4.9
CHBI	**Chibit, Altay**	**5.10**	**307**	Pn	Pn	09 39 42.7	+3.6
CHBI				Pg	Pg	09 39 59.1	-0.6
CHBI				Sg	Sg	09 41 11.0	+5.2
DJO	**Djoy, Khakassi**	**5.65**	**344**	Pg	Pg	09 40 07.9	-2.1
DJO				Sg	Sg	09 41 28.0	+4.8
ARTR	**Artybash**	**6.13**	**318**	Sg	Sg	09 41 45.0	+6.4
MOY	**Mondy**	**6.31**	**45**	Pg	Pb	09 40 11.1	-1.1
MOY				Sg	Sg	09 41 44.4	0.0
ZAK	**Zakamensk**	**6.89**	**61**	Sg	Sg	09 41 58.1	-5.1
MKAR	**Makanchi Array**	**7.91**	**270**	Sg	Sg	09 42 29.4	-6.4

*IDC **28** 09:51:45.8±2.6, 31°65S×72°04W, h0km, mb4.3/1, mb1 3.7/4, mb1mx3.5/33, mbtmp3.7/4, ML3.5/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/48, Error ellipse: s-maj=103.8km s-min=33.2km az=99.0*
*GUC **28** 09:51:49.5±0.8, 31°66S×72°07W, h15km±11km, ML3.9*
ISC 28 09:51:46.8±2.0, 31°64S±0°03×72°00W±0°08, h9km±13km, n36, σ1°08/40, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**1.02**	**18**	⇑*iP*	**Pb**	**09 52 06.6**	**+0.1**
VA06	**Catapilco**	**1.09**	**147**	⇓*iP*	**Pb**	**09 52 08.3**	**+0.5**
VA06				*eS*	**Sb**	**09 52 22.6**	**+0.4**
VA06				IAML		09 52 25.5	
	comp=E,8μm,0.5s						
CO03	**El Pedregal**	**1.38**	**55**	⇓*iP*	**Pn**	**09 52 12.9**	**+0.6**
CO03				*eS*	**Sn**	**09 52 30.8**	**+0.1**
CO03				IAML		09 52 36.6	
	comp=E,2μm,0.3s						
VA01	**Torpederas**	**1.41**	**168**	*eP*	**Pn**	**09 52 12.4**	**-0.2**
VA01				*eS*	**Sb**	**09 52 29.1**	**-2.2**
ROCH	**El Roble**	**1.56**	**148**	⇑*iP*	**Pb**	**09 52 15.6**	**-0.5**
ROCH				*eP*	**Pn**	**09 52 13.4**	**-1.6**
ROCH				*eS*	**Sn**	**09 52 33.3**	**-2.3**
ROCH				*eS*	**Sb**	**09 52 35.8**	**-0.3**
ROCH				IAML		09 52 44.8	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**1.66**	**133**	⇑*iP*	**Pb**	**09 52 17.4**	**-0.2**
VA03				*eS*	**Sg**	**09 52 38.7**	**-1.4**
VA03				IAML		09 52 45.1	
	comp=E,4μm,0.2s						
MT02	**Curacav**	**1.77**	**156**	*eP*	**Pn**	**09 52 17.9**	**+0.4**
GO04	**Tololo Observa**	**1.79**	**35**	*eP*	**Pn**	**09 52 18.3**	**+0.1**
GO04				*eS*	**Sg**	**09 52 43.1**	**-1.3**
CO05	**La Serena**	**1.84**	**21**	*eP*	**Pn**	**09 52 18.8**	**+0.2**
CO05				IAML		09 52 51.1	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.86**	**144**	*eP*	**Pn**	**09 52 19.9**	**+0.9**
PEL				IAML		09 52 51.6	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**2.03**	**171**	*eP*	**Pn**	**09 52 20.9**	**-0.4**
VA05				*eS*	**Sg**	**09 52 54.5**	**+2.3**
VA05				IAML		09 52 59.1	
	comp=E,2μm,0.6s						
MT05	**Renca**	**2.04**	**149**	*eP*	**Pn**	**09 52 22.2**	**+0.8**
MT05				*eS*	**Sb**	**09 52 48.9**	**-0.7**
MT05				IAML		09 53 03.9	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**2.21**	**140**	*eP*	**Pn**	**09 52 25.2**	**+1.2**
FCH				*eS*	**Sb**	**09 52 53.0**	**-1.8**
FCH				IAML		09 53 00.5	
	comp=N,562nm,0.4s						
MT03	**Universidad Ad**	**2.23**	**146**	*eP*	**Pn**	**09 52 25.2**	**+1.1**
MT03				IAML		09 53 00.7	
	comp=E,2μm,0.5s						
MT09	**Talagante**	**2.29**	**159**	*eP*	**Pn**	**09 52 26.1**	**+1.2**
MT09				*eS*	**Sn**	**09 52 52.7**	**-0.6**
MT09				IAML		09 53 10.2	
	comp=N,754nm,0.3s						
MT01	**Popeta**	**2.30**	**164**	*eP*	**Pn**	**09 52 25.3**	**+0.4**
MT01				IAML		09 53 07.3	
	comp=E,482nm,0.3s						
BO04	**La Punta**	**2.61**	**154**	*eP*	**Pn**	**09 52 30.5**	**+1.2**
BO04				IAML		09 53 16.1	
	comp=E,629nm,0.4s						
LMEL	**Las Melosas**	**2.67**	**146**	*eP*	**Pn**	**09 52 31.6**	**+1.5**
LMEL				IAML		09 53 15.9	
	comp=N,725nm,0.4s						
BO03	**Pichilemu**	**2.84**	**179**	*eP*	**Pn**	**09 52 31.9**	**-0.5**
BO01	**Tunca**	**2.84**	**165**	*eP*	**Pn**	**09 52 33.0**	**+0.6**
BO02	**Sierra Bellavi**	**3.30**	**162**	*eP*	**Pn**	**09 52 39.7**	**+1.0**
GO05	**Huala**	**3.36**	**179**	*eP*	**Pn**	**09 52 38.8**	**-0.7**
GO05				IAML		09 53 51.6	
	comp=E,145nm,0.4s						
AC04	**Llanos de Chal**	**3.52**	**13**	*eP*	**Pn**	**09 52 40.8**	**-0.9**
AC04				IAML		09 53 47.5	
	comp=N,193nm,0.5s						
H03N1	**Juan Fernandez**	**6.11**	**251**	T	T	10 00 07.0	
	baz=81,slow=72,SNR=962						
H03N3	**Juan Fernandez**	**6.12**	**251**	T	T	10 00 09.0	
	baz=81,slow=72,SNR=690						
H03N2	**Juan Fernandez**	**6.12**	**251**	T	T	10 00 02.6	
	baz=81,slow=72,SNR=782						
PLCA	**Paso Flores**	**9.14**	**173**	Pn	**Pn**	**09 53 59.7**	**+0.7**
	comp=N,0.2nm,0.3s,baz=343,slow=15,SNR=12						
LVC	**Limon Verde**	**9.41**	**18**	LR	LR	09 58 19.4	
	comp=N,30nm,18.8s,baz=207,slow=42						
LPAZ	**La Paz**	**15.69**	**14**	Pn	**Pn**	**09 55 29.6**	**+0.9**
	comp=N,0.0nm,0.3s,baz=195,slow=8.4,SNR=3.0						
SIV	**San Ignacio**	**18.49**	**35**	P	**P**	**09 56 04.2**	**+1.0**
	baz=274,slow=11						
SIV				LR	LR	10 04 39.2	
	comp=N,52nm,19.2s,baz=120,slow=42						
BOSA	**Boshof**	**81.14**	**118**	LR	LR	10 37 44.3	
	comp=N,19nm,18.1s,baz=188,slow=34						
TORD	**Torodi Ar. Bea**	**83.38**	**70**	P	**P**	**10 04 15.1**	**+0.3**
	comp=N,1.8nm,0.7s,baz=254,slow=4.5,SNR=10						
H11S2	**WAKE ISLAND Hyl**	**25.81**	**271**	T	T	12 29 51.2	
	baz=117,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hyl**	**25.82**	**271**	T	T	12 29 49.1	
	baz=117,slow=75,SNR=3.5						
H11S3	**WAKE ISLAND Hyl**	**25.83**	**271**	T	T	12 29 52.3	
	baz=117,slow=75,SNR=3.6						
ZALV	**Zalesovo Beam**	**152.19**	**30**	PKPbc	**PKPbc**	**10 11 42.7**	**+0.4**
	comp=N,2.1nm,0.7s,baz=311,slow=3.2,SNR=8.6						

*IDC **28** 09:53:08.1±0.8, 9°28N×84°33W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/41, mbtmp3.8/10, ML3.7/1, MS3.4/13, Ms1 3.3/13, ms1mx3.0/65, Error ellipse: s-maj=41.3km s-min=11.2km az=57.0*
*UPA **28** 09:53:10.0±1.4, 9°04N×85°13W, h15km±28km, MW4.5*
*NEIC **28** 09:53:10.3±3.0, 9°11N±0°04×85°08W±0°06, h10km±1km, mb4.4/7, Error ellipse: s-maj=10.5km s-min=6.4km az=240.0*
*UCR **28** 09:53:10.6±1.6, 9°07N×85°10W, h27km±3km, MW4.3, mb4.4(NEIC)*
*INET **28** 09:53:11.3±2.0, 9°07N×85°05W, h20km±22km, ML3.4, MW3.8*
*SNET **28** 09:53:21.9±0.7, 9°36N×85°74W, h35km±999km, ML4.4*
*SSS **28** 09:53:21.9, 9°36N×85°74W, h35km, ML4.4*
ISC 28 09:53:09.9±1.5, 9°07N±0°04×85°12W±0°03, h17km±9km, n147, σ1°71/167, mb3.9/12, MS3.5/12, 10C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO2	**Cobano, Puntar**	**0.61**	**1**		**Pg**	**09 53 21.9**	**-0.1**
CAO2	**Cobano, Puntar**	**0.61**	**1**	*eP*	**Pg**	**09 53 21.9**	**-0.1**
JACO	**JACO, Garabito**	**0.74**	**38**		**Pb**	**09 53 23.8**	**-0.6**
JACO	**JACO, Garabito**	**0.74**	**38**	⇑*eP*	**Pb**	**09 53 23.8**	**-0.6**
LAFE	**Finca La Fe, P**	**0.76**	**16**	⇑*eP*	**Pb**	**09 53 23.9**	**-0.7**
LAFE				*eS*	**Sg**	**09 53 35.4**	**+0.5**
LAFE	**Finca La Fe, P**	**0.76**	**16**	*eP*	**Pb**	**09 53 24.0**	**-0.7**
DUNO	**Dulce Nombre,**	**1.06**	**340**	Pg	**Pb**	**09 53 29.4**	**-0.5**
SAJU	**San Juanillo,**	**1.15**	**330**	⇑*eP*	**Pn**	**09 53 29.3**	**-1.9**
SRA1	**San Ramn**	**1.19**	**32**	⇑*eP*	**Pn**	**09 53 30.7**	**-1.2**
JTS	**Las Juntas de**	**1.22**	**8**	Pg	**Pn**	**09 53 31.0**	**-1.3**
	67nm,0.3s,baz=118,slow=6.6,SNR=411						
JTS				Lg	Lg	09 53 46.3	
	346nm,0.3s,baz=22,slow=22,SNR=16						
JTS				LR	LR	09 53 48.3	
	comp=Z,172nm,21.0s,baz=332,slow=34						
JTS	**Las Juntas de**	**1.22**	**8**	Pn	**Pn**	**09 53 31.2**	**-1.1**
GUAI	**GUAI**	**1.25**	**342**	*eP*	**Pn**	**09 53 30.9**	**-1.7**
EDDO	**Dominical**	**1.25**	**82**	*eP*	**Pn**	**09 53 31.4**	**-1.3**
EDDO				*eS*	**Sb**	**09 53 47.4**	**-1.6**
LCR2	**La Lucha 2**	**1.29**	**59**	*eP*	**Pn**	**09 53 32.2**	**-1.1**
ORTG	**Ortega, Santa**	**1.32**	**345**		**Pn**	**09 53 32.5**	**-1.2**
ORTG	**Ortega, Santa**	**1.32**	**345**	*eP*	**Pn**	**09 53 32.3**	**-1.4**
HDC	**Heredia**	**1.36**	**47**		**Pn**	**09 53 33.9**	**-0.3**
HDC	**Heredia**	**1.36**	**47**	⇑*eP*	**Pn**	**09 53 33.9**	**-0.3**
HDC	**Heredia**	**1.36**	**47**	*eP*	**Pn**	**09 53 33.9**	**-0.3**
HDC				*i* S	**Sb**	**09 53 52.2**	**+0.1**
HDC3	**Heredia 3**	**1.36**	**47**	*eP*	**Pn**	**09 53 33.9**	**-0.4**
HDC3				IAML		09 54 20.6	
	comp=Z,595nm,1.0s						
RIMA	**Rio Macho**	**1.42**	**61**		**Pn**	**09 53 34.3**	**-0.9**
RIMA	**Rio Macho**	**1.42**	**61**	⇓*eP*	**Pn**	**09 53 34.2**	**-0.9**
RIMA	**Rio Macho**	**1.42**	**61**	*eP*	**Pn**	**09 53 34.3**	**-0.9**
CDM	**Cerro de Muert**	**1.42**	**70**	*eP*	**Pn**	**09 53 34.3**	**-1.1**
CDM	**Cerro de Muert**	**1.42**	**70**	*eP*	**Pn**	**09 53 34.5**	**-0.9**
CDM				*eS*	**Sn**	**09 53 53.8**	**-0.1**
CDM				IAML		09 54 09.2	
	comp=Z,567nm,1.2s						
ARE1	**Arenal 1**	**1.44**	**16**	*eP*	**Pn**	**09 53 35.2**	**0.0**
PEZE	**Perez Zeledon,**	**1.46**	**78**		**Pn**	**09 53 34.5**	**-1.1**
PEZE	**Perez Zeledon,**	**1.46**	**78**	*eP*	**Pn**	**09 53 34.2**	**-1.4**
PEZE	**Perez Zeledon,**	**1.46**	**78**	*eP*	**Pn**	**09 53 34.3**	**-1.4**
PEZE				IAML		09 54 24.2	
	comp=Z,263nm,1.2s						
CEDE	**Laguna Cedeo**	**1.46**	**16**	*eP*	**Pn**	**09 53 35.8**	**+0.2**
ACAL	**Aguas Claras**	**1.55**	**3**	*eP*	**Pn**	**09 53 36.9**	**0.0**
ACAL				*eS*	**Sn**	**09 53 56.9**	**+0.2**
CUI	**Cuipilapa**	**1.57**	**358**	*eP*	**Pn**	**09 53 36.8**	**-0.3**
CUI				*eS*	**Sn**	**09 53 56.8**	**-0.4**
COLC	**Colonia**	**1.58**	**357**	*eP*	**Pn**	**09 53 36.9**	**-0.4**
COLC				*eS*	**Sn**	**09 53 58.0**	**+0.6**
LIM1	**Limonal**	**1.62**	**355**	*eP*	**Pn**	**09 53 37.4**	**-0.4**
LIM1				*eS*	**Sn**	**09 53 58.6**	**+0.3**
GUAB	**Guayabo de Bag**	**1.63**	**356**	*eP*	**Pn**	**09 53 37.5**	**-0.3**
HORNC	**Hornillas**	**1.63**	**358**	*eP*	**Pn**	**09 53 37.6**	**-0.4**
HORNC				*eS*	**Sn**	**09 53 58.4**	**-0.2**
RIOS	**Rincon, Osa**	**1.63**	**103**		**Pn**	**09 53 36.6**	**-1.3**
PTEN	**Parque Tenorio**	**1.64**	**5**	*eP*	**Pn**	**09 53 38.3**	**+0.3**
CVTR	**Volcan Turrial**	**1.64**	**55**		**Pn**	**09 53 38.6**	**+0.3**
EDPN	**Palmar Norte**	**1.65**	**94**	*eP*	**Pn**	**09 53 37.2**	**-0.9**
EDPN				*eS*	**Sn**	**09 53 57.6**	**-1.3**
GPS2	**Hotel Rincn d**	**1.68**	**352**	⇓*eP*	**Pn**	**09 53 38.5**	**-0.1**
GPS2				*eS*	**Sn**	**09 54 00.5**	**+0.6**
GPS3	**Bodega del ICE**	**1.69**	**352**	*eP*	**Pn**	**09 53 38.5**	**-0.2**
HZTE	**Horizontes, Gu**	**1.70**	**344**		**Pn**	**09 53 38.5**	**-0.2**
HZTE	**Horizontes, Gu**	**1.70**	**344**	⇑*eP*	**Pn**	**09 53 38.0**	**-0.8**
HZTE	**Horizontes, Gu**	**1.70**	**344**	*eP*	**Pn**	**09 53 38.4**	**-0.3**
HZTE				IAML		09 54 45.2	
	comp=Z,390nm,1.5s						
LAPC	**Finca la Perla**	**1.71**	**350**	⇓*eP*	**Pn**	**09 53 38.5**	**-0.5**
LAPC				*eS*	**Sn**	**09 53 59.7**	**-0.8**
VMAR	**Armenia, Volca**	**1.73**	**0**	⇑*eP*	**Pn**	**09 53 39.3**	**0.0**
GBS3	**Finca Las Img**	**1.73**	**349**	*eP*	**Pn**	**09 53 38.4**	**-0.8**
GBS3				*eS*	**Sn**	**09 54 00.2**	**-0.7**

BUEV	**Buena Vista**	**1.74**	**351**	*eP*		**Pn**	**09 53 39.1**	**-0.3**		
BUEV				*eS*		**Sn**	**09 54 01.1**	**-0.1**		
SRBA	**San Rafael, Bu**	**1.75**	**85**			**Pn**	**09 53 38.9**	**-0.7**		
GB1A	**Borinquen Arri**	**1.76**	**351**	⇓*iP*		**Pn**	**09 53 39.6**	**-0.1**		
GB1A				*eS*		**Sn**	**09 54 01.3**	**-0.4**		
COVE	**Coope Vega, Sa**	**1.78**	**23**			**Pn**	**09 53 40.1**	**+0.2**		
COVE	**Coope Vega, Sa**	**1.78**	**23**	⇑*eP*		**Pn**	**09 53 40.2**	**+0.2**		
BUAI	**Buenos Aires**	**1.80**	**353**	⇑*eP*		**Pn**	**09 53 40.1**	**-0.1**		
EDBA	**Buenos Aires**	**1.83**	**87**	*eP*		**Pn**	**09 53 39.7**	**-0.9**		
DRK0	**Durika**	**1.86**	**84**			**Pn**	**09 53 40.6**	**-0.6**		
DRK0	**Durika**	**1.86**	**84**	*eP*		**Pn**	**09 53 40.6**	**-0.6**		
DRK0				*eS*		**Sn**	**09 54 03.6**	**-0.9**		
DRK0	**Durika**	**1.86**	**84**	*eP*		**Pn**	**09 53 40.6**	**-0.6**		
DRK0				IAML			09 54 40.2			
	comp=Z,533nm,1.0s									
PIRO	**Carate, Puerto**	**1.89**	**111**	⇓*eP*		**Pn**	**09 53 40.2**	**-1.1**		
PIRO	**Carate, Puerto**	**1.89**	**111**	*eP*		**Pn**	**09 53 40.4**	**-1.0**		
PIRO				*eS*		**Sn**	**09 54 04.9**	**+0.1**		
PIRO	**Carate, Puerto**	**1.89**	**111**	*eP*		**Pn**	**09 53 40.3**	**-1.1**		
PIRO				IAML			09 54 37.3			
	comp=Z,173nm,1.7s									
BATAN	**Batan**	**2.00**	**59**			**Pn**	**09 53 43.7**	**+0.8**		
BATAN	**Batan**	**2.00**	**59**	*eP*		**Pn**	**09 53 44.0**	**+1.1**		
BATAN				*eS*		**Sn**	**09 54 08.3**	**+0.7**		
EDSV	**San Vito**	**2.14**	**97**	*eP*		**Pn**	**09 53 45.0**	**+0.1**		
CDITO	**Canoas**	**2.28**	**102**			**Pn**	**09 53 46.4**	**-0.4**		
CDITO	**Canoas**	**2.28**	**102**	*eP*		**Pn**	**09 53 46.3**	**-0.4**		
CDITO				*eS*		**Sn**	**09 54 15.2**	**+0.7**		
MLIR3	**Monte Lirio, C**	**2.29**	**97**	*eP*		**Pn**	**09 53 47.6**	**+0.6**		
MLIR3				*eS*		**Sn**	**09 54 16.0**	**+1.2**		
PTPM	**Petroterminale**	**2.38**	**111**	*eP*		**Pn**	**09 53 47.9**	**-0.3**		
PTPM				*eS*		**Sn**	**09 54 16.4**	**-0.5**		
BRU2	**Volcan**	**2.42**	**96**			**Pn**	**09 53 48.6**	**-0.2**		
BRU2	**Volcan**	**2.42**	**96**	*eP*		**Pn**	**09 53 48.5**	**-0.3**		
BRU2				*eS*		**Sn**	**09 54 18.4**	**+0.2**		
BC3P	**Paso Ancho**	**2.50**	**96**	*eP*		**Pn**	**09 53 50.2**	**+0.3**		
BC3P				*eS*		**Sn**	**09 54 20.1**	**0.0**		
BCO2	**Palmira**	**2.59**	**98**	⇑*iP*		**Pn**	**09 53 51.0**	**-0.2**		
BCO2				*i* S		**Sn**	**09 54 23.0**	**+0.7**		
CNI2	**El Empalme, Bo**	**2.64**	**82**	*eP*		**Pn**	**09 53 51.8**	**0.0**		
CNI2				*eS*		**Sn**	**09 54 22.2**	**-1.2**		
DVD	**David**	**2.71**	**103**	*eP*		**Pn**	**09 53 52.7**	**-0.1**		
DVD				*eS*		**Sn**	**09 54 25.7**	**+0.5**		
LOMA3	**Las Lomas, Chi**	**2.77**	**103**	*eP*		**Pn**	**09 53 53.6**	**0.0**		
ACON	**Acoyapa**	**2.88**	**359**	*eP*		**Pn**	**09 53 55.2**	**+0.1**		
ACON				*eS*		**Sn**	**09 54 28.4**	**-0.8**		
ACON				IAML			09 54 53.5			
	comp=Z,103nm,0.9s									
CHGR2	**Aguacate**	**2.94**	**92**	*eP*		**Pn**	**09 53 56.6**	**+0.7**		
CHGR2				*eS*		**Sn**	**09 54 31.4**	**+0.5**		
ESPN	**Las Esperanzas**	**3.21**	**15**			**Pn**	**09 53 59.9**	**+0.4**		
ESPN	**Las Esperanzas**	**3.21**	**15**	*eP*		**Pn**	**09 53 59.9**	**+0.4**		
ESPN				IAML			09 55 13.0			
	comp=Z,150nm,2.2s									
REME3	**Remedios, Chir**	**3.36**	**104**	*eP*		**Pn**	**09 54 01.4**	**-0.2**		
BOAB	**BOACO BROADBAN**	**3.40**	**351**			**Pn**	**09 54 02.1**	**0.0**		
CNGN	**Cerro Negro**	**3.74**	**336**			**Pn**	**09 54 08.6**	**+1.6**		
MATN	**Matagalpa**	**3.91**	**348**			**Pn**	**09 54 09.6**	**+0.2**		
CRIN	**San Cristobal**	**4.07**	**332**			**Pn**	**09 54 15.4**	**+3.9**		
CSGN	**Cosiguina Volc**	**4.56**	**329**	*eP*		**Pn**	**09 54 19.6**	**+1.4**		
LCND	**La Caada**	**5.01**	**327**	*eP*		**Pn**	**09 54 27.4**	**+3.0**		
LCND				*eS*		**Sn**	**09 55 18.5**	**-3.4**		
BCIP	**Isla Barro Col**	**5.22**	**89**	Pn		**Pn**	**09 54 26.9**	**-0.3**		
TGUH	**Tegucigalpa,Un**	**5.38**	**337**			**Pn**	**09 54 33.0**	**+3.4**		
COEB	**Comit de Eme**	**5.52**	**323**	*eP*		**Pn**	**09 54 34.9**	**+3.4**		
PQSS	**Presa 15 de Se**	**5.64**	**324**	*eP*		**Pn**	**09 54 36.1**	**+3.1**		
TECO	**Alcaldia de Te**	**5.71**	**321**	*eP*		**Pn**	**09 54 36.7**	**+2.7**		
TECO	**Alcaldia de Te**	**5.71**	**321**	*eP*		**Pn**	**09 54 36.7**	**+2.7**		
TECO				*eS*		**Sn**	**09 55 35.1**	**-4.0**		
SCLA	**Alcaldia de Sa**	**5.80**	**323**	*eP*		**Pn**	**09 54 38.2**

HFS	**Hagfors**	**86.57**	**30**	LR	LR		10 42 55.6		
	comp=Z,42nm,18.3s,baz=344,slow=35								
DAVOX	**Davos/Dischmat**	**86.87**	**43**	LR	LR		10 44 58.1		
	comp=Z,26nm,19.0s,baz=74,slow=36								
MA2	**Magadan**	**98.45**	**335**	LR	LR		10 58 55.1		
	comp=Z,26nm,18.6s,baz=102,slow=40								
MKAR	**Makanchi Array**	**123.26**	**10**	PKP	**PKPdf**		**10 12 05.8**	**-0.4**	
	comp=Z,0.5nm,0.7s,baz=253,slow=1.5,SNR=4.7								
ASAR	**Alice Springs**	**140.00**	**244**	PKP	**PKPdf**		**10 12 39.2**	**+0.9**	
	comp=Z,0.4nm,0.8s,baz=87,slow=1.7,SNR=8.3								
WRA	**Warramunga Arr**	**140.40**	**250**	PKP	**PKPdf**		**10 12 39.8**	**+0.7**	
	comp=Z,0.9nm,0.9s,baz=94,slow=2.6,SNR=9.5								
CMAR	**Chiang Mai Arr**	**152.35**	**352**	PKPbc	**PKiKP**		**10 13 06.7**	**+0.4**	
	comp=Z,0.8nm,0.3s,baz=1.9,slow=2.7,SNR=1.4								

*IDC **28** 09:54:05.6±13.0, 14.˚94S×165.˚71E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/37, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=229.0km s-min=36.3km az=56.0*
*NEIC **28** 09:54:07.1±0.7, 14.˚7S±0.˚1×167.˚4E±0.˚2, h129km±10km, mb4.0/11, Error ellipse: s-maj=23.5km s-min=19.0km az=132.0*
*NOU **28** 09:54:09.0, 14.˚82S×167.˚45E, h113km, MLv4.7/13, Vanuatu Islands*

ISC 28 09:54:07.3±1.8, 14.˚7S±0.˚1×167.˚4E±0.˚2, h150km, n31, σ1s13/30, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**0.76**	**197**			**Pn**	**09 54 27.7**	**-2.5**
SANVU	**Saraoutou**	**0.76**	**197**	P		**Pn**	**09 54 28.1**	**-2.1**
DVP	**Devils Point**	**3.08**	**167**	P		**Pn**	**09 54 54.1**	**-1.5**
LIFNC	**LIFOU**	**6.03**	**182**	Pn		**Pn**	**09 55 34.1**	**-0.3**
LIFNC	**LIFOU**	**6.03**	**182**	P		**Pn**	**09 55 34.4**	**0.0**
KOUNC	**Koumac, New Ca**	**6.54**	**207**			**Pn**	**09 55 40.5**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.54**	**207**	P		**Pn**	**09 55 41.1**	**0.0**
MARNC	**Mare, Loyalty**	**6.75**	**175**	P		**Pn**	**09 55 44.8**	**+0.8**
	1.0nm,0.9s							
YATNC	**Mamie plateau,**	**7.32**	**184**	P		**Pn**	**09 55 51.2**	**-0.5**
DZM	**Mont Dzumac**	**7.38**	**187**	Pn		**Pn**	**09 55 51.9**	**-0.6**
	1.9nm,0.3s,baz=96,slow=17,SNR=34							
DZM				Sn		**Sn**	**09 57 12.3**	**-2.8**
	0.9nm,0.3s,baz=309,slow=22,SNR=1.6							
DZM	**Mont Dzumac**	**7.38**	**187**	P		**Pn**	**09 55 51.9**	**-0.6**
ONTNC	**Ouen Toro**	**7.61**	**187**	Pn		**Pn**	**09 55 55.5**	**0.0**
ONTNC	**Ouen Toro**	**7.61**	**187**	P		**Pn**	**09 55 56.6**	**+1.1**
OUENC	**Ouen Island, N**	**7.68**	**184**	Pn		**Pn**	**09 55 56.4**	**-0.1**
OUENC	**Ouen Island, N**	**7.68**	**184**	P		**Pn**	**09 55 57.4**	**+0.9**
	25nm,1.9s							
PINNC	**Pines Island,**	**7.86**	**180**	Pn		**Pn**	**09 55 57.7**	**-1.0**
PINNC	**Pines Island,**	**7.86**	**180**	P		**Pn**	**09 55 59.0**	**+0.2**
EIDS	**Eidsvold**	**18.65**	**233**	Pn		**Pn**	**09 58 15.5**	**-0.3**
EIDS				IAmb		IAmb	09 58 37.8	
	comp=Z,8.0nm,1.1s							
OUZ	**Omahuta**	**21.16**	**166**	P		**P**	**09 58 42.4**	**+1.8**
OUZ				IAmb		IAmb	09 59 01.9	
	comp=Z,14nm,1.2s							
BKZ	**Black Stump Fm**	**25.63**	**164**	P		**P**	**09 59 23.3**	**+0.4**
BKZ				IAmb		IAmb	09 59 25.6	
	comp=Z,14nm,1.5s							
STKA	**Stephens Creek**	**29.13**	**230**	P		**P**	**09 59 55.6**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=66,slow=9.7,SNR=8.2							
STKA	**Stephens Creek**	**29.13**	**230**	IAmb		IAmb	10 00 03.9	
	comp=Z,1.3nm,1.4s							
WB0	**Warramunga Arr**	**31.93**	**256**	P		**P**	**10 00 18.7**	**-0.3**
WB0				IAmb		IAmb	10 00 25.2	
	comp=Z,3.1nm,1.2s							
WB2	**Warramunga Arr**	**31.98**	**256**			**P**	**10 00 19.4**	**0.0**
WB2				IAmb		IAmb	10 00 20.5	
	comp=Z,5.4nm,1.4s							
WRA	**Warramunga Arr**	**31.99**	**256**	P		**P**	**10 00 19.1**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=85,slow=8.6,SNR=6.9							
WRA	**Warramunga Arr**	**31.99**	**256**	IAmb		IAmb	10 00 21.5	
	comp=Z,2.2nm,1.2s							
AS31	**Alice Springs**	**32.83**	**249**			**P**	**10 00 27.0**	**+0.1**
ASAR	**Alice Springs**	**32.83**	**249**	P		**P**	**10 00 26.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=78,slow=9.1,SNR=28							
BBOO	**Buckleboo**	**33.72**	**232**	P		**P**	**10 00 35.7**	**+1.3**
KNRA	**Kununurra**	**37.30**	**263**	P		**P**	**10 01 05.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.18**	**259**	P		**P**	**10 01 29.5**	**+0.4**
FITZ				IAmb		IAmb	10 01 39.6	
	comp=Z,4.6nm,1.3s							

IDC 28 09:57:08.0±3.8, 54.˚02N×81.˚44E, h0km, mb1 2.6/1, mb1mx2.5/43, mbtmp2.6/1, ML2.2/1, Error ellipse: s-maj=46.2km s-min=23.1km az=120.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**91**	*i*			10 08 10.0	
	baz=275,slow=323,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.99**	**91**	Pn		Pn	09 57 43.3	+0.3
	0.5nm,0.3s,baz=273,slow=17,SNR=8.0							
ZALV				Sn		Sn	09 58 09.5	+0.9
	1.0nm,0.3s,baz=273,slow=26,SNR=12							
MKAR	**Makanchi Array**	**7.26**	**175**	Pn		Pn	09 58 55.4	+0.2
	0.0nm,0.3s,baz=354,slow=13,SNR=3.0							
MKAR				Lg		Lg	10 00 52.0	
	0.0nm,0.3s,baz=353,slow=28,SNR=3.9							

IDC 28 10:15:12.0±3.7, 54.˚28N×87.˚64E, h0km, mb1 2.8/2, mb1mx2.7/38, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=35.6km s-min=22.8km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**260**	*i*			10 25 07.6	
	baz=80,slow=324,SNR=5.6							
ZALV	**Zalesovo Beam**	**1.69**	**260**	Pn		Pn	10 15 41.4	-1.4
	1.1nm,0.3s,baz=75,slow=14,SNR=12							
ZALV				Lg		Lg	10 16 06.1	
	1.0nm,0.3s,baz=87,slow=25,SNR=5.0							
KURBB	**Kurchatov Arra**	**6.66**	**240**	Pn		Pn	10 16 51.6	+0.6
	0.0nm,0.3s,baz=56,slow=13,SNR=3.3							
MKAR	**Makanchi Array**	**8.23**	**207**	Pn		Pn	10 17 14.1	+1.5
	0.1nm,0.3s,baz=30,slow=13,SNR=2.0							

*NNC **28** 10:16:10.6±3.1, 37.˚35N×81.˚05E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=26.9km s-min=22.5km az=101.0*
*SOME **28** 10:16:13.4, 37.˚72N×78.˚35E, h0km*
*IDC **28** 10:16:13.9±1.7, 38.˚14N×78.˚51E, h0km, mb3.6/5, mb1 3.8/10, mb1mx3.5/37, mbtmp3.6/10, ML3.1/5, MS3.0/3, Ms1 3.0/3, ms1mx2.6/86, Error ellipse: s-maj=36.5km s-min=17.9km az=48.0*

ISC 28 10:16:13.1±0.9, 37.˚79N±0.˚06×78.˚31E±0.˚06, h10km, n27, σ2s41/34, mb3.7/5, MS3.5/3, 6C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SATY	**Saty**	**5.27**	**1**	*eP*		**Pg**	**10 17 55.0**	**+1.1**
	33nm,1.1s							
SATY				*eS*		**Sg**	**10 19 08.0**	**+5.8**
	54nm,1.1s							
TNSS	**Tian-Shan**	**5.35**	**349**	*eP*		**Pg**	**10 17 53.0**	**-2.5**
	18nm,1.7s							
TNSS				*eS*		**Sg**	**10 19 04.9**	**+0.1**
	28nm,1.0s							
IZV	**Izvestkoviy**	**5.40**	**347**	*eP*		**Pg**	**10 17 54.6**	**-2.0**
	18nm,0.5s							
IZV				*eS*		**Sg**	**10 19 07.5**	**+1.0**
	47nm,0.8s							
MDOK	**Medeo**	**5.46**	**350**	⇓Pn		**Pb**	**10 17 49.5**	**+1.0**
	28nm,0.7s							
MDOK				Sn		**Sg**	**10 19 04.0**	**-4.3**
	93nm,0.8s							
MTBS	**Maitube**	**5.53**	**346**	*eP*		**Pg**	**10 17 57.5**	**-1.4**
	12nm,0.5s							
MTBS				*eS*		**Sg**	**10 19 12.4**	**+1.9**
	42nm,0.7s							
PDGK	**Podgornoye**	**5.61**	**9**	⇓Pn		Pn	10 17 42.0	+5.4
	7.7nm,0.7s							
PDGK				⇑Pg		**Pg**	**10 18 00.5**	**0.0**
	17nm,0.6s							
PDGK				⇑Sn		**Sb**	**10 18 55.5**	**-3.0**
	50nm,0.6s							
PDGK				⇓Lg		Lg	10 19 24.4	
	88nm,0.8s							
AAK	**Ala-Archa**	**5.66**	**330**	Pn		**Pn**	**10 17 36.9**	**-0.5**
	0.6nm,0.3s,baz=146,slow=9.9,SNR=9.3							
AAK				Pg		**Pb**	**10 17 52.8**	**+0.8**
	0.9nm,0.3s,baz=11,slow=20,SNR=11							
AAK				Sn		**Sn**	**10 18 42.5**	**0.0**
	1.2nm,0.3s,baz=99,slow=14,SNR=3.8							
AAK				Lg		Lg	10 19 06.5	
	1.0nm,0.3s,baz=31,slow=7.3,SNR=5.4							
CHCP	**Chirah Chowk**	**5.81**	**226**	P		Pn	10 17 34.0	-5.4
MRKS	**Merke**	**6.30**	**323**	*eP*		**Pg**	**10 18 12.6**	**-1.0**
	3.7nm,1.1s							
MRKS				*eS*		**Sg**	**10 19 38.2**	**+3.0**
	17nm,0.9s							
SGDS	**Sogindy**	**6.31**	**335**	*eP*		**Pg**	**10 18 13.5**	**-0.4**
	6.3nm,0.9s							
SGDS				*eS*		**Sg**	**10 19 40.0**	**+4.3**
	16nm,1.3s							
CEP	**Cherat**	**6.53**	**235**	P		Pn	10 17 40.3	-9.0
CEP				S		**Sb**	**10 19 22.0**	**-3.0**
KK09	**Karatay Array**	**7.99**	**314**	⇑Pn		**Pb**	**10 18 34.0**	**+2.4**
	1.8nm,0.6s							
MAKZ	**Makanchi**	**9.42**	**16**	⇑Pn		**Pn**	**10 18 27.5**	**-1.2**
	15nm,1.0s							
MAKZ				⇑Sn		**Sn**	**10 20 15.6**	**+0.9**
	8.0nm,1.0s							
MK31	**Makanchi Array**	**9.47**	**17**	⇓Pn		**Pn**	**10 18 28.1**	**-1.4**
	7.2nm,0.7s,baz=190,slow=13,SNR=70							
MK31				⇑Sn		**Sn**	**10 20 15.6**	**-0.4**
	6.9nm,0.7s,baz=186,slow=26,SNR=3.7							
MKAR	**Makanchi Array**	**9.47**	**17**	Pn		**Pn**	**10 18 28.4**	**-1.1**
	0.8nm,0.3s,baz=202,slow=13,SNR=64							
MKAR				LR		LR	10 21 50.3	
	comp=Z,25nm,19.9s,baz=176,slow=37							
KURBB	**Kurchatov Arra**	**12.84**	**1**	Pn		**Pn**	**10 19 12.5**	**-3.0**
	0.0nm,0.3s,baz=195,slow=10,SNR=1.9							
BVAR	**Borovoye Array**	**16.21**	**343**	Pn		**Pn**	**10 19 57.3**	**-3.4**
	0.1nm,0.3s,baz=198,slow=23,SNR=2.1							
ZALV	**Zalesovo Beam**	**16.78**	**13**	Pn		**Pn**	**10 20 04.2**	**-3.7**
	0.1nm,0.3s,baz=182,slow=10,SNR=4.4							
SONM	**Songino Array**	**22.81**	**55**	P		**P**	**10 21 13.9**	**-2.2**
	1.5nm,0.9s,baz=249,slow=10.0,SNR=9.3							
PALK	**Pallekele**	**30.45**	**175**	LR		LR	10 36 26.7	
	comp=Z,34nm,20.6s,baz=116,slow=39							
KLMR	**Klimovskoe**	**33.45**	**326**	*e*		P	10 22 44.3	-7.6
KLMR				AMP			10 22 46.0	
	comp=Z,62nm,0.8s							
FINES	**FINESS Array B**	**39.80**	**324**	P		**P**	**10 23 47.2**	**+1.2**
	comp=Z,2.8nm,0.9s,baz=123,slow=9.5,SNR=5.6							
JOW	**Kunigami**	**43.17**	**90**	LR		LR	10 46 04.1	
	comp=Z,557nm,18.3s,baz=278,slow=42							
DAV	**Davao City (W)**	**52.54**	**113**	LR		LR	10 49 11.9	
	comp=Z,40nm,18.7s,baz=142,slow=38							
ILAR	**Eielson Array**	**71.82**	**19**	P		**P**	**10 27 36.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=309,slow=3.1,SNR=5.2							
WRA	**Warramunga Arr**	**77.90**	**127**	P		**P**	**10 28 14.2**	**+2.9**
	comp=Z,0.2nm,0.9s,baz=328,slow=5.6,SNR=1.4							
YKA	**Yellowknife Ar**	**79.52**	**6**	P		**P**	**10 28 20.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=349,slow=4.8,SNR=4.1							

*ANF **28** 10:39:58.5±0.2, 33.˚68N×118.˚03W, h13km±1km, ML3.1/26, Error ellipse: s-maj=1.3km s-min=1.0km az=6.0*
*NEIC **28** 10:39:59.0±1.4, 33.˚62N±0.˚03×118.˚06W±0.˚04, h11km±7km, Error ellipse: s-maj=5.7km s-min=2.4km az=45.0*
*PAS **28** 10:39:59.5±1.7, 33.˚68N±0.˚04×118.˚05W±0.˚03, h15km±5km, ML3.2/329, ML3.0/54(NEIC), Error ellipse: s-maj=5.3km s-min=3.7km az=171.0*

ISC 28 10:39:58.7±1.0, 33.˚65N±0.˚03×118.˚05W±0.˚02, h11km±8km, n60, σ0s72/73, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FMP	**Fort Macarthur**	**0.21**	**289**	P		**Pg**	**10 40 03.6**	**+0.4**
	baz=100,SNR=69							
FMP				S		**Sg**	**10 40 06.6**	**+0.3**
	baz=100							
CIS	**Catalina Islan**	**0.39**	**231**	P		**Pb**	**10 40 07.5**	**-0.1**
	baz=48,SNR=83							
GVRC	**Garvey Reservo**	**0.41**	**352**			**Pg**	**10 40 07.3**	**+0.5**
GR2C	**Griffith Obs.**	**0.52**	**336**			**Pg**	**10 40 09.7**	**+0.9**
ELS	**Elsinore Mount**	**0.52**	**89**			**Pg**	**10 40 09.0**	**0.0**
ELS				IAML			10 40 16.1	
	comp=N,1μm,0.3s							
PASC	**Pasadena Art C**	**0.54**	**348**	Pg		**Pg**	**10 40 08.6**	**-0.6**
PASC	**Pasadena Art C**	**0.54**	**348**			**Sg**	**10 40 15.9**	**-0.5**
DJJ	**Donna J Jenkin**	**0.57**	**324**			**Pg**	**10 40 10.6**	**+0.7**
DECC	**Green Verdugo**	**0.65**	**339**	P		**Pg**	**10 40 10.5**	**-0.9**
	baz=158,SNR=22							
DECC				S		**Sg**	**10 40 19.4**	**-0.6**
	baz=158							
BFSC	**Mount Baldy Ra**	**0.68**	**29**	P		**Pg**	**10 40 11.5**	**-0.4**
	baz=210,SNR=224							
BFSC				S		**Sg**	**10 40 20.0**	**-0.8**
	baz=210							
RSBC	**Riverside Bore**	**0.69**	**61**			**Pg**	**10 40 11.9**	**-0.1**
RSBC						**Sg**	**10 40 20.5**	**-0.6**
MURC	**Murrieta**	**0.72**	**93**	P		**Pg**	**10 40 12.3**	**-0.3**
	baz=276,SNR=43							
MURC				S		**Sg**	**10 40 22.2**	**+0.2**
	baz=276							
SCI2	**San Clemente I**	**0.78**	**212**	P		Pn	**10 40 14.9**	**-0.8**
	baz=30,SNR=62							
CFSC	**Central Fire S**	**0.79**	**54**			**Pg**	**10 40 13.9**	**-0.1**
109C	**Camp Elliot, M**	**1.09**	**133**			**Pb**	**10 40 19.2**	**-0.5**
109C				IAML			10 40 35.1	
	comp=N,452nm,0.2s							
109C	**Camp Elliot, M**	**1.09**	**133**	P		**Pb**	**10 40 19.0**	**-0.6**
	baz=315,SNR=19							
OSI	**Osito Audit: C**	**1.12**	**330**	P		**Pb**	**10 40 19.3**	**-0.7**
	baz=149,SNR=17							
OSI				S		**Sb**	**10 40 34.4**	**-0.2**
	baz=149							
BBRC	**Big Bear Solar**	**1.12**	**56**	P		**Pb**	**10 40 19.6**	**-0.7**
	baz=238,SNR=46							
BBRC				S		**Sg**	**10 40 34.3**	**-0.7**
	baz=238							
EDW2	**Edwards Air Fo**	**1.23**	**2**	P		**Pn**	**10 40 20.8**	**-1.2**
	baz=182,SNR=101							
EDW2				S		**Sb**	**10 40 37.2**	**-0.8**
	baz=182							
SNCC	**San Nicolas Is**	**1.29**	**253**	Pn		**Pn**	**10 40 22.2**	**-0.5**
SNCC				IAML			10 40 42.2	
	comp=E,246nm,0.6s							
SNCC				IAML			10 40 44.9	
	comp=N,246nm,0.5s							
SNCC	**San Nicolas Is**	**1.29**	**253**	P		**Pn**	**10 40 22.7**	**0.0**
	baz=70							
SNCC				S		**Sn**	**10 40 39.9**	**0.0**
	baz=70							
PFO	**Pinyon Flats O**	**1.33**	**91**	Pn		**Pn**	**10 40 23.2**	**-0.1**
PFO				IAML			10 40 42.4	
	comp=N,212nm,1.0s							
PFO	**Pinyon Flats O**	**1.33**	**91**	P		**Pn**	**10 40 22.7**	**-0.6**
	baz=273,SNR=27							
PFO				S		**Sb**	**10 40 40.5**	**-0.3**
	baz=273							
TPFO	**Pinon Flats**	**1.33**	**91**	Pb		**Pn**	**10 40 23.2**	**-0.2**
	baz=274							
TJX	**Tijuana**	**1.41**	**143**			**Pn**	**10 40 24.2**	**0.0**
TJX				IAML			10 40 47.4	
	comp=N,297nm,0.4s							
CCAC	**Calif City Air**	**1.50**	**1**			**Pn**	**10 40 25.4**	**-0.3**
CCAC				IAML			10 40 52.3	
	comp=N,287nm,0.9s							
BAR	**Barrett**	**1.50**	**129**			**Pn**	**10 40 25.3**	**-0.3**
BAR				IAML			10 40 48.2	
	comp=E,287nm,0.2s							
RRX	**Edison Barstow**	**1.51**	**35**	Pb		**Pn**	**10 40 25.9**	**+0.2**
	baz=216,SNR=13							
RRX				S		**Sn**	**10 40 45.3**	**0.0**
	baz=216							
MONP2	**Monument Peak**	**1.56**	**118**	P		**Pn**	**10 40 26.0**	**-0.5**
	baz=300,SNR=11							
MONP2				S		**Sn**	**10 40 47.0**	**+0.2**
	baz=300							
SBC	**Santa Barbara**	**1.59**	**300**	Sb		**Sb**	**10 40 49.3**	**+1.1**
	baz=119							
ARVC	**Arvin**	**1.61**	**337**	Pb		**Pn**	**10 40 27.7**	**+0.6**
	baz=156,SNR=27							
ARVC				S		**Sn**	**10 40 48.0**	**+0.1**
	baz=156							
TKX	**Tecate**	**1.62**	**131**			**Pn**	**10 40 27.4**	**+0.2**
TKX				IAML			10 40 50.3	
	comp=E,230nm,0.3s							
BCW	**Bitter Crk WRg**	**1.71**	**319**			**Pn**	**10 40 28.5**	**-0.1**
BELC	**Belle Mtn. Jos**	**1.75**	**78**	Pb		**Pn**	**10 40 30.0**	**+0.9**
	baz=260,SNR=40							
BELC				Sb		**Sb**	**10 40 53.5**	**+0.7**
	baz=260							
CBX	**Cerro Bola**	**1.77**	**138**			**Pn**	**10 40 29.1**	**-0.2**
CBX	**Cerro Bola**	**1.77**	**138**	IAML			10 40 57.8	
	comp=N,107nm,0.5s							
CBX				IAML			10 40 58.5	
	comp=E,104nm,0.5s							
HEC	**Hector,Ludlow**	**1.85**	**50**	Pb		**Pn**	**10 40 31.6**	**+1.2**
	baz=231,SNR=23							
LRMC	**Laurel Mtn Rad**	**1.86**	**9**	Pg		**Pb**	**10 40 33.4**	**+0.7**
	baz=190,SNR=5.6							
GSC	**Goldstone, Bar**	**1.95**	**32**			**Pn**	**10 40 31.7**	**-0.1**
GSC				IAML			10 41 02.2	
	comp=N,179nm,0.5s							
GSC	**Goldstone, Bar**	**1.95**	**32**	P		**Pn**	**10 40 31.5**	**-0.3**
	baz=213,SNR=141							
ISA	**Isabella, Lake**	**2.04**	**350**			**Pn**	**10 40 32.6**	**-0.5**
ISA	**Isabella, Lake**	**2.04**	**350**	P		**Pn**	**10 40 32.5**	**-0.6**
	baz=170,SNR=17							
YUH	**Yuha Desert**	**2.04**	**119**			**Pn**	**10 40 34.1**	**+1.1**
YUH				IAML			10 41 03.1	
	comp=N,60nm,0.7s							
YUH				IAML			10 41 08.2	
	comp=E,93nm,1.1s							
CCX	**Cicese**	**2.12**	**146**	Pn		**Pn**	**10 40 34.9**	**+0.9**
CCX				IAML			10 41 10.9	
	comp=E,63nm,0.4s							
GMRC	**Granite Mounta**	**2.29**	**60**	P		**Pn**	**10 40 35.6**	**-0.9**
	baz=241,SNR=56							
SMMC	**Simmler**	**2.31**	**317**	P		**Pn**	**10 40 36.5**	**-0.3**
	baz=135							
IRM	**Iron Mountain**	**2.47**	**77**	P		**Pn**	**10 40 38.9**	**0.0**
	baz=260,SNR=16							
TUQ	**Turquoise Moun**	**2.51**	**44**	Pb		**Pb**	**10 40 43.8**	**0.0**
	baz=226,SNR=5.7							
PAGB	**Antelope Grade**	**2.76**	**320**	Pn		**Pn**	**10 40 43.6**	**+0.8**
PAGB				IAML			10 41 21.3	
	comp=N,37nm,2.8s							
PAGB				IAML			10 41 40.1	
	comp=E,43nm,4.0s							
BLYC	**Blythe**	**2.94**	**87**	Pn		**Pn**	**10 40 47.8**	**+2.4**
BLYC				IAML			10 41 36.5	
	comp=N,26nm,0.6s							
GRAC	**Grapevine Rang**	**3.39**	**9**	Pn		**Pn**	**10 40 52.7**	**+1.1**
GRAC				IAML			10 41 56.7	
	comp=N,51nm,0.8s							
GRAC				IAML			10 41 58.4	
	comp=E,51nm,0.7s							
PMPB	**Monarch Peak**	**3.42**	**319**	Pn		**Pn**	**10 40 51.2**	**-0.8**
LCH	**Last Change Ra**	**3.60**	**5**			**Pn**	**10 40 55.5**	**+1.0**
TPNV	**Topopah Spring**	**3.61**	**24**			**Pn**	**10 40 55.7**	**+1.0**
TPNV				IAML			10 41 54.5	
	comp=E,20nm,0.6s							
TPNV				IAML			10 41 57.9	
	comp=E,25nm,0.8s							
SHPR	**Sheep Range**	**3.71**	**39**	Pn		**Pn**	**10 40 57.5**	**+1.4**
SHPR				IAML			10 42 06.5	
	comp=E,14nm,0.9s							
W13A	**Hualapai Mount**	**3.74**	**66**	Pn		**Pn**	**10 40 56.9**	**+0.4**
BBGB	**Big Mountain B**	**3.82**	**321**	Pn		**Pn**	**10 40 58.3**	**+0.8**
SAO	**San Andreas Ge**	**4.17**	**319**	Pn		**Pn**	**10 41 01.9**	**-0.4**
LCMT	**Little Creek M**	**5.17**	**48**			**Pn**	**10 41 17.8**	**+1.7**
KNB	**Kanab**	**5.44**	**50**	Pn		**Pn**	**10 41 20.4**	**+0.6**

NOU 28 10:48:17.0, 16.˚82S×167.˚14E, h31km, mb4.1/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DVP	**Devils Point**	**1.35**	**132**	P		Pn	10 48 39.7	0.0
SANVU	**Saraoutou**	**1.37**	**3**	P		Pn	10 48 40.1	+0.1
RTV	**Rentapao**	**1.56**	**128**	P		Pn	10 48 43.1	+0.5
KOUNC	**Koumac, New Ca**	**4.59**	**216**	P		Pn	10 49 24.5	+0.2
YATNC	**Mamie plateau,**	**5.22**	**183**	P		Pn	10 49 32.2	-0.7
DZM	**Mont Dzumac**	**5.26**	**187**	P		Pn	10 49 33.8	+0.1
PINNC	**Pines Island,**	**5.77**	**177**	P		Pn	10 49 40.5	0.0

*IDC **28** 10:50:12.0±6.4, 34.˚40S×78.˚97W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/21, mbtmp3.9/3, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/47, Error ellipse: s-maj=146.1km s-min=34.9km az=73.0*
*SJA **28** 10:50:41.0±0.7, 33.˚80S×72.˚19W, h10km, ML4.2, MW3.8*
*GUC **28** 10:50:44.4±0.8, 33.˚84S×72.˚04W, h28km±5km, ML3.7*

ISC 28 10:50:42.9±1.2, 33.˚81S±0.˚02×72.˚14W±0.˚04, h19km±3km, n54, σ1s67/93, MS3.3/3, 8C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA05	**Santo Domingo**	**0.47**	**71**	*eP*		**Pb**	**10 50 52.9**	**+0.3**
VA05				*eS*		**Sb**	**10 50 58.9**	**-0.1**
VA05				IAML			10 50 59.9	
	comp=E,19μm,0.2s							
BO03	**Pichilemu**	**0.70**	**168**	*eP*		**Pg**	**10 50 56.7**	**+0.1**
BO03				*eS*		**Sg**	**10 51 06.2**	**+0.2**
BO03				IAML			10 51 08.2	
	comp=N,5μm,0.2s							
MT01	**Popeta**	**0.74**	**94**	*eP*		**Pb**	**10 50 57.0**	**-0.2**
MT01

VA06					*e*S	**Sb**	**10 51 27.4**	**+0.5**
VA06					IAML		10 51 31.7	
	comp=E,3µm,0.4s							
VA06					IAML		10 51 33.2	
	comp=N,2µm,0.2s							
BO02	**Sierra Bellavi**	**1.49**	**131**		*e*P	**Pn**	**10 51 08.5**	**-0.2**
BO02					*e*S	**Sn**	**10 51 26.9**	**-0.8**
BO02	**Sierra Bellavi**	**1.49**	**131**		*e*P	**Pn**	**10 51 08.8**	**0.0**
BO02					*e*S	**Sg**	**10 51 30.8**	**-0.4**
BO02					IAML		10 51 34.9	
	comp=Z,6µm,0.5s							
LMEL	**Las Melosas**	**1.61**	**92**		*e*P	**Pn**	**10 51 10.8**	**+0.3**
LMEL					*e*S	**Sn**	**10 51 30.3**	**-0.6**
LMEL					IAML		10 51 34.1	
	comp=N,5µm,0.4s							
FCH	**Farellones**	**1.62**	**73**⇓		*e*P	**Pn**	**10 51 11.1**	**+0.4**
FCH					*e*S	**Sb**	**10 51 32.2**	**-0.4**
FCH					IAML		10 51 38.5	
	comp=N,2µm,0.3s							
VA03	**San Esteban**	**1.69**	**52**⇑		*e*P	**Pn**	**10 51 12.4**	**+0.9**
VA03					*e*S	**Sb**	**10 51 33.8**	**-0.7**
VA03					IAML		10 51 43.0	
	comp=N,4µm,0.7s							
VA03	**San Esteban**	**1.69**	**52**		*e*P	**Pn**	**10 51 12.0**	**+0.5**
VA03					*e*S	**Sg**	**10 51 36.7**	**-0.9**
VA03					IAML		10 51 42.7	
	comp=Z,2µm,0.7s							
ML02	**Panimavida**	**2.03**	**163**⇑		*e*P	**Pb**	**10 51 18.8**	**-0.4**
ML02					*e*S	**Sb**	**10 51 43.7**	**-0.4**
BI05	**Punta Hualpn**	**3.05**	**196**		IAML		10 52 28.7	
	comp=E,254nm,0.4s							
RTLS	**Leoncito**	**3.13**	**51**		*e*P	**Pn**	**10 51 34.0**	**+2.6**
RTLS					IAML		10 52 29.2	
	comp=Z,409nm,1.3s							
RFA	**San Rafael**	**3.19**	**108**		*e*P	**Pn**	**10 51 34.0**	**+1.9**
RFA					*e*S	**Sb**	**10 52 16.0**	**-1.5**
RFA					*e*S	**Sg**	**10 52 22.0**	**-3.4**
RFA					*e*S	Sn	10 52 22.5	+13
CO03	**El Pedregal**	**3.21**	**23**⇑		*e*P	**Pn**	**10 51 33.1**	**+0.7**
CO03					*e*S	**Sn**	**10 52 10.4**	**+0.2**
CO03					IAML		10 52 29.3	
	comp=E,250nm,0.5s							
CO03	**El Pedregal**	**3.21**	**23**		*e*P	**Pn**	**10 51 33.2**	**+0.8**
CO03					*e*S	**Sb**	**10 52 15.0**	**-3.2**
GO04	**Tololo Observa**	**3.81**	**18**		*e*P	**Pn**	**10 51 42.0**	**+1.3**
GO04					*e*S	**Sn**	**10 52 25.8**	**+0.7**
RTLL	**Cerro Villicun**	**3.96**	**52**		*e*P	**Pn**	**10 51 46.0**	**+3.3**
RTLL					*e*S	**Sg**	**10 52 46.9**	**-3.3**
ACCO	**Cerro Coronel**	**4.14**	**40**		*e*P	**Pn**	**10 51 48.0**	**+2.6**
ACCO					*e*S	**Sb**	**10 52 44.5**	**-0.7**
AROD	**Rodeo**	**4.28**	**33**		*e*P	**Pn**	**10 51 50.0**	**+2.6**
AROD					*e*S	**Sb**	**10 52 52.5**	**+3.2**
ACDV	**Cuesta del Vie**	**4.45**	**36**		*e*P	**Pn**	**10 51 52.0**	**+2.5**
ACDV					*e*S	**Sb**	**10 52 52.0**	**-1.8**
LCO	**Las Campanas**	**4.94**	**15**		*e*P	**Pn**	**10 51 57.0**	**+0.6**
LC01	**Cunco**	**5.08**	**178**		*e*P	**Pn**	**10 51 59.0**	**+1.0**
MRA	**San Martin**	**5.57**	**77**		*e*P	**Pn**	**10 52 07.1**	**+2.3**
MRA					*e*S	**Sn**	**10 53 13.0**	**+4.6**
APLL	**PUNTA DE LOS L**	**5.86**	**56**		*e*P	**Pn**	**10 52 10.0**	**+1.2**
APLL					*e*S	**Sn**	**10 53 23.0**	**+7.6**
ACLC	**CERRO LA CRUZ**	**6.22**	**47**		*e*P	**Pn**	**10 52 14.5**	**+0.6**
TCA	**Tanti**	**6.83**	**71**		*e*P	**Pn**	**10 52 24.0**	**+1.8**
PLCA	**Paso Flores**	**7.02**	**170**	Pn	Pn	**Pn**	**10 52 26.1**	**+1.3**
	comp=E,0.7nm,0.3s,baz=334,slow=12,SNR=36							
PLCA				Sn		**Sb**	**10 54 11.6**	**+3.9**
	baz=78,slow=16,SNR=2.9							
PLCA				LR	LR		10 55 11.5	
	comp=E,210nm,18.5s,baz=341,slow=33							
PLCA	**Paso Flores**	**7.02**	**170**		*e*P	**Pn**	**10 52 26.0**	**+1.3**
AC02	**Maricunga**	**7.42**	**21**		*e*P	**Pn**	**10 52 30.3**	**-0.4**
AC02					*e*S	**Sn**	**10 53 53.8**	**-0.9**
LVC	**Limon Verde**	**11.52**	**15**	LR	LR		10 58 06.8	
	comp=E,188nm,19.2s,baz=207,slow=32							
LPAZ	**La Paz**	**17.82**	**13**	P	**P**		**10 54 52.3**	**+1.1**
	comp=E,1.9nm,0.9s,baz=180,slow=9.1,SNR=5.6							
SIV	**San Ignacio**	**20.36**	**32**	LR	LR		11 04 54.3	
	comp=E,130nm,19.7s,baz=273,slow=36							
NNA	**Nana**	**22.15**	**348**	LR	LR		11 01 37.3	
	comp=E,41nm,19.9s,baz=167,slow=31							
TSUM	**Tsumeb**	**79.35**	**106**	LR	LR		11 34 32.6	
	comp=E,36nm,18.1s,baz=172,slow=32							
TORD	**Torodi Ar. Bea**	**84.23**	**70**	P	**P**		**11 03 12.8**	**-0.7**
	comp=E,1.2nm,0.9s,baz=220,slow=3.0,SNR=5.2							

*SNET **28** 10:52:36.9±0.8, 13°.74N×91°.20W, h9km±25km, ML3.0*
*GCG **28** 10:52:37.3±0.3, 14°.26N×91°.31W, h69km±25km, MD3.8*
ISC 28 10:52:35.5±3.4, 14°.0N±0°.2×91°.4W±0°.2, h61km, n7, σ0°.43/8,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUG	**Fuego 3**	**0.77**	**50**		*e*P	**Pn**	**10 52 50.5**	**-0.2**
STG3	**Santiaguito 3,**	**0.77**	**351**		*e*P	**Pn**	**10 52 50.8**	**0.0**
PCG	**Pacaya**	**0.92**	**62**		*e*P	**Pn**	**10 52 53.0**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.61**	**87**		*e*P	**Pn**	**10 53 01.4**	**-0.4**
SLOZ					*e*S	**Sn**	**10 53 21.8**	**+0.2**
SLOZ					IAML		10 53 24.3	
	comp=Z,114nm,0.4s							
NUBE	**Las Nubes**	**1.62**	**91**		*e*P	**Pn**	**10 53 01.6**	**-0.3**
CEVE	**Cerro Verde**	**1.77**	**94**		*e*P	**Pn**	**10 53 04.8**	**+0.7**
JAYA	**Jayaque - finc**	**1.96**	**98**		*e*P	**Pn**	**10 53 06.3**	**-0.3**
JAYA					IAML		10 53 31.9	
	comp=Z,373nm,0.2s							

*IDC **28** 10:55:37.7±3.2, 33°.78S×71°.80W, h0km, mb3.9/1,*
mb1 3.8/3, mb1mx3.6/20, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=138.3km s-min=35.7km az=92.0
*GUC **28** 10:55:40.3±0.8, 33°.81S×72°.09W, h32km±5km, ML3.5*
ISC 28 10:55:39.2±1.5, 33°.80S±0°.03×72°.01W±0°.06, h15km±9km,
n32, σ0°.62/42, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA05	**Santo Domingo**	**0.36**	**67**⇓	*i*	P	**Pn**	**10 55 49.6**	**-0.2**
VA05					*e*S	**Sn**	**10 55 55.5**	**-1.0**
VA05					IAML		10 55 56.5	
	comp=E,13µm,0.4s							
MT01	**Popeta**	**0.63**	**96**⇓	*i*	P	**Pn**	**10 55 53.6**	**0.0**
MT01					*e*S	**Sn**	**10 56 03.1**	**-0.4**
MT01					IAML		10 56 03.7	
	comp=N,4µm,0.2s							
BO03	**Pichilemu**	**0.70**	**177**		*e*P	**Pb**	**10 55 53.5**	**+0.4**
BO03					*e*S	**Sb**	**10 56 02.8**	**+0.2**
VA01	**Torpederas**	**0.83**	**21**		*e*P	**Pn**	**10 55 56.7**	**+0.4**
VA01					*e*S	**Sn**	**10 56 07.5**	**-0.7**
MT09	**Talagante**	**0.85**	**89**⇓	*i*	P	**Pn**	**10 55 57.1**	**+0.3**
MT09					*e*S	**Sn**	**10 56 09.4**	**+0.5**
MT09					IAML		10 56 10.3	
	comp=N,4µm,0.1s							
MT02	**Curacav**	**0.90**	**54**	*i*	P	**Pn**	**10 55 57.7**	**+0.4**
MT02					*e*S	**Sn**	**10 56 10.4**	**+0.3**
BO01	**Tunca**	**0.97**	**128**	*i*	P	**Pn**	**10 55 57.9**	**-0.4**
MT05	**Renca**	**1.13**	**69**		*e*P	**Pg**	**10 56 01.3**	**+0.2**
MT05					IAML		10 56 24.3	
	comp=E,1µm,0.5s							
ROCH	**El Roble**	**1.17**	**46**		*e*P	**Pg**	**10 56 02.1**	**+0.2**
ROCH					*e*S	**Sn**	**10 56 18.0**	**+0.9**
ROCH					IAML		10 56 25.4	
	comp=N,2µm,0.4s							
BO04	**La Punta**	**1.18**	**100**		*e*P	**Pg**	**10 56 02.2**	**+0.2**
BO04					IAML		10 56 22.1	
	comp=E,1µm,0.3s							
GO05	**Huala**	**1.21**	**177**		*e*P	**Pn**	**10 56 01.2**	**-0.4**
GO05					*e*S	**Sb**	**10 56 16.2**	**-1.2**
PEL	**Peldehue**	**1.28**	**60**		*e*P	**Pg**	**10 56 04.2**	**+0.2**
PEL					*e*S	**Sg**	**10 56 21.7**	**+1.0**
PEL					IAML		10 56 28.3	
	comp=N,2µm,0.5s							
MT03	**Universidad Ad**	**1.28**	**77**		*e*P	**Pg**	**10 56 03.9**	**-0.1**
MT03					*e*S	**Sg**	**10 56 21.7**	**+0.9**
MT03					IAML		10 56 23.6	
	comp=N,1µm,0.1s							
VA06	**Catapilco**	**1.37**	**26**		*e*P	**Pb**	**10 56 04.2**	**-0.3**
VA06					*e*S	**Sb**	**10 56 21.0**	**-0.7**
VA06					IAML		10 56 28.8	
	comp=E,2µm,0.4s							
BO02	**Sierra Bellavi**	**1.42**	**135**		*e*P	**Pb**	**10 56 05.1**	**-0.3**
BO02					*e*S	**Sg**	**10 56 24.7**	**-0.4**
LMEL	**Las Melosas**	**1.50**	**92**		*e*P	**Pg**	**10 56 07.4**	**-0.8**
LMEL					*e*S	**Sg**	**10 56 28.2**	**+0.4**
LMEL					IAML		10 56 30.3	
	comp=E,820nm,0.2s							
LMEL					IAML		10 56 33.2	
	comp=N,951nm,0.2s							
FCH	**Farellones**	**1.51**	**72**	*i*	P	**Pg**	**10 56 07.7**	**-0.6**
FCH					*e*S	**Sg**	**10 56 27.5**	**-0.5**
FCH					IAML		10 56 33.5	
	comp=E,650nm,0.2s							
VA03	**San Esteban**	**1.60**	**50**⇓	*e*P		**Pg**	**10 56 08.9**	**-1.0**
VA03					*e*S	**Sg**	**10 56 30.5**	**-0.2**
VA03					IAML		10 56 37.8	
	comp=E,2µm,0.4s							
ML02	**Panimavida**	**2.02**	**166**		*e*P	**Pn**	**10 56 13.2**	**+0.5**
ML02					*e*S	**Sb**	**10 56 40.1**	**-0.5**
ML02					IAML		10 56 50.0	
	comp=N,864nm,0.5s							
CO06	**Fray Jorge**	**3.13**	**6**		*e*P	**Pn**	**10 56 27.3**	**-0.7**
CO06					IAML		10 57 03.7	
	comp=E,83nm,0.3s							
CO03	**El Pedregal**	**3.15**	**21**		*e*P	**Pn**	**10 56 29.6**	**+1.2**
CO03					IAML		10 57 24.9	
	comp=E,178nm,0.7s							
GO04	**Tololo Observa**	**3.76**	**16**		*e*P	**Pn**	**10 56 36.6**	**-0.2**
H03S1	**Juan Fernandez**	**5.74**	**268**	T		T	11 02 58.9	
	baz=89							
H03S3	**Juan Fernandez**	**5.75**	**268**	T		T	11 02 55.7	
	baz=89							
H03S2	**Juan Fernandez**	**5.76**	**268**	T		T	11 02 57.4	
	baz=89							
H03N1	**Juan Fernandez**	**5.77**	**272**	T		T	11 03 03.8	
	baz=98,slow=74,SNR=9.2							
H03N3	**Juan Fernandez**	**5.78**	**271**	T		T	11 03 05.3	
	baz=98,slow=74,SNR=8.3							
H03N2	**Juan Fernandez**	**5.79**	**272**	T		T	11 03 04.3	
	baz=98,slow=74,SNR=6.2							
PLCA	**Paso Flores**	**7.02**	**171**	Pn		**Pn**	**10 57 22.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=332,slow=13,SNR=6.6							
LPAZ	**La Paz**	**17.78**	**12**	P		**P**	**10 59 48.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=189,slow=9.2,SNR=5.3							
TORD	**Torodi Ar. Bea**	**84.12**	**70**	P		**P**	**11 08 09.9**	**+0.1**
	comp=E,0.8nm,0.8s,baz=241,slow=5.3,SNR=5.0							
ZALV	**Zalesovo Beam**	**154.04**	**32**	PKPbc		**PKiKP**	**11 15 38.0**	**+0.4**
	comp=E,0.6nm,0.4s,baz=298,slow=3.1,SNR=4.0							

*NEIC **28** 11:43:38.7±2.0, 15°.02N±0°.06×93°.98W±0°.03, h4km±4km,*
Error ellipse: s-maj=9.2km s-min=4.8km az=173.0
*MEX **28** 11:43:40.1±1.7, 14°.86N×93°.98W, h16km±22km, MD4.3*
*GCG **28** 11:43:42.5±0.5, 14°.94N×93°.66W, h107km±20km, MD4.5*
ISC 28 11:43:37.6±1.7, 14°.89N±0°.06×93°.90W±0°.03, h9km±10km,
n44, σ1°59/58, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.04**	**39**			**Pg**	**11 43 57.6**	**0.0**
PCIG						**Sg**	**11 44 10.2**	**-0.9**
PCIG		**1.04**	**39**		*e*P	**Pg**	**11 43 57.6**	**0.0**
PCIG					*e*S	**Sg**	**11 44 10.2**	**-0.9**
CARR	**Arriaga**	**1.35**	**359**		*e*P	Pn	11 44 00.9	-1.7
CARR					*i* S	**Sg**	**11 44 17.0**	**-4.0**
THIG		**1.58**	**89**			Pn	11 44 04.2	-1.6
THIG						**Sn**	**11 44 24.2**	**-2.1**
THIG		**1.58**	**89**		*e*P	Pn	11 44 04.2	-1.6
THIG					*e*S	**Sn**	**11 44 24.2**	**-2.1**
PATR	**El Naranjo**	**1.62**	**82**		*e*P	**Pn**	**11 44 05.9**	**-0.7**
PATR					*e*S	**Sn**	**11 44 26.1**	**-1.7**
PAVE	**Pavencul**	**1.69**	**80**		*e*P	**Pn**	**11 44 07.0**	**-0.6**
PAVE					*i* S	**Sn**	**11 44 28.2**	**-1.2**
CHUJ	**Union Juarez**	**1.74**	**83**		*e*P	**Pn**	**11 44 08.2**	**-0.1**
CHUJ					*i* S	**Sn**	**11 44 28.5**	**-2.2**
TGIG		**2.02**	**22**			**Pn**	**11 44 13.2**	**+1.3**
TGIG						**Sn**	**11 44 36.8**	**-0.5**
TGIG		**2.02**	**22**		*e*P	**Pn**	**11 44 13.2**	**+1.3**
TGIG					*i* S	**Sn**	**11 44 36.8**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.03**	**22**			**Pn**	**11 44 12.9**	**+1.0**
TGBT						**Sn**	**11 44 37.0**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.03**	**22**		*e*P	**Pn**	**11 44 12.9**	**+1.0**
TGBT					*i* S	**Sn**	**11 44 37.0**	**-0.4**
RTAL	**Retalhuleu**	**2.16**	**99**			**Pn**	**11 44 14.0**	**+0.1**
CCIG	**Comitan**	**2.19**	**51**			**Pn**	**11 44 15.8**	**+1.5**
CCIG						**Sn**	**11 44 43.1**	**+1.5**
CCIG	**Comitan**	**2.19**	**51**		*e*P	**Pn**	**11 44 15.8**	**+1.5**
CCIG					*i* S	**Sn**	**11 44 43.1**	**+1.5**
STG3	**Santiaguito 3,**	**2.26**	**94**		*e*P	**Pn**	**11 44 16.6**	**+1.3**
STG3					*e*S	**Sn**	**11 44 43.5**	**+0.1**
HUIG	**Huatulco**	**2.30**	**292**			Pn	11 44 12.7	-3.1
HUIG						Sn	11 44 36.2	-8.1
HUIG	**Huatulco**	**2.30**	**292**		*e*P	Pn	11 44 12.7	-3.1
HUIG					*e*S	Sn	11 44 36.2	-8.1
HUEH	**Huehuetenango**	**2.35**	**79**			**Pn**	**11 44 18.6**	**+2.0**
CMIG	**Matias Romero**	**2.38**	**337**			**Pn**	**11 44 15.3**	**-1.6**
CMIG						Sn	11 44 40.8	-5.5
CMIG	**Matias Romero**	**2.38**	**337**		*e*P	**Pn**	**11 44 15.3**	**-1.6**
CMIG					*e*S	Sn	11 44 40.8	-5.5
UXUV	**UXUV**	**2.42**	**354**		*e*P	**Pn**	**11 44 17.7**	**+0.3**
UXUV					*e*S	**Sn**	**11 44 45.6**	**-1.6**
FUG	**Fuego 3**	**2.99**	**98**		*e*P	**Pn**	**11 44 26.2**	**+0.8**
FUG					*e*S	**Sn**	**11 45 00.7**	**-0.8**
PEIG	**Puerto Escondi**	**3.32**	**290**		*e*P	**Pn**	**11 44 27.5**	**-2.3**
PEIG					*e*S	Sn	11 45 00.2	-9.2
VHO	**Vista Hermosa**	**3.48**	**309**		*e*P	**Pn**	**11 44 32.4**	**+0.2**
VHO					*i* S	**Sn**	**11 45 11.8**	**-1.9**
MRL	**Marmol**	**4.08**	**87**		*e*P	**Pn**	**11 44 41.4**	**+1.0**
PETF	**Flores**	**4.37**	**62**			**Pn**	**11 44 46.4**	**+2.2**
TOIG	**Toxpalan**	**4.40**	**317**		*e*P	**Pn**	**11 44 45.1**	**+0.3**
TOIG					*i* S	**Sn**	**11 45 35.7**	**-0.5**
MTO3	**Montecristo**	**4.42**	**96**			**Pn**	**11 44 47.4**	**+2.3**
ESQI	**Esquipulas**	**4.42**	**94**			**Pn**	**11 44 48.3**	**+3.3**
HLIG	**Huajuapan de L**	**4.75**	**308**		*e*P	**Pn**	**11 44 51.1**	**+1.4**
SCIG	**Sabancuy**	**4.81**	**32**			**Pn**	**11 44 51.0**	**+0.7**
SCIG						Sn	11 45 40.5	-5.7
SCIG	**Sabancuy**	**4.81**	**32**		*e*P	**Pn**	**11 44 51.0**	**+0.7**
SCIG					*e*S	Sn	11 45 40.5	-5.7
TPIG	**Tehuac#an**	**4.83**	**317**			**Pg**	**11 45 12.9**	**+2.7**
TPIG						**Sn**	**11 45 49.1**	**+2.3**
TPIG	**Tehuac#an**	**4.83**	**317**		*e*P	**Pg**	**11 45 12.9**	**+2.7**
TPIG					*i* S	**Sn**	**11 45 49.1**	**+2.3**
FTIG	**Fresnillo de T**	**5.05**	**307**		*e*P	**Pn**	**11 44 54.8**	**+1.1**
FTIG					*i* S	**Sn**	**11 45 49.5**	**-2.8**
TLIG	**Tlapa**	**5.21**	**301**			**Pn**	**11 44 57.1**	**+1.1**
CRIN	**San Cristobal**	**7.00**	**107**	Pn		Pn	11 45 25.9	+5.5
RIMA	**Rio Macho**	**11.05**	**116**	Pn		Pn	11 46 21.2	+5.1
DRK0	**Durika**	**11.82**	**117**	Pn		Pn	11 46 31.6	+4.9
SOR	**Soroa**	**12.96**	**51**	Pn		**Pn**	**11 46 42.5**	**+0.5**
MSTX	**Muleshoe**	**20.62**	**339**	P		**P**	**11 48 17.3**	**-0.2**
MSTX				IAmb		IAmb	11 48 23.8	
	comp=Z,16nm,1.4s							
AMTX	**Amarillo**	**21.10**	**342**	P		**P**	**11 48 22.3**	**-0.4**
AMTX				IAmb		IAmb	11 48 24.4	
	comp=Z,8.8nm,0.8s							
121A	**Cookes Peak, D**	**21.64**	**327**	P		**P**	**11 48 27.4**	**-1.1**
121A				IAmb		IAmb	11 48 32.5	
	comp=Z,5.6nm,1.1s							

*MOS **28** 11:45:00.4±1.0, 52°.36N×168°.67W, h10km, mb5.1/54,*
Error ellipse: s-maj=8.3km s-min=4.7km az=93.2
*IDC **28** 11:45:00.3±0.6, 52°.31N×168°.67W, h0km, mb4.4/33,*
mb1 4.6/34, mb1mx4.5/64, mbtmp4.4/34, ML3.5/1, MS3.7/39,
Ms1 3.7/39, ms1mx3.5/94, Error ellipse: s-maj=18.0km
s-min=9.7km az=177.0
*AEIC **28** 11:45:01±2.4, 52°.16N±0°.02×168°.47W±0°.06, h11km±3km,*
Error ellipse: s-maj=6.0km s-min=1.1km az=55.0
*NEIC **28** 11:45:02.2±2.3, 52°.29N±0°.06×168°.52W±0°.06, h10km±1km,*
mb4.6/160, ML4.0(AEIC), Error ellipse: s-maj=10.9km
s-min=5.9km az=172.0
*BJI **28** 11:45:03.5±0.0, 52°.71N×169°.21W, h15km, mb4.9/51,*
mB4.9/25, Ms4.5/13, Ms7 4.2/15
*BGR **28** 11:45:09.7±0.0, 52°.73N×167°.65W, h33km, mb5.2*
ISC 28 11:45:04.5±0.4, 52°.37N±0°.06×168°.59W±0°.04, h29km,
n635, σ1°14/627, mb4.8/159, MS3.8/47, 9C-43D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.63**	**345**			**Pn**	**11 45 17.9**	**+0.6**
NIKH	**Nikolski High**	**0.63**	**345**			**Sn**	**11 45 31.1**	**+4.7**
NIKH	**Nikolski High**	**0.63**	**345**	P		**Pn**	**11 45 17.5**	**+0.1**
	baz=168,SNR=140							
OKFG	**Magazine Ridge**	**1.12**	**21**			**Pb**	**11 45 25.1**	**-0.1**
MSW	**Makushin Switc**	**1.89**	**34**			**Pn**	**11 45 35.6**	**+0.8**

UNV	**Unalaska Valle**	**1.94**	**39**	Pn		**Pn**	**11 45 36.0**	**+0.6**
UNV	**Unalaska Valle**	**1.94**	**39**			**Sb**	**11 46 01.3**	**-1.5**
UNV	**Unalaska Valle**	**1.94**	**39**	P		**Pn**	**11 45 35.8**	**+0.4**
	baz=222,SNR=27							
MTBL	**Makushin Table**	**1.97**	**35**			**Pn**	**11 45 37.0**	**+1.0**
AKMO	**Akutan Morgan**	**2.32**	**41**			**Pn**	**11 45 41.6**	**+0.9**
AKBBA	**Akutan Broad B**	**2.36**	**42**			**Pn**	**11 45 42.5**	**+1.3**
AKSA	**Akutan Strait**	**2.48**	**43**			**Pn**	**11 45 43.5**	**+0.6**
AKSA						**Sb**	**11 46 16.9**	**-1.4**
KOFP	**Korovin Flat P**	**3.38**	**271**			**Pn**	**11 45 56.6**	**+1.3**
ATKA	**Atka Island**	**3.45**	**269**			**Pn**	**11 45 57.1**	**+0.9**
ATKA						**Sn**	**11 46 38.0**	**+2.0**
FALS	**False Pass**	**3.96**	**49**	Pn		**Pn**	**11 46 05.2**	**+2.0**
FALS	**False Pass**	**3.96**	**49**	P		**Pn**	**11 46 03.9**	**+0.7**
	baz=234							
GSTD	**Great Sitkin T**	**4.66**	**269**			**Pn**	**11 46 13.9**	**+1.1**
GSCK	**Great Sitkin C**	**4.67**	**269**			**Pn**	**11 46 14.0**	**+1.0**
SPIA	**Saint Paul Isl**	**4.91**	**349**	Pn		**Pn**	**11 46 17.4**	**+1.2**
SPIA	**Saint Paul Isl**	**4.91**	**349**	P		**Pn**	**11 46 16.3**	**+0.1**
	baz=168,SNR=5.9							
ADK	**Adak**	**5.01**	**268**	P		**Pn**	**11 46 18.6**	**+1.0**
ADK	**Adak**	**5.01**	**268**			**Pn**	**11 46 18.6**	**+1.0**
KIWB	**Kanaga Island**	**5.30**	**268**			**Pn**	**11 46 23.2**	**+1.6**
KIMD	**Kanaga Island**	**5.37**	**267**			**Pn**	**11 46 23.5**	**+1.0**
SDPT	**Sand Point**	**5.65**	**55**	Pn		**Pn**	**11 46 29.5**	**+3.1**
SDPT	**Sand Point**	**5.65**	**55**	P		**Pn**	**11 46 26.3**	**-0.1**
	baz=242							
CHGN	**Chignik**	**7.13**	**52**	Pn		**Pn**	**11 46 48.7**	**+2.0**
CHGN	**Chignik**	**7.13**	**52**	P		**Pn**	**11 46 47.1**	**+0.4**
	baz=241							
CHIR	**Chirikof Islan**	**8.37**	**60**	Pn		**Pn**	**11 47 04.6**	**+1.0**
CHIR	**Chirikof Islan**	**8.37**	**60**	P		**Pn**	**11 47 03.2**	**-0.5**
	baz=251							
SII	**Sitkinak Islan**	**9.37**	**58**	Pn		**Pn**	**11 47 18.8**	**+1.4**
SII	**Sitkinak Islan**	**9.37**	**58**	P		**Pn**	**11 47 17.0**	**-0.4**
	baz=250							
OHAK	**Old Harbor**	**10.07**	**55**	Pn		**Pn**	**11 47 28.1**	**+1.1**
OHAK	**Old Harbor**	**10.07**	**55**	P		**Pn**	**11 47 26.2**	**-0.8**
	baz=248							
P18K	**Big Mountain,**	**10.27**	**42**	Pn		**Pn**	**11 47 32.2**	**+2.5**
P18K	**Big Mountain,**	**10.27**	**42**	P		**Pn**	**11 47 29.1**	**-0.7**
	baz=233							
KDAK	**Kodiak Island**	**10.64**	**53**	Pn		**Pn**	**11 47 34.2**	**-0.6**
	1.8nm,0.3s,baz=184,slow=5.3,SNR=58							
KDAK	**Kodiak Island**	**10.64**	**53**	P		**Pn**	**11 47 36.2**	**+1.4**
KDAK	**Kodiak Island**	**10.64**	**53**	Pn		**Pn**	**11 47 36.2**	**+1.4**
KDAK	**Kodiak Island**	**10.64**	**53**	P		**Pn**	**11 47 34.0**	**-0.8**
	baz=246							
O19K	**Port Alsworth**	**11.13**	**40**	P		**Pn**	**11 47 39.8**	**-1.6**
	baz=232							
SVW2	**Sparrevohn**	**11.27**	**34**	Pn		**Pn**	**11 47 46.7**	**+3.3**
N19K	**Bonanza Creek**	**11.47**	**37**	Pn		**Pn**	**11 47 47.5**	**+1.4**
N19K	**Bonanza Creek**	**11.47**	**37**	P		**Pn**	**11 47 44.9**	**-1.2**
	baz=229							
GAMB	**Gambell**	**11.56**	**353**	Pn		**Pn**	**11 47 48.3**	**+1.1**
GAMB	**Gambell**	**11.56**	**353**	P		**Pn**	**11 47 47.8**	**+0.6**
	baz=171,SNR=9.5							
O20K	**Slope Mountain**	**11.75**	**43**	P		**Pn**	**11 47 48.4**	**-1.6**
	baz=236							
RSO	**Redoubt South**	**11.91**	**41**	Pn		**Pn**	**11 47 55.2**	**+2.9**
CNPM	**China Poot**	**12.05**	**47**	Pn		**Pn**	**11 47 56.9**	**+2.8**
M19K	**Big River Lodg**	**12.25**	**33**	P		**Pn**	**11 47 55.2**	**-1.5**
	baz=225							
L19K	**White Mountain**	**12.29**	**32**	Pn		**Pn**	**11 47 58.8**	**+1.4**
**BRLK

comp=Z,36nm,0.9s
H21K Melozitna Rive 15.53 25 P **Pn 11 48 42.3 +1.2**
baz=219,SNR=35
IMAR Indian Mountai 15.56 23 Pn 11 48 41.7 +0.3
MLY Manley 15.63 29 P P **11 48 45.2 -1.2**
MLY IAmb IAmb 11 48 48.2
comp=Z,50nm,1.0s
MLY Manley 15.63 29 P **Pn 11 48 41.1 -1.3**
baz=224,SNR=42
NEA2 Nenana 15.85 32 P **Pn 11 48 44.1 -1.0**
baz=229,SNR=5.5
N25K Chitina, Valde 15.92 45 Pn **Pn 11 48 46.5 +0.3**
N25K Chitina, Valde 15.92 45 P **Pn 11 48 45.6 -0.6**
baz=245
BGLC Bering Glacier 15.98 51 P **Pn 11 48 46.3 -0.6**
baz=252
HARP HAARP 16.04 42 P **Pn 11 48 46.8 -0.8**
baz=242
WRH Wood River Hil 16.09 33 Pn **Pn 11 48 48.9 +0.6**
I23K Minto, Yukon-K 16.13 30 Pn **P 11 48 50.4 -1.4**
I23K IAmb IAmb 11 48 53.0
comp=Z,36nm,1.2s
I23K Minto, Yukon-K 16.13 30 P **Pn 11 48 48.5 -0.2**
baz=227,SNR=13
PAX Paxson 16.19 40 P **Pn 11 48 50.0 +0.3**
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 16.19 40 P **Pn 11 48 50.0 +0.3**
PAX Paxson 16.19 40 P **Pn 11 48 48.7 -0.9**
baz=240
GLB Gilahina Butte 16.20 46 P **P 11 48 51.3 -1.4**
VRDI Verde Repeater 16.28 47 P **P 11 48 52.4 -1.3**
WAX Waxell Ridge 16.29 50 P **P 11 48 53.3 -0.4**
TGL Tana Glacier 16.39 49 P **P 11 48 55.8 +0.9**
TGL IAmb IAmb 11 48 58.5
comp=Z,54nm,0.9s
TCOL CIGO, UAF Yank 16.42 32 P **Pn 11 48 53.1 +0.6**
TCOL CIGO, UAF Yank 16.42 32 P **Pn 11 48 51.3 -1.2**
baz=230,SNR=8.7
COLA College 16.43 32 P **Pn 11 48 52.4 -0.1**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 16.43 32 P **Pn 11 48 52.4 -0.1**
COLA College 16.43 32 P **Pn 11 48 51.7 -0.9**
baz=230
MCARA McCarthy VSAT 16.53 47 P **P 11 48 56.3 +0.1**
MCARA IAmb IAmb 11 49 10.8
comp=Z,28nm,0.9s
MCARA McCarthy VSAT 16.53 47 P **Pn 11 48 53.3 -0.5**
baz=248
ISLE Juniper Island 16.57 50 P **P 11 48 56.9 0.0**
ISLE IAmb IAmb 11 49 20.0
comp=Z,58nm,1.0s
IL31 16.68 34 P **Pn 11 48 55.5 -0.3**
ILAR Eielson Array 16.68 34 Pn **Pn 11 48 55.0 -0.8**
comp=Z,0.2nm,0.3s,baz=237,slow=11,SNR=24
ILAR Eielson Array 16.68 34 P **P 11 48 57.0 -0.9**
ILAR Eielson Array 16.68 34 P 11 48 57.0 -0.9
POKR Poker Plat Res 16.72 32 P **Pn 11 48 56.4 +0.1**
baz=230
YAH Yahtse 16.78 51 P **P 11 49 00.2 +0.9**
YAH IAmb IAmb 11 49 03.6
comp=Z,92nm,0.8s
RIDG Independent Ri 16.83 38 P **P 11 49 00.1 +0.5**
RIDG Independent Ri 16.83 38 P **P 11 48 58.1 -1.5**
baz=239
MENT Mentasta 16.88 41 P **P 11 48 59.9 -0.2**
GRNC Granite Creek 16.89 50 P **Pn 11 48 57.3 -1.4**
GRNC IAmb IAmb 11 49 03.5
comp=Z,71nm,1.1s
BARN Barnard Glacie 17.04 49 P **P 11 49 01.9 -0.1**
BARN IAmb IAmb 11 49 13.5
comp=Z,57nm,1.5s
H24K Noodor Dome 17.06 30 P **P 11 49 02.8 +0.7**
H24K Noodor Dome 17.06 30 P **Pn 11 49 00.1 -0.4**
baz=228,SNR=16
L26K Log Cabin Wild 17.07 41 P **Pn 11 49 00.1 -0.6**
baz=243,SNR=9.1
DOT Dot Lake 17.08 39 P **P 11 49 02.8 +0.4**
TABL Table Mountain 17.09 51 P **P 11 49 02.5 -0.2**
TABL IAmb IAmb 11 49 13.3
comp=Z,59nm,1.0s
J25K Salcha River, 17.12 35 P **Pn 11 49 00.2 -1.1**
baz=235,SNR=14
CTG Chitna Glacier 17.15 49 P **Pn 11 49 01.1 -0.8**
baz=252,SNR=5.7
CTGM Chitina Glacie 17.16 49 P **P 11 49 03.4 0.0**
CTGM IAmb IAmb 11 49 06.3
comp=Z,32nm,0.9s
LOGN Logan Glacier 17.27 50 P **P 11 49 06.4 +1.8**
LOGN IAmb IAmb 11 49 08.2
comp=Z,55nm,1.1s
SCRK Sand Creek 17.28 38 P **P 11 49 04.6 -0.1**
SCRK Sand Creek 17.28 38 P **Pn 11 49 02.6 -0.7**
baz=239
M27K Edge Creek, AK 17.40 45 P **P 11 49 05.7 -0.3**
M27K IAmb IAmb 11 49 07.3
comp=Z,25nm,0.9s
M27K Edge Creek, AK 17.40 45 P **Pn 11 49 03.9 -1.0**
baz=247,SNR=7.7
COLD Coldfoot 17.41 24 P 11 49 06.8 +0.8
COLD Coldfoot 17.41 24 P **P 11 49 05.1 -0.9**
baz=220,SNR=14
L27K Beaver Creek, 17.71 42 P **P 11 49 10.2 +0.9**
L27K Beaver Creek, 17.71 42 P **Pn 11 49 08.3 -0.3**
baz=245
J26L Joseph Creek 17.71 37 P **Pn 11 49 08.0 -0.7**
baz=239,SNR=27
BCAR Beaver Creek A 17.73 42 P **P 11 49 10.4 +0.8**
TOLK Toolik Lake Re 18.66 22 P **Pn 11 49 21.2 +1.0**
TOLK Toolik Lake Re 18.66 22 P **Pn 11 49 20.0 -0.3**
baz=219
EGAK Eagle 18.74 38 P **P 11 49 19.1 -1.5**
BMAR Burnt Mountain 19.10 29 P **P 11 49 24.4 -0.1**
DAWY Dawson 19.12 41 P **Pn 11 49 24.7 -1.0**
DAWY Dawson 19.12 41 P **Pn 11 49 24.9 -0.8**
baz=246,SNR=8.7
M30M Minto, Yukon 19.70 46 P **Pn 11 49 32.4 -0.3**
M30M Minto, Yukon 19.70 46 P **Pn 11 49 32.0 -0.7**
baz=254
A21K Barrow 19.76 11 P **Pn 11 49 32.4 -0.9**
baz=202
SKAG Skagway 19.77 56 P **Pn 11 49 32.2 -1.3**
baz=264
PET Petropavlovsk 19.78 285 *e*P **P 11 49 32.1 +0.1**
PET *e*S **S 11 53 08.4 -4.6**
PET pmax pmax
comp=Z,42nm,0.9s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 19.78 285 P **P 11 49 31.7 -0.2**
PET IAmb IAmb 11 49 33.7
comp=Z,26nm,0.9s
BILL Bilibino 19.82 332 *i* P **Pn 11 49 34.2 +0.1**
BILL pmax pmax
comp=Z,23nm,1.1s
BILL MLR MLR
comp=Z,163nm,14.0s
BILL Bilibino 19.82 332 Pn 11 49 34.0 -0.1
BILL IAmb IAmb 11 49 39.7
comp=Z,22nm,1.1s
N31M Braeburn, Yuko 19.89 50 P **Pn 11 49 33.7 -1.3**
N31M IAmb IAmb 11 49 36.9
comp=Z,57nm,0.8s
N31M Braeburn, Yuko 19.89 50 P **P 11 49 33.2 0.0**
baz=258,SNR=16
BESE Bessie Mountai 19.94 59 P **Pn 11 49 35.6 0.0**
BESE IAmb IAmb 11 50 01.5
comp=Z,32nm,1.1s
I29M Ogilvie Camp, 20.09 38 P Pn 11 49 36.0 -1.3
I29M IAmb IAmb 11 49 40.3
comp=Z,17nm,0.9s
I29M Ogilvie Camp, 20.09 38 P **P 11 49 35.2 -0.1**
baz=244
WHY Whitehorse 20.16 52 P Pn 11 49 37.3 -0.9
WHY IAmb IAmb 11 49 42.1
comp=Z,26nm,0.9s
WHY Whitehorse 20.16 52 P Pn 11 49 37.1 -1.1
baz=261,SNR=8.5
PEA0B Petropavlovsk- 20.32 286 P **P 11 49 38.3 +0.3**
PEA0B pmax pmax
comp=Z,29nm,0.6s
PEA0B Petropavlovsk- 20.32 286 P **P 11 49 38.3 +0.3**
PEA0B IAmb IAmb 11 49 38.9
comp=Z,29nm,0.6s
PETK Petropavlovsk- 20.32 286 P **P 11 49 37.6 -0.4**
comp=Z,24nm,0.6s,baz=87,slow=13,SNR=54
PETK LR LR 11 57 54.7
comp=Z,115nm,20.7s,baz=90,slow=38
PETK Petropavlovsk- 20.32 286 P **P 11 49 37.7 -0.3**
M31M Drury Creek, Y 20.69 48 P Pn 11 49 43.0 -1.3
M31M IAmb IAmb 11 50 04.8
comp=Z,26nm,0.9s
M31M Drury Creek, Y 20.69 48 P **P 11 49 42.0 +0.2**
baz=257,SNR=10
P33M Teslin, Yukon 21.12 54 P **P 11 49 46.8 +0.2**
P33M IAmb IAmb 11 50 14.9
comp=Z,24nm,1.1s
P33M Teslin, Yukon 21.12 54 P **P 11 49 47.9 +1.3**
baz=264,SNR=7.2
DLBC Dease Lake 22.47 59 P **P 11 50 02.4 +1.2**
comp=Z,5.4nm,0.9s,baz=263,slow=8.9,SNR=6.4
DLBC Dease Lake 22.47 59 P **P 11 50 01.1 0.0**
SEY Seymchan 23.02 313 P **P 11 50 06.8 0.0**
comp=Z,9.2nm,0.8s,baz=102,slow=8.9,SNR=48
SEY PcP **PcP 11 53 55.8 +0.6**
comp=Z,1.6nm,0.7s,baz=75,slow=6.4,SNR=4.7
SEY LR LR 11 59 31.8
comp=Z,278nm,19.0s,baz=49,slow=38
SEY Seymchan 23.02 313‖ *e*P **P 11 50 06.5 -0.2**
SEY pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 23.08 33 P **P 11 50 06.1 -1.2**
comp=Z,9.6nm,0.7s,baz=228,slow=11,SNR=24
INK Inuvik 23.08 33 P **P 11 50 07.6 +0.3**
INK pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 23.08 33 P **P 11 50 07.6 +0.3**
INK IAmb IAmb 11 50 10.0
comp=Z,10nm,0.8s
INK Inuvik 23.08 33 P **P 11 50 06.3 -1.0**
baz=244,SNR=15
TGTN Hyland Airport 23.45 51 P **P 11 50 11.3 +0.2**
baz=266,SNR=9.4
MA2 Magadan 23.54 304 P **P 11 50 12.9 +1.0**
comp=Z,4.1nm,0.5s,baz=78,slow=11,SNR=16
MA2 LR LR 11 59 10.3
comp=Z,162nm,18.8s,baz=107,slow=36
MA2 Magadan 23.54 304‖ *e*P **P 11 50 12.1 +0.2**
MA2 pmax pmax
comp=Z,20nm,2.5s
MA2 Magadan 23.54 304 P **P 11 50 11.9 0.0**
C36M Paulatuk 26.66 34 P **P 11 50 40.7 +0.5**
C36M IAmb IAmb 11 50 44.5
comp=Z,9.2nm,0.9s
C36M Paulatuk 26.66 34 P **P 11 50 40.1 -0.1**
baz=253,SNR=14
A36M Sachs Harbour 27.19 28 P **P 11 50 45.3 +0.3**
A36M IAmb IAmb 11 50 55.2
comp=Z,8.2nm,0.8s
A36M Sachs Harbour 27.19 28 P **P 11 50 45.0 0.0**
baz=247,SNR=10
D03D Eldon 29.29 81 P **P 11 51 03.7 -0.3**
baz=297
YKA Yellowknife Ar 29.88 49 P **P 11 51 10.2 +1.2**
comp=Z,1.5nm,0.6s,baz=275,slow=7.8,SNR=36
YKA PcP **PcP 11 54 11.6 +0.4**
comp=Z,0.7nm,0.8s,baz=282,slow=2.5,SNR=5.9
YKA ScP **ScP 11 57 52.8 +1.9**
comp=Z,0.6nm,0.8s,baz=286,slow=3.3,SNR=7.0
YKA LR LR 12 05 15.7
comp=Z,305nm,18.7s,baz=302,slow=40
YKA Yellowknife Ar 29.88 49 P **P 11 51 09.7 +0.7**
YKA Yellowknife Ar 29.88 49 P **P 11 51 09.7 +0.7**
D05A Enumclaw 30.11 81 P **P 11 51 12.3 +1.1**
D05A IAmb IAmb 11 51 17.7
comp=Z,28nm,1.2s
YSS Yuzh-Sakhalins 31.47 280 *e*P **P 11 51 20.7 -2.5**
YSS MLR MLR
comp=Z,200nm,19.0s
HAWA Hanford 31.97 81 P **P 11 51 29.3 +1.7**
HAWA IAmb IAmb 11 51 32.6
comp=Z,5.5nm,0.9s
YBH Yreka Blue Hor 32.50 91 P **P 11 51 34.2 +1.8**
comp=Z,2.3nm,0.8s,baz=307,slow=5.1,SNR=3.4
YBH LR LR 12 01 45.2
comp=Z,72nm,21.6s,baz=306,slow=31
J05D Fort Rock, OR 32.54 87 P **P 11 51 33.3 +0.5**
baz=303
NEW Newport 32.54 76 P **P 11 51 34.1 +1.4**
comp=Z,2.2nm,0.8s,baz=282,slow=9.3,SNR=3.6
NEW LR LR 12 03 52.9
comp=Z,79nm,19.5s,baz=302,slow=35
NEW Newport 32.54 76 P **P 11 51 33.0 +0.3**
baz=297
N02D Trinity Center 32.94 92 P **P 11 51 36.7 +0.4**
baz=306
TIXI Tiksi 32.98 329 P **P 11 51 36.3 0.0**
comp=Z,5.0nm,0.8s,baz=270,slow=20,SNR=24
TIXI LR LR 12 06 38.2
comp=Z,80nm,19.3s,baz=3.0,slow=39
TIXI Tiksi 32.98 329 P **P 11 51 36.2 0.0**
TIXI IAmb IAmb 11 51 37.3
comp=Z,4.6nm,0.8s
JKA Kamikawa-asahi 32.98 275 P **P 11 51 36.9 +0.4**
ASAJ Asahikawa 32.99 275 LR LR 12 04 25.3
comp=Z,152nm,20.9s,baz=82,slow=35
ASAJ Asahikawa 32.99 275 P **P 11 51 36.9 +0.4**
ASAJ pmax pmax
comp=Z,37nm,1.3s
M04C Macdoel 33.01 90 P **P 11 51 37.2 +0.3**
baz=305
O02D Mt. Diablo Mer 33.37 93 P **P 11 51 39.7 -0.3**
baz=307
YAK Yakutsk 33.53 311 LR LR 12 06 05.4
comp=Z,267nm,18.1s,baz=88,slow=38
YAK Yakutsk 33.53 311 *e*P **P 11 51 39.8 -1.3**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,1.0nm,0.7s
YAK pmax pmax
comp=E,3.0nm,0.9s
O03E Paynes Creek 33.90 92 P **P 11 51 42.9 -1.7**
baz=307
BMO Blue Mountains 34.10 82 P **P 11 51 45.7 -0.7**
BMO pmax pmax
comp=Z,7.0nm,1.4s
BMO Blue Mountains 34.10 82 P **P 11 51 45.7 -0.7**
BMO IAmb IAmb 11 51 50.4
comp=Z,7.3nm,1.4s
J08A Circle Bar Ran 34.19 85 P **P 11 51 47.4 +0.2**
J08A IAmb IAmb 11 52 12.8
comp=Z,8.9nm,1.4s
WVOR Wild Horse Val 34.60 86 P **P 11 51 51.0 +0.2**
WVOR pmax pmax
comp=Z,6.0nm,1.2s
WVOR Wild Horse Val 34.60 86 P **P 11 51 51.0 +0.2**
WVOR IAmb IAmb 11 52 04.3
comp=Z,5.8nm,1.2s
MSO Missoula 35.12 77 P **P 11 51 55.6 +0.4**
MSO IAmb IAmb 11 51 59.2
comp=Z,6.7nm,1.2s
MSO Missoula 35.12 77 P **P 11 51 54.9 -0.3**
baz=300
MFID Camas Ranch 35.77 83 P **P 11 52 00.4 -0.4**
RES Resolute Bay 36.16 26 LR LR 12 09 26.5
comp=Z,122nm,21.1s,baz=288,slow=40
RES Resolute Bay 36.16 26 P **P 11 52 03.4 -0.2**
RES pmax pmax
comp=Z,4.0nm,1.3s
RES Resolute Bay 36.16 26 P **P 11 52 03.4 -0.2**
HLID Hailey 36.55 82 P **P 11 52 06.4 -1.1**
HLID Hailey 36.55 82 P **P 11 52 07.3 -0.2**
baz=304,SNR=5.4
MCMT McKenzie Canyo 36.81 79 P **P 11 52 11.1 +1.3**
KLR Kul'dur 36.91 290 P **P 11 52 09.4 -0.8**
comp=Z,7.6nm,1.0s,baz=41,slow=8.1,SNR=15
KLR LR LR 12 07 28.0
comp=Z,159nm,20.3s,baz=43,slow=36
KLR Kul'dur 36.91 290 *d* *i*P **P 11 52 09.5 -0.8**
KLR pmax pmax
comp=Z,15nm,1.3s
EGMT Eagleton 37.01 73 P **P 11 52 12.2 +0.9**
EGMT IAmb IAmb 11 52 27.8
comp=Z,7.9nm,0.8s
EGMT Eagleton 37.01 73 P **P 11 52 12.2 +0.9**
BOZ Bozeman (W) 37.13 77 P **P 11 52 13.0 +0.5**
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 37.13 77 P **P 11 52 12.9 +0.5**
baz=302,SNR=6.9
NVAR Mina Array Bea 37.18 92 P **P 11 52 14.0 +1.0**
comp=Z,1.3nm,0.9s,baz=298,slow=9.0,SNR=5.8
NVAR LR LR 12 05 07.2
comp=Z,56nm,19.7s,baz=36,slow=32
NVAR Mina Array Bea 37.18 92 P **P 11 52 12.6 -0.5**
ZEA Zeya 37.42 298 *e*P **P 11 52 13.9 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,100nm,11.0s
ELK Elko 37.65 86 P **P 11 52 18.1 +1.1**
comp=Z,1.0nm,0.8s,baz=332,slow=7.6,SNR=4.1
ELK LR LR 12 06 09.8
comp=Z,73nm,18.7s,baz=295,slow=34
H11N2 WAKE ISLAND Hy 37.76 220 T T 12 33 11.2
baz=24,slow=76,SNR=29
H11N3 WAKE ISLAND Hy 37.76 220 T T 12 33 05.0
baz=24,slow=76,SNR=38
H11N1 WAKE ISLAND Hy 37.77 220 T T 12 33 20.0
baz=24,slow=76,SNR=35
YHL Hebgen Lake 37.80 78 P **P 11 52 19.7 +1.5**
YHL IAmb IAmb 11 52 22.4
comp=Z,7.8nm,1.0s
YMR Madison River 38.02 78 P **P 11 52 21.1 +1.0**
YMR IAmb IAmb 11 52 24.3
comp=Z,8.7nm,1.1s
YHH Holmes Hill 38.03 78 P **P 11 52 21.2 +1.0**
YHH IAmb IAmb 11 52 24.7
comp=Z,9.8nm,1.0s
YNR Norris Junctio 38.17 78 P **P 11 52 21.9 +0.6**
YNR IAmb IAmb 11 52 26.6
comp=Z,14nm,1.1s
H17A Grant Village 38.41 78 P **P 11 52 24.5 +1.2**
H17A Grant Village 38.41 78 P **P 11 52 24.8 +1.4**
baz=303
LKWY Lake 38.42 78 P **P 11 52 23.4 -0.1**
LKWY pmax pmax
comp=Z,6.0nm,0.9s
LKWY Lake 38.42 78 P **P 11 52 23.4 -0.1**
FLWY Flagg Ranch 38.50 79 P **P 11 52 23.5 -0.7**
HVU Hansel Valley 38.55 83 P **P 11 52 25.1 +0.6**
HVU pmax pmax
comp=Z,4.0nm,0.8s
HVU Hansel Valley 38.55 83 P **P 11 52 25.1 +0.6**
RLMT Red Lodge 38.79 76 P **P 11 52 27.0 +0.5**
RLMT IAmb IAmb 11 52 46.9
comp=Z,8.4nm,1.1s
RLMT Red Lodge 38.79 76 P **P 11 52 26.2 -0.4**
baz=303
R11A Troy Canyon, C 38.90 90 P **P 11 52 27.6 +0.1**
baz=309
H11S1 WAKE ISLAND Hy 38.94 219 T T 12 34 23.1
baz=23,slow=76,SNR=218
H11S2 WAKE ISLAND Hy 38.95 219 T T 12 34 29.6
baz=23,slow=76,SNR=144
H11S3 WAKE ISLAND Hy 38.96 219 T T 12 34 11.9
baz=23,slow=76,SNR=120
JSD Sado 39.19 270 P **P 11 52 30.5 +0.8**
JSD IAmb IAmb 11 52 31.5
comp=Z,29nm,1.0s
USRK Ussuriysk Ar. 39.36 282 LR LR 12 11 09.0
comp=Z,103nm,18.7s,baz=62,slow=40
TPNV Topopah Spring 39.38 92 P **P 11 52 31.9 +0.4**
baz=310
LAO LASA Array 39.76 72 P **P 11 52 33.4 -1.0**
baz=302
PRN Pahroc Range 39.82 90 P **P 11 52 35.5 +0.3**
PRN IAmb IAmb 11 52 55.1
comp=Z,13nm,1.5s
BW06 Boulder Array 39.93 80 P **P 11 52 36.0 -0.1**
BW06 IAmb IAmb 11 52 40.0
comp=Z,7.6nm,1.0s
BW06 Boulder Array 39.93 80 P **P 11 52 36.0 -0.1**
baz=305,SNR=5.2
PD31 Pinedale Array 39.93 80 P **P 11 52 36.8 +0.7**
PDAR Pinedale Array 39.93 80 P **P 11 52 36.5 +0.5**
comp=Z,4.5nm,0.8s,baz=297,slow=4.5,SNR=25
PDAR Pinedale Array 39.93 80 P **P 11 52 36.6 +0.6**
MJAR Matsushiro Arr 40.17 268 P **P 11 52 37.9 0.0**
comp=Z,6.7nm,1.0s,baz=35,slow=6.7,SNR=12
MJAR LR LR 12 09 14.7
comp=Z,130nm,20.3s,baz=58,slow=36
MJAR Matsushiro Arr 40.17 268 P **P 11 52 38.2 +0.3**
MJAR pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 40.17 268 P **P 11 52 38.2 +0.3**
MAJO Matsushiro 40.18 268 P **P 11 52 38.5 +0.6**
MAJO pmax pmax
comp=Z,19nm,1.0s
MAJO Matsushiro 40.18 268 P **P 11 52 38.5 +0.6**
MAJO IAmb IAmb 11 52 40.3
comp=Z,19nm,1.0s
MJB9 Matsu-Tunnel 40.18 268 P **P 11 52 37.4 -0.5**
MJB9 IAmb IAmb 11 52 40.3
comp=Z,19nm,1.0s
MDJ Mudanjiang 40.56 284 P **P 11 52 40.0 -0.9**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,59nm,3.9s
FCC Fort Churchill 40.57 51 P **P 11 52 42.1 +1.3**
FCC pmax pmax
comp=Z,12nm,0.9s
FCC Fort Churchill 40.57 51 P **P 11 52 42.1 +1.3**
FCC IAmb IAmb 11 52 42.8
comp=Z,12nm,0.8s
MSHR Mys Shultsa 40.78 281‖ *e*P **P 11 52 43.1 +0.3**
MSHR pmax pmax
comp=Z,15nm,1.2s
TMUT Trail Mountain 40.99 85 P **P 11 52 44.3 -0.7**
P17A Butcher Ranch, 41.17 85 P **P 11 52 46.6 +0.3**
RDMU Red Mountain 41.22 82 P **P 11 52 48.1 +1.4**
RDMU IAmb IAmb 11 52 51.3
comp=Z,14nm,1.0s
BNX BinXian 41.23 287‖ P **P 11 52 45.5 -0.9**
BNX pmax pmax
comp=Z,32nm,0.8s
BNX pmax pmax
comp=Z,130nm,6.8s
PFO Pinyon Flats O 41.46 96 LR LR 12 07 40.8
comp=Z,56nm,19.5s,baz=198,slow=33
U15A North Rim 42.14 89 P **P 11 52 54.9 +0.5**
O20A White River Ci 42.29 82 P **P 11 52 56.7 +1.2**
O20A IAmb IAmb 11 52 59.6
comp=Z,17nm,0.9s
O20A White River Ci 42.29 82 P **P 11 52 55.4 0.0**
baz=308,SNR=12
BOD Bodaibo 42.37 309 *e*P **P 11 52 54.6 -1.0**
BOD pmax pmax
comp=Z,15nm,0.6s
RSSD Black Hills 42.45 74 P **P 11 52 57.8 +1.0**
baz=305
MDND Maddock 42.95 67 P **P 11 53 00.9 +0.5**
baz=303
PV11 David Mesa, Pa 43.04 85 P **P 11 53 02.7 +1.1**
PV11 IAmb IAmb 11 53 28.6
comp=Z,7.6nm,0.7s
PV13 Radium Mtn., P 43.16 85 P **P 11 53 03.3 +0.7**
PV13 IAmb IAmb 11 53 06.7
comp=Z,13nm,1.0s
N23A Red Feather La 43.22 80 P **P 11 53 02.8 -0.2**
baz=307
WUAZ Wupatki 43.30 90 P **P 11 53 03.7 +0.1**
baz=311
CN2 Changchun 43.47 286 *e*P **P 11 53 04.3 -0.4**
CN2 *e*S **S 11 59 28.3 -2.9**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,200nm,15.1s
ULM Lac du Bonnet 43.73 62 LR LR 12 12 34.7
comp=Z,112nm,18.1s,baz=312,slow=38
ULM Lac du Bonnet 43.73 62‖ *e*P **P 11 53 06.4 -0.3**
MVCO Mesa Verde 43.96 85 P **P 11 53 08.0 -1.0**
baz=310
ISCO Idaho Springs 44.09 81 P **P 11 53 10.4 +0.3**
baz=308
W18A Petrified Fore 44.57 89 P **P 11 53 16.2 +2.3**

baz=312
S22A 4UR Ranch, Cre 44.64 84 P **P** **11 53 14.3 -0.2**
baz=310
SDCO Great Sand Dun 45.45 83 P **P** **11 53 21.6 +0.7**
SDCO Great Sand Dun 45.45 83 P **P** **11 53 21.0 +0.1**
baz=310,SNR=6.9
KSRS Korea Array 45.88 277 P **P** **11 53 24.9 +0.9**
comp=Z,13nm,0.9s,baz=56,slow=7.4,SNR=39
KSRS LR LR 12 10 59.2
comp=Z,65nm,20.7s,baz=55,slow=34
KS19 Wonju Array Si 45.88 277 P **P** **11 53 24.6 +0.6**
KS19 IAmb IAmb 11 53 26.3
comp=Z,14nm,0.9s
KSAR Wonju Array Be 45.91 277 P **P** **11 53 24.0 -0.2**
KSAR Wonju Array Be 45.91 277 P **P** **11 53 24.0 -0.2**
T25A Trinidad 46.50 83 P **P** **11 53 29.3 +0.1**
T25A IAmb IAmb 11 53 33.3
comp=Z,14nm,1.1s
T25A Trinidad 46.50 83 P **P** **11 53 28.5 -0.7**
baz=311,SNR=8.7
INCN Inchon 46.65 278 P **P** **11 53 29.9 -0.2**
INCN pmax pmax
comp=Z,48nm,1.2s
INCN Inchon 46.65 278 P **P** **11 53 29.9 -0.2**
ANMO Albuquerque 46.69 86 LR LR 12 10 07.5
comp=Z,63nm,18.6s,baz=321,slow=32
ANMO Albuquerque 46.69 86‖ *eP* **P** **11 53 31.1 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,2.4s
ANMO Albuquerque 46.69 86 P **P** **11 53 28.3 -2.4**
baz=312
TJN Taejon 46.92 277 *de*P **P** **11 53 32.9 +0.8**
JNU Nakatsue 46.94 271 P **P** **11 53 32.3 -0.1**
comp=Z,24nm,1.1s,baz=39,slow=7.5,SNR=5.9
ECSD EROS Data Cent 47.02 70 P **P** **11 53 31.7 -1.2**
baz=307
EYMN Ely 47.40 63 P **P** **11 53 36.5 +0.7**
baz=306
121A Cookes Peak, D 47.51 90 P **P** **11 53 37.1 +0.1**
baz=314
SPMN Marine on St. 48.29 67 P **P** **11 53 43.1 +0.4**
baz=307
MNTX Cornudas Mount 49.56 89 P **P** **11 53 52.0 -0.6**
MNTX IAmb IAmb 11 54 11.8
comp=Z,4.1nm,0.8s
MNTX Cornudas Mount 49.56 89 P **P** **11 53 52.6 0.0**
baz=314
MSTX Muleshoe 49.60 85 P **P** **11 53 53.6 +0.6**
baz=313
SPITS Spitsbergen Ar 49.68 359 LR LR 12 15 40.9
comp=Z,132nm,18.2s,baz=304,slow=37
ULN Ulaanbaatar 51.35 301 P **P** **11 54 06.7 +0.6**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 51.35 301 P **P** **11 54 06.7 +0.6**
ULN IAmb IAmb 11 54 07.1
comp=Z,7.3nm,0.7s
P38A Dawn 51.40 73 P **P** **11 54 07.7 +1.3**
P38A IAmb IAmb 11 54 08.5
comp=Z,8.9nm,0.9s
WMOK Wichita Mounta 51.51 81 P **P** **11 54 06.7 -0.6**
baz=313,SNR=7.1
ZAK Zakamensk 51.71 305 *e*P **P** **11 54 07.7 -1.0**
ZAK *e* 11 55 20.1
ZAK pmax pmax
comp=Z,8.0nm,1.5s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 51.71 301 P **P** **11 54 09.6 +0.8**
comp=Z,4.4nm,0.7s,baz=57,slow=7.0,SNR=26
SONM LR LR 12 18 54.5
comp=Z,143nm,18.0s,baz=10,slow=39
SONM Songino Array 51.71 301 P **P** **11 54 09.3 +0.5**
SONM pmax pmax
comp=Z,15nm,1.4s
SONM Songino Array 51.71 301 P **P** **11 54 09.2 +0.5**
SONM IAmb IAmb 11 54 10.8
comp=Z,15nm,1.4s
MOY Mondy 52.03 308 *e*P **P** **11 54 11.4 +0.3**
MOY pmax pmax
comp=Z,11nm,1.4s
TX31 Lajitas Ar. Si 52.27 90 P **P** **11 54 13.5 +0.4**
TX31 IAmb IAmb 11 54 40.0
comp=Z,9.7nm,1.0s
TX32 Lajitas Array 52.27 90 P **P** **11 54 13.5 +0.4**
TXAR Lajitas Array 52.27 90 P **P** **11 54 13.2 +0.1**
comp=Z,1.6nm,0.9s,baz=298,slow=5.8,SNR=12
TXAR LR LR 12 14 56.9
comp=Z,39nm,18.9s,baz=327,slow=34
TXAR Lajitas Array 52.27 90 P **P** **11 54 14.3 +1.2**
TXAR Lajitas Array 52.27 90 P **P** **11 54 14.3 +1.2**
P40A Paris 52.33 72 P **P** **11 54 12.4 -0.8**
P40A IAmb IAmb 11 54 15.9
comp=Z,13nm,0.8s
HHC Hu-ho-hao-te 53.37 291 *e*P **P** **11 54 22.8 +1.7**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=Z,190nm,15.9s
HHC LR LR
comp=Z,180nm,15.2s
HHC LR LR
comp=Z,250nm,16.5s
CCM Cathedral Cave 53.77 73 P **P** **11 54 22.5 -1.5**
baz=312
JCT Junction City 53.83 86 P **P** **11 54 24.2 -0.3**
baz=315
HNS HongShan 53.84 286 *e*P **P** **11 54 25.5 +1.1**
HNS pmax pmax
comp=Z,33nm,1.0s
U40A Yellville 53.97 75 P **P** **11 54 24.6 -0.8**
baz=313
WHTX Lake Whitney, 54.20 82 P **P** **11 54 26.4 -0.8**
baz=314
W39A Magazine 54.20 77 P **P** **11 54 26.1 -1.1**
baz=313
BTO Baotou 54.41 292 *e*P **P** **11 54 29.3 +0.6**
SFIN Lafayette 54.61 68 P **P** **11 54 29.5 -0.6**
baz=312
FCAR Ozark Folk Cen 54.72 75 P **P** **11 54 30.6 -0.3**
FCAR IAmb IAmb 11 54 51.5
comp=Z,9.4nm,1.1s
NJ2 Nanjing 55.02 279 *e*P **P** **11 54 32.5 -0.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
SCHQ Schefferville 55.10 44 P **P** **11 54 34.1 +0.6**
comp=Z,3.5nm,0.8s,baz=319,slow=11,SNR=5.5
SCHQ LR LR 12 20 37.3
comp=Z,107nm,19.0s,baz=40,slow=39
SCHQ Schefferville 55.10 44 P **P** **11 54 33.0 -0.4**
SCHQ IAmb IAmb 11 54 51.1
comp=Z,6.0nm,0.9s
W41B Gary Mavity, V 55.13 76 P **P** **11 54 33.1 -0.8**
baz=314
O48B Farmland 55.79 67 P **P** **11 54 38.3 -0.3**
baz=313
WVT Waverly 57.08 72 P **P** **11 54 47.3 -0.5**
baz=314
OXF Oxford 57.27 75 P **P** **11 54 49.4 +0.2**
baz=314
KEV Kevo 57.66 354 P **P** **11 54 51.0 -0.3**
KEV pmax pmax
comp=Z,99nm,1.5s
KEV Kevo 57.66 354 P **P** **11 54 51.0 -0.3**
ZAA0 Zalesovo Array 57.75 318 P **P** **11 54 52.0 -0.2**
ZALV Zalesovo Beam 57.75 318 P **P** **11 54 52.2 0.0**
comp=Z,2.4nm,0.8s,baz=46,slow=6.4,SNR=7.8
ZALV PcP **PcP** **11 55 44.7 0.0**
comp=Z,0.6nm,0.4s,baz=45,slow=3.1,SNR=4.0
ZALV LR LR 12 21 18.1
comp=Z,81nm,19.0s,baz=60,slow=38
ZALV Zalesovo Beam 57.75 318 P **P** **11 54 51.6 -0.6**
ARCES ARCESS Array B 57.97 354 P **P** **11 54 53.5 -0.1**
comp=Z,8.7nm,0.8s,baz=10,slow=5.6,SNR=9.0
ARCES LR LR 12 21 41.9
comp=Z,104nm,18.4s,baz=331,slow=38
ARCES ARCESS Array B 57.97 354 P **P** **11 54 53.5 -0.1**
ARCES pmax pmax
comp=Z,12nm,1.2s
ARCES ARCESS Array B 57.97 354 P **P** **11 54 53.5 -0.1**
ARCES IAmb IAmb 11 55 15.2
comp=Z,12nm,1.1s
LVZ Lovozero 58.80 350‖ *eP* **P** **11 54 59.7 +0.3**
LVZ pmax pmax
comp=Z,173nm,2.5s
LVZ Lovozero 58.80 350 P **P** **11 54 59.2 -0.2**
WHN Wuhan 58.81 281‖ P **P** **11 55 00.3 +0.3**
SSPA Standing Stone 59.55 62 P **P** **11 55 05.9 +0.9**
SSPA IAmb IAmb 11 55 11.6
comp=Z,13nm,1.2s
SSPA Standing Stone 59.55 62 P **P** **11 55 01.9 -3.1**
baz=315
XAN Xi'an 59.56 287 P **P** **11 55 05.5 +0.3**
XAN pP pwP 11 55 16.8 -0.5
XAN pmax pmax
comp=Z,15nm,1.4s
BORG Borgarnes 60.50 15 LR LR 12 22 03.3
comp=Z,41nm,20.6s,baz=327,slow=37
BLA Blacksburg 60.57 66 P **P** **11 55 11.1 -1.0**
baz=315
PKME Peaks-Kenny Pk 60.70 53 P **P** **11 55 11.0 -1.8**
baz=316
GTA Gaotai 60.91 298‖ P **P** **11 55 14.5 +0.1**
GTA pP pP 11 55 21.5 -1.0
GTA pmax pmax
comp=Z,6.0nm,1.1s
LZH Lanzhou 61.03 292⇑ P **P** **11 55 16.3 +0.9**
LZH pP pwP 11 55 28.8 +1.2
LZH pmax pmax
comp=Z,25nm,1.3s
LZH LR LR
comp=Z,340nm,15.5s
LZH LR LR
comp=Z,260nm,15.4s
LZH LR LR
comp=Z,320nm,18.2s
KURK Kurchatov 62.69 319 P **P** **11 55 26.4 +0.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 62.69 319 P **P** **11 55 26.4 +0.3**
KURBB Kurchatov Arra 62.80 319 LR LR 12 24 30.0
comp=Z,78nm,18.4s,baz=9.6,slow=38
KURBB Kurchatov Arra 62.80 319 P **P** **11 55 25.9 -0.9**
PRGR Permogore 63.13 342 *e*P **P** **11 55 24.3 -4.5**
PRGR pmax pmax
comp=Z,20nm,1.4s
WMQ Urumqi 63.91 308 *e*P **P** **11 55 35.5 +1.1**
WMQ S **S** **12 04 06.5 -1.4**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,120nm,21.5s
BRVK Borovoye 63.99 325 *de*P **P** **11 55 35.5 +0.8**
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK Borovoye 63.99 325 P **P** **11 55 35.4 +0.7**
MK31 Makanchi Array 64.15 314 P **P** **11 55 35.6 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 64.15 314 P **P** **11 55 35.6 -0.3**
MK31 IAmb IAmb 11 55 36.2
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 64.15 314 P **P** **11 55 35.5 -0.4**
comp=Z,6.0nm,0.7s,baz=49,slow=6.6,SNR=63
MKAR LR LR 12 24 33.0
comp=Z,115nm,18.3s,baz=31,slow=37
MKAR Makanchi Array 64.15 314 P **P** **11 55 35.2 -0.7**
MKAR Makanchi Array 64.15 314 P **P** **11 55 35.2 -0.7**
MAKZ Makanchi 64.28 314 P **P** **11 55 36.6 -0.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 64.28 314 P **P** **11 55 36.6 -0.1**
MAKZ IAmb IAmb 11 55 37.1
comp=Z,5.7nm,0.8s
CD2 Chengdu 64.83 288 P **P** **11 55 41.0 +0.5**
CD2 pmax pmax
comp=Z,30nm,1.1s
ARU Arti 64.84 333 *d*P **P** **11 55 40.3 +0.2**
ARU S **S** **12 04 21.7 +2.8**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 64.84 333 P **P** **11 55 40.5 +0.4**
KLMR Klimovskoe 64.91 345 *e*P **P** **11 55 39.4 -1.1**
KLMR pmax pmax
comp=Z,19nm,1.1s
KLMR Klimovskoe 64.91 345 *e*P **P** **11 55 39.4 -1.1**
KLMR AMP 11 55 41.2
comp=Z,19nm,1.1s
KIRV Kirov 65.17 339 *de*P **P** **11 55 42.6 +0.4**
FIA1 FINESS Array S 65.93 352 P **P** **11 55 47.5 +0.3**
FINES FINESS Array B 65.94 352 P **P** **11 55 47.5 +0.4**
comp=Z,11nm,0.5s,baz=22,slow=8.1,SNR=87
FINES LR LR 12 26 41.9
comp=Z,90nm,19.5s,baz=66,slow=38
FINES FINESS Array B 65.94 352 P **P** **11 55 47.1 -0.1**
FINES FINESS Array B 65.94 352 P **P** **11 55 47.1 -0.1**
GOMU GeErMu 65.95 298 P **P** **11 55 46.5 -1.7**
GOMU PcP **PcP** **11 56 18.8 0.0**
GOMU PP **PP** **11 58 10.3 -2.7**
GOMU S **S** **12 04 33.8 -0.1**
GOMU sS pS 12 04 39.5 -4.4
GOMU SS **SS** **12 08 46.5 -1.9**
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,61nm,5.1s
GOMU LR LR
comp=Z,100nm,12.6s
GOMU LR LR
comp=Z,77nm,12.1s
GOMU LR LR
comp=Z,87nm,13.5s
AFI Afiamalu 66.06 183 LR LR 12 20 44.0
comp=Z,36nm,19.9s,baz=223,slow=32
RAF Rauma 66.66 355 *e*P **P** **11 55 52.1 +0.4**
NC204 NORSAR Array S 66.70 0 P **P** **11 55 53.1 +0.9**
NC303 NORSAR Array S 66.75 0 P **P** **11 55 53.0 +0.6**
NB2 NORSAR Subarra 66.94 0 P **P** **11 55 53.8 +0.1**
comp=Z,2.8nm,0.6s,baz=1.3,slow=6.5
NOA NORSAR Array B 66.94 0 P **P** **11 55 54.1 +0.5**
comp=Z,4.5nm,0.7s,baz=0.6,slow=6.3,SNR=15
OTUK Ortayu 67.15 321 P **P** **11 55 54.9 -0.3**
MEF Metsahovi 67.28 353 *e*P **P** **11 55 56.1 +0.3**
AAL Aland 67.59 355 *e*P **P** **11 55 57.6 -0.1**
PDGK Podgornoye 68.09 313 P **P** **11 56 01.0 -0.4**
KONO Kongsberg 68.33 1⇑ *e*P **P** **11 56 03.5 +1.2**
KONO pmax pmax
comp=Z,17nm,1.0s
MTSE Matsula 68.82 353 *e*P **P** **11 56 05.7 +0.3**
VSU Vasula 68.83 351 *de*P **P** **11 56 06.1 +0.7**
VSU pmax pmax
comp=Z,43nm,0.8s
VSU Vasula 68.83 351 *e*P **P** **11 56 06.0 +0.5**
PZH PanZhiHua 69.28 287 P **P** **11 56 09.8 +0.8**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.2s
MDOK Medeo 69.31 315 P **P** **11 56 07.3 -1.6**
VIKU Vikbolandet 69.40 357 *e*P **P** **11 56 09.4 +0.4**
KMI Kunming 69.73 285⇑ P **P** **11 56 12.5 +0.6**
KMI pmax pmax
comp=Z,10.0nm,1.1s
SLIT Slitere, Latvi 70.00 354 *e*P **P** **11 56 12.6 -0.1**
KDJ Kajisay 70.08 314 P **P** **11 56 14.4 +0.6**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
KDJ Kajisay 70.08 314 P **P** **11 56 14.4 +0.6**
KDJ IAmb IAmb 11 56 15.2
comp=Z,8.7nm,0.8s
TARG Taragay, Kyrgy 70.12 313 P **P** **11 56 14.7 +0.4**
TARG pmax pmax
comp=Z,7.0nm,0.6s
TARG Taragay, Kyrgy 70.12 313 P **P** **11 56 14.7 +0.4**
AKTO Aktyubinsk 70.25 330 P **P** **11 56 14.5 +0.1**
BOOM Boomskoye usch 70.33 315 P **P** **11 56 16.1 +0.8**
BOOM pmax pmax
comp=Z,11nm,0.7s
BOOM Boomskoye usch 70.33 315 P **P** **11 56 16.1 +0.8**
AB31 Akbulak array 70.69 329 *i* P **P** **11 56 17.3 +0.2**
ABKAR Akbulak array 70.69 329 P **P** **11 56 17.4 +0.3**
ABKAR Akbulak array 70.69 329 P **P** **11 56 17.5 +0.4**
ABKAR IAmb IAmb 11 56 18.4
comp=Z,13nm,0.7s
AAK Ala-Archa 70.83 316 LR LR 12 29 12.3
comp=Z,105nm,18.5s,baz=30,slow=37
AAK Ala-Archa 70.83 316 *de*P **P** **11 56 19.4 +1.1**
AAK pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 70.83 316 P **P** **11 56 19.1 +0.8**
OBN Obninsk 70.87 345 *i* P **P** **11 56 17.0 -1.1**
OBN *i* 11 56 38.7
OBN pmax pmax
comp=Z,14nm,0.5s
IIGN Ignalina 71.95 351 *e*P **P** **11 56 25.3 +0.7**
PABE Paberze 71.99 353 P **P** **11 56 25.1 +0.3**
PABE Paberze 71.99 353 *e*P **P** **11 56 25.3 +0.4**
KKAR Karatay Array 72.11 319 P **P** **11 56 25.7 -0.1**
KKAR Karatay Array 72.11 319 P **P** **11 56 25.7 -0.1**
PMG Port Moresby 72.24 226‖ *eP* **P** **11 56 27.9 +1.1**
PMG pmax pmax
comp=Z,20nm,1.1s
MNK Minsk 72.62 350 *i* P **P** **11 56 27.6 -1.0**
MNK *i* 11 59 09.3
MNK *i* PPP PPP 12 00 54.0
MNK *i* S **S** **12 05 51.2 +0.1**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=Z,183nm,19.0s
MNK MLR MLR
comp=E,53nm,19.0s
MNK MLR MLR
comp=N,299nm,19.0s
MNK Minsk 72.62 350 *i* P **P** **11 56 27.7 -1.0**
comp=E,3.0nm,0.9s
MNK *i* P **P** **11 56 27.7 -1.0**
comp=N,12nm,0.9s
MNK *i* P **P** **11 56 27.7 -1.0**
comp=Z,26nm,0.9s,baz=10
MNK *i* PP **PP** **11 59 09.4 -0.1**
MNK *i* PPP PPP 12 00 54.0
MNK *i* S **S** **12 05 51.3 +0.1**
MNK *i* SS SS 12 11 05.3 +36
MNK *i* SSS SSS 12 13 53.0
MNK *i* LQ LQ 12 21 18.2
MNK *i* LR LR 12 24 56.6
MNK *i* LRM MLR 12 28 33.1
comp=Z,183nm,19.0s
MNK *i* LRM MLR 12 32 01.6
comp=E,53nm,19.0s
MNK *i* LRM MLR 12 32 52.7
comp=N,299nm,19.2s
KSH Kashi 72.73 313 P **P** **11 56 33.8 +4.1**
KSH pP pwP 11 56 43.0 +1.4
KSH pmax pmax
comp=N,23nm,1.0s
SUW Suwalki 73.53 353 P **P** **11 56 33.9 -0.1**
SUW pmax pmax
comp=Z,42nm,1.0s
SUW Suwalki 73.53 353 P **P** **11 56 33.9 -0.1**
SUW Suwalki 73.53 353 *e*P **P** **11 56 33.9 -0.1**
BTK Batken 74.52 317 P **P** **11 56 41.3 +1.1**
BTK pmax pmax
comp=Z,15nm,0.9s
BTK Batken 74.52 317 P **P** **11 56 41.3 +1.1**
GAR Garm 75.62 316 P **P** **11 56 47.0 +0.5**
SHL Shillong 75.68 293 P **P** **11 56 47.2 0.0**
SHL pmax pmax
comp=Z,8.0nm,0.6s
SHL Shillong 75.68 293 P **P** **11 56 47.2 0.0**
AKASG Malin Array Be 76.20 348 P **P** **11 56 49.5 0.0**
comp=Z,5.4nm,0.5s,baz=15,slow=5.8,SNR=25
AKASG LR LR 12 34 24.3
comp=Z,44nm,18.9s,baz=54,slow=39
AKASG Malin Array Be 76.20 348 *i* P **P** **11 56 49.4 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 76.20 348‖ *eP* **P** **11 56 49.4 -0.1**
AKBB Malin Array Si 76.20 348 P **P** **11 56 49.2 -0.3**
CHGR Chuyangaron 76.39 317 P **P** **11 56 51.5 +0.5**
CHGR pmax pmax
comp=Z,54nm,0.8s
CHGR Chuyangaron 76.39 317 P **P** **11 56 51.5 +0.5**
CLL Collm 76.69 359 *e*P **P** **11 56 53.0 +0.7**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 76.69 359 *e*P **P** **11 56 53.0 +0.7**
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 76.81 284 P **P** **11 56 52.3 -1.2**
CHTO Chiang Mai 76.81 284 P **P** **11 56 52.3 -1.2**
CHTO IAmb IAmb 11 56 55.4
comp=Z,4.4nm,0.6s
CMAR Chiang Mai Arr 77.08 283 P **P** **11 56 55.8 +0.7**
comp=Z,6.9nm,0.8s,baz=27,slow=6.2,SNR=35
CMAR LR LR 12 34 34.9
comp=Z,48nm,19.0s,baz=85,slow=39
CMAR Chiang Mai Arr 77.08 283 *i* P **P** **11 56 56.0 +1.0**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 77.08 283 P **P** **11 56 55.1 +0.1**
BRG Berggiesshubel 77.11 358 *eP* **P** **11 56 56.0 +1.3**
BRG Amp 11 56 57.1
comp=Z,1.9nm,0.7s
BRG *ex* x 12 13 28.2
BRG Amp 12 13 30.4
comp=Z,21nm,1.8s
BRG Berggiesshubel 77.11 358 *eP* **P** **11 56 55.9 +1.3**
BRG pmax pmax
comp=Z,2.0nm,0.7s
GUN Gumba 77.14 299 *eP* **P** **11 56 56.3 +0.6**
JIRN Jiri 77.17 299 *eP* **P** **11 56 56.6 +0.7**
OSTC Ostas 77.37 357 *eP* **P** **11 56 57.7 +1.5**
OJC Ojcow 77.54 354 P **P** **11 56 58.0 +0.9**
OJC pmax pmax
comp=Z,20nm,1.3s
OJC Ojcow 77.54 354 P **P** **11 56 58.0 +0.9**
DPC Dobruska-Polom 77.57 357 *eP* **P** **11 56 58.5 +1.2**
DPC *e* 11 57 09.3
DPC Dobruska-Polom 77.57 357 *eP* **P** **11 56 58.5 +1.2**
DPC *ex* x 11 57 09.3
LVV L'vov 77.63 352 *eP* **P** **11 56 58.3 +0.7**
PKI Pulchoki 77.66 299 *eP* **P** **11 56 58.7 +0.1**
DMN Daman 77.80 299 *eP* **P** **11 56 59.6 +0.4**
KRLC Kraliky 77.83 356 *eP* **P** **11 57 00.0 +1.2**
KRLC Kraliky 77.83 356 *eP* **P** **11 57 00.0 +1.2**
DANN Dangsing 77.92 301 *eP* **P** **11 57 00.5 +0.6**
comp=Z,36nm,0.7s
KWP Kalwaria Pacla 77.92 353 P **P** **11 57 00.0 +0.8**
KWP Kalwaria Pacla 77.92 353 P **P** **11 56 60.0 +0.8**
PRU Pruhonice 77.98 358 *eP* **P** **11 57 00.9 +1.4**
PRU Pruhonice 77.98 358 *eP* **P** **11 57 00.9 +1.4**
MORC Moravsky Berou 78.10 356‖ P **P** **11 57 01.7 +1.5**
MORC Moravsky Berou 78.10 356‖ P **P** **11 57 01.7 +1.5**
MORC Moravsky Berou 78.10 356 P **P** **11 57 01.3 +1.0**
MORC IAmb IAmb 11 57 02.5
comp=Z,10nm,1.0s
MORC Moravsky Berou 78.10 356 *eP* **P** **11 57 01.3 +1.0**
PBCC Pribram 78.30 358 *eP* **P** **11 57 03.0 +1.7**
GRF Grafenberg Arr 78.32 0 *eP* **P** **11 57 02.8 +1.4**
comp=Z,19nm,1.1s,baz=0.3,slow=5.0
KOLN Koldanda 78.47 301 *eP* **P** **11 57 03.3 +0.4**
PYUN Piuthan 78.52 301 *eP* **P** **11 57 03.7 +0.5**
comp=Z,50nm,1.1s
VRAC Vranov 78.60 357‖ P **P** **11 57 04.4 +1.4**
VRAC Vranov 78.60 357‖ P **P** **11 57 04.4 +1.4**
VRAC Vranov 78.60 357 *eP* **P** **11 57 04.3 +1.3**
LANS Liptovska Anna 78.63 355 *eP* **P** **11 57 05.7 +2.5**
LANS pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 78.63 355 *eP* **P** **11 57 05.7 +2.5**
CRVS Cervenica-Dubn 78.74 353 *eP* **P** **11 57 05.5 +1.7**
CRVS Cervenica-Dubn 78.74 353 *eP* **P** **11 57 05.5 +1.7**
SORM Soroca 78.83 349‖ P **P** **11 57 04.4 +0.1**
SORM Soroca 78.83 349‖ P **P** **11 57 04.4 +0.1**
KRUC Moravsky 78.86 357 *eP* **P** **11 57 05.3 +0.9**
KHC Kasperske Hory 78.86 359 *eP* **P** **11 57 06.0 +1.5**
KHC Kasperske Hory 78.86 359 *eP* **P** **11 57 06.0 +1.5**
KHC Kasperske Hory 78.86 359 P **P** **11 57 05.6 +1.2**
KHC IAmb IAmb 11 57 07.2
comp=Z,8.9nm,1.0s
UZH Uzhgorod 78.95 353 *eP* **P** **11 57 01.0 -3.9**
UZH *e* 11 57 09.6
JAVC Velka Javorina 79.01 356 *eP* **P** **11 57 07.6 +2.3**
GERES GERESS Array B 79.14 358 P **P** **11 57 07.0 +1.0**
comp=Z,3.2nm,0.9s,baz=357,slow=5.3,SNR=20
CKRC Cesky Krumlov 79.16 358 *eP* **P** **11 57 07.6 +1.5**
VYHS Vyhne 79.31 355 *eP* **P** **11 57 08.8 +1.9**

VYHS					pmax	pmax		
	comp=Z,6.0nm,1.0s							
VYHS	**Vyhne**	**79.31**	**355**	*eP*	**P**	**11 57 08.8 +1.9**
TRPA	**Tarpa**	**79.43**	**352**	⇑P	**P**	**11 57 09.5 +2.0**
BUR08	**Bucovina Ar. S**	**79.67**	**351**	P	**P**	**11 57 09.5 +0.5**
BUR08				IAmb	IAmb	11 57 11.0		
	comp=Z,6.5nm,1.1s							
BURAR	**Bucovina Array**	**79.70**	**351**	⇓P	**P**	**11 57 09.9 +0.8**
BURAR	**Bucovina Array**	**79.70**	**351**	⇓P	**P**	**11 57 09.9 +0.8**
BURAR	**Bucovina Array**	**79.70**	**351**	P	**P**	**11 57 09.6 +0.5**
BURAR				IAmb	IAmb	11 57 10.9		
	comp=Z,5.7nm,1.0s							
ECH	**Echery**	**79.73**	**3**	P	**P**	**11 57 09.4 +0.2**
ECH				pmax	pmax			
	comp=Z,15nm,1.0s							
ECH	**Echery**	**79.73**	**3**	P	**P**	**11 57 09.4 +0.2**
ECH				IAmb	IAmb	11 57 11.3		
	comp=Z,15nm,1.0s							
PSZ	**Piszkesteto**	**79.83**	**354**	⇓P	**P**	**11 57 11.7 +1.9**
PSZ	**Piszkesteto**	**79.83**	**354**	⇓P	**P**	**11 57 11.7 +1.9**
PSZ	**Piszkesteto**	**79.83**	**354**	P	**P**	**11 57 11.0 +1.2**
PSZ				IAmb	IAmb	11 57 12.5		
	comp=Z,14nm,1.1s							
KBL	**Kabul**	**79.93**	**315**	P	**P**	**11 57 10.7 -0.1**
KBL				pmax	pmax			
	comp=Z,13nm,0.9s							
KBL	**Kabul**	**79.93**	**315**	P	**P**	**11 57 10.7 -0.1**
KBL				IAmb	IAmb	11 57 11.3		
	comp=Z,13nm,0.9s							
CONA	**Conrad Observa**	**80.01**	**357**	*i* P	**P**	**11 57 12.4 +1.6**
	comp=Z,17nm,1.1s,SNR=7.4							
SRO	**Srobarova**	**80.02**	**355**	*eP*	**P**	**11 57 12.9 +2.2**
SRO				pmax	pmax			
	comp=Z,15nm,1.1s							
SRO	**Srobarova**	**80.02**	**355**	*eP*	**P**	**11 57 12.9 +2.2**
SRO2	**Moca**	**80.07**	**355**	*eP*	**P**	**11 57 12.2 +1.2**
SRO2				pmax	pmax			
	comp=Z,17nm,1.1s							
SRO2	**Moca**	**80.07**	**355**	*eP*	**P**	**11 57 12.2 +1.2**
MOA	**Molln**	**80.13**	**358**	*eP*	P	11 57 16.5 +5.2		
	comp=Z,9.0nm,1.2s							
BIOA	**Bad Ischl, Aus**	**80.30**	**358**	*eP*	**P**	**11 57 13.6 +1.3**
	comp=Z,9.7nm,1.0s							
KIV	**Kislovodsk**	**80.33**	**338**	*eP*	**P**	**11 57 14.2 +1.6**
KIV				pmax	pmax			
	comp=Z,15nm,1.0s							
KIV	**Kislovodsk**	**80.33**	**338**	P	**P**	**11 57 13.1 +0.5**
KIV				IAmb	IAmb	11 57 15.4		
	comp=Z,17nm,1.1s							
KBZ	**Khabaz**	**80.50**	**337**	P	**P**	**11 57 14.8 +1.5**
	comp=Z,9.4nm,0.9s,baz=14,slow=2.3,SNR=21							
KBZ	**Khabaz**	**80.50**	**337**	*de*P	**P**	**11 57 15.1 +1.8**
KBZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
RETA	**Reutte**	**80.52**	**0**	*e*P	**P**	**11 57 14.6 +1.1**
	comp=Z,6.2nm,1.0s							
MOTA	**Moosalm**	**80.66**	**0**	*e*P	**P**	**11 57 15.8 +1.4**
	comp=Z,20nm,1.1s							
WATA	**Walderalm**	**80.67**	**360**	*e*P	**P**	**11 57 14.7 +0.2**
	comp=Z,19nm,1.2s							
ARSA	**Arzberg**	**80.70**	**357**	*e*P	**P**	**11 57 16.2 +1.8**
	comp=Z,9.8nm,1.0s							
DAVA	**Damuels**	**80.71**	**1**	*e*P	**P**	**11 57 16.5 +1.8**
	comp=Z,3.8nm,0.9s							
DRGR		**80.74**	**352**	⇓P	**P**	**11 57 15.5 +0.8**
DRGR		**80.74**	**352**	⇓P	**P**	**11 57 15.5 +0.8**
WTTA	**Wattenberg**	**80.75**	**360**	*i* P	**P**	**11 57 16.4 +1.5**
	comp=Z,26nm,1.4s,SNR=6.2							
SQTA	**Sankt Quirin**	**80.79**	**0**	*i* P	**P**	**11 57 16.7 +1.6**
	comp=Z,21nm,1.0s,SNR=5.8							
KBA	**Koelnbreinsper**	**80.92**	**359**	*i* P	**P**	**11 57 17.8 +2.0**
	comp=Z,40nm,1.1s,SNR=9.3							
FETA	**Feichten**	**80.99**	**0**	*i* P	**P**	**11 57 17.9 +1.7**
	comp=Z,18nm,1.0s,SNR=5.1							
ZEI	**Tsey**	**81.14**	**336**	*eP*	**P**	**11 57 16.9 -0.2**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ABTA	**Abfaltersbach**	**81.26**	**359**	*i* P	**P**	**11 57 18.8 +1.3**
	comp=Z,16nm,1.0s,SNR=5.2							
SOKA	**Soboth**	**81.28**	**357**	*i* P	**P**	**11 57 19.3 +1.6**
	comp=Z,23nm,1.1s,SNR=6.8							
DOPR	**Dopca**	**81.31**	**350**	⇓P	**P**	**11 57 19.2 +1.5**
GEYT	**Alibeck**	**81.31**	**324**	P	**P**	**11 57 18.9 +1.0**
	comp=Z,12nm,0.9s,baz=22,slow=8.2,SNR=12							
GEYT	**Alibeck**	**81.31**	**324**	P	**P**	**11 57 18.2 +0.3**
GYA0B	**ALIBECK ARRAY**	**81.31**	**324**	P	**P**	**11 57 19.0 +1.1**
PERS	**Pernice**	**81.32**	**357**	*i* P	**P**	**11 57 19.1 +1.3**
MYKA	**Terra Mystica**	**81.36**	**358**	*eP*	**P**	**11 57 20.1 +2.1**
	comp=Z,7.5nm,1.2s							
OBKA	**Obir**	**81.46**	**358**	*eP*	**P**	**11 57 19.9 +1.3**
	comp=Z,11nm,0.9s							
GROS	**Grobnik**	**81.49**	**357**	*i* P	**P**	**11 57 19.7 +1.0**
TUE	**Stuetta**	**81.52**	**1**	P	**P**	**11 57 20.5 +1.4**
MLR	**Muntele Rosu**	**81.72**	**350**	⇓P	**P**	**11 57 22.0 +2.0**
MLR	**Muntele Rosu**	**81.72**	**350**	LR	LR	12 35 57.8		
	comp=Z,66nm,21.0s,baz=0.5,slow=37							
MLR	**Muntele Rosu**	**81.72**	**350**	⇓P	**P**	**11 57 22.0 +2.0**
ROBS	**Robic**	**81.75**	**359**	*e*P	**P**	**11 57 20.3 +0.3**
CFR	**Carcaliu**	**81.77**	**348**	⇓P	**P**	**11 57 21.1 +1.0**
CFR	**Carcaliu**	**81.77**	**348**	⇓P	**P**	**11 57 21.1 +1.0**
VOIR		**81.87**	**350**	⇓P	**P**	**11 57 21.2 +0.5**
VOIR		**81.87**	**350**	⇓P	**P**	**11 57 21.2 +0.5**
CTI	**Castel Tesino**	**81.96**	**360**	P	**P**	**11 57 21.5 +0.3**
CTI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CTI	**Castel Tesino**	**81.96**	**360**	P	**P**	**11 57 21.5 +0.3**
CTI				IAmb	IAmb	11 57 23.0		
	comp=Z,10nm,1.1s							
ARR	**Arges**	**81.98**	**351**	⇓P	**P**	**11 57 22.6 +1.3**
BZS	**Buzias**	**82.00**	**353**	⇓P	**P**	**11 57 22.1 +0.8**
BZS	**Buzias**	**82.00**	**353**	⇓P	**P**	**11 57 22.1 +0.8**
TPGR	**Topolog**	**82.05**	**348**	⇓P	**P**	**11 57 22.6 +1.0**
GZR	**Gura Zlata**	**82.13**	**352**	⇓P	**P**	**11 57 23.0 +0.9**
GZR	**Gura Zlata**	**82.13**	**352**	⇓P	**P**	**11 57 23.0 +0.9**
SALO	**Salr**	**82.39**	**1**	P	**P**	**11 57 23.8 +0.4**
TIRR	**Tirgusor**	**82.44**	**348**	P	**P**	**11 57 23.8 +0.2**
TIRR				pmax	pmax			
	comp=Z,21nm,0.9s							
TIRR	**Tirgusor**	**82.44**	**348**	P	**P**	**11 57 23.8 +0.2**
TEOL	**Teolo**	**82.65**	**360**	P	**P**	**11 57 25.6 +0.8**
BNI	**Bardonecchia**	**82.87**	**3**	P	**P**	**11 57 24.6 -1.5**
BNI				pmax	pmax			
	comp=Z,23nm,1.3s							
BNI	**Bardonecchia**	**82.87**	**3**	P	**P**	**11 57 24.6 -1.5**
GNI	**Garni**	**83.42**	**335**	LR	LR	12 39 29.3		
	comp=Z,34nm,19.7s,baz=20,slow=39							
GNI	**Garni**	**83.42**	**335**	*ce*P	**P**	**11 57 30.6 +1.6**
GNI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OSSC	**Osservatorio P**	**84.49**	**0**	P	**P**	**11 57 34.8 +0.6**
KOPT	**Kop Dagi**	**84.58**	**338**	P	**P**	**11 57 36.7 +1.6**
MURB	**Monte Urbino**	**84.74**	**359**	P	**P**	**11 57 36.9 +1.3**
VTS	**Vitosha**	**84.84**	**351**	⇓P	**P**	**11 57 36.2 0.0**
VTS	**Vitosha**	**84.84**	**351**	⇓P	**P**	**11 57 36.2 0.0**
VTS	**Vitosha**	**84.84**	**351**	P	**P**	**11 57 35.7 -0.5**
VTS				IAmb	IAmb	11 57 37.4		
	comp=Z,8.1nm,1.2s							
ILGA	**Ilgaz**	**84.96**	**343**	P	**P**	**11 57 38.7 +1.8**
NRCA	**Norcia**	**85.16**	**359**	P	**P**	**11 57 38.8 +1.1**
AQU	**L'Aquila**	**85.64**	**359**	P	**P**	**11 57 41.3 +1.2**
AQU				pmax	pmax			
	comp=Z,13nm,0.9s							
AQU	**L'Aquila**	**85.64**	**359**	P	**P**	**11 57 41.3 +1.2**
MDUB	**Mudurnu**	**85.95**	**345**	P	**P**	**11 57 43.4 +1.7**
ALN	**Alexandroupoli**	**86.25**	**349**	P	**P**	**11 57 43.9 +0.9**
ALN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ALN	**Alexandroupoli**	**86.25**	**349**	P	**P**	**11 57 43.9 +0.9**
BRTR	**Keskin Array B**	**86.27**	**343**	P	**P**	**11 57 44.5 +1.2**
	comp=Z,4.5nm,0.8s,baz=20,slow=2.9,SNR=15							
BRTR	**Keskin Array B**	**86.27**	**343**	*i* P	**P**	**11 57 45.5 +2.1**
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRTR	**Keskin Array B**	**86.27**	**343**	P	**P**	**11 57 45.4 +2.1**
FNA	**Florina**	**86.82**	**352**	P	**P**	**11 57 45.9 0.0**
FNA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FNA	**Florina**	**86.82**	**352**	P	**P**	**11 57 45.9 0.0**
FNA				IAmb	IAmb	11 57 46.9		
	comp=Z,4.4nm,0.7s							
MARD	**Mardin**	**87.09**	**337**	P	**P**	**11 57 48.8 +1.4**
WB0	**Warramunga Arr**	**87.20**	**232**	P	**P**	**11 57 47.4 -0.4**
WB0				IAmb	IAmb	11 57 55.7		
	comp=Z,5.7nm,1.4s							
WR0	**Warramunga Arr**	**87.30**	**232**	P	**P**	**11 57 47.6 -0.7**
WR0				IAmb	IAmb	11 57 58.8		
	comp=Z,6.0nm,1.3s							
ESDC	**Sonseca Array**	**87.36**	**12**	P	**P**	**11 57 49.1 +0.6**
	comp=Z,3.7nm,0.8s,baz=351,slow=5.1,SNR=14							
ESDC				LR	LR	12 40 34.5		
	comp=Z,48nm,18.1s,baz=324,slow=38							
ESDC	**Sonseca Array**	**87.36**	**12**	P	**P**	**11 57 48.8 +0.2**
ESDC				IAmb	IAmb	11 57 50.5		
	comp=Z,2.8nm,0.8s							
WRAB	**Tennant Creek**	**87.37**	**232**	⇓*e*P	**P**	**11 57 50.8 +2.2**
WRAB				pmax	pmax			
	comp=Z,7.0nm,1.7s							
WRA	**Warramunga Arr**	**87.38**	**232**	P	**P**	**11 57 46.8 -1.8**
	comp=Z,1.0nm,0.8s,baz=37,slow=5.8,SNR=9.2							
WRA				LR	LR	12 30 18.4		
	comp=Z,32nm,20.8s,baz=142,slow=31							
WRA	**Warramunga Arr**	**87.38**	**232**	*i* P	**P**	**11 57 48.4 -0.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**87.38**	**232**	P	**P**	**11 57 47.5 -1.1**
ASAR	**Alice Springs**	**90.76**	**231**	P	**P**	**11 58 03.9 -0.6**
	comp=Z,2.0nm,0.9s,baz=31,slow=4.1,SNR=21							
ASAR	**Alice Springs**	**90.76**	**231**	P	**P**	**11 58 03.8 -0.7**
WSAR	**Wadi Sarin**	**94.19**	**317**	LR	LR	12 46 23.0		
	comp=Z,61nm,18.3s,baz=60,slow=39							
RPN	**Rapa Nui**	**94.53**	**130**	LR	LR	12 31 35.3		
	comp=Z,18nm,21.6s,baz=96,slow=30							

IDC 28 11:49:40.0±2.3, 6°37S×129°77E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.1/42, mbtmp3.3/4, ML3.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/35, Error ellipse: s-maj=96.9km s-min=29.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.66**	**15**	LR		LR	LR	11 54 01.1	
	comp=Z,39nm,18.7s,baz=174,slow=46								
FITZ	**Fitzroy Crossi**	**12.34**	**199**	Pn		Pn	Pn	11 52 38.5	+1.4
	0.1nm,0.3s,baz=33,slow=15,SNR=8.3								
FITZ				Sn		Sn	Sn	11 54 42.3	-13
	0.1nm,0.3s,baz=144,slow=22,SNR=1.0								
WRA	**Warramunga Arr**	**14.20**	**162**	Pn		Pn	Pn	11 53 01.8	-0.8
	0.2nm,0.3s,baz=342,slow=13,SNR=18								
WRA				Sn		Sn	Sn	11 55 26.0	-15
	0.1nm,0.3s,baz=342,slow=25,SNR=5.9								
ASAR	**Alice Springs**	**17.65**	**167**	P		Pn	Pn	11 53 46.9	-0.7
	0.1nm,0.3s,baz=347,slow=10,SNR=19								
MKAR	**Makanchi Array**	**67.58**	**327**	P		P	P	12 00 38.5	0.0
	0.2nm,0.8s,baz=117,slow=7.8,SNR=4.2								

IDC 28 11:56:35.8±4.2, 20°34S×178°41W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.6/46, mbtmp4.0/5, Error ellipse: s-maj=172.0km s-min=35.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.51**	**244**	P		P	P	12 03 51.1	-0.5
	2.0nm,0.7s,baz=83,slow=13,SNR=5.3								
ASAR	**Alice Springs**	**44.18**	**257**	P		P	P	12 04 46.5	-0.2
	2.4nm,0.8s,baz=99,slow=8.4,SNR=45								
WRA	**Warramunga Arr**	**44.24**	**262**	P		P	P	12 04 47.4	+0.1
	1.3nm,0.8s,baz=96,slow=7.7,SNR=20								
FITZ	**Fitzroy Crossi**	**52.67**	**262**	P		P	P	12 05 52.3	+0.1
	2.0nm,1.1s,baz=83,slow=8.1,SNR=1.6								
ILAR	**Eielson Array**	**88.25**	**13**	P		P	P	12 09 28.4	-0.1
	0.6nm,1.1s,baz=219,slow=5.0,SNR=5.4								

*ISN **28** 11:57:14.8±1.1, 32°.96N×46°.03E, h12km±4km, ML3.6*
*TEH **28** 11:57:16.2, 33°.01N×46°.08E, h25km, ML3.5*
ISC 28 11:57:15.8±1.0, 33°.02N±0°.04×46°.03E±0°.04, h17km±9km, n25, σ0°.96/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.13**	**319**	*e*Pg		**Pb**	**Pb**	**11 57 18.2**	**-1.5**
IBDR				*e*Sg		**Sg**	**Sg**	**11 57 22.5**	**+0.4**
IBDR				AML		AML	AML	11 57 27.3	
	comp=E,8μm,0.4s								
IBDR				AML		AML	AML	11 57 27.3	
	comp=N,12μm,0.4s								
RAFI	**Al-Rafai**	**1.29**	**177**	*e*Pn		**Pg**	**Pg**	**11 57 40.0**	**-0.7**
RAFI				*e*Sn		**Sg**	**Sg**	**11 57 58.0**	**+0.5**
IGHG	**Ghaleghazi**	**1.39**	**19**	*e*Pg		**Pb**	**Pb**	**11 57 42.0**	**+0.6**
IGHG				*e*				11 57 44.8	
	comp=Z,16μm,0.2s								
BHD	**Baghdad**	**1.41**	**281**	*e*Pn		**Pb**	**Pb**	**11 57 42.0**	**+0.5**
BHD				*e*Sn		**Sg**	**Sg**	**11 58 02.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.51**	**34**	*e*Pg		**Pb**	**Pb**	**11 57 43.8**	**+0.3**
KCHF				*e*				11 57 44.5	
	comp=Z,6μm,0.2s								
IKFM	**Kafar-mosalman**	**1.61**	**71**	*e*Pg		**Pb**	**Pb**	**11 57 44.9**	**-0.1**
KER	**Kermanshah**	**1.65**	**34**	*e*Pg		**Pb**	**Pb**	**11 57 45.9**	**+0.1**
IDHR	**Dehrash**	**1.71**	**10**	*e*Pg		**Pb**	**Pb**	**11 57 46.9**	**+0.1**
IDHR				*e*				11 57 47.7	
	comp=Z,10μm,0.3s								
IDHR				*e*Sg		**Sg**	**Sg**	**11 58 11.0**	**+0.1**
IDOB	**Doab**	**1.96**	**66**	*e*Pn		**Pb**	**Pb**	**11 57 50.4**	**-0.7**
IDOB				*e*				11 58 34.2	
	comp=Z,2μm,1.0s								
HSAM	**Samen**	**2.46**	**60**	*e*Pn		**Pn**	**Pn**	**11 57 56.4**	**+1.1**
IKRK	**Kirkuk**	**2.76**	**330**	*e*Pn		**Pn**	**Pn**	**11 58 01.0**	**+1.7**
IKRK				*e*Sn		**Sb**	**Sb**	**11 58 36.0**	**-2.2**
AMIS	**Naft Sefid**	**3.07**	**115**	*e*Pn		**Pn**	**Pn**	**11 58 04.4**	**+0.9**
AMIS				*e*				11 59 23.1	
	comp=Z,1μm,0.8s								
QABG	**Abgarm-Qazvin**	**3.98**	**47**	*e*Pn		**Pn**	**Pn**	**11 58 16.0**	**-0.3**
IRAZ	**Razeghan**	**4.02**	**53**	*e*Pn		**Pn**	**Pn**	**11 58 18.4**	**+1.7**
IRAZ				*e*				11 58 35.1	
	comp=Z,896nm,0.5s								
IPIR	**Pirpir**	**4.11**	**93**	*e*Pn		**Pn**	**Pn**	**11 58 19.1**	**+1.0**
IPIR				*e*				11 59 10.1	
	comp=Z,614nm,0.5s								
QAMS	**Qamsar**	**4.55**	**79**	*e*Pn		**Pn**	**Pn**	**11 58 25.1**	**+1.0**
QAMS				*e*				11 59 31.9	
	comp=Z,452nm,0.4s								
IQOM	**Qom**	**4.57**	**65**	*e*Pn		**Pn**	**Pn**	**11 58 25.6**	**+1.2**
IMHD	**Mahdasht**	**4.67**	**54**	*e*Pn		**Pn**	**Pn**	**11 58 26.3**	**+0.7**
IGAR	**Gharneh**	**5.11**	**95**	*e*Pn		**Pn**	**Pn**	**11 58 31.7**	**0.0**
IGAR				*e*				11 59 32.3	
	comp=Z,413nm,0.4s								
QALM	**Alamut, Qazvin**	**5.11**	**47**	*e*Pn		**Pn**	**Pn**	**11 58 32.9**	**+1.2**
IVRN	**Varamin**	**5.13**	**66**	*e*Pn		**Pn**	**Pn**	**11 58 32.1**	**+0.2**
KRSH	**Karshahi**	**5.19**	**78**	*e*Pn		**Pn**	**Pn**	**11 58 33.3**	**+0.5**
KRSH				*e*				11 58 54.9	
	comp=Z,166nm,0.5s								
IZEF	**Zefreh**	**5.30**	**90**	*e*Pn		**Pn**	**Pn**	**11 58 34.8**	**+0.4**
IZEF				*e*				11 59 42.3	
	comp=Z,80nm,0.3s								
ISFB	**Sefidab**	**5.35**	**74**	*e*Pn		**Pn**	**Pn**	**11 58 34.9**	**0.0**
IRAM	**Ramesheh**	**5.51**	**101**	*e*Pn		**Pn**	**Pn**	**11 58 37.9**	**+0.7**
IRAM				*e*				11 59 46.9	
	comp=Z,182nm,0.4s								

*IDC **28** 12:00:52.0±1.0, 52°.37N×168°.78W, h0km, mb3.5/13, mb1 3.7/14, mb1mx3.6/44, mbtmp3.6/14, ML2.7/1, Error ellipse: s-maj=28.3km s-min=16.9km az=168.0*
*NEIC **28** 12:00:54.3±1.5, 52°.26N±0°.04×168°.48W±0°.09, h10km±1km, ML2.9(AEIC), Error ellipse: s-maj=10.4km s-min=6.1km az=118.0*
*AEIC **28** 12:00:55±2.8, 52°.38N±0°.06×168°.50W±0°.05, h6km±8km, Error ellipse: s-maj=9.9km s-min=3.0km az=157.0*
ISC 28 12:00:54.0±0.8, 52°.4N±0°.1×168°.70W±0°.08, h10km, n33, σ1s32/26, mb3.5/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**350**				**Pn**	**12 01 09.2**	**+1.1**
OKFG	**Magazine Ridge**	**1.10**	**25**				**Pg**	**12 01 16.7**	**+1.5**
MSW	**Makushin Switc**	**1.89**	**37**				**Pn**	**12 01 26.8**	**+0.4**
UNV	**Unalaska Valle**	**1.95**	**42**				**Pn**	**12 01 27.4**	**+0.3**
AKMO	**Akutan Morgan**	**2.33**	**43**				**Pn**	**12 01 34.6**	**+2.2**
FALS	**False Pass**	**3.98**	**50**	Pn			**Pn**	**12 01 57.8**	**+2.7**
SPIA	**Saint Paul Isl**	**4.85**	**350**	Pn			**Pn**	**12 02 06.8**	**-0.1**
ADK	**Adak**	**4.95**	**267**	Pn			**Pn**	**12 02 10.7**	**+2.4**
KIWB	**Kanaga Island**	**5.24**	**267**	Pn			**Pn**	**12 02 14.9**	**+2.6**
CHGN	**Chignik**	**7.16**	**53**	Pn			**Pn**	**12 02 39.6**	**+0.9**
OHAK	**Old Harbor**	**10.11**	**55**	Pn			**Pn**	**12 03 18.5**	**-0.5**
KDAK	**Kodiak Island**	**10.67**	**53**	Pn			**Pn**	**12 03 25.7**	**-1.1**
	0.5nm,0.3s,baz=256,slow=8.0,SNR=8.4								
KDAK	**Kodiak Island**	**10.67**	**53**	Pn			**Pn**	**12 03 25.6**	**-1.2**
ILAR	**Eielson Array**	**16.68**	**34**	Pn			**Pn**	**12 04 46.4**	**-1.2**
	0.0nm,0.3s,baz=230,slow=13,SNR=3.2								
PETK	**Petropavlovsk-**	**20.24**	**285**	P			**P**	**12 05 28.6**	**-0.5**
	2.0nm,0.5s,baz=90,slow=14,SNR=3.6								
SEY	**Seymchan**	**22.94**	**312**	P			**P**	**12 05 56.8**	**-1.1**
	0.7nm,0.6s,baz=106,slow=12,SNR=6.7								
INK	**Inuvik**	**23.08**	**33**	P			**P**	**12 05 58.2**	**-1.2**
	0.8nm,0.6s,baz=214,slow=7.4,SNR=4.3								
YKA	**Yellowknife Ar**	**29.90**	**49**	P			**P**	**12 07 01.7**	**+0.2**
	0.2nm,0.6s,baz=276,slow=7.5,SNR=6.9								
H11N2	**WAKE ISLAND Hy**	**37.75**	**219**	T			T	12 48 10.5	
	baz=24								
H11N3	**WAKE ISLAND Hy**	**37.76**	**219**	T			T	12 48 11.3	
	baz=24								
H11N1	**WAKE ISLAND Hy**	**37.77**	**219**	T			T	12 48 14.1	
	baz=24								
H11S1	**WAKE ISLAND Hy**	**38.94**	**219**	T			T	12 50 16.6	
	baz=21								
H11S2	**WAKE ISLAND Hy**	**38.95**	**219**	T			T	12 50 08.4	
	baz=21								
H11S3	**WAKE ISLAND Hy**	**38.95**	**219**	T			T	12 49 42.3	
	baz=21								
PDAR	**Pinedale Array**	**39.99**	**80**	P			**P**	**12 08 29.2**	**+0.3**
	0.2nm,0.5s,baz=306,slow=4.5,SNR=4.6								
KSRS	**Korea Array**	**45.80**	**277**	P			**P**	**12 09 16.1**	**+0.3**
	1.2nm,0.8s,baz=53,slow=8.3,SNR=4.9								
SONM	**Songino Array**	**51.62**	**301**	P			**P**	**12 10 01.0**	**+0.5**
	0.4nm,0.5s,baz=63,slow=6.1,SNR=2.7								
TXAR	**Lajitas Array**	**52.34**	**89**	P			**P**	**12 10 06.5**	**+0.5**
	0.1nm,0.4s,baz=312,slow=5.9,SNR=2.5								
MKAR	**Makanchi Array**	**64.07**	**314**	P			**P**	**12 11 27.3**	**-0.5**
	0.7nm,0.7s,baz=46,slow=7.1,SNR=7.9								
FINES	**FINESS Array B**	**65.88**	**352**	P			**P**	**12 11 38.7**	**-0.5**
	1.3nm,0.5s,baz=18,slow=7.3,SNR=11								
NOA	**NORSAR Array B**	**66.89**	**0**	P			**P**	**12 11 45.7**	**-0.2**
	0.4nm,0.5s,baz=0.2,slow=6.2,SNR=1.7								
WRA	**Warramunga Arr**	**87.36**	**232**	P			P	12 13 39.2	-1.9
	0.2nm,0.8s,baz=32,slow=6.5,SNR=2.5								
ASAR	**Alice Springs**	**90.74**	**231**	P			**P**	**12 13 55.3**	**-1.7**
	0.4nm,0.9s,baz=27,slow=4.8,SNR=3.2								

*IDC **28** 12:27:28.2±1.1, 37°.48N×144°.57E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/33, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=32.5km s-min=23.1km az=112.0*
*JMA **28** 12:27:32.6±0.2, 37°.66N×144°.23E, h54km, M3.8*
ISC 28 12:27:34.4±1.0, 37°.76N±0°.06×144°.32E±0°.07, h50km, n26, σ1s96/39, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.32**	**285**	P			**Pn**	**12 28 09.0**	**-1.2**
JIKH				S			**Sn**	**12 28 35.7**	**-1.8**
JIO	**Ouri**	**2.45**	**287**	P			**Pn**	**12 28 10.9**	**-1.0**
JIO				S			**Sn**	**12 28 39.2**	**-1.3**
OFUJ	**Ofunato**	**2.47**	**303**	P			**Pn**	**12 28 11.4**	**-0.8**
OFUJ				*e*S			**Sn**	**12 28 40.5**	**-0.6**
JKMT	**Kesennumamotoy**	**2.48**	**296**	P			**Pn**	**12 28 11.3**	**-1.0**
JKMT				S			**Sn**	**12 28 39.9**	**-1.4**
JMK	**Ichinoseki**	**2.71**	**297**	P			**Pn**	**12 28 15.0**	**-0.5**
JMK				S			**Sn**	**12 28 46.8**	**-0.3**
JOM	**Ohasama**	**2.93**	**307**	P			**Pn**	**12 28 18.4**	**-0.1**
JOM				S			**Sn**	**12 28 52.9**	**+0.5**
JFT	**Otama**	**3.17**	**267**	P			**Pn**	**12 28 20.8**	**-1.1**
JFT				S			**Sn**	**12 28 56.5**	**-2.0**
JYK	**Kaneyama**	**3.32**	**292**	P			**Pn**	**12

baz=70
N19K Bonanza Creek 1.28 326 Pn 12 40 36.7 -0.2
N19K Bonanza Creek 1.28 326 P Pn 12 40 36.7 -0.2
baz=146
CAPN Captain Cook N 1.38 42 Pn Pn 12 40 39.6 +1.7
CAPN IAML 12 41 02.5
comp=E,456nm,0.3s
CAPN IAML 12 41 12.0
comp=N,586nm,0.6s
CAPN Captain Cook N 1.38 42 P Pn 12 40 39.8 +1.9
baz=224
SPU Mount Spurr 1.51 19 Pn 12 40 39.7 +0.2
SPCN Chakachatna No 1.53 16 Pn 12 40 40.1 +0.3
SPCN Sn 12 41 00.6 +0.1
CRP Crater Peak 1.57 16 Pn 12 40 40.7 +0.3
SLKM Skilak Lake 1.60 61 Pn 12 40 40.7 +0.1
SPCG Spurr Capps Gl 1.62 18 Pn 12 40 41.1 +0.2
O22K Cooper Landing 1.81 65 Pn 12 40 43.7 +0.6
O22K Cooper Landing 1.81 65 Sn 12 41 06.1 -0.4
O22K Cooper Landing 1.81 65 P Pn 12 40 43.6 +0.4
baz=248
O22K S Sn 12 41 06.1 -0.4
baz=248
SEW Seward 1.84 78 Pn 12 40 43.9 +0.4
SEW Seward 1.84 78 P Pn 12 40 43.8 +0.3
baz=261
SVW2 Sparrevohn 1.84 318 Pn 12 40 43.2 -0.3
STLK Strandline Lak 1.84 18 Pn 12 40 43.9 +0.2
FIS Fire Island 1.97 44 Pn Pn 12 40 46.1 +0.9
FIS IAML 12 41 11.7
comp=N,302nm,0.8s
FIS IAML 12 41 19.6
comp=E,288nm,0.9s
KDAK Kodiak Island 2.00 173 P Pn 12 40 45.4 -0.1
comp=E,26nm,0.3s,baz=34,slow=12,SNR=488
KDAK S Sn 12 41 10.6 -0.1
comp=E,22nm,0.3s,baz=313,slow=24,SNR=31
KDAK Kodiak Island 2.00 173 Pn 12 40 45.5 -0.1
KDAK Sn 12 41 09.8 -0.9
KDAK Kodiak Island 2.00 173 IAML 12 41 11.4
comp=E,276nm,0.3s
KDAK IAML 12 41 11.5
comp=E,243nm,0.4s
RC01 Rabbit Creek A 2.11 49 Pn 12 40 47.4 +0.4
RC01 Rabbit Creek A 2.11 49 IAML 12 41 15.0
comp=E,342nm,0.2s
RC01 IAML 12 41 15.9
comp=N,382nm,0.4s
RC01 Rabbit Creek A 2.11 49 P Pn 12 40 47.4 +0.4
baz=233
M20K Styx River 2.13 359 Pn 12 40 47.6 +0.3
M20K Styx River 2.13 359 P Pn 12 40 47.6 +0.3
baz=180
M19K Big River Lodg 2.25 343 Pn 12 40 48.7 0.0
M19K Big River Lodg 2.25 343 P Pn 12 40 48.8 0.0
baz=163
M22K Willow 2.46 34 Pn 12 40 52.2 +0.8
M22K Willow 2.46 34 P Pn 12 40 52.1 +0.8
baz=217
OHAK Old Harbor 2.55 183 Pn Pn 12 40 52.0 -0.7
OHAK IAML 12 41 23.1
comp=E,188nm,0.3s
OHAK IAML 12 41 23.4
comp=N,192nm,0.2s
OHAK Old Harbor 2.55 183 Sn 12 41 21.0 -2.4
OHAK Old Harbor 2.55 183 P Pn 12 40 52.2 -0.5
baz=2.2
OHAK S Sn 12 41 21.0 -2.4
baz=2.2
L19K White Mountain 2.58 341 Pn 12 40 53.0 -0.1
L19K White Mountain 2.58 341 P Pn 12 40 53.0 -0.1
baz=160
PWL Port Wells 2.59 63 Pn 12 40 52.5 -0.7
PWL Port Wells 2.59 63 P Pn 12 40 52.5 -0.7
baz=247
PMR Palmer 2.66 45 Pn 12 40 53.6 -0.4
PMR IAML 12 41 25.9
comp=N,90nm,0.2s
PMR Palmer 2.66 45 P Pn 12 40 53.5 -0.6
baz=228
L20K Farewell, AK 2.76 352 Pn 12 40 55.6 +0.2
L20K Farewell, AK 2.76 352 P Pn 12 40 55.6 +0.2
baz=172
KNK Knik Glacier 2.80 52 Pn 12 40 55.4 -0.6
KNK IAML 12 41 29.6
comp=E,154nm,0.5s
KNK IAML 12 41 29.7
comp=N,158nm,0.5s
KNK Knik Glacier 2.80 52 Sn 12 41 27.8 -1.5
KNK Knik Glacier 2.80 52 P Pn 12 40 55.5 -0.5
baz=236
KNK S Sn 12 41 27.8 -1.5
baz=236
GHO Glory Hole Cre 2.85 43 Pn 12 40 56.2 -0.5
GHO Glory Hole Cre 2.85 43 IAML 12 41 30.8
comp=N,120nm,0.3s
GHO IAML 12 41 36.6
comp=E,149nm,0.6s
CUT Chulitna 2.97 26 Pn 12 40 58.5 +0.3
CUT IAML 12 41 37.5
comp=N,226nm,0.3s
CUT IAML 12 41 37.6
comp=E,182nm,0.7s
CUT Chulitna 2.97 26 P Pn 12 40 58.2 +0.1
baz=209
SML Sawmill 3.09 46 Pn 12 40 59.2 -0.6
SML Sn 12 41 34.1 -2.1
SML Sawmill 3.09 46 IAML 12 41 36.3
comp=N,83nm,0.7s
SML IAML 12 41 44.1
comp=E,78nm,1.0s
SML Sawmill 3.09 46 P Pn 12 40 59.2 -0.6
baz=231
SML S Sn 12 41 34.1 -2.1
baz=231
GLI Glacier Island 3.16 67 Pn 12 41 00.0 -0.7
GLI IAML 12 41 36.3
comp=N,170nm,0.6s
GLI Glacier Island 3.16 67 P Pn 12 40 59.4 -1.4
baz=252
PPLA Purkeypile 3.17 7 Pn 12 41 02.5 +1.5
PPLA Purkeypile 3.17 7 P Pn 12 41 02.2 +1.3
baz=188
SII Sitkinak Islan 3.27 191 Pn 12 41 00.8 -1.3
SII IAML 12 41 39.4
comp=N,166nm,0.6s
SII Sitkinak Islan 3.27 191 P Pn 12 41 01.4 -0.8
baz=9.7
FID Port Fidalgo 3.42 70 Pn 12 41 02.6 -1.5
JPK Jack Peak 3.45 65 Pn 12 41 04.3 -0.3
TT01 Tatalina 3.47 337 Pn 12 41 04.5 -0.3
TTA Tatalina 3.49 337 Pn 12 41 04.6 -0.4
TTA Tatalina 3.49 337 P Pn 12 41 04.6 -0.4
baz=155
SCM Sheep Creek Mo 3.49 51 Pn 12 41 04.7 -0.5
SCM Sheep Creek Mo 3.49 51 IAML 12 41 48.6
comp=E,72nm,0.7s
SCM IAML 12 41 49.6
comp=N,85nm,0.7s
SCM Sheep Creek Mo 3.49 51 P Pn 12 41 04.6 -0.5
baz=236
K20K Telida 3.64 353 Pn 12 41 07.5 +0.4
K20K Telida 3.64 353 P Pn 12 41 07.5 +0.4
baz=172
CAST Castle Rocks 3.70 7 Pn Pn 12 41 08.6 +0.7
EYAK Cordova Ski Ar 3.73 75 Pn Pn 12 41 08.7 +0.5
EYAK Cordova Ski Ar 3.73 75 P Pn 12 41 07.1 -1.1
baz=261
WAT6 Susitna Watana 3.82 40 Pn 12 41 09.3 -0.4
WAT6 Susitna Watana 3.82 40 P Pn 12 41 09.3 -0.4
baz=225
DIV Divide 3.85 66 Pn 12 41 09.7 -0.3
KLU Klutina 3.91 61 Pn 12 41 10.3 -0.5
KLU Klutina 3.91 61 IAML 12 41 59.7
comp=E,61nm,0.3s
KLU Klutina 3.91 61 P Pn 12 41 10.3 -0.5
baz=247
TRF Thorofare Moun 3.93 18 Pn 12 41 11.5 +0.5
TRF Thorofare Moun 3.93 18 IAML 12 41 58.8
comp=E,39nm,0.4s
TRF IAML 12 42 01.0
comp=N,42nm,0.4s
TRF Thorofare Moun 3.93 18 P Pn 12 41 11.5 +0.5
baz=201
KTH Kantishna Hill 3.94 14 Pn 12 41 11.7 +0.6
KTH IAML 12 42 01.6
comp=N,29nm,1.1s
M24K Tolsona, Glenn 4.09 52 Pn 12 41 13.4 +0.2
M24K Tolsona, Glenn 4.09 52 P Pn 12 41 13.4 +0.2
baz=238
CHUM Lake Minchumin 4.15 4 Pn 12 41 14.8 +0.9
CHUM Lake Minchumin 4.15 4 P Pn 12 41 14.8 +0.9
baz=185
RND Reindeer 4.17 27 Pn Pn 12 41 14.7 +0.4
RND IAML 12 42 02.3
comp=E,24nm,0.4s
CHIR Chirikof Islan 4.18 200 Pn Pn 12 41 13.2 -1.3
DHY Denali Highway 4.30 37 Pn 12 41 16.3 +0.3
DHY IAML 12 42 06.6
comp=E,60nm,0.6s
DHY IAML 12 42 07.7
comp=N,41nm,0.3s
DHY Denali Highway 4.30 37 P Pn 12 41 16.0 0.0
baz=222
MCK McKinley 4.44 24 Pn Pn 12 41 18.7 +0.9
MCK IAML 12 42 11.0
comp=E,27nm,0.5s
MCK IAML 12 42 17.0
comp=N,23nm,1.3s
MCK McKinley 4.44 24 P Pn 12 41 18.3 +0.6
baz=208
HMT Hamilton 4.44 79 Pn Pn 12 41 18.1 +0.3
BPAW Bear Paw Mtn. 4.46 12 Pn Pn 12 41 17.6 -0.5
BPAW Bear Paw Mtn. 4.46 12 IAML 12 42 13.3
comp=E,20nm,3.4s
BPAW IAML 12 42 54.0
comp=N,20nm,4.1s
BPAW Bear Paw Mtn. 4.46 12 P Pn 12 41 17.6 -0.5
baz=194
J20K Nowinta River 4.46 354 Pn 12 41 18.1 +0.1
J20K Nowinta River 4.46 354 P Pn 12 41 18.1 +0.1
baz=173
CHGN Chignik 4.49 222 Pn Pn 12 41 18.5 -0.1
CHGN IAML 12 41 53.8
comp=N,61nm,3.2s
CHGN IAML 12 42 11.1
comp=E,50nm,1.1s
CHGN Chignik 4.49 222 P Pn 12 41 18.8 +0.3
baz=37
N25K Chitina, Valde 4.54 62 Pn Pn 12 41 19.5 +0.2
N25K IAML 12 42 13.5
comp=N,34nm,0.6s
N25K IAML 12 42 27.8
comp=E,30nm,3.0s
N25K Chitina, Valde 4.54 62 P Pn 12 41 18.8 -0.5
baz=250
HARP HAARP 4.65 52 Pn 12 41 20.7 0.0
HARP HAARP 4.65 52 P Pn 12 41 20.7 0.0
baz=239
BWN Browne 4.74 19 Pn Pn 12 41 24.0 +2.3
BWN IAML 12 43 21.9
comp=E,48nm,3.3s
BWN IAML 12 44 13.8
comp=N,42nm,3.0s
GLB Gilahina Butte 4.85 66 Pn 12 41 23.9 +0.5
GLB IAML 12 42 20.2
comp=E,29nm,0.5s
PAX Paxson 4.86 45 Pn Pn 12 41 24.2 +0.6
PAX Paxson 4.86 45 P Pn 12 41 23.5 0.0
baz=232
VRDI Verde Repeater 4.96 69 Pn Pn 12 41 25.4 +0.4
VRDI IAML 12 43 20.6
comp=E,32nm,3.3s
PS10 TAPS Pump St10 5.05 40 Pn 12 41 26.5 +0.4
SNH Sunshine Point 5.14 81 Pn Pn 12 41 28.8 +1.4
WAX Waxell Ridge 5.14 78 Pn Pn 12 41 28.6 +1.2
TGL Tana Glacier 5.18 75 Pn Pn 12 41 28.9 +0.9
TGL IAML 12 42 25.9
comp=E,45nm,1.0s
NEA2 Nenana 5.19 19 Pn 12 41 27.7 -0.2
NEA2 Nenana 5.19 19 IAML 12 42 59.6
comp=E,15nm,4.7s
NEA2 IAML 12 44 50.6
comp=N,13nm,4.3s
NEA2 Nenana 5.19 19 P Pn 12 41 27.7 -0.2
baz=203
MCARA McCarthy VSAT 5.20 67 Pn 12 41 28.9 +0.8
MCARA McCarthy VSAT 5.20 67 P Pn 12 41 27.8 -0.3
baz=256
WRH Wood River Hil 5.27 24 Pn 12 41 28.6 -0.3
WRH Wood River Hil 5.27 24 IAML 12 43 04.6
comp=E,21nm,4.2s
WRH IAML 12 44 51.1
comp=N,12nm,4.0s
MLY Manley 5.40 10 Pn 12 41 31.6 +0.9
MLY Manley 5.40 10 P Pn 12 41 30.9 +0.1
baz=193
ISLE Juniper Island 5.41 76 Pn 12 41 31.5 +0.5
PTPK Patty Peak 5.42 70 Pn 12 41 31.9 +0.7
KIAG Kiagna River 5.43 73 Pn 12 41 32.3 +0.9
BALM Baldy 5.46 72 Pn 12 41 32.4 +0.8
I21K Tanana 5.46 5 Pn 12 41 32.3 +0.7
I21K Tanana 5.46 5 P Pn 12 41 31.6 +0.1
baz=186
CCB Clear Creek Bu 5.48 24 Pn Pn 12 41 31.6 -0.2
MENT Mentasta 5.50 51 Pn 12 41 32.9 +0.8
BAGL Bagley Icefiel 5.53 78 Pn 12 41 33.5 +1.1
RIDG Independent Ri 5.57 41 Pn 12 41 33.1 0.0
RIDG Independent Ri 5.57 41 P Pn 12 41 33.1 0.0
baz=228
PS08 TAPS Pump Stn8 5.61 29 Pn 12 41 33.1 -0.4
TCOL CIGO, UAF Yank 5.67 23 Pn 12 41 34.0 -0.4
TCOL CIGO, UAF Yank 5.67 23 P Pn 12 41 34.4 0.0
baz=208
I23K Minto, Yukon-K 5.67 16 Pn 12 41 34.1 -0.3
I23K Minto, Yukon-K 5.67 16 P Pn 12 41 34.0 -0.3
baz=199
COLA College 5.67 23 Pn 12 41 34.2 -0.2
MDM Murphy Dome 5.67 21 Pn 12 41 34.4 -0.1
L26K Log Cabin Wild 5.69 51 Pn Pn 12 41 35.5 +0.8
YAH Yahtse 5.69 79 Pn 12 41 36.1 +1.2
GRNC Granite Creek 5.71 75 Pn Pn 12 41 36.4 +1.3
DOT Dot Lake 5.78 44 Pn 12 41 35.8 -0.1
BARN Barnard Glacie 5.79 72 Pn 12 41 37.5 +1.3
IL31 5.79 27 Pn 12 41 36.0 +0.1
ILAR Eielson Array 5.79 27 P Pn 12 41 35.5 -0.5
comp=N,1.4nm,0.3s,baz=216,slow=14,SNR=63
ILAR S Sn 12 42 38.2 -2.7
comp=N,1.9nm,0.3s,baz=211,slow=21,SNR=11
ILAR Eielson Array 5.79 27 Pn Pn 12 41 36.0 0.0
H21K Melozitna Rive 5.92 1 Pn 12 41 37.9 +0.2
H21K Melozitna Rive 5.92 1 P Pn 12 41 37.9 +0.2
baz=181
CTG Chitna Glacier 5.93 73 P Pn 12 41 39.3 +1.2
baz=263
CTGM Chitina Glacie 5.94 73 Pn 12 41 39.3 +1.1
POKR Poker Plat Res 5.97 23 Pn Pn 12 41 38.7 +0.3
POKR Poker Plat Res 5.97 23 P Pn 12 41 38.5 0.0
baz=209
TABL Table Mountain 5.99 78 Pn 12 41 39.9 +0.9
M27K Edge Creek, AK 6.01 60 Pn 12 41 39.3 +0.1
M27K Edge Creek, AK 6.01 60 P Pn 12 41 39.3 +0.1
baz=249
SCRK Sand Creek 6.02 41 Pn Pn 12 41 39.2 0.0
SCRK Sand Creek 6.02 41 P Pn 12 41 38.6 -0.5
baz=230
J25K Salcha River, 6.05 33 Pn 12 41 39.2 -0.3
J25K Salcha River, 6.05 33 P Pn 12 41 39.2 -0.3
baz=220
LOGN Logan Glacier 6.08 75 Pn 12 41 41.0 +0.9
IM03 6.25 357 Pn 12 41 42.9 +0.6
IMAR Indian Mountai 6.25 357 Pn Pn 12 41 42.6 +0.3
L27K Beaver Creek, 6.32 54 Pn 12 41 43.0 -0.2
L27K Beaver Creek, 6.32 54 P Pn 12 41 43.0 -0.2
baz=244
BC03 6.34 54 Pn 12 41 43.2 -0.1
BCAR Beaver Creek A 6.34 54 Pn Pn 12 41 43.9 +0.4
J26L Joseph Creek 6.50 39 P Pn 12 41 45.2 -0.5
baz=228
H24K Noodor Dome 6.54 19 Pn Pn 12 41 45.5 -0.6
H24K Noodor Dome 6.54 19 P Pn 12 41 45.8 -0.4
baz=204
BCPM Bancas Point 6.76 83 Pn Pn 12 41 49.4 +0.3
PNL Peninsula 6.90 85 Pn 12 41 51.3 +0.2
PNL Peninsula 6.90 85 P Pn 12 41 51.3 +0.2
baz=277
ANM Nome 7.51 315 Pn Pn 12 41 59.9 +0.6
COLD Coldfoot 7.60 8 Pn Pn 12 42 01.2 +0.7
DAWY Dawson 7.75 50 Pn Pn 12 42 03.1 +0.5
DAWY Dawson 7.75 50 P Pn 12 42 02.0 -0.5
baz=242
M30M Minto, Yukon 8.34 63 Pn Pn 12 42 11.6 +1.0
BM03 Burnt Mountain 8.55 22 Pn 12 42 12.3 -1.1
BMAR Burnt Mountain 8.56 22 Pn Pn 12 42 13.8 +0.2
N31M Braeburn, Yuko 8.66 71 Pn Pn 12 42 15.8 +0.9
TNA Tin City 8.97 317 Pn Pn 12 42 18.9 -0.1
TOLK Toolik Lake Re 9.04 8 Pn Pn 12 42 21.0 +1.0
WHY Whitehorse 9.08 76 Pn Pn 12 42 21.6 +0.8
M31M Drury Creek, Y 9.38 67 Pn Pn 12 42 25.0 +0.3
P33M Teslin, Yukon 10.14 79 Pn Pn 12 42 36.8 +1.8
DLBC Dease Lake 11.89 86 P Pn 12 43 01.2 +2.7
comp=N,0.6nm,0.3s,baz=289,slow=11,SNR=15
DLBC S Sn 12 45 07.7 -1.4
comp=N,0.2nm,0.3s,baz=107,slow=22,SNR=1.9
DLBC Dease Lake 11.89 86 Pn Pn 12 43 02.3 +3.8
INK Inuvik 12.04 37 P Pn 12 42 59.7 -0.6
comp=N,0.2nm,0.3s,baz=262,slow=14,SNR=4.5
YKA Yellowknife Ar 18.57 65 P Pn 12 44 22.3 +0.2
comp=N,0.0nm,0.3s,baz=278,slow=9.8,SNR=5.1
ZALV Zalesovo Beam 57.55 324 P P 12 49 51.0 +0.8
comp=N,1.0nm,0.4s,baz=31,slow=8.6,SNR=5.6

IDC 28 13:18:56.0±3.3, 4°90S×139°33E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=108.4km s-min=31.9km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.72	198	Pn	Pn	13 22 37.5	-1.5
	0.2nm,0.3s,baz=19,slow=12,SNR=28						
WRA				Sn	Sn	13 25 35.4	+1.3
	0.1nm,0.3s,baz=22,slow=21,SNR=2.4						
ASAR	Alice Springs	19.38	195	P	P	13 23 23.9	+0.4
	0.5nm,0.3s,baz=27,slow=8.5,SNR=58						
MKAR	Makanchi Array	71.89	323	P	P	13 30 21.2	+0.1
	0.3nm,0.8s,baz=111,slow=7.9,SNR=2.6						

*THE **28** 13:23:13.4, 36°67N×25°62E, h4km±6km, ML2.6/5, Error ellipse: s-maj=6.6km s-min=0.5km az=111.0*
*ATH **28** 13:23:13.1, 36°66N×25°63E, h13km±4km, ML2.6/1, Error ellipse: s-maj=4.6km s-min=0.9km az=190.0*

ISC 28 13:23:13.7±1.7, 36°67N±0°04×25°61E±0°10, h9km±16km, n22, σ0°38/32, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBO	Columbo, Santo	0.26	219	P	Pg	13 23 18.6	-0.2
CMBO				S	Sg	13 23 22.3	+0.1
	930nm,0.1s						
THR2	Thira island,	0.26	212	P	Pg	13 23 18.7	-0.2
SAP4	Santorini-Oia	0.27	224	P	Pg	13 23 18.8	-0.3
SAP4				S	Sg	13 23 22.9	+0.2
SAP4	Santorini-Oia	0.27	224	P	Pg	13 23 18.6	-0.5
SAP4				S	Sg	13 23 22.9	+0.2
	2µm,0.1s						
THR8	Santorini-Mono	0.28	201	↓Pd0		13 23 18.8	
SFIR	Foira Santorin	0.28	210	P	Pg	13 23 19.1	-0.3
SFIR				S	Sg	13 23 23.2	0.0
	2µm,0.1s						
THR3	Thira Island,	0.31	213	P	Pg	13 23 19.5	-0.4
THR3	Thira Island,	0.31	213	P	Pg	13 23 19.4	-0.4
SAP3	Santorini-Thir	0.31	222	P	Pg	13 23 19.6	-0.3
SAP3				S	Sg	13 23 24.8	+0.7
SAP3	Santorini-Thir	0.31	222	P	Pg	13 23 19.6	-0.3
SAP3				S	Sg	13 23 24.7	+0.7
	1µm,0.2s						
SNT5	Nea Kammeni, S	0.31	213	P	Pg	13 23 19.6	-0.3
SNT5				S	Sg	13 23 24.6	+0.5
SNT5				AML	AML	13 23 27.3	
	comp=N,2465µm,0.2s						
SNT5				AML	AML	13 23 27.7	
	comp=E,3000µm,0.2s						
THR5	Thira Island,	0.33	220	P	Pg	13 23 19.7	-0.4
THR5	Thira Island,	0.33	220	P	Pg	13 23 19.9	-0.2
THR6	Thira Island,	0.35	208	P	Pg	13 23 20.4	-0.2
THR6	Thira Island,	0.35	208	P	Pg	13 23 20.3	-0.4
THR9	Santorini-Faro	0.37	213	P	Pg	13 23 21.1	+0.2
APE	Apeiranthos	0.40	351	P	Pg	13 23 21.3	-0.3
APE				S	Sg	13 23 27.4	+0.5
APE	Apeiranthos	0.40	351	P	Pg	13 23 21.4	-0.2
APE				S	Sg	13 23 27.5	+0.5
TNSA	Tinos	0.94	338	P	Pg	13 23 31.4	-0.3
MHLO	Agia Marina, M	0.97	272	P	Pg	13 23 32.0	-0.3
MHLO				S	Sb	13 23 45.3	-0.3
MHLO	Agia Marina, M	0.97	272	P	Pg	13 23 32.0	-0.3
MHLO				S	Sb	13 23 46.1	+0.5
	comp=E,902nm,0.2s						
KARY	Karystos	1.65	326	P	Pb	13 23 44.2	-0.1

*ATH **28** 13:33:30.1, 38°70N×26°46E, h28km±5km, ML2.8/3, Error ellipse: s-maj=9.1km s-min=1.4km az=259.0*
*ISK **28** 13:33:30.2, 38°72N×26°49E, h13km, ML3.0/18*
*DDA **28** 13:33:30.3±0.0, 38°71N×26°47E, h16km±1km, ML3.0*
*THE **28** 13:33:31.6, 38°72N×26°45E, h12km±2km, ML2.7/4, Error ellipse: s-maj=2.9km s-min=0.6km az=272.0*

ISC 28 13:33:30.6±0.9, 38.72N±0.02×26.48E±0.02, h15km±8km, n46, σ0.67/71, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	Foa	0.20	91	PG	Pg	13 33 34.9	-0.3
URLA	Izmir	0.37	165	PG	Pg	13 33 37.9	-0.2
URLA				SG	Sb	13 33 43.8	-0.7
URLA	Izmir	0.37	165	P	Pg	13 33 38.0	-0.2
URLA				S	Sb	13 33 44.2	-0.3
CHOS	Chios island	0.47	225	P	Pb	13 33 40.2	-0.3
CHOS				S	Sb	13 33 46.6	-0.7
CHOS				AML	AML	13 33 49.6	
	comp=E,2419µm,0.2s						
CHOS				AML	AML	13 33 51.2	
	comp=N,2213µm,0.5s						
CHOS	Chios island	0.47	225	P	Pb	13 33 40.3	-0.3
CHOS				S	Sb	13 33 47.6	+0.2
	comp=N,1µm,0.3s						
ZEYE	Izmir, Urla-Ze	0.48	177	P	Pg	13 33 39.7	-0.4
ZEYE				S	Sb	13 33 47.9	+0.3
ZEYE				*i* AML	AML	13 33 49.0	
	comp=N,1µm,0.2s						
DKL	Dikili	0.49	43	PG	Pg	13 33 40.0	-0.3
DKL				SG	Sb	13 33 47.3	-0.6
ZEDA	zmir-Bergama	0.53	62	P	Pg	13 33 41.0	-0.1
ZEDA				S	Sb	13 33 48.8	-0.4
PRK	Paraskevi	0.55	343	P	Pn	13 33 42.7	-1.3
PRK				S	Sb	13 33 50.3	+0.5
	comp=N,1µm,0.4s						
AYVA	Ayvalik	0.61	16	P	Pg	13 33 42.4	-0.3
AYVA				S	Sb	13 33 52.4	+0.8
SIGR	SIGRI	0.69	316	P	Pb	13 33 44.3	-0.1
SIGR				S	Sb	13 33 53.6	-0.2
SIGR				AML	AML	13 33 57.1	
	comp=E,793µm,0.5s						
SIGR				AML	AML	13 33 59.1	
	comp=N,782µm,0.5s						
SIGR	SIGRI	0.69	316	P	Pb	13 33 44.5	+0.1
SIGR				S	Sb	13 33 54.3	+0.5
	comp=N,328nm,0.5s						
SIGR	SIGRI	0.69	316	PG	Pb	13 33 44.4	-0.1
DGB	zmir	0.74	154	P	Pg	13 33 44.4	-0.6
DGB				S	Sb	13 33 54.9	-0.1
KOCA	Canakkale, Ayv	0.83	342	P	Pg	13 33 46.6	-0.1
KOCA				S	Sg	13 33 58.0	+0.4
BUHA	Balikesir, Bur	0.91	31	P	Pb	13 33 47.7	-0.5
BUHA				S	Sn	13 34 01.2	-0.7
BUHA				*i* AML	AML	13 34 03.0	
	comp=N,344nm,0.4s						
BAYC	CANAKKALE_Bayr	1.02	3	P	Pb	13 33 49.6	-0.5
BAYC				S	Sn	13 34 04.5	-0.2
SMG	Samos	1.04	164	P	Pb	13 33 49.9	-0.6
SMG				S	Sn	13 34 04.6	-0.5
SMG				AML	AML	13 34 07.8	
	comp=E,2040µm,0.4s						
SMG				AML	AML	13 34 08.3	
	comp=N,3111µm,0.4s						
SMG	Samos	1.04	164	P	Pg	13 33 50.6	-0.2
SMG				S	Sn	13 34 06.0	+0.9
	comp=N,1µm,0.4s						
AKS	Akhisar	1.06	81	PG	Pb	13 33 50.1	-0.6
AKHS	Akhisar	1.06	81	P	Pg	13 33 51.1	+0.1
AKHS				S	Sn	13 34 05.6	+0.1
AKHS				*i* AML	AML	13 34 08.0	

	comp=N,360nm,0.3s						
EZN	**Ezine**	**1.11**	**354**	P	**Pg**	**13 33 51.8**	**-0.4**
EZN	**Ezine**	**1.11**	**354**	PN	**Pg**	**13 33 51.7**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.17**	**55**	P	**Pg**	**13 33 52.8**	**-0.3**
STEP				S	**Sg**	**13 34 10.3**	**+1.8**
STEP				*i* AML	AML	13 34 14.0	
	comp=N,385nm,0.7s						
BOZC	**Bozcaada**	**1.17**	**344**	PN	**Pb**	**13 33 52.4**	**-0.2**
BOZC	**Bozcaada**	**1.17**	**344**	P	**Pb**	**13 33 52.4**	**-0.2**
BOZC				S	**Sg**	**13 34 08.7**	**+0.2**
GCAM	**G?zelcaml?**	**1.18**	**149**	PN	**Pb**	**13 33 52.5**	**-0.2**
GCAM	**G?zelcaml?**	**1.18**	**149**	P	**Pg**	**13 33 52.8**	**-0.5**
GCAM				S	**Sg**	**13 34 08.2**	**-0.4**
GCAM				*i* AML	AML	13 34 11.0	
	comp=N,319nm,0.5s						
ECEA	**Canakkale, Ece**	**1.35**	**350**	P	**Pg**	**13 33 55.8**	**-0.7**
ECEA				S	**Sg**	**13 34 14.4**	**+0.3**
BALY	**Balya**	**1.35**	**41**	P	**Pb**	**13 33 55.2**	**-0.5**
BALY				S	**Sg**	**13 34 15.9**	**+1.6**
DDIM	**Aydin, Didim**	**1.39**	**154**	P	**Pg**	**13 33 58.5**	**+1.1**
DDIM				S	**Sg**	**13 34 16.6**	**+1.0**
LIA	**Limnos Island**	**1.55**	**320**	P	**Pb**	**13 33 58.2**	**-0.8**
LIA	**Limnos Island**	**1.55**	**320**	P	**Pb**	**13 33 58.2**	**-0.8**
GONE	**Gonen-Balikesi**	**1.63**	**35**	PN	**Pn**	**13 33 58.9**	**+0.1**
MANT	**Manisa**	**1.65**	**97**	P	**Pn**	**13 33 59.4**	**+0.1**
MANT				S	**Sg**	**13 34 15.2**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.68**	**360**	PN	**Pn**	**13 33 59.9**	**+0.4**
KULA	**Kula-Manisa**	**1.72**	**96**	PN	**Pn**	**13 34 00.7**	**+0.5**
KRBG	**Karabiga-Canak**	**1.79**	**21**	PN	**Pn**	**13 34 01.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.95**	**1**	PN	**Pb**	**13 34 04.1**	**-1.8**
SIMA	**Simav-Kutahya**	**1.99**	**79**	PN	**Pn**	**13 34 04.5**	**+0.6**
ENEZ	**Enez**	**2.03**	**353**	PN	**Pn**	**13 34 05.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.04**	**15**	PN	**Pn**	**13 34 05.4**	**+0.8**
ALN	**Alexandroupoli**	**2.20**	**351**	PN	**Pn**	**13 34 07.8**	**+1.1**
UKOP	**Uzunkopru-Edir**	**2.41**	**3**	PN	**Pn**	**13 34 10.5**	**+0.9**
RDO	**Rodhopi**	**2.53**	**344**	PN	**Pn**	**13 34 12.1**	**+0.9**
EDRB	**Edirne**	**3.13**	**4**	PN	**Pn**	**13 34 20.6**	**+1.1**

DJA 28 13:44:48.4±0.9, 0°S±2′×12°4E±°, h22km±9km, M3.8/12, mb4.2/3, mB4.6/1, MLv3.6/12, Mw(mB)3.8/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.87**	**342**	P	Pb	13 45 05.0	+0.1
KMSI				S	Sn	13 45 17.5	+0.1
GTOI	**Gorontalo**	**1.53**	**306**	P	Pb	13 45 16.3	+0.3
GTOI				S	Sb	13 45 36.6	+1.7
LUWI	**Luwuk**	**1.67**	**242**	P	Pn	13 45 16.8	+0.5
LUWI				S	Sb	13 45 38.8	-0.3
MRSI	**Marisa**	**2.42**	**288**	P	Pn	13 45 24.8	-1.9
SANI	**Sanana**	**2.49**	**136**	P	Pn	13 45 24.6	-3.0
APSI	**Ampana**	**2.68**	**256**	P	Pn	13 45 31.6	+1.6
LBMI	**Labuha**	**3.27**	**97**	P	Pn	13 45 37.9	-0.5
TTSI	**Tana Toraja**	**5.22**	**238**	P	Pn	13 46 06.0	+0.8
	0.1nm566nm28nm,0.6s						
BNSI	**Bone**	**5.83**	**225**	P	Pn	13 46 14.3	+0.6
	0.1nm12nm,0.6s						
BKSI	**Bulukumba**	**6.50**	**219**	P	Pn	13 46 23.8	+1.0

*NEIC **28** 13:57:31.7±2.2,20.0°4N±0.0°6×73.8°8W±0.0°5, h10km±1km, mb4.4/79, Error ellipse: s-maj=9.7km s-min=8.5km az=12.0*
*SSNC **28** 13:57:32.5±1.8, 19.°83N×73.°87W, h10km±9km, MD4.1, ML4.2, MW4.1*
*OSPL **28** 13:57:34.6±2.8, 20.°06N×73.°93W, h31km±23km, ML4.3*
*JSN **28** 13:57:36.8±1.6, 19.°74N×74.°18W, h0km±419km, MD4.7*
*IDC **28** 13:57:37.6±3.1, 20.°11N×73.°92W, h64km±27km, mb3.6/13, mb1 3.9/15, mb1mx3.8/30, mbtmp4.0/15, ML3.7/2, MS3.4/27, Ms1 3.4/27, ms1mx3.2/68, Error ellipse: s-maj=17.6km s-min=16.6km az=93.0*

ISC 28 13:57:31.3±0.9, 19.98N±0.°04×73.83W±0.°03, h17km±5km, n203, σ1?43/207, mb4.4/44, MS3.5/23, 2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.43**	**298**	*i*P	**Pn**	**13 57 42.8**	**0.0**
MASC				*e*S	**Sn**	**13 57 49.5**	**-0.7**
MASC				IAML		13 57 50.4	
	comp=E,17μm,0.2s						
MASC				IAML		13 57 50.5	
	comp=N,23μm,0.3s						
GTBY	**Guantanamo Bay**	**1.21**	**268**	Pn	**Pn**	**13 57 53.0**	**-0.4**
GTBY	**Guantanamo Bay**	**1.21**	**268**	*e*P	**Pn**	**13 57 53.2**	**-0.3**
GTBY				*e*S	**Sb**	**13 58 08.4**	**-0.7**
GTBY	**Guantanamo Bay**	**1.21**	**268**	*i* P	**Pn**	**13 57 53.6**	**+0.1**
GTBY				*e*S	**Sb**	**13 58 05.9**	**-3.3**
GTBY				IAML		13 58 14.2	
	comp=Z,1μm,0.2s						
MOAC	**Moa**	**1.26**	**303**	*e*P	**Pn**	**13 57 54.8**	**+0.5**
MOAC				*e*S	**Sb**	**13 58 10.8**	**+0.2**
RCC	**Rio Carpintero**	**1.76**	**271**	*e*P	**Pn**	**13 58 00.8**	**-0.2**
RCC				*e*P	**Pn**	**13 58 00.8**	**-0.2**
RCC				*e*S	**Sn**	**13 58 22.9**	**-0.1**
RCC				IAML		13 58 28.0	
	comp=N,1μm,0.2s						
RCC				IAML		13 58 31.2	
	comp=E,1μm,0.4s						
LODA1	**ITESIL, Dajabo**	**2.04**	**102**	*e*P	**Pn**	**13 58 05.7**	**+0.8**
LODA1				*e*S	**Sn**	**13 58 29.5**	**-0.6**
LODA1				IAML		13 58 38.5	
	comp=Z,5μm,0.2s						
HLGC	**Holguin**	**2.29**	**294**	*e*P	**Pb**	**13 58 10.8**	**-1.3**
HLGC				*e*S	**Sb**	**13 58 41.2**	**+1.0**
LOPP1	**Punta Rusia, P**	**2.47**	**92**	*e*S	**Sn**	**13 58 41.1**	**+0.4**
LOPP1				IAML		13 59 04.0	
	comp=Z,3μm,0.7s						
SDDR	**Presa de Saban**	**2.59**	**112**		**Pn**	**13 58 13.2**	**+0.7**
SDDR	**Presa de Saban**	**2.59**	**112**	*i* P	**Pn**	**13 58 13.4**	**+0.9**
SDDR				*e*P	**Pn**	**13 58 13.4**	**+0.9**
SDDR	**Presa de Saban**	**2.59**	**112**	*i* P	**Pn**	**13 58 13.6**	**+1.1**
SDDR				*e*S	**Sn**	**13 58 43.8**	**+0.2**
SDDR				IAML		13 58 56.0	
	comp=Z,1μm,0.5s						
LONE2	**Loma La Sidra**	**2.63**	**122**	*i* P	**Pn**	**13 58 15.4**	**+2.2**
LONE2				*e*S	**Sb**	**13 58 47.8**	**-2.4**
LONE2				IAML		13 59 01.0	
	comp=Z,1μm,0.5s						
LOPE2	**Hotel El Peder**	**2.76**	**134**	*i* P	**Pn**	**13 58 16.9**	**+2.1**
LOPE2				*e*S	**Sn**	**13 58 47.4**	**-0.3**
LOPE2				IAML		13 59 10.9	
	comp=Z,856nm,0.7s						
GRTK	**Grand Turk**	**2.95**	**58**	Pn	**Pn**	**13 58 18.2**	**+0.8**
GRTK	**Grand Turk**	**2.95**	**58**	*i* P	**Pn**	**13 58 18.4**	**+1.1**
GRTK				*e*S	**Sn**	**13 58 50.3**	**-2.1**
GRTK				IAML		13 59 12.3	
	comp=Z,382nm,0.3s						
SC01	**Santiago de Io**	**2.97**	**100**		**Pn**	**13 58 18.9**	**+1.2**
SC01	**Santiago de Io**	**2.97**	**100**	*i* P	**Pb**	**13 58 21.0**	**-2.8**
SC01				*e*S	**Sn**	**13 58 56.1**	**+3.2**
SC01				IAML		13 59 17.3	
	comp=Z,2μm,0.5s						
LMGC	**Las Mercedes**	**2.99**	**272**	*e*P	**Pn**	**13 58 18.6**	**+0.7**
LMGC				*e*S	**Sn**	**13 58 53.0**	**-0.4**
LOBA2	**Hotel Casa Bon**	**3.20**	**126**	*i* P	**Pn**	**13 58 23.6**	**+2.8**
LOBA2				IAML		13 59 21.1	
	comp=Z,242nm,0.5s						
GWJ	**Greenwich**	**3.33**	**236**	*i* P	**Pn**	**13 58 22.8**	**-0.1**
HOJ	**Hope**	**3.39**	**235**	*i* P	**Pn**	**13 58 25.4**	**+1.9**
STH	**Stony Hill**	**3.40**	**237**	*i* P	**Pn**	**13 58 24.4**	**+0.8**
BANI	**BANI**	**3.64**	**115**		**Pn**	**13 58 28.9**	**+1.9**
BANI	**BANI**	**3.64**	**115**	*i* P	**Pn**	**13 58 29.9**	**+2.8**
BANI				IAML		13 59 27.3	
	comp=Z,464nm,0.7s						
LONA1	**Toro Cenizo, N**	**3.78**	**98**	*e*S	**Sn**	**13 59 13.3**	**+0.4**
LONA1				IAML		13 59 26.1	
	comp=Z,2μm,1.0s						
CCCC	**Cccc**	**3.89**	**289**	*e*P	Pn	13 58 25.3	-5.0
CCCC				*e*S	Sn	13 59 05.0	-11
CVJ	**Coleyville**	**3.92**	**244**	*i* P	**Pn**	**13 58 31.6**	**+0.8**
MTDJ	**Mount Denham**	**3.92**	**244**	Pn	**Pn**	**13 58 30.6**	**-0.2**
MTDJ	**Mount Denham**	**3.92**	**244**	*e*P	**Pn**	**13 58 30.3**	**-0.5**
MTDJ				*e*S	**Sn**	**13 59 12.3**	**-4.1**
SDD	**Santo Domingo**	**3.99**	**112**	*i* P	**Pn**	**13 58 35.2**	**+3.5**
SDD				*e*S	**Sn**	**13 59 17.6**	**-0.6**
MCJ	**Malvern**	**4.18**	**241**	*i* P	**Pn**	**13 58 35.8**	**+1.3**
MCJ				*i* S	**Sn**	**13 59 19.4**	**-3.7**
DR12	**Loma Pena Alta**	**4.36**	**105**		**Pn**	**13 58 38.3**	**+1.4**
PCDR	**Punta Cana, DR**	**5.34**	**105**	Pn	**Pn**	**13 58 53.7**	**+3.4**
PCDR	**Punta Cana, DR**	**5.34**	**105**	*i* P	**Pn**	**13 58 52.0**	**+1.7**
PCDR				IAML		14 00 25.2	
	comp=Z,260nm,0.9s						
CBCY	**The Bluff, Cay**	**5.59**	**269**	Pn	**Pn**	**13 58 51.6**	**-2.1**
LCCY	**Blossom Villag**	**5.90**	**268**		**Pn**	**13 58 58.7**	**+0.8**
MGV	**Manicaragua**	**6.13**	**291**	*e*P	Pn	13 58 54.5	-6.6
MGV				*e*S	Sn	14 00 00.4	-10
AGPR	**Aguadilla, PR**	**6.52**	**102**	Pn	**Pn**	**13 59 09.8**	**+3.3**
CRPR	**Cabo Rojo, PR**	**6.65**	**106**	Pn	**Pn**	**13 59 11.7**	**+3.4**
CRPR	**Cabo Rojo, PR**	**6.65**	**106**	*i* P	**Pn**	**13 59 10.5**	**+2.2**
CRPR				IAML		14 00 36.0	
	comp=Z,60nm,1.1s						
MLPR	**Magueyes Islan**	**6.72**	**106**	Pn	**Pn**	**13 59 12.7**	**+3.4**
AOPR	**Arecibo Observ**	**6.88**	**102**		**Pn**	**13 59 13.9**	**+2.4**
FSCY	**Frank Sound, G**	**6.96**	**266**	Pn	**Pn**	**13 59 11.2**	**-1.5**
OBIP	**Obispado Ponce**	**7.09**	**105**	Pn	**Pn**	**13 59 16.0**	**+1.6**
CELP	**Cerrillos**	**7.11**	**104**	Pn	**Pn**	**13 59 16.4**	**+1.7**
SJG	**San Juan**	**7.49**	**103**	P	Pn	13 59 25.5	+5.7
	comp=Z,4.0nm,0.3s,baz=289,slow=15,SNR=2.0						
SJG				S	**Sn**	**14 00 39.4**	**-5.1**
	comp=Z,9.1nm,0.3s,baz=338,slow=19,SNR=2.2						
SJG	**San Juan**	**7.49**	**103**	Pn	**Pn**	**13 59 23.2**	**+3.4**
PDPR	**Patillas Dam,**	**7.63**	**103**	Pn	**Pn**	**13 59 22.7**	**+0.8**
CBYP	**Canovanas**	**7.72**	**101**	Pn	**Pn**	**13 59 22.8**	**-0.3**
HUMP	**Col San Antoni**	**7.76**	**102**	Pn	**Pn**	**13 59 24.5**	**+1.0**
MTP	**Monte Pirata**	**8.04**	**102**	Pn	**Pn**	**13 59 27.7**	**+0.2**
CUPR	**Culebra, Puert**	**8.24**	**100**	Pn	**Pn**	**13 59 29.3**	**-0.9**
STVI	**Saint Thomas**	**8.54**	**99**	Pn	**Pn**	**13 59 33.8**	**-0.4**
061Z	**Ochoppi**	**8.77**	**313**	Pn	**Pn**	**13 59 35.2**	**-2.2**
060A	**Indiantown**	**9.24**	**321**	Pn	**Pn**	**13 59 45.8**	**+2.0**
PRVC	**Isla de Provid**	**9.76**	**229**	Pn	**Pn**	**13 59 52.0**	**+1.0**
SJCC	**San Jacinto, C**	**10.11**	**188**	Pn	**Pn**	**13 59 57.8**	**+2.0**
SMRT	**St. Maarten**	**10.35**	**99**	Pn	**Pn**	**14 00 02.0**	**+2.9**
SDV	**Santo Domingo**	**11.45**	**164**	P	**Pn**	**14 00 16.2**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=1.5,slow=8.2,SNR=16						
SDV				S	**Sn**	**14 02 19.0**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=233,slow=20,SNR=1.5						
SDV				LR	LR	14 05 06.9	
	comp=Z,120nm,20.4s,baz=14,slow=39						
SDV	**Santo Domingo**	**11.45**	**164**	Pn	**Pn**	**14 00 15.5**	**+1.2**
SDV	**Santo Domingo**	**11.45**	**164**	*e*P	**Pn**	**14 00 14.8**	**+0.5**
OCAC	**Ocana**	**11.68**	**178**		**Pn**	**14 00 19.7**	**+2.3**
BIRV	**Birongo**	**11.93**	**141**	Pn	**Pn**	**14 00 22.1**	**+1.3**
SOCV	**Socops**	**11.97**	**166**	*e*P	**Pn**	**14 00 21.6**	**+0.2**
BCIP	**Isla Barro Col**	**12.22**	**209**	Pn	**Pn**	**14 00 25.3**	**+0.7**
UPA	**Univ. de Panam**	**12.24**	**208**	*e*P	**Pn**	**14 00 24.5**	**-0.5**
CBE	**Ff, Capester**	**12.25**	**107**	Pn	**Pn**	**14 00 27.2**	**+2.0**
UREC	**San Jos de Ur**	**12.26**	**188**	*e*P	**Pn**	**14 00 28.4**	**+3.0**
ZARC	**Zaragoza, Cauc**	**12.45**	**185**		**Pn**	**14 00 31.1**	**+3.2**
ZARC	**Zaragoza, Cauc**	**12.45**	**185**	*e*P	**Pn**	**14 00 29.3**	**+1.4**
BARC	**Barichara**	**13.32**	**177**	*e*P	**Pn**	**14 00 42.8**	**+2.9**
PTBC	**PUERTO BERRIO,**	**13.37**	**183**	*e*P	**Pn**	**14 00 42.8**	**+2.4**
HELC	**Santa Helena**	**13.80**	**187**	*e*P	**Pn**	**14 00 49.6**	**+2.9**
CBOC	**Ciudad Bolivar**	**14.19**	**189**	*e*P	**P**	**14 00 56.4**	**-2.8**
SPBC	**San Pablo de B**	**14.24**	**181**	*e*P	**Pn**	**14 00 54.4**	**+2.0**
NORC	**Norcasia**	**14.36**	**184**	*e*P	**Pn**	**14 00 55.4**	**+1.3**
JTS	**Las Juntas de**	**14.42**	**230**	LR	LR	14 06 20.1	
	comp=Z,72nm,18.3s,baz=119,slow=36						
GUY2C	**Guyana, Caldas**	**14.74**	**186**	*e*P	**P**	**14 01 04.1**	**-1.5**
ROSC	**El Rosal**	**15.05**	**182**	P	**P**	**14 01 08.4**	**-0.6**
	comp=Z,2.6nm,0.3s,baz=66,slow=20,SNR=2.5						
ROSC				LR	LR	14 06 47.1	
	comp=Z,71nm,20.5s,baz=348,slow=36						
ROSC	**El Rosal**	**15.05**	**182**	IAmb	IAmb	14 01 14.1	
	comp=Z,24nm,0.8s						
154A	**Mcrose**	**15.08**	**328**	P	**P**	**14 01 10.9**	**+2.1**
CHIC	**Chingaza**	**15.25**	**180**	*e*P	**P**	**14 01 09.9**	**-1.4**
MTO3	**Montecristo**	**15.84**	**252**	P	**P**	**14 01 18.1**	**+0.4**
MTO3				IAmb	IAmb	14 01 21.6	
	comp=Z,18nm,1.0s						
ORTC	**Ortega, Tolima**	**16.03**	**185**	*e*P	**P**	**14 01 22.4**	**+2.9**
YOTC	**Yotoco, Valle**	**16.08**	**189**	*e*P	**P**	**14 01 21.5**	**+1.2**
Y49A	**Blount Mountai**	**17.79**	**324**	P	**P**	**14 01 39.9**	**+1.0**
CCIG	**Comitan**	**17.79**	**261**	P	**P**	**14 01 39.8**	**+0.6**
CCIG				IAmb	IAmb	14 02 07.2	
	comp=Z,13nm,0.8s						
TKL	**Tuckaleechee C**	**17.91**	**333**	S	Sn	14 04 44.0	-15
	comp=Z,0.7nm,0.3s,baz=40,slow=9.4,SNR=4.7						
TKL				LR	LR	14 08 35.4	
	comp=Z,178nm,21.6s,baz=162,slow=37						
R58B	**Mineral**	**18.27**	**350**	P	**P**	**14 01 44.4**	**+0.3**
R58B				IAmb	IAmb	14 02 02.8	
	comp=Z,45nm,1.5s						
V48A	**Smith Brothers**	**19.43**	**327**	P	**P**	**14 01 57.5**	**+0.6**
T50A	**Nancy**	**19.52**	**333**	P	**Pn**	**14 01 58.9**	**-0.3**
U49A	**Red Boiling Sp**	**19.52**	**330**	P	**Pn**	**14 01 59.2**	**-0.1**
U49A				IAmb	IAmb	14 02 15.8	
	comp=Z,27nm,1.5s						
PLAL	**Pickwick Lake**	**19.54**	**323**	P	**Pn**	**14 01 59.6**	**+0.2**
CMIG	**Matias Romero**	**20.17**	**265**	P	**P**	**14 02 06.0**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=84,slow=7.9,SNR=10						
CMIG				LR	LR	14 09 34.8	
	comp=Z,36nm,21.0s,baz=66,slow=36						
WVT	**Waverly**	**20.25**	**326**	P	**P**	**14 02 05.9**	**0.0**
Q51A	**Peebles**	**20.69**	**339**		Pn	14 02 14.7	+1.7
Q51A				IAmb	IAmb	14 02 16.2	
	comp=Z,17nm,0.8s						
LCAR	**Lake Charles**	**22.10**	**320**	P	**P**	**14 02 26.9**	**+1.0**
FCAR	**Ozark Folk Cen**	**22.58**	**318**	P	**P**	**14 02 32.5**	**+1.5**
FCAR				IAmb	IAmb	14 02 33.5	
	comp=Z,11nm,1.3s						
KVTX	**Kingsville**	**23.25**	**293**	P	**P**	**14 02 38.5**	**+0.5**
SFIN	**Lafayette**	**23.30**	**334**	P	**P**	**14 02 39.4**	**+1.1**
SFIN				IAmb	IAmb	14 02 41.1	
	comp=Z,20nm,0.9s						
P43A	**Skaggs, Pawnee**	**23.80**	**329**	P	**P**	**14 02 44.6**	**+1.4**
P43A				IAmb	IAmb	14 02 47.8	
	comp=Z,16nm,1.2s						
HHAR	**Hobbs**	**23.98**	**317**	P	**P**	**14 02 45.9**	**+0.9**
HHAR				IAmb	IAmb	14 02 46.8	
	comp=Z,10nm,1.0s						
R40A	**Maddies Statio**	**24.26**	**323**	P	**P**	**14 02 48.2**	**+0.6**
R40A				IAmb	IAmb	14 02 49.6	
	comp=Z,6.0nm,0.8s						
S39A	**Bolivar**	**24.48**	**320**	P	**P**	**14 02 50.4**	**+0.8**
S39A				IAmb	IAmb	14 02 51.6	
	comp=Z,9.0nm,0.8s						
P40A	**Paris**	**25.01**	**325**	P	**P**	**14 02 54.5**	**+0.2**
P40A				IAmb	IAmb	14 02 55.4	
	comp=Z,10nm,0.8s						
SADO	**Sadowa**	**25.12**	**351**	LR	LR	14 12 44.8	
	comp=Z,75nm,19.5s,baz=170,slow=36						
T35A	**Sooner Cattle**	**26.03**	**315**	P	**P**	**14 03 04.0**	**+0.4**
T35A				IAmb	IAmb	14 03 04.9	
	comp=Z,7.5nm,0.8s						
F64A	**Sherman**	**26.21**	**9**	P	**P**	**14 03 06.2**	**+1.0**
F64A				IAmb	IAmb	14 03 11.5	
	comp=Z,22nm,1.4s						
ABTX	**Abilene, Hawle**	**26.27**	**304**	P	**P**	**14 03 06.1**	**+0.2**
ABTX				IAmb	IAmb	14 03 07.3	
	comp=Z,4.3nm,0.6s						
TXAR	**Lajitas Array**	**28.61**	**295**	P	**P**	**14 03 27.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=120,slow=7.6,SNR=7.2						
TXAR				PcP	**PcP**	**14 06 37.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=111,slow=4.9,SNR=3.3						
TX31	**Lajitas Ar. Si**	**28.61**	**295**	P	**P**	**14 03 27.2**	**+0.2**
TX31				IAmb	IAmb	14 03 37.8	
	comp=Z,7.5nm,1.3s						
TX32	**Lajitas Array**	**28.61**	**295**	P	**P**	**14 03 27.3**	**+0.3**
MNTX	**Cornudas Mount**	**30.60**	**299**	P	**P**	**14 03 44.9**	**+0.3**
K31A	**O'Neill**	**30.83**	**323**	P	**P**	**14 03 46.9**	**+0.4**
EYMN	**Ely**	**31.36**	**337**	P	**P**	**14 03 51.5**	**+0.4**
T25A	**Trinidad**	**31.66**	**309**	P	**P**	**14 03 54.5**	**+0.5**
T25A				IAmb	IAmb	14 03 56.1	
	comp=Z,6.0nm,1.1s						
NNA	**Nana**	**31.90**	**186**	LR	LR	14 18 53.5	
	comp=Z,35nm,19.5s,baz=298,slow=40						
BNM	**Barren Site**	**32.28**	**303**	P	**P**	**14 04 00.1**	**+0.5**
ANMO	**Albuquerque**	**32.40**	**304**	LR	LR	14 18 55.8	
	comp=Z,31nm,18.4s,baz=98,slow=40						
SDCO	**Great Sand Dun**	**32.70**	**310**	P	**P**	**14 04 03.9**	**+0.7**
SDCO				IAmb	IAmb	14 04 05.0	
	comp=Z,3.2nm,1.2s						
ISCO	**Idaho Springs**	**33.65**	**313**	P	**P**	**14 04 12.8**	**+1.2**
LPIG	**La Paz**	**34.00**	**284**	LR	LR	14 18 10.5	
	comp=Z,28nm,21.6s,baz=194,slow=36						
ULM	**Lac du Bonnet**	**34.91**	**335**	P	**P**	**14 04 21.1**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=129,slow=8.0,SNR=5.0						
ULM				LR	LR	14 19 44.4	
	comp=Z,53nm,18.1s,baz=103,slow=38						
ULM	**Lac du Bonnet**	**34.91**	**335**	IAmb	IAmb	14 04 22.3	
	comp=Z,9.4nm,1.2s						
SCHQ	**Schefferville**	**35.20**	**7**	P	**P**	**14 04 24.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=206,slow=7.0,SNR=6.9						
SCHQ				LR	LR	14 17 55.1	
	comp=Z,52nm,20.4s,baz=164,slow=35						
SCHQ	**Schefferville**	**35.20**	**7**	P	**P**	**14 04 24.8**	**+0.4**
SCHQ				IAmb	IAmb	14 04 46.2	
	comp=Z,12nm,1.5s						
LPAZ	**La Paz**	**36.47**	**171**	P	**P**	**14 04 39.0**	**+2.7**
	comp=Z,0.7nm,0.5s,baz=0.0,slow=5.0,SNR=4.8						
LPAZ				LR	LR	14 20 40.6	
	comp=Z,108nm,18.4s,baz=56,slow=38						
PDAR	**Pinedale Array**	**37.63**	**315**	P	**P**	**14 04 45.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=116,slow=11,SNR=8.4						
PDAR				PcP	**PcP**	**14 07 02.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=103,slow=7.2,SNR=4.0						
PDAR				LR	LR	14 21 22.2	
	comp=Z,103nm,20.3s,baz=101,slow=38						
PDAR	**Pinedale Array**	**37.63**	**315**	P	**P**	**14 04 46.1**	**+0.5**
SIV	**San Ignacio**	**37.88**	**160**	LR	LR	14 22 00.1	
	comp=Z,69nm,18.1s,baz=95,slow=38						
LOHW	**Long Hollow**	**38.68**	**316**	P	**P**	**14 04 55.0**	**+0.5**
LOHW				IAmb	IAmb	14 04 55.9	
	comp=Z,7.8nm,0.8s						
REDW	**Red Top Meadow**	**38.74**	**315**	P	**P**	**14 04 54.8**	**-0.2**
REDW				IAmb	IAmb	14 04 56.3	
	comp=Z,8.1nm,0.9s						
MOOW	**Moose Ponds**	**38.84**	**316**	P	**P**	**14 04 55.8**	**0.0**
MOOW				IAmb	IAmb	14 04 56.9	
	comp=Z,6.1nm,0.8s						
TPAW	**Teton Pass**	**38.86**	**316**	P	**P**	**14 04 56.6**	**+0.5**
TPAW				IAmb	IAmb	14 04 57.4	
	comp=Z,5.1nm,0.8s						
PSUT	**Pine Spring**	**39.15**	**307**	P	**P**	**14 04 59.4**	**+1.0**
YHH	**Holmes Hill**	**39.36**	**317**	P	**P**	**14 05 01.0**	**+0.7**
QLMT	**Earthquake Lak**	**39.75**	**317**	P	**P**	**14 05 05.0**	**+1.6**
BOZ	**Bozeman (W)**	**40.22**	**318**	P	**P**	**14 05 08.0**	**+0.8**
MCMT	**McKenzie Canyo**	**40.66**	**317**	P	**P**	**14 05 11.8**	**+0.8**
BCYI	**Bear Canyon**	**40.81**	**316**	P	**P**	**14 05 13.0**	**+0.8**
ELK	**Elko**	**40.82**	**310**	LR	LR	14 24 09.7	
	comp=Z,126nm,19.0s,baz=112,slow=39						
ELK	**Elko**	**40.82**	**310**	P	**P**	**14 05 12.3**	**0.0**
LRM	**Limekiln Ridge**	**40.84**	**318**	P	**P**	**14 05 12.1**	**-0.3**
HRY	**Holter Researc**	**40.85**	**320**	P	**P**	**14 05 12.5**	**+0.1**
HLID	**Hailey**	**41.20**	**314**	P	**P**	**14 05 15.5**	**+0.1**
KVN	**Kaiserville**	**42.48**	**306**	P	**P**	**14 05 26.3**	**+0.4**
NVAR	**Mina Array Bea**	**42.50**	**305**	P	**P**	**14 05 25.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=113,slow=10.0,SNR=5.1						
JTMT	**Jette**	**42.81**	**320**	P	**P**	**14 05 28.3**	**-0.1**
PLID	**Pearl Lake**	**42.82**	**316**	P	**P**	**14 05 27.9**	**-0.7**
PLID				IAmb	IAmb	14 05 29.2	
	comp=Z,4.5nm,0.9s						
FRB	**Frobisher Bay**	**43.89**	**3**	LR	LR	14 22 59.8	
	comp=Z,44nm,20.7s,baz=312,slow=35						
NEW	**Newport**	**44.76**	**319**	LR	LR	14 25 47.8	
	comp=Z,70nm,18.4s,baz=118,slow=38						
G08A	**Pilot Rock**	**44.85**	**315**	P	**P**	**14 05 44.8**	**0.0**
G08A				IAmb	IAmb	14 05 45.5	
	comp=Z,4.0nm,0.7s						
RCBR	**Riachuelo**	**45.26**	**121**	LR	LR	14 25 59.8	
	comp=Z,49nm,19.2s,baz

IDC 28 14:09:25.4±2.2,1°11N×126°47E,h0km,mb2.9/3, mb1 3.1/3,mb1mx3.0/21,mbtmp2.9/3,Error ellipse: s-maj=182.4km s-min=28.4km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**160**	P	P	14 14 24.0	-0.6
	0.2nm,0.7s,baz=339,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**25.66**	**164**	P	P	14 14 57.8	+0.5
	0.1nm,0.3s,baz=343,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	14 19 30.9	-0.1
	0.1nm,0.4s,baz=127,slow=8.5,SNR=1.9						

TAP 28 14:15:27.2,23°14N×120°85E,h3km,ML1.0,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.08**	**295**	P	Pg	14 15 29.8	+1.0
	baz=302						
STYH				S	Sg	14 15 31.2	+1.4
	baz=302						
STYT	**Tauyuan**	**0.09**	**286**	*i* P	Pg	14 15 30.0	+0.9
	baz=285						
STYT				*i* S	Sg	14 15 31.3	+1.0
	baz=285						
ELDTW	**Lidau**	**0.16**	**72**	P	Pg	14 15 31.9	+1.5
	baz=73						
ELDTW				*i* S	Sg	14 15 34.9	+2.3
	baz=73						
WTP	**Ta-pu**	**0.24**	**296**	*i* P	Pg	14 15 32.8	+0.8
	baz=296						
WTP				*i* S	Sg	14 15 37.5	+2.4
	baz=296						
SGST	**Jiashian**	**0.25**	**257**	*i* S	Sb	14 15 37.9	-1.4
	baz=256						
TPUB	**Ta-pu**	**0.26**	**308**	P	Pb	14 15 33.6	-1.1
	baz=308						
TPUB				S	Sb	14 15 38.0	-1.5
	baz=308						
CHN1	**Nanshi**	**0.30**	**279**	P	Pg	14 15 34.2	+1.1
	baz=278						
SNST	**Tainan City**	**0.34**	**284**	*e*P	Pb	14 15 35.4	-0.5
	baz=284						
ECS	**Chishang**	**0.34**	**97**	*e*P	Pg	14 15 34.8	+1.0
	baz=97						
ECS				*e*S	Sb	14 15 40.3	-1.5
	baz=97						
LONT	**Longtian**	**0.34**	**132**	*e*P	Pb	14 15 35.1	-0.9
	baz=131						
LONT				*e*S	Sb	14 15 41.3	-0.7
	baz=131						
TWK	**Hsinying**	**0.36**	**291**	*e*P	Pb	14 15 35.8	-0.5
	baz=291						
TWK				*e*S	Sb	14 15 41.6	-0.8
	baz=291						
YUS	**Yu-Shan**	**0.36**	**15**	*i* P	Pb	14 15 35.5	-1.1
	baz=15						
YUS				*i* S	Sb	14 15 41.8	-1.2
	baz=15						
ALS	**Alishan**	**0.37**	**354**	P	Pg	14 15 35.6	+1.1
	baz=354						
ALS				S	Sb	14 15 42.4	-0.6
	baz=354						
TWG	**Pinlang**	**0.38**	**147**	*e*P	Pb	14 15 36.1	-0.4
	baz=146						
TWG				*e*S	Sb	14 15 42.1	-0.8
	baz=146						
FULB	**Fuli**	**0.41**	**81**	*e*P	Pb	14 15 37.4	+0.1
	baz=81						
FULB				*e*S	Sb	14 15 44.0	+0.1
	baz=81						
SCST	**Cishan**	**0.41**	**233**	*e*S	Sb	14 15 43.5	-0.5
	baz=232						
SSD	**Sandimen**	**0.44**	**207**	S	Sb	14 15 44.8	+0.2
	baz=206						
TSMG	**Majia**	**0.47**	**204**	*e*S	Sb	14 15 45.8	+0.3
	baz=203						
CHN5	**Tsauling**	**0.48**	**341**	*e*P	Pb	14 15 38.7	+0.2
	baz=340						
CHN5				*e*S	Sb	14 15 45.8	-0.2
	baz=340						

TAP 28 14:15:29.1,22°94N×120°59E,h3km±1km,ML1.3,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGT	**Liugui**	**0.07**	**44**	*e*P	Pg	14 15 31.4	+0.7
	baz=44						
SCST	**Cishan**	**0.10**	**238**	*e*P	Pg	14 15 32.0	+0.8
	baz=238						
SCST				*e*S	Sg	14 15 34.5	+1.9
	baz=238						
SGST	**Jiashian**	**0.14**	**357**	*e*P	Pg	14 15 33.3	+1.3
SGST				S	Sg	14 15 35.9	+2.0
SGST	**Jiashian**	**0.14**	**357**	P	Pg	14 15 33.0	+1.1
	baz=256						
TWM1	**Shoushan**	**0.20**	**233**	P	Pg	14 15 34.2	+1.3
	baz=231						
TWM1				S	Sg	14 15 37.6	+2.1
	baz=231						
SSD	**Sandimen**	**0.20**	**169**	*i* P	Pg	14 15 34.2	+1.2
	baz=166						
SSD				*i* S	Sg	14 15 38.1	+2.5
	baz=166						
SGLT	**Jiouru**	**0.23**	**203**	P	Pg	14 15 34.7	+1.1
	baz=201						
SGLT				S	Sg	14 15 38.4	+1.7
	baz=201						
SHHT	**Tainan City**	**0.24**	**290**	*e*P	Pg	14 15 35.5	+1.8
	baz=289						
TSMG	**Majia**	**0.24**	**168**	*e*P	Pg	14 15 34.8	+1.0
	baz=168						
TSMG				*e*S	Sg	14 15 39.0	+2.1
	baz=168						
CHN3	**Shinhua**	**0.25**	**303**	*e*P	Pg	14 15 34.9	+0.9
	baz=302						
CHN3				*e*S	Sg	14 15 39.4	+2.2
	baz=302						
CHN1	**Nanshi**	**0.25**	**347**	P	Pg	14 15 35.1	+1.1
	baz=346						
CHN1				S	Sg	14 15 39.3	+2.0
	baz=346						
CHN1	**Nanshi**	**0.25**	**347**	S	Sg	14 15 39.4	+2.2
	baz=278						
SNST	**Tainan City**	**0.29**	**343**	*e*P	Pb	14 15 35.9	-1.1
	baz=342						
SNST				*e*S	Sb	14 15 41.0	-1.2
	baz=342						
SNST	**Tainan City**	**0.29**	**343**	*e*S	Sb	14 15 41.0	-1.3
	baz=284						
WTP	**Ta-pu**	**0.30**	**4**	*e*P	Pb	14 15 36.8	-0.5
	baz=5.0						
WTP				*e*S	Sb	14 15 41.5	-1.2
	baz=5.0						

*IDC **28** 14:21:32.2±5.5,9°34N×84°11W,h0km,mb3.2/3,mb1 3.6/3, mb1mx3.4/27,mbtmp3.2/3,Error ellipse: s-maj=157.8km s-min=108.6km az=48.0*
*UCR **28** 14:21:33.3±2.0,9°06N×85°14W,h13km±8km,MW4.0*
ISC 28 14:21:32.6±2.1,9°06N±0°07×85°14W±0°05,h4km±12km, n40,σ1s32/46,mb3.1/3,4C-2D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.76**	**38**	*i*P	**Pg**	**14 21 48.0**	**+0.7**
JACO				*e*S	**Sb**	**14 21 59.3**	**+0.2**
LAFE	**Finca La Fe, P**	**0.78**	**17**	*i*P	**Pg**	**14 21 48.1**	**+0.5**
SAJU	**San Juanillo,**	**1.15**	**331**	*e*P	**Pb**	**14 21 53.4**	**-1.7**
SAJU				*e*S	**Sb**	**14 22 07.6**	**-2.8**
LCR2	**La Lucha 2**	**1.31**	**59**	*i*P	**Pn**	**14 21 56.5**	**-1.4**
LCR2				*e*S	**Sb**	**14 22 13.7**	**-1.3**
ORTG	**Ortega, Santa**	**1.33**	**346**	*e*P	**Pn**	**14 21 55.9**	**-2.2**
ORTG				*e*S	**Sb**	**14 22 13.3**	**-2.4**
HDC	**Heredia**	**1.38**	**47**	*e*P	**Pb**	**14 21 59.2**	**+0.2**
HDC3	**Heredia 3**	**1.38**	**47**	*e*P	**Pn**	**14 21 58.3**	**-0.4**
OCM	**Ochomogo**	**1.43**	**54**	*e*P	**Pn**	**14 21 58.2**	**-1.3**
RIMA	**Rio Macho**	**1.44**	**61**	*i*P	**Pn**	**14 21 58.4**	**-1.3**
RIMA				*e*S	**Sn**	**14 22 17.5**	**-1.6**
CDM	**Cerro de Muert**	**1.44**	**70**	*e*P	**Pn**	**14 21 58.7**	**-1.2**
CRPO	**Crater poas**	**1.44**	**38**	*e*P	**Pn**	**14 21 59.6**	**-0.2**
ARE1	**Arenal 1**	**1.45**	**16**	*e*P	**Pn**	**14 21 59.2**	**-0.5**
PEZE	**Perez Zeledon,**	**1.48**	**77**	*e*P	**Pn**	**14 22 00.0**	**0.0**
PEZE				*e*S	**Sn**	**14 22 17.9**	**-1.9**
CEDE	**Laguna Cedeo**	**1.48**	**17**	*e*P	**Pn**	**14 21 59.6**	**-0.5**
ACAL	**Aguas Claras**	**1.57**	**4**	*i* P	**Pn**	**14 22 00.8**	**-0.5**
CUI	**Cuipilapa**	**1.59**	**359**	*e*P	**Pn**	**14 22 00.8**	**-0.8**
COLC	**Colonia**	**1.60**	**358**	*e*P	**Pn**	**14 22 00.9**	**-0.8**
RIOS	**Rincon, Osa**	**1.64**	**102**	*i*P	**Pn**	**14 22 00.7**	**-1.6**
GUAB	**Guayabo de Bag**	**1.64**	**357**	*e*P	**Pn**	**14 22 02.6**	**+0.3**
PTEN	**Parque Tenorio**	**1.65**	**5**	*i* P	**Pb**	**14 22 03.5**	**-0.2**
CVTR	**Volcan Turrial**	**1.66**	**55**	*e*P	**Pb**	**14 22 03.4**	**-0.6**
EDPN	**Palmar Norte**	**1.66**	**93**	*e*P	**Pn**	**14 22 01.6**	**-0.9**
VTCV	**VTCV, Calle Va**	**1.67**	**56**	*e*P	**Pn**	**14 22 01.9**	**-0.9**
RIFO	**Rio Frio, Sara**	**1.73**	**44**	*e*P	**Pn**	**14 22 03.4**	**-0.1**
VMAR	**Armenia, Volca**	**1.74**	**0**	*e*P	**Pn**	**14 22 03.9**	**+0.2**
SRBA	**San Rafael, Bu**	**1.76**	**84**	*e*P	**Pn**	**14 22 02.7**	**-1.3**
SRBA				*e*S	**Sn**	**14 22 24.5**	**-2.4**
GB1A	**Borinquen Arri**	**1.77**	**352**	*e*P	**Pn**	**14 22 03.4**	**-0.7**
COVE	**Coope Vega, Sa**	**1.80**	**24**	*e*P	**Pn**	**14 22 04.2**	**-0.2**
MRVA	**Moravia de Chi**	**1.84**	**65**	*e*P	**Pn**	**14 22 04.7**	**-0.3**
MRVA				*e*S	**Sn**	**14 22 28.2**	**-0.6**
DRK0	**Durika**	**1.88**	**84**	*e*P	**Pn**	**14 22 04.7**	**-0.9**
PIRO	**Carate, Puerto**	**1.89**	**110**	*i*P	**Pn**	**14 22 04.5**	**-1.2**
POTG	**Potrero Grande**	**1.99**	**90**	*e*P	**Pn**	**14 22 06.5**	**-0.7**
POTG				*e*S	**Sn**	**14 22 31.9**	**-0.7**
ESPN	**Las Esperanzas**	**3.22**	**15**	*e*P	**Pn**	**14 22 24.0**	**0.0**
TXAR	**Lajitas Array**	**26.63**	**322**	P	**P**	**14 27 16.2**	**+3.7**
	0.1nm,0.5s,baz=138,slow=8.3,SNR=3.9						
H03N2	**Juan Fernandez**	**42.67**	**172**	T	T	15 14 54.5	
	baz=351,slow=76,SNR=6.9						
H03N1	**Juan Fernandez**	**42.67**	**172**	T	T	15 14 55.7	
	baz=351,slow=76,SNR=12						
H03N3	**Juan Fernandez**	**42.69**	**172**	T	T	15 14 54.5	
	baz=351,slow=76,SNR=8.0						
YKA	**Yellowknife Ar**	**57.47**	**344**	P	**P**	**14 31 22.6**	**+0.2**
	0.1nm,0.5s,baz=134,slow=7.5,SNR=2.1						
ILAR	**Eielson Array**	**70.02**	**336**	P	**P**	**14 32 47.3**	**+2.0**
	0.3nm,0.7s,baz=101,slow=4.7,SNR=2.8						
WRA	**Warramunga Arr**	**140.38**	**250**	PKP	**PKPdf**	**14 41 04.4**	**+0.4**
	0.3nm,1.1s,baz=91,slow=2.5,SNR=1.8						

*IDC **28** 14:24:25.0±2.0,0°65N×125°80E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.2/34,mbtmp3.5/3,Error ellipse: s-maj=167.5km s-min=26.4km az=65.0*
*DJA **28** 14:24:27.9±0.3,1°N±4°×12°6E±°,h10km,M3.4/10, MLv3.4/10*
ISC 28 14:24:31.0±1.2,0°7N±0°1×126°04E±0°06,h44km,n10, σ0s82/10,mb3.5/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**87**	P	**Pn**	**14 24 53.5**	**+0.4**
LBMI	**Labuha**	**1.99**	**132**	P	**Pn**	**14 25 02.1**	**0.0**
KMSI	**Cibinong**	**2.06**	**266**	P	**Pn**	**14 25 02.6**	**-0.5**
SANI	**Sanana**	**2.74**	**181**	P	**Pn**	**14 25 13.0**	**+0.5**
GTOI	**Gorontalo**	**3.03**	**269**	P	**Pn**	**14 25 18.1**	**+1.7**
LUWI	**Luwuk**	**3.70**	**242**	P	**Pn**	**14 25 25.9**	**+0.3**
MRSI	**Marisa**	**4.10**	**267**	P	**Pn**	**14 25 30.6**	**-0.6**
WRA	**Warramunga Arr**	**22.08**	**159**	P	**P**	**14 29 21.7**	**-0.8**
	1.1nm,0.5s,baz=336,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.41**	**163**	P	**P**	**14 29 55.0**	**+0.4**
	0.4nm,0.3s,baz=346,slow=12,SNR=32						
MKAR	**Makanchi Array**	**59.65**	**327**	P	**P**	**14 34 30.6**	**-0.2**
	0.2nm,0.5s,baz=125,slow=6.6,SNR=4.1						

IDC 28 14:38:06.7±2.2,1°04N×126°52E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/37,mbtmp3.2/3,Error ellipse: s-maj=176.5km s-min=28.0km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.22**	**160**	P	P	14 43 04.2	-0.9
	0.5nm,0.7s,baz=339,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**25.58**	**164**	P	P	14 43 38.3	+0.6
	0.3nm,0.3s,baz=345,slow=12,SNR=22						
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	14 48 12.7	-0.1
	0.1nm,0.4s,baz=112,slow=8.3,SNR=2.1						

*IDC **28** 14:43:05.3±1.6,14°90S×176°56W,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.8/35,mbtmp3.8/8,MS3.9/33, Ms1 3.9/33,ms1mx3.8/54,Error ellipse: s-maj=110.9km s-min=20.6km az=147.0*
ISC 28 14:43:07.8±1.4,15°0S±0°6×176°6W±0°4,h17km,n45, σ0s54/9,mb3.9/8,MS4.0/33,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.76**	**78**	Pn	Pn	14 44 12.5	-6.4
	4.5nm,0.3s,baz=274,slow=18,SNR=8.0						
AFI				LR	LR	14 45 48.3	
	comp=Z,2µm,20.0s,baz=204,slow=34						
RAO	**Raoul Island**	**14.28**	**185**	LR	LR	14 49 58.7	
	comp=Z,96nm,20.6s,baz=7.5,slow=29						
DZM	**Mont Dzumac**	**17.59**	**244**	*e*P	**P**	**14 47 12.6**	**-0.8**
	61nm,1.4s						
DZM				*e*LR	LR	14 51 37.2	
	comp=Z,962nm,25.2s						
DZM	**Mont Dzumac**	**17.59**	**244**	LR	LR	14 52 59.3	
	comp=Z,704nm,18.5s,baz=91,slow=34						
URZ	**Urewera**	**23.87**	**192**	LR	LR	14 57 02.8	
	comp=Z,441nm,18.7s,baz=32,slow=35						
PPT2	**Papeete2**	**26.03**	**99**	*e*LQ	LQ	14 53 35.3	
	553nm,25.5s						
PPT2				*e*LR	LR	14 54 41.7	
	comp=Z,488nm,25.5s						
TBI	**Tubuai**	**26.89**	**112**	*e*LQ	LQ	14 54 11.7	
	499nm,28.2s						
TBI				*e*LR	LR	14 55 14.4	
	comp=Z,378nm,27.8s,baz=303						
CTA	**Charters Tower**	**35.77**	**256**	LR	LR	15 02 50.1	
	comp=Z,150nm,20.7s,baz=82,slow=33						
PMG	**Port Moresby**	**35.85**	**275**	LR	LR	15 01 29.1	
	comp=Z,147nm,21.2s,baz=74,slow=31						
TAOE	**Nuku Hiva Isla**	**36.11**	**85**	*e*LR	LR	14 59 13.7	
	comp=Z,600nm,27.5s,baz=261						
H11S2	**WAKE ISLAND Hy**	**37.10**	**333**	T	T	15 30 13.3	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**37.11**	**333**	T	T	15 30 20.4	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**37.12**	**333**	T	T	15 30 20.0	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**38.10**	**334**	T	T	15 31 16.4	
	baz=152,slow=76,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**38.10**	**334**	T	T	15 31 20.8	
	baz=152,slow=76,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**38.12**	**334**	T	T	15 31 18.5	
	baz=152,slow=76,SNR=6.4						
STKA	**Stephens Creek**	**41.63**	**239**	P	**P**	**14 50 56.0**	**+0.6**
	3.3nm,1.1s,baz=25,slow=18,SNR=3.8						
STKA				LR	LR	15 06 55.9	
	comp=Z,80nm,18.4s,baz=43,slow=34						
WRA	**Warramunga Arr**	**46.97**	**257**	P	**P**	**14 51 38.4**	**+0.1**
	1.3nm,0.9s,baz=85,slow=7.4,SNR=7.4						
WRA				LR	LR	15 10 12.0	
	comp=Z,167nm,18.4s,baz=124,slow=35						
ASAR	**Alice Springs**	**47.34**	**252**	P	**P**	**14 51 41.3**	**0.0**
	2.7nm,0.8s,baz=85,slow=8.1,SNR=28						
ASAR				LR	LR	15 11 10.7	
	comp=Z,229nm,18.4s,baz=138,slow=36						
SIJI	**Sorong**	**53.37**	**280**	LR	LR	15 14 19.2	
	comp=Z,147nm,21.1s,baz=96,slow=35						
FITZ	**Fitzroy Crossi**	**55.31**	**256**	LR	LR	15 14 26.1	
	comp=Z,188nm,19.9s,baz=103,slow=34						
BATI	**Baumata**	**58.39**	**267**	LR	LR	15 16 59.6	
	comp=Z,251nm,18.8s,baz=108,slow=35						
VNDA	**Vanda**	**63.52**	**185**	LR	LR	15 18 23.8	
	comp=Z,42nm,18.2s,baz=97,slow=33						
SHEM	**Shemya Is, Ala**	**67.89**	**354**	LR	LR	15 17 44.1	
	comp=Z,130nm,21.9s,baz=111,slow=31						
LEM	**Lembang**	**74.61**	**267**	LR	LR	15 25 04.8	
	comp=Z,46nm,21.9s,baz=178,slow=34						
PFO	**Pinyon Flats O**	**74.89**	**49**	LR	LR	15 19 42.0	
	comp=Z,117nm,19.7s,baz=233,slow=29						
YBH	**Yreka Blue Hor**	**75.13**	**39**	LR	LR	15 21 19.4	
	comp=Z,81nm,19.1s,baz=248,slow=31						
KDAK	**Kodiak Island**	**75.14**	**13**	LR	LR	15 19 32.3	
	comp=Z,55nm,20.4s,baz=228,slow=29						
USRK	**Ussuriysk Ar.**	**75.22**	**324**	LR	LR	15 22 25.7	
	comp=Z,104nm,21.4s,baz=126,slow=31						
LPIG	**La Paz**	**75.44**	**60**	LR	LR	15 20 23.7	
	comp=Z,105nm,18.2s,baz=211,slow=30						
NVAR	**Mina Array Bea**	**76.08**	**43**	P	**P**	**14 54 55.3**	**+0.3**
	1.0nm,0.8s,baz=233,slow=11,SNR=4.1						
NVAR				LR	LR	15 20 50.6	
	comp=Z,38nm,19.0s,baz=281,slow=30						
KLR	**Kul'dur**	**78.51**	**328**	LR	LR	15 24 42.6	
	comp=Z,77nm,20.7s,baz=144,slow=32						
MA2	**Magadan**	**78.85**	**344**	LR	LR	15 25 44.2	
	comp=Z,69nm,19.8s,baz=140,slow=32						
ELK	**Elko**	**79.31**	**43**	LR	LR	15 24 17.5	
	comp=Z,38nm,20.5s,baz=250,slow=31						
SEY	**Seymchan**	**81.33**	**346**	LR	LR	15 24 34.3	
	comp=Z,88nm,21.8s,baz=54,slow=31						
NEW	**Newport**	**82.10**	**36**	LR	LR	15 25 50.7	
	comp=Z,56nm,18.5s,baz=228,slow=31						
ILAR	**Eielson Array**	**82.64**	**12**	P	**P**	**14 55 29.5**	**-0.3**
	0.7nm,1.0s,baz=225,slow=6.0,SNR=4.5						
ANMO	**Albuquerque**	**82.88**	**51**	LR	LR	15 25 42.7	
	comp=Z,93nm,18.2s,baz=243,slow=31						
TXAR	**Lajitas Array**	**82.93**	**57**	P	**P**	**14 55 31.7**	**-0.6**
	0.5nm,1.0s,baz=232,slow=4.4,SNR=1.3						
TXAR				LR	LR	15 24 52.8	
	comp=Z,92nm,19.5s,baz=220,slow=30						
PDAR	**Pinedale Array**	**84.00**	**43**	P	**P**	**14 55 38.1**	**+0.4**
	0.7nm,0.9s,baz=240,slow=1.8,SNR=4.1						
PDAR				LR	LR	15 29 58.9	
	comp=Z,33nm,19.3s,baz=269,slow=34						
CMIG	**Matias Romero**	**86.63**	**71**	LR	LR	15 27 45.9	
	comp=Z,62nm,18.3s,baz=246,slow=31						
YKA	**Yellowknife Ar**	**90.93**	**24**	P	**P**	**14 56 10.8**	**+0.4**
	0.6nm,1.0s,baz=240,slow=4.2,SNR=3.7						
TIXI	**Tiksi**	**93.77**	**345**	LR	LR	15 35 10.3	
	comp=Z,74nm,20.5s,baz=180,slow=33						
JTS	**Las Juntas de**	**94.15**	**81**	LR	LR	15 28 34.1	
	comp=Z,69nm,20.4s,baz=341,slow=29						
ULM	**Lac du Bonnet**	**95.53**	**40**	LR	LR	15 33 57.3	
	comp=Z,80nm,20.0s,baz=274,slow=32						

NOU 28 14:46:29.4,18°84S×169°35E,h226km,MLv3.9/15, Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.56**	**315**	P	Pn	14 47 06.2	+0.2
MARNC	**Mare, Loyalty**	**2.91**	**205**	P	Pn	14 47 18.6	-0.8
YATNC	**Mamie plateau,**	**3.95**	**215**	P	Pn	14 47 31.0	-0.5
SANVU	**Saraoutou**	**3.95**	**328**	P	Pn	14 47 31.5	-0.1
PINNC	**Pines Island,**	**4.16**	**205**	P	Pn	14 47 34.7	+0.7
DZM	**Mont Dzumac**	**4.21**	**220**	P	Pn	14 47 35.1	+0.3
OUENC	**Ouen Island, N**	**4.26**	**213**	P	Pn	14 47 34.7	-0.7
NOUC	**Port Laguerre**	**4.32**	**221**	P	Pn	14 47 36.2	+0.1
ONTNC	**Ouen Toro**	**4.39**	**218**	P	Pn	14 47 37.2	+0.3
KOUNC	**Koumac, New Ca**	**5.07**	**250**	P	Pn	14 47 45.7	+0.4

*IDC **28** 15:12:54.8±1.4,1°33N×99°80E,h211km±8km,mb3.2/7, mb1 3.3/7,mb1mx2.9/32,mbtmp3.7/7,Error ellipse: s-maj=81.3km s-min=14.6km az=55.0*
ISC 28 15:12:53.9±1.5,1°4N±0°3×100°0E±0°4,h200km,n8, σ1s43/10,mb3.4/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.79**	**323**	P	**Pn**	**15 13 31.9**	**+1.4**
	11nm,0.3s,baz=75,slow=9.0,SNR=21						
PSI				S	**Sn**	**15 13 58.5**	**-0.5**
	1.5nm,0.3s,baz=356,slow=20,SNR=13						
WRA	**Warramunga Arr**	**39.77**	**124**	P	**P**	**15 20 08.8**	**+1.1**
	0.2nm,0.4s,baz=312,slow=8.8,SNR=7.7						
ASAR	**Alice Springs**	**41.29**	**129**	P	**P**	**15 20 20.7**	**+0.6**
	0.1nm,0.3s,baz=301,slow=7.5,SNR=6.7						
ASAR				ScP	**ScP**	**15 25 42.8**	**-3.1**
	0.3nm,0.7s,baz=301,slow=4.1,SNR=6.7						
SONM	**Songino Array**	**46.62**	**6**	P	**P**	**15 21 02.3**	**+0.1**
	0.2nm,0.4s,baz=183,slow=9.4,SNR=2.1						
MKAR	**Makanchi Array**	**47.82**	**344**	P	**P**	**15 21 11.1**	**-0.3**
	0.6nm,0.4s,baz=160,slow=8.5,SNR=16						
ZALV	**Zalesovo Beam**	**53.89**	**349**	P	**P**	**15 21 55.9**	**-0.5**
	1.2nm,0.4s,baz=179,slow=5.8,SNR=7.5						
FINES	**FINESS Array B**	**81.16**	**332**	P	**P**	**15 24 46.6**	**-0.3**
	1.8nm,0.9s,baz=108,slow=8.9,SNR=1.8						
ARCES	**ARCESS Array B**	**83.33**	**340**	P	**P**	**15 24 57.5**	**-0.6**
	2.0nm,0.7s,baz=100,slow=4.8,SNR=6.2						

*NEIC **28** 15:41:21.9±1.5,22°05N±0°10×142°8E±0°1,h291km±7km, mb4.0/32,Error ellipse: s-maj=20.0km s-min=14.1km az=95.0*
*IDC **28** 15:41:23.7±4.8,22°04N×142°59E,h311km±47km, mb3.3/10,mb1 3.4/12,mb1mx3.1/38,mbtmp3.9/12,Error ellipse: s-maj=33.6km s-min=11.4km az=81.0*
ISC 28 15:41:21.8±0.5,22°03N±0°07×142°8E±0°1,h300km,n54, σ0s90/54,mb3.8/23,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.07**	**354**	Pn	**Pn**	**15 42 39.3**	**-0.9**
GUMO	**Guam**	**8.62**	**167**	Pn	**Pn**	**15 43 21.3**	**-1.8**
MAJO	**Matsushiro**	**15.00**	**346**	P	**Pn**	**15 44 40.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**15.01**	**346**	P	**Pn**	**15 44 40.0**	**-0.3**
JNU	**Nakatsue**	**15.28**	**319**	P	**P**	**15 44 42.6**	**+0.7**
	0.2nm,0.3s,baz=52,slow=3.0,SNR=1.9						
JMM	**Marumori**	**15.88**	**354**	P	**P**	**15 44 47.4**	**-1.0**
JSD	**Sado**	**16.43**	**347**	P	**P**	**15 44 52.9**	**-1.5**
JSD				IAmb	IAmb	15 45 13.4	
	comp=Z,6.1nm,1.1s						
KSRS	**Korea Array**	**20.04**	**323**	P	**P**	**15 45 33.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=147,slow=8.8,SNR=7.4						
KS19	**Wonju Array Si**	**20.11**	**323**	P	**P**	**15 45 33.8**	**+0.1**
KS19				IAmb	IAmb	15 45 56.6	
	comp=Z,16nm,1.3s						
KKM	**Kota Kinabalu**	**30.21**	**242**	P	**P**	**15 47 04.8**	**-0.7**
SBUM	**Sibu**	**35.53**	**241**	P	**P**	**15 47 50.8**	**-0.4**
SBUM				IAmb	IAmb	15 48 16.2	
	comp=Z,9.1nm,1.3s						
MTN	**Manton Dam**	**36.50**	**199**	P	**P**	**15 47 59.4**	**0.0**
SONM	**Songino Array**	**38.86**	**320**	P	**P**	**15

ILAR	**Eielson Array**	**61.90**	**27**	P		**P**		**15 51 09.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=255,slow=5.2,SNR=1.2								
BRVK	**Borovoye**	**62.26**	**319**	P		**P**		**15 51 12.9**	**+0.7**
BRVK				IAmb		IAmb		15 51 40.7	
	comp=Z,4.0nm,1.3s								
J25K	**Salcha River,**	**62.53**	**27**	P		**P**		**15 51 14.4**	**+0.5**
J25K				IAmb		IAmb		15 51 14.9	
	comp=Z,4.1nm,1.3s								
GAR	**Garm**	**63.17**	**304**	P		**P**		**15 51 18.7**	**0.0**
GAR				IAmb		IAmb		15 51 46.2	
	comp=Z,2.9nm,0.9s								
BMAR	**Burnt Mountain**	**63.19**	**24**	P		**P**		**15 51 20.4**	**+2.2**
INK	**Inuvik**	**67.40**	**24**	P		**P**		**15 51 46.8**	**+1.9**
	comp=Z,2.0nm,0.4s,baz=180,slow=4.0,SNR=3.5								
INK	**Inuvik**	**67.40**	**24**	IAmb		IAmb		15 51 47.8	
	comp=Z,2.6nm,0.4s								
ABKAR	**Akbulak array**	**69.07**	**316**	P		**P**		**15 51 54.9**	**-0.7**
ARCES	**ARCESS Array B**	**78.50**	**341**	P		**P**		**15 52 50.2**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=61,slow=7.3,SNR=4.2								
FIA1	**FINESS Array S**	**82.73**	**334**	P		**P**		**15 53 11.8**	**-0.3**
FINES	**FINESS Array B**	**82.73**	**334**	P		**P**		**15 53 11.8**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=66,slow=4.4,SNR=18								
BMN	**Battle Mountai**	**83.20**	**49**	P		**P**		**15 53 14.4**	**-0.8**
BMN				IAmb		IAmb		15 53 29.2	
	comp=Z,1.2nm,0.8s								
RWWY	**Rawlins**	**89.45**	**45**	P		**P**		**15 53 45.5**	**-0.1**
PLCA	**Paso Flores**	**146.24**	**131**	PKPbc		**PKPab**		**16 00 29.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=252,slow=6.4,SNR=4.7								
PLCA	**Paso Flores**	**146.24**	**131**	PKPdf		**PKPdf**		**16 00 26.2**	**+0.4**
RCBR	**Riachuelo**	**163.84**	**355**	PKP		**PKPdf**		**16 00 47.6**	**-2.4**
	comp=Z,7.4nm,0.8s,baz=0.0,slow=0.0,SNR=2.2								

*IDC **28** 15:48:49.7±1.4,9°.55S×119°.73E, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.5/34, mbtmp3.9/6, ML4.0/3, Error ellipse: s-maj=111.4km s-min=21.5km az=56.0*
*NEIC **28** 15:48:56.1±1.9, 9°.75S±0°.08×119°.68E±0°.07, h54km±9km, mb4.0/15, Error ellipse: s-maj=12.0km s-min=9.3km az=193.0*
*DJA **28** 15:48:58.0±0.2, 10°S±3°×12°0E±°, h41km±6km, M4.1/17, mb4.3/10, mB4.7/4, MLv4.1/17, Mw(mB)3.9/4*
ISC 28 15:48:56.1±0.5,**9°.78S**±0°.06×**119°.78E**±0°.06,**h50km**,**n75,**
σ2ˢ46/75,mb4.0/9,Southern region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.41**	**290**	P		**Pn**	**15 49 09.1**	**+2.7**
WBSI				S		**Sn**	**15 49 17.0**	**+3.3**
BASI	**Baing, Sumba**	**0.90**	**119**	P		**Pn**	**15 49 16.6**	**+4.2**
PLAI	**Plampang**	**2.19**	**295**	P		**Pn**	**15 49 32.5**	**+2.4**
PLAI	**Plampang**	**2.19**	**295**	P		**Pn**	**15 49 32.8**	**+2.7**
MMRI	**Maumere**	**2.68**	**65**			**Pn**	**15 49 39.5**	**+2.7**
MMRI	**Maumere**	**2.68**	**65**	P		**Pn**	**15 49 40.0**	**+3.2**
MMRI	**Maumere**	**2.68**	**65**	P		**Pn**	**15 49 40.0**	**+3.2**
BSSI	**Bau Bau, Buton**	**3.68**	**11**	P		**Pn**	**15 49 52.6**	**+2.0**
BATI	**Baumata**	**3.85**	**97**	P		**Pn**	**15 49 57.0**	**+4.2**
BKSI	**Bulukumba**	**4.45**	**4**	P		**Pn**	**15 50 03.6**	**+2.6**
IGBI	**Denpasar**	**4.67**	**281**	P		**Pn**	**15 50 06.6**	**+2.5**
KAPI	**Kappang**	**4.74**	**360**			**Pn**	**15 50 03.6**	**-1.4**
KAPI	**Kappang**	**4.74**	**360**	P		**Pn**	**15 50 08.2**	**+3.2**
SRBI	**Singaraja**	**4.82**	**290**	P		**Pn**	**15 50 08.2**	**+2.1**
BBSI	**Bau Bau**	**5.08**	**33**	P		**Pn**	**15 50 13.5**	**+3.7**
	0.0nm70nm4.4nm,0.7s							
BNSI	**Bone**	**5.36**	**3**	P		**Pn**	**15 50 18.3**	**+4.8**
JAGI	**Jajag, Banyuwa**	**5.71**	**283**			**Pn**	**15 50 18.0**	**-0.4**
JAGI	**Jajag, Banyuwa**	**5.71**	**283**	P		**Pn**	**15 50 18.4**	**0.0**
	0.5nm2µm46nm,0.4s							
JAGI	**Jajag, Banyuwa**	**5.71**	**283**	P		**Pn**	**15 50 19.1**	**+0.7**
GMJI	**Gumukmas**	**6.44**	**283**	P		**Pn**	**15 50 28.8**	**+0.5**
	0.1nm23nm,0.7s							
TTSI	**Tana Toraja**	**6.69**	**0**	P		Pn	15 50 37.4	+5.5
	0.1nm16nm,0.6s							
PWJI	**Pagerwojo**	**8.07**	**282**	P		**Pn**	**15 50 53.1**	**+2.3**
	15nm,1.4s							
PCJI	**Pacitan**	**8.64**	**280**	P		**Pn**	**15 50 57.7**	**-0.9**
LUWI	**Luwuk**	**9.18**	**19**	Pn		**Pn**	**15 51 05.7**	**-0.2**
UGM	**Wanagama**	**9.34**	**281**	Pn		**Pn**	**15 51 06.2**	**-1.9**
UGM	**Wanagama**	**9.34**	**281**	P		**Pn**	**15 51 10.3**	**+2.2**
	72nm,1.4s							
FITZ	**Fitzroy Crossi**	**10.03**	**146**	Pn		**Pn**	**15 51 17.6**	**0.0**
	0.9nm,0.3s,baz=334,slow=11,SNR=58							
FITZ				Sn		**Sn**	**15 53 02.9**	**-5.9**
	1.8nm,0.3s,baz=183,slow=20,SNR=9.0							
FITZ	**Fitzroy Crossi**	**10.03**	**146**			**Pn**	**15 51 17.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.03**	**146**	P		**Pn**	**15 51 18.1**	**+0.5**
KNRA	**Kununurra**	**10.54**	**125**			**Pn**	**15 51 25.5**	**+0.9**
KNRA	**Kununurra**	**10.54**	**125**	P		**Pn**	**15 51 26.3**	**+1.8**
SAUI	**Saumlaki**	**11.52**	**82**	Pn		**Pn**	**15 51 40.1**	**+2.1**
MTN	**Manton Dam**	**11.54**	**106**			**Pn**	**15 51 37.9**	**-0.4**
MTN	**Manton Dam**	**11.54**	**106**	P		**Pn**	**15 51 37.8**	**-0.4**
PSA00	**Pilbara Seismi**	**11.72**	**180**	Pn		**Pn**	**15 51 40.1**	**-0.7**
PSA00	**Pilbara Seismi**	**11.72**	**180**	Pn		**Pn**	**15 51 40.0**	**-0.7**
PSA00	**Pilbara Seismi**	**11.72**	**180**	P		**Pn**	**15 51 41.3**	**+0.6**
KDU	**Kakadu**	**12.78**	**104**	P		**Pn**	**15 51 56.3**	**+1.1**
GIRL	**Giralia**	**13.85**	**202**	Pn		**Pn**	**15 52 10.5**	**+0.8**
GIRL	**Giralia**	**13.85**	**202**	P		**Pn**	**15 52 11.3**	**+1.5**
KLSI		**15.76**	**288**	P		**P**	**15 52 37.9**	**-0.1**
MEEK	**Meekatharra**	**16.80**	**184**	P		**P**	**15 52 49.9**	**+0.4**
WRKA	**Warakurna**	**17.20**	**153**	P		**P**	**15 52 54.8**	**+0.9**
WB0	**Warramunga Arr**	**17.25**	**127**			**Pn**	**15 52 53.9**	**+0.3**
WRA	**Warramunga Arr**	**17.31**	**127**	P		**Pn**	**15 52 53.9**	**-0.4**
	0.5nm,0.3s,baz=302,slow=14,SNR=47							
WRA				S		Sn	15 55 53.9	-12
	0.2nm,0.3s,baz=306,slow=24,SNR=8.2							
WRAB	**Tennant Creek**	**17.31**	**127**	P		**Pn**	**15 52 54.1**	**-0.3**
WRAB				IAmb		IAmb	15 53 11.3	
	comp=Z,6.2nm,1.1s							
WRAB	**Tennant Creek**	**17.31**	**127**	P		**P**	**15 52 55.4**	**+0.2**
WB2	**Warramunga Arr**	**17.32**	**127**			**Pn**	**15 52 54.0**	**-0.4**
WB2				IAmb		IAmb	15 53 07.6	
	comp=Z,3.9nm,0.7s							
WR0	**Warramunga Arr**	**17.47**	**127**			**Pn**	**15 52 56.7**	**+0.4**
AS31	**Alice Springs**	**19.30**	**137**			**Pn**	**15 53 20.1**	**+1.6**
ASAR	**Alice Springs**	**19.30**	**137**	P		**Pn**	**15 53 20.3**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=312,slow=10,SNR=85							
ASAR				S		**S**	**15 56 43.2**	**-10**
	comp=Z,0.1nm,0.3s,baz=315,slow=24,SNR=4.7							
ASAR	**Alice Springs**	**19.30**	**137**	Pn		**Pn**	**15 53 20.0**	**+1.5**
MORW	**Morawa**	**19.50**	**190**	P		**Pn**	**15 53 23.3**	**+2.5**
BLDU	**Ballidu**	**20.93**	**187**	P		Pn	15 53 38.2	+0.6
KLBR	**Kellerberrin**	**21.78**	**185**	P		**P**	**15 53 46.8**	**+3.0**
COCO	**West Island**	**22.65**	**262**	P		**P**	**15 53 51.3**	**-1.9**
COEN	**Coen**	**23.26**	**103**	P		**P**	**15 53 59.3**	**-0.2**
COEN				IAmb		IAmb	15 54 25.9	
	comp=Z,6.7nm,1.2s							
COEN	**Coen**	**23.26**	**103**	P		**P**	**15 54 02.8**	**+3.3**
OOD	**Oodnadatta**	**23.36**	**142**	P		**P**	**15 54 03.5**	**+3.3**
IPM	**Ipoh**	**23.45**	**306**	P		**P**	**15 53 59.8**	**-1.5**
IPM				IAmb		IAmb	15 54 14.2	
	comp=Z,22nm,1.3s							
MULG	**Mulgathing**	**24.36**	**149**	P		**P**	**15 54 13.0**	**+3.5**
MTSU	**Mount Surprise**	**25.19**	**112**	P		**P**	**15 54 19.7**	**+2.4**
LCRK	**Leigh Creek**	**26.80**	**143**	P		**P**	**15 54 36.1**	**+4.5**
JSU	**Suzuyama**	**42.31**	**14**	P		**P**	**15 56 44.8**	**-0.3**
JTM	**Tenmabayashi**	**54.02**	**20**	P		**P**	**15 58 13.9**	**-1.4**
SONM	**Songino Array**	**58.58**	**349**	P		**P**	**15 58 46.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=166,slow=8.9,SNR=3.6							
SONM	**Songino Array**	**58.58**	**349**	IAmb		IAmb	15 59 12.1	
	comp=Z,1.0nm,1.2s							
MKAR	**Makanchi Array**	**65.50**	**333**	P		**P**	**15 59 34.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=151,slow=6.8,SNR=7.1							
MAKZ	**Makanchi**	**65.65**	**332**	P		**P**	**15 59 32.8**	**-2.3**
MAKZ				IAmb		IAmb	15 59 40.3	
	comp=Z,2.8nm,1.4s							
ZAA0	**Zalesovo Array**	**70.04**	**339**	P		**P**	**16 00 00.8**	**-1.7**
ZAA0				IAmb		IAmb	16 00 01.0	
	comp=Z,1.4nm,0.8s							
ZALV	**Zalesovo Beam**	**70.04**	**339**	P		**P**	**16 00 00.8**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=131,slow=5.0,SNR=2.6							
YAK	**Yakutsk**	**72.01**	**5**	P		**P**	**16 00 12.8**	**-1.5**
YAK				IAmb		IAmb	16 00 35.0	
	comp=Z,4.0nm,0.5s							
ABKAR	**Akbulak array**	**78.64**	**325**	P		**P**	**16 00 51.1**	**-1.6**
BILL	**Bilibino**	**84.33**	**16**	P		**P**	**16 01 22.9**	**+0.5**
BILL				IAmb		IAmb	16 01 38.2	
	comp=Z,0.6nm,1.0s							
TORD	**Torodi Ar. Bea**	**119.35**	**280**	PKP		**PKiKP**	**16 07 41.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=90,slow=3.6,SNR=1.6							

*SNET **28** 15:53:12.0±2.0, 12°.86N×90°.31W, h10km, ML3.3*
*IDC **28** 15:53:12.9±2.8, 13°.56N×89°.68W, h0km, mb3.5/3,*
mb1 3.8/5, mb1mx3.5/46, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=71.0km s-min=26.3km az=33.0
*GCG **28** 15:53:16.2±0.4, 13°.35N×90°.27W, h123km±12km, MD3.7*
*INET **28** 15:53:31.6±2.2, 13°.93N×89°.17W, h5km, MW2.7*
ISC 28 15:53:11.1±2.7,**12°.80N**±0°.09×**90°.31W**±0°.05,**h18km**±15km,
n31,σ1ˢ37/43,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAYA	**Jayaque - finc**	**1.20**	**44**	*e*P		**Pb**	**15 53 33.4**	**-0.1**
JAYA				IAML			15 53 50.4	
	comp=Z,1µm,0.2s							
NUBE	**Las Nubes**	**1.22**	**25**	*e*P		**Pb**	**15 53 33.2**	**-0.5**
NUBE				*e*S		**Sb**	**15 53 49.0**	**-0.2**
NUBE				IAML			15 53 49.6	
	comp=Z,407nm,0.3s							
CEVE	**Cerro Verde**	**1.23**	**33**	*e*P		**Pb**	**15 53 34.0**	**+0.1**
CEVE				*e*S		**Sn**	**15 53 52.9**	**+3.1**
CEVE				IAML			15 53 54.3	
	comp=Z,2µm,0.4s							
SBLS	**San Blas**	**1.23**	**33**	*e*P		**Pb**	**15 53 33.9**	**-0.2**
SNJE	**San Jose**	**1.27**	**33**	*e*P		**Pb**	**15 53 34.6**	**-0.1**
RTR	**El Retiro**	**1.27**	**31**	*e*P		**Pb**	**15 53 34.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.33**	**23**	*e*P		**Pn**	**15 53 35.0**	**+0.2**
SLOZ				*e*S		**Sb**	**15 53 52.0**	**-0.2**
SLOZ				IAML			15 53 56.2	
	comp=Z,590nm,0.5s							
CEDA	**San Andres**	**1.34**	**42**	*e*P		**Pn**	**15 53 35.7**	**+0.6**
BOQS	**Boqueron**	**1.37**	**47**	*e*P		**Pn**	**15 53 36.5**	**+0.9**
SNET	**Serv Nac Est T**	**1.38**	**50**	*e*P		**Pn**	**15 53 36.7**	**+1.1**
LFRS	**El Faro**	**1.47**	**56**	*e*P		**Pn**	**15 53 37.3**	**+0.4**
TACO	**Tacachico**	**1.49**	**39**	*e*P		**Pn**	**15 53 37.6**	**+0.5**
TACO				*e*S		**Sn**	**15 53 56.6**	**+0.4**
COEG	**Centro de Oper**	**1.62**	**59**	*e*P		**Pn**	**15 53 39.5**	**+0.6**
COEG				*e*S		**Sn**	**15 53 59.8**	**+0.4**
COEG	**Centro de Oper**	**1.62**	**59**	*e*P		**Pn**	**15 53 39.4**	**+0.6**
PAVA	**Las Pavas**	**1.62**	**56**	*e*P		**Pn**	**15 53 40.3**	**+1.3**
PAVA				*e*S		**Sn**	**15 54 00.9**	**+1.5**
PAVA				IAML			15 54 02.8	
	comp=Z,357nm,0.3s							
PAVA	**Las Pavas**	**1.62**	**56**	*e*P		**Pn**	**15 53 40.2**	**+1.3**
TECO	**Alcaldia de Te**	**1.66**	**64**	*e*P		**Pn**	**15 53 40.1**	**+0.7**
FUG	**Fuego 3**	**1.72**	**343**	*e*P		**Pn**	**15 53 41.4**	**+1.0**
FUG				*e*S		**Sn**	**15 54 01.4**	**-0.6**
NBG	**Las Nubes**	**1.78**	**359**	*e*P		**Pb**	**15 53 43.3**	**-0.1**
NBG				*e*S		**Sn**	**15 54 03.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.79**	**60**	*e*P		**Pn**	**15 53 42.4**	**+1.3**
SCLA				*e*S		**Sg**	**15 54 08.8**	**0.0**
SCLA				IAML			15 54 11.1	
	comp=Z,102nm,0.5s							
MTO3	**Montecristo**	**1.84**	**30**	*e*P		**Pn**	**15 53 43.0**	**+0.9**
MTO3				*e*S		**Sb**	**15 54 07.3**	**0.0**
MTO3	**Montecristo**	**1.84**	**30**	*e*P		**Pn**	**15 53 42.9**	**+0.8**
COEB	**Comit de Eme**	**1.87**	**68**	*e*P		**Pn**	**15 53 43.4**	**+1.0**
COEB				*e*S		**Sn**	**15 54 07.9**	**+2.3**
COEB				IAML			15 54 10.9	
	comp=Z,232nm,0.2s							
ESQI	**Esquipulas**	**1.99**	**28**	*e*P		**Pn**	**15 53 46.1**	**+2.0**
STG3	**Santiaguito 3,**	**2.26**	**327**	*e*P		**Pn**	**15 53 49.1**	**+1.2**
STG3				*e*S		**Sn**	**15 54 14.4**	**-1.0**
MRL	**Marmol**	**2.35**	**15**	*e*P		**Pn**	**15 53 48.6**	**-0.5**
JTS	**Las Juntas de**	**5.81**	**115**	Pn		**Pn**	**15 54 38.3**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=246,slow=19,SNR=8.2							
CMIG	**Matias Romero**	**6.14**	**315**	Pn		**Pn**	**15 54 44.7**	**+3.7**
	comp=Z,0.4nm,0.3s,baz=83,slow=12,SNR=2.9							
CMIG				Sn		**Sn**	**15 55 54.6**	**+3.7**
	comp=Z,0.4nm,0.3s,baz=59,slow=14,SNR=2.3							
TXAR	**Lajitas Array**	**20.61**	**325**	P		Pn	15 57 52.6	+0.7
	comp=Z,0.4nm,0.5s,baz=143,slow=12,SNR=8.7							
SCHQ	**Schefferville**	**45.80**	**19**	P		**P**	**16 01 29.4**	**-2.3**
	comp=Z,1.6nm,0.5s,baz=230,slow=7.9,SNR=9.4							
YKA	**Yellowknife Ar**	**52.58**	**346**	P		**P**	**16 02 22.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=137,slow=7.0,SNR=12							

*DJA **28** 16:08:51.8±0.1, 8°S±2°×12°0E±°, h517km±2km, M4.2/34, mB4.8/17, mb4.4/34, MLv4.5/22, Mw(mB)4.0/17*
*IDC **28** 16:08:51.2±0.9, 7°.39S×120°.49E, h517km±9km, mb3.5/20, mb1 3.6/24, mb1mx3.3/59, mbtmp4.5/24, Error ellipse: s-maj=18.2km s-min=6.5km az=60.0*
*NEIC **28** 16:08:52.3±1.1, 7°.42S±0°.08×120°.4E±0°.1, h528km±7km, mb4.1/23, Error ellipse: s-maj=16.8km s-min=10.8km az=67.0*
ISC 28 16:08:51.6±0.5,**7°.50S**±0°.05×**120°.35E**±0°.06,**h524km**±5km,
n161,σ1ˢ07/182,mb4.1/38,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.35**	**6**	P		**P**	**16 09 57.1**	**+0.7**
BSSI				S		**S**	**16 10 49.3**	**+0.4**
BKSI	**Bulukumba**	**2.17**	**354**	P		**P**	**16 10 00.5**	**+0.7**
BKSI				S		**S**	**16 10 55.4**	**+0.3**
MMRI	**Maumere**	**2.19**	**121**	P		**P**	**16 09 59.1**	**-0.7**
MMRI	**Maumere**	**2.19**	**121**	P		**P**	**16 09 59.4**	**-0.4**
MMRI				S		**S**	**16 10 52.2**	**-3.0**
MMRI	**Maumere**	**2.19**	**121**	P		**P**	**16 09 59.7**	**-0.1**
WBSI	**Waikabubak, Su**	**2.33**	**204**	P		**P**	**16 10 00.7**	**+0.1**
WBSI				S		**S**	**16 10 54.3**	**-2.4**
KAPI	**Kappang**	**2.54**	**346**	P		**P**	**16 10 03.1**	**+1.3**
BASI	**Baing, Sumba**	**2.71**	**175**	P		**P**	**16 10 04.1**	**+1.4**
BASI				S		**S**	**16 11 00.0**	**-0.6**
PLAI	**Plampang**	**2.87**	**242**	P		**P**	**16 10 04.5**	**+0.8**
PLAI				S		**S**	**16 11 00.7**	**-1.6**
PLAI	**Plampang**	**2.87**	**242**	P		**P**	**16 10 04.7**	**+1.0**
BBSI	**Bau Bau**	**2.97**	**48**	P		**P**	**16 10 06.3**	**+1.9**
BBSI				S		**S**	**16 11 05.0**	**+1.5**
BNSI	**Bone**	**3.08**	**355**	P		**P**	**16 10 06.8**	**+1.7**
BNSI				S		**S**	**16 11 06.3**	**+1.5**
SPSI	**Sidrap Palu**	**3.56**	**351**	P		**P**	**16 10 09.7**	**+1.3**
SPSI				S		**S**	**16 11 11.6**	**+0.8**
BATI	**Baumata**	**4.24**	**130**	P		**P**	**16 10 14.2**	**+0.6**
	21nm,0.3s,baz=329,slow=3.6,SNR=43							
BATI				S		**S**	**16 11 15.8**	**-4.6**
	48nm,0.3s,baz=321,slow=3.6,SNR=13							
BATI	**Baumata**	**4.24**	**130**	P		**P**	**16 10 14.0**	**+0.4**
BATI				S		**S**	**16 11 17.8**	**-2.6**
SRBI	**Singaraja**	**5.12**	**263**	P		**P**	**16 10 22.0**	**+1.0**
	0.3nm36nm,0.9s							
IGBI	**Denpasar**	**5.32**	**255**	P		**P**	**16 10 23.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**6.21**	**261**	P		**P**	**16 10 30.5**	**-0.5**
JAGI	**Jajag, Banyuwa**	**6.21**	**261**	P		**P**	**16 10 30.7**	**-0.4**
	0.6nm2µm88nm,0.6s							
JAGI	**Jajag, Banyuwa**	**6.21**	**261**	P		**P**	**16 10 30.9**	**-0.2**
KMMI	**Kalianget**	**6.35**	**274**	P		**P**	**16 10 34.5**	**+2.2**
	0.3nm62nm,0.6s							
APSI	**Ampana**	**6.67**	**11**	P		**P**	**16 10 35.9**	**+0.4**
	0.3nm1µm92nm,0.8s							
BLJI	**Banyuglugur**	**6.70**	**267**	P		**P**	**16 10 36.6**	**+0.9**
	0.2nm62nm,0.8s							
LUWI	**Luwuk**	**6.85**	**21**	P		**P**	**16 10 37.3**	**+0.1**
LUWI	**Luwuk**	**6.85**	**21**	P		**P**	**16 10 37.7**	**+0.5**
	0.6nm2µm138nm,0.7s							
LUWI	**Luwuk**	**6.85**	**21**	P		**P**	**16 10 37.9**	**+0.7**
GMJI	**Gumukmas**	**6.88**	**263**	P		**P**	**16 10 37.0**	**-0.5**
MPSI	**Mapaga**	**7.79**	**357**	P		**P**	**16 10 47.3**	**+0.7**
	0.3nm739nm70nm,0.9s							
SANI	**Sanana**	**7.80**	**46**	P		**P**	**16 10 46.5**	**-0.2**
	0.7nm2µm194nm,0.8s							
SANI	**Sanana**	**7.80**	**46**	P		**P**	**16 10 46.7**	**0.0**
MRSI	**Marisa**	**8.08**	**11**	P		**P**	**16 10 49.3**	**-0.2**
	2µm166nm,0.8s							
PWJI	**Pagerwojo**	**8.48**	**266**	P		**P**	**16 10 52.5**	**-1.1**
	21nm,0.6s							
GTOI	**Gorontalo**	**8.50**	**18**	P		**P**	**16 10 54.4**	**+0.6**
	1µm118nm,0.8s							
TOLI2	**Tolitoli**	**8.56**	**3**	P		**P**	**16 10 54.0**	**-0.5**
TOLI2	**Tolitoli**	**8.56**	**3**	P		**P**	**16 10 54.2**	**-0.2**
AAI	**Ambon**	**8.67**	**65**	P		**P**	**16 10 55.4**	**-0.2**
	2µm131nm,0.5s							
KMSI	**Cibinong**	**8.80**	**24**	P		**P**	**16 10 57.5**	**+0.7**
	3µm290nm,0.5s							
PCJI	**Pacitan**	**9.12**	**265**	P		**P**	**16 10 59.3**	**-0.8**
	44nm,0.6s							
MSAI	**Masohi**	**9.48**	**65**	P		**P**	**16 11 02.1**	**-1.8**
UGM	**Wanagama**	**9.75**	**267**	P		**P**	**16 11 06.6**	**-0.1**
UGM	**Wanagama**	**9.75**	**267**	P		**P**	**16 11 06.4**	**-0.3**
	60nm,1.5s							
UGM	**Wanagama**	**9.75**	**267**	P		**P**	**16 11 07.5**	**+0.8**
LBMI	**Labuha**	**9.86**	**47**	P		**P**	**16 11 07.7**	**-0.2**
	1µm141nm,0.8s							
BNDI	**Bandanaira**	**9.95**	**73**	P		**P**	**16 11 08.7**	**-0.1**
TNTI	**Ternate**	**10.79**	**41**	P		**P**	**16 11 16.6**	**-0.9**
TNTI	**Ternate**	**10.79**	**41**	P		**P**	**16 11 17.1**	**-0.5**
TNTI	**Ternate**	**10.79**	**41**	P		**P**	**16 11 17.7**	**+0.1**
SAUI	**Saumlaki**	**10.86**	**93**	P		**P**	**16 11 18.3**	**0.0**
KPJI	**Karang Pucung**	**11.33**	**270**	P		**P**	**16 11 23.1**	**0.0**
	44nm,0.5s							
KNRA	**Kununurra**	**11.57**	**135**	P		**P**	**16 11 26.1**	**+0.5**
KNRA	**Kununurra**	**11.57**	**135**	P		**P**	**16 11 26.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.73**	**154**	P		**P**	**16 11 28.5**	**+1.2**
	1.6nm,0.3s,baz=336,slow=8.4,SNR=79							
FITZ				S		**S**	**16 13 34.9**	**-0.6**
	0.1nm,0.3s,baz=9.8,slow=20,SNR=7.8							
FITZ	**Fitzroy Crossi**	**11.73**	**154**	P		**P**	**16 11 28.4**	**+1.1**
CMJI	**Cimerak**	**11.80**	**268**	P		**P**	**16 11 27.1**	**-1.0**
	36nm,0.8s							
MTN	**Manton Dam**	**11.87**	**117**	P		**P**	**16 11 28.8**	**0.0**
SWI	**Sorong**	**12.71**	**59**	P		**P**	**16 11 36.5**	**-1.2**
	61nm,1.0s							
SIJI	**Sorong**	**12.72**	**59**	P		**P**	**16 11 36.2**	**-1.5**
	3.8nm,0.3s,baz=250,slow=8.4,SNR=11							
SIJI				S		**S**	**16 13 53.5**	**-1.1**
	0.4nm,0.3s,baz=80,slow=22,SNR=1.2							
MYLDM	**Lahad Datu**	**12.73**	**352**	P		**P**	**16 11 38.9**	**+1.1**
SBUM	**Sibu**	**12.78**	**320**	P		**P**	**16 11 39.4**	**+1.0**
CNJI	**Cibinong**	**13.11**	**270**	P		**P**	**16 11 40.7**	**-1.2**
	15nm,0.5s							
KSM	**Kuching**	**13.41**	**311**	P		**P**	**16 11 45.5**	**+0.5**
PSA00	**Pilbara Seismi**	**14.00**	**182**	P		**P**	**16 11 51.9**	**+0.8**
PSA00	**Pilbara Seismi**	**14.00**	**182**	P		**P**	**16 11 50.8**	**-0.3**
PSA00	**Pilbara Seismi**	**14.00**	**182**	P		**P**	**16 11 52.1**	**+1.0**
KKM	**Kota Kinabalu**	**14.07**	**343**	P		**P**	**16 11 50.9**	**-1.1**
KKM	**Kota Kinabalu**	**14.07**	**343**	P		**P**	**16 11 51.7**	**-0.3**
CGJI	**Cibinong**	**14.57**	**273**	P		**P**	**16 11 55.8**	**-1.3**
	20nm,1.0s							
GIRL	**Giralia**	**16.17**	**201**	P		**P**	**16 12 14.7**	**+1.2**
GIRL	**Giralia**	**16.17**	**201**	P		**P**	**16 12 15.0**	**+1.5**
WRA	**Warramunga Arr**	**18.36**	**134**	P		**P**	**16 12 34.5**	**+0.4**
	2.6nm,0.3s,baz=313,slow=10.0,SNR=319							
WRA				S		**S**	**16 15 33.1**	**-2.2**
	0.1nm,0.3s,baz=315,slow=16,SNR=3.6							
WRAB	**Tennant Creek**	**18.36**	**134**	P		**P**	**16 12 34.6**	**+0.5**
WRAB	**Tennant Creek**	**18.36**	**134**	P		**P**	**16 12 35.0**	**+0.9**
WRKA	**Warakurna**	**19.02**	**157**	P		**P**	**16 12 41.4**	**+1.2**
MEEK	**Meekatharra

VNDA	**Vanda**	**73.26**	**171**	P	**P**	**16**	**19**	**29.9 +1.0**
	comp=Z,1.3nm,0.4s,baz=318,slow=6.6,SNR=15							
VNDA	**Vanda**	**73.26**	**171**	P	**P**	**16**	**19**	**29.6 +0.7**
GEYT	**Alibeck**	**73.38**	**313**	P	**P**	**16**	**19**	**30.7 +0.3**
	comp=Z,1.5nm,0.5s,baz=236,slow=28,SNR=2.2							
GEYT	**Alibeck**	**73.38**	**313**	P	**P**	**16**	**19**	**30.0 -0.4**
GEYT				IAmb	IAmb	16	19	32.5
	comp=Z,3.5nm,1.1s							
GYA0B	**ALIBECK ARRAY**	**73.38**	**313**	P	**P**	**16**	**19**	**29.8 -0.5**
GYA0B				IAmb	IAmb	16	19	38.0
	comp=Z,3.9nm,0.5s							
BVAR	**Borovoye Array**	**73.62**	**331**	P	**P**	**16**	**19**	**30.6 -0.8**
	comp=Z,0.7nm,0.6s,baz=140,slow=46,SNR=2.6							
BRVK	**Borovoye**	**73.69**	**331**	P	**P**	**16**	**19**	**31.0 -0.7**
SBA	**Scott Base**	**74.25**	**171**	P	**P**	**16**	**19**	**35.9 +1.4**
SEY	**Seymchan**	**74.38**	**15**	P	**P**	**16**	**19**	**35.2 -0.1**
	comp=Z,3.6nm,0.6s,baz=220,slow=5.1,SNR=41							
ABKAR	**Akbulak array**	**77.12**	**324**	P	**P**	**16**	**19**	**49.7 -1.2**
AKTO	**Aktyubinsk**	**78.77**	**325**	P	**P**	**16**	**19**	**59.0 -0.8**
	comp=Z,1.9nm,0.6s,baz=105,slow=6.0,SNR=5.2							
TIXI	**Tiksi**	**79.18**	**3**	P	**P**	**16**	**19**	**59.8 -1.6**
	comp=Z,1.3nm,0.4s,baz=271,slow=24,SNR=13							
TIXI	**Tiksi**	**79.18**	**3**	P	**P**	**16**	**19**	**59.9 -1.6**
RAYN	**Ar Rayn**	**79.25**	**296**	P	**P**	**16**	**20**	**02.1 -0.9**
RAYN				IAmb	IAmb	16	20	03.9
	comp=Z,3.2nm,0.8s							
GEVA	**Gevas**	**84.75**	**310**	P	**P**	**16**	**20**	**31.0 +0.2**
SNAA	**Sanae**	**92.80**	**195**	P	**P**	**16**	**21**	**08.6 +0.9**
VNA2	**Neumayer--Watz**	**94.42**	**195**	P	**P**	**16**	**21**	**14.9 -0.1**
	baz=41,slow=14							
NVAR	**Mina Array Bea**	**119.03**	**50**	PKP	**PKPdf**	**16**	**26**	**41.4 0.0**
	comp=Z,0.7nm,0.8s,baz=12,slow=4.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**119.50**	**281**	PKP	**PKPdf**	**16**	**26**	**41.9 -0.7**
	comp=Z,0.6nm,0.5s,baz=60,slow=1.6,SNR=5.0							
PDAR	**Pinedale Array**	**123.91**	**43**	PKP	**PKPdf**	**16**	**26**	**50.6 -0.1**
	comp=Z,0.3nm,0.4s,baz=118,slow=1.0,SNR=9.4							
SCHQ	**Schefferville**	**132.44**	**6**	PKP	**PKPdf**	**16**	**27**	**06.8 +0.5**
	comp=Z,0.8nm,0.4s,baz=2.0,slow=2.0,SNR=5.4							
TXAR	**Lajitas Array**	**133.30**	**56**	PKP	**PKPdf**	**16**	**27**	**10.1 +1.4**
	comp=Z,0.3nm,0.5s,baz=186,slow=2.1,SNR=5.2							
CPUP	**Villa Florida**	**146.30**	**184**	PKPbc	**PKPbc**	**16**	**27**	**34.9 +0.7**
	comp=Z,3.4nm,0.7s,baz=140,slow=1.9,SNR=6.0							
LPAZ	**La Paz**	**154.92**	**160**	PKPab	**PKPab**	**16**	**28**	**14.5 +1.2**
	comp=Z,2.3nm,0.6s,baz=161,slow=3.0,SNR=9.8							
SIV	**San Ignacio**	**156.62**	**177**	PKPab	**PKPab**	**16**	**28**	**20.8 +1.0**

*DDA **28** 16:16:11.2±0.0,38°.68N×43°.38E, h7km±3km, ML2.2*
*ISK **28** 16:16:11.6, 38°.70N×43°.30E, h3km, ML2.5/8*
ISC 28 16:16:12.0±1.0, 38°.71N±0°.03×43°.33E±0°.03, h14km±9km, n17, σ1s14/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**156**	PG	**Pg**	**16 16 16.4**	**+0.8**
AKDM	**Akdamar-Van**	**0.46**	**216**	PG	**Pb**	**16 16 21.4**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.48**	**282**	P	**Pg**	**16 16 21.7**	**+0.1**
ADCV				S	**Sb**	**16 16 29.9**	**+0.5**
ADCV				*i* AML	AML	16 16 33.0	
	comp=N,98nm,0.3s						
CLDR	**Caldiran**	**0.64**	**46**	PG	**Pb**	**16 16 24.5**	**-0.5**
CLDR				SG	**Sb**	**16 16 34.7**	**+0.9**
CLDR	**Caldiran**	**0.64**	**46**	P	**Pg**	**16 16 23.2**	**-1.3**
CLDR				S	**Sg**	**16 16 32.6**	**-0.4**
CLDR				*i* AML	AML	16 16 36.0	
	comp=N,170nm,0.3s						
CLDR				*i* AML	AML	16 16 38.0	
	comp=E,168nm,0.4s						
MLAZ	**Malazgirt-MUS**	**0.74**	**306**	PG	**Pg**	**16 16 26.4**	**-0.1**
MLAZ				SG	**Sb**	**16 16 37.7**	**+0.8**
PERV	**Siirt/Pervari-**	**0.98**	**219**	P	**Pn**	**16 16 33.6**	**+2.2**
BLIS	**Bitlis-Merkez**	**0.99**	**253**	P	**Pg**	**16 16 30.0**	**-1.2**
BLIS				S	**Sg**	**16 16 42.7**	**-1.5**
BLIS				*i* AML	AML	16 16 45.0	
	comp=N,60nm,0.4s						
BLIS				*i* AML	AML	16 16 49.0	
	comp=E,47nm,0.6s						
GURO	**Guroymak-BITLI**	**1.02**	**262**	PG	**Pg**	**16 16 31.3**	**-0.5**
GURO				SG	**Sb**	**16 16 45.5**	**+0.6**
KOTA	**Agri, Merkez-K**	**1.10**	**355**	P	**Pb**	**16 16 33.1**	**+0.2**
KOTA				S	**Sg**	**16 16 46.1**	**-1.5**
HAKT	**HAKKARI**	**1.19**	**165**	P	**Pg**	**16 16 33.6**	**-1.3**
EATA	**Eleskirt**	**1.32**	**331**	P	**Pn**	**16 16 36.0**	**-0.3**
EATA				S	**Sb**	**16 16 55.0**	**+1.2**
EATA				*i* AML	AML	16 16 57.0	
	comp=E,41nm,0.6s						
EATA				*i* AML	AML	16 16 58.0	
	comp=N,47nm,0.5s						
MUSM	**Mu-Merkez**	**1.42**	**271**	P	**Pn**	**16 16 36.1**	**-1.4**
KOPR	**Koprukoy-ERZUR**	**1.72**	**319**	PN	**Pb**	**16 16 43.4**	**0.0**
GNI	**Garni**	**1.81**	**37**	PN	**Pb**	**16 16 45.3**	**+0.3**
KARO	**Karliova-Bingo**	**1.87**	**289**	PN	**Pn**	**16 16 45.5**	**+1.7**
ERZM	**Erzurum**	**1.94**	**309**	PN	**Pn**	**16 16 46.4**	**+1.7**

*SFS **28** 16:16:23.0,35°.46N×3°.74W, h21km, ML2.5, ALBORAN SUR*
*CNRM **28** 16:16:23.3,35°.51N×3°.76W, h30km, ml2.6*
*MDD **28** 16:16:23.5±0.5,35°.45N×3°.74W, h22km±5km, mb_Lg2.4/12, Error ellipse: s-maj=4.2km s-min=2.7km az=166.0*
ISC 28 16:16:21.7±1.2, 35°.46N±0°.02×3°.80W±0°.02, h22km±5km, n32, σ1s25/61, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.27**	**205**	P	**Pn**	**16 16 31.1**	**+0.7**
PALE				S	**Sn**	**16 16 35.6**	**-0.2**
PVLZ	**Peæn de**	**0.50**	**235**	P	**Pn**	**16 16 34.9**	**+1.4**
PVLZ				S	**Sb**	**16 16 40.0**	**+1.4**
GOG	**Mont Gurugu**	**0.70**	**109**	P	**Pn**	**16 16 37.3**	**+0.9**
GOG				S	**Sn**	**16 16 45.5**	**-1.1**
EMEL	**Melilla**	**0.71**	**103**	Pg	**Pn**	**16 16 36.8**	**+0.4**
EMEL				Sg	**Sb**	**16 16 45.5**	**+0.8**
EALB	**Alboran**	**0.79**	**52**	Pg	**Pb**	**16 16 37.0**	**+0.2**
EALB				Sg	**Sb**	**16 16 47.3**	**+0.3**
EALB				*i* Vmb_Lg		16 16 49.2	
TAF	**Taforalt**	**1.31**	**119**	P	**Pb**	**16 16 46.4**	**+0.8**
TAF				S	**Sn**	**16 17 00.7**	**-0.9**
SMIR	**Smir Dam**	**1.31**	**280**	P	**Pb**	**16 16 46.2**	**+0.7**
SMIR				S	**Sb**	**16 17 02.2**	**+0.4**
ECEU	**Ceuta**	**1.36**	**289**	Pn	**Pb**	**16 16 47.1**	**+0.7**
ECEU				Sn	**Sb**	**16 17 03.5**	**+0.2**
EMIJ	**Mijas**	**1.36**	**325**	Pn	**Pn**	**16 16 45.8**	**+0.4**
EMIJ				Sn	**Sn**	**16 17 02.7**	**0.0**
EMIJ				*i* Vmb_Lg		16 17 05.1	
EMAL	**Malaga-Limoner**	**1.40**	**339**	P	**Pn**	**16 16 46.5**	**+0.5**
EMAL				S	**Sn**	**16 17 01.6**	**-2.0**
ELGU	**Los Guajares,**	**1.41**	**6**	Pn	**Pn**	**16 16 46.0**	**-0.2**
ELGU				Sn	**Sn**	**16 17 03.5**	**-0.8**
ELGU				*i* Vmb_Lg		16 17 07.8	
JBK	**JBK**	**1.51**	**137**	P	**Pb**	**16 16 49.2**	**0.0**
JBK				S	**Sn**	**16 17 06.8**	**0.0**
EBER	**Berja**	**1.61**	**27**	Pn	**Pn**	**16 16 48.7**	**-0.4**
EBER				Sn	**Sn**	**16 17 09.6**	**+0.2**
EBER				*i* Vmb_Lg		16 17 16.9	
EGOR	**Sierra Gorda,**	**1.67**	**351**	Pn	**Pn**	**16 16 51.1**	**+1.3**
EGOR				Sn	**Sn**	**16 17 09.7**	**-0.9**
EGOR				*i* Vmb_Lg		16 17 16.6	
EJIF	**Jimena Fronter**	**1.68**	**307**	Pn	**Pb**	**16 16 51.2**	**-0.7**
EJIF				Sn	**Sb**	**16 17 12.7**	**+0.1**
EQUE	**Quentar**	**1.77**	**9**	Pn	**Pn**	**16 16 50.4**	**-0.7**
EQUE				Sn	**Sn**	**16 17 11.7**	**-1.3**
EQUE				*i* Vmb_Lg		16 17 20.6	
ENIJ	**Nijar**	**1.99**	**40**	Pn	**Pn**	**16 16 53.8**	**-0.3**
ENIJ				Sn	**Sn**	**16 17 17.0**	**-1.3**
ENIJ				*i* Vmb_Lg		16 17 19.2	
ESPR	**Espera**	**2.18**	**311**	Pn	**Pn**	**16 16 58.0**	**+1.3**
ESPR				Sn	**Sn**	**16 17 23.7**	**+0.7**
ESPR				*i* Vmb_Lg		16 17 36.3	
IFR	**Ifrane**	**2.23**	**210**	P	**Pn**	**16 16 54.5**	**-3.0**
IFR				S	**Sb**	**16 17 28.4**	**0.0**
CZD	**Col de Zad**	**2.63**	**203**	P	**Pb**	**16 17 07.6**	**-0.6**
MD31	**MD31**	**2.70**	**197**	P	**Pb**	**16 17 08.3**	**-1.1**
MD31				S	**Sb**	**16 17 41.1**	**-1.1**
MDT	**Midelt**	**2.72**	**194**	P	**Pb**	**16 17 07.8**	**-1.9**
EADA	**Adamuz**	**2.77**	**347**	Pn	**Pn**	**16 17 06.4**	**+1.5**
EADA				Sn	**Sn**	**16 17 37.1**	**-0.7**
EADA				*i* Vmb_Lg		16 17 46.7	
TDRA	**Tendrara**	**2.82**	**148**	P	**Pn**	**16 17 08.3**	**+2.6**
TDRA				S	**Sn**	**16 17 40.0**	**+0.8**
ECAB	**El Cabril**	**2.92**	**334**	Pn	**Pn**	**16 17 07.5**	**+0.7**
ECAB				Sn	**Sn**	**16 17 40.8**	**-0.5**
ECAB				*i* Vmb_Lg		16 17 54.4	
ZHG	**ZHG**	**3.09**	**230**	P	**Pb**	**16 17 13.0**	**-2.9**
ZHG				S	**Sn**	**16 17 48.6**	**+3.0**
EMIN	**Mina Concepcio**	**3.26**	**316**	Pn	**Pn**	**16 17 12.6**	**+1.0**
EMIN				Sn	**Sn**	**16 17 49.3**	**-0.4**
EMIN				*i* Vmb_Lg		16 17 54.7	
EGRO	**El Granado**	**3.62**	**306**	Pn	**Pn**	**16 17 17.8**	**+1.4**
EGRO				Sn	**Sn**	**16 17 57.8**	**-0.7**
ETOB	**Tobarra**	**3.66**	**29**	Pn	**Pn**	**16 17 18.7**	**+1.7**
ETOB				Sn	**Sn**	**16 17 56.6**	**-3.0**
PAB	**San Pablo**	**4.10**	**354**	Pn	**Pn**	**16 17 24.7**	**+1.5**
PAB				Sn	**Sn**	**16 18 09.8**	**-0.8**
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**16 17 25.4**	**+1.3**
EBAD				Sn	**Sn**	**16 18 11.8**	**-0.4**
EBAD				*i* Vmb_Lg		16 18 13.9	
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**16 17 30.1**	**+0.8**

*IDC **28** 16:18:26.1±0.6,27°.70N×66°.08E, h0km, mb4.2/27, mb1 4.3/29, mb1mx4.2/49, mbtmp4.2/29, ML4.1/2, MS3.9/39, Ms1 3.9/39, ms1mx3.6/89, Error ellipse: s-maj=15.3km s-min=12.1km az=19.0*
*MOS **28** 16:18:28.8±1.3,27°.76N×66°.15E, h24km, mb4.6/17, Error ellipse: s-maj=8.0km s-min=4.6km az=83.3*
*NEIC **28** 16:18:30.5±1.9,27°.69N±0°.08×66°.05E±0°.08, h28km±5km, mb4.6/48, Error ellipse: s-maj=13.0km s-min=8.9km az=145.0*
ISC 28 16:18:29.7±0.3, 27°.70N±0°.05×66°.10E±0°.03, h25km, n283, σ2s48/288, mb4.5/85, MS4.0/45, 23C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.04**	**43**	P	**Pn**	**16 20 09.4**	**-1.8**
KBL	**Kabul**	**7.27**	**20**	P	**Pn**	**16 20 13.9**	**-0.6**
KBL	**Kabul**	**7.27**	**20**	Pn	**Pn**	**16 20 13.9**	**-0.6**
KBL	**Kabul**	**7.27**	**20**	P	**Pn**	**16 20 14.2**	**-0.3**
	SNR=27						
KBL				S	**Sn**	**16 21 39.0**	**+2.7**
HRA	**Herat**	**7.44**	**335**	Pn	**Pn**	**16 20 16.5**	**-0.4**
AJM	**Ajmer**	**7.71**	**97**	*e*P	**Pn**	**16 20 20.1**	**-0.3**
AJM				*e*S	**Sn**	**16 21 42.3**	**-4.7**
CEP	**Cherat**	**7.88**	**38**	P	**Pn**	**16 20 21.4**	**-1.5**
WSAR	**Wadi Sarin**	**8.08**	**238**	Pn	**Pn**	**16 20 25.0**	**-0.5**
	6.6nm,0.3s,baz=87,slow=14,SNR=118						
WSAR				S	**Sn**	**16 21 51.4**	**-4.8**
	8.4nm,0.3s,baz=311,slow=20,SNR=7.9						
WSAR				LR	LR	16 24 27.8	
	comp=Z,267nm,18.5s,baz=90,slow=45						
JLN	**Jalan Bani Buh**	**8.21**	**229**	P	**Pn**	**16 20 26.0**	**-1.2**
	SNR=22						
JLN				S	**Sn**	**16 21 55.9**	**-3.4**
WBK	**Wadi Bani Khal**	**8.21**	**233**	P	**Pn**	**16 20 26.4**	**-1.0**
	SNR=98						
WBK				S	**Sn**	**16 21 55.0**	**-4.3**
BIDO	**Bidbid**	**8.31**	**242**	P	**Pn**	**16 20 28.5**	**-0.2**
BIDO				S	**Sn**	**16 21 55.4**	**-6.5**
CHCP	**Chirah Chowk**	**8.56**	**44**	P	**Pn**	**16 20 30.5**	**-1.5**
SMDO	**Samad**	**8.62**	**239**	P	**Pn**	**16 20 31.6**	**-1.5**
	SNR=13						
SMDO				S	**Sn**	**16 22 03.5**	**-6.1**
HOQ	**Hoqain**	**8.93**	**245**	P	**Pn**	**16 20 37.0**	**-0.2**
	SNR=7.6						
HOQ				S	**Sn**	**16 22 11.1**	**-5.9**
BANOM	**Banah**	**8.94**	**261**	P	**Pn**	**16 20 37.0**	**-0.2**
	SNR=54						
BANOM				S	**Sn**	**16 22 10.6**	**-6.6**
BANOM	**Banah**	**8.94**	**261**	*i* P	**Pn**	**16 20 37.1**	**-0.2**
	SNR=14						
BANOM				S	**Sn**	**16 22 11.1**	**-6.0**
JMDO	**Jabal Madar**	**8.99**	**236**	P	**Pn**	**16 20 38.4**	**+0.5**
	SNR=33						
JMDO				S	**Sn**	**16 22 13.6**	**-4.8**
SHME	**Shamm**	**9.04**	**262**	P	**Pn**	**16 20 39.2**	**+0.5**
	SNR=72						
SHME				S	**Sn**	**16 22 14.9**	**-4.9**
SHME	**Shamm**	**9.04**	**262**	*i* P	**Pn**	**16 20 39.2**	**+0.5**
	SNR=72						
JMU	**Jammu**	**9.10**	**55**	*e*P	**Pn**	**16 20 41.2**	**+1.7**
KUDL	**Kundal**	**9.20**	**85**	*e*P	**Pn**	**16 20 40.2**	**-0.6**
KUDL				*e*S	**Sn**	**16 22 15.2**	**-8.3**
MASF	**Masafi**	**9.20**	**258**	P	**Pn**	**16 20 40.1**	**-0.9**
	SNR=17						
MASF				S	**Sn**	**16 22 15.6**	**-8.1**
MSFE	**Esma-Masafi**	**9.21**	**258**	*i* P	**Pn**	**16 20 39.9**	**-1.1**
	SNR=17						
UOSS	**Minazif**	**9.29**	**255**	Pn	**Pn**	**16 20 40.6**	**-1.5**
UOSS	**Minazif**	**9.29**	**255**	P	**Pn**	**16 20 40.9**	**-1.2**
UOSS				S	**Sn**	**16 22 17.5**	**-8.5**
UOSS	**Minazif**	**9.29**	**255**	*i* P	**Pn**	**16 20 40.8**	**-1.3**
	SNR=12						
HATD	**Hatta, Dubai**	**9.40**	**254**	P	**Pn**	**16 20 42.8**	**-0.8**
	SNR=8.2						
HATD				S	**Sn**	**16 22 20.7**	**-7.8**
HATD	**Hatta, Dubai**	**9.40**	**254**	*i* P	**Pn**	**16 20 42.5**	**-1.1**
	SNR=8.1						
BSY	**Bisya**	**9.45**	**240**	P	**Pn**	**16 20 44.7**	**+0.4**
	SNR=51						
BSY				S	**Sn**	**16 22 25.4**	**-4.4**
ASHO	**Ashiyiah**	**9.51**	**254**	P	**Pn**	**16 20 44.5**	**-0.6**
	SNR=21						
ASHO				S	**Sn**	**16 22 29.9**	**-1.3**
ASHO	**Ashiyiah**	**9.51**	**254**	*i* P	**Pn**	**16 20 44.3**	**-0.8**
	SNR=41						
THN	**Thein Dam**	**9.57**	**58**	*e*P	**Pn**	**16 20 45.4**	**-0.5**
THN				*e*S	**Sn**	**16 22 25.7**	**-6.9**
ARQ	**Araqi**	**9.68**	**245**	P	**Pn**	**16 20 49.7**	**+2.2**
	SNR=53						
ARQ				S	**Sn**	**16 22 33.4**	**-2.1**
BHK	**Bhakra**	**9.71**	**65**	*e*P	**Pn**	**16 20 45.7**	**-2.2**
BHK				*e*S	**Sn**	**16 22 30.2**	**-6.0**
SONA	**Sohna**	**9.72**	**84**	*e*P	**Pn**	**16 20 47.4**	**-0.6**
NAZ	**Nazwa, Dubai**	**9.75**	**256**	P	**Pn**	**16 20 50.3**	**+1.9**
	SNR=17						
NAZ				S	**Sn**	**16 22 34.6**	**-2.4**
NAZ	**Nazwa, Dubai**	**9.75**	**256**	*i* P	**Pn**	**16 20 49.9**	**+1.6**
	SNR=17						
AYAN	**Aya Nagar**	**9.77**	**83**	*e*P	**Pn**	**16 20 47.1**	**-1.5**
NDI	**New Delhi**	**9.86**	**82**	*ex*	x	16 20 44.0	
NDI				*e*P	**Pn**	**16 20 48.8**	**-1.0**
NDI				*e*S	**Sn**	**16 22 32.0**	**-7.7**
FAQ	**Al Faqa, Dubai**	**9.88**	**255**	P	**Pn**	**16 20 51.6**	**+1.4**
	SNR=13						
FAQ				S	**Sn**	**16 22 37.7**	**-2.8**
FAQ	**Al Faqa, Dubai**	**9.88**	**255**	*i* P	**Pn**	**16 20 51.2**	**+0.9**
	SNR=8.7						
MHTO	**MHTO**	**9.98**	**230**	P	**Pn**	**16 20 53.9**	**+2.3**
MHTO				S	**Sn**	**16 22 41.8**	**-1.0**
ALNE	**Al Ain**	**10.00**	**251**	P	**Pn**	**16 20 53.0**	**+1.1**
	SNR=15						
ALNE				S	**Sn**	**16 22 39.1**	**-4.2**
ALNE	**Al Ain**	**10.00**	**251**	*i* P	**Pn**	**16 20 52.7**	**+0.9**
	SNR=15						
ASUD	**Al Ashush, Dub**	**10.15**	**255**	P	**Pn**	**16 20 56.1**	**+2.2**
	SNR=9.8						
ASUD				S	**Sn**	**16 22 45.3**	**-1.6**
ASUD	**Al Ashush, Dub**	**10.15**	**255**	*i* P	**Pn**	**16 20 55.5**	**+1.7**
	SNR=9.7						
SMLA	**Simla**	**10.23**	**68**	*e*P	**Pn**	**16 20 53.4**	**-1.6**
SMLA				*e*S	**Sn**	**16 22 43.4**	**-5.5**
SMLA				IAML		16 22 45.5	
	comp=N,247nm,1.2s						
SMLA				IAML		16 22 48.9	
	comp=E,205nm,0.7s						
DDI	**Dehra Dun**	**10.79**	**73**	*e*P	**Pn**	**16 21 02.4**	**-0.2**
UMZA	**Um Al Zommool**	**11.08**	**246**	P	**Pn**	**16 21 07.5**	**+0.9**
UMZA				S	**Sn**	**16 23 04.2**	**-5.5**
BHPL	**Bhopal**	**11.15**	**111**	*e*P	**Pn**	**16 21 06.3**	**-1.4**
BHPL				IAML		16 23 42.3	
	comp=E,25nm,0.6s						
BHPL				IAML		16 23 42.3	
	comp=N,34nm,1.0s						
CHGR	**Chuyangaron**	**11.22**	**12**	Pn	**Pn**	**16 21 07.8**	**-0.8**
GAR	**Garm**	**11.80**	**16**		**Pn**	**16 21 15.5**	**-1.1**
GEYT	**Alibeck**	**12.20**	**329**	Pn	**Pn**	**16 21 20.1**	**-1.9**
	comp=N,0.4nm,0.3s,baz=161,slow=17,SNR=2.1						
GEYT				LR	LR	16 25 56.1	
	comp=N,236nm,18.5s,baz=166,slow=37						
MZR	**Muzera**	**12.33**	**251**	P	**Pn**	**16 21 23.6**	**-0.2**
	SNR=5.5						
MZR	**Muzera**	**12.33**	**251**	*i* P	**Pn**	**16 21 22.8**	**-1.0**
	SNR=7.1						
LGTI	**Lohaghat**	**12.55**	**79**	*ex*	Pn	16 21 19.1	-7.6
DRK	**Karamyk**	**12.67**	**21**		**Pn**	**16 21 27.3**	**-1.2**
BTK	**Batken**	**12.93**	**16**	P	**Pn**	**16 21 30.8**	**-1.1**
BTK	**Batken**	**12.93**	**16**		**Pn**	**16 21 30.8**	**-1.1**
DOK	**Doka**	**14.24**	**233**	P	**Pn**	**16 21 50.9**	**+1.1**
	SNR=6.1						
KSH	**Kashi**	**14.36**	**32**	P	Pn	16 21 43.5	-7.9
KSH				pP	P	16 21 49.5	-8.7
KSH				sP		16 21 52.5	
KSH				S	Sn	16 24 13.5	-16
KSH				LR	LR		
	comp=N,2μm,12.7s						
KSH				LR	LR		
	comp=N,1μm,12.7s						
KSH				LR	LR		
	comp=N,1μm,12.1s						
IUG	**Iuzhnay**	**14.76**	**12**	*e*P	**Pn**	**16 21 54.3**	**-2.6**
PYUN	**Piuthan**	**14.94**	**85**	*e*P	**Pn**	**16 21 55.2**	**-4.3**
	comp=N,80nm,0.7s						
KOLN	**Koldanda**	**15.50**	**86**	*e*P	**Pn**	**16 22 03.1**	**-3.7**
DANN	**Dangsing**	**15.61**	**84**	*e*P	**Pn**	**16 22 04.7**	**-3.7**
	comp=N,172nm,1.1s						
KKAR	**Karatay Array**	**15.78**	**12**	P	**Pn**	**16 22 08.4**	**-1.8**
KKAR	**Karatay Array**	**15.78**	**12**	Pn	**Pn**	**16 22 08.4**	**-1.8**
AAK	**Ala-Archa**	**16.39**	**22**	Pn	**Pn**	**16 22 15.0**	**-3.2**
	comp=N,0.6nm,0.3s,baz=208,slow=5.9,SNR=17						
AAK				Sn	**Sn**	**16 25 11.5**	**-7.8**
	comp=N,0.1nm,0.3s,baz=318,slow=12,SNR=2.3						
AAK				LR	LR	16 29 34.3	
	comp=N,288nm,19.7s,baz=220,slow=41						
AAK	**Ala-Archa**	**16.39**	**22**	P	**Pn**	**16 22 16.1**	**-2.1**
AAK						16 25 11.5	
AAK				pmax	pmax		
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**16.39**	**22**	Pn	**Pn**	**16 22 16.1**	**-2.1**
GKN	**Gorkha**	**16.40**	**85**	*e*P	**Pn**	**16 22 15.6**	**-2.8**
BOOM	**Boomskoye usch**	**16.79**	**26**	P	**Pn**	**16 22 19.0**	**-4.2**
BOOM				pmax	pmax		
	comp=Z,11nm,1.0s						
BOOM	**Boomskoye usch**	**16.79**	**26**		**Pn**	**16 22 19.0**	**-4.2**
DMN	**Daman**	**16.84**	**86**	*e*P	**Pn**	**16 22 21.9**	**-2.2**
KKN	**Kakani**	**16.98**	**85**	*e*P	**Pn**	**16 22 22.9**	**-2.9**
KDJ	**Kajisay**	**17.00**	**29**	P	**Pn**	**16 22 21.6**	**-4.3**
KDJ				pmax	pmax		
	comp=Z,11nm,0.9s						
KDJ	**Kajisay**	**17.00**	**29**		**Pn**	**16 22 21.6**	**-4.3**
PKIN	**Phulchoki**	**17.10**	**86**	*e*P	**Pn**	**16 22 24.3**	**-3.1**
	comp=Z,34nm,0.6s						
PKI	**Pulchoki**	**17.11**	**86**	*e*P	**Pn**	**16 22 24.5**	**-3.1**
	comp=Z,36nm,0.7s						
SGDS	**Sogindy**	**17.16**	**21**	*e*P	**P**	**16 22 29.3**	**0.0**
GUN	**Gumba**	**17.50**	**85**	*e*P	**Pn**	**16 22 30.8**	**-1.6**
	comp=Z,214nm,0.9s						
MDOK	**Medeo**	**17.79**	**27**	P	**Pn**	**16 22 31.9**	**-3.8**
JIRN	**Jiri**	**17.80**	**85**	*e*P	**Pn**	**16 22 34.7**	**-1.4**
	comp=Z,40nm,0.4s						
RAGD	**RAYAGADA**	**17.99**	**114**	*e*P	**P**	**16 22 40.8**	**+2.3**
RAMN	**Ramite**	**18.23**	**88**	*e*P	**Pn**	**16 22 39.9**	**-1.4**
	comp=Z,45nm,0.5s						
BTLS	**Baital**	**18.43**	**18**	*e*P	**P**	**16 22 42.9**	**-0.3**
KPKS	**Kokpek**	**18.73**	**30**	*e*P	**Pn**	**16 22 49.5**	**+2.4**
SHLS	**Shalkode**	**18.84**	**32**	*e*P	**Pn**	**16 22 51.3**	**+2.9**
ODAN	**Odare**	**18.94**	**88**	*e*P	**P**	**16 22 49.3**	**+0.1**
	comp=Z,96nm,0.9s						
PDGK	**Podgornoye**	**18.98**	**31**	P	**P**	**16 22 47.9**	**-1.5**
RAYN	**Ar Rayn**	**19.03**	**262**	P	**P**	**16 22 48.6**	**-1.4**
RAYN				pmax	pmax		
	comp=Z,27nm,1.4s						
RAYN	**Ar Rayn**	**19.03**	**262**	P	**P**	**16 22 48.6**	**-1.4**
RAYN	**Ar Rayn**	**19.03**	**262**	*i* P	**P**	**16 22 48.7**	**-1.3**
	SNR=5.9						
KOD	**Kodaikanal**	**20.41**	**146**	*e*P	Pn	16 23 09.1	+1.6
MNCI	**Minicoy**	**20.41**	**160**	P	**P**	**16 23 03.2**	**-1.7**
MNCI				IAmb	IAmb	16 23 29.0	
	comp=Z,31nm,1.1s						
OTUK	**Ortayu**	**21.07**	**12**	P	**P**	**16 23 12.0**	**0.0**
MAK	**Makhachkala**	**21.42**	**320**	*e*P	**P**	**16 23 10.8**	**-4.9**
MAK				*e

KIV IAmb IAmb 16 23 59.9
comp=Z,16nm,0.9s
KURK Kurchatov 24.88 19 P **P** **16 23 50.1 -0.1**
KURK pmax pmax
comp=Z,15nm,0.8s
KURK Kurchatov 24.88 19 P **P** **16 23 50.1 -0.1**
KURK IAmb IAmb 16 23 54.2
comp=Z,15nm,0.8s
KOHI KOHIMA 25.08 88 *ex* x 16 23 53.8
KOHI IAmb IAmb 16 23 58.6
comp=Z,30nm,1.2s
BVAR Borovoye Array 25.50 6 P **P** **16 23 57.4 +1.6**
comp=Z,5.1nm,0.7s,baz=62,slow=18,SNR=15
BRVK Borovoye 25.52 6 P **P** **16 23 57.8 +1.8**
BRVK Borovoye 25.52 6 P **P** **16 23 55.8 -0.2**
BRVK IAmb IAmb 16 24 01.2
comp=Z,9.5nm,0.8s
GOMU GeErMu 25.72 64 P **P** **16 24 01.0 +2.5**
GOMU pP pP 16 24 04.0 -2.4
GOMU sP sP 16 24 06.3 -3.4
GOMU PcP **PcP** **16 27 31.8 +3.5**
GOMU S **S** **16 28 32.0 +5.7**
GOMU sS sS 16 28 37.5 -1.7
GOMU pmax pmax
comp=Z,6.0nm,1.2s
GOMU pmax pmax
comp=Z,90nm,5.7s
GOMU LR LR
comp=Z,240nm,15.7s
GOMU LR LR
comp=Z,73nm,12.6s
GOMU LR LR
comp=Z,61nm,9.2s
MMAI Mount Meron Ar 26.96 289 LR LR 16 37 23.2
comp=Z,215nm,18.8s,baz=255,slow=42
EIL Elat 27.36 282 LR LR 16 38 12.9
comp=Z,514nm,18.2s,baz=97,slow=43
ARU Arti 29.21 351 P **P** **16 24 28.7 -0.5**
comp=Z,0.5nm,0.3s,baz=106,slow=20,SNR=2.2
ARU LR LR 16 37 37.8
comp=Z,185nm,18.6s,baz=162,slow=39
ARU Arti 29.21 351 *d iP* **P** **16 24 29.1 0.0**
ARU S **S** **16 29 23.3 +3.2**
ARU pmax pmax
comp=Z,13nm,1.9s
BRTR Keskin Array B 29.39 302 P **P** **16 24 31.9 +0.8**
comp=Z,0.6nm,0.4s,baz=305,slow=37,SNR=1.7
ZALV Zalesovo Beam 29.61 23 P **P** **16 24 33.3 +0.6**
comp=Z,4.1nm,0.7s,baz=221,slow=9.7,SNR=18
ZALV LR LR 16 37 27.3
comp=Z,174nm,19.8s,baz=218,slow=38
ZALV Zalesovo Beam 29.61 23 *i P* **P** **16 24 34.0 +1.3**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 29.61 23 P **P** **16 24 32.7 0.0**
GTA Gaotai 30.25 59 *eP* **P** **16 24 40.3 +1.5**
GTA pP pP 16 24 44.0 -2.7
GTA sP sP 16 24 47.0 -2.9
GTA pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 31.36 99 P **P** **16 24 49.1 +0.5**
CHTO pmax pmax
comp=Z,10.0nm,1.4s
CHTO Chiang Mai 31.36 99 P **P** **16 24 49.1 +0.5**
CHTO IAmb IAmb 16 24 53.2
comp=Z,10nm,1.4s
CMAR Chiang Mai Arr 31.50 100 P **P** **16 24 51.4 +1.5**
comp=Z,1.1nm,0.6s,baz=292,slow=9.3,SNR=11
CMAR LR LR 16 38 45.8
comp=Z,74nm,19.0s,baz=280,slow=39
CMAR Chiang Mai Arr 31.50 100 *i* P P 16 24 54.7 +4.9
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 31.50 100 P **P** **16 24 50.1 +0.3**
PZH PanZhiHua 31.68 84 P **P** **16 24 54.5 +3.0**
PZH S **S** **16 30 01.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,4.9s
PZH LR LR
comp=Z,520nm,18.1s
PZH LR LR
comp=Z,410nm,18.6s
PZH LR LR
comp=Z,540nm,19.6s
LZH Lanzhou 32.95 66 *eP* **P** **16 25 02.8 +0.2**
LZH pP sP 16 25 12.3 -1.5
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,900nm,13.2s
LZH LR LR
comp=Z,270nm,13.6s
LZH LR LR
comp=Z,470nm,15.9s
KIRV Kirov 32.99 344 P **P** **16 25 06.7 +4.4**
comp=Z,9.8nm,0.6s,baz=115,slow=2.8,SNR=4.2
KIRV LR LR 16 40 06.0
comp=Z,129nm,18.8s,baz=150,slow=39
MOY Mondy 35.44 38 *eP* **P** **16 25 26.6 +2.7**
MOY pmax pmax
comp=Z,15nm,1.9s
SORM Soroca 35.61 315 ⇑P **P** **16 25 24.6 -0.6**
SORM Soroca 35.61 315 ⇑P **P** **16 25 24.6 -0.6**
VRI Vrincioaia 35.93 311 ⇑P P 16 25 33.9 +5.9
VRI Vrincioaia 35.93 311 ⇑P P 16 25 33.9 +5.9
PLOR Plostina 35.98 311 ⇑P **P** **16 25 29.7 +1.2**
PLOR Plostina 35.98 311 ⇑P **P** **16 25 29.7 +1.2**
AKASG Malin Array Be 36.11 320 P **P** **16 25 28.9 -0.5**
comp=Z,2.3nm,0.6s,baz=115,slow=7.7,SNR=10.0
AKASG Malin Array Be 36.11 320 *i* P **P** **16 25 31.2 +1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 36.11 320 IAmb IAmb 16 25 34.9
comp=Z,1.1nm,0.9s
AKBB Malin Array Si 36.11 320 ⇓*eP* **P** **16 25 31.1 +1.7**
AKBB Malin Array Si 36.11 320 P **P** **16 25 28.8 -0.6**
AKBB IAmb IAmb 16 25 34.5
comp=Z,6.3nm,0.8s
ZAK Zakamensk 36.15 41 *eP* **P** **16 25 30.5 +0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
TESR Tescani 36.17 312 ⇑P **P** **16 25 31.4 +1.3**
COVR Voineasa-Covas 36.28 311 ⇑P **P** **16 25 34.8 +3.8**
MLR Muntele Rosu 36.35 310 ⇑P **P** **16 25 34.3 +2.5**
MLR Muntele Rosu 36.35 310 ⇑P **P** **16 25 34.3 +2.5**
PRGR Permogore 36.59 344 *eP* **P** **16 25 32.7 -0.7**
PRGR pmax pmax
comp=Z,28nm,1.5s
DOPR Dopca 36.86 311 ⇑P **P** **16 25 36.5 +0.5**
VOIR 36.95 310 ⇑P **P** **16 25 36.4 -0.4**
VOIR 36.95 310 ⇑P **P** **16 25 36.4 -0.4**
XAN Xi'an 37.09 69 P **P** **16 25 40.0 +1.9**
XAN pP sP 16 25 49.5 +0.3
XAN pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 37.12 46 P **P** **16 25 39.4 +1.1**
comp=Z,5.9nm,0.9s,baz=248,slow=8.6,SNR=26
SONM LR LR 16 43 54.2
comp=Z,309nm,18.6s,baz=176,slow=41
SONM Songino Array 37.12 46 P **P** **16 25 39.3 +1.0**
ARR Arges 37.22 309 ⇑P P 16 25 34.0 -5.1
BURAR Bucovina Array 37.43 313 ⇑P **P** **16 25 41.9 +1.0**
BURAR Bucovina Array 37.43 313 ⇑P **P** **16 25 41.9 +1.0**
BURAR Bucovina Array 37.43 313 P **P** **16 25 41.1 +0.1**
BURAR IAmb IAmb 16 25 46.9
comp=Z,4.2nm,0.7s
BUR08 Bucovina Ar. S 37.45 313 P **P** **16 25 41.1 0.0**
ULN Ulaanbaatar 37.55 46 ⇑P **P** **16 25 43.5 +1.5**
ULN Ulaanbaatar 37.55 46 P **P** **16 25 42.2 +0.2**
KLMR Klimovskoe 37.68 339 *eP* **P** **16 25 44.7 +2.0**
KLMR pmax pmax
comp=Z,21nm,0.9s
KLMR Klimovskoe 37.68 339 *eP* **P** **16 25 44.8 +2.0**
KLMR AMP 16 25 48.1
comp=Z,21nm,0.9s
KLMR LQ LQ 16 38 48.1
KLMR LQ LQ 16 38 48.1
KLMR LR LR 16 41 58.0
ITM Ithomi 38.17 296 P **P** **16 25 46.6 -0.6**
HHC Hu-ho-hao-te 39.37 58 *eP* **P** **16 25 57.0 -0.3**
HHC S **S** **16 31 55.0 -2.4**
HHC SS **SS** **16 34 43.5 -8.0**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.9s
HHC LR LR
comp=Z,190nm,14.6s
HHC LR LR
comp=Z,170nm,14.6s
HHC LR LR
comp=Z,220nm,15.9s
KMBO Kilima Mbogo 39.88 229 P **P** **16 26 03.4 +1.4**
comp=Z,0.9nm,0.5s,baz=22,slow=11,SNR=2.4
PSI Prapat 39.94 123 LR LR 16 43 49.1
comp=Z,108nm,18.5s,baz=294,slow=38
CRVS Cervenica-Dubn 40.20 314 *eP* **P** **16 26 03.8 -0.2**
CRVS Cervenica-Dubn 40.20 314 *eP* **P** **16 26 03.8 -0.2**
VALR Valaam 41.04 335 ⇓*eP* **P** **16 26 13.2 +2.5**
VALR pmax pmax
comp=Z,18nm,0.9s
FIA1 FINESS Array S 42.96 333 P **P** **16 26 26.7 +0.4**
FIA1 IAmb IAmb 16 26 41.0
comp=Z,21nm,1.3s
FINES FINESS Array B 42.96 333 P **P** **16 26 26.9 +0.5**
comp=Z,1.1nm,0.4s,baz=143,slow=6.7,SNR=20
FINES LR LR 16 47 39.8
comp=Z,132nm,19.2s,baz=98,slow=41
FINES FINESS Array B 42.96 333 P **P** **16 26 26.7 +0.3**
XLT XiLinHaoTe 42.97 54 *eP* **P** **16 26 31.0 +4.1**
XLT pP sP 16 26 40.3 +2.1
XLT sP pP 16 26 43.5 +8.6
XLT S S 16 33 00.5 +10
XLT sS sS 16 33 03.5 -0.6
XLT pmax pmax
comp=Z,18nm,1.2s
XLT LR LR
comp=Z,21nm,15.0s
XLT LR LR
comp=Z,180nm,11.8s
XLT LR LR
comp=Z,170nm,10.0s
VRAC Vranov 43.41 314 LR LR 16 47 18.4
comp=Z,55nm,18.0s,baz=84,slow=40
OBKA Obir 44.34 309 *eP* **P** **16 26 39.3 +1.4**
comp=Z,1.6nm,0.6s
GERES GERESS Array B 45.21 312 P **P** **16 26 44.1 -0.6**
comp=Z,1.6nm,0.8s,baz=93,slow=7.0,SNR=8.9
GERES GERESS Array B 45.21 312 P **P** **16 26 44.5 -0.3**
GERES GERESS Array B 45.21 312 P **P** **16 26 44.5 -0.3**
KBA Koelnbreinsper 45.23 310 *eP* **P** **16 26 46.2 +1.2**
comp=Z,1.0nm,0.6s
NJ2 Nanjing 45.58 71 *eP* **P** **16 26 47.3 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ABTA Abfaltersbach 45.76 309 *eP* **P** **16 26 51.6 +2.4**
comp=Z,3.8nm,0.9s
CTI Castel Tesino 46.30 308 P **P** **16 26 53.0 -0.4**
CTI pmax pmax
comp=Z,12nm,1.5s
CTI Castel Tesino 46.30 308 P **P** **16 26 53.0 -0.4**
CTI IAmb IAmb 16 26 56.9
comp=Z,12nm,1.5s
WATA Walderalm 46.45 310 *eP* **P** **16 26 53.8 -0.9**
comp=Z,0.2nm,0.2s
SQTA Sankt Quirin 46.69 310 *eP* **P** **16 26 59.6 +3.1**
comp=Z,0.3nm,0.2s
MOTA Moosalm 46.77 310 *eP* **P** **16 26 57.3 +0.1**
comp=Z,2.0nm,0.5s
FETA Feichten 47.00 310 *eP* **P** **16 26 59.5 +0.5**
comp=Z,2.2nm,0.6s
RETA Reutte 47.01 310 *eP* **P** **16 26 59.7 +0.8**
comp=Z,0.5nm,0.3s
DAVA Damuels 47.60 310 *eP* **P** **16 27 05.5 +1.9**
comp=Z,1.9nm,0.3s
HFS Hagfors 47.85 328 LR LR 16 50 19.7
comp=Z,208nm,18.6s,baz=105,slow=40
TUE Stuetta 47.92 309 P **P** **16 27 06.6 +0.4**
TUE IAmb IAmb 16 27 35.0
comp=Z,9.6nm,1.1s
ARCES ARCESS Array B 47.96 342 P **P** **16 27 05.4 -0.5**
comp=Z,2.5nm,0.5s,baz=129,slow=8.3,SNR=10
ARCES LR LR 16 49 19.3
comp=Z,147nm,18.0s,baz=158,slow=39
ARCES ARCESS Array B 47.96 342 P **P** **16 27 06.8 +0.9**
ARCES pmax pmax
comp=Z,60nm,1.5s
ARCES ARCESS Array B 47.96 342 P **P** **16 27 06.8 +0.9**
KEST Kesra 48.37 294 P **P** **16 27 10.3 +0.7**
comp=Z,2.7nm,0.6s,baz=331,slow=2.9,SNR=2.9
KEST Kesra 48.37 294 IAmb IAmb 16 27 35.3
comp=Z,5.1nm,0.8s
NB2 NORSAR Subarra 49.29 328 P **P** **16 27 17.8 +1.5**
comp=Z,3.2nm,0.8s,baz=107,slow=7.9
NB2 NORSAR Subarra 49.29 328 P **P** **16 27 16.3 0.0**
comp=Z,1.9nm,0.6s,baz=107,slow=7.9
NOA NORSAR Array B 49.29 328 P **P** **16 27 16.5 +0.2**
comp=Z,1.5nm,0.6s,baz=108,slow=7.4,SNR=9.3
CN2 Changchun 49.74 55 *eP* **P** **16 27 20.0 +0.1**
CN2 *eS* **S** **16 34 22.5 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
TJN Taejon 51.89 64 ⇓*eP* **P** **16 27 37.9 +1.7**
KSRS Korea Array 52.18 63 P **P** **16 27 38.1 -0.2**
comp=Z,4.2nm,0.7s,baz=269,slow=7.1,SNR=14
KSRS LR LR 16 52 02.9
comp=Z,116nm,19.1s,baz=270,slow=39
LEM Lembang 52.80 124 LR LR 16 51 20.5
comp=Z,93nm,18.7s,baz=217,slow=37
YAK Yakutsk 53.57 32 LR LR 16 52 06.1
comp=Z,185nm,18.3s,baz=266,slow=38
YAK Yakutsk 53.57 32 *ceP* **P** **16 27 49.6 +1.4**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK Yakutsk 53.57 32 P **P** **16 27 48.9 +0.7**
KLR Kul'dur 53.92 48 LR LR 16 54 27.8
comp=Z,181nm,18.5s,baz=266,slow=40
KLR Kul'dur 53.92 48 *ceP* **P** **16 27 52.8 +1.8**
KLR pmax pmax
comp=Z,15nm,1.0s
USRK Ussuriysk Ar. 54.42 54 P **P** **16 27 55.7 +0.9**
comp=Z,1.7nm,0.8s,baz=286,slow=9.7,SNR=4.6
JOW Kunigami 54.73 75 LR LR 16 52 00.3
comp=Z,76nm,21.2s,baz=282,slow=37
SPITS Spitsbergen Ar 55.20 349 LR LR 16 55 07.2
comp=Z,83nm,18.4s,baz=169,slow=40
JNU Nakatsue 55.35 67 LR LR 16 54 20.1
comp=Z,112nm,18.4s,baz=278,slow=39
JNU Nakatsue 55.35 67 P **P** **16 28 01.8 +0.1**
TIXI Tiksi 55.45 20 LR LR 16 53 20.8
comp=Z,112nm,18.3s,baz=186,slow=38
TIXI Tiksi 55.45 20 ⇓*eP* **P** **16 28 01.6 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
EKA Eskdalemuir Ar 56.02 320 LR LR 16 56 58.4
comp=Z,98nm,18.8s,baz=185,slow=41
LSZ Lusaka 56.36 225 LR LR 16 53 16.9
comp=Z,114nm,18.1s,baz=18,slow=37
ESDC Sonseca Array 58.17 301 P **P** **16 28 21.1 -0.6**
comp=Z,1.6nm,0.9s,baz=78,slow=7.3,SNR=4.7
MDT Midelt 60.26 294 LR LR 17 00 11.2
comp=Z,96nm,18.6s,baz=96,slow=42
MJAR Matsushiro Arr 60.43 62 LR LR 16 55 31.6
comp=Z,57nm,21.6s,baz=275,slow=37
TOA0 Torodi Ar. Sit 61.47 270 P **P** **16 28 44.3 -0.3**
TOA0 IAmb IAmb 16 28 49.3
comp=Z,6.4nm,1.0s
TORD Torodi Ar. Bea 61.47 270 P **P** **16 28 44.7 +0.1**
comp=Z,4.1nm,0.9s,baz=62,slow=7.1,SNR=17
TORD Torodi Ar. Bea 61.47 270 P **P** **16 28 44.2 -0.5**
TORD IAmb IAmb 16 28 49.3
comp=Z,5.4nm,1.0s
YSS Yuzh-Sakhalins 61.50 49 *ceP* **P** **16 28 47.2 +2.9**
YSS pmax pmax
comp=Z,5.0nm,1.0s
ASAJ Asahikawa 61.97 53 LR LR 16 59 10.7
comp=Z,132nm,18.2s,baz=315,slow=39
MA2 Magadan 63.90 34 LR LR 16 58 53.7
comp=Z,127nm,20.0s,baz=273,slow=38
MA2 Magadan 63.90 34 ⇓*eP* **P** **16 29 02.5 +2.4**
MA2 pmax pmax
comp=Z,6.0nm,1.7s
SEY Seymchan 64.05 31 LR LR 16 59 19.6
comp=Z,132nm,18.8s,baz=352,slow=38
SEY Seymchan 64.05 31 ⇓*eP* **P** **16 29 02.0 +0.9**
SEY pmax pmax
comp=Z,7.0nm,0.9s
BORG Borgarnes 64.23 332 LR LR 16 59 24.9
comp=Z,102nm,19.6s,baz=101,slow=38
BORG Borgarnes 64.23 332 P **P** **16 29 03.1 +1.0**
BORG pmax pmax
comp=Z,90nm,1.5s
BORG Borgarnes 64.23 332 P **P** **16 29 03.1 +1.0**
LBTB Lobatse 65.34 220 P **P** **16 29 10.8 +0.7**
LBTB pmax pmax
comp=Z,28nm,1.5s
LBTB Lobatse 65.34 220 P **P** **16 29 10.8 +0.7**
TSUM Tsumeb 66.18 231 LR LR 16 59 03.8
comp=Z,87nm,18.7s,baz=93,slow=37
BILL Bilibino 68.31 23 *i* P **P** **16 29 29.6 +1.3**
BILL *i* 16 29 55.3
BILL *i* 16 31 56.2
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,136nm,18.0s
BILL Bilibino 68.31 23 P **P** **16 29 28.4 +0.1**
BILL IAmb IAmb 16 29 34.6
comp=Z,3.0nm,0.9s
BOSA Boshof 68.32 218 LR LR 16 58 33.7
comp=Z,107nm,19.1s,baz=38,slow=35
BOSA Boshof 68.32 218 P **P** **16 29 28.3 -0.7**
BOSA pmax pmax
comp=Z,17nm,1.4s
BOSA Boshof 68.32 218 P **P** **16 29 28.3 -0.7**
DBIC Dimbokro 70.08 267 LR LR 17 04 02.1
comp=Z,74nm,21.3s,baz=66,slow=39
FITZ Fitzroy Crossi 73.46 121 P **P** **16 30 01.1 +0.8**
comp=Z,2.5nm,0.9s,baz=315,slow=5.7,SNR=4.1
FITZ Fitzroy Crossi 73.46 121 P **P** **16 30 00.8 +0.5**
SUR Sutherland 73.66 219 LR LR 17 01 51.0
comp=Z,88nm,18.5s,baz=78,slow=35
KNRA Kununurra 74.45 117 P **P** **16 30 05.9 -0.3**
A36M Sachs Harbour 80.27 4 **P** **16 30 38.8 +1.0**
A36M IAmb IAmb 16 30 42.9
comp=Z,4.9nm,0.8s
TOLK Toolik Lake Re 80.42 13 P **P** **16 30 38.2 -0.6**
WRA Warramunga Arr 81.23 118 P **P** **16 30 43.8 0.0**
comp=Z,6.0nm,0.9s,baz=315,slow=4.6,SNR=39
WRAB Tennant Creek 81.23 118 P **P** **16 30 43.8 -0.1**
WRAB pmax pmax
comp=Z,12nm,1.1s
WRAB Tennant Creek 81.23 118 P **P** **16 30 43.8 -0.1**
COLD Coldfoot 81.50 13 P **P** **16 30 45.7 +1.2**
COLD IAmb IAmb 16 30 50.1
comp=Z,6.1nm,1.1s
BMAR Burnt Mountain 82.40 11 P **P** **16 30 50.3 +1.0**
AS31 Alice Springs 82.96 121 P **P** **16 30 52.0 -0.9**
ASAR Alice Springs 82.96 121 P **P** **16 30 52.8 -0.2**
comp=Z,3.7nm,0.8s,baz=307,slow=5.2,SNR=64
ASAR Alice Springs 82.96 121 P **P** **16 30 52.1 -0.8**
H24K Noodor Dome 83.18 13 P **P** **16 30 54.6 +1.2**
H24K IAmb IAmb 16 31 08.1
comp=Z,9.0nm,1.4s
ILAR Eielson Array 84.31 14 P **P** **16 30 59.8 +0.6**
comp=Z,0.5nm,0.6s,baz=323,slow=3.9,SNR=4.3
YKA Yellowknife Ar 90.12 0 P **P** **16 31 26.9 -0.4**
comp=Z,1.1nm,0.8s,baz=348,slow=4.7,SNR=7.3
YKA Yellowknife Ar 90.12 0 *i P* **P** **16 31 30.1 +2.8**
YKA pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 122.45 349 PKP **PKPdf** **16 37 23.0 -0.4**
comp=Z,0.1nm,0.5s,baz=301,slow=6.3,SNR=2.1
TXAR Lajitas Array 122.45 349 PKIKP **PKPdf** **16 37 23.0 -0.4**

VIE ***28*** *16:26:26.2±2.8, 49°.88N×18°.65E, h0km, mb2.1/2, ml2.1/4, Error ellipse: s-maj=18.6km s-min=10.9km az=58.0 29 km E of Ostrava Suspected Mining induced.*
PRU ***28*** *16:26:28.9±0.0, 49°.85N×18°.48E, h0km, Mining Induced Event Csm, E=9.3e+04*
IPEC 28 16:26:28.1±0.2, 49°.85N×18°.58E, h0km, ML1.8/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.28**	**268**	*e*		Pb	16 26 37.2	+1.2
OKC	**Ostrava-Krasne**	**0.28**	**268**	*e*PG		Pg	16 26 33.9	+0.5
OKC				*e*SG		Sg	16 26 37.2	+0.2
	comp=Z,51nm,0.4s						
OKC	**Ostrava-Krasne**	**0.28**	**268**	*e*P		Pg	16 26 33.9	+0.5
MORC	**Moravsky Berou**	**0.67**	**264**	*e*Pg		Pg	16 26 41.1	+0.1
	baz=84						
MORC				*e*Sg		Sg	16 26 49.2	-0.5
	20nm,0.3s,baz=84						
OJC	**Ojcow**	**0.87**	**64**	*e*Pg		Pg	16 26 45.1	+0.3
OJC				*e*Sg		Sb	16 26 57.8	-0.6
LANS	**Liptovska Anna**	**0.91**	**140**	*e*PG		Pg	16 26 45.7	+0.2
LANS				*e*SG		Sn	16 27 00.8	-1.1
LANS				*e*LG		Lg	16 27 04.3	
JAVC	**Velka Javorina**	**1.15**	**211**	*e*Pg		Pg	16 26 50.4	+0.2
	baz=31						
KRLC	**Kraliky**	**1.18**	**282**	*e*PG		Pg	16 26 49.3	-1.4
KRLC				*e*SG		Sg	16 27 05.5	-0.6
	comp=Z,14nm,0.3s						
NIE	**Niedzica**	**1.20**	**110**	*e*Pg		Pn	16 26 52.0	-0.1
NIE				*e*Sg		Sn	16 27 10.4	+1.2
VYHS	**Vyhne**	**1.36**	**173**	*e*PG		Pg	16 26 53.5	-0.7
VYHS				*e*SG		Sb	16 27 12.5	0.0
VRAC	**Vranov**	**1.40**	**248**	*e*Pg		Pn	16 26 54.0	-0.9
	baz=67						
VRAC				*e*Sg		Sg	16 27 11.9	-1.1
	11nm,0.3s,baz=67						
SMOL	**Smolenice**	**1.53**	**210**	*e*PG		Pn	16 26 56.0	-0.7
SMOL				*e*SG		Sg	16 27 14.2	-3.1
DPC	**Dobruska-Polom**	**1.54**	**290**	*e*PG		Pn	16 26 56.1	-0.7
DPC				*e*SG		Sg	16 27 16.1	-1.4
	comp=Z,6.5nm,0.2s						
KRUC	**Moravsky**	**1.63**	**242**	*e*Pg		Pn	16 26 57.4	-0.6
	baz=60						
KRUC				*e*Sg		Sn	16 27 19.0	-0.6
	9.9nm,0.3s,baz=60						
OSTC	**Ostas**	**1.68**	**296**	*e*PG		Pn	16 26 58.5	-0.2
OSTC				*e*SG		Sb	16 27 21.2	-0.3
UPC	**Upice**	**1.78**	**293**	*e*PG		Pn	16 27 00.1	0.0
UPC				*e*SG		Sb	16 27 24.3	-0.1
CHVC	**Chvalec**	**1.78**	**296**	*e*PG		Pn	16 27 00.7	+0.5
CHVC				*e*SG		Sb	16 27 24.8	+0.2
PRU	**Pruhonice**	**2.61**	**275**	*e*SG		Sb	16 27 48.7	+0.3
CONA	**Conrad Observa**	**2.63**	**224**	*e*Pn		Pn	16 27 10.0	-1.8
	0.7nm,0.2s						
CONA				*e*Sn		Sn	16 27 42.5	-1.9
	1.6nm,0.3s						
CKRC	**Cesky Krumlov**	**2.98**	**251**	*e*SG		Sb	16 28 00.7	+1.9
ARSA	**Arzberg**	**3.30**	**219**	*e*Pn		Pn	16 27 20.2	-0.7
	0.9nm,0.4s						
ARSA				*e*Sn		Sn	16 28 00.5	-0.4
	0.6nm,0.3s						
KHC	**Kasperske Hory**	**3.34**	**260**	*e*PG		Pb	16 27 29.0	+0.9
KHC				*e*SG		Sb	16 28 11.6	+2.3
MOA	**Molln**	**3.48**	**237**	*e*Sn		Sb	16 28 12.3	-1.0
	0.6nm,0.2s						

IDC ***28*** *16:27:04.6±1.9, 34°.71S×74°.09W, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/21, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=53.5km s-min=26.5km az=79.0*
GUC ***28*** *16:27:06.5±0.7, 34°.525S×73°.88W, h30km±4km, ML3.6*
ISC 28 16:27:08.2±1.0, 34°.63S±0°.05×73°.96W±0°.06, h35km, n23, σ1§97/31, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**1.66**	**86**	⇑*iP*		Pn	16 27 33.2	-1.5
BO03				*i* S		Sn	16 27 52.7	-2.1
GO05	**Huala**	**1.71**	**103**	*e*P		Pn	16 27 34.2	-1.3
GO05				*i* S		Sn	16 27 53.9	-2.3
GO05				IAML			16 27 55.3	
	comp=E,1μm,0.2s						
VA05	**Santo Domingo**	**2.17**	**64**	*e*P		Pn	16 27 39.8	-2.1
VA05				*i* S		Sn	16 28 05.2	-2.3
VA05				IAML			16 28 07.7	
	comp=N,651nm,0.5s						
BI05	**Punta Hualpn**	**2.20**	**164**	*i* P		Pn	16 27 40.0	-2.2
BI05				*i* S		Sn	16 28 03.6	-4.6

BI05					IAML			16 28 05.7		
	comp=N,1μm,0.2s									
ML02	**Panimavida**	**2.37**	**119**	*eP*		**Pn**		**16 27 43.9**	**-0.6**	
ML02				*i* S		**Sn**		**16 28 12.7**	**+0.4**	
MT01	**Popeta**	**2.37**	**72**	*eP*		**Pn**		**16 27 42.5**	**-2.1**	
MT01				*i* S		**Sn**		**16 28 09.4**	**-3.0**	
BO01	**Tunca**	**2.39**	**85**	*eP*		**Pn**		**16 27 43.4**	**-1.3**	
BO01				*i* S		**Sn**		**16 28 11.6**	**-1.2**	
MT09	**Talagante**	**2.61**	**72**	*eP*		**Pn**		**16 27 46.4**	**-1.5**	
MT09				IAML				16 28 19.8		
	comp=N,290nm,0.2s									
BO02	**Sierra Bellavi**	**2.62**	**94**	⇑*iP*		**Pn**		**16 27 47.5**	**-0.6**	
BO02				*i* S		**Sn**		**16 28 18.1**	**-0.7**	
MT02	**Curacav**	**2.72**	**61**	*eP*		Pn		16 27 41.2	-8.1	
MT02				*i* S		**Sn**		**16 28 18.3**	**-2.7**	
MT02				IAML				16 28 21.0		
	comp=E,75nm,0.7s									
BO04	**La Punta**	**2.85**	**78**	*eP*		**Pn**		**16 27 50.4**	**-0.8**	
BO04				*i* S		**Sn**		**16 28 23.1**	**-1.1**	
BO04				IAML				16 28 25.1		
	comp=N,253nm,0.4s									
LMEL	**Las Melosas**	**3.21**	**77**	*eP*		**Pn**		**16 27 55.6**	**-0.6**	
LMEL				*i* S		**Sn**		**16 28 33.2**	**-0.1**	
FCH	**Farellones**	**3.31**	**68**	*eP*		Pn		16 27 49.0	-8.9	
VA03	**San Esteban**	**3.40**	**58**	*eP*		**Pn**		**16 27 57.7**	**-1.1**	
VA03				IAML				16 28 40.0		
	comp=E,158nm,0.5s									
H03S1	**Juan Fernandez**	**4.17**	**279**	Pn		**Pn**		**16 28 07.2**	**-1.9**	
H03S1				T		T		16 32 15.6		
	baz=110,SNR=17									
H03S3	**Juan Fernandez**	**4.18**	**280**	T		T		16 32 18.7		
	baz=110,SNR=15									
H03S2	**Juan Fernandez**	**4.19**	**280**	T		T		16 32 11.2		
	baz=110,SNR=22									
H03N1	**Juan Fernandez**	**4.28**	**285**	Pn		**Pn**		**16 28 08.3**	**-2.2**	
	baz=134,slow=76,SNR=28									
H03N2	**Juan Fernandez**	**4.30**	**285**	Pn		**Pn**		**16 28 09.2**	**-1.6**	
	baz=128,slow=76,SNR=12									
PLCA	**Paso Flores**	**6.66**	**157**	Pn		**Pn**		**16 28 43.5**	**0.0**	
	comp=E,0.6nm,0.3s,baz=320,slow=15,SNR=16									
PLCA				Sn		**Sn**		**16 30 00.8**	**+2.5**	
	comp=E,0.1nm,0.3s,baz=46,slow=19,SNR=1.2									
LPAZ	**La Paz**	**19.00**	**17**	P		**Pn**		**16 31 29.9**	**+1.5**	
	comp=E,0.1nm,0.3s,baz=188,slow=6.1,SNR=5.1									
SIV	**San Ignacio**	**21.88**	**35**	P		**P**		**16 32 00.5**	**+2.4**	
	comp=E,1.4nm,1.0s,baz=274,slow=12									
TXAR	**Lajitas Array**	**69.53**	**332**	P		**P**		**16 38 15.3**	**+2.0**	
	comp=E,0.4nm,0.6s,baz=153,slow=9.1,SNR=4.8									

*ISK **28** 16:30:52.7, 36°.39N×27°.64E, h76km±1km, ML3.2/19*
*IDC **28** 16:30:52.7±1.5, 36°.21N×27°.74E, h87km±33km, mb3.2/2, mb1 3.3/6, mb1mx3.0/36, mbtmp3.6/6, Error ellipse: s-maj=33.1km s-min=12.6km az=4.0*
*ATH **28** 16:30:53.3, 36°.42N×27°.64E, h57km±15km, ML3.1/3, Error ellipse: s-maj=15.7km s-min=1.5km az=105.0*
*NIC **28** 16:30:54.2±0.0, 36°.02N×27°.86E, h90km±3km, Ml4.1/3*
*THE **28** 16:30:54.5, 36°.38N×27°.67E, h74km±2km, ML3.4/2, Error ellipse: s-maj=2.6km s-min=0.7km az=340.0*
*DDA **28** 16:30:54.7±0.0, 36°.57N×27°.66E, h66km±1km, ML3.0*
*GII **28** 16:31:01.8±0.3, 35°.81N×28°.13E, h80km, MD3.3/1, Mm3.4/4*

ISC 28 16:30:52.6±0.9, **36°.31N**±0°.03×**27°.77E**±0°.03, **h78**km±7km, **n104**, σ2s**01**/155, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAT	**Datca**	**0.44**	**340**	P		**Pn**	**16 31 05.7**	**-0.2**
DAT				S		**Sn**	**16 31 14.5**	**-1.1**
DAT	**Datca**	**0.44**	**340**	PG		**Pn**	**16 31 05.6**	**-0.2**
DAT				SG		**Sn**	**16 31 14.4**	**-1.1**
DAT	**Datca**	**0.44**	**340**	P		**Pn**	**16 31 05.6**	**-0.2**
DAT				S		**Sn**	**16 31 11.6**	**-3.9**
DAT				*i* AML		AML	16 31 15.0	
	comp=N,1μm,0.5s							
DAT				*i* AML		AML	16 31 15.0	
	comp=E,691nm,0.2s							
MRSB	**Marmaris-Mugla**	**0.53**	**41**	PG		**Pn**	**16 31 07.3**	**+0.8**
TURN	**Turunc**	**0.60**	**40**	PG		**Pn**	**16 31 07.9**	**+0.8**
TURN				SG		**Sn**	**16 31 18.2**	**+0.4**
TURN	**Turunc**	**0.60**	**40**	P		**Pn**	**16 31 07.6**	**+0.6**
TURN				S		**Sn**	**16 31 17.9**	**+0.1**
TURN				*i* AML		AML	16 31 18.0	
	comp=E,908nm,0.2s							
TURN				*i* AML		AML	16 31 19.0	
	comp=N,590nm,0.2s							
BDRM	**Kayabasi**	**0.79**	**341**	P		**Pn**	**16 31 08.0**	**-1.2**
BDRM				S		**Sn**	**16 31 18.3**	**-3.2**
BDRM				*i* AML		AML	16 31 20.0	
	comp=N,540nm,0.5s							
BDRM				*i* AML		AML	16 31 20.0	
	comp=E,556nm,0.5s							
BODT	**Bodrum**	**0.83**	**334**	P		**Pn**	**16 31 09.2**	**-0.3**
BODT				S		**Sn**	**16 31 20.9**	**-1.3**
BODT	**Bodrum**	**0.83**	**334**	PG		**Pn**	**16 31 09.3**	**-0.3**
BODT				SG		**Sn**	**16 31 20.9**	**-1.3**
DALY	**Dalyan (Mula)**	**0.87**	**55**	PG		**Pn**	**16 31 12.2**	**+2.2**
DALY				SG		**Sn**	**16 31 25.0**	**+2.0**
KARP	**Karpathos**	**0.91**	**213**	P		**Pn**	**16 31 11.7**	**+1.2**
KARP				S		**Sn**	**16 31 24.7**	**+0.9**
KARP				AML		AML	16 31 25.2	
	comp=N,5383μm,0.3s							
KARP				AML		AML	16 31 25.3	
	comp=E,7103μm,0.3s							
KARP	**Karpathos**	**0.91**	**213**	P		**Pn**	**16 31 11.7**	**+1.2**
KARP				S		**Sn**	**16 31 24.6**	**+0.9**
	comp=E,3μm,0.4s							
KARP	**Karpathos**	**0.91**	**213**	PG		**Pn**	**16 31 11.6**	**+1.2**
KARP				SG		**Sn**	**16 31 24.3**	**+0.5**
KARP	**Karpathos**	**0.91**	**213**	P		**Pn**	**16 31 11.6**	**+1.2**
KARP				S		**Sn**	**16 31 24.6**	**+0.9**
KARP				AML		AML	16 31 24.9	
	comp=E,7.1nm,0.3s							
KARP				AML		AML	16 31 24.9	
	comp=E,7.1nm,0.3s							
KARP				AML		AML	16 31 25.8	
	comp=E,6.1nm,0.5s							
KARP				AML		AML	16 31 25.8	
	comp=E,6.1nm,0.5s							
YER	**Yerkesik**	**0.92**	**27**	P		**Pn**	**16 31 11.5**	**+0.9**
YER				S		**Sn**	**16 31 23.6**	**-0.5**
YER	**Yerkesik**	**0.92**	**27**	PG		**Pn**	**16 31 11.6**	**+0.9**
MLSB	**Milas**	**0.98**	**1**	PG		**Pn**	**16 31 11.5**	**+0.2**
MLSB				SG		**Sn**	**16 31 24.4**	**-0.9**
MULA	**Mugla, Merkez-**	**1.04**	**25**	P		**Pn**	**16 31 13.1**	**+0.9**
MULA				S		**Sn**	**16 31 25.3**	**-1.4**
MULA				*i* AML		AML	16 31 28.0	
	comp=E,254nm,0.4s							
FETY	**Fethiye**	**1.11**	**73**	P		**Pn**	**16 31 14.7**	**+1.8**
FETY				S		**Sn**	**16 31 30.0**	**+2.0**
FETY	**Fethiye**	**1.11**	**73**	PN		**Pn**	**16 31 14.6**	**+1.7**
FETY				SN		**Sn**	**16 31 30.1**	**+2.0**
FETY	**Fethiye**	**1.11**	**73**	P		**Pn**	**16 31 14.6**	**+1.7**
FETY				S		**Sn**	**16 31 27.4**	**-0.7**
FETY				*i* AML		AML	16 31 31.0	
	comp=E,266nm,0.4s							
FETY				*i* AML		AML	16 31 31.0	
	comp=E,171nm,0.3s							
DDIM	**Aydin, Didim**	**1.22**	**340**	P		**Pn**	**16 31 15.2**	**+1.1**
DDIM				S		**Sn**	**16 31 27.1**	**-3.3**
AYDN	**Tasoluk**	**1.35**	**4**	P		**Pn**	**16 31 16.2**	**+0.3**
AYDN				S		**Sn**	**16 31 31.2**	**-2.2**
AYDN				*i* AML		AML	16 31 33.0	
	comp=E,263nm,0.3s							
CAME	**Cameli-Denizli**	**1.39**	**63**	PN		**Pn**	**16 31 18.6**	**+2.1**
TAVA	**DENIZLI_Tavas**	**1.47**	**38**	P		**Pn**	**16 31 18.7**	**+1.1**
TAVA				S		**Sn**	**16 31 37.0**	**+0.6**
CAEL	**Denizli, Camel**	**1.49**	**57**	P		**Pn**	**16 31 19.9**	**+2.1**
CAEL				S		**Sn**	**16 31 40.2**	**+3.4**
CAEL				*i* AML		AML	16 31 47.0	
	comp=E,209nm,0.5s							
CAEL				*i* AML		AML	16 31 52.0	
	comp=E,233nm,0.5s							
AKAS	**Kas**	**1.49**	**93**	PN		**Pn**	**16 31 20.1**	**+2.3**
AKAS	**Kas**	**1.49**	**93**	P		**Pn**	**16 31 20.1**	**+2.3**
AKAS				S		**Sn**	**16 31 38.8**	**+2.0**
AKAS				*i* AML		AML	16 31 41.0	
	comp=E,203nm,0.5s							
AKAS				*i* AML		AML	16 31 41.0	
	comp=E,169nm,0.3s							
SMG	**Samos**	**1.58**	**332**	P		**Pn**	**16 31 18.4**	**-0.5**
SMG				S		**Sn**	**16 31 35.9**	**-2.8**
SMG				AML		AML	16 31 37.9	
	comp=E,311μm,0.4s							
SMG				AML		AML	16 31 39.3	
	comp=N,227μm,0.3s							
SMG	**Samos**	**1.58**	**332**	P		**Pn**	**16 31 18.4**	**-0.5**
GOLH	**Golhisar**	**1.71**	**57**	P		**Pn**	**16 31 22.8**	**+2.1**
ZKR	**Zakros**	**1.74**	**227**	P		**Pn**	**16 31 22.2**	**+1.3**
ZKR				S		**Sn**	**16 31 43.1**	**+0.7**
ZKR				AML		AML	16 31 45.7	
	comp=E,1156μm,0.3s							
ZKR				AML		AML	16 31 47.8	
	comp=N,372μm,0.5s							
ZKR	**Zakros**	**1.74**	**227**	P		**Pn**	**16 31 22.3**	**+1.4**
ZKR				S		**Sn**	**16 31 42.3**	**-0.1**
	comp=N,375nm,0.4s							
ZKR	**Zakros**	**1.74**	**227**	PN		**Pn**	**16 31 22.2**	**+1.3**
ZKR				SN		**Sn**	**16 31 43.1**	**+0.7**
ZKR	**Zakros**	**1.74**	**227**	P		**Pn**	**16 31 22.3**	**+1.4**
ZKR				S		**Sn**	**16 31 43.0**	**+0.5**
ELL	**Elmali**	**1.78**	**75**	PN		**Pn**	**16 31 24.1**	**+2.5**
ELL	**Elmali**	**1.78**	**75**	P		**Pn**	**16 31 24.4**	**+2.8**
ELL				S		**Sn**	**16 31 47.9**	**+4.3**
THR8	**Santorini-Mono**	**1.85**	**274**	P		**Pn**	**16 31 22.5**	**+0.2**
DGB	**zmir**	**1.87**	**338**	P		**Pn**	**16 31 21.5**	**-1.2**
DGB				S		**Sn**	**16 31 38.5**	**-7.1**
DGB				*i* AML		AML	16 31 44.0	
	comp=N,22nm,0.5s							
THR2	**Thira island,**	**1.89**	**275**	P		**Pn**	**16 31 23.3**	**+0.4**
THR3	**Thira Island,**	**1.91**	**274**	P		**Pn**	**16 31 23.5**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.92**	**273**	P		**Pn**	**16 31 23.6**	**+0.3**
THR9	**Santorini-Faro**	**1.94**	**272**	P		**Pn**	**16 31 24.2**	**+0.5**
APE	**Apeiranthos**	**1.95**	**293**	P		**Pn**	**16 31 23.7**	**0.0**
APE	**Apeiranthos**	**1.95**	**293**	P		**Pn**	**16 31 23.6**	**-0.1**
THR5	**Thira Island,**	**1.95**	**274**	P		**Pn**	**16 31 24.2**	**+0.5**
AKUM	**Antalya-Kumluc**	**2.08**	**89**	P		**Pn**	**16 31 27.7**	**+2.3**
AKUM				S		**Sn**	**16 31 52.3**	**+1.7**
AKUM				*i* AML		AML	16 31 54.0	
	comp=N,97nm,0.4s							
AKUM				*i* AML		AML	16 31 54.0	
	comp=N,111nm,0.4s							
FRMA	**Ierapetra Chan**	**2.10**	**233**	P		**Pn**	**16 31 26.4**	**+0.6**
KORT	**Korkueli**	**2.19**	**71**	PN		**Pn**	**16 31 29.5**	**+2.5**
KORT	**Korkueli**	**2.19**	**71**	P		**Pn**	**16 31 28.2**	**+1.1**
URLA	**Izmir**	**2.25**	**336**	PN		**Pn**	**16 31 27.2**	**-0.5**
MANT	**Manisa**	**2.26**	**16**	P		**Pn**	**16 31 27.7**	**-0.4**
MANT				S		**Sn**	**16 31 53.0**	**-2.3**
MANT				*i* AML		AML	16 31 53.0	
	comp=N,79nm,0.5s							
BRDR	**BURDUR-Merkez**	**2.30**	**52**	P		**Pn**	**16 31 28.4**	**-0.1**
KULA	**Kula-Manisa**	**2.31**	**18**	PN		**Pn**	**16 31 29.1**	**+0.5**
ANTB	**Antalya**	**2.40**	**75**	PN		**Pn**	**16 31 32.5**	**+2.8**
BASM	**Basmaki-Afyon**	**2.43**	**48**	PN		**Pn**	**16 31 31.5**	**+1.3**
PASA	**Karahalli, USA**	**2.45**	**34**	P		**Pn**	**16 31 28.7**	**-1.9**
PASA				S		**Sn**	**16 31 54.7**	**-4.9**
BUCA	**Burdur, Bucak-**	**2.46**	**65**	P		**Pn**	**16 31 33.5**	**+2.9**
CHOS	**Chios island**	**2.48**	**327**	P		**Pn**	**16 31 30.6**	**-0.3**
CHOS	**Chios island**	**2.48**	**327**	P		**Pn**	**16 31 30.6**	**-0.3**
BCK	**Bucak**	**2.54**	**62**	PN		**Pn**	**16 31 34.2**	**+2.5**
IDI	**Anoyia**	**2.55**	**247**	P		**Pn**	**16 31 31.9**	**0.0**
	comp=N,9.7nm,0.3s,baz=66,slow=12,SNR=50							
IDI				S		**Sn**	**16 32 01.6**	**-0.4**
	comp=N,3.9nm,0.3s,baz=126,slow=19,SNR=2.0							
IDI	**Anoyia**	**2.55**	**247**	P		**Pn**	**16 31 31.8**	**-0.1**
IDI	**Anoyia**	**2.55**	**247**	P		**Pn**	**16 31 31.8**	**-0.1**
IDI	**Anoyia**	**2.55**	**247**	PN		**Pn**	**16 31 31.9**	**0.0**
USAK	**Usak-Merkez**	**2.59**	**22**	P		**Pn**	**16 31 32.9**	**+0.5**
KZIL	**AFYON_Kizioren**	**2.71**	**44**	P		**Pn**	**16 31 34.4**	**+0.3**
SIMA	**Simav-Kutahya**	**2.93**	**19**	PN		**Pn**	**16 31 37.8**	**+0.8**
STEP	**BALIKESIR_Sava**	**3.06**	**359**	P		**Pn**	**16 31 38.5**	**-0.2**
STEP				S		**Sn**	**16 32 11.3**	**-2.9**
STEP				*i* AML		AML	16 32 13.0	
	comp=N,95nm,0.6s							
GDZ	**Gediz**	**3.09**	**26**	P		**Pn**	**16 31 39.0**	**-0.2**
GDZ				S		**Sn**	**16 32 12.4**	**-2.7**
IMMV	**Iera Moni Meta**	**3.19**	**256**	P		**Pn**	**16 31 41.1**	**+0.7**
YVAC	**Isparta, Yalva**	**3.39**	**54**	P		**Pn**	**16 31 44.3**	**+1.1**
SEDI	**Konya, Seydise**	**3.39**	**69**	P		**Pn**	**16 31 45.8**	**+2.5**
BAYC	**CANAKKALE_Bayr**	**3.56**	**345**	P		**Pn**	**16 31 44.8**	**-0.6**
DOGA	**KONYA_Doganhis**	**3.59**	**59**	P		**Pn**	**16 31 48.0**	**+2.0**
ANDZ	**Kutahya, Merke**	**3.61**	**27**	P		**Pn**	**16 31 46.5**	**+0.3**
AKMS	**Akamas**	**3.94**	**108**	⇑*iP*		**Pn**	**16 31 51.7**	**+1.1**
OSC1	**CSNet OBS 1**	**4.03**	**133**	P		**Pn**	**16 31 52.2**	**+0.4**
OSC1				S		**Sn**	**16 32 35.8**	**-1.9**
ALFC	**Alefka**	**4.10**	**105**	P		**Pn**	**16 31 53.3**	**+0.5**
ALFC				AML		AML	16 32 39.4	
	comp=N,0.5nm,0.2s							
ALFC				AML		AML	16 32 39.5	
	comp=N,0.7nm,0.4s							
NATA	**Nata**	**4.21**	**110**	P		**Pn**	**16 31 55.6**	**+1.3**
SZAC	**Souni**	**4.45**	**109**	P		**Pn**	**16 31 58.8**	**+1.2**
SZAC				AML		AML	16 32 48.2	
	comp=N,0.8nm,0.3s							
SZAC				AML		AML	16 32 48.3	
	comp=N,0.7nm,0.3s							
ASGA	**Asgata**	**4.72**	**107**	P		**Pn**	**16 32 02.0**	**+0.7**
CSS	**Mathiatis**	**4.73**	**105**	P		**Pn**	**16 32 02.2**	**+0.8**
MVOU	**Mavrovouni**	**4.95**	**103**	P		**Pn**	**16 32 05.0**	**+0.6**
BRTR	**Keskin Array B**	**5.75**	**52**	P		**Pn**	**16 32 17.2**	**+1.8**
	comp=N,0.5nm,0.3s,baz=221,slow=13,SNR=12							
HNTI	**Hanita**	**6.90**	**116**	Sn		**Sn**	**16 33 46.4**	**-1.7**
OFRI	**`Ofer**	**7.01**	**120**	Pn		**Pn**	**16 32 35.0**	**+2.5**
OFRI				Sn		**Sn**	**16 33 49.1**	**-1.6**
MMC7	**Mount Meron ar**	**7.09**	**115**	Pn		**Pn**	**16 32 36.9**	**+3.2**
MMA0B	**Mount Meron ar**	**7.10**	**115**	Pn		**Pn**	**16 32 36.7**	**+2.9**
MMA0B				Sn		**Sn**	**16 33 51.4**	**-1.7**
MMAI	**Mount Meron Ar**	**7.10**	**115**	P		**Pn**	**16 32 34.6**	**+0.7**
	comp=N,6.1nm,0.3s,baz=331,slow=23,SNR=17							
MMAI				S		**Sn**	**16 33 50.3**	**-2.7**
	comp=N,11nm,0.3s,baz=225,slow=28,SNR=12							
GEM	**Giv'at Ha'Em**	**7.20**	**113**	Pn		**Pn**	**16 32 38.1**	**+3.0**
GEM				Sn		**Sn**	**16 33 52.4**	**-3.0**
MMLI	**Mount Malkishu**	**7.42**	**119**	Pn		**Pn**	**16 32 42.2**	**+4.1**
MMLI				Sn		**Sn**	**16 33 57.9**	**-2.8**
HMDT	**Nahal Hemdat**	**7.59**	**120**	Pn		**Pn**	**16 32 43.0**	**+2.5**
HMDT				Sn		**Sn**	**16 34 03.1**	**-1.9**
KZIT	**Kziot**	**7.72**	**132**	Pn		**Pn**	**16 32 43.7**	**+1.4**
KZIT				Sn		**Sn**	**16 34 04.1**	**-4.1**
YTIR	**Yattir**	**7.86**	**127**	Pn		**Pn**	**16 32 46.8**	**+2.6**
YTIR				Sn		**Sn**	**16 34 09.0**	**-2.6**
DSI	**Dead Sea**	**7.90**	**125**	Pn		**Pn**	**16 32 46.8**	**+2.1**
PRNI	**Paran**	**8.48**	**132**	Pn		**Pn**	**16 32 54.5**	**+1.8**
PRNI				Sn		**Sn**	**16 34 22.5**	**-4.4**
KRMI	**Paran Flat**	**8.49**	**135**	Pn		**Pn**	**16 32 54.1**	**+1.3**
KRMI				Sn		**Sn**	**16 34 22.6**	**-4.5**
HRFI	**Mount Harif**	**8.73**	**134**	Pn		**Pn**	**16 32 57.6**	**+1.5**
HRFI				Sn		**Sn**	**16 34 28.9**	**-4.1**
MBRI	**Mt Berech**	**8.84**	**135**	Pn		**Pn**	**16 32 59.5**	**+1.8**
MBRI				Sn		**Sn**	**16 34 31.7**	**-4.0**
EIL	**Elat**	**8.96**	**136**	P		**Pn**	**16 32 59.4**	**+0.3**
	comp=N,0.5nm,0.3s,baz=212,slow=18,SNR=7.2							
EIL				S		**Sn**	**16 34 32.2**	**-6.2**
	comp=N,2.4nm,0.3s,baz=229,slow=11,SNR=7.9							
EIL	**Elat**	**8.96**	**136**	Pn		**Pn**	**16 33 00.7**	**+1.5**
FINES	**FINESS Array B**	**25.18**	**358**	P		**P**	**16 36 08.9**	**-1.4**
	comp=N,2.9nm,1.1s,baz=159,slow=12,SNR=4.4							
MKAR	**Makanchi Array**	**41.37**	**58**	P		**P**	**16 38 32.1**	**+1.3**
	comp=N,0.2nm,0.6s,baz=269,slow=7.9,SNR=1.8							

*GUC **28** 16:37:14.9±0.6, 21°.21S×68°.80W, h108km±4km, ML3.6*
*IDC **28** 16:37:15.2±1.3, 21°.23S×68°.31W, h99km±16km, mb3.4/2, mb1 3.4/5, mb1mx3.2/19, mbtmp3.7/5, Error ellipse: s-maj=40.7km s-min=15.7km az=113.0*

ISC 28 16:37:13.4±0.9, **21°.15S**±0°.04×**68°.78W**±0°.08, **h119**km±9km, **n21**, σ1s**49**/36, **5C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.66**	**279**	⇑*iP*		**Pn**	**16 37 32.1**	**-0.4**
PB01				*i* S		**Sn**	**16 37 45.5**	**-1.4**
PB01				IAML			16 37 46.8	
	comp=N,2μm,0.4s							
PB09	**IPOC Station P**	**0.78**	**213**	*eP*		**Pn**	**16 37 33.3**	**-0.2**
PB09				*i* S		**Sn**	**16 37 47.8**	**-0.8**
PB09				IAML			16 37 48.9	
	comp=N,2μm,0.4s							
PB02	**IPOC Station P**	**1.05**	**260**	⇑*iP*		**Pn**	**16 37 35.9**	**-0.1**
PB02				*i* S		**Sn**	**16 37 51.9**	**-1.1**
PB02				IAML			16 37 54.5	
	comp=E,1μm,0.5s							
PB08	**IPOC Station P**	**1.06**	**341**	⇓*iP*		**Pn**	**16 37 37.4**	**+1.0**
PB08				*i* S		**Sn**	**16 37 54.6**	**+1.0**
PB08				IAML			16 37 57.6	
	comp=N,1μm,0.7s							
PB07	**IPOC Station P**	**1.18**	**240**	⇑*iP*		**Pn**	**16 37 37.0**	**-0.3**
PB07				*i* S		**Sn**	**16 37 54.1**	**-1.4**
PB07				IAML			16 37 56.8	
	comp=N,861nm,0.4s							
PATCX	**Punta Patache**	**1.32**	**284**	⇑*iP*		**Pn**	**16 37 39.1**	**+0.3**
PATCX				*i* S		**Sn**	**16 37 57.8**	**-0.2**
PATCX				IAML			16 37 58.8	
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**1.35**	**310**	⇓*iP*		**Pn**	**16 37 39.4**	**+0.3**
HMBC				*i* S		**Sn**	**16 37 58.4**	**-0.2**
HMBC				IAML			16 37 59.7	
	comp=E,2μm,0.5s							
TA01	**Diego Aracena**	**1.43**	**294**	⇑*iP*		**Pn**	**16 37 40.1**	**+0.2**
TA01				*i* S		**Sn**	**16 37 59.4**	**-0.6**
TA01				IAML			16 38 00.9	
	comp=E,2μm,0.4s							
LVC	**Limon Verde**	**1.46**	**185**	P		**Pn**	**16 37 40.9**	**+0.2**
	comp=E,34nm,0.3s,baz=35,slow=12,SNR=233							
LVC				S		**Sn**	**16 38 01.4**	**0.0**
	comp=E,90nm,0.3s,baz=322,slow=20,SNR=31							
LVC				LR		LR	16 38 38.8	
	comp=E,82nm,19.4s,baz=174,slow=56							
GO01	**Chusmiza**	**1.52**	**345**	⇓*iP*		**Pn**	**16 37 42.6**	**+1.1**
GO01				*i* S		**Sn**	**16 38 04.2**	**+1.4**
PB11	**IPOC Station P**	**1.60**	**329**	*iP*		**Pn**	**16 37 42.8**	**+0.6**
PB11				*i* S		**Sn**	**16 38 04.6**	**+0.6**
PB11				IAML			16 38 06.2	
	comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.72**	**205**	⇓*iP*		**Pn**	**16 37 43.4**	**-0.1**
PB06				*i* S		**Sn**	**16 38 05.2**	**-1.2**
PB06				IAML			16 38 06.3	
	comp=E,1μm,0.4s							
PB04	**IPOC Station P**	**1.73**	**227**	*eP*		**Pn**	**16 37 43.2**	**-0.5**
PB04				*i* S		**Sn**	**16 38 05.0**	**-1.8**
PB04				IAML			16 38 10.2	
	comp=N,533nm,0.2s							
PB15	**IPOC Station P**	**2.15**	**197**	*eP*		**Pn**	**16 37 48.9**	**0.0**
PB15				*i* S		**Sn**	**16 38 15.6**	**-0.5**
PB12	**IPOC Station P**	**2.91**	**330**	*eP*		**Pn**	**16 37 58.1**	**-0.5**
LPAZ	**La Paz**	**4.87**	**7**	P		**Pn**	**16 38 27.8**	**+2.5**
	comp=N,1.5nm,0.3s,baz=183,slow=7.4,SNR=10							
LPAZ				S		**Sn**	**16 39 15.1**	**-5.9**
	comp=N,0.2nm,0.3s,baz=154,slow=12,SNR=3.8							
SIV	**San Ignacio**	**8.93**	**56**	P		**Pn**	**16 39 17.2**	**-2.4**
PLCA	**Paso Flores**	**19.58**	**184**	P		**Pn**	**16 41 36.7**	**+2.0**
	comp=N,0.1nm,0.3s,baz=1.8,slow=10,SNR=4.4							
BDFB	**Brasilia**	**20.45**	**78**	P		**P**	**16 41 42.1**	**+0.3**
	comp=N,1.7nm,0.4s,baz=231,slow=7.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P		**P**	**16 48 55.1**	**+0.7**
	comp=N,0.6nm,0.7s,baz=252,slow=4.6,SNR=3.3							
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc		**PKiKP**	**16 56 39.6**	**-1.6**
	comp=N,0.6nm,0.7s,baz=338,slow=4.5,SNR=6.0							

*IDC **28** 17:05:02.9±9.0, 55°.19S×159°.20E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.9/12, mbtmp3.8/4, MS3.8/5, Ms1 3.8/5, ms1mx3.5/47, Error ellipse: s-maj=423.1km s-min=26.1km az=72.0*
*NEIC **28** 17:05:02.5±1.4, 55°.60S±0°.06×159°.0E±0°.3, h10km±2km, mb4.4/5, Error ellipse: s-maj=25.0km s-min=10.2km az=90.0*

ISC 28 17:05:01.7±1.1, **55°.59S**±0°.09×**159°.0E**±0°.2, **h10**km, **n23**, σ2s**05**/14, **mb3.8/6, MS3.7**/4, **Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MCQ	**Macquarie Isla**	**1.09**	**360**			**Pn**	**17 05 22.8**	**-0.2**
M

M_R2.33±.10; $M_{\Theta\Theta}$-0.75±.02; $M_{\Theta/\Theta}$0.90±.07; Best double couple: $M_0$3.14500×10^{17} NP1:ϕ_{Θ}239.00000°,δ19.00000°, λ82.00000°. NP2:ϕ_{Θ}68.00000°,δ71.00000°,λ93.00000°. Principal axes: T 3.1670, Plg64.0000°, Azm342.0000°; N -0.0380, Plg3.0000°, Azm247.0000°; P -3.1230, Plg26.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **28** 17:15:03,52.04N×168.72W,h18km,Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10^{17}Nm; M_{rr}1.42; $M_{\Theta\Theta}$-0.99; $M_{\phi\phi}$-0.43; $M_{r\theta}$2.11; $M_{\theta\phi}$-0.47; $M_{r\phi}$0.85; Fault plane solution: $M_0$2.65000×10^{17} NP1: ϕ_s236.00000°,δ15.00000°,λ79.00000°. NP2:ϕ_s67.00000°, δ75.00000°,λ93.00000°. Principal axes: T 2.7295, Plg60.0000°, Azm341.0000°; N -0.1730, Plg3.0000°, Azm246.0000°; P -2.5564, Plg30.0000°, Azm155.0000°;*

*BGR **28** 17:15:06.5±0.0,53.69N×168.16W,h33km,mb5.6,Ms5.1*

ISC 28 17:14:56.6±0.4,52°35N±0.03×168°74W±0.02,h15km±1km, h15km:pP-P,n1888,σ1956/1942,mb5.5/567,MS5.3/280, 245C-60D,Fault plane solution: NP1:ϕ_{Θ}90.09644°, δ66.40538°,λ107.05180°. **NP2:ϕ_{Θ}**232.63367°,δ28.82274°, λ56.12405°. **Principal axes:** T Plg64.4934°, Azm28.8811°; N Plg15.5882°, Azm263.0974°; P Plg19.6625°, Azm167.3764°; **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.63**	**353**				**Pn**	**17 15 12.8**	**+1.8**
NIKH	**Nikolski High** baz=173,SNR=936	**0.63**	**353**	P			**Pn**	**17 15 13.3**	**+2.3**
MSW	**Makushin Switc**	**1.96**	**36**				**Pb**	**17 15 30.8**	**-1.2**
MSW							**Sb**	**17 15 56.4**	**+0.2**
UNV	**Unalaska Valle**	**2.02**	**41**	Pn			**Pn**	**17 15 30.6**	**+0.6**
UNV	**Unalaska Valle**	**2.02**	**41**				**Sb**	**17 15 58.0**	**+0.3**
UNV	**Unalaska Valle** baz=221,SNR=168	**2.02**	**41**	P			**Pn**	**17 15 30.9**	**+0.9**
MTBL	**Makushin Table**	**2.04**	**37**				**Pb**	**17 15 32.2**	**-1.2**
AKBBA	**Akutan Broad B**	**2.43**	**43**				**Pn**	**17 15 37.1**	**+1.4**
AKSA	**Akutan Strait**	**2.56**	**44**				**Pn**	**17 15 38.3**	**+0.8**
WESE	**West Dahl East**	**3.27**	**48**				**Pn**	**17 15 48.8**	**+1.5**
KOFP	**Korovin Flat P**	**3.29**	**271**				**Pn**	**17 15 49.4**	**+1.8**
ATKA	**Atka Island**	**3.36**	**270**				**Pn**	**17 15 49.1**	**+0.7**
ATKA	**Atka Island**	**3.36**	**270**	P			**Pn**	**17 15 49.3**	**+0.9**
SSLN	**Shishaldin Nor**	**3.75**	**47**				**Pn**	**17 15 55.6**	**+1.7**
FALS	**False Pass**	**4.04**	**49**	Pn			**Pn**	**17 15 57.9**	**+0.1**
FALS	**False Pass** baz=233,SNR=39	**4.04**	**49**	P			**Pn**	**17 15 59.5**	**+1.6**
FALS	**False Pass**	**4.04**	**49**	P			**Pn**	**17 16 02.1**	**+4.3**
GSTR	**Great Sitkin T**	**4.51**	**270**	Pn			**Pn**	**17 16 04.5**	**+0.2**
GSMY	**Great Sitkin M**	**4.51**	**269**				**Pn**	**17 16 05.8**	**+1.5**
GSTD	**Great Sitkin T**	**4.57**	**269**				**Pn**	**17 16 06.6**	**+1.5**
GSCK	**Great Sitkin C**	**4.58**	**269**				**Pn**	**17 16 06.6**	**+1.4**
SPIA	**Saint Paul Isl**	**4.92**	**350**	Pn			**Pn**	**17 16 10.5**	**+0.6**
SPIA	**Saint Paul Isl** baz=169,SNR=22	**4.92**	**350**	P			**Pn**	**17 16 12.3**	**+2.5**
ADK	**Adak**	**4.92**	**268**	P			**Pn**	**17 16 10.6**	**+0.7**
ADK	**Adak**	**4.92**	**268**	Pn			**Pn**	**17 16 10.6**	**+0.7**
ADK	**Adak**	**4.92**	**268**	P			**Pn**	**17 16 11.3**	**+1.4**
KIWB	**Kanaga Island**	**5.21**	**268**				**Pn**	**17 16 14.8**	**+0.9**
KIKV	**Kanaga Island**	**5.22**	**268**				**Pn**	**17 16 15.4**	**+1.4**
KIMD	**Kanaga Island**	**5.28**	**267**				**Pn**	**17 16 15.9**	**+1.1**
SDPT	**Sand Point**	**5.74**	**55**	Pn			**Pn**	**17 16 22.0**	**+0.9**
SDPT	**Sand Point** baz=241,SNR=11	**5.74**	**55**	P			**Pn**	**17 16 22.3**	**+1.2**
TASE	**Tanaga Southea**	**5.76**	**269**				**Pn**	**17 16 23.3**	**+1.9**
VNFG	**Fog Glacier, M**	**6.66**	**50**				**Pn**	**17 16 37.6**	**+3.7**
VNHG	**Veniaminof 1**	**6.81**	**52**				**Pn**	**17 16 39.2**	**+3.3**
CHGN	**Chignik**	**7.22**	**53**				**Pn**	**17 16 42.3**	**+0.9**
CHGN	**Chignik** baz=240,SNR=20	**7.22**	**53**	P			**Pn**	**17 16 42.7**	**+1.3**
CHIR	**Chirikof Islan**	**8.46**	**61**	Pn			**Pn**	**17 16 57.8**	**-0.6**
CHIR	**Chirikof Islan** baz=250	**8.46**	**61**	P			**Pn**	**17 16 58.8**	**+0.4**
SII	**Sitkinak Islan**	**9.46**	**58**	Pn			**Pn**	**17 17 13.0**	**+0.8**
SII	**Sitkinak Islan** baz=249	**9.46**	**58**	P			**Pn**	**17 17 12.3**	**+0.1**
SII	**Sitkinak Islan**	**9.46**	**58**	P			**Pn**	**17 17 14.0**	**+1.8**
OHAK	**Old Harbor**	**10.16**	**55**	Pn			**Pn**	**17 17 21.4**	**-0.3**
OHAK	**Old Harbor** baz=247,SNR=14	**10.16**	**55**	P			**Pn**	**17 17 21.4**	**-0.3**
P18K	**Big Mountain,** baz=232,SNR=32	**10.35**	**42**	P			**Pn**	**17 17 25.3**	**+1.0**
KDAK	**Kodiak Island** 9.9nm,0.3s,baz=254,slow=6.1,SNR=122	**10.73**	**53**	Pn			**Pn**	**17 17 28.9**	**-0.6**
KDAK	baz=177,slow=8.8,SNR=0.9						**Sn**	**17 19 23.4**	**-5.8**
KDAK	**Kodiak Island**	**10.73**	**53**	*d*	*i*	P	**Pn**	**17 17 29.5**	**0.0**
KDAK	**Kodiak Island** baz=246	**10.73**	**53**	P			**Pn**	**17 17 29.3**	**-0.2**
O19K	**Port Alsworth** baz=231,SNR=10	**11.21**	**40**	P			**Pn**	**17 17 37.6**	**+1.6**
SVW2	**Sparrevohn**	**11.34**	**34**	Pn			**Pn**	**17 17 37.7**	**-0.1**
N19K	**Bonanza Creek**	**11.54**	**37**				**Pn**	**17 17 42.5**	**+1.9**
N19K	**Bonanza Creek** baz=229,SNR=23	**11.54**	**37**	P			**Pn**	**17 17 42.0**	**+1.4**
GAMB	**Gambell**	**11.57**	**353**	Pn			**Pn**	**17 17 41.6**	**+0.7**
GAMB	**Gambell** baz=171,SNR=52	**11.57**	**353**	P			**Pn**	**17 17 42.8**	**+2.0**
O20K	**Slope Mountain** baz=236	**11.82**	**43**	P			**Pn**	**17 17 44.9**	**+0.4**
RSO	**Redoubt South**	**11.99**	**41**				**Pn**	**17 17 48.7**	**+1.8**
CNPM	**China Poot**	**12.13**	**47**				**Pn**	**17 17 48.3**	**-0.4**
M19K	**Big River Lodg**	**12.31**	**33**				**Pn**	**17 17 52.0**	**+0.9**
M19K	**Big River Lodg** baz=225,SNR=14	**12.31**	**33**	P			**Pn**	**17 17 50.9**	**-0.3**
L19K	**White Mountain**	**12.36**	**32**				**Pn**	**17 17 52.8**	**+1.0**
ANM	**Nome**	**12.38**	**7**	P			**Pn**	**17 17 53.6**	**+1.6**
ANM	**Nome**	**12.38**	**7**	Pn			**Pn**	**17 17 53.6**	**+1.6**
ANM	**Nome** baz=190,SNR=58	**12.38**	**7**	P			**Pn**	**17 17 54.6**	**+2.6**
BRLK	**Bradley Lake**	**12.41**	**46**	Pn			**Pn**	**17 17 51.2**	**-1.2**
BRSE	**Bradley Lake S** baz=241	**12.46**	**46**	P			**Pn**	**17 17 54.6**	**+1.5**
TTA	**Tatalina**	**12.58**	**28**	P			**Pn**	**17 17 56.3**	**+1.5**
TTA	**Tatalina**	**12.58**	**28**	Pn			**Pn**	**17 17 56.3**	**+1.5**
TTA	**Tatalina** baz=218,SNR=27	**12.58**	**28**	P			**Pn**	**17 17 56.7**	**+1.9**
SPCR	**Spurr Chakacha** baz=232,SNR=11	**12.64**	**39**	P			**Pn**	**17 17 55.9**	**+0.2**
SPU	**Mount Spurr**	**12.69**	**39**				**Pn**	**17 17 56.8**	**+0.4**
M20K	**Styx River**	**12.73**	**35**	Pn			**Pn**	**17 17 58.2**	**+1.2**
M20K	**Styx River** baz=228,SNR=26	**12.73**	**35**	P			**Pn**	**17 17 59.1**	**+2.1**
CAPN	**Captain Cook N** baz=236	**12.81**	**42**	P			**Pn**	**17 17 59.1**	**+1.2**
L20K	**Farewell, AK** baz=224,SNR=36	**12.89**	**32**	P			**Pn**	**17 18 00.7**	**+1.6**
SEW	**Seward**	**13.20**	**46**	Pn			**Pn**	**17 18 02.8**	**-0.5**
SEW	**Seward** baz=242,SNR=6.2	**13.20**	**46**	P			**Pn**	**17 18 04.1**	**+0.9**
O22K	**Cooper Landing**	**13.27**	**45**				**Pn**	**17 18 04.1**	**0.0**
O22K	**Cooper Landing** baz=240,SNR=23	**13.27**	**45**	P			**Pn**	**17 18 04.2**	**+0.2**
K20K	**Telida**	**13.47**	**29**	Pn			**Pn**	**17 18 09.3**	**+2.3**
K20K	**Telida** baz=222,SNR=16	**13.47**	**29**	P			**Pn**	**17 18 07.9**	**+0.9**
RC01	**Rabbit Creek A**	**13.57**	**42**				**Pn**	**17 18 07.4**	**-0.9**
RC01	**Rabbit Creek A** baz=238	**13.57**	**42**	P			**Pn**	**17 18 08.0**	**-0.2**
PPLA	**Purkeypile**	**13.74**	**33**				**Pn**	**17 18 10.3**	**-0.4**
PPLA	**Purkeypile** baz=227,SNR=22	**13.74**	**33**	P			**Pn**	**17 18 12.5**	**+1.7**
M22K	**Willow**	**13.78**	**40**				**Pn**	**17 18 11.2**	**+0.1**
GCSA	**Galena City Sc** baz=212,SNR=21	**13.85**	**22**	P			**Pn**	**17 18 13.9**	**+1.9**
PWL	**Port Wells**	**14.05**	**45**				**Pn**	**17 18 12.8**	**-2.0**
PWL	**Port Wells** baz=241,SNR=8.6	**14.05**	**45**	P			**Pn**	**17 18 13.1**	**-1.7**
J20K	**Nowinta River**	**14.07**	**27**	Pn			**Pn**	**17 18 17.1**	**+2.0**
J20K	**Nowinta River** baz=219,SNR=19	**14.07**	**27**	P			**Pn**	**17 18 17.3**	**+2.1**
PMR	**Palmer**	**14.09**	**41**	P			**Pn**	**17 18 16.7**	**+1.5**
PMR	**Palmer**	**14.09**	**41**				**Pn**	**17 18 16.7**	**+1.5**
PMR	**Palmer** baz=237	**14.09**	**41**	P			**Pn**	**17 18 15.5**	**+0.2**
CUT	**Chulitna**	**14.11**	**37**				**Pn**	**17 18 14.9**	**-0.6**
CUT	**Chulitna** baz=233	**14.11**	**37**	P			**Pn**	**17 18 16.1**	**+0.5**
CAST	**Castle Rocks**	**14.14**	**32**	Pn			**Pn**	**17 18 18.0**	**+1.9**
CAST	**Castle Rocks** baz=226,SNR=134	**14.14**	**32**	P			**Pn**	**17 18 17.2**	**+1.1**
GHO	**Glory Hole Cre**	**14.27**	**41**				**Pn**	**17 18 16.5**	**-1.3**
KNK	**Knik Glacier**	**14.27**	**43**	Pn			**Pn**	**17 18 16.1**	**-1.8**
KNK	**Knik Glacier** baz=239,SNR=13	**14.27**	**43**	P			**Pn**	**17 18 16.9**	**-1.0**
Q23K	**Middleton Isla** baz=250	**14.37**	**52**	P			**Pn**	**17 18 19.8**	**+0.5**
CHUM	**Lake Minchumin** baz=224,SNR=28	**14.39**	**30**	P			**Pn**	**17 18 19.9**	**+0.4**
SML	**Sawmill**	**14.52**	**41**				**Pn**	**17 18 19.8**	**-1.5**
SML	**Sawmill** baz=238,SNR=6.8	**14.52**	**41**	P			**Pn**	**17 18 20.5**	**-0.9**
GLI	**Glacier Island**	**14.60**	**46**				**Pn**	**17 18 19.8**	**-2.5**
GLI	**Glacier Island** baz=244	**14.60**	**46**	P			**Pn**	**17 18 20.1**	**-2.2**
KTH	**Kantishna Hill**	**14.61**	**33**				**Pn**	**17 18 24.4**	**+1.8**
TRF	**Thorofare Moun**	**14.76**	**34**				**Pn**	**17 18 24.2**	**-0.4**
TRF	**Thorofare Moun** baz=229,SNR=19	**14.76**	**34**	P			**Pn**	**17 18 24.1**	**-0.6**
FID	**Port Fidalgo**	**14.81**	**47**				**Pn**	**17 18 22.0**	**-3.2**
SCM	**Sheep Creek Mo**	**14.95**	**42**	P			**Pn**	**17 18 25.1**	**-2.0**
SCM	**Sheep Creek Mo**	**14.95**	**42**				**Pn**	**17 18 25.1**	**-2.0**
SCM	**Sheep Creek Mo** baz=240,SNR=39	**14.95**	**42**	P			**Pn**	**17 18 26.2**	**-0.9**
BPAW	**Bear Paw Mtn.**	**14.96**	**31**	Pn			**Pn**	**17 18 28.2**	**+0.9**
BPAW	**Bear Paw Mtn.** baz=226,SNR=102	**14.96**	**31**	P			**Pn**	**17 18 27.9**	**+0.6**
EYAK	**Cordova Ski Ar**	**15.06**	**48**	Pn			**Pn**	**17 18 27.1**	**-1.4**
EYAK	**Cordova Ski Ar** baz=247	**15.06**	**48**	P			**Pn**	**17 18 26.9**	**-1.6**
WAT6	**Susitna Watana** baz=237,SNR=31	**15.17**	**39**	P			**Pn**	**17 18 28.4**	**-1.8**
RND	**Reindeer**	**15.23**	**36**	P			**Pn**	**17 18 30.8**	**-0.1**
RND	comp=Z,85nm,0.9s				pmax	pmax			
RND	**Reindeer**	**15.23**	**36**	Pn			**Pn**	**17 18 30.8**	**-0.1**
DIV	**Divide**	**15.29**	**46**				**Pn**	**17 18 29.9**	**-1.7**
DIV	comp=Z,122nm,0.8s				IAmb	IAmb		17 18 53.8	
KLU	**Klutina**	**15.38**	**45**	Pn			**Pn**	**17 18 30.2**	**-2.6**
KLU	comp=Z,182nm,0.8s				IAmb	IAmb		17 18 38.3	
KLU	**Klutina** baz=243,SNR=49	**15.38**	**45**	P			**Pn**	**17 18 30.2**	**-2.6**
MCK	**McKinley**	**15.40**	**35**	P			**Pn**	**17 18 33.8**	**+0.7**
MCK	comp=Z,69nm,0.8s				pmax	pmax			
MCK	**McKinley**	**15.40**	**35**	Pn			**Pn**	**17 18 33.8**	**+0.7**
MCK	**McKinley** baz=231,SNR=27	**15.40**	**35**	P			**Pn**	**17 18 33.1**	**0.0**
I21K	**Tanana**	**15.45**	**27**	P			**Pn**	**17 18 35.6**	**+2.0**
I21K	comp=Z,336nm,1.0s				IAmb	IAmb		17 18 56.3	
I21K	**Tanana** baz=221,SNR=168	**15.45**	**27**	P			**Pn**	**17 18 34.9**	**+1.3**
RAGM	**Ragged Mountai**	**15.50**	**49**				**Pn**	**17 18 33.2**	**-1.1**
RAGM	comp=Z,227nm,0.8s				IAmb	IAmb		17 18 49.0	
BWN	**Browne**	**15.51**	**33**				**Pn**	**17 18 34.8**	**+0.4**
BWN	comp=Z,419nm,1.3s				IAmb	IAmb		17 18 50.6	
M24K	**Tolsona, Glenn**	**15.55**	**42**				**Pn**	**17 18 34.4**	**-0.7**
M24K	comp=Z,346nm,0.8s				IAmb	IAmb		17 19 03.0	
M24K	**Tolsona, Glenn** baz=236,SNR=36	**15.55**	**42**	P			**Pn**	**17 18 34.1**	**-1.0**
DHY	**Denali Highway**	**15.58**	**38**				**Pn**	**17 18 34.0**	**-1.6**
DHY	**Denali Highway** baz=236,SNR=30	**15.58**	**38**	P			**Pn**	**17 18 35.2**	**-0.4**
H21K	**Melozitna Rive**	**15.59**	**25**				**Pn**	**17 18 35.5**	**0.0**
H21K	comp=Z,250nm,1.0s				IAmb	IAmb		17 18 52.8	
H21K	**Melozitna Rive** baz=219,SNR=172	**15.59**	**25**	P			**Pn**	**17 18 37.0**	**+1.5**
IMAR	**Indian Mountai**	**15.61**	**23**	Pn			**Pn**	**17 18 37.3**	**+1.5**
HMT	**Hamilton**	**15.67**	**50**				**Pn**	**17 18 36.1**	**-0.5**
HMT	comp=Z,172nm,0.8s				IAmb	IAmb		17 18 48.3	
MLY	**Manley**	**15.70**	**29**				**Pn**	**17 18 37.5**	**+0.6**
MLY	comp=Z,352nm,0.9s				IAmb	IAmb		17 18 48.0	
MLY	**Manley** baz=224,SNR=252	**15.70**	**29**	P			**Pn**	**17 18 37.8**	**+0.9**
NEA2	**Nenana**	**15.91**	**32**				**Pn**	**17 18 39.4**	**-0.3**
NEA2	**Nenana** baz=229,SNR=43	**15.91**	**32**	P			**Pn**	**17 18 40.7**	**+1.0**
BERG	**Berg Lake**	**15.95**	**50**				**Pn**	**17 18 38.3**	**-1.9**
BERG	comp=Z,258nm,0.8s				IAmb	IAmb		17 18 51.3	
N25K	**Chitina, Valde**	**16.00**	**45**	Pn			**Pn**	**17 18 39.5**	**-1.3**
N25K	**Chitina, Valde** baz=245,SNR=32	**16.00**	**45**	P			**Pn**	**17 18 39.3**	**-1.5**
N25K	baz=245				S		**S**	**17 21 45.8**	**-5.8**
RDOG	**Red Dog Mine**	**16.01**	**8**				**Pn**	**17 18 40.7**	**-0.1**
RDOG	**Red Dog Mine** baz=193	**16.01**	**8**	P			**P**	**17 18 43.3**	**-1.0**
RDOG	baz=193				S		**S**	**17 21 50.8**	**-0.8**
BGLC	**Bering Glacier** baz=252	**16.06**	**51**	P			**Pn**	**17 18 41.4**	**-0.2**
HARP	**HAARP** baz=242,SNR=36	**16.11**	**42**	P			**Pn**	**17 18 41.8**	**-0.5**
WRH	**Wood River Hil**	**16.16**	**33**	Pn			**Pn**	**17 18 41.7**	**-1.1**
I23K	**Minto, Yukon-K**	**16.20**	**30**	P			**Pn**	**17 18 44.0**	**+0.7**
I23K	comp=Z,328nm,1.2s				IAmb	IAmb		17 19 02.0	
I23K	**Minto, Yukon-K** baz=227,SNR=91	**16.20**	**30**	P			**Pn**	**17 18 43.1**	**-0.2**
PAX	**Paxson**	**16.27**	**40**	P			**Pn**	**17 18 43.5**	**-0.8**
PAX	comp=Z,93nm,1.0s				pmax	pmax			
PAX	**Paxson**	**16.27**	**40**	Pn			**Pn**	**17 18 43.5**	**-0.8**
PAX	**Paxson** baz=240,SNR=26	**16.27**	**40**	P			**Pn**	**17 18 43.3**	**-0.9**
GLB	**Gilahina Butte**	**16.28**	**46**				**Pn**	**17 18 42.7**	**-1.7**
SNH	**Sunshine Point**	**16.29**	**51**				**Pn**	**17 18 44.6**	**-0.1**
VRDI	**Verde Repeater**	**16.36**	**47**	Pn			**Pn**	**17 18 43.5**	**-2.1**
WAX	**Waxell Ridge**	**16.37**	**50**				**Pn**	**17 18 45.0**	**-0.6**
MDM	**Murphy Dome**	**16.43**	**32**	Pn			**Pn**	**17 18 44.9**	**-1.3**
TGL	**Tana Glacier**	**16.48**	**49**				**Pn**	**17 18 45.9**	**-1.1**
TGL	comp=Z,458nm,0.8s				IAmb	IAmb		17 19 00.0	
TCOL	**CIGO, UAF Yank**	**16.49**	**32**				**Pn**	**17 18 46.6**	**-0.4**
TCOL	**CIGO, UAF Yank** baz=230,SNR=23	**16.49**	**32**	P			**Pn**	**17 18 46.3**	**-0.7**
COLA	**College**	**16.50**	**32**	‖	*e*	P	**Pn**	**17 18 47.1**	**0.0**
COLA	comp=Z,90nm,0.9s				pmax	pmax			
COLA	**College**	**16.50**	**32**				**Pn**	**17 18 45.9**	**-1.2**
COLA	**College** baz=230	**16.50**	**32**	P			**Pn**	**17 18 45.3**	**-1.8**
MCARA	**McCarthy VSAT**	**16.61**	**47**				**Pn**	**17 18 47.3**	**-1.3**
MCARA	comp=Z,236nm,0.8s				IAmb	IAmb		17 19 11.9	
MCARA	**McCarthy VSAT** baz=248,SNR=30	**16.61**	**47**	P			**Pn**	**17 18 47.2**	**-1.3**
ISLE	**Juniper Island**	**16.66**	**50**				**Pn**	**17 18 48.8**	**-0.5**
ISLE	comp=Z,321nm,0.9s				IAmb	IAmb		17 19 15.2	
IL31		**16.75**	**34**				**Pn**	**17 18 49.6**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.6nm,0.3s,baz=230,slow=11,SNR=103	**16.75**	**34**	Pn			**Pn**	**17 18 48.2**	**-2.2**
ILAR	baz=280,slow=3.4,SNR=8.2				ScP		**ScP**	**17 27 10.9**	**-1.1**
ILAR	**Eielson Array**	**16.75**	**34**	Pn			**Pn**	**17 18 50.1**	**-0.3**
POKR	**Poker Plat Res**	**16.79**	**32**				**Pn**	**17 18 49.7**	**-1.1**
POKR	**Poker Plat Res** baz=230,SNR=13	**16.79**	**32**	P			**Pn**	**17 18 50.0**	**-0.8**
POKR	baz=230				S		**S**	**17 22 03.7**	**-3.8**
YAH	**Yahtse**	**16.87**	**51**				**Pn**	**17 18 51.7**	**-0.4**
RIDG	**Independent Ri**	**16.90**	**38**				**Pn**	**17 18 51.7**	**-0.6**
RIDG	**Independent Ri** baz=238,SNR=14	**16.90**	**38**	P			**Pn**	**17 18 51.8**	**-0.6**
MENT	**Mentasta**	**16.95**	**42**				**Pn**	**17 18 52.2**	**-0.8**
GRNC	**Granite Creek**	**16.97**	**50**				**Pn**	**17 18 53.3**	**-0.1**
GRNC	comp=Z,370nm,0.9s				IAmb	IAmb		17 19 21.7	
BARN	**Barnard Glacie**	**17.12**	**49**	P			**Pn**	**17 18 54.4**	**-0.8**
H24K	**Noodor Dome**	**17.12**	**30**	Pn			**Pn**	**17 18 55.0**	**0.0**
H24K	**Noodor Dome** baz=228,SNR=111	**17.12**	**30**	P			**Pn**	**17 18 54.5**	**-0.5**
L26K	**Log Cabin Wild**	**17.14**	**42**	P			**Pn**	**17 18 55.2**	**-0.1**
L26K	**Log Cabin Wild** baz=243,SNR=66	**17.14**	**42**	P			**Pn**	**17 18 55.2**	**-0.1**
DOT	**Dot Lake**	**17.16**	**39**				**Pn**	**17 18 55.2**	**-0.3**
TABL	**Table Mountain** comp=Z,369nm,0.8s	**17.18**	**51**	P			**Pn**	**17 18 56.4**	**+0.4**
TABL							IAmb	17 19 23.9	
J25K	**Salcha River,**	**17.19**	**35**				**Pn**	**17 18 53.9**	**-1.9**
J25K	**Salcha River,** baz=235,SNR=67	**17.19**	**35**	P			**Pn**	**17 18 55.4**	**-0.5**
CTG	**Chitna Glacier** baz=252,SNR=32	**17.24**	**49**	P			**Pn**	**17 18 55.4**	**-1.2**
CTG	baz=252				S		**S**	**17 22 14.7**	**-2.2**
CTGM	**Chitina Glacie**	**17.24**	**49**	P			**Pn**	**17 18 56.8**	**+0.1**
CTGM	comp=Z,222nm,0.7s				IAmb	IAmb		17 19 10.2	
SCRK	**Sand Creek**	**17.35**	**38**	Pn			**Pn**	**17 18 55.6**	**-2.4**
SCRK	**Sand Creek** baz=239,SNR=40	**17.35**	**38**	P			**Pn**	**17 18 56.4**	**-1.6**
LOGN	**Logan Glacier**	**17.35**	**50**	P			**Pn**	**17 18 58.3**	**+0.2**
LOGN	comp=Z,256nm,0.9s				IAmb	IAmb		17 19 17.3	
COLD	**Coldfoot**	**17.47**	**24**				**Pn**	**17 18 59.7**	**+0.4**
COLD	**Coldfoot** baz=220,SNR=69	**17.47**	**24**	P			**Pn**	**17 18 59.7**	**+0.4**
COLD	baz=220				S		**S**	**17 22 23.6**	**+2.2**
M27K	**Edge Creek, AK**	**17.48**	**45**				**Pn**	**17 18 58.9**	**-0.7**
M27K	comp=Z,330nm,1.1s				IAmb	IAmb		17 19 18.1	
M27K	**Edge Creek, AK** baz=247,SNR=57	**17.48**	**45**	P			**Pn**	**17 18 58.5**	**-1.1**
J26L	**Joseph Creek** baz=238,SNR=242	**17.78**	**37**	P			**Pn**	**17 19 01.6**	**-1.6**
L27K	**Beaver Creek,**	**17.78**	**42**				**Pn**	**17 19 01.6**	**-1.7**
L27K	**Beaver Creek,** baz=245,SNR=29	**17.78**	**42**	P			**Pn**	**17 19 02.8**	**-0.5**
BCPM	**Bancas Point**	**17.79**	**53**	P			**Pn**	**17 19 03.1**	**-0.2**
BCPM	comp=Z,329nm,1.1s				IAmb	IAmb		17 19 21.6	
BCAR	**Beaver Creek A**	**17.80**	**42**	Pn			**Pn**	**17 19 02.1**	**-1.4**
PNL	**Peninsula** baz=258	**17.85**	**54**	P			**Pn**	**17 19 03.3**	**-0.8**
PNL	baz=258				S		**S**	**17 22 27.8**	**-1.3**
TOLK	**Toolik Lake Re**	**18.72**	**22**	P			**Pn**	**17 19 15.8**	**+1.1**
TOLK	**Toolik Lake Re** baz=219,SNR=59	**18.72**	**22**	P			**P**	**17 19 13.8**	**-0.5**
TOLK	baz=219				S		**S**	**17 22 46.2**	**-0.5**
EGAK	**Eagle**	**18.82**	**38**	P			**P**	**17 19 14.7**	**-0.6**
BMAR	**Burnt Mountain**	**19.16**	**29**	P			**P**	**17 19 19.0**	**-0.1**
DAWY	**Dawson**	**19.19**	**41**	P			**P**	**17 19 19.4**	**0.0**
DAWY	**Dawson** baz=246,SNR=54	**19.19**	**41**	P			**P**	**17 19 19.7**	**+0.2**
PET	**Petropavlovsk**	**19.69**	**285**	⇑	*i*	P	**P**	**17 19 24.7**	**-0.2**
PET					*e*	S	**S**	**17 22 58.8**	**-7.5**
PET	comp=Z,328nm,1.1s				pmax	pmax			
PET	comp=Z,4μm,14.9s				pmax	pmax			
PET	comp=Z,3μm,10.7s				MLR	MLR			
PET	comp=Z,10μm,19.0s				MLR	MLR			
PET	**Petropavlovsk** comp=Z,12μm,19.0s	**19.69**	**285**	P			**P**	**17 19 24.7**	**-0.2**
PET	comp=Z,223nm,1.0s				IAmb	IAmb		17 19 32.3	
PET	**Petropavlovsk**	**19.69**	**285**	P			**Pn**	**17 19 25.9**	**-0.5**
SIT	**Sitka**	**19.74**	**63**	P			**Pn**	**17 19 26.2**	**-0.8**
SIT	comp=Z,137nm,1.0s				pmax	pmax			
SIT	**Sitka**	**19.74**	**63**				**Pn**	**17 19 26.2**	**-0.8**
SIT	**Sitka** baz=270,SNR=5.8	**19.74**	**63**	P			**P**	**17 19 26.1**	**+0.6**
SIT	baz=270				S		**Sn**	**17 23 10.5**	**+2.3**
M30M	**Minto, Yukon**	**19.78**	**46**	P			**P**	**17 19 26.3**	**+0.4**
M30M	**Minto, Yukon** baz=253,SNR=24	**19.78**	**46**	P			**Pn**	**17 19 26.7**	**-0.7**
M30M	baz=253				S		**Sn**	**17 23 11.9**	**+2.8**
BILL	**Bilibino**	**19.80**	**332**	*d*	*i*	P	**Pn**	**17 19 28.1**	**+0.5**
BILL	comp=Z,68nm,1.1s				pmax	pmax			
BILL	comp=Z,6μm,14.0s				MLR	MLR			
BILL	**Bilibino** comp=Z,149nm,0.9s	**19.80**	**332**	P			**Pn**	**17 19 27.1**	**-0.5**
BILL							IAmb	17 19 34.1	
A21K	**Barrow**	**19.80**	**12**				**P**	**17 19 24.0**	**-2.0**
A21K	**Barrow** baz=202	**19.80**	**12**	P			**P**	**17 19 24.7**	**-1.3**
A21K	baz=202				S		**Sn**	**17 23 11.8**	**+2.3**
J29M	**Klondike Camp** baz=246,SNR=12	**19.82**	**41**	P			**P**	**17 19 26.9**	**+0.5**
J29M	baz=246				S		**S**	**17 23 05.1**	**-3.8**
SKAG	**

WRAK **Wrangell Islan** 21.41 65 P P 17 19 42.6 -0.9
WRAK **Wrangell Islan** 21.41 65 IAMs_20 IAMs_20 17 28 41.0
comp=Z,10µm,19.0s
WRAK **Wrangell Islan** 21.41 65 P P 17 19 43.0 -0.5
baz=274
WRAK S Sn 17 23 45.3 -2.9
baz=274
DIB **Dawson Inlet,** 21.81 73 P P 17 19 46.7 -1.1
SKR **Severo-Kuril's** 21.81 280 eP P 17 19 43.9 -3.9
SKR pmax pmax
comp=Z,400nm,6.3s
SKR pmax pmax
comp=Z,300nm,5.7s
SKR MLR MLR
comp=Z,2µm,18.0s
SKR MLR MLR
comp=Z,2µm,19.0s
DLBC **Dease Lake** 22.56 59 P P 17 19 57.5 +1.5
comp=Z,25nm,0.9s,baz=272,slow=10,SNR=23
DLBC **Dease Lake** 22.56 59 P P 17 19 54.6 -1.4
RUBB **Prince Rupert** 22.88 70 P P 17 19 57.1 -2.1
SEY **Seymchan** 22.97 313 P P 17 20 00.2 +0.1
comp=Z,106nm,1.0s,baz=95,slow=9.6,SNR=159
SEY ScP ScP 17 27 26.7 +0.2
comp=Z,4.1nm,1.1s,baz=55,slow=3.7,SNR=4.3
SEY LR LR 17 29 18.1
comp=Z,11µm,18.5s,baz=103,slow=37
INK **Inuvik** 23.15 33 P P 17 20 00.3 -1.6
comp=Z,86nm,0.8s,baz=227,slow=11,SNR=68
INK S S 17 24 07.7 -4.8
comp=Z,34nm,1.1s,baz=279,slow=25,SNR=2.9
INK ScP ScP 17 27 25.9 -0.9
comp=Z,1.3nm,0.3s,baz=224,slow=19,SNR=1.7
INK ScS ScS 17 31 12.1 -0.2
comp=Z,1.3nm,0.4s,baz=0.5,slow=32,SNR=5.0
INK **Inuvik** 23.15 33 P P 17 19 59.8 -2.0
INK IAmb IAmb 17 20 19.6
comp=Z,127nm,1.0s
INK **Inuvik** 23.15 33 P P 17 19 60.0 -1.9
baz=244,SNR=59
INK S S 17 24 09.9 -2.6
baz=244
MA2 **Magadan** 23.48 304 P P 17 20 05.1 -0.2
comp=Z,24nm,0.7s,baz=93,slow=9.1,SNR=33
MA2 **Magadan** 23.48 304 *c iP* P 17 20 05.3 +0.1
MA2 pmax pmax
comp=Z,146nm,2.5s
MA2 MLR MLR
comp=Z,7µm,17.0s
MA2 **Magadan** 23.48 304 P P 17 20 04.9 -0.4
MA2 **Magadan** 23.48 304 P P 17 20 05.7 +0.5
TGTN **Hyland Airport** 23.54 51 P P 17 20 06.3 +0.4
baz=265,SNR=57
TGTN S S 17 24 22.8 +3.7
baz=265
BBB **Bella Bella** 24.64 74 P P 17 20 16.5 +0.4
comp=Z,12nm,0.9s,baz=292,slow=16,SNR=2.2
HOLB **Holberg** 25.11 78 P P 17 20 20.1 -0.4
C36M **Paulatuk** 26.73 34 P P 17 20 34.4 -0.5
C36M IAmb IAmb 17 20 40.6
comp=Z,77nm,1.0s
C36M IAMs_20 IAMs_20 17 32 06.9
comp=Z,6µm,19.0s
C36M **Paulatuk** 26.73 34 P P 17 20 34.7 -0.2
baz=253,SNR=73
C36M S S 17 25 06.5 -3.1
baz=253
A36M **Sachs Harbour** 27.25 28 P P 17 20 39.3 -0.3
A36M IAmb IAmb 17 20 51.8
comp=Z,109nm,0.8s
A36M **Sachs Harbour** 27.25 28 P P 17 20 39.3 -0.3
baz=247,SNR=74
A36M S S 17 25 16.3 -1.5
baz=247
C03A **Quillayute Air** 28.30 81 P P 17 20 49.5 +0.3
LLLB **Lillooet** 28.84 75 P P 17 20 53.5 -0.6
B04A **Port Angeles** 28.90 80 P P 17 20 54.2 -0.3
NLWA **Neilton Lookou** 28.97 82 P P 17 20 54.8 -0.5
NLWA IAMs_20 IAMs_20 17 29 41.4
comp=Z,5µm,20.0s
A04D **Lummi Island** 29.10 79 P P 17 20 56.6 +0.3
baz=295
KUR **Kuril'sk** 29.10 273 eP P 17 20 48.6 -7.7
KUR PPP PPP 17 21 52.5
KUR S S 17 25 42.1 -5.2
KUR pmax pmax
comp=Z,205nm,1.5s
KUR MLR MLR
comp=Z,3µm,15.0s
KUR MLR MLR
comp=N,2µm,14.0s
KUR MLR MLR
comp=E,2µm,12.0s
D03D **Eldon** 29.38 81 P P 17 21 00.5 +1.7
baz=296,SNR=9.2
E03A **Lebam** 29.55 83 P P 17 21 01.3 +1.0
E03A IAmb IAmb 17 21 11.4
comp=Z,71nm,0.9s
B05A **Bryant** 29.66 79 P P 17 21 02.2 +0.9
baz=296,SNR=8.8
B05A S S 17 25 58.8 +2.7
baz=296
D04E **Lakebay** 29.73 81 P P 17 21 01.1 -0.8
baz=297
D04E S S 17 26 04.0 +6.7
baz=297
TYV **Tymovskoe** 29.78 287 eP P 17 21 02.5 +0.2
TYV eS S 17 26 00.6 +2.7
TYV pmax pmax
comp=Z,500nm,4.4s
TYV pmax pmax
comp=Z,37nm,1.3s
TYV smax smax
comp=N,300nm,6.4s
TYV smax smax
comp=E,400nm,6.4s
TYV MLR MLR
comp=E,6µm,18.0s
TYV MLR MLR
comp=Z,6µm,18.0s
B06A **Marblemount** 29.92 78 P P 17 21 01.0 -2.6
YKA **Yellowknife Ar** 29.96 49 P P 17 21 05.3 +1.5
comp=Z,19nm,0.8s,baz=276,slow=7.7,SNR=140
YKA PcP PcP 17 24 05.5 -0.3
comp=Z,3.4nm,0.8s,baz=293,slow=1.8,SNR=4.1
YKA ScP ScP 17 27 46.7 -0.3
comp=Z,3.1nm,1.0s,baz=274,slow=2.7,SNR=6.3
YKA ScS ScS 17 31 41.0 -1.0
comp=Z,0.3nm,0.8s,baz=276,slow=1.3,SNR=4.1
YKA LR LR 17 35 21.8
comp=Z,12µm,18.6s,baz=272,slow=41
YKA P3KPbc 17 52 58.9
comp=Z,0.1nm,0.5s,baz=93,slow=5.2,SNR=2.5
YKA **Yellowknife Ar** 29.96 49 P P 17 21 03.8 0.0
F04D **Rainier, OR** 30.10 84 P P 17 21 05.3 0.0
baz=299
F04D S S 17 26 05.7 +2.5
baz=299
NKL **Nikolayevsk** 30.11 292 eP P 17 21 02.4 -2.8
NKL eS S 17 26 10.0 +6.9
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=N,21nm,0.8s
NKL pmax pmax
comp=Z,73nm,1.2s
NKL MLR MLR
comp=E,257nm,26.0s
NKL MLR MLR
comp=N,1.0nm,19.0s
NKL MLR MLR
comp=Z,6µm,17.0s
E04D **Cinebar** 30.15 82 P P 17 21 06.2 +0.6
E04D **Cinebar** 30.15 82 P P 17 21 06.3 +0.7
baz=298,SNR=15
E04D S S 17 26 07.1 +3.3
baz=298
D05A **Enumclaw** 30.20 81 P P 17 21 08.1 +1.9
D05A IAmb IAmb 17 21 16.6
comp=Z,90nm,0.9s
G03D **McMinnville, O** 30.38 85 P P 17 21 08.5 +0.9
baz=300
G03D S S 17 26 11.0 +3.5
baz=300
C06D **Leavenworth** 30.53 79 P P 17 21 09.9 +0.8
baz=296
F04A **Amboy** 30.54 83 P P 17 21 10.3 +1.2

I02E **Swisshome, OR** 30.59 87 P P 17 21 10.2 +0.6
I02E IAmb IAmb 17 21 24.3
comp=Z,124nm,1.2s
COR **Corvallis** 30.67 86 P P 17 21 09.6 -0.6
COR pmax pmax
comp=Z,174nm,1.4s
COR MLR MLR
comp=Z,4µm,22.0s
COR **Corvallis** 30.67 86 P P 17 21 09.6 -0.6
UGL **Uglegorsk** 30.84 284 eP P 17 21 12.2 +0.5
UGL eS S 17 26 05.0 -10
UGL pmax pmax
comp=Z,1µm,4.2s
UGL pmax pmax
comp=Z,110nm,0.9s
UGL smax smax
comp=E,2µm,16.0s
UGL MLR MLR
comp=E,6µm,15.0s
UGL MLR MLR
comp=N,3µm,19.0s
UGL MLR MLR
comp=Z,5µm,17.0s
YUK **Yuzh-Kuril'sk** 30.94 273 eP P 17 21 10.6 -2.0
YUK *e* 17 22 10.9
YUK eS S 17 26 15.7 -0.6
YUK eSS SnSn 17 27 56.8 +0.7
YUK pmax pmax
comp=Z,706nm,1.4s
YUK pmax pmax
comp=N,372nm,1.2s
YUK pmax pmax
comp=E,561nm,1.4s
YUK MLR MLR
comp=Z,5µm,17.0s
YUK MLR MLR
comp=N,5µm,20.0s
YUK MLR MLR
comp=E,5µm,19.0s
LTY **Liberty** 30.97 80 P P 17 21 12.4 -0.6
J01E **Myrtle Point** 31.04 89 IAMs_20 IAMs_20 17 32 21.1
comp=Z,4µm,18.0s
J01E **Myrtle Point** 31.04 89 P P 17 21 14.1 +0.6
baz=303
H04D **Lebanon** 31.05 86 P P 17 21 12.3 -1.3
H04D IAmb IAmb 17 21 41.8
comp=Z,56nm,0.9s
H04D **Lebanon** 31.05 86 P P 17 21 13.8 +0.2
baz=301
H04D S S 17 26 17.5 -0.5
baz=301
I03D **Drain, OR** 31.11 88 P P 17 21 14.3 +0.2
baz=302
I03D S S 17 26 20.9 +2.0
baz=302
F05D **White Salmon** 31.14 83 P P 17 21 14.5 0.0
F05D **White Salmon** 31.14 83 S S 17 26 21.5 +2.0
baz=299
B08A **Colville Reser** 31.28 77 P P 17 21 15.0 -0.6
H04A **Detroit Lake** 31.31 85 P P 17 21 15.2 -0.7
H04A IAmb IAmb 17 21 35.1
comp=Z,86nm,0.9s
HOOD **Mount Hood Mea** 31.31 84 P P 17 21 16.2 +0.1
HOOD IAmb IAmb 17 21 40.3
comp=Z,65nm,0.8s
YSS **Yuzh-Sakhalins** 31.38 280 *ce*P P 17 21 16.6 +0.1
YSS eS S 17 26 19.6 -3.4
YSS pmax pmax
comp=Z,40nm,1.2s
YSS pmax pmax
comp=Z,600nm,3.8s
YSS pmax pmax
comp=N,200nm,4.5s
YSS smax smax
comp=N,1µm,8.1s
YSS MLR MLR
comp=Z,4µm,19.0s
YSS MLR MLR
comp=E,3µm,17.0s
YSS **Yuzh-Sakhalins** 31.38 280 P P 17 21 14.4 -2.1
YSS IAMs_20 IAMs_20 17 32 48.0
comp=Z,6µm,21.0s
YSS **Yuzh-Sakhalins** 31.38 280 P P 17 21 16.6 +0.1
K02D **Willamette Mer** 31.46 90 P P 17 21 17.9 +0.5
baz=304
DBO **Dodson Butte** 31.49 89 P P 17 21 17.1 -0.6
DBO IAmb IAmb 17 21 28.8
comp=Z,52nm,1.1s
G05D **Wamic, OR** 31.55 84 P P 17 21 18.7 +0.6
baz=300,SNR=5.9
G05D S S 17 26 28.5 +2.6
baz=300
I04A **Tendick Farm,** 31.64 87 P P 17 21 19.4 +0.6
baz=302
I04A S S 17 26 27.7 +0.4
baz=302
E07A **Sunnyside** 31.79 81 P P 17 21 19.9 -0.3
E07A IAmb IAmb 17 21 36.4
comp=Z,70nm,1.5s
L02E **Cave Junction** 31.80 90 P P 17 21 20.9 +0.7
L02E IAmb IAmb 17 21 31.4
comp=Z,69nm,1.1s
L02E IAMs_20 IAMs_20 17 33 17.9
comp=Z,6µm,18.0s
L02E **Cave Junction** 31.80 90 P P 17 21 21.6 +1.3
baz=304,SNR=11
HUMO **Hull Mountain** 31.95 89 P P 17 21 20.4 -1.2
KIP **Kipapa** 31.97 161⇑ *eP* P 17 21 20.5 -1.3
KIP pmax pmax
comp=Z,179nm,2.5s
KIP MLR MLR
comp=Z,5µm,16.0s
KIP **Kipapa** 31.97 161 P P 17 21 19.1 -2.7
KIP **Kipapa** 31.97 161 IAMs_20 IAMs_20 17 34 03.1
comp=Z,6µm,18.0s
KIP **Kipapa** 31.97 161 P P 17 21 24.5 +2.6
KIP **Kipapa** 31.97 161 P P 17 21 24.4 +2.6
I05D **Terrebonne, OR** 32.00 85 P P 17 21 22.3 +0.2
baz=302
I05D S S 17 26 36.4 +3.4
baz=302
HON **Honolulu** 32.06 161 P P 17 21 22.4 -0.3
HON pmax pmax
comp=Z,107nm,1.1s
HON **Honolulu** 32.06 161 P P 17 21 22.4 -0.3
HAWA **Hanford** 32.07 81 P P 17 21 23.1 +0.5
HAWA IAmb IAmb 17 21 32.1
comp=Z,60nm,0.9s
F07A **Phinny Hill Vi** 32.07 82 P P 17 21 23.8 +1.2
F07A IAmb IAmb 17 21 33.4
comp=Z,43nm,0.8s
J04D **Umpqua Nationa** 32.12 88 P P 17 21 22.6 -0.7
J04D IAmb IAmb 17 21 51.8
comp=Z,40nm,0.8s
J04D **Umpqua Nationa** 32.12 88 P P 17 21 23.8 +0.5
baz=303
J04D S S 17 26 35.3 +0.2
baz=303
D08A **Wollman Farm,** 32.12 79 P P 17 21 23.3 +0.3
C09A **Chrisman Ranch** 32.16 78 P P 17 21 23.3 -0.1
C09A IAmb IAmb 17 21 32.4
comp=Z,45nm,1.1s
E08A **Dider Farm, El** 32.31 80 P P 17 21 25.4 +0.8
JCC **Jacoby Creek,** 32.31 93 IAMs_20 IAMs_20 17 33 13.4
comp=Z,4µm,18.0s
KHMM **Horse Mountain** 32.46 93 P P 17 21 27.2 +0.9
KHMM IAmb IAmb 17 21 49.9
comp=Z,71nm,1.1s
KMPM **Mount Pierce** 32.50 94 P P 17 21 26.8 +0.3
KMPM IAmb IAmb 17 21 41.0
comp=Z,78nm,0.9s
PINE **Pine Mountain** 32.54 86 P P 17 21 28.3 +1.4
PINE IAmb IAmb 17 21 46.6
comp=Z,46nm,1.1s
L04D **Klamath Falls** 32.56 89 P P 17 21 28.1 +1.0
L04D IAmb IAmb 17 21 57.2
comp=Z,56nm,1.2s
L04D **Klamath Falls** 32.56 89 P P 17 21 27.3 +0.2
baz=304
L04D S S 17 26 43.8 +1.8
baz=304
YBH **Yreka Blue Hor** 32.59 90 LR LR 17 31 39.6
comp=Z,3µm,21.0s,baz=308,slow=31
YBH **Yreka Blue Hor** 32.59 90 P P 17 21 28.3 +1.0
YBH pmax pmax
comp=Z,29nm,1.0s

YBH MLR MLR
comp=Z,4µm,18.0s
YBH **Yreka Blue Hor** 32.59 90 P P 17 21 28.3 +1.0
YBH IAMs_20 IAMs_20 17 33 45.8
comp=Z,4µm,18.0s
J05D **Fort Rock, OR** 32.63 87 P P 17 21 29.1 +1.4
baz=303,SNR=13
J05D S S 17 26 45.9 +2.9
baz=303
NEW **Newport** 32.64 76 LR LR 17 32 44.2
comp=Z,4µm,20.8s,baz=307,slow=33
NEW **Newport** 32.64 76 P P 17 21 27.2 -0.4
NEW pmax pmax
comp=Z,44nm,1.1s
NEW MLR MLR
comp=Z,5µm,19.0s
NEW **Newport** 32.64 76 P P 17 21 27.2 -0.4
NEW IAmb IAmb 17 21 31.6
comp=Z,44nm,1.1s
NEW **Newport** 32.64 76 IAMs_20 IAMs_20 17 34 45.5
comp=Z,5µm,19.0s
NEW **Newport** 32.64 76 P P 17 21 27.6 0.0
baz=297,SNR=22
NEW S S 17 26 43.9 +1.1
baz=297
K04D **Chiloquin, OR** 32.68 88 P P 17 21 28.9 +0.9
baz=304
K04D S S 17 26 43.0 -0.6
baz=304
M02C **Callahan** 32.70 91 P P 17 21 28.4 +0.1
M02C IAmb IAmb 17 21 49.0
comp=Z,46nm,1.1s
M02C **Callahan** 32.70 91 P P 17 21 29.3 +1.1
baz=305,SNR=9.2
M02C S S 17 26 47.3 +3.3
baz=305
E09A **Wood Farm, Sta** 32.85 80 P P 17 21 29.7 +0.3
E09A IAmb IAmb 17 21 38.4
comp=Z,66nm,1.2s
KMRM **Mail Ridge** 32.87 93 P P 17 21 29.2 -0.5
KMRM IAmb IAmb 17 21 39.2
comp=Z,44nm,0.8s
JKA **Kamikawa-asahi** 32.90 275 P P 17 21 28.6 -1.2
ASAJ **Asahikawa** 32.90 275 LR LR 17 34 38.6
comp=Z,6µm,20.4s,baz=76,slow=36
ASAJ **Asahikawa** 32.90 275 P P 17 21 28.6 -1.2
ASAJ pmax pmax
comp=Z,175nm,1.0s
TIXI **Tiksi** 32.95 329 LR LR 17 37 23.4
comp=Z,4µm,18.2s,baz=5.0,slow=41
TIXI **Tiksi** 32.95 329 *c iP* P 17 21 30.2 +0.2
TIXI pmax pmax
comp=Z,39nm,1.3s
TIXI MLR MLR
comp=Z,3µm,17.0s
TIXI **Tiksi** 32.95 329 P P 17 21 29.4 -0.6
TIXI IAmb IAmb 17 21 37.3
comp=Z,31nm,0.7s
TIXI IAMs_20 IAMs_20 17 37 21.3
comp=Z,4µm,18.0s
G08A **Pilot Rock** 32.96 82 P P 17 21 30.5 -0.1
N02D **Trinity Center** 33.03 92 P P 17 21 31.1 -0.1
N02D **Trinity Center** 33.03 92 P P 17 21 32.6 +1.4
baz=306
N02D S S 17 26 49.7 +0.5
baz=306
M04C **Macdoel** 33.10 90 P P 17 21 30.7 -1.1
M04C IAmb IAmb 17 21 39.9
comp=Z,94nm,1.4s
M04C **Macdoel** 33.10 90 P P 17 21 32.7 +0.9
baz=305,SNR=11
K05A **Summer Lake** 33.15 87 P P 17 21 31.6 -0.7
K05A IAmb IAmb 17 21 53.7
comp=Z,101nm,1.1s
I07A **Izee** 33.26 84 P P 17 21 33.5 +0.4
I07A IAmb IAmb 17 21 55.1
comp=Z,94nm,1.4s
KCPM **Cahto Peak** 33.27 94 P P 17 21 33.5 +0.2
KCPM IAmb IAmb 17 21 41.1
comp=Z,75nm,1.0s
GRNR **Gornyy** 33.45 290⇑ *iP* P 17 21 34.2 -0.4
GRNR eS S 17 26 57.7 +2.5
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=E,30nm,1.2s
GRNR pmax pmax
comp=Z,90nm,1.2s
GRNR smax smax
comp=N,3.0nm,1.1s
GRNR MLR MLR
comp=E,4µm,18.0s
GRNR MLR MLR
comp=N,1µm,17.0s
GRNR MLR MLR
comp=Z,5µm,17.0s
O02D **Mt. Diablo Mer** 33.46 93 P P 17 21 35.2 +0.3
O02D IAmb IAmb 17 21 49.3
comp=Z,51nm,0.8s
O02D **Mt. Diablo Mer** 33.46 93 P P 17 21 35.4 +0.6
baz=307,SNR=6.1
O02D S S 17 26 59.0 +3.3
baz=307
YAK **Yakutsk** 33.48 311 LR LR 17 35 42.5
comp=Z,7µm,18.3s,baz=105,slow=37
YAK **Yakutsk** 33.48 311 *c iP* P 17 21 33.4 -1.3
YAK *e**PP **pwP** 17 21 43.6 +1.2
YAK *e* 17 24 13.8
YAK eS S 17 26 53.0 -2.4
YAK eSS SnSn 17 28 57.7 +0.4
YAK eSSS SSS 17 29 25.8
YAK *e* 17 31 57.3
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=N,41nm,1.9s
YAK pmax pmax
comp=E,39nm,1.8s
YAK smax smax
comp=N,23nm,1.5s
YAK smax smax
comp=E,17nm,1.6s
YAK **Yakutsk** 33.48 311 P P 17 21 32.1 -2.6
YAK IAmb IAmb 17 21 53.4
comp=Z,59nm,0.9s
F10A **Beach Ranch, E** 33.67 80 P P 17 21 37.8 +1.1
F10A IAmb IAmb 17 21 45.0
comp=Z,52nm,1.2s
ERM **Erimo** 33.71 272 *de*P P 17 21 37.8 +0.9
ERM pmax pmax
comp=Z,244nm,1.4s
ERM MLR MLR
comp=Z,6µm,20.0s
ERM **Erimo** 33.71 272 P P 17 21 35.7 -1.2
ERM **Erimo** 33.71 272 IAMs_20 IAMs_20 17 37 41.5
comp=Z,7µm,21.0s
ERM **Erimo** 33.71 272 P P 17 21 38.1 +1.2
MOD **Modoc Plateau** 33.97 88 P P 17 21 37.2 -2.2
MOD IAmb IAmb 17 22 02.4
comp=Z,58nm,1.2s
O03E **Paynes Creek** 33.99 92 P P 17 21 38.5 -1.0
O03E IAmb IAmb 17 21 59.6
comp=Z,70nm,1.1s
O03E **Paynes Creek** 33.99 92 P P 17 21 39.6 +0.1
baz=307,SNR=11
O03E S S 17 27 05.3 +1.3
baz=307
POHA **Pohakuloa** 34.12 157 IAMs_20 IAMs_20 17 37 03.0
comp=Z,6µm,18.0s
WALA **Waterton Lakes** 34.18 73 P P 17 21 40.5 -0.7
WALA IAmb IAmb 17 22 03.9
comp=Z,44nm,1.1s
BMO **Blue Mountains** 34.19 82 P P 17 21 41.4 +0.2
BMO pmax pmax
comp=Z,64nm,1.5s
BMO MLR MLR
comp=Z,4µm,21.0s
BMO **Blue Mountains** 34.19 82 P P 17 21 41.4 +0.2
BMO IAmb IAmb 17 22 03.6
comp=Z,64nm,1.4s
J08A **Circle Bar Ran** 34.28 85 P P 17 21 42.6 +0.6
J08A IAmb IAmb 17 22 04.0

comp=Z,101nm,1.4s
GDXM Geysers 34.29 95 P **P** **17 21 41.9 -0.2**
GDXM IAmb IAmb 17 21 50.1
comp=Z,109nm,1.4s
JEW Eniwo 34.29 274 P **P** **17 21 41.0 -0.9**
JTMT Jette 34.57 75 P **P** **17 21 44.7 +0.2**
ORV Oroville 34.62 93 P **P** **17 21 44.9 0.0**
ORV pmax pmax
comp=Z,18nm,1.0s
ORV MLR MLR
comp=Z,2µm,18.0s
ORV Oroville 34.62 93 P **P** **17 21 44.9 0.0**
WVOR Wild Horse Val 34.69 86 P **P** **17 21 46.2 +0.6**
WVOR pmax pmax
comp=Z,99nm,1.2s
WVOR MLR MLR
comp=Z,3µm,19.0s
WVOR Wild Horse Val 34.69 86 P **P** **17 21 46.2 +0.6**
WVOR IAmb IAmb 17 22 07.6
comp=Z,99nm,1.2s
PLID Pearl Lake 34.86 81 P **P** **17 21 47.9 +0.7**
PLID IAMs_20 IAMs_20 17 33 41.3
comp=Z,5µm,20.0s
BEKR Beckworth 35.13 91 P **P** **17 21 49.5 0.0**
MSO Missoula 35.22 77 P **P** **17 21 49.6 -0.4**
MSO IAmb IAmb 17 21 58.7
comp=Z,74nm,1.3s
MSO IAMs_20 IAMs_20 17 36 15.7
comp=Z,4µm,18.0s
MSO Missoula 35.22 77 P **P** **17 21 50.5 +0.4**
baz=300,SNR=20
MSO S **S** **17 27 20.2 -2.6**
baz=300
JOHN Johnston Islan 35.54 181 IAMs_20 IAMs_20 17 37 04.9
comp=Z,7µm,18.0s
MPK Martis Peak 35.68 92 P **P** **17 21 54.0 -0.4**
MPK IAmb IAmb 17 22 14.0
comp=Z,49nm,1.0s
JTM Tenmabayashi 35.70 272 P **P** **17 21 53.1 -1.0**
RUBR Rubicon Trail 35.75 92 **P** **17 21 53.2 -1.7**
RUBR IAmb IAmb 17 22 21.1
comp=Z,104nm,1.5s
PAHR Pah Rah Range 35.83 91 P **P** **17 21 56.1 +0.7**
PAHR IAmb IAmb 17 22 25.3
comp=Z,66nm,1.3s
EMB Emerald Bay 35.83 92 P **P** **17 21 51.9 -3.7**
MFID Camas Ranch 35.86 83 P **P** **17 21 55.8 +0.2**
VCNR Virginia City 35.91 91 P **P** **17 21 57.4 +1.1**
VCNR IAmb IAmb 17 22 26.4
comp=Z,60nm,1.0s
TEY Ternei 36.05 281⇑ *e*P **P** **17 21 56.1 -1.0**
TEY *e* 17 27 35.8
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=E,10.0nm,1.5s
TEY pmax pmax
comp=Z,20nm,1.5s
TEY MLR MLR
comp=N,100nm,16.0s
TEY MLR MLR
comp=Z,100nm,16.0s
PNTR Pine Nut 36.07 92 P **P** **17 21 57.3 -0.3**
PNTR IAmb IAmb 17 22 23.6
comp=Z,70nm,0.8s
RES Resolute Bay 36.22 26 LR LR 17 39 12.1
comp=Z,5µm,20.0s,baz=272,slow=40
RES Resolute Bay 36.22 26 P **P** **17 21 57.3 -0.9**
RES pmax pmax
comp=Z,21nm,1.1s
RES Resolute Bay 36.22 26 P **P** **17 21 57.3 -0.9**
CMB Columbia Colle 36.25 94 P **P** **17 21 59.3 +0.4**
CMB pmax pmax
comp=Z,26nm,1.2s
CMB MLR MLR
comp=Z,2µm,18.0s
CMB Columbia Colle 36.25 94 P **P** **17 21 59.3 +0.4**
YERR Yerington 36.36 91 P **P** **17 21 59.5 -0.5**
YERR IAmb IAmb 17 22 19.8
comp=Z,68nm,1.0s
HRY Holter Researc 36.53 76 P **P** **17 22 00.9 -0.5**
LRM Limekiln Ridge 36.62 77 P **P** **17 22 01.9 -0.4**
HLID Hailey 36.64 82 P **P** **17 22 02.5 +0.1**
HLID IAMs_20 IAMs_20 17 34 49.3
comp=Z,4µm,22.0s
HLID Hailey 36.64 82 P **P** **17 22 02.9 +0.5**
baz=303,SNR=20
HLID S **S** **17 27 43.8 -1.1**
baz=303
BMN Battle Mountai 36.72 88 P **P** **17 22 04.3 +1.2**
BMN pmax pmax
comp=Z,29nm,1.0s
BMN Battle Mountai 36.72 88 P **P** **17 22 04.3 +1.2**
DLMT Dillon 36.77 78 P **P** **17 22 04.1 +0.6**
KLR Kul'dur 36.83 290 LR LR 17 39 11.5
comp=Z,9µm,18.0s,baz=65,slow=40
KLR Kul'dur 36.83 290 *c* iP **P** **17 22 02.7 -1.0**
KLR pmax pmax
comp=Z,95nm,1.1s
KLR MLR MLR
comp=Z,10µm,17.0s
BCYI Bear Canyon 36.84 80 P **P** **17 22 03.3 -0.9**
MCMT McKenzie Canyo 36.90 79 P **P** **17 22 04.5 -0.2**
KVN Kaiserville 37.02 90 P **P** **17 22 05.4 -0.2**
KVN pmax pmax
comp=Z,27nm,1.0s
KVN Kaiserville 37.02 90 P **P** **17 22 05.4 -0.2**
RYN Ryan 37.02 91 P **P** **17 22 04.5 -1.1**
EGMT Eagleton 37.10 72 P **P** **17 22 05.3 -0.8**
EGMT IAmb IAmb 17 22 23.1
comp=Z,84nm,0.8s
EGMT IAMs_20 IAMs_20 17 37 54.8
comp=Z,4µm,19.0s
BOZ Bozeman (W) 37.23 77 P **P** **17 22 06.4 -0.9**
BOZ pmax pmax
comp=Z,34nm,0.9s
BOZ MLR MLR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 37.23 77 P **P** **17 22 06.3 -0.9**
BOZ Bozeman (W) 37.23 77 P **P** **17 22 07.7 +0.3**
baz=302,SNR=52
BOZ S **S** **17 27 51.3 -2.3**
baz=302
LHV Little Huntoon 37.26 92 P **P** **17 22 05.7 -1.8**
NVAR Mina Array Bea 37.27 91 P **P** **17 22 08.1 +0.2**
comp=Z,3.5nm,0.8s,baz=296,slow=8.3,SNR=10
NVAR Mina Array Bea 37.27 91 P **P** **17 22 07.8 -0.1**
ZEA Zeya 37.35 298 *e*P **P** **17 22 07.2 -0.9**
ZEA *e* 17 23 41.0
ZEA *e*S **S** **17 27 49.1 -5.9**
ZEA pmax pmax
comp=E,300nm,6.2s
ZEA pmax pmax
comp=Z,300nm,4.9s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.4s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA MLR MLR
comp=N,2µm,17.0s
ZEA MLR MLR
comp=E,2µm,17.0s
ZEA MLR MLR
comp=Z,3µm,17.0s
OMMB Old Mammoth Mi 37.36 93 **P** **17 22 09.5 +0.7**
OMMB IAmb IAmb 17 22 38.9
comp=Z,96nm,1.4s
NV11 Mina Array Sit 37.36 91 P **P** **17 22 09.3 +0.7**
MLAC Mammoth, Mammo 37.45 93 P **P** **17 22 10.8 +1.4**
baz=310
MLAC S **S** **17 27 59.0 +1.6**
baz=310
JMM Marumori 37.65 268 P **P** **17 22 09.8 -1.0**
JMM IAmb IAmb 17 22 25.9
comp=Z,108nm,1.2s
H11N2 WAKE ISLAND Hy 37.68 219 T T 18 03 21.3
baz=24,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 37.69 219 T T 18 03 48.6
baz=24,slow=76,SNR=67
H11N1 WAKE ISLAND Hy 37.70 219 T T 18 03 21.1
baz=24,slow=76,SNR=89
Q09A Carvers 37.71 90 P **P** **17 22 10.2 -1.4**
ELK Elko 37.75 86 LR LR 17 35 23.4
comp=Z,4µm,21.1s,baz=299,slow=32
ELK Elko 37.75 86 P **P** **17 22 13.2 +1.3**
ELK pmax pmax
comp=Z,61nm,1.4s
ELK MLR MLR
comp=Z,4µm,21.0s
ELK Elko 37.75 86 P **P** **17 22 13.2 +1.3**
ELK IAMs_20 IAMs_20 17 35 02.5
comp=Z,4µm,21.0s
QLMT Earthquake Lak 37.75 78 P **P** **17 22 11.5 -0.4**
YHL Hebgen Lake 37.89 78 P **P** **17 22 12.9 -0.2**
YHL IAmb IAmb 17 22 36.0
comp=Z,58nm,1.0s
VOG Valley Oaks Go 37.96 95 P **P** **17 22 15.6 +2.1**
baz=311
YMR Madison River 38.12 78 P **P** **17 22 14.8 -0.1**
YMR IAmb IAmb 17 22 23.7
comp=Z,75nm,0.9s
YHH Holmes Hill 38.12 78 P **P** **17 22 14.6 -0.5**
YHH IAmb IAmb 17 22 24.1
comp=Z,89nm,1.0s
TPH Tonopah 38.16 91 P **P** **17 22 15.1 -0.3**
TPH pmax pmax
comp=Z,248nm,1.3s
TPH Tonopah 38.16 91 P **P** **17 22 15.1 -0.3**
TIN Tinemaha, Big 38.19 93 P **P** **17 22 16.5 +1.0**
baz=310
TIN S **S** **17 28 12.0 +3.6**
baz=310
SMMC Simmler 38.25 97 P **P** **17 22 16.9 +1.0**
baz=312
YNR Norris Junctio 38.26 78 P **P** **17 22 16.7 +0.5**
YNR IAmb IAmb 17 22 25.4
comp=Z,93nm,1.0s
GCMT Greycliff 38.29 76 P **P** **17 22 15.8 -0.5**
YFT Old Faithful 38.31 78 P **P** **17 22 17.1 +0.5**
YFT IAmb IAmb 17 22 43.0
comp=Z,91nm,1.5s
YUF Upper Falls 38.37 78 P **P** **17 22 18.0 +1.0**
FFC Flin Flon 38.40 59 P **P** **17 22 15.7 -1.2**
FFC pmax pmax
comp=Z,61nm,1.5s
FFC MLR MLR
comp=Z,9µm,20.0s
FFC Flin Flon 38.40 59 P **P** **17 22 15.7 -1.2**
LCH Last Change Ra 38.44 92 P **P** **17 22 18.5 +0.9**
VES Vestal, Richgr 38.46 95 P **P** **17 22 18.5 +0.9**
baz=311
H17A Grant Village 38.50 78 P **P** **17 22 18.2 0.0**
H17A IAmb IAmb 17 22 37.1
comp=Z,92nm,1.2s
H17A Grant Village 38.50 78 P **P** **17 22 19.4 +1.1**
baz=303,SNR=52
H17A S **S** **17 28 13.3 +0.1**
baz=303
LKWY Lake 38.51 78 P **P** **17 22 19.1 +0.7**
LKWY pmax pmax
comp=Z,78nm,0.9s
LKWY MLR MLR
comp=Z,3µm,20.0s
LKWY Lake 38.51 78 P **P** **17 22 19.1 +0.7**
LKWY IAmb IAmb 17 22 27.6
comp=Z,78nm,0.8s
YMP Mirror Lake Pl 38.56 77 P **P** **17 22 19.0 +0.2**
YMP IAmb IAmb 17 22 39.9
comp=Z,104nm,1.5s
FLWY Flagg Ranch 38.60 79 P **P** **17 22 19.3 +0.3**
HVU Hansel Valley 38.65 83 P **P** **17 22 20.1 +0.8**
HVU pmax pmax
comp=Z,40nm,0.9s
HVU Hansel Valley 38.65 83 P **P** **17 22 20.1 +0.8**
CWC Cottonwood Cre 38.68 94 P **P** **17 22 19.8 +0.1**
baz=311
CWC S **S** **17 28 18.4 +2.5**
baz=311
MOOW Moose Ponds 38.76 79 P **P** **17 22 19.7 -0.6**
GRAC Grapevine Rang 38.76 92 P **P** **17 22 21.1 +0.9**
baz=310
GRAC S **S** **17 28 18.4 +1.6**
baz=310
ECR Eagle Creek 38.77 80 P **P** **17 22 21.6 +1.2**
TPAW Teton Pass 38.78 79 P **P** **17 22 21.0 +0.5**
H11S1 WAKE ISLAND Hy 38.87 219 T T 18 04 08.0
baz=23,slow=76,SNR=302
H11S2 WAKE ISLAND Hy 38.88 219 T T 18 04 11.8
baz=23,slow=76,SNR=226
H11S3 WAKE ISLAND Hy 38.88 219 T T 18 04 17.6
baz=23,slow=76,SNR=316
RLMT Red Lodge 38.89 76 P **P** **17 22 21.1 -0.4**
RLMT IAmb IAmb 17 22 30.4
comp=Z,90nm,0.9s
RLMT Red Lodge 38.89 76 P **P** **17 22 21.3 -0.1**
baz=303,SNR=66
RLMT S **S** **17 28 20.4 +1.5**
baz=303
REDW Red Top Meadow 38.91 80 P **P** **17 22 22.1 +0.5**
REDW IAMs_20 IAMs_20 17 38 30.4
comp=Z,3µm,18.0s
SNOW Snow King Moun 38.91 79 P **P** **17 22 19.6 -2.0**
LOHW Long Hollow 38.92 79 P **P** **17 22 22.0 +0.3**
ISA Isabella, Lake 38.95 95 P **P** **17 22 20.3 -1.5**
ISA pmax pmax
comp=Z,33nm,1.2s
ISA Isabella, Lake 38.95 95 P **P** **17 22 20.3 -1.5**
ISA Isabella, Lake 38.95 95 P **P** **17 22 21.7 -0.1**
baz=311
BGU Big Grassy Mou 38.99 84 P **P** **17 22 23.7 +1.5**
R11A Troy Canyon, C 38.99 89 P **P** **17 22 21.9 -0.5**
R11A Troy Canyon, C 38.99 89 P **P** **17 22 22.7 +0.4**
baz=309,SNR=18
R11A S **S** **17 28 19.1 -1.5**
baz=309
SBC Santa Barbara 39.01 98 P **P** **17 22 23.1 +0.9**
baz=313
JYT Yasato 39.07 266 P **P** **17 22 22.8 +0.1**
JYT IAmb IAmb 17 22 37.5
comp=Z,149nm,1.1s
ARVC Arvin 39.09 96 P **P** **17 22 22.2 -0.7**
baz=312
AHID Auburn Hatcher 39.09 81 P **P** **17 22 23.0 -0.2**
AHID IAMs_20 IAMs_20 17 37 23.2
comp=Z,4µm,18.0s
JSD Sado 39.10 270 P **P** **17 22 21.5 -1.5**
JSD IAmb IAmb 17 22 26.4
comp=Z,136nm,1.0s
USA0B Ussuriysk Arra 39.28 282 P **P** **17 22 23.5 -0.9**
USA0B pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 39.28 282 P **P** **17 22 23.5 -0.9**
USRK Ussuriysk Ar. 39.28 282 P **P** **17 22 23.4 -0.9**
comp=Z,12nm,0.7s,baz=60,slow=7.7,SNR=18
USRK PcP **PcP** **17 24 32.8 -0.1**
comp=Z,11nm,1.0s,baz=46,slow=4.2,SNR=5.0
USRK LR LR 17 37 38.6
comp=Z,4µm,21.9s,baz=60,slow=35
USRK Ussuriysk Ar. 39.28 282 P **P** **17 22 22.1 -2.3**
USRK Ussuriysk Ar. 39.28 282 P **P** **17 22 22.1 -2.3**
MPMC Manual Prospec 39.29 94 P **P** **17 22 24.6 -0.2**
baz=311
MPMC S **S** **17 28 22.9 -2.2**
baz=311
S11A Rachel 39.34 90 P **P** **17 22 25.2 0.0**
FURC Furnace Creek, 39.41 93 P **P** **17 22 26.4 +0.9**
baz=310
FURC S **S** **17 28 25.0 -1.4**
baz=310
TPNV Topopah Spring 39.47 92 P **P** **17 22 27.0 +0.7**
TPNV pmax pmax
comp=Z,22nm,0.9s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 39.47 92 P **P** **17 22 27.0 +0.7**
TPNV Topopah Spring 39.47 92 P **P** **17 22 26.6 +0.2**
baz=310
TPNV S **S** **17 28 20.4 -7.4**
baz=310
HWUT Hardware Ranch 39.48 82 P **P** **17 22 27.8 +1.4**
OSI Osito Audit: C 39.49 96 P **P** **17 22 26.7 +0.3**
baz=312
OSI S **S** **17 28 28.2 +0.2**
baz=312
DUG Dugway, Tooele 39.56 85 P **P** **17 22 27.8 +0.8**
DUG pmax pmax
comp=Z,108nm,1.4s
DUG MLR MLR
comp=Z,3µm,21.0s
DUG Dugway, Tooele 39.56 85 P **P** **17 22 27.8 +0.8**
DUG IAmb IAmb 17 22 49.3
comp=Z,108nm,1.4s
DUG Dugway, Tooele 39.56 85 P **P** **17 22 27.2 +0.2**
baz=307,SNR=25
DUG S **S** **17 28 28.7 -0.3**
baz=307
GWY Greenwater Val 39.71 93 P **P** **17 22 26.7 -1.6**
QSM Queen of Sheba 39.73 93 P **P** **17 22 27.1 -1.2**
EDW2 Edwards Air Fo 39.76 96 P **P** **17 22 28.5 -0.1**
baz=312
EDW2 S **S** **17 28 24.2 -7.8**
baz=312
LAO LASA Array 39.85 72 P **P** **17 22 29.3 +0.1**
LAO IAMs_20 IAMs_20 17 39 51.4
comp=Z,5µm,19.0s
LAO LASA Array 39.85 72 P **P** **17 22 28.5 -0.7**
baz=302,SNR=12
LAO S **S** **17 28 32.8 -0.3**
baz=302
CTU Camp Tracy 39.91 84 P **P** **17 22 29.8 -0.2**
PRN Pahroc Range 39.91 90 P **P** **17 22 31.1 +1.2**
SNCC San Nicolas Is 39.94 99 P **P** **17 22 30.6 +0.6**
baz=314
PSUT Pine Spring 39.94 88 P **P** **17 22 30.9 +0.7**
VLA Vladivostok 39.95 281 *c* iP **P** **17 22 29.7 -0.2**
VLA pmax pmax
comp=Z,83nm,1.1s
VLA MLR MLR
comp=Z,4µm,16.0s
DECC Green Verdugo 39.97 97 P **P** **17 22 30.1 -0.2**
baz=313
BW06 Boulder Array 40.02 80 P **P** **17 22 30.1 -0.9**
BW06 Boulder Array 40.02 80 P **P** **17 22 31.1 +0.2**
baz=305,SNR=49
BW06 S **S** **17 28 33.4 -2.7**
baz=305
PD31 Pinedale Array 40.03 80 P **P** **17 22 30.5 -0.4**
PDAR Pinedale Array 40.03 80 P **P** **17 22 30.8 -0.2**
comp=Z,33nm,0.8s,baz=307,slow=4.3,SNR=123
PDAR LR LR 17 37 22.4
comp=Z,2µm,20.4s,baz=317,slow=34
PDAR Pinedale Array 40.03 80 P **P** **17 22 29.6 -1.3**
MJAR Matsushiro Arr 40.08 268 P **P** **17 22 30.6 -0.6**
comp=Z,55nm,1.2s,baz=23,slow=5.9,SNR=29
MJAR PcP **PcP** **17 24 36.5 +0.8**
comp=Z,11nm,1.2s,baz=339,slow=2.6,SNR=2.7
MJAR LR LR 17 38 57.1
comp=Z,5µm,21.1s,baz=61,slow=36
MJAR Matsushiro Arr 40.08 268 P **P** **17 22 29.9 -1.3**
MJAR pmax pmax
comp=Z,74nm,1.2s
MJAR Matsushiro Arr 40.08 268 P **P** **17 22 29.9 -1.3**
MAJO Matsushiro 40.08 268 *c* iP **P** **17 22 30.6 -0.6**
MAJO pmax pmax
comp=Z,77nm,1.1s
MAJO MLR MLR
comp=Z,5µm,20.0s
MAJO Matsushiro 40.08 268 P **P** **17 22 29.9 -1.3**
MAJO IAmb IAmb 17 22 46.2
comp=Z,110nm,1.1s
MAJO Matsushiro 40.08 268 IAMs_20 IAMs_20 17 39 17.3
comp=Z,5µm,21.0s
MAJO Matsushiro 40.08 268 P **P** **17 22 31.5 +0.3**
MJB9 Matsu-Tunnel 40.08 268 P **P** **17 22 29.7 -1.5**
MJB9 IAmb IAmb 17 22 46.2
comp=Z,113nm,1.1s
DGMT Dagmar 40.10 69 P **P** **17 22 30.5 -0.7**
DGMT Dagmar 40.10 69 IAMs_20 IAMs_20 17 38 56.0
comp=Z,6µm,20.0s
DGMT Dagmar 40.10 69 P **P** **17 22 30.9 -0.3**
baz=301
DGMT S **S** **17 28 34.2 -2.5**
baz=301
SHOC Shoshone, Teco 40.14 93 P **P** **17 22 31.9 +0.3**
baz=311
JLU Jordanelle 40.15 84 P **P** **17 22 34.0 +2.0**
NLU North Lily Min 40.16 85 P **P** **17 22 32.9 +0.9**
GSC Goldstone, Bar 40.21 94 P **P** **17 22 32.2 -0.2**
GSC pmax pmax
comp=Z,54nm,1.0s
GSC Goldstone, Bar 40.21 94 P **P** **17 22 32.2 -0.2**
GSC Goldstone, Bar 40.21 94 P **P** **17 22 32.5 +0.1**
baz=312
FMP Fort Macarthur 40.37 97 P **P** **17 22 33.3 -0.3**
baz=313
BFSC Mount Baldy Ra 40.40 96 P **P** **17 22 34.4 +0.4**
baz=313
SHPR Sheep Range 40.43 91 P **P** **17 22 34.0 -0.2**
MDJ Mudanjiang 40.48 284 P **P** **17 22 32.1 -2.2**
MDJ IAMs_20 IAMs_20 17 41 22.7
comp=Z,5µm,19.0s
MDJ Mudanjiang 40.48 284 P **P** **17 22 32.8 -1.5**
MDJ pP pP 17 22 35.3 -2.8
MDJ S **S** **17 28 40.8 -1.5**
MDJ ScS **ScS** **17 32 41.8 +2.4**
MDJ pmax pmax
comp=Z,15nm,0.9s
MDJ pmax pmax
comp=Z,640nm,9.5s
MDJ LR LR
comp=Z,3µm,17.3s
MDJ LR LR
comp=Z,4µm,18.7s
MDJ LR LR
comp=Z,8µm,16.7s
CIS Catalina Islan 40.50 98 P **P** **17 22 34.9 +0.2**
baz=313
ALE Alert 40.52 11 IAMs_20 IAMs_20 17 42 02.8
comp=Z,3µm,19.0s
FCC Fort Churchill 40.66 50 P **P** **17 22 35.7 +0.1**
FCC pmax pmax
comp=Z,87nm,0.9s
FCC Fort Churchill 40.66 50 P **P** **17 22 35.7 +0.1**
FCC IAmb IAmb 17 22 39.8
comp=Z,87nm,0.8s
TUQ Turquoise Moun 40.66 93 P **P** **17 22 36.1 0.0**
baz=311
MSHR Mys Shultsa 40.69 281 *c* iP **P** **17 22 36.2 +0.1**
MSHR pmax pmax
comp=Z,170nm,1.3s
MSHR MLR MLR
comp=Z,2µm,16.0s
TCRU Three Creeks R 40.75 87 P **P** **17 22 37.4 +0.4**
HEC Hector,Ludlow 40.81 94 P **P** **17 22 37.8 +0.5**
baz=312
BBRC Big Bear Solar 40.83 95 P **P** **17 22 37.8 +0.1**
baz=312
CCUT Cedar City 40.86 89 P **P** **17 22 39.4 +1.5**
ELS Elsinore Mount 40.94 96 P **P** **17 22 38.4 +0.1**
MSU Marysvale 40.98 87 P **P** **17 22 41.1 +2.2**
MSU Marysvale 40.98 87 P **P** **17 22 41.1 +2.2**
SZCU Shurtz Canyon 41.00 88 P **P** **17 22 39.9 +0.9**
TMUT Trail Mountain 41.09 85 P **P** **17 22 40.6 +0.8**
TMUT IAmb IAmb 17 23 01.4
comp=Z,155nm,1.5s
MURC Murrieta 41.11 96 P **P** **17 22 40.4 +0.6**
baz=313
BNX BinXian 41.15 287⇑P **P** **17 22 38.5 -1.4**
BNX pmax pmax
comp=Z,180nm,0.8s
BNX pmax pmax
comp=Z,710nm,6.2s
JGF Kuroka 41.22 268 P **P** **17 22 39.5 -1.1**
JGF IAmb IAmb 17 22 59.7
comp=Z,68nm,1.0s
GMRC Granite Mounta 41.25 94 P **P** **17 22 41.2 +0.2**
baz=312
P17A Butcher Ranch, 41.26 84 P **P** **17 22 42.1 +1.0**
P17A IAmb IAmb 17 23 03.3
comp=Z,118nm,1.3s
MTPU Mount Pierson 41.27 87 P **P** **17 22 42.8 +1.4**
LCMT Little Creek M 41.27 89 P **P** **17 22 42.4 +1.2**
RDMU Red Mountain 41.31 82 P **P** **17 22 41.8 +0.3**
RDMU IAmb IAmb 17 22 51.3
comp=Z,85nm,0.9s
Q16A Castle Valley 41.34 85 P **P** **17 22 42.3 +0.5**
Q16A IAmb IAmb 17 23 04.3
comp=Z,112nm,1.2s
P18A Preston Nutter 41.47 84 P **P** **17 22 43.6 +0.6**
P18A IAmb IAmb 17 23 05.2
comp=Z,85nm,1.1s
KNB Kanab 41.53 89 P **P** **17 22 44.3 +0.9**
KNB pmax pmax
comp=Z,32nm,1.1s
KNB Kanab 41.53 89 P **P** **17 22 44.3 +0.9**
PFO Pinyon Flats O 41.55 96 LR LR 17 36 13.2

comp=Z,1µm,19.5s,baz=295,slow=31
PFO Pinyon Flats O 41.55 96⇑ *e*P **P 17 22 45.7 +2.2**
PFO pmax pmax
comp=Z,13nm,1.5s
PFO MLR MLR
comp=Z,4µm,16.0s
PFO Pinyon Flats O 41.55 96 P **P 17 22 42.8 -0.7**
PFO Pinyon Flats O 41.55 96 P **P 17 22 43.2 -0.3**
baz=313
TPFO Pinon Flats 41.56 96 P **P 17 22 43.4 -0.2**
baz=313
BELC Belle Mtn. Jos 41.57 95 P **P 17 22 44.4 +0.8**
baz=313
PKCU Pink Cliffs 41.57 88 P **P 17 22 43.0 -0.8**
PKCU IAmb IAmb 17 23 05.8
comp=Z,84nm,1.2s
INU Inuyama 41.59 268 P **P 17 22 43.2 -0.4**
INU IAMs_20 IAMs_20 17 40 01.0
comp=Z,3µm,20.0s
INU Inuyama 41.59 268 P **P 17 22 44.1 +0.5**
SRU San Rafael Swe 41.62 85 P **P 17 22 44.6 +0.5**
SRU pmax pmax
comp=Z,59nm,1.0s
SRU San Rafael Swe 41.62 85 P **P 17 22 44.6 +0.5**
109C Camp Elliot, M 41.65 97 P **P 17 22 44.0 -0.2**
baz=314
K22A Casper 41.92 78 P **P 17 22 47.0 +0.6**
K22A IAmb IAmb 17 22 54.3
comp=Z,87nm,1.4s
K22A Casper 41.92 78 P **P 17 22 46.5 +0.1**
baz=306
IRM Iron Mountain 41.99 94 P **P 17 22 46.9 -0.1**
baz=312
TULEG Thule 42.01 20 *i* P **P 17 22 46.3 -0.2**
TULEG IAmb IAmb 17 22 48.5
comp=Z,19nm,0.6s
TULEG Thule 42.01 20 P **P 17 22 45.3 -1.3**
TULEG IAMs_20 IAMs_20 17 43 25.9
comp=Z,4µm,19.0s
BAR Barrett 42.06 97 P **P 17 22 46.5 -1.0**
MONP2 Monument Peak 42.07 96 P **P 17 22 48.0 +0.2**
baz=314
RWWY Rawlins 42.07 79 P **P 17 22 48.5 +0.7**
RWWY IAMs_20 IAMs_20 17 38 29.1
comp=Z,3µm,20.0s
W13A Hualapai Mount 42.13 92 P **P 17 22 48.7 +0.4**
BC3 Big Chuckawall 42.14 95 P **P 17 22 47.8 -0.4**
baz=313
U15A North Rim 42.24 89 P **P 17 22 49.4 +0.1**
U15A IAmb IAmb 17 23 07.5
comp=Z,68nm,1.1s
BOD Bodaibo 42.31 309 *e*P **P 17 22 47.9 -1.3**
BOD pmax pmax
comp=Z,67nm,0.9s
O20A White River Ci 42.38 82 P **P 17 22 49.6 -0.6**
O20A IAmb IAmb 17 22 58.5
comp=Z,118nm,0.9s
O20A White River Ci 42.38 82 P **P 17 22 50.6 +0.3**
baz=308,SNR=32
SWSC Sam W. Stewart 42.41 96 P **P 17 22 50.4 +0.1**
baz=314
IKP In-Ko-Pah, Jac 42.42 96 P **P 17 22 50.5 -0.1**
baz=314
PDMCI Parker Dam,Lak 42.50 93 P **P 17 22 51.1 +0.1**
baz=312
RSSD Black Hills 42.55 74 P **P 17 22 49.5 -2.2**
RSSD pmax pmax
comp=Z,41nm,1.1s
RSSD MLR MLR
comp=Z,4µm,19.0s
RSSD Black Hills 42.55 74 P **P 17 22 49.5 -2.2**
RSSD Black Hills 42.55 74 IAMs_20 IAMs_20 17 39 43.0
comp=Z,4µm,19.0s
RSSD Black Hills 42.55 74 P **P 17 22 51.9 +0.2**
baz=305
BLYC Blythe 42.64 94 P **P 17 22 51.5 -0.7**
PV23 Carpenter Ridg 42.95 84 P **P 17 22 55.2 +0.2**
PV23 IAmb IAmb 17 23 15.8
comp=Z,90nm,1.0s
MDND Maddock 43.04 67 P **P 17 22 55.3 0.0**
MDND Maddock 43.04 67 P **P 17 22 54.9 -0.4**
baz=303
E28A Huff 43.12 69 P **P 17 22 55.7 -0.3**
E28A IAmb IAmb 17 23 20.5
comp=Z,69nm,0.9s
PV11 David Mesa, Pa 43.13 84 P **P 17 22 56.0 -0.4**
PV11 IAmb IAmb 17 23 20.5
comp=Z,88nm,0.9s
PV07 Paradox Valley 43.19 84 P **P 17 22 56.4 -0.5**
PV13 Radium Mtn., P 43.26 85 P **P 17 22 57.0 -0.5**
PV13 IAmb IAmb 17 23 19.5
comp=Z,151nm,1.2s
N23A Red Feather La 43.31 79 P **P 17 22 56.7 -1.2**
N23A IAmb IAmb 17 23 20.2
comp=Z,82nm,1.1s
N23A Red Feather La 43.31 79 P **P 17 22 57.7 -0.2**
baz=307,SNR=20
PV15 Paradox Valley 43.35 84 P **P 17 22 58.2 0.0**
PV15 IAmb IAmb 17 23 06.8
comp=Z,62nm,0.9s
PHWY Pilot Hill 43.36 79 P **P 17 22 57.4 -0.9**
CN2 Changchun 43.39 286 *e*P **P 17 22 57.5 -0.7**
CN2 PP **PP 17 24 42.0 +3.1**
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,700nm,5.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,4µm,22.0s
CN2 LR LR
comp=Z,5µm,21.0s
WUAZ Wupatki 43.39 89 P **P 17 22 58.5 0.0**
WUAZ IAmb IAmb 17 23 16.7
comp=Z,63nm,0.9s
WUAZ IAMs_20 IAMs_20 17 40 10.7
comp=Z,3µm,18.0s
WUAZ Wupatki 43.39 89 P **P 17 22 59.5 +1.0**
baz=311
Y14A Wickenburg 43.45 92 P **P 17 22 59.1 +0.3**
HIA Hailar 43.61 296 *c i*P **P 17 22 59.0 -1.0**
HIA pmax pmax
comp=Z,90nm,1.0s
HIA Hailar 43.61 296 P **P 17 22 58.9 -1.0**
HIA IAmb IAmb 17 23 02.0
comp=Z,83nm,1.0s
HIA Hailar 43.61 296 IAMs_20 IAMs_20 17 42 01.1
comp=Z,5µm,20.0s
SMCO Snowmass 43.74 82 P **P 17 23 02.3 +0.7**
ULM Lac du Bonnet 43.82 62 P **P 17 23 00.5 -1.0**
comp=Z,15nm,0.9s,baz=296,slow=8.7,SNR=13
ULM LR LR 17 41 40.6
comp=Z,5µm,21.0s,baz=310,slow=36
ULM Lac du Bonnet 43.82 62 *c i*P **P 17 23 00.9 -0.6**
ULM Lac du Bonnet 43.82 62 P **P 17 23 00.2 -1.3**
MVCO Mesa Verde 44.05 85 P **P 17 23 03.9 0.0**
MVCO IAmb IAmb 17 23 25.4
comp=Z,96nm,1.4s
MVCO Mesa Verde 44.05 85 P **P 17 23 04.7 +0.8**
baz=310
X16A Lo Mia Camp, P 44.08 91 P **P 17 23 05.6 +1.6**
ISCO Idaho Springs 44.18 80 P **P 17 23 04.9 -0.1**
ISCO pmax pmax
comp=Z,47nm,1.5s
ISCO MLR MLR
comp=Z,4µm,21.0s
ISCO Idaho Springs 44.18 80 P **P 17 23 04.9 -0.1**
ISCO IAMs_20 IAMs_20 17 39 48.8
comp=Z,4µm,21.0s
ISCO Idaho Springs 44.18 80 P **P 17 23 05.9 +0.9**
baz=308,SNR=12
JHS Saijyo 44.22 271 P **P 17 23 04.8 -0.2**
JHS IAmb IAmb 17 23 28.6
comp=Z,56nm,0.9s
JCJ Chichijima 44.27 255 LR LR 17 39 31.6
comp=Z,2µm,21.6s,baz=36,slow=33
HHU Hamhung 44.47 280 P **P 17 23 07.2 +0.3**
HHU sP **pwP 17 23 18.6 +3.9**
HHU S **S 17 29 42.4 +1.2**
HHU AmB
comp=Z,437nm,1.2s
HHU AMS AMS
comp=N,315nm,13.7s
HHU AMS AMS
comp=E,212nm,9.2s
HHU AMS AMS
comp=Z,42nm,1.8s
JMN Monobe 44.60 269 P **P 17 23 05.6 -2.5**
JMN IAmb IAmb 17 23 24.2
comp=Z,76nm,0.9s
W18A Petrified Fore 44.66 89 P **P 17 23 09.8 +1.1**
W18A IAmb IAmb 17 23 30.2
comp=Z,137nm,1.5s
W18A Petrified Fore 44.66 89 P **P 17 23 08.5 -0.2**
baz=312
S22A 4UR Ranch, Cre 44.73 84 P **P 17 23 10.2 +0.8**
S22A IAmb IAmb 17 23 32.5
comp=Z,93nm,1.4s
S22A 4UR Ranch, Cre 44.73 84 P **P 17 23 10.5 +1.1**
baz=310,SNR=17
AGMN Agassiz Nation 44.89 65 P **P 17 23 09.0 -1.1**
AGMN IAmb IAmb 17 23 32.6
comp=Z,75nm,1.1s
AGMN Agassiz Nation 44.89 65 P **P 17 23 09.3 -0.9**
baz=304,SNR=22
214A Organ Pipe Nat 44.92 94 P **P 17 23 09.5 -1.1**
baz=314
X18A Snowflake 44.92 89 P **P 17 23 12.8 +2.0**
Q24A Divide 44.98 81 P **P 17 23 10.1 -1.2**
Q24A Divide 44.98 81 P **P 17 23 11.3 -0.1**
baz=309,SNR=8.0
SUSD Miller 45.34 71 P **P 17 23 12.1 -1.7**
SUSD Miller 45.34 71 P **P 17 23 12.3 -1.4**
baz=306
CIT Chita 45.45 302 *e*P **P 17 23 14.0 -0.6**
CIT *e* 17 25 45.2
CIT pmax pmax
comp=Z,85nm,1.4s
NOR Nord 45.45 6 *i* P **P 17 23 13.8 -0.4**
NOR IAmb IAmb 17 23 22.8
comp=Z,9.9nm,0.8s
SDCO Great Sand Dun 45.54 83 P **P 17 23 16.9 +1.1**
SDCO IAmb IAmb 17 23 37.6
comp=Z,59nm,1.1s
SDCO Great Sand Dun 45.54 83 P **P 17 23 16.5 +0.7**
baz=310,SNR=34
OGNE Ogallala 45.63 77 P **P 17 23 16.0 -0.2**
OGNE IAMs_20 IAMs_20 17 44 40.2
comp=Z,2µm,18.0s
OGNE Ogallala 45.63 77 P **P 17 23 16.1 0.0**
baz=308,SNR=11
SNY Shenyang 45.67 285 ⇑P **P 17 23 17.0 +0.6**
SNY S **S 17 29 56.0 -2.5**
SNY pmax pmax
comp=Z,120nm,1.3s
SNY pmax pmax
comp=Z,1µm,3.5s
SNY LR LR
comp=Z,4µm,18.0s
SNY LR LR
comp=Z,4µm,17.6s
SNY LR LR
comp=Z,8µm,16.9s
KSRS Korea Array 45.79 277 P **P 17 23 17.9 +0.6**
comp=Z,68nm,0.9s,baz=56,slow=7.2,SNR=60
KS19 Wonju Array Si 45.80 277 P **P 17 23 17.9 +0.4**
KS19 IAmb IAmb 17 23 21.3
comp=Z,71nm,0.9s
KSAR Wonju Array Be 45.82 277 P **P 17 23 17.4 -0.2**
KSAR Wonju Array Be 45.82 277 P **P 17 23 17.4 -0.2**
TUC Tucson 45.91 92 P **P 17 23 17.2 -1.3**
TUC pmax pmax
comp=Z,48nm,1.4s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 45.91 92 P **P 17 23 17.2 -1.3**
TUC IAmb IAmb 17 23 41.0
comp=Z,48nm,1.4s
TUC Tucson 45.91 92 IAMs_20 IAMs_20 17 42 27.4
comp=Z,2µm,18.0s
TUC Tucson 45.91 92 P **P 17 23 18.2 -0.3**
baz=314
B35A Bob, Littlefor 46.03 64 P **P 17 23 17.6 -1.5**
B35A IAmb IAmb 17 23 41.5
comp=Z,35nm,0.8s
F33A 5 Mile Ranch, 46.05 68 P **P 17 23 17.3 -2.0**
F33A IAmb IAmb 17 23 41.0
comp=Z,44nm,1.2s
PYAG Pyongyang 46.09 280 P **P 17 23 20.6 +0.9**
PYAG sP **pwP 17 23 33.9 +6.4**
PYAG S **S 17 30 08.3 +3.8**
PYAG AmB
comp=Z,634nm,1.2s
PYAG AMS AMS
comp=N,182nm,6.1s
PYAG AMS AMS
comp=E,207nm,7.0s
PYAG AMS AMS
comp=Z,62nm,2.1s
SUJ Sinuiju 46.19 282 P **P 17 23 20.5 +0.1**
SUJ sP **pwP 17 23 33.9 +5.6**
SUJ S **S 17 30 08.6 +2.7**
SUJ AmB
comp=Z,1µm,2.7s
SUJ AMS AMS
comp=N,624nm,9.0s
SUJ AMS AMS
comp=E,1µm,19.2s
SUJ AMS AMS
comp=Z,159nm,2.3s
KSCO Kaye Shedlock' 46.48 79 P **P 17 23 23.3 +0.4**
KSCO Kaye Shedlock' 46.48 79 P **P 17 23 22.4 -0.5**
baz=309
K31A O'Neill 46.54 73 P **P 17 23 22.3 -1.0**
INCN Inchon 46.56 278 P **P 17 23 22.8 -0.7**
INCN pmax pmax
comp=Z,282nm,1.2s
INCN MLR MLR
comp=Z,2µm,20.0s
INCN Inchon 46.56 278 P **P 17 23 22.8 -0.7**
INCN Inchon 46.56 278 P **P 17 23 24.4 +0.9**
T25A Trinidad 46.59 82 P **P 17 23 23.3 -0.7**
T25A Trinidad 46.59 82 P **P 17 23 23.3 -0.7**
baz=310,SNR=44
HJU Haeju 46.75 279 P **P 17 23 25.4 +0.5**
HJU pP **pwP 17 23 33.4 +0.7**
HJU S **S 17 30 15.8 +1.7**
HJU AmB
comp=Z,723nm,1.0s
HJU AMS AMS
comp=N,840nm,6.3s
HJU AMS AMS
comp=E,325nm,2.4s
HJU AMS AMS
comp=Z,789nm,5.9s
ANMO Albuquerque 46.78 86 LR LR 17 40 45.1
comp=Z,2µm,20.9s,baz=312,slow=33
ANMO Albuquerque 46.78 86 *ce*P **P 17 23 27.9 +2.4**
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO MLR MLR
comp=Z,3µm,16.0s
ANMO Albuquerque 46.78 86 P **P 17 23 24.6 -0.9**
ANMO IAmb IAmb 17 23 48.1
comp=Z,37nm,1.2s
ANMO Albuquerque 46.78 86 IAMs_20 IAMs_20 17 40 11.8
comp=Z,2µm,20.0s
ANMO Albuquerque 46.78 86 P **P 17 23 24.4 -1.1**
baz=312
TJN Taejon 46.83 276 *c i*P **P 17 23 25.6 0.0**
TJN Taejon 46.83 276 P **P 17 23 25.1 -0.5**
TJN Taejon 46.83 276 P **P 17 23 26.1 +0.5**
JNU Nakatsue 46.85 270 LR LR 17 43 26.8
comp=Z,3µm,21.0s,baz=45,slow=36
JNU Nakatsue 46.85 270 P **P 17 23 25.2 -0.6**
JNU Nakatsue 46.85 270 P **P 17 23 26.2 +0.4**
UPNV Upernavik 46.87 22 *i* P **P 17 23 25.2 -0.2**
UPNV IAmb IAmb 17 23 27.1
comp=Z,30nm,0.9s
LENM Lemitar 46.99 87 P **P 17 23 27.3 +0.2**
Y22D IRIS PASSCAL I 47.08 87 IAMs_20 IAMs_20 17 40 43.7
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 47.08 87 P **P 17 23 28.1 +0.3**
baz=312
ECSD EROS Data Cent 47.11 70 P **P 17 23 25.6 -2.1**
ECSD IAmb IAmb 17 23 50.8
comp=Z,50nm,1.1s
ECSD EROS Data Cent 47.11 70 IAMs_20 IAMs_20 17 42 41.7
comp=Z,5µm,20.0s
ECSD EROS Data Cent 47.11 70 P **P 17 23 25.8 -1.9**
baz=307,SNR=23
BNM Barren Site 47.21 87 P **P 17 23 29.1 +0.2**
319A Douglas 47.48 92 P **P 17 23 30.0 -0.9**
319A IAmb IAmb 17 23 52.3
comp=Z,83nm,1.5s
EYMN Ely 47.49 63 P **P 17 23 29.3 -1.3**
EYMN IAmb IAmb 17 23 54.1
comp=Z,58nm,0.9s
EYMN Ely 47.49 63 IAMs_20 IAMs_20 17 43 07.8
comp=Z,4µm,21.0s
EYMN Ely 47.49 63 P **P 17 23 29.3 -1.3**
baz=306,SNR=8.8
F36A Milaca 47.60 66 P **P 17 23 29.9 -1.6**
F36A IAmb IAmb 17 23 53.1
comp=Z,82nm,1.4s
121A Cookes Peak, D 47.60 90 P **P 17 23 31.1 -0.7**
121A Cookes Peak, D 47.60 90 P **P 17 23 30.9 -1.0**
baz=313
BGNE Belgrade 47.64 74 P **P 17 23 30.6 -1.3**
BGNE Belgrade 47.64 74 P **P 17 23 30.7 -1.3**
baz=308
JSU Suzuyama 48.22 269 P **P 17 23 36.3 -0.2**
E38A The Farm, Brul 48.25 64 P **P 17 23 34.9 -1.6**
E38A IAmb IAmb 17 23 59.1
comp=Z,67nm,1.0s
L34A Svendsen Farm, 48.34 72 P **P 17 23 35.8 -1.5**
CBKS Cedar Bluff 48.34 77 P **P 17 23 36.5 -0.9**
CBKS pmax pmax
comp=Z,116nm,1.0s
CBKS MLR MLR
comp=Z,2µm,19.0s
CBKS Cedar Bluff 48.34 77 P **P 17 23 36.5 -0.9**
CBKS Cedar Bluff 48.34 77 P **P 17 23 36.4 -0.9**
baz=310
NUUG Nuugaatsiaq 48.37 23 *i* P **P 17 23 35.8 -1.2**
SPMN Marine on St. 48.38 66 P **P 17 23 36.2 -1.4**
SPMN IAmb IAmb 17 23 59.5
comp=Z,62nm,1.2s
SPMN Marine on St. 48.38 66 P **P 17 23 35.9 -1.6**
baz=307
DL2 Dalian 48.66 283 P **P 17 23 39.5 -0.2**
DL2 PP **PP 17 25 27.8 -4.7**
DL2 S **S 17 30 42.0 +0.8**
DL2 pmax pmax
comp=Z,76nm,1.0s
DL2 pmax pmax
comp=Z,650nm,9.5s
DL2 LR LR
comp=Z,3µm,16.2s
DL2 LR LR
comp=Z,930nm,22.4s
DL2 LR LR
comp=Z,3µm,18.2s
XLT XiLinHaoTe 48.77 292 ⇑ *i*P **P 17 23 41.0 +0.4**
XLT pP pwP 17 23 47.3 -1.2
XLT sP sP 17 23 49.5 +3.6
XLT S **S 17 30 38.8 -4.0**
XLT sS sS 17 30 50.5 +1.4
XLT ScS **ScS 17 33 32.5 +0.2**
XLT pmax pmax
comp=Z,61nm,1.1s
XLT pmax pmax
comp=Z,760nm,4.1s
XLT LR LR
comp=Z,4µm,20.6s
XLT LR LR
comp=Z,4µm,21.5s
FRB Frobisher Bay 48.77 36 LR LR 17 46 08.6
comp=Z,6µm,20.5s,baz=300,slow=38
I37A Lemond, Waseca 48.78 68 P **P 17 23 39.0 -1.6**
EPT El Paso 48.91 89 IAMs_20 IAMs_20 17 44 38.0
comp=Z,2µm,18.0s
KBS Kingsbay 48.98 360 ⇑ *e*P **P 17 23 43.1 +1.4**
KBS pmax pmax
comp=Z,55nm,1.0s
KBS MLR MLR
comp=Z,4µm,18.0s
KBS Kingsbay 48.98 360 *i* P **P 17 23 41.6 -0.1**
KBS Kingsbay 48.98 360 P **P 17 23 41.9 +0.1**
KBS IAmb IAmb 17 23 44.2
comp=Z,66nm,1.0s
KBS Kingsbay 48.98 360 IAMs_20 IAMs_20 17 46 50.8
comp=Z,4µm,19.0s
KBS Kingsbay 48.98 360 *e*P **P 17 23 42.8 +1.1**
R32A Long Quarter, 49.20 77 P **P 17 23 43.4 -0.6**
N35A Tabor 49.46 73 P **P 17 23 44.9 -1.0**
MNTX Cornudas Mount 49.65 89 P **P 17 23 46.9 -0.5**
MNTX IAmb IAmb 17 24 07.2
comp=Z,29nm,0.8s
MNTX IAMs_20 IAMs_20 17 44 23.6
comp=Z,2µm,18.0s
MNTX Cornudas Mount 49.65 89 P **P 17 23 47.5 0.0**
baz=314,SNR=27
MSTX Muleshoe 49.69 84 P **P 17 23 47.7 -0.1**
MSTX Muleshoe 49.69 84 P **P 17 23 47.4 -0.4**
baz=313,SNR=13
SPA0 Spitsbergen Ar 49.70 359 *e*P **P 17 23 47.0 -0.3**
SPITS Spitsbergen Ar 49.70 359 LR LR 17 46 54.2
comp=Z,3µm,18.1s,baz=296,slow=38
SPITS Spitsbergen Ar 49.70 359 P **P 17 23 46.2 -1.0**
SPITS pmax pmax
comp=Z,97nm,1.1s
SPB2 Spitsbergen Ar 49.70 359 P **P 17 23 46.5 -0.8**
SPB2 IAmb IAmb 17 23 52.7
comp=Z,51nm,0.8s
AMTX Amarillo 49.74 83 P **P 17 23 46.5 -1.7**
AMTX IAmb IAmb 17 24 09.6
comp=Z,55nm,1.1s
AMTX IAMs_20 IAMs_20 17 44 36.1
comp=Z,2µm,19.0s
AMTX Amarillo 49.74 83 P **P 17 23 47.5 -0.7**
baz=312
DAG Danmarks Havn 49.75 9 *i* P **P 17 23 46.1 -1.5**
DAG IAmb IAmb 17 23 54.5
comp=Z,26nm,0.8s
G40A Rib Lake 49.81 65 P **P 17 23 47.1 -1.4**
G40A IAmb IAmb 17 24 11.8
comp=Z,44nm,1.1s
COWI Conover 49.89 63 P **P 17 23 47.7 -1.4**
COWI IAmb IAmb 17 23 55.8
comp=Z,60nm,1.4s
COWI IAMs_20 IAMs_20 17 45 28.2
comp=Z,3µm,18.0s
K38A Parkersburg 49.99 69 P **P 17 23 47.4 -2.5**
K38A IAmb IAmb 17 24 13.3
comp=Z,47nm,1.1s
IRK Irkutsk 50.01 307 *e*P **P 17 23 49.3 -0.6**
IRK pmax pmax
comp=Z,112nm,1.3s
KSU1 Kansas State U 50.02 75 P **P 17 23 48.6 -1.5**
KSU1 IAmb IAmb 17 24 05.3
comp=Z,49nm,0.8s
KSU1 Kansas State U 50.02 75 IAMs_20 IAMs_20 17 44 09.5
comp=Z,2µm,19.0s
KSU1 Kansas State U 50.02 75 P **P 17 23 48.3 -1.8**
baz=310
SCIA State Center 50.21 70 P **P 17 23 49.9 -1.6**
SCIA IAmb IAmb 17 24 05.5
comp=Z,61nm,1.0s
SCIA IAMs_20 IAMs_20 17 44 49.6
comp=Z,5µm,20.0s
SCIA State Center 50.21 70 P **P 17 23 50.3 -1.2**
baz=309
U32A Winter Ranch, 50.37 79 **P 17 23 51.5 -1.3**
U32A IAmb IAmb 17 23 60.0
comp=Z,73nm,0.9s
I40A Norwalk 50.44 67 P **P 17 23 52.1 -1.2**
I40A IAmb IAmb 17 24 20.9
comp=Z,82nm,1.4s
ILULI Ilulissat 50.49 24 P **P 17 23 52.4 -0.9**
ILULI pmax pmax
comp=Z,21nm,0.8s
ILULI Ilulissat 50.49 24 *i* P **P 17 23 52.5 -0.9**
ILULI IAmb IAmb 17 23 55.2
comp=Z,16nm,0.6s
ILULI Ilulissat 50.49 24 P **P 17 23 52.4 -0.9**
E43A Lone Tree Farm 50.89 62 P **P 17 23 55.2 -1.4**
E43A IAmb IAmb 17 24 16.1
comp=Z,45nm,0.8s
HSPB Hornsund (broa 50.89 359 *e*P **P 17 23 56.7 +0.5**
HSPB *e*L L 17 49 49.7
comp=Z,6µm,17.1s
HSPB Hornsund (broa 50.89 359 *e*P **P 17 23 56.2 0.0**
N38A Joes South For 50.91 71 P **P 17 23 55.2 -1.6**
HOPEN Hopen 51.11 356 *e*P **P 17 23 58.1 +0.2**
BJI Beijing 51.15 288 P **P 17 23 59.0 +0.4**

BJI PcP **PcP** 17 25 15.5 +1.5
BJI S **S** 17 31 21.0 +5.1
BJI pmax pmax
comp=Z,30nm,1.1s
BJI pmax pmax
comp=Z,830nm,4.6s
BJI LR LR
comp=Z,7μm,16.5s
BJI LR LR
comp=Z,3μm,17.8s
BJI LR LR
comp=Z,8μm,17.3s
BJT Baijiatuau 51.17 288 P **P** 17 23 58.6 -0.2
BJT pmax pmax
comp=Z,34nm,1.0s
BJT MLR MLR
comp=Z,8μm,18.0s
BJT Baijiatuau 51.17 288 P **P** 17 23 58.6 -0.2
L40A Anamosa 51.25 69 P **P** 17 23 57.9 -1.5
L40A IAmb IAmb 17 24 19.4
comp=Z,77nm,1.0s
JFWS Jewell Farm 51.26 67 P **P** 17 23 57.5 -2.0
JFWS pmax pmax
comp=Z,36nm,0.8s
JFWS MLR MLR
comp=Z,8μm,19.0s
JFWS Jewell Farm 51.26 67 P **P** 17 23 57.5 -2.0
JFWS IAmb IAmb 17 24 11.9
comp=Z,36nm,0.8s
JFWS Jewell Farm 51.26 67 P **P** 17 23 57.3 -2.2
baz=310
ULN Ulaanbaatar 51.28 301 P **P** 17 23 58.4 -1.3
ULN *PP **pP** 17 23 59.1 -4.4
ULN pmax pmax
comp=Z,56nm,1.0s
ULN MLR MLR
comp=Z,4μm,18.0s
ULN Ulaanbaatar 51.28 301 P **P** 17 23 58.4 -1.3
ULN **pP** 17 23 59.0 -4.4
ULN IAmb IAmb 17 24 03.6
comp=Z,56nm,1.0s
ULN Ulaanbaatar 51.28 301 IAMs_20 IAMs_20 17 49 53.9
comp=Z,4μm,18.0s
I42A Draeger Farm, 51.39 66 P **P** 17 23 59.2 -1.3
I42A IAmb IAmb 17 24 19.4
comp=Z,40nm,0.9s
P38A Dawn 51.49 73 P **P** 17 23 59.1 -2.1
P38A IAmb IAmb 17 24 16.1
comp=Z,77nm,0.9s
T35A Sooner Cattle 51.51 77 **P** 17 23 59.2 -2.2
T35A IAmb IAmb 17 24 16.6
comp=Z,57nm,1.0s
WMOK Wichita Mounta 51.60 81 P **P** 17 24 00.8 -1.3
WMOK pmax pmax
comp=Z,61nm,1.1s
WMOK MLR MLR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 51.60 81 P **P** 17 24 00.8 -1.3
WMOK IAmb IAmb 17 24 09.4
comp=Z,61nm,1.1s
WMOK Wichita Mounta 51.60 81 IAMs_20 IAMs_20 17 44 27.4
comp=Z,2μm,19.0s
WMOK Wichita Mounta 51.60 81 P **P** 17 24 01.5 -0.6
baz=313,SNR=41
SONM Songino Array 51.64 301 P **P** 17 24 02.6 +0.1
comp=Z,52nm,1.1s,baz=54,slow=6.5,SNR=132
SONM PcP **PcP** 17 25 15.8 -0.1
comp=Z,12nm,0.9s,baz=84,slow=2.5,SNR=4.3
SONM ScP **ScP** 17 29 11.1 -0.7
comp=Z,5.3nm,1.1s,baz=71,slow=3.0,SNR=5.7
SONM LR LR 17 47 52.7
comp=Z,4μm,20.3s,baz=346,slow=38
SONM Songino Array 51.64 301 P **P** 17 24 01.8 -0.6
SONM IAmb IAmb 17 24 05.3
comp=Z,74nm,1.2s
ZAK Zakamensk 51.65 305 *eP* **P** 17 24 02.7 +0.3
ZAK *e* 17 25 16.8
ZAK pmax pmax
comp=Z,67nm,1.4s
ZAK pmax pmax
comp=Z,42nm,1.3s
H43A Windswept, Lux 51.66 64 P **P** 17 24 00.7 -1.7
H43A IAmb IAmb 17 24 27.0
comp=Z,73nm,0.8s
DBG Daneborg 51.86 10 *i* P **P** 17 24 02.0 -1.5
DBG IAmb IAmb 17 24 03.9
comp=Z,27nm,0.8s
OKCFA Oklahoma City 51.95 79 P **P** 17 24 03.2 -1.5
OKCFA IAmb IAmb 17 24 11.6
comp=Z,73nm,1.0s
MOY Mondy 51.97 308 *eP* **P** 17 24 04.6 -0.2
MOY pmax pmax
comp=Z,98nm,1.5s
FNO Franklin 52.09 79 **P** 17 24 04.9 -0.8
FNO IAmb IAmb 17 24 12.8
comp=Z,81nm,0.9s
LPIG La Paz 52.11 99 LR LR 17 42 50.3
comp=Z,405nm,19.8s,baz=325,slow=32
L42A Oliver, Polo 52.18 68 P **P** 17 24 05.9 -0.4
L42A IAmb IAmb 17 24 33.8
comp=Z,49nm,1.0s
SFJD Kangerlussuaq 52.22 26 LR LR 17 51 27.2
comp=Z,5μm,18.0s,baz=318,slow=42
SFJD Kangerlussuaq 52.22 26 P **P** 17 24 05.6 -0.6
SFJD pmax pmax
comp=Z,42nm,0.9s
SFJD Kangerlussuaq 52.22 26 *i* P **P** 17 24 06.1 -0.2
SFJD IAmb IAmb 17 24 08.7
comp=Z,15nm,0.8s
SFJD Kangerlussuaq 52.22 26 P **P** 17 24 05.6 -0.6
SFJD IAmb IAmb 17 24 09.2
comp=Z,42nm,0.8s
X34A Smith Ranch, M 52.27 80 **P** 17 24 06.3 -0.8
X34A IAmb IAmb 17 24 14.8
comp=Z,54nm,1.0s
E46A Sault Ste Mari 52.34 61 P **P** 17 24 06.0 -1.4
E46A IAmb IAmb 17 24 31.0
comp=Z,68nm,1.1s
TX31 Lajitas Ar. Si 52.36 89 P **P** 17 24 06.4 -1.5
TX32 Lajitas Array 52.36 89 P **P** 17 24 06.4 -1.5
TX32 IAmb IAmb 17 24 25.5
comp=Z,57nm,1.0s
TXAR Lajitas Array 52.36 89 P **P** 17 24 07.5 -0.4
comp=Z,8.7nm,0.8s,baz=298,slow=5.4,SNR=91
TXAR LR LR 17 45 03.0
comp=Z,2μm,19.8s,baz=324,slow=34
TXAR Lajitas Array 52.36 89 P **P** 17 24 06.9 -1.1
TXAR Lajitas Array 52.36 89 P **P** 17 24 06.9 -1.1
P40A Paris 52.42 72 P **P** 17 24 05.6 -2.5
ABTX Abilene, Hawle 52.52 83 P **P** 17 24 07.7 -1.4
ABTX Abilene, Hawle 52.52 83 P **P** 17 24 08.9 -0.1
baz=314,SNR=11
TUL1 Leonard 52.61 78 **P** 17 24 07.9 -1.7
TUL1 IAmb IAmb 17 24 16.3
comp=Z,53nm,0.9s
TUL1 Leonard 52.61 78 P **P** 17 24 08.4 -1.3
baz=312
SLBS Sierra La Lagu 52.64 99 IAMs_20 IAMs_20 17 44 52.4
comp=Z,2μm,19.0s
JOW Kunigami 52.88 267 LR LR 17 45 59.3
comp=Z,1μm,21.0s,baz=45,slow=35
JOW Kunigami 52.88 267 P **P** 17 24 10.9 -0.7
JOW IAmb IAmb 17 24 39.5
comp=Z,106nm,1.3s
JOW Kunigami 52.88 267 P **P** 17 24 13.6 +1.9
S39A Bolivar 52.89 74 P **P** 17 24 08.8 -2.8
S39A IAmb IAmb 17 24 25.4
comp=Z,38nm,0.9s
L44A Lake County Fo 53.06 67 P **P** 17 24 11.7 -1.1
baz=311
R40A Maddies Statio 53.11 73 P **P** 17 24 10.3 -3.0
TIA Tai'an 53.12 283 ⇑P **P** 17 24 13.3 -0.1
TIA PP **PP** 17 26 12.5 -0.6
TIA S **S** 17 31 43.3 +0.2
TIA pmax pmax
comp=Z,86nm,1.2s
TIA pmax pmax
comp=Z,590nm,7.1s
TIA LR LR
comp=Z,3μm,16.7s
TIA LR LR
comp=Z,2μm,17.9s
TIA LR LR
comp=Z,4μm,19.1s
GLMI Grayling 53.16 62 IAMs_20 IAMs_20 17 46 21.8
comp=Z,3μm,20.0s
GLMI Grayling 53.16 62 P **P** 17 24 11.9 -1.6
baz=310
ICESG Greenland Ices 53.26 20 *i* P **P** 17 24 13.4 -0.9
ICESG IAmb IAmb 17 24 16.1
comp=Z,56nm,0.6s
HHC Hu-ho-hao-te 53.29 291 *eP* **P** 17 24 15.3 +0.6
HHC S **S** 17 31 43.5 -2.0
HHC ScS **ScS** 17 34 01.3 -2.3
HHC pmax pmax
comp=Z,57nm,1.2s
HHC pmax pmax
comp=Z,930nm,6.4s
HHC LR LR
comp=Z,2μm,14.6s
HHC LR LR
comp=Z,4μm,15.2s
HHC LR LR
comp=Z,7μm,15.9s
HDIL Hopedale 53.34 69 P **P** 17 24 12.6 -2.3
HDIL Hopedale 53.34 69 P **P** 17 24 12.5 -2.3
baz=311,SNR=10
HHAR Hobbs 53.47 76 P **P** 17 24 14.0 -1.9
HHAR IAmb IAmb 17 24 21.7
comp=Z,37nm,1.0s
Z35A Perchaven, San 53.49 81 P **P** 17 24 14.6 -1.5
Z35A IAmb IAmb 17 24 23.0
comp=Z,54nm,0.9s
M44A Midewin, Midew 53.50 67 P **P** 17 24 15.0 -1.1
M44A IAmb IAmb 17 24 29.5
comp=Z,54nm,0.9s
HNS HongShan 53.76 286 ⇑*i* P **P** 17 24 19.0 +1.0
HNS PP **PP** 17 26 21.5 +2.8
HNS S **S** 17 31 57.0 +5.4
HNS pmax pmax
comp=Z,230nm,1.2s
HNS pmax pmax
comp=Z,1μm,4.7s
HNS LR LR
comp=Z,3μm,19.6s
HNS LR LR
comp=Z,4μm,17.1s
HNS LR LR
comp=Z,5μm,18.6s
X37A Clayton 53.76 79 **P** 17 24 17.5 -0.6
DY2G Dye2 53.76 25 *i* P **P** 17 24 17.9 0.0
DY2G IAmb IAmb 17 24 20.4
comp=Z,50nm,0.6s
P43A Skaggs, Pawnee 53.81 70 P **P** 17 24 16.8 -1.6
P43A IAmb IAmb 17 24 20.3
comp=Z,54nm,1.0s
CCM Cathedral Cave 53.87 73 P **P** 17 24 15.8 -3.0
CCM pmax pmax
comp=Z,54nm,1.2s
CCM MLR MLR
comp=Z,3μm,22.0s
CCM Cathedral Cave 53.87 73 P **P** 17 24 15.8 -3.0
CCM IAmb IAmb 17 24 24.2
comp=Z,54nm,1.2s
CCM Cathedral Cave 53.87 73 IAMs_20 IAMs_20 17 45 35.6
comp=Z,3μm,22.0s
CCM Cathedral Cave 53.87 73 P **P** 17 24 16.6 -2.2
baz=312
MGMO Mountain Grove 53.87 74 P **P** 17 24 15.6 -3.3
MGMO IAmb IAmb 17 24 24.0
comp=Z,57nm,1.0s
JCT Junction City 53.92 85 P **P** 17 24 17.5 -1.9
JCT pmax pmax
comp=Z,118nm,1.3s
JCT MLR MLR
comp=Z,2μm,19.0s
JCT Junction City 53.92 85 P **P** 17 24 17.5 -1.9
JCT Junction City 53.92 85 P **P** 17 24 18.7 -0.6
baz=315,SNR=16
U40A Yellville 54.06 75 P **P** 17 24 17.7 -2.6
U40A IAmb IAmb 17 24 34.6
comp=Z,47nm,0.8s
U40A IAMs_20 IAMs_20 17 45 39.8
comp=Z,2μm,20.0s
U40A Yellville 54.06 75 P **P** 17 24 18.6 -1.7
baz=313,SNR=25
O44A Mansfield 54.08 69 P **P** 17 24 17.6 -2.7
O44A IAmb IAmb 17 24 38.1
comp=Z,36nm,0.8s
SSE Sheshan 54.18 276 P **P** 17 24 21.5 +0.3
SSE S **S** 17 31 57.8 +0.2
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,590nm,3.6s
SSE LR LR
comp=Z,84nm,14.4s
SSE LR LR
comp=Z,700nm,16.3s
WHTX Lake Whitney, 54.29 82 P **P** 17 24 22.4 +0.4
WHTX Lake Whitney, 54.29 82 P **P** 17 24 21.8 -0.1
baz=314,SNR=18
W39A Magazine 54.30 77 P **P** 17 24 20.6 -1.3
W39A IAmb IAmb 17 24 37.4
comp=Z,68nm,1.1s
W39A IAMs_20 IAMs_20 17 49 54.9
comp=Z,2μm,19.0s
W39A Magazine 54.30 77 P **P** 17 24 21.6 -0.4
baz=313,SNR=18
BTO Baotou 54.33 292 *eP* **P** 17 24 23.0 +0.7
BTO S **S** 17 31 55.8 -3.8
FVM French Village 54.39 72 P **P** 17 24 20.7 -2.0
FVM pmax pmax
comp=Z,51nm,1.0s
FVM French Village 54.39 72 P **P** 17 24 20.7 -2.0
FVM IAmb IAmb 17 24 28.6
comp=Z,51nm,1.0s
Q44A Meyer Farm, Va 54.59 70 P **P** 17 24 23.1 -1.0
Q44A IAmb IAmb 17 24 37.3
comp=Z,40nm,0.9s
SFIN Lafayette 54.71 68 P **P** 17 24 23.0 -1.9
SFIN IAmb IAmb 17 24 43.6
comp=Z,35nm,0.8s
SFIN Lafayette 54.71 68 P **P** 17 24 23.2 -1.7
baz=312
VLDQ Val d'Or 54.76 55 P **P** 17 24 22.5 -2.6
VLDQ IAmb IAmb 17 24 44.5
comp=Z,108nm,1.5s
FCAR Ozark Folk Cen 54.81 75 P **P** 17 24 23.0 -2.7
MIAR Mount Ida 54.87 77 P **P** 17 24 24.3 -1.8
MIAR pmax pmax
comp=Z,99nm,1.3s
MIAR MLR MLR
comp=Z,3μm,18.0s
MIAR Mount Ida 54.87 77 P **P** 17 24 24.3 -1.8
MIAR IAMs_20 IAMs_20 17 52 01.8
comp=Z,3μm,18.0s
TIY Taiyuan 54.88 288 ⇑P **P** 17 24 27.3 +1.0
TIY S **S** 17 32 04.0 -3.0
TIY pmax pmax
comp=Z,48nm,1.4s
TIY pmax pmax
comp=Z,820nm,5.8s
TIY LR LR
comp=Z,3μm,21.3s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,3μm,18.2s
Z38A Mt. Pleasant 54.91 79 P **P** 17 24 24.4 -2.1
Z38A IAmb IAmb 17 24 33.4
comp=Z,50nm,0.9s
NJ2 Nanjing 54.94 279 ⇑*i* P **P** 17 24 26.0 -0.6
NJ2 pP **pP** 17 24 28.0 -2.5
NJ2 sP **sP** 17 24 31.8 -0.1
NJ2 PP **PP** 17 26 27.5 -1.9
NJ2 S **S** 17 32 07.5 -0.1
NJ2 sS **pS** 17 32 10.8 -1.5
NJ2 pmax pmax
comp=Z,51nm,1.1s
NJ2 pmax pmax
comp=Z,730nm,3.7s
NJ2 LR LR
comp=Z,2μm,9.5s
NJ2 LR LR
comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,2μm,14.7s
435B Jarrell 55.06 83 P **P** 17 24 25.9 -1.7
435B IAmb IAmb 17 24 34.9
comp=Z,58nm,0.8s
435B IAMs_20 IAMs_20 17 48 42.0
comp=Z,3μm,18.0s
435B Jarrell 55.06 83 P **P** 17 24 27.6 +0.1
baz=315
WHAR Wooly Hollow 55.12 76 P **P** 17 24 27.3 -0.6
WHAR IAmb IAmb 17 24 49.8
comp=Z,40nm,1.3s
P46A Rosedale 55.15 69 P **P** 17 24 27.2 -1.0
P46A IAmb IAmb 17 24 41.6
comp=Z,33nm,0.8s
L48A N Adams 55.16 65 P **P** 17 24 27.0 -1.2
L48A IAmb IAmb 17 24 47.1
comp=Z,46nm,1.1s
SCO Scoresbysund 55.16 13 P **P** 17 24 27.4 -0.3
SCO pmax pmax
comp=Z,80nm,1.4s
SCO Scoresbysund 55.16 13 *i* P **P** 17 24 26.5 -1.2
SCO IAmb IAmb 17 24 29.5
comp=Z,19nm,0.6s
SCO Scoresbysund 55.16 13 P **P** 17 24 27.4 -0.3
SCO IAmb IAmb 17 24 29.4
comp=Z,80nm,1.4s
N47A Urbana 55.16 66 P **P** 17 24 26.3 -1.9
SCHQ Schefferville 55.18 44 P **P** 17 24 28.6 +0.4
comp=Z,24nm,0.9s,baz=318,slow=8.2,SNR=27
SCHQ LR LR 17 50 35.1
comp=Z,4μm,19.1s,baz=316,slow=39
SCHQ Schefferville 55.18 44 P **P** 17 24 27.6 -0.6
SCHQ IAmb IAmb 17 24 35.5
comp=Z,57nm,0.8s
PBMO Poplar Bluff 55.21 73 P **P** 17 24 27.3 -1.3
PBMO IAmb IAmb 17 24 47.7
comp=Z,69nm,1.2s
W41B Gary Mavity, V 55.23 76 P **P** 17 24 26.7 -2.0
W41B IAmb IAmb 17 24 43.6
comp=Z,81nm,1.4s
W41B Gary Mavity, V 55.23 76 P **P** 17 24 27.3 -1.4
baz=314
OLIL Olney 55.24 70 P **P** 17 24 26.8 -1.9
LCAR Lake Charles 55.26 74 P **P** 17 24 25.8 -3.1
S44A Carbondale 55.27 72 P **P** 17 24 26.8 -2.2
S44A IAmb IAmb 17 24 34.9
comp=Z,41nm,1.0s
237A Washetta, Mont 55.28 81 P **P** 17 24 28.0 -1.2
237A IAmb IAmb 17 24 36.4
comp=Z,66nm,0.9s
AAM Ann Arbor 55.35 64 IAMs_20 IAMs_20 17 47 51.7
comp=Z,3μm,21.0s
AAM Ann Arbor 55.35 64 P **P** 17 24 28.3 -1.2
baz=312
X40A Basin Creek Fa 55.35 77 P **P** 17 24 28.0 -1.6
X40A IAMs_20 IAMs_20 17 50 47.8
comp=Z,2μm,18.0s
X40A Basin Creek Fa 55.35 77 P **P** 17 24 28.3 -1.3
baz=314
833A Chaparral WMA, 55.70 87 P **P** 17 24 30.7 -1.5
833A Chaparral WMA, 55.70 87 P **P** 17 24 31.9 -0.3
baz=316
WLAR White Oak Lake 55.74 78 P **P** 17 24 30.4 -2.0
BLO Bloomington 55.84 69 P **P** 17 24 31.5 -1.6
BLO pmax pmax
comp=Z,60nm,1.2s
BLO Bloomington 55.84 69 P **P** 17 24 31.4 -1.6
BLO IAmb IAmb 17 24 51.0
comp=Z,60nm,1.1s
O48B Farmland 55.89 67 P **P** 17 24 31.2 -2.2
baz=313,SNR=16
N49A Columbus Grove 55.98 66 P **P** 17 24 32.2 -1.8
N49A IAmb IAmb 17 25 01.4
comp=Z,77nm,1.4s
SADO Sadowa 56.12 59 LR LR 17 49 36.5
comp=Z,2μm,20.4s,baz=352,slow=37
SADO Sadowa 56.12 59 P **P** 17 24 33.5 -1.5
NATX Nacogdoches 56.15 81 P **P** 17 24 34.2 -1.2
NATX IAMs_20 IAMs_20 17 47 31.9
comp=Z,3μm,20.0s
NATX Nacogdoches 56.15 81 P **P** 17 24 34.0 -1.4
baz=315
JMIC Jan Mayen 56.16 8 LR LR 17 50 19.4
comp=Z,2μm,18.4s,baz=330,slow=38
Z41A Richland Creek 56.22 78 P **P** 17 24 36.3 +0.5
Z41A Richland Creek 56.22 78 P **P** 17 24 34.7 -1.2
baz=314
P48A Milroy 56.27 68 P **P** 17 24 34.1 -2.1
P48A IAmb IAmb 17 24 49.0
comp=Z,80nm,1.2s
ISOG Isortoq, Green 56.30 23 *i* P **P** 17 24 34.4 -1.6
ISOG IAmb IAmb 17 24 37.0
comp=Z,27nm,0.6s
CCAR Cane Creek 56.38 77 P **P** 17 24 35.9 -1.1
O49A Covington 56.39 66 P **P** 17 24 35.8 -1.2
ANGG Ammassalik, Gr 56.56 22 *i* P **P** 17 24 35.9 -1.9
ANGG IAmb IAmb 17 24 43.8
comp=Z,27nm,0.8s
ANGG Ammassalik, Gr 56.56 22 P **P** 17 24 36.1 -1.7
ANGG IAmb IAmb 17 24 44.8
comp=Z,44nm,0.9s
ANGG IAMs_20 IAMs_20 17 51 21.5
comp=Z,3μm,19.0s
WCI Wyandotte Cave 56.62 69 P **P** 17 24 35.8 -2.9
WCI pmax pmax
comp=Z,45nm,1.1s
WCI MLR MLR
comp=Z,5μm,20.0s
WCI Wyandotte Cave 56.62 69 P **P** 17 24 35.8 -2.9
WCI IAmb IAmb 17 24 52.0
comp=Z,45nm,1.1s
WCI Wyandotte Cave 56.62 69 P **P** 17 24 36.6 -2.1
baz=313
P49A Miami Univ. Ec 56.62 67 P **P** 17 24 36.3 -2.4
P49A IAmb IAmb 17 24 54.0
comp=Z,38nm,0.8s
P49A Miami Univ. Ec 56.62 67 P **P** 17 24 36.2 -2.4
baz=313
HKT Hockley 56.71 83 *deP* **P** 17 24 39.9 +0.6
HKT pmax pmax
comp=Z,21nm,1.4s
HKT Hockley 56.71 83 P **P** 17 24 37.9 -1.4
HKT IAmb IAmb 17 25 04.6
comp=Z,79nm,1.4s
HKT Hockley 56.71 83 IAMs_20 IAMs_20 17 49 05.5
comp=Z,4μm,18.0s
HAMF Hammerfest 56.99 355 *eP* **P** 17 24 40.7 -0.1
N51A Ashland 56.99 64 P **P** 17 24 39.1 -2.1
N51A IAmb IAmb 17 24 43.2
comp=Z,38nm,0.9s
T47A Sharon Grove 57.00 71 P **P** 17 24 39.2 -2.2
LYN LuoYang 57.03 285 ⇑*i* P **P** 17 24 42.3 +0.7
LYN sP pwP 17 24 49.3 -0.2
LYN S **S** 17 32 37.3 +1.8
LYN SS **SS** 17 36 24.5 +0.9
LYN pmax pmax
comp=Z,70nm,1.0s
LYN pmax pmax
comp=Z,850nm,10.8s
LYN LR LR
comp=Z,3μm,18.8s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,3μm,16.3s
W45A Hickory Valley 57.05 74 P **P** 17 24 39.8 -2.0
ACSO Alum Creek Sta 57.12 65 P **P** 17 24 40.8 -1.5
ACSO IAMs_20 IAMs_20 17 49 42.7
comp=Z,4μm,19.0s
ACSO Alum Creek Sta 57.12 65 P **P** 17 24 39.9 -2.3
baz=313
WVT Waverly 57.17 72 P **P** 17 24 40.6 -2.0
WVT pmax pmax
comp=Z,56nm,1.2s
WVT MLR MLR
comp=Z,3μm,21.0s
WVT Waverly 57.17 72 P **P** 17 24 40.6 -2.0
WVT IAmb IAmb 17 24 57.9
comp=Z,56nm,1.1s
WVT Waverly 57.17 72 IAMs_20 IAMs_20 17 47 39.2
comp=Z,3μm,21.0s
WVT Waverly 57.17 72 P **P** 17 24 40.1 -2.5
baz=314
OXF Oxford 57.37 74 P **P** 17 24 41.8 -2.2
OXF pmax pmax
comp=Z,236nm,1.1s
OXF MLR MLR
comp=Z,2μm,20.0s
OXF Oxford 57.37 74 P **P** 17 24 41.8 -2.2
OXF IAMs_20 IAMs_20 17 50 59.3
comp=Z,2μm,20.0s

OXF Oxford 57.37 74 P P 17 24 42.4 -1.6
baz=314,SNR=21
143A Socs Landing, 57.45 77 P P 17 24 43.0 -1.6
ERPA Erie 57.48 62 P P 17 24 42.9 -1.8
baz=313
TRQ Mont Tremblant 57.50 55 P P 17 24 43.3 -1.6
M53A WI Miller and 57.57 63 IAMs_20 IAMs_20 17 49 57.5
comp=Z,3µm,20.0s
M53A WI Miller and 57.57 63 P P 17 24 44.4 -1.0
baz=313
KEV Kevo 57.67 354 P P 17 24 44.7 -0.9
KEV pmax pmax
comp=Z,171nm,1.4s
KEV Kevo 57.67 354 P P 17 24 44.6 -0.9
ZAA0 Zalesovo Array 57.70 318 P P 17 24 44.9 -1.1
ZAA0 IAmb IAmb 17 24 48.2
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 57.70 318 P P 17 24 45.6 -0.5
comp=Z,37nm,1.1s,baz=38,slow=5.6,SNR=55
ZALV PcP **PcP** 17 25 40.2 +1.4
comp=Z,6.0nm,0.6s,baz=44,slow=4.4,SNR=2.2
ZALV ScS **ScS** 17 34 38.1 +3.6
comp=Z,0.8nm,0.7s,baz=38,slow=9.8,SNR=3.9
ZALV LR LR 17 50 53.7
comp=Z,2µm,19.8s,baz=54,slow=37
ZALV Zalesovo Beam 57.70 318 P P 17 24 45.1 -0.9
ZALV Zalesovo Beam 57.70 318 P P 17 24 45.1 -0.9
R50A Paris 57.70 68 P P 17 24 44.2 -2.2
R50A IAmb IAmb 17 24 59.8
comp=Z,37nm,0.8s
ALLY Alegheny Colle 57.71 62 P P 17 24 45.2 -1.2
Q51A Peebles 57.75 67 P P 17 24 44.9 -1.7
Q51A IAmb IAmb 17 25 00.3
comp=Z,54nm,0.9s
ZAIG Zacatecas 57.81 94 P P 17 24 46.6 -1.0
ZAIG IAmb IAmb 17 25 09.4
comp=Z,60nm,1.4s
PLAL Pickwick Lake 57.83 73 P P 17 24 45.5 -1.8
PLAL IAmb IAmb 17 24 53.4
comp=Z,55nm,0.9s
PLAL IAMs_20 IAMs_20 17 51 50.3
comp=Z,3µm,19.0s
O52A Adamsville 57.84 65 P P 17 24 45.6 -1.7
O52A IAmb IAmb 17 24 49.4
comp=Z,58nm,1.0s
ARA0 ARCESS Array S 57.98 354 *e*P P 17 24 48.0 +0.2
ARCES ARCESS Array B 57.98 354 P P 17 24 47.5 -0.4
comp=Z,116nm,1.1s,baz=17,slow=5.9,SNR=31
ARCES LR LR 17 51 48.3
comp=Z,3µm,19.3s,baz=0.0,slow=38
ARCES ARCESS Array B 57.98 354 P P 17 24 47.3 -0.5
ARCES pmax pmax
comp=Z,117nm,1.3s
ARCES ARCESS Array B 57.98 354 P P 17 24 47.3 -0.5
P52A Corning 58.01 65 IAMs_20 IAMs_20 17 50 11.1
comp=Z,4µm,20.0s
P52A Corning 58.01 65 P P 17 24 47.5 -0.9
baz=314
WVNY West Valley, N 58.02 61 P P 17 24 47.1 -1.4
WVNY IAmb IAmb 17 25 12.1
comp=Z,60nm,1.0s
V48A Smith Brothers 58.03 72 P P 17 24 47.6 -1.1
M54A Oil Creek Stat 58.07 62 P P 17 24 47.9 -1.0
baz=314
CLTN Cedars of Leba 58.07 71 P P 17 24 47.4 -1.5
CLTN IAmb IAmb 17 24 55.6
comp=Z,52nm,1.2s
O53A New Philadelph 58.09 64 P P 17 24 48.5 -0.5
O53A IAmb IAmb 17 25 07.9
comp=Z,48nm,1.1s
O53A New Philadelph 58.09 64 P P 17 24 48.2 -0.8
baz=314
U49A Red Boiling Sp 58.10 70 P P 17 24 47.6 -1.5
U49A IAmb IAmb 17 25 04.1
comp=Z,45nm,1.2s
NRS Narsarsuaq 58.17 28 P P 17 24 48.8 -0.4
NRS pmax pmax
comp=Z,72nm,1.0s
NRS MLR MLR
comp=Z,6µm,19.0s
NRS Narsarsuaq 58.17 28 P P 17 24 48.8 -0.4
NRS IAmb IAmb 17 24 59.7
comp=Z,72nm,1.0s
TRO Tromso 58.20 357 *e*P P 17 24 49.4 +0.1
JETT Jettan, Norway 58.22 356 *e*P P 17 24 50.9 +1.3
N54A Moraine State 58.27 63 P P 17 24 49.1 -1.2
N54A IAmb IAmb 17 24 52.7
comp=Z,82nm,1.3s
N54A IAMs_20 IAMs_20 17 50 19.1
comp=Z,3µm,21.0s
N54A Moraine State 58.27 63 P P 17 24 49.9 -0.4
baz=314
T50A Nancy 58.29 69 P P 17 24 48.9 -1.5
T50A IAmb IAmb 17 25 03.3
comp=Z,31nm,0.9s
VBMS Vicksburg 58.32 77 P P 17 24 49.6 -1.1
VBMS Vicksburg 58.32 77 P P 17 24 50.1 -0.6
baz=315
TATO Taipei 58.39 271 IAMs_20 IAMs_20 17 50 18.7
comp=Z,3µm,20.0s
Q52A Bidwell 58.40 66 P P 17 24 49.2 -1.9
MNTQ Montreal, Queb 58.47 55 P P 17 24 50.0 -1.5
MNTQ IAmb IAmb 17 25 11.7
comp=Z,31nm,0.8s
P53A Whipple 58.52 65 P P 17 24 50.6 -1.5
P53A IAmb IAmb 17 24 54.2
comp=Z,30nm,0.9s
P53A S 17 32 53.9 -1.1
S51A Beattyville 58.57 68 P P 17 24 50.0 -2.4
S51A IAmb IAmb 17 25 05.8
comp=Z,31nm,0.9s
M55A Ridgway 58.59 62 P P 17 24 51.7 -0.8
M55A IAmb IAmb 17 24 55.4
comp=Z,69nm,1.1s
LONY Lake Ozonia 58.59 57 P P 17 24 50.7 -1.8
LONY IAmb IAmb 17 25 13.0
comp=Z,45nm,1.1s
LONY IAMs_20 IAMs_20 17 52 31.7
comp=Z,4µm,18.0s
LONY Lake Ozonia 58.59 57 P P 17 24 51.3 -1.2
baz=314
O54A Avella 58.60 64 P P 17 24 51.1 -1.5
O54A IAmb IAmb 17 25 11.7
comp=Z,63nm,1.0s
KTK1 Kautokeino 58.63 355 *e*P P 17 24 52.2 -0.2
LMQ La Malbaie 58.66 52 P P 17 24 51.8 -1.0
LMQ IAmb IAmb 17 25 13.4
comp=Z,36nm,1.0s
YHNB Yeheng 58.69 271 IAMs_20 IAMs_20 17 50 59.6
comp=Z,2µm,20.0s
YHNB Yeheng 58.69 271 P P 17 24 55.6 +2.1
J57A Williamstown 58.71 58 P P 17 24 51.5 -1.8
J57A IAmb IAmb 17 25 17.0
comp=Z,36nm,0.9s
WHN Wuhan 58.72 281 ⇑P P 17 24 53.5 0.0
WHN S S 17 32 55.5 -2.2
WHN pmax pmax
comp=Z,210nm,1.1s
WHN LR LR
comp=Z,4µm,16.6s
WHN LR LR
comp=Z,2µm,13.6s
WHN LR LR
comp=Z,6µm,17.8s
344A Westbrook Farm 58.73 78 P P 17 24 52.0 -1.6
L56A Greenwood 58.77 60 P P 17 24 52.8 -1.0
X48A Hartselle 58.80 73 P P 17 24 52.0 -2.0
X48A IAmb IAmb 17 24 59.7
comp=Z,35nm,1.0s
LVZ Lovozero 58.81 350*c* *i*P P 17 24 53.6 0.0
LVZ pmax pmax
comp=Z,194nm,1.1s
LVZ Lovozero 58.81 350 P P 17 24 52.6 -1.0
146A Union 58.89 76 P P 17 24 54.3 -0.4
SWET Sewanee 58.92 72 P P 17 24 54.2 -0.7
SWET IAmb IAmb 17 25 13.5
comp=Z,57nm,1.4s
NACB Ninganchiao 58.92 270 IAMs_20 IAMs_20 17 50 09.7
comp=Z,2µm,20.0s
FRNY Flat Rock 58.95 56 P P 17 24 54.1 -0.9
FRNY IAmb IAmb 17 25 15.2
comp=Z,32nm,1.1s
R53A Hurricane 59.01 66 P P 17 24 53.8 -1.7
R53A IAmb IAmb 17 25 08.6
comp=Z,57nm,1.1s
Z47A Carrollton 59.08 75 P P 17 24 54.0 -2.0
J58A Remsen 59.11 58 P P 17 24 55.4 -0.7
Q54A Coxs Mills 59.18 65 P P 17 24 55.2 -1.5
Q54A IAmb IAmb 17 25 19.8
comp=Z,55nm,1.2s
NCB Newcomb 59.23 57 P P 17 24 55.8 -1.2
NCB IAmb IAmb 17 25 18.0
comp=Z,38nm,0.9s
APA Apatity 59.26 350 ⇓*i*P P 17 24 53.9 -2.8
APA pmax pmax
comp=Z,28nm,1.0s
MCWV Mont Chateau 59.26 64 P P 17 24 55.9 -1.2
MCWV IAmb IAmb 17 25 16.4
comp=Z,64nm,1.1s
MCWV Mont Chateau 59.26 64 P P 17 24 55.8 -1.4
baz=314
W50A Signal Mountai 59.29 71 P P 17 24 56.8 -0.7
TZTN Tazewell 59.36 69 P P 17 24 56.8 -1.1
TZTN IAmb IAmb 17 25 14.9
comp=Z,75nm,1.2s
TZTN Tazewell 59.36 69 P P 17 24 56.8 -1.1
baz=315
J59A Piesco 59.44 57 P P 17 24 57.0 -1.4
J59A IAmb IAmb 17 25 19.3
comp=Z,23nm,0.8s
XAN Xi'an 59.48 287 P P 17 24 58.8 0.0
XAN PP **PP** 17 27 10.0 +0.2
XAN S **S** 17 33 09.8 +2.3
XAN pmax pmax
comp=Z,130nm,1.2s
XAN pmax pmax
comp=Z,1µm,6.0s
XAN LR LR
comp=Z,3µm,18.0s
XAN LR LR
comp=Z,5µm,18.2s
XAN LR LR
comp=Z,6µm,18.1s
O56A Blue Knob Stat 59.53 63 P P 17 24 58.1 -1.0
O56A IAmb IAmb 17 25 01.4
comp=Z,49nm,1.1s
O56A IAMs_20 IAMs_20 17 51 18.4
comp=Z,4µm,21.0s
O56A Blue Knob Stat 59.53 63 P P 17 24 57.9 -1.2
baz=315
M57A Sunshine Farm, 59.56 61 P P 17 24 58.5 -0.7
M57A IAmb IAmb 17 25 22.8
comp=Z,68nm,1.4s
BINY Binghamton 59.56 59 P P 17 24 58.0 -1.2
BINY IAmb IAmb 17 25 23.0
comp=Z,45nm,0.9s
BINY IAMs_20 IAMs_20 17 52 13.1
comp=Z,4µm,20.0s
BINY Binghamton 59.56 59 P P 17 24 58.5 -0.7
baz=315
CPCT Cooper Cave 59.57 70 P P 17 24 58.3 -1.1
FPAL Fort Paine 59.58 72 P P 17 24 57.4 -2.1
Y49A Blount Mountai 59.59 73 P P 17 24 57.8 -1.8
Y49A IAmb IAmb 17 25 14.1
comp=Z,47nm,0.8s
SSLB Suanglung 59.60 270 P P 17 24 58.2 -1.5
SSLB IAMs_20 IAMs_20 17 50 28.7
comp=Z,20nm,2.0s
SSLB Suanglung 59.60 270 P P 17 24 59.9 +0.2
D62A Allapoint, All 59.60 51 P P 17 24 58.8 -0.6
D62A IAmb IAmb 17 25 20.4
comp=Z,62nm,1.3s
SSPA Standing Stone 59.64 62 P P 17 24 58.1 -1.6
SSPA IAmb IAmb 17 25 02.4
comp=Z,49nm,0.9s
SSPA Standing Stone 59.64 62 P P 17 24 58.7 -1.1
baz=315
YULB Yu-li 59.68 270 P P 17 24 59.2 -1.1
VT1 Waterbury 59.73 56 IAMs_20 IAMs_20 17 52 27.0
comp=Z,3µm,20.0s
S54A Dingess, Beckl 59.75 66 P P 17 24 58.8 -1.8
S54A IAmb IAmb 17 25 02.9
comp=Z,41nm,0.9s
V52A Sevierville 59.83 69 P P 17 24 59.4 -1.8
V52A IAmb IAmb 17 25 13.9
comp=Z,44nm,1.1s
LOF Lofoten 59.83 359 *e*P P 17 25 01.2 +0.6
LRAL Lakeview Retre 59.83 74 P P 17 24 59.8 -1.4
LRAL IAmb IAmb 17 25 19.8
comp=Z,26nm,1.1s
LRAL IAMs_20 IAMs_20 17 52 34.4
comp=Z,3µm,18.0s
LRAL Lakeview Retre 59.83 74 P P 17 25 00.0 -1.2
baz=315
TKL Tuckaleechee C 59.85 70 LR LR 17 50 52.5
comp=Z,4µm,20.1s,baz=325,slow=36
TKL Tuckaleechee C 59.85 70 P P 17 25 00.3 -1.1
TKL pmax pmax
comp=Z,44nm,1.5s
TKL Tuckaleechee C 59.85 70 P P 17 25 00.2 -1.1
TKL IAmb IAmb 17 25 14.6
comp=Z,44nm,1.4s
ACCN Adirondack Com 59.93 57 P P 17 24 59.0 -2.7
ACCN IAmb IAmb 17 25 22.9
comp=Z,38nm,1.0s
X51A Calhoun 60.00 71 P P 17 25 01.7 -0.6
STEI Steigen 60.01 358 *e*P P 17 25 01.8 0.0
L59A Walton 60.06 59 P P 17 25 01.7 -1.0
R55A Marlinton 60.07 65 P P 17 25 01.5 -1.3
R55A IAmb IAmb 17 25 18.9
comp=Z,34nm,1.0s
KSPA Keystone Colle 60.13 60 P P 17 25 01.7 -1.4
KSPA IAmb IAmb 17 25 29.4
comp=Z,62nm,1.2s
N58A Sunbury 60.13 61 P P 17 25 04.0 +0.9
N58A IAmb IAmb 17 25 28.3
comp=Z,33nm,0.9s
QZH Quanzhou 60.19 273 ⇑*i*P P 17 25 04.0 +0.3
QZH S **S** 17 33 19.5 +2.7
QZH pmax pmax
comp=Z,61nm,1.0s
QZH pmax pmax
comp=Z,470nm,4.5s
QZH LR LR
comp=Z,670nm,16.4s
QZH LR LR
comp=Z,890nm,14.7s
QZH LR LR
comp=Z,1µm,20.1s
G62A West of Eustis 60.21 54 P P 17 25 01.9 -1.8
G62A IAmb IAmb 17 25 24.6
comp=Z,49nm,1.2s
LBNH Lisbon 60.21 55 P P 17 25 02.1 -1.6
baz=315
H62A Milan 60.36 55 P P 17 25 03.3 -1.3
H62A IAmb IAmb 17 25 25.6
comp=Z,40nm,0.8s
U54A Nelsons Funny 60.36 68 P P 17 25 04.2 -0.7
U54A IAmb IAmb 17 25 18.8
comp=Z,51nm,0.9s
P57A Homestead Farm 60.39 63 P P 17 25 03.2 -1.6
V53A Saluda 60.40 69 P P 17 25 05.8 +0.7
V53A IAmb IAmb 17 25 22.4
comp=Z,40nm,1.1s
J61A Chester 60.53 56 P P 17 25 05.0 -0.9
J61A IAmb IAmb 17 25 27.6
comp=Z,49nm,1.2s
BORG Borgarnes 60.55 15 LR LR 17 54 49.4
comp=Z,1µm,18.1s,baz=334,slow=39
FAUS Fauske 60.55 358 *e*P P 17 25 05.5 -0.1
PAGS Pennsylvania G 60.56 61 P P 17 25 04.9 -1.2
PAGS IAmb IAmb 17 25 29.8
comp=Z,45nm,0.8s
F63A Nahmakanta, Br 60.56 52 P P 17 25 04.8 -1.3
F63A IAmb IAmb 17 25 26.7
comp=Z,27nm,0.8s
N59A State Game Lan 60.58 60 P P 17 25 05.0 -1.2
N59A IAmb IAmb 17 25 26.1
comp=Z,37nm,1.1s
N59A State Game Lan 60.58 60 P P 17 25 04.8 -1.5
baz=315
BLA Blacksburg 60.66 66 P P 17 25 05.6 -1.3
BLA pmax pmax
comp=Z,57nm,0.8s
BLA MLR MLR
comp=Z,5µm,20.0s
BLA Blacksburg 60.66 66 P P 17 25 05.6 -1.3
BLA Blacksburg 60.66 66 P P 17 25 05.9 -1.0
baz=315
Z51A Franklin 60.70 73 P P 17 25 04.7 -2.5
Z51A IAmb IAmb 17 25 21.4
comp=Z,42nm,0.9s
PKME Peaks-Kenny Pk 60.79 53 P P 17 25 06.6 -1.0
baz=316
F64A Sherman 60.81 52 P P 17 25 07.6 -0.1
GTA Gaotai 60.83 298 ⇑P P 17 25 08.0 -0.1
GTA pP pwP 17 25 15.3 -0.8
GTA sP sP 17 25 19.5 +6.1
GTA S **S** 17 33 25.8 +0.8
GTA ScS **ScS** 17 34 59.0 +0.4
GTA pmax pmax
comp=Z,34nm,1.2s
GTA pmax pmax
comp=Z,500nm,5.6s
GTA LR LR
comp=Z,3µm,20.7s
GTA LR LR
comp=Z,7µm,17.9s
GTA LR LR
comp=Z,6µm,19.1s
MVL Millersville 60.92 61 P P 17 25 07.4 -1.2
LZH Lanzhou 60.95 292 ⇑P P 17 25 10.0 +0.9
LZH sP pwP 17 25 18.8 +1.8
LZH S **S** 17 33 28.3 +1.6
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,970nm,6.5s
LZH LR LR
comp=Z,7µm,15.7s
LZH LR LR
comp=Z,6µm,16.2s
LZH LR LR
comp=Z,9µm,18.1s
Y52A Lilburn 60.96 71 P P 17 25 08.3 -0.7
Y52A IAmb IAmb 17 25 23.8
comp=Z,53nm,1.2s
250A Grady 61.02 74 P P 17 25 07.3 -2.0
LUPA Lehigh Univers 61.02 60 P P 17 25 07.6 -1.6
LUPA IAmb IAmb 17 25 21.0
comp=Z,38nm,0.8s
SDMD Soldier's Deli 61.08 62 P P 17 25 07.3 -2.3
ODNJ Ogdensburg 61.08 59 P P 17 25 08.9 -0.7
S57A Dark Hollow, R 61.09 65 P P 17 25 08.5 -1.2
S57A IAmb IAmb 17 25 12.6
comp=Z,40nm,1.1s
L61B Northampton 61.11 57 IAMs_20 IAMs_20 17 53 41.2
comp=Z,4µm,18.0s
L61B Northampton 61.11 57 P P 17 25 09.0 -0.8
baz=316
BRAL Brewton 61.13 76 P P 17 25 08.1 -2.0
BRAL IAMs_20 IAMs_20 17 54 04.0
comp=Z,2µm,20.0s
BRAL Brewton 61.13 76 P P 17 25 10.2 +0.1
baz=316
V55A Taylorsville 61.18 68 P P 17 25 09.1 -1.3
V55A IAmb IAmb 17 25 24.1
comp=Z,44nm,1.0s
K62A Royalston 61.18 57 P P 17 25 09.2 -1.1
K62A IAmb IAmb 17 25 32.0
comp=Z,45nm,0.9s
KSCT Kent School, K 61.21 58 P P 17 25 08.9 -1.6
KSCT IAmb IAmb 17 25 33.7
comp=Z,44nm,1.1s
U56A King 61.30 67 P P 17 25 10.3 -0.8
U56A IAmb IAmb 17 25 13.6
comp=Z,67nm,1.3s
WUPA West Chester U 61.37 61 P P 17 25 09.7 -1.8
BRNJ Basking Ridge 61.39 60 P P 17 25 10.8 -0.9
BRNJ IAmb IAmb 17 25 30.2
comp=Z,57nm,1.1s
QUA2 Belchertown 61.40 57 IAMs_20 IAMs_20 17 53 58.9
comp=Z,4µm,18.0s
152A Waverly Hall 61.43 73 P P 17 25 10.8 -1.3
152A IAmb IAmb 17 25 23.8
comp=Z,23nm,0.9s
T57A Hurt 61.47 66 P P 17 25 10.6 -1.7
T57A IAmb IAmb 17 25 26.0
comp=Z,32nm,0.8s
KONS Konsvik 61.47 359 *e*P P 17 25 12.2 +0.4
PAL Palisades 61.50 59 P P 17 25 11.4 -1.1
baz=316
R58B Mineral 61.54 64 P P 17 25 11.8 -1.0
R58B IAmb IAmb 17 25 15.8
comp=Z,38nm,1.0s
PAULI Pauline 61.57 69 P P 17 25 11.8 -1.3
PAULI IAmb IAmb 17 25 30.9
comp=Z,33nm,1.1s
KMSC Kings Mountain 61.62 69 P P 17 25 11.8 -1.5
KMSC Kings Mountain 61.62 69 P P 17 25 13.0 -0.4
baz=316,SNR=7.5
GOGA Godfrey 61.63 71 P P 17 25 12.1 -1.3
GOGA pmax pmax
comp=Z,28nm,0.9s
GOGA MLR MLR
comp=Z,4µm,21.0s
GOGA Godfrey 61.63 71 P P 17 25 12.1 -1.3
GOGA IAmb IAmb 17 25 19.1
comp=Z,28nm,0.9s
GOGA Godfrey 61.63 71 P P 17 25 12.2 -1.2
baz=316
STOK Stokkvaagen 61.64 359 *e*P P 17 25 12.4 -0.5
HRV Adam Dziewonsk 61.64 56 IAMs_20 IAMs_20 17 54 24.4
comp=Z,4µm,18.0s
HRV Adam Dziewonsk 61.64 56 P P 17 25 12.5 -0.9
baz=316
CBN Corbin Frederi 61.65 64 IAMs_20 IAMs_20 17 51 37.4
comp=Z,3µm,21.0s
CBN Corbin Frederi 61.65 64 P P 17 25 12.2 -1.3
baz=316
WSPT Westport, CT 61.69 59 IAMs_20 IAMs_20 17 53 27.4
comp=Z,3µm,20.0s
JSRW J. Sargeant Re 61.73 64 P P 17 25 12.8 -1.2
MOR8 Moi Rana 61.78 359 *e*P P 17 25 13.2 -0.8
YLE Yale 61.79 58 IAMs_20 IAMs_20 17 53 36.1
comp=Z,3µm,20.0s
UCCT U. Connecticut 61.81 57 P P 17 25 15.0 +0.5
UCCT IAmb IAmb 17 25 32.2
comp=Z,39nm,1.0s
ENH Enshi 61.83 284 P P 17 25 13.4 -1.5
ENH IAMs_20 IAMs_20 17 54 40.2
comp=Z,3µm,18.0s
WES Weston 61.85 56 P P 17 25 14.1 -0.6
WES pmax pmax
comp=Z,42nm,0.9s
WES MLR MLR
comp=Z,5µm,18.0s
WES Weston 61.85 56 P P 17 25 14.1 -0.6
WES IAmb IAmb 17 25 35.9
comp=Z,42nm,0.9s
352A Blakely 62.17 74 P P 17 25 17.3 +0.3
SEM Semipalatinsk 62.21 318 *e*P P 17 25 16.5 -0.9
SEM pmax pmax
comp=Z,26nm,1.0s
SEM MLR MLR
comp=Z,1µm,15.0s
SEM Semipalatinsk 62.21 318 *e*P P 17 25 16.6 -0.9
comp=Z,26nm,1.0s,baz=318
SEM LR LR 17 53 46.4
comp=Z,1µm,14.8s,baz=318
W57A Gilead 62.38 68 P P 17 25 17.8 -0.6
W57A IAmb IAmb 17 25 20.5
comp=Z,34nm,1.1s
V58A Windy Hill, Pi 62.41 67 P P 17 25 17.4 -1.3
154A Montrose 62.41 72 P P 17 25 16.9 -1.8
T59A Double "B" Far 62.43 65 P P 17 25 18.0 -0.8
ZSN Zaisan 62.45 313*c* *i*P P 17 25 19.1 +0.3
ZSN *i*S S 17 33 47.0 +1.9
ZSN pmax pmax
comp=Z,57nm,1.1s
ZSN Zaisan 62.45 313 ⇑*i*P P 17 25 19.2 +0.3
comp=Z,57nm,1.1s,baz=313
ZSN *i*S S 17 33 47.0 +1.9
baz=313
BIRD Birdtown, Kers 62.47 68 P P 17 25 18.7 -0.4
BIRD IAmb IAmb 17 25 32.6
comp=Z,34nm,1.0s
UNM Universidad Na 62.47 94 IAMs_20 IAMs_20 17 50 48.0
comp=Z,2µm,18.0s
LMN Caledonia Moun 62.51 50 P P 17 25 17.4 -1.7
KURK Kurchatov 62.65 319*c* *i*P P 17 25 19.9 -0.1
KURK pmax pmax
comp=Z,58nm,1.0s
KURK MLR MLR
comp=Z,7µm,16.0s
KURK Kurchatov 62.65 319 P P 17 25 19.0 -1.0

U59A Littleton 62.75 65 P **P** **17 25 19.4 -1.5**
U59A IAmb IAmb 17 25 23.8
comp=Z,37nm,1.1s
KURBB Kurchatov Arra 62.75 319 LR LR 17 54 34.2
comp=Z,3μm,18.3s,baz=28,slow=38
KURBB Kurchatov Arra 62.75 319 P **P** **17 25 19.1 -1.6**
PRGR Permogore 63.12 342 *eP* **P** **17 25 19.4 -3.6**
PRGR pmax pmax
comp=Z,95nm,0.8s
DRLN Deer Lake 63.19 43 P **P** **17 25 22.0 -1.6**
NSS Namsos 63.46 360 *eP* **P** **17 25 25.2 +0.1**
NHSC New Hope 63.75 69 P **P** **17 25 27.2 -0.4**
baz=317
WMQ Urumqi 63.85 308⇑*iP* **P** **17 25 29.0 +0.8**
WMQ sP pwP 17 25 37.5 +1.4
WMQ PcP **PcP** **17 26 05.8 +1.9**
WMQ pmax pmax
comp=Z,81nm,1.3s
WMQ pmax pmax
comp=Z,700nm,4.9s
WMQ LR LR
comp=Z,3μm,20.7s
SVE Sverdlovsk 63.89 332*d iP* **P** **17 25 28.9 +0.8**
SVE *eS* **S** **17 34 09.8 +7.1**
SVE pmax pmax
comp=Z,104nm,1.1s
SVE MLR MLR
comp=Z,2μm,17.0s
BRVK Borovoye 63.95 325*c iP* **P** **17 25 28.9 +0.3**
BRVK pmax pmax
comp=Z,91nm,1.2s
BRVK MLR MLR
comp=Z,11μm,18.0s
BRVK Borovoye 63.95 325 P **P** **17 25 28.1 -0.5**
MK31 Makanchi Array 64.10 314*c iP* **P** **17 25 29.1 -0.6**
MK31 Makanchi Array 64.10 314 P **P** **17 25 28.4 -1.3**
MK31 IAmb IAmb 17 25 32.1
comp=Z,27nm,0.9s
MKAR Makanchi Array 64.10 314 P **P** **17 25 29.2 -0.5**
comp=Z,24nm,0.8s,baz=52,slow=7.9,SNR=157
MKAR ScS **ScS** **17 35 24.0 +1.2**
comp=Z,1.6nm,1.0s,baz=48,slow=8.6,SNR=3.9
MKAR PKPPKP **P'P'df** **17 54 19.6 -7.7**
comp=Z,1.0nm,1.0s,baz=224,slow=6.0,SNR=4.4
MKAR LR LR 17 54 27.8
comp=Z,4μm,18.4s,baz=33,slow=37
MKAR Makanchi Array 64.10 314 P **P** **17 25 28.9 -0.9**
TLIG Tlapa 64.19 95 P **P** **17 25 29.5 -1.3**
MAKZ Makanchi 64.23 314 P **P** **17 25 29.5 -1.1**
MAKZ pmax pmax
comp=Z,68nm,1.3s
MAKZ MLR MLR
comp=Z,4μm,20.0s
MAKZ Makanchi 64.23 314 P **P** **17 25 29.5 -1.1**
MAKZ IAmb IAmb 17 25 31.4
comp=Z,68nm,1.3s
TBLU Trondheim 64.74 1 *eP* **P** **17 25 33.1 -0.5**
CD2 Chengdu 64.75 288 ⇑P **P** **17 25 34.8 +0.6**
CD2 S **S** **17 34 16.3 +2.2**
CD2 pmax pmax
comp=Z,170nm,1.2s
CD2 pmax pmax
comp=Z,840nm,4.8s
CD2 LR LR
comp=Z,5μm,17.9s
CD2 LR LR
comp=Z,4μm,16.9s
GZH Guangzhou 64.78 276 *eP* **P** **17 25 30.5 -3.9**
GZH S **S** **17 34 07.5 -7.0**
GZH LR LR
comp=Z,2μm,15.6s
GZH LR LR
comp=Z,1μm,14.1s
ARU Arti 64.81 333*c iP* **P** **17 25 34.4 +0.2**
ARU 17 26 07.2
ARU S **S** **17 34 16.2 +2.1**
ARU pmax pmax
comp=Z,115nm,1.1s
ARU Arti 64.81 333 P **P** **17 25 34.2 0.0**
HKPS Hong Kong Po S 64.89 274 IAMs_20 IAMs_20 17 52 52.1
comp=Z,1μm,21.0s
KLMR Klimovskoe 64.91 345 *eP* **P** **17 25 33.3 -1.4**
KLMR *e* 17 28 02.7
KLMR *eS* **S** **17 34 14.6 -0.5**
KLMR pmax pmax
comp=Z,89nm,1.0s
KLMR Klimovskoe 64.91 345 *eP* **P** **17 25 33.3 -1.4**
KLMR AMP 17 25 36.3
comp=Z,89nm,1.0s
KLMR *e*PP **PP** **17 28 02.7 +5.9**
KLMR *eS* **S** **17 34 14.7 -0.4**
KLMR *eS* **S** **17 34 14.7 -0.4**
KLMR LQ LQ 17 48 43.7
KLMR LQ LQ 17 48 43.7
KLMR LR LR 17 54 34.8
GULI GuiLin 64.95 279 ⇑P **P** **17 25 36.0 +0.5**
GULI S **S** **17 34 17.8 +1.1**
GULI pmax pmax
comp=Z,30nm,1.4s
GULI LR LR
comp=Z,2μm,15.4s
GULI LR LR
comp=Z,1μm,16.3s
GULI LR LR
comp=Z,3μm,17.3s
KIRV Kirov 65.16 339 LR LR 17 59 21.8
comp=Z,4μm,18.2s,baz=35,slow=41
KIRV Kirov 65.16 339*c iP* **P** **17 25 36.5 +0.1**
RABL Rabaul 65.33 224 P **P** **17 25 37.0 -1.0**
MOL Molde 65.39 2 *eP* **P** **17 25 38.3 +0.5**
VALR Valaam 65.57 350*c iP* **P** **17 25 39.0 +0.1**
VALR pmax pmax
comp=Z,152nm,1.0s
TAOE Nuku Hiva Isla 65.70 149 *eS* **S** **17 34 28.6 +2.6**
comp=Z,712nm,23.8s
TAOE Nuku Hiva Isla 65.70 149 *e*LR LR 17 45 24.1
comp=Z,2μm,24.0s,baz=348
TAOE Nuku Hiva Isla 65.70 149 *eT* T 18 37 03.3
comp=Z,22nm,0.3s
AKN Aaknes 65.77 2 *eP* **P** **17 25 41.0 +0.7**
GOMU GeErMu 65.88 298 P **P** **17 25 41.8 -0.1**
GOMU pP pP 17 25 45.3 -0.5
GOMU sP sP 17 25 46.3 -0.9
GOMU PcP **PcP** **17 26 12.8 0.0**
GOMU PP **PP** **17 28 06.0 -0.5**
GOMU S **S** **17 34 28.3 -0.3**
GOMU sS sS 17 34 34.0 -0.9
GOMU pmax pmax
comp=Z,24nm,1.0s
GOMU pmax pmax
comp=Z,420nm,4.2s
GOMU LR LR
comp=Z,1μm,17.4s
GOMU LR LR
comp=Z,1μm,18.1s
GOMU LR LR
comp=Z,950nm,19.9s
DOMB Dombas 65.94 1 *eP* **P** **17 25 41.6 +0.1**
FIA1 FINESS Array S 65.94 352 P **P** **17 25 40.8 -0.5**
FINES FINESS Array B 65.94 352 P **P** **17 25 41.4 0.0**
comp=Z,29nm,0.5s,baz=19,slow=7.8,SNR=155
FINES LR LR 17 56 48.7
comp=Z,2μm,19.9s,baz=15,slow=38
FINES FINESS Array B 65.94 352 P **P** **17 25 40.6 -0.8**
FINES FINESS Array B 65.94 352 P **P** **17 25 40.6 -0.8**
AFI Afiamalu 66.03 183 LR LR 17 55 44.8
comp=Z,619nm,18.0s,baz=5.0,slow=37
FOO Floro 66.29 3 *eP* **P** **17 25 43.1 -0.6**
GYA Guiyang 66.31 283⇑*iP* **P** **17 25 44.5 0.0**
GYA PP **PP** **17 28 14.5 +4.3**
GYA S **S** **17 34 36.8 +3.2**
GYA sS sS 17 34 45.5 +5.4
GYA pmax pmax
comp=Z,49nm,1.4s
GYA pmax pmax
comp=Z,990nm,3.8s
GYA LR LR
comp=Z,3μm,17.1s
GYA LR LR
comp=Z,2μm,15.2s
GYA LR LR
comp=Z,3μm,16.6s
RAF Rauma 66.67 354 *eP* **P** **17 25 46.3 +0.3**
DWPF Disney Wildern 66.69 74 IAMs_20 IAMs_20 17 56 57.2
comp=Z,2μm,19.0s
DWPF Disney Wildern 66.69 74 P **P** **17 25 46.8 +0.1**
baz=318
NC204 NORSAR Array S 66.72 0 P **P** **17 25 46.3 -0.2**
NC300 NORSAR Array S 66.74 360 P **P** **17 25 45.7 -0.8**
HYA Hoyanger 66.76 3 *eP* **P** **17 25 47.3 +0.7**
NC303 NORSAR Array S 66.78 360 P **P** **17 25 46.2 -0.6**
CMIG Matias Romero 66.81 92 LR LR 17 54 36.2
comp=Z,757nm,18.9s,baz=318,slow=36
NC405 NORSAR Array S 66.89 360 P **P** **17 25 47.1 -0.4**
NB201 NORSAR Array S 66.95 360 P **P** **17 25 48.2 +0.3**
NB2 NORSAR Subarra 66.96 0 P **P** **17 25 48.0 0.0**
comp=Z,41nm,0.8s,baz=0.7,slow=6.9
NB2 NORSAR Subarra 66.96 0 P **P** **17 25 48.0 0.0**
baz=0.7,slow=6.9
NOA NORSAR Array B 66.96 0 P **P** **17 25 48.1 +0.2**
comp=Z,21nm,0.7s,baz=360,slow=6.3,SNR=54
NOA LR LR 17 57 25.1
comp=Z,1μm,18.7s,baz=340,slow=38
NBO00 NORSAR Array S 66.97 0 P **P** **17 25 48.8 +0.7**
OTUK Ortayu 67.10 321 P **P** **17 25 48.2 -0.9**
NA001 NORSAR Array S 67.16 0 P **P** **17 25 49.3 +0.1**
PUL Pulkovo 67.18 350*ce* **P** **17 25 50.5 +1.2**
PUL pmax pmax
comp=Z,103nm,0.9s
TDK Taldyqorghan 67.20 315*c iP* **P** **17 25 50.1 +0.3**
TDK pmax pmax
comp=Z,104nm,1.1s
TDK MLR MLR
comp=Z,3μm,17.0s
TDK Taldyqorghan 67.20 315⇑*iP* **P** **17 25 50.1 +0.3**
comp=Z,104nm,1.1s,baz=315
TDK LR LR 17 55 51.5
comp=Z,3μm,16.9s,baz=315
NC602 NORSAR Array S 67.27 360 P **P** **17 25 49.3 -0.6**
NC602 NORSAR Array S 67.27 360 *eP* **P** **17 25 50.6 +0.7**
MEF Metsahovi 67.29 353 *eP* **P** **17 25 50.7 +0.7**
SKAR Skarslia 67.30 2 *eP* **P** **17 25 50.8 +0.6**
ASK Askoy 67.42 3 *eP* **P** **17 25 51.2 +0.5**
BER Bergen 67.52 3 *eP* **P** **17 25 52.6 +1.1**
AAL Aland 67.61 355 *eP* **P** **17 25 52.1 +0.1**
HFS Hagfors 67.85 359 LR LR 17 57 38.6
comp=Z,1μm,18.1s,baz=6.0,slow=38
UPP Uppsala 68.03 357 *eP* **P** **17 25 55.1 +0.5**
ODD1 Odda 68.03 3 *eP* **P** **17 25 55.4 +0.6**
PDGK Podgornoye 68.04 313 P **P** **17 25 54.3 -0.9**
OSL Oslo 68.07 0 *eP* **P** **17 25 56.0 +1.1**
SHLS Shalkode 68.19 313*c iP* **P** **17 25 55.5 -0.6**
SHLS *eS* **S** **17 34 55.0 -0.7**
SHLS pmax pmax
comp=Z,45nm,0.9s
SHLS Shalkode 68.19 313⇑*iP* **P** **17 25 55.5 -0.6**
comp=Z,44nm,0.9s,baz=313
SHLS *eS* **S** **17 34 55.0 -0.7**
baz=313
KPKS Kokpek 68.29 314*c iP* **P** **17 25 57.1 +0.4**
KPKS pmax pmax
comp=Z,64nm,1.3s
KPKS Kokpek 68.29 314⇑*iP* **P** **17 25 57.2 +0.4**
comp=Z,64nm,1.3s,baz=314
KONO Kongsberg 68.35 1*deP* **P** **17 25 58.0 +1.3**
KONO pmax pmax
comp=Z,103nm,1.3s
KONO MLR MLR
comp=Z,2μm,18.0s
KONO Kongsberg 68.35 1 P **P** **17 25 56.3 -0.4**
KONO Kongsberg 68.35 1 *eP* **P** **17 25 57.0 +0.3**
UZB Uzynbulak 68.39 313*c iP* **P** **17 25 57.6 +0.1**
UZB pmax pmax
comp=Z,32nm,1.2s
UZB Uzynbulak 68.39 313⇑*iP* **P** **17 25 57.6 +0.1**
comp=Z,32nm,1.2s,baz=313
BLS5 Blasjo 68.52 3 *eP* **P** **17 25 58.2 +0.4**
KMY Karmoy 68.69 3 *eP* **P** **17 25 59.6 +0.8**
CHKK Chushkaly 68.73 315 *eP* **P** **17 25 58.9 -0.5**
baz=315
SATY Saty 68.74 314*c iP* **P** **17 25 59.9 +0.3**
SATY pmax pmax
comp=Z,48nm,1.3s
SATY Saty 68.74 314⇑*iP* **P** **17 25 60.0 +0.3**
comp=Z,48nm,1.3s,baz=314
MTSE Matsula 68.83 353 *eP* **P** **17 26 00.6 +1.0**
VSU Vasula 68.83 351*c iP* **P** **17 26 00.1 +0.4**
VSU pmax pmax
comp=Z,399nm,1.0s
VSU MLR MLR
comp=Z,5μm,18.0s
VSU Vasula 68.83 351 *eP* **P** **17 26 00.3 +0.6**
KUU Kurty 68.98 315*c iP* **P** **17 26 00.4 -0.5**
KUU pmax pmax
comp=Z,47nm,1.1s
KUU MLR MLR
comp=Z,2μm,14.0s
KUU Kurty 68.98 315⇑*iP* **P** **17 26 00.5 -0.5**
comp=Z,47nm,1.1s,baz=315
KUU LR LR 17 57 11.9
comp=Z,2μm,13.8s,baz=315
CCIG Comitan 69.11 90 P **P** **17 26 01.4 -0.9**
CCIG IAmb IAmb 17 26 25.0
comp=Z,56nm,1.5s
PZH PanZhiHua 69.20 287 ⇑P **P** **17 26 03.3 +0.6**
PZH sP **pwP** **17 26 10.8 +0.2**
PZH PcP **PcP** **17 26 26.3 -0.2**
PZH S **S** **17 35 06.8 -1.3**
PZH sS **sS** **17 35 18.5 +3.9**
PZH SS **SS** **17 39 29.8 -4.2**
PZH pmax pmax
comp=Z,90nm,1.4s
PZH pmax pmax
comp=Z,1μm,4.5s
PZH LR LR
comp=Z,1μm,17.6s
PZH LR LR
comp=Z,2μm,17.3s
PZH LR LR
comp=Z,2μm,17.8s
JAY Jayapura 69.21 236 LR LR 17 52 53.9
comp=Z,1μm,20.6s,baz=9.5,slow=33
MDOK Medeo 69.25 314 *iP* **P** **17 26 03.1 +0.3**
MDOK MLR MLR
comp=Z,2μm,15.0s
MDOK Medeo 69.25 314 *i* P **P** **17 26 03.1 +0.3**
baz=314
MDOK LR LR 17 56 54.6
comp=Z,2μm,14.7s,baz=314
AAA Alma-Ata 69.28 315 *eP* **P** **17 26 03.4 +0.6**
AAA pmax pmax
comp=Z,103nm,1.1s
AAA MLR MLR
comp=Z,3μm,16.0s
AAA Alma-Ata 69.28 315 *eP* **P** **17 26 03.4 +0.6**
comp=Z,103nm,1.1s,baz=314
AAA LR LR 17 57 12.8
comp=Z,3μm,15.7s,baz=314
TNSS Tian-Shan 69.40 314 *i* P **P** **17 26 04.4 +0.3**
baz=314
VIKU Vikbolandet 69.42 357 *eP* **P** **17 26 04.1 +0.8**
PMOR Pomariorio Ree 69.46 158 *eP* **P** **17 26 06.8 +2.8**
comp=Z,50nm,0.9s
SNART Snartemo 69.62 2 *eP* **P** **17 26 05.0 +0.4**
KMI Kunming 69.65 285 ⇑P **P** **17 26 06.0 +0.4**
KMI pP sP 17 26 11.0 0.0
KMI sP pwP 17 26 13.0 -0.6
KMI S **S** **17 35 10.5 -3.2**
KMI sS pS 17 35 16.5 -2.0
KMI pmax pmax
comp=Z,43nm,1.3s
KMI pmax pmax
comp=Z,890nm,5.0s
KMI LR LR
comp=Z,1μm,19.3s
KMI LR LR
comp=Z,2μm,17.7s
KMI LR LR
comp=Z,3μm,16.9s
DAV Davao City (W) 69.68 255 LR LR 17 52 56.5
comp=Z,3μm,21.5s,baz=67,slow=33
DAV Davao City (W) 69.68 255 IAMs_20 IAMs_20 17 52 55.1
comp=Z,3μm,21.0s
HOMB Homborsund 69.72 2 *eP* **P** **17 26 05.9 +0.7**
SOR Soroa 69.73 79 P **P** **17 26 07.1 +1.2**
SOR pmax pmax
comp=Z,72nm,1.4s
SOR Soroa 69.73 79 P **P** **17 26 07.1 +1.2**
SOR IAmb IAmb 17 26 25.6
comp=Z,72nm,1.4s
VAH Vaihoa 69.75 158 *eP* **P** **17 26 08.6 +2.8**
comp=Z,64nm,1.0s
QIZ Qiongzhong 69.97 275 IAMs_20 IAMs_20 18 00 46.8
comp=Z,2μm,18.0s
QIZ Qiongzhong 69.97 275 P **P** **17 26 06.5 -0.9**
QIZ sP **sP** **17 26 13.8 +1.1**
QIZ S **S** **17 35 18.5 +1.4**
QIZ SS **SS** **17 39 46.0 +0.1**
QIZ pmax pmax
comp=Z,17nm,0.9s
QIZ pmax pmax
comp=Z,470nm,4.4s
QIZ LR LR
comp=Z,920nm,16.0s
QIZ LR LR
comp=Z,1μm,15.3s
QIZ LR LR
comp=Z,1μm,16.6s
SLIT Slitere, Latvi 70.01 354 *eP* **P** **17 26 07.5 +0.5**
PETF Flores 70.02 88 P **P** **17 26 04.7 -2.9**
PETF IAmb IAmb 17 26 14.3
comp=Z,19nm,0.7s
KDJ Kajisay 70.03 314 P **P** **17 26 07.2 -0.5**
KDJ pmax pmax
comp=Z,92nm,1.2s
KDJ Kajisay 70.03 314 P **P** **17 26 07.2 -0.5**
SGDS Sogindy 70.06 316⇑*iP* **P** **17 26 08.3 +0.6**
comp=Z,46nm,1.5s,baz=316
TARG Taragay, Kyrgy 70.07 313 P **P** **17 26 08.1 -0.1**
TARG IAmb IAmb 17 26 22.2
comp=Z,40nm,0.8s
TKM2 Tokmak 2 70.08 315 P **P** **17 26 08.7 +0.7**
SNR=68
MOS Moscow 70.09 345 *eP* **P** **17 26 07.0 -0.6**
MOS *eS* **S** **17 35 21.7 +4.2**
MOS pmax pmax
comp=Z,95nm,0.7s
MOS MLR MLR
comp=Z,2μm,18.0s
AKTO Aktyubinsk 70.22 330 P **P** **17 26 07.8 -0.7**
USP Ospenovka 70.27 316 P **P** **17 26 09.8 +0.9**
SNR=99
BOOM Boomskoye usch 70.28 315 P **P** **17 26 09.2 0.0**
BOOM pmax pmax
comp=Z,69nm,0.9s
BOOM Boomskoye usch 70.28 315 P **P** **17 26 09.2 0.0**
ULHL Ulahol 70.35 314 P **P** **17 26 09.6 0.0**
SNR=44
BORU Boraas 70.37 359 *i* P **P** **17 26 08.5 -0.7**
CHMS Chumysh 70.38 316 P **P** **17 26 10.3 +0.7**
SNR=48
KBK Karagaybulak 70.58 315 P **P** **17 26 11.8 +0.8**
SNR=70
FRU1 Bishkek 70.59 316 P **P** **17 26 11.5 +0.6**
FRU1 pmax pmax
comp=Z,152nm,1.0s
FRU1 Bishkek 70.59 316 P **P** **17 26 11.4 +0.6**
AB31 Akbulak array 70.66 329 *i* P **P** **17 26 11.1 0.0**
ABKAR Akbulak array 70.66 329 P **P** **17 26 11.1 -0.1**
ABKAR Akbulak array 70.66 329 P **P** **17 26 10.8 -0.3**
SANVU Saraoutou 70.66 205 IAMs_20 IAMs_20 17 54 25.1
comp=Z,2μm,21.0s
AAK Ala-Archa 70.78 316 LR LR 17 59 26.5
comp=Z,3μm,18.9s,baz=28,slow=38
AAK Ala-Archa 70.78 316*c iP* **P** **17 26 12.8 +0.5**
AAK pmax pmax
comp=Z,80nm,1.0s
AAK MLR MLR
comp=Z,4μm,16.0s
AAK Ala-Archa 70.78 316 P **P** **17 26 12.1 -0.2**
OBN Obninsk 70.87 345 ⇑P **P** **17 26 12.2 -0.1**
OBN Obninsk 70.87 345*c iP* **P** **17 26 12.0 -0.3**
OBN *i* 17 26 16.6
OBN *i* 17 26 33.1
OBN *i* S **S** **17 35 30.3 +3.8**
OBN pmax pmax
comp=Z,103nm,1.0s
OBN Obninsk 70.87 345 P **P** **17 26 10.7 -1.5**
SRPI Serui, Papua 70.98 240 P **P** **17 26 12.6 -0.9**
comp=Z,1μmcomp=Z,34nm,0.8s
FABU Falkenberg 71.01 359 *eP* **P** **17 26 12.3 -0.8**
EKS2 Erkin-Say 71.07 316 P **P** **17 26 14.4 +0.5**
SNR=90
UCH Uchtor 71.11 315 P P 17 26 09.0 -5.6
SNR=15
DEL Delary 71.52 358 *i* P **P** **17 26 15.5 -0.7**
DEL Delary 71.52 358 *eP* **P** **17 26 17.0 +0.8**
AML Almayashu 71.54 316 P **P** **17 26 18.2 +1.1**
SNR=86
PPT2 Papeete2 71.61 161 *eP* **P** **17 26 20.0 +2.8**
comp=Z,68nm,1.5s
PPT2 *eS* **S** **17 35 38.3 +2.4**
comp=Z,3μm,24.8s
PPT2 *e*LQ LQ 17 44 38.8
comp=Z,809nm,23.2s
PPT2 *e*LR LR 17 47 47.4
comp=Z,2μm,30.8s,baz=350
PBUR Paburge 71.63 354 *eP* **P** **17 26 17.6 +0.7**
BLEU Blekinge 71.65 357 *i* P **P** **17 26 16.1 -0.9**
PAE Paea 71.68 161 *eP* **P** **17 26 19.9 +2.4**
comp=Z,22nm,1.5s
ISAL Salakas 71.75 351 *eP* **P** **17 26 18.6 +1.0**
DZA Taraz 71.90 318 *eP* **P** **17 26 19.1 +0.3**
DZA Taraz 71.90 318 *eP* **P** **17 26 19.1 +0.3**
baz=318
IDID Didziasalis 71.94 351 *eP* **P** **17 26 19.1 +0.4**
IIGN Ignalina 71.95 351 *eP* **P** **17 26 19.3 +0.4**
PABE Paberze 72.00 352 P **P** **17 26 19.2 +0.1**
PABE Paberze 72.00 352 *eP* **P** **17 26 20.0 +0.9**
ESK Eskdalemuir 72.03 9 P **P** **17 26 19.3 0.0**
ESK pmax pmax
comp=Z,87nm,1.3s
ESK Eskdalemuir 72.03 9 P **P** **17 26 19.3 0.0**
KKAR Karatay Array 72.06 319 P **P** **17 26 19.3 -0.5**
KKAR Karatay Array 72.06 319 P **P** **17 26 19.3 -0.5**
PMG Port Moresby 72.16 226 P **P** **17 26 18.2 -2.3**
comp=Z,33nm,1.1s,baz=25,slow=7.5,SNR=5.1
PMG LR LR 17 51 53.4
comp=Z,1μm,21.4s,baz=21,slow=31
PMG Port Moresby 72.16 226*de* **P** **17 26 20.8 +0.3**
PMG pmax pmax
comp=Z,57nm,1.4s
PMG Port Moresby 72.16 226 P **P** **17 26 18.9 -1.7**
PMG IAmb IAmb 17 26 35.9
comp=Z,42nm,1.0s
PMG Port Moresby 72.16 226 P **P** **17 26 19.4 -1.1**
MTO3 Montecristo 72.26 89 P **P** **17 26 19.0 -2.5**
NACGM Naroch 72.34 351 *eP* **P** **17 26 21.7 +0.6**
MNK Minsk 72.62 350 *i* P **P** **17 26 22.4 -0.4**
MNK *i* 17 26 36.7
MNK *i* 17 29 03.4
MNK *i* S **S** **17 35 44.9 -1.9**
MNK *i* SS **SS** **17 40 24.6 0.0**
MNK *i* SSS SSS 17 43 45.1
MNK pmax pmax
comp=N,71nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,119nm,1.0s
MNK Minsk 72.62 350 *i* P **P** **17 26 22.5 -0.4**
comp=E,3.0nm,1.0s
MNK *i* P **P** **17 26 22.5 -0.4**
comp=N,71nm,1.0s
MNK *i* P **P** **17 26 22.5 -0.4**
comp=Z,119nm,1.0s,baz=11
MNK *i* PcP **PcP** **17 26 36.7 -3.6**
MNK *i* PP **PP** **17 29 03.5 -0.2**
MNK *i* S **S** **17 35 44.9 -1.9**
MNK *i* SS **SS** **17 40 24.6 0.0**
MNK *i* SSS SSS 17 43 45.1
MNK *i* LQ LQ 17 51 35.7
MNK *i* LR LR 17 56 02.6
MNK *i* LRM MLR 18 03 51.2
comp=E,239nm,19.9s
MNK *i* LRM MLR 18 04 04.0
comp=N,2μm,19.6s
MNK *i* LRM MLR 18 04 10.0
comp=Z,2μm,19.6s
KSH Kashi 72.67 313 P **P** **17 26 27.3 +3.7**
KSH pP pwP 17 26 31.0 -0.6
KSH S **SKiKP** **17 35 58.0 +1.1**
KSH ScS **ScS** **17 36 34.5 +4.2**
KSH pmax pmax

KSH pmax pmax
comp=Z,530nm,4.8s
KSH LR LR
comp=Z,2µm,20.0s
KSH LR LR
comp=Z,3µm,18.1s
KSH LR LR
comp=Z,4µm,18.4s
LSA Lhasa 72.81 296 P **P 17 26 25.4 +0.4**
LSA pmax pmax
comp=Z,97nm,1.2s
LSA MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 72.81 296 P **P 17 26 25.4 +0.4**
LSA IAMs_20 IAMs_20 18 02 30.2
comp=Z,2µm,20.0s
LSA Lhasa 72.81 296 P **P 17 26 26.0 +1.0**
LSA S **S 17 35 51.0 +0.4**
LSA pmax pmax
comp=Z,74nm,1.4s
LSA LR LR
comp=Z,970nm,17.1s
LSA LR LR
comp=Z,1µm,15.0s
LSA LR LR
comp=Z,1µm,18.5s
SWI Sorong 72.85 245 P **P 17 26 23.1 -1.6**
comp=Z,2µmcomp=Z,111nm,1.1s
SIJI Sorong 72.85 245 P **P 17 26 23.4 -1.4**
comp=Z,27nm,0.9s,baz=30,slow=9.3,SNR=6.0
BSD Bornholm Skovb 72.86 358 *eP* **P 17 26 23.3 -1.0**
BSD IAmb IAmb 17 26 31.2
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 72.88 343 *eP* **P 17 26 24.2 -0.2**
LPSR pmax pmax
comp=Z,60nm,1.1s
LPSR MLR MLR
comp=Z,2µm,17.0s
IUG Iuzhnay 73.06 318 *i* P **P 17 26 26.5 +0.7**
IUG Iuzhnay 73.06 318 *i* P **P 17 26 26.6 +0.7**
baz=318
KLNR Kaliningrad 73.16 355*c i*P **P 17 26 26.1 +0.1**
KLNR pmax pmax
comp=Z,220nm,1.0s
RGN Rugen 73.46 359 *eP* **P 17 26 29.4 +1.6**
RGN Rugen 73.46 359 *eP* **P 17 26 28.8 +1.1**
comp=Z,448nm,1.6s,baz=360,slow=5.7
SUW Suwalki 73.54 353 *eP* **P 17 26 28.1 -0.2**
SUW *eL* L 18 06 45.6
comp=Z,2µm,17.2s
SUW Suwalki 73.54 353 P **P 17 26 27.4 -0.9**
SUW pmax pmax
comp=Z,275nm,1.1s
SUW Suwalki 73.54 353 P **P 17 26 27.4 -0.9**
SUW Suwalki 73.54 353 *eP* **P 17 26 28.4 +0.1**
VRH Novokhopyorsk 73.67 341 *eP* **P 17 26 28.6 -0.5**
VRH pmax pmax
comp=Z,50nm,0.8s
VRH MLR MLR
comp=Z,2µm,17.0s
VORR Voronezh 73.71 342 *eP* **P 17 26 29.4 +0.1**
VORR pmax pmax
comp=Z,70nm,0.4s
TNTI Ternate 73.71 249 P **P 17 26 32.8 +3.0**
TGUH Tegucigalpa,Un 73.80 88 P **P 17 26 28.4 -2.2**
TGUH Tegucigalpa,Un 73.80 88 *eP* **P 17 26 29.6 -1.0**
TAS Tashkent 74.04 318 P **P 17 26 31.9 +0.4**
TAS pmax pmax
comp=Z,87nm,0.5s
TAS Tashkent 74.04 318 P **P 17 26 31.9 +0.4**
BSEG Bad Segeberg 74.08 1 *eP* **P 17 26 32.4 +1.0**
comp=Z,68nm,1.2s,baz=360,slow=5.7
BTK Batken 74.47 317 P **P 17 26 34.2 +0.1**
BTK pmax pmax
comp=Z,133nm,1.0s
BTK Batken 74.47 317 P **P 17 26 34.2 +0.1**
LNIZ Loecknitz 74.50 358 *eP* **P 17 26 34.6 +0.8**
comp=Z,154nm,1.4s,baz=360,slow=5.7
DRK Karamyk 74.54 316 P **P 17 26 34.1 -0.7**
GKP Gorka Klasztor 74.63 356 *eP* **P 17 26 35.6 +1.0**
GKP *eL* L 18 07 22.7
comp=Z,1µm,21.6s
GKP Gorka Klasztor 74.63 356 *eP* **P 17 26 35.1 +0.4**
LBMI Labuha 74.78 248 P **P 17 26 35.3 -0.8**
comp=Z,1µmcomp=Z,49nm,1.1s
RETH Rethem/Aller, 75.27 1 *eP* **P 17 26 39.3 +0.9**
comp=Z,84nm,1.2s,baz=360,slow=5.7
MYLDM Lahad Datu 75.41 259 P **P 17 26 38.1 -1.6**
MYLDM IAmb IAmb 17 26 57.8
comp=Z,69nm,1.0s
MATN Matagalpa 75.50 88 P **P 17 26 38.4 -1.9**
UBPT Khong Chiam 75.51 276 P **P 17 26 39.9 -0.4**
UBPT IAmb IAmb 17 26 57.7
comp=Z,70nm,1.1s
RUE Ruedersdorf 75.52 358 *eP* **P 17 26 41.1 +1.3**
RUE Ruedersdorf 75.52 358 *eP* **P 17 26 40.7 +0.9**
comp=Z,136nm,1.4s,baz=360,slow=5.7
NRDL Niedersach Rie 75.53 1 *eP* **P 17 26 40.6 +0.8**
comp=Z,56nm,1.1s,baz=360,slow=5.7
GAR Garm 75.57 316 P **P 17 26 40.6 0.0**
SHL Shillong 75.60 293 P **P 17 26 39.9 -1.1**
SHL pmax pmax
comp=Z,92nm,1.1s
SHL Shillong 75.60 293 P **P 17 26 39.9 -1.1**
IBBN Ibbenburen 75.68 2 *eP* **P 17 26 41.5 +0.8**
comp=Z,164nm,1.4s,baz=360,slow=5.7
FLTG Flechtingen 75.69 0 *eP* **P 17 26 41.1 +0.3**
comp=Z,56nm,1.2s,baz=360,slow=5.7
BEL Belsk 75.88 354 *eP* **P 17 26 43.1 +1.3**
BEL *eL* L 18 01 51.8
comp=Z,2µm,20.9s
ASSE Asse, Remlinge 75.89 0 *eP* **P 17 26 42.7 +0.9**
comp=Z,44nm,1.1s,baz=360,slow=5.7
KKM Kota Kinabalu 76.11 262 IAMs_20 IAMs_20 18 03 43.2
comp=Z,1µm,20.0s
CLZ Clausthal 76.18 1 *eP* **P 17 26 43.9 +0.3**
comp=Z,110nm,1.1s,baz=360,slow=5.7
MSAI Masohi 76.20 246 P **P 17 26 44.2 0.0**
comp=Z,11nm,0.9s
AKASG Malin Array Be 76.21 348 P **P 17 26 43.4 -0.4**
comp=Z,33nm,0.7s,baz=15,slow=5.9,SNR=102
AKASG LR LR 18 05 07.6
comp=Z,2µm,18.8s,baz=23,slow=40
AKASG Malin Array Be 76.21 348 P **P 17 26 42.6 -1.2**
AKASG Malin Array Be 76.21 348 P **P 17 26 42.6 -1.2**
AKBB Malin Array Si 76.21 348*c i*P **P 17 26 43.3 -0.5**
AKBB Malin Array Si 76.21 348 P **P 17 26 42.8 -0.9**
CHGR Chuyangaron 76.35 317 P **P 17 26 44.8 -0.2**
GTOI Gorontalo 76.35 253 P **P 17 26 44.5 -0.6**
comp=Z,274nmcomp=Z,14nm,1.2s
GTTG Gottingen 76.47 1 *eP* **P 17 26 46.2 +1.0**
comp=Z,120nm,1.1s,baz=360,slow=5.7
MTDJ Mount Denham 76.51 78 IAMs_20 IAMs_20 18 06 06.3
comp=Z,1µm,20.0s
TAPN Taplejung 76.52 297 *eP* **P 17 26 46.8 +0.4**
comp=Z,93nm,0.7s
BUG Bochum--Univer 76.53 3 *eP* **P 17 26 46.0 +0.4**
comp=Z,76nm,1.2s,baz=360,slow=5.7
BNDI Bandanaira 76.63 244 P **P 17 26 47.0 +0.4**
GTBY Guantanamo Bay 76.64 75 IAMs_20 IAMs_20 18 02 52.7
comp=Z,2µm,20.0s
CLL Collm 76.71 359⇑ *i*P **P 17 26 47.2 +0.6**
CLL *eS* **S 17 36 35.0 +2.5**
CLL pmax pmax
comp=Z,83nm,1.4s
CLL MLR MLR
comp=Z,2µm,18.5s
CLL Collm 76.71 359 P **P 17 26 46.1 -0.5**
CLL IAmb IAmb 17 26 49.7
comp=Z,40nm,1.0s
CLL Collm 76.71 359⇑ *i*P **P 17 26 47.2 +0.6**
comp=Z,83nm,1.4s
CLL *e*PP **PP 17 29 42.0 +3.7**
CLL *eS* **S 17 36 35.0 +2.5**
CLL *e*PS **PnS 17 37 14.0 +3.5**
CLL *eSS* SS 17 41 48.0 +21
CLL *e*(SSS) 17 45 24.0
CLL *e*SSSS 17 47 06.0
CLL LmV 18 05 00.0
comp=Z,2µm,18.5s
CLL Collm 76.71 359 *eP* **P 17 26 47.1 +0.5**
comp=Z,83nm,1.4s,baz=360,slow=5.7
CHTO Chiang Mai 76.72 283 P **P 17 26 46.8 -0.4**
CHTO pmax pmax
comp=Z,103nm,1.4s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 76.72 283 P **P 17 26 46.8 -0.4**
CHTO Chiang Mai 76.72 283 IAMs_20 IAMs_20 18 04 00.5
comp=Z,2µm,20.0s
CHTO Chiang Mai 76.72 283 P **P 17 26 47.1 -0.1**
KASTN Kahler Asten 76.80 2 *eP* **P 17 26 47.9 +0.8**
comp=Z,36nm,1.2s,baz=360,slow=5.7
SANI Sanana 76.80 249 P **P 17 26 46.1 -1.5**
comp=Z,1µmcomp=Z,68nm,1.1s
SANI Sanana 76.80 249 P **P 17 26 45.6 -2.0**
NEUB Neuenburg 76.82 360 *eP* **P 17 26 48.0 +0.8**
comp=Z,109nm,1.3s,baz=360,slow=5.7
AAI Ambon 76.89 246 P **P 17 26 46.3 -1.8**
comp=Z,1µmcomp=Z,56nm,1.0s
CM31 Chiang Mai Arr 77.00 283 P **P 17 26 49.3 +0.5**
CMAR Chiang Mai Arr 77.00 283 P **P 17 26 49.0 +0.3**
comp=Z,54nm,1.0s,baz=25,slow=5.8,SNR=94
CMAR LR LR 18 04 37.8
comp=Z,2µm,18.9s,baz=20,slow=39
CMAR Chiang Mai Arr 77.00 283 P **P 17 26 48.6 -0.2**
CMAR Chiang Mai Arr 77.00 283 P **P 17 26 48.6 -0.2**
ESPN Las Esperanzas 77.06 87 P **P 17 26 47.1 -2.0**
ESPN IAmb IAmb 17 26 55.5
comp=Z,38nm,0.8s
GUN Gumba 77.07 299 *eP* **P 17 26 49.9 +0.4**
ODAN Odare 77.08 297 *eP* **P 17 26 49.2 -0.2**
FBE Freiberg 77.09 359 *eP* **P 17 26 49.8 +1.1**
comp=Z,105nm,1.3s,baz=360,slow=5.7
KSP Ksiaz 77.10 357 *eP* **P 17 26 49.7 +0.9**
KSP *eL* L 18 10 29.1
comp=Z,2µm,16.9s
JIRN Jiri 77.10 299 *eP* **P 17 26 50.2 +0.5**
MRSI Marisa 77.11 254 P **P 17 26 47.6 -1.7**
comp=Z,1µmcomp=Z,1µmcomp=Z,86nm,1.1s
BEBN Eben Emael 77.12 4 *dP* **P 17 26 49.6 +0.7**
BRG Berggiesshubel 77.13 358 *eP* **P 17 26 49.9 +0.9**
BRG Amp 17 26 52.0
comp=Z,59nm,1.2s
BRG *ex* x 17 27 00.3
BRG Amp 17 27 04.4
comp=Z,48nm,1.2s
BRG Amp 18 08 47.0
comp=N,1.2nm,16.1s
BRG Amp 18 08 52.0
comp=Z,1.5nm,15.8s
BRG Amp 18 08 56.0
comp=E,1.4nm,17.5s
BRG Berggiesshubel 77.13 358 *eP* **P 17 26 49.8 +0.9**
BRG *e* 17 27 00.2
BRG pmax pmax
comp=Z,59nm,1.2s
BRG pmax pmax
comp=Z,48nm,1.2s
BRG MLR MLR
comp=N,1µm,16.1s
BRG MLR MLR
comp=Z,1µm,15.8s
BRG MLR MLR
comp=E,1µm,17.5s
BRG Berggiesshubel 77.13 358 *eP* **P 17 26 49.6 +0.6**
comp=E,65nm,1.3s,baz=360,slow=5.7
UBBA Unterbreizbach 77.20 1 *eP* **P 17 26 50.1 +0.8**
comp=E,49nm,1.5s,baz=360,slow=5.7
DZM Mont Dzumac 77.21 204 *eP* **P 17 26 50.9 +1.2**
comp=E,56nm,1.4s
DZM *eS* **S 17 36 37.9 -0.7**
comp=E,829nm,26.9s
DZM Mont Dzumac 77.21 204 *e*LR LR 17 50 35.9
comp=E,2µm,21.5s
DZM Mont Dzumac 77.21 204 P **P 17 26 49.9 +0.2**
comp=E,16nm,1.1s,baz=340,slow=8.2,SNR=2.8
DZM LR LR 17 55 34.8
comp=E,1µm,18.9s,baz=24,slow=32
DZM Mont Dzumac 77.21 204 P **P 17 26 52.7 +3.0**
TBI Tubuai 77.23 162 *eS* **S 17 36 40.8 +2.2**
comp=E,511nm,30.2s
TBI Tubuai 77.23 162 *e*LQ LQ 17 46 44.3
comp=E,609nm,26.0s
TBI *e*LR LR 17 50 12.2
comp=E,1µm,34.0s,baz=343
TOLI2 Tolitoli 77.28 255 P **P 17 26 46.3 -4.1**
TOLI2 IAmb IAmb 17 27 05.9
comp=Z,42nm,1.0s
MEM Membach 77.32 3 *dp*P **P 17 26 50.9 +0.8**
MEM *dP*cP **pwP 17 26 59.2 +1.1**
SNF Seneffe 77.35 5 *dp*P **P 17 26 51.3 +1.1**
BTNL Ternell 77.35 3 *dp*P **P 17 26 51.4 +1.1**
CHVC Chvalec 77.36 357 *eP* **P 17 26 51.2 +0.9**
CHVC AMS AMS 18 10 10.0
comp=Z,2µm,16.3s
MOX Moxa 77.38 360 *eP* **P 17 26 51.2 +0.8**
comp=Z,74nm,1.2s,baz=360,slow=5.7
OSTC Ostas 77.39 357 *eP* **P 17 26 51.4 +0.9**
OSTC AMS AMS 18 10 10.0
comp=Z,2µm,15.8s
AHRW Bad Neuenahr-A 77.42 3 *eP* **P 17 26 51.7 +1.1**
comp=Z,45nm,1.1s,baz=360,slow=5.7
UPC Upice 77.44 357 *eP* **P 17 26 52.0 +1.2**
UPC MLR MLR
comp=Z,3µm,18.5s
UPC Upice 77.44 357 *eP* **P 17 26 52.0 +1.2**
UPC AMS AMS 18 10 30.0
comp=Z,3µm,18.5s
RAMN Ramite 77.44 298 *eP* **P 17 26 51.7 +0.2**
comp=Z,60nm,0.5s
PVCC Panska Ves 77.46 358 *eP* **P 17 26 52.3 +1.4**
PVCC MLR MLR
comp=Z,2µm,18.0s
PVCC Panska Ves 77.46 358 *eP* **P 17 26 52.3 +1.4**
PVCC AMS AMS 18 10 40.0
comp=Z,2µm,18.0s
KKN Kakani 77.49 299 *eP* **P 17 26 52.0 +0.3**
BGES Gesves 77.51 4 *dP* **P 17 26 51.5 +0.4**
comp=Z,25nm,1.2s
BGES *d*PcP **PcP 17 27 00.4 -1.0**
PLN Plauen 77.54 359 *eP* **P 17 26 52.2 +0.9**
comp=Z,50nm,1.4s,baz=360,slow=5.7
OJC Ojcow 77.55 354 *eP* **P 17 26 52.1 +0.7**
OJC *eL* L 18 03 44.0
comp=Z,2µm,19.5s
OJC Ojcow 77.55 354 P **P 17 26 51.5 +0.1**
OJC pmax pmax
comp=Z,94nm,1.2s
OJC Ojcow 77.55 354 P **P 17 26 51.5 +0.1**
WERD Werda 77.58 359 *eP* **P 17 26 52.5 +0.9**
comp=Z,59nm,1.5s,baz=360,slow=5.7
BHOU Houvegnez 77.58 3 *dP* **P 17 26 49.6 -1.9**
BHOU *dp*P **pP 17 26 53.0 -2.5**
BHOU *dP*cP **pwP 17 27 00.3 +0.7**
BMRD Maredsous 77.58 4 *dpP* **P 17 26 52.4 +0.9**
DPC Dobruska-Polom 77.59 357 *eP* **P 17 26 52.8 +1.2**
DPC MLR MLR
comp=Z,2µm,16.2s
DPC Dobruska-Polom 77.59 357 *eP* **P 17 26 52.8 +1.2**
DPC AMS AMS 18 10 30.0
comp=Z,2µm,16.2s
PKI Pulchoki 77.59 299 *eP* **P 17 26 52.5 +0.1**
comp=Z,247nm,1.3s
PKIN Phulchoki 77.60 299 *eP* **P 17 26 52.4 +0.1**
TANN Tannenbergstha 77.61 359 *eP* **P 17 26 52.8 +1.0**
comp=Z,84nm,1.6s,baz=360,slow=5.7
LVV L'vov 77.63 352 *eP* **P 17 26 51.5 -0.3**
LVV *e* 17 29 49.0
LVV *eS* **S 17 36 42.2 -0.5**
LVV *eSS* **SS 17 41 42.6 +1.9**
LVV pmax pmax
comp=Z,200nm,1.2s
LVV MLR MLR
comp=E,400nm,16.0s
LVV MLR MLR
comp=N,2µm,19.0s
LVV MLR MLR
comp=Z,2µm,19.0s
GUNZ Gunzen 77.66 359 *eP* **P 17 26 53.0 +1.0**
comp=Z,83nm,1.5s,baz=360,slow=5.7
GKN Gorkha 77.66 300 *eP* **P 17 26 52.7 +0.1**
DMN Daman 77.73 299 *eP* **P 17 26 53.3 +0.2**
comp=Z,214nm,1.3s
WERN Wernitzgruen 77.74 359 *eP* **P 17 26 53.5 +1.1**
comp=Z,70nm,1.3s,baz=360,slow=5.7
RCHB Rochefort 77.74 4 *dP* **P 17 26 51.4 -1.1**
comp=Z,35nm,1.1s
ORTG Ortega, Santa 77.77 89 P **P 17 26 51.5 -1.7**
DOU Dourbes 77.78 4 *dP* **P 17 26 52.9 +0.2**
comp=Z,27nm,1.3s
TNS Taunus Mts 77.78 2 *eP* **P 17 26 53.5 +0.8**
comp=Z,58nm,1.2s,baz=360,slow=5.7
NKC Novy Kostel 77.79 359 *eP* **P 17 26 54.0 +1.3**
NKC MLR MLR
comp=Z,2µm,16.2s
NKC Novy Kostel 77.79 359 *eP* **P 17 26 54.0 +1.3**
NKC AMS AMS 18 14 00.0
comp=Z,2µm,16.2s
LUWI Luwuk 77.84 252 P **P 17 26 50.7 -2.8**
LUWI Luwuk 77.84 252 P **P 17 26 52.3 -1.1**
comp=Z,2µmcomp=Z,193nm,1.2s
KRLC Kraliky 77.84 356 *eP* **P 17 26 54.3 +1.2**
KRLC MLR MLR
comp=Z,2µm,17.3s
KRLC Kraliky 77.84 356 *eP* **P 17 26 54.3 +1.2**
KRLC AMS AMS 18 13 40.0
comp=Z,2µm,17.3s
DANN Dangsing 77.85 301 *eP* **P 17 26 54.3 +0.5**
comp=Z,236nm,0.8s
KWP Kalwaria Pacla 77.93 352 *eP* **P 17 26 54.5 +1.0**
KWP *eL* L 18 09 17.4
comp=Z,2µm,19.2s
KWP Kalwaria Pacla 77.93 352 P **P 17 26 54.1 +0.6**
KWP pmax pmax
comp=Z,1µm,1.0s
KWP Kalwaria Pacla 77.93 352 P **P 17 26 54.1 +0.6**
COEN Coen 77.96 228 P **P 17 26 52.8 -1.2**
PRU Pruhonice 78.00 358 *eP* **P 17 26 54.8 +0.9**
PRU MLR MLR
comp=Z,2µm,16.6s
PRU Pruhonice 78.00 358 *eP* **P 17 26 54.8 +0.9**
PRU AMS AMS 18 19 00.0
comp=Z,2µm,16.6s
OKC Ostrava-Krasne 78.02 355 *eP* **P 17 26 55.4 +1.4**
OKC MLR MLR
comp=Z,2µm,17.5s
OKC Ostrava-Krasne 78.02 355 *eP* **P 17 26 55.4 +1.4**
OKC AMS AMS 18 08 50.0
comp=Z,2µm,17.5s
MANZ Manzenberg 78.04 359 *eP* **P 17 26 55.0 +0.8**
comp=Z,18nm,1.6s,baz=360,slow=5.7
MORC Moravsky Berou 78.11 356 P **P 17 26 54.9 +0.3**
MORC pmax pmax
comp=Z,66nm,1.2s
MORC Moravsky Berou 78.11 356 P **P 17 26 54.9 +0.3**
MORC IAmb IAmb 17 26 57.1
comp=Z,66nm,1.2s
MORC Moravsky Berou 78.11 356⇑ *i*P **P 17 26 55.5 +0.9**
MILB Miltenberg 78.19 1 *eP* **P 17 26 55.8 +0.9**
comp=Z,71nm,1.1s,baz=360,slow=5.7
ROTZ Rotzenmuhle 78.26 359 *eP* **P 17 26 56.5 +1.2**
comp=Z,20nm,1.5s,baz=360,slow=5.7
WLF Walferdange 78.27 3 P **P 17 26 55.7 +0.3**
WLF pmax pmax
comp=Z,48nm,1.1s
WLF Walferdange 78.27 3 P **P 17 26 55.7 +0.3**
WLF IAmb IAmb 17 26 57.5
comp=Z,48nm,1.1s
WLF Walferdange 78.27 3 *eP* **P 17 26 56.6 +1.2**
comp=Z,72nm,1.3s,baz=360,slow=5.7
WLF Walferdange 78.27 3 *dp*P **P 17 26 56.2 +0.8**
PBCC Pribram 78.32 358 *eP* **P 17 26 56.9 +1.2**
NIE Niedzica 78.32 354 *eP* **P 17 26 57.8 +2.1**
NIE *eL* L 18 04 14.3
comp=Z,1µm,20.6s
GRA1 Grafenberg Arr 78.34 0 P **P 17 26 56.6 +0.8**
GRF Grafenberg Arr 78.34 0 P **P 17 26 56.6 +0.8**
GRF pmax pmax
comp=Z,82nm,1.1s
GRF Grafenberg Arr 78.34 0 *eP* **P 17 26 57.1 +1.3**
comp=Z,111nm,1.3s,baz=360,slow=5.7
GRF *eL* L 18 05 38.9
comp=Z,978nm,19.6s
GRFO Grafenberg 78.34 0 P **P 17 26 55.7 -0.1**
GRFO pmax pmax
comp=Z,92nm,1.2s
GRFO Grafenberg 78.34 0 P **P 17 26 55.7 -0.1**
APSI Ampana 78.39 253 P **P 17 26 54.4 -2.1**
comp=Z,640nmcomp=Z,55nm,1.2s
KOLN Koldanda 78.40 300 *eP* **P 17 26 56.9 +0.2**
comp=Z,229nm,1.2s
MPSI Mapaga 78.43 255 P **P 17 26 55.7 -1.0**
comp=Z,1µmcomp=Z,99nm,1.2s
PYUN Piuthan 78.46 301 *eP* **P 17 26 57.3 +0.3**
VRAC Vranov 78.62 356⇑P **P 17 26 58.8 +1.5**
VRAC Vranov 78.62 356⇑P **P 17 26 58.8 +1.5**
VRAC Vranov 78.62 356⇑ *i*P **P 17 26 58.8 +1.3**
LANS Liptovska Anna 78.64 355 *eP* **P 17 26 59.4 +1.9**
LANS pmax pmax
comp=Z,70nm,1.2s
LANS Liptovska Anna 78.64 355 *eP* **P 17 26 59.4 +1.9**
TREC Trest 78.67 357 AMS AMS 18 11 10.0
comp=Z,2µm,16.0s
SAUI Saumlaki 78.75 241 P **P 17 26 57.0 -1.4**
SAUI Saumlaki 78.75 241 P **P 17 26 58.7 +0.3**
comp=Z,4µmcomp=Z,157nm,1.1s
SAUI Saumlaki 78.75 241 P **P 17 26 58.2 -0.2**
CRVS Cervenica-Dubn 78.75 353 *eP* **P 17 26 59.1 +1.0**
CRVS pmax pmax
comp=Z,103nm,1.4s
CRVS Cervenica-Dubn 78.75 353 *eP* **P 17 26 59.1 +1.0**
SORM Soroca 78.84 348⇑P **P 17 26 58.3 -0.2**
SORM Soroca 78.84 348⇑P **P 17 26 58.3 -0.2**
KRUC Moravsky 78.87 357⇑ *i*P **P 17 26 59.8 +1.1**
WET Wettzell 78.88 359 *eP* **P 17 26 59.9 +1.2**
comp=Z,67nm,1.4s,baz=360,slow=5.7
KHC Kasperske Hory 78.88 358 *eP* **P 17 27 00.2 +1.4**
KHC *eS* S 17 37 06.2 +10
KHC MLR MLR
comp=Z,2µm,19.7s
KHC Kasperske Hory 78.88 358 *eP* **P 17 27 00.2 +1.4**
KHC *eS* S 17 37 06.2 +10
KHC AMS AMS 18 06 40.0
comp=Z,2µm,19.7s
KHC Kasperske Hory 78.88 358 P **P 17 26 59.1 +0.3**
UZH Uzhgorod 78.96 353⇓ *i*P **P 17 26 59.3 +0.1**
UZH *e* 17 27 05.0
JAVC Velka Javorina 79.02 356⇑ *i*P **P 17 27 01.9 +2.3**
GEC2 GERESS Array S 79.16 358 P **P 17 27 00.9 +0.5**
GEC2 IAmb IAmb 17 27 06.9
comp=Z,43nm,1.1s
GEC2 GERESS Array S 79.16 358 *eP* **P 17 27 01.3 +0.9**
comp=Z,64nm,1.4s,baz=360,slow=5.7
GERES GERESS Array B 79.16 358 P **P 17 27 01.2 +0.8**
comp=Z,14nm,1.0s,baz=18,slow=5.6,SNR=69
GERES GERESS Array B 79.16 358 P **P 17 27 00.7 +0.2**
GERES GERESS Array B 79.16 358 P **P 17 27 00.7 +0.2**
CKRC Cesky Krumlov 79.18 358 *eP* **P 17 27 01.2 +0.8**
CKRC AMS AMS 18 11 30.0
comp=Z,2µm,18.0s
GOF Gofitskoye 79.19 338⇑ *e*P **P 17 27 01.9 +1.4**
GOF *eS* **S 17 37 02.4 +2.9**
GOF pmax pmax
comp=Z,549nm,1.3s
GOF smax smax
comp=N,19nm,0.4s
GOF smax smax
comp=E,61nm,1.4s
IZAB Izabela 79.20 354 *eP* **P 17 27 02.0 +1.5**
IZAB pmax pmax
comp=Z,41nm,1.1s
KECS Kecovo 79.24 354 *eP* **P 17 27 02.0 +1.3**
KECS pmax pmax
comp=Z,66nm,1.1s
KECS Kecovo 79.24 354 *eP* **P 17 27 02.0 +1.3**
STU Stuttgart 79.24 1 P **P 17 27 01.1 +0.3**
STU pmax pmax
comp=Z,84nm,1.4s
STU Stuttgart 79.24 1 P **P 17 27 01.1 +0.3**
STU IAmb IAmb 17 27 03.2
comp=Z,84nm,1.4s
STU Stuttgart 79.24 1 *eP* **P 17 27 01.5 +0.8**
comp=Z,137nm,1.2s,baz=360,slow=5.7
KOLL Kolacno 79.27 355 *eP* **P 17 27 02.3 +1.4**
VYHS Vyhne 79.33 355 *eP* **P 17 27 02.5 +1.3**
VYHS pmax pmax
comp=Z,30nm,1.2s
VYHS Vyhne 79.33 355 *eP* **P 17 27 02.5 +1.3**
SMOL Smolenice 79.38 356 *eP* **P 17 27 03.3 +1.8**
SMOL pmax pmax
comp=Z,50nm,1.3s
SMOL Smolenice 79.38 356 *eP* **P 17 27 03.3 +1.8**
TRPA Tarpa 79.44 352⇑P **P 17 27 02.8 +1.0**
TRPA Tarpa 79.44 352 P **P 17 27 02.3 +0.5**
SDDR Presa de Saban 79.62 73 IAMs_20 IAMs_20 18 00 51.8

comp=Z,2µm,21.0s
BFO Black Forest 79.67 2 *e*P P 17 27 03.9 +0.8
comp=Z,60nm,1.3s,baz=360,slow=5.7
BUR08 Bucovina Ar. S 79.68 350 P P 17 27 03.0 -0.3
BURAR Bucovina Array 79.70 350 ⇑P P 17 27 03.6 +0.2
BURAR Bucovina Array 79.70 350 ⇑P P 17 27 03.6 +0.2
BURAR Bucovina Array 79.70 350 P P 17 27 03.2 -0.2
CLF Chambon-Foret 79.71 6 P P 17 27 03.9 +0.6
ZST Bratislava 79.71 356 *e*P P 17 27 05.3 +2.0
ZST pmax pmax
comp=Z,329nm,1.3s
ZST Bratislava 79.71 356 *e*P P 17 27 05.3 +2.0
ECH Echery 79.75 3 P P 17 27 03.9 +0.3
ECH pmax pmax
comp=Z,79nm,1.2s
ECH Echery 79.75 3 P P 17 27 03.9 +0.3
ECH IAmb IAmb 17 27 07.0
comp=Z,79nm,1.2s
PSZ Piszkesteto 79.84 354 P P 17 27 04.4 +0.3
PSZ pmax pmax
comp=Z,103nm,1.3s
PSZ Piszkesteto 79.84 354 P P 17 27 04.3 +0.3
PSZ IAmb IAmb 17 27 07.0
comp=Z,103nm,1.3s
PSZ Piszkesteto 79.84 354 P P 17 27 05.0 +0.9
FUR Furstenfeldbru 79.86 360 *e*P P 17 27 05.3 +1.1
comp=Z,151nm,1.4s,baz=360,slow=5.7
KBL Kabul 79.88 315 P P 17 27 03.6 -1.1
KBL pmax pmax
comp=Z,107nm,1.1s
KBL Kabul 79.88 315 P P 17 27 03.6 -1.1
CONA Conrad Observa 80.02 357 *i*P P 17 27 06.6 +1.4
comp=Z,40nm,1.4s,SNR=31
MAK Makhachkala 80.03 334 *e*P P 17 27 00.9 -4.2
MAK *e* 17 30 02.8
MAK *e*S **S** 17 37 03.3 -5.1
MAK *e*SSS SSS 17 45 42.7
MAK pmax pmax
comp=Z,188nm,1.0s
SRO Srobarova 80.03 355 *e*P P 17 27 07.0 +2.0
SRO pmax pmax
comp=Z,84nm,1.3s
SRO Srobarova 80.03 355 *e*P P 17 27 07.0 +2.0
SRO2 Moca 80.08 355 *e*P P 17 27 06.0 +0.7
SRO2 pmax pmax
comp=Z,53nm,1.0s
SRO2 Moca 80.08 355 *e*P P 17 27 06.0 +0.7
MOA Molln 80.15 358 *i*P P 17 27 06.9 +1.2
comp=Z,6.4nm,0.7s,SNR=16
LTVH Ltavrtes, Hu 80.23 353 P P 17 27 07.0 +0.9
SOP Sopron 80.24 356 P P 17 27 07.4 +1.3
GROC Groznyy 80.26 335 *e*P P 17 27 05.3 -1.0
GROC *e* 17 27 11.9
GROC *e*S **S** 17 37 10.4 -0.5
GROC pmax pmax
comp=Z,61nm,1.3s
RJOB Jochberg 80.28 359 *e*P P 17 27 07.5 +1.0
comp=Z,42nm,1.1s,baz=360,slow=5.7
ARCR ARCALIA 80.31 351 ⇑P P 17 27 07.9 +1.3
KIV Kislovodsk 80.32 338 ⇑P P 17 27 08.2 +1.4
KIV Kislovodsk 80.32 338 *e*P P 17 27 07.6 +0.8
KIV *e* 17 30 10.4
KIV *e*S **S** 17 37 14.1 +2.4
KIV *e*SS **SS** 17 42 25.9 +4.4
KIV pmax pmax
comp=Z,80nm,1.1s
KIV pmax pmax
comp=Z,168nm,4.1s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 80.32 338 P P 17 27 06.7 -0.1
KIV IAmb IAmb 17 27 10.9
comp=Z,85nm,1.1s
BIOA Bad Ischl, Aus 80.32 358 *e*P P 17 27 08.0 +1.4
comp=Z,17nm,0.9s
BUD Budapest 80.33 355 P P 17 27 08.4 +1.8
UBR Ueberruh 80.34 1 *e*P P 17 27 07.8 +1.0
comp=Z,94nm,1.4s,baz=360,slow=5.7
VASR Vaslui 80.38 349 ⇑P P 17 27 08.0 +1.1
EGYH Egyhazaskeszo 80.48 356 P P 17 27 09.1 +1.6
KBZ Khabaz 80.48 337 P P 17 27 08.8 +1.3
comp=Z,36nm,0.9s,baz=17,slow=3.2,SNR=36
KBZ Khabaz 80.48 337*c* *i*P P 17 27 08.7 +1.3
KBZ pmax pmax
comp=Z,44nm,0.9s
RETA Reutte 80.54 0 *i*P P 17 27 09.2 +1.3
comp=Z,16nm,0.8s,SNR=13
TESR Tescani 80.64 349 ⇓P P 17 27 08.6 +0.2
ANN Anapa 80.64 341 *e*P P 17 27 07.6 -0.7
ANN *e* 17 27 13.5
ANN *e*S S 17 37 28.0 +13
ANN pmax pmax
comp=Z,86nm,1.1s
ANN pmax pmax
comp=Z,963nm,3.5s
MOTA Moosalm 80.69 0 *i*P P 17 27 10.0 +1.2
comp=Z,19nm,0.8s,SNR=22
WATA Walderalm 80.69 360 *i*P P 17 27 10.0 +1.2
comp=Z,17nm,0.7s,SNR=23
ARSA Arzberg 80.71 357 *i*P P 17 27 10.3 +1.6
comp=Z,12nm,0.7s,SNR=24
MPLH Magyarpolny 80.71 356 P P 17 27 10.0 +1.3
DAVA Damuels 80.74 1 *i*P P 17 27 10.8 +1.7
comp=Z,3.9nm,0.4s,SNR=6.3
CJR Cluj-Napoca 80.75 351 ⇑P P 17 27 09.8 +0.8
CJR Cluj-Napoca 80.75 351 ⇑P P 17 27 09.8 +0.8
DRGR 80.75 352 ⇑P P 17 27 09.7 +0.6
DRGR 80.75 352 ⇑P P 17 27 09.7 +0.6
WTTA Wattenberg 80.77 360 *i*P P 17 27 10.7 +1.4
comp=Z,24nm,0.7s,SNR=21
SQTA Sankt Quirin 80.81 0 *i*P P 17 27 10.7 +1.3
comp=Z,29nm,0.8s,SNR=23
KBA Koelnbreinsper 80.94 359 *i*P P 17 27 12.0 +1.8
comp=Z,41nm,0.7s,SNR=63
TIH Tihany 80.97 355 P P 17 27 08.8 -1.3
NEY Neytrino 80.98 337*de*P P 17 27 11.9 +1.5
NEY pmax pmax
comp=Z,3.0nm,1.0s
FETA Feichten 81.01 0 *i*P P 17 27 12.0 +1.4
comp=Z,25nm,0.8s,SNR=25
SIM Simferopol' 81.10 344*c* *i*P P 17 27 11.6 +0.8
SIM 17 27 17.9
SIM pmax pmax
comp=Z,79nm,0.9s
VLDR Vladesti 81.12 348 ⇓P P 17 27 11.8 +0.9
ZEI Tsey 81.13 336 *e*P P 17 27 07.8 -3.5
ZEI pmax pmax
comp=Z,62nm,1.4s
MTSU Mount Surprise 81.15 225 P P 17 27 12.4 +1.1
TTSI Tana Toraja 81.18 253 P P 17 27 10.4 -1.2
comp=Z,976nmcomp=Z,98nm,1.2s
GEYT Alibeck 81.28 324 P P 17 27 12.7 +0.8
comp=Z,74nm,1.0s,baz=276,slow=2.8,SNR=48
GEYT LR LR 18 07 33.5
comp=Z,4µm,18.1s,baz=56,slow=39
GEYT Alibeck 81.28 324 P P 17 27 12.3 +0.3
GYA0 ALIBECK ARRAY 81.28 324 P P 17 27 11.4 -0.5
GYA0B ALIBECK ARRAY 81.28 324 P P 17 27 12.7 +0.8
ABTA Abfaltersbach 81.28 359 *i*P P 17 27 13.0 +1.1
comp=Z,36nm,1.3s,SNR=34
SOKA Soboth 81.30 357 *i*P P 17 27 13.4 +1.4
comp=Z,37nm,0.9s,SNR=53
DOPR Dopca 81.31 350 ⇑P P 17 27 13.3 +1.3
SOC Sochi 81.34 340*c* *i*P P 17 27 11.7 -0.4
SOC *e* 17 30 16.8
SOC *e*PPP PPP 17 32 05.4
SOC *e*S **S** 17 37 23.4 +1.3
SOC *e*SS **SS** 17 42 42.9 +6.4
SOC *e*SSS SSS 17 46 09.4
SOC pmax pmax
comp=Z,59nm,0.9s
PERS Pernice 81.34 357 *i*P P 17 27 13.5 +1.4
COVR Voineasa-Covas 81.35 349 ⇑P P 17 27 13.4 +1.2
SIRR Siria 81.36 353 ⇓P P 17 27 13.1 +0.9
MYKA Terra Mystica 81.38 358 *i*P P 17 27 13.8 +1.4
comp=Z,10nm,0.8s,SNR=9.9
ONI Oni 81.42 337 P P 17 27 14.0 +1.3
ONI pmax pmax
comp=Z,21nm,0.9s
ONI Oni 81.42 337 P P 17 27 14.0 +1.3
BEHE Becsehely 81.45 356 *e*P P 17 27 14.1 +1.5
IZVR Izvoarele 81.46 348 ⇑P P 17 27 13.7 +1.0
OBKA Obir 81.48 358 *i*P P 17 27 14.3 +1.4
comp=Z,20nm,0.7s,SNR=13

KOGS Kog 81.49 357 *i*P P 17 27 14.0 +1.1
GROS Grobnik 81.50 357 *i*P P 17 27 14.0 +0.9
TUE Stuetta 81.54 1 P P 17 27 14.6 +1.2
BBSI Bau Bau 81.56 250 P P 17 27 14.4 +0.8
comp=Z,89nmcomp=Z,6.7nm,1.1s
SENIN Lac Senin/Sane 81.61 3 P P 17 27 12.4 -1.4
RAO Raoul Island 81.65 188 LR LR 18 03 42.7
comp=Z,1µm,18.1s,baz=26,slow=36
TLCR 81.68 348 ⇑P P 17 27 15.0 +1.1
TLCR 81.68 348 ⇑P P 17 27 15.0 +1.1
MLR Muntele Rosu 81.72 350 ⇓P P 17 27 26.4 +12
MLR Muntele Rosu 81.72 350 LR LR 18 06 44.6
comp=Z,2µm,19.8s,baz=26,slow=38
MLR Muntele Rosu 81.72 350 ⇓P P 17 27 26.4 +12
KOVH Kovagotottos 81.77 355 P P 17 27 14.1 -0.2
ROBS Robic 81.77 358 *i*P P 17 27 14.7 +0.4
CFR Carcaliu 81.77 348 ⇑P P 17 27 15.0 +0.6
CFR Carcaliu 81.77 348 ⇑P P 17 27 15.0 +0.6
LJU Ljubljana 81.95 358 *e*P P 17 27 16.9 +1.6
SPSI Sidrap Palu 81.95 253 P P 17 27 13.4 -2.3
comp=Z,691nmcomp=Z,50nm,1.2s
CTI Castel Tesino 81.98 360 P P 17 27 15.5 -0.1
CTI pmax pmax
comp=Z,56nm,1.1s
CTI Castel Tesino 81.98 360 P P 17 27 15.5 -0.1
CTI IAmb IAmb 17 27 41.2
comp=Z,56nm,1.1s
ARR Arges 81.99 351 ⇑P P 17 27 16.4 +0.8
BZS Buzias 82.01 353 ⇑P P 17 27 15.9 +0.3
BZS Buzias 82.01 353 ⇑P P 17 27 15.9 +0.3
CTA Charters Tower 82.07 222 P P 17 27 14.0 -2.1
comp=Z,15nm,1.1s,baz=3.6,slow=8.3,SNR=6.7
CTA LR LR 18 01 03.5
comp=Z,531nm,19.2s,baz=19,slow=34
CTA Charters Tower 82.07 222 P P 17 27 14.0 -2.1
CTA Charters Tower 82.07 222 P P 17 27 18.7 +2.6
KDU Kakadu 82.08 237 P P 17 27 14.6 -1.6
BNSI Bone 82.11 252 P P 17 27 17.1 +0.6
comp=Z,958nmcomp=Z,63nm,1.2s
ZAG Zagreb 82.12 357 *e*P P 17 27 19.2 +3.0
GZR Gura Zlata 82.14 352 ⇑P P 17 27 16.9 +0.5
GZR Gura Zlata 82.14 352 ⇑P P 17 27 16.9 +0.5
CRES Cresnjev 82.14 357 *e*P P 17 27 15.9 -0.4
CEY Cerknica 82.25 358 *e*P P 17 27 17.4 +0.4
SALO Salr 82.41 1 P P 17 27 17.8 0.0
MTKI Muara Teweh, K 82.43 259 P P 17 27 16.5 -1.8
comp=Z,2µmcomp=Z,65nm,1.1s
TIRR Tirgusor 82.44 348 ⇓P P 17 27 18.9 +1.0
TIRR Tirgusor 82.44 348 ⇓P P 17 27 18.9 +1.0
TIRR Tirgusor 82.44 348 P P 17 27 18.0 +0.1
SKDS Skudanscina 82.45 358 *e*P P 17 27 17.7 -0.3
SSB Saint Sauveur 82.58 5 P P 17 27 19.1 +0.4
SSB pmax pmax
comp=Z,37nm,1.0s
SSB Saint Sauveur 82.58 5 P P 17 27 19.1 +0.4
SSB IAmb IAmb 17 27 34.6
comp=Z,37nm,1.0s
FRGS Fruska Gora 82.59 354 ⇑P P 17 27 18.0 -0.7
FRGS Fruska Gora 82.59 354 *e*P P 17 27 18.0 -0.7
TEOL Teolo 82.67 360 P P 17 27 19.8 +0.7
KAPI Kappang 82.81 252*d* *i*P P 17 27 19.5 -0.6
BKSI Bulukumba 82.84 252 P P 17 27 18.3 -2.0
comp=Z,1µmcomp=Z,105nm,1.2s
HRA Herat 82.84 320 P P 17 27 20.5 +0.1
HRA IAmb IAmb 17 27 23.2
comp=Z,46nm,1.1s
BNI Bardonecchia 82.90 3 P P 17 27 21.0 +0.5
BNI pmax pmax
comp=Z,75nm,1.0s
BNI Bardonecchia 82.90 3 P P 17 27 21.0 +0.5
MTN Manton Dam 82.91 238 P P 17 27 20.1 -0.4
MTN IAmb IAmb 17 27 27.1
comp=Z,26nm,0.9s
MTN Manton Dam 82.91 238 P P 17 27 22.3 +1.7
BLY Banja Luka 83.15 356 *e*P P 17 27 23.6 +2.0
TEKS Tekeris 83.22 354 *e*P P 17 27 18.9 -3.1
PSN Preselentsi 83.24 348 *i*P P 17 27 23.0 +1.0
PRMA PARMA 83.26 1 P P 17 27 22.7 +0.5
BSSI Bau Bau, Buton 83.29 251 P P 17 27 20.1 -2.5
comp=Z,749nmcomp=Z,25nm,1.2s
SJG San Juan 83.29 69 LR LR 18 07 15.5
comp=Z,1µm,18.1s,baz=313,slow=38
SJG San Juan 83.29 69 IAms_20 IAms_20 18 06 36.7
comp=Z,2µm,20.0s
SJG San Juan 83.29 69 *e*P P 17 27 22.3 -0.3
KSM Kuching 83.31 264 P P 17 27 21.9 -0.9
KSM Kuching 83.31 264 P P 17 27 24.7 +1.9
KARS Kars 83.37 336 P P 17 27 24.0 +1.0
KARS pmax pmax
comp=Z,80nm,0.9s
KARS Kars 83.37 336 P P 17 27 24.0 +1.0
RK1H Rockhampton Ha 83.39 217 P P 17 27 25.4 +2.6
GNI Garni 83.39 335 LR LR 18 12 43.6
comp=Z,1µm,18.3s,baz=17,slow=42
GNI Garni 83.39 335*c* *i*P P 17 27 24.3 +1.1
GNI pmax pmax
comp=Z,22nm,1.2s
GNI Garni 83.39 335 P P 17 27 23.1 0.0
GNI Garni 83.39 335 IAms_20 IAms_20 18 10 34.9
comp=Z,1µm,20.0s
MGRS Mrkonjic Grad 83.48 356 *e*P P 17 27 30.1 +6.7
DIVS Divibare 83.64 354 P P 17 27 22.3 -1.9
DIVS IAmb IAmb 17 27 39.2
comp=Z,35nm,1.1s
DIVS IAMS_20 IAMS_20 18 07 16.8
comp=Z,1µm,20.0s
DIVS Divibare 83.64 354 *e*P P 17 27 24.5 +0.3
ZCCA Zocca 83.68 0 P P 17 27 24.4 0.0
STKI Shntang 83.70 262 P P 17 27 23.7 -1.1
comp=Z,2µmcomp=Z,64nm,1.3s
PRD Provadia 83.81 348 *i*P P 17 27 26.1 +1.1
BBLS Lazići 83.91 354 *e*P P 17 27 26.7 +1.1
SZH Strazhica 83.92 349 *i*P P 17 27 25.3 -0.3
RUDO Rudo 84.16 354 *e*P P 17 27 26.7 -0.1
SRIT Nakonsritamara 84.28 277 P P 17 27 28.2 +0.5
MMRI Maumere 84.30 248 P P 17 27 26.2 -1.6
MMRI IAmb IAmb 17 27 45.1
comp=Z,52nm,1.2s
MMRI Maumere 84.30 248 P P 17 27 25.7 -2.1
comp=Z,1µmcomp=Z,43nm,1.8s
MMRI Maumere 84.30 248 P P 17 27 26.6 -1.2
SJCC San Jacinto, C 84.41 81 *e*P P 17 27 41.5 +13
OSSC Osservatorio P 84.51 0 P P 17 27 28.3 -0.2
PGAV Gavieira, Arco 84.55 15 *e*LR LR 18 07 35.7
comp=Z,2µm,18.0s
KOPT Kop Dagi 84.56 338 P P 17 27 30.0 +0.7
JMB Yambol 84.64 349 *i*P P 17 27 29.7 +0.5
MURB Monte Urbino 84.76 359 P P 17 27 28.7 -1.2
BATI Baumata 84.78 246 P P 17 27 28.4 -1.8
comp=Z,742nmcomp=Z,44nm,1.0s
PGB Panagyurishte 84.82 350 *i*P P 17 27 30.3 +0.1
VTS Vitosha 84.85 351 P P 17 27 29.8 -0.7
VTS pmax pmax
comp=Z,16nm,0.9s
VTS Vitosha 84.85 351 P P 17 27 29.8 -0.7
VTS Vitosha 84.85 351 *i*P P 17 27 30.3 -0.2
URIC Uribia, Colomb 84.92 78 *e*P P 17 27 24.3 -6.7
BRY Bratogost 84.92 355 *e*P P 17 27 30.7 -0.1
PBRG Braganca 84.93 13 *e*P P 17 27 32.7 +1.9
comp=Z,59nm,1.6s
ILGA Ilgaz 84.96 343 P P 17 27 31.5 +0.4
PTAC Punta Ardita, 84.97 85 *e*P P 17 27 37.7 +6.4
EIDS Eidsvold 84.98 216 P P 17 27 33.9 +3.0
MOTC Monteria, Cord 84.99 82 *e*P P 17 27 36.7 +5.3
TOKA Tokat 85.14 341 P P 17 27 32.9 +1.1
TOKA IAmb IAmb 17 27 48.2
comp=Z,49nm,1.1s
NRCA Norcia 85.18 359 P P 17 27 32.6 +0.6
PLD Plovdiv 85.21 350 *i*P P 17 27 32.6 +0.5
EDRB Edirne 85.23 348 P P 17 27 32.8 +0.6
PDG Podgorica 85.35 354 ⇓P P 17 27 33.3 +0.5
PDG Podgorica 85.35 354 P P 17 27 31.6 -1.1
PDG IAmb IAmb 17 27 33.6
comp=Z,46nm,1.0s
PDG Podgorica 85.35 354 *e*P P 17 27 32.5 -0.3
QIS Mount Isa 85.36 228 P P 17 27 34.9 +1.9
HCY Herceg Novi 85.38 355 *e*P P 17 27 32.4 -0.5
LATE Laterza 85.42 360 P P 17 27 33.1 0.0
MVO Moncorvo 85.52 14 *e*P P 17 27 35.5 +1.7
comp=Z,76nm,1.9s
MVO Moncorvo 85.52 14 *e*LR LR 18 08 23.8
comp=Z,2µm,18.0s
GURO Guroymak-BITLI 85.59 336 P P 17 27 34.9 +0.7

GURO IAmb IAmb 17 27 41.9
comp=Z,33nm,1.2s
DRME Dracevica, Mon 85.59 354 *e*P P 17 27 34.2 +0.2
KKB Krupnik 85.61 351 *i*P P 17 27 34.8 +0.7
AQU L'Aquila 85.66 358 P P 17 27 35.3 +0.9
AQU pmax pmax
comp=Z,81nm,0.8s
AQU MLR MLR
comp=Z,1µm,20.0s
AQU L'Aquila 85.66 358 P P 17 27 35.2 +0.9
AQU IAMs_20 IAMs_20 18 10 43.2
comp=Z,1µm,20.0s
AQU L'Aquila 85.66 358 *e*P P 17 27 35.5 +1.1
ISK Istanbul-Kandi 85.69 347 P P 17 27 35.1 +0.6
PBKI Pangkalan Bun 85.78 260 P P 17 27 34.7 -0.6
comp=Z,2µmcomp=Z,176nm,1.1s
MMB Musomiste 85.82 351 *i*P P 17 27 36.1 +0.9
PVIS Viseu 85.83 14 *e*P P 17 27 37.8 +2.5
comp=Z,108nm,1.6s
UREC San Jos de Ur 85.88 83 *e*P P 17 27 34.8 -1.0
PHP Peshkopia 86.01 353 P P 17 27 36.1 -0.1
NVR Nevrokopi 86.04 351 P P 17 27 37.0 +0.7
RDO Rodhopi 86.06 349 P P 17 27 37.5 +1.2
SGRT San Giovanni R 86.19 357 P P 17 27 37.2 +0.1
SGRT IAmb IAmb 17 27 47.6
comp=Z,49nm,1.1s
KULM Kulim 86.23 274 P P 17 27 37.5 0.0
KULM IAmb IAmb 17 27 54.0
comp=Z,37nm,1.0s
KULM IAMs_20 IAMs_20 18 11 54.5
comp=Z,964nm,21.0s
ALN Alexandroupoli 86.25 349 P P 17 27 37.7 +0.4
ALN Alexandroupoli 86.25 349 P P 17 27 37.5 +0.2
ALN pmax pmax
comp=Z,47nm,1.0s
ALN Alexandroupoli 86.25 349 P P 17 27 37.5 +0.2
ALN IAmb IAmb 17 27 52.5
comp=Z,47nm,1.0s
BR131 Keskin Array S 86.26 343*ce*P P 17 27 38.1 +0.5
BR131 Keskin Array S 86.26 343 P P 17 27 38.0 +0.5
BR131 IAmb IAmb 17 27 42.0
comp=Z,54nm,1.1s
BRTR Keskin Array B 86.26 343 P P 17 27 38.0 +0.5
comp=Z,30nm,1.1s,baz=19,slow=2.4,SNR=24
BRTR Keskin Array B 86.26 343 P P 17 27 37.8 +0.2
BRTR Keskin Array B 86.26 343 P P 17 27 37.8 +0.2
SRS Serrai 86.30 351 P P 17 27 37.9 +0.3
KNT Kendrikon 86.32 351 P P 17 27 38.7 +1.0
KAVA Kavala 86.32 350 P P 17 27 38.3 +0.7
TIR Tirane 86.38 354 IAMs_20 IAMs_20 18 09 21.5
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 86.38 15 *e*P P 17 27 38.9 +0.9
comp=Z,154nm,1.8s
ZARC Zaragoza, Cauc 86.49 82 *e*P P 17 27 38.6 -0.2
BASI Baing, Sumba 86.53 249 P P 17 27 38.2 -0.7
comp=Z,1µmcomp=Z,119nm,1.1s
GRG Griva 86.57 352 P P 17 27 39.8 +0.9
SOH Sokhos 86.61 351 P P 17 27 39.4 +0.2
IPM Ipoh 86.63 273 P P 17 27 38.8 -0.7
IPM IAmb IAmb 17 27 56.3
comp=Z,41nm,0.9s
IPM IAMs_20 IAMs_20 18 05 22.4
comp=Z,962nm,20.0s
BORA Eskisehir 86.64 345 P P 17 27 39.7 +0.3
BNN Bunyan 86.69 341 P P 17 27 39.0 -0.7
THAS Thassos island 86.69 350 P P 17 27 39.5 +0.1
SMTH Samothraki Isl 86.73 349 P P 17 27 39.9 +0.2
WBSI Waikabubak, Su 86.74 250 P P 17 27 35.5 -4.5
comp=Z,1µmcomp=Z,125nm,1.3s
PCBR Castelo Branco 86.75 14 *e*P P 17 27 44.2 +4.4
comp=Z,52nm,1.9s
FNA Florina 86.83 352 P P 17 27 40.1 -0.1
FNA Florina 86.83 352 P P 17 27 39.2 -1.0
FNA pmax pmax
comp=Z,17nm,0.7s
FNA Florina 86.83 352 P P 17 27 39.2 -1.0
FNA IAmb IAmb 17 27 54.7
comp=Z,17nm,0.7s
RMQ Roma 86.85 217 P P 17 27 39.8 -0.4
PLAI Plampang 87.02 252 P P 17 27 37.7 -3.6
comp=Z,1µmcomp=Z,71nm,1.4s
PLAI Plampang 87.02 252 P P 17 27 41.6 +0.3
OUR Ouranopolis 87.03 350 P P 17 27 41.5 +0.4
MARD Mardin 87.07 337 P P 17 27 41.3 -0.2
HELC Santa Helena 87.11 84 *e*P P 17 27 41.5 -0.8
KTI Kastanea 87.16 352 P P 17 27 42.6 +0.7
PMRV Marv??o 87.17 14 *e*LR LR 18 06 58.7
comp=Z,1µm,18.0s
MATE Matera 87.26 356 ⇑P P 17 27 43.0 +0.8
KZN Kozani 87.27 352 P P 17 27 42.4 0.0
EZN Ezine 87.27 348 P P 17 27 42.7 +0.4
WRAB Tennant Creek 87.28 232 ⇑*e*P P 17 27 40.6 -1.8
WRAB pmax pmax
comp=Z,22nm,1.4s
WRAB Tennant Creek 87.28 232 P P 17 27 40.0 -2.5
WRAB IAmb IAmb 17 28 07.6
comp=Z,19nm,1.0s
WRAB Tennant Creek 87.28 232 IAMs_20 IAMs_20 18 03 13.0
comp=Z,1µm,20.0s
WRA Warramunga Arr 87.30 232 P P 17 27 40.1 -2.4
comp=Z,2.8nm,0.7s,baz=34,slow=5.8,SNR=39
WRA LR LR 18 02 41.4
comp=Z,805nm,21.4s,baz=18,slow=33
LIA Limnos Island 87.33 349 P P 17 27 42.7 +0.1
PMTG Montargil 87.39 15 *e*P P 17 27 43.2 +0.3
comp=Z,45nm,1.9s
ESBB Sonseca Array 87.40 12 P P 17 27 42.9 -0.2
ESBB IAmb IAmb 17 27 51.7
comp=Z,16nm,0.8s
ESDC Sonseca Array 87.40 12 P P 17 27 43.3 +0.3
comp=Z,7.6nm,0.7s,baz=345,slow=4.2,SNR=30
ESDC LR LR 18 09 43.8
comp=Z,2µm,18.9s,baz=342,slow=38
ESDC Sonseca Array 87.40 12 P P 17 27 42.4 -0.6
LIT Litokhoron 87.41 351 P P 17 27 42.8 -0.2
LIT Litokhoron 87.41 351 P P 17 27 42.9 -0.1
LIT pmax pmax
comp=Z,33nm,1.0s
LIT Litokhoron 87.41 351 P P 17 27 42.9 -0.1
LIT IAmb IAmb 17 27 57.5
comp=Z,33nm,1.0s
PAIG Paliouri 87.47 350 P P 17 27 43.1 -0.1
PAB San Pablo 87.48 12 ⇑P P 17 27 44.4 +1.0
PTBC PUERTO BERRIO, 87.49 83 *e*P P 17 27 43.5 -0.3
KPRO Kipourio 87.65 352 P P 17 27 44.5 +0.3
PESTR Estremoz 87.69 15 *e*P P 17 27 49.6 +5.3
comp=Z,29nm,1.0s
PRK Paraskevi 87.85 348 P P 17 27 46.5 +1.4
PAMC Pamplona, Colo 87.92 81 *e*P P 17 27 44.4 -2.0
SIGR SIGRI 87.93 349 P P 17 27 45.7 +0.2
EVO Evora 87.95 15 *e*P P 17 27 45.9 +0.3
comp=Z,32nm,1.6s
SDV Santo Domingo 87.95 78 LR LR 18 08 36.0
comp=Z,1µm,20.2s,baz=354,slow=37
SDV Santo Domingo 87.95 78 IAMs_20 IAMs_20 18 09 38.3
comp=Z,1µm,21.0s
SDV Santo Domingo 87.95 78 *e*P P 17 27 45.4 -0.8
GUY2C Guyana, Caldas 87.97 84 *e*P P 17 27 38.6 -7.9
THL Klokotos Trika 87.98 352 P P 17 27 45.0 -0.7
NORC Norcasia 88.00 84 *e*P P 17 27 44.4 -1.8
KEK Kerkira 88.01 353 P P 17 27 45.3 -0.6
NEO Neokhori 88.13 351 P P 17 27 45.9 -0.6
BARC Barichara 88.22 82 *e*P P 17 27 49.2 +1.7
KULA Kula-Manisa 88.25 346 P P 17 27 47.6 +0.5
MANT Manisa 88.29 347 P P 17 27 46.0 -1.5
YOTC Yotoco, Valle 88.34 86 *e*P P 17 27 44.4 -3.5
SPBC San Pablo de B 88.42 83 *e*P P 17 27 48.2 0.0
PBAR Barrancos 88.45 14 *e*P P 17 27 47.6 -0.3
comp=Z,81nm,1.5s
PBEJ Beja 88.47 15 *e*P P 17 27 47.4 -0.6
comp=Z,25nm,1.5s
AGG Agios Georgios 88.50 351 P P 17 27 48.0 -0.2
AGG Agios Georgios 88.50 351 P P 17 27 47.2 -1.0
AGG pmax pmax
comp=Z,19nm,0.9s
AGG Agios Georgios 88.50 351 P P 17 27 47.2 -1.0
AGG IAmb IAmb 17 27 53.5
comp=Z,18nm,0.9s
VSL Villasalto 88.52 1 IAMs_20 IAMs_20 18 14 50.8
comp=Z,1µm,19.0s
ANIL Santa Ana 88.52 85 *e*P P 17 27 52.1 +3.1
ISP Isparta 88.64 345 IAMs_20 IAMs_20 18 15 22.0
comp=Z,1µm,19.0s
EVR Evrytania 88.65 352 P P 17 27 48.9 -0.1

QLP	Quilpie	88.69	221	P		P		17 27 48.2	-0.8
KYMI	Kymi, Euboea I	88.70	350	P		P		17 27 48.8	-0.4
TIP	Timpagrande	88.72	356	P		P		17 27 48.9	-0.4
TIP				IAmb		IAmb		17 28 00.1	
	comp=Z,37nm,1.5s								
TIP				IAMs_20		IAMs_20		18 14 44.3	
	comp=Z,2µm,19.0s								
CHOS	Chios island	88.72	348	P		P		17 27 50.5	+1.2
ATAL	Atalanti	88.76	351	P		P		17 27 48.4	-1.0
LKR	Lokris	88.80	351	P		P		17 27 48.6	-1.0
PCVE	Castro Verde	88.82	15	eP		P		17 27 54.6	+4.9
	comp=Z,55nm,2.2s								
RUSC	La Rusia	88.83	82	eP		P		17 27 51.1	+0.5
LKD2	Lefkada island	88.87	353	P		P		17 27 49.2	-0.8
ROSC	El Rosal	88.90	84	LR		LR		18 09 06.9	
	comp=Z,571nm,22.0s,baz=20,slow=37								
ROSC	El Rosal	88.90	84	eP		P		17 27 38.6	-12
TSI	Tuntungan	88.91	274	P		P		17 27 49.8	-0.6
	comp=Z,138nm,0.9s								
ANX	Ano Chora	88.96	352	P		P		17 27 50.9	+0.4
ORTC	Ortega, Tolima	89.07	85	eP		P		17 27 49.2	-2.0
PVAQ	Vaqueiros	89.10	15	eP		P		17 27 55.9	+4.9
	comp=Z,46nm,1.9s								
PVAQ	Vaqueiros	89.10	15	eLR		LR		18 08 26.5	
	comp=Z,2µm,18.0s								
EFP	Efpalio	89.12	352	P		P		17 27 51.8	+0.7
TAMC	Tame, Arauca	89.19	81	eP		P		17 27 54.0	+2.2
DION	Dionisos Attik	89.27	350	P		P		17 27 51.0	-0.9
LAKA	Lakka	89.30	352	P		P		17 27 51.9	-0.1
CHIC	Chingaza	89.43	83	eP		P		17 27 52.1	-1.3
KLV	Kalavryta, Ach	89.48	351	P		P		17 27 52.8	-0.1
HYBB	Hyderabad (bro	89.49	298	eP		P		17 27 52.2	-1.0
HYBB				IVmB_BB				17 27 54.5	
	comp=Z,453nm,1.0s								
HYBB				eSKSac		SKSac		17 38 21.6	-1.5
VLY	Voula,Athens	89.51	350	P		P		17 27 51.8	-1.1
DRO	Drossia	89.61	352	P		P		17 27 55.0	+1.5
YER	Yerkesik	89.66	346	P		P		17 27 54.5	+0.8
BODT	Bodrum	89.87	347	P		P		17 27 55.5	+0.9
BKNI	Bangkinang	89.88	270	P		P		17 27 54.9	-0.1
	comp=Z,80nm,0.4s								
TULM	Tulcn-Chalpat	90.02	89	eP		P		17 28 00.7	+4.5
FITZ	Fitzroy Crossi	90.17	240	P		P		17 27 54.6	-1.5
	comp=Z,3.1nm,0.6s,baz=15,slow=5.6,SNR=16								
FITZ				LR		LR		18 05 15.2	
	comp=Z,487nm,20.9s,baz=38,slow=34								
GARC	Garzon, Huila	90.27	86	eP		P		17 28 02.6	+5.5
ITM	Ithomi	90.36	352	P		P		17 27 55.9	-1.0
ITM				IAmb		IAmb		17 28 15.7	
	comp=Z,40nm,1.0s								
FLOC	Florencia	90.65	87	eP		P		17 27 59.8	+1.2
AS31	Alice Springs	90.68	231	P		P		17 27 56.0	-2.4
ASAR	Alice Springs	90.68	231	P		P		17 27 56.9	-1.6
	comp=Z,5.6nm,0.7s,baz=25,slow=4.4,SNR=112								
ASAR				LR		LR		18 03 35.9	
	comp=Z,873nm,21.8s,baz=35,slow=32								
ASAR	Alice Springs	90.68	231	P		P		17 27 56.5	-1.9
ASAR	Alice Springs	90.68	231	P		P		17 27 56.5	-1.9
PTGC	Puerto Gaitan,	90.74	82	eP		P		17 27 55.0	-4.0
PPI	Padang Panjang	90.89	270	P		P		17 27 59.2	-0.5
	comp=Z,302nmcomp=Z,14nm,0.8s								
URZ	Urewera	91.07	191	LR		LR		18 06 19.8	
	comp=Z,2µm,18.1s,baz=26,slow=34								
KPJI	Karang Pucung	91.09	259	P		P		17 28 01.8	+1.3
	comp=Z,43nm,1.1s								
INKA	Innaminka	91.14	223	P		P		17 28 00.1	-0.3
GSI	Gunungsitoli	91.24	274	P		P		17 28 00.9	-0.4
	comp=Z,49nm,1.9s								
GSI	Gunungsitoli	91.24	274	P		P		17 28 03.6	+2.3
	comp=Z,49nm,1.9s								
KLSI		91.56	264	P		P		17 28 04.1	+1.4
	comp=Z,11nm,1.4s								
MASI	Maura Aman, Be	91.87	267	P		P		17 28 05.6	+1.4
	comp=Z,2µmcomp=Z,157nm,1.1s								
KEST	Kesra	92.27	2	P		P		17 28 05.6	-0.4
	comp=Z,3.2nm,0.8s,baz=308,slow=2.0,SNR=4.8								
KEST	Kesra	92.27	2	P		P		17 28 04.1	-1.8
MMAI	Mount Meron Ar	92.41	340	LR		LR		18 14 55.6	
	comp=Z,417nm,18.5s,baz=193,slow=39								
CMSA	Cobar Meteorol	92.55	218	P		P		17 28 09.4	+2.6
OOD	Oodnadatta	93.39	227	P		P		17 28 10.3	-0.5
UOSS	Minazif	93.61	320	P		P		17 28 09.6	-2.6
UOSS				IAmb		IAmb		17 28 25.5	
	comp=Z,23nm,1.0s								
UOSS	Minazif	93.61	320	IAMs_20		IAMs_20		18 15 36.6	
	comp=Z,1µm,20.0s								
MDT	Midelt	94.07	13	LR		LR		18 14 21.9	
	comp=Z,525nm,18.7s,baz=355,slow=38								
WSAR	Wadi Sarin	94.15	317	LR		LR		18 16 25.8	
	comp=Z,2µm,18.7s,baz=60,slow=39								
STKA	Stephens Creek	94.43	221	P		P		17 28 14.0	-1.5
	comp=Z,5.2nm,1.1s,baz=355,slow=11,SNR=3.2								
STKA				LR		LR		18 05 49.4	
	comp=Z,660nm,21.6s,baz=28,slow=32								
STKA	Stephens Creek	94.43	221	eP		P		17 28 14.3	-1.2
PALK	Pallekele	96.57	291	IAMs_20		IAMs_20		18 14 54.6	
	comp=Z,1µm,20.0s								
RPZ	Rata Peaks	97.26	195	LR		LR		18 10 48.3	
	comp=Z,560nm,18.1s,baz=194,slow=34								
TBTG	Tabatinga, AM	98.69	86	eP		Pdif		17 28 40.6	+5.3
RAYN	Ar Rayn	98.75	328	P		P		17 28 34.5	-1.1
RAYN				pmax		pmax			
	comp=Z,28nm,1.1s								
RAYN				MLR		MLR			
	comp=Z,2µm,19.0s								
RAYN	Ar Rayn	98.75	328			P		17 28 34.5	-1.1
CZSB	Cruzeiro do Su	99.75	90	eP		Pdif		17 28 46.7	+6.6
HMDM	Hanimaadhoo	101.20	297	IAMs_20		IAMs_20		18 21 53.2	
	comp=Z,1µm,20.0s								
SOCY	Socotra	105.96	316	IAMs_20		IAMs_20		18 23 01.2	
	comp=Z,1µm,20.0s								
NWAO	Narrogin (SRO)	106.58	238	IAMs_20		IAMs_20		18 21 25.1	
	comp=Z,730nm,19.0s								
TORD	Torodi Ar. Bea	114.25	10	PKP		PKiKP		17 33 34.2	-1.4
	comp=Z,0.9nm,0.9s,baz=347,slow=1.3,SNR=3.1								
TORD				PP		PP		17 34 32.1	+2.3
	comp=Z,1.5nm,0.9s,baz=350,slow=6.4,SNR=5.0								
TORD				PKKPbc		PKKPbc		17 44 12.7	-0.8
	comp=Z,0.8nm,0.9s,baz=174,slow=2.0,SNR=3.6								
TORD				PKKPab		PKKPab		17 44 23.2	-1.3
	comp=Z,2.7nm,1.0s,baz=160,slow=3.7,SNR=5.9								
H03N2	Juan Fernandez	115.56	112	T		T		19 40 27.0	
	baz=323,slow=78,SNR=4.8								
H03N1	Juan Fernandez	115.57	112	T		T		19 40 34.1	
	baz=323,slow=78,SNR=7.7								
H03N3	Juan Fernandez	115.57	112	T		T		19 40 25.3	
	baz=323,slow=78,SNR=7.2								
DBIC	Dimbokro	119.62	18	PKP		PKPdf		17 33 44.6	-1.3
	comp=Z,4.2nm,1.0s,baz=270,slow=3.9,SNR=4.3								
RCBR	Riachuelo	119.64	57	IAMs_20		IAMs_20		18 24 13.9	
	comp=Z,1µm,19.0s								
MSEY	Mahe Island	120.14	307	IAMs_20		IAMs_20		18 34 02.9	
	comp=Z,772nm,20.0s								
NBPV	Pedro Velho	120.46	57	eP		PKiKP		17 33 51.8	+4.2
NBRF	Rio Formoso -	122.46	58	eP		PKiKP		17 33 55.6	+4.1
IPMB	Ipameri, GO	122.61	77	eP		PKiKP		17 33 57.0	+5.3
NBAN	Anadia - AL	122.69	60	eP		PKiKP		17 33 57.3	+5.3
CPUP	Villa Florida	123.32	91	eP		PKiKP		17 33 57.6	+4.8
PCMB	Pacaembu	123.54	82	eP		PKiKP		17 33 58.2	+4.7
GDU01	Guandu, BA	124.24	66	eP		PKiKP		17 34 00.2	+5.2
KMBO	Kilima Mbogo	124.52	328	PKP		PKiKP		17 33 56.1	+0.1
	comp=Z,4.7nm,1.0s,baz=352,slow=5.5,SNR=6.6								
KMBO	Kilima Mbogo	124.52	328	PKIKP		PKPdf		17 33 55.7	0.0
KMBO				MLR		MLR			
	comp=Z,1µm,20.0s								
KMBO	Kilima Mbogo	124.52	328	PKPdf		PKPdf		17 33 55.7	0.0
KMBO	Kilima Mbogo	124.52	328	IAMs_20		IAMs_20		18 34 37.7	
	comp=Z,1µm,20.0s								
BB19B	Bebedouro	124.78	79	eP		PKiKP		17 34 00.2	+4.2
PTGB	Pitanga	125.37	85	eP		PKiKP		17 34 01.6	+4.5
KIBK	Kibwezi	125.39	326	IAMs_20		IAMs_20		18 33 58.4	
	comp=Z,726nm,20.0s								
PLCA	Paso Flores	125.43	113	PKP		PKiKP		17 33 56.5	-0.1
	comp=Z,5.4nm,0.9s,baz=284,slow=4.2,SNR=6.9								
PLCA				PKPPKP		P'P'df		17 52 27.8	+1.3
	comp=Z,0.5nm,0.4s,baz=338,slow=6.2,SNR=2.9								
PLCA	Paso Flores	125.43	113	eP		PKiKP		17 34 01.0	+4.4
ITQB	Itaqui	126.15	93	eP		PKiKP		17 34 03.3	+5.0
RCLB	Rio Claro- Sao	126.41	80	eP		PKiKP		17 34 04.5	+5.3
GUA01	Guaratinga, BA	126.42	68	eP		PKiKP		17 34 03.0	+3.8
BSCB	Bom Sucesso	126.98	76	eP		PKiKP		17 34 05.0	+4.7
ITAB	Concordia	127.17	87	eP		PKiKP		17 34 05.3	+4.9
NAN01	Guarapari, ES	127.24	69	eP		PKiKP		17 34 04.8	+3.9
SJMB	Sao Joao De Ma	127.31	71	eP		PKiKP		17 34 06.2	+5.2
TIJ01	Guaruva-PR	127.68	83	eP		PKiKP		17 34 05.9	+4.2
RIB01	Linhares ES	128.25	71	eP		PKiKP		17 34 06.2	+3.4
VAS01	Vassouras-RJ	128.75	76	eP		PKiKP		17 34 08.2	+4.4
MAN01	Angra dos Reis	128.89	77	eP		PKiKP		17 34 08.8	+4.7
PLTB	Pedras Altas	129.47	93	eP		PKiKP		17 34 08.2	+3.3
TER01	Tubaro-SC	129.94	86	eP		PKiKP		17 34 11.1	+5.1
VNDA	Vanda	130.89	188	PKP		PKiKP		17 34 09.2	+2.8
	comp=Z,1.4nm,0.9s,baz=11,slow=2.6,SNR=4.7								
ABPO	Ambohimpanom	136.51	306	IAMs_20		IAMs_20		18 39 30.8	
	comp=Z,910nm,18.0s								
BLWY	Bulawayo	145.13	331	*i* P		PKPdf		17 34 33.7	+0.2
BLWY	Bulawayo	145.13	331	*i* P		PKPdf		17 34 33.7	+0.2
MATP	Matopo	145.44	331	*i* P		PKPab		17 34 34.4	+0.3
MATP	Matopo	145.44	331	*i* P		PKPab		17 34 34.4	+0.3
TSUM	Tsumeb	146.55	349			PKPdf		17 34 35.9	0.0
MSNA	Messina	146.75	327	*i* P		PKPbc		17 34 37.8	+0.1
MSNA	Messina	146.75	327	*i* P		PKPbc		17 34 37.8	+0.1
MOPA	Mopani	147.35	324	*i* P		PKPbc		17 34 39.6	+0.2
MOPA	Mopani	147.35	324	*i* P		PKPbc		17 34 39.6	+0.2
BELA	Belgrano 2	149.56	163			PKPdf		17 34 39.8	+0.8
LBTB	Lobatse	150.61	333	PKIKP		PKPbc		17 34 46.4	-1.4
LBTB	Lobatse	150.61	333			PKPbc		17 34 46.4	-1.4
LBTB	Lobatse	150.61	333	*i* P		PKPbc		17 34 45.2	-2.6
LBTB	Lobatse	150.61	333	*i* P		PKPbc		17 34 45.2	-2.6
MAW	Mawson	151.10	218	PKPbc		PKiKP		17 34 49.8	+1.8
	comp=Z,8.5nm,1.0s,baz=108,slow=5.3,SNR=2.4								
BOSA	Boshof	154.10	331	PKPbc		PKPbc		17 34 54.6	-0.9
	comp=Z,3.3nm,0.6s,baz=83,slow=1.5,SNR=11								
SYO	Syowa Base	158.63	208	*e*PKPdf		PKPdf		17 34 51.4	-0.4
SYO	Syowa Base	158.63	208	*e*pPKPdf		pPKPdf		17 34 56.0	+0.1

TAP 28 17:17:10.1, 24.24°N × 121.71°E, h20 km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
EHP	Heping Village	0.07	26	eS		Sb	17	17 16.9	+0.5
	baz=31								
ETL	Fush Village	0.11	222	eP		Pb	17	17 14.3	-0.5
	baz=222								
NACB	Ninganchiao	0.12	236	eP		Pb	17	17 14.1	-0.7
	baz=236								
NACB				eS		Sb	17	17 17.1	-0.9
	baz=236								
ENA	Nanau	0.19	10	eP		Pb	17	17 15.1	-0.2
	baz=12								
ENA				eS		Sb	17	17 18.7	-0.1
	baz=12								
TWD	Chiawan	0.19	212	eP		Pb	17	17 15.2	-0.2
	baz=210								
ETLH	Xiulin Townshi	0.21	260	eP		Pb	17	17 15.5	-0.1
	baz=260								
ETLH				eS		Sb	17	17 18.8	-0.6
	baz=260								
LATG	Datong	0.33	331	eP		Pb	17	17 17.6	+0.2
	baz=330								
NNSB	Datong	0.35	302	eP		Pb	17	17 17.8	+0.1
	baz=302								
NNSB				eS		Sb	17	17 23.0	+0.2
	baz=302								
NNS	Nan Shan	0.36	303	eP		Pb	17	17 18.1	+0.2
	baz=303								
NNS				eS		Sb	17	17 23.4	+0.3
	baz=303								
NDT	Datong Townshi	0.40	334	eP		Pb	17	17 18.9	+0.4
	baz=333								
NDT				eS		Sb	17	17 24.8	+0.7
	baz=333								
ENTT	Nioudou	0.41	342	eP		Pb	17	17 19.2	+0.5
	baz=342								
ENTT				eS		Sb	17	17 25.1	+0.5
	baz=342								
WHF	Hehuan Shan	0.41	256	eP		Pb	17	17 19.1	+0.2
	baz=256								
WHF				eS		Sb	17	17 25.1	+0.1
	baz=256								
FUSS	Fushou	0.42	271	eP		Pb	17	17 18.1	-0.9
	baz=271								
FUSS				eS		Sb	17	17 23.6	-1.4
	baz=271								
YHNB	Yeheng	0.52	325	eP		Pb	17	17 21.0	+0.4
	baz=324								
YHNB				eS		Sb	17	17 27.8	0.0
	baz=324								

JMA 28 17:17:35.0±0.2, 24.90N × 123.40E, h25 km, M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
YOJ	Yonaguni jima	0.56	219	P		Pb	17	17 45.9	-0.4
YOJ				S		Sb	17	17 53.2	-0.7
JYNG	Yonagunijimaku	0.61	223	P		Pb	17	17 46.8	-0.2
JYNG				eS		Sb	17	17 55.0	-0.2
IRIF	Iriomote-Funau	0.64	152	P		Pb	17	17 47.3	-0.2
IRIF				S		Sb	17	17 56.0	0.0
JIJ	Ishigaki jima	0.86	128	P		Pb	17	17 50.4	-0.9
JIJ				S		Sb	17	18 01.4	-1.0
JKRS	Kuro-shima	0.86	140	P		Pb	17	17 51.2	-0.1
JKRS				eS		Sb	17	18 02.3	-0.1
JISG	Ishigakijimahi	0.89	110	P		Pb	17	17 51.2	-0.5
JISG				S		Sb	17	18 02.7	-0.4
HATJ	Hateruma jima	0.92	156	P		Pb	17	17 51.9	-0.4
HATJ				eS		Sb	17	18 03.7	-0.3

*SOF **28** 17:23:43.1, 40.68N × 27.64E, h2 km, MD3.8*
*ISK **28** 17:23:46.7, 40.73N × 27.54E, h16 km, ML3.7/37*
*DDA **28** 17:23:46.8±0.0, 40.71N × 27.49E, h19 km±1 km, MW3.6*
*ATH **28** 17:23:48.2, 40.70N × 27.39E, h32 km±7 km, ML3.4/4, Error ellipse: s-maj=9.9km s-min=2.3km az=62.0*
*THE **28** 17:23:49.4, 40.74N × 27.53E, h31 km±27 km, ML3.4/6, Error ellipse: s-maj=27.4km s-min=0.7km az=347.0*

ISC 28 17:23:46.8±0.8, 40.72N±0.01 × 27.53E±0.01, h17 km±6 km, n130, σ0.85/173, 11C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
GZKV	Gazikoy-Tekird	0.16	280	PG		Pb	17	23 51.5	+0.3
MAR3	Marsite Statio	0.18	277	PG		Pb	17	23 51.8	+0.2
MAR3				SG		Sg	17	23 54.9	+0.4
MAR6	Marsite Statio	0.20	265	PG		Pb	17	23 52.3	+0.3
MAR6				SG		Sg	17	23 55.8	+0.8
TKR	Tekirdag	0.27	1	PG		Pb	17	23 53.1	0.0
TKR				SG		Sg	17	23 57.0	+0.2
SART	Tekirdag	0.27	263	P		Pb	17	23 53.0	-0.2
SART				S		Sb	17	23 57.0	-0.5
SART				*i* AML		AML	17	23 57.0	
	comp=N,1µm,0.2s								
SART				*i* AML		AML	17	23 57.0	
	comp=E,2µm,0.2s								
RKY	Sarkoy-Tekirda	0.27	263	PG		Pb	17	23 53.1	-0.1
RKY				SG		Sb	17	23 57.1	-0.4
KRBG	Karabiga-Canak	0.37	209	PG		Pb	17	23 55.2	+0.3
KNL	Balıkesir	0.45	181	P		Pb	17	23 56.8	+0.6
KNL				*i* AML		AML	17	24 03.0	
	comp=E,5µm,0.4s								
KNL				S		Sb	17	24 03.4	+0.8
KNL				*i* AML		AML	17	24 04.0	
	comp=N,4µm,0.6s								
EDC	Edincik	0.45	146	PG		Pb	17	23 56.4	+0.2
EDC				SG		Sb	17	24 03.1	+0.4
KESN	Edirne-Kesan	0.66	279	P		Pb	17	23 59.9	0.0
KESN				S		Sg	17	24 08.3	-0.3
KESN				*i* AML		AML	17	24 09.0	
	comp=N,4µm,0.2s								
KESN				*i* AML		AML	17	24 09.0	
	comp=E,6µm,0.2s								
GONE	Gonen-Balikesi	0.69	170	PG		Pb	17	24 00.8	+0.6
SLVT	Silivri	0.72	45	PG		Pb	17	24 01.1	+0.2
ERIK	Erikli-Kesan	0.78	267	PG		Pb	17	24 01.9	+0.1
UKOP	Uzunkopru-Edir	0.79	301	PG		Pb	17	24 02.8	+0.7
ELBA	Catalca	0.80	58	P		Pb	17	24 02.1	-0.1
ELBA				S		Sg	17	24 12.4	-0.7
ELBA				*i* AML		AML	17	24 17.0	
	comp=N,536nm,0.2s								
GELI	Tayfur-Gelibol	0.87	248	PG		Pb	17	24 03.2	-0.1
VIZE	Kirklareli, Vi	0.89	15	P		Pb	17	24 03.8	+0.1
VIZE				S		Sg	17	24 15.0	-0.8
VIZE				*i* AML		AML	17	24 17.0	
	comp=E,449nm,0.2s								
VIZE				*i* AML		AML	17	24 18.0	
	comp=N,666nm,0.2s								
CTKS	Kestanelik-??a	0.90	55	PG		Pb	17	24 04.0	+0.1
PHSR	Pinarhisar	0.91	360	PG		Pb	17	24 04.5	+0.5
AVCI	Avcilar-stanb	0.94	73	PG		Pn	17	24 05.1	-0.1
BALY	Balya	0.98	176	P		Pn	17	24 06.6	+0.8
BALY				S		Sn	17	24 19.4	+0.1
BALY				*i* AML		AML	17	24 22.0	
	comp=E,961nm,0.2s								
BALY				*i* AML		AML	17	24 22.0	
	comp=N,1µm,0.3s								
CAVK	Edirne/Enez-Ca	1.04	269	P		Pn	17	24 06.6	+0.2
CAVK				S		Sb	17	24 19.8	+0.3
CAVK				*i* AML		AML	17	24 21.0	
	comp=E,2µm,0.4s								
CAVK				*i* AML		AML	17	24 23.0	
	comp=N,2µm,1.0s								
BGKT	Bogazkoy	1.05	64	PG		Pg	17	24 06.7	-0.3
ENEZ	Enez	1.05	271	P		Pn	17	24 06.8	+0.2
ENEZ				S		Sn	17	24 21.2	+0.4
	8µm,0.4s								
ENEZ	Enez	1.05	271	PG		Pn	17	24 06.8	+0.2
ESNK	Esenkﾶy	1.10	94	P		Pn	17	24 07.8	+0.4
KIRK	Kırklareli	1.11	343	P		Pb	17	24 07.5	0.0
KIRK				S		Sb	17	24 21.5	-0.1
KIRK				*i* AML		AML	17	24 23.0	
	comp=E,756nm,0.7s								
KIRK				*i* AML		AML	17	24 23.0	
	comp=N,281nm,0.3s								
ALN	Alexandroupoli	1.14	279	P		Pg	17	24 08.5	-0.3
ALN				S		Sb	17	24 22.0	-0.5
ALN				AML		AML	17	24 24.6	
	comp=N,4671µm,0.4s								
ALN				AML		AML	17	24 25.4	
	comp=E,5066µm,0.7s								
ALN	Alexandroupoli	1.14	279	P		Pg	17	24 08.3	-0.5
ALN				S		Sn	17	24 23.7	+0.6
	comp=E,2µm,0.6s								
ALN	Alexandroupoli	1.14	279	PN		Pg	17	24 08.4	-0.4
ARMN	Kirklareli, Me	1.14	356	P		Pg	17	24 08.5	-0.4
ARMN				S		Sb	17	24 22.8	+0.2
ARMN				*i* AML		AML	17	24 24.0	
	comp=E,410nm,0.5s								
ISK	Istanbul-Kandi	1.21	73	P		Pn	17	24 09.0	+0.2
ISK				S		Sb	17	24 24.9	+0.5
	comp=E,1µm,0.4s								
ISK	Istanbul-Kandi	1.21	73	PN		Pn	17	24 09.0	+0.2
KAVV	Kandilli-Istan	1.21	73	PN		Pn	17	24 09.1	+0.3
BAYC	CANAKKALE_Bayr	1.24	218	P		Pb	17	24 09.6	0.0
BAYC				S		Sg	17	24 26.5	-0.3
BAYC				*i* AML		AML	17	24 28.0	
	comp=E,1µm,0.4s								
BAYC				*i* AML		AML	17	24 28.0	
	comp=E,917nm,0.4s								
ECEA	Canakkale, Ece	1.24	237	P		Pg	17	24 10.2	-0.4
ECEA				S		Sg	17	24 27.7	+0.8
ECEA				*i* AML		AML	17	24 28.0	
	comp=E,1µm,0.3s								
ECEA				*i* AML		AML	17	24 29.0	
	comp=E,2µm,1.0s								
ORLT	Orhaneli	1.24	122	PN		Pg	17	24 10.7	0.0
TRML	Termal-Yalova	1.25	95	PN		Pn	17	24 09.7	+0.3
KLYT	Kilyos	1.26	65	PN		Pn	17	24 09.9	+0.4
BUHA	Balikesir, Bur	1.27	196	P		Pg	17	24 10.8	-0.5
BUHA				S		Sg	17	24 27.9	+0.1
BUHA				*i* AML		AML	17	24 29.0	
	comp=E,914nm,0.5s								
BUHA				*i* AML		AML	17	24 29.0	
	comp=E,777nm,0.4s								
EDRB	Edirne	1.27	332	P		Pb	17	24 10.5	+0.3
EDRB				S		Sb	17	24 26.6	+0.3
EDRB	Edirne	1.27	332	PN		Pn	17	24 09.8	+0.1
KURT	Yalova, Merkez	1.28	95	P		Pn	17	24 09.6	-0.3
KURT				P		Pg	17	24 10.8	-0.7
KURT				S		Sb	17	24 26.2	-0.4
KURT				S		Sg	17	24 27.8	-0.4
KURT				*i* AML		AML	17	24 30.0	
	comp=E,411nm,0.3s								
KURT				*i* AML		AML	17	24 33.0	
	comp=E,327nm,0.4s								
EZN	Ezine	1.29	226	P		Pb	17	24 10.6	+0.2
EZN				S		Sg	17	24 27.6	-0.8
	comp=E,905nm,0.2s								
EZN	Ezine	1

LIA	**Limnos Island**	**1.98 246**	P	**Pn**	**17 24 19.9**	**+0.5**
LIA			AML	AML	17 24 52.8	
	comp=N,629μm,0.3s					
LIA			AML	AML	17 24 57.9	
	comp=E,854μm,0.7s					
LIA	**Limnos Island**	**1.98 246**	P	**Pn**	**17 24 20.1**	**+0.7**
SIMA	**Simav-Kutahya**	**1.98 145**	PN	**Pn**	**17 24 20.5**	**+1.0**
SIGR	**SIGRI**	**1.98 221**	P	**Pn**	**17 24 20.4**	**+1.0**
SIGR	**SIGRI**	**1.98 221**	P	**Pn**	**17 24 20.1**	**+0.6**
SIGR	**SIGRI**	**1.98 221**	PN	**Pn**	**17 24 20.6**	**+1.1**
DIM	**Dimitrovgrad**	**2.00 312**	*i* P	**Pn**	**17 24 20.3**	**+0.5**
GEYV	**SAKARYA_Geyve**	**2.12 96**	P	**Pb**	**17 24 25.3**	**+0.6**
SAUV	**Serdivan-Sakar**	**2.12 89**	PN	**Pn**	**17 24 22.5**	**+1.1**
THAS	**Thassos island**	**2.14 268**	P	**Pn**	**17 24 21.8**	**+0.2**
THAS	**Thassos island**	**2.14 268**	P	**Pn**	**17 24 21.9**	**+0.2**
KAYN	**Sakarya, Kayna**	**2.15 83**	P	**Pn**	**17 24 23.0**	**+1.3**
GEDZ	**Gediz**	**2.21 139**	PN	**Pn**	**17 24 24.0**	**+1.3**
GDZ	**Gediz**	**2.21 137**	P	**Pn**	**17 24 24.2**	**+1.4**
GDZ			S	**Sg**	**17 24 57.4**	**-0.7**
GULT	**Gulveren**	**2.29 96**	PN	**Pn**	**17 24 24.6**	**+0.8**
KAVA	**Kavala**	**2.31 278**	P	**Pn**	**17 24 24.8**	**+0.9**
KAVA	**Kavala**	**2.31 278**	P	**Pn**	**17 24 24.7**	**+0.8**
USAK	**Uak-Merkez**	**2.31 150**	P	**Pn**	**17 24 25.6**	**+1.6**
RZN	**Rozhen**	**2.33 295**	*i* P	**Pn**	**17 24 25.3**	**+0.8**
KULA	**Kula-Manisa**	**2.37 158**	P	**Pn**	**17 24 26.1**	**+1.2**
PRD	**Provadia**	**2.48 358**	*i* P	**Pn**	**17 24 26.7**	**+0.4**
SAHE	**Sakarya_HENDEK**	**2.52 86**	P	**Pn**	**17 24 29.1**	**+2.1**
CHOS	**Chios island**	**2.60 207**	P	**Pn**	**17 24 29.0**	**+1.1**
CHOS	**Chios island**	**2.60 207**	P	**Pn**	**17 24 29.1**	**+1.1**
ZEYE	**Izmir, Urla-Ze**	**2.60 198**	P	**Pn**	**17 24 29.9**	**+1.9**
DGB	**zmir**	**2.71 191**	P	**Pn**	**17 24 30.2**	**+0.7**
OUR	**Ouranopolis**	**2.73 263**	P	**Pn**	**17 24 30.1**	**+0.3**
OUR	**Ouranopolis**	**2.73 263**	P	**Pn**	**17 24 30.3**	**+0.5**
SZH	**Strazhica**	**2.81 335**	*i* P	**Pn**	**17 24 32.4**	**+1.6**
NVR	**Nevrokopi**	**2.85 284**	P	**Pn**	**17 24 32.5**	**+1.1**
YIGI	**Dzce**	**2.98 84**	P	**Pn**	**17 24 33.8**	**+0.6**
MMB	**Musomiste**	**3.00 288**	*i* P	**Pn**	**17 24 34.8**	**+1.3**
SRS	**Serrai**	**3.01 279**	P	**Pn**	**17 24 34.4**	**+0.7**
SRS	**Serrai**	**3.01 279**	P	**Pn**	**17 24 34.3**	**+0.7**
PLG	**Polygyros**	**3.13 265**	P	**Pn**	**17 24 36.1**	**+0.7**
KNT	**Kendrikon**	**3.54 279**	P	**Pn**	**17 24 42.0**	**+1.1**
VTS	**Vitosha**	**3.73 302**	⇓P	**Pn**	**17 24 44.6**	**+0.9**
VTS			⇓S	**Sg**	**17 25 44.2**	**-2.5**
VTS	**Vitosha**	**3.73 302**	*i* P	**Pn**	**17 24 45.7**	**+2.0**
TIRR	**Tirgusor**	**3.79 10**	⇓P	**Pn**	**17 24 45.3**	**+1.0**
TIRR			⇓S	**Sg**	**17 25 46.9**	**-1.5**
TLBR	**Topalu**	**3.84 6**	⇑S	**Sg**	**17 25 48.5**	**-1.6**
HARR	**Harsova**	**3.98 4**	⇑P	**Pn**	**17 24 47.5**	**+0.6**
VLAD	**Vladila**	**4.01 326**	⇑P	**Pn**	**17 24 48.3**	**+1.0**
STIP	**Stip**	**4.15 285**	*i* Pn	**Pn**	**17 24 48.4**	**-0.8**
TPGR	**Topolog**	**4.18 9**	⇑P	**Pn**	**17 24 50.4**	**+0.7**
CFR	**Carcaliu**	**4.48 5**	⇑P	**Pn**	**17 24 54.4**	**+0.7**
MLR	**Muntele Rosu**	**4.91 347**	⇑P	**Pn**	**17 25 02.6**	**+2.8**
VOIR		**5.05 340**	⇑P	**Pn**	**17 25 02.5**	**+0.7**
PLOR	**Plostina**	**5.17 353**	⇑P	**Pn**	**17 25 05.1**	**+1.9**
VRI	**Vrincioaia**	**5.18 354**	⇑P	**Pn**	**17 25 05.8**	**+2.5**
COVR	**Voineasa-Covas**	**5.21 350**	⇓P	**Pn**	**17 25 05.9**	**+2.0**
DOPR	**Dopca**	**5.47 344**	⇓P	**Pn**	**17 25 09.4**	**+2.0**
OZUR		**5.52 347**	⇓P	**Pn**	**17 25 10.3**	**+2.1**
HERR	**Herculane**	**5.61 320**	⇑P	**Pn**	**17 25 09.3**	**+0.1**
MDVR	**Moldovita**	**5.90 315**	⇓P	**Pn**	**17 25 13.9**	**+0.6**

*TAP **28** 17:24:25.6,24˚.82N×122˚.17E,h5km,ML2.7,C*
*JMA **28** 17:24:25.8,24˚.75N×122˚.26E,h3km*

ISC 28 17:24:25.2±1.0,24˚79N±0˚.02×122˚25E±0˚.02,h11km±8km, n65,σ0ˢ58/127, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.29**	**281**	*e*P	**Pg**	**17 24 31.1**	**0.0**
	baz=276						
EGS				*e*S	**Sg**	**17 24 34.8**	**-0.3**
	baz=276						
TWB1	**Santiao Chiao**	**0.32**	**313**	P	**Pg**	**17 24 31.5**	**-0.1**
	baz=320						
TWB1				S	**Sg**	**17 24 35.6**	**-0.3**
	baz=320						
NTC	**Toucheng**	**0.38**	**279**	*e*P	**Pg**	**17 24 33.0**	**+0.2**
	baz=276						
NTC				*e*S	**Sg**	**17 24 38.2**	**+0.3**
	baz=276						
TWC	**Suao**	**0.41**	**243**	P	**Pg**	**17 24 33.7**	**+0.5**
	baz=233						
TWC				*e*S	**Sb**	**17 24 40.3**	**-0.3**
	baz=233						
TIPB	**Shuangxi**	**0.42**	**295**	P	**Pg**	**17 24 34.1**	**+0.5**
	baz=296						
TIPB				*e*S	**Sg**	**17 24 39.5**	**+0.2**
	baz=296						
SXI1	**Grass Mountain**	**0.45**	**312**	P	**Pg**	**17 24 34.4**	**+0.2**
	baz=315						
SXI1				S	**Sg**	**17 24 40.1**	**-0.1**
	baz=315						
NWF	**Wu-fen Shan**	**0.51**	**303**	P	**Pb**	**17 24 36.4**	**+0.2**
	baz=305						
NWF				S	**Sg**	**17 24 41.7**	**-0.2**
	baz=305						
NDS	**Dongshan**	**0.51**	**252**	P	**Pb**	**17 24 35.6**	**-0.5**
	baz=246						
NDS				S	**Sb**	**17 24 42.9**	**-0.6**
	baz=246						
TWE	**Neicheng**	**0.53**	**263**	P	**Pb**	**17 24 36.0**	**-0.5**
	baz=257						
TWE				*e*S	**Sb**	**17 24 43.4**	**-0.8**
	baz=257						
EWUT	**Wuta**	**0.55**	**231**	*e*P	**Pb**	**17 24 36.7**	**-0.1**
	baz=223						
EWUT				*e*S	**Sb**	**17 24 44.3**	**-0.4**
	baz=223						
ENA	**Nanau**	**0.59**	**232**	P	**Pg**	**17 24 37.0**	**+0.3**
	baz=224						
ENA				S	**Sb**	**17 24 45.1**	**-0.6**
	baz=224						
FUSB	**Fushanzhiwuyua**	**0.60**	**267**	P	**Pb**	**17 24 37.8**	**0.0**
	baz=263						
FUSB				S	**Sb**	**17 24 46.3**	**0.0**
	baz=263						
TWA	**Mucha**	**0.63**	**287**	P	**Pb**	**17 24 38.4**	**+0.2**
	baz=286						
TWA				S	**Sg**	**17 24 46.4**	**+0.6**
	baz=286						
ENTT	**Nioudou**	**0.64**	**256**	P	**Pb**	**17 24 38.2**	**-0.2**
	baz=251						
ENTT				S	**Sb**	**17 24 47.0**	**-0.2**
	baz=251						
NHDH	**Xindian Distri**	**0.68**	**285**	*e*P	**Pb**	**17 24 38.9**	**-0.1**
	baz=283						
NHDH				*e*S	**Sb**	**17 24 48.6**	**+0.2**
	baz=283						
NWLT	**Wulai**	**0.68**	**269**	*e*P	**Pb**	**17 24 38.9**	**-0.1**
	baz=266						
NWLT				*e*S	**Sb**	**17 24 48.4**	**-0.1**
	baz=266						
NDT	**Datong Townshi**	**0.69**	**254**	P	**Pb**	**17 24 39.5**	**+0.2**
	baz=250						
NDT				S	**Sb**	**17 24 49.1**	**+0.2**
	baz=250						
LATG	**Datong**	**0.70**	**249**	P	**Pb**	**17 24 39.5**	**-0.1**
	baz=244						
LATG				S	**Sb**	**17 24 49.4**	**+0.1**
	baz=244						
YM01	**YM01**	**0.71**	**300**	P	**Pb**	**17 24 39.5**	**-0.1**
	baz=300						
YM01				S	**Sb**	**17 24 49.0**	**-0.3**
	baz=300						
JYNG	**Yonagunijimaku**	**0.72**	**118**	P	**Pb**	**17 24 39.3**	**-0.5**
JYNG				*e*S	**Sb**	**17 24 49.2**	**-0.4**
TWY	**Chenhua**	**0.76**	**310**	P	**Pg**	**17 24 40.1**	**+0.2**
	baz=311						
TWY				S	**Sb**	**17 24 50.6**	**-0.1**
	baz=311						
ANP	**Anpu**	**0.77**	**301**	*e*P	**Pg**	**17 24 40.1**	**0.0**
	baz=301						
ANP				*e*S	**Sg**	**17 24 50.6**	**+0.4**
	baz=301						
YOJ	**Yonaguni jima**	**0.77**	**115**	P	**Pb**	**17 24 40.4**	**-0.2**
YOJ				S	**Sg**	**17 24 49.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.77**	**115**	*e*P	**Pn**	**17 24 42.6**	**+0.6**
	baz=114						
YOJ				*e*S	**Sn**	**17 24 54.8**	**+1.3**
	baz=114						
YHNB	**Yeheng**	**0.80**	**261**	P	**Pb**	**17 24 41.0**	**-0.2**
	baz=258						
YHNB				S	**Sb**	**17 24 52.3**	**+0.2**
	baz=258						
NTST	**Danshui**	**0.81**	**297**	*e*P	**Pg**	**17 24 41.0**	**0.0**
	baz=297						
NTST				*e*S	**Sb**	**17 24 52.4**	**+0.1**
	baz=297						
ETL	**Fush Village**	**0.85**	**222**	*e*P	**Pb**	**17 24 42.2**	**+0.2**
	baz=217						
ETL				*e*S	**Sn**	**17 24 55.4**	**-0.2**
	baz=217						
PCYT	**Pengchaiyu**	**0.85**	**349**	*e*P	**Pb**	**17 24 42.0**	**0.0**
	baz=354						
PCYT				*e*S	**Sn**	**17 24 54.6**	**-1.0**
	baz=354						
NACB	**Ninganchiao**	**0.85**	**224**	*e*P	**Pb**	**17 24 41.9**	**-0.2**
	baz=219						
NACB				*e*S	**Sb**	**17 24 53.4**	**-0.1**
	baz=219						
NNSB	**Datong**	**0.87**	**245**	*e*P	**Pb**	**17 24 42.3**	**0.0**
	baz=241						
NNSB				*e*S	**Sb**	**17 24 54.8**	**+0.9**
	baz=241						
NNS	**Nan Shan**	**0.87**	**246**	*e*P	**Pb**	**17 24 42.5**	**+0.2**
	baz=242						
NNS				*e*S	**Sb**	**17 24 54.8**	**+0.8**
	baz=242						
ETLH	**Xiulin Townshi**	**0.91**	**230**	P	**Pb**	**17 24 43.2**	**+0.1**
	baz=225						
ETLH				S	**Sn**	**17 24 56.5**	**-0.7**
	baz=225						
TWD	**Chiawan**	**0.92**	**220**	*e*P	**Pb**	**17 24 43.3**	**+0.1**
	baz=215						
TWD				*e*S	**Sn**	**17 24 56.6**	**-0.7**
	baz=215						
NFF	**Wufeng Townshi**	**1.04**	**261**	*e*P	**Pg**	**17 24 45.4**	**+0.2**
	baz=259						
NFF				*e*S	**Sn**	**17 24 59.7**	**-0.6**
	baz=259						
FUSS	**Fushou**	**1.06**	**240**	*e*P	**Pg**	**17 24 45.1**	**-0.6**
	baz=236						
FUSS				*e*S	**Sb**	**17 25 00.1**	**+0.4**
	baz=236						
WHF	**Hehuan Shan**	**1.10**	**234**	P	**Pn**	**17 24 46.9**	**-0.1**
	baz=230						
WHF				S	**Sn**	**17 25 02.2**	**-0.2**
	baz=230						
TWT	**Tachien**	**1.11**	**241**	*e*P	**Pn**	**17 24 47.2**	**+0.3**
	baz=238						
TWT				*e*S	**Sn**	**17 25 02.9**	**+0.6**
	baz=238						
TDCB	**Techi**	**1.13**	**242**	*e*P	**Pn**	**17 24 47.2**	**+0.1**
	baz=238						
TDCB				*e*S	**Sg**	**17 25 01.7**	**+0.1**
	baz=238						
LIOB	**Emei**	**1.13**	**263**	*e*P	**Pg**	**17 24 47.1**	**+0.1**
	baz=260						
LIOB				*e*S	**Sn**	**17 25 02.2**	**-0.3**
	baz=260						
NSTT	**Nanjuang**	**1.14**	**262**	*e*P	**Pn**	**17 24 47.1**	**-0.1**
	baz=259						
NSTT				*e*S	**Sn**	**17 25 02.8**	**-0.1**
	baz=259						
CHGB	**Renai**	**1.22**	**234**	*e*P	**Pg**	**17 24 48.9**	**+0.2**
	baz=230						
CHGB				*e*S	**Sn**	**17 25 05.5**	**+0.6**
	baz=230						
ESL	**Shilin**	**1.22**	**218**	*e*P	**Pg**	**17 24 49.0**	**+0.2**
	baz=213						
ESL				*e*S	**Sn**	**17 25 06.6**	**+1.8**
	baz=213						
OWD	**Renai**	**1.28**	**230**	*e*P	**Pg**	**17 24 50.2**	**+0.3**
	baz=226						
OWD				*e*S	**Sg**	**17 25 07.0**	**+0.4**
	baz=226						
WHP	**Taichung City**	**1.29**	**247**	*e*P	**Pg**	**17 24 50.4**	**+0.4**
	baz=244						
WHP				*e*S	**Sg**	**17 25 08.1**	**+1.3**
	baz=244						
WUSB	**Renai**	**1.30**	**233**	P	**Pg**	**17 24 50.3**	**0.0**
	baz=229						
WUSB				S	**Sg**	**17 25 08.3**	**+1.1**
	baz=229						
EGFH	**Guangfu**	**1.34**	**214**	*e*P	**Pg**	**17 24 51.1**	**0.0**
	baz=210						
EGFH				*e*S	**Sg**	**17 25 10.0**	**+1.5**
	baz=210						
WCS	**Beigang Elemen**	**1.42**	**239**	*e*P	**Pg**	**17 24 52.5**	**+0.1**
	baz=236						
WCS				*e*S	**Sg**	**17 25 11.5**	**+0.6**
	baz=236						
IRIF	**Iriomote-Funau**	**1.43**	**108**	*e*S	**Sb**	**17 25 10.1**	**+0.2**
VWDT	**VWDT**	**1.44**	**225**	*e*P	**Pg**	**17 24 52.9**	**-0.1**
	baz=221						
VWDT				*e*S	**Sg**	**17 25 12.2**	**+0.5**
	baz=221						
HGSD	**Ruisui**	**1.50**	**210**	*e*P	**Pb**	**17 24 53.3**	**+0.3**
	baz=207						
HGSD				*e*S	**Sg**	**17 25 14.2**	**+0.8**
	baz=207						
EHY	**Hungye**	**1.53**	**214**	*e*P	**Pg**	**17 24 54.4**	**-0.3**
	baz=210						
EHY				*e*S	**Sg**	**17 25 14.4**	**-0.1**
	baz=210						
TYC	**Yuchr**	**1.54**	**235**	*e*P	**Pb**	**17 24 53.9**	**+0.1**
	baz=232						
TYC				*e*S	**Sb**	**17 25 14.0**	**+0.6**
	baz=232						
SSLB	**Suanglung**	**1.55**	**230**	*e*P	**Pb**	**17 24 54.0**	**+0.1**
	baz=227						
SSLB				*e*S	**Sg**	**17 25 14.3**	**-0.7**
	baz=227						
YULB	**Yu-li**	**1.64**	**212**	*e*P	**Pb**	**17 24 54.9**	**-0.6**
	baz=209						
YULB				*e*S	**Sg**	**17 25 17.1**	**-1.0**
	baz=209						
YUS	**Yu-Shan**	**1.75**	**223**	*e*P	**Pb**	**17 24 57.1**	**-0.6**
	baz=219						
YUS				*e*S	**Sb**	**17 25 19.9**	**0.0**
	baz=219						
FULB	**Fuli**	**1.81**	**209**	*e*P	**Pb**	**17 24 58.2**	**-0.2**
	baz=206						
FULB				*e*S	**Sb**	**17 25 21.8**	**+0.8**
	baz=206						
ALS	**Alishan**	**1.83**	**226**	*e*P	**Pb**	**17 24 58.2**	**-0.7**
	baz=223						
ALS				*e*S	**Sb**	**17 25 21.6**	**-0.4**
	baz=223						
CHN5	**Tsauling**	**1.86**	**231**	*e*P	**Pb**	**17 24 58.5**	**-0.9**
	baz=228						
CHN5				*e*S	**Sb**	**17 25 22.8**	**+0.2**
	baz=228						
CHN4	**Tsaushan**	**2.08**	**227**	*e*P	**Pb**	**17 25 01.5**	**-1.5**
	baz=224						
CHN4				*e*S	**Sb**	**17 25 28.4**	**-0.5**
	baz=224						
TPUB	**Ta-pu**	**2.10**	**225**	*e*P	**Pb**	**17 25 02.0**	**-1.2**
	baz=223						
TPUB				*e*S	**Sb**	**17 25 28.1**	**-1.2**
	baz=223						
TPUB	**Ta-pu**	**2.10**	**225**	P	**Pg**	**17 25 06.1**	**+0.7**
TPUB	**Ta-pu**	**2.10**	**225**	P	**Pb**	**17 25 02.0**	**-1.2**
LONT	**Longtian**	**2.14**	**209**	*e*P	**Pb**	**17 25 02.8**	**-1.2**
	baz=206						
LONT				*e*S	**Sb**	**17 25 29.5**	**-0.9**
	baz=206						
WTP	**Ta-pu**	**2.14**	**224**	*e*P	**Pb**	**17 25 03.1**	**-1.0**
	baz=222						
WTP				*e*S	**Sb**	**17 25 29.8**	**-1.0**
	baz=222						
TWK	**Hsinying**	**2.21**	**227**	*e*P	**Pb**	**17 25 04.0**	**-1.2**
	baz=224						
TWK				*e*S	**Sb**	**17 25 31.5**	**-1.2**
	baz=224						

*IDC **28** 17:25:54.5±1.8, 10˚.60S×152˚.51E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/37, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=67.4km s-min=25.9km az=115.0*

ISC 28 17:26:00.0±1.6, 10˚6S±0˚.2×152˚5E±0˚.4, h35km, n7, σ0ˢ46/7, mb3.8/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.75**	**240**	P	**P**	**17 30 26.8**	**-0.3**
	0.2nm,0.3s,baz=63,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**21.91**	**231**	P	**P**	**17 30 50.9**	**+0.5**
	1.2nm,0.7s,baz=58,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**23.39**	**204**	P	**P**	**17 31 05.8**	**0.0**
	2.0nm,0.7s,baz=4.7,slow=10,SNR=5.8						
SONM	**Songino Array**	**71.09**	**329**	P	**P**	**17 37 15.3**	**+0.4**
	0.3nm,0.8s,baz=137,slow=5.0,SNR=3.5						
MKAR	**Makanchi Array**	**84.50**	**320**	P	**P**	**17 38 29.1**	**-0.3**
	0.5nm,0.8s,baz=132,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**87.67**	**22**	P	**P**	**17 38 44.7**	**+0.1**
	1.3nm,1.1s,baz=273,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**151.28**	**278**	PKPbc	**PKPbc**	**17 45 50.4**	**-0.5**
	1.3nm,0.9s,baz=72,slow=1.7,SNR=2.7						

*IDC **28** 17:26:49.7±1.8, 10˚.46S×152˚.47E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/37, mbtmp3.9/6, ML3.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/50, Error ellipse: s-maj=67.8km s-min=26.2km az=114.0*
*NEIC **28** 17:26:53.7±1.6, 10˚.7S±0˚.1×152˚.64E±0˚.10, h28km±5km, mb4.3/5, Error ellipse: s-maj=17.7km s-min=13.2km az=190.0*

ISC 28 17:26:53.9±0.7, 10˚6S±0˚.1×152˚71E±0˚.07, h35km, n17, σ1ˢ43/17, mb4.0/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**282**	Pn	**Pn**	**17 28 13.4**	**-1.3**
RABL	**Rabaul**	**6.42**	**355**	Pn	**Pn**	**17 28 26.5**	**+0.5**
HNR	**Honiara**	**7.23**	**81**	Pn	**Pn**	**17 28 36.8**	**-0.3**
HNR				Sn	**Sn**	**17 29 55.0**	**-3.0**
CTA	**Charters Tower**	**11.27**	**213**	LR	LR	17 33 27.5	
	comp=Z,181nm,18.8s,baz=4.5,slow=35						
SANVU	**Saraoutou**	**14.91**	**110**	Pn	**Pn**	**17 30 22.3**	**+0.1**
ONTNC	**Ouen Toro**	**17.55**	**133**		**P**	**17 30 58.0**	**+1.2**
ONTNC				IAmb	IAmb	17 31 39.7	
	comp=Z,30nm,1.0s						
OUENC	**Ouen Island, N**	**17.90**	**133**		**P**	**17 31 01.4**	**+0.8**
WB0	**Warramunga Arr**	**19.86**	**241**	P	**P**	**17 31 20.5**	**-1.6**
WB0				IAmb	IAmb	17 31 29.1	
	comp=Z,14nm,1.2s						
WRAB	**Tennant Creek**	**19.96**	**240**	P	**P**	**17 31 21.8**	**-1.4**
WRAB				IAmb	IAmb	17 31 30.2	
	comp=Z,24nm,1.4s						
WB2	**Warramunga Arr**	**19.96**	**240**	P	**P**	**17 31 22.4**	**-0.9**
WRA	**Warramunga Arr**	**19.97**	**240**	P	**P**	**17 31 22.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=63,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**22.12**	**232**	P	**P**	**17 31 46.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=54,slow=12,SNR=2.3						
STKA	**Stephens Creek**	**23.51**	**204**	P	**P**	**17 32 02.9**	**+2.1**
	comp=Z,3.7nm,0.7s,baz=9.9,slow=11,SNR=4.2						
STKA				LR	LR	17 41 04.1	
	comp=Z,286nm,20.1s,baz=347,slow=36						
SONM	**Songino Array**	**71.21**	**329**	P	**P**	**17 38 10.2**	**+0.7**
	comp=Z,1.3nm,1.2s,baz=123,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**84.65**	**319**	P	**P**	**17 39 23.8**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=102,slow=6.6,SNR=5.8						
ILAR	**Eielson Array**	**87.56**	**22**	P	**P**	**17 39 39.4**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=237,slow=5.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**151.53**	**278**	PKPbc	**PKPbc**	**17 46 44.2**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=72,slow=1.1,SNR=3.6						

*IDC **28** 17:28:47.9±1.9, 10˚.49S×152˚.32E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=69.5km s-min=26.7km az=115.0*

ISC 28 17:28:53.3±1.6, 10˚5S±0˚.2×152˚3E±0˚.4, h35km, n7, σ0ˢ61/7, mb3.6/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.67**	**240**	P	**P**	**17 33 19.1**	**-0.3**
	0.1nm,0.3s,baz=63,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**21.86**	**231**	P	**P**	**17 33 42.5**	**-0.5**
	0.9nm,0.7s,baz=60,slow=11,SNR=1.8						
STKA	**Stephens Creek**	**23.43**	**203**	P	**P**	**17 33 60.0**	**+0.6**
	3.1nm,0.8s,baz=28,slow=12,SNR=4.2						
SONM	**Songino Array**	**70.92**	**329**	P	**P**	**17 40 07.8**	**+0.7**
	0.2nm,0.6s,baz=158,slow=4.2,SNR=2.0						
MKAR	**Makanchi Array**	**84.32**	**320**	P	**P**	**17 41 21.5**	**-0.2**
	0.5nm,0.8s,baz=106,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**87.63**	**22**	P	**P**	**17 41 37.3**	**-0.4**
	0.2nm,0.6s,baz=195,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**151.11**	**278**	PKPbc	**PKPbc**	**17 48 43.7**	**-0.1**
	0.5nm,0.5s,baz=44,slow=2.2,SNR=4.6						

*IDC **28** 17:33:59.2±1.1, 52˚.34N×168˚.82W, h0km, mb3.9/18, mb1 4.1/19, mb1mx3.9/40, mbtmp3.9/19, ML3.4/1, Error ellipse: s-maj=26.5km s-min=15.1km az=171.0*
*NEIC **28** 17:33:59.2±2.2, 52˚.10N±0˚.06×168˚.57W±0˚.07, h10km±1km, mb4.0/37, ML3.4/17(AEIC), Error ellipse: s-maj=10.1km s-min=6.3km az=198.0*
*AEIC **28** 17:34:02.2±2.4, 52˚.15N±0˚.07×168˚.62W±0˚.07, h39km±5km, Error ellipse: s-maj=10.0km s-min=6.4km az=174.0*

ISC 28 17:34:01.8±0.7, 52˚16N±0˚.09×168˚58W±0˚.06, h26km, n86, σ1ˢ05/80, mb4.0/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.83**	**349**		**Pb**	**17 34 17.5**	**-0.1**
NIKH					**Sn**	**17 34 30.0**	**+0.8**
MSW	**Makushin Switc**	**2.07**	**31**		**Pn**	**17 34 35.6**	**+0.8**
UNV	**Unalaska Valle**	**2.10**	**36**		**Pn**	**17 34 35.9**	**+0.6**
MTBL	**Makushin Table**	**2.15**	**32**		**Pn**	**17 34 37.0**	**+1.0**
AKBBA	**Akutan Broad B**	**2.52**	**38**		**Pn**	**17 34 42.0**	**+1.1**
AKBBA					**Sn**	**17 35 11.5**	**+0.8**
KOFP	**Korovin Flat P**	**3.39**	**274**		**Pn**	**17 34 53.7**	**+0.7**
ATKA	**Atka Island**	**3.45**	**273**		**Pn**	**17 34 54.0**	**+0.2**
FALS	**False Pass**	**4.10**	**47**	Pn	**Pn**	**17 35 01.8**	**-0.9**
GSTD	**Great Sitkin T**	**4.66**	**272**		**Pn**	**17 35 11.3**	**+0.8**
GSCK	**Great Sitkin C**	**4.68**	**271**		**Pn**	**17 35 11.5**	**+0.8**
ADK	**Adak**	**5.01**	**270**		**Pn**	**17 35 15.7**	**+0.5**
KIWB	**Kanaga Island**	**5.30**	**270**		**Pn**	**17 35 19.7**	**+0.5**
KIMD	**Kanaga Island**	**5.36**	**269**		**Pn**	**17 35 20.5**	**+0.5**
CHGN	**Chignik**	**7.26**	**51**	Pn	**Pn**	**17 35 46.3**	**+0.3**
OHAK	**Old Harbor**	**10.20**	**54**	Pn	**Pn**	**17 36 26.3**	**0.0**
KDAK	**Kodiak Island**	**10.77**	**52**	Pn	**Pn**	**17 36 34.0**	**-0.1**
	1.4nm,0.3s,baz=248,slow=8.2,SNR=22			

comp=Z,18nm,1.4s
BCAR Beaver Creek A 17.88 42 Pn Pn 17 38 07.2 -1.2
EGAK Eagle 18.91 38 P P 17 38 20.3 +0.2
EGAK IAmb IAmb 17 38 38.1
comp=Z,11nm,1.5s
BMAR Burnt Mountain 19.28 28 P P 17 38 24.9 +0.6
BILL Bilibino 20.01 332 P P 17 38 32.5 +0.3
N31M Braeburn, Yuko 20.02 49 Pn 17 38 35.7 +1.5
PEA0B Petropavlovsk- 20.38 286 P P 17 38 36.3 0.0
PEA0B IAmb IAmb 17 38 45.1
comp=Z,8.5nm,0.9s
PETK Petropavlovsk- 20.38 286 P P 17 38 36.2 -0.1
comp=Z,5.4nm,0.4s,baz=95,slow=12,SNR=25
SEY Seymchan 23.17 313 P P 17 39 05.2 -0.7
comp=Z,0.8nm,0.5s,baz=103,slow=14,SNR=8.7
INK Inuvik 23.26 33 P P 17 39 06.0 -0.7
comp=Z,2.8nm,0.4s,baz=234,slow=9.6,SNR=5.0
MA2 Magadan 23.66 304 P P 17 39 10.1 -0.6
comp=Z,1.3nm,0.4s,baz=63,slow=6.8,SNR=4.8
C36M Paulatuk 26.83 33 P P 17 39 39.7 +0.2
C36M IAmb IAmb 17 39 44.9
comp=Z,7.8nm,1.3s
YKA Yellowknife Ar 30.02 49 P P 17 40 09.7 +1.7
comp=Z,0.5nm,0.4s,baz=274,slow=8.0,SNR=16
YKA Yellowknife Ar 30.02 49 P P 17 40 09.3 +1.3
TIXI Tiksi 33.16 329 P P 17 40 35.1 -0.4
comp=Z,0.8nm,0.4s,baz=271,slow=23,SNR=8.1
TIXI Tiksi 33.16 329 P P 17 40 34.4 -1.1
TIXI IAmb IAmb 17 40 36.3
comp=Z,2.3nm,1.1s
BCYI Bear Canyon 36.78 80 P P 17 41 06.4 -0.9
H11N2 WAKE ISLAND Hy 37.60 220 T T 18 21 42.1
baz=24
H11N3 WAKE ISLAND Hy 37.60 220 T T 18 22 05.9
baz=24
H11N1 WAKE ISLAND Hy 37.61 220 T T 18 22 40.0
baz=24
FLWY Flagg Ranch 38.54 78 P P 17 41 21.2 -1.0
H11S1 WAKE ISLAND Hy 38.78 219 T T 18 23 18.8
baz=23
H11S2 WAKE ISLAND Hy 38.79 219 T T 18 23 27.0
baz=23
H11S3 WAKE ISLAND Hy 38.80 219 T T 18 23 18.4
baz=23
REDW Red Top Meadow 38.85 79 P P 17 41 22.9 -1.9
REDW IAmb IAmb 17 41 47.5
comp=Z,7.6nm,1.2s
LOHW Long Hollow 38.86 79 P P 17 41 24.0 -0.9
LOHW IAmb IAmb 17 41 42.4
comp=Z,2.3nm,0.8s
LAO LASA Array 39.82 72 P P 17 41 29.9 -2.7
PDAR Pinedale Array 39.97 79 P P 17 41 38.2 +4.1
comp=Z,0.7nm,0.6s,baz=284,slow=7.3,SNR=4.5
FCC Fort Churchill 40.70 50 P P 17 41 40.9 +1.2
FCC IAmb IAmb 17 41 42.6
comp=Z,2.4nm,0.8s
SDCO Great Sand Dun 45.47 83 P P 17 42 16.9 -2.0
KSRS Korea Array 45.91 277 P P 17 42 23.1 +1.2
comp=Z,1.6nm,0.8s,baz=57,slow=7.9,SNR=5.3
SPITS Spitsbergen Ar 49.89 359 P P 17 42 52.3 0.0
comp=Z,4.1nm,0.7s,baz=358,slow=10,SNR=1.3
SONM Songino Array 51.82 301 P P 17 43 07.7 +0.3
comp=Z,0.5nm,0.3s,baz=55,slow=6.3,SNR=9.0
SONM Songino Array 51.82 301 IAmb IAmb 17 43 08.3
comp=Z,0.8nm,1.0s
TXAR Lajitas Array 52.27 89 P P 17 43 12.7 +1.8
comp=Z,0.2nm,0.5s,baz=300,slow=4.1,SNR=2.6
TXAR Lajitas Array 52.27 89 P P 17 43 09.7 -1.2
ARCES ARCESS Array B 58.18 354 P P 17 43 52.2 -0.6
comp=Z,3.7nm,0.8s,baz=12,slow=7.4,SNR=6.2
MKAR Makanchi Array 64.30 314 P P 17 44 34.1 -0.5
comp=Z,1.5nm,0.7s,baz=48,slow=6.9,SNR=14
FINES FINESS Array B 66.14 352 P P 17 44 45.9 -0.4
comp=Z,2.0nm,0.6s,baz=23,slow=7.5,SNR=26
NOA NORSAR Array B 67.15 0 P P 17 44 53.2 +0.5
comp=Z,0.7nm,0.6s,baz=359,slow=6.2,SNR=2.6
AKASG Malin Array Be 76.41 348 P P 17 45 48.2 -0.2
comp=Z,0.7nm,0.4s,baz=14,slow=5.6,SNR=4.6
CMAR Chiang Mai Arr 77.14 283 P P 17 45 54.0 +0.9
comp=Z,1.0nm,0.8s,baz=19,slow=5.9,SNR=7.0
CMAR Chiang Mai Arr 77.14 283 P P 17 45 52.1 -1.0
ASAR Alice Springs 90.63 231 P P 17 47 01.9 +0.2
comp=Z,0.2nm,0.7s,baz=25,slow=4.8,SNR=6.5

*JMA **28** 17:42:15.0±0.1,37°.33N×141°.27E,h30km±1km,M3.3*
Broadband fault plane solution: P waves. NP1:
ϕ±174.00000°,δ51.00000°,λ-76.00000°. NP2:
ϕ±332.00000°,δ41.00000°,λ-107.00000°. Principal axes:
T Plg5.0000°, Azm254.0000°; N Plg11.0000°,
Azm345.0000°; P Plg78.0000°, Azm140.0000°;
JMA Felt I J1.
*IDC **28** 17:42:16.9±2.2,36°.54N×141°.11E,h0km,mb3.2/3,*
mb1 3.3/4,mb1mx3.2/26,mbtmp3.1/4,ML2.1/1 Error
ellipse: s-maj=48.1km s-min=20.7km az=21.0
ISC 28 17:42:14.2±1.7,37°.32N±0°.04×141°.33E±0°.09,h26km±11km,
n21,σ0s85/25,mb3.3/3,6C,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.36	278	↑↑P			Pb	17 42 22.6	+0.3
JFK				S			Sb	17 42 27.7	-0.1
ONAJ	Iwakimizuishiy	0.47	243	↑↑P			Pb	17 42 24.3	+0.2
ONAJ				S			Sb	17 42 30.7	0.0
JMST	Minamisoumatoc	0.54	320	P			Pb	17 42 25.1	0.0
JMST				S			Sb	17 42 32.2	-0.3
JFFD	Fukushimafurud	0.65	250	↑↑P			Pb	17 42 27.0	0.0
JFFD				S			Sb	17 42 35.4	-0.3
JMM	Marumori	0.69	323	P			Pb	17 42 27.5	-0.2
JMM				S			Sb	17 42 36.3	-0.6
JFT	Otama	0.81	285	↑↑P			Pb	17 42 30.0	+0.2
JFT				S			Sn	17 42 40.5	-0.8
JHO	Hitachi	0.93	221	↑↑P			Pn	17 42 30.5	-1.1
JHO				S			Sn	17 42 41.8	-2.3
JIO	Ouri	1.14	1	P			Pn	17 42 34.4	-0.1
JIO				S			Sn	17 42 48.1	-1.2
JOU	Okura	1.17	334	↑↑P			Pb	17 42 35.7	-0.1
JOU				S			Sb	17 42 50.6	0.0
JFY	Yanaizu	1.29	275	P			Pb	17 42 37.4	-0.5
JFY				eS			Sb	17 42 54.2	0.0
JYS	Shirataka	1.35	313	P			Pb	17 42 38.8	0.0
JYS				S			Sb	17 42 55.8	+0.2
MJAR	Matsushiro Arr	2.61	254	Pn			Pn	17 42 56.5	+1.6
	0.5nm,0.3s,baz=90,slow=3.4,SNR=17								
MJAR				Lg			Lg	17 43 30.2	
	0.5nm,0.3s,baz=151,slow=38,SNR=2.5								
H11N2	WAKE ISLAND Hy	28.35	121	T			T	18 18 12.2	
	baz=314,slow=75,SNR=16								
H11N1	WAKE ISLAND Hy	28.36	121	T			T	18 18 14.2	
	baz=314,slow=75,SNR=18								
H11N3	WAKE ISLAND Hy	28.37	121	T			T	18 18 13.5	
	baz=314,slow=75,SNR=15								
H11S1	WAKE ISLAND Hy	29.07	123	T			T	18 19 03.7	
	baz=312,slow=74								
H11S3	WAKE ISLAND Hy	29.07	123	T			T	18 19 14.2	
	baz=312,slow=74								
H11S2	WAKE ISLAND Hy	29.09	123	T			T	18 19 05.5	
	baz=312								
MKAR	Makanchi Array	43.91	302	P			P	17 50 27.2	+8.5
	0.4nm,0.8s,baz=81,slow=8.9,SNR=3.6								
WRA	Warramunga Arr	57.33	188	P			P	17 52 00.8	+0.8
	0.2nm,0.8s,baz=1.9,slow=7.1,SNR=5.4								
ASAR	Alice Springs	61.06	188	P			P	17 52 27.3	+1.4
	0.3nm,1.0s,baz=2.1,slow=7.1,SNR=1.6								

*IDC **28** 18:14:01.6±1.0,8°.28N×137°.35E,h0km,mb3.5/5,*
mb1 3.7/6,mb1mx3.5/31,mbtmp3.6/6,Error ellipse:
s-maj=55.8km s-min=20.8km az=79.0
ISC 28 18:14:06.5±0.8,8°.2N±0°.1×137°.4E±0°.3,h35km,n14,
σ1s22/9,mb3.8/6,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	Jayapura	11.17	163	Pn			Pn	18 16 45.0	+1.1
	baz=255,slow=12								
JAY				Sn			Sn	18 18 46.2	-1.4
	1.0nm,0.3s,baz=285,slow=20,SNR=2.1								
WRA	Warramunga Arr	28.15	186	P			P	18 19 54.6	-1.1
	0.3nm,0.9s,baz=11,slow=9.6,SNR=2.2								
H11S3	WAKE ISLAND Hy	30.22	67	T			T	18 51 48.0	
	baz=253,slow=75,SNR=28								
H11S1	WAKE ISLAND Hy	30.24	67	T			T	18 51 46.8	
	baz=253,slow=75,SNR=23								
H11S2	WAKE ISLAND Hy	30.24	67	T			T	18 51 46.4	
	baz=253,slow=75,SNR=28								
H11N1	WAKE ISLAND Hy	30.76	65	T			T	18 52 24.6	
	baz=252								
H11N2	WAKE ISLAND Hy	30.77	65	T			T	18 52 30.2	
	baz=252								
H11N3	WAKE ISLAND Hy	30.78	65	T			T	18 52 31.4	
	baz=252								
ASAR	Alice Springs	31.88	186	P			P	18 20 29.6	+1.0
	0.1nm,0.6s,baz=18,slow=13,SNR=6.9								
SONM	Songino Array	47.41	332	P			P	18 22 36.5	-1.2
	0.9nm,1.0s,baz=134,slow=6.4,SNR=5.3								
MKAR	Makanchi Array	60.50	320	P			P	18 24 14.5	+1.3
	0.7nm,0.7s,baz=108,slow=8.0,SNR=7.3								
YKA	Yellowknife Ar	90.92	26	P			P	18 27 06.4	-0.1
	0.5nm,1.0s,baz=298,slow=4.4,SNR=4.8								
FINES	FINESS Array B	92.76	333	P			P	18 27 14.4	-0.6
	3.1nm,1.1s,baz=46,slow=6.0,SNR=4.2								
ROSC	El Rosal	145.81	69	PKPbc			PKPab	18 33 44.6	+0.5
	8.1nm,0.3s,baz=214,slow=9.2,SNR=2.0								

*TAP **28** 18:18:18.0,24°.21N×122°.25E,h23km,ML2.5,D*
*JMA **28** 18:18:18.0±0.1,24°.11N×122°.27E,h32km±3km,M2.0*
ISC 28 18:18:17.6±1.3,24°.16N±0°.02×122°.26E±0°.02,h21km±4km,
n69,σ0s93/136,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	Heping Village	0.49	288	eP			Pb	18 18 27.7	+0.2
	baz=287								
EWUT	Wuta	0.52	303	P			Pb	18 18 27.9	-0.2
	baz=305								
EWUT				S			Sn	18 18 36.7	-1.3
	baz=305								
ENA	Nanau	0.54	300	iP			Pb	18 18 28.2	-0.2
	baz=299								
ENA				iS			Sb	18 18 35.7	-0.1
	baz=299								
ETL	Fush Village	0.58	270	P			Pb	18 18 29.9	+0.8
	baz=248								
ETL				S			Sn	18 18 39.4	-0.1
	baz=248								
TWC	Suao	0.58	321	iP			Pb	18 18 28.4	-0.8
	baz=317								
TWC				iS			Sb	18 18 35.5	-1.6
	baz=317								
NACB	Ninganchiao	0.60	272	P			Pb	18 18 30.3	+0.7
	baz=249								
NACB				S			Sn	18 18 39.2	-0.8
	baz=249								
TEYL	Yanliau Villag	0.67	244	eP			Pn	18 18 32.1	+0.3
	baz=229								
TEYL				eS			Sn	18 18 41.3	-0.3
	baz=229								
NDS	Dongshan	0.68	314	P			Pb	18 18 30.7	-0.2
	baz=310								
NDS				S			Sb	18 18 39.6	-0.3
	baz=310								
JYNG	Yonagunijimaku	0.69	65	P			Pb	18 18 31.2	+0.2
JYNG				S			Sb	18 18 40.9	+0.7
ETLH	Xiulin Townshi	0.71	274	P			Pb	18 18 31.8	+0.5
	baz=268								
ETLH				S			Sn	18 18 44.1	+1.3
	baz=268								
EGS		0.74	337	P			Pn	18 18 32.6	-0.3
	baz=327								
EGS				iS			Sb	18 18 41.4	-0.2
	baz=327								
YOJ	Yonaguni jima	0.75	66	P			Pb	18 18 32.3	+0.3
YOJ				eS			Sb	18 18 42.5	+0.7
YOJ	Yonaguni jima	0.75	66	P			Pb	18 18 32.3	+0.3
	baz=70								
YOJ				S			Sn	18 18 43.2	-0.6
	baz=70								
LATG	Datong	0.76	300	P			Pb	18 18 32.6	+0.3
	baz=301								
LATG				S			Sn	18 18 44.5	+0.3
	baz=301								
TWE	Neicheng	0.78	316	iP			Pb	18 18 32.5	+0.1
	baz=314								
TWE				iS			Sb	18 18 41.4	-1.1
	baz=314								
ENTT	Nioudou	0.79	307	iP			Pn	18 18 32.9	-0.6
	baz=304								
ENTT				S			Sn	18 18 44.0	-0.7
	baz=304								
NTC	Toucheng	0.79	331	eP			Pb	18 18 32.4	-0.3
	baz=328								
NTC				eS			Sb	18 18 42.5	-0.5
	baz=328								
NDT	Datong Townshi	0.81	303	iP			Pn	18 18 33.6	-0.2
	baz=305								
NDT				S			Sn	18 18 44.1	-1.1
	baz=305								
NNSB	Datong	0.84	289	P			Pn	18 18 34.0	-0.4
	baz=284								
NNSB				S			Sn	18 18 46.3	+0.2
	baz=284								
NNS	Nan Shan	0.85	289	iP			Pn	18 18 34.4	-0.1
	baz=284								
NNS				S			Sn	18 18 46.2	-0.2
	baz=284								
FUSB	Fushanzhiwuyua	0.85	315	P			Pn	18 18 33.8	-0.7
	baz=311								
FUSB				S			Sb	18 18 44.7	-0.1
	baz=311								
TIPB	Shuangxi	0.90	334	iP			Pn	18 18 34.6	-0.4
	baz=332								
TIPB				iS			Sb	18 18 45.2	-1.0
	baz=332								
EGFH	Guangfu	0.90	237	eP			Pb	18 18 34.2	-0.3
	baz=222								
EGFH				eS			Sb	18 18 46.6	+0.5
	baz=222								
WHF	Hehuan Shan	0.91	269	iP			Pb	18 18 35.1	+0.2
	baz=264								
WHF				iS			Sb	18 18 47.2	+0.6
	baz=264								
NWLT	Wulai	0.92	312	eP			Pn	18 18 35.5	+0.1
	baz=309								
NWLT				eS			Sn	18 18 47.2	-0.8
	baz=309								
FUSS	Fushou	0.93	276	eP			Pb	18 18 34.1	-1.1
	baz=271								
FUSS				S			Sn	18 18 48.4	-0.1
	baz=271								
YHNB	Yeheng	0.95	303	P			Pn	18 18 35.9	0.0
	baz=282								
YHNB				S			Sn	18 18 47.6	-1.2
	baz=282								
CHGB	Renai	0.99	265	eP			Pb	18 18 36.2	0.0
	baz=246								
CHGB				S			Sb	18 18 49.5	+0.5
	baz=246								
SXI1	Grass Mountain	0.99	340	P			Pb	18 18 35.7	-0.5
	baz=338								
SXI1				S			Sn	18 18 49.0	-0.9
	baz=338								
NWF	Wu-fen Shan	1.01	335	P			Pn	18 18 36.3	-0.3
	baz=332								
NWF				S			Sn	18 18 49.2	-1.0
	baz=332								
OWD	Renai	1.01	259	eP			Pn	18 18 36.2	-0.4
	baz=254								
OWD				eS			Sb	18 18 48.6	-0.7
	baz=254								
HGSD	Ruisui	1.01	229	eP			Pn	18 18 35.9	-0.6
	baz=216								
HGSD				eS			Sb	18 18 48.3	-0.9
	baz=216								
TWA	Mucha	1.02	323	P			Pn	18 18 37.3	+0.5
	baz=329								
TWA				S			Sn	18 18 50.0	-0.4
	baz=329								
NHDH	Xindian Distri	1.04	320	eP			Pb	18 18 37.9	+1.0
	baz=331								
NHDH				eS			Sn	18 18 51.5	+0.7
	baz=331								
WUSB	Renai	1.05	261	P			Pn	18 18 36.9	-0.4
	baz=257								
WUSB				eS			Sb	18 18 49.7	-0.9
	baz=257								
EHY	Hungye	1.07	233	P			Pn	18 18 36.7	-0.7
	baz=229								
EHY				S			Sb	18 18 50.4	-0.6
	baz=229								
VWDT	VWDT	1.10	249	eP			Pn	18 18 37.5	-0.2
	baz=232								
VWDT				eS			Sb	18 18 51.6	0.0
	baz=232								
TAP	Taipei	1.11	322	P			Pb	18 18 39.6	+1.5
	baz=319								
TAP				S			Sn	18 18 53.5	+0.9
	baz=319								
NFF	Wufeng Townshi	1.14	295	eP			Pb	18 18 39.4	+0.8
	baz=290								
NFF				eS			Sn	18 18 54.3	+0.9
	baz=290								
YULB	Yu-li	1.16	229	eP			Pn	18 18 38.0	-0.7
	baz=241								
YULB				eS			Sn	18 18 52.2	-1.7
	baz=241								
YM01	YM01	1.17	328	eP			Pb	18 18 39.1	+0.1
	baz=342								
EYUL	Yuli	1.18	227	eP			Pn	18 18 38.5	-0.4
	baz=239								
EYUL				eS			Sn	18 18 54.6	+0.3
	baz=239								
WHP	Taichung City	1.20	276	eP			Pb	18 18 40.5	+0.8
	baz=260								
WHP				eS			Sb	18 18 55.3	+0.5
	baz=260								
LIOB	Emei	1.23	293	eP			Pb	18 18 40.4	+0.2
	baz=289								
LIOB				eS			Sb	18 18 57.8	+2.2
	baz=289								
SSLB	Suanglung	1.25	253	eP			Pn	18 18 39.4	-0.4
	baz=249								
SSLB				eS			Sn	18 18 55.2	-0.8
	baz=249								
SMLT	Sun Moon Lake	1.27	258	P			Pn	18 18 40.6	+0.4
	baz=253								
SMLT				S			Sn	18 18 56.5	-0.2
	baz=253								
FULB	Fuli	1.30	223	eP			Pn	18 18 39.8	-0.8
	baz=209								
FULB				eS			Sn	18 18 56.0	-1.3
	baz=209								
TYC	Yuchr	1.30	259	eP			Pn	18 18 40.5	-0.1
	baz=255								
TYC				eS			Sb	18 18 58.5	+0.8
	baz=255								
IRIF	Iriomote-Funau	1.36	82	P			Pn	18 18 41.3	0.0
IRIF				eS			Sn	18 18 58.4	-0.3
YUS	Yu-Shan	1.37	241	P			Pn	18 18 42.3	+0.4
	baz=223								
YUS				S			Sn	18 18 58.5	-1.1
	baz=223								
EDH	Donghe	1.47	217	eP			Pn	18 18 41.9	-1.0
	baz=207								
EDH				eS			Sn	18 18 58.4	-3.0
	baz=207								
ALS	Alishan	1.48	244	P			Pn	18 18 44.1	+0.9
	baz=241								
ALS				S			Sn	18 19 02.4	+0.3
	baz=241								
ELDTW	Lidau	1.49	230	P			Pn	18 18 42.7	-0.5
	baz=227								
ELDTW				S			Sn	18 19 00.3	-1.8
	baz=227								
CHN5	Tsauling	1.55	249	P			Pb	18 18 45.6	0.0
	baz=232								
CHN5				S			Sb	18 19 05.5	+0.6
	baz=232								
JKRS	Kuro-shima	1.60	87	P			Pn	18 18 45.6	+0.9
JKRS				S			Sn	18 19 05.5	+0.8
LDUT	Ludao	1.65	206	eP			Pn	18 18 44.4	-0.9
	baz=208								
LDUT				eS			Sn	18 19 03.7	-2.1
	baz=208								
TPUB	Ta-pu	1.72	241	eP			Pn	18 18 47.1	+0.8
	baz=237								
TPUB				eS			Sb	18 19 09.6	0.0
	baz=237								
CHN4	Tsaushan	1.72	243	eP			Pb	18 18 48.4	-0.2
	baz=229								
CHN4				eS			Sb	18 19 10.6	+0.9
	baz=229								
JIJ	Ishigaki jima	1.73	83	P			Pn	18 18 46.7	+0.2
JIJ				eS			Sn	18 19 07.6	-0.4
WTP	Ta-pu	1.76	239	eP			Pn	18 18 48.5	+1.6
	baz=236								
WTP				eS			Sn	18 19 10.1	+1.4
	baz=236								
TWK	Hsinying	1.85	242	eP			Pn	18 18 49.6	+1.5
	baz=238								
TWK				eS			Sn	18 19 12.6	+1.7
	baz=238								
CHN1	Nanshi	1.86	239	eP			Pb	18 18 50.8	0.0
	baz=236								
CHN1				eS			Sb	18 19 13.5	-0.2
	baz=236								
SGST	Jiashian	1.87	235	eP			Pn	18 18 49.4	+1.0
	baz=232								
SGST				eS			Sn	18 19 13.1	+1.7
	baz=232								
JISG	Ishigakijimahi	1.92	77	P			Pn	18 18 48.4	-0.7
JISG				eS			Sn	18 19 12.7	+0.1
SSD	Sandimen	2.05	227	eP			Pn	18 18 53.1	+2.3
	baz=216								
SSD				eS			Sb	18 19 18.8	-0.3
	baz=216								
SCST	Cishan	2.05	232	eP			Pb	18 18 53.4	-0.8
	baz=230								
SCST				eS			Sb	18 19 19.4	+0.1
	baz=230								
TSMG	Majia	2.07	226	eP			Pn	18 18 53.5	+2.4
	baz=217								
TSMG				eS			Sn	18 19 18.5	+2.3
	baz=217								
MASBT	Mashibuluo	2.14	224	eP			Pb	18 18 54.8	-1.0
	baz=215								
MASBT				eS			Sn	18 19 20.7	+2.6
	baz=215								
EAST	Anshuo	2.19	217	eP			Pn	18 18 53.1	+0.2
	baz=216								
EAST				eS			Sn	18 19 17.3	-2.0
	baz=216								

*WEL **28** 18:22:00.2±0.9,35°S±13°×17°9E±1°7,h268km±20km,*
M3.9/13,ML4.2/13,MLv3.9/13,Error ellipse: s-maj=0.0km
s-min=0.0km az=120.3
*NOU **28** 18:22:13.5,36°.08S×178°.91E,h273km,MLv4.8/8,Off E.*
Coast of N. Island, N.Z.
ISC 28 18:22:08.4±3.1,35°.3S±0°.2×179°.0E±0°.1,h272km,n63,
σ2s84/107,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.28	194	S			S	18 23 35.8	+3.6
WMGZ	Waiomatatini S	2.51	190	P			Pn	18 22 55.6	-1.6
WMGZ				S			S	18 23 40.4	+4.3
HAZ	Te Kaha	2.59	202	P			Pn	18 22 55.2	-2.8
HAZ				S			S	18 23 40.7	+3.2
PKGZ	Pakihiroa	2.64	196	P			Pn	18 22 56.3	-2.2
PKGZ				S			S	18 23 41.4	+2.9
PUZ	Puketiti	2.78	192	P			Pn	18 22 57.8	-2.1
PUZ				S			S	18 23 43.4	+2.3
RUGZ	Raukumara Rang	2.82	202	P			Pn	18 22 57.7	-2.7
RUGZ				S			S	18 23 43.0	+1.2
TWGZ	Tauwhareparae	2.94	196	P			Pn	18 23 00.8	-0.8
TWGZ				S			S	18 23 48.1	+4.2
KUZ	Kuaotunu	2.99	241	P			Pn	18 22 55.8	-6.3
CNGZ	Carnagh Statio	3.19	191	P			Pn	18 23 02.1	-2.0
CNGZ				S			S	18 23 54.1	+5.4
MWZ	Matawai	3.21	201	P			Pn	18 23 02.7	-1.6
MWZ				S			S	18 23 52.1	+3.2
TKGZ	Te Karaka	3.22	196	P			Pn	18 23 02.5	-1.9
TKGZ				S			S	18 23 52.7	+3.5
URZ	Urewera	3.27	207	P			Pn	18 23 01.9	-3.1
URZ				S			S	18 23 53.4	+3.2
URZ	Urewera	3.27	207	P			Pn	18 23 02.7	-2.3
RAGZ	Rawiri	3.39	201	P			Pn	18 23 04.7	-1.7
RAGZ				S			S	18 23 55.3	+2.8
RIGZ	Rimuhau	3.50	196	P			Pn	18 23 06.3	-1.2
RIGZ				S			S	18 23 58.9	+4.3
RTZ	Ruatahuna	3.64	206	P			Pn	18 23 06.4	-2.7
RTZ				S			S	18 24 00.0	+2.5
SNGZ	Shannon Statio	3.67	201	P			Pn	18 23 07.8	-1.7
SNGZ				S			S	18 24 03.2	+5.0

RAHZ	**Arahi**	**3.88**	**203**	P	**Pn**	**18 23 10.4**	**-1.3**
RAHZ				S	**S**	**18 24 05.1**	**+2.9**
MTHZ	**Maungataniwha**	**3.90**	**205**	P	**Pn**	**18 23 10.1**	**-1.9**
MTHZ				S	**S**	**18 24 05.7**	**+3.0**
WHHZ	**Waihua**	**3.98**	**200**	P	**Pn**	**18 23 10.2**	**-2.6**
WHHZ				S	**S**	**18 24 08.1**	**+3.8**
TLZ	**Tolley Road**	**4.07**	**222**	P	**Pn**	**18 23 12.9**	**-1.0**
NMHZ	**Naumai**	**4.13**	**204**	P	**Pn**	**18 23 13.0**	**-1.7**
NMHZ				S	**S**	**18 24 12.4**	**+4.8**
BKZ	**Black Stump Fm**	**4.30**	**207**	P	**Pn**	**18 23 14.4**	**-2.1**
BKZ				S	**S**	**18 24 13.3**	**+2.1**
BKZ	**Black Stump Fm**	**4.30**	**207**	P	**Pn**	**18 23 14.9**	**-1.7**
MCHZ	**McNeill Hill**	**4.48**	**203**	P	**Pn**	**18 23 16.6**	**-2.0**
MCHZ				S	**S**	**18 24 20.8**	**+6.0**
KWHZ	**Kaweka Forest**	**4.55**	**206**	P	**Pn**	**18 23 17.4**	**-2.2**
KWHZ				S	**S**	**18 24 20.9**	**+4.4**
HIZ	**Hauiti**	**4.58**	**225**	P	**Pn**	**18 23 19.3**	**-0.4**
HIZ	**Hauiti**	**4.58**	**225**	P	**Pn**	**18 23 19.4**	**-0.4**
NTVZ	**North Tongarir**	**4.58**	**214**	P	**Pn**	**18 23 18.7**	**-1.3**
NTVZ				S	**S**	**18 24 21.6**	**+4.4**
TMVZ	**Te Maari**	**4.59**	**214**	P	**Pn**	**18 23 17.7**	**-2.3**
TMVZ				S	**S**	**18 24 19.5**	**+2.3**
ETVZ	**East Tongariro**	**4.60**	**214**	P	**Pn**	**18 23 17.9**	**-2.2**
ETVZ				S	**S**	**18 24 21.7**	**+4.1**
OTVZ	**Oturere**	**4.64**	**214**	P	**Pn**	**18 23 18.3**	**-2.4**
OTVZ				S	**S**	**18 24 21.8**	**+3.3**
SNVZ	**South Ngauruho**	**4.67**	**214**	P	**Pn**	**18 23 18.7**	**-2.4**
SNVZ				S	**S**	**18 24 22.7**	**+3.5**
TWVZ	**Taurewa**	**4.67**	**216**	P	**Pn**	**18 23 19.5**	**-1.5**
NGZ	**Ngauruhoe**	**4.68**	**214**	P	**Pn**	**18 23 19.5**	**-1.7**
NGZ				S	**S**	**18 24 25.8**	**+6.5**
TUVZ	**Tukino**	**4.73**	**213**	P	**Pn**	**18 23 19.8**	**-1.9**
TUVZ				S	**S**	**18 24 22.7**	**+2.3**
BHHZ	**Black Hill Sta**	**4.75**	**208**	P	**Pn**	**18 23 19.3**	**-2.5**
BHHZ				S	**S**	**18 24 22.7**	**+2.1**
KAHZ	**Kahuranaki**	**4.75**	**200**	P	**Pn**	**18 23 19.8**	**-2.0**
KAHZ				S	S	18 24 27.2	+6.6
FWVZ	**Far West T-bar**	**4.77**	**214**	P	**Pn**	**18 23 20.1**	**-2.1**
KRHZ	**Kereru**	**4.77**	**205**	P	**Pn**	**18 23 19.2**	**-2.8**
KRHZ				S	**S**	**18 24 21.5**	**+0.5**
MOVZ	**Moawhango**	**4.80**	**211**	P	**Pn**	**18 23 19.8**	**-2.7**
MOVZ				S	**S**	**18 24 22.1**	**+0.2**
WNVZ	**Wahianoa**	**4.80**	**213**	P	**Pn**	**18 23 20.5**	**-2.1**
WNVZ				S	**S**	**18 24 25.2**	**+3.1**
PXZ	**Pawanui**	**4.97**	**199**	P	**Pn**	**18 23 21.8**	**-2.6**
PXZ				S	**S**	**18 24 28.4**	**+3.1**
PNHZ	**Pukenui**	**5.07**	**205**	P	**Pn**	**18 23 22.5**	**-3.1**
PNHZ				S	**S**	**18 24 29.0**	**+1.5**
PRHZ	**Porangahau**	**5.25**	**200**	P	**Pn**	**18 23 25.2**	**-2.6**
PRHZ				S	**S**	**18 24 36.0**	**+4.5**
TSZ	**Takapari Road**	**5.28**	**206**	P	**Pn**	**18 23 25.8**	**-2.3**
DVHZ	**Dannevirke**	**5.43**	**203**	P	**Pn**	**18 23 27.2**	**-2.7**
DVHZ				S	**S**	**18 24 38.0**	**+2.7**
WAZ	**Wanganui**	**5.43**	**215**	P	**Pn**	**18 23 27.8**	**-2.1**
WAZ				S	**S**	**18 24 38.2**	**+2.9**
PRWZ	**Pori Road**	**5.72**	**204**	P	**Pn**	**18 23 31.0**	**-2.5**
PRWZ				S	**S**	**18 24 43.5**	**+1.8**
BFZ	**Birch Farm**	**5.75**	**201**	P	**Pn**	**18 23 30.9**	**-2.9**
BFZ				S	**S**	**18 24 43.3**	**+0.9**
BFZ	**Birch Farm**	**5.75**	**201**	P	**Pn**	**18 23 31.1**	**-2.7**
TIWZ	**Tintock**	**5.95**	**203**	P	**Pn**	**18 23 33.4**	**-2.9**
TIWZ				S	**S**	**18 24 48.1**	**+1.2**
MRZ	**Mangatainoka R**	**5.95**	**206**	P	**Pn**	**18 23 32.8**	**-3.4**
MRZ				S	**S**	**18 24 46.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**6.18**	**205**	P	**Pn**	**18 23 35.8**	**-3.3**
HOWZ				S	**S**	**18 24 50.9**	**-1.1**
OGWZ	**Otaki Gorge**	**6.24**	**208**	P	**Pn**	**18 23 35.9**	**-3.8**
OGWZ				S	**S**	**18 24 52.8**	**-0.4**
TMWZ	**Te Maipa**	**6.25**	**202**	P	**Pn**	**18 23 36.9**	**-3.0**
TMWZ				S	**S**	**18 24 53.7**	**+0.2**
KIW	**Kapiti Island**	**6.38**	**209**	P	**Pn**	**18 23 37.9**	**-3.6**
CAW	**Cannon Point**	**6.53**	**207**	P	**Pn**	**18 23 39.5**	**-3.8**
CAW				S	**S**	**18 24 58.8**	**-1.0**
PAWZ	**Paruwai Farm**	**6.64**	**204**	P	Pn	18 23 39.5	-5.2
PAWZ				S	**S**	**18 25 02.2**	**-0.2**
SNZO	**South Karori**	**6.84**	**208**	P	**Pn**	**18 23 43.6**	**-3.6**
QRZ	**Quartz Range**	**7.47**	**221**	P	**Pn**	**18 23 52.5**	**-2.6**
KHZ	**Kahutara**	**8.24**	**209**	P	**Pn**	**18 24 00.6**	**-3.9**
ODZ	**Otahua Downs**	**11.59**	**211**	P	**Pn**	**18 24 43.8**	**-2.4**

*NNC **28** 18:24:33.0±1.6, 47.°73N×82.°13E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=12.1km s-min=8.2km az=76.0*
*SOME **28** 18:24:35.8, 47.°72N×81.°47E, h5km*
ISC 28 18:24:33.4±1.0**, 47.°73N**±0.°03×**81.°71E**±0.°04**, h10km, n12, σ1.s61**/18**, 4C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.94**	**169**	⇓P	**Pg**	**18 24 50.9**	**-0.6**
	1.2nm,0.6s						
MAKZ				⇑S	**Sg**	**18 25 02.9**	**-0.8**
	7.5nm,0.6s						
MK31	**Makanchi Array**	**1.02**	**157**	P	**Pg**	**18 24 52.3**	**-0.7**
	0.7nm,0.3s,baz=359,slow=16,SNR=176						
MK31				⇓S	**Sg**	**18 25 04.7**	**-1.5**
	7.5nm,0.5s,baz=356,slow=29,SNR=7.7						
ZSN	**Zaisan**	**2.15**	**96**	*e*P	**Pg**	**18 25 13.7**	**-0.9**
	2.2nm,0.9s						
ZSN				*e*S	**Sb**	**18 25 40.5**	**+1.3**
	9.2nm,0.2s						
SEM	**Semipalatinsk**	**2.85**	**341**	*e*P	**Pg**	**18 25 27.0**	**-1.0**
	2.7nm,0.6s						
SEM				*e*S	**Sg**	**18 26 03.6**	**-1.2**
	22nm,0.1s						
SEM	**Semipalatinsk**	**2.85**	**341**	Pg	**Pb**	**18 25 24.7**	**+0.2**
	2.1nm,0.1s						
SEM				Lg	Lg	18 26 02.1	
	16nm,0.1s						
KAPS	**Kapalarasan**	**2.94**	**214**	*e*P	**Pb**	**18 25 27.5**	**+1.6**
	0.6nm,0.4s						
KAPS				*e*S	**Sb**	**18 26 04.5**	**+2.6**
	2.6nm,0.3s						
KAPS	**Kapalarasan**	**2.94**	**214**	Pg	**Pb**	**18 25 26.0**	**0.0**
	0.2nm,0.1s						
KAPS				Lg	Lg	18 26 04.3	
	5.2nm,0.5s						
KURBB	**Kurchatov Arra**	**3.57**	**325**	⇑Pg	**Pg**	**18 25 42.0**	**+0.3**
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	18 26 32.4	
	6.2nm,0.5s						
KURK	**Kurchatov**	**3.61**	**327**	⇑Lg	Lg	18 26 33.4	
	4.1nm,0.6s						
DJR	**Jarkent**	**3.66**	**202**	*e*P	**Pg**	**18 25 42.6**	**-0.9**
	0.4nm,0.1s						
DJR				*e*S	**Sg**	**18 26 29.8**	**-0.9**
	1.8nm,0.4s						
PDGK	**Podgornoye**	**4.67**	**200**	Pg	**Pb**	**18 25 58.1**	**+2.6**
	1.2nm,1.0s						
PDGK				Lg	Lg	18 26 59.4	
	0.7nm,0.5s						
KPKS	**Kokpek**	**4.77**	**208**	*e*P	**Pg**	**18 26 02.3**	**-2.4**
	1.1nm,1.7s						
KPKS				*e*S	**Sg**	**18 27 03.9**	**-2.5**
	3.3nm,0.3s						

*IDC **28** 18:24:46.7±2.2, 10.°54S×152.°39E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=54.0km s-min=32.2km az=106.0*
ISC 28 18:24:52.9±2.0**, 10.°8S**±0.°1×**152.°1E**±0.°2**, h35km, n7, σ2.s04**/8**, mb3.8**/3**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.08**	**285**	Pn	**Pn**	**18 26 05.8**	**-0.7**
	0.4nm,0.3s,baz=127,slow=16,SNR=2.1						
PMG				Lg	Lg	18 27 26.1	
	baz=80,slow=14,SNR=2.0						
CTA	**Charters Tower**	**10.83**	**211**	Pn	**Pn**	**18 27 23.1**	**-2.4**
	0.2nm,0.3s,baz=24,slow=14,SNR=2.6						
CTA				Sn	**Sn**	**18 29 24.9**	**-0.7**
	0.1nm,0.3s,baz=320,slow=2.9,SNR=1.9						
WRA	**Warramunga Arr**	**19.39**	**240**	P	**Pn**	**18 29 19.0**	**+1.7**
	0.1nm,0.3s,baz=63,slow=10,SNR=20						
ASAR	**Alice Springs**	**21.57**	**231**	P	**P**	**18 29 42.4**	**+2.8**
	1.0nm,0.7s,baz=66,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**23.13**	**203**	P	**P**	**18 29 57.7**	**+1.7**
	3.3nm,1.0s,baz=26,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	**84.40**	**320**	P	**P**	**18 37 21.2**	**-0.6**
	1.0nm,0.9s,baz=92,slow=6.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**150.98**	**278**	PKPbc	**PKPbc**	**18 44 42.7**	**-0.4**
	0.4nm,0.5s,baz=69,slow=2.4,SNR=5.5						

*IDC **28** 18:31:08.8±0.5, 4.°76S×139.°86E, h0km, mb4.2/16, mb1 4.3/20, mb1mx4.1/40, mbtmp4.2/20, ML3.0/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/57, Error ellipse: s-maj=21.8km s-min=11.6km az=74.0*
*BJI **28** 18:31:10.6±0.0, 4.°64S×140.°48E, h28km, mb4.6/32, mB5.0/12, Ms4.7/2, Ms7 4.6/2*
*DJA **28** 18:31:12.6±0.3, 5°S±3°×14°0E±°, h10km, M4.7/26, mB5.0/12, mb4.8/26, MLv5.4/4, Mw(mB)4.3/12*
*NEIC **28** 18:31:14.5±2.4, 4.°74S±0.°04×139.°82E±0.°07, h37km±7km, mb4.7/44, Error ellipse: s-maj=10.7km s-min=4.7km az=69.0*
ISC 28 18:31:13.9±0.4**, 4.°85S**±0.°04×**139.°80E**±0.°05**, h35km, n138, σ1.s66**/136**, mb4.6**/47**, MS3.8**/4**, 1C-1D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.27**	**9**	P	**Pn**	**18 31 48.6**	**-0.4**
GENI	**Genyem**	**2.27**	**9**	P	**Pn**	**18 31 49.4**	**+0.4**
JAY	**Jayapura**	**2.49**	**21**	Pn	**Pn**	**18 31 50.2**	**-1.7**
	76nm,0.3s,baz=203,slow=12,SNR=220						
JAY				Sn	**Sn**	**18 32 19.3**	**-1.9**
	140nm,0.3s,baz=145,slow=17,SNR=6.5						
JAY				LR	LR	18 33 09.7	
	comp=Z,2µm,20.6s,baz=188,slow=51						
MMPI	**Merauke**	**3.64**	**171**	P	**Pn**	**18 32 11.7**	**+3.9**
SRPI	**Serui, Papua**	**4.63**	**310**	P	**Pn**	**18 32 25.2**	**+3.8**
PMG	**Port Moresby**	**8.59**	**122**	Pn	**Pn**	**18 33 16.5**	**+0.7**
	3.6nm,0.3s,baz=353,slow=6.7,SNR=21						
PMG				Sn	**Sn**	**18 34 51.4**	**-0.1**
	1.3nm,0.3s,baz=187,slow=21,SNR=1.4						
PMG				LR	LR	18 37 42.3	
	comp=Z,286nm,19.5s,baz=74,slow=46						
PMG	**Port Moresby**	**8.59**	**122**		**Pn**	**18 33 17.1**	**+1.3**
PMG	**Port Moresby**	**8.59**	**122**	P	**Pn**	**18 33 17.6**	**+1.8**
SAUI	**Saumlaki**	**9.01**	**249**	Pn	**Pn**	**18 33 22.5**	**+0.9**
SAUI	**Saumlaki**	**9.01**	**249**	P	**Pn**	**18 33 23.7**	**+2.1**
	4µm341nm,0.7s						
SWI	**Sorong**	**9.41**	**295**	P	**Pn**	**18 33 26.7**	**-0.4**
	45nm,0.8s						
COEN	**Coen**	**9.64**	**160**		**Pn**	**18 33 31.1**	**+0.9**
COEN	**Coen**	**9.64**	**160**	P	**Pn**	**18 33 32.3**	**+2.0**
KDU	**Kakadu**	**10.63**	**222**	P	**Pn**	**18 33 44.5**	**+0.6**
MTN	**Manton Dam**	**11.68**	**227**	Pn	**Pn**	**18 33 57.7**	**-0.5**
MTN	**Manton Dam**	**11.68**	**227**	P	**Pn**	**18 33 58.4**	**+0.2**
MTSU	**Mount Surprise**	**13.92**	**162**	P	**Pn**	**18 34 30.1**	**+1.2**
SANI	**Sanana**	**14.07**	**281**	P	**Pn**	**18 34 29.4**	**-1.4**
	15nm,0.7s						
SANI	**Sanana**	**14.07**	**281**	P	**Pn**	**18 34 29.5**	**-1.4**
KNRA	**Kununurra**	**15.28**	**224**	Pn	**Pn**	**18 34 44.5**	**-2.6**
KNRA	**Kununurra**	**15.28**	**224**	P	**Pn**	**18 34 45.4**	**-1.8**
QIS	**Mount Isa**	**15.62**	**181**	P	**Pn**	**18 34 50.4**	**-1.1**
WB0	**Warramunga Arr**	**15.74**	**199**	Pn	**Pn**	**18 34 50.4**	**-2.7**
WR0	**Warramunga Arr**	**15.87**	**198**	Pn	**Pn**	**18 34 51.5**	**-3.3**
WRAB	**Tennant Creek**	**15.91**	**199**	P	**Pn**	**18 34 53.0**	**-2.3**
WRAB	**Tennant Creek**	**15.91**	**199**	P	**Pn**	**18 34 54.1**	**-1.2**
WB2	**Warramunga Arr**	**15.91**	**199**	Pn	**Pn**	**18 34 52.7**	**-2.7**
WRA	**Warramunga Arr**	**15.92**	**199**	Pn	**Pn**	**18 34 53.5**	**-2.0**
	3.1nm,0.3s,baz=17,slow=13,SNR=107						
WRA				Sn	**Sn**	**18 37 47.7**	**-3.2**
	1.4nm,0.3s,baz=24,slow=23,SNR=2.5						
WRA				Lg	Lg	18 39 33.8	
	3.1nm,0.3s,baz=26,slow=29,SNR=6.3						
WRA				LR	LR	18 41 34.7	
	comp=Z,733nm,18.9s,baz=5.0,slow=39						
CTA	**Charters Tower**	**16.40**	**158**	Pn	**Pn**	**18 35 01.1**	**-0.5**
	0.1nm,0.3s,baz=334,slow=12,SNR=3.5						
CTA				Lg	Lg	18 39 52.0	
	0.6nm,0.3s,baz=58,slow=20,SNR=8.4						
CTA				LR	LR	18 41 13.8	
	comp=Z,364nm,18.6s,baz=332,slow=37						
CTA	**Charters Tower**	**16.40**	**158**	P	**P**	**18 35 03.1**	**-0.9**
CTAO	**Charters Tower**	**16.40**	**158**	Pn	**Pn**	**18 35 00.3**	**-1.2**
KMSI	**Cibinong**	**16.70**	**288**	P	**P**	**18 35 08.5**	**+1.1**
	66nm,0.6s						
LUWI	**Luwuk**	**17.42**	**282**	P	**Pn**	**18 35 11.5**	**-2.9**
	52nm,0.8s						
MMRI	**Maumere**	**17.84**	**257**		**Pn**	**18 35 18.6**	**-1.0**
MMRI				IAmb	IAmb	18 35 39.5	
	comp=Z,32nm,0.6s						
MMRI	**Maumere**	**17.84**	**257**	P	**Pn**	**18 35 19.5**	**-0.1**
	comp=Z,614nmcomp=Z,52nm,0.7s						
MMRI	**Maumere**	**17.84**	**257**	P	**Pn**	**18 35 18.9**	**-0.7**
APSI	**Ampana**	**18.55**	**282**	P	**Pn**	**18 35 30.6**	**+2.4**
	comp=Z,297nmcomp=Z,14nm,0.8s						
GUMO	**Guam**	**19.00**	**15**	LR	LR	18 41 26.0	
	comp=Z,180nm,20.1s,baz=206,slow=33						
FITZ	**Fitzroy Crossi**	**19.11**	**225**	P	**P**	**18 35 33.9**	**0.0**
	comp=Z,3.7nm,0.3s,baz=45,slow=10,SNR=51						
FITZ				S	**Sn**	**18 38 59.5**	**-8.7**
	comp=Z,1.7nm,0.3s,baz=164,slow=9.8,SNR=3.1						
FITZ				LR	LR	18 43 49.9	
	comp=Z,386nm,19.7s,baz=53,slow=40						
FITZ	**Fitzroy Crossi**	**19.11**	**225**	P	**P**	**18 35 34.0**	**0.0**
FITZ				IAmb	IAmb	18 35 41.8	
	comp=Z,33nm,0.6s						
BSSI	**Bau Bau, Buton**	**19.27**	**265**	P	**Pn**	**18 35 38.1**	**+1.2**
	comp=Z,304nmcomp=Z,18nm,1.1s						
AS31	**Alice Springs**	**19.55**	**196**		**Pn**	**18 35 40.3**	**0.0**
AS31				IAmb	IAmb	18 35 43.3	
	comp=Z,33nm,0.8s						
ASAR	**Alice Springs**	**19.55**	**196**	P	**Pn**	**18 35 40.5**	**+0.1**
	comp=Z,9.4nm,0.3s,baz=19,slow=7.5,SNR=994						
ASAR				S	**S**	**18 39 11.8**	**-6.1**
	comp=Z,0.6nm,0.3s,baz=17,slow=26,SNR=3.9						
ASAR				Lg	Lg	18 41 28.6	
	comp=Z,0.4nm,0.3s,baz=19,slow=29,SNR=4.5						
ASAR				LR	LR	18 43 30.2	
	comp=Z,568nm,20.5s,baz=38,slow=38						
ASAR	**Alice Springs**	**19.55**	**196**		**Pn**	**18 35 39.6**	**-0.7**
BKSI	**Bulukumba**	**19.61**	**268**	P	**Pn**	**18 35 41.5**	**+0.5**
	comp=Z,296nmcomp=Z,30nm,0.7s						
BNSI	**Bone**	**19.64**	**270**	P	**Pn**	**18 35 43.5**	**+2.2**
	comp=Z,36nm,0.8s						
TOLI2	**Tolitoli**	**19.91**	**287**		**Pn**	**18 35 43.5**	**-1.0**
TOLI2				IAmb	IAmb	18 35 56.0	
	comp=Z,27nm,0.7s						
TOLI2	**Tolitoli**	**19.91**	**287**	P	**P**	**18 35 42.3**	**-0.4**
MPSI	**Mapaga**	**20.54**	**284**	P	Pn	18 35 51.3	-0.7
	comp=Z,14nm,1.0s						
WBSI	**Waikabubak, Su**	**20.80**	**256**	P	**P**	**18 35 51.6**	**-0.8**
	comp=Z,704nmcomp=Z,56nm,0.6s						
QLP	**Quilpie**	**22.02**	**169**	P	**P**	**18 36 08.0**	**+2.6**
PLAI	**Plampang**	**22.22**	**259**	P	**P**	**18 36 08.0**	**+0.2**
	comp=Z,23nm,1.0s						
PLAI	**Plampang**	**22.22**	**259**	P	**P**	**18 36 07.9**	**+0.2**
INKA	**Innaminka**	**22.78**	**178**	P	**P**	**18 36 14.8**	**+1.3**
WRKA	**Warakurna**	**22.91**	**208**	P	**P**	**18 36 15.9**	**+0.9**
EIDS	**Eidsvold**	**23.09**	**153**	P	**P**	**18 36 16.9**	**+0.1**
EIDS	**Eidsvold**	**23.09**	**153**	P	**P**	**18 36 19.6**	**+2.8**
OOD	**Oodnadatta**	**23.15**	**189**	P	**P**	**18 36 19.3**	**+2.0**
MYLDM	**Lahad Datu**	**23.49**	**295**	P	**P**	**18 36 18.9**	**-2.0**
MYLDM				IAmb	IAmb	18 36 43.6	
	comp=Z,23nm,1.0s						
LCRK	**Leigh Creek**	**25.51**	**183**	P	**P**	**18 36 39.6**	**+0.5**
	comp=Z,32nm,0.8s						
PSA00	**Pilbara Seismi**	**25.51**	**228**	P	**P**	**18 36 38.0**	**-1.3**
PSA00				IAmb	IAmb	18 36 42.4	
	comp=Z,18nm,0.6s						
PSA00	**Pilbara Seismi**	**25.51**	**228**	P	**P**	**18 36 39.0**	**-0.3**
PSA00				IAmb	IAmb	18 36 42.3	
	comp=Z,56nm,0.7s						
PSA00	**Pilbara Seismi**	**25.51**	**228**	P	**P**	**18 36 40.1**	**+0.8**
JAGI	**Jajag, Banyuwa**	**25.73**	**261**	P	**P**	**18 36 39.6**	**-1.7**
MULG	**Mulgathing**	**25.87**	**191**	P	**P**	**18 36 43.9**	**+1.4**
	comp=Z,24nm,0.8s						
STKA	**Stephens Creek**	**26.94**	**177**	P	**P**	**18 36 52.1**	**0.0**
	comp=Z,3.7nm,0.7s,baz=335,slow=14,SNR=3.9						
STKA				LR	LR	18 48 56.1	
	comp=Z,408nm,19.6s,baz=7.7,slow=40						
STKA	**Stephens Creek**	**26.94**	**177**	P	**P**	**18 36 52.2**	**0.0**
FORT	**Forrest**	**28.07**	**202**	P	**P**	**18 37 01.9**	**-0.3**
FORT	**Forrest**	**28.07**	**202**	P	**P**	**18 37 04.4**	**+2.2**
	comp=Z,52nm,0.6s						
MEEK	**Meekatharra**	**29.65**	**221**	P	**P**	**18 37 16.2**	**-0.2**
	comp=Z,13nm,0.8s						
NTLS	**Newcastle Soft**	**30.09**	**160**	P	**P**	**18 37 23.0**	**+2.9**
MORW	**Morawa**	**32.97**	**220**	P	**P**	**18 37 45.7**	**+0.1**
MORW	**Morawa**	**32.97**	**220**	P	**P**	**18 37 45.4**	**-0.2**
	comp=Z,22nm,0.6s						
BLDU	**Ballidu**	**33.62**	**218**	P	**P**	**18 37 51.6**	**+0.4**
	comp=Z,12nm,1.5s						
KLBR	**Kellerberrin**	**33.70**	**215**	P	**P**	**18 37 52.9**	**+1.0**
	comp=Z,22nm,0.7s						
JHJ	**Hachijo jima 2**	**37.76**	**360**	LR	LR	18 51 32.4	
	comp=Z,116nm,20.4s,baz=238,slow=32						
MJAR	**Matsushiro Arr**	**41.20**	**358**	P	**P**	**18 38 52.3**	**-3.0**
	comp=Z,1.7nm,0.9s,baz=193,slow=5.0,SNR=3.0						
GSI	**Gunungsitoli**	**42.63**	**277**	P	**P**	**18 39 05.7**	**-1.7**
GSI				IAmb	IAmb	18 39 11.3	
	comp=Z,8.6nm,0.8s						
JSD	**Sado**	**42.69**	**358**	P	**P**	**18 39 06.3**	**-1.2**
JSD				IAmb	IAmb	18 39 07.8	
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**43.52**	**346**	P	**P**	**18 39 12.8**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=160,slow=9.5,SNR=2.8						
KSRS				LR	LR	18 55 46.8	
	comp=Z,43nm,20.6s,baz=90,slow=34						
ENH	**Enshi**	**45.41**	**322**	P	**P**	**18 39 29.6**	**+0.1**
ENH				IAmb	IAmb	18 39 39.1	
	comp=Z,9.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.46**	**301**	P	**P**	**18 39 37.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=116,slow=5.6,SNR=5.8						
CMAR	**Chiang Mai Arr**	**46.46**	**301**	P	**P**	**18 39 37.1**	**-0.7**
URZ	**Urewera**	**47.49**	**140**	P	**P**	**18 39 45.4**	**-0.2**
	comp=Z,7.0nm,1.0s,baz=301,slow=5.0,SNR=1.8						
TUWZ	**Tuamarina**	**47.50**	**145**	P	**P**	**18 39 46.3**	**+0.6**
RPZ	**Rata Peaks**	**47.50**	**149**	P	**P**	**18 39 46.3**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=270,slow=6.1,SNR=1.9						
PZH	**PanZhiHua**	**48.26**	**312**	P	**P**	**18 39 55.5**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**48.44**	**325**	P	**P**	**18 39 53.5**	**+0.4**
XAN				pP	pP	18 40 01.8	-2.1
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**49.33**	**353**	P	**P**	**18 39 58.7**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=157,slow=4.7,SNR=3.4						
BNX	**BinXian**	**51.56**	**349**	⇓P	**P**	**18 40 16.5**	**0.0**
BNX				pmax	pmax		
	comp=Z,24nm,1.1s						
BNX				pmax	pmax		
	comp=Z,520nm,7.8s						
LZH	**Lanzhou**	**52.84**	**323**	*e*P	P	18 40 36.0	+10
LZH				pP	sP	18 40 40.5	-1.1
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
GTA	**Gaotai**	**57.43**	**324**	*e*P	**P**	**18 41 00.8**	**+1.4**
GTA				pP	pP	18 41 05.5	-4.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GOMU	**GeErMu**	**58.62**	**318**	P	**P**	**18 41 10.5**	**+2.3**
GOMU				PcP	**PcP**	**18 41 59.5**	**+1.4**
GOMU				PP	**PP**	**18 43 19.0**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**59.69**	**12**	LR	LR	19 03 54.6	
	comp=Z,104nm,21.9s,baz=273,slow=33						
ULN	**Ulaanbaatar**	**59.85**	**335**	P	**P**	**18 41 16.7**	**+0.5**
ULN				IAmb	IAmb	18 41 27.4	
	comp=Z,4.2nm,1.1s						
SONM	**Songino Array**	**60.11**	**335**	P	**P**	**18 41 18.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=158,slow=7.1,SNR=6.4						
SONM	**Songino Array**	**60.11**	**335**	P	**P**	**18 41 18.6**	**+0.7**
YAK	**Yakutsk**	**67.14**	**355**	P	**P**	**18 42 03.6**	**-0.2**
YAK				IAmb	IAmb	18 42 05.1	
	comp=Z,7.3nm,0.8s						
MK31	**Makanchi Array**	**72.14**	**322**	P	**P**	**18 42 35.3**	**+0.2**
MK31				IAmb	IAmb	18 42 46.0	
	comp=Z,7.9nm,1.2s						
MKAR	**Makanchi Array**	**72.14**	**322**	P	**P**	**18 42 36.2**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=115,slow=7.7,SNR=49						
MKAR	**Makanchi Array**	**72.14**	**322**	P	**P**	**18 42 35.7**	**+0.7**
MAKZ	**Makanchi**	**72.34**	**322**	P	**P**	**18 42 36.5**	**+0.3**
MAKZ				IAmb	IAmb	18 42 47.0	
	comp=Z,12nm,1.1s						
TARG	**Taragay, Kyrgy**	**72.87**	**316**	P	**P**	**18 42 40.1**	**+0.1**
TARG				IAmb	IAmb	18 42 55.5	
	comp=Z,3.9nm,0.7s						
KSH	**Kashi**	**73.34**	**314**	P	**P**	**18 42 43.3**	**+0.8**
KDJ	**Kajisay**	**73.46**	**316**	P	**P**	**18 42 44.5**	**+1.3**
VNDA	**Vanda**	**73.57**	**175**	P	**P**	**18 42 43.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=325,slow=7.4,SNR=1.6						
ZAA0	**Zalesovo Array**	**74.32**	**330**	P	**P**	**18 42 47.0**	**-0.8**
ZAA0				IAmb	IAmb	18 42 56.5	
	comp=Z,6.4nm,1.1s						
ZALV	**Zalesovo Beam**	**74.32**	**330**	P	**P**	**18 42 47.6**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=110,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**74.32**	**330**	P	**P**	**18 42 47.2**	**-0.5**
BOOM	**Boomskoye usch**	**74.44**	**316**	P	**P**	**18 42 49.8**	**+0.8**
BOOM				IAmb	IAmb	18 43 00.2	
	comp=Z,5.3nm,0.7s						
AAK	**Ala-Archa**	**75.49**	**316**	P	**P**	**18 42 55.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=118,slow=7.3,SNR=4.2						
AAK	**Ala-Archa**	**75.49**	**316**	P	**P**	**18 42 55.9**	**+0.9**
KURK	**Kurchatov**	**76.08**	**325**	P	**P**	**18 42 58.6**	**+0.7**
KURK				IAmb	IAmb	18 43 07.7	
	comp=Z,9.5nm,1.1s						
KURBB	**Kurchatov Arra**	**76.09**	**325**	P	**P**	**18 42 58.6**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=114,slow=5.2,SNR=27						
BTK	**Batken**	**77.27**	**313**	P	**P**	**18 43 05.5**	**+0.6**
GAR	**Garm**	**77.32**	**312**	P	**P**	**18 43 05.7**	**+0.3**
GAR				IAmb	IAmb	18 43 21.6	
	comp=Z,7.4nm,0.9s						
KKAR	**Karatay Array**	**78.41**	**316**	P	**P**	**18 43 10.6**	**-0.7**
TNA	**Tin City**	**79.79**	**20**	P	**P**	**18 43 18.4**	**+0.2**
BRVK	**Borovoye**	**81.75**	**325**	P	**P**	**18 43 29.4**	**+0.4**
BRVK				IAmb	IAmb	18 43 38.9	
	comp=Z,6.7nm,0.9s						
J20K	**Nowinta River**	**84.16**	**24**	P	**P**	**18 43 41.2**	**0.0**
J20K				IAmb	IAmb	18 43 45.4	
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**85.11**	**180**	P	**P**	**18 43 46.3**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=280,slow=0.8,SNR=9.2						
QSPA	**South Pole Qui**	**85.11**	**180**	IAmb	IAmb	18 44 01.0	
	comp=Z,7.2nm,1.1s						
DHY	**Denali Highway**	**86.61**	**26**	P	**P**	**18 43 53.2**	**-0.4**
ABKAR	**Akbulak array**	**87.05**	**320**	P	**P**	**18 43 54.9**	**-1.0**
ILAR	**Eielson Array**	**87.32**	**24**	P	**P**	**18 43 55.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=247,slow=5.1,SNR=15						
TOLK	**Toolik Lake Re**	**87.54**	**20**	P	**P**	**18 43 59.1**	**+1.2**
TOLK				IAmb	IAmb	18 43 60.0	
	comp=Z,4.4nm,0.8s						
BMAR	**Burnt Mountain**	**88.96**	**22**	P	**P**	**18 44 05.7**	**+1.0**
SYO	**Syowa Base**	**89.16**	**201**	⇑*e*P	**P**	**18 44 07.2**	**+1.6**
ARU	**Arti**	**89.17**	**327**	P	**P**	**18 44 05.1**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=107,slow=22,SNR=7.7						
ARU	**Arti**	**89.17**	**327**	IAmb	IAmb	18 44 06.2	
	comp=Z,8.3nm,1.2s						
YKA	**Yellowknife Ar**	**101.46**	**27**	P	**Pdif**	**18 45 01.7**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=284,slow=4.3,SNR=3.9						
GERES	**GERESS Array B**	**116.80**	**323**	PKP	**PKPdf**	**18 49 54.5**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=76,slow=5.4,SNR=1.4						
PLCA	**Paso Flores**	**126.79**	**151**	PKP	**PKiKP**	**18 50 15.0**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=240,slow=4.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**137.87**	**284**	PKP	**PKPdf**	**18 50 35.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=80,slow=1.8,SNR=1.9						
DBIC	**Dimbokro**	**144.80**	**275**	PKP	PKPbc	18 50 47.4	0.0
	comp=Z,5.2nm,0.5s,baz=115,slow=2.8,SNR=13						
CPUP	**Villa Florida**	**144.84**	**153**	PKP	PKPbc	18 50 47.2	+0.2
	comp=Z,2.9nm,0.8s,baz=333,slow=3.3,SNR=4.4						
LPAZ	**La Paz**	**145.29**	**128**	PKPbc	**PKPdf**	**18 50 51.4**	**+1.5**
	comp=Z,4.5nm,0.7s,baz=229,slow=2.7,SNR=12						
LPAZ	**La Paz**	**145.29**	**128**		**PKPdf**	**18 50 51.1**	**+1.2**

THE 28 18:35:47.4, 38.°41N×20.°47E, h9km±1km, ML1.0/3, Error ellipse: s-maj=1.9km s-min=0.4km az=79.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.09**	**58**	P	Pg	18 35 49.7	+0.1
FSK				S	Sg	18 35 51.1	-0.1
KEF4	**Livadi, Kephal**	**0.16**	**193**	P	Pg	18 35 50.8	0.0
KEF4				S	Sg	18 35 53.8	+0.7
DMLN	**Damoulianata-K**	**0.19**	**203**	P	Pg	18 35 51.3	0.0
DMLN				S	Sg	18 35 54.6	+0.6
	50nm,0.2s						
KEF3	**Kipouria, Keph**	**0.23**	**204**	P	Pg	18 35 51.6	-0.5
KEF3				S	Sg	18 35 55.6	+0.4
EVGI	**Lefkada island**	**0.25**	**35**	P	Pg	18 35 52.4	-0.1
EVGI				S	Sg	18 35 56.6	+0.7
	72nm,0.1s						
VLS	**Valsamata**	**0.26**	**158**	P	Pg	18 35 52.3	-0.2
VLS				S	Sg	18 35 56.1	+0.1
	52nm,0.1s						
PSDA	**Pessada-Kefalo**	**0.31**	**163**	P	Pg	18 35 53.9	+0.3
PSDA				S	Sg	18 35 58.5	+0.8

ATH 28 18:36:28.6, 37°.62N×20°.87E, h24km±2km, ML1.7/3, Error ellipse: s-maj=2.9km s-min=1.5km az=190.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.10**	**346**	P	Pb	18 36 33.3	+0.1
LTHK				S	Sb	18 36 36.3	+0.1
PSDA	**Pessada-Kefalo**	**0.55**	**336**	P	Pb	18 36 39.8	+0.1
VLS	**Valsamata**	**0.60**	**339**	P	Pb	18 36 40.5	-0.1
VLS				AML	AML	18 36 55.1	
	comp=N,101μm,0.2s						
VLS				AML	AML	18 36 56.0	
	comp=E,95μm,0.2s						
RLS	**Riolos of Patr**	**0.65**	**47**	P	Pb	18 36 41.4	0.0
RLS				S	Sn	18 36 51.1	-0.7
RLS				AML	AML	18 36 53.8	
	comp=N,139μm,0.3s						
RLS				AML	AML	18 36 53.8	
	comp=E,134μm,0.2s						
KEF3	**Kipouria, Keph**	**0.72**	**325**	P	Pn	18 36 43.0	-0.2
DRO	**Drossia**	**0.75**	**63**	P	Pn	18 36 43.4	-0.3
DRO				AML	AML	18 37 04.5	
	comp=N,256μm,0.3s						
DRO				AML	AML	18 37 06.4	
	comp=E,284μm,0.4s						
FSK	**Fiskardo**	**0.88**	**344**	P	Pn	18 36 46.0	+0.6
ITM	**Ithomi**	**0.95**	**117**	P	Pn	18 36 47.2	+0.8
LAKA	**Lakka**	**1.08**	**54**	P	Pb	18 36 48.9	+0.2
KLV	**Kalavryta, Ach**	**1.10**	**67**	P	Pb	18 36 49.1	0.0

*IDC **28** 18:40:03.6±1.9, 25°.94N×90°.48E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.3/54, mbtmp3.4/6, ML4.1/1, Error ellipse: s-maj=78.9km s-min=20.7km az=66.0*

*NEIC **28** 18:40:06.8±0.7, 25°.95N±0°.09×90°.69E±0°.09, h10km±2km, mb4.0/6, Error ellipse: s-maj=18.3km s-min=7.5km az=219.0*

*NDI **28** 18:40:07.5±2.7, 26°.04N×90°.76E, h15km±12km, ML4.0, mb4.0(NEIC)*

ISC 28 18:40:08.0±0.7, 25°.99N±0°.05×90°.78E±0°.04, h21km±4km, n27, σ1°.916/31, mb3.9/9, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURI	**Tura**	**0.59**	**222**	*eP*	**Pn**	**18 40 21.7**	**+0.5**
TURI				*eS*	**Sn**	**18 40 31.4**	**+1.1**
TURI				IAML		18 40 33.7	
	comp=N,9μm,0.1s						
TURI				IAML		18 40 34.0	
	comp=E,11μm,0.4s						
GUWA	**GUWAHATI**	**0.85**	**76**	*eP*	**Pn**	**18 40 24.4**	**-0.2**
GUWA				*eS*	**Sb**	**18 40 35.2**	**+0.3**
SHL	**Shillong**	**1.08**	**113**	Pn	**Pb**	**18 40 28.3**	**+0.2**
SHL					**Sn**	**18 40 43.0**	**+0.4**
SHL	**Shillong**	**1.08**	**113**	*eP*	**Pb**	**18 40 28.6**	**+0.5**
SHL				*eS*	**Sn**	**18 40 44.0**	**+1.4**
SHL				IAML		18 40 45.0	
	comp=N,4μm,0.1s						
SHL				IAML		18 40 45.6	
	comp=E,3μm,0.2s						
TEZP	**TEZPUR**	**1.92**	**71**	*eP*	**Pn**	**18 40 40.1**	**+0.7**
TEZP				*eS*	**Sb**	**18 41 05.0**	**-0.8**
TEZP				IAML		18 41 08.9	
	comp=E,979nm,0.0s						
GTK	**Tadong**	**2.35**	**305**	*eP*	**Pn**	**18 40 47.0**	**+1.5**
ITAN	**ITANAGAR**	**2.88**	**66**	*eP*	**Pn**	**18 40 50.5**	**-2.2**
KOHI	**KOHIMA**	**3.01**	**94**	*ex*	x	18 41 10.9	
KOHI				IAML		18 41 50.4	
	comp=E,435nm,0.5s						
BRDH	**Bariadhala**	**3.39**	**166**	Sn	**Sn**	**18 41 40.6**	**+1.3**
	comp=E,1.0nm,0.3s,baz=360,slow=24,SNR=2.6						
LSA	**Lhasa**	**3.71**	**5**	Pn	**Pn**	**18 41 05.3**	**+0.8**
LSA	**Lhasa**	**3.71**	**5**	P	**Pn**	**18 41 05.0**	**+0.5**
BOK	**Bokaro**	**4.95**	**245**	*eP*	**Pn**	**18 41 20.4**	**-0.8**
BOK				*eS*	**Sn**	**18 42 14.7**	**-3.1**
CMAR	**Chiang Mai Arr**	**10.64**	**133**	Pn	**Pn**	**18 42 38.9**	**-0.5**
	comp=E,0.4nm,0.3s,baz=307,slow=13,SNR=5.7						
MK31	**Makanchi Array**	**21.83**	**344**	P	**P**	**18 44 57.5**	**-1.4**
MK31				IAmb	IAmb	18 45 06.8	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**21.83**	**344**	P	**P**	**18 44 57.4**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=153,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**21.83**	**344**	P	**P**	**18 44 59.3**	**+0.4**
SONM	**Songino Array**	**25.03**	**25**	P	**P**	**18 45 30.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=207,slow=11,SNR=2.2						
SONM	**Songino Array**	**25.03**	**25**	IAmb	IAmb	18 45 38.7	
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**26.33**	**342**	P	**P**	**18 45 40.6**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=160,slow=9.2,SNR=2.5						
ABKAR	**Akbulak array**	**33.32**	**322**	P	**P**	**18 46 44.1**	**-0.1**
ABKAR	**Akbulak array**	**33.32**	**322**	P	**P**	**18 46 43.7**	**-0.5**
ABKAR				IAmb	IAmb	18 46 50.2	
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**62.24**	**133**	P	**P**	**18 50 28.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=322,slow=6.9,SNR=4.7						
WRAB	**Tennant Creek**	**62.24**	**133**	P	**P**	**18 50 28.3**	**-0.2**
WB2	**Warramunga Arr**	**62.25**	**133**	P	**P**	**18 50 28.6**	**0.0**
WB2				IAmb	IAmb	18 50 48.7	
	comp=Z,6.2nm,1.4s						
CLL	**Collm**	**62.68**	**316**	*eP*	**P**	**18 50 33.0**	**+1.9**
AS31	**Alice Springs**	**64.64**	**136**	P	**P**	**18 50 44.1**	**-0.3**
AS31				IAmb	IAmb	18 50 45.5	
	comp=Z,0.9nm,1.1s						
ASAR	**Alice Springs**	**64.64**	**136**	P	**P**	**18 50 44.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=315,slow=6.3,SNR=30						

JMA 28 18:49:46.9±0.6, 45°.48N×149°.97E, h30km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.69**	**237**	P	Pn	18 50 40.7	-1.2
NEM2				*eS*	Sn	18 51 20.5	-3.9
JRA	**Rausu**	**3.78**	**248**	P	Pn	18 50 44.9	+1.8
JNK	**Nakash**	**4.21**	**245**	P	Pn	18 50 49.9	+1.0
JAK	**Akkeshi**	**4.53**	**239**	P	Pn	18 50 52.5	-0.9
JAK				*eS*	Sn	18 51 41.8	-3.2
JTKR	**Abashiri--Toko**	**4.58**	**253**	P	Pn	18 50 56.8	+2.8
JMP	**Maruseppu**	**4.93**	**255**	P	Pn	18 51 01.5	+2.5
JAR	**Ashorobuto**	**4.95**	**246**	P	Pn	18 51 01.1	+1.9
JCH	**Churui**	**5.56**	**241**	P	Pn	18 51 07.3	-0.2
JKB	**Kayabe**	**7.41**	**244**	P	Pn	18 51 32.7	-0.2
JANG	**Nango**	**8.03**	**234**	*eS*	Sn	18 53 02.7	-8.5

*WEL **28** 18:59:40.1±0.7, 37°.5S×6°.7×17°.7E±°, h12km, M3.5/28, ML3.7/27, MLv3.5/28, Error ellipse: s-maj=0.0km s-min=0.0km az=31.7*

*IDC **28** 18:59:43.7±10.0, 36°.84S×176°.47E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/26, mbtmp3.3/2, Error ellipse: s-maj=596.5km s-min=65.4km az=172.0*

ISC 28 18:59:38.1±1.5, 36°.71S±0°.05×177°.18E±0°.04, h3km±11km, n67, σ1°.929/74, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSRZ	**White Island S**	**0.80**	**180**	P	**Pn**	**18 59 54.9**	**-1.4**
WSRZ				S	**Sn**	**19 00 07.1**	**-1.7**
WIZ	**White Island**	**0.81**	**179**	P	**Pn**	**18 59 56.0**	**-0.4**
MYRZ	**Mayor Island**	**0.94**	**233**	P	**Pn**	**18 59 57.5**	**-0.7**
HAZ	**Te Kaha**	**1.15**	**155**	P	**Pn**	**19 00 00.2**	**-0.8**
HAZ				S	**Sn**	**19 00 16.1**	**-1.2**
WHRZ	**Whale Island**	**1.15**	**188**	P	**Pn**	**19 00 03.6**	**+2.5**
KUZ	**Kuaotunu**	**1.17**	**268**	P	**Pb**	**19 00 00.1**	**-0.8**
KUZ				S	**Sb**	**19 00 14.3**	**-2.2**
OPRZ	**Ohinepanea**	**1.23**	**204**	P	**Pg**	**19 00 02.5**	**+0.7**
MXZ	**Matakaoa Point**	**1.24**	**134**	P	**Pg**	**19 00 01.8**	**0.0**
MXZ				S	**Sn**	**19 00 18.5**	**-1.0**
TGRZ	**Tauranga**	**1.25**	**216**	P	**Pg**	**19 00 04.8**	**+2.8**
RUGZ	**Raukumara Rang**	**1.31**	**162**	P	**Pg**	**19 00 03.2**	**0.0**
MARZ	**Manawahe**	**1.33**	**197**	P	**Pb**	**19 00 03.4**	**-0.3**
PKGZ	**Pakihiroa**	**1.37**	**149**	P	**Pb**	**19 00 03.7**	**-0.8**
PKGZ				S	**Sg**	**19 00 23.0**	**+0.7**
GRZ	**Great Barrier**	**1.46**	**288**	P	**Pg**	**19 00 05.9**	**-0.2**
GRZ				S	**Sb**	**19 00 24.8**	**-0.1**
WMGZ	**Waiomatatini S**	**1.48**	**139**	P	**Pg**	**19 00 07.4**	**+0.9**
KMRZ	**Kaimai**	**1.50**	**221**	P	**Pg**	**19 00 07.6**	**+0.7**
KARZ	**Kaharoa**	**1.50**	**209**	P	**Pg**	**19 00 08.4**	**+1.5**
URZ	**Urewera**	**1.54**	**182**	P	**Pb**	**19 00 06.3**	**-1.0**
TWGZ	**Tauwhareparae**	**1.59**	**157**	P	**Pg**	**19 00 09.7**	**+1.0**
PUZ	**Puketiti**	**1.60**	**148**	P	**Pg**	**19 00 09.5**	**+0.6**
MWZ	**Matawai**	**1.64**	**170**	P	**Pb**	**19 00 07.7**	**-1.3**
WIAZ	**Waiheke Island**	**1.64**	**267**	P	**Pn**	**19 00 07.8**	**0.0**
MKAZ	**Moumakai**	**1.66**	**256**	P	**Pn**	**19 00 08.0**	**-0.1**
TOZ	**Tahuroa Road**	**1.68**	**232**	P	**Pb**	**19 00 08.7**	**-0.9**
RAGZ	**Rawiri**	**1.79**	**174**	P	**Pb**	**19 00 10.4**	**-1.1**
TKGZ	**Te Karaka**	**1.80**	**163**	P	**Pg**	**19 00 12.5**	**-0.1**
ETAZ	**East Tamaki Re**	**1.82**	**262**	P	**Pb**	**19 00 10.9**	**-1.2**
ETAZ				S	**Sb**	**19 00 35.2**	**0.0**
MBAZ	**Motutapu North**	**1.83**	**268**	P	**Pn**	**19 00 10.7**	**+0.2**
ABAZ	**Army Bay**	**1.89**	**273**	P	**Pb**	**19 00 11.7**	**-1.5**
RTZ	**Ruatahuna**	**1.91**	**185**	P	**Pb**	**19 00 13.2**	**-0.4**
CNGZ	**Carnagh Statio**	**1.95**	**155**	P	**Pg**	**19 00 14.9**	**-0.5**
RIGZ	**Rimuhau**	**2.04**	**167**	P	**Pg**	**19 00 16.3**	**-0.9**
AWAZ	**Awhitu Peninsu**	**2.06**	**259**	P	**Pb**	**19 00 14.5**	**-1.6**
SNGZ	**Shannon Statio**	**2.07**	**177**	P	**Pg**	**19 00 16.9**	**-0.8**
TLZ	**Tolley Road**	**2.07**	**218**	P	**Pb**	**19 00 14.5**	**-1.9**
WTAZ	**Waiatarua**	**2.10**	**263**	P	**Pb**	**19 00 15.2**	**-1.6**
MTHZ	**Maungataniwha**	**2.15**	**187**	P	**Pb**	**19 00 17.5**	**-0.3**
KNZ	**Kokohu**	**2.34**	**170**	P	**Pg**	**19 00 22.0**	**-0.9**
NMHZ	**Naumai**	**2.40**	**187**	P	**Pg**	**19 00 23.0**	**-1.1**
WCZ	**Waipu Caves**	**2.42**	**288**	P	**Pn**	**19 00 19.3**	**+0.8**
BKZ	**Black Stump Fm**	**2.51**	**192**	P	**Pb**	**19 00 22.8**	**-1.0**
HIZ	**Hauiti**	**2.58**	**225**	P	**Pb**	**19 00 23.4**	**-1.5**
NTVZ	**North Tongarir**	**2.66**	**206**	P	**Pg**	**19 00 28.7**	**-0.5**
TMVZ	**Te Maari**	**2.67**	**205**	P	**Pg**	**19 00 28.3**	**-0.9**
ETVZ	**East Tongariro**	**2.68**	**205**	P	**Pg**	**19 00 28.1**	**-1.4**
WTVZ	**West Tongariro**	**2.71**	**207**	P	**Pg**	**19 00 31.7**	**+1.7**
NNVZ	**North Ngauruho**	**2.71**	**207**	P	**Pg**	**19 00 30.2**	**+0.1**
OTVZ	**Oturere**	**2.72**	**206**	P	**Pg**	**19 00 28.9**	**-1.3**
TWVZ	**Taurewa**	**2.73**	**210**	P	**Pg**	**19 00 30.1**	**-0.3**
SNVZ	**South Ngauruho**	**2.75**	**206**	P	**Pg**	**19 00 29.7**	**-1.2**
MCHZ	**McNeill Hill**	**2.75**	**188**	P	**Pb**	**19 00 28.3**	**+0.3**
NGZ	**Ngauruhoe**	**2.76**	**206**	P	**Pg**	**19 00 30.0**	**-1.0**
KWHZ	**Kaweka Forest**	**2.77**	**192**	P	**Pb**	**19 00 28.2**	**0.0**
WNVZ	**Wahianoa**	**2.89**	**205**	P	**Pb**	**19 00 30.4**	**0.0**
BHHZ	**Black Hill Sta**	**2.91**	**197**	P	**Pb**	**19 00 29.1**	**-1.5**
MOVZ	**Moawhango**	**2.92**	**202**	P	**Pb**	**19 00 29.7**	**-1.0**
KRHZ	**Kereru**	**2.99**	**192**	P	**Pb**	**19 00 30.3**	**-1.8**
OUZ	**Omahuta**	**3.27**	**296**	P	**Pn**	**19 00 30.9**	**+0.8**
TSZ	**Takapari Road**	**3.47**	**196**	P	**Pb**	**19 00 38.1**	**-2.2**
WAZ	**Wanganui**	**3.49**	**209**	P	**Pb**	**19 00 41.6**	**+1.1**
NEZ	**North Egmont**	**3.53**	**223**	P	**Pb**	**19 00 42.4**	**+1.2**
POWZ	**Post Office Ro**	**3.83**	**196**	P	**Pn**	**19 00 40.7**	**+2.7**
BFZ	**Birch Farm**	**4.03**	**190**	P	**Pn**	**19 00 42.6**	**+2.0**
MRZ	**Mangatainoka R**	**4.13**	**197**	P	**Pn**	**19 00 43.7**	**+1.6**
DUWZ	**D'Urville Isla**	**4.81**	**211**	P	**Pb**	**19 00 59.4**	**-3.6**
ASAR	**Alice Springs**	**39.28**	**277**	P	**P**	**19 07 09.9**	**+1.7**
	0.2nm,0.7s,baz=125,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**40.88**	**282**	P	**P**	**19 07 22.8**	**+1.3**
	0.6nm,0.9s,baz=125,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**149.32**	**333**	PKPbc	**PKPab**	**19 19 32.6**	**+0.6**
	1.0nm,0.8s,baz=45,slow=4.1,SNR=3.6						

*BJI **28** 19:07:06.0±0.0, 56°.40S×27°.50W, h10km, mB5.8/31, Ms5.4/34, Ms7 5.2/38*

*MOS **28** 19:07:08.5±1.6, 56°.30S×27°.50W, h32km, mb5.5/7, MS5.1/4, Error ellipse: s-maj=22.1km s-min=12.1km az=102.7*

*NEIC **28** 19:07:08.8±2.2, 56°.25S±0°.09×27°.6W±0°.2, h30km±2km, mb5.3/81, Mwc5.5(GCMT), Error ellipse: s-maj=15.2km s-min=11.1km az=219.0*

*IDC **28** 19:07:09.3±5.3, 56°.25S×27°.45W, h33km±39km, mb4.6/22, mb1 4.7/23, mb1mx4.7/23, mbtmp4.8/23, ML4.3/1, MS5.0/41, Ms1 5.0/41, ms1mx5.0/41, Error ellipse: s-maj=14.5km s-min=11.8km az=12.0*

*GCMT **28** 19:07:11.8±0.1, 56°.40S±0°.01×27°.41W±0°.01, h12km, MW5.5/157, Moment Tensor Solution. s119,c203; s157,c263; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr2.44±.02; Mθθ-0.94±.02; Mφφ-1.50±.02; Mrθ-0.69±.06; Mθφ0.20±.02; Mφr-0.62±.06; Best double couple: Mo2.14400×10^17 NP1:φs336.00000°, δ40.00000°, λ70.00000°. NP2:φs181.00000°, δ53.00000°, λ106.00000°. Principal axes: T 2.6760, Plg76.0000°, Azm142.0000°; N -1.0670, Plg12.0000°, Azm352.0000°; P -1.6120, Plg7.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 19:07:12, 56°.40S×27°.46W, h12km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17Nm; Mrr2.68; Mθθ-1.08; Mφφ-1.60; Mrθ-0.59; Mθφ0.28; Mφr-1.04; Fault plane solution: Mo2.64000×10^17 NP1: φs335.00000°, δ35.00000°, λ71.00000°. NP2: φs178.00000°, δ57.00000°, λ103.00000°. Principal axes: T 3.0181, Plg74.0000°, Azm124.0000°; N -1.1505, Plg11.0000°, Azm351.0000°; P -1.8676, Plg11.0000°, Azm258.0000°;*

ISC 28 19:07:06.3±0.2, 56°.34S±0°.05×27°.71W±0°.05, h10km, n600, σ1°.991/582, mb5.2/56, MS5.1/60, 11C-12D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.42**	**289**	P	**Pn**	**19 08 26.3**	**-0.8**
HOPE	**Hope Point**	**5.42**	**289**		**Pn**	**19 08 26.3**	**-0.8**
VNA1	**Neumayer--Stat**	**16.64**	**157**	P	**Pn**	**19 11 01.0**	**+1.7**
VNA3	**Neumayer Olymp**	**16.82**	**160**	P	**Pn**	**19 11 02.2**	**+0.6**
VNA2	**Neumayer--Watz**	**17.04**	**157**	P	**Pn**	**19 11 05.5**	**+1.2**
	baz=302,slow=13						
EFI	**East Falkland**	**18.35**	**272**	*eP*	P	19 11 29.5	+8.8
EFI				pmax	pmax		
	comp=Z,62nm,0.8s						
SNAA	**Sanae**	**18.60**	**155**	P	**P**	**19 11 23.3**	**-0.1**
SNAA	**Sanae**	**18.60**	**155**	P	**P**	**19 11 22.0**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=318,slow=10,SNR=12						
SNAA				S	Sn	19 14 38.9	-12
	comp=Z,0.3nm,0.3s,baz=357,slow=3.9,SNR=2.0						
SNAA				LR	LR	19 17 17.7	
	comp=Z,4μm,18.5s,baz=318,slow=33						
SNAA	**Sanae**	**18.60**	**155**	*eP*	**P**	**19 11 22.9**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,182nm,1.5s						
SNAA	**Sanae**	**18.60**	**155**	P	**P**	**19 11 22.3**	**-1.1**
SNAA				IAmb	IAmb	19 11 31.1	
	comp=Z,240nm,1.1s						
PMSA	**Palmer Station**	**19.49**	**230**	LR	LR	19 18 00.8	
	comp=Z,7μm,19.3s,baz=7.5,slow=33						
TROLL	**Troll, Antarti**	**20.12**	**153**	P	**P**	**19 11 40.3**	**+0.2**
BELA	**Belgrano 2**	**21.77**	**184**	P	**P**	**19 11 57.2**	**-0.5**
MG01	**Puerto William**	**22.36**	**257**	P	**P**	**19 12 05.5**	**+1.3**
MG01				IAmb	IAmb	19 12 16.0	
	comp=Z,204nm,1.1s						
USHA	**Ushuaia**	**22.84**	**257**	P	**P**	**19 12 10.7**	**+1.5**
	comp=Z,12nm,0.4s,baz=109,slow=11,SNR=1.6						
MG02	**Cerro Sombrero**	**24.07**	**261**	P	**P**	**19 12 21.4**	**0.0**
MG03	**Isla Dawson**	**24.31**	**258**	P	**P**	**19 12 23.7**	**+0.1**
MG03				IAmb	IAmb	19 12 36.0	
	comp=Z,83nm,1.3s						
MG04	**Isla Riesco**	**25.32**	**259**	P	**P**	**19 12 33.7**	**+1.0**
MG05	**Puerto Natales**	**26.36**	**261**	P	**P**	**19 12 43.3**	**+1.0**
MG05				IAmb	IAmb	19 12 49.5	
	comp=Z,99nm,1.1s						
COYC	**Coyhaique**	**29.45**	**272**	P	**P**	**19 13 10.6**	**+0.7**
PLTB	**Pedras Altas**	**30.48**	**313**	*eP*	**P**	**19 13 20.1**	**+1.0**
AY01	**Puyuhuapi**	**30.48**	**274**	P	**P**	**19 13 19.5**	**+0.5**
LL02	**Futaleuf**	**30.83**	**276**	P	**P**	**19 13 23.3**	**+1.2**
LL02				IAmb	IAmb	19 13 36.7	
	comp=Z,45nm,1.3s						
SYO	**Syowa Base**	**31.55**	**141**	*eP*	P	19 13 22.9	-5.3
SYO	**Syowa Base**	**31.55**	**141**	*epP*	**P**	**19 13 32.3**	**+4.1**
SYO	**Syowa Base**	**31.55**	**141**	*esP*	sP	19 13 37.0	+4.8
CPSB	**Cacapava Do Su**	**31.60**	**314**	*eP*	**P**	**19 13 30.7**	**+1.7**
TER01	**Tubaro-SC**	**31.70**	**322**	*eP*	**P**	**19 13 31.0**	**+1.1**
PLCA	**Paso Flores**	**31.77**	**281**	P	**P**	**19 13 31.1**	**+0.6**
	comp=Z,9.8nm,0.9s,baz=138,slow=10,SNR=12						
PLCA				PcP	**PcP**	**19 16 20.5**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=103,slow=5.4,SNR=3.3						
PLCA				LR	LR	19 25 33.8	
	comp=Z,5μm,21.2s,baz=137,slow=35						
PLCA	**Paso Flores**	**31.77**	**281**	*eP*	**P**	**19 13 34.0**	**+3.5**
PLCA	**Paso Flores**	**31.77**	**281**	P	**P**	**19 13 31.0**	**+0.5**
PLCA	**Paso Flores**	**31.77**	**281**	*eP*	**P**	**19 13 31.4**	**+0.8**
ITQB	**Itaqui**	**33.56**	**310**	*eP*	**P**	**19 13 47.1**	**+1.0**
QSPA	**South Pole Qui**	**33.91**	**180**	LR	LR	19 26 43.4	
	comp=Z,4μm,21.4s,baz=191,slow=34						
ITAB	**Concordia**	**33.94**	**319**	*eP*	**P**	**19 13 49.6**	**0.0**
TIJ01	**Guaruva-PR**	**34.62**	**325**	*eP*	**P**	**19 13 57.2**	**+1.6**
DUB01	**Friburgo-RJ**	**35.89**	**336**	*eP*	**P**	**19 14 08.2**	**+1.7**
VAS01	**Vassouras-RJ**	**35.94**	**335**	*eP*	**P**	**19 14 08.7**	**+1.8**
CAM01	**Campos-RJ**	**35.98**	**338**	*eP*	**P**	**19 14 08.9**	**+1.8**
VAO	**Valinhos**	**36.18**	**329**	*eP*	**P**	**19 14 10.7**	**+1.7**
PTGB	**Pitanga**	**36.22**	**321**	*eP*	**P**	**19 14 10.6**	**+1.3**
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**19 14 13.7**	**-0.3**
	comp=Z,9.1nm,0.8s,baz=156,slow=6.2,SNR=11						
CPUP				PcP	**PcP**	**19 16 35.4**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=137,slow=3.4,SNR=7.2						
CPUP				LR	LR	19 28 15.5	
	comp=Z,2μm,20.8s,baz=152,slow=34						
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**19 14 13.9**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,24nm,1.1s						
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**19 14 13.9**	**-0.1**
CPUP	**Villa Florida**	**36.78**	**312**	*eP*	**P**	**19 14 14.2**	**+0.2**
BSCB	**Bom Sucesso**	**37.50**	**333**	*eP*	**P**	**19 14 21.5**	**+1.3**
MT02	**Curacav**	**37.60**	**289**	P	**P**	**19 14 20.2**	**-0.8**
ZON	**Zonda**	**37.68**	**294**	P	**P**	**19 14 20.8**	**-0.9**
ZON				pmax	pmax		
	comp=Z,13nm,0.8s						
ZON	**Zonda**	**37.68**	**294**	P	**P**	**19 14 20.8**	**-0.9**
VA03	**San Esteban**	**37.68**	**290**	P	**P**	**19 14 21.6**	**-0.1**
ROC1	**El Roble**	**37.76**	**290**	P	**P**	**19 14 20.1**	**-2.4**
RIB01	**Linhares ES**	**38.17**	**340**	*eP*	**P**	**19 14 26.0**	**+0.2**
VA06	**Catapilco**	**38.23**	**290**	P	**P**	**19 14 26.6**	**+0.4**
VA06				IAmb	IAmb	19 14 41.0	
	comp=Z,40nm,1.1s						
SJMB	**Sao Joao De Ma**	**38.92**	**339**	*eP*	**P**	**19 14 33.3**	**+1.2**
CO03	**El Pedregal**	**39.28**	**292**	P	**P**	**19 14 34.6**	**-0.5**
DIAM	**Diamantina, MG**	**39.84**	**336**	*eP*	**P**	**19 14 39.8**	**-0.1**
MAW	**Mawson**	**40.09**	**143**	P	**P**	**19 14 40.9**	**-0.4**
	comp=Z,30nm,1.2s,baz=246,slow=9.3,SNR=8.2						
MAW				PcP	**PcP**	**19 16 45.0**	**-0.6**
	comp=Z,8.1nm,0.8s,baz=225,slow=2.9,SNR=4.1						
MAW				LR	LR	19 28 49.0	
	comp=Z,20.6s,baz=254,slow=32						
MAW	**Mawson**	**40.09**	**143**	P	**P**	**19 14 40.5**	**-0.8**
MAW						19 16 45.0	
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	**Mawson**	**40.09**	**143**	P	**P**	**19 14 40.5**	**-0.8**
ITRB	**Iturama**	**40.30**	**326**	*eP*	**P**	**19 14 43.8**	**+0.2**
GUA01	**Guaratinga, BA**	**40.73**	**342**	*eP*	**P**	**19 14 48.3**	**+1.2**
SUR	**Sutherland**	**40.99**	**75**	LR	LR	19 27 41.1	
	comp=Z,5μm,21.8s,baz=210,slow=30						
SUR	**Sutherland**	**40.99**	**75**	P	**P**	**19 14 48.6**	**-0.8**
SUR				IAmb	IAmb	19 15 00.8	
	comp=Z,43nm,1.1s						
IPMB	**Ipameri, GO**	**41.29**	**330**	*eP*	**P**	**19 14 53.1**	**+1.2**
AQDB	**Aquidauana**	**41.42**	**318**	P	**P**	**19 14 52.3**	**-0.5**
AQDB	**Aquidauana**	**41.42**	**318**	*eP*	**P**	**19 14 52.7**	**-0.1**
AC04	**Llanos de Chal**	**41.60**	**294**	P	**P**	**19 14 54.8**	**+0.5**
AC04				IAmb	IAmb	19 15 01.3	
	comp=Z,44nm,0.8s						
GO03	**Copiap**	**41.67**	**296**	P	**P**	**19 14 54.6**	**-0.3**
AC02	**Maricunga**	**41.75**	**297**	P	**P**	**19 14 55.5**	**-0.6**
AC02				IAmb	IAmb	19 15 04.1	
	comp=Z,69nm,1.2s						
CMC01	**Camacan, BA**	**41.88**	**343**	*eP*	**P**	**19 14 57.4**	**+0.8**
AC06	**Mina Casimiro**	**41.93**	**296**	P	**P**	**19 14 56.7**	**-0.2**
AC01	**Pan de Azucar**	**43.05**	**296**	P	**P**	**19 15 05.0**	**-1.0**
JANB	**Januaria**	**43.11**	**336**	*eP*	**P**	**19 15 06.5**	**-0.2**
GO02	**Mina Guanaco**	**43.37**	**298**	P	**P**	**19 15 08.3**	**-0.7**
GO02				IAmb	IAmb	19 15 16.4	
	comp=Z,35nm,0.8s						
BDFB	**Brasilia**	**43.47**	**331**	P	**P**	**19 15 10.0**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=156,slow=8.1,SNR=5.9						
BDFB				LR	LR	19 33 03.7	
	comp=Z,2μm,18.5s,baz=161,slow=36						
BDFB	**Brasilia**	**43.47**	**331**	P	**P**	**19 15 10.4**	**+0.7**
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.8s				

	comp=Z,20nm,0.9s,baz=186,slow=4.6,SNR=10									
TSUM					LR	LR	19 33 11.4			
	comp=Z,2µm,20.9s,baz=220,slow=31									
TSUM	**Tsumeb**	**50.07**	**61**		P	**P**	**19 15 59.6**	**-1.7**		
TSUM					IAmb	IAmb	19 16 09.4			
	comp=Z,24nm,0.9s									
NBPV	**Pedro Velho**	**50.14**	**350**	*e*	P	**P**	**19 16 02.4**	**+0.7**		
LPAZ	**La Paz**	**50.31**	**306**		P	**P**	**19 16 04.0**	**+0.3**		
	comp=Z,9.7nm,0.8s,baz=141,slow=6.4,SNR=23									
LPAZ					PcP	**PcP**	**19 17 22.4**	**-0.1**		
	comp=Z,6.1nm,0.6s,baz=179,slow=3.5,SNR=1.7									
LPAZ					LR	LR	19 38 14.2			
	comp=Z,752nm,20.2s,baz=158,slow=37									
LPAZ	**La Paz**	**50.31**	**306**		P	**P**	**19 16 02.6**	**-1.1**		
LPAZ					pmax	pmax				
	comp=Z,61nm,1.2s									
LPAZ	**La Paz**	**50.31**	**306**		P	**P**	**19 16 02.6**	**-1.1**		
LPAZ					IAmb	IAmb	19 16 11.7			
	comp=Z,61nm,1.1s									
LPAZ	**La Paz**	**50.31**	**306**	*e*	P	**P**	**19 16 03.7**	**0.0**		
CLDB	**Colider**	**50.34**	**323**	*e*	P	**P**	**19 16 03.3**	**+0.1**		
RCBR	**Riachuelo**	**50.79**	**349**		LR	LR	19 32 55.2			
	comp=Z,2µm,21.3s,baz=318,slow=30									
RCBR	**Riachuelo**	**50.79**	**349**	*e*	P	**P**	**19 16 06.2**	**-0.4**		
NBPB	**Pedra_Branca-C**	**51.52**	**345**	*e*	P	**P**	**19 16 13.2**	**+1.0**		
NBPS	**Pedro II - PI**	**52.94**	**343**	*e*	P	**P**	**19 16 23.4**	**+0.6**		
PRPB	**Parauapebas**	**53.01**	**332**	*e*	P	**P**	**19 16 23.6**	**+0.5**		
NPGB	**Novo Progresso**	**53.78**	**325**	*e*	P	**P**	**19 16 29.2**	**+0.3**		
NBMO	**Morrinhos-CE**	**53.78**	**345**	*e*	P	**P**	**19 16 29.2**	**+0.3**		
MATP	**Matopo**	**54.64**	**73**		P	**P**	**19 16 33.0**	**-2.3**		
	comp=Z,18nm,0.9s,baz=214,slow=7.5,SNR=24									
MATP					LR	LR	19 35 58.0			
	comp=Z,1µm,21.2s,baz=204,slow=32									
ROSB	**Rosrio**	**54.88**	**340**	*e*	P	**P**	**19 16 37.4**	**+0.5**		
TMAB	**Tom-Au,PA,Br**	**56.24**	**335**	*e*	P	**P**	**19 16 46.6**	**0.0**		
ITTB	**Itaituba**	**56.42**	**326**	*e*	P	**P**	**19 16 48.3**	**+0.3**		
NNA	**Nana**	**58.13**	**299**		LR	LR	19 44 17.6			
	comp=Z,448nm,18.0s,baz=143,slow=38									
NNA	**Nana**	**58.13**	**299**	‖*e*	P		19 17 06.7	+6.6		
NNA					pmax	pmax				
	comp=Z,46nm,1.3s									
MALB	**Monte Alegre**	**58.36**	**328**	*e*	P	**P**	**19 17 01.5**	**-0.1**		
LSZ	**Lusaka**	**58.74**	**69**		P	**P**	**19 17 02.7**	**-1.7**		
	comp=Z,17nm,0.9s,baz=202,slow=7.3,SNR=36									
LSZ					LR	LR	19 40 45.3			
	comp=Z,2µm,18.2s,baz=223,slow=34									
MCPB	**Macapa, AP**	**59.17**	**331**	*e*	P	**P**	**19 17 07.2**	**0.0**		
MACA	**Manacapuru-AM**	**59.20**	**321**	*e*	P	**P**	**19 17 06.9**	**-0.5**		
CZSB	**Cruzeiro do Su**	**59.92**	**306**	*e*	P	**P**	**19 17 12.5**	**+0.1**		
RPN	**Rapa Nui**	**63.32**	**261**		LR	LR	19 40 58.0			
	comp=Z,1µm,20.0s,baz=146,slow=32									
BOAV	**Boa Vista**	**64.33**	**323**	*e*	P	**P**	**19 17 41.4**	**-0.6**		
MDP	**Montagnes des**	**64.55**	**332**		LR	LR	19 42 57.9			
	comp=Z,1µm,21.4s,baz=176,slow=33									
LIC	**Lamto**	**65.08**	**25**	*e*	PKIKP	P	**19 17 46.1**	**-0.7**		
	comp=Z,24nm,0.7s									
KIC	**Kosan Boka**	**65.28**	**25**	*e*	PKIKP	P	**19 17 46.7**	**-1.4**		
	comp=Z,17nm,0.7s									
ZUMB	**Zumba**	**65.42**	**301**		P	P	**19 17 48.3**	**-1.0**		
TIC	**Toumodi**	**65.48**	**25**	*e*	PKIKP	P	**19 17 46.8**	**-2.7**		
DBIC	**Dimbokro**	**65.55**	**25**		P	P	**19 17 49.2**	**-0.6**		
	comp=Z,15nm,0.8s,baz=197,slow=6.5,SNR=21									
DBIC					LR	LR	19 39 37.3			
	comp=Z,2µm,21.1s,baz=195,slow=30									
DBIC	**Dimbokro**	**65.55**	**25**		P	**P**	**19 17 48.8**	**-1.1**		
DBIC					pmax	pmax				
	comp=Z,19nm,1.0s									
DBIC	**Dimbokro**	**65.55**	**25**		P	**P**	**19 17 48.8**	**-1.1**		
DBIC					IAmb	IAmb	19 17 54.6			
	comp=Z,19nm,0.9s									
ABPO	**Ambohimpanom**	**66.05**	**89**		P	**P**	**19 17 53.6**	**+0.2**		
ABPO					pmax	pmax				
	comp=Z,28nm,1.2s									
ABPO	**Ambohimpanom**	**66.05**	**89**		P	**P**	**19 17 53.6**	**+0.2**		
ABPO					IAmb	IAmb	19 18 04.5			
	comp=Z,28nm,1.2s									
OPO	**Ambohidratompo**	**66.39**	**88**		P	**P**	**19 17 54.6**	**-0.9**		
	comp=Z,8.3nm,0.9s,baz=209,slow=5.6,SNR=5.7									
OPO					LR	LR	19 40 23.5			
	comp=Z,2µm,21.9s,baz=328,slow=30									
BOSC	**San Juan Bosco**	**66.61**	**303**		P	**P**	**19 17 56.1**	**-0.9**		
BOSC					IAmb	IAmb	19 18 03.8			
	comp=Z,42nm,1.3s									
ARNL	**Arenillas**	**67.01**	**301**		P	**P**	**19 17 58.4**	**-1.0**		
PULU	**Pululahua**	**69.41**	**304**		P	P	19 18 12.3	-2.6		
PULU					IAmb	IAmb	19 18 28.7			
	comp=Z,44nm,1.1s									
TULM	**Tulcn-Chalpat**	**69.69**	**305**		P	**P**	**19 18 14.6**	**-2.1**		
ROSC	**El Rosal**	**71.84**	**310**		P	**P**	**19 18 30.7**	**+1.1**		
	comp=Z,5.3nm,0.4s,baz=274,slow=2.8,SNR=1.3									
ROSC					LR	LR	19 50 16.8			
	comp=Z,1µm,21.6s,baz=157,slow=36									
MBAR	**Mbarara**	**72.54**	**63**		P	**P**	**19 18 32.7**	**-0.9**		
	comp=Z,1.1nm,0.2s,baz=198,slow=14,SNR=2.0									
MBAR					LR	LR	19 48 11.6			
	comp=Z,696nm,20.4s,baz=192,slow=34									
MBAR	**Mbarara**	**72.54**	**63**		P	**P**	**19 18 32.9**	**-0.7**		
MBAR					pmax	pmax				
	comp=Z,18nm,1.3s									
MBAR	**Mbarara**	**72.54**	**63**		P	**P**	**19 18 32.9**	**-0.7**		
MBAR	**Mbarara**	**72.54**	**63**	‖*e*	P	**P**	**19 18 34.0**	**+0.5**		
MBAR	**Mbarara**	**72.54**	**63**	‖*e*	P	**P**	**19 18 34.0**	**+0.5**		
KOWA	**Kowa**	**73.30**	**24**		P	**P**	**19 18 36.3**	**-1.4**		
KOWA					IAmb	IAmb	19 18 46.3			
	comp=Z,24nm,1.0s									
TOA0	**Torodi Ar. Sit**	**73.45**	**30**		P	**P**	**19 18 36.8**	**-1.8**		
TOA0					IAmb	IAmb	19 18 43.2			
	comp=Z,28nm,0.8s									
TORD	**Torodi Ar. Bea**	**73.45**	**30**		P	**P**	**19 18 37.1**	**-1.5**		
	comp=Z,24nm,0.8s,baz=204,slow=6.1,SNR=49									
TORD	**Torodi Ar. Bea**	**73.45**	**30**		P	**P**	**19 18 36.3**	**-2.4**		
TORD					IAmb	IAmb	19 18 43.1			
	comp=Z,20nm,0.8s									
SDV	**Santo Domingo**	**74.01**	**316**		LR	LR	19 50 41.2			
	comp=Z,2µm,21.6s,baz=146,slow=35									
SDV	**Santo Domingo**	**74.01**	**316**		P	**P**	**19 18 40.8**	**-1.4**		
SDV					IAmb	IAmb	19 18 48.9			
	comp=Z,28nm,1.3s									
SDV	**Santo Domingo**	**74.01**	**316**	*e*	P	**P**	**19 18 41.7**	**-0.5**		
ZARC	**Zaragoza, Cauc**	**74.46**	**311**		P	**P**	**19 18 42.5**	**-2.1**		
KMBO	**Kilima Mbogo**	**75.41**	**69**		P	**P**	**19 18 49.1**	**-1.4**		
	comp=Z,1.0nm,0.3s,baz=198,slow=6.4,SNR=2.0									
KMBO					LR	LR	19 50 56.5			
	comp=Z,1µm,18.3s,baz=141,slow=35									
KMBO	**Kilima Mbogo**	**75.41**	**69**	‖*e*	P	**P**	**19 18 50.1**	**-0.4**		
KMBO	**Kilima Mbogo**	**75.41**	**69**		P	**P**	**19 18 48.5**	**-2.0**		
KMBO	**Kilima Mbogo**	**75.41**	**69**	*e*	P	**P**	**19 18 53.0**	**+2.6**		
KMBO	**Kilima Mbogo**	**75.41**	**69**	*e*	P	**P**	**19 18 53.0**	**+2.6**		
SJCC	**San Jacinto, C**	**76.76**	**312**		P	**P**	**19 18 56.6**	**-1.2**		
SJCC					IAmb	IAmb	19 19 04.8			
	comp=Z,38nm,1.1s									
LODK	**Lodwar**	**78.31**	**65**	*e*	P	**P**	**19 19 08.0**	**+1.3**		
LODK					*e*S	**S**	**19 29 00.9**	**-1.0**		
LODK	**Lodwar**	**78.31**	**65**	*e*	P	**P**	**19 19 08.0**	**+1.3**		
LODK					*e*S	**S**	**19 29 00.9**	**-1.0**		
RPZ	**Rata Peaks**	**79.07**	**194**		LR	LR	19 52 18.4			
	comp=Z,593nm,18.0s,baz=184,slow=34									
DRK0	**Durika**	**79.73**	**304**		P	**P**	**19 19 12.8**	**-1.7**		
SRBA	**San Rafael, Bu**	**79.76**	**304**		P	**P**	**19 19 12.7**	**-1.9**		
SRBA					IAmb	IAmb	19 19 21.9			
	comp=Z,40nm,1.2s									
LTZ	**Lake Taylor**	**79.82**	**195**		P	**P**	**19 19 15.2**	**+0.7**		
LTZ					IAmb	IAmb	19 19 24.8			
	comp=Z,65nm,1.2s									
SJG	**San Juan**	**80.90**	**323**		LR	LR	19 57 30.2			
	comp=Z,282nm,19.8s,baz=148,slow=37									
TAU	**Tasmania Unive**	**81.04**	**176**		P	**P**	**19 19 21.2**	**+0.2**		
TAU					pmax	pmax				
	comp=Z,76nm,1.1s									
TAU	**Tasmania Unive**	**81.04**	**176**		P	**P**	**19 19 21.2**	**+0.2**		
JTS	**Las Juntas de**	**81.42**	**303**		LR	LR	19 56 30.1			
	comp=Z,201nm,21.4s,baz=190,slow=36									
JTS	**Las Juntas de**	**81.42**	**303**	*ce*	P		19 19 29.6	+6.2		
JTS					pmax	pmax				
	comp=Z,25nm,1.2s									
DILA	**Dilla**	**82.37**	**66**	‖*e*	P	**P**	**19 19 26.6**	**-2.0**		
DILA	**Dilla**	**82.37**	**66**	‖*e*	P	**P**	**19 19 26.6**	**-2.0**		
BKZ	**Black Stump Fm**	**82.67**	**199**		P	**P**	**19 19 30.9**	**+1.1**		
BKZ					IAmb	IAmb	19 19 47.9			
	comp=Z,21nm,1.2s									
ACON	**Acoyapa**	**83.00**	**304**		P	**P**	**19 19 30.8**	**-0.7**		
ACON					IAmb	IAmb	19 19 37.8			
	comp=Z,50nm,1.1s									
URZ	**Urewera**	**83.44**	**199**		LR	LR	19 53 38.0			
	comp=Z,857nm,19.2s,baz=200,slow=33									

MATN	**Matagalpa**	**84.19**	**304**		P	**P**	**19 19 36.9**	**-0.8**		
MATN					IAmb	IAmb	19 19 44.1			
	comp=Z,32nm,1.2s									
FURI	**Furi**	**84.67**	**65**	*e*	P	**P**	**19 19 39.2**	**-1.4**		
FURI	**Furi**	**84.67**	**65**	*e*	P	**P**	**19 19 39.2**	**-1.4**		
AAE	**Adis Abeba**	**84.83**	**65**	*e*	P	**P**	**19 19 41.9**	**+0.5**		
AAE	**Adis Abeba**	**84.83**	**65**	*e*	P	**P**	**19 19 41.9**	**+0.5**		
ANKE	**Ethiopia-Afar**	**85.80**	**66**	‖*e*	P	**P**	**19 19 44.4**	**-1.9**		
ANKE	**Ethiopia-Afar**	**85.80**	**66**	‖*e*	P	**P**	**19 19 44.4**	**-1.9**		
TBI	**Tubuai**	**86.68**	**232**	*e*S		**S**	**19 30 28.4**	**+1.1**		
	comp=Z,290nm,25.2s									
TBI	**Tubuai**	**86.68**	**232**	*e*LR		LR	19 47 16.0			
	comp=Z,3µm,29.2s,baz=154									
OUZ	**Omahuta**	**87.02**	**197**		P	**P**	**19 19 50.0**	**-1.6**		
MTO3	**Montecristo**	**87.08**	**301**		P	**P**	**19 19 50.5**	**-1.8**		
MTO3					IAmb	IAmb	19 19 58.5			
	comp=Z,29nm,1.1s									
ATD	**Arta Tunnel**	**89.04**	**68**	*e*	P	**P**	**19 20 05.0**	**+3.5**		
ATD	**Arta Tunnel**	**89.04**	**68**	*e*	P	**P**	**19 20 05.0**	**+3.5**		
BBOO	**Buckleboo**	**90.14**	**166**		P	**P**	**19 20 05.4**	**-1.1**		
FORT	**Forrest**	**90.81**	**159**		P	**P**	**19 20 09.2**	**-0.5**		
MDT	**Midelt**	**90.95**	**19**		LR	LR	19 57 60.0			
	comp=Z,786nm,18.5s,baz=193,slow=34									
RAO	**Raoul Island**	**91.06**	**206**		LR	LR	19 56 22.7			
	comp=Z,315nm,18.1s,baz=124,slow=32									
STKA	**Stephens Creek**	**91.67**	**171**		P	**P**	**19 20 14.1**	**+0.5**		
	comp=Z,5.0nm,0.8s,baz=148,slow=5.5,SNR=9.0									
STKA					PP	**PP**	**19 23 53.0**	**+2.0**		
	comp=Z,4.1nm,0.9s,baz=178,slow=10,SNR=4.4									
STKA					LR	LR	19 59 59.5			
	comp=Z,987nm,19.1s,baz=185,slow=35									
STKA	**Stephens Creek**	**91.67**	**171**	‖*e*	P	**P**	**19 20 15.2**	**+1.6**		
STKA	**Stephens Creek**	**91.67**	**171**		P	**P**	**19 20 14.8**	**+1.2**		
PPT2	**Papete2**	**91.78**	**234**	*e*S		**S**	**19 31 14.3**	**-1.0**		
	comp=Z,371nm,29.5s									
PPT2	**Papeete2**	**91.78**	**234**	*e*LR		LR	19 49 38.5			
	comp=Z,3µm,30.5s,baz=154									
PPT	**Papeete**	**91.80**	**234**		LR	LR	19 52 54.9			
	comp=Z,601nm,21.1s,baz=172,slow=30									
CMIG	**Matias Romero**	**92.06**	**298**		LR	LR	19 56 38.3			
	comp=Z,467nm,21.8s,baz=168,slow=32									
RAR	**Rarotonga**	**92.83**	**224**		LR	LR	19 55 09.1			
	comp=Z,465nm,20.3s,baz=168,slow=31									
PSMA	**Santa Maria**	**92.99**	**2**	*e*T		T	21 03 06.2			
PSMN	**Pico do Norte,**	**93.00**	**2**	*e*T		T	21 03 07.6			
CMLA	**Cha da Macela**	**93.75**	**2**	*e*T		T	21 04 01.7			
GRON	**Grota Negra**	**93.76**	**2**	*e*T		T	21 04 10.8			
BART	**Pico Bartolome**	**93.77**	**2**	*e*T		T	21 04 12.7			
TAOE	**Nuku Hiva Isla**	**94.77**	**246**	*e*S		**S**	**19 31 42.8**	**+0.9**		
	comp=Z,1µm,36.4s									
TAOE	**Nuku Hiva Isla**	**94.77**	**246**	*e*LR		LR	19 51 07.8			
	comp=Z,1µm,27.2s									
TAOE	**Nuku Hiva Isla**	**94.77**	**246**	*e*T		T	21 05 59.8			
	comp=Z,43nm,0.2s									
KEST	**Kesra**	**96.97**	**30**		P	**P**	**19 20 37.0**	**-0.5**		
	comp=Z,2.1nm,0.8s,baz=228,slow=14,SNR=2.2									
KEST					LR	LR	20 00 50.5			
	comp=Z,772nm,20.4s,baz=170,slow=33									
PSA00	**Pilbara Seismi**	**97.69**	**150**		P	**P**	**19 20 40.1**	**-1.2**		
PSA00					IAmb	IAmb	19 20 49.9			
	comp=Z,8.9nm,1.2s									
ESDC	**Sonseca Array**	**97.74**	**18**		P	**P**	**19 20 40.7**	**-0.2**		
	comp=Z,0.8nm,0.7s,baz=193,slow=4.7,SNR=5.4									
ESDC					LR	LR	19 59 49.6			
	comp=Z,847nm,21.2s,baz=196,slow=32									
ESDC	**Sonseca Array**	**97.74**	**18**		P	**P**	**19 20 39.0**	**-1.9**		
ASAR	**Alice Springs**	**98.80**	**163**		P	**P**	**19 20 45.9**	**-0.4**		
	comp=Z,8.5nm,1.0s,baz=191,slow=3.8,SNR=32									
ASAR					PP	**PP**	**19 24 42.2**	**-4.4**		
	comp=Z,0.4nm,0.6s,baz=186,slow=8.4,SNR=6.6									
ASAR					LR	LR	20 02 17.2			
	comp=Z,668nm,21.8s,baz=180,slow=34									
ASAR	**Alice Springs**	**98.80**	**163**		P	P	19 20 43.8	-2.5		
ASAR	**Alice Springs**	**98.80**	**163**			P	19 20 43.8	-2.6		
VAE	**Valguarnera**	**100.06**	**33**		LR	LR	20 00 51.6			
	comp=Z,542nm,20.1s,baz=171,slow=32									
DZM	**Mont Dzumac**	**100.99**	**193**	*e*LR		LR	19 54 01.9			
	comp=Z,2µm,23.4s									
WRA	**Warramunga Arr**	**102.52**	**163**		P	**Pdif**	**19 21 02.0**	**-0.8**		
	comp=Z,2.1nm,0.9s,baz=200,slow=3.8,SNR=10									
WRA					PP	**PP**	**19 25 09.9**	**-4.8**		
	comp=Z,1.6nm,0.9s,baz=191,slow=5.9,SNR=5.7									
ACSO	**Alum Creek Sta**	**106.95**	**319**		P	**PKiKP**	**19 25 31.8**	**+0.4**		
	baz=151									
HDIL	**Hopedale**	**109.64**	**315**		P	**PKiKP**	**19 25 36.7**	**+0.3**		
	baz=149									
GERES	**GERESS Array B**	**110.34**	**28**		PP	**PP**	**19 26 12.0**	**-1.4**		
	comp=Z,0.9nm,0.9s,baz=224,slow=5.6,SNR=4.1									
L44A	**Lake County Fo**	**110.48**	**316**		P	**PKiKP**	**19 25 38.8**	**+0.9**		
	baz=149									
121A	**Cookes Peak, D**	**111.31**	**297**		P	**PKiKP**	**19 25 41.0**	**+0.9**		
	baz=144									
JFWS	**Jewell Farm**	**112.01**	**315**		P	**PKiKP**	**19 25 40.8**	**-0.1**		
	baz=148									
CLL	**Collm**	**112.43**	**26**	*e*	PP	**PP**	**19 26 27.0**	**-1.2**		
CLL				*e*	PS	**PS**	**19 36 12.0**	**+11**		
CLL				*e*	PPS	PPS	19 37 06.0			
CLL				*e*	SS	SS	19 42 18.0	+10		
Q24A	**Divide**	**115.20**	**303**		P	**PKPdf**	**19 25 47.2**	**-0.3**		
	baz=143									
SCHQ	**Schefferville**	**115.31**	**336**		PKP	**PKPdf**	**19 25 45.5**	**-1.2**		
	comp=Z,1.5nm,0.7s,baz=183,slow=10,SNR=2.0									
KIV	**Kislovodsk**	**116.07**	**49**	*i*	PKIKP	**PKPdf**	**19 25 49.5**	**+0.8**		
KIV					pmax	pmax				
	comp=Z,7.0nm,1.1s									
KIV					MLR	MLR				
	comp=Z,352nm,22.0s									
AKASG	**Malin Array Be**	**116.60**	**37**		PKP	**PKPdf**	**19 25 47.8**	**-1.5**		
	comp=Z,0.3nm,0.4s,baz=232,slow=2.0,SNR=1.9									
AKBB	**Malin Array Si**	**116.60**	**37**	‖*i*	PKIKP	**PKiKP**	**19 25 53.3**	**+4.0**		
EYMN	**Ely**	**116.71**	**318**		P	**PKPdf**	**19 25 50.8**	**+1.1**		
	baz=146									
GMRC	**Granite Mounta**	**117.08**	**292**		P	**PKPdf**	**19 25 50.9**	**-0.1**		
	baz=141									
MAK	**Makhachkala**	**117.36**	**53**	*e*	P	**Pdif**	**19 22 02.8**	**-5.2**		
MAK				*i*			19 25 46.4			
MAK				*e*			19 32 36.8			
MAK					pmax	pmax				
	comp=Z,58nm,1.0s									
MAK					MLR	MLR				
	comp=Z,585nm,17.0s									
EDW2	**Edwards Air Fo**	**118.37**	**291**		P	**PKPdf**	**19 25 53.1**	**-0.3**		
	baz=141									
GEYT	**Alibeck**	**118.45**	**64**		PKP	**PKPdf**	**19 25 51.7**	**-1.7**		
	comp=Z,1.4nm,0.4s,baz=282,slow=7.2,SNR=2.8									
LRMC	**Laurel Mtn Rad**	**118.67**	**292**		P	**PKPdf**	**19 25 54.2**	**+0.2**		
	baz=141									
AGMN	**Agassiz Nation**	**118.68**	**315**		P	**PKPdf**	**19 25 53.9**	**+0.5**		
	baz=144									
MPMC	**Manual Prospec**	**119.01**	**292**		P	**PKPdf**	**19 25 55.1**	**+0.4**		
	baz=140									
ISA	**Isabella, Lake**	**119.22**	**291**		P	**PKPdf**	**19 25 54.5**	**-0.5**		
	baz=140									
NLU	**North Lily Min**	**119.29**	**299**			**PKPdf**	**19 25 54.7**	**-0.5**		
MNK	**Minsk**	**119.41**	**34**	*i*	PKIKP	**PKiKP**	**19 25 59.4**	**+4.8**		
MNK				*i*			19 27 20.8			
MNK				*i*			19 32 47.3			
MNK				*i*	PS	**PS**	**19 37 09.4**	**+4.8**		
MNK				*i*	SS	SS	19 43 44.3	+4.7		
MNK					pmax	pmax				
	comp=N,8.0nm,1.0s									
MNK					pmax	pmax				
	comp=E,1.0nm,1.0s									
MNK					pmax	pmax				
	comp=Z,11nm,1.0s									
MNK					MLR	MLR				
	comp=Z,559nm,20.0s									
MNK					MLR	MLR				
	comp=N,199nm,20.0s									
MNK	**Minsk**	**119.41**	**34**	*i*	PKP	**PKiKP**	**19 25 59.4**	**+4.8**		
	comp=E,1.0nm,1.0s									
MNK				*i*	PKP	**PKiKP**	**19 25 59.4**	**+4.8**		
	comp=N,8.0nm,1.0s									
MNK				*i*	PKP	**PKiKP**	**19 25 59.4**	**+4.8**		
	comp=Z,11nm,1.0s,baz=212									
MNK				*i*	PP	**PP**	**19 27 20.8**	**+3.6**		
MNK				*i*	SKP		19 29 34.2			
MNK				*i*	PKS	**PKSdf**	**19 29 36.1**	**+5.2**		
MNK				*i*	PPP	PPP	19 30 38.9			
MNK				*i*	SKS	**SKSac**	**19 32 47.4**	**-2.4**		
MNK				*i*	SKKS	**SKKSac**	**19 34 22.9**	**+7.2**		
MNK				*i*	PS	**PS**	**19 37 09.5**	**+4.8**		
MNK				*i*	SS	**SS**	**19 43 44.3**	**+4.7**		
MNK				*i*	SSS	SSS	19 47 36.1			
MNK				*i*	LQ	LQ	20 02 44.3			
MNK				*i*	LR	LR	20 07 59.8			

MNK				*i*	LRM	MLR	20 13 10.2			
	comp=E,52nm,19.8s									
MNK				*i*	LRM	MLR	20 14 08.0			
	comp=Z,559nm,19.7s									
MNK				*i*	LRM	MLR	20 14 53.7			
	comp=N,199nm,19.8s									
NACGM	**Naroch**	**119.42**	**33**	*e*	PKP	**PKPdf**	**19 25 56.3**	**+1.7**		
R11A	**Troy Canyon, C**	**119.80**	**295**		P	**PKPdf**	**19 25 56.9**	**+0.7**		
	baz=140									
DUG	**Dugway, Tooele**	**119.84**	**298**		PKIKP	**PKPdf**	**19 25 54.3**	**-1.9**		
DUG	**Dugway, Tooele**	**119.84**	**298**		PKPdf	**PKPdf**	**19 25 54.3**	**-1.9**		
DUG	**Dugway, Tooele**	**119.84**	**298**		P	**PKPdf**	**19 25 55.2**	**-0.9**		
	baz=140									
PDAR	**Pinedale Array**	**120.25**	**302**		PKP	**PKPdf**	**19 25 55.4**	**-1.6**		
	comp=N,1.0nm,0.7s,baz=130,slow=4.5,SNR=8.7									
PDAR	**Pinedale Array**	**120.25**	**302**			**PKPdf**	**19 25 54.9**	**-2.0**		
ULM	**Lac du Bonnet**	**120.25**	**316**		PKP	**PKPdf**	**19 25 54.8**	**-1.6**		
	comp=N,3.2nm,0.6s,baz=352,slow=2.5,SNR=6.0									
ULM	**Lac du Bonnet**	**120.25**	**316**		PKIKP	**PKPdf**	**19 25 54.9**	**-1.5**		
ULM	**Lac du Bonnet**	**120.25**	**316**			**PKPdf**	**19 25 54.9**	**-1.5**		
HWUT	**Hardware Ranch**	**120.31**	**300**			**PKPdf**	**19 25 54.9**	**-2.2**		
BGU	**Big Grassy Mou**	**120.50**	**299**		PKPdf	**PKPdf**	**19 25 56.1**	**-1.3**		
NOA	**NORSAR Array B**	**120.98**	**21**		PKP	**PKPdf**	**19 25 55.6**	**-1.9**		
	comp=N,0.9nm,0.9s,baz=207,slow=1.9,SNR=1.9									
AHID	**Auburn Hatcher**	**120.98**	**301**			**PKPdf**	**19 25 56.9**	**-1.5**		
HVU	**Hansel Valley**	**121.03**	**300**		PKIKP	**PKPdf**	**19 25 57.7**	**-0.7**		
HVU	**Hansel Valley**	**121.03**	**300**			**PKPdf**	**19 25 57.7**	**-0.7**		
NVAR	**Mina Array Bea**	**121.24**	**293**		PKP	**PKPdf**	**19 25 57.1**	**-1.9**		
	comp=N,1.6nm,0.6s,baz=156,slow=2.5,SNR=5.2									
LOHW	**Long Hollow**	**121.39**	**302**			**PKPdf**	**19 25 57.2**	**-1.9**		
ELK	**Elko**	**121.45**	**297**		PKIKP	**PKPdf**	**19 25 58.6**	**-0.7**		
ELK	**Elko**	**121.45**	**297**			**PKPdf**	**19 25 58.6**	**-0.7**		
MOOW	**Moose Ponds**	**121.56**	**302**		PKPdf	**PKPdf**	**19 25 57.3**	**-2.1**		
LAO	**LASA Array**	**121.74**	**308**		P	**PKPdf**	**19 25 59.6**	**+0.1**		
	baz=140						

ARU	Arti	132.10	48	PKPdf	PKPdf	19 26 18.8	0.0		
KMI	Kunming	132.70	110	⇓PKP	PKPdf	19 26 20.0	-1.3		
KMI				sPKP		19 26 25.5			
KMI				AMB	AMB				
	comp=Z,470nm,7.3s								
KMI				LR	LR				
	comp=Z,170nm,22.8s								
KMI				LR	LR				
	comp=Z,330nm,26.3s								
KMI				LR	LR				
	comp=Z,540nm,35.0s								
SVE	Sverdlovsk	133.23	49	*e*PKIKP	PKPdf	19 26 23.3	+2.4		
SVE				pmax	pmax				
	comp=Z,28nm,1.5s								
PZH	PanZhiHua	133.29	108	PKP	PKPdf	19 26 23.0	+0.8		
PZH				SKKS		19 35 41.8			
PZH				AMB	AMB				
	comp=Z,550nm,6.9s								
PZH				LR	LR				
	comp=Z,270nm,20.5s								
PZH				LR	LR				
	comp=Z,270nm,22.0s								
PZH				LR	LR				
	comp=Z,360nm,21.8s								
BRVK	Borovoye	135.15	58	⇑*i*PKIKP	PKPdf	19 26 26.4	+1.7		
BRVK	Borovoye	135.15	58	PKPdf	PKPdf	19 26 23.2	-1.5		
TULEG	Thule	135.16	347		PKPdf	19 26 23.9	-0.2		
GYA	Guiyang	135.82	113	⇑PKP	PKiKP	19 26 31.5	+2.9		
GYA				PP	PP	19 29 09.8	+4.2		
GYA				SKKS		19 36 03.3			
GYA	Guiyang	135.82	113	SS	SS	19 47 04.5	+0.5		
GYA				AMB	AMB				
	comp=Z,350nm,7.0s								
GYA				LR	LR				
	comp=N,220nm,19.3s								
GYA				LR	LR				
	comp=E,320nm,20.1s								
GYA				LR	LR				
	comp=Z,410nm,23.0s								
YKA	Yellowknife Ar	136.19	318	PKP	PKPdf	19 26 24.5	-1.8		
	comp=Z,5.5nm,0.7s,baz=127,slow=2.4,SNR=31								
YKA				PP	PP	19 29 03.5	-4.0		
	comp=Z,0.5nm,0.8s,baz=115,slow=6.5,SNR=4.4								
YKA	Yellowknife Ar	136.19	318	PKIKP	PKPdf	19 26 23.9	-2.4		
YKA	Yellowknife Ar	136.19	318	PKPdf	PKPdf	19 26 23.9	-2.4		
GOMU	GeErMu	136.93	93	PKP	PKPdf	19 26 29.3	+0.2		
GOMU				sPKP		19 26 36.5			
GOMU				PP	PP	19 29 10.5	-2.5		
GOMU				SKS	SKSdf	19 33 40.8	+0.9		
GOMU				SKKS	SKKSac	19 36 08.0	+0.6		
GOMU				SS	SS	19 47 18.8	+0.8		
GOMU				LR	LR				
	comp=Z,220nm,20.0s								
GOMU				LR	LR				
	comp=Z,250nm,20.6s								
GOMU				LR	LR				
	comp=Z,340nm,20.3s								
MK31	Makanchi Array	137.25	72	PKIKP	PKPdf	19 26 27.7	-1.1		
MK31	Makanchi Array	137.25	72		PKPdf	19 26 27.7	-1.1		
MKAR	Makanchi Array	137.25	72	PKP	PKPdf	19 26 25.9	-2.9		
	comp=Z,0.5nm,0.6s,baz=186,slow=1.2,SNR=6.4								
RES	Resolute Bay	138.02	339	PKIKP	PKPdf	19 26 26.6	-2.8		
RES	Resolute Bay	138.02	339	PKPdf	PKPdf	19 26 26.6	-2.8		
WMQ	Urumqi	138.25	79	*e*PKP	PKPdf	19 26 31.5	+0.7		
WMQ				LR	LR				
	comp=Z,310nm,15.7s								
WMQ				LR	LR				
	comp=Z,210nm,17.9s								
WMQ				LR	LR				
	comp=Z,410nm,20.1s								
CRAG	Craig	140.09	301	P	PKPdf	19 26 34.4	+0.8		
	baz=123								
WRAK	Wrangell Islan	140.24	303	P	PKPdf	19 26 34.9	+1.0		
	baz=122								
QZH	Quanzhou	140.26	128	PKP	PKiKP	19 26 40.5	+3.0		
QZH				LR	LR				
	comp=Z,250nm,16.6s								
QZH				LR	LR				
	comp=Z,200nm,17.1s								
LZH	Lanzhou	141.84	101	*e*PKP	PKPdf	19 26 40.8	+3.1		
LZH				PP	PP	19 29 44.5	+1.6		
LZH				AMB	AMB				
	comp=Z,850nm,9.1s								
LZH				LR	LR				
	comp=Z,340nm,18.4s								
LZH				LR	LR				
	comp=Z,320nm,18.2s								
LZH				LR	LR				
	comp=Z,450nm,20.3s								
SIT	Sitka	141.97	302	P	PKPdf	19 26 38.4	+1.5		
	baz=120								
GTA	Gaotai	142.00	94	*e*PKP	PKPdf	19 26 37.0	-0.9		
GTA				sPKP		19 26 44.0			
P33M	Teslin, Yukon	142.38	308		PKPpre	19 26 33.1			
ZAA0	Zalesovo Array	142.75	64	PKPpre	PKPpre	19 26 31.9			
ZALV	Zalesovo Beam	142.75	64	PKP	PKPdf	19 26 34.7	-3.8		
	comp=Z,1.6nm,0.5s,baz=271,slow=2.7,SNR=7.7								
ZALV	Zalesovo Beam	142.75	64	PKHKP	PKPpre	19 26 32.4			
ZALV	Zalesovo Beam	142.75	64		PKPpre	19 26 32.4			
C36M	Paulatuk	142.98	324	PKPdf	PKPdf	19 26 37.8	-0.7		
C36M	Paulatuk	142.98	324	P	PKPdf	19 26 39.5	+1.0		
	baz=113								
WHN	Wuhan	143.03	118	PKP	PKiKP	19 26 44.5	+1.5		
XAN	Xi'an	143.03	109	PKP	PKPbc	19 26 38.5	+1.9		
XAN				pPKP	PKiKP	19 26 45.0	+2.0		
SKAG	Skagway	143.15	306	P	PKPbc	19 26 39.0	+3.0		
	baz=118								
WHY	Whitehorse	143.50	308	P	PKPab	19 26 38.9	+2.7		
	baz=116,SNR=8.0								
M31M	Drury Creek, Y	143.96	310		PKPpre	19 26 36.3			
M31M	Drury Creek, Y	143.96	310	P	PKPbc	19 26 40.5	+2.1		
	baz=115,SNR=15								
N31M	Braeburn, Yuko	144.25	309	PKPdf	PKPab	19 26 36.6	-2.3		
N31M	Braeburn, Yuko	144.25	309	P	PKPab	19 26 41.3	+2.4		
	baz=115,SNR=13								
A36M	Sachs Harbour	144.30	328	P	PKPab	19 26 40.8	+2.0		
	baz=109								
PNL	Peninsula	145.10	304	P	PKPbc	19 26 42.7	+0.7		
	baz=115								
M30M	Minto, Yukon	145.13	310		PKPbc	19 26 40.1	-2.1		
M30M	Minto, Yukon	145.13	310	P	PKPbc	19 26 42.9	+0.8		
	baz=113,SNR=26								
LYN	LuoYang	145.28	112	⇑PKPbc	PKPbc	19 26 42.0	-1.4		
LYN				AMB	AMB				
	comp=Z,440nm,7.5s								
LYN				LR	LR				
	comp=Z,220nm,26.5s								
LYN				LR	LR				
	comp=Z,270nm,22.8s								
LYN				LR	LR				
	comp=Z,420nm,22.4s								
JOW	Kunigami	145.84	140	PKPdf	PKPdf	19 26 42.0	-2.8		
INK	Inuvik	145.84	320	PKIKP	PKPdf	19 26 41.5	-1.9		
INK	Inuvik	145.84	320	PKPdf	PKPdf	19 26 41.5	-1.9		
INK	Inuvik	145.84	320	P	PKPdf	19 26 44.2	+0.8		
	baz=107								
LOGN	Logan Glacier	146.30	306		PKPdf	19 26 44.8	+0.1		
J29M	Klondike Camp	146.41	313	P	PKPdf	19 26 45.2	+0.5		
	baz=109								
NJ2	Nanjing	146.44	122	*e*PKPbc	PKPdf	19 26 46.5	+0.9		
NJ2				pPKP	PKPab	19 26 50.3	+2.4		
NJ2				sPKP		19 26 52.3			
NJ2				LR	LR				
	comp=Z,220nm,20.4s								
NJ2				LR	LR				
	comp=Z,380nm,17.5s								
NJ2				LR	LR				
	comp=Z,360nm,21.3s								
YAH	Yahtse	146.46	305		PKPdf	19 26 44.4	-0.7		
CTGM	Chitina Glacie	146.50	306		PKPdf	19 26 45.4	+0.4		
CTG	Chitna Glacier	146.51	306	P	PKPdf	19 26 45.6	+0.6		
	baz=112								
GRNC	Granite Creek	146.60	305		PKPdf	19 26 46.7	+1.4		
BARN	Barnard Glacie	146.69	306		PKPdf	19 26 45.6	+0.2		
I29M	Ogilvie Camp,	146.74	314		PKPdf	19 26 44.6	-0.6		
I29M	Ogilvie Camp,	146.74	314	P	PKPdf	19 26 45.8	+0.7		
	baz=108								
DAWY	Dawson	146.77	312	PKPdf	PKPdf	19 26 44.2	-1.0		
DAWY	Dawson	146.77	312	P	PKPdf	19 26 45.3	+0.1		
	baz=109								
BGLC	Bering Glacier	147.07	304	P	PKPdf	19 26 46.9	+1.1		
	baz=112								
TGL	Tana Glacier	147.10	305		PKPdf	19 26 46.6	+0.6		
M27K	Edge Creek, AK	147.25	308	PKPdf	PKPdf	19 26 47.1	+0.9		
M27K	Edge Creek, AK	147.25	308	P	PKPdf	19 26 48.1	+1.8		
	baz=110,SNR=8.5								
MCARA	McCarthy VSAT	147.42	306		PKPdf	19 26 49.4	+3.1		
MCARA	McCarthy VSAT	147.42	306	P	PKPdf	19 26 48.0	+1.7		
	baz=111								
BCAR	Beaver Creek A	147.45	309	PKPdf	PKPdf	19 26 45.9	-0.5		
L27K	Beaver Creek,	147.47	309		PKPdf	19 26 46.4	-0.1		
L27K	Beaver Creek,	147.47	309	P	PKPdf	19 26 48.1	+1.6		
	baz=109,SNR=28								
KAIM	Kayak Island	147.52	303	P	PKPdf	19 26 48.8	+2.2		
	baz=112								
VRDI	Verde Repeater	147.56	306		PKPdf	19 26 47.2	+0.4		
EGAK	Eagle	147.72	313		PKPdf	19 26 47.2	+0.4		
EGAK	Eagle	147.72	313	P	PKPdf	19 26 49.0	+2.3		
	baz=107								
GLB	Gilahina Butte	147.79	306		PKPdf	19 26 49.4	+2.3		
L26K	Log Cabin Wild	148.11	309		PKPdf	19 26 48.8	+1.3		
L26K	Log Cabin Wild	148.11	309	P	PKPdf	19 26 50.1	+2.7		
	baz=108,SNR=15								
N25K	Chitina, Valde	148.21	306		PKPdf	19 26 49.1	+1.3		
N25K	Chitina, Valde	148.21	306	P	PKPdf	19 26 50.5	+2.8		
	baz=109,SNR=6.4								
MENT	Mentasta	148.25	309		PKPdf	19 26 47.4	-0.3		
Q23K	Middleton Isla	148.25	302	P	PKPdf	19 26 50.5	+2.8		
	baz=112								
EYAK	Cordova Ski Ar	148.37	304		PKPdf	19 26 50.2	+2.4		
EYAK	Cordova Ski Ar	148.37	304	P	PKPdf	19 26 50.9	+3.0		
	baz=110								
BTO	Baotou	148.46	102	*e*PKPbc	PKPdf	19 26 51.8	+2.9		
DIV	Divide	148.58	305		PKPdf	19 26 50.4	+2.0		
DOT	Dot Lake	148.61	310		PKPdf	19 26 49.9	+1.6		
HNS	HongShan	148.62	111	⇓PKPbc	PKPdf	19 26 53.0	+3.9		
HNS				PP	PP	19 30 28.5	+5.5		
HNS				LR	LR				
	comp=Z,370nm,22.5s								
HNS				LR	LR				
	comp=Z,420nm,22.6s								
J26L	Joseph Creek	148.63	312	P	PKPdf	19 26 51.2	+2.8		
	baz=106,SNR=20								
SCRK	Sand Creek	148.67	310	PKPdf	PKPdf	19 26 47.1	-1.4		
SCRK	Sand Creek	148.67	310	P	PKPdf	19 26 51.9	+3.5		
	baz=106,SNR=18								
HARP	HAARP	148.71	307	P	PKPdf	19 26 51.6	+3.1		
	baz=108								
KLU	Klutina	148.77	305		PKPdf	19 26 51.2	+2.6		
KLU	Klutina	148.77	305	P	PKPdf	19 26 51.9	+3.2		
	baz=109,SNR=16								
FID	Port Fidalgo	148.78	304		PKPdf	19 26 52.7	+4.1		
TIA	Tai'an	148.95	115	PKPbc	PKPdf	19 26 51.0	+1.3		
RIDG	Independent Ri	148.97	310		PKPdf	19 26 51.4	+2.5		
RIDG	Independent Ri	148.97	310	P	PKPdf	19 26 52.9	+4.0		
	baz=106,SNR=40								
PAX	Paxson	149.02	308	PKIKP	PKPdf	19 26 51.5	+2.5		
PAX	Paxson	149.02	308		PKPdf	19 26 51.5	+2.5		
PAX	Paxson	149.02	308	P	PKPbc	19 26 55.2	+2.1		
	baz=107,SNR=20								
M24K	Tolsona, Glenn	149.07	306		PKPdf	19 26 48.7	-0.4		
M24K	Tolsona, Glenn	149.07	306	P	PKPbc	19 26 54.3	+1.0		
	baz=108								
GLI	Glacier Island	149.10	304	P	PKPbc	19 26 55.5	+2.2		
	baz=109								
J25K	Salcha River,	149.42	311		PKPdf	19 26 51.3	+1.7		
J25K	Salcha River,	149.42	311	P	PKPbc	19 26 56.4	+2.4		
	baz=104								
HHC	Hu-ho-hao-te	149.47	103	*e*PKPbc	PKPdf	19 26 48.3	-2.2		
HHC				LR	LR				
	comp=Z,210nm,15.2s								
HHC				LR	LR				
	comp=Z,390nm,15.2s								
HHC				LR	LR				
	comp=Z,510nm,15.2s								
SCM	Sheep Creek Mo	149.51	306	PKHKP	PKPdf	19 26 52.0	+2.2		
SCM	Sheep Creek Mo	149.51	306		PKPdf	19 26 52.0	+2.2		
SCM	Sheep Creek Mo	149.51	306	P	PKPbc	19 26 55.6	+1.2		
	baz=107,SNR=9.8								
PWL	Port Wells	149.67	303		PKPdf	19 26 53.1	+3.1		
PWL	Port Wells	149.67	303	P	PKPbc	19 26 55.2	+0.5		
	baz=108,SNR=8.3								
DHY	Denali Highway	149.88	308		PKPdf	19 26 53.3	+2.8		
DHY	Denali Highway	149.88	308	P	PKPbc	19 26 55.7	+0.3		
	baz=105,SNR=12								
KNK	Knik Glacier	149.90	304		PKPbc	19 26 55.4	+0.1		
KNK	Knik Glacier	149.90	304	P	PKPbc	19 26 55.4	+0.1		
	baz=107,SNR=7.0								
WAT6	Susitna Watana	149.91	307	P	PKPbc	19 26 55.6	+0.2		
	baz=106,SNR=9.1								
SEW	Seward	149.95	302		PKPdf	19 26 54.8	+4.4		
SML	Sawmill	149.96	305		PKPdf	19 26 54.3	+3.7		
SML	Sawmill	149.96	305	P	PKPbc	19 26 55.6	+0.1		
	baz=107,SNR=10								
MOY	Mondy	150.08	77	*e*PKHKP	PKPdf	19 26 52.0	+0.9		
MOY				pmax	pmax				
	comp=Z,115nm,2.7s								
IL31		150.09	311		PKPdf	19 26 48.4	-2.1		
ILAR	Eielson Array	150.09	311	PKP	PKPdf	19 26 47.5	-3.0		
	comp=Z,1.7nm,0.8s,baz=74,slow=3.9,SNR=13								
ILAR				PKPbc	pPKPdf	19 26 54.2	+0.5		
	comp=Z,37nm,0.7s,baz=136,slow=1.7,SNR=73								
ILAR	Eielson Array	150.09	311	PKIKP	PKPdf	19 26 48.8	-1.8		
ILAR	Eielson Array	150.09	311	PKPdf	PKPdf	19 26 48.8	-1.8		
GHO	Glory Hole Cre	150.22	305		PKPdf	19 26 55.0	+4.0		
PMR	Palmer	150.26	305	PKIKP	PKPdf	19 26 53.1	+2.2		
PMR	Palmer	150.26	305		PKPdf	19 26 53.1	+2.2		
PMR	Palmer	150.26	305	P	PKPbc	19 26 56.4	+0.3		
	baz=106								
POKR	Poker Plat Res	150.39	312	P	PKPbc	19 26 56.9	+0.6		
	baz=102								
RC01	Rabbit Creek A	150.39	304		PKPbc	19 26 56.3	-0.1		
RC01	Rabbit Creek A	150.39	304	P	PKPbc	19 26 56.5	0.0		
	baz=107								
BRSE	Bradley Lake S	150.45	301	P	PKPbc	19 26 56.7	0.0		
	baz=109								
COLA	College	150.51	311	PKIKP	PKPdf	19 26 49.6	-1.6		
COLA	College	150.51	311		PKPdf	19 26 49.6	-1.6		
COLA	College	150.51	311	P	PKPbc	19 26 57.1	+0.5		
	baz=102								
TCOL	CIGO, UAF Yank	150.52	311		PKPdf	19 26 50.9	-0.3		
TCOL	CIGO, UAF Yank	150.52	311	P	PKPbc	19 26 57.3	+0.7		
	baz=102								
BRLK	Bradley Lake	150.53	301		PKPdf	19 26 55.6	+4.1		
WRH	Wood River Hil	150.53	311		PKPdf	19 26 51.3	+0.1		
RND	Reindeer	150.61	308	PKIKP	PKPdf	19 26 55.3	+3.8		
RND	Reindeer	150.61	308		PKPdf	19 26 55.3	+3.8		
CNPM	China Poot	150.62	300		PKPdf	19 26 56.4	+4.8		
ZAK	Zakamensk	150.68	81	*e*PKIKP	PKPbc	19 26 58.0	+0.4		
ZAK				pmax	pmax				
	comp=Z,56nm,1.4s								
KDAK	Kodiak Island	150.68	296	PKIKP	PKPdf	19 26 55.8	+4.1		
KDAK	Kodiak Island	150.68	296		PKPdf	19 26 55.8	+4.1		
KDAK	Kodiak Island	150.68	296	P	PKPbc	19 26 57.4	+0.2		
	baz=111								
MDM	Murphy Dome	150.69	312		PKPdf	19 26 54.7	+3.2		
H24K	Noodor Dome	150.71	313	PKPdf	PKPdf	19 26 51.7	+0.1		
H24K	Noodor Dome	150.71	313	P	PKPbc	19 26 57.5	+0.4		
	baz=100,SNR=16								
MCK	McKinley	150.73	309	PKIKP	PKPdf	19 26 55.6	+4.0		
MCK	McKinley	150.73	309		PKPdf	19 26 55.6	+4.0		
MCK	McKinley	150.73	309	P	PKPbc	19 26 57.4	+0.2		
	baz=103,SNR=39								
M22K	Willow	150.76	305		PKPdf	19 26 56.2	+4.6		
M22K	Willow	150.76	305	P	PKPbc	19 26 57.6	+0.4		
	baz=106,SNR=9.4								
OHAK	Old Harbor	150.83	295		PKPdf	19 26 55.5	+3.6		
OHAK	Old Harbor	150.83	295	P	PKPbc	19 26 57.6	+0.1		
	baz=112								
CAPN	Captain Cook N	150.96	302	P	PKPdf	19 26 56.9	+4.9		
	baz=107								
NEA2	Nenana	150.97	311		PKPdf	19 26 56.0	+4.0		
NEA2	Nenana	150.97	311	P	PKPbc	19 26 58.1	+0.4		
	baz=101,SNR=22								
CUT	Chulitna	151.00	306		PKPdf	19 26 56.2	+4.1		
CUT	Chulitna	151.00	306	P	PKPbc	19 26 58.2	+0.4		
	baz=104,SNR=28								
SONM	Songino Array	151.03	87	PKPbc	PKPdf	19 26 56.2	+3.4		
	comp=Z,6.1nm,0.8s,baz=246,slow=2.2,SNR=7.9								
SONM	Songino Array	151.03	87	PKIKP	PKPdf	19 26 51.7	-1.1		
SONM	Songino Array	151.03	87	PKPdf	PKPdf	19 26 51.7	-1.1		
SII	Sitkinak Islan	151.04	293	P	PKPbc	19 26 59.3	+1.2		
	baz=112								
BWN	Browne	151.05	310		PKPdf	19 26 55.7	+3.6		
I23K	Minto, Yukon-K	151.19	312		PKPdf	19 26 56.5	+4.3		
I23K	Minto, Yukon-K	151.19	312	P	PKPbc	19 26 58.9	+0.8		
	baz=100,SNR=14								
TRF	Thorofare Moun	151.25	308	P	PKPbc	19 26 58.8	+0.2		
	baz=102,SNR=9.7								
BJI	Beijing	151.35	109	PKPbc	PKPdf	19 26 53.8	+0.5		
BJI				PP	PP	19 30 37.0	-1.8		
BJI				AMB	AMB				
	comp=Z,500nm,6.7s								
ULN	Ulaanbaatar	151.41	88	PKIKP	PKPdf	19 26 58.5	+5.1		
ULN	Ulaanbaatar	151.41	88		PKPdf	19 26 58.5	+5.1		
O20K	Slope Mountain	151.46	301	P	PKPbc	19 26 59.5	+0.4		
	baz=107								
KTH	Kantishna Hill	151.55	308		PKPdf	19 26 52.5	-0.4		
SPCR	Spurr Chakacha	151.58	303	P	PKPbc	19 26 59.0	-0.3		
	baz=105								
BPAW	Bear Paw Mtn.	151.69	309	PKPdf	PKPdf	19 26 50.2	-2.9		
BPAW	Bear Paw Mtn.	151.69	309	P	PKPbc	19 26 58.9	-0.5		
	baz=101,SNR=48								
TOLK	Toolik Lake Re	151.71	319	PKPdf	PKPdf	19 26 50.2	-2.8		
TOLK	Toolik Lake Re	151.71	319	P	PKPbc	19 26 59.1	-0.3		
	baz=94								
MLY	Manley	151.75	311		PKPdf	19 26 57.0	+3.8		
MLY	Manley	151.75	311	P	PKPbc	19 26 59.1	-0.5		
	baz=99,SNR=13								
COLD	Coldfoot	151.83	316		PKPdf	19 26 50.6	-2.5		
COLD	Coldfoot	151.83	316	P	PKPbc	19 27 00.2	+0.6		
	baz=96								
PPLA	Purkeypile	151.97	307		PKPdf	19 26 54.1	+0.4		
PPLA	Purkeypile	151.97	307	P	PKPbc	19 27 00.2	0.0		
	baz=102								
CAST	Castle Rocks	152.04	308	PKPdf	PKPdf	19 26 52.1	-1.5		
CAST	Castle Rocks	152.04	308	P	PKPbc	19 26 59.6	-0.6		
	baz=101,SNR=13								
IRK	Irkutsk	152.13	78	*e*PKIKP	PKPdf	19 26 58.6	+4.5		
IRK				pmax	pmax				
	comp=Z,65nm,3.1s								
M20K	Styx River	152.18	304		PKPdf	19 26 58.0	+4.1		
M20K	Styx River	152.18	304	P	PKPbc	19 27 00.1	-0.6		
	baz=103,SNR=18								
CHUM	Lake Minchumin	152.22	309	P	PKPbc	19 27 00.5	-0.1		
	baz=100,SNR=18								
I21K	Tanana	152.29	311		PKPdf	19 26 53.8	-0.1		
I21K	Tanana	152.29	311	P	PKPbc	19 27 00.3	-0.4		
	baz=98								
O19K	Port Alsworth	152.31	300		PKPdf	19 26 58.2	+4.2		
O19K	Port Alsworth	152.31	300	P	PKPbc	19 27 00.3	-0.6		
	baz=106								
JNU	Nakatsue	152.47	138		PKPbc	19 27 01.8	-0.4		
P18K	Big Mountain,	152.52	298		PKPdf	19 26 58.6	+4.1		
P18K	Big Mountain,	152.52	298	P	PKPbc	19 27 01.0	-0.4		
	baz=107								
N19K	Bonanza Creek	152.55	302		PKPdf	19 26 59.5	+5.0		
N19K	Bonanza Creek	152.55	302	P	PKPbc	19 27 02.2	+0.7		
	baz=104								
L20K	Farewell, AK	152.65	305	P	PKPbc	19 27 02.8	+1.2		
	baz=102								
H21K	Melozitna Rive	152.70	312		PKPdf	19 26 55.6	+1.1		
H21K	Melozitna Rive	152.70	312	P	PKPbc	19 27 01.7	+0.1		
	baz=96								
M19K	Big River Lodg	152.76	304		PKPbc	19 27 00.9	-1.0		
M19K	Big River Lodg	152.76	304	P	PKPbc	19 27 01.7	-0.2		
	baz=102								
K20K	Telida	152.90	307		PKPdf	19 27 00.3	+5.3		
K20K	Telida	152.90	307	P	PKPbc	19 27 01.4	-0.8		
	baz=100,SNR=11								
L19K	White Mountain	153.03	304	P	PKPbc	19 27 01.9	-0.6		
	baz=102								
J20K	Nowinta River	153.07	309	PKPdf	PKPdf	19 26 52.7	-2.4		
J20K	Nowinta River	153.07	309	P	PKPbc	19 27 02.8	+0.4		
	baz=98								
IMAR	Indian Mountai	153.12	313	PKPdf	PKPdf	19 26 52.6	-2.6		
CHGN	Chignik	153.13	291	P	PKPbc	19 27 03.5	+0.8		
	baz=111								
TTA	Tatalina	153.70	306	PKIKP	PKPbc	19 27 03.3	-0.7		
TTA	Tatalina	153.70	306	PKPbc	PKPbc	19 27 03.2	-0.7		
TTA	Tatalina	153.70	306	P	PKPbc	19 27 04.1	+0.1		
	baz=99								
SDPT	Sand Point	153.87	288	P	PKPbc	19 27 04.7	+0.3		
	baz=112								
XLT	XiLinHaoTe	153.99	103	*e*PKPbc	PKPdf	19 26 51.3	-5.9		
XLT				PP	PP	19 30 54.3	+0.4		
XLT				SKKS		19 37 46.5			
XLT				AMB	AMB				
	comp=Z,310nm,7.4s								
XLT				LR	LR				
	comp=Z,260nm,18.5s								
XLT				LR	LR				
	comp=Z,320nm,17.0s								
A21K	Barrow	154.02	325	P	PKPbc	19 27 05.2	+0.9		
	baz=82								
GCSA	Galena City Sc	154.31	310	P	PKPbc	19 27 05.2	+0.1		
	baz=95								
KSRS	Korea Array	155.05	129	PKP	PKPdf	19 26 57.2	-1.5		
	comp=Z,1.7nm,1.0s,baz=225,slow=4.1,SNR=3.1								
CIT	Chita	157.14	84	*e*PKIKP	PKPdf	19 27 04.3	+3.2		
CIT				*e*		19 31 15.2			
ANM	Nome	157.96	309	P	PKPab	19 27 34.4

MKAR	**Makanchi Array**	43.55	33	P		P		19 15 40.8	+0.3
TORD	**Torodi Ar. Bea**	46.49	276	P		P		19 16 02.9	-1.3
	comp=Z,0.3nm,0.6s,baz=100,slow=6.1,SNR=1.9								
CMAR	**Chiang Mai Arr**	47.82	77	P		P		19 16 15.2	+0.6
	comp=Z,1.4nm,0.9s,baz=276,slow=8.5,SNR=12								
ZAA0	**Zalesovo Array**	49.48	27	P		P		19 16 25.3	-1.5
ZALV	**Zalesovo Beam**	49.48	27	P		P		19 16 25.8	-1.0
	comp=Z,1.4nm,0.6s,baz=235,slow=8.7,SNR=9.9								
FINES	**FINESS Array B**	51.30	346	P		P		19 16 40.2	-0.2
	comp=Z,1.6nm,0.8s,baz=144,slow=9.6,SNR=3.9								
ESDC	**Sonseca Array**	53.85	310	P		P		19 16 59.6	-0.3
	comp=Z,1.1nm,0.9s,baz=106,slow=7.5,SNR=3.8								
SONM	**Songino Array**	58.46	41	P		P		19 17 33.5	+0.8
	comp=Z,0.8nm,0.8s,baz=264,slow=8.1,SNR=7.0								
SONM	**Songino Array**	58.46	41	IAmb		IAmb		19 17 34.8	
	comp=Z,2.4nm,1.2s								
WRA	**Warramunga Arr**	89.62	110	P		P		19 20 36.2	+1.1
	comp=Z,0.5nm,0.6s,baz=299,slow=3.7,SNR=15								
ASAR	**Alice Springs**	90.12	114	P		P		19 20 37.2	-0.2
	comp=Z,0.4nm,0.7s,baz=280,slow=4.8,SNR=4.5								

*TEH **28** 19:28:29.1,27.°74N×53.°09E,h15km,ML3.6*
*DSN **28** 19:28:29.8±1.9,27.°82N±53.°22E,h10km,ML3.1/4,Error ellipse: s-maj=39.6km s-min=13.8km az=62.0*
*IDC **28** 19:28:33.1±2.8,27.°76N×53.°08E,h46km±28km,mb3.5/17, mb1 3.7/19,mb1mx3.5/47,mbtmp3.8/19,ML3.2/2,MS4.1/4, Ms1 4.1/4,ms1mx3.2/73,Error ellipse: s-maj=20.2km s-min=15.2km az=171.0*

ISC 28 19:28:28.4±0.5,27.74N±0.04×53.06E±0.05,h10km,n70, σ1§49/71,mb3.8/21,MS4.1/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LMD1	**Lamerd**	0.40	167	*e*Pg		Pg	19 28 37.4	+1.0
QIR1	**Qir**	0.74	359	*e*Pg		Pg	19 28 43.0	+0.2
QIR1				*e*			19 29 07.7	
	comp=Z,44μm,0.7s							
JHRM	**Jahrom**	0.89	31	*e*Pg		Pg	19 28 45.7	0.0
JHRM				*e*			19 29 18.4	
	comp=Z,28μm,0.4s							
LAR1	**LAR**	1.17	93	*e*Pg		Pb	19 28 51.0	+0.2
LAR1				*e*			19 29 19.0	
	comp=Z,25μm,0.4s							
AHBU	**AHRAM**	1.92	306	*e*Pn		Pb	19 29 03.2	-0.4
SHI	**Shiraz**	1.96	346	*e*Pn		Pb	19 29 04.1	-0.3
SHI				*e*			19 29 47.3	
	comp=Z,6μm,0.6s							
SHME	**Shamm**	3.22	121	*e*Pn		Pn	19 29 19.8	+0.7
SHME	**Shamm**	3.22	121	P		Pn	19 29 19.5	+0.4
BANOM	**Banah**	3.41	121	*e*Pn		Pn	19 29 23.2	+1.4
BANOM	**Banah**	3.41	121	P		Pn	19 29 22.2	+0.4
MSFE	**Esma-Masafi**	3.65	130	*e*Pn		Pn	19 29 25.5	+0.5
SLWR	**Sila**	3.85	199	*e*Pn		Pn	19 29 27.6	-0.2
IMEH	**Mehriz**	3.89	20	*e*Pn		Pn	19 29 31.2	+2.7
IMEH				*e*			19 30 27.6	
	comp=Z,490nm,0.5s							
KRBR	**Kerman**	3.94	55	*e*Pn		Pn	19 29 31.7	+2.4
TVBK	**TV Kerman**	3.95	54	*e*Pn		Pn	19 29 31.1	+1.7
TVBK				*e*			19 29 32.8	
	comp=Z,2μm,0.5s							
UOSS	**Minazif**	3.96	134	*e*Pn		Pn	19 29 29.1	-0.2
UOSS	**Minazif**	3.96	134	P		Pn	19 29 29.4	+0.1
KHGB	**Koh Gabri**	3.98	48	*e*Pn		Pn	19 29 31.4	+1.6
KHGB				*e*			19 30 22.0	
	comp=Z,736nm,0.8s							
HATD	**Hatta, Dubai**	4.00	136	*e*Pn		Pn	19 29 31.5	+1.6
HATD	**Hatta, Dubai**	4.00	136	P		Pn	19 29 32.2	+2.3
ASHO	**Ashiyiah**	4.06	138	*e*Pn		Pn	19 29 32.3	+1.6
ASHO	**Ashiyiah**	4.06	138	P		Pn	19 29 31.2	+0.5
ASHO				S		Sn	19 30 20.2	+1.9
IRAM	**Ramesheh**	4.10	352	*e*Pn		Pn	19 29 33.2	+1.8
IRAM				*e*			19 29 49.1	
	comp=Z,563nm,0.5s							
ISAD	**Sadrabad**	4.20	7	*e*Pn		Pn	19 29 36.1	+3.3
ICHK	**Chekchek**	4.64	14	*e*Pn		Pn	19 29 41.4	+2.5
MZR	**Muzera**	4.73	175	*e*Pn		Pn	19 29 41.6	+1.7
IGAR	**Gharneh**	4.74	350	*e*Pn		Pn	19 29 43.8	+3.6
YZKH	**Yazd**	4.83	16	*e*Pn		Pn	19 29 43.8	+2.5
KBAM	**BAM**	4.95	72	*e*Pn		Pn	19 29 44.8	+1.8
KBAM				*e*			19 30 49.9	
	comp=Z,342nm,0.8s							
SHK1	**Shahrekord**	4.95	338	*e*Pn		Pn	19 29 44.4	+1.3
IZEF	**Zefreh**	5.18	353	*e*Pn		Pn	19 29 48.0	+1.7
IZEF				*e*			19 30 48.0	
	comp=Z,240nm,0.3s							
IPIR	**Pirpir**	5.28	340	*e*Pn		Pn	19 29 49.9	+2.2
UMZA	**Um Al Zommool**	5.35	159	*e*Pn		Pn	19 29 48.7	+0.3
ANAR	**Anarak**	5.47	6	*e*Pn		Pn	19 29 52.0	+1.9
TPRV	**Parvadeh(Tabas**	6.13	30	*e*Pn		Pn	19 30 01.0	+1.7
KRSH	**Karshahi**	6.26	353	*e*Pn		Pn	19 30 01.9	+0.8
KHMZ	**Khomeyn**	6.55	337	*e*Pn		Pn	19 30 07.6	+2.5
ISFB	**Sefidab**	6.63	354	*e*Pn		Pn	19 30 07.0	+0.9
WSAR	**Wadi Sarin**	6.74	130	P		Pn	19 30 09.1	+1.6
	comp=Z,0.6nm,0.3s,baz=323,slow=8.0,SNR=13							
WSAR				S		Sn	19 31 21.9	-2.4
	comp=Z,0.4nm,0.3s,baz=140,slow=19,SNR=2.2							
BSRN	**Basiran**	6.75	50	*e*Pn		Pn	19 30 10.4	+2.7
TKDS	**Koohdasht(Taba**	6.82	30	*e*Pn		Pn	19 30 10.2	+1.5
ZHDN	**Zahedan**	7.01	75	*e*Pn		Pn	19 30 13.0	+1.6
NHDN	**Nehbandan**	7.10	57	*e*Pn		Pn	19 30 13.8	+1.3
ASAD	**Ashtian**	7.27	340	*e*Pn		Pn	19 30 17.2	+2.2
SRVN	**Saravan**	8.29	90	*e*Pn		Pn	19 30 29.8	+0.8
GEYT	**Alibeck**	11.02	21	P		Pn	19 31 07.7	+1.6
	comp=Z,0.2nm,0.3s,baz=186,slow=13,SNR=1.8							
BRTR	**Keskin Array B**	20.05	312	P		P	19 33 02.3	+0.4
	comp=Z,1.3nm,0.7s,baz=140,slow=13,SNR=4.0							
AAK	**Ala-Archa**	22.89	44	P		P	19 33 33.9	+1.5
	comp=Z,0.3nm,0.3s,baz=51,slow=18,SNR=2.2							
IDI	**Anoyia**	25.11	294	P		P	19 33 54.9	+1.3
	comp=Z,5.9nm,0.6s,baz=94,slow=9.1,SNR=5.9							
IDI				LR		LR	19 47 51.8	
	comp=Z,224nm,19.1s,baz=255,slow=46							
BVAR	**Borovoye Array**	28.35	22	P		P	19 34 23.4	+0.9
	comp=Z,0.2nm,0.4s,baz=225,slow=23,SNR=3.1							
MKAR	**Makanchi Array**	29.79	42	P		P	19 34 34.7	-0.7
	comp=Z,0.7nm,0.9s,baz=230,slow=11,SNR=3.7							
MKAR				PcP		PcP	19 37 37.7	-1.1
	comp=Z,0.2nm,0.6s,baz=261,slow=3.0,SNR=1.8							
KURBB	**Kurchatov Arra**	29.93	33	P		P	19 34 34.6	-2.0
	comp=Z,0.4nm,0.9s,baz=235,slow=8.4,SNR=3.2							
ZALV	**Zalesovo Beam**	35.03	33	P		P	19 35 20.4	-0.7
	comp=Z,0.6nm,0.5s,baz=267,slow=9.7,SNR=2.6							
SQTA	**Sankt Quirin**	37.93	312	*e*P		P	19 35 45.9	-0.2
	comp=Z,1.7nm,0.4s							
MOTA	**Moosalm**	38.03	312	*e*P		P	19 35 46.4	-0.6
	comp=Z,0.1nm,0.1s							
FETA	**Feichten**	38.19	312	*e*P		P	19 35 48.6	+0.2
	comp=Z,1.4nm,0.6s							
FINES	**FINESS Array B**	38.23	339	P		P	19 35 48.1	-0.2
	comp=Z,2.5nm,0.6s,baz=150,slow=8.6,SNR=20							
DAVA	**Damuels**	38.82	312	*e*P		P	19 35 53.4	-0.3
	comp=Z,5.6nm,0.6s							
CMAR	**Chiang Mai Arr**	43.00	92	P		P	19 36 28.3	0.0
	comp=Z,0.7nm,0.3s,baz=285,slow=10,SNR=4.2							
NOA	**NORSAR Array B**	43.47	332	P		P	19 36 30.4	-1.1
	comp=Z,1.1nm,0.9s,baz=134,slow=5.5,SNR=2.5							
ARCES	**ARCESS Array B**	44.79	347	P		P	19 36 41.4	-0.6
	comp=Z,3.2nm,0.9s,baz=139,slow=6.0,SNR=1.7							
SONM	**Songino Array**	45.68	49	P		P	19 36 49.3	-0.2
	comp=Z,0.6nm,0.6s,baz=265,slow=8.8,SNR=6.1							
ESDC	**Sonseca Array**	48.18	300	P		P	19 37 08.8	-0.3
	comp=Z,0.7nm,0.7s,baz=61,slow=8.7,SNR=5.3							
TORD	**Torodi Ar. Bea**	49.93	264	P		P	19 37 22.4	-0.3
	comp=Z,0.8nm,0.6s,baz=60,slow=8.5,SNR=9.6							
DBIC	**Dimbokro**	58.59	260	P		P	19 38 25.7	-0.2
	comp=Z,2.5nm,0.6s,baz=90,slow=3.9,SNR=4.2							
DAV	**Davao City (W)**	71.28	92	LR		LR	20 16 45.7	
	comp=Z,72nm,18.6s,baz=208,slow=41							
GUMO	**Guam**	85.36	77	LR		LR	20 23 50.5	
	comp=Z,116nm,21.6s,baz=189,slow=39							
ILAR	**Eielson Array**	86.49	8	P		P	19 41 10.5	-0.7
	comp=Z,0.3nm,0.7s,baz=334,slow=6.0,SNR=2.4							
YKA	**Yellowknife Ar**	89.54	354	P		P	19 41 25.8	0.0
	comp=Z,0.3nm,0.7s,baz=6.7,slow=4.8,SNR=7.3							
YKA				LR		LR	20 28 57.5	
	comp=Z,237nm,19.4s,baz=104,slow=40							
MAW	**Mawson**	95.33	176	P		P	19 41 51.4	-0.6
	comp=Z,3.6nm,0.8s,baz=315,slow=10.0,SNR=2.0							

*IDC **28** 19:31:36.2±1.9,5.°44S×147.°13E,h191km±17km,mb3.9/19, mb1 4.0/23,mb1mx3.9/37,mbtmp4.4/23,Error ellipse: s-maj=15.9km s-min=9.6km az=69.0*

*DJA **28** 19:31:37.5±0.4,5.°5S×147.°7E±°,h200km±6km,M4.4/19, mB4.6/5,mb4.7/19,MLv4.6/3,Mw(mB)3.8/5*
*NEIC **28** 19:31:38.0±1.8,5.°50S±0.°06×147.°10E±0.°09,h202km±3km, mb4.5/37,Error ellipse: s-maj=13.5km s-min=8.7km az=90.0*

ISC 28 19:31:36.5±0.4,5.°50S±0.°05×147.°05E±0.°06,h195km,n164, σ1§16/168,mb4.4/41,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	3.44	5			Pn	19 32 33.3	+2.0
PMG	**Port Moresby**	3.89	178	P		Pn	19 32 36.1	-0.6
	122nm,0.3s,baz=29,slow=9.5,SNR=446							
PMG				S		Sn	19 33 18.6	-5.5
	76nm,0.3s,baz=38,slow=23,SNR=6.2							
PMG	**Port Moresby**	3.89	178	Pn		Pn	19 32 35.6	-1.0
PMG	**Port Moresby**	3.89	178	P		Pn	19 32 36.3	-0.4
PMG	**Port Moresby**	3.89	178	P		Pn	19 32 36.1	-0.6
RABL	**Rabaul**	5.25	76			Pn	19 32 54.3	+0.2
RABL	**Rabaul**	5.25	76	P		Pn	19 32 54.5	+0.4
JAY	**Jayapura**	6.99	295	P		Pn	19 33 17.1	+0.5
	0.8nm,0.3s,baz=144,slow=5.7,SNR=9.1							
JAY				S		Sn	19 34 32.0	-4.1
	0.8nm,0.3s,baz=325,slow=22,SNR=1.1							
COEN	**Coen**	9.23	204	Pn		Pn	19 33 47.3	+1.3
COEN	**Coen**	9.23	204	P		Pn	19 33 47.7	+1.8
MTSU	**Mount Surprise**	12.84	192	P		Pn	19 34 32.5	+0.2
	baz=13,SNR=42							
MTSU	**Mount Surprise**	12.84	192	P		P	19 34 34.6	-1.3
CTA	**Charters Tower**	14.53	183	P		P	19 34 55.0	+0.4
	0.4nm,0.3s,baz=5.4,slow=12,SNR=7.7							
CTA	**Charters Tower**	14.53	183	P		P	19 34 54.0	-0.5
CTAO	**Charters Tower**	14.53	183	Pn		Pn	19 34 53.5	+0.3
KDU	**Kakadu**	16.07	243	P		Pn	19 35 12.6	+0.7
	baz=16,SNR=122							
KDU	**Kakadu**	16.07	243	P		Pn	19 35 12.5	+0.5
QIS	**Mount Isa**	16.63	205	P		Pn	19 35 18.9	+0.2
	baz=17,SNR=19							
QIS	**Mount Isa**	16.63	205	P		Pn	19 35 19.7	+1.0
MTN	**Manton Dam**	17.32	244	P		Pn	19 35 26.8	-0.1
	baz=17,SNR=88							
MTN	**Manton Dam**	17.32	244	P		Pn	19 35 26.8	-0.1
MTN				IAmb		IAmb	19 35 27.7	
	comp=Z,22nm,0.8s							
MTN	**Manton Dam**	17.32	244	P		Pn	19 35 27.3	+0.3
WB0	**Warramunga Arr**	18.79	220	P		P	19 35 42.4	+1.0
WB0				IAmb		IAmb	19 35 43.7	
	comp=Z,24nm,0.8s							
WR0	**Warramunga Arr**	18.84	219	P		P	19 35 43.2	+1.3
WRAB	**Tennant Creek**	18.94	220	P		P	19 35 44.0	+1.1
WRAB	**Tennant Creek**	18.94	220	P		P	19 35 44.5	+1.6
WB2	**Warramunga Arr**	18.94	220	P		P	19 35 44.3	+1.3
WRA	**Warramunga Arr**	18.95	220	P		P	19 35 44.4	+1.3
	comp=Z,6.1nm,0.3s,baz=46,slow=12,SNR=225							
WRA				S		S	19 39 06.6	-1.5
	comp=Z,0.6nm,0.3s,baz=41,slow=21,SNR=8.2							
WRA				PcP		PcP	19 40 00.1	-0.3
	comp=Z,0.2nm,0.3s,baz=30,slow=2.0,SNR=4.6							
EIDS	**Eidsvold**	20.13	169	P		P	19 35 57.1	+1.4
	baz=20,SNR=5.7							
EIDS	**Eidsvold**	20.13	169	P		P	19 35 56.8	+1.1
EIDS				IAmb		IAmb	19 35 59.5	
	comp=Z,8.4nm,0.7s							
EIDS	**Eidsvold**	20.13	169	P		P	19 35 57.2	+1.4
KNRA	**Kununurra**	20.61	239	P		P	19 36 01.0	+0.1
	baz=21,SNR=94							
KNRA	**Kununurra**	20.61	239	P		P	19 36 01.5	+0.7
KNRA	**Kununurra**	20.61	239	P		P	19 36 01.3	+0.4
RMQ	**Roma**	20.94	176	P		P	19 36 06.0	+1.7
	baz=21,SNR=20							
RMQ	**Roma**	20.94	176	P		P	19 36 06.3	+2.1
QLP	**Quilpie**	21.14	187	P		P	19 36 07.6	+1.2
	baz=21,SNR=6.2							
QLP	**Quilpie**	21.14	187	P		P	19 36 07.8	+1.4
AS31	**Alice Springs**	22.06	214	P		P	19 36 17.0	+1.2
AS31				IAmb		IAmb	19 36 22.3	
	comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	22.06	214	P		P	19 36 17.2	+1.4
	comp=Z,24nm,0.7s,baz=51,slow=8.1,SNR=520							
ASAR				S		S	19 40 04.5	-0.5
	comp=Z,2.8nm,0.8s,baz=36,slow=22,SNR=7.1							
ASAR	**Alice Springs**	22.06	214	P		P	19 36 17.0	+1.1
INKA	**Innaminka**	22.92	194	P		P	19 36 24.9	+1.3
FITZ	**Fitzroy Crossi**	24.38	237	P		P	19 36 37.9	+1.0
	comp=Z,46nm,0.5s,baz=55,slow=10,SNR=144							
FITZ	**Fitzroy Crossi**	24.38	237	P		P	19 36 37.8	+0.8
OOD	**Oodnadatta**	24.67	205	P		P	19 36 40.6	+1.1
MMRI	**Maumere**	24.82	261	P		P	19 36 40.5	-0.6
MMRI	**Maumere**	24.82	261	P		P	19 36 40.2	-0.8
	comp=Z,43nm,0.6s							
MMRI	**Maumere**	24.82	261	P		P	19 36 40.6	-0.4
DZM	**Mont Dzumac**	24.97	133	P		P	19 36 42.2	-0.2
	comp=Z,11nm,0.9s,baz=318,slow=7.2,SNR=6.7							
DZM	**Mont Dzumac**	24.97	133	P		P	19 36 43.6	+1.2
ARMA	**Armidale**	25.16	171	P		P	19 36 45.2	+1.1
	baz=25,SNR=18							
ARMA	**Armidale**	25.16	171	P		P	19 36 45.2	+1.1
ARMA				IAmb		IAmb	19 36 46.1	
	comp=Z,23nm,0.9s							
ARMA	**Armidale**	25.16	171	P		P	19 36 45.3	+1.2
LCRK	**Leigh Creek**	26.18	198	P		P	19 36 54.0	+0.9
WRKA	**Warakurna**	26.48	221	P		P	19 36 56.7	+0.9
	baz=26,SNR=86							
WRKA	**Warakurna**	26.48	221	P		P	19 36 56.8	+0.9
BASI	**Baing, Sumba**	26.64	258	P		P	19 36 58.2	+0.8
	comp=Z,45nm,1.0s							
STKA	**Stephens Creek**	26.74	190	P		P	19 36 58.2	+0.1
	comp=Z,2.7nm,0.7s,baz=0.0,slow=11,SNR=8.6							
STKA	**Stephens Creek**	26.74	190	P		P	19 36 58.5	+0.4
	baz=27,SNR=6.3							
STKA	**Stephens Creek**	26.74	190	P		P	19 36 58.3	+0.3
STKA	**Stephens Creek**	26.74	190	P		P	19 36 59.3	+1.2
MULG	**Mulgathing**	27.53	205	P		P	19 37 06.0	+0.9
WBSI	**Waikabubak, Su**	27.72	260	P		P	19 37 06.9	-0.2
	comp=Z,31nm,0.7s							
NAPP	**Napperby**	28.77	196	P		P	19 37 17.0	+0.9
HTT	**Hallett**	28.81	194	P		P	19 37 17.6	+1.1
	baz=29,SNR=4.6							
HTT	**Hallett**	28.81	194	P		P	19 37 17.3	+0.8
BBOO	**Buckleboo**	29.05	199	P		P	19 37 18.9	+0.3
	baz=29,SNR=6.8							
BBOO	**Buckleboo**	29.05	199	P		P	19 37 18.6	+0.1
BBOO				IAmb		IAmb	19 37 21.0	
	comp=Z,27nm,1.4s							
BBOO	**Buckleboo**	29.05	199	P		P	19 37 19.3	+0.7
PLAI	**Plampang**	29.23	262	P		P	19 37 19.1	-1.3
	comp=Z,17nm,0.6s							
PLAI	**Plampang**	29.23	262	P		P	19 37 19.1	-1.3
PSA00	**Pilbara Seismi**	30.82	236	P		P	19 37 34.7	+0.4
PSA00	**Pilbara Seismi**	30.82	236	P		P	19 37 34.0	-0.3
PSA00				IAmb		IAmb	19 37 35.8	
	comp=Z,5.7nm,0.7s							
PSA00	**Pilbara Seismi**	30.82	236	P		P	19 37 34.9	+0.6
FORT	**Forrest**	30.85	213	P		P	19 37 35.4	+1.0
	baz=31,SNR=14							
FORT	**Forrest**	30.85	213	P		P	19 37 35.0	+0.6
FORT	**Forrest**	30.85	213	P		P	19 37 35.4	+1.0
ARPS	**Mount Arapiles**	31.49	188	P		P	19 37 41.3	+1.3
	baz=32,SNR=9.8							
ARPS	**Mount Arapiles**	31.49	188	P		P	19 37 41.3	+1.3
GEXS	**Deakin Univers**	32.65	184	P		P	19 37 52.1	+2.0
MEEK	**Meekatharra**	34.32	229	P		P	19 38 05.8	+1.0
	baz=34,SNR=20							
MEEK	**Meekatharra**	34.32	229	P		P	19 38 05.7	+1.0
GIRL	**Giralia**	35.98	238	P		P	19 38 21.0	+2.1
	baz=36,SNR=3.7							
GIRL	**Giralia**	35.98	238	P		P	19 38 20.7	+1.8
	comp=Z,101nm,1.1s							
MORW	**Morawa**	37.55	228	P		P	19 38 32.9	+0.8
	baz=38,SNR=5.2							
MORW	**Morawa**	37.55	228	P		P	19 38 32.9	+0.8
MORW				IAmb		IAmb	19 38 33.9	
	comp=Z,16nm,1.0s							
MORW	**Morawa**	37.55	228	P		P	19 38 32.8	+0.8
KLBR	**Kellerberrin**	37.77	223	P		P	19 38 34.4	+0.4
	baz=38,SNR=14							
KLBR	**Kellerberrin**	37.77	223	P		P	19 38 34.5	+0.5
BLDU	**Ballidu**	37.92	225	P		P	19 38 35.8	+0.6
	baz=38,SNR=12							
BLDU	**Ballidu**	37.92	225	P		P	19 38 36.1	+0.9
OUZ	**Omahuta**	38.39	144	P		P	19 38 40.0	+1.0
YHNB	**Yeheng**	39.04	321	P		P	19 38 45.0	+0.4
MUN	**Mundaring**	39.06	224	P		P	19 38 45.6	+1.0
	baz=39,SNR=4.6							
MUN	**Mundaring**	39.06	224	P		P	19 38 45.7	+1.0
QRZ	**Quartz Range**	41.93	151	P		P	19 39 10.3	+2.3
URZ	**Urewera**	42.53	144	P		P	19 39 13.5	+0.6
	comp=Z,6.1nm,0.6s,baz=338,slow=6.0,SNR=5.3							
URZ	**Urewera**	42.53	144	IAmb		IAmb	19 39 32.8	
	comp=Z,16nm,1.3s							
URZ	**Urewera**	42.53	144	P		P	19 39 13.6	+0.8
HAZ	**Te Kaha**	42.59	143	P		P	19 39 14.1	+0.8
RUGZ	**Raukumara Rang**	42.66	144	P		P	19 39 15.2	+1.1
RTZ	**Ruatahuna**	42.69	145	P		P	19 39 15.1	+0.8
MTWZ	**Maungataniwha**	42.77	145	P		P	19 39 15.9	+0.9
MWZ	**Matawai**	42.82	144	P		P	19 39 16.8	+1.5
PKGZ	**Pakihiroa**	42.85	143	P		P	19 39 14.8	-0.8
RAGZ	**Rawiri**	42.86	144	P		P	19 39 13.9	-1.8
TWGZ	**Tauwhareparae**	42.98	144	P		P	19 39 18.2	+1.6
TUWZ	**Tuamarina**	43.08	150	P		P	19 39 17.9	+0.7
TSZ	**Takapari Road**	43.13	147	P		P	19 39 18.9	+1.1
PNHZ	**Pukenui**	43.16	147	P		P	19 39 19.1	+1.2
BSWZ	**Blackbirch Sta**	43.27	150	P		P	19 39 19.0	+0.2
SNZO	**South Karori**	43.38	149	P		P	19 39 20.5	+0.9
	comp=Z,41nm,1.6s							
RPZ	**Rata Peaks**	43.54	155	P		P	19 39 21.1	+0.2
	comp=Z,12nm,0.8s,baz=89,slow=2.4,SNR=6.3							
RPZ	**Rata Peaks**	43.54	155	P		P	19 39 22.0	+1.1
KHZ	**Kahutara**	43.64	151	P		P	19 39 22.5	+0.8
BFZ	**Birch Farm**	43.72	148	P		P	19 39 22.9	+0.4
BFZ	**Birch Farm**	43.72	148	P		P	19 39 22.6	+0.2
	comp=Z,34nm,2.6s							
ASAJ	**Asahikawa**	49.55	356	P		P	19 40 06.4	-1.1
	comp=Z,1.9nm,0.8s,baz=147,slow=9.4,SNR=1.5							
CMAR	**Chiang Mai Arr**	53.06	298	P		P	19 40 34.9	+0.8
	comp=Z,0.4nm,0.5s,baz=106,slow=5.9,SNR=4.2							
XAN	**Xi'an**	53.33	320	P		P	19 40 36.0	+0.1
XAN				pmax		pmax		
	comp=Z,11nm,1.2s							
PETK	**Petropavlovsk-**	59.08	7	P		P	19 41 16.2	+0.1
	comp=Z,1.1nm,0.6s,baz=196,slow=9.6,SNR=2.0							
PETK				PcP		PcP	19 42 02.9	+0.3
	comp=Z,5.2nm,1.0s,baz=142,slow=7.5,SNR=5.7							
GTA	**Gaotai**	62.39	320	*e*P		P	19 41 40.5	+1.6
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ULN	**Ulaanbaatar**	63.70	331	P		P	19 41 48.4	+1.1
ULN				IAmb		IAmb	19 41 49.7	
	comp=Z,5.9nm,0.8s							
SONM	**Songino Array**	63.99	331	P		P	19 41 50.5	+1.2
	comp=Z,0.9nm,0.8s,baz=148,slow=6.7,SNR=27							
SONM	**Songino Array**	63.99	331	P		P	19 41 50.2	+1.0
SONM				IAmb		IAmb	19 41 51.5	
	comp=Z,3.8nm,0.9s							
YAK	**Yakutsk**	68.66	351	P		P	19 42 18.8	+0.5
YAK				IAmb		IAmb	19 42 21.4	
	comp=Z,11nm,1.0s							
VNDA	**Vanda**	72.41	177	P		P	19 42 41.6	+0.8
	comp=Z,7.4nm,0.7s,baz=331,slow=6.6,SNR=45							
VNDA	**Vanda**	72.41	177	P		P	19 42 41.2	+0.3
VNDA				IAmb		IAmb	19 42

	comp=Z,7.5nm,0.9s							
KAIM	**Kayak Island**	**15.56**	**50**	Pn	**Pn**	**20 08 26.6**	**-1.2**
BWN	**Browne**	**15.68**	**32**	Pn	**Pn**	**20 08 29.3**	**-0.1**
DHY	**Denali Highway**	**15.73**	**37**	Pn	**Pn**	**20 08 27.4**	**-2.9**
DHY				IAmb	IAmb	20 08 36.8	
	comp=Z,13nm,1.5s						
H21K	**Melozitna Rive**	**15.79**	**24**	Pn	**Pn**	**20 08 29.7**	**-1.1**
H21K				IAmb	IAmb	20 08 37.7	
	comp=Z,9.5nm,1.4s						
MLY	**Manley**	**15.88**	**28**	P	**P**	**20 08 34.9**	**-0.6**
MLY				IAmb	IAmb	20 08 36.6	
	comp=Z,10nm,1.1s						
I23K	**Minto, Yukon-K**	**16.38**	**30**		**Pn**	**20 08 39.6**	**+1.3**
I23K				IAmb	IAmb	20 08 52.1	
	comp=Z,8.0nm,1.3s						
GLB	**Gilahina Butte**	**16.39**	**46**	Pn	**Pn**	**20 08 36.6**	**-2.0**
VRDI	**Verde Repeater**	**16.47**	**46**	Pn	**Pn**	**20 08 38.5**	**-1.2**
VRDI				IAmb	IAmb	20 09 02.5	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**16.92**	**33**	Pn	**Pn**	**20 08 41.9**	**-3.3**
	comp=Z,0.0nm,0.3s,baz=233,slow=12,SNR=1.6						
H24K	**Noodor Dome**	**17.30**	**29**		**Pn**	**20 08 49.9**	**0.0**
J25K	**Salcha River,**	**17.35**	**35**	Pn	**Pn**	**20 08 50.0**	**-0.6**
M27K	**Edge Creek, AK**	**17.60**	**44**		**Pn**	**20 08 53.3**	**-0.5**
M27K				IAmb	IAmb	20 09 18.4	
	comp=Z,10nm,1.2s						
BMAR	**Burnt Mountain**	**19.35**	**28**	P	**P**	**20 09 11.8**	**-1.9**
PEA0B	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**20 09 25.1**	**-0.1**
PETK	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**20 09 24.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=89,slow=13,SNR=16						
SEY	**Seymchan**	**23.21**	**313**	P	**P**	**20 09 54.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=100,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**20 10 58.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=272,slow=8.5,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**37.54**	**220**	T	T	20 51 53.7	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.55**	**220**	T	T	20 51 51.2	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.56**	**220**	T	T	20 51 55.2	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**38.72**	**219**	T	T	20 53 25.3	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.74**	**219**	T	T	20 53 22.4	
	baz=22,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.74**	**219**	T	T	20 53 22.3	
	baz=22						
PDAR	**Pinedale Array**	**39.98**	**79**	P	**P**	**20 12 23.4**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=284,slow=7.3,SNR=2.3						
SONM	**Songino Array**	**51.85**	**301**	P	**P**	**20 13 54.4**	**-2.0**
	comp=Z,0.2nm,0.7s,baz=67,slow=4.8,SNR=1.6						
SONM	**Songino Array**	**51.85**	**301**	IAmb	IAmb	20 13 57.1	
	comp=Z,0.6nm,0.9s						
TXAR	**Lajitas Array**	**52.27**	**89**	P	**P**	**20 14 01.3**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=312,slow=5.9,SNR=2.0						
MKAR	**Makanchi Array**	**64.34**	**314**	P	**P**	**20 15 23.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=47,slow=7.1,SNR=8.2						
FINES	**FINESS Array B**	**66.21**	**352**	P	**P**	**20 15 35.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=27,slow=8.8,SNR=4.7						
AKASG	**Malin Array Be**	**76.48**	**348**	P	**P**	**20 16 37.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=10,slow=3.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**77.15**	**283**	P	**P**	**20 16 42.9**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=19,slow=8.7,SNR=2.7						
GERES	**GERESS Array B**	**79.42**	**358**	P	**P**	**20 16 54.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=14,slow=8.5,SNR=3.3						
WRA	**Warramunga Arr**	**87.21**	**232**	P	**P**	**20 17 33.8**	**-0.6**
	comp=Z,0.2nm,0.9s,baz=38,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**90.58**	**231**	P	**P**	**20 17 50.3**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=27,slow=6.4,SNR=1.9						

*PRE **28** 20:10:06.9±1.8,19°.32S×23°.80E,h10km,ML3.7*
*BUL **28** 20:10:08.7±1.5,19°.29S×23°.84E,h10km,MD4.5*
*EAF **28** 20:10:08.9±1.2,19°.28S×23°.84E,h10km,MD4.0*

ISC 28 20:10:05.6±0.8,**19°38S**±0°.06×**23°87E**±0°.04,**h10**km,**n40,**
σ2⁰**78**/75,**1C-1D,Botswana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**4.48**	**104**	*i* P	**Pn**	**20 11 17.4**	**+3.6**
MATP				*i* Sg	**Sg**	**20 12 28.9**	**-0.8**
MATP	**Matopo**	**4.48**	**104**	*i* P	**Pn**	**20 11 17.4**	**+3.6**
MATP				*i* Sg	**Sg**	**20 12 28.9**	**-0.8**
BLWY	**Bulawayo**	**4.53**	**100**	⇓*i* P	**Pn**	**20 11 15.8**	**+1.4**
BLWY				*e*S	**Sn**	**20 12 06.8**	**-0.5**
BLWY				IAML		20 12 33.9	
	comp=Z,701nm,0.8s						
BLWY	**Bulawayo**	**4.53**	**100**	*i* P	**Pn**	**20 11 17.7**	**+3.2**
BLWY				*i* Sg	**Sg**	**20 12 30.1**	**-1.2**
BLWY	**Bulawayo**	**4.53**	**100**	*i* P	**Pn**	**20 11 17.7**	**+3.2**
BLWY				*i* Sg	**Sg**	**20 12 30.1**	**-1.2**
LSZ	**Lusaka**	**5.80**	**46**	*i* P	**Pn**	**20 11 33.7**	**+1.8**
LSZ				*i* S	**Sn**	**20 12 36.6**	**-2.1**
LSZ	**Lusaka**	**5.80**	**46**	*i* P	**Pn**	**20 11 33.7**	**+1.8**
LSZ				*i* S	**Sn**	**20 12 36.6**	**-2.1**
LBTB	**Lobatse**	**5.83**	**164**	*e*P	**Pn**	**20 11 35.7**	**+3.4**
LBTB				*e*S	**Sn**	**20 12 41.8**	**+2.4**
LBTB				IAML		20 13 17.0	
	comp=Z,102nm,0.4s						
LBTB	**Lobatse**	**5.83**	**164**	*i* P	**Pn**	**20 11 35.7**	**+3.4**
LBTB				*i* S	**Sn**	**20 12 40.2**	**+0.8**
LBTB	**Lobatse**	**5.83**	**164**	*i* P	**Pn**	**20 11 35.7**	**+3.4**
LBTB				*i* S	**Sn**	**20 12 40.2**	**+0.8**
TSUM	**Tsumeb**	**5.94**	**271**	*e*P	**Pn**	**20 11 34.9**	**+1.1**
TSUM				*e*S	**Sn**	**20 12 41.2**	**-0.7**
TSUM				IAML		20 13 20.2	
	comp=Z,995nm,0.5s						
TSUM	**Tsumeb**	**5.94**	**271**	*i* P	**Pn**	**20 11 35.1**	**+1.4**
TSUM				*i* S	**Sn**	**20 12 39.2**	**-2.7**
TSUM	**Tsumeb**	**5.94**	**271**	*i* P	**Pn**	**20 11 35.1**	**+1.4**
TSUM				*i* S	**Sn**	**20 12 39.2**	**-2.7**
MSNA	**Messina**	**6.47**	**118**	*e*P	**Pn**	**20 11 44.3**	**+3.3**
MSNA				*e*S	**Sn**	**20 12 54.9**	**-0.1**
MSNA				IAML		20 13 36.5	
	comp=Z,130nm,0.4s						
MSNA	**Messina**	**6.47**	**118**	*i* P	**Pn**	**20 11 44.2**	**+3.2**
MSNA				*i* S	**Sn**	**20 12 54.7**	**-0.3**
MSNA	**Messina**	**6.47**	**118**	*i* P	**Pn**	**20 11 44.2**	**+3.2**
MSNA				*i* S	**Sn**	**20 12 54.7**	**-0.3**
KSR	**Koster**	**7.03**	**157**	*e*P	**Pn**	**20 11 52.6**	**+3.9**
KSR				*e*S	**Sn**	**20 13 09.9**	**+1.1**
KSR				IAML		20 13 52.0	
	comp=Z,117nm,0.6s						
SLR	**Silverton**	**7.53**	**148**	*e*P	**Pn**	**20 11 59.0**	**+3.3**
SLR				*e*S	**Sn**	**20 13 22.7**	**+1.6**
SLR				IAML		20 14 15.3	
	comp=Z,70nm,0.5s						
SWZ	**Schweizer**	**7.88**	**170**	*e*P	**Pn**	**20 12 03.0**	**+2.6**
SWZ				*e*S	**Sn**	**20 13 28.6**	**-1.3**
SWZ				IAML		20 14 28.9	
	comp=Z,55nm,0.5s						
MOPA	**Mopani**	**8.13**	**122**	*e*P	**Pn**	**20 12 07.4**	**+3.6**
MOPA				*e*S	**Sn**	**20 13 37.3**	**+1.4**
MOPA				IAML		20 14 24.0	
	comp=Z,65nm,0.5s						
MOPA	**Mopani**	**8.13**	**122**	*i* P	**Pn**	**20 12 08.4**	**+4.6**
MOPA	**Mopani**	**8.13**	**122**	*i* P	**Pn**	**20 12 08.4**	**+4.6**
PRYS	**Parys**	**8.17**	**157**	*e*P	**Pn**	**20 12 07.7**	**+3.3**
PRYS				*e*S	**Sn**	**20 13 37.9**	**+0.9**
PRYS				IAML		20 14 44.0	
	comp=Z,52nm,0.5s						
CRLN	**Carolina, Mapu**	**8.70**	**140**	*e*P	Pn	20 12 16.6	+4.9
CRLN				*e*S	**Sn**	**20 13 51.0**	**+1.0**
UPI	**Upington**	**9.26**	**194**	*e*P	**Pn**	**20 12 20.8**	**+1.5**
UPI				*e*S	**Sn**	**20 14 01.7**	**-1.9**
UPI				IAML		20 15 18.3	
	comp=Z,8.7nm,0.5s						
BOSA	**Boshof**	**9.28**	**172**	*e*P	**Pn**	**20 12 21.8**	**+2.2**
BOSA				*e*S	**Sn**	**20 14 01.4**	**-2.9**
BOSA				IAML		20 15 06.9	
	comp=Z,40nm,0.6s						
BOSA	**Boshof**	**9.28**	**172**	*i* P	**Pn**	**20 12 21.6**	**+2.0**
BOSA				*i* S	**Sn**	**20 13 59.6**	**-4.6**
BOSA	**Boshof**	**9.28**	**172**	*i* P	**Pn**	**20 12 21.6**	**+2.0**
BOSA				*i* S	**Sn**	**20 13 59.6**	**-4.6**
SNKL	**Senekal, Frees**	**9.55**	**159**	*e*P	**Pn**	**20 12 26.8**	**+3.4**
SNKL				*e*S	**Sn**	**20 14 08.0**	**-3.0**
SNKL				IAML		20 15 16.9	
	comp=Z,129nm,0.6s						
KEIM	**Keimoes**	**9.65**	**195**	⇑*i* P	**Pn**	**20 12 27.2**	**+2.5**
KEIM				*e*S	**Sn**	**20 14 12.2**	**-1.1**
KEIM				IAML		20 15 11.9	
	comp=Z,18nm,0.7s						
NWCL	**Newcastle**	**9.99**	**148**	*e*P	**Pn**	**20 12 32.8**	**+3.5**
NWCL				*e*S	**Sn**	**20 14 21.0**	**-0.6**
NWCL				IAML		20 15 27.0	
	comp=Z,24nm,0.5s						
CNG	**Changalane**	**10.30**	**133**	*e*P	**Pn**	**20 12 35.8**	**+2.3**
CNG				*e*S	**Sn**	**20 14 26.4**	**-2.7**
CNG				IAML		20 15 35.2	
	comp=Z,15nm,0.8s						
CNG	**Changalane**	**10.30**	**133**	*i* P	**Pn**	**20 12 35.0**	**+1.5**
CNG				*i* S	**Sn**	**20 14 22.7**	**-6.5**
CNG	**Changalane**	**10.30**	**133**	*i* P	**Pn**	**20 12 35.0**	**+1.5**
CNG				*i* S	**Sn**	**20 14 22.7**	**-6.5**
POGA	**Pongola**	**10.71**	**139**	*e*P	**Pn**	**20 12 42.6**	**+3.5**
POGA				*e*S	**Sn**	**20 14 36.7**	**-2.4**
POGA				IAML		20 15 48.0	
	comp=Z,30nm,0.7s						
CLK	**Chileka**	**11.22**	**73**	*i* P	**Pn**	**20 12 46.8**	**+0.6**
CLK				*i* S	Sn	20 14 45.7	-6.0
CLK	**Chileka**	**11.22**	**73**	*i* P	**Pn**	**20 12 46.8**	**+0.6**
CLK				*i* S	Sn	20 14 45.7	-6.0
HVD	**Gariep Dam**	**11.28**	**173**	*e*P	**Pn**	**20 12 49.1**	**+2.1**
HVD				*e*S	**Sn**	**20 14 49.6**	**-3.6**
HVD				IAML		20 16 30.5	
	comp=Z,34nm,0.6s						
GRAN	**Grantham**	**12.96**	**186**	*e*P	**Pn**	**20 13 11.8**	**+1.9**
GRAN				*e*S	**Sn**	**20 15 31.4**	**-3.0**
GRAN				IAML		20 17 07.4	
	comp=Z,19nm,0.6s						
MATJ	**Matjiesfontein**	**14.14**	**191**	*e*P	**Pn**	**20 13 30.0**	**+3.9**
MATJ				*e*S	**Sn**	**20 15 59.6**	**-3.5**
MATJ				IAML		20 17 46.9	
	comp=Z,13nm,0.6s						

IDC 28 20:22:19.5±5.4,**10°.84S**×**152°.86E,h0km,mb2.8/2,**
mb1 3.3/2,mb1mx3.1/16,mbtmp3.0/2,Error ellipse:
s-maj=335.5km s-min=57.1km az=136.0,
D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.00**	**241**	P	P	20 26 53.3	-0.6
	0.4nm,0.7s,baz=64,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**22.11**	**232**	P	P	20 27 17.2	+0.5
	0.4nm,0.7s,baz=68,slow=11,SNR=2.4						
TORD	**Torodi Ar. Bea**	**151.71**	**278**	PKPbc	PKPbc	20 42 16.9	-0.2
	0.2nm,0.6s,baz=98,slow=1.2,SNR=1.8						

*IDC **28** 20:22:27.6±2.0,4°.13N×125°.30E,h0km,mb3.7/3,*
mb1 3.9/3,mb1mx3.5/24,mbtmp3.7/3,Error ellipse:
s-maj=192.7km s-min=24.0km az=64.0
*MAN **28** 20:22:39.9,4°.07N×126°.33E,h14km,mb4.5,ML3.3,MS3.1*
*DJA **28** 20:22:45.8±0.5,4°.N±4°×12°.6E±°,h110km±5km,M4.0/12,*
mb4.0/5,mB4.7/2,MLv3.9/12,Mw(mB)4.0/2

ISC 28 20:22:42.5±1.3,**4°.25N**±0°.06×**126°.3E**±0°.1,**h100**km,**n13,**
σ1⁰**92**/14,**mb3.5/3,1C-1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.97**	**235**	P	**Pn**	**20 23 04.6**	**+2.0**
SGSI				S	**Sn**	**20 23 20.4**	**+2.6**
GSPH	**General Santos**	**2.28**	**323**	⇑*e*P	**Pn**	**20 23 18.2**	**-0.7**
KCP	**Kidapawan**	**3.00**	**336**	⇓*i*P	**Pn**	**20 23 28.7**	**+0.3**
KCP				*i* S	**Sn**	**20 24 06.4**	**+2.7**
TNTI	**Ternate**	**3.61**	**163**	P	**Pn**	**20 23 38.4**	**+2.0**
KMSI	**Cibinong**	**4.34**	**213**	P	**Pn**	**20 23 46.4**	**+0.1**
GTOI	**Gorontalo**	**4.89**	**223**	P	**Pn**	**20 23 53.4**	**-0.3**
LBMI	**Labuha**	**5.00**	**166**	P	**Pn**	**20 23 56.8**	**+1.6**
MRSI	**Marisa**	**5.77**	**230**	P	**Pn**	**20 24 05.8**	**+0.2**
	0.1nm654nm16nm,0.6s						
SANI	**Sanana**	**6.27**	**183**	P	**Pn**	**20 24 10.2**	**-2.2**
	0.2nm1μm33nm,0.7s						
LUWI	**Luwuk**	**6.34**	**214**	P	**Pn**	**20 24 13.8**	**+0.3**
WRA	**Warramunga Arr**	**25.30**	**162**	P	**P**	**20 27 58.7**	**-1.2**
	1.1nm,0.6s,baz=339,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.71**	**165**	P	**P**	**20 28 27.4**	**-3.0**
	0.5nm,0.6s,baz=343,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**56.90**	**325**	P	P	20 32 11.0	-6.2
	0.6nm,0.4s,baz=121,slow=7.4,SNR=15						

BUC 28 20:28:54.9±0.2,**45°.55N**×**26°.42E,h116**km±2km,**ml3.5**/34,
67C-37D,Error ellipse: s-maj=1.5km s-min=1.3km
az=161.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.15**	**217**	⇑P	Pn	20 29 11.6	+0.6
NEHR				⇓S	Sn	20 29 23.6	+0.6
BISRR	**Bisoca**	**0.20**	**90**	⇑P	Pn	20 29 12.0	+0.9
BISRR				⇑S	Sn	20 29 24.4	+1.1
COVR	**Voineasa-Covas**	**0.33**	**333**	⇑P	Pn	20 29 11.8	+0.2
COVR				⇑S	Sn	20 29 24.1	0.0
MLR	**Muntele Rosu**	**0.34**	**260**	⇑P	Pn	20 29 12.2	+0.5
MLR				⇓S	Sn	20 29 24.5	+0.1
PLOR	**Plostina**	**0.34**	**28**	⇑P	Pn	20 29 11.9	+0.3
PLOR				⇑S	Sn	20 29 24.6	+0.5
VRI	**Vrincioaia**	**0.38**	**34**	⇑P	Pn	20 29 12.3	+0.5
VRI				⇑S	Sn	20 29 24.9	+0.4
GRER		**0.42**	**113**	⇓P	Pn	20 29 12.8	+0.9
GRER				⇑S	Sn	20 29 24.9	+0.1
ISR	**Istrita**	**0.44**	**169**	⇑P	Pn	20 29 12.4	+0.3
ISR				⇑S	Sn	20 29 25.5	+0.8
SECR		**0.57**	**206**	⇑P	Pn	20 29 13.9	+1.0
SECR				⇑S	Sn	20 29 26.8	+0.4
PANC	**Panciu**	**0.60**	**57**	⇑P	Pn	20 29 13.6	+0.6
PANC				⇑S	Sn	20 29 27.3	+0.6
PLAR	**PLOIESTI**	**0.69**	**204**	⇓P	Pn	20 29 14.8	+1.0
PLAR				⇑S	Sn	20 29 29.2	+1.3
OZUR		**0.70**	**321**	⇑P	Pn	20 29 14.0	0.0
PGOR	**Pogoanele**	**0.75**	**148**	⇑P	Pn	20 29 15.0	+0.7
PGOR				⇓S	Sn	20 29 30.0	+1.2
DOPR	**Dopca**	**0.84**	**300**	⇑P	Pn	20 29 15.2	+0.2
DOPR				⇑S	Sn	20 29 30.2	0.0
GHRR		**0.86**	**53**	⇓P	Pn	20 29 16.0	+0.9
GHRR				⇓S	Sn	20 29 31.3	+0.8
SULR		**0.88**	**188**	⇓P	Pn	20 29 16.1	+0.7
SULR				⇑S	Sn	20 29 32.3	+1.5
IZVR	**Izvoarele**	**0.94**	**90**	⇓P	Pn	20 29 15.7	-0.3
IZVR				⇓S	Sn	20 29 31.2	-0.7
SLCR	**Slobozia Conac**	**0.95**	**87**	⇓P	Pn	20 29 15.8	-0.1
SLCR				⇓S	Sn	20 29 31.4	-0.6
VOIR		**0.97**	**264**	⇑P	Pn	20 29 16.6	+0.2
VOIR				⇑S	Sn	20 29 32.2	-0.4
TESR	**Tescani**	**0.98**	**9**	⇑P	Pn	20 29 16.4	+0.1
TESR				⇑S	Sn	20 29 31.9	-0.6
SCHL	**Schela**	**0.99**	**92**	⇓P	Pn	20 29 16.3	-0.1
SCHL				⇓S	Sn	20 29 32.1	-0.6
VARL	**Varlezi**	**1.06**	**70**	⇑P	Pn	20 29 17.6	+0.5
VARL				⇑S	Sn	20 29 34.7	+0.8
BIR	**Birlad**	**1.10**	**49**	⇑P	Pn	20 29 18.2	+0.6
BIR				⇑S	Sn	20 29 35.4	+0.6
SCTR	**Scanteiesti**	**1.11**	**83**	⇓P	Pn	20 29 18.2	+0.6
SCTR				⇑S	Sn	20 29 35.4	+0.5
LEHL	**Lehliu**	**1.11**	**165**	⇓P	Pn	20 29 18.2	+0.6
LEHL				⇑S	Sn	20 29 35.9	+1.0
INCR	**INCERC-Sediu C**	**1.12**	**190**	⇑P	Pn	20 29 17.8	0.0
INCR				⇓S	Sn	20 29 36.0	+0.9
AMRR	**Amara**	**1.14**	**145**	⇓P	Pn	20 29 18.5	+0.5
AMRR				⇓S	Sn	20 29 36.2	+0.8
TATR	**Tatarca**	**1.14**	**87**	⇓P	Pn	20 29 18.5	+0.5
TATR				⇑S	Sn	20 29 35.7	+0.2
VLDR	**Vladesti**	**1.20**	**75**	⇓P	Pn	20 29 19.1	+0.5
VLDR				⇑S	Sn	20 29 36.7	+0.1
BUC1	**Bucharest**	**1.23**	**193**	⇑P	Pn	20 29 19.5	+0.5
BUC1				⇓S	Sn	20 29 38.3	+1.1
GIUM	**Giurgiulesti**	**1.26**	**92**	⇓S	Sn	20 29 38.1	+0.4
CFR	**Carcaliu**	**1.26**	**106**	⇓P	Pn	20 29 19.1	-0.2
ARR	**Arges**	**1.27**	**262**	⇑P	Pn	20 29 20.2	+0.7
ARR				⇑S	Sn	20 29 38.0	-0.2
SGRR	**Singureni**	**1.36**	**194**	⇑P	Pn	20 29 20.6	+0.2
SGRR				⇓S	Sn	20 29 40.0	+0.1
HARR	**Harsova**	**1.37**	**128**	⇓P	Pn	20 29 20.6	+0.1
GIRR	**Girov**	**1.41**	**2**	⇓P	Pn	20 29 21.5	+0.6
RASA	**Rasa**	**1.43**	**159**	⇑P	Pn	20 29 21.2	0.0
RASA				⇑S	Sn	20 29 41.6	+0.4
HUMR	**Humele**	**1.45**	**226**	⇑P	Pn	20 29 21.5	+0.1
HUMR				⇑S	Sn	20 29 41.4	-0.1
VASR	**Vaslui**	**1.45**	**41**	⇑P	Pn	20 29 21.7	+0.3
VASR				⇑S	Sn	20 29 41.0	-0.7
TLBR	**Topalu**	**1.53**	**131**	⇓P	Pn	20 29 22.5	+0.2
MDB	**Medias**	**1.55**	**293**	⇓P	Pn	20 29 23.0	+0.4
LEOM	**Leova**	**1.57**	**53**	⇑P	Pn	20 29 23.2	+0.4
LEOM				⇓S	Sn	20 29 43.7	-0.4
TPGR	**Topolog**	**1.57**	**115**	⇓P	Pn	20 29 22.6	-0.3
TPGR				⇑S	Sn	20 29 44.8	+0.6
COPA	**Copaceanca**	**1.65**	**212**	⇑P	Pn	20 29 24.0	+0.1
COPA				⇑S	Sn	20 29 45.6	-0.3
CVDA	**Cernavoda**	**1.67**	**136**	⇑P	Pn	20 29 24.3	+0.2
CVDA				⇑S	Sn	20 29 46.6	+0.4
TLCR		**1.73**	**101**	⇑P	Pn	20 29 24.9	+0.2
TLCR				⇑S	Sn	20 29 47.0	-0.4
ICOR	**Ion Corvin**	**1.73**	**145**	⇓P	Pn	20 29 25.3	+0.5
ICOR				⇑S	Sn	20 29 47.4	-0.3
TIRR	**Tirgusor**	**1.78**	**127**	⇓P	Pn	20 29 25.5	+0.1
TIRR				⇑S	Sn	20 29 47.7	-1.0
LOT	**Lotru**	**1.87**	**268**	⇑P	Pn	20 29 25.9	-0.7
LOT				⇑S	Sn	20 29 50.3	-0.5
JURR	**Jurilovca**	**1.90**	**113**	⇑P	Pn	20 29 27.2	+0.3
MFTR	**Murfatlar**	**1.98**	**133**	⇓P	Pn	20 29 27.8	+0.1
MFTR				⇑S	Sn	20 29 52.2	-0.7
ZIMR		**2.04**	**202**	⇑S	Sn	20 29 53.7	-0.6
MILM	**Milestii Mici**	**2.15**	**50**	⇓P	Pn	20 29 29.9	-0.1
EFOR	**EFORIE**	**2.15**	**132**	⇑P	Pn	20 29 30.0	0.0
EFOR				⇑S	Sn	20 29 57.0	+0.1
BURAR	**Bucovina Array**	**2.23**	**339**	⇑P	Pn	20 29 32.4	+1.3
BURAR				⇑S	Sn	20 29 59.9	+1.1
SRE	**Strehaia**	**2.44**	**250**	⇑P	Pn	20 29 33.8	0.0
SRE				⇑S	Sn	20 30 02.6	-1.0
GZR	**Gura Zlata**	**2.57**	**268**	⇓S	Sn	20 30 06.4	-0.3
SORM	**Soroca**	**2.91**	**26**	⇓P	Pn	20 29 39.1	-0.6

*IDC **28** 20:33:40.0±5.9,13°.97S×166°.27E,h0km,mb3.4/3,*
mb1 3.7/3,mb1mx3.4/30,mbtmp3.4/3,Error ellipse:
s-maj=290.5km s-min=36.1km az=142.0
*NOU **28** 20:33:49.6,14°.94S×167°.04E,h0km,MLv4.3/6,Vanuatu Islands*

ISC 28 20:33:39.6±1.4,**14°.6S**±0°.2×**166°.7E**±0°.2,**h10**km,**n5,**
σ1⁰**55**/5,**mb3.4/3,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.94**	**151**	P	**Pn**	**20 34 00.4**	**+1.6**
DVP	**Devils Point**	**3.38**	**156**	P	**Pb**	**20 34 38.3**	**-1.4**
WRA	**Warramunga Arr**	**31.34**	**256**	P	**P**	**20 40 00.3**	**-0.2**
	0.3nm,1.1s,baz=85,slow=9.3,SNR=1.9						
ASAR	**Alice Springs**	**32.22**	**249**	P	**P**	**20 40 08.7**	**+0.4**
	0.4nm,1.0s,baz=77,slow=8.5,SNR=3.2						
ILAR	**Eielson Array**	**86.59**	**18**	P	**P**	**20 46 22.4**	**-0.3**
	0.3nm,0.6s,baz=232,slow=5.4,SNR=6.2						

*DJA **28** 20:43:23.4±0.2,9°.S±3°×10°.9E±°,h70km±5km,M4.7/32,*
mB5.2/18,mb4.7/32,MLv5.0/30,Mw(mB)4.6/18
*NEIC **28** 20:43:25.4±1.9,8°.39S±0°.08×109°.50E±0°.08,h83km±6km,*
mb4.4/41,Error ellipse: s-maj=13.1km s-min=10.5km
az=219.0
*IDC **28** 20:43:27.1±1.4,8°.19S×109°.58E,h96km±12km,mb4.1/19,*
mb1 4.2/21,mb1mx4.0/41,mbtmp4.4/21,MS3.4/6,
Ms1 3.4/6,ms1mx3.1/78,Error ellipse: s-maj=17.4km
s-min=9.7km az=51.0

ISC 28 20:43:23.8±0.9,**8°.44S**±0°.06×**109°.50E**±0°.05,**h75**km±9km,
n161,σ2⁰**05**/155,**mb4.5**/40,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOGI	**Yogyakarta**	**1.00**	**52**	P	**Pn**	**20 43 43.9**	**+1.2**
UGM	**Wanagama**	**1.14**	**63**		**Pn**	**20 43 45.7**	**+1.3**
UGM	**Wanagama**	**1.14**	**63**	P	**Pn**	**20 43 45.8**	**+1.4**
UGM	**Wanagama**	**1.14**	**63**	P	**Pn**	**20 43 46.3**	**+1.9**
CMJI	**Cimerak**	**1.23**	**302**	P	**Pn**	**20 43 45.1**	**-0.4**
KPJI	**Karang Pucung**	**1.23**	**333**	P	**Pn**	**20 43 47.4**	**+1.8**
**SMR

MPSI	**Mapaga**	**13.54**	**50**	P		**P**	**20 46 37.6**	**-1.7**
	13nm,0.8s							
BATI	**Baumata**	**14.09**	**98**	S		**Sn**	**20 49 09.1**	**-5.9**
	2.2nm,0.3s,baz=204,slow=21,SNR=2.3							
BATI	**Baumata**	**14.09**	**98**	P		**Pn**	**20 46 40.8**	**+0.8**
	21nm,0.7s							
TOLI2	**Tolitoli**	**14.71**	**50**	P		**Pn**	**20 46 50.3**	**+2.1**
TOLI2	**Tolitoli**	**14.71**	**50**	P		**Pn**	**20 46 47.8**	**-0.3**
GIRL	**Giralia**	**14.84**	**163**	Pn		Pn	20 46 45.2	-4.4
GIRL	**Giralia**	**14.84**	**163**	P		Pn	20 46 46.0	-3.6
MRSI	**Marisa**	**15.24**	**55**	P		**P**	**20 47 00.2**	**+2.1**
	57nm,0.9s							
GSI	**Gunungsitoli**	**15.33**	**309**	Pn		**Pn**	**20 46 49.8**	**-6.1**
GSI				IAmb		IAmb	20 46 50.7	
	comp=Z,20nm,0.9s							
GSI	**Gunungsitoli**	**15.33**	**309**	P		**Pn**	**20 46 49.9**	**-6.1**
	comp=Z,24nm,0.6s							
PSI	**Prapat**	**15.36**	**316**	LR		LR	20 52 28.8	
	comp=Z,232nm,18.8s,baz=96,slow=36							
MBWA	**Marble Bar**	**16.04**	**143**	Pn		**Pn**	**20 47 02.8**	**-2.2**
GTOI	**Gorontalo**	**16.21**	**57**	P		**P**	**20 47 12.3**	**+3.4**
	comp=Z,222nmcomp=Z,16nm,1.4s							
KULM	**Kulim**	**16.24**	**327**	Pn		**Pn**	**20 47 05.1**	**-2.4**
KULM				IAmb		IAmb	20 47 28.6	
	comp=Z,41nm,1.4s							
PSA00	**Pilbara Seismi**	**16.43**	**144**			**Pn**	**20 47 07.3**	**-2.5**
PSA00	**Pilbara Seismi**	**16.43**	**144**	Pn		**Pn**	**20 47 07.6**	**-2.2**
PSA00				IAmb		IAmb	20 47 19.1	
	comp=Z,13nm,1.1s							
PSA00	**Pilbara Seismi**	**16.43**	**144**	P		**Pn**	**20 47 06.7**	**-3.1**
FITZ	**Fitzroy Crossi**	**18.40**	**123**	P		**Pn**	**20 47 35.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=306,slow=8.4,SNR=14							
FITZ				S		S	20 50 45.4	-13
	comp=Z,0.3nm,0.3s,baz=346,slow=22,SNR=2.9							
FITZ				LR		LR	20 54 01.3	
	comp=Z,64nm,21.6s,baz=306,slow=34							
FITZ	**Fitzroy Crossi**	**18.40**	**123**	P		**P**	**20 47 30.8**	**-2.2**
AAI	**Ambon**	**19.18**	**77**	P		**Pn**	**20 47 43.3**	**0.0**
	comp=Z,894nmcomp=Z,57nm,0.7s							
LBMI	**Labuha**	**19.54**	**68**	P		**Pn**	**20 47 48.0**	**+0.5**
	comp=Z,508nmcomp=Z,58nm,0.9s							
KNRA	**Kununurra**	**20.15**	**113**	P		**P**	**20 47 52.2**	**0.0**
KNRA				IAmb		IAmb	20 48 18.4	
	comp=Z,14nm,0.8s							
KNRA	**Kununurra**	**20.15**	**113**	P		**P**	**20 47 51.4**	**-0.8**
MORW	**Morawa**	**21.42**	**164**	P		**P**	**20 48 05.8**	**0.0**
MORW				IAmb		IAmb	20 48 25.9	
	comp=Z,30nm,1.4s							
MTN	**Manton Dam**	**21.70**	**104**	P		**P**	**20 48 09.3**	**+0.5**
MTN				IAmb		IAmb	20 48 32.8	
	comp=Z,22nm,1.1s							
WB0	**Warramunga Arr**	**26.60**	**118**	P		**P**	**20 48 56.5**	**+1.2**
WB0				IAmb		IAmb	20 49 21.5	
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**26.61**	**118**	P		**P**	**20 48 57.4**	**+1.9**
	comp=Z,4.0nm,0.8s,baz=290,slow=11,SNR=36							
WRA				PcP		**PcP**	**20 52 19.1**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=298,slow=2.1,SNR=6.6							
WRAB	**Tennant Creek**	**26.62**	**118**	P		**P**	**20 48 56.5**	**+0.9**
WRAB				IAmb		IAmb	20 49 18.0	
	comp=Z,6.9nm,0.8s							
WB2	**Warramunga Arr**	**26.63**	**118**	P		**P**	**20 48 56.8**	**+1.2**
WR0	**Warramunga Arr**	**26.80**	**118**	P		**P**	**20 48 57.9**	**+0.7**
ASAR	**Alice Springs**	**27.84**	**126**	P		**P**	**20 49 08.3**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=303,slow=9.0,SNR=31							
ASAR				PcP		**PcP**	**20 52 22.5**	**+1.5**
	comp=Z,3.1nm,0.7s,baz=307,slow=2.1,SNR=14							
ASAR				LR		LR	21 00 30.6	
	comp=Z,95nm,20.7s,baz=305,slow=37							
ASAR	**Alice Springs**	**27.84**	**126**	P		**P**	**20 49 06.7**	**+0.2**
ASAR						**PcP**	**20 52 20.6**	**-0.4**
AS31	**Alice Springs**	**27.84**	**126**	P		**P**	**20 49 07.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**28.68**	**339**	P		**P**	**20 49 14.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=177,slow=8.6,SNR=7.3							
CMAR				PcP		**PcP**	**20 52 24.6**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=191,slow=3.5,SNR=7.6							
CMAR				LR		LR	21 02 00.7	
	comp=Z,80nm,18.2s,baz=355,slow=39							
CMAR	**Chiang Mai Arr**	**28.68**	**339**			**PcP**	**20 52 25.0**	**+1.9**
H08S2	**Diego Garcia H**	**36.64**	**269**	T		T	21 28 54.2	
	baz=93,slow=76,SNR=33							
H08S3	**Diego Garcia H**	**36.65**	**269**	T		T	21 28 55.4	
	baz=93,slow=76,SNR=35							
H08S1	**Diego Garcia H**	**36.66**	**269**	T		T	21 28 56.5	
	baz=93,slow=76,SNR=35							
STKA	**Stephens Creek**	**37.85**	**133**	P		**P**	**20 50 35.8**	**+2.3**
	comp=Z,3.3nm,0.7s,baz=292,slow=6.6,SNR=9.9							
STKA				PcP		**PcP**	**20 52 50.3**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=282,slow=6.9,SNR=3.6							
STKA				LR		LR	21 08 11.1	
	comp=Z,70nm,18.7s,baz=349,slow=39							
STKA	**Stephens Creek**	**37.85**	**133**	P		**P**	**20 50 33.6**	**+0.1**
STKA						**PcP**	**20 52 49.6**	**+1.1**
ODAN	**Odare**	**41.12**	**329**	*eP*		**P**	**20 51 01.6**	**+0.6**
	comp=Z,6.7nm,0.4s							
RAMN	**Ramite**	**41.60**	**328**	*eP*		**P**	**20 51 05.7**	**+0.8**
	comp=Z,3.0nm,0.3s							
LSA	**Lhasa**	**41.83**	**336**	P		**P**	**20 51 07.2**	**+0.2**
LSA				IAmb		IAmb	20 51 27.3	
	comp=Z,2.9nm,0.7s							
JIRN	**Jiri**	**42.39**	**329**	*eP*		**P**	**20 51 12.1**	**+0.6**
	comp=Z,4.3nm,0.3s							
GUN	**Gumba**	**42.75**	**329**	*eP*		**P**	**20 51 14.5**	**+0.1**
GKN	**Gorkha**	**43.48**	**327**	*eP*		**P**	**20 51 19.0**	**-1.1**
	comp=Z,4.8nm,0.3s							
KOLN	**Koldanda**	**43.86**	**326**	*eP*		**P**	**20 51 23.3**	**+0.1**
	comp=Z,5.2nm,0.3s							
DANN	**Dangsing**	**44.23**	**327**	*eP*		**P**	**20 51 25.4**	**-0.8**
	comp=Z,8.4nm,0.4s							
PYUN	**Piuthan**	**44.46**	**326**	*eP*		**P**	**20 51 28.1**	**+0.2**
	comp=Z,4.2nm,0.4s							
GOMU	**GeErMu**	**46.50**	**344**	P		P	20 51 49.5	+5.4
GOMU				pP		pP	20 51 53.0	-10
GOMU				sP		sP	20 51 54.0	-17
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MJAR	**Matsushiro Arr**	**52.24**	**29**	P		**P**	**20 52 25.9**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=219,slow=7.1,SNR=5.8							
MJAR	**Matsushiro Arr**	**52.24**	**29**	IAmb		IAmb	20 52 26.6	
	comp=Z,3.5nm,1.1s							
SONM	**Songino Array**	**56.09**	**357**	P		**P**	**20 52 54.6**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=177,slow=8.7,SNR=6.6							
SONM	**Songino Array**	**56.09**	**357**	P		**P**	**20 52 55.6**	**+0.2**
KDJ	**Kajisay**	**58.37**	**332**	P		**P**	**20 53 11.3**	**-0.3**
KDJ				IAmb		IAmb	20 53 13.0	
	comp=Z,5.4nm,1.1s							
BOOM	**Boomskoye usch**	**59.23**	**332**	P		**P**	**20 53 17.1**	**-0.5**
BOOM				IAmb		IAmb	20 53 17.9	
	comp=Z,2.1nm,0.8s							
GAR	**Garm**	**59.59**	**325**	P		**P**	**20 53 18.6**	**-1.5**
BTK	**Batken**	**60.05**	**326**	P		**P**	**20 53 22.4**	**-0.7**
BTK				IAmb		IAmb	20 53 37.6	
	comp=Z,2.9nm,0.7s							
MK31	**Makanchi Array**	**60.09**	**339**	P		**P**	**20 53 22.6**	**-0.6**
MK31				IAmb		IAmb	20 53 23.8	
	comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**60.09**	**339**	P		**P**	**20 53 22.5**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=145,slow=7.1,SNR=28							
MKAR	**Makanchi Array**	**60.09**	**339**	P		**P**	**20 53 22.9**	**-0.4**
KURK	**Kurchatov**	**64.71**	**339**	P		**P**	**20 53 53.3**	**-0.6**
ZALV	**Zalesovo Beam**	**65.56**	**344**	P		**P**	**20 53 57.9**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=167,slow=5.1,SNR=9.1							
ZALV	**Zalesovo Beam**	**65.56**	**344**	P		**P**	**20 53 58.0**	**-1.3**
GEYT	**Alibeck**	**66.48**	**318**	P		**P**	**20 54 05.6**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=196,slow=15,SNR=8.4							
GEYT	**Alibeck**	**66.48**	**318**	P		**P**	**20 54 05.5**	**-0.2**
GEYT				IAmb		IAmb	20 54 06.6	
	comp=Z,6.3nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**66.48**	**318**	P		**P**	**20 54 05.3**	**-0.4**
MAW	**Mawson**	**66.73**	**198**	P		**P**	**20 54 08.9**	**+2.2**
	comp=Z,5.6nm,0.6s,baz=43,slow=5.4,SNR=6.8							
MAW	**Mawson**	**66.73**	**198**	P		**P**	**20 54 08.6**	**+1.9**
RAYN	**Ar Rayn**	**70.11**	**299**	P		**P**	**20 54 28.0**	**-0.7**
KIBK	**Kibwezi**	**71.32**	**270**	P		**P**	**20 54 37.0**	**+0.7**
ABKAR	**Akbulak array**	**71.92**	**328**	P		**P**	**20 54 38.5**	**-0.5**
ABKAR				IAmb		IAmb	20 54 40.0	
	comp=Z,10nm,1.1s							
KMBO	**Kilima Mbogo**	**72.27**	**272**	P		**P**	**20 54 44.1**	**+1.9**
	comp=Z,6.1nm,0.9s,baz=63,slow=7.9,SNR=18							
KMBO	**Kilima Mbogo**	**72.27**	**272**	P		**P**	**20 54 43.7**	**+1.5**
VNDA	**Vanda**	**74.11**	**170**	P		**P**	**20 54 53.0**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=312,slow=6.1,SNR=12							
VNDA	**Vanda**	**74.11**	**170**	P		**P**	**20 54 52.6**	**+1.1**
VNDA				IAmb		IAmb	20 54 57.7	
	comp=Z,3.5nm,1.0s							
LODK	**Lodwar**	**74.85**	**276**	P		**P**	**20 54 58.6**	**+1.5**
LODK				IAmb		IAmb	20 54 59.7	
	comp=Z,3.8nm,0.8s							
GEVA	**Gevas**	**77.23**	**312**	P		**P**	**20 55 10.0**	**-0.2**
GEVA				IAmb		IAmb	20 55 11.3	
	comp=Z,4.4nm,0.7s							
GURO	**Guroymak-BITLI**	**78.07**	**312**	P		**P**	**20 55 14.7**	**-0.2**
GURO				IAmb		IAmb	20 55 16.1	
	comp=Z,10nm,1.2s							
MARD	**Mardin**	**78.56**	**311**	P		**P**	**20 55 17.5**	**-0.1**
MBAR	**Mbarara**	**78.79**	**271**	P		**P**	**20 55 19.9**	**+0.5**
KBZ	**Khabaz**	**79.37**	**317**	P		**P**	**20 55 22.3**	**+0.6**
	comp=Z,8.2nm,0.9s,baz=181,slow=6.9,SNR=12							
BOSA	**Boshof**	**80.98**	**242**	P		**P**	**20 55 32.0**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=97,slow=5.1,SNR=7.5							
BOSA	**Boshof**	**80.98**	**242**	P		**P**	**20 55 30.2**	**-0.8**
QSPA	**South Pole Qui**	**81.56**	**180**	P		**P**	**20 55 34.5**	**+1.3**
	comp=Z,3.5nm,0.5s,baz=143,slow=1.7,SNR=37							
BRTR	**Keskin Array B**	**84.63**	**311**	P		**P**	**20 55 50.0**	**+0.4**
	comp=Z,9.2nm,0.9s,baz=132,slow=6.8,SNR=24							
KLMR	**Klimovskoe**	**87.78**	**333**	*eP*		**P**	**20 56 03.6**	**-0.8**
KLMR				AMP			20 56 05.9	
	comp=Z,27nm,1.3s							
AKASG	**Malin Array Be**	**90.36**	**321**	P		**P**	**20 56 15.8**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=85,slow=4.5,SNR=7.2							
FINES	**FINESS Array B**	**94.21**	**331**	P		**P**	**20 56 32.9**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=82,slow=4.0,SNR=4.7							
ARCES	**ARCESS Array B**	**95.74**	**339**	P		**P**	**20 56 39.4**	**-1.8**
	comp=Z,6.4nm,0.9s,baz=39,slow=3.5,SNR=3.7							
YKA	**Yellowknife Ar**	**117.32**	**21**	PKP		**PKPdf**	**21 02 00.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=329,slow=1.8,SNR=10							
TXAR	**Lajitas Array**	**142.58**	**52**	PKP		**PKPdf**	**21 02 46.5**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=283,slow=2.4,SNR=4.5							
TXAR	**Lajitas Array**	**142.58**	**52**			**PKPdf**	**21 02 46.4**	**-2.7**
CPUP	**Villa Florida**	**143.15**	**200**	PKP		PKPbc	21 02 48.9	+1.9
	comp=Z,1.6nm,0.7s,baz=146,slow=8.3,SNR=3.2							
BDFB	**Brasilia**	**147.31**	**223**	PKPbc		**PKPbc**	**21 03 01.6**	**+1.6**
	comp=Z,5.8nm,0.5s,baz=158,slow=2.2,SNR=10							
LPAZ	**La Paz**	**155.32**	**185**	PKPab		**PKPab**	**21 03 37.8**	**+2.2**
	comp=Z,2.2nm,0.7s,baz=178,slow=4.0,SNR=7.3							

*IDC **28** 20:45:48.8±0.9, 41.19S×172.68E, h204km±9km, mb3.2/3, mb1 3.4/5, mb1mx3.0/25, mbtmp3.7/5, Error ellipse: s-maj=22.6km s-min=9.7km az=128.0*
*NOU **28** 20:45:49.0, 41.115S×172.50E, h234km, MLv4.3/9, South Island, New Zealand*
*WEL **28** 20:45:53.0±0.8, 41°5.5'S×17°3.8'E, h198km±5km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=140.5*

ISC 28 20:45:50.7±0.9,**41°20S**±0'0.4×**172°56E**±0'0.5,**h218**km±6km, **n132,σ1§06/165,mb3.4/3,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.25**	**144**	P	**Pn**	**20 46 19.8**	**+0.6**
MRNZ				S	**S**	**20 46 40.9**	**-0.7**
TKNZ	**Takaka Hill**	**0.34**	**62**	P	**Pn**	**20 46 20.0**	**+0.5**
TKNZ				S	**S**	**20 46 40.9**	**-1.0**
QRZ	**Quartz Range**	**0.37**	**356**	P	**Pn**	**20 46 20.1**	**+0.6**
QRZ				S	**S**	**20 46 41.5**	**-0.5**
QRZ	**Quartz Range**	**0.37**	**356**	P	**Pn**	**20 46 20.2**	**+0.6**
NNZ	**Nelson**	**0.62**	**92**	P	**Pn**	**20 46 20.7**	**+0.4**
NNZ				S	**S**	**20 46 42.7**	**-0.6**
THZ	**Tophouse**	**0.62**	**156**	P	**Pn**	**20 46 21.2**	**+0.8**
THZ				S	**S**	**20 46 42.7**	**-0.9**
DSZ	**Denniston Nort**	**0.79**	**226**	P	**Pn**	**20 46 21.6**	**+0.5**
DSZ				S	**S**	**20 46 43.8**	**-1.1**
TUWZ	**Tuamarina**	**1.07**	**103**	P	**Pn**	**20 46 23.3**	**+0.6**
TUWZ				S	**S**	**20 46 46.8**	**-0.7**
DUWZ	**D'Urville Isla**	**1.10**	**69**	P	**Pn**	**20 46 23.4**	**+0.4**
DUWZ				S	**S**	**20 46 47.4**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.11**	**118**	P	**Pn**	**20 46 23.6**	**+0.6**
BSWZ				S	**S**	**20 46 47.8**	**-0.3**
TCW	**Tory Channel**	**1.29**	**91**	P	**Pn**	**20 46 24.8**	**+0.5**
TCW				S	**S**	**20 46 50.0**	**-0.4**
CMWZ	**Cape Campbell**	**1.36**	**114**	P	**Pn**	**20 46 25.6**	**+0.8**
CMWZ				S	**S**	**20 46 52.5**	**+1.2**
KHZ	**Kahutara**	**1.42**	**149**	P	**Pn**	**20 46 25.6**	**+0.4**
KHZ				S	**S**	**20 46 51.0**	**-1.2**
KHZ	**Kahutara**	**1.42**	**149**	P	**Pn**	**20 46 25.6**	**+0.4**
LTZ	**Lake Taylor**	**1.60**	**188**	P	**Pn**	**20 46 27.2**	**+0.4**
LTZ				S	**S**	**20 46 53.4**	**-1.6**
SNZO	**South Karori**	**1.62**	**95**	P	**Pn**	**20 46 27.1**	**+0.2**
WEL	**Wellington**	**1.67**	**94**	P	**Pn**	**20 46 27.7**	**+0.3**
INZ	**Inchbonnie**	**1.74**	**208**	P	**Pn**	**20 46 28.2**	**+0.2**
INZ				S	**S**	**20 46 55.7**	**-1.3**
BHW	**Baring Head**	**1.75**	**98**	P	**Pn**	**20 46 28.3**	**+0.1**
BHW				S	**S**	**20 46 54.8**	**-2.4**
GVZ	**Greta Valley S**	**1.80**	**169**	P	**Pn**	**20 46 28.9**	**+0.3**
GVZ				S	**S**	**20 46 56.5**	**-1.7**
KIW	**Kapiti Island**	**1.81**	**80**	P	**Pn**	**20 46 29.0**	**+0.2**
KIW				S	**S**	**20 46 56.8**	**-1.4**
CAW	**Cannon Point**	**1.89**	**88**	P	**Pn**	**20 46 29.7**	**+0.2**
CAW				S	**S**	**20 46 57.7**	**-1.8**
AMCZ	**Amberley**	**1.98**	**178**	P	**Pn**	**20 46 30.5**	**+0.3**
AMCZ				S	**S**	**20 46 59.0**	**-2.1**
OGWZ	**Otaki Gorge**	**2.01**	**80**	P	**Pn**	**20 46 31.0**	**+0.4**
OGWZ				S	**S**	**20 46 59.7**	**-1.8**
MSWZ	**Moikau Station**	**2.04**	**97**	P	**Pn**	**20 46 31.0**	**+0.1**
MSWZ				S	**S**	**20 47 00.8**	**-1.2**
PLWZ	**Palliser**	**2.06**	**101**	P	**Pn**	**20 46 31.3**	**+0.1**
OXZ	**Oxford**	**2.16**	**190**	P	**Pn**	**20 46 32.1**	**0.0**
OXZ				S	**S**	**20 47 01.9**	**-2.5**
PAWZ	**Paruwai Farm**	**2.17**	**96**	P	**Pn**	**20 46 32.3**	**+0.1**
PAWZ				S	**S**	**20 47 02.1**	**-2.3**
NBEZ	**Newall Road No**	**2.17**	**28**	P	**Pn**	**20 46 32.8**	**+0.5**
KHEZ	**Kahui Hut**	**2.20**	**31**	P	**Pn**	**20 46 32.6**	**-0.1**
KHEZ				S	**S**	**20 47 04.9**	**-0.3**
MTW	**Mount Morrison**	**2.22**	**90**	P	**Pn**	**20 46 32.9**	**+0.2**
MTW				S	**S**	**20 47 03.2**	**-2.1**
PREZ	**Palmer Road**	**2.22**	**34**	P	**Pn**	**20 46 32.7**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.25**	**83**	P	**Pn**	**20 46 33.3**	**+0.2**
HOWZ				S	**S**	**20 47 04.5**	**-1.5**
NEZ	**North Egmont**	**2.25**	**32**	P	**Pn**	**20 46 33.8**	**+0.5**
NEZ				S	**S**	**20 47 05.1**	**-1.1**
PKE	**Pukeiti**	**2.28**	**29**	P	**Pn**	**20 46 33.8**	**+0.4**
PKE				S	**S**	**20 47 05.2**	**-1.4**
WVZ	**Waitaha Valley**	**2.31**	**215**	P	**Pn**	**20 46 33.6**	**0.0**
OHWZ	**Ohakea**	**2.32**	**66**	P	**Pn**	**20 46 34.4**	**+0.7**
OHWZ				S	**S**	**20 47 06.9**	**-0.2**
WAZ	**Wanganui**	**2.34**	**53**	P	**Pn**	**20 46 34.5**	**+0.4**
MRZ	**Mangatainoka R**	**2.35**	**78**	P	**Pn**	**20 46 34.1**	**0.0**
MRZ				S	**S**	**20 47 06.1**	**-1.6**
TRWZ	**Traveller**	**2.36**	**96**	P	**Pn**	**20 46 34.6**	**+0.4**
TRWZ				S	**S**	**20 47 06.4**	**-1.6**
MQZ	**McQueen's Vall**	**2.51**	**178**	P	**Pn**	**20 46 35.1**	**-0.6**
TMWZ	**Te Maipa**	**2.52**	**89**	P	**Pn**	**20 46 36.2**	**+0.3**
RACZ	**Rakaia**	**2.55**	**187**	P	**Pn**	**20 46 36.5**	**+0.4**
TIWZ	**Tintock**	**2.55**	**82**	P	**Pn**	**20 46 36.6**	**+0.3**
POWZ	**Post Office Ro**	**2.56**	**73**	P	**Pn**	**20 46 36.4**	**0.0**
PRWZ	**Pori Road**	**2.66**	**77**	P	**Pn**	**20 46 37.9**	**+0.5**
VRZ	**Vera Road**	**2.67**	**40**	P	**Pn**	**20 46 36.0**	**-1.6**
AKCZ	**Akaroa Harbour**	**2.69**	**175**	P	**Pn**	**20 46 37.5**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**2.69**	**217**	P	**Pn**	**20 46 37.4**	**-0.2**
RPZ	**Rata Peaks**	**2.75**	**203**	P	**Pn**	**20 46 38.1**	**-0.3**
	8.1nm,0.3s,baz=85,slow=0.8,SNR=34						
RPZ				S	**S**	**20 47 13.2**	**-2.5**
	7.5nm,0.3s,baz=341,slow=21,SNR=22						
RPZ	**Rata Peaks**	**2.75**	**203**	P	**Pn**	**20 46 38.4**	**0.0**
RPZ	**Rata Peaks**	**2.75**	**203**	P	**Pn**	**20 46 38.5**	**0.0**
CPWZ	**Castlepoint**	**2.77**	**85**	P	**Pn**	**20 46 39.4**	**+0.8**
WACZ	**Wakanui South**	**2.79**	**191**	P	**Pn**	**20 46 39.5**	**+0.6**
TSZ	**Takapari Road**	**2.83**	**67**	P	**Pn**	**20 46 39.1**	**-0.2**
BFZ	**Birch Farm**	**2.84**	**81**	P	**Pn**	**20 46 39.7**	**+0.3**
BFZ	**Birch Farm**	**2.84**	**81**	P	**Pn**	**20 46 38.8**	**+0.4**
PKVZ	**Pokaka**	**2.86**	**49**	P	**Pn**	**20 46 39.3**	**-0.5**
DVHZ	**Dannevirke**	**2.88**	**73**	P	**Pn**	**20 46 39.8**	**-0.1**
ARCZ	**Arundel**	**2.93**	**200**	P	**Pn**	**20 46 40.2**	**-0.2**
TRVZ	**Turoa**	**2.97**	**51**	P	**Pn**	**20 46 41.1**	**-0.1**
WNVZ	**Wahianoa**	**2.98**	**52**	P	**Pn**	**20 46 41.0**	**-0.2**
FWVZ	**Far West T-bar**	**3.00**	**51**	P	**Pn**	**20 46 41.5**	**0.0**
WHVZ	**Whangaehu Hut**	**3.00**	**51**	P	**Pn**	**20 46 42.0**	**+0.5**
MOVZ	**Moawhango**	**3.02**	**55**	P	**Pn**	**20 46 41.0**	**-0.7**
TUVZ	**Tukino**	**3.05**	**52**	P	**Pn**	**20 46 41.6**	**-0.5**
PNHZ	**Pukenui**	**3.05**	**66**	P	**Pn**	**20 46 41.7**	**-0.2**
TWVZ	**Taurewa**	**3.06**	**47**	P	**Pn**	**20 46 41.6**	**-0.5**
NGZ	**Ngauruhoe**	**3.08**	**50**	P	**Pn**	**20 46 42.0**	**-0.4**
FOZ	**Fox Glacier**	**3.10**	**220**	P	**Pn**	**20 46 41.7**	**-0.6**
SNVZ	**South Ngauruho**	**3.10**	**51**	P	**Pn**	**20 46 42.2**	**-0.4**
WTVZ	**West Tongariro**	**3.12**	**49**	P	**Pn**	**20 46 42.2**	**-0.5**
NNVZ	**North Ngauruho**	**3.12**	**50**	P	**Pn**	**20 46 42.2**	**-0.6**
OTVZ	**Oturere**	**3.13**	**50**	P	**Pn**	**20 46 42.6**	**-0.3**
WPHZ	**Waipukurau**	**3.16**	**70**	P	**Pn**	**20 46 43.2**	**+0.1**
ETVZ	**East Tongariro**	**3.17**	**51**	P	**Pn**	**20 46 42.7**	**-0.7**
BHHZ	**Black Hill Sta**	**3.17**	**59**	P	**Pn**	**20 46 42.9**	**-0.5**
NTVZ	**North Tongarir**	**3.18**	**50**	P	**Pn**	**20 46 43.1**	**-0.4**
TMVZ	**Te Maari**	**3.18**	**50**	P	**Pn**	**20 46 43.0**	**-0.5**
HIZ	**Hauiti**	**3.21**	**34**	P	**Pn**	**20 46 42.4**	**-1.3**
PRHZ	**Porangahau**	**3.23**	**75**	P	**Pn**	**20 46 44.1**	**+0.2**
KATZ	**Kakaramea**	**3.27**	**48**	P	**Pn**	**20 46 44.7**	**+0.1**
KRHZ	**Kereru**	**3.29**	**63**	P	**Pn**	**20 46 44.4**	**-0.4**
TMZ	**Timaru**	**3.38**	**199**	P	**Pn**	**20 46 45.4**	**-0.2**
RATZ	**Rangitukua**	**3.39**	**48**	P	**Pn**	**20 46 45.7**	**-0.2**
PXZ	**Pawanui**	**3.47**	**72**	P	**Pn**	**20 46 47.0**	**+0.3**
KAHZ	**Kahuranaki**	**3.58**	**68**	P	**Pn**	**20 46 48.4**	**+0.4**
MCHZ	**McNeill Hill**	**3.61**	**62**	P	**Pn**	**20 46 48.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.63**	**57**	P	**Pn**	**20 46 48.1**	**-0.6**
BKZ	**Black Stump Fm**	**3.63**	**57**	P	**Pn**	**20 46 47.7**	**-1.0**
LBZ	**Lake Benmore**	**3.63**	**208**	P	**Pn**	**20 46 47.7**	**-0.9**
TLZ	**Tolley Road**	**3.67**	**40**	P	**Pn**	**20 46 48.2**	**-1.0**
MRHZ	**Matea Rd**	**3.79**	**53**	P	**Pn**	**20 46 49.5**	**-1.1**
NMHZ	**Naumai**	**3.87**	**59**	P	**Pn**	**20 46 51.7**	**+0.1**
ARHZ	**Aropaoanui**	**3.91**	**62**	P	**Pn**	**20 46 52.4**	**+0.4**
JCZ	**Jackson Bay**	**4.00**	**223**	P	**Pn**	**20 46 52.4**	**-0.7**
MTHZ	**Maungataniwha**	**4.03**	**56**	P	**Pn**	**20 46 52.8**	**-0.8**
ODZ	**Otahua Downs**	**4.09**	**199**	P	**Pn**	**20 46 53.8**	**-0.3**
ODZ	**Otahua Downs**	**4.09**	**199**	P	**Pn**	**20 46 54.0**	**-0.2**
RAHZ	**Arahi**	**4.15**	**58**	P	**Pn**	**20 46 54.7**	**-0.3**
WHHZ	**Waihua**	**4.16**	**61**	P	**Pn**	**20 46 54.0**	**-1.1**
MUGZ	**Murupara**	**4.23**	**51**	P	**Pn**	**20 46 54.5**	**-1.4**
RTZ	**Ruatahuna**	**4.26**	**54**	P	**Pn**	**20 46 55.1**	**-1.4**
SNGZ	**Shannon Statio**	**4.39**	**58**	P	**Pn**	**20 46 57.5**	**-0.5**
WKZ	**Wanaka**	**4.46**	**214**	P	**Pn**	**20 46 57.2**	**-1

RSSD	**Black Hills**	**8.69**	**329**	IAmb_Lg			21 09 18.2		
	comp=Z,3.3nm,0.8s								

IDC 28 21:09:37.1±5.0, 4°.07S×142°.78E, h136km±109km, mb3.3/3, mb1 3.5/5, mb1mx3.2/37, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=107.7km s-min=64.9km az=2.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
JAY	**Jayapura**	**2.58**	**307**	P	Pn	21	10	19.4	+0.7
	2.7nm,0.3s,baz=164,slow=8.8,SNR=10								
JAY				S	Sn	21	10	50.9	+0.3
	3.4nm,0.3s,baz=278,slow=13,SNR=3.3								
WRA	**Warramunga Arr**	**17.79**	**207**	P	P	21	13	35.1	-0.1
	1.7nm,0.3s,baz=30,slow=9.8,SNR=128								
ASAR	**Alice Springs**	**21.28**	**203**	P	P	21	14	13.0	0.0
	0.5nm,0.4s,baz=30,slow=12,SNR=11								
FITZ	**Fitzroy Crossi**	**21.81**	**229**	P	P	21	14	19.0	+0.4
	1.9nm,0.7s,baz=52,slow=10,SNR=2.9								
STKA	**Stephens Creek**	**27.68**	**182**	P	P	21	15	12.2	-0.2
	2.0nm,0.7s,baz=356,slow=10,SNR=5.9								

*IDC **28** 21:16:59.2±0.7, 43°.50N×139°.00E, h0km, mb3.8/14, mb1 4.0/21, mb1mx3.8/46, mbtmp3.9/21, ML4.3/4, MS3.1/9, Ms1 3.1/9, ms1mx2.8/91, Error ellipse: s-maj=16.3km s-min=15.2km az=157.0*
*JMA **28** 21:17:01.8±0.2, 43°.54N×139°.14E, h32km±3km, M4.0*
*NIED **28** 21:17:01.9, 43°.54N×139°.14E, h32km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr 1.35; Mθθ 0.62; Mϕϕ -1.97; Mrθ 1.20; Mθϕ -0.47; Mϕr -0.54; Fault plane solution: M0 2.22000×10¹⁵ NP1: ϕs 158.00000°, δ61.00000°, λ47.00000°. NP2: ϕs 41.00000°, δ50.00000°, λ142.00000°.*
*MOS **28** 21:17:02.1±1.5, 43°.49N×139°.01E, h28km, mb4.0/4 Error ellipse: s-maj=9.0km s-min=7.6km az=73.3*
*SKHL **28** 21:17:02.3±0.3, 43°.60N×139°.00E, h29km±3km, mb4.6/11, mbv4.6/2, ms3.6/4, msh4.2/2*
*NEIC **28** 21:17:04.8±2.4, 43°.66N±0°.07×139°.18E±0°.07, h30km±3km, mb4.2/17, Error ellipse: s-maj=9.8km s-min=6.7km az=167.0*

ISC 28 21:17:02.9±3.1, 43°.55N±0°.03×139°.09E±0°.03, h23km±23km, n113, σ1°53/123, mb4.1/23, 5C-8D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
JSK	**Shakotan**	**1.03**	**100**	ǁP	**Pn**	**21**	**17**	**19.6**	**-2.3**
JSK				*e*S	**Sn**	**21**	**17**	**32.2**	**-3.3**
JSH	**Shimam**	**1.14**	**142**	P	**Pn**	**21**	**17**	**21.5**	**-1.9**
JSH				*e*S	**Sn**	**21**	**17**	**35.2**	**-3.1**
JHST	**Hiyamasetana**	**1.26**	**153**	P	**Pn**	**21**	**17**	**23.5**	**-1.6**
JHST				*e*S	**Sn**	**21**	**17**	**38.9**	**-2.4**
JOSM	**Okushiri--Mats**	**1.49**	**169**	P	**Pn**	**21**	**17**	**26.6**	**-1.6**
JOSM				*e*S	**Sn**	**21**	**17**	**44.2**	**-2.7**
JYM2	**Yakumo 2**	**1.71**	**146**	⇑P	**Pn**	**21**	**17**	**30.4**	**-0.9**
JYM2				*e*S	**Sn**	**21**	**17**	**51.1**	**-1.3**
JISS	**Ishikarishitsu**	**1.72**	**98**	P	**Pn**	**21**	**17**	**30.2**	**-1.2**
JISS				*e*S	**Sn**	**21**	**17**	**51.5**	**-1.1**
JNB	**Noboribetsu**	**1.79**	**126**	ǁP	**Pn**	**21**	**17**	**31.5**	**-0.9**
JNB				*e*S	**Sn**	**21**	**17**	**52.9**	**-1.4**
JEW	**Eniwo**	**1.86**	**111**	P	**Pn**	**21**	**17**	**33.1**	**-0.3**
JEW	**Eniwo**	**1.86**	**111**		**Pn**	**21**	**17**	**33.4**	**0.0**
JYG	**Yagishiri**	**1.90**	**62**	P	**Pn**	**21**	**17**	**31.7**	**-2.2**
JHR	**Hokuryu**	**1.92**	**83**	P	**Pn**	**21**	**17**	**32.9**	**-1.3**
JHR				*e*S	**Sn**	**21**	**17**	**56.6**	**-1.0**
JOMM	**Oshimamatsumae**	**2.13**	**161**	⇑P	**Pn**	**21**	**17**	**35.9**	**-1.1**
JOMM				*e*S	**Sn**	**21**	**18**	**00.5**	**-2.2**
JSS	**Shosan**	**2.17**	**66**	P	**Pn**	**21**	**17**	**36.0**	**-1.6**
JKB	**Kayabe**	**2.19**	**139**	P	**Pn**	**21**	**17**	**37.1**	**-0.8**
JSR	**Shiriuchi**	**2.24**	**154**	P	**Pn**	**21**	**17**	**38.3**	**-0.3**
JSR				*e*S	**Sn**	**21**	**18**	**04.5**	**-1.0**
JRR	**Rishiri**	**2.25**	**44**	P	**Pn**	**21**	**17**	**38.0**	**-0.7**
JAB	**Ashibetsu**	**2.28**	**90**	ǁP	**Pn**	**21**	**17**	**37.8**	**-1.3**
JAB				*e*S	**Sn**	**21**	**18**	**05.6**	**-0.8**
TEY	**Ternei**	**2.33**	**311**	⇓*i*PN	**Pn**	**21**	**17**	**37.7**	**-2.0**
TEY				pmax	pmax				
	comp=N,90nm,0.2s								
TEY				pmax	pmax				
	comp=Z,200nm,0.1s								
TEY				pmax	pmax				
	comp=Z,400nm,0.1s								
TEY				pmax	pmax				
	comp=E,140nm,0.1s								
TEY				pmax	pmax				
	comp=E,490nm,0.3s								
TEY				pmax	pmax				
	comp=N,430nm,0.2s								
TEY				pmax	pmax				
	comp=Z,850nm,0.1s								
TEY	**Ternei**	**2.33**	**311**	*e*P	**Pn**	**21**	**17**	**37.7**	**-2.0**
TEY				AMB	AMB	21	17	38.2	
	comp=Z,110nm,0.4s								
TEY				*e*S	**Sn**	**21**	**18**	**03.8**	**-3.8**
TEY				A	A	21	18	05.0	
	comp=Z,370nm,0.3s								
TEY				A	A	21	18	05.0	
	comp=Z,320nm,0.3s								
TEY				AMS	AMS	21	21	18.4	
	comp=Z,600nm,9.0s								
TEY				AMS	AMS	21	21	18.4	
	comp=Z,600nm,9.0s								
TEY				AMS	AMS	21	21	18.4	
	comp=Z,600nm,9.0s								
JRBN	**Rebuntou**	**2.35**	**36**	P	**Pn**	**21**	**17**	**38.4**	**-1.6**
JBT2	**Biratori 2**	**2.52**	**107**	P	**Pn**	**21**	**17**	**42.2**	**-0.1**
ASAJ	**Asahikawa**	**2.60**	**76**	Pn	**Pn**	**21**	**17**	**42.5**	**-1.0**
	comp=Z,6.9nm,0.3s,baz=251,slow=13,SNR=28								
ASAJ				Sn	**Sn**	**21**	**18**	**12.3**	**-2.1**
	comp=Z,28nm,0.3s,baz=294,slow=14,SNR=3.2								
ASAJ	**Asahikawa**	**2.60**	**76**	PN	**Pn**	**21**	**17**	**42.7**	**-0.8**
JKA	**Kamikawa-asahi**	**2.60**	**76**	Pn	**Pn**	**21**	**17**	**42.7**	**-0.8**
JTM	**Tenmabayashi**	**3.12**	**151**	Pn	**Pn**	**21**	**17**	**51.2**	**+0.5**
ERM	**Erimo**	**3.36**	**116**	PN	**Pn**	**21**	**17**	**55.5**	**+1.5**
ERM	**Erimo**	**3.36**	**116**	Pn	**Pn**	**21**	**17**	**55.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.28**	**36**	*e*PN	**Pn**	**21**	**18**	**06.9**	**+0.3**
YSS				*e*S	**Sn**	**21**	**18**	**58.9**	**+3.2**
YSS				pmax	pmax				
	comp=Z,20nm,1.0s								
YSS				MLR	MLR				
	comp=Z,600nm,16.0s								
YSS	**Yuzh-Sakhalins**	**4.28**	**36**	*e*P	**Pn**	**21**	**18**	**06.8**	**+0.2**
YSS				AMB	AMB	21	18	07.9	
	comp=Z,20nm,0.3s								
YSS				*e*S	**Sn**	**21**	**18**	**54.2**	**-1.5**
YSS				A	A	21	18	56.6	
	comp=Z,10.0nm,0.4s								
YSS				A	A	21	18	56.6	
	comp=Z,20nm,0.4s								
YSS				AMS	AMS	21	19	58.9	
	comp=Z,600nm,16.0s								
YUK	**Yuzh-Kuril'sk**	**4.93**	**82**	*e*P	**Pn**	**21**	**18**	**14.3**	**-1.2**
YUK				AMB	AMB	21	18	18.2	
	comp=Z,30nm,0.3s								
USRK	**Ussuriysk Ar.**	**5.17**	**280**	Pn	**Pn**	**21**	**18**	**18.4**	**-0.5**
	baz=79,slow=14,SNR=52								
USRK				Sn	**Sn**	**21**	**19**	**17.2**	**-0.7**
	baz=91,slow=27,SNR=17								
USRK	**Ussuriysk Ar.**	**5.17**	**280**		**Pn**	**21**	**18**	**18.5**	**-0.4**
USA0B	**Ussuriysk Arra**	**5.18**	**280**	PN	**Pn**	**21**	**18**	**18.5**	**-0.4**
USA0B	**Ussuriysk Arra**	**5.18**	**280**	Pn	**Pn**	**21**	**18**	**18.5**	**-0.4**
VLA	**Vladivostok**	**5.27**	**268**	*d*⇓PN	**Pn**	**21**	**18**	**20.2**	**0.0**
VLA	**Vladivostok**	**5.27**	**268**	*e*P	**Pn**	**21**	**18**	**20.2**	**0.0**
SHO	**Shikotan**	**5.62**	**84**	*e*P	**Pn**	**21**	**18**	**24.1**	**-0.9**
SHO				AMB	AMB	21	18	25.6	
	comp=Z,20nm,0.5s								
SHO				*e*S	**Sn**	**21**	**19**	**27.5**	**-1.3**
SHO				A	A	21	19	32.7	
	comp=Z,20nm,0.4s								
SHO				A	A	21	19	32.7	
	comp=Z,50nm,0.4s								
MSHR	**Mys Shultsa**	**5.89**	**263**	*d*⇓PN	**Pn**	**21**	**18**	**28.6**	**-0.1**
KUR	**Kuril'sk**	**6.51**	**72**	*e*P	**Pn**	**21**	**18**	**36.7**	**-0.5**
KUR				AMB	AMB	21	18	38.1	
	comp=Z,30nm,0.3s								
MDJ	**Mudanjiang**	**6.92**	**282**		**Pn**	**21**	**18**	**43.9**	**+1.0**
MJAR	**Matsushiro Arr**	**7.03**	**186**	Pn	**Pn**	**21**	**18**	**41.5**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=18,slow=16,SNR=1.7								
MJAR				LR	LR	21	21	17.4	
	comp=Z,200nm,18.8s,baz=18,slow=37								
KLR	**Kul'dur**	**7.62**	**321**	Pn	**Pn**	**21**	**18**	**52.0**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=138,slow=18,SNR=48								
KLR				Sn	**Sn**	**21**	**20**	**12.6**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=236,slow=22,SNR=1.4								
KLR				Lg	Lg	21	20	58.8	
	comp=Z,0.2nm,0.3s,baz=229,slow=20,SNR=1.2								
KLR				LR	LR	21	21	12.5	
	comp=Z,35nm,18.4s,baz=73,slow=33								
TYV	**Tymovskoe**	**7.71**	**17**	*e*P	**Pn**	**21**	**18**	**53.0**	**-0.7**
TYV				AMB	AMB	21	18	55.8	
	comp=Z,10.0nm,0.2s								
TYV				AMB	AMB	21	18	57.7	
	comp=Z,100nm,4.0s								
TYV				*e*S	**Sn**	**21**	**20**	**16.3**	**-3.9**
TYV				A	A	21	20	20.5	
	comp=Z,40nm,3.0s								
TYV				A	A	21	20	20.5	
	comp=Z,40nm,3.0s								
TYV				A	A	21	20	22.8	
	comp=Z,10.0nm,0.6s								
TYV				A	A	21	20	22.8	
	comp=Z,100nm,0.6s								
TYV				AMS	AMS	21	22	26.0	
	comp=Z,100nm,11.0s								
TYV				AMS	AMS	21	22	26.0	
	comp=Z,100nm,11.0s								
TYV				AMS	AMS	21	22	26.0	
	comp=Z,200nm,11.0s								
JHS	**Saijyo**	**9.71**	**210**	Pn	Pn	21	19	25.8	+4.7
JHJ	**Hachijo jima 2**	**10.43**	**177**	LR	LR	21	23	32.3	
	comp=Z,110nm,18.8s,baz=78,slow=38								
KSRS	**Korea Array**	**10.45**	**238**	Pn	Pn	21	19	34.7	+3.5
	comp=Z,2.2nm,0.3s,baz=51,slow=13,SNR=14								
KSRS				LR	LR	21	23	03.3	
	comp=Z,140nm,20.3s,baz=50,slow=35								
KS19	**Wonju Array Si**	**10.46**	**239**	Pn	Pn	21	19	35.3	+4.0
KSAR	**Wonju Array Be**	**10.48**	**238**	PN	**Pn**	**21**	**19**	**34.2**	**+2.5**
KSAR	**Wonju Array Be**	**10.48**	**238**	Pn	**Pn**	**21**	**19**	**34.2**	**+2.5**
JTU	**Tsushima**	**11.74**	**223**	Pn	Pn	21	19	53.8	+4.9
JNU	**Nakatsu**	**12.23**	**214**	LR	LR	21	24	13.9	
	comp=Z,186nm,21.5s,baz=298,slow=36								
ZEA	**Zeya**	**12.84**	**327**	*e*PN	**P**	**21**	**20**	**11.2**	**-3.3**
ZEA				pmax	pmax				
	comp=N,10.0nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.3s								
ZEA				MLR	MLR				
	comp=N,400nm,14.0s								
ZEA				MLR	MLR				
	comp=Z,200nm,15.0s								
PEA0B	**Petropavlovsk-**	**15.60**	**46**	⇑*e*P	**P**	**21**	**20**	**44.3**	**-0.9**
PETK	**Petropavlovsk-**	**15.60**	**46**	Pn	**Pn**	**21**	**20**	**41.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=211,slow=10,SNR=6.1								
PETK				LR	LR	21	26	43.1	
	comp=Z,62nm,19.2s,baz=212,slow=37								
PETK	**Petropavlovsk-**	**15.60**	**46**	P	**P**	**21**	**20**	**44.3**	**-0.9**
PETK	**Petropavlovsk-**	**15.60**	**46**	P	**P**	**21**	**20**	**44.3**	**-0.9**
BJT	**Baijiatuau**	**17.44**	**266**	P	**P**	**21**	**21**	**08.2**	**+2.5**
BJT				pmax	pmax				
	comp=Z,10.0nm,1.1s								
BJT	**Baijiatuau**	**17.44**	**266**	P	**P**	**21**	**21**	**08.2**	**+2.5**
MA2	**Magadan**	**17.57**	**20**	P	**P**	**21**	**21**	**07.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=199,slow=10.0,SNR=16								
MA2				LR	LR	21	28	13.6	
	comp=Z,63nm,18.2s,baz=183,slow=38								
MA2	**Magadan**	**17.57**	**20**	*d*⇓*i*P	**P**	**21**	**21**	**09.5**	**+2.5**
MA2				pmax	pmax				
	comp=Z,31nm,1.7s								
MA2	**Magadan**	**17.57**	**20**	P	**P**	**21**	**21**	**09.4**	**+2.5**
MA2				IAmb	IAmb	21	21	10.8	
	comp=Z,14nm,0.9s								
YAK	**Yakutsk**	**19.33**	**347**	P	**Pn**	**21**	**21**	**27.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=337,slow=20,SNR=5.0								
YAK				LR	LR	21	28	16.6	
	comp=Z,27nm,20.9s,baz=90,slow=35								
YAK	**Yakutsk**	**19.33**	**347**	*e*P	**Pn**	**21**	**21**	**27.8**	**+0.4**
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.0s								
YAK	**Yakutsk**	**19.33**	**347**	P	**Pn**	**21**	**21**	**26.0**	**-1.4**
YAK				IAmb	IAmb	21	21	28.7	
	comp=Z,11nm,0.9s								
YAK	**Yakutsk**	**19.33**	**347**	*e*P	**Pn**	**21**	**21**	**27.8**	**+0.4**
SEY	**Seymchan**	**20.90**	**17**	P	Pn	21	21	44.2	-1.7
	comp=Z,5.3nm,1.0s,baz=209,slow=12,SNR=9.4								
SEY	**Seymchan**	**20.90**	**17**	ǁ*e*P	Pn	21	21	44.4	-1.5
SEY				pmax	pmax				
	comp=Z,17nm,1.7s								
SEY	**Seymchan**	**20.90**	**17**	*e*P	Pn	21	21	44.4	-1.5
ULN	**Ulaanbaatar**	**22.69**	**292**	⇑*e*P	**P**	**21**	**22**	**04.2**	**+1.3**
ULN				pmax	pmax				
	comp=Z,6.0nm,2.5s								
ULN	**Ulaanbaatar**	**22.69**	**292**	P	**P**	**21**	**22**	**04.0**	**+1.1**
SONM	**Songino Array**	**23.14**	**292**	P	**P**	**21**	**22**	**07.4**	**-0.1**
	comp=Z,2.7nm,1.3s,baz=107,slow=21,SNR=6.1								
SONM				LR	LR	21	31	27.2	
	comp=Z,38nm,19.6s,baz=356,slow=38								
SONM	**Songino Array**	**23.14**	**292**	P	**P**	**21**	**22**	**08.2**	**+0.8**
SONM				pmax	pmax				
	comp=Z,2.0nm,1.2s								
SONM	**Songino Array**	**23.14**	**292**	P	**P**	**21**	**22**	**08.2**	**+0.8**
ZALV	**Zalesovo Beam**	**36.42**	**306**	P	**P**	**21**	**24**	**04.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=90,slow=13,SNR=1.9								
KURK	**Kurchatov**	**40.73**	**302**	P	**P**	**21**	**24**	**41.6**	**-0.1**
KURK	**Kurchatov**	**40.73**	**302**	*e*P	**P**	**21**	**24**	**41.6**	**-0.1**
KURBB	**Kurchatov Arra**	**40.81**	**302**	P	**P**	**21**	**24**	**41.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=74,slow=9.0,SNR=5.6								
IMAR	**Indian Mountai**	**42.11**	**34**	P	**P**	**21**	**24**	**51.3**	**-1.4**
CAST	**Castle Rocks**	**43.01**	**38**	P	**P**	**21**	**24**	**59.2**	**-0.9**
CAST				IAmb	IAmb	21	25	05.7	
	comp=Z,4.3nm,1.2s								
OHAK	**Old Harbor**	**43.40**	**47**	P	**P**	**21**	**25**	**03.0**	**-0.2**
KDAK	**Kodiak Island**	**43.65**	**46**	P	**P**	**21**	**25**	**05.3**	**-0.1**
KDAK				pmax	pmax				
	comp=Z,33nm,1.5s								
KDAK	**Kodiak Island**	**43.65**	**46**	P	**P**	**21**	**25**	**05.2**	**-0.1**
IL31		**45.09**	**36**	P	**P**	**21**	**25**	**17.8**	**+1.1**
ILAR	**Eielson Array**	**45.09**	**36**	P	**P**	**21**	**25**	**17.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=287,slow=8.5,SNR=6.0								
ILAR	**Eielson Array**	**45.09**	**36**	P	**P**	**21**	**25**	**16.4**	**-0.3**
BMAR	**Burnt Mountain**	**45.60**	**32**	P	**P**	**21**	**25**	**21.4**	**+0.5**
RIDG	**Independent Ri**	**46.15**	**37**	P	**P**	**21**	**25**	**25.0**	**-0.2**
KLU	**Klutina**	**46.16**	**40**	P	**P**	**21**	**25**	**25.5**	**+0.2**
SCRK	**Sand Creek**	**46.48**	**36**	P	**P**	**21**	**25**	**26.1**	**-1.8**
SCRK				IAmb	IAmb	21	25	27.0	
	comp=Z,3.2nm,1.1s								
EGAK	**Eagle**	**47.49**	**35**	P	**P**	**21**	**25**	**35.5**	**-0.1**
EGAK				IAmb	IAmb	21	25	48.5	
	comp=Z,3.1nm,1.2s								
BCAR	**Beaver Creek A**	**47.65**	**37**	P	**P**	**21**	**25**	**37.2**	**+0.2**
ABKAR	**Akbulak array**	**52.53**	**306**	P	**P**	**21**	**26**	**14.7**	**+0.6**
ABKAR				IAmb	IAmb	21	26	24.5	
	comp=Z,1.8nm,0.8s								
YKA	**Yellowknife Ar**	**59.12**	**31**	P	**P**	**21**	**27**	**00.9**	**-0.1**
	comp=Z,30.0nm,0.4s,baz=306,slow=6.5,SNR=7.6								
FINES	**FINESS Array B**	**62.26**	**330**	P	**P**	**21**	**27**	**21.5**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=56,slow=8.1,SNR=8.2								
FINES	**FINESS Array B**	**62.26**	**330**	P	**P**	**21**	**27**	**21.3**	**-1.2**
WB0	**Warramunga Arr**	**63.15**	**185**	P	**P**	**21**	**27**	**28.6**	**-0.2**
WB0				IAmb	IAmb	21	27	38.8	
	comp=Z,3.3nm,0.9s								
WB2	**Warramunga Arr**	**63.32**	**185**	P	**P**	**21**	**27**	**30.5**	**+0.6**
WB2				IAmb	IAmb	21	27	40.1	
	comp=Z,5.3nm,1.1s								
WRA	**Warramunga Arr**	**63.32**	**185**	P	**P**	**21**	**27**	**29.8**	**-0.2**
	comp=Z,4.6nm,1.0s,baz=0.8,slow=6.9,SNR=36								
WR0	**Warramunga Arr**	**63.33**	**185**	P	**P**	**21**	**27**	**29.8**	**-0.2**
WR0				IAmb	IAmb	21	27	40.0	
	comp=Z,3.3nm,0.9s								
KIV	**Kislovodsk**	**65.40**	**308**	*e*P	**P**	**21**	**27**	**45.1**	**+1.5**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KIV	**Kislovodsk**	**65.40**	**308**	*e*P	**P**	**21**	**27**	**45.1**	**+1.5**
ASAR	**Alice Springs**	**67.05**	**185**	P	**P**	**21**	**27**	**54.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=357,slow=5.8,SNR=3.7								
AKASG	**Malin Array Be**	**68.12**	**320**	P	**P**	**21**	**28**	**00.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=4.9,SNR=4.3								
AKASG	**Malin Array Be**	**68.12**	**320**	*i* P	**P**	**21**	**28**	**02.4**	**+1.8**
AKASG	**Malin Array Be**	**68.12**	**320**	P	**P**	**21**	**27**	**59.2**	**-1.4**
NVAR	**Mina Array Bea**	**72.52**	**53**	P	**P**	**21**	**28**	**29.2**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=284,slow=4.5,SNR=5.7								
NVAR	**Mina Array Bea**	**72.52**	**53**	P	**P**	**21**	**28**	**29.1**	**+0.9**
PDAR	**Pinedale Array**	**74.36**	**45**	P	**P**	**21**	**28**	**39.5**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=324,slow=1.6,SNR=13								
ULM	**Lac du Bonnet**	**75.03**	**33**	*i* P	**P**	**21**	**28**	**42.7**	**+0.4**
SCHQ	**Schefferville**	**79.54**	**15**	P	**P**	**21**	**29**	**06.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=301,slow=12,SNR=1.4								
ANMO	**Albuquerque**	**81.71**	**49**	*ce*P	**P**	**21**	**29**	**22.6**	**+2.9**
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.3s								
TXAR	**Lajitas Array**	**87.48**	**51**	P	**P**	**21**	**29**	**49.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=295,slow=3.1,SNR=5.3								
TXAR	**Lajitas Array**	**87.48**	**51**	P	**P**	**21**	**29**	**48.5**	**-0.4**

*ISK **28** 21:30:11.1, 33°.89N×25°.91E, h88km, ML3.0/9*
*DDA **28** 21:30:24.0±0.0, 34°.76N×26°.75E, h15km, ML2.7*
*IDC **28** 21:30:25.6±13.0, 34°.52N×25°.94E, h120km±130km, mb3.2/5, mb1 3.2/6, mb1mx2.9/44, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=64.8km s-min=24.6km az=135.0*

ISC 28 21:30:15.1±1.1, 34°.21N±0°.09×25°.92E±0°.04, h26km, n25, σ2°.90/29, mb3.4/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
ZKR	**Zakros**	**0.94**	**15**	PN	**Pb**	**21**	**30**	**34.6**	**+1.8**
HRKL	**Herakleio**	**1.29**	**329**	PN	**Pb**	**21**	**30**	**38.6**	**-0.1**
IDI	**Anoyia**	**1.37**	**322**	PN	**Pn**	**21**	**30**	**39.4**	**+0.7**
IDI				SN	**Sb**	**21**	**31**	**00.4**	**+3.1**
GVD	**Gavdhos**	**1.64**	**293**	PN	**Pn**	**21**	**30**	**41.5**	**-0.8**
KARP	**Karpathos**	**1.68**	**37**	PN	**Pn**	**21**	**30**	**43.9**	**+1.0**
IMMV	**Iera Moni Meta**	**2.03**	**309**	PN	**Pn**	**21**	**30**	**47.7**	**+0.1**
APE	**Apeiranthos**	**2.88**	**354**	PN	**Pn**	**21**	**30**	**59.9**	**+0.6**
AKAS	**Kas**	**3.63**	**55**	P	**Pn**	**21**	**31**	**10.8**	**+1.0**
CAME	**Cameli-Denizli**	**3.88**	**44**	PN	**Pn**	**21**	**31**	**13.1**	**-0.1**
CAEL	**Denizli, Camel**	**4.02**	**43**	P	**Pn**	**21**	**31**	**15.9**	**+0.8**
TAVA	**DENIZLI_Tavas**	**4.06**	**36**	P	**Pn**	**21**	**31**	**16.2**	**+0.6**
TAVA				S	**Sn**	**21**	**31**	**58.6**	**-3.8**
AKUM	**Antalya-Kumluc**	**4.19**	**58**	P	**Pn**	**21**	**31**	**16.0**	**-1.2**
AKUM				*i* AML	AML	21	31	51.0	
	comp=N,27nm,2.1s								
AKUM				*i* AML	AML	21	31	55.0	
	comp=E,31nm,2.6s								
AKUM				S	**Sn**	**21**	**32**	**00.7**	**-4.7**
GOLH	**Golhisar**	**4.23**	**43**	P	**Pn**	**21**	**31**	**19.6**	**+1.6**
ITM	**Ithomi**	**4.40**	**314**	PN	**Pn**	**21**	**31**	**19.7**	**-0.5**
KORT	**Korkueli**	**4.56**	**51**	P	**Pn**	**21**	**31**	**25.0**	**+2.5**
KEPZ	**Antalya-Kepez**	**5.36**	**58**	P	**Pn**	**21**	**31**	**33.9**	**+0.5**
SEDI	**Konya, Seydise**	**5.74**	**54**	P	**Pn**	**21**	**31**	**42.1**	**+3.4**
SEDI				S	**Sn**	**21**	**32**	**45.2**	**+1.3**
SEDI				*i* AML	AML	21	32	51.0	
	comp=N,8.0nm,0.9s								
SEDI				*i* AML	AML	21	32	58.0	
	comp=E,6.4nm,0.5s								
SEYD	**Seydisehir-KON**	**5.77**	**55**	PN	**Pn**	**21**	**31**	**37.8**	**-1.4**
DOGA	**KONYA_Doganhis**	**6.06**	**48**	P	**Pn**	**21**	**31**	**45.8**	**+2.6**
AKASG	**Malin Array Be**	**16.66**	**7**	P	**P**	**21**	**34**	**08.1**	**-0.7**
	0.6nm,0.3s,baz=199,slow=11,SNR=4.7								
FINES	**FINESS Array B**	**27.25**	**0**	P	**P**	**21**	**35**	**55.2**	**-1.7**
	2.3nm,1.0s,baz=171,slow=9.8,SNR=4.4								
TORD	**Torodi Ar. Bea**	**30.38**	**232**	P	**P**	**21**	**36**	**28.2**	**+3.1**
	0.4nm,0.8s,baz=35,slow=8.1,SNR=2.6								
MKAR	**Mak

TLIG				*i* S		**Sn**	**22 38 46.9**	**-1.1**
HMTT	**Tlapaneco**	**1.47**	**349**			**Pn**	**22 38 35.3**	**+0.2**
HMTT						**Sn**	**22 38 53.5**	**0.0**
HMTT	**Tlapaneco**	**1.47**	**349**	*e*P		**Pn**	**22 38 35.3**	**+0.2**
HMTT				*e*S		**Sn**	**22 38 53.5**	**0.0**
DAIG	**Los Arroyos**	**1.50**	**297**			**Pn**	**22 38 34.6**	**-0.7**
DAIG						**Sn**	**22 38 53.8**	**-0.2**
DAIG	**Los Arroyos**	**1.50**	**297**	*e*P		**Pn**	**22 38 34.6**	**-0.7**
DAIG				*e*S		**Sn**	**22 38 53.8**	**-0.2**
HLIG	**Huajuapan de L**	**1.54**	**16**	*e*P		**Pn**	**22 38 35.7**	**-0.3**
HLIG				*e*S		**Sn**	**22 38 54.5**	**-0.9**
FTIG	**Fresnillo de T**	**1.56**	**4**	*e*P		**Pn**	**22 38 36.2**	**-0.1**
FTIG				*e*S		**Sn**	**22 38 54.9**	**-0.8**
VHO	**Vista Hermosa**	**1.63**	**63**	*e*P		**Pn**	**22 38 37.5**	**+0.2**
VHO				*i* S		**Sn**	**22 38 58.8**	**+1.3**
OXBJ	**Oaxaca**	**1.63**	**64**			**Pn**	**22 38 37.5**	**+0.2**
OXBJ						**Sn**	**22 38 59.0**	**+1.3**
OXBJ	**Oaxaca**	**1.63**	**64**	*e*P		**Pn**	**22 38 37.5**	**+0.2**
OXBJ				*e*S		**Sn**	**22 38 59.0**	**+1.3**
OXLC	**Oaxaca**	**1.65**	**64**	*e*P		**Pb**	**22 38 39.1**	**-0.8**
OXLC				*e*S		**Sb**	**22 38 59.5**	**-0.8**
CAIG	**El Cayaco**	**2.05**	**290**			**Pn**	**22 38 42.6**	**-0.2**
CAIG						**Sb**	**22 39 12.8**	**+1.2**
CAIG	**El Cayaco**	**2.05**	**290**	*e*P		**Pn**	**22 38 42.6**	**-0.2**
CAIG				*i* S		**Sb**	**22 39 12.8**	**+1.2**
TOIG	**Toxpalan**	**2.08**	**33**	*i* P		**Pn**	**22 38 43.0**	**-0.4**
TOIG				*e*S		**Sn**	**22 39 09.6**	**+1.0**
HUIG	**Huatulco**	**2.14**	**105**			**Pn**	**22 38 44.3**	**+0.1**
HUIG	**Huatulco**	**2.14**	**105**	*e*P		**Pn**	**22 38 44.3**	**+0.1**
NEUV	**Arroyo Zacate**	**2.71**	**60**	*e*P		**Pn**	**22 38 52.5**	**+0.5**
NEUV				*i* S		**Sb**	**22 39 30.1**	**-0.5**
MAVM	**Malinalco, Edo**	**2.85**	**336**			**Pn**	**22 38 56.3**	**+2.2**
MAVM	**Malinalco, Edo**	**2.85**	**336**	*e*		**Pn**	**22 38 56.3**	**+2.2**
MAVM				*e*			22 39 32.0	
TLVM	**San Miguel Top**	**2.97**	**343**	*e*		**Pb**	**22 39 00.4**	**-2.1**
TLVM				*e*			22 39 36.6	
AOVM	**Tlapan**	**3.08**	**341**	*e*P		**Pb**	**22 39 02.5**	**-1.9**
AOVM				*i* S		**Sb**	**22 39 42.7**	**+1.0**
UNM	**Universidad Na**	**3.09**	**344**	Pn		**Pn**	**22 38 58.0**	**+0.5**
INVM	**La Marquesa**	**3.12**	**340**	*e*		**Pb**	**22 39 01.2**	**-3.8**
INVM				*e*			22 39 46.9	
PBVM	**Pinon**	**3.18**	**346**	*e*		**Pb**	**22 39 09.9**	**+4.1**
PBVM				*e*			22 39 47.3	
JAUV	**Jalcomulco**	**3.31**	**25**	*e*P		**Pn**	**22 38 59.0**	**-1.3**
JAUV				*i* S		**Sb**	**22 39 45.5**	**-2.3**
CMIG	**Matias Romero**	**3.31**	**77**	Pn		**Pn**	**22 38 59.9**	**-0.3**
	3.7nm,0.3s,baz=263,slow=14,SNR=40							
CMIG				Pg		**Pb**	**22 39 07.4**	**-0.7**
	12nm,0.3s,baz=264,slow=16,SNR=20							
CMIG				Sn		**Sn**	**22 39 38.4**	**-0.5**
	20nm,0.3s,baz=350,slow=4.5,SNR=4.9							
CMIG				Lg		Lg	22 39 52.5	
	54nm,0.3s,baz=4.1,slow=14,SNR=5.7							
CMIG				LR		LR	22 40 28.7	
	comp=Z,234nm,18.2s,baz=236,slow=43							
CMIG	**Matias Romero**	**3.31**	**77**			**Pn**	**22 38 59.8**	**-0.4**
CMIG						**Sb**	**22 39 48.5**	**+0.5**
CMIG	**Matias Romero**	**3.31**	**77**	*e*P		**Pn**	**22 38 59.8**	**-0.4**
CMIG				*i* S		**Sb**	**22 39 48.5**	**+0.5**
PTVM	**Pico Tres Padr**	**3.33**	**346**	*e*		**Sb**	**22 39 47.7**	**-1.1**
ACIG	**Acambay**	**3.93**	**337**	*e*		**Pb**	**22 39 20.4**	**+1.7**
ACIG				*e*S		**Sb**	**22 40 09.9**	**+4.0**
UXUV	**UXUV**	**4.05**	**76**	*e*P		**Pn**	**22 39 10.4**	**0.0**
UXUV				*i* S		**Sb**	**22 40 11.8**	**+2.6**
MOIG	**Morelia**	**4.33**	**320**	Pn		**Pn**	**22 39 12.6**	**-1.9**
CCIG	**Comitan**	**5.88**	**90**	Pn		**Pn**	**22 39 35.2**	**-0.4**
TXAR	**Lajitas Array**	**13.85**	**340**	Pn		**Pn**	**22 41 25.4**	**+0.6**
	0.0nm,0.3s,baz=146,slow=15,SNR=3.8							
TXAR				LR		LR	22 47 27.1	
	comp=Z,114nm,18.4s,baz=144,slow=41							
JCT	**Junction City**	**14.14**	**355**	Pn		**Pn**	**22 41 31.5**	**+2.7**
WHTX	**Lake Whitney,**	**15.59**	**3**	P		**P**	**22 41 52.8**	**+0.6**
WHTX				IAmb		IAmb	22 42 02.9	
	comp=Z,13nm,1.0s							
SOR	**Soroa**	**15.73**	**64**	P		**P**	**22 41 53.5**	**-0.3**
SOR				IAmb		IAmb	22 42 02.6	
	comp=Z,14nm,1.3s							
MSTX	**Muleshoe**	**18.01**	**348**	P		**P**	**22 42 20.0**	**+0.9**
146A	**Union**	**18.23**	**26**	P		**P**	**22 42 22.2**	**+0.8**
X37A	**Clayton**	**18.35**	**8**	P		**Pn**	**22 42 24.6**	**+1.8**
X37A				IAmb		IAmb	22 42 33.9	
	comp=Z,13nm,1.0s							
W39A	**Magazine**	**19.19**	**11**	P		**Pn**	**22 42 32.7**	**-0.2**
ANMO	**Albuquerque**	**19.93**	**340**	P		**P**	**22 42 39.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=164,slow=15,SNR=3.6							
ANMO				LR		LR	22 50 53.1	
	comp=Z,93nm,18.4s,baz=156,slow=39							
U40A	**Yellville**	**20.50**	**13**	P		**P**	**22 42 45.3**	**-0.9**
U40A				IAmb		IAmb	22 42 58.3	
	comp=Z,8.0nm,0.8s							
T35A	**Sooner Cattle**	**20.55**	**4**	P		**P**	**22 42 45.8**	**-0.9**
T35A				IAmb		IAmb	22 43 00.0	
	comp=Z,14nm,1.2s							
X16A	**Lo Mia Camp, P**	**21.54**	**329**	P		**P**	**22 43 00.1**	**+2.4**
WVT	**Waverly**	**21.78**	**23**	P		**P**	**22 42 58.2**	**-1.7**
WVT				IAmb		IAmb	22 43 02.8	
	comp=Z,5.9nm,0.8s							
W50A	**Signal Mountai**	**22.06**	**29**	P		**P**	**22 43 01.7**	**-1.4**
W50A				IAmb		IAmb	22 43 11.8	
	comp=Z,7.6nm,0.9s							
TKL	**Tuckaleechee C**	**23.17**	**31**	P		**P**	**22 43 14.1**	**-0.6**
	comp=Z,3.9nm,0.9s,baz=167,slow=6.7,SNR=2.6							
ISCO	**Idaho Springs**	**24.23**	**346**	P		**P**	**22 43 26.5**	**+1.2**
ISCO				IAmb		IAmb	22 43 37.4	
	comp=Z,4.0nm,0.9s							
N47A	**Urbana**	**26.76**	**21**	P		**P**	**22 43 47.1**	**-0.6**
PDAR	**Pinedale Array**	**28.05**	**342**	P		**P**	**22 43 59.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=143,slow=12,SNR=2.3							
PDAR				LR		LR	22 54 24.5	
	comp=Z,40nm,20.9s,baz=176,slow=35							
L48A	**N Adams**	**28.14**	**22**	P		**P**	**22 44 01.1**	**+1.0**
SCHQ	**Schefferville**	**45.40**	**25**	P		**P**	**22 46 25.8**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=243,slow=9.0,SNR=2.2							
YKA	**Yellowknife Ar**	**47.51**	**350**	P		**P**	**22 46 42.7**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=159,slow=7.3,SNR=8.5							
H03N2	**Juan Fernandez**	**52.83**	**160**	T		T	23 44 11.9	
	baz=338,slow=77,SNR=65							
H03N1	**Juan Fernandez**	**52.84**	**160**	T		T	23 44 13.1	
	baz=338,slow=77,SNR=86							
H03N3	**Juan Fernandez**	**52.85**	**160**	T		T	23 44 12.0	
	baz=338,slow=77,SNR=45							

IDC 28 23:02:41.9±1.6,2°50S×139°23E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.3/31,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=31.2km s-min=14.9km az=171.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.48**	**91**	Pg	Pn	23 03 09.0	-0.8
	5.2nm,0.3s,baz=229,slow=12,SNR=17						
JAY				Lg	Lg	23 03 28.9	
	13nm,0.3s,baz=127,slow=20,SNR=10						
WRA	**Warramunga Arr**	**17.98**	**195**	P	Pn	23 06 52.2	-1.3
	0.1nm,0.3s,baz=17,slow=13,SNR=2.6						
WRA				S	Sn	23 09 58.6	-16
	0.0nm,0.3s,baz=20,slow=24,SNR=1.8						
FITZ	**Fitzroy Crossi**	**20.44**	**220**	P	Pn	23 07 22.2	-0.9
	0.9nm,0.8s,baz=32,slow=9.5,SNR=1.9						
ASAR	**Alice Springs**	**21.66**	**193**	P	P	23 07 34.4	+0.1
	0.2nm,0.4s,baz=16,slow=11,SNR=2.0						
MKAR	**Makanchi Array**	**69.94**	**322**	P	P	23 13 54.8	-0.3
	0.7nm,1.1s,baz=126,slow=7.3,SNR=2.2						

*IDC **29** 00:01:38.8±2.1,1°36S×132°40E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.3/31,mbtmp3.5/4,ML3.5/2,MS3.2/3, Ms1 3.2/3,ms1mx2.6/34,Error ellipse: s-maj=41.4km s-min=14.3km az=42.0*

*DJA **29** 00:01:39.1±5.9,1°S±9°×13°2E±5°,1,h10km,M4.0/5, MLv4.0/5*

*NEIC **29** 00:01:39.5±2.1,1°3S±0°1×132°1E±0°1,h15km±6km, mb4.1/11,Error ellipse: s-maj=24.5km s-min=9.8km az=55.0*

ISC 29 00:01:38.8±0.9,1°38S±0°08×132°3E±0°1,h10km,n25, σ1§53/21,mb3.8/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.16**	**296**	Pg	**Pn**	**00 02 02.0**	**+0.9**
	174nm,0.3s,baz=83,slow=17,SNR=315						
SIJI				Lg	Lg	00 02 18.9	
	198nm,0.3s,baz=142,slow=23,SNR=19						
SWI	**Sorong**	**1.17**	**296**	P	**Pn**	**00 02 02.2**	**+1.0**
MSAI	**Masohi**	**3.90**	**240**	P	**Pn**	**00 02 39.6**	**+0.7**
TNTI	**Ternate**	**5.38**	**293**	Pn	Pn	00 02 55.1	-4.1
MTN	**Manton Dam**	**11.45**	**186**	Pn	**Pn**	**00 04 23.4**	**+0.8**
TOLI2	**Tolitoli**	**11.79**	**282**	Pn	Pn	00 04 22.6	-4.6
KNRA	**Kununurra**	**14.63**	**194**	Pn	**Pn**	**00 05 04.2**	**-1.8**
COEN	**Coen**	**16.48**	**140**	Pn	**P**	**00 05 31.0**	**-2.0**
COEN				IAmb	IAmb	00 05 43.1	
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.86**	**201**	P	**P**	**00 05 47.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=11,SNR=1.5						
FITZ				S	Sn	00 08 54.6	-12
	comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=2.1						
FITZ				LR	LR	00 13 08.6	
	comp=Z,54nm,19.6s,baz=42,slow=38						
WB0	**Warramunga Arr**	**18.39**	**174**		**Pn**	**00 05 52.6**	**-1.5**
WB0				IAmb	IAmb	00 06 00.3	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**18.56**	**174**	P	**Pn**	**00 05 57.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=355,slow=12,SNR=18						
WRA				S	Sn	00 09 09.4	-14
	comp=Z,0.1nm,0.3s,baz=354,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**18.56**	**174**		**Pn**	**00 05 56.6**	**+0.4**
WB2	**Warramunga Arr**	**18.56**	**174**		**Pn**	**00 05 57.3**	**+1.1**
WB2				IAmb	IAmb	00 06 18.1	
	comp=Z,20nm,1.8s						
WR0	**Warramunga Arr**	**18.60**	**173**		**Pn**	**00 05 57.8**	**+1.2**
WR0				IAmb	IAmb	00 06 21.3	
	comp=Z,14nm,1.6s						
AS31	**Alice Springs**	**22.21**	**176**	P	**P**	**00 06 37.0**	**+1.3**
ASAR	**Alice Springs**	**22.21**	**176**	P	**P**	**00 06 37.8**	**+2.2**
	comp=Z,1.7nm,0.7s,baz=347,slow=9.1,SNR=19						
ASAR				S	**S**	**00 10 39.4**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=358,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**22.21**	**176**	P	**P**	**00 06 38.2**	**+2.6**
QIZ	**Qiongzhong**	**29.98**	**314**	P	P	00 07 44.1	-3.5
BBOO	**Buckleboo**	**31.47**	**174**	P	**P**	**00 08 00.4**	**-0.3**
BBOO				IAmb	IAmb	00 08 01.9	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**31.58**	**165**	P	**P**	**00 08 02.1**	**+0.5**
STKA				IAmb	IAmb	00 08 23.9	
	comp=Z,2.2nm,1.6s						
KULM	**Kulim**	**32.31**	**282**	P	**P**	**00 08 06.2**	**-2.1**
KULM				IAmb	IAmb	00 08 13.3	
	comp=Z,19nm,1.2s						
JTU	**Tsushima**	**35.82**	**356**	P	**P**	**00 08 37.2**	**-1.3**
MJAR	**Matsushiro Arr**	**38.12**	**8**	LR	LR	00 21 23.4	
	comp=Z,42nm,20.8s,baz=190,slow=31						
ASAJ	**Asahikawa**	**46.22**	**10**	LR	LR	00 26 02.6	
	comp=Z,31nm,20.3s,baz=354,slow=32						
MKAR	**Makanchi Array**	**64.91**	**324**	P	**P**	**00 12 20.5**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=116,slow=6.6,SNR=2.5						

*NEIC **29** 00:24:09.3±1.6,7°53S±0°06×105°63E±0°06,h25km±4km, mb4.2/18,Error ellipse: s-maj=9.5km s-min=7.3km az=224.0*

*DJA **29** 00:24:10.3±0.4,8°S±3°×10°6E±°,h10km,M4.2/13,mb4.5/6, mB5.0/2,MLv4.1/13,Mw(mB)4.3/2*

*IDC **29** 00:24:12.7±6.1,7°40S×105°80E,h51km±51km,mb3.5/8, mb1 3.7/8,mb1mx3.4/31,mbtmp3.8/8,ML5.2/1,Error ellipse: s-maj=43.0km s-min=16.7km az=58.0*

ISC 29 00:24:10.3±0.5,7°49S±0°06×105°83E±0°04,h32km,n59, σ1§44/58,mb4.0/18,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.87**	**56**	P	**Pn**	**00 24 26.3**	**-0.1**
CGJI	**Cibinong**	**0.88**	**351**	P	**Pb**	**00 24 29.3**	**+2.1**
CNJI	**Cibinong**	**1.30**	**82**	P	**Pn**	**00 24 31.7**	**-0.6**
DBJI	**Dramaga**	**1.31**	**45**	P	**Pb**	**00 24 34.1**	**-0.2**
CBJI	**Citeko**	**1.47**	**44**	P	**Pn**	**00 24 33.9**	**-0.7**
LEM	**Lembang**	**1.90**	**70**	P	**Pb**	**00 24 42.9**	**-1.5**
	116nm,0.3s,baz=313,slow=2.4,SNR=90						
LEM				S	**Sb**	**00 25 06.1**	**-1.7**
	117nm,0.3s,baz=296,slow=22,SNR=4.1						
LEM	**Lembang**	**1.90**	**70**	P	**Pb**	**00 24 42.8**	**-1.6**
BLSI	**Bandar Lampung**	**2.19**	**345**	P	**Pb**	**00 24 49.1**	**-0.2**
KASI	**Kota Agung**	**2.36**	**326**	P	**Pb**	**00 24 51.9**	**-0.3**
CMJI	**Cimerak**	**2.62**	**97**	P	**Pn**	**00 24 51.1**	**+0.7**
XMIS	**Christmas Isla**	**2.97**	**183**		**Pn**	**00 24 54.4**	**-0.9**
KLSI		**2.99**	**339**	P	**Pb**	**00 25 00.2**	**-2.7**
KPJI	**Karang Pucung**	**3.08**	**87**	P	**Pn**	**00 24 58.5**	**+1.7**
MNAI	**Manna**	**4.22**	**317**	Pn	Pn	**00 25 10.5**	**-2.1**
SMRI	**Semarang**	**4.60**	**85**	Pn	**Pn**	**00 25 21.1**	**+3.4**
UGM	**Wanagama**	**4.67**	**95**		**Pn**	**00 25 19.8**	**+1.0**
UGM				Sn	**Sn**	**00 26 11.7**	**-0.2**
UGM	**Wanagama**	**4.67**	**95**	P	**Pn**	**00 25 20.2**	**+1.5**
PCJI	**Pacitan**	**5.35**	**98**	P	**Pn**	**00 25 29.5**	**+1.6**
	0.4nm1µm37nm,0.6s						
PWJI	**Pagerwojo**	**5.95**	**95**	P	**Pn**	**00 25 37.1**	**+0.9**
	0.4nm43nm,0.6s						
GMJI	**Gumukmas**	**7.59**	**96**	P	**Pn**	**00 26 00.6**	**+1.9**
	0.1nm16nm,0.7s						
JAGI	**Jajag, Banyuwa**	**8.30**	**97**	Pn	**Pn**	**00 26 10.9**	**+2.3**
JAGI	**Jajag, Banyuwa**	**8.30**	**97**	P	**Pn**	**00 26 10.6**	**+2.0**
	908nm21nm,1.0s						
PLAI	**Plampang**	**11.90**	**97**	P	**Pn**	**00 26 58.6**	**+0.6**
	16nm,1.1s						
GIRL	**Giralia**	**17.10**	**153**	Pn	**Pn**	**00 28 05.8**	**-1.2**
BATI	**Baumata**	**17.83**	**100**	P	**P**	**00 28 18.0**	**+1.4**
	7.4nm,0.3s,baz=279,slow=2.7,SNR=2.1						
FITZ	**Fitzroy Crossi**	**21.98**	**121**	P	**P**	**00 29 02.9**	**+1.0**
	1.6nm,0.7s,baz=315,slow=8.6,SNR=6.5						
FITZ				S	**S**	**00 32 57.2**	**-5.7**
	1.1nm,1.0s,baz=288,slow=20,SNR=1.8						
FITZ	**Fitzroy Crossi**	**21.98**	**121**	P	**P**	**00 29 02.2**	**+0.4**
MORW	**Morawa**	**23.52**	**157**	P	**P**	**00 29 18.6**	**+0.8**
MORW				IAmb	IAmb	00 29 34.2	
	comp=Z,5.1nm,1.1s						
KNRA	**Kununurra**	**23.88**	**112**	P	**P**	**00 29 21.4**	**+0.2**
KNRA				IAmb	IAmb	00 29 21.8	
	comp=Z,6.2nm,0.8s						
MTN	**Manton Dam**	**25.46**	**104**	P	**P**	**00 29 36.2**	**+0.5**
MTN				IAmb	IAmb	00 29 51.6	
	comp=Z,6.6nm,1.0s						
H01W3	**Cape Leeuwin H**	**28.31**	**165**	T	T	00 59 44.4	
	baz=342,slow=78,SNR=9.1						
H01W1	**Cape Leeuwin H**	**28.33**	**165**	T	T	00 59 44.1	
	baz=342,slow=78,SNR=6.9						
H01W2	**Cape Leeuwin H**	**28.33**	**166**	T	T	00 59 45.4	
	baz=342,slow=78,SNR=11						
WRA	**Warramunga Arr**	**30.27**	**117**	P	**P**	**00 30 19.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=292,slow=10,SNR=9.4						
WRA				PcP	**PcP**	**00 33 19.7**	**+0.6**
	comp=Z,0.1nm,0.7s,baz=309,slow=1.6,SNR=6.1						
WRAB	**Tennant Creek**	**30.28**	**117**	P	**P**	**00 30 18.6**	**-0.2**
WB2	**Warramunga Arr**	**30.29**	**117**	P	**P**	**00 30 19.3**	**+0.4**
WR0	**Warramunga Arr**	**30.46**	**117**	P	**P**	**00 30 21.0**	**+0.6**
WR0				IAmb	IAmb	00 30 22.0	
	comp=Z,2.7nm,1.1s						
ASAR	**Alice Springs**	**31.36**	**124**	P	**P**	**00 30 29.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=298,slow=8.2,SNR=8.5						
H08S2	**Diego Garcia H**	**33.04**	**268**	T	T	01 06 15.5	
	baz=92,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**33.05**	**268**	T	T	01 06 12.5	
	baz=92,slow=76,SNR=8.6						
H08S1	**Diego Garcia H**	**33.06**	**267**	T	T	01 06 09.9	
	baz=92,slow=76,SNR=14						
COEN	**Coen**	**37.22**	**103**	P	**P**	**00 31 20.5**	**+1.3**
COEN				IAmb	IAmb	00 31 27.3	
	comp=Z,2.4nm,0.9s						
STKA	**Stephens Creek**	**41.19**	**131**	P	**P**	**00 31 53.1**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=314,slow=9.8,SNR=5.8						
STKA	**Stephens Creek**	**41.19**	**131**	P	**P**	**00 31 53.4**	**+1.3**
SONM	**Songino Array**	**55.09**	**0**	P	**P**	**00 33 38.7**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=198,slow=8.7,SNR=4.2						
SONM				PcP	**PcP**	**00 34 40.1**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=190,slow=3.2,SNR=3.9						
GAR	**Garm**	**56.79**	**327**	P	**P**	**00 33 50.6**	**-1.1**
GAR				IAmb	IAmb	00 33 52.4	
	comp=Z,2.7nm,1.0s						
MK31	**Makanchi Array**	**57.96**	**341**	P	**P**	**00 33 58.8**	**-0.9**
MKAR	**Makanchi Array**	**57.96**	**341**	P	**P**	**00 33 58.7**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=158,slow=8.0,SNR=15						
ZAA0	**Zalesovo Array**	**63.73**	**346**	P	**P**	**00 34 37.4**	**-1.3**
ZAA0				IAmb	IAmb	00 34 54.7	
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**63.73**	**346**	P	**P**	**00 34 37.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=138,slow=5.5,SNR=3.6						
WKZ	**Wanaka**	**65.84**	**136**	P	**P**	**00 34 53.0**	**+0.1**
FOZ	**Fox Glacier**	**66.10**	**134**	P	**P**	**00 34 54.4**	**-0.1**
BRVK	**Borovoye**	**67.44**	**338**	P	**P**	**00 35 02.7**	**0.0**
BRVK				IAmb	IAmb	00 35 03.4	
	comp=Z,1.9nm,0.5s						
ABKAR	**Akbulak array**	**69.24**	**330**	P	**P**	**00 35 14.4**	**+0.3**
ABKAR				IAmb	IAmb	00 35 15.7	
	comp=Z,3.5nm,0.9s						
ABKAR	**Akbulak array**	**69.24**	**330**	P	**P**	**00 35 14.4**	**+0.3**
MSWZ	**Moikau Station**	**69.67**	**131**	P	**P**	**00 35 16.6**	**-0.4**
BKZ	**Black Stump Fm**	**70.33**	**129**	P	**P**	**00 35 22.3**	**+1.2**
BKZ				IAmb	IAmb	00 35 32.5	
	comp=Z,1.8nm,0.9s						
BRTR	**Keskin Array B**	**81.29**	**312**	P	**P**	**00 36 24.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=151,slow=3.3,SNR=2.5						
TXAR	**Lajitas Array**	**144.76**	**48**	PKP	**PKPdf**	**00 43 45.0**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=284,slow=1.7,SNR=7.1						

*THE **29** 01:05:28.5,37°38N×19°99E,h0km,ML5.3/17,Error ellipse: s-maj=1.2km s-min=0.6km az=247.0*

*ATH **29** 01:05:28.4,37°34N×20°06E,h13km±2km,ML5.2/8,Error ellipse: s-maj=5.9km s-min=1.7km az=58.0*

*IDC **29** 01:05:28.7±0.4,37°57N×20°28E,h0km,mb4.8/35, mb1 4.9/45,mb1mx4.9/50,mbtmp4.8/45,ML4.3/10, MS4.8/83,Ms1 4.8/83,ms1mx4.7/94,Error ellipse: s-maj=9.8km s-min=8.1km az=97.0*

*BJI **29** 01:05:28.9±0.0,37°85N×20°41E,h8km,mb4.9/66, mB5.4/57,Ms5.3/73,Ms7 5.1/69*

*MOS **29** 01:05:28.0±1.2,37°53N×20°20E,h9km,mb5.4/59, MS5.1/28,Error ellipse: s-maj=4.4km s-min=2.6km az=82.7*

*UPSL **29** 01:05:28.4,37°34N×20°06E,h13km,Mw5.2,Moment Tensor Solution. s6 Moment tensor: Mrr6.09; Mθθ-2.75; Mφφ-3.34; Mrθ3.52; Mrφ3.65; Mθφ-1.42; Fault plane solution: NP1:φs124.00000°,δ60.00000°,λ76.00000°. NP2:φs331.00000°,δ32.00000°,λ113.00000°.*

*NEIC **29** 01:05:30.0±2.0,37°52N±0°05×20°16E±0°06,h10km±3km, mb5.2/295,Mww5.4,ML5.2(ATH) Error ellipse: s-maj=7.6km s-min=6.3km az=207.0*

*PDG **29** 01:05:30.1±0.7,37°47N×20°05E,h23km±1km,MD5.3/12, ML5.2/13,Error ellipse: s-maj=1.4km s-min=1.7km az=0.0*

*MED_RC **29** 01:05:30.0±0.2,37°37N×20°00E,h19km,MW5.4/30, Moment Tensor Solution. Body waves: s12,c12;Mantle waves: s30,c61; Duration: 1§7 Moment tensor: Scale 10^17Nm; Mrr0.88±.03; Mθθ-0.35±.02; Mφφ-0.53±.02; Mrθ0.78±.06; Mrφ0.45±.01; Mθφ-0.81±.06; Best double couple: M0 1.44000×10^17 NP1:φs137.00000°,δ71.00000°, λ87.00000°. NP2:φs325.00000°,δ19.00000°,λ98.00000°. Principal axes: T 1.4300, Plg64.0000°, Azm43.0000°; N 0.0100, Plg3.0000°, Azm138.0000°; P -1.4400, Plg26.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*BGR **29** 01:05:30.4±1.4,37°23N×20°22E,h10km,mb5.0 Error ellipse: s-maj=46.7km s-min=22.2km az=26.0*

*BEO **29** 01:05:32.6±0.7,37°65N×19°84E,h15km,ML5.2/18*

*GCMT **29** 01:05:32.0±0.1,37°25N±0°01×19°96E±0°01,h17km, MW5.4/135,Moment Tensor Solution. s96,c149; s135,c249; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr0.74±.02; Mθθ-0.26±.01; Mφφ-0.48±.01; Mrθ0.98±.05; Mθφ0.36±.01; Mrr-0.61±.03; Best double couple: M0 1.37100×10^17 NP1:φs338.00000°,δ19.00000°, λ121.00000°. NP2:φs126.00000°,δ74.00000°,λ80.00000°. Principal axes: T 1.4050, Plg60.0000°, Azm22.0000°; N -0.0680, Plg9.0000°, Azm128.0000°; P -1.3370, Plg28.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*HLW **29** 01:05:36.1,37°57N×21°49E,h12km±32km,Md5.0,Ml5.2*

*NEIC **29** 01:05:37,37°49N×20°05E,h18km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^17Nm; Mrr0.71; Mθθ-0.29; Mφφ-0.42; Mrθ1.03; Mrφ0.39; Mθφ-0.80; Fault plane solution: M0 1.50000×10^17 NP1: φs331.00000°,δ15.00000°,λ111.00000°. NP2: φs129.00000°,δ76.00000°,λ84.00000°. Principal axes: T 1.4860, Plg59.0000°, Azm31.0000°; N 0.0183, Plg5.0000°, Azm131.0000°; P -1.5043, Plg30.0000°, Azm224.0000°;*

*GII **29** 01:05:43.6±0.0,36°33N×21°

ITM				Sn	Sn	01 06 13.2	-1.3	
ITM	**Ithomi**	**1.42**	**103**	⇓P	**Pn**	**01 05 56.2**	**-0.2**	
LAKA	**Lakka**	**1.59**	**62**	P	**Pb**	**01 06 01.0**	**+0.6**	
LAKA	**Lakka**	**1.59**	**62**	P	**Pb**	**01 06 00.9**	**+0.6**	
LAKA				S	**Sg**	**01 06 24.3**	**+5.6**	
	comp=E,92µm,1.9s							
EFP	**Efpalio**	**1.63**	**56**	P	**Pb**	**01 06 01.5**	**+0.4**	
EFP				AML	AML	01 06 47.4		
	comp=N,76652µm,0.8s							
EFP				AML	AML	01 06 54.1		
	comp=E,66695µm,0.9s							
EFP	**Efpalio**	**1.63**	**56**	P	**Pb**	**01 06 01.4**	**+0.4**	
EFP				S	**Sg**	**01 06 25.4**	**+5.7**	
	comp=E,38µm,0.9s							
KLV	**Kalavryta, Ach**	**1.64**	**71**	P	**Pb**	**01 06 01.0**	**-0.1**	
KLV	**Kalavryta, Ach**	**1.64**	**71**	P	**Pb**	**01 06 01.1**	**-0.1**	
TRIZ	**Trizonia**	**1.71**	**60**	P	**Pb**	**01 06 02.5**	**+0.1**	
ANX	**Ano Chora**	**1.74**	**51**	P	**Pb**	**01 06 03.4**	**+0.4**	
ANX				AML	AML	01 06 46.9		
ANX				AML	AML	01 06 47.8		
ANX	**Ano Chora**	**1.74**	**51**	P	**Pb**	**01 06 03.0**	**+0.1**	
ANX				S	**Sg**	**01 06 28.0**	**+5.5**	
	comp=E,74µm,0.6s							
EVR	**Evrytania**	**1.89**	**42**	P	**Pb**	**01 06 05.5**	**0.0**	
IGT	**Igoumenitsa**	**2.02**	**3**	P	**Pn**	**01 06 04.8**	**+0.3**	
IGT				S	**Sg**	**01 06 34.7**	**+5.5**	
	comp=E,32µm,0.9s							
THAL	**Thalero**	**2.03**	**74**	P	**Pb**	**01 06 06.5**	**-1.2**	
MAKR	**Makrakomi, Fth**	**2.14**	**45**	P	**Pb**	**01 06 09.0**	**-0.7**	
KEK	**Kerkira**	**2.22**	**352**	P	**Pn**	**01 06 07.3**	**+0.1**	
KEK	**Kerkira**	**2.22**	**352**	⇓P	**Pn**	**01 06 07.4**	**+0.2**	
AGG	**Agios Georgios**	**2.26**	**48**	*eP*	**Pb**	**01 06 10.0**	**-1.8**	
AGG	**Agios Georgios**	**2.26**	**48**	P	**Pb**	**01 06 09.9**	**-1.8**	
AGG	**Agios Georgios**	**2.26**	**48**	Pn	**Pn**	**01 06 08.3**	**+0.5**	
AGG				Sn	**Sn**	**01 06 36.8**	**+1.7**	
VLI	**Veliai**	**2.33**	**109**	P	**Pn**	**01 06 10.0**	**+1.1**	
VLI				AML	AML	01 07 35.8		
	comp=N,24952µm,1.2s							
VLI				AML	AML	01 07 38.9		
	comp=E,21627µm,0.9s							
VLI	**Veliai**	**2.33**	**109**	P	**Pn**	**01 06 10.0**	**+1.1**	
VLI				S	**Sb**	**01 06 42.1**	**+0.7**	
	comp=E,19µm,1.1s							
KRND	**KRANIDI**	**2.36**	**92**	P	**Pn**	**01 06 09.2**	**0.0**	
SRN	**Sarande**	**2.37**	**356**	P	**Pn**	**01 06 09.5**	**+0.2**	
DID	**Didima**	**2.42**	**89**	P	**Pn**	**01 06 08.8**	**-1.3**	
LKR	**Lokris**	**2.49**	**62**	P	**Pn**	**01 06 11.9**	**+0.9**	
THL	**Klokotos Trika**	**2.50**	**34**	P	**Pn**	**01 06 13.3**	**+2.2**	
ATAL	**Atalanti**	**2.52**	**61**	P	**Pn**	**01 06 12.6**	**+1.1**	
VILL	**Villia**	**2.56**	**74**	P	**Pn**	**01 06 12.4**	**+0.5**	
KTHR	**Kythira**	**2.58**	**118**	P	**Pn**	**01 06 13.6**	**+1.4**	
KPRO	**Kipourio**	**2.60**	**20**	P	**Pb**	**01 06 15.4**	**-2.2**	
KTHA	**Kythira Island**	**2.62**	**118**	P	**Pn**	**01 06 14.0**	**+1.2**	
KTHA	**Kythira Island**	**2.62**	**118**	P	**Pn**	**01 06 14.1**	**+1.2**	
TYRN	**Tyrnavos**	**2.71**	**35**	P	**Pn**	**01 06 15.8**	**+1.7**	
PENT	**Pentalofos**	**2.78**	**15**	P	**Pn**	**01 06 17.8**	**+2.7**	
ATH	**Athens Observa**	**2.83**	**80**	P	**Pn**	**01 06 15.8**	**+0.1**	
VLY	**Voula,Athens**	**2.88**	**82**	P	**Pn**	**01 06 16.1**	**-0.2**	
ATHU	**Athens Univers**	**2.88**	**80**	P	**Pn**	**01 06 16.1**	**-0.3**	
SCTE	**Santa Cesarea**	**2.89**	**333**	Pn	**Pn**	**01 06 16.0**	**-0.4**	
NEST	**Nestorio**	**2.97**	**13**	P	**Pn**	**01 06 20.3**	**+2.6**	
NEO	**Neokhori**	**2.98**	**52**	P	**Pn**	**01 06 18.3**	**+0.5**	
ANKY	**Antikythira Is**	**2.99**	**122**	P	**Pn**	**01 06 18.8**	**+0.9**	
XOR	**Xorichti**	**3.00**	**51**	P	**Pn**	**01 06 18.7**	**+0.7**	
VLO	**Vlora**	**3.00**	**350**	P	**Pn**	**01 06 18.3**	**+0.3**	
VLO	**Vlora**	**3.00**	**350**	P	**Pn**	**01 06 18.5**	**+0.5**	
VLO	**Vlora**	**3.00**	**350**		**Pn**	**01 06 18.5**	**+0.5**	
DION	**Dionisos Attik**	**3.02**	**78**	P	**Pn**	**01 06 19.6**	**+0.3**	
KZN	**Kozani**	**3.05**	**23**	P	**Pn**	**01 06 20.9**	**+2.1**	
KBN	**Korca**	**3.14**	**8**	P	**Pn**	**01 06 21.2**	**+1.2**	
KBN	**Korca**	**3.14**	**8**	P	**Pn**	**01 06 20.2**	**+0.2**	
KBN	**Korca**	**3.14**	**8**		**Pn**	**01 06 20.2**	**+0.2**	
LIT	**Litokhoron**	**3.15**	**34**	P	**Pn**	**01 06 21.2**	**+1.2**	
LIT	**Litokhoron**	**3.15**	**34**	P	**Pn**	**01 06 21.2**	**+1.2**	
LIT	**Litokhoron**	**3.15**	**34**	Pn	**Pn**	**01 06 21.2**	**+1.2**	
LIT	**Litokhoron**	**3.15**	**34**	⇑P	**Pn**	**01 06 21.3**	**+1.2**	
TIP	**Timpagrande**	**3.17**	**303**	⇑P	**Pn**	**01 06 19.5**	**-0.9**	
TIP	**Timpagrande**	**3.17**	**303**	Pn	**Pn**	**01 06 18.9**	**-1.5**	
TIP	**Timpagrande**	**3.17**	**303**	⇑P	**Pn**	**01 06 19.3**	**-1.1**	
KYMI	**Kymi, Euboea I**	**3.28**	**69**	P	**Pn**	**01 06 22.1**	**+0.2**	
FNA	**Florina**	**3.39**	**15**	*eP*	**Pn**	**01 06 25.2**	**+1.7**	
FNA	**Florina**	**3.39**	**15**	P	**Pn**	**01 06 25.0**	**+1.5**	
FNA	**Florina**	**3.39**	**15**	P	**Pn**	**01 06 24.9**	**+1.5**	
FNA	**Florina**	**3.39**	**15**		**Pn**	**01 06 24.9**	**+1.5**	
FNA	**Florina**	**3.39**	**15**	⇓P	**Pn**	**01 06 24.0**	**+0.5**	
MHLO	**Agia Marina, M**	**3.40**	**102**	P	**Pn**	**01 06 23.9**	**-0.5**	
RODP	**Rodopos**	**3.47**	**123**	*eP*	**Pn**	**01 06 25.7**	**+1.2**	
CEL	**Celeste**	**3.48**	**284**		**Pn**	**01 06 24.2**	**-0.5**	
CEL	**Celeste**	**3.48**	**284**	⇑P	**Pn**	**01 06 24.1**	**-0.6**	
KNDR	**Palaiochora Ch**	**3.62**	**128**	*eP*	**Pn**	**01 06 26.1**	**-0.5**	
KNDR	**Palaiochora Ch**	**3.62**	**128**	P	**Pn**	**01 06 25.7**	**-0.9**	
OHR	**Ohrid**	**3.62**	**7**	*e*Pn	**Pn**	**01 06 28.7**	**+2.1**	
OHR				*e*Sn	**Sn**	**01 07 08.2**	**-0.6**	
OHR	**Ohrid**	**3.62**	**7**	*i* Pn	**Pn**	**01 06 29.3**	**+2.7**	
PAIG	**Paliouri**	**3.64**	**47**	P	**Pn**	**01 06 27.0**	**+0.2**	
IMMV	**Iera Moni Meta**	**3.68**	**123**	*eP*	**Pn**	**01 06 27.9**	**+0.6**	
THE	**Thessaloniki**	**3.79**	**34**	P	**Pn**	**01 06 29.7**	**+0.9**	
PLG	**Polygyros**	**3.82**	**41**	P	**Pn**	**01 06 29.6**	**+0.3**	
HORT	**Hortiatis**	**3.82**	**35**	*eP*	**Pn**	**01 06 30.4**	**+1.0**	
HORT	**Hortiatis**	**3.82**	**35**	P	**Pn**	**01 06 29.9**	**+0.5**	
TIR	**Tirane**	**3.84**	**356**	⇑P	**Pn**	**01 06 30.8**	**+1.3**	
TIR	**Tirane**	**3.84**	**356**	*e*Pn	**Pn**	**01 06 30.5**	**+1.0**	
TIR				*e*Sn	**Sn**	**01 07 11.3**	**-2.7**	
TIR	**Tirane**	**3.84**	**356**	P	**Pn**	**01 06 29.6**	**+0.3**	
TIR	**Tirane**	**3.84**	**356**	P	**Pn**	**01 06 30.2**	**+0.7**	
TIR	**Tirane**	**3.84**	**356**		**Pn**	**01 06 30.2**	**+0.7**	
TIR	**Tirane**	**3.84**	**356**	⇑P	**Pn**	**01 06 30.5**	**+1.0**	
GRG	**Griva**	**3.84**	**26**	*e*P	**Pn**	**01 06 30.6**	**+1.0**	
GRG	**Griva**	**3.84**	**26**	P	**Pn**	**01 06 30.6**	**+1.0**	
OUR	**Ouranopolis**	**4.08**	**45**	*e*P	**Pn**	**01 06 33.6**	**+0.7**	
OUR	**Ouranopolis**	**4.08**	**45**	P	**Pn**	**01 06 33.5**	**+0.7**	
SOH	**Sokhos**	**4.12**	**36**	P	**Pn**	**01 06 34.7**	**+1.3**	
GVD	**Gavdhos**	**4.13**	**129**	*e*P	**Pn**	**01 06 33.3**	**-0.2**	
MATE	**Matera**	**4.14**	**320**	⇓P	**Pn**	**01 06 33.1**	**-0.6**	
MATE	**Matera**	**4.14**	**320**	⇑P	**Pn**	**01 06 32.6**	**-1.1**	
KNT	**Kendrikon**	**4.20**	**29**	*e*P	**Pn**	**01 06 35.8**	**+1.2**	
KNT	**Kendrikon**	**4.20**	**29**	P	**Pn**	**01 06 35.6**	**+1.0**	
VAY	**Valandovo**	**4.22**	**25**	*e*Pn	**Pn**	**01 06 35.8**	**+1.0**	
VAY				*e*Sn	**Sn**	**01 07 24.6**	**+1.0**	
VAY	**Valandovo**	**4.22**	**25**	*i* Pn	**Pn**	**01 06 35.7**	**+1.0**	
APE	**Apeiranthos**	**4.28**	**94**	*e*P	**Pn**	**01 06 34.9**	**0.0**	
APE	**Apeiranthos**	**4.28**	**94**	*ce*P	**Pn**	**01 06 34.9**	**-0.8**	
APE	**Apeiranthos**	**4.28**	**94**	⇑P	**Pn**	**01 06 35.7**	**0.0**	
IDI	**Anoyia**	**4.39**	**119**	⇑P	**Pn**	**01 06 36.6**	**-0.6**	
IDI	**Anoyia**	**4.39**	**119**	Pn	**Pn**	**01 06 34.9**	**-2.3**	
	comp=E,4.0nm,0.3s,baz=291,slow=17,SNR=38							
IDI				Sn	**Sn**	**01 07 27.8**	**-0.1**	
	comp=E,66nm,0.3s,baz=287,slow=17,SNR=5.3							
IDI				LR	LR	01 08 14.7		
	comp=E,4µm,18.1s,baz=304,slow=38							
IDI	**Anoyia**	**4.39**	**119**	*eP*	**Pn**	**01 06 36.6**	**-0.6**	
IDI	**Anoyia**	**4.39**	**119**	Pn	**Pn**	**01 06 36.4**	**-0.8**	
IDI	**Anoyia**	**4.39**	**119**	P	**Pn**	**01 06 36.4**	**-0.8**	
STIP	**Stip**	**4.45**	**20**	*i* Pn	**Pn**	**01 06 40.3**	**+2.3**	
SRS	**Serrai**	**4.46**	**35**	P	**Pn**	**01 06 38.9**	**+0.8**	
ULC	**Ulcinj**	**4.50**	**351**	⇓*i* Pn	**Pn**	**01 06 37.6**	**-1.1**	
ULC				*i* Sn	**Sn**	**01 07 29.6**	**-0.9**	
SKO	**Skopje**	**4.55**	**12**	*i* Pn	**Pn**	**01 06 40.8**	**+1.5**	
VAE	**Valguarnera**	**4.60**	**271**	Pn	**Pn**	**01 06 39.8**	**-0.2**	
	comp=E,31nm,0.3s,baz=168,slow=6.5,SNR=198							
VAE				Sn	**Sn**	**01 07 30.4**	**-2.4**	
	comp=E,196nm,0.3s,baz=150,slow=9.1,SNR=6.3							
VAE				LR	LR	01 08 28.8		
	comp=E,7µm,20.9s,baz=104,slow=38							
MRVN	**Minervino Murg**	**4.71**	**320**	⇓P	**Pn**	**01 06 40.5**	**-1.0**	
DRME	**Dracevica, Mon**	**4.73**	**351**	⇑*i* Pn	**Pn**	**01 06 41.0**	**-0.7**	
DRME	**Dracevica, Mon**	**4.73**	**351**	⇓*i* Pn	**Pn**	**01 06 41.1**	**-0.7**	
DRME				*i* Sn	**Sn**	**01 07 35.5**	**-0.5**	
SIGR	**SIGRI**	**4.76**	**67**	*eP*	**Pn**	**01 06 43.2**	**+1.0**	
NVR	**Nevrokopi**	**4.77**	**35**	P	**Pn**	**01 06 43.1**	**+0.7**	
BUM	**Brajici-Budva**	**4.88**	**349**	⇑*i* Pn	**Pn**	**01 06 42.9**	**-1.1**	
BUM				*i* Sn	**Sn**	**01 07 39.0**	**-0.9**	
PDG	**Podgorica**	**4.96**	**352**	⇑P	**Pn**	**01 06 44.9**	**-0.1**	
PDG	**Podgorica**	**4.96**	**352**	*e*Pn	**Pn**	**01 06 44.2**	**-0.8**	
PDG				*e*Sn	**Sn**	**01 07 37.6**	**-4.1**	
PDG	**Podgorica**	**4.96**	**352**	Pn	**Pn**	**01 06 44.3**	**-0.8**	
PDG	**Podgorica**	**4.96**	**352**	⇑*i* Pn	**Pn**	**01 06 44.7**	**-0.2**	
PDG	**Podgorica**	**4.96**	**352**	⇑P	**Pn**	**01 06 44.1**	**-0.8**	
TTG	**Podgorica**	**4.96**	**352**	⇑*i* Pn	**Pn**	**01 06 44.8**	**-0.1**	
TTG				*i* Sn	**Sn**	**01 07 41.0**	**-0.7**	
PVY	**Plav**	**5.08**	**358**	*e*Pn	**Pn**	**01 06 47.2**	**+0.5**	
PVY				*i* Sn	**Sn**	**01 07 44.1**	**-0.7**	
HCY	**Herceg Novi**	**5.10**	**346**	⇑*i* Pn	**Pn**	**01 06 44.9**	**-1.9**	
HCY	**Herceg Novi**	**5.10**	**346**	⇓*i* Pn	**Pn**	**01 06 45.1**	**-1.7**	
HCY				*i* Sn	**Sn**	**01 07 43.3**	**-1.8**	
CEME	**Cevo**	**5.12**	**349**	⇓*i* Pn	**Pn**	**01 06 46.0**	**-1.2**	
CEME				*i* Sn	**Sn**	**01 07 45.0**	**-0.7**	
PRVS	**Prvonek**	**5.19**	**16**	*e*Pn	**Pn**	**01 06 48.6**	**+0.4**	
PRVS				*e*Sn	**Sn**	**01 07 46.1**	**-1.4**	
BOSS	**Bosilegrad**	**5.28**	**19**	*e*Pn	**Pn**	**01 06 50.0**	**+0.7**	
BOSS				*e*Sn	**Sn**	**01 07 48.8**	**-0.7**	
NKME	**Niksic**	**5.33**	**350**	⇓*i* Pn	**Pn**	**01 06 49.3**	**-0.8**	
NKME				*i* Sn	**Sn**	**01 07 50.1**	**-0.8**	
KOME	**Kolasin**	**5.36**	**355**	⇑*i* Pn	**Pn**	**01 06 50.7**	**+0.2**	
KOME				*i* Sn	**Sn**	**01 07 51.1**	**-0.5**	
IVA	**Berane**	**5.36**	**358**	⇑*i* Pn	**Pn**	**01 06 50.8**	**+0.3**	
IVA				*i* Sn	**Sn**	**01 07 51.0**	**-0.6**	
NKY	**Niksic**	**5.37**	**351**	⇑*i* Pn	**Pn**	**01 06 50.3**	**-0.4**	
NKY				*i* Sn	**Sn**	**01 07 50.5**	**-1.5**	
DBRK	**Dubrovnik**	**5.38**	**344**	*e*Pn	**Pn**	**01 06 49.9**	**-0.9**	
TREB	**Trebinje**	**5.38**	**345**	*e*Pn	**Pn**	**01 06 48.9**	**-1.9**	
TREB				*e*Sn	**Sn**	**01 07 47.0**	**-5.2**	
TREB	**Trebinje**	**5.38**	**345**	*e*Pn	**Pn**	**01 06 49.3**	**-1.5**	
ZKR	**Zakros**	**5.42**	**114**	*e*P	**Pn**	**01 06 51.6**	**+0.3**	
BARS	**Barje**	**5.44**	**13**	*e*Pn	**Pn**	**01 06 51.6**	**+0.1**	
BARS	**Barje**	**5.44**	**13**	*e*Pn	**Pb**	**01 07 08.0**	**+2.1**	
BARS				*e*Sn	**Sn**	**01 07 51.5**	**-2.0**	
SGRT	**San Giovanni R**	**5.45**	**322**	Pn	**Pn**	**01 06 50.9**	**-0.9**	
RDO	**Rodhopi**	**5.51**	**47**	*e*P	**Pn**	**01 06 53.4**	**+1.0**	
RDO	**Rodhopi**	**5.51**	**47**	⇓P	**Pn**	**01 06 52.5**	**+0.1**	
BRY	**Bratogost**	**5.53**	**347**	*e*Pn	**Pn**	**01 06 51.3**	**-1.6**	
BRY	**Bratogost**	**5.53**	**347**	⇓*i* Pn	**Pn**	**01 06 51.3**	**-1.6**	
BRY				*i* Sn	**Sn**	**01 07 54.4**	**-1.5**	
CLTB	**Caltabellotta**	**5.54**	**273**	Pn	**Pn**	**01 06 52.5**	**-0.6**	
CLTB	**Caltabellotta**	**5.54**	**273**	⇑P	**Pn**	**01 06 52.6**	**-0.4**	
PAOL	**Paolisi**	**5.60**	**311**		**Pn**	**01 06 53.8**	**0.0**	
VTS	**Vitosha**	**5.61**	**24**	⇓P	**Pn**	**01 06 54.9**	**+0.9**	
VTS	**Vitosha**	**5.61**	**24**	*e*Pn	**Pn**	**01 06 55.1**	**+1.1**	
VTS				*e*Sn	**Sn**	**01 07 56.8**	**-1.0**	
VTS	**Vitosha**	**5.61**	**24**	P	**Pn**	**01 06 54.0**	**0.0**	
VTS	**Vitosha**	**5.61**	**24**	Pn	**Pn**	**01 06 54.0**	**0.0**	
VTS	**Vitosha**	**5.61**	**24**	⇓P	**Pn**	**01 06 54.9**	**+0.9**	
ALN	**Alexandroupoli**	**5.66**	**52**	*e*P	**Pn**	**01 06 55.5**	**+0.9**	
ALN	**Alexandroupoli**	**5.66**	**52**	P	**Pn**	**01 06 55.1**	**+0.5**	
ALN	**Alexandroupoli**	**5.66**	**52**	Pn	**Pn**	**01 06 55.1**	**+0.5**	
ALN	**Alexandroupoli**	**5.66**	**52**	⇓P	**Pn**	**01 06 54.9**	**+0.3**	
STON	**Ston**	**5.68**	**341**	*e*Pn	**Pn**	**01 06 53.2**	**-1.6**	
STON	**Ston**	**5.68**	**341**	*e*Pn	**Pn**	**01 06 53.4**	**-1.4**	
SELS	**Selova**	**5.74**	**7**	*e*Pn	**Pn**	**01 06 55.5**	**-0.2**	
SELS				*e*Sn	**Sn**	**01 07 57.3**	**-3.7**	
SJES	**Sjenica**	**5.74**	**358**	*e*Pn	**Pn**	**01 06 54.8**	**+0.3**	
SJES				*e*Sn	**Sn**	**01 07 56.7**	**-4.5**	
PLD	**Plovdiv**	**5.75**	**36**	*e*P	**Pn**	**01 06 58.1**	**+2.3**	
UPM	**Unac-Piva**	**5.77**	**351**	*e*Pn	**Pn**	**01 06 56.6**	**+0.4**	
UPM	**Unac-Piva**	**5.77**	**351**	⇑*i* Pn	**Pn**	**01 06 55.7**	**-0.5**	
UPM				*i* Sn	**Sn**	**01 08 00.5**	**-1.3**	
LSTV	**Lastovo**	**5.83**	**335**	*i* Pn	**Pn**	**01 06 55.2**	**-1.6**	
LSTV				Sn	**Sn**	**01 07 56.8**	**-6.2**	
PLE	**Pljevlja**	**5.84**	**354**	*e*Pn	**Pn**	**01 06 57.5**	**+0.3**	
PLE				*i* Sn	**Sn**	**01 08 02.5**	**-1.1**	
KARP	**Karpathos**	**5.95**	**107**	*e*P	**Pn**	**01 07 00.3**	**+1.8**	
KARP	**Karpathos**	**5.95**	**107**	Pn	**Pn**	**01 06 59.3**	**+0.8**	
KARP	**Karpathos**	**5.95**	**107**	⇑P	**Pn**	**01 07 00.5**	**+1.9**	
RUDO	**Rudo**	**6.13**	**354**	*e*Pn	**Pn**	**01 07 00.6**	**-0.4**	
UKOP	**Uzunkopru-Edir**	**6.16**	**52**	*e*P	**Pn**	**01 07 03.3**	**+1.9**	
BOVS	**Bovan**	**6.22**	**10**	⇓P	**Pn**	**01 07 02.6**	**+0.3**	
MAKA	**Makarska**	**6.25**	**338**	*e*Pn	**Pn**	**01 07 02.2**	**-0.5**	
HVAR	**Hvar**	**6.34**	**334**	*e*Pn	**Pn**	**01 07 02.3**	**-1.5**	
MAR6	**Marsite Statio**	**6.36**	**58**	*e*P	**Pn**	**01 07 05.8**	**+1.7**	
BBLS	**Lazići**	**6.37**	**355**	*e*Pn	**Pn**	**01 07 04.0**	**-0.4**	
BBLS				*e*Sn	**Sn**	**01 08 11.8**	**-4.8**	
BBLS	**Lazići**	**6.37**	**355**	⇑*i* Pn	**Pn**	**01 07 03.5**	**-0.9**	
GRUS	**Gruza**	**6.38**	**3**	*e*Pn	**Pn**	**01 07 03.8**	**-0.6**	
GRUS				*e*Sn	**Sn**	**01 08 12.7**	**-4.0**	
MAR3	**Marsite Statio**	**6.39**	**58**	*e*P	**Pn**	**01 07 06.2**	**+1.6**	
RICI	**Ricice**	**6.41**	**340**	*e*Pn	**Pn**	**01 07 03.8**	**-1.1**	
GZKV	**Gazikoy-Tekird**	**6.42**	**58**	*e*P	**Pn**	**01 07 06.6**	**+1.7**	
ZAGS	**Zajecar**	**6.48**	**13**	*e*Pn	**Pn**	**01 07 05.4**	**-0.4**	
DIVS	**Divibare**	**6.58**	**359**	*e*Pn	**Pn**	**01 07 06.4**	**-0.9**	
DIVS				*e*Sn	**Sn**	**01 08 17.7**	**-4.0**	
DIVS	**Divibare**	**6.58**	**359**		**Pn**	**01 07 06.2**	**-1.1**	
DIVS	**Divibare**	**6.58**	**359**	⇑*i* Pn	**Pn**	**01 07 06.0**	**-1.3**	
DIVS	**Divibare**	**6.58**	**359**	⇑P	**Pn**	**01 07 06.5**	**-0.7**	
MANT	**Manisa**	**6.68**	**79**	Pn	**Pn**	**01 07 09.8**	**+1.0**	
TRUS	**Trudelj**	**6.71**	**1**	*e*Pn	**Pn**	**01 07 08.6**	**-0.3**	
TRUS				*e*Sn	**Sn**	**01 08 21.0**	**-3.7**	
SVIS	**Svilajnac**	**6.79**	**6**	*e*Pn	**Pn**	**01 07 10.4**	**-0.4**	
SVIS				*e*Sn	**Sn**	**01 08 22.6**	**-4.1**	
BAIL	**Bailesti**	**6.92**	**19**	⇑P	**Pn**	**01 07 13.3**	**+1.4**	
KUBS	**Kucevo**	**6.98**	**9**	*e*Pn	**Pn**	**01 07 11.5**	**-1.2**	
KUBS				*e*Sn	**Sn**	**01 08 27.6**	**-3.9**	
ZIRJ	**Zirje**	**7.04**	**332**	*i* Pn	**Pn**	**01 07 12.0**	**-1.5**	
TEKS	**Tekeris**	**7.05**	**356**	*e*Pn	**Pn**	**01 07 11.5**	**-2.2**	
TEKS				*e*Sn	**Sn**	**01 08 28.1**	**-5.0**	
TEKS	**Tekeris**	**7.05**	**356**	⇑*i* Pn	**Pn**	**01 07 11.4**	**-2.2**	
PUNG	**Punghina**	**7.07**	**16**	⇓P	**Pn**	**01 07 15.1**	**+1.2**	
KIJV	**Kijevo**	**7.09**	**337**	*e*Pn	**Pn**	**01 07 13.8**	**-0.4**	
AQU	**L'Aquila**	**7.11**	**315**	P	**Pn**	**01 07 13.2**	**-1.3**	
AQU	**L'Aquila**	**7.11**	**315**	Pn	**Pn**	**01 07 13.2**	**-1.3**	
AQU	**L'Aquila**	**7.11**	**315**	*e*Pn	**Pn**	**01 07 16.2**	**+1.7**	
AQU	**L'Aquila**	**7.11**	**315**	⇓P	**Pn**	**01 07 16.5**	**+2.0**	
MORI	**Morici**	**7.20**	**333**	*e*Pn	**Pn**	**01 07 14.7**	**-1.0**	
VLAD	**Vladila**	**7.22**	**25**	⇑P	**Pn**	**01 07 16.6**	**+0.6**	
MGRS	**Mrkonjic Grad**	**7.29**	**342**	*e*Pn	**Pn**	**01 07 14.7**	**+0.5**	
ZIMR		**7.29**	**31**	⇑P	**Pn**	**01 07 19.2**	**+2.3**	
CAME	**Cameli-Denizli**	**7.29**	**92**	*e*P	**Pn**	**01 07 20.9**	**+3.8**	
SLUM	**Salum**	**7.30**	**144**	⇓P	**Pn**	**01 07 15.9**	**-1.1**	
	baz=152							
SLUM				S	Sn	01 08 28.7	-11	
	baz=152							
MDVR	**Moldovita**	**7.35**	**9**	⇓P	**Pn**	**01 07 17.5**	**-0.3**	
RMGR	**Halanga-Turnu**	**7.39**	**14**	⇑P	**Pn**	**01 07 20.4**	**+2.2**	
A050A	**Klekovaca**	**7.49**	**339**	⇑*i* Pn	**Pn**	**01 07 19.7**	**0.0**	
SRE	**Strehaia**	**7.50**	**17**	⇑P	**Pn**	**01 07 20.7**	**+0.9**	
HERR	**Herculane**	**7.55**	**12**	⇑P	**Pn**	**01 07 20.9**	**+0.4**	
DUGI	**Dugi Otok**	**7.55**	**331**	*e*Pn	**Pn**	**01 07 19.8**	**-0.8**	
DUGI				Sn	**Sn**	**01 08 34.1**	**-4.7**	
BLY	**Banja Luka**	**7.58**	**344**	⇑*i* Pn	**Pn**	**01 07 20.4**	**-0.4**	
BLY	**Banja Luka**	**7.58**	**344**	⇑P	**Pn**	**01 07 20.0**	**-0.8**	
NRCA	**Norcia**	**7.59**	**317**		**Pn**	**01 07 21.3**	**+0.3**	
COPA	**Copaceanca**	**7.63**	**28**	⇑P	**Pn**	**01 07 22.8**	**+1.2**	
FRGS	**Fruska Gora**	**7.64**	**358**	*e*Pn	**Pn**	**01 07 19.7**	**-2.1**	
FRGS				*e*Sn	**Sn**	**01 08 42.0**	**-5.8**	
FRGS	**Fruska Gora**	**7.64**	**358**	⇑*i* Pn	**Pn**	**01 07 19.5**	**-2.3**	
AKAS	**Kas**	**7.65**	**97**		**Pn**	**01 07 23.4**	**+1.4**	
RAZG	**Razgrad**	**7.72**	**37**	⇑P	**Pn**	**01 07 25.4**	**+2.5**	
UDBI	**Udbina**	**7.76**	**336**	*e*Pn	**Pn**	**01 07 23.7**	**+0.2**	
ELL	**Elmali**	**7.80**	**93**	P	**Pn**	**01 07 24.8**	**+0.7**	
ELL	**Elmali**	**7.80**	**93**	Pn	**Pn**	**01 07 24.8**	**+0.7**	
VIRC	**Vir**	**7.81**	**332**	*e*Pn	**Pn**	**01 07 23.9**	**-0.1**	
A052A	**Srbac**	**7.84**	**346**	⇑*i* Pn	**Pn**	**01 07 23.5**	**-1.0**	
HUMR	**Humele**	**7.88**	**26**	⇑P	**Pn**	**01 07 26.5**	**+1.4**	
A051A	**Mrakovica**	**7.89**	**343**	*e*Pn	**Pn**	**01 07 23.9**	**-1.3**	
BANR	**Banloc**	**7.89**	**5**	⇑P	**Pn**	**01 07 25.4**	**+0.2**	
PRIJ	**Prijedor**	**7.90**	**342**	⇑*i* Pn	**Pn**	**01 07 27.9**	**-0.2**	
SGRR	**Singureni**	**8.01**	**31**	⇑P	**Pn**	**01 07 27.9**	**+1.2**	
NVLJ	**Novalja**	**8.11**	**332**	*e*Pn	**Pn**	**01 07 27.6**	**-0.5**	
GZR	**Gura Zlata**	**8.11**	**13**	⇓P	**Pn**	**01 07 28.6**	**+0.4**	
PLIT	**Plitvice**	**8.12**	**336**	*e*Pn	**Pn**	**01 07 28.1**	**-0.3**	
BZS	**Buzias**	**8.17**	**7**	⇓P	**Pn**	**01 07 28.6**	**-0.3**	
STFAR	**Stefanesti-Arg**	**8.17**	**25**	⇓P	**Pn**	**01 07 31.4**	**+2.3**	
MURB	**Monte Urbino**	**8.20**	**317**		**Pn**	**01 07 29.9**	**+0.5**	
ISP	**Isparta**	**8.20**	**85**	*e*P	**Pn**	**01 07 32.3**	**+2.8**	
ISP	**Isparta**	**8.20**	**85**	⇑*e*P	**Pn**	**01 07 28.0**	**-1.5**	
MGAB	**Montegabbione**	**8.20**	**314**	⇑P	**Pn**	**01 07 30.6**	**+1.1**	
RABC	**Rab**	**8.30**	**332**	*e*Pn	**Pn**	**01 07 30.6**	**-0.2**	
BORA	**Eskisehir**	**8.37**	**70**	Pn	**Pn**	**01 07 32.8**	**+1.1**	
LOT	**Lotru**	**8.37**	**18**	⇓P	**Pn**	**01 07 33.0**	**+1.2**	
LOT	**Lotru**	**8.37**	**18**	*e*P	**Pn**	**01 07 32.6**	**+0.8**	
MOSL	**Moslavina**	**8.49**	**343**	*e*Pn	**Pn**	**01 07 31.6**	**-1.9**	
SULR		**8.49**	**31**	⇑P	**Pn**	**01 07 35.5**	**+2.1**	
RASA	**Ras

CSS	**Mathiatis**	**10.91**	**100**	*e*P		**Pn**	**01 08 05.7**	**-0.9**
CSS	**Mathiatis**	**10.91**	**100**			**Pn**	**01 08 06.3**	**-0.3**
CSS	**Mathiatis**	**10.91**	**100**	⇑P		**Pn**	**01 08 05.7**	**-0.9**
KECS	**Kecovo**	**10.97**	**1**	*e*P		**Pn**	**01 08 08.8**	**+1.5**
KECS	**Kecovo**	**10.97**	**1**	*e*PN		**Pn**	**01 08 08.8**	**+1.5**
VYHS	**Vyhne**	**11.02**	**355**	*e*P		**Pn**	**01 08 08.6**	**+0.5**
VYHS				*e*			01 10 06.5	
VYHS	**Vyhne**	**11.02**	**355**	*e*PN		**Pn**	**01 08 08.5**	**+0.5**
VYHS				*e*SN		**Sn**	**01 10 06.5**	**-4.1**
IZAB	**Izabela**	**11.05**	**358**	*e*P		**Pn**	**01 08 08.9**	**+0.4**
ILGA	**Ilgaz**	**11.06**	**67**			**Pn**	**01 08 09.4**	**+0.6**
KOLL	**Kolacno**	**11.14**	**354**	*e*PN		**Pn**	**01 08 10.2**	**+0.6**
KOLL				*e*SN		**Sn**	**01 10 08.9**	**-4.5**
SMOL	**Smolenice**	**11.18**	**350**	*e*P		**Pn**	**01 08 11.0**	**+0.8**
SMOL				*e*			01 10 07.9	
SMOL	**Smolenice**	**11.18**	**350**	*e*PN		**Pn**	**01 08 11.0**	**+0.8**
SMOL				*e*SN		**Sn**	**01 10 07.9**	**-6.6**
MOA	**Molln**	**11.21**	**339**	*i* Pn		**Pn**	**01 08 10.1**	**-0.5**
	comp=E,36nm,0.4s,SNR=87							
MOA				*e*Sn		**Sn**	**01 10 12.0**	**-3.3**
	comp=E,17nm,0.3s							
UZH	**Uzhgorod**	**11.22**	**7**	*e*P		**Pn**	**01 08 11.3**	**+0.6**
UZH				*e*S		**Sn**	**01 10 17.3**	**+1.9**
UZH					MLR	MLR		
	comp=N,2µm,16.0s							
UZH					MLR	MLR		
	comp=E,2µm,16.0s							
UZH					MLR	MLR		
	comp=Z,2µm,16.0s							
BIOA	**Bad Ischl, Aus**	**11.25**	**337**	*e*Pn		**Pn**	**01 08 10.8**	**-0.4**
	comp=Z,19nm,0.4s							
BIOA				*e*Sn		**Sn**	**01 10 12.2**	**-4.2**
	comp=Z,71nm,0.6s							
MILM	**Milestii Mici**	**11.36**	**31**	⇑P		**Pn**	**01 08 13.8**	**+1.2**
CRVS	**Cervenica-Dubn**	**11.42**	**4**	*e*P		**Pn**	**01 08 14.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**11.42**	**4**	*e*PN		**Pn**	**01 08 14.1**	**+0.6**
DFRA	**Djebel Bou Aff**	**11.48**	**270**	P		**Pn**	01 08 04.1	-10
JAVC	**Velka Javorina**	**11.49**	**352**	*e*PN		**Pn**	**01 08 15.2**	**+0.7**
RJOB	**Jochberg**	**11.57**	**334**	*e*Pn		**Pn**	**01 08 15.0**	**-0.6**
RJOB				*e*Sn		**Sn**	**01 10 17.9**	**-6.3**
WTTA	**Wattenberg**	**11.61**	**330**	*i* Pn		**Pn**	**01 08 16.4**	**+0.2**
	comp=Z,7.5nm,0.3s,SNR=29							
WTTA				*e*Sn		**Sn**	**01 10 20.3**	**-5.0**
	comp=Z,135nm,0.6s							
LANS	**Liptovska Anna**	**11.64**	**358**	*e*P		**Pn**	**01 08 17.9**	**+1.3**
LANS	**Liptovska Anna**	**11.64**	**358**	*e*PN		**Pn**	**01 08 17.9**	**+1.3**
WATA	**Walderalm**	**11.69**	**330**	*i* Pn		**Pn**	**01 08 17.9**	**+0.5**
	comp=Z,22nm,0.5s,SNR=50							
WATA				*e*Sn		**Sn**	**01 10 23.0**	**-4.3**
	comp=Z,224nm,1.3s							
HNAT	**Natroun**	**11.71**	**129**	P		**Pn**	**01 08 15.2**	**-2.5**
	baz=133							
CMRD	**Camardi-Nigde**	**11.74**	**85**	*e*P		**Pn**	**01 08 21.8**	**+3.7**
SQTA	**Sankt Quirin**	**11.75**	**328**	*i* Pn		**Pn**	**01 08 18.4**	**+0.3**
	comp=Z,8.1nm,0.4s,SNR=34							
SQTA				*e*Sn		**Sn**	**01 10 23.2**	**-5.5**
	comp=Z,142nm,0.7s							
FETA	**Feichten**	**11.80**	**327**	*i* Pn		**Pn**	**01 08 18.6**	**-0.2**
	comp=Z,22nm,0.7s,SNR=14							
FETA				*e*Sn		**Sn**	**01 10 26.0**	**-3.9**
	comp=Z,39nm,0.5s							
KRUC	**Moravsky**	**11.87**	**348**	*e*PN		**Pn**	**01 08 18.9**	**-0.7**
MOTA	**Moosalm**	**11.89**	**329**	*i* Pn		**Pn**	**01 08 20.4**	**+0.3**
	comp=Z,15nm,0.8s,SNR=31							
MOTA				*e*Sn		**Sn**	**01 10 28.1**	**-4.1**
	comp=Z,115nm,0.7s							
NIE	**Niedzica**	**11.90**	**0**	*e*P		**Pn**	**01 08 20.2**	**+0.1**
NIE				*e*L		L	01 14 04.3	
	comp=Z,24µm,14.7s							
DAVOX	**Davos/Dischmat**	**12.00**	**324**	Pn		**Pn**	**01 08 22.4**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=143,slow=14,SNR=87							
DAVOX					LR	LR	01 13 56.7	
	comp=Z,6µm,21.2s,baz=126,slow=42							
TUE	**Stuetta**	**12.04**	**321**	Pn		**Pn**	**01 08 21.8**	**-0.3**
TUE	**Stuetta**	**12.04**	**321**	⇑P		**Pn**	**01 08 21.9**	**-0.3**
VRAC	**Vranov**	**12.07**	**349**	⇑P		**Pn**	**01 08 22.7**	**+0.3**
VRAC	**Vranov**	**12.07**	**349**	Pn		**Pn**	**01 08 22.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=173,slow=13,SNR=12							
VRAC					LR	LR	01 13 55.3	
	comp=Z,4µm,19.9s,baz=172,slow=42							
VRAC	**Vranov**	**12.07**	**349**	*e*PN		**Pn**	**01 08 22.6**	**+0.2**
CKRC	**Cesky Krumlov**	**12.08**	**341**	*e*PN		**Pn**	**01 08 21.1**	**-1.5**
CKRC				*e*SN		**Sn**	**01 10 29.9**	**-6.8**
RETA	**Reutte**	**12.14**	**328**	*i* Pn		**Pn**	**01 08 24.7**	**+1.2**
	comp=Z,7.6nm,0.6s,SNR=9.2							
RETA				*e*Sn		**Sn**	**01 10 36.1**	**-2.2**
	comp=Z,174nm,1.0s							
SORM	**Soroca**	**12.18**	**27**	⇑P		**Pn**	**01 08 25.0**	**+1.1**
KWP	**Kalwaria Pacla**	**12.25**	**8**	*e*P		**Pn**	**01 08 26.9**	**+2.1**
KWP				*e*L		L	01 14 03.5	
	comp=Z,11µm,16.3s							
KWP	**Kalwaria Pacla**	**12.25**	**8**	P		**Pn**	**01 08 25.2**	**+0.4**
KWP	**Kalwaria Pacla**	**12.25**	**8**			**Pn**	**01 08 25.2**	**+0.4**
KWP	**Kalwaria Pacla**	**12.25**	**8**	⇓P		**Pn**	**01 08 27.1**	**+2.3**
TREC	**Trest**	**12.26**	**345**	*e*P		**Pn**	**01 08 24.9**	**-0.1**
TREC					MLR	MLR		
	comp=Z,10µm,11.9s							
TREC	**Trest**	**12.26**	**345**	*e*PN		**Pn**	**01 08 24.9**	**-0.1**
TREC					AMS	AMS	01 13 50.0	
	comp=Z,10µm,11.9s							
DAVA	**Damuels**	**12.38**	**325**	*i* Pn		**Pn**	**01 08 28.2**	**+1.5**
	comp=Z,23nm,0.6s,SNR=16							
DAVA				*e*Sn		**Sn**	**01 10 41.8**	**-2.2**
	comp=Z,273nm,0.8s							
BNN	**Bunyan**	**12.39**	**79**	Pn		**Pn**	**01 08 27.1**	**+0.2**
HFRF	**Wahat Farafira**	**12.40**	**144**	P		**Pn**	**01 08 23.5**	**-3.5**
	baz=149							
MORC	**Moravsky Berou**	**12.41**	**352**	⇓P		**Pn**	**01 08 27.2**	**+0.2**
MORC	**Moravsky Berou**	**12.41**	**352**	P		**Pn**	**01 08 27.0**	**0.0**
MORC	**Moravsky Berou**	**12.41**	**352**			**Pn**	**01 08 27.0**	**0.0**
MORC	**Moravsky Berou**	**12.41**	**352**	*e*PN		**Pn**	**01 08 27.0**	**0.0**
MORC	**Moravsky Berou**	**12.41**	**352**	⇓P		**Pn**	**01 08 27.1**	**+0.2**
OKC	**Ostrava-Krasne**	**12.41**	**354**	*e*P		**Pn**	**01 08 26.9**	**-0.1**
OKC					MLR	MLR		
	comp=Z,12µm,14.0s							
OKC	**Ostrava-Krasne**	**12.41**	**354**	*e*PN		**Pn**	**01 08 26.9**	**-0.1**
OKC					AMS	AMS	01 14 40.0	
	comp=Z,12µm,14.0s							
GLL	**Jalalah**	**12.44**	**126**	P		**Pn**	**01 08 23.9**	**-3.7**
	baz=130							
HHAG	**Hagoal**	**12.45**	**124**	P		**Pn**	**01 08 24.4**	**-3.3**
	baz=127							
KHC	**Kasperske Hory**	**12.56**	**340**	*e*P		**Pn**	**01 08 27.2**	**-1.9**
KHC					MLR	MLR		
	comp=Z,7µm,11.7s							
KHC	**Kasperske Hory**	**12.56**	**340**	*e*PN		**Pn**	**01 08 27.2**	**-1.9**
KHC				*e*SN		**Sn**	**01 10 39.7**	**-8.7**
KHC					AMS	AMS	01 14 20.0	
	comp=Z,7µm,11.7s							
KHC	**Kasperske Hory**	**12.56**	**340**	Pn		**Pn**	**01 08 28.1**	**-1.1**
KHC	**Kasperske Hory**	**12.56**	**340**	⇑P		**Pn**	**01 08 27.9**	**-1.3**
LVV	**L'vov**	**12.61**	**11**	*e*P		**Pn**	**01 08 32.6**	**+2.9**
LVV				*e*S		**Sn**	**01 10 51.6**	**+2.1**
LVV					pmax	pmax		
	comp=Z,160nm,1.2s							
LVV					MLR	MLR		
	comp=Z,1µm,14.0s							
BNI	**Bardonecchia**	**12.64**	**311**	P		**Pn**	**01 08 30.6**	**+0.3**
BNI	**Bardonecchia**	**12.64**	**311**	Pn		**Pn**	**01 08 30.6**	**+0.3**
BNI	**Bardonecchia**	**12.64**	**311**	⇓P		**Pn**	**01 08 31.6**	**+1.3**
MAHO	**Mahon**	**12.67**	**286**	P		**Pn**	**01 08 31.8**	**+1.3**
MAHO				S		**Sn**	**01 10 43.0**	**-8.0**
OJC	**Ojcow**	**12.71**	**359**	*e*P		**Pn**	**01 08 30.5**	**-0.5**
OJC				*e*L		L	01 14 42.8	
	comp=Z,26µm,14.9s							
OJC	**Ojcow**	**12.71**	**359**	P		**Pn**	**01 08 31.3**	**+0.2**
OJC	**Ojcow**	**12.71**	**359**	Pn		**Pn**	**01 08 31.2**	**+0.2**
OJC	**Ojcow**	**12.71**	**359**	⇑P		**Pn**	**01 08 31.9**	**+0.8**
WET	**Wettzell**	**12.78**	**338**	*e*Pn		**Pn**	**01 08 30.4**	**-1.7**
KRLC	**Kraliky**	**12.79**	**350**	*e*P		**Pn**	**01 08 31.9**	**-0.4**
KRLC					MLR	MLR		
	comp=Z,10µm,13.8s							
KRLC	**Kraliky**	**12.79**	**350**	*e*PN		**Pn**	**01 08 31.9**	**-0.4**
KRLC					AMS	AMS	01 14 40.0	
	comp=Z,10µm,13.8s							
SIM	**Simferopol'**	**12.84**	**50**	*e*P		**Pn**	**01 08 34.4**	**+1.6**
SIM				*e*S		**Sn**	**01 10 59.0**	**+3.9**
SIM					pmax	pmax		
	comp=Z,52nm,1.2s							
SIM					MLR	MLR		
	comp=Z,1µm,17.4s							
NBNS	**Bani Suef**	**12.85**	**130**	P		**Pn**	**01 08 29.0**	**-4.1**
	baz=134							
PBCC	**Pribram**	**12.96**	**342**	*e*PN		**Pn**	**01 08 33.7**	**-0.9**

HNTI	**Hanita**	**13.01**	**105**	Pn		**Pn**	**01 08 34.2**	**-1.1**
SENIN	**Lac Senin/Sane**	**13.04**	**317**	Pn		**Pn**	**01 08 35.6**	**-0.1**
OFRI	**`Ofer**	**13.06**	**108**	Pn		**Pn**	**01 08 34.7**	**-1.3**
PRU	**Pruhonice**	**13.12**	**344**	*e*P		**Pn**	**01 08 35.5**	**-1.1**
PRU					MLR	MLR		
	comp=Z,10µm,16.1s							
PRU	**Pruhonice**	**13.12**	**344**	*e*PN		**Pn**	**01 08 35.5**	**-1.1**
PRU					AMS	AMS	01 14 40.0	
	comp=Z,10µm,16.1s							
DPC	**Dobruska-Polom**	**13.13**	**349**	*e*P		**Pn**	**01 08 36.3**	**-0.6**
DPC					MLR	MLR		
	comp=Z,9µm,12.5s							
DPC	**Dobruska-Polom**	**13.13**	**349**	*e*PN		**Pn**	**01 08 36.3**	**-0.6**
DPC					AMS	AMS	01 14 40.0	
	comp=Z,9µm,12.5s							
MMA0B	**Mount Meron ar**	**13.21**	**105**	Pn		**Pn**	**01 08 37.1**	**-1.1**
MMAI	**Mount Meron Ar**	**13.21**	**105**	Pn		**Pn**	**01 08 34.3**	**-3.9**
	comp=Z,7.0nm,0.3s,baz=334,slow=25,SNR=16							
MMAI					Sn	Sn	01 10 53.6	-11
	comp=Z,7.5nm,0.3s,baz=331,slow=20,SNR=1.9							
MMAI					LR	LR	01 14 11.8	
	comp=Z,2µm,20.3s,baz=108,slow=40							
SLTI	**Sal'it**	**13.27**	**109**	Pn		**Pn**	**01 08 36.8**	**-2.1**
UPC	**Upice**	**13.33**	**348**	*e*P		**Pn**	**01 08 38.9**	**-0.7**
UPC					MLR	MLR		
	comp=Z,10µm,12.1s							
UPC	**Upice**	**13.33**	**348**	*e*PN		**Pn**	**01 08 38.9**	**-0.7**
UPC					AMS	AMS	01 14 50.0	
	comp=Z,10µm,12.1s							
GEM	**Giv'at Ha'Em**	**13.34**	**104**	Pn		**Pn**	**01 08 37.6**	**-2.1**
OSTC	**Ostas**	**13.35**	**349**	*e*PN		**Pn**	**01 08 38.1**	**-1.7**
OSTC					AMS	AMS	01 14 50.0	
	comp=Z,8µm,12.4s							
CHVC	**Chvalec**	**13.40**	**349**	*e*PN		**Pn**	**01 08 39.1**	**-1.5**
CHVC					AMS	AMS	01 14 50.0	
	comp=Z,9µm,11.8s							
KZIT	**Kziot**	**13.47**	**115**	Pn		**Pn**	**01 08 38.1**	**-3.5**
KZIT				Sn		Sn	01 10 54.6	-16
MMLI	**Mount Malkishu**	**13.47**	**108**	*e*P		Pn	01 08 36.5	-5.2
MMLI	**Mount Malkishu**	**13.47**	**108**	Pn		**Pn**	**01 08 38.6**	**-3.1**
AMAZ	**Amatzia**	**13.52**	**112**	Pn		**Pn**	**01 08 39.8**	**-2.5**
AMAZ				Sn		Sn	01 10 56.8	-15
KSP	**Ksiaz**	**13.61**	**349**	*e*P		**Pn**	**01 08 44.0**	**+0.6**
KSP				*e*L		L	01 15 04.3	
	comp=Z,6µm,15.8s							
KSP	**Ksiaz**	**13.61**	**349**	⇓P		**Pn**	**01 08 44.4**	**+1.0**
PVCC	**Panska Ves**	**13.62**	**345**	*e*P		**Pn**	**01 08 42.7**	**-0.8**
PVCC					MLR	MLR		
	comp=Z,6µm,13.2s							
PVCC	**Panska Ves**	**13.62**	**345**	*e*PN		**Pn**	**01 08 42.7**	**-0.8**
PVCC					AMS	AMS	01 14 40.0	
	comp=Z,6µm,13.2s							
HMDT	**Nahal Hemdat**	**13.63**	**108**	Pn		**Pn**	**01 08 41.3**	**-2.5**
UJAP	**Al Uja**	**13.73**	**109**	*e*P		**Pn**	**01 08 44.3**	**-0.7**
YTIR	**Yattir**	**13.76**	**112**	Pn		**Pn**	**01 08 42.8**	**-2.7**
MANZ	**Manzenberg**	**13.76**	**338**	*e*Pn		**Pn**	**01 08 43.1**	**-2.3**
GRA1	**Grafenberg Arr**	**13.78**	**335**			**Pn**	**01 08 44.9**	**-0.9**
GRF	**Grafenberg Arr**	**13.78**	**335**	P		**Pn**	**01 08 44.9**	**-0.9**
GRF	**Grafenberg Arr**	**13.78**	**335**	*e*Pn		**Pn**	**01 08 44.0**	**-1.8**
GRFO	**Grafenberg**	**13.78**	**335**	P		**Pn**	**01 08 45.3**	**-0.5**
GRFO	**Grafenberg**	**13.78**	**335**	Pn		**Pn**	**01 08 45.3**	**-0.5**
STU	**Stuttgart**	**13.80**	**328**	P		**Pn**	**01 08 46.0**	**0.0**
STU	**Stuttgart**	**13.80**	**328**			**Pn**	**01 08 46.0**	**0.0**
DSI	**Dead Sea**	**13.85**	**111**	Pn		**Pn**	**01 08 43.9**	**-2.8**
BFO	**Black Forest**	**13.85**	**325**	P		**Pn**	**01 08 45.2**	**-1.5**
BFO	**Black Forest**	**13.85**	**325**			**Pn**	**01 08 45.2**	**-1.5**
BFO	**Black Forest**	**13.85**	**325**	*e*Sn		Sn	01 11 07.8	-12
NKC	**Novy Kostel**	**13.88**	**339**	*e*P		**Pn**	**01 08 45.9**	**-1.1**
NKC					MLR	MLR		
	comp=Z,7µm,14.4s							
NKC	**Novy Kostel**	**13.88**	**339**	*e*PN		**Pn**	**01 08 45.9**	**-1.1**
NKC					AMS	AMS	01 15 20.0	
	comp=Z,7µm,14.4s							
TANN	**Tannenbergstha**	**14.04**	**339**	*e*Pn		**Pn**	**01 08 49.6**	**+0.4**
SSB	**Saint Sauveur**	**14.06**	**308**	P		**Pn**	**01 08 48.4**	**-1.3**
SSB	**Saint Sauveur**	**14.06**	**308**	Pn		**Pn**	**01 08 48.4**	**-1.3**
BRG	**Berggiesshubel**	**14.08**	**344**	*i* P		**Pn**	**01 08 49.0**	**-0.8**
BRG					Amp		01 08 53.6	
	comp=Z,56nm,1.1s							
BRG				*ex*		x	01 09 01.4	
BRG					Amp		01 09 04.4	
	comp=Z,85nm,1.2s							
BRG					S	**Sn**	**01 11 29.0**	**+3.7**
BRG					Amp		01 15 47.0	
	comp=E,4.7nm,11.1s							
BRG					Amp		01 15 47.0	
	comp=N,5.0nm,16.1s							
BRG					Amp		01 15 51.0	
	comp=Z,8.5nm,13.3s							
BRG	**Berggiesshubel**	**14.08**	**344**	*i* P		**Pn**	**01 08 49.0**	**-0.8**
BRG					S	**Sn**	**01 11 29.0**	**+3.7**
BRG					pmax	pmax		
	comp=Z,56nm,1.1s							
BRG					pmax	pmax		
	comp=Z,85nm,1.2s							
BRG					smax	smax		
	comp=E,5µm,11.1s							
BRG					MLR	MLR		
	comp=N,5µm,16.1s							
BRG					MLR	MLR		
	comp=Z,9µm,13.3s							
BRG	**Berggiesshubel**	**14.08**	**344**	*e*Pn		**Pn**	**01 08 51.1**	**+1.3**
GHAJ	**Ghor Haditha**	**14.12**	**111**			**Pn**	**01 08 48.0**	**-2.4**
GHAJ	**Ghor Haditha**	**14.12**	**111**	Pn		**Pn**	**01 08 47.5**	**-2.9**
GHAJ				Sn		Sn	01 11 11.9	-15
KRMI	**Paran Flat**	**14.15**	**117**	Pn		**Pn**	**01 08 46.6**	**-4.3**
KRMI				Sn		Sn	01 11 09.9	-17
PRNI	**Paran**	**14.21**	**116**	Pn		**Pn**	**01 08 47.6**	**-4.2**
PRNI				Sn		Sn	01 11 12.5	-16
ZFRI	**Zfri**	**14.23**	**115**	Pn		**Pn**	**01 08 47.8**	**-4.1**
HDK1	**Dakhla**	**14.28**	**144**	P		**Pn**	**01 08 49.0**	**-3.7**
	baz=148							
BEL	**Belsk**	**14.33**	**1**	*e*P		**P**	**01 09 02.4**	**+2.2**
BEL				*e*L		L	01 15 46.5	
	comp=Z,29µm,14.7s							
HRFI	**Mount Harif**	**14.41**	**117**	Pn		**Pn**	**01 08 50.2**	**-4.3**
HRFI				Sn		Sn	01 11 16.7	-17
MBRI	**Mt Berech**	**14.47**	**118**	Pn		**Pn**	**01 08 51.1**	**-4.2**
MBRI				Sn		Sn	01 11 18.4	-17
MOX	**Moxa**	**14.49**	**338**	*e*Pn		**Pn**	**01 08 55.3**	**-0.1**
EIL	**Elat**	**14.57**	**118**	Pn		**Pn**	**01 08 52.6**	**-3.9**
	comp=Z,3.4nm,0.3s,baz=285,slow=2.4,SNR=62							
EIL					Sn	Sn	01 11 24.8	-13
	comp=Z,6.7nm,0.3s,baz=230,slow=19,SNR=2.8							
EIL	**Elat**	**14.57**	**118**	*e*P		**Pn**	**01 08 53.0**	**-3.6**
EIL	**Elat**	**14.57**	**118**	Pn		**Pn**	**01 08 52.3**	**-4.3**
EIL				Sn		Sn	01 11 21.5	-16
MILB	**Miltenberg**	**14.60**	**331**	*e*Pn		**Pn**	**01 08 56.8**	**-0.1**
AKASG	**Malin Array Be**	**14.68**	**23**	Pn		**Pn**	**01 08 56.0**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=214,slow=12,SNR=36							
AKASG					LR	LR	01 16 13.5	
	comp=Z,6µm,20.9s,baz=208,slow=44							
AKASG	**Malin Array Be**	**14.68**	**23**	P		**Pn**	**01 08 56.3**	**-1.6**
AKASG	**Malin Array Be**	**14.68**	**23**	Pn		**Pn**	**01 08 56.3**	**-1.6**
AKBB	**Malin Array Si**	**14.68**	**23**	⇓*e*P		**Pn**	**01 08 56.3**	**-1.6**
AKBB	**Malin Array Si**	**14.68**	**23**	Pn		**Pn**	**01 08 55.9**	**-2.1**
CLL	**Collm**	**14.71**	**342**	P		**Pn**	**01 08 58.7**	**+0.4**
CLL	**Collm**	**14.71**	**342**	Pn		**Pn**	**01 08 58.7**	**+0.4**
CLL	**Collm**	**14.71**	**342**	*i* P		**Pn**	**01 08 59.3**	**+1.0**
	comp=Z,47nm,1.0s							
CLL					*e*Pmax		01 09 04.0	
CLL					*i* PP	**P**	**01 09 07.5**	**+3.2**
	comp=Z,220nm,1.2s							
CLL					*e*S	**Sn**	**01 11 45.0**	**+4.4**
CLL					Lmax		01 16 00.0	
CLL	**Collm**	**14.71**	**342**	*e*Pn		**Pn**	**01 08 58.0**	**-0.4**
ASF	**Jabal al Asfar**	**14.71**	**106**	Pn		**Pn**	**01 08 56.2**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=277,slow=7.4,SNR=12							
ASF					Sn	**Sn**	**01 11 37.1**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=0.0,slow=20,SNR=2.0							
ANN	**Anapa**	**14.87**	**55**	*e*P		**P**	**01 09 05.6**	**-0.6**
ANN					pmax	pmax		
	comp=Z,495nm,1.4s							
ECHA	**Ech Chlef**	**15.14**	**271**	P		**P**	**01 09 07.1**	**-2.1**
EANR	**`Ain N'Sour**	**15.39**	**270**	P		**Pn**	**01 09 05.8**	**-1.8**
RUE	**Ruedersdorf**	**15.63**	**345**	*e*P		**P**	**01 09 17.2**	**+2.7**
RUE	**Ruedersdorf**	**15.63**	**345**	*e*Pn		**Pn**	**01 09 11.3**	**+0.8**
OKGL	**Djebel Kef Gue**	**15.74**	**271**	P		**P**	**01 09 14.0**	**-1.9**
OJGS	**Djebel Guires**	**15.76**	**269**	P		**P**	**01 09 22.0**	**+5.7**
WLF	**Walferdange**	**15.81**	**325**	P		**Pn**	**01 09 13.3**	**+0.4**
WLF					pmax	pmax		
	comp=Z,218nm,1.0s							
WLF	**Walferdange**	**15.81**	**325**			**Pn**	**01 09 13.3**	**+0.4**

WLF					IAmb	IAmb	01 09 21.5	
	comp=Z,218nm,1.0s							
WLF	**Walferdange**	**15.81**	**325**	*d*Pn		**P**	**01 09 14.8**	**-1.8**
GKP	**Gorka Klasztor**	**15.89**	**354**	*e*P		**P**	**01 09 19.5**	**+2.0**
GKP				*e*L		L	01 17 05.1	
	comp=Z,10µm,14.4s							
GKP	**Gorka Klasztor**	**15.89**	**354**	*e*P		**P**	**01 09 18.8**	**+1.3**
SOC	**Sochi**	**16.02**	**62**	*e*P		**P**	**01 09 17.7**	**-1.3**
SOC				*e*			01 12 20.4	
SOC					pmax	pmax		
	comp=Z,31nm,1.1s							
SOC					MLR	MLR		
	comp=Z,900nm,13.0s							
KOPT	**Kop Dagi**	**16.03**	**75**	P		**Pn**	**01 09 16.3**	**+0.1**
FLTG	**Flechtingen**	**16.09**	**340**	*e*Pn		**Pn**	**01 09 17.5**	**+1.0**
FLTG	**Flechtingen**	**16.09**	**340**	P		**Pn**	**01 09 17.8**	**+1.2**
VSLR	**Vesyoloye**	**16.21**	**62**	⇑*e*P		**Pn**	**01 09 17.2**	**-0.9**
MARD	**Mardin**	**16.36**	**84**	P		**Pn**	**01 09 20.7**	**+0.5**
BHOU	**Houvegnez**	**16.37**	**326**	*d*Pn		**P**	**01 09 21.8**	**-1.1**
BHOU				*dx*		x	01 09 38.4	
GUZR	**Guzeripl'**	**16.41**	**61**	*de*P		**P**	**01 09 23.1**	**-0.3**
GUZR					pmax	pmax		
	comp=Z,467nm,0.6s							
RPOR	**Krasnaya Polya**	**16.43**	**62**	*de*P		**Pn**	**01 09 20.4**	**-0.6**
BTNL	**Ternell**	**16.48**	**327**	*d*sPn		**P**	**01 09 27.6**	**+3.5**
LNIZ	**Loecknitz**	**16.51**	**347**	*e*Pn		**Pn**	**01 09 22.6**	**+0.8**
ODJA	**Bouhanifia**	**16.52**	**269**	P		**P**	**01 09 26.0**	**+1.4**
MEM	**Membach**	**16.55**	**327**	*d*P		**P**	**01 09 25.7**	**+0.8**
	comp=Z,100nm,1.2s							
NRDL	**Niedersach Rie**	**16.56**	**338**	*e*Pn		**P**	**01 09 24.1**	**-0.8**
	comp=Z,229nm,1.4s							
RCHB	**Rochefort**	**16.58**	**324**	*d*Pn		**Pn**	**01 09 23.7**	**+1.0**
SUW	**Suwalki**	**16.63**	**6**	*e*P		**Pn**	**01 09 22.2**	**-1.1**
SUW				*e*L		L	01 16 50.9	
	comp=Z,6µm,17.1s							
SUW	**Suwalki**	**16.63**	**6**	P		**Pn**	**01 09 23.2**	**-0.1**
SUW					pmax	pmax		
	comp=Z,613nm,1.1s							
SUW	**Suwalki**	**16.63**	**6**	P		**Pn**	**01 09 23.2**	**-0.1**
SUW	**Suwalki**	**16.63**	**6**	*e*P		**Pn**	**01 09 23.1**	**-0.2**
SUW	**Suwalki**	**16.63**	**6**	⇑P		**Pn**	**01 09 22.3**	**-1.0**
BUG	**Bochum--Univer**	**16.66**	**331**	*e*Pn		**P**	**01 09 26.4**	**+0.4**
	comp=Z,208nm,1.4s							
BSTI	**Sart Tilman**	**16.73**	**326**	*d*pPn		**P**	**01 09 28.3**	**+1.6**
BCLA	**Clavier**	**16.73**	**325**	*d*Pn		**P**	**01 09 26.7**	**-0.1**
BCLA				*dx*		x	01 09 41.0	
USTO	**Oran**	**16.75**	**270**	P		P	01 09 36.0	+8.9
CLF	**Chambon-Foret**	**16.80**	**314**	P		**Pn**	**01 09 26.0**	**+0.4**
BGES	**Gesves**	**16.80**	**325**	*d*P		**P**	**01 09 28.0**	**+0.3**
	comp=Z,47nm,1.1s							
CART	**Cartagena**	**16.81**	**277**	P

NCK pmax pmax
comp=Z,175nm,2.3s
GOG Mont Gurugu 18.81 270 P **Pn 01 09 56.0 +5.5**
ZEI Tsey 18.85 66 *eP* **Pn 01 09 51.3 +0.2**
ZEI pmax pmax
comp=Z,153nm,1.0s
COP Copenhagen 18.92 346 *i* P **Pn 01 09 52.8 +1.2**
COP IAmb IAmb 01 09 54.2
comp=Z,396nm,0.6s
ESBB Sonseca Array 18.99 284 P **P 01 09 51.4 -0.5**
ESDC Sonseca Array 18.99 284 P **P 01 09 51.7 -0.3**
comp=Z,0.9nm,0.3s,baz=79,slow=12,SNR=99
ESDC LR LR 01 16 45.9
comp=Z,795nm,20.9s,baz=84,slow=36
ESDC ScP **ScP 01 17 52.0 +0.6**
comp=Z,0.0nm,0.3s,baz=92,slow=1.5,SNR=5.3
ESDC Sonseca Array 18.99 284 P **P 01 09 51.4 -0.6**
ESDC ScP **ScP 01 17 50.6 -0.7**
VORD Divnogorie 19.11 39 *eP* **P 01 09 52.8 -0.2**
VORD pmax pmax
comp=Z,30nm,0.8s
VORD MLR MLR
comp=Z,3μm,11.0s
GNI Garni 19.29 75 P **P 01 09 55.4 +0.1**
comp=Z,2.0nm,0.3s,baz=305,slow=2.5,SNR=16
GNI LR LR 01 19 12.3
comp=Z,3μm,18.4s,baz=281,slow=43
GNI Garni 19.29 75*c i* P **P 01 09 55.8 +0.5**
GNI pmax pmax
comp=Z,233nm,2.5s
GNI Garni 19.29 75 P **P 01 09 55.4 +0.1**
GNI IAmb IAmb 01 10 14.3
comp=Z,295nm,1.2s
GNI Garni 19.29 75 P **P 01 09 55.8 +0.5**
GNI P **P 01 09 55.8 +0.5**
GNI Garni 19.29 75 ⇑P **P 01 09 55.8 +0.5**
GNI Garni 19.29 75 P **P 01 09 55.2 -0.2**
PAB San Pablo 19.29 284 P **P 01 09 55.0 -0.3**
PAB pmax pmax
comp=Z,51nm,1.0s
PAB San Pablo 19.29 284 P **P 01 09 55.0 -0.3**
PAB San Pablo 19.29 284 ⇑P **P 01 09 55.7 +0.4**
DEL Delary 19.43 349 *i* P **Pn 01 09 58.0 +0.3**
DEL Delary 19.43 349 *eP* **Pn 01 09 58.3 +0.6**
VORR Voronezh 19.51 37 *i* P **P 01 09 58.0 +0.6**
VORR pmax pmax
comp=Z,234nm,0.8s
EMAL Malaga-Limoner 19.63 275 P **P 01 09 59.2 +0.4**
EMAL S **S 01 13 36.3 -3.2**
LPSR Galich'ya Gora 19.98 35 *eP* **P 01 10 02.3 -0.2**
LPSR *eS* **S 01 13 45.9 -0.2**
LPSR pmax pmax
comp=Z,250nm,1.0s
LPSR smax smax
comp=N,820nm,7.5s
LPSR MLR MLR
comp=Z,8μm,14.0s
SLIT Slitere, Latvi 20.17 3 *eP* **P 01 10 04.8 +0.3**
SLIT Slitere, Latvi 20.17 3 ⇑P **P 01 10 04.4 -0.2**
GROC Groznyy 20.28 66 *eP* **P 01 10 06.2 +0.3**
GROC *e* 01 10 21.9
GROC *eS* Sn 01 13 56.3 +0.5
GROC pmax pmax
comp=Z,379nm,1.8s
MUD Monsted U'grnd 20.34 342 *i* P **P 01 10 07.0 +0.7**
MUD IAmb IAmb 01 10 08.2
comp=Z,83nm,0.7s
MUD Monsted U'grnd 20.34 342 ⇓P Pn 01 10 08.3 -0.1
LIJA Lijar 20.38 276 P **P 01 10 06.0 -1.1**
VRH Novokhopyorsk 20.50 41 *eP* **P 01 10 08.3 +0.2**
VRH *eS* **S 01 13 53.5 -3.0**
VRH pmax pmax
comp=Z,290nm,1.5s
VRH smax smax
comp=N,330nm,6.4s
VRH MLR MLR
comp=Z,5μm,13.0s
MDT Midelt 20.79 264 P **P 01 10 11.9 +0.4**
comp=Z,39nm,0.8s,baz=84,slow=16,SNR=23
MDT S Sn 01 14 05.4 -2.8
comp=Z,9.6nm,1.2s,baz=197,slow=14,SNR=1.7
MDT LR LR 01 18 27.5
comp=Z,945nm,21.0s,baz=81,slow=37
OBN Obninsk 20.83 27 P **P 01 10 10.8 -0.9**
comp=Z,14nm,0.5s,baz=275,slow=5.7,SNR=21
OBN S **S 01 14 00.5 -2.6**
comp=Z,2.7nm,0.5s,baz=233,slow=20,SNR=1.5
OBN LR LR 01 19 54.4
comp=Z,866nm,18.0s,baz=216,slow=42
OBN Obninsk 20.83 27*c i* P **P 01 10 11.0 -0.7**
OBN *i* *PP Pn 01 10 15.2 +1.0
OBN *i* PPP PPP 01 10 35.1
OBN *eS* **S 01 14 04.8 +1.8**
OBN *eSS* **SnSn 01 14 20.9 -2.6**
OBN *i* SSS SSS 01 14 36.6
OBN pmax pmax
comp=Z,123nm,1.1s
OBN MLR MLR
comp=Z,4μm,15.0s
OBN Obninsk 20.83 27 P **P 01 10 10.8 -0.9**
OBN Obninsk 20.83 27 ⇓P **P 01 10 12.0 +0.3**
SWN1 Swindon 20.91 319 *eP* **P 01 10 13.5 +0.9**
SICH Sidi Chahed 20.95 268 P Pn 01 10 15.0 -0.8
IFR Ifrane 20.97 267 P Pn 01 10 18.3 +2.0
IFR S **S 01 14 08.7 +2.2**
CNIL Conil 20.99 275 P **P 01 10 13.0 -0.6**
SFS San Fernando 21.09 275 P **P 01 10 14.6 -0.1**
SFS S **S 01 14 06.4 -2.1**
VIKU Vikbolandet 21.12 355 *eP* **P 01 10 16.2 +1.4**
PBRG Braganca 21.14 290 *eP* **P 01 10 15.3 +0.1**
comp=Z,194nm,1.5s
STRD Stroud 21.24 319 *eP* **P 01 10 17.3 +1.1**
STRD IAmb IAmb 01 10 20.5
comp=Z,425nm,0.9s
MVO Moncorvo 21.33 288 *eP* **P 01 10 17.2 -0.2**
comp=Z,332nm,1.7s
MVO *eS* **S 01 14 17.2 +3.8**
MVO *eLR* LR 01 18 26.4
comp=Z,1μm,16.0s
MTSE Matsula 21.35 5 *eP* **P 01 10 18.2 +1.0**
CWF Charnwood Fore 21.37 322 *eP* **P 01 10 18.3 +0.8**
OLDB Oldbury-Upon-S 21.38 319 *eP* **P 01 10 18.4 +0.7**
OLDB IAmb IAmb 01 10 19.8
comp=Z,358nm,1.2s
VSU Vasula 21.39 9*c i* P **P 01 10 17.7 0.0**
VSU pmax pmax
comp=Z,1μm,1.1s
VSU Vasula 21.39 9 *eP* **P 01 10 18.4 +0.6**
VSU Vasula 21.39 9 ⇑P **P 01 10 17.7 0.0**
ARNO Arenosillo 21.40 277 S S 01 14 00.3 -14
PBAR Barrancos 21.49 280 *eP* **P 01 10 19.7 +0.7**
comp=Z,163nm,1.3s
MAK Makhachkala 21.50 67 *eP* **P 01 10 13.6 -5.4**
MAK *eS* **S 01 14 11.4 -5.1**
MAK pmax pmax
comp=Z,615nm,1.0s
MONM Monmouth 21.61 319 *eP* **P 01 10 21.3 +1.1**
MONM IAmb IAmb 01 10 24.1
comp=Z,345nm,1.5s
PMRV Marv??o 21.65 284 *eP* **P 01 10 20.9 +0.2**
comp=Z,155nm,1.4s
PMRV *eS* **S 01 14 22.2 +2.6**
PMRV *eLR* LR 01 20 07.9
comp=Z,2μm,18.0s
PCBR Castelo Branco 21.69 285 *eP* **P 01 10 21.1 -0.1**
comp=Z,94nm,1.9s
MOS Moscow 21.70 27 *eP* **P 01 10 20.2 -0.8**
MOS *e* 01 10 42.3
MOS *eS* **S 01 14 20.0 -0.1**
MOS *eSS* **SnSn 01 14 49.3 +4.6**
MOS pmax pmax
comp=Z,348nm,1.3s
MOS MLR MLR
comp=Z,7μm,11.0s
MOS MLR MLR
comp=N,5μm,12.0s
MTE Manteigas 21.73 286 *eP* **P 01 10 21.5 -0.1**
comp=N,192nm,1.4s
MTE *eS* **S 01 14 23.5 +2.4**
MTE *eLR* LR 01 20 10.2
comp=N,2μm,18.0s
MTE Manteigas 21.73 286 P **P 01 10 20.7 -0.9**
MTE IAmb IAmb 01 10 24.5
comp=Z,65nm,0.7s
MTE Manteigas 21.73 286 ⇓P **P 01 10 21.5 -0.1**
MCH1 Michaelchurch 21.80 319 *eP* **P 01 10 23.2 +1.0**
MCH1 IAmb IAmb 01 10 33.6
comp=Z,308nm,1.3s
MCH1 Michaelchurch 21.80 319 ⇑P **P 01 10 23.1 +1.0**
PESTR Estremoz 21.85 282 *eP* **P 01 10 22.5 -0.4**
comp=Z,175nm,1.4s
PESTR Estremoz 21.85 282 P **P 01 10 20.5 -2.4**
PESTR Estremoz 21.85 282 ⇑P **P 01 10 22.0 -0.9**
PVRL Vila Real 21.85 289 *eP* **P 01 10 23.2 +0.3**
comp=Z,140nm,1.5s
POLO Lamas de Olo 21.91 289 *eP* **P 01 10 25.4 +1.8**
comp=Z,76nm,1.8s
LBWR Ladybower, Pea 21.97 323 *eP* **P 01 10 24.8 +0.8**
LBWR IAmb IAmb 01 10 25.5
comp=Z,220nm,1.3s
PVIS Viseu 21.99 287 *eP* **P 01 10 24.5 +0.1**
comp=Z,161nm,1.5s
STNC Stoke 22.02 322 *eP* **P 01 10 26.2 +1.8**
PCAB Cabril 22.09 290 *eP* **P 01 10 25.1 -0.4**
comp=Z,194nm,1.7s
PVAQ Vaqueiros 22.13 278 *eP* **P 01 10 25.7 -0.1**
comp=Z,92nm,1.8s
PVAQ *eS* **S 01 14 31.1 +2.3**
PVAQ Vaqueiros 22.13 278 P **P 01 10 22.7 -3.1**
PBEJ Beja 22.16 280 *eP* **P 01 10 26.4 +0.2**
comp=Z,76nm,1.5s
EVO Evora 22.21 281 S **S 01 14 20.8 -10**
EVO Evora 22.21 281 *eP* **P 01 10 26.7 0.0**
comp=Z,122nm,1.4s
HPK Haverah Park 22.27 325 *eP* **P 01 10 28.0 +0.8**
MQOL MQOL 22.28 134 *i* P **P 01 10 28.4 +0.9**
MQOL MQOL 22.28 134 *i* **P 01 10 34.0 +6.5**
baz=181,slow=11
MQOL MQOL 22.28 134 AMP 01 10 56.6
comp=N,598nm,1.6s
PGAV Gavieira, Arco 22.28 290 *eP* **P 01 10 27.8 +0.2**
comp=N,90nm,0.9s
PGAV *eS* **S 01 14 33.8 +2.0**
PGAV *eLR* LR 01 19 15.7
comp=N,1μm,18.0s
PBDV Barranco-do-Ve 22.32 278 *eP* **P 01 10 27.7 -0.3**
comp=N,90nm,1.1s
PMTG Montargil 22.32 283 *eP* **P 01 10 26.4 -1.5**
comp=N,109nm,1.5s
PCVE Castro Verde 22.35 279 *eP* **P 01 10 27.3 -0.9**
comp=N,85nm,1.3s
FOEL Foel Wylfa 22.39 321 *eP* **P 01 10 28.7 +0.1**
FOEL IAmb IAmb 01 10 32.2
comp=Z,470nm,1.5s
UPP Uppsala 22.42 357 *eP* **P 01 10 28.9 +0.1**
PCAS Casmilo, Conde 22.47 285 *eP* **P 01 10 29.1 -0.4**
comp=Z,162nm,1.7s
SNART Snartemo 22.50 342 *i* P **P 01 10 31.0 +1.4**
SNART Snartemo 22.50 342 *eP* **P 01 10 31.7 +2.0**
PTO Porto 22.52 288 *eP* **P 01 10 30.1 +0.1**
comp=Z,237nm,1.6s
PNCL Nicolau / Gran 22.66 280 *eP* **P 01 10 33.5 +1.9**
comp=Z,90nm,2.4s
AAL Aland 22.68 360 *eP* **P 01 10 31.9 +0.4**
RSBS Rosebush, Pemb 22.70 317 *eP* **P 01 10 31.9 0.0**
RSBS IAmb IAmb 01 10 34.9
comp=Z,200nm,1.3s
PSBE So Bento 22.73 284 *eP* **P 01 10 31.9 -0.4**
comp=Z,135nm,1.3s
PACT Alcochete 22.82 282 *eP* **P 01 10 33.8 +0.6**
comp=Z,308nm,1.6s
AVE Averroes 22.85 268 P **P 01 10 39.1 +5.5**
AVE S **S 01 14 43.8 +1.7**
AVE Averroes 22.85 268 ⇓P **P 01 10 34.9 +1.3**
MEF Metsahovi 22.88 5 *eP* **P 01 10 33.5 -0.1**
PTEO Sao Teotonio 22.90 279 *eP* **P 01 10 34.2 +0.2**
comp=Z,194nm,1.7s
EDMD Edmundbyers 22.97 326 *eP* **P 01 10 34.3 -0.4**
EDMD IAmb IAmb 01 10 37.7
comp=Z,211nm,1.2s
HFS Hagfors 23.02 352 P **P 01 10 34.7 -0.4**
comp=Z,39nm,0.6s,baz=162,slow=12,SNR=132
HFS S **S 01 14 44.0 -0.4**
comp=Z,43nm,1.1s,baz=156,slow=19,SNR=6.0
HFS LR LR 01 19 59.8
comp=Z,2μm,21.4s,baz=166,slow=38
KONO Kongsberg 23.18 346⇓*eP* **P 01 10 36.3 -0.3**
KONO pmax pmax
comp=Z,105nm,1.3s
KONO Kongsberg 23.18 346 P **P 01 10 34.8 -1.9**
KONO IAmb IAmb 01 10 47.5
comp=Z,94nm,1.0s
KONO Kongsberg 23.18 346 ⇑P **P 01 10 36.8 +0.1**
KONO Kongsberg 23.18 346 *eP* **P 01 10 36.7 +0.1**
PUL Pulkovo 23.21 13*de* **P 01 10 36.6 -0.3**
PUL pmax pmax
comp=Z,274nm,0.9s
PUL Pulkovo 23.21 13 *eP* **P 01 10 36.9 0.0**
WME Myndd Eilian 23.23 321 *eP* **P 01 10 38.2 +1.0**
OSL Oslo 23.25 348 *eP* **P 01 10 37.0 -0.3**
YRC Rosscolyn 23.28 320 *eP* **P 01 10 40.2 +2.5**
WPS Cemaes, Angles 23.32 321 *eP* **P 01 10 39.2 +1.0**
WPS IAmb IAmb 01 10 42.5
comp=Z,165nm,1.1s
KESW Keswick, Cumbr 23.34 324 *eP* **P 01 10 38.8 +0.4**
KESW IAmb IAmb 01 10 40.7
comp=Z,312nm,1.2s
RAF Rauma 23.55 2 *eP* **P 01 10 40.5 +0.1**
BLS5 Blasjo 23.65 342 *eP* **P 01 10 42.4 +1.0**
EKA Eskdalemuir Ar 23.82 326 P **P 01 10 43.3 +0.2**
comp=Z,81nm,0.9s,baz=128,slow=12,SNR=70
WIM Isle of Man 23.82 322 *eP* **P 01 10 44.9 +1.8**
ESK Eskdalemuir 23.84 326 *eP* **P 01 10 43.4 +0.2**
ESK Eskdalemuir 23.84 326 P **P 01 10 42.6 -0.6**
ESK pmax pmax
comp=Z,211nm,1.2s
ESK Eskdalemuir 23.84 326 P **P 01 10 42.6 -0.6**
ESK Eskdalemuir 23.84 326 ⇓P **P 01 10 43.9 +0.8**
NC602 NORSAR Array S 23.88 349 P **P 01 10 43.1 -0.4**
NC602 NORSAR Array S 23.88 349 *eP* **P 01 10 43.4 -0.1**
ESY Stoneypath 23.96 328 *eP* **P 01 10 45.8 +1.4**
ODD1 Odda 24.04 343 *eP* **P 01 10 45.9 +0.8**
EBL Broad Law 24.05 327 *eP* **P 01 10 45.9 +0.6**
NAO01 NORSAR Array S 24.08 349 P **P 01 10 45.1 -0.4**
NEWG New Galloway 24.18 325 *eP* **P 01 10 47.2 +0.9**
EDI Edinburgh 24.21 327 *eP* **P 01 10 47.4 +0.7**
EDI IAmb IAmb 01 10 49.6
comp=Z,128nm,0.8s
NB201 NORSAR Array S 24.22 349 P **P 01 10 46.4 -0.3**
NC405 NORSAR Array S 24.22 350 P **P 01 10 46.1 -0.6**
NB2 NORSAR Subarra 24.22 349 P **P 01 10 46.9 +0.1**
comp=Z,242nm,1.1s,baz=160,slow=11
NB2 NORSAR Subarra 24.22 349 P **P 01 10 46.9 +0.1**
baz=160,slow=11
NOA NORSAR Array B 24.22 349 P **P 01 10 46.5 -0.2**
comp=Z,43nm,0.7s,baz=161,slow=8.5,SNR=172
NOA LR LR 01 22 50.8
comp=Z,2μm,18.1s,baz=160,slow=43
FINES FINESS Array B 24.24 7 P **P 01 10 45.9 -0.9**
comp=Z,56nm,0.6s,baz=166,slow=8.3,SNR=227
FINES S **S 01 15 06.7 +2.6**
comp=Z,11nm,1.0s,baz=170,slow=18,SNR=2.3
FINES LR LR 01 22 43.7
comp=Z,2μm,19.9s,baz=192,slow=43
FINES FINESS Array B 24.24 7 P **P 01 10 45.6 -1.2**
FIA1 FINESS Array S 24.24 7 P **P 01 10 46.5 -0.3**
GAL1 Galloway 24.25 324 *eP* **P 01 10 47.9 +0.9**
NB000 NORSAR Array S 24.28 349 P **P 01 10 47.5 +0.2**
NC303 NORSAR Array S 24.37 350 P **P 01 10 46.5 -1.6**
SKAR Skarslia 24.38 346 *eP* **P 01 10 49.6 +1.3**
NC204 NORSAR Array S 24.51 349 P **P 01 10 49.5 0.0**
EDU Dundee 24.54 328 *eP* **P 01 10 51.0 +1.4**
TTIG Tnine Tigouga, 24.66 262 P **P 01 10 55.0 +3.8**
BER Bergen 24.76 342 *eP* **P 01 10 53.2 +1.6**
VALR Valaam 24.79 12*d i* P **P 01 10 52.2 +0.3**
VALR pmax pmax
comp=Z,209nm,1.0s
ASK Askoy 24.88 342 *eP* **P 01 10 54.4 +1.7**
INVG Invergeldie, C 24.90 327 *eP* **P 01 10 53.7 +0.8**
HYA Hoyanger 25.26 344 *eP* **P 01 10 57.2 +1.2**
SUE Sulen 25.49 342 *eP* **P 01 10 59.0 +0.8**
DOMB Dombas 25.51 348 *eP* **P 01 10 59.9 +1.5**
RAYN Ar Rayn 25.78 116 P **P 01 11 01.6 +0.3**
RAYN pmax pmax
comp=Z,20nm,0.9s
RAYN Ar Rayn 25.78 116 P **P 01 11 01.6 +0.3**
RAYN Ar Rayn 25.78 116 P **P 01 11 02.1 +0.8**
RAYN Ar Rayn 25.78 116 ⇓P **P 01 11 02.0 +0.7**
SNR=16
AKN Aaknes 26.01 346 *eP* **P 01 11 03.3 +0.4**
KAC Achnashellach 26.11 328 *eP* **P 01 11 04.3 +0.4**
MOL Molde 26.27 347 *eP* **P 01 11 03.6 -1.6**
KLMR Klimovskoe 26.35 21 *eP* **P 01 11 03.7 -2.3**
KLMR *eS* **S 01 15 36.4 -1.4**
KLMR pmax pmax
comp=Z,219nm,1.3s
KLMR MLR MLR
comp=Z,9μm,15.0s
KLMR Klimovskoe 26.35 21 *eP* **P 01 11 03.7 -2.3**
KLMR AMP 01 11 14.6
comp=Z,219nm,1.3s
KLMR *eS* **S 01 15 36.5 -1.4**
KLMR *eS* **S 01 15 36.5 -1.4**
KLMR LQ LQ 01 19 31.2
KLMR LQ LQ 01 19 31.2
KLMR LR LR 01 21 32.1
KLMR AMP 01 22 47.5
comp=Z,9μm,15.3s
LRW Lerwick 26.42 336 *eP* **P 01 11 07.2 +0.6**
LRW Lerwick 26.42 336 ⇓P **P 01 11 07.5 +0.9**
TBLU Trondheim 26.47 350 *eP* **P 01 11 09.5 +2.4**
LINV Loch Inver, As 26.48 329 *i* P **P 01 11 09.8 +2.6**
NSS Namsos 27.49 352 *eP* **P 01 11 16.6 +0.3**
KIRV Kirov 28.35 33 P **P 01 11 23.0 -1.0**
comp=Z,11nm,0.5s,baz=230,slow=15,SNR=11
KIRV LR LR 01 22 49.5
comp=Z,2μm,21.0s,baz=222,slow=37
KIRV Kirov 28.35 33*ce* **P 01 11 24.0 0.0**
PRGR Permogore 28.87 25 *eP* **P 01 11 26.8 -1.8**
PRGR *eS* **S 01 16 20.1 +2.6**
PRGR pmax pmax
comp=Z,76nm,1.1s
MOR8 Moi Rana 28.89 355 *eP* **P 01 11 29.9 +1.1**
KONS Konsvik 29.32 354 *eP* **P 01 11 33.0 +0.6**
TOA0 Torodi Ar. Sit 29.35 219 P **P 01 11 32.6 -0.6**
TORD Torodi Ar. Bea 29.35 219 P **P 01 11 33.1 -0.2**
comp=Z,17nm,0.5s,baz=32,slow=9.2,SNR=271
TORD Torodi Ar. Bea 29.35 219 P **P 01 11 33.0 -0.2**
AKTO Aktyubinsk 29.79 52 P **P 01 11 35.3 -1.5**
comp=Z,4.3nm,0.5s,baz=264,slow=2.8,SNR=16
GEYT Alibeck 29.87 77 P **P 01 11 37.1 -0.6**
comp=Z,5.1nm,0.6s,baz=268,slow=8.8,SNR=8.9
GEYT LR LR 01 25 08.2
comp=Z,696nm,19.6s,baz=291,slow=40
GEYT Alibeck 29.87 77 P **P 01 11 36.0 -1.7**
GYA0B ALIBECK ARRAY 29.87 77 P **P 01 11 37.4 -0.3**
FAUS Fauske 30.05 356 *eP* **P 01 11 39.3 +0.4**
PMAR Madeira 30.59 272 *eP* **P 01 11 46.7 +2.4**
comp=Z,143nm,1.4s
STEI Steigen 30.59 356 *eP* **P 01 11 44.6 +0.9**
AB31 Akbulak array 30.84 55 *i* P **P 01 11 44.6 -1.5**
ABKAR Akbulak array 30.84 55 P **P 01 11 44.4 -1.7**
ABKAR Akbulak array 30.84 55 P **P 01 11 44.3 -1.7**
ABKAR IAmb IAmb 01 11 58.3
comp=Z,22nm,1.1s
ABKAR Akbulak array 30.84 55 ⇑P **P 01 11 44.8 -1.3**
LOF Lofoten 30.89 355 *eP* **P 01 11 45.2 -1.1**
APA Apatity 31.02 10⇓*iP* **P 01 11 47.3 -0.2**
APA *i* 01 12 44.7
APA *i* S S 01 16 42.0 -9.0
APA *i* SS ScP 01 18 40.0 +15
APA pmax pmax
comp=Z,12nm,0.7s
APA MLR MLR
comp=Z,5μm,14.0s
KOWA Kowa 31.43 230 P **P 01 11 51.0 -0.6**
KOWA IAmb IAmb 01 11 54.6
comp=Z,29nm,1.0s
KOWA Kowa 31.43 230 ⇓P **P 01 11 51.9 +0.3**
KTK1 Kautokeino 31.60 2 *eP* **P 01 11 51.4 -1.2**
ARU Arti 31.73 41 LR LR 01 26 57.8
comp=Z,1μm,19.7s,baz=246,slow=41
ARU Arti 31.73 41*c i* P **P 01 11 52.4 -1.5**
ARU 01 12 54.3
ARU 01 14 42.0
ARU S **S 01 17 02.8 +0.4**
ARU SS **SnSn 01 18 45.5 -4.0**
ARU pmax pmax
comp=Z,35nm,1.5s
ARU MLR MLR
comp=Z,5μm,13.0s
ARU Arti 31.73 41 P **P 01 11 51.8 -2.1**
ARU IAmb IAmb 01 12 03.8
comp=Z,29nm,0.9s
ARU Arti 31.73 41 ⇓P **P 01 11 52.2 -1.7**
MZWR Madinat Zayed 31.88 106 P **P 01 11 54.7 -0.8**
MZR Muzera 32.00 107 P **P 01 11 56.3 -0.3**
MZR Muzera 32.00 107 P **P 01 11 56.0 -0.6**
JETT Jettan, Norway 32.10 0 *eP* **P 01 11 57.6 +0.5**
TRO Tromso 32.19 359 *eP* **P 01 11 57.2 -0.5**
ARA0 ARCESS Array S 32.21 4 *eP* **P 01 11 57.9 -0.1**
ARCES ARCESS Array B 32.21 4 P **P 01 11 57.0 -1.0**
comp=Z,16nm,0.7s,baz=189,slow=8.5,SNR=34
ARCES LR LR 01 26 44.7
comp=Z,4μm,19.1s,baz=182,slow=40
ARCES ARCESS Array B 32.21 4 P **P 01 11 57.0 -1.0**
ARCES ARCESS Array B 32.21 4 P **P 01 11 56.5 -1.5**
ARCES IAmb IAmb 01 12 09.8
comp=Z,36nm,1.1s
SHME Shamm 32.44 100 P **P 01 11 59.6 -0.8**
SHME P **P 01 11 59.6 -0.8**
SHME Shamm 32.44 100 *iP* **P 01 11 59.3 -1.1**
SNR=10
ASUD Al Ashush, Dub 32.53 103 P **P 01 12 01.3 +0.1**
ASUD S **S 01 17 12.1 -3.5**
ASUD Al Ashush, Dub 32.53 103 P **P 01 12 01.1 -0.2**
NAZ Nazwa, Dubai 32.60 102 P **P 01 12 01.7 -0.2**
SNR=8.4
NAZ Nazwa, Dubai 32.60 102 P **P 01 12 01.5 -0.4**
BANOM Banah 32.63 100 P **P 01 12 01.7 -0.5**
BANOM Banah 32.63 100 *iP* **P 01 12 01.4 -0.8**
SNR=9.6
FAQ Al Faqa, Dubai 32.67 103 P **P 01 12 01.9 -0.6**
FAQ P **P 01 12 01.9 -0.6**
FAQ S **S 01 17 14.5 -3.3**
FAQ S **S 01 17 14.5 -3.3**
FAQ Al Faqa, Dubai 32.67 103 *iP* **P 01 12 02.1 -0.4**
SNR=6.4
MASF Masafi 32.80 101 P **P 01 12 02.9 -0.7**
MASF P **P 01 12 02.9 -0.7**
MASF S **S 01 17 16.0 -3.8**
MASF S **S 01 17 16.0 -3.8**
MSFE Esma-Masafi 32.80 101 P **P 01 12 02.9 -0.7**
SVE Sverdlovsk 32.94 41*d iP* **P 01 12 03.9 -0.6**
SVE pmax pmax
comp=Z,153nm,1.5s
SVE MLR MLR
comp=Z,6μm,12.0s
UOSS Minazif 33.05 102 P **P 01 12 04.5 -1.2**
UOSS IAmb IAmb 01 12 07.7
comp=Z,26nm,0.9s
UOSS Minazif 33.05 102 P **P 01 12 04.9 -0.9**
UOSS S **S 01 17 19.3 -4.2**
UOSS Minazif 33.05 102 ⇓P **P 01 12 04.8 -0.9**
UOSS Minazif 33.05 102 *iP* **P 01 12 04.3 -1.5**
SNR=9.2
HATD Hatta, Dubai 33.05 102 P **P 01 12 05.0 -0.8**
SNR=7.8
HATD S **S 01 17 20.2 -3.5**
HATD Hatta, Dubai 33.05 102 *iP* **P 01 12 05.0 -0.8**
SNR=10
ASHO Ashiyiah 33.07 102 P **P 01 12 05.3 -0.7**
SNR=7.8
ASHO S **S 01 17 19.9 -4.1**
ASHO Ashiyiah 33.07 102 *iP* **P 01 12 05.0 -1.0**
SNR=16
ALNE Al Ain 33.16 104 P **P 01 12 06.1 -0.7**
SNR=11
ALNE S **S 01 17 22.3 -3.1**
ALNE Al Ain 33.16 104 *iP* **P 01 12 06.0 -0.8**
SNR=12
HAMF Hammerfest 33.24 2 *eP* **P 01 12 07.8 +0.8**
UMZA Um Al Zommool 33.44 106 P **P 01 12 08.6 -0.6**
UMZA P **P 01 12 08.6 -0.6**
UMZA P **P 01 12 08.6 -0.6**
HRA Herat 33.98 82 P **P 01 12 13.2 -0.9**
HRA IAmb IAmb 01 12 23.1
comp=Z,36nm,1.5s
ARQ Araqi 34.14 104 P **P 01 12 14.5 -0.8**
SNR=6.9
ARQ S **S 01 17 37.1 -3.5**

HOQ Hoqain 34.62 103 P **P** 01 12 18.6 -0.9
SNR=8.2
HOQ P **P** 01 12 18.6 -0.9
SNR=8.2
HOQ S **S** 01 17 44.0 -3.9
HOQ S **S** 01 17 44.0 -3.9
BSY Bisya 34.99 104 P **P** 01 12 22.1 -0.6
SNR=6.5
BSY S **S** 01 17 50.4 -3.3
DOK Doka 35.11 113 P **P** 01 12 23.6 -0.1
BIDO Bidbid 35.28 102 P **P** 01 12 26.6 +1.4
WHFO Wadi Hawf 35.30 114 P **P** 01 12 25.1 -0.3
ABTO Aybut 35.32 116 P **P** 01 12 25.6 0.0
SMDO Samad 35.47 103 P **P** 01 12 26.1 -0.8
SNR=11
SMDO P **P** 01 12 26.1 -0.8
SNR=11
WSAR Wadi Sarin 35.83 102 P **P** 01 12 30.9 +1.0
comp=Z,4.5nm,0.6s,baz=301,slow=16,SNR=10
WSAR LR LR 01 31 21.9
comp=Z,707nm,19.7s,baz=319,slow=43
RBK Rabkut 35.88 114 P **P** 01 12 30.7 +0.3
RBK P **P** 01 12 30.7 +0.3
JMDO Jabal Madar 35.89 104 P **P** 01 12 29.4 -1.0
JMDO P **P** 01 12 29.4 -1.0
DMTO DMTO 36.28 113 P **P** 01 12 33.3 -0.5
WBK Wadi Bani Khal 36.43 103 P **P** 01 12 35.8 +0.8
SNR=6.1
WBK P **P** 01 12 35.8 +0.8
SNR=6.1
MHTO MHTO 36.56 106 P **P** 01 12 35.9 -0.2
SNR=9.4
MHTO P **P** 01 12 35.9 -0.2
SNR=9.4
BORG Borgarnes 36.57 331 P **P** 01 12 38.0 +2.3
comp=Z,15nm,0.8s,baz=82,slow=4.8,SNR=5.4
BORG LR LR 01 30 48.6
comp=Z,2µm,18.3s,baz=131,slow=42
LODK Lodwar 36.67 154 P **P** 01 12 36.4 -0.7
LODK Lodwar 36.67 154 P **P** 01 12 39.0 +1.8
SNR=9.7
JMIC Jan Mayen 36.73 345 LR LR 01 29 51.7
comp=Z,556nm,18.1s,baz=83,slow=40
JLN Jalan Bani Buh 37.02 103 P **P** 01 12 39.7 -0.3
SNR=9.8
JLN P **P** 01 12 39.7 -0.3
SNR=9.8
BRVK Borovoye 37.69 49 P **P** 01 12 44.4 -0.9
BRVK pmax pmax
comp=Z,49nm,1.0s
BRVK Borovoye 37.69 49 P **P** 01 12 44.4 -0.9
BRVK IAmb IAmb 01 12 56.6
comp=Z,49nm,1.0s
BRVK Borovoye 37.69 49 ⇑P **P** 01 12 44.5 -0.9
CHGR Chuyangaron 38.19 73 P **P** 01 12 48.5 -1.4
CHGR IAmb IAmb 01 13 09.0
comp=Z,60nm,0.8s
DBIC Dimbokro 38.23 223 P **P** 01 12 50.4 +0.1
comp=Z,37nm,0.8s,baz=40,slow=9.7,SNR=34
DBIC LR LR 01 30 01.3
comp=Z,2µm,18.2s,baz=39,slow=38
DBIC Dimbokro 38.23 223 *e*P **P** 01 12 50.0 -0.3
DBIC Dimbokro 38.23 223 P **P** 01 12 50.3 -0.1
DBIC Dimbokro 38.23 223 ⇓P **P** 01 12 50.2 -0.1
KKAR Karatay Array 38.30 65 P **P** 01 12 49.4 -1.4
KKAR Karatay Array 38.30 65 P **P** 01 12 49.4 -1.4
TIC Toumodi 38.34 223 *e*P **P** 01 12 51.6 +0.4
KIC Kosan Boka 38.42 222 *e*P **P** 01 12 52.3 +0.3
comp=Z,55nm,0.7s
LIC Lamto 38.69 223 *e*P **P** 01 12 54.1 -0.1
comp=Z,149nm,1.1s
GAR Garm 38.99 72 P **P** 01 12 55.7 -1.0
GAR IAmb IAmb 01 13 07.2
comp=Z,54nm,1.1s
OTUK Ortayu 39.00 57 P **P** 01 12 55.1 -1.4
BTK Batken 39.12 70 P **P** 01 12 56.0 -1.7
BTK pmax pmax
comp=Z,23nm,1.1s
BTK Batken 39.12 70 P **P** 01 12 56.0 -1.7
MBAR Mbarara 39.16 163 P **P** 01 12 59.7 +1.4
comp=Z,1.8nm,0.4s,baz=333,slow=4.3,SNR=9.2
MBAR LR LR 01 31 03.4
comp=Z,1µm,18.6s,baz=338,slow=39
MBAR Mbarara 39.16 163 ⇑*i*P **P** 01 13 00.4 +2.1
MBAR Mbarara 39.16 163 P **P** 01 12 57.8 -0.5
MBAR Mbarara 39.16 163 ⇑P **P** 01 13 00.7 +2.4
KBL Kabul 39.27 79 P **P** 01 12 57.9 -1.3
KBL pmax pmax
comp=Z,111nm,0.9s
KBL Kabul 39.27 79 P **P** 01 12 57.9 -1.3
KBL Kabul 39.27 79 P **P** 01 12 59.2 0.0
SNR=9.0
KBL P **P** 01 12 59.2 0.0
SNR=9.0
SOCY Socotra 39.35 121 P **P** 01 12 58.2 -1.6
SOCY Socotra 39.35 121 ⇓P **P** 01 12 57.8 -2.0
SCO Scoresbysund 39.71 339 P **P** 01 13 03.6 +1.5
SCO pmax pmax
comp=Z,56nm,1.1s
SCO Scoresbysund 39.71 339 *i* P **P** 01 13 04.0 +1.9
SCO IAmb IAmb 01 13 15.2
comp=Z,19nm,0.8s
SCO Scoresbysund 39.71 339 P **P** 01 13 03.6 +1.5
SCO IAmb IAmb 01 13 24.0
comp=Z,56nm,1.1s
SCO Scoresbysund 39.71 339 ⇑P **P** 01 13 04.6 +2.5
BTLS Baital 40.52 62 *e*P **P** 01 13 08.0 -1.1
BTLS Baital 40.52 62 *e*P **P** 01 13 08.1 -1.1
baz=62
AML Almayashu 40.79 66 P **P** 01 13 11.0 -1.0
SPB2 Spitsbergen Ar 40.80 359 P **P** 01 13 12.1 +1.0
SPB2 IAmb IAmb 01 13 25.0
comp=Z,66nm,1.0s
SPA0 Spitsbergen Ar 40.80 359 *e*P **P** 01 13 12.4 +1.3
SPITS Spitsbergen Ar 40.80 359 P **P** 01 13 12.0 +0.9
comp=Z,16nm,0.7s,baz=160,slow=14,SNR=17
SPITS LR LR 01 32 37.7
comp=Z,4µm,18.1s,baz=134,slow=40
SGDS Sogindy 41.21 64 *e*P **P** 01 13 12.8 -2.2
baz=64
AAK Ala-Archa 41.27 65 LR LR 01 33 59.6
comp=Z,916nm,19.6s,baz=290,slow=42
AAK Ala-Archa 41.27 65 *ce*P **P** 01 13 15.4 -0.2
AAK pmax pmax
comp=Z,18nm,2.5s
AAK Ala-Archa 41.27 65 P **P** 01 13 15.1 -0.5
AAK Ala-Archa 41.27 65 P **P** 01 13 14.9 -0.6
DBG Daneborg 41.56 345 *e*P **P** 01 13 16.8 -0.5
KMBO Kilima Mbogo 41.57 154 P **P** 01 13 20.3 +2.0
comp=Z,18nm,1.2s,baz=348,slow=7.1,SNR=20
KMBO Kilima Mbogo 41.57 154 P **P** 01 13 18.6 +0.3
KMBO Kilima Mbogo 41.57 154 P **P** 01 13 20.7 +2.5
KMBO Kilima Mbogo 41.57 154 ⇓P **P** 01 13 20.6 +2.3
KMBO Kilima Mbogo 41.57 154 P **P** 01 13 20.8 +2.5
KUU Kurty 42.34 63 *e*P **P** 01 13 23.2 -0.9
KUU Kurty 42.34 63 *e*P **P** 01 13 23.3 -0.9
baz=63
BOOM Boomskoye usch 42.34 65 P **P** 01 13 23.0 -1.4
BOOM pmax pmax
comp=Z,11nm,0.6s
BOOM Boomskoye usch 42.34 65 P **P** 01 13 23.0 -1.4
CHKK Chushkaly 42.81 63 *e*P **P** 01 13 27.1 -0.9
baz=63
KURBB Kurchatov Arra 42.84 53 LR LR 01 35 25.1
comp=Z,1µm,18.6s,baz=249,slow=42
KURBB Kurchatov Arra 42.84 53 P **P** 01 13 26.3 -1.7
KURK Kurchatov 42.88 53 P **P** 01 13 27.3 -1.1
KURK pmax pmax
comp=Z,49nm,1.1s
KURK Kurchatov 42.88 53 P **P** 01 13 27.3 -1.1
KURK IAmb IAmb 01 13 38.6
comp=Z,49nm,1.1s
DAG Danmarks Havn 42.89 348 *i* P **P** 01 13 28.6 +0.5
DAG IAmb IAmb 01 13 29.4
comp=Z,5.6nm,0.6s
DAG Danmarks Havn 42.89 348 ⇓P **P** 01 13 29.5 +1.4
AAA Alma-Ata 42.89 64 *e*P **P** 01 13 27.6 -1.0
AAA Alma-Ata 42.89 64 *e*P **P** 01 13 27.7 -1.0
baz=64
KIBK Kibwezi 42.97 153 P **P** 01 13 30.0 +0.4
KIBK Kibwezi 42.97 153 P **P** 01 13 31.2 +1.6
SNR=6.7
MDOK Medeo 42.99 64 P P 01 13 35.7 +6.1
MDOK Medeo 42.99 64 *e*P **P** 01 13 28.3 -1.4
baz=64

KSH Kashi 43.10 69 P **P** 01 13 28.5 -2.0
KSH sP pP 01 13 35.8 +0.2
KSH PcP **PcP** 01 15 20.5 +0.3
KSH ScP **ScP** 01 19 11.5 +1.3
KSH S **S** 01 19 50.8 -4.8
KSH pmax pmax
comp=Z,430nm,6.3s
KSH LR LR
comp=Z,660nm,12.4s
KSH LR LR
comp=Z,1µm,13.0s
KSH LR LR
comp=Z,1µm,12.7s
KDJ Kajisay 43.32 65 P **P** 01 13 29.7 -2.6
KDJ pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 43.32 65 P **P** 01 13 29.7 -2.6
TDK Taldyqorghan 43.57 61 *e*P **P** 01 13 32.2 -1.9
TDK Taldyqorghan 43.57 61 *e*P **P** 01 13 32.3 -1.9
baz=61
ISOG Isortoq, Green 43.86 329 *i* P **P** 01 13 37.5 +1.4
ISOG IAmb IAmb 01 13 54.3
comp=Z,23nm,0.8s
ISOG Isortoq, Green 43.86 329 ⇑P **P** 01 13 38.6 +2.6
TARG Taragay, Kyrgy 43.87 66 P **P** 01 13 36.7 -0.3
SEM Semipalatinsk 43.95 53 *e*P **P** 01 13 35.5 -1.8
SEM Semipalatinsk 43.95 53 *e*P **P** 01 13 35.6 -1.8
baz=53
ZHN Zhinishke 43.98 64 *e*P **P** 01 13 35.6 -1.9
ZHN Zhinishke 43.98 64 *e*P **P** 01 13 35.6 -1.9
baz=64
SATY Saty 43.99 64 *e*P **P** 01 13 36.2 -1.4
SATY Saty 43.99 64 *e*P **P** 01 13 36.2 -1.4
baz=64
KPKS Kokpek 44.09 63 *e*P **P** 01 13 36.8 -1.6
KPKS Kokpek 44.09 63 *e*P **P** 01 13 36.9 -1.6
baz=63
UZB Uzynbulak 44.41 64 *e*P **P** 01 13 40.1 -0.9
UZB Uzynbulak 44.41 64 *e*P **P** 01 13 40.2 -0.9
baz=64
PDGK Podgornoye 44.70 63 P **P** 01 13 41.3 -2.0
SHLS Shalkode 44.72 63 *e*P **P** 01 13 43.9 +0.5
SHLS Shalkode 44.72 63 *e*P **P** 01 13 43.9 +0.5
baz=63
ICESG Greenland Ices 44.82 334 *i* P **P** 01 13 44.9 +0.7
ICESG IAmb IAmb 01 14 21.1
comp=Z,15nm,0.8s
ICESG Greenland Ices 44.82 334 ⇓P **P** 01 13 45.9 +1.7
MAKZ Makanchi 45.66 58 P **P** 01 13 49.0 -1.8
MAKZ pmax pmax
comp=Z,36nm,1.5s
MAKZ Makanchi 45.66 58 P **P** 01 13 49.0 -1.8
MAKZ IAmb IAmb 01 14 00.1
comp=Z,36nm,1.4s
MAKZ Makanchi 45.66 58 ⇓P **P** 01 13 49.2 -1.5
MK31 Makanchi Array 45.87 58 P **P** 01 13 51.3 -1.2
MK31 pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 45.87 58 P **P** 01 13 51.3 -1.2
MKAR Makanchi Array 45.87 58 P **P** 01 13 51.0 -1.5
comp=Z,8.2nm,0.5s,baz=279,slow=7.3,SNR=96
MKAR LR LR 01 35 41.6
comp=Z,962nm,19.3s,baz=281,slow=40
MKAR Makanchi Array 45.87 58 P **P** 01 13 51.2 -1.3
MKAR Makanchi Array 45.87 58 P **P** 01 13 51.2 -1.3
NOR Nord 46.11 353 *i* P **P** 01 13 53.5 -0.3
ZAAO Zalesovo Array 46.33 48 P **P** 01 13 54.9 -1.0
ZALV Zalesovo Beam 46.33 48 P **P** 01 13 54.6 -1.3
comp=Z,30nm,0.5s,baz=275,slow=8.4,SNR=75
ZALV LR LR 01 36 24.4
comp=Z,2µm,18.8s,baz=292,slow=40
ZALV Zalesovo Beam 46.33 48 P **P** 01 13 54.7 -1.2
ZALV Zalesovo Beam 46.33 48 P **P** 01 13 54.7 -1.2
DY2G Dye2 46.93 330 *i* P **P** 01 14 01.8 +1.1
DY2G IAmb IAmb 01 14 17.9
comp=Z,11nm,0.7s
ZSN Zaisan 47.45 56 *e*P **P** 01 14 03.1 -1.7
ZSN Zaisan 47.45 56 *e*P **P** 01 14 03.2 -1.7
baz=56
NDI New Delhi 47.95 83 *e*P **P** 01 14 12.0 +3.1
SFJD Kangerlussuaq 48.68 330 LR LR 01 38 02.3
comp=Z,1µm,18.4s,baz=86,slow=40
SFJD Kangerlussuaq 48.68 330 P **P** 01 14 14.4 +0.5
SFJD pmax pmax
comp=Z,30nm,1.3s
SFJD Kangerlussuaq 48.68 330 *i* P **P** 01 14 13.9 0.0
SFJD IAmb IAmb 01 14 22.8
comp=Z,3.7nm,0.8s
SFJD Kangerlussuaq 48.68 330 P **P** 01 14 14.4 +0.5
SFJD IAmb IAmb 01 14 15.9
comp=Z,30nm,1.3s
WMQ Urumqi 50.31 60 *e*P P 01 14 33.5 +6.6
WMQ sP pwP 01 14 43.8 +6.9
WMQ PP **PP** 01 16 27.5 +5.4
WMQ S **S** 01 21 42.3 +3.8
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,340nm,4.5s
WMQ LR LR
comp=N,810nm,13.7s
WMQ LR LR
comp=E,870nm,14.7s
WMQ LR LR
comp=Z,470nm,21.3s
PYUN Piuthan 52.75 81 *e*P **P** 01 14 44.8 -0.7
comp=Z,90nm,0.7s
LSZ Lusaka 53.05 170 P **P** 01 14 47.9 +0.5
comp=Z,21nm,1.1s,baz=355,slow=8.1,SNR=14
LSZ LR LR 01 38 59.2
comp=Z,1µm,19.8s,baz=358,slow=38
LSZ Lusaka 53.05 170 *e*P **P** 01 14 48.5 +1.1
LSZ IAmb IAmb 01 14 55.2
comp=Z,688nm,1.6s
LSZ Lusaka 53.05 170 P **P** 01 14 47.7 +0.2
LSZ pmax pmax
comp=Z,47nm,1.4s
LSZ Lusaka 53.05 170 P **P** 01 14 47.7 +0.2
LSZ IAmb IAmb 01 14 56.4
comp=Z,47nm,1.4s
DANN Dangsing 53.24 80 *e*P **P** 01 14 48.5 -0.7
comp=Z,140nm,0.7s
KOLN Koldanda 53.38 81 *e*P **P** 01 14 49.1 -1.1
TULEG Thule 53.65 343 P **P** 01 14 51.3 +0.1
GKN Gorkha 54.09 80 *e*P **P** 01 14 54.1 -1.2
comp=Z,36nm,0.4s
DMN Daman 54.64 80 *e*P **P** 01 14 58.6 -0.8
HYBB Hyderabad (bro 54.65 95 *e*P **P** 01 14 57.2 -2.1
KNGR Kungurtug, Tuv 54.66 50 ⇓*i*P **P** 01 14 59.1 +0.1
KKN Kakani 54.69 80 *e*P **P** 01 14 58.5 -1.2
PKIN Phulchoki 54.88 80 *e*P **P** 01 15 00.0 -1.2
PKI Pulchoki 54.90 80 *e*P **P** 01 15 00.0 -1.3
GUN Gumba 55.10 80 *e*P **P** 01 15 01.7 -1.2
comp=Z,54nm,0.4s
DRLN Deer Lake 55.31 309 P **P** 01 15 03.1 -0.5
JIRN Jiri 55.47 80 *e*P **P** 01 15 04.5 -1.0
RAMN Ramite 56.12 80 *e*P **P** 01 15 08.7 -1.4
comp=Z,36nm,0.4s
MOY Mondy 56.39 48 *e*P P 01 15 18.9 +7.5
MOY pmax pmax
comp=Z,57nm,1.7s
TSUM Tsumeb 56.47 183 P **P** 01 15 12.2 0.0
comp=Z,9.8nm,1.1s,baz=35,slow=6.8,SNR=4.8
TSUM LR LR 01 42 17.2
comp=Z,2µm,18.9s,baz=342,slow=39
TSUM Tsumeb 56.47 183 *e*P **P** 01 15 12.1 -0.2
TSUM IAmb IAmb 01 15 19.6
comp=Z,12µm,5.3s
TSUM Tsumeb 56.47 183 P **P** 01 15 12.0 -0.2
TSUM IAmb IAmb 01 15 19.3
comp=Z,27nm,1.4s
FRB Frobisher Bay 56.57 328 LR LR 01 42 05.1
comp=Z,961nm,18.4s,baz=78,slow=39
TAPN Taplejung 56.80 79 *e*P **P** 01 15 13.7 -1.3
BLWY Bulawayo 57.89 171 *e*P **P** 01 15 24.8 +2.4
IRK Irkutsk 58.09 46 *e*P **P** 01 15 22.2 -1.1
IRK pmax pmax
comp=Z,115nm,2.0s
MATP Matopo 58.16 171 P **P** 01 15 25.0 +0.8
comp=Z,7.2nm,0.7s,baz=355,slow=7.0,SNR=26
MATP LR LR 01 42 06.4
comp=Z,933nm,18.8s,baz=357,slow=38
MATP Matopo 58.16 171 *i* P **P** 01 15 25.4 +1.3
MATP Matopo 58.16 171 *i* P **P** 01 15 25.4 +1.3
GOMU GeErMu 58.19 67 P **P** 01 15 24.5 -0.2

GOMU pP pP 01 15 29.3 -0.7
GOMU sP sP 01 15 30.5 -1.4
GOMU PcP **PcP** 01 16 16.8 +0.7
GOMU PP **PP** 01 17 33.5 +0.1
GOMU S **S** 01 23 26.0 +0.4
GOMU sS pS 01 23 28.8 -3.5
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,89nm,4.5s
GOMU LR LR
comp=Z,110nm,9.7s
GOMU LR LR
comp=Z,170nm,12.3s
ZAK Zakamensk 58.19 48 *e*P **P** 01 15 24.1 -0.1
ZAK *e* 01 17 39.5
ZAK pmax pmax
comp=Z,39nm,1.5s
ZAK pmax pmax
comp=Z,16nm,1.4s
ZAK pmax pmax
comp=Z,11nm,1.4s
LSA Lhasa 58.36 75 P **P** 01 15 25.3 -0.8
LSA pmax pmax
comp=Z,19nm,0.7s
LSA Lhasa 58.36 75 P **P** 01 15 25.3 -0.8
LSA IAmb IAmb 01 15 39.4
comp=Z,19nm,0.7s
LSA Lhasa 58.36 75 P **P** 01 15 24.5 -1.6
SCHQ Schefferville 58.77 317 P **P** 01 15 28.3 +0.2
comp=Z,12nm,0.7s,baz=57,slow=6.3,SNR=35
SCHQ LR LR 01 40 37.7
comp=Z,710nm,19.7s,baz=62,slow=36
SCHQ Schefferville 58.77 317 P **P** 01 15 28.0 -0.1
SCHQ IAmb IAmb 01 15 45.3
comp=Z,16nm,0.8s
MSNA Messina 60.26 170 *e*P P 01 15 43.7 +5.1
RES Resolute Bay 60.33 344 LR LR 01 42 28.4
comp=Z,664nm,20.4s,baz=72,slow=37
RES Resolute Bay 60.33 344 P **P** 01 15 38.2 -0.3
RES pmax pmax
comp=Z,19nm,1.1s
RES Resolute Bay 60.33 344 P **P** 01 15 38.2 -0.3
RES IAmb IAmb 01 15 58.0
comp=Z,19nm,1.1s
TIXI Tiksi 60.36 20 LR LR 01 45 50.0
comp=Z,8µm,18.2s,baz=347,slow=40
TIXI Tiksi 60.36 20 *c i*P **P** 01 15 39.2 +0.5
TIXI pmax pmax
comp=Z,42nm,1.7s
TIXI Tiksi 60.36 20 P **P** 01 15 38.9 +0.2
GTA Gaotai 60.37 61 *e*P **P** 01 15 38.5 -1.0
GTA sP sP 01 15 46.0 -0.7
GTA S **S** 01 23 52.8 -0.5
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,290nm,7.6s
GTA LR LR
comp=Z,610nm,17.1s
GTA LR LR
comp=Z,560nm,16.7s
GTA LR LR
comp=Z,1µm,13.1s
SHL Shillong 60.93 79 P **P** 01 15 41.5 -2.0
SHL pmax pmax
comp=Z,71nm,1.0s
SHL Shillong 60.93 79 P **P** 01 15 41.5 -2.0
BOD Bodaibo 61.06 38 *e*P **P** 01 15 42.4 -1.2
BOD pmax pmax
comp=Z,66nm,2.0s
SONM Songino Array 61.08 50 P **P** 01 15 43.6 -0.6
comp=Z,6.7nm,0.7s,baz=282,slow=7.9,SNR=48
SONM LR LR 01 44 24.5
comp=Z,539nm,18.1s,baz=64,slow=38
SONM Songino Array 61.08 50 P **P** 01 15 43.8 -0.4
SONM pmax pmax
comp=Z,54nm,1.2s
SONM Songino Array 61.08 50 P **P** 01 15 43.8 -0.4
LMN Caledonia Moun 61.17 307 P **P** 01 15 44.6 -0.1
OPO Ambohidratompo 61.31 151 LR LR 01 42 05.3
comp=Z,356nm,21.7s,baz=183,slow=36
ULN Ulaanbaatar 61.47 50 P **P** 01 15 46.5 -0.3
ULN pmax pmax
comp=Z,35nm,1.2s
ULN Ulaanbaatar 61.47 50 P **P** 01 15 46.5 -0.3
ULN IAmb IAmb 01 15 57.9
comp=Z,35nm,1.2s
MOPA Mopani 61.62 168 *e*P **P** 01 15 50.1 +2.3
PALK Pallekele 62.32 103 LR LR 01 45 39.1
comp=Z,407nm,18.8s,baz=64,slow=39
PALK Pallekele 62.32 103 *ce*P **P** 01 15 53.0 +0.2
PALK Pallekele 62.32 103 P **P** 01 15 52.0 -0.8
LBTB Lobatse 62.40 174 LR LR 01 45 45.9
comp=Z,1µm,18.2s,baz=0.0,slow=39
LBTB Lobatse 62.40 174 P **P** 01 15 52.5 -0.6
LBTB pmax pmax
comp=Z,25nm,1.1s
LBTB Lobatse 62.40 174 P **P** 01 15 52.5 -0.6
LBTB IAmb IAmb 01 16 04.4
comp=Z,25nm,1.1s
LBTB Lobatse 62.40 174 *i* P **P** 01 15 54.5 +1.4
LBTB Lobatse 62.40 174 *i* P **P** 01 15 54.5 +1.4
D62A Allapoint, All 63.26 310 P **P** 01 15 57.5 -1.1
SLR Silverton 63.37 172 *e*P **P** 01 16 01.9 +2.3
SLR IAmb IAmb 01 16 28.6
comp=Z,4.2nm,0.8s
CIT Chita 63.39 44 *e*P **P** 01 15 59.5 0.0
CIT *e* 01 16 42.1
CIT *e* 01 18 27.8
CIT pmax pmax
comp=Z,114nm,1.8s
VOI Vohitsoka 64.19 152 P **P** 01 16 06.1 +1.0
VOI Vohitsoka 64.19 152 P P 01 16 10.5 +5.5
PRYS Parys 64.45 173 *e*P **P** 01 16 09.4 +2.7
PRYS IAmb IAmb 01 16 26.9
comp=Z,1µm,4.8s
SWZ Schweizer 64.54 175 *e*P P 01 16 14.8 +7.6
LZH Lanzhou 64.73 63 *e*P **P** 01 16 10.3 +1.6
LZH sP sP 01 16 17.0 +1.0
LZH PP **PP** 01 18 34.0 +3.1
LZH S **S** 01 24 45.0 -3.3
LZH sS pS 01 24 52.0 -3.1
LZH *i* 01 26 00.0
LZH pmax pmax
comp=Z,20nm,1.6s
LZH pmax pmax
comp=Z,200nm,4.9s
LZH LR LR
comp=Z,1µm,17.3s
LZH LR LR
comp=Z,760nm,17.9s
LZH LR LR
comp=Z,930nm,17.4s
YAK Yakutsk 65.81 29 LR LR 01 49 25.3
comp=Z,1µm,18.5s,baz=293,slow=40
YAK Yakutsk 65.81 29 *e*P **P** 01 16 14.8 -0.2
YAK *e**PP **pP** 01 16 19.7 -0.8
YAK *e* 01 16 45.2
YAK *e* 01 18 38.9
YAK *e*S **S** 01 25 02.6 +2.3
YAK *e* 01 26 10.5
YAK *e*SS **SS** 01 29 16.5 +2.3
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,130nm,3.1s
YAK pmax pmax
comp=N,58nm,3.5s
YAK pmax pmax
comp=E,61nm,2.9s
YAK smax smax
comp=E,140nm,3.8s
YAK smax smax
comp=N,120nm,2.5s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,1µm,19.0s

BOSA Boshof 65.95 175 P **P** **01 16 17.3 +0.9**
comp=E,7.9nm,0.7s,baz=347,slow=6.4,SNR=14
BOSA LR LR 01 47 42.7
comp=E,2µm,18.2s,baz=359,slow=38
BOSA Boshof 65.95 175 *e*P P 01 16 22.6 +6.3
BOSA Boshof 65.95 175 P **P** **01 16 16.6 +0.3**
BOSA IAmb IAmb 01 16 19.7
comp=Z,32nm,1.4s
BOSA Boshof 65.95 175 *i* P **P** **01 16 17.2 +0.9**
BOSA Boshof 65.95 175 *i* P **P** **01 16 17.2 +0.9**
BTO Baotou 66.74 56 *e*P **P** **01 16 18.0 -3.5**
CD2 Chengdu 67.26 68 P **P** **01 16 24.8 -0.1**
CD2 sP sP 01 16 31.5 -0.7
CD2 S **S** **01 25 16.5 -2.5**
CD2 ScS **SKSac** **01 26 21.5 0.0**
CD2 pmax pmax
comp=Z,50nm,1.8s
CD2 pmax pmax
comp=Z,280nm,6.4s
CD2 LR LR
comp=Z,50nm,17.4s
CD2 LR LR
comp=Z,480nm,16.7s
CD2 LR LR
comp=Z,510nm,15.6s
HHC Hu-ho-hao-te 67.63 55 *e*P **P** **01 16 27.5 +0.4**
HHC S **S** **01 25 20.0 -3.2**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,370nm,5.3s
HHC LR LR
comp=Z,580nm,18.5s
HHC LR LR
comp=Z,1µm,14.7s
HHC LR LR
comp=Z,1µm,16.5s
NBPV Pedro Velho 67.64 242 *e*P **P** **01 16 27.6 +0.3**
RCBR Riachuelo 67.66 243 LR LR 01 46 50.2
comp=Z,2µm,18.1s,baz=194,slow=37
RCBR Riachuelo 67.66 243 *e*P **P** **01 16 29.4 +1.9**
VLDQ Val d'Or 67.72 314 P **P** **01 16 28.2 +0.8**
VLDQ IAmb IAmb 01 16 46.2
comp=Z,14nm,0.8s
PZH PanZhiHua 68.05 73 ⇑P **P** **01 16 29.3 -0.7**
PZH pP **pP** **01 16 34.0 -1.3**
PZH S **S** **01 25 25.5 -3.2**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,210nm,4.2s
PZH LR LR
comp=Z,1µm,17.7s
PZH LR LR
comp=Z,870nm,18.8s
PZH LR LR
comp=Z,880nm,18.6s
A36M Sachs Harbour 68.13 349 P **P** **01 16 29.4 -0.1**
A36M Sachs Harbour 68.13 349 P **P** **01 16 31.2 +1.6**
baz=29
HIA Hailar 68.18 44 *c i*P **P** **01 16 30.8 +0.5**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 68.18 44 P **P** **01 16 30.1 -0.2**
XLT XiLinHaoTe 68.90 50 *e*P **P** **01 16 35.0 0.0**
XLT pP pP 01 16 39.8 -0.8
XLT sP sP 01 16 42.5 -0.1
XLT PcP **PcP** **01 16 59.0 -0.4**
XLT PcS 01 21 05.5
XLT S **S** **01 25 41.8 +3.6**
XLT sS sS 01 25 50.0 +2.5
XLT SS **SS** **01 29 57.5 -5.5**
XLT pmax pmax
comp=Z,21nm,0.9s
XLT LR LR
comp=Z,1µm,13.1s
XLT LR LR
comp=Z,2µm,13.9s
XAN Xi'an 69.36 63 P **P** **01 16 38.0 0.0**
XAN S **S** **01 25 44.0 +0.1**
XAN pmax pmax
comp=Z,60nm,1.8s
XAN pmax pmax
comp=Z,500nm,6.8s
XAN LR LR
comp=Z,320nm,15.8s
XAN LR LR
comp=Z,690nm,16.5s
XAN LR LR
comp=Z,940nm,16.2s
SUR Sutherland 69.54 179 LR LR 01 49 59.4
comp=Z,2µm,18.3s,baz=1.0,slow=38
KMI Kunming 69.54 74 ⇑P **P** **01 16 39.0 -0.5**
KMI pP sP 01 16 46.5 -0.3
KMI PcP **PcP** **01 17 03.3 +0.7**
KMI S **S** **01 25 42.5 -4.2**
KMI SKS **SKSac** **01 26 33.0 -6.3**
KMI SS **SS** **01 30 14.5 +0.4**
KMI pmax pmax
comp=Z,16nm,2.2s
KMI pmax pmax
comp=Z,310nm,4.1s
KMI LR LR
comp=Z,220nm,17.8s
KMI LR LR
comp=Z,430nm,18.6s
KMI LR LR
comp=Z,470nm,17.0s
ZEA Zeya 69.56 37 *e*P **P** **01 16 39.9 +1.1**
ZEA *e* 01 17 00.0
ZEA *e*S **S** **01 25 51.2 +5.7**
ZEA *e*SS **SS** **01 30 11.5 -0.9**
ZEA pmax pmax
comp=Z,200nm,3.4s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA smax smax
comp=E,100nm,14.6s
ZEA smax smax
comp=N,200nm,12.4s
ZEA MLR MLR
comp=E,600nm,15.0s
ZEA MLR MLR
comp=N,700nm,18.0s
ZEA MLR MLR
comp=Z,1µm,14.0s
FCC Fort Churchill 69.69 330 P **P** **01 16 39.2 -0.3**
FCC pmax pmax
comp=Z,29nm,1.2s
FCC Fort Churchill 69.69 330 P **P** **01 16 39.2 -0.3**
FCC IAmb IAmb 01 16 52.0
comp=Z,29nm,1.2s
TIY Taiyuan 69.84 58 *e*P P 01 16 47.0 +6.1
TIY S **S** **01 25 49.3 -0.2**
TIY pmax pmax
comp=Z,19nm,0.5s
TIY pmax pmax
comp=Z,250nm,4.1s
TIY LR LR
comp=N,600nm,15.1s
TIY LR LR
comp=E,440nm,14.4s
TIY LR LR
comp=Z,770nm,13.3s
CHTO Chiang Mai 70.05 81 P **P** **01 16 41.6 -0.8**
CHTO pmax pmax
comp=Z,35nm,1.3s
CHTO Chiang Mai 70.05 81 P **P** **01 16 41.5 -0.8**
CHTO IAmb IAmb 01 16 56.0
comp=Z,35nm,1.2s
NBPB Pedra_Branca-C 70.11 246 *e*P **P** **01 16 44.7 +2.0**
CMAR Chiang Mai Arr 70.24 82 P **P** **01 16 42.5 -1.0**
comp=Z,5.2nm,0.7s,baz=302,slow=8.1,SNR=23
CMAR LR LR 01 51 05.1
comp=Z,112nm,20.8s,baz=295,slow=39
CMAR Chiang Mai Arr 70.24 82 *ce*P **P** **01 16 43.2 -0.4**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 70.24 82 P **P** **01 16 42.4 -1.2**
C36M Paulatuk 70.25 347 P **P** **01 16 42.5 -0.2**
C36M IAmb IAmb 01 17 01.6
comp=Z,14nm,0.8s
C36M Paulatuk 70.25 347 P **P** **01 16 43.9 +1.1**
baz=30
SADO Sadowa 70.50 312 LR LR 01 47 41.9
comp=Z,537nm,18.3s,baz=34,slow=36

NBAN Anadia - AL 70.61 241 *e*P **P** **01 16 47.6 +1.8**
NBPS Pedro II - PI 70.70 248 *e*P **P** **01 16 48.4 +2.0**
NBMA Muriti-CE 70.76 244 *e*P **P** **01 16 47.9 +1.1**
BJI Beijing 71.04 54 P **P** **01 16 48.0 -0.1**
BJI sP **sP** **01 16 54.8 -0.9**
BJI PcP **PcP** **01 17 08.0 -0.3**
BJI S **S** **01 26 03.5 +0.3**
BJI ScS **ScS** **01 26 52.8 +1.6**
BJI pmax pmax
comp=Z,13nm,1.2s
BJI pmax pmax
comp=Z,270nm,6.3s
BJI LR LR
comp=Z,830nm,15.5s
BJI LR LR
comp=Z,700nm,19.0s
BJI LR LR
comp=Z,1µm,13.9s
BJT Baijiatuau 71.05 54 P **P** **01 16 46.9 -1.2**
BJT pmax pmax
comp=Z,54nm,1.3s
BJT Baijiatuau 71.05 54 P **P** **01 16 46.9 -1.2**
A21K Barrow 71.44 359 P **P** **01 16 51.2 +1.3**
baz=2.7
HNS HongShan 71.53 57 ⇑P **P** **01 16 51.0 -0.1**
HNS S **S** **01 26 07.8 -1.1**
HNS pmax pmax
comp=Z,42nm,1.6s
HNS pmax pmax
comp=Z,320nm,4.1s
HNS LR LR
comp=Z,320nm,20.6s
HNS LR LR
comp=Z,420nm,21.7s
LYN LuoYang 71.56 60 ⇑P **P** **01 16 51.8 +0.4**
LYN sP sP 01 16 58.8 -0.2
LYN PP **PP** **01 19 31.5 +1.6**
LYN S **S** **01 26 10.3 +0.8**
LYN SS **SS** **01 30 42.0 -2.2**
LYN pmax pmax
comp=Z,10.0nm,1.3s
LYN pmax pmax
comp=Z,300nm,4.5s
LYN LR LR
comp=Z,630nm,13.0s
LYN LR LR
comp=Z,450nm,13.2s
LYN LR LR
comp=Z,680nm,14.3s
ROSB Rosrio 71.71 251 *e*P **P** **01 16 52.3 -0.2**
BILL Bilibino 71.72 13 *d i*P **P** **01 16 52.0 +0.3**
BILL *i* *PP **pP** **01 16 56.0 -1.2**
BILL *i* *SP **sP** **01 16 58.2 -1.0**
BILL *i* 01 17 12.0
BILL *e*PPP PPP 01 21 12.9
BILL *i* S **S** **01 26 07.7 -2.5**
BILL *i* SSS SSS 01 33 56.5
BILL pmax pmax
comp=Z,30nm,1.7s
BILL Bilibino 71.72 13 P **P** **01 16 51.6 -0.2**
BILL IAmb IAmb 01 17 07.5
comp=Z,42nm,1.3s
ENH Enshi 71.78 66 P **P** **01 16 52.2 -0.7**
GYA Guiyang 71.79 70 ⇑P **P** **01 16 52.5 -0.5**
GYA pP sP 01 17 00.3 0.0
GYA PP **PP** **01 19 34.5 +2.3**
GYA S **S** **01 26 10.3 -2.2**
GYA pmax pmax
comp=Z,16nm,1.8s
GYA pmax pmax
comp=Z,230nm,3.6s
GYA LR LR
comp=Z,350nm,20.3s
GYA LR LR
comp=Z,300nm,10.1s
GYA LR LR
comp=Z,330nm,15.9s
NBLA Lagarto - SE 72.60 241 *e*P **P** **01 16 58.3 +0.6**
M54A Oil Creek Stat 72.66 309 P **P** **01 16 58.4 +0.6**
baz=55
INK Inuvik 72.67 350 LR LR 01 50 50.2
comp=Z,337nm,20.7s,baz=3.5,slow=38
INK Inuvik 72.67 350 P **P** **01 16 58.2 +0.8**
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 72.67 350 P **P** **01 16 58.2 +0.8**
INK Inuvik 72.67 350 P **P** **01 16 58.5 +1.1**
baz=22
SEY Seymchan 72.85 21 LR LR 01 53 19.6
comp=Z,2µm,18.9s,baz=330,slow=39
SEY Seymchan 72.85 21 ⇑*e*P **P** **01 16 59.3 +0.8**
SEY pmax pmax
comp=Z,25nm,1.7s
MDP Montagnes des 73.30 264 LR LR 01 47 33.3
comp=Z,271nm,20.8s,baz=33,slow=34
R58B Mineral 73.55 305 P **P** **01 17 04.1 +1.0**
R58B IAmb IAmb 01 17 15.1
comp=Z,21nm,1.1s
TIA Tai'an 73.80 57 *e*P **P** **01 17 03.8 -0.9**
TIA S **SKiKP** **01 26 32.8 0.0**
TIA pmax pmax
comp=Z,36nm,1.5s
TIA pmax pmax
comp=Z,270nm,8.2s
TIA LR LR
comp=Z,550nm,19.1s
TIA LR LR
comp=Z,560nm,15.2s
TIA LR LR
comp=Z,1µm,14.7s
MCWV Mont Chateau 73.83 308 P **P** **01 17 06.2 +1.4**
baz=54
TOLK Toolik Lake Re 73.89 356 P **P** **01 17 04.5 -0.2**
TOLK IAmb IAmb 01 17 15.3
comp=Z,35nm,1.2s
TOLK Toolik Lake Re 73.89 356 P **P** **01 17 06.8 +2.1**
baz=8.5
YKA Yellowknife Ar 73.92 340 P **P** **01 17 05.3 +0.4**
comp=Z,5.0nm,0.7s,baz=35,slow=5.4,SNR=72
YKA LR LR 01 52 07.2
comp=Z,248nm,18.1s,baz=56,slow=38
YKA Yellowknife Ar 73.92 340 P **P** **01 17 04.7 -0.2**
NBPN Ponto Novo - B 74.18 243 *e*P **P** **01 17 09.2 +2.1**
O53A New Philadelph 74.34 309 P **P** **01 17 09.6 +1.8**
baz=54
TMAB Tom-Au,PA,Br 74.39 255 *e*P **P** **01 17 10.5 +2.1**
BNX BinXian 74.45 44 ⇓P **P** **01 17 08.8 +0.5**
BNX pP **pP** **01 17 13.5 -0.3**
BNX sP **sP** **01 17 16.0 +0.2**
BNX PP **PP** **01 19 56.5 +2.3**
BNX S **S** **01 26 40.3 -1.7**
BNX sS **pS** **01 26 46.3 -2.7**
BNX pmax pmax
comp=Z,15nm,0.6s
BNX pmax pmax
comp=Z,930nm,4.2s
BNX LR LR
comp=Z,3µm,14.1s
BNX LR LR
comp=Z,3µm,12.7s
BNX LR LR
comp=Z,5µm,13.5s
CN2 Changchun 74.53 46 *e*P **P** **01 17 07.5 -1.3**
CN2 *e*PP **PP** **01 19 55.5 +0.6**
CN2 *e*S **S** **01 26 39.8 -3.1**
CN2 *e*sS pS 01 26 50.0 0.0
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 pmax pmax
comp=Z,390nm,6.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,2µm,14.0s
KLR Kul'dur 74.55 39 LR LR 01 55 28.3
comp=Z,820nm,19.1s,baz=328,slow=40
N51A Ashland 74.66 310 P **P** **01 17 08.3 -1.3**
N51A IAmb IAmb 01 17 16.0
comp=Z,43nm,1.2s
RDOG Red Dog Mine 74.72 1 P **P** **01 17 09.5 0.0**
RDOG IAmb IAmb 01 17 22.0
comp=Z,30nm,1.1s
RDOG Red Dog Mine 74.72 1 P **P** **01 17 11.1 +1.6**
baz=358
J47A Sunmer 74.73 313 P **P** **01 17 10.1 +0.1**
J47A IAmb IAmb 01 17 16.6
comp=Z,27nm,1.1s
BMAR Burnt Mountain 74.74 354 P **P** **01 17 09.8 +0.1**
R55A Marlinton 74.80 307 P **P** **01 17 09.3 -1.2**
R55A IAmb IAmb 01 17 17.5
comp=Z,35nm,1.2s
O52A Adamsville 74.81 309 P **P** **01 17 10.0 -0.4**
O52A IAmb IAmb 01 17 22.3
comp=Z,46nm,1.2s
P53A Whipple 74.90 308 IAmb IAmb 01 17 17.8
comp=Z,29nm,1.1s
MA2 Magadan 75.00 24 LR LR 01 54 41.7
comp=Z,2µm,18.1s,baz=320,slow=39
MA2 Magadan 75.00 24 *c i*P **P** **01 17 12.0 +0.8**
MA2 pmax pmax
comp=Z,47nm,1.7s
MA2 Magadan 75.00 24 P **P** **01 17 11.2 -0.1**
MA2 IAmb IAmb 01 17 23.5
comp=Z,40nm,1.0s
WHN Wuhan 75.11 63 ⇓P P 01 17 20.0 +7.6
WHN pP **PcP** **01 17 26.0 +0.1**
WHN S **S** **01 26 48.8 -1.0**
WHN pmax pmax
comp=Z,250nm,1.7s
WHN LR LR
comp=N,1µm,17.0s
WHN LR LR
comp=E,3µm,26.0s
WHN LR LR
comp=Z,1µm,15.6s
P52A Corning 75.27 309 P **P** **01 17 14.0 +0.8**
baz=53
COLD Coldfoot 75.33 356 P **P** **01 17 13.3 +0.4**
COLD IAmb IAmb 01 17 27.0
comp=Z,18nm,1.0s
COLD Coldfoot 75.33 356 P **P** **01 17 13.8 +0.8**
baz=7.9,SNR=5.9
COWI Conover 75.38 317 P **P** **01 17 13.2 -0.5**
COWI IAmb IAmb 01 17 25.5
comp=Z,25nm,1.0s
ACSO Alum Creek Sta 75.44 310 P **P** **01 17 13.1 -1.0**
ACSO IAmb IAmb 01 17 21.6
comp=Z,35nm,1.2s
ACSO Alum Creek Sta 75.44 310 P **P** **01 17 15.3 +1.2**
baz=53
EYMN Ely 75.44 320 P **P** **01 17 12.9 -1.1**
EYMN IAmb IAmb 01 17 26.4
comp=Z,24nm,1.1s
EYMN Ely 75.44 320 P **P** **01 17 15.1 +1.1**
baz=50
FFC Flin Flon 75.62 330 P **P** **01 17 12.7 -2.2**
FFC pmax pmax
comp=Z,50nm,1.4s
FFC Flin Flon 75.62 330 P **P** **01 17 12.7 -2.2**
FFC IAmb IAmb 01 17 28.1
comp=Z,50nm,1.4s
BLA Blacksburg 75.63 306 P **P** **01 17 16.2 +0.9**
baz=54
H43A Windswept, Lux 75.65 315 P **P** **01 17 15.3 +0.1**
H43A IAmb IAmb 01 17 20.4
comp=Z,30nm,1.1s
GDU01 Guandu, BA 75.75 240 *e*P **P** **01 17 16.8 +0.7**
Q52A Bidwell 75.76 308 IAmb IAmb 01 17 27.1
comp=Z,36nm,1.2s
GRNR Gornyy 75.80 36 ⇓*i*P P 01 17 22.4 +6.4
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,890nm,15.0s
GRNR MLR MLR
comp=N,850nm,13.0s
GRNR MLR MLR
comp=Z,2µm,14.0s
NKL Nikolayevsk 76.05 32 *e*P **P** **01 17 17.2 -0.1**
NKL *e*S **S** **01 26 57.6 -1.8**
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,1.0nm,1.2s
NKL pmax pmax
comp=Z,26nm,1.5s
NKL MLR MLR
comp=E,31nm,16.0s
NKL MLR MLR
comp=N,1.0nm,15.0s
NKL MLR MLR
comp=Z,2µm,15.0s
ULM Lac du Bonnet 76.08 324 P **P** **01 17 18.3 +0.8**
comp=Z,14nm,0.8s,baz=51,slow=4.7,SNR=22
ULM LR LR 01 49 59.7
comp=Z,440nm,21.6s,baz=48,slow=35
ULM Lac du Bonnet 76.08 324 *d i*P **P** **01 17 18.6 +1.1**
I29M Ogilvie Camp, 76.09 351 IAmb IAmb 01 17 35.3
comp=Z,34nm,1.0s
I29M Ogilvie Camp, 76.09 351 P **P** **01 17 18.1 +0.7**
baz=18,SNR=11
MCPB Macapa, AP 76.19 259 *e*P **P** **01 17 20.3 +1.5**
O49A Covington 76.29 310 IAmb IAmb 01 17 34.4
comp=Z,39nm,1.4s
B35A Bob, Littlefor 76.30 321 IAmb IAmb 01 17 31.8
comp=Z,41nm,1.3s
PDPR Patillas Dam, 76.33 282 P **P** **01 17 18.4 -1.0**
MDJ Mudanjiang 76.36 44 P **P** **01 17 20.3 +1.0**
MDJ S **S** **01 27 02.8 -0.4**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,260nm,5.5s
MDJ LR LR
comp=Z,2µm,13.5s
MDJ LR LR
comp=Z,2µm,14.1s
MDJ LR LR
comp=Z,3µm,13.2s
SJG San Juan 76.37 282 LR LR 01 47 34.3
comp=Z,120nm,19.4s,baz=70,slow=33
Q51A Peebles 76.39 309 P **P** **01 17 17.2 -2.3**
Q51A IAmb IAmb 01 17 32.5
comp=Z,50nm,1.5s
G40A Rib Lake 76.49 317 IAmb IAmb 01 17 33.2
comp=Z,30nm,1.3s
NBIT Itapeh - BA 76.50 239 *e*P **P** **01 17 19.4 -0.9**
H24K Noodor Dome 76.56 355 P **P** **01 17 21.6 +1.5**
baz=9.7
O48B Farmland 76.75 311 P **P** **01 17 21.9 +0.4**
baz=52
CMC01 Camacan, BA 76.86 239 *e*P **P** **01 17 23.5 +1.1**
P49A Miami Univ. Ec 76.92 310 P **P** **01 17 23.7 +1.2**
baz=52
EGAK Eagle 76.99 352 P **P** **01 17 23.5 +1.0**
baz=15
H21K Melozitna Rive 77.02 357 P **P** **01 17 24.6 +2.0**
baz=5.7,SNR=21
TNA Tin City 77.06 3 IAmb IAmb 01 17 35.9
comp=Z,20nm,1.0s
TNA Tin City 77.06 3 P **P** **01 17 23.8 +0.9**
baz=353
POKR Poker Plat Res 77.24 355 P **P** **01 17 25.2 +1.3**
baz=10
I23K Minto, Yukon-K 77.34 355 IAmb IAmb 01 17 36.9
comp=Z,25nm,1.3s
I23K Minto, Yukon-K 77.34 355 P **P** **01 17 25.9 +1.5**
baz=8.5
NJ2 Nanjing 77.38 59 ⇓P **P** **01 17 24.5 -0.7**
NJ2 pP **pP** **01 17 28.5 -2.3**
NJ2 sP **sP** **01 17 31.5 -1.3**
NJ2 PcP **PcP** **01 17 35.8 +0.1**
NJ2 S **S** **01 27 08.0 -6.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,3.5s
NJ2 LR LR
comp=Z,640nm,13.3s
NJ2 LR LR
comp=Z,410nm,11.8s
NJ2 LR LR
comp=Z,880nm,16.1s
AGMN Agassiz Nation 77.40 322 IAmb IAmb 01 17 37.9
comp=Z,24nm,1.4s
AGMN Agassiz Nation 77.40 322 P **P** **01 17 26.0 +0.9**
baz=47
KMSC Kings Mountain 77.45 305 P **P** **01 17 26.0 +0.4**
baz=53
I21K Tanana 77.45 357 IAmb IAmb 01 17 37.7

I21K **Tanana** 77.45 357 P P 01 17 26.7 +1.7
baz=6.4
MDM **Murphy Dome** 77.46 355 IAmb IAmb 01 17 37.9
comp=Z,33nm,1.3s
DAWY **Dawson** 77.47 351 IAmb IAmb 01 17 38.1
comp=Z,45nm,1.3s
DAWY **Dawson** 77.47 351 P P 01 17 26.4 +1.1
baz=16,SNR=9.7
COLA **College** 77.51 355⇑ eP P 01 17 25.6 +0.2
COLA pmax pmax
comp=Z,5.0nm,1.1s
COLA **College** 77.51 355 P P 01 17 25.9 +0.6
baz=9.7
J26L **Joseph Creek** 77.52 353 P P 01 17 26.3 +0.7
baz=13,SNR=9.1
TCOL **CIGO, UAF Yank** 77.52 355 P P 01 17 26.2 +0.8
baz=9.7
MLY **Manley** 77.54 356 IAmb IAmb 01 17 44.2
comp=Z,18nm,1.0s
MLY **Manley** 77.54 356 P P 01 17 27.1 +1.5
baz=7.4,SNR=8.0
ILAR **Eielson Array** 77.54 354 P P 01 17 26.6 +1.0
comp=Z,2.7nm,0.9s,baz=1.6,slow=3.7,SNR=17
ILAR LR LR 01 54 32.4
comp=Z,371nm,18.8s,baz=4.5,slow=38
ILAR **Eielson Array** 77.54 354 P P 01 17 24.3 -1.3
J25K **Salcha River,** 77.57 354 P P 01 17 26.7 +0.9
baz=12
SFIN **Lafayette** 77.83 312 IAmb IAmb 01 17 29.5
comp=Z,27nm,1.2s
F36A **Milaca** 77.86 319 IAmb IAmb 01 17 39.1
comp=Z,26nm,1.1s
NEA2 **Nenana** 77.88 355 IAmb IAmb 01 17 39.9
comp=Z,21nm,1.2s
NEA2 **Nenana** 77.88 355 P P 01 17 28.1 +0.6
baz=8.7,SNR=5.6
NHSC **New Hope** 77.91 302 P P 01 17 28.5 +0.3
baz=53
SPMN **Marine on St.** 77.91 318 IAmb IAmb 01 17 40.4
comp=Z,34nm,1.2s
SPMN **Marine on St.** 77.91 318 P P 01 17 28.5 +0.6
baz=48
GUA01 **Guaratinga, BA** 77.92 238 eP P 01 17 28.6 +0.3
WRH **Wood River Hil** 77.93 355 IAmb IAmb 01 17 45.9
comp=Z,20nm,0.8s
USRK **Ussuriysk Ar.** 77.94 43 P P 01 17 26.6 -1.5
comp=Z,2.9nm,0.6s,baz=304,slow=3.6,SNR=5.4
USRK LR LR 01 56 54.5
comp=Z,1μm,18.1s,baz=312,slow=40
KCSI **Kotacane, Aceh** 78.01 95 P P 01 17 28.8 -0.2
comp=Z,1μmcomp=Z,30nm,0.9s
TGTN **Hyland Airport** 78.03 345 P P 01 17 30.9 +2.5
baz=25,SNR=5.4
JFWS **Jewell Farm** 78.03 315 IAmb IAmb 01 17 41.3
comp=Z,22nm,1.2s
JFWS **Jewell Farm** 78.03 315 P P 01 17 29.3 +0.6
baz=50
TZTN **Tazewell** 78.03 307 P P 01 17 29.7 +0.9
baz=52
GCSA **Galena City Sc** 78.05 359 P P 01 17 29.9 +1.6
baz=2.4
SCRK **Sand Creek** 78.07 353 IAmb IAmb 01 17 42.4
comp=Z,25nm,1.3s
SCRK **Sand Creek** 78.07 353 P P 01 17 29.5 +0.8
baz=13,SNR=7.8
PRPB **Parauapebas** 78.14 253 eP P 01 17 31.6 +2.0
ANM **Nome** 78.16 2 IAmb IAmb 01 17 41.5
comp=Z,18nm,1.0s
ANM **Nome** 78.16 2 P P 01 17 29.8 +0.8
baz=356
SMTB **Santa Maria do** 78.21 249 eP P 01 17 31.6 +1.6
BLO **Bloomington** 78.25 310 IAmb IAmb 01 17 36.2
comp=Z,36nm,1.1s
RIDG **Independent Ri** 78.38 353 P P 01 17 31.3 +1.0
baz=12
DOT **Dot Lake** 78.40 353 IAmb IAmb 01 17 44.7
comp=Z,20nm,1.0s
QIZ **Qiongzhong** 78.40 75 P P 01 17 32.5 +1.4
QIZ S S 01 27 26.3 +0.3
QIZ pmax pmax
comp=Z,200nm,4.7s
QIZ LR LR
comp=Z,260nm,14.7s
QIZ LR LR
comp=Z,350nm,19.6s
QIZ LR LR
comp=Z,250nm,10.6s
BPAW **Bear Paw Mtn.** 78.48 356 IAmb IAmb 01 17 42.8
comp=Z,45nm,1.4s
BPAW **Bear Paw Mtn.** 78.48 356 P P 01 17 31.5 +0.7
baz=7.2
M31M **Drury Creek, Y** 78.53 348 IAmb IAmb 01 17 45.2
comp=Z,20nm,1.1s
M31M **Drury Creek, Y** 78.53 348 P P 01 17 32.6 +1.5
baz=20,SNR=6.0
M30M **Minto, Yukon** 78.55 349 P P 01 17 32.6 +1.3
baz=18
J20K **Nowinta River** 78.55 357 IAmb IAmb 01 17 44.8
comp=Z,21nm,1.1s
J20K **Nowinta River** 78.55 357 P P 01 17 32.6 +1.4
baz=4.6
T50A **Nancy** 78.55 308 IAmb IAmb 01 17 37.4
comp=Z,30nm,1.5s
SDBA **SAO DESIDERIO** 78.60 245 eP P 01 17 33.6 +1.4
GAMB **Gambell** 78.61 5 P P 01 17 32.9 +1.5
baz=350
WCI **Wyandotte Cave** 78.70 310 P P 01 17 29.7 -2.8
WCI pmax pmax
comp=Z,19nm,1.0s
WCI **Wyandotte Cave** 78.70 310 P P 01 17 29.7 -2.8
WCI IAmb IAmb 01 17 48.4
comp=Z,19nm,0.9s
WCI **Wyandotte Cave** 78.70 310 P P 01 17 33.7 +1.3
baz=51
TKL **Tuckaleechee C** 78.72 306 LR LR 01 52 45.7
comp=Z,318nm,19.2s,baz=62,slow=36
MCK **McKinley** 78.72 355 IAmb IAmb 01 17 45.4
comp=Z,41nm,1.1s
MCK **McKinley** 78.72 355 P P 01 17 34.1 +2.0
baz=8.8,SNR=11
L27K **Beaver Creek,** 78.73 352 IAmb IAmb 01 17 46.1
comp=Z,30nm,1.2s
L27K **Beaver Creek,** 78.73 352 P P 01 17 33.3 +1.0
baz=14,SNR=6.3
CHUM **Lake Minchumin** 78.77 357 P P 01 17 33.2 +0.9
baz=6.1,SNR=9.6
O44A **Mansfield** 78.78 312 IAmb IAmb 01 17 44.4
comp=Z,22nm,0.9s
MALB **Monte Alegre** 78.84 259 eP P 01 17 35.4 +1.8
L26K **Log Cabin Wild** 78.94 352 P P 01 17 34.8 +1.5
baz=13
V51A **Loudon** 79.00 307 IAmb IAmb 01 17 50.9
comp=Z,36nm,1.4s
HDIL **Hopedale** 79.01 313 IAmb IAmb 01 17 45.6
comp=Z,51nm,1.4s
HDIL **Hopedale** 79.01 313 P P 01 17 35.6 +1.5
baz=50
NAN01 **Guarapari, ES** 79.03 237 eP P 01 17 35.0 +0.7
RND **Reindeer** 79.04 355 IAmb IAmb 01 17 52.8
comp=Z,52nm,1.5s
TRF **Thorofare Moun** 79.09 356 IAmb IAmb 01 17 54.5
comp=Z,21nm,1.0s
TRF **Thorofare Moun** 79.09 356 P P 01 17 35.1 +0.7
baz=7.7
L40A **Anamosa** 79.13 315 IAmb IAmb 01 17 40.7
comp=Z,32nm,1.1s
PAX **Paxson** 79.20 353 P P 01 17 36.2 +1.3
baz=12
GSI **Gunungsitoli** 79.20 97 P P 01 17 35.6 0.0
comp=Z,46nm,1.4s
CAST **Castle Rocks** 79.22 356 P P 01 17 35.8 +0.9
baz=6.3
DHY **Denali Highway** 79.26 354 IAmb IAmb 01 17 48.3
comp=Z,32nm,0.9s
DHY **Denali Highway** 79.26 354 P P 01 17 35.5 +0.2
baz=10.0,SNR=8.0
CPCT **Cooper Cave** 79.33 307 IAmb IAmb 01 17 42.6
comp=Z,29nm,1.2s
PSI **Prapat** 79.36 95 LR LR 01 59 16.2
comp=Z,154nm,18.3s,baz=292,slow=41
K20K **Telida** 79.36 357 IAmb IAmb 01 17 48.0
comp=Z,30nm,1.1s
K20K **Telida** 79.36 357 P P 01 17 37.3 +1.6
baz=4.7
M27K **Edge Creek, AK** 79.42 352 P P 01 17 35.6 -0.6
M27K IAmb IAmb 01 17 50.3
comp=Z,27nm,1.1s
M27K **Edge Creek, AK** 79.42 352 P P 01 17 37.3 +1.1
baz=14
N31M **Braeburn, Yuko** 79.42 349 P P 01 17 36.8 +0.8
baz=19
U49A **Red Boiling Sp** 79.46 308 IAmb IAmb 01 17 43.7
comp=Z,37nm,1.2s
MDND **Maddock** 79.51 324 P P 01 17 37.5 +0.8
baz=44
SSE **Sheshan** 79.54 59 P P 01 17 36.8 -0.4
SSE S S 01 27 36.0 -1.9
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,130nm,7.5s
SSE LR LR
comp=Z,150nm,18.0s
SSE LR LR
comp=Z,270nm,18.0s
UGL **Uglegorsk** 79.59 35 eP P 01 17 38.2 +1.1
UGL eS S 01 27 40.9 +3.2
UGL pmax pmax
comp=Z,30nm,1.0s
UGL pmax pmax
comp=Z,550nm,4.0s
UGL smax smax
comp=E,730nm,9.0s
UGL smax smax
comp=N,220nm,8.0s
UGL MLR MLR
comp=E,1μm,13.0s
UGL MLR MLR
comp=N,2μm,22.0s
UGL MLR MLR
comp=Z,2μm,21.0s
HARP **HAARP** 79.73 353 P P 01 17 38.5 +0.8
baz=12
PPLA **Purkeypile** 79.75 356 P P 01 17 38.3 +0.4
baz=6.2
WAT6 **Susitna Watana** 79.78 354 P P 01 17 39.2 +1.1
baz=9.7
TTA **Tatalina** 79.85 358 IAmb IAmb 01 17 48.9
comp=Z,28nm,1.3s
TTA **Tatalina** 79.85 358 P P 01 17 40.0 +1.7
baz=3.1
GOGA **Godfrey** 79.90 304 P P 01 17 41.0 +1.9
baz=52
KSRS **Korea Array** 79.95 50 P P 01 17 39.7 +0.4
comp=Z,3.0nm,0.7s,baz=311,slow=3.9,SNR=9.7
KSRS LR LR 01 57 03.8
comp=Z,801nm,18.6s,baz=305,slow=39
JANB **Januaria** 79.97 242 eP P 01 17 39.8 +0.1
T47A **Sharon Grove** 79.98 309 IAmb IAmb 01 17 51.1
comp=Z,44nm,1.1s
W50A **Signal Mountai** 79.98 307 IAmb IAmb 01 17 51.5
comp=Z,41nm,1.2s
Y52A **Lilburn** 80.01 305 IAmb IAmb 01 17 46.9
comp=Z,34nm,1.2s
WHY **Whitehorse** 80.06 348 P P 01 17 40.4 +0.8
baz=20
CLTN **Cedars of Leba** 80.07 308 IAmb IAmb 01 17 51.7
comp=Z,31nm,1.4s
P33M **Teslin, Yukon** 80.12 347 P P 01 17 40.7 +0.8
baz=22
L20K **Farewell, AK** 80.24 357 P P 01 17 41.4 +1.0
baz=4.8
TJN **Taejon** 80.29 51⇑ eP P 01 17 42.3 +1.2
SJMB **Sao Joao De Ma** 80.34 238 eP P 01 17 43.3 +1.8
N25K **Chitina, Valde** 80.45 353 P P 01 17 43.1 +1.4
baz=12
SCM **Sheep Creek Mo** 80.48 354 P P 01 17 43.3 +1.5
baz=10.0
MCARA **McCarthy VSAT** 80.50 352 P P 01 17 43.6 +1.7
baz=14
L19K **White Mountain** 80.57 358 IAmb IAmb 01 17 55.9
comp=Z,48nm,1.1s
L19K **White Mountain** 80.57 358 P P 01 17 44.0 +1.8
baz=4.0
SML **Sawmill** 80.59 355 P P 01 17 44.0 +1.7
baz=9.2
KLU **Klutina** 80.69 353 P P 01 17 43.7 +0.7
baz=11
M22K **Willow** 80.77 355 P P 01 17 44.5 +1.3
baz=7.8
M20K **Styx River** 80.80 357 IAmb IAmb 01 17 55.8
comp=Z,41nm,1.2s
M20K **Styx River** 80.80 357 P P 01 17 44.6 +1.0
baz=5.4
SIUC **Southern Illin** 80.80 311 IAmb IAmb 01 17 55.3
comp=Z,38nm,1.1s
M19K **Big River Lodg** 80.83 357 IAmb IAmb 01 17 58.2
comp=Z,24nm,0.9s
M19K **Big River Lodg** 80.83 357 P P 01 17 45.1 +1.5
baz=4.4
S44A **Carbondale** 80.84 311 IAmb IAmb 01 17 55.4
comp=Z,30nm,1.1s
PMR **Palmer** 80.86 355 P P 01 17 44.8 +1.1
baz=8.6
PEXB **Peixe** 80.86 247 eP P 01 17 46.5 +2.0
ECSD **EROS Data Cent** 80.92 319 IAmb IAmb 01 17 56.2
comp=Z,23nm,0.9s
ECSD **EROS Data Cent** 80.92 319 P P 01 17 45.2 +0.7
baz=46
WVT **Waverly** 80.98 309 P P 01 17 42.9 -1.9
WVT pmax pmax
comp=Z,18nm,1.2s
WVT **Waverly** 80.98 309 P P 01 17 42.9 -1.9
WVT **Waverly** 80.98 309 P P 01 17 45.9 +1.1
baz=50
KNK **Knik Glacier** 80.99 354 P P 01 17 45.1 +0.7
baz=9.1
GRNC **Granite Creek** 80.99 351 IAmb IAmb 01 17 58.7
comp=Z,50nm,1.2s
MNSI **Mandailing Nat** 81.10 96 P P 01 17 45.3 -0.5
N38A **Joes South For** 81.11 315 IAmb IAmb 01 17 56.9
comp=Z,32nm,1.2s
DGMT **Dagmar** 81.16 326 P P 01 17 46.7 +1.1
baz=42
BOAV **Boa Vista** 81.18 266 eP P 01 17 48.4 +2.2
DLBC **Dease Lake** 81.22 345 LR LR 01 55 19.9
comp=Z,476nm,21.6s,baz=21,slow=37
FVM **French Village** 81.35 312 IAmb IAmb 01 17 57.5
comp=Z,25nm,1.1s
RC01 **Rabbit Creek A** 81.40 355 P P 01 17 48.0 +1.4
baz=8.1
GLI **Glacier Island** 81.40 354 P P 01 17 48.1 +1.5
baz=10
SPCR **Spurr Chakacha** 81.44 356 P P 01 17 48.1 +1.2
baz=6.1
QZH **Quanzhou** 81.44 65 eP P 01 17 51.5 +4.0
QZH S S 01 27 58.0 +0.1
QZH LR LR
comp=Z,320nm,12.6s
QZH LR LR
comp=Z,250nm,19.9s
QZH LR LR
comp=Z,270nm,18.0s
YSS **Yuzh-Sakhalins** 81.46 36 eP P 01 17 47.7 +0.5
YSS e 01 20 51.2
YSS eS S 01 27 52.2 -5.2
YSS e 01 28 02.4
YSS pmax pmax
comp=Z,700nm,3.6s
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS **Yuzh-Sakhalins** 81.46 36 P P 01 17 46.3 -0.9
ITTB **Itaituba** 81.55 258 eP P 01 17 49.6 +1.5
X48A **Hartselle** 81.56 307 IAmb IAmb 01 17 54.2
comp=Z,32nm,1.1s
EYAK **Cordova Ski Ar** 81.61 353 P P 01 17 49.1 +1.4
baz=11
DIAM **Diamantina, MG** 81.75 240 eP P 01 17 48.3 -0.9
BGLC **Bering Glacier** 81.77 352 P P 01 17 49.6 +1.1
baz=13
CCM **Cathedral Cave** 81.79 312 P P 01 17 46.6 -2.5
CCM pmax pmax
comp=Z,16nm,1.0s
CCM **Cathedral Cave** 81.79 312 P P 01 17 46.6 -2.5
CCM **Cathedral Cave** 81.79 312 P P 01 17 50.3 +1.1
baz=48
CAPN **Captain Cook N** 81.81 356 P P 01 17 49.9 +1.2
baz=7.0
PLAL **Pickwick Lake** 81.87 308 IAmb IAmb 01 18 09.7
comp=Z,32nm,1.4s
O22K **Cooper Landing** 82.00 355 P P 01 17 51.1 +1.3
baz=8.1
P38A **Dawn** 82.06 314 IAmb IAmb 01 18 01.7
comp=Z,19nm,1.0s
N35A **Tabor** 82.39 316 P P 01 17 51.5 -0.7
N35A IAmb IAmb 01 18 05.3
comp=Z,30nm,1.1s
LRAL **Lakeview Retre** 82.44 306 IAmb IAmb 01 17 59.0
comp=Z,20nm,0.9s
LRAL **Lakeview Retre** 82.44 306 P P 01 17 54.1 +1.5
baz=50
PPI **Padang Panjang** 82.50 96 P P 01 17 53.7 +0.5
comp=Z,12nm,0.4s
PETK **Petropavlovsk-** 82.51 24 P P 01 17 52.4 -0.2
comp=Z,3.5nm,1.0s,baz=343,slow=4.5,SNR=2.7
PETK LR LR 01 59 40.4
comp=Z,1μm,18.8s,baz=316,slow=39
BKNI **Bangkinang** 82.54 95 P P 01 17 55.1 +1.7
BRSE **Bradley Lake S** 82.81 355 P P 01 17 55.3 +1.2
baz=7.3
CAM01 **Campos-RJ** 82.85 236 eP P 01 17 55.5 +0.8
PET **Petropavlovsk** 82.89 24 eP P 01 18 02.6 +8.0
PET e 01 21 12.8
PET eS S 01 28 15.0 +3.1
PET ePPS PPS 01 29 17.7
PET pmax pmax
comp=Z,200nm,8.1s
PET MLR MLR
comp=Z,1μm,19.0s
NPGB **Novo Progresso** 82.93 256 eP P 01 17 56.6 +1.2
SNDB **Serra Nova Dou** 82.99 249 eP P 01 17 56.9 +1.2
BDFB **Brasilia** 82.99 244 P P 01 17 57.8 +2.1
comp=Z,6.5nm,0.6s,baz=46,slow=6.6,SNR=12
BDFB LR LR 01 56 06.6
comp=Z,1μm,18.2s,baz=69,slow=37
OXF **Oxford** 83.01 308 P P 01 17 56.1 +0.6
baz=49
LCAR **Lake Charles** 83.05 311 IAmb IAmb 01 18 07.0
comp=Z,17nm,1.2s
S39A **Bolivar** 83.25 313 IAmb IAmb 01 18 08.0
comp=Z,14nm,1.1s
BGNE **Belgrade** 83.36 318 P P 01 17 58.7 +1.4
baz=45
ASAJ **Asahikawa** 83.47 38 LR LR 01 59 17.3
comp=Z,1μm,18.3s,baz=352,slow=39
DUB01 **Friburgo-RJ** 83.50 236 eP P 01 17 59.8 +1.6
Y45A **Yeager Farm, C** 83.52 308 P P 01 17 57.7 -0.4
SIT **Sitka** 83.54 347 P P 01 17 59.8 +2.0
baz=19
WRAK **Wrangell Islan** 83.57 345 P P 01 18 00.0 +2.1
baz=22
FCAR **Ozark Folk Cen** 83.76 311 IAmb IAmb 01 18 05.8
comp=Z,22nm,1.1s
EGMT **Eagleton** 83.87 329 P P 01 18 00.9 +1.1
baz=38
U40A **Yellville** 83.88 312 IAmb IAmb 01 18 06.3
comp=Z,22nm,1.2s
U40A **Yellville** 83.88 312 P P 01 18 01.2 +1.2
baz=47
SKR **Severo-Kuril's** 84.00 26 eP P 01 18 05.9 +5.6
SKR pmax pmax
comp=Z,100nm,7.0s
SKR MLR MLR
comp=Z,400nm,18.0s
SKR MLR MLR
comp=Z,600nm,19.0s
KSU1 **Kansas State U** 84.15 316 P P 01 18 02.3 +1.0
baz=45
W41B **Gary Mavity, V** 84.31 310 IAmb IAmb 01 18 14.0
comp=Z,26nm,1.1s
W41B **Gary Mavity, V** 84.31 310 P P 01 18 03.5 +1.3
baz=48
KRJI **Kerinci** 84.34 97 P P 01 18 01.9 -0.9
comp=Z,161nm,1.0s
RSSD **Black Hills** 84.34 323 P P 01 18 02.2 -0.3
RSSD pmax pmax
comp=Z,14nm,1.1s
RSSD **Black Hills** 84.34 323 P P 01 18 02.2 -0.3
RSSD IAmb IAmb 01 18 14.6
comp=Z,14nm,1.1s
RSSD **Black Hills** 84.34 323 P P 01 18 03.9 +1.3
baz=41
VAS01 **Vassouras-RJ** 84.35 237 eP P 01 18 03.2 +0.8
BSCB **Bom Sucesso** 84.35 238 eP P 01 18 04.7 +2.2
HHAR **Hobbs** 84.57 312 IAmb IAmb 01 18 15.1
comp=Z,25nm,1.2s
JNU **Nakatsue** 84.60 52 LR LR 02 01 43.8
comp=Z,732nm,18.5s,baz=312,slow=40
WALA **Waterton Lakes** 84.68 332 IAmb IAmb 01 18 19.6
comp=Z,17nm,0.9s
IPMB **Ipameri, GO** 84.69 243 eP P 01 18 05.8 +1.5
KDAK **Kodiak Island** 84.87 356 LR LR 01 59 13.3
comp=Z,392nm,19.1s,baz=29,slow=38
KDAK **Kodiak Island** 84.87 356‖ eP P 01 18 05.0 +0.4
KDAK pmax pmax
comp=Z,75nm,1.2s
KDAK **Kodiak Island** 84.87 356 P P 01 18 05.8 +1.2
baz=5.8
KUR **Kuril'sk** 85.08 34 eP P 01 18 05.9 0.0
KUR eS S 01 28 30.3 -3.9
KUR MLR MLR
comp=Z,1μm,16.0s
KUR MLR MLR
comp=E,832nm,13.0s
KUR MLR MLR
comp=N,864nm,14.0s
X40A **Basin Creek Fa** 85.13 310 IAmb IAmb 01 18 18.0
comp=Z,23nm,1.1s
X40A **Basin Creek Fa** 85.13 310 P P 01 18 07.0 +0.7
baz=47
W39A **Magazine** 85.22 311 IAmb IAmb 01 18 13.4
comp=Z,35nm,1.4s
W39A **Magazine** 85.22 311 P P 01 18 08.0 +1.2
baz=47
SPIA **Saint Paul Isl** 85.26 6 P P 01 18 07.8 +1.3
baz=352
SDV **Santo Domingo** 85.31 278 P P 01 18 06.2 -1.6
SDV **Santo Domingo** 85.31 278 eP P 01 18 09.2 +1.4
OHAK **Old Harbor** 85.46 356 P P 01 18 08.8 +1.2
baz=5.2
MIAR **Mount Ida** 85.54 311 P P 01 18 10.2 +1.8
baz=47
CLDB **Colider** 85.67 253 eP P 01 18 10.8 +1.6
OGNE **Ogallala** 85.72 320 P P 01 18 10.8 +1.5
baz=42
TUL1 **Leonard** 85.91 313 P P 01 18 12.0 +1.8
baz=46
Z41A **Richland Creek** 85.94 309 P P 01 18 12.3 +1.8
baz=47
RLMT **Red Lodge** 85.96 327 IAmb IAmb 01 18 28.1
comp=Z,18nm,1.2s
RLMT **Red Lodge** 85.96 327 P P 01 18 12.4 +1.8
baz=38
BBB **Bella Bella** 86.49 341 LR LR 02 01 12.6
comp=Z,392nm,18.6s,baz=30,slow=39
MSO **Missoula** 86.52 330 IAmb IAmb 01 18 26.2
comp=Z,18nm,1.4s
MSO **Missoula** 86.52 330 P P 01 18 14.3 +1.1
baz=35
NEW **Newport** 86.53 333 LR LR 02 00 23.5
comp=Z,537nm,18.8s,baz=28,slow=38
NEW **Newport** 86.53 333 IAmb IAmb 01 18 25.9
comp=Z,11nm,0.8s
NEW **Newport** 86.53 333 P P 01 18 14.8 +1.7
baz=33
BOZ **Bozeman (W)** 86.59 328 P P 01 18 15.3 +1.7
baz=36
MJAR **Matsushiro Arr** 86.64 45 P P 01 18 12.9 -1.0
comp=Z,1.4nm,0.4s,baz=317,slow=7.1,SNR=1.7
MJAR LR LR 02 01 01.5
comp=Z,681nm,18.4s,baz=328,slow=38
MJAR **Matsushiro Arr** 86.64 45 P P 01 18 12.9 -1.0
K22A **Casper** 86.64 324 IAmb IAmb 01 18 25.7
comp=Z,14nm,1.1s
K22A **Casper** 86.64 324 P P 01 18 15.0 +1.1
baz=40
PDRB **Porto dos Gac** 86.84 253 eP P 01 18 16.9 +1.9
YHH **Holmes Hill** 86.91 327 IAmb IAmb 01 18 31.8
comp=Z,19nm,1.5s
YMR **Madison River** 87.05 327 IAmb IAmb 01 18 34.4
comp=Z,20nm,1.2s
H17A **Grant Village** 87.10 327 IAmb IAmb 01 18 35.0
comp=Z,13nm,1.0s
PHWY **Pilot Hill** 87.16 322 IAmb IAmb 01 18 30.8
comp=Z,23nm,1.2s
C09A **Chrisman Ranch** 87.33 333 IAmb IAmb 01 18 34.7
comp=Z,21nm,0.9s

FLWY	**Flagg Ranch**	**87.41**	**327**	IAmb	IAmb	01 18 28.8
	comp=Z,24nm,1.4s					
SDPT	**Sand Point**	**87.50**	**0**	P	**P**	**01 18 19.0 +1.5**
	baz=360					
RWWY	**Rawlins**	**87.70**	**323**	IAmb	IAmb	01 18 30.9
	comp=Z,16nm,1.4s					
N23A	**Red Feather La**	**87.71**	**322**	IAmb	IAmb	01 18 31.9
	comp=Z,16nm,1.2s					
N23A	**Red Feather La**	**87.71**	**322**	P	**P**	**01 18 20.4 +1.2**
	baz=40					
BW06	**Boulder Array**	**87.95**	**325**	P	**P**	**01 18 21.1 +0.7**
	baz=38					
PDAR	**Pinedale Array**	**87.95**	**325**	P	**P**	**01 18 20.9 +0.6**
	comp=Z,0.7nm,0.8s,baz=73,slow=4.4,SNR=6.7					
PDAR				LR	LR	01 59 20.7
	comp=Z,506nm,19.4s,baz=34,slow=37					
LWLI	**Liwa**	**88.17**	**98**	P	**P**	**01 18 21.8 +0.2**
SJCC	**San Jacinto, C**	**88.27**	**281**	P	**P**	**01 18 19.4 -2.6**
ISCO	**Idaho Springs**	**88.38**	**321**	P	**P**	**01 18 23.5 +1.0**
	baz=40					
WMOK	**Wichita Mounta**	**88.47**	**314**	P	**P**	**01 18 23.8 +1.2**
	baz=44					
KLSI		**88.50**	**97**	P	**P**	**01 18 24.4 +1.4**
	comp=Z,334nmcomp=Z,8.7nm,1.1s					
KLI	**Kotabumi**	**88.70**	**97**	P	**P**	**01 18 22.7 -1.3**
	comp=Z,187nm,0.4s					
SALV	**Santo Antonio**	**88.77**	**249**	*e*P	**P**	**01 18 25.9 +1.8**
Q24A	**Divide**	**88.79**	**320**	P	**P**	**01 18 25.2 +0.7**
	baz=40					
KASI	**Kota Agung**	**88.82**	**98**	P	**P**	**01 18 25.0 +0.5**
	comp=Z,798nmcomp=Z,42nm,0.9s					
UNV	**Unalaska Valle**	**88.83**	**4**	P	**P**	**01 18 25.3 +1.4**
	baz=355					
HAWA	**Hanford**	**88.98**	**333**	IAmb	IAmb	01 18 41.9
	comp=Z,25nm,1.4s					
BLSI	**Bandar Lampung**	**89.32**	**97**	P	**P**	**01 18 26.8 -0.1**
	comp=Z,206nm,0.4s					
HLID	**Hailey**	**89.40**	**329**	P	**P**	**01 18 28.3 +1.2**
	baz=34					
O20A	**White River Ci**	**89.41**	**323**	IAmb	IAmb	01 18 41.3
	comp=Z,14nm,1.1s					
O20A	**White River Ci**	**89.41**	**323**	P	**P**	**01 18 28.3 +1.1**
	baz=38					
BMO	**Blue Mountains**	**89.47**	**331**	IAmb	IAmb	01 18 45.4
	comp=Z,14nm,1.2s					
WHTX	**Lake Whitney,**	**89.65**	**311**	P	**P**	**01 18 29.8 +1.6**
	baz=45					
RDMU	**Red Mountain**	**89.69**	**324**	IAmb	IAmb	01 18 45.5
	comp=Z,16nm,0.9s					
HWUT	**Hardware Ranch**	**89.77**	**326**	IAmb	IAmb	01 18 40.9
	comp=Z,35nm,1.5s					
T25A	**Trinidad**	**89.79**	**319**	IAmb	IAmb	01 18 45.7
	comp=Z,14nm,1.2s					
T25A	**Trinidad**	**89.79**	**319**	P	**P**	**01 18 30.4 +1.3**
	baz=41					
SDCO	**Great Sand Dun**	**89.89**	**320**	P	**P**	**01 18 30.9 +1.2**
	baz=40					
JHJ	**Hachijo jima 2**	**89.99**	**47**	LR	LR	02 01 23.6
	comp=Z,258nm,20.4s,baz=64,slow=37					
HKT	**Hockley**	**90.09**	**309**	⇑*e*P	**P**	**01 18 31.7 +1.5**
HKT				pmax	pmax	
	comp=Z,8.0nm,1.3s					
MFID	**Camas Ranch**	**90.10**	**330**	IAmb	IAmb	01 18 47.1
	comp=Z,27nm,1.4s					
VILB	**Vilhena**	**90.32**	**254**	*e*P	**P**	**01 18 33.1 +1.6**
CGJI	**Cibinong**	**90.42**	**98**	P	**P**	**01 18 32.9 +0.9**
	comp=Z,1µmcomp=Z,42nm,0.9s					
ABTX	**Abilene, Hawle**	**90.48**	**313**	P	**P**	**01 18 33.9 +1.7**
	baz=44					
S22A	**4UR Ranch, Cre**	**90.57**	**321**	IAmb	IAmb	01 18 53.5
	comp=Z,18nm,1.4s					
S22A	**4UR Ranch, Cre**	**90.57**	**321**	P	**P**	**01 18 34.0 +1.2**
	baz=39					
ROSC	**El Rosal**	**90.66**	**277**	LR	LR	01 59 56.1
	comp=Z,204nm,18.6s,baz=48,slow=36					
P18A	**Preston Nutter**	**90.75**	**324**	IAmb	IAmb	01 18 44.8
	comp=Z,13nm,1.2s					
PV07	**Paradox Valley**	**90.93**	**322**	IAmb	IAmb	01 18 45.9
	comp=Z,10nm,1.0s					
BGU	**Big Grassy Mou**	**90.97**	**326**	IAmb	IAmb	01 18 50.4
	comp=Z,13nm,1.2s					
PTLB	**Pontes e Lacer**	**91.06**	**251**	*e*P	**P**	**01 18 36.9 +2.0**
MSTX	**Muleshoe**	**91.28**	**316**	P	**P**	**01 18 37.2 +1.2**
	baz=42					
SRU	**San Rafael Swe**	**91.29**	**324**	IAmb	IAmb	01 18 47.0
	comp=Z,12nm,1.0s					
DUG	**Dugway, Tooele**	**91.47**	**326**	IAmb	IAmb	01 18 49.0
	comp=Z,12nm,1.2s					
DUG	**Dugway, Tooele**	**91.47**	**326**	P	**P**	**01 18 38.0 +1.2**
	baz=36					
MVCO	**Mesa Verde**	**91.82**	**321**	P	**P**	**01 18 39.4 +0.8**
	baz=38					
ELK	**Elko**	**92.07**	**328**	LR	LR	02 04 10.8
	comp=Z,649nm,18.1s,baz=34,slow=38					
LEM	**Lembang**	**92.07**	**97**	LR	LR	02 06 25.9
	comp=Z,188nm,18.5s,baz=264,slow=40					
JCT	**Junction City**	**92.13**	**312**	P	**P**	**01 18 40.6 +0.8**
	baz=44					
ANMO	**Albuquerque**	**92.53**	**319**	*e*P	**P**	**01 18 42.3 +0.5**
ANMO				pmax	pmax	
	comp=Z,7.0nm,2.5s					
ANMO	**Albuquerque**	**92.53**	**319**	P	**P**	**01 18 40.6 -1.2**
ANMO	**Albuquerque**	**92.53**	**319**	P	**P**	**01 18 42.7 +0.9**
	baz=40					
SIV	**San Ignacio**	**92.86**	**252**	LR	LR	01 59 53.6
	comp=Z,487nm,20.7s,baz=106,slow=35					
ETMB	**Extrema**	**93.07**	**260**	*e*P	**P**	**01 18 45.3 +1.1**
W18A	**Petrified Fore**	**94.08**	**321**	P	**P**	**01 18 49.8 +0.8**
	baz=38					
L02E	**Cave Junction**	**94.11**	**334**	P	**P**	**01 18 49.3 +0.6**
	baz=28					
YBH	**Yreka Blue Hor**	**94.16**	**333**	LR	LR	02 03 43.0
	comp=Z,596nm,19.3s,baz=22,slow=37					
R11A	**Troy Canyon, C**	**94.21**	**327**	P	**P**	**01 18 50.4 +0.9**
	baz=34					
MNTX	**Cornudas Mount**	**94.43**	**316**	P	**P**	**01 18 51.5 +1.1**
	baz=40					
N02D	**Trinity Center**	**94.82**	**333**	P	**P**	**01 18 52.4 +0.3**
	baz=29					
TX32	**Lajitas Array**	**95.24**	**313**	IAmb	IAmb	01 19 15.5
	comp=Z,19nm,1.5s					
TXAR	**Lajitas Array**	**95.24**	**313**	P	**P**	**01 18 55.5 +1.3**
	comp=Z,4.5nm,1.2s,baz=83,slow=3.9,SNR=12					
NVAR	**Mina Array Bea**	**95.30**	**328**	LR	LR	02 05 34.7
	comp=Z,784nm,19.1s,baz=48,slow=38					
JTS	**Las Juntas de**	**95.56**	**287**	LR	LR	02 00 27.3
	comp=Z,206nm,18.9s,baz=115,slow=34					
CPUP	**Villa Florida**	**96.51**	**242**	LR	LR	02 04 20.4
	comp=Z,1µm,18.5s,baz=52,slow=37					
LPAZ	**La Paz**	**98.43**	**256**	LR	LR	02 04 16.9
	comp=Z,263nm,20.0s,baz=62,slow=36					
PFO	**Pinyon Flats O**	**98.54**	**325**	LR	LR	02 07 08.8
	comp=Z,412nm,19.4s,baz=6.5,slow=38					
WRA	**Warramunga Arr**	**120.77**	**92**	PKP	**PKPdf**	**01 24 21.9 -0.7**
	comp=Z,1.1nm,1.0s,baz=327,slow=1.7,SNR=11					
WRA				PP	**PP**	**01 25 51.1 -0.1**
	comp=Z,3.0nm,1.1s,baz=317,slow=5.8,SNR=5.0					
ASAR	**Alice Springs**	**122.36**	**96**	PKP	**PKPdf**	**01 24 25.1 -0.5**
	comp=Z,1.1nm,0.7s,baz=322,slow=1.8,SNR=14					
ASAR				PP	**PP**	**01 26 04.2 +2.2**
	comp=Z,1.1nm,0.9s,baz=315,slow=5.9,SNR=4.1					
STKA	**Stephens Creek**	**132.16**	**102**	PKP	**PKiKP**	**01 24 46.5 +1.5**
	comp=Z,1.9nm,0.9s,baz=299,slow=1.6,SNR=3.5					
TAOE	**Nuku Hiva Isla**	**146.38**	**323**	*e*LR	LR	02 13 24.3
	comp=Z,234nm,27.2s					
DZM	**Mont Dzumac**	**147.12**	**72**	*e*PKPbc	**PKPab**	**01 25 14.5 -0.7**
	comp=Z,137nm,1.6s					
DZM	**Mont Dzumac**	**147.12**	**72**	*e*LR	LR	02 13 49.1
	comp=Z,286nm,21.9s					
PPT2	**Papeete2**	**158.21**	**333**	*e*LR	LR	02 18 49.1
	comp=Z,430nm,24.0s					
TBI	**Tubuai**	**163.32**	**325**	*e*LR	LR	02 21 10.8
	comp=Z,254nm,25.5s					

*IDC **29** 01:29:33.0±1.1, 1.12S×127.42E, h0km, mb4.1/4, mb1 4.3/7, mb1mx3.9/35, mbtmp4.1/7, ML3.8/3, Error ellipse: s-maj=43.0km s-min=19.1km az=68.0*
*DJA **29** 01:29:35.6±0.2, 1.5S×2.12°8E±*, h10km, M4.1/13, mB4.9/5, mb4.6/13, MLv3.9/10, Mw(mB)4.2/5*
*NEIC **29** 01:29:38.0±1.1, 1.02S±0.07×127.64E±0.07, h39km±11km, mb4.0/11, Error ellipse: s-maj=11.3km s-min=9.1km az=61.0*
ISC 29 01:29:34.9±0.6,**1.03S**±0.05×**127.64E**±0.07,**h10**km,**n41,**

σ1§87/43, mb4.1/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
LBMI	**Labuha**	**0.41**	**341**	P	**Pg**	**01 29 43.2**	**+0.2**
TNTI	**Ternate**	**1.81**	**351**		**Pn**	**01 30 05.9**	**-0.3**
TNTI				Sn	**Sn**	**01 30 28.7**	**-0.5**
TNTI	**Ternate**	**1.81**	**351**	P	**Pn**	**01 30 05.9**	**-0.3**
MSAI	**Masohi**	**2.64**	**151**	P	**Pn**	**01 30 20.0**	**+2.4**
AAI	**Ambon**	**2.70**	**168**	P	**Pn**	**01 30 20.5**	**+2.0**
SWI	**Sorong**	**3.63**	**87**	P	**Pn**	**01 30 33.4**	**+2.2**
SIJI	**Sorong**	**3.63**	**88**	Pn	**Pn**	**01 30 33.2**	**+1.9**
	4.3nm,0.3s,baz=234,slow=5.5,SNR=5.7						
SIJI				Sn	**Sn**	**01 31 16.7**	**+2.4**
	4.1nm,0.3s,baz=244,slow=23,SNR=2.0						
LUWI	**Luwuk**	**4.86**	**270**	Pn	**Pn**	**01 30 48.9**	**+0.7**
GTOI	**Gorontalo**	**4.91**	**290**	P	Pn	01 30 54.2	+5.3
	0.1nm236nm20nm,0.9s						
FAKI	**Fak Fak**	**4.98**	**112**		**Pn**	**01 30 49.9**	**+0.1**
APSI	**Ampana**	**5.99**	**271**	P	**Pn**	**01 31 03.0**	**-0.7**
	0.5nm2µm93nm,0.4s						
BBSI	**Bau Bau**	**6.72**	**229**	P	**Pn**	**01 31 16.6**	**+2.8**
	0.0nm267nm5.4nm,0.9s						
TOLI2	**Tolitoli**	**7.17**	**287**		**Pn**	**01 31 21.0**	**+1.0**
TTSI	**Tana Toraja**	**8.06**	**255**	P	**Pn**	**01 31 34.8**	**+2.6**
	37nm,0.6s						
SPSI	**Sidrap Palu**	**8.38**	**249**	P	**Pn**	**01 31 38.9**	**+2.3**
	882nm62nm,0.6s						
BKSI	**Bulukumba**	**8.63**	**240**	P	**Pn**	**01 31 42.9**	**+2.9**
	27nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.76**	**234**	P	**Pn**	**01 31 44.8**	**+3.1**
	30nm,0.7s						
KAPI	**Kappang**	**8.81**	**243**	Pn	**Pn**	**01 31 43.2**	**+0.7**
MTN	**Manton Dam**	**12.24**	**164**	Pn	**Pn**	**01 32 29.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.08**	**186**	Pn	**Pn**	**01 33 33.6**	**-0.4**
	0.2nm,0.3s,baz=15,slow=6.8,SNR=9.9						
FITZ	**Fitzroy Crossi**	**17.08**	**186**		**Pn**	**01 33 33.1**	**-0.9**
FITZ				IAmb	IAmb	01 33 36.9	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**19.76**	**161**	P	**P**	**01 34 03.7**	**-1.6**
WB0				IAmb	IAmb	01 34 04.6	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**19.91**	**161**	P	**P**	**01 34 05.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=27						
WRA	**Warramunga Arr**	**19.91**	**161**	P	**P**	**01 34 04.5**	**-2.4**
WB2	**Warramunga Arr**	**19.91**	**161**	P	**P**	**01 34 05.7**	**-1.2**
WR0	**Warramunga Arr**	**19.99**	**161**	P	**P**	**01 34 06.3**	**-1.5**
WR0				IAmb	IAmb	01 34 09.3	
	comp=Z,5.9nm,1.0s						
COEN	**Coen**	**20.03**	**131**	P	**P**	**01 34 07.0**	**-1.3**
COEN				IAmb	IAmb	01 34 16.7	
	comp=Z,5.9nm,0.8s						
PSA00	**Pilbara Seismi**	**21.79**	**200**	P	**P**	**01 34 26.1**	**-1.1**
PSA00				IAmb	IAmb	01 34 35.1	
	comp=Z,9.3nm,1.4s						
KLSI		**23.16**	**261**	P	**P**	**01 34 43.1**	**+1.2**
	comp=Z,7.0nm,1.2s						
AS31	**Alice Springs**	**23.31**	**165**	P	**P**	**01 34 42.1**	**-1.3**
AS31				IAmb	IAmb	01 34 43.3	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**23.31**	**165**	P	**P**	**01 34 41.9**	**-1.5**
	comp=Z,14nm,0.9s,baz=343,slow=9.2,SNR=102						
ASAR				S	**S**	**01 38 51.2**	**-4.9**
	comp=Z,0.6nm,0.9s,baz=348,slow=20,SNR=5.3						
ASAR	**Alice Springs**	**23.31**	**165**	P	**P**	**01 34 42.4**	**-0.9**
FORT	**Forrest**	**29.59**	**179**	P	**P**	**01 35 38.7**	**-1.6**
STKA	**Stephens Creek**	**33.40**	**158**	P	**P**	**01 36 14.0**	**+0.2**
	comp=Z,13nm,0.8s,baz=331,slow=8.6,SNR=29						
STKA	**Stephens Creek**	**33.40**	**158**	P	**P**	**01 36 12.8**	**-0.9**
STKA				IAmb	IAmb	01 36 15.7	
	comp=Z,3.7nm,0.9s						
GOMU	**GeErMu**	**48.00**	**324**	P	**P**	**01 38 16.3**	**+1.6**
GOMU				pP	sP	01 38 19.5	+0.8
GOMU				sP	pP	01 38 20.8	+3.2
GOMU				S	**S**	**01 45 16.5**	**+3.4**
GOMU				sS	sS	01 45 21.5	+4.2
GOMU	**GeErMu**	**48.00**	**324**	SS	SS	01 48 50.8	+8.6
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,100nm,5.2s						
GOMU				LR	LR		
	comp=N,250nm,17.9s						
GOMU				LR	LR		
	comp=E,180nm,15.9s						
GOMU				LR	LR		
	comp=Z,140nm,15.2s						
SONM	**Songino Array**	**52.07**	**342**	P	**P**	**01 38 46.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=159,slow=5.6,SNR=1.7						
SONM	**Songino Array**	**52.07**	**342**	P	**P**	**01 38 43.9**	**-1.3**
MKAR	**Makanchi Array**	**61.97**	**326**	P	**P**	**01 39 53.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=8.3,SNR=8.0						
MKAR	**Makanchi Array**	**61.97**	**326**	P	**P**	**01 39 53.2**	**-2.1**

*KRNET **29** 01:33:21.6±0.1, 41.06N×74.12E, h15km, mb2.9*
*KNET **29** 01:33:23.4±0.6, 41.18N×74.19E, h2km±5km, ml2.4, Error ellipse: s-maj=5.7km s-min=2.9km az=36.0*
*SOME **29** 01:33:23.0, 41.13N×74.15E, h15km*
*NNC **29** 01:33:24.6±1.2, 41.13N×74.31E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=9.5km s-min=5.1km az=173.0*
ISC 29 01:33:21.9±1.5,**41.08N**±0.05×**74.31E**±0.03,**h13**km±11km,
n54, σ1§47/89, **32C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ARLS	**Aral**	**0.78**	**1**	⇑*i*P	**Pb**	**01 33 37.1**	**-0.4**
	baz=11						
ARLS				⇑*i*S	**Sb**	**01 33 48.7**	**+0.6**
	baz=11						
AML	**Almayashu**	**1.15**	**336**	⇓P	**Pb**	**01 33 43.0**	**-0.9**
	25nm,0.1s,SNR=44						
AML				⇓S	**Sb**	**01 33 58.6**	**-0.3**
	43nm,0.3s						
UCH	**Uchtor**	**1.16**	**8**	⇓P	**Pg**	**01 33 44.6**	**+0.4**
	9.3nm,0.1s,SNR=56						
UCH				⇑S	**Sn**	**01 34 01.2**	**+0.9**
	64nm,0.2s						
UCH	**Uchtor**	**1.16**	**8**	⇑*i*P	**Pg**	**01 33 44.7**	**+0.4**
	baz=14						
UCH				⇑*i*S	**Sn**	**01 34 01.5**	**+1.3**
	baz=14						
EKS2	**Erkin-Say**	**1.63**	**346**	⇑P	**Pb**	**01 33 52.0**	**0.0**
	7.2nm,0.1s,SNR=28						
EKS2	**Erkin-Say**	**1.63**	**346**	⇑*i*P	**Pb**	**01 33 51.9**	**0.0**
	baz=51						
EKS2				⇑*i*S	**Sg**	**01 34 14.3**	**-0.1**
	baz=51						
KBK	**Karagaybulak**	**1.65**	**17**	⇓P	**Pg**	**01 33 54.0**	**+0.5**
	22nm,0.2s,SNR=57						
KBK				⇑S	**Sg**	**01 34 17.1**	**+2.2**
	39nm,0.2s						
KBK	**Karagaybulak**	**1.65**	**17**	⇑*i*P	**Pg**	**01 33 53.8**	**+0.3**
	baz=21						
KBK				⇑*i*S	**Sg**	**01 34 17.1**	**+2.2**
	baz=21						
MRKS	**Merke**	**1.85**	**334**	*e*P	**Pg**	**01 33 57.6**	**+0.2**
	38nm,0.2s						
MRKS				*e*S	**Sg**	**01 34 22.2**	**+0.7**
	76nm,0.5s						
MRKS	**Merke**	**1.85**	**334**	P	**Pg**	**01 33 57.6**	**+0.2**
	38nm,0.2s						
MRKS				S	**Sg**	**01 34 22.2**	**+0.7**
	76nm,0.5s						
ULHL	**Ulahol**	**1.86**	**51**	⇑P	**Pg**	**01 33 57.6**	**0.0**
	12nm,0.1s,SNR=104						
ULHL				⇓S	**Sg**	**01 34 26.1**	**+4.4**
	18nm,0.2s						
ULHL	**Ulahol**	**1.86**	**51**	⇓*i*P	**Pg**	**01 33 58.4**	**+0.8**
	baz=53						
ULHL				⇓*i*S	**Sg**	**01 34 25.5**	**+3.8**
	baz=53						
BOOM	**Boomskoye usch**	**1.86**	**40**	⇑*i*P	**Pg**	**01 33 58.3**	**+0.6**
	baz=43						
BOOM				⇑*i*S	**Sg**	**01 34 25.2**	**+3.3**
	baz=43						
ARK	**Arkit**	**1.91**	**293**	⇑*i*P	**Pn**	**01 33 55.0**	**+0.8**
	baz=95						
ARK				⇑*i*S	**Sb**	**01 34 19.2**	**-1.2**
	baz=95						
CHMS	**Chumysh**	**1.95**	**10**	⇑P	**Pg**	**01 33 59.1**	**-0.2**
	4.2nm,0.1s,SNR=8.2						
CHMS				⇑S	**Sg**	**01 34 25.6**	**+1.1**
	22nm,0.4s						
CHMS	**Chumysh**	**1.95**	**10**	⇑*i*P	**Pg**	**01 33 58.4**	**-0.8**
	baz=14						
CHMS				⇑*i*S	**Sg**	**01 34 25.5**	**+1.1**
	baz=14						
TKM2	**Tokmak 2**	**2.08**	**27**	⇑P	**Pg**	**01 34 01.6**	**-0.1**
	8.8nm,0.2s,SNR=10						
TKM2				⇓S	**Sg**	**01 34 30.4**	**+1.7**
	15nm,0.2s						
TKM2	**Tokmak 2**	**2.08**	**27**	⇑*i*P	**Pg**	**01 34 00.9**	**-0.8**
	baz=30						
TKM2				⇑*i*S	**Sg**	**01 34 29.6**	**+1.0**
	baz=30						
USP	**Ospenovka**	**2.19**	**4**	⇑P	**Pg**	**01 34 02.7**	**-1.2**
	8.8nm,0.2s,SNR=23						
USP				⇑S	**Sg**	**01 34 32.8**	**+0.5**
	35nm,0.4s						
USP	**Ospenovka**	**2.19**	**4**	⇑*i*P	**Pb**	**01 34 01.7**	**+0.3**
	baz=7.0						
USP				⇑*i*S	**Sg**	**01 34 31.0**	**-1.3**
	baz=7.0						
KST	**Kastek**	**2.32**	**32**	*e*P	**Pg**	**01 34 06.3**	**0.0**
	11nm,0.3s						
KST				*e*S	**Sg**	**01 34 37.1**	**+0.8**
	37nm,0.5s						
KST	**Kastek**	**2.32**	**32**	Pg	**Pg**	**01 34 06.3**	**0.0**
	11nm,0.3s						
KST				Lg	Lg	01 34 37.1	
	37nm,0.5s						
SGDS	**Sogindy**	**2.38**	**6**	*e*P	**Pg**	**01 34 06.5**	**-1.0**
	7.4nm,0.4s						
SGDS				*e*S	**Sg**	**01 34 37.5**	**-1.0**
	16nm,0.3s						
SGDS	**Sogindy**	**2.38**	**6**	Pg	**Pg**	**01 34 06.5**	**-1.0**
	7.4nm,0.4s						
SGDS				Lg	Lg	01 34 37.5	
	16nm,0.3s						
KDJ	**Kajisay**	**2.40**	**63**	⇓*i*P	**Pg**	**01 34 06.2**	**-1.6**
	baz=64						
KDJ				⇓*i*S	**Sg**	**01 34 38.8**	**-0.1**
	baz=64						
DGS	**Degeres**	**2.42**	**26**	*e*P	**Pg**	**01 34 08.2**	**-0.1**
	8.9nm,0.5s						
DGS				*e*S	**Sg**	**01 34 40.4**	**+0.7**
	42nm,0.8s						
DGS	**Degeres**	**2.42**	**26**	Pg	**Pg**	**01 34 08.2**	**-0.1**
	8.9nm,0.5s						
DGS				Lg	Lg	01 34 40.4	
	42nm,0.8s						
TRKS	**Terek-Say**	**2.43**	**282**	⇑*i*P	**Pn**	**01 34 02.4**	**+0.9**
	baz=81						
TRKS				⇑*i*S	**Sn**	**01 34 32.1**	**+0.9**
	baz=81						
MTBS	**Maitube**	**2.58**	**37**	*e*P	**Pg**	**01 34 10.8**	**-0.6**
	9.8nm,0.3s						
MTBS				*e*S	**Sg**	**01 34 44.7**	**-0.3**
	63nm,0.6s						
MTBS	**Maitube**	**2.58**	**37**	Pg	**Pg**	**01 34 10.8**	**-0.6**
	9.8nm,0.3s						
MTBS				Lg	Lg	01 34 44.7	
	63nm,0.6s						
IZV	**Izvestkoviy**	**2.60**	**41**	*e*P	**Pg**	**01 34 11.4**	**-0.4**
	9.0nm,0.2s						
IZV				*e*S	**Sg**	**01 34 45.5**	**0.0**
	60nm,0.5s						
TNSS	**Tian-Shan**	**2.77**	**44**	*e*P	**Pg**	**01 34 14.5**	**-0.6**
	10nm,0.2s						
TNSS				*e*S	**Sg**	**01 34 51.6**	**+0.6**
	7.5nm,0.4s						
TNSS	**Tian-Shan**	**2.77**	**44**	Pg	**Pg**	**01 34 14.5**	**-0.6**
	10nm,0.2s						
TNSS				Lg	Lg	01 34 51.6	
	7.5nm,0.4s						
KRBS	**Karabastau**	**2.80**	**21**	*e*P	**Pg**	**01 34 14.3**	**-1.3**
	7.2nm,0.4s						
KRBS				*e*S	**Sg**	**01 34 51.0**	**-0.9**
	25nm,0.4s						
KRBS	**Karabastau**	**2.80**	**21**	Pg	**Pg**	**01 34 14.3**	**-1.3**
	7.2nm,0.4s						
KRBS				Lg	Lg	01 34 51.0	
	25nm,0.4s						
MDOK	**Medeo**	**2.91**	**43**	*e*P	**Pg**	**01 34 16.8**	**-0.9**
	8.0nm,0.3s						
MDOK				*e*S	**Sg**	**01 34 55.0**	**-0.4**
	13nm,0.5s						
MDOK	**Medeo**	**2.91**	**43**	⇑Pg	**Pg**	**01 34 16.8**	**-0.9**
	3.5nm,0.4s						
MDOK				⇑Lg	Lg	01 34 57.1	
	24nm,1.2s						
MDOK	**Medeo**	**2.91**	**43**	Pg	**Pg**	**01 34 16.8**	**-0.9**
	8.0nm,0.3s						
MDOK				Lg	Lg	01 34 55.0	
	13nm,0.5s						
KOTS	**Kotyrbulak**	**3.00**	**43**	*e*P	**Pg**	**01 34 18.5**	**-0.9**
	6.9nm,0.3s						
KOTS				*e*S	**Sg**	**01 34 58.3**	**+0.2**
	19nm,0.4s						
KOTS	**Kotyrbulak**	**3.00**	**43**	Pg	**Pg**	**01 34 18.5**	**-0.9**
	6.9nm,0.3s						
KOTS				Lg	Lg	01 34 58.3	
	19nm,0.4s						
KTBS	**Karatobe**	**3.16**	**33**	*e*P	**Pg**	**01 34 21.4**	**-1.2**
	3.4nm,0.3s						
KTBS				*e*S	**Sg**	**01 35 03.0**	**-0.5**
	27nm,0.4s						
KTBS	**Karatobe**	**3.16**	**33**	Pg	**Pg**	**01 34 21.4**	**-1.2**
	3.4nm,0.3s						
KTBS				Lg	Lg	01 35 03.0	
	27nm,0.4s						
KUU	**Kurty**	**3.19**	**27**	*e*P	**Pg**	**01 34 21.2**	**-1.7**
	3.6nm,0.3s						
KUU				*e*S	**Sg**	**01 35 02.4**	**-1.9**
	26nm,0.6s						
IUG	**Iuzhnay**	**3.38**	**290**	*e*P	**Pb**	**01 34 22.4**	**+0.7**
	124nm,0.4s						
IUG				*e*S	**Sb**	**01 35 04.5**	**+1.7**
	54nm,0.7s						
IUG	**Iuzhnay**	**3.38**	**290**	Pg	**Pb**	**01 34 22.4**	**+0.7**
	124nm,0.4s						
IUG				Lg	Lg	01 35 04.5	
	54nm,0.7s						
CHKK	**Chushkaly**	**3.41**	**35**	*e*P	**Pg**	**01 34 26.3**	**-0.9**
	1.7nm,0.1s						
CHKK				*e*S	**Sg**	**01 35 11.7**	**+0.4**
	10nm,0.4s						
CHKK	**Ch

MORC	**Moravsky Berou**	**1.02**	**235**	*e*Pg		**Pg**	**01 51 30.3**	**-0.3**
	baz=55							
MORC				*e*Sg		**Sg**	**01 51 43.1**	**-0.8**
	50nm,0.7s,baz=55							
LANS	**Liptovska Anna**	**1.29**	**161**	*e*PG		**Pg**	**01 51 35.2**	**-0.6**
LANS				*e*SG		**Sg**	**01 51 52.3**	**-0.1**
LANS				*e*LG		Lg	01 51 55.1	
NIE	**Niedzica**	**1.34**	**135**	*e*Pg		**Pn**	**01 51 36.9**	**-0.2**
NIE				*e*Sg		**Sn**	**01 51 55.4**	**-0.3**
KRLC	**Kraliky**	**1.35**	**258**	*e*PG		**Pg**	**01 51 35.4**	**-1.5**
KRLC				*e*SG		**Sg**	**01 51 53.3**	**-1.1**
	comp=Z,24nm,0.8s							
DPC	**Dobruska-Polom**	**1.61**	**270**	*e*PG		**Pn**	**01 51 40.2**	**-0.6**
DPC				*e*SG		**Sg**	**01 52 02.4**	**-0.3**
	comp=Z,7.8nm,0.4s							
OSTC	**Ostas**	**1.68**	**277**	*e*PG		**Pn**	**01 51 41.8**	**0.0**
OSTC				*e*SG		**Sn**	**01 52 03.8**	**-0.2**
	comp=Z,11nm,0.5s							
KSP	**Ksiaz**	**1.69**	**287**	*e*Pg		**Pb**	**01 51 42.7**	**-0.2**
KSP				*e*Sg		**Sg**	**01 52 05.3**	**+0.1**
CHVC	**Chvalec**	**1.79**	**278**	*e*PG		**Pb**	**01 51 44.2**	**-0.5**
CHVC				*e*SG		**Sg**	**01 52 08.3**	**-0.2**
	comp=Z,24nm,1.4s							
VRAC	**Vranov**	**1.80**	**235**	*e*Pn		**Pn**	**01 51 43.4**	**+0.1**
	baz=53							
VRAC				*e*Sg		**Sb**	**01 52 07.3**	**-0.6**
	20nm,0.7s,baz=53							
UPC	**Upice**	**1.81**	**275**	*e*SG		**Sb**	**01 52 08.2**	**0.0**
	comp=Z,22nm,1.0s							
VYHS	**Vyhne**	**1.88**	**180**	*e*PN		**Pn**	**01 51 43.8**	**-0.7**
VYHS				*e*SN		**Sn**	**01 52 07.0**	**-1.9**
KRUC	**Moravsky**	**2.05**	**231**	*e*Pn		**Pn**	**01 51 46.6**	**-0.2**
	baz=50							
KRUC				*e*Sg		**Sb**	**01 52 15.2**	**0.0**
	21nm,0.8s,baz=50							
KRUC	**Moravsky**	**2.05**	**231**	*e*PN		**Pn**	**01 51 46.7**	**-0.1**
KRUC				*e*SG		**Sb**	**01 52 15.3**	**0.0**
PRU	**Pruhonice**	**2.79**	**264**	*e*SG		**Sg**	**01 52 39.8**	**-0.7**
CONA	**Conrad Observa**	**3.13**	**220**	*e*Pn		**Pn**	**01 52 02.2**	**+0.6**
	0.2nm,0.2s							
CONA				*e*Sn		**Sn**	**01 52 37.7**	**-2.0**
	1.5nm,0.5s							
BRG	**Berggiesshubel**	**3.15**	**281**	Sg		**Sg**	**01 52 52.2**	**-0.2**
BRG				Amp			01 53 04.1	
	comp=Z,3.5nm,0.5s							
CKRC	**Cesky Krumlov**	**3.33**	**244**	*e*PG		**Pb**	**01 52 11.4**	**+0.5**
CKRC				*e*SG		**Sg**	**01 52 55.2**	**-2.7**
KHC	**Kasperske Hory**	**3.63**	**252**	*e*PG		**Pb**	**01 52 15.6**	**-0.4**
KHC				*e*SG		**Sg**	**01 53 05.5**	**-2.0**
	comp=Z,5.6nm,0.5s							
ARSA	**Arzberg**	**3.81**	**216**	*e*Sg		**Sg**	**01 53 17.4**	**+3.9**
	comp=Z,2.3nm,0.7s							
CLL	**Collm**	**3.81**	**286**	*e*Sg		**Sg**	**01 53 15.0**	**+1.5**
MOA	**Molln**	**3.92**	**232**	*e*Pn		**Pn**	**01 52 11.4**	**-1.1**
	comp=Z,0.2nm,0.2s							
MOA				*e*Sn		**Sn**	**01 53 01.8**	**+2.6**
	comp=Z,1.1nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.34**	**234**	*e*Pn		**Pn**	**01 52 19.1**	**+0.8**
	comp=Z,0.5nm,0.2s							
BIOA				*e*Sn		**Sn**	**01 53 13.1**	**+3.5**
	comp=Z,3.3nm,0.4s							
WTTA	**Wattenberg**	**5.68**	**240**	*e*Sn		**Sn**	**01 53 50.5**	**+7.8**
	comp=Z,3.5nm,0.8s							

IDC ***29*** *01:52:12.7±2.2, 7°.08S×130°.85E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.4/24, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=82.0km s-min=28.6km az=79.0*
NEIC ***29*** *01:52:16.4±1.6, 6°.97S±0°.07×130°.8E±0°.1, h86km±15km, mb4.0/2, Error ellipse: s-maj=20.8km s-min=8.2km az=108.0*

ISC 29 01:52:16.7±1.3, 7°.05S±0°.08×130°.8E±0°.1, h100km, n15, σ2s13/19, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.06**	**151**		**Pn**	**01 52 38.0**	**+0.1**
SAUI				Sn	**Sn**	**01 52 51.8**	**-1.9**
FAKI	**Fak Fak**	**4.36**	**20**	Pn	**Pn**	**01 53 19.1**	**-1.8**
MTN	**Manton Dam**	**5.77**	**177**		**Pn**	**01 53 41.6**	**+1.6**
KNRA	**Kununurra**	**8.80**	**193**		**Pn**	**01 54 21.6**	**+0.5**
KNRA					**Sn**	**01 55 59.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.07**	**204**	Pn	**Pn**	**01 55 05.7**	**+0.3**
	0.4nm,0.3s,baz=25,slow=11,SNR=19						
FITZ				Sn	**Sn**	**01 57 13.9**	**-4.2**
	0.4nm,0.3s,baz=124,slow=15,SNR=6.9						
WB0	**Warramunga Arr**	**13.12**	**165**	Pn	**Pn**	**01 55 19.9**	**+0.6**
WRA	**Warramunga Arr**	**13.27**	**165**	Pn	**Pn**	**01 55 21.4**	**+0.1**
	0.3nm,0.3s,baz=349,slow=13,SNR=18						
WRA				Sn	**Sn**	**01 57 43.8**	**-3.6**
	0.3nm,0.3s,baz=333,slow=23,SNR=5.6						
WRA	**Warramunga Arr**	**13.27**	**165**		**Pn**	**01 55 21.1**	**-0.2**
WB2	**Warramunga Arr**	**13.28**	**165**	Pn	**Pn**	**01 55 21.7**	**+0.3**
COEN	**Coen**	**13.98**	**120**	Pn	**Pn**	**01 55 31.9**	**+1.4**
AS31	**Alice Springs**	**16.79**	**170**		**Pn**	**01 56 06.2**	**+0.3**
AS31				IAmb	IAmb	01 56 16.7	
	comp=Z,1.5nm,0.4s						
ASAR	**Alice Springs**	**16.79**	**170**	Pn	**P**	**01 56 10.1**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=345,slow=10,SNR=18						
ASAR				Sn	**Sn**	**01 59 09.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**16.79**	**170**	P	**P**	**01 56 08.3**	**+1.8**
BBOO	**Buckleboo**	**26.10**	**170**	P	**P**	**01 57 42.7**	**+1.4**
BBOO				IAmb	IAmb	01 58 06.1	
	comp=Z,18nm,1.4s						
MKAR	**Makanchi Array**	**68.69**	**326**	P	P	02 03 18.6	+9.0
	comp=Z,0.6nm,0.5s,baz=125,slow=7.9,SNR=6.3						

IDC 29 01:58:59.1±2.5, 6°.80S×130°.78E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.2/36, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=85.7km s-min=31.1km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.30**	**204**	Pn	Pn	02 01 56.5	+0.8
	0.2nm,0.3s,baz=28,slow=12,SNR=7.1						
FITZ				Sn	Sn	02 04 03.5	-10
	0.1nm,0.3s,baz=150,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**13.51**	**166**	Pn	Pn	02 02 10.8	-1.5
	0.1nm,0.3s,baz=348,slow=13,SNR=2.8						
WRA				Sn	Sn	02 04 29.2	-14
	0.1nm,0.3s,baz=347,slow=21,SNR=3.0						
ASAR	**Alice Springs**	**17.04**	**170**	P	Pn	02 02 59.5	+0.5
	0.1nm,0.3s,baz=353,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**68.49**	**326**	P	P	02 10 03.3	0.0
	0.2nm,0.6s,baz=118,slow=7.5,SNR=2.9						

ARE ***29*** *02:45:33±0.9, 10°.39S±0°.08×78°.6W±0°.2, h24km±7km, Error ellipse: s-maj=23.2km s-min=7.3km az=67.0*
NEIC 29 02:45:34.4±0.5, 10°.37S±0°.04×78°.54W±0°.07, h35km±30km, mb3.6/2, ML4.3(ARE), **Error ellipse: s-maj=10.5km s-min=5.2km az=101.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.32**	**134**	Pn	Pn	02 46 09.9	-0.2
NNA				Sn	Sn	02 46 38.2	+0.8
MCRA	**Macar, Loja**	**6.12**	**347**	Pn	Pn	02 47 02.7	+0.3
MCRA				Sn	Sn	02 48 10.9	-0.4
ARNL	**Arenillas**	**6.94**	**347**	Pn	Pn	02 47 12.3	-1.3
BOSC	**San Juan Bosco**	**7.17**	**0**	Pn	Pn	02 47 16.6	-0.4
ZARC	**Zaragoza, Cauc**	**18.11**	**12**	P	Pn	02 49 40.1	-3.2
ZARC				IAmb	IAmb	02 49 59.5	
	comp=Z,5.6nm,1.3s						
SDV	**Santo Domingo**	**20.68**	**23**	P	P	02 50 10.7	-1.0
SDV				IAmb	IAmb	02 50 19.0	
	comp=Z,4.1nm,1.1s						

IDC ***29*** *02:47:36.3±2.0, 48°.30N×152°.88E, h164km±19km, mb3.2/9, mb1 3.4/13, mb1mx3.2/38, mbtmp3.7/13, Error ellipse: s-maj=26.0km s-min=11.7km az=142.0*
ISC 29 02:47:35.0±0.8, 48°.3N±0°.1×152°.9E±0°.1, h150km, n19, σ0s92/15, mb3.4/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.73**	**31**	P	**Pn**	**02 48 58.0**	**+0.1**
	0.3nm,0.3s,baz=209,slow=14,SNR=4.8						
PETK				S	**Sn**	**02 50 04.7**	**+1.9**
	0.1nm,0.3s,baz=200,slow=28,SNR=2.2						
ASAJ	**Asahikawa**	**8.25**	**244**	P	**Pn**	**02 49 33.3**	**+1.6**
	1.9nm,0.3s,baz=67,slow=13,SNR=26						
KLR	**Kul'dur**	**13.97**	**282**	P	**P**	**02 50 49.1**	**-0.5**
	0.1nm,0.3s,baz=57,slow=12,SNR=9.6						
USRK	**Ussuriysk Ar.**	**15.01**	**262**	P	**Pn**	**02 50 60.0**	**+0.6**
	baz=66,slow=13,SNR=14						
KSRS	**Korea Array**	**21.15**	**248**	P	**P**	**02 52 08.9**	**+0.7**
	2.1nm,0.6s,baz=45,slow=12,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**30.65**	**153**	T	T	03 25 48.9	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**30.67**	**153**	T	T	03 25 50.0	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**30.67**	**153**	T	T	03 25 41.2	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**31.75**	**154**	T	T	03 27 11.4	
	baz=343,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**31.76**	**155**	T	T	03 27 13.7	
	baz=343,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**31.77**	**154**	T	T	03 27 11.9	
	baz=343,slow=76,SNR=6.6						
ILAR	**Eielson Array**	**35.47**	**40**	P	**P**	**02 54 16.6**	**+0.1**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=4.6						
MKAR	**Makanchi Array**	**46.11**	**296**	P	**P**	**02 55 43.1**	**-0.8**
	0.7nm,0.7s,baz=69,slow=8.6,SNR=7.5						
MKAR				PcP	**PcP**	**02 57 17.2**	**-0.3**
	0.2nm,0.5s,baz=72,slow=4.7,SNR=2.2						
YKA	**Yellowknife Ar**	**49.80**	**37**	P	**P**	**02 56 11.5**	**-0.5**
	0.4nm,0.8s,baz=298,slow=7.1,SNR=3.7						
FINES	**FINESS Array B**	**62.59**	**334**	P	**P**	**02 57 42.0**	**-0.6**
	3.1nm,1.1s,baz=28,slow=6.3,SNR=2.0						
PDAR	**Pinedale Array**	**63.98**	**54**	P	**P**	**02 57 52.0**	**-0.4**
	0.3nm,0.6s,baz=316,slow=2.5,SNR=4.4						
WRA	**Warramunga Arr**	**69.91**	**199**	P	**P**	**02 58 28.6**	**-1.0**
	0.6nm,0.8s,baz=16,slow=6.5,SNR=5.1						
ASAR	**Alice Springs**	**73.61**	**198**	P	**P**	**02 58 52.3**	**+0.6**
	0.2nm,0.6s,baz=15,slow=5.1,SNR=4.0						
TXAR	**Lajitas Array**	**76.88**	**61**	P	**P**	**02 59 10.8**	**+0.1**
	0.5nm,0.6s,baz=288,slow=4.7,SNR=6.8						

AEIC ***29*** *02:48:08±1.1, 52°.19N±0°.07×168°.59W±0°.05, h16km±4km, ML3.0/22, Error ellipse: s-maj=9.8km s-min=4.9km az=178.0*
IDC ***29*** *02:48:09.3±6.5, 53°.00N×168°.79W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/41, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=163.7km s-min=25.2km az=170.0*
NEIC ***29*** *02:48:09.9±1.6, 52°.21N±0°.04×168°.63W±0°.08, h28km±4km, Error ellipse: s-maj=8.2km s-min=4.5km az=121.0*
ISC 29 02:48:07.6±2.4, 52°.15N±0°.09×168°.56W±0°.08, h17km±13km, n29, σ0s85/28, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.84**	**348**		**Pg**	**02 48 23.7**	**-0.3**
NIKH					**Sn**	**02 48 36.4**	**-0.3**
OKSO	**Okmok South**	**1.23**	**11**		**Pn**	**02 48 29.9**	**-0.3**
OKSO					**Sb**	**02 48 46.6**	**+0.5**
OKCE	**Okmok Cone E**	**1.30**	**10**		**Pn**	**02 48 31.0**	**-0.1**
OKFG	**Magazine Ridge**	**1.32**	**17**		**Pn**	**02 48 31.4**	**+0.1**
OKFG					**Sb**	**02 48 49.2**	**+0.6**
MSW	**Makushin Switc**	**2.07**	**31**		**Pn**	**02 48 42.6**	**+1.0**
MSW					**Sn**	**02 49 08.4**	**+1.5**
UNV	**Unalaska Valle**	**2.10**	**35**		**Pn**	**02 48 42.6**	**+0.6**
UNV					**Sn**	**02 49 08.3**	**+0.6**
MTBL	**Makushin Table**	**2.15**	**31**		**Pn**	**02 48 43.5**	**+0.8**
AKMO	**Akutan Morgan**	**2.48**	**37**		**Pn**	**02 48 48.2**	**+1.0**
ATKA	**Atka Island**	**3.47**	**273**		**Pn**	**02 49 01.2**	**+0.4**
GSTD	**Great Sitkin T**	**4.68**	**272**		**Pn**	**02 49 18.6**	**+1.1**
GSCK	**Great Sitkin C**	**4.69**	**271**		**Pn**	**02 49 18.7**	**+1.1**
ADK	**Adak**	**5.03**	**270**	Pn	**Pn**	**02 49 23.2**	**+1.0**
SPIA	**Saint Paul Isl**	**5.13**	**350**		**Pn**	**02 49 24.8**	**+1.2**
KDAK	**Kodiak Island**	**10.77**	**52**	Pn	**Pn**	**02 50 40.6**	**-0.2**
	0.3nm,0.3s,baz=246,slow=7.5,SNR=9.5						
KDAK	**Kodiak Island**	**10.77**	**52**		**Pn**	**02 50 40.0**	**-0.8**
PETK	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**02 52 43.2**	**-0.2**
	1.9nm,0.4s,baz=94,slow=15,SNR=6.5						
PETK	**Petropavlovsk-**	**20.40**	**286**		**P**	**02 52 43.4**	**-0.1**
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**02 54 16.5**	**+1.5**
	0.1nm,0.5s,baz=274,slow=7.6,SNR=5.7						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**02 54 15.4**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**37.60**	**220**	T	T	03 36 23.7	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**37.60**	**220**	T	T	03 36 06.4	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**37.62**	**220**	T	T	03 36 21.7	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**38.78**	**219**	T	T	03 37 35.6	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**38.80**	**219**	T	T	03 37 33.9	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**38.80**	**219**	T	T	03 37 18.6	
	baz=21						
ARCES	**ARCESS Array B**	**58.19**	**354**	P	**P**	**02 57 59.4**	**-0.7**
	4.7nm,0.9s,baz=19,slow=6.8,SNR=1.5						
MKAR	**Makanchi Array**	**64.32**	**314**	P	**P**	**02 58 41.1**	**-0.8**
	0.4nm,0.7s,baz=40,slow=5.7,SNR=3.3						
FINES	**FINESS Array B**	**66.16**	**352**	P	**P**	**02 58 52.9**	**-0.6**
	1.3nm,0.8s,baz=8.9,slow=9.8,SNR=4.7						
AKASG	**Malin Array Be**	**76.42**	**348**	P	**P**	**02 59 54.6**	**-1.2**
	0.3nm,0.3s,baz=6.3,slow=5.2,SNR=1.9						

IDC 29 02:57:17.5±7.8, 57°.04S×150°.92W, h0km, mb3.5/1, mb1 3.7/1, mb1mx2.9/24, mbtmp3.5/1, Error ellipse: s-maj=676.9km s-min=69.4km az=163.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**62.45**	**269**	P	P	03 07 42.3	-0.1
	0.5nm,0.8s,baz=140,slow=6.1,SNR=4.8						
ILAR	**Eielson Array**	**121.52**	**2**	PKP	PKPdf	03 16 10.9	-0.3
	0.9nm,1.0s,baz=200,slow=2.0,SNR=5.1						
MKAR	**Makanchi Array**	**146.44**	**275**	PKPbc	PKPbc	03 16 58.8	-0.7
	0.3nm,0.8s,baz=150,slow=4.1,SNR=2.4						

IDC ***29*** *03:10:45.4±1.6, 26°.45N×125°.62E, h134km±14km, mb3.8/19, mb1 3.9/22, mb1mx3.8/48, mbtmp4.2/22, Error ellipse: s-maj=17.1km s-min=9.6km az=79.0*
JMA ***29*** *03:10:45.1±0.2, 26°.48N×125°.68E, h134km±4km, M3.6*
NEIC ***29*** *03:10:45.7±0.9, 26°.51N±0°.09×125°.73E±0°.08, h133km±7km, mb4.4/21, Error ellipse: s-maj=13.7km s-min=9.2km az=150.0*
NIED ***29*** *03:10:45.1, 26°.48N×125°.68E, h134km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.36; Mθθ-1.34; Mφφ-0.02; Mrθ-2.41; Mrφ-1.30; Mθφ-1.53; Fault plane solution: M0 3.35000×10^15 NP1: φs238.00000°, δ74.00000°, λ89.00000°. NP2: φs60.00000°, δ16.00000°, λ93.00000°.*
ISC 29 03:10:45.8±0.6, 26°.44N±0°.05×125°.74E±0°.04, h141km±5km, n85, σ1s32/117, mb4.2/29, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.95**	**97**	P	**Pn**	**03 11 08.8**	**-0.4**
JKE				S	**Sn**	**03 11 25.8**	**-1.2**
JAGN	**Aguni-jima**	**1.36**	**84**	P	**Pn**	**03 11 12.8**	**-0.3**
JAGN				S	**Sn**	**03 11 32.7**	**-1.2**
JIKM	**Ikemajima**	**1.57**	**196**	P	**Pn**	**03 11 15.1**	**-0.4**
JIKM				eS	**Sn**	**03 11 37.0**	**-1.1**
JIRB	**Irabujima**	**1.69**	**198**	P	**Pn**	**03 11 15.9**	**-0.8**
JIRB				S	**Sn**	**03 11 38.8**	**-1.5**
JOGS	**Gusukube**	**1.70**	**190**	P	**Pn**	**03 11 16.8**	**-0.1**
JOGS				S	**Sn**	**03 11 40.5**	**-0.2**
JMJ2	**Miyako jima3**	**1.73**	**192**	P	**Pn**	**03 11 17.1**	**-0.2**
JMJ2				eS	**Sn**	**03 11 41.0**	**-0.3**
JJT3	**Tamagusuku3**	**1.86**	**99**	P	**Pn**	**03 11 19.1**	**+0.4**
JTJ	**Tarama**	**2.02**	**208**	P	**Pn**	**03 11 20.1**	**-0.5**
JTJ				S	**Sn**	**03 11 45.2**	**-2.1**
JNTH	**Nagotoyohara**	**2.05**	**87**	P	**Pn**	**03 11 20.8**	**-0.1**
JNTH				S	**Sn**	**03 11 45.6**	**-2.3**
JIH	**Iheya**	**2.08**	**73**	P	**Pn**	**03 11 21.3**	**0.0**
JIH				eS	**Sn**	**03 11 47.4**	**-1.1**
JISG	**Ishigakijimahi**	**2.25**	**215**	P	**Pn**	**03 11 22.5**	**-0.9**
JISG				S	**Sn**	**03 11 50.7**	**-1.6**
JOW	**Kunigami**	**2.31**	**80**	P	**Pn**	**03 11 23.8**	**-0.2**
	54nm,0.3s,baz=195,slow=11,SNR=135						
JOW				S	**Sn**	**03 11 50.8**	**-2.7**
	262nm,0.3s,baz=330,slow=26,SNR=87						
JOW	**Kunigami**	**2.31**	**80**	P	**Pn**	**03 11 23.6**	**-0.4**
JOW				S	**Sn**	**03 11 51.2**	**-2.3**
JOW	**Kunigami**	**2.31**	**80**		**Pn**	**03 11 23.7**	**-0.4**
JOW				Sn	**Sn**	**03 11 51.1**	**-2.3**
JYRO	**Yoronjima**	**2.50**	**76**	P	**Pn**	**03 11 25.9**	**-0.5**
JYRO				S	**Sn**	**03 11 55.1**	**-2.5**
JIJ	**Ishigaki jima**	**2.52**	**215**	P	**Pn**	**03 11 25.6**	**-1.1**
JIJ				S	**Sn**	**03 11 54.5**	**-3.7**
JOKE	**Okinoerabujima**	**2.69**	**70**	P	**Pn**	**03 11 28.4**	**-0.5**
JOKE				eS	**Sn**	**03 11 59.3**	**-2.8**
JKRS	**Kuro-shima**	**2.69**	**216**	P	**Pn**	**03 11 27.9**	**-1.0**
JKRS				eS	**Sn**	**03 11 59.8**	**-2.3**
IRIF	**Iriomote-Funau**	**2.77**	**221**	P	**Pn**	**03 11 29.0**	**-0.9**
IRIF				eS	**Sn**	**03 12 01.4**	**-2.5**
HATJ	**Hateruma jima**	**2.95**	**217**	P	**Pn**	**03 11 31.2**	**-0.9**
HATJ				S	**Sn**	**03 12 05.2**	**-2.7**
YOJ	**Yonaguni jima**	**3.15**	**232**	P	**Pn**	**03 11 34.3**	**-0.5**
YOJ				eS	**Sn**	**03 12 11.9**	**-0.7**
YOJ	**Yonaguni jima**	**3.15**	**232**		**Pn**	**03 11 34.9**	**+0.1**
JTK	**Tokunoshima**	**3.16**	**64**	P	**Pn**	**03 11 34.1**	**-0.8**
JTK				S	**Sn**	**03 12 10.4**	**-2.4**
JYNG	**Yonagunijimaku**	**3.21**	**232**	S	**Sn**	**03 12 13.6**	**-0.2**
JAMN	**Amaminishikomi**	**3.55**	**59**	P	**Pn**	**03 11 39.0**	**-0.8**
JAMN				eS	**Sn**	**03 12 19.7**	**-2.0**
JAM	**Amami Oshima**	**3.96**	**59**	P	**Pn**	**03 11 44.4**	**-0.8**
JAM				S	**Sn**	**03 12 28.4**	**-3.0**
JZK	**Kikaishima**	**4.20**	**63**	S	**Sn**	**03 12 35.3**	**-1.9**
YHNB	**Yeheng**	**4.32**	**247**		**Pn**	**03 11 50.1**	**+0.1**
YULB	**Yu-li**	**5.04**	**234**		**Pn**	**03 11 57.3**	**-2.3**
SSLB	**Suanglung**	**5.08**	**240**		**Pn**	**03 11 59.9**	**-0.2**
TPUB	**Ta-pu**	**5.59**	**237**	Pn	**Pn**	**03 12 07.1**	**+0.1**
KSAR	**Wonju Array Be**	**11.12**	**9**		**Pn**	**03 13 19.3**	**-1.4**
KSRS	**Korea Array**	**11.13**	**9**	P	**Pn**	**03 13 23.7**	**+2.8**
	0.5nm,0.3s,baz=188,slow=14,SNR=30						
MJAR	**Matsushiro Ar**	**14.63**	**44**	P	**P**	**03 14 09.0**	**+0.4**
	0.1nm,0.3s,baz=236,slow=12,SNR=2.8						
MJAR	**Matsushiro Arr**	**14.63**	**44**	Pn	**Pn**	**03 14 05.0**	**-1.1**
ENH	**Enshi**	**14.80**	**289**	P	**Pn**	**03 14 06.2**	**-2.0**
BJT	**Baijiatuau**	**15.71**	**332**		**Pn**	**03 14 18.6**	**-0.8**
BJT				IAmb	IAmb	03 14 34.9	
	comp=Z,22nm,1.0s						
USRK	**Ussuriysk Ar.**	**18.43**	**14**	P	**Pn**	**03 14 51.9**	**-0.1**
	baz=191,slow=9.6,SNR=7.5						
USRK				pP	**pP**	**03 15 21.1**	**+6.3**
	baz=188,slow=8.7,SNR=3.6						
USRK	**Ussuriysk Ar.**	**18.43**	**14**	P	**P**	**03 14 49.1**	**-1.1**
ASAJ	**Asahikawa**	**22.30**	**33**	P	**P**	**03 15 32.5**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=248,slow=11,SNR=2.1						
KLR	**Kul'dur**	**23.23**	**10**	P	**P**	**03 15 41.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=184,slow=5.2,SNR=2.2						
ULN	**Ulaanbaatar**	**25.93**	**330**	P	**P**	**03 16 02.7**	**-2.3**
ULN				IAmb	IAmb	03 16 09.8	
	comp=Z,18nm,1.1s						
SONM	**Songino Array**	**26.20**	**330**	P	**P**	**03 16 07.4**	**0.0**
	comp=Z,14nm,0.7s,baz=144,slow=9.0,SNR=75						
SONM				ScP	**ScP**	**03 22 57.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=148,slow=4.3,SNR=5.8						
SONM	**Songino Array**	**26.20**	**330**	P	**P**	**03 16 07.6**	**+0.2**
SONM					**ScP**	**03 22 57.1**	**-0.2**
SBUM	**Sibu**	**27.16**	**211**	P	**P**	**03 16 16.6**	**+0.5**
SBUM				IAmb	IAmb	03 16 20.3	
	comp=Z,6.6nm,0.7s						
MTN	**Manton Dam**	**39.40**	**172**	P	**P**	**03 18 01.8**	**-0.1**
MK31	**Makanchi Array**	**39.73**	**312**	P	**P**	**03 18 04.5**	**0.0**
MK31				IAmb	IAmb	03 18 05.2	
	comp=Z,5.7nm,0.7s						
MKAR	**Makanchi Array**	**39.73**	**312**	P	**P**	**03 18 04.3**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=99,slow=10,SNR=95						
MKAR				PcP	**PcP**	**03 20 08.8**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=86,slow=3.1,SNR=7.7						
MKAR				ScP	**ScP**	**03 23 44.5**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=109,slow=4.3,SNR=6.8						
MAKZ	**Makanchi**	**39.94**	**312**	P	**P**	**03 18 06.3**	**0.0**
MAKZ				IAmb	IAmb	03 18 07.1	
	comp=Z,8.1nm,0.8s						
SEY	**Seymchan**	**40.50**	**18**	P	**P**	**03 18 10.9**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=176,slow=13,SNR=5.3						
ZAA0	**Zalesovo Array**	**40.74**	**324**	P	**P**	**03 18 12.6**	**0.0**
ZAA0				IAmb	IAmb	03 18 12.9	
	comp=Z,6.9nm,0.7s				

CBOC				*e*S	**Sn**	**03 27 07.4**	**-2.6**
CBOC				*i*		03 27 08.9	
	comp=Z,15nm,0.3s						
DBBC	**Dabeiba**	**2.43**	**56**	*e*P	**Pn**	**03 26 47.6**	**+2.2**
DBBC				*e*S	**Sn**	**03 27 14.2**	**-0.6**
DBBC				*i*		03 27 18.1	
	comp=Z,46nm,0.5s						
YOTC	**Yotoco, Valle**	**2.53**	**131**	*e*P	**Pn**	**03 26 47.7**	**+0.9**
YOTC				*e*S	**Sn**	**03 27 16.1**	**-1.3**
HELC	**Santa Helena**	**2.75**	**79**	*e*P	**Pn**	**03 26 51.8**	**+1.7**
HELC				*e*S	**Sn**	**03 27 22.7**	**-0.5**
HELC				*i*		03 27 26.4	
	comp=Z,5.7nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.90**	**99**	*e*P	**Pn**	**03 26 53.9**	**+1.7**
GUY2C				*e*S	**Sn**	**03 27 25.4**	**-1.6**
GUY2C				*i*		03 27 33.6	
	comp=Z,2.9nm,0.7s						
AZU	**Azuero**	**2.92**	**316**	*e*P	**Pn**	**03 26 52.0**	**0.0**
AZU				*e*S	**Sn**	**03 27 26.3**	**-0.3**
AZU				*i*		03 27 27.0	
	comp=Z,28nm,0.2s						
AZU	**Azuero**	**2.92**	**316**	*e*P	**Pn**	**03 26 51.9**	**-0.1**
AZU				*e*S	**Sn**	**03 27 26.4**	**-0.3**
CACAO	**El Cacao, Vera**	**3.08**	**303**	*e*P	Pn	03 26 52.5	-1.8
CACAO				*e*S	**Sn**	**03 27 28.4**	**-2.4**
CHIT3	**Chitre**	**3.13**	**317**	*e*P	**Pn**	**03 26 55.7**	**+0.7**
CHIT3				*e*S	**Sn**	**03 27 29.2**	**-2.8**
ORTC	**Ortega, Tolima**	**3.46**	**120**	*e*P	**Pn**	**03 27 02.8**	**+3.2**
POPC	**Popayan, Colom**	**3.48**	**153**	*e*P	**Pn**	**03 27 02.1**	**+2.1**
UPA	**Univ. de Panam**	**3.53**	**339**	*e*P	**Pn**	**03 27 02.4**	**+2.0**
UPA				*e*S	**Sn**	**03 27 39.6**	**-2.2**
GMAL	**Guarumal, Vera**	**3.62**	**305**	*e*P	**Pn**	**03 27 02.6**	**+0.9**
GMAL				*e*S	**Sn**	**03 27 45.5**	**+1.4**
GMAL				*i*		03 27 46.9	
	comp=Z,19nm,0.1s						
GMAL	**Guarumal, Vera**	**3.62**	**305**	*e*P	**Pn**	**03 27 03.5**	**+1.8**
GMAL				*e*S	**Sn**	**03 27 42.5**	**-1.7**
BCIP	**Isla Barro Col**	**3.82**	**336**	*e*P	**Pn**	**03 27 04.6**	**+0.3**
BCIP				*e*S	**Sn**	**03 27 50.2**	**+1.3**
BCIP				*i*		03 27 56.5	
	comp=Z,6.5nm,0.6s						
BCIP	**Isla Barro Col**	**3.82**	**336**	*e*P	**Pn**	**03 27 04.6**	**+0.3**
BCIP				*e*S	**Sn**	**03 27 50.1**	**+1.1**

*IDC **29** 03:26:50.0±10.0, 18°.46S×177°.87W, h523km±125km, mb3.0/6, mb1 3.3/6, mb1mx2.9/33, mbtmp3.7/6, Error ellipse: s-maj=57.1km s-min=32.9km az=174.0*

ISC 29 03:26:52.7±0.9, 18°.5S±0°.2×177°.9W±0°.2, h557km, n6, σ0.99/7, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.12**	**191**	P	**P**	**03 30 48.7**	**-0.7**
	3.4nm,0.5s,baz=29,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**44.99**	**260**	P	**P**	**03 34 19.6**	**+0.5**
	0.2nm,0.4s,baz=97,slow=7.4,SNR=5.5						
WRA				PcP	**PcP**	**03 35 48.6**	**+0.3**
	0.1nm,0.4s,baz=97,slow=3.3,SNR=1.8						
TXAR	**Lajitas Array**	**85.93**	**57**	P	**P**	**03 38 36.0**	**+1.4**
	0.7nm,0.6s,baz=224,slow=3.8,SNR=5.5						
ILAR	**Eielson Array**	**86.39**	**13**	P	**P**	**03 38 34.9**	**-1.0**
	0.3nm,0.4s,baz=217,slow=4.8,SNR=9.3						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**03 38 41.7**	**0.0**
	0.5nm,0.8s,baz=235,slow=3.2,SNR=3.7						
YKA	**Yellowknife Ar**	**94.70**	**25**	P	**P**	**03 39 13.6**	**-0.6**
	0.1nm,0.6s,baz=237,slow=4.4,SNR=1.9						

IDC 29 03:30:00.2±3.3, 5°.05S×133°.72E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.3/30, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=129.7km s-min=31.8km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.82**	**178**	Pn	Pn	03 33 29.0	-2.2
	0.1nm,0.3s,baz=355,slow=13,SNR=6.6						
WRA				Sn	Sn	03 36 09.1	-7.1
	0.0nm,0.3s,baz=359,slow=24,SNR=2.1						
FITZ	**Fitzroy Crossi**	**15.19**	**211**	Pn	Pn	03 33 36.0	-0.1
	0.2nm,0.3s,baz=33,slow=11,SNR=15						
ASAR	**Alice Springs**	**18.51**	**179**	P	Pn	03 34 19.1	+0.8
	0.1nm,0.3s,baz=7.4,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**68.70**	**325**	P	P	03 41 05.7	0.0
	0.1nm,0.5s,baz=120,slow=5.7,SNR=1.9						

*TUL **29** 03:35:02.5±0.7, 36°.44N±0°.02×97°.73W±0°.01, h5km±7km, ML2.9, mb_Lg2.8/67(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=173.0*

NEIC 29 03:35:02.6±0.7, 36°.44N±0°.01×97°.72W±0°.01, h5km±7km, Error ellipse: s-maj=2.3km s-min=1.0km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.03**	**267**		Pg	03 35 22.0	-0.4
OKCFA	**Oklahoma City**	**1.04**	**168**	Pg	Pg	03 35 22.3	-0.2
OKCSW	**OKLAHOMA CITY**	**1.05**	**167**	Pg	Pg	03 35 22.5	-0.3
T35A	**Sooner Cattle**	**1.08**	**63**	Pg	Pg	03 35 23.1	-0.3
FNO	**Franklin**	**1.21**	**167**	Pg	Pg	03 35 25.1	-0.6
TUL1	**Leonard**	**1.65**	**108**	Pn	Pn	03 35 32.0	-0.1
X34A	**Smith Ranch, M**	**1.83**	**183**	Pn	Pn	03 35 35.3	+0.6
X34A				IAmb_Lg		03 36 02.6	
	comp=Z,46nm,0.7s						
WMOK	**Wichita Mounta**	**1.90**	**207**		Pn	03 35 35.5	-0.1
WMOK				IAmb_Lg		03 36 05.6	
	comp=Z,48nm,0.7s						
R32A	**Long Quarter,**	**2.13**	**339**	Pn	Pn	03 35 39.1	+0.3
X37A	**Clayton**	**2.66**	**133**	Pn	Pn	03 35 46.6	+0.5
X37A				IAmb_Lg		03 36 30.8	
	comp=Z,19nm,0.7s						
KSU1	**Kansas State U**	**2.80**	**18**	Pn	Pn	03 35 47.6	-0.4
CBKS	**Cedar Bluff**	**2.86**	**327**	Pn	Pn	03 35 48.6	-0.3
W39A	**Magazine**	**3.43**	**110**		Pn	03 35 56.9	+0.3
AMTX	**Amarillo**	**3.58**	**245**	Pn	Pn	03 35 59.7	+1.0
AMTX				IAmb_Lg		03 36 58.6	
	comp=Z,25nm,0.7s						
S39A	**Bolivar**	**3.74**	**69**	Pn	Pn	03 36 00.7	-0.1
S39A				IAmb_Lg		03 37 07.6	
	comp=Z,26nm,1.0s						
MIAR	**Mount Ida**	**3.87**	**118**	IAmb_Lg		03 37 08.7	
	comp=Z,21nm,1.1s						
Z38A	**Mt. Pleasant**	**3.89**	**144**	Pn	Pn	03 36 03.1	+0.2
U40A	**Yellville**	**3.93**	**90**	Pn	Pn	03 36 03.9	+0.4
U40A				IAmb_Lg		03 37 10.2	
	comp=Z,45nm,0.8s						
ABTX	**Abilene, Hawle**	**4.12**	**203**	Pn	Pn	03 36 06.0	-0.2
MGMO	**Mountain Grove**	**4.44**	**79**	IAmb_Lg		03 37 22.6	
	comp=Z,22nm,0.9s						
X40A	**Basin Creek Fa**	**4.44**	**115**	Pn	Pn	03 36 11.2	+0.7
WHTX	**Lake Whitney,**	**4.44**	**177**	Pn	Pn	03 36 10.7	+0.2
WHAR	**Wooly Hollow**	**4.56**	**103**	Pn	Pn	03 36 11.3	-0.8
WHAR				IAmb_Lg		03 37 29.9	
	comp=Z,20nm,0.9s						
P38A	**Dawn**	**4.59**	**45**	Pn	Pn	03 36 12.6	0.0
P38A				IAmb_Lg		03 37 31.0	
	comp=Z,17nm,0.7s						
W41B	**Gary Mavity, V**	**4.62**	**104**	Pn	Pn	03 36 13.3	+0.2
W41B				IAmb_Lg		03 37 39.5	
	comp=Z,16nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.66**	**305**	Pn	Pn	03 36 14.3	+0.6
237A	**Washetta, Mont**	**4.70**	**160**	IAmb_Lg		03 37 39.3	
	comp=Z,11nm,0.8s						
N35A	**Tabor**	**4.71**	**20**	Pn	Pn	03 36 14.4	+0.2
N35A				IAmb_Lg		03 37 40.2	
	comp=Z,19nm,0.7s						
R40A	**Maddies Statio**	**4.72**	**65**	Pn	Pn	03 36 14.7	+0.3
R40A				IAmb_Lg		03 37 33.1	
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**4.81**	**241**	Pn	Pn	03 36 15.1	-0.7
BGNE	**Belgrade**	**4.98**	**356**	IAmb_Lg		03 37 52.4	
	comp=Z,37nm,0.8s						
NATX	**Nacogdoches**	**5.31**	**151**	IAmb_Lg		03 38 03.9	
	comp=Z,9.5nm,0.8s						
T25A	**Trinidad**	**5.41**	**279**	Pn	Pn	03 36 24.4	+0.3
CCM	**Cathedral Cave**	**5.42**	**71**	Pn	Pn	03 36 24.2	+0.3
CCM				IAmb_Lg		03 37 58.0	
	comp=Z,19nm,0.8s						
P40A	**Paris**	**5.44**	**54**	IAmb_Lg		03 38 00.9	
	comp=Z,22nm,0.8s						
N38A	**Joes South For**	**5.59**	**38**	IAmb_Lg		03 38 15.5	
	comp=Z,19nm,0.8s						
L34A	**Svendsen Farm,**	**5.62**	**10**	IAmb_Lg		03 38 07.4	
	comp=Z,30nm,1.0s						
OGNE	**Ogallala**	**5.62**	**324**	IAmb_Lg		03 38 06.4	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**5.64**	**179**	IAmb_Lg		03 38 09.9	
	comp=Z,13nm,0.9s						
PBMO	**Poplar Bluff**	**5.88**	**84**	Pn	Pn	03 36 30.0	-0.3
PBMO				IAmb_Lg		03 38 12.8	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**6.19**	**197**	Pn	Pn	03 36 34.6	0.0
JCT				IAmb_Lg		03 38 26.0	
	comp=Z,11nm,0.9s						
N41A	**Harden Midland**	**6.87**	**50**	IAmb_Lg		03 38 41.4	
	comp=Z,18nm,0.7s						
S44A	**Carbondale**	**6.89**	**77**	IAmb_Lg		03 38 41.0	
	comp=Z,22nm,0.9s						
ISCO	**Idaho Springs**	**7.07**	**301**	Pn	Pn	03 36 46.7	-0.3
ANMO	**Albuquerque**	**7.26**	**261**	Pn	Pn	03 36 49.1	-0.4
ECSD	**EROS Data Cent**	**7.34**	**6**	IAmb_Lg		03 38 58.6	
	comp=Z,8.1nm,1.2s						
L40A	**Anamosa**	**7.55**	**40**	IAmb_Lg		03 39 11.5	
	comp=Z,7.7nm,0.8s						
PHWY	**Pilot Hill**	**7.75**	**311**	IAmb_Lg		03 39 17.2	
	comp=Z,5.6nm,0.8s						
N23A	**Red Feather La**	**7.82**	**307**	Pn	Pn	03 36 56.9	-0.4
N23A				IAmb_Lg		03 39 21.3	
	comp=Z,9.4nm,0.9s						
MNTX	**Cornudas Mount**	**7.92**	**236**	Pn	Pn	03 36 58.8	+0.5
L42A	**Oliver, Polo**	**8.37**	**46**	IAmb_Lg		03 39 32.9	
	comp=Z,12nm,0.9s						
JFWS	**Jewell Farm**	**8.66**	**39**	Pn	Pn	03 37 07.5	-1.0
K22A	**Casper**	**9.20**	**315**	IAmb_Lg		03 40 10.5	
	comp=Z,12nm,1.1s						

*IDC **29** 03:36:48.4±2.9, 30°.83S×71°.55W, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.6/23, mbtmp3.6/5, ML3.4/4, Error ellipse: s-maj=71.1km s-min=49.2km az=101.0*
*GUC **29** 03:36:53.5±0.8, 30°.66S×71°.59W, h30km±2km, ML4.0*
*NEIC **29** 03:36:54.4±1.8, 30°.61S±0°.03×71°.61W±0°.04, h27km±9km, ML4.0(GUC), Error ellipse: s-maj=6.4km s-min=3.8km az=128.0*

ISC 29 03:36:54.0±0.8, 30°.66S±0°.03×71°.59W±0°.06, h32km±5km, n65, σ1.73/79, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.04**	**254**		**Pb**	**03 36 58.9**	**-0.5**
CO06				Sg	**Sb**	**03 37 02.8**	**-0.3**
CO06	**Fray Jorge**	**0.04**	**254**	*e*P	**Pb**	**03 36 59.1**	**-0.2**
CO06				*i* S	**Sb**	**03 37 02.8**	**-0.3**
CO06				IAML		03 37 04.7	
	comp=E,18μm,0.1s						
CO03	**El Pedregal**	**0.79**	**103**		**Pn**	**03 37 09.6**	**+0.6**
CO03				Sg	**Sn**	**03 37 20.9**	**+1.1**
CO03	**El Pedregal**	**0.79**	**103**	*i* P	**Pn**	**03 37 09.8**	**+0.7**
CO03				*e*S	**Sn**	**03 37 21.4**	**+1.5**
CO03				IAML		03 37 25.6	
	comp=E,5μm,0.3s						
CO05	**La Serena**	**0.80**	**22**	Pn	**Pb**	**03 37 09.0**	**-0.6**
CO05				Sn	**Sb**	**03 37 10.3**	**-0.6**
CO05	**La Serena**	**0.80**	**22**	*e*P	**Pb**	**03 37 08.9**	**-0.6**
CO05				*e*S	**Sn**	**03 37 21.2**	**+1.4**
CO05				IAML		03 37 23.9	
	comp=N,7μm,0.1s						
GO04	**Tololo Observa**	**0.84**	**55**		**Pb**	**03 37 09.9**	**-0.3**
GO04	**Tololo Observa**	**0.84**	**55**	*i* P	**Pn**	**03 37 10.5**	**+0.7**
GO04				*e*S	**Sn**	**03 37 23.2**	**+2.1**
LCO	**Las Campanas**	**1.82**	**25**	Pn	**Pn**	**03 37 24.1**	**+0.8**
LCO	**Las Campanas**	**1.82**	**25**	*e*P	**Pn**	**03 37 24.6**	**+1.3**
LCO				*e*S	**Sb**	**03 37 48.9**	**-0.4**
VA06	**Catapilco**	**1.91**	**173**		**Pn**	**03 37 24.7**	**+0.4**
VA06	**Catapilco**	**1.91**	**173**	*e*P	**Pn**	**03 37 25.1**	**+0.8**
VA06				*e*S	**Sn**	**03 37 48.8**	**+1.5**
VA06				IAML		03 37 58.1	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**2.27**	**157**		**Pn**	**03 37 31.2**	**+1.7**
VA03	**San Esteban**	**2.27**	**157**	*e*P	**Pn**	**03 37 31.8**	**+2.4**
VA03				*e*S	**Sb**	**03 38 02.0**	**-0.2**
VA03				IAML		03 38 10.2	
ROCH	**El Roble**	**2.35**	**168**	*e*P	**Pb**	**03 37 31.9**	**-4.0**
ROCH				*e*P	**Pn**	**03 37 29.7**	**-0.9**
ROCH				*e*S	**Sn**	**03 37 59.0**	**+0.4**
ROCH				IAML		03 38 08.7	
	comp=N,905nm,0.5s						
VA01	**Torpederas**	**2.35**	**181**	Pn	**Pn**	**03 37 32.9**	**+2.4**
VA01	**Torpederas**	**2.35**	**181**	*e*P	**Pn**	**03 37 33.4**	**+2.9**
VA01				*e*S	**Sb**	**03 38 03.3**	**-1.0**
ROC1	**El Roble**	**2.36**	**168**		**Pn**	**03 37 29.7**	**-1.0**
AC04	**Llanos de Chal**	**2.49**	**10**	Pn	**Pn**	**03 37 32.4**	**+0.1**
AC04	**Llanos de Chal**	**2.49**	**10**	*e*P	**Pn**	**03 37 32.5**	**+0.1**
AC04				IAML		03 38 20.7	
	comp=E,368nm,0.4s						
MT02	**Curacav**	**2.62**	**172**		**Pn**	**03 37 35.7**	**+1.6**
MT02	**Curacav**	**2.62**	**172**	*e*P	**Pn**	**03 37 34.9**	**+0.9**
MT02				*e*S	**Sn**	**03 38 08.5**	**+3.7**
MT05	**Renca**	**2.82**	**165**		**Pn**	**03 37 38.9**	**+2.0**
MT05	**Renca**	**2.82**	**165**	*e*P	**Pn**	**03 37 38.8**	**+2.0**
MT05				*e*S	**Sn**	**03 38 13.2**	**+3.4**
MT05				IAML		03 38 20.9	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**2.88**	**158**	*e*P	**Pn**	**03 37 40.8**	**+2.9**
FCH				*e*S	**Sb**	**03 38 17.3**	**-2.5**
FCH				IAML		03 38 28.4	
	comp=E,295nm,0.3s						
MT03	**Universidad Ad**	**2.97**	**162**	Pn	**Pn**	**03 37 40.9**	**+1.9**
MT03	**Universidad Ad**	**2.97**	**162**	*e*P	**Pn**	**03 37 41.3**	**+2.3**
MT03				*e*S	**Sn**	**03 38 17.1**	**+3.6**
MT03				IAML		03 38 30.6	
	comp=N,593nm,0.5s						
VA05	**Santo Domingo**	**2.99**	**180**		**Pn**	**03 37 40.4**	**+1.3**
VA05	**Santo Domingo**	**2.99**	**180**	*e*P	**Pn**	**03 37 41.9**	**+2.8**
VA05				IAML		03 38 30.7	
	comp=N,520nm,0.2s						
MT09	**Talagante**	**3.15**	**171**		**Pn**	**03 37 42.8**	**+1.4**
MT09	**Talagante**	**3.15**	**171**	*e*P	**Pn**	**03 37 43.0**	**+1.5**
MT09				*e*S	**Sn**	**03 38 19.9**	**+1.9**
MT09				IAML		03 38 36.1	
	comp=N,421nm,0.4s						
MT01	**Popeta**	**3.21**	**175**		**Pn**	**03 37 42.8**	**+0.6**
MT01	**Popeta**	**3.21**	**175**	*e*P	**Pn**	**03 37 42.9**	**+0.7**
MT01				IAML		03 38 36.6	
	comp=E,246nm,0.3s						
GO03	**Copiap**	**3.28**	**21**		**Pn**	**03 37 44.4**	**+1.2**
GO03	**Copiap**	**3.28**	**21**	*e*P	**Pn**	**03 37 44.5**	**+1.3**
GO03				*e*S	**Sb**	**03 38 30.1**	**-0.9**
GO03				IAML		03 38 36.4	
	comp=E,406nm,0.8s						
LMEL	**Las Melosas**	**3.39**	**160**		**Pn**	**03 37 43.7**	**+2.5**
LMEL	**Las Melosas**	**3.39**	**160**	*e*P	**Pn**	**03 37 48.1**	**+3.3**
LMEL				*i* S	**Sn**	**03 38 27.9**	**+3.9**
LMEL				IAML		03 38 44.8	
	comp=N,386nm,0.3s						
BO04	**La Punta**	**3.42**	**166**		**Pn**	**03 37 47.0**	**+1.9**
BO04	**La Punta**	**3.42**	**166**	*e*P	**Pn**	**03 37 46.9**	**+1.8**
BO04				IAML		03 38 44.4	
	comp=E,205nm,0.5s						
AC06	**Mina Casimiro**	**3.46**	**18**		**Pn**	**03 37 46.2**	**+0.5**
AC06	**Mina Casimiro**	**3.46**	**18**	*e*P	**Pn**	**03 37 45.8**	**+0.1**
AC06				IAML		03 38 45.9	
	comp=E,220nm,0.5s						
BO01	**Tunca**	**3.74**	**174**		**Pn**	**03 37 50.2**	**+0.7**
BO01	**Tunca**	**3.74**	**174**	*e*P	**Pn**	**03 37 50.5**	**+0.9**
BO03	**Pichilemu**	**3.84**	**185**	*e*P	**Pn**	**03 37 50.0**	**-0.8**
BO02	**Sierra Bellavi**	**4.17**	**171**	Pn	**Pn**	**03 37 57.1**	**+1.5**
BO02	**Sierra Bellavi**	**4.17**	**171**	*e*P	**Pn**	**03 37 57.0**	**+1.5**
GO05	**Huala**	**4.35**	**184**	Pn	**Pn**	**03 37 57.0**	**-0.8**
AC02	**Maricunga**	**4.38**	**30**	Pn	**Pn**	**03 38 00.1**	**+1.4**
AC02	**Maricunga**	**4.38**	**30**	*e*P	**Pn**	**03 38 00.5**	**+1.7**
AC01	**Pan de Azucar**	**4.58**	**11**	Pn	**Pn**	**03 37 59.8**	**-1.3**
ML02	**Panimavida**	**5.09**	**178**	Pn	**Pn**	**03 38 08.7**	**+0.7**
GO02	**Mina Guanaco**	**5.76**	**18**	Pn	**Pn**	**03 38 18.4**	**+0.9**
H03N1	**Juan Fernandez**	**6.81**	**244**	T	T	03 45 26.2	
	baz=71,slow=72,SNR=893						
H03N3	**Juan Fernandez**	**6.82**	**244**	T	T	03 45 29.9	
	baz=71,slow=72,SNR=770						
H03N2	**Juan Fernandez**	**6.82**	**244**	T	T	03 45 32.3	
	baz=71,slow=72,SNR=835						
LC01	**Cunco**	**8.22**	**182**	Pn	**Pn**	**03 38 51.4**	**+0.4**
LVC	**Limon Verde**	**8.37**	**17**	Pn	**Pn**	**03 38 51.9**	**-1.5**
	comp=E,0.1nm,0.3s,baz=201,slow=8.6,SNR=2.0						
CPUP	**Villa Florida**	**13.26**	**75**	Pn	**Pn**	**03 39 57.6**	**-2.4**
	comp=E,0.1nm,0.3s,baz=262,slow=15,SNR=2.6						
LPAZ	**La Paz**	**14.65**	**13**	Pn	**Pn**	**03 40 21.8**	**+2.2**
	comp=E,0.1nm,0.3s,baz=195,slow=7.5,SNR=2.2						
SIV	**San Ignacio**	**17.49**	**36**	P	**Pn**	**03 40 55.5**	**-0.1**
	comp=E,0.2nm,0.3s,baz=209,slow=15,SNR=1.6						
TORD	**Torodi Ar. Bea**	**82.72**	**70**	P	**P**	**03 49 15.1**	**+0.1**
	comp=E,0.4nm,0.7s,baz=252,slow=4.7,SNR=2.9						
H11S2	**WAKE ISLAND Hyl**	**26.14**	**271**	T	T	06 14 39.9	
	baz=114,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hyl**	**26.15**	**271**	T	T	06 14 37.6	
	baz=114,slow=75,SNR=6.9						
H11S3	**WAKE ISLAND Hyl**	**26.16**	**271**	T	T	06 14 37.6	
	baz=114,slow=75,SNR=10						
ZALV	**Zalesovo Beam**	**151.17**	**29**	PKPbc	**PKPbc**	**03 56 42.8**	**-0.6**
	comp=E,0.4nm,0.4s,baz=331,slow=1.8,SNR=1.8						

*IDC **29** 03:47:02.6±0.9, 33°.96N×48°.24E, h0km, mb3.8/11, mb1 4.0/16, mb1mx3.7/46, mbtmp3.9/16, ML4.0/5, MS3.2/4, Ms1 3.2/4, ms1mx2.6/85, Error ellipse: s-maj=23.6km s-min=15.9km az=166.0*
*TEH **29** 03:47:03.6, 34°.02N×48°.34E, h8km, ML4.1*
*NEIC **29** 03:47:04.0±1.8, 34°.01N±0°.05×48°.34E±0°.05, h12km±4km, mb4.3/8, mb_Lg4.1(TEH), Error ellipse: s-maj=8.5km s-min=1.5km az=140.0*
*ISN **29** 03:47:04.0±1.2, 34°.00N×48°.49E, h34km±36km, ML3.8*
*AZER **29** 03:47:08.6±0.3, 34°.09N×48°.57E, h8km, Error ellipse: s-maj=3.6km s-min=2.7km az=87.0*
*OMAN **29** 03:47:26.1±0.6, 31°.93N×48°.80E, h2km, mb4.5/9, Error ellipse: s-maj=12.8km s-min=8.4km az=265.0*

ISC 29 03:47:03.3±1.0, 33°.90N±0°.03×48°.40E±0°.02, h10km±6km, n169, σ2.43/213, mb4.1/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**0.21**	**240**	Pg	**Pb**	**03 47 10.0**	**+0.6**
IDOB	**Doab**	**0.21**	**240**	*e*Sg	**Sg**	**03 47 13.5**	**+2.6**
IDOB				*e*Pg	**Pb**	**03 47 09.8**	**+0.4**
HSAM	**Samen**	**0.36**	**28**	Pg	**Pg**	**03 47 09.8**	**-0.7**
HSAM				Sg	**Sg**	**03 47 14.4**	**-1.0**
HSAM	**Samen**	**0.36**	**28**	*e*Sg	**Sg**	**03 47 14.3**	**-1.1**
HSAM				*e*Pg	**Pg**	**03 47 09.6**	**-0.9**
IKFM	**Kafar-mosalman**	**0.59**	**231**	Pg	**Pb**	**03 47 16.3**	**+0.6**
IKFM	**Kafar-mosalman**	**0.59**	**231**	*e*Pg	**Pb**	**03 47 16.3**	**+0.6**
IKFM				*e*Sg	**Sb**	**03 47 25.9**	**+1.8**
IBZA	**Bozab**	**0.73**	**322**	Pg	**Pg**	**03 47 15.5**	**-1.8**
IBZA	**Bozab**	**0.73**	**322**	*e*Pg	**Pg**	**03 47 15.6**	**-1.8**
IBZA				*e*		03 47 26.6	
	comp=Z,25μm,0.3s						
HAGD	**Aghdareh**	**1.11**	**33**	Pg	**Pb**	**03 47 22.7**	**-2.1**
HAGD	**Aghdareh**	**1.11**	**33**	*e*Pg	**Pb**	**03 47 23.3**	**-1.5**
HAGD				*e*		03 47 39.6	
	comp=Z,59μm,0.3s						
KER	**Kermanshah**	**1.16**	**295**	*e*Pg	**Pb**	**03 47 24.6**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.19**	**289**		**Pb**	**03 47 24.8**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.19**	**289**	*e*Pg	**Pb**	**03 47 24.6**	**-1.5**
KCHF				*e*Sg	**Sb**	**03 47 41.5**	**-0.1**
KCHF				*e*		03 47 49.4	
	comp=Z,16μm,0.4s						
KHMZ	**Khomeyn**	**1.31**	**96**	*e*Pg	**Pn**	**03 47 28.0**	**+0.1**
ASAO	**Ashtian**	**1.50**	**64**	*e*Pn	**Pn**	**03 47 30.9**	**+0.4**
IGHG	**Ghaleghazi**	**1.58**	**286**		**Pb**	**03 47 33.6**	**+0.9**
IGHG	**Ghaleghazi**	**1.58**	**286**	*e*Pn	**Pn**	**03 47 32.3**	**+0.7**
IGHG				*e*Sg	**Sg**	**03 47 54.2**	**+0.1**
IGHG				*e*		03 48 07.9	
	comp=Z,41μm,0.9s						
IDHR	**Dehrash**	**1.85**	**296**	Pg	**Pb**	**03 47 37.1**	**-0.2**
IDHR	**Dehrash**	**1.85**	**296**	*e*Pn	**Pn**	**03 47 36.4**	**+1.1**
IDHR				*e*		03 48 08.9	
	comp=Z,78μm,0.4s						
QJF1	**Jafarie**	**1.95**	**63**	*e*Pn	**Pb**	**03 47 39.6**	**+0.6**
IRAZ	**Razeghan**	**1.96**	**40**	Pn	**Pb**	**03 47 38.7**	**-0.6**
IRAZ	**Razeghan**	**1.96**	**40**	*e*Pn	**Pn**	**03 47 38.3**	**+1.4**
IBDR	**Badra**	**2.21**	**250**	*e*Pn	**Pn**	**03 47 41.0**	**+1.0**
IBDR				*e*Sn	**Sb**	**03 48 10.0**	**-0.6**
IBDR				AML	AML	03 48 26.2	
	comp=N,1μm,0.6s						
IBDR				AML	AML	03 48 28.6	
	comp=E,517nm,0.9s						
AMIS	**Naft Sefid**	**2.35**	**161**	*e*Pn	**Pb**	**03 47 46.4**	**+0.7**
AMIS				*e*		03 48 40.9	
	comp=Z,9μm,0.7s						
IQOM	**Q

SNR=3.6
LKRN S Sn 03 49 13.8 +2.2
GRMI Germi 4.92 355 *e*Pn Pn 03 48 20.2 +2.8
ISHB Shabestar 4.92 334 *e*Pn Pn 03 48 18.6 +1.0
YRD Yardimli 5.01 359 P Pn 03 48 22.3 +3.5
YRD S Sn 03 49 18.8 +2.0
CUKT Cukurca 5.14 312 P Pn 03 48 21.6 +1.1
IMRD Marand 5.28 336 *e*Pn Pn 03 48 24.3 +1.9
GLBA Clilabad 5.34 360 P Pn 03 48 26.2 +3.1
SNR=23
GLBA S Sn 03 49 27.1 +2.5
ORD Ordubad 5.38 340 P Pn 03 48 27.1 +3.4
SNR=4.6
ORD S Sn 03 49 29.7 +3.9
YZKH Yazd 5.41 104 *e*Pn Pn 03 48 27.2 +3.1
AHBU AHRAM 5.59 153 *e*Pn Pn 03 48 29.9 +3.3
QRD Qoradiz 5.62 351 P Pn 03 48 30.2 +3.3
SNR=4.6
QRD S Sn 03 49 34.5 +2.9
NAX Nakhchivan 5.76 337 P Pn 03 48 32.8 +3.8
NAX S Sn 03 49 39.2 +4.0
IMEH Mehriz 5.81 114 *e*Pn Pn 03 48 32.9 +3.2
BLQ Beylaqan 5.85 354 P Pn 03 48 33.5 +3.4
SNR=9.3
BLQ S Sn 03 49 40.1 +2.8
SBZ Shahbuz 5.95 338 P Pn 03 48 35.6 +4.0
SBZ S Sn 03 49 43.6 +3.8
SAAT Saatly 5.96 0 P Pn 03 48 35.6 +4.1
SNR=2.8
SAAT S Sn 03 49 44.0 +4.3
ALIB Äli-Bayra 6.07 4 P Pn 03 48 36.2 +3.2
ALIB S Sn 03 49 44.8 +2.2
GEVA Gevas 6.17 317 Pn 03 48 34.2 -0.4
AKDM Akdamar-Van 6.23 317 *e*P Pn 03 48 38.2 +2.8
AGDM Agdam 6.29 351 P Pn 03 48 39.3 +3.2
SNR=3.9
AGDM S Sn 03 49 50.5 +2.5
ZRD Zardab 6.40 355 P Pn 03 48 41.1 +3.6
SNR=3.0
ZRD S Sn 03 49 53.4 +2.8
BRDA Brd 6.43 352 P Pn 03 48 41.3 +3.3
BRDA S Sn 03 49 54.5 +3.0
HYR Heyderabad 6.47 335 P Pn 03 48 42.6 +3.9
HYR S Sn 03 49 56.7 +4.2
KDMR Kurdemir 6.47 359 P Pn 03 48 41.4 +2.8
KDMR S Sn 03 49 55.1 +2.7
GOBA Gobu 6.58 9 P Pn 03 48 43.1 +3.0
GOBA S Sn 03 49 57.1 +2.0
GBS Qobustan 6.64 4 P Pn 03 48 44.4 +3.4
GBS S Sn 03 49 58.9 +2.1
GALA Gala 6.65 12 P Pn 03 48 43.1 +2.0
GALA S Sn 03 49 58.8 +1.8
NDR Nardaran 6.79 10 P Pn 03 48 46.0 +3.0
NDR S Sn 03 50 02.3 +1.9
PQL Pirkuli 6.88 1 P Pn 03 48 48.2 +3.8
SNR=4.2
PQL S Sn 03 50 05.0 +2.2
IML Ismayilli 6.89 359 P Pn 03 48 47.5 +3.1
SNR=4.5
IML S Sn 03 50 05.3 +2.4
GNI Garni 6.89 336 *e*P Pb 03 48 59.1 -4.1
GURO Guroymak-BITLI 6.93 314 P Pn 03 48 46.5 +1.4
GURO Guroymak-BITLI 6.93 314 Pn 03 48 43.3 -1.8
GANJ Ganja 6.94 347 P Pn 03 48 49.2 +4.1
SNR=3.8
GANJ S Sn 03 50 07.5 +3.5
MNGR Mingechevir, A 6.94 352 P Pn 03 48 48.7 +3.6
MNGR S Sn 03 50 07.2 +3.1
ATGJ Altiaghaj 6.97 3 P Pn 03 48 48.3 +2.8
ATGJ S Sn 03 50 07.0 +2.2
TPRV Parvadeh(Tabas 6.98 95 *e*Pn Pn 03 48 49.9 +4.2
QBL Gabala 7.05 357 P Pn 03 48 49.7 +3.1
SNR=6.6
QBL S Sn 03 50 09.5 +2.6
MARD Mardin 7.08 301 Pn 03 48 45.9 -1.2
GDB GEDABAY 7.13 344 P Pn 03 48 51.5 +3.7
GDB S Sn 03 50 12.2 +3.2
SIZA Siyzn 7.18 3 P Pn 03 48 51.8 +3.4
SIZA S Sn 03 50 12.3 +2.2
SVAN Silvan-Diyarba 7.21 308 *e*P Pn 03 48 48.2 -0.7
TABS Tabas 7.27 90 *e*Pn Pn 03 48 54.5 +4.8
XNQ Khinaliq 7.27 358 P Pn 03 48 52.5 +2.7
SNR=4.1
XNQ S Sn 03 50 14.9 +2.5
TKDS Koohdasht(Taba 7.27 90 *e*Pn Pn 03 48 53.3 +3.6
MRVT Maraveh tapeh 7.29 57 *e*Pn Pn 03 48 52.6 +2.6
SEKA Sheki 7.36 353 P Pn 03 48 53.6 +2.7
SNR=17
SEKA S Sn 03 50 17.0 +2.5
QUBA Quba, Azerbaij 7.45 1 P Pn 03 48 55.0 +2.9
QUBA S Sn 03 50 19.0 +2.4
QZX Qazax, Azerbai 7.54 342 P Pn 03 48 57.5 +4.1
QZX S Sn 03 50 22.3 +3.4
QSAR Qusar 7.61 359 P Pn 03 48 57.2 +2.9
QSAR S Sn 03 50 22.9 +2.4
ZKTA Zakatala 7.86 350 P Pn 03 49 01.2 +3.5
SNR=4.1
ZKTA S Sn 03 50 29.8 +3.2
SHMA Al-Shehemyia 8.31 164 P Pn 03 49 04.6 +0.7
SVRC Sivrice-ELAZID 8.61 304 *e*P Pn 03 49 07.2 -0.9
ITEG Tejag 8.71 94 *e*Pn Pn 03 49 15.0 +5.4
GEYT Alibeck 8.85 60 Lg Lg 03 51 40.9
comp=Z,0.2nm,0.3s,baz=239,slow=33,SNR=1.3
BSRN Basiran 9.22 99 *e*Pn Pn 03 49 19.3 +2.8
TRNA Turayna 9.45 164 P Pn 03 49 22.2 +2.7
ASF Jabal al Asfar 9.81 263 Pn Pn 03 49 23.4 -1.0
comp=Z,0.7nm,0.3s,baz=96,slow=6.8,SNR=7.0
ASF Lg Lg 03 52 14.8
baz=254,slow=20,SNR=1.0
IMYA Miami 9.89 72 *e*Pn Pn 03 49 30.0 +4.3
RAYN Ar Rayn 10.64 195 Pn 03 49 36.7 +0.8
RAYN Ar Rayn 10.64 195 P Pn 03 49 35.9 0.0
RAYN S Sn 03 51 31.4 -3.8
MASF Masafi 10.85 140 P Pn 03 49 39.6 +0.9
SNR=5.7
MASF S Sn 03 51 37.0 -3.2
MMAI Mount Meron Ar 10.89 269 LR LR 03 54 52.7
comp=Z,132nm,18.7s,baz=234,slow=44
UOSS Minazif 11.21 141 P Pn 03 49 45.4 +1.7
UOSS Minazif 11.21 141 P Pn 03 49 44.5 +0.9
UOSS S Sn 03 51 43.8 -5.3
ASHO Ashiyiah 11.35 142 P Pn 03 49 45.9 +0.3
SNR=10.0
ASHO S Sn 03 51 48.6 -3.9
MZR Muzera 11.73 156 P Pn 03 49 49.2 -1.6
SNR=7.2
EIL Elat 12.19 253 Pn Pn 03 49 56.8 -0.3
comp=Z,0.7nm,0.3s,baz=74,slow=12,SNR=2.3
EIL LR LR 03 55 35.8
comp=Z,84nm,21.1s,baz=96,slow=42
WSAR Wadi Sarin 13.90 137 Pn Pn 03 50 22.6 +2.1
comp=Z,1.3nm,0.3s,baz=328,slow=11,SNR=4.3
WSAR LR LR 03 56 20.8
comp=Z,102nm,19.4s,baz=314,slow=40
JMDO Jabal Madar 14.31 141 P Pn 03 50 24.9 -1.2
JMDO S Sn 03 52 51.0 -14
MHTO MHTO 15.40 144 P Pn 03 50 41.2 +0.5
DQM DQM 16.11 147 P Pn 03 50 50.5 +0.5
WHFO Wadi Hawf 16.62 162 P Pn 03 50 55.1 -1.5
WHFO S Sn 03 53 42.0 -19
ABTO Aybut 17.05 164 P Pn 03 51 00.2 -1.7
SNR=8.8
ABTO S Sn 03 53 50.3 -21
DMTO DMTO 17.15 158 P Pn 03 51 03.1 0.0
SNR=5.5
DMTO S Sn 03 53 51.1 -23
ABKAR Akbulak array 17.58 26 Pn Pn 03 51 06.9 -1.3
AKTO Aktyubinsk 17.97 20 P P 03 51 14.0 +0.3
comp=Z,0.3nm,0.3s,baz=210,slow=16,SNR=6.0
IDI Anoyia 19.40 281 P P 03 51 30.1 +0.6
comp=Z,1.7nm,0.3s,baz=73,slow=11,SNR=14
KKAR Karatay Array 19.55 55 P P 03 51 31.4 +0.3
MLR Muntele Rosu 20.73 311 P Pn 03 51 46.1 -0.2
comp=Z,3.6nm,0.8s,baz=94,slow=15,SNR=6.1
ITM Ithomi 21.77 286 P P 03 51 53.7 -1.5
ITM IAmb IAmb 03 52 03.0
comp=Z,13nm,1.0s
AKASG Malin Array Be 21.87 326 P P 03 51 54.6 -1.5
comp=Z,1.1nm,0.7s,baz=131,slow=9.4,SNR=6.3
AKASG Malin Array Be 21.87 326 P P 03 51 54.8 -1.3
AAK Ala-Archa 22.20 59 LR LR 04 01 48.3
comp=Z,44nm,19.1s,baz=98,slow=40
FNA Florina 22.50 296 P P 03 51 59.9 -3.2
FNA IAmb IAmb 03 52 07.8
comp=Z,5.0nm,0.6s
KSH Kashi 22.76 68 P P 03 52 06.0 +0.1
KSH pP pP 03 52 10.0 +0.5
KSH sP sP 03 52 12.8 +1.6
KSH pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 24.73 33 P P 03 52 25.9 +1.2
comp=Z,1.1nm,0.6s,baz=226,slow=14,SNR=7.7
MKAR Makanchi Array 28.63 53 P P 03 53 01.4 +1.5
comp=Z,0.4nm,0.7s,baz=246,slow=5.9,SNR=4.6
MKAR Makanchi Array 28.63 53 P P 03 53 00.3 +0.4
WATA Walderalm 30.70 307 *e*P P 03 53 18.1 -0.3
comp=Z,2.4nm,0.5s
SQTA Sankt Quirin 30.93 307 *e*P P 03 53 20.0 -0.3
comp=Z,2.4nm,0.4s
MOTA Moosalm 31.02 307 *e*P P 03 53 19.9 -1.3
comp=Z,1.7nm,0.4s
FINES FINESS Array B 31.07 339 P P 03 53 21.5 +0.2
comp=Z,0.7nm,0.7s,baz=150,slow=11,SNR=3.5
FETA Feichten 31.21 306 *e*P P 03 53 22.6 -0.2
comp=Z,1.0nm,0.4s
RETA Reutte 31.28 307 *e*P P 03 53 21.8 -1.6
comp=Z,0.2nm,0.1s
DAVOX Davos/Dischmat 31.73 306 P P 03 53 27.4 -0.2
comp=Z,0.8nm,0.3s,baz=178,slow=17,SNR=5.4
DAVA Damuels 31.83 306 *e*P P 03 53 27.2 -1.1
comp=Z,2.0nm,0.3s
NOA NORSAR Array B 36.15 330 P P 03 54 06.2 +0.6
comp=Z,0.9nm,0.9s,baz=129,slow=6.4,SNR=1.4
ESDC Sonseca Array 41.84 294 P P 03 54 53.0 -0.5
comp=Z,1.2nm,0.9s,baz=78,slow=7.6,SNR=6.3
TOA0 Torodi Ar. Sit 47.07 256 P P 03 55 35.6 +0.1
TORD Torodi Ar. Bea 47.07 256 P P 03 55 35.2 -0.3
comp=Z,1.1nm,0.5s,baz=59,slow=6.8,SNR=29
TORD PcP PcP 03 57 07.3 -0.2
comp=Z,0.4nm,0.7s,baz=55,slow=4.5,SNR=1.6
TORD Torodi Ar. Bea 47.07 256 P P 03 55 34.6 -0.9
TORD IAmb IAmb 03 55 36.1
comp=Z,5.2nm,1.3s
CMAR Chiang Mai Arr 47.44 96 P P 03 55 40.9 +2.6
comp=Z,1.1nm,0.3s,baz=301,slow=8.2,SNR=6.7
DBIC Dimbokro 56.06 254 P P 03 56 42.5 -0.2
comp=Z,2.5nm,0.7s,baz=62,slow=5.2,SNR=4.7
DBIC Dimbokro 56.06 254 P P 03 56 42.7 0.0
YKA Yellowknife Ar 82.97 352 P P 03 59 27.4 -0.9
comp=Z,0.1nm,0.6s,baz=24,slow=5.9,SNR=4.2

*KNET **29** 03:47:51.0±0.2, 43.05N×74.92E, h12km±2km, ml1.1, Error ellipse: s-maj=2.5km s-min=1.5km az=54.0*
*NNC **29** 03:47:51.6±0.2, 43.02N×74.91E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=5.0km s-min=1.1km az=176.0, Suspected Mining explosion.*
*SOME **29** 03:47:51.9, 43.10N×74.93E*
ISC 29 03:47:52.4±0.9, 43.03N±0.03×74.91E±0.02, h0km, n17, σ0s73/29, 12C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.12**	**253**	⇑P	**Pg**	**03 47 54.1**	**-0.6**
	19nm,0.2s,SNR=38						
CHMS				⇑S	**Sg**	03 47 56.3	+0.1
	53nm,0.2s						
CHMS	**Chumysh**	**0.12**	**253**	⇑P	**Pg**	**03 47 53.8**	**-0.8**
	15nm,0.7s						
CHMS				⇑S	**Sg**	03 47 55.8	-0.4
	95nm,0.8s						
KBK	**Karagaybulak**	**0.38**	**176**	⇓P	**Pg**	**03 47 59.5**	**-0.1**
	12nm,0.1s,SNR=7.8						
KBK				⇑S	**Sg**	03 48 05.4	+0.9
	26nm,0.2s						
USP	**Ospenovka**	**0.38**	**308**	⇑P	**Pg**	**03 47 59.0**	**-0.7**
	7.4nm,0.1s,SNR=68						
USP				⇑S	**Sg**	03 48 04.7	+0.1
	8.1nm,0.1s						
SGDS	**Sogindy**	**0.47**	**334**	P	**Pg**	**03 48 00.7**	**-0.6**
	0.9nm,0.1s						
SGDS				S	**Sg**	03 48 07.6	+0.2
	3.8nm,0.1s						
AAK	**Ala-Archa**	**0.50**	**218**	⇑P	**Pg**	**03 48 01.5**	**-0.4**
	1.2nm,0.1s,SNR=7.3						
AAK				⇓S	**Sg**	03 48 09.0	+0.6
	6.0nm,0.2s						
TKM2	**Tokmak 2**	**0.52**	**102**	⇓P	**Pg**	**03 48 01.6**	**-0.7**
	2.5nm,0.1s,SNR=9.9						
TKM2	**Tokmak 2**	**0.52**	**102**	⇑P	**Pg**	**03 48 01.4**	**-0.9**
	2.3nm,0.7s						
TKM2				⇑S	**Sg**	03 48 08.7	-0.2
	7.7nm,0.7s						
DGS	**Degeres**	**0.67**	**71**	P	**Pg**	**03 48 04.9**	**-0.2**
	1.8nm,0.1s						
DGS				S	**Sg**	03 48 14.2	+0.5
	3.2nm,0.3s						
KST	**Kastek**	**0.77**	**89**	P	**Pg**	**03 48 06.6**	**-0.5**
	2.4nm,0.2s						
KST				S	**Sg**	03 48 17.2	0.0
	6.2nm,0.5s						
UCH	**Uchtor**	**0.86**	**200**	⇓P	**Pg**	**03 48 08.0**	**-0.7**
	0.5nm,0.1s,SNR=7.5						
KRBS	**Karabastau**	**0.87**	**40**	P	**Pg**	**03 48 08.3**	**-0.6**
	0.9nm,0.1s						
KRBS				S	**Sg**	03 48 20.2	0.0
	3.7nm,0.4s						
EKS2	**Erkin-Say**	**0.91**	**246**	⇓P	**Pg**	**03 48 09.0**	**-0.8**
	1.7nm,0.1s,SNR=7.0						
ULHL	**Ulahol**	**1.26**	**128**	⇓P	**Pg**	**03 48 14.9**	**-1.6**
	0.3nm,0.1s,SNR=6.4						
MDOK	**Medeo**	**1.57**	**85**	⇓P	**Pn**	**03 48 21.2**	**-0.5**
	1.5nm,0.3s						
MDOK				⇑S	**Sn**	03 48 42.3	-0.5
	3.8nm,0.7s						
KOTS	**Kotyrbulak**	**1.62**	**82**	P	**Pg**	**03 48 23.3**	**-0.2**
	2.0nm,0.1s						
KOTS				S	**Sg**	03 48 46.0	+1.4
	6.0nm,0.2s						
KK02	**Karatay Array**	**3.22**	**273**	⇓Pg	**Pb**	**03 48 51.9**	**+1.4**
	0.5nm,0.6s						
KK02				⇑Lg	Lg	03 49 34.4	
	0.8nm,0.6s						

IDC 29 03:49:22.6±3.8, 5.87S×146.49E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.1/26, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=61.8km s-min=50.9km az=65.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**169**	Pn	Pn	03 50 19.5	+0.2
	3.6nm,0.3s,baz=344,slow=7.4,SNR=5.0						
PMG				Sn	Sn	03 50 53.0	-9.3
	5.4nm,0.3s,baz=354,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**18.31**	**219**	P	Pn	03 53 37.9	-0.3
	0.1nm,0.3s,baz=40,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**21.44**	**213**	P	P	03 54 11.9	-0.7
	0.2nm,0.4s,baz=35,slow=12,SNR=2.5						
FITZ	**Fitzroy Crossi**	**23.70**	**237**	P	P	03 54 36.9	+0.5
	1.0nm,0.5s,baz=55,slow=13,SNR=12						
TORD	**Torodi Ar. Bea**	**144.57**	**284**	PKP	PKPbc	04 09 01.3	+0.5
	0.7nm,0.6s,baz=68,slow=3.0,SNR=6.1						

IDC 29 04:23:16.6±4.0, 15.77S×175.89W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/33, mbtmp4.2/3, Error ellipse: s-maj=171.4km s-min=82.1km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.77**	**240**	P	P	04 31 07.5	-0.5
	0.9nm,0.5s,baz=66,slow=10.0,SNR=3.6						
WRA	**Warramunga Arr**	**47.42**	**257**	P	P	04 31 53.5	+0.2
	0.6nm,0.3s,baz=91,slow=7.5,SNR=40						
WRA				PcP	PcP	04 33 24.2	+0.2
	0.1nm,0.3s,baz=92,slow=3.4,SNR=1.8						
ASAR	**Alice Springs**	**47.71**	**252**	P	P	04 31 55.5	-0.1
	6.3nm,0.6s,baz=87,slow=8.6,SNR=92						
ASAR				PcP	PcP	04 33 24.0	-1.0
	0.3nm,0.6s,baz=86,slow=4.7,SNR=1.8						

*IDC **29** 04:53:00.4±0.5, 36.01N×97.50W, h0km, mb4.0/14, mb1 4.1/21, mb1mx3.9/60, mbtmp4.0/21, ML3.7/8, MS3.5/41, Ms1 3.5/41, ms1mx3.4/85, Error ellipse: s-maj=11.4km s-min=8.5km az=141.0*
*ANF **29** 04:53:01.9±0.9, 36.05N×97.55W, h14km±7km, ML5.5/18, Error ellipse: s-maj=2.5km s-min=1.9km az=2.1*
*TUL **29** 04:53:01.2±1.1, 35.990N±0.007×97.58W±0.02, h5km±6km, ML4.5, mb4.3/14(NEIC), mb_Lg4.5/131(NEIC), Mwr4.2/102(NEIC), Error ellipse: s-maj=1.9km s-min=0.8km az=75.0*
*NEIC **29** 04:53:01.2±1.0, 35.996N±0.008×97.57W±0.02, h5km±5km, Error ellipse: s-maj=2.0km s-min=0.9km az=64.0*
*NEIC **29** 04:53:01.2, 35.99N×97.58W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.20; Mθθ=0.72; Mϕϕ=-0.53; Mrθ=-0.75; Mϕθ=2.17; Mϕr=0.34; Fault plane solution: M0=2.41000×10^15 NP1:φs=189.17000°, δ=70.50000°, λ=-173.10000°. NP2:φs=96.86000°, δ=83.49000°, λ=-19.63000°. Principal axes: T 2.4156, Plg=9.0000°, Azm=144.0000°; N -0.0179, Plg=69.0000°, Azm=259.0000°; P -2.3977, Plg=18.0000°, Azm=51.0000°;*
ISC 29 04:53:01.0±0.4, 36.05N±0.03×97.50W±0.03, h10km, n311, σ1s26/296, mb4.0/15, MS3.6/30, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.47**	**147**	Pg	**Pg**	**04 53 10.3**	**+0.2**
OK009	**Oakdale Elemen**	**0.47**	**172**		**Pg**	**04 53 09.7**	**-0.5**
OK001	**Jones High Sch**	**0.52**	**161**	Pg	**Pg**	**04 53 10.8**	**-0.2**
OK001				Sg	**Sg**	**04 53 18.1**	**+0.3**
OKCFA	**Oklahoma City**	**0.63**	**176**	Pg	**Pg**	**04 53 12.5**	**-0.8**
OKCFA				IAmb_Lg		04 53 20.3	
	comp=Z,5μm,1.0s						
OKCSW	**OKLAHOMA CITY**	**0.64**	**176**	Pg	**Pg**	**04 53 12.8**	**-0.7**
FNO	**Franklin**	**0.79**	**174**	Pg	**Pg**	**04 53 15.4**	**-0.9**
FNO				IAmb_Lg		04 53 25.9	
	comp=Z,4μm,1.0s						
T35A	**Sooner Cattle**	**1.18**	**42**		**Pn**	**04 53 24.7**	**+1.1**
U32A	**Winter Ranch,**	**1.26**	**286**		**Pn**	**04 53 24.0**	**-0.8**
TUL1	**Leonard**	**1.39**	**95**	Pn	**Pb**	**04 53 27.3**	**+0.1**
TUL1				IAmb_Lg		04 53 50.2	
	comp=Z,4μm,0.8s						
TUL1	**Leonard**	**1.39**	**95**	P	**Pb**	**04 53 27.2**	**+0.1**
	baz=274,SNR=552						
TUL1				S	**Sg**	**04 53 47.4**	**+1.6**
	baz=274						
X34A	**Smith Ranch, M**	**1.47**	**191**	Pn	**Pn**	**04 53 27.5**	**-0.1**
WMOK	**Wichita Mounta**	**1.68**	**219**		**Pn**	**04 53 30.0**	**-0.5**
WMOK	**Wichita Mounta**	**1.68**	**219**	P	**Pn**	**04 53 29.9**	**-0.5**
WMOK				S	**Sn**	**04 53 51.4**	**-0.6**
	baz=38						
X37A	**Clayton**	**2.27**	**129**	Pn	**Pn**	**04 53 39.8**	**+1.2**
X37A				IAmb_Lg		04 54 20.0	
	comp=Z,2μm,0.8s						
R32A	**Long Quarter,**	**2.56**	**338**	Pn	**Pn**	**04 53 44.1**	**+1.5**
Z35A	**Perchaven, San**	**2.72**	**176**	Pn	**Pn**	**04 53 44.9**	**+0.1**
Z35A				IAmb_Lg		04 54 26.0	
	comp=Z,766nm,0.8s						
HHAR	**Hobbs**	**2.89**	**84**	Pn	**Pn**	**04 53 48.7**	**+1.5**
HHAR				IAmb_Lg		04 54 42.7	
	comp=Z,2μm,0.8s						
KSU1	**Kansas State U**	**3.13**	**13**	Pn	**Pn**	**04 53 52.3**	**+1.9**
KSU1				IAmb_Lg		04 54 50.3	
	comp=Z,1μm,0.7s						
KSU1	**Kansas State U**	**3.13**	**13**	P	**Pn**	**04 53 52.3**	**+1.9**
	baz=194,SNR=74						
KSU1				S	**Sn**	**04 54 29.7**	**+1.9**
	baz=194						
W39A	**Magazine**	**3.14**	**105**	Pn	**Pn**	**04 53 52.1**	**+1.5**
W39A				IAmb_Lg		04 54 46.3	
	comp=Z,3μm,0.8s						
W39A	**Magazine**	**3.14**	**105**	P	**Pn**	**04 53 52.2**	**+1.6**
	baz=286,SNR=74						
W39A				S	**Sn**	**04 54 31.0**	**+2.8**
	baz=286						
CBKS	**Cedar Bluff**	**3.29**	**328**	Pn	**Pn**	**04 53 53.4**	**+0.7**
CBKS				IAmb_Lg		04 54 51.6	
	comp=Z,1μm,0.9s						
CBKS	**Cedar Bluff**	**3.29**	**328**	P	**Pn**	**04 53 53.9**	**+1.3**
	baz=148,SNR=51						
CBKS				S	**Sn**	**04 54 33.2**	**+1.4**
	baz=148						
Z38A	**Mt. Pleasant**	**3.47**	**143**	Pn	**Pn**	**04 53 55.5**	**+0.5**
Z38A				IAmb_Lg		04 54 55.5	
	comp=Z,2μm,0.8s						
MIAR	**Mount Ida**	**3.54**	**114**	IAmb_Lg		04 54 57.9	
	comp=Z,1μm,0.8s						
MIAR	**Mount Ida**	**3.54**	**114**	P	**Pn**	**04 53 57.9**	**+1.9**
	baz=295						
MIAR				S	**Sn**	**04 54 40.5**	**+2.5**
	baz=295						
AMTX	**Amarillo**	**3.61**	**252**	Pn	**Pn**	**04 53 56.6**	**-0.5**
AMTX				IAmb_Lg		04 54 54.8	
	comp=Z,654nm,0.7s						
AMTX	**Amarillo**	**3.61**	**252**	P	**Pn**	**04 53 57.4**	**+0.3**
	baz=70						
AMTX				Sb	**Sb**	**04 54 50.5**	**+1.7**
	baz=70						
S39A	**Bolivar**	**3.73**	**63**	Pn	**Pn**	**04 54 00.2**	**+1.6**
S39A				IAmb_Lg		04 55 07.3	
	comp=Z,1μm,0.9s						
U40A	**Yellville**	**3.77**	**84**	Pn	**Pn**	**04 54 00.0**	**+0.8**
U40A				IAmb_Lg		04 55 01.9	
	comp=Z,2μm,0.9s						
U40A	**Yellville**	**3.77**	**84**	P	**Pn**	**04 54 00.4**	**+1.2**
	baz=266,SNR=43						
ABTX	**Abilene, Hawle**	**3.85**	**208**	Pn	**Pn**	**04 53 59.9**	**-0.5**
ABTX				IAmb_Lg		04 54 59.1	
	comp=Z,683nm,0.8s						
ABTX	**Abilene, Hawle**	**3.85**	**208**	P	**Pn**	**04 54 00.3**	**-0.1**
	baz=26,SNR=89						
WHTX	**Lake Whitney,**	**4.05**	**179**	Pn	**Pn**	**04 54 02.9**	**-0.2**
WHTX				IAmb_Lg		04 55 06.9	
	comp=Z,490nm,1.0s						
WHTX	**Lake Whitney,**	**4.05**	**179**	P	**Pn**	**04 54 03.2**	**+0.1**
	baz=359,SNR=57						
X40A	**Basin Creek Fa**	**4.12**	**111**		**Pn**	**04 54 05.2**	**+1.2**
X40A	**Basin Creek Fa**	**4.12**	**111**	P	**Pn**	**04 54 05.4**	**+1.4**
	baz=293,SNR=28						
237A	**Washetta, Mont**	**4.27**	**160**		**Pn**	**04 54 06.2**	**0.0**
237A				IAmb_Lg		04 55 27.2	
	comp=Z,1μm,1.1s						
WLAR	**White Oak Lake**	**4.31**	**122**	Pn	**Pn**	**04 54 07.6**	**+1.0**
WLAR				IAmb_Lg		04 55 23.3	
	comp=Z,1μm,0.8s						
WHAR	**Wooly Hollow**	**4.31**	**99**	Pn	**Pn**	**04 54 08.1**	**+1.5**
WHAR				IAmb_Lg		04 55 26.3	
	comp=Z,2μm,0.9s						
MGMO	**Mountain Grove**	**4.35**	**74**		**Pn**	**04 54 09.2**	**+2.0**
MGMO				IAmb_Lg		04 55 28.5	
	comp=Z,1μm,0.9s						
W41B	**Gary Mavity, V**	**4.37**	**100**		**Pn**	**04 54 08.9**	**+1.5**
W41B				IAmb_Lg		04 55 26.8	
	comp=Z,2μm,0.8s						
W41B	**Gary Mavity, V**	**4.37**	**100**	P	**Pn**	**04 54 08.6**	**+1.2**
	baz=282,SNR=21						
W41B				S	**Sn**	**04 54 59.8**	**+1.5**
	baz=282						
N33A	**J Bar K, Exete**	**4.68**	**0**		**Pn**	**04 54 12.9**	**+1.1**
N33A				IAmb_Lg		04 55 41.7	
	comp=Z,2μm,1.1s						
R40A	**Maddies Statio**	**4.74**	**60**		**Pn**	**04 54 13.9**	**+1.4**
R40A				IAmb_Lg		04 55 34.1	
	comp=Z,698nm,0.8s						
P38A	**Dawn**	**4.75**	**40**	Pn	**Pn**	**04 54 14.4**	**+1.7**
P38A				IAmb_Lg		04 55 34.7	
	comp=Z,699nm,0.9s						
Z41A	**Richland Creek**	**4.77**	**124**		**Pn**	**04 54 13.6**	**+0.6**
Z41A				IAmb_Lg		04 55 46.1	
	comp=Z,1μm,0.7s						
Z41A	**Richland Creek**	**4.77**	**124**	P	**Pn**	**04 54 13.5**	**+0.6**
	baz=306,SNR=15						
Z41A				S	**Sn**	**04 55 08.9**	**+0.7**
	baz=306						
MSTX	**Muleshoe**	**4.80**	**246**	Pn	**Pn**	**04 54 13.0**	**-0.5**
MSTX	**Muleshoe**	**4.80**	**246**	P	**Pn**	**04 54 13.6**	**+0.1**
	baz=63,SNR=12						
NATX	**Nacogdoches**	**4.88**	**150**	Pn	**Pn**	**04 54 15.1**	**+0.6**
NATX	**Nacogdoches**	**4.88**	**150**	P	**Pn**	**04 54 14.7**	**+0.1**
	baz=331						
NATX				S	**Sn**	**04 55 10.9**	**-0.3**
	baz=331						
N35A	**Tabor**	**5.02**	**16**		**Pn**	**04 54 18.2**	**+1.8**
KSCO	**Kaye Shedlock'**	**5.04**	**307**	Pn	**Pn**	**04 54 17.2**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.04**	**307**	P	**Pn**	**04 54 17.6**	**+0.9**
	baz=125						
KSCO				S	**Sn**	**04 55 14.8**	**-0.2**
	baz=125						
CCAR	**Cane Creek**	**5.16**	**113**		**Pn**	**04 54 19.4**	**+1.1**

435B **Jarrell** 5.25 181 Pn **Pn** 04 54 19.4 -0.2
435B IAmb_Lg 04 55 51.9
comp=Z,1μm,1.0s
435B **Jarrell** 5.25 181 P **Pn** 04 54 19.7 +0.1
baz=0.1
BGNE **Belgrade** 5.38 355 Pn **Pn** 04 54 22.2 +0.8
BGNE **Belgrade** 5.38 355 P **Pn** 04 54 22.1 +0.8
baz=175,SNR=21
BGNE S **Sn** 04 55 22.8 -0.5
baz=175
CCM **Cathedral Cave** 5.39 66 Pn **Pn** 04 54 22.9 +1.4
CCM IAmb_Lg 04 55 57.8
comp=Z,996nm,0.7s
CCM **Cathedral Cave** 5.39 66 P **Pn** 04 54 22.5 +1.1
baz=250
P40A **Paris** 5.54 50 **Pn** 04 54 24.9 +1.3
P40A IAmb_Lg 04 56 02.0
comp=Z,892nm,0.8s
T25A **Trinidad** 5.67 283 Pn **Pn** 04 54 25.3 -0.2
T25A IAmb_Lg 04 56 04.7
comp=Z,791nm,1.1s
T25A **Trinidad** 5.67 283 P **Pn** 04 54 25.2 -0.3
baz=100,SNR=13
PBMO **Poplar Bluff** 5.75 81 **Pn** 04 54 28.0 +1.6
N38A **Joes South For** 5.80 34 Pn **Pn** 04 54 28.2 +1.1
JCT **Junction City** 5.88 200 Pn **Pn** 04 54 27.2 -1.0
JCT **Junction City** 5.88 200 P **Pn** 04 54 27.5 -0.7
baz=18
L34A **Svendsen Farm,** 5.97 8 **Pn** 04 54 30.9 +1.4
FVM **French Village** 5.98 69 Pn **Pn** 04 54 30.9 +1.3
FVM IAmb_Lg 04 56 29.2
comp=Z,632nm,0.7s
143A **Socs Landing,** 6.04 122 **Pn** 04 54 31.3 +0.8
143A IAmb_Lg 04 56 31.2
comp=Z,1μm,0.9s
OGNE **Ogallala** 6.04 325 Pn **Pn** 04 54 31.2 +0.7
OGNE IAmb_Lg 04 56 28.1
comp=Z,357nm,0.8s
OGNE **Ogallala** 6.04 325 P **Pn** 04 54 32.2 +1.7
baz=143,SNR=39
GNAR **Gosnell** 6.07 89 Pn **Pn** 04 54 32.2 +1.5
342A **Flagon Creek P** 6.35 136 Pn **Pn** 04 54 35.2 +0.5
441A **DeRidder** 6.39 144 **Pn** 04 54 35.4 +0.1
LNXT **Lenox** 6.49 87 Pn **Pn** 04 54 37.7 +1.2
SDCO **Great Sand Dun** 6.63 287 **Pn** 04 54 38.4 -0.4
SDCO **Great Sand Dun** 6.63 287 P **Pn** 04 54 39.6 +0.8
baz=103,SNR=40
K31A **O'Neill** 6.64 352 Pn **Pn** 04 54 39.7 +1.1
SCIA **State Center** 6.73 28 Pn **Pn** 04 54 41.4 +1.5
SCIA IAmb_Lg 04 56 48.3
comp=Z,1μm,0.7s
SCIA **State Center** 6.73 28 P **Pn** 04 54 41.2 +1.3
baz=211,SNR=20
Q24A **Divide** 6.74 298 **Pn** 04 54 40.1 -0.2
Q24A IAmb_Lg 04 56 46.4
comp=Z,341nm,1.0s
Q24A **Divide** 6.74 298 P **Pn** 04 54 39.8 -0.5
baz=114
OXF **Oxford** 6.79 101 Pn **Pn** 04 54 40.9 +0.2
OXF **Oxford** 6.79 101 P **Pn** 04 54 41.2 +0.5
baz=285,SNR=9.9
OXF S **Sn** 04 55 57.9 -0.3
baz=285
S44A **Carbondale** 6.81 74 **Pn** 04 54 41.9 +0.9
W45A **Hickory Valley** 6.83 95 **Pn** 04 54 42.6 +1.4
SIUC **Southern Illin** 6.84 73 **Pn** 04 54 42.0 +0.6
Y45A **Yeager Farm, C** 6.89 106 Pn **Pn** 04 54 42.6 +0.6
Y45A IAmb_Lg 04 56 48.8
comp=Z,842nm,0.8s
VBMS **Vicksburg** 6.93 121 **Pn** 04 54 43.5 +0.8
VBMS IAmb_Lg 04 56 56.9
comp=Z,709nm,1.1s
VBMS **Vicksburg** 6.93 121 P **Pn** 04 54 44.0 +1.3
baz=305
N41A **Harden Midland** 6.99 46 **Pn** 04 54 44.7 +1.2
735A **Kenedy** 7.18 182 IAmb_Lg 04 56 56.7
comp=Z,655nm,1.1s
T45A **Paducah** 7.19 80 **Pn** 04 54 46.8 +0.6
P43A **Skaggs, Pawnee** 7.26 58 **Pn** 04 54 48.2 +1.1
P43A IAmb_Lg 04 57 01.0
comp=Z,809nm,0.9s
344A **Westbrook Farm** 7.26 127 **Pn** 04 54 47.8 +0.6
344A IAmb_Lg 04 57 03.9
comp=Z,236nm,1.0s
Q44A **Meyer Farm, Va** 7.32 65 Pn **Pn** 04 54 49.0 +1.0
ANMO **Albuquerque** 7.39 264 Pn **Pn** 04 54 49.5 +0.4
comp=Z,0.2nm,0.3s,baz=89,slow=16,SNR=3.7
ANMO Pg Pb 04 55 14.7 +5.3
comp=Z,2.7nm,0.3s,baz=82,slow=18,SNR=20
ANMO Lg Lg 04 56 48.4
comp=Z,13nm,0.3s,baz=13,slow=19,SNR=3.7
ANMO **Albuquerque** 7.39 264 Pn **Pn** 04 54 48.6 -0.6
ANMO **Albuquerque** 7.39 264 P **Pn** 04 54 48.3 -0.8
baz=79
ISCO **Idaho Springs** 7.42 303 Pn **Pn** 04 54 49.6 -0.1
ISCO **Idaho Springs** 7.42 303 P **Pn** 04 54 49.5 -0.2
baz=118,SNR=42
K38A **Parkersburg** 7.54 28 **Pn** 04 54 51.6 +0.6
S22A **4UR Ranch, Cre** 7.67 286 Pn **Pn** 04 54 52.6 -0.4
S22A **4UR Ranch, Cre** 7.67 286 P **Pn** 04 54 53.5 +0.5
baz=100
ECSD **EROS Data Cent** 7.71 5 Pn **Pn** 04 54 53.5 +0.2
ECSD IAmb_Lg 04 57 12.4
comp=Z,436nm,1.1s
ECSD **EROS Data Cent** 7.71 5 P **Pn** 04 54 53.4 +0.1
baz=186,SNR=56
ECSD S **Sn** 04 56 18.2 -2.4
baz=186
BNM **Barren Site** 7.72 258 Pn **Pn** 04 54 52.8 -0.9
L40A **Anamosa** 7.74 37 **Pn** 04 54 54.2 +0.5
L40A IAmb_Lg 04 57 15.0
comp=Z,606nm,0.8s
PLAL **Pickwick Lake** 7.76 95 **Pn** 04 54 54.4 +0.4
PLAL IAmb_Lg 04 57 15.2
comp=Z,600nm,0.9s
146A **Union** 7.77 114 **Pn** 04 54 54.3 +0.2
146A IAmb_Lg 04 57 30.0
comp=Z,987nm,1.1s
WVT **Waverly** 7.83 87 Pn **Pn** 04 54 54.7 -0.2
WVT IAmb_Lg 04 57 18.5
comp=Z,505nm,0.9s
WVT **Waverly** 7.83 87 P **Pn** 04 54 54.7 -0.2
baz=272
MNTX **Cornudas Mount** 7.86 239 Pn **Pn** 04 54 54.5 -1.0
MNTX **Cornudas Mount** 7.86 239 P **Pn** 04 54 54.6 -0.8
baz=54,SNR=21
HDIL **Hopedale** 7.86 53 **Pn** 04 54 55.9 +0.5
HDIL **Hopedale** 7.86 53 P **Pn** 04 54 56.2 +0.8
baz=238,SNR=119
833A **Chaparral WMA,** 7.87 192 Pn **Pn** 04 54 55.1 -0.4
833A IAmb_Lg 04 57 13.3
comp=Z,434nm,1.0s
833A **Chaparral WMA,** 7.87 192 P **Pn** 04 54 55.2 -0.4
baz=11,SNR=11
OLIL **Olney** 7.95 67 **Pn** 04 54 57.6 +1.1
Y22D **IRIS PASSCAL I** 7.97 258 IAmb_Lg 04 57 33.5
comp=Z,492nm,1.0s
USIN **University of** 8.10 73 Pn **Pn** 04 54 58.5 -0.1
PHWY **Pilot Hill** 8.14 313 **Pn** 04 54 59.0 -0.4
N23A **Red Feather La** 8.20 309 Pn **Pn** 04 55 01.2 +0.8
N23A IAmb_Lg 04 57 28.5
comp=Z,242nm,0.8s
N23A **Red Feather La** 8.20 309 P **Pn** 04 55 00.8 +0.4
baz=124,SNR=31
O44A **Mansfield** 8.21 57 **Pn** 04 55 00.7 +0.5
O44A IAmb_Lg 04 57 23.0
comp=Z,658nm,1.0s
Z47A **Carrollton** 8.28 107 **Pn** 04 55 02.0 +1.0
Z47A IAmb_Lg 04 57 32.5
comp=Z,365nm,0.8s
T47A **Sharon Grove** 8.42 81 Pn **Pn** 04 55 03.8 +0.7
SUSD **Miller** 8.46 353 **Pn** 04 55 04.5 +0.9
SUSD IAmb_Lg 04 57 46.9
comp=Z,511nm,0.9s
SUSD **Miller** 8.46 353 P **Pn** 04 55 04.4 +0.8
baz=172
TX31 **Lajitas Ar. Si** 8.47 220 **Pn** 04 55 02.3 -1.6
TX32 **Lajitas Array** 8.47 220 Pn **Pn** 04 55 02.4 -1.6
TXAR **Lajitas Array** 8.47 220 Pn **Pn** 04 55 02.6 -1.4
comp=Z,1.1nm,0.3s,baz=45,slow=11,SNR=27
TXAR Lg Lg 04 57 21.1
comp=Z,8.8nm,0.3s,baz=43,slow=28,SNR=3.7
TXAR LR LR 04 58 03.5
comp=Z,92nm,18.9s,baz=34,slow=36
KVTX **Kingsville** 8.48 182 IAmb_Lg 04 57 44.1
comp=Z,218nm,1.2s
L42A **Oliver, Polo** 8.51 43 **Pn** 04 55 04.8 +0.5
L42A IAmb_Lg 04 57 48.1
comp=Z,464nm,0.9s
I37A **Lemond, Waseca** 8.55 20 Pn **Pn** 04 55 04.5 -0.3
I37A IAmb_Lg 04 57 58.3
comp=Z,808nm,1.1s
X48A **Hartselle** 8.70 98 **Pn** 04 55 07.8 +0.8
JFWS **Jewell Farm** 8.85 37 Pn **Pn** 04 55 09.1 +0.2
JFWS IAmb_Lg 04 57 42.4
comp=Z,424nm,0.7s
JFWS **Jewell Farm** 8.85 37 P **Pn** 04 55 09.2 +0.2
baz=222,SNR=36
P46A **Rosedale** 8.89 63 **Pn** 04 55 10.3 +0.9
CLTN **Cedars of Leba** 9.04 86 **Pn** 04 55 13.1 +1.4
M44A **Midewin, Midew** 9.11 51 **Pn** 04 55 13.3 +0.8
M44A IAmb_Lg 04 57 56.4
comp=Z,792nm,1.1s
LRAL **Lakeview Retre** 9.17 106 **Pn** 04 55 13.9 +0.6
LRAL **Lakeview Retre** 9.17 106 P **Pn** 04 55 14.0 +0.6
baz=292
WCI **Wyandotte Cave** 9.21 73 Pn **Pn** 04 55 15.0 +1.1
WCI **Wyandotte Cave** 9.21 73 P **Pn** 04 55 14.5 +0.7
baz=260
BLO **Bloomington** 9.25 67 **Pn** 04 55 15.5 +1.1
SFIN **Lafayette** 9.26 59 Pn **Pn** 04 55 14.9 +0.4
SFIN **Lafayette** 9.26 59 P **Pn** 04 55 15.0 +0.4
baz=245,SNR=19
Y49A **Blount Mountai** 9.36 100 Pn **Pn** 04 55 16.4 +0.4
RWWY **Rawlins** 9.43 310 **Pn** 04 55 17.2 0.0
I40A **Norwalk** 9.44 32 Pn **Pn** 04 55 17.3 +0.2
I40A IAmb_Lg 04 58 06.9
comp=Z,441nm,1.1s
U49A **Red Boiling Sp** 9.47 84 **Pn** 04 55 18.1 +0.6
RSSD **Black Hills** 9.49 330 Pn **Pn** 04 55 18.1 +0.2
RSSD **Black Hills** 9.49 330 P **Pn** 04 55 18.1 +0.2
baz=146
K22A **Casper** 9.60 316 **Pn** 04 55 19.8 +0.4
K22A IAmb_Lg 04 58 22.1
comp=Z,163nm,0.9s
K22A **Casper** 9.60 316 P **Pn** 04 55 19.8 +0.4
baz=131
L44A **Lake County Fo** 9.64 48 **Pn** 04 55 19.8 +0.1
L44A IAmb_Lg 04 58 18.2
comp=Z,650nm,1.1s
L44A **Lake County Fo** 9.64 48 P **Pn** 04 55 19.4 -0.3
baz=234,SNR=11
K43A **Burlington** 9.72 44 **Pn** 04 55 20.9 +0.1
K43A IAmb_Lg 04 58 14.6
comp=Z,634nm,0.9s
F33A **5 Mile Ranch,** 9.82 5 Pn **Pn** 04 55 22.1 -0.2
F33A IAmb_Lg 04 58 23.0
comp=Z,322nm,1.1s
SPMN **Marine on St.** 9.83 20 IAmb_Lg 04 58 17.7
comp=Z,305nm,0.9s
SPMN **Marine on St.** 9.83 20 P **Pn** 04 55 21.9 -0.6
baz=203,SNR=24
BRAL **Brewton** 9.98 116 P **Pn** 04 55 24.4 0.0
baz=302
R49A **Shelbyville** 10.09 74 **Pn** 04 55 27.5 +1.5
P48A **Milroy** 10.15 67 Pn **Pn** 04 55 26.9 +0.1
250A **Grady** 10.17 110 **Pn** 04 55 27.3 +0.3
I42A **Draeger Farm,** 10.23 37 Pn **Pn** 04 55 26.8 -1.1
T50A **Nancy** 10.23 81 **Pn** 04 55 28.4 +0.4
F36A **Milaca** 10.25 16 Pn **Pn** 04 55 26.9 -1.2
N47A **Urbana** 10.44 59 Pn **Pn** 04 55 29.7 -0.9
Z51A **Franklin** 10.51 101 **Pn** 04 55 33.1 +1.4
L46A **Eue Claire** 10.55 52 **Pn** 04 55 32.2 -0.1
CPCT **Cooper Cave** 10.56 89 Pn **Pn** 04 55 33.8 +1.3
O48B **Farmland** 10.59 63 P **Pn** 04 55 31.3 -1.4
baz=250,SNR=7.9
P49A **Miami Univ. Ec** 10.70 67 **Pn** 04 55 34.2 -0.1
P49A **Miami Univ. Ec** 10.70 67 P **Pn** 04 55 34.2 -0.1
baz=255,SNR=6.5
G40A **Rib Lake** 10.74 29 Pn **Pn** 04 55 34.5 -0.4
R50A **Paris** 10.75 74 **Pn** 04 55 36.3 +1.3
E28A **Huff** 10.79 348 **Pn** 04 55 34.9 -0.6
TKL **Tuckaleechee C** 11.15 88 Pn **Pn** 04 55 40.5 0.0
comp=Z,0.4nm,0.3s,baz=238,slow=7.7,SNR=8.0
TKL Sn **Sn** 04 57 43.5 -1.6
comp=Z,3.0nm,0.3s,baz=249,slow=16,SNR=2.0
TKL Lg Lg 04 58 46.3
comp=Z,7.4nm,0.3s,baz=180,slow=20,SNR=4.4
TKL LR LR 05 00 25.2
comp=Z,86nm,18.3s,baz=278,slow=40
TKL **Tuckaleechee C** 11.15 88 **Pn** 04 55 40.9 +0.4
H43A **Windswept, Lux** 11.22 38 Pn **Pn** 04 55 41.0 -0.3
S51A **Beattyville** 11.26 78 **Pn** 04 55 42.7 +0.7
TZTN **Tazewell** 11.27 83 Pn **Pn** 04 55 42.5 +0.3
V52A **Sevierville** 11.27 87 Pn **Pn** 04 55 42.5 +0.3
E38A **The Farm, Brul** 11.45 21 Pn **Pn** 04 55 43.7 -0.9
PD31 **Pinedale Array** 11.48 309 **Pn** 04 55 44.7 -0.6
PDAR **Pinedale Array** 11.48 309 Pn **Pn** 04 55 44.4 -0.9
comp=Z,1.1nm,0.3s,baz=126,slow=14,SNR=26
PDAR Lg Lg 04 58 58.2
comp=Z,1.6nm,0.3s,baz=116,slow=30,SNR=3.3
PDAR LR LR 05 00 43.2
comp=Z,303nm,20.9s,baz=126,slow=40
PDAR **Pinedale Array** 11.48 309 Pn **Pn** 04 55 44.5 -0.8
BW06 **Boulder Array** 11.48 309 **Pn** 04 55 44.4 -0.8
BW06 **Boulder Array** 11.48 309 P **Pn** 04 55 44.6 -0.6
baz=122
N49A **Columbus Grove** 11.51 61 **Pn** 04 55 44.6 -0.8
Q51A **Peebles** 11.62 71 **Pn** 04 55 47.5 +0.5
P51A **Williamsport** 11.93 69 **Pn** 04 55 50.7 -0.4
ACSO **Alum Creek Sta** 12.17 66 **Pn** 04 55 54.1 -0.3
ACSO **Alum Creek Sta** 12.17 66 P **Pn** 04 55 52.6 -1.8
baz=254,SNR=9.3
AGMN **Agassiz Nation** 12.30 5 Pn **Pn** 04 55 54.2 -2.0
AGMN **Agassiz Nation** 12.30 5 P **Pn** 04 55 53.9 -2.3
baz=186,SNR=12
AAM **Ann Arbor** 12.42 56 **Pn** 04 55 57.1 -0.6
AAM **Ann Arbor** 12.42 56 P **Pn** 04 55 56.7 -1.1
baz=244,SNR=20
Q52A **Bidwell** 12.44 72 **Pn** 04 55 58.1 -0.1
LAO **LASA Array** 12.48 331 Pn **Pn** 04 55 57.3 -1.4
LAO **LASA Array** 12.48 331 P **Pn** 04 55 56.8 -1.8
baz=146
M50A **Fremont** 12.49 60 **Pn** 04 55 59.7 +1.0
LOHW **Long Hollow** 12.58 311 **Pn** 04 55 58.0 -2.2
B35A **Bob, Littlefor** 12.62 12 Pn **Pn** 04 55 58.8 -1.6
P52A **Corning** 12.66 69 **Pn** 04 56 01.8 +0.7
P52A **Corning** 12.66 69 P **Pn** 04 56 00.2 -1.0
baz=258,SNR=6.9
U54A **Nelsons Funny** 12.66 83 **Pn** 04 56 01.3 0.0
EYMN **Ely** 12.69 19 Pn **Pn** 04 55 59.6 -1.9
EYMN **Ely** 12.69 19 P **Pn** 04 55 59.1 -2.4
baz=203,SNR=9.4
RLMT **Red Lodge** 12.72 319 **Pn** 04 56 01.4 -0.7
RLMT **Red Lodge** 12.72 319 P **Pn** 04 56 01.2 -0.9
baz=132,SNR=8.0
TPAW **Teton Pass** 12.73 310 **Pn** 04 56 02.1 -0.2
MOOW **Moose Ponds** 12.74 311 **Pn** 04 56 01.8 -0.6
N51A **Ashland** 12.80 63 Pn **Pn** 04 56 02.9 -0.2
E43A **Lone Tree Farm** 12.98 34 Pn **Pn** 04 56 03.0 -2.5
O52A **Adamsville** 12.99 67 **Pn** 04 56 05.3 -0.3
S54A **Dingess, Beckl** 13.07 78 Pn **Pn** 04 56 06.3 -0.5
GLMI **Grayling** 13.14 44 P **Pn** 04 56 06.2 -1.6
baz=233,SNR=14
P53A **Whipple** 13.20 70 Pn **Pn** 04 56 07.5 -1.0
DGMT **Dagmar** 13.36 340 Pn **Pn** 04 56 08.9 -1.8
DGMT **Dagmar** 13.36 340 P **Pn** 04 56 08.8 -1.9
baz=156,SNR=14
GCMT **Greycliff** 13.38 320 **Pn** 04 56 09.9 -1.1
O53A **New Philadelph** 13.48 67 **Pn** 04 56 11.3 -1.1
O53A **New Philadelph** 13.48 67 P **Pn** 04 56 10.4 -1.9
baz=257
Q54A **Coxs Mills** 13.55 73 **Pn** 04 56 14.7 +1.4
BLA **Blacksburg** 13.77 80 Pn **Pn** 04 56 15.6 -0.7
BLA **Blacksburg** 13.77 80 P **Pn** 04 56 15.6 -0.7
baz=270,SNR=6.1
R55A **Marlinton** 14.04 76 Pn **Pn** 04 56 19.1 -0.9
O54A **Avella** 14.10 68 **Pn** 04 56 19.9 -0.8
M53A **WI Miller and** 14.19 63 Pn **Pn** 04 56 20.2 -1.7
M53A **WI Miller and** 14.19 63 P **Pn** 04 56 20.8 -1.2
baz=253
ULM **Lac du Bonnet** 14.24 4 Pn **Pn** 04 56 19.4 -3.3
comp=Z,1.6nm,0.3s,baz=179,slow=12,SNR=9.7
ULM Sn Sn 04 58 49.1 -12
comp=Z,4.5nm,0.3s,baz=91,slow=19,SNR=4.8
ULM Lg Lg 05 00 19.7
comp=Z,1.0nm,0.3s,baz=283,slow=17,SNR=3.7
ULM LR LR 05 02 21.6
comp=Z,89nm,19.5s,baz=196,slow=39
ULM **Lac du Bonnet** 14.24 4 Pn **Pn** 04 56 19.5 -3.2
E46A **Sault Ste Mari** 14.29 40 Pn **Pn** 04 56 20.6 -2.8
N54A **Moraine State** 14.56 65 P **Pn** 04 56 24.4 -2.6
baz=256
ELK **Elko** 14.68 294 Lg Lg 05 00 39.1
comp=Z,0.1nm,0.3s,baz=118,slow=9.7,SNR=1.9
ELK LR LR 05 02 08.5
comp=Z,164nm,19.2s,baz=83,slow=37
T57A **Hurt** 14.71 81 **Pn** 04 56 28.5 -0.6
M54A **Oil Creek Stat** 14.93 63 **Pn** 04 56 30.0 -2.2
M54A **Oil Creek Stat** 14.93 63 P **Pn** 04 56 30.1 -2.0
baz=254
EGMT **Eagleton** 15.01 327 Pn **Pn** 04 56 31.3 -2.0
EGMT IAmb IAmb 04 56 46.0
comp=Z,13nm,0.8s
EGMT **Eagleton** 15.01 327 P **Pn** 04 56 31.1 -2.2
baz=139,SNR=8.8
HRY **Holter Researc** 15.11 319 **Pn** 04 56 34.0 -0.7
O56A **Blue Knob Stat** 15.47 69 P **Pn** 04 56 36.2 -3.2
baz=260
PFO **Pinyon Flats O** 15.76 267 LR LR 05 03 07.3
comp=Z,88nm,20.3s,baz=40,slow=38
SSPA **Standing Stone** 16.05 68 P **Pn** 04 56 43.8 -3.0
baz=260
LPIG **La Paz** 16.25 226 LR LR 05 03 55.0
comp=Z,68nm,21.4s,baz=10,slow=40
SADO **Sadowa** 16.45 52 Pn **Pn** 04 56 49.8 -2.1
comp=Z,1.1nm,0.3s,baz=264,slow=12,SNR=4.2
SADO Sn **Sn** 04 59 45.3 -9.0
comp=Z,2.3nm,0.3s,baz=261,slow=8.3,SNR=2.1
SADO Lg Lg 05 01 31.3
comp=Z,1.2nm,0.3s,baz=279,slow=19,SNR=2.0
SADO LR LR 05 03 25.0
comp=Z,352nm,19.2s,baz=315,slow=38
SADO **Sadowa** 16.45 52 **Pn** 04 56 48.1 -3.7
SADO IAmb IAmb 04 57 00.7
comp=Z,15nm,0.8s
NVAR **Mina Array Bea** 16.74 284 Pn **Pn** 04 56 57.0 +1.2
comp=Z,0.2nm,0.3s,baz=95,slow=11,SNR=1.5
NVAR LR LR 05 03 52.4
comp=Z,198nm,18.0s,baz=103,slow=39
F10A **Beach Ranch, E** 17.84 310 P **P** 04 57 09.8 -0.3
NEW **Newport** 18.93 316 P **Pn** 04 57 22.6 +0.1
comp=Z,0.1nm,0.3s,baz=131,slow=11,SNR=2.0
NEW LR LR 05 05 20.3
comp=Z,220nm,18.6s,baz=118,slow=39
FFC **Flin Flon** 18.93 352 **P** 04 57 21.9 0.0
CMIG **Matias Romero** 19.02 172 P **P** 04 57 24.1 +1.0
comp=Z,0.4nm,0.3s,baz=21,slow=9.8,SNR=5.6
CMIG LR LR 05 06 36.2
comp=Z,72nm,21.6s,baz=72,slow=43
VLDQ **Val d'Or** 19.08 45 P **P** 04 57 22.2 -1.4
VLDQ IAmb IAmb 04 57 23.6
comp=Z,20nm,1.0s
C09A **Chrisman Ranch** 19.34 314 **Pn** 04 57 27.6 0.0
C09A IAmb IAmb 04 57 32.7
comp=Z,6.6nm,0.7s
PINE **Pine Mountain** 19.53 300 **P** 04 57 27.5 -1.3
PINE IAmb IAmb 04 57 33.2
comp=Z,19nm,1.5s
TRY **Troy** 19.56 63 P **P** 04 57 29.5 +0.7
YBH **Yreka Blue Hor** 20.39 294 P Pn 04 57 39.6 -0.6
comp=Z,4.3nm,0.9s,baz=92,slow=5.3,SNR=7.7
YBH LR LR 05 05 45.4
comp=Z,101nm,18.7s,baz=100,slow=38
YBH **Yreka Blue Hor** 20.39 294 P **P** 04 57 38.4 +0.3
FCC **Fort Churchill** 22.84 5 P **P** 04 58 04.5 +0.5
FCC IAmb IAmb 04 58 08.5
comp=Z,7.8nm,0.9s
BBB **Bella Bella** 26.99 316 LR LR 05 10 05.1
comp=Z,241nm,18.9s,baz=122,slow=38
JTS **Las Juntas de** 28.06 153 LR LR 05 11 20.4
comp=Z,42nm,21.2s,baz=60,slow=39
SCHQ **Schefferville** 28.22 39 P **P** 04 58 55.0 +1.2
comp=Z,5.7nm,0.8s,baz=241,slow=8.7,SNR=12
SCHQ LR LR 05 10 21.9
comp=Z,149nm,19.7s,baz=254,slow=37
SCHQ **Schefferville** 28.22 39 P **P** 04 58 54.1 +0.3
SCHQ IAmb IAmb 04 58 55.7
comp=Z,5.6nm,0.8s
YKA **Yellowknife Ar** 28.54 343 P **P** 04 58 57.3 +0.8
comp=Z,0.6nm,0.5s,baz=148,slow=8.5,SNR=6.7
YKA LR LR 05 10 09.1
comp=Z,98nm,20.7s,baz=256,slow=36
YKA **Yellowknife Ar** 28.54 343 P **P** 04 58 56.9 +0.4
DLBC **Dease Lake** 30.94 327 LR LR 05 12 16.3
comp=Z,138nm,20.7s,baz=104,slow=37
FRB **Frobisher Bay** 32.85 23 P **P** 04 59 35.1 +0.6
comp=Z,1.3nm,0.4s,baz=223,slow=11,SNR=13
FRB LR LR 05 12 56.8
comp=Z,115nm,18.2s,baz=174,slow=36
SJG **San Juan** 32.94 114 LR LR 05 12 59.4
comp=Z,50nm,20.7s,baz=272,slow=36
SDV **Santo Domingo** 36.46 131 LR LR 05 17 27.3
comp=Z,38nm,18.7s,baz=308,slow=40
ROSC **El Rosal** 37.68 140 LR LR 05 18 21.5
comp=Z,23nm,18.1s,baz=239,slow=40
INK **Inuvik** 38.04 339 LR LR 05 16 54.5
comp=Z,151nm,20.3s,baz=82,slow=38
RES **Resolute Bay** 38.74 1 P **P** 05 00 25.9 +0.9
comp=Z,0.3nm,0.5s,baz=196,slow=13,SNR=1.9
RES LR LR 05 16 46.4
comp=Z,68nm,19.2s,baz=166,slow=37
SFJD **Kangerlussuaq** 40.85 26 P **P** 05 00 43.7 +1.2
comp=Z,3.2nm,0.6s,baz=217,slow=5.1,SNR=3.0
ILAR **Eielson Array** 40.94 330 P **P** 05 00 45.0 +1.7
comp=Z,1.8nm,0.6s,baz=106,slow=6.6,SNR=24
ILAR LR LR 05 19 13.5
comp=Z,143nm,18.5s,baz=96,slow=38
ILAR **Eielson Array** 40.94 330 P **P** 05 00 45.2 +1.8
KDAK **Kodiak Island** 41.99 319 LR LR 05 18 21.5
comp=Z,103nm,18.1s,baz=126,slow=36
NNA **Nana** 51.61 154 LR LR 05 24 53.7
comp=Z,35nm,19.4s,baz=266,slow=37
BORG **Borgarnes** 52.24 32 LR LR 05 23 26.8
comp=Z,94nm,19.1s,baz=297,slow=35
LPAZ **La Paz** 59.01 147 P **P** 05 03 01.1 -0.7
comp=Z,0.6nm,0.8s,baz=333,slow=2.3,SNR=3.7
LPAZ **La Paz** 59.01 147 P **P** 05 03 01.4 -0.4
LPAZ IAmb IAmb 05 03 19.9
comp=Z,3.3nm,1.3s
LVC **Limon Verde** 64.31 151 LR LR 05 33 34.7
comp=Z,24nm,18.5s,baz=244,slow=38
SEY **Seymchan** 66.83 332 LR LR 05 35 55.2
comp=Z,76nm,19.3s,baz=54,slow=38
ARCES **ARCESS Array B** 66.85 19 P **P** 05 03 53.4 +0.7
comp=Z,5.1nm,1.1s,baz=316,slow=7.6,SNR=4.0
ARCES **ARCESS Array B** 66.85 19 P **P** 05 03 53.5 +0.9
NOA **NORSAR Array B** 67.34 30 LR LR 05 32 11.9
comp=Z,47nm,19.4s,baz=330,slow=35
HFS **Hagfors** 68.86 30 LR LR 05 32 58.8
comp=Z,79nm,19.6s,baz=294,slow=35
MA2 **Magadan** 69.41 330 LR LR 05 37 59.8
comp=Z,55nm,19.4s,baz=54,slow=39
ESDC **Sonseca Array** 70.49 55 P **P** 05 04 17.2 +1.2
comp=Z,0.4nm,0.7s,baz=276,slow=3.7,SNR=1.8
FINES **FINESS Array B** 72.64 25 P **P** 05 04 29.4 +1.0
comp=Z,1.4nm,0.6s,baz=300,slow=4.2,SNR=11
FINES **FINESS Array B** 72.64 25 P **P** 05 04 30.1 +1.8
YAK **Yakutsk** 75.11 339 LR LR 05 42 57.1
comp=Z,37nm,18.2s,baz=88,slow=40
PLCA **Paso Flores** 80.32 160 P **P** 05 05 12.7 +0.6
comp=Z,0.6nm,0.8s,baz=354,slow=10,SNR=1.6
OBN **Obninsk** 81.04 25 LR LR 05 42 36.2
comp=Z,12nm,18.4s,baz=162,slow=37
AKASG **Malin Array Be** 81.72 31 P **P** 05 05 20.6 +1.0
comp=Z,0.1nm,0.2s,baz=319,slow=4.1,SNR=4.3
AKASG LR LR 05 41 30.6
comp=Z,51nm,19.0s,baz=288,slow=36
ASAJ **Asahikawa** 83.37 321 LR LR 05 44 09.9
comp=Z,25nm,20.7s,baz=82,slow=37
KLR **Kul'dur** 84.51 330 LR LR 05 48 26.2
comp=Z,31nm,18.3s,baz=56,slow=39
ZALV **Zalesovo Beam** 90.35 359 P **P** 05 06 03.3 +1.2
comp=Z,0.5nm,0.5s,baz=343,slow=4.5,SNR=2.1
MJAR **Matsushiro Arr** 91.17 318 LR LR 05 51 23.0
comp=Z,15nm,18.0s,baz=194,slow=38
KSRS **Korea Array** 95.62 325 LR LR 05 52 47.9
comp=Z,17nm,18.1s,baz=100,slow=38
GNI **Garni** 96.59 28 LR LR 05 49 42.7
comp=Z,37nm,20.2s,baz=314,slow=35
MKAR **Makanchi Array** 97.53 0 LR LR 05 52 38.7
comp=Z,22nm,19.1s,baz=360,slow=37
HHC **Hu-ho-hao-te** 98.95 338 eP **P** 05 06 40.0 -1.9
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax

comp=Z,84nm,6.4s
PZH PanZhiHua 115.19 341 PKP **PKiKP 05 11 43.0 -0.2**
WRA Warramunga Arr 132.05 275 PKP **PKiKP 05 12 17.4 +1.1**
comp=Z,0.3nm,1.1s,baz=57,slow=2.3,SNR=1.8
MAW Mawson 146.48 167 PKPbc **PKPab 05 12 42.5 +0.2**
comp=Z,3.3nm,0.7s,baz=202,slow=5.4,SNR=2.2

IDC 29 05:34:19.9±3.1, 54°38N×86°93E, h0km, mb1 2.8/2, mb1mx2.7/41, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=17.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**252**	*i*		05 43 10.0	
	baz=70,slow=337,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.31**	**252**	Pg	Pg	05 34 43.3	-1.7
	1.0nm,0.3s,baz=72,slow=17,SNR=7.6						
ZALV				Lg	Lg	05 35 01.8	
	1.1nm,0.3s,baz=74,slow=31,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	05 35 55.6	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=5.9						
KURBB				Lg	Lg	05 37 42.7	
	0.0nm,0.3s,baz=44,slow=33,SNR=2.7						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	Pn	05 36 20.7	+1.4
	0.1nm,0.3s,baz=21,slow=11,SNR=4.2						
MKAR				Lg	Lg	05 38 40.6	
	0.1nm,0.3s,baz=24,slow=30,SNR=4.3						

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*IDC **29** 05:34:47.4±0.8, 7°53N×36°27W, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/38, mbtmp4.0/14, ML4.4/1, MS3.6/46, Ms1 3.6/46, ms1mx3.4/80, Error ellipse: s-maj=23.2km s-min=16.6km az=142.0*

*NEIC **29** 05:34:50.0±1.9, 7°.6N±0°.1×36°.27W±0°.07, h10km±1km, mb4.5/13, Error ellipse: s-maj=21.6km s-min=9.4km az=334.0*

ISC 29 05:34:49.1±0.5, 7°54N±0°08×36°30W±0°09, h10km, n102, σ1s20/55, mb4.1/14, MS3.6/45, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBMO	**Morrinhos-CE**	**11.40**	**199**	*eP*	**Pn**	**05 37 30.1**	**-2.0**
NBCL	**Cascavel-CE**	**11.85**	**190**	*eP*	**Pn**	**05 37 36.0**	**-2.2**
NBPS	**Pedro II - PI**	**12.91**	**204**	*eP*	**Pn**	**05 37 50.4**	**-2.5**
ROSB	**Rosrio**	**12.97**	**217**	*eP*	**Pn**	**05 37 50.8**	**-2.8**
RCBR	**Riachuelo**	**13.28**	**78**	Pn	**Pn**	**05 37 56.6**	**-1.2**
	1.9nm,0.3s,baz=347,slow=5.3,SNR=18						
RCBR				Sn	Sn	05 40 11.7	-14
	1.0nm,0.3s,baz=80,slow=19,SNR=2.5						
RCBR	**Riachuelo**	**13.28**	**178**	*eP*	**Pn**	**05 37 58.7**	**+0.8**
NBPB	**Pedra_Branca-C**	**13.40**	**194**	*eP*	**Pn**	**05 37 58.6**	**-0.8**
NBPV	**Pedro Velho**	**13.90**	**176**	*eP*	**Pn**	**05 38 06.3**	**+0.1**
SACV	**Santiago Islan**	**14.47**	**58**	Pn	Pn	05 38 08.7	-5.5
NBMA	**Muriti-CE**	**15.00**	**189**	*eP*	**Pn**	**05 38 20.9**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**15.34**	**231**	*eP*	**Pn**	**05 38 25.0**	**-0.8**
MDP	**Montagnes des**	**16.42**	**262**	LR	LR	05 44 00.0	
	comp=Z,23nm,22.0s,baz=33,slow=34						
MCPB	**Macapa, AP**	**17.56**	**244**	*eP*	**Pn**	**05 38 53.5**	**-0.7**
NBPN	**Ponto Novo - B**	**18.67**	**192**	*eP*	**P**	**05 39 08.7**	**+1.2**
PRPB	**Parauapebas**	**19.16**	**225**	*eP*	**P**	**05 39 13.0**	**+0.2**
SMTB	**Santa Maria do**	**19.79**	**215**	*eP*	**P**	**05 39 19.0**	**-0.8**
MALB	**Monte Alegre**	**20.20**	**243**	*eP*	**P**	**05 39 24.8**	**+0.5**
GDU01	**Guandu, BA**	**21.36**	**189**	*eP*	**P**	**05 39 36.5**	**-0.3**
SDBA	**SAO DESIDERIO**	**21.58**	**203**	*eP*	**P**	**05 39 38.7**	**-0.5**
NBIT	**Itapeh - BA**	**22.54**	**188**	*eP*	**P**	**05 39 49.9**	**+0.6**
ITTB	**Itaituba**	**22.71**	**239**	*eP*	**P**	**05 39 49.6**	**-1.7**
PEXB	**Peixe**	**22.87**	**212**	*eP*	**P**	**05 39 52.6**	**-0.3**
CMC01	**Camacan, BA**	**22.97**	**188**	*eP*	**P**	**05 39 55.4**	**+1.5**
JANB	**Januaria**	**23.81**	**199**	*eP*	**P**	**05 40 02.9**	**+0.4**
NPGB	**Novo Progresso**	**23.89**	**233**	*eP*	**P**	**05 40 03.9**	**+0.7**
GUA01	**Guaratinga, BA**	**24.21**	**188**	*eP*	**P**	**05 40 07.5**	**+1.3**
SNDB	**Serra Nova Dou**	**24.45**	**218**	*eP*	**P**	**05 40 09.2**	**+0.8**
BOAV	**Boa Vista**	**24.65**	**259**	*eP*	**P**	**05 40 10.8**	**+0.5**
BDFB	**Brasilia**	**25.78**	**207**	P	**P**	**05 40 21.6**	**+1.1**
	6.1nm,0.8s,baz=38,slow=12,SNR=7.9						
BDFB				LR	LR	05 49 18.9	
	comp=Z,176nm,21.2s,baz=328,slow=34						
BDFB	**Brasilia**	**25.78**	**207**	IAmb	IAmb	05 40 24.4	
	comp=Z,7.5nm,0.9s						
SJMB	**Sao Joao De Ma**	**26.51**	**190**	*eP*	**P**	**05 40 28.5**	**+1.6**
H10N3	**ASCENSION HYDR**	**26.57**	**125**	T	T	06 08 09.5	
	baz=304,slow=75,SNR=23						
H10N2	**ASCENSION HYDR**	**26.57**	**125**	T	T	06 08 09.8	
	baz=304,slow=75,SNR=29						
H10N1	**ASCENSION HYDR**	**26.59**	**125**	T	T	06 08 11.0	
	baz=304,slow=75,SNR=26						
H10S3	**ASCENSION HYDR**	**27.08**	**127**	T	T	06 08 50.7	
	baz=276,slow=74,SNR=16						
H10S2	**ASCENSION HYDR**	**27.10**	**127**	T	T	06 08 50.3	
	baz=304,slow=74,SNR=10						
PDRB	**Porto dos Gac**	**27.83**	**227**	*eP*	**P**	**05 40 40.6**	**+1.7**
IPMB	**Ipameri, GO**	**27.95**	**205**	*eP*	**P**	**05 40 41.2**	**+1.2**
CAM01	**Campos-RJ**	**29.65**	**190**	*eP*	**P**	**05 40 57.6**	**+2.6**
SALV	**Santo Antonio**	**30.18**	**219**	*eP*	**P**	**05 41 01.8**	**+2.0**
PDPR	**Patillas Dam,**	**30.75**	**293**	P	**P**	**05 41 04.9**	**+0.1**
SJG	**San Juan**	**30.89**	**293**	LR	LR	05 51 35.1	
	comp=Z,94nm,18.2s,baz=104,slow=33						
DBIC	**Dimbokro**	**31.21**	**90**	P	**P**	**05 41 08.7**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=288,slow=6.4,SNR=2.6						
DBIC	**Dimbokro**	**31.21**	**90**	IAmb	IAmb	05 41 12.4	
	comp=Z,8.3nm,1.1s						
OBIP	**Obispado Ponce**	**31.29**	**292**	P	**P**	**05 41 10.3**	**+0.7**
PTLB	**Pontes e Lacer**	**32.15**	**225**	*eP*	**P**	**05 41 17.8**	**+0.7**
KOWA	**Kowa**	**32.41**	**75**	P	**P**	**05 41 19.0**	**-0.5**
KOWA				IAmb	IAmb	05 41 20.0	
	comp=Z,9.1nm,1.1s						
SIV	**San Ignacio**	**33.88**	**226**	LR	LR	05 54 41.1	
	comp=Z,172nm,18.1s,baz=116,slow=35						
ETMB	**Extrema**	**34.42**	**240**	*eP*	**P**	**05 41 36.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**37.76**	**78**	P	**P**	**05 42 04.4**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=273,slow=9.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**37.76**	**78**	P	**P**	**05 42 04.3**	**-1.4**
TORD				IAmb	IAmb	05 42 05.6	
	comp=Z,7.5nm,1.4s						
MDT	**Midelt**	**38.68**	**45**	P	**P**	**05 42 14.6**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=316,slow=2.4,SNR=6.1						
MDT				LR	LR	05 54 47.0	
	comp=Z,96nm,19.5s,baz=246,slow=31						
CPUP	**Villa Florida**	**39.37**	**211**	LR	LR	05 58 39.6	
	comp=Z,129nm,18.5s,baz=62,slow=36						
LPAZ	**La Paz**	**39.40**	**233**	P	**P**	**05 42 19.6**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=65,slow=7.6,SNR=9.7						
LPAZ				LR	LR	05 58 42.1	
	comp=Z,67nm,18.6s,baz=63,slow=36						
LPAZ	**La Paz**	**39.40**	**233**	P	**P**	**05 42 20.2**	**+0.1**
LPAZ	**La Paz**	**39.40**	**233**	*eP*	**P**	**05 42 19.8**	**-0.4**
PB16	**IPOC Station P**	**41.65**	**232**	P	**P**	**05 42 39.5**	**+0.8**
ESDC	**Sonseca Array**	**43.17**	**37**	P	**P**	**05 42 49.3**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=250,slow=6.7,SNR=2.3						
ESDC				LR	LR	05 57 23.1	
	comp=Z,71nm,18.9s,baz=224,slow=31						
LVC	**Limon Verde**	**43.78**	**226**	LR	LR	06 01 03.0	
	comp=Z,52nm,20.4s,baz=68,slow=36						
NNA	**Nana**	**44.73**	**245**	LR	LR	06 01 30.0	
	comp=Z,49nm,21.5s,baz=64,slow=36						
KEST	**Kesra**	**50.23**	**49**	P	**P**	**05 43 45.3**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=202,slow=11,SNR=2.7						
KEST				LR	LR	06 04 12.8	
	comp=Z,115nm,20.5s,baz=158,slow=35						
KEST	**Kesra**	**50.23**	**49**	IAmb	IAmb	05 44 07.9	
	comp=Z,8.1nm,1.1s						
TKL	**Tuckaleechee C**	**51.58**	**310**	LR	LR	06 01 04.3	
	comp=Z,42nm,21.3s,baz=144,slow=31						
SADO	**Sadowa**	**52.46**	**322**	LR	LR	06 01 45.5	
	comp=Z,40nm,21.2s,baz=158,slow=31						
SCHQ	**Schefferville**	**53.10**	**338**	P	**P**	**05 44 08.2**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=146,slow=6.9,SNR=8.1						
SCHQ	**Schefferville**	**53.10**	**338**	IAmb	IAmb	05 44 15.6	
	comp=Z,4.7nm,0.9s						
VAE	**Valguarnera**	**54.66**	**49**	LR	LR	06 06 19.7	
	comp=Z,92nm,20.8s,baz=290,slow=35						
DAVOX	**Davos/Dischmat**	**55.50**	**37**	LR	LR	06 05 08.7	
	comp=Z,81nm,20.1s,baz=256,slow=33						
PLCA	**Paso Flores**	**57.44**	**210**	LR	LR	06 07 48.0	
	comp=Z,58nm,21.1s,baz=86,slow=34						
TSUM	**Tsumeb**	**59.36**	**117**	LR	LR	06 04 40.4	
	comp=Z,66nm,18.4s,baz=320,slow=30						
VRAC	**Vranov**	**60.66**	**37**	LR	LR	06 07 43.5	
	comp=Z,40nm,21.9s,baz=257,slow=33						
FRB	**Frobisher Bay**	**60.69**	**344**	LR	LR	06 06 57.6	
	comp=Z,34nm,20.6s,baz=260,slow=32						
IDI	**Anoyia**	**62.24**	**54**	LR	LR	06 12 21.4	
	comp=Z,25nm,21.6s,baz=254,slow=36						
NOA	**NORSAR Array B**	**63.92**	**24**	LR	LR	06 08 32.7	
	comp=Z,36nm,21.6s,baz=230,slow=32						
HFS	**Hagfors**	**64.42**	**25**	LR	LR	06 09 51.3	
	comp=Z,34nm,20.9s,baz=250,slow=33						
MLR	**Muntele Rosu**	**65.33**	**43**	LR	LR	06 13 51.0	
	comp=Z,51nm,18.8s,baz=276,slow=36						
MLR	**Muntele Rosu**	**65.33**	**43**	P	**P**	**05 45 31.9**	**+0.2**
TXAR	**Lajitas Array**	**66.63**	**299**	P	**P**	**05 45 41.6**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=116,slow=4.1,SNR=1.6						
TXAR				LR	LR	06 13 43.5	
	comp=Z,20nm,20.5s,baz=125,slow=35						
FCC	**Fort Churchill**	**67.25**	**331**	P	**P**	**05 45 43.0**	**-0.6**
SUR	**Sutherland**	**67.29**	**130**	LR	LR	06 07 33.9	
	comp=Z,56nm,21.8s,baz=192,slow=29						
LSZ	**Lusaka**	**67.79**	**110**	LR	LR	06 10 22.5	
	comp=Z,41nm,18.5s,baz=129,slow=32						
LBTB	**Lobatse**	**68.35**	**121**	LR	LR	06 09 04.8	
	comp=Z,51nm,21.4s,baz=239,slow=30						
AKASG	**Malin Array Be**	**68.79**	**38**	P	**P**	**05 45 53.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=256,slow=7.1,SNR=2.5						
AKASG				LR	LR	06 14 53.2	
	comp=Z,24nm,19.3s,baz=237,slow=35						
BOSA	**Boshof**	**69.32**	**124**	LR	LR	06 10 35.4	
	comp=Z,38nm,19.3s,baz=195,slow=31						
ANMO	**Albuquerque**	**69.46**	**304**	LR	LR	06 12 26.6	
	comp=Z,69nm,21.9s,baz=98,slow=32						
BRTR	**Keskin Array B**	**69.81**	**51**	LR	LR	06 15 51.0	
	comp=Z,55nm,21.9s,baz=298,slow=35						
EIL	**Elat**	**70.03**	**61**	LR	LR	06 15 49.2	
	comp=Z,71nm,21.4s,baz=280,slow=35						
FINES	**FINESS Array B**	**70.42**	**27**	P	**P**	**05 46 03.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=240,slow=5.6,SNR=4.6						
MMAI	**Mount Meron Ar**	**70.60**	**58**	LR	LR	06 19 24.6	
	comp=Z,10nm,18.7s,baz=31,slow=38						
PDAR	**Pinedale Array**	**72.63**	**312**	P	**P**	**05 46 17.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=87,slow=4.9,SNR=2.8						
PDAR				LR	LR	06 14 58.9	
	comp=Z,33nm,19.9s,baz=105,slow=33						
ARCES	**ARCESS Array B**	**73.34**	**19**	LR	LR	06 14 50.1	
	comp=Z,30nm,19.1s,baz=222,slow=33						
ELK	**Elko**	**76.75**	**310**	LR	LR	06 18 59.1	
	comp=Z,43nm,18.6s,baz=100,slow=34						
PFO	**Pinyon Flats O**	**77.69**	**303**	LR	LR	06 17 52.9	
	comp=Z,41nm,21.9s,baz=200,slow=33						
YKA	**Yellowknife Ar**	**77.95**	**332**	P	**P**	**05 46 45.4**	**-1.9**
	comp=Z,1.4nm,0.9s,baz=101,slow=5.9,SNR=16						
YKA				LR	LR	06 18 29.7	
	comp=Z,36nm,20.6s,baz=126,slow=34						
NEW	**Newport**	**78.31**	**318**	LR	LR	06 19 10.3	
	comp=Z,18nm,19.6s,baz=96,slow=34						
GNI	**Garni**	**78.35**	**51**	LR	LR	06 22 13.8	
	comp=Z,26nm,21.7s,baz=253,slow=36						
RPN	**Rapa Nui**	**78.53**	**240**	LR	LR	06 17 43.8	
	comp=Z,29nm,19.1s,baz=94,slow=33						
KIRV	**Kirov**	**81.39**	**32**	LR	LR	06 19 37.2	
	comp=Z,34nm,21.8s,baz=265,slow=33						
YBH	**Yreka Blue Hor**	**82.36**	**311**	LR	LR	06 23 01.1	
	comp=Z,23nm,18.0s,baz=82,slow=35						
INK	**Inuvik**	**85.72**	**338**	LR	LR	06 24 07.7	
	comp=Z,33nm,18.1s,baz=62,slow=34						
ILAR	**Eielson Array**	**91.82**	**336**	LR	LR	06 28 36.1	
	comp=Z,40nm,18.2s,baz=56,slow=35						
KDAK	**Kodiak Island**	**97.19**	**331**	LR	LR	06 31 20.9	
	comp=Z,42nm,18.7s,baz=232,slow=35						

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*UPA **29** 05:36:05.8±2.2, 9°85N×82°98W, h7km±12km, MW3.8*

*UCR **29** 05:36:06.7±1.8, 9°84N×83°01W, h12km±8km, MW3.7*

ISC 29 05:36:04.7±1.4, 9°87N±0°04×82°96W±0°04, h6km±10km, n28, σ0s59/47, 10C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATAN	**Batan**	**0.47**	**298**	⇑*iP*	**Pb**	**05 36 15.4**	**+0.1**
BATAN				*eS*	**Sb**	**05 36 22.1**	**-0.5**
CNI2	**El Empalme, Bo**	**0.65**	**133**	⇓*iP*	**Pg**	**05 36 18.0**	**+0.6**
CNI2				*eS*	**Sb**	**05 36 27.6**	**-0.2**
SRBA	**San Rafael, Bu**	**0.75**	**212**	*eP*	**Pg**	**05 36 19.1**	**-0.1**
SRBA				*eS*	**Sg**	**05 36 29.3**	**+0.4**
EDBA	**Buenos Aires**	**0.77**	**204**	⇑*eP*	**Pg**	**05 36 20.2**	**+0.6**
EDBA				*eS*	**Sb**	**05 36 31.2**	**-0.1**
PEZE	**Perez Zeledon,**	**0.86**	**236**	⇑*iP*	**Pg**	**05 36 21.0**	**-0.2**
PEZE				*eS*	**Sg**	**05 36 32.4**	**-0.1**
RIMA	**Rio Macho**	**0.90**	**263**	*eP*	**Pg**	**05 36 21.9**	**-0.2**
EDPN	**Palmar Norte**	**1.03**	**209**	*eP*	**Pb**	**05 36 25.1**	**+0.1**
EDPN				*eS*	**Sn**	**05 36 40.0**	**-0.5**
LCR2	**La Lucha 2**	**1.04**	**263**	⇑*eP*	**Pg**	**05 36 24.3**	**-0.5**
LCR2				*eS*	**Sg**	**05 36 37.9**	**-0.4**
EDSV	**San Vito**	**1.05**	**181**	*eP*	**Pb**	**05 36 25.8**	**+0.5**
EDSV				*eS*	**Sn**	**05 36 40.2**	**-0.8**
EDDO	**Dominical**	**1.09**	**236**	*eS*	**Sn**	**05 36 41.2**	**-0.6**
BRU2	**Volcan**	**1.10**	**166**	⇑*eP*	**Pg**	**05 36 25.6**	**-0.4**
BRU2				*iS*	**Sb**	**05 36 40.8**	**-0.2**
BC3P	**Paso Ancho**	**1.10**	**162**	⇑*iP*	**Pg**	**05 36 25.3**	**-0.6**
BC3P				*eS*	**Sb**	**05 36 41.4**	**+0.3**
HDC	**Heredia**	**1.15**	**276**	*eP*	**Pg**	**05 36 27.0**	**+0.3**
LNBQ3	**Los Naranjos,**	**1.19**	**155**	*eS*	**Sb**	**05 36 43.5**	**0.0**
BCO2	**Palmira**	**1.22**	**160**	⇑*iP*	**Pb**	**05 36 27.4**	**-0.9**
BCO2				*eS*	**Sb**	**05 36 44.5**	**+0.1**
CHGR2	**Aguacate**	**1.23**	**139**	*eP*	**Pb**	**05 36 26.9**	**-1.4**
CHGR2				*eS*	**Sb**	**05 36 43.6**	**-0.8**
PTAR3	**Potrerillos Ar**	**1.26**	**159**	*eP*	**Pn**	**05 36 28.3**	**-0.7**
PTAR3				*eS*	**Sn**	**05 36 47.0**	**+0.8**
CDITO	**Canoas**	**1.29**	**176**	*eP*	**Pn**	**05 36 29.4**	**+0.1**
CDITO				*eS*	**Sg**	**05 36 46.3**	**0.0**
DVD	**David**	**1.51**	**161**	*eP*	**Pn**	**05 36 33.0**	**+0.6**
DVD				*eS*	**Sb**	**05 36 53.1**	**+0.5**
LOMA3	**Las Lomas, Chi**	**1.54**	**159**	⇑*iP*	**Pn**	**05 36 33.2**	**+0.5**
LOMA3				*iS*	**Sb**	**05 36 53.6**	**+0.2**
PEDE3	**Pedregal, Chir**	**1.57**	**160**	⇑*iP*	**Pn**	**05 36 33.8**	**+0.7**
PEDE3				*eS*	**Sb**	**05 36 54.5**	**+0.2**
CHIR3	**Chiriqui UPA,**	**1.59**	**157**	⇑*iP*	**Pn**	**05 36 34.0**	**+0.5**
CHIR3				*eS*	**Sb**	**05 36 54.9**	**0.0**
COVE	**Coope Vega, Sa**	**1.65**	**301**	*eP*	**Pn**	**05 36 34.2**	**-0.1**
COVE				*iS*	**Sn**	**05 36 55.9**	**+0.1**
JACO	**JACO, Garabito**	**1.69**	**263**	*eP*	**Pn**	**05 36 35.2**	**+0.4**
REME3	**Remedios, Chir**	**1.98**	**146**	*eP*	**Pn**	**05 36 39.8**	**+1.0**
JTS	**Las Juntas de**	**2.01**	**282**	*eP*	**Pn**	**05 36 40.4**	**+1.2**
GMAL	**Guarumal, Vera**	**2.70**	**141**	*eP*	**Pn**	**05 36 49.2**	**+0.5**
CACAO	**El Cacao, Vera**	**3.26**	**140**	*eP*	**Pn**	**05 36 57.6**	**+1.3**

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*IDC **29** 05:40:31.0±1.4, 32°.89S×178°.46W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/22, mbtmp4.0/3, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/57, Error ellipse: s-maj=45.7km s-min=34.9km az=145.0*

*WEL **29** 05:40:35.1±1.2, 33°S±24°×17°8W±3°3, h205km±41km, M3.9/10, mB4.3/8, ML4.6/9, MLv4.4/10, Mw(mB)3.5/8, Error ellipse: s-maj=0.1km s-min=0.0km az=124.1*

*NEIC **29** 05:40:38.3±1.2, 33°.0S±0°.1×178°.5W±0°.2, h44km±8km, mb4.2/11, Error ellipse: s-maj=19.7km s-min=18.5km az=75.0*

ISC 29 05:40:35.4±1.0, 32°90S±0°09×178°.5W±0°.2, h32km, n46, σ1s18/56, mb4.2/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.35**	**209**	Pn	**Pn**	**05 41 53.2**	**+0.3**
MXZ	**Matakaoa Point**	**5.35**	**209**	P	**Pn**	**05 41 52.0**	**-0.9**
MXZ				S	**Sn**	**05 42 55.1**	**+1.7**
WMGZ	**Waiomatatini S**	**5.53**	**206**	P	**Pn**	**05 41 53.5**	**-1.9**
WMGZ				S	Sb	05 43 02.7	-14
HAZ	**Te Kaha**	**5.73**	**211**	P	**Pn**	**05 41 58.3**	**+0.1**
HAZ				S	**Sn**	**05 43 05.0**	**+2.2**
PUZ	**Puketiti**	**5.81**	**206**	P	**Pn**	**05 41 57.6**	**-1.7**
PUZ				S	**Sn**	**05 43 06.2**	**+1.3**
RUGZ	**Raukumara Rang**	**5.95**	**211**	P	**Pn**	**05 41 59.7**	**-1.7**
RUGZ				S	**Sn**	**05 43 08.2**	**-0.2**
TWGZ	**Tauwhareparae**	**6.01**	**208**	P	**Pn**	**05 41 59.6**	**-2.5**
TWGZ				S	**Sn**	**05 43 10.7**	**+1.0**
CNGZ	**Carnagh Statio**	**6.19**	**205**	P	**Pn**	**05 42 04.2**	**-0.3**
TKGZ	**Te Karaka**	**6.29**	**207**	P	**Pn**	**05 42 05.5**	**-0.3**
TKGZ				S	**Sn**	**05 43 15.3**	**-1.2**
MWZ	**Matawai**	**6.32**	**210**	P	**Pn**	**05 42 05.9**	**-0.5**
MWZ				S	**Sn**	**05 43 17.2**	**-0.3**
URZ	**Urewera**	**6.44**	**213**	Pn	**Pn**	**05 42 07.0**	**-1.0**
	1.8nm,0.3s,baz=40,slow=3.8,SNR=12						
URZ				Sn	**Sn**	**05 43 18.4**	**-2.1**
	2.2nm,0.3s,baz=297,slow=23,SNR=1.7						
URZ	**Urewera**	**6.44**	**213**		**Pn**	**05 42 06.8**	**-1.2**
URZ	**Urewera**	**6.44**	**213**	P	**Pn**	**05 42 07.2**	**-0.8**
URZ				S	**Sn**	**05 43 18.9**	**-1.5**
RAGZ	**Rawiri**	**6.51**	**210**	P	**Pn**	**05 42 09.1**	**+0.1**
RIGZ	**Rimuhau**	**6.55**	**207**	P	**Pn**	**05 42 06.8**	**-2.7**
RIGZ				S	**Sn**	**05 43 20.6**	**-2.5**
SNGZ	**Shannon Statio**	**6.78**	**209**	P	**Pn**	**05 42 12.2**	**-0.5**
SNGZ				S	**Sn**	**05 43 28.6**	**-0.2**
OUZ	**Omahuta**	**6.97**	**248**		Pn	05 42 19.5	+4.2
RAHZ	**Arahi**	**7.00**	**210**	P	**Pn**	**05 42 15.7**	**0.0**
RAHZ				S	**Sn**	**05 43 33.5**	**-0.7**
MTHZ	**Maungataniwha**	**7.05**	**211**	P	**Pn**	**05 42 16.2**	**-0.2**
BKZ	**Black Stump Fm**	**7.46**	**212**		**Pn**	**05 42 20.7**	**-1.3**
BKZ	**Black Stump Fm**	**7.46**	**212**	P	**Pn**	**05 42 21.9**	**-0.2**
BKZ				S	**Sn**	**05 43 45.0**	**-0.7**
TMVZ	**Te Maari**	**7.79**	**216**	P	**Pn**	**05 42 26.0**	**-0.7**
MSWZ	**Moikau Station**	**9.86**	**209**	Pn	**Pn**	**05 42 54.8**	**-0.2**
BHW	**Baring Head**	**10.01**	**210**	Pn	**Pn**	**05 42 58.2**	**+1.2**
DZM	**Mont Dzumac**	**17.16**	**305**	LR	LR	05 50 02.9	
	comp=Z,223nm,21.7s,baz=56,slow=33						
AFI	**Afiamalu**	**19.87**	**19**	LR	LR	05 54 18.5	
	comp=Z,33nm,18.0s,baz=219,slow=42						
CTAO	**Charters Tower**	**33.88**	**283**	P	**P**	**05 47 15.9**	**+0.5**
COEN	**Coen**	**39.64**	**289**	P	**P**	**05 48 04.3**	**0.0**
COEN				IAmb	IAmb	05 48 15.7	
	comp=Z,3.3nm,0.8s						
AS31	**Alice Springs**	**42.63**	**270**	P	**P**	**05 48 30.9**	**+1.9**
ASAR	**Alice Springs**	**42.63**	**270**	P	**P**	**05 48 29.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=107,slow=7.6,SNR=12						
WR0	**Warramunga Arr**	**43.67**	**275**	P	**P**	**05 48 38.1**	**+0.7**
WR0				IAmb	IAmb	05 48 39.7	
	comp=Z,7.0nm,1.4s						
WB2	**Warramunga Arr**	**43.84**	**275**	P	**P**	**05 48 39.6**	**+0.9**
WB2				IAmb	IAmb	05 48 40.8	
	comp=Z,5.0nm,1.1s						
WRAB	**Tennant Creek**	**43.84**	**275**	P	**P**	**05 48 39.6**	**+0.8**
WRAB				IAmb	IAmb	05 48 52.3	
	comp=Z,3.9nm,1.0s						
WRA	**Warramunga Arr**	**43.85**	**275**	P	**P**	**05 48 39.2**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=115,slow=7.8,SNR=83						
WRA	**Warramunga Arr**	**43.85**	**275**	P	**P**	**05 48 39.1**	**+0.4**
WB0	**Warramunga Arr**	**43.88**	**275**	P	**P**	**05 48 39.7**	**+0.6**
WB0				IAmb	IAmb	05 48 45.5	
	comp=Z,5.3nm,1.1s						
FORT	**Forrest**	**45.06**	**258**	P	**P**	**05 48 48.4**	**0.0**
FITZ	**Fitzroy Crossi**	**52.00**	**272**	P	**P**	**05 49 42.1**	**+0.2**
FITZ				IAmb	IAmb	05 49 50.2	
	comp=Z,4.2nm,1.4s						
QSPA	**South Pole Qui**	**57.22**	**180**	P	**P**	**05 50 21.1**	**+1.8**
QSPA				IAmb	IAmb	05 50 22.5	
	comp=Z,7.5nm,1.1s						
ARCES	**ARCESS Array B**	**140.93**	**347**	PKP	**PKPdf**	**05 59 59.4**	**-1.7**
	comp=Z,2.5nm,1.0s,baz=48,slow=1.3,SNR=1.0						
KBZ	**Khabaz**	**146.10**	**301**	PKPbc	**PKPab**	**06 00 12.1**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=90,slow=4.0,SNR=3.5						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	**PKPab**	**06 00 15.3**	**-1.5**
	comp=Z,2.5nm,0.5s,baz=35,slow=4.1,SNR=17						
NB2	**NORSAR Subarra**	**151.15**

MOS ***29*** *06:24:46.9±1.0, 2.°64S×102.°38E, h167km, mb4.9/38, Error ellipse: s-maj=8.1km s-min=4.7km az=113.3*

IDC ***29*** *06:24:47.6±0.4, 2.°78S×102.°37E, h164km±3km, mb4.6/37, mb1 4.6/39, mb1mx4.5/49, mbtmp5.1/39, MS3.6/12, Ms1 3.6/12, ms1mx3.2/76, Error ellipse: s-maj=8.9km s-min=6.5km az=50.0*

DJA ***29*** *06:24:47.6±0.1, 3.°3±1.°×10.°2E±.°, h155km±1km, M5.1/100, mB5.6/66, mb5.2/100, MLv5.7/33, Mw(mB)5.1/66, MwMwp4.7/9, Mwp5.1/9*

KLM ***29*** *06:24:48, 2.°78S×102.°22E, h164km, mb5.3*

NEIC ***29*** *06:24:48.2±2.4, 2.°81S±0.°06×102.°32E±0.°06, h160km±2km, mb5.1/119, Error ellipse: s-maj=9.4km s-min=8.2km az=48.0*

GCMT ***29*** *06:24:49.2±0.2, 2.°79S±0.°01×102.°29E±0.°01, h160km±1km, MW5.2/103, Moment Tensor Solution. s49,c64; s103,c148; Duration: 1ꜩ0 Moment tensor: Scale 10¹⁶ Nm; Mrr0.39±.16; Mθθ0.97±.21; Mϕϕ-1.36±.22; Mrθ0.27±.15; Mθϕ-7.73±.17; Mϕr-3.16±.14; Best double couple: M₀8.43900×10¹⁶ NP1:ϕs86.00000°, δ68.00000°, λ178.00000°. NP2:ϕs176.00000°, δ88.000000°, λ22.00000°. Principal axes: T 8.2970, Plg17.0000°, Azm43.0000°; N 0.2800, Plg68.0000°, Azm180.0000°; P -8.5810, Plg14.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 06:24:47.7±0.3, 2.°81S±0.°03×102.°32E±0.°04, h168km±2km, h168km:pP-P, n648, σ1ꜩ2/708, mb4.9/190, 43C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MASI	**Maura Aman, Be**	**0.34**	**193**	P	**Pn**	**06**	**25**	**10.3**	**-0.3**
MASI				S	**Sn**	**06**	**25**	**27.9**	**-0.2**
KSI	**Kapahiang**	**0.88**	**162**	P	**Pn**	**06**	**25**	**13.1**	**-0.3**
KSI				S	**Sn**	**06**	**25**	**31.9**	**-1.3**
KRJI	**Kerinci**	**1.11**	**310**	P	**Pn**	**06**	**25**	**15.3**	**0.0**
KRJI				S	**Sn**	**06**	**25**	**36.3**	**-0.1**
MNAI	**Manna**	**1.66**	**157**	Pn	**Pn**	**06**	**25**	**19.4**	**-0.9**
MNAI	**Manna**	**1.66**	**157**	P	**Pn**	**06**	**25**	**19.8**	**-0.6**
MNAI				S	**Sn**	**06**	**25**	**43.8**	**-1.8**
JMBI	**JAMBI**	**1.77**	**49**	P	**Pn**	**06**	**25**	**21.5**	**+0.1**
PPSI	**Pulau Pagai**	**2.31**	**271**	P	**Pn**	**06**	**25**	**27.2**	**-0.2**
RGRI	**Rengat**	**2.45**	**0**	P	**Pn**	**06**	**25**	**29.6**	**+0.4**
PMBI	**Palembang**	**2.46**	**93**		**Pn**	**06**	**25**	**28.6**	**-0.7**
PMBI	**Palembang**	**2.46**	**93**	P	**Pn**	**06**	**25**	**28.5**	**-0.7**
PMBI	**Palembang**	**2.46**	**93**	P	**Pn**	**06**	**25**	**28.8**	**-0.4**
LWLI	**Liwa**	**2.80**	**142**	P	**Pn**	**06**	**25**	**32.8**	**-0.6**
PPI	**Padang Panjang**	**3.03**	**321**	P	**Pn**	**06**	**25**	**35.1**	**-1.1**
KLSI		**3.04**	**128**	P	**Pn**	**06**	**25**	**36.7**	**+0.3**
DSRI	**Dabo**	**3.24**	**44**	P	**Pn**	**06**	**25**	**39.0**	**+0.2**
KLI	**Kotabumi**	**3.25**	**129**	P	**Pn**	**06**	**25**	**38.9**	**-0.1**
BKNI	**Bangkinang**	**3.37**	**338**		**Pn**	**06**	**25**	**40.4**	**-0.1**
BKNI	**Bangkinang**	**3.37**	**338**	P	**Pn**	**06**	**25**	**40.4**	**-0.1**
BKNI	**Bangkinang**	**3.37**	**338**	P	**Pn**	**06**	**25**	**40.5**	**0.0**
KASI	**Kota Agung**	**3.46**	**141**	P	**Pn**	**06**	**25**	**40.4**	**-1.2**
SISI	**Saibi**	**3.55**	**295**	P	**Pn**	**06**	**25**	**42.0**	**-0.7**
BLSI	**Bandar Lampung**	**3.87**	**131**	P	**Pn**	**06**	**25**	**46.6**	**-0.2**
PPBI	**Pangkal Pinang**	**3.87**	**80**	P	**Pn**	**06**	**25**	**47.5**	**+0.7**
TPRI	**Tanjung Pinang**	**4.32**	**31**	P	**Pn**	**06**	**25**	**52.9**	**+0.3**
MNSI	**Mandailing Nat**	**4.51**	**323**	P	**Pn**	**06**	**25**	**54.3**	**-0.8**
MYKOM	**Kota Tinggi**	**4.82**	**19**		**Pn**	**06**	**25**	**59.6**	**+0.4**
MYKOM	**Kota Tinggi**	**4.82**	**19**	P	**Pn**	**06**	**26**	**00.0**	**+0.8**
CGJI	**Cibinong** 12nm39µm81µm2µm,0.5s	**5.06**	**138**	P	**Pn**	**06**	**25**	**59.3**	**-2.9**
TNG	**Tangerang** 18nm50µm5µm,0.7s	**5.46**	**128**	P	**Pn**	**06**	**26**	**07.1**	**-0.4**
TNG				P		06	26	09.8	
	12nm33µm3µm,0.7s								
DBJI	**Dramaga** 5.4nm44µm1µm,0.9s	**5.77**	**130**	P	**Pn**	**06**	**26**	**10.7**	**-1.0**
SKJI	**Sukabumi**	**5.93**	**135**	P	**Pn**	**06**	**26**	**11.3**	**-2.5**
GSI	**Gunungsitoli**	**6.26**	**311**	Pn	**Pn**	**06**	**26**	**16.2**	**-1.9**
GSI	**Gunungsitoli** 14nm6µm41µm3µm,1.3s	**6.26**	**311**	P	**Pn**	**06**	**26**	**16.2**	**-1.9**
GSI	**Gunungsitoli** 3µm,1.3s	**6.26**	**311**	P	**Pn**	**06**	**26**	**16.7**	**-1.4**
RPSI	**Rantau Prapat**	**6.44**	**328**		**Pn**	**06**	**26**	**19.7**	**-0.7**
PSI	**Prapat** 17nm,0.3s,baz=152,slow=12,SNR=193	**6.53**	**329**	P	**Pn**	**06**	**26**	**19.7**	**-2.1**
CNJI	**Cibinong** 7.3nm3µm26µm1µm,0.7s	**6.55**	**133**	P	**Pn**	**06**	**26**	**18.8**	**-3.1**
LEM	**Lembang** 84nm,0.3s,baz=334,slow=6.7,SNR=86	**6.62**	**127**	P	**Pn**	**06**	**26**	**22.9**	**0.0**
LEM	**Lembang**	**6.62**	**127**	P	**Pn**	**06**	**26**	**23.0**	**0.0**
LEM	**Lembang** 2.1nm3µm6µm608nm,0.8s	**6.62**	**127**	P	**Pn**	**06**	**26**	**22.2**	**-0.8**
JRMM	**Jerantut**	**6.66**	**1**	P	**Pn**	**06**	**26**	**24.0**	**+0.6**
JCJI	**Jatiwangi** 10nm30µm3µm,0.7s	**6.97**	**122**	P	**Pn**	**06**	**26**	**28.4**	**+1.0**
TSI	**Tuntungan** 2.0nm9µm563nm,0.9s	**7.31**	**329**	P	**Pn**	**06**	**26**	**32.3**	**+0.3**
IPM	**Ipoh**	**7.36**	**350**	Pn	**Pn**	**06**	**26**	**33.3**	**+0.7**
IPM	**Ipoh**	**7.36**	**350**	P	**Pn**	**06**	**26**	**34.0**	**+1.3**
IPM	**Ipoh** 247nm,1.3s	**7.36**	**350**	P	**Pn**	**06**	**26**	**34.0**	**+1.3**
KCSI	**Kotacane, Aceh** 1.4nm5µm320nm,0.7s	**7.76**	**324**	P	**Pn**	**06**	**26**	**34.9**	**-3.1**
CMJI	**Cimerak** 4.0nm2µm13µm709nm,0.8s	**7.85**	**129**	P	**Pn**	**06**	**26**	**36.0**	**-3.2**
SNSI	**Sinabang, Aceh** 11nm26µm3µm,1.2s	**7.92**	**311**	P	**Pn**	**06**	**26**	**38.8**	**-1.3**
KPJI	**Karang Pucung** 4.0nm12µm1µm,0.7s	**7.97**	**125**	P	**Pn**	**06**	**26**	**40.2**	**-0.6**
KULM	**Kulim**	**8.22**	**348**	Pn	**Pn**	**06**	**26**	**42.9**	**-1.2**
KULM	**Kulim**	**8.22**	**348**	P	**Pn**	**06**	**26**	**44.0**	**-0.1**
XMIS	**Christmas Isla**	**8.31**	**157**	Pn	**Pn**	**06**	**26**	**37.8**	**-7.4**
KSM	**Kuching**	**9.05**	**62**		**Pn**	**06**	**26**	**56.6**	**+1.6**
KSM	**Kuching** 93nm,1.3s	**9.05**	**62**	P	**Pn**	**06**	**26**	**57.0**	**+1.9**
SMRI	**Semarang**	**9.12**	**118**		**Pn**	**06**	**26**	**56.6**	**+0.6**
SMRI	**Semarang** 25µm3µm,0.9s	**9.12**	**118**	P	**Pn**	**06**	**26**	**57.0**	**+1.0**
SMRI	**Semarang** 3µm,0.9s	**9.12**	**118**	P	**Pn**	**06**	**26**	**57.7**	**+1.7**
UWJI	**Ujung Watu** 775nm,1.1s	**9.32**	**113**	P	**Pn**	**06**	**26**	**58.8**	**+0.2**
PBKI	**Pangkalan Bun** 3µm263nm,0.9s	**9.34**	**90**	P	**Pn**	**06**	**27**	**01.5**	**+2.6**
YOGI	**Yogyakarta** 9µm1µm,1.2s	**9.37**	**122**	P	**Pn**	**06**	**26**	**57.8**	**-1.5**
STKI	**Sintang**	**9.59**	**73**	P	**Pn**	**06**	**27**	**04.3**	**+2.1**
UGM	**Wanagama**	**9.61**	**122**	Pn	**Pn**	**06**	**27**	**00.7**	**-1.8**
UGM	**Wanagama** 14µm2µm,0.9s	**9.61**	**122**	P	**Pn**	**06**	**27**	**00.7**	**-1.8**
UGM	**Wanagama** 2µm,1.0s	**9.61**	**122**	P	**Pn**	**06**	**27**	**01.2**	**-1.3**
LHMI	**Lhok Sumawe**	**9.62**	**326**	Pn	**Pn**	**06**	**26**	**59.6**	**-3.0**
LHMI	**Lhok Sumawe** 6µm477nm,1.0s	**9.62**	**326**	P	**Pn**	**06**	**26**	**59.1**	**-3.5**
LHMI	**Lhok Sumawe** 465nm,1.0s	**9.62**	**326**	P	**Pn**	**06**	**27**	**00.4**	**-2.2**
TBJI	**Tambak Boyo** 1µm4µm539nm,0.9s	**10.30**	**113**	P	**Pn**	**06**	**27**	**12.7**	**+1.3**
PCJI	**Pacitan** 14µm659nm,0.4s	**10.31**	**122**	P	**Pn**	**06**	**27**	**08.7**	**-2.9**
PWJI	**Pagerwojo** 7µm614nm,0.8s	**10.77**	**119**	P	**Pn**	**06**	**27**	**16.5**	**-1.1**
COCO	**West Island**	**10.78**	**210**	P	**Pn**	**06**	**27**	**15.8**	**-2.0**
COCO	**West Island**	**10.78**	**210**		**Pn**	**06**	**27**	**15.8**	**-2.0**
GRJI	**Gresik** 2µm253nm,0.7s	**10.91**	**112**	P	**Pn**	**06**	**27**	**20.0**	**+0.5**
SBUM	**Sibu**	**11.20**	**62**		**Pn**	**06**	**27**	**25.8**	**+2.6**
BLJI	**Banyuglugur** 5µm268nm,0.6s	**12.25**	**114**	P	**Pn**	**06**	**27**	**36.6**	**-0.2**
GMJI	**Gumukmas** 5µm238nm,0.6s	**12.33**	**117**	P	**Pn**	**06**	**27**	**38.0**	**+0.2**
KMMI	**Kalianget** 3µm6µm576nm,1.0s	**12.34**	**110**	P	**Pn**	**06**	**27**	**39.3**	**+1.2**
BBKI	**Banjar Baru** 114nm,1.0s	**12.52**	**93**	P	**P**	**06**	**27**	**43.3**	**-2.1**
MTKI	**Muara Teweh, K** 146nm,1.0s	**12.71**	**82**	P	**Pn**	**06**	**27**	**43.9**	**+1.2**
ABJI	**Asem Bagus** 4µm476nm,0.7s	**12.85**	**113**	P	**Pn**	**06**	**27**	**45.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**13.05**	**116**	Pn	**Pn**	**06**	**27**	**45.8**	**-1.3**
JAGI	**Jajag, Banyuwa** 5µm312nm,0.6s	**13.05**	**116**	P	**Pn**	**06**	**27**	**44.7**	**-2.3**
JAGI	**Jajag, Banyuwa** 297nm,0.6s	**13.05**	**116**	P	**Pn**	**06**	**27**	**47.4**	**+0.4**
SRBI	**Singaraja** 7µm682nm,0.8s	**13.86**	**113**	P	**P**	**06**	**27**	**58.9**	**-1.3**
IGBI	**Denpasar** 4µm140nm,0.4s	**14.08**	**116**	P	**Pn**	**06**	**27**	**57.9**	**-2.2**
DNP	**Denpasar** 522nm,0.6s	**14.09**	**115**	P	**Pn**	**06**	**28**	**00.8**	**+0.7**
BKB	**Balikpapan** 6µm271nm,0.9s	**14.65**	**84**	P	**P**	**06**	**28**	**08.2**	**-0.8**
BKB	**Balikpapan** 270nm,0.9s	**14.65**	**84**	P	**P**	**06**	**28**	**09.8**	**+0.8**
DLV	**T Lat**	**15.89**	**23**		**P**	**06**	**28**	**24.7**	**+1.8**
DLV	comp=Z,74nm,0.8s			IAmb	IAmb	06	28	28.0	
DLV	**T Lat** comp=Z,100nm,1.3s	**15.89**	**23**	P	**P**	**06**	**28**	**24.7**	**+1.8**
KKM	**Kota Kinabalu** comp=Z,250nm,1.4s	**16.43**	**58**	P	**Pn**	**06**	**28**	**30.8**	**+1.7**
PLAI	**Plampang** comp=Z,2µmcomp=Z,248nm,0.7s	**16.49**	**112**	P	**Pn**	**06**	**28**	**29.8**	**0.0**
PLAI	**Plampang** comp=Z,247nm,0.7s	**16.49**	**112**	P	**Pn**	**06**	**28**	**29.9**	**+0.1**
SPSI	**Sidrap Palu** comp=Z,1µmcomp=Z,92nm,1.1s	**17.46**	**94**	P	**Pn**	**06**	**28**	**41.5**	**+0.2**
TTSI	**Tana Toraja** comp=Z,2µmcomp=Z,177nm,0.9s	**17.48**	**91**	P	**Pn**	**06**	**28**	**42.8**	**+1.2**
KAPI	**Kappang**	**17.53**	**98**	P	**Pn**				
KAPI	comp=Z,117nm,1.0s			pmax	pmax				
KAPI	**Kappang**	**17.53**	**98**	Pn	**Pn**	**06**	**28**	**42.4**	**+0.2**
KAPI	comp=Z,117nm,1.0s			IAmb	IAmb	06	28	59.2	
KAPI	**Kappang**	**17.53**	**98**	P	**Pn**	**06**	**28**	**42.2**	**0.0**
KAPI				S	**S**	**06**	**31**	**52.9**	**-1.8**
KAPI	**Kappang** comp=Z,134nm,0.9s	**17.53**	**98**	P	**Pn**	**06**	**28**	**43.7**	**+1.5**
BNSI	**Bone** comp=Z,2µmcomp=Z,204nm,1.5s	**17.82**	**96**	P	**P**	**06**	**28**	**44.6**	**+0.6**
MPSI	**Mapaga** comp=Z,5µmcomp=Z,490nm,1.1s	**17.85**	**80**	P	**Pn**	**06**	**28**	**45.8**	**-0.2**
BKSI	**Bulukumba** comp=Z,3µmcomp=Z,215nm,1.0s	**17.93**	**99**	P	**Pn**	**06**	**28**	**47.1**	**+0.2**
MYLDM	**Lahad Datu**	**18.01**	**64**		**Pn**	**06**	**28**	**48.8**	**+1.0**
UBPT	**Khong Chiam**	**18.25**	**10**	P	**Pn**	**06**	**28**	**50.2**	**-0.3**
WBSI	**Waikabubak, Su** comp=Z,2µmcomp=Z,273nm,0.8s	**18.27**	**113**	P	**P**	**06**	**28**	**49.2**	**+0.3**
BSSI	**Bau Bau, Buton** comp=Z,901nmcomp=Z,57nm,1.2s	**18.41**	**101**	P	**Pn**	**06**	**28**	**52.2**	**-0.4**
TOLI2	**Tolitoli**	**18.87**	**78**	P	**Pn**	**06**	**28**	**56.8**	**-1.1**
TOLI2	**Tolitoli** comp=Z,498nm,1.0s	**18.87**	**78**	P	**Pn**	**06**	**28**	**58.3**	**+0.4**
APSI	**Ampana** comp=Z,2µmcomp=Z,194nm,1.1s	**19.41**	**85**	P	**Pn**	**06**	**29**	**04.3**	**0.0**
BASI	**Baing, Sumba** comp=Z,4µmcomp=Z,203nm,0.6s	**19.57**	**113**	P	**P**	**06**	**29**	**04.0**	**+1.1**
MRSI	**Marisa** comp=Z,2µmcomp=Z,174nm,0.8s	**19.89**	**81**	P	**P**	**06**	**29**	**07.4**	**+1.0**
LUWI	**Luwuk**	**20.52**	**85**	P	**P**	**06**	**29**	**14.1**	**+0.9**
LUWI	**Luwuk** comp=Z,3µmcomp=Z,351nm,1.1s	**20.52**	**85**	P	**P**	**06**	**29**	**15.0**	**+1.9**
LUWI	**Luwuk** comp=Z,352nm,1.2s	**20.52**	**85**	P	Pn	06	29	15.6	-2.0
GTOI	**Gorontalo** comp=Z,1µmcomp=Z,105nm,0.8s	**20.97**	**81**	P	**P**	**06**	**29**	**18.4**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,32nm,0.8s,baz=183,slow=8.9,SNR=54	**21.40**	**351**	P	**P**	**06**	**29**	**22.6**	**+0.1**
CMAR	comp=Z,5.3nm,0.4s,baz=208,slow=3.5,SNR=26			ScP	**ScP**	**06**	**36**	**41.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.40**	**351**	P	**P**	**06**	**29**	**21.4**	**-1.1**
CHTO	**Chiang Mai**	**21.75**	**351**	P	**P**	**06**	**29**	**25.0**	**-1.2**
CHTO	comp=Z,59nm,1.3s			pmax	pmax				
CHTO	**Chiang Mai**	**21.75**	**351**	P	**P**	**06**	**29**	**25.0**	**-1.2**
CHTO				IAmb	IAmb	06	29	29.1	
	comp=Z,59nm,1.3s								
CHTO	**Chiang Mai** comp=Z,20nm,1.3s	**21.75**	**351**	P	**P**	**06**	**29**	**25.8**	**-0.3**
KMSI	**Cibinong** comp=Z,277nm,0.8s	**21.92**	**81**	P	**P**	**06**	**29**	**29.4**	**+1.4**
BATI	**Baumata** comp=Z,42nm,0.5s,baz=347,slow=2.5,SNR=7.7	**22.43**	**110**	P	**P**	**06**	**29**	**33.4**	**+0.5**
BATI				S	S	06	33	15.1	-12
	comp=Z,45nm,0.6s,baz=321,slow=21,SNR=2.4								
BATI	**Baumata** comp=Z,996nmcomp=Z,26nm,0.4s	**22.43**	**110**	P	**P**	**06**	**29**	**33.8**	**+0.8**
GIRL	**Giralia** baz=23,SNR=25	**22.85**	**151**	P	**P**	**06**	**29**	**39.1**	**+2.4**
GIRL	**Giralia**	**22.85**	**151**	P	**P**	**06**	**29**	**38.9**	**+2.3**
GIRL	**Giralia** comp=Z,282nm,0.8s	**22.85**	**151**	P	**P**	**06**	**29**	**38.3**	**+1.6**
QIZ	**Qiongzhong**	**22.93**	**19**	P	**P**	**06**	**29**	**39.0**	**+1.5**
QIZ				sP	**sP**	**06**	**30**	**26.3**	**-3.1**
QIZ				S	**S**	**06**	**33**	**38.8**	**+3.9**
QIZ				sS	**sS**	**06**	**34**	**33.5**	**+2.4**
QIZ	comp=Z,84nm,1.0s			pmax	pmax				
QIZ	**Qiongzhong** comp=Z,133nm,1.4s	**22.93**	**19**	P	**P**	**06**	**29**	**39.7**	**+2.2**
SANI	**Sanana** comp=Z,917nmcomp=Z,49nm,1.0s	**23.66**	**89**	P	**P**	**06**	**29**	**44.3**	**+0.1**
SANI	**Sanana** comp=Z,49nm,1.0s	**23.66**	**89**	P	**P**	**06**	**29**	**46.4**	**+2.2**
PALK	**Pakele** comp=Z,81nm,1.0s,baz=217,slow=8.8,SNR=34	**23.78**	**295**	P	**P**	**06**	**29**	**45.8**	**+0.5**
PALK	**Pallekele**	**23.78**	**295**	*d*	*i*P	**P**	**06**	**29**	**48.0**	**+2.7**
PALK	**Pallekele**	**23.78**	**295**	P		**P**	**06**	**29**	**48.0**	**+2.7**
PALK	**Pallekele**	**23.78**	**295**	P		**P**	**06**	**29**	**49.3**	**+4.0**
TGY	**Tagaytay City** comp=Z,354nm,0.5s,baz=245,slow=1.6,SNR=8.0	**24.96**	**47**	P		**P**	**06**	**29**	**56.6**	**+0.5**
DAV	**Davao City (W)** comp=Z,164nm,0.3s,baz=316,slow=5.2,SNR=3.9	**25.21**	**67**	P		**P**	**06**	**29**	**59.2**	**+1.0**
LBMI	**Labuha** comp=Z,3µmcomp=Z,136nm,0.9s	**25.26**	**86**	P		**P**	**06**	**30**	**00.0**	**+1.2**
PSA00	**Pilbara Seismi**	**25.27**	**139**	P		**P**	**06**	**29**	**58.0**	**-0.7**
PSA00	**Pilbara Seismi** comp=Z,69nm,1.1s	**25.27**	**139**	IAmb		IAmb	06	30	42.3	
PSA00	**Pilbara Seismi** comp=Z,31nm,0.6s	**25.27**	**139**	P		**P**	**06**	**29**	**59.3**	**+0.6**
FITZ	**Fitzroy Crossi** comp=Z,3.3nm,0.4s,baz=327,slow=6.6,SNR=19	**27.45**	**125**	P		**P**	**06**	**30**	**17.4**	**-0.8**
FITZ	comp=Z,39nm,0.9s,baz=303,slow=6.6,SNR=10			pP		**pP**	**06**	**30**	**50.8**	**-2.2**
KMI	**Kunming**	**27.77**	**1**	⇑P		**P**	**06**	**30**	**23.0**	**+1.7**
KMI				S		**S**	**06**	**34**	**50.0**	**-1.9**
KMI	comp=Z,33nm,0.9s			pmax	pmax					
KMI	comp=Z,98nm,3.9s			pmax	pmax					
KMI	comp=Z,310nm,9.5s			LR	LR					
KMI	comp=Z,340nm,15.6s			LR	LR					
KMI	comp=Z,230nm,9.5s			LR	LR					
MEEK	**Meekatharra** baz=28,SNR=11	**28.38**	**148**	P		**P**	**06**	**30**	**27.6**	**+1.1**
MEEK	**Meekatharra** comp=Z,40nm,1.4s	**28.38**	**148**	P		**P**	**06**	**30**	**27.9**	**+1.4**
SWI	**Sorong** comp=Z,54nm,1.3s	**28.99**	**87**	P		**P**	**06**	**30**	**32.4**	**+0.4**
SIJI	**Sorong** comp=Z,33nm,0.6s,baz=303,slow=4.6,SNR=8.9	**29.00**	**87**	P		**P**	**06**	**30**	**30.7**	**-1.4**
KNRA	**Kununurra** baz=29,SNR=13	**29.01**	**118**	P		**P**	**06**	**30**	**32.2**	**+0.1**
KNRA	**Kununurra**	**29.01**	**118**	P		**P**	**06**	**30**	**32.3**	**+0.1**
KNRA	comp=Z,40nm,0.8s			IAmb		IAmb	06	31	12.1	
KNRA	**Kununurra** comp=Z,40nm,0.6s	**29.01**	**118**	P		**P**	**06**	**30**	**32.6**	**+0.5**
PZH	**PanZhiHua**	**29.15**	**359**	P		**P**	**06**	**30**	**34.8**	**+1.4**
PZH				S		**S**	**06**	**35**	**13.3**	**0.0**
PZH				SS		**ScP**	**06**	**37**	**01.8**	**-1.2**
PZH	comp=Z,10.0nm,1.0s			pmax	pmax					
PZH	comp=Z,120nm,4.8s			pmax	pmax					
PZH	comp=Z,630nm,15.8s			LR	LR					
PZH	comp=Z,660nm,16.0s			LR	LR					
PZH	comp=Z,720nm,16.3s			LR	LR					
MORW	**Morawa** baz=29,SNR=12	**29.19**	**155**	P		**P**	**06**	**30**	**35.4**	**+1.9**
MORW	**Morawa**	**29.19**	**155**	P		**P**	**06**	**30**	**34.5**	**+0.9**
MORW	comp=Z,51nm,1.2s			IAmb		IAmb	06	30	36.2	
MORW	**Morawa** comp=Z,34nm,1.0s	**29.19**	**155**	P		**P**	**06**	**30**	**35.5**	**+1.9**
GYA	**Guiyang**	**29.40**	**8**	⇓P		**P**	**06**	**30**	**37.3**	**+1.7**
GYA				pP		pP	06	31	14.3	+3.7
GYA				sP		sP	06	31	31.5	+1.6
GYA				S		**S**	**06**	**35**	**17.0**	**-0.3**
GYA	comp=Z,42nm,0.9s			pmax	pmax					
KAAM	**Kaadhehdhoo**	**29.50**	**276**	P		**P**	**06**	**30**	**39.3**	**+2.8**
FAKI	**Fak Fak**	**29.89**	**91**	P		**P**	**06**	**30**	**39.3**	**-0.7**
FAKI	**Fak Fak** comp=Z,76nm,0.9s	**29.89**	**91**	P		**P**	**06**	**30**	**40.9**	**+0.9**
MTN	**Manton Dam** baz=30,SNR=4.1	**30.20**	**111**	P		**P**	**06**	**30**	**42.3**	**-0.4**
MTN	**Manton Dam** comp=Z,41nm,1.2s	**30.20**	**111**	IAmb		IAmb	06	31	43.8	
HMDM	**Hanimaadhoo**	**30.60**	**288**	P		**P**	**06**	**30**	**47.3**	**+1.0**
BLDU	**Ballidu** baz=31,SNR=11	**30.82**	**155**	P		**P**	**06**	**30**	**49.4**	**+1.5**
BLDU	**Ballidu** comp=Z,34nm,1.1s	**30.82**	**155**	P		**P**	**06**	**30**	**48.8**	**+0.8**
HYBB	**Hyderabad (bro**	**30.88**	**311**	*e*P		**P**	**06**	**30**	**49.2**	**+0.6**
KDU	**Kakadu** baz=31,SNR=5.1	**31.41**	**110**	P		**P**	**06**	**30**	**52.9**	**-0.5**
KDU	**Kakadu** comp=Z,18nm,0.8s	**31.41**	**110**	P		**P**	**06**	**30**	**53.7**	**+0.4**
TPUB	**Ta-pu** comp=Z,98nm,1.9s	**31.50**	**34**	P		**P**	**06**	**30**	**55.7**	**+1.7**
MUN	**Mundaring** baz=32,SNR=8.4	**31.82**	**157**	P		**P**	**06**	**30**	**58.7**	**+2.1**
MUN	**Mundaring** comp=Z,57nm,0.8s	**31.82**	**157**	P		**P**	**06**	**30**	**58.8**	**+2.1**
YULB	**Yu-li**	**31.95**	**34**	P		**P**	**06**	**30**	**59.6**	**+1.7**
YULB	comp=Z,62nm,1.2s			IAmb		IAmb	06	31	00.9	
SSLB	**Suanglung**	**32.07**	**33**	P		**P**	**06**	**31**	**00.0**	**+1.0**
SSLB	comp=Z,32nm,0.7s			IAmb		IAmb	06	31	01.4	
SSLB	**Suanglung** comp=Z,46nm,1.0s	**32.07**	**33**	P		**P**	**06**	**31**	**01.0**	**+2.0**
KLBR	**Kellerberrin** baz=32,SNR=19	**32.11**	**155**	P		**P**	**06**	**31**	**00.6**	**+1.3**
KLBR	**Kellerberrin** comp=Z,93nm,0.7s	**32.11**	**155**	P		**P**	**06**	**31**	**00.6**	**+1.3**
ODAN	**Odare** comp=Z,32nm,0.5s	**32.83**	**335**	*e*P		**P**	**06**	**31**	**05.7**	**-0.2**
YHNB	**Yeheng** comp=Z,78nm,1.3s	**33.00**	**33**	IAmb		IAmb	06	31	09.4	
YHNB	**Yeheng** comp=Z,57nm,2.2s	**33.00**	**33**	P		**P**	**06**	**31**	**09.5**	**+2.3**
TAPN	**Taplejung**	**33.13**	**336**	*e*P		**P**	**06**	**31**	**08.8**	**+0.3**
RAMN	**Ramite** comp=Z,22nm,0.4s	**33.25**	**334**	*e*P		**P**	**06**	**31**	**10.3**	**+0.8**
WRKA	**Warakurna** baz=33,SNR=13	**33.38**	**134**	P		**P**	**06**	**31**	**10.5**	**0.0**
WRKA	**Warakurna** comp=Z,12nm,0.6s	**33.38**	**134**	P		**P**	**06**	**31**	**11.6**	**+1.1**
CD2	**Chengdu**	**33.56**	**2**	P		**P**	**06**	**31**	**12.5**	**+0.6**
CD2				S		**S**	**06**	**36**	**20.3**	**-1.5**
CD2	comp=Z,30nm,0.8s			pmax	pmax					
ENH	**Enshi** comp=Z,29nm,1.0s	**33.60**	**11**	IAmb		IAmb	06	31	13.9	
JIRN	**Jiri** comp=Z,19nm,0.3s	**34.05**	**334**	*e*P		**P**	**06**	**31**	**16.6**	**+0.1**
GUN	**Gumba** comp=Z,50nm,0.4s	**34.40**	**334**	*e*P		**P**	**06**	**31**	**19.7**	**+0.1**
RKGY	**Rocky Gully** baz=35,SNR=12	**34.45**	**158**	P		**P**	**06**	**31**	**21.8**	**+2.3**
DMN	**Daman**	**34.49**	**332**	*e*P		**P**	**06**	**31**	**20.5**	**+0.3**
GKN	**Gorkha** comp=Z,28nm,0.3s	**35.05**	**332**	*e*P		**P**	**06**	**31**	**25.1**	**+0.2**
WHN	**Wuhan**	**35.10**	**18**	⇓P		**P**	**06**	**31**	**27.0**	**+1.9**
WHN				pP		**pP**	**06**	**32**	**04.5**	**+3.8**
WHN				S		**S**	**06**	**36**	**48.8**	**+3.4**
WHN	comp=Z,90nm,1.0s			pmax	pmax					
KOLN	**Koldanda**	**35.35**	**331**	*e*P		**P**	**06**	**31**	**27.7**	**+0.2**
JMJ	**Miyako jima 2** comp=Z,2µm,0.7s	**35.38**	**38**	P		**P**	**06**	**31**	**31.5**	**+3.9**
WB0	**Warramunga Arr** comp=Z,21nm,0.8s	**35.56**	**121**	IAmb		IAmb	06	31	31.2	
WRA	**Warramunga Arr** comp=Z,15nm,0.9s,baz=297,slow=9.9,SNR=79	**35.59**	**121**	P		**P**	**06**	**31**	**28.3**	**-1.2**
WRA	comp=Z,13nm,0.7s,baz=294,slow=10,SNR=4.7			pP		**pP**	**06**	**32**	**02.3**	**-2.8**
WRA	comp=Z,5.8nm,0.5s,baz=322,slow=2.0,SNR=6.0			PcP		**PcP**	**06**	**33**	**55.1**	**+0.3**
WRA	comp=Z,7.0nm,1.0s,baz=295,slow=15,SNR=6.7			S		S	06	36	44.1	-9.1
WRA	comp=Z,4.4nm,0.5s,baz=310,slow=3.2,SNR=13			ScP		**ScP**	**06**	**37**	**24.3**	**-0.8**
WRAB	**Tennant Creek**	**35.60**	**121**	*c*eP		**P**				
WRAB	comp=Z,25nm,0.8s			pmax	pmax		**06**	**31**	**28.8**	**

GOMU pmax pmax
comp=Z,16nm,1.3s
GOMU pmax pmax
comp=Z,72nm,4.2s
GOMU LR LR
comp=Z,64nm,10.6s
GOMU LR LR
comp=Z,67nm,10.3s
GOMU LR LR
comp=Z,51nm,7.8s
NDI New Delhi 39.52 324 *e*P **P** **06 32 05.0 +2.7**
NDI *e*S **S** **06 37 53.0 +0.8**
QIS Mount Isa 40.39 119 P **P** **06 32 08.4 -1.3**
baz=40,SNR=9.2
QIS Mount Isa 40.39 119 P **P** **06 32 11.0 +1.3**
comp=Z,12nm,0.9s
OOD Oodnadatta 40.40 131 P **P** **06 32 10.4 +0.8**
comp=Z,119nm,0.7s
MULG Mulgathing 40.60 136 P **P** **06 32 12.2 +0.9**
comp=Z,27nm,0.7s
TIA Tai'an 41.21 18 ⇑P **P** **06 32 16.5 +0.4**
TIA PP **PnPn** **06 34 02.3 +1.2**
TIA S **S** **06 38 12.3 -4.9**
TIA pmax pmax
comp=Z,17nm,1.1s
TIA pmax pmax
comp=Z,140nm,9.8s
TIA LR LR
comp=Z,190nm,18.1s
TIA LR LR
comp=Z,200nm,16.2s
HNS HongShan 41.63 15 ⇓P **P** **06 32 20.5 +1.0**
HNS pmax pmax
comp=Z,23nm,1.2s
COEN Coen 41.83 108 P **P** **06 32 21.3 -0.2**
GTA Gaotai 42.08 357 ⇓P **P** **06 32 25.0 +1.7**
GTA sP sP 06 33 23.5 +4.7
GTA PcP **PcP** **06 34 15.5 +0.6**
GTA ScS ScS 06 42 05.5 -2.4
GTA pmax pmax
comp=Z,16nm,1.0s
JSU Suzuyama 43.37 36 IAmb IAmb 06 32 35.7
comp=Z,115nm,1.6s
BBOO Buckleboo 43.47 137 P **P** **06 32 34.7 +0.2**
baz=44,SNR=31
BBOO Buckleboo 43.47 137 P **P** **06 32 34.3 -0.2**
BBOO IAmb IAmb 06 33 10.9
comp=Z,29nm,0.8s
LCRK Leigh Creek 43.67 133 P **P** **06 32 37.4 +1.3**
comp=Z,14nm,1.1s
MTSU Mount Surprise 43.87 113 P **P** **06 32 38.5 +0.6**
baz=44,SNR=5.5
INKA Innaminka 44.27 128 P **P** **06 32 41.5 +0.6**
comp=Z,60nm,0.9s
HHC Hu-ho-hao-te 44.27 10 *e*P **P** **06 32 42.5 +1.7**
HHC pP pP 06 33 18.0 +0.3
HHC S **S** **06 39 03.3 +1.4**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,85nm,5.0s
BJI Beijing 44.50 15 P **P** **06 32 43.8 +1.3**
BJI pP **pP** **06 33 18.8 -0.6**
BJI S **S** **06 39 06.5 +1.5**
BJI ScS **ScS** **06 42 19.0 -3.7**
BJI pmax pmax
comp=Z,23nm,0.6s
BJI pmax pmax
comp=Z,130nm,3.9s
BJI LR LR
comp=Z,120nm,10.5s
BJI LR LR
comp=Z,100nm,11.4s
BJI LR LR
comp=Z,230nm,17.1s
JNU Nakatsue 44.79 35 P **P** **06 32 45.0 0.0**
comp=Z,48nm,1.0s,baz=199,slow=5.2,SNR=11
JNU Nakatsue 44.79 35 P **P** **06 32 45.1 +0.1**
JNU Nakatsue 44.79 35 P **P** **06 32 47.0 +2.0**
comp=Z,89nm,1.4s
PMG Port Moresby 45.03 100 P **P** **06 32 48.2 +1.1**
comp=Z,12nm,0.9s,baz=232,slow=5.7,SNR=4.6
PMG pP **pP** **06 33 24.0 -0.2**
comp=Z,7.3nm,0.3s,baz=287,slow=3.9,SNR=2.2
HTT Hallett 45.79 136 P **P** **06 32 53.7 +0.8**
baz=46,SNR=11
HTT Hallett 45.79 136 P **P** **06 32 54.2 +1.3**
comp=Z,12nm,0.8s
CTA Charters Tower 46.16 115 P **P** **06 32 56.5 +0.6**
comp=Z,4.5nm,0.5s,baz=256,slow=5.9,SNR=7.2
CTA PcP **PcP** **06 34 29.5 +0.3**
comp=Z,9.7nm,0.6s,baz=334,slow=4.5,SNR=3.5
CTA LR LR 06 54 03.5
comp=Z,77nm,19.1s,baz=305,slow=38
CTA Charters Tower 46.16 115 P **P** **06 32 57.2 +1.3**
comp=Z,18nm,1.0s
TWOA Tennyson Woods 46.47 138 P **P** **06 32 59.3 +1.2**
comp=Z,26nm,0.6s
KSRS Korea Array 46.59 28 P **P** **06 32 58.2 -0.7**
comp=Z,23nm,1.0s,baz=210,slow=8.3,SNR=34
QLP Quilpie 46.59 125 P **P** **06 32 59.5 +0.3**
baz=47,SNR=3.9
QLP Quilpie 46.59 125 P **P** **06 33 00.8 +1.6**
comp=Z,32nm,1.7s
STKA Stephens Creek 46.89 132 P **P** **06 33 01.9 +0.5**
comp=Z,13nm,0.4s,baz=305,slow=7.8,SNR=47
STKA pP **pP** **06 33 37.3 -1.5**
comp=Z,61nm,0.8s,baz=314,slow=8.5,SNR=13
STKA S **S** **06 39 37.5 -2.2**
comp=Z,3.1nm,0.9s,baz=71,slow=22,SNR=3.8
STKA LR LR 06 56 47.5
comp=Z,32nm,18.5s,baz=260,slow=41
STKA Stephens Creek 46.89 132 P **P** **06 33 02.0 +0.5**
baz=47,SNR=14
STKA Stephens Creek 46.89 132 P **P** **06 33 01.9 +0.5**
STKA Stephens Creek 46.89 132 P **P** **06 33 02.5 +1.1**
comp=Z,5.2nm,1.0s
JMN Monobe 46.97 37 IAmb IAmb 06 33 04.5
comp=Z,79nm,1.0s
JHS Saijyo 47.43 35 IAmb IAmb 06 33 07.8
comp=Z,87nm,1.2s
XLT XiLinHaoTe 48.12 13 *e*P **P** **06 33 11.5 +0.7**
XLT pP pP 06 33 49.3 +1.0
XLT sP sP 06 34 04.5 -2.4
XLT PP **PP** **06 35 07.3 +2.6**
XLT PcS **PcS** **06 38 34.0 +2.3**
XLT S **S** **06 39 55.3 -1.4**
XLT pmax pmax
comp=Z,43nm,0.9s
XLT pmax pmax
comp=Z,77nm,4.5s
WMQ Urumqi 48.25 346 *e*P **P** **06 33 13.8 +2.1**
WMQ sP sP 06 34 05.3 -2.7
WMQ pmax pmax
comp=Z,100nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.9s
KBL Kabul 48.56 323 P **P** **06 33 14.6 +0.1**
KBL pmax pmax
comp=Z,30nm,1.2s
KBL Kabul 48.56 323 P **P** **06 33 14.6 +0.1**
KBL IAmb IAmb 06 33 15.5
comp=Z,30nm,1.2s
KBL Kabul 48.56 323 P **P** **06 33 14.5 +0.1**
SNR=12
KSH Kashi 48.59 333 P **P** **06 33 13.5 -1.0**
KSH pP pP 06 33 50.5 -1.7
KSH ScP **ScP** **06 38 15.8 -0.9**
KSH S **S** **06 39 59.8 -3.7**
KSH pmax pmax
comp=Z,20nm,0.5s
JCJ Chichijima 48.60 50 P **P** **06 33 13.2 -1.4**
comp=Z,81nm,0.7s,baz=315,slow=23,SNR=2.1
JLN Jalan Bani Buh 48.70 303 P **P** **06 33 18.2 +2.7**
SNR=5.3
MHTO MHTO 49.45 301 P **P** **06 33 21.6 +0.4**
SNR=6.6
TARG Taragay, Kyrgy 49.62 336 IAmb IAmb 06 33 26.4
comp=Z,41nm,1.2s
ARPS Mount Arapiles 49.63 138 P **P** **06 33 23.9 +1.5**
baz=50,SNR=8.5
ARPS Mount Arapiles 49.63 138 P **P** **06 33 24.1 +1.8**
comp=Z,21nm,0.6s
CMSA Cobar Meteorol 49.81 130 P **P** **06 33 24.6 +0.8**
baz=50,SNR=16
CMSA Cobar Meteorol 49.81 130 P **P** **06 33 24.9 +1.1**
comp=Z,29nm,1.7s
INU Inuyama 49.97 37 P **P** **06 33 27.8 +2.9**
comp=Z,21nm,1.2s
SHLS Shalkode 50.19 338 *e*P **P** **06 33 24.5 -2.0**
SHLS *e*S **S** **06 40 22.6 -3.0**
SHLS pmax pmax
comp=Z,14nm,0.8s
SHLS Shalkode 50.19 338 *e*P **P** **06 33 24.6 -2.0**
comp=Z,14nm,0.8s,baz=338
SHLS *e*S **S** **06 40 22.7 -3.0**
baz=338
KDJ Kajisay 50.21 336 IAmb IAmb 06 33 30.6
comp=Z,53nm,0.8s
SMDO Samad 50.23 303 P **P** **06 33 28.5 +1.3**
SNR=6.6
SOCY Socotra 50.28 288 P **P** **06 33 29.0 +1.3**
SOCY IAmb IAmb 06 33 30.4
comp=Z,36nm,0.9s
RMQ Roma 50.32 122 P **P** **06 33 28.2 +0.5**
baz=50,SNR=4.2
RMQ Roma 50.32 122 P **P** **06 33 28.4 +0.7**
comp=Z,5.6nm,0.8s
PDGK Podgornoye 50.33 338 P **P** **06 33 28.1 +0.5**
UZB Uzynbulak 50.34 338 *e*P **P** **06 33 27.0 -0.7**
UZB pmax pmax
comp=Z,9.0nm,0.5s
UZB Uzynbulak 50.34 338 *e*P **P** **06 33 27.1 -0.7**
comp=Z,9.3nm,0.5s,baz=338
BIDO Bidbid 50.35 304 P **P** **06 33 29.3 +1.3**
SNR=10
SATY Saty 50.50 337 *e*P **P** **06 33 28.1 -0.8**
SATY *e*S **S** **06 40 29.4 -0.6**
SATY pmax pmax
comp=Z,11nm,0.7s
SATY Saty 50.50 337 *e*P **P** **06 33 28.2 -0.8**
comp=Z,11nm,0.7s,baz=337
SATY *e*S **S** **06 40 29.5 -0.6**
baz=337
SONM Songino Array 50.56 4 P **P** **06 33 30.7 +1.4**
comp=Z,21nm,0.6s,baz=186,slow=9.5,SNR=137
SONM ScP **ScP** **06 38 23.3 -1.7**
comp=Z,1.2nm,0.9s,baz=170,slow=4.4,SNR=2.5
SONM LR LR 06 58 55.4
comp=Z,87nm,18.4s,baz=174,slow=40
SONM Songino Array 50.56 4 IAmb IAmb 06 33 31.8
comp=Z,25nm,0.6s
ULN Ulaanbaatar 50.64 4 *ce*P **P** **06 33 31.0 +1.1**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 50.64 4 P **P** **06 33 30.8 +0.9**
ULHL Ulahol 50.69 335 P **P** **06 33 31.9 +1.5**
SNR=5.9
KPKS Kokpek 50.74 338 *e*P **P** **06 33 29.8 -0.8**
KPKS *e*S **S** **06 40 32.2 -1.1**
KPKS pmax pmax
comp=Z,15nm,1.0s
KPKS Kokpek 50.74 338 *e*P **P** **06 33 29.8 -0.8**
comp=Z,15nm,1.0s,baz=338
KPKS *e*S **S** **06 40 32.2 -1.1**
baz=338
BSY Bisya 50.81 302 P **P** **06 33 32.8 +1.3**
SNR=7.2
CN2 Changchun 50.84 22 *e*P **P** **06 33 30.3 -1.0**
CN2 PP **PP** **06 35 29.8 +0.5**
CN2 S **S** **06 40 33.5 -0.9**
CN2 sS sS 06 41 37.3 -3.4
CN2 SS **SS** **06 44 08.8 -2.7**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,210nm,15.0s
CN2 LR LR
comp=Z,220nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
GAR Garm 50.99 328 P **P** **06 33 32.1 -0.5**
GAR IAmb IAmb 06 33 36.6
comp=Z,53nm,1.0s
BOOM Boomskoye usch 51.02 335 IAmb IAmb 06 33 36.1
comp=Z,16nm,0.7s
TNSS Tian-Shan 51.06 336 *e*P **P** **06 33 33.6 +0.2**
baz=336
HOQ Hoqain 51.06 303 P **P** **06 33 34.5 +1.2**
SNR=9.8
MDOK Medeo 51.12 336 P **P** **06 33 34.1 +0.5**
MDOK Medeo 51.12 336 *e*P **P** **06 33 33.3 -0.3**
baz=336
AAA Alma-Ata 51.21 336 *e*P **P** **06 33 32.5 -1.6**
AAA Alma-Ata 51.21 336 *e*P **P** **06 33 32.5 -1.6**
baz=336
CHGR Chuyangaron 51.37 327 IAmb IAmb 06 33 38.1
comp=Z,40nm,0.8s
MAJO Matsushiro 51.48 37 P **P** **06 33 36.1 -0.1**
MAJO pmax pmax
comp=Z,36nm,1.2s
MAJO Matsushiro 51.48 37 P **P** **06 33 36.1 -0.1**
MAJO IAmb IAmb 06 33 37.1
comp=Z,36nm,1.2s
MAJO Matsushiro 51.48 37 P **P** **06 33 38.4 +2.2**
comp=Z,28nm,1.4s
MJB9 Matsu-Tunnel 51.48 37 IAmb IAmb 06 33 37.0
comp=Z,40nm,1.2s
MJAR Matsushiro Arr 51.48 37 P **P** **06 33 36.1 -0.1**
comp=Z,26nm,1.0s,baz=229,slow=7.8,SNR=37
MJAR LR LR 06 55 47.2
comp=Z,51nm,20.6s,baz=207,slow=36
BTK Batken 51.51 329 IAmb IAmb 06 33 40.1
comp=Z,32nm,0.5s
TKM2 Tokmak 2 51.52 335 P **P** **06 33 39.0 +2.4**
SNR=13
KBK Karagaybulak 51.58 334 P **P** **06 33 40.0 +3.0**
SNR=10
AML Almayashu 51.71 333 P **P** **06 33 40.7 +2.4**
SNR=7.2
AML Almayashu 51.71 333 *i* P **P** **06 33 39.3 +1.0**
SNR=7.8
CHKK Chushkaly 51.72 337 *e*P **P** **06 33 37.6 -0.2**
baz=337
AAK Ala-Archa 51.76 334 LR LR 06 58 38.8
comp=Z,49nm,19.9s,baz=148,slow=39
AAK Ala-Archa 51.76 334 P **P** **06 33 39.8 +1.5**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 51.76 334 P **P** **06 33 39.8 +1.5**
AAK Ala-Archa 51.76 334 *i* P **P** **06 33 39.5 +1.2**
SNR=15
SOHO SOHO 51.94 304 P **P** **06 33 40.8 +1.0**
EIDS Eidsvold 51.95 120 P **P** **06 33 39.6 -0.3**
baz=52,SNR=8.0
EIDS Eidsvold 51.95 120 P **P** **06 33 40.0 +0.1**
EIDS Eidsvold 51.95 120 P **P** **06 33 42.3 +2.4**
comp=Z,12nm,0.6s
KUU Kurty 52.02 336 *e*P **P** **06 33 39.6 -0.4**
KUU pmax pmax
comp=Z,24nm,0.6s
KUU Kurty 52.02 336 *e*P **P** **06 33 39.7 -0.4**
comp=Z,24nm,0.6s,baz=336
EKS2 Erkin-Say 52.10 333 P **P** **06 33 43.9 +3.1**
SNR=13
TDK Taldyqorghan 52.16 339 *e*P **P** **06 33 39.6 -1.4**
TDK *e*S **S** **06 40 51.4 -1.1**
TDK pmax pmax
comp=Z,13nm,0.5s
TDK Taldyqorghan 52.16 339 *e*P **P** **06 33 39.7 -1.4**
comp=Z,13nm,0.5s,baz=338
TDK *e*S **S** **06 40 51.4 -1.1**
baz=338
MSHR Mys Shultsa 52.17 27 *ce*P **P** **06 33 41.9 +0.8**
MSHR pmax pmax
comp=Z,10.0nm,1.3s
USP Ospenovka 52.27 334 P **P** **06 33 43.9 +2.0**
SNR=13
ABTO Aybut 52.33 294 P **P** **06 33 45.0 +2.1**
SNR=6.7
ZSN Zaisan 52.35 345 *e*P **P** **06 33 42.0 -0.4**
ZSN *e*S **S** **06 40 54.8 -0.2**
ZSN pmax pmax
comp=Z,17nm,0.7s
ZSN Zaisan 52.35 345 *e*P **P** **06 33 42.0 -0.4**
comp=Z,17nm,0.7s,baz=345
ZSN *e*S **S** **06 40 54.9 -0.1**
baz=345
SGDS Sogindy 52.36 335 *e*P **P** **06 33 42.0 -0.6**
baz=335
MK31 Makanchi Array 52.46 343 *i* P **P** **06 33 42.7 -0.6**
MK31 Makanchi Array 52.46 343 IAmb IAmb 06 33 45.9
comp=Z,21nm,0.8s
MKAR Makanchi Array 52.46 343 P **P** **06 33 43.0 -0.3**
comp=Z,30nm,0.7s,baz=159,slow=7.5,SNR=158
MKAR S **S** **06 40 55.4 -1.1**
comp=Z,0.6nm,0.8s,baz=158,slow=16,SNR=3.0
UOSS Minazif 52.55 304 P **P** **06 33 45.3 +1.0**
UOSS Minazif 52.55 304 P **P** **06 33 45.2 +1.0**
ALNE Al Ain 52.55 303 P **P** **06 33 45.7 +1.4**
SNR=10.0
ALNE Al Ain 52.55 303 *i* P **P** **06 33 46.0 +1.6**
SNR=6.3
HATD Hatta, Dubai 52.55 304 P **P** **06 33 47.0 +2.6**
SNR=5.6
HATD Hatta, Dubai 52.55 304 *i* P **P** **06 33 45.6 +1.2**
SNR=6.1
ASHO Ashiyiah 52.56 304 *i* P **P** **06 33 45.6 +1.2**
SNR=7.7
MAKZ Makanchi 52.56 343 P **P** **06 33 44.4 +0.4**
MAKZ pmax pmax
comp=Z,20nm,1.1s
MAKZ Makanchi 52.56 343 P **P** **06 33 44.4 +0.4**
FAQ Al Faqa, Dubai 52.97 304 *i* P **P** **06 33 48.4 +1.0**
SNR=8.3
ZAK Zakamensk 52.99 1 *e*P **P** **06 33 47.1 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ASUD Al Ashush, Dub 53.14 304 P **P** **06 33 50.4 +1.8**
MDJ Mudanjiang 53.14 24 P **P** **06 33 49.5 +1.3**
MDJ S **S** **06 41 11.0 +5.3**
MDJ pmax pmax
comp=Z,17nm,0.7s
MDJ pmax pmax
comp=Z,150nm,3.7s
MDJ Mudanjiang 53.14 24 P **P** **06 33 50.4 +2.2**
comp=Z,20nm,1.0s
BNX BinXian 53.22 22 ⇓P **P** **06 33 50.0 +1.2**
BNX pP **pP** **06 34 24.5 -2.5**
BNX sP **sP** **06 34 44.5 -1.0**
BNX S **S** **06 41 04.8 -2.0**
BNX pmax pmax
comp=Z,15nm,0.6s
DZA Taraz 53.40 332 *e*P **P** **06 33 49.9 -0.3**
DZA pmax pmax
comp=Z,6.0nm,0.4s
DZA Taraz 53.40 332 *e*P **P** **06 33 49.9 -0.3**
comp=Z,6.3nm,0.4s,baz=332
IUG Iuzhnay 53.46 330 *e*P **P** **06 33 50.1 -0.7**
IUG Iuzhnay 53.46 330 *e*P **P** **06 33 50.1 -0.7**
baz=330
USRK Ussuriysk Ar. 53.82 26 P **P** **06 33 54.2 +1.0**
comp=Z,49nm,0.7s,baz=219,slow=5.8,SNR=71
BTLS Baital 53.89 335 *e*P **P** **06 33 52.8 -0.9**
BTLS Baital 53.89 335 *e*P **P** **06 33 52.8 -0.9**
baz=335
ARMA Armidale 54.05 126 P **P** **06 33 57.2 +1.9**
baz=54,SNR=4.3
ARMA Armidale 54.05 126 P **P** **06 33 56.2 +0.9**
ARMA **pP** **06 34 32.9 -0.7**
ARMA IAmb IAmb 06 34 35.4
comp=Z,30nm,1.1s
ARMA Armidale 54.05 126 P **P** **06 33 57.5 +2.2**
comp=Z,22nm,1.2s
MZR Muzera 54.07 301 *i* P **P** **06 33 56.7 +1.3**
SNR=5.7
MOY Mondy 54.28 359 *e*P **P** **06 33 58.1 +1.5**
MOY pmax pmax
comp=Z,24nm,2.4s
ABPO Ambohimpanom 56.18 249 P **P** **06 34 12.1 +1.3**
ABPO pmax pmax
comp=Z,19nm,1.0s
ABPO Ambohimpanom 56.18 249 P **P** **06 34 12.1 +1.3**
ABPO IAmb IAmb 06 34 14.6
comp=Z,19nm,1.0s
SEM Semipalatinsk 56.30 343 *e*P **P** **06 34 09.8 -1.3**
SEM pmax pmax
comp=Z,9.0nm,0.6s
SEM Semipalatinsk 56.30 343 *e*P **P** **06 34 09.8 -1.3**
comp=Z,8.9nm,0.6s,baz=343
KURK Kurchatov 57.06 342 P **P** **06 34 15.8 -0.4**
KURK pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 57.06 342 P **P** **06 34 15.8 -0.4**
OTUK Ortayu 57.18 337 P **P** **06 34 16.0 -1.1**
GEYT Alibeck 57.56 319 P **P** **06 34 20.3 +0.2**
comp=Z,13nm,0.9s,baz=198,slow=14,SNR=11
GEYT Alibeck 57.56 319 IAmb IAmb 06 34 21.0
comp=Z,18nm,1.1s
GYA0B ALIBECK ARRAY 57.56 319 P **P** **06 34 19.6 -0.4**
GYA0B IAmb IAmb 06 34 21.0
comp=Z,21nm,1.0s
KLR Kul'dur 57.76 22 P **P** **06 34 21.3 +0.2**
comp=Z,27nm,0.7s,baz=229,slow=5.9,SNR=107
ERM Erimo 57.95 35 P **P** **06 34 23.2 +0.6**
ERM pmax pmax
comp=Z,22nm,0.7s
ERM Erimo 57.95 35 P **P** **06 34 23.2 +0.6**
ERM IAmb IAmb 06 34 24.4
comp=Z,22nm,0.7s
ERM Erimo 57.95 35 P **P** **06 34 24.9 +2.3**
comp=Z,45nm,0.8s
ZAA0 Zalesovo Array 58.42 348 IAmb IAmb 06 34 28.6
comp=Z,34nm,0.9s
ZALV Zalesovo Beam 58.42 348 P **P** **06 34 25.0 -0.6**
comp=Z,21nm,0.6s,baz=165,slow=5.3,SNR=63
ZALV S **S** **06 42 08.0 -7.3**
comp=Z,1.0nm,0.6s,baz=142,slow=22,SNR=1.4
ZALV ScS **ScS** **06 43 51.9 -6.6**
comp=Z,1.3nm,0.7s,baz=157,slow=4.7,SNR=5.0
ZALV LR LR 07 01 43.3
comp=Z,42nm,19.7s,baz=52,slow=38
BRZS Berezniki 58.45 338 *e*P **P** **06 34 25.3 -0.7**
BRZS Berezniki 58.45 338 *e*P **P** **06 34 25.3 -0.7**
baz=338
ASAJ Asahikawa 59.00 33 P **P** **06 34 30.1 +0.3**
comp=Z,16nm,0.4s,baz=180,slow=10,SNR=13
ASAJ LR LR 07 03 06.1
comp=Z,34nm,18.2s,baz=178,slow=39
JKA Kamikawa-asahi 59.00 33 IAmb IAmb 06 34 31.7
comp=Z,30nm,0.9s
ZEA Zeya 60.08 17 *e*P **P** **06 34 38.0 +1.0**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 60.97 31 *ce*P **P** **06 34 43.9 +0.7**
YSS *e* 06 35 26.5
YSS pmax pmax
comp=Z,200nm,6.1s
YSS pmax pmax
comp=Z,110nm,0.8s
YSS Yuzh-Sakhalins 60.97 31 P **P** **06 34 43.9 +0.7**
YSS Yuzh-Sakhalins 60.97 31 P **P** **06 34 45.0 +1.8**
comp=Z,119nm,0.9s
RAYN Ar Rayn 61.15 299 P **P** **06 34 45.6 +0.6**
RAYN pmax pmax
comp=Z,15nm,1.1s
RAYN Ar Rayn 61.15 299 P **P** **06 34 45.6 +0.6**
RAYN Ar Rayn 61.15 299 *i* P **P** **06 34 45.9 +1.0**
SNR=6.2
BOD Bodaibo 61.17 7 *e*P **P** **06 34 44.7 +0.4**
BOD pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 61.82 339 P **P** **06 34 47.8 -1.0**
BRVK pmax pmax
comp=Z,17nm,0.6s
BRVK Borovoye 61.82 339 P **P** **06 34 47.8 -1.0**
BRVK IAmb IAmb 06 34 51.1
comp=Z,16nm,0.6s
KUR Kuril'sk 62.63 35 *i* P **P** **06 34 52.8 -1.5**
KUR pmax pmax
comp=Z,84nm,1.0s
AB31 Akbulak array 63.47 330 *i* P **P** **06 34 58.6 -1.2**
ABKAR Akbulak array 63.47 330 P **P** **06 34 59.0 -0.8**
ABKAR Akbulak array 63.47 330 IAmb IAmb 06 35 02.6
comp=Z,28nm,0.7s
KIBK Kibwezi 64.20 269 IAmb IAmb 06 35 08.6
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 65.04 270 P **P** **06 35 12.5 +1.4**
comp=Z,13nm,0.8s,baz=66,slow=8.0,SNR=36
KMBO Kilima Mbogo 65.04 270 *i* P **P** **06 35 13.5 +2.5**
KMBO pmax pmax
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 65.04 270 P **P** **06 35 12.8 +1.8**
KMBO IAmb IAmb 06 35 14.4
comp=Z,18nm,0.9s

KMBO **Kilima Mbogo** 65.04 270 *i* P P 06 35 13.6 +2.6
SNR=17
AKTO **Aktyubinsk** 65.19 331 P P 06 35 11.4 +0.5
LODK **Lodwar** 67.21 275 P P 06 35 27.4 +2.8
SNR=6.1
GNI **Garni** 67.72 316 *ce*P P 06 35 27.2 -0.2
GNI pmax pmax
comp=Z,21nm,1.3s
YAK **Yakutsk** 67.96 14 P P 06 35 27.6 -0.6
comp=Z,30nm,0.5s,baz=198,slow=2.3,SNR=12
YAK **Yakutsk** 67.96 14 *e*P P 06 35 27.8 -0.5
YAK *e* 06 35 53.5
YAK *e* 06 37 59.4
YAK *e*S S 06 44 11.0 -2.4
YAK *e* 06 45 05.9
YAK *e*SS SS 06 48 38.2 -0.8
YAK pmax pmax
comp=Z,100nm,0.9s
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=Z,154nm,5.3s
YAK pmax pmax
comp=E,112nm,4.9s
YAK pmax pmax
comp=N,70nm,5.9s
YAK smax smax
comp=E,45nm,1.6s
YAK smax smax
comp=N,82nm,1.7s
SVE **Sverdlovsk** 68.32 337 *e*P P 06 35 30.7 +0.1
SVE pmax pmax
comp=Z,25nm,0.9s
ARU **Arti** 68.88 336 *c i*P P 06 35 34.3 +0.2
ARU *PP pP 06 36 12.2 -2.1
ARU S S 06 44 27.5 +2.9
ARU SS SS 06 48 50.4 -3.0
ARU pmax pmax
comp=Z,15nm,0.8s
ARU **Arti** 68.88 336 P P 06 35 34.3 +0.2
ARU IAmb IAmb 06 35 37.5
comp=Z,12nm,0.7s
GURO **Guroymak-BITLI** 69.03 313 P P 06 35 35.7 +0.2
GURO IAmb IAmb 06 35 37.4
comp=Z,17nm,1.0s
ZEI **Tsey** 69.38 318 *e*P P 06 35 37.5 -0.3
ZEI pmax pmax
comp=Z,20nm,1.0s
NCK **Nalchik** 69.88 319 *i*P P 06 35 41.0 +0.4
NCK pmax pmax
comp=Z,17nm,0.7s
SKR **Severo-Kuril's** 70.27 33 *ce*P P 06 35 42.5 -0.2
NEY **Neytrino** 70.36 318 *i*P P 06 35 44.8 +1.1
NEY pmax pmax
comp=Z,5.0nm,0.9s
KBZ **Khabaz** 70.44 319 P P 06 35 44.6 +0.7
comp=Z,19nm,0.8s,baz=107,slow=4.7,SNR=31
KBZ pP pP 06 36 24.1 -0.3
comp=Z,5.5nm,0.7s,baz=122,slow=6.6,SNR=2.0
SHA1 **Shidzhatmaz** 70.60 318 *i*P P 06 35 45.8 +0.6
KIV **Kislovodsk** 70.67 319 *e*P P 06 35 44.8 -0.7
KIV pmax pmax
comp=Z,21nm,1.0s
MBAR **Mbarara** 71.57 270 LR LR 07 03 52.5
comp=Z,43nm,19.2s,baz=74,slow=33
MBAR **Mbarara** 71.57 270 P P 06 35 53.5 +1.9
MBAR pmax pmax
comp=Z,19nm,0.9s
MBAR **Mbarara** 71.57 270 P P 06 35 53.5 +1.9
MBAR IAmb IAmb 06 35 55.0
comp=Z,18nm,0.8s
EIL **Elat** 71.91 302 LR LR 07 07 51.5
comp=Z,32nm,18.9s,baz=69,slow=36
PEA0B **Petropavlovsk-** 72.35 31 *ce*P P 06 35 54.6 -0.6
PEA0B **Petropavlovsk-** 72.35 31 IAmb IAmb 06 35 56.4
comp=Z,23nm,0.7s
PETK **Petropavlovsk-** 72.35 31 P P 06 35 55.1 -0.1
comp=Z,18nm,0.8s,baz=205,slow=3.1,SNR=24
SOC **Sochi** 72.51 317 *e*P P 06 35 54.6 -1.7
SOC *e* 06 38 38.9
SOC *e*PPP PPP 06 40 20.0
SOC *e*S S 06 45 03.7 -3.3
SOC *e*SS SS 06 49 44.5 -5.0
RPZ **Rata Peaks** 72.77 135 P P 06 35 57.6 -0.4
comp=Z,10nm,0.6s,baz=294,slow=3.9,SNR=7.8
RPZ LR LR 07 07 57.8
comp=Z,69nm,19.3s,baz=258,slow=36
RPZ **Rata Peaks** 72.77 135 P P 06 35 58.5 +0.5
RPZ IAmb IAmb 06 36 39.5
comp=Z,71nm,1.3s
PET **Petropavlovsk** 72.81 32 ⇑P P 06 35 58.8 +1.0
PET **Petropavlovsk** 72.81 32 P P 06 35 57.9 0.0
MA2 **Magadan** 72.83 23 P P 06 35 57.9 0.0
comp=Z,15nm,0.4s,baz=222,slow=5.6,SNR=31
MA2 **Magadan** 72.83 23 P P 06 35 58.9 +1.0
MA2 pmax pmax
comp=Z,38nm,0.9s
MA2 **Magadan** 72.83 23 P P 06 35 58.9 +1.0
MA2 IAmb IAmb 06 35 59.8
comp=Z,38nm,0.9s
OUZ **Omahuta** 73.11 126 P P 06 36 01.4 +1.3
OUZ IAmb IAmb 06 36 02.6
comp=Z,34nm,1.5s
THZ **Tophouse** 73.70 133 P P 06 36 03.5 +0.1
THZ IAmb IAmb 06 36 05.2
comp=Z,22nm,0.9s
LSZ **Lusaka** 73.95 255 P P 06 36 07.1 +1.6
LSZ pmax pmax
comp=Z,60nm,1.7s
LSZ **Lusaka** 73.95 255 P P 06 36 07.1 +1.6
LSZ IAmb IAmb 06 36 08.4
comp=Z,60nm,1.6s
KIRV **Kirov** 74.09 334 *ce*P P 06 36 05.0 -0.2
MHEZ **Mangahewa** 74.29 130 P P 06 36 08.1 +1.3
CSS **Mathiatis** 74.55 307 IAmb IAmb 06 36 10.0
comp=Z,39nm,1.0s
WIAZ **Waiheke Island** 74.58 127 P P 06 36 10.3 +1.7
HIZ **Hauiti** 74.61 129 P P 06 36 03.8 -5.0
MKAZ **Moumakai** 74.64 128 P P 06 36 10.4 +1.5
KUZ **Kuaotunu** 75.04 127 P P 06 36 12.4 +1.2
PKVZ **Pokaka** 75.11 130 P P 06 36 12.4 +0.7
FWVZ **Far West T-bar** 75.26 130 P P 06 36 13.6 +0.8
TRVZ **Turoa** 75.27 130 P P 06 36 13.7 +0.9
WTVZ **West Tongariro** 75.27 130 P P 06 36 13.7 +1.1
NGZ **Ngauruhoe** 75.29 130 P P 06 36 13.6 +0.8
NNVZ **North Ngauruho** 75.29 130 P P 06 36 13.7 +0.8
WHVZ **Whangaehu Hut** 75.29 130 P P 06 36 13.9 +1.0
WNVZ **Wahianoa** 75.31 130 P P 06 36 13.8 +0.8
TMVZ **Te Maari** 75.36 130 P P 06 36 14.3 +1.2
ETVZ **East Tongariro** 75.37 130 P P 06 36 13.7 +0.5
MOVZ **Moawhango** 75.44 130 P P 06 36 13.6 0.0
SEY **Seymchan** 75.53 21 P P 06 36 14.2 +0.8
comp=Z,23nm,0.9s,baz=235,slow=5.7,SNR=73
BR131 **Keskin Array S** 75.58 312 *c i*P P 06 36 13.8 -0.6
BR131 **Keskin Array S** 75.58 312 IAmb IAmb 06 36 15.2
comp=Z,32nm,0.9s
BRTR **Keskin Array B** 75.58 312 P P 06 36 13.9 -0.5
comp=Z,16nm,0.8s,baz=130,slow=7.1,SNR=48
BHHZ **Black Hill Sta** 75.69 130 P P 06 36 15.1 +0.1
OPRZ **Ohinepanea** 75.84 128 P P 06 36 16.3 +0.5
PNHZ **Pukenui** 75.85 130 P P 06 36 16.6 +0.8
ILGA **Ilgaz** 75.89 313 IAmb IAmb 06 36 18.0
comp=Z,56nm,1.2s
KWHZ **Kaweka Forest** 75.95 130 P P 06 36 17.0 +0.6
BKZ **Black Stump Fm** 75.97 130 P P 06 36 16.7 +0.1
MCHZ **McNeill Hill** 76.17 130 P P 06 36 18.7 +1.1
MTHZ **Maungataniwha** 76.20 129 P P 06 36 18.0 +0.2
NMHZ **Naumai** 76.20 129 P P 06 36 18.9 +1.0
RTZ **Ruatahuna** 76.28 129 P P 06 36 18.2 -0.2
TIXI **Tiksi** 76.30 8 P P 06 36 16.7 -1.0
comp=Z,5.1nm,0.5s,baz=271,slow=23,SNR=18
TIXI **Tiksi** 76.30 8 P P 06 36 16.7 -1.0
URZ **Urewera** 76.33 129 P P 06 36 18.1 -0.4
comp=Z,7.4nm,0.4s,baz=285,slow=3.7,SNR=14
URZ **Urewera** 76.33 129 P P 06 36 18.4 -0.1
KAHZ **Kahuranaki** 76.35 130 P P 06 36 19.8 +1.1
PXZ **Pawanui** 76.37 130 P P 06 36 19.6 +0.9
RAHZ **Arahi** 76.40 129 P P 06 36 19.8 +0.9
SNGZ **Shannon Statio** 76.58 129 P P 06 36 20.0 0.0
RAGZ **Rawiri** 76.60 129 P P 06 36 17.5 -2.7
MWZ **Matawai** 76.67 129 P P 06 36 17.0 -3.5
RUGZ **Raukumara Rang** 76.74 128 P P 06 36 19.3 -1.7

LBTB **Lobatse** 76.78 245 P P 06 36 23.3 +1.8
LBTB pmax pmax
comp=Z,9.0nm,0.7s
LBTB **Lobatse** 76.78 245 P P 06 36 23.3 +1.8
HAZ **Te Kaha** 76.80 128 P P 06 36 18.1 -3.1
TWGZ **Tauwhareparae** 77.00 128 P P 06 36 22.8 +0.4
PUZ **Puketiti** 77.21 128 P P 06 36 23.3 -0.2
CNGZ **Carnagh Statio** 77.21 129 P P 06 36 24.9 +1.5
BOSA **Boshof** 77.30 241 P P 06 36 26.1 +1.7
comp=Z,19nm,0.8s,baz=88,slow=4.3,SNR=34
BOSA pP pP 06 37 05.4 +0.1
comp=Z,6.4nm,0.7s,baz=88,slow=1.6,SNR=3.5
BOSA LR LR 07 07 05.7
comp=Z,41nm,19.0s,baz=126,slow=33
BOSA **Boshof** 77.30 241 IAmb IAmb 06 36 26.8
comp=Z,18nm,0.8s
WMGZ **Waiomatatini S** 77.30 128 P P 06 36 22.0 -2.0
PRGR **Permogore** 77.34 336 *e*P P 06 36 21.0 -2.6
PRGR *e*SP sP 06 37 16.7 -5.8
PRGR *e*S S 06 45 54.0 -5.7
PRGR pmax pmax
comp=Z,56nm,1.3s
OBN **Obninsk** 78.71 328 ⇓*i*P P 06 36 32.0 +0.7
OBN 06 36 42.0
OBN *e*PP pP 06 37 09.9 -2.6
OBN *e*SP sP 06 37 27.6 -2.8
OBN *i*S S 06 46 11.2 -3.4
OBN *e*SS pS 06 47 11.0 +6.1
OBN *e*SS SS 06 51 18.1 -4.6
OBN *e*SSS SSS 06 54 47.2
OBN pmax pmax
comp=Z,36nm,1.4s
KLMR **Klimovskoe** 79.57 334 *e*P P 06 36 35.4 -0.5
KLMR *e*PP pP 06 37 15.3 -1.8
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR **Klimovskoe** 79.57 334 *e*P P 06 36 35.4 -0.5
KLMR AMP 06 36 48.6
comp=Z,16nm,1.3s
KLMR *e*pP pP 06 37 15.3 -1.8
KLMR *e*sP sP 06 37 28.4 -6.5
TIRR **Tirgusor** 80.55 316 ⇑P P 06 36 41.9 +0.5
TIRR **Tirgusor** 80.55 316 ⇑P P 06 36 41.9 +0.5
TIRR **Tirgusor** 80.55 316 IAmb IAmb 06 36 42.6
comp=Z,27nm,0.8s
VNDA **Vanda** 80.92 169 P P 06 36 44.1 +1.3
comp=Z,1.0nm,0.4s,baz=326,slow=4.3,SNR=9.6
VNDA **Vanda** 80.92 169 pP 06 37 24.4 0.0
SUR **Sutherland** 81.33 238 LR LR 07 08 11.3
comp=Z,47nm,19.3s,baz=152,slow=32
IDI **Anoyia** 81.38 306 ⇑P P 06 36 46.9 +0.7
SORM **Soroca** 81.45 319 ⇑P P 06 36 46.3 +0.1
SORM **Soroca** 81.45 319 ⇑P P 06 36 46.3 +0.1
AKASG **Malin Array Be** 81.54 322 P P 06 36 45.7 -0.9
comp=Z,1.5nm,0.4s,baz=88,slow=5.3,SNR=17
AKASG PP PP 06 39 52.7 -2.6
comp=Z,0.6nm,0.5s,baz=91,slow=6.8,SNR=5.2
AKASG S S 06 46 40.6 -3.8
comp=Z,0.2nm,0.4s,baz=95,slow=9.8,SNR=4.2
AKASG **Malin Array Be** 81.54 322 *i*P P 06 36 46.4 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB **Malin Array Si** 81.54 322 *ce*P P 06 36 45.6 -1.0
VRI **Vrincioaia** 82.02 317 ⇑P P 06 36 50.2 +1.0
VRI **Vrincioaia** 82.02 317 ⇑P P 06 36 50.2 +1.0
PLOR **Plostina** 82.07 317 ⇑P P 06 36 50.5 +1.0
PLOR **Plostina** 82.07 317 ⇑P P 06 36 50.5 +1.0
TESR **Tescani** 82.21 318 ⇑P P 06 36 50.9 +0.6
MLR **Muntele Rosu** 82.48 316 ⇑P P 06 36 52.6 +0.8
MLR **Muntele Rosu** 82.48 316 P P 06 36 51.8 0.0
MLR pmax pmax
comp=Z,24nm,1.0s
MLR **Muntele Rosu** 82.48 316 P P 06 36 51.8 0.0
MLR IAmb IAmb 06 36 54.1
comp=Z,24nm,1.0s
DOPR **Dopca** 82.96 317 ⇑P P 06 36 55.1 +1.0
VOIR 83.09 316 ⇑P P 06 36 55.6 +0.7
VOIR 83.09 316 ⇑P P 06 36 55.6 +0.7
BILL **Bilibino** 83.12 20 *d i*P P 06 36 54.2 -0.2
BILL *PP pP 06 37 35.0 -0.9
BILL *SP sP 06 37 58.0 +4.4
BILL *i*S S 06 46 57.3 -2.5
BILL *SS sS 06 48 13.0 +1.1
BILL pmax pmax
comp=Z,13nm,1.7s
BILL **Bilibino** 83.12 20 P P 06 36 54.7 +0.2
BURAR **Bucovina Array** 83.40 318 ⇑P P 06 36 57.5 +1.1
BURAR **Bucovina Array** 83.40 318 ⇑P P 06 36 57.5 +1.1
VTS **Vitosha** 83.87 313 ⇑P P 06 36 59.6 +0.6
VTS **Vitosha** 83.87 313 ⇑P P 06 36 59.6 +0.6
NACGM **Naroch** 84.01 326 *e*P P 06 36 51.2 -8.0
GZR **Gura Zlata** 84.65 316 ⇑P P 06 37 03.7 +0.9
GZR **Gura Zlata** 84.65 316 ⇑P P 06 37 03.7 +0.9
HERR **Herculane** 84.82 315 ⇑P P 06 37 04.4 +0.9
DRGR 84.93 317 ⇑P P 06 37 05.1 +1.0
DRGR 84.93 317 ⇑P P 06 37 05.1 +1.0
TRPA **Tarpa** 85.27 319 ⇑P P 06 37 06.7 +1.1
BZS **Buzias** 85.49 316 ⇑P P 06 37 07.7 +0.8
BZS **Buzias** 85.49 316 ⇑P P 06 37 07.7 +0.8
FINES **FINESS Array B** 85.91 332 P P 06 37 08.3 -0.2
comp=Z,1.5nm,0.4s,baz=101,slow=3.9,SNR=11
CRVS **Cervenica-Dubn** 86.09 319 *e*P P 06 37 11.5 +1.7
CRVS **Cervenica-Dubn** 86.09 319 *e*P P 06 37 11.5 +1.7
QSPA **South Pole Qui** 87.15 180 P P 06 37 16.3 +1.6
QSPA IAmb IAmb 06 38 17.9
comp=Z,32nm,1.6s
ARCES **ARCESS Array B** 88.02 340 P P 06 37 18.9 +0.3
comp=Z,11nm,1.0s,baz=99,slow=5.3,SNR=23
KOGS **Kog** 89.30 316 *i*P P 06 37 26.4 +1.3
CONA **Conrad Observa** 89.69 318 *e*P P 06 37 27.6 +0.7
comp=Z,4.1nm,1.0s
GOLS **Golise** 89.70 316 *i*P P 06 37 28.4 +1.4
ARSA **Arzberg** 89.86 317 *e*P P 06 37 28.7 +1.0
comp=Z,4.7nm,0.7s
SOKA **Soboth** 90.16 317 *e*P P 06 37 30.2 +1.0
comp=Z,9.5nm,0.9s
LJU **Ljubljana** 90.47 316 *i*P P 06 37 31.9 +1.4
OBKA **Obir** 90.48 316 *e*P P 06 37 31.8 +1.1
comp=Z,5.9nm,1.2s
SPIA **Saint Paul Isl** 90.95 33 P P 06 37 33.0 +0.6
baz=266
NIKH **Nikolski High** 91.52 37 P P 06 37 35.9 +0.6
baz=267
ABTA **Abfaltersbach** 91.89 317 *e*P P 06 37 37.8 +0.5
comp=Z,2.5nm,0.7s
WTTA **Wattenberg** 92.51 317 *e*P P 06 37 40.2 0.0
comp=Z,3.6nm,0.6s
WATA **Walderalm** 92.55 317 *e*P P 06 37 40.7 +0.4
comp=Z,1.8nm,0.4s
MOTA **Moosalm** 92.87 317 *e*P P 06 37 42.1 +0.3
comp=Z,7.6nm,1.2s
NOA **NORSAR Array B** 92.98 331 P P 06 37 42.0 +0.1
comp=Z,0.9nm,0.8s,baz=94,slow=4.4,SNR=2.6
NOA **NORSAR Array B** 92.98 331 P P 06 37 42.0 +0.1
RETA **Reutte** 93.11 317 *e*P P 06 37 43.4 +0.5
comp=Z,3.5nm,0.8s
FETA **Feichten** 93.12 317 *e*P P 06 37 43.7 +0.7
comp=Z,7.0nm,1.0s
DAVA **Damuels** 93.70 317 *e*P P 06 37 46.8 +1.1
comp=Z,5.1nm,0.8s
KONO **Kongsberg** 93.79 329 *ce*P P 06 37 46.9 +1.4
KONO pmax pmax
comp=Z,38nm,1.3s
GCSA **Galena City Sc** 97.14 25 P Pdif 06 38 01.4 +0.6
baz=279
K20K **Telida** 98.60 26 P Pdif 06 38 08.6 +1.2
baz=281
H21K **Melozitna Rive** 98.67 24 P Pdif 06 38 08.2 +0.6
baz=282
I21K **Tanana** 99.11 24 P **Pdif** 06 38 10.0 +0.5
baz=283
TOLK **Toolik Lake Re** 99.16 21 P **Pdif** 06 38 10.3 +0.6
baz=286
TORD **Torodi Ar. Bea** 100.97 283 P **Pdif** 06 38 19.5 +0.6
comp=Z,0.2nm,0.5s,baz=94,slow=6.1,SNR=1.7
TORD PP PP 06 42 33.7 +4.2
comp=Z,2.5nm,1.2s,baz=103,slow=8.1,SNR=5.5
TORD PKKPbc **PKKPbc** 06 54 30.4 +0.2
comp=Z,0.4nm,0.4s,baz=287,slow=4.6,SNR=7.4
GLI **Glacier Island** 102.38 28 P **Pdif** 06 38 25.0 +0.8
baz=287
M24K **Tolsona, Glenn** 102.43 27 P **Pdif** 06 38 25.6 +1.2
baz=288
EYAK **Cordova Ski Ar** 103.11 28 P **Pdif** 06 38 28.3 +0.9
baz=288
Q23K **Middleton Isla** 103.16 29 P **Pdif** 06 38 28.4 +0.8
baz=287
N25K **Chitina, Valde** 103.30 27 P **Pdif** 06 38 29.2 +0.9
baz=289
EGAK **Eagle** 103.60 23 P **Pdif** 06 38 30.1 +0.6
baz=293
SIT **Sitka** 109.45 29 P **PKiKP** 06 42 59.2 +1.2
baz=297
YKA **Yellowknife Ar** 114.45 18 PKP PKPdf 06 43 06.8 -0.6
comp=Z,0.5nm,0.9s,baz=296,slow=1.5,SNR=6.0
YKA PP **PP** 06 44 04.1 -1.7
comp=Z,0.5nm,0.9s,baz=316,slow=4.3,SNR=3.9
YKA SKP 06 46 25.7
comp=Z,0.6nm,0.8s,baz=346,slow=2.6,SNR=6.5
YKA PKKPbc **PKKPbc** 06 53 48.5 -1.0
comp=Z,0.3nm,0.9s,baz=154,slow=3.9,SNR=3.9
YKA SKKPbc SKKPbc 06 57 13.8 -5.9
comp=Z,0.1nm,0.7s,baz=133,slow=3.5,SNR=4.4
D03D **Eldon** 120.73 34 P **PKiKP** 06 43 20.6 +0.5
baz=304
B05A **Bryant** 120.86 33 P **PKiKP** 06 43 20.8 +0.5
baz=306
B08A **Colville Reser** 122.28 32 PKPdf **PKPdf** 06 43 22.5 -0.5
F05D **White Salmon** 122.59 35 P **PKiKP** 06 43 24.3 +0.5
baz=305
H04D **Lebanon** 122.60 37 P **PKiKP** 06 43 24.1 +0.2
baz=303
I03D **Drain, OR** 122.67 38 P **PKiKP** 06 43 24.6 +0.6
baz=302
K02D **Willamette Mer** 123.00 39 P **PKiKP** 06 43 24.9 +0.1
baz=301
G05D **Wamic, OR** 123.04 36 P **PKiKP** 06 43 24.9 +0.1
baz=305
I04A **Tendick Farm,** 123.19 38 P **PKiKP** 06 43 25.5 +0.4
baz=303
NEW **Newport** 123.48 31 P **PKiKP** 06 43 26.6 +1.0
baz=310
I05D **Terrebonne, OR** 123.54 36 P **PKiKP** 06 43 26.3 +0.5
baz=304
J04D **Umpqua Nationa** 123.68 38 P **PKiKP** 06 43 26.7 +0.3
baz=303
L04D **Klamath Falls** 124.11 39 P **PKiKP** 06 43 27.5 +0.3
baz=302
J05D **Fort Rock, OR** 124.19 37 P **PKiKP** 06 43 27.7 +0.4
baz=304
M02C **Callahan** 124.19 40 P **PKiKP** 06 43 27.9 +0.7
baz=301
K04D **Chiloquin, OR** 124.23 38 P **PKiKP** 06 43 27.7 +0.4
baz=303
M04C **Macdoel** 124.63 39 P **PKiKP** 06 43 28.6 +0.4
baz=302
O03E **Paynes Creek** 125.44 41 P **PKPdf** 06 43 29.1 -0.3
baz=302
PLID **Pearl Lake** 126.12 33 PKPdf **PKPdf** 06 43 30.3 -0.4
EGMT **Eagleton** 127.18 27 P **PKPdf** 06 43 32.7 +0.2
baz=318
SCHQ **Schefferville** 127.39 352 PKP **PKPdf** 06 43 32.5 -0.1
comp=Z,1.3nm,0.8s,baz=358,slow=2.9,SNR=7.7
HLID **Hailey** 127.98 33 P **PKiKP** 06 43 34.8 -0.1
baz=311
BOZ **Bozeman (W)** 128.06 30 P **PKiKP** 06 43 34.8 -0.1
baz=315
LHV **Little Huntoon** 128.69 41 **PKiKP** 06 43 36.0 -0.1
NVAR **Mina Array Bea** 128.73 41 PKP **PKiKP** 06 43 36.3 -0.2
comp=Z,1.3nm,0.6s,baz=264,slow=1.2,SNR=5.8
NVAR SKPbc SKPbc 06 46 39.0
comp=Z,0.5nm,0.4s,baz=313,slow=3.2,SNR=4.1
RLMT **Red Lodge** 129.56 29 P **PKiKP** 06 43 37.8 -0.2
baz=317
LAO **LASA Array** 129.75 25 P **PKiKP** 06 43 38.7 +0.5
baz=322
CWC **Cottonwood Cre** 129.96 43 P **PKiKP** 06 43 38.9 -0.2
baz=302
GRAC **Grapevine Rang** 130.14 42 P **PKiKP** 06 43 39.9 +0.7
baz=304
ULM **Lac du Bonnet** 130.28 15 PKP **PKPdf** 06 43 37.8 -0.4
comp=Z,2.7nm,0.8s,baz=330,slow=5.2,SNR=4.1
ULM SKPbc **SKPab** 06 46 43.6 -2.2
comp=Z,4.6nm,0.6s,baz=338,slow=2.5,SNR=7.2
ULM SKP 06 46 57.6
comp=Z,1.7nm,0.7s,baz=291,slow=1.6,SNR=3.4
R11A **Troy Canyon, C** 130.53 39 P **PKiKP** 06 43 40.5 +0.4
baz=306
MPMC **Manual Prospec** 130.56 43 P **PKiKP** 06 43 40.7 +0.4
baz=303
FURC **Furnace Creek,** 130.77 42 P **PKiKP** 06 43 40.9 +0.5
baz=304
EDW2 **Edwards Air Fo** 130.84 45 P **PKiKP** 06 43 41.0 +0.3
baz=301
PDAR **Pinedale Array** 131.12 31 PKP **PKPdf** 06 43 40.2 -0.1
comp=Z,0.4nm,0.5s,baz=351,slow=0.5,SNR=6.3
PDAR SKPbc **SKPbc** 06 46 47.8 -1.7
comp=Z,7.0nm,0.9s,baz=321,slow=1.9,SNR=30
GMRC **Granite Mounta** 132.51 43 P **PKPdf** 06 43 43.6 +0.5
baz=304
TPFO **Pinon Flats** 132.59 45 P **PKiKP** 06 43 44.0 -0.4
baz=302
K22A **Casper** 132.72 29 P **PKiKP** 06 43 44.1 -0.3
baz=319
RSSD **Black Hills** 132.72 26 PKIKP **PKPdf** 06 43 42.9 -0.4
RSSD **Black Hills** 132.72 26 PKPdf **PKPdf** 06 43 42.9 -0.4
RSSD **Black Hills** 132.72 26 P **PKiKP** 06 43 44.0 -0.5
baz=323
O20A **White River Ci** 133.69 33 P **PKiKP** 06 43 46.2 -0.3
baz=316
PDMCI **Parker Dam,Lak** 133.82 43 P **PKiKP** 06 43 46.1 -0.5
baz=305
GLA **Glamis** 134.04 45 P **PKiKP** 06 43 47.3 +0.1
baz=303
N23A **Red Feather La** 134.32 30 P **PKiKP** 06 43 47.4 -0.4
baz=319
ISCO **Idaho Springs** 135.31 31 P **PKiKP** 06 43 49.2 -0.8
baz=318
MVCO **Mesa Verde** 135.58 36 P **PKPdf** 06 43 49.6 +0.8
baz=313
PLCA **Paso Flores** 136.18 188 PKP **PKiKP** 06 43 50.6 -0.7
comp=Z,0.7nm,0.7s,baz=191,slow=4.1,SNR=5.0
PLCA SKPbc **SKPbc** 06 47 04.7 -1.5
comp=Z,4.0nm,0.9s,baz=124,slow=1.8,SNR=7.7
ANMO **Albuquerque** 138.33 36 *i* PKiKP **PKPdf** 06 43 53.7 -0.3
T35A **Sooner Cattle** 141.89 25 **PKPdf** 06 43 57.3 -2.8
MT01 **Popeta** 143.02 189 PKPbc 06 43 59.2 -0.2
TX31 **Lajitas Ar. Si** 143.88 40 PKPbc 06 44 02.5 +0.3
TX32 **Lajitas Array** 143.88 40 PKPdf **PKPdf** 06 44 03.2 -0.8
TXAR **Lajitas Array** 143.88 40 PKP PKPbc 06 44 02.7 +0.6
comp=Z,5.9nm,0.7s,baz=320,slow=0.6,SNR=73
TXAR SKP 06 47 22.2
comp=Z,1.8nm,0.8s,baz=11,slow=0.9,SNR=1.6
TXAR SKPbc **SKPbc** 06 47 27.2 0.0
comp=Z,8.0nm,0.8s,baz=279,slow=0.7,SNR=8.9
WCI **Wyandotte Cave** 143.88 12 PKiKP PKPbc 06 44 01.6 -0.1
WCI **Wyandotte Cave** 143.88 12 PKPdf PKPbc 06 44 01.6 -0.1
ABTX **Abilene, Hawle** 143.89 32 P **PKPdf** 06 44 04.1 +0.3
baz=321
VA03 **San Esteban** 143.98 190 PKPab 06 44 01.2 -0.5
W39A **Magazine** 144.48 23 P **PKPab** 06 44 03.4 0.0
baz=332
CBN **Corbin Frederi** 144.78 360 P **PKPab** 06 44 04.3 -0.1
baz=0.5
CPUP **Villa Florida** 144.97 213 PKPbc **PKPdf** 06 44 06.0 +0.1
comp=Z,5.5nm,0.9s,baz=123,slow=2.5,SNR=7.2
CPUP pPKPbc **pPKPdf** 06 44 47.0 -3.3
comp=Z,20nm,1.0s,baz=109,slow=3.4,SNR=7.9
CPUP SKP 06 47 24.6
comp=Z,2.2nm,0.7s,baz=356,slow=1.8,SNR=2.0
CPUP **Villa Florida** 144.97 213 **PKPdf** 06 44 07.0 +1.2
W41B **Gary Mavity, V** 145.08 21 P **PKPbc** 06 44 05.3 -0.1
baz=334
MIAR **Mount Ida** 145.13 23 P **PKPab** 06 44 06.0 +0.1
baz=332
BDFB **Brasilia** 145.39 237 PKPbc **PKPab** 06 44 07.5 0.0
comp=Z,5.2nm,0.5s,baz=94,slow=3.9,SNR=18
BDFB pPKPbc pPKPab 06 44 48.7 -1.8
comp=Z,5.3nm,0.4s,baz=132,slow=5.7,SNR=3.3
BDFB SKPbc **SKPbc** 06 47 30.6 -0.5
comp=Z,3.6nm,0.6s,baz=237,slow=6.6,SNR=4.2
JCT **Junction City** 145.43 35 P **PKPab** 06 44 07.1 0.0
baz=319
X40A **Basin Creek Fa** 145.47 22 P **PKPab** 06 44 06.9 -0.2
baz=333
WHTX **Lake Whitney,** 145.53 31 P **PKPbc** 06 44 07.1 +0.1
baz=324
WVT **Waverly** 145.54 15 PKP2 **PKPdf** 06 44 06.4 -0.1
WVT **Waverly** 145.54 15 PKPdf **PKPdf** 06 44 06.4 -0.1
WVT **Waverly** 145.54 15 P **PKPbc** 06 44 07.0 +0.1
baz=342
BLA **Blacksburg** 145.68 4 P **PKPbc** 06 44 07.3 0.0

baz=355
TZTN Tazewell 146.00 8 P PKPbc 06 44 08.0 -0.3
baz=350
T59A Double "B" Far 146.01 360 PKPab PKPbc 06 44 08.0 -0.3
435B Jarrell 146.42 32 P PKPbc 06 44 09.4 -0.3
baz=322
Z41A Richland Creek 146.57 23 P PKPbc 06 44 09.7 -0.4
baz=332
OXF Oxford 146.62 18 P PKPbc 06 44 09.7 -0.4
baz=338
NATX Nacogdoches 147.06 27 P PKPbc 06 44 11.2 -0.3
baz=328
833A Chaparral WMA, 147.26 37 P PKPbc 06 44 12.3 +0.2
baz=317
KMSC Kings Mountain 147.66 6 P PKPbc 06 44 13.0 0.0
baz=353
CNNC Cliffs of the 147.74 0 P PKPbc 06 44 13.5 +0.3
baz=360
HKT Hockley 147.99 31 PKIKP PKPdf 06 44 11.6 +0.9
HKT Hockley 147.99 31 PKPdf 06 44 11.6 +0.9
VBMS Vicksburg 148.36 21 P PKPbc 06 44 14.6 -0.3
baz=335
LRAL Lakeview Retre 148.69 15 P PKPbc 06 44 15.4 -0.4
baz=342
GOGA Godfrey 149.08 9 P PKPbc 06 44 16.4 -0.4
baz=349
TIGA Tifton 150.99 10 P PKPbc 06 44 21.4 0.0
baz=348
LPAZ La Paz 158.80 206 PKP PKPdf 06 44 27.0 -0.3
comp=Z,1.3nm,0.9s,baz=33,slow=8.1,SNR=4.3

IDC 29 06:25:16.4±3.7, 54°35'N×87°27'E, h0km, mb1 2.5/1, mb1mx2.4/56, mbtmp2.5/1, ML2.6/1, Error ellipse: s-maj=30.3km s-min=19.7km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**256**	*i*		06 34 50.0	
	baz=76,slow=328,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.49**	**256**	Pg	Pn	06 25 42.4	-2.0
	0.9nm,0.3s,baz=74,slow=16,SNR=6.6						
ZALV				Lg	Lg	06 26 04.2	
	1.6nm,0.3s,baz=71,slow=27,SNR=6.8						
MKAR	**Makanchi Array**	**8.20**	**205**	Pn	Pn	06 27 18.1	+1.5
	0.1nm,0.3s,baz=27,slow=14,SNR=5.0						
MKAR				Lg	Lg	06 29 36.4	
	0.0nm,0.3s,baz=25,slow=28,SNR=1.8						

IDC 29 06:28:30.1±4.3, 53°89N×88°20E, h0km, mb1 2.3/1, mb1mx2.3/54, mbtmp2.3/1, ML2.3/1, Error ellipse: s-maj=37.2km s-min=20.6km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**273**	*i*		06 41 50.0	
	baz=90,slow=331,SNR=1.6						
ZALV	**Zalesovo Beam**	**2.00**	**273**	Pg	Pn	06 29 05.8	+0.7
	0.9nm,0.3s,baz=88,slow=16,SNR=7.9						
ZALV				Lg	Lg	06 29 34.1	
	1.5nm,0.3s,baz=93,slow=25,SNR=12						
MKAR	**Makanchi Array**	**8.05**	**210**	Pn	Pn	06 30 29.5	+1.3
	0.0nm,0.3s,baz=28,slow=14,SNR=1.5						

CNRM ***29*** *06:33:05.4, 35°.48N×3°.85W, h23km, ml3.1*
SFS ***29*** *06:33:06.0, 35°.40N×3°.70W, h21km, ML2.6, ALBORAN SUR*
MDD ***29*** *06:33:06.3±0.4, 35°.48N×3°.76W, h22km±3km, mb_Lg2.4/17, Error ellipse: s-maj=4.1km s-min=2.4km az=162.0*
IGIL ***29*** *06:33:06.8, 35°.46N×3°.77W, h21km*

ISC 29 06:33:04.0±0.7, 35°50N±0°.02×3°79W±0°.02, h11km, n41, σ1s29/71, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.31**	**204**	P	**Pb**	**06 33 11.7**	**+0.2**
PALE				S	**Sg**	**06 33 15.8**	**+1.4**
PVLZ	**Peæn de**	**0.53**	**232**	P	**Pb**	**06 33 15.9**	**+0.5**
PVLZ				S	**Sg**	**06 33 21.9**	**+0.5**
EMEL	**Melilla**	**0.71**	**106**	Pg	**Pb**	**06 33 18.7**	**+0.4**
EMEL				Sg	**Sb**	**06 33 28.5**	**+0.4**
EALB	**Alboran**	**0.75**	**54**	Pg	Pn	**06 33 20.3**	**-0.3**
EALB				Sg	**Sb**	**06 33 30.4**	**+1.0**
EALB				*i* Vmb_Lg		06 33 34.7	
SMIR	**Smir Dam**	**1.31**	**278**	P	**Pn**	**06 33 26.8**	**-1.4**
SMIR				S	**Sb**	**06 33 43.9**	**-1.6**
TAF	**Taforalt**	**1.32**	**121**	P	**Pn**	**06 33 27.7**	**-0.7**
EMIJ	**Mijas**	**1.33**	**323**	Pn	**Pn**	**06 33 28.3**	**-0.2**
EMIJ				Sn	**Sb**	**06 33 45.0**	**-1.0**
EMIJ				*i* Vmb_Lg		06 33 52.9	
ECEU	**Ceuta**	**1.35**	**287**	Pn	**Pn**	**06 33 28.1**	**-0.7**
ECEU				Sg	**Sg**	**06 33 48.3**	**+0.7**
EMAL	**Malaga-Limoner**	**1.36**	**338**	P	**Pg**	**06 33 31.5**	**+1.4**
EMAL				S	**Sg**	**06 33 48.4**	**+0.6**
ELGU	**Los Guajares,**	**1.37**	**5**	Pn	**Pn**	**06 33 29.3**	**+0.2**
ELGU				Sn	**Sb**	**06 33 45.7**	**-1.5**
ELGU				*i* Vmb_Lg		06 33 51.5	
JBK	**JBK**	**1.54**	**139**	P	**Pn**	**06 33 30.6**	**-0.9**
JBK	**JBK**	**1.54**	**139**	P	**Pn**	**06 33 30.6**	**-0.9**
JBK				S	**Sn**	**06 33 50.8**	**-0.8**
EBER	**Berja**	**1.57**	**27**	Pn	**Pn**	**06 33 32.1**	**+0.1**
EBER				Sn	**Sn**	**06 33 50.3**	**-2.2**
EBER				*i* Vmb_Lg		06 33 54.8	
EGOR	**Sierra Gorda,**	**1.63**	**351**	Pn	**Pn**	**06 33 32.4**	**-0.3**
EGOR				Pg	**Pg**	**06 33 35.1**	**-0.1**
EGOR				Sn	**Sn**	**06 33 53.0**	**-0.7**
EGOR				*i* Vmb_Lg		06 34 01.0	
EQUE	**Quentar**	**1.72**	**9**	Pn	**Pb**	**06 33 36.0**	**+0.3**
EQUE				Sn	**Sn**	**06 33 54.4**	**-1.7**
EQUE				*i* Vmb_Lg		06 34 10.1	
SICH	**Sidi Chahed**	**1.88**	**223**	P	**Pn**	**06 33 37.1**	**+1.1**
SICH				S	**Sn**	**06 33 58.6**	**-1.1**
ENIJ	**Nijar**	**1.95**	**41**	Pn	**Pn**	**06 33 37.1**	**+0.1**
ENIJ				Sn	**Sn**	**06 33 59.0**	**-2.5**
ENIJ				*i* Vmb_Lg		06 34 01.9	
LCRM	**LCR**	**2.02**	**206**	P	**Pg**	**06 33 43.0**	**+0.3**
LCRM	**LCR**	**2.02**	**206**	P	**Pb**	**06 33 39.7**	**-1.0**
LCRM				S	**Sb**	**06 34 05.5**	**-0.4**
ESPR	**Espera**	**2.16**	**310**	Pn	**Pn**	**06 33 40.0**	**0.0**
ESPR				Sn	**Sn**	**06 34 04.6**	**-2.1**
ESPR				*i* Vmb_Lg		06 34 18.8	
IFR	**Ifrane**	**2.27**	**210**	P	**Pn**	**06 33 42.6**	**+1.0**
IFR				S	**Sn**	**06 34 08.4**	**-1.2**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pb**	**06 33 50.0**	**-2.1**
CZD	**Col de Zad**	**2.67**	**203**	P	**Pn**	**06 33 47.8**	**+0.6**
CZD				S	**Sn**	**06 34 18.1**	**-1.7**
EADA	**Adamuz**	**2.73**	**347**	Pn	**Pn**	**06 33 48.3**	**+0.4**
EADA				Pg	**Pb**	**06 33 54.2**	**+1.3**
EADA				Sn	**Sn**	**06 34 20.0**	**-1.0**
EADA				*i* Vmb_Lg		06 34 32.4	
MD31	**MD31**	**2.75**	**197**	P	**Pn**	**06 33 49.3**	**+1.2**
MDT	**Midelt**	**2.77**	**194**	P	**Pn**	**06 33 50.4**	**+2.0**
MDT	**Midelt**	**2.77**	**194**	P	**Pn**	**06 33 50.4**	**+2.0**
TDRA	**Tendrara**	**2.85**	**149**	P	**Pn**	**06 33 50.4**	**+0.7**
ECAB	**El Cabril**	**2.88**	**333**	Pn	**Pn**	**06 33 50.3**	**+0.4**
ECAB				Sn	**Sn**	**06 34 22.8**	**-1.8**
ECAB				*i* Vmb_Lg		06 34 34.9	
EZAR	**Zarzadilla de**	**2.91**	**35**	Pn	**Pn**	**06 33 50.8**	**+0.5**
EZAR				Sn	**Sn**	**06 34 22.8**	**-2.5**
EZAR				*i* Vmb_Lg		06 34 33.6	
EMIN	**Mina Concepcio**	**3.24**	**315**	Pn	**Pn**	**06 33 55.5**	**+0.7**
EMIN				Sn	**Sn**	**06 34 31.5**	**-1.8**
EMIN				*i* Vmb_Lg		06 34 42.1	
EGRO	**El Granado**	**3.60**	**305**	Pn	**Pn**	**06 33 59.9**	**+0.2**
EGRO				Sn	**Sn**	**06 34 40.7**	**-1.5**
EGRO				*i* Vmb_Lg		06 34 48.9	
ETOB	**Tobarra**	**3.61**	**29**	Pn	**Pn**	**06 33 60.0**	**0.0**
ETOB				Sn	**Sn**	**06 34 40.6**	**-2.0**
ETOB				*i* Vmb_Lg		06 34 49.5	
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**06 34 02.5**	**+1.5**
PVAQ	**Vaqueiros**	**3.69**	**302**	P	**Pn**	**06 34 02.5**	**+1.5**
PAB	**San Pablo**	**4.06**	**354**	Pn	**Pn**	**06 34 07.7**	**+1.6**
PAB				Sn	**Sn**	**06 34 52.1**	**-1.6**
PAB				*i* Vmb_Lg		06 35 22.7	
EBAD	**Badajoz**	**4.15**	**323**	Pn	**Pn**	**06 34 08.4**	**+1.1**
EBAD				Sn	**Sn**	**06 34 53.1**	**-2.6**
EBAD				*i* Vmb_Lg		06 35 02.5	
MORF	**Marmelete**	**4.32**	**296**	*eP*	**Pn**	**06 34 10.1**	**+0.5**
EVO	**Evora**	**4.54**	**313**	P	**Pn**	**06 34 15.6**	**+3.0**
EVO				S	**Sn**	**06 35 03.7**	**-1.6**
OUK	**Oukaimeden**	**5.48**	**220**	P	**Pn**	**06 34 25.8**	**-0.1**
CLL	**Collm**	**19.88**	**32**	*eP*	**Pn**	**06 37 38.0**	**+1.2**

TRN ***29*** *06:48:21.0, 17°.68N×61°.11W, h11km, MD3.8*
IDC ***29*** *06:48:28.9±8.5, 17°.51N×61°.47W, h96km±59km, mb2.9/3, mb1 3.4/4, mb1mx3.1/44, mbtmp3.3/4, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/10, Error ellipse: s-maj=65.0km s-min=54.9km az=114.0*

ISC 29 06:48:20.6±2.2, 17°.88N±0°.07×60°.95W±0°.08, h27km±14km, n25, σ1s41/43, mb3.1/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.82**	**255**	*eP*	**Pb**	**06 48 35.8**	**-0.4**
ANWB				*eS*	**Sb**	**06 48 46.9**	**-0.1**
ANBD	**Bethesda, Anti**	**1.13**	**223**	*eP*	**Pn**	**06 48 40.6**	**-0.1**
ANBD				*eS*	**Sn**	**06 48 55.7**	**+0.3**
ABD	**La Joyeuse, An**	**1.49**	**200**	*eP*	**Pn**	**06 48 45.9**	**+0.3**
ABD				*eS*	**Sn**	**06 49 04.1**	**-0.1**
H05N1	**Guadeloupe/Mar**	**1.56**	**184**	P	**Pn**	**06 48 45.9**	**-0.7**
	SNR=103						
H05N1				S	**Sn**	**06 49 05.7**	**-0.2**
MBFL	**Flemmings, Mon**	**1.65**	**227**	*eP*	**Pn**	**06 48 48.8**	**+1.0**
MBFL				*eS*	**Sn**	**06 49 07.8**	**-0.4**
CBE	**Ff, Capester**	**1.90**	**199**	*eP*	**Pn**	**06 48 52.9**	**+1.5**
CBE				*eS*	**Sn**	**06 49 14.7**	**+0.1**
MAGL	**Barre de l'ile**	**1.94**	**189**	*eP*	**Pn**	**06 48 53.2**	**+1.3**
MAGL				*eS*	**Sn**	**06 49 15.7**	**+0.2**
SEUS	**St. Eustatius**	**1.97**	**259**	*eP*	**Pb**	**06 48 54.9**	**-0.9**
SEUS				*eS*	**Sn**	**06 49 17.6**	**+1.5**
TBG	**Guadaloupe-3**	**2.12**	**198**	*eP*	**Pn**	**06 48 55.0**	**+0.6**
TBG				*eS*	**Sn**	**06 49 20.9**	**+1.1**
TDBA	**Terre de Bas,**	**2.12**	**198**	*eP*	**Pn**	**06 48 55.4**	**+1.0**
TDBA				*eS*	**Sn**	**06 49 21.2**	**+1.4**
MDVC	**Dominica, Viel**	**2.29**	**191**	*eP*	**Pn**	**06 48 58.5**	**+1.8**
MDVC				*eS*	**Sn**	**06 49 25.7**	**+1.7**
DSLB	**Salisbury**	**2.47**	**191**	*eP*	**Pn**	**06 49 00.8**	**+1.7**
DSLB				*eS*	**Sn**	**06 49 30.2**	**+1.8**
FDF	**Fort de France**	**3.13**	**183**	*eP*	**Pn**	**06 49 10.1**	**+1.8**
FDF				*eS*	**Sn**	**06 49 44.9**	**0.0**
BIM	**Bigot**	**3.34**	**182**	*eP*	**Pn**	**06 49 12.6**	**+1.4**
BIM				*eS*	**Sn**	**06 49 50.1**	**0.0**
MPOM	**Morne Pois Mar**	**3.42**	**178**	*eP*	**Pn**	**06 49 13.1**	**+0.9**
MPOM				*eS*	**Sn**	**06 49 52.3**	**+0.6**
H05S1	**Guadeloupe/Mar**	**3.44**	**178**	P	**Pn**	**06 49 13.5**	**+1.1**
H05S1				S	**Sn**	**06 49 51.7**	**-0.6**
	SNR=6.2						
CDVI	**St. Croix**	**3.63**	**269**	*eP*	**Pn**	**06 49 17.2**	**+2.1**
SLBI	**Saint Lucia, B**	**3.83**	**180**	*eP*	**Pn**	**06 49 19.5**	**+1.6**
SLBI				*eS*	**Sn**	**06 50 02.6**	**+0.5**
SJG	**San Juan**	**4.95**	**273**	P	**Pn**	**06 49 35.0**	**+1.8**
	4.7nm,0.3s,baz=359,slow=20,SNR=7.5						
SJG				S	**Sn**	**06 50 26.8**	**-2.9**
	1.3nm,0.3s,baz=199,slow=22,SNR=1.6						
SJG				LR	LR	06 51 43.8	
	comp=Z,125nm,18.8s,baz=79,slow=43						
AOPR	**Arecibo Observ**	**5.54**	**276**	*eP*	**Pn**	**06 49 43.7**	**+2.4**
AOPR	**Arecibo Observ**	**5.54**	**276**	*eS*	**Sn**	**06 50 45.4**	**+1.2**
TXAR	**Lajitas Array**	**40.56**	**294**	P	**P**	**06 55 55.6**	**-2.5**
	0.1nm,0.6s,baz=94,slow=8.2,SNR=1.3						
PDAR	**Pinedale Array**	**47.92**	**312**	P	**P**	**06 56 58.5**	**+1.4**
	0.6nm,0.9s,baz=115,slow=10.0,SNR=3.9						
YKA	**Yellowknife Ar**	**57.84**	**334**	P	**P**	**06 58 10.6**	**+1.0**
	0.1nm,0.5s,baz=106,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**164.96**	**245**	PKPab	**PKPab**	**07 09 16.7**	**-2.9**
	0.5nm,1.1s,baz=108,slow=6.0,SNR=2.6						

IDC 29 06:51:51.7±2.6, 53°68N×86°95E, h0km, mb1 2.8/2, mb1mx2.7/46, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=24.5km s-min=15.2km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**283**	*i*		07 00 50.0	
	baz=102,slow=339,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.29**	**283**	Pg	Pg	06 52 15.3	-1.2
	0.7nm,0.3s,baz=101,slow=17,SNR=15						
ZALV				Lg	Lg	06 52 33.2	
	0.8nm,0.3s,baz=105,slow=28,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.02**	**243**	Pn	Pn	06 53 23.5	+1.6
	0.0nm,0.3s,baz=57,slow=13,SNR=2.5						
KURBB				Lg	Lg	06 55 03.5	
	0.0nm,0.3s,baz=50,slow=26,SNR=2.3						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	06 53 43.6	+1.2
	0.1nm,0.3s,baz=25,slow=15,SNR=6.7						
MKAR				Lg	Lg	06 55 48.1	
	0.0nm,0.3s,baz=22,slow=32,SNR=1.9						

IDC 29 07:05:51.0±2.4, 53°64N×86°85E, h0km, mb1 2.8/2, mb1mx2.8/44, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=22.4km s-min=13.8km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**285**	*i*		07 15 00.0	
	baz=102,slow=340,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.25**	**285**	Pg	Pg	07 06 13.3	-1.5
	0.7nm,0.3s,baz=105,slow=17,SNR=15						
ZALV				Lg	Lg	07 06 30.9	
	1.4nm,0.3s,baz=108,slow=28,SNR=16						
KURBB	**Kurchatov Arra**	**5.95**	**243**	Pn	Pn	07 07 22.2	+2.0
	0.0nm,0.3s,baz=59,slow=14,SNR=5.7						
KURBB				Lg	Lg	07 08 59.5	
	baz=62,slow=32,SNR=0.8						
MKAR	**Makanchi Array**	**7.45**	**205**	Pn	Pn	07 07 41.7	+0.8
	0.1nm,0.3s,baz=28,slow=14,SNR=9.0						

DNK ***29*** *07:12:53.8±1.2, 60°.10N×62°.03W, h18km*
OTT ***29*** *07:13:14.6±0.4, 61°.16N×59°.46W, h18km, ML3.3/3, 292km east from Resolution Island, Nu LAlbertaRADOR Sea Seismic Zone.*

ISC 29 07:13:10.1±1.0, 61°13N±0°.07×59°.44W±0°.08, h10km, n9, σ2s96/13, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**4.98**	**306**	PN	**Pn**	**07 14 28.6**	**+3.8**
FRB				SN	**Sn**	**07 15 21.1**	**-1.2**
FRB				Trac		07 15 23.7	
	comp=Z,3.8nm,0.1s						
NRS	**Narsarsuaq**	**6.79**	**84**	*i* P	Pn	**07 14 50.1**	**+0.5**
SFJD	**Kangerlussuaq**	**7.04**	**29**	*i* P	**Pn**	**07 14 54.3**	**+1.2**
SFJD	**Kangerlussuaq**	**7.04**	**29**	PN	**Pn**	**07 14 55.0**	**+1.9**
SFJD				SN	**Sn**	**07 16 11.2**	**-1.9**
SFJD				Trac		07 16 12.1	
	comp=Z,13nm,2.5s						
SCHQ	**Schefferville**	**7.43**	**215**	PN	**Pn**	**07 15 01.9**	**+3.4**
SCHQ				SN	**Sn**	**07 16 20.1**	**-2.7**
SCHQ				Trac		07 16 23.6	
	comp=Z,16nm,0.8s						
DY2G	**Dye2**	**7.91**	**42**	*i* P	**Pn**	**07 15 06.5**	**+1.2**
ILULI	**Ilulissat**	**8.83**	**20**	PN	Pn	07 15 23.1	+5.5
ILULI				SN	**Sn**	**07 16 52.9**	**-4.1**
LG4Q	**La Grande 4**	**10.89**	**233**	PN	**Pn**	**07 15 46.7**	**+1.0**
LG4Q				SN	**Sn**	**07 17 42.6**	**-5.0**
LG4Q				Trac		07 17 45.2	
	comp=Z,0.7nm,0.2s						
ICESG	**Greenland Ices**	**11.48**	**38**	*i* P	**Pn**	**07 15 54.8**	**+0.5**

IDC 29 07:22:47.9±3.5, 53°44N×87°46E, h0km, mb1 2.3/1, mb1mx2.3/55, mbtmp2.3/1, ML2.5/1, Error ellipse: s-maj=29.3km s-min=14.3km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**289**	*i*		07 34 10.0	
	baz=103,slow=334,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.65**	**289**	Pg	Pn	07 23 17.7	-0.4
	1.3nm,0.3s,baz=108,slow=13,SNR=13						
ZALV				Lg	Lg	07 23 40.6	
	1.4nm,0.3s,baz=107,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**7.44**	**209**	Pn	Pn	07 24 39.6	+2.0
	0.1nm,0.3s,baz=22,slow=12,SNR=1.9						
MKAR				Sn	Sn	07 26 01.3	-1.4
	0.0nm,0.3s,baz=24,slow=32,SNR=1.8						
MKAR				Lg	Lg	07 26 43.0	
	0.0nm,0.3s,baz=20,slow=31,SNR=4.1						

IDC 29 07:23:16.4±1.5, 22°91N×100°32E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/51, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=34.3km s-min=21.3km az=91.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.61**	**196**	Pn	Pn	07 24 27.9	+0.5
	1.1nm,0.3s,baz=13,slow=12,SNR=1.6						
CMAR				Pg	Pg	07 24 42.2	-2.6
	2.9nm,0.3s,baz=6.6,slow=18,SNR=15						
CMAR				Lg	Lg	07 25 42.1	
	3.9nm,0.3s,baz=13,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**27.92**	**333**	P	P	07 29 08.5	+0.3
	0.3nm,0.5s,baz=141,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**54.00**	**139**	P	P	07 32 42.0	-0.5
	0.4nm,0.7s,baz=324,slow=8.0,SNR=5.9						
ASAR	**Alice Springs**	**56.65**	**143**	P	P	07 33 01.4	-0.2
	0.3nm,0.5s,baz=322,slow=6.9,SNR=7.4						

IDC ***29*** *07:23:40.5±0.7, 37°.35N×142°.09E, h0km, mb3.7/12, mb1 3.9/16, mb1mx3.8/52, mbtmp3.7/16, ML3.3/4, MS3.0/3, Ms1 3.0/3, ms1mx2.4/89, Error ellipse: s-maj=20.8km s-min=14.6km az=105.0*
NIED ***29*** *07:23:44.7, 37°.37N×142°.00E, h32km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.17; $M_{\theta\theta}$1.28; $M_{\phi\phi}$3.89; $M_{r\theta}$1.65; $M_{\theta\phi}$-2.15; $M_{r\phi}$1.97; Fault plane solution: $M_0$5.68000×10^{14} NP1: ϕ_s171.00000°, δ54.00000°, λ-64.00000°. NP2: ϕ_s312.00000°, δ43.00000°, λ-121.00000°.*
JMA ***29*** *07:23:44.7±0.2, 37°.37N×142°.00E, h32km±4km, M3.9*

ISC 29 07:23:42.5±1.9, 37°35N±0°.04×142°04E±0°.06, h14km±11km, n38, σ0s72/42, mb3.7/13, 4C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.93**	**272**	↑P	Pn	**07 24 01.2**	**+0.1**
JFK				S	**Sb**	**07 24 12.7**	**+0.1**
JMST	**Minamisoumatoc**	**0.99**	**293**	↑P	Pn	**07 24 02.0**	**0.0**
JMST				S	**Sb**	**07 24 14.0**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.02**	**257**	↑P	Pn	**07 24 02.4**	**0.0**
ONAJ				S	**Sb**	**07 24 15.0**	**-0.2**
JIKH	**Ishinomakikobu**	**1.06**	**335**	P	**Pg**	**07 24 03.0**	**0.0**
JIKH				S	**Sb**	**07 24 15.5**	**-1.0**
JMM	**Marumori**	**1.11**	**298**	↑P	**Pg**	**07 24 04.0**	**0.0**
JMM				*e*S	**Sb**	**07 24 17.6**	**-0.4**
JIO	**Ouri**	**1.23**	**334**	P	**Pb**	**07 24 05.6**	**0.0**
JIO				S	**Sb**	**07 24 19.9**	**-1.4**
JFT	**Otama**	**1.36**	**278**	P	**Pg**	**07 24 08.5**	**-0.2**
JFT				S	**Sb**	**07 24 25.1**	**0.0**
JOU	**Okura**	**1.49**	**314**	P	**Pb**	**07 24 10.1**	**+0.2**
JOU				S	**Sb**	**07 24 28.9**	**+0.2**
JMK	**Ichinoseki**	**1.73**	**338**	P	**Pb**	**07 24 13.2**	**-0.8**
JMK				*e*S	**Sn**	**07 24 33.7**	**-0.3**
JYS	**Shirataka**	**1.79**	**300**	P	**Pb**	**07 24 15.6**	**+0.5**
JYS				S	**Sb**	**07 24 37.7**	**+0.3**
JFY	**Yanaizu**	**1.86**	**273**	P	**Pb**	**07 24 15.9**	**-0.3**
JFY				*e*S	**Sb**	**07 24 38.7**	**-0.7**
JYK	**Kaneyama**	**2.05**	**320**	P	**Pb**	**07 24 18.4**	**-1.1**
MJAR	**Matsushiro Arr**	**3.17**	**256**	Pn	**Pn**	**07 24 31.9**	**-0.1**
	0.4nm,0.3s,baz=67,slow=6.8,SNR=4.7						
MJAR				LR	LR	07 26 08.0	
	comp=Z,268nm,18.4s,baz=91,slow=46						
JHJ	**Hachijo jima 2**	**4.60**	**204**	Pn	**Pn**	**07 24 53.0**	**+1.3**
	24nm,0.3s,baz=330,slow=22,SNR=6.9						
JHJ				Sn	**Sn**	**07 25 42.2**	**-2.8**
	24nm,0.3s,baz=66,slow=23,SNR=1.8						
ASAJ	**Asahikawa**	**6.78**	**3**	Pn	**Pn**	**07 25 21.4**	**-0.2**
	0.6nm,0.3s,baz=146,slow=8.8,SNR=1.6						
ASAJ				Sn	Sn	07 26 28.2	-10
	0.7nm,0.3s,baz=269,slow=31,SNR=1.2						
JNU	**Nakatsue**	**10.05**	**249**	Pn	**Pn**	**07 26 06.3**	**-0.2**
	0.2nm,0.3s,baz=162,slow=6.4,SNR=1.9						
KSRS	**Korea Array**	**11.23**	**275**	LR	LR	07 30 37.7	
	comp=Z,62nm,18.1s,baz=90,slow=37						
KLR	**Kul'dur**	**14.03**	**331**	LR	LR	07 32 29.1	
	comp=Z,47nm,19.0s,baz=142,slow=38						
YAK	**Yakutsk**	**25.88**	**347**	P	**P**	**07 29 13.5**	**-0.1**
	16nm,0.4s,baz=266,slow=20,SNR=7.3						
SEY	**Seymchan**	**26.39**	**11**	P	**P**	**07 29 18.7**	**+0.5**
	0.4nm,0.3s,baz=250,slow=15,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**27.89**	**122**	T	T	07 59 09.7	
	baz=314,slow=75,SNR=63						
H11N1	**WAKE ISLAND Hy**	**27.89**	**122**	T	T	07 59 15.5	
	baz=314,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**27.90**	**122**	T	T	07 59 11.1	
	baz=314,slow=75,SNR=51						
SONM	**Songino Array**	**28.03**	**303**	P	**P**	**07 29 33.7**	**+0.4**
	0.8nm,0.6s,baz=105,slow=9.4,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**28.62**	**124**	T	T	07 59 58.6	
	baz=316,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**28.62**	**124**	T	T	07 59 58.6	
	baz=316,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**28.63**	**124**	T	T	07 59 59.7	
	baz=316,slow=76,SNR=52						
ZALV	**Zalesovo Beam**	**42.07**	**312**	P	**P**	**07 31 33.9**	**+0.2**
	0.3nm,0.3s,baz=97,slow=6.0,SNR=2.0						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**07 31 53.3**	**+0.9**
	0.9nm,0.7s,baz=91,slow=8.3,SNR=12						
**IL

comp=N,9.4nm,0.4s
MEF Metsahovi 2.08 302 *e*PG Pb 07 26 25.8 -1.2
MEF *e*SG Sn 07 26 51.4 +0.3
MEF MSG 07 26 53.5
comp=Z,0.6nm,0.1s
NUR Nurmijrvi 2.14 311 *e*PG Pb 07 26 26.8 -1.2
NUR *e*SG Sn 07 26 52.9 +0.4
NUR MSG 07 26 53.9
comp=Z,0.9nm,0.1s
EE01 Perakula, Nova 2.21 273 *e*PB Pb 07 26 27.9 -1.3
EE01 *e*SG Sb 07 26 56.5 -0.7
RUFX Ruokolahti 2.34 12 *e*P Pn 07 26 28.7 +0.5
RUFX *e*PB Pb 07 26 29.7 -1.7
RUFX *e*SG Sb 07 27 00.1 -0.7
FIA0 FINESS Array S 2.47 339 *e*P Pn 07 26 30.1 +0.1
FIA0 *e*PB Pb 07 26 31.4 -2.3
FIA0 MSG 07 27 04.4
comp=Z,0.6nm,0.1s
FIA1 FINESS Array S 2.47 339 *e*PB Pn 07 26 31.4 +1.4
FIA1 MSG 07 27 04.4
comp=Z,1.0nm,0.1s
EE06 Soera, Palade, 2.62 268 *e*SB Sn 07 27 06.6 +2.1
RAF Rauma 3.60 304 *e*P Pn 07 26 45.7 +0.2

HEL 29 07:26:47.5±0.1, 61°56N×23°42E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.92**	**48**	*e*P	Pg	07 27 03.9	-1.1
KEF				*e*S	Sg	07 27 15.7	-1.1
RAF	**Rauma**	**0.97**	**237**	*e*P	Pg	07 27 05.0	-1.0
RAF				*e*SB	Sg	07 27 18.0	-0.5
RAF	**Rauma**	**0.97**	**237**	*e*S	Sg	07 27 17.9	-0.7
RAF				AML	AML	07 27 21.9	
	comp=N,8.8nm,0.7s						
RAF				AML	AML	07 27 22.3	
	comp=E,7.2nm,0.8s						
RAF				AML	AML	07 27 24.3	
	comp=Z,6.5nm,1.1s						
FIA0	**FINESS Array S**	**1.28**	**94**	*e*SB	Sg	07 27 28.5	0.0
FIA0				MSG		07 27 30.2	
	comp=Z,0.9nm,0.1s						
KAF	**Kangasniemi**	**1.47**	**67**	*e*P	Pn	07 27 13.8	-1.5
KAF				*e*S	Sg	07 27 33.1	-1.7
KAF				MSG		07 27 38.0	
	comp=Z,0.6nm,0.1s						
VAF	**Ylistaro**	**1.53**	**347**	*e*P	Pn	07 27 14.7	-1.3
VAF				*e*SB	Sg	07 27 34.8	-1.6
VAF				MSG		07 27 37.4	
	comp=Z,0.5nm,0.1s						
SUF	**Sumiainen**	**1.73**	**47**	*e*P	Pn	07 27 17.9	-0.9
SUF				*e*SG	Sn	07 27 40.5	-1.0
AAL	**Aland**	**2.18**	**232**	*e*SG	Sb	07 27 54.7	-0.5

IDC 29 07:33:18.6±2.0, 3°15N×125°14E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/46, mbtmp3.3/3, Error ellipse: s-maj=190.6km s-min=26.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.66**	**159**	P	P	07 38 41.2	0.0
	0.3nm,0.5s,baz=337,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.99**	**163**	P	P	07 39 11.5	+0.2
	0.2nm,0.5s,baz=346,slow=6.9,SNR=4.4						
MKAR	**Makanchi Array**	**57.14**	**326**	P	P	07 43 06.9	-0.2
	0.2nm,0.4s,baz=120,slow=8.3,SNR=5.2						

*TAP **29** 07:33:46.4, 24°.14N×122°.27E, h17km, ML3.1, D*
*JMA **29** 07:33:46.6±0.1, 24°.06N×122°.25E, h46km±4km, M2.8*
ISC 29 07:33:46.6±1.2, 24°.13N±0°.02×122°30E±0°.03, h22km±5km, n70, σ0°.49/133, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.57**	**304**	*e*P	**Pb**	**07 33 57.5**	**-0.6**
	baz=303						
EWUT				S	**Sb**	**07 34 06.1**	**+0.3**
	baz=303						
ENA	**Nanau**	**0.59**	**300**	P	**Pb**	**07 33 57.7**	**-0.7**
	baz=300						
TWC	**Suao**	**0.63**	**319**	P	**Pb**	**07 33 58.6**	**-0.5**
	baz=321						
TWC				S	**Sb**	**07 34 06.7**	**-0.8**
	baz=321						
TWD	**Chiawan**	**0.65**	**266**	*e*P	**Pb**	**07 33 59.1**	**-0.2**
	baz=264						
TWD				*e*S	**Sb**	**07 34 08.9**	**+1.1**
	baz=264						
NACB	**Ninganchiao**	**0.65**	**274**	P	**Pb**	**07 33 59.0**	**-0.2**
	baz=272						
NACB				*e*S	**Sn**	**07 34 09.5**	**-0.5**
	baz=272						
JYNG	**Yonagunijimaku**	**0.67**	**61**	P	**Pn**	**07 34 00.9**	**+0.1**
JYNG				*e*S	**Sn**	**07 34 10.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.73**	**63**	P	**Pn**	**07 34 01.7**	**+0.1**
YOJ				S	**Sn**	**07 34 12.1**	**0.0**
YOJ	**Yonaguni jima**	**0.73**	**63**	*e*P	**Pn**	**07 34 01.3**	**-0.4**
	baz=64						
YOJ				*e*S	**Sn**	**07 34 11.9**	**-0.2**
	baz=64						
NDS	**Dongshan**	**0.73**	**314**	P	**Pb**	**07 34 00.5**	**-0.2**
	baz=314						
NDS				S	**Sb**	**07 34 10.3**	**-0.1**
	baz=314						
ETLH	**Xiulin Townshi**	**0.75**	**276**	*e*P	**Pb**	**07 34 00.5**	**-0.5**
	baz=274						
ETLH				*e*S	**Sb**	**07 34 10.8**	**-0.1**
	baz=274						
EGS		**0.79**	**335**	*e*P	**Pn**	**07 34 02.3**	**-0.2**
	baz=337						
EGS				*e*S	**Sb**	**07 34 12.7**	**+0.8**
	baz=337						
LATG	**Datong**	**0.81**	**300**	P	**Pb**	**07 34 02.1**	**0.0**
	baz=299						
LATG				*e*S	**Sn**	**07 34 15.1**	**+0.7**
	baz=299						
TWE	**Neicheng**	**0.83**	**316**	*e*P	**Pn**	**07 34 02.8**	**-0.1**
	baz=317						
TWE				*e*S	**Sb**	**07 34 13.2**	**+0.2**
	baz=317						
NTC	**Toucheng**	**0.84**	**329**	P	**Pn**	**07 34 02.9**	**-0.3**
	baz=330						
NTC				S	**Sb**	**07 34 14.1**	**+0.7**
	baz=330						
ENTT	**Nioudou**	**0.84**	**307**	*e*P	**Pb**	**07 34 02.6**	**+0.1**
	baz=307						
ENTT				*e*S	**Sb**	**07 34 13.4**	**0.0**
	baz=307						
ESL	**Shilin**	**0.85**	**249**	*e*P	**Pb**	**07 34 01.3**	**-1.4**
	baz=246						
ESL				*e*S	**Sb**	**07 34 12.9**	**-0.8**
	baz=246						
NDT	**Datong Townshi**	**0.86**	**304**	P	**Pb**	**07 34 03.1**	**+0.2**
	baz=303						
NDT				S	**Sb**	**07 34 14.1**	**+0.1**
	baz=303						
NNSB	**Datong**	**0.89**	**290**	P	**Pb**	**07 34 03.2**	**-0.3**
	baz=289						
NNSB				*e*S	**Sn**	**07 34 15.8**	**-0.5**
	baz=289						
NNS	**Nan Shan**	**0.90**	**290**	*e*P	**Pb**	**07 34 03.4**	**-0.2**
	baz=289						
NNS				*e*S	**Sn**	**07 34 17.1**	**+0.6**
	baz=289						
FUSB	**Fushanzhiwuyua**	**0.90**	**314**	P	**Pb**	**07 34 03.9**	**+0.3**
	baz=314						
FUSB				S	**Sb**	**07 34 15.2**	**-0.1**
	baz=314						
EGFH	**Guangfu**	**0.92**	**240**	*e*P	**Pn**	**07 34 04.5**	**+0.2**
	baz=238						
EGFH				*e*S	**Sn**	**07 34 17.3**	**+0.4**
	baz=238						
TWB1	**Santiao Chiao**	**0.92**	**342**	P	**Pb**	**07 34 03.6**	**-0.3**
	baz=344						
TWB1				*e*S	**Sb**	**07 34 16.0**	**+0.3**
	baz=344						
TIPB	**Shuangxi**	**0.94**	**333**	P	**Pn**	**07 34 04.8**	**+0.2**
	baz=334						
TIPB				S	**Sb**	**07 34 16.9**	**+0.5**
	baz=334						
WHF	**Hehuan Shan**	**0.95**	**271**	*e*P	**Pb**	**07 34 03.7**	**-0.9**
	baz=269						
WHF				*e*S	**Sn**	**07 34 17.9**	**-0.2**
	baz=269						
FUSS	**Fushou**	**0.97**	**277**	*e*P	**Pb**	**07 34 03.6**	**-1.3**
	baz=276						
FUSS				*e*S	**Sb**	**07 34 18.1**	**+0.6**
	baz=276						
NWLT	**Wulai**	**0.97**	**312**	P	**Pn**	**07 34 05.1**	**+0.1**
	baz=312						
NWLT				S	**Sn**	**07 34 18.1**	**-0.2**
	baz=312						
YHNB	**Yeheng**	**1.00**	**303**	P	**Pb**	**07 34 05.2**	**-0.1**
	baz=302						
YHNB				S	**Sn**	**07 34 19.9**	**+1.0**
	baz=302						
HGSD	**Ruisui**	**1.02**	**232**	*e*P	**Pn**	**07 34 05.4**	**-0.2**
	baz=229						
HGSD				*e*S	**Sn**	**07 34 20.0**	**+0.7**
	baz=229						
CHGB	**Renai**	**1.03**	**267**	*e*P	**Pb**	**07 34 04.9**	**-1.0**
	baz=265						
CHGB				*e*S	**Sb**	**07 34 19.4**	**+0.3**
	baz=265						
TWT	**Tachien**	**1.03**	**277**	*e*P	**Pb**	**07 34 06.1**	**+0.2**
	baz=275						
TWT				*e*S	**Sn**	**07 34 20.3**	**+0.4**
	baz=275						
SXI1	**Grass Mountain**	**1.04**	**338**	P	**Pn**	**07 34 05.8**	**-0.2**
	baz=339						
SXI1				S	**Sn**	**07 34 19.9**	**+0.1**
	baz=339						
OWD	**Renai**	**1.04**	**261**	*e*P	**Pn**	**07 34 05.1**	**-1.0**
	baz=259						
OWD				*e*S	**Sn**	**07 34 19.9**	**-0.1**
	baz=259						
TDCB	**Techi**	**1.05**	**277**	*e*P	**Pn**	**07 34 05.3**	**-0.9**
	baz=276						
TDCB				*e*S	**Sn**	**07 34 20.4**	**+0.2**
	baz=276						
NWF	**Wu-fen Shan**	**1.05**	**333**	*e*P	**Pb**	**07 34 06.7**	**+0.5**
	baz=334						
NWF				*e*S	**Sn**	**07 34 20.0**	**-0.2**
	baz=334						
TWA	**Mucha**	**1.07**	**323**	*e*P	**Pb**	**07 34 06.9**	**+0.5**
	baz=323						
TWA				*e*S	**Sn**	**07 34 20.7**	**+0.1**
	baz=323						
EHY	**Hungye**	**1.09**	**236**	*e*P	**Pn**	**07 34 06.5**	**-0.1**
	baz=233						
EHY				*e*S	**Sn**	**07 34 21.0**	**0.0**
	baz=233						
WUSB	**Renai**	**1.09**	**263**	*e*P	**Pn**	**07 34 05.8**	**-0.9**
	baz=261						
WUSB				*e*S	**Sb**	**07 34 20.7**	**0.0**
	baz=261						
NHDH	**Xindian Distri**	**1.09**	**320**	*e*P	**Pn**	**07 34 06.3**	**-0.3**
	baz=320						
NHDH				*e*S	**Sn**	**07 34 21.2**	**+0.2**
	baz=320						
VWDT	**VWDT**	**1.12**	**251**	*e*P	**Pn**	**07 34 06.3**	**-0.7**
	baz=249						
VWDT				*e*S	**Sn**	**07 34 21.9**	**0.0**
	baz=249						
YULB	**Yu-li**	**1.18**	**232**	*e*P	**Pn**	**07 34 07.9**	**+0.1**
	baz=229						
YULB				*e*S	**Sn**	**07 34 23.4**	**+0.3**
	baz=229						
EYUL	**Yuli**	**1.19**	**229**	*e*P	**Pn**	**07 34 08.0**	**+0.1**
	baz=227						
EYUL				*e*S	**Sn**	**07 34 22.4**	**-1.0**
	baz=227						
NFF	**Wufeng Townshi**	**1.19**	**295**	*e*P	**Pb**	**07 34 08.7**	**+0.2**
	baz=294						
NFF				*e*S	**Sb**	**07 34 24.2**	**+0.7**
	baz=294						
YM01	**YM01**	**1.21**	**327**	*e*P	**Pn**	**07 34 08.5**	**+0.2**
	baz=327						
YM01				*e*S	**Sb**	**07 34 24.4**	**+0.3**
	baz=327						
WHP	**Taichung City**	**1.25**	**277**	*e*P	**Pn**	**07 34 09.0**	**+0.2**
	baz=276						
WHP				*e*S	**Sn**	**07 34 24.9**	**-0.1**
	baz=276						
TWS1	**Kuangyinshan**	**1.26**	**321**	*e*P	**Pn**	**07 34 08.6**	**-0.3**
	baz=321						
TWS1				*e*S	**Sn**	**07 34 24.6**	**-0.6**
	baz=321						
WCS	**Beigang Elemen**	**1.27**	**267**	*e*P	**Pn**	**07 34 09.1**	**0.0**
	baz=265						
WCS				*e*S	**Sb**	**07 34 25.8**	**0.0**
	baz=265						
SSLB	**Suanglung**	**1.28**	**255**	*e*P	**Pb**	**07 34 09.8**	**-0.2**
	baz=253						
SSLB				*e*S	**Sb**	**07 34 26.3**	**+0.3**
	baz=253						
LIOB	**Emei**	**1.28**	**294**	*e*P	**Pb**	**07 34 10.4**	**+0.4**
	baz=293						
LIOB				*e*S	**Sb**	**07 34 26.1**	**0.0**
	baz=293						
NSTT	**Nanjuang**	**1.29**	**293**	*e*P	**Pb**	**07 34 10.3**	**+0.2**
	baz=292						
NSTT				*e*S	**Sn**	**07 34 26.0**	**+0.1**
	baz=292						
NTST	**Danshui**	**1.29**	**323**	*e*P	**Pn**	**07 34 09.1**	**-0.2**
	baz=323						
NTST				*e*S	**Sn**	**07 34 25.5**	**-0.5**
	baz=323						
SMLT	**Sun Moon Lake**	**1.30**	**260**	*e*P	**Pn**	**07 34 09.3**	**-0.3**
	baz=258						
FULB	**Fuli**	**1.31**	**225**	*e*P	**Pn**	**07 34 09.8**	**+0.2**
	baz=223						
FULB				*e*S	**Sb**	**07 34 27.1**	**+0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.32**	**81**	P	**Pn**	**07 34 10.0**	**+0.2**
TYC	**Yuchr**	**1.34**	**261**	*e*P	**Pn**	**07 34 09.9**	**-0.2**
	baz=259						
TYC				*e*S	**Sn**	**07 34 27.3**	**+0.1**
	baz=259						
HATJ	**Hateruma jima**	**1.38**	**93**	P	**Pn**	**07 34 10.3**	**-0.2**
YUS	**Yu-Shan**	**1.39**	**243**	*e*P	**Pn**	**07 34 10.6**	**-0.6**
	baz=241						
YUS				*e*S	**Sn**	**07 34 28.5**	**-0.6**
	baz=241						
TWQ1	**Liyutan**	**1.41**	**279**	*e*P	**Pn**	**07 34 10.8**	**-0.2**
	baz=278						
TWQ1				*e*S	**Sn**	**07 34 29.2**	**+0.2**
	baz=278						
EDH	**Donghe**	**1.47**	**219**	*e*P	**Pn**	**07 34 11.1**	**-0.7**
	baz=217						
EDH				*e*S	**Sn**	**07 34 30.8**	**+0.4**
	baz=217						
ALS	**Alishan**	**1.50**	**246**	*e*P	**Pn**	**07 34 12.6**	**+0.1**
	baz=244						
ALS				*e*S	**Sn**	**07 34 31.4**	**-0.2**
	baz=244						
PCYT	**Pengchaiyu**	**1.51**	**352**	*e*P	**Pn**	**07 34 12.2**	**-0.2**
	baz=353						
PCYT				*e*S	**Sn**	**07 34 31.0**	**-0.5**
	baz=353						
JKRS	**Kuro-shima**	**1.56**	**86**	P	**Pn**	**07 34 13.1**	**0.0**
CHN5	**Tsauling**	**1.58**	**251**	*e*P	**Pn**	**07 34 13.7**	**+0.3**
	baz=249						
CHN5				*e*S	**Sn**	**07 34 33.7**	**+0.6**
	baz=249						
WDLH	**Douliu**	**1.67**	**255**	*e*S	**Sn**	**07 34 36.4**	**+1.1**
	baz=254						
STYH	**Taoyuan**	**1.69**	**236**	*e*P	**Pn**	**07 34 15.3**	**+0.4**
	baz=234						
STYH				*e*S	**Sn**	**07 34 36.5**	**+0.7**
	baz=234						
JIJ	**Ishigaki jima**	**1.70**	**82**	P	**Pn**	**07 34 14.7**	**-0.3**
TPUB	**Ta-pu**	**1.74**	**242**	*e*P	**Pn**	**07 34 15.9**	**+0.3**
	baz=240						
TPUB				*e*S	**Sn**	**07 34 37.6**	**+0.5**
	baz=240						
CHN4	**Tsaushan**	**1.75**	**244**	*e*P	**Pn**	**07 34 16.5**	**+0.8**
	baz=242						
CHN4				*e*S	**Sn**	**07 34 37.4**	**+0.2**
	baz=242						
CHN1	**Nanshi**	**1.88**	**240**	*e*P	**Pn**	**07 34 18.1**	**+0.6**
	baz=239						
CHN1				*e*S	**Sn**	**07 34 41.1**	**+0.6**
	baz=239						
TSMG	**Majia**	**2.08**	**227**	*e*P	**Pn**	**07 34 20.9**	**+0.7**
	baz=226						
TSMG				*e*S	**Sn**	**07 34 46.0**	**+0.6**
	baz=226						
MASBT	**Mashibuluo**	**2.15**	**226**	*e*P	**Pn**	**07 34 21.9**	**+0.7**
	baz=224						
MASBT				*e*S	**Sn**	**07 34 48.4**	**+1.2**
	baz=224						

*IDC **29** 07:34:27.4±0.9, 45°.56N×142°.71E, h304km±27km, mb2.9/2, mb1 2.9/4, mb1mx2.6/50, mbtmp3.5/4, Error ellipse: s-maj=63.3km s-min=21.2km az=0.0*
*JMA **29** 07:34:27.1±0.3, 45°.53N×142°.71E, h309km±3km, M2.7*
ISC 29 07:34:27.0±1.1, 45°.5N±0°.1×142°.76E±0°.10, h310km±9km, n19, σ1°.17/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.62**	**258**	P	**Pn**	**07 35 07.3**	**+0.2**
JWK2				*e*S	**S**	**07 35 38.0**	**-1.0**
JRR	**Rishiri**	**1.07**	**253**	P	**Pn**	**07 35 08.9**	**+0.1**
JRBN	**Rebuntou**	**1.19**	**269**	P	**Pn**	**07 35 08.8**	**-0.6**
JSS	**Shosan**	**1.23**	**212**	P	**Pn**	**07 35 10.4**	**+0.7**
ASAJ	**Asahikawa**	**1.34**	**185**	P	**Pn**	**07 35 10.9**	**+0.6**
	1.8nm,0.3s,baz=0.0,slow=2.0,SNR=6.7						
ASAJ				S	**S**	**07 35 45.3**	**+0.5**
	0.8nm,0.3s,baz=78,slow=31,SNR=1.4						
JYG	**Yagishiri**	**1.40**	**223**	P	**Pn**	**07 35 11.1**	**+0.5**
JKK2	**Kamakawa 2**	**1.58**	**180**	P	**Pn**	**07 35 12.8**	**+1.0**
JTKR	**Abashiri--Toko**	**1.69**	**151**	P	**Pn**	**07 35 13.5**	**+1.0**
JTKR				*e*S	**S**	**07 35 49.7**	**+0.9**
JRA	**Rausu**	**2.27**	**131**	P	**Pn**	**07 35 18.3**	**+1.5**
JAR	**Ashorobuto**	**2.27**	**161**	P	**Pn**	**07 35 18.1**	**+1.1**
JAR				*e*S	**S**	**07 35 58.0**	**+1.2**
JAK	**Akkeshi**	**2.82**	**150**	P	**Pn**	**07 35 22.1**	**+0.3**
JAK				*e*S	**S**	**07 36 04.5**	**-1.1**
JCH	**Churui**	**2.87**	**171**	P	**Pn**	**07 35 22.2**	**-0.1**
JCH				*e*S	**S**	**07 36 03.7**	**-2.8**
NEM2	**Nemuro 2**	**2.99**	**133**	P	**Pn**	**07 35 23.8**	**+0.4**
NEM2				*e*S	**S**	**07 36 05.5**	**-2.9**
JNBK	**Urakawa-nobuka**	**3.17**	**180**	P	**Pn**	**07 35 26.5**	**+1.3**
JNBK				*e*S	**S**	**07 36 11.5**	**-0.3**
JKB	**Kayabe**	**3.78**	**200**	P	**Pn**	**07 35 31.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**7.76**	**265**	P	**Pn**	**07 36 18.3**	**+0.6**
	baz=94,slow=12,SNR=2.0						
KLR	**Kul'dur**	**9.38**	**301**	P	**Pn**	**07 36 24.1**	**-1.0**
	0.2nm,0.3s,baz=118,slow=7.1,SNR=5.5						
SONM	**Songino Array**	**24.94**	**289**	P	**P**	**07 39 22.9**	**+0.2**
	0.6nm,0.5s,baz=84,slow=8.4,SNR=7.3						
YKA	**Yellowknife Ar**	**56.11**	**33**	P	**P**	**07 43 34.5**	**+0.4**
	0.3nm,0.6s,baz=307,slow=7.0,SNR=11						

*IDC **29** 07:46:33.8±3.4, 53°.57N×87°.80E, h0km, mb1 3.2/1, mb1mx2.9/39, mbtmp3.2/1, ML3.2/1, Error ellipse: s-maj=30.0km s-min=15.4km az=60.0*
*NNC **29** 07:46:34.8±1.4, 53°.52N×87°.72E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=12.5km s-min=6.3km az=71.0, Suspected Mining explosion.*
ISC 29 07:46:35.0±3.8, 53°.6N±0°.1×87°.7E±0°.2, h0km, n7, σ0°.70/10, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**284**	*i*		07 59 00.3	
	baz=97,slow=331,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.76**	**284**	⇓Pn	**Pn**	**07 47 06.4**	**-0.3**
	0.7nm,0.5s						
ZAA0				⇑Sn	**Sb**	**07 47 31.3**	**+0.4**
	2.6nm,0.4s						
ZALV	**Zalesovo Beam**	**1.76**	**284**	Pg	**Pn**	**07 47 06.7**	**-0.1**
	3.2nm,0.3s,baz=102,slow=15,SNR=32						
ZALV				Lg	Lg	07 47 31.4	
	2.2nm,0.3s,baz=73,slow=15,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.38**	**246**	⇑Pn	**Pn**	**07 48 10.6**	**+0.4**
	2.2nm,0.3s						
KURBB				⇓Sn	**Sn**	**07 49 23.6**	**0.0**
	4.0nm,0.5s						
KURBB				⇓Lg	Lg	07 49 56.1	
	4.6nm,0.6s						
MK31	**Makanchi Array**	**7.62**	**209**	⇓Pn	**Pn**	**07 48 27.5**	**+0.3**
	0.2nm,0.4s,baz=30,slow=13,SNR=16						
MK31				⇓Sn	**Sn**	**07 49 53.1**	**-1.1**
	0.3nm,0.5s,baz=31,slow=25,SNR=4.0						
MK31				⇑Lg	Lg	07 50 36.5	
	2.7nm,1.0s,baz=31,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**7.62**	**209**	Pn	**Pn**	**07 48 27.9**	**+0.7**
	0.4nm,0.3s,baz=31,slow=14,SNR=21						
MKAR				Sn	**Sn**	**07 49 53.1**	**-1.1**
	0.2nm,0.3s,baz=24,slow=24,SNR=5.5						
MKAR				Lg	Lg	07 50 32.6	
	baz=30,slow=27,SNR=2.2						
MAKZ	**Makanchi**	**7.70**	**211**	⇓Sn	**Sn**	**07 49 56.2**	**+0.1**
	0.8nm,0.6s						
MAKZ				⇑Lg	Lg	07 50 38.5	
	1.9nm,0.9s						

*KRNET **29** 07:48:41.1±0.1, 39°.29N×72°.34E, h19km, mb2.9*
*SOME **29** 07:48:43.0, 39°.68N×71°.92E, h15km*
*NNC **29** 07:48:46.6±4.0, 39°.71N×72°.32E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=30.3km s-min=16.5km az=179.0*
ISC 29 07:48:44.0±1.6, 39°.49N±0°.09×72°.28E±0°.04, h10km, n24, σ2°.44/41, 13C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.37**	**268**	⇑*i*P	**Pg**	**07 48 50.3**	**-1.1**
	baz=95						
DRK				⇑*i*S	**Sg**	**07 48 56.9**	**+0.6**
	baz=95						
OHH	**Osh**	**1.10**	**21**	⇑*i*P	**Pn**	**07 49 04.7**	**-0.9**
	baz=15						
OHH				⇑*i*S	**Sb**	**07 49 21.8**	**+2.2**
	baz=15						
BTK	**Batken**	**1.26**	**297**	⇑*i*P	**Pn**	**07 49 06.9**	**-0.8**
	baz=3.0						
BTK				⇑*i*S	**Sn**	**07 49 25.8**	**+1.1**
	baz=3.0						
TRKS	**Terek-Say**	**2.21**	**337**	⇑*i*P	**Pn**	**07 49 21.5**	**+0.6**
	baz=38						
TRKS				⇑*i*S	**Sn**	**07 49 51.0**	**+2.6**
	baz=38						
ARK	**Arkit**	**2.31**	**354**	⇑*i*P	**Pn**	**07 49 23.9**	**+1.6**
	baz=54						
ARK				⇑*i*S	**Sn**	**07 49 55.3**	**+4.4**
	baz=54						
ARLS	**Aral**	**2.83**	**33**	⇓*i*P	**Pn**	**07 49 30.2**	**+0.8**
	baz=30						
ARLS				⇓*i*S	**Sn**	**07 50 05.9**	**+2.2**
	baz=30						
IUG	**luzhnay**	**3.15**	**328**	*e*P	**Pb**	**07 49 37.9**	**-2.2**
	133nm,0.5s						
IUG				*e*S	**Sb**	**07 50 17.9**	**-0.8**
	43nm,0.5s						
IUG	**luzhnay**	**3.15**	**328**	Pg	**Pb**	**07 49 37.9**	**-2.2**
	133nm,0.5s						
IUG				Lg	Lg	07 50 17.9	
	43nm,0.5s						
UCH	**Uchtor**	**3.21**	**31**	⇑*i*P	**Pn**	**07 49 35.7**	**+0.7**
	baz=29						
UCH				⇑*i*S	**Sn**	**07 50 15.9**	**+2.4**
	baz=29						
MRKS	**Merke**	**3.33**	**12**	*e*P	**Pb**	**07 49 42.2**	**-0.9**
	2.6nm,0.5s						
MRKS				*e*S	**Sb**	**07 50 24.6**	**+0.9**
	28nm,0.7s						
MRKS	**Merke**	**3.33**	**12**	Pg	**Pb**	**07 49 42.2**	**-0.9**
	2.6nm,0.5s						
MRKS				Lg	Lg	07 50 25.8	
	28nm,0.7s						
KK02	**Karatay Array**	**3.84**	**340**	⇓Pn	**Pn**	**07 49 45.8**	**+2.5**
	2.0nm,0.3s,baz=162,slow=12						
KK02				⇑Sn	**Sn**	**07 50 31.1**	**+2.7**
	3.2nm,0.5s,baz=153,slow=26						
CHMS	**Chumysh**	**3.97**	**27**	⇓Pn	**Pn**	**07 49 46.2**	**+1.3**
	4.0nm,0.6s						
CHMS				⇓Lg	Lg	07 50 46.8	
	5.8nm,0.6s						
SGDS	**Sogindy**	**4.33**	**23**	*e*P	**Pb**	**07 49 59.2**	**-1.1**
	1.5nm,0.3s						
SGDS				*e*S	**Sb**	**07 50 54.2**	**+1.6**
	11nm,0.6s						
SGDS	**Sogindy**	**4.33**	**23**	Pg	**Pb**	**07 49 59.2**	**-1.1**
	1.5nm,0.3s						
SGDS				Lg	Lg	07 50 54.8	
	11nm,0.6s						
KST	**Kastek**	**4.50**	**37**	*e*P	**Pb**	**07 50 04.6**	**+1.4

KST	**Kastek**	**4.50**	**37**	Pg	**Pb**	**07 50 04.6**	**+1.4**
	1.0nm,0.5s						
KST				Lg	Lg	07 51 03.8	
	4.8nm,0.4s						
DGS	**Degeres**	**4.58**	**34**	*eP*	**Pg**	**07 50 09.3**	**-2.3**
	2.5nm,0.6s						
DGS				*eS*	**Sg**	**07 51 11.1**	**+0.2**
	9.5nm,0.5s						
KRBS	**Karabastau**	**4.91**	**30**	*eP*	**Pg**	**07 50 14.8**	**-3.2**
	2.7nm,0.5s						
KRBS				*eS*	**Sg**	**07 51 20.9**	**-0.7**
	3.9nm,0.9s						
KRBS	**Karabastau**	**4.91**	**30**	Pg	**Pg**	**07 50 14.8**	**-3.2**
	2.7nm,0.5s						
KRBS				Lg	Lg	07 51 20.9	
	3.9nm,0.9s						
TNSS	**Tian-Shan**	**4.99**	**43**	*eP*	**Pg**	**07 50 16.8**	**-2.8**
	0.6nm,0.1s						
TNSS				*eS*	**Sg**	**07 51 23.7**	**-0.5**
	3.0nm,0.5s						
KOTS	**Kotyrbulak**	**5.21**	**43**	*eP*	**Pg**	**07 50 19.6**	**-4.2**
	1.8nm,0.3s						
KOTS				*eS*	**Sg**	**07 51 29.3**	**-2.1**
	12nm,0.4s						
KOTS	**Kotyrbulak**	**5.21**	**43**	Pg	**Pg**	**07 50 19.6**	**-4.2**
	1.8nm,0.3s						
KOTS				Lg	Lg	07 51 29.3	
	12nm,0.4s						
KTBS	**Karatobe**	**5.35**	**37**	*eP*	**Pg**	**07 50 22.2**	**-4.3**
	1.4nm,0.8s						
KTBS				*eS*	**Sg**	**07 51 33.1**	**-2.7**
	7.4nm,0.7s						

IDC ***29*** *07:59:25.4±4.3, 17°.85N×60°.50W, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/44, mbtmp3.1/3, Error ellipse: s-maj=112.1km s-min=22.3km az=93.0*

TRN ***29*** *07:59:28.9, 17°.79N×61°.07W, h8km, MD3.8*

ISC 29 07:59:29.7±3.6, 17°.88N±0°.06×60°.97W±0°.07, h11km±23km, n27, σ0°92/42, mb3.1/3, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.80**	**255**	⇑*iP*	**Pb**	**07 59 46.1**	**+0.5**
ANWB				*eS*	**Sb**	**07 59 56.6**	**0.0**
ANBD	**Bethesda, Anti**	**1.12**	**223**	⇑*iP*	**Pb**	**07 59 50.5**	**-0.6**
ANBD				*eS*	**Sn**	**08 00 06.3**	**-0.4**
ABD	**La Joyeuse, An**	**1.48**	**200**	*eP*	**Pn**	**07 59 55.5**	**-0.8**
ABD				*eS*	**Sb**	**08 00 16.6**	**+0.5**
H05N1	**Guadeloupe/Mar**	**1.55**	**183**	Pn	**Pn**	**07 59 55.9**	**-1.4**
H05N1				Sn	**Sn**	**08 00 16.0**	**-1.5**
	SNR=44						
MBFL	**Flemmings, Mon**	**1.63**	**227**	*eP*	**Pn**	**07 59 58.1**	**-0.3**
MBFL				*eS*	**Sb**	**08 00 20.2**	**-0.2**
CBE	**Ff, Capester**	**1.90**	**199**	*eP*	**Pn**	**08 00 02.6**	**+0.5**
CBE				*eS*	**Sb**	**08 00 27.3**	**-0.8**
MAGL	**Barre de l'ile**	**1.94**	**189**	*eP*	**Pn**	**08 00 02.7**	**+0.1**
MAGL				*eS*	**Sn**	**08 00 27.4**	**+0.4**
SEUS	**St. Eustatius**	**1.95**	**259**	*eP*	**Pn**	**08 00 02.1**	**-0.7**
SEUS				*eS*	**Sn**	**08 00 27.8**	**+0.5**
TBG	**Guadaloupe-3**	**2.12**	**198**	*eP*	**Pn**	**08 00 05.3**	**+0.3**
TBG				*eS*	**Sn**	**08 00 30.7**	**-0.6**
TDBA	**Terre de Bas,**	**2.12**	**198**	*eP*	**Pn**	**08 00 05.4**	**+0.4**
TDBA				*eS*	**Sn**	**08 00 32.3**	**+0.9**
DSLB	**Salisbury**	**2.46**	**190**	*eP*	**Pn**	**08 00 10.0**	**+0.1**
DSLB				*eS*	**Sn**	**08 00 40.5**	**+0.5**
SVN	**Savane Anatole**	**3.02**	**184**	*eP*	**Pn**	**08 00 18.3**	**+0.7**
PCM	**Pelee Case Pet**	**3.05**	**184**	*eP*	**Pn**	**08 00 20.3**	**+2.3**
CXM	**Morne La Croix**	**3.06**	**184**	*eP*	**Pn**	**08 00 17.6**	**-0.5**
GBMF	**Grand Be**	**3.07**	**184**	*eP*	**Pn**	**08 00 20.5**	**+2.3**
PML	**Morne Lenard**	**3.09**	**184**	*eP*	**Pn**	**08 00 19.1**	**+0.6**
FDF	**Fort de France**	**3.13**	**183**	*eP*	**Pn**	**08 00 19.0**	**-0.1**
FDF				*eS*	**Sn**	**08 00 58.0**	**+1.5**
LPMF	**Morne Lapointe**	**3.28**	**180**	*eP*	**Pn**	**08 00 21.6**	**+0.4**
ZAM	**Aeronautique**	**3.29**	**181**	*eP*	**Pn**	**08 00 22.6**	**+1.4**
BIM	**Bigot**	**3.34**	**182**	*eP*	**Pn**	**08 00 22.6**	**+0.6**
BIM				*eS*	**Sn**	**08 01 03.0**	**+1.3**
MPOM	**Morne Pois Mar**	**3.42**	**178**	*eP*	**Pn**	**08 00 22.6**	**-0.3**
MPOM				*eS*	**Sn**	**08 01 02.9**	**-0.5**
SLBI	**Saint Lucia, B**	**3.83**	**180**	*eP*	**Pn**	**08 00 28.7**	**0.0**
SLBI				*eS*	**Sn**	**08 01 12.8**	**-0.9**
AOPR	**Arecibo Observ**	**5.52**	**276**	*eP*	**Pn**	**08 00 52.4**	**+0.5**
AOPR	**Arecibo Observ**	**5.52**	**276**	*eS*	**Sn**	**08 01 55.4**	**-0.1**
TXAR	**Lajitas Array**	**40.55**	**294**	P	**P**	**08 07 10.4**	**+1.1**
	0.3nm,0.8s,baz=116,slow=8.1,SNR=2.4						
PDAR	**Pinedale Array**	**47.91**	**312**	P	**P**	**08 08 08.3**	**-0.1**
	0.2nm,0.7s,baz=102,slow=8.4,SNR=2.1						
YKA	**Yellowknife Ar**	**57.83**	**334**	P	**P**	**08 09 19.9**	**-1.1**
	0.1nm,0.5s,baz=103,slow=7.3,SNR=4.3						

IDC 29 08:02:53.9±3.6, 53°.61N×87°.94E, h0km, mb1 2.7/1, mb1mx2.6/59, mbtmp2.7/1, ML2.7/1, 4C-1D, Error ellipse: s-maj=29.6km s-min=15.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	*i*		08 15 40.0	
	baz=94,slow=328,SNR=1.9						
ZAA0	**Zalesovo Array**	**1.89**	**281**	⇑P	Pn	08 03 27.8	+0.4
	0.9nm,0.8s						
ZAA0				⇑S	Sb	08 03 53.4	+0.2
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	08 03 27.8	+0.4
	1.2nm,0.3s,baz=104,slow=15,SNR=16						
ZALV				Lg	Lg	08 03 54.2	
	3.7nm,0.3s,baz=101,slow=24,SNR=18						
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn	Pn	08 04 48.0	+0.3
	0.2nm,0.5s,baz=28,slow=14						
MK31				⇓Sn	Sn	08 06 13.3	-2.5
	1.1nm,0.9s,baz=249,slow=14,SNR=7.6						
MK31				⇑Lg	Lg	08 06 53.9	
	1.5nm,0.9s,baz=29,slow=32,SNR=4.0						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	08 04 49.3	+1.7
	0.1nm,0.3s,baz=27,slow=14,SNR=5.8						
MKAR				Sn	Sn	08 06 15.2	-0.7
	0.1nm,0.3s,baz=350,slow=30,SNR=6.7						
MKAR				Lg	Lg	08 06 55.9	
	0.1nm,0.3s,baz=28,slow=34,SNR=3.1						

IDC ***29*** *08:07:53.1±0.7, 25°.13N×123°.51E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/49, mbtmp3.9/15, ML3.5/1, MS3.5/20, Ms1 3.5/20, ms1mx3.1/87, Error ellipse: s-maj=27.2km s-min=13.7km az=75.0*

BJI ***29*** *08:07:54.5±0.0, 24°.76N×123°.75E, h31km, mb4.2/9, mB4.5/8, ML3.8/1, Ms3.9/3, Ms7 3.7/3*

NEIC ***29*** *08:07:54.7±1.2, 25°.15N±0°.05×123°.47E±0°.06, h3km±5km, mb4.4/23, Error ellipse: s-maj=8.4km s-min=6.6km az=113.0*

JMA ***29*** *08:07:55.4±0.2, 25°.06N×123°.56E, h19km, M3.6*

NIED ***29*** *08:07:55.4, 25°.06N×123°.56E, h19km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr-1.33; Mθθ1.28; Mφφ0.05; Mrθ-1.50; Mrφ0.42; Mθφ-0.70; Fault plane solution: M0 2.15000×10^15 NP1:φs67.00000°, δ70.00000°, λ-94.00000°. NP2:φs260.00000°, δ20.00000°, λ-78.00000°.*

ISC 29 08:07:53.4±1.5, 25°.12N±0°.05×123°.59E±0°.03, h1km±10km, n80, σ0°78/73, mb4.2/27, MS3.5/17, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.79**	**171**	P	**Pb**	**08 08 09.6**	**-0.3**
IRIF				S	**Sg**	**08 08 18.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.84**	**219**	P	**Pg**	**08 08 10.0**	**+0.5**
YOJ				*eS*	**Sg**	**08 08 20.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.84**	**219**		**Pg**	**08 08 09.7**	**+0.2**
JISG	**Ishigakijimahi**	**0.84**	**129**	P	**Pb**	**08 08 10.8**	**0.0**
JISG				S	**Sb**	**08 08 22.5**	**-0.1**
JYNG	**Yonagunijimaku**	**0.89**	**221**	P	**Pg**	**08 08 10.7**	**+0.3**
JYNG				*eS*	**Sg**	**08 08 22.1**	**+0.2**
JIJ	**Ishigaki jima**	**0.91**	**146**	P	**Pb**	**08 08 11.4**	**-0.5**
JIJ				*eS*	**Sb**	**08 08 23.2**	**-1.2**
JKRS	**Kuro-shima**	**0.96**	**156**	P	**Pb**	**08 08 12.5**	**-0.3**
JKRS				*eS*	**Sg**	**08 08 23.7**	**-0.5**
HATJ	**Hateruma jima**	**1.08**	**169**	P	**Pg**	**08 08 14.3**	**+0.3**
HATJ				*eS*	**Sg**	**08 08 28.2**	**+0.2**
JTJ	**Tarama**	**1.12**	**115**	P	**Pn**	**08 08 16.1**	**0.0**
JTJ				*eS*	**Sn**	**08 08 30.7**	**-1.4**
JIRB	**Irabujima**	**1.47**	**101**	P	**Pg**	**08 08 21.2**	**-0.3**
TATO	**Taipei**	**1.91**	**266**	Pn	**Pn**	**08 08 28.1**	**+1.1**
NACB	**Ninganchiao**	**2.04**	**243**		**Pb**	**08 08 30.4**	**-0.9**
YHNB	**Yeheng**	**2.06**	**258**		**Pn**	**08 08 29.2**	**0.0**
YULB	**Yu-li**	**2.71**	**231**		**Pn**	**08 08 38.0**	**0.0**
SSLB	**Suanglung**	**2.74**	**242**		**Pn**	**08 08 38.8**	**+0.2**
TWG	**Pinlang**	**3.25**	**226**		**Pn**	**08 08 45.5**	**0.0**
TPUB	**Ta-pu**	**3.25**	**237**		**Pn**	**08 08 45.4**	**-0.1**
JMZ	**Minamidaito 2**	**6.93**	**83**	Pn	**Pn**	**08 09 39.0**	**+2.9**
KSRS	**Korea Array**	**12.84**	**16**	Pn	**Pn**	**08 10 56.8**	**-0.2**
	0.3nm,0.3s,baz=193,slow=11,SNR=1.4						
KSRS				LR	LR	08 15 58.4	
	comp=Z,89nm,20.4s,baz=195,slow=38						
MJAR	**Matsushiro Arr**	**16.93**	**44**	LR	LR	08 18 38.1	
	comp=Z,45nm,18.3s,baz=221,slow=38						
DAV	**Davao City (W)**	**18.05**	**174**	LR	LR	08 18 25.7	
	comp=Z,114nm,21.8s,baz=332,slow=35						
USRK	**Ussuriysk Ar.**	**20.23**	**18**	P	**P**	**08 12 29.6**	**-0.2**
	1.6nm,0.7s,baz=189,slow=8.0,SNR=2.6						
USRK	**Ussuriysk Ar.**	**20.23**	**18**	P	**P**	**08 12 27.9**	**-1.9**
GUMO	**Guam**	**23.09**	**116**	LR	LR	08 20 30.8	
	comp=Z,18nm,21.9s,baz=57,slow=33						
CMAR	**Chiang Mai Arr**	**23.80**	**259**	P	**P**	**08 13 06.8**	**-1.1**
	1.0nm,0.3s,baz=50,slow=8.4,SNR=1.2						
ASAJ	**Asahikawa**	**24.47**	**34**	LR	LR	08 22 50.8	
	comp=Z,37nm,18.4s,baz=215,slow=37						
KLR	**Kul'dur**	**24.90**	**13**	P	**P**	**08 13 17.9**	**+0.3**
	2.6nm,0.8s,baz=212,slow=9.4,SNR=12						
KLR				LR	LR	08 23 16.2	
	comp=Z,73nm,19.1s,baz=192,slow=37						
SONM	**Songino Array**	**26.43**	**333**	P	**P**	**08 13 32.0**	**+0.2**
	0.8nm,0.7s,baz=146,slow=11,SNR=5.2						
SONM				LR	LR	08 24 54.2	
	comp=Z,122nm,18.7s,baz=184,slow=39						
SONM	**Songino Array**	**26.43**	**333**	P	**P**	**08 13 32.1**	**+0.3**
GOMU	**GeErMu**	**27.01**	**301**	P	**P**	**08 13 37.0**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GOMU				pmax	pmax		
	comp=Z,80nm,5.6s						
JAY	**Jayapura**	**32.10**	**146**	LR	LR	08 24 52.6	
	comp=Z,68nm,21.0s,baz=6.5,slow=32						
YAK	**Yakutsk**	**37.13**	**5**	LR	LR	08 31 12.9	
	comp=Z,52nm,19.8s,baz=124,slow=38						
MTN	**Manton Dam**	**38.44**	**168**	P	**P**	**08 15 17.5**	**+0.7**
MTN				IAmb	IAmb	08 15 18.9	
	comp=Z,14nm,1.2s						
MK31	**Makanchi Array**	**39.22**	**314**	P	**P**	**08 15 23.5**	**+0.3**
MK31				IAmb	IAmb	08 15 24.5	
	comp=Z,4.4nm,1.0s						
MKAR	**Makanchi Array**	**39.22**	**314**	P	**P**	**08 15 22.8**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=105,slow=9.8,SNR=35						
MKAR	**Makanchi Array**	**39.22**	**314**	P	**P**	**08 15 23.5**	**+0.3**
MA2	**Magadan**	**39.30**	**22**	LR	LR	08 33 16.7	
	comp=Z,42nm,18.3s,baz=182,slow=39						
MAKZ	**Makanchi**	**39.43**	**314**	P	**P**	**08 15 25.0**	**0.0**
MAKZ				IAmb	IAmb	08 15 26.4	
	comp=Z,6.9nm,0.9s						
ZAA0	**Zalesovo Array**	**40.68**	**325**	P	**P**	**08 15 35.1**	**-0.1**
ZALV	**Zalesovo Beam**	**40.68**	**325**	P	**P**	**08 15 33.8**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=109,slow=7.9,SNR=9.7						
ZALV				LR	LR	08 33 16.6	
	comp=Z,62nm,21.0s,baz=130,slow=38						
ZALV	**Zalesovo Beam**	**40.68**	**325**	P	**P**	**08 15 34.6**	**-0.5**
KDJ	**Kajisay**	**41.66**	**306**	P	**P**	**08 15 43.5**	**-0.1**
KDJ				IAmb	IAmb	08 15 45.9	
	comp=Z,5.9nm,1.0s						
KURK	**Kurchatov**	**42.81**	**319**	P	**P**	**08 15 52.2**	**-0.4**
KURK				IAmb	IAmb	08 15 53.7	
	comp=Z,7.5nm,1.1s						
KURBB	**Kurchatov Arra**	**42.83**	**318**	P	**P**	**08 15 52.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=108,slow=7.9,SNR=18						
FITZ	**Fitzroy Crossi**	**43.00**	**177**	P	**P**	**08 15 53.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=349,slow=10,SNR=2.0						
FITZ	**Fitzroy Crossi**	**43.00**	**177**	P	**P**	**08 15 53.8**	**-0.7**
COEN	**Coen**	**43.28**	**152**	P	**P**	**08 15 58.3**	**+1.4**
COEN				IAmb	IAmb	08 16 16.0	
	comp=Z,7.1nm,0.9s						
AAK	**Ala-Archa**	**43.70**	**306**	LR	LR	08 34 41.1	
	comp=Z,51nm,19.1s,baz=36,slow=37						
WB0	**Warramunga Arr**	**45.84**	**166**	P	**P**	**08 16 17.2**	**+0.1**
WB0				IAmb	IAmb	08 16 36.1	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**45.99**	**166**	P	**P**	**08 16 19.5**	**+1.1**
WRAB				IAmb	IAmb	08 16 25.5	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**46.00**	**166**	P	**P**	**08 16 18.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=347,slow=8.7,SNR=18						
WRA	**Warramunga Arr**	**46.00**	**166**	P	**P**	**08 16 18.9**	**+0.5**
WB2	**Warramunga Arr**	**46.00**	**166**	P	**P**	**08 16 19.6**	**+1.1**
WR0	**Warramunga Arr**	**46.06**	**166**	P	**P**	**08 16 20.0**	**+1.1**
WR0				IAmb	IAmb	08 16 38.4	
	comp=Z,5.9nm,1.1s						
PSA00	**Pilbara Seismi**	**46.56**	**185**	P	**P**	**08 16 22.2**	**-0.6**
PSA00				IAmb	IAmb	08 16 30.4	
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**46.66**	**2**	P	**P**	**08 16 22.9**	**-0.2**
TIXI				IAmb	IAmb	08 16 24.8	
	comp=Z,5.2nm,1.1s						
ASAR	**Alice Springs**	**49.52**	**168**	P	**P**	**08 16 46.7**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=352,slow=14,SNR=11						
ASAR	**Alice Springs**	**49.52**	**168**	P	**P**	**08 16 46.4**	**+0.7**
MORW	**Morawa**	**54.36**	**188**	P	**P**	**08 17 22.1**	**+0.3**
MORW				IAmb	IAmb	08 17 50.4	
	comp=Z,5.9nm,1.0s						
ABKAR	**Akbulak array**	**54.37**	**314**	P	**P**	**08 17 22.2**	**+0.5**
ABKAR				IAmb	IAmb	08 17 29.3	
	comp=Z,5.1nm,1.4s						
ABKAR	**Akbulak array**	**54.37**	**314**	P	**P**	**08 17 21.6**	**0.0**
AKTO	**Aktyubinsk**	**55.65**	**315**	LR	LR	08 43 27.6	
	comp=Z,62nm,18.0s,baz=61,slow=38						
ARU	**Arti**	**55.69**	**322**	P	**P**	**08 17 30.6**	**-0.6**
	comp=Z,1.7nm,0.2s,baz=164,slow=8.6,SNR=3.1						
FORT	**Forrest**	**55.75**	**175**	P	**P**	**08 17 31.6**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**56.22**	**300**	P	**P**	**08 17 34.1**	**-1.2**
BBOO	**Buckleboo**	**58.82**	**168**	P	**P**	**08 17 54.9**	**+1.5**
STKA	**Stephens Creek**	**59.23**	**162**	P	**P**	**08 17 56.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=334,slow=4.7,SNR=4.3						
STKA	**Stephens Creek**	**59.23**	**162**	P	**P**	**08 17 57.0**	**+0.6**
KIRV	**Kirov**	**60.72**	**325**	LR	LR	08 46 41.0	
	comp=Z,132nm,18.3s,baz=93,slow=38						
ARMA	**Armidale**	**61.41**	**152**	P	**P**	**08 18 11.6**	**+0.1**
IMAR	**Indian Mountai**	**64.37**	**27**	P	**P**	**08 18 30.8**	**+0.3**
BMAR	**Burnt Mountain**	**67.77**	**25**	P	**P**	**08 18 53.8**	**+1.2**
BCAR	**Beaver Creek A**	**69.97**	**29**	P	**P**	**08 19 07.5**	**+1.2**
FINES	**FINESS Array B**	**71.74**	**330**	P	**P**	**08 19 16.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=90,slow=4.2,SNR=4.5						
FINES				LR	LR	08 53 50.9	
	comp=Z,133nm,18.5s,baz=70,slow=38						
MLR	**Muntele Rosu**	**77.57**	**314**	LR	LR	08 58 28.7	
	comp=Z,35nm,18.5s,baz=360,slow=39						
HFS	**Hagfors**	**77.81**	**331**	LR	LR	08 57 18.1	
	comp=Z,80nm,18.7s,baz=77,slow=38						
NOA	**NORSAR Array B**	**78.41**	**333**	LR	LR	08 56 10.5	
	comp=Z,43nm,18.6s,baz=35,slow=37						
YKA	**Yellowknife Ar**	**81.25**	**24**	P	**P**	**08 20 10.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=310,slow=4.9,SNR=8.9						
VRAC	**Vranov**	**81.62**	**321**	LR	LR	09 00 10.1	
	comp=Z,49nm,19.9s,baz=62,slow=38						
BORG	**Borgarnes**	**86.38**	**346**	LR	LR	09 03 38.2	
	comp=Z,32nm,18.2s,baz=353,slow=39						

MAN ***29*** *08:18:29.6, 5°.43N×124°.36E, h523km, mb5.1, ML4.0, MS4.1*

KLM ***29*** *08:18:31.5°.62N×124°.35E, h506km, mb5.0*

IDC ***29*** *08:18:32.4±0.7, 5°.55N×124°.16E, h514km±7km, mb4.0/39, mb1 4.0/43, mb1mx4.0/55, mbtmp4.9/43, Error ellipse: s-maj=9.9km s-min=6.0km az=68.0*

NEIC ***29*** *08:18:32.6±1.9, 5°.58N±0°.08×124°.08E±0°.08, h503km±3km, mb4.7/91, Error ellipse: s-maj=12.1km s-min=11.6km az=178.0*

DJA ***29*** *08:18:34.2±0.6, 5°N±6°×12°4E±°, h470km±7km, M4.6/18, mB5.0/14, mb4.8/18, MLv4.9/12, Mw(mB)4.4/14*

ISC 29 08:18:32.7±0.5, 5°.54N±0°.04×124°.16E±0°.05, h519km±5km, n412, σ1°17/439, mb4.7/103, 34C-55D, Fault plane solution: NP1:φs8.11948°, δ86.50617°, λ-74.76186°. NP2:φs110.72958°, δ15.62429°, λ-166.92239°. Principal axes: T Plg39.6344°, Azm84.1549°; N Plg15.2091°, Azm187.1684°; P Plg46.3915°, Azm293.7513°; Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.96**	**55**	⇑*eP*	**P**	**08 19 33.9**	**-2.1**
GSPH				*i* S	**S**	**08 20 26.9**	**-0.4**
DDMP	**Don Marcelino,**	**1.65**	**70**	⇓*iP*	**P**	**08 19 34.9**	**-3.1**
CTBH	**Cotabato--PC H**	**1.68**	**3**	⇑*iP*	**P**	**08 19 37.0**	**-1.1**
KCP	**Kidapawan**	**1.73**	**32**	⇓*iP*	**P**	**08 19 37.1**	**-1.4**
DAV	**Davao City (W)**	**2.08**	**43**	P	**P**	**08 19 38.1**	**-1.8**
	94nm,0.3s,baz=117,slow=3.3,SNR=10						
DAV	**Davao City (W)**	**2.08**	**43**	P	**P**	**08 19 38.4**	**-1.6**
SGSI	**Sangihe**	**2.29**	**143**	P	**P**	**08 19 38.1**	**-3.0**
BUKP	**Musuan**	**2.50**	**21**	⇓*iP*	**P**	**08 19 41.0**	**-1.2**
MATI	**Mati**	**2.52**	**56**	⇓*eP*	**P**	**08 19 39.8**	**-2.5**
CGP	**Cagayan de Oro**	**2.95**	**10**	⇓*eP*	**P**	**08 19 47.0**	**+2.1**
BIPH	**Bislig**	**3.42**	**40**	⇓*iP*	**P**	**08 19 45.6**	**-2.5**
BIPH				*eS*	**S**	**08 20 43.9**	**-5.6**
CNOP	**Candoni, Negro**	**4.52**	**341**	⇓*eP*	**P**	**08 19 54.4**	**-2.2**
MSLP	**Maasin**	**4.62**	**9**	⇓*eP*	**P**	**08 19 57.8**	**+0.3**
KMSI	**Cibinong**	**4.93**	**182**	P	**P**	**08 19 59.4**	**-0.8**
GTOI	**Gorontalo**	**5.00**	**193**	P	**P**	**08 19 58.7**	**-2.1**
GUIM	**Jordan**	**5.29**	**343**	⇓*eP*	**P**	**08 20 01.4**	**-1.9**
MRSI	**Marisa**	**5.49**	**204**	P	**P**	**08 20 05.0**	**-0.2**
	0.3nm58nm,0.9s						
TOLI2	**Tolitoli**	**5.54**	**218**	P	**P**	**08 20 04.6**	**-1.1**
TOLI2	**Tolitoli**	**5.54**	**218**	P	**P**	**08 20 04.8**	**-0.9**
MYLDM	**Lahad Datu**	**5.64**	**267**	P	**P**	**08 20 07.4**	**+0.8**
TNTI	**Ternate**	**5.72**	**146**	P	**P**	**08 20 05.9**	**-1.4**
TNTI	**Ternate**	**5.72**	**146**	P	**P**	**08 20 05.2**	**-2.1**
	1.8nm4µm211nm,0.6s						
TNTI	**Ternate**	**5.72**	**146**	P	**P**	**08 20 06.1**	**-1.2**
CUYO	**Cuyo Island**	**6.12**	**330**	⇓*eP*	**P**	**08 20 10.3**	**-0.8**
BESP	**Borongan**	**6.16**	**12**	⇓*iP*	**P**	**08 20 12.7**	**+1.3**
LUWI	**Luwuk**	**6.68**	**192**		**P**	**08 20 16.1**	**-0.4**
LUWI	**Luwuk**	**6.68**	**192**	P	**P**	**08 20 15.3**	**-1.2**
	1.5nm91nm,0.6s						
LUWI	**Luwuk**	**6.68**	**192**	P	**P**	**08 20 16.4**	**-0.1**
MPSI	**Mapaga**	**6.69**	**220**	P	**P**	**08 20 15.4**	**-1.2**
	0.3nm2µm62nm,0.8s						
APSI	**Ampana**	**6.88**	**201**	P	**P**	**08 20 18.2**	**-0.2**
	1µm113nm,0.5s						
LBMI	**Labuha**	**6.98**	**151**	P	**P**	**08 20 18.5**	**-1.0**
	3µm282nm,0.5s						
BATP	**Bataraza**	**7.09**	**298**	⇓*eP*	**P**	**08 20 21.1**	**+0.6**
SJMP	**San Jose**	**7.50**	**337**	⇓*eP*	**P**	**08 20 24.9**	**+0.3**
BUSP	**Coron**	**7.52**	**329**	⇓*iP*	**P**	**08 20 24.4**	**-0.3**
SPMM	**Sapulut**	**7.71**	**264**	P	**P**	**08 20 27.0**	**+0.3**
SANI	**Sanana**	**7.75**	**166**	P	**P**	**08 20 23.6**	**-3.6**
	3µm248nm,0.7s						
SANI	**Sanana**	**7.75**	**166**	P	**P**	**08 20 26.9**	**-0.3**
KKM	**Kota Kinabalu**	**7.92**	**274**	P	**P**	**08 20 28.4**	**-0.5**
KKM	**Kota Kinabalu**	**7.92**	**274**	P	**P**	**08 20 28.4**	**-0.5**
BOAC	**Boac**	**8.20**	**344**	⇑*eP*	**P**	**08 20 32.0**	**+0.4**
LQP	**Lukban**	**8.90**	**343**	⇑*eP*	**P**	**08 20 38.6**	**-0.5**
LUBP	**Lubang**	**9.01**	**335**	⇓*eP*	**P**	**08 20 40.5**	**+0.5**
TGY	**Tagaytay City**	**9.08**	**340**	P	**P**	**08 20 39.5**	**-1.3**
	45nm,0.3s,baz=199,slow=6.9,SNR=8.5						
SMKI	**Samarinda**	**9.13**	**230**	P	**P**	**08 20 44.7**	**+3.3**
	17µm352nm,0.4s						
MACP	**Maragondon, Ca**	**9.31**	**339**	⇓*iP*	**P**	**08 20 42.9**	**-0.1**
SWI	**Sorong**	**9.53**	**132**	P	**P**	**08 20 46.0**	**+0.6**
	1µm102nm,0.6s						
SIJI	**Sorong**	**9.54**	**132**	P	**P**	**08 20 45.6**	**+0.1**
	17nm,0.3s,baz=318,slow=9.6,SNR=32						
QVP	**Quezon City--P**	**9.55**	**341**	⇓*iP*	**P**	**08 20 44.9**	**-0.7**
TTSI	**Tana Toraja**	**9.56**	**207**	P	**P**	**08 20 45.9**	**+0.1**
	2µm47nm,0.6s						
AAI	**Ambon**	**10.01**	**156**	P	**P**	**08 20 51.0**	**+0.5**
	6µm480nm,0.6s						
MSAI	**Masohi**	**10.03**	**152**	P	**P**	**08 20 52.4**	**+1.7**
	2µm94nm,0.6s						
SPSI	**Sidrap Palu**	**10.41**	**205**	P	**P**	**08 20 55.5**	**+0.9**
	35nm,0.8s			

WR0 IAmb IAmb 08 23 36.6
comp=Z,11nm,0.7s
CM31 Chiang Mai Arr 27.75 300 P **P** **08 23 40.2 +0.6**
CM31 IAmb IAmb 08 23 41.6
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 27.75 300 P **P** **08 23 40.6 +1.0**
comp=Z,17nm,0.8s,baz=113,slow=6.9,SNR=68
CMAR ScP **ScP** **08 29 33.0 +1.7**
comp=Z,5.1nm,0.8s,baz=141,slow=1.2,SNR=20
CMAR Chiang Mai Arr 27.75 300 P **P** **08 23 40.2 +0.6**
CHTO Chiang Mai 27.90 300 P **P** **08 23 40.8 0.0**
CHTO IAmb IAmb 08 23 42.6
comp=Z,27nm,0.8s
CHTO Chiang Mai 27.90 300 P **P** **08 23 41.5 +0.6**
comp=Z,24nm,1.0s
ENH Enshi 28.22 332 P **P** **08 23 43.5 0.0**
KMI Kunming 28.30 316 ⇑P **P** **08 23 46.0 +1.5**
KMI pmax pmax
comp=Z,24nm,0.7s
JMN Monobe 29.47 17 P **P** **08 23 54.9 +0.5**
JMN IAmb IAmb 08 24 12.4
comp=Z,32nm,1.4s
RABL Rabaul 29.59 108 P **P** **08 23 56.9 +1.2**
GIRL Giralia 29.64 199 P **P** **08 23 56.4 +0.4**
PZH PanZhiHua 29.87 317 P **P** **08 24 00.8 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.6s
QIS Mount Isa 30.05 150 P **P** **08 23 59.8 +0.3**
QIS Mount Isa 30.05 150 P **P** **08 23 59.6 +0.1**
AS31 Alice Springs 30.54 162 P **P** **08 24 03.8 0.0**
ASAR Alice Springs 30.55 162 P **P** **08 24 04.0 +0.2**
comp=Z,51nm,0.5s,baz=340,slow=7.0,SNR=833
ASAR PcP **PcP** **08 26 47.0 +0.2**
comp=Z,3.8nm,0.4s,baz=348,slow=2.8,SNR=8.6
ASAR S **S** **08 28 27.8 -1.1**
comp=Z,17nm,0.9s,baz=336,slow=12,SNR=48
ASAR ScP **ScP** **08 29 40.5 +0.3**
comp=Z,2.9nm,0.5s,baz=339,slow=2.9,SNR=6.0
ASAR ScS **ScS** **08 33 34.2 -3.7**
comp=Z,0.3nm,0.7s,baz=339,slow=5.0,SNR=2.9
ASAR Alice Springs 30.55 162 P **P** **08 24 03.6 -0.2**
WRKA Warakurna 30.66 173 P **P** **08 24 05.3 +0.5**
WRKA Warakurna 30.66 173 P **P** **08 24 05.2 +0.5**
LYN LuoYang 30.83 341 ⇓P **P** **08 24 07.0 +0.9**
LYN pmax pmax
comp=Z,20nm,0.7s
XAN Xi'an 31.69 335 P **P** **08 24 13.8 +0.3**
XAN pmax pmax
comp=Z,100nm,1.7s
XAN pmax pmax
comp=Z,180nm,3.4s
CD2 Chengdu 31.69 325 P **P** **08 24 14.3 +0.7**
CD2 pmax pmax
comp=Z,40nm,0.8s
KSRS Korea Array 31.95 6 P **P** **08 24 15.3 -0.3**
comp=Z,2.8nm,0.8s,baz=190,slow=9.0,SNR=6.0
MEEK Meekatharra 32.43 189 P **P** **08 24 19.3 -0.6**
HNS HongShan 32.87 346 ⇑P **P** **08 24 24.3 +0.9**
HNS pmax pmax
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 33.44 21 P **P** **08 24 27.8 -0.5**
comp=Z,3.3nm,0.6s,baz=207,slow=9.2,SNR=8.6
CTA Charters Tower 33.48 140 P **P** **08 24 29.2 +0.4**
comp=Z,16nm,0.7s,baz=328,slow=11,SNR=21
CTA Charters Tower 33.48 140 P **P** **08 24 29.8 +1.0**
CTA Charters Tower 33.48 140 P **P** **08 24 30.0 +1.2**
OOD Oodnadatta 34.96 162 P **P** **08 24 41.9 +0.8**
OOD Oodnadatta 34.96 162 P **P** **08 24 41.7 +0.6**
BJI Beijing 35.09 349 P **P** **08 24 42.5 +0.4**
BJI pmax pmax
comp=Z,10.0nm,1.0s
MORW Morawa 35.28 192 P **P** **08 24 43.3 -0.5**
MORW IAmb IAmb 08 24 43.9
comp=Z,9.3nm,0.6s
MORW Morawa 35.28 192 P **P** **08 24 43.5 -0.3**
LZH Lanzhou 35.67 331 ⇓P **P** **08 24 48.8 +1.6**
LZH pmax pmax
comp=Z,74nm,1.5s
LZH pmax pmax
comp=Z,110nm,5.4s
FORT Forrest 36.30 174 P **P** **08 24 52.8 +0.5**
FORT IAmb IAmb 08 24 53.3
comp=Z,29nm,0.6s
FORT Forrest 36.30 174 P **P** **08 24 53.0 +0.7**
FORT Forrest 36.30 174 P **P** **08 24 52.7 +0.5**
BLDU Ballidu 36.65 191 P **P** **08 24 54.6 -0.5**
SHL Shillong 36.75 306 P **P** **08 24 56.7 +0.4**
INKA Innaminka 36.76 155 P **P** **08 24 57.8 +1.7**
INKA Innaminka 36.76 155 P **P** **08 24 57.7 +1.7**
MULG Mulgathing 36.86 166 P **P** **08 24 57.5 +0.7**
MULG Mulgathing 36.86 166 P **P** **08 24 57.6 +0.7**
HHC Hu-ho-hao-te 36.93 344 *e*P **P** **08 24 58.0 +0.6**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.5s
QLP Quilpie 37.39 150 P **P** **08 25 01.9 +0.6**
comp=Z,54nm,0.9s
KLBR Kellerberrin 37.42 189 P **P** **08 25 01.3 -0.2**
LCRK Leigh Creek 38.23 160 P **P** **08 25 09.2 +1.1**
LCRK Leigh Creek 38.23 160 P **P** **08 25 09.1 +1.0**
RK1H Rockhampton Ha 38.57 139 P **P** **08 25 11.7 +0.7**
comp=Z,45nm,0.7s
RK1H Rockhampton Ha 38.57 139 P **P** **08 25 11.9 +0.9**
USRK Ussuriysk Ar. 39.12 9 P **P** **08 25 15.3 +0.2**
comp=Z,1.6nm,0.6s,baz=184,slow=8.3,SNR=3.5
RMQ Roma 39.77 144 P **P** **08 25 21.2 +0.5**
comp=Z,19nm,0.6s
RMQ Roma 39.77 144 P **P** **08 25 21.6 +0.9**
BBOO Buckleboo 39.78 164 P **P** **08 25 20.9 +0.3**
BBOO IAmb IAmb 08 25 21.9
comp=Z,25nm,0.8s
BBOO Buckleboo 39.78 164 P **P** **08 25 21.4 +0.8**
BBOO Buckleboo 39.78 164 P **P** **08 25 21.2 +0.6**
GTA Gaotai 40.25 330 ⇓P **P** **08 25 25.5 +1.0**
GTA PcP **PcP** **08 27 16.5 +0.8**
GTA pmax pmax
comp=Z,56nm,0.8s
EIDS Eidsvold 40.35 141 P **P** **08 25 25.6 +0.3**
EIDS IAmb IAmb 08 25 26.4
comp=Z,36nm,0.8s
EIDS Eidsvold 40.35 141 P **P** **08 25 25.9 +0.6**
EIDS Eidsvold 40.35 141 P **P** **08 25 25.6 +0.3**
WHYH Whyalla 40.42 163 P **P** **08 25 27.6 +1.9**
comp=Z,28nm,0.8s
GOMU GeErMu 40.69 323 P **P** **08 25 29.5 +1.2**
GOMU PP **PP** **08 27 14.3 -2.8**
GOMU PcP **PcP** **08 27 19.3 +1.7**
GOMU pmax pmax
comp=Z,9.0nm,1.1s
GOMU pmax pmax
comp=Z,60nm,6.3s
NAPP Napperby 40.73 162 P **P** **08 25 29.8 +1.6**
comp=Z,18nm,0.7s
NAPP Napperby 40.73 162 P **P** **08 25 29.4 +1.2**
STKA Stephens Creek 40.75 157 P **P** **08 25 29.3 +0.9**
comp=Z,22nm,0.7s,baz=333,slow=8.3,SNR=94
STKA ScP **ScP** **08 30 17.8 +0.2**
comp=Z,7.2nm,0.8s,baz=335,slow=6.7,SNR=8.9
STKA Stephens Creek 40.75 157 P **P** **08 25 28.3 -0.1**
STKA Stephens Creek 40.75 157 P **P** **08 25 29.0 +0.6**
STKA Stephens Creek 40.75 157 P **P** **08 25 29.3 +0.9**
TAPN Taplejung 40.89 306 *e*P **P** **08 25 30.7 +0.8**
ODAN Odare 40.94 305 *e*P **P** **08 25 30.9 +0.6**
HTT Hallett 41.21 161 P **P** **08 25 33.1 +1.1**
HTT Hallett 41.21 161 P **P** **08 25 33.2 +1.2**
RAMN Ramite 41.62 305 *e*P **P** **08 25 36.8 +1.1**
comp=Z,56nm,0.6s
ASAJ Asahikawa 41.70 20 P **P** **08 25 36.0 +0.2**
comp=Z,9.8nm,0.7s,baz=246,slow=8.2,SNR=11
CMSA Cobar Meteorol 42.21 152 P **P** **08 25 41.9 +2.0**
CMSA Cobar Meteorol 42.21 152 P **P** **08 25 41.6 +1.7**
JIRN Jiri 42.24 306 *e*P **P** **08 25 41.4 +0.6**
comp=Z,140nm,0.9s
TWOA Tennyson Woods 42.58 162 P **P** **08 25 44.1 +1.3**
comp=Z,40nm,0.5s
TWOA Tennyson Woods 42.58 162 P **P** **08 25 44.0 +1.3**
GUN Gumba 42.59 306 *e*P **P** **08 25 44.2 +0.7**
comp=Z,171nm,0.7s
PKI Pulchoki 42.84 305 *e*P **P** **08 25 45.5 +0.1**
KKN Kakani 43.03 305 *e*P **P** **08 25 47.0 +0.2**
DMN Daman 43.10 305 *e*P **P** **08 25 47.7 +0.3**
comp=Z,106nm,0.9s

PALK Pallekele 43.20 275 P **P** **08 25 48.0 -0.2**
comp=Z,8.3nm,0.7s,baz=192,slow=5.5,SNR=4.8
PALK Pallekele 43.20 275 P **P** **08 25 47.9 -0.2**
PALK IAmb IAmb 08 25 50.0
comp=Z,16nm,0.9s
GKN Gorkha 43.64 305 *e*P **P** **08 25 51.7 +0.3**
comp=Z,78nm,0.8s
KLR Kul'dur 44.01 7 P **P** **08 25 53.9 +0.1**
comp=Z,3.8nm,0.6s,baz=193,slow=5.9,SNR=18
KLR PcP **PcP** **08 27 27.7 -0.3**
comp=Z,2.1nm,0.8s,baz=274,slow=3.2,SNR=4.3
ARMA Armidale 44.39 145 P **P** **08 25 58.2 +1.0**
ARMA IAmb IAmb 08 26 00.0
comp=Z,20nm,1.0s
ARMA Armidale 44.39 145 P **P** **08 25 59.2 +2.1**
KOLN Koldanda 44.39 305 *e*P **P** **08 25 58.2 +0.8**
comp=Z,241nm,0.7s
DANN Dangsing 44.48 305 *e*P **P** **08 25 58.7 +0.5**
comp=Z,324nm,0.6s
ULN Ulaanbaatar 44.65 344 P **P** **08 25 59.7 +0.8**
SONM Songino Array 44.80 343 P **P** **08 26 00.6 +0.6**
comp=Z,3.7nm,0.6s,baz=162,slow=8.6,SNR=30
SONM PcP **PcP** **08 27 30.5 -0.5**
comp=Z,3.0nm,0.8s,baz=162,slow=4.7,SNR=9.6
SONM Songino Array 44.80 343 P **P** **08 26 00.5 +0.4**
PYUN Piuthan 45.02 305 *e*P **P** **08 26 03.1 +0.9**
ARPS Mount Arapiles 45.22 160 P **P** **08 26 04.3 +1.0**
comp=Z,32nm,0.7s
CAN Canberra 46.88 152 P **P** **08 26 17.6 +1.6**
CAN IAmb IAmb 08 26 18.2
comp=Z,74nm,1.5s
CAN Canberra 46.88 152 P **P** **08 26 18.1 +2.1**
CAN Canberra 46.88 152 P **P** **08 26 17.9 +1.9**
CNB Canberra Magne 47.05 152 P **P** **08 26 18.9 +1.6**
TOO Toolangi 47.27 157 P **P** **08 26 19.9 +1.0**
TOO Toolangi 47.27 157 P **P** **08 26 20.6 +1.7**
SANVU Saraoutou 47.46 117 P **P** **08 26 22.4 +1.8**
SANVU IAmb IAmb 08 26 23.3
comp=Z,41nm,0.8s
SANVU Saraoutou 47.46 117 P **P** **08 26 21.4 +0.8**
DZM Mont Dzumac 49.67 125 P **P** **08 26 38.4 +1.3**
DZM IAmb IAmb 08 26 39.5
comp=Z,46nm,1.4s
WMQ Urumqi 49.79 326 *e*P **P** **08 26 39.3 +1.7**
WMQ pmax pmax
comp=Z,58nm,1.1s
OUENC Ouen Island, N 50.16 125 P **P** **08 26 42.3 +1.8**
OUENC IAmb IAmb 08 26 45.4
comp=Z,24nm,1.1s
KAAM Kaadhehdhoo 51.31 266 P **P** **08 26 48.6 -0.6**
KAAM IAmb IAmb 08 26 49.1
comp=Z,24nm,0.7s
MK31 Makanchi Array 54.62 326 P **P** **08 27 12.5 +0.3**
MK31 IAmb IAmb 08 27 13.8
comp=Z,21nm,0.7s
MKAR Makanchi Array 54.62 326 P **P** **08 27 12.9 +0.7**
comp=Z,36nm,0.7s,baz=123,slow=8.6,SNR=460
MKAR PcP **PcP** **08 28 07.1 -0.2**
comp=Z,9.6nm,0.7s,baz=117,slow=4.8,SNR=11
MKAR ScP **ScP** **08 31 15.8 -0.1**
comp=Z,2.2nm,0.8s,baz=122,slow=4.9,SNR=7.4
MKAR P4KPbc 09 04 23.9
comp=Z,0.4nm,0.8s,baz=119,slow=5.1,SNR=4.0
TARG Taragay, Kyrgy 54.70 318 P **P** **08 27 14.6 +1.2**
PEA0B Petropavlovsk- 54.78 24 P **P** **08 27 14.7 +1.4**
PETK Petropavlovsk- 54.78 24 P **P** **08 27 13.6 +0.3**
comp=Z,4.6nm,0.7s,baz=202,slow=7.5,SNR=7.9
PETK PcP **PcP** **08 28 07.4 -0.4**
comp=Z,1.8nm,0.7s,baz=211,slow=0.9,SNR=4.4
MAKZ Makanchi 54.81 326 P **P** **08 27 14.2 +0.7**
MAKZ IAmb IAmb 08 27 15.0
comp=Z,28nm,0.8s
KSH Kashi 54.96 315 P **P** **08 27 16.5 +1.6**
KSH PcP **PcP** **08 28 09.5 +0.5**
KSH pP pwP 08 29 00.5 -0.3
KSH pmax pmax
comp=Z,19nm,0.8s
KDJ Kajisay 55.30 319 P **P** **08 27 18.6 +1.3**
KDJ IAmb IAmb 08 27 19.3
comp=Z,35nm,0.7s
ULHL Ulahol 55.97 318 P **P** **08 27 22.9 +0.9**
SNR=6.8
BOOM Boomskoye usch 56.28 318 P **P** **08 27 25.0 +0.9**
YAK Yakutsk 56.52 3 P **P** **08 27 25.0 -0.1**
comp=Z,8.1nm,0.4s,baz=282,slow=0.3,SNR=4.3
TKM2 Tokmak 2 56.70 319 P **P** **08 27 28.0 +1.0**
SNR=11
KBK Karagaybulak 57.01 318 P **P** **08 27 30.4 +1.2**
SNR=7.5
AAK Ala-Archa 57.31 318 P **P** **08 27 31.3 +0.2**
comp=Z,6.2nm,0.6s,baz=139,slow=8.0,SNR=19
AAK Ala-Archa 57.31 318 P **P** **08 27 32.2 +1.0**
AAK Ala-Archa 57.31 318 *i*P **P** **08 27 32.1 +1.0**
SNR=11
USP Ospenovka 57.58 319 P **P** **08 27 33.3 +0.5**
SNR=29
MA2 Magadan 57.63 16 P **P** **08 27 34.3 +1.5**
AML Almayashu 57.63 317 *i*P **P** **08 27 34.7 +1.1**
SNR=53
EKS2 Erkin-Say 57.80 318 P **P** **08 27 35.7 +1.3**
SNR=21
ZAA0 Zalesovo Array 57.83 334 P **P** **08 27 33.8 -0.5**
ZALV Zalesovo Beam 57.83 334 P **P** **08 27 33.7 -0.6**
comp=Z,7.7nm,0.8s,baz=114,slow=6.6,SNR=19
ZALV PcP **PcP** **08 28 18.9 -0.8**
comp=Z,1.1nm,0.4s,baz=148,slow=3.9,SNR=1.7
DRK Karamyk 57.91 314 P **P** **08 27 36.5 +1.1**
DRK IAmb IAmb 08 27 37.3
comp=Z,42nm,0.6s
KBL Kabul 58.39 307 P **P** **08 27 39.0 +0.3**
KBL IAmb IAmb 08 27 39.7
comp=Z,24nm,0.8s
GAR Garm 58.82 313 P **P** **08 27 41.9 +0.5**
BTK Batken 58.83 314 P **P** **08 27 42.1 +0.7**
BTK IAmb IAmb 08 27 43.8
comp=Z,24nm,0.7s
KURBB Kurchatov Arra 58.85 328 P **P** **08 27 41.4 +0.2**
comp=Z,42nm,0.7s,baz=128,slow=6.2,SNR=229
KURK Kurchatov 58.85 328 P **P** **08 27 41.5 +0.4**
CHGR Chuyangaron 59.56 312 P **P** **08 27 46.6 +0.3**
CHGR IAmb IAmb 08 27 47.7
comp=Z,37nm,0.7s
KKAR Karatay Array 60.17 317 P **P** **08 27 50.4 +0.2**
HRA Herat 63.80 306 P **P** **08 28 14.8 +0.5**
BVAR Borovoye Array 64.42 327 P **P** **08 28 17.8 +0.2**
comp=Z,13nm,0.8s,baz=198,slow=23,SNR=29
BRVK Borovoye 64.49 327 P **P** **08 28 17.6 -0.4**
BRVK IAmb IAmb 08 28 19.2
comp=Z,34nm,0.9s
JLN Jalan Bani Buh 64.56 292 P **P** **08 28 17.9 -1.1**
LTZ Lake Taylor 64.89 143 P **P** **08 28 22.3 +1.6**
WBK Wadi Bani Khal 65.00 292 P **P** **08 28 21.4 -0.5**
SNZO South Karori 65.58 140 P **P** **08 28 24.7 -0.3**
JMDO Jabal Madar 65.78 292 P **P** **08 28 26.1 -0.6**
MHTO MHTO 65.82 290 P **P** **08 28 26.4 -0.6**
SMDO Samad 65.88 293 P **P** **08 28 27.0 -0.5**
SNR=6.6
TIXI Tiksi 66.10 2 P **P** **08 28 27.3 -0.4**
comp=Z,8.6nm,0.4s,baz=272,slow=23,SNR=24
TIXI Tiksi 66.10 2 P **P** **08 28 27.0 -0.7**
TIXI IAmb IAmb 08 28 28.2
comp=Z,21nm,1.2s
DQM DQM 66.16 289 P **P** **08 28 26.7 -2.4**
SOHO SOHO 67.34 294 *i*P **P** **08 28 35.9 -0.4**
SNR=11
BANOM Banah 67.69 296 P **P** **08 28 38.3 -0.3**
UOSS Minazif 67.70 295 P **P** **08 28 37.5 -1.1**
UOSS IAmb IAmb 08 28 39.0
comp=Z,18nm,1.4s
UOSS Minazif 67.70 295 P **P** **08 28 37.4 -1.2**
UOSS Minazif 67.70 295 P **P** **08 28 37.5 -1.1**
HATD Hatta, Dubai 67.76 294 P **P** **08 28 38.0 -0.9**
GEYT Alibeck 67.77 309 P **P** **08 28 39.6 +0.8**
comp=Z,15nm,0.7s,baz=146,slow=8.4,SNR=19
GEYT Alibeck 67.77 309 P **P** **08 28 39.6 +0.8**
GEYT IAmb IAmb 08 28 40.5
comp=Z,16nm,0.8s
GYA0B ALIBECK ARRAY 67.77 309 P **P** **08 28 39.6 +0.8**
GYA0B IAmb IAmb 08 28 40.5
comp=Z,20nm,0.8s
MSFE Esma-Masafi 67.78 295 P **P** **08 28 39.6 +0.5**
ASHO Ashiyiah 67.82 294 P **P** **08 28 38.0 -1.3**
SHME Shamm 67.85 296 P **P** **08 28 40.4 +0.9**
ALNE Al Ain 68.05 294 P **P** **08 28 40.8 0.0**
ALNE Al Ain 68.05 294 *i*P **P** **08 28 40.3 -0.5**
SNR=6.3
ASUD Al Ashush, Dub 68.47 294 P **P** **08 28 43.6 +0.4**
ABKAR Akbulak array 69.14 321 P **P** **08 28 46.9 +0.1**
ABKAR IAmb IAmb 08 28 47.7
comp=Z,28nm,0.8s
ABKAR Akbulak array 69.14 321 P **P** **08 28 46.8 0.0**
DOK Doka 69.34 288 P **P** **08 28 48.0 -0.6**
SNR=9.4
SOCY Socotra 69.50 281 P **P** **08 28 47.7 -2.0**
WHFO Wadi Hawf 69.67 287 P **P** **08 28 49.7 -1.0**
SNR=12
MZR Muzera 70.08 292 *i*P **P** **08 28 52.1 -0.8**
SNR=7.3
ABTO Aybut 70.12 286 P **P** **08 28 52.4 -0.9**
SNR=5.7
AKTO Aktyubinsk 70.66 322 P **P** **08 28 56.0 +0.2**
comp=Z,30nm,0.7s,baz=103,slow=8.0,SNR=93
ARU Arti 72.05 328 P **P** **08 29 03.3 -0.6**
comp=Z,5.7nm,0.5s,baz=104,slow=2.8,SNR=22
UNV Unalaska Valle 73.42 35 P **P** **08 29 12.4 +0.7**
UNV IAmb IAmb 08 29 18.7
comp=Z,63nm,1.4s
GAMB Gambell 73.81 25 P **P** **08 29 15.0 +1.2**
baz=249
TNA Tin City 75.95 23 P **P** **08 29 27.0 +1.3**
baz=252
ANM Nome 76.69 25 P **P** **08 29 31.0 +1.1**
baz=255
KIRV Kirov 77.36 329 P **P** **08 29 33.0 -0.5**
comp=Z,19nm,0.5s,baz=130,slow=4.6,SNR=5.6
RAYN Ar Rayn 77.42 293 P **P** **08 29 34.5 -0.3**
RAYN IAmb IAmb 08 29 35.4
comp=Z,26nm,0.9s
RAYN Ar Rayn 77.42 293 *i*P **P** **08 29 34.6 -0.2**
SNR=18
RDOG Red Dog Mine 78.54 22 P **P** **08 29 41.1 +1.2**
baz=256
GEVA Gevas 79.61 308 P **P** **08 29 46.8 +0.5**
GEVA IAmb IAmb 08 29 48.0
comp=Z,22nm,0.8s
KBZ Khabaz 79.88 313 P **P** **08 29 46.9 -0.5**
comp=Z,5.4nm,1.0s,baz=110,slow=6.9,SNR=5.2
GCSA Galena City Sc 80.31 25 P **P** **08 29 50.9 +1.7**
baz=262
VOI Vohitsoka 80.41 247 P **P** **08 29 50.3 -0.5**
VOI IAmb IAmb 08 29 50.6
comp=Z,14nm,0.9s
TTA Tatalina 80.47 27 P **P** **08 29 51.6 +1.4**
TTA Tatalina 80.47 27 P **P** **08 29 51.6 +1.4**
baz=264
L19K White Mountain 80.92 28 P **P** **08 29 54.2 +1.6**
baz=265
N19K Bonanza Creek 80.98 29 P **P** **08 29 54.5 +1.6**
baz=265
O19K Port Alsworth 81.01 30 P **P** **08 29 54.4 +1.5**
baz=265
M19K Big River Lodg 81.11 28 P **P** **08 29 55.3 +1.9**
baz=265
A21K Barrow 81.33 19 P **P** **08 29 55.9 +1.5**
baz=262,SNR=12
K20K Telida 81.39 27 P **P** **08 29 56.5 +1.7**
baz=265,SNR=5.1
L20K Farewell, AK 81.40 28 P **P** **08 29 56.5 +1.5**
baz=266
J20K Nowinta River 81.42 26 P **P** **08 29 56.8 +1.7**
baz=265,SNR=8.0
M20K Styx River 81.71 28 P **P** **08 29 58.2 +1.5**
baz=266
KDAK Kodiak Island 81.75 33 P **P** **08 29 58.2 +1.4**
KDAK IAmb IAmb 08 30 11.2
comp=Z,19nm,1.2s
KDAK Kodiak Island 81.75 33 P **P** **08 29 58.2 +1.4**
baz=267
H21K Melozitna Rive 82.11 25 P **P** **08 30 00.2 +1.6**
baz=266,SNR=9.1
CHUM Lake Minchumin 82.21 26 P **P** **08 30 00.6 +1.6**
baz=267
PPLA Purkeypile 82.21 27 P **P** **08 30 00.6 +1.3**
baz=267
CAST Castle Rocks 82.28 27 P **P** **08 30 00.9 +1.4**
baz=267,SNR=6.0
I21K Tanana 82.43 25 P **P** **08 30 01.7 +1.6**
baz=267,SNR=8.3
KLMR Klimovskoe 82.58 331 *e*P **P** **08 29 59.2 -1.7**
KLMR AMP 08 30 01.4
comp=Z,32nm,0.9s
BPAW Bear Paw Mtn. 82.80 26 P **P** **08 30 03.2 +1.1**
baz=268,SNR=5.8
MLY Manley 82.94 25 P **P** **08 30 04.3 +1.5**
baz=268,SNR=11
TRF Thorofare Moun 83.09 27 P **P** **08 30 04.3 +0.6**
baz=269
M22K Willow 83.13 29 P **P** **08 30 04.6 +0.9**
baz=269
COLD Coldfoot 83.24 23 P **P** **08 30 05.7 +1.6**
baz=268,SNR=7.5
TOLK Toolik Lake Re 83.52 22 P **P** **08 30 07.4 +1.8**
baz=269,SNR=6.4
I23K Minto, Yukon-K 83.53 25 P **P** **08 30 07.0 +1.4**
baz=269,SNR=6.1
PMR Palmer 83.60 29 P **P** **08 30 06.8 +0.7**
baz=270
NEA2 Nenana 83.65 26 P **P** **08 30 06.9 +0.7**
baz=270
MCK McKinley 83.70 27 P **P** **08 30 07.4 +0.9**
baz=270
SML Sawmill 83.98 28 P **P** **08 30 08.8 +0.7**
baz=270
PWL Port Wells 83.99 29 P **P** **08 30 08.6 +0.6**
baz=271
OBN Obninsk 84.11 325 P **P** **08 30 08.2 -0.4**
comp=Z,5.6nm,0.4s,baz=82,slow=8.4,SNR=5.9
H24K Noodor Dome 84.15 24 P **P** **08 30 10.1 +1.3**
baz=270
MAW Mawson 84.56 200 P **P** **08 30 11.7 +1.1**
comp=Z,22nm,0.6s,baz=229,slow=19,SNR=15
MAW Mawson 84.56 200 P **P** **08 30 12.2 +1.6**
ILAR Eielson Array 84.59 25 P **P** **08 30 10.3 -0.5**
comp=Z,0.8nm,0.5s,baz=237,slow=5.3,SNR=26
ILAR PKKPbc **PKKPbc** **08 48 17.1 -3.5**
comp=Z,0.2nm,0.5s,baz=92,slow=2.0,SNR=4.3
ILAR Eielson Array 84.59 25 P **P** **08 30 10.0 -0.9**
J25K Salcha River, 85.24 26 P **P** **08 30 14.3 +0.1**
baz=273
PAX Paxson 85.28 27 P **P** **08 30 14.7 +0.3**
baz=273
BMAR Burnt Mountain 85.42 23 P **P** **08 30 16.4 +1.5**
HARP HAARP 85.45 28 P **P** **08 30 15.7 +0.6**
baz=273
RIDG Independent Ri 85.52 26 P **P** **08 30 15.7 +0.2**
baz=273
VNDA Vanda 85.54 172 P **P** **08 30 15.4 +0.2**
comp=Z,2.0nm,0.6s,baz=322,slow=5.6,SNR=5.6
VNDA Vanda 85.54 172 P **P** **08 30 15.8 +0.6**
SCRK Sand Creek 85.88 26 P **P** **08 30 18.0 +0.6**
baz=274
J26L Joseph Creek 86.03 26 P **P** **08 30 18.5 +0.6**
baz=274
L26K Log Cabin Wild 86.24 27 P **P** **08 30 19.1 +0.2**
baz=275
SBA Scott Base 86.47 172 P **P** **08 30 20.8 +1.2**
BR131 Keskin Array S 86.90 309 P **P** **08 30 21.2 -1.5**
BRTR Keskin Array B 86.90 309 P **P** **08 30 21.6 -1.1**
comp=Z,4.1nm,0.7s,baz=114,slow=4.9,SNR=12
BRTR Keskin Array B 86.90 309 P **P** **08 30 22.1 -0.7**
L27K Beaver Creek, 86.93 27 P **P** **08 30 23.1 +0.9**
baz=276
BCAR Beaver Creek A 86.95 27 P **P** **08 30 23.1 +0.8**
KMBO Kilima Mbogo 87.03 269 P **P** **08 30 23.6 -0.3**
comp=Z,2.5nm,0.6s,baz=45,slow=8.3,SNR=8.7
EGAK Eagle 87.03 25 P **P** **08 30 23.4 +0.8**
ARCES ARCESS Array B 87.88 340 P **P** **08 30 25.7 -0.7**
comp=Z,5.3nm,0.8s,baz=85,slow=2.6,SNR=12
ARCES ARCESS Array B 87.88 340 P **P** **08 30 25.8 -0.6**
ARCES IAmb IAmb 08 30 39.2
comp=Z,21nm,1.4s
DAWY Dawson 87.89 26 P **P** **08 30 27.0 +0.3**
DAWY Dawson 87.89 26 P **P** **08 30 27.0 +0.3**
baz=278
I29M Ogilvie Camp, 88.15 25 P **P** **08 30 28.3 +0.5**
baz=279
SPB2 Spitsbergen Ar 88.22 349 P **P** **08 30 27.4 -0.4**
EPYK Eagle Plains 88.62 23 P **P** **08 30 30.7 +0.7**
baz=281
AKASG Malin Array Be 88.88 321 P **P** **08 30 30.2 -1.3**
comp=Z,2.4nm,0.5s,baz=67,slow=4.6,SNR=9.6
FIA1 FINESS Array S 89.03 332 P **P** **08 30 30.6 -1.4**

FIA1				IAmb	IAmb	08 30 54.1		
	comp=Z,9.0nm,1.1s							
FINES	**FINESS Array B**	**89.03**	**332**	P	**P**	**08 30 30.5**	**-1.4**	
	comp=Z,3.6nm,0.6s,baz=46,slow=5.5,SNR=16							
FINES	**FINESS Array B**	**89.03**		P	**P**	**08 30 30.8**	**-1.2**	
M30M	**Minto, Yukon**	**89.29**	**27**	P	**P**	**08 30 33.9**	**+0.7**	
	baz=281							
NACGM	**Naroch**	**89.74**	**325**	*e*P	**P**	**08 30 34.4**	**-1.0**	
WHY	**Whitehorse**	**90.56**	**29**	P	**P**	**08 30 39.7**	**+0.5**	
	baz=282							
BURAR	**Bucovina Array**	**91.95**	**318**	P	**P**	**08 30 46.4**	**+0.4**	
BURAR				IAmb	IAmb	08 30 46.5		
	comp=Z,4.1nm,0.7s							
BUR08	**Bucovina Ar. S**	**91.96**	**318**	P	**P**	**08 30 46.0**	**0.0**	
BUR08				IAmb	IAmb	08 30 46.6		
	comp=Z,6.5nm,1.2s							
C36M	**Paulatuk**	**92.37**	**19**	P	**P**	**08 30 47.8**	**+0.6**	
	baz=292							
TGTN	**Hyland Airport**	**93.43**	**27**	P	**P**	**08 30 53.2**	**+0.8**	
	baz=288							
CRVS	**Cervenica-Dubn**	**94.15**	**320**	*e*P	**P**	**08 30 56.0**	**+0.2**	
QSPA	**South Pole Qui**	**95.43**	**180**	P	**P**	**08 31 02.3**	**+0.9**	
NB2	**NORSAR Subarra**	**96.03**	**333**	P	**P**	**08 31 02.3**	**-1.8**	
	comp=Z,1.2nm,0.6s,baz=71,slow=4.4							
NOA	**NORSAR Array B**	**96.03**	**333**	P	**P**	**08 31 02.1**	**-2.0**	
	comp=Z,1.5nm,0.8s,baz=70,slow=4.4,SNR=4.4							
YKA	**Yellowknife Ar**	**98.91**	**24**	PKiKP	**PKiKP**	**08 35 44.6**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=315,slow=1.7,SNR=8.7							
YKA				PKKPbc	**PKKPbc**	**08 47 39.8**	**-4.3**	
	comp=Z,0.6nm,0.5s,baz=124,slow=2.4,SNR=4.1							
MONP2	**Monument Peak**	**111.08**	**52**	P	**PKiKP**	**08 36 07.2**	**-0.8**	
	baz=292							
PDAR	**Pinedale Array**	**111.65**	**40**	PKKPbc	PKKPbc	08 47 02.1	-3.4	
	comp=Z,0.4nm,0.6s,baz=103,slow=6.7,SNR=4.3							
PDAR				PKKPab	**PKKPab**	**08 47 13.2**	**-3.2**	
	comp=Z,0.7nm,0.7s,baz=133,slow=5.5,SNR=8.0							
WUAZ	**Wupatki**	**113.84**	**47**	P	**PKiKP**	**08 36 12.5**	**-0.6**	
	baz=296							
121A	**Cookes Peak, D**	**117.84**	**49**	P	**PKPdf**	**08 36 19.8**	**-1.1**	
	baz=298							
SCHQ	**Schefferville**	**119.15**	**7**	PKP	**PKiKP**	**08 36 22.8**	**+0.1**	
	comp=Z,1.6nm,0.5s,baz=19,slow=3.1,SNR=10.0							
SCHQ				SKP		08 39 08.6		
	comp=Z,3.0nm,1.1s,baz=254,slow=6.2,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**119.92**	**289**	PKPdf	**PKPdf**	**08 36 24.2**	**-0.8**	
TORD	**Torodi Ar. Bea**	**119.92**	**289**	PKP	**PKPdf**	**08 36 24.6**	**-0.5**	
	comp=Z,3.5nm,0.7s,baz=37,slow=1.9,SNR=24							
TORD	**Torodi Ar. Bea**	**119.92**	**289**		**PKPdf**	**08 36 24.2**	**-0.8**	
E46A	**Sault Ste Mari**	**122.47**	**23**		**PKiKP**	**08 36 29.7**	**+0.3**	
TXAR	**Lajitas Array**	**122.47**	**50**	PKP	**PKiKP**	**08 36 30.0**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=259,slow=1.2,SNR=7.3							
TXAR				SKP		08 39 16.5		
	comp=Z,0.2nm,0.6s,baz=213,slow=1.6,SNR=3.4							
TXAR				PKKPbc	**PKKPbc**	**08 46 26.1**	**-1.1**	
	comp=Z,0.3nm,0.8s,baz=115,slow=5.9,SNR=5.9							
TXAR	**Lajitas Array**	**122.47**	**50**		**PKiKP**	**08 36 30.4**	**+0.4**	
JFWS	**Jewell Farm**	**122.57**	**30**	P	**PKPdf**	**08 36 29.2**	**-0.3**	
	baz=318							
L44A	**Lake County Fo**	**124.25**	**29**	P	**PKiKP**	**08 36 33.2**	**+0.1**	
	baz=320							
S39A	**Bolivar**	**124.63**	**36**	PKPdf	**PKiKP**	**08 36 34.3**	**+0.4**	
JCT	**Junction City**	**124.77**	**47**	P	**PKiKP**	**08 36 34.4**	**-0.1**	
	baz=303							
R40A	**Maddies Statio**	**124.83**	**35**		**PKiKP**	**08 36 34.3**	**0.0**	
CCM	**Cathedral Cave**	**125.57**	**34**	P	**PKiKP**	**08 36 35.6**	**-0.1**	
	baz=315							
U40A	**Yellville**	**125.81**	**37**	P	**PKPdf**	**08 36 36.0**	**+0.1**	
	baz=312							
W39A	**Magazine**	**126.01**	**38**	P	**PKiKP**	**08 36 36.6**	**-0.2**	
	baz=311							
SFIN	**Lafayette**	**126.03**	**29**	P	**PKiKP**	**08 36 36.6**	**0.0**	
	baz=320							
KIC	**Kosan Boka**	**127.64**	**282**	*e*PKIKP	**PKPdf**	**08 36 39.2**	**-0.7**	
	comp=Z,8.4nm,0.6s							
DBIC	**Dimbokro**	**127.69**	**283**	PKP	**PKPdf**	**08 36 40.2**	**+0.2**	
	comp=Z,3.6nm,0.8s,baz=97,slow=3.0,SNR=5.2							
DBIC	**Dimbokro**	**127.69**	**283**		**PKPdf**	**08 36 40.0**	**0.0**	
TIC	**Toumodi**	**127.85**	**283**	*e*PKIKP	**PKPdf**	**08 36 39.9**	**-0.5**	
LIC	**Lamto**	**127.95**	**282**	*e*PKIKP	**PKPdf**	**08 36 39.4**	**-1.1**	
	comp=Z,13nm,0.8s							
M53A	**WI Miller and**	**128.03**	**24**	P	**PKPdf**	**08 36 40.1**	**+0.1**	
	baz=328							
WCI	**Wyandotte Cave**	**128.08**	**30**	P	**PKPdf**	**08 36 40.4**	**+0.3**	
	baz=320							
M54A	**Oil Creek Stat**	**128.36**	**23**	P	**PKPdf**	**08 36 40.7**	**+0.1**	
	baz=329							
WVT	**Waverly**	**128.85**	**33**	P	**PKPdf**	**08 36 42.0**	**+0.4**	
	baz=318							
P52A	**Corning**	**128.92**	**26**	P	**PKiKP**	**08 36 42.1**	**-0.4**	
	baz=326							
OXF	**Oxford**	**129.11**	**36**	P	**PKiKP**	**08 36 42.8**	**-0.2**	
	baz=315							
SSPA	**Standing Stone**	**129.79**	**22**	P	**PKiKP**	**08 36 43.9**	**-0.2**	
	baz=331							
KMSC	**Kings Mountain**	**132.96**	**29**	P	**PKiKP**	**08 36 50.1**	**-0.6**	
	baz=324							
PLCA	**Paso Flores**	**142.56**	**162**	PKP	**PKPdf**	**08 37 04.7**	**-2.3**	
	comp=Z,1.4nm,0.6s,baz=232,slow=4.7,SNR=8.3							
PLCA				SKPbc	**SKPbc**	**08 39 55.0**	**-0.9**	
	comp=Z,1.0nm,0.7s,baz=345,slow=3.4,SNR=3.4							
LC01	**Cunco**	**143.75**	**159**		**PKPdf**	**08 37 08.7**	**-0.3**	
LPAZ	**La Paz**	**163.90**	**133**	PKP	**PKPdf**	**08 37 38.0**	**0.0**	
	comp=Z,1.6nm,0.9s,baz=343,slow=1.3,SNR=4.8							

TAP 29 08:22:02.1,24.14N×121.61E,h3km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.02**	**35**	P	Pg	08 22 03.2	+0.2
	baz=36						
ETL				S	Sg	08 22 03.9	+0.4
	baz=36						
NACB	**Ninganchiao**	**0.04**	**336**	P	Pg	08 22 03.6	+0.5
	baz=336						
NACB				S	Sg	08 22 04.4	+0.7
	baz=336						
TWD	**Chiawan**	**0.06**	**192**	*i* P	Pg	08 22 04.2	+0.7
	baz=184						
TWD				*i* S	Sg	08 22 05.5	+1.1
	baz=184						
ETLH	**Xiulin Townshi**	**0.13**	**299**	*e*P	Pg	08 22 05.8	+0.9
	baz=298						
ETLH				S	Sg	08 22 08.6	+2.0
	baz=298						
TEYL	**Yanliau Villag**	**0.27**	**182**	*e*S	Sg	08 22 11.9	+0.9
	baz=181						
WHF	**Hehuan Shan**	**0.32**	**271**	*i* P	Pb	08 22 09.5	-1.1
	baz=270						
WHF				S	Sb	08 22 14.9	-1.4
	baz=270						
EWUT	**Wuta**	**0.34**	**27**	*e*P	Pb	08 22 09.8	-1.0
	baz=26						
EWUT				*e*S	Sb	08 22 16.3	-0.3
	baz=26						
FUSS	**Fushou**	**0.35**	**288**	*e*P	Pb	08 22 10.5	-0.6
	baz=287						
FUSS				*e*S	Sg	08 22 15.2	+1.6
	baz=287						
NNSB	**Datong**	**0.35**	**324**	*e*P	Pb	08 22 10.4	-0.8
	baz=323						
NNSB				*e*S	Sb	08 22 16.1	-1.1
	baz=323						
LATG	**Datong**	**0.40**	**349**	*e*P	Pb	08 22 11.8	-0.1
	baz=348						
LATG				*e*S	Sb	08 22 18.1	-0.3
	baz=348						
CHGB	**Renai**	**0.41**	**259**	*e*P	Pb	08 22 11.3	-0.8
	baz=258						
CHGB				*e*S	Sb	08 22 18.5	-0.3
	baz=258						
OWD	**Renai**	**0.44**	**245**	*e*P	Pb	08 22 12.2	-0.5
	baz=244						
OWD				*e*S	Sb	08 22 18.3	-1.3
	baz=244						
NDT	**Datong Townshi**	**0.47**	**349**	*e*P	Pb	08 22 12.5	-0.6
	baz=349						
NDT				*e*S	Sb	08 22 20.1	-0.3
	baz=349						
WUSB	**Renai**	**0.47**	**252**	*e*S	Sb	08 22 20.4	-0.3
	baz=251						
VWDT	**VWDT**	**0.58**	**228**	*e*P	Pb	08 22 15.5	+0.6
	baz=227						
FUSB	**Fushanzhiwuyua**	**0.61**	**358**	*e*P	Pb	08 22 16.3	+0.7
	baz=358						
FUSB				*e*S	Sb	08 22 25.1	+0.5
	baz=358						
HGSD	**Ruisui**	**0.67**	**195**	*e*P	Pb	08 22 16.2	-0.2
	baz=194						
HGSD				*e*S	Sb	08 22 27.4	+1.3
	baz=194						
SSLB	**Suanglung**	**0.70**	**240**	*e*P	Pb	08 22 16.5	-0.5
	baz=239						
SSLB	**Suanglung**	**0.70**	**240**	P	Pb	08 22 16.9	0.0
SSLB	**Suanglung**	**0.70**	**240**	P	Pb	08 22 16.3	-0.7
SMLT	**Sun Moon Lake**	**0.70**	**248**	*e*P	Pb	08 22 17.5	+0.5
	baz=247						
TYC	**Yuchr**	**0.73**	**251**	*e*P	Pb	08 22 16.9	-0.5
	baz=250						
EGS		**0.76**	**23**	*e*P	Pb	08 22 18.2	+0.2
	baz=23						
EGS				*e*S	Sb	08 22 29.9	+1.2
	baz=23						

IDC 29 08:25:52.9±3.2,53.49N×87.25E,h0km,mb1 3.2/2, mb1mx2.9/57,mbtmp3.2/2,ML2.6/2,Error ellipse: s-maj=30.3km s-min=17.0km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.51**	**289**	Pg	Pn	08 26 20.1	-1.1
	0.9nm,0.3s,baz=109,slow=14,SNR=11						
ZALV				Lg	Lg	08 26 40.8	
	0.9nm,0.3s,baz=108,slow=28,SNR=6.5						
I46RU	**ZALESOVO INFRA**	**1.51**	**289**	*i*		08 36 20.0	
	baz=106,slow=337,SNR=2.3						
KURBB	**Kurchatov Arra**	**6.09**	**245**	Pn	Pn	08 27 24.9	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**7.42**	**207**	Pn	Pn	08 27 43.5	+1.2
	0.2nm,0.3s,baz=26,slow=15,SNR=1.6						

JMA 29 08:27:08.7±0.4,25.00N×123.57E,h21km,M2.3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.68**	**168**	P	Pb	08 27 21.6	-0.3
IRIF				S	Sb	08 27 30.6	-0.2
YOJ	**Yonaguni jima**	**0.74**	**224**	P	Pb	08 27 23.0	+0.1
JIJ	**Ishigaki jima**	**0.82**	**140**	P	Pb	08 27 24.2	0.0
JKRS	**Kuro-shima**	**0.86**	**152**	*e*S	Sb	08 27 35.9	0.0
HATJ	**Hateruma jima**	**0.96**	**167**	P	Pb	08 27 26.5	-0.2
HATJ				*e*S	Sb	08 27 39.1	+0.1

TAP 29 08:27:28.0,24.17N×121.75E,h14km,ML1.5,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.12**	**267**	P	Pg	08 27 31.5	+0.2
	baz=268						
ETL				*e*S	Sg	08 27 33.7	+0.1
	baz=268						
NACB	**Ninganchiao**	**0.14**	**274**	P	Pg	08 27 31.8	+0.1
	baz=275						
NACB				S	Sg	08 27 34.1	0.0
	baz=275						
EHP	**Heping Village**	**0.14**	**357**	*e*S	Sb	08 27 35.0	-0.5
	baz=358						
TWD	**Chiawan**	**0.16**	**239**	P	Pg	08 27 32.2	+0.3
	baz=246						
TWD				*e*S	Sg	08 27 34.9	+0.2
	baz=246						
ETLH	**Xiulin Townshi**	**0.25**	**280**	P	Pg	08 27 33.6	+0.2
	baz=280						
ETLH				*e*S	Sg	08 27 37.3	+0.2
	baz=280						
ENA	**Nanau**	**0.26**	**358**	*e*P	Pg	08 27 33.9	+0.3
	baz=359						
ENA				*e*S	Sg	08 27 37.9	+0.6
	baz=359						
EWUT	**Wuta**	**0.28**	**5**	*e*P	Pg	08 27 34.2	+0.3
	baz=4.0						
EWUT				*e*S	Sg	08 27 38.4	+0.5
	baz=4.0						
LATG	**Datong**	**0.42**	**331**	P	Pb	08 27 37.0	-0.3
	baz=330						
LATG				S	Sb	08 27 43.2	-0.4
	baz=330						
NNSB	**Datong**	**0.42**	**308**	P	Pb	08 27 37.1	-0.3
	baz=308						
NNSB				S	Sb	08 27 43.1	-0.6
	baz=308						
NNS	**Nan Shan**	**0.44**	**309**	*e*P	Pg	08 27 37.2	+0.4
	baz=309						
NNS				*e*S	Sg	08 27 43.1	+0.3
	baz=309						
WHF	**Hehuan Shan**	**0.44**	**268**	P	Pg	08 27 37.3	+0.3
	baz=268						
WHF				S	Sg	08 27 43.7	+0.6
	baz=268						
FUSS	**Fushou**	**0.47**	**280**	P	Pg	08 27 36.9	-0.4
	baz=281						
FUSS				*e*S	Sg	08 27 43.2	-0.5
	baz=281						
NDT	**Datong Townshi**	**0.49**	**334**	*e*P	Pb	08 27 38.4	+0.1
	baz=332						
NDT				*e*S	Sb	08 27 45.1	-0.2
	baz=332						
ENTT	**Nioudou**	**0.50**	**341**	*e*S	Sb	08 27 45.7	-0.1
	baz=340						
CHGB	**Renai**	**0.54**	**259**	P	Pb	08 27 39.3	0.0
	baz=255						
CHGB				*e*S	Sb	08 27 47.2	+0.2
	baz=255						
TDCB	**Techi**	**0.55**	**279**	*e*S	Sb	08 27 46.8	-0.4
	baz=280						
OWD	**Renai**	**0.56**	**248**	*e*P	Pb	08 27 40.1	+0.4
	baz=249						
OWD				*e*S	Sg	08 27 47.0	+0.3
	baz=249						
WUSB	**Renai**	**0.60**	**254**	*e*S	Sb	08 27 48.4	-0.4
	baz=249						
YHNB	**Yeheng**	**0.61**	**326**	*e*P	Pb	08 27 40.8	+0.3
	baz=325						
YHNB				*e*S	Sb	08 27 49.3	+0.4
	baz=325						
FUSB	**Fushanzhiwuyua**	**0.61**	**346**	*e*P	Pb	08 27 40.6	+0.1
	baz=345						
FUSB				*e*S	Sb	08 27 48.8	-0.1
	baz=345						
NWLT	**Wulai**	**0.65**	**340**	*e*P	Pb	08 27 41.3	+0.2
	baz=339						
NWLT				*e*S	Sb	08 27 49.8	-0.2
	baz=339						
VWDT	**VWDT**	**0.69**	**234**	*e*S	Sn	08 27 53.1	-0.7
	baz=242						
WHP	**Taichung City**	**0.74**	**279**	*e*S	Sb	08 27 53.9	+1.1
	baz=279						
SSLB	**Suanglung**	**0.82**	**243**	*e*S	Sb	08 27 55.7	+0.8
	baz=253						
YULB	**Yu-li**	**0.87**	**208**	*e*P	Pb	08 27 45.4	+0.4
	baz=220						
YULB				*e*S	Sn	08 27 59.2	+0.8
	baz=220						

IDC 29 08:51:51.0±4.0,53.47N×90.46E,h0km,mb1 2.9/3, mb1mx2.8/50,mbtmp2.9/3,ML2.1/2,Error ellipse: s-maj=37.0km s-min=26.3km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.39**	**280**	*i*		09 15 00.0	
	baz=90,slow=332,SNR=4.5						
ZALV	**Zalesovo Beam**	**3.39**	**280**	Pn	Pn	08 52 46.3	+1.2
	0.3nm,0.3s,baz=96,slow=16,SNR=4.6						
ZALV				Lg	Lg	08 53 38.7	
	0.3nm,0.3s,baz=100,slow=25,SNR=5.1						
KURBB	**Kurchatov Arra**	**7.89**	**254**	Pn	Pn	08 53 46.3	-0.6
	baz=65,slow=15,SNR=1.3						
KURBB				Lg	Lg	08 56 02.2	
	baz=63,slow=33,SNR=1.0						
MKAR	**Makanchi Array**	**8.49**	**221**	Pn	Pn	08 53 56.2	+1.0
	0.1nm,0.3s,baz=43,slow=13,SNR=4.2						
MKAR				Lg	Lg	08 56 18.0	
	0.0nm,0.3s,baz=37,slow=29,SNR=2.1						

TEH 29 08:52:21.4,34.11N×59.78E,h14km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMON	**Monand**	**0.92**	**186**	*e*Pg	Pb	08 52 39.6	+0.4
IMON				*e*Sg	Sn	08 52 52.6	-0.5
AFRZ	**Afriz**	**0.93**	**224**	*e*Pg	Pb	08 52 39.2	-0.2
AFRZ				*e*Sg	Sn	08 52 52.6	-0.8
TBJM	**Torbat-e-JAM**	**1.24**	**21**	*e*Pg	Pb	08 52 44.8	0.0
IDAH	**Dahanechah**	**1.36**	**177**	*e*Pg	Pb	08 52 47.2	+0.3
IDAH				*e*Sg	Sg	08 53 06.3	+0.8
IDAH				*e*		08 53 09.7	
	comp=Z,15μm,0.2s						
ITEG	**Tejag**	**1.48**	**216**	*e*Pg	Pg	08 52 49.7	-0.3
ITEG				*e*		08 52 50.6	
	comp=Z,13μm,0.2s						
IKOO	**Kooshah**	**1.80**	**201**	*e*Pn	Pb	08 52 53.9	-0.4
IKOO				*e*		08 52 57.9	
	comp=Z,7μm,0.2s						
IMYA	**Miami**	**2.25**	**7**	*e*Pn	Pn	08 53 00.0	+1.7
TKDS	**Koohdasht(Taba**	**2.27**	**258**	*e*Pn	Pn	08 52 59.6	+1.1
TKDS				*e*		08 53 35.3	
	comp=Z,3μm,0.6s						
TNSJ	**Nastanj**	**2.64**	**268**	*e*Pn	Pn	08 53 05.4	+1.8
IKRD	**Kardeh**	**2.67**	**355**	*e*Pn	Pn	08 53 05.7	+1.5
IKRD				*e*		08 53 57.5	
	comp=Z,1μm,0.3s						
NHDN	**Nehbandan**	**2.71**	**175**	*e*Pn	Pn	08 53 06.8	+2.1
TPRV	**Parvadeh(Tabas**	**2.80**	**248**	*e*		08 53 54.0	
	comp=Z,3μm,0.4s						
TPRV				*e*Pn	Pn	08 53 07.7	+1.9
SBZV	**Sabzevar**	**2.89**	**323**	*e*Pn	Pn	08 53 09.1	+1.9
KHGB	**Koh Gabri**	**4.66**	**218**	*e*Pn	Pn	08 53 34.2	+2.7
KHGB				*e*		08 55 05.9	
	comp=Z,219nm,0.8s						
IGLO	**Ghaloghah**	**5.42**	**298**	*e*Pn	Pn	08 53 44.1	+2.1
IGLO				*e*		08 53 55.2	
	comp=Z,520nm,0.3s						
ISFB	**Sefidab**	**6.25**	**274**	*e*Pn	Pn	08 53 55.0	+1.7
KRSH	**Karshahi**	**6.35**	**271**	*e*Pn	Pn	08 53 56.6	+1.9
KRSH				*e*		08 55 54.9	
	comp=Z,152nm,0.5s						
IPRN	**Peran**	**6.46**	**291**	*e*Pn	Pn	08 53 58.7	+2.5

*ANF **29** 08:56:05.6±2.5,29.65N×114.23W,h9km±19km,ML4.7/11, Error ellipse: s-maj=19.0km s-min=9.2km az=20.0*
*IDC **29** 08:56:11.7±1.3,30.14N×114.24W,h0km, mb3.9/6, mb1 3.9/13,mb1mx3.8/53,mbtmp3.7/13,ML3.6/7, MS3.8/22, Ms1 3.8/22,ms1mx3.6/77,Error ellipse: s-maj=21.5km s-min=9.3km az=34.0*
*NEIC **29** 08:56:16.9±1.8,30.47N±0.06×114.26W±0.06,h10km±2km, mb4.4/55,Md4.4/20(MEX),Error ellipse: s-maj=11.3km s-min=8.0km az=216.0*
*MEX **29** 08:56:27.0±2.0,31.17N×113.90W,h10km,MD4.4*
ISC 29 08:56:14.0±1.4,30.23N±0.05×114.39W±0.04,h13km±9km, n188,σ1°44/189,mb4.3/21,MS3.8/16,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.90**	**334**	Pg	**Pb**	**08 56 30.5**	**-1.0**
BAHB	**Baha de los**	**1.47**	**151**	*e*S	Pn	**08 56 41.1**	**+0.8**
BAHB				*i* P	**Pb**	**08 56 41.5**	**+0.3**
LAPR	**La Primavera**	**1.81**	**81**	*i* P	**Pg**	**08 56 50.4**	**+1.7**
LAPR				*e*S	**Sn**	**08 57 04.5**	**-3.2**
214A	**Organ Pipe Nat**	**2.19**	**38**		**Pn**	**08 56 47.8**	**-2.3**
214A	**Organ Pipe Nat**	**2.19**	**38**	*e*P	**Pn**	**08 56 47.0**	**-3.2**
214A				*e*S	**Sg**	**08 57 22.9**	**-1.4**
214A	**Organ Pipe Nat**	**2.19**	**38**	P	**Pn**	**08 56 47.4**	**-2.7**
	baz=208,SNR=19						
214A				Sb	**Sg**	**08 57 27.7**	**+3.4**
	baz=208						
MBIG	**Mexicali**	**2.28**	**342**		**Pg**	**08 56 56.4**	**-1.3**
MBIG	**Mexicali**	**2.28**	**342**	*e*P	**Pn**	**08 56 49.1**	**-2.2**
MBIG				*e*P	**Pg**	**08 56 56.4**	**-1.3**
MBIG				*e*S	**Sg**	**08 57 27.6**	**+0.4**
CPBX	**Cerro Prieto**	**2.32**	**340**	Pn	**Pn**	**08 56 51.4**	**-0.5**
CCX	**Cicese**	**2.54**	**310**	Pn	**Pn**	**08 56 56.8**	**+1.8**
113A	**Mohawk Valley,**	**2.58**	**12**	Pn	**Pn**	**08 56 53.7**	**-1.9**
YUH	**Yuha Desert**	**2.74**	**332**		**Pn**	**08 56 58.4**	**+0.7**
IKP	**In-Ko-Pah, Jac**	**2.82**	**329**	Pb	**Pb**	**08 57 06.1**	**+1.8**
	baz=151,SNR=30						
IKP				S	**Sb**	**08 57 40.9**	**+2.0**
	baz=151						
GLA	**Glamis**	**2.83**	**352**		**Pn**	**08 56 58.0**	**-1.1**
GLA	**Glamis**	**2.83**	**352**	P	**Pn**	**08 56 58.5**	**-0.5**
	baz=171						
CBX	**Cerro Bola**	**2.85**	**317**		**Pn**	**08 56 59.9**	**+0.6**
CBX	**Cerro Bola**	**2.85**	**317**	*i* P	**Pb**	**08 57 06.5**	**+1.8**
CBX				*e*S	**Sn**	**08 57 32.9**	**-0.6**
TJIG	**Tijuana**	**2.94**	**319**		**Pn**	**08 56 59.9**	**-0.5**
TJIG					**Pb**	**08 57 07.7**	**+1.4**
TJIG					**Sn**	**08 57 34.5**	**-1.2**
TJIG	**Tijuana**	**2.94**	**319**	*e*P	**Pn**	**08 56 59.9**	**-0.5**
TJIG				*i* P	**Pb**	**08 57 07.7**	**+1.4**
TJIG				*e*S	**Sn**	**08 57 34.5**	**-1.2**
SWSC	**Sam W. Stewart**	**2.96**	**336**	Pb	**Pb**	**08 57 08.4**	**+1.8**
	baz=158,SNR=16						
TKX	**Tecate**	**3.00**	**321**		**Pn**	**08 57 02.0**	**+0.6**
BAR	**Barrett**	**3.12**	**322**		**Pn**	**08 57 03.4**	**+0.4**
MONP2	**Monument Peak**	**3.17**	**327**	Pb	**Pb**	**08 57 11.7**	**+1.4**
	baz=149,SNR=10						
MONP2				S	**Sb**	**08 57 50.4**	**+1.4**
	baz=149						
TJX	**Tijuana**	**3.22**	**316**		**Pn**	**08 57 06.2**	**+1.9**
HSIG		**3.23**	**111**	*e*P	Pn	08 56 58.0	-6.4
HSIG				*e*S	**Sn**	**08 57 40.4**	**-2.4**
SRIG	**Santa Rosalia**	**3.46**	**147**		Pn	08 57 13.4	+5.8
SRIG	**Santa Rosalia**	**3.46**	**147**	*e*P	**Pb**	**08 57 14.8**	**-0.3**
SRIG				*e*S	Sn	08 57 40.8	-7.7
BLYC	**Blythe**	**3.51**	**358**		**Pn**	**08 57 08.3**	**+0.1**
109C	**Camp Elliot, M**	**3.52**	**319**		**Pn**	**08 57 09.9**	**+1.5**
109C	**Camp Elliot, M**	**3.52**	**319**	P	**Pn**	**08 57 08.0**	**-0.5**
	baz=142						
TUC	**Tucson**	**3.71**	**55**		**Pn**	**08 57 10.2**	**-1.0**
TUC	**Tucson**	**3.71**	**55**	P	**Pn**	**08 57 06.7**	**-4.5**
	baz=229						
PFO	**Pinyon Flats O**	**3.80**	**333**	Pn	**Pn**	**08 57 12.7**	**+0.3**
	1.3nm,0.3s,baz=148,slow=12,SNR=5.8						
PFO				Pg	**Pg**	**08 57 26.0**	**-0.9**
	5.1nm,0.3s,baz=174,slow=14,SNR=18						
PFO				Lg	Lg	08 58 15.9	
	6.5nm,0.3s,baz=160,slow

TPNV **Topopah Spring** 6.88 347 Pn Pn 08 57 54.4 -0.3
KNB **Kanab** 6.89 10 Pn Pn 08 57 53.6 -1.3
LPIG **La Paz** 7.11 148 Lg Lg 08 59 59.6
1.5nm,0.3s,baz=52,slow=20,SNR=2.0
LPIG LR LR 09 00 40.4
comp=Z,1μm,18.7s,baz=340,slow=39
PRN **Pahroc Range** 7.18 356 Pn 08 57 58.6 -0.3
CCUT **Cedar City** 7.35 6 Pn Pn 08 58 00.9 -0.4
PKCU **Pink Cliffs** 7.40 13 Pn Pn 08 58 02.9 +0.9
Y22D **IRIS PASSCAL I** 7.40 57 Pn 08 58 01.2 -0.6
SZCU **Shurtz Canyon** 7.42 8 Pn 08 58 02.0 -0.2
LCH **Last Change Ra** 7.49 340 Pn Pn 08 58 03.7 +0.6
BNM **Barren Site** 7.65 57 Pn 08 58 04.2 -1.2
MNTX **Cornudas Mount** 7.87 77 Pn Pn 08 58 10.3 +2.1
MTPU **Mount Pierson** 8.00 13 Pn 08 58 10.3 0.0
R11A **Troy Canyon, C** 8.16 353 Pn 08 58 13.2 +0.9
R11A **Troy Canyon, C** 8.16 353 P Pn 08 58 12.9 +0.6
baz=172
ANMO **Albuquerque** 8.17 53 Pn Pn 08 58 10.7 -1.8
0.4nm,0.3s,baz=225,slow=9.8,SNR=9.9
ANMO Pg Pb 08 58 45.0 +9.4
0.1nm,0.3s,baz=214,slow=14,SNR=2.2
ANMO Lg Lg 09 00 29.8
0.1nm,0.3s,baz=271,slow=14,SNR=1.7
ANMO LR LR 09 01 13.0
comp=Z,385nm,20.6s,baz=234,slow=37
ANMO **Albuquerque** 8.17 53 Pn Pn 08 58 11.9 -0.7
PSUT **Pine Spring** 8.29 3 Pn 08 58 14.5 +0.3
MSU **Marysvale** 8.46 12 Pn Pn 08 58 16.1 -0.3
MVCO **Mesa Verde** 8.51 34 Pn Pn 08 58 17.9 +0.7
MVCO **Mesa Verde** 8.51 34 P Pn 08 58 14.6 -2.7
baz=214
NVAR **Mina Array Bea** 8.79 339 Pn Pn 08 58 23.7 +2.6
0.2nm,0.3s,baz=161,slow=14,SNR=5.4
NVAR Lg Lg 09 00 60.0
baz=174,slow=33,SNR=1.7
Q16A **Castle Valley** 9.06 16 Pn 08 58 25.4 +0.7
TX31 **Lajitas Ar. Si** 9.36 93 Pn 08 58 27.5 -1.2
TX32 **Lajitas Array** 9.36 93 Pn 08 58 27.3 -1.4
TXAR **Lajitas Array** 9.36 93 Pn Pn 08 58 27.2 -1.5
0.3nm,0.3s,baz=264,slow=15,SNR=27
TXAR Sn Sn 09 00 10.2 -3.7
0.2nm,0.3s,baz=200,slow=17,SNR=7.5
TXAR Lg Lg 09 01 00.1
0.1nm,0.3s,baz=355,slow=28,SNR=2.0
TXAR LR LR 09 02 11.7
comp=Z,685nm,19.9s,baz=272,slow=39
SRU **San Rafael Swe** 9.41 19 Pn 08 58 29.3 -0.2
TMUT **Trail Mountain** 9.41 15 Pn 08 58 29.6 -0.1
ELK **Elko** 10.51 356 Pn Pn 08 58 47.3 +2.7
0.1nm,0.3s,baz=166,slow=14,SNR=3.3
ELK Lg Lg 09 01 47.5
0.1nm,0.3s,baz=241,slow=13,SNR=1.4
BEKR **Beckworth** 10.78 335 Pn Pn 08 58 49.9 +1.6
T25A **Trinidad** 10.79 48 Pn Pn 08 58 48.2 -0.2
RDMU **Red Mountain** 11.04 20 Pn 08 58 50.6 -1.2
KSCO **Kaye Shedlock'** 13.04 45 Pn 08 59 17.9 -1.2
PD31 **Pinedale Array** 13.09 16 Pn Pn 08 59 19.9 0.0
PDAR **Pinedale Array** 13.09 16 Pn Pn 08 59 23.5 +3.6
0.1nm,0.3s,baz=186,slow=12,SNR=8.7
PDAR Lg Lg 09 03 07.4
0.0nm,0.3s,baz=201,slow=22,SNR=1.5
PDAR LR LR 09 04 39.5
comp=Z,520nm,19.5s,baz=204,slow=39
PDAR **Pinedale Array** 13.09 16 Pn 08 59 19.7 -0.2
YBH **Yreka Blue Hor** 13.30 332 LR LR 09 04 28.3
comp=Z,326nm,18.8s,baz=154,slow=37
LOHW **Long Hollow** 13.69 12 Pn 08 59 26.3 -1.8
MOOW **Moose Ponds** 13.80 11 Pn 08 59 30.3 +0.8
K22A **Casper** 13.90 25 Pn 08 59 30.9 0.0
FLWY **Flagg Ranch** 14.13 11 Pn 08 59 31.7 -2.3
I07A **Izee** 14.41 345 Pn 08 59 37.8 0.0
H17A **Grant Village** 14.46 11 Pn 08 59 38.1 -0.5
435B **Jarrell** 14.50 84 P P 08 59 46.7 +1.1
WHTX **Lake Whitney,** 14.61 79 Pn Pn 08 59 42.2 +1.7
MCMT **McKenzie Canyo** 14.62 4 Pn 08 59 38.5 -2.3
X34A **Smith Ranch, M** 14.64 68 Pn Pn 08 59 39.4 -1.5
YMR **Madison River** 14.66 10 P P 08 59 46.9 -0.8
YNR **Norris Junctio** 14.75 10 Pn 08 59 40.9 -1.7
BMO **Blue Mountains** 14.77 352 Pn Pn 08 59 40.9 -1.8
PLID **Pearl Lake** 14.88 356 Pn 08 59 44.3 0.0
Z35A **Perchaven, San** 14.90 74 Pn Pn 08 59 45.0 +0.6
R32A **Long Quarter,** 15.30 54 Pn Pn 08 59 49.6 -0.1
R32A IAmb IAmb 08 59 56.8
comp=Z,17nm,1.2s
RLMT **Red Lodge** 15.40 14 Pn 08 59 50.9 -0.3
BOZ **Bozeman (W)** 15.49 7 P P 08 59 55.6 -1.1
LRM **Limekiln Ridge** 15.64 5 P P 08 59 59.7 +1.2
F10A **Beach Ranch, E** 15.87 353 Pn 08 59 56.4 -0.8
RSSD **Black Hills** 16.11 28 P 09 00 02.3 -1.4
T35A **Sooner Cattle** 16.31 61 P P 09 00 05.7 0.0
MSO **Missoula** 16.57 1 P P 09 00 08.3 -0.4
TUL1 **Leonard** 16.57 65 P P 09 00 08.6 -0.1
HAWA **Hanford** 16.62 347 P P 09 00 09.0 -0.2
Z38A **Mt. Pleasant** 16.78 75 P P 09 00 12.9 +2.0
Z38A IAmb IAmb 09 00 13.9
comp=Z,26nm,0.8s
E07A **Sunnyside** 16.85 347 P P 09 00 12.3 +0.7
NATX **Nacogdoches** 16.98 80 P P 09 00 14.2 +0.9
NATX IAmb IAmb 09 00 40.8
comp=Z,24nm,1.1s
KSU1 **Kansas State U** 17.07 54 P P 09 00 13.7 -0.4
KSU1 IAmb IAmb 09 00 17.4
comp=Z,32nm,1.3s
K31A **O'Neill** 17.60 41 P P 09 00 20.4 +0.3
K31A IAmb IAmb 09 00 24.2
comp=Z,57nm,1.4s
LAO **LASA Array** 17.61 19 P P 09 00 20.5 +0.4
LAO IAmb IAmb 09 00 24.4
comp=Z,26nm,1.2s
EGMT **Eagleton** 18.12 10 P P 09 00 26.6 +0.9
NEW **Newport** 18.13 354 P P 09 00 26.5 +0.7
comp=Z,0.1nm,0.3s,baz=177,slow=14,SNR=5.1
NEW LR LR 09 07 46.7
comp=Z,147nm,18.7s,baz=180,slow=38
NEW **Newport** 18.13 354 P Pn 09 00 25.2 -0.3
WLAR **White Oak Lake** 18.37 74 P 09 00 28.8 +0.2
WLAR IAmb IAmb 09 00 34.3
comp=Z,40nm,1.3s
P38A **Dawn** 19.46 56 P Pn 09 00 41.6 -0.1
P38A IAmb IAmb 09 00 48.1
comp=Z,15nm,1.2s
E28A **Huff** 19.48 29 P Pn 09 00 41.5 -0.3
CCAR **Cane Creek** 19.51 73 P P 09 00 41.6 +0.6
ECSD **EROS Data Cent** 19.52 41 P P 09 00 41.0 0.0
ECSD IAmb IAmb 09 00 44.8
comp=Z,24nm,1.3s
DGMT **Dagmar** 19.81 20 P Pn 09 00 45.6 -0.2
DGMT IAmb IAmb 09 00 47.8
comp=Z,24nm,1.2s
R40A **Maddies Statio** 19.94 60 P P 09 00 46.3 +0.6
N38A **Joes South For** 20.14 53 P P 09 00 47.8 0.0
N38A IAmb IAmb 09 00 55.4
comp=Z,18nm,1.1s
P40A **Paris** 20.50 57 P P 09 00 52.3 +0.5
P40A IAmb IAmb 09 00 54.3
comp=Z,25nm,1.3s
VBMS **Vicksburg** 20.50 78 P P 09 00 51.6 -0.2
VBMS IAmb IAmb 09 00 54.4
comp=Z,24nm,0.9s
CCM **Cathedral Cave** 20.65 62 P P 09 00 53.2 -0.2
MDND **Maddock** 20.94 29 P 09 00 56.8 +0.3
PBMO **Poplar Bluff** 20.99 66 P Pn 09 00 58.9 -0.8
PBMO IAmb IAmb 09 01 00.8
comp=Z,15nm,1.4s
LLLB **Lillooet** 21.12 347 P P 09 00 58.5 +0.1
LLLB IAmb IAmb 09 01 02.4
comp=Z,16nm,1.2s
346A **Big Creek Wild** 21.43 81 P P 09 01 02.5 +0.7
346A IAmb IAmb 09 01 06.8
comp=Z,21nm,0.8s
I37A **Lemond, Waseca** 21.58 45 P P 09 01 03.9 +0.5
N41A **Harden Midland** 21.77 55 P P 09 01 05.7 +0.3
N41A IAmb IAmb 09 01 07.5
comp=Z,32nm,1.2s
L40A **Anamosa** 22.05 51 P P 09 01 09.0 +0.6
L40A IAmb IAmb 09 01 11.7
comp=Z,32nm,1.3s
CMIG **Matias Romero** 22.10 122 P P 09 01 07.2 -2.0
comp=Z,7.2nm,1.2s,baz=333,slow=6.8,SNR=5.2
CMIG LR LR 09 09 58.8
comp=Z,609nm,18.4s,baz=285,slow=38
SIUC **Southern Illin** 22.12 64 P P 09 01 10.2 +0.9
SIUC IAmb IAmb 09 01 13.6
comp=Z,7.5nm,0.8s
F36A **Milaca** 22.56 40 P P 09 01 13.8 0.0
F36A IAmb IAmb 09 01 17.5
comp=Z,17nm,1.1s
HDIL **Hopedale** 22.83 56 P P 09 01 17.3 +0.5
HDIL IAmb IAmb 09 01 22.9
comp=Z,24nm,1.2s
AGMN **Agassiz Nation** 22.94 33 P P 09 01 18.1 +0.2
AGMN IAmb IAmb 09 01 20.6
comp=Z,11nm,1.2s
JFWS **Jewell Farm** 23.06 50 P P 09 01 19.1 0.0
JFWS IAmb IAmb 09 01 21.9
comp=Z,12nm,1.1s
I40A **Norwalk** 23.26 48 P P 09 01 21.1 -0.1
B35A **Bob, Littlefor** 24.02 35 P P 09 01 28.1 -0.5
B35A IAmb IAmb 09 01 31.7
comp=Z,11nm,1.3s
P46A **Rosedale** 24.10 60 P P 09 01 30.1 +0.8
BBB **Bella Bella** 24.16 339 LR LR 09 10 20.3
comp=Z,310nm,21.3s,baz=173,slow=35
G40A **Rib Lake** 24.18 45 P P 09 01 29.9 -0.2
G40A IAmb IAmb 09 01 32.8
comp=Z,17nm,1.1s
ULM **Lac du Bonnet** 24.36 30 P P 09 01 31.6 0.0
comp=Z,11nm,1.0s,baz=225,slow=9.4,SNR=12
ULM LR LR 09 11 18.6
comp=Z,274nm,19.5s,baz=192,slow=37
ULM **Lac du Bonnet** 24.36 30 P P 09 01 32.0 +0.3
SFIN **Lafayette** 24.38 58 P P 09 01 32.6 +0.7
SFIN IAmb IAmb 09 01 33.5
comp=Z,14nm,1.1s
SWET **Sewanee** 24.41 71 P P 09 01 32.5 +0.2
SWET IAmb IAmb 09 01 34.3
comp=Z,22nm,1.3s
BLO **Bloomington** 24.51 61 P P 09 01 34.0 +0.8
U49A **Red Boiling Sp** 24.64 68 P P 09 01 35.4 +1.0
U49A IAmb IAmb 09 01 38.0
comp=Z,10nm,1.2s
W50A **Signal Mountai** 24.91 71 P P 09 01 37.4 +0.5
COWI **Conover** 25.25 44 P P 09 01 40.4 +0.7
X51A **Calhoun** 25.26 72 P P 09 01 41.9 +1.9
352A **Blakely** 25.29 80 P P 09 01 42.1 +1.8
152A **Waverly Hall** 25.39 77 P P 09 01 41.7 +0.6
FFC **Flin Flon** 26.05 16 P P 09 01 47.5 +0.5
FFC IAmb IAmb 09 01 50.0
comp=Z,13nm,1.3s
TKL **Tuckaleechee C** 26.19 70 LR LR 09 12 07.1
comp=Z,94nm,20.5s,baz=265,slow=37
DLBC **Dease Lake** 30.18 344 LR LR 09 15 46.5
comp=Z,187nm,20.8s,baz=250,slow=39
SADO **Sadowa** 31.23 52 LR LR 09 13 34.4
comp=Z,60nm,21.7s,baz=300,slow=33
YKA **Yellowknife Ar** 32.27 360 P P 09 02 42.1 0.0
comp=Z,0.2nm,0.9s,baz=184,slow=8.5,SNR=3.0
YKA LR LR 09 17 20.8
comp=Z,195nm,19.8s,baz=296,slow=39
JTS **Las Juntas de** 33.83 120 LR LR 09 17 17.9
comp=Z,102nm,20.4s,baz=13,slow=38
KDAK **Kodiak Island** 38.06 327 LR LR 09 16 36.8
comp=Z,182nm,19.7s,baz=147,slow=32
SCHQ **Schefferville** 41.71 40 LR LR 09 21 28.1
comp=Z,212nm,20.3s,baz=252,slow=36
FRB **Frobisher Bay** 44.20 27 LR LR 09 23 21.1
comp=Z,240nm,19.5s,baz=192,slow=37
ROSC **El Rosal** 45.41 116 LR LR 09 25 56.5
comp=Z,78nm,19.8s,baz=352,slow=39
RES **Resolute Bay** 45.59 7 LR LR 09 24 15.0
comp=Z,124nm,20.9s,baz=216,slow=37
SDV **Santo Domingo** 46.00 108 LR LR 09 26 04.3
comp=Z,52nm,20.5s,baz=281,slow=39
SFJD **Kangerlussuaq** 52.34 26 LR LR 09 27 44.2
comp=Z,154nm,18.8s,baz=244,slow=36
NNA **Nana** 55.39 134 LR LR 09 25 14.1
comp=Z,70nm,18.3s,baz=308,slow=32
SEY **Seymchan** 64.96 330 P P 09 06 52.8 -0.4
comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=4.3
FINES **FINESS Array B** 83.19 18 P P 09 08 40.8 +1.1
comp=Z,1.4nm,0.7s,baz=342,slow=8.7,SNR=2.0
SONM **Songino Array** 94.09 334 P P 09 09 33.7 +1.3
comp=Z,0.3nm,0.5s,baz=45,slow=2.3,SNR=4.3

IDC 29 08:58:00.5±2.7, 53°43N×87°17E, h0km, mb1 2.7/2, mb1mx2.6/51, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=25.4km s-min=15.8km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**291**	*i*			09 08 30.0	
	baz=106,slow=336,SNR=0.8							
ZALV	**Zalesovo Beam**	**1.49**	**291**	Pg		Pn	08 58 27.3	-1.2
	0.8nm,0.3s,baz=113,slow=11,SNR=9.2							
ZALV				Lg		Lg	08 58 47.4	
	1.0nm,0.3s,baz=112,slow=27,SNR=6.8							
KURBB	**Kurchatov Arra**	**6.03**	**246**	Pn		Pn	08 59 32.2	+1.4
	0.1nm,0.3s,baz=63,slow=14,SNR=5.8							
KURBB				Lg		Lg	09 01 09.5	
	baz=66,slow=34,SNR=1.5							
MKAR	**Makanchi Array**	**7.35**	**207**	Pn		Pn	08 59 49.8	+0.9
	0.1nm,0.3s,baz=26,slow=15,SNR=5.7							

IDC 29 09:12:18.6±1.0, 25°53N×141°34E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.3/53, mbtmp3.6/5, Error ellipse: s-maj=52.4km s-min=17.8km az=108.0

ISC 29 09:12:20.2±1.1, 25°6N±0°2×141°4E±0°3, h10km, n12, σ0§88/7, mb3.5/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.69**	**26**	Pn		**Pn**	**09 12 49.4**	**-0.5**
	27nm,0.3s,baz=277,slow=21,SNR=9.2							
JCJ				Sn		**Sb**	**09 13 12.2**	**-0.7**
	15nm,0.3s,baz=290,slow=23,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**24.25**	**99**	T		T	09 42 49.3	
	baz=288,slow=76							
H11N1	**WAKE ISLAND Hy**	**24.25**	**99**	T		T	09 42 55.5	
	baz=288,slow=76							
H11N3	**WAKE ISLAND Hy**	**24.26**	**99**	T		T	09 42 50.5	
	baz=288,slow=76							
H11S3	**WAKE ISLAND Hy**	**24.48**	**102**	T		T	09 43 11.6	
	baz=291,slow=75							
H11S1	**WAKE ISLAND Hy**	**24.49**	**102**	T		T	09 43 07.1	
	baz=291,slow=75							
H11S2	**WAKE ISLAND Hy**	**24.50**	**102**	T		T	09 43 12.6	
	baz=291,slow=75							
WRA	**Warramunga Arr**	**45.75**	**189**	P		**P**	**09 20 41.0**	**-0.8**
	3.1nm,0.7s,baz=8.8,slow=8.6,SNR=29							
ASAR	**Alice Springs**	**49.47**	**189**	P		**P**	**09 21 10.5**	**-0.3**
	0.2nm,0.8s,baz=18,slow=12,SNR=4.1							
KURBB	**Kurchatov Arra**	**53.59**	**315**	P		**P**	**09 21 41.2**	**-0.2**
	0.2nm,0.4s,baz=92,slow=7.6,SNR=2.2							
ILAR	**Eielson Array**	**59.40**	**28**	P		**P**	**09 22 23.5**	**+0.9**
	0.3nm,0.8s,baz=265,slow=6.7,SNR=3.0							
YKA	**Yellowknife Ar**	**73.83**	**28**	P		**P**	**09 23 55.6**	**+0.8**
	0.5nm,0.8s,baz=291,slow=6.0,SNR=8.9							

IDC 29 09:13:57.6±3.9, 6°07S×149°39E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.2/46, mbtmp3.6/4, ML1.7/1, Error ellipse: s-maj=116.8km s-min=38.9km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**214**	Pn		Pn	09 15 01.8	+1.8
	4.1nm,0.3s,baz=31,slow=3.6,SNR=11							
PMG				Sn		Sn	09 15 47.0	-0.4
	8.8nm,0.3s,baz=45,slow=16,SNR=8.5							
WRA	**Warramunga Arr**	**20.10**	**225**	P		P	09 18 32.7	-0.4
	0.6nm,0.4s,baz=51,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.98**	**219**	P		P	09 19 03.7	-0.4
	0.2nm,0.5s,baz=58,slow=8.8,SNR=6.9							
FITZ	**Fitzroy Crossi**	**26.07**	**241**	P		P	09 19 32.6	-0.5
	1.9nm,0.8s,baz=50,slow=9.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**147.41**	**285**	PKPbc		PKPbc	09 33 44.4	-0.2
	0.2nm,0.4s,baz=82,slow=2.9,SNR=2.3							

NNC 29 09:14:24.4±4.3, 54°68N×87°08E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=108.4km s-min=25.3km az=158.0, Suspected Mining explosion.

IDC 29 09:14:26.9±3.1, 54°28N×87°23E, h0km, mb1 3.0/2, mb1mx2.9/57, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.7km s-min=17.0km az=63.0

ISC 29 09:14:26.1±3.9, 54°4N±0°2×87°1E±0°2, h0km, n8, σ1§55/9, 1C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**251**	*i*			09 24 13.5	
	baz=77,slow=337,SNR=6.4							
ZAA0	**Zalesovo Array**	**1.43**	**251**	⇓P		**Pn**	**09 14 51.6**	**-1.7**
	0.3nm,0.3s							
ZAA0				⇓S		**Sg**	**09 15 12.8**	**+0.8**
	1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**1.43**	**251**	Pg		**Pn**	**09 14 52.8**	**-0.5**
	1.7nm,0.3s,baz=74,slow=15,SNR=17							
ZALV				Lg		Lg	09 15 13.5	
	2.7nm,0.3s,baz=75,slow=23,SNR=5.8							
KURK	**Kurchatov**	**6.37**	**238**	⇓Pn		**Pn**	**09 16 02.7**	**+1.6**
	1.9nm,1.0s							
KURBB	**Kurchatov Arra**	**6.48**	**237**	Pn		**Pn**	**09 16 03.6**	**+1.1**
	0.1nm,0.3s,baz=54,slow=14,SNR=13							
KURBB	**Kurchatov Arra**	**6.48**	**237**	⇓Pn		**Pn**	**09 16 04.0**	**+1.5**
	2.8nm,0.8s							
MK31	**Makanchi Array**	**8.24**	**204**	⇑Pn		**Pn**	**09 16 27.4**	**+0.6**
	0.3nm,0.5s,baz=28,slow=13,SNR=6.1							
MKAR	**Makanchi Array**	**8.24**	**204**	Pn		**Pn**	**09 16 27.4**	**+0.7**
	0.1nm,0.3s,baz=28,slow=12,SNR=6.1							
MKAR				Sn		**Sn**	**09 17 58.4**	**-2.1**
	0.1nm,0.3s,baz=23,slow=27,SNR=4.1							
MKAR				Lg		Lg	09 18 42.9	
	0.1nm,0.3s,baz=19,slow=32,SNR=1.9							

BJI 29 09:18:06.3±0.0, 2°08N×126°15E, h59km, mb5.4/85, mB5.2/55, Ms4.7/83, Ms7 4.7/75

MOS 29 09:18:07.1±0.9, 2°37N×125°90E, h39km, mb5.8/63, MS4.4/9, Error ellipse: s-maj=7.1km s-min=4.1km az=110.2

NEIC 29 09:18:10.3, 2°33N×126°09E, h41km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-1.48; Mθθ-0.11; Mϕϕ 1.59; Mrθ-0.35; Mθϕ 0.08; Mϕr-0.56; Fault plane solution: Mo 1.67000×10^17 NP1:ϕs 14.13000°, δ56.39000°, λ-76.65000°. NP2:ϕs 170.93000°, δ35.87000°, λ-109.15000°. Principal axes: T 1.6979, Plg10.0000°, Azm95.0000°; N -0.0496, Plg11.0000°, Azm187.0000°; P -1.6483, Plg75.0000°, Azm322.0000°;

IDC 29 09:18:10.4±1.1, 2°36N×125°94E, h52km±9km, mb5.2/59, mb1 5.2/64, mb1mx5.1/69, mbtmp5.5/64, MS4.2/58, Ms1 4.2/58, ms1mx4.2/68 Error ellipse: s-maj=10.3km s-min=7.0km az=69.0

GCMT 29 09:18:11.2±0.1, 2°41N±0°01×126°21E±0°01, h62km, MW5.4/151, Moment Tensor Solution. s133,c226; s151,c271; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-1.39±.02; Mθθ 0.29±.02; Mϕϕ 1.10±.02; Mrθ-0.82±.01; Mθϕ 0.61±.02; Mϕr-0.38±.02; Best double couple: Mo 1.67200×10^17 NP1:ϕs 192.00000°, δ34.00000°, λ-119.00000°. NP2:ϕs 46.00000°, δ61.00000°, λ-72.00000°. Principal axes: T 1.6140, Plg14.0000°, Azm123.0000°; N 0.1140, Plg16.0000°, Azm217.0000°; P -1.7290, Plg68.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 29 09:18:11.2±2.6, 2°39N±0°05×126°10E±0°05, h55km±1km, mb5.7/256, Mwb5.4/40, Mww5.5 Error ellipse: s-maj=9.7km s-min=7.5km az=208.0

DJA 29 09:18:12.9±0.2, 2°N±2°×126°6E±°, h79km±2km, M5.2/102, mB5.7/78, mb5.4/102, MLv5.6/18, Mw(mB)5.2/78, MwMwp5.0/24, Mwp5.3/24

KLM 29 09:18:14, 2°40N×126°32E, h93km, mb5.8

NEIC 29 09:18:15, 2°35N×126°30E, h60km, Moment Tensor Solution. Duration: 8§0 Moment tensor: Scale 10^17 Nm; Mrr-1.82; Mθθ 0.54; Mϕϕ 1.28; Mrθ-0.77; Mθϕ 0.67; Mϕr-0.09; Fault plane solution: Mo 1.92000×10^17 NP1: ϕs 197.00000°, δ39.00000°, λ-114.00000°. NP2: ϕs 47.00000°, δ55.00000°, λ-71.00000°. Principal axes: T 1.7391, Plg8.0000°, Azm124.0000°; N 0.3147, Plg15.0000°, Azm216.0000°; P -2.0538, Plg73.0000°, Azm7.0000°;

ISC 29 09:18:11.0±0.2, 2°37N±0°02×126°06E±0°03, h61km±2km, h61km:pP-P, n1326, σ1§58/1454, mb5.7/299, 125C-165D, Fault plane solution: NP1:ϕs 54.51188°, δ77.45280°, λ-40.40170°. NP2:ϕs 154.98756°, δ50.75312°, λ-163.70863°. Principal axes: T Plg17.0823°, Azm110.2257°; N Plg48.0160°, Azm220.1931°; P Plg36.9398°, Azm6.8660°; Fault plane solution: NP1: ϕs 223.35101°, δ14.41317°, λ-87.16651°. NP2: ϕs 40.42561°, δ75.60484°, λ-90.72788°. Principal axes: T Plg30.6012°, Azm131.0236°; N Plg0.7050°, Azm40.6066°; P Plg59.3889°, Azm309.4148°; Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.41**	**338**	P		**Pn**	**09 18 36.6**	**+2.1**
TNTI	**Ternate**	**2.06**	**140**	Pn		**Pn**	**09 18 44.2**	**+1.0**
TNTI	**Ternate**	**2.06**	**140**	P		**Pn**	**09 18 44.4**	**+1.1**
TNTI	**Ternate**	**2.06**	**140**	P		**Pn**	**09 18 44.4**	**+1.1**
KMSI	**Cibinong**	**2.73**	**229**	P		**Pn**	**09 18 55.8**	**+3.3**
LBMI	**Labuha**	**3.32**	**154**	P		**Pn**	**09 19 01.7**	**+1.2**
GTOI	**Gorontalo**	**3.50**	**241**	P		**Pn**	**09 19 05.8**	**+2.9**
DDMP	**Don Marcelino,**	**3.73**	**355**	⇑*e*P		**Pn**	**09 19 07.0**	**+0.9**
GSPH	**General Santos**	**3.85**	**343**	⇑*e*P		**Pn**	**09 19 09.6**	**+1.6**
GSPH				*i* S		**Sn**	**09 19 55.0**	**+2.9**
SANI	**Sanana**	**4.39**	**181**	P		**Pn**	**09 19 14.7**	**-0.5**
SANI	**Sanana**	**4.39**	**181**	P		**Pn**	**09 19 15.0**	**-0.2**
MRSI	**Marisa**	**4.52**	**246**	P		**Pn**	**09 19 20.8**	**+3.8**
MATI	**Mati**	**4.55**	**3**	⇓*i*P		**Pn**	**09 19 18.6**	**+1.1**
DAV	**Davao City (W)**	**4.70**	**354**	P		**Pn**	**09 19 19.8**	**+0.5**
	71nm,0.3s,baz=140,slow=2.0,SNR=10							
DAV				S		**Sn**	**09 20 12.5**	**0.0**
	166nm,0.3s,baz=105,slow=20,SNR=4.1							
DAV	**Davao City (W)**	**4.70**	**354**	Pn		**Pn**	**09 19 19.6**	**+0.2**
DAV	**Davao City (W)**	**4.70**	**354**	P		**Pn**	**09 19 21.6**	**+2.2**
DAV				S		Sn	09 20 21.7	+9.2
DAV	**Davao City (W)**	**4.70**	**354**	P		**Pn**	**09 19 22.5**	**+3.1**
DAV	**Davao City (W)**	**4.70**	**354**	P		**Pn**	**09 19 21.6**	**+2.2**
KCP	**Kidapawan**	**4.71**	**348**	⇑*i*P		**Pn**	**09 19 22.3**	**+2.7**
KCP				*i* S		**Sn**	**09 20 19.3**	**+6.3**
LUWI	**Luwuk**	**4.72**	**224**	Pn		**Pn**	**09 19 20.8**	**+1.2**
LUWI	**Luwuk**	**4.72**	**224**	P		Pn	09 19 24.6	+5.0
CTBH	**Cotabato--PC H**	**5.15**	**340**	⇑*i*P		**Pn**	**09 19 28.8**	**+3.2**
CTBH				*i* S		**Sn**	**09 20 27.4**	**+3.7**
TOLI2	**Tolitoli**	**5.42**	**257**	Pn		**Pn**	**09 19 30.7**	**+1.5**
TOLI2	**Tolitoli**	**5.42**	**257**	P		**Pn**	**09 19 31.7**	**+2.5**
APSI	**Ampana**	**5.48**	**234**	P		Pn	09 19 35.0	+4.9
	14nm5μm18μm1μm,0.8s							
BUKP	**Musuan**	**5.56**	**350**	⇑*e*P		**Pn**	**09 19 34.2**	**+2.9**
BIPH	**Bislig**	**5.79**	**3**	⇓*e*P		**Pn**	**09 19 36.5**	**+2.2**
BIPH				*i* S		**Sn**	**09 20 45.9**	**+6.6**
PAGZ	**Pagadian**	**6.06**	**334**	⇓*i*P		**Pn**	**09 19 40.2**	**+2.1**
SWI	**Sorong**	**6.11**	**122**	P		**Pn**	**09 19 39.9**	**+1.1**
	2.5nm16μm8μm654nm,0.9s							
SIJI	**Sorong**	**6.12**	**122**	P		**Pn**	**09 19 40.3**	**+1.4**
	30nm,0.3s,baz=315,slow=9.2,SNR=55							
SIJI				S		**Sn**	**09 20 46.6**	**-1.1**
	4.9nm,0.3s,baz=326,slow=22,SNR=0.9							
CGP	**Cagayan de Oro**	**6.20**	**347**	⇓*e*P		Pn	09 19 44.4	+4.4
CGP				*e*S		Sn	09 21 02.1	+13
MSAI	**Masohi**	**6.36**	**153**	P		**Pn**	**09 19 44.3**	**+2.1**
	0.4nm1μm152nm,0.7s							
AAI	**Ambon**	**6.38**	**160**	P		**Pn**	**09 19 43.6**	**+1.1**
	3.6nm15μm10μm736nm,0.5s							
MPSI	**Mapaga**	**6.48**	**252**	P		**Pn**	**09 19 47.6**	**+3.8**
	1.6nm15μm5μm471nm,1.1s							
BUTP	**Butuan**	**6.57**	**356**	⇓*e*P		**Pn**	**09 19 48.3**	**+3.2**
MSLP	**Maasin**	**7.81**	**351**	⇓*i*P		Pn	09 20 06.3	+4.3
MYLDM	**Lahad Datu**	**8.04**	**291**	Pn		**Pn**	**09 20 09.3**	**+4.1**
CNOP	**Candoni, Negro**	**8.15**	**336**	⇓*i*P		Pn	**09 20 10.4**	**+3.7**
TTSI	**Tana Toraja**	**8.23**	**229**	P		Pn	09 20 12.1	+4.3
	5μm6μm726nm,1.0s							
BBSI	**Bau Bau**	**8.54**	**204**	P		Pn	**09 20 16.0**	**+3.9**
	571nm50nm,0.7s							
SPSI	**Sidrap Palu**	**8.89**	**225**	P		Pn	**09 20 21.0**	**+4.2**

9µm288nm,0.6s
KAPI Kappang 9.67 221 P Pn 09 20 26.8 -0.6
KAPI Kappang 9.67 221 Pn 09 20 26.8 -0.6
KAPI Kappang 9.67 221 P Pn 09 20 26.5 -0.9
KAPI S Sn 09 22 20.7 +6.1
KAPI Kappang 9.67 221 P Pn 09 20 30.5 +3.1
KAPI Kappang 9.67 221 P Pn 09 20 34.0 +6.6
BKSI Bulukumba 9.67 218 P Pn 09 20 31.6 +4.1
3µm2µm166nm,1.2s
CUYO Cuyo Island 9.80 330 ⇓*i*P Pn 09 20 32.8 +3.5
BKB Balikpapan 9.84 249 Pn Pn 09 20 27.6 -2.3
SPMM Sapulut 9.85 284 P Pn 09 20 35.0 +5.0
BSSI Bau Bau, Buton 10.12 213 P Pn 09 20 37.8 +4.2
2µm175nm,0.6s
BATP Bataraza 10.40 308 ⇓*e*P Pn 09 20 40.0 +2.5
KKM Kota Kinabalu 10.47 291 Pn Pn 09 20 39.9 +1.4
SRPI Serui, Papua 11.02 112 P Pn 09 20 48.6 +2.7
5µm248nm,1.2s
SJMP San Jose 11.16 334 ⇓*i*P Pn 09 20 57.0 +9.2
PVCP Virac 11.31 351 ⇑*e*P Pn 09 20 54.0 +4.1
SAUI Saumlaki 11.54 153 Pn 09 20 51.6 -1.4
SAUI Saumlaki 11.54 153 P Pn 09 20 53.5 +0.5
16µm544nm,1.0s
MMRI Maumere 11.57 199 Pn Pn 09 20 53.1 -0.4
MMRI Maumere 11.57 199 P Pn 09 20 56.5 +3.0
3µm155nm,1.3s
MMRI Maumere 11.57 199 P Pn 09 20 55.6 +2.1
MTKI Muara Teweh, K 11.63 254 P Pn 09 20 58.8 +4.5
126nm,0.9s
BOAC Boac 11.78 340 ⇓*e*P Pn 09 21 09.1 +13
LQP Lukban 12.49 339 ⇓*e*P Pn 09 21 09.7 +3.4
BBKI Banjar Baru 12.62 243 P Pn 09 21 11.9 +4.1
4µm54nm,1.1s
LUBP Lubang 12.67 333 ⇓*i*P Pn 09 21 13.1 +4.6
TGY Tagaytay City 12.71 337 P Pn 09 21 08.3 -0.7
58nm,0.3s,baz=165,slow=12,SNR=1.7
BATI Baumata 12.72 191 P Pn 09 21 08.3 -0.9
5.1nm,0.3s,baz=356,slow=12,SNR=1.4
BATI S Sn 09 23 36.0 +6.8
1.7nm,0.3s,baz=322,slow=21,SNR=1.1
BATI LR LR 09 27 59.0
comp=Z,832nm,18.3s,baz=9.0,slow=46
BATI Baumata 12.72 191 P Pn 09 21 13.0 +3.8
2µm128nm,0.9s
MACP Maggotdon, Ca 12.94 336 ⇑*e*P P 09 21 25.6 +4.9
QVP Quezon City--P 13.16 338 ⇑*e*P P 09 21 25.6 +2.4
BASI Baing, Sumba 13.64 203 P Pn 09 21 24.9 +3.2
1µm2µm146nm,0.8s
WBSI Waikabubak, Su 13.65 209 P P 09 21 27.1 -1.7
2µm193nm,0.8s
SBUM Sibu 13.82 271 Pn Pn 09 21 25.5 +1.3
SBUM Sibu 13.82 271 P P 09 21 30.0 -0.6
PLAI Plampang 13.85 216 P P 09 21 29.1 -1.8
3µm320nm,1.1s
BALP Baler 14.00 342 ⇑*e*P P 09 21 30.7 -1.9
SMPP San Manuel, Pa 14.68 339 ⇑*e*P Pn 09 21 37.6 +2.1
STKI Sintang 14.75 261 P P 09 21 41.9 +0.9
3µm10µm132nm,1.0s
GENI Genyem 14.94 109 P Pn 09 21 40.1 +1.3
5µm9µm894nm,1.2s
GENI Genyem 14.94 109 P Pn 09 21 41.0 +2.2
SRBI Singaraja 14.99 226 P P 09 21 44.7 +1.1
2µm184nm,1.1s
BOLP Bolinao 15.18 337 ⇑*e*P P 09 21 47.5 +1.8
PBKI Pangkalan Bun 15.24 251 P P 09 21 46.7 +0.3
3µm228nm,1.0s
KMMI Kalianget 15.27 232 P P 09 21 46.9 +0.2
2µm2µm168nm,1.1s
JAY Jayapura 15.43 108 P Pn 09 21 44.8 -0.4
3.4nm,0.3s,baz=266,slow=5.8,SNR=16
JAY S S 09 24 43.1 -4.9
0.3nm,0.3s,baz=119,slow=20,SNR=1.3
JAY Jayapura 15.43 108 P Pn 09 21 45.6 +0.5
2µm1µm140nm,0.9s
SAMP Sagada Mountai 15.47 341 ⇑*e*P Pn 09 21 47.2 +1.6
ABJI Asem Bagus 15.52 229 P P 09 21 51.3 +1.8
3µm3µm162nm,1.4s
IGBI Denpasar 15.55 224 P P 09 21 53.2 +3.4
2µm243nm,1.0s
KSM Kuching 15.76 267 P P 09 21 56.0 +3.8
CVP Callao Caves 15.80 345 ⇓*e*P P 09 21 52.0 -0.5
MTN Manton Dam 15.93 162 Pn 09 21 48.3 -3.2
BLJI Banyuglugur 15.98 231 P Pn 09 21 54.5 +2.4
2µm80nm,0.9s
JAGI Jajag, Banyuwa 16.02 228 Pn Pn 09 21 52.4 -0.3
JAGI Jajag, Banyuwa 16.02 228 P P 09 21 55.7 +0.6
3µm168nm,1.1s
GMJI Gumukmas 16.43 230 P P 09 22 00.3 +0.7
3µm108nm,0.8s
PWJI Pagerwojo 17.57 234 P P 09 22 14.8 +2.7
2µm132nm,0.7s
MMPI Merauke 17.89 127 P P 09 22 17.0 +1.3
22µm2µm,0.7s
KNRA Kununurra 18.13 172 P P 09 22 16.6 -1.7
KPJI Karang Pucung 19.62 240 P P 09 22 35.6 +0.9
2µm116nm,1.4s
DLV T Lat 19.84 300 P P 09 22 37.4 +0.1
FITZ Fitzroy Crossi 20.34 181 P P 09 22 41.8 -0.7
49nm,0.8s,baz=16,slow=8.8,SNR=106
FITZ S S 09 26 21.8 -5.5
28nm,0.9s,baz=175,slow=17,SNR=6.2
PPBI Pangkal Pinang 20.41 257 P Pn 09 22 46.0 0.0
119nm,1.0s
LEM Lembang 20.55 243 P P 09 22 42.5 -2.4
28nm,0.5s,baz=336,slow=23,SNR=2.4
LEM S S 09 26 32.6 +1.0
20nm,0.6s,baz=337,slow=24,SNR=1.2
LEM LR LR 09 33 11.7
comp=Z,1µm,18.2s,baz=58,slow=44
LEM Lembang 20.55 243 P Pn 09 22 53.1 +5.5
1µm1µm84nm,1.1s
TWG Pinlang 20.90 347 P P 09 22 45.9 -2.5
CBJI Citeko 21.07 245 P P 09 22 54.0 +3.6
120nm,0.7s
CNJI Cibinong 21.19 243 P P 09 22 55.0 +3.3
3µm119nm,1.2s
DBJI Dramaga 21.21 245 P P 09 22 58.4 +6.4
50µm39nm,0.5s
YULB Yu-li 21.40 348 P P 09 22 51.1 -2.8
YULB IAmb IAmb 09 22 58.0
comp=Z,369nm,1.7s
TPUB Ta-pu 21.46 346 P P 09 22 52.5 -2.0
TPUB IAmb IAmb 09 22 57.7
comp=Z,362nm,0.9s
DSRI Dabo 21.66 263 P P 09 22 59.5 +2.8
comp=Z,2µmcomp=Z,2µmcomp=Z,103nm,1.2s
GUMO Guam 21.69 58 P P 09 22 57.1 +0.1
comp=Z,219nm,0.8s,baz=206,slow=16,SNR=9.2
GUMO S S 09 26 50.7 -3.3
comp=Z,55nm,0.9s,baz=358,slow=17,SNR=1.4
GUMO Guam 21.69 58 P P 09 22 54.5 -2.5
GUMO IAmb IAmb 09 23 00.2
comp=Z,308nm,0.9s
GUMO Guam 21.69 58 P P 09 22 59.9 +2.9
MANU Manus Island 21.75 101 P P 09 22 54.4 -3.3
SSLB Suanglung 21.86 347 P P 09 22 58.1 -0.7
PMBI Palembang 21.92 256 P P 09 23 02.1 +2.6
comp=Z,442nm,1.0s
NACB Ninganchiao 22.10 349 P P 09 22 58.9 -2.4
YOJ Yonaguni jima 22.16 353 P P 09 23 01.0 -1.0
YOJ pmax pmax
comp=Z,326nm,1.1s
YOJ Yonaguni jima 22.16 353 P P 09 23 00.9 -1.0
YOJ IAmb IAmb 09 23 05.8
comp=Z,326nm,1.1s
YOJ Yonaguni jima 22.16 353 P P 09 23 03.8 +1.8
BLSI Bandar Lampung 22.16 250 P P 09 23 02.6 +0.5
MYKOM Kota Tinggi 22.20 269 P P 09 23 06.0 +3.5
CGJI Cibinong 22.20 246 P P 09 23 05.3 +2.8
comp=Z,2µmcomp=Z,248nm,1.3s
JMJ Miyako jima 2 22.33 358 P P 09 23 05.2 +1.4
KLI Kotabumi 22.36 251 P P 09 23 06.5 +2.2
comp=Z,244nm,1.1s
KLSI 22.43 252 P P 09 23 05.0 0.0
comp=Z,2µmcomp=Z,79nm,1.0s
YHNB Yeheng 22.63 349 P P 09 23 04.3 -2.7
YHNB IAmb IAmb 09 23 10.0
comp=Z,197nm,1.0s
JMBI JAMBI 22.76 260 P P 09 23 12.0 +3.5
comp=Z,5µmcomp=Z,353nm,1.4s
TATO Taipei 22.90 349 P P 09 23 07.9 -2.0
TATO Taipei 22.90 349 P P 09 23 07.8 -2.0
KASI Kota Agung 22.92 250 P P 09 23 13.1 +3.0
comp=Z,2µmcomp=Z,220nm,1.0s
HKPS Hong Kong Po S 22.93 331 P P 09 23 08.2 -1.9
HKPS IAmb IAmb 09 23 12.0
comp=Z,452nm,1.4s
QIZ Qiongzhong 22.94 317 P P 09 23 07.5 -2.8
QIZ Qiongzhong 22.94 317 P P 09 23 10.3 0.0
QIZ pP pwP 09 23 25.8 +0.6
QIZ S S 09 27 18.5 +2.6
QIZ sS sS 09 27 38.5 -0.9
QIZ pmax pmax
comp=Z,32nm,0.9s
QIZ pmax pmax
comp=Z,640nm,3.9s
QIZ LR LR
comp=Z,2µm,15.3s
QIZ LR LR
comp=Z,1µm,15.7s
QIZ LR LR
comp=Z,2µm,20.3s
QIZ Qiongzhong 22.94 317 P P 09 23 10.4 +0.1
LWLI Liwa 23.17 252 P P 09 23 14.7 +2.0
comp=Z,12µmcomp=Z,186nm,0.8s
KNMB Chin-men Tao 23.18 342 P P 09 23 10.6 -2.0
WB0 Warramunga Arr 23.47 160 P P 09 23 14.0 -1.4
WB0 IAmb IAmb 09 23 15.5
comp=Z,313nm,0.7s
COEN Coen 23.48 134 P P 09 23 12.8 -2.8
COEN IAmb IAmb 09 23 24.0
comp=Z,505nm,1.4s
QZH Quanzhou 23.57 343 ⇓*i*P P 09 23 14.8 -1.4
QZH S S 09 27 17.0 -9.1
QZH SS SnSn 09 28 21.0 +13
QZH pmax pmax
comp=Z,93nm,1.0s
QZH LR LR
comp=Z,1µm,26.1s
QZH LR LR
comp=Z,450nm,23.2s
QZH LR LR
comp=Z,2µm,23.7s
JRMM Jerantut 23.59 274 P P 09 23 19.0 +2.4
WRAB Tennant Creek 23.61 160 P P 09 23 15.7 -1.0
WRAB pmax pmax
comp=Z,340nm,0.8s
WRAB Tennant Creek 23.61 160 P P 09 23 15.7 -1.0
WRAB IAmb IAmb 09 23 17.0
comp=Z,340nm,0.8s
WRAB Tennant Creek 23.61 160 P P 09 23 16.2 -0.5
WRAB Tennant Creek 23.61 160 P P 09 23 15.3 -1.4
WRA Warramunga Arr 23.62 160 P P 09 23 16.0 -0.8
comp=Z,284nm,0.7s,baz=340,slow=11,SNR=510
WRA S S 09 27 22.5 -4.5
comp=Z,70nm,1.1s,baz=343,slow=17,SNR=13
WRA P3KPbc 09 56 37.2
comp=Z,3.5nm,1.0s,baz=158,slow=4.5,SNR=16
WRA Warramunga Arr 23.62 160 P P 09 23 14.9 -1.8
WB2 Warramunga Arr 23.62 160 P P 09 23 15.8 -1.0
WR0 Warramunga Arr 23.70 160 P P 09 23 16.1 -1.4
WR0 IAmb IAmb 09 23 17.8
comp=Z,270nm,0.8s
RGRI Rengat 23.87 264 P P 09 23 21.1 +2.0
GZH Guangzhou 24.00 330 P P 09 23 23.0 +2.8
GZH S S 09 27 41.5 +8.4
GZH pmax pmax
comp=Z,370nm,1.0s
UBPT Khong Chiam 24.01 304 P P 09 23 20.1 -0.3
MNAI Manna 24.03 254 P P 09 23 22.0 +1.4
MNAI IAmb IAmb 09 23 43.2
comp=Z,241nm,0.9s
PMG Port Moresby 24.06 119 P P 09 23 20.0 -0.8
comp=Z,66nm,0.9s,baz=290,slow=8.1,SNR=21
PMG S S 09 27 31.1 -3.1
comp=Z,12nm,0.9s,baz=151,slow=16,SNR=6.5
PMG LR LR 09 34 05.2
comp=Z,893nm,20.8s,baz=314,slow=40
PMG Port Moresby 24.06 119 P P 09 23 19.4 -1.5
PMG Port Moresby 24.06 119 P P 09 23 20.3 -0.6
PMG Port Moresby 24.06 119 P P 09 23 20.2 -0.6
PMG Port Moresby 24.06 119 P P 09 23 19.3 -1.5
MBWA Marble Bar 24.19 195 P P 09 23 21.9 0.0
MBWA Marble Bar 24.19 195 P P 09 23 22.4 +0.5
KSI Kapahiang 24.20 256 P P 09 23 24.0 +1.8
comp=Z,130nm,0.9s
JOW Kunigami 24.42 5 P P 09 23 25.6 +1.7
comp=Z,369nm,0.9s,baz=199,slow=8.3,SNR=62
JOW S S 09 27 38.1 -1.6
comp=Z,7.3nm,0.8s,baz=90,slow=27,SNR=1.1
JOW LR LR 09 33 27.4
comp=Z,804nm,19.9s,baz=184,slow=38
JOW Kunigami 24.42 5 P P 09 23 25.4 +1.4
JOW Kunigami 24.42 5 P P 09 23 26.0 +2.0
MASI Maura Aman, Be 24.43 257 P P 09 23 25.3 +1.0
comp=Z,5µmcomp=Z,312nm,0.9s
PSA00 Pilbara Seismi 24.56 194 P P 09 23 25.5 +0.3
PSA00 Pilbara Seismi 24.56 194 P P 09 23 26.7 +1.4
KRJI Kerinci 24.98 260 P P 09 23 31.1 +1.7
comp=Z,19µmcomp=Z,715nm,1.3s
IPM Ipoh 25.07 275 P P 09 23 30.3 +0.2
IPM IAmb IAmb 09 23 59.6
comp=Z,616nm,1.7s
IPM Ipoh 25.07 275 P P 09 23 35.0 +4.9
IPM Ipoh 25.07 275 P P 09 23 31.7 +1.6
BKNI Bangkinang 25.09 266 P P 09 23 30.8 +0.5
comp=Z,4µmcomp=Z,264nm,0.6s
KULM Kulim 25.51 277 P P 09 23 34.4 +0.4
KULM IAmb IAmb 09 24 03.1
comp=Z,183nm,1.2s
KULM Kulim 25.51 277 P P 09 23 39.0 +4.9
PPI Padang Panjang 25.80 264 P P 09 23 37.0 +0.3
comp=Z,26nm,0.9s
QIS Mount Isa 26.37 150 P P 09 23 41.6 -0.2
MNSI Mandailing Nat 26.51 267 P P 09 23 43.3 +0.2
comp=Z,3µmcomp=Z,124nm,1.1s
KRVT Keravat (AS076 26.79 104 P P 09 23 46.7 +1.1
comp=Z,59nm,0.3s,baz=3.9,slow=3.6,SNR=1.3
AS31 Alice Springs 26.98 164 P P 09 23 47.0 -0.2
ASAR Alice Springs 26.98 164 P P 09 23 47.0 -0.3
comp=Z,43nm,0.6s,baz=348,slow=7.4,SNR=442
ASAR PcP PcP 09 27 08.8 +0.9
comp=Z,15nm,0.7s,baz=345,slow=2.5,SNR=5.4
ASAR S S 09 28 17.1 -3.4
comp=Z,18nm,0.9s,baz=351,slow=22,SNR=7.2
ASAR ScP ScP 09 30 43.0 -0.1
comp=Z,5.0nm,0.9s,baz=339,slow=2.3,SNR=4.6
ASAR PKiKP PKiKP 09 34 45.5 -0.5
comp=Z,0.8nm,0.8s,baz=266,slow=1.2,SNR=4.4
ASAR P3KPbc 09 56 21.9
comp=Z,1.3nm,0.9s,baz=158,slow=5.1,SNR=11
SRIT Nakonsritamara 27.04 284 P P 09 23 46.6 -1.3
RPSI Rantau Prapat 27.11 271 P P 09 23 48.5 +0.1
PSI Prapat 27.11 272 P P 09 23 48.5 -0.1
comp=Z,47nm,1.1s,baz=88,slow=7.1,SNR=23
PSI S S 09 28 21.1 -1.8
comp=Z,3.6nm,0.4s,baz=326,slow=22,SNR=1.7
PSI LR LR 09 35 24.7
comp=Z,1µm,21.4s,baz=94,slow=38
MTSU Mount Surprise 27.18 139 P P 09 23 49.7 +0.6
WRKA Warakurna 27.33 176 P P 09 23 51.1 +0.7
KCSI Kotacane, Aceh 28.27 273 P P 09 23 58.4 -0.5
comp=Z,911nmcomp=Z,40nm,1.2s
GSI Gunungsitoli 28.48 268 P P 09 23 59.1 -1.7
GSI IAmb IAmb 09 24 01.4
comp=Z,158nm,1.1s
GSI Gunungsitoli 28.48 268 P P 09 23 59.9 -0.9
comp=Z,109nm,1.4s
GSI Gunungsitoli 28.48 268 P P 09 24 00.5 -0.3
SSE Sheshan 28.94 351 P P 09 24 06.3 +1.7
SSE S S 09 28 52.0 +0.9
SSE pmax pmax
comp=Z,29nm,0.8s
SSE pmax pmax
comp=Z,140nm,4.3s
JCJ Chichijima 29.04 31 P P 09 24 05.1 -0.4
comp=Z,220nm,0.7s,baz=233,slow=7.7,SNR=8.1
JCJ LR LR 09 35 19.9
comp=Z,401nm,18.8s,baz=248,slow=35
JCJ Chichijima 29.04 31 P P 09 24 04.7 -0.9
JCJ Chichijima 29.04 31 P P 09 24 06.9 +1.3
comp=Z,343nm,0.9s
JSU Suzuyama 29.28 8 P P 09 24 06.5 -1.1
JSU IAmb IAmb 09 24 09.2
comp=Z,92nm,0.9s
MEEK Meekatharra 29.72 194 P P 09 24 12.4 +0.8
CTA Charters Tower 29.85 139 P P 09 24 13.2 +0.4
comp=Z,40nm,1.1s,baz=320,slow=11,SNR=14
CTA S S 09 29 04.7 -1.0
comp=Z,5.5nm,0.8s,baz=322,slow=19,SNR=1.6
CTA LR LR 09 37 13.2
comp=Z,913nm,21.9s,baz=322,slow=38
CTA Charters Tower 29.85 139 P P 09 24 13.4 +0.6
CTAO Charters Tower 29.85 139 P P 09 24 12.3 -0.5
CTAO pmax pmax
comp=Z,37nm,0.9s
CTAO Charters Tower 29.85 139 P P 09 24 12.3 -0.5
CTAO Charters Tower 29.85 139 P P 09 24 13.0 +0.2
CTAO pP pP 09 24 29.2 +1.9
WHN Wuhan 30.14 340 ⇑*i*P P 09 24 16.0 +0.8
WHN PcP PcP 09 27 16.5 +1.0
WHN S S 09 29 09.8 -0.1
WHN pmax pmax
comp=Z,78nm,0.9s
WHN pmax pmax
comp=Z,530nm,2.8s
WHN LR LR
comp=Z,1µm,14.9s
WHN LR LR
comp=Z,1µm,21.1s
WHN LR LR
comp=Z,3µm,26.7s
NJ2 Nanjing 30.30 348 *e*P P 09 24 16.8 +0.2
NJ2 S S 09 29 06.0 -6.4
NJ2 pmax pmax
comp=Z,29nm,0.6s
NJ2 pmax pmax
comp=Z,120nm,3.5s
NJ2 LR LR
comp=Z,630nm,15.6s
NJ2 LR LR
comp=Z,430nm,16.1s
NJ2 LR LR
comp=Z,1µm,18.9s
GYA Guiyang 30.34 324 ⇑P P 09 24 17.8 +0.6
GYA sP sP 09 24 39.0 +0.7
GYA S S 09 29 11.8 -1.6
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,210nm,3.5s
GYA LR LR
comp=Z,910nm,20.2s
GYA LR LR
comp=Z,760nm,21.1s
GYA LR LR
comp=Z,1µm,17.7s
JNU Nakatsue 30.93 8 P P 09 24 22.2 0.0
comp=Z,179nm,0.9s,baz=184,slow=5.1,SNR=65
JNU PcP PcP 09 27 18.6 +1.0
comp=Z,14nm,0.8s,baz=130,slow=3.9,SNR=3.2
JNU LR LR 09 35 35.0
comp=Z,499nm,21.4s,baz=162,slow=34
JNU Nakatsue 30.93 8 P P 09 24 21.4 -0.8
JNU IAmb IAmb 09 24 23.9
comp=Z,203nm,0.9s
JNU Nakatsue 30.93 8 P P 09 24 22.8 +0.6
CMAR Chiang Mai Arr 31.01 303 P P 09 24 23.6 +0.5
comp=Z,27nm,0.9s,baz=119,slow=7.1,SNR=66
CMAR PcP PcP 09 27 18.6 +0.6
comp=Z,7.0nm,0.9s,baz=153,slow=2.4,SNR=6.1
CMAR ScP ScP 09 30 56.0 0.0
comp=Z,1.0nm,0.3s,baz=161,slow=2.3,SNR=4.8
CMAR PKiKP PKiKP 09 34 49.2 +0.6
comp=Z,1.1nm,0.3s,baz=277,slow=1.3,SNR=4.2
CMAR LR LR 09 36 16.5
comp=Z,920nm,21.8s,baz=110,slow=35
CMAR Chiang Mai Arr 31.01 303 P P 09 24 22.7 -0.4
CMAR PcP 09 27 18.8 +0.7
CHTO Chiang Mai 31.17 303 P P 09 24 23.9 -0.7
CHTO pmax pmax
comp=Z,58nm,0.9s
CHTO Chiang Mai 31.17 303 P P 09 24 23.9 -0.7
CHTO Chiang Mai 31.17 303 P P 09 24 24.6 0.0
CHTO Chiang Mai 31.17 303 P P 09 24 25.7 +1.1
CHTO Chiang Mai 31.17 303 P P 09 24 24.3 -0.2
CHTO pP pP 09 24 38.3 -0.8
OOD Oodnadatta 31.39 163 P P 09 24 26.1 -0.2
KMI Kunming 31.89 317 ⇓P P 09 24 31.5 +0.5
KMI pP pP 09 24 42.3 -3.1
KMI sP pwP 09 24 48.5 +0.4
KMI PP PP 09 25 43.0 -1.0
KMI PcP PcP 09 27 22.5 +1.9
KMI S S 09 29 36.3 -1.6
KMI pmax pmax
comp=Z,46nm,1.5s
KMI pmax pmax
comp=Z,270nm,4.0s
KMI LR LR
comp=Z,730nm,19.0s
KMI LR LR
comp=Z,1µm,23.5s
KMI LR LR
comp=Z,2µm,23.8s
ENH Enshi 31.89 332 P P 09 24 30.4 -0.3
ENH IAmb IAmb 09 24 31.6
comp=Z,184nm,1.0s
ENH Enshi 31.89 332 P P 09 24 30.2 -0.5
JMN Monobe 32.05 12 P P 09 24 32.7 +0.7
JMN IAmb IAmb 09 24 34.6
comp=Z,211nm,1.0s
JTU Tsushima 32.14 5 P P 09 24 33.7 +0.9
JTU IAmb IAmb 09 24 35.1
comp=Z,101nm,1.0s
COCO West Island 32.44 243 P P 09 24 34.8 -0.8
COCO pmax pmax
comp=Z,54nm,0.9s
COCO West Island 32.44 243 P P 09 24 34.8 -0.8
MORW Morawa 32.70 196 P P 09 24 37.3 -0.5
MORW IAmb IAmb 09 24 59.2
comp=Z,90nm,1.1s
MORW PcP 09 27 23.6 +1.2
MORW Morawa 32.70 196 P P 09 24 38.7 +0.9
FORT Forrest 33.02 177 P P 09 24 39.1 -1.4
FORT Forrest 33.02 177 P P 09 24 41.4 +0.9
INKA Innaminka 33.11 156 P P 09 24 41.9 +0.6
JHS Saijyo 33.12 11 P P 09 24 41.2 -0.3
JHS IAmb IAmb 09 24 44.6
comp=Z,155nm,1.0s
JHJ Hachijo jima 2 33.19 21 P P 09 24 42.9 +0.9
comp=Z,172nm,0.8s,baz=222,slow=5.5,SNR=2.9
JHJ LR LR 09 36 18.7
comp=Z,720nm,21.6s,baz=220,slow=33
MULG Mulgathing 33.35 167 P P 09 24 44.3 +0.8
PZH PanZhiHua 33.47 318 ⇑P P 09 24 45.3 +0.6
PZH pP sP 09 25 04.0 -2.0
PZH S S 09 29 54.8 -7.6
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,140nm,5.2s
PZH LR LR
comp=Z,2µm,20.0s
PZH LR LR
comp=Z,3µm,20.2s
PZH LR LR
comp=Z,3µm,20.6s
QLP Quilpie 33.72 150 P P 09 24 46.5 -0.2
TJN Taejon 33.86 2 *ce*P P 09 24 49.0 +1.2
TJN Taejon 33.86 2 P P 09 24 48.9 +1.2
TJN Taejon 33.86 2 P P 09 24 49.1 +1.2
BLDU Balidu 33.99 195 P P 09 24 50.1 +1.1
INU Inuyama 34.36 16 P P 09 24 53.0 +0.8
INU Inuyama 34.36 16 P P 09 24 53.3 +1.2
INU Inuyama 34.36 16 P P 09 24 52.8 +0.7
INU pP pP 09 25 06.0 -0.7
LYN LuoYang 34.43 340 ⇓P P 09 24 52.3 -0.5
LYN pP pwP 09 25 08.5 -1.3
LYN PP PnPn 09 26 10.3 +0.8
LYN PcP PcP 09 27 28.5 +1.3
LYN sS sS 09 30 38.8 -2.8
LYN SS SnSn 09 32 33.8 +1.3
LYN pmax pmax
comp=Z,30nm,0.9s
LYN pmax pmax
comp=Z,160nm,8.8s
LYN LR LR
comp=Z,600nm,18.8s
LYN LR LR
comp=Z,420nm,19.3s
LYN LR LR
comp=Z,900nm,21.9s
LCRK Leigh Creek 34.63 161 P P 09 24 55.5 +0.9
TIA Tai'an 34.67 347 ⇓P P 09 24 54.0 -0.9
TIA S S 09 30 15.8 -4.7

TIA pmax pmax
comp=Z,28nm,1.1s
TIA pmax pmax
comp=Z,230nm,5.7s
TIA LR LR
comp=Z,560nm,25.3s
TIA LR LR
comp=Z,430nm,23.9s
TIA LR LR
comp=Z,1μm,36.3s
KLBR Kellerberrin 34.68 193 P P 09 24 56.1 +1.1
JGF Kuroka 34.69 16 P P 09 24 54.7 -0.3
JGF IAmb IAmb 09 25 18.3
comp=Z,58nm,1.0s
KSAR Wonju Array Be 34.95 3 P P 09 24 58.5 +1.3
KSAR Wonju Array Be 34.95 3 P P 09 24 58.5 +1.3
INCN Inchon 34.95 1 P P 09 24 56.6 -0.6
INCN pmax pmax
comp=Z,111nm,0.9s
INCN Inchon 34.95 1 P P 09 24 56.6 -0.6
INCN IAmb IAmb 09 25 17.2
comp=Z,111nm,0.8s
INCN Inchon 34.95 1 P P 09 24 59.0 +1.8
comp=Z,140nm,1.0s
RK1H Rockhampton Ha 34.96 138 P P 09 24 57.7 +0.3
comp=Z,111nm,0.9s
KSRS Korea Array 34.96 3 P P 09 24 58.5 +1.3
comp=Z,55nm,0.8s,baz=184,slow=9.6,SNR=69
KSRS PcP **PcP 09 27 30.1 +1.5**
comp=Z,20nm,0.9s,baz=185,slow=3.2,SNR=9.9
KSRS ScP **ScP 09 31 09.3 +0.1**
comp=Z,3.1nm,1.0s,baz=180,slow=1.3,SNR=5.5
KSRS LR LR 09 39 45.9
comp=Z,436nm,21.4s,baz=175,slow=37
KS19 Wonju Array Si 35.00 3 P P 09 24 56.7 -0.9
KS19 IAmb IAmb 09 25 01.3
comp=Z,78nm,0.8s
XAN Xi'an 35.34 335 P P 09 24 59.8 -0.9
XAN pP pP 09 25 16.0 +0.9
XAN PP **PP 09 26 06.0 +4.1**
XAN S **S 09 30 27.3 -3.5**
XAN SS **SnSn 09 32 49.5 -5.1**
XAN pmax pmax
comp=Z,94nm,1.5s
XAN pmax pmax
comp=Z,530nm,6.6s
XAN LR LR
comp=Z,680nm,22.4s
XAN LR LR
comp=Z,560nm,23.3s
XAN LR LR
comp=Z,1μm,29.4s
XAN Xi'an 35.34 335 P P 09 24 59.6 -1.0
CD2 Chengdu 35.36 326 ⇑P P 09 25 01.0 +0.1
CD2 S **S 09 30 34.0 +2.8**
CD2 pmax pmax
comp=Z,110nm,1.0s
CD2 pmax pmax
comp=Z,220nm,7.3s
CD2 LR LR
comp=Z,1μm,24.0s
CD2 LR LR
comp=Z,1μm,23.5s
MUN Mundaring 35.41 195 P P 09 25 02.4 +1.1
HJU Haeju 35.51 360 P P 09 25 03.1 +1.2
MJAR Matsushiro Arr 35.81 17 LR LR 09 39 40.0
comp=Z,669nm,21.5s,baz=214,slow=31
MJAR Matsushiro Arr 35.81 17 P P 09 25 04.2 -0.4
comp=Z,96nm,0.9s,baz=200,slow=8.8,SNR=143
MJAR PcP **PcP 09 27 32.5 +1.2**
comp=Z,17nm,0.9s,baz=235,slow=2.9,SNR=5.0
MJAR ScP **ScP 09 31 12.4 0.0**
comp=Z,7.4nm,1.0s,baz=223,slow=4.1,SNR=8.1
MJAR Matsushiro Arr 35.81 17 P P 09 25 04.2 -0.4
MJAR IAmb IAmb 09 25 23.2
comp=Z,154nm,1.0s
MAJO Matsushiro 35.81 17 P P 09 25 04.4 -0.3
MAJO pmax pmax
comp=Z,159nm,0.9s
MAJO Matsushiro 35.81 17 P P 09 25 04.4 -0.3
MAJO Matsushiro 35.81 17 P P 09 25 04.9 +0.2
MAJO Matsushiro 35.81 17 P P 09 25 04.2 -0.5
MJB9 Matsu-Tunnel 35.81 17 P P 09 25 04.3 -0.4
NWAO Narrogin (SRO) 36.08 193 P P 09 25 06.4 -0.6
NWAO pmax pmax
comp=Z,146nm,1.4s
NWAO Narrogin (SRO) 36.08 193 P P 09 25 06.4 -0.6
NWAO IAmb IAmb 09 25 30.1
comp=Z,146nm,1.4s
NWAO Narrogin (SRO) 36.08 193 P P 09 25 07.1 +0.1
RMQ Roma 36.11 144 P P 09 25 08.1 +0.8
JYT Yasato 36.14 20 P P 09 25 05.5 -1.9
JYT IAmb IAmb 09 25 26.3
comp=Z,140nm,0.9s
BBOO Buckleboo 36.25 166 P P 09 25 08.5 +0.1
BBOO Buckleboo 36.25 166 P P 09 25 09.0 +0.6
HNS HongShan 36.39 345 ⇓P P 09 25 09.0 -0.5
HNS pP **pwP 09 25 25.3 -1.6**
HNS PP **PP 09 26 32.3 -1.1**
HNS PcP **PcP 09 27 34.5 +1.6**
HNS S **S 09 30 42.5 -4.2**
HNS sS **ScP 09 31 14.3 -0.1**
HNS pmax pmax
comp=Z,46nm,1.1s
HNS LR LR
comp=Z,790nm,21.8s
HNS LR LR
comp=Z,1μm,22.8s
PYAG Pyongyang 36.51 360 P P 09 25 12.2 +1.7
PYAG pP **sP 09 25 29.5 -2.5**
PYAG S **S 09 30 50.6 +2.2**
PYAG AmB
comp=Z,309nm,1.2s
PYAG AMS AMS
comp=N,247nm,2.1s
PYAG AMS AMS
comp=E,122nm,1.0s
PYAG AMS AMS
comp=Z,304nm,2.5s
DL2 Dalian 36.59 354 ⇓*i*P P 09 25 12.0 +0.8
DL2 S **S 09 30 46.5 -3.2**
DL2 pmax pmax
comp=Z,150nm,0.8s
DL2 pmax pmax
comp=Z,400nm,4.8s
DL2 LR LR
comp=Z,630nm,21.2s
DL2 LR LR
comp=Z,330nm,22.5s
DL2 LR LR
comp=Z,1μm,17.7s
EIDS Eidsvold 36.72 140 P P 09 25 11.6 -1.0
EIDS Eidsvold 36.72 140 P P 09 25 12.3 -0.2
WHYH Whyalla 36.86 164 P P 09 25 13.8 +0.3
comp=Z,219nm,0.7s
STKA Stephens Creek 37.12 158 P P 09 25 15.9 +0.1
comp=Z,90nm,0.8s,baz=331,slow=8.7,SNR=196
STKA S **S 09 30 54.8 -3.1**
comp=Z,21nm,1.1s,baz=78,slow=21,SNR=8.3
STKA LR LR 09 41 03.5
comp=Z,302nm,20.3s,baz=343,slow=37
STKA Stephens Creek 37.12 158 P P 09 25 15.4 -0.4
STKA Stephens Creek 37.12 158 P P 09 25 16.2 +0.4
NAPP Napperby 37.16 163 P P 09 25 16.6 +0.5
comp=Z,91nm,0.6s
JSD Sado 37.22 16 P P 09 25 16.5 -0.1
TIY Taiyuan 37.33 342 *e*P P 09 25 18.8 +1.1
TIY S **S 09 30 56.0 -5.2**
TIY pmax pmax
comp=Z,35nm,0.8s
TIY pmax pmax
comp=Z,200nm,6.3s
TIY LR LR
comp=Z,530nm,41.2s
TIY LR LR
comp=Z,400nm,36.4s
TIY LR LR
comp=Z,1μm,36.4s
HHU Hamhung 37.41 2 P P 09 25 20.3 +2.1
SUJ Sinuiju 37.59 358 P P 09 25 21.1 +1.4
SUJ pP **pwP 09 25 36.6 -0.1**
SUJ S **S 09 31 04.4 -0.4**
SUJ AmB
comp=Z,492nm,1.3s
SUJ AMS AMS
comp=N,2μm,2.1s
SUJ AMS AMS
comp=E,4μm,3.8s
SUJ AMS AMS
comp=Z,28μm,28.0s
HTT Hallett 37.62 162 P P 09 25 21.0 +0.9
RKGY Rocky Gully 37.76 192 P P 09 25 22.7 +1.5
JMM Marumori 37.83 19 P P 09 25 22.6 +0.9
LKP Lekhapani 38.10 314 *e*P P 09 25 24.5 +0.2
KOHI KOHIMA 38.51 310 *e*P P 09 25 27.5 -0.4
BJT Baijiatuau 38.54 348 P P 09 25 26.9 -0.8
BJT pmax pmax
comp=Z,164nm,1.2s
BJT Baijiatuau 38.54 348 P P 09 25 26.9 -0.8
BJT IAmb IAmb 09 25 30.5
comp=Z,164nm,1.2s
BJT Baijiatuau 38.54 348 P P 09 25 26.9 -0.8
CMSA Cobar Meteorol 38.54 153 P P 09 25 28.3 +0.5
BJI Beijing 38.56 348 P P 09 25 27.5 -0.3
BJI sP **sP 09 25 46.5 -2.7**
BJI S **S 09 31 14.0 -5.5**
BJI pmax pmax
comp=Z,85nm,1.0s
BJI pmax pmax
comp=Z,390nm,3.6s
BJI LR LR
comp=Z,290nm,26.0s
BJI LR LR
comp=Z,410nm,23.6s
BJI LR LR
comp=Z,740nm,27.2s
TWOA Tennyson Woods 39.02 164 P P 09 25 32.8 +1.1
comp=Z,210nm,0.6s
LZH Lanzhou 39.35 331 ⇓P P 09 25 35.3 +0.6
LZH pP sP 09 25 53.8 -2.3
LZH PcP **PcP 09 27 44.0 +1.7**
LZH S **S 09 31 25.3 -6.6**
LZH ScP **ScP 09 31 26.5 +0.6**
LZH pmax pmax
comp=Z,220nm,1.6s
LZH pmax pmax
comp=Z,270nm,4.6s
LZH LR LR
comp=Z,800nm,18.4s
LZH LR LR
comp=Z,870nm,19.0s
LZH LR LR
comp=Z,2μm,19.0s
SNY Shenyang 39.35 357 ⇓P P 09 25 35.0 +0.6
SNY S **S 09 31 28.8 -2.5**
SNY pmax pmax
comp=Z,330nm,1.0s
SNY pmax pmax
comp=Z,270nm,3.5s
SNY LR LR
comp=Z,610nm,21.8s
SNY LR LR
comp=Z,620nm,18.0s
SNY LR LR
comp=Z,1μm,25.0s
ITAN ITANAGAR 39.56 312 *e*P P 09 25 36.8 +0.3
ITAN IAmb IAmb 09 25 38.8
comp=Z,116nm,1.8s
SHL Shillong 40.16 308 *i*P P 09 25 41.5 -0.1
MSHR Mys Shultsa 40.30 6 *ce*P P 09 25 43.7 +1.4
MSHR pmax pmax
comp=Z,96nm,1.0s
HHC Hu-ho-hao-te 40.48 343 *e*P P 09 25 43.8 -0.2
HHC pP pwP 09 26 00.5 -1.0
HHC S **S 09 31 48.5 -0.1**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.8s
HHC LR LR
comp=Z,740nm,19.6s
HHC LR LR
comp=Z,350nm,17.9s
HHC LR LR
comp=Z,1μm,20.7s
JTM Tenmabayashi 40.58 18 P P 09 25 45.6 +1.0
GUWA GUWAHATI 40.62 309 *e*P P 09 25 45.4 +0.2
GUWA IAmb IAmb 09 25 46.4
comp=Z,65nm,0.5s
ARMA Armidale 40.72 145 P P 09 25 47.1 +0.9
ARMA IAmb IAmb 09 26 07.2
comp=Z,254nm,1.6s
ARMA Armidale 40.72 145 P P 09 25 46.9 +0.8
BTO Baotou 40.73 341 *e*P P 09 25 46.5 +0.4
VLA Vladivostok 40.91 7 *d i*P P 09 25 48.2 +0.9
VLA pmax pmax
comp=Z,119nm,1.0s
CN2 Changchun 41.26 359 *e*P P 09 25 45.3 -4.9
CN2 *es*P pwP 09 26 07.8 +0.4
CN2 *e*PP **PP 09 27 25.0 -1.5**
CN2 S **S 09 31 55.5 -4.3**
CN2 *es*S sS 09 32 21.8 -3.3
CN2 pmax pmax
comp=Z,50nm,1.4s
CN2 LR LR
comp=Z,510nm,17.0s
CN2 LR LR
comp=Z,430nm,17.0s
CN2 LR LR
comp=Z,480nm,17.0s
ARPS Mount Arapiles 41.62 161 P P 09 25 54.3 +1.1
DHUB DHUBRI 41.87 307 *e*P P 09 25 55.4 -0.1
DHUB IAmb IAmb 09 25 57.3
comp=Z,384nm,1.6s
USA0B Ussuriysk Arra 41.99 6 P P 09 25 55.4 -0.7
USA0B pmax pmax
comp=Z,83nm,0.9s
USA0B Ussuriysk Arra 41.99 6 P P 09 25 55.4 -0.7
USA0B IAmb IAmb 09 26 16.4
comp=Z,83nm,0.8s
USRK Ussuriysk Ar. 41.99 6 P P 09 25 57.2 +1.1
comp=Z,94nm,1.0s,baz=192,slow=7.7,SNR=87
USRK Ussuriysk Ar. 41.99 6 P P 09 25 55.9 -0.2
MDJ Mudanjiang 42.19 4 P P 09 25 58.8 +1.0
MDJ IAmb IAmb 09 26 00.2
comp=Z,127nm,0.9s
MDJ Mudanjiang 42.19 4 P P 09 25 59.3 +1.5
MDJ PP **PP 09 27 38.3 +1.8**
MDJ S **S 09 32 15.8 +2.3**
MDJ pmax pmax
comp=Z,160nm,0.9s
MDJ pmax pmax
comp=Z,710nm,4.0s
MDJ LR LR
comp=Z,430nm,19.0s
MDJ LR LR
comp=Z,540nm,19.6s
MDJ LR LR
comp=Z,1μm,20.0s
MDJ Mudanjiang 42.19 4 P P 09 25 59.5 +1.7
MDJ Mudanjiang 42.19 4 P P 09 25 58.8 +1.0
MDJ pP **pP 09 26 11.2 -1.5**
XLT XiLinHaoTe 42.29 349 ⇓*i*P P 09 25 58.5 -0.3
XLT pP pP 09 26 12.0 -1.5
XLT sP pwP 09 26 16.8 +0.2
XLT PcP **PcP 09 27 51.0 -0.6**
XLT ScP **ScP 09 31 36.8 -0.4**
XLT PcS **PcS 09 31 42.8 -0.7**
XLT S **S 09 32 14.5 -0.8**
XLT SS **SS 09 35 21.5 -4.4**
XLT pmax pmax
comp=Z,150nm,1.1s
XLT pmax pmax
comp=Z,330nm,4.9s
XLT LR LR
comp=Z,590nm,20.2s
XLT LR LR
comp=Z,660nm,17.7s
ERM Erimo 42.35 19 *ce*P P 09 26 00.8 +1.6
ERM pmax pmax
comp=Z,165nm,1.7s
ERM Erimo 42.35 19 P P 09 25 59.1 0.0
ERM Erimo 42.35 19 P P 09 26 00.2 +1.1
ERM Erimo 42.35 19 P P 09 26 00.8 +1.6
JEW Eniwo 42.58 17 P P 09 26 01.0 0.0
LSA Lhasa 42.85 313 P P 09 26 04.1 +0.1
LSA pmax pmax
comp=Z,449nm,1.9s
LSA Lhasa 42.85 313 P P 09 26 04.1 +0.1
LSA IAmb IAmb 09 26 07.2
comp=Z,449nm,1.9s
LSA Lhasa 42.85 313 P P 09 26 04.5 +0.5
LSA pmax pmax
comp=Z,110nm,1.0s
LSA Lhasa 42.85 313 P P 09 26 04.4 +0.4
H11S3 WAKE ISLAND Hy 42.90 65 T T 10 12 47.1
baz=253,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 42.92 65 T T 10 13 00.9
baz=253,slow=75,SNR=35
H11S1 WAKE ISLAND Hy 42.92 65 T T 10 12 41.5
baz=253,slow=75,SNR=19
BRAT Ballarat 43.04 159 P P 09 26 06.3 +1.5
comp=Z,40nm,0.7s
BNX BinXian 43.21 1 ⇓P P 09 26 06.0 -0.1
BNX pP **pP 09 26 21.0 0.0**
BNX sP **sP 09 26 28.3 +0.5**
BNX PP **PP 09 27 47.5 0.0**
BNX S **S 09 32 24.5 -4.0**
BNX pmax pmax
comp=Z,120nm,1.2s
BNX pmax pmax
comp=Z,840nm,4.3s
BNX LR LR
comp=Z,200nm,8.5s
BNX LR LR
comp=Z,320nm,10.9s
BNX LR LR
comp=Z,2μm,25.7s
CAN Canberra 43.21 152 P P 09 26 07.8 +1.5
CAN pmax pmax
comp=Z,67nm,0.9s
CAN Canberra 43.21 152 P P 09 26 07.8 +1.5
CAN Canberra 43.21 152 P P 09 26 07.2 +0.9
H11N1 WAKE ISLAND Hy 43.45 64 T T 10 13 34.0
baz=260,slow=74,SNR=7.5
H11N3 WAKE ISLAND Hy 43.47 64 T T 10 13 37.7
baz=253,slow=74,SNR=3.2
TEY Ternei 43.50 11 ⇓*e*P P 09 26 09.8 +1.5
TEY *e* 09 26 27.2
TEY *e* 09 27 56.6
TEY pmax pmax
comp=N,120nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=Z,200nm,0.9s
TEY pmax pmax
comp=N,140nm,0.8s
TEY pmax pmax
comp=E,20nm,0.8s
TEY pmax pmax
comp=Z,240nm,0.8s
GTK Tadong 43.58 308 *e*P P 09 26 09.9 +0.3
GTK IAmb IAmb 09 26 11.8
comp=Z,158nm,1.1s
TOO Toolangi 43.64 157 P P 09 26 10.1 +0.4
TOO pmax pmax
comp=Z,36nm,0.7s
TOO Toolangi 43.64 157 P P 09 26 10.1 +0.4
TOO Toolangi 43.64 157 P P 09 26 09.6 -0.1
GEXS Deakin Univers 43.75 159 P P 09 26 11.5 +1.0
KOUNC Koumac, New Ca 43.85 123 P P 09 26 11.7 +0.1
ASAJ Asahikawa 44.08 17 P P 09 26 14.7 +1.6
comp=Z,163nm,0.9s,baz=232,slow=13,SNR=91
ASAJ S **S 09 32 47.9 +6.6**
comp=Z,8.6nm,1.2s,baz=42,slow=29,SNR=2.5
ASAJ LR LR 09 44 42.1
comp=Z,511nm,21.6s,baz=226,slow=36
ASAJ Asahikawa 44.08 17 P P 09 26 13.2 +0.1
ASAJ S **S 09 32 47.9 +6.6**
ASAJ pmax pmax
comp=Z,200nm,0.9s
JKA Kamikawa-asahi 44.08 17 P P 09 26 13.2 +0.1
JKA IAmb IAmb 09 26 15.9
comp=Z,200nm,0.9s
JKA Kamikawa-asahi 44.08 17 S 09 32 47.9 +6.5
BOK Bokaro 44.29 302 *e*P P 09 26 15.6 +0.5
TAPN Taplejung 44.29 308 *e*P P 09 26 15.5 +0.1
comp=Z,319nm,1.0s
ODAN Odare 44.33 307 *e*P P 09 26 15.6 0.0
comp=Z,337nm,0.9s
GOMU GeErMu 44.35 323 P P 09 26 16.3 +0.5
GOMU PP **PP 09 28 00.5 +0.3**
GOMU S **S 09 32 47.8 +1.6**
GOMU sS sS 09 33 09.0 -2.6
GOMU pmax pmax
comp=Z,45nm,1.3s
GOMU LR LR
comp=Z,570nm,22.0s
GOMU LR LR
comp=Z,260nm,21.9s
GOMU LR LR
comp=Z,340nm,18.9s
SANVU Saraoutou 44.38 115 P P 09 26 15.5 -0.4
SANVU IAmb IAmb 09 26 18.0
comp=Z,134nm,0.8s
SANVU Saraoutou 44.38 115 P P 09 26 17.3 +1.4
SANVU Saraoutou 44.38 115 P P 09 26 16.9 +1.0
RAGD RAYAGADA 44.90 295 *e*P P 09 26 19.6 -0.5
RAMN Ramite 45.00 307 *e*P P 09 26 21.4 +0.4
comp=Z,134nm,0.9s
YUK Yuzh-Kuril'sk 45.05 20 *d i*P P 09 26 21.7 +0.9
PALK Pallekele 45.43 278 LR LR 09 46 17.4
comp=Z,283nm,20.8s,baz=196,slow=37
PALK Pallekele 45.43 278 P P 09 26 24.1 -0.3
JIRN Jiri 45.64 307 *e*P P 09 26 26.3 +0.1
comp=Z,407nm,1.0s
GUN Gumba 45.99 307 *e*P P 09 26 29.0 0.0
comp=Z,247nm,0.6s
DVP Devils Point 46.07 117 P P 09 26 30.5 +1.3
NOUC Port Laguerre 46.22 124 P P 09 26 31.2 +0.8
PKI Pulchoki 46.22 307 *e*P P 09 26 30.2 -0.6
comp=Z,301nm,1.2s
PKIN Phulchoki 46.23 307 *e*P P 09 26 30.2 -0.6
DZM Mont Dzumac 46.32 124 *e*P P 09 26 31.2 -0.1
comp=Z,146nm,1.2s
DZM Mont Dzumac 46.32 124 *e*LR LR 09 39 40.2
comp=Z,2μm,33.7s
DZM Mont Dzumac 46.32 124 P P 09 26 32.2 +0.9
comp=Z,35nm,0.8s,baz=320,slow=15,SNR=18
DZM Mont Dzumac 46.32 124 P P 09 26 30.6 -0.7
DZM Mont Dzumac 46.32 124 P P 09 26 31.8 +0.5
KKN Kakani 46.42 307 *e*P P 09 26 31.7 -0.5
comp=Z,308nm,1.0s
LIFNC LIFOU 46.44 122 P P 09 26 30.1 -2.0
LIFNC LIFOU 46.44 122 P P 09 26 32.9 +0.8
ONTNC Ouen Toro 46.44 124 P P 09 26 31.5 -0.6
ONTNC IAmb IAmb 09 26 54.1
comp=Z,55nm,0.7s
DMN Daman 46.48 307 *e*P P 09 26 32.5 -0.2
comp=Z,373nm,1.0s
MDRS Chennai 46.54 286 *i*P P 09 26 32.8 -0.2
MDRS IAmb IAmb 09 26 54.1
comp=Z,38nm,0.3s
YATNC Mamie plateau, 46.69 124 P P 09 26 34.9 +0.8
YSS Yuzh-Sakhalins 46.73 16 P P 09 26 34.6 +0.7
YSS IAmb IAmb 09 26 36.0
comp=Z,196nm,1.2s
YSS Yuzh-Sakhalins 46.73 16 P P 09 26 35.5 +1.6
KUR Kuril'sk 46.80 21 *d i*P P 09 26 32.5 -2.1
KUR *e*S **S 09 33 18.6 -1.8**
KUR SSS SSS 09 37 50.4
KUR pmax pmax
comp=Z,334nm,1.3s
KUR pmax pmax
comp=E,45nm,0.9s
KUR pmax pmax
comp=N,93nm,1.3s
KUR MLR MLR
comp=Z,514nm,21.0s
OUENC Ouen Island, N 46.81 124 P P 09 26 35.8 +0.8
OUENC IAmb IAmb 09 27 04.8
comp=Z,180nm,1.9s
KLR Kul'dur 46.94 5 P P 09 26 36.2 +0.6
comp=Z,46nm,0.8s,baz=205,slow=5.3,SNR=136
KLR S **S 09 33 21.0 -1.4**
comp=Z,1.2nm,0.9s,baz=309,slow=21,SNR=1.9
KLR LR LR 09 47 58.4
comp=Z,294nm,19.0s,baz=194,slow=38
BLSP Bilaspur 46.95 298 *e*P P 09 26 34.8 -1.4
GKN Gorkha 47.02 307 *e*P P 09 26 36.4 -0.4
comp=Z,317nm,1.0s
HIA Hailar 47.04 354 P P 09 26 36.4 0.0
HIA Hailar 47.04 354 P P 09 26 37.0 +0.6
VLK Valmikinagar 47.36 306 *e*P P 09 26 39.1 -0.1

MARNC	**Mare, Loyalty**	**47.40**	**122**	P		**P**	**09 26 39.2**	**-0.4**
MARNC	**Mare, Loyalty**	**47.40**	**122**	P		**P**	**09 26 40.1**	**+0.5**
GLAD	**Gladstone**	**47.56**	**157**	P		**P**	**09 26 41.3**	**+0.7**
CORO	**Coronation Par**	**47.65**	**159**	P		**P**	**09 26 41.9**	**+0.7**
KOLN	**Koldanda**	**47.76**	**306**	*e*P		**P**	**09 26 42.6**	**0.0**
DANN	**Dangsing**	**47.87**	**307**	*e*P		**P**	**09 26 43.3**	**-0.3**
	comp=Z,556nm,0.9s							
ULN	**Ulaanbaatar**	**48.20**	**343**	P		**P**	**09 26 45.5**	**-0.1**
ULN				IAmb	IAmb		09 26 46.8	
	comp=Z,35nm,0.8s							
ULN	**Ulaanbaatar**	**48.20**	**343**	P		**P**	**09 26 45.8**	**+0.1**
ALBI	**Allahabad**	**48.30**	**302**	*e*P		**P**	**09 26 44.8**	**-1.8**
SONM	**Songino Array**	**48.37**	**342**	P		**P**	**09 26 46.5**	**-0.4**
	comp=Z,33nm,1.0s,baz=162,slow=8.6,SNR=45							
SONM				PcP		**PcP**	**09 28 13.1**	**+0.4**
	comp=Z,21nm,0.9s,baz=162,slow=4.0,SNR=5.7							
SONM				LR		LR	09 48 22.2	
	comp=Z,351nm,19.5s,baz=159,slow=38							
SONM	**Songino Array**	**48.37**	**342**	P		**P**	**09 26 46.5**	**-0.4**
PYUN	**Piuthan**	**48.39**	**306**	*e*P		**P**	**09 26 47.6**	**+0.1**
	comp=Z,765nm,1.1s							
UGL	**Uglegorsk**	**48.52**	**14**	*e*P		**P**	**09 26 49.3**	**+1.5**
UGL				*e*			09 27 04.8	
UGL				pmax	pmax			
	comp=Z,300nm,1.0s							
KOD	**Kodaikanal**	**48.87**	**281**	*e*P		**P**	**09 26 49.5**	**-1.9**
HYB	**Hyderabad**	**48.96**	**291**	*i* P		**P**	**09 26 51.3**	**-0.4**
HYB				IAmb	IAmb		09 26 54.0	
HYBB	**Hyderabad (bro**	**48.96**	**291**	*e*P		**P**	**09 26 50.5**	**-1.2**
TAU	**Tasmania Unive**	**48.98**	**159**	P		**P**	**09 26 52.1**	**+0.6**
TAU				pmax	pmax			
	comp=Z,55nm,1.2s							
TAU	**Tasmania Unive**	**48.98**	**159**	P		**P**	**09 26 52.1**	**+0.6**
TAU				IAmb	IAmb		09 26 54.3	
	comp=Z,55nm,1.1s							
TAU	**Tasmania Unive**	**48.98**	**159**	P		**P**	**09 26 52.0**	**+0.6**
GRNR	**Gornyy**	**49.02**	**9**	*e*P		**P**	**09 26 49.0**	**-2.7**
GRNR				MLR	MLR			
	comp=N,260nm,20.0s							
GRNR				MLR	MLR			
	comp=E,170nm,20.0s							
GRNR				MLR	MLR			
	comp=Z,200nm,14.0s							
TRD	**Trivandrum**	**49.22**	**279**	*i* P		**P**	**09 26 53.2**	**-0.6**
TYV	**Tymovskoe**	**50.32**	**14**	*e*P		**P**	**09 27 03.2**	**+1.7**
TYV				pmax	pmax			
	comp=Z,45nm,1.1s							
TYV				pmax	pmax			
	comp=Z,500nm,4.7s							
CIT	**Chita**	**50.58**	**350**	*e*P		**P**	**09 27 04.2**	**+0.7**
CIT				*e*			09 27 12.5	
CIT				*e*			09 27 22.2	
CIT				*e*			09 28 21.3	
CIT				pmax	pmax			
	comp=Z,243nm,1.8s							
AKL	**Akola**	**51.12**	**295**	*e*P		**P**	**09 27 08.2**	**0.0**
JHNI	**Jhansi**	**51.13**	**301**	*e*P		**P**	**09 27 05.2**	**-2.9**
LGTI	**Lohaghat**	**51.13**	**307**	*e*P		**P**	**09 27 07.3**	**-0.7**
ZEA	**Zeya**	**51.21**	**1**	*e*P		**P**	**09 27 08.2**	**0.0**
ZEA				*e*			09 27 28.7	
ZEA				*e*			09 34 43.9	
ZEA				pmax	pmax			
	comp=Z,200nm,6.9s							
ZEA				pmax	pmax			
	comp=N,40nm,1.1s							
ZEA				pmax	pmax			
	comp=E,10.0nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,60nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,200nm,3.9s							
ZEA				MLR	MLR			
	comp=E,100nm,19.0s							
ZEA				MLR	MLR			
	comp=Z,300nm,22.0s							
BHPL	**Bhopal**	**51.43**	**298**	⇑ *i*P		**P**	**09 27 09.5**	**-0.9**
BHPL				IAmb	IAmb		09 27 12.2	
	comp=Z,92nm,1.5s							
BHPL				*i* pP		**sP**	**09 27 32.1**	**-0.1**
ZAK	**Zakamensk**	**51.59**	**342**	*e*P		**P**	**09 27 08.4**	**-2.8**
ZAK				pmax	pmax			
	comp=Z,24nm,1.3s							
NKL	**Nikolayevsk**	**52.04**	**11**	*e*P		**P**	**09 27 13.9**	**-0.4**
NKL				*e*S		**S**	**09 34 35.0**	**+1.5**
NKL				pmax	pmax			
	comp=N,2.0nm,1.0s							
NKL				pmax	pmax			
	comp=E,4.0nm,1.0s							
NKL				pmax	pmax			
	comp=Z,137nm,1.2s							
NKL				MLR	MLR			
	comp=N,1.0nm,17.0s							
NKL				MLR	MLR			
	comp=E,48nm,17.0s							
NKL				MLR	MLR			
	comp=Z,225nm,16.0s							
IRK	**Irkutsk**	**52.92**	**343**	*e*P		**P**	**09 27 20.2**	**-0.8**
IRK				pmax	pmax			
	comp=Z,93nm,2.5s							
KAD	**Karad**	**53.03**	**290**	*e*P		**P**	**09 27 19.9**	**-2.4**
GOA	**Goa**	**53.06**	**288**	*e*P		**P**	**09 27 22.4**	**-0.2**
KAAM	**Kaadhehdhoo**	**53.07**	**269**	P		**P**	**09 27 21.6**	**-1.1**
KAAM				IAmb	IAmb		09 28 32.4	
	comp=Z,77nm,1.2s							
KAAM	**Kaadhehdhoo**	**53.07**	**269**	P		**P**	**09 27 22.0**	**-0.7**
DDI	**Dehra Dun**	**53.22**	**307**	*e*P		**P**	**09 27 22.8**	**-0.9**
SONA	**Sohna**	**53.28**	**304**	*e*P		**P**	**09 27 23.4**	**-0.6**
MOY	**Mondy**	**53.43**	**341**	*e*P		**P**	**09 27 24.8**	**0.0**
MOY				pmax	pmax			
	comp=Z,67nm,1.2s							
WMQ	**Urumqi**	**53.46**	**326**	P		**P**	**09 27 24.8**	**-0.3**
WMQ				pP	pwP		09 27 42.0	-1.5
WMQ				PcP		**PcP**	**09 28 30.5**	**-1.0**
WMQ				pmax	pmax			
	comp=Z,85nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,560nm,5.1s							
WMQ				LR	LR			
	comp=Z,980nm,18.5s							
WMQ				LR	LR			
	comp=Z,630nm,17.1s							
WMQ				LR	LR			
	comp=Z,790nm,21.1s							
POO	**Poona**	**53.56**	**291**	*e*P		**P**	**09 27 23.3**	**-3.0**
POO				IAmb	IAmb		09 27 26.7	
	comp=Z,66nm,1.2s							
KUDL	**Kundal**	**53.73**	**304**	*e*P		**P**	**09 27 25.5**	**-1.8**
FUNA	**Funafuti**	**54.07**	**102**	P		**P**	**09 27 30.5**	**+0.5**
SMLA	**Simla**	**54.23**	**307**	*i* P		**P**	**09 27 31.0**	**+0.1**
AJM	**Ajmer**	**54.78**	**301**	*e*P		**P**	**09 27 34.2**	**-0.8**
BHK	**Bhakra**	**54.94**	**307**	*e*P		**P**	**09 27 36.0**	**-0.1**
THN	**Thein Dam**	**55.86**	**308**	*e*P		**P**	**09 27 42.0**	**-0.6**
BOD	**Bodaibo**	**56.11**	**352**	*e*P		**P**	**09 27 44.3**	**+0.4**
BOD				pmax	pmax			
	comp=Z,351nm,1.3s							
JMU	**Jammu**	**56.61**	**308**	*e*P		**P**	**09 27 48.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**56.94**	**22**	P		**P**	**09 27 51.4**	**+1.5**
PEA0B				pmax	pmax			
	comp=Z,84nm,0.9s							
PEA0B	**Petropavlovsk-**	**56.94**	**22**	P		**P**	**09 27 51.4**	**+1.5**
PEA0B				IAmb	IAmb		09 27 52.4	
	comp=Z,84nm,0.8s							
PETK	**Petropavlovsk-**	**56.94**	**22**	P		**P**	**09 27 50.6**	**+0.7**
	comp=Z,60nm,0.8s,baz=209,slow=12,SNR=78							
PETK				PcP		**PcP**	**09 28 45.1**	**+0.5**
	comp=Z,28nm,0.9s,baz=193,slow=4.0,SNR=3.7							
PETK				LR	LR		09 48 54.4	
	comp=Z,156nm,22.0s,baz=227,slow=32							
PET	**Petropavlovsk**	**57.24**	**23**	⇓ *i*P		**P**	**09 27 53.1**	**+1.2**
PET				*e*S		**S**	**09 35 44.7**	**+1.5**
PET				pmax	pmax			
	comp=Z,102nm,1.5s							
PET				pmax	pmax			
	comp=Z,500nm,18.0s							
PET				MLR	MLR			
	comp=Z,400nm,18.0s							
PET	**Petropavlovsk**	**57.24**	**23**	P		**P**	**09 27 53.2**	**+1.2**
PET				IAmb	IAmb		09 27 54.5	
	comp=Z,180nm,1.5s							
PET	**Petropavlovsk**	**57.24**	**23**	P		**P**	**09 27 53.1**	**+1.2**
	comp=Z,322nm,1.4s							
ZSN	**Zaisan**	**57.28**	**328**	*e*P		**P**	**09 27 51.8**	**-0.7**
ZSN				*e*S		**S**	**09 35 44.4**	**+0.2**
ZSN	**Zaisan**	**57.28**	**328**	*e*P		**P**	**09 27 51.8**	**-0.7**
	baz=328							
ZSN				*e*S		**S**	**09 35 44.5**	**+0.2**
	baz=328							
SHLS	**Shalkode**	**57.97**	**321**	*d* iP		**P**	**09 27 55.4**	**-2.1**
SHLS				pmax	pmax			
	comp=Z,50nm,1.5s							
SHLS	**Shalkode**	**57.97**	**321**	⇓ *i*P		**P**	**09 27 55.5**	**-2.1**
	comp=Z,50nm,1.5s,baz=322							
PDGK	**Podgornoye**	**58.04**	**321**	P		**P**	**09 27 56.4**	**-1.6**
UZB	**Uzynbulak**	**58.24**	**321**	*d* iP		**P**	**09 27 59.0**	**-0.4**
UZB				pmax	pmax			
	comp=Z,58nm,1.4s							
UZB	**Uzynbulak**	**58.24**	**321**	⇓ *i*P		**P**	**09 27 59.1**	**-0.4**
	comp=Z,58nm,1.4s,baz=321							
MK31	**Makanchi Array**	**58.29**	**326**	P		**P**	**09 27 59.2**	**-0.4**
MK31				pmax	pmax			
	comp=Z,33nm,0.9s							
MK31	**Makanchi Array**	**58.29**	**326**	P		**P**	**09 27 59.2**	**-0.4**
MK31				IAmb	IAmb		09 28 51.2	
	comp=Z,33nm,0.9s							
MKAR	**Makanchi Array**	**58.29**	**326**	P		**P**	**09 27 59.0**	**-0.5**
	comp=Z,19nm,0.4s,baz=121,slow=8.3,SNR=422							
MKAR				PcP		**PcP**	**09 28 50.1**	**0.0**
	comp=Z,48nm,0.9s,baz=120,slow=4.8,SNR=9.7							
MKAR				ScP		**ScP**	**09 32 44.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=101,slow=6.1,SNR=3.0							
MKAR				S		**S**	**09 35 54.0**	**-3.4**
	comp=Z,0.7nm,0.9s,baz=149,slow=10,SNR=1.8							
MKAR				LR	LR		09 55 52.6	
	comp=Z,394nm,18.2s,baz=118,slow=39							
MKAR				PKP2bc			09 57 50.2	
	comp=Z,1.9nm,1.0s,baz=291,slow=3.8,SNR=7.9							
MKAR				PKP2ab			09 58 04.8	
	comp=Z,1.3nm,1.0s,baz=336,slow=3.2,SNR=3.5							
TARG	**Taragay, Kyrgy**	**58.32**	**319**	P		**P**	**09 28 00.5**	**+0.1**
TARG				IAmb	IAmb		09 28 12.8	
	comp=Z,88nm,1.3s							
MAKZ	**Makanchi**	**58.48**	**326**	P		**P**	**09 28 00.4**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,84nm,1.3s							
MAKZ	**Makanchi**	**58.48**	**326**	P		**P**	**09 28 00.4**	**-0.5**
MAKZ				IAmb	IAmb		09 28 02.6	
	comp=Z,84nm,1.3s							
MAKZ	**Makanchi**	**58.48**	**326**	P		**P**	**09 28 00.3**	**-0.5**
KSH	**Kashi**	**58.54**	**316**	P		**P**	**09 28 02.0**	**+0.4**
KSH				pP	pP		09 28 18.0	+1.0
KSH				sP	sP		09 28 26.5	+3.0
KSH				PcP		**PcP**	**09 28 52.5**	**+1.1**
KSH				pmax	pmax			
	comp=Z,50nm,1.2s							
KSH				pmax	pmax			
	comp=Z,380nm,4.9s							
KSH				LR	LR			
	comp=Z,470nm,26.0s							
KSH				LR	LR			
	comp=Z,530nm,26.0s							
KSH				LR	LR			
	comp=Z,830nm,38.9s							
SATY	**Saty**	**58.58**	**321**	*d* iP		**P**	**09 28 01.7**	**-0.1**
SATY				*e*S		**S**	**09 36 02.2**	**+0.6**
SATY				pmax	pmax			
	comp=Z,77nm,1.7s							
SATY	**Saty**	**58.58**	**321**	⇓ *i*P		**P**	**09 28 01.8**	**-0.1**
	comp=Z,77nm,1.7s,baz=321							
SATY				*e*S		**S**	**09 36 02.2**	**+0.6**
	baz=321							
KPKS	**Kokpek**	**58.61**	**321**	*d* iP		**P**	**09 28 01.6**	**-0.4**
KPKS				*i* S		**S**	**09 36 01.8**	**-0.1**
KPKS				pmax	pmax			
	comp=Z,55nm,1.2s							
KPKS	**Kokpek**	**58.61**	**321**	⇓ *i*P		**P**	**09 28 01.6**	**-0.4**
	comp=Z,56nm,1.2s,baz=321							
KPKS				*i* S		**S**	**09 36 01.8**	**-0.1**
	baz=321							
ZHN	**Zhinishke**	**58.62**	**321**	*e*P		**P**	**09 28 01.4**	**-0.6**
ZHN	**Zhinishke**	**58.62**	**321**	*e*P		**P**	**09 28 01.5**	**-0.6**
	baz=321							
KDJ	**Kajisay**	**58.92**	**319**	P		**P**	**09 28 04.3**	**0.0**
KDJ				pmax	pmax			
	comp=Z,137nm,1.3s							
KDJ	**Kajisay**	**58.92**	**319**	P		**P**	**09 28 04.2**	**0.0**
KDJ				IAmb	IAmb		09 28 06.5	
	comp=Z,137nm,1.3s							
MDOK	**Medeo**	**59.50**	**320**	*i* P		**P**	**09 28 08.1**	**-0.1**
	baz=320							
TNSS	**Tian-Shan**	**59.50**	**320**	*i* P		**P**	**09 28 08.6**	**+0.1**
	baz=320							
TDK	**Taldyqorghan**	**59.57**	**323**	*e*P		**P**	**09 28 08.3**	**-0.2**
TDK				pmax	pmax			
	comp=Z,55nm,1.1s							
TDK	**Taldyqorghan**	**59.57**	**323**	*e*P		**P**	**09 28 08.3**	**-0.2**
	comp=Z,55nm,1.1s,baz=323							
YAK	**Yakutsk**	**59.58**	**2**	P		**P**	**09 28 08.8**	**+0.7**
	comp=Z,85nm,0.8s,baz=159,slow=1.2,SNR=35							
YAK				LR	LR		09 54 43.1	
	comp=Z,420nm,21.6s,baz=232,slow=37							
YAK	**Yakutsk**	**59.58**	**2**	*d* iP		**P**	**09 28 08.4**	**+0.2**
YAK				*e**PP		**pwP**	**09 28 26.3**	**+0.3**
YAK				*e*			09 28 55.1	
YAK				*e*			09 30 23.0	
YAK				*e*S		**S**	**09 36 12.7**	**-0.8**
YAK				*e*			09 37 50.2	
YAK				*e*SS		**SS**	**09 40 05.0**	**-4.8**
YAK				pmax	pmax			
	comp=Z,236nm,0.9s							
YAK				pmax	pmax			
	comp=N,92nm,1.1s							
YAK				pmax	pmax			
	comp=E,24nm,1.1s							
YAK				pmax	pmax			
	comp=N,73nm,1.4s							
YAK				pmax	pmax			
	comp=E,43nm,1.4s							
YAK				smax	smax			
	comp=E,261nm,2.5s							
YAK				smax	smax			
	comp=N,125nm,1.9s							
YAK	**Yakutsk**	**59.58**	**2**	P		**P**	**09 28 08.4**	**+0.2**
YAK	**Yakutsk**	**59.58**	**2**	P		**P**	**09 28 08.5**	**+0.4**
AAA	**Alma-Ata**	**59.61**	**320**	*e*P		**P**	**09 28 08.7**	**-0.1**
AAA	**Alma-Ata**	**59.61**	**320**	*e*P		**P**	**09 28 08.7**	**-0.1**
	baz=320							
CHKK	**Chushkaly**	**59.87**	**321**	*e*P		**P**	**09 28 09.7**	**-0.9**
	baz=321							
MA2	**Magadan**	**60.18**	**14**	P		**P**	**09 28 13.5**	**+1.1**
	comp=N,114nm,0.8s,baz=203,slow=6.5,SNR=170							
MA2				LR	LR		09 52 20.7	
	comp=N,143nm,21.9s,baz=217,slow=34							
MA2	**Magadan**	**60.18**	**14**	P		**P**	**09 28 13.2**	**+0.9**
MA2	**Magadan**	**60.18**	**14**	P		**P**	**09 28 14.0**	**+1.7**
MA2	**Magadan**	**60.18**	**14**	P		**P**	**09 28 13.8**	**+1.4**
MA2				pP		**pwP**	**09 28 29.4**	**-0.7**
KUU	**Kurty**	**60.30**	**321**	*d* iP		**P**	**09 28 13.1**	**-0.4**
KUU				pmax	pmax			
	comp=Z,121nm,1.3s							
KUU	**Kurty**	**60.30**	**321**	⇓ *i*P		**P**	**09 28 13.1**	**-0.4**
	comp=Z,121nm,1.3s,baz=321							
TKM2	**Tokmak 2**	**60.32**	**319**	P		**P**	**09 28 13.8**	**-0.2**
	SNR=38							
TKM2	**Tokmak 2**	**60.32**	**319**	P		**P**	**09 28 13.3**	**-0.6**
KBK	**Karagaybulak**	**60.63**	**319**	P		**P**	**09 28 16.2**	**+0.2**
	SNR=10							
UCH	**Uchtor**	**60.72**	**318**	P		**P**	**09 28 17.3**	**+0.3**
	SNR=76							
AAK	**Ala-Archa**	**60.92**	**319**	P		**P**	**09 28 18.2**	**+0.3**
	comp=Z,5.7nm,0.4s,baz=112,slow=5.7,SNR=36							
AAK				LR	LR		09 58 09.4	
	comp=Z,388nm,21.8s,baz=104,slow=39							
AAK	**Ala-Archa**	**60.92**	**319**	P		**P**	**09 28 17.8**	**-0.1**
AAK				IAmb	IAmb		09 28 20.4	
	comp=Z,62nm,1.5s							
AAK	**Ala-Archa**	**60.92**	**319**	P		**P**	**09 28 18.0**	**+0.1**
LBZ	**Lake Benmore**	**60.95**	**145**	P		**P**	**09 28 18.1**	**+0.2**
LBZ				IAmb	IAmb		09 28 41.3	
	comp=Z,93nm,1.2s							
RPZ	**Rata Peaks**	**61.05**	**144**	LR	LR		09 55 37.5	
	comp=Z,395nm,20.6s,baz=310,slow=37							
RPZ	**Rata Peaks**	**61.05**	**144**	P		**P**	**09 28 18.9**	**+0.3**
RPZ				IAmb	IAmb		09 28 52.1	
	comp=Z,48nm,1.0s							
THZ	**Tophouse**	**61.05**	**141**	P		**P**	**09 28 18.5**	**-0.2**
THZ				IAmb	IAmb		09 28 37.5	
	comp=Z,27nm,0.7s							
SGDS	**Sogindy**	**61.20**	**319**	⇓ *i*P		**P**	**09 28 18.9**	**-0.8**
	baz=320							
USP	**Ospenovka**	**61.20**	**319**	P		**P**	**09 28 19.3**	**-0.3**
	SNR=41							
AML	**Almayashu**	**61.23**	**318**	P		**P**	**09 28 20.5**	**+0.1**
	SNR=55							
EKS2	**Erkin-Say**	**61.40**	**318**	P		**P**	**09 28 21.2**	**+0.1**
	SNR=25							
OPRZ	**Ohinepanea**	**61.44**	**136**	P		P	09 28 27.6	+6.3
DRK	**Karamyk**	**61.46**	**314**	P		**P**	**09 28 21.8**	**-0.1**
DRK				IAmb	IAmb		09 28 26.9	
	comp=Z,31nm,0.8s							
ZAA0	**Zalesovo Array**	**61.49**	**334**	P		**P**	**09 28 19.9**	**-1.4**
ZALV	**Zalesovo Beam**	**61.49**	**334**	P		**P**	**09 28 20.0**	**-1.4**
	comp=Z,10nm,0.4s,baz=115,slow=6.7,SNR=58							
ZALV				LR	LR		09 57 30.3	
	comp=Z,294nm,21.9s,baz=128,slow=38							
ZALV				PKP2bc			09 57 41.1	
	comp=Z,2.9nm,0.9s,baz=264,slow=2.8,SNR=7.9							
SEM	**Semipalatinsk**	**61.50**	**329**	*e*P		**P**	**09 28 20.0**	**-1.7**
SEM	**Semipalatinsk**	**61.50**	**329**	*e*P		**P**	**09 28 20.0**	**-1.7**
	baz=329							
KBL	**Kabul**	**61.82**	**308**	P		**P**	**09 28 23.4**	**-0.9**
KBL				pmax	pmax			
	comp=Z,70nm,1.2s							
KBL	**Kabul**	**61.82**	**308**	P		**P**	**09 28 23.4**	**-0.9**
KBL				IAmb	IAmb		09 28 25.4	
	comp=Z,70nm,1.1s							
KBL	**Kabul**	**61.82**	**308**	P		**P**	**09 28 23.1**	**-1.1**
	SNR=24							
KBL	**Kabul**	**61.82**	**308**	P		**P**	**09 28 23.0**	**-1.3**
BHHZ	**Black Hill Sta**	**61.91**	**138**	P		**P**	**09 28 25.5**	**+1.0**
URZ	**Urewera**	**62.02**	**136**	P		**P**	**09 28 25.5**	**+0.3**
	comp=Z,10nm,0.7s,baz=243,slow=5.1,SNR=1.5							
URZ				LR	LR		09 57 34.6	
	comp=Z,445nm,18.5s,baz=313,slow=38							
URZ	**Urewera**	**62.02**	**136**	P		**P**	**09 28 23.6**	**-1.6**
URZ				IAmb	IAmb		09 28 54.4	
	comp=Z,56nm,1.2s							
BKZ	**Black Stump Fm**	**62.04**	**137**	P		**P**	**09 28 26.4**	**+0.9**
BKZ				IAmb	IAmb		09 28 40.6	
	comp=Z,43nm,1.0s							
BKZ	**Black Stump Fm**	**62.04**	**137**	P		**P**	**09 28 26.2**	**+0.8**
BKZ	**Black Stump Fm**	**62.04**	**137**	P		**P**	**09 28 26.3**	**+0.9**
RTZ	**Ruatahuna**	**62.10**	**137**	P		**P**	**09 28 26.7**	**+0.8**
BHW	**Baring Head**	**62.10**	**140**	P		**P**	**09 28 24.9**	**-0.7**
KRHZ	**Kereru**	**62.19**	**138**	P		**P**	**09 28 27.5**	**+1.2**
NMHZ	**Naumai**	**62.22**	**137**	P		**P**	**09 28 28.4**	**+1.7**
BTLS	**Baital**	**62.29**	**321**	*d* iP		**P**	**09 28 26.0**	**-0.9**
BTLS	**Baital**	**62.29**	**321**	⇓ *i*P		**P**	**09 28 26.1**	**-0.9**
	baz=321							
RAHZ	**Arahi**	**62.32**	**137**	P		**P**	**09 28 28.8**	**+1.6**
MWZ	**Matawai**	**62.35**	**136**	P		**P**	**09 28 28.0**	**+0.6**
MSWZ	**Moikau Station**	**62.35**	**140**	P		**P**	**09 28 26.9**	**-0.5**
GAR	**Garm**	**62.35**	**313**	P		**P**	**09 28 26.9**	**-0.7**
BTK	**Batken**	**62.38**	**315**	P		**P**	**09 28 27.0**	**-0.8**
BTK				pmax	pmax			
	comp=Z,108nm,1.5s							
BTK	**Batken**	**62.38**	**315**	P		**P**	**09 28 26.9**	**-0.8**
BTK				IAmb	IAmb		09 28 29.5	
	comp=Z,108nm,1.5s							
SNGZ	**Shannon Statio**	**62.43**	**137**	P		**P**	**09 28 29.1**	**+1.2**
PLWZ	**Palliser**	**62.44**	**140**	P		**P**	**09 28 28.2**	**+0.2**
KURBB	**Kurchatov Arra**	**62.52**	**328**	P		**P**	**09 28 27.6**	**-0.8**
	comp=Z,68nm,0.8s,baz=125,slow=6.2,SNR=327							
KURBB				LR	LR		09 57 57.8	
	comp=Z,217nm,20.6s,baz=102,slow=38							
KURBB	**Kurchatov Arra**	**62.52**	**328**	P		**P**	**09 28 27.0**	**-1.3**
KURK	**Kurchatov**	**62.53**	**328**	P		**P**	**09 28 27.8**	**-0.6**
KURK	**Kurchatov**	**62.53**	**328**	P		**P**	**09 28 27.7**	**-0.6**
KURK	**Kurchatov**	**62.53**	**328**	P		**P**	**09 28 27.8**	**-0.6**
KURK				pP		**pP**	**09 28 43.7**	**-0.4**
TWGZ	**Tauwhareparae**	**62.59**	**136**	P		**P**	**09 28 31.4**	**+2.3**
CHGR	**Chuyangaron**	**63.08**	**313**	P		**P**	**09 28 31.6**	**-0.8**
CHGR				IAmb	IAmb		09 28 36.3	
	comp=Z,77nm,1.0s							
DZA	**Taraz**	**63.13**	**318**	*e*P		**P**	**09 28 31.8**	**-0.8**
DZA	**Taraz**	**63.13**	**318**	*e*P		**P**	**09 28 31.8**	**-0.8**
	baz=318							
SEY	**Seymchan**	**63.50**	**13**	P		**P**	**09 28 36.5**	**+1.9**
	comp=Z,88nm,1.0s,baz=212,slow=6.1,SNR=222							
SEY				S		**S**	**09 37 07.9**	**+4.8**
	comp=Z,0.5nm,0.7s,baz=190,slow=23,SNR=1.5							
SEY				LR	LR		09 55 02.3	
	comp=Z,183nm,21.6s,baz=181,slow=35							
AFI	**Afiamalu**	**63.69**	**107**	P		**P**	**09 28 38.2**	**+1.4**
	comp=Z,13nm,0.8s,baz=240,slow=20,SNR=1.7							
AFI				LR	LR		09 55 56.8	
	comp=Z,116nm,18.2s,baz=274,slow=36							
AFI	**Afiamalu**	**63.69**	**107**	P		**P**	**09 28 35.4**	**-1.4**
IUG	**Iuzhnay**	**63.73**	**317**	*e*P		**P**	**09 28 36.2**	**-0.4**
IUG	**Iuzhnay**	**63.73**	**317**	*e*P		**P**	**09 28 36.2**	**-0.4**
	baz=317							
KKAR	**Karatay Array**	**63.77**	**318**	P		**P**	**09 28 35.8**	**-1.0**
KKAR	**Karatay Array**	**63.77**	**318**	P		**P**	**09 28 35.8**	**-1.0**
SHEM	**Shemya Is, Ala**	**63.97**	**30**	P		**P**	**09 28 39.2**	**+1.3**
	comp=Z,119nm,0.9s,baz=291,slow=14,SNR=3.8							
SHEM				LR	LR		09 53 00.2	
	comp=Z,223nm,21.5s,baz=256,slow=33							
OTUK	**Ortayu**	**64.80**	**323**	P		**P**	**09 28 42.1**	**-1.4**
JOHN	**Johnston Islan**	**64.84**	**73**	P		**P**	**09 28 44.3**	**+0.1**
JOHN				IAmb	IAmb		09 28 46.7	
	comp=Z,119nm,0.8s							
BRZS	**Berezniki**	**65.41**	**325**	*d* iP		**P**	**09 28 46.6**	**-0.7**
BRZS				pmax	pmax			
	comp=Z,36nm,1.3s							
BRZS	**Berezniki**	**65.41**	**325**	⇓ *i*P		**P**	**09 28 46.7**	**-0.7**
	comp=Z,36nm,1.3s,baz=325							
HRA	**Herat**	**67.19**	**306**	P		**P**	**09 28 58.1**	**-1.2**
BVAR	**Borovoye Array**	**68.09**	**327**	P		**P**	**09 29 03.8**	**-0.5**
	comp=Z,46nm,1.0s,baz=35,slow=3.6,SNR=60							
BRVK	**Borovoye**	**68.17**	**327**	P		**P**	**09 29 04.1**	**-0.6**
BRVK				IAmb	IAmb		09 29 05.4	
	comp=Z,62nm,0.9s							
BRVK

baz=249
AKTO Aktyubinsk 74.31 322 P P 09 29 41.4 -0.5
comp=Z,47nm,0.8s,baz=106,slow=6.2,SNR=88
AKTO LR LR 10 05 21.9
comp=Z,297nm,21.4s,baz=105,slow=38
SVE Sverdlovsk 74.77 329 *ce*P **P 09 29 44.1 -0.4**
SVE pmax pmax
comp=Z,86nm,1.0s
UNV Unalaska Valle 74.92 35 P P 09 29 44.7 -0.7
UNV IAmb IAmb 09 29 47.5
comp=Z,118nm,1.0s
UNV Unalaska Valle 74.92 35 P P 09 29 46.3 +0.9
baz=253,SNR=9.3
ARU Arti 75.72 328 P P 09 29 49.0 -1.0
comp=Z,8.3nm,0.5s,baz=102,slow=4.4,SNR=33
ARU LR LR 10 04 19.0
comp=Z,152nm,21.1s,baz=104,slow=37
ARU Arti 75.72 328 P P 09 29 49.0 -1.0
ARU IAmb IAmb 09 30 13.2
comp=Z,73nm,1.2s
GAMB Gambell 75.91 24 P P 09 29 51.9 +1.1
GAMB IAmb IAmb 09 29 53.6
comp=Z,85nm,1.1s
GAMB Gambell 75.91 24 P P 09 29 52.3 +1.4
baz=246
RAR Rarotonga 76.14 112 LR LR 09 59 14.9
comp=Z,85nm,21.5s,baz=282,slow=32
FALS False Pass 76.93 34 P P 09 29 57.3 +0.5
FALS False Pass 76.93 34 P P 09 29 57.6 +0.8
baz=255,SNR=8.6
FALS False Pass 76.93 34 P P 09 29 58.7 +1.9
TNA Tin City 78.10 23 P P 09 30 04.4 +1.3
TNA Tin City 78.10 23 P P 09 30 04.2 +1.1
baz=249
MLH Mauna Loa 78.43 71 P P 09 30 06.4 +0.2
SDPT Sand Point 78.69 34 P P 09 30 07.1 +0.5
SDPT Sand Point 78.69 34 P P 09 30 07.4 +0.8
baz=258,SNR=15
ANM Nome 78.78 24 P P 09 30 07.8 +0.9
ANM pmax pmax
comp=Z,44nm,1.2s
ANM Nome 78.78 24 P P 09 30 07.8 +0.9
ANM Nome 78.78 24 P P 09 30 08.6 +1.6
baz=251
MAK Makhachkala 80.01 313 *e*P **P 09 30 10.8 -3.3**
MAK *e**PP **pP 09 30 26.8 -3.3**
MAK *e* 09 33 11.8
MAK *e*PPP PPP 09 35 01.2
MAK *e*S **S 09 40 09.6 -4.0**
MAK *e**SS **ScS 09 40 37.2 +3.1**
MAK pmax pmax
comp=Z,259nm,1.3s
CHGN Chignik 80.02 33 P P 09 30 14.8 +1.0
CHGN IAmb IAmb 09 30 15.6
comp=Z,87nm,1.0s
CHGN Chignik 80.02 33 P P 09 30 14.5 +0.7
baz=259,SNR=6.7
OPO Ambohidratompo 80.21 251 LR LR 10 03 56.7
comp=Z,59nm,19.9s,baz=281,slow=34
ABPO Ambohimpanom 80.22 250 P P 09 30 16.5 +0.6
ABPO pmax pmax
comp=Z,40nm,0.9s
ABPO Ambohimpanom 80.22 250 P P 09 30 16.5 +0.6
ABPO Ambohimpanom 80.22 250 P P 09 30 12.1 -3.8
RAYN Ar Rayn 80.40 293 P P 09 30 15.7 -0.9
RAYN pmax pmax
comp=Z,33nm,1.0s
RAYN Ar Rayn 80.40 293 P P 09 30 15.7 -0.9
RDOG Red Dog Mine 80.79 21 P P 09 30 18.7 +1.0
RDOG IAmb IAmb 09 30 20.7
comp=Z,164nm,1.4s
RDOG Red Dog Mine 80.79 21 P P 09 30 19.4 +1.6
baz=253,SNR=28
VOI Vohitsoka 80.93 248 P P 09 30 19.6 0.0
VOI IAmb IAmb 09 30 20.7
comp=Z,86nm,0.9s
VOI Vohitsoka 80.93 248 P P 09 30 19.9 +0.3
SNR=6.4
KIRV Kirov 81.03 329 P P 09 30 18.8 -0.3
comp=Z,77nm,0.7s,baz=131,slow=3.3,SNR=3.6
KIRV S **S 09 40 17.9 -5.7**
comp=Z,2.4nm,0.4s,baz=294,slow=20,SNR=0.8
KIRV LR LR 10 10 04.5
comp=Z,234nm,19.2s,baz=98,slow=38
GROC Groznyy 81.28 313 *eP* **P 09 30 20.3 -0.6**
CHIR Chirikof Isln 81.49 34 P P 09 30 23.1 +1.4
baz=262
GNI Garni 81.83 310 P P 09 30 25.0 +0.9
comp=Z,4.5nm,0.4s,baz=68,slow=5.4,SNR=6.0
GNI S **S 09 40 31.4 -1.8**
comp=Z,5.3nm,0.5s,baz=18,slow=21,SNR=1.8
GNI LR LR 10 11 30.0
comp=Z,129nm,21.7s,baz=90,slow=39
GNI Garni 81.83 310 P P 09 30 24.2 +0.1
VNDA Vanda 82.17 173 P P 09 30 25.3 +0.5
comp=Z,7.1nm,0.8s,baz=314,slow=6.1,SNR=31
VNDA PKPPKP **P'P'df 09 56 57.1 0.0**
comp=Z,2.8nm,1.2s,baz=27,slow=1.4,SNR=4.0
VNDA LR LR 10 05 42.9
comp=Z,102nm,20.8s,baz=328,slow=35
VNDA Vanda 82.17 173 P P 09 30 25.5 +0.6
VNDA pmax pmax
comp=Z,19nm,0.9s
VNDA Vanda 82.17 173 P P 09 30 25.4 +0.6
P18K Big Mountain, 82.22 30 P P 09 30 26.0 +0.5
P18K Big Mountain, 82.22 30 P P 09 30 26.2 +0.6
baz=261
MAW Mawson 82.25 200 P P 09 30 26.4 +1.0
comp=Z,32nm,1.0s,baz=58,slow=6.5,SNR=9.5
MAW LR LR 10 04 28.6
comp=Z,91nm,18.0s,baz=68,slow=34
MAW Mawson 82.25 200 P P 09 30 25.6 +0.2
SVW2 Sparrevohn 82.31 29 P P 09 30 26.8 +0.8
SVW2 IAmb IAmb 09 30 29.4
comp=Z,148nm,1.6s
GCSA Galena City Sc 82.36 25 P P 09 30 28.0 +2.0
baz=259
SII Sitkinak Islan 82.39 33 P P 09 30 27.9 +1.5
baz=263
TTA Tatalina 82.41 27 P P 09 30 27.8 +1.3
TTA pmax pmax
comp=Z,157nm,1.3s
TTA Tatalina 82.41 27 P P 09 30 27.8 +1.3
TTA IAmb IAmb 09 30 29.6
comp=Z,157nm,1.3s
TTA Tatalina 82.41 27 P P 09 30 28.4 +1.9
baz=260,SNR=47
ZEI Tsey 82.64 313 *eP* **P 09 30 26.9 -1.4**
ZEI pmax pmax
comp=Z,40nm,0.9s
O19K Port Alsworth 82.79 30 P P 09 30 29.7 +1.3
O19K IAmb IAmb 09 30 31.1
comp=Z,150nm,1.4s
O19K Port Alsworth 82.79 30 P P 09 30 29.7 +1.3
baz=262,SNR=14
N19K Bonanza Creek 82.80 29 P P 09 30 29.7 +1.1
N19K Bonanza Creek 82.80 29 P P 09 30 30.7 +2.1
baz=262,SNR=68
L19K White Mountain 82.82 28 P P 09 30 29.0 +0.4
L19K White Mountain 82.82 28 P P 09 30 30.6 +2.0
baz=261,SNR=70
NCK Nalchik 82.90 313 *i* P **P 09 30 29.0 -0.4**
NCK pmax pmax
comp=Z,35nm,1.0s
OHAK Old Harbor 82.95 33 P P 09 30 30.2 +0.9
OHAK IAmb IAmb 09 30 31.9
comp=Z,83nm,0.8s
OHAK Old Harbor 82.95 33 P P 09 30 30.6 +1.3
baz=263,SNR=9.3
ONI Oni 82.95 312 P P 09 30 30.4 +0.6
ONI pmax pmax
comp=Z,27nm,1.0s
ONI Oni 82.95 312 P P 09 30 30.4 +0.6
M19K Big River Lodg 83.00 28 P P 09 30 31.0 +1.5
M19K IAmb IAmb 09 30 32.9
comp=Z,109nm,1.0s
M19K Big River Lodg 83.00 28 P P 09 30 31.7 +2.2
baz=262
GEVA Gevas 83.04 308 P P 09 30 30.4 0.0
KARS Kars 83.13 310 P P 09 30 31.1 +0.3
KARS pmax pmax
comp=Z,217nm,1.0s
KARS Kars 83.13 310 P P 09 30 31.1 +0.3
L20K Farewell, AK 83.31 27 P P 09 30 33.1 +2.0
baz=262,SNR=58
K20K Telida 83.35 27 P P 09 30 33.0 +1.7
K20K Telida 83.35 27 P P 09 30 33.4 +2.1
baz=262,SNR=69
PRGR Permogore 83.37 332 *eP* **P 09 30 29.3 -2.1**
PRGR *e**PP **pP 09 30 45.2 -2.5**
PRGR *eS* **S 09 40 42.2 -5.3**
PRGR pmax pmax
comp=Z,185nm,1.1s
KDAK Kodiak Island 83.39 32 LR LR 10 02 59.6
comp=Z,276nm,21.7s,baz=270,slow=32
KDAK Kodiak Island 83.39 32 *i* P **P 09 30 30.6 -1.0**
KDAK Kodiak Island 83.39 32 P P 09 30 30.4 -1.1
KDAK IAmb IAmb 09 30 34.3
comp=Z,169nm,1.3s
KDAK Kodiak Island 83.39 32 P P 09 30 33.1 +1.6
baz=264
KBZ Khabaz 83.42 314 P P 09 30 31.9 -0.1
comp=Z,10.0nm,0.9s,baz=172,slow=3.6,SNR=13
KBZ LR LR 10 12 58.3
comp=Z,137nm,21.2s,baz=78,slow=39
J20K Nowinta River 83.43 26 P P 09 30 32.7 +1.1
J20K Nowinta River 83.43 26 P P 09 30 33.8 +2.1
baz=262,SNR=96
NEY Neytrino 83.52 313 *i* P **P 09 30 33.8 +1.0**
NEY pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 83.59 314 *eP* **P 09 30 32.5 -0.5**
KIV pmax pmax
comp=Z,18nm,1.0s
M20K Styx River 83.59 28 P P 09 30 33.9 +1.3
SHA1 Shidzhatmaz 83.60 314 *i* P **P 09 30 31.1 -2.2**
RSO Redoubt South 83.60 30 P P 09 30 33.5 +0.7
O20K Slope Mountain 83.62 30 P P 09 30 33.1 +0.3
baz=264
A21K Barrow 83.72 18 P P 09 30 34.8 +1.8
baz=259,SNR=80
IMAR Indian Mountai 83.85 24 P P 09 30 35.2 +1.4
GURO Guroymak-BITLI 83.86 308 P P 09 30 35.0 +0.4
SPCR Spurr Chakacha 83.95 29 P P 09 30 35.2 +0.7
baz=264,SNR=28
SPU Mount Spurr 84.02 29 P P 09 30 35.8 +1.0
PPLA Purkeypile 84.14 27 P P 09 30 37.1 +1.6
PPLA IAmb IAmb 09 30 38.1
comp=Z,195nm,1.6s
PPLA Purkeypile 84.14 27 P P 09 30 36.5 +1.0
baz=264,SNR=11
CHUM Lake Minchumin 84.19 26 P P 09 30 37.3 +1.8
baz=264,SNR=38
H21K Melozitna Rive 84.19 24 P P 09 30 36.6 +1.1
H21K Melozitna Rive 84.19 24 P P 09 30 37.5 +1.9
baz=263,SNR=118
CAST Castle Rocks 84.24 27 P P 09 30 37.4 +1.5
CAST IAmb IAmb 09 30 38.6
comp=Z,175nm,1.8s
CAST Castle Rocks 84.24 27 P P 09 30 36.9 +1.0
baz=264,SNR=18
CNPM China Poot 84.26 31 P P 09 30 36.8 +0.7
CAPN Captain Cook N 84.42 29 P P 09 30 37.7 +1.0
baz=265
BRLK Bradley Lake 84.46 30 P P 09 30 37.4 +0.3
I21K Tanana 84.48 25 P P 09 30 38.2 +1.2
I21K IAmb IAmb 09 30 40.2
comp=Z,123nm,1.2s
I21K Tanana 84.48 25 P P 09 30 38.6 +1.6
baz=264,SNR=48
BRSE Bradley Lake S 84.53 30 P P 09 30 38.1 +0.7
baz=265,SNR=18
VRH Novokhopyorsk 84.61 321 *eP* **P 09 30 36.8 -1.1**
VRH pmax pmax
comp=Z,160nm,1.0s
KTH Kantishna Hill 84.78 27 P P 09 30 38.9 +0.3
KTH IAmb IAmb 09 30 41.5
comp=Z,137nm,1.6s
BPAW Bear Paw Mtn. 84.80 26 P P 09 30 39.9 +1.3
BPAW Bear Paw Mtn. 84.80 26 P P 09 30 39.6 +1.0
baz=265,SNR=17
CUT Chulitna 84.98 28 P P 09 30 39.7 +0.2
baz=265
MLY Manley 84.99 25 P P 09 30 40.7 +1.1
MLY IAmb IAmb 09 30 42.3
comp=Z,44nm,1.1s
MLY Manley 84.99 25 P P 09 30 40.7 +1.1
baz=265,SNR=29
M22K Willow 85.00 28 P P 09 30 40.9 +1.3
M22K Willow 85.00 28 P P 09 30 39.8 +0.2
baz=266,SNR=24
TRF Thorofare Moun 85.05 27 P P 09 30 40.3 +0.2
TRF IAmb IAmb 09 30 42.9
comp=Z,208nm,1.9s
TRF Thorofare Moun 85.05 27 P P 09 30 40.6 +0.5
baz=265,SNR=11
KOPT Kop Dagi 85.08 310 P P 09 30 41.1 +0.1
O22K Cooper Landing 85.10 30 P P 09 30 41.7 +1.6
O22K Cooper Landing 85.10 30 P P 09 30 41.0 +0.8
baz=266,SNR=7.9
RC01 Rabbit Creek A 85.13 29 P P 09 30 41.0 +0.7
RC01 Rabbit Creek A 85.13 29 P P 09 30 40.9 +0.5
baz=266,SNR=14
SEW Seward 85.21 30 P P 09 30 42.1 +1.4
SEW Seward 85.21 30 P P 09 30 41.6 +0.9
baz=266,SNR=8.9
PPT Papeete 85.34 108 P P 09 30 43.0 +0.8
comp=Z,26nm,0.9s,baz=221,slow=20,SNR=3.3
PPT LR LR 10 04 38.2
comp=Z,94nm,21.1s,baz=278,slow=33
PPT2 Papeete2 85.34 108 *eP* **P 09 30 41.2 -1.2**
comp=Z,41nm,1.3s
PPT2 Papeete2 85.34 108 *e*LR LR 09 57 46.5
comp=Z,1µm,33.0s
COLD Coldfoot 85.40 23 P P 09 30 43.1 +1.5
COLD IAmb IAmb 09 30 45.5
comp=Z,69nm,1.0s
COLD Coldfoot 85.40 23 P P 09 30 43.4 +1.8
baz=265,SNR=45
PMR Palmer 85.46 29 P P 09 30 42.4 +0.5
PMR pmax pmax
comp=Z,97nm,1.0s
PMR Palmer 85.46 29 P P 09 30 42.4 +0.5
PMR IAmb IAmb 09 30 43.7
comp=Z,97nm,1.0s
PMR Palmer 85.46 29 P P 09 30 42.3 +0.5
baz=266,SNR=17
BWN Browne 85.47 26 P P 09 30 42.4 +0.4
BWN IAmb IAmb 09 30 45.6
comp=Z,63nm,1.0s
I23K Minto, Yukon-K 85.58 25 IAmb IAmb 09 30 46.0
comp=Z,108nm,1.4s
I23K Minto, Yukon-K 85.58 25 P P 09 30 43.7 +1.2
baz=266,SNR=28
NEA2 Nenana 85.67 26 P P 09 30 42.5 -0.5
NEA2 IAmb IAmb 09 30 46.2
comp=Z,32nm,1.0s
NEA2 Nenana 85.67 26 P P 09 30 43.9 +0.9
baz=266,SNR=23
MCK McKinley 85.67 26 IAmb IAmb 09 30 45.5
comp=Z,58nm,1.0s
MCK McKinley 85.67 26 P P 09 30 43.3 +0.3
baz=266,SNR=18
RND Reindeer 85.69 27 P P 09 30 43.2 0.0
RND pmax pmax
comp=Z,29nm,0.9s
RND Reindeer 85.69 27 P P 09 30 43.2 0.0
TOLK Toolik Lake Re 85.75 21 P P 09 30 44.9 +1.6
baz=266,SNR=43
KNK Knik Glacier 85.77 29 P P 09 30 44.4 +0.9
baz=267,SNR=14
PWL Port Wells 85.80 29 P P 09 30 44.3 +0.6
baz=267,SNR=17
SML Sawmill 85.85 28 P P 09 30 44.4 +0.5
baz=267,SNR=13
TBI Tubuai 85.87 113 *e*LQ LQ 09 54 22.7
comp=Z,426nm,32.5s
TBI *e*LR LR 09 58 01.6
comp=Z,656nm,36.8s
VORD Divnogorie 86.13 321 *eP* **P 09 30 44.8 -0.7**
VORD pmax pmax
comp=Z,160nm,0.7s
WAT6 Susitna Watana 86.16 28 P P 09 30 46.2 +0.6
baz=268,SNR=15
TCOL CIGO, UAF Yank 86.20 25 P P 09 30 45.4 -0.2
baz=267,SNR=7.2
COLA College 86.21 25 *i* P **P 09 30 44.9 -0.6**
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 86.21 25 P P 09 30 44.5 -1.0
COLA College 86.21 25 P P 09 30 45.2 -0.3
baz=267
H24K Noodor Dome 86.24 24 P P 09 30 45.6 -0.2
H24K IAmb IAmb 09 31 08.2
comp=Z,36nm,1.2s
H24K Noodor Dome 86.24 24 P P 09 30 46.7 +0.8
baz=267,SNR=15
KLMR Klimovskoe 86.25 331 *eP* **P 09 30 42.6 -3.3**
KLMR *e* 09 34 03.1
KLMR pmax pmax
comp=Z,349nm,1.2s
KLMR Klimovskoe 86.25 331 *eP* **P 09 30 42.6 -3.3**
KLMR AMP 09 30 48.3
comp=Z,349nm,1.2s
KLMR *es*P **sP 09 31 08.3 -0.4**
KLMR *e*PP **PP 09 34 03.2 -4.0**
SCM Sheep Creek Mo 86.33 28 P P 09 30 47.5 +1.1
SCM pmax pmax
comp=Z,69nm,1.0s
SCM Sheep Creek Mo 86.33 28 P P 09 30 47.5 +1.1
SCM IAmb IAmb 09 30 48.9
comp=Z,69nm,1.0s
SCM Sheep Creek Mo 86.33 28 P P 09 30 46.8 +0.4
baz=268,SNR=7.2
DHY Denali Highway 86.34 27 P P 09 30 47.1 +0.6
baz=268
LPSR Galich'ya Gora 86.38 322 *eP* **P 09 30 46.3 -0.4**
LPSR pmax pmax
comp=Z,370nm,1.0s
POKR Poker Plat Res 86.39 25 P P 09 30 46.5 -0.1
POKR Poker Plat Res 86.39 25 P P 09 30 47.8 +1.3
baz=268,SNR=9.1
GLI Glacier Island 86.41 29 P P 09 30 46.7 0.0
baz=268
IL31 86.61 25 P P 09 30 46.5 -1.0
ILAR Eielson Array 86.61 25 P P 09 30 46.5 -1.2
comp=Z,7.0nm,0.8s,baz=234,slow=4.5,SNR=62
ILAR PP PP 09 34 07.4 -2.7
comp=Z,3.4nm,1.0s,baz=241,slow=8.0,SNR=5.3
ILAR PKKP **PKKPdf 09 48 38.9 +0.3**
comp=Z,0.7nm,1.0s,baz=50,slow=1.5,SNR=3.5
ILAR PKPPKP **P'P'df 09 56 50.5 +0.3**
comp=Z,1.0nm,1.1s,baz=137,slow=2.5,SNR=5.5
ILAR LR LR 10 07 42.8
comp=Z,41nm,20.1s,baz=269,slow=34
ILAR Eielson Array 86.61 25 P P 09 30 46.9 -0.8
Q23K Middleton Isla 86.75 31 P P 09 30 48.5 +0.2
baz=269
PMOR Pomariorio Ree 86.79 105 *eP* **P 09 30 48.2 -1.2**
comp=Z,82nm,1.1s
M24K Tolsona, Glenn 86.88 28 P P 09 30 50.4 +1.4
M24K IAmb IAmb 09 30 51.4
comp=Z,55nm,0.9s
M24K Tolsona, Glenn 86.88 28 P P 09 30 49.6 +0.6
baz=269,SNR=6.7
KLU Klutina 86.99 29 P P 09 30 50.2 +0.6
KLU IAmb IAmb 09 32 41.6
comp=Z,94nm,1.7s
KLU Klutina 86.99 29 P P 09 30 50.3 +0.7
baz=269
DIV Divide 87.06 29 P P 09 30 50.8 +0.9
EYAK Cordova Ski Ar 87.06 30 P P 09 30 50.6 +0.8
baz=270
VAH Vaihoa 87.06 105 *eP* **P 09 30 49.5 -1.3**
comp=Z,48nm,1.0s
MOS Moscow 87.17 326 *eP* **P 09 30 48.2 -2.3**
MOS *e* 09 31 02.2
MOS *eS* **SKSac 09 41 14.1 +1.5**
MOS pmax pmax
comp=Z,361nm,1.4s
PAX Paxson 87.21 27 P P 09 30 51.3 +0.6
baz=270,SNR=12
J25K Salcha River, 87.26 26 P P 09 30 50.3 -0.5
J25K Salcha River, 87.26 26 P P 09 30 50.4 -0.5
baz=270,SNR=11
HARP HAARP 87.35 28 P P 09 30 52.2 +0.9
baz=270
ANN Anapa 87.37 315 *eP* **P 09 30 50.1 -1.6**
ANN pmax pmax
comp=Z,242nm,0.9s
RIDG Independent Ri 87.49 26 IAmb IAmb 09 30 53.3
comp=Z,56nm,0.9s
RIDG Independent Ri 87.49 26 P P 09 30 52.2 +0.3
baz=270,SNR=18
BMAR Burnt Mountain 87.58 23 P P 09 30 53.9 +1.6
N25K Chitina, Valde 87.62 29 P P 09 30 53.1 +0.5
N25K IAmb IAmb 09 30 56.6
comp=Z,40nm,1.2s
N25K Chitina, Valde 87.62 29 P P 09 30 53.5 +0.9
baz=270
OBN Obninsk 87.78 325 P P 09 30 53.0 -0.4
comp=Z,23nm,0.7s,baz=65,slow=5.5,SNR=26
OBN LR LR 10 15 00.2
comp=Z,36nm,19.6s,baz=92,slow=39
OBN Obninsk 87.78 325 *d* *i* P **P 09 30 52.8 -0.6**
OBN *i* *PP **pP 09 31 06.6 -3.2**
OBN *i* 09 41 36.3
OBN *e* 09 42 41.5
OBN pmax pmax
comp=Z,340nm,1.7s
OBN MLR MLR
comp=Z,475nm,27.0s
OBN Obninsk 87.78 325 P P 09 30 53.2 -0.2
DOT Dot Lake 87.84 27 P P 09 30 53.5 -0.2
SCRK Sand Creek 87.87 26 P P 09 30 53.7 -0.1
SCRK Sand Creek 87.87 26 P P 09 30 54.1 +0.3
baz=271,SNR=10.0
GLB Gilahina Butte 88.00 29 P P 09 30 55.5 +1.0
GLB IAmb IAmb 09 30 56.5
comp=Z,51nm,1.1s
MENT Mentasta 88.01 27 P P 09 30 55.4 +1.0
MENT IAmb IAmb 09 30 56.3
comp=Z,29nm,0.9s
ASF Jabal al Asfar 88.04 302 P P 09 30 56.4 +1.1
comp=Z,39nm,1.1s,baz=16,slow=1.8,SNR=11
J26L Joseph Creek 88.05 26 P P 09 30 54.9 +0.3
baz=271,SNR=26
KIBK Kibwezi 88.11 268 P P 09 30 56.0 0.0
KIBK IAmb IAmb 09 30 57.9
comp=Z,55nm,1.2s
KIBK Kibwezi 88.11 268 P P 09 30 56.7 +0.7
SNR=26
L26K Log Cabin Wild 88.18 27 P P 09 30 55.9 +0.7
L26K Log Cabin Wild 88.18 27 P P 09 30 56.1 +0.9
baz=272,SNR=11
VRDI Verde Repeater 88.18 29 IAmb IAmb 09 30 58.3
comp=Z,66nm,1.4s
LVZ Lovozero 88.35 338 P P 09 30 55.2 -0.8
LVZ pmax pmax
comp=Z,118nm,1.4s
LVZ Lovozero 88.35 338 P P 09 30 55.2 -0.8
MCARA McCarthy VSAT 88.38 29 P P 09 30 55.5 -0.7
MCARA IAmb IAmb 09 31 15.8
comp=Z,53nm,1.0s
MCARA McCarthy VSAT 88.38 29 P P 09 30 57.1 +0.9
baz=272
APA Apatity 88.84 337 *jj* *i* P **P 09 30 56.2 -2.0**
APA pmax pmax
comp=Z,37nm,1.1s
APA MLR MLR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 88.85 269 LR LR 10 07 47.9
comp=Z,136nm,21.9s,baz=88,slow=34
KMBO Kilima Mbogo 88.85 269 P P 09 30 58.8 -0.9
KMBO IAmb IAmb 09 31 01.7
comp=Z,62nm,1.2s
KMBO Kilima Mbogo 88.85 269 P P 09 30 59.8 +0.2
L27K Beaver Creek, 88.87 27 P P 09 30 58.6 +0.1
L27K IAmb IAmb 09 31 00.9
comp=Z,36nm,0.8s
L27K Beaver Creek, 88.87 27 P P 09 30 59.7 +1.2
baz=273,SNR=26
M27K Edge Creek, AK 88.88 28 P P 09 30 59.9 +1.2
M27K IAmb IAmb 09 31 00.9
comp=Z,27nm,1.0s
M27K Edge Creek, AK 88.88 28 P P 09 30 59.5 +0.8
baz=273,SNR=7.0
GRNC Granite Creek 89.03 29 P P 09 31 00.4 +0.9
GRNC IAmb IAmb 09 31 01.9
comp=Z,46nm,1.0s
BARN Barnard Glacie 89.06 29 P P 09 30 59.7 +0.2
BARN IAmb IAmb 09 31 02.2
comp=Z,64nm,1.0s
EGAK Eagle 89.07 25 P P 09 30 59.5 +0.2
CTG Chitna Glacier 89.22 29 P P 09 31 01.5 +1.2
baz=273,SNR=11
CTGM Chitina Glacie 89.22 29 IAmb IAmb 09 31 03.0
comp=Z,64nm,1.0s

MMAI Mount Meron Ar 89.27 303 P **P** 09 31 00.3 -0.7
comp=Z,4.4nm,0.3s,baz=73,slow=42,SNR=5.0
MMAI LR LR 10 18 54.4
comp=Z,90nm,18.0s,baz=231,slow=41
LOGN Logan Glacier 89.39 29 P **P** 09 31 02.0 +0.9
LOGN lAmb lAmb 09 31 03.6
comp=Z,44nm,1.1s
SIM Simferopol' 89.72 315 *eP* **P** 09 31 01.5 -1.3
SIM *e* 09 34 40.0
SIM pmax pmax
comp=Z,86nm,0.9s
SIM MLR MLR
comp=Z,300nm,19.4s
EIL Elat 89.80 300 P **P** 09 31 03.4 -0.1
comp=Z,17nm,1.0s,baz=115,slow=5.0,SNR=4.4
EIL LR LR 10 14 28.2
comp=Z,158nm,21.7s,baz=96,slow=38
DAWY Dawson 89.89 26 lAmb lAmb 09 31 05.3
comp=Z,30nm,1.1s
DAWY Dawson 89.89 26 P **P** 09 31 04.3 +1.0
baz=275,SNR=17
I29M Ogilvie Camp, 90.22 25 P **P** 09 31 05.5 +0.7
I29M lAmb lAmb 09 31 06.7
comp=Z,43nm,1.1s
I29M Ogilvie Camp, 90.22 25 P **P** 09 31 05.3 +0.5
baz=276,SNR=24
ILGA Ilgaz 90.23 311 P **P** 09 31 05.2 -0.4
J29M Klondike Camp 90.36 26 P **P** 09 31 06.9 +1.5
baz=276,SNR=6.5
BR131 Keskin Array S 90.36 310 P **P** 09 31 05.2 -0.9
BR131 pmax pmax
comp=Z,24nm,1.1s
BR131 Keskin Array S 90.36 310 P **P** 09 31 05.2 -0.9
BR131 lAmb lAmb 09 31 06.2
comp=Z,24nm,1.1s
BRTR Keskin Array B 90.36 310 P **P** 09 31 05.2 -0.9
comp=Z,13nm,1.0s,baz=122,slow=4.5,SNR=29
BRTR PP **PP** 09 34 43.3 +2.3
comp=Z,2.1nm,0.9s,baz=108,slow=8.0,SNR=5.6
BRTR LR LR 10 16 54.2
comp=Z,96nm,21.2s,baz=88,slow=39
BRTR Keskin Array B 90.36 310 P **P** 09 31 03.9 -2.2
VALR Valaam 90.43 331 *i* P **P** 09 31 04.0 -1.7
VALR pmax pmax
comp=Z,74nm,1.0s
LODK Lodwar 90.55 273 P **P** 09 31 06.8 -0.6
LODK Lodwar 90.55 273 P **P** 09 31 07.8 +0.4
SNR=7.1
EPYK Eagle Plains 90.75 24 P **P** 09 31 07.5 +0.3
EPYK Eagle Plains 90.75 24 P **P** 09 31 07.7 +0.5
baz=278
PUL Pulkovo 90.86 330 *ceP* **P** 09 31 07.9 +0.1
PUL pmax pmax
comp=Z,101nm,0.4s
CSS Mathiatis 90.89 305 lAmb lAmb 09 31 09.1
comp=Z,42nm,1.1s
SYO Syowa Base 90.92 201 ⇓*es*P sP 09 31 30.3 -0.5
M30M Minto, Yukon 91.22 27 P **P** 09 31 08.9 -0.6
M30M lAmb lAmb 09 31 12.1
comp=Z,39nm,0.9s
M30M Minto, Yukon 91.22 27 P **P** 09 31 10.8 +1.4
baz=277,SNR=21
ARA0 ARCESS Array S 91.48 340 *eP* **P** 09 31 10.0 -0.5
ARCES ARCESS Array B 91.48 340 P **P** 09 31 09.9 -0.6
comp=Z,66nm,0.9s,baz=71,slow=5.6,SNR=47
ARCES ARCESS Array B 91.48 340 P **P** 09 31 09.1 -1.4
INK Inuvik 91.67 21 P **P** 09 31 11.6 +0.2
comp=Z,34nm,1.1s,baz=275,slow=5.2,SNR=48
INK LR LR 10 15 00.3
comp=Z,58nm,20.1s,baz=296,slow=37
INK Inuvik 91.67 21 P **P** 09 31 11.5 +0.2
INK lAmb lAmb 09 31 12.8
comp=Z,60nm,1.1s
INK Inuvik 91.67 21 P **P** 09 31 11.5 +0.2
baz=280,SNR=33
SPA0 Spitsbergen Ar 91.68 349 *eP* **P** 09 31 11.1 -0.2
SPITS Spitsbergen Ar 91.68 349 P **P** 09 31 11.0 -0.3
comp=Z,39nm,0.9s,baz=101,slow=7.8,SNR=4.3
N31M Braeburn, Yuko 91.84 28 P **P** 09 31 13.3 +0.9
N31M Braeburn, Yuko 91.84 28 P **P** 09 31 13.9 +1.5
baz=278,SNR=11
HAMF Hammerfest 91.87 341 *eP* **P** 09 31 11.5 -0.7
QSPA South Pole Qui 92.28 180 LR LR 10 13 39.4
comp=Z,140nm,20.5s,baz=344,slow=36
QSPA South Pole Qui 92.28 180 P **P** 09 31 14.8 +0.4
QSPA lAmb lAmb 09 31 47.7
comp=Z,43nm,1.2s
SKAG Skagway 92.36 30 P **P** 09 31 15.1 +0.4
SKAG lAmb lAmb 09 31 17.4
comp=Z,48nm,1.0s
SKAG Skagway 92.36 30 P **P** 09 31 16.3 +1.6
baz=279
M31M Drury Creek, Y 92.38 28 P **P** 09 31 15.7 +0.8
M31M lAmb lAmb 09 31 17.0
comp=Z,40nm,1.2s
M31M Drury Creek, Y 92.38 28 P **P** 09 31 15.6 +0.8
baz=280,SNR=14
KTK1 Kautokeino 92.38 339 *eP* **P** 09 31 14.0 -0.6
WHY Whitehorse 92.40 29 P **P** 09 31 14.2 -0.8
WHY Whitehorse 92.40 29 P **P** 09 31 16.4 +1.4
baz=279,SNR=18
AKASG Malin Array Be 92.52 321 P **P** 09 31 14.5 -1.1
comp=Z,36nm,0.8s,baz=69,slow=4.4,SNR=137
AKASG PP **PP** 09 34 58.4 +1.0
comp=Z,0.6nm,0.5s,baz=69,slow=8.1,SNR=4.7
AKASG LR LR 10 16 14.1
comp=Z,208nm,22.0s,baz=92,slow=38
AKASG Malin Array Be 92.52 321 P **P** 09 31 14.4 -1.3
AKBB Malin Array Si 92.52 321 *ceP* **P** 09 31 14.4 -1.2
FIA1 FINESS Array S 92.70 332 P **P** 09 31 15.2 -1.0
FINES FINESS Array B 92.70 332 P **P** 09 31 15.1 -1.1
comp=Z,15nm,0.6s,baz=70,slow=3.4,SNR=55
FINES FINESS Array B 92.70 332 P **P** 09 31 15.3 -0.9
SIT Sitka 92.72 33 P **P** 09 31 17.3 +1.0
baz=278
BESE Bessie Mountai 92.74 31 P **P** 09 31 16.3 -0.3
BESE lAmb lAmb 09 31 19.4
comp=Z,54nm,1.2s
MNK Minsk 92.84 325 *i* P P 09 31 13.1 -3.9
MNK *i* *PP pP 09 31 29.5 -4.0
MNK *i* 09 34 56.0
MNK *i* PPP PPP 09 36 55.9
MNK *i* S **SKSac** **09 41 41.1 -4.5**
MNK *i* PS **PS** **09 43 34.3 -2.9**
MNK *i* SS **SS** **09 48 32.0 +0.2**
MNK *i* SSS SSS 09 52 09.8
MNK pmax pmax
comp=E,12nm,1.1s
MNK pmax pmax
comp=N,19nm,1.1s
MNK pmax pmax
comp=Z,129nm,1.1s
MNK MLR MLR
comp=Z,193nm,17.0s
MNK MLR MLR
comp=E,45nm,17.0s
MNK MLR MLR
comp=N,371nm,17.0s
MNK Minsk 92.84 325 *i* P P 09 31 13.1 -3.9
comp=E,12nm,1.1s
MNK *i* P P 09 31 13.1 -3.9
comp=N,19nm,1.1s,baz=82
MNK *i* P **PcP** **09 31 13.2 -4.4**
comp=Z,129nm,1.1s
MNK *i* pP pP 09 31 29.5 -4.0
MNK *i* sP pwP 09 31 37.0 +0.8
MNK *i* PP **PP** **09 34 56.0 -3.8**
MNK *i* PPP PPP 09 36 55.9
MNK *i* SKS 09 41 11.7
MNK *i* S **SKSac** **09 41 41.1 -4.5**
MNK *i* SP **SP** **09 43 26.3 -2.8**
MNK *i* PS **PS** **09 43 34.3 -2.9**
MNK *i* SS **SS** **09 48 32.0 +0.2**
MNK *i* SSS SSS 09 52 09.8
MNK *i* LQ LQ 10 03 35.8
MNK *i* LR LR 10 09 08.7
MNK *i* LRM MLR 10 14 41.1
comp=Z,193nm,16.8s
MNK *i* LRM MLR 10 14 43.0
comp=E,45nm,16.8s
MNK *i* LRM MLR 10 14 43.7
comp=N,371nm,16.8s
VSU Vasula 92.87 329 *i* P **P** **09 31 14.4 -2.7**
VSU Vasula 92.87 329 *eP* **P** **09 31 17.0 -0.1**
JIS Juneau Island 93.03 31 P **P** **09 31 18.1 +0.3**

JETT Jettan, Norway 93.22 340 *eP* **P** **09 31 18.7 +0.1**
MILM Milestii Mici 93.24 317 ⇓P **P** **09 31 18.0 -1.0**
IDID Didziasalis 93.37 326 *eP* **P** **09 31 18.9 -0.5**
SORM Soroca 93.40 318 ⇑P **P** **09 31 19.0 -0.7**
NACGM Naroch 93.41 325 *eP* **P** **09 31 19.0 -0.6**
TLCR 93.44 315 ⇑P **P** **09 31 19.4 -0.6**
A36M Sachs Harbour 93.48 17 P **P** **09 31 19.8 +0.2**
A36M lAmb lAmb 09 31 27.9
comp=Z,24nm,0.9s
A36M Sachs Harbour 93.48 17 P **P** **09 31 19.6 0.0**
baz=288,SNR=18
P33M Teslin, Yukon 93.48 29 lAmb lAmb 09 31 22.3
comp=Z,34nm,1.1s
P33M Teslin, Yukon 93.48 29 P **P** **09 31 21.0 +1.0**
baz=281,SNR=13
IIGN Ignalina 93.66 326 *eP* **P** **09 31 20.4 -0.4**
ISAL Salakas 93.67 326 *eP* **P** **09 31 20.9 0.0**
TRO Tromso 93.70 340 *eP* **P** **09 31 20.9 +0.2**
MEF Metsahovi 93.74 331 *eP* **P** **09 31 20.3 -0.7**
TPGR Topolog 93.76 315 ⇑P **P** **09 31 20.6 -0.9**
MANR Mangalia 93.77 314 ⇓P **P** **09 31 21.0 -0.6**
TIRR Tirgusor 93.81 315 ⇑P **P** **09 31 21.3 -0.4**
TIRR Tirgusor 93.81 315 P **P** **09 31 20.6 -1.2**
TIRR pmax pmax
comp=Z,91nm,1.1s
TIRR Tirgusor 93.81 315 P **P** **09 31 20.6 -1.2**
CFR Carcaliu 93.92 315 ⇑P **P** **09 31 21.9 -0.3**
VASR Vaslui 93.97 317 ⇑P **P** **09 31 22.3 -0.1**
TAOE Nuku Hiva Isla 94.11 99 *e*LR LR 10 01 53.4
comp=Z,575nm,26.7s
HARR Harsova 94.13 315 ⇑P **P** **09 31 22.9 -0.3**
NOR Nord 94.38 355 *i* P **P** **09 31 21.9 -1.7**
MANT Manisa 94.41 309 P **P** **09 31 23.8 -1.1**
MANT lAmb lAmb 09 31 25.1
comp=Z,38nm,1.1s
WRAK Wrangell Islan 94.44 33 P **P** **09 31 23.8 -0.6**
WRAK Wrangell Islan 94.44 33 P **P** **09 31 24.9 +0.5**
baz=281,SNR=5.0
C36M Paulatuk 94.71 20 P **P** **09 31 25.4 +0.2**
C36M lAmb lAmb 09 31 26.7
comp=Z,42nm,0.9s
C36M Paulatuk 94.71 20 P **P** **09 31 25.5 +0.2**
baz=289,SNR=39
TESR Tescani 94.77 317 ⇑P **P** **09 31 25.4 -0.7**
VRI Vrincioaia 94.81 316 ⇑P **P** **09 31 26.5 +0.2**
RAF Rauma 94.83 332 *eP* **P** **09 31 25.6 -0.5**
PLOR Plostina 94.86 316 ⇑P **P** **09 31 26.3 -0.3**
BISRR Bisoca 94.86 316 ⇑P **P** **09 31 26.4 -0.2**
PABE Paberze 94.89 326 P **P** **09 31 25.4 -1.0**
PABE Paberze 94.89 326 *eP* **P** **09 31 25.4 -1.0**
COVR Voineasa-Covas 95.17 316 ⇑P **P** **09 31 27.6 -0.4**
NEHR Nehoiu 95.17 316 ⇓P **P** **09 31 28.0 0.0**
DLBC Dease Lake 95.25 31 LR LR 10 09 34.5
comp=Z,305nm,21.7s,baz=276,slow=32
DLBC Dease Lake 95.25 31 lAmb lAmb 09 31 30.3
comp=Z,28nm,1.1s
MBAR Mbarara 95.34 270 LR LR 10 11 27.8
comp=Z,161nm,22.0s,baz=74,slow=34
TGTN Hyland Airport 95.36 28 P **P** **09 31 29.8 +1.2**
baz=285
MLR Muntele Rosu 95.41 316 ⇓P **P** **09 31 28.9 -0.4**
MLR Muntele Rosu 95.41 316 P **P** **09 31 28.8 -0.4**
comp=Z,35nm,0.9s,baz=31,slow=1.3,SNR=38
MLR PP **PP** **09 35 25.5 +5.2**
comp=Z,9.6nm,0.9s,baz=17,slow=7.3,SNR=6.9
MLR LR LR 10 22 45.6
comp=Z,140nm,19.1s,baz=94,slow=41
MLR Muntele Rosu 95.41 316 P **P** **09 31 28.7 -0.5**
STEI Steigen 95.52 339 *eP* **P** **09 31 28.5 -0.5**
BURAR Bucovina Array 95.56 318 ⇑P **P** **09 31 30.3 +0.5**
BURAR Bucovina Array 95.56 318 P **P** **09 31 28.8 -0.1**
BUR08 Bucovina Ar. S 95.57 318 P **P** **09 31 29.7 -0.2**
SUW Suwalki 95.64 325 *eP* **P** **09 31 29.4 -0.4**
SUW Suwalki 95.64 325 P **P** **09 31 29.3 -0.6**
SUW pmax pmax
comp=Z,344nm,1.2s
SUW Suwalki 95.64 325 P **P** **09 31 29.3 -0.6**
SUW Suwalki 95.64 325 *eP* **P** **09 31 29.8 -0.1**
FAUS Fauske 95.69 339 *eP* **P** **09 31 28.8 -1.1**
DOPR Dopca 95.72 316 ⇑P **P** **09 31 30.4 -0.1**
LVV L'vov 95.94 320 *eP* **P** **09 31 31.2 -0.2**
VOIR 96.04 316 ⇑P **P** **09 31 31.0 -1.0**
LOF Lofoten 96.04 340 *eP* **P** **09 31 29.8 -1.6**
COPA Copaceanca 96.13 315 ⇑P **P** **09 31 32.1 -0.3**
ARCR ARCALIA 96.23 318 ⇑P **P** **09 31 32.8 0.0**
HUMR Humele 96.23 315 ⇑P **P** **09 31 32.1 -0.7**
ARR Arges 96.34 316 ⇑P **P** **09 31 33.5 +0.1**
MOR8 Moara 96.43 338 *eP* **P** **09 31 31.5 -1.7**
BMR Baia Mare 96.69 318 ⇑P **P** **09 31 35.4 +0.5**
CJR Cluj-Napoca 96.81 317 ⇓P **P** **09 31 36.1 +0.7**
KWP Kalwaria Pacla 96.82 320 *eP* **P** **09 31 35.7 +0.3**
KWP Kalwaria Pacla 96.82 320 P **P** **09 31 35.4 0.0**
KWP pmax pmax
comp=Z,988nm,1.1s
KWP Kalwaria Pacla 96.82 320 P **P** **09 31 35.4 0.0**
CBBR Cluj-Babes-Bol 96.83 317 ⇑P **P** **09 31 35.5 0.0**
TRPA Tarpa 97.24 319 ⇑P **P** **09 31 37.3 0.0**
TRPA Tarpa 97.24 319 P **P** **09 31 36.9 -0.4**
UZH Uzhgorod 97.30 319 *eP* **P** **09 31 37.0 -0.5**
UZH *e* 09 31 49.6
UZH *e* 09 31 54.0
DRGR 97.39 318 ⇑P **P** **09 31 38.2 +0.1**
GZR Gura Zlata 97.62 316 ⇑P **P** **09 31 39.0 -0.2**
IDI Anoyia 97.74 306 P **P** **09 31 39.5 -0.4**
comp=Z,13nm,1.1s,baz=68,slow=11,SNR=3.1
IDI LR LR 10 25 36.8
comp=Z,52nm,18.5s,baz=89,slow=41
CRVS Cervenica-Dubn 97.78 320 *eP* **P** **09 31 40.1 +0.4**
CRVS Cervenica-Dubn 97.78 320 *e*PDIFF **P** **09 31 40.1 +0.4**
BBB Bella Bella 97.79 37 LR LR 10 09 43.6
comp=Z,66nm,21.0s,baz=296,slow=32
VTS Vitosha 97.81 313 ⇑P **P** **09 31 39.7 -0.5**
VTS Vitosha 97.81 313 lAmb lAmb 09 31 40.5
comp=Z,18nm,0.9s
MATP Matopo 97.90 250 LR LR 10 14 15.9
comp=Z,183nm,18.9s,baz=86,slow=34
DJES Djerdap 97.94 316 ⇓P **P** **09 31 40.5 -0.1**
BORR Bors 97.95 318 ⇓P **P** **09 31 40.0 -0.5**
NSS Namsos 98.01 337 *eP* **P** **09 31 39.9 -0.5**
LSZ Lusaka 98.21 255 LR LR 10 12 48.6
comp=Z,112nm,20.8s,baz=118,slow=33
LSZ Lusaka 98.21 255 P **P** **09 31 41.2 -1.3**
LSZ lAmb lAmb 09 31 43.0
comp=Z,73nm,2.0s
BZS Buzias 98.37 317 ⇑P **P** **09 31 42.0 -0.4**
NIE Niedzica 98.40 321 *eP* Pdif 09 31 44.2 +1.6
MDVR Moldovita 98.48 316 ⇑P **P** **09 31 41.8 -1.2**
KECS Kecovo 98.50 320 *eP* **P** **09 31 43.3 +0.3**
KECS Kecovo 98.50 320 *e*PDIFF **P** **09 31 43.2 +0.3**
DAG Danmarks Havn 98.50 352 *i* P **P** **09 31 40.2 -2.2**
OJC Ojcow 98.52 321 *eP* **P** **09 31 43.3 +0.3**
OJC Ojcow 98.52 321 lAmb lAmb 09 31 44.0
comp=Z,42nm,1.0s
BOVS Bovan 98.72 315 ⇑P **P** **09 31 43.1 -1.0**
LIT Litokhoron 98.83 311 P **P** **09 31 42.2 -2.5**
LIT pmax pmax
comp=Z,32nm,1.0s
LIT Litokhoron 98.83 311 **P** **09 31 42.2 -2.5**
LIT lAmb lAmb 09 31 43.7
comp=Z,32nm,1.0s
HFS Hagfors 98.90 332 P **P** **09 31 42.8 -1.6**
comp=Z,6.9nm,0.8s,baz=132,slow=6.4,SNR=11
PSZ Piszkesteto 99.02 319 ⇑P **Pdif** **09 31 44.9 -0.5**
PSZ Piszkesteto 99.02 319 P **Pdif** **09 31 43.7 -1.7**
PSZ pmax pmax
comp=Z,49nm,1.1s
PSZ Piszkesteto 99.02 319 **Pdif** **09 31 43.7 -1.7**
AGG Agios Georgios 99.14 310 P **Pdif** **09 31 43.8 -2.3**
AGG pmax pmax
comp=Z,15nm,0.9s
AGG Agios Georgios 99.14 310 P **Pdif** **09 31 43.8 -2.3**
AGG lAmb lAmb 09 31 44.6
comp=Z,15nm,0.9s
RES Resolute Bay 99.26 10 P **Pdif** **09 31 46.3 +0.5**
RES pmax pmax
comp=Z,15nm,0.9s
RES Resolute Bay 99.26 10 **Pdif** **09 31 46.3 +0.5**
RES lAmb lAmb 09 31 47.4
comp=Z,15nm,0.8s
NC405 NORSAR Array S 99.44 333 P **Pdif** **09 31 45.8 -1.1**
VYHS Vyhne 99.56 320 *eP* **Pdif** **09 31 47.5 -0.2**
VYHS Vyhne 99.56 320 *e*PDIFF **Pdif** **09 31 47.5 -0.2**
NB2 NORSAR Subarra 99.70 333 P **Pdif** **09 31 46.4 -1.7**
comp=Z,80nm,1.4s,baz=69,slow=4.4
NB2 NORSAR Subarra 99.70 333 P **Pdif** **09 31 46.4 -1.7**
baz=69,slow=4.4
NOA NORSAR Array B 99.70 333 P **Pdif** **09 31 46.8 -1.3**
comp=Z,10nm,0.9s,baz=69,slow=4.5,SNR=26
FRGS Fruska Gora 99.72 316 ⇑P **Pdif** **09 31 47.2 -1.3**
BSD Bornholm Skovb 99.99 327 *i* P **Pdif** **09 31 46.3 -3.1**
MORC Moravsky Berou 100.05 321 ⇓P **Pdif** **09 31 50.2 +0.3**
MORC Moravsky Berou 100.05 321 *e*PDIFF **Pdif** **09 31 50.2 +0.3**
JAVC Velka Javorina 100.21 320 *e*PDIFF **Pdif** **09 31 52.1 +1.4**
DOMB Dombas 100.22 335 *e*Pdif **Pdif** **09 31 50.0 -0.5**
BOSA Boshof 100.61 241 P **Pdif** **09 31 52.2 -0.8**
comp=Z,1.7nm,0.9s,baz=57,slow=9.1,SNR=1.5
DPC Dobruska-Polom 100.64 322 *eP* **Pdif** **09 31 52.7 +0.2**
DPC Dobruska-Polom 100.64 322 *e*PDIFF **Pdif** **09 31 52.7 +0.2**
OSTC Ostas 100.64 322 *e*PDIFF **Pdif** **09 31 53.0 +0.5**
CHVC Chvalec 100.73 322 *e*PDIFF **Pdif** **09 31 53.5 +0.6**
MPLH Magyarpolny 100.75 319 PDIF **Pdif** **09 31 53.4 +0.4**
DBG Daneborg 100.76 351 *i* P **Pdif** **09 31 49.2 -3.2**
VRAC Vranov 100.77 321 ⇓P **Pdif** **09 31 53.5 +0.4**
VRAC Vranov 100.77 321 P **Pdif** **09 31 53.5 +0.4**
comp=Z,15nm,1.0s,baz=67,slow=4.8,SNR=17
VRAC Vranov 100.77 321 *e*PDIFF **Pdif** **09 31 53.8 +0.7**
UPC Upice 100.78 322 *eP* **Pdif** **09 31 53.6 +0.5**
UPC Upice 100.78 322 *e*PDIFF **Pdif** **09 31 53.6 +0.5**
KRUC Moravsky 100.96 321 *e*PDIFF **Pdif** **09 31 54.5 +0.6**
YKA Yellowknife Ar 101.01 24 P **Pdif** **09 31 54.4 +0.6**
comp=Z,7.0nm,0.8s,baz=300,slow=4.6,SNR=119
YKA PP **PP** **09 36 05.2 +2.9**
comp=Z,3.4nm,1.1s,baz=297,slow=7.7,SNR=6.6
YKA PKiKP **PKiKP** **09 36 19.6 +0.9**
comp=Z,1.2nm,0.6s,baz=297,slow=1.6,SNR=15
YKA PKKPbc **PKKPbc** **09 48 05.0 -2.7**
comp=Z,2.2nm,0.9s,baz=121,slow=3.3,SNR=5.0
SKAR Skarslia 101.14 334 *e*Pdif **Pdif** **09 31 54.0 -0.5**
CONA Conrad Observa 101.63 320 *i* P **Pdif** **09 31 57.2 +0.2**
comp=Z,18nm,1.7s,SNR=5.4
CONA *eP* **PP** **09 36 09.8 +2.2**
comp=Z,11nm,1.3s
KOGS Kog 101.80 318 *i* Pdiff **Pdif** **09 31 57.5 -0.1**
PRU Pruhonice 101.84 322 *eP* **Pdif** **09 31 57.9 +0.1**
PRU Pruhonice 101.84 322 *e*PDIFF **Pdif** **09 31 57.9 +0.1**
BRG Berggiesshubel 101.92 323 *eP* **Pdif** **09 31 58.3 +0.1**
BRG Amp 09 32 00.4
comp=Z,46nm,1.2s
BRG *ex* x 09 32 12.0
BRG Amp 09 32 13.1
comp=Z,21nm,1.2s
BRG Berggiesshubel 101.92 323 *eP* **Pdif** **09 31 58.2 +0.1**
BRG pmax pmax
comp=Z,46nm,1.3s
BRG pmax pmax
comp=Z,21nm,1.2s
ARSA Arzberg 102.05 319 *eP* **Pdif** **09 31 58.5 -0.4**
comp=Z,8.0nm,0.9s
ARSA *eP* **PKiKP** **09 36 18.1 -3.1**
comp=Z,1.3nm,0.5s
D03D Eldon 102.17 40 P **Pdif** **09 32 00.7 +1.3**
baz=287
CLL Collm 102.33 324 *i* Pdif **Pdif** **09 32 00.0 0.0**
comp=Z,28nm,1.3s
CLL *ex* x 09 32 12.0
CLL *ep*Pdif **pPdif** **09 32 17.0 +0.4**
CLL *eP*S **PS** **09 45 24.0 +3.8**
CLL *eP*PS PPS 09 46 18.0
CLL *ex* x 09 51 36.0
CLL *eS*SS SSS 09 52 06.0
CKRC Cesky Krumlov 102.35 321 *e*PDIFF **Pdif** **09 32 00.1 0.0**
CRES Cresnjev 102.50 318 *i* Pdiff **Pdif** **09 32 00.7 -0.2**
SOKA Soboth 102.53 319 *i* P **Pdif** **09 32 01.1 0.0**
comp=Z,14nm,1.1s,SNR=7.0
SOKA *eP* **PP** **09 36 17.6 +3.1**
comp=Z,12nm,1.4s
SNART Snartemo 102.67 332 *e*Pdif **Pdif** **09 32 00.9 -0.4**
MOA Molln 102.68 320 *i* P **Pdif** **09 32 02.0 +0.4**
comp=Z,29nm,1.1s,SNR=7.3
MOA *eP* **PKiKP** **09 36 20.1 -2.2**
comp=Z,5.0nm,1.4s
KHC Kasperske Hory 102.71 322 *eP* **Pdif** **09 32 01.9 +0.2**
KHC Kasperske Hory 102.71 322 *e*PDIFF **Pdif** **09 32 01.9 +0.2**
GERES GERESS Array B 102.72 321 P **Pdif** **09 32 01.9 +0.1**
comp=Z,11nm,1.0s,baz=76,slow=5.6,SNR=28
GERES PKiKP **PP** **09 36 17.6 +1.8**
comp=Z,3.2nm,0.9s,baz=97,slow=4.0,SNR=5.3
GERES GERESS Array B 102.72 321 P **Pdif** **09 32 02.0 +0.1**
E04D Cinebar 102.80 41 P **Pdif** **09 32 03.2 +1.0**
baz=287
OBKA Obir 102.90 319 *eP* **Pdif** **09 32 02.5 -0.3**
comp=Z,12nm,1.1s
OBKA *eP* **PP** **09 36 20.9 +3.6**
comp=Z,5.4nm,0.9s
NKC Novy Kostel 103.03 323 *eP* **Pdif** **09 32 03.6 +0.5**
NKC Novy Kostel 103.03 323 *e*PDIFF **Pdif** **09 32 03.6 +0.5**
BIOA Bad Ischl, Aus 103.13 320 *eP* **Pdif** **09 32 04.2 +0.6**
comp=Z,5.2nm,0.8s
CEY Cerknica 103.22 318 *i* Pdiff **Pdif** **09 32 03.8 -0.3**
MYKA Terra Mystica 103.46 319 *eP* **Pdif** **09 32 04.8 -0.4**
comp=Z,1.6nm,0.4s
KBA Koelnbreinsper 103.51 320 *eP* **Pdif** **09 32 04.8 -0.7**
comp=Z,11nm,1.2s
KBA *eP* **PP** **09 36 23.4 +1.5**
comp=Z,7.1nm,1.3s
GRF Grafenberg Arr 103.96 323 *e*Pdiff **Pdif** **09 32 07.7 +0.4**
ABTA Abfaltersbach 104.16 319 *eP* **Pdif** **09 32 07.3 -1.1**
comp=Z,8.7nm,0.8s
ABTA *eP* **PKiKP** **09 36 26.0 +0.9**
comp=Z,4.9nm,1.0s
WTTA Wattenberg 104.55 320 *i* P **Pdif** **09 32 10.1 -0.1**
comp=Z,36nm,1.4s,SNR=7.7
WTTA *eP* **PKiKP** **09 36 27.2 +1.3**
comp=Z,8.7nm,1.0s
WATA Walderalm 104.57 320 *eP* **Pdif** **09 32 09.7 -0.5**
comp=Z,31nm,1.3s
WATA *eP* **PP** **09 36 29.5 -0.2**
comp=Z,19nm,1.3s
SQTA Sankt Quirin 104.84 320 *i* P **Pdif** **09 32 11.2 -0.2**
comp=Z,23nm,1.3s,SNR=5.4
SQTA *eP* **PKiKP** **09 36 27.2 +0.8**
comp=Z,4.4nm,0.7s
MOTA Moosalm 104.86 320 *i* P **Pdif** **09 32 11.3 -0.2**
comp=Z,20nm,1.1s,SNR=5.3
MOTA *eP* **PP** **09 36 33.8 +1.9**
comp=Z,14nm,1.0s
RETA Reutte 105.03 321 *eP* **Pdif** **09 32 12.6 +0.4**
comp=Z,1.1nm,0.4s
RETA *eP* **PKiKP** **09 36 29.9 +3.3**
comp=Z,17nm,1.3s
FETA Feichten 105.22 320 *eP* **Pdif** **09 32 13.0 -0.1**
comp=Z,17nm,1.4s
FETA *eP* **PKiKP** **09 36 28.6 +1.5**
comp=Z,12nm,1.3s
DAVA Damuels 105.66 321 *eP* **Pdif** **09 32 15.6 +0.5**
comp=Z,15nm,1.6s
DAVA *eP* **PKiKP** **09 36 29.2 +1.3**
comp=Z,3.5nm,0.7s
DAVOX Davos/Dischmat 105.85 320 Pdiff **Pdif** **09 32 15.9 -0.1**
comp=Z,10nm,1.1s,baz=190,slow=3.3,SNR=6.6
DAVOX PP **PP** **09 36 38.6 -0.6**
comp=Z,6.3nm,1.1s,baz=153,slow=7.8,SNR=3.2
MSO Missoula 108.25 39 P **PKiKP** **09 36 33.0 +0.3**
baz=294
NVAR Mina Array Bea 108.31 48 PKiKP **PKiKP** **09 36 33.4 +0.2**
comp=Z,1.1nm,0.7s,baz=259,slow=2.5,SNR=4.3
HLID Hailey 109.26 42 P **PKiKP** **09 36 36.2 +1.4**
baz=293
EDW2 Edwards Air Fo 109.64 52 P **PKiKP** **09 36 36.5 +0.9**
baz=288
MPMC Manual Prospec 109.67 50 P **PKiKP** **09 36 37.1 +1.3**
baz=288
KEST Kesra 109.97 309 PKiKP **PKiKP** **09 36 36.7 +0.4**
comp=Z,2.6nm,0.7s,baz=115,slow=0.3,SNR=3.5
KEST PP **PP** **09 37 05.5 -4.1**
comp=Z,3.9nm,0.8s,baz=334,slow=5.5,SNR=3.5
FURC Furnace Creek, 110.02 50 P **PKiKP** **09 36 37.9 +1.7**
baz=289
BFSC Mount Baldy Ra 110.10 52 P **PKiKP** **09 36 37.8 +1.2**
baz=288
BOZ Bozeman (W) 110.23 39 P **PKiKP** **09 36 37.4 +0.9**
baz=296
EGMT Eagleton 110.27 36 P **PKiKP** **09 36 37.2 +0.8**
baz=298
R11A Troy Canyon, C 110.35 48 P **PKiKP** **09 36 38.0 +0.9**
baz=290
GSC Goldstone, Bar 110.44 51 P **PKiKP** **09 36 37.7 +0.6**
baz=288
GMRC Granite Mounta 111.49 51 P **PKiKP** **09 36 40.0 +0.8**

baz=289
DUG Dugway, Tooele 111.67 45 P PKiKP 09 36 40.7 +1.3
baz=293
RLMT Red Lodge 111.93 39 P PKiKP 09 36 41.3 +1.4
baz=298
BW06 Boulder Array 112.82 41 P PKiKP 09 36 42.6 +1.0
baz=297
PDAR Pinedale Array 112.82 41 PKiKP PKiKP 09 36 42.5 +0.8
comp=Z,1.2nm,0.7s,baz=198,slow=0.5,SNR=8.8
PDAR PKKPbc PKKPbc 09 47 29.4 -1.4
comp=Z,0.7nm,0.7s,baz=119,slow=7.3,SNR=5.9
PDAR PKKPab PKKPab 09 47 37.4 -0.9
comp=Z,3.2nm,1.0s,baz=113,slow=5.8,SNR=12
PDAR PKKP PKKPdf 09 47 51.2 +0.3
comp=Z,2.0nm,0.9s,baz=99,slow=7.4,SNR=5.7
PDAR Pinedale Array 112.82 41 PKiKP PKiKP 09 36 42.0 +0.4
PDMCI Parker Dam,Lak 112.83 51 P PKiKP 09 36 42.3 +0.7
baz=290
LAO LASA Array 113.02 36 P PKiKP 09 36 42.7 +1.0
baz=301
DGMT Dagmar 113.24 34 P PKiKP 09 36 42.8 +0.8
baz=303
K22A Casper 114.85 40 P PKiKP 09 36 46.1 +0.6
baz=299
O20A White River Ci 114.88 43 P PKPdf 09 36 46.7 +1.1
baz=297
RSSD Black Hills 115.67 38 PKIKP PKiKP 09 36 46.1 -0.9
RSSD Black Hills 115.67 38 PKiKP 09 36 46.1 -0.9
RSSD Black Hills 115.67 38 P PKiKP 09 36 47.5 +0.4
baz=302
W18A Petrified Fore 115.91 49 P PKPdf 09 36 48.9 +1.2
baz=293
MVCO Mesa Verde 115.97 46 P PKPdf 09 36 49.3 +1.5
baz=295,SNR=8.8
N23A Red Feather La 116.08 42 P PKiKP 09 36 48.8 +0.8
baz=299
MDND Maddock 116.11 32 PKiKP 09 36 47.9 +0.4
MDND Maddock 116.11 32 P PKiKP 09 36 48.3 +0.8
baz=307
TUC Tucson 116.17 52 P PKPdf 09 36 48.4 +0.2
baz=291
NRS Narsarsuaq 116.31 355 PKIKP PKiKP 09 36 47.6 +0.2
NRS Narsarsuaq 116.31 355 PKiKP 09 36 47.5 +0.2
ULM Lac du Bonnet 116.47 29 PKP PKPdf 09 36 48.0 -0.1
comp=Z,9.4nm,0.9s,baz=309,slow=4.7,SNR=12
ULM Lac du Bonnet 116.47 29 PKPdf PKPdf 09 36 47.1 -0.9
ISCO Idaho Springs 116.82 43 PKIKP PKPdf 09 36 50.1 +0.6
ISCO Idaho Springs 116.82 43 PKPdf PKPdf 09 36 50.1 +0.6
ISCO Idaho Springs 116.82 43 P PKiKP 09 36 50.6 +1.1
baz=299,SNR=10
S22A 4UR Ranch, Cre 116.93 45 P PKiKP 09 36 51.4 +1.6
baz=297,SNR=8.0
Q24A Divide 117.54 43 P PKPdf 09 36 51.2 +0.3
baz=299
AGMN Agassiz Nation 117.77 30 PKPdf PKPdf 09 36 50.0 -0.6
AGMN Agassiz Nation 117.77 30 P PKPdf 09 36 51.4 +0.7
baz=311
SDCO Great Sand Dun 117.87 45 PKPdf 09 36 51.2 -0.4
SDCO Great Sand Dun 117.87 45 P PKiKP 09 36 52.9 +1.3
baz=298,SNR=6.9
ESDC Sonseca Array 118.02 318 PKP PKPdf 09 36 51.8 +0.3
comp=Z,1.1nm,0.9s,baz=22,slow=5.5,SNR=5.0
ESDC PP PP 09 38 06.6 +0.4
comp=Z,2.7nm,1.0s,baz=55,slow=6.7,SNR=6.4
121A Cookes Peak, D 118.43 51 P PKiKP 09 36 54.0 +1.4
baz=294
ANMO Albuquerque 118.43 48 P PKiKP 09 36 54.1 +1.5
baz=296
SUSD Miller 118.51 35 P PKPdf 09 36 52.6 +0.3
baz=306
B35A Bob, Littlefor 118.78 29 PKPdf PKPdf 09 36 52.8 +0.2
T25A Trinidad 118.92 45 P PKiKP 09 36 54.7 +1.2
baz=298,SNR=9.8
F33A 5 Mile Ranch, 119.14 33 PKPdf PKPdf 09 36 52.8 -0.6
KSCO Kaye Shedlock' 119.22 42 P PKPdf 09 36 54.7 +0.7
baz=301
POLO Lamas de Olo 119.60 321 ePKPdf PKiKP 09 36 55.8 +1.2
EYMN Ely 120.14 28 P PKPdf 09 36 55.3 0.0
baz=315
PCBR Castelo Branco 120.24 320 ePKPdf PKiKP 09 36 56.7 +0.9
PCBR i LQ LQ 09 37 09.4
ECSD EROS Data Cent 120.28 35 P PKPdf 09 36 56.1 +0.4
baz=308
PMRV Marv??o 120.41 319 ePKPdf PKPdf 09 36 57.0 +1.0
PMRV i LQ LQ 09 37 10.3
F36A Milaca 120.58 31 PKPdf PKPdf 09 36 55.9 -0.3
MNTX Cornudas Mount 120.63 51 P PKiKP 09 36 57.8 +1.0
baz=295
BGNE Belgrade 120.78 38 P PKPdf 09 36 56.8 +0.1
baz=306,SNR=14
PESTR Estremoz 120.84 319 ePKPdf PKPdf 09 36 57.9 +1.0
PBAR Barrancos 120.85 318 ePKPdf PKPdf 09 36 57.9 +1.0
PBAR i LQ LQ 09 37 10.0
E38A The Farm, Brul 121.06 29 PKPdf PKPdf 09 36 57.6 +0.6
PMTG Montargil 121.15 319 ePKPdf PKiKP 09 36 58.5 +0.9
CBKS Cedar Bluff 121.24 41 P PKPdf 09 36 57.9 +0.2
baz=303
SPMN Marine on St. 121.39 31 P PKPdf 09 36 58.1 +0.3
baz=313
L34A Svendsen Farm, 121.51 36 PKPdf 09 36 58.2 +0.1
MSTX Muleshoe 121.59 47 P PKPdf 09 36 59.2 +0.6
baz=298
PVAQ Vaqueiros 121.71 317 ePKPdf PKPdf 09 36 55.9 -2.7
PCVE Castro Verde 121.81 318 ePKPdf PKiKP 09 36 59.9 +1.0
PCVE i LQ LQ 09 37 13.8
PNCL Nicolau / Gran 121.87 319 ePKPdf PKiKP 09 37 00.4 +1.4
I37A Lemond, Waseca 121.88 33 PKPdf PKPdf 09 36 59.0 +0.3
AMTX Amarillo 121.94 46 P PKiKP 09 37 00.2 +0.8
baz=299
SCHQ Schefferville 122.01 9 PKP PKPdf 09 36 59.4 +0.7
comp=Z,20nm,0.7s,baz=1.5,slow=1.9,SNR=42
MORF Marmelete 122.39 318 ePKPdf PKPdf 09 37 00.2 +0.3
MORF Marmelete 122.39 318 ePKPdf PKiKP 09 37 01.1 +1.0
MORF i LQ LQ 09 37 15.2
COWI Conover 122.59 28 PKPdf 09 37 00.6 +0.5
TOA0 Torodi Ar. Sit 122.69 287 PKPdf PKPdf 09 37 01.2 +0.2
TORD Torodi Ar. Bea 122.69 287 PKP PKPdf 09 37 00.8 -0.2
comp=Z,14nm,0.8s,baz=67,slow=2.5,SNR=57
TORD PKKPab PKKPbc 09 46 55.1 +0.8
comp=Z,0.8nm,0.5s,baz=287,slow=3.3,SNR=9.3
TXAR Lajitas Array 122.96 53 PKP PKPdf 09 37 02.2 +0.8
comp=Z,5.6nm,0.9s,baz=253,slow=1.3,SNR=46
TXAR PKKPab PKKPbc 09 46 53.8 0.0
comp=Z,0.8nm,1.0s,baz=139,slow=6.5,SNR=5.2
KSU1 Kansas State U 123.09 39 P PKPdf 09 37 01.7 +0.5
baz=306
K38A Parkersburg 123.13 34 PKPdf 09 37 01.3 +0.2
F42A Maple Grove Fa 123.32 28 PKPdf 09 37 02.2 +0.8
SCIA State Center 123.37 34 P PKPdf 09 37 02.0 +0.4
baz=311
E43A Lone Tree Farm 123.38 27 PKPdf PKPdf 09 37 02.3 +0.8
WMOK Wichita Mounta 124.07 45 P PKPdf 09 37 03.8 +0.6
baz=302
N38A Joes South For 124.08 35 PKPdf PKPdf 09 37 03.6 +0.5
I42A Draeger Farm, 124.31 30 PKPdf PKPdf 09 37 03.6 +0.3
JFWS Jewell Farm 124.31 32 PKIKP PKPdf 09 37 03.3 -0.1
JFWS Jewell Farm 124.31 32 PKPdf PKPdf 09 37 03.3 -0.1
JFWS Jewell Farm 124.31 32 P PKPdf 09 37 03.2 -0.2
baz=314,SNR=24
L40A Anamosa 124.38 33 PKPdf 09 37 03.5 0.0
T35A Sooner Cattle 124.42 41 PKPdf 09 37 04.6 +0.8
H43A Windswept, Lux 124.45 29 PKPdf PKPdf 09 37 04.0 +0.4
ABTX Abilene, Hawle 124.53 47 PKPdf PKPdf 09 37 04.4 +0.2
ABTX Abilene, Hawle 124.53 47 P PKPdf 09 37 04.7 +0.5
baz=300
E46A Sault Ste Mari 124.57 25 PKPdf PKPdf 09 37 04.8 +1.0
L42A Oliver, Polo 125.26 32 PKPdf 09 37 05.5 +0.2
JCT Junction City 125.45 50 P PKPdf 09 37 06.6 +0.6
baz=298,SNR=49
TUL1 Leonard 125.47 42 PKPdf 09 37 06.0 +0.2
TUL1 Leonard 125.47 42 P PKPdf 09 37 06.2 +0.4
baz=305
N41A Harden Midland 125.50 34 PKPdf 09 37 06.0 +0.3
P40A Paris 125.59 36 PKPdf 09 37 06.5 +0.5
L44A Lake County Fo 126.05 31 P PKPdf 09 37 07.0 +0.2
baz=316
R40A Maddies Statio 126.26 37 PKPdf 09 37 07.4 +0.2
WHTX Lake Whitney, 126.45 47 P PKPdf 09 37 08.6 +0.8
baz=301,SNR=7.0
HDIL Hopedale 126.47 33 PKPdf 09 37 07.8 +0.2
HDIL Hopedale 126.47 33 P PKPdf 09 37 07.7 +0.2
baz=314
X37A Clayton 126.50 43 PKPdf PKiKP 09 37 09.0 +0.7
833A Chaparral WMA, 126.77 52 P PKiKP 09 37 09.8 +0.8
baz=297
435B Jarrell 126.97 48 P PKPdf 09 37 09.8 +0.9
baz=300
CCM Cathedral Cave 127.03 37 PKIKP PKPdf 09 37 09.1 +0.4
CCM Cathedral Cave 127.03 37 PKPdf PKPdf 09 37 09.1 +0.4
CCM Cathedral Cave 127.03 37 P PKPdf 09 37 09.2 +0.4
baz=311
U40A Yellville 127.11 39 P PKPdf 09 37 09.2 +0.3
baz=308,SNR=54
W39A Magazine 127.21 41 PKPdf PKPdf 09 37 10.0 +0.8
W39A Magazine 127.21 41 P PKPdf 09 37 09.2 0.0
baz=307,SNR=16
FVM French Village 127.56 36 PKIKP PKPdf 09 37 10.5 +0.7
FVM French Village 127.56 36 PKPdf PKPdf 09 37 10.4 +0.7
SFIN Lafayette 127.77 32 PKPdf PKPdf 09 37 11.1 +1.0
SFIN Lafayette 127.77 32 P PKPdf 09 37 10.4 +0.3
baz=316
AAM Ann Arbor 128.04 28 P PKPdf 09 37 11.7 +1.2
baz=321
W41B Gary Mavity, V 128.23 40 PKPdf 09 37 10.6 -0.5
W41B Gary Mavity, V 128.23 40 P PKPdf 09 37 11.6 +0.5
baz=308,SNR=6.1
X40A Basin Creek Fa 128.26 41 P PKPdf 09 37 12.0 +0.8
baz=307
NATX Nacogdoches 128.58 45 P PKPdf 09 37 12.9 +1.0
baz=304
O48B Farmland 128.87 31 P PKPdf 09 37 12.2 0.0
baz=318,SNR=9.3
Z41A Richland Creek 129.01 43 P PKPdf 09 37 13.6 +0.9
baz=306,SNR=5.6
M50A Fremont 129.03 28 PKPdf 09 37 12.6 +0.1
P48A Milroy 129.32 32 PKPdf PKPdf 09 37 12.7 -0.4
O49A Covington 129.34 30 PKPdf 09 37 13.6 +0.5
P49A Miami Univ. Ec 129.63 31 P PKPdf 09 37 13.7 0.0
baz=318,SNR=7.3
LONY Lake Ozonia 129.72 19 P PKPdf 09 37 13.7 0.0
baz=333
WCI Wyandotte Cave 129.75 33 PKIKP PKPdf 09 37 14.5 +0.6
WCI Wyandotte Cave 129.75 33 PKPdf PKPdf 09 37 14.5 +0.6
WCI Wyandotte Cave 129.75 33 P PKPdf 09 37 14.0 +0.1
baz=316
ACSO Alum Creek Sta 129.97 29 P PKPdf 09 37 14.5 +0.2
baz=321,SNR=10
M53A WI Miller and 130.08 26 P PKPdf 09 37 14.7 +0.2
baz=324
KIC Kosan Boka 130.12 280 eP PKPdf 09 37 14.6 -0.7
comp=Z,49nm,1.4s
T47A Sharon Grove 130.18 35 PKPdf PKPdf 09 37 15.0 +0.3
W45A Hickory Valley 130.18 38 PKPdf 09 37 14.5 -0.3
DBIC Dimbokro 130.18 281 PKP PKPdf 09 37 16.4 +1.0
comp=Z,16nm,1.0s,baz=36,slow=3.5,SNR=9.4
WVT Waverly 130.35 36 PKIKP PKPdf 09 37 15.8 +0.7
WVT Waverly 130.35 36 PKPdf PKPdf 09 37 15.8 +0.7
WVT Waverly 130.35 36 P PKPdf 09 37 15.4 +0.3
baz=313
TIC Toumodi 130.35 281 eP PKPdf 09 37 14.8 -0.9
LIC Lamto 130.42 280 eP PKPdf 09 37 16.6 +0.8
comp=Z,54nm,1.6s
OXF Oxford 130.46 39 P PKPdf 09 37 15.3 -0.1
baz=310,SNR=12
M54A Oil Creek Stat 130.47 25 P PKPdf 09 37 15.3 +0.1
baz=325
P51A Williamsport 130.51 30 PKPdf 09 37 15.6 +0.3
PKME Peaks-Kenny Pk 130.65 14 P PKPdf 09 37 15.1 -0.3
baz=340
N54A Moraine State 130.77 26 P PKPdf 09 37 16.1 +0.3
baz=325
O53A New Philadelph 130.79 28 P PKPdf 09 37 15.8 0.0
baz=323
P52A Corning 130.84 29 PKPdf 09 37 16.1 +0.1
P52A Corning 130.84 29 P PKPdf 09 37 16.2 +0.3
baz=321,SNR=5.5
LBNH Lisbon 130.88 17 P PKPdf 09 37 16.6 +0.7
baz=336
PLAL Pickwick Lake 130.97 38 PKPdf 09 37 16.1 -0.2
VBMS Vicksburg 131.18 42 P PKPdf 09 37 16.9 +0.1
baz=308
U49A Red Boiling Sp 131.27 34 PKPdf 09 37 16.0 -0.9
P53A Whipple 131.31 28 PKPdf PKPdf 09 37 17.2 +0.3
BINY Binghamton 131.35 22 P PKPdf 09 37 17.4 +0.5
baz=330
MCWV Mont Chateau 131.89 27 P PKPdf 09 37 18.4 +0.4
baz=324
SSPA Standing Stone 131.94 25 P PKPdf 09 37 19.0 +1.0
baz=327
X48A Hartselle 131.96 37 PKPdf PKPdf 09 37 17.9 -0.4
O56A Blue Knob Stat 131.96 25 P PKPdf 09 37 18.9 +0.8
baz=326
SWET Sewanee 132.09 36 PKPdf 09 37 18.4 -0.1
L61B Northampton 132.28 19 P PKPdf 09 37 19.6 +1.0
baz=334
TZTN Tazewell 132.47 33 P PKPdf 09 37 19.9 +0.8
baz=318
Y49A Blount Mountai 132.75 37 PKPdf PKPdf 09 37 20.2 +0.4
LRAL Lakeview Retre 132.94 39 P PKPdf 09 37 20.9 +0.8
baz=312
BLA Blacksburg 133.58 29 PKIKP PKPdf 09 37 21.6 +0.3
BLA Blacksburg 133.58 29 PKPdf PKPdf 09 37 21.6 +0.3
BLA Blacksburg 133.58 29 P PKPdf 09 37 21.7 +0.4
baz=322
BRAL Brewton 134.13 41 P PKPdf 09 37 23.1 +0.7
baz=311
CBN Corbin Frederi 134.19 26 P PKPdf 09 37 22.9 +0.6
baz=326
KMSC Kings Mountain 134.71 32 P PKPdf 09 37 24.2 +0.8
baz=320
GOGA Godfrey 134.81 36 P PKPdf 09 37 24.6 +1.0
baz=316
TIGA Tifton 136.13 38 P PKPdf 09 37 27.2 +1.1
baz=315
PLCA Paso Flores 138.96 161 PKhKP PKPpre 09 37 27.1
comp=Z,1.9nm,0.8s,baz=248,slow=4.3,SNR=7.7
PLCA PKP PKPdf 09 37 33.2 +2.0
comp=Z,10nm,0.9s,baz=214,slow=3.8,SNR=15
PLCA SKP 09 41 01.2
comp=Z,6.9nm,1.2s,baz=240,slow=3.8,SNR=3.9
PLCA Paso Flores 138.96 161 PKPdf PKPdf 09 37 28.2 -3.0
SOR Soroa 142.20 47 PKIKP PKPdf 09 37 35.6 -1.8
SOR Soroa 142.20 47 PKPdf PKPdf 09 37 35.6 -1.8
TGUH Tegucigalpa,Un 143.15 63 PKPdf PKPbc 09 37 38.0 +1.5
CRIN San Cristobal 143.88 65 PKPbc 09 37 39.8 +1.3
CNGN Cerro Negro 144.27 65 PKPab 09 37 39.6 +0.3
MT01 Popeta 144.74 155 PKPab 09 37 40.3 -0.2
ROC1 El Roble 145.60 154 PKPdf 09 37 41.5 -1.9
ROC1 El Roble 145.60 154 i P PKPdf 09 37 42.7 -0.7
FSCY Frank Sound, G 145.64 50 PKPdf PKPdf 09 37 42.0 -1.4
HZTE Horizontes, Gu 145.93 67 i P PKPab 09 37 46.5 +1.0
BUEV Buena Vista 146.07 67 eP PKPab 09 37 46.6 +0.5
ORTG Ortega, Santa 146.18 68 eP PKPdf 09 37 42.2 -2.5
AVIZ Vizcacheras 146.18 158 eP PKPab 09 37 46.6 +0.7
PLVR Palo Verde 146.28 67 eP PKPdf 09 37 45.0 0.0
COLC Colonia 146.31 67 eP PKPdf 09 37 44.9 +0.1
VMAR Armenia, Volca 146.33 67 eP PKPdf 09 37 44.3 -0.6
CUI Cuipilapa 146.34 67 eP PKPdf 09 37 41.5 -3.4
AAGR Agrelo 146.41 157 i P PKPbc 09 37 46.4 +0.5
CBCY The Bluff, Cay 146.46 48 PKPdf PKPdf 09 37 42.4 -2.5
ARCO CERRO ARCO 146.58 157 i P PKPdf 09 37 46.6 +1.6
JTS Las Juntas de 146.67 67 eP PKPdf 09 37 44.3 -1.1
JTS Las Juntas de 146.67 67 eP PKPdf 09 37 46.0 +0.6
ARE1 Arenal 1 146.82 67 eP PKPdf 09 37 44.8 -0.9
ASAL Salagasta 146.84 157 eP PKPdf 09 37 47.1 +1.8
LAFE Finca La Fe, P 146.87 68 eP PKPdf 09 37 46.9 +1.2
AUSP Uspallata 146.94 156 eP PKPdf 09 37 47.6 +1.8
COVE Coope Vega, Sa 147.02 66 eP PKPdf 09 37 47.3 +1.3
CO06 Fray Jorge 147.24 151 PKPbc PKPbc 09 37 48.9 +0.7
RTLS Leoncito 147.34 155 i P PKPdf 09 37 47.9 +1.4
HDC3 Heredia 3 147.54 67 eP PKPdf 09 37 47.4 +0.3
CO03 El Pedregal 147.55 152 PKPbc 09 37 49.9 +0.6
OCM Ochomogo 147.72 67 eP PKPdf 09 37 48.3 +0.8
LCR2 La Lucha 2 147.73 68 eP PKPbc 09 37 51.7 +1.4
ZON Zonda 147.82 156 PKP2 PKPbc 09 37 50.0 +0.1
ZON Zonda 147.82 156 PKPbc 09 37 50.0 +0.1
RAFA San Farael, Vo 147.84 67 eP PKPbc 09 37 50.5 -0.2
RIMA Rio Macho 147.85 68 PKPbc PKPdf 09 37 49.2 +1.5
RIMA Rio Macho 147.85 68 eP PKPdf 09 37 46.9 -0.7
VTUN Crater Central 147.86 67 eP PKPdf 09 37 49.0 +1.0
CVTR Volcan Turrial 147.86 67 eP PKPbc 09 37 52.2 +1.3
GO04 Tololo Observa 148.06 152 PKPbc PKPbc 09 37 50.3 -0.5
MRA San Martin 148.12 161 eP PKPdf 09 37 49.1 +1.6
ACCO Cerro Coronel 148.49 155 eP PKPdf 09 37 49.5 +1.0
SRBA San Rafael, Bu 148.50 68 PKPdf 09 37 50.2 +1.6
PRVC Isla de Provid 148.62 59 PKPab PKPbc 09 37 53.2 +0.9
ARGD Rodeo 148.68 154 i P PKPdf 09 37 50.7 +1.9
POTG Potrero Grande 148.79 68 eP PKPdf 09 37 50.4 +1.4
ACDV Cuesta del Vie 148.83 154 i P PKPdf 09 37 50.8 +2.0
EDSV San Vito 149.00 69 eP PKPdf 09 37 51.8 +2.4
MTDJ Mount Denham 149.04 48 eP PKPbc 09 37 54.7 +1.2
CCOL Caracol de Cor 149.14 69 eP PKPdf 09 37 50.4 +0.9
CDITO Canoas 149.18 69 PKPdf 09 37 52.4 +2.9
CDITO PKPab PKiKP 09 37 57.1 +2.1
BRU2 Volcan 149.27 68 PKPdf 09 37 52.6 +2.7
BRU2 PKPab PKiKP 09 37 56.7 +1.3
BRU2 Volcan 149.27 68 eP PKPbc 09 37 54.9 +0.7
BRU2 Volcan 149.27 68 eP PKPbc 09 37 55.6 +1.4
TCA Tanti 149.48 162 eP PKPdf 09 37 51.6 +1.9
GTBY Guantanamo Bay 149.63 42 PKPab PKiKP 09 37 56.2 +0.5
GTBY Guantanamo Bay 149.63 42 eP PKPbc 09 37 54.7 -0.1
APLL PUNTA DE LOS L 149.68 158 i P PKPbc 09 37 55.2 +0.5
ACLC CERRO LA CRUZ 150.38 157 i P PKPdf 09 37 52.7 +1.4
VCA Vinchina 150.46 154 i P PKiKP 09 37 58.3 +0.8
GO03 Copiap 150.47 150 PKPbc 09 37 56.8 +0.1
PLTB Pedras Altas 150.76 181 PKPbc 09 37 57.5 +0.3
TINO Tinogasta 151.32 154 i P PKiKP 09 38 00.4 +1.2
CACAO El Cacao, Vera 151.46 70 eP PKPdf 09 37 54.7 +1.6
AC02 Maricunga 151.65 150 PKPdf 09 37 55.9 +2.2
BCIP Isla Barro Col 151.77 66 eP PKPbc 09 37 58.5 -1.4
UPA Univ. de Panam 152.12 66 eP PKPdf 09 37 56.6 +2.5
ITQB Itaqui 152.73 175 PKPbc PKPbc 09 38 01.3 -0.4
SC01 Santiago de lo 152.78 37 PKPdf PKPdf 09 37 52.7 -2.3
SC01 PKPbc PKPbc 09 38 02.2 +0.2
SDDR Presa de Saban 152.78 38 eP PKPbc 09 38 01.4 -0.7
AHML Horco Molle 153.38 157 i P PKPdf 09 37 57.3 +1.6
UPD2 Meteti 153.67 65 eP PKPdf 09 37 55.6 -0.7
FSA Cafayete 153.71 155 eP PKPbc 09 38 04.0 -0.2
PTAC Punta Ardita, 154.38 68 eP PKPdf 09 37 55.6 -1.7
LVC Limon Verde 155.18 145 PKP PKPdf 09 38 00.2 +1.5
comp=Z,11nm,1.0s,baz=224,slow=1.0,SNR=7.5
LVC Limon Verde 155.18 145 PKPdf PKPdf 09 37 55.8 -2.9
NNA Nana 155.38 114 PKP PKPdf 09 38 00.4 +1.6
comp=Z,4.6nm,0.4s,baz=243,slow=19,SNR=4.2
NNA Nana 155.38 114 PKPdf PKPdf 09 37 59.4 +0.6
BOSC San Juan Bosco 155.47 92 PKPdf PKPdf 09 37 55.0 -4.1
BOSC PKPbc pPKPdf 09 38 09.7 -6.8
SJCC San Jacinto, C 155.59 60 eP PKPdf 09 37 59.5 +0.4
SMRC Santa Marta, M 155.76 56 eP PKPdf 09 37 58.5 -0.7
CPUP Villa Florida 155.95 173 PKP PKPdf 09 38 00.7 +1.5
comp=Z,7.6nm,0.9s,baz=4.7,slow=2.1,SNR=9.4
CELP Cerrillos 156.18 31 PKPdf PKPdf 09 37 59.6 -0.1
CELP PKPab PKPab 09 38 00.8 +0.6
UREC San Jos de Ur 156.23 65 eP PKPdf 09 37 58.5 -1.4
GCUF Volcan Galeras 156.33 82 eP PKPdf 09 38 01.4 +0.7
CBOC Ciudad Bolivar 156.49 70 eP PKPdf 09 37 59.5 -1.0
YOTC Yotoco, Valle 156.74 74 eP PKPdf 09 37 58.5 -2.2
POPC Popayan, Colom 156.76 78 eP PKPdf 09 38 01.4 +0.5
CRJC Cerrejon, Guaj 156.94 54 eP PKPdf 09 37 59.5 -1.4
ZARC Zaragoza, Cauc 156.95 65 eP PKPdf 09 38 01.4 +0.6
URIC Uribia, Colomb 157.26 52 eP PKPdf 09 37 59.5 -1.7
LL6C La Loma 6 Bece 157.30 58 eP PKPdf 09 38 01.4 +0.2
GUY2C Guyana, Caldas 157.31 71 eP PKPdf 09 38 02.4 +0.5
CDVI St. Croix 157.34 28 PKPdf PKPdf 09 37 58.7 -2.5
CDVI PKPab PKPab 09 38 29.8 -2.6
PTBC PUERTO BERRIO 157.69 67 eP PKPdf 09 38 00.5 -1.3
ORTC Ortega, Tolima 157.82 74 eP PKPdf 09 38 01.4 -0.6
PB16 IPOC Station P 157.99 137 PKPdf 09 37 59.8 -2.9
OCAC Ocana 157.99 61 eP PKPdf 09 38 02.4 +0.1
SPBC San Pablo de B 158.38 68 eP PKPdf 09 38 02.4 -0.3
ROSC El Rosal 158.42 71 PKP PKPdf 09 38 04.5 +1.3
comp=Z,34nm,0.8s,baz=317,slow=2.9,SNR=15
ROSC PKPab PKPab 09 38 38.8 +0.9
comp=Z,50nm,0.8s,baz=36,slow=5.6,SNR=12
ROSC El Rosal 158.42 71 eP PKPdf 09 38 02.4 -0.8
BARC Barichara 158.83 65 eP PKPdf 09 38 03.4 -0.1
PAMC Pamplona, Colo 158.95 63 eP PKPdf 09 38 05.3 +1.4
CHIC Chingaza 159.04 71 eP PKPdf 09 38 03.4 -0.6
VILC Villavicencio, 159.24 72 eP PKPdf 09 38 02.4 -1.4
MACC Macarena, Meta 159.60 77 eP PKPdf 09 38 03.4 -0.7
SDV Santo Domingo 159.96 56 PKP PKPdf 09 38 05.1 +0.4
comp=Z,23nm,0.9s,baz=350,slow=1.6,SNR=23
SDV PKPab PKPab 09 38 45.6 +1.4
comp=Z,12nm,0.7s,baz=295,slow=5.1,SNR=6.9
SDV Santo Domingo 159.96 56 eP PKPdf 09 38 05.3 +0.6
SOCV Socops 160.09 58 eP PKPdf 09 38 03.4 -1.3
TAMC Tame, Arauca 160.15 64 eP PKPdf 09 38 05.3 +0.6
LPAZ La Paz 160.35 136 PKP PKPdf 09 38 07.5 +2.0
comp=Z,14nm,1.0s,baz=343,slow=1.4,SNR=41
LPAZ La Paz 160.35 136 PKPdf PKPdf 09 38 05.8 +0.2
LPAZ La Paz 160.35 136 eP PKPdf 09 38 07.2 +1.6
PTGC Puerto Gaitan, 160.69 70 eP PKPdf 09 38 03.4 -1.9
RCBR Riachuelo 161.68 259 PKP PKPdf 09 38 07.7 +1.3
comp=Z,8.9nm,0.9s,baz=268,slow=11,SNR=2.0
RCBR PKPab PKPab 09 38 52.0 +0.2
comp=Z,22nm,1.0s,baz=180,slow=3.9,SNR=4.8
BIM Bigot 161.80 23 PKPab 09 38 49.9 -1.9
TBTG Tabatinga, AM 163.96 97 eP PKPdf 09 38 05.3 -3.3
SIV San Ignacio 164.75 153 PKP PKPdf 09 38 10.6 +1.4
comp=Z,20nm,1.1s,baz=174,slow=1.6,SNR=48
SIV PKPab PKPab 09 39 05.7 +0.9
comp=Z,6.5nm,1.0s,baz=206,slow=3.5,SNR=4.2
BDFB Brasilia 165.57 204 PKP PKPdf 09 38 11.0 +1.0
comp=Z,11nm,1.0s,baz=9.1,slow=0.7,SNR=9.5
BDFB PKPab PKPab 09 39 08.9 +0.4
comp=Z,14nm,0.9s,baz=134,slow=3.2,SNR=6.2
BDFB Brasilia 165.57 204 PKP2 PKPab 09 39 09.2 +0.7
BDFB 10 38 09.8
BDFB Brasilia 165.57 204 PKPdf PKPdf 09 38 09.8 -0.2
BDFB PKPab PKPab 09 39 09.2 +0.7

*IDC **29** 09:28:52.6±0.8, 18°.00S×174°.16W, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.2/42, mbtmp4.1/13, ML3.4/2 Error ellipse: s-maj=33.5km s-min=16.1km az=136.0*
*NEIC **29** 09:28:53.2±1.6, 18°.21S±0°.10×173°.8W±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=18.1km s-min=15.9km az=248.0*
*NOU **29** 09:30:00.9, 13°.89S×172°.02W, h0km, MLv2.2/4, Samoa Islands*

ISC 29 09:28:52.7±0.5, 18°.21S±0°.07×173°.87W±0°.08, h10km, n49, σ1°.79/40, mb4.4/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.83	104			Pn	09 29 51.2	-0.6
AFI	Afiamalu	4.72	25	Pn		Pn	09 30 04.9	+0.8
	4.2nm,0.3s,baz=216,slow=6.1,SNR=17							
AFI				Sn		Sn	09 30 53.2	-5.8
	40nm,0.3s,baz=248,slow=19,SNR=7.0							
AFI	Afiamalu	4.72	25			Pn	09 30 04.1	-0.1
AFI	Afiamalu	4.72	25	P		Pn	09 30 05.3	+1.2
RAR	Rarotonga	13.61	105	Pn		Pn	09 32 05.6	-0.2
	1.4nm,0.3s,baz=270,slow=8.3,SNR=6.8							
RAR				Sn		Sn	09 34 25.1	-12
	0.9nm,0.3s,baz=342,slow=13,SNR=2.3							
DZM	Mont Dzumac	18.88	255	P		P	09 33 12.5	-1.1
	0.1nm,0.3s,baz=140,slow=18,SNR=2.3							
DZM	Mont Dzumac	18.88	255	lAmb		lAmb	09 33 33.7	
	comp=Z,25nm,1.3s							
URZ	Urewera	21.48	200	P		P	09 33 43.3	+1.8
	comp=Z,5.4nm,0.3s,baz=254,slow=4.2,SNR=10							
URZ				S		S	09 37 33.1	-6.7
	comp=Z,6.1nm,0.9s,baz=24,slow=20,SNR=1.8							
URZ	Urewera	21.48	200	lAmb		lAmb	09 34 06.0	
	comp=Z,43nm,1.5s							
RPZ	Rata Peaks	28.43	203	P		P	09 34 53.8	+6.1
	comp=Z,2.9nm,0.5s,baz=331,slow=19,SNR=1.4							
CTA	Charters Tower	37.66	261	P		P	09 36 08.2	-0.3
	comp=Z,4.4nm,0.6s,baz=106,slow=13,SNR=4.0							
CTAO	Charters Tower	37.66	261	P		P	09 36 08.3	-0.1
CTAO				lAmb		lAmb	09 36 20.4	
	comp=Z,9.7nm,1.1s							
COEN	Coen	41.43	269	P		P	09 36 39.8	0.0
H11N3	WAKE ISLAND Hy	42.15	332	T		T	10 22 00.4	
	baz=156,slow=76							
H11N1	WAKE ISLAND Hy	42.15	332	T		T	10 22 00.6	
	baz=156,slow=76							
H11N2	WAKE ISLAND Hy	42.16	332	T		T	10 22 01.7	
	baz=156,slow=76							
STKA	Stephens Creek	42.30	242	P		P	09 36 46.7	-0.1
	comp=Z,1.0nm,0.5s,baz=76,slow=10,SNR=5.3							
STKA	Stephens Creek	42.30	242	lAmb		lAmb	09 36 47.3	
	comp=Z,1.8nm,1.4s							
BBOO	Buckleboo	47.06	242	P		P	09 37 24.4	-0.5
WR0	Warramunga Arr	48.63	259	P		P	09 37 37.4	+0.2
WR0				lAmb		lAmb	09 37 51.8	
	comp=Z,6.9nm,1.3s							
WB0	Warramunga Arr	48.80	259	P		P	09 37 36.7	-1.8
WB0				lAmb		lAmb	09 37 53.5	
	comp=Z,3.0nm,0.8s							

WB2	**Warramunga Arr**	**48.81 259**	P	**P**	**09 37 37.6**	**-1.0**
WB2			IAmb	IAmb	09 37 45.5	
	comp=Z,5.7nm,1.0s					
WRAB	**Tennant Creek**	**48.81 259**	P	**P**	**09 37 38.3**	**-0.3**
WRA	**Warramunga Arr**	**48.82 259**	P	**P**	**09 37 37.9**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=98,slow=5.8,SNR=95					
WRA			PcP	**PcP**	**09 39 04.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=96,slow=3.3,SNR=1.5					
WRA	**Warramunga Arr**	**48.82 259**	P	**P**	**09 37 37.8**	**-1.0**
AS31	**Alice Springs**	**48.87 254**	P	**P**	**09 37 39.2**	**+0.2**
ASAR	**Alice Springs**	**48.87 254**	P	**P**	**09 37 39.0**	**-0.1**
	comp=Z,8.0nm,0.8s,baz=87,slow=8.5,SNR=36					
ASAR			PcP	**PcP**	**09 39 04.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=108,slow=3.6,SNR=4.4					
ASAR	**Alice Springs**	**48.87 254**	P	**P**	**09 37 38.5**	**-0.6**
KNRA	**Kununurra**	**54.75 263**	P	**P**	**09 38 21.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**57.24 260**	P	**P**	**09 38 41.1**	**+0.4**
FITZ			IAmb	IAmb	09 38 45.1	
	comp=Z,6.2nm,1.5s					
VNDA	**Vanda**	**60.55 186**	P	**P**	**09 39 06.0**	**+3.1**
	comp=Z,1.4nm,0.9s,baz=12,slow=9.6,SNR=3.6					
VNDA	**Vanda**	**60.55 186**	P	**P**	**09 39 02.7**	**-0.2**
VNDA			IAmb	IAmb	09 39 26.9	
	comp=Z,6.0nm,1.4s					
PSA00	**Pilbara Seismi**	**62.01 255**	P	**P**	**09 39 12.6**	**-1.1**
PSA00			IAmb	IAmb	09 39 31.4	
	comp=Z,4.2nm,1.2s					
QSPA	**South Pole Qui**	**71.85 180**	P	**P**	**09 40 16.9**	**+1.1**
NVAR	**Mina Array Bea**	**76.70 42**	P	**P**	**09 40 46.9**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=229,slow=11,SNR=3.8					
NVAR	**Mina Array Bea**	**76.70 42**	P	**P**	**09 40 44.1**	**-0.4**
TXAR	**Lajitas Array**	**82.54 56**	P	**P**	**09 41 18.2**	**+1.9**
	comp=Z,3.8nm,1.2s,baz=204,slow=2.7,SNR=5.2					
TXAR	**Lajitas Array**	**82.54 56**	P	**P**	**09 41 16.0**	**-0.3**
H03S2	**Juan Fernandez**	**84.03 124**	T	T	11 14 09.2	
	baz=252					
H03S1	**Juan Fernandez**	**84.05 124**	T	T	11 14 12.2	
	baz=252					
H03S3	**Juan Fernandez**	**84.05 124**	T	T	11 14 08.7	
	baz=252					
H03N2	**Juan Fernandez**	**84.15 123**	T	T	11 14 12.7	
	baz=257,slow=72,SNR=59					
H03N3	**Juan Fernandez**	**84.15 123**	T	T	11 14 18.2	
	baz=257,slow=72,SNR=37					
H03N1	**Juan Fernandez**	**84.16 123**	T	T	11 14 13.3	
	baz=257,slow=72,SNR=32					
SEY	**Seymchan**	**85.10 345**	P	**P**	**09 41 28.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=190,slow=12,SNR=8.8					
ILAR	**Eielson Array**	**85.27 11**	P	**P**	**09 41 29.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=218,slow=5.7,SNR=6.4					
YKA	**Yellowknife Ar**	**92.83 24**	P	**P**	**09 42 06.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=233,slow=4.5,SNR=6.0					
ARCES	**ARCESS Array B**	**127.31 352**	PKP	**PKPdf**	**09 47 57.6**	**+0.6**
	comp=Z,4.4nm,1.0s,baz=44,slow=2.7,SNR=4.3					
CLL	**Collm**	**146.53 352**	*i* PKPbc	**PKPab**	**09 48 35.5**	**+0.3**
	comp=Z,12nm,1.2s					
CLL			*ex*	x	09 48 50.0	

*JMA **29** 09:45:32.3±0.4,27.°11N×125.°62E,h207km,M3.5*
*IDC **29** 09:45:57.9±26.0,27.°07N×125.°25E,h500km±392km, mb2.6/5,mb1 2.8/5,mb1mx2.6/36,mbtmp3.5/5,Error ellipse: s-maj=194.1km s-min=29.8km az=57.0*

ISC 29 09:45:32.2±0.9,27.°09N±0.°08×125.°67E±0.°06,h208km±9km, n26,σ1°63/41,mb3.4/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.26**	**127**	P	**Pn**	**09 46 05.6**	**+1.0**
JAGN	**Aguni-jima**	**1.49**	**109**	P	**Pn**	**09 46 07.5**	**+1.0**
JAGN				*e*S	**S**	**09 46 33.1**	**+0.3**
JIH	**Iheya**	**2.05**	**91**	P	**Pn**	**09 46 12.7**	**+0.9**
JIH				S	**S**	**09 46 41.1**	**-1.1**
JJT3	**Tamagusuku3**	**2.12**	**116**	P	**Pn**	**09 46 14.2**	**+1.7**
JJT3				*e*S	**S**	**09 46 44.2**	**+0.8**
JNTH	**Nagotoyohara**	**2.18**	**105**	P	**Pn**	**09 46 14.2**	**+1.1**
JNTH				S	**S**	**09 46 43.4**	**-1.1**
JJRB	**Irabujima**	**2.30**	**191**	*e*S	**S**	**09 46 45.7**	**-1.2**
JOGS	**Gusukube**	**2.33**	**186**	*e*S	**S**	**09 46 47.9**	**+0.3**
JOW	**Kunigami**	**2.34**	**96**	P	**Pn**	**09 46 15.6**	**+0.7**
JOW				S	**S**	**09 46 45.6**	**-2.0**
JMJ2	**Miyako jima3**	**2.36**	**188**	*e*S	**S**	**09 46 47.8**	**-0.3**
JYRO	**Yoronjima**	**2.48**	**91**	P	**Pn**	**09 46 16.9**	**+0.5**
JYRO				S	**S**	**09 46 48.2**	**-2.1**
JTJ	**Tarama**	**2.59**	**200**	P	**Pn**	**09 46 18.2**	**+0.6**
JTJ				*e*S	**S**	**09 46 51.0**	**-1.6**
JOKE	**Okinoerabujima**	**2.60**	**83**	P	**Pn**	**09 46 18.0**	**+0.3**
JOKE				S	**S**	**09 46 50.6**	**-2.1**
JISG	**Ishigakijimahi**	**2.78**	**206**	P	**Pn**	**09 46 20.2**	**+0.5**
JISG				*e*S	**S**	**09 46 55.7**	**-0.7**
JTK	**Tokunoshima**	**3.00**	**76**	P	**Pn**	**09 46 22.1**	**-0.1**
JTK				S	**S**	**09 46 58.4**	**-2.4**
JIJ	**Ishigaki jima**	**3.05**	**207**	P	**Pn**	**09 46 22.7**	**-0.1**
JIJ				S	**S**	**09 46 58.9**	**-3.0**
IRIF	**Iriomote-Funau**	**3.25**	**213**	P	**Pn**	**09 46 23.9**	**-1.4**
IRIF				S	**S**	**09 47 02.9**	**-3.4**
JAMN	**Amaminishikomi**	**3.31**	**69**	P	**Pn**	**09 46 25.7**	**-0.2**
JAM	**Amami Oshima**	**3.73**	**68**	P	**Pn**	**09 46 30.8**	**-0.1**
JAM				*e*S	**S**	**09 47 14.5**	**-2.0**
JZK	**Kikaishima**	**4.01**	**71**	*e*S	**S**	**09 47 21.3**	**-1.4**
JMZ	**Minamidaito 2**	**5.14**	**103**	P	**Pn**	**09 46 49.3**	**+0.8**
JMZ				*e*S	**S**	**09 47 44.9**	**-3.6**
JKDJ	**Kitadaitoujima**	**5.17**	**101**	P	**Pn**	**09 46 49.8**	**+0.8**
JKDJ				S	**S**	**09 47 46.0**	**-3.2**
SONM	**Songino Array**	**25.61**	**329**	P	**P**	**09 50 45.6**	**+3.1**
	0.4nm,0.5s,baz=144,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**39.25**	**312**	P	**P**	**09 52 40.3**	**-0.3**
	0.6nm,0.5s,baz=99,slow=9.5,SNR=7.8						
ZALV	**Zalesovo Beam**	**40.18**	**323**	P	**P**	**09 52 47.5**	**-0.5**
	0.9nm,0.6s,baz=108,slow=9.3,SNR=2.1						
WRA	**Warramunga Arr**	**47.51**	**169**	P	**P**	**09 53 46.8**	**+0.1**
	0.6nm,0.8s,baz=351,slow=8.1,SNR=5.9						
ASAR	**Alice Springs**	**51.09**	**170**	P	**P**	**09 54 14.5**	**+0.8**
	0.2nm,0.5s,baz=357,slow=7.4,SNR=8.2						

ISC 29 09:56:34.3±1.4,48.°95N±0.°07×18.°11E±0.°06,h10km,n5, σ0°31/6,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.30**	**252**	*e*PG	**Pg**	**09 56 40.6**	**+0.2**
KOLL	**Kolacno**	**0.42**	**153**	*e*PG	**Pb**	**09 56 43.5**	**-0.3**
VYHS	**Vyhne**	**0.67**	**133**	*e*PG	**Pg**	**09 56 47.4**	**+0.2**
MORC	**Moravsky Berou**	**0.90**	**336**	*e*PG	**Pg**	**09 56 51.8**	**+0.1**
VRAC	**Vranov**	**1.06**	**290**	*e*PG	**Pg**	**09 56 54.6**	**0.0**
VRAC				*e*SG	**Sn**	**09 57 10.3**	**+0.3**

HEL 29 09:57:47.6±0.6,60.°98N×29.°02E,h0km,ML1.7, Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.84**	**239**	PG	Pg	09 58 02.6	-1.1
	baz=62						
VJF				SB	Sg	09 58 14.6	0.0
FIA0	**FINESS Array S**	**1.50**	**289**	PG	Pn	09 58 13.6	-2.1
PVF	**Pernaja**	**1.61**	**256**	PN	Pn	09 58 16.9	-0.3
PVF				MSG		09 58 35.8	
	comp=Z,6.5nm,0.2s						
PVF				SN	Sg	09 58 39.9	+0.7
KAF	**Kangasniemi**	**1.73**	**312**	PG	Pn	09 58 18.8	-0.1
KAF				SN	Sn	09 58 41.6	0.0
ARBE	**Arbavere**	**2.16**	**226**	SG	Sg	09 58 57.2	+0.2
NUR	**Nurmijrvi**	**2.20**	**260**	PG	Pn	09 58 25.5	+0.2
NUR				SG	Sg	09 58 58.6	+0.5
SUF	**Sumiainen**	**2.21**	**323**	PG	Pn	09 58 27.0	+1.4
	baz=142						
SUF				MSG		09 58 53.2	
	comp=Z,3.3nm,0.2s						
SUF				SG	Sb	09 58 56.5	+0.1
KEF	**Keuruu**	**2.31**	**303**	PG	Pn	09 58 28.4	+1.5
KEF				MSG		09 58 56.0	
	comp=Z,1.6nm,0.2s						
KEF				SG	Sb	09 58 59.1	-0.2
MEF	**Metsahovi**	**2.40**	**254**	PG	Pb	09 58 30.9	-0.8
MEF				MSG		09 58 58.6	
	comp=Z,3.0nm,0.2s						
VAF	**Ylistaro**	**3.64**	**307**	PG	Pb	09 58 54.3	+1.6
OBF0	**Syolatti, Pyha**	**4.16**	**330**	SG	Sb	09 59 53.4	+1.1
OUL	**Oulu**	**4.36**	**342**	PG	Pb	09 59 03.3	-1.7

*IDC **29** 09:58:20.6±4.2,64.°55N×33.°18E,h0km,mb1 3.0/4, mb1mx2.9/47,mbtmp3.0/4,ML2.3/3,Error ellipse: s-maj=58.1km s-min=12.2km az=113.0*
*HEL **29** 09:58:26.1±0.1,64.°67N×30.°85E,h0km,ML1.9,Explosion*
*KOLA **29** 09:58:26.3,64.°64N×30.°63E,h0km,ML2.2*

ISC 29 09:58:26.9±1.0,64.74N±0.°03×30.°30E±0.°06,h0km,n15, σ1°36/26,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.55**	**197**	*e*P	**Pg**	**09 58 37.0**	**-0.3**
RMF				*e*S	**Sg**	**09 58 44.8**	**+0.4**
RMF				MSG		09 58 46.3	
	comp=Z,18nm,0.1s						
MSF	**Maaselka**	**1.29**	**336**	*e*P	**Pb**	**09 58 52.0**	**0.0**
MSF				*e*S	**Sn**	**09 59 11.2**	**+1.1**
MSF				MSG		09 59 15.3	
	comp=Z,12nm,0.1s						
KU6	**Riekki**	**1.30**	**353**	*e*P	**Pg**	**09 58 51.5**	**-0.3**
KU6				*e*S	**Sb**	**09 59 10.0**	**+0.5**
OLKF	**Oulanka, Finla**	**1.63**	**347**	*e*P	**Pb**	**09 58 57.5**	**-0.3**
OLKF				*e*S	**Sg**	**09 59 20.1**	**+0.8**
OUF	**Merijarvi**	**2.43**	**264**	SB	**Sg**	**09 59 44.5**	**-0.5**
OUF	**Merijarvi**	**2.43**	**264**	*e*P	**Pb**	**09 59 11.2**	**-0.2**
OUF				*e*SB	**Sg**	**09 59 44.3**	**-0.6**
OUF				MSG		09 59 51.1	
	comp=Z,5.5nm,0.1s						
TOF	**Tornio**	**2.84**	**301**	*e*P	**Pn**	**09 59 15.0**	**+1.6**
TOF				*e*SB	**Sg**	**09 59 57.9**	**0.0**
VRF	**Varrio**	**3.04**	**355**	*e*P	**Pn**	**09 59 16.8**	**+0.7**
VRF				*e*S	**Sn**	**09 59 53.8**	**+0.7**
APA0	**Apatity Array**	**3.08**	**20**	S	**Sn**	**09 59 54.8**	**+0.6**
FINES	**FINESS Array B**	**3.82**	**212**	Pn	**Pn**	**09 59 28.5**	**+1.6**
	baz=39,slow=16,SNR=1.4						
FINES				Sn	**Sb**	**10 00 20.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=36,slow=26,SNR=1.8						
FINES				Lg	Lg	10 00 43.4	
	comp=Z,0.4nm,0.3s,baz=79,slow=21,SNR=3.0						
PRVG	**Vayda Guba**	**5.08**	**7**	P	**Pn**	**09 59 43.2**	**-1.0**
PRVG				S	**Sn**	**10 00 40.3**	**-3.1**
ARCES	**ARCESS Array B**	**5.17**	**341**	Pn	**Pn**	**09 59 45.7**	**+0.4**
	baz=151,slow=13,SNR=22						
ARCES				Sn	**Sn**	**10 00 42.8**	**-2.8**
	baz=151,slow=23,SNR=1.6						
ARCES				Lg	Lg	10 01 06.9	
	baz=155,slow=29,SNR=9.8						
ARCES	**ARCESS Array B**	**5.17**	**341**	P	**Pn**	**09 59 45.8**	**+0.4**
ARCES				S	**Sn**	**10 00 45.3**	**-0.2**
HFS	**Hagfors**	**8.96**	**247**	Pn	**Pn**	**10 00 40.4**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=45,slow=39,SNR=0.8						
HFS				Sn	**Sn**	**10 02 17.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=22,slow=39,SNR=2.6						
NOA	**NORSAR Array B**	**9.45**	**256**	Pn	Pn	10 00 49.8	+5.7
	comp=Z,0.0nm,0.3s,baz=55,slow=9.2,SNR=1.2						

TAP 29 10:19:15.8,24.°27N×121.°67E,h5km,ML1.2,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.08**	**57**	*e*P	Pg	10 19 18.3	+0.8
	baz=60						
ETL	**Fush Village**	**0.12**	**202**	P	Pg	10 19 19.0	+0.8
ETL	baz=201			S	Sg	10 19 21.3	+1.5
	baz=201						
NACB	**Ninganchiao**	**0.12**	**217**	*i* P	Pg	10 19 18.9	+0.7
	baz=216						
NACB				*i* S	Sg	10 19 21.1	+1.3
	baz=216						
ENA	**Nanau**	**0.17**	**22**	*i* P	Pg	10 19 20.2	+1.0
	baz=24						
ENA				S	Sg	10 19 23.1	+1.6
	baz=24						
ETLH	**Xiulin Townshi**	**0.18**	**251**	P	Pg	10 19 20.5	+1.1
	baz=250						
ETLH				*i* S	Sg	10 19 23.9	+2.1
	baz=250						
TWD	**Chiawan**	**0.20**	**200**	S	Sg	10 19 24.3	+2.0
	baz=198						
EWUT	**Wuta**	**0.20**	**29**	P	Pg	10 19 20.6	+0.9
	baz=29						
EWUT				S	Sg	10 19 24.5	+2.1
	baz=29						
LATG	**Datong**	**0.30**	**334**	P	Pb	10 19 22.8	-0.9
	baz=333						
LATG				*e*S	Sb	10 19 28.1	-0.9
	baz=333						
NNSB	**Datong**	**0.31**	**301**	P	Pb	10 19 23.2	-0.7
	baz=301						
NNSB				*e*S	Sg	10 19 27.0	+1.1
	baz=301						
NNS	**Nan Shan**	**0.32**	**302**	P	Pg	10 19 23.0	+1.0
	baz=302						
NNS				*e*S	Sb	10 19 28.5	-1.2
	baz=302						
NDT	**Datong Townshi**	**0.36**	**337**	P	Pb	10 19 24.1	-0.6
	baz=336						
NDT				*e*S	Sb	10 19 30.5	-0.3
	baz=336						
NDS	**Dongshan**	**0.37**	**6**	*i* P	Pb	10 19 24.3	-0.5
	baz=6.0						
NDS				S	Sb	10 19 30.1	-0.8
	baz=6.0						
ENTT	**Nioudou**	**0.38**	**346**	P	Pb	10 19 24.7	-0.4
	baz=346						
ENTT				S	Sb	10 19 30.8	-0.6
	baz=346						
WHF	**Hehuan Shan**	**0.39**	**252**	P	Pb	10 19 24.6	-0.9
	baz=251						
WHF				S	Sb	10 19 31.1	-0.8
	baz=251						
YHNB	**Yeheng**	**0.48**	**326**	*e*P	Pb	10 19 27.0	+0.2
	baz=326						
YHNB				S	Sb	10 19 34.2	0.0
	baz=326						
FUSB	**Fushanzhiwuyua**	**0.49**	**351**	P	Pb	10 19 26.9	-0.1
	baz=351						
FUSB				*e*S	Sb	10 19 35.3	+0.7
	baz=351						
CHGB	**Renai**	**0.50**	**246**	P	Pb	10 19 26.9	-0.3
	baz=245						
CHGB				S	Sb	10 19 34.8	-0.1
	baz=245						
NWLT	**Wulai**	**0.53**	**343**	*e*P	Pb	10 19 28.2	+0.6
	baz=343						
NWLT				S	Sb	10 19 35.8	+0.2
	baz=343						
WUSB	**Renai**	**0.58**	**242**	P	Pb	10 19 28.3	-0.1
	baz=241						
WUSB				*e*S	Sb	10 19 36.8	-0.1
	baz=241						
SSLB	**Suanglung**	**0.81**	**234**	*i* P	Pb	10 19 32.3	-0.1
	baz=233						
SSLB				S	Sb	10 19 44.6	+1.0
	baz=233						

*NEIC **29** 10:19:44.5±1.5,36.°01N±0.°02×97.°59W±0.°02,h5km±7km, Error ellipse: s-maj=2.4km s-min=2.3km az=192.0*
*TUL **29** 10:19:44.7±1.9,35.°99N±0.°02×97.°57W±0.°02,h6km±6km, ML4.0,mb3.8/8(NEIC),mb_Lg3.8/128(NEIC), Mwr3.6/21(NEIC),Error ellipse: s-maj=2.3km s-min=2.1km az=190.0*
*NEIC **29** 10:19:44.7,35.°99N×97.°57W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.76; $M_{\theta\theta}$1.45; $M_{\phi\phi}$-0.70; $M_{r\theta}$-1.61; $M_{\theta\phi}$2.02; $M_{\phi r}$0.80; Fault plane solution: $M_0$2.98000×10^{14} NP1:ϕ_s199.05000°, δ52.06000°,λ-164.41000°. NP2:ϕ_s99.31000°,δ77.76000°, λ-38.99000°. Principal axes: T 2.9514, Plg17.0000°, Azm154.0000°; N 0.0592, Plg49.0000°, Azm265.0000°; P -3.0106, Plg36.0000°, Azm52.0000°;*
*IDC **29** 10:19:46.5±0.9,36.°16N×97.°97W,h0km,mb3.4/2, mb1 3.8/7,mb1mx3.6/60,mbtmp3.5/7,ML3.2/4 Error ellipse: s-maj=12.1km s-min=10.3km az=137.0*
*ANF **29** 10:19:46.1±1.6,36.°03N×97.°59W,h23km±17km,ML4.9/16, Error ellipse: s-maj=3.2km s-min=2.6km az=132.0*

ISC 29 10:19:44.7±0.5,36.°00N±0.°04×97.°55W±0.°04,h10km,n200, σ1°24/208,mb3.6/4,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.43**	**166**		**Pg**	**10 19 53.3**	**+0.1**
OK009					Sg	**10 19 59.5**	**+0.6**

OK005	**Luther M Schoo**	**0.45**	**140**	Pg	**Pg**	**10 19 53.9**	**+0.3**
OK001	**Jones High Sch**	**0.49**	**154**	Pg	**Pg**	**10 19 54.4**	**+0.1**
OKCFA	**Oklahoma City**	**0.59**	**172**	Pg	**Pg**	**10 19 56.0**	**-0.1**
OKCFA				IAmb_Lg		10 20 04.3	
	comp=Z,1μm,1.0s						
OKCSW	**OKLAHOMA CITY**	**0.60**	**171**	Pg	**Pg**	**10 19 56.2**	**-0.1**
OKCSW				Sg	**Sg**	**10 20 04.7**	**+0.4**
FNO	**Franklin**	**0.75**	**171**	Pg	**Pg**	**10 19 59.0**	**-0.3**
U32A	**Winter Ranch,**	**1.23**	**288**	Pg	**Pn**	**10 20 07.4**	**-0.7**
T35A	**Sooner Cattle**	**1.24**	**42**	Pg	**Pb**	**10 20 08.2**	**0.0**
X34A	**Smith Ranch, M**	**1.42**	**190**	Pn	**Pn**	**10 20 11.1**	**+0.6**
X34A				IAmb_Lg		10 20 28.7	
	comp=Z,460nm,1.2s						
TUL1	**Leonard**	**1.43**	**93**	Pn	**Pn**	**10 20 10.8**	**+0.1**
TUL1				IAmb_Lg		10 20 31.5	
	comp=Z,440nm,0.8s						
TUL1	**Leonard**	**1.43**	**93**	P	**Pn**	**10 20 10.8**	**+0.1**
	baz=274,SNR=180						
TUL1				S	**Sn**	**10 20 30.6**	**+1.1**
	baz=274						
WMOK	**Wichita Mounta**	**1.61**	**219**		**Pn**	**10 20 13.6**	**+0.3**
WMOK	**Wichita Mounta**	**1.61**	**219**	P	**Pn**	**10 20 13.5**	**+0.3**
	baz=37,SNR=531						
WMOK				S	**Sn**	**10 20 35.2**	**+1.0**
	baz=37						
X37A	**Clayton**	**2.27**	**128**		**Pn**	**10 20 23.7**	**+1.4**
X37A				IAmb_Lg		10 21 03.4	
	comp=Z,462nm,0.9s						
R32A	**Long Quarter,**	**2.59**	**339**		**Pn**	**10 20 27.9**	**+1.3**
Z35A	**Perchaven, San**	**2.68**	**175**		**Pn**	**10 20 28.5**	**+0.7**
Z35A				IAmb_Lg		10 21 16.7	
	comp=Z,229nm,1.0s						
HHAR	**Hobbs**	**2.93**	**84**	Pn	**Pn**	**10 20 32.2**	**+0.8**
W39A	**Magazine**	**3.17**	**104**		**Pn**	**10 20 36.0**	**+1.3**
W39A				IAmb_Lg		10 21 28.2	
	comp=Z,380nm,0.8s						
W39A	**Magazine**	**3.17**	**104**	P	**Pn**	**10 20 35.8**	**+1.2**
	baz=286,SNR=15						
W39A				S	**Sn**	**10 21 14.2**	**+1.6**
	baz=286						
KSU1	**Kansas State U**	**3.18**	**13**	Pn	**Pn**	**10 20 35.8**	**+1.1**
KSU1	**Kansas State U**	**3.18**	**13**	P	**Pn**	**10 20 35.9**	**+1.1**
	baz=194,SNR=14						
CBKS	**Cedar Bluff**	**3.30**	**329**	Pn	**Pn**	**10 20 37.9**	**+1.4**
CBKS				IAmb_Lg		10 21 37.4	
	comp=Z,320nm,0.7s						
CBKS	**Cedar Bluff**	**3.30**	**329**	P	**Pn**	**10 20 37.0**	**+0.5**
	baz=148,SNR=15						
Z38A	**Mt. Pleasant**	**3.46**	**142**	Pn	**Pn**	**10 20 39.2**	**+0.7**
Z38A				IAmb_Lg		10 21 38.6	
	comp=Z,192nm,1.0s						
AMTX	**Amarillo**	**3.55**	**253**	Pn	**Pn**	**10 20 41.0**	**+1.0**
AMTX				IAmb_Lg		10 21 37.1	
	comp=Z,218nm,0.7s						
AMTX	**Amarillo**	**3.55**	**253**	P	**Pn**	**10 20 40.8**	**+0.8**
	baz=70						
S39A	**Bolivar**	**3.79**	**62**	Pn	**Pn**	**10 20 44.1**	**+1.1**
S39A				IAmb_Lg		10 21 55.5	
	comp=Z,190nm,0.8s						
ABTX	**Abilene, Hawle**	**3.79**	**208**		**Pn**	**10 20 43.7**	**+0.5**
ABTX				IAmb_Lg		10 21 43.1	
	comp=Z,210nm,0.7s						
ABTX	**Abilene, Hawle**	**3.79**	**208**	P	**Pn**	**10 20 43.3**	**+0.1**
	baz=26,SNR=108						
U40A	**Yellville**	**3.81**	**83**		**Pn**	**10 20 43.1**	**-0.4**
U40A				IAmb_Lg		10 21 47.6	
	comp=Z,348nm,0.9s						
U40A	**Yellville**	**3.81**	**83**	P	**Pn**	**10 20 43.8**	**+0.3**
	baz=266,SNR=17						
WHTX	**Lake Whitney,**	**4.00**	**179**		**Pn**	**10 20 45.8**	**-0.3**
WHTX	**Lake Whitney,**	**4.00**	**179**	P	**Pn**	**10 20 46.8**	**+0.7**
	baz=358						
X40A	**Basin Creek Fa**	**4.14**	**110**		**Pn**	**10 20 48.2**	**+0.2**
X40A				IAmb_Lg		10 22 07.5	
	comp=Z,330nm,0.9s						
X40A	**Basin Creek Fa**	**4.14**	**110**	P	**Pn**	**10 20 49.1**	**+1.1**
	baz=293,SNR=5.9						
237A	**Washetta, Mont**	**4.25**	**160**		**Pn**	**10 20 49.3**	**-0.1**
237A				IAmb_Lg		10 22 07.4	
	comp=Z,157nm,1.0s						
WLAR	**White Oak Lake**	**4.32**	**121**		**Pn**	**10 20 51.2**	**+0.8**
WLAR				IAmb_Lg		10 22 12.4	
	comp=Z,179nm,0.8s						
WHAR	**Wooly Hollow**	**4.34**	**98**		**Pn**	**10 20 51.5**	**+0.8**
WHAR				IAmb_Lg		10 22 01.0	
	comp=Z,225nm,0.7s						
W41B	**Gary Mavity, V**	**4.40**	**99**		**Pn**	**10 20 52.0**	**+0.5**
W41B				IAmb_Lg		10 22 05.6	
	comp=Z,266nm,0.8s						
W41B	**Gary Mavity, V**	**4.40**	**99**	P	**Pn**	**10 20 52.2**	**+0.7**
	baz=282						
W41B				S	**Sn**	**10 21 43.7**	**+0.9**
	baz=282						
MGMO	**Mountain Grove**	**4.40**	**73**		**Pn**	**10 20 52.8**	**+1.2**
MGMO				IAmb_Lg		10 22 16.2	
	comp=Z,266nm,0.8s						
N33A	**J Bar K, Exete**	**4.73**	**1**	Pn	**Pn**	**10 20 55.8**	**-0.2**
N33A				IAmb_Lg		10 22 27.2	
	comp=Z,351nm,0.9s						
MSTX	**Muleshoe**	**4.74**	**246**	Pn	**Pn**	**10 20 56.3**	**0.0**
MSTX				IAmb_Lg		10 22 18.5	
	comp=Z,137nm,1.0s						
MSTX	**Muleshoe**	**4.74**	**246**	P	**Pn**	**10 20 56.2**	**-0.1**
	baz=63,SNR=8.9						
Z41A	**Richland Creek**	**4.78**	**124**	Pn	**Pn**	**10 20 57.2**	**+0.5**
Z41A				IAmb_Lg		10 22 29.3	
	comp=Z,153nm,0.9s						
Z41A	**Richland Creek**	**4.78**	**124**	P	**Pn**	**10 20 57.1**	**+0.5**
	baz=306						
Z41A				S	**Sn**	**10 21 52.2**	**+0.1**
	baz=306						
R40A	**Maddies Statio**	**4.80**	**60**		**Pn**	**10 20 58.0**	**+1.1**

HKT Hockley 6.21 166 Pn Pn 10 21 15.6 -0.7
342A Flagon Creek P 6.34 135 Pn Pn 10 21 16.2 -2.0
441A DeRidder 6.38 144 Pn Pn 10 21 18.1 -0.7
SDCO Great Sand Dun 6.61 288 Pn 10 21 23.7 +1.6
SDCO IAmb_Lg 10 23 21.7
comp=Z,80nm,0.9s
SDCO Great Sand Dun 6.61 288 P Pn 10 21 22.3 +0.2
baz=103,SNR=9.7
Q24A Divide 6.73 298 Pn Pn 10 21 23.9 +0.1
Q24A IAmb_Lg 10 23 21.6
comp=Z,106nm,0.7s
Q24A Divide 6.73 298 P Pn 10 21 23.8 +0.1
baz=114
SCIA State Center 6.79 28 10 21 24.1 -0.3
SCIA State Center 6.79 28 P Pn 10 21 24.6 +0.3
baz=211,SNR=5.9
OXF Oxford 6.82 100 Pn Pn 10 21 24.5 -0.3
OXF IAmb_Lg 10 23 22.6
comp=Z,178nm,0.9s
OXF Oxford 6.82 100 P Pn 10 21 25.1 +0.3
baz=285
OXF S Sn 10 22 42.6 +0.1
baz=285
S44A Carbondale 6.86 73 Pn Pn 10 21 26.6 +1.3
W45A Hickory Valley 6.87 95 Pn Pn 10 21 27.1 +1.7
W45A IAmb_Lg 10 23 40.0
comp=Z,218nm,0.8s
SIUC Southern Illin 6.89 73 Pn 10 21 25.8 0.0
Y45A Yeager Farm, C 6.91 106 Pn Pn 10 21 25.9 -0.1
Y45A IAmb_Lg 10 23 32.0
comp=Z,114nm,0.9s
VBMS Vicksburg 6.95 121 IAmb_Lg 10 23 40.2
comp=Z,100nm,1.1s
N41A Harden Midland 7.05 46 Pn 10 21 29.3 +1.4
735A Kenedy 7.13 182 Pn Pn 10 21 29.0 -0.1
735A IAmb_Lg 10 23 46.5
comp=Z,111nm,0.7s
344A Westbrook Farm 7.27 127 Pn Pn 10 21 29.8 -1.2
P43A Skaggs, Pawnee 7.32 58 Pn 10 21 32.0 +0.4
P43A IAmb_Lg 10 23 45.5
comp=Z,185nm,0.8s
ANMO Albuquerque 7.34 264 Pn Pn 10 21 31.9 -0.3
comp=Z,0.1nm,0.3s,baz=83,slow=18,SNR=1.8
ANMO Pg Pb 10 21 55.0 +2.7
comp=Z,0.9nm,0.3s,baz=85,slow=18,SNR=9.5
ANMO Lg Lg 10 23 30.0
comp=Z,4.9nm,0.3s,baz=8.2,slow=23,SNR=5.5
Q44A Meyer Farm, Va 7.38 64 Pn 10 21 33.7 +1.3
Q44A IAmb_Lg 10 23 46.5
comp=Z,204nm,1.1s
ISCO Idaho Springs 7.42 303 Pn 10 21 33.1 -0.1
ISCO IAmb_Lg 10 23 48.3
comp=Z,86nm,0.9s
ISCO Idaho Springs 7.42 303 P Pn 10 21 33.0 -0.3
baz=118,SNR=18
K38A Parkersburg 7.60 28 Pn 10 21 34.9 -0.5
BNM Barren Site 7.67 259 Pn Pn 10 21 36.8 +0.1
ECSD EROS Data Cent 7.75 5 Pn 10 21 37.4 -0.2
ECSD IAmb_Lg 10 24 05.1
comp=Z,107nm,1.1s
ECSD EROS Data Cent 7.75 5 P Pn 10 21 37.1 -0.5
baz=186,SNR=14
146A Union 7.79 113 Pn Pn 10 21 38.0 0.0
146A IAmb_Lg 10 24 13.3
comp=Z,133nm,1.1s
PLAL Pickwick Lake 7.79 95 Pn Pn 10 21 37.7 -0.5
PLAL IAmb_Lg 10 24 00.3
comp=Z,97nm,1.0s
L40A Anamosa 7.80 37 Pn 10 21 37.9 -0.3
L40A IAmb_Lg 10 24 13.7
comp=Z,102nm,0.7s
MNTX Cornudas Mount 7.80 239 Pn Pn 10 21 38.6 +0.4
MNTX Cornudas Mount 7.80 239 P Pn 10 21 38.3 0.0
baz=54,SNR=12
833A Chaparral WMA, 7.81 192 Pn Pn 10 21 37.8 -0.7
833A IAmb_Lg 10 23 59.9
comp=Z,124nm,1.0s
833A Chaparral WMA, 7.81 192 P Pn 10 21 38.6 +0.2
baz=11
WVT Waverly 7.87 86 Pn Pn 10 21 38.9 -0.3
WVT IAmb_Lg 10 24 10.7
comp=Z,63nm,0.8s
HDIL Hopedale 7.92 53 Pn 10 21 39.7 -0.2
HDIL Hopedale 7.92 53 P Pn 10 21 39.7 -0.2
baz=238,SNR=27
Y22D IRIS PASSCAL I 7.92 259 IAmb_Lg 10 24 02.5
comp=Z,130nm,0.8s
PHWY Pilot Hill 8.14 313 Pn 10 21 43.3 +0.2
USIN University of 8.15 73 IAmb_Lg 10 24 16.4
comp=Z,147nm,0.8s
N23A Red Feather La 8.20 309 Pn Pn 10 21 44.5 +0.6
N23A IAmb_Lg 10 24 15.4
comp=Z,118nm,0.8s
N23A Red Feather La 8.20 309 P Pn 10 21 43.8 -0.1
baz=124,SNR=10
O44A Mansfield 8.27 57 Pn 10 21 45.1 +0.5
O44A IAmb_Lg 10 24 11.1
comp=Z,143nm,0.8s
TX31 Lajitas Ar. Si 8.41 220 Pn 10 21 46.9 +0.1
TX32 Lajitas Array 8.41 220 Pn 10 21 46.0 -0.7
TXAR Lajitas Array 8.41 219 Pn Pn 10 21 46.7 -0.1
TXAR Pg Pb 10 22 09.0 -1.5
comp=Z,0.4nm,0.3s,baz=42,slow=18,SNR=27
TXAR Lg Lg 10 24 05.2
comp=Z,1.5nm,0.3s,baz=43,slow=16,SNR=7.7
T47A Sharon Grove 8.47 80 Pn 10 21 47.3 -0.1
SUSD Miller 8.50 353 IAmb_Lg 10 24 30.0
comp=Z,164nm,1.1s
L42A Oliver, Polo 8.57 43 Pn 10 21 48.7 -0.1
L42A IAmb_Lg 10 24 34.9
comp=Z,83nm,0.8s
I37A Lemond, Waseca 8.61 20 Pn Pn 10 21 48.9 -0.4
JFWS Jewell Farm 8.91 37 Pn 10 21 53.0 -0.5
JFWS IAmb_Lg 10 24 38.4
comp=Z,114nm,0.8s
JFWS Jewell Farm 8.91 37 P Pn 10 21 52.6 -0.8
baz=222,SNR=11
P46A Rosedale 8.94 63 Pn Pn 10 21 53.0 -0.9
M44A Midewin, Midew 9.17 51 Pn Pn 10 21 57.0 +0.1
LRAL Lakeview Retre 9.20 106 Pn Pn 10 21 57.6 +0.3
BLO Bloomington 9.30 67 Pn 10 21 56.9 -2.0
SFIN Lafayette 9.31 59 Pn Pn 10 21 58.6 -0.3
SFIN Lafayette 9.31 59 P Pn 10 21 59.1 +0.1
baz=245,SNR=5.1
I40A Norwalk 9.50 32 Pn Pn 10 22 01.0 -0.5
I40A IAmb_Lg 10 24 58.7
comp=Z,67nm,0.8s
RSSD Black Hills 9.51 330 Pn Pn 10 22 02.4 +0.6
RSSD IAmb_Lg 10 25 00.7
comp=Z,59nm,1.0s
RSSD Black Hills 9.51 330 P Pn 10 22 02.5 +0.7
baz=147
U49A Red Boiling Sp 9.52 83 Pn Pn 10 22 04.4 +2.6
K22A Casper 9.61 316 Pn 10 22 03.6 +0.5
K22A Casper 9.61 316 P Pn 10 22 03.5 +0.3
baz=131
L44A Lake County Fo 9.70 48 Pn 10 22 03.5 -0.7
L44A Lake County Fo 9.70 48 P Pn 10 22 03.8 -0.4
baz=234
K43A Burlington 9.78 44 Pn 10 22 05.2 -0.1
K43A IAmb_Lg 10 25 06.4
comp=Z,98nm,0.8s
F33A 5 Mile Ranch, 9.87 5 Pn 10 22 05.6 -1.0
F33A IAmb_Lg 10 25 06.1
comp=Z,70nm,0.9s
SPMN Marine on St. 9.89 20 Pn 10 22 05.6 -1.3
SPMN IAmb_Lg 10 24 58.5
comp=Z,94nm,1.0s
SPMN Marine on St. 9.89 20 P Pn 10 22 06.1 -0.7
baz=203
R49A Shelbyville 10.14 73 Pn Pn 10 22 10.9 +0.6
250A Grady 10.19 110 Pn Pn 10 22 10.3 -0.7
P48A Milroy 10.20 67 Pn Pn 10 22 10.5 -0.7
T50A Nancy 10.28 81 Pn Pn 10 22 12.4 +0.1
I42A Draeger Farm, 10.29 37 Pn 10 22 11.8 -0.5
F36A Milaca 10.31 16 Pn Pn 10 22 10.7 -1.9
N47A Urbana 10.49 59 Pn Pn 10 22 14.1 -1.0
CPCT Cooper Cave 10.61 89 Pn Pn 10 22 17.4 +0.7
L46A Eue Claire 10.61 52 Pn 10 22 16.0 -0.7
O48B Farmland 10.64 63 P Pn 10 22 14.8 -2.4
baz=250
V51A Loudon 10.71 87 Pn Pn 10 22 17.8 -0.3
P49A Miami Univ. Ec 10.75 67 P Pn 10 22 17.7 -1.0
baz=255

G40A Rib Lake 10.80 29 Pn Pn 10 22 18.2 -1.1
E28A Huff 10.82 348 Pn Pn 10 22 18.8 -0.9
TKL Tuckaleechee C 11.19 88 Pn Pn 10 22 31.4 +6.8
comp=Z,0.4nm,0.3s,baz=276,slow=18,SNR=4.6
TKL Sn Sn 10 24 38.7 +8.8
comp=Z,0.6nm,0.3s,baz=227,slow=19,SNR=2.0
TKL Lg Lg 10 25 32.4
comp=Z,4.0nm,0.3s,baz=3.0,slow=19,SNR=13
O49A Covington 11.22 64 Pn Pn 10 22 24.7 -0.4
H43A Windswept, Lux 11.28 38 Pn Pn 10 22 24.3 -1.5
S51A Beattyville 11.31 78 Pn 10 22 27.0 +0.7
TZTN Tazewell 11.32 83 Pn Pn 10 22 25.2 -1.3
V52A Sevierville 11.32 87 Pn Pn 10 22 25.0 -1.4
PD31 Pinedale Array 11.48 310 Pn 10 22 28.4 -0.5
PDAR Pinedale Array 11.48 310 Pn Pn 10 22 27.8 -1.1
comp=Z,0.5nm,0.3s,baz=127,slow=15,SNR=13
PDAR Lg Lg 10 25 32.6
comp=Z,0.5nm,0.3s,baz=102,slow=29,SNR=2.1
PDAR Pinedale Array 11.48 310 Pn Pn 10 22 28.3 -0.5
N49A Columbus Grove 11.57 61 Pn Pn 10 22 28.8 -1.1
L48A N Adams 11.80 56 Pn 10 22 31.5 -1.6
F42A Maple Grove Fa 12.06 33 Pn 10 22 35.8 -0.8
J47A Sunmer 12.18 50 Pn Pn 10 22 37.0 -1.2
AGMN Agassiz Nation 12.35 5 Pn Pn 10 22 38.1 -2.4
AGMN Agassiz Nation 12.35 5 P Pn 10 22 38.1 -2.4
baz=186
Q52A Bidwell 12.49 72 Pn Pn 10 22 43.3 +0.8
LAO LASA Array 12.50 331 Pn 10 22 41.4 -1.1
LAO LASA Array 12.50 331 P Pn 10 22 40.8 -1.8
baz=146
M50A Fremont 12.54 60 Pn Pn 10 22 41.6 -1.6
EYMN Ely 12.75 19 Pn Pn 10 22 43.0 -3.0
EYMN Ely 12.75 19 P Pn 10 22 42.9 -3.0
baz=203
G45A Suttons Bay 12.77 41 Pn Pn 10 22 44.0 -2.2
N51A Ashland 12.86 63 Pn Pn 10 22 48.1 +0.6
D41A Chassel 12.92 29 Pn Pn 10 22 45.5 -2.8
E43A Lone Tree Farm 13.04 34 Pn Pn 10 22 46.8 -3.2
GLMI Grayling 13.20 44 Pn Pn 10 22 49.8 -2.3
GLMI Grayling 13.20 44 P Pn 10 22 49.9 -2.3
baz=233
P53A Whipple 13.25 70 Pn Pn 10 22 51.3 -1.5
DGMT Dagmar 13.39 341 Pn Pn 10 22 54.2 -0.5
M52A Chesterland 13.78 61 Pn Pn 10 22 57.9 -2.2
ULM Lac du Bonnet 14.29 4 Pn Pn 10 23 02.5 -4.4
comp=Z,0.6nm,0.3s,baz=173,slow=12,SNR=3.6
ULM Sn Sn 10 25 33.2 -12
comp=Z,1.1nm,0.3s,baz=209,slow=19,SNR=4.4
ULM Lg Lg 10 27 03.8
baz=102,slow=20,SNR=1.3
ULM Lac du Bonnet 14.29 4 Pn 10 23 05.2 -1.8
T57A Hurt 14.75 81 Pn Pn 10 23 12.6 -0.7
S57A Dark Hollow, R 14.99 78 Pn Pn 10 23 13.9 -2.7
EGMT Eagleton 15.03 327 Pn 10 23 15.9 -1.2
HRY Holter Researc 15.12 319 Pn Pn 10 23 15.4 -3.0
L56A Greenwood 16.67 62 Pn Pn 10 23 36.4 -2.0
L56A IAmb IAmb 10 23 37.5
comp=Z,7.1nm,0.8s
F10A Beach Ranch, E 17.84 310 P Pn 10 23 52.7 -0.4
FFC Flin Flon 18.97 352 P P 10 24 06.8 +0.8
NCB Newcomb 19.52 59 P P 10 24 10.9 -1.2
NCB IAmb IAmb 10 24 13.5
comp=Z,6.1nm,0.8s
FCC Fort Churchill 22.88 5 P P 10 24 48.2 +0.1
FCC IAmb IAmb 10 24 55.1
comp=Z,2.4nm,0.8s
YKA Yellowknife Ar 28.57 343 P P 10 25 41.0 +0.5
comp=Z,0.2nm,0.6s,baz=147,slow=8.7,SNR=5.9
ILAR Eielson Array 40.96 330 P P 10 27 29.4 +2.2
comp=Z,0.4nm,0.6s,baz=106,slow=6.9,SNR=9.7
I21K Tanana 43.15 330 P P 10 27 46.0 +1.0
I21K IAmb IAmb 10 28 08.4
comp=Z,2.5nm,1.1s

JMA 29 10:20:03.8±0.1, 24°.25N×123°.82E, h14km±1km, M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.12	316	P	Pg	10 20 07.1	-0.1
IRIF				S	Sg	10 20 09.5	+0.1
JKRS	Kuro-shima	0.17	94	P	Pg	10 20 08.0	+0.1
JKRS				S	Sg	10 20 11.4	+0.7
HATJ	Hateruma jima	0.19	184	P	Pg	10 20 08.1	-0.1
HATJ				eS	Sg	10 20 11.5	+0.3
JIJ	Ishigaki jima	0.32	69	P	Pg	10 20 10.3	0.0
JIJ				S	Sg	10 20 14.7	0.0
JISG	Ishigakijimahi	0.56	53	P	Pg	10 20 14.8	0.0
JTJ	Tarama	0.89	64	P	Pb	10 20 20.9	-0.2
JTJ				S	Sb	10 20 33.4	+0.5

*IDC **29** 10:23:01.9±0.6, 2°.31N×125°.74E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/55, mbtmp3.9/14, MS3.3/1, Ms1 3.3/1, ms1mx2.4/72, Error ellipse: s-maj=43.2km s-min=11.6km az=79.0*
*DJA **29** 10:23:09.9±0.3, 2°.N±2°×12°.6E±°, h10km, M4.3/12, mb4.7/4, mB4.9/3, MLv4.0/12, Mw(mB)4.2/3*
*NEIC **29** 10:23:09.9±1.5, 2°.39N±0°.09×126°.09E±0°.05, h59km±9km, mb4.0/20, Error ellipse: s-maj=14.8km s-min=5.3km az=204.0*

ISC 29 10:23:09.0±0.5, 2°.37N±0°.05×126°.16E±0°.07, h50km, n48, σ2s03/49, mb4.0/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.45	334	P	Pn	10 23 36.0	+3.1
SGSI				S	Sn	10 23 54.7	+3.9
TNTI	Ternate	2.00	143	Pn	Pn	10 23 43.0	+2.7
TNTI	Ternate	2.00	143	P	Pn	10 23 43.7	+3.4
KMSI	Cibinong	2.81	231	P	Pn	10 23 54.7	+3.2
LBMI	Labuha	3.27	156	P	Pn	10 24 00.8	+2.9
GTOI	Gorontalo	3.58	241	P	Pn	10 24 05.2	+3.1
SANI	Sanana	4.39	182	P	Pn	10 24 14.8	+1.6
MRSI	Marisa	4.61	246	P	Pn	10 24 20.6	+4.3
LUWI	Luwuk	4.79	225	Pn	Pn	10 24 18.5	-0.2
TOLI2	Tolitoli	5.51	257		Pn	10 24 30.1	+1.4
APSI	Ampana	5.56	234	P	Pn	10 24 36.3	+7.0
	0.4nm868nm102nm,0.7s						
MPSI	Mapaga	6.57	252	P	Pn	10 24 45.9	+2.7
	0.1nm2µm34nm,0.7s						
KNRA	Kununurra	18.11	172	P	P	10 27 17.3	+0.3
FITZ	Fitzroy Crossi	20.34	181	P	P	10 27 41.1	-0.2
	0.6nm,0.4s,baz=14,slow=9.2,SNR=1.9						
FITZ	Fitzroy Crossi	20.34	181	IAmb	IAmb	10 28 04.7	
	comp=Z,6.8nm,1.4s						
YULB	Yu-li	21.42	348	P	P	10 27 50.5	-2.5
YULB				IAmb	IAmb	10 28 13.4	
	comp=Z,21nm,1.4s						
TPUB	Ta-pu	21.49	346	P	P	10 27 51.9	-1.7
COEN	Coen	23.41	134	P	P	10 28 13.6	-0.1
COEN				IAmb	IAmb	10 28 35.6	
	comp=Z,3.6nm,1.0s						
WB0	Warramunga Arr	23.44	160	P	P	10 28 13.8	-0.3
WB0				IAmb	IAmb	10 28 36.9	
	comp=Z,4.7nm,1.0s						
WRAB	Tennant Creek	23.58	160	P	P	10 28 15.1	-0.2
WRAB				IAmb	IAmb	10 28 15.9	
	comp=Z,4.4nm,0.5s						
WRA	Warramunga Arr	23.58	160	P	P	10 28 15.1	-0.3
	comp=Z,2.0nm,0.4s,baz=340,slow=10,SNR=59						
WRA				S	S	10 32 22.4	-3.9
	comp=Z,0.3nm,0.7s,baz=327,slow=20,SNR=2.2						
WRA	Warramunga Arr	23.58	160	P	P	10 28 14.1	-1.3
WB2	Warramunga Arr	23.59	160	P	P	10 28 15.1	-0.4
WB2				IAmb	IAmb	10 28 16.0	
	comp=Z,3.6nm,0.7s						
WR0	Warramunga Arr	23.67	160	P	P	10 28 16.0	-0.2
WR0				IAmb	IAmb	10 28 18.3	
	comp=Z,8.5nm,1.4s						
AS31	Alice Springs	26.95	164	P	P	10 28 46.4	+0.3
AS31				IAmb	IAmb	10 28 51.7	
	comp=Z,1.1nm,0.4s						
ASAR	Alice Springs	26.95	164	P	P	10 28 45.9	-0.2
	comp=Z,1.6nm,0.5s,baz=345,slow=7.8,SNR=67						
ASAR				PcP	PcP	10 32 07.1	0.0
	comp=Z,0.5nm,0.6s,baz=338,slow=2.2,SNR=2.9						
ASAR				S	S	10 33 26.0	+6.0
	comp=Z,0.4nm,0.7s,baz=337,slow=18,SNR=3.8						
ASAR				LR	LR	10 40 31.4	
	comp=Z,60nm,18.3s,baz=214,slow=39						
FORT	Forrest	33.01	177	P	P	10 29 39.8	+0.3
KSRS	Korea Array	34.95	2	P	P	10 29 57.6	+1.4
	comp=Z,1.0nm,0.7s,baz=187,slow=9.6,SNR=4.1						
BBOO	Buckleboo	36.22	166	P	P	10 30 07.4	+0.2
STKA	Stephens Creek	37.08	158	P	P	10 30 14.7	+0.1
	comp=Z,2.3nm,0.7s,baz=309,slow=7.6,SNR=7.5						
STKA	Stephens Creek	37.08	158	IAmb	IAmb	10 30 16.1	
	comp=Z,0.9nm,0.9s						
USRK	Ussuriysk Ar.	41.98	6	P	P	10 30 56.3	+1.1
	comp=Z,1.0nm,0.6s,baz=191,slow=5.9,SNR=8.0						
ASAJ	Asahikawa	44.05	17	P	P	10 31 13.1	+1.1
	comp=Z,3.7nm,0.8s,baz=195,slow=20,SNR=2.3						
KLR	Kul'dur	46.93	5	P	P	10 31 35.0	+0.4
	comp=Z,0.9nm,0.4s,baz=184,slow=10,SNR=4.6						
SONM	Songino Array	48.40	342	P	P	10 31 44.9	-1.3
	comp=Z,0.4nm,0.5s,baz=154,slow=8.4,SNR=2.4						
SONM				PcP	PcP	10 33 11.3	-0.8
	comp=Z,0.4nm,0.5s,baz=162,slow=4.4,SNR=3.2						
MK31	Makanchi Array	58.35	326	P	P	10 32 58.0	-1.2
MKAR	Makanchi Array	58.35	326	P	P	10 32 57.9	-1.3
	comp=Z,0.8nm,0.4s,baz=122,slow=8.2,SNR=20						
MKAR				PcP	PcP	10 33 49.3	-0.4
	comp=Z,1.0nm,0.8s,baz=131,slow=4.5,SNR=6.2						
MKAR	Makanchi Array	58.35	326	P	P	10 32 57.3	-1.9
MA2	Magadan	60.16	14	P	P	10 33 13.1	+1.7
	comp=Z,0.8nm,0.3s,baz=167,slow=15,SNR=3.6						
KURK	Kurchatov	62.58	328	P	P	10 33 26.8	-1.1
KKAR	Karatay Array	63.84	318	P	P	10 33 35.4	-1.1
TIXI	Tiksi	69.20	1	P	P	10 34 09.6	-0.5
	comp=Z,1.0nm,0.3s,baz=101,slow=19,SNR=3.1						
TIXI	Tiksi	69.20	1	IAmb	IAmb	10 34 11.5	
	comp=Z,7.3nm,1.5s						
ABKAR	Akbulak array	72.84	321	P	P	10 34 31.6	-1.0
ILAR	Eielson Array	86.57	25	P	P	10 35 46.2	-0.4
	comp=Z,0.2nm,0.6s,baz=251,slow=5.5,SNR=5.7						
AKASG	Malin Array Be	92.58	321	P	P	10 36 13.6	-1.6
	comp=Z,0.7nm,0.5s,baz=64,slow=6.3,SNR=2.7						
AKASG	Malin Array Be	92.58	321	IAmb	IAmb	10 36 16.4	
	comp=Z,1.8nm,1.5s						
TORD	Torodi Ar. Bea	122.78	287	PKP	PKPdf	10 41 59.8	-0.7
	comp=Z,0.1nm,0.3s,baz=94,slow=2.2,SNR=1.5						

*IDC **29** 10:26:11.0±1.4, 6°.19S×149°.09E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.7/52, mbtmp3.9/7, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/56, Error ellipse: s-maj=56.4km s-min=20.2km az=130.0*

ISC 29 10:26:16.7±1.1, 6°.3S±0°.3×149°.3E±0°.3, h49km, n9, σ1s22/9, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.36	53	Pn	Pn	10 27 07.7	+1.0
	22nm,0.3s,baz=144,slow=2.0,SNR=1.8						
KRVT				Sn	Sn	10 27 43.2	-2.2
	baz=180,slow=19,SNR=1.0						
PMG	Port Moresby	3.73	215	Pn	Pn	10 27 11.3	-0.5
	18nm,0.3s,baz=22,slow=5.2,SNR=42						
PMG				Sn	Sn	10 27 54.9	+0.4
	16nm,0.3s,baz=53,slow=13,SNR=7.8						
PMG				LR	LR	10 28 28.8	
	comp=Z,47nm,21.8s,baz=53,slow=37						
CTA	Charters Tower	13.99	192	LR	LR	10 34 04.9	
	comp=Z,71nm,20.3s,baz=77,slow=34						
WRA	Warramunga Arr	19.87	226	P	P	10 30 43.2	-0.9
	0.4nm,0.3s,baz=51,slow=11,SNR=29						
ASAR	Alice Springs	22.73	219	P	P	10 31 14.3	-0.6
	0.7nm,0.4s,baz=54,slow=9.4,SNR=18						
FITZ	Fitzroy Crossi	25.89	241	P	P	10 31 43.8	-0.5
	4.5nm,0.7s,baz=63,slow=9.8,SNR=13						
STKA	Stephens Creek	26.41	195	P	P	10 31 49.9	+1.0
	0.9nm,0.8s,baz=30,slow=14,SNR=2.9						
KLR	Kul'dur	57.44	346	LR	LR	10 58 36.4	
	comp=Z,700nm,21.9s,baz=342,slow=34						
ILAR	Eielson Array	84.89	23	P	P	10 38 46.8	+0.7
	0.4nm,0.8s,baz=243,slow=6.0,SNR=4.0						

*NEIC **29** 10:26:50.6±0.6, 22°.41S±0°.08×174°.0W±0°.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=34.8km s-min=10.1km az=104.0*
*IDC **29** 10:26:52.2±19.0, 21°.78S×174°.65W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/49, mbtmp4.0/5, Error ellipse: s-maj=353.0km s-min=154.9km az=79.0*

ISC 29 10:26:52.9±5.1, 22°.4S±0°.6×174°.0W±0°.8, h31km, n18, σ0s72/16, mb4.3/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.69	14	Pn	Pn	10 28 56.4	-0.2
EIDS	Eidsvold	32.04	258	P	P	10 33 16.4	-0.5
EIDS				IAmb	IAmb	10 33 37.0	
	comp=Z,9.1nm,1.4s						
CTA	Charters Tower	37.08	266	P	P	10 34 00.6	+0.1
	comp=Z,3.4nm,0.3s,baz=99,slow=8.7,SNR=8.6						
CTAO	Charters Tower	37.08	266	P	P	10 34 01.0	+0.5
CTAO				IAmb	IAmb	10 34 25.5	
	comp=Z,6.4nm,1.1s						
STKA	Stephens Creek	40.42	247	P	P	10 34 28.2	-0.3
	comp=Z,0.6nm,0.5s,baz=90,slow=11,SNR=1.7						
BBOO	Buckleboo	45.13	245	P	P	10 35 05.9	-0.8
AS31	Alice Springs	47.77	258	P	P	10 35 27.1	-0.4
ASAR	Alice Springs	47.77	258	P	P	10 35 26.8	-0.7
	comp=Z,1.0nm,0.6s,baz=95,slow=7.3,SNR=16						
WR0	Warramunga Arr	47.89	263	P	P	10 35 27.8	-0.6
WR0				IAmb	IAmb	10 35 48.3	
	comp=Z,2.8nm,1.2s						
WB0	Warramunga Arr	48.06	263	P	P	10 35 29.3	-0.6
WB0				IAmb	IAmb	10 35 43.9	
	comp=Z,4.8nm,1.4s						
WB2	Warramunga Arr	48.07	263	P	P	10 35 29.3	-0.5
WB2				IAmb	IAmb	10 35 40.5	
	comp=Z,4.0nm,1.2s						
WRAB	Tennant Creek	48.07	263	P	P	10 35 29.2	-0.7
WRAB				IAmb	IAmb	10 35 58.1	
	comp=Z,6.3nm,1.4s						
WRA	Warramunga Arr	48.08	263	P	P	10 35 29.2	-0.8
	comp=Z,1.2nm,0.4s,baz=94,slow=8.3,SNR=56						
WRA	Warramunga Arr	48.08	263	IAmb	IAmb	10 35 29.8	
	comp=Z,0.1nm,0.6s						
FORT	Forrest	52.03	248	P	P	10 35 59.7	0.0
KNRA	Kununurra	54.29	266	P	P	10 36 17.6	+1.1
FITZ	Fitzroy Crossi	56.51	263	P	P	10 36 33.8	+1.3
	comp=Z,0.5nm,0.4s,baz=100,slow=6.1,SNR=1.9						
FITZ	Fitzroy Crossi	56.51	263	IAmb	IAmb	10 37 01.1	
	comp=Z,2.6nm,1.0s						

*MOS **29** 10:32:06.7±0.9, 77°.80N×20°.29E, h13km, mb5.3/44, MS4.8/27, Error ellipse: s-maj=21.5km s-min=3.4km az=92.3*
*IDC **29** 10:32:06.4±0.3, 77°.83N×20°.50E, h0km, mb4.7/43, mb1 4.8/47, mb1mx4.7/53, mbtmp4.7/47, ML4.4/4, MS4.5/73, Ms1 4.5/73, ms1mx4.5/87, Error ellipse: s-maj=7.6km s-min=4.8km az=33.0*
*NEIC **29** 10:32:07.8±1.5, 77°.79N±0°.06×20°.4E±0°.3, h10km±1km, mb5.1/348, Error ellipse: s-maj=13.1km s-min=7.0km az=220.0*
*NAO **29** 10:32:07.6±1.4, 77°.85N×21°.11E, h12km±11km, ML5.3*
*IEPN **29** 10:32:07.0, 77°.85N×21°.02E, h10km*
*KOLA **29** 10:32:08.8, 77°.66N×20°.80E, h0km, ML4.4*
*GCMT **29** 10:32:10.8±0.2, 77°.82N±0°.01×20°.96E±0°.04, h20km, MW5.2/133, Moment Tensor Solution. s51,c68; s133,c233; Duration: 0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.23±.02; Mθθ0.83±.02; Mϕϕ-0.59±.01; Mrθ0.11±.03; Mθϕ0.02±.01; Mϕr0.04±.03; Best double couple: M₀0.72000×10¹⁷ NP1:ϕs134.00000°, δ81.00000°, λ-1.00000°. NP2:ϕs224.00000°, δ89.00000°, λ-171.00000°. Principal axes: T 0.8390, Plg6.0000°, Azm359.0000°; N -0.2380, Plg81.0000°, Azm228.0000°; P -0.6010, Plg6.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BER **29** 10:32:10.7±1.4, 77°.83N×21°.00E, h15km±11km, mb5.0, ML5.2, MW5.1, Confirmed Earthquake*
*DNK **29** 10:32:13.8±5.0, 77°.99N×20°.82E, h59km±42km, mb4.9*

ISC 29 10:32:08.6±0.4, 77°.80N±0°.02×20°.69E±0°.02, h12km±2km, h11km:pP-P, n1165, σ1s81/1189, mb5.1/326, MS4.7/107, 84C-63D, Svalbard region

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

SPB2	Spitsbergen Ar	0.98	295	Pg		Pg	10 32 27.3	0.0	
SPA0	Spitsbergen Ar	0.98	295	Pn		Pb	10 32 27.8	+0.3	
	baz=118,slow=22								
SPA0				Lg		Lg	10 32 40.6		
	baz=105								
SPA0	Spitsbergen Ar	0.98	295⇓	*eP*		Pb	10 32 27.7	+0.2	
SPA0	Spitsbergen Ar	0.98	295⇓	*iP*		Pb	10 32 27.6	+0.2	
SPA0				*iS*		Sb	10 32 40.6	+0.2	
SPITS	Spitsbergen Ar	0.98	295	Pg		Pg	10 32 24.2	-3.2	
	baz=123,slow=17,SNR=7794								
SPITS				Lg		Lg	10 32 37.9		
	baz=114,slow=21,SNR=6.2								
BRBA	Barentsburg A	1.39	284	Pn		Pn	10 32 33.9	+0.2	
BRBA				Lg		Lg	10 32 53.7		
BRBA	Barentsburg A	1.39	284⇓	*eP*		Pn	10 32 33.9	+0.2	
BRBA				*ePg*		Pg	10 32 35.9	+0.7	
BRBA				*eS*		Sn	10 32 51.4	-0.5	
BRBA				*eSg*		Sg	10 32 54.5	+1.4	
BRBA				IAML			10 32 55.3		
	comp=Z,66µm,0.6s								
HSPB	Hornsund (broa	1.39	237	*eP*		Pn	10 32 33.7	0.0	
HSPB				*eS*		Sg	10 32 54.0	+0.8	
HSPB	Hornsund (broa	1.39	237	Pn		Pn	10 32 33.8	0.0	
HSPB				Lg		Lg	10 32 53.7		
HSPB	Hornsund (broa	1.39	237⇓	*eP*		Pn	10 32 33.7	0.0	
HSPB				*ePg*		Pg	10 32 35.8	+0.6	
HSPB				*eS*		Sb	10 32 52.0	-0.1	
HSPB				*eSg*		Sg	10 32 54.4	+1.2	
HSPB				IAML			10 32 55.4		
	comp=Z,56µm,0.6s								
HSPB	Hornsund (broa	1.39	237⇓	*iP*		Pn	10 32 33.6	-0.1	
HSPB				*iS*		Sn	10 32 51.2	-0.7	
HOPEN	Hopen	1.62	141	Pn		Pn	10 32 36.1	-0.8	
HOPEN				Pg		Pb	10 32 38.4	+0.1	
HOPEN				Lg		Lg	10 32 59.5		
HOPEN	Hopen	1.62	141⇑	*eP*		Pn	10 32 36.0	-0.9	
HOPEN				*ePg*		Pb	10 32 38.8	+0.5	
HOPEN				*eSg*		Sg	10 33 00.0	-0.5	
HOPEN				IAML			10 33 03.5		
	comp=Z,53µm,0.4s								
HOPEN	Hopen	1.62	141⇑	*iP*		Pb	10 32 38.4	+0.1	
HOPEN				*iS*		Sb	10 32 59.3	+0.6	
KBS	Kingsbay	2.10	307	Pn		Pn	10 32 42.6	-1.0	
KBS				Pg		Pg	10 32 47.8	-1.0	
KBS				Lg		Lg	10 33 13.9		
KBS	Kingsbay	2.10	307	*ceP*		Pn	10 32 43.0	-0.5	
KBS				pmax		pmax			
	comp=Z,930nm,0.8s								
KBS	Kingsbay	2.10	307	*iP*		Pg	10 32 47.7	-1.1	
KBS				IAmb		IAmb	10 32 49.6		
	comp=Z,17µm,0.7s								
KBS	Kingsbay	2.10	307			Pn	10 32 42.8	-0.8	
KBS	Kingsbay	2.10	307	⇑P		Pn	10 32 42.5	-1.0	
KBS	Kingsbay	2.10	307⇓	*eP*		Pn	10 32 42.9	-0.6	
KBS				*ePg*		Pg	10 32 48.2	-0.6	
KBS				*eSg*		Sb	10 33 14.2	+1.7	
KBS				IAML			10 33 18.1		
	comp=Z,28µm,0.4s								
KBS	Kingsbay	2.10	307	*eP*		Pn	10 32 42.7	-0.8	
KBS				*eS*		Sn	10 33 08.1	-1.5	
BJO1	Bjornoya	3.35	188	Pn		Pn	10 33 00.3	-0.3	
BJO1				Pg		Pb	10 33 09.2	+1.5	
BJO1				Lg		Lg	10 33 51.0		
BJO1	Bjornoya	3.35	188	*eP*		Pn	10 33 00.1	-0.4	
BJO1				*ePg*		Pb	10 33 09.7	+2.0	
BJO1				*eSg*		Sb	10 33 51.2	+2.9	
BJO1				IAML			10 34 03.8		
	comp=Z,17µm,0.7s								
BJO1	Bjornoya	3.35	188	*eP*		Pn	10 33 00.4	-0.2	
BJO1				*eS*		Sn	10 33 41.2	+1.1	
ZFI	Zemlya Franca-	5.79	46⇑	*iP*		Pn	10 33 32.9	-1.2	
ZFI				*iS*		Sn	10 34 34.0	-6.4	
	comp=Z,15µm,1.0s								
ZFI2	Zemlya Franca-	5.79	46⇑	*iP*		Pn	10 33 33.0	-1.2	
ZFI2				*iS*		Sn	10 34 34.0	-6.4	
	comp=Z,14µm,0.9s								
HAMF	Hammerfest	7.25	172	Pn		Pn	10 33 52.0	-2.1	
HAMF	Hammerfest	7.25	172	*eP*		Pn	10 33 52.0	-2.1	
HAMF				*eS*		Sn	10 35 09.8	-6.4	
HAMF				IAML			10 36 17.7		
	comp=Z,2µm,0.7s								
NOR	Nord	7.54	317	Pn		Pn	10 33 58.5	+0.4	
NOR	Nord	7.54	317	*iP*		Pn	10 33 58.5	+0.4	
NOR				IAmb		IAmb	10 34 14.6		
	comp=Z,50nm,0.7s								
NOR	Nord	7.54	317	⇓P		Pn	10 33 58.1	+0.1	
NOR	Nord	7.54	317	*iP*		Pn	10 33 58.5	+0.4	
NOR				IAmb		IAmb	10 34 14.6		
	comp=Z,50nm,0.7s								
NOR				*e*			10 35 29.8		
TRO	Tromso	8.23	184	Pn		Pn	10 34 05.8	-1.7	
TRO	Tromso	8.23	184	*eP*		Pn	10 34 05.5	-2.1	
TRO				*eS*		Sn	10 35 29.6	-11	
TRO				*i*			10 36 58.4		
KEV	Kevo	8.27	165	P		Pn	10 34 06.1	-2.1	
KEV	Kevo	8.27	165	Pn		Pn	10 34 06.1	-2.1	
KEV	Kevo	8.27	165	⇑P		Pn	10 34 05.9	-2.3	
JETT	Jettan, Norway	8.29	181	Pn		Pn	10 34 06.9	-1.6	
JETT				*eS*		Sn	10 35 34.2	-7.8	
ARA0	ARCESS Array S	8.42	168	Pn		Pn	10 34 08.2	-2.0	
	baz=358,slow=11								
ARA0				Sn		Sn	10 35 36.0	-9.0	
	baz=355,slow=22								
ARA0	ARCESS Array S	8.42	168	Pn		Pn	10 34 08.2	-2.0	
	baz=358,slow=11								
ARA0				Sn		Sn	10 35 36.0	-9.0	
	baz=355,slow=22								
ARCES	ARCESS Array B	8.42	168	Pn		Pn	10 34 08.3	-1.8	
	baz=350,slow=12,SNR=239								
ARCES				Sn		Sn	10 35 36.2	-8.8	
	baz=346,slow=19,SNR=4.3								
ARCES				Lg		Lg	10 36 33.0		
	baz=341,slow=22,SNR=1.9								
ARCES				LR		LR	10 37 15.4		
	comp=Z,4µm,21.6s,baz=324,slow=36								
ARCES	ARCESS Array B	8.42	168	Pn		Pn	10 34 08.1	-2.0	
ARCES	ARCESS Array B	8.42	168	P		Pn	10 34 08.2	-2.0	
ARCES				S		Sn	10 35 36.1	-8.8	
DAG	Danmarks Havn	8.61	283	*iP*		Pn	10 34 13.6	+0.9	
DAG				IAmb		IAmb	10 34 22.6		
	comp=Z,118nm,0.6s								
DAG	Danmarks Havn	8.61	283	⇓P		Pn	10 34 12.6	-0.2	
DAG	Danmarks Havn	8.61	283	*iP*		Pn	10 34 13.6	+0.9	
DAG				IAmb		IAmb	10 34 22.6		
	comp=Z,118nm,0.6s								
PRVG	Vayda Guba	8.69	153	P		Pn	10 34 11.3	-2.5	
PRVG				S		Sn	10 35 43.4	-8.1	
KIF	Kilpisjarvi	8.85	180	Pn		Pn	10 34 14.2	-1.8	
KTK1	Kautokeino	8.87	174	*eP*		Pn	10 34 14.5	-1.9	
KTK1				*eS*		Sn	10 35 47.7	-8.3	
TERR	Teriberka	9.52	147	P		Pn	10 34 21.6	-3.6	
TERR				S		Sn	10 36 01.9	-10	
LOF	Lofoten	9.93	196	*eP*		Pn	10 34 29.5	-1.3	
LOF				*eS*		Sn	10 36 17.4	-4.7	
STEI	Steigen	10.05	192	*eP*		Pn	10 34 32.7	+0.3	
STEI				*eS*		Sn	10 36 12.2	-13	
JMIC	Jan Mayen	10.27	244	Pn		Pn	10 34 40.7	+5.3	
	baz=315,slow=4.3,SNR=2.8								
JMIC				LR		LR	10 37 31.4		
	comp=Z,2µm,20.5s,baz=76,slow=32								
JMIC	Jan Mayen	10.27	244	*eS*		Sn	10 36 15.6	-15	
DBG	Daneborg	10.27	271	Pn		Pn	10 34 36.2	+0.8	
DBG	Daneborg	10.27	271	*iP*		Pn	10 34 37.5	+2.1	
DBG				IAmb		IAmb	10 34 54.6		
	comp=Z,79nm,0.7s								
DBG	Daneborg	10.27	271	⇑P		Pn	10 34 36.0	+0.5	
DBG	Daneborg	10.27	271	*iP*		Pn	10 34 37.5	+2.1	
DBG				IAmb		IAmb	10 34 54.6		
	comp=Z,79nm,0.7s								
DBG				*e*			10 36 31.1		
SALU	Saltoluokta	10.50	185	*eP*		Pn	10 34 37.2	-1.5	
FAUS	Fauske	10.59	191	*eP*		Pn	10 34 40.5	+0.6	
FAUS				*eS*		Sn	10 36 32.7	-5.5	
N2ST	Straumen	10.61	191	*eP*		Pn	10 34 41.7	+1.5	
N2RO	R¸st	10.63	198	*eP*		Pn	10 34 38.4	-2.0	
N2RO				*eS*		Sn	10 36 32.9	-6.2	
LVZ	Lovozero	10.72	151	*iP*		Pn	10 34 39.4	-2.3	
LVZ				pmax		pmax			
	comp=Z,152nm,1.0s								
LVZ	Lovozero	10.72	151	Pn		Pn	10 34 39.0	-2.7	
LVZ	Lovozero	10.72	151	⇑P		Pn	10 34 38.8	-2.9	
LVZ	Lovozero	10.72	151	S		Sn	10 36 32.1	-9.3	
APA0	Apatity Array	10.84	154	Pn		Pn	10 34 39.9	-3.4	
	baz=348,slow=12								
APA0	Apatity Array	10.84	154	Pn		Pn	10 34 39.9	-3.4	
	baz=348,slow=12								
APA0	Apatity Array	10.84	154	P		Pn	10 34 39.2	-4.1	
APA0				S		Sn	10 36 32.9	-11	
APA	Apatity	10.91	154⇓	*iP*		Pn	10 34 39.5	-4.8	
APA				*i*			10 36 40.0		
APA					pmax	pmax			
	comp=Z,153nm,0.7s								
APA					MLR	MLR			
	comp=Z,8µm,12.0s								
APA	Apatity	10.91	154	P		Pn	10 34 41.0	-3.3	
APA				S		Sn	10 36 36.2	-10	
KONS	Konsvik	11.58	195	*eP*		Pn	10 34 52.9	-0.5	
KONS				*eS*		Sn	10 36 55.0	-7.4	
STOK	Stokkvaagen	11.75	195	*eP*		Pn	10 34 54.9	-0.9	
MOR8	Moi Rana	11.84	192	*eP*		Pn	10 34 56.2	-0.7	
SCO	Scoresbysund	13.38	260	P		Pn	10 35 13.7	-4.2	
SCO	Scoresbysund	13.38	260	*iP*		Pn	10 35 22.7	+4.8	
SCO				IAmb		IAmb	10 35 38.3		
	comp=Z,19nm,0.8s								
SCO	Scoresbysund	13.38	260	Pn		Pn	10 35 13.7	-4.2	
SCO	Scoresbysund	13.38	260	⇑P		Pn	10 35 21.1	+3.2	
SCO	Scoresbysund	13.38	260	*iP*		Pn	10 35 22.7	+4.8	
SCO				IAmb		IAmb	10 35 38.3		
	comp=Z,19nm,0.8s								
NSS	Namsos	13.61	196	*eP*		Pn	10 35 22.0	+1.0	
AMDE	Amderma	13.61	104⇑	*iP*		Pn	10 35 15.5	-5.6	
	comp=Z,97nm,0.6s								
AMDE				*eS*		Sn	10 37 37.5	-14	
NOD	Norderasen	14.55	190	*eP*		Pn	10 35 31.7	-2.2	
LSH	Leshukonskoye	15.01	136	*eP*		Pn	10 35 35.1	-5.1	
	comp=Z,178nm,0.6s								
LSH				*eS*		Sn	10 38 09.9	-16	
MOL	Molde	15.86	203	*eP*		Pn	10 35 53.1	+1.8	
DOMB	Dombas	16.27	200	*eP*		Pn	10 35 57.4	+0.8	
AKN	Aaknes	16.29	203	*eP*		P	10 35 60.0	+0.1	
FIA0	FINESS Array S	16.53	171	P		Pn	10 35 55.0	-4.8	
	baz=6.9,slow=16								
FIA0	FINESS Array S	16.53	171	P		Pn	10 35 55.0	-4.8	
	baz=6.9,slow=16								
FINES	FINESS Array B	16.53	171	Pn		Pn	10 35 55.4	-4.5	
	comp=Z,5.2nm,0.3s,baz=7.1,slow=12,SNR=101								
FINES				Sn		Sn	10 38 47.9	-15	
	comp=Z,5.2nm,0.3s,baz=13,slow=22,SNR=3.3								
FINES				Lg		Lg	10 40 46.6		
	comp=Z,3.4nm,0.3s,baz=350,slow=31,SNR=1.2								
FINES				LR		LR	10 42 21.2		
	comp=Z,2µm,19.1s,baz=352,slow=37								
VALR	Valaam	16.85	163	*iP*		Pn	10 36 01.9	-2.0	
NC204	NORSAR Array S	16.92	197	Pn		Pn	10 36 02.8	-2.0	
NC204				IAmb		IAmb	10 36 16.3		
	comp=Z,215nm,0.9s								
NC204	NORSAR Array S	16.92	197	*eP*		P	10 36 07.2	+0.4	
NC303	NORSAR Array S	16.93	196			Pn	10 36 03.1	-1.9	
NC303				IAmb		IAmb	10 36 12.8		
	comp=Z,164nm,0.9s								
NC405	NORSAR Array S	17.02	195			Pn	10 36 02.8	-3.4	
FOO	Floro	17.04	206	*eP*		P	10 36 07.7	-0.3	
NB201	NORSAR Array S	17.11	196			Pn	10 36 04.3	-3.0	
NB201				IAmb		IAmb	10 37 01.6		
	comp=Z,190nm,0.9s								
NB2	NORSAR Subarra	17.12	196	P		P	10 36 08.9	-0.2	
	baz=23,slow=12								
NB2	NORSAR Subarra	17.12	196	P		P	10 36 08.9	-0.2	
	baz=23,slow=12								
NOA	NORSAR Array B	17.12	196	P		Pn	10 36 06.9	-0.5	
	comp=Z,0.4nm,0.3s,baz=9.0,slow=12,SNR=35								
NOA				S		Sn	10 39 04.3	-13	
	baz=19,slow=12,SNR=1.6								
NOA				Lg		Lg	10 41 05.1		
	comp=Z,0.2nm,0.3s,baz=159,slow=20,SNR=3.3								
NOA				LR		LR	10 42 40.2		
	comp=Z,1µm,20.6s,baz=5.0,slow=37								
NAO01	NORSAR Array S	17.34	196	Pn		Pn	10 36 08.2	-1.9	
HYA	Hoyanger	17.36	204	*eP*		P	10 36 12.3	+0.7	
NC602	NORSAR Array S	17.41	195			Pn	10 36 10.6	-0.4	
NRA0	NORESS Array S	17.41	195	P		P	10 36 12.5	+0.3	
	baz=15,slow=14								
NRA0	NORESS Array S	17.41	195	P		P	10 36 12.5	+0.3	
	baz=15,slow=14								
SUE	Sulen	17.60	206	*eP*		P	10 36 15.5	+1.3	
SKAR	Skarslia	17.67	200	*eP*		Pn	10 36 14.7	+0.4	
HFS	Hagfors	17.91	191	P		Pn	10 36 16.2	-0.8	
	comp=Z,5.3nm,0.3s,baz=28,slow=6.5,SNR=29								
HFS				S		Sn	10 39 24.8	-11	
	baz=18,slow=41,SNR=1.9								
HFS				Lg		Lg	10 41 33.7		
	comp=Z,2.6nm,0.3s,baz=16,slow=21,SNR=1.8								
HFS				LR		LR	10 43 26.7		
	comp=Z,2µm,20.4s,baz=358,slow=38								
HFS	Hagfors	17.91	191	P		Pn	10 36 16.3	-0.7	
	baz=8.9,slow=7.4								
HFS	Hagfors	17.91	191	P		Pn	10 36 16.3	-0.7	
	baz=8.9,slow=7.4								
PRGR	Permogore	18.09	140	*eP*		Pn	10 36 16.4	-2.8	
PRGR				*e*			10 39 33.6		
PRGR					pmax	pmax			
	comp=Z,337nm,0.9s								
KLMR	Klimovskoe	18.09	149	*eP*		Pn	10 36 14.3	-5.0	
KLMR				*e*			10 39 30.8		
KLMR					pmax	pmax			
	comp=Z,91nm,0.8s								
KLMR	Klimovskoe	18.09	149	*eP*		Pn	10 36 14.3	-5.0	
	comp=Z,91nm,0.8s								
KLMR				*eS*		Sn	10 39 25.3	-15	
KLMR	Klimovskoe	18.09	149	*ePn*		Pn	10 36 14.3	-5.0	
KLMR				AMP			10 36 24.5		
	comp=Z,91nm,0.8s								
KLMR				*eSn*		Sn	10 39 30.9	-10	
KLMR				*eSn*		Sn	10 39 30.9	-10	
ASK	Askoy	18.12	205	*eP*		Pn	10 36 18.4	-1.3	
TULEG	Thule	18.13	311	*iP*		P	10 36 20.4	+0.4	
TULEG				IAmb		IAmb	10 36 32.0		
	comp=Z,36nm,0.7s								
TULEG	Thule	18.13	311	Pn		Pn	10 36 15.9	-3.8	
TULEG	Thule	18.13	311	⇓P		Pn	10 36 19.2	-0.5	
TULEG	Thule	18.13	311	*iP*		P	10 36 20.4	+0.4	
TULEG				IAmb		IAmb	10 36 32.0		
	comp=Z,36nm,0.7s								
ICESG	Greenland Ices	18.24	275	*iP*		P	10 36 22.6	+1.0	
ICESG				IAmb		IAmb	10 36 32.4		
	comp=Z,78nm,0.7s								
ICESG	Greenland Ices	18.24	275	*iP*		P	10 36 22.6	+1.0	
ICESG				IAmb		IAmb	10 36 32.4		
	comp=Z,78nm,0.7s								
OSL	Oslo	18.25	196	*eP*		P	10 36 21.9	+0.4	
PUL	Pulkovo	18.40	164	*ceP*		P	10 36 22.3	-0.7	
PUL					pmax	pmax			
	comp=Z,164nm,0.7s								
ODD1	Odda	18.57	203	*eP*		P	10 36 25.1	+0.1	
KONO	Kongsberg	18.61	198	*ceP*		P	10 36 25.3	-0.1	
KONO					pmax	pmax			
	comp=Z,185nm,1.3s								
KONO	Kongsberg	18.61	198	P		P	10 36 22.4	-3.0	
KONO				IAmb		IAmb	10 36 32.6		
	comp=Z,191nm,1.2s								
KONO	Kongsberg	18.61	198	⇑P		Pn	10 36 30.3	+4.7	
KONO	Kongsberg	18.61	198	*eP*		P	10 36 24.8	-0.6	
UPNV	Upernavik	18.70	295	*iP*		P	10 36 25.1	-1.1	
UPNV				IAmb		IAmb	10 36 38.6		
	comp=Z,48nm,0.6s								
UPNV	Upernavik	18.70	295	*iP*		P	10 36 25.1	-1.1	
UPNV				IAmb		IAmb	10 36 38.6		
	comp=Z,48nm,0.6s								
BLS5	Blasjo	19.06	203	*eP*		P	10 36 30.2	-0.2	
LRW	Lerwick	19.14	215	*eP*		Pn	10 36 32.8	+0.8	
MTSE	Matsula	19.21	175	*eP*		P	10 36 30.1	-1.9	
VIKU	Vikbolandet	19.44	186	*eP*		P	10 36 33.4	-1.0	
VSU	Vasula	19.54	170	*diP*		P	10 36 33.6	-1.9	
VSU	Vasula	19.54	170	*eP*		P	10 36 33.0	-2.6	
VSU	Vasula	19.54	170	⇑P		P	10 36 32.2	-3.3	
HOMB	Homborsund	20.05	199	*eP*		P	10 36 42.0	+0.8	
SNART	Snartemo	20.08	201	*eP*		P	10 36 39.2	-2.3	
SLIT	Slitere, Latvi	20.28	178	*eP*		P	10 36 43.8	+0.2	
SLIT	Slitere, Latvi	20.28	178	⇑P		P	10 36 44.1	+0.5	
ILULI	Ilulissat	20.54	285	P		P	10 36 43.5	-2.8	
ILULI					pmax	pmax			
	comp=Z,90nm,1.2s								
ILULI	Ilulissat	20.54	285	*iP*		P	10 36 46.0	-0.3	
ILULI				IAmb		IAmb	10 37 05.0		
	comp=Z,31nm,0.7s								
ILULI	Ilulissat	20.54	285	P		P	10 36 43.5	-2.8	
ILULI				IAmb		IAmb	10 36 57.8		
	comp=Z,90nm,1.2s								
ANGG	Ammassalik, Gr	20.73	267	*iP*		Pn	10 36 51.7	+0.9	
ANGG				IAmb		IAmb	10 36 57.1		
	comp=Z,19nm,0.6s								
ANGG	Ammassalik, Gr	20.73	267	P		P	10 36 45.1	-3.3	
ANGG	Ammassalik, Gr	20.73	267	*iP*		Pn	10 36 51.7	+0.9	
ANGG				IAmb		IAmb	10 36 57.1		
	comp=Z,19nm,0.6s								
ISOG	Isortoq, Green	21.07	268	*iP*		P	10 36 52.9	+0.9	
ISOG				IAmb		IAmb	10 36 59.1		
	comp=Z,48nm,0.8s								
ISOG	Isortoq, Green	21.07	268	⇑P		P	10 36 53.8	+1.7	
ISOG	Isortoq, Green	21.07	268	*iP*		P	10 36 52.9	+0.9	
ISOG				IAmb		IAmb	10 36 59.1		
	comp=Z,48nm,0.8s								
KIRV	Kirov	21.56	137	P		P	10 36 56.0	-1.4	
	comp=Z,110nm,0.6s,baz=350,slow=2.6,SNR=25								
KIRV				S		S	10 40 50.0	-5.7	
	comp=Z,48nm,0.8s,baz=86,slow=13,SNR=1.8								
KIRV				LR		LR	10 47 22.4		
	comp=Z,455nm,18.2s,baz=343,slow=42								
KIRV	Kirov	21.56	137	*diP*		P	10 36 56.4	-1.0	
DEL	Delary	21.56	190	*eP*		P	10 36 56.4	-1.0	
MUD	Monsted U'grnd	21.82	197	*iP*		P	10 37 00.8	+0.7	
MUD				IAmb		IAmb	10 37 04.3		
	comp=Z,64nm,1.0s								
MUD	Monsted U'grnd	21.82	197	⇑P		P	10 37 01.0	+0.8	
MUD	Monsted U'grnd	21.82	197	*iP*		P	10 37 00.8	+0.7	
MUD				IAmb		IAmb	10 37 04.3		
	comp=Z,64nm,1.0s								
DY2G	Dye2	21.82	276	*iP*		P	10 37 00.4	0.0	
DY2G				IAmb		IAmb	10 37 06.3		
	comp=Z,36nm,0.7s								
DY2G	Dye2	21.82	276	*iP*		P	10 37 00.4	0.0	
DY2G				IAmb		IAmb	10 37 06.3		
	comp=Z,36nm,0.7s								
PBUR	Paburge	21.88	178	*eP*		P	10 36 59.9	-1.0	
MCD	Coleburn Disti	21.89	216	*eP*		P	10 37 03.6	+2.7	
KAC	Achnashellach	22.23	219	*eP*		P	10 37 06.8	+2.2	
SFJD	Kangerlussuaq	22.29	281	P		P	10 37 04.4	-0.8	
	comp=Z,9.7nm,0.5s,baz=40,slow=8.2,SNR=9.8								
SFJD				S		S	10 41 06.0	-3.7	
	comp=Z,5.9nm,0.8s,baz=114,slow=20,SNR=1.5								
SFJD				LR		LR	10 46 09.3		
	comp=Z,949nm,21.1s,baz=26,slow=38								
SFJD	Kangerlussuaq	22.29	281	*iP*		P	10 37 04.6	-0.5	
SFJD				IAmb		IAmb	10 37 21.9		
	comp=Z,12nm,0.9s								
SFJD	Kangerlussuaq	22.29	281	P		P	10 37 01.5	-3.7	
SFJD	Kangerlussuaq	22.29	281	⇑P		P	10 37 05.4	+0.2	
SFJD	Kangerlussuaq	22.29	281	*iP*		P	10 37 04.6	-0.5	
SFJD				IAmb		IAmb	10 37 21.9		
	comp=Z,12nm,0.9s								
COP	Copenhagen	22.41	192	*iP*		P	10 37 09.3	+2.8	
COP				IAmb		IAmb	10 37 14.7		
	comp=Z,566nm,0.7s								
COP	Copenhagen	22.41	192	*iP*		P	10 37 09.3	+2.8	
COP				IAmb		IAmb	10 37 14.7		
	comp=Z,566nm,0.7s								
ISAL	Salakas	22.41	172	*eP*		P	10 37 05.6	-1.0	
PABE	Paberze	22.43	175	P		P	10 37 05.8	-0.9	
PABE	Paberze	22.43	175	*eP*		P	10 37 05.1	-1.7	
KPL	Plockton	22.43	219	*eP*		P	10 37 07.4	+0.6	
DRUM	Mains of Drumt	22.45	214	*eP*		P	10 37 09.4	+2.5	
IIGN	Ignalina	22.64	172	*eP*		P	10 37 08.2	-0.7	
IDID	Didziasalis	22.69	171	*eP*		P	10 37 08.5	-1.0	
LLD	Lille Linde	22.77	193	*iP*		P	10 37 16.6	+6.3	
LLD	Lille Linde	22.77	193	*iP*		P	10 37 16.6	+6.3	
BSD	Bornholm Skovb	22.88	189	*iP*		P	10 37 10.7	-0.9	
BSD				IAmb		IAmb	10 37 16.4		
	comp=Z,65nm,0.7s								
BSD	Bornholm Skovb	22.88	189	*eP*		P	10 37 10.2	-1.3	
BSD	Bornholm Skovb	22.88	189	⇑P		P	10 37 11.0	-0.5	
BSD	Bornholm Skovb	22.88	189	*iP*		P	10 37 10.7	-0.9	
BSD				IAmb		IAmb	10 37 16.4		
	comp=Z,65nm,0.7s								
MOS	Moscow	22.94	155	*eP*		P	10 37 09.5	-2.7	
MOS				*e*			10 37 34.8		
MOS				*eS*		S	10 41 20.7	-1.0	
MOS				

PGBU Glenifferbraes 23.77 217 *e*P **P** **10 37 21.1 +0.6**
PGBU IAmb IAmb 10 37 27.6
comp=Z,176nm,1.2s
SUW Suwalki 23.91 176 *e*P **P** **10 37 22.4 +0.7**
SUW Suwalki 23.91 176 P **P** **10 37 20.5 -1.3**
SUW pmax pmax
comp=Z,533nm,1.0s
SUW Suwalki 23.91 176 P **P** **10 37 20.5 -1.3**
SUW Suwalki 23.91 176 *e*P **P** **10 37 21.6 -0.2**
EKA Eskdalemuir Ar 24.07 215 P **P** **10 37 22.8 -0.5**
comp=Z,4.9nm,0.7s,baz=21,slow=8.4,SNR=14
NEWG New Galloway 24.41 216 *e*P **P** **10 37 27.2 +0.7**
NEWG IAmb IAmb 10 37 31.6
comp=Z,92nm,1.1s
EDMD Edmundbyers 24.43 213 *e*P **P** **10 37 27.2 +0.6**
EDMD IAmb IAmb 10 37 28.1
comp=Z,41nm,0.8s
GKP Gorka Klasztor 24.67 185 *e*P **P** **10 37 29.9 +1.1**
KESW Keswick, Cumbr 24.80 214 *e*P **P** **10 37 31.3 +1.4**
KESW IAmb IAmb 10 37 35.7
comp=Z,90nm,1.0s
SVE Sverdlovsk 25.06 124 *e*P **P** **10 37 34.3 +2.0**
SVE pmax pmax
comp=Z,85nm,1.0s
SVE MLR MLR
comp=Z,3μm,12.0s
TIXI Tiksi 25.07 45 P **P** **10 37 32.8 +0.6**
comp=Z,65nm,0.8s,baz=273,slow=23,SNR=238
TIXI LR LR 10 48 58.0
comp=Z,1μm,19.4s,baz=358,slow=40
TIXI Tiksi 25.07 45 P **P** **10 37 32.3 +0.1**
TIXI Tiksi 25.07 45 ⇑P **P** **10 37 32.8 +0.6**
ARU Arti 25.08 126 P **P** **10 37 33.5 +1.0**
comp=Z,3.0nm,0.4s,baz=296,slow=6.1,SNR=18
ARU S **S** **10 41 58.3 +2.1**
comp=Z,5.2nm,0.6s,baz=287,slow=19,SNR=1.2
ARU LR LR 10 48 14.1
comp=Z,3μm,21.6s,baz=332,slow=38
ARU Arti 25.08 126*c i*P **P** **10 37 33.9 +1.5**
ARU 10 38 07.2
ARU PPP PPP 10 38 17.1
ARU S **S** **10 42 01.3 +5.0**
ARU SS **SnSn** **10 42 54.9 +10**
ARU SSS SSS 10 43 09.3
ARU pmax pmax
comp=Z,12nm,0.6s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 25.08 126 P **P** **10 37 31.4 -1.1**
HPK Haverah Park 25.25 212 *e*P **P** **10 37 35.1 +1.2**
RUE Ruedersdorf 25.56 190 *e*P **P** **10 37 36.7 -0.1**
LMK Market Rasen 25.60 210 *e*P **P** **10 37 38.8 +1.6**
LBWR Ladybower, Pea 25.80 212 *e*P **P** **10 37 39.7 +0.7**
LBWR IAmb IAmb 10 37 44.6
comp=Z,100nm,0.8s
BEL Belsk 26.07 180 *e*P **P** **10 37 43.1 +1.6**
LPSR Galich'ya Gora 26.17 154 *e*P **P** **10 37 42.2 -0.1**
LPSR *e*S **S** **10 42 11.6 -1.9**
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR smax smax
comp=N,760nm,7.2s
LPSR MLR MLR
comp=Z,1μm,12.0s
NRS Narsarsuaq 26.32 269 P **P** **10 37 42.5 -1.1**
NRS pmax pmax
comp=Z,93nm,1.2s
NRS Narsarsuaq 26.32 269 P **P** **10 37 42.5 -1.1**
CLL Collm 26.76 191 P **P** **10 37 46.9 -0.8**
CLL pmax pmax
comp=Z,84nm,1.3s
CLL Collm 26.76 191 P **P** **10 37 46.9 -0.8**
CLL IAmb IAmb 10 38 39.8
comp=Z,84nm,1.3s
CLL Collm 26.76 191 *e*P **P** **10 37 48.0 +0.3**
CLL *ex* x 10 37 54.0
CLL *ex* x 10 38 21.0
CLL *e*PPP PPP 10 38 38.0
CLL *e*S **S** **10 42 29.0 +6.1**
CLL *e*SSS SSS 10 43 36.0
ELMS Elmsett, Ipswi 26.81 207 *e*P **P** **10 37 48.8 +0.6**
VORR Voronezh 27.11 154 *e*P **P** **10 37 54.3 +3.4**
VORR pmax pmax
comp=Z,120nm,0.4s
KSP Ksiaz 27.12 186 *e*P **P** **10 37 50.7 -0.2**
BRG Berggiesshubel 27.16 189 *e*P **P** **10 37 51.7 +0.4**
BRG Amp 10 37 56.7
comp=Z,16nm,1.0s
BRG *ex* x 10 38 03.0
BRG Amp 10 38 07.3
comp=Z,19nm,1.1s
BRG *ex* x 10 38 12.9
BRG Amp 10 38 19.5
comp=Z,15nm,0.7s
BRG *ex* x 10 38 30.4
BRG Amp 10 38 42.4
comp=Z,30nm,0.7s
BRG S **S** **10 42 33.0 +3.8**
BRG Amp 10 49 34.0
comp=N,1.6nm,10.5s
BRG Amp 10 49 37.0
comp=Z,2.1nm,8.5s
BRG Amp 10 49 37.0
comp=E,1.4nm,7.6s
BRG Berggiesshubel 27.16 189 *e*P **P** **10 37 51.7 +0.4**
BRG S **S** **10 42 33.0 +3.8**
BRG pmax pmax
comp=Z,16nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.1s
BRG pmax pmax
comp=Z,15nm,0.7s
BRG pmax pmax
comp=Z,30nm,0.7s
BRG smax smax
comp=N,2μm,10.5s
BRG MLR MLR
comp=Z,2μm,8.5s
BRG MLR MLR
comp=E,1μm,7.6s
CHVC Chvalec 27.38 186 *e*P **P** **10 37 58.0 +4.7**
CHVC AMS AMS 10 49 10.0
comp=E,1μm,9.7s
AKASG Malin Array Be 27.40 168 P **P** **10 37 52.1 -1.3**
comp=E,15nm,0.4s,baz=355,slow=9.5,SNR=40
AKASG S **S** **10 42 34.5 +1.6**
comp=E,2.4nm,0.6s,baz=354,slow=12,SNR=2.2
AKASG Lg Lg 10 46 29.3
comp=E,22nm,1.0s,baz=356,slow=28,SNR=2.6
AKASG LR LR 10 49 23.9
comp=E,2μm,18.4s,baz=4.0,slow=38
AKASG Malin Array Be 27.40 168 P **P** **10 37 52.1 -1.3**
AKASG IAmb IAmb 10 38 29.1
comp=Z,42nm,0.9s
AKBB Malin Array Si 27.40 168 P **P** **10 37 51.4 -2.0**
AKBB pmax pmax
comp=Z,120nm,1.1s
AKBB Malin Array Si 27.40 168 P **P** **10 37 51.4 -2.0**
OSTC Ostas 27.41 186 *e*P **P** **10 37 59.2 +5.6**
OSTC *e*S **S** **10 42 42.6 +9.4**
OSTC AMS AMS 10 49 40.0
comp=Z,2μm,10.0s
UPC Upice 27.46 186 *e*P **P** **10 37 58.9 +4.9**
UPC *e*S **S** **10 42 37.1 +3.1**
UPC MLR MLR
comp=Z,2μm,9.9s
UPC Upice 27.46 186 *e*P **P** **10 37 58.9 +4.9**
UPC *e*S **S** **10 42 37.1 +3.1**
UPC AMS AMS 10 49 40.0
comp=Z,2μm,9.9s
PVCC Panska Ves 27.48 188 *e*P **P** **10 37 58.3 +4.1**
PVCC MLR MLR
comp=Z,1μm,10.6s
PVCC Panska Ves 27.48 188 *e*P **P** **10 37 58.3 +4.1**
PVCC *ex* x 10 42 52.0
PVCC AMS AMS 10 49 30.0
comp=Z,1μm,10.6s
DPC Dobruska-Polom 27.61 186 *e*P **P** **10 37 55.7 +0.3**
DPC MLR MLR
comp=Z,2μm,9.1s
DPC Dobruska-Polom 27.61 186 *e*P **P** **10 37 55.7 +0.3**
DPC *ex* x 10 42 51.2
DPC AMS AMS 10 49 50.0
comp=Z,2μm,9.1s
BEBN Eben Emael 27.69 201 *d*P **P** **10 38 00.2 +4.2**

OJC Ojcow 27.70 181 P **P** **10 37 54.8 -1.3**
OJC pmax pmax
comp=Z,64nm,0.7s
OJC Ojcow 27.70 181 P **P** **10 37 54.8 -1.3**
VORD Divnogorie 27.82 154 *e*P **P** **10 37 55.8 -1.4**
VORD pmax pmax
comp=Z,20nm,0.5s
VRH Novokhopyorsk 27.82 151 *e*P **P** **10 37 54.4 -2.8**
VRH *e*S **S** **10 42 34.4 -5.2**
VRH pmax pmax
comp=Z,30nm,0.4s
VRH smax smax
comp=N,670nm,8.2s
VRH MLR MLR
comp=Z,3μm,11.0s
MEM Membach 27.85 200 *d*P **P** **10 38 01.5 +4.0**
NKC Novy Kostel 27.85 191 *e*P **P** **10 37 58.5 +0.9**
NKC MLR MLR
comp=Z,1μm,11.9s
NKC Novy Kostel 27.85 191 *e*P **P** **10 37 58.5 +0.9**
NKC *ex* x 10 42 58.7
NKC AMS AMS 10 50 20.0
comp=Z,1μm,11.9s
BTNL Ternell 27.86 200 *d*P **P** **10 38 01.8 +4.1**
KRLC Kraliky 27.88 185 AMS AMS 10 50 10.0
comp=Z,2μm,8.7s
PRU Pruhonice 28.02 188 *e*P **P** **10 37 59.9 +0.9**
PRU *e*S **S** **10 42 45.2 +2.4**
PRU MLR MLR
comp=Z,1μm,18.4s
PRU Pruhonice 28.02 188 *e*P **P** **10 37 59.9 +0.9**
PRU *e*S **S** **10 42 45.2 +2.4**
PRU AMS AMS 10 49 10.0
comp=Z,1μm,18.4s
BCLA Clavier 28.09 201 *d*P **P** **10 37 59.8 +0.2**
BCLA *dx* x 10 38 04.2
OKC Ostrava-Krasne 28.09 184 AMS AMS 10 50 20.0
comp=Z,3μm,8.1s
BHOU Houvegnez 28.11 200 *dx* x 10 38 05.7
LVV L'vov 28.12 175 *e*P **P** **10 38 01.3 +1.4**
LVV *e* 10 39 03.6
LVV *e*S **S** **10 42 43.1 -1.3**
LVV *e*SS **SnSn** **10 44 10.6 +11**
LVV MLR MLR
comp=N,700nm,14.0s
LVV MLR MLR
comp=E,300nm,14.0s
LVV MLR MLR
comp=Z,600nm,14.0s
MORC Moravsky Berou 28.16 184 ⇑P **P** **10 38 00.8 +0.5**
MORC Moravsky Berou 28.16 184 P **P** **10 37 58.9 -1.5**
MORC pmax pmax
comp=Z,143nm,1.5s
MORC Moravsky Berou 28.16 184 P **P** **10 37 58.9 -1.5**
MORC Moravsky Berou 28.16 184 *e*P **P** **10 38 00.4 +0.1**
MORC Moravsky Berou 28.16 184 ⇓P **P** **10 38 05.0 +4.6**
BMRD Maredsous 28.25 202 *d*P **P** **10 38 02.1 +1.0**
KWP Kalwaria Pacla 28.29 177 P **P** **10 38 00.5 -1.0**
KWP pmax pmax
comp=Z,1μm,1.0s
KWP Kalwaria Pacla 28.29 177 P **P** **10 38 00.5 -1.0**
KWP Kalwaria Pacla 28.29 177 ⇑P P 10 38 06.4 +5.0
PBCC Pribram 28.34 189 *e*P **P** **10 38 02.8 +0.9**
RCHB Rochefort 28.36 201 *dx* x 10 38 06.2
GRA1 Grafenberg Arr 28.45 193 P **P** **10 38 01.3 -1.5**
GRF Grafenberg Arr 28.45 193 P **P** **10 38 01.3 -1.5**
GRF pmax pmax
comp=Z,52nm,0.9s
GRF Grafenberg Arr 28.45 193 *e*P **P** **10 38 03.8 +0.9**
comp=Z,31nm,1.1s,baz=4.3,slow=8.7
GRFO Grafenberg 28.45 193 P **P** **10 38 01.6 -1.2**
GRFO pmax pmax
comp=Z,50nm,0.9s
GRFO Grafenberg 28.45 193 P **P** **10 38 01.6 -1.2**
GRFO IAmb IAmb 10 38 51.0
comp=Z,50nm,0.9s
DOU Dourbes 28.47 202 *d*P **P** **10 38 02.9 -0.1**
DOU *d*PnPn **PnPn** **10 38 51.9 -0.2**
DOU *d*PP **PP** **10 39 06.3 -0.7**
VRAC Vranov 28.65 186 ⇑P **P** **10 38 05.6 +1.0**
VRAC Vranov 28.65 186 P **P** **10 38 03.4 -1.3**
comp=Z,4.7nm,0.5s,baz=356,slow=12,SNR=3.5
VRAC Lg Lg 10 47 08.6
comp=Z,8.8nm,0.8s,baz=56,slow=7.1,SNR=3.1
VRAC LR LR 10 51 44.1
comp=Z,719nm,18.1s,baz=355,slow=41
VRAC Vranov 28.65 186 *e*P **P** **10 38 04.8 +0.2**
TREC Trest 28.69 187 AMS AMS 10 50 20.0
comp=Z,2μm,9.2s
LANS Liptovska Anna 28.77 182 *e*P **P** **10 38 07.2 +1.5**
LANS Liptovska Anna 28.77 182 *e*P **P** **10 38 07.2 +1.5**
FRB Frobisher Bay 28.79 293 P **P** **10 38 04.0 -1.6**
comp=Z,2.9nm,0.5s,baz=43,slow=8.4,SNR=4.8
FRB LR LR 10 49 43.2
comp=Z,825nm,18.2s,baz=24,slow=37
KRUC Moravsky 28.90 186 *e*P **P** **10 38 07.1 +0.3**
KHC Kasperske Hory 28.91 190 *e*P **P** **10 38 07.3 +0.3**
KHC *e* 10 38 16.5
KHC *e*S **S** **10 42 59.2 +2.3**
KHC AMS AMS 10 50 40.0
comp=Z,2μm,10.3s
KHC Kasperske Hory 28.91 190 P **P** **10 38 03.6 -3.4**
CRVS Cervenica-Dubn 29.01 179 *e*P **P** **10 38 08.8 +0.9**
CRVS Cervenica-Dubn 29.01 179 *e*P **P** **10 38 08.8 +0.9**
JAVC Velka Javorina 29.08 184 *e*P **P** **10 38 10.0 +1.5**
A36M Sachs Harbour 29.09 339 P **P** **10 38 07.1 -1.2**
A36M IAmb IAmb 10 38 41.6
comp=Z,19nm,0.8s
A36M Sachs Harbour 29.09 339 P **P** **10 38 07.5 -0.8**
baz=14,SNR=9.2
GEC2 GERESS Array S 29.19 189 P **P** **10 38 08.8 -0.8**
GEC2 IAmb IAmb 10 39 07.3
comp=Z,38nm,1.0s
GERES GERESS Array B 29.19 189 P **P** **10 38 09.9 +0.3**
comp=Z,8.8nm,0.8s,baz=20,slow=8.5,SNR=16
GERES Lg Lg 10 47 34.1
comp=Z,7.6nm,1.0s,baz=42,slow=26,SNR=1.0
GERES LR LR 10 50 32.1
comp=Z,749nm,18.1s,baz=10,slow=38
CKRC Cesky Krumlov 29.20 189 *e*P **P** **10 38 10.0 +0.5**
CKRC *e*S **S** **10 43 03.4 +2.0**
UZH Uzhgorod 29.29 178 *e*P **P** **10 38 10.6 +0.3**
UZH *e* 10 39 20.0
UZH *e*S **S** **10 43 02.6 -0.1**
UZH *i* 10 44 31.2
UZH MLR MLR
comp=N,300nm,12.0s
UZH MLR MLR
comp=E,300nm,12.0s
UZH MLR MLR
comp=Z,300nm,12.0s
IZAB Izabela 29.35 181 *e*P **P** **10 38 11.8 +1.0**
SMOL Smolenice 29.43 184 *e*P **P** **10 38 13.5 +2.0**
SMOL Smolenice 29.43 184 *e*P **P** **10 38 13.5 +2.0**
VYHS Vyhne 29.43 183 *e*P **P** **10 38 12.8 +1.2**
VYHS Vyhne 29.43 183 *e*P **P** **10 38 12.8 +1.2**
ZST Bratislava 29.75 185 *e*P **P** **10 38 15.5 +1.1**
ZST Bratislava 29.75 185 *e*P **P** **10 38 15.5 +1.1**
TRPA Tarpa 29.79 178 ⇑P **P** **10 38 15.8 +1.1**
TRPA Tarpa 29.79 178 P **P** **10 38 15.1 +0.4**
SORM Soroca 29.93 170 ⇑P **P** **10 38 15.3 -0.6**
BFO Black Forest 29.96 197 P **P** **10 38 15.3 -1.0**
BFO pmax pmax
comp=Z,50nm,1.5s
BFO Black Forest 29.96 197 P **P** **10 38 15.3 -1.0**
BFO IAmb IAmb 10 39 01.3
comp=Z,50nm,1.5s
PSZ Piszkesteto 30.00 181 P **P** **10 38 16.4 -0.3**
PSZ pmax pmax
comp=Z,47nm,1.0s
PSZ Piszkesteto 30.00 181 P **P** **10 38 16.4 -0.3**
PSZ IAmb IAmb 10 39 17.7
comp=Z,47nm,1.0s
PSZ Piszkesteto 30.00 181 P **P** **10 38 17.5 +0.8**
CONA Conrad Observa 30.05 186 *i* P **P** **10 38 18.0 +0.9**
comp=Z,5.3nm,0.6s,SNR=7.3
ECH Echery 30.15 198 P **P** **10 38 16.6 -1.4**
ECH pmax pmax
comp=Z,18nm,1.0s

ECH Echery 30.15 198 P **P** **10 38 16.6 -1.4**
ECH Echery 30.15 198 ⇓P **P** **10 38 19.4 +1.4**
MOA Molln 30.17 189 *e*P **P** **10 38 20.6 +2.5**
comp=Z,2.7nm,0.5s
BUR08 Bucovina Ar. S 30.32 174 P **P** **10 38 18.4 -1.2**
BUR08 IAmb IAmb 10 39 24.4
comp=Z,27nm,0.8s
BURAR Bucovina Array 30.35 174 ⇑P **P** **10 38 19.8 -0.1**
BURAR Bucovina Array 30.35 174 P **P** **10 38 19.4 -0.5**
BRVK Borovoye 30.43 115 P **P** **10 38 21.5 +1.2**
BRVK Borovoye 30.43 115 P **P** **10 38 19.8 -0.5**
BRVK IAmb IAmb 10 39 19.0
comp=Z,16nm,0.7s
BRVK Borovoye 30.43 115 P **P** 10 38 25.1 +4.8
BRVK Borovoye 30.43 115 ⇑P **P** **10 38 24.9 +4.5**
BVAR Borovoye Array 30.48 115 P **P** **10 38 22.0 +1.2**
comp=Z,4.1nm,0.8s,baz=262,slow=16,SNR=23
ARSA Arzberg 30.73 187 *e*P **P** **10 38 24.8 +1.7**
comp=Z,15nm,1.4s
AKTO Aktyubinsk 30.76 131 P **P** **10 38 24.4 +1.1**
comp=Z,8.9nm,0.7s,baz=346,slow=6.5,SNR=24
AKTO LR LR 10 54 42.5
comp=Z,393nm,18.6s,baz=347,slow=44
MPLH Magyarpolny 30.77 184 P **P** **10 38 24.6 +1.2**
WATA Walderalm 30.79 192 *e*P **P** **10 38 25.4 +1.7**
comp=Z,8.2nm,0.7s
MOTA Moosalm 30.80 193 *e*P **P** **10 38 25.4 +1.5**
comp=Z,12nm,1.0s
WTTA Wattenberg 30.85 192 *e*P **P** **10 38 25.9 +1.5**
comp=Z,1.7nm,0.6s
DAVA Damuels 30.92 194 *e*P **P** **10 38 27.0 +2.1**
comp=Z,5.7nm,0.5s
KBA Koelnbreinsper 30.97 190 *i* P **P** **10 38 26.9 +1.5**
comp=Z,4.9nm,0.8s,SNR=6.8
A21K Barrow 31.06 358 P **P** **10 38 25.2 -0.5**
A21K IAmb IAmb 10 38 58.1
comp=Z,14nm,0.8s
A21K Barrow 31.06 358 P **P** **10 38 25.0 -0.7**
baz=1.2,SNR=13
FETA Feichten 31.14 193 *e*P **P** **10 38 28.5 +1.6**
comp=Z,1.3nm,0.6s
MILM Milestii Mici 31.16 169 ⇑P **P** **10 38 26.6 -0.2**
SOKA Soboth 31.32 188 *i* P **P** **10 38 29.6 +1.3**
comp=Z,1.8nm,0.4s,SNR=6.0
ABTA Abfaltersbach 31.33 191 *e*P **P** **10 38 29.2 +0.7**
comp=Z,1.5nm,0.4s
MYKA Terra Mystica 31.41 189 *i* P **P** **10 38 30.7 +1.6**
comp=Z,15nm,0.8s,SNR=5.1
DAVOX Davos/Dischmat 31.42 194 LR LR 10 51 33.1
comp=Z,1μm,21.9s,baz=74,slow=37
TESR Tescani 31.49 172 ⇑P **P** **10 38 30.0 +0.3**
OBKA Obir 31.50 188 *e*P **P** **10 38 32.0 +2.1**
comp=Z,4.7nm,0.7s
C36M Paulatuk 31.57 337 P **P** **10 38 29.6 -0.7**
C36M IAmb IAmb 10 38 45.9
comp=Z,15nm,0.7s
C36M Paulatuk 31.57 337 P **P** **10 38 28.9 -1.3**
baz=14,SNR=13
TUE Stuetta 31.76 195 P **P** **10 38 31.5 -0.8**
TUE IAmb IAmb 10 39 06.4
comp=Z,21nm,0.8s
TUE Stuetta 31.76 195 ⇑P **P** **10 38 34.5 +2.1**
CADS Cadrg 31.81 189 *j* P **P** **10 38 33.4 +0.8**
OZUR 31.88 173 ⇑P **P** **10 38 34.0 +0.8**
GHRR 31.97 171 ⇑P **P** **10 38 34.0 +0.1**
SENIN Lac Senin/Sane 31.99 198 P **P** **10 38 35.1 +0.7**
SENIN IAmb IAmb 10 39 10.3
comp=Z,19nm,0.9s
VOJS Vojsko 32.00 189 *i* P **P** **10 38 34.6 +0.3**
DOPR Dopca 32.00 174 ⇑P **P** **10 38 34.0 -0.3**
CTI Castel Tesino 32.07 192 P **P** **10 38 35.2 +0.3**
CTI pmax pmax
comp=Z,41nm,1.3s
CTI Castel Tesino 32.07 192 P **P** **10 38 35.2 +0.3**
CTI IAmb IAmb 10 39 17.2
comp=Z,41nm,1.3s
VRI Vrincioaia 32.14 172 ⇑P **P** **10 38 36.1 +0.7**
PLOR Plostina 32.15 172 ⇑P **P** **10 38 36.0 +0.4**
VISS Visnje 32.20 188 *i* P **P** **10 38 36.4 +0.5**
AB31 Akbulak array 32.21 129 *i* P **P** **10 38 36.5 +0.4**
ABKAR Akbulak array 32.21 129 P **P** **10 38 37.0 +1.0**
ABKAR IAmb IAmb 10 39 46.2
comp=Z,28nm,0.9s
ABKAR Akbulak array 32.21 129 P **P** **10 38 36.8 +0.7**
ABKAR Akbulak array 32.21 129 ⇓P **P** **10 38 37.2 +1.1**
BZS Buzias 32.30 179 ⇑P **P** **10 38 37.6 +0.7**
TRI Trieste 32.32 189 P **P** **10 38 36.7 -0.4**
TRI pmax pmax
comp=Z,17nm,0.6s
TRI Trieste 32.32 189 P **P** **10 38 36.7 -0.4**
TRI IAmb IAmb 10 38 42.0
comp=Z,17nm,0.6s
MLR Muntele Rosu 32.49 173 ⇑P **P** **10 38 39.8 +1.1**
MLR Muntele Rosu 32.49 173 LR LR 10 52 49.8
comp=Z,1μm,18.6s,baz=14,slow=38
MLR Muntele Rosu 32.49 173 P **P** **10 38 38.0 -0.7**
MLR pmax pmax
comp=Z,35nm,1.2s
MLR Muntele Rosu 32.49 173 P **P** **10 38 38.0 -0.7**
MLR IAmb IAmb 10 39 35.4
comp=Z,35nm,1.2s
VOIR 32.52 174 ⇓P **P** **10 38 40.0 +1.0**
GZR Gura Zlata 32.53 177 ⇑P **P** **10 38 39.4 +0.4**
ZAA0 Zalesovo Array 32.54 99 P **P** **10 38 38.3 -0.6**
ZALV Zalesovo Beam 32.54 99 P **P** **10 38 39.1 +0.2**
comp=Z,8.8nm,1.0s,baz=332,slow=8.4,SNR=17
ZALV LR LR 10 55 24.2
comp=Z,778nm,19.0s,baz=314,slow=43
ZALV Zalesovo Beam 32.54 99 P **P** **10 38 38.0 -0.9**
ARR Arges 32.59 175 ⇑P **P** **10 38 40.0 +0.5**
TEOL Teolo 32.75 192 P **P** **10 38 38.9 -1.9**
FRGS Fruska Gora 32.76 181 ⇑P **P** **10 38 41.6 +0.7**
CFR Carcaliu 32.87 170 ⇑P **P** **10 38 42.2 +0.4**
BILL Bilibino 32.92 23*d i*P **P** **10 38 42.2 +0.1**
BILL *i* *PP **pP** **10 38 44.5 -1.2**
BILL *i* *SP **sP** **10 38 47.6 +0.5**
BILL 10 39 53.0
BILL *e*S **S** **10 44 06.2 +7.0**
BILL SSS SSS 10 46 27.0
BILL pmax pmax
comp=Z,13nm,0.7s
BILL MLR MLR
comp=Z,543nm,16.0s
BILL Bilibino 32.92 23 P **P** **10 38 41.5 -0.6**
HERR Herculane 33.04 178 ⇑P **P** **10 38 42.9 -0.4**
MDVR Moldovita 33.14 179 ⇑P **P** **10 38 45.2 +0.9**
TPGR Topolog 33.20 170 ⇑P **P** **10 38 45.1 +0.3**
SSB Saint Sauveur 33.26 201 P **P** **10 38 44.7 -0.6**
SSB pmax pmax
comp=Z,17nm,0.8s
SSB Saint Sauveur 33.26 201 P **P** **10 38 44.7 -0.6**
SSB IAmb IAmb 10 38 52.1
comp=Z,17nm,0.8s
SSB Saint Sauveur 33.26 201 ⇓P **P** **10 38 46.0 +0.7**
INK Inuvik 33.29 343 P **P** **10 38 44.3 -1.0**
comp=Z,11nm,0.7s,baz=9.2,slow=9.7,SNR=16
INK LR LR 10 55 23.1
comp=Z,301nm,18.3s,baz=12,slow=42
INK Inuvik 33.29 343 P **P** **10 38 44.1 -1.2**
INK IAmb IAmb 10 39 29.8
comp=Z,20nm,0.9s
INK Inuvik 33.29 343 ⇓P **P** **10 38 44.6 -0.6**
INK Inuvik 33.29 343 P **P** **10 38 43.7 -1.6**
baz=9.8,SNR=16
BNI Bardonecchia 33.34 198 P **P** **10 38 45.3 -0.8**
BNI pmax pmax
comp=Z,19nm,1.1s
BNI Bardonecchia 33.34 198 P **P** **10 38 45.3 -0.8**
BNI IAmb IAmb 10 39 20.2
comp=Z,19nm,1.1s
BNI Bardonecchia 33.34 198 ⇓P P 10 38 51.8 +5.7
HARR Harsova 33.35 171 ⇑P **P** **10 38 46.0 0.0**
SIM Simferopol' 33.40 163 *e*P P 10 38 53.6 +7.1
SIM pmax pmax
comp=Z,26nm,0.5s
SIM MLR MLR
comp=Z,1μm,9.7s
TIRR Tirgusor 33.60 170 ⇑P **P** **10 38 47.7 -0.5**
TIRR Tirgusor 33.60 170 P **P** **10 38 47.2 -1.0**
TIRR pmax pmax
comp=Z,101nm,0.9s
TIRR Tirgusor 33.60 170 P **P** **10 38 47.2 -1.0**
TIRR Tirgusor 33.60 170 ⇑P **P** **10 38 48.5 +0.3**
TOLK Toolik Lake Re 33.65 354 P **P** **10 38 47.3 -1.2**

TOLK IAmb IAmb 10 39 39.7
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 33.65 354 P **P** **10 38 46.7 -1.8**
baz=3.8,SNR=6.8
ANN Anapa 33.78 158 *e*P **P** **10 38 49.7 -0.1**
ANN pmax pmax
comp=Z,104nm,2.3s
ANN MLR MLR
comp=Z,1μm,12.0s
DIVS Divibare 33.82 181 P **P** **10 38 49.0 -1.2**
DIVS IAmb IAmb 10 39 36.5
comp=Z,30nm,1.2s
DIVS Divibare 33.82 181 ⇑P **P** **10 38 50.8 +0.6**
BRZS Berezniki 33.82 114 *i* P **P** **10 38 50.3 +0.2**
BRZS Berezniki 33.82 114 *i* P **P** **10 38 50.4 +0.2**
baz=114
YAK Yakutsk 33.99 53 LR LR 10 54 31.7
comp=Z,1μm,18.4s,baz=339,slow=40
YAK Yakutsk 33.99 53 *e*P **P** **10 38 54.3 +2.9**
YAK *e**PP **sP** **10 38 57.3 +0.8**
YAK *e* 10 41 32.7
YAK *e*S **S** **10 44 19.8 +4.0**
YAK *e**SS **sS** **10 44 25.9 +4.2**
YAK *e* 10 49 19.7
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax smax
comp=N,95nm,3.8s
YAK smax smax
comp=E,77nm,3.7s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=E,2μm,16.0s
GOF Gofitskoye 34.03 151⇑ *e*P **P** **10 38 52.6 +0.6**
GOF pmax pmax
comp=Z,42nm,0.9s
KURK Kurchatov 34.30 107 P **P** **10 38 55.3 +1.0**
KURK Kurchatov 34.30 107 P **P** **10 38 55.2 +0.9**
KURK Kurchatov 34.30 107 P **P** **10 38 55.1 +0.9**
KURK Kurchatov 34.30 107 ⇑P **P** **10 38 55.3 +1.0**
RDOG Red Dog Mine 34.34 2 P **P** **10 38 53.6 -0.8**
RDOG IAmb IAmb 10 39 00.5
comp=Z,30nm,0.8s
RDOG Red Dog Mine 34.34 2 P **P** **10 38 53.6 -0.8**
baz=359,SNR=12
KURBB Kurchatov Arra 34.38 107 P **P** **10 38 55.3 +0.4**
comp=Z,16nm,0.8s,baz=340,slow=8.0,SNR=41
KURBB LR LR 10 54 52.3
comp=Z,1μm,18.6s,baz=300,slow=40
OSSC Osservatorio P 34.60 192 P **P** **10 38 56.8 -0.1**
BMAR Burnt Mountain 34.71 350 P **P** **10 38 57.6 -0.1**
SZH Strazhica 34.71 173 *e*P **P** **10 38 57.0 -0.9**
PRD Provadia 34.82 171 *e*P **P** **10 38 59.0 +0.2**
SEM Semipalatinsk 34.93 106 *e*P **P** **10 39 00.1 +0.1**
SEM Semipalatinsk 34.93 106 *e*P **P** **10 39 00.1 +0.1**
baz=105
BOD Bodaibo 35.03 69 *e*P **P** **10 38 59.4 -1.1**
BOD pmax pmax
comp=Z,20nm,1.0s
COLD Coldfoot 35.08 354 P **P** **10 39 00.3 -0.5**
COLD IAmb IAmb 10 39 05.5
comp=Z,23nm,0.8s
COLD Coldfoot 35.08 354 P **P** **10 38 59.4 -1.4**
baz=3.5,SNR=26
KIV Kislovodsk 35.09 152 *e*P **P** **10 39 01.6 +0.3**
KIV *e*S **S** **10 44 34.9 +1.6**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,599nm,16.0s
SOC Sochi 35.18 156 *e*P **P** **10 38 59.2 -2.7**
SOC *e* 10 40 18.7
SOC *e*S **S** **10 44 32.4 -2.1**
SOC *e*SS **SnSn** **10 46 52.5 +1.4**
SOC MLR MLR
comp=Z,648nm,15.0s
NRCA Norcia 35.22 190 P **P** **10 39 01.7 -0.6**
SHA1 Shidzhatmaz 35.30 152 *i* P **P** **10 39 02.5 -0.7**
VTS Vitosha 35.31 177 ⇑P **P** **10 39 02.7 -0.5**
VTS Vitosha 35.31 177 P **P** **10 39 01.8 -1.4**
VTS pmax pmax
comp=Z,30nm,1.4s
VTS Vitosha 35.31 177 P **P** **10 39 01.8 -1.4**
VTS IAmb IAmb 10 39 09.0
comp=Z,30nm,1.4s
VTS Vitosha 35.31 177 *e*P **P** **10 39 02.0 -1.2**
KBZ Khabaz 35.34 152 P **P** **10 39 04.5 +1.3**
comp=Z,25nm,0.9s,baz=8.4,slow=3.0,SNR=33
KBZ LR LR 10 53 23.4
comp=Z,1μm,19.6s,baz=340,slow=36
EPYK Eagle Plains 35.40 344 P **P** **10 39 03.0 -0.7**
EPYK IAmb IAmb 10 39 32.1
comp=Z,42nm,0.9s
EPYK Eagle Plains 35.40 344 P **P** **10 39 02.7 -1.0**
baz=8.2
OTUK Ortayu 35.42 115 P **P** **10 39 05.5 +1.5**
NCK Nalchik 35.64 151 *i* P **P** **10 39 07.6 +1.7**
NCK pmax pmax
comp=Z,33nm,0.8s
AQU L'Aquila 35.69 189 P **P** **10 39 05.1 -1.2**
AQU pmax pmax
comp=Z,44nm,1.1s
AQU L'Aquila 35.69 189 P **P** **10 39 05.1 -1.2**
AQU IAmb IAmb 10 39 21.1
comp=Z,44nm,1.1s
NEY Neytrino 35.79 152 *i* P **P** **10 39 08.5 +1.1**
NEY pmax pmax
comp=Z,16nm,1.8s
KKB Krupnik 36.06 177 *e*P **P** **10 39 09.0 -0.5**
GROC Groznyy 36.16 148 *e*P **P** **10 39 10.4 +0.1**
GROC *e* 10 40 32.0
GROC *e* 10 41 37.1
GROC pmax pmax
comp=Z,47nm,0.6s
GROC MLR MLR
comp=Z,1μm,11.0s
SGRT San Giovanni R 36.22 186 P **P** **10 39 09.2 -1.8**
SGRT IAmb IAmb 10 39 42.0
comp=Z,31nm,1.0s
MMB Musomiste 36.35 176 *e*P **P** **10 39 12.0 0.0**
BZK Bozkurt 36.37 163 P **P** **10 39 11.4 -0.7**
ZEI Tsey 36.37 151 *e*P **P** **10 39 12.6 +0.2**
ZEI pmax pmax
comp=Z,16nm,1.0s
IMAR Indian Mountai 36.40 356 P **P** **10 39 10.7 -1.4**
H24K Noodor Dome 36.42 352 P **P** **10 39 13.1 +0.8**
H24K Noodor Dome 36.42 352 P **P** **10 39 11.2 -1.2**
baz=4.2,SNR=7.6
SEY Seymchan 36.47 35 P **P** **10 39 12.9 +0.2**
comp=Z,22nm,0.8s,baz=331,slow=5.9,SNR=88
SEY LR LR 10 55 12.9
comp=Z,413nm,18.2s,baz=334,slow=38
SEY Seymchan 36.47 35*c e*P **P** **10 39 13.4 +0.7**
SEY pmax pmax
comp=Z,21nm,0.8s
I29M Ogilvie Camp, 36.49 345 P **P** **10 39 11.9 -1.1**
I29M Ogilvie Camp, 36.49 345 P **P** **10 39 11.8 -1.2**
baz=7.4,SNR=63
MAK Makhachkala 36.60 146 *e*P P 10 39 04.5 -10
MAK *e*PPP PPP 10 40 42.3
MAK *e*SS SS 10 47 18.0 -18
MAK pmax pmax
comp=Z,225nm,1.0s
MAK MLR MLR
comp=Z,2μm,11.0s
SCHQ Schefferville 36.65 284 P **P** **10 39 13.2 -1.2**
comp=Z,4.6nm,0.3s,baz=13,slow=6.4,SNR=57
SCHQ LR LR 10 54 05.9
comp=Z,1μm,19.8s,baz=23,slow=36
SCHQ Schefferville 36.65 284 P **P** **10 39 13.0 -1.4**
SCHQ IAmb IAmb 10 39 47.6
comp=Z,63nm,1.8s
SCHQ Schefferville 36.65 284 ⇑P **P** **10 39 13.5 -0.9**
H21K Melozitna Rive 36.71 355 P **P** **10 39 14.8 0.0**
H21K IAmb IAmb 10 39 20.1
comp=Z,16nm,0.7s
H21K Melozitna Rive 36.71 355 P **P** **10 39 14.0 -0.8**
baz=2.4,SNR=19

TNA Tin City 36.77 6 P **P** **10 39 15.2 0.0**
TNA Tin City 36.77 6 P **P** **10 39 14.1 -1.1**
baz=357
ALN Alexandroupoli 37.08 173 P **P** **10 39 18.0 -0.2**
ALN pmax pmax
comp=Z,28nm,0.8s
ALN Alexandroupoli 37.08 173 P **P** **10 39 18.0 -0.2**
ALN IAmb IAmb 10 39 23.8
comp=Z,28nm,0.8s
ALN Alexandroupoli 37.08 173 ⇓P **P** **10 39 19.0 +0.8**
POKR Poker Plat Res 37.12 352 P **P** **10 39 18.5 +0.2**
POKR Poker Plat Res 37.12 352 P **P** **10 39 17.5 -0.8**
baz=4.2,SNR=14
FNA Florina 37.13 179 P **P** **10 39 18.3 -0.4**
FNA pmax pmax
comp=Z,32nm,1.0s
FNA Florina 37.13 179 P **P** **10 39 18.3 -0.4**
FNA IAmb IAmb 10 40 06.4
comp=Z,32nm,1.0s
FNA Florina 37.13 179 ⇓P **P** **10 39 19.0 +0.3**
I23K Minto, Yukon-K 37.15 353 P **P** **10 39 19.6 +1.1**
I23K Minto, Yukon-K 37.15 353 P **P** **10 39 17.4 -1.1**
baz=3.6
I21K Tanana 37.17 355 P **P** **10 39 19.4 +0.7**
I21K IAmb IAmb 10 39 25.9
comp=Z,27nm,0.8s
I21K Tanana 37.17 355 P **P** **10 39 16.9 -1.8**
baz=2.7,SNR=19
EGAK Eagle 37.22 347 P **P** **10 39 19.4 +0.2**
EGAK IAmb IAmb 10 39 24.5
comp=Z,24nm,0.8s
ILGA Ilgaz 37.26 164 P **P** **10 39 19.9 -0.1**
ILGA IAmb IAmb 10 39 53.0
comp=Z,43nm,0.8s
MLY Manley 37.30 354 P **P** **10 39 19.0 -0.9**
baz=3.1
MDM Murphy Dome 37.31 352 P **P** **10 39 20.1 +0.2**
YKA Yellowknife Ar 37.32 327 P **P** **10 39 19.1 -0.9**
comp=Z,4.5nm,0.8s,baz=13,slow=8.4,SNR=35
YKA PcP **PcP** **10 41 38.4 -0.3**
comp=Z,1.0nm,0.6s,baz=10,slow=2.9,SNR=2.5
YKA LR LR 10 53 25.6
comp=Z,835nm,21.1s,baz=2.5,slow=34
YKA Yellowknife Ar 37.32 327 P **P** **10 39 18.7 -1.3**
COLA College 37.38 352 P **P** **10 39 20.4 0.0**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 37.38 352 P **P** **10 39 20.4 0.0**
COLA College 37.38 352 ⇓P **P** **10 39 21.4 +0.9**
COLA College 37.38 352 P **P** **10 39 18.6 -1.8**
baz=4.1
TCOL CIGO, UAF Yank 37.38 352 P **P** **10 39 20.9 +0.4**
TCOL CIGO, UAF Yank 37.38 352 P **P** **10 39 18.5 -1.9**
baz=4.1
J29M Klondike Camp 37.39 345 P **P** **10 39 19.9 -0.9**
baz=7.3,SNR=8.3
IL31 37.45 351 P **P** **10 39 21.0 -0.1**
ILAR Eielson Array 37.45 351 P **P** **10 39 21.2 +0.1**
comp=Z,4.9nm,0.7s,baz=0.3,slow=7.0,SNR=35
ILAR PcP **PcP** **10 41 39.1 0.0**
comp=Z,5.2nm,0.8s,baz=347,slow=4.2,SNR=1.4
ILAR LR LR 10 54 06.3
comp=Z,335nm,19.5s,baz=7.0,slow=35
ILAR Eielson Array 37.45 351 P **P** **10 39 20.9 -0.2**
J25K Salcha River, 37.56 350 P **P** **10 39 21.7 -0.4**
J25K Salcha River, 37.56 350 P **P** **10 39 20.6 -1.5**
baz=4.9
J26L Joseph Creek 37.60 349 P **P** **10 39 20.9 -1.5**
baz=5.5,SNR=7.6
GCSA Galena City Sc 37.67 358 P **P** **10 39 21.5 -1.4**
baz=0.9
AKH Akhalkalaki 37.69 152 ⇑P **P** **10 39 25.0 +1.4**
NEA2 Nenana 37.70 353 P **P** **10 39 23.3 +0.1**
NEA2 Nenana 37.70 353 P **P** **10 39 21.7 -1.5**
baz=3.6
MDUB Mudurnu 37.70 167 P **P** **10 39 23.8 +0.2**
ANM Nome 37.81 4 P **P** **10 39 24.4 +0.3**
ANM pmax pmax
comp=Z,19nm,1.0s
ANM Nome 37.81 4 P **P** **10 39 24.4 +0.3**
ANM Nome 37.81 4 P **P** **10 39 22.8 -1.3**
baz=358,SNR=9.8
PBRG Braganca 37.81 214 *e*P P 10 39 31.8 +7.3
comp=Z,96nm,1.4s
LIT Litokhoron 37.82 178 P **P** **10 39 24.6 +0.1**
LIT pmax pmax
comp=Z,17nm,0.7s
LIT Litokhoron 37.82 178 P **P** **10 39 24.6 +0.1**
LIT IAmb IAmb 10 39 25.7
comp=Z,17nm,0.7s
LIT Litokhoron 37.82 178 ⇓P **P** **10 39 24.8 +0.3**
DAWY Dawson 37.84 346 P **P** **10 39 24.4 0.0**
DAWY Dawson 37.84 346 ⇓P **P** **10 39 24.3 -0.2**
DAWY Dawson 37.84 346 P **P** **10 39 22.4 -2.1**
baz=6.9,SNR=14
PGAV Gavieira, Arco 37.84 216 *e*LR LR 10 45 58.6
comp=Z,325nm,18.0s
FCC Fort Churchill 38.05 310 P **P** **10 39 25.6 -0.5**
FCC pmax pmax
comp=Z,24nm,0.6s
FCC Fort Churchill 38.05 310 P **P** **10 39 25.6 -0.5**
FCC IAmb IAmb 10 39 54.0
comp=Z,24nm,0.6s
PCAB Cabril 38.06 216 *e*P P 10 39 33.6 +7.1
comp=Z,71nm,1.6s
MOY Mondy 38.11 84 *e*P **P** **10 39 28.4 +1.4**
MOY pmax pmax
comp=Z,62nm,2.0s
SCRK Sand Creek 38.14 349 P **P** **10 39 25.9 -1.2**
SCRK IAmb IAmb 10 39 32.2
comp=Z,18nm,0.7s
SCRK Sand Creek 38.14 349 P **P** **10 39 25.5 -1.6**
baz=5.3,SNR=21
J20K Nowinta River 38.22 356 P **P** **10 39 27.1 -0.4**
J20K Nowinta River 38.22 356 P **P** **10 39 26.3 -1.3**
baz=1.9,SNR=7.2
BPAW Bear Paw Mtn. 38.24 354 P **P** **10 39 27.3 -0.5**
BPAW Bear Paw Mtn. 38.24 354 P **P** **10 39 26.9 -0.9**
baz=2.9,SNR=6.2
BORA Eskisehir 38.25 168 P **P** **10 39 27.6 -0.6**
RIDG Independent Ri 38.41 350 P **P** **10 39 28.1 -1.2**
baz=5.0
KARS Kars 38.42 152 P **P** **10 39 29.3 -0.5**
KARS pmax pmax
comp=Z,113nm,1.1s
KARS Kars 38.42 152 P **P** **10 39 29.2 -0.5**
GAMB Gambell 38.45 9 P **P** **10 39 28.3 -1.1**
GAMB Gambell 38.45 9 P **P** **10 39 28.4 -1.1**
baz=356,SNR=6.2
DOT Dot Lake 38.47 349 P **P** **10 39 27.6 -2.1**
DOT IAmb IAmb 10 39 35.6
comp=Z,30nm,0.9s
MVO Moncorvo 38.48 214 *e*LR LR 10 49 29.1
comp=Z,401nm,18.0s
CHUM Lake Minchumin 38.48 355 P **P** **10 39 28.5 -1.3**
baz=2.5
MCK McKinley 38.55 353 P **P** **10 39 28.7 -1.8**
baz=3.6
BR131 Keskin Array S 38.57 164 *d i*P **P** **10 39 32.3 +1.3**
BR131 Keskin Array S 38.57 164 P **P** **10 39 29.8 -1.2**
BRTR Keskin Array B 38.57 164 P **P** **10 39 31.8 +0.8**
comp=Z,7.9nm,0.9s,baz=350,slow=6.4,SNR=32
BRTR LR LR 10 56 21.4
comp=Z,920nm,20.9s,baz=10.0,slow=38
BRTR Keskin Array B 38.57 164*c e*P **P** **10 39 32.2 +1.3**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 38.57 164 P **P** **10 39 30.9 -0.1**
ZSN Zaisan 38.69 102 *e*P **P** **10 39 32.1 +0.3**
ZSN Zaisan 38.69 102 *e*P **P** **10 39 32.1 +0.3**
baz=102
MAKZ Makanchi 38.71 106 P **P** **10 39 32.6 +0.7**
MAKZ Makanchi 38.71 106 P **P** **10 39 32.6 +0.7**
MAKZ IAmb IAmb 10 39 40.2
comp=Z,39nm,1.3s
MAKZ Makanchi 38.71 106 ⇑P **P** **10 39 33.2 +1.3**
VSL Villasalto 38.71 194 P **P** **10 39 30.0 -1.9**
VSL Villasalto 38.71 194 ⇑P **P** **10 39 33.1 +1.1**
TIP Timpagrande 38.77 185 ⇑P **P** **10 39 33.2 +0.7**
TIP Timpagrande 38.77 185 P **P** **10 39 30.9 -1.7**
TIP Timpagrande 38.77 185 ⇑P **P** **10 39 33.1 +0.5**
KTH Kantishna Hill 38.78 354 P **P** **10 39 32.7 +0.3**
KTH IAmb IAmb 10 40 12.4
comp=Z,42nm,1.2s
MK31 Makanchi Array 38.79 105*c i*P **P** **10 39 33.3 +0.7**

MK31 Makanchi Array 38.79 105 P **P** **10 39 33.2 +0.7**
MKAR Makanchi Array 38.79 105 P **P** **10 39 33.2 +0.7**
comp=Z,6.7nm,0.6s,baz=342,slow=7.1,SNR=69
MKAR LR LR 10 59 31.3
comp=Z,1μm,18.1s,baz=324,slow=42
MKAR Makanchi Array 38.79 105 P **P** **10 39 32.9 +0.3**
BTLS Baital 38.82 115 *d i*P **P** **10 39 33.1 +0.3**
BTLS Baital 38.82 115 ⇓ *i*P **P** **10 39 33.1 +0.3**
baz=115
TRF Thorofare Moun 38.87 354 P **P** **10 39 31.7 -1.6**
baz=3.1
AGG Agios Georgios 38.90 178 P **P** **10 39 33.0 -0.6**
AGG pmax pmax
comp=Z,14nm,0.6s
AGG Agios Georgios 38.90 178 P **P** **10 39 33.0 -0.6**
AGG Agios Georgios 38.90 178 ⇓P **P** **10 39 33.6 0.0**
CAST Castle Rocks 38.94 355 P **P** **10 39 33.6 -0.1**
CAST Castle Rocks 38.94 355 P **P** **10 39 33.2 -0.5**
baz=2.5,SNR=9.5
BCAR Beaver Creek A 38.96 347 P **P** **10 39 34.5 +0.6**
L27K Beaver Creek, 38.97 347 P **P** **10 39 34.5 +0.6**
L27K Beaver Creek, 38.97 347 P **P** **10 39 33.1 -0.8**
baz=5.9,SNR=17
PVIS Viseu 39.03 215 *e*P **P** **10 39 36.0 +1.3**
comp=Z,37nm,2.3s
K20K Telida 39.04 356 P **P** **10 39 34.3 -0.2**
K20K Telida 39.04 356 P **P** **10 39 33.8 -0.6**
baz=1.9
GNI Garni 39.07 150 LR LR 10 58 24.0
comp=Z,423nm,18.1s,baz=348,slow=40
GNI Garni 39.07 150*c e*P **P** **10 39 35.8 +0.7**
GNI pmax pmax
comp=Z,20nm,0.8s
GNI Garni 39.07 150 P **P** **10 39 35.1 0.0**
GNI IAmb IAmb 10 41 03.2
comp=Z,36nm,1.1s
GNI Garni 39.07 150 P **P** **10 39 37.0 +1.9**
L26K Log Cabin Wild 39.07 349 P **P** **10 39 35.6 +0.9**
L26K Log Cabin Wild 39.07 349 P **P** **10 39 32.6 -2.2**
baz=5.4
DHY Denali Highway 39.17 351 P **P** **10 39 34.8 -1.0**
baz=4.1,SNR=6.3
MENT Mentasta 39.17 349 IAmb IAmb 10 39 42.0
comp=Z,28nm,0.8s
M30M Minto, Yukon 39.18 344 P **P** **10 39 35.9 +0.1**
M30M Minto, Yukon 39.18 344 P **P** **10 39 34.7 -1.0**
baz=7.5,SNR=20
PAX Paxson 39.21 350 P **P** **10 39 35.3 -0.7**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 39.21 350 P **P** **10 39 35.3 -0.7**
PAX Paxson 39.21 350 P **P** **10 39 35.2 -0.7**
baz=4.7
M31M Drury Creek, Y 39.40 342 P **P** **10 39 36.8 -0.8**
baz=8.2
PPLA Purkeypile 39.47 355 P **P** **10 39 37.0 -1.3**
PPLA IAmb IAmb 10 39 44.0
comp=Z,32nm,0.8s
PPLA Purkeypile 39.47 355 P **P** **10 39 37.2 -1.0**
baz=2.5,SNR=5.3
TTA Tatalina 39.49 358 P **P** **10 39 37.1 -1.2**
TTA pmax pmax
comp=Z,22nm,1.6s
TTA Tatalina 39.49 358 P **P** **10 39 37.1 -1.2**
TTA Tatalina 39.49 358 ⇓P P 10 39 43.2 +4.9
TTA Tatalina 39.49 358 P **P** **10 39 37.6 -0.7**
baz=1.2
MA2 Magadan 39.52 38 P **P** **10 39 38.9 +0.4**
comp=Z,16nm,0.8s,baz=3.8,slow=5.9,SNR=16
MA2 LR LR 10 55 34.2
comp=Z,540nm,21.8s,baz=342,slow=36
MA2 Magadan 39.52 38 P **P** **10 39 38.1 -0.3**
MA2 Magadan 39.52 38 ⇑P **P** **10 39 38.9 +0.4**
MANT Manisa 39.56 170 P **P** **10 39 38.7 -0.7**
ESBB Sonseca Array 39.60 210 P **P** **10 39 39.2 -0.3**
ESBB IAmb IAmb 10 39 46.8
comp=Z,42nm,1.4s
ESDC Sonseca Array 39.60 210 P **P** **10 39 40.5 +1.0**
comp=Z,4.4nm,0.5s,baz=6.3,slow=8.0,SNR=29
ESDC LR LR 10 58 24.5
comp=Z,508nm,19.1s,baz=360,slow=40
ESDC Sonseca Array 39.60 210 P **P** **10 39 39.2 -0.3**
ESDC IAmb IAmb 10 39 46.9
comp=Z,52nm,1.6s
M27K Edge Creek, AK 39.67 347 P **P** **10 39 38.4 -1.5**
baz=5.8
WAT6 Susitna Watana 39.67 352 P **P** **10 39 38.8 -1.2**
baz=3.9
TDK Taldyqorghan 39.72 110 *e*P **P** **10 39 41.4 +1.1**
TDK Taldyqorghan 39.72 110 *e*P **P** **10 39 41.4 +1.1**
baz=110
PCAS Casmilo, Conde 39.76 216 *e*P **P** **10 39 44.8 +4.1**
comp=Z,98nm,1.7s
HARP HAARP 39.77 350 P **P** **10 39 39.0 -1.6**
baz=4.7
PAB San Pablo 39.77 211 P **P** **10 39 41.1 +0.2**
PAB pmax pmax
comp=Z,100nm,1.7s
PAB San Pablo 39.77 211 P **P** **10 39 41.1 +0.2**
PAB IAmb IAmb 10 39 47.6
comp=Z,100nm,1.6s
PAB San Pablo 39.77 211 ⇑P **P** **10 39 42.4 +1.5**
PCBR Castelo Branco 39.84 215 *e*P **P** **10 39 43.6 +2.2**
comp=Z,61nm,1.9s
L20K Farewell, AK 39.92 356 P **P** **10 39 39.9 -1.9**
baz=1.9
CUT Chulitna 39.92 353 P **P** **10 39 42.1 +0.3**
CUT IAmb IAmb 10 40 05.0
comp=Z,31nm,0.7s
CUT Chulitna 39.92 353 P **P** **10 39 40.6 -1.2**
baz=3.1
KKAR Karatay Array 40.02 120 P **P** **10 39 43.7 +0.8**
KKAR Karatay Array 40.02 120 P **P** **10 39 43.7 +0.8**
N31M Braeburn, Yuko 40.20 343 P **P** **10 39 43.4 -0.8**
N31M Braeburn, Yuko 40.20 343 P **P** **10 39 43.1 -1.1**
baz=7.6
L19K White Mountain 40.23 357 P **P** **10 39 44.2 -0.2**
L19K White Mountain 40.23 357 P **P** **10 39 43.1 -1.3**
baz=1.6
PMRV Marv??o 40.24 214 *e*P **P** **10 39 46.2 +1.5**
comp=Z,92nm,2.2s
PMRV *e*LR LR 10 48 39.5
comp=Z,303nm,20.0s
KUU Kurty 40.37 113 *e*P **P** **10 39 46.4 +0.6**
KUU Kurty 40.37 113 *e*P **P** **10 39 46.4 +0.6**
baz=113
SCM Sheep Creek Mo 40.41 351 P **P** **10 39 44.9 -1.1**
SCM pmax pmax
comp=Z,52nm,1.1s
SCM Sheep Creek Mo 40.41 351 P **P** **10 39 44.9 -1.1**
SCM IAmb IAmb 10 40 52.3
comp=Z,52nm,1.1s
SCM Sheep Creek Mo 40.41 351 P **P** **10 39 44.3 -1.7**
baz=4.0
CLTB Caltabellotta 40.46 189 P **P** **10 39 45.7 -0.9**
SGDS Sogindy 40.47 115 *i* P **P** **10 39 47.7 +1.1**
baz=115
SML Sawmill 40.47 352 P **P** **10 39 45.5 -1.0**
baz=3.7
M19K Big River Lodg 40.50 356 P **P** **10 39 46.5 -0.2**
M19K IAmb IAmb 10 39 53.2
comp=Z,24nm,0.8s
M19K Big River Lodg 40.50 356 P **P** **10 39 45.6 -1.0**
baz=1.7
M20K Styx River 40.50 356 P **P** **10 39 46.8 0.0**
VAE Valguarnera 40.52 188 LR LR 10 58 25.5
comp=Z,833nm,18.1s,baz=3.5,slow=39
CHKK Chushkaly 40.54 112 *e*P **P** **10 39 48.3 +1.1**
baz=112
N25K Chitina, Valde 40.54 349 P **P** **10 39 46.0 -1.0**
baz=4.8
M22K Willow 40.57 353 P **P** **10 39 47.2 0.0**
M22K Willow 40.57 353 P **P** **10 39 46.2 -0.9**
baz=3.1
PMTG Montargil 40.69 215 *e*P **P** **10 39 50.2 +1.8**
comp=Z,60nm,1.8s
MCARA McCarthy VSAT 40.70 348 P **P** **10 39 49.1 +0.8**
baz=5.3
ITM Ithomi 40.73 178 P **P** **10 39 49.0 +0.2**
ITM IAmb IAmb 10 40 01.4
comp=Z,42nm,0.9s
ITM Ithomi 40.73 178 ⇓P **P** **10 39 49.3 +0.5**
PESTR Estremoz 40.81 214 *e*P **P** **10 39 51.4 +1.9**
comp=Z,75nm,1.8s
PESTR Estremoz 40.81 214 P **P** **10 39 49.7 +0.3**
PESTR IAmb IAmb 10 39 56.0

comp=Z,34nm,1.1s
PESTR **Estremoz** 40.81 214 ⇓P P 10 39 51.2 +1.7
IUG **luzhnay** 40.86 120 eP P 10 39 50.5 +0.6
IUG **luzhnay** 40.86 120 eP P 10 39 50.5 +0.6
baz=120
APE **Apeiranthos** 40.89 174 ⇑P P 10 39 50.1 -0.1
APE **Apeiranthos** 40.89 174 ⇑P P 10 39 50.1 -0.1
WHY **Whitehorse** 40.97 342 P P 10 39 50.0 -0.7
CTG **Chitna Glacier** 41.03 347 P P 10 39 50.0 -1.2
baz=5.8
MDOK **Medeo** 41.22 112 P P 10 39 54.4 +1.5
AAK **Ala-Archa** 41.23 115 P P 10 39 53.4 +0.4
comp=Z,2.5nm,0.6s,baz=326,slow=1.4,SNR=3.8
AAK LR LR 10 58 25.5
comp=Z,753nm,18.6s,baz=345,slow=38
AAK **Ala-Archa** 41.23 115 P P 10 39 51.7 -1.3
AAK IAmb IAmb 10 40 01.5
comp=Z,55nm,1.8s
AAK **Ala-Archa** 41.23 115 P P 10 39 57.7 +4.7
P33M **Teslin, Yukon** 41.27 340 P P 10 39 53.6 +0.5
P33M **Teslin, Yukon** 41.27 340 P P 10 39 50.9 -2.2
baz=8.3
GRNC **Granite Creek** 41.29 347 P P 10 39 51.6 -1.8
GRNC IAmb IAmb 10 40 25.8
comp=Z,118nm,1.9s
SVW2 **Sparrevohn** 41.32 357 P P 10 39 52.6 -0.8
ELL **Elmali** 41.35 169 P P 10 39 53.6 -0.4
ELL pmax pmax
comp=Z,76nm,0.9s
ELL **Elmali** 41.35 169 P P 10 39 53.6 -0.4
ZEA **Zeya** 41.41 59 eP P 10 39 55.2 +1.0
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA pmax pmax
comp=E,100nm,3.1s
ZEA pmax pmax
comp=N,100nm,2.8s
ZEA pmax pmax
comp=Z,100nm,2.8s
ZEA MLR MLR
comp=E,300nm,9.0s
ZEA MLR MLR
comp=N,700nm,14.0s
ZEA MLR MLR
comp=Z,900nm,15.0s
PBAR **Barrancos** 41.43 214 eP P 10 39 55.9 +1.4
comp=Z,73nm,1.9s
PDGK **Podgornoye** 41.54 110 P P 10 39 56.6 +1.1
AML **Almayashu** 41.56 116 P P 10 40 00.9 +4.9
AML **Almayashu** 41.56 116 P P 10 39 59.0 +3.0
N19K **Bonanza Creek** 41.59 356 P P 10 39 56.2 +0.4
N19K **Bonanza Creek** 41.59 356 P P 10 39 54.0 -1.8
baz=1.6,SNR=5.4
PNCL **Nicolau / Gran** 41.67 215 eP P 10 39 58.2 +1.7
comp=Z,60nm,1.4s
PBEJ **Beja** 41.68 215 eP P 10 39 58.6 +2.1
comp=Z,54nm,1.7s
SHLS **Shalkode** 41.70 110 eP P 10 39 58.5 +1.7
SHLS **Shalkode** 41.70 110 eP P 10 39 58.5 +1.7
baz=109
RSO **Redoubt South** 41.92 355 P P 10 39 57.5 -1.1
O19K **Port Alsworth** 42.21 356 P P 10 40 01.2 +0.6
O19K IAmb IAmb 10 41 00.4
comp=Z,39nm,1.3s
O19K **Port Alsworth** 42.21 356 P P 10 40 00.0 -0.6
baz=1.7
KDJ **Kajisay** 42.24 113 P P 10 40 01.4 +0.1
KDJ pmax pmax
comp=Z,37nm,1.4s
KDJ **Kajisay** 42.24 113 P P 10 40 01.4 +0.1
PVAQ **Vaqueiros** 42.27 214 eP P 10 40 03.7 +2.3
comp=Z,47nm,1.7s
PVAQ **Vaqueiros** 42.27 214 eLR LR 10 53 12.3
comp=Z,371nm,18.0s
PVAQ **Vaqueiros** 42.27 214 P P 10 40 01.6 +0.2
PBDV **Barranco-do-Ve** 42.46 214 eP P 10 40 05.0 +2.0
comp=Z,80nm,1.3s
KEST **Kesra** 42.46 194 P P 10 40 03.0 0.0
comp=Z,13nm,0.8s,baz=211,slow=2.8,SNR=11
KEST **Kesra** 42.46 194 P P 10 40 02.7 -0.4
KEST IAmb IAmb 10 40 09.4
comp=Z,63nm,1.2s
MORF **Marmelete** 42.48 215 eP P 10 40 05.5 +2.3
comp=Z,57nm,1.4s
IDI **Anoyia** 42.66 175 LR LR 10 58 59.5
comp=Z,405nm,21.8s,baz=347,slow=38
TARG **Taragay, Kyrgy** 42.74 112 P P 10 40 04.5 -1.2
WMQ **Urumqi** 42.75 101 eP P 10 40 07.5 +2.2
WMQ pP sP 10 40 11.5 +1.1
WMQ sP pP 10 40 19.3 +10
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,4μm,17.5s
WMQ LR LR
comp=Z,3μm,15.5s
WMQ LR LR
comp=Z,1μm,15.5s
DLBC **Dease Lake** 42.82 338 LR LR 10 58 18.3
comp=Z,319nm,20.5s,baz=306,slow=37
DLBC **Dease Lake** 42.82 338 P P 10 40 06.6 +0.9
SONM **Songino Array** 42.88 81 P P 10 40 05.9 -0.5
comp=Z,5.3nm,0.7s,baz=334,slow=8.3,SNR=22
SONM LR LR 11 00 38.2
comp=Z,952nm,18.7s,baz=352,slow=40
SONM **Songino Array** 42.88 81 P P 10 40 06.6 +0.2
SONM **Songino Array** 42.88 81 P P 10 40 06.5 +0.2
GEYT **Alibeck** 42.98 135 P P 10 40 07.4 +0.3
comp=Z,5.2nm,0.6s,baz=350,slow=8.0,SNR=6.2
GEYT LR LR 11 00 31.6
comp=Z,695nm,18.4s,baz=14,slow=40
GEYT **Alibeck** 42.98 135 P P 10 40 06.9 -0.3
GYA0B **ALIBECK ARRAY** 42.98 135 P P 10 40 07.2 0.0
ULN **Ulaanbaatar** 42.99 80 ceP P 10 40 08.2 +0.9
ULN pmax pmax
comp=Z,16nm,0.7s
ULN **Ulaanbaatar** 42.99 80 P P 10 40 07.2 -0.1
ULN IAmb IAmb 10 40 13.6
comp=Z,85nm,1.9s
ULN **Ulaanbaatar** 42.99 80 ⇑P P 10 40 08.3 +1.0
P18K **Big Mountain,** 43.03 357 P P 10 40 07.3 0.0
P18K IAmb IAmb 10 40 47.0
comp=Z,82nm,1.7s
P18K **Big Mountain,** 43.03 357 P P 10 40 07.5 +0.1
baz=1.4
FFC **Flin Flon** 43.17 314 P P 10 40 08.3 -0.2
FFC pmax pmax
comp=Z,13nm,1.0s
FFC **Flin Flon** 43.17 314 P P 10 40 08.3 -0.2
FFC **Flin Flon** 43.17 314 ⇓P P 10 40 08.7 +0.2
DRK **Karamyk** 43.77 119 P P 10 40 13.9 0.0
GAR **Garm** 43.97 121 P P 10 40 15.8 +0.5
GAR IAmb IAmb 10 40 58.0
comp=Z,41nm,0.9s
CHGR **Chuyangaron** 44.09 123 IAmb IAmb 10 40 52.5
comp=Z,36nm,0.7s
LMQ **La Malbaie** 44.26 284 P P 10 40 17.2 -0.1
KSH **Kashi** 44.52 115 P P 10 40 25.5 +5.8
KSH pP sP 10 40 31.8 +7.0
KSH PcP PP 10 42 09.0 +5.7
KSH pmax pmax
comp=Z,10.0nm,1.5s
KSH LR LR
comp=Z,5μm,13.0s
KSH LR LR
comp=Z,2μm,13.6s
KDAK **Kodiak Island** 44.60 355 P P 10 40 19.4 -0.6
comp=Z,14nm,0.7s,baz=19,slow=6.0,SNR=16
KDAK LR LR 10 59 42.2
comp=Z,425nm,19.3s,baz=43,slow=37
KDAK **Kodiak Island** 44.60 355 ⇓P P 10 40 20.4 +0.4
VLDQ **Val d'Or** 45.17 291 P P 10 40 23.8 -0.7
VLDQ IAmb IAmb 10 40 57.2
comp=Z,35nm,1.4s
OHAK **Old Harbor** 45.18 355 P P 10 40 24.4 -0.1
OHAK IAmb IAmb 10 40 31.0
comp=Z,31nm,0.8s
OHAK **Old Harbor** 45.18 355 P P 10 40 24.3 -0.2
baz=1.9
MMAI **Mount Meron Ar** 45.36 163 LR LR 11 02 16.2
comp=Z,411nm,18.8s,baz=116,slow=40
GGN **Saint George** 45.85 280 P P 10 40 29.4 -0.5

GRNR **Gornyy** 45.87 53 ⇑iP P 10 40 30.2 0.0
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR MLR MLR
comp=E,350nm,10.0s
GRNR MLR MLR
comp=N,480nm,18.0s
GRNR MLR MLR
comp=Z,930nm,15.0s
PKME **Peaks-Kenny Pk** 46.22 282 P P 10 40 32.7 -0.2
baz=17
MDT **Midelt** 46.46 210 LR LR 11 02 24.0
comp=Z,247nm,18.0s,baz=34,slow=39
ULM **Lac du Bonnet** 46.52 308 P P 10 40 33.5 -1.7
comp=Z,4.1nm,0.4s,baz=14,slow=9.6,SNR=7.9
ULM LR LR 10 58 43.0
comp=Z,917nm,20.7s,baz=15,slow=34
ULM **Lac du Bonnet** 46.52 308 iP P 10 40 34.9 -0.3
ULM **Lac du Bonnet** 46.52 308 IAmb IAmb 10 40 41.3
comp=Z,31nm,1.2s
ULM **Lac du Bonnet** 46.52 308 ⇓P P 10 40 35.6 +0.4
KLR **Kul'dur** 46.54 57 P P 10 40 34.3 -1.2
comp=Z,2.2nm,0.8s,baz=330,slow=7.1,SNR=5.2
KLR **Kul'dur** 46.54 57 iP P 10 40 34.9 -0.5
KLR pmax pmax
comp=Z,16nm,2.8s
PEA0B **Petropavlovsk-** 46.70 34 P P 10 40 36.5 -0.1
PEA0B pmax pmax
comp=Z,50nm,1.2s
PEA0B **Petropavlovsk-** 46.70 34 P P 10 40 36.5 -0.1
PETK **Petropavlovsk-** 46.70 34 P P 10 40 35.4 -1.2
comp=Z,5.5nm,0.8s,baz=42,slow=7.4,SNR=8.7
PETK **Petropavlovsk-** 46.70 34 P P 10 40 34.4 -2.2
PET **Petropavlovsk** 46.90 34 eP P 10 40 40.5 +2.4
PET eS S 10 47 27.8 -0.3
PET pmax pmax
comp=Z,17nm,1.4s
B35A **Bob, Littlefor** 47.98 305 P P 10 40 46.5 0.0
B35A IAmb IAmb 10 41 15.0
comp=Z,15nm,0.7s
EYMN **Ely** 47.98 303 P P 10 40 46.1 -0.6
EYMN IAmb IAmb 10 40 51.7
comp=Z,15nm,0.7s
EYMN **Ely** 47.98 303 P P 10 40 45.6 -1.1
baz=15
KBL **Kabul** 48.08 124 P P 10 40 54.1 +6.3
SNR=6.5
AGMN **Agassiz Nation** 48.40 307 IAmb IAmb 10 41 38.9
comp=Z,17nm,0.9s
AGMN **Agassiz Nation** 48.40 307 P P 10 40 49.1 -0.8
baz=15
XLT **XiLinHaoTe** 48.64 73 eP P 10 40 52.8 +0.9
XLT pP sP 10 40 57.8 +0.8
XLT sP pP 10 40 59.3 +3.7
XLT PP PP 10 42 43.8 -0.7
XLT PcS PcS 10 46 17.5 +4.3
XLT sS sS 10 48 00.5 +1.0
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,120nm,4.7s
XLT LR LR
comp=Z,4μm,20.6s
XLT LR LR
comp=Z,2μm,24.0s
EIL **Elat** 48.66 163 LR LR 11 02 52.5
comp=Z,374nm,21.3s,baz=0.0,slow=38
EIL **Elat** 48.66 163 ⇓P P 10 40 52.8 +0.7
E43A **Lone Tree Farm** 48.67 299 P P 10 40 51.4 -0.6
E43A IAmb IAmb 10 40 57.9
comp=Z,26nm,0.8s
SHEM **Shemya Is, Ala** 48.70 21 LR LR 11 01 37.8
comp=Z,212nm,21.1s,baz=342,slow=36
SADO **Sadowa** 48.70 291 LR LR 11 00 29.9
comp=Z,472nm,20.1s,baz=4.0,slow=35
BNX **BinXian** 49.10 63 ⇓P P 10 40 55.0 -0.3
BNX pmax pmax
comp=Z,13nm,0.5s
BNX pmax pmax
comp=Z,270nm,6.1s
E38A **The Farm, Brul** 49.29 303 IAmb IAmb 10 41 02.8
comp=Z,21nm,0.9s
MDND **Maddock** 49.46 310 P P 10 40 58.4 +0.3
baz=14
DGMT **Dagmar** 49.58 314 P P 10 40 59.1 +0.1
DGMT IAmb IAmb 10 41 28.0
comp=Z,34nm,1.1s
DGMT **Dagmar** 49.58 314 P P 10 40 58.5 -0.4
baz=13
LLLB **Lillooet** 49.80 330 P P 10 40 59.8 -0.8
LLLB IAmb IAmb 10 41 19.6
comp=Z,14nm,0.9s
G40A **Rib Lake** 50.34 301 IAmb IAmb 10 41 11.1
comp=Z,16nm,1.0s
F36A **Milaca** 50.36 304 P P 10 41 04.1 -0.7
WALA **Waterton Lakes** 50.38 323 P P 10 41 04.2 -0.9
WALA IAmb IAmb 10 41 16.4
comp=Z,19nm,0.7s
WALA **Waterton Lakes** 50.38 323 ⇓P P 10 41 08.1 +3.0
BINY **Binghamton** 50.54 287 P P 10 41 05.6 -0.6
baz=16
MDJ **Mudanjiang** 50.60 61 P P 10 41 06.9 +0.3
MDJ **Mudanjiang** 50.60 61 P P 10 41 06.0 -0.6
MDJ S S 10 48 19.5 -1.0
MDJ pmax pmax
comp=Z,21nm,1.8s
MDJ pmax pmax
comp=Z,260nm,3.5s
MDJ LR LR
comp=Z,870nm,17.2s
MDJ LR LR
comp=Z,3μm,14.2s
MDJ LR LR
comp=Z,2μm,14.7s
CN2 **Changchun** 50.60 65 eP P 10 41 08.0 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,3μm,20.0s
YSS **Yuzh-Sakhalins** 50.61 49 eP P 10 41 06.7 0.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=E,400nm,13.0s
YSS MLR MLR
comp=Z,800nm,13.0s
YSS **Yuzh-Sakhalins** 50.61 49 P P 10 41 05.7 -1.0
YSS IAmb IAmb 10 41 13.5
comp=Z,29nm,0.9s
HHC **Hu-ho-hao-te** 50.64 79 eP P 10 41 06.3 -0.9
HHC S S 10 48 27.3 +5.9
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,170nm,4.5s
HHC LR LR
comp=Z,2μm,18.2s
HHC LR LR
comp=Z,1μm,16.1s
HHC LR LR
comp=Z,2μm,15.1s
H43A **Windswept, Lux** 50.66 299 P P 10 41 06.8 -0.3
H43A IAmb IAmb 10 41 13.1
comp=Z,16nm,0.7s
PNT **Penticton** 50.82 327 ⇓P P 10 41 09.7 +1.4
EGMT **Eagleton** 50.83 319 P P 10 41 07.0 -1.5
SPMN **Marine on St.** 50.84 303 P P 10 41 07.8 -0.7
baz=15
F33A **5 Mile Ranch,** 50.86 307 P P 10 41 06.8 -1.8
E28A **Huff** 50.88 311 P P 10 41 09.0 +0.2
I42A **Draeger Farm,** 51.43 299 P P 10 41 12.2 -0.8
I42A IAmb IAmb 10 41 19.1
comp=Z,20nm,0.9s
USRK **Ussuriysk Ar.** 51.44 59 P P 10 41 11.8 -1.1
comp=Z,1.7nm,0.5s,baz=357,slow=7.7,SNR=7.4
USRK LR LR 11 04 29.9
comp=Z,637nm,18.5s,baz=338,slow=38
NEW **Newport** 51.56 325 LR LR 11 02 20.8
comp=Z,528nm,21.2s,baz=13,slow=35
NEW **Newport** 51.56 325 P P 10 41 13.1 -0.8
NEW pmax pmax
comp=Z,20nm,1.0s
NEW **Newport** 51.56 325 P P 10 41 13.1 -0.8
NEW IAmb IAmb 10 41 43.0
comp=Z,20nm,0.9s
NEW **Newport** 51.56 325 P P 10 41 12.7 -1.2
baz=10,SNR=7.2
GOMU **GeErMu** 51.57 97 P P 10 41 15.5 +1.0
GOMU pP sP 10 41 19.3 -0.3
GOMU sP pP 10 41 20.8 +2.6
GOMU PcP PcP 10 42 31.3 +3.0
GOMU PP PP 10 43 13.5 +2.0
GOMU S S 10 48 36.0 +1.2
GOMU sS sS 10 48 41.5 +0.6
GOMU SS SS 10 52 13.0 +2.7
GOMU pmax pmax
comp=Z,14nm,0.8s
GOMU pmax pmax
comp=Z,99nm,5.6s
GOMU LR LR
comp=Z,2μm,20.2s
GOMU LR LR
comp=Z,2μm,17.7s
LAO **LASA Array** 51.62 315 P P 10 41 12.0 -2.4
LAO IAmb IAmb 10 41 45.4
comp=Z,31nm,0.9s
LAO **LASA Array** 51.62 315 P P 10 41 12.6 -1.8
baz=12
JTMT **Jette** 51.71 323 P P 10 41 13.7 -1.5
JTMT IAmb IAmb 10 41 43.7
comp=Z,10nm,0.6s
B08A **Colville Reser** 51.73 327 P P 10 41 13.4 -1.8
B08A IAmb IAmb 10 42 14.2
comp=Z,23nm,1.4s
N59A **State Game Lan** 51.73 286 P P 10 41 15.2 0.0
baz=16
I40A **Norwalk** 51.74 301 P P 10 41 13.7 -1.6
I40A IAmb IAmb 10 42 00.5
comp=Z,22nm,0.8s
ALLY **Alegheny Colle** 51.91 291 P P 10 41 15.2 -1.3
M54A **Oil Creek Stat** 51.95 290 P P 10 41 16.7 -0.1
baz=15
I37A **Lemond, Waseca** 52.12 303 P P 10 41 18.0 -0.1
I37A IAmb IAmb 10 41 24.2
comp=Z,41nm,1.4s
BJI **Beijing** 52.37 75 P P 10 41 21.3 +1.4
BJI S S 10 48 43.8 -1.2
BJI SS SS 10 52 20.5 -1.6
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI LR LR
comp=Z,820nm,22.4s
BJI LR LR
comp=Z,5μm,20.0s
BJI LR LR
comp=Z,2μm,21.4s
HRY **Holter Researc** 52.40 320 P P 10 41 18.9 -1.4
SSPA **Standing Stone** 52.43 288 P P 10 41 19.8 -0.7
SSPA IAmb IAmb 10 42 36.8
comp=Z,77nm,1.9s
SSPA **Standing Stone** 52.43 288 P P 10 41 19.9 -0.5
baz=15
L48A **N Adams** 52.46 295 P P 10 41 20.2 -0.4
L48A IAmb IAmb 10 42 29.3
comp=Z,74nm,1.8s
K43A **Burlington** 52.47 299 P P 10 41 20.4 -0.3
K43A IAmb IAmb 10 41 51.7
comp=Z,33nm,1.0s
N54A **Moraine State** 52.54 290 P P 10 41 20.6 -0.7
N54A IAmb IAmb 10 41 29.2
comp=Z,38nm,0.9s
N54A **Moraine State** 52.54 290 P P 10 41 20.9 -0.3
baz=15
MSO **Missoula** 52.57 322 P P 10 41 21.4 -0.1
MSO IAmb IAmb 10 41 26.8
comp=Z,27nm,0.8s
MSO **Missoula** 52.57 322 P P 10 41 20.8 -0.7
baz=11,SNR=31
JFWS **Jewell Farm** 52.62 300 P P 10 41 21.5 -0.3
JFWS pmax pmax
comp=Z,20nm,0.8s
JFWS **Jewell Farm** 52.62 300 P P 10 41 21.4 -0.3
JFWS IAmb IAmb 10 42 16.7
comp=Z,20nm,0.8s
JFWS **Jewell Farm** 52.62 300 P P 10 41 20.9 -0.9
baz=14
N53A **Lisbon** 52.85 291 P P 10 41 23.0 -0.5
N53A IAmb IAmb 10 41 57.4
comp=Z,41nm,1.3s
O56A **Blue Knob Stat** 52.92 289 P P 10 41 23.4 -0.7
baz=15
ECSD **EROS Data Cent** 52.96 306 P P 10 41 24.2 -0.1
ECSD IAmb IAmb 10 42 12.3
comp=Z,19nm,0.8s
ECSD **EROS Data Cent** 52.96 306 P P 10 41 23.0 -1.3
baz=14,SNR=10
D03D **Eldon** 52.96 330 P P 10 41 22.8 -1.4
baz=9.1
GCMT **Greycliff** 53.00 318 P P 10 41 23.9 -0.9
N51A **Ashland** 53.05 293 P P 10 41 23.5 -1.5
N51A IAmb IAmb 10 41 32.5
comp=Z,24nm,0.7s
NLWA **Neilton Lookou** 53.18 331 P P 10 41 26.5 +0.5
NLWA IAmb IAmb 10 42 40.4
comp=Z,40nm,1.4s
ASAJ **Asahikawa** 53.35 50 P P 10 41 25.4 -1.7
comp=Z,6.6nm,0.8s,baz=278,slow=30,SNR=3.6
ASAJ LR LR 11 05 26.1
comp=Z,573nm,18.1s,baz=358,slow=38
JKA **Kamikawa-asahi** 53.35 50 P P 10 41 25.4 -1.7
JKA **Kamikawa-asahi** 53.35 50 IAmb IAmb 10 41 54.2
comp=Z,22nm,1.2s
O54A **Avella** 53.37 290 P P 10 41 26.9 -0.4
L42A **Oliver, Polo** 53.39 299 P P 10 41 27.2 -0.3
BOZ **Bozeman (W)** 53.47 320 P P 10 41 28.3 +0.1
BOZ pmax pmax
comp=Z,30nm,1.6s
BOZ **Bozeman (W)** 53.47 320 P P 10 41 28.3 +0.1
BOZ IAmb IAmb 10 41 57.0
comp=Z,30nm,1.6s
BOZ **Bozeman (W)** 53.47 320 P P 10 41 27.7 -0.5
baz=11,SNR=16
O53A **New Philadelph** 53.47 291 P P 10 41 28.0 -0.1
O53A **New Philadelph** 53.47 291 P P 10 41 27.3 -0.8
baz=15
E08A **Dider Farm, El** 53.54 326 P P 10 41 27.8 -0.7
E07A **Sunnyside** 53.56 327 P P 10 41 28.4 -0.4
E07A IAmb IAmb 10 41 57.4
comp=Z,16nm,1.0s
LZH **Lanzhou** 53.59 88 ⇓P P 10 41 30.0 +0.8
LZH pP pP 10 41 33.5 +0.6
LZH sP sP 10 41 35.8 +1.4
LZH pmax pmax
comp=Z,17nm,1.5s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,2μm,15.2s
L40A **Anamosa** 53.62 301 P P 10 41 27.9 -1.3
L40A IAmb IAmb 10 41 40.8
comp=Z,18nm,0.8s
HAWA **Hanford** 53.69 327 P P 10 41 29.3 -0.4
HAWA IAmb IAmb 10 42 20.8
comp=Z,15nm,0.9s
O52A **Adamsville** 53.72 292 P P 10 41 29.4 -0.5
N47A **Urbana** 53.73 296 P P 10 41 29.5 -0.5
N47A IAmb IAmb 10 41 46.0
comp=Z,38nm,1.3s
MCWV **Mont Chateau** 53.77 290 P P 10 41 29.3 -0.9
MCWV **Mont Chateau** 53.77 290 P P 10 41 29.2 -1.1
baz=15
RSSD **Black Hills** 53.80 313 P P 10 41 29.4 -1.3
RSSD pmax pmax
comp=Z,18nm,0.8s
RSSD **Black Hills** 53.80 313 P P 10 41 29.4 -1.3
RSSD IAmb IAmb 10 41 59.6
comp=Z,18nm,0.8s
RSSD **Black Hills** 53.80 313 ⇑P P 10 41 31.1 +0.4
RSSD **Black Hills** 53.80 313 P P 10 41 30.5 -0.2
baz=12
F10A **Beach Ranch, E** 53.83 325 ⇓P P 10 41 35.6 +4.9
ACSO **Alum Creek Sta** 53.83 293 P P 10 41 30.3 -0.4
baz=15
E04D **Cinebar** 53.87 329 P P 10 41 29.7 -1.2
baz=9.1
YMP **Mirror Lake Pl** 54.10 318 P P 10 41 31.6 -1.5

YMP IAmb IAmb 10 42 02.1
comp=Z,25nm,0.9s
SCIA State Center 54.13 303 P **P** **10 41 32.5 -0.5**
baz=14
YHL Hebgen Lake 54.14 319 P **P** **10 41 33.5 +0.2**
O49A Covington 54.14 294 P **P** **10 41 32.5 -0.5**
YHH Holmes Hill 54.15 319 P **P** **10 41 32.8 -0.6**
YHH IAmb IAmb 10 41 41.7
comp=Z,20nm,0.8s
QLMT Earthquake Lak 54.19 319 P **P** **10 41 33.7 +0.2**
Q56A Snyder Ridge, 54.23 289 P **P** **10 41 33.4 -0.3**
O48B Farmland 54.23 295 P **P** **10 41 33.0 -0.6**
baz=15
P53A Whipple 54.24 291 P **P** **10 41 33.8 +0.1**
P53A IAmb IAmb 10 41 41.8
comp=Z,30nm,1.0s
P52A Corning 54.24 292 P **P** **10 41 33.0 -0.8**
P52A IAmb IAmb 10 41 42.0
comp=Z,15nm,0.7s
P52A Corning 54.24 292 P **P** **10 41 32.7 -1.1**
baz=15
SHME Shamm 54.37 140 P **P** **10 41 36.5 +1.8**
SHME Shamm 54.37 140 P **P** **10 41 35.4 +0.6**
MCMT McKenzie Canyo 54.39 321 P **P** **10 41 34.6 -0.4**
SFIN Lafayette 54.48 297 P **P** **10 41 34.7 -0.8**
SFIN IAmb IAmb 10 42 07.1
comp=Z,21nm,1.1s
SFIN Lafayette 54.48 297 P **P** **10 41 34.3 -1.2**
baz=14
H17A Grant Village 54.50 319 P **P** **10 41 36.4 +0.5**
H17A IAmb IAmb 10 42 06.6
comp=Z,22nm,0.7s
H17A Grant Village 54.50 319 P **P** **10 41 36.0 +0.1**
baz=11,SNR=17
BANOM Banah 54.51 140 P **P** **10 41 39.7 +3.8**
HNS HongShan 54.61 77 ⇓P **P** **10 41 37.5 +1.1**
HNS S **S** **10 49 16.8 +1.3**
HNS SS **SS** **10 52 56.8 -0.7**
HNS pmax pmax
comp=Z,20nm,1.1s
HNS LR LR
comp=Z,1μm,16.7s
HNS LR LR
comp=Z,1μm,17.2s
Q54A Coxs Mills 54.61 290 P **P** **10 41 36.1 -0.4**
CBN Corbin Frederi 54.67 287 P **P** **10 41 36.1 -0.8**
baz=15
FLWY Flagg Ranch 54.82 319 IAmb IAmb 10 42 09.4
comp=Z,16nm,0.9s
P49A Miami Univ. Ec 54.84 294 IAmb IAmb 10 41 45.0
comp=Z,24nm,0.8s
P49A Miami Univ. Ec 54.84 294 P **P** **10 41 37.0 -1.1**
baz=14
JRN Qarnain Island 55.03 144 P **P** **10 41 40.3 +0.8**
TRNA Turayna 55.03 146 P **P** **10 41 40.4 +0.8**
MASF Masafi 55.04 140 P **P** **10 41 41.5 +1.8**
MSFE Esma-Masafi 55.05 140 P **P** **10 41 40.6 +0.9**
P48A Milroy 55.05 295 P **P** **10 41 38.4 -1.2**
R55A Marlinton 55.15 290 P **P** **10 41 39.4 -1.0**
MOOW Moose Ponds 55.16 319 P **P** **10 41 40.3 -0.3**
MOOW IAmb IAmb 10 41 49.3
comp=Z,11nm,0.8s
G03D McMinnville, O 55.27 330 P **P** **10 41 42.7 +1.6**
baz=8.8
NAZ Nazwa, Dubai 55.35 141 P **P** **10 41 43.4 +1.5**
SNOW Snow King Moun 55.44 318 IAmb IAmb 10 42 12.2
comp=Z,15nm,0.7s
UOSS Minazif 55.46 140 P **P** **10 41 41.5 -1.2**
UOSS IAmb IAmb 10 41 51.2
comp=Z,15nm,0.8s
UOSS Minazif 55.46 140 P **P** **10 41 43.6 +0.9**
UOSS Minazif 55.46 140 P **P** **10 41 43.0 +0.3**
ERM Erimo 55.49 50*ce*P **P** **10 41 42.2 -0.5**
ERM pmax pmax
comp=Z,33nm,0.7s
ERM Erimo 55.49 50 P **P** **10 41 41.9 -0.8**
ERM Erimo 55.49 50 ⇑P **P** **10 41 42.7 0.0**
REDW Red Top Meadow 55.55 319 IAmb IAmb 10 42 12.7
comp=Z,15nm,0.9s
HATD Hatta, Dubai 55.57 140 P **P** **10 41 44.7 +1.2**
HATD Hatta, Dubai 55.57 140 *i* P **P** **10 41 44.3 +0.8**
SNR=10
FAQ Al Faqa, Dubai 55.58 141 P **P** **10 41 44.1 +0.6**
FAQ Al Faqa, Dubai 55.58 141 P **P** **10 41 44.1 +0.6**
N35A Tabor 55.58 305 P **P** **10 41 42.4 -1.0**
RAYN Ar Rayn 55.60 152 P **P** **10 41 44.0 +0.2**
RAYN pmax pmax
comp=Z,14nm,1.0s
RAYN Ar Rayn 55.60 152 P **P** **10 41 44.0 +0.2**
RAYN IAmb IAmb 10 42 39.6
comp=Z,14nm,1.0s
RAYN Ar Rayn 55.60 152 P **P** **10 41 44.9 +1.1**
RAYN Ar Rayn 55.60 152 ⇓P **P** **10 41 44.7 +0.9**
RAYN Ar Rayn 55.60 152 *i* P **P** **10 41 44.2 +0.4**
SNR=6.4
K22A Casper 55.62 315 P **P** **10 41 42.9 -0.9**
K22A IAmb IAmb 10 41 56.9
comp=Z,28nm,0.8s
K22A Casper 55.62 315 P **P** **10 41 42.8 -1.0**
baz=12,SNR=17
P43A Skaggs, Pawnee 55.66 299 P **P** **10 41 43.1 -0.9**
P43A IAmb IAmb 10 42 09.0
comp=Z,34nm,1.3s
ASUD Al Ashush, Dub 55.66 141 P **P** **10 41 45.3 +1.2**
ASUD Al Ashush, Dub 55.66 141 P **P** **10 41 44.9 +0.8**
ASHO Ashiyiah 55.70 140 P **P** **10 41 45.4 +0.9**
ASHO Ashiyiah 55.70 140 *i* P **P** **10 41 45.4 +0.9**
SNR=13
HLID Hailey 55.84 322 P **P** **10 41 46.1 +0.6**
baz=10
S54A Dingess, Beckl 55.85 291 P **P** **10 41 44.0 -1.4**
T59A Double "B" Far 55.90 287 P **P** **10 41 44.6 -1.0**
H04D Lebanon 55.90 329 P **P** **10 41 43.5 -2.1**
baz=8.8
I05D Terrebonne, OR 55.92 328 P **P** **10 41 46.3 +0.4**
baz=9.1
BW06 Boulder Array 55.95 317 P **P** **10 41 46.6 +0.2**
BW06 Boulder Array 55.95 317 P **P** **10 41 44.9 -1.5**
baz=11,SNR=13
PD31 Pinedale Array 55.95 317 P **P** **10 41 45.6 -0.7**
PD31 Pinedale Array 55.95 317 ⇑P **P** **10 41 46.6 +0.3**
PDAR Pinedale Array 55.95 317 P **P** **10 41 45.5 -0.9**
comp=Z,1.0nm,0.5s,baz=39,slow=6.2,SNR=16
PDAR LR LR 11 04 55.5
comp=Z,643nm,21.0s,baz=11,slow=35
R50A Paris 55.98 293 P **P** **10 41 45.4 -0.9**
R50A IAmb IAmb 10 41 55.3
comp=Z,13nm,0.8s
R49A Shelbyville 56.13 294 IAmb IAmb 10 42 12.8
comp=Z,40nm,1.4s
BLA Blacksburg 56.24 290 P **P** **10 41 47.8 -0.4**
BLA pmax pmax
comp=Z,58nm,1.4s
BLA Blacksburg 56.24 290 P **P** **10 41 47.8 -0.4**
BLA Blacksburg 56.24 290 P **P** **10 41 48.4 +0.2**
baz=14
TIA Tai'an 56.26 75 *e*P **P** **10 41 48.0 -0.3**
TIA S **S** **10 49 39.8 +2.3**
TIA SS **SS** **10 53 21.3 -2.2**
TIA pmax pmax
comp=Z,15nm,1.5s
TIA LR LR
comp=Z,730nm,21.1s
TIA LR LR
comp=Z,4μm,23.5s
TIA LR LR
comp=Z,1μm,23.0s
ALNE Al Ain 56.28 141 P **P** **10 41 49.4 +0.8**
Q44A Meyer Farm, Va 56.28 298 IAmb IAmb 10 42 13.1
comp=Z,27nm,1.1s
SOHO SOHO 56.30 140 P **P** **10 41 50.0 +1.2**
P38A Dawn 56.41 302 P **P** **10 41 48.4 -0.9**
P38A IAmb IAmb 10 42 03.9
comp=Z,33nm,1.6s
OGNE Ogallala 56.58 310 P **P** **10 41 50.2 -0.4**
OGNE Ogallala 56.58 310 P **P** **10 41 48.1 -2.6**
baz=12
I04A Tendick Farm, 56.58 329 P **P** **10 41 51.0 +0.4**
baz=8.8
XAN Xi'an 56.64 84 P **P** **10 41 51.5 +0.4**
XAN pP sP 10 42 04.3 +8.0
XAN S **S** **10 49 47.8 +5.1**
XAN pmax pmax
comp=Z,24nm,1.7s
XAN pmax pmax
comp=Z,160nm,6.7s
XAN LR LR
comp=Z,2μm,14.3s
XAN LR LR
comp=Z,2μm,13.1s
XAN LR LR
comp=Z,2μm,14.5s
RWWY Rawlins 56.66 315 P **P** **10 41 51.6 +0.2**
DANN Dangsing 56.87 110 *e*P **P** **10 41 54.8 +1.7**
comp=Z,90nm,0.8s
LYN LuoYang 56.89 80 ⇓P **P** **10 41 56.5 +3.7**
LYN S S 10 49 55.8 +10
LYN SS **SS** **10 53 39.0 +5.5**
LYN pmax pmax
comp=Z,10.0nm,1.4s
LYN pmax pmax
comp=Z,170nm,3.5s
LYN LR LR
comp=Z,490nm,15.1s
LYN LR LR
comp=Z,3μm,12.7s
LYN LR LR
comp=Z,950nm,14.9s
J05D Fort Rock, OR 56.95 328 P **P** **10 41 52.6 -0.8**
baz=9.0
HOQ Hoqain 56.95 139 P **P** **10 41 56.2 +2.8**
PYUN Piuthan 56.96 111 *e*P **P** **10 41 55.9 +2.2**
comp=Z,88nm,1.1s
MZR Muzera 57.02 144 P **P** **10 41 54.5 +0.7**
MZR Muzera 57.02 144 *i* P **P** **10 41 53.7 -0.1**
SNR=16
U56A King 57.07 289 P **P** **10 41 53.3 -0.8**
LSA Lhasa 57.07 102 P **P** **10 41 57.0 +2.3**
LSA pmax pmax
comp=Z,11nm,0.9s
ARQ Araqi 57.09 140 P **P** **10 41 55.4 +1.1**
ARQ P **sP** **10 41 60.0 +0.5**
SNR=7.0
BIDO Bidbid 57.13 138 P **P** **10 41 57.1 +2.5**
KSRS Korea Array 57.21 65 P **P** **10 41 54.2 -0.8**
comp=Z,3.0nm,0.8s,baz=344,slow=6.5,SNR=8.3
KSRS LR LR 11 09 46.2
comp=Z,875nm,18.3s,baz=355,slow=40
N23A Red Feather La 57.24 314 P **P** **10 41 55.2 -0.4**
N23A IAmb IAmb 10 42 24.8
comp=Z,32nm,1.1s
N23A Red Feather La 57.24 314 P **P** **10 41 55.0 -0.6**
baz=12
T50A Nancy 57.30 294 P **P** **10 41 55.2 -0.5**
T50A IAmb IAmb 10 42 02.9
comp=Z,19nm,0.7s
HWUT Hardware Ranch 57.37 319 P **P** **10 41 56.2 -0.2**
GKN Gorkha 57.39 109 *e*P **P** **10 41 58.7 +2.1**
comp=Z,42nm,0.7s
KOLN Koldanda 57.41 111 *e*P **P** **10 42 00.2 +3.4**
KSU1 Kansas State U 57.46 305 P **P** **10 41 55.9 -0.9**
KSU1 Kansas State U 57.46 305 P **P** **10 41 55.5 -1.3**
KSU1 IAmb IAmb 10 42 41.0
comp=Z,18nm,1.0s
KSU1 Kansas State U 57.46 305 P **P** **10 41 54.8 -2.0**
baz=13
R40A Maddies Statio 57.47 301 P **P** **10 41 55.9 -1.0**
R40A IAmb IAmb 10 42 22.1
comp=Z,16nm,0.8s
WVOR Wild Horse Val 57.49 325 P **P** **10 41 57.8 +0.7**
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 57.49 325 P **P** **10 41 57.8 +0.7**
TZTN Tazewell 57.51 292 P **P** **10 41 56.8 -0.4**
TZTN IAmb IAmb 10 42 03.1
comp=Z,14nm,0.8s
TZTN Tazewell 57.51 292 P **P** **10 41 56.3 -0.9**
baz=14
CCM Cathedral Cave 57.51 300 P **P** **10 41 55.3 -1.9**
CCM pmax pmax
comp=Z,9.0nm,0.7s
CCM Cathedral Cave 57.51 300 P **P** **10 41 55.3 -1.9**
CCM Cathedral Cave 57.51 300 P **P** **10 41 55.6 -1.6**
baz=14
UMZA Um Al Zommool 57.52 142 P **P** **10 41 58.3 +0.9**
SMDO Samad 57.57 139 P **P** **10 41 59.0 +1.1**
SNR=7.8
K04D Chiloquin, OR 57.66 328 P **P** **10 41 59.1 +0.7**
baz=8.8
KKN Kakani 57.72 109 *e*P **P** **10 42 02.2 +3.2**
comp=Z,139nm,0.7s
GUN Gumba 57.73 108 *e*P **P** **10 42 01.6 +2.4**
comp=Z,60nm,1.0s
BSY Bisya 57.76 140 P **P** **10 42 00.1 +1.0**
DMN Daman 57.86 109 *e*P **P** **10 42 02.8 +2.7**
comp=Z,71nm,1.0s
JIRN Jiri 58.03 108 *e*P **P** **10 42 04.6 +3.2**
comp=Z,60nm,0.7s
RDMU Red Mountain 58.10 317 P **P** **10 42 00.6 -1.0**
L04D Klamath Falls 58.13 328 P **P** **10 41 59.8 -1.9**
baz=8.7
WBK Wadi Bani Khal 58.15 138 P **P** **10 42 03.2 +1.4**
V52A Sevierville 58.20 292 P **P** **10 42 01.5 -0.5**
V52A IAmb IAmb 10 42 27.1
comp=Z,28nm,1.2s
V53A Saluda 58.21 291 P **P** **10 42 01.3 -0.9**
V53A IAmb IAmb 10 42 54.7
comp=Z,26nm,1.1s
S39A Bolivar 58.25 302 P **P** **10 42 01.4 -1.0**
S39A IAmb IAmb 10 42 07.5
comp=Z,12nm,0.8s
JMDO Jabal Madar 58.26 139 P **P** **10 42 03.4 +0.8**
ISCO Idaho Springs 58.27 313 P **P** **10 42 00.8 -2.1**
baz=12
CBKS Cedar Bluff 58.28 308 P **P** **10 42 01.9 -0.7**
CBKS pmax pmax
comp=Z,17nm,0.7s
CBKS Cedar Bluff 58.28 308 P **P** **10 42 01.9 -0.7**
CBKS IAmb IAmb 10 42 16.2
comp=Z,17nm,0.7s
CTU Camp Tracy 58.30 319 P **P** **10 42 03.5 +0.6**
O20A White River Ci 58.34 316 P **P** **10 42 03.1 -0.1**
O20A White River Ci 58.34 316 P **P** **10 42 02.9 -0.3**
baz=11,SNR=27
TKL Tuckaleechee C 58.41 292 LR LR 11 06 53.5
comp=Z,1μm,21.8s,baz=19,slow=36
TKL Tuckaleechee C 58.41 292 P **P** **10 42 03.1 -0.4**
TKL pmax pmax
comp=Z,29nm,1.2s
TKL Tuckaleechee C 58.41 292 P **P** **10 42 03.1 -0.4**
TKL IAmb IAmb 10 42 28.6
comp=Z,29nm,1.1s
KMSC Kings Mountain 58.43 290 P **P** **10 42 03.6 0.0**
baz=14
R32A Long Quarter, 58.48 307 P **P** **10 42 03.4 -0.7**
M04C Macdoel 58.51 328 P **P** **10 42 03.9 -0.4**
baz=8.7
KSCO Kaye Shedlock' 58.56 310 P **P** **10 42 03.9 -0.8**
KSCO IAmb IAmb 10 42 12.1
comp=Z,39nm,1.4s
KSCO Kaye Shedlock' 58.56 310 P **P** **10 42 04.3 -0.4**
baz=12
CD2 Chengdu 58.56 90 P **P** **10 42 06.0 +1.3**
CD2 pP sP 10 42 09.8 -0.1
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,3μm,13.7s
CD2 LR LR
comp=Z,2μm,13.1s
MGMO Mountain Grove 58.58 300 P **P** **10 42 04.0 -0.7**
MGMO IAmb IAmb 10 42 45.1
comp=Z,12nm,1.0s
PBMO Poplar Bluff 58.60 299 P **P** **10 42 03.4 -1.4**
PBMO IAmb IAmb 10 42 44.4
comp=Z,18nm,0.9s
JLN Jalan Bani Buh 58.66 137 P **P** **10 42 06.4 +1.0**
ELK Elko 58.72 322 LR LR 11 07 28.3
comp=Z,400nm,18.9s,baz=13,slow=36
WVT Waverly 58.74 296 P **P** **10 42 06.1 +0.3**
baz=14
CPCT Cooper Cave 58.76 293 P **P** **10 42 04.3 -1.6**
CPCT IAmb IAmb 10 43 01.3
comp=Z,15nm,1.2s
RAMN Ramite 58.80 108 *e*P **P** **10 42 09.6 +3.0**
comp=Z,30nm,0.6s
V48A Smith Brothers 58.92 295 P **P** **10 42 05.9 -1.2**
V48A IAmb IAmb 10 42 13.4
comp=Z,8.0nm,0.7s
DUG Dugway, Tooele 58.93 320 P **P** **10 42 08.4 +1.1**
baz=10
M02C Callahan 59.01 329 P **P** **10 42 07.0 -0.7**
baz=8.5
Q24A Divide 59.01 313 P **P** **10 42 06.0 -2.1**
Q24A IAmb IAmb 10 42 21.5
comp=Z,16nm,0.9s
Q24A Divide 59.01 313 P **P** **10 42 06.7 -1.3**
baz=12,SNR=5.4
ODAN Odare 59.05 107 *e*P **P** **10 42 11.4 +3.0**
comp=Z,68nm,0.8s
NLU North Lily Min 59.07 319 P **P** **10 42 07.2 -1.1**
NLU IAmb IAmb 10 42 37.5
comp=Z,10nm,0.9s
P18A Preston Nutter 59.13 317 IAmb IAmb 10 42 37.6
comp=Z,14nm,0.6s
SWET Sewanee 59.26 294 P **P** **10 42 07.5 -1.9**
SWET IAmb IAmb 10 42 15.2
comp=Z,11nm,0.7s
P17A Butcher Ranch, 59.35 318 P **P** **10 42 08.8 -1.5**
P17A IAmb IAmb 10 42 40.2
comp=Z,8.1nm,0.7s
U40A Yellville 59.46 301 P **P** **10 42 09.3 -1.5**
U40A IAmb IAmb 10 42 35.0
comp=Z,12nm,1.1s
U40A Yellville 59.46 301 P **P** **10 42 10.3 -0.5**
baz=13
HODGE Hodges 59.49 290 P **P** **10 42 10.1 -0.9**
T35A Sooner Cattle 59.57 304 P **P** **10 42 12.4 +0.9**
TMUT Trail Mountain 59.59 318 P **P** **10 42 12.6 +0.6**
TMUT IAmb IAmb 10 42 41.6
comp=Z,21nm,0.9s
MHTO MHTO 59.60 139 P **P** **10 42 12.4 +0.5**
SNR=8.3
SRU San Rafael Swe 59.67 317 P **P** **10 42 12.2 -0.3**
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 59.67 317 P **P** **10 42 12.2 -0.3**
SRU IAmb IAmb 10 42 41.2
comp=Z,13nm,0.9s
PLAL Pickwick Lake 59.90 296 P **P** **10 42 12.7 -1.2**
PLAL IAmb IAmb 10 42 38.2
comp=Z,29nm,1.5s
O03E Paynes Creek 59.97 327 P **P** **10 42 15.2 +0.8**
baz=8.6
MAJO Matsushiro 59.99 56 *i* P **P** **10 42 13.7 -0.7**
MAJO pmax pmax
comp=Z,13nm,1.1s
MAJO Matsushiro 59.99 56 P **P** **10 42 13.2 -1.3**
MAJO IAmb IAmb 10 42 21.7
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 59.99 56 P **P** **10 42 14.4 0.0**
comp=Z,6.4nm,0.8s,baz=356,slow=6.8,SNR=9.3
MJAR LR LR 11 09 18.1
comp=Z,702nm,18.5s,baz=356,slow=37
MJAR Matsushiro Arr 59.99 56 P **P** **10 42 13.8 -0.7**
PV23 Carpenter Ridg 60.10 316 P **P** **10 42 14.1 -1.5**
PV15 Paradox Valley 60.13 315 P **P** **10 42 14.2 -1.4**
PV10 Paradox Valley 60.18 316 P **P** **10 42 15.9 -0.2**
O02D Mt. Diablo Mer 60.20 328 P **P** **10 42 17.5 +1.6**
baz=8.4
Y52A Lilburn 60.20 292 P **P** **10 42 15.3 -0.7**
Y52A IAmb IAmb 10 42 41.0
comp=Z,24nm,1.3s
X48A Hartselle 60.22 295 P **P** **10 42 14.5 -1.5**
X48A IAmb IAmb 10 43 01.2
comp=Z,30nm,1.6s
BEKR Beckworth 60.23 326 P **P** **10 42 15.5 -0.7**
BEKR IAmb IAmb 10 42 46.2
comp=Z,13nm,1.2s
SDCO Great Sand Dun 60.26 313 P **P** **10 42 16.1 -0.5**
SDCO IAmb IAmb 10 42 22.6
comp=Z,10nm,0.8s
SDCO Great Sand Dun 60.26 313 P **P** **10 42 15.1 -1.5**
baz=11,SNR=18
PV13 Radium Mtn., P 60.36 316 P **P** **10 42 15.7 -1.6**
WHAR Wooly Hollow 60.39 300 P **P** **10 42 16.4 -0.8**
WHAR IAmb IAmb 10 42 22.0
comp=Z,12nm,0.6s
ENH Enshi 60.40 84 P **P** **10 42 17.6 +0.3**
TUL1 Leonard 60.42 303 P **P** **10 42 17.3 -0.1**
baz=13
S22A 4UR Ranch, Cre 60.46 314 P **P** **10 42 18.2 +0.1**
S22A IAmb IAmb 10 42 47.5
comp=Z,16nm,0.9s
S22A 4UR Ranch, Cre 60.46 314 P **P** **10 42 17.9 -0.1**
baz=11
W41B Gary Mavity, V 60.50 300 P **P** **10 42 17.4 -0.5**
W41B IAmb IAmb 10 42 59.7
comp=Z,15nm,1.1s
W41B Gary Mavity, V 60.50 300 P **P** **10 42 17.1 -0.8**
baz=13
GOGA Godfrey 60.53 291 P **P** **10 42 17.6 -0.5**
GOGA pmax pmax
comp=Z,29nm,1.4s
GOGA Godfrey 60.53 291 P **P** **10 42 17.6 -0.5**
GOGA IAmb IAmb 10 43 10.9
comp=Z,29nm,1.4s
GOGA Godfrey 60.53 291 P **P** **10 42 16.7 -1.4**
baz=14
DQM DQM 60.58 140 P **P** **10 42 19.0 +0.4**
OXF Oxford 60.61 297 P **P** **10 42 17.9 -0.7**
baz=13
NJ2 Nanjing 60.63 75 *e*P **P** **10 42 18.0 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 LR LR
comp=Z,750nm,18.9s
NJ2 LR LR
comp=Z,3μm,20.8s
NJ2 LR LR
comp=Z,690nm,18.0s
Y49A Blount Mountai 60.67 294 P **P** **10 42 17.8 -1.4**
Y49A IAmb IAmb 10 42 25.2
comp=Z,13nm,0.7s
T25A Trinidad 60.68 311 P **P** **10 42 17.9 -1.5**
baz=12
PSUT Pine Spring 60.71 320 IAmb IAmb 10 42 56.2
comp=Z,13nm,0.8s
KVN Kaiserville 60.76 324 P **P** **10 42 19.8 -0.1**
KVN pmax pmax
comp=Z,10.0nm,0.8s
KVN Kaiserville 60.76 324 P **P** **10 42 19.8 -0.1**
KVN IAmb IAmb 10 42 49.2
comp=Z,10nm,0.8s
W39A Magazine 60.76 301 P **P** **10 42 19.6 -0.1**
W39A IAmb IAmb 10 43 12.4
comp=Z,14nm,1.0s
W39A Magazine 60.76 301 P **P** **10 42 19.6 -0.1**
baz=13
PNTR Pine Nut 60.90 325 P **P** **10 42 21.1 +0.1**
R11A Troy Canyon, C 61.12 322 P **P** **10 42 23.5 +1.1**
R11A Troy Canyon, C 61.12 322 P **P** **10 42 22.0 -0.3**
baz=9.7,SNR=8.0
WHN Wuhan 61.16 79 ⇑P **P** **10 42 22.5 +0.1**
WHN pP **pP** **10 42 26.0 -0.2**
MVCO Mesa Verde 61.24 315 P **P** **10 42 24.1 +0.8**
MVCO IAmb IAmb 10 43 24.0
comp=Z,17nm,0.9s
MVCO Mesa Verde 61.24 315 P **P** **10 42 22.9 -0.4**
baz=11
X40A Basin Creek Fa 61.27 300 P **P** **10 42 23.8 +0.6**
X40A IAmb IAmb 10 43 04.0
comp=Z,11nm,0.8s
X40A Basin Creek Fa 61.27 300 P **P** **10 42 23.2 0.0**
baz=13
NVAR Mina Array Bea 61.39 324 P **P** **10 42 28.6 +4.4**
comp=Z,3.7nm,0.8s,baz=9.8,slow=5.7,SNR=10
NVAR Mina Array Bea 61.39 324 P **P** **10 42 23.4 -0.8**
DOK Doka 61.42 143 P **P** **10 42 24.6 +0.3**
152A Waverly Hall 61.49 292 P **P** **10 42 23.6 -1.1**
SZCU Shurtz Canyon 61.53 319 P **P** **10 42 23.9 -1.3**
SZCU IAmb IAmb 10 43 49.0
comp=Z,24nm,1.0s
X37A Clayton 61.63 303 P **P** **10 42 25.1 -0.5**
X37A IAmb IAmb 10 43 06.0
comp=Z,14nm,0.9s
JNU Nakatsue 61.98 63 P **P** **10 42 27.9 -0.1**
comp=Z,22nm,1.0s,baz=353,slow=5.1,SNR=4.6
JNU LR LR 11 10 28.1
comp=Z,374nm,20.8s,baz=5.0,slow=37
JNU Nakatsue 61.98 63 P **P** **10 42 27.4 -0.6**
PRN Pahroc Range 61.98 321 P **P** **10 42 27.4 -0.7**
PRN IAmb IAmb 10 43 05.7
comp=Z,13nm,1.0s
PRN Pahroc Range 61.98 321 ⇓P **P** 10 42 33.5 +5.4
SSE Sheshan 62.03 73 P **P** **10 42 26.0 -2.3**
SSE S **S** **10 50 48.0 -4.4**

SSE				pmax	pmax			
	comp=Z,24nm,0.7s							
SSE				pmax	pmax			
	comp=Z,47nm,3.7s							
SSE				LR	LR			
	comp=Z,460nm,17.2s							
SSE				LR	LR			
	comp=Z,1µm,17.0s							
KNB	**Kanab**	**62.06 319**		P	**P**	**10 42 28.7**	**0.0**	
KNB				pmax	pmax			
	comp=Z,18nm,1.0s							
KNB	**Kanab**	**62.06 319**		P	**P**	**10 42 28.7**	**0.0**	
KNB				lAmb	lAmb	10 43 12.1		
	comp=Z,18nm,1.0s							
WHFO	**Wadi Hawf**	**62.07 144**		P	**P**	**10 42 28.5**	**-0.3**	
WMOK	**Wichita Mounta**	**62.09 306**	⇓	P	P	10 42 33.8	+5.1	
WMOK	**Wichita Mounta**	**62.09 306**		P	**P**	**10 42 28.3**	**-0.4**	
	baz=12,SNR=5.9							
WLAR	**White Oak Lake**	**62.10 300**		P	**P**	**10 42 28.0**	**-0.8**	
146A	**Union**	**62.37 296**		P	**P**	**10 42 29.9**	**-0.7**	
PZH	**PanZhiHua**	**62.40 93**	⇓	sP	**sP**	**10 42 31.3**	**+0.3**	
PZH				sP	**sP**	**10 42 36.5**	**+0.3**	
PZH				S	**S**	**10 50 54.0**	**-3.3**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,120nm,6.2s							
PZH				LR	LR			
	comp=Z,580nm,16.8s							
PZH				LR	LR			
	comp=Z,920nm,15.1s							
PZH				LR	LR			
	comp=Z,870nm,16.0s							
AMTX	**Amarillo**	**62.44 308**		P	**P**	**10 42 31.0**	**-0.2**	
	baz=12							
TIGA	**Tifton**	**62.46 291**		P	**P**	**10 42 29.9**	**-1.4**	
	baz=13							
LCH	**Last Change Ra**	**62.49 323**		P	**P**	**10 42 31.5**	**0.0**	
ABTO	**Aybut**	**62.56 145**		P	**P**	**10 42 32.6**	**+0.5**	
TPNV	**Topopah Spring**	**62.59 322**		P	**P**	**10 42 33.0**	**+0.8**	
	baz=9.4							
SHPR	**Sheep Range**	**62.88 321**		P	**P**	**10 42 34.5**	**+0.3**	
SHPR				lAmb	lAmb	10 43 03.3		
	comp=Z,13nm,1.0s							
FURC	**Furnace Creek,**	**63.14 322**		P	**P**	**10 42 34.5**	**-1.1**	
	baz=9.3							
ANMO	**Albuquerque**	**63.15 313**	*ce*	P	**P**	**10 42 36.1**	**+0.1**	
ANMO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ANMO	**Albuquerque**	**63.15 313**		P	**P**	**10 42 35.8**	**-0.2**	
ANMO	**Albuquerque**	**63.15 313**	⇓	P	**P**	**10 42 36.6**	**+0.6**	
ANMO	**Albuquerque**	**63.15 313**		P	**P**	**10 42 35.4**	**-0.7**	
	baz=11							
CWC	**Cottonwood Cre**	**63.33 324**		P	**P**	**10 42 36.9**	**-0.3**	
	baz=9.0							
WUAZ	**Wupatki**	**63.33 317**		P	**P**	**10 42 36.5**	**-0.6**	
	baz=10							
GWY	**Greenwater Val**	**63.40 322**		lAmb	lAmb	10 43 07.9		
	comp=Z,8.8nm,0.7s							
GYA	**Guiyang**	**63.49 88**	⇑	P	**P**	**10 42 39.0**	**+0.8**	
GYA				pP	sP	10 42 43.0	-0.4	
GYA				pmax	pmax			
	comp=Z,12nm,0.9s							
GYA				LR	LR			
	comp=Z,1µm,14.7s							
GYA				LR	LR			
	comp=Z,1µm,13.8s							
GYA				LR	LR			
	comp=Z,770nm,15.3s							
MSTX	**Muleshoe**	**63.51 309**		P	**P**	**10 42 37.7**	**-0.6**	
MSTX	**Muleshoe**	**63.51 309**		P	**P**	**10 42 37.5**	**-0.8**	
	baz=11,SNR=16							
QSM	**Queen of Sheba**	**63.64 322**		P	**P**	**10 42 39.3**	**+0.2**	
VES	**Vestal, Richgr**	**64.04 324**		P	**P**	**10 42 42.0**	**+0.3**	
	baz=8.8							
ISA	**Isabella, Lake**	**64.14 324**		P	**P**	**10 42 42.3**	**-0.1**	
	baz=8.9							
GSC	**Goldstone, Bar**	**64.28 322**		P	**P**	**10 42 44.0**	**+0.6**	
	baz=9.2							
ABTX	**Abilene, Hawle**	**64.30 306**		P	**P**	**10 42 43.1**	**-0.4**	
	baz=12							
KOWA	**Kowa**	**64.52 207**		P	**P**	**10 42 44.0**	**-1.0**	
KOWA				lAmb	lAmb	10 43 17.7		
	comp=Z,18nm,1.1s							
KOWA	**Kowa**	**64.52 207**	⇑	P	**P**	**10 42 45.6**	**+0.7**	
GMRC	**Granite Mounta**	**64.64 321**		P	**P**	**10 42 45.6**	**-0.2**	
	baz=9.3							
TOA0	**Torodi Ar. Sit**	**65.37 200**		P	**P**	**10 42 50.5**	**0.0**	
TORD	**Torodi Ar. Bea**	**65.37 200**		P	**P**	**10 42 50.1**	**-0.4**	
	comp=Z,9.1nm,0.7s,baz=359,slow=6.9,SNR=72							
TORD	**Torodi Ar. Bea**	**65.37 200**		P	**P**	**10 42 50.3**	**-0.2**	
121A	**Cookes Peak, D**	**65.72 313**		P	**P**	**10 42 52.4**	**-0.4**	
121A				lAmb	lAmb	10 43 22.0		
	comp=Z,9.9nm,0.9s							
121A	**Cookes Peak, D**	**65.72 313**		P	**P**	**10 42 50.5**	**-2.4**	
	baz=10							
PFO	**Pinyon Flats O**	**65.90 322**		LR	LR	11 10 24.1		
	comp=Z,342nm,18.9s,baz=204,slow=35							
MNTX	**Cornudas Mount**	**66.16 311**		P	**P**	**10 42 55.4**	**-0.1**	
MNTX	**Cornudas Mount**	**66.16 311**		P	**P**	**10 42 54.4**	**-1.0**	
	baz=11							
HKT	**Hockley**	**66.24 302**	*i*	P	**P**	**10 42 55.9**	**0.0**	
HKT				pmax	pmax			
	comp=Z,8.0nm,1.2s							
TUC	**Tucson**	**66.39 316**		P	**P**	**10 42 57.4**	**+0.4**	
TUC				pmax	pmax			
	comp=Z,73nm,1.8s							
TUC	**Tucson**	**66.39 316**		P	**P**	**10 42 57.4**	**+0.4**	
TUC	**Tucson**	**66.39 316**	⇑	P	**P**	**10 42 59.0**	**+1.9**	
TUC	**Tucson**	**66.39 316**		P	**P**	**10 42 56.3**	**-0.8**	
	baz=10.0							
JCT	**Junction City**	**66.42 306**		P	**P**	**10 42 56.6**	**-0.6**	
JCT				pmax	pmax			
	comp=Z,24nm,1.0s							
JCT	**Junction City**	**66.42 306**		P	**P**	**10 42 56.6**	**-0.6**	
JCT	**Junction City**	**66.42 306**	⇓	P	**P**	**10 43 01.4**	**+4.2**	
JCT	**Junction City**	**66.42 306**		P	**P**	**10 42 56.9**	**-0.3**	
	baz=12							
HYBB	**Hyderabad (bro**	**66.50 118**	*e*	P	**P**	**10 42 57.0**	**-0.8**	
JOW	**Kunigami**	**67.58 67**		LR	LR	11 15 47.4		
	comp=Z,668nm,18.1s,baz=26,slow=39							
JOW	**Kunigami**	**67.58 67**		P	**P**	**10 43 04.0**	**-0.6**	
TX31	**Lajitas Ar. Si**	**68.19 309**		P	**P**	**10 43 08.0**	**-0.5**	
TX32	**Lajitas Array**	**68.19 309**		P	**P**	**10 43 07.9**	**-0.6**	
TXAR	**Lajitas Array**	**68.19 309**		P	**P**	**10 43 07.5**	**-1.0**	
	comp=Z,2.2nm,0.6s,baz=36,slow=4.9,SNR=28							
TXAR	**Lajitas Array**	**68.19 309**		P	**P**	**10 43 08.4**	**-0.1**	
TXAR	**Lajitas Array**	**68.19 309**		P	**P**	**10 43 08.4**	**-0.1**	
833A	**Chaparral WMA,**	**68.46 305**		P	**P**	**10 43 09.1**	**-0.9**	
833A				lAmb	lAmb	10 43 23.4		
	comp=Z,15nm,0.8s							
833A	**Chaparral WMA,**	**68.46 305**		P	**P**	**10 43 09.9**	**-0.2**	
	baz=11							
CHTO	**Chiang Mai**	**69.25 97**		P	**P**	**10 43 14.2**	**-0.9**	
CHTO				pmax	pmax			
	comp=Z,94nm,1.9s							
CHTO	**Chiang Mai**	**69.25 97**		P	**P**	**10 43 14.2**	**-0.9**	
CMAR	**Chiang Mai Arr**	**69.60 97**		P	**P**	**10 43 17.4**	**+0.2**	
	comp=Z,6.3nm,0.8s,baz=345,slow=7.3,SNR=17							
CMAR				LR	LR	11 16 16.3		
	comp=Z,597nm,20.9s,baz=350,slow=38							
CMAR	**Chiang Mai Arr**	**69.60 97**		P	**P**	**10 43 17.0**	**-0.2**	
QIZ	**Qiongzhong**	**71.36 87**		P	**P**	**10 43 27.8**	**-0.2**	
QIZ				S	**S**	**10 52 46.8**	**+1.4**	
QIZ				LR	LR			
	comp=Z,660nm,11.6s							
QIZ				LR	LR			
	comp=Z,460nm,13.1s							
SJG	**San Juan**	**71.76 271**		LR	LR	11 14 43.7		
	comp=Z,122nm,18.9s,baz=5.0,slow=36							
DBIC	**Dimbokro**	**72.34 207**		P	**P**	**10 43 33.5**	**-0.4**	
	comp=Z,7.5nm,1.1s,baz=58,slow=5.8,SNR=6.5							
DBIC				LR	LR	11 17 42.7		
	comp=Z,154nm,19.9s,baz=14,slow=38							
DBIC	**Dimbokro**	**72.34 207**		P	**P**	**10 43 33.6**	**-0.3**	
DBIC	**Dimbokro**	**72.34 207**		P	**P**	**10 43 33.6**	**-0.3**	
DBIC				lAmb	lAmb	10 44 07.3		
	comp=Z,34nm,1.3s							
TIC	**Toumodi**	**72.39 207**	*eP*	P	**P**	**10 43 33.9**	**-0.3**	
KIC	**Kosan Boka**	**72.64 207**	*eP*	P	**P**	**10 43 35.6**	**-0.1**	
	comp=Z,39nm,1.1s							
LIC	**Lamto**	**72.80 207**	*eP*	P	**P**	**10 43 34.2**	**-2.4**	
	comp=Z,25nm,1.1s							
LPIG	**La Paz**	**74.38 314**		LR	LR	11 16 54.3		
	comp=Z,486nm,21.4s,baz=12,slow=36							
ZAIG	**Zacatecas**	**74.43 307**		P	**P**	**10 43 45.1**	**-1.5**	
LODK	**Lodwar**	**74.74 165**		P	**P**	**10 43 46.3**	**-1.8**	
MBAR	**Mbarara**	**78.51 170**		LR	LR	11 22 06.7		
	comp=Z,135nm,18.8s,baz=358,slow=38							
MBAR	**Mbarara**	**78.51 170**	*ce*	P	**P**	**10 44 11.3**	**+1.8**	
MBAR				pmax	pmax			
	comp=Z,27nm,2.5s							
CMIG	**Matias Romero**	**78.60 298**		LR	LR	11 21 31.4		
	comp=Z,268nm,20.2s,baz=25,slow=38							
KMBO	**Kilima Mbogo**	**79.36 163**		P	**P**	**10 44 14.1**	**-0.1**	
	comp=Z,1.0nm,0.3s,baz=357,slow=9.4,SNR=1.4							
KMBO	**Kilima Mbogo**	**79.36 163**		lAmb	lAmb	10 44 23.1		
	comp=Z,12nm,1.4s							
MTO3	**Montecristo**	**80.17 293**		P	**P**	**10 44 18.1**	**-0.5**	
MTO3				lAmb	lAmb	10 44 58.4		
	comp=Z,18nm,0.9s							
KIBK	**Kibwezi**	**80.61 162**		P	**P**	**10 44 19.8**	**-1.0**	
MDP	**Montagnes des**	**81.54 255**		LR	LR	11 13 13.2		
	comp=Z,166nm,21.1s,baz=30,slow=30							
SDV	**Santo Domingo**	**81.66 273**		LR	LR	11 18 35.6		
	comp=Z,354nm,21.9s,baz=354,slow=34							
SDV	**Santo Domingo**	**81.66 273**		P	**P**	**10 44 25.6**	**-1.0**	
SDV				lAmb	lAmb	10 45 08.2		
	comp=Z,12nm,0.8s							
SDV	**Santo Domingo**	**81.66 273**	*eP*	P	**P**	**10 44 27.2**	**+0.6**	
SDV	**Santo Domingo**	**81.66 273**	*eP*	P	**P**	**10 44 27.2**	**+0.6**	
SOCV	**Socops**	**82.29 273**	*eP*	P	**P**	**10 44 28.9**	**-0.8**	
JTS	**Las Juntas de**	**83.28 287**		LR	LR	11 20 57.2		
	comp=Z,556nm,21.9s,baz=60,slow=35							
BCIP	**Isla Barro Col**	**83.32 282**	*eP*	P	**P**	**10 44 30.9**	**-4.1**	
GUMO	**Guam**	**83.57 54**		LR	LR	11 23 47.7		
	comp=Z,205nm,19.2s,baz=342,slow=37							
UREC	**San Jos de Ur**	**83.80 278**	*eP*	P	**P**	**10 44 37.4**	**-0.1**	
ZARC	**Zaragoza, Cauc**	**83.91 277**	P	P	**P**	**10 44 37.6**	**-0.5**	
ZARC	**Zaragoza, Cauc**	**83.91 277**	*eP*	P	**P**	**10 44 37.8**	**-0.2**	
PTBC	**PUERTO BERRIO,**	**84.75 276**	*eP*	P	**P**	**10 44 41.8**	**-0.5**	
PSI	**Prapat**	**84.79 101**		LR	LR	11 28 21.3		
	comp=Z,175nm,18.5s,baz=317,slow=40							
RUSC	**La Rusia**	**85.08 275**	*eP*	P	**P**	**10 44 43.0**	**-1.5**	
CBOC	**Ciudad Bolivar**	**85.73 278**	*eP*	P	P	10 44 39.8	-7.6	
NORC	**Norcasia**	**85.78 277**	*eP*	P	**P**	**10 44 47.2**	**-0.3**	
BOAV	**Boa Vista**	**85.81 262**	*eP*	P	**P**	**10 44 47.5**	**-0.1**	
GUY2C	**Guyana, Caldas**	**86.21 277**	*eP*	P	**P**	**10 44 50.4**	**+0.2**	
ROSC	**El Rosal**	**86.37 276**		LR	LR	11 23 45.7		
	comp=Z,135nm,19.1s,baz=42,slow=36							
CHIC	**Chingaza**	**86.45 275**	*eP*	P	**P**	**10 44 51.0**	**-0.2**	
PLMC	**San Jos del P**	**86.72 278**	*eP*	P	**P**	**10 44 52.3**	**+0.2**	
YOTC	**Yotoco, Valle**	**87.62 278**	*eP*	P	P	10 44 51.3	-5.3	
RCBR	**Riachuelo**	**88.97 236**		LR	LR	11 15 48.1		
	comp=Z,287nm,21.7s,baz=151,slow=30							
LEM	**Lembang**	**95.97 94**		LR	LR	11 35 25.3		
	comp=Z,418nm,19.2s,baz=304,slow=40							
TSUM	**Tsumeb**	**96.82 183**		LR	LR	11 33 39.2		
	comp=Z,183nm,18.4s,baz=335,slow=38							
MATP	**Matopo**	**98.13 173**		LR	LR	11 32 16.8		
	comp=Z,157nm,21.4s,baz=20,slow=37							
JAY	**Jayapura**	**98.56 61**		LR	LR	11 28 45.2		
	comp=Z,245nm,21.6s,baz=4.0,slow=34							
WRA	**Warramunga Arr**	**114.30 71**		PKiKP	PKPdf	10 50 46.8	-0.6	
	comp=Z,0.2nm,0.6s,baz=325,slow=2.5,SNR=1.5							
AS31	**Alice Springs**	**117.83 72**			**PKPdf**	**10 50 52.7**	**-1.5**	
ASAR	**Alice Springs**	**117.83 72**		PKP	**PKPdf**	**10 50 52.4**	**-1.8**	
	comp=Z,0.5nm,0.4s,baz=356,slow=1.7,SNR=15							
ASAR				PKKPab	**PKKPbc**	**11 01 14.4**	**+2.5**	
	comp=Z,0.7nm,0.7s,baz=163,slow=3.6,SNR=4.4							
PLCA	**Paso Flores**	**129.69 261**		PKP	**PKPdf**	**10 51 16.5**	**+0.1**	
	comp=Z,2.4nm,0.9s,baz=56,slow=3.0,SNR=6.9							
SYO	**Syowa Base**	**147.04 168**	‖ *e*	PKPdf	**PKPbc**	**10 51 48.8**	**-0.2**	
SYO	**Syowa Base**	**147.04 168**	‖ *ep*	PKPbc	pPKPbc	10 51 54.4	+1.4	
MAW	**Mawson**	**147.37 152**		PKPbc	**PKPdf**	**10 51 48.6**	**+1.1**	
	comp=Z,5.4nm,0.6s,baz=265,slow=8.0,SNR=2.1							
VNA2	**Neumayer--Watz**	**149.44 198**		PKPdf	**PKPbc**	**10 51 55.6**	**+0.3**	
	baz=356,slow=4.0							
VNA3	**Neumayer Olymp**	**149.91 199**		PKPdf	**PKPbc**	**10 51 56.4**	**-0.1**	
SNAA	**Sanae**	**149.91 195**		PKPdf	**PKPbc**	**10 51 55.6**	**-0.9**	
SNAA	**Sanae**	**149.91 195**		PKPbc	**PKPbc**	**10 51 55.7**	**-0.9**	
	comp=Z,16nm,1.2s,baz=29,slow=9.7,SNR=2.1							
TROLL	**Troll, Antarti**	**149.99 191**		PKPdf	**PKiKP**	**10 51 57.6**	**-0.1**	
QSPA	**South Pole Qui**	**167.76 180**		PKPab	**PKPab**	**10 53 19.2**	**-0.5**	
	comp=Z,3.3nm,0.9s,baz=256,slow=4.6,SNR=4.6							
QSPA	**South Pole Qui**	**167.76 180**		PKPdf	**PKPdf**	**10 52 13.3**	**+0.6**	

BER 29 10:32:36.4±0.6, 77.92N×21.11E, h5km±4km, ML5.1,
Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.02**	**287**	*e*	S	Sg		10 33 08.1	-1.1
BRBA	**Barentsburg A**	**1.45**	**279**	*e*	Sg	Sb		10 33 21.7	-0.7
BRBA					lAML			10 33 23.7	
	comp=Z,59µm,0.7s								
HSPB	**Hornsund (broa**	**1.53**	**236**	*e*	S	Sn		10 33 21.6	-2.8
HSPB					lAML			10 33 22.4	
	comp=Z,40µm,0.6s								
HOPEN	**Hopen**	**1.67**	**147**	*e*	Sg	Sb		10 33 28.3	-0.3
HOPEN					lAML			10 33 31.2	
	comp=Z,23µm,0.4s								
KBS	**Kingsbay**	**2.10**	**303**	*e*	Sg	Sb		10 33 41.8	+0.5
KBS				*e*				10 33 42.5	
KBS					lAML			10 33 46.5	
	comp=Z,19µm,0.7s								
BJO1	**Bjornoya**	**3.48**	**189**	*e*	Sg	Sb		10 34 23.1	+2.4

*NAO **29** 10:40:47.1±1.6, 77.66N×20.19E, h13km±12km, ML3.3*
*BER **29** 10:40:49.0±4.5, 77.74N×20.55E, h16km±18km, ML3.2, MW3.3, ML3.3(NAO), Confirmed Earthquake*
*IEPN **29** 10:40:50.0, 77.72N×20.44E, h10km*
ISC 29 10:40:46.0±1.3, 77.84N±0.04×20.70E±0.04, h17km±11km, n23, σ1.9 20/41, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.97**	**293**			Pn	**Pn**	**10 41 05.4**	**+0.6**
	baz=130,slow=18								
SPA0						Lg	Lg	10 41 17.5	
	baz=123,slow=37								
SPA0	**Spitsbergen Ar**	**0.97**	**293**			Pn	**Pn**	**10 41 05.4**	**+0.6**
	baz=130,slow=18								
SPA0						Sg	**Sb**	**10 41 17.5**	**+0.7**
	baz=123,slow=37								
SPA0	**Spitsbergen Ar**	**0.97**	**293**	*i*	P	**Pn**	**Pn**	**10 41 05.3**	**+0.5**
SPA0						*e*S	**Sg**	**10 41 17.2**	**-0.2**
BRBA	**Barentsburg A**	**1.38**	**282**			Pn	**Pg**	**10 41 12.5**	**0.0**
BRBA						Lg	Lg	10 41 29.6	
BRBA	**Barentsburg A**	**1.38**	**282**	*e*	P	**Pn**	**Pn**	**10 41 11.1**	**+0.7**
BRBA				*e*	Pg	**Pg**	**Pg**	**10 41 12.8**	**+0.2**
BRBA				*e*	S	**Sg**	**Sg**	**10 41 30.1**	**-0.3**
BRBA				*e*	Sg	**Sb**	**Sb**	**10 41 31.0**	**+2.4**
BRBA					lAML			10 41 32.1	
	comp=Z,1µm,0.3s								
HSPB	**Hornsund (broa**	**1.41**	**236**			Pn	**Pn**	**10 41 11.7**	**+0.8**
HSPB						Lg	Lg	10 41 27.6	
HSPB	**Hornsund (broa**	**1.41**	**236**	*e*	P	**Pn**	**Pn**	**10 41 11.5**	**+0.7**
HSPB				*e*	S	**Sn**	**Sn**	**10 41 29.0**	**0.0**
HSPB					lAML			10 41 29.7	
	comp=Z,334nm,0.4s								
HSPB	**Hornsund (broa**	**1.41**	**236**	*e*	P	**Pn**	**Pn**	**10 41 11.0**	**+0.2**
HSPB				*e*	S	**Sn**	**Sn**	**10 41 26.7**	**-2.3**
HOPEN	**Hopen**	**1.65**	**142**			Pn	**Pb**	**10 41 16.3**	**+0.4**
HOPEN						Lg	Lg	10 41 36.7	
HOPEN	**Hopen**	**1.65**	**142**	*e*	P	**Pb**	**Pb**	**10 41 16.2**	**+0.4**
HOPEN				*e*	S	**Sn**	**Sn**	**10 41 35.5**	**+0.7**
HOPEN					lAML			10 41 39.3	
	comp=Z,922nm,0.3s								
HOPEN	**Hopen**	**1.65**	**142**	*i*	P	**Pb**	**Pb**	**10 41 16.2**	**+0.4**
HOPEN				*e*	S	**Sn**	**Sn**	**10 41 35.2**	**+0.3**
KBS	**Kingsbay**	**2.08**	**306**			Pg	**Pg**	**10 41 25.8**	**-0.1**
KBS						Lg	Lg	10 41 51.6	
KBS	**Kingsbay**	**2.08**	**306**	*e*	Pg	**Pg**	**Pg**	**10 41 25.6**	**-0.3**
KBS				*e*	Sg	**Sg**	**Sg**	**10 41 51.3**	**-1.6**
KBS					lAML			10 41 52.2	
	comp=Z,379nm,0.6s								
KBS	**Kingsbay**	**2.08**	**306**	*e*	P	**Pg**	**Pg**	**10 41 25.5**	**-0.5**
KBS				*e*	S	**Sb**	**Sb**	**10 41 51.0**	**+2.2**
BJO1	**Bjornoya**	**3.38**	**188**			Pn	**Pn**	**10 41 37.3**	**-0.6**
BJO1						Pg	**Pb**	**10 41 46.1**	**+0.7**
BJO1						Lg	Lg	10 42 28.0	
BJO1	**Bjornoya**	**3.38**	**188**	*e*	P	**Pn**	**Pn**	**10 41 37.7**	**-0.2**
BJO1				*e*	Pg	**Pb**	**Pb**	**10 41 46.4**	**+1.0**
BJO1				*e*	S	**Sn**	**Sn**	**10 42 16.7**	**-0.9**
BJO1				*e*	Sg	**Sb**	**Sb**	**10 42 27.4**	**+1.3**
BJO1					lAML			10 42 31.2	
	comp=Z,73nm,0.6s								
BJO1	**Bjornoya**	**3.38**	**188**	*e*	P	**Pb**	**Pb**	**10 41 46.0**	**+0.7**
BJO1				*e*	S	**Sb**	**Sb**	**10 42 26.2**	**0.0**
ZFI	**Zemlya Franca-**	**5.77**	**46**	*e*	P	**Pn**	**Pn**	**10 42 12.4**	**+1.7**
ZFI				*e*	S	**Sn**	**Sn**	**10 43 14.5**	**-1.8**
	comp=Z,56nm,0.8s								
ZFI2	**Zemlya Franca-**	**5.77**	**46**	*e*	P	**Pn**	**Pn**	**10 42 12.6**	**+1.9**
ZFI2				*e*	S	**Sn**	**Sn**	**10 43 14.2**	**-2.2**
	comp=Z,66nm,3.4s								
ARA0	**ARCESS Array S**	**8.45**	**168**			Pn	**Pn**	**10 42 45.6**	**-1.9**
	baz=352,slow=12								
ARA0						Sn	Sn	10 44 12.1	-10
	baz=359,slow=22								
ARA0	**ARCESS Array S**	**8.45**	**168**			Pn	**Pn**	**10 42 45.6**	**-1.9**
	baz=352,slow=12								
ARA0						Sn	Sn	10 44 12.1	-10
	baz=359,slow=22								
APA0	**Apatity Array**	**10.87**	**154**			Pn	**Pn**	**10 43 19.1**	**-1.4**
	baz=337,slow=8.6								
APA0	**Apatity Array**	**10.87**	**154**			Pn	**Pn**	**10 43 19.1**	**-1.4**
	baz=337,slow=8.6								

*NAO **29** 10:44:50.6±2.0, 77.82N×20.74E, h7km±12km, ML2.4*
*BER **29** 10:44:53.7±1.5, 77.86N×20.83E, h12km±8km, ML2.4, ML2.4(NAO), Confirmed Earthquake*
IEPN 29 10:44:52.0, 77.86N×20.79E, h10km, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.98**	**291**			Pn	Pg	10 45 09.7	-1.0
	baz=118,slow=28								
SPA0						Lg	Lg	10 45 21.6	
	baz=107,slow=22								
SPA0	**Spitsbergen Ar**	**0.98**	**291**	*e*	P	Pg		10 45 09.7	-1.1
SPA0				*e*	S	Sg		10 45 23.5	+0.1
SPA0				*e*	Sg	Sb		10 45 24.7	+0.8
SPA0	**Spitsbergen Ar**	**0.98**	**291**	*i*	P	Pg		10 45 09.7	-1.1
SPA0				*i*	S	Sg		10 45 22.4	-1.0
BRBA	**Barentsburg A**	**1.39**	**281**			Pn		10 45 17.4	-0.1
BRBA	**Barentsburg A**	**1.39**	**281**	*e*	Pg	Pn		10 45 17.7	+0.3
BRBA					lAML			10 45 36.8	
	comp=Z,150nm,0.3s								
HSPB	**Hornsund (broa**	**1.44**	**236**			Pn		10 45 17.1	-0.9
HSPB	**Hornsund (broa**	**1.44**	**236**	*e*	P	Pn		10 45 17.4	-0.6
HSPB					lAML			10 45 36.4	
	comp=Z,79nm,0.5s								
HSPB	**Hornsund (broa**	**1.44**	**236**	*e*	P	Pn		10 45 15.0	-3.1
HSPB				*e*	S	Sn		10 45 32.3	-4.6
HOPEN	**Hopen**	**1.65**	**143**			Pn		10 45 20.3	-0.7
HOPEN						Lg		10 45 41.4	
HOPEN	**Hopen**	**1.65**	**143**	*e*	P	Pn		10 45 20.5	-0.5
HOPEN				*e*	S	Sn		10 45 40.7	-1.5
HOPEN					lAML			10 45 42.9	
	comp=Z,143nm,0.4s								
HOPEN	**Hopen**	**1.65**	**143**	*e*	P	Pn		10 45 20.1	-0.8
KBS	**Kingsbay**	**2.08**	**305**			Pn		10 45 25.8	-1.2
KBS						Pg		10 45 29.6	-0.2
KBS						Lg		10 45 56.4	
KBS	**Kingsbay**	**2.08**	**305**	*e*	Pg	Pb		10 45 29.9	+0.1
KBS				*e*	Sg	Sb		10 45 56.6	+0.9
KBS					lAML			10 46 00.6	
	comp=Z,42nm,0.2s								
KBS	**Kingsbay**	**2.08**	**305**			P	Pn	10 45 26.4	-0.5
KBS				*e*	S	Sn		10 45 52.1	-0.8
BJO1	**Bjornoya**	**3.41**	**188**	*e*	Pg	Pb		10 45 52.2	-0.1
BJO1				*e*	Sg	Sb		10 46 34.4	+0.8
BJO1					lAML			10 46 45.1	
	comp=Z,15nm,0.4s								
BJO1	**Bjornoya**	**3.41**	**188**			P	Pb	10 45 49.9	-2.4
BJO1						*e*S	Sb	10 46 30.7	-3.0
ZFI	**Zemlya Franca-**	**5.74**	**47**	*e*	P	Pn		10 46 13.8	-3.3
ZFI				*e*	S	Sn		10 47 15.8	-7.0
	comp=Z,35nm,2.4s								
ZFI2	**Zemlya Franca-**	**5.74**	**47**	*e*	P	Pn		10 46 13.7	-3.3
ZFI

HOPEN IAML 10 57 36.6
comp=Z,24nm,0.3s
KBS Kingsbay 2.10 308 *e*Pg Pb 10 57 21.6 -0.9
KBS *e*Sg Sb 10 57 47.1 -1.2
KBS IAML 10 57 50.2
comp=Z,14nm,0.3s

NAO ***29*** *10:56:52.4±1.9, 77°.84N×20°.75E, h6km±12km, ML2.1*
BER 29 10:56:54.8±1.6, 77°.83N×20°.80E, h15km±11km, ML2.2,
Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.99**	**293**	Pn	Pb	10 57 11.5	-2.1
	baz=114,slow=18						
SPA0				Lg	Lg	10 57 23.6	
	baz=105,slow=28						
SPA0	**Spitsbergen Ar**	**0.99**	**293**	*e*P	Pb	10 57 11.7	-1.9
SPA0				*e*S	Sb	10 57 23.7	-2.7
SPA0				IAML		10 57 25.9	
	comp=Z,36nm,0.4s						
BRBA	**Barentsburg A**	**1.40**	**283**	Pn	Pn	10 57 18.6	-1.1
BRBA				Lg	Lg	10 57 36.9	
BRBA	**Barentsburg A**	**1.40**	**283**	*e*Pg	Pn	10 57 19.2	-0.5
BRBA				*e*Sg	Sn	10 57 37.5	-0.4
BRBA				IAML		10 57 37.9	
	comp=Z,136nm,0.3s						
HSPB	**Hornsund (broa**	**1.43**	**237**	Pn	Pn	10 57 18.2	-1.8
HSPB				Lg	Lg	10 57 36.1	
HSPB	**Hornsund (broa**	**1.43**	**237**	*e*P	Pn	10 57 18.0	-2.0
HSPB				*e*S	Sn	10 57 36.2	-2.2
HSPB				IAML		10 57 41.2	
	comp=Z,27nm,0.3s						
HOPEN	**Hopen**	**1.63**	**143**	Pn	Pn	10 57 21.7	-1.1
HOPEN				Lg	Lg	10 57 42.9	
HOPEN	**Hopen**	**1.63**	**143**	*e*P	Pn	10 57 21.8	-1.1
HOPEN				*e*Sg	Sn	10 57 43.1	-0.4
HOPEN				IAML		10 57 43.9	
	comp=Z,58nm,0.3s						
KBS	**Kingsbay**	**2.10**	**306**	Pn	Pn	10 57 26.1	-3.2
KBS				Pg	Pb	10 57 31.0	-1.5
KBS				Lg	Lg	10 57 57.6	
KBS	**Kingsbay**	**2.10**	**306**	*e*Pg	Pb	10 57 31.8	-0.7
KBS				*e*Sg	Sb	10 57 57.3	-1.0
KBS				IAML		10 58 00.9	
	comp=Z,29nm,0.6s						
ARA0	**ARCESS Array S**	**8.44**	**169**	Pn	Pn	10 58 54.9	-1.5
	baz=356,slow=11						
ARA0				Sn	Sn	11 00 20.6	-11
	baz=359,slow=22						

MOS ***29*** *11:03:04.5±0.8, 33°.00S×179°.54E, h253km, mb5.4/31, Error ellipse: s-maj=9.2km s-min=8.6km az=93.4*
NOU ***29*** *11:03:04.3, 33°.31S×179°.90E, h245km, ML5.2/104, South of Kermadec Islands*
IDC ***29*** *11:03:06.9±1.2, 32°.98S×179°.66E, h267km±10km, mb4.8/25, mb1 4.9/26, mb1mx4.6/38, mbtmp5.4/26, Error ellipse: s-maj=9.0km s-min=7.6km az=12.0*
WEL ***29*** *11:03:06.4±0.9, 33°S±5°×18°0W±1°1, h33km, M6.3/22, mB6.5/18, ML6.3/22, MLv6.2/22, Mw(mB)6.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=95.0*
GCMT ***29*** *11:03:07.1±0.1, 32°.97S±0°.01×179°.77E±0°.01, h249km, MW5.5/137, Moment Tensor Solution. s119,c191; s137,c232; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.55±.03; Mθθ=0.78±.03; Mφφ=1.34±.03; Mrθ=-0.94±.03; Mrφ=0.48±.02; Mθφ=1.38±.02; Best double couple: Mo2.09000×10^17 NP1:φs=50.00000°, δ35.00000°, λ=-16.00000°. NP2:φs=153.00000°, δ81.00000°, λ=-124.00000°. Principal axes: T 2.0670, Plg28.0000°, Azm270.0000°; N 0.0480, Plg33.0000°, Azm160.0000°; P -2.1130, Plg44.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *11:03:07.1±2.0, 33°.01S±0°.08×179°.69E±0°.10, h262km±4km, mb5.3/230 Error ellipse: s-maj=12.9km s-min=9.9km az=128.0*
ISC 29 11:03:04.7±0.2, 33°.23S±0°.03×179°.62E±0°.04, h250km,
n898, σ1s75/943, mb5.3/204, 6C-6D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**194**	P	Pn	11 04 13.4	-0.5
MXZ				S	S	11 05 08.0	-0.9
RAO	**Raoul Island**	**4.49**	**29**	P	Pn	11 04 09.7	-4.7
	158nm,0.3s,baz=274,slow=20,SNR=5.5						
RAO				S	S	11 05 01.1	-8.8
	2µm,0.3s,baz=102,slow=21,SNR=22						
RAO	**Raoul Island**	**4.49**	**29**	P	Pn	11 04 12.7	-1.7
WMGZ	**Waiomatatini S**	**4.68**	**192**	P	Pn	11 04 17.8	+1.3
WMGZ				S	S	11 05 13.5	-0.4
KUZ	**Kuaotunu**	**4.75**	**221**	P	Pn	11 04 21.1	+3.7
HAZ	**Te Kaha**	**4.76**	**198**	P	Pn	11 04 18.8	+1.4
HAZ				S	S	11 05 16.2	+0.7
PKGZ	**Pakihiroa**	**4.81**	**195**	P	Pn	11 04 18.8	+0.6
PKGZ				S	S	11 05 15.9	-0.9
PUZ	**Puketiti**	**4.96**	**193**	P	Pn	11 04 22.1	+2.1
PUZ				S	S	11 05 18.7	-1.2
WCZ	**Waipu Caves**	**5.12**	**237**	P	Pn	11 04 26.1	+4.2
MBAZ	**Motutapu North**	**5.24**	**226**	P	Pn	11 04 28.1	+4.7
MKAZ	**Moumakai**	**5.32**	**222**	P	Pn	11 04 28.1	+3.8
CNGZ	**Carnagh Statio**	**5.37**	**192**	P	Pn	11 04 24.8	-0.1
CNGZ				S	S	11 05 29.4	+0.4
OUZ	**Omahuta**	**5.37**	**247**	Pn	Pn	11 04 27.4	+2.5
OUZ	**Omahuta**	**5.37**	**247**	P	Pn	11 04 28.1	+3.1
OUZ	**Omahuta**	**5.37**	**247**	P	Pn	11 04 27.5	+2.5
MWZ	**Matawai**	**5.37**	**198**	P	Pn	11 04 24.6	-0.4
MWZ				S	S	11 05 27.4	-1.7
TKGZ	**Te Karaka**	**5.39**	**195**	P	Pn	11 04 23.6	-1.7
TKGZ				S	S	11 05 25.4	-4.1
HBAZ	**Herne Bay Bore**	**5.39**	**227**	P	Pn	11 04 29.6	+4.3
URZ	**Urewera**	**5.42**	**201**	P	Pn	11 04 25.5	-0.1
	272nm,0.3s,baz=268,slow=4.3,SNR=107						
URZ				S	S	11 05 28.3	-1.7
	398nm,0.3s,baz=34,slow=11,SNR=3.3						
URZ	**Urewera**	**5.42**	**201**	Pn	Pn	11 04 24.2	-1.3
URZ	**Urewera**	**5.42**	**201**	P	Pn	11 04 27.1	+1.5
URZ				S	S	11 05 28.9	-1.2
URZ	**Urewera**	**5.42**	**201**	P	Pn	11 04 25.4	-0.1
RAGZ	**Rawiri**	**5.55**	**198**	P	Pn	11 04 26.6	-0.7
RAGZ				S	S	11 05 32.9	-0.3
TOZ	**Tahuroa Road**	**5.61**	**216**	P	Pn	11 04 31.1	+3.2
MUGZ	**Murupara**	**5.72**	**203**	P	Pn	11 04 28.6	-0.8
MUGZ				S	S	11 05 36.9	-0.1
SNGZ	**Shannon Statio**	**5.84**	**198**	P	Pn	11 04 31.1	+0.2
SNGZ				S	S	11 05 37.4	-2.3
PRGZ	**Paritu Road**	**5.85**	**193**	P	Pn	11 04 30.1	-0.9
PRGZ				S	S	11 05 38.4	-1.6
KNZ	**Kokohu**	**5.99**	**195**	P	Pn	11 04 31.6	-1.1
KNZ				S	S	11 05 40.9	-2.1
RAHZ	**Arahi**	**6.03**	**199**	P	Pn	11 04 34.1	+0.8
MHGZ	**Mahia Peninsul**	**6.07**	**193**	P	Pn	11 04 32.6	-1.1
MHGZ				S	S	11 05 44.4	-0.5
TLZ	**Tolley Road**	**6.07**	**212**	P	Pn	11 04 37.0	+3.3
BKZ	**Black Stump Fm**	**6.44**	**202**	P	Pn	11 04 39.0	+0.7
BKZ				S	S	11 05 51.9	-1.5
BKZ	**Black Stump Fm**	**6.44**	**202**	P	Pn	11 04 38.8	+0.5
HIZ	**Hauiti**	**6.54**	**215**	Pn	Pn	11 04 42.1	+2.6
HIZ	**Hauiti**	**6.54**	**215**	P	Pn	11 04 44.0	+4.5
HIZ	**Hauiti**	**6.54**	**215**	P	Pn	11 04 41.3	+1.8
WNVZ	**Wahianoa**	**6.90**	**207**	P	Pn	11 04 45.0	+0.9
WNVZ				S	S	11 06 03.3	-0.6
PXZ	**Pawanui**	**7.14**	**197**	P	Pn	11 04 46.5	-0.5
PXZ				S	S	11 06 06.3	-2.9
TSZ	**Takapari Road**	**7.42**	**202**	P	Pn	11 04 49.5	-1.1
TSZ				S	S	11 06 09.8	-6.0
WAZ	**Wanganui**	**7.50**	**208**	P	Pn	11 04 52.0	+0.3
WAZ				S	S	11 06 16.6	-1.1
PREZ	**Palmer Road**	**7.52**	**214**	P	Pn	11 04 55.0	+3.0
POWZ	**Post Office Ro**	**7.79**	**202**	P	Pn	11 04 52.6	-2.7
POWZ				S	S	11 06 18.5	-5.7
PRWZ	**Pori Road**	**7.87**	**201**	P	Pn	11 04 52.9	-3.4
PRWZ				S	S	11 06 19.3	-6.9
BFZ	**Birch Farm**	**7.91**	**199**	P	Pn	11 04 56.4	-0.4
MRZ	**Mangatainoka R**	**8.09**	**202**	P	Pn	11 04 54.8	-4.2
MRZ				S	S	11 06 23.5	-7.6
TIWZ	**Tintock**	**8.10**	**201**	P	Pn	11 04 55.9	-3.3
TIWZ				S	S	11 06 24.9	-6.6
HOWZ	**Holdsworth Sta**	**8.32**	**202**	P	Pn	11 04 57.6	-4.5
HOWZ				S	S	11 06 28.5	-8.2
OGWZ	**Otaki Gorge**	**8.37**	**204**	P	Pn	11 04 58.5	-4.0
OGWZ				S	S	11 06 30.2	-7.3
TMWZ	**Te Maipa**	**8.40**	**200**	P	Pn	11 04 58.9	-4.2
TMWZ				S	S	11 06 29.8	-8.7
KIW	**Kapiti Island**	**8.49**	**205**	P	Pn	11 05 00.2	-4.0
KIW				S	S	11 06 33.1	-7.5
MTW	**Mount Morrison**	**8.57**	**201**	P	Pn	11 05 00.8	-4.3
MTW				S	S	11 06 33.7	-8.6
CAW	**Cannon Point**	**8.66**	**203**	P	Pn	11 05 01.8	-4.4
CAW				S	S	11 06 37.1	-7.3
TRWZ	**Traveller**	**8.73**	**200**	P	Pn	11 05 03.0	-4.2
PAWZ	**Paruwai Farm**	**8.79**	**201**	P	Pn	11 05 03.6	-4.4
MSWZ	**Moikau Station**	**8.88**	**202**	P	Pn	11 05 04.5	-4.6
WEL	**Wellington**	**8.92**	**204**	P	Pn	11 05 05.6	-3.9
SNZO	**South Karori**	**8.96**	**204**	P	Pn	11 05 07.8	-2.3
BHW	**Baring Head**	**8.99**	**203**	P	Pn	11 05 06.1	-4.4
PLWZ	**Palliser**	**9.02**	**201**	P	Pn	11 05 06.2	-4.6
QRZ	**Quartz Range**	**9.46**	**215**	P	Pn	11 05 15.6	-0.8
THZ	**Tophouse**	**10.04**	**210**	P	Pn	11 05 20.1	-3.7
KHZ	**Kahutara**	**10.35**	**206**	P	Pn	11 05 22.4	-5.1
KHZ	**Kahutara**	**10.35**	**206**	P	Pn	11 05 25.6	-2.0
DSZ	**Dennistone Nort**	**10.52**	**214**	P	Pn	11 05 25.9	-3.9
NFK	**Norfolk Island**	**10.84**	**290**	P	Pn	11 05 31.6	-2.2
	baz=11,SNR=10						
NFK	**Norfolk Island**	**10.84**	**290**	P	P	11 05 37.4	-1.1
GVZ	**Greta Valley S**	**11.01**	**206**	P	Pn	11 05 31.6	-4.4
LTZ	**Lake Taylor**	**11.15**	**209**	P	Pn	11 05 33.8	-3.9
AMCZ	**Amberley**	**11.34**	**207**	P	Pn	11 05 37.4	-2.5
INZ	**Inchbonnie**	**11.46**	**212**	P	Pn	11 05 37.2	-4.2
OKCZ	**Okains Bay**	**11.66**	**204**	P	Pn	11 05 42.1	-2.0
OXZ	**Oxford**	**11.70**	**208**	P	Pn	11 05 40.1	-4.4
MQZ	**McQueen's Vall**	**11.79**	**205**	P	Pn	11 05 40.3	-5.3
AKCZ	**Akaroa Harbour**	**11.85**	**204**	P	Pn	11 05 43.3	-2.9
RPZ	**Rata Peaks**	**12.43**	**210**	P	Pn	11 05 50.1	-3.4
	25nm,0.3s,baz=338,slow=0.6,SNR=83						
RPZ				S	S	11 08 01.6	-10
	65nm,0.3s,baz=335,slow=21,SNR=21						
RPZ	**Rata Peaks**	**12.43**	**210**	P	Pn	11 05 51.7	-1.8
ODZ	**Otahua Downs**	**13.69**	**208**	P	Pn	11 06 07.8	-1.1
PINNC	**Pines Island,**	**15.07**	**311**		Pn	11 06 27.1	+1.2
PINNC	**Pines Island,**	**15.07**	**311**	P	Pn	11 06 27.9	+2.1
MARNC	**Mare, Loyalty**	**15.57**	**316**	P	P	11 06 30.8	-0.1
MARNC	**Mare, Loyalty**	**15.57**	**316**	P	Pn	11 06 33.2	+1.4
	4.5nm,0.9s						
OUENC	**Ouen Island, N**	**15.59**	**310**	P	Pn	11 06 32.3	+0.2
OUENC	**Ouen Island, N**	**15.59**	**310**	P	Pn	11 06 34.2	+2.1
YATNC	**Mamie plateau,**	**15.82**	**311**	P	Pn	11 06 36.3	+1.4
ONTNC	**Ouen Toro**	**15.92**	**310**	P	P	11 06 35.4	+0.6
ONTNC	**Ouen Toro**	**15.92**	**310**	P	Pn	11 06 37.6	+1.6
DZM	**Mont Dzumac**	**16.10**	**310**	*e*P	Pn	11 06 38.4	+0.3
	2µm,1.3s						
DZM	**Mont Dzumac**	**16.10**	**310**	P	Pn	11 06 38.5	+0.3
	7.0nm,0.3s,baz=135,slow=11,SNR=76						
DZM	**Mont Dzumac**	**16.10**	**310**		Pn	11 06 38.2	+0.1
DZM	**Mont Dzumac**	**16.10**	**310**	P	Pn	11 06 38.5	+0.3
NOUC	**Port Laguerre**	**16.17**	**310**	P	Pn	11 06 39.9	+1.0
LIFNC	**LIFOU**	**16.58**	**315**	P	P	11 06 41.5	-0.5
LIFNC	**LIFOU**	**16.58**	**315**	P	Pn	11 06 45.1	+1.4
NIUE	**Niue**	**16.92**	**36**	P	P	11 06 44.2	-1.4
	baz=17,SNR=5.0						
NIUE	**Niue**	**16.92**	**36**	P	P	11 06 45.6	-0.1
NIUE	**Niue**	**16.92**	**36**	P	P	11 06 45.3	-0.4
LHI	**Lord Howe Isla**	**17.45**	**270**	P	P	11 06 51.8	+0.4
	baz=17,SNR=56						
LHI	**Lord Howe Isla**	**17.45**	**270**	P	Pn	11 06 54.2	+0.4
LHI	**Lord Howe Isla**	**17.45**	**270**	P	Pn	11 06 55.2	+1.4
RTV	**Rentapao**	**18.37**	**324**	P	P	11 07 02.1	+0.7
DVP	**Devils Point**	**18.55**	**324**	P	Pn	11 07 05.4	-1.4
KOUNC	**Koumac, New Ca**	**18.58**	**309**	P	P	11 07 04.9	+1.2
KOUNC	**Koumac, New Ca**	**18.58**	**309**	P	Pn	11 07 06.8	-0.4
AFI	**Afiamalu**	**20.77**	**24**	P	P	11 07 24.1	-3.0
	154nm,0.5s,baz=152,slow=2.7,SNR=38						
AFI				S	S	11 10 56.2	-7.2
	29nm,0.6s,baz=49,slow=19,SNR=3.0						
AFI	**Afiamalu**	**20.77**	**24**	P	P	11 07 24.2	-3.0
AFI				pmax	pmax		
	comp=Z,418nm,1.0s						
AFI	**Afiamalu**	**20.77**	**24**	P	P	11 07 24.2	-3.0
AFI	**Afiamalu**	**20.77**	**24**	P	P	11 07 26.8	-0.3
SANVU	**Saraoutou**	**20.97**	**325**	P	P	11 07 29.3	+0.2
SANVU	**Saraoutou**	**20.97**	**325**	P	P	11 07 30.1	+1.0
RAR	**Rarotonga**	**21.84**	**62**	P	P	11 07 37.0	-0.4
	comp=Z,101nm,0.9s,baz=209,slow=2.6,SNR=20						
RAR	**Rarotonga**	**21.84**	**62**	P	P	11 07 37.0	-0.4
RAR	**Rarotonga**	**21.84**	**62**	P	P	11 07 36.6	-0.7
RAR				IAmb	IAmb	11 07 39.0	
	comp=Z,94nm,0.8s						
RAR	**Rarotonga**	**21.84**	**62**	P	P	11 07 37.5	+0.1
NTLS	**Newcastle Soft**	**23.32**	**263**	P	P	11 07 55.1	+4.4
NTLH	**Newcastle Hard**	**23.37**	**263**	P	P	11 07 55.5	+4.3
	comp=Z,258nm,1.1s						
MGCD	**Mangrove Creek**	**23.82**	**262**	P	P	11 07 55.3	0.0
	baz=24,SNR=17						
MGCD	**Mangrove Creek**	**23.82**	**262**	P	P	11 07 59.2	+3.9
ARMA	**Armidale**	**23.92**	**269**	P	P	11 07 55.7	-0.7
	baz=24,SNR=47						
ARMA	**Armidale**	**23.92**	**269**	P	P	11 07 58.7	+2.3
ARMA	**Armidale**	**23.92**	**269**	P	P	11 08 00.1	+3.8
SYDH	**Sydney Hard Ro**	**24.05**	**261**	P	P	11 08 01.2	+3.8
	comp=Z,161nm,1.0s						
FUNA	**Funafuti**	**24.59**	**359**	P	P	11 08 01.4	-1.0
FUNA	**Funafuti**	**24.59**	**359**	P	P	11 08 02.3	0.0
CNB	**Canberra Magne**	**25.04**	**257**	P	P	11 08 04.6	-1.8
	baz=25,SNR=7.0						
CNB	**Canberra Magne**	**25.04**	**257**	P	P	11 08 10.2	+3.8
	comp=Z,76nm,1.2s						
CAN	**Canberra**	**25.34**	**257**	P	P	11 08 11.2	+2.1
CAN				pmax	pmax		
	comp=Z,94nm,1.2s						
CAN	**Canberra**	**25.34**	**257**	P	P	11 08 11.2	+2.1
CAN				IAmb	IAmb	11 08 13.2	
	comp=Z,94nm,1.2s						
CAN	**Canberra**	**25.34**	**257**	P	P	11 08 11.9	+2.8
EIDS	**Eidsvold**	**26.03**	**280**	P	P	11 08 16.0	+0.8
	baz=26,SNR=107						
EIDS	**Eidsvold**	**26.03**	**280**	P	P	11 08 16.7	+1.4
EIDS	**Eidsvold**	**26.03**	**280**	P	P	11 08 17.1	+1.8
GLAD	**Gladstone**	**26.27**	**244**	P	P	11 08 20.8	+3.6
	comp=Z,32nm,0.8s						
CORO	**Coronation Par**	**26.97**	**243**	P	P	11 08 26.5	+3.1
TAU	**Tasmania Unive**	**27.06**	**240**	P	P	11 08 26.0	+1.8
TAU				pmax	pmax		
	comp=Z,44nm,0.8s						
TAU	**Tasmania Unive**	**27.06**	**240**	P	P	11 08 26.0	+1.8
TAU	**Tasmania Unive**	**27.06**	**240**	P	P	11 08 25.5	+1.3
MOO	**Moorlands**	**27.07**	**241**	P	P	11 08 24.9	+0.5
	baz=27,SNR=13						
MOO	**Moorlands**	**27.07**	**241**	P	P	11 08 27.7	+3.3
	comp=Z,66nm,0.9s						
RK1H	**Rockhampton Ha**	**27.37**	**283**	P	P	11 08 28.6	+1.4
	comp=Z,159nm,0.9s						
RMQ	**Roma**	**27.53**	**276**	P	P	11 08 31.0	+2.4
	baz=27,SNR=151						
RMQ	**Roma**	**27.53**	**276**	P	P	11 08 32.7	+4.1
TOO	**Toolangi**	**28.06**	**251**	P	P	11 08 35.5	+2.3
	baz=28,SNR=7.3						
TOO	**Toolangi**	**28.06**	**251**	P	P	11 08 35.1	+1.9
TOO				pmax	pmax		
	comp=Z,75nm,1.6s						
TOO	**Toolangi**	**28.06**	**251**	P	P	11 08 35.1	+1.9
TOO	**Toolangi**	**28.06**	**251**	P	P	11 08 34.7	+1.5
CMSA	**Cobar Meteorol**	**28.63**	**264**	P	P	11 08 40.2	+1.9
	baz=28,SNR=96						
CMSA	**Cobar Meteorol**	**28.63**	**264**	P	P	11 08 41.2	+2.9
TBI	**Tubuai**	**28.86**	**78**	*e*P	P	11 08 42.0	+1.6
	comp=Z,167nm,0.9s						
TBI	**Tubuai**	**28.86**	**78**	*e*T	T	11 37 38.8	
	comp=Z,44nm,0.4s						
BRAT	**Ballarat**	**29.30**	**251**	P	P	11 08 47.5	+3.4
	comp=Z,18nm,0.9s						
HNR	**Honiara**	**29.83**	**318**	P	P	11 08 48.2	-0.8
	comp=Z,117nm,0.5s,baz=153,slow=7.9,SNR=4.5						
ARPS	**Mount Arapiles**	**31.02**	**253**	P	P	11 09 01.2	+2.0
	baz=31,SNR=25						
ARPS	**Mount Arapiles**	**31.02**	**253**	P	P	11 09 01.3	+2.0
	comp=Z,103nm,0.9s						
QLP	**Quilpie**	**31.27**	**273**	P	P	11 09 02.8	+1.2
	baz=31,SNR=84						
QLP	**Quilpie**	**31.27**	**273**	P	P	11 09 04.0	+2.4
KNTN	**Kanton**	**31.36**	**17**	P	P	11 09 01.7	-0.7
KNTN	**Kanton**	**31.36**	**17**	P	P	11 09 02.0	-0.4
PAE	**Paea**	**31.69**	**68**	*e*P	P	11 09 06.4	+1.1
	comp=Z,12nm,0.8s						
PAE	**Paea**	**31.69**	**68**	*e*T	T	11 40 40.0	
	comp=Z,9.3nm,0.3s						
PPT2	**Papeete2**	**31.74**	**68**	*e*P	P	11 09 06.6	+0.8
	comp=Z,54nm,0.9s						
PPT2				*e*pP	pP	11 09 56.4	+2.4
	comp=Z,76nm,1.3s						
PPT2	**Papeete2**	**31.74**	**68**	*e*T	T	11 40 41.0	
	comp=Z,14nm,0.3s						
PPTF	**Pamatai, Papee**	**31.75**	**68**	P	P	11 09 06.9	+1.0
PPTF				IAmb	IAmb	11 09 09.4	
	comp=Z,60nm,0.7s						
PPTF	**Pamatai, Papee**	**31.75**	**68**	P	P	11 09 05.1	-0.8
PPT	**Papeete**	**31.75**	**68**	P	P	11 09 06.2	+0.4
	comp=Z,66nm,0.8s,baz=86,slow=23,SNR=10						
TVO	**Taravao**	**31.88**	**69**	*e*P	P	11 09 08.4	+1.4
	comp=Z,0.4nm,0.7s						
TVO	**Taravao**	**31.88**	**69**	*e*T	T	11 41 02.3	
	comp=Z,0.3nm,0.2s						
STKA	**Stephens Creek**	**31.96**	**262**	P	P	11 09 09.1	+1.5
	comp=Z,39nm,1.1s,baz=100,slow=9.7,SNR=40						
STKA				ScP	ScP	11 15 07.1	-3.5
	comp=Z,10nm,0.9s,baz=64,slow=2.9,SNR=7.2						
STKA	**Stephens Creek**	**31.96**	**262**	P	P	11 09 08.9	+1.5
	baz=32,SNR=18						
STKA	**Stephens Creek**	**31.96**	**262**	P	P	11 09 09.0	+1.5
STKA	**Stephens Creek**	**31.96**	**262**	P	P	11 09 09.8	+2.3
CTA	**Charters Tower**	**32.41**	**285**	P	P	11 09 12.8	+1.2
	comp=Z,179nm,0.6s,baz=113,slow=9.7,SNR=233						
CTA				S	S	11 14 09.8	+2.5
	comp=Z,30nm,1.1s,baz=336,slow=18,SNR=22						
CTA	**Charters Tower**	**32.41**	**285**	P	P	11 09 13.3	+1.7
CTAO	**Charters Tower**	**32.41**	**285**	P	P	11 09 12.7	+1.1
CTAO				pmax	pmax		
	comp=Z,219nm,0.6s						
CTAO	**Charters Tower**	**32.41**	**285**	P	P	11 09 12.7	+1.1
INKA	**Innaminka**	**33.80**	**269**	P	P	11 09 26.3	+2.8
HTT	**Hallett**	**33.85**	**258**	P	P	11 09 24.8	+0.9
	baz=34,SNR=26						
HTT	**Hallett**	**33.85**	**258**	P	P	11 09 25.4	+1.5
TWOA	**Tennyson Woods**	**33.85**	**255**	P	P	11 09 26.4	+2.6
	comp=Z,23nm,0.9s						
NAPP	**Napperby**	**34.53**	**258**	P	P	11 09 31.6	+1.9
	comp=Z,54nm,1.1s						
PMOR	**Pomariorio Ree**	**34.56**	**66**	*e*P	P	11 09 31.0	+0.9
	comp=Z,110nm,1.1s						
PMOR				*e*pP	pP	11 10 21.5	+2.8
	comp=Z,84nm,1.2s						
VAH	**Vaihoa**	**34.63**	**67**	*e*P	P	11 09 31.3	+0.7
	comp=Z,90nm,1.0s						
VAH	**Vaihoa**	**34.63**	**67**	*e*T	T	11 44 03.6	
	comp=Z,26nm,0.2s						
MTSU	**Mount Surprise**	**34.99**	**287**	P	P	11 09 35.1	+1.3
	baz=35,SNR=184						
MTSU	**Mount Surprise**	**34.99**	**287**	P	P	11 09 35.6	+1.8
WHYH	**Whyalla**	**35.03**	**258**	P	P	11 09 35.8	+1.8
	comp=Z,73nm,1.1s						
LCRK	**Leigh Creek**	**35.12**	**263**	P	P	11 09 36.0	+1.3
BBOO	**Buckleboo**	**36.33**	**258**	P	P	11 09 44.9	-0.1
	baz=36,SNR=21						
BBOO	**Buckleboo**	**36.33**	**258**	P	P	11 09 45.2	+0.2
BBOO	**Buckleboo**	**36.33**	**258**	P	P	11 09 48.2	+3.2
QIS	**Mount Isa**	**37.63**	**279**	P	P	11 09 56.5	+0.5
	baz=38,SNR=141						
QIS	**Mount Isa**	**37.63**	**279**	P	P	11 09 57.0	+1.0
OOD	**Oodnadatta**	**38.02**	**266**	P	P	11 10 00.8	+1.6
PMG	**Port Moresby**	**38.15**	**301**	P	P	11 10 00.9	+0.6
	comp=Z,68nm,0.8s,baz=104,slow=6.2,SNR=28						
PMG	**Port Moresby**	**38.15**	**301**	P	P	11 10 00.9	+0.6
PMG				IAmb	IAmb	11 10 01.9	
	comp=Z,80nm,0.9s						
PMG	**Port Moresby**	**38.15**	**301**	P	P	11 10 01.8	+1.5
PMG	**Port Moresby**	**38.15**	**301**	P	P	11 10 01.5	+1.2
COEN	**Coen**	**38.25**	**291**	P	P	11 10 01.6	+0.4
COEN	**Coen**	**38.25**	**291**	P	P	11 10 02.1	+0.9
KRVT	**Keravat (AS076**	**38.60**	**312**	P	P	11 10 04.5	+0.4
	comp=Z,43nm,0.3s,baz=122,slow=0.3,SNR=15						
RABL	**Rabaul**	**38.61**	**313**	P	P	11 10 04.4	+0.2
RABL	**Rabaul**	**38.61**	**313**	P	P	11 10 06.1	+1.9
MULG	**Mulgathing**	**38.62**	**262**	P	P	11 10 05.6	+1.5
RKT	**Rikitea**	**41.01**	**88**	*e*P	P	11 10 25.8	+2.0
	comp=Z,62nm,1.0s						
AS31	**Alice Springs**	**41.03**	**271**	P	P	11 10 24.4	+0.3
**ASA

KLBR **Kellerberrin** 51.56 254 P P 11 11 44.7 -0.9
baz=52,SNR=16
KLBR **Kellerberrin** 51.56 254 P P 11 11 44.7 -0.9
comp=Z,105nm,0.8s
MUN **Mundaring** 52.68 253 P P 11 11 53.3 -0.5
baz=53,SNR=4.6
MUN **Mundaring** 52.68 253 P P 11 11 53.5 -0.3
comp=Z,23nm,1.5s
BLDU **Ballidu** 52.74 255 P P 11 11 54.6 +0.4
baz=53,SNR=11
BLDU **Ballidu** 52.74 255 P P 11 11 54.2 0.0
comp=Z,20nm,1.4s
PSA00 **Pilbara Seismi** 53.69 266 P P 11 11 59.8 -1.5
PSA00 **Pilbara Seismi** 53.69 266 P P 11 12 00.7 -0.6
MORW **Morawa** 53.83 256 P P 11 12 01.4 -0.8
baz=54,SNR=22
MORW **Morawa** 53.83 256 P P 11 12 01.8 -0.4
MORW **Morawa** 53.83 256 P P 11 12 01.9 -0.3
comp=Z,34nm,1.3s
MBWA **Marble Bar** 53.97 267 P P 11 12 02.4 -0.9
MBWA IAmb IAmb 11 12 03.4
comp=Z,168nm,1.6s
SWI **Sorong** 55.59 295 P P 11 12 21.7 +6.8
BATI **Baumata** 56.09 281 P P 11 12 20.0 +1.5
comp=Z,956nmcomp=Z,71nm,1.1s
QSPA **South Pole Qui** 56.89 180 P P 11 12 26.2 +2.7
comp=Z,151nm,0.8s,baz=29,slow=2.0,SNR=297
QSPA S S 11 20 01.4 +4.5
comp=Z,2.7nm,0.9s,baz=111,slow=22,SNR=8.4
QSPA **South Pole Qui** 56.89 180 P P 11 12 26.2 +2.7
KHLU **Kahalu`u** 57.50 28 P P 11 12 27.9 -0.3
KHLU IAmb IAmb 11 12 29.6
comp=Z,135nm,0.9s
PUH **Pauahi** 57.57 28 P P 11 12 28.3 -0.4
MLH **Mauna Loa** 57.61 28 P P 11 12 29.6 +0.5
HMH **Humu'ula Sheep** 57.67 28 P P 11 12 30.7 +1.1
POHA **Pohakuloa** 57.79 28 P P 11 12 30.2 -0.2
GIRL **Giralia** 57.90 262 P P 11 12 31.6 +0.5
baz=58,SNR=4.5
GIRL **Giralia** 57.90 262 P P 11 12 33.0 +1.9
comp=Z,184nm,1.4s
HPAH **Hawaii Prepara** 57.97 28 P P 11 12 31.2 -0.3
MMRI **Maumere** 58.12 281 P P 11 12 32.4 -0.3
comp=Z,2µmcomp=Z,180nm,1.2s
MMRI **Maumere** 58.12 281 P P 11 12 33.8 +1.1
KIP **Kipapa** 58.39 25*ce*P P 11 12 30.1 -4.1
KIP pmax pmax
comp=Z,210nm,2.5s
BASI **Baing, Sumba** 58.63 279 P P 11 12 37.2 +1.1
comp=Z,1µmcomp=Z,137nm,0.9s
OPA **Opana** 58.64 24 P P 11 12 35.9 0.0
OPA pmax pmax
comp=Z,381nm,1.5s
OPA **Opana** 58.64 24 P P 11 12 35.9 0.0
SANI **Sanana** 58.93 290 P P 11 12 37.8 -0.4
comp=Z,736nmcomp=Z,64nm,1.1s
SANI **Sanana** 58.93 290 P P 11 12 38.0 -0.2
comp=Z,64nm,1.1s
BBSI **Bau Bau** 59.62 284 P P 11 12 43.2 +0.2
comp=Z,7.4nm,1.1s
WBSI **Waikabubak, Su** 59.92 278 P P 11 12 44.5 -0.5
comp=Z,49nm,1.2s
PLAI **Plampang** 61.70 278 P P 11 12 56.4 -0.5
comp=Z,935nmcomp=Z,96nm,0.9s
PLAI **Plampang** 61.70 278 P P 11 12 57.4 +0.5
BKSI **Bulukumba** 61.71 283 P P 11 12 57.0 0.0
comp=Z,503nmcomp=Z,32nm,1.0s
LUWI **Luwuk** 62.08 289 P P 11 12 59.3 -0.2
LUWI IAmb IAmb 11 13 02.2
comp=Z,76nm,1.0s
LUWI **Luwuk** 62.08 289 P P 11 13 00.0 +0.5
comp=Z,78nm,1.0s
LUWI **Luwuk** 62.08 289 P P 11 13 01.7 +2.2
KAPI **Kappang** 62.19 283 P P 11 13 00.1 -0.1
KAPI pmax pmax
comp=Z,43nm,1.2s
KAPI **Kappang** 62.19 283 P P 11 13 00.1 -0.1
BNSI **Bone** 62.25 284 P P 11 12 59.7 -0.9
comp=Z,36nm,1.1s
SPSI **Sidrap Palu** 62.77 284 P P 11 13 03.5 -0.5
comp=Z,536nmcomp=Z,35nm,0.9s
TTSI **Tana Toraja** 63.16 285 P P 11 13 07.2 -0.1
comp=Z,2µmcomp=Z,27nm,0.9s
SRBI **Singaraja** 64.23 277 P P 11 13 13.6 +0.1
comp=Z,1µmcomp=Z,113nm,1.1s
JAGI **Jajag, Banyuwa** 64.90 276 P P 11 13 16.2 -1.7
JAGI IAmb IAmb 11 13 17.8
comp=Z,47nm,0.8s
JAGI **Jajag, Banyuwa** 64.90 276 P P 11 13 17.3 -0.6
comp=Z,769nmcomp=Z,67nm,1.1s
JAGI **Jajag, Banyuwa** 64.90 276 P P 11 13 17.1 -0.8
comp=Z,68nm,1.1s
GMJI **Gumukmas** 65.60 276 P P 11 13 21.9 -0.5
comp=Z,1µmcomp=Z,123nm,1.0s
BLJI **Banyuglugur** 65.76 277 P P 11 13 24.0 +0.6
comp=Z,2µmcomp=Z,33nm,0.6s
KMMI **Kalianget** 65.83 278 P P 11 13 23.5 -0.3
comp=Z,71nm,1.3s
BBKI **Banjar Baru** 67.09 281 P P 11 13 31.4 -0.4
comp=Z,49nm,1.1s
BELA **Belgrano 2** 67.26 173 P P 11 13 33.4 +1.6
MAW **Mawson** 68.95 202 P P 11 13 43.7 +1.3
comp=Z,12nm,0.8s,baz=110,slow=8.0,SNR=7.1
MAW **Mawson** 68.95 202 P P 11 13 43.9 +1.5
baz=69,SNR=7.8
KPJI **Karang Pucung** 69.87 274 P P 11 13 47.4 -1.6
comp=Z,37nm,0.9s
LEM **Lembang** 71.24 274 P P 11 13 57.4 0.0
comp=Z,41nm,0.9s
CNJI **Cibinong** 71.39 273 P P 11 13 57.2 -0.9
comp=Z,95nm,1.0s
STKI **Sintang** 71.85 282 P P 11 14 02.3 +1.4
SBUM **Sibu** 72.62 285 P P 11 14 05.0 -0.4
CGJI **Cibinong** 72.96 273 P P 11 14 06.2 -1.2
comp=Z,2µmcomp=Z,52nm,1.1s
SYO **Syowa Base** 73.90 194 *i*P P 11 14 12.3 +0.4
SYO **Syowa Base** 73.90 194 *ce*PcP PcP 11 14 28.5 +2.5
MG03 **Isla Dawson** 74.33 145 P P 11 14 16.1 +1.5
GO10 **Punta Arenas** 74.44 144 P P 11 14 17.4 +2.0
MG05 **Puerto Natales** 74.54 142 P P 11 14 16.9 +0.9
KLSI 74.80 274 P P 11 14 16.4 -1.7
comp=Z,20nm,1.1s
TROLL **Troll, Antarti** 75.03 181 P P 11 14 19.3 +0.7
SNAA **Sanae** 75.38 179 P P 11 14 21.4 +0.9
SNAA **Sanae** 75.38 179 P P 11 14 21.8 +1.3
SNAA pmax pmax
comp=Z,130nm,1.2s
SNAA **Sanae** 75.38 179 P P 11 14 21.8 +1.3
MG02 **Cerro Sombrero** 75.55 144 P P 11 14 24.4 +2.7
VNA3 **Neumayer Olymp** 75.61 177 P P 11 14 23.0 +1.3
VNA2 **Neumayer--Watz** 76.02 178 P P 11 14 25.4 +1.4
baz=182,slow=5.0
VNA1 **Neumayer--Stat** 76.26 177 P P 11 14 26.8 +1.4
COYC **Coyhaique** 78.27 137 P P 11 14 38.1 +1.2
COYC IAmb IAmb 11 14 41.0
comp=Z,78nm,0.8s
AY01 **Puyuhuapi** 78.61 136 P P 11 14 40.2 +1.4
MJAR **Matsushiro Arr** 79.46 327 P P 11 14 41.6 -1.7
comp=Z,9.8nm,1.1s,baz=176,slow=4.2,SNR=13
MJAR **Matsushiro Arr** 79.46 327 P P 11 14 41.3 -2.1
MAJO **Matsushiro** 79.46 327 P P 11 14 41.6 -1.8
MAJO pmax pmax
comp=Z,21nm,1.3s
MAJO **Matsushiro** 79.46 327 P P 11 14 41.5 -1.8
MAJO **Matsushiro** 79.46 327 P P 11 14 43.3 -0.1
comp=Z,14nm,1.3s
MJB9 **Matsu-Tunnel** 79.47 327 P P 11 14 41.7 -1.6
LL02 **Futaleuf** 79.80 135 P P 11 14 47.3 +2.0
LL02 IAmb IAmb 11 14 49.0
comp=Z,48nm,0.8s
H03S2 **Juan Fernandez** 80.58 124 T T 12 44 03.1
baz=233
H03S1 **Juan Fernandez** 80.59 124 T T 12 44 02.7
baz=233
H03S3 **Juan Fernandez** 80.60 124 T T 12 44 01.6
baz=233
LL03 **Petrohue** 80.68 133 P P 11 14 52.1 +2.1
LL03 IAmb IAmb 11 14 53.4
comp=Z,50nm,0.8s
H03N3 **Juan Fernandez** 80.79 124 T T 12 44 19.0
baz=238,slow=72
H03N2 **Juan Fernandez** 80.79 124 T T 12 44 15.4
baz=238,slow=72
H03N1 **Juan Fernandez** 80.81 124 T T 12 44 19.4
baz=238,slow=72
LL04 **Puerto Octay** 80.81 133 P P 11 14 53.0 +2.3
LL04 IAmb IAmb 11 14 54.0
comp=Z,41nm,1.1s
EFI **East Falkland** 81.50 148 P P 11 14 56.5 +2.4
EFI pmax pmax
comp=Z,56nm,1.1s
EFI **East Falkland** 81.50 148 P P 11 14 56.5 +2.4
EFI IAmb IAmb 11 14 57.6
comp=Z,56nm,1.1s
ERM **Erimo** 82.03 333 *i*P P 11 14 56.7 0.0
ERM pmax pmax
comp=Z,37nm,1.3s
PLCA **Paso Flores** 82.04 134 P P 11 14 59.4 +2.1
comp=Z,24nm,0.8s,baz=230,slow=5.0,SNR=77
PLCA **Paso Flores** 82.04 134 P P 11 14 59.8 +2.5
PLCA pmax pmax
comp=Z,44nm,1.1s
PLCA **Paso Flores** 82.04 134 P P 11 14 59.8 +2.5
PLCA IAmb IAmb 11 15 01.1
comp=Z,44nm,1.1s
PLCA **Paso Flores** 82.04 134 *e*P P 11 14 59.4 +2.1
LC01 **Cunco** 82.33 132 P P 11 15 00.7 +1.9
LC01 IAmb IAmb 11 15 02.0
comp=Z,66nm,0.8s
GSI **Gunungsitoli** 84.05 275 P P 11 15 07.1 -0.7
GSI IAmb IAmb 11 15 08.4
comp=Z,59nm,0.8s
GSI **Gunungsitoli** 84.05 275 P P 11 15 07.9 +0.1
GSI **Gunungsitoli** 84.05 275 P P 11 15 07.6 -0.2
comp=Z,82nm,0.8s
JKA **Kamikawa-asahi** 84.05 334 P P 11 15 08.0 +0.9
ASAJ **Asahikawa** 84.05 334 P P 11 15 07.7 +0.6
comp=Z,12nm,0.9s,baz=233,slow=13,SNR=5.9
ASAJ **Asahikawa** 84.05 334 P P 11 15 08.0 +1.0
ASAJ pmax pmax
comp=Z,37nm,1.2s
ML02 **Panimavida** 84.50 129 P P 11 15 12.3 +2.5
ML02 IAmb IAmb 11 15 13.0
comp=Z,103nm,1.4s
GO05 **Huala** 84.62 129 P P 11 15 12.2 +1.7
GO05 IAmb IAmb 11 15 13.7
comp=Z,79nm,1.3s
TJN **Taejon** 84.72 320 *ce*P P 11 15 09.5 -1.1
KIWB **Kanaga Island** 84.77 2 P P 11 15 09.9 -0.5
ADK **Adak** 84.81 2 P P 11 15 10.4 -0.2
ADK pmax pmax
comp=Z,130nm,1.1s
ADK **Adak** 84.81 2 P P 11 15 10.4 -0.2
ADK **Adak** 84.81 2 P P 11 15 11.4 +0.8
comp=Z,115nm,1.2s
KSRS **Korea Array** 85.23 321 P P 11 15 13.2 +0.2
comp=Z,2.9nm,0.9s,baz=148,slow=6.0,SNR=6.3
KSAR **Wonju Array Be** 85.24 321 P P 11 15 13.4 +0.3
KSAR **Wonju Array Be** 85.24 321 P P 11 15 13.4 +0.3
BO02 **Sierra Bellavi** 85.50 129 P P 11 15 16.1 +1.3
BO02 IAmb IAmb 11 15 18.2
comp=Z,59nm,0.9s
BO01 **Tunca** 85.55 128 P P 11 15 16.6 +1.6
BO01 IAmb IAmb 11 15 18.0
comp=Z,95nm,1.8s
MT01 **Popeta** 85.76 128 P P 11 15 18.1 +2.0
MT09 **Talagante** 85.99 128 P P 11 15 19.1 +1.8
MT09 IAmb IAmb 11 15 20.3
comp=Z,63nm,1.1s
VA01 **Torpederas** 86.01 127 P P 11 15 19.7 +2.5
VA01 IAmb IAmb 11 15 20.4
comp=Z,67nm,1.0s
BO04 **La Punta** 86.11 128 P P 11 15 19.6 +1.8
MT02 **Curacav** 86.20 128 P P 11 15 19.1 +0.9
MT05 **Renca** 86.39 128 P P 11 15 20.8 +1.6
NIKH **Nikolski High** 86.43 7 P P 11 15 19.5 +1.0
baz=190
YSS **Yuzh-Sakhalins** 86.44 336 *e*P P 11 15 19.0 +0.3
YSS pmax pmax
comp=Z,40nm,1.2s
YSS **Yuzh-Sakhalins** 86.44 336 P P 11 15 18.6 -0.1
YSS IAmb IAmb 11 15 20.6
comp=Z,66nm,1.2s
YSS **Yuzh-Sakhalins** 86.44 336 P P 11 15 19.9 +1.2
comp=Z,51nm,1.1s
ROC1 **El Roble** 86.46 127 P P 11 15 19.4 -0.4
ROC1 IAmb IAmb 11 15 23.0
comp=Z,22nm,0.7s
LMEL **Las Melosas** 86.46 128 P P 11 15 20.1 +0.4
LMEL IAmb IAmb 11 15 26.4
comp=Z,38nm,0.9s
MT03 **Universidad Ad** 86.48 128 P P 11 15 21.1 +1.4
MT03 IAmb IAmb 11 15 22.7
comp=Z,67nm,1.2s
VA06 **Catapilco** 86.52 127 P P 11 15 21.0 +1.3
VA06 IAmb IAmb 11 15 22.8
comp=Z,54nm,1.4s
PEL **Peldehue** 86.57 128 P P 11 15 21.9 +1.8
PEL pmax pmax
comp=Z,77nm,1.0s
PEL **Peldehue** 86.57 128 P P 11 15 21.9 +1.8
PEL IAmb IAmb 11 15 23.4
comp=Z,77nm,1.0s
NJ2 **Nanjing** 86.58 312 *e*P P 11 15 21.3 +1.5
NJ2 pmax pmax
comp=Z,11nm,0.5s
VA03 **San Esteban** 86.90 127 P P 11 15 22.6 +0.8
SNCC **San Nicolas Is** 87.45 47 P P 11 15 25.2 +1.2
baz=227
UNV **Unalaska Valle** 87.55 8 P P 11 15 23.7 -0.2
UNV IAmb IAmb 11 15 24.4
comp=Z,66nm,1.0s
UNV **Unalaska Valle** 87.55 8 P P 11 15 25.4 +1.6
baz=192
SLBS **Sierra La Lagu** 87.74 60 P P 11 15 24.8 -0.8
PET **Petropavlovsk** 87.81 348 ↓*i*P P 11 15 24.7 -0.4
PET pmax pmax
comp=Z,64nm,0.9s
PET **Petropavlovsk** 87.81 348 P P 11 15 24.3 -0.8
PET IAmb IAmb 11 15 26.0
comp=Z,38nm,0.9s
PET **Petropavlovsk** 87.81 348 P P 11 15 24.9 -0.2
comp=Z,189nm,1.1s
SCI2 **San Clemente I** 87.88 48 P P 11 15 26.9 +0.9
baz=228
CO03 **El Pedregal** 87.98 126 P P 11 15 28.9 +2.0
CO03 IAmb IAmb 11 15 30.0
comp=Z,42nm,1.0s
PEA0B **Petropavlovsk-** 88.07 347 P P 11 15 26.2 -0.2
PEA0B pmax pmax
comp=Z,326nm,1.6s
PEA0B **Petropavlovsk-** 88.07 347 P P 11 15 26.2 -0.2
PETK **Petropavlovsk-** 88.07 347 P P 11 15 25.9 -0.5
comp=Z,51nm,0.9s,baz=150,slow=6.8,SNR=56
PETK **Petropavlovsk-** 88.07 347 P P 11 15 25.6 -0.8
SBC **Santa Barbara** 88.15 46 P P 11 15 28.4 +1.2
baz=227
CIS **Catalina Islan** 88.24 48 P P 11 15 29.7 +2.0
baz=228
USRK **Ussuriysk Ar.** 88.43 328 P P 11 15 28.1 -0.1
comp=Z,4.8nm,1.0s,baz=114,slow=2.3,SNR=8.3
USRK **Ussuriysk Ar.** 88.43 328 P P 11 15 28.4 +0.1
USRK **Ussuriysk Ar.** 88.43 328 P P 11 15 28.4 +0.1
FMP **Fort Macarthur** 88.53 47 P P 11 15 30.0 +1.0
baz=228
SMMC **Simmler** 88.58 45 P P 11 15 29.8 +0.5
baz=227
BCW **Bitter Crk WRg** 88.67 46 P P 11 15 30.9 +1.1
109C **Camp Elliot, M** 88.72 49 P P 11 15 31.5 +1.6
baz=228
BAR **Barrett** 88.86 49 P P 11 15 31.7 +1.1
BAR IAmb IAmb 11 15 33.8
comp=Z,67nm,1.3s
DECC **Green Verdugo** 88.86 47 P P 11 15 31.7 +1.1
baz=228
OSI **Osito Audit: C** 88.87 47 P P 11 15 32.1 +1.4
baz=228
ZON **Zonda** 88.89 127 IAmb IAmb 11 15 34.7
comp=Z,53nm,1.2s
PASC **Pasadena Art C** 88.90 47 P P 11 15 31.6 +0.8
PASC IAmb IAmb 11 15 33.3
comp=Z,41nm,1.1s
FALS **False Pass** 88.94 10 P P 11 15 31.4 +1.1
baz=194
FALS **False Pass** 88.94 10 P P 11 15 32.6 +2.3
comp=Z,82nm,1.1s
ELS **Elsinore Mount** 89.02 48 P P 11 15 32.3 +0.9
ELS IAmb IAmb 11 15 34.4
comp=Z,50nm,1.1s
LCO **Las Campanas** 89.09 124 P P 11 15 34.9 +2.5
LCO pmax pmax
comp=Z,51nm,1.1s
LCO **Las Campanas** 89.09 124 P P 11 15 34.9 +2.5
LCO IAmb IAmb 11 15 35.7
comp=Z,51nm,1.1s
MURC **Murrieta** 89.13 48 P P 11 15 33.5 +1.6
baz=228,SNR=13
ARVC **Arvin** 89.15 46 P P 11 15 33.2 +1.4
baz=228,SNR=12
MONP2 **Monument Peak** 89.15 49 P P 11 15 34.3 +2.1
baz=229,SNR=5.4
IKP **In-Ko-Pah, Jac** 89.19 49 P P 11 15 34.6 +2.3
baz=229,SNR=8.8
BFSC **Mount Baldy Ra** 89.27 47 P P 11 15 34.1 +1.5
baz=228,SNR=18
YUH **Yuha Desert** 89.31 50 P P 11 15 33.7 +1.0
YUH IAmb IAmb 11 15 36.0
comp=Z,64nm,1.1s
AC04 **Llanos de Chal** 89.32 124 P P 11 15 34.9 +1.8
AC04 IAmb IAmb 11 15 36.4
comp=Z,72nm,1.4s
HOPS **Hopland Field** 89.37 41 P P 11 15 33.5 +0.6
HOPS IAmb IAmb 11 15 35.6
comp=Z,66nm,1.1s
GDXM **Geysers** 89.39 41 P P 11 15 32.8 -0.3
GDXM IAmb IAmb 11 15 36.0
comp=Z,35nm,1.0s
VES **Vestal, Richgr** 89.48 45 P P 11 15 34.5 +1.1
baz=227,SNR=12
EDW2 **Edwards Air Fo** 89.49 47 P P 11 15 35.1 +1.5
baz=228,SNR=21
SWSC **Sam W. Stewart** 89.58 49 P P 11 15 35.0 +1.1
baz=229,SNR=6.0
PFO **Pinyon Flats O** 89.60 49 P P 11 15 35.5 +1.3
comp=Z,33nm,0.9s,baz=248,slow=3.0,SNR=18
PFO **Pinyon Flats O** 89.60 49 P P 11 15 33.4 -0.8
PFO IAmb IAmb 11 15 37.3
comp=Z,50nm,1.0s
PFO **Pinyon Flats O** 89.60 49 P P 11 15 36.0 +1.8
baz=229
TPFO **Pinon Flats** 89.60 49 P P 11 15 35.9 +1.7
baz=229
VOG **Valley Oaks Go** 89.63 45 P P 11 15 35.2 +1.1
baz=227
CCAC **Calif City Air** 89.66 47 IAmb IAmb 11 15 37.3
comp=Z,46nm,1.1s
ISA **Isabella, Lake** 89.72 46 P P 11 15 35.0 +0.4
ISA pmax pmax
comp=Z,61nm,1.1s
ISA **Isabella, Lake** 89.72 46 P P 11 15 35.0 +0.4
ISA IAmb IAmb 11 15 37.5
comp=Z,61nm,1.1s
ISA **Isabella, Lake** 89.72 46 P P 11 15 36.2 +1.5
baz=228,SNR=22
BBRC **Big Bear Solar** 89.74 48 P P 11 15 36.1 +1.1
baz=229
MDJ **Mudanjiang** 89.84 327 P P 11 15 35.8 +1.0
MDJ pmax pmax
comp=Z,16nm,1.0s
MDJ pmax pmax
comp=Z,240nm,6.5s
MDJ **Mudanjiang** 89.84 327 P P 11 15 36.1 +1.3
comp=Z,16nm,1.0s
TYV **Tymovskoe** 89.86 338 *e*P P 11 15 35.4 +0.7
TYV pmax pmax
comp=Z,26nm,1.2s
TYV pmax pmax
comp=Z,400nm,5.9s
SDPT **Sand Point** 89.86 11 P P 11 15 34.6 0.0
baz=197
LRMC **Laurel Mtn Rad** 90.08 46 P P 11 15 37.1 +0.7
baz=228
RRX **Edison Barstow** 90.10 47 P P 11 15 37.6 +1.2
baz=229
BELC **Belle Mtn. Jos** 90.15 49 P P 11 15 38.5 +1.7
baz=229,SNR=15
CMB **Columbia Colle** 90.21 43 P P 11 15 37.6 +0.7
CMB pmax pmax
comp=Z,46nm,1.1s
CMB **Columbia Colle** 90.21 43 P P 11 15 37.5 +0.7
CMB IAmb IAmb 11 15 39.0
comp=Z,46nm,1.1s
BC3 **Big Chuckawall** 90.27 49 P P 11 15 39.4 +2.1
baz=229,SNR=17
GLA **Glamis** 90.27 50 P P 11 15 39.2 +1.9
baz=230,SNR=13
GO03 **Copiap** 90.28 124 P P 11 15 38.7 +1.0
GO03 IAmb IAmb 11 15 41.2
comp=Z,49nm,1.1s
AC06 **Mina Casimiro** 90.34 123 IAmb IAmb 11 15 41.5
comp=Z,30nm,1.0s
O02D **Mt. Diablo Mer** 90.36 40 P P 11 15 39.4 +1.9
baz=225,SNR=18
SPIA **Saint Paul Isl** 90.46 6 P P 11 15 40.3 +2.9
baz=188
HEC **Hector,Ludlow** 90.48 48 P P 11 15 39.4 +1.2
baz=229,SNR=7.1
CWC **Cottonood Cre** 90.48 46 P P 11 15 39.8 +1.5
baz=228
GSC **Goldstone, Bar** 90.50 47 P P 11 15 38.7 +0.4
GSC pmax pmax
comp=Z,81nm,1.5s
GSC **Goldstone, Bar** 90.50 47 P P 11 15 38.6 +0.4
GSC IAmb IAmb 11 15 41.1
comp=Z,80nm,1.5s
GSC **Goldstone, Bar** 90.50 47 P P 11 15 39.8 +1.5
baz=229,SNR=13
MPMC **Manual Prospec** 90.58 46 P P 11 15 40.2 +1.3
baz=228,SNR=9.7
ORV **Oroville** 90.63 41 P P 11 15 38.7 0.0
ORV pmax pmax
comp=Z,26nm,1.3s
ORV **Oroville** 90.63 41 P P 11 15 38.7 0.0
OMMB **Old Mammoth Mi** 90.73 44 P P 11 15 39.1 -0.5
113A **Mohawk Valley,** 90.78 51 P P 11 15 40.0 +0.5
113A IAmb IAmb 11 15 42.9
comp=Z,71nm,1.3s
IRM **Iron Mountain** 90.79 49 P P 11 15 41.5 +1.9
baz=230,SNR=24
TIN **Tinemaha, Big** 90.80 45 P P 11 15 41.1 +1.4
baz=228
MLAC **Mammoth, Mammo** 90.83 44 P P 11 15 41.2 +1.2
baz=228
GMRC **Granite Mounta** 90.87 48 P P 11 15 41.5 +1.4
baz=229,SNR=8.9
214A **Organ Pipe Nat** 90.89 52 P P 11 15 42.1 +2.0
baz=231
QSM **Queen of Sheba** 90.90 47 P P 11 15 40.8 +0.7
AC01 **Pan de Azucar** 90.91 122 P P 11 15 42.3 +1.8
AC01 IAmb IAmb 11 15 43.8
comp=Z,34nm,0.9s
BLYC **Blythe** 90.92 50 IAmb IAmb 11 15 43.5
comp=Z,41nm,1.0s
N02D **Trinity Center** 90.97 40 P P 11 15 40.6 +0.3
N02D IAmb IAmb 11 15 43.3
comp=Z,89nm,1.4s
N02D **Trinity Center** 90.97 40 P P 11 15 41.9 +1.6
baz=225,SNR=13
O03E **Paynes Creek** 90.98 41 P P 11 15 40.9 +0.5
O03E IAmb IAmb 11 15 42.3
comp=Z,47nm,1.1s
O03E **Paynes Creek** 90.98 41 P P 11 15 41.0 +0.6
baz=226,SNR=9.0
CHGN **Chignik** 91.12 12 P P 11 15 40.6 +0.2
CHGN IAmb IAmb 11 15 41.3
comp=Z,49nm,0.8s
CHGN **Chignik** 91.12 12 P P 11 15 40.2 -0.3
baz=198
TUQ **Turquoise Moun** 91.13 47 P P 11 15 42.8 +1.5
baz=229
M02C **Callahan** 91.19 39 P P 11 15 42.4 +1.1
M02C IAmb IAmb 11 15 44.3
comp=Z,84nm,1.4s
M02C **Callahan** 91.19 39 P P 11 15 42.8 +1.5
baz=225,SNR=12
CN2 **Changchun** 91.20 324 *e*P P 11 15 39.0 -2.2
CN2 PP PP 11 19 23.0 +0.6
CN2 S S 11 26 13.0 -4.3
CN2 sS sS 11 28 02.0 -0.1
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,140nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,190nm,17.0s
SHOC **Shoshone, Teco** 91.22 47 P P 11 15 42.7 +1.2

	baz=229						
FURC	Furnace Creek,	91.23	46	P	P	11 15 43.1	+1.6
	baz=229,SNR=5.3						
LCH	Last Change Ra	91.27	45	P	P	11 15 42.2	+0.3
LCH				IAmb	IAmb	11 15 44.1	
	comp=Z,48nm,1.7s						
MPK	Martis Peak	91.28	42	IAmb	IAmb	11 15 44.3	
	comp=Z,46nm,1.1s						
GRAC	Grapevine Rang	91.28	46	P	P	11 15 42.1	+0.3
GRAC				IAmb	IAmb	11 15 44.5	
	comp=Z,43nm,1.0s						
GRAC	Grapevine Rang	91.28	46	P	P	11 15 43.2	+1.4
	baz=228,SNR=17						
L02E	Cave Junction	91.33	38	P	P	11 15 41.5	-0.4
L02E				IAmb	IAmb	11 15 45.4	
	comp=Z,99nm,1.7s						
L02E	Cave Junction	91.33	38	P	P	11 15 43.7	+1.8
	baz=225						
PNTR	Pine Nut	91.38	43	P	P	11 15 42.1	-0.3
PNTR				IAmb	IAmb	11 15 44.7	
	comp=Z,40nm,0.9s						
LHV	Little Huntoon	91.45	44	IAmb	IAmb	11 15 45.1	
	comp=Z,32nm,0.9s						
BEKR	Beckworth	91.48	42	P	P	11 15 43.0	+0.2
YBH	Yreka Blue Hor	91.50	39	P	P	11 15 43.8	+1.1
	comp=Z,16nm,1.0s,baz=154,slow=1.7,SNR=18						
YBH	Yreka Blue Hor	91.50	39	P	P	11 15 43.1	+0.3
YBH				IAmb	IAmb	11 15 45.3	
	comp=Z,40nm,1.4s						
NEE2	Needles Airpor	91.51	49	P	P	11 15 44.9	+2.0
	baz=230						
PDMCI	Parker Dam,Lak	91.52	49	P	P	11 15 44.9	+2.0
	baz=230,SNR=7.4						
YERR	Yerington	91.52	43	P	P	11 15 43.6	+0.5
YERR				IAmb	IAmb	11 15 45.0	
	comp=Z,24nm,1.0s						
AC02	Maricunga	91.52	124	P	P	11 15 45.9	+2.0
AC02				IAmb	IAmb	11 15 48.9	
	comp=Z,40nm,1.2s						
NVAR	Mina Array Bea	91.68	44	P	P	11 15 44.8	+0.9
	comp=Z,15nm,0.8s,baz=220,slow=8.3,SNR=32						
NVAR				PP	PP	11 19 30.5	+3.8
	comp=Z,7.1nm,1.3s,baz=222,slow=9.1,SNR=3.8						
NVAR	Mina Array Bea	91.68	44	P	P	11 15 44.6	+0.7
K02D	Willamette Mer	91.69	38	P	P	11 15 45.0	+1.4
	baz=225,SNR=9.4						
NV11	Mina Array Sit	91.77	44	P	P	11 15 44.6	+0.5
J01E	Myrtle Point	91.88	38	P	P	11 15 45.3	+0.9
	baz=224						
TPNV	Topopah Spring	91.92	46	P	P	11 15 45.6	+0.7
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TPNV	Topopah Spring	91.92	46	P	P	11 15 45.6	+0.7
TPNV	Topopah Spring	91.92	46	P	P	11 15 46.3	+1.3
	baz=229,SNR=8.4						
PAHR	Pah Rah Range	91.92	42	P	P	11 15 44.8	-0.1
HUMO	Hull Mountain	91.99	39	P	P	11 15 45.3	+0.4
HUMO				IAmb	IAmb	11 15 48.6	
	comp=Z,61nm,1.2s						
M04C	Macdoel	92.00	40	IAmb	IAmb	11 15 47.4	
	comp=Z,37nm,1.1s						
M04C	Macdoel	92.00	40	P	P	11 15 46.1	+0.9
	baz=226,SNR=8.8						
L04D	Klamath Falls	92.06	39	P	P	11 15 45.2	-0.2
L04D				IAmb	IAmb	11 15 47.5	
	comp=Z,52nm,1.0s						
L04D	Klamath Falls	92.06	39	P	P	11 15 45.6	+0.2
	baz=225,SNR=8.8						
TPH	Tonopah	92.08	45	P	P	11 15 45.7	0.0
TPH				pmax	pmax		
	comp=Z,142nm,1.0s						
TPH	Tonopah	92.08	45	P	P	11 15 45.7	0.0
DBO	Dodson Butte	92.20	38	IAmb	IAmb	11 15 49.1	
	comp=Z,60nm,1.4s						
KVN	Kaiserville	92.22	44	P	P	11 15 46.8	+0.5
KVN				pmax	pmax		
	comp=Z,22nm,1.0s						
KVN	Kaiserville	92.22	44	P	P	11 15 46.8	+0.5
KVN				IAmb	IAmb	11 15 48.2	
	comp=Z,22nm,1.0s						
GO02	Mina Guanaco	92.24	122	P	P	11 15 48.0	+0.9
SHPR	Sheep Range	92.30	47	P	P	11 15 47.2	+0.6
CMAR	Chiang Mai Arr	92.45	290	P	P	11 15 47.6	0.0
	comp=Z,0.4nm,0.4s,baz=160,slow=3.7,SNR=4.4						
CMAR				PP	PP	11 19 33.0	+0.4
	comp=Z,8.1nm,1.0s,baz=136,slow=6.3,SNR=14						
CMAR				PKKPbc	PKKPbc	11 33 00.9	+1.7
	comp=Z,0.5nm,0.3s,baz=285,slow=4.1,SNR=4.7						
CMAR	Chiang Mai Arr	92.45	290	P	P	11 15 46.8	-0.8
TUC	Tucson	92.45	53	P	P	11 15 48.1	+0.7
TUC				pmax	pmax		
	comp=Z,30nm,0.9s						
TUC	Tucson	92.45	53	P	P	11 15 48.1	+0.7
TUC				IAmb	IAmb	11 15 51.0	
	comp=Z,30nm,0.8s						
TUC	Tucson	92.45	53	P	P	11 15 49.5	+2.1
	baz=232						
KLR	Kul'dur	92.48	331	*ce*P	P	11 15 45.4	-1.6
KLR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
I03D	Drain, OR	92.56	38	P	P	11 15 48.7	+1.3
	baz=225						
K04D	Chiloquin, OR	92.64	39	P	P	11 15 48.9	+0.9
	baz=226						
ZAIG	Zacatecas	92.67	65	P	P	11 15 49.3	+0.4
ZAIG				IAmb	IAmb	11 15 52.4	
	comp=Z,21nm,0.9s						
S11A	Rachel	92.68	46	P	P	11 15 48.6	+0.2
HPIG		92.78	60	IAmb	IAmb	11 15 51.8	
	comp=Z,45nm,1.6s						
TLIG	Tlapa	92.85	71	P	P	11 15 50.6	+1.0
TLIG				IAmb	IAmb	11 15 53.7	
	comp=Z,35nm,1.0s						
J04D	Umpqua Nationa	92.88	38	P	P	11 15 49.3	0.0
J04D	Umpqua Nationa	92.88	38	P	P	11 15 50.5	+1.2
	baz=226,SNR=8.5						
319A	Douglas	92.89	54	P	P	11 15 51.3	+1.8
319A				IAmb	IAmb	11 15 52.8	
	comp=Z,27nm,0.9s						
MOD	Modoc Plateau	92.91	40	P	P	11 15 48.9	-0.5
MOD				IAmb	IAmb	11 15 51.3	
	comp=Z,31nm,1.0s						
PRN	Pahroc Range	92.94	46	P	P	11 15 50.1	+0.5
PRN				IAmb	IAmb	11 15 52.7	
	comp=Z,29nm,1.2s						
BUCK	Buck Mountain	93.10	37	P	P	11 15 50.7	+0.6
I04A	Tendick Farm,	93.11	38	P	P	11 15 50.7	+0.6
	baz=225,SNR=9.3						
R11A	Troy Canyon, C	93.23	45	P	P	11 15 51.8	+0.8
	baz=230,SNR=9.6						
J05D	Fort Rock, OR	93.37	39	P	P	11 15 52.5	+1.1
	baz=226,SNR=11						
H04D	Lebanon	93.46	37	P	P	11 15 53.8	+2.2
	baz=225						
PB15	IPOC Station P	93.53	121	P	P	11 15 54.1	+1.3
PB15				IAmb	IAmb	11 15 56.5	
	comp=Z,26nm,1.0s						
BMN	Battle Mountai	93.64	43	P	P	11 15 52.6	-0.2
BMN				pmax	pmax		
	comp=Z,33nm,1.2s						
BMN	Battle Mountai	93.64	43	P	P	11 15 52.6	-0.2
BMN				IAmb	IAmb	11 15 54.8	
	comp=Z,32nm,1.2s						
LCMT	Little Creek M	93.80	48	P	P	11 15 52.1	-1.5
PINE	Pine Mountain	93.87	39	P	P	11 15 53.0	-0.8
U15A	North Rim	94.03	49	IAmb	IAmb	11 15 57.8	
	comp=Z,19nm,0.9s						
I05D	Terrebonne, OR	94.04	38	P	P	11 15 55.3	+0.9
	baz=226						
WUAZ	Wupatki	94.04	50	P	P	11 15 56.1	+1.4
	baz=232						
KNB	Kanab	94.06	48	IAmb	IAmb	11 15 57.7	
	comp=Z,18nm,1.0s						
PB07	IPOC Station P	94.14	119	P	P	11 15 54.6	-1.1
PB07				IAmb	IAmb	11 15 59.0	
	comp=Z,22nm,1.0s						
WVOR	Wild Horse Val	94.18	41	P	P	11 15 54.6	-0.6
WVOR				pmax	pmax		
	comp=Z,33nm,1.4s						
WVOR	Wild Horse Val	94.18	41	P	P	11 15 54.6	-0.6
WVOR				IAmb	IAmb	11 15 57.3	
	comp=Z,34nm,1.4s						
LVC	Limon Verde	94.30	120	P	P	11 15 56.3	-0.3
LVC				pmax	pmax		
	comp=Z,21nm,1.1s						
LVC	Limon Verde	94.30	120	P	P	11 15 56.3	-0.3

LVC				IAmb	IAmb	11 16 00.7	
	comp=Z,21nm,1.1s						
LVC	Limon Verde	94.30	120	*e*P	P	11 15 59.3	+2.7
PSUT	Pine Spring	94.39	46	P	P	11 15 56.3	0.0
PATCX	Punta Patache	94.50	118	P	P	11 15 58.0	+0.8
PATCX				IAmb	IAmb	11 16 00.4	
	comp=Z,34nm,1.1s						
PB09	IPOC Station P	94.57	120	P	P	11 15 57.2	-0.4
PB09				IAmb	IAmb	11 16 01.6	
	comp=Z,24nm,1.1s						
121A	Cookes Peak, D	94.60	54	P	P	11 15 56.9	-0.4
121A				IAmb	IAmb	11 16 00.4	
	comp=Z,45nm,1.8s						
121A	Cookes Peak, D	94.60	54	P	P	11 15 59.1	+1.7
	baz=233						
F04A	Amboy	94.61	36	P	P	11 15 56.5	-0.3
P18K	Big Mountain,	94.61	13	P	P	11 15 55.6	-1.0
P18K				IAmb	IAmb	11 15 56.5	
	comp=Z,19nm,1.1s						
P18K	Big Mountain,	94.61	13	P	P	11 15 57.0	+0.5
	baz=201						
PKCU	Pink Cliffs	94.65	48	IAmb	IAmb	11 16 01.1	
	comp=Z,23nm,1.1s						
G05D	Wamic, OR	94.68	37	P	P	11 15 58.5	+1.2
	baz=226						
PZH	PanZhiHua	94.84	298	P	P	11 16 00.3	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
W18A	Petrified Fore	94.86	51	P	P	11 15 57.8	-0.7
W18A				IAmb	IAmb	11 16 01.3	
	comp=Z,34nm,1.6s						
W18A	Petrified Fore	94.86	51	P	P	11 15 59.2	+0.7
	baz=233						
J08A	Circle Bar Ran	94.89	40	P	P	11 15 57.4	-0.9
J08A				IAmb	IAmb	11 16 00.4	
	comp=Z,26nm,1.2s						
E04D	Cinebar	94.97	36	P	P	11 15 59.3	+0.9
	baz=226						
D04E	Lakebay	95.31	35	P	P	11 16 00.8	+0.8
	baz=225						
D03D	Eldon	95.41	35	P	P	11 16 00.1	-0.4
	baz=225						
MA2	Magadan	95.50	346	*ce*P	P	11 15 58.2	-2.4
MA2				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MA2	Magadan	95.50	346	P	P	11 15 59.9	-0.7
	comp=Z,6.5nm,2.2s						
PB11	IPOC Station P	95.51	118	P	P	11 16 02.1	+0.1
PB11				IAmb	IAmb	11 16 04.8	
	comp=Z,32nm,1.0s						
O19K	Port Alsworth	95.53	13	P	P	11 15 59.5	-1.2
O19K				IAmb	IAmb	11 16 01.3	
	comp=Z,34nm,1.2s						
O19K	Port Alsworth	95.53	13	P	P	11 16 00.2	-0.4
	baz=202						
TX32	Lajitas Array	95.61	59	P	P	11 16 02.1	+0.2
TX32				IAmb	IAmb	11 16 04.8	
	comp=Z,50nm,1.7s						
TXAR	Lajitas Array	95.61	59	P	P	11 16 03.2	+1.3
	comp=Z,2.7nm,0.8s,baz=210,slow=5.9,SNR=30						
TXAR				PP	PP	11 19 55.1	-2.1
	comp=Z,1.8nm,1.0s,baz=209,slow=9.0,SNR=5.6						
TXAR	Lajitas Array	95.61	59	P	P	11 16 01.6	-0.4
PB08	IPOC Station P	95.65	118	IAmb	IAmb	11 16 06.9	
	comp=Z,20nm,1.4s						
O20K	Slope Mountain	95.75	14	P	P	11 16 03.3	+1.5
	baz=203						
MNTX	Cornudas Mount	95.76	56	P	P	11 16 01.5	-0.9
MNTX	Cornudas Mount	95.76	56	P	P	11 16 03.7	+1.3
	baz=234						
BRSE	Bradley Lake S	95.82	15	P	P	11 16 03.9	+1.9
	baz=205						
GO01	Chusmiza	95.91	118	P	P	11 16 04.8	+0.7
GO01				IAmb	IAmb	11 16 07.4	
	comp=Z,27nm,1.6s						
XLT	XiLinHaoTe	96.13	319	*e*P	P	11 16 04.3	+0.3
XLT				pP	pwP	11 17 11.0	+3.9
XLT				sP	sP	11 17 32.0	+2.4
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
E07A	Sunnyside	96.33	37	P	P	11 16 05.0	+0.4
E07A				IAmb	IAmb	11 16 07.9	
	comp=Z,13nm,0.9s						
HAWA	Hanford	96.38	37	P	P	11 16 04.6	-0.3
LTY	Liberty	96.39	36	P	P	11 16 04.2	-0.8
B05A	Bryant	96.40	35	P	P	11 16 06.0	+1.1
	baz=226						
TMUT	Trail Mountain	96.48	47	P	P	11 16 05.9	0.0
TMUT				IAmb	IAmb	11 16 08.5	
	comp=Z,13nm,1.1s						
PB16	IPOC Station P	96.50	117	P	P	11 16 05.7	-1.2
PB16				IAmb	IAmb	11 16 10.5	
	comp=Z,16nm,1.2s						
BMO	Blue Mountains	96.51	40	P	P	11 16 04.5	-1.2
BMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BMO	Blue Mountains	96.51	40	P	P	11 16 04.5	-1.2
Q23K	Middleton Isla	96.53	17	P	P	11 16 06.9	+1.7
	baz=208						
CAPN	Captain Cook N	96.67	14	P	P	11 16 07.6	+1.9
	baz=204						
HHC	Hu-ho-hao-te	96.76	315	*e*P	P	11 16 06.3	-0.6
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,440nm,8.3s						
SRU	San Rafael Swe	96.78	47	P	P	11 16 07.5	+0.3
SRU	San Rafael Swe	96.78	47	P	P	11 16 07.5	+0.3
SPCR	Spurr Chakacha	96.86	13	P	P	11 16 08.0	+1.2
	baz=204						
P17A	Butcher Ranch,	96.87	47	P	P	11 16 07.5	-0.1
ANMO	Albuquerque	96.91	53	P	P	11 16 06.7	-1.1
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	96.91	53	P	P	11 16 06.7	-1.1
ANMO	Albuquerque	96.91	53	P	P	11 16 08.6	+0.7
	baz=234						
GAMB	Gambell	96.92	4	IAmb	IAmb	11 20 05.8	
	comp=Z,35nm,1.5s						
GAMB	Gambell	96.92	4	P	P	11 16 08.1	+1.3
	baz=187						
HVU	Hansel Valley	97.08	44	P	P	11 16 07.9	-0.5
HVU				pmax	pmax		
	comp=Z,14nm,1.0s						
HVU	Hansel Valley	97.08	44	P	P	11 16 07.9	-0.5
HVU				IAmb	IAmb	11 16 10.5	
	comp=Z,14nm,1.0s						
E09A	Wood Farm, Sta	97.17	38	P	Pdif	11 16 08.7	+0.2
RC01	Rabbit Creek A	97.25	14	P	P	11 16 08.3	-0.2
	baz=206						
HLID	Hailey	97.26	42	P	P	11 16 08.2	-1.0
HLID	Hailey	97.26	42	P	Pdif	11 16 10.0	+0.8
	baz=231						
L19K	White Mountain	97.29	12	P	P	11 16 07.6	-1.1
L19K				IAmb	IAmb	11 16 09.4	
	comp=Z,13nm,1.1s						
L19K	White Mountain	97.29	12	P	Pdif	11 16 09.0	+0.3
	baz=201						
F10A	Beach Ranch, E	97.29	39	P	P	11 16 08.8	-0.3
PWL	Port Wells	97.35	15	P	Pdif	11 16 09.8	+0.9
	baz=207						
PLID	Pearl Lake	97.37	40	P	P	11 16 08.2	-1.4
PLID				IAmb	IAmb	11 16 11.4	
	comp=Z,18nm,1.4s						
PV15	Paradox Valley	97.60	49	P	P	11 16 08.8	-2.1
PV15				IAmb	IAmb	11 16 47.6	
	comp=Z,18nm,0.7s						
GLI	Glacier Island	97.64	16	P	Pdif	11 16 11.7	+1.5
	baz=208						
SIT	Sitka	97.66	23	P	Pdif	11 16 11.5	+1.1
	baz=217						
EYAK	Cordova Ski Ar	97.66	16	P	Pdif	11 16 11.3	+1.1
	baz=209						
L20K	Farewell, AK	97.73	12	P	Pdif	11 16 12.4	+1.8
	baz=202						
M22K	Willow	97.78	14	P	P	11 16 10.3	-0.5
	baz=205						
TTA	Tatalina	97.80	11	P	Pdif	11 16 11.8	+0.8
	baz=200						
KNK	Knik Glacier	97.82	15	P	Pdif	11 16 11.9	+0.9
	baz=207						
PMR	Palmer	97.84	15	P	Pdif	11 16 11.3	+0.3
	baz=206						
C09A	Chrisman Ranch	97.96	37	P	P	11 16 10.9	-1.1

SEY	Seymchan	98.28	348	P	Pdif	11 16 11.8	-1.2
	comp=Z,2.3nm,0.8s,baz=158,slow=4.9,SNR=16						
S22A	4UR Ranch, Cre	98.30	50	P	Pdif	11 16 13.8	-0.4
SCM	Sheep Creek Mo	98.44	15	P	P	11 16 14.8	+0.9
	baz=208						
K20K	Telida	98.52	12	P	P	11 16 15.1	+1.0
	baz=202						
AHID	Auburn Hatcher	98.67	44	P	Pdif	11 16 15.0	-0.5
AHID				IAmb	IAmb	11 16 17.7	
	comp=Z,11nm,1.1s						
LPAZ	La Paz	98.79	116	P	P	11 16 18.5	+1.2
	comp=Z,4.8nm,0.8s,baz=191,slow=3.8,SNR=20						
LPAZ				PP	PP	11 20 24.2	+2.6
	comp=Z,5.1nm,1.2s,baz=278,slow=2.6,SNR=6.0						
LPAZ	La Paz	98.79	116	*e*P	P	11 16 17.8	+0.5
LZH	Lanzhou	98.80	307	*e*P	P	11 16 27.0	+11
LZH				pP	pP	11 17 13.8	-2.5
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
NEW	Newport	98.85	37	P	P	11 16 16.7	+0.7
	baz=229						
MSTX	Muleshoe	98.85	55	P	Pdif	11 16 16.1	-0.3
MSTX				IAmb	IAmb	11 16 18.3	
	comp=Z,13nm,0.8s						
MSTX	Muleshoe	98.85	55	P	P	11 16 16.7	+0.2
	baz=236						
CAST	Castle Rocks	98.92	12	P	Pdif	11 16 15.5	-0.4
	baz=204						
TNA	Tin City	98.94	5	P	Pdif	11 16 15.5	-0.4
TNA				IAmb	IAmb	11 20 20.0	
	comp=Z,26nm,1.8s						
TNA	Tin City	98.94	5	P	Pdif	11 16 16.5	+0.7
	baz=191						
TRF	Thorofare Moun	99.28	13	P	Pdif	11 16 18.1	+0.4
	baz=205						
DHY	Denali Highway	99.53	15	P	Pdif	11 16 20.1	+1.3
	baz=208						
PDAR	Pinedale Array	99.57	45	P	Pdif	11 16 19.4	-0.2
	comp=Z,1.7nm,0.8s,baz=202,slow=3.1,SNR=15						
PDAR				PP	PP	11 20 25.1	-2.2
	comp=Z,1.3nm,0.8s,baz=226,slow=6.0,SNR=4.6						
PDAR				PKKPbc	PKKPbc	11 32 39.5	-1.9
	comp=Z,0.2nm,0.5s,baz=83,slow=4.6,SNR=4.2						
PDAR	Pinedale Array	99.57	45	Pdif	Pdif	11 16 19.9	+0.3
MCK	McKinley	99.80	14	P	Pdif	11 16 22.2	+2.4
	baz=206						
H17A	Grant Village	99.95	43	P	Pdif	11 16 22.1	+0.8
	baz=233						
YUK3	Moose Creek	100.04	18	P	Pdif	11 16 22.5	+1.4
	baz=213						
BOZ	Bozeman (W)	100.09	42	P	Pdif	11 16 22.3	+0.6
	baz=233						
M27K	Edge Creek, AK	100.17	17	P	Pdif	11 16 21.5	-0.1
	baz=212						
ABTX	Abilene, Hawle	100.30	58	P	Pdif	11 16 23.1	+0.3
	baz=237						
I21K	Tanana	100.56	12	P	Pdif	11 16 23.9	+0.8
	baz=204						
WRH	Wood River Hil	100.63	14	Pdif	Pdif	11 16 23.4	0.0
P33M	Teslin, Yukon	100.96	22	P	Pdif	11 16 26.4	+1.3
	baz=219						
TCOL	CIGO, UAF Yank	101.04	14	P	Pdif	11 16 27.9	+2.6
	baz=207						
N31M	Braeburn, Yuko	101.08	20	P	Pdif	11 16 28.2	+2.6
	baz=217						
ILAR	Eielson Array	101.14	14	P	Pdif	11 16 24.6	-1.1
	comp=Z,2.3nm,0.8s,baz=208,slow=5.7,SNR=20						
ILAR				PP	PP	11 20 33.8	-4.6
	comp=Z,8.0nm,1.0s,baz=226,slow=6.7,SNR=14						
J25K	Salcha River,	101.31	15	P	Pdif	11 16 29.1	+2.5
	baz=209						
K22A	Casper	101.32	46	P	Pdif	11 16 28.1	+0.8
	baz=235						
POKR	Poker Plat Res	101.34	14	P	Pdif	11 16 28.3	+1.7
	baz=208						
BILL	Bilibino	101.45	355⇓	*e*P	Pdif	11 16 28.1	+1.1
BILL				*e*		11 20 38.5	
BILL				*e*		11 26 38.5	
BILL				*e*S	Sdif	11 27 48.7	+4.5
BILL				SSS	SSS	11 38 52.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s						
J26L	Joseph Creek	101.61	15	P	Pdif	11 16 29.5	+1.6
	baz=211						
DAWY	Dawson	102.22	17	P	Pdif	11 16 32.1	+1.5
	baz=214						
I29M	Ogilvie Camp,	103.55	17	P	Pdif	11 16 39.4	+3.0
	baz=215						
RSSD	Black Hills	103.64	46	P	Pdif	11 16 38.3	+0.7
	baz=237						
SONM	Songino Array	103.89	318	Pdiff	Pdif	11 16 37.1	-1.4
	comp=Z,0.2nm,0.3s,baz=105,slow=3.4,SNR=2.1						
SONM				PKKPbc	PKKPbc	11 32 28.7	-0.2
	comp=Z,1.3nm,1.0s,baz=272,slow=2.8,SNR=5.8						
EPYK	Eagle Plains	104.76	17	P	Pdif	11 16 42.9	+1.1
	baz=217						
GOMU	GeErMu	105.03	303	Pdif	Pdif	11 16 50.0	+5.8
GOMU				AMB	AMB		
	comp=Z,200nm,7.7s						
U40A	Yellville	107.02	58	P	PKiKP	11 21 00.8	0.0
	baz=241						
INK	Inuvik	107.05	16	PKiKP	PKiKP	11 20 59.8	0.0
	comp=Z,3.2nm,0.9s,baz=317,slow=0.7,SNR=6.0						
ECSD	EROS Data Cent	108.05	49	P	PKiKP	11 21 02.4	-0.1
	baz=241						
OXF	Oxford	108.63	61	P	PKiKP	11 21 04.0	+0.2
	baz=242						
YKA	Yellowknife Ar	108.87	27	Pdiff	Pdif	11 17 00.3	+0.2
	comp=Z,0.2nm,0.8s,baz=237,slow=4.2,SNR=3.8						
YKA				PKiKP	PKiKP	11 21 03.0	-0.4
	comp=Z,1.4nm,0.6s,baz=238,slow=1.6,SNR=3.7						
YKA				PP	PP	11 21 33.0	-2.4
	comp=Z,4.9nm,1.1s,baz=237,slow=6.4,SNR=9.8						
YKA				PKKPbc	PKKPbc	11 32 11.4	-2.4
	comp=Z,0.4nm,0.6s,baz=42,slow=3.3,SNR=14						
YKA				PKKPab	PKKPab	11 32 21.2	-1.5
	comp=Z,0.2nm,0.6s,baz=41,slow=3.4,SNR=4.3						
C36M	Paulatuk	110.18	18	P	PKiKP	11 21 04.8	-0.8
	baz=228						
TIXI	Tiksi	110.45	345	PKiKP	PKiKP	11 21 04.6	-1.5
	comp=Z,0.7nm,0.3s,baz=270,slow=21,SNR=4.4						
TIXI				PP	PP	11 21 40.5	-6.0
	comp=Z,1.6nm,0.8s,baz=268,slow=22,SNR=6.7						
WVT	Waverly	110.51	60	P	PKiKP	11 21 05.8	-1.6
	baz=244						
AGMN	Agassiz Nation	110.64	45	P	PKiKP	11 21 06.3	-0.8
	baz=243						
ULM	Lac du Bonnet	111.51	43	PKiKP	PKiKP	11 21 07.6	-1.1
	comp=Z,2.8nm,0.7s,baz=296,slow=3.3,SNR=4.6						
JFWS	Jewell Farm	111.81	52	P	PKiKP	11 21 08.8	-0.8
	baz=245						
WCI	Wyandotte Cave	112.53	58	P	PKiKP	11 21 10.7	-0.4
	baz=245						
EYMN	Ely	113.13	47	P	PKiKP	11 21 11.8	-0.1
	baz=246						
WMQ	Urumqi	113.37	308	*e*PKP	PKiKP	11 21 13.3	+0.7
O48B	Farmland	114.17	57	P	PKPdf	11 21 14.0	-0.2
	baz=246						
P49A	Miami Univ. Ec	114.19	58	P	PKPdf	11 21 13.3	-0.9
	baz=246						
ACSO	Alum Creek Sta	115.69	57	P	PKPdf	11 21 16.8	-0.3
	baz=247						
FCC	Fort Churchill	115.93	35	PKIKP	PKPdf	11 21 15.3	-1.6
FCC	Fort Churchill	115.93	35	PKPdf	PKPdf	11 21 15.3	-1.6
P52A	Corning	116.07	58	P	PKPdf	11 21 16.0	-1.8
	baz=248						
O53A	New Philadelph	116.95	58	P	PKPdf	11 21 19.3	-0.2
	baz=248						
N53A	Lisbon	117.42	57		PKPdf	11 21 19.8	-0.6
MCWV	Mont Chateau	117.71	59	P	PKPdf	11 21 20.4	-0.6
	baz=249						
M53A	WI Miller and	117.77	57	P	PKPdf	11 21 20.3	-0.8
	baz=249						
MK31	Makanchi Array	118.02	309	*i* PKIKP	PKPdf	11 21 20.2	-1.2
MKAR	Makanchi Array	118.02	309	PKP	PKPdf	11 21 19.9	-1.5
	comp=Z,2.4nm,0.5s,baz=89,slow=3.1,SNR=38						
MKAR				PP	PP	11 22 39.6	-0.8
	comp=Z,2.3nm,1.0s,baz=97,slow=2.8,SNR=3.8						
MKAR				PKKPab	PKKPab	11 31 43.6	+0.1
	comp=Z,1.6nm,0.7s,baz=293,slow=3.8,SNR=15						
N54A	Moraine State	118.08	58	P	PKiKP	11 21 21.7	-0.1
	baz=249						
MAKZ	Makanchi	118.22	309	PKIKP	PKPdf	11 21 20.3	-1.5
MAKZ	Makanchi	118.22	309		PKPdf	11 21 20.3	-1.5
ERPA	Erie	118.49	56	P	PKiKP	11 21 22.4	0.0
	baz=250						
PDGK	Podgornoye	118.72	305	PKIKP	PKPdf	11 21 21.3	-1.7

ZAA0	Zalesovo Array	118.77	318	PKPdf	PKPdf	11 21 21.1	-1.4	
ZALV	Zalesovo Beam	118.77	318	PKP	PKPdf	11 21 20.9	-1.6	
	comp=Z,2.7nm,0.4s,baz=159,slow=1.4,SNR=19							
ZALV	Zalesovo Beam	118.77	318	PKPdf	PKPdf	11 21 20.7	-1.8	
O56A	Blue Knob Stat	118.85	59	P	PKiKP	11 21 23.5	+0.2	
	baz=250							
TARG	Taragay, Kyrgy	119.35	303		PKPdf	11 21 23.5	-1.1	
SSPA	Standing Stone	119.46	59	P	PKiKP	11 21 24.3	-0.1	
	baz=250							
MDOK	Medeo	120.35	304	PKIKP	PKPdf	11 21 25.0	-1.2	
RES	Resolute Bay	120.55	18	PKIKP	PKPdf	11 21 24.7	-0.7	
RES	Resolute Bay	120.55	18	PKPdf	PKPdf	11 21 24.7	-0.7	
N59A	State Game Lan	121.07	59	P	PKiKP	11 21 27.4	-0.2	
	baz=251							
KURK	Kurchatov	121.51	313	PKIKP	PKPdf	11 21 26.9	-1.0	
KURK	Kurchatov	121.51	313	PKPdf	PKPdf	11 21 26.9	-1.0	
AAK	Ala-Archa	121.97	303	PKIKP	PKPdf	11 21 28.5	-0.8	
AAK	Ala-Archa	121.97	303		PKPdf	11 21 28.5	-0.8	
PAL	Palisades	122.44	59	P	PKiKP	11 21 30.3	+0.1	
	baz=252							
LONY	Lake Ozonia	123.01	55	P	PKPdf	11 21 30.8	-0.2	
	baz=254							
L61B	Northampton	123.74	58	P	PKiKP	11 21 32.8	0.0	
	baz=254							
BTK	Batken	123.84	299	PKIKP	PKPdf	11 21 32.3	-0.6	
BTK	Batken	123.84	299	PKPdf	PKPdf	11 21 32.3	-0.6	
GAR	Garm	123.90	298		PKPdf	11 21 32.6	-0.5	
HRV	Adam Dziewonsk	124.55	58	P	PKiKP	11 21 34.7	+0.3	
	baz=255							
LSZ	Lusaka	124.58	214	PKIKP	PKiKP	11 21 35.5	+0.1	
LSZ	Lusaka	124.58	214		PKiKP	11 21 35.5	+0.1	
CHGR	Chuyangaron	124.66	297		PKPdf	11 21 34.4	-0.1	
LBNH	Lisbon	124.75	56	P	PKiKP	11 21 34.9	+0.2	
	baz=256							
OTUK	Ortayu	124.89	309	PKIKP	PKPdf	11 21 33.1	-1.5	
KKAR	Karatay Array	124.91	302	PKIKP	PKPdf	11 21 33.4	-1.4	
KKAR	Karatay Array	124.91	302	PKPdf	PKPdf	11 21 33.4	-1.4	
TSUM	Tsumeb	125.11	201		PKPdf	11 21 35.8	-0.3	
H62A	Milan	125.36	56		PKiKP	11 21 36.1	+0.2	
G62A	West of Eustis	125.95	55		PKiKP	11 21 37.0	-0.1	
LMQ	La Malbaie	126.58	52		PKPdf	11 21 37.3	-0.5	
PKME	Peaks-Kenny Pk	126.81	55	P	PKiKP	11 21 38.6	-0.2	
	baz=258							
BRVK	Borovoye	127.04	314	PKIKP	PKPdf	11 21 37.9	-0.5	
BRVK	Borovoye	127.04	314	PKPdf	PKPdf	11 21 37.9	-0.5	
D62A	Allapoint, All	127.34	53		PKPdf	11 21 38.0	-1.2	
SCHQ	Schefferville	129.69	44	PKP	PKPdf	11 21 43.0	-0.5	
	comp=Z,6.6nm,0.9s,baz=261,slow=3.6,SNR=6.5							
SCHQ				SKPbc	SKPab	11 24 39.6	-2.0	
	comp=Z,20nm,1.0s,baz=282,slow=4.3,SNR=11							
SCHQ	Schefferville	129.69	44		PKPdf	11 21 43.1	-0.3	
KMBO	Kilima Mbogo	130.77	234	SKPbc	SKPbc	11 24 45.2	-2.2	
	comp=Z,20nm,0.9s,baz=80,slow=3.3,SNR=32							
KMBO	Kilima Mbogo	130.77	234		PKiKP	11 21 48.2	+0.1	
KMBO					SKPbc	11 24 45.0	-2.4	
GEYT	Alibeck	132.86	293	SKPab	SKPbc	11 24 51.3	-2.5	
	comp=Z,3.7nm,0.6s,baz=0.0,slow=39,SNR=4.7							
AB31	Akbulak array	133.15	309	*i* PKIKP	PKPdf	11 21 49.1	-1.1	
ABKAR	Akbulak array	133.15	309		PKPdf	11 21 49.3	-0.9	
ARU	Arti	133.92	319	PKP	PKPdf	11 21 50.4	-1.0	
	comp=Z,2.6nm,0.3s,baz=70,slow=1.7							
ARU				SKPab	SKPbc	11 24 53.9	-2.7	
	comp=Z,2.1nm,0.4s,baz=54,slow=0.9,SNR=12							
ARU	Arti	133.92	319	*i* PKIKP	PKPdf	11 21 50.5	-0.9	
SPITS	Spitsbergen Ar	134.36	355	SKPbc	SKPbc	11 24 54.6	-2.8	
	comp=Z,3.3nm,0.5s,baz=46,slow=4.2,SNR=7.2							
AKTO	Aktyubinsk	134.44	310	PKP	PKPdf	11 21 52.1	-0.5	
	comp=Z,4.4nm,0.5s,baz=119,slow=2.9							
AKTO				SKP		11 24 55.5		
	comp=Z,12nm,1.3s,baz=73,slow=4.7,SNR=7.5							
KIRV	Kirov	138.41	323	*i* PKIKP	PKPdf	11 21 58.7	-0.9	
PRGR	Permogore	139.22	328	*e*PKIKP	PKPdf	11 21 59.0	-2.0	
PRGR				pmax	pmax			
	comp=Z,38nm,1.5s							
APA	Apatity	140.44	340	‖ *i*PKHKP	PKPpre	11 21 56.3		
APA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARCES	ARCESS Array B	140.87	346	PKhKP	PKPpre	11 21 56.7		
	comp=Z,4.8nm,0.8s,baz=49,slow=1.9,SNR=28							
ARCES				PKP	PKPdf	11 22 03.2	-0.6	
	comp=Z,2.8nm,0.6s,baz=88,slow=2.0,SNR=3.6							
ARCES				SKPbc	SKPbc	11 25 13.2	-3.3	
	comp=Z,5.3nm,0.7s,baz=42,slow=2.0,SNR=5.6							
JMIC	Jan Mayen	141.93	4	PKP	PKPdf	11 22 04.8	-0.9	
	comp=Z,223nm,0.3s,baz=145,slow=15,SNR=5.1							
KLMR	Klimovskoe	142.22	329	*e*PKIKP	PKPdf	11 22 02.5	-3.9	
KLMR				*e*		11 25 16.1		
KLMR				pmax	pmax			
	comp=Z,29nm,1.4s							
KLMR	Klimovskoe	142.22	329	*e*PKPdf	PKPdf	11 22 02.6	-3.9	
KLMR				AMP		11 22 10.5		
	comp=Z,29nm,1.4s							
KLMR				*e*PP	PP	11 25 16.1	+0.2	
GNI	Garni	143.47	294	PKIKP	PKPbc	11 22 07.8	+0.2	
GNI	Garni	143.47	294		PKPbc	11 22 07.8	+0.2	
ZEI	Tsey	144.18	299	*i* PKIKP	PKPab	11 22 08.3	-1.0	
ZEI				pmax	pmax			
	comp=Z,17nm,1.1s							
NCK	Nalchik	144.39	300	*i* PKIKP	PKPab	11 22 09.3	-0.5	
ONI	Oni	144.51	298	PKIKP	PKPdf	11 22 11.2	0.0	
ONI	Oni	144.51	298		PKPdf	11 22 11.2	0.0	
VRH	Novokhopyorsk	144.60	313	*e*PKIKP	PKPab	11 22 08.9	-1.4	
VRH				pmax	pmax			
	comp=Z,70nm,0.9s							
GEVA	Gevas	144.63	291		PKPdf	11 22 11.3	-0.4	
KBZ	Khabaz	144.89	300	PKP	PKPbc	11 22 10.7	-0.8	
	comp=Z,24nm,1.1s,baz=145,slow=1.1,SNR=17							
KBZ	Khabaz	144.89	300	*c i*PKIKP	PKPbc	11 22 10.6	-0.9	
KIV	Kislovodsk	145.03	301	*e*PKIKP	PKPdf	11 22 10.5	-1.6	
KIV				pmax	pmax			
	comp=Z,18nm,1.1s							
NEY	Neytrino	145.03	299	*i* PKIKP	PKPdf	11 22 12.0	-0.2	
SHA1	Shidzhatmaz	145.06	300	*i* PKIKP	PKPdf	11 22 10.8	-1.5	
VALR	Valaam	145.40	334	*i* PKIKP	PKPdf	11 22 11.1	-0.9	
MOS	Moscow	145.42	322	*i* PKIKP	PKPdf	11 22 11.1	-1.1	
MOS				*e*		11 23 12.4		
MOS				pmax	pmax			
	comp=Z,114nm,0.9s							
LPSR	Galich'ya Gora	145.87	316	*e*PKP2	PKPdf	11 22 13.3	+0.3	
LPSR				pmax	pmax			
	comp=Z,50nm,1.1s							
BORG	Borgarnes	145.94	16	PKPbc	PKPdf	11 22 12.4	-0.4	
	comp=Z,17nm,0.7s,baz=32,slow=5.0,SNR=2.8							
VORR	Voronezh	145.99	315	*e*PKIKP	PKPdf	11 22 13.0	-0.3	
VORR				pmax	pmax			
	comp=Z,90nm,0.4s							
OBN	Obninsk	146.23	322	PKPbc	PKPbc	11 22 14.4	-0.7	
	comp=Z,7.5nm,0.6s,baz=7.6,slow=2.7,SNR=13							
OBN	Obninsk	146.23	322	*d i*PKIKP	PKPdf	11 22 13.7	+0.2	
OBN						11 23 16.0		
OBN						11 23 44.0		
OBN				SS	SS	11 44 06.4	-8.8	
OBN				pmax	pmax			
	comp=Z,97nm,1.5s							
OBN	Obninsk	146.23	322		PKPbc	11 22 14.2	-0.9	
MARD	Mardin	146.34	289		PKPbc	11 22 15.5	-0.8	
KOPT	Kop Dagi	146.72	294	PKPbc	PKPbc	11 22 18.0	+0.6	
FIA1	FINESS Array S	147.02	337	PKPdf	PKPdf	11 22 15.2	+0.5	
FINES	FINESS Array B	147.02	337	PKPbc	PKPbc	11 22 15.8	-1.3	
	comp=Z,29nm,0.7s,baz=47,slow=4.2,SNR=68							
SOC	Sochi	147.20	300	*i* PKP2	PKPbc	11 22 18.2	-0.1	
SOC				*e*		11 25 42.6		
SOC				*e*PPP	PPP	11 29 03.7		
SOC				*e*SS	SS	11 44 25.8	-1.5	
SOC				*e*SSS	SSS	11 50 05.6		
MEF	Metsahovi	148.48	336	*e*P	PKPdf	11 22 18.0	+0.8	
ANN	Anapa	148.69	303	*i* PKHKP	PKPdf	11 22 20.9	+2.9	
ANN				pmax	pmax			
	comp=Z,36nm,0.8s							
RAF	Rauma	148.69	339	*e*P	PKPbc	11 22 20.4	-1.1	
VSU	Vasula	148.88	332	*e*P	PKPdf	11 22 18.6	+0.7	
MTSE	Matsula	149.79	335	*e*P	PKPbc	11 22 22.9	-1.4	
MMAI	Mount Meron Ar	150.12	280	PKPbc	PKPbc	11 22 25.5	-0.6	
	comp=Z,3.1nm,0.4s,baz=21,slow=30,SNR=6.5							
BNN	Bunyan	150.30	291	PKPbc	PKPbc	11 22 26.3	-0.1	
MNK	Minsk	150.88	325	*i* PKIKP	PKPdf	11 22 20.1	-1.0	
MNK				*i*		11 23 24.0		
MNK				*i*		11 26 05.9		
MNK				*i* PPP	PPP	11 29 32.1		
MNK				*i* SS	SS	11 45 07.1	+0.2	
MNK				*i* SSS	SSS	11 50 53.5		
MNK	Minsk	150.88	325	*i* PKP	PKPdf	11 22 20.1	-1.0	
MNK				*i* PKP	PKPdf	11 22 20.1	-1.0	
MNK				*i* PKP	PKPdf	11 22 20.1	-1.0	
	baz=54							
MNK				*i* pPKP	pPKPdf	11 23 24.1	+0.1	
MNK				*i* SKP		11 25 32.5		
MNK				*i* PKS	PKSdf	11 25 54.9	-0.7	
MNK				*i* PP	PP	11 26 06.0	-0.8	
MNK				*i* PPP	PPP	11 29 32.1		
MNK				*i* SKKS		11 37 53.9		
MNK				*i* SS	SS	11 45 07.2	+0.2	
MNK				*i* SSS	SSS	11 50 53.6		
IDID	Didziasalis	150.92	328	*e*P	PKPbc	11 22 26.7	-0.4	
NC303	NORSAR Array S	150.97	348		PKPbc	11 22 25.4	-1.7	
NC204	NORSAR Array S	151.02	349	PKPbc	PKPbc	11 22 26.4	-0.8	
NC204					PKPab	11 22 34.6	-1.3	
ISAL	Salakas	151.03	328	*e*P	PKPbc	11 22 27.1	-1.3	
IIGN	Ignalina	151.13	328	*e*P	PKPbc	11 22 26.9	-0.7	
NB201	NORSAR Array S	151.15	348		PKPbc	11 22 27.1	-0.4	
NB201					PKPab	11 22 35.4	-1.0	
NACGM	Naroch	151.15	327	*e*PKP	PKPbc	11 22 27.6	-0.1	
NB2	NORSAR Subarra	151.17	348	PKP	PKPbc	11 22 26.3	-1.3	
	comp=Z,23nm,0.8s,baz=18,slow=4.1							
NB2	NORSAR Subarra	151.17	348	PKP	PKPab	11 23 32.6	+56	
	comp=Z,3.6nm,0.9s,baz=19,slow=2.6							
NOA	NORSAR Array B	151.17	348	PKPbc	PKPbc	11 22 26.6	-1.0	
	comp=Z,9.0nm,0.7s,baz=14,slow=4.1,SNR=36							
NBO00	NORSAR Array S	151.25	349		PKPbc	11 22 27.3	-0.5	
NC602	NORSAR Array S	151.40	348		PKPbc	11 22 27.3	-0.8	
NAO01	NORSAR Array S	151.41	348		PKPbc	11 22 27.9	-0.2	
NAO01				PKPab	PKPab	11 22 36.2	-1.2	
HFS	Hagfors	151.53	345	PKPbc	PKPbc	11 22 27.0	-1.4	
	comp=Z,16nm,0.7s,baz=181,slow=5.9,SNR=21							
ILGA	Ilgaz	151.85	296		PKPbc	11 22 28.9	-1.1	
BR131	Keskin Array S	152.00	293	PKPdf	PKPdf	11 22 21.5	-2.1	
BR131					PKPbc	11 22 28.7	-1.5	
BR131				PKPab	PKPab	11 22 39.2	-1.6	
BRTR	Keskin Array B	152.00	293	PKPbc	PKPbc	11 22 29.0	-1.3	
	comp=Z,10nm,0.8s,baz=134,slow=3.6,SNR=32							
BRTR	Keskin Array B	152.00	293	PKPdf	PKPdf	11 22 22.1	-1.4	
BRTR					PKPbc	11 22 28.8	-1.5	
BRTR				PKPab	PKPab	11 22 40.9	+0.1	
PABE	Paberze	152.00	330	*e*P	PKPbc	11 22 27.5	-2.0	
CSS	Mathiatis	152.10	283	PKPdf	PKPdf	11 22 21.7	-2.0	
CSS					PKPbc	11 22 30.3	-0.2	
CSS				PKPab	PKPab	11 22 39.9	-1.3	
AKASG	Malin Array Be	152.17	318	PKPbc	PKPbc	11 22 28.9	-1.2	
	comp=Z,7.7nm,0.4s,baz=60,slow=2.5,SNR=39							
AKASG	Malin Array Be	152.17	318	PKIKP	PKPbc	11 22 29.8	-0.3	
AKASG						11 22 40.1		
AKASG	Malin Array Be	152.17	318	PKPdf	PKPdf	11 22 21.2	-2.0	
AKASG					PKPbc	11 22 29.8	-0.3	
AKASG				PKPab	PKPab	11 22 40.1	-0.7	
AKBB	Malin Array Si	152.17	318	PKIKP	PKPbc	11 22 29.0	-1.1	
AKBB						11 22 40.0		
AKBB	Malin Array Si	152.17	318		PKPbc	11 22 28.9	-1.1	
AKBB				PKPab	PKPab	11 22 40.0	-0.9	
ANTO	Ankara	152.64	294	PKIKP	PKiKP	11 22 31.7	-0.1	
ANTO	Ankara	152.64	294		PKiKP	11 22 31.6	-0.1	
LIC	Lamto	152.79	170	*e*PKIKP	PKPdf	11 22 25.9	+0.6	
	comp=Z,62nm,0.9s							
KIC	Kosan Boka	152.96	170	*e*PKIKP	PKPdf	11 22 26.4	+0.9	
	comp=Z,36nm,0.6s							
TIC	Toumodi	153.20	170	*e*PKIKP	PKPdf	11 22 26.0	+0.1	
DBIC	Dimbokro	153.25	170	PKP	PKPdf	11 22 26.6	+0.6	
	comp=Z,15nm,1.0s,baz=164,slow=2.5,SNR=10.0							
DBIC				PKPbc	PKiKP	11 22 34.3	+0.6	
	comp=Z,11nm,0.4s,baz=175,slow=1.7,SNR=30							
DBIC				PKPab	PKPab	11 22 46.4	+0.1	
	comp=Z,22nm,0.8s,baz=166,slow=4.2,SNR=13							
DBIC	Dimbokro	153.25	170	PKP2	PKPab	11 22 47.0	+0.7	
DBIC						12 22 26.1		
DBIC	Dimbokro	153.25	170		PKPdf	11 22 26.1	+0.2	
DBIC					PKiKP	11 22 33.6	-0.2	
DBIC				PKPab	PKPab	11 22 47.0	+0.7	
DEL	Delary	154.76	341	*e*P	PKPab	11 22 48.8	-2.9	
BSD	Bornholm Skovb	155.63	338	*e*P	PKPab	11 22 51.0	-4.5	
KWP	Kalwaria Pacla	156.31	321	PKP2	PKPab	11 22 56.4	-2.2	
KWP	Kalwaria Pacla	156.31	321		PKPab	11 22 56.4	-2.2	
MLR	Muntele Rosu	156.36	309	PKPab	PKPab	11 22 57.6	-1.6	
	comp=Z,6.6nm,0.9s,baz=329,slow=3.8,SNR=3.7							
CRVS	Cervenica-Dubn	157.39	320	*e*PKP2	PKPab	11 23 03.2	-0.1	
EKA	Eskdalemuir Ar	157.81	4	PKPab	PKPab	11 23 02.9	-1.9	
	comp=Z,6.3nm,0.8s,baz=338,slow=1.7,SNR=10							
DPC	Dobruska-Polom	158.92	329	*e*PKP2	PKPab	11 23 09.1	-0.8	
DPC	Dobruska-Polom	158.92	329	*e*PKPAB	PKPab	11 23 09.1	-0.8	
VYHS	Vyhne	159.02	322	*e*PKP2	PKPab	11 23 09.7	-0.7	
CLL	Collm	159.46	336	PKIKP	PKPdf	11 22 31.1	-1.7	
CLL						11 23 11.0		
CLL	Collm	159.46	336	PKPdf	PKPdf	11 22 31.1	-1.7	
CLL					PKPab	11 23 11.0	-1.1	
CLL	Collm	159.46	336	*i* PKPab	PKPab	11 23 10.9	-1.2	
	comp=Z,23nm,1.0s							
BRG	Berggiesshubel	159.47	333	*e*PKIKP	PKPdf	11 22 31.0	-1.8	
BRG				pmax	pmax			
	comp=Z,10.0nm,1.3s							
BRG	Berggiesshubel	159.47	333	‖ *e*PKPf		11 22 31.1		
BRG	Berggiesshubel	159.47	333	Amp		11 22 33.4		
	comp=Z,10nm,1.3s							
BRG	Berggiesshubel	159.47	333	*i* PKPab	PKPab	11 23 11.3	-0.9	
BRG	Berggiesshubel	159.47	333	Amp		11 23 12.4		
	comp=Z,8.5nm,1.0s							
TOA0	Torodi Ar. Sit	159.92	186		PKPdf	11 22 33.6	-0.8	
TOA0				PKPab	PKPab	11 23 15.5	+0.5	
TORD	Torodi Ar. Bea	159.92	186	PKP	PKPdf	11 22 34.2	-0.2	
	comp=Z,6.0nm,1.0s,baz=191,slow=0.7,SNR=21							
TORD				PKPab	PKPab	11 23 14.5	-0.4	
	comp=Z,25nm,1.0s,baz=175,slow=3.8,SNR=28							
TORD	Torodi Ar. Bea	159.92	186		PKPdf	11 22 34.3	-0.2	
TORD				PKPab	PKPab	11 23 15.6	+0.6	
PRU	Pruhonice	159.94	331	*e*PKP2	PKPab	11 23 21.8	+7.5	
NKC	Novy Kostel	160.55	335	*e*PKP2	PKPab	11 23 16.7	-0.3	
NKC	Novy Kostel	160.55	335	*e*PKPAB	PKPab	11 23 16.7	-0.3	
DIVS	Divibare	160.79	310	PKPdf	PKPdf	11 22 33.5	-1.1	
DIVS					PKPab	11 23 17.7	-0.7	
CONA	Conrad Observa	160.88	325	*e*P	PKPdf	11 22 31.5	-3.1	
	comp=Z,6.3nm,1.8s							
CONA				*e*P	PKPab	11 23 17.0	-1.6	
	comp=Z,5.4nm,1.0s							
CKRC	Cesky Krumlov	160.94	329	*e*PKPAB	PKPab	11 23 18.1	-0.6	
KHC	Kasperske Hory	161.00	331	*e*PKP2	PKPab	11 23 18.2	-0.8	
KHC	Kasperske Hory	161.00	331	*e*PKPAB	PKPab	11 23 18.2	-0.8	
KOWA	Kowa	161.06	169		PKPdf	11 22 35.5	-0.1	
KOWA				PKPab	PKPab	11 23 20.0	0.0	
GERES	GERESS Array B	161.18	330	PKPab	PKPab	11 23 17.4	-2.4	
	comp=Z,1.4nm,0.6s,baz=46,slow=5.8,SNR=3.9							
GRF	Grafenberg Arr	161.43	336	*e*PKP	PKPab	11 23 20.4	-0.5	
	baz=32,slow=4.0							
ARSA	Arzberg	161.51	324	*e*P	PKPdf	11 22 33.7	-1.6	
	comp=Z,2.0nm,0.5s							
ARSA				*e*P	PKPab	11 23 19.7	-1.7	
	comp=Z,1.9nm,0.7s							
BIOA	Bad Ischl, Aus	162.08	328	*e*P	PKPab	11 23 23.3	-0.5	
	comp=Z,3.0nm,0.6s							
SOKA	Soboth	162.15	323	*e*P	PKPdf	11 22 34.4	-1.6	
	comp=Z,9.4nm,0.0s							
SOKA				*e*P	PKPab	11 23 23.6	-0.7	
	comp=Z,4.8nm,0.9s							
OBKA	Obir	162.51	324	*e*P	PKPdf	11 22 36.2	-0.1	
	comp=Z,5.3nm,1.4s							
OBKA				*e*P	PKPab	11 23 26.5	+0.7	
	comp=Z,4.2nm,0.9s							
KBA	Koelnbreinsper	162.67	327	*e*P	PKPdf	11 22 35.2	-1.4	
	comp=Z,4.2nm,1.1s							
KBA				*e*P	PKPab	11 23 23.0	-3.6	
	comp=Z,0.2nm,0.3s							
MYKA	Terra Mystica	162.87	325	*e*P	PKPdf	11 22 35.2	-1.4	
	comp=Z,1.2nm,0.4s							
MYKA				*e*P	PKPab	11 23 29.4	+2.0	
	comp=Z,1.5nm,0.6s							
WTTA	Wattenberg	163.28	330	*e*P	PKPdf	11 22 37.7	+0.5	
	comp=Z,5.9nm,1.1s							
WTTA				*e*P	PKPab	11 23 28.0	-1.2	
	comp=Z,5.1nm,0.9s							
ABTA	Abfaltersbach	163.30	328	*e*P	PKPdf	11 22 35.2	-1.9	
	comp=Z,2.6nm,0.6s							
ABTA				*e*P	PKPab	11 23 27.7	-1.5	
	comp=Z,3.0nm,0.7s							
MOTA	Moosalm	163.43	332	*e*P	PKPdf	11 22 37.9	+0.6	
	comp=Z,4.8nm,0.8s							
MOTA				*e*P	PKPab	11 23 28.6	-1.2	
	comp=Z,7.8nm,0.9s							
RETA	Reutte	163.44	333	*e*P	PKPab	11 23 29.1	-0.7	
	comp=Z,5.8nm,0.7s							
SQTA	Sankt Quirin	163.48	331	*e*P	PKPdf	11 22 35.9	-1.4	
	comp=Z,2.0nm,0.3s							
BFO	Black Forest	163.55	339	PKP2	PKPab	11 23 29.5	-0.7	
BFO	Black Forest	163.55	339		PKPab	11 23 29.5	-0.7	
FETA	Feichten	163.84	332	*e*P	PKPdf	11 22 36.7	-1.0	
	comp=Z,6.6nm,1.1s							
FETA				*e*P	PKPab	11 23 31.2	-0.5	
	comp=Z,5.6nm,0.9s							
DAVA	Damuels	163.94	334	*e*P	PKPdf	11 22 36.7	-1.0	
	comp=Z,1.6nm,0.4s							
DAVA				*e*P	PKPab	11 23 31.6	-0.5	
	comp=Z,14nm,1.0s							
DAVOX	Davos/Dischmat	164.37	333	PKP	PKPdf	11 22 36.5	-1.7	
	comp=Z,3.1nm,0.8s,baz=352,slow=9.8,SNR=5.7							
DAVOX				PKPab	PKPab	11 23 32.3	-1.7	
	comp=Z,5.3nm,1.0s,baz=329,slow=4.7,SNR=4.4							
CLF	Chambon-Foret	165.08	353		PKPab	11 23 34.8	-2.0	
SENIN	Lac Senin/Sane	165.62	338	PKPdf	PKPdf	11 22 38.3	-1.0	
SENIN				PKPab	PKPab	11 23 38.5	-1.2	
PCAB	Cabril	169.59	33	*e*PKPab	PKPab	11 23 56.9	-0.2	
POLO	Lamas de Olo	169.96	34	*e*PKPab	PKPab	11 23 58.9	+0.1	
PBRG	Braganca	170.06	29	*e*PKPab	PKPab	11 23 58.9	-0.3	
PVRL	Vila Real	170.07	34	*e*PKPab	PKPab	11 23 59.3	0.0	
PVIS	Viseu	170.41	37	*e*PKPab	PKPab	11 24 00.6	-0.2	
MVO	Moncorvo	170.47	32	*e*PKPdf	PKPdf	11 22 43.8	+1.2	
MVO	Moncorvo	170.47	32	*e*PKPab	PKPab	11 24 01.3	+0.2	
PCBR	Castelo Branco	171.28	39	*e*PKPdf	PKPdf	11 22 44.0	+1.1	
PMTG	Montargil	171.39	45	*e*PKPab	PKPab	11 24 04.7	-0.5	
KEST	Kesra	171.59	290	PKP	PKPdf	11 22 43.7	+0.3	
	comp=Z,4.7nm,0.9s,baz=328,slow=3.5,SNR=4.3							
PMRV	Marv??o	171.62	40	*e*PKPdf	PKPdf	11 22 41.2	-2.0	
PMRV	Marv??o	171.62	40	*e*PKPab	PKPab	11 24 06.0	-0.2	
PNCL	Nicolau / Gran	171.78	51	*e*PKPdf	PKPdf	11 22 44.4	+1.2	
PNCL	Nicolau / Gran	171.78	51	*e*PKPab	PKPab	11 24 07.1	+0.2	
PESTR	Estremoz	171.90	44	*e*PKPab	PKPab	11 24 07.0	-0.4	
PESTR	Estremoz	171.90	44		PKPab	11 24 04.9	-2.6	
PFVI	Vila Bisbo	172.07	58	*e*PKPdf	PKPdf	11 22 42.4	-1.0	
PCVE	Castro Verde	172.36	53	*e*PKPdf	PKPdf	11 22 45.1	+1.6	
PCVE	Castro Verde	172.36	53	*e*PKPab	PKPab	11 24 09.8	+0.2	
PBDV	Barranco-do-Ve	172.64	55	*e*PKPdf	PKPdf	11 22 45.6	+1.9	
PBAR	Barrancos	172.68	46	*e*PKPdf	PKPdf	11 22 45.3	+1.7	
PBAR	Barrancos	172.68	46	*e*PKPab	PKPab	11 24 10.8	-0.1	
PAB	San Pablo	172.93	26	PKIKP	PKPdf	11 22 44.2	+0.4	
PAB	San Pablo	172.93	26		PKPdf	11 22 44.2	+0.4	
ESDC	Sonseca Array	172.95	23	PKP	PKPdf	11 22 43.1	-0.7	
	comp=Z,6.2nm,1.1s,baz=335,slow=2.9,SNR=17							
ESDC				PKPab	sPKPdf	11 24 11.2	-0.5	
	comp=Z,8.8nm,1.1s,baz=326,slow=4.

EHY	**Hungye**	**1.20**	**242**	*eP*		**Pn**	**11 05 16.1**	**+0.3**
	baz=253							
EHY				*eS*		**Sn**	**11 05 31.6**	**+0.3**
	baz=253							
HATJ	**Hateruma jima**	**1.22**	**91**	*eS*		**Sn**	**11 05 32.7**	**+1.0**
WUSB	**Renai**	**1.24**	**266**	*eP*		**Pn**	**11 05 16.4**	**0.0**
	baz=264							
WUSB				*eS*		**Sn**	**11 05 32.1**	**-0.4**
	baz=264							
VWDT	**VWDT**	**1.26**	**255**	*eP*		**Pn**	**11 05 16.5**	**-0.1**
	baz=253							
VWDT				*eS*		**Sn**	**11 05 32.3**	**-0.5**
	baz=253							
YULB	**Yu-li**	**1.28**	**238**	*eP*		**Pn**	**11 05 15.4**	**-1.4**
	baz=250							
YULB				*eS*		**Sn**	**11 05 31.2**	**-2.0**
	baz=250							
EYUL	**Yuli**	**1.28**	**236**	*eP*		**Pn**	**11 05 17.4**	**+0.5**
	baz=234							
EYUL				*eS*		**Sn**	**11 05 33.6**	**+0.2**
	baz=234							
YM01	**YM01**	**1.34**	**322**	*eP*		**Pn**	**11 05 17.5**	**-0.2**
	baz=321							
YM01				*eS*		**Sn**	**11 05 34.2**	**-0.6**
	baz=321							
NFF	**Wufeng Townshi**	**1.35**	**294**	*eP*		**Pn**	**11 05 18.0**	**+0.1**
	baz=292							
NFF				*eS*		**Sn**	**11 05 34.6**	**-0.5**
	baz=292							
FULB	**Fuli**	**1.39**	**231**	*eP*		**Pn**	**11 05 19.0**	**+0.5**
	baz=229							
FULB				*eS*		**Sn**	**11 05 36.5**	**+0.4**
	baz=229							
WHP	**Taichung City**	**1.41**	**278**	*eP*		**Pn**	**11 05 18.8**	**+0.1**
	baz=266							
WHP				*eS*		**Sn**	**11 05 36.3**	**-0.2**
	baz=266							
JKRS	**Kuro-shima**	**1.41**	**83**	P		**Pn**	**11 05 19.7**	**+1.0**
JKRS				S		**Sn**	**11 05 37.6**	**+1.1**
SSLB	**Suanglung**	**1.42**	**258**	*eP*		**Pn**	**11 05 19.6**	**+0.8**
	baz=256							
SSLB				*eS*		**Sn**	**11 05 36.5**	**-0.2**
	baz=256							
WCS	**Beigang Elemen**	**1.43**	**269**	*eP*		**Pn**	**11 05 19.1**	**+0.2**
	baz=267							
WCS				*eS*		**Sn**	**11 05 37.4**	**+0.6**
	baz=267							
LIOB	**Emei**	**1.44**	**293**	*eP*		**Pn**	**11 05 19.7**	**+0.6**
	baz=291							
LIOB				*eS*		**Sn**	**11 05 37.3**	**+0.1**
	baz=291							
SMLT	**Sun Moon Lake**	**1.45**	**262**	*eP*		**Pn**	**11 05 19.8**	**+0.5**
	baz=252							
SMLT				*eS*		**Sn**	**11 05 37.2**	**-0.4**
	baz=252							
TYC	**Yuchr**	**1.49**	**263**	*eP*		**Pn**	**11 05 20.6**	**+0.8**
	baz=261							
TYC				*eS*		**Sn**	**11 05 39.1**	**+0.7**
	baz=261							
YUS	**Yu-Shan**	**1.51**	**247**	*eS*		**Sn**	**11 05 39.5**	**-0.1**
	baz=245							
EDH	**Donghe**	**1.54**	**224**	*eP*		**Pn**	**11 05 18.7**	**-1.7**
	baz=215							
EDH				*eS*		**Sn**	**11 05 37.2**	**-2.5**
	baz=215							
JIJ	**Ishigaki jima**	**1.55**	**79**	P		**Pn**	**11 05 20.8**	**+0.2**
JIJ				S		**Sn**	**11 05 39.6**	**-0.3**
ALS	**Alishan**	**1.63**	**250**	*eP*		**Pn**	**11 05 22.4**	**+0.4**
	baz=248							
ALS				*eS*		**Sn**	**11 05 42.0**	**-0.4**
	baz=248							
CHN5	**Tsauling**	**1.71**	**254**	*eS*		**Sn**	**11 05 44.4**	**+0.4**
	baz=252							
JISG	**Ishigakijimahi**	**1.75**	**73**	P		**Pn**	**11 05 23.6**	**+0.2**
JISG				S		**Sn**	**11 05 44.4**	**-0.5**
CHN4	**Tsaushan**	**1.87**	**247**	*eP*		**Pn**	**11 05 25.5**	**+0.5**
	baz=246							
CHN4				*eS*		**Sn**	**11 05 48.5**	**+0.7**
	baz=246							
WTP	**Ta-pu**	**1.90**	**244**	*eS*		**Sn**	**11 05 48.9**	**+0.3**
	baz=242							
JTJ	**Tarama**	**2.11**	**74**	S		**Sn**	**11 05 53.2**	**-0.5**

*IEPN **29** 11:07:25.0, 77°.85N×20°.78E, h10km*
*NAO **29** 11:07:25.2±2.0, 77°.85N×20°.79E, h8km±12km, ML2.4*
BER 29 11:07:27.5±2.6, 77°.83N×20°.82E, h15km±13km, ML2.2, ML2.4(NAO)**, 1C, Confirmed Earthquake, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.99**	**293**	Pn	Pb	11 07 44.1	-2.3
	baz=120,slow=18						
SPA0				Lg	Lg	11 07 56.5	
	baz=110,slow=28						
SPA0	**Spitsbergen Ar**	**0.99**	**293**	Pn	Pb	11 07 44.1	-2.3
	baz=120,slow=18						
SPA0				Sg	Sb	11 07 56.5	-2.8
	baz=110,slow=28						
SPA0	**Spitsbergen Ar**	**0.99**	**293**	*iP*	Pb	11 07 44.0	-2.4
SPA0				*eS*	Sb	11 07 56.0	-3.2
BRBA	**Barentsburg A**	**1.41**	**283**	Pn	Pn	11 07 51.8	-0.7
BRBA				Lg	Lg	11 08 10.4	
BRBA	**Barentsburg A**	**1.41**	**283**	Pn	Pn	11 07 51.8	-0.7
BRBA				Sg	Sn	11 08 10.4	-0.3
HSPB	**Hornsund (broa**	**1.43**	**237**	Pn	Pn	11 07 51.6	-1.1
HSPB				Lg	Lg	11 08 10.1	
HSPB	**Hornsund (broa**	**1.43**	**237**	*eP*	Pn	11 07 51.6	-1.2
HSPB				*eS*	Sn	11 08 09.7	-1.5
HSPB				IAML		11 08 12.1	
	comp=Z,24nm,0.4s						
HSPB	**Hornsund (broa**	**1.43**	**237**	*eP*	Pn	11 07 49.9	-2.9
HSPB				*eS*	Sn	11 08 08.0	-3.1
HOPEN	**Hopen**	**1.62**	**143**	Pn	Pn	11 07 55.0	-0.5
HOPEN				Lg	Lg	11 08 15.8	
HOPEN	**Hopen**	**1.62**	**143**	*eP*	Pn	11 07 54.8	-0.6
HOPEN				*eSg*	Sn	11 08 15.9	-0.2
HOPEN				IAML		11 08 18.9	
	comp=Z,64nm,0.2s						
HOPEN	**Hopen**	**1.62**	**143**	*eP*	Pn	11 07 54.5	-1.0
HOPEN				*eS*	Sn	11 08 14.5	-1.5
KBS	**Kingsbay**	**2.11**	**306**	Pn	Pn	11 07 59.2	-2.9
KBS				Pg	Pb	11 08 04.5	-0.8
KBS				Lg	Lg	11 08 31.2	
KBS	**Kingsbay**	**2.11**	**306**	*eP*	Pn	11 07 59.2	-3.0
KBS				*ePg*	Pb	11 08 04.3	-1.1
KBS				*eSg*	Sb	11 08 30.5	-0.8
KBS				IAML		11 08 32.8	
	comp=Z,51nm,0.3s						
KBS	**Kingsbay**	**2.11**	**306**	P	Pn	11 08 00.1	-2.1
KBS				*eS*	Sn	11 08 25.8	-2.2
BJO1	**Bjornoya**	**3.37**	**188**	Lg	Lg	11 09 49.4	
BJO1	**Bjornoya**	**3.37**	**188**	*eSg*	Sb	11 09 07.8	+0.2
BJO1	**Bjornoya**	**3.37**	**188**	S	Sb	11 09 05.5	-2.1
BJO1	**Bjornoya**	**3.37**	**188**	Pg	Sb	11 09 08.1	+0.5
ZFI2	**Zemlya Franca-**	**5.76**	**46**	P	Pn	11 08 49.9	-2.3
ARA0	**ARCESS Array S**	**8.44**	**169**	Pn	Pn	11 09 27.2	-1.8
	baz=358,slow=10						
ARA0				Sn	Sn	11 10 56.3	-7.5
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**8.44**	**169**	Pn	Pn	11 09 27.2	-1.8
	baz=358,slow=10						
ARA0				Sn	Sn	11 10 56.3	-7.5
	baz=358,slow=22						

*NAO **29** 11:08:07.0±2.1, 77°.81N×20°.72E, h3km±14km, ML2.9*
*IEPN **29** 11:08:09.0, 77°.83N×20°.70E, h10km*
BER 29 11:08:10.9±2.3, 77°.84N×20°.48E, h22km±11km, ML2.5, ML2.9(NAO), Confirmed Earthquake
ISC 29 11:08:07.8±1.4, 77°.90N±0°.04×20°.83E±0°.04, h17km±11km, n19, σ1§31/29, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.97**	**289**	Pn	**Pg**	**11 08 26.1**	**-0.5**
	baz=120,slow=18						
SPA0				Lg	Lg	11 08 38.8	
	baz=105,slow=28						
SPA0	**Spitsbergen Ar**	**0.97**	**289**	Pn	**Pg**	**11 08 26.1**	**-0.5**
	baz=120,slow=18						
SPA0				Sg	**Sg**	**11 08 38.8**	**-0.5**
	baz=105,slow=28						
SPA0	**Spitsbergen Ar**	**0.97**	**289**	*eP*	**Pg**	**11 08 26.0**	**-0.5**
SPA0				*eS*	**Sg**	**11 08 38.4**	**-0.9**
BRBA	**Barentsburg A**	**1.39**	**280**	Pn	**Pn**	**11 08 33.5**	**+1.1**
BRBA				Lg	Lg	11 08 51.5	
BRBA	**Barentsburg A**	**1.39**	**280**	Pn	**Pn**	**11 08 33.5**	**+1.1**
BRBA				Sg	**Sb**	**11 08 51.5**	**+0.7**
HSPB	**Hornsund (broa**	**1.47**	**235**	Pn	**Pn**	**11 08 33.4**	**0.0**
HSPB				Lg	Lg	11 08 51.6	
HSPB	**Hornsund (broa**	**1.47**	**235**	*i* P	**Pn**	**11 08 33.2**	**-0.2**
HSPB				*eS*	**Sn**	**11 08 49.6**	**-2.6**
HSPB				IAML		11 08 52.7	
	comp=Z,50nm,0.6s						
HSPB	**Hornsund (broa**	**1.47**	**235**	*eP*	**Pn**	**11 08 33.2**	**-0.2**
HSPB				*eS*	**Sn**	**11 08 49.8**	**-2.3**
HOPEN	**Hopen**	**1.68**	**144**	Pn	**Pn**	**11 08 36.8**	**+0.5**
HOPEN				Lg	Lg	11 08 57.8	
HOPEN	**Hopen**	**1.68**	**144**	*eP*	**Pn**	**11 08 36.7**	**+0.4**
HOPEN				*eS*	**Sn**	**11 08 57.9**	**+0.5**
HOPEN				IAML		11 09 01.4	
	comp=Z,140nm,0.4s						
HOPEN	**Hopen**	**1.68**	**144**	*eP*	**Pn**	**11 08 36.3**	**0.0**
HOPEN				*eS*	**Sn**	**11 08 56.8**	**-0.5**
KBS	**Kingsbay**	**2.07**	**304**	Lg	Lg	11 09 12.6	
KBS	**Kingsbay**	**2.07**	**304**	*ePg*	**Pb**	**11 08 46.2**	**+1.4**
KBS				*eSg*	**Sb**	**11 09 12.0**	**+1.8**
KBS				IAML		11 09 14.9	
	comp=Z,69nm,0.5s						
KBS	**Kingsbay**	**2.07**	**304**	S	**Sn**	**11 09 07.4**	**+0.3**
BJO1	**Bjornoya**	**3.44**	**188**	*ePg*	**Pb**	**11 09 09.0**	**+0.9**
BJO1				*eSg*	**Sb**	**11 09 50.8**	**+1.1**
BJO1				IAML		11 09 57.2	
	comp=Z,27nm,0.5s						
ZFI	**Zemlya Franca-**	**5.71**	**47**	*eP*	**Pn**	**11 09 31.8**	**+0.2**
ZFI				*eS*	**Sn**	**11 10 33.8**	**-2.8**
	comp=Z,47nm,2.7s						
ZFI2	**Zemlya Franca-**	**5.71**	**47**	P	**Pn**	**11 09 33.4**	**+1.8**
ZFI2				*eS*	**Sn**	**11 10 34.2**	**-2.4**
ARA0	**ARCESS Array S**	**8.51**	**169**	Pn	**Pn**	**11 10 09.4**	**-0.6**
	baz=352,slow=11						
ARA0				Sn	Sn	11 11 34.2	-11
	baz=2.6,slow=22						
ARA0	**ARCESS Array S**	**8.51**	**169**	Pn	**Pn**	**11 10 09.4**	**-0.6**
	baz=352,slow=11						
ARA0				Sn	Sn	11 11 34.2	-11
	baz=2.6,slow=22						

*IDC **29** 11:44:16.7±2.1, 15°.03N×145°.93E, h113km±19km, mb3.2/7, mb1 3.4/7, mb1mx3.2/55, mbtmp3.6/7, Error ellipse: s-maj=33.9km s-min=18.7km az=98.0*
*NEIC **29** 11:44:17.9±1.4, 15°.06N±0°.08×146°.0E±0°.2, h117km±6km, mb4.2/21, Error ellipse: s-maj=31.1km s-min=8.7km az=106.0*
ISC 29 11:44:16.1±0.9, 15°.1N±0°.1×146°.0E±0°.2, h100km, n38, σ1§07/32, mb4.0/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**215**	P	**Pn**	**11 44 48.3**	**+1.3**
	49nm,0.3s,baz=22,slow=1.1,SNR=33						
GUMO				S	**Sn**	**11 45 10.0**	**-0.4**
	290nm,0.3s,baz=162,slow=22,SNR=27						
GUMO				LR	LR	11 45 18.3	
	comp=Z,26nm,21.3s,baz=260,slow=35						
GUMO	**Guam**	**1.86**	**215**		**Pn**	**11 44 48.5**	**+1.6**
H11S3	**WAKE ISLAND Hy**	**20.12**	**78**	T	T	12 10 08.0	
	baz=264,slow=75						
H11S1	**WAKE ISLAND Hy**	**20.14**	**78**	T	T	12 10 08.5	
	baz=264,slow=75						
H11S2	**WAKE ISLAND Hy**	**20.14**	**78**	T	T	12 10 09.5	
	baz=264,slow=75						
H11N1	**WAKE ISLAND Hy**	**20.48**	**74**	T	T	12 10 32.2	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**20.49**	**74**	T	T	12 10 05.5	
	baz=257,slow=74						
H11N3	**WAKE ISLAND Hy**	**20.50**	**74**	T	T	12 10 25.7	
	baz=257,slow=74						
WB0	**Warramunga Arr**	**36.50**	**199**	P	**P**	**11 51 11.4**	**-0.5**
WB0				IAmb	IAmb	11 51 23.8	
	comp=Z,2.5nm,1.1s						
WR0	**Warramunga Arr**	**36.64**	**198**	P	**P**	**11 51 12.6**	**-0.4**
WR0				IAmb	IAmb	11 51 12.9	
	comp=Z,2.7nm,1.1s						
WRAB	**Tennant Creek**	**36.67**	**198**	P	**P**	**11 51 12.2**	**-1.2**
WRAB				IAmb	IAmb	11 51 17.0	
	comp=Z,4.9nm,1.3s						
WB2	**Warramunga Arr**	**36.68**	**198**	P	**P**	**11 51 12.7**	**-0.8**
WB2				IAmb	IAmb	11 51 39.9	
	comp=Z,6.4nm,1.4s						
WRA	**Warramunga Arr**	**36.68**	**198**	P	**P**	**11 51 12.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=11,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**38.62**	**212**	P	**P**	**11 51 29.1**	**-0.7**
AS31	**Alice Springs**	**40.32**	**197**	P	**P**	**11 51 42.3**	**-1.6**
ASAR	**Alice Springs**	**40.33**	**197**	P	**P**	**11 51 42.2**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=18,slow=9.4,SNR=6.3						
SONM	**Songino Array**	**46.10**	**323**	P	**P**	**11 52 29.8**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=123,slow=5.3,SNR=2.0						
SONM	**Songino Array**	**46.10**	**323**	IAmb	IAmb	11 52 31.6	
	comp=Z,0.6nm,1.0s						
MKAR	**Makanchi Array**	**61.12**	**315**	P	**P**	**11 54 20.0**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=93,slow=8.6,SNR=5.2						
PPLA	**Purkeypile**	**63.94**	**27**	P	**P**	**11 54 40.0**	**+1.6**
KURK	**Kurchatov**	**64.09**	**319**	P	**P**	**11 54 39.2**	**-0.3**
KURBB	**Kurchatov Arra**	**64.14**	**319**	P	**P**	**11 54 39.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.3,SNR=6.3						
CAST	**Castle Rocks**	**64.15**	**26**	P	**P**	**11 54 41.3**	**+1.6**
CAST				IAmb	IAmb	11 54 41.6	
	comp=Z,3.3nm,0.9s						
IMAR	**Indian Mountai**	**64.37**	**23**	P	**P**	**11 54 41.3**	**+0.3**
I21K	**Tanana**	**64.77**	**24**	P	**P**	**11 54 44.3**	**+0.6**
MLY	**Manley**	**65.22**	**25**	P	**P**	**11 54 47.0**	**+0.3**
MLY				IAmb	IAmb	11 55 04.5	
	comp=Z,3.9nm,1.5s						
RND	**Reindeer**	**65.54**	**27**	P	**P**	**11 54 48.8**	**0.0**
I23K	**Minto, Yukon-K**	**65.81**	**25**	P	**P**	**11 54 50.8**	**+0.4**
I23K				IAmb	IAmb	11 55 04.4	
	comp=Z,6.1nm,1.5s						
SCM	**Sheep Creek Mo**	**65.82**	**29**	P	**P**	**11 54 51.5**	**+0.8**
IL31		**66.73**	**25**	P	**P**	**11 54 54.9**	**-1.3**
IL31				IAmb	IAmb	11 55 02.7	
	comp=Z,6.3nm,1.5s						
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**11 54 55.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=244,slow=5.9,SNR=11						
TOLK	**Toolik Lake Re**	**66.80**	**21**	P	**P**	**11 54 57.8**	**+1.1**
TOLK				IAmb	IAmb	11 55 02.3	
	comp=Z,6.2nm,1.4s						
J25K	**Salcha River,**	**67.32**	**26**	P	**P**	**11 55 00.3**	**+0.2**
SCRK	**Sand Creek**	**67.78**	**27**	P	**P**	**11 55 04.4**	**+1.4**
SCRK				IAmb	IAmb	11 55 16.6	
	comp=Z,2.3nm,1.2s						
BMAR	**Burnt Mountain**	**68.28**	**23**	P	**P**	**11 55 05.8**	**-0.2**
BCAR	**Beaver Creek A**	**68.59**	**28**	P	**P**	**11 55 09.6**	**+1.5**
SKAG	**Skagway**	**71.36**	**32**	P	**P**	**11 55 23.2**	**-1.7**
YKA	**Yellowknife Ar**	**81.01**	**28**	P	**P**	**11 56 19.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=285,slow=5.2,SNR=16						

*IDC **29** 11:53:27.1±0.7, 29°.80N×140°.16E, h0km, mb3.6/13, mb1 3.9/18, mb1mx3.8/61, mbtmp3.7/18, ML3.0/5, MS3.5/14, Ms1 3.5/14, ms1mx3.0/90, Error ellipse: s-maj=22.3km s-min=15.7km az=75.0*
ISC 29 11:53:32.1±0.6, 29°.79N±0°.07×140°.1E±0°.1, h35km, n33, σ0§85/19, mb3.7/12, MS3.4/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.25**	**145**	Pn	**Pn**	**11 54 20.1**	**-0.5**
	10nm,0.3s,baz=274,slow=19,SNR=2.1						
JCJ				Sn	**Sn**	**11 54 58.6**	**+0.6**
	6.2nm,0.3s,baz=288,slow=19,SNR=2.0						
JHJ	**Hachijo jima 2**	**3.33**	**355**	Pn	**Pn**	**11 54 21.2**	**-0.5**
	12nm,0.3s,baz=66,slow=19,SNR=1.9						
JHJ				LR	LR	11 55 31.5	
	comp=Z,663nm,18.6s,baz=192,slow=38						
MJAR	**Matsushiro Arr**	**6.92**	**347**	Pn	**Pn**	**11 55 09.5**	**-1.5**
	0.2nm,0.3s,baz=169,slow=11,SNR=23						
MJAR				LR	LR	11 57 36.9	
	comp=Z,551nm,19.5s,baz=135,slow=36						
JNU	**Nakatsue**	**8.55**	**295**	Pn	**Pn**	**11 55 32.7**	**-0.8**
	0.1nm,0.3s,baz=16,slow=7.4,SNR=1.1						
JNU				LR	LR	11 58 36.5	
	comp=Z,424nm,18.6s,baz=126,slow=36						
JOW	**Kunigami**	**10.83**	**257**	Pn	**Pn**	**11 56 04.3**	**-0.4**
	0.2nm,0.3s,baz=80,slow=17,SNR=2.5						
JOW				LR	LR	12 00 07.4	
	comp=Z,211nm,18.4s,baz=106,slow=37						
KSRS	**Korea Array**	**12.70**	**310**	LR	LR	12 01 04.1	
	comp=Z,100nm,18.6s,baz=125,slow=36						
ASAJ	**Asahikawa**	**14.44**	**7**	LR	LR	12 02 20.2	
	comp=Z,94nm,19.2s,baz=328,slow=37						
USRK	**Ussuriysk Ar.**	**15.76**	**338**	LR	LR	12 02 26.9	
	comp=Z,94nm,21.8s,baz=141,slow=34						
KLR	**Kul'dur**	**20.43**	**344**	P	**P**	**11 58 05.7**	**-0.5**
	1.2nm,0.8s,baz=144,slow=12,SNR=3.1						
KLR				LR	LR	12 05 40.2	
	comp=Z,87nm,18.8s,baz=194,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.25**	**106**	T	T	12 26 25.4	
	baz=300,slow=75						
H11N1	**WAKE ISLAND Hy**	**26.26**	**106**	T	T	12 26 27.5	
	baz=300,slow=75						
H11N3	**WAKE ISLAND Hy**	**26.27**	**106**	T	T	12 26 26.4	
	baz=300,slow=75						
H11S3	**WAKE ISLAND Hy**	**26.67**	**109**	T	T	12 26 57.4	
	baz=301,slow=76						
H11S1	**WAKE ISLAND Hy**	**26.68**	**109**	T	T	12 26 57.7	
	baz=301,slow=76						
H11S2	**WAKE ISLAND Hy**	**26.69**	**109**	T	T	12 27 01.3	
	baz=301,slow=76						
SONM	**Songino Array**	**31.52**	**314**	P	**P**	**11 59 50.7**	**-0.2**
	0.1nm,0.4s,baz=120,slow=11,SNR=1.6						
YAK	**Yakutsk**	**32.97**	**351**	LR	LR	12 12 33.9	
	comp=Z,76nm,19.6s,baz=266,slow=35						
CMAR	**Chiang Mai Arr**	**39.03**	**263**	LR	LR	12 18 02.4	
	comp=Z,42nm,18.8s,baz=45,slow=38						
MKAR	**Makanchi Array**	**47.37**	**308**	P	**P**	**12 02 03.8**	**+1.1**
	0.5nm,1.0s,baz=99,slow=9.1,SNR=2.3						
WRA	**Warramunga Arr**	**49.75**	**187**	P	**P**	**12 02 21.4**	**+0.2**
	0.6nm,0.6s,baz=360,slow=7.7,SNR=8.6						
ASAR	**Alice Springs**	**53.48**	**187**	P	**P**	**12 02 49.2**	**+0.2**
	0.4nm,0.9s,baz=0.0,slow=6.5,SNR=4.9						
ILAR	**Eielson Array**	**56.26**	**30**	P	**P**	**12 03 08.8**	**+0.1**
	1.9nm,0.9s,baz=271,slow=6.0,SNR=14						
PALK	**Pallekele**	**59.92**	**261**	LR	LR	12 32 02.7	
	comp=Z,24nm,18.2s,baz=252,slow=39						
YKA	**Yellowknife Ar**	**70.65**	**28**	P	**P**	**12 04 44.6**	**+0.8**
	0.3nm,0.8s,baz=295,slow=6.1,SNR=5.4						
FINES	**FINESS Array B**	**74.73**	**333**	P	**P**	**12 05 08.3**	**+0.3**
	0.9nm,0.5s,baz=87,slow=8.5,SNR=4.5						
YBH	**Yreka Blue Hor**	**75.73**	**50**	LR	LR	12 31 08.1	
	comp=Z,42nm,20.2s,baz=248,slow=30						
AKASG	**Malin Array Be**	**79.37**	**323**	P	**P**	**12 05 34.5**	**+0.2**
	0.2nm,0.3s,baz=50,slow=6.2,SNR=1.5						
NVAR	**Mina Array Bea**	**80.28**	**51**	P	**P**	**12 05 38.3**	**-1.5**
	0.5nm,0.4s,baz=287,slow=4.6,SNR=1.8						
NOA	**NORSAR Array B**	**80.43**	**337**	P	**P**	**12 05 40.5**	**+0.5**
	0.6nm,0.6s,baz=33,slow=4.2,SNR=1.8						
ELK	**Elko**	**81.13**	**48**	LR	LR	12 43 53.6	
	comp=Z,32nm,18.5s,baz=216,slow=37						
PDAR	**Pinedale Array**	**83.57**	**44**	P	**P**	**12 05 58.6**	**+1.5**
	0.5nm,0.8s,baz=291,slow=4.5,SNR=4.3						
ANMO	**Albuquerque**	**90.13**	**49**	LR	LR	12 38 55.2	
	comp=Z,38nm,21.0s,baz=283,slow=30						
TXAR	**Lajitas Array**	**95.42**	**52**	P	**P**	**12 06 53.0**	**-0.5**
	1.0nm,0.8s,baz=321,slow=2.6,SNR=4.0						

IDC 29 12:09:08.9±1.6, 2°.05S×138°.55E, h0km, mb2.9/2, mb1 3.1/3, mb1mx3.1/29, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=28.9km s-min=27.3km az=41.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.20**	**102**	Pg	Pb	12 09 50.3	+0.7
	1.3nm,0.3s,baz=174,slow=10.0,SNR=7.0						
JAY				Lg	Lg	12 10 14.0	
	1.9nm,0.3s,baz=295,slow=19,SNR=7.0						
GUMO	**Guam**	**16.75**	**22**	Pn	Pn	12 13 03.2	-2.0
	3.9nm,0.3s,baz=202,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**18.25**	**193**	P	Pn	12 13 23.1	-0.9
	0.0nm,0.3s,baz=19,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**21.95**	**191**	P	P	12 14 03.3	-1.2
	0.1nm,0.4s,baz=24,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**69.17**	**322**	P	P	12 20 18.3	+0.8
	0.3nm,0.7s,baz=112,slow=6.4,SNR=1.7						

*IDC **29** 12:10:20.8±6.0, 19°.49N×144°.88E, h389km±66km, mb2.8/8, mb1 3.0/8, mb1mx2.9/39, mbtmp3.6/8, Error ellipse: s-maj=32.9km s-min=14.7km az=96.0*
*NEIC **29** 12:10:21.3±1.3, 19°.5N±0°.1×144°.7E±0°.2, h383km±9km, mb3.8/21, Error ellipse: s-maj=24.3km s-min=13.9km az=103.0*
ISC 29 12:10:21.5±0.7, 19°.40N±0°.09×144°.8E±0°.1, h400km, n34, σ1§35/34, mb3.7/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.78**	**179**	Pn	**Pn**	**12 11 50.2**	**-1.6**
JMZ	**Minamidaito 2**	**14.06**	**299**		**P**	**12 13 22.5**	**-1.2**
TWG	**Pinlang**	**22.38**	**283**	P	**P**	**12 14 47.7**	**0.0**
ERM	**Erimo**	**22.59**	**357**	P	**P**	**12 14 49.1**	**-0.1**
PETK	**Petropavlovsk-**	**35.10**	**14**	P	**P**	**12 16 36.4**	**-2.3**
	1.5nm,0.7s,baz=214,slow=10.0,SNR=2.5						
WB0	**Warramunga Arr**	**40.24**	**195**	P	**P**	**12 17 22.5**	**+0.9**
WR0	**Warramunga Arr**	**40.39**	**195**	P	**P**	**12 17 23.7**	**+1.0**
WRAB	**Tennant Creek**	**40.41**	**195**	P	**P**	**12 17 24.3**	**+1.4**
WRAB				IAmb	IAmb	12 17 36.0	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**40.42**	**195**	P	**P**	**12 17 24.6**	**+1.7**
WB2				IAmb	IAmb	12 17 47.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.71**	**232**	*eP*	Pn	12 31 19.1	-1.0
URIC				*eS*	Sn	12 31 41.6	-0.1
URIC				*i*		12 31 48.1	
	comp=Z,73nm,0.6s						
DABV	**Dabajuro**	**1.83**	**181**	*eP*	Pn	12 31 21.4	-0.3
DABV				*eS*	Sn	12 31 43.9	-0.5
CRJC	**Cerrejon, Guaj**	**2.82**	**232**	*eP*	Pn	12 31 34.7	-0.2
CRJC				*eS*	Sn	12 32 07.2	-0.9
CRJC				*i*		12 32 16.9	
	comp=Z,45nm,0.4s						
SDV	**Santo Domingo**	**3.85**	**180**	*eP*	Pn	12 31 48.4	-0.6
SDV				*eS*	Sn	12 32 33.3	0.0
SDV				*i*		12 32 47.6	
	comp=Z,15nm,0.5s						
SMRC	**Santa Marta, M**	**3.87**	**246**	*eP*	Pn	12 31 53.8	+4.7
SMRC				*eS*	Sn	12 32 41.6	+8.0
SMRC				*i*		12 32 50.6	
	comp=Z,17nm,0.5s						
SOCV	**Socops**	**4.46**	**183**	*eP*	Pn	12 31 56.4	-0.7
SOCV				*eS*	Sn	12 32 47.0	-0.8
SJCC	**San Jacinto, C**	**5.31**	**238**	*eP*	Pn	12 32 12.4	+3.7
SJCC				*eS*	Sn	12 33 08.3	-0.3
PAMC	**Pamplona, Colo**	**5.77**	**201**	*eP*	Pn	12 32 15.5	+0.2
PAMC				*eS*	Sn	12 33 20.1	-0.3
PAMC				*i*		12 33 30.6	
	comp=Z,9.4nm,0.5s						
ELOV	**Elorza**	**5.83**	**169**	*eP*	Pn	12 32 15.1	-0.7
BARC	**Barichara**	**6.63**	**203**	*eP*	Pn	12 32 26.2	-0.8
BARC				*eS*	Sn	12 33 41.4	+0.1
BARC				*i*		12 34 09.0	
	comp=Z,7.1nm,0.5s						
ZARC	**Zaragoza, Cauc**	**6.70**	**219**	*eP*	Pn	12 32 26.8	-0.8
ZARC				*eS*	Sn	12 33 41.1	-1.5
ZARC				*i*		12 33 53.0	
	comp=Z,7.3nm,0.6s						
RUSC	**La Rusia**	**7.25**	**200**	*eP*	Pn	12 32 36.0	+0.5
RUSC				*eS*	Sn	12 33 56.2	-0.5
PTBC	**PUERTO BERRIO,**	**7.25**	**212**	*eP*	Pn	12 32 34.6	-0.6
PTBC				*eS*	Sn	12 33 55.3	-0.7
NORC	**Norcasia**	**8.30**	**211**	*eP*	Pn	12 32 51.3	+1.8

*IDC **29** 12:45:34.5±7.0, 17.°63S×178.°78W, h627km±83km, mb3.2/5, mb1 3.4/5, mb1mx3.0/31, mbtmp4.3/5, Error ellipse: s-maj=70.9km s-min=37.5km az=148.0*

ISC 29 12:45:32.2±1.4, 17.°7S±0.°4×178.°6W±0.°2, h600km, n12, σ2s28/13, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**13.15**	**251**	P	**P**	**12 48 19.5**	**-3.1**
LIFNC	**LIFOU**	**13.72**	**255**	P	**P**	**12 48 31.5**	**+3.1**
PINNC	**Pines Island,**	**13.99**	**247**	P	**P**	**12 48 31.6**	**+0.6**
YATNC	**Mamie plateau,**	**14.32**	**250**	P	**P**	**12 48 35.8**	**+1.6**
OUENC	**Ouen Island, N**	**14.47**	**249**	P	**P**	**12 48 38.8**	**+3.3**
DZM	**Mont Dzumac**	**14.73**	**250**	P	**P**	**12 48 41.9**	**+3.9**
KOUNC	**Koumac, New Ca**	**16.42**	**257**	P	P	12 49 10.5	+17
PMG	**Port Moresby**	**34.25**	**279**	P	**P**	**12 51 29.7**	**-0.4**
	8.3nm,0.8s,baz=85,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**12 52 04.8**	**-0.6**
	2.0nm,0.7s,baz=72,slow=8.3,SNR=5.3						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**12 52 51.1**	**-0.9**
	1.8nm,0.5s,baz=95,slow=7.1,SNR=68						
WRA				PcP	**PcP**	**12 54 21.1**	**-1.0**
	0.4nm,1.0s,baz=84,slow=2.6,SNR=2.4						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**12 52 52.9**	**-0.5**
	9.8nm,0.6s,baz=87,slow=8.6,SNR=292						
ASAR				PcP	**PcP**	**12 54 21.6**	**-1.1**
	0.3nm,0.5s,baz=103,slow=4.1,SNR=2.6						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**12 57 11.2**	**+0.4**
	0.5nm,0.9s,baz=210,slow=4.0,SNR=5.1						

*JMA **29** 12:51:57.6±0.1, 23.°98N×122.°11E, h28km±3km, M2.5*
*TAP **29** 12:51:58.3, 24.°05N×122.°12E, h31km, ML2.8, C*

ISC 29 12:51:58.0±1.0, 24.°01N±0.°02×122.°11E±0.°02, h28km±10km, n94, σ0s81/145, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.46**	**312**	*eP*	**Pn**	**12 52 08.2**	**-0.5**
	baz=307						
HWA	**Hwalien**	**0.47**	**267**	*eP*	**Pn**	**12 52 08.4**	**-0.4**
	baz=250						
ETL	**Fush Village**	**0.47**	**289**	*eP*	**Pb**	**12 52 07.9**	**-0.1**
	baz=272						
ETL				*eS*	**Sb**	**12 52 15.3**	**+0.6**
	baz=272						
TWD	**Chiawan**	**0.48**	**279**	*eP*	**Pb**	**12 52 07.8**	**-0.2**
	baz=273						
TEYL	**Yanliau Villag**	**0.49**	**254**	*eP*	**Pb**	**12 52 08.7**	**+0.5**
	baz=244						
TEYL				*eS*	**Sn**	**12 52 17.0**	**+0.2**
	baz=244						
NACB	**Ninganchiao**	**0.50**	**290**	P	**Pb**	**12 52 08.2**	**-0.2**
	baz=272						
EWUT	**Wuta**	**0.54**	**325**	P	**Pb**	**12 52 09.0**	**+0.1**
	baz=326						
EWUT				*eS*	**Sn**	**12 52 17.2**	**-0.7**
	baz=326						
ENA	**Nanau**	**0.54**	**321**	P	**Pb**	**12 52 08.8**	**-0.2**
	baz=323						
ENA				*eS*	**Sn**	**12 52 17.5**	**-0.6**
	baz=323						
ETM	**Tongmen**	**0.57**	**266**	*eP*	**Pb**	**12 52 09.2**	**-0.3**
	baz=261						
ETM				*eS*	**Sb**	**12 52 17.7**	**+0.4**
	baz=261						
TEGC	**Jichi Village**	**0.60**	**241**	*eS*	**Sn**	**12 52 19.9**	**+0.3**
	baz=229						
ETLH	**Xiulin Townshi**	**0.61**	**289**	P	**Pb**	**12 52 10.0**	**-0.3**
	baz=275						
ETLH				*eS*	**Sb**	**12 52 19.0**	**+0.4**
	baz=275						
TWC	**Suao**	**0.65**	**338**	*eP*	**Pb**	**12 52 10.3**	**-0.5**
	baz=345						
TWC				*eS*	**Sb**	**12 52 17.9**	**-1.6**
	baz=345						
ESL	**Shilin**	**0.65**	**253**	*eP*	**Pb**	**12 52 09.4**	**-1.5**
	baz=240						
EGFH	**Guangfu**	**0.71**	**242**	*eP*	**Pb**	**12 52 11.5**	**-0.4**
	baz=238						
EGFH				*eS*	**Sn**	**12 52 22.1**	**-0.2**
	baz=238						
NDS	**Dongshan**	**0.72**	**330**	*eP*	**Pb**	**12 52 11.9**	**-0.1**
	baz=335						
NDS				*eS*	**Sb**	**12 52 21.6**	**-0.1**
	baz=335						
LATG	**Datong**	**0.75**	**315**	P	**Pb**	**12 52 12.3**	**-0.3**
	baz=311						
WHF	**Hehuan Shan**	**0.79**	**280**	P	**Pb**	**12 52 13.0**	**-0.4**
	baz=266						
NNSB	**Datong**	**0.79**	**302**	*eP*	**Pn**	**12 52 12.9**	**-0.5**
	baz=298						
NNSB				*eS*	**Sb**	**12 52 23.5**	**-0.2**
	baz=298						
NNS	**Nan Shan**	**0.80**	**303**	*eP*	**Pn**	**12 52 13.2**	**-0.4**
	baz=299						
NNS				*eS*	**Sn**	**12 52 24.1**	**-0.6**
	baz=299						
ENTT	**Nioudou**	**0.81**	**322**	P	**Pn**	**12 52 13.1**	**-0.5**
	baz=319						
ENTT				*eS*	**Sb**	**12 52 23.9**	**-0.1**
	baz=319						
NDT	**Datong Townshi**	**0.81**	**317**	P	**Pn**	**12 52 13.2**	**-0.4**
	baz=314						
NDT				*eS*	**Sn**	**12 52 24.2**	**-0.5**
	baz=314						
HGSD	**Ruisui**	**0.81**	**231**	*eP*	**Pn**	**12 52 12.9**	**-0.7**
	baz=220						
TWE	**Neicheng**	**0.82**	**330**	*eP*	**Pb**	**12 52 13.6**	**-0.1**
	baz=338						
TWE				*eS*	**Sn**	**12 52 24.6**	**-0.3**
	baz=338						
ILA	**Ilan**	**0.83**	**336**	*eS*	**Sn**	**12 52 24.7**	**-0.4**
	baz=343						
FUSS	**Fushou**	**0.83**	**287**	*eP*	**Pn**	**12 52 13.9**	**-0.2**
	baz=284						
OWD	**Renai**	**0.86**	**267**	*eP*	**Pn**	**12 52 14.0**	**-0.4**
	baz=263						
OWD				*eS*	**Sb**	**12 52 25.1**	**-0.6**
	baz=263						
CHGB	**Renai**	**0.86**	**274**	P	**Pn**	**12 52 14.1**	**-0.4**
	baz=260						
CHGB				*eS*	**Sn**	**12 52 26.3**	**0.0**
	baz=260						
JYNG	**Yonagunijimaku**	**0.88**	**59**	P	**Pn**	**12 52 13.9**	**-0.6**
JYNG				*eS*	**Sb**	**12 52 25.8**	**-0.2**
EHY	**Hungye**	**0.88**	**236**	*eP*	**Pn**	**12 52 13.7**	**-0.8**
	baz=246						
FUSB	**Fushanzhiwuyua**	**0.89**	**328**	*eP*	**Pn**	**12 52 14.5**	**-0.3**
	baz=325						
FUSB				*eS*	**Sb**	**12 52 26.1**	**-0.4**
	baz=325						
TDCB	**Techi**	**0.91**	**286**	*eP*	**Pn**	**12 52 14.9**	**-0.2**
	baz=273						
WUSB	**Renai**	**0.91**	**269**	P	**Pn**	**12 52 15.0**	**-0.1**
	baz=258						
VWDT	**VWDT**	**0.93**	**255**	P	**Pn**	**12 52 15.2**	**+0.1**
	baz=241						
VWDT				*eS*	**Sb**	**12 52 27.8**	**+0.5**
	baz=241						
YOJ	**Yonaguni jima**	**0.94**	**61**	P	**Pb**	**12 52 15.3**	**-0.3**
YOJ				*eS*	**Sn**	**12 52 27.0**	**-0.8**
YOJ	**Yonaguni jima**	**0.94**	**61**	*eP*	**Pn**	**12 52 15.0**	**-0.3**
	baz=63						
YOJ				*eS*	**Sn**	**12 52 27.0**	**-0.8**
	baz=63						
YHNB	**Yeheng**	**0.94**	**315**	P	**Pn**	**12 52 15.4**	**-0.1**
	baz=311						
YHNB				*eS*	**Sn**	**12 52 27.4**	**-0.7**
	baz=311						
NWLT	**Wulai**	**0.95**	**324**	*eP*	**Pn**	**12 52 15.3**	**-0.3**
	baz=321						
NWLT				*eS*	**Sn**	**12 52 27.7**	**-0.5**
	baz=321						
YULB	**Yu-li**	**0.97**	**231**	*eP*	**Pn**	**12 52 15.1**	**-0.7**
	baz=242						
EYUL	**Yuli**	**0.98**	**228**	*eP*	**Pn**	**12 52 15.5**	**-0.4**
	baz=216						
EYUL				*eS*	**Sb**	**12 52 29.4**	**+0.5**
	baz=216						
TIPB	**Shuangxi**	**1.00**	**345**	*eP*	**Pb**	**12 52 16.3**	**-0.4**
	baz=351						
TIPB				*eS*	**Sb**	**12 52 29.2**	**-0.2**
	baz=351						
SSLB	**Suanglung**	**1.08**	**259**	*eP*	**Pn**	**12 52 17.6**	**+0.2**
	baz=247						
TWA	**Mucha**	**1.08**	**334**	*eP*	**Pb**	**12 52 18.2**	**+0.1**
	baz=332						
TWA				*eS*	**Sb**	**12 52 32.3**	**+0.3**
	baz=332						
NHDH	**Xindian Distri**	**1.09**	**331**	*eP*	**Pb**	**12 52 18.0**	**-0.3**
	baz=314						
NHDH				*eS*	**Sb**	**12 52 32.8**	**+0.6**
	baz=314						
FULB	**Fuli**	**1.10**	**223**	*eP*	**Pn**	**12 52 16.9**	**-0.7**
	baz=209						
FULB				*eS*	**Sn**	**12 52 31.3**	**-0.6**
	baz=209						
WCS	**Beigang Elemen**	**1.10**	**273**	*eP*	**Pb**	**12 52 17.9**	**-0.5**
	baz=270						
WHP	**Taichung City**	**1.10**	**284**	*eP*	**Pb**	**12 52 19.4**	**+1.0**
	baz=273						
NFF	**Wufeng Townshi**	**1.10**	**305**	*eP*	**Pb**	**12 52 18.5**	**0.0**
	baz=302						
NWF	**Wu-fen Shan**	**1.10**	**344**	P	**Pb**	**12 52 18.2**	**-0.3**
	baz=359						
NWF				*eS*	**Sn**	**12 52 31.5**	**-0.6**
	baz=359						
SXI1	**Grass Mountain**	**1.11**	**349**	*eP*	**Pn**	**12 52 17.5**	**-0.2**
	baz=3.0						
SMLT	**Sun Moon Lake**	**1.12**	**264**	*eP*	**Pb**	**12 52 18.3**	**-0.5**
	baz=261						
CHKT	**Chengkung**	**1.13**	**217**	*eP*	**Pn**	**12 52 16.4**	**-1.6**
	baz=205						
CHKT				*eS*	**Sn**	**12 52 30.5**	**-2.1**
	baz=205						
TYC	**Yuchr**	**1.16**	**265**	*eP*	**Pb**	**12 52 18.8**	**-0.5**
	baz=262						
YUS	**Yu-Shan**	**1.18**	**244**	*eP*	**Pb**	**12 52 19.5**	**+0.4**
	baz=230						
YUS				*eS*	**Sn**	**12 52 34.5**	**-0.1**
	baz=230						
LIOB	**Emei**	**1.19**	**303**	P	**Pb**	**12 52 20.2**	**+0.3**
	baz=300						
NSTT	**Nanjuang**	**1.19**	**302**	P	**Pb**	**12 52 20.2**	**+0.3**
	baz=288						
NSTT				*eS*	**Sb**	**12 52 35.1**	**+0.1**
	baz=288						
YM01	**YM01**	**1.24**	**337**	*eP*	**Pb**	**12 52 21.2**	**+0.4**
	baz=335						
EDH	**Donghe**	**1.27**	**216**	*eP*	**Pn**	**12 52 19.1**	**-0.8**
	baz=205						
EDH				*eS*	**Sn**	**12 52 34.1**	**-2.0**
	baz=205						
TWQ1	**Liyutan**	**1.27**	**286**	*eP*	**Pb**	**12 52 21.6**	**+0.3**
	baz=282						
TWQ1				*eS*	**Sb**	**12 52 38.8**	**+1.5**
	baz=282						
WJS	**Zhushan**	**1.28**	**262**	*eP*	**Pb**	**12 52 21.5**	**0.0**
	baz=259						
WJS				*eS*	**Sb**	**12 52 41.8**	**+4.2**
	baz=259						
ELDTW	**Lidau**	**1.29**	**231**	*eP*	**Pn**	**12 52 19.6**	**-0.8**
	baz=217						
SBCB	**Hsinchu**	**1.29**	**308**	*eP*	**Pb**	**12 52 21.8**	**+0.1**
	baz=305						
ALS	**Alishan**	**1.30**	**248**	*eP*	**Pb**	**12 52 21.4**	**-0.5**
	baz=245						
TCU	**Taichung**	**1.32**	**276**	*eP*	**Pb**	**12 52 22.4**	**+0.2**
	baz=274						
TWY	**Chenhua**	**1.35**	**340**	*eP*	**Pn**	**12 52 21.2**	**+0.2**
	baz=339						
CHN5	**Tsauling**	**1.38**	**253**	*eP*	**Pb**	**12 52 23.2**	**+0.1**
	baz=241						
CHN5				*eS*	**Sb**	**12 52 41.1**	**+0.7**
	baz=241						
LDUT	**Ludao**	**1.45**	**204**	*eS*	**Sn**	**12 52 38.3**	**-2.2**
	baz=203						
WDLH	**Douliu**	**1.48**	**258**	*eP*	**Pb**	**12 52 24.4**	**-0.4**
	baz=243						
WDLH				*eS*	**Sb**	**12 52 46.0**	**+2.9**
	baz=243						
STYH	**Taoyuan**	**1.48**	**236**	*eP*	**Pn**	**12 52 23.6**	**+0.8**
	baz=224						
IRIF	**Iriomote-Funau**	**1.51**	**77**	P	**Pn**	**12 52 23.8**	**+0.6**
IRIF				S	**Sn**	**12 52 42.8**	**+0.8**
TWGBT	**Beinan**	**1.52**	**219**	*eS*	**Sn**	**12 52 42.4**	**+0.3**
	baz=217						
TPUB	**Ta-pu**	**1.53**	**243**	*eP*	**Pb**	**12 52 25.6**	**-0.2**
	baz=240						
TPUB				*eS*	**Sb**	**12 52 46.0**	**+1.2**
	baz=240						
CHN4	**Tsaushan**	**1.54**	**245**	*eP*	**Pb**	**12 52 25.9**	**0.0**
	baz=234						
CHN4				*eS*	**Sb**	**12 52 46.5**	**+1.5**
	baz=234						
HATJ	**Hateruma jima**	**1.55**	**88**	P	**Pn**	**12 52 24.0**	**+0.3**
WTP	**Ta-pu**	**1.57**	**242**	*eP*	**Pb**	**12 52 25.9**	**-0.6**
	baz=239						
WTP				*eS*	**Sb**	**12 52 46.8**	**+1.0**
	baz=239						
WRL	**Guolierlin Hig**	**1.59**	**267**	*eP*	**Pb**	**12 52 26.3**	**-0.5**
	baz=277						
WRL				*eS*	**Sb**	**12 52 46.9**	**+0.4**
	baz=277						
WTK	**Tuku**	**1.61**	**259**	*eP*	**Pb**	**12 52 26.8**	**-0.3**
	baz=244						
WTK				*eS*	**Sb**	**12 52 47.9**	**+0.9**
	baz=244						
TWK	**Hsinying**	**1.66**	**244**	*eP*	**Pb**	**12 52 27.0**	**-1.0**
	baz=241						
CHN1	**Nanshi**	**1.67**	**241**	*eP*	**Pb**	**12 52 27.4**	**-0.7**
	baz=238						
CHN1				*eS*	**Sb**	**12 52 49.3**	**+0.6**
	baz=238						
SNST	**Tainan City**	**1.68**	**243**	*eP*	**Pb**	**12 52 27.4**	**-0.8**
	baz=240						
SNST				*eS*	**Sb**	**12 52 49.7**	**+0.8**
	baz=240						
SGST	**Jiashian**	**1.68**	**237**	*eP*	**Pb**	**12 52 27.2**	**-1.0**
	baz=234						
SGST				*eS*	**Sb**	**12 52 48.5**	**-0.5**
	baz=234						
JKRS	**Kuro-shima**	**1.75**	**82**	P	**Pn**	**12 52 27.1**	**+0.7**
JKRS				*eS*	**Sn**	**12 52 48.5**	**+0.7**
ICHU	**Yijhu**	**1.80**	**249**	*eP*	**Pn**	**12 52 28.3**	**+1.1**
	baz=247						
SSD	**Sandimen**	**1.85**	**228**	*eP*	**Pb**	**12 52 29.9**	**-1.3**
	baz=218						
SCST	**Cishan**	**1.86**	**234**	*eP*	**Pb**	**12 52 31.2**	**-0.1**
	baz=245						
SCST				*eS*	**Sb**	**12 52 55.5**	**+1.4**
	baz=245						
CHN8	**Yiju**	**1.86**	**250**	*eS*	**Sb**	**12 52 54.1**	**-0.2**
	baz=247						
TSMG	**Majia**	**1.87**	**227**	*eP*	**Pb**	**12 52 30.9**	**-0.6**
	baz=217						
JIJ	**Ishigaki jima**	**1.89**	**79**	P	**Pn**	**12 52 28.3**	**-0.1**
JIJ				*eS*	**Sn**	**12 52 50.4**	**-0.9**
MASBT	**Mashibuluo**	**1.94**	**225**	*eP*	**Pn**	**12 52 30.6**	**+1.5**
	baz=215						
JISG	**Ishigakijimahi**	**2.09**	**73**	P	**Pn**	**12 52 31.0**	**-0.1**
JISG				*eS*	**Sn**	**12 52 55.3**	**-0.9**
WDGT	**Dungji**	**2.37**	**252**	*eP*	**Pn**	**12 52 36.1**	**+1.1**
	baz=250						
PHUB	**P'eng-hu**	**2.38**	**259**	*eP*	**Pn**	**12 52 35.2**	**+0.1**
	baz=256						
JTJ	**Tarama**	**2.44**	**74**	P	**Pn**	**12 52 37.3**	**+1.3**
JTJ				S	**Sn**	**12 53 05.4**	**+0.4**
JIRB	**Irabujima**	**2.91**	**73**	S	**Sn**	**12 53 17.3**	**+0.9**
JIKM	**Ikemajima**	**3.00**	**72**	*eS*	**Sn**	**12 53 19.6**	**+0.9**

*IDC **29** 12:54:12.8±1.7, 7.°35S×155.°21E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/36, mbtmp3.7/9, ML1.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/60, Error ellipse: s-maj=45.7km s-min=25.6km az=131.0*

ISC 29 12:54:20.2±1.1, 7.°2S±0.°1×154.°8E±0.°1, h41km, n10, σ1s58/11, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.98**	**315**	Pn	**Pn**	**12 55 19.8**	**+1.0**
	16nm,0.3s,baz=50,slow=0.6,SNR=1.6						
KRVT				Sn	**Sn**	**12 56 01.8**	**-2.3**
	13nm,0.3s,baz=216,slow=0.7,SNR=1.5						
PMG	**Port Moresby**	**7.91**	**253**	Pn	**Pn**	**12 56 12.7**	**-0.1**
	0.5nm,0.3s,baz=109,slow=18,SNR=2.0						
PMG				Sn	**Sn**	**12 57 40.2**	**-0.9**
	0.3nm,0.3s,baz=303,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**23.59**	**235**	P	**P**	**12 59 27.6**	**+0.1**
	0.7nm,0.7s,baz=59,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**12 59 48.1**	**-0.9**
	0.2nm,0.4s,baz=60,slow=8.5,SNR=2.2						
JHJ	**Hachijo jima 2**	**42.53**	**341**	LR	LR	13 18 01.4	
	comp=Z,39nm,19.4s,baz=83,slow=33						
CMAR	**Chiang Mai Arr**	**60.71**	**296**	P	**P**	**13 04 30.7**	**+2.7**
	0.7nm,0.3s,baz=115,slow=5.5,SNR=5.3						
SONM	**Songino Array**	**69.39**	**327**	P	**P**	**13 05 24.8**	**+0.8**
	0.3nm,0.4s,baz=120,slow=5.2,SNR=3.3						
MKAR	**Makanchi Array**	**83.42**	**319**	P	**P**	**13 06 43.4**	**0.0**
	0.6nm,0.8s,baz=102,slow=5.4,SNR=6.9						
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**	**13 06 41.9**	**-2.0**
	0.8nm,1.1s,baz=251,slow=4.2,SNR=2.6						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**13 07 45.0**	**-0.3**
	0.3nm,0.8s,baz=279,slow=4.3,SNR=4.5						

*MDD **29** 13:08:59.7±1.4, 32.°34N×7.°72W, h0km, Mb4.1/1, M_mb3.4/1, Error ellipse: s-maj=20.2km s-min=11.1km az=108.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*
*IGIL **29** 13:09:04.4, 32.°36N×7.°78W, h31km*

INMG 29 13:09:02.0±0.9, 32.°46N×7.°77W, h10km, ML2.2, 1C, Error ellipse: s-maj=6.5km s-min=3.0km az=121.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**4.74**	**350**	*ePn*	Pn	13 10 13.5	0.0
PBDV	**Barranco-do-Ve**	**4.77**	**358**	*ePn*	Pn	13 10 13.8	-0.2
MORF	**Marmelete**	**4.89**	**352**	*eP*	Pn	13 10 14.8	-0.8
MORF	**Marmelete**	**4.89**	**352**	*ePn*	Pn	13 10 14.9	-0.7
PVAQ	**Vaqueiros**	**4.93**	**1**	*ePn*	Pn	13 10 15.4	-0.7
PVAQ				*eSn*	Sn	13 11 11.9	-1.3
PVAQ				A	A	13 11 15.1	
	1.5nm,0.8s						
EGRO	**El Granado**	**5.07**	**3**	P	Pn	13 10 17.2	-0.8
EGRO				S	Sn	13 11 13.3	-3.2
PTEO	**Sao Teotonio**	**5.13**	**352**	*ePn*	Pn	13 10 18.3	-0.6
PCVE	**Castro Verde**	**5.16**	**358**	*ePn*	Pn	13 10 18.9	-0.4
PCVE				*eSn*	Sn	13 11 17.0	-1.9
EMIN	**Mina Concepcio**	**5.37**	**9**	P	Pn	13 10 20.9	-1.3
EMIN				⇑*iVmb_V*		13 10 25.6	
	116nm,SNR=1.8						
EMIN				S	Sn	13 11 21.5	-2.5
PNCL	**Nicolau / Gran**	**5.67**	**354**	*ePn*	Pn	13 10 25.9	-0.4
PNCL				*eSn*	Sn	13 11 30.2	-1.2
PBAR	**Barrancos**	**5.73**	**6**	*ePn*	Pn	13 10 26.9	-0.2
PBAR				*eSn*	Sn	13 11 29.7	-3.3
PBAR				A	A	13 11 32.8	
	1.5nm,0.6s						
ECAB	**El Cabril**	**5.92**	**18**	P	Pn	13 10 28.5	-1.3
ECAB				S	Sn	13 11 34.3	-3.4
EADA	**Adamuz**	**6.26**	**24**	P	Pn	13 10 34.1	-0.3
EADA				S	Sn	13 11 42.4	-3.7
EBAD	**Badajoz**	**6.31**	**5**	P	Pn	13 10 34.1	-0.9
PMTG	**Montargil**	**6.60**	**357**	*ePn*	Pn	13 10 38.3	-0.8
PMRV	**Marv??o**	**6.96**	**2**	*ePn*	Pn	13 10 43.4	-0.6
PSBE	**So Bento**	**7.08**	**354**	*ePn*	Pb	13 11 06.6	+1.5

*CRAAG **29** 13:25:12.4, 36.°13N×2.°71E, Ml3.7*
*CNRM **29** 13:25:17.9, 36.°19N×2.°43E, h28km, ml3.8*

ISC 29 13:25:11.5±1.1, 36.°4N±0.°1×2.°55E±0.°03, h18km, n18, σ2s41/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.38**	**121**	P	**Pg**	**13 25 17.9**	**-1.6**
ADJB	**Djebel Djouab**	**0.76**	**108**	P	**Pb**	**13 25 24.5**	**-1.7**
ECHA	**Ech Chlef**	**0.99**	**256**	P	**Pb**	**13 25 30.0**	**0.0**
EANR	**'Ain N'Sour**	**1.25**	**250**	P	**Pn**	**13 25 32.0**	**-2.2**
OKGL	**Djebel Kef Gue**	**1.58**	**258**	P	**Sg**	**13 26 02.0**	**-0.6**
OJGS	**Djebel Guires**	**1.71**	**239**	P	**Pg**	**13 25 47.0**	**+2.6**
OJBR	**Djebel Berber**	**1.96**	**246**	P	**Pg**	**13 25 50.0**	**+0.8**
CKHR	**Kef el Ahmar**	**2.43**	**98**	P	**Pb**	**13 25 54.3**	**-0.4**
ODJA	**Bouhanifia**	**2.44**	**245**	P	**Pn**	**13 25 49.0**	**-1.5**
DFRA	**Djebel Bou Aff**	**2.69**	**86**	P	**Pb**	**13 25 58.3**	**-0.8**
OTSS	**Djebel Tessala**	**2.94**	**249**	P	**Pn**	**13 25 53.0**	**-4.4**
CART	**Cartagena**	**3.08**	**294**	P	**Pb**	**13 26 04.3**	**-1.5**
CMAH	**Djebel Manchou**	**3.93**	**85**	P	**Pn**	**13 26 14.7**	**+3.7**
JBK	**JBK**	**4.66**	**245**	P	**Pn**	**13 26 24.9**	**+3.7**
TDRA	**Tendrara**	**5.04**	**230**

0.1nm,0.3s,baz=357,slow=23,SNR=1.8
WRA Warramunga Arr 22.20 124 P **P** **13 31 49.7 -0.6**
1.3nm,0.5s,baz=299,slow=12,SNR=20
ASAR Alice Springs 23.90 133 P **P** **13 32 08.1 +0.3**
1.7nm,0.7s,baz=307,slow=9.4,SNR=42
PMG Port Moresby 31.91 95 LR LR 13 48 21.8
comp=Z,67nm,19.8s,baz=214,slow=41
STKA Stephens Creek 34.29 137 P **P** **13 33 41.7 +1.5**
1.5nm,0.8s,baz=286,slow=9.3,SNR=4.4
MKAR Makanchi Array 61.88 335 P **P** **13 37 12.9 -0.1**
0.2nm,0.4s,baz=145,slow=6.7,SNR=7.5

*CNRM **29** 13:45:33.3, 35°.63N × 3°.64W, h19km, ml2.3*
*SFS **29** 13:45:34.0, 35°.51N × 3°.62W, h31km, ML2.6, ALBORAN SUR*
*MDD **29** 13:45:35.2 ± 0.5, 35°.58N × 3°.63W, h12km, mb_Lg2.2/9, Error ellipse: s-maj=4.1km s-min=3.4km az=178.0*
ISC 29 13:45:33.7 ± 1.2, **35°.59N** ± 0'.02 × **3°.62W** ± 0'.03, **h18** km ± 7km, **n18**, σ 0 **84**/38, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PALE	**Palemas**	**0.46**	**215**	P		**Pb**	**13 45 43.4**	**+0.1**
PALE				S		**Sb**	**13 45 49.8**	**+0.1**
EALB	**Alboran**	**0.59**	**54**	Pg		**Pn**	**13 45 46.8**	**-0.4**
EALB				Sg		**Sn**	**13 45 55.5**	**-0.8**
EALB				*i* Vmb_Lg			13 45 59.2	
EMEL	**Melilla**	**0.61**	**118**	Pg		**Pb**	**13 45 46.0**	**+0.1**
EMEL				Sg		**Sb**	**13 45 54.0**	**-0.2**
GOG	**Mont Gurugu**	**0.63**	**126**	P		**Pg**	**13 45 46.7**	**+0.5**
GOG				S		**Sb**	**13 45 54.1**	**-0.6**
PVLZ	**Peæn de**	**0.70**	**233**	P		**Pn**	**13 45 48.4**	**-0.3**
PVLZ				S		**Sg**	**13 45 57.0**	**+0.4**
TAF	**Taforalt**	**1.25**	**128**	P		**Pb**	**13 45 57.4**	**+0.5**
TAF				S		**Sg**	**13 46 14.3**	**-0.1**
ELGU	**Los Guajares,**	**1.27**	**360**	Pn		**Pg**	**13 45 58.2**	**-0.1**
ELGU				Sn		**Sb**	**13 46 14.2**	**+0.9**
ELGU				*i* Vmb_Lg			13 46 19.8	
EMAL	**Malaga-Limoner**	**1.34**	**331**	P		**Pb**	**13 45 58.8**	**+0.5**
EMAL				S		**Sn**	**13 46 15.1**	**+0.2**
EMIJ	**Mijas**	**1.35**	**316**	Pn		**Pb**	**13 45 59.1**	**+0.6**
EMIJ				Sn		**Sb**	**13 46 15.5**	**+0.1**
EMIJ				*i* Vmb_Lg			13 46 23.8	
EBER	**Berja**	**1.43**	**24**	Pn		**Pb**	**13 46 00.4**	**+0.4**
EBER				Sn		**Sb**	**13 46 18.3**	**+0.3**
EBER				*i* Vmb_Lg			13 46 26.1	
SMIR	**Smir Dam**	**1.44**	**274**	P		**Pn**	**13 45 58.5**	**-0.4**
SMIR				S		**Sn**	**13 46 16.9**	**-0.4**
JBK	**JBK**	**1.52**	**145**	P		**Pn**	**13 46 00.4**	**+0.1**
JBK				S		**Sb**	**13 46 20.8**	**+0.2**
EGOR	**Sierra Gorda,**	**1.57**	**345**	Pn		**Pb**	**13 46 01.8**	**-0.5**
EGOR				Sn		**Sn**	**13 46 20.2**	**-0.5**
EGOR				*i* Vmb_Lg			13 46 29.2	
EQUE	**Quentar**	**1.62**	**5**	Pn		**Pn**	**13 46 02.1**	**+0.6**
EQUE				Sn		**Sn**	**13 46 21.9**	**0.0**
EQUE				*i* Vmb_Lg			13 46 30.9	
EADA	**Adamuz**	**2.68**	**344**	Pn		**Pn**	**13 46 17.4**	**+1.4**
EADA				Sn		**Sn**	**13 46 47.4**	**-0.7**
EADA				Sg		**Sg**	**13 46 58.5**	**-1.4**
EADA				*i* Vmb_Lg			13 46 58.7	
ECAB	**El Cabril**	**2.87**	**330**	Pn		**Pn**	**13 46 20.3**	**+1.7**
ECAB				Sn		**Sn**	**13 46 52.2**	**-0.5**
ECAB				Sg		**Sg**	**13 47 03.7**	**-2.2**
ECAB				*i* Vmb_Lg			13 47 14.2	
EGRO	**El Granado**	**3.67**	**303**	Pn		**Pn**	**13 46 30.1**	**+0.6**
EGRO				Sn		**Sn**	**13 47 11.7**	**-0.6**
EBAD	**Badajoz**	**4.16**	**320**	Pn		**Pn**	**13 46 38.5**	**+2.1**
EBAD				Sn		**Sn**	**13 47 23.2**	**-1.3**
EBAD				*i* Vmb_Lg			13 47 30.4	

*IDC **29** 13:51:02.5 ± 1.2, 52°.30N × 168°.67W, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/44, mbtmp3.7/13, ML2.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/95, Error ellipse: s-maj=32.8km s-min=17.8km az=177.0*
*AEIC **29** 13:51:06 ± 1.8, 52°.25N ± 0°.08 × 168°.47W ± 0°.06, h30km ± 5km, Error ellipse: s-maj=11.7km s-min=5.4km az=171.0*
*NEIC **29** 13:51:07.2 ± 1.7, 52°.25N ± 0°.07 × 168°.50W ± 0°.06, h37km ± 7km, mb4.0/47, ML3.2/25(AEIC), Error ellipse: s-maj=10.7km s-min=5.6km az=175.0*
ISC 29 13:51:05.9 ± 0.5, **52°.24N** ± 0°.06 × **168°.51W** ± 0°.05, **h26** km, **n110**, σ 0 **94**/105, **mb3.8**/20, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIKH	**Nikolski High**	**0.77**	**344**			**Pb**	**13 51 20.1**	**-0.5**
NIKH						**Sn**	**13 51 32.0**	**+0.3**
OKFG	**Magazine Ridge**	**1.23**	**17**			**Pn**	**13 51 27.5**	**+0.1**
OKFG						**Sb**	**13 51 44.5**	**+0.6**
MGOD	**Makushin Gods**	**1.85**	**32**			**Pn**	**13 51 36.2**	**+0.3**
MSW	**Makushin Switc**	**1.98**	**31**			**Pn**	**13 51 38.3**	**+0.6**
MSW						**Sn**	**13 52 02.4**	**+0.8**
UNV	**Unalaska Valle**	**2.02**	**36**			**Pn**	**13 51 38.5**	**+0.4**
UNV						**Sn**	**13 52 03.0**	**+0.5**
MTBL	**Makushin Table**	**2.06**	**32**			**Pn**	**13 51 39.3**	**+0.5**
AKBBA	**Akutan Broad B**	**2.43**	**39**			**Pn**	**13 51 44.3**	**+0.5**
AKSA	**Akutan Strait**	**2.55**	**41**			**Pn**	**13 51 45.7**	**+0.3**
WESE	**West Dahl East**	**3.25**	**45**			**Pn**	**13 51 55.7**	**+0.6**
KOFP	**Korovin Flat P**	**3.43**	**273**			**Pn**	**13 51 59.1**	**+1.4**
ATKA	**Atka Island**	**3.50**	**272**			**Pn**	**13 51 59.6**	**+1.2**
GSTD	**Great Sitkin T**	**4.70**	**271**			**Pn**	**13 52 16.3**	**+1.1**
GSCK	**Great Sitkin C**	**4.72**	**270**			**Pn**	**13 52 16.5**	**+1.2**
ADK	**Adak**	**5.05**	**269**			**Pn**	**13 52 21.0**	**+1.1**
KIWB	**Kanaga Island**	**5.35**	**269**	Pn		**Pn**	**13 52 25.2**	**+1.4**
SDPT	**Sand Point**	**5.69**	**54**			**Pn**	**13 52 30.1**	**+1.5**
CHGN	**Chignik**	**7.18**	**51**	Pn		**Pn**	**13 52 49.7**	**+0.7**
CHIR	**Chirikof Islan**	**8.39**	**60**	Pn		**Pn**	**13 53 05.9**	**+0.3**
OHAK	**Old Harbor**	**10.12**	**54**	Pn		**Pn**	**13 53 29.1**	**-0.1**
KDAK	**Kodiak Island**	**10.69**	**52**	Pn		**Pn**	**13 53 36.7**	**-0.4**
	0.3nm,0.3s,baz=260,slow=5.4,SNR=20							
P19K	**Oil Pt**	**11.32**	**43**	Pn		**Pn**	**13 53 46.4**	**+0.7**
N19K	**Bonanza Creek**	**11.54**	**36**	Pn		**Pn**	**13 53 49.4**	**+0.5**
CNPM	**China Poot**	**12.11**	**46**	Pn		**Pn**	**13 53 56.7**	**+0.2**
BRLK	**Bradley Lake**	**12.38**	**46**	Pn		**Pn**	**13 54 02.7**	**+2.4**
SEW	**Seward**	**13.18**	**46**	Pn		**Pn**	**13 54 10.6**	**-0.5**
O22K	**Cooper Landing**	**13.25**	**44**	Pn		**Pn**	**13 54 12.1**	**+0.1**
RC01	**Rabbit Creek A**	**13.56**	**42**	Pn		**Pn**	**13 54 15.7**	**-0.6**
PWL	**Port Wells**	**14.03**	**44**	Pn		**Pn**	**13 54 21.1**	**-1.6**
J20K	**Nowinta River**	**14.11**	**26**	P		**P**	**13 54 29.6**	**-1.6**
CAST	**Castle Rocks**	**14.16**	**31**	P		**P**	**13 54 31.2**	**-0.5**
KNK	**Knik Glacier**	**14.26**	**42**	Pn		**Pn**	**13 54 25.1**	**-0.8**
GHO	**Glory Hole Cre**	**14.26**	**40**	Pn		**Pn**	**13 54 25.3**	**-0.6**
SML	**Sawmill**	**14.52**	**41**	Pn		**Pn**	**13 54 28.5**	**-0.9**
TRF	**Thorofare Moun**	**14.77**	**33**	Pn		**Pn**	**13 54 32.3**	**-0.7**
SCM	**Sheep Creek Mo**	**14.94**	**42**	Pn		**Pn**	**13 54 33.5**	**-1.6**
BPAW	**Bear Paw Mtn.**	**14.99**	**31**	P		**P**	**13 54 40.4**	**-0.5**
RND	**Reindeer**	**15.24**	**35**	Pn		**Pn**	**13 54 39.3**	**+0.1**
RND				IAmb		IAmb	13 54 45.9	
	comp=Z,6.9nm,1.2s							
I21K	**Tanana**	**15.48**	**27**	P		**P**	**13 54 46.9**	**+0.6**
M24K	**Tolsona, Glenn**	**15.55**	**42**	Pn		**Pn**	**13 54 41.9**	**-1.2**
M24K				IAmb		IAmb	13 54 42.6	
	comp=Z,22nm,0.9s							
DHY	**Denali Highway**	**15.59**	**38**	Pn		**Pn**	**13 54 44.6**	**+0.9**
DHY				IAmb		IAmb	13 55 03.0	
	comp=Z,7.5nm,1.4s							
IMAR	**Indian Mountai**	**15.66**	**23**	Pn		**Pn**	**13 54 44.0**	**-0.5**
MLY	**Manley**	**15.73**	**29**	P		**P**	**13 54 48.9**	**-0.3**
MLY				IAmb		IAmb	13 54 50.1	
	comp=Z,7.5nm,1.0s							
BERG	**Berg Lake**	**15.92**	**49**	P		**P**	**13 54 51.7**	**+0.4**
N25K	**Chitina, Valde**	**15.98**	**45**	Pn		**Pn**	**13 54 47.1**	**-1.6**
N25K				IAmb		IAmb	13 54 57.7	
	comp=Z,15nm,1.4s							
WRH	**Wood River Hil**	**16.18**	**33**	Pn		**Pn**	**13 54 50.6**	**-0.5**
I23K	**Minto, Yukon-K**	**16.22**	**30**	Pn		**Pn**	**13 54 51.4**	**-0.2**
GLB	**Gilahina Butte**	**16.26**	**46**	Pn		**Pn**	**13 54 50.8**	**-1.5**
GLB				IAmb		IAmb	13 55 16.0	
	comp=Z,7.0nm,1.0s							
PAX	**Paxson**	**16.26**	**40**	Pn		**Pn**	**13 54 51.3**	**-1.0**
VRDI	**Verde Repeater**	**16.33**	**47**	Pn		**Pn**	**13 54 51.7**	**-1.6**
MCARA	**McCarthy VSAT**	**16.58**	**47**	Pn		**Pn**	**13 54 55.9**	**-0.4**
MCARA				IAmb		IAmb	13 55 07.9	
	comp=Z,36nm,1.4s							
ISLE	**Juniper Island**	**16.63**	**50**	Pn		**Pn**	**13 54 56.7**	**-0.3**
ISLE				IAmb		IAmb	13 55 10.9	
	comp=Z,27nm,1.3s							
ILAR	**Eielson Array**	**16.77**	**33**	Pn		**Pn**	**13 54 57.4**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=231,slow=9.8,SNR=5.4							
RIDG	**Independent Ri**	**16.91**	**38**	Pn		**Pn**	**13 55 00.0**	**-0.4**
RIDG				IAmb		IAmb	13 55 03.4	
	comp=Z,8.3nm,1.3s							
GRNC	**Granite Creek**	**16.94**	**49**	Pn		**Pn**	**13 55 00.7**	**-0.3**
GRNC				IAmb		IAmb	13 55 06.0	
	comp=Z,25nm,1.2s							
H24K	**Noodor Dome**	**17.15**	**29**	P		**P**	**13 55 04.5**	**-0.4**
J25K	**Salcha River,**	**17.20**	**35**	Pn		**Pn**	**13 55 03.4**	**-0.6**
LOGN	**Logan Glacier**	**17.32**	**49**	Pn		**Pn**	**13 55 05.1**	**-0.6**
SCRK	**Sand Creek**	**17.35**	**38**	Pn		**Pn**	**13 55 04.6**	**-1.4**
M27K	**Edge Creek, AK**	**17.46**	**44**	Pn		**Pn**	**13 55 06.6**	**-0.8**
M27K				IAmb		IAmb	13 55 09.7	
	comp=Z,12nm,1.1s							
L27K	**Beaver Creek,**	**17.77**	**42**			**Pn**	**13 55 10.3**	**-0.9**
BCAR	**Beaver Creek A**	**17.79**	**42**	P		**P**	**13 55 12.0**	**-0.1**
TOLK	**Toolik Lake Re**	**18.77**	**22**	P		**Pn**	**13 55 22.9**	**-0.3**
EGAK	**Eagle**	**18.82**	**38**	P		**Pn**	**13 55 23.9**	**+0.1**
EGAK				IAmb		IAmb	13 55 49.5	
	comp=Z,11nm,1.4s							
DAWY	**Dawson**	**19.19**	**41**	P		**Pn**	**13 55 27.5**	**-0.8**
DAWY				IAmb		IAmb	13 55 28.8	
	comp=Z,5.7nm,1.2s							
BMAR	**Burnt Mountain**	**19.19**	**28**	P		**Pn**	**13 55 28.6**	**+0.2**
SKAG	**Skagway**	**19.81**	**56**	P		**P**	**13 55 33.7**	**-0.4**
N31M	**Braeburn, Yuko**	**19.94**	**50**	Pn		**Pn**	**13 55 38.2**	**+0.9**
N31M				IAmb		IAmb	13 55 39.3	
	comp=Z,13nm,0.8s							
PEA0B	**Petropavlovsk-**	**20.40**	**286**	P		**P**	**13 55 40.9**	**+0.3**
PEA0B				IAmb		IAmb	13 55 42.0	
	comp=Z,26nm,1.5s							
PETK	**Petropavlovsk-**	**20.40**	**286**	P		**P**	**13 55 40.9**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=92,slow=13,SNR=15							
M31M	**Drury Creek, Y**	**20.74**	**48**	Pn		Pn	13 55 46.2	-0.4
M31M				IAmb		IAmb	13 55 51.4	
	comp=Z,11nm,1.4s							
CRAG	**Craig**	**20.98**	**67**	P		**P**	**13 55 47.0**	**+0.2**
P33M	**Teslin, Yukon**	**21.16**	**54**	P		**P**	**13 55 48.8**	**0.0**
P33M				IAmb		IAmb	13 55 58.7	
	comp=Z,6.2nm,1.1s							
EPYK	**Eagle Plains**	**21.20**	**36**	P		**P**	**13 55 48.0**	**-1.1**
EPYK				IAmb		IAmb	13 55 49.5	
	comp=Z,8.4nm,0.7s							
WRAK	**Wrangell Islan**	**21.33**	**64**	P		**P**	**13 55 49.6**	**-0.9**
WRAK				IAmb		IAmb	13 56 02.5	
	comp=Z,18nm,1.2s							
SEY	**Seymchan**	**23.15**	**313**	P		**P**	**13 56 09.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=104,slow=6.6,SNR=5.9							
HOLB	**Holberg**	**25.00**	**77**	P		**P**	**13 56 26.0**	**-1.3**
YKA	**Yellowknife Ar**	**29.93**	**49**	P		**P**	**13 57 12.8**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=272,slow=7.6,SNR=12							
TIXI	**Tiksi**	**33.12**	**329**	P		**P**	**13 57 39.0**	**-0.1**
TIXI				IAmb		IAmb	13 58 02.5	
	comp=Z,1.9nm,1.1s							
SBLHI	**Steaming Bluff**	**34.34**	**157**	P		**P**	**13 57 50.4**	**-0.1**
OBL	**Observatory Le**	**34.35**	**157**	P		**P**	**13 57 49.9**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**37.68**	**220**	T		T	14 39 13.7	
	baz=24							
H11N3	**WAKE ISLAND Hy**	**37.69**	**220**	T		T	14 39 05.2	
	baz=24							
H11N1	**WAKE ISLAND Hy**	**37.70**	**220**	T		T	14 39 14.9	
	baz=24							
H11S1	**WAKE ISLAND Hy**	**38.87**	**219**	T		T	14 40 28.7	
	baz=23,slow=76,SNR=8.9							
H11S2	**WAKE ISLAND Hy**	**38.88**	**219**	T		T	14 40 30.0	
	baz=23,slow=76,SNR=6.7							
H11S3	**WAKE ISLAND Hy**	**38.88**	**219**	T		T	14 40 21.9	
	baz=23,slow=76,SNR=6.0							
PDAR	**Pinedale Array**	**39.91**	**80**	P		**P**	**13 58 39.6**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=313,slow=3.1,SNR=4.7							
PDAR	**Pinedale Array**	**39.91**	**80**	P		**P**	**13 58 38.7**	**+1.0**
MJAR	**Matsushiro Arr**	**40.22**	**269**	P		**P**	**13 58 37.9**	**-2.1**
MJAR				IAmb		IAmb	13 58 53.0	
	comp=Z,0.9nm,0.6s							
MAJO	**Matsushiro**	**40.22**	**269**	P		**P**	**13 58 38.0**	**-2.0**
MAJO				IAmb		IAmb	13 59 04.1	
	comp=Z,3.4nm,0.9s							
MJB9	**Matsu-Tunnel**	**40.22**	**269**	P		**P**	**13 58 38.0**	**-2.1**
MJB9				IAmb		IAmb	13 59 04.0	
	comp=Z,3.5nm,0.9s							
FCC	**Fort Churchill**	**40.62**	**50**	P		**P**	**13 58 44.9**	**+1.8**
FCC				IAmb		IAmb	13 59 05.8	
	comp=Z,5.4nm,1.4s							
KSRS	**Korea Array**	**45.94**	**277**	LR		LR	14 17 01.3	
	comp=Z,12nm,21.2s,baz=105,slow=34							
LENM	**Lemitar**	**46.86**	**87**	P		**P**	**13 59 31.2**	**-2.5**
SONM	**Songino Array**	**51.82**	**301**	P		**P**	**14 00 12.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=66,slow=5.5,SNR=5.2							
SONM	**Songino Array**	**51.82**	**301**	P		**P**	**14 00 11.4**	**0.0**
TXAR	**Lajitas Array**	**52.22**	**89**	P		**P**	**14 00 15.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=316,slow=5.2,SNR=3.5							
P40A	**Paris**	**52.32**	**72**	P		**P**	**14 00 15.1**	**0.0**
MKAR	**Makanchi Array**	**64.28**	**314**	P		**P**	**14 01 38.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=48,slow=6.8,SNR=6.9							
FINES	**FINESS Array B**	**66.07**	**352**	P		**P**	**14 01 49.4**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=10,slow=10,SNR=4.9							
NC303	**NORSAR Array S**	**66.89**	**0**	P		**P**	**14 01 55.4**	**+0.3**
NC405	**NORSAR Array S**	**67.00**	**360**	P		**P**	**14 01 55.9**	**+0.1**
NOA	**NORSAR Array B**	**67.07**	**0**	P		**P**	**14 01 56.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=2,7,slow=7.0,SNR=1.5							
HFS	**Hagfors**	**67.97**	**359**	LR		LR	14 34 45.0	
	comp=Z,16nm,18.3s,baz=334,slow=39							
ABKAR	**Akbulak array**	**70.82**	**329**	P		**P**	**14 02 19.9**	**+0.2**
KKAR	**Karatay Array**	**72.24**	**319**	P		**P**	**14 02 28.5**	**+0.1**
AKASG	**Malin Array Be**	**76.34**	**348**	P		**P**	**14 02 51.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=14,slow=5.5,SNR=3.5							
CMAR	**Chiang Mai Arr**	**77.16**	**283**	P		**P**	**14 02 57.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=21,slow=7.7,SNR=2.1							
BURAR	**Bucovina Array**	**79.83**	**351**	P		**P**	**14 03 12.8**	**+1.0**
BURAR				IAmb		IAmb	14 03 13.2	
	comp=Z,0.7nm,0.7s							
ASAR	**Alice Springs**	**90.72**	**231**	P		**P**	**14 04 06.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=32,slow=5.5,SNR=3.2							

*IDC **29** 13:53:39.4 ± 2.6, 5°.49S × 129°.36E, h172km ± 39km, mb3.2/2, mb1 3.6/6, mb1mx3.1/31, mbtmp4.0/6, MS2.7/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=52.2km s-min=18.1km az=83.0*
*NEIC **29** 13:53:41.0 ± 2.0, 5°.48S ± 0°.03 × 129°.7E ± 0°.2, h201km ± 13km, mb4.1/12, Error ellipse: s-maj=22.0km s-min=3.4km az=82.0*
*DJA **29** 13:53:41.8 ± 0.4, 5° S ± 3° × 13° 0E ± °, h198km ± 6km, M4.4/11, mb4.5/5, mB4.6/3, MLv4.4/11, Mw(mB)3.9/3*
ISC 29 13:53:40.2 ± 0.6, **5°.51S** ± 0'.05 × **129°.73E** ± 0'.07, **h200** km, **n33**, σ 1 **69**/40, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSAI	**Masohi**	**2.29**	**340**	P		**Pn**	**13 54 23.9**	**+2.1**
MSAI				S		**Sn**	**13 54 54.3**	**-0.1**
AAI	**Ambon**	**2.37**	**320**	P		**Pn**	**13 54 25.4**	**+2.7**
AAI				S		**Sn**	**13 54 56.9**	**+1.1**
SAUI	**Saumlaki**	**2.91**	**148**	Pn		**Pn**	**13 54 30.4**	**+1.7**
SAUI	**Saumlaki**	**2.91**	**148**	P		**Pn**	**13 54 30.7**	**+1.9**
SAUI				S		**Sn**	**13 55 09.4**	**+2.6**
SIJI	**Sorong**	**4.86**	**18**	P		**Pn**	**13 54 53.3**	**+0.4**
	11nm,0.3s,baz=195,slow=20,SNR=64							
SIJI				S		**Sn**	**13 55 46.8**	**-3.3**
	21nm,0.3s,baz=265,slow=24,SNR=26							
SIJI				LR		LR	13 56 44.0	
	comp=Z,90nm,21.4s,baz=32,slow=37							
SWI	**Sorong**	**4.86**	**18**	P		**Pn**	**13 54 52.9**	**0.0**
SANI	**Sanana**	**5.08**	**312**	P		**Pn**	**13 54 56.7**	**+1.1**
	0.5nm2µm119nm,0.7s							
LBMI	**Labuha**	**5.33**	**335**	P		**Pn**	**13 54 59.6**	**+0.8**
	0.2nm726nm51nm,0.5s							
TNTI	**Ternate**	**6.67**	**339**	P		**Pn**	**13 55 16.5**	**+0.3**
	0.3nm64nm,1.1s							
MTN	**Manton Dam**	**7.42**	**169**			**Pn**	**13 55 27.2**	**+1.3**
KNRA	**Kununurra**	**10.15**	**185**			**Pn**	**13 56 02.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**13.13**	**197**	P		**Pn**	**13 56 40.2**	**+0.8**
	0.3nm,0.3s,baz=18,slow=9.9,SNR=20							
FITZ				S		**S**	**13 59 00.5**	**-5.4**
	0.7nm,0.3s,baz=170,slow=20,SNR=7.3							
FITZ	**Fitzroy Crossi**	**13.13**	**197**	Pn		**Pn**	**13 56 39.4**	**0.0**
WB0	**Warramunga Arr**	**14.88**	**163**			**Pn**	**13 57 01.5**	**+0.5**
WRAB	**Tennant Creek**	**15.02**	**163**			**Pn**	**13 57 03.0**	**+0.2**
WRAB				IAmb		IAmb	13 57 23.9	
	comp=Z,4.5nm,0.6s							
WRA	**Warramunga Arr**	**15.03**	**163**	P		**P**	**13 57 03.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=339,slow=13,SNR=28							
WRA				S		**S**	**13 59 45.8**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=296,slow=5.2,SNR=5.3							
WRA	**Warramunga Arr**	**15.03**	**163**	Pn		**Pn**	**13 57 02.2**	**-0.6**
WB2	**Warramunga Arr**	**15.03**	**163**	P		**Pn**	**13 57 03.0**	**+0.1**
WB2				IAmb		IAmb	13 57 04.0	
	comp=Z,3.5nm,0.7s							
WR0	**Warramunga Arr**	**15.11**	**162**	P		**Pn**	**13 57 04.1**	**+0.3**
COEN	**Coen**	**15.68**	**123**	P		**Pn**	**13 57 12.6**	**+1.9**
COEN				IAmb		IAmb	13 57 26.7	
	comp=Z,14nm,1.2s							
JAGI	**Jajag, Banyuwa**	**15.74**	**258**			**P**	**13 57 09.1**	**-2.3**
JAGI				IAmb		IAmb	13 57 33.4	
	comp=Z,14nm,1.1s							
AS31	**Alice Springs**	**18.49**	**168**	P		**Pn**	**13 57 43.8**	**-0.3**
AS31				IAmb		IAmb	13 57 49.0	
	comp=Z,2.8nm,0.6s							
ASAR	**Alice Springs**	**18.49**	**168**	P		**Pn**	**13 57 44.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=350,slow=12,SNR=42							
ASAR				S		**S**	**14 01 00.1**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=346,slow=18,SNR=8.2							
ASAR	**Alice Springs**	**18.49**	**168**	P		**Pn**	**13 57 43.6**	**-0.4**
PSA00	**Pilbara Seismi**	**18.62**	**210**	P		**P**	**13 57 42.9**	**+0.1**
PSA00	**Pilbara Seismi**	**18.62**	**210**	P		**P**	**13 57 42.9**	**+0.1**
PSA00				IAmb		IAmb	13 57 45.2	
	comp=Z,3.5nm,0.7s							
GIRL	**Giralia**	**22.68**	**220**	P		**P**	**13 58 26.0**	**+1.3**
FORT	**Forrest**	**25.18**	**183**	P		**P**	**13 58 48.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.59**	**309**	P		**P**	**14 00 44.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=130,slow=7.3,SNR=6.0							
MKAR	**Makanchi Array**	**66.84**	**327**	P		**P**	**14 04 10.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=116,slow=7.7,SNR=3.9							
MAKZ	**Makanchi**	**67.02**	**326**	P		**P**	**14 04 11.3**	**-0.4**
ABKAR	**Akbulak array**	**81.18**	**322**	P		**P**	**14 05 34.6**	**+1.1**
QSPA	**South Pole Qui**	**84.46**	**180**	P		**P**	**14 05 50.9**	**+0.7**

*IDC **29** 13:58:59.5 ± 1.1, 66°.24N × 22°.69E, h0km, mb1 2.7/3, mb1mx2.6/29, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=20.2km s-min=7.6km az=94.0*
*BER **29** 13:59:00.7 ± 2.0, 66°.25N × 22°.14E, h0km ± 5km, ML1.6, ML2.2(UPP), Confirmed Earthquake*
*UPP **29** 13:59:00.0 ± 0.1, 66°.23N × 22°.14E, h7km ± 2km, ML2.2, Confirmed Earthquake*
*HEL **29** 13:59:00.0, 66°.23N × 22°.10E, h4km, ML1.9, Confirmed Earthquake*
*HEL **29** 13:59:00.3 ± 0.0, 66°.24N × 22°.14E, h6km, ML1.9, ML2.2(UPP), Confirmed Earthquake*
*KOLA **29** 13:59:04.0, 66°.49N × 22°.44E, h0km, ML2.2*
ISC 29 13:58:59.6 ± 0.9, **66°.24N** ± 0'.02 × **22°.14E** ± 0'.02, **h16** km ± 7km, **n71**, σ 1 **40**/114, **5C-10D, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ERTU	**Ertsjaerv**	**0.32**	**4**	⇑P		**Pg**	**13 59 06.2**	**-0.1**
ERTU				S		**Sg**	**13 59 10.7**	**-0.1**
ERTU	**Ertsjaerv**	**0.32**	**4**	⇑P		**Pg**	**13 59 06.2**	**-0.1**
ERTU				S		**Sg**	**13 59 10.7**	**-0.1**
ERTU	**Ertsjaerv**	**0.32**	**4**	*e*P		**Pg**	**13 59 06.1**	**-0.1**
ERTU				*e*S		**Sg**	**13 59 10.6**	**-0.2**
HARU	**Harads**	**0.48**	**262**	⇓P		**Pg**	**13

MOR8	**Moi Rana**	**3.12**	**272**	*e*Pg		**Pb**	**13 59 53.9**	**-0.8**
MOR8				*e*Sg		**Sb**	**14 00 34.2**	**+1.8**
MOR8				IAML			14 00 35.1	
	comp=Z,5.8nm,0.3s							
KU6	**Riekki**	**3.16**	**90**	*e*P		**Pn**	**13 59 50.6**	**+2.0**
KU6				MSG			14 00 37.2	
	comp=Z,2.4nm,0.1s							
KU6	**Riekki**	**3.16**	**90**	*e*P		**Pn**	**13 59 50.6**	**+2.0**
KU6				MSG			14 00 37.2	
	comp=Z,2.4nm,0.1s							
STEI	**Steigen**	**3.19**	**305**	*e*PB		**Pn**	**13 59 53.3**	**+4.3**
VAF	**Ylistaro**	**3.22**	**176**	*e*P		**Pn**	**13 59 51.9**	**+2.5**
VAF				MSG			14 00 41.1	
	comp=Z,2.1nm,0.1s							
VAF	**Ylistaro**	**3.22**	**176**	*e*P		**Pn**	**13 59 51.9**	**+2.5**
VAF				MSG			14 00 41.1	
	comp=Z,2.1nm,0.1s							
VRF	**Varrio**	**3.30**	**59**	*e*P		**Pn**	**13 59 51.8**	**+1.2**
VRF				MSG			14 00 44.6	
	comp=Z,4.9nm,0.1s							
VRF	**Varrio**	**3.30**	**59**	*e*P		**Pn**	**13 59 51.8**	**+1.2**
VRF				MSG			14 00 44.6	
	comp=Z,4.9nm,0.1s							
ARA0	**ARCESS Array S**	**3.55**	**19**	*e*P		**Pn**	**13 59 55.5**	**+1.5**
ARA0				*e*S		**Sn**	**14 00 34.6**	**-1.0**
ARA0				IAML			14 00 53.2	
	comp=Z,4.3nm,0.3s							
ARCES	**ARCESS Array B**	**3.55**	**19**	Pn		**Pn**	**13 59 55.2**	**+1.2**
	baz=200,slow=14,SNR=16							
ARCES				Sn		**Sn**	**14 00 36.4**	**+0.9**
	baz=198,slow=24,SNR=5.2							
ARCES				Lg		Lg	14 00 45.8	
	baz=198,slow=28,SNR=10							
ARCES	**ARCESS Array B**	**3.55**	**19**	P		**Pn**	**13 59 55.3**	**+1.4**
ARCES				S		**Sn**	**14 00 35.2**	**-0.4**
APA0	**Apatity Array**	**4.49**	**67**	P		**Pn**	**14 00 11.3**	**+4.4**
APA0				S		**Sn**	**14 00 57.6**	**-1.0**
NSS	**Namsos**	**4.59**	**253**	*e*S		**Sn**	**14 01 01.4**	**+0.4**
FINES	**FINESS Array B**	**5.12**	**158**	Pn		**Pn**	**14 00 17.7**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=1.0							
FINES				Sn		**Sn**	**14 01 15.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=6.8							
FINES				Lg		Lg	14 01 36.7	
	comp=Z,0.4nm,0.3s,baz=348,slow=26,SNR=6.0							
PRVG	**Vayda Guba**	**5.16**	**42**	P		**Pn**	**14 00 15.9**	**-0.2**
PRVG				S		**Sn**	**14 01 13.1**	**-2.1**
NOA	**NORSAR Array B**	**7.12**	**228**	Pn		**Pn**	**14 00 44.3**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=38,slow=14,SNR=1.4							
NOA				Sn		**Sn**	**14 01 59.8**	**-3.8**
	comp=Z,0.0nm,0.3s,baz=35,slow=19,SNR=1.7							

*IDC **29** 14:11:47.0±2.2, 17.7°S×177.96°W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=170.4km s-min=33.0km az=155.0*
*NEIC **29** 14:11:52.9±1.2, 17.1°S±0.2°×177.7°W±0.1°, h58km±10km, mb4.2/10, Error ellipse: s-maj=25.0km s-min=17.5km az=172.0*

ISC 29 14:11:50.9±0.8, 17.2°S±0.1°×177.7°W±0.0°09, h35km, n16, σ1s29/17, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.64**	**61**	Pn		**Pn**	**14 13 28.0**	**+2.0**
	0.4nm,0.3s,baz=222,slow=16,SNR=2.9							
AFI				Sn		**Sn**	**14 14 38.7**	**-1.9**
	1.1nm,0.3s,baz=333,slow=21,SNR=2.2							
AFI	**Afiamalu**	**6.64**	**61**	Pn		**Pn**	**14 13 26.5**	**+0.4**
NIUE	**Niue**	**7.68**	**105**	Pn		**Pn**	**14 13 40.4**	**+0.2**
SANVU	**Saraoutou**	**14.54**	**275**	P		**P**	**14 15 19.5**	**-0.8**
OUENC	**Ouen Island, N**	**15.38**	**248**	Pn		**P**	**14 15 27.7**	**-1.8**
DZM	**Mont Dzumac**	**15.64**	**249**	Pn		**P**	**14 15 30.9**	**-1.7**
DZM				IAmb		IAmb	14 15 50.5	
	comp=Z,26nm,1.4s							
SNZO	**South Karori**	**24.87**	**194**	P		**P**	**14 17 10.9**	**+0.7**
STKA	**Stephens Creek**	**39.50**	**241**	P		**P**	**14 19 19.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=83,slow=8.1,SNR=1.8							
STKA	**Stephens Creek**	**39.50**	**241**	P		**P**	**14 19 20.6**	**+2.3**
BBOO	**Buckleboo**	**44.28**	**240**	P		**P**	**14 19 58.0**	**+0.6**
BBOO				IAmb		IAmb	14 20 19.5	
	comp=Z,9.0nm,1.2s							
WR0	**Warramunga Arr**	**45.17**	**259**	P		**P**	**14 20 05.2**	**+0.5**
WR0				IAmb		IAmb	14 20 16.4	
	comp=Z,6.6nm,1.4s							
WB0	**Warramunga Arr**	**45.33**	**259**	P		**P**	**14 20 05.2**	**-0.7**
WB0				IAmb		IAmb	14 20 29.7	
	comp=Z,5.7nm,1.5s							
WB2	**Warramunga Arr**	**45.35**	**259**	P		**P**	**14 20 05.2**	**-0.9**
WB2				IAmb		IAmb	14 20 19.9	
	comp=Z,6.7nm,1.4s							
WRA	**Warramunga Arr**	**45.37**	**259**	P		**P**	**14 20 05.4**	**-0.8**
	comp=Z,0.1nm,0.2s,baz=96,slow=7.8,SNR=7.3							
AS31	**Alice Springs**	**45.57**	**254**	P		**P**	**14 20 07.4**	**-0.4**
AS31				IAmb		IAmb	14 20 08.3	
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**45.57**	**254**	P		**P**	**14 20 07.8**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=89,slow=8.0,SNR=44							

*KRNET **29** 14:23:26.6±0.1, 41.58°N×71.39°E, h10km, mb2.5*
*NNC **29** 14:23:27.6±2.5, 41.56°N×71.35°E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=22.0km s-min=7.5km az=179.0*
*SOME **29** 14:23:27.1, 41.63°N×71.38°E, h0km*

ISC 29 14:23:26.4±1.0, 41.59°N±0.03°×71.41°E±0.03, h14km±8km, n23, σ1s82/41, 14C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.21**	**254**	⇑*i*P		**Pg**	**14 23 30.6**	**-0.5**
	baz=34							
TRKS				⇑*i*S		**Sg**	**14 23 33.7**	**-0.7**
	baz=34							
ARK	**Arkit**	**0.47**	**63**	⇑*i*P		**Pg**	**14 23 36.1**	**+0.4**
	baz=63							
ARK				⇑*i*S		**Sg**	**14 23 42.9**	**+1.0**
	baz=63							
IUG	**luzhnay**	**1.17**	**299**	*e*P		**Pb**	**14 23 48.9**	**+0.4**
	baz=99							
IUG				*e*S		**Sn**	**14 24 04.8**	**+0.4**
	baz=99							
IUG	**luzhnay**	**1.17**	**299**	*e*P		**Pb**	**14 23 48.9**	**+0.4**
	343nm,0.4s							
IUG				*e*S		**Sn**	**14 24 04.7**	**+0.4**
	162nm,0.4s							
IUG	**luzhnay**	**1.17**	**299**	P		**Pb**	**14 23 48.9**	**+0.4**
	343nm,0.4s							
IUG				S		**Sn**	**14 24 04.7**	**+0.4**
	162nm,0.4s							
OHH	**Osh**	**1.49**	**135**	⇑*i*P		**Pb**	**14 23 54.6**	**+0.7**
	baz=35							
OHH				⇑*i*S		**Sg**	**14 24 15.2**	**+0.9**
	baz=35							
BTK	**Batken**	**1.59**	**197**	⇓*i*P		**Pb**	**14 23 56.3**	**+0.6**
	baz=96							
BTK				⇓*i*S		**Sg**	**14 24 18.0**	**+0.4**
	baz=96							
KK02	**Karatay Array**	**1.66**	**337**	⇓P		**Pb**	**14 23 57.2**	**+0.5**
	4.0nm,0.6s,baz=154,slow=17							
KK02				⇓S		**Sg**	**14 24 20.8**	**+1.2**
	5.7nm,0.3s,baz=155,slow=28							
MRKS	**Merke**	**1.78**	**49**	*e*P		**Pg**	**14 24 01.4**	**+0.9**
	1.5nm,0.4s							
MRKS				*e*S		**Sg**	**14 24 25.9**	**+2.2**
	14nm,0.3s							
MRKS	**Merke**	**1.78**	**49**	Pg		**Pg**	**14 24 03.5**	**+3.0**
	2.3nm,0.2s							
MRKS				Lg		Lg	14 24 29.8	
	18nm,0.3s							
EKS2	**Erkin-Say**	**2.06**	**58**	⇑*i*P		**Pb**	**14 24 04.6**	**+0.9**
	baz=58							
EKS2				⇑*i*S		**Sg**	**14 24 32.3**	**-0.5**
	baz=58							
USP	**Ospenovka**	**2.84**	**53**	⇑*i*P		**Pb**	**14 24 15.4**	**-1.5**
	baz=53							
USP				⇑*i*S		**Sb**	**14 24 51.0**	**-0.5**
	baz=53							
KBK	**Karagaybulak**	**2.84**	**67**	⇑*i*P		**Pb**	**14 24 15.4**	**-1.6**
	baz=67							
KBK				⇑*i*S		**Sb**	**14 24 51.1**	**-0.7**
	baz=67							
SGDS	**Sogindy**	**3.02**	**51**	*e*P		**Pg**	**14 24 22.8**	**-1.5**
	1.6nm,0.3s							
SGDS				*e*S		**Sg**	**14 25 02.2**	**-1.4**
	3.8nm,0.4s							
SGDS	**Sogindy**	**3.02**	**51**	Pg		**Pg**	**14 24 22.8**	**-1.5**
	1.6nm,0.3s							
SGDS				Lg		Lg	14 25 02.2	
	3.8nm,0.4s							
TKM2	**Tokmak 2**	**3.38**	**65**	⇑Pg		**Pg**	**14 24 29.8**	**-1.4**
	2.3nm,1.1s							
TKM2				⇑Lg		Lg	14 25 13.9	
	3.9nm,0.8s							
DGS	**Degeres**	**3.63**	**61**	*e*P		**Pb**	**14 24 33.6**	**+3.2**
	1.4nm,0.4s							
DGS				*e*S		**Sg**	**14 25 20.9**	**-2.0**
	4.7nm,0.6s							
DGS	**Degeres**	**3.63**	**61**	Pg		**Pb**	**14 24 33.6**	**+3.2**
	1.4nm,0.4s							
DGS				Lg		Lg	14 25 20.9	
	4.7nm,0.6s							
KST	**Kastek**	**3.68**	**65**	*e*P		**Pb**	**14 24 34.6**	**+3.4**
	1.7nm,0.4s							
KST				*e*S		**Sg**	**14 25 22.7**	**-1.8**
	6.3nm,0.7s							
KRBS	**Karabastau**	**3.79**	**55**	*e*P		**Pg**	**14 24 38.0**	**-1.0**
	0.7nm,0.2s							
KRBS				*e*S		**Sg**	**14 25 29.3**	**+1.3**
	3.8nm,0.9s							
KRBS	**Karabastau**	**3.79**	**55**	Pg		**Pg**	**14 24 38.0**	**-1.0**
	0.7nm,0.2s							
KRBS				Lg		Lg	14 25 29.3	
	3.8nm,0.9s							
KTBS	**Karatobe**	**4.43**	**60**	*e*P		**Pb**	**14 24 48.1**	**+4.0**
	0.5nm,0.2s							
KTBS				*e*S		**Sg**	**14 25 45.8**	**-2.9**
	2.8nm,0.7s							
ARXS	**Arharly**	**5.40**	**59**	*e*P		**Pg**	**14 25 06.2**	**-3.5**
	0.3nm,0.2s							
ARXS				*e*S		**Sg**	**14 26 16.9**	**-2.7**
	2.3nm,0.5s							

IDC 29 14:23:47.8±2.2, 4.00°S×128.07°E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/33, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=196.9km s-min=28.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.98**	**159**	Pn		P	14 27 48.6	-0.3
	0.0nm,0.3s,baz=342,slow=12,SNR=2.8							
ASAR	**Alice Springs**	**20.35**	**164**	P		P	14 28 25.1	-0.8
	0.3nm,0.9s,baz=344,slow=11,SNR=7.1							
MKAR	**Makanchi Array**	**64.68**	**327**	P		P	14 34 27.6	0.0
	0.3nm,0.3s,baz=125,slow=7.7,SNR=8.9							

*IDC **29** 14:37:18.6±1.6, 35.55°N×30.20°E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/39, mbtmp3.4/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/50, Error ellipse: s-maj=69.4km s-min=22.2km az=136.0*
*DDA **29** 14:37:18.6±0.0, 35.97°N×29.64°E, h7km±3km, MW3.6*
*NIC **29** 14:37:19.3±0.0, 36.11°N×29.70°E, h7km, Ml3.4/5*
*ISK **29** 14:37:19.3, 36.09°N×29.69°E, h4km, ML3.4/22*

ISC 29 14:37:18.8±1.4, 36.03°N±0.04°×29.69°E±0.02, h1km±10km, n49, σ1s30/61, mb3.4/3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.15**	**325**	P		**Pg**	**14 37 22.1**	**+0.4**
KSL				S		**Sg**	**14 37 23.9**	**+0.3**
KSL				AML	AML		14 37 24.1	
	157nm,0.4s							
KSL				AML	AML		14 37 24.1	
	157nm,0.4s							
KSL				AML	AML		14 37 25.6	
	43nm,1.0s							
KSL				AML	AML		14 37 25.6	
	43nm,1.0s							
AKAS	**Kas**	**0.21**	**342**	PG		**Pg**	**14 37 23.2**	**+0.2**
AKAS				SG		**Sg**	**14 37 26.1**	**+0.3**
AKAS	**Kas**	**0.21**	**342**	P		**Pg**	**14 37 23.2**	**+0.2**
AKAS				*i* AML	AML		14 37 26.0	
	comp=E,2μm,0.3s							
DEMR	**Demre-Antalya**	**0.27**	**41**	PG		**Pg**	**14 37 24.5**	**+0.4**
DEMR				SG		**Sg**	**14 37 28.4**	**+0.8**
AKUM	**Antalya-Kumluc**	**0.61**	**61**	P		**Pb**	**14 37 31.5**	**-0.7**
AKUM				S		**Sn**	**14 37 45.6**	**+0.6**
ELL	**Elmali**	**0.74**	**14**	PG		**Pg**	**14 37 32.4**	**-0.6**
ELL	**Elmali**	**0.74**	**14**	P		**Pg**	**14 37 32.3**	**-0.8**
ELL				S		**Sb**	**14 37 42.7**	**-2.6**
FETY	**Fethiye**	**0.78**	**321**	PG		**Pb**	**14 37 34.1**	**-1.1**
FETY	**Fethiye**	**0.78**	**321**	P		**Pb**	**14 37 34.5**	**-0.7**
FETY				S		**Sn**	**14 37 47.5**	**-1.8**
KEMT	**Kemer-ANTALYA**	**0.91**	**51**	PG		**Pb**	**14 37 36.8**	**-0.6**
CAME	**Cameli-Denizli**	**0.96**	**341**	PG		**Pb**	**14 37 37.3**	**-1.1**
KORT	**Korkueli**	**1.11**	**29**	PG		**Pn**	**14 37 40.3**	**-1.3**
CAEL	**Denizli, Camel**	**1.13**	**345**	P		**Pg**	**14 37 39.0**	**-1.5**
CAEL				S		**Sn**	**14 38 00.1**	**+1.9**
DALY	**Dalyan (Mula)**	**1.15**	**314**	PN		**Pn**	**14 37 41.2**	**-0.8**
ANTB	**Antalya**	**1.17**	**42**	PN		**Pn**	**14 37 41.6**	**-0.7**
TURN	**Turunc**	**1.38**	**303**	PN		**Pn**	**14 37 44.8**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.56**	**337**	P		**Pg**	**14 37 49.1**	**+0.3**
TAVA				S		**Sg**	**14 38 11.2**	**+2.1**
YER	**Yerkesik**	**1.58**	**315**	PN		**Pb**	**14 37 48.4**	**-0.5**
BCK	**Bucak**	**1.60**	**27**	PN		**Pb**	**14 37 48.6**	**-0.7**
MULA	**Mugla, Merkez-**	**1.65**	**319**	P		**Pg**	**14 37 49.9**	**-0.5**
MULA				S		**Sg**	**14 38 13.1**	**+1.4**
BRDR	**BURDUR-Merkez**	**1.69**	**10**	P		**Pg**	**14 37 51.6**	**+0.4**
BRDR				S		**Sg**	**14 38 15.7**	**+2.5**
DAT	**Datca**	**1.84**	**293**	PN		**Pb**	**14 37 52.3**	**-1.0**
DAT	**Datca**	**1.84**	**293**	P		**Pn**	**14 37 51.7**	**0.0**
BASM	**Basmaki-Afyon**	**1.91**	**9**	PN		**Pb**	**14 37 52.8**	**-1.7**
ISP	**Isparta**	**1.91**	**20**	PN		**Pb**	**14 37 52.9**	**-1.7**
MLSB	**Milas**	**1.99**	**310**	PN		**Pb**	**14 37 54.3**	**-1.5**
KARP	**Karpathos**	**2.11**	**258**	PN		**Pn**	**14 37 56.7**	**+1.4**
KARP	**Karpathos**	**2.11**	**258**	P		**Pn**	**14 37 55.8**	**+0.5**
KARP				S		**Sn**	**14 38 23.3**	**+1.1**
KARP				AML	AML		14 38 29.0	
	0.5nm,0.7s							
KARP				AML	AML		14 38 29.0	
	0.5nm,0.7s							
GAZI	**Gazipasa**	**2.14**	**84**	PN		**Pn**	**14 37 56.1**	**+0.4**
BODT	**Bodrum**	**2.17**	**299**	PN		**Pn**	**14 37 56.6**	**+0.4**
SEDI	**Konya, Seydise**	**2.19**	**49**	P		**Pg**	**14 37 59.9**	**-0.8**
SEDI				S		**Sg**	**14 38 31.1**	**+2.1**
SEYD	**Seydisehir-KON**	**2.21**	**51**	PN		**Pb**	**14 37 57.8**	**-1.9**
KZIL	**AFYON_Kizioren**	**2.25**	**9**	P		**Pb**	**14 37 58.4**	**-2.0**
AKMS	**Akamas**	**2.38**	**114**	P		**Pn**	**14 37 59.4**	**+0.3**
AKMS				AML	AML		14 38 30.9	
	0.5nm,0.7s							
AKMS				AML	AML		14 38 30.9	
	0.5nm,0.8s							
HDMB	**Hadim**	**2.44**	**67**	PN		**Pb**	**14 38 01.5**	**-2.2**
ALFC	**Alefka**	**2.53**	**109**	P		**Pn**	**14 38 01.0**	**-0.1**
ALFC				AML	AML		14 38 36.5	
	0.4nm,0.4s							
ALFC				AML	AML		14 38 38.7	
	0.4nm,0.3s							
GCAM	**G?zelcaml?**	**2.58**	**311**	PN		**Pn**	**14 38 02.7**	**+1.0**
KULA	**Kula-Manisa**	**2.61**	**342**	PN		**Pn**	**14 38 03.1**	**+0.8**
SHUT	**Suhut-Afyon**	**2.61**	**15**	PN		**Pn**	**14 38 03.2**	**+0.9**
NATA	**Nata**	**2.67**	**117**	P		**Pn**	**14 38 03.5**	**+0.6**
SZAC	**Souni**	**2.90**	**115**	P		**Pn**	**14 38 06.3**	**+0.1**
SZAC				AML	AML		14 38 46.1	
	0.3nm,0.5s							
SZAC				AML	AML		14 38 49.4	
	0.4nm,0.6s							
CSS	**Mathiatis**	**3.16**	**109**	P		**Pn**	**14 38 09.8**	**+0.1**
ASGA	**Asgata**	**3.16**	**112**	P		**Pn**	**14 38 10.0**	**+0.2**
MVOU	**Mavrovouni**	**3.37**	**106**	P		**Pn**	**14 38 12.7**	**0.0**
BRTR	**Keskin Array B**	**4.84**	**39**	Pn		**Pn**	**14 38 35.9**	**+2.9**
	1.1nm,0.3s,baz=220,slow=16,SNR=14							
BRTR				Sn		**Sn**	**14 39 33.6**	**+4.0**
	2.3nm,0.3s,baz=210,slow=29,SNR=30							
DAVOX	**Davos/Dischmat**	**18.28**	**312**	LR		LR	14 49 55.8	
	comp=Z,32nm,18.9s,baz=266,slow=40							
TORD	**Torodi Ar. Bea**	**33.94**	**235**	P		**P**	**14 44 04.0**	**+0.2**
	0.5nm,0.5s,baz=38,slow=10,SNR=4.8							
KURBB	**Kurchatov Arra**	**37.70**	**52**	P		**P**	**14 44 35.5**	**-0.2**
	0.4nm,0.6s,baz=273,slow=8.9,SNR=6.6							
MKAR	**Makanchi Array**	**40.21**	**58**	P		**P**	**14 44 56.2**	**-0.6**
	0.2nm,0.5s,baz=275,slow=8.0,SNR=2.5							

*DSN **29** 14:44:35.5±2.5, 27.11°N×54.94°E, h10km, ML3.5/10, Error ellipse: s-maj=30.5km s-min=9.1km az=14.0*
*TEH **29** 14:44:36.2, 26.92°N×54.90°E, h17km, ML3.7*

*OMAN **29** 14:44:37.9±0.1, 26.84°N×54.87°E, h9km, ml3.5/19, Error ellipse: s-maj=1.4km s-min=0.8km az=14.0*
*IDC **29** 14:44:39.2±2.6, 26.90°N×54.85°E, h44km±30km, mb3.3/14, mb1 3.5/16, mb1mx3.3/49, mbtmp3.6/16, ML3.4/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/50, Error ellipse: s-maj=21.1km s-min=15.9km az=41.0*

ISC 29 14:44:36.3±1.0, 26.92°N±0.03°×54.88°E±0.03, h19km±3km, n87, σ1s53/111, mb3.6/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LAR1	**LAR**	**0.87**	**329**	*e*Pg		**Pb**	**14 44 52.9**	**+0.1**
LAR1				*e*			14 45 18.8	
	comp=Z,59μm,0.4s							
GENO	**Geno**	**1.25**	**67**	*e*Pg		**Pg**	**14 44 59.8**	**-0.7**
GENO				*e*Sg		**Sg**	**14 45 17.3**	**+0.4**
GENO				*e*			14 45 27.4	
	comp=Z,10μm,0.4s							
SHME	**Shamm**	**1.43**	**127**	*e*Pn		**Pb**	**14 45 01.9**	**-0.4**
SHME	**Shamm**	**1.43**	**127**	P		**Pb**	**14 45 02.3**	**0.0**
	SNR=19							
SHME				S		**Sg**	**14 45 22.9**	**+0.4**
SHME	**Shamm**	**1.43**	**127**	*e*P		**Pb**	**14 45 02.1**	**-0.2**
	SNR=18							
SHME				S		**Sg**	**14 45 22.7**	**+0.1**
UMQ	**Umm Al-Quwin**	**1.56**	**153**	*e*Pn		**Pg**	**14 45 05.8**	**-0.6**
UMQ	**Umm Al-Quwin**	**1.56**	**153**	P		**Pg**	**14 45 07.8**	**+1.4**
UMQ				S		**Sg**	**14 45 31.0**	**+4.3**
UMQ	**Umm Al-Quwin**	**1.56**	**153**	P		**Pg**	**14 45 07.2**	**+0.8**
IBND	**Bandar-abas**	**1.57**	**70**	*e*Pg		**Pb**	**14 45 04.4**	**-0.3**
IBND				*e*			14 45 42.0	
	comp=Z,16μm,0.3s							
LMD1	**Lamerd**	**1.58**	**286**	*e*			14 45 34.0	
	comp=Z,15μm,0.5s							
LMD1				*e*Pg		**Pg**	**14 45 06.5**	**-0.3**
BANOM	**Banah**	**1.62**	**128**	*e*Pn		**Pb**	**14 45 04.6**	**-1.0**
BANOM	**Banah**	**1.62**	**128**	P		**Pb**	**14 45 04.9**	**-0.6**
	SNR=32							
BANOM				S		**Sg**	**14 45 28.5**	**-0.1**
BANOM	**Banah**	**1.62**	**128**	*e*P		**Pb**	**14 45 05.0**	**-0.6**
	SNR=32							
BANOM				S		**Sg**	**14 45 28.6**	**0.0**
MASF	**Masafi**	**1.93**	**143**	P		**Pb**	**14 45 10.0**	**-0.8**
	SNR=5.9							
MASF				S		**Sb**	**14 45 34.5**	**0.0**
MSFE	**Esma-Masafi**	**1.94**	**143**	*e*Pn		**Pb**	**14 45 09.6**	**-1.4**
MSFE	**Esma-Masafi**	**1.94**	**143**	*e*P		**Pb**	**14 45 09.9**	**-1.1**
	SNR=14							
JHRM	**Jahrom**	**1.95**	**324**	*e*Pn		**Pb**	**14 45 10.4**	**-0.9**
JHRM				*e*			14 45 50.8	
	comp=Z,12μm,0.5s							
NAZ	**Nazwa, Dubai**	**2.05**	**160**	*e*Pn		**Pb**	**14 45 13.4**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.05**	**160**	P		**Pb**	**14 45 12.5**	**-0.4**
NAZ				S		**Sg**	**14 45 40.4**	**-2.0**
NAZ	**Nazwa, Dubai**	**2.05**	**160**	P		**Pb**	**14 45 13.2**	**+0.3**
QIR1	**Qir**	**2.24**	**314**	*e*Pn		**Pb**	**14 45 14.8**	**-1.4**
QIR1				*e*			14 45 56.0	
	comp=Z,11μm,0.3s							
FAQ	**Al Faqa, Dubai**	**2.26**	**163**	*e*Pn		**Pb**	**14 45 15.3**	**-1.2**
FAQ	**Al Faqa, Dubai**	**2.26**	**163**	P		**Pb**	**14 45 15.5**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.26**	**163**	P		**Pb**	**14 45 15.5**	**-1.2**
UOSS	**Minazif**	**2.30**	**148**	*e*Pn		**Pn**	**14 45 15.0**	**+1.8**
UOSS	**Minazif**	**2.30**	**148**	P		**Pb**	**14 45 15.2**	**-2.1**
UOSS				S		**Sg**	**14 45 47.7**	**-2.7**
UOSS	**Minazif**	**2.30**	**148**	*e*P		**Pn**	**14 45 15.0**	**+1.8**
	SNR=11							
ASUD	**Al Ashush, Dub**	**2.32**	**170**	*e*Pn		**Pb**	**14 45 16.5**	**-1.0**
ASUD	**Al Ashush, Dub**	**2.32**	**170**	P		**Pb**	**14 45 16.9**	**-0.7**
ASUD				S		**Sg**	**14 45 48.4**	**-2.7**
ASUD	**Al Ashush, Dub**	**2.32**	**170**	*e*P		**Pb**	**14 45 16.6**	**-1.0**
	SNR=8.0							
AJN	**Ajban**	**2.35**	**178**	P		**Pb**	**14 45 16.8**	**-1.3**
AJN				S		**Sb**	**14 45 49.0**	**+2.3**
HATD	**Hatta, Dubai**	**2.38**	**151**	*e*Pn		**Pb**	**14 45 16.7**	**-1.8**
HATD	**Hatta, Dubai**	**2.38**	**151**	P		**Pb**	**14 45 17.8**	**-0.7**
	SNR=8.1							
HATD				S		**Sb**	**14 45 49.6**	**+2.3**
HATD	**Hatta, Dubai**	**2.38**	**151**	*e*P		**Pb**	**14 45 17.6**	**-0.8**
	SNR=8.1							
ASHO	**Ashiyiah**	**2.47**	**154**	*e*Pn		**Pn**	**14 45 17.7**	**+2.1**
ASHO	**Ashiyiah**	**2.47**	**154**	P		**Pb**	**14 45 17.9**	**-2.2**
ASHO	**Ashiyiah**	**2.47**	**154**	*e*P		**Pn**	**14 45 17.6**	**+2.0**
	SNR=13							
KHNJ	**Kahnooj**	**2.71**	**67**	*e*Pn		**Pb**	**14 45 21.8**	**-2.4**
KHNJ				*e*			14 45 58.5	
	comp=Z,1μm,0.4s							
ALNE	**Al Ain**	**2.96**	**164**	*e*Pn		**Pn**	**14 45 24.4**	**+2.1**
ALNE	**Al Ain**	**2.96**	**164**	P		**Pn**	**14 45 24.8**	**+2.5**
ALNE				S		**Sb**

comp=Z,0.3nm,0.6s,baz=227,slow=8.3,SNR=3.1
AKASG **Malin Array Be 30.75 327** P **P 14 50 49.2 -1.0**
comp=Z,0.4nm,0.5s,baz=132,slow=8.6,SNR=4.1
ZALV **Zalesovo Beam 34.86 31** P **P 14 51 25.7 -0.3**
comp=Z,1.2nm,0.5s,baz=235,slow=9.4,SNR=7.5
FINES **FINESS Array B 39.56 339** P **P 14 52 05.5 -0.4**
comp=Z,0.6nm,0.4s,baz=133,slow=11,SNR=6.3
FETA **Feichten 39.93 312** *i* P **P 14 52 09.4 0.0**
comp=Z,2.6nm,0.6s
DAVA **Damuels 40.56 312** *eP* **P 14 52 14.1 -0.5**
comp=Z,5.8nm,0.4s
SONM **Songino Array 45.00 48** P **P 14 52 51.6 +1.1**
comp=Z,0.3nm,0.7s,baz=232,slow=7.1,SNR=2.7
ESDC **Sonseca Array 49.99 300** P **P 14 53 28.6 -0.7**
comp=Z,0.3nm,0.8s,baz=73,slow=7.5,SNR=1.5
TORD **Torodi Ar. Bea 51.46 266** P **P 14 53 40.9 +0.2**
comp=Z,0.6nm,0.5s,baz=52,slow=7.3,SNR=3.6
WRA **Warramunga Arr 89.95 112** P **P 14 57 33.7 -1.0**
comp=Z,0.3nm,0.8s,baz=309,slow=4.2,SNR=1.6
ASAR **Alice Springs 91.37 116** P **P 14 57 40.8 -0.5**
comp=Z,0.2nm,0.9s,baz=297,slow=5.1,SNR=1.3

IDC 29 14:48:32.4±51.0, 16°42'S×175°20'W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/36, mbtmp3.9/3, Error ellipse: s-maj=964.1km s-min=166.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.03**	**240**	P	P	14 56 26.4	+0.4
	0.5nm,0.4s,baz=85,slow=9.7,SNR=6.8						
WRA	**Warramunga Arr**	**47.94**	**258**	P	P	14 57 12.8	-0.3
	0.4nm,0.5s,baz=96,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**48.16**	**253**	P	P	14 57 14.3	-0.5
	3.3nm,0.6s,baz=88,slow=8.1,SNR=140						

*IDC **29** 14:57:08.4±0.5, 41°.33N×89°.42E, h0km, mb4.3/36, mb1 4.4/42, mb1mx4.3/58, mbtmp4.3/42, ML3.9/6, MS3.6/26, Ms1 3.6/26, ms1mx3.3/92, Error ellipse: s-maj=13.0km s-min=9.2km az=12.0*
*NNC **29** 14:57:09.9±1.5, 41°.11N×89°.25E, h7km±9km, mb4.6, mpv4.7, Error ellipse: s-maj=10.8km s-min=9.4km az=33.0*
*MOS **29** 14:57:09.1±0.9, 41°.36N×89°.34E, h16km, mb4.9/24, Error ellipse: s-maj=6.0km s-min=4.6km az=122.7*
*BJI **29** 14:57:11.9±0.0, 41°.34N×89°.44E, h22km, mb4.6/40, mB4.6/25, ML4.8/14, Ms4.1/35, Ms7 3.8/33*
*NEIC **29** 14:57:12.1±1.4, 41°.37N±0°.08×89°.39E±0°.09, h21km±4km, mb4.8/151, Error ellipse: s-maj=11.7km s-min=10.0km az=206.0*
ISC 29 14:57:10.4±0.3, 41°39N±0°.04×89°37E±0°.03, h10km, n412, σ1°45/425, mb4.7/131, MS3.7/25, 22C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.73**	**334**	*e*Pn	**Pb**	**14 57 59.8**	**+0.5**
WMQ				Sg	**Sg**	**14 58 38.8**	**+0.7**
WMQ				smax	smax		
	comp=N,5μm,0.7s						
WMQ				smax	smax		
	comp=E,3μm,0.5s						
GOMU	**GeErMu**	**6.70**	**139**	Pn	**Pn**	**14 58 49.5**	**+0.3**
GOMU				Sg	**Sb**	**15 00 35.0**	**+7.6**
GOMU				smax	smax		
	comp=N,350nm,0.7s						
GOMU				smax	smax		
	comp=E,260nm,0.8s						
GOMU				LR	LR		
	comp=N,460nm,11.9s						
GOMU				LR	LR		
	comp=E,530nm,11.2s						
GOMU				LR	LR		
	comp=Z,740nm,15.1s						
MK31	**Makanchi Array**	**7.43**	**319**	P	**Pn**	**14 59 01.1**	**+2.3**
MK31						15 00 28.0	
MK31	**Makanchi Array**	**7.43**	**319**		**Pn**	**14 59 00.3**	**+1.5**
MK31	**Makanchi Array**	**7.43**	**319**	⇑Pn	**Pn**	**14 59 01.2**	**+2.3**
	11nm,0.3s,baz=142,slow=14,SNR=548						
MK31				⇑Sn	**Sn**	**15 00 28.1**	**+5.0**
	46nm,0.5s						
MK31				⇑Lg	Lg	15 01 08.5	
	173nm,0.9s,baz=134,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**7.43**	**319**	Pn	**Pn**	**14 58 59.5**	**+0.7**
	6.7nm,0.3s,baz=140,slow=14,SNR=204						
MKAR				Sn	**Sn**	**15 00 22.3**	**-0.8**
	8.5nm,0.3s,baz=135,slow=25,SNR=1.3						
MKAR				Lg	Lg	15 01 02.5	
	11nm,0.3s,baz=127,slow=26,SNR=4.1						
MKAR				LR	LR	15 02 32.5	
	comp=Z,180nm,21.3s,baz=120,slow=43						
MKAR	**Makanchi Array**	**7.43**	**319**	P	**Pn**	**14 59 00.5**	**+1.7**
MKAR						15 00 22.3	
MKAR	**Makanchi Array**	**7.43**	**319**	Pn	**Pn**	**14 59 00.5**	**+1.7**
SHLS	**Shalkode**	**7.56**	**287**	*eP*	**Pn**	**14 58 58.7**	**-2.0**
PDGK	**Podgornoye**	**7.57**	**288**	P	**Pn**	**14 59 02.2**	**+1.3**
PDGK						15 00 24.9	
PDGK	**Podgornoye**	**7.57**	**288**	⇓Pn	**Pn**	**14 59 02.3**	**+1.3**
	24nm,0.3s						
PDGK				⇑Sn	**Sn**	**15 00 27.0**	**+0.2**
	91nm,0.6s						
PDGK				⇑Lg	Lg	15 01 10.0	
	281nm,0.7s						
MAKZ	**Makanchi**	**7.59**	**318**	P	**Pn**	**14 59 02.0**	**+0.9**
MAKZ						15 00 29.7	
MAKZ	**Makanchi**	**7.59**	**318**	Pn	**Pn**	**14 59 02.1**	**+1.0**
MAKZ	**Makanchi**	**7.59**	**318**	⇑Pn	**Pn**	**14 59 02.8**	**+1.7**
	15nm,0.4s						
MAKZ				⇓Sn	**Sn**	**15 00 33.2**	**+6.0**
	41nm,0.8s						
MAKZ				⇓Lg	Lg	15 01 16.4	
	203nm,1.2s						
UZB	**Uzynbulak**	**7.88**	**286**	*eP*	**Pn**	**14 59 06.0**	**+0.9**
KPKS	**Kokpek**	**8.17**	**288**	*eP*	**Pn**	**14 59 10.0**	**+0.8**
GTA	**Gaotai**	**8.21**	**100**	⇓P	**Pn**	**14 59 10.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,6.0s						
GTA				LR	LR		
	comp=N,1μm,8.8s						
GTA				LR	LR		
	comp=E,600nm,8.8s						
GTA				LR	LR		
	comp=Z,540nm,14.3s						
ARXS	**Arharly**	**8.95**	**292**	*eP*	**Pn**	**14 59 20.3**	**+0.6**
KDJ	**Kajisay**	**9.14**	**279**	P	**Pn**	**14 59 22.9**	**+0.4**
KDJ	**Kajisay**	**9.14**	**279**	Pn	**Pn**	**14 59 22.9**	**+0.4**
MDOK	**Medeo**	**9.31**	**285**	P	**Pn**	**14 59 25.1**	**+0.4**
MDOK						15 01 12.4	
MDOK	**Medeo**	**9.31**	**285**	⇓Pn	**Pn**	**14 59 25.2**	**+0.4**
	21nm,0.5s						
MDOK				⇓Sn	**Sn**	**15 01 10.2**	**+0.7**
	133nm,1.0s						
MDOK				⇓Lg	Lg	15 02 05.2	
	101nm,0.8s						
BOOM	**Boomskoye usch**	**10.07**	**281**	P	**Pn**	**14 59 36.3**	**+1.1**
BOOM	**Boomskoye usch**	**10.07**	**281**	Pn	**Pn**	**14 59 36.3**	**+1.1**
TKM2	**Tokmak 2**	**10.35**	**283**	P	**Pn**	**14 59 39.6**	**+0.6**
TKM2						15 01 35.2	
TKM2	**Tokmak 2**	**10.35**	**283**	⇑Pn	**Pn**	**14 59 39.7**	**+0.6**
	20nm,0.8s						
TKM2				⇓Sn	**Sn**	**15 01 35.5**	**+0.4**
	68nm,0.8s						
TKM2				⇑Lg	Lg	15 02 36.7	
	98nm,0.8s						
KSH	**Kashi**	**10.38**	**264**	P	Pn	14 59 45.5	+6.0
KSH				pP		14 59 51.3	
KSH				S	**Sn**	**15 01 44.3**	**+8.4**
KSH				pmax	pmax		
	comp=Z,30nm,0.7s						
KNGR	**Kungurtug, Tuv**	**10.81**	**29**	*i* P	**Pn**	**14 59 46.6**	**+1.3**
CHMS	**Chumysh**	**10.97**	**283**	⇓Pn	**Pn**	**14 59 48.7**	**+1.3**
	13nm,0.8s						
CHMS				⇓Lg	Lg	15 02 57.4	
	92nm,1.4s						
SGDS	**Sogindy**	**11.09**	**286**	*eP*	**Pn**	**14 59 50.0**	**+0.9**
AAK	**Ala-Archa**	**11.14**	**281**	Pn	**Pn**	**14 59 49.9**	**0.0**
	1.1nm,0.3s,baz=117,slow=9.3,SNR=13						
AAK				Sn	**Sn**	**15 01 53.6**	**-1.0**
	0.7nm,0.3s,baz=159,slow=16,SNR=2.2						
AAK				Lg	Lg	15 03 02.5	
	1.2nm,0.3s,baz=190,slow=18,SNR=2.2						
AAK				LR	LR	15 04 33.0	
	comp=Z,215nm,20.0s,baz=84,slow=40						
AAK	**Ala-Archa**	**11.14**	**281**	Pn	**Pn**	**14 59 50.3**	**+0.4**
BTLS	**Baital**	**11.76**	**293**	*eP*	**Pn**	**14 59 58.9**	**+0.7**
KURBB	**Kurchatov Arra**	**11.91**	**325**	Pn	**Pn**	**14 59 59.5**	**-0.6**
	0.2nm,0.3s,baz=133,slow=13,SNR=21						
KURBB				Lg	Lg	15 03 24.4	
	0.4nm,0.3s,baz=142,slow=32,SNR=4.5						
KURBB				LR	LR	15 05 16.0	
	comp=Z,298nm,20.6s,baz=109,slow=41						
KURBB	**Kurchatov Arra**	**11.91**	**325**	P	**Pn**	**15 00 00.4**	**+0.3**
KURBB	**Kurchatov Arra**	**11.91**	**325**	⇑Pn	**Pn**	**15 00 00.5**	**+0.3**
	8.9nm,0.6s						
KURBB				⇑Sn	**Sn**	**15 02 20.4**	**+7.4**
	35nm,0.6s						
KURBB				⇓Lg	Lg	15 03 33.4	
	174nm,0.8s						
KURK	**Kurchatov**	**11.94**	**325**	*ce*P	**Pn**	**15 00 00.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**11.94**	**325**		**Pn**	**14 59 59.7**	**-0.9**
LZH	**Lanzhou**	**12.47**	**110**	⇓P	**Pn**	**15 00 07.5**	**-0.6**
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
LZH				pmax	pmax		
	comp=Z,97nm,5.4s						
LZH				LR	LR		
	comp=Z,740nm,13.0s						
LZH				LR	LR		
	comp=Z,550nm,12.2s						
LZH				LR	LR		
	comp=Z,550nm,14.1s						
ZAA0	**Zalesovo Array**	**12.93**	**348**	Pn	**Pn**	**15 00 00.4**	**+0.1**
ZAA0	**Zalesovo Array**	**12.93**	**348**	⇑Pn	**Pn**	**15 00 17.3**	**+3.2**
	comp=Z,1.3nm,0.7s						
ZAA0				⇑Lg	Lg	15 04 08.2	
	comp=Z,9.5nm,0.9s						
ZALV	**Zalesovo Beam**	**12.93**	**348**	Pn	**Pn**	**15 00 13.0**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=171,slow=14,SNR=23						
ZALV				Sn	**Sn**	**15 02 32.7**	**-5.3**
	comp=Z,1.3nm,0.3s,baz=168,slow=26,SNR=5.0						
ZALV				Lg	Lg	15 03 58.2	
	baz=167,slow=26,SNR=1.7						
ZALV				LR	LR	15 05 47.0	
	comp=Z,157nm,19.8s,baz=176,slow=40						
ZALV	**Zalesovo Beam**	**12.93**	**348**	P	**Pn**	**15 00 13.9**	**-0.2**
ZALV						15 02 32.7	
ZALV	**Zalesovo Beam**	**12.93**	**348**	Pn	**Pn**	**15 00 13.9**	**-0.2**
MOY	**Mondy**	**13.01**	**34**	*eP*	**Pn**	**15 00 19.0**	**+3.7**
ZAK	**Zakamensk**	**13.20**	**42**	*eP*	**Pn**	**15 00 20.5**	**+2.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
DRK	**Karamyk**	**13.52**	**268**	Pn	**Pn**	**15 00 22.5**	**0.0**
SONM	**Songino Array**	**13.72**	**56**	Pn	**Pn**	**15 00 25.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=241,slow=15,SNR=13						
SONM				Lg	Lg	15 04 24.4	
	comp=Z,1.0nm,0.3s,baz=254,slow=32,SNR=4.6						
SONM				LR	LR	15 05 54.7	
	comp=Z,384nm,19.5s,baz=178,slow=38						
OTUK	**Ortayu**	**13.88**	**305**	P	**Pn**	**15 00 26.4**	**-0.8**
OTUK	**Ortayu**	**13.88**	**305**	⇓Pn	**Pn**	**15 00 26.4**	**-0.8**
	comp=Z,8.9nm,0.8s						
OTUK				⇑Lg	Lg	15 04 35.1	
	comp=Z,31nm,1.1s						
KKAR	**Karatay Array**	**14.08**	**283**	P	**Pn**	**15 00 30.5**	**+0.6**
KKAR	**Karatay Array**	**14.08**	**283**	Pn	**Pn**	**15 00 30.5**	**+0.6**
KK09	**Karatay Array**	**14.09**	**283**	⇑Pn	**Pn**	**15 00 30.4**	**+0.4**
	comp=Z,4.6nm,0.7s						
ULN	**Ulaanbaatar**	**14.14**	**57**	*ce*P	**Pn**	**15 00 32.2**	**+1.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	**Ulaanbaatar**	**14.14**	**57**		**Pn**	**15 00 31.1**	**+0.3**
GAR	**Garm**	**14.76**	**267**		**Pn**	**15 00 37.8**	**-1.5**
CHCP	**Chirah Chowk**	**14.91**	**244**	P	**Pn**	**15 00 38.4**	**-2.9**
CD2	**Chengdu**	**15.61**	**127**	P	**Pn**	**15 00 52.0**	**+1.5**
CD2				pP	P	15 00 56.3	+1.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,310nm,9.8s						
CD2				LR	LR		
	comp=Z,400nm,9.8s						
CHGR	**Chuyangaron**	**15.72**	**267**	Pn	**Pn**	**15 00 49.6**	**-2.4**
CEP	**Cherat**	**15.75**	**247**	P	**Pn**	**15 00 49.3**	**-3.1**
CEP				S	Sn	15 03 34.0	-13
THW	**Thamme Wali**	**16.45**	**244**	P	**Pn**	**15 00 58.1**	**-3.2**
HHC	**Hu-ho-hao-te**	**16.73**	**84**	*eP*	**Pn**	**15 01 05.0**	**+0.1**
HHC				pP	pP	15 01 10.0	-0.5
HHC				S	**Sn**	**15 04 05.0**	**-5.8**
HHC				sS	S	15 04 21.0	-0.9
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC				LR	LR		
	comp=Z,320nm,9.4s						
HHC				LR	LR		
	comp=Z,440nm,9.0s						
HHC				LR	LR		
	comp=Z,430nm,11.0s						
XAN	**Xi'an**	**17.10**	**109**	P	**Pn**	**15 01 08.3**	**-1.2**
XAN				pP	sP	15 01 20.0	+3.9
XAN				S	**Sn**	**15 04 18.5**	**-1.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,110nm,6.4s						
XAN				LR	LR		
	comp=Z,310nm,15.7s						
XAN				LR	LR		
	comp=Z,430nm,16.9s						
XAN				LR	LR		
	comp=Z,490nm,15.7s						
BVAR	**Borovoye Array**	**17.31**	**319**	P	**Pn**	**15 01 12.2**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=195,slow=27,SNR=16						
BVAR				Lg	Lg	15 06 19.9	
	comp=Z,0.2nm,0.3s,baz=144,slow=24,SNR=1.4						
BRVK	**Borovoye**	**17.38**	**319**	*ce*P	**Pn**	**15 01 13.5**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**17.38**	**319**	Pn	**Pn**	**15 01 11.9**	**-1.0**
BRVK	**Borovoye**	**17.38**	**319**	⇓Pn	**P**	**15 01 14.7**	**+0.5**
	comp=Z,8.7nm,0.7s						
KBL	**Kabul**	**17.41**	**253**	P	**Pn**	**15 01 10.7**	**-2.8**
KBL				pmax	pmax		
	comp=Z,29nm,0.9s						
KBL	**Kabul**	**17.41**	**253**	Pn	**Pn**	**15 01 10.7**	**-2.8**
PZH	**PanZhiHua**	**18.02**	**142**	⇑P	**P**	**15 01 22.0**	**+0.5**
PZH				sP	**sP**	**15 01 31.5**	**+5.2**
PZH				S	**Sn**	**15 04 41.8**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
PZH				LR	LR		
	comp=Z,330nm,15.1s						
PZH				LR	LR		
	comp=Z,300nm,17.0s						
PZH				LR	LR		
	comp=Z,380nm,16.3s						
LYN	**LuoYang**	**19.42**	**103**	*eP*	**Pn**	**15 01 39.0**	**+1.1**
LYN				pP	sP	15 01 43.0	+1.5
LYN				S	**S**	**15 05 17.5**	**+1.3**
LYN				SS	**SnSn**	**15 05 40.8**	**+11**
LYN				LR	LR		
	comp=Z,230nm,10.6s						
LYN				LR	LR		
	comp=Z,190nm,13.7s						
LYN				LR	LR		
	comp=Z,220nm,13.1s						
KMI	**Kunming**	**19.66**	**141**	⇓P	**P**	**15 01 40.0**	**+0.3**
KMI				pP	sP	15 01 45.5	+1.1
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
KMI				LR	LR		
	comp=Z,190nm,12.6s						
KMI				LR	LR		
	comp=Z,180nm,9.4s						
KMI				LR	LR		
	comp=Z,190nm,14.1s						
ENH	**Enshi**	**19.68**	**118**		**P**	**15 01 38.8**	**-0.8**
XLT	**XiLinHaoTe**	**19.78**	**74**	*eP*	**Pn**	**15 01 42.3**	**+0.1**
XLT				pP	sP	15 01 48.0	+2.4
XLT				sP	pP	15 01 51.5	+7.5
XLT				PP	**PnPn**	**15 02 00.8**	**+4.9**
XLT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,5.6s						
XLT				LR	LR		
	comp=Z,370nm,11.0s						
XLT				LR	LR		
	comp=Z,410nm,11.0s						
HNS	**HongShan**	**19.96**	**93**	*eP*	**Pn**	**15 01 44.3**	**0.0**
HNS				S	**S**	**15 05 25.5**	**-1.5**
HNS				LR	LR		
	comp=Z,190nm,9.8s						
HNS				LR	LR		
	comp=Z,140nm,11.9s						
BJI	**Beijing**	**20.34**	**85**	P	**P**	**15 01 46.0**	**-0.7**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI				LR	LR		
	comp=Z,180nm,7.0s						
BJI				LR	LR		
	comp=Z,310nm,10.4s						
BJI				LR	LR		
	comp=Z,500nm,15.5s						
GYA	**Guiyang**	**20.62**	**131**	⇑P	**P**	**15 01 50.5**	**+0.5**
GYA				sP	sP	15 02 02.0	+7.2
GYA				pmax	pmax		
	comp=Z,48nm,0.8s						
GYA				LR	LR		
	comp=Z,240nm,14.9s						
AB31	**Akbulak array**	**22.03**	**301**	*eP*	**P**	**15 02 05.1**	**+0.2**
AB31	**Akbulak array**	**22.03**	**301**	⇑P	**P**	**15 02 05.2**	**+0.2**
	comp=Z,13nm,1.0s,baz=98,slow=11,SNR=54						
ABKAR	**Akbulak array**	**22.03**	**301**	P	**P**	**15 02 05.1**	**+0.1**
ABKAR	**Akbulak array**	**22.03**	**301**	P	**P**	**15 02 05.0**	**+0.1**
ABKAR				IAmb	IAmb	15 02 14.9	
	comp=Z,10nm,0.8s						
HRA	**Herat**	**22.46**	**261**	P	**P**	**15 02 09.9**	**0.0**
HIA	**Hailar**	**22.64**	**59**	*i* P	**P**	**15 02 11.9**	**+0.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HIA	**Hailar**	**22.64**	**59**	P	**P**	**15 02 11.8**	**+0.2**
BOD	**Bodaibo**	**22.72**	**35**	*eP*	**P**	**15 02 12.3**	**+0.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WHN	**Wuhan**	**22.85**	**110**	⇓P	**P**	**15 02 14.0**	**+0.2**
WHN				pP	**sP**	**15 02 20.0**	**+1.4**
WHN				pmax	pmax		
	comp=Z,48nm,0.9s						
AKTO	**Aktyubinsk**	**23.47**	**303**	P	**P**	**15 02 21.4**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=99,slow=10,SNR=7.9						
AKTO				LR	LR	15 12 08.9	
	comp=Z,147nm,20.6s,baz=105,slow=38						
AKTO	**Aktyubinsk**	**23.47**	**303**	⇓P	**P**	**15 02 20.4**	**+0.5**
	comp=Z,9.7nm,0.8s						
CHTO	**Chiang Mai**	**23.94**	**157**	P	**P**	**15 02 24.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**23.94**	**157**	P	**P**	**15 02 24.6**	**-0.1**
SVE	**Sverdlovsk**	**24.09**	**320**	*eP*	**P**	**15 02 27.2**	**+1.4**
SVE				pmax	pmax		
	comp=Z,13nm,0.8s						
GEYT	**Alibeck**	**24.24**	**272**	P	**P**	**15 02 28.3**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=62,slow=16,SNR=2.1						
GEYT				LR	LR	15 13 21.6	
	comp=Z,194nm,19.1s,baz=88,slow=40						
GEYT	**Alibeck**	**24.24**	**272**	P	**P**	**15 02 26.9**	**-0.6**
GYA0B	**ALIBECK ARRAY**	**24.24**	**272**	P	**P**	**15 02 27.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**24.28**	**157**	P	**P**	**15 02 28.2**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=341,slow=9.9,SNR=31						
CMAR				LR	LR	15 12 53.9	
	comp=Z,54nm,21.0s,baz=165,slow=39						
CMAR	**Chiang Mai Arr**	**24.28**	**157**	P	**P**	**15 02 26.9**	**-1.0**
ARU	**Arti**	**24.95**	**318**	P	**P**	**15 02 34.8**	**+1.1**
	comp=Z,3.4nm,0.3s,baz=122,slow=4.8,SNR=18						
ARU				LR	LR	15 12 45.1	
	comp=Z,106nm,20.0s,baz=121,slow=38						
ARU	**Arti**	**24.95**	**318**	*c i*P	**P**	**15 02 34.6**	**+0.9**
ARU						15 03 10.3	
ARU				S	**S**	**15 06 58.4**	**+1.4**
ARU				SS	**SnSn**	**15 07 48.4**	**+3.5**
ARU				pmax	pmax		
	comp=Z,12nm,0.7s						
ARU	**Arti**	**24.95**	**318**	P	**P**	**15 02 34.0**	**+0.4**
ARU				IAmb	IAmb	15 02 41.0	
	comp=Z,26nm,0.6s						
NJ2	**Nanjing**	**25.30**	**102**	*eP*	**P**	**15 02 36.0**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HYBB	**Hyderabad (bro**	**25.63**	**204**	*eP*	**P**	**15 02 38.8**	**-1.4**
CN2	**Changchun**	**26.54**	**73**	*eP*	**P**	**15 02 47.3**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
UBPT	**Khong Chiam**	**29.52**	**147**	P	**P**	**15 03 14.0**	**-0.9**
KSRS	**Korea Array**	**29.87**	**85**	P	**P**	**15 03 17.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=289,slow=8.8,SNR=4.4						
KSRS				LR	LR	15 16 38.7	
	comp=Z,160nm,18.1s,baz=295,slow=39						
KIRV	**Kirov**	**30.32**	**318**	LR	LR	15 16 15.3	
	comp=Z,64nm,18.0s,baz=115,slow=38						
KLR	**Kul'dur**	**30.49**	**61**	P	**P**	**15 03 23.8**	**+0.5**
	comp=Z,6.2nm,0.7s,baz=277,slow=9.1,SNR=24						
KLR				LR	LR	15 16 29.0	
	comp=Z,184nm,20.0s,baz=232,slow=38						
USRK	**Ussuriysk Ar.**	**31.14**	**70**	LR	LR	15 16 45.2	
	comp=Z,143nm,18.8s,baz=245,slow=38						
YHNB	**Yeheng**	**31.36**	**112**	P	**P**	**15 03 32.4**	**+1.1**
YHNB				IAmb	IAmb	15 03 52.3	
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**31.64**	**36**	P	**P**	**15 03 31.6**	**-1.7**
	comp=Z,9.1nm,0.5s,baz=159,slow=1.0,SNR=7.3						
YAK				LR	LR	15 16 38.3	
	comp=Z,86nm,18.7s,baz=268,slow=37						
YAK	**Yakutsk**	**31.64**	**36**	P	**P**	**15 03 32.9**	**-0.4**
KBZ	**Khabaz**	**33.97**	**290**	P	**P**	**15 03 53.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=218,slow=10,SNR=1.7						
KBZ				LR	LR	15 19 55.5	
	comp=Z,130nm,19.2s,baz=56,slow=40						
KIV	**Kislovodsk**	**34.07**	**290**	*eP*	P	15 03 50.1	-4.8
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,105nm,15.0s						
VORR	**Voronezh**	**35.36**	**304**	*eP*	**P**	**15 04 10.4**	**+4.6**
VORR				pmax	pmax		
	comp=Z,130nm,0.4s						
KLMR	**Klimovskoe**	**35.73**	**320**	*eP*	**P**	**15 04 08.7**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,12nm,1.2s						
KLMR	**Klimovskoe**	**35.73**	**320**	*eP*	**P**	**15 04 08.8**	**-0.1**
KLMR				AMP		15 04 16.7	
	comp=Z,12nm,1.2s						
TIXI	**Tiksi**	**36.04**	**20**	P	**P**	**15 04 10.8**	**-0.5**
	comp=Z,12nm,0.5s,baz=88,slow=23,SNR=64						
TIXI	**Tiksi**	**36.04**	**20**	*i* P	**P**	**15 04 10.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**36.04**	**20**	P	**P**	**15 04 10.8**	**-0.5**
TIXI				IAmb	IAmb	15 04 12.0	
	comp=Z,16nm,1.0s						
JWT	**Wachi**	**36.28**	**84**	P	**P**	**15 04 12.2**	**-1.7**
KULM	**Kulim**	**37.33**	**161**	P	**P**	**15 04 22.7**	**-0.3**
KULM				IAmb	IAmb	15 04 33.0	
	comp=Z,14nm,1.0s						
ASAJ	**Asahikawa**	**38.62**	**68**	P	**P**	**15 04 33.4**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=283,slow=8.4,SNR=5.4						
LVZ	**Lovozero**	**39.27**	**331**	P	**P**	**15 04 39.5**	**+0.6**
LVZ				pmax

MA2 pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 41.38 43 P P 15 04 56.8 +0.4
AKASG Malin Array Be 41.71 304 P P 15 04 59.2 0.0
comp=Z,0.5nm,0.4s,baz=72,slow=8.8,SNR=2.9
AKASG LR LR 15 23 02.1
comp=Z,52nm,18.9s,baz=125,slow=37
BRTR Keskin Array B 41.75 287 P P 15 04 59.4 -0.5
comp=Z,0.5nm,0.5s,baz=108,slow=3.5,SNR=2.1
SEY Seymchan 42.11 37 P P 15 05 02.4 +0.2
comp=Z,7.9nm,0.7s,baz=270,slow=8.2,SNR=56
FIA1 FINESS Array S 42.26 320 P P 15 05 03.9 +0.4
FIA1 IAmb IAmb 15 05 29.0
comp=Z,21nm,1.4s
FINES FINESS Array B 42.26 320 P P 15 05 04.3 +0.8
comp=Z,3.7nm,0.5s,baz=80,slow=7.7,SNR=49
FINES LR LR 15 24 05.3
comp=Z,50nm,20.5s,baz=54,slow=38
FINES FINESS Array B 42.26 320 P P 15 05 04.0 +0.5
KEV Kevo 42.36 333 P P 15 05 05.1 +0.9
KEV pmax pmax
comp=Z,42nm,1.5s
KEV Kevo 42.36 333 P P 15 05 05.1 +0.9
KEV IAmb IAmb 15 05 31.0
comp=Z,42nm,1.5s
ARCES ARCESS Array B 42.85 332 P P 15 05 09.2 +0.9
comp=Z,2.5nm,0.4s,baz=89,slow=8.0,SNR=37
ARCES PcP **PcP 15 06 56.8 -2.3**
comp=Z,1.7nm,0.6s,baz=91,slow=3.6,SNR=1.5
ARCES LR LR 15 25 26.8
comp=Z,123nm,18.2s,baz=78,slow=40
ARCES ARCESS Array B 42.85 332 P P 15 05 09.2 +0.9
ARCES pmax pmax
comp=Z,20nm,1.4s
ARCES ARCESS Array B 42.85 332 P P 15 05 09.2 +0.9
ARCES IAmb IAmb 15 05 38.0
comp=Z,20nm,1.4s
BUR08 Bucovina Ar. S 45.02 301 P P 15 05 27.1 +1.0
MLR Muntele Rosu 45.18 298 P P 15 05 25.8 -1.6
comp=Z,1.8nm,0.6s,baz=146,slow=14,SNR=2.0
MLR LR LR 15 26 48.5
comp=Z,101nm,19.0s,baz=82,slow=39
PEA0B Petropavlovsk- 46.13 51 P P 15 05 35.3 +0.6
PEA0B pmax pmax
comp=Z,9.0nm,1.0s
PEA0B Petropavlovsk- 46.13 51 P P 15 05 35.3 +0.6
PEA0B IAmb IAmb 15 05 35.7
comp=Z,9.4nm,1.0s
PETK Petropavlovsk- 46.13 51 P P 15 05 35.1 +0.4
comp=Z,2.7nm,0.5s,baz=297,slow=4.8,SNR=9.1
PETK LR LR 15 25 40.7
comp=Z,56nm,20.6s,baz=264,slow=37
SPB2 Spitsbergen Ar 46.38 344 P P 15 05 37.2 +0.9
SPITS Spitsbergen Ar 46.38 344 P P 15 05 37.8 +1.4
SPITS pmax pmax
comp=Z,39nm,1.2s
PET Petropavlovsk 46.71 51 *i* P **P 15 05 36.8 -2.4**
PET pmax pmax
comp=Z,25nm,1.3s
PET Petropavlovsk 46.71 51 P P 15 05 38.8 -0.4
PET IAmb IAmb 15 05 39.3
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 47.03 303 *e*P **P 15 05 45.8 +4.0**
CRVS Cervenica-Dubn 47.03 303 *e*P **P 15 05 45.8 +4.0**
BILL Bilibino 47.59 30 ⇑ *i*P **P 15 05 46.3 +0.4**
BILL *e* 15 07 15.8
BILL SSS SSS 15 17 20.0
BILL pmax pmax
comp=Z,1.0nm,0.5s
BILL MLR MLR
comp=Z,84nm,15.0s
BILL Bilibino 47.59 30 P P 15 05 46.1 +0.2
HFS Hagfors 48.44 320 LR LR 15 27 26.2
comp=Z,113nm,18.4s,baz=130,slow=38
VYHS Vyhne 48.81 304 *e*P P 15 06 00.9 +5.3
VYHS Vyhne 48.81 304 *e*P P 15 06 00.8 +5.2
TOLI2 Tolitoli 49.10 136 P P 15 05 56.0 -2.1
TOLI2 IAmb IAmb 15 06 22.1
comp=Z,12nm,1.0s
NC405 NORSAR Array S 49.16 321 P P 15 05 58.5 +0.4
MORC Moravsky Berou 49.19 306 P P 15 05 59.1 +0.6
MORC pmax pmax
comp=Z,11nm,1.5s
MORC Moravsky Berou 49.19 306 P P 15 05 59.1 +0.6
MORC IAmb IAmb 15 06 00.4
comp=Z,11nm,1.5s
NC303 NORSAR Array S 49.30 321 P P 15 05 59.4 +0.2
NC602 NORSAR Array S 49.34 321 P P 15 05 59.4 0.0
NB201 NORSAR Array S 49.38 321 P P 15 05 59.9 +0.1
NB2 NORSAR Subarra 49.42 321 P P 15 06 00.1 0.0
comp=Z,2.5nm,0.5s,baz=74,slow=7.9
NOA NORSAR Array B 49.42 321 P P 15 06 00.3 +0.2
comp=Z,4.3nm,0.6s,baz=75,slow=7.7,SNR=15
NOA LR LR 15 27 46.7
comp=Z,41nm,19.2s,baz=90,slow=37
LIT Litokhoron 49.52 292 P P 15 06 01.3 +0.1
LIT pmax pmax
comp=Z,4.0nm,0.8s
LIT Litokhoron 49.52 292 P P 15 06 01.3 +0.1
NC204 NORSAR Array S 49.57 322 P P 15 06 01.3 0.0
NC204 IAmb IAmb 15 06 10.3
comp=Z,20nm,1.0s
NAO01 NORSAR Array S 49.62 321 P P 15 06 01.7 +0.1
NAO01 IAmb IAmb 15 06 05.2
comp=Z,11nm,1.1s
NBO00 NORSAR Array S 49.63 321 P P 15 06 01.6 -0.1
TNG Tangerang 49.90 157 P P 15 05 59.0 -5.2
IDI Anoyia 49.91 285 P P 15 06 04.0 -0.2
comp=Z,2.3nm,0.4s,baz=236,slow=14,SNR=1.9
IDI Anoyia 49.91 285 P P 15 06 04.1 -0.2
VRAC Vranov 49.92 305 LR LR 15 27 12.8
comp=Z,23nm,19.7s,baz=48,slow=36
KONO Kongsberg 50.56 320 P P 15 06 09.8 +1.1
KONO pmax pmax
comp=Z,12nm,1.1s
KONO Kongsberg 50.56 320 P P 15 06 09.8 +1.1
KONO IAmb IAmb 15 06 25.5
comp=Z,12nm,1.1s
NOR Nord 51.62 350 *i* P **P 15 06 16.1 -0.3**
NOR IAmb IAmb 15 06 17.6
comp=Z,9.5nm,0.5s
GERES GERESS Array B 51.87 306 P P 15 06 18.8 -0.1
comp=Z,0.4nm,0.5s,baz=66,slow=5.8,SNR=1.8
DAG Danmarks Havn 54.03 344 *i* P **P 15 06 33.8 -0.5**
DAG IAmb IAmb 15 06 34.7
comp=Z,7.6nm,0.6s
DAVOX Davos/Dischmat 55.06 304 LR LR 15 31 44.8
comp=Z,70nm,18.9s,baz=80,slow=38
TUE Stuetta 55.52 304 P P 15 06 46.0 +0.2
TUE IAmb IAmb 15 06 53.0
comp=Z,7.3nm,0.8s
DBG Daneborg 55.59 342 *i* P **P 15 06 45.9 +0.3**
DBG IAmb IAmb 15 06 46.6
comp=Z,3.6nm,0.8s
GAMB Gambell 57.44 31 P P 15 06 58.7 -0.1
GAMB Gambell 57.44 31 P P 15 06 59.0 +0.2
baz=298
TNA Tin City 57.99 29 P P 15 07 02.9 +0.2
TNA Tin City 57.99 29 P P 15 07 03.0 +0.3
baz=300
SCO Scoresbysund 58.10 338 P P 15 07 04.2 +0.8
SCO pmax pmax
comp=Z,6.0nm,0.9s
SCO Scoresbysund 58.10 338 P P 15 07 04.2 +0.8
SCO IAmb IAmb 15 07 05.9
comp=Z,6.0nm,0.9s
A21K Barrow 58.34 20 P P 15 07 04.6 -0.5
A21K IAmb IAmb 15 07 05.5
comp=Z,6.7nm,0.9s
A21K Barrow 58.34 20 P P 15 07 04.5 -0.5
baz=306
RDOG Red Dog Mine 58.38 25 P P 15 07 04.8 -0.7
RDOG Red Dog Mine 58.38 25 P P 15 07 05.0 -0.5
baz=303
ESK Eskdalemuir 58.59 318 P P 15 07 06.3 -0.8
ESK pmax pmax
comp=Z,33nm,1.4s
ESK Eskdalemuir 58.59 318 P P 15 07 06.3 -0.8
EUNU Eureka 58.79 359 P P 15 07 08.4 +0.2
ANM Nome 59.43 29 P P 15 07 13.2 +0.4
ANM pmax pmax
comp=Z,6.0nm,0.9s
ANM Nome 59.43 29 P P 15 07 13.2 +0.4
ANM IAmb IAmb 15 07 14.4
comp=Z,5.6nm,0.9s
ANM Nome 59.43 29 P P 15 07 13.4 +0.6
baz=302,SNR=9.1
KEST Kesra 60.73 293 P P 15 07 23.1 +0.8
comp=Z,1.0nm,0.5s,baz=101,slow=10,SNR=1.1
KEST Kesra 60.73 293 IAmb IAmb 15 07 30.2
comp=Z,4.4nm,0.7s
BORG Borgarnes 61.26 333 P P 15 07 25.2 0.0
BORG pmax pmax
comp=Z,96nm,1.5s
BORG Borgarnes 61.26 333 P P 15 07 25.2 0.0
TULEG Thule 61.53 354 P P 15 07 25.9 -1.0
TULEG IAmb IAmb 15 07 26.5
comp=Z,5.9nm,0.6s
TOLK Toolik Lake Re 61.92 21 P P 15 07 29.3 -0.5
TOLK IAmb IAmb 15 07 30.2
comp=Z,8.4nm,0.8s
TOLK Toolik Lake Re 61.92 21 P P 15 07 29.5 -0.3
baz=313,SNR=8.1
GCSA Galena City Sc 62.29 26 P P 15 07 32.6 +0.4
baz=309
IMAR Indian Mountai 62.50 24 P P 15 07 33.4 -0.2
COLD Coldfoot 62.72 22 P P 15 07 34.5 -0.5
COLD IAmb IAmb 15 07 35.9
comp=Z,7.6nm,0.7s
COLD Coldfoot 62.72 22 P P 15 07 35.0 -0.1
baz=313,SNR=10.0
H21K Melozitna Rive 63.01 24 P P 15 07 37.0 0.0
H21K IAmb IAmb 15 07 38.0
comp=Z,5.1nm,0.7s
H21K Melozitna Rive 63.01 24 P P 15 07 37.2 +0.1
baz=312,SNR=9.3
KMBO Kilima Mbogo 63.31 242 P P 15 07 39.2 -0.8
comp=Z,0.8nm,0.3s,baz=13,slow=5.5,SNR=1.8
J20K Nowinta River 63.57 26 P P 15 07 41.3 +0.6
J20K IAmb IAmb 15 07 42.2
comp=Z,7.0nm,0.6s
J20K Nowinta River 63.57 26 P P 15 07 41.2 +0.5
baz=311,SNR=8.2
I21K Tanana 63.59 24 P P 15 07 40.8 0.0
I21K IAmb IAmb 15 07 42.1
comp=Z,11nm,1.2s
I21K Tanana 63.59 24 P P 15 07 41.1 +0.3
baz=312
ICESG Greenland Ices 63.60 342 *i* P **P 15 07 41.1 -0.2**
ICESG IAmb IAmb 15 07 41.9
comp=Z,7.2nm,0.6s
TTA Tatalina 63.75 28 P P 15 07 42.3 +0.2
TTA pmax pmax
comp=Z,3.0nm,1.0s
TTA Tatalina 63.75 28 P P 15 07 42.3 +0.2
TTA Tatalina 63.75 28 P P 15 07 42.3 +0.2
baz=310
MLY Manley 64.08 24 P P 15 07 44.3 +0.2
MLY IAmb IAmb 15 07 44.8
comp=Z,4.9nm,0.8s
MLY Manley 64.08 24 P P 15 07 44.2 +0.1
baz=314
BMAR Burnt Mountain 64.11 20 P P 15 07 44.7 +0.4
K20K Telida 64.14 27 P P 15 07 45.2 +0.7
K20K IAmb IAmb 15 07 46.1
comp=Z,5.4nm,0.8s
K20K Telida 64.14 27 P P 15 07 44.9 +0.4
baz=312
RES Resolute Bay 64.18 1 P P 15 07 44.4 -0.2
RES pmax pmax
comp=Z,2.0nm,1.0s
RES Resolute Bay 64.18 1 P P 15 07 44.4 -0.2
A36M Sachs Harbour 64.32 11 P P 15 07 45.6 +0.1
A36M Sachs Harbour 64.32 11 P P 15 07 45.4 -0.1
baz=332,SNR=26
H24K Noodor Dome 64.36 23 P P 15 07 46.3 +0.3
H24K IAmb IAmb 15 07 47.0
comp=Z,3.8nm,0.8s
H24K Noodor Dome 64.36 23 P P 15 07 46.1 +0.1
baz=315
CHUM Lake Minchumin 64.36 26 P P 15 07 46.3 +0.4
baz=313
I23K Minto, Yukon-K 64.41 24 P P 15 07 46.4 +0.2
I23K IAmb IAmb 15 07 47.5
comp=Z,9.6nm,1.1s
I23K Minto, Yukon-K 64.41 24 P P 15 07 46.4 +0.2
baz=314,SNR=5.6
BPAW Bear Paw Mtn. 64.64 25 P P 15 07 47.6 -0.2
BPAW IAmb IAmb 15 07 48.6
comp=Z,5.4nm,0.9s
BPAW Bear Paw Mtn. 64.64 25 P P 15 07 47.8 -0.1
baz=314
L19K White Mountain 64.65 28 P P 15 07 48.4 +0.5
L19K IAmb IAmb 15 07 49.6
comp=Z,7.7nm,0.8s
L19K White Mountain 64.65 28 P P 15 07 48.6 +0.7
baz=311,SNR=6.3
CAST Castle Rocks 64.76 26 P P 15 07 48.6 +0.1
CAST IAmb IAmb 15 07 49.8
comp=Z,9.3nm,1.2s
CAST Castle Rocks 64.76 26 P P 15 07 48.7 +0.1
baz=313
L20K Farewell, AK 64.79 27 P P 15 07 49.3 +0.5
baz=312
MDM Murphy Dome 64.89 23 P P 15 07 49.4 0.0
MDM IAmb IAmb 15 07 50.1
comp=Z,5.2nm,0.8s
NEA2 Nenana 64.89 24 P P 15 07 49.2 -0.3
NEA2 IAmb IAmb 15 07 49.7
comp=Z,5.4nm,0.9s
NEA2 Nenana 64.89 24 P P 15 07 49.1 -0.4
baz=315
M19K Big River Lodg 65.00 28 P P 15 07 50.5 +0.3
M19K IAmb IAmb 15 08 03.1
comp=Z,11nm,1.2s
M19K Big River Lodg 65.00 28 P P 15 07 50.7 +0.5
baz=312
POKR Poker Plat Res 65.01 23 P P 15 07 50.4 +0.1
POKR IAmb IAmb 15 07 51.3
comp=Z,3.7nm,0.7s
POKR Poker Plat Res 65.01 23 P P 15 07 50.3 +0.1
baz=316
KTH Kantishna Hill 65.04 25 P P 15 07 50.2 -0.3
KTH IAmb IAmb 15 07 51.5
comp=Z,11nm,0.9s
BWN Browne 65.07 24 P P 15 07 50.7 +0.1
PPLA Purkeypile 65.08 26 P P 15 07 51.1 +0.2
PPLA Purkeypile 65.08 26 P P 15 07 51.1 +0.2
baz=313
WRH Wood River Hil 65.28 24 P P 15 07 51.2 -0.7
TRF Thorofare Moun 65.32 25 P P 15 07 51.6 -0.8
TRF IAmb IAmb 15 07 53.6
comp=Z,8.5nm,1.1s
TRF Thorofare Moun 65.32 25 P P 15 07 52.8 +0.4
baz=314
IL31 65.42 23 P P 15 07 51.8 -1.0
IL31 IAmb IAmb 15 07 52.9
comp=Z,4.8nm,0.7s
ILAR Eielson Array 65.42 23 P P 15 07 52.1 -0.7
comp=Z,3.9nm,0.8s,baz=311,slow=5.1,SNR=47
ILAR LR LR 15 41 11.7
comp=Z,59nm,20.0s,baz=305,slow=40
ILAR Eielson Array 65.42 23 P P 15 07 51.9 -1.0
M20K Styx River 65.45 28 P P 15 07 53.7 +0.5
M20K IAmb IAmb 15 07 54.7
comp=Z,8.0nm,0.7s
M20K Styx River 65.45 28 P P 15 07 53.5 +0.3
baz=313
MCK McKinley 65.55 25 P P 15 07 53.3 -0.4
MCK pmax pmax
comp=Z,3.0nm,0.6s
MCK McKinley 65.55 25 P P 15 07 53.3 -0.4
MCK IAmb IAmb 15 07 54.4
comp=Z,3.3nm,0.6s
MCK McKinley 65.55 25 P P 15 07 54.1 +0.4
baz=315
N19K Bonanza Creek 65.70 29 P P 15 07 55.2 +0.4
N19K IAmb IAmb 15 07 56.0
comp=Z,6.3nm,1.1s
N19K Bonanza Creek 65.70 29 P P 15 07 55.1 +0.3
baz=312
ANGG Ammassalik, Gr 65.72 339 P P 15 07 55.2 +0.5
RND Reindeer 65.81 25 P P 15 07 54.5 -1.0
RND Reindeer 65.81 25 P P 15 07 54.5 -1.0
ILULI Ilulissat 65.92 346 P P 15 07 55.4 -0.6
ILULI pmax pmax
comp=Z,23nm,1.1s
ILULI Ilulissat 65.92 346 P P 15 07 55.4 -0.6
J25K Salcha River, 65.98 23 P P 15 07 55.1 -1.4
J25K Salcha River, 65.98 23 P P 15 07 55.2 -1.4
baz=318
INK Inuvik 66.02 16 P P 15 07 56.4 -0.2
comp=Z,3.0nm,0.5s,baz=335,slow=9.2,SNR=8.1
INK Inuvik 66.02 16 P P 15 07 56.2 -0.4
INK IAmb IAmb 15 07 57.0
comp=Z,7.2nm,1.1s
INK Inuvik 66.02 16 P P 15 07 56.0 -0.5
baz=326
O19K Port Alsworth 66.17 29 P P 15 07 58.3 +0.6
baz=312
DHY Denali Highway 66.51 25 P P 15 07 59.5 -0.6
DHY IAmb IAmb 15 08 01.2
comp=Z,4.8nm,0.7s
DHY Denali Highway 66.51 25 P P 15 07 59.3 -0.8
baz=317
RSO Redoubt South 66.56 29 P P 15 08 00.5 0.0
J26L Joseph Creek 66.58 22 P P 15 07 59.6 -0.8
baz=319
WAT6 Susitna Watana 66.76 25 P P 15 08 01.1 -0.6
baz=317
RIDG Independent Ri 66.79 23 P P 15 08 00.3 -1.4
RIDG IAmb IAmb 15 08 01.3
comp=Z,12nm,0.7s
RIDG Independent Ri 66.79 23 P P 15 08 00.5 -1.2
baz=318,SNR=5.7
C36M Paulatuk 66.86 12 P P 15 08 01.0 -1.0
C36M Paulatuk 66.86 12 P P 15 08 01.1 -0.8
baz=333,SNR=14
SCRK Sand Creek 66.86 23 P P 15 08 01.4 -0.8
SCRK IAmb IAmb 15 08 02.3
comp=Z,5.2nm,0.8s
SCRK Sand Creek 66.86 23 P P 15 08 01.4 -0.8
baz=319
SDPT Sand Point 66.89 36 P P 15 08 02.3 -0.1
baz=310
EPYK Eagle Plains 66.90 18 P P 15 08 01.2 -1.2
baz=324
PMR Palmer 67.02 26 P P 15 08 02.7 -0.4
PMR pmax pmax
comp=Z,24nm,1.4s
PMR Palmer 67.02 26 P P 15 08 02.7 -0.4
PMR Palmer 67.02 26 P P 15 08 02.4 -0.7
baz=316
EGAK Eagle 67.04 21 P P 15 08 02.8 -0.4
EGAK IAmb IAmb 15 08 03.2
comp=Z,4.0nm,0.8s
EGAK Eagle 67.04 21 P P 15 08 02.6 -0.6
baz=321
DOT Dot Lake 67.09 23 P P 15 08 02.6 -1.0
DOT IAmb IAmb 15 08 05.5
comp=Z,4.7nm,0.8s
SML Sawmill 67.13 26 P P 15 08 03.4 -0.5
SML Sawmill 67.13 26 P P 15 08 03.3 -0.6
baz=316
RC01 Rabbit Creek A 67.17 27 P P 15 08 03.9 -0.3
baz=316
PAX Paxson 67.18 24 P P 15 08 03.4 -0.9
PAX pmax pmax
comp=Z,10.0nm,1.3s
PAX Paxson 67.18 24 P P 15 08 03.4 -0.9
PAX IAmb IAmb 15 08 12.9
comp=Z,10nm,1.3s
PAX Paxson 67.18 24 P P 15 08 03.6 -0.7
baz=318
DY2G Dye2 67.21 342 *i* P **P 15 08 04.2 -0.4**
DY2G IAmb IAmb 15 08 11.8
comp=Z,8.7nm,0.5s
Q19K Cape Douglas, 67.29 30 P P 15 08 02.9 -2.0
baz=313
I29M Ogilvie Camp, 67.32 20 P P 15 08 03.7 -1.3
I29M Ogilvie Camp, 67.32 20 P P 15 08 04.0 -1.0
baz=323
ESDC Sonseca Array 67.35 303 P P 15 08 06.0 +0.3
comp=Z,2.3nm,1.0s,baz=47,slow=5.8,SNR=9.2
KNK Knik Glacier 67.37 26 P P 15 08 04.4 -1.0
KNK IAmb IAmb 15 08 12.6
comp=Z,9.0nm,0.8s
KNK Knik Glacier 67.37 26 P P 15 08 05.1 -0.3
baz=316
SCM Sheep Creek Mo 67.44 25 P P 15 08 05.1 -0.8
SCM pmax pmax
comp=Z,21nm,0.9s
SCM Sheep Creek Mo 67.44 25 P P 15 08 05.1 -0.8
SCM Sheep Creek Mo 67.44 25 P P 15 08 05.9 +0.1
baz=317
KNRA Kununurra 67.46 139 P P 15 08 06.1 -0.4
KNRA IAmb IAmb 15 08 15.7
comp=Z,4.0nm,0.8s
M24K Tolsona, Glenn 67.60 25 P P 15 08 06.9 +0.1
M24K Tolsona, Glenn 67.60 25 P P 15 08 07.0 +0.1
baz=318
O22K Cooper Landing 67.62 27 P P 15 08 06.9 0.0
O22K Cooper Landing 67.62 27 P P 15 08 06.5 -0.4
baz=316
HARP HAARP 67.70 24 P P 15 08 07.7 +0.2
baz=319
BRLK Bradley Lake 67.72 28 P P 15 08 07.6 -0.1
SFJD Kangerlussuaq 67.72 344 P P 15 08 06.9 -0.5
SFJD pmax pmax
comp=Z,10.0nm,0.6s
SFJD Kangerlussuaq 67.72 344 P P 15 08 06.9 -0.5
MENT Mentasta 67.73 23 P P 15 08 07.3 -0.4
MENT IAmb IAmb 15 08 33.8
comp=Z,11nm,1.4s
CNPM China Poot 67.76 29 P P 15 08 08.8 +0.8
L26K Log Cabin Wild 67.77 23 P P 15 08 07.7 -0.2
baz=320
SEW Seward 67.98 28 P P 15 08 08.9 -0.3
SEW Seward 67.98 28 P P 15 08 08.7 -0.5
baz=316
FITZ Fitzroy Crossi 68.06 143 P P 15 08 09.6 -0.6
DAWY Dawson 68.07 21 P P 15 08 08.9 -0.9
DAWY IAmb IAmb 15 08 31.4
comp=Z,9.5nm,1.4s
DAWY Dawson 68.07 21 P P 15 08 09.2 -0.6
baz=322
L27K Beaver Creek, 68.19 22 P P 15 08 10.8 +0.3
L27K IAmb IAmb 15 08 11.7
comp=Z,7.0nm,0.8s
L27K Beaver Creek, 68.19 22 P P 15 08 10.8 +0.3
baz=321
BCAR Beaver Creek A 68.19 22 P P 15 08 10.4 -0.2
N25K Chitina, Valde 68.47 25 P P 15 08 12.2 -0.2
N25K Chitina, Valde 68.47 25 P P 15 08 12.9 +0.5
baz=319
KDAK Kodiak Island 68.49 31 P P 15 08 11.6 -0.9
comp=Z,6.4nm,0.9s,baz=50,slow=7.9,SNR=1.4
KDAK Kodiak Island 68.49 31 P P 15 08 11.8 -0.7
KDAK pmax pmax
comp=Z,52nm,1.5s
KDAK Kodiak Island 68.49 31 P P 15 08 11.8 -0.7
OHAK Old Harbor 68.61 31 P P 15 08 12.9 -0.2
SII Sitkinak Islan 68.72 32 P P 15 08 14.5 +0.5
baz=314
M27K Edge Creek, AK 68.72 23 P P 15 08 14.5 +0.5
M27K IAmb IAmb 15 08 15.8
comp=Z,11nm,0.9s
M27K Edge Creek, AK 68.72 23 P P 15 08 14.4 +0.3
baz=321
PSA00 Pilbara Seismi 68.72 150 P P 15 08 13.4 -0.9
PSA00 IAmb IAmb 15 08 31.9
comp=Z,8.7nm,1.1s
PSA00 Pilbara Seismi 68.72 150 P P 15 08 13.9 -0.3
PSA00 IAmb IAmb 15 08 14.7
comp=Z,1.9nm,0.8s
BVCY Beaver Creek 68.97 23 P P 15 08 15.6 +0.1
baz=322
MCARA McCarthy VSAT 69.13 24 P P 15 08 16.6 +0.2
MCARA McCarthy VSAT 69.13 24 P P 15 08 17.2 +0.8
baz=320
YUK3 Moose Creek 69.59 23 P P 15 08 19.8 +0.3
baz=322
BARN Barnard Glacie 69.80 24 P P 15 08 20.6 -0.2
CTG Chitna Glacier 69.97 24 P P 15 08 21.6 -0.2
baz=322
M30M Minto, Yukon 69.97 21 P P 15 08 21.1 -0.5
baz=325
CTGM Chitina Glacie 69.97 24 P P 15 08 22.2 +0.4
GRNC Granite Creek 70.03 24 P P 15 08 22.4 +0.1
LOGN Logan Glacier 70.18 24 P P 15 08 22.4 -0.7
YAH Yahtse 70.32 24 P P 15 08 23.9 -0.1
YUK4 Talbot Arm 70.46 22 P P 15 08 24.3 -0.6
baz=324
M31M Drury Creek, Y 70.91 20 P P 15 08 26.9 -0.5
M31M IAmb IAmb 15 08 27.8
comp=Z,9.2nm,0.9s
M31M Drury Creek, Y 70.91 20 P P 15 08 27.1 -0.3

	baz=327							
N31M	**Braeburn, Yuko**	**71.14**	**21**	P	**P**	**15 08 28.6**	**-0.2**
N31M				IAmb	IAmb	15 08 29.4		
	comp=Z,8.8nm,0.8s							
N31M	**Braeburn, Yuko**	**71.14**	**21**	P	**P**	**15 08 28.5**	**-0.2**
	baz=326							
HYT	**Haines Junctio**	**71.21**	**22**	P	**P**	**15 08 29.0**	**-0.3**
HYT				IAmb	IAmb	15 08 30.0		
	comp=Z,6.2nm,0.8s							
HYT	**Haines Junctio**	**71.21**	**22**	P	**P**	**15 08 29.1**	**-0.3**
	baz=325							
IVI	**Ivigtut**	**72.09**	**340**	P	**P**	**15 08 34.0**	**-0.4**
P33M	**Teslin, Yukon**	**73.01**	**21**	P	**P**	**15 08 39.4**	**-0.6**
P33M				IAmb	IAmb	15 08 40.3		
	comp=Z,6.5nm,1.1s							
P33M	**Teslin, Yukon**	**73.01**	**21**	P	**P**	**15 08 39.8**	**-0.2**
	baz=328							
PMG	**Port Moresby**	**73.21**	**119**	P	**P**	**15 08 39.7**	**-2.0**
PMG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PMG	**Port Moresby**	**73.21**	**119**	P	**P**	**15 08 39.7**	**-2.0**
PMG				IAmb	IAmb	15 08 43.4		
	comp=Z,8.3nm,0.9s							
WB0	**Warramunga Arr**	**73.77**	**136**	P	**P**	**15 08 44.3**	**-0.6**
WRA	**Warramunga Arr**	**73.89**	**136**	P	**P**	**15 08 45.2**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=335,slow=6.2,SNR=46							
WRA	**Warramunga Arr**	**73.89**	**136**	P	**P**	**15 08 44.9**	**-0.7**
WB2	**Warramunga Arr**	**73.89**	**136**	P	**P**	**15 08 44.8**	**-0.8**
WB2				IAmb	IAmb	15 08 46.1		
	comp=Z,8.1nm,0.7s							
WR0	**Warramunga Arr**	**74.01**	**136**	P	**P**	**15 08 45.3**	**-0.9**
WR0				IAmb	IAmb	15 08 46.3		
	comp=Z,5.2nm,0.6s							
COEN	**Coen**	**74.12**	**125**	P	**P**	**15 08 46.4**	**-0.7**
COEN				IAmb	IAmb	15 08 48.0		
	comp=Z,7.2nm,1.0s							
VOI	**Vohitsoka**	**74.32**	**221**	P	**P**	**15 08 48.1**	**-0.1**
VOI				IAmb	IAmb	15 08 55.0		
	comp=Z,20nm,1.3s							
YKA	**Yellowknife Ar**	**74.69**	**11**	P	**P**	**15 08 48.9**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=336,slow=5.7,SNR=56							
YKA	**Yellowknife Ar**	**74.69**	**11**	P	**P**	**15 08 48.1**	**-1.6**
DLBC	**Dease Lake**	**75.27**	**20**	P	**P**	**15 08 53.0**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=350,slow=11							
WRAK	**Wrangell Islan**	**76.38**	**22**	P	**P**	**15 08 59.5**	**0.0**
	baz=329							
AS31	**Alice Springs**	**76.77**	**139**	P	**P**	**15 09 01.5**	**-0.6**
ASAR	**Alice Springs**	**76.77**	**139**	P	**P**	**15 09 01.9**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=333,slow=5.7,SNR=74							
ASAR	**Alice Springs**	**76.77**	**139**	P	**P**	**15 09 01.7**	**-0.4**
CRAG	**Craig**	**76.97**	**23**	P	**P**	**15 09 03.3**	**+0.5**
	baz=329							
TOA0	**Torodi Ar. Sit**	**79.71**	**278**	P	**P**	**15 09 18.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**79.71**	**278**	P	**P**	**15 09 18.1**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=43,slow=4.8,SNR=19							
TORD	**Torodi Ar. Bea**	**79.71**	**278**	P	**P**	**15 09 18.0**	**-0.7**
FCC	**Fort Churchill**	**80.17**	**2**	P	**P**	**15 09 19.0**	**-1.5**
FCC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FCC	**Fort Churchill**	**80.17**	**2**	P	**P**	**15 09 18.9**	**-1.5**
FORT	**Forrest**	**80.20**	**147**	P	**P**	**15 09 20.4**	**-0.5**
FORT				IAmb	IAmb	15 09 41.4		
	comp=Z,10nm,1.0s							
SCHQ	**Schefferville**	**82.02**	**346**	P	**P**	**15 09 29.1**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=29,slow=8.2,SNR=3.5							
SCHQ	**Schefferville**	**82.02**	**346**	P	**P**	**15 09 29.1**	**-1.3**
SCHQ				IAmb	IAmb	15 09 52.0		
	comp=Z,7.7nm,1.1s							
FFC	**Flin Flon**	**83.77**	**7**	P	**P**	**15 09 38.0**	**-1.5**
FFC				pmax	pmax			
	comp=Z,8.0nm,0.8s							
FFC	**Flin Flon**	**83.77**	**7**	P	**P**	**15 09 38.0**	**-1.5**
FFC				IAmb	IAmb	15 09 39.1		
	comp=Z,7.6nm,0.8s							
BBOO	**Buckleboo**	**85.44**	**142**	P	**P**	**15 09 46.8**	**-1.3**
BBOO				IAmb	IAmb	15 09 57.4		
	comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**87.36**	**138**	P	**P**	**15 09 55.6**	**-1.9**
	comp=Z,4.6nm,1.2s,baz=14,slow=9.1,SNR=4.0							
STKA	**Stephens Creek**	**87.36**	**138**	P	**P**	**15 09 55.6**	**-1.9**
STKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NEW	**Newport**	**87.70**	**17**	P	**P**	**15 09 58.6**	**-0.6**
	baz=340							
ULM	**Lac du Bonnet**	**88.63**	**3**	P	**P**	**15 10 01.3**	**-2.2**
	comp=Z,2.8nm,0.8s,baz=14,slow=2.9,SNR=4.2							
JTMT	**Jette**	**88.80**	**16**	P	**P**	**15 10 04.1**	**-0.5**
JTMT				IAmb	IAmb	15 10 05.0		
	comp=Z,5.7nm,0.7s							
EGMT	**Eagleton**	**89.37**	**13**	P	**P**	**15 10 05.9**	**-1.3**
	baz=346							
G05D	**Wamic, OR**	**89.49**	**21**	P	**P**	**15 10 06.9**	**-0.7**
	baz=338							
DGMT	**Dagmar**	**89.72**	**9**	P	**P**	**15 10 07.7**	**-1.0**
	baz=350							
F10A	**Beach Ranch, E**	**89.84**	**18**	P	**P**	**15 10 09.1**	**-0.3**
F10A				IAmb	IAmb	15 10 10.7		
	comp=Z,4.2nm,1.0s							
BOZ	**Bozeman (W)**	**91.39**	**15**	P	**P**	**15 10 15.9**	**-0.7**
	baz=344							
M02C	**Callahan**	**92.58**	**24**	P	**P**	**15 10 21.3**	**-0.9**
	baz=336							
FLWY	**Flagg Ranch**	**93.02**	**14**	P	**P**	**15 10 24.7**	**+0.4**
FLWY				IAmb	IAmb	15 10 26.8		
	comp=Z,3.6nm,0.6s							
RSSD	**Black Hills**	**94.03**	**10**	P	**P**	**15 10 27.1**	**-1.8**
	baz=350							
PDAR	**Pinedale Array**	**94.50**	**14**	P	**P**	**15 10 29.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=56,slow=3.6,SNR=2.7							
HRV	**Adam Dziewonsk**	**94.73**	**346**	P	**P**	**15 10 30.3**	**-1.6**
	baz=14							
L61B	**Northampton**	**94.98**	**347**	P	**P**	**15 10 31.5**	**-1.5**
	baz=13							
ECSD	**EROS Data Cent**	**95.09**	**4**	P	**P**	**15 10 32.4**	**-1.2**
	baz=356							
LPAZ	**La Paz**	**148.34**	**316**	PKPbc	**PKPdf**	**15 16 55.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=296,slow=24,SNR=2.0							
CPUP	**Villa Florida**	**148.76**	**288**	PKPbc	**PKPbc**	**15 16 56.9**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=47,slow=6.9,SNR=5.8							
CPUP	**Villa Florida**	**148.76**	**288**		**PKPdf**	**15 16 56.4**	**+2.1**

*DJA **29** 15:22:42.7±1.5,2.7°N±2.7°×12.6°E±.1°, h30km±22km, M4.1/17, mb4.3/7, mB4.7/6, MLv4.2/17, Mw(mB)3.9/6*
*IDC **29** 15:22:43.2±5.1,2.29°N×125.94°E, h75km±49km, mb3.8/22, mb1 3.9/22, mb1mx3.8/49, mbtmp4.1/22, MS2.9/2, Ms1 2.9/2, ms1mx2.4/73, Error ellipse: s-maj=27.9km s-min=12.0km az=83.0*
*NEIC **29** 15:22:44.1±2.8,2.26°N±0.07°×126.09°E±0.07°, h79km±8km, mb4.4/56, Error ellipse: s-maj=10.6km s-min=10.0km az=75.0*

ISC 29 15:22:41.1±0.4,2.34°N±0.05°×126.19°E±0.07°, h50km, n122, σ1°67/109, mb4.3/46, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.49**	**334**	P	**Pn**	**15 23 06.6**	**+1.1**
SGSI				S	**Sn**	**15 23 25.3**	**+1.4**
TNTI	**Ternate**	**1.95**	**143**		**Pn**	**15 23 14.3**	**+2.5**
TNTI	**Ternate**	**1.95**	**143**	P	**Pn**	**15 23 14.5**	**+2.7**
TNTI	**Ternate**	**1.95**	**143**	P	**Pn**	**15 23 14.7**	**+2.9**
KMSI	**Cibinong**	**2.82**	**232**	P	**Pn**	**15 23 25.9**	**+2.1**
LBMI	**Labuha**	**3.23**	**156**	P	**Pn**	**15 23 32.2**	**+2.8**
GTOI	**Gorontalo**	**3.60**	**242**	P	**Pn**	**15 23 36.5**	**+2.0**
SANI	**Sanana**	**4.37**	**183**	P	**Pn**	**15 23 46.4**	**+1.4**
SANI	**Sanana**	**4.37**	**183**	P	**Pn**	**15 23 45.8**	**+0.8**
MRSI	**Marisa**	**4.64**	**247**	P	**Pn**	**15 23 51.6**	**+2.9**
LUWI	**Luwuk**	**4.79**	**226**	Pn	**Pn**	**15 23 52.2**	**+1.3**
LUWI	**Luwuk**	**4.79**	**226**	P	**Pn**	**15 23 54.0**	**+3.2**
LUWI	**Luwuk**	**4.79**	**226**	P	**Pn**	**15 23 51.4**	**+0.6**
TOLI2	**Tolitoli**	**5.55**	**257**		**Pn**	**15 24 01.7**	**+0.5**
TOLI2	**Tolitoli**	**5.55**	**257**	P	**Pn**	**15 24 02.3**	**+1.2**
APSI	**Ampana**	**5.58**	**235**	P	**Pn**	**15 24 04.8**	**+3.3**
	0.3nm504nm45nm,1.1s						
SIJI	**Sorong**	**5.99**	**122**	LR	LR	15 26 56.1	
	comp=Z,88nm,21.2s,baz=273,slow=41						
MSAI	**Masohi**	**6.28**	**154**	P	**Pn**	**15 24 15.1**	**+3.9**
	0.0nm203nm4.9nm,0.8s						
AAI	**Ambon**	**6.31**	**162**	P	**Pn**	**15 24 14.6**	**+2.9**
MPSI	**Mapaga**	**6.60**	**253**	P	**Pn**	**15 24 19.4**	**+3.8**
	0.1nm23nm,0.7s						
MYLDM	**Lahad Datu**	**8.18**	**290**		**Pn**	**15 24 41.2**	**+4.0**
TTSI	**Tana Toraja**	**8.32**	**230**	P	**Pn**	**15 24 39.9**	**+0.7**
KKM	**Kota Kinabalu**	**10.61**	**291**	Pn	**Pn**	**15 25 14.3**	**+3.7**
KKM	**Kota Kinabalu**	**10.61**	**291**	P	**Pn**	**15 25 15.2**	**+4.5**
MTN	**Manton Dam**	**15.86**	**162**		**Pn**	**15 26 19.9**	**-1.3**
MTN	**Manton Dam**	**15.86**	**162**	P	**Pn**	**15 26 20.7**	**-0.5**
KDU	**Kakadu**	**16.18**	**157**	P	**Pn**	**15 26 23.4**	**-1.8**
KDU	**Kakadu**	**16.18**	**157**	P	**Pn**	**15 26 28.8**	**+3.6**
KNRA	**Kununurra**	**18.08**	**172**	P	**P**	**15 26 48.5**	**-0.2**
KNRA	**Kununurra**	**18.08**	**172**	P	**P**	**15 26 49.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.32**	**182**	P	**P**	**15 27 12.8**	**-0.3**
	1.2nm,0.5s,baz=18,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**20.32**	**182**	P	**P**	**15 27 12.6**	**-0.6**
YULB	**Yu-li**	**21.46**	**348**	P	**P**	15 27 21.6	-3.8
TPUB	**Ta-pu**	**21.52**	**346**	P	**P**	**15 27 23.6**	**-2.5**
TPUB				IAmb	IAmb	15 27 26.0	
	comp=Z,28nm,1.1s						
SSLB	**Suanglung**	**21.91**	**347**	P	**P**	**15 27 28.8**	**-1.5**
YHNB	**Yeheng**	**22.68**	**349**	P	**P**	**15 27 37.4**	**-1.2**
YHNB				IAmb	IAmb	15 27 42.9	
	comp=Z,29nm,1.3s						
COEN	**Coen**	**23.36**	**134**	P	**P**	**15 27 44.8**	**-0.6**
COEN	**Coen**	**23.36**	**134**	P	**P**	**15 27 45.3**	**-0.1**
WB0	**Warramunga Arr**	**23.40**	**160**	P	**P**	**15 27 45.1**	**-0.7**
WB0				IAmb	IAmb	15 27 45.9	
	comp=Z,9.3nm,0.7s						
WRAB	**Tennant Creek**	**23.54**	**160**	P	**P**	**15 27 46.9**	**-0.2**
WRA	**Warramunga Arr**	**23.55**	**161**	P	**P**	**15 27 46.9**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=338,slow=11,SNR=62						
WRA				S	**S**	**15 31 53.3**	**-4.4**
	comp=Z,0.5nm,0.8s,baz=334,slow=17,SNR=3.9						
WRA	**Warramunga Arr**	**23.55**	**161**	P	**P**	**15 27 45.4**	**-1.7**
WB2	**Warramunga Arr**	**23.55**	**160**	P	**P**	**15 27 46.2**	**-1.0**
WB2				IAmb	IAmb	15 27 47.5	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**23.63**	**160**	P	**P**	**15 27 46.9**	**-1.0**
WR0				IAmb	IAmb	15 27 48.2	
	comp=Z,7.9nm,0.8s						
UBPT	**Khong Chiam**	**24.14**	**303**	P	**P**	**15 27 52.6**	**0.0**
UBPT				IAmb	IAmb	15 28 03.4	
	comp=Z,12nm,1.3s						
JOW	**Kunigami**	**24.43**	**4**	P	**P**	**15 27 56.8**	**+1.6**
	comp=Z,10.0nm,0.7s,baz=164,slow=11,SNR=5.2						
JOW	**Kunigami**	**24.43**	**4**	P	**P**	**15 27 56.8**	**+1.6**
JOW				IAmb	IAmb	15 27 58.3	
	comp=Z,14nm,0.9s						
QIS	**Mount Isa**	**26.28**	**151**	P	**P**	**15 28 12.5**	**+0.4**
AS31	**Alice Springs**	**26.92**	**164**	P	**P**	**15 28 17.6**	**-0.2**
ASAR	**Alice Springs**	**26.92**	**164**	P	**P**	**15 28 17.7**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=343,slow=7.7,SNR=114						
ASAR				PcP	**PcP**	**15 31 39.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=353,slow=2.3,SNR=4.3						
ASAR				S	**S**	**15 32 47.4**	**-4.0**
	comp=Z,0.2nm,0.8s,baz=349,slow=19,SNR=4.4						
MTSU	**Mount Surprise**	**27.07**	**139**	P	**P**	**15 28 20.7**	**+1.5**
PSI	**Prapat**	**27.25**	**272**	LR	LR	15 39 33.0	
	comp=Z,39nm,19.9s,baz=182,slow=37						
WRKA	**Warakurna**	**27.29**	**176**	P	**P**	**15 28 21.6**	**+0.4**
JNU	**Nakatsue**	**30.93**	**8**	P	**P**	**15 28 53.2**	**-0.2**
JNU				IAmb	IAmb	15 28 53.7	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.14**	**303**	P	**P**	**15 28 55.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=118,slow=7.7,SNR=1.9						
CHTO	**Chiang Mai**	**31.30**	**303**	P	**P**	**15 28 55.5**	**-1.3**
OOD	**Oodnadatta**	**31.32**	**164**	P	**P**	**15 28 57.2**	**+0.4**
FORT	**Forrest**	**32.98**	**177**	P	**P**	**15 29 11.2**	**-0.2**
FORT				IAmb	IAmb	15 29 28.6	
	comp=Z,6.7nm,0.9s						
KSRS	**Korea Array**	**34.98**	**2**	P	**P**	**15 29 29.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=182,slow=9.5,SNR=9.5						
MJAR	**Musashiro Arr**	**35.80**	**17**	P	P	15 29 34.5	-1.2
	comp=Z,2.4nm,0.8s,baz=194,slow=9.5,SNR=3.5						
BBOO	**Buckleboo**	**36.19**	**166**	P	**P**	**15 29 38.2**	**-0.8**
STKA	**Stephens Creek**	**37.04**	**158**	P	**P**	**15 29 46.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=334,slow=9.0,SNR=6.4						
JSD	**Sado**	**37.21**	**16**	P	**P**	**15 29 48.0**	**+0.3**
JMM	**Marumori**	**37.81**	**19**	P	**P**	**15 29 53.5**	**+0.8**
USA0B	**Ussuriysk Arra**	**42.00**	**6**	P	**P**	**15 30 27.9**	**+0.5**
USA0B				IAmb	IAmb	15 30 28.7	
	comp=Z,17nm,1.4s						
USRK	**Ussuriysk Ar.**	**42.00**	**6**	P	**P**	**15 30 27.5**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=196,slow=8.6,SNR=6.1						
ASAJ	**Asahikawa**	**44.07**	**17**	P	**P**	**15 30 45.0**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=214,slow=15,SNR=2.0						
JKA	**Kamikawa-asahi**	**44.07**	**17**	P	**P**	**15 30 45.0**	**+0.9**
KLR	**Kul'dur**	**46.96**	**5**	P	**P**	**15 31 06.3**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=160,slow=5.9,SNR=8.2						
ULN	**Ulaanbaatar**	**48.27**	**343**	P	**P**	**15 31 16.4**	**-1.0**
SONM	**Songino Array**	**48.44**	**342**	P	P	15 31 17.1	-1.5
	comp=Z,0.7nm,0.5s,baz=154,slow=8.0,SNR=6.6						
SONM	**Songino Array**	**48.44**	**342**	P	**P**	**15 31 17.5**	**-1.1**
PEA0B	**Petropavlovsk-**	**56.91**	**22**	P	**P**	**15 32 22.0**	**+1.0**
PETK	**Petropavlovsk-**	**56.91**	**22**	P	**P**	**15 32 21.6**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=189,slow=6.3,SNR=5.5						
PETK	**Petropavlovsk-**	**56.91**	**22**	P	**P**	**15 32 21.9**	**+0.9**
MK31	**Makanchi Array**	**58.39**	**326**	P	**P**	**15 32 29.8**	**-1.7**
MKAR	**Makanchi Array**	**58.39**	**326**	P	**P**	**15 32 29.9**	**-1.7**
	comp=Z,1.3nm,0.4s,baz=122,slow=8.4,SNR=7.7						
MKAR				PcP	**PcP**	**15 33 20.6**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=130,slow=4.9,SNR=6.9						
MKAR	**Makanchi Array**	**58.39**	**326**	P	P	15 32 29.5	-2.0
MAKZ	**Makanchi**	**58.58**	**326**	P	P	15 32 31.1	-1.8
MAKZ				IAmb	IAmb	15 32 31.3	
	comp=Z,1.6nm,0.5s						
KDJ	**Kajisay**	**59.03**	**319**	P	**P**	**15 32 34.9**	**-1.4**
YAK	**Yakutsk**	**59.60**	**2**	P	**P**	**15 32 39.4**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=166,slow=1.1,SNR=4.1						
YAK	**Yakutsk**	**59.60**	**2**	IAmb	IAmb	15 32 40.1	
	comp=Z,6.2nm,0.6s						
MA2	**Magadan**	**60.17**	**14**	P	**P**	**15 32 44.2**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=201,slow=7.9,SNR=13						
MA2				PcP	**PcP**	**15 33 29.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=178,slow=1.7,SNR=4.1						
MA2	**Magadan**	**60.17**	**14**	P	**P**	**15 32 43.8**	**+0.2**
MA2				IAmb	IAmb	15 32 45.4	
	comp=Z,3.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.58**	**334**	P	P	15 32 51.3	-1.9
	comp=Z,0.3nm,0.3s,baz=101,slow=2.9,SNR=2.4						
GAR	**Garm**	**62.47**	**313**	P	P	15 32 57.2	-2.4
GAR				IAmb	IAmb	15 33 01.6	
	comp=Z,3.6nm,0.9s						
KURK	**Kurchatov**	**62.62**	**328**	P	P	15 32 58.1	-2.2
SEY	**Seymchan**	**63.50**	**13**	P	**P**	**15 33 06.8**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=223,slow=5.9,SNR=5.5						
KKAR	**Karatay Array**	**63.88**	**318**	P	**P**	**15 33 07.7**	**-1.2**
BRVK	**Borovoye**	**68.26**	**327**	P	**P**	15 33 34.8	-1.9
TIXI	**Tiksi**	**69.23**	**1**	P	**P**	**15 33 41.4**	**-0.9**
TIXI				IAmb	IAmb	15 33 42.2	
	comp=Z,3.4nm,1.1s						
BILL	**Bilibino**	**71.02**	**15**	P	**P**	**15 33 52.3**	**-1.1**
BILL				IAmb	IAmb	15 34 05.7	
	comp=Z,4.6nm,1.5s						
ABKAR	**Akbulak array**	**72.88**	**321**	P	P	15 34 02.8	-2.1
ARU	**Arti**	**75.82**	**328**	P	P	15 34 20.1	-1.7
ARU				IAmb	IAmb	15 34 31.0	
	comp=Z,3.9nm,1.1s						
SII	**Sitkinak Islan**	**82.33**	**33**	P	P	15 34 55.2	-2.3
TTA	**Tatalina**	**82.37**	**27**	P	**P**	**15 34 58.7**	**+1.1**
TTA				IAmb	IAmb	15 35 02.6	
	comp=Z,6.6nm,1.4s						
M19K	**Big River Lodg**	**82.96**	**28**	P	**P**	**15 35 02.3**	**+1.7**
M19K				IAmb	IAmb	15 35 04.6	
	comp=Z,6.7nm,1.3s						
KDAK	**Kodiak Island**	**83.34**	**32**	P	**P**	**15 35 03.8**	**+1.1**
J20K	**Nowinta River**	**83.39**	**26**	P	**P**	**15 35 04.4**	**+1.6**
J20K				IAmb	IAmb	15 35 05.3	
	comp=Z,3.5nm,1.1s						
M20K	**Styx River**	**83.54**	**28**	P	**P**	**15 35 05.4**	**+1.7**
IMAR	**Indian Mountai**	**83.82**	**24**	P	**P**	**15 35 06.0**	**+1.0**
H21K	**Melozitna Rive**	**84.16**	**24**	P	**P**	**15 35 07.9**	**+1.2**
H21K				IAmb	IAmb	15 35 31.9	
	comp=Z,4.4nm,1.4s						
CAST	**Castle Rocks**	**84.21**	**27**	P	**P**	**15 35 08.4**	**+1.4**
CAST				IAmb	IAmb	15 35 33.4	
	comp=Z,5.8nm,1.4s						
BRLK	**Bradley Lake**	**84.42**	**30**	P	**P**	**15 35 08.2**	**0.0**
I21K	**Tanana**	**84.45**	**25**	P	**P**	**15 35 09.4**	**+1.3**
I21K				IAmb	IAmb	15 35 10.5	
	comp=Z,4.0nm,1.3s						
BPAW	**Bear Paw Mtn.**	**84.76**	**26**	P	**P**	**15 35 11.0**	**+1.2**
BPAW				IAmb	IAmb	15 35 16.0	
	comp=Z,5.4nm,1.4s						
MLY	**Manley**	**84.95**	**25**	P	**P**	**15 35 11.7**	**+0.8**
MLY				IAmb	IAmb	15 35 31.1	
	comp=Z,3.7nm,1.3s						
I23K	**Minto, Yukon-K**	**85.55**	**25**	P	**P**	**15 35 14.7**	**+1.1**
I23K				IAmb	IAmb	15 35 43.9	
	comp=Z,2.9nm,1.2s						
KNK	**Knik Glacier**	**85.72**	**29**	P	**P**	**15 35 14.9**	**+0.2**
TOLK	**Toolik Lake Re**	**85.73**	**21**	P	**P**	**15 35 16.0**	**+1.4**
TOLK				IAmb	IAmb	15 35 26.1	
	comp=Z,3.6nm,1.3s						
PWL	**Port Wells**	**85.76**	**29**	P	**P**	**15 35 15.7**	**+0.8**
SML	**Sawmill**	**85.81**	**28**	P	**P**	**15 35 16.0**	**+0.9**
KLMR	**Klimovskoe**	**86.34**	**331**	*eP*	P	15 35 12.7	-5.0
KLMR				AMP		15 35 17.3	
	comp=Z,9.0nm,0.6s						
ILAR	**Eielson Array**	**86.58**	**25**	P	**P**	**15 35 17.8**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=235,slow=5.7,SNR=5.1						
BMAR	**Burnt Mountain**	**87.56**	**23**	P	**P**	**15 35 24.3**	**+0.8**
DOT	**Dot Lake**	**87.81**	**27**	P	**P**	**15 35 24.8**	**0.0**
DOT				IAmb	IAmb	15 35 49.3	
	comp=Z,4.7nm,1.4s						
L27K	**Beaver Creek,**	**88.83**	**27**	P	**P**	**15 35 30.6**	**+0.9**
BCAR	**Beaver Creek A**	**88.85**	**27**	P	**P**	**15 35 30.8**	**+1.0**
ARCES	**ARCESS Array B**	**91.56**	**340**	P	P	15 35 40.4	-1.9
	comp=Z,2.9nm,0.8s,baz=96,slow=8.3,SNR=2.1						
AKASG	**Malin Array Be**	**92.62**	**321**	P	P	15 35 45.1	-2.3
	comp=Z,1.1nm,0.5s,baz=65,slow=5.0,SNR=5.3						
FINES	**FINESS Array B**	**92.79**	**332**	P	P	15 35 46.0	-2.1
	comp=Z,1.9nm,0.9s,baz=79,slow=4.1,SNR=5.1						
YKA	**Yellowknife Ar**	**100.98**	**24**	P	**Pdif**	**15 36 25.1**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=296,slow=4.7,SNR=2.8						

*IDC **29** 15:34:46.6±2.5,27.02°N×54.82°E, h0km, mb3.5/6, mb1 3.5/6, mb1mx3.3/48, mbtmp3.5/6, MS2.7/2, Ms1 2.8/2, ms1mx2.3/64, Error ellipse: s-maj=60.1km s-min=26.1km az=162.0*
*DSN **29** 15:34:48.0±1.5,27.06°N×54.91E, h10km, ML3.5/9, Error ellipse: s-maj=19.5km s-min=5.9km az=13.0*
*TEH **29** 15:34:48.2,26.90°N×54.91E, h9km, ML3.7*
*OMAN **29** 15:34:50.0±0.2,27.08°N×54.80E, h30km±10km, mb3.6/5, ml3.5/17, Error ellipse: s-maj=13.5km s-min=1.9km az=335.0*

ISC 29 15:34:49.0±1.3,27.01°N±0.04°×54.88°E±0.04, h16km±9km, n68, σ1°62/90, mb3.7/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.80**	**326**	*e*		15 35 31.3	
LAR1	comp=Z,38μm,0.4s						
GENO	**Geno**	**1.21**	**71**	*ePg*	**Pn**	**15 35 05.7**	**+0.1**
SHME	**Shamm**	**1.48**	**130**	*ePg*	**Pn**	**15 35 11.9**	**+0.4**
SHME	**Shamm**	**1.48**	**130**	*ePn*	**Pn**	**15 35 15.1**	**+0.1**
SHME	**Shamm**	**1.48**	**130**	P	**Pn**	**15 35 15.2**	**+0.3**
	SNR=16						
SHME				S	**Sb**	**15 35 35.6**	**+0.9**
SHME	**Shamm**	**1.48**	**130**	*eP*	**Pn**	**15 35 14.5**	**-0.4**
	SNR=36						
SHME				S	**Sb**	**15 35 35.3**	**+0.6**
IBND	**Bandar-abas**	**1.54**	**73**	*ePn*	**Pg**	**15 35 17.1**	**-1.5**
IBND				*e*		15 36 02.7	
	comp=Z,10μm,0.5s						
LMD1	**Lamerd**	**1.56**	**283**	*ePg*	**Pg**	**15 35 18.8**	**-0.3**
LMD1				*e*		15 35 46.6	
	comp=Z,14μm,0.4s						
UMQ	**Umm Al-Quwin**	**1.64**	**154**	*ePn*	**Pb**	**15 35 19.2**	**+0.4**
UMQ	**Umm Al-Quwin**	**1.64**	**154**	P	**Pb**	**15 35 18.5**	**-0.3**
UMQ				S	**Sg**	**15 35 42.8**	**+1.0**
UMQ	**Umm Al-Quwin**	**1.64**	**154**	P	**Pn**	**15 35 17.8**	**+0.7**
BANOM	**Banah**	**1.67**	**130**	*ePn*	**Pn**	**15 35

comp=Z,0.6nm,0.6s,baz=244,slow=9.5,SNR=4.3
FINES FINESS Array B 39.48 339 P **P 15 42 17.4 -1.0**
comp=Z,1.8nm,0.9s,baz=139,slow=8.7,SNR=5.9
FETA Feichten 39.88 312 *i* P **P 15 42 22.1 0.0**
comp=Z,1.4nm,0.5s
DAVA Damuels 40.50 312 *i* P **P 15 42 27.1 -0.2**
comp=Z,5.5nm,0.5s
NOA NORSAR Array B 44.87 332 LR LR 16 04 51.3
comp=Z,17nm,18.2s,baz=15,slow=40
SONM Songino Array 44.94 48 P **P 15 43 04.4 +1.1**
comp=Z,0.3nm,0.7s,baz=242,slow=6.2,SNR=1.9
TORD Torodi Ar. Bea 51.47 265 P **P 15 43 53.5 -0.6**
comp=Z,0.7nm,0.8s,baz=57,slow=7.5,SNR=5.5

*IDC **29** 15:36:32.1±1.3,3.18S×146.08E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.8/41,mbtmp3.9/11,ML3.0/2,MS3.3/13, Ms1 3.3/13,ms1mx3.0/62,Error ellipse: s-maj=42.2km s-min=17.9km az=92.0*
*NEIC **29** 15:36:33.7±1.0,3.21S±0.10×146.2E±0.2,h10km±1km, mb4.0/11,Error ellipse: s-maj=28.8km s-min=12.1km az=115.0*
ISC 29 15:36:33.7±0.7,3.23S±0.07×146.2E±0.1,h10km,n38, σ0s93/28,mb3.8/9,MS3.3/9,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.68**	**45**	Pn		**Pn**		**15 37 02.6**	**-0.6**
JAY	**Jayapura**	**5.50**	**277**	LR		LR		15 39 57.9	
	comp=Z,174nm,20.2s,baz=29,slow=38								
PMG	**Port Moresby**	**6.21**	**171**	Pn		**Pn**		**15 38 04.9**	**-0.6**
	2.9nm,0.3s,baz=324,slow=4.7,SNR=18								
PMG				LR		LR		15 40 35.5	
	comp=Z,245nm,18.8s,baz=343,slow=39								
COEN	**Coen**	**11.06**	**195**	Pn		**Pn**		**15 39 12.7**	**+0.5**
SIJI	**Sorong**	**15.07**	**279**	LR		LR		15 45 20.1	
	comp=Z,80nm,18.1s,baz=217,slow=35								
CTA	**Charters Tower**	**16.76**	**180**	Pn		**Pn**		**15 40 29.9**	**+1.2**
	0.3nm,0.3s,baz=354,slow=14,SNR=2.9								
CTA				LR		LR		15 46 36.3	
	comp=Z,85nm,21.1s,baz=91,slow=36								
MTN	**Manton Dam**	**17.67**	**236**			**Pn**		**15 40 40.2**	**0.0**
MTN				IAmb		IAmb		15 40 42.5	
	comp=Z,8.3nm,1.0s								
WB0	**Warramunga Arr**	**20.06**	**214**	P		**P**		**15 41 06.9**	**-0.4**
WB0				IAmb		IAmb		15 41 08.9	
	comp=Z,11nm,0.9s								
WR0	**Warramunga Arr**	**20.13**	**213**	P		**P**		**15 41 07.7**	**-0.4**
WR0				IAmb		IAmb		15 41 10.9	
	comp=Z,16nm,1.2s								
WB2	**Warramunga Arr**	**20.22**	**214**	P		**P**		**15 41 08.9**	**-0.2**
WB2				IAmb		IAmb		15 41 10.8	
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**20.23**	**214**	P		**P**		**15 41 08.9**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=38,slow=12,SNR=44								
WRA				LR		LR		15 49 50.7	
	comp=Z,105nm,18.3s,baz=118,slow=40								
WRA	**Warramunga Arr**	**20.23**	**214**	P		**P**		**15 41 08.3**	**-0.9**
KNRA	**Kununurra**	**21.13**	**233**			**P**		**15 41 17.5**	**-1.5**
AS31	**Alice Springs**	**23.52**	**209**	P		**P**		**15 41 43.6**	**-0.6**
ASAR	**Alice Springs**	**23.52**	**209**	P		**P**		**15 41 43.8**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=44,slow=7.6,SNR=88								
ASAR	**Alice Springs**	**23.52**	**209**	P		**P**		**15 41 43.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**24.96**	**232**	P		**P**		**15 41 56.7**	**-0.8**
	comp=Z,5.0nm,0.7s,baz=42,slow=7.7,SNR=13								
FITZ				LR		LR		15 51 58.7	
	comp=Z,88nm,18.5s,baz=62,slow=37								
FITZ	**Fitzroy Crossi**	**24.96**	**232**	P		**P**		**15 41 57.4**	**-0.2**
DZM	**Mont Dzumac**	**27.17**	**135**	LR		LR		15 51 11.2	
	comp=Z,118nm,18.4s,baz=276,slow=32								
STKA	**Stephens Creek**	**28.82**	**188**	P		**P**		**15 42 33.4**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=357,slow=11,SNR=3.6								
STKA				LR		LR		15 54 21.6	
	comp=Z,64nm,18.2s,baz=210,slow=37								
STKA	**Stephens Creek**	**28.82**	**188**	IAmb		IAmb		15 42 40.2	
	comp=Z,1.6nm,1.3s								
FORT	**Forrest**	**32.30**	**210**	P		**P**		**15 43 02.1**	**-0.9**
JOW	**Kunigami**	**34.53**	**331**	LR		LR		15 58 00.1	
	comp=Z,40nm,18.8s,baz=143,slow=37								
KSRS	**Korea Array**	**43.89**	**339**	LR		LR		15 59 53.4	
	comp=Z,20nm,21.6s,baz=145,slow=32								
CMAR	**Chiang Mai Arr**	**51.24**	**297**	P		**P**		**15 45 37.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=123,slow=6.6,SNR=1.8								
PZH	**PanZhiHua**	**52.11**	**307**	P		**P**		**15 45 46.8**	**+2.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.6s								
HHC	**Hu-ho-hao-te**	**54.06**	**328**	*e*P		**P**		**15 46 00.5**	**+1.8**
HHC				pmax		pmax			
	comp=Z,13nm,1.1s								
HHC				pmax		pmax			
	comp=Z,150nm,5.2s								
SONM	**Songino Array**	**61.60**	**331**	P		**P**		**15 46 50.3**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=3.8								
SONM	**Songino Array**	**61.60**	**331**	P		**P**		**15 46 51.1**	**-0.5**
SONM				IAmb		IAmb		15 47 14.1	
	comp=Z,1.2nm,1.4s								
WMQ	**Urumqi**	**70.17**	**319**	*e*P		**P**		**15 47 46.0**	**-0.8**
WMQ				pP		pwP		15 47 54.5	+2.4
WMQ				pmax		pmax			
	comp=Z,11nm,0.7s								
MKAR	**Makanchi Array**	**74.85**	**320**	P		**P**		**15 48 13.9**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=115,slow=5.1,SNR=5.5								
ZALV	**Zalesovo Beam**	**76.24**	**328**	LR		LR		16 20 45.9	
	comp=Z,20nm,21.5s,baz=92,slow=35								
KURK	**Kurchatov**	**78.51**	**323**	P		**P**		**15 48 35.2**	**0.0**
KURK	**Kurchatov**	**78.51**	**323**	IAmb		IAmb		15 48 51.1	
	comp=Z,2.8nm,1.2s								
KURBB	**Kurchatov Arra**	**78.53**	**323**	P		**P**		**15 48 35.2**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=141,slow=4.7,SNR=2.0								
AAK	**Ala-Archa**	**78.82**	**314**	LR		LR		16 23 03.5	
	comp=Z,16nm,21.3s,baz=126,slow=36								
ILAR	**Eielson Array**	**83.28**	**23**	P		**P**		**15 49 00.4**	**0.0**
	comp=Z,0.4nm,1.0s,baz=253,slow=5.6,SNR=2.4								
ARU	**Arti**	**91.34**	**326**	LR		LR		16 32 29.8	
	comp=Z,23nm,18.2s,baz=210,slow=37								

*TUL **29** 15:47:40.1±1.0,36.92N±0.01×97.36W±0.02,h7km±5km, ML2.6,mb_Lg2.4/9(NEIC),Error ellipse: s-maj=2.3km s-min=1.9km az=88.0*
NEIC 29 15:47:40.1±0.5,36.90N±0.01×97.36W±0.02,h6km±6km, Error ellipse: s-maj=1.9km s-min=1.8km az=51.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.68**	**88**				Pg	15 47 53.0	-0.1
T35A					Sg		Sg	15 48 02.1	+0.1
U32A	**Winter Ranch,**	**1.42**	**249**		Pn		Pn	15 48 06.5	0.0
TUL1	**Leonard**	**1.60**	**128**		Pn		Pb	15 48 10.3	+0.2
TUL1					IAmb_Lg			15 48 33.4	
	comp=Z,12nm,0.8s								
FNO	**Franklin**	**1.64**	**181**		Pn		Pb	15 48 10.2	-0.5
R32A	**Long Quarter,**	**1.86**	**325**		Pn		Pn	15 48 13.5	+0.9
S39A	**Bolivar**	**3.31**	**75**		Pn		Pn	15 48 33.2	+0.7
W39A	**Magazine**	**3.36**	**119**		IAmb_Lg			15 49 32.3	
	comp=Z,21nm,1.2s								
N33A	**J Bar K, Exete**	**3.83**	**359**		IAmb_Lg			15 49 38.4	
	comp=Z,26nm,0.7s								
MIAR	**Mount Ida**	**3.87**	**126**		IAmb_Lg			15 49 44.1	
	comp=Z,4.9nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.34**	**102**		IAmb_Lg			15 49 57.0	
	comp=Z,7.1nm,1.1s								

IDC 29 16:04:32.6±3.2,23.32N×11.50W,h0km,mb3.5/1, mb1 3.6/2,mb1mx3.2/27,mbtmp3.6/2,ML3.3/1,Error ellipse: s-maj=107.0km s-min=62.6km az=71.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.09**	**127**	Pn		Pn		16 08 21.9	+1.5
	0.1nm,0.3s,baz=311,slow=13,SNR=5.7								
I48TN	**KESRA INFRASON**	**21.93**	**51**	*i*				18 10 50.0	
	baz=241,slow=311,SNR=3.3								
MKAR	**Makanchi Array**	**75.87**	**45**	P		P		16 16 22.2	+1.2
	0.1nm,0.6s,baz=270,slow=4.3,SNR=4.5								
WRA	**Warramunga Arr**	**148.11**	**91**	PKPbc		PKPdf		16 24 18.7	+0.8
	0.3nm,0.6s,baz=289,slow=2.6,SNR=2.1								
ASAR	**Alice Springs**	**148.32**	**98**	PKPbc		PKPbc		16 24 20.5	-1.0
	0.2nm,0.7s,baz=346,slow=1.9,SNR=2.5								

*MAN **29** 16:26:12.0,16.29N×119.73E,h16km,mb4.5,ML3.3, MS3.1*
*IDC **29** 16:26:17.5±2.5,16.10N×119.96E,h94km±25km,mb3.2/7, mb1 3.3/7,mb1mx3.0/65,mbtmp3.5/7,MS2.7/1,Ms1 2.7/1, ms1mx2.2/28,Error ellipse: s-maj=32.3km s-min=16.1km az=71.0*
ISC 29 16:26:08.5±1.6,16.00N±0.04×119.51E±0.06,h16km±10km, n21,σ1s80/26,mb3.5/6,3C-9D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**1.13**	**82**	↓*e*P		**Pb**		**16 26 28.6**	**-1.1**
PCPH	**Palayan**	**1.58**	**106**	↓*e*P		**Pb**		**16 26 37.2**	**-0.2**
PCPH				*e*S		**Sb**		**16 26 57.6**	**+0.4**
QVP	**Quezon City--P**	**1.99**	**133**	↓*e*P		**Pg**		**16 26 47.3**	**+0.7**
BALP	**Baler**	**2.00**	**97**	↓*e*P		**Pb**		**16 26 43.9**	**-0.7**
SIPP	**Brgy, Tapao**	**2.11**	**25**	↓*e*P		**Pn**		**16 26 42.3**	**-0.9**
SIPP				*e*S		**Sg**		**16 27 16.0**	**-0.5**
TGY	**Tagaytay City**	**2.33**	**144**	P		**Pg**		**16 26 52.9**	**-0.4**
	134nm,0.3s,baz=263,slow=7.8,SNR=8.7								
TGY				S		**Sg**		**16 27 26.5**	**+2.9**
	90nm,0.3s,baz=17,slow=20,SNR=1.7								
LUBP	**Lubang**	**2.36**	**162**	↓*i*P		**Pg**		**16 26 54.2**	**+0.3**
LQP	**Lukban**	**2.71**	**134**	↓*e*P		**Pb**		**16 26 56.7**	**-0.1**
LQP				*i* S		**Sn**		**16 27 25.4**	**+1.1**
CVP	**Callao Caves**	**2.78**	**52**	↓*e*P		**Pn**		**16 26 52.1**	**-0.4**
PGP	**Puerto Galera**	**2.85**	**151**	↓*e*P		**Pn**		**16 26 59.5**	**+0.5**
PGP				*i* S		**Sg**		**16 27 38.4**	**-1.6**
SGCP	**Gonzaga**	**3.29**	**47**	↓*e*P		**Pb**		**16 26 59.2**	**-0.2**
SJMP	**San Jose**	**3.85**	**156**	↓*e*P		**Pb**		**16 27 14.5**	**-1.5**
BUSP	**Coron**	**4.03**	**170**	↓*e*P		**Pb**		**16 27 15.1**	**-4.1**
CMAR	**Chiang Mai Arr**	**19.80**	**280**	P		**Pn**		**16 30 45.2**	**+5.2**
	0.4nm,0.8s,baz=88,slow=9.3,SNR=4.9								
KSRS	**Korea Array**	**22.63**	**18**	LR		LR		16 39 43.6	
	comp=Z,16nm,18.0s,baz=165,slow=36								
SONM	**Songino Array**	**33.54**	**344**	P		**P**		**16 32 47.9**	**+0.3**
	0.4nm,0.6s,baz=161,slow=9.7,SNR=4.4								
KLR	**Kul'dur**	**34.61**	**14**	P		**P**		**16 32 55.5**	**-1.3**
	0.5nm,0.4s,baz=191,slow=5.2,SNR=2.7								
WRA	**Warramunga Arr**	**38.58**	**157**	P		**P**		**16 33 29.5**	**-1.4**
	0.3nm,0.6s,baz=339,slow=9.5,SNR=3.6								
ASAR	**Alice Springs**	**41.86**	**160**	P		**P**		**16 33 58.0**	**-0.1**
	0.4nm,0.5s,baz=340,slow=6.7,SNR=19								
ASAR				PcP		**PcP**		**16 35 53.5**	**-0.5**
	0.3nm,1.0s,baz=346,slow=3.3,SNR=1.7								
MKAR	**Makanchi Array**	**43.51**	**323**	P		**P**		**16 34 12.8**	**+1.4**
	0.4nm,0.8s,baz=137,slow=6.3,SNR=3.8								
MA2	**Magadan**	**49.14**	**20**	P		**P**		**16 34 53.8**	**-1.5**
	0.5nm,0.3s,baz=211,slow=10,SNR=7.2								

IDC 29 16:32:48.4±347.0,57.30N×30.49E,h0km,Error ellipse: s-maj=83.4km s-min=56.9km az=146.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.73**	**96**	*i*				17 00 40.0	
	baz=278,slow=326,SNR=1.0								
I37NO	**I37NO**	**12.94**	**341**	*i*				17 45 40.0	
	baz=150,slow=317,SNR=0.9								
I31KZ	**AKTYUBINSK INF**	**17.57**	**101**	*i*				18 26 50.0	
	baz=302,slow=333,SNR=1.3								
I18DK	**QAANAAQ INFRAS**	**36.92**	**339**	*i*				20 14 30.0	
	baz=61,slow=344,SNR=1.0								

*INET **29** 16:43:01.4±4.9,10.59N×88.16W,h7km,MW4.1*
*UCR **29** 16:43:18.7±1.7,10.66N×86.67W,h17km±6km,MW4.1*
ISC 29 16:43:13.6±2.6,10.68N±0.07×86.9W±0.1,h9km±13km,n28, σ1s65/28,2C-2D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.26**	**88**	↑*i*P			**Pg**	**16 43 37.9**	**0.0**
HZTE				*e*S			**Sg**	**16 43 53.8**	**-0.4**
SAJU	**San Juanillo,**	**1.30**	**118**	↓*e*P			**Pg**	**16 43 38.6**	**0.0**
SAJU				*e*S			**Sg**	**16 43 53.4**	**-2.1**
GB3	**Finca Las Img**	**1.40**	**86**	*e*P			Pn	16 43 39.6	+0.2
GUAI	**GUAI**	**1.40**	**107**	*e*P			**Pn**	**16 43 40.2**	**+0.8**
LAPC	**Finca la Perla**	**1.42**	**86**	*e*P			Pn	16 43 39.8	+0.1
BUEV	**Buena Vista**	**1.45**	**85**	*e*P			**Pn**	**16 43 40.8**	**+0.7**
BUEV				*e*S			**Sg**	**16 43 56.9**	**-3.4**
GB1A	**Borinquen Arri**	**1.46**	**85**	↓*i*P			**Pn**	**16 43 40.8**	**+0.6**
CONN	**Concepcion**	**1.51**	**54**	*e*P			Pn	16 43 40.2	-0.6
COPN	**Copaltepe**	**1.52**	**11**	*e*P			**Pn**	**16 43 40.4**	**-0.5**
BUAI	**Buenos Aires**	**1.53**	**83**	*e*P			**Pn**	**16 43 42.1**	**+1.0**
TISN	**Laguna Tiscapa**	**1.57**	**22**	*e*P			**Pn**	**16 43 41.7**	**0.0**
LIM1	**Limonal**	**1.60**	**89**	*e*P			**Pn**	**16 43 42.7**	**+0.7**
APYN	**Apoyeque**	**1.63**	**18**	*e*P			**Pn**	**16 43 41.6**	**-0.9**
COLC	**Colonia**	**1.64**	**90**	*e*P			**Pn**	**16 43 43.4**	**+0.7**
COLC				*e*S			**Sn**	**16 44 02.7**	**-1.2**
HORNC	**Hornillas**	**1.67**	**89**	*e*P			**Pn**	**16 43 43.6**	**+0.5**
CUI	**Cuipilapa**	**1.68**	**91**	*e*P			**Pn**	**16 43 44.0**	**+0.7**
VMAR	**Armenia, Volca**	**1.73**	**86**	↑*i*P			**Pn**	**16 43 45.0**	**+1.1**
HUEN		**1.78**	**23**	*e*P			**Pn**	**16 43 44.5**	**-0.1**
ACAL	**Aguas Claras**	**1.81**	**91**	*e*P			**Pn**	**16 43 46.4**	**+1.3**
ACAL				*e*S			**Sn**	**16 44 07.2**	**-0.9**
CNGN	**Cerro Negro**	**1.81**	**5**	*e*P			Pn	16 43 39.6	-5.5
PTEN	**Parque Tenorio**	**1.86**	**89**	*e*P			**Pn**	**16 43 47.6**	**+1.9**
CRIN	**San Cristobal**	**2.01**	**355**	*e*P			Pn	16 43 37.4	-10
ACON	**Acoyapa**	**2.10**	**52**	*e*P			**Pn**	**16 43 49.2**	**+0.3**
ACON	**Acoyapa**	**2.10**	**52**	*e*P			**Pn**	**16 43 49.3**	**+0.3**
BOAB	**BOACO BROADBAN**	**2.12**	**34**	*e*P			**Pn**	**16 43 48.6**	**-0.7**
BOAB				*e*S			**Sg**	**16 44 26.6**	**+4.8**
LAFE	**Finca La Fe, P**	**2.12**	**114**	*e*P			Pn	16 43 49.8	+0.6
MATN	**Matagalpa**	**2.42**	**23**	*e*P			**Pn**	**16 43 52.9**	**-0.5**
RIMA	**Rio Macho**	**3.10**	**107**	*e*P			**Pn**	**16 44 06.3**	**+3.3**

*IDC **29** 16:50:01.0±5.4,9.17N×124.09E,h533km±73km,mb2.7/7, mb1 3.0/8,mb1mx2.6/54,mbtmp3.8/8,Error ellipse: s-maj=57.7km s-min=12.3km az=63.0*
ISC 29 16:50:02.1±1.2,9.2N±0.2×124.1E±0.4,h551km,n8, σ0s59/9,mb3.4/7,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**19.24**	**181**	P		**P**		**16 53 50.9**	**-0.5**
	2.4nm,0.3s,baz=327,slow=3.1,SNR=6.2								
CMAR	**Chiang Mai Arr**	**26.07**	**293**	P		**P**		**16 54 52.5**	**+0.2**
	0.2nm,0.4s,baz=84,slow=7.4,SNR=4.5								
FITZ	**Fitzroy Crossi**	**27.13**	**177**	P		**P**		**16 55 01.3**	**-0.3**
	0.3nm,0.3s,baz=348,slow=5.7,SNR=17								
WRA	**Warramunga Arr**	**30.63**	**161**	P		**P**		**16 55 31.7**	**-0.3**
	0.7nm,0.6s,baz=331,slow=11,SNR=12								
ASAR	**Alice Springs**	**34.01**	**164**	P		**P**		**16 56 01.2**	**+0.6**
	0.7nm,0.3s,baz=338,slow=7.1,SNR=66								
ASAR				PcP		**PcP**		**16 58 23.1**	**+0.5**
	0.7nm,1.1s,baz=349,slow=3.2,SNR=2.4								
SONM	**Songino Array**	**41.35**	**342**	P		**P**		**16 57 00.5**	**+0.2**
	0.5nm,0.6s,baz=141,slow=7.4,SNR=2.9								
MKAR	**Makanchi Array**	**51.63**	**324**	P		**P**		**16 58 18.2**	**+0.3**
	1.0nm,0.5s,baz=120,slow=8.1,SNR=20								
ZALV	**Zalesovo Beam**	**54.59**	**333**	P		**P**		**16 58 37.7**	**-1.0**
	0.4nm,0.3s,baz=122,slow=5.4,SNR=2.9								

*IDC **29** 16:53:03.5±0.9,55.98S×27.29W,h0km,mb4.0/5, mb1 4.2/6,mb1mx3.8/32,mbtmp4.1/6,ML3.6/1,MS3.6/17, Ms1 3.5/17,ms1mx3.4/40,Error ellipse: s-maj=42.1km s-min=21.2km az=69.0*
*NEIC **29** 16:53:09.0±1.1,56.1S±0.1×27.7W±0.2,h30km±6km, mb4.5/11,Error ellipse: s-maj=22.7km s-min=17.6km az=215.0*
ISC 29 16:53:09.1±0.8,56.1S±0.1×27.7W±0.1,h35km,n43, σ0s73/21,mb4.4/8,MS3.6/15,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.37**	**286**	Pn		**Pn**		**16 54 25.4**	**-1.2**
VNA1	**Neumayer--Stat**	**16.85**	**158**	P		**P**		**16 57 02.9**	**-0.7**
VNA3	**Neumayer Olymp**	**17.04**	**160**	P		**Pn**		**16 57 04.3**	**+0.2**
SNAA	**Sanae**	**18.81**	**156**	P		**P**		**16 57 24.5**	**-0.7**
	0.2nm,0.3s,baz=333,slow=18,SNR=2.1								
SNAA				LR		LR		17 02 56.5	
	comp=Z,270nm,19.0s,baz=2.0,slow=32								
SNAA	**Sanae**	**18.81**	**156**	IAmb		IAmb		16 57 27.5	
	comp=Z,21nm,1.3s								
PMSA	**Palmer Station**	**19.66**	**229**	LR		LR		17 03 26.2	
	comp=Z,159nm,20.6s,baz=323,slow=31								
SMAI	**San Martin Ant**	**21.55**	**220**	P		**P**		**16 57 54.7**	**-0.2**
BELA	**Belgrano 2**	**22.01**	**184**	P		**P**		**16 57 59.6**	**-0.1**
MG02	**Cerro Sombrero**	**24.12**	**260**	P		**P**		**16 58 22.4**	**+1.2**
PLTB	**Pedras Altas**	**30.33**	**312**	P		**P**		**16 59 17.8**	**+0.6**
PLTB				IAmb		IAmb		16 59 29.9	
	comp=Z,22nm,1.4s								
PLCA	**Paso Flores**	**31.74**	**281**	LR		LR		17 11 13.1	
	comp=Z,85nm,21.3s,baz=168,slow=34								
QSPA	**South Pole Qui**	**34.15**	**180**	P		**P**		**16 59 51.0**	**+0.5**
	comp=Z,5.9nm,1.1s,baz=343,slow=1.3,SNR=11								
QSPA				LR		LR		17 13 27.0	
	comp=Z,106nm,18.0s,baz=338,slow=36								
QSPA	**South Pole Qui**	**34.15**	**180**	IAmb		IAmb		16 59 54.8	
	comp=Z,9.4nm,1.2s								
CPUP	**Villa Florida**	**36.64**	**312**	P		**P**		**17 00 12.2**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=148,slow=6.6,SNR=5.7								
CPUP				LR		LR		17 14 29.6	
	comp=Z,57nm,18.6s,baz=198,slow=35								
CPUP	**Villa Florida**	**36.64**	**312**	IAmb		IAmb		17 00 14.1	
	comp=Z,8.2nm,1.4s								
MAW	**Mawson**	**40.27**	**144**	LR		LR		17 15 51.7	
	comp=Z,145nm,18.0s,baz=129,slow=34								
SUR	**Sutherland**	**40.91**	**75**	LR		LR		17 14 42.1	
	comp=Z,39nm,18.4s,baz=160,slow=32								
BOSA	**Boshof**	**46.24**	**76**	LR		LR		17 14 59.1	
	comp=Z,24nm,21.6s,baz=188,slow=29								
VNDA	**Vanda**	**46.51**	**183**	P		**P**		**17 01 32.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=172,slow=7.1,SNR=3.8								
PB01	**IPOC Station P**	**46.70**	**301**	P		**P**		**17 01 34.7**	**+0.2**
PB01				IAmb		IAmb		17 01 42.2	
	comp=Z,9.1nm,1.2s								
SIV	**San Ignacio**	**47.41**	**314**	LR		LR		17 20 07.5	
	comp=Z,41nm,22.0s,baz=157,slow=34								
H10S2	**ASCENSION HYDR**	**48.13**	**17**	T		T		17 53 38.4	
	baz=189,slow=74,SNR=49								
H10S3	**ASCENSION HYDR**	**48.13**	**17**	T		T		17 53 37.4	
	baz=31,slow=74,SNR=142								
H10N1	**ASCENSION HYDR**	**49.24**	**17**	T		T		17 55 02.1	
	baz=189,slow=75,SNR=72								
H10N3	**ASCENSION HYDR**	**49.24**	**17**	T		T		17 55 02.4	
	baz=189,slow=75,SNR=196								
H10N2	**ASCENSION HYDR**	**49.26**	**17**	T		T		17 55 02.6	
	baz=189,slow=75,SNR=130								
LBTB	**Lobatse**	**49.28**	**74**	LR		LR		17 19 08.0	
	comp=Z,38nm,18.8s,baz=164,slow=32								
LPAZ	**La Paz**	**50.19**	**306**	P		**P**		**17 02 02.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=153,slow=4.3,SNR=5.4								
LPAZ	**La Paz**	**50.19**	**306**	P		**P**		**17 02 02.4**	**+0.4**
LPAZ				IAmb		IAmb		17 02 18.4	
	comp=Z,3.1nm,0.9s								
RCBR	**Riachuelo**	**50.56**	**349**	LR		LR		17 18 01.8	
	comp=Z,39nm,21.5s,baz=311,slow=30								
MDP	**Montagnes des**	**64.35**	**332**	LR		LR		17 29 42.4	
	comp=Z,64nm,20.1s,baz=90,slow=34								
ROSC	**El Rosal**	**71.71**	**310**	LR		LR		17 38 39.6	
	comp=Z,33nm,19.0s,baz=99,slow=38								
MBAR	**Mbarara**	**72.41**	**63**	LR		LR		17 34 00.5	
	comp=Z,36nm,19.1s,baz=170,slow=34								
TOA0	**Torodi Ar. Sit**	**73.23**	**30**	P		**P**		**17 04 37.4**	**+1.1**
TOA0				IAmb		IAmb		17 04 42.6	
	comp=Z,3.1nm,0.7s								
TORD	**Torodi Ar. Bea**	**73.23**	**30**	P		**P**		**17 04 35.3**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=200,slow=6.5,SNR=2.0								
TORD	**Torodi Ar. Bea**	**73.23**	**30**	P		**P**		**17 04 37.0**	**+0.7**
TORD				IAmb		IAmb		17 04 42.6	
	comp=Z,2.3nm,0.8s								
SDV	**Santo Domingo**	**73.85**	**315**	LR		LR		17 36 44.6	
	comp=Z,68nm,22.0s,baz=166,slow=36								
SJG	**San Juan**	**80.72**	**323**	LR		LR		17 42 35.4	
	comp=Z,26nm,20.6s,baz=139,slow=37								
STKA	**Stephens Creek**	**91.90**	**171**	LR		LR		17 46 24.3	
	comp=Z,65nm,18.1s,baz=205,slow=35								
YKA	**Yellowknife Ar**	**136.03**	**318**

ERM	**Erimo**	**0.27**	**155**	PN	**Pn**	**16 55 37.6**	**+0.4**
ERM						16 55 44.6	
ERM	**Erimo**	**0.27**	**155**		**Pn**	**16 55 37.5**	**+0.4**
ERM				Sn	**Sn**	**16 55 44.6**	**+0.3**
JEM	**Erimo**	**0.27**	**155**	⇑P	**Pn**	**16 55 37.5**	**+0.4**
JSHD	**Hidakashinhida**	**0.42**	**291**	⇓P	**Pn**	**16 55 38.0**	**-0.4**
JCH	**Churui**	**0.44**	**37**	⇑P	**Pn**	**16 55 38.3**	**-0.3**
JCH				*e*S	**Sn**	**16 55 46.6**	**-0.3**
JBT2	**Biratori 2**	**0.70**	**318**	⇓P	**Pn**	**16 55 40.8**	**-0.6**
JIAM	**Iburiatsuma**	**0.88**	**295**	⇓P	**Pn**	**16 55 44.1**	**+0.5**
JOB	**Onbets**	**0.89**	**44**	⇑P	**Pn**	**16 55 44.5**	**+0.7**
JOB				*e*S	**Sn**	**16 55 57.6**	**+1.5**
JFR	**Furan**	**0.95**	**342**	⇑P	**Pn**	**16 55 43.3**	**-1.3**
JAR	**Ashorobuto**	**1.18**	**28**	⇑P	**Pn**	**16 55 47.3**	**-0.3**
JAR				*e*S	**Sn**	**16 56 02.1**	**-0.7**
JEW	**Eniwo**	**1.28**	**297**	⇓P	**Pn**	**16 55 48.9**	**-0.1**
JEW				*e*S	**Sn**	**16 56 05.4**	**+0.1**
JEW	**Eniwo**	**1.28**	**297**		**Pn**	**16 55 48.8**	**-0.2**
JAB	**Ashibetsu**	**1.37**	**336**	P	**Pn**	**16 55 50.3**	**+0.2**
AKK	**Akkeshi**	**1.55**	**60**	*e*P	**Pn**	**16 55 52.9**	**+0.3**
AKK				*e*S	**Sn**	**16 56 12.6**	**+0.9**
JKA	**Kamikawa-asahi**	**1.88**	**351**	Pn	**Pn**	**16 55 57.8**	**+0.9**
JKA	**Kamikawa-asahi**	**1.88**	**351**	*e*P	**Pn**	**16 55 57.6**	**+0.7**
ASAJ	**Asahikawa**	**1.88**	**351**	P	**Pn**	**16 55 57.6**	**+0.6**
	44nm,0.3s,baz=203,slow=9.5,SNR=263						
ASAJ				S	**Sn**	**16 56 20.2**	**+0.7**
	22nm,0.3s,baz=218,slow=19,SNR=9.2						
ASAJ				LR	LR	16 56 56.8	
	comp=Z,64nm,20.8s,baz=154,slow=48						
JTM	**Tenmabayashi**	**2.07**	**225**	Pn	**Pn**	**16 55 59.4**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.29**	**60**	⇓*i*PN	**Pn**	**16 56 01.9**	**-0.6**
NMR				*e*S	**Sn**	**16 56 28.7**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.29**	**60**	*i* P	**Pn**	**16 56 02.0**	**-0.6**
NMR				*e*S	**Sn**	**16 56 28.7**	**-0.9**
RUSJ	**Misakicho**	**2.47**	**41**	⇓*i*PN	**Pn**	**16 56 06.4**	**+1.4**
RUSJ				*e*S	**Sn**	**16 56 37.9**	**+4.0**
YUK	**Yuzh-Kuril'sk**	**2.74**	**49**	*e*PN	**Pn**	**16 56 09.8**	**+1.1**
YUK				*e*S	**Sn**	**16 56 41.3**	**+0.7**
YUK				pmax	pmax		
	comp=Z,580nm,0.3s						
YUK				pmax	pmax		
	comp=N,165nm,0.2s						
YUK				pmax	pmax		
	comp=E,126nm,0.1s						
YUK				smax	smax		
	comp=N,763nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.74**	**49**	*e*P	**Pn**	**16 56 09.8**	**+1.1**
YUK				AMB	AMB	16 56 11.1	
	comp=E,430nm,0.3s						
YUK				*e*S	**Sn**	**16 56 41.1**	**+0.5**
YUK				A	A	16 56 46.1	
	comp=E,760nm,0.5s						
YUK				A	A	16 56 46.1	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**3.23**	**59**	*e*PN	**Pn**	**16 56 15.1**	**-0.3**
SHO				*e*S	**Sn**	**16 56 52.1**	**-0.6**
SHO				pmax	pmax		
	comp=N,41nm,0.2s						
SHO				pmax	pmax		
	comp=E,35nm,0.2s						
SHO				pmax	pmax		
	comp=Z,110nm,0.2s						
SHO				smax	smax		
	comp=E,102nm,0.1s						
SHO				smax	smax		
	comp=N,342nm,0.2s						
SHO	**Shikotan**	**3.23**	**59**	*e*P	**Pn**	**16 56 15.5**	**+0.1**
SHO				AMB	AMB	16 56 16.5	
	comp=N,80nm,0.2s						
SHO				*e*S	**Sn**	**16 56 52.0**	**-0.6**
SHO				A	A	16 56 56.2	
	comp=N,280nm,0.2s						
SHO				A	A	16 56 56.2	
	comp=N,210nm,0.2s						
KUR	**Kuril'sk**	**4.61**	**48**	*e*PN	**Pn**	**16 56 33.0**	**-1.2**
KUR				pmax	pmax		
	comp=Z,76nm,0.3s						
KUR				pmax	pmax		
	comp=N,50nm,0.2s						
KUR				pmax	pmax		
	comp=E,35nm,0.2s						
KUR				pmax	pmax		
	comp=N,89nm,0.4s						
KUR				pmax	pmax		
	comp=E,42nm,0.3s						
KUR	**Kuril'sk**	**4.61**	**48**	*e*P	**Pn**	**16 56 34.2**	**0.0**
KUR				AMB	AMB	16 56 36.1	
	comp=E,90nm,0.6s						
KUR				*i* S	**Sn**	**16 57 26.7**	**+0.3**
KUR				A	A	16 57 30.3	
	comp=E,80nm,0.3s						
KUR				A	A	16 57 30.3	
	comp=E,100nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.70**	**358**	*e*PN	**Pn**	**16 56 37.1**	**+1.7**
YSS				*e*S	**Sn**	**16 57 28.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,10.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.70**	**358**	Pn	**Pn**	**16 56 37.2**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.70**	**358**	*e*P	**Pn**	**16 56 37.1**	**+1.7**
YSS				AMB	AMB	16 56 38.6	
	comp=N,10.0nm,0.3s						
YSS				*e*S	**Sn**	**16 57 28.3**	**-0.2**
YSS				A	A	16 57 33.1	
	comp=N,10.0nm,0.7s						
YSS				A	A	16 57 33.1	
	comp=N,30nm,0.7s						
JMM	**Marumori**	**4.71**	**202**		**Pn**	**16 56 34.7**	**-0.9**
JSD	**Sado**	**5.57**	**222**	Pn	**Pn**	**16 56 48.1**	**+0.7**
JYT	**Yasato**	**6.41**	**201**	Pn	**Pn**	**16 56 56.7**	**-2.2**
MJB9	**Matsu-Tunnel**	**6.81**	**215**		**Pn**	**16 57 04.6**	**+0.2**
MAJO	**Matsushiro**	**6.81**	**215**	PN	**Pn**	**16 57 04.8**	**+0.4**
MAJO	**Matsushiro**	**6.81**	**215**	Pn	**Pn**	**16 57 04.8**	**+0.4**
MJAR	**Matsushiro Arr**	**6.81**	**215**	P	**Pn**	**16 57 05.2**	**+0.8**
	comp=N,0.4nm,0.3s,baz=20,slow=12,SNR=15						
MJAR				LR	LR	17 00 05.1	
	comp=N,73nm,20.1s,baz=77,slow=41						
MJAR	**Matsushiro Arr**	**6.81**	**215**		**Pn**	**16 57 04.7**	**+0.3**
JGF	**Kuroka**	**7.97**	**215**		**Pn**	**16 57 20.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.27**	**287**	P	**Pn**	**16 57 25.2**	**+0.8**
	baz=102,slow=14,SNR=5.4						
INU	**Inuyama**	**8.33**	**216**	Pn	**Pn**	**16 57 25.7**	**+0.5**
TYV	**Tymovskoe**	**8.61**	**359**	*e*P	**Pn**	**16 57 31.5**	**+2.6**
TYV				AMB	AMB	16 57 33.3	
	comp=N,10.0nm,0.4s						
KLR	**Kul'dur**	**10.50**	**315**	P	**Pn**	**16 57 57.0**	**+2.3**
	comp=N,0.1nm,0.3s,baz=117,slow=14,SNR=3.6						
JHS	**Saijyo**	**10.59**	**230**	Pn	**Pn**	**16 57 57.0**	**+0.8**
JMN	**Monobe**	**11.14**	**223**	Pn	**Pn**	**16 58 02.1**	**-1.6**
KSRS	**Korea Array**	**12.54**	**252**	P	**Pn**	**16 58 24.9**	**+2.3**
	comp=N,0.5nm,0.3s,baz=63,slow=14,SNR=7.6						
KSRS				LR	LR	17 02 43.1	
	comp=N,20nm,20.0s,baz=30,slow=35						
KSRS	**Korea Array**	**12.54**	**252**	PN	**Pn**	**16 58 25.0**	**+2.3**
JNU	**Nakatsue**	**13.23**	**230**	P	**Pn**	**16 58 31.1**	**-1.1**
	comp=N,0.2nm,0.3s,baz=59,slow=18,SNR=1.3						
JNU	**Nakatsue**	**13.23**	**230**	Pn	**Pn**	**16 58 31.3**	**-0.9**
PETK	**Petropavlovsk-**	**14.65**	**37**	P	**Pn**	**16 58 48.9**	**-2.0**
	comp=N,0.2nm,0.3s,baz=208,slow=6.3,SNR=5.7						
SEY	**Seymchan**	**21.43**	**12**	P	**P**	**17 00 08.0**	**-1.8**
	comp=N,0.5nm,0.4s,baz=185,slow=9.4,SNR=10						
SONM	**Songino Array**	**26.28**	**295**	P	**P**	**17 00 56.1**	**-0.8**
	comp=N,1.3nm,0.7s,baz=70,slow=7.8,SNR=10						
SONM	**Songino Array**	**26.28**	**295**	P	**P**	**17 00 56.0**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	17 33 09.5	
	baz=324,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	17 33 11.3	
	baz=324,slow=75,SNR=82						
H11N3	**WAKE ISLAND Hy**	**30.23**	**131**	T	T	17 33 08.0	
	baz=324,slow=75,SNR=72						
H11S1	**WAKE ISLAND Hy**	**31.08**	**132**	T	T	17 34 15.0	
	baz=325,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	17 34 09.5	
	baz=325,slow=76,SNR=88						
H11S2	**WAKE ISLAND Hy**	**31.10**	**132**	T	T	17 34 13.4	
	baz=325,slow=76,SNR=83						
ZAA0	**Zalesovo Array**	**39.48**	**308**	P	**P**	**17 02 51.3**	**-0.1**
ZALV	**Zalesovo Beam**	**39.48**	**308**	P	**P**	**17 02 50.9**	**-0.4**
	comp=N,1.0nm,0.5s,baz=100,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**39.48**	**308**	P	**P**	**17 02 51.5**	**+0.1**
ZALV	**Zalesovo Beam**	**39.48**	**308**	P	**P**	**17 02 51.5**	**+0.1**
UBPT	**Khong Chiam**	**41.96**	**242**	P	**P**	**17 03 11.8**	**-0.3**
UBPT				lAmb	lAmb	17 03 28.2	
	comp=Z,9.1nm,1.3s						
MK31	**Makanchi Array**	**42.58**	**298**	P	**P**	**17 03 16.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**42.58**	**298**	P	**P**	**17 03 16.6**	**-0.3**
MK31				lAmb	lAmb	17 03 17.4	
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**42.58**	**298**	P	**P**	**17 03 16.5**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=83,slow=9.2,SNR=22						
MKAR	**Makanchi Array**	**42.58**	**298**	P	**P**	**17 03 16.4**	**-0.5**
MAKZ	**Makanchi**	**42.78**	**298**	P	**P**	**17 03 18.3**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**42.78**	**298**	P	**P**	**17 03 18.3**	**-0.2**
MAKZ				lAmb	lAmb	17 03 19.0	
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**43.84**	**304**	P	**P**	**17 03 26.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	**Kurchatov**	**43.84**	**304**	P	**P**	**17 03 26.0**	**-1.0**
KURK				lAmb	lAmb	17 03 27.3	
	comp=Z,3.8nm,0.9s						
KURK	**Kurchatov**	**43.84**	**304**	*e*P	**P**	**17 03 26.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**44.17**	**251**	P	**P**	**17 03 30.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=46,slow=7.7,SNR=6.5						
ILAR	**Eielson Array**	**44.47**	**35**	P	**P**	**17 03 31.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=264,slow=6.2,SNR=5.5						
ILAR	**Eielson Array**	**44.47**	**35**	P	**P**	**17 03 32.0**	**+0.1**
BCAR	**Beaver Creek A**	**46.94**	**37**	P	**P**	**17 03 53.8**	**+2.4**
KDJ	**Kajisay**	**47.62**	**293**	P	**P**	**17 03 56.6**	**-0.6**
KDJ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KDJ	**Kajisay**	**47.62**	**293**	P	**P**	**17 03 56.6**	**-0.6**
KDJ				lAmb	lAmb	17 03 57.8	
	comp=Z,1.6nm,0.9s						
LOGN	**Logan Glacier**	**47.77**	**40**	P	**P**	**17 03 59.4**	**+1.4**
BOOM	**Boomskoye usch**	**48.32**	**294**	P	**P**	**17 04 02.8**	**+0.2**
BOOM				pmax	pmax		
	comp=Z,15nm,1.2s						
BOOM	**Boomskoye usch**	**48.32**	**294**	P	**P**	**17 04 02.8**	**+0.2**
BOOM				lAmb	lAmb	17 04 25.0	
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**51.70**	**297**	P	**P**	**17 04 26.8**	**-1.1**
KKAR	**Karatay Array**	**51.70**	**297**	P	**P**	**17 04 26.8**	**-1.1**
ABKAR	**Akbulak array**	**55.60**	**308**	P	**P**	**17 04 55.9**	**-0.5**
YKA	**Yellowknife Ar**	**58.70**	**32**	P	**P**	**17 05 18.6**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=300,slow=7.0,SNR=1.9						
KNRA	**Kununurra**	**59.12**	**196**	P	**P**	**17 05 21.9**	**+0.5**
KNTN	**Kanton**	**60.69**	**126**	P	**P**	**17 05 33.4**	**+1.1**
WB0	**Warramunga Arr**	**62.23**	**189**	P	**P**	**17 05 41.4**	**-1.0**
WB0				lAmb	lAmb	17 05 42.2	
	comp=Z,4.3nm,1.4s						
WR0	**Warramunga Arr**	**62.40**	**189**	P	**P**	**17 05 43.5**	**0.0**
WR0				lAmb	lAmb	17 06 05.0	
	comp=Z,3.6nm,1.4s						
WRA	**Warramunga Arr**	**62.41**	**189**	P	**P**	**17 05 43.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=5.2,slow=6.9,SNR=8.5						
WRA	**Warramunga Arr**	**62.41**	**189**	P	**P**	**17 05 43.9**	**+0.3**
WRA	**Warramunga Arr**	**62.41**	**189**	P	**P**	**17 05 43.9**	**+0.3**
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**17 05 57.9**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=52,slow=7.5,SNR=7.6						
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**17 05 57.8**	**-1.0**
H03N2	**Juan Fernandez**	**146.02**	**89**	T	T	19 58 10.2	
	baz=301,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**146.04**	**89**	T	T	19 58 13.4	
	baz=301,slow=77,SNR=15						
H03N1	**Juan Fernandez**	**146.04**	**89**	T	T	19 58 20.1	
	baz=301,slow=77,SNR=9.2						

*ATH **29** 17:05:35.2,37.°62N×27.°42E,h44km±5km,ML3.7/3, Error ellipse: s-maj=7.6km s-min=2.0km az=264.0*
*ISK **29** 17:05:36.9,37.°54N×27.°39E,h7km,ML3.3/22*
*IDC **29** 17:05:36.3±1.6,37.°22N×27.°69E,h0km,mb3.6/3, mb1 3.5/4,mb1mx3.3/40,mbtmp3.5/4,ML3.0/1, Error ellipse: s-maj=172.3km s-min=24.3km az=144.0*
*DDA **29** 17:05:37.2±0.0,37.°52N×27.°37E,h8km±2km,ML3.2*
*THE **29** 17:05:37.4,37.°54N×27.°37E,h1km±1km,ML3.3/2, Error ellipse: s-maj=1.9km s-min=0.9km az=249.0*

ISC 29 17:05:37.7±0.8,37.°54N±0.°02×27.°35E±0.°02,h13km±5km, n73,σ0962/98,mb3.6/3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.12**	**227**	P		**Pg**	**17 05 40.7**	**-0.2**
DDIM				S		**Sg**	**17 05 42.9**	**-0.2**
DIDI	**Didim-Aydin**	**0.18**	**209**	PG		**Pg**	**17 05 41.9**	**+0.1**
DIDI				SG		**Sg**	**17 05 44.9**	**+0.2**
GCAM	**G?zelcaml?**	**0.19**	**330**	PG		**Pg**	**17 05 41.9**	**0.0**
GCAM				SG		**Sg**	**17 05 44.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.19**	**330**	P		**Pg**	**17 05 41.8**	**0.0**
GCAM				S		**Sg**	**17 05 44.8**	**+0.1**
GCAM				*i* AML	AML		17 05 45.0	
	comp=E,6μm,0.5s							
GCAM				*i* AML	AML		17 05 45.0	
	comp=N,5μm,0.2s							
MLSB	**Milas**	**0.42**	**125**	PG		**Pg**	**17 05 45.3**	**-0.7**
MLSB				SG		**Sg**	**17 05 51.2**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.42**	**188**	PG		**Pg**	**17 05 45.4**	**-0.6**
AYDN	**Tasoluk**	**0.44**	**74**	P		**Pg**	**17 05 51.6**	**-0.5**
AYDN				S		**Sg**	**17 05 51.6**	**-0.6**
AYDN				*i* AML	AML		17 05 53.0	
	comp=E,2μm,0.4s							
AYDN				*i* AML	AML		17 05 55.0	
	comp=N,2μm,0.5s							
SMG	**Samos**	**0.44**	**293**	P		**Pg**	**17 05 46.6**	**+0.1**
SMG				S		**Sb**	**17 05 53.4**	**-0.5**
SMG				AML	AML		17 05 53.8	
	comp=N,20144μm,0.3s							
SMG				AML	AML		17 05 54.3	
	comp=E,15252μm,0.4s							
SMG	**Samos**	**0.44**	**293**	P		**Pg**	**17 05 46.5**	**+0.1**
SMG				S		**Sb**	**17 05 53.5**	**-0.5**
	comp=E,9μm,0.4s							
BODT	**Bodrum**	**0.48**	**184**	P		**Pg**	**17 05 46.3**	**-0.8**
BODT				S		**Sb**	**17 05 54.4**	**-0.5**
BODT	**Bodrum**	**0.48**	**184**	PG		**Pg**	**17 05 46.6**	**-0.5**
BDRM	**Kayabasi**	**0.48**	**171**	P		**Pg**	**17 05 46.4**	**-0.8**
BDRM				S		**Sg**	**17 05 53.4**	**-0.1**
BDRM				*i* AML	AML		17 05 57.0	
	comp=E,2μm,0.2s							
DGB	**zmir**	**0.63**	**324**	P		**Pg**	**17 05 50.1**	**0.0**
DGB				*i* AML	AML		17 06 02.0	
	comp=E,1μm,0.8s							
MULA	**Mugla, Merkez-**	**0.82**	**110**	P		**Pg**	**17 05 53.2**	**-0.4**
MULA				S		**Sg**	**17 06 04.1**	**-0.3**
MULA				*i* AML	AML		17 06 08.0	
	comp=E,655nm,0.7s							
DAT	**Datca**	**0.83**	**167**	P		**Pg**	**17 05 53.3**	**-0.4**
DAT				S		**Sn**	**17 06 07.2**	**-0.1**
DAT	**Datca**	**0.83**	**167**	PG		**Pg**	**17 05 53.5**	**-0.2**
DAT	**Datca**	**0.83**	**167**	P		**Pg**	**17 05 53.6**	**-0.1**
DAT				S		**Sn**	**17 06 07.5**	**+0.2**
DAT				*i* AML	AML		17 06 10.0	
	comp=E,992nm,0.3s							
DAT				*i* AML	AML		17 06 12.0	
	comp=E,701nm,0.3s							
KOSK	**Kos Island**	**0.84**	**201**	P		**Pg**	**17 05 53.4**	**-0.5**
KOSK				S		**Sb**	**17 06 05.9**	**+0.6**
KOSK				AML	AML		17 06 11.4	
	comp=N,16074μm,0.4s							
KOSK				AML	AML		17 06 13.6	
	comp=E,26120μm,0.5s							
KOSK	**Kos Island**	**0.84**	**201**	P		**Pn**	**17 05 54.8**	**-0.4**
KOSK				S		**Sn**	**17 06 07.2**	**-0.2**
KOSK	**Kos Island**	**0.84**	**201**	PG		**Pb**	**17 05 54.1**	**0.0**
KOSK				SG		**Sb**	**17 06 06.3**	**+1.0**
YER	**Yerkesik**	**0.84**	**118**	P		**Pg**	**17 05 53.5**	**-0.5**
YER				S		**Sb**	**17 05 58.0**	**+0.2**
YER	**Yerkesik**	**0.84**	**118**	PG		**Pg**	**17 05 53.2**	**-0.8**
NISR	**Nisiros**	**0.94**	**191**	P		**Pg**	**17 05 54.4**	**-1.4**
URLA	**Izmir**	**1.01**	**324**	PG		**Pg**	**17 05 57.3**	**0.0**
URLA				SG		**Sn**	**17 06 11.9**	**0.0**
TURN	**Turunc**	**1.04**	**137**	PG		**Pb**	**17 05 57.0**	**-0.6**
TURN	**Turunc**	**1.04**	**137**	P		**Pb**	**17 05 56.7**	**-0.9**
TURN				*i* AML	AML		17 06 17.0	
	comp=E,616nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.24**	**93**	P		**Pb**	**17 06 00.8**	**-0.3**
TAVA				S		**Sg**	**17 06 17.9**	**0.0**
GOMA	**Golmarmara-Man**	**1.25**	**21**	PN		**Pb**	**17 06 01.2**	**0.0**
DALY	**Dalyan (Mula)**	**1.27**	**124**	PN		**Pb**	**17 06 01.2**	**-0.2**
DALY				SN		**Sg**	**17 06 18.9**	**+0.4**
FOCM	**Foa**	**1.27**	**338**	PN		**Pg**	**17 06 01.9**	**-0.3**
CHOS	**Chios island**	**1.33**	**310**	P		**Pn**	**17 06 02.2**	**+0.1**
CHOS				S		**Sb**	**17 06 18.7**	**-0.9**
	comp=E,720nm,0.4s							
MANT	**Manisa**	**1.35**	**45**	P		**Pn**	**17 06 02.0**	**-0.4**
AKHS	**Akhisar**	**1.39**	**15**	P		**Pn**	**17 06 02.5**	**-0.3**
AKS	**Akhisar**	**1.39**	**15**	PN		**Pn**	**17 06 02.3**	**-0.5**
KULA	**Kula-Manisa**	**1.42**	**46**	P		**Pn**	**17 06 03.2**	**-0.1**
KULA				S		**Sg**	**17 06 22.9**	**-0.6**
KULA	**Kula-Manisa**	**1.42**	**46**	PN		**Pn**	**17 06 03.3**	**-0.1**
KULA				SN		**Sg**	**17 06 23.0**	**-0.6**
ZEDA	**zmir-Bergama**	**1.44**	**351**	P		**Pn**	**17 06 03.1**	**-0.5**
APE	**Apeiranthos**	**1.52**	**253**	P		**Pn**	**17 06 04.9**	**+0.1**
APE	**Apeiranthos**	**1.52**	**253**	P		**Pb**	**17 06 06.5**	**+0.6**
APE	**Apeiranthos**	**1.52**	**253**	PN		**Pn**	**17 06 05.3**	**+0.6**
APE				SN		**Sg**	**17 06 26.9**	**+0.1**
DKL	**Dikili**	**1.57**	**347**	PN		**Pn**	**17 06 05.6**	**+0.3**
CAEL	**Denizli, Camel**	**1.62**	**104**	P		**Pg**	**17 06 09.3**	**+0.4**
CAEL				*i* AML	AML		17 06 49.0	
	comp=E,416nm,0.8s							
FETY	**Fethiye**	**1.65**	**123**	PN		**Pn**	**17 06 06.9**	**+0.4**
FETY	**Fethiye**	**1.65**	**123**	P		**Pb**	**17 06 08.2**	**+0.1**
FETY				S		**Sb**	**17 06 29.1**	**+0.3**
CAME	**Cameli-Denizli**	**1.67**	**110**	PN		**Pn**	**17 06 07.1**	**+0.3**
USAK	**Uak-Merkez**	**1.76**	**48**	P		**Pn**	**17 06 08.1**	**+0.1**
GOLH	**Golhisar**	**1.79**	**99**	P		**Pb**	**17 06 10.2**	**-0.1**
AYVA	**Ayvalik**	**1.84**	**344**	P		**Pg**	**17 06 12.5**	**-0.5**
DEMI	**Demirci**	**1.85**	**35**	P		**Pn**	**17 06 08.8**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.86**	**9**	P		**Pn**	**17 06 08.6**	**-0.7**
STEP				*i* AML	AML		17 06 44.0	
	comp=E,255nm,0.6s							
PASA	**Karahalli, USA**	**1.87**	**64**	P		**Pn**	**17 06 09.3**	**-0.3**
PRK	**Paraskevi**	**1.91**	**334**	P		**Pn**	**17 06 07.4**	**-2.5**
PRK				AML	AML		17 06 48.5	
	comp=E,1438μm,0.8s							
PRK				AML	AML		17 06 48.8	
	comp=N,1532μm,0.6s							
THR3	**Thira Island,**	**1.93**	**235**	P		**Pn**	**17 06 10.2**	**0.0**
SNT5	**Nea Kammeni, S**	**1.93**	**235**	P		**Pn**	**17 06 10.4**	**+0.1**
BUHA	**Balikesir, Bur**	**1.97**	**354**	P		**Pb**	**17 06 13.8**	**+0.3**
BUHA				*i* AML	AML		17 06 51.0	
	comp=N,165nm,0.6s							
KARP	**Karpathos**	**1.99**	**184**	PN		**Pn**	**17 06 11.6**	**+0.4**
SIMA	**Simav-Kutahya**	**2.01**	**39**	PN		**Pn**	**17 06 11.5**	**+0.1**
SIGR	**SIGRI**	**2.04**	**325**	P		**Pn**	**17 06 11.6**	**-0.2**
SIGR	**SIGRI**	**2.04**	**325**	PN		**Pn**	**17 06 12.8**	**+1.0**
BASM	**Basmaki-Afyon**	**2.17**	**79**	PN		**Pn**	**17 06 14.0**	**+0.3**
KOCA	**Canakkale, Ayv**	**2.18**	**334**	P		**Pg**	**17 06 18.6**	**-0.9**
BALY	**Balya**	**2.21**	**5**	P		**Pn**	**17 06 13.5**	**-0.7**
GEDZ	**Gediz**	**2.21**	**47**	PN		**Pn**	**17 06 14.9**	**+0.7**
DURS	**Dursunbey**	**2.24**	**23**	P		**Pn**	**17 06 14.1**	**-0.5**
DURS				*i* AML	AML		17 06 58.0	
	comp=N,117nm,0.7s							
BAYC	**CANAKKALE_Bayr**	**2.29**	**344**	P		**Pn**	**17 06 15.1**	**-0.1**
EZN	**Ezine**	**2.42**	**341**	PN		**Pn**	**17 06 17.5**	**+0.5**
MHLO	**Agia Marina, M**	**2.50**	**251**	P		**Pb**	**17 06 21.0**	**-1.6**
LIA	**Limnos Island**	**2.90**	**325**	P		**Pn**	**17 06 24.5**	**+0.9**
BRTR	**Keskin Array B**	**5.39**	**64**	Pn		**Pn**	**17 06 59.8**	**+1.9**
	comp=N,0.6nm,0.3s,baz=239,slow=15,SNR=17							
BRTR	**Keskin Array B**	**5.39**	**64**	P		**Pn**	**17 06 59.8**	**+1.9**
TORD	**Torodi Ar. Bea**	**33.37**	**230**	P		**P**	**17 12 16.5**	**+0.6**
	comp=N,0.8nm,0.7s,baz=31,slow=8.8,SNR=5.3							
MKAR	**Makanchi Array**	**41.01**	**59**	P		**P**	**17 13 20.6**	**+0.2**
	comp=N,0.4nm,0.8s,baz=284,slow=5.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**42.09**	**48**	P		**P**	**17 13 29.2**	**+0.1**
	comp=N,0.6nm,0.5s,baz=270,slow=10.0,SNR=3.7							

*MDD **29** 17:12:55.6±0.7,35.°53N×3.°73W,h11km±6km,mb_Lg2.5/15, Error ellipse: s-maj=3.6km s-min=2.5km az=173.0*
*SFS **29** 17:12:55.0,35.°56N×3.°74W,ML2.7,ALBORAN SUR*
*CNRM **29** 17:12:56.5,35.°49N×3.°80W,h22km,ml2.8*

ISC 29 17:12:54.7±1.0,35.°54N±0.°02×3.°74W±0.°02,h17km±8km, n42,σ1920/78,Strait of Gibraltar

| Code |

PAB	**San Pablo**	**4.03 353**	Pn	**Pn**	**17 13 57.3**	**+1.6**
PAB			Sn	**Sn**	**17 14 42.4**	**0.0**
PAB			*i* Vmb_Lg		17 15 02.9	
EBAD	**Badajoz**	**4.14 322**	Pn	**Pn**	**17 13 57.8**	**+0.7**
EBAD			Sn	**Sn**	**17 14 44.9**	**-0.2**
EBAD			*i* Vmb_Lg		17 14 50.4	
PESTR	**Estremoz**	**4.53 318**	P	**Pn**	**17 14 05.7**	**+3.3**
PESTR			S	**Sn**	**17 14 54.5**	**-0.1**
OUK	**Oukaimeden**	**5.53 220**	P	**Pn**	**17 14 16.0**	**-0.6**
OUK			S	**Sn**	**17 15 16.6**	**-3.3**

IDC ***29*** *17:16:55.8±0.9, 1˚.09N×127˚.45E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/34, mbtmp3.8/9, ML3.2/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/68, Error ellipse: s-maj=43.6km s-min=16.0km az=74.0*
NEIC ***29*** *17:16:58.0±1.3, 1˚.07N±0˚.04×127˚.39E±0˚.08, h10km±1km, mb4.3/21, Error ellipse: s-maj=12.7km s-min=5.9km az=270.0*
DJA ***29*** *17:16:58.7±0.3, 1˚N±2˚×12˚.7E±˚, h10km, M4.0/16, mb4.3/7, MLv3.9/16*

ISC 29 17:16:57.5±0.6, 1˚.10N±0˚.05×127˚.47E±0˚.08, h10km, n58, σ1§12/54, mb4.2/15, MS2.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.35**	**197**	Pg	**Pg**	**17 17 03.6**	**-0.8**
TNTI	**Ternate**	**0.35**	**197**	P	**Pg**	**17 17 04.1**	**-0.3**
TNTI				S	**Sg**	**17 17 09.6**	**+0.6**
LBMI	**Labuha**	**1.73**	**179**	P	**Pn**	**17 17 27.5**	**-0.2**
LBMI				S	**Sn**	**17 17 51.2**	**+1.4**
SGSI	**Sangihe**	**3.22**	**323**	P	**Pn**	**17 17 50.0**	**+1.9**
SANI	**Sanana**	**3.46**	**205**	P	**Pn**	**17 17 51.3**	**-0.2**
KMSI	**Cibinong**	**3.53**	**261**	P	**Pn**	**17 17 53.3**	**+0.9**
SWI	**Sorong**	**4.26**	**117**	P	**Pn**	**17 18 03.3**	**+0.8**
SIJI	**Sorong**	**4.27**	**117**	Pn	**Pn**	**17 18 03.3**	**+0.6**
	1.8nm,0.3s,baz=301,slow=4.8,SNR=7.5						
GTOI	**Gorontalo**	**4.48**	**264**	P	**Pn**	**17 18 09.7**	**+4.1**
AAI	**Ambon**	**4.81**	**171**	P	**Pn**	**17 18 09.5**	**-0.6**
LUWI	**Luwuk**	**5.16**	**246**	Pn	**Pn**	**17 18 13.4**	**-1.5**
MRSI	**Marisa**	**5.56**	**264**	P	**Pn**	**17 18 22.4**	**+2.0**
	0.1nm24nm,1.0s						
APSI	**Ampana**	**6.16**	**251**	P	**Pn**	**17 18 28.4**	**-0.2**
	0.2nm65nm,1.2s						
TOLI2	**Tolitoli**	**6.69**	**270**	Pn	**Pn**	**17 18 36.2**	**+0.3**
MPSI	**Mapaga**	**7.61**	**264**	P	**Pn**	**17 18 49.2**	**+0.7**
	0.0nm10nm,0.8s						
BNSI	**Bone**	**9.17**	**233**	P	**Pn**	**17 19 10.2**	**+0.3**
	17nm,1.3s						
SPSI	**Sidrap Palu**	**9.20**	**237**	P	**Pn**	**17 19 10.7**	**+0.4**
	21nm,0.7s						
BKSI	**Bulukumba**	**9.73**	**229**	P	**Pn**	**17 19 17.7**	**+0.1**
SAUI	**Saumlaki**	**9.80**	**157**	Pn	**Pn**	**17 19 20.4**	**+1.8**
KAPI	**Kappang**	**9.82**	**232**	Pn	**Pn**	**17 19 19.9**	**+1.0**
MYLDM	**Lahad Datu**	**9.83**	**295**	Pn	**Pn**	**17 19 18.3**	**-0.7**
JAY	**Jayapura**	**13.71**	**105**	LR	LR	17 25 52.6	
	comp=Z,121nm,18.3s,baz=170,slow=39						
MTN	**Manton Dam**	**14.33**	**165**	Pn	**Pn**	**17 20 23.5**	**+2.9**
KNRA	**Kununurra**	**16.72**	**176**	Pn	**Pn**	**17 20 50.9**	**-1.1**
KSM	**Kuching**	**17.16**	**271**		**Pn**	**17 20 56.1**	**-1.6**
KSM				IAmb	IAmb	17 21 16.3	
	comp=Z,26nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.17**	**185**	P	**P**	**17 21 21.1**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=10,slow=11,SNR=1.4						
GUMO	**Guam**	**21.22**	**53**	LR	LR	17 28 19.8	
	comp=Z,35nm,20.4s,baz=119,slow=32						
WB0	**Warramunga Arr**	**21.82**	**162**	P	**P**	**17 21 49.6**	**-0.5**
WB0				IAmb	IAmb	17 21 55.5	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**21.97**	**162**	P	**P**	**17 21 51.6**	**-0.2**
	comp=Z,6.7nm,1.0s,baz=338,slow=11,SNR=18						
WRA	**Warramunga Arr**	**21.97**	**162**	P	**P**	**17 21 49.5**	**-2.3**
WB2	**Warramunga Arr**	**21.98**	**162**	P	**P**	**17 21 51.7**	**-0.1**
WB2				IAmb	IAmb	17 21 57.1	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**22.05**	**162**	P	**P**	**17 21 51.4**	**-1.3**
WR0				IAmb	IAmb	17 21 58.0	
	comp=Z,9.9nm,1.1s						
PMG	**Port Moresby**	**22.22**	**118**	LR	LR	17 33 01.9	
	comp=Z,123nm,18.5s,baz=231,slow=44						
AS31	**Alice Springs**	**25.40**	**166**	P	**P**	**17 22 23.7**	**-1.7**
ASAR	**Alice Springs**	**25.40**	**166**	P	**P**	**17 22 24.7**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=346,slow=9.4,SNR=13						
JOW	**Kunigami**	**25.59**	**2**	LR	LR	17 36 49.8	
	comp=Z,12nm,18.0s,baz=156,slow=47						
STKA	**Stephens Creek**	**35.43**	**159**	P	**P**	**17 23 53.2**	**-0.8**
KSAR	**Wonju Array Be**	**36.16**	**1**	P	P	17 23 58.5	-1.6
KSRS	**Korea Array**	**36.17**	**1**	P	**P**	**17 23 59.8**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=123,slow=12,SNR=7.2						
MJAR	**Matsushiro Arr**	**36.64**	**15**	P	**P**	**17 24 03.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=192,slow=8.2,SNR=2.8						
PALK	**Pallekele**	**47.02**	**279**	LR	LR	17 48 51.7	
	comp=Z,21nm,19.2s,baz=258,slow=41						
SONM	**Songino Array**	**50.01**	**342**	P	**P**	**17 25 52.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=145,slow=5.4,SNR=5.2						
SONM	**Songino Array**	**50.01**	**342**	P	**P**	**17 25 51.8**	**-0.4**
SONM				IAmb	IAmb	17 26 22.8	
	comp=Z,2.3nm,1.5s						
MK31	**Makanchi Array**	**60.12**	**326**	P	**P**	**17 27 05.3**	**0.0**
MK31				IAmb	IAmb	17 27 12.5	
	comp=Z,4.0nm,1.4s						
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**17 27 04.9**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=122,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**17 27 04.6**	**-0.7**
BFZ	**Birch Farm**	**60.75**	**139**	P	**P**	**17 27 10.2**	**+0.6**
KDJ	**Kajisay**	**60.79**	**319**	P	**P**	**17 27 10.1**	**0.0**
KDJ				IAmb	IAmb	17 27 16.8	
	comp=Z,3.1nm,1.2s						
MA2	**Magadan**	**61.06**	**13**	P	**P**	**17 27 11.8**	**+0.5**
MA2				IAmb	IAmb	17 27 46.4	
	comp=Z,3.5nm,1.4s						
AAK	**Ala-Archa**	**62.80**	**319**	P	**P**	**17 27 23.8**	**+0.2**
AAK				IAmb	IAmb	17 27 30.0	
	comp=Z,2.8nm,1.2s						
ZAA0	**Zalesovo Array**	**63.25**	**333**	P	**P**	**17 27 26.1**	**0.0**
ZAA0				IAmb	IAmb	17 28 02.5	
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**63.25**	**333**	P	**P**	**17 27 26.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=2.1						
ZALV	**Zalesovo Beam**	**63.25**	**333**	P	**P**	**17 27 26.1**	**0.0**
GAR	**Garm**	**64.24**	**313**	P	**P**	**17 27 32.6**	**-0.6**
BTK	**Batken**	**64.27**	**315**	P	**P**	**17 27 33.3**	**0.0**
KURK	**Kurchatov**	**64.34**	**328**	P	**P**	**17 27 32.4**	**-1.0**
SMY	**Shemya**	**64.36**	**29**	P	**P**	**17 27 33.3**	**-0.2**
KKAR	**Karatay Array**	**65.65**	**318**	P	**P**	**17 27 41.9**	**-0.3**

IDC ***29*** *17:49:14.4±0.9, 2˚.68N×128˚.31E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/34, mbtmp3.8/8, Error ellipse: s-maj=62.3km s-min=15.6km az=79.0*
NEIC ***29*** *17:49:37.6±2.1, 2˚.5N±0˚.1×128˚.5E±0˚.2, h227km±10km, mb4.0/18, Error ellipse: s-maj=25.7km s-min=15.2km az=80.0*

ISC 29 17:49:34.8±0.7, 2˚.62N±0˚.08×128˚.6E±0˚.1, h200km, n31, σ0§96/30, mb3.9/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**214**		**Pn**	**17 50 18.2**	**+2.6**
LUWI	**Luwuk**	**6.87**	**238**	Pn	**Pn**	**17 51 12.9**	**-0.6**
TOLI2	**Tolitoli**	**7.96**	**259**	Pn	**Pn**	**17 51 28.7**	**+1.0**
MTN	**Manton Dam**	**15.56**	**171**	P	**Pn**	**17 53 04.0**	**0.0**
KNRA	**Kununurra**	**18.18**	**180**	P	**P**	**17 53 33.4**	**+0.7**
KNRA				IAmb	IAmb	17 53 35.4	
	comp=Z,6.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.79**	**188**	P	**P**	**17 53 59.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=14,slow=7.1,SNR=9.1						
WB0	**Warramunga Arr**	**22.96**	**166**	P	**P**	**17 54 22.4**	**+0.4**
WB0				IAmb	IAmb	17 54 24.3	
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**23.11**	**166**	P	**P**	**17 54 23.6**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=345,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**23.11**	**166**	P	**P**	**17 54 22.9**	**-0.5**
WB2	**Warramunga Arr**	**23.11**	**166**	P	**P**	**17 54 23.7**	**+0.4**
WB2				IAmb	IAmb	17 54 26.0	
	comp=Z,3.4nm,0.8s						
WR0	**Warramunga Arr**	**23.18**	**166**	P	**P**	**17 54 24.5**	**+0.6**
WR0				IAmb	IAmb	17 54 26.7	
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**26.63**	**169**	P	**P**	**17 54 55.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=355,slow=7.8,SNR=52						
ASAR	**Alice Springs**	**26.63**	**169**	P	**P**	**17 54 53.3**	**-1.8**
FORT	**Forrest**	**33.21**	**181**	P	**P**	**17 55 52.5**	**-0.4**
KSRS	**Korea Array**	**34.68**	**359**	P	**P**	**17 56 06.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=182,slow=10,SNR=4.4						
MAJO	**Matsushiro**	**34.91**	**14**	P	**P**	**17 56 07.4**	**0.0**
MAJO				IAmb	IAmb	17 56 50.4	
	comp=Z,5.1nm,1.1s						
MJAR	**Matsushiro Arr**	**34.91**	**14**	P	**P**	**17 56 07.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=147,slow=7.2,SNR=2.9						
MJAR	**Matsushiro Arr**	**34.91**	**14**	IAmb	IAmb	17 56 13.0	
	comp=Z,3.9nm,1.4s						
MJB9	**Matsu-Tunnel**	**34.91**	**14**	P	**P**	**17 56 07.4**	**-0.1**
MJB9				IAmb	IAmb	17 56 50.3	
	comp=Z,4.7nm,1.1s						
BBOO	**Buckleboo**	**35.93**	**169**	P	**P**	**17 56 15.2**	**-1.0**
BBOO				IAmb	IAmb	17 56 16.7	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**17 56 21.7**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=348,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**17 56 21.2**	**+0.5**
JMM	**Marumori**	**36.82**	**16**	P	**P**	**17 56 25.1**	**+1.4**
ARMA	**Armidale**	**39.52**	**148**	P	**P**	**17 56 44.8**	**-1.7**
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**17 58 01.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=172,slow=11,SNR=3.2						
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**17 58 01.0**	**-0.1**
MK31	**Makanchi Array**	**59.54**	**325**	P	**P**	**17 59 16.2**	**-1.1**
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**17 59 17.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=116,slow=7.9,SNR=9.2						
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**17 59 16.7**	**-0.6**
MAKZ	**Makanchi**	**59.73**	**325**	P	**P**	**17 59 18.7**	**+0.1**
MAKZ				IAmb	IAmb	17 59 19.7	
	comp=Z,2.3nm,1.4s						
KURK	**Kurchatov**	**63.69**	**327**	P	**P**	**17 59 44.6**	**-0.3**
KURK				IAmb	IAmb	17 59 45.0	
	comp=Z,1.6nm,0.6s						

TUL ***29*** *18:12:17.6±1.4, 36˚.44N±0˚.01×97˚.73W±0˚.02, h6km±6km, ML2.7, mb_Lg2.5/22(NEIC), Error ellipse: s-maj=2.4km s-min=1.8km az=110.0*

NEIC 29 18:12:17.4±1.3, 36˚.44N±0˚.01×97˚.72W±0˚.02, h5km±7km, Error ellipse: s-maj=2.4km s-min=1.8km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.04**	**267**	Pg	Pg	18 12 36.9	-0.4
OKCFA	**Oklahoma City**	**1.04**	**168**		Pg	18 12 37.4	-0.1
T35A	**Sooner Cattle**	**1.08**	**63**		Pg	18 12 37.8	-0.3
FNO	**Franklin**	**1.21**	**168**	Pg	Pg	18 12 39.9	-0.7
TUL1	**Leonard**	**1.64**	**108**		Pn	18 12 47.2	+0.2
TUL1				IAmb_Lg		18 13 11.1	
	comp=Z,18nm,0.8s						
X34A	**Smith Ranch, M**	**1.84**	**183**		Pn	18 12 49.9	+0.3
WMOK	**Wichita Mounta**	**1.91**	**207**	Pn	Pn	18 12 51.2	+0.6
WMOK				IAmb_Lg		18 13 18.6	
	comp=Z,32nm,0.7s						
R32A	**Long Quarter,**	**2.13**	**338**	Pn	Pn	18 12 52.4	-1.3
X37A	**Clayton**	**2.66**	**133**	Pn	Pn	18 13 01.2	+0.3
KSU1	**Kansas State U**	**2.80**	**18**	Pn	Pn	18 13 03.5	+0.7
CBKS	**Cedar Bluff**	**2.86**	**327**	Pn	Pn	18 13 04.0	+0.2
HHAR	**Hobbs**	**3.05**	**92**	Pn	Pn	18 13 04.9	-1.4
Z35A	**Perchaven, San**	**3.12**	**173**	Pn	Pn	18 13 05.9	-1.5
W39A	**Magazine**	**3.43**	**110**		Pn	18 13 13.2	+1.7
AMTX	**Amarillo**	**3.58**	**245**	IAmb_Lg		18 14 19.2	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.73**	**69**	Pn	Pn	18 13 15.8	+0.1
S39A				IAmb_Lg		18 14 23.6	
	comp=Z,10nm,1.0s						
Z38A	**Mt. Pleasant**	**3.89**	**144**	Pn	Pn	18 13 19.3	+1.5
U40A	**Yellville**	**3.92**	**90**	Pn	Pn	18 13 19.5	+1.1
U40A				IAmb_Lg		18 14 24.3	
	comp=Z,23nm,0.8s						
ABTX	**Abilene, Hawle**	**4.12**	**203**	Pn	Pn	18 13 19.8	-1.3
WHAR	**Wooly Hollow**	**4.55**	**103**	Pn	Pn	18 13 26.8	-0.2
WHAR				IAmb_Lg		18 14 52.9	
	comp=Z,13nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.56**	**95**	Pn	Pn	18 13 27.3	+0.3
P38A	**Dawn**	**4.58**	**45**		Pn	18 13 25.6	-1.8
P38A				IAmb_Lg		18 14 52.7	
	comp=Z,8.5nm,1.1s						
W41B	**Gary Mavity, V**	**4.62**	**104**	Pn	Pn	18 13 25.6	-2.3
W41B				IAmb_Lg		18 14 55.0	
	comp=Z,16nm,1.2s						
KSCO	**Kaye Shedlock'**	**4.66**	**305**		Pn	18 13 28.6	-0.1
R40A	**Maddies Statio**	**4.72**	**65**	Pn	Pn	18 13 26.8	-2.4
MSTX	**Muleshoe**	**4.82**	**241**		Pn	18 13 29.7	-1.0
MSTX				IAmb_Lg		18 15 01.7	
	comp=Z,6.1nm,0.8s						
BGNE	**Belgrade**	**4.97**	**356**	Pn	Pn	18 13 33.0	+0.2
LCAR	**Lake Charles**	**5.32**	**92**	IAmb_Lg		18 15 15.4	
	comp=Z,8.1nm,0.7s						
CCM	**Cathedral Cave**	**5.41**	**71**	Pn	Pn	18 13 37.0	-1.7
T25A	**Trinidad**	**5.42**	**279**	Pn	Pn	18 13 37.4	-1.7
FVM	**French Village**	**6.02**	**73**	Pn	Pn	18 13 45.1	-2.0
SDCO	**Great Sand Dun**	**6.36**	**284**	Pn	Pn	18 13 52.0	0.0
PARMO	**Parma**	**6.42**	**86**	Pn	Pn	18 13 52.5	-0.1

RSNC ***29*** *18:13:33.8±1.0, 8˚.91N×77˚.49W, h22km±5km, ML3.0, Mw3.2*
UPA ***29*** *18:13:34.9±2.2, 8˚.74N×77˚.55W, h28km±32km, MW3.9*

ISC 29 18:13:33.8±0.9, 8˚.78N±0˚.04×77˚.50W±0˚.02, h34km, n41, σ1§96/62, 5C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.56**	**246**	*i* P	**Pb**	**18 13 45.2**	**-0.3**
UPD2				*e* S	**Sn**	**18 13 53.8**	**+0.3**
UPD2				*i*		18 13 55.1	
	comp=Z,1μm,0.2s						
UPD2	**Meteti**	**0.56**	**246**	⇑ *i* P	**Pb**	**18 13 45.2**	**-0.3**
LCBC	**Los crdobas,**	**1.12**	**86**	*e* P	**Pb**	**18 13 55.5**	**+0.8**
LCBC				*e* S	**Sb**	**18 14 13.0**	**+4.0**
LCBC				*i*		18 14 21.8	
	comp=Z,203nm,0.2s						
LCBC	**Los crdobas,**	**1.12**	**86**	⇑ *i* P	**Pb**	**18 13 55.5**	**+0.8**
CNTA3	**Canitas, Panam**	**1.44**	**288**	⇓ *i* P	**Pn**	**18 13 57.6**	**+0.1**
CNTA3				*i* S	**Sn**	**18 14 14.7**	**-0.6**
CHPO	**Chepo, Panama**	**1.64**	**284**	*e* P	**Pn**	**18 14 00.1**	**-0.2**
CHPO				*i* S	**Sn**	**18 14 18.0**	**-2.3**
PTAC	**Punta Ardita,**	**1.65**	**191**	*e* P	**Pn**	**18 13 59.9**	**-0.5**
PTAC				*i* S	**Sn**	**18 14 20.1**	**-0.4**
MOTC	**Monteria, Cord**	**1.81**	**90**	⇑ *e* P	**Pn**	**18 14 03.7**	**+1.1**
MOTC				*e* S	**Sn**	**18 14 25.9**	**+1.4**
MOTC				*i*		18 14 28.9	
	comp=Z,35nm,0.3s						
UPA	**Univ. de Panam**	**2.02**	**276**	*e* P	**Pn**	**18 14 05.9**	**+0.4**
UPA				*e* S	**Sn**	**18 14 30.3**	**+0.7**
UPA				*i*		18 14 33.1	
	comp=Z,44nm,0.4s						
UPA	**Univ. de Panam**	**2.02**	**276**	*e* P	**Pn**	**18 14 06.2**	**+0.7**
UPA				*i* S	**Sn**	**18 14 30.6**	**+1.0**
TABO3	**Taboga, Panama**	**2.03**	**271**	*e* P	**Pn**	**18 14 03.6**	**-2.1**
ARRA3	**Arraijan, Pana**	**2.14**	**275**	*e* P	**Pn**	**18 14 08.2**	**+1.1**
DBBC	**Dabeiba**	**2.17**	**144**	*e* P	**Pn**	**18 14 08.8**	**+1.2**
DBBC				*e* S	**Sb**	**18 14 37.3**	**-1.7**
DBBC				*i*		18 14 46.3	
	comp=Z,341nm,0.5s						
UREC	**San Jos de Ur**	**2.20**	**118**	*e* P	**Pn**	**18 14 08.8**	**+0.9**
UREC				*e* S	**Sn**	**18 14 35.7**	**+1.7**
UREC				*i*		18 14 36.8	
	comp=Z,55nm,0.5s						
UREC	**San Jos de Ur**	**2.20**	**118**	⇑ *e* P	**Pn**	**18 14 08.9**	**+0.9**
GAMB1	**Gamboa**	**2.21**	**279**	*e* P	**Pn**	**18 14 09.7**	**+1.6**
CHOR3	**La Chorrera**	**2.24**	**273**	*e* P	**Pn**	**18 14 09.7**	**+1.2**
BCIP	**Isla Barro Col**	**2.34**	**280**	*e* P	**Pn**	**18 14 10.5**	**+0.6**
BCIP				*e* S	**Sn**	**18 14 38.1**	**+0.5**
BCIP				*i*		18 14 44.3	
	comp=Z,52nm,0.5s						
BCIP	**Isla Barro Col**	**2.34**	**280**	⇓ *i* P	**Pn**	**18 14 10.6**	**+0.7**
BCIP				*i* S	**Sn**	**18 14 37.5**	**0.0**
SJCC	**San Jacinto, C**	**2.54**	**64**	*e* P	**Pn**	**18 14 14.0**	**+1.2**
SJCC				*e* S	**Sn**	**18 14 41.2**	**-1.4**
SJCC				*i*		18 14 47.1	
	comp=Z,13nm,0.1s						
SJCC	**San Jacinto, C**	**2.54**	**64**	*e* P	**Pn**	**18 14 14.0**	**+1.2**
SJCC				*i* S	**Sn**	**18 14 37.3**	**-5.3**
ZARC	**Zaragoza, Cauc**	**2.91**	**116**	*e* P	**Pn**	**18 14 18.8**	**+1.0**
ZARC				*e* S	**Sn**	**18 14 51.4**	**-0.2**
ZARC				*i*		18 14 54.2	
	comp=Z,63nm,0.2s						
AZU	**Azuero**	**2.92**	**251**	*e* P	**Pn**	**18 14 16.7**	**-1.2**
AZU				*e* S	**Sn**	**18 14 51.4**	**-0.3**
AZU				*i*		18 15 19.8	
	comp=Z,70nm,0.3s						
AZU	**Azuero**	**2.92**	**251**	*e* P	**Pn**	**18 14 17.0**	**-0.8**
HELC	**Santa Helena**	**3.23**	**143**	*e* P	**Pn**	**18 14 23.4**	**+1.0**
HELC	**Santa Helena**	**3.23**	**143**	*e* P	**Pn**	**18 14 24.0**	**+1.6**
CBOC	**Ciudad Bolivar**	**3.25**	**153**	*e* P	**Pn**	**18 14 25.4**	**+2.8**
CACAO	**El Cacao, Vera**	**3.62**	**247**	*e* P	Pn	18 14 16.6	-11
PTBC	**PUERTO BERRIO,**	**3.75**	**126**	*e* P	**Pn**	**18 14 30.1**	**+0.8**
PTBC				*e* S	**Sn**	**18 15 13.5**	**+1.2**
PTBC				*i*		18 15 22.6	
	comp=Z,21nm,0.2s						
SMRC	**Santa Marta, M**	**4.00**	**53**	*e* P	**Pn**	**18 14 32.1**	**-0.6**
SMRC				*e* S	**Sn**	**18 15 15.8**	**-2.7**
PLMC	**San Jos del P**	**4.03**	**163**	*e* P	**Pn**	**18 14 34.4**	**+1.1**
GUY2C	**Guyana, Caldas**	**4.12**	**149**	*e* P	**Pn**	**18 14 38.2**	**+3.4**
NORC	**Norcasia**	**4.12**	**141**	*e* P	**Pn**	**18 14 36.2**	**+1.7**
LL6C	**La Loma 6 Bece**	**4.28**	**77**	*e* P	**Pn**	**18 14 38.3**	**+1.7**
YOTC	**Yotoco, Valle**	**4.90**	**166**	*e* P	**Pn**	**18 14 43.9**	**-1.3**
PAMC	**Pamplona, Colo**	**4.96**	**106**	*e* P	**Pn**	**18 14 47.6**	**+1.2**
PAMC				*e* S	**Sn**	**18 15 39.4**	**-3.5**
PAMC				*i*		18 15 41.2	
	comp=Z,120nm,0.0s						
CRJC	**Cerrejon, Guaj**	**5.06**	**64**	*e* P	**Pn**	**18 14 47.0**	**-0.5**
CRJC				*e* S	**Sn**	**18 15 42.8**	**-2.1**
RUSC	**La Rusia**	**5.23**	**123**	*e* P	**Pn**	**18 14 51.0**	**+0.8**
RUSC				*e* S	**Sn**	**18 15 44.4**	**-5.2**
RUSC				*i*		18 15 54.1	
	comp=Z,9.5nm,0.3s						
CHIC	**Chingaza**	**5.57**	**138**	*e* P	**Pn**	**18 14 56.4**	**+1.7**
CHIC				*e* S	**Sn**	**18 15 50.7**	**-7.0**
CHIC				*i*		18 15 51.9	
	comp=Z,4.3nm,0.4s						
SOCV	**Socops**	**6.59**	**94**	*e* P	**Pn**	**18 15 07.8**	**-0.6**
SDV	**Santo Domingo**	**6.79**	**89**	*e* P	**Pn**	**18 15 12.8**	**+1.5**

NAO ***29*** *18:13:44.9±1.5, 77˚.80N×20˚.90E, h16km±9km, ML3.4*
IEPN ***29*** *18:13:45.0, 77˚.88N×20˚.74E, h10km*
BER ***29*** *18:13:46.2±1.8, 77˚.92N×21˚.27E, h22km±6km, ML3.5, MW3.7, ML3.4(NAO), Confirmed Earthquake*
KOLA ***29*** *18:13:52.3, 77˚.35N×21˚.60E, h0km, ML2.8*
IDC ***29*** *18:13:53.2±3.6, 77˚.19N×27˚.21E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.2/29, mbtmp3.6/4, ML2.9/3, MS2.7/2, Ms1 2.7/2, ms1mx2.2/64, Error ellipse: s-maj=86.9km s-min=34.8km az=91.0*

ISC 29 18:13:43.2±1.2, 77˚.93N±0˚.04×21˚.27E±0˚.03, h11km±9km, n46, σ1§80/69, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.05**	**286**	Pn	**Pn**	**18 14 04.1**	**+0.4**
	baz=106,slow=18						
SPA0				Lg	Lg	18 14 16.7	
	baz=99,slow=28						
SPA0	**Spitsbergen Ar**	**1.05**	**286**	Pn	**Pn**	**18 14 04.1**	**+0.4**
	baz=106,slow=18						
SPA0				Sg	**Sb**	**18 14 16.7**	**-0.3**
	baz=99,slow=28						
SPA0	**Spitsbergen Ar**	**1.05**	**286**	⇓ *i* P	**Pn**	**18 14 04.0**	**+0.2**
SPA0				*i* S	**Sg**	**18 14 16.5**	**-0.6**
BRBA	**Barentsburg A**	**1.48**	**279**	Pn	**Pg**	**18 14 10.5**	**-1.1**
BRBA				Pg	**Pg**	**18 14 11.9**	**+0.4**
BRBA				Lg	Lg	18 14 31.0	
BRBA	**Barentsburg A**	**1.48**	**279**	*e* Pg	**Pg**	**18 14 11.9**	**+0.4**
BRBA				*e* Sg	**Sg**	**18 14 31.0**	**+0.3**
BRBA				IAML		18 14 31.5	
	comp=Z,1μm,0.2s						
BRBB	**Barentsburg B**	**1.49**	**280**	Pn	**Pb**	**18 14 10.3**	**-0.4**
BRBB				Pg	**Pg**	**18 14 11.8**	**+0.2**
BRBB				Lg	Lg	18 14 30.7	
BRBB	**Barentsburg B**	**1.49**	**280**	*e* Pg	**Pg**	**18 14 11.8**	**+0.2**
BRBB	

RES	**Resolute Bay**	**23.40**	**323**	LR	LR	18 29 38.4	
	comp=Z,11nm,18.4s,baz=16,slow=38						
AKASG	**Malin Array Be**	**27.49**	**169**	P	**P**	**18 19 32.5**	**+3.6**
	comp=Z,0.2nm,0.3s,baz=356,slow=9.4,SNR=2.8						
KSRS	**Korea Array**	**57.05**	**65**	LR	LR	18 49 41.2	
	comp=Z,13nm,20.4s,baz=140,slow=38						

*RSNC **29** 18:14:25.6±0.9, 8°.87N×77°.46W, h22km±4km, ML3.2, Mw3.6*
*UPA **29** 18:14:26.8±1.9, 8°.70N×77°.55W, h30km±15km, MW4.0*
ISC 29 18:14:25.3±1.1, 8°.85N±0°.04×77°.49W±0°.02, h30km±11km, n41, σ1°.86/57, 2C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**0.60**	**240**	⇑*i*P	**Pb**	**18 14 37.1**	**-0.3**
UPD2				*e*S	**Sb**	**18 14 45.8**	**+0.1**
UPD2				*i*		18 14 51.7	
	comp=Z,3μm,0.4s						
UPD2	**Meteti**	**0.60**	**240**	⇑*i*P	**Pb**	**18 14 37.1**	**-0.3**
UPD2				*i* S	**Sb**	**18 14 44.7**	**-1.0**
LCBC	**Los crdobas,**	**1.11**	**89**	*e*P	**Pb**	**18 14 47.2**	**+1.3**
LCBC				*e*S	**Sn**	**18 15 04.2**	**+5.2**
LCBC				*i*		18 15 13.9	
	comp=Z,439nm,0.4s						
LCBC	**Los crdobas,**	**1.11**	**89**	⇓*e*P	**Pb**	**18 14 47.4**	**+1.5**
LCBC				*e*S	**Sn**	**18 15 02.2**	**+3.2**
CNTA3	**Canitas, Panam**	**1.43**	**285**	⇓*i*P	**Pn**	**18 14 49.6**	**+0.3**
CNTA3				*i* S	**Sn**	**18 15 06.7**	**-0.4**
CHPO	**Chepo, Panama**	**1.64**	**281**	*i* P	**Pn**	**18 14 52.0**	**-0.1**
CHPO				*i* S	**Sn**	**18 15 11.6**	**-0.6**
PTAC	**Punta Ardita,**	**1.72**	**191**	*e*P	**Pn**	**18 14 52.4**	**-0.8**
PTAC				*e*S	**Sn**	**18 15 11.1**	**-3.0**
MOTC	**Monteria, Cord**	**1.80**	**92**	*e*P	**Pn**	**18 14 55.4**	**+1.1**
MOTC				*e*S	**Sn**	**18 15 17.8**	**+1.6**
MOTC				*i*		18 15 19.7	
	comp=Z,96nm,0.8s						
UPA	**Univ. de Panam**	**2.03**	**274**	*e*P	**Pn**	**18 14 57.9**	**+0.6**
UPA				*e*S	**Sn**	**18 15 22.9**	**+1.1**
UPA				*i*		18 15 29.0	
	comp=Z,45nm,0.5s						
UPA	**Univ. de Panam**	**2.03**	**274**	*i* P	**Pn**	**18 14 58.0**	**+0.6**
TABO3	**Taboga, Panama**	**2.04**	**269**	*e*P	**Pn**	**18 14 59.0**	**+1.3**
MAD3	**Madden Dam**	**2.13**	**280**	*e*P	**Pn**	**18 15 00.5**	**+1.6**
ARRA3	**Arraijan, Pana**	**2.15**	**273**	*e*P	**Pn**	**18 15 00.1**	**+1.0**
DBBC	**Dabeiba**	**2.21**	**145**	*e*P	**Pn**	**18 15 00.7**	**+0.6**
DBBC				*e*S	**Sn**	**18 15 28.2**	**+1.7**
DBBC				*i*		18 15 38.2	
	comp=Z,711nm,0.5s						
GAMB1	**Gamboa**	**2.21**	**277**	*e*P	**Pn**	**18 15 00.7**	**+0.7**
GAMB1				*e*S	**Sn**	**18 15 29.2**	**+2.9**
UREC	**San Jos de Ur**	**2.22**	**119**	*e*P	**Pn**	**18 15 00.8**	**+0.8**
UREC				*e*S	**Sn**	**18 15 27.3**	**+0.8**
UREC				*i*		18 15 28.5	
	comp=Z,97nm,0.2s						
UREC	**San Jos de Ur**	**2.22**	**119**	*i* P	**Pn**	**18 15 00.9**	**+0.8**
CHOR3	**La Chorrera**	**2.25**	**272**	*e*P	**Pn**	**18 15 01.2**	**+0.7**
CHOR3				*i* S	**Sn**	**18 15 29.2**	**+1.9**
BCIP	**Isla Barro Col**	**2.34**	**278**	*e*P	**Pn**	**18 15 02.4**	**+0.7**
BCIP				*e*S	**Sn**	**18 15 30.9**	**+1.4**
BCIP				*i*		18 15 41.7	
	comp=Z,157nm,0.6s						
BCIP	**Isla Barro Col**	**2.34**	**278**	*i* P	**Pn**	**18 15 02.5**	**+0.7**
BCIP				*i* S	**Sn**	**18 15 30.1**	**+0.6**
SJCC	**San Jacinto, C**	**2.51**	**65**	*e*S	**Sn**	**18 15 31.1**	**-2.6**
SJCC	**San Jacinto, C**	**2.51**	**65**	*e*P	**Pb**	**18 15 07.5**	**-2.3**
SJCC				*e*S	**Sn**	**18 15 31.0**	**-2.7**
ZARC	**Zaragoza, Cauc**	**2.93**	**117**	*e*P	**Pn**	**18 15 10.7**	**+0.8**
ZARC				*e*S	**Sn**	**18 15 43.9**	**-0.2**
ZARC				*i*		18 15 46.2	
	comp=Z,97nm,0.2s						
AZU	**Azuero**	**2.95**	**249**	*e*P	**Pn**	**18 15 12.1**	**+2.0**
CHIT3	**Chitre**	**3.03**	**253**	*e*P	**Pn**	**18 15 09.1**	**-2.2**
HELC	**Santa Helena**	**3.27**	**144**	*e*S	**Sn**	**18 15 54.0**	**+1.0**
HELC	**Santa Helena**	**3.27**	**144**	*e*P	**Pn**	**18 15 15.1**	**+0.1**
CBOC	**Ciudad Bolivar**	**3.30**	**154**	*e*S	**Sn**	**18 15 59.1**	**+5.5**
CACAO	**El Cacao, Vera**	**3.66**	**246**	*e*P	**Pn**	18 15 25.1	+5.2
PTBC	**PUERTO BERRIO,**	**3.78**	**127**	*e*S	**Sn**	**18 16 04.3**	**-0.7**
SMRC	**Santa Marta, M**	**3.95**	**54**	*e*S	**Sn**	**18 16 08.8**	**-0.6**
PLMC	**San Jos del P**	**4.09**	**163**	*e*S	**Sn**	**18 16 12.6**	**-0.3**
GUY2C	**Guyana, Caldas**	**4.17**	**150**	*e*S	**Sn**	**18 16 15.4**	**+0.1**
NORC	**Norcasia**	**4.17**	**141**	*e*S	**Sn**	**18 16 14.2**	**-0.5**
LL6C	**La Loma 6 Bece**	**4.25**	**78**	*e*S	**Sn**	**18 16 15.5**	**-1.3**
YOTC	**Yotoco, Valle**	**4.96**	**167**	*e*S	**Sn**	**18 16 31.1**	**-3.3**
PAMC	**Pamplona, Colo**	**4.97**	**107**	*e*S	**Sn**	**18 16 34.9**	**-0.2**
CRJC	**Cerrejon, Guaj**	**5.03**	**64**	*e*S	**Sn**	**18 16 33.9**	**-2.0**
RUSC	**La Rusia**	**5.26**	**124**	*e*S	**Sn**	**18 16 38.5**	**-3.8**
SOCV	**Socops**	**6.58**	**94**	*e*S	**Sn**	**18 17 12.8**	**-1.4**
SDV	**Santo Domingo**	**6.77**	**89**	*e*S	**Sn**	**18 17 17.1**	**-2.1**

*BEO **29** 18:16:43.7±0.7, 40°.89N×20°.16E, h9km±2km, ML2.6/14*
*TIR **29** 18:16:45.3, 41°.07N×20°.25E, h13km±3km, Md2.8, Ml2.6*
*THE **29** 18:16:45.5, 41°.06N×20°.29E, h0km±3km, ML2.4/3, Error ellipse: s-maj=3.4km s-min=0.9km az=46.0*
*SKO **29** 18:16:46.0, 41°.00N×20°.21E, h7km*
*PDG **29** 18:16:46.0±0.6, 41°.08N×20°.12E, h14km±1km, ML2.9/14, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
ISC 29 18:16:45.8±1.0, 41°.05N±0°.02×20°.19E±0°.02, h12km±9km, n98, σ1°.09/148, 18C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.38**	**321**	⇑P	**Pg**	**18 16 53.1**	**-0.4**
TIR				⇑S	**Sb**	**18 17 00.5**	**+0.1**
TIR	**Tirane**	**0.38**	**321**	*e*Pg	**Pg**	**18 16 53.1**	**-0.4**
TIR				*e*Sg	**Sb**	**18 17 00.6**	**+0.1**
TIR	**Tirane**	**0.38**	**321**	P	**Pg**	**18 16 53.1**	**-0.4**
TIR				S	**Sb**	**18 17 00.7**	**+0.2**
	460nm,0.6s						
TIR	**Tirane**	**0.38**	**321**	*i* Pg	**Pg**	**18 16 53.3**	**-0.2**
TIR	**Tirane**	**0.38**	**321**	P	**Pg**	**18 16 53.3**	**-0.2**
	baz=314						
TIR				S	**Sb**	**18 17 00.6**	**+0.1**
	baz=314						
TIR				AMP			
	comp=N,1.8nm,0.4s,baz=314						
OHR	**Ohrid**	**0.47**	**82**	*e*Pg	**Pg**	**18 16 54.4**	**-0.6**
OHR				*e*Sg	**Sb**	**18 17 01.8**	**-1.1**
OHR	**Ohrid**	**0.47**	**82**	*i* Pg	**Pg**	**18 16 54.9**	**-0.1**
OHR				*i* Sg	**Sb**	**18 17 02.3**	**-0.5**
OHR				*e*Lg	Lg	18 17 02.5	
	comp=E,422nm,0.6s						
OHR				*e*Lg	Lg	18 17 04.6	
	comp=N,376nm,0.7s						
KBN	**Korca**	**0.62**	**133**	P	**Pg**	**18 16 56.2**	**-1.7**
	baz=137						
KBN				S	**Sb**	**18 17 07.0**	**-0.4**
	baz=137						
KBN				AMP			
	comp=N,2.8nm,0.6s,baz=137						
PHP	**Peshkopia**	**0.66**	**17**	P	**Pg**	**18 16 57.9**	**-0.8**
	baz=13						
PHP				S	**Sb**	**18 17 08.7**	**+0.2**
	baz=13						
PHP				AMP			
	comp=N,1.2nm,0.6s,baz=13						
VLO	**Vlora**	**0.78**	**222**	P	**Pg**	**18 17 01.0**	**0.0**
	baz=224						
VLO				S	**Sn**	**18 17 14.9**	**+0.7**
	baz=224						
NEST	**Nestorio**	**0.91**	**134**	P	**Pg**	**18 17 01.0**	**-2.4**
NEST				S	**Sb**	**18 17 15.4**	**-0.3**
	comp=N,175nm,0.5s						
FNA	**Florina**	**0.94**	**106**	P	**Pg**	**18 17 02.0**	**-1.9**
FNA				S	**Sb**	**18 17 17.0**	**+0.5**
	comp=N,458nm,0.3s						
FNA	**Florina**	**0.94**	**106**	P	**Pg**	**18 17 02.0**	**-1.9**
	baz=108						
FNA				S	**Sb**	**18 17 17.2**	**+0.7**
	baz=108						
LSK	**Leskovik**	**0.95**	**161**	P	**Pg**	**18 17 03.0**	**-1.1**
	baz=163						
LSK				S	**Sn**	**18 17 18.4**	**-0.2**
	baz=163						
ULC	**Ulcinj**	**1.16**	**322**	*e*Pg	**Pb**	**18 17 06.2**	**-1.5**
ULC	**Ulcinj**	**1.16**	**322**	⇓*i*Pg	**Pb**	**18 17 06.2**	**-1.5**
ULC				*i* Sg	**Sn**	**18 17 23.9**	**+0.3**
SRN	**Sarande**	**1.18**	**187**	P	**Pb**	**18 17 07.3**	**-0.8**
SRN				S	**Sn**	**18 17 26.1**	**+2.1**
SRN	**Sarande**	**1.18**	**187**	P	**Pg**	**18 17 08.5**	**+0.1**
	baz=190						
SRN				S	**Sn**	**18 17 26.5**	**+2.5**
	baz=190						
SRN				AMP			
	comp=N,0.4nm,0.8s,baz=190						
SKO	**Skopje**	**1.32**	**45**	*i* Pg	**Pg**	**18 17 10.4**	**-0.7**
SKO				*i* Sg	**Sn**	**18 17 28.1**	**+0.5**
BCI	**Bajram Curri**	**1.32**	**356**	P	**Pg**	**18 17 11.9**	**+0.8**
	baz=355						
BCI				S	**Sn**	**18 17 30.4**	**+2.8**
	baz=355						
BCI				AMP			
	comp=N,1.8nm,0.8s,baz=355						
DRME	**Dracevica, Mon**	**1.36**	**327**	*e*Pn	**Pn**	**18 17 10.3**	**-0.3**
DRME	**Dracevica, Mon**	**1.36**	**327**	⇑*i*Pg	**Pn**	**18 17 10.0**	**-0.6**
DRME				*i* Sg	**Sg**	**18 17 30.6**	**+0.9**
KEK	**Kerkira**	**1.37**	**193**	P	**Pb**	**18 17 11.7**	**+0.4**
KEK				S	**Sg**	**18 17 31.7**	**+1.9**
KPRO	**Kipourio**	**1.42**	**140**	P	**Pn**	**18 17 10.8**	**-0.6**
IGT	**Igoumenitsa**	**1.52**	**176**	P	**Pn**	**18 17 13.3**	**+0.5**
IGT	**Igoumenitsa**	**1.52**	**176**	P	**Pb**	**18 17 13.6**	**-0.3**
	baz=177						
IGT				S	**Sg**	**18 17 35.7**	**+1.0**
	baz=177						
PDG	**Podgorica**	**1.54**	**333**	⇑P	**Pb**	**18 17 14.1**	**-0.2**
PDG				⇓S	**Sg**	**18 17 35.7**	**+0.2**
PDG	**Podgorica**	**1.54**	**333**	*e*Pg	**Pb**	**18 17 13.9**	**-0.4**
PDG				*e*Sg	**Sg**	**18 17 37.0**	**+1.5**
PDG	**Podgorica**	**1.54**	**333**	*e*Pn	**Pb**	**18 17 13.7**	**-0.6**
PDG	**Podgorica**	**1.54**	**333**	*i* Pn	**Pb**	**18 17 14.2**	**-0.1**
PDG				*i* Sg	**Sg**	**18 17 37.1**	**+1.6**
TTG	**Podgorica**	**1.54**	**333**	⇑*i*Pg	**Pb**	**18 17 13.7**	**-0.6**
TTG				*i* Sg	**Sg**	**18 17 35.3**	**-0.2**
PVY	**Plav**	**1.55**	**354**	⇓*i*Pg	**Pb**	**18 17 14.1**	**-0.5**
PVY				*i* Sg	**Sg**	**18 17 35.9**	**+0.1**
BUM	**Brajici-Budva**	**1.58**	**323**	⇑*i*Pg	**Pn**	**18 17 13.9**	**+0.2**
BUM				*i* Sg	**Sg**	**18 17 36.2**	**-0.5**
KTI	**Kastanea**	**1.61**	**114**	P	**Pn**	**18 17 14.0**	**-0.1**
STIP	**Stip**	**1.64**	**66**	*i* Pn	**Pg**	**18 17 16.8**	**-0.4**
STIP				*i* Sg	**Sg**	**18 17 44.8**	**+6.4**
GRG	**Griva**	**1.68**	**92**	P	**Pn**	**18 17 14.4**	**-0.6**
CEME	**Cevo**	**1.77**	**328**	⇑*i*Pn	**Pn**	**18 17 16.8**	**+0.5**
CEME				*i* Sn	**Sb**	**18 17 40.8**	**+0.3**
VAY	**Valandovo**	**1.82**	**81**	*e*Pn	**Pn**	**18 17 16.1**	**-0.8**
VAY				*e*Sn	**Sn**	**18 17 39.3**	**-0.6**
VAY	**Valandovo**	**1.82**	**81**	*i* Pn	**Pb**	**18 17 18.6**	**-0.4**
VAY				*i* Sg	**Sb**	**18 17 42.3**	**+0.5**
VAY				*e*Lg	Lg	18 17 45.0	
	comp=N,31nm,0.5s						
VAY				*e*Lg	Lg	18 17 48.7	
	comp=E,34nm,0.7s						
BEY	**Berane**	**1.83**	**353**	*i* Pn	**Pg**	**18 17 19.8**	**-1.2**
IVA	**Berane**	**1.83**	**353**	⇓*i*Pn	**Pb**	**18 17 18.3**	**-1.0**
IVA				*i* Sn	**Sb**	**18 17 42.7**	**+0.4**
KOME	**Kolasin**	**1.87**	**345**	⇓*i*Pn	**Pn**	**18 17 18.3**	**+0.6**
KOME				*i* Sn	**Sb**	**18 17 43.3**	**0.0**
HCY	**Herceg Novi**	**1.89**	**318**	*e*Pn	**Pn**	**18 17 16.9**	**-0.9**
HCY	**Herceg Novi**	**1.89**	**318**	⇑*i*Pn	**Pn**	**18 17 17.4**	**-0.4**
HCY				*i* Sn	**Sb**	**18 17 43.0**	**-0.7**
NKME	**Niksic**	**1.95**	**332**	⇑*i*Pn	**Pn**	**18 17 19.3**	**+0.6**
NKME				*i* Sn	**Sb**	**18 17 45.2**	**-0.3**
NKY	**Niksic**	**1.97**	**334**	⇓*i*Pn	**Pn**	**18 17 19.5**	**+0.3**
NKY				*i* Sn	**Sb**	**18 17 45.4**	**-0.9**
LIT	**Litokhoron**	**1.99**	**118**	P	**Pn**	**18 17 19.4**	**+0.1**
PRVS	**Prvonek**	**2.03**	**43**	*e*Pn	**Pn**	**18 17 20.5**	**+0.7**
PRVS				*e*Sn	**Sb**	**18 17 46.1**	**-1.7**
KNT	**Kendrikon**	**2.05**	**86**	P	**Pn**	**18 17 19.3**	**-0.8**
BARS	**Barje**	**2.14**	**34**	*e*Pn	**Pn**	**18 17 22.1**	**+0.7**
BARS	**Barje**	**2.14**	**34**	*e*Pn	Pg	18 17 37.3	+10
TREB	**Trebinje**	**2.16**	**321**	*e*Pn	**Pn**	**18 17 21.6**	**0.0**
TREB				*e*Sn	**Sn**	**18 17 48.5**	**+0.2**
TREB	**Trebinje**	**2.16**	**321**	*e*Pn	**Pb**	**18 17 23.5**	**-1.3**
SJES	**Sjenica**	**2.21**	**356**	*e*Pn	**Pb**	**18 17 24.0**	**-1.8**
SJES				*e*Sn	**Sb**	**18 17 53.0**	**-0.3**
BRY	**Bratogost**	**2.22**	**327**	*e*Pn	**Pn**	**18 17 23.3**	**+0.7**
BRY	**Bratogost**	**2.22**	**327**	⇑*i*Pn	**Pn**	**18 17 22.8**	**+0.2**
BRY				*i* Sn	**Sn**	**18 17 50.9**	**+0.9**
DBRK	**Dubrovnik**	**2.22**	**317**	*e*Pn	**Pn**	**18 17 21.6**	**-0.9**
BOSS	**Bosilegrad**	**2.24**	**49**	*e*Pn	**Pn**	**18 17 22.5**	**-0.3**
BOSS				*e*Sn	**Sn**	**18 17 51.3**	**+0.9**
SELS	**Selova**	**2.28**	**17**	*e*Pn	**Pn**	**18 17 22.7**	**-0.5**
SELS				*e*Sn	**Sb**	**18 17 54.3**	**-0.6**
UPM	**Unac-Piva**	**2.35**	**337**	*e*Pn	**Pn**	**18 17 25.9**	**+1.5**
UPM	**Unac-Piva**	**2.35**	**337**	⇑*i*Pn	**Pn**	**18 17 24.8**	**+0.4**
UPM				*i* Sn	**Sn**	**18 17 54.4**	**+1.0**
PLE	**Pljevlja**	**2.35**	**346**	⇑*i*Pn	**Pn**	**18 17 24.8**	**+0.4**
PLE				*i* Sn	**Sn**	**18 17 55.0**	**+1.7**
STON	**Ston**	**2.60**	**315**	*e*Pn	**Pn**	**18 17 27.5**	**-0.1**
STON	**Ston**	**2.60**	**315**	*e*Pn	**Pn**	**18 17 26.6**	**-1.0**
RUDO	**Rudo**	**2.64**	**347**	*e*Pn	**Pn**	**18 17 27.9**	**-0.3**
MATE	**Matera**	**2.67**	**263**	⇑P	**Pn**	**18 17 29.3**	**+0.7**
MATE				⇓S	**Sb**	**18 18 04.8**	**-1.5**
VTS	**Vitosha**	**2.76**	**54**	⇓P	**Pn**	**18 17 29.3**	**-0.8**
VTS				⇑S	**Sn**	**18 18 03.0**	**-0.5**
VTS	**Vitosha**	**2.76**	**54**	*e*Pn	**Pn**	**18 17 29.0**	**-1.1**
VTS				*e*Sn	**Sn**	**18 18 03.3**	**-0.1**
VTS	**Vitosha**	**2.76**	**54**	*i* Pn	**Pn**	**18 17 30.1**	**+0.1**
BBLS	**Lazići**	**2.87**	**349**	*e*Pn	**Pn**	**18 17 31.8**	**+0.3**
BBLS				*e*Sn	**Sn**	**18 18 08.2**	**+2.2**
LSTV	**Lastovo**	**3.00**	**306**	*e*Pn	**Pn**	**18 17 31.8**	**-1.3**
DIVS	**Divibare**	**3.05**	**357**	*e*Pn	**Pn**	**18 17 34.8**	**+0.9**
DIVS	**Divibare**	**3.05**	**357**	*e*Pn	**Pn**	**18 17 35.8**	**+1.9**
ZAGS	**Zajecar**	**3.15**	**28**	*e*Pn	**Pn**	**18 17 34.7**	**-0.5**
BLKB	**Belogradchik**	**3.16**	**35**	⇓S	**Sn**	**18 18 14.0**	**+0.9**
TIP	**Timpagrande**	**3.23**	**236**	⇓P	**Pn**	**18 17 36.8**	**+0.5**
MAKA	**Makarska**	**3.25**	**315**	*e*Pn	**Pn**	**18 17 35.8**	**-0.8**
RICI	**Ricice**	**3.33**	**318**	*e*Pn	**Pn**	**18 17 36.9**	**-0.8**
HVAR	**Hvar**	**3.50**	**309**	*e*Pn	**Pn**	**18 17 38.4**	**-1.7**
MDVR	**Moldovita**	**3.89**	**16**	⇓P	**Pn**	**18 17 45.6**	**+0.1**
KIJV	**Kijevo**	**4.07**	**318**	*e*Pn	**Pn**	**18 17 47.3**	**-0.5**
FRGS	**Fruska Gora**	**4.12**	**356**	⇑P	**Pn**	**18 17 48.4**	**-0.1**
FRGS	**Fruska Gora**	**4.12**	**356**	*e*Pn	**Pn**	**18 17 47.9**	**-0.6**
HERR	**Herculane**	**4.16**	**22**	⇑P	**Pn**	**18 17 49.4**	**+0.2**
HERR				⇑S	**Sn**	**18 18 39.2**	**+1.5**
ZIRJ	**Zirje**	**4.25**	**309**	*e*Pn	**Pn**	**18 17 49.0**	**-1.3**
MORI	**Morici**	**4.35**	**312**	*e*Pn	**Pn**	**18 17 50.8**	**-0.8**
A050A	**Klekovaca**	**4.36**	**323**	*e*Pn	**Pn**	**18 17 52.3**	**+0.4**
A051A	**Mrakovica**	**4.63**	**330**	*e*Pn	**Pn**	**18 17 55.6**	**-0.1**
BZS	**Buzias**	**4.68**	**12**	⇓P	**Pn**	**18 17 56.4**	**+0.2**
BZS				⇓S	**Sn**	**18 18 51.4**	**+0.9**
GZR	**Gura Zlata**	**4.74**	**23**	⇓P	**Pn**	**18 17 57.5**	**+0.4**
GZR				⇑S	**Sn**	**18 18 52.3**	**+0.6**
UDBI	**Udbina**	**4.76**	**318**	*e*Pn	**Pn**	**18 17 57.9**	**+0.5**
DUGI	**Dugi Otok**	**4.80**	**309**	*e*Pn	**Pn**	**18 17 56.9**	**-0.9**
VIRC	**Vir**	**4.98**	**312**	*e*Pn	**Pn**	**18 17 59.8**	**-0.5**
NVLJ	**Novalja**	**5.25**	**314**	*e*Pn	**Pn**	**18 18 03.2**	**-0.9**
CRES	**Cresnjev**	**5.88**	**326**	*e*Pn	**Pn**	**18 18 11.8**	**-1.0**
CEY	**Cerknica**	**6.29**	**320**	*e*Pn	**Pn**	**18 18 17.9**	**-0.5**
SKDS	**Skadanscina**	**6.36**	**317**	*e*Pn	**Pn**	**18 18 16.5**	**-2.9**
OBKA	**Obir**	**6.81**	**325**	*e*Pn	**Pn**	**18 18 24.0**	**-1.6**

IDC 29 18:28:16.5±1.6, 4°.06N×123°.17E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=288.3km s-min=24.2km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.26**	**156**	P	P	18 33 53.9	+0.2
	0.3nm,0.4s,baz=334,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**29.48**	**160**	P	P	18 34 22.3	-0.2
	0.1nm,0.5s,baz=333,slow=7.1,SNR=1.8						
MKAR	**Makanchi Array**	**55.30**	**327**	P	P	18 37 52.7	+0.8
	0.1nm,0.4s,baz=126,slow=8.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**58.72**	**335**	P	P	18 38 15.1	-0.9
	0.3nm,0.4s,baz=144,slow=7.4,SNR=2.0						

*NEIC **29** 18:48:38.6±2.0, 17°.25S±0°.07×175°.0W±0°.1, h158km±12km, mb4.2/13, Error ellipse: s-maj=18.4km s-min=9.5km az=79.0*
*IDC **29** 18:48:39.5±4.1, 16°.99S×175°.09W, h168km±46km, mb3.5/3, mb1 3.7/4, mb1mx3.1/36, mbtmp4.1/4, Error ellipse: s-maj=139.5km s-min=40.7km az=149.0*
ISC 29 18:48:37.0±0.7, 17°.20S±0°.09×174°.95W±0°.08, h150km, n20, σ1°.34/24, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.48**	**44**	P	**Pn**	**18 49 45.8**	**+2.1**
	16nm,0.3s,baz=288,slow=1.6,SNR=15						
AFI				S	**Sn**	**18 50 33.5**	**-2.0**
	16nm,0.3s,baz=50,slow=22,SNR=9.8						
NIUE	**Niue**	**5.13**	**112**	Pn	**Pn**	**18 49 54.6**	**+2.4**
NIUE				Sn	**Sn**	**18 50 47.6**	**-3.2**
BHW	**Baring Head**	**25.67**	**198**	P	**P**	**18 53 54.7**	**+1.8**
QRZ	**Quartz Range**	**25.91**	**202**	P	**P**	**18 53 55.2**	**+0.2**
THZ	**Tophouse**	**26.61**	**201**	P	**P**	**18 54 02.6**	**+1.2**
TOO	**Toolangi**	**40.18**	**232**	P	**P**	**18 55 57.8**	**-0.9**
TOO				IAmb	IAmb	18 56 23.3	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**41.86**	**241**	P	**P**	**18 56 13.5**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=80,slow=6.3,SNR=8.3						
STKA	**Stephens Creek**	**41.86**	**241**	IAmb	IAmb	18 56 14.4	
	comp=Z,1.0nm,1.0s						
BBOO	**Buckleboo**	**46.63**	**241**	P	**P**	**18 56 50.3**	**-0.2**
BBOO				IAmb	IAmb	18 57 09.0	
	comp=Z,8.3nm,1.2s						
WR0	**Warramunga Arr**	**47.81**	**258**	P	**P**	**18 57 00.5**	**+0.7**
WR0				IAmb	IAmb	18 57 13.0	
	comp=Z,7.6nm,1.6s						
WB0	**Warramunga Arr**	**47.97**	**259**	P	**P**	**18 57 00.6**	**-0.4**
WB0				IAmb	IAmb	18 57 23.0	
	comp=Z,6.1nm,1.4s						
WB2	**Warramunga Arr**	**47.99**	**258**	P	**P**	**18 57 00.2**	**-0.9**
WB2				IAmb	IAmb	18 57 08.7	
	comp=Z,8.6nm,1.6s						
WRA	**Warramunga Arr**	**48.00**	**258**	P	**P**	**18 57 00.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=98,slow=6.8,SNR=6.6						
WRA				PcP	**PcP**	**18 58 27.1**	**0.0**
	comp=Z,0.2nm,0.7s,baz=96,slow=3.4,SNR=1.6						
AS31	**Alice Springs**	**48.15**	**253**	P	**P**	**18 57 02.0**	**-0.3**
AS31				IAmb	IAmb	18 57 03.8	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**48.15**	**253**	P	**P**	**18 57 02.3**	**0.0**
	comp=Z,3.6nm,0.8s,baz=89,slow=7.9,SNR=49						
ASAR				PcP	**PcP**	**18 58 27.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=100,slow=3.8,SNR=5.5						
ASAR	**Alice Springs**	**48.15**	**253**	P	**P**	**18 57 02.2**	**-0.2**
ASAR				PcP	**PcP**	**18 58 27.2**	**-0.4**
MTN	**Manton Dam**	**52.12**	**267**	P	**P**	**18 57 30.2**	**-2.1**
MTN				IAmb	IAmb	18 57 46.0	
	comp=Z,9.3nm,1.2s						
FORT	**Forrest**	**53.28**	**244**	P	**P**	**18 57 40.2**	**-0.4**
NIKH	**Nikolski High**	**70.08**	**4**	P	**P**	**18 59 32.6**	**+0.1**
CLL	**Collm**	**145.38**	**351**	*i* PKPbc	**PKPdf**	**19 07 57.3**	**+0.3**

NOU 29 19:06:39.3, 14°.86S×167°.06E, h42km, mb3.9/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.60**	**167**	P	Pn	19 06 52.5	+1.0
DVP	**Devils Point**	**3.05**	**159**	P	Pn	19 07 25.1	+0.1
YATNC	**Mamie plateau,**	**7.16**	**181**	P	Pn	19 08 22.3	+0.7
DZM	**Mont Dzumac**	**7.20**	**185**	P	Pn	19 08 20.8	-1.3
NOUC	**Port Laguerre**	**7.24**	**186**	P	Pn	19 08 22.0	-0.6
OUENC	**Ouen Island, N**	**7.52**	**182**	P	Pn	19 08 27.6	+1.1

*TUL **29** 19:56:34±1.3, 36°.09N±0°.01×97°.003W±0°.007, h6km±3km, ML2.8, mb_Lg2.5/24(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=169.0*
**NEIC 29 19:56:34.3±1.4, 36°.10N±0°.01×97°.013W±0°.008, h6km±

NEIC ***29*** *20:32:26.1±2.7,22.˚30S±0.˚05×67.˚45W±0.˚09,h190km±9km, mb4.6/20,ML4.8(GUC),Error ellipse: s-maj=12.4km s-min=7.8km az=89.0*

IDC ***29*** *20:32:27.5±0.7,22.˚27S×67.˚36W,h171km±7km,mb3.8/9, mb1 3.9/15,mb1mx3.8/29,mbtmp4.3/15,Error ellipse: s-maj=13.5km s-min=13.3km az=107.0*

VAO ***29*** *20:32:27.8±0.3,22.˚26S×67.˚44W,h190km,mb4.2*

GUC ***29*** *20:32:28.5±0.8,22.˚29S×67.˚65W,h201km±7km,ML4.8*

SCB ***29*** *20:32:30.4±2.3,22.˚24S×67.˚53W,h133km±24km,ML4.1/15, MW3.9,Error ellipse: s-maj=8.8km s-min=4.7km az=0.0*

ISC 29 20:32:27.0±0.6,22.˚30S±0.˚03×67.˚48W±0.˚04,h184km±5km, n164,σ1§67/207,mb4.4/13,15C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.35**	**256**	P	**Pn**	**20 32 59.8**	**+1.4**
	184nm,0.3s,baz=71,slow=6.1,SNR=458						
LVC				S	**Sn**	**20 33 22.5**	**-0.1**
	82nm,0.3s,baz=282,slow=20,SNR=6.0						
LVC				LR	LR	20 33 39.9	
	comp=Z,218nm,21.1s,baz=130,slow=49						
LVC	**Limon Verde**	**1.35**	**256**	Pn	**Pn**	**20 32 59.7**	**+1.4**
LVC				S	**Sn**	**20 33 21.8**	**-0.8**
LVC	**Limon Verde**	**1.35**	**256**	*e*P	**Pn**	**20 32 59.3**	**+1.0**
LVC				*i* S	**Sn**	**20 33 23.0**	**+0.4**
LVC	**Limon Verde**	**1.35**	**256**	*e*P	**Pn**	**20 32 59.8**	**+1.4**
LVC	**Limon Verde**	**1.35**	**256**	P	**Pn**	**20 32 59.6**	**+1.3**
PB09	**IPOC Station P**	**1.71**	**287**		**Pn**	**20 33 02.8**	**+1.3**
PB09				S	**Sn**	**20 33 27.5**	**-0.6**
PB09	**IPOC Station P**	**1.71**	**287**	⇑*i*P	**Pn**	**20 33 03.3**	**+1.9**
PB09				*i* S	**Sn**	**20 33 29.7**	**+1.6**
PB09				IAML		20 33 33.3	
	comp=N,1μm,0.6s						
PB09	**IPOC Station P**	**1.71**	**287**	P	**Pn**	**20 33 03.0**	**+1.6**
PB09				S	**Sn**	**20 33 25.3**	**-2.8**
PB09				IAML		20 33 33.0	
	comp=N,1μm,0.2s						
YJA	**Yavi**	**1.83**	**87**	P	**Pn**	**20 33 04.4**	**+1.4**
PB06	**IPOC Station P**	**1.97**	**258**		**Pn**	**20 33 05.1**	**+0.9**
PB06				S	**Sn**	**20 33 32.5**	**-0.6**
PB06	**IPOC Station P**	**1.97**	**258**	⇑*i*P	**Pn**	**20 33 05.3**	**+1.1**
PB06				*i* S	**Sn**	**20 33 33.3**	**+0.3**
PB06				IAML		20 33 35.2	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.97**	**258**	P	**Pn**	**20 33 05.4**	**+1.2**
PB06				IAML		20 33 41.0	
	comp=N,828nm,0.8s						
MOCB	**Mochara**	**2.01**	**59**	P	**Pn**	**20 33 06.2**	**+1.3**
MOCB				S	**Sn**	**20 33 32.1**	**-2.1**
MOCB				IAML		20 33 34.6	
	comp=N,1μm,0.4s						
MOCB				IAML		20 33 35.6	
	comp=N,2μm,0.4s						
PB15	**IPOC Station P**	**2.05**	**243**		**Pn**	**20 33 06.3**	**+1.2**
PB15				Sn	**Sn**	**20 33 34.7**	**+0.2**
PB15	**IPOC Station P**	**2.05**	**243**	⇑*i*P	**Pn**	**20 33 06.5**	**+1.4**
PB15				*i* S	**Sn**	**20 33 35.2**	**+0.7**
PB15	**IPOC Station P**	**2.05**	**243**	P	**Pn**	**20 33 06.2**	**+1.2**
PB15				S	**Sn**	**20 33 31.3**	**-3.3**
PB01	**IPOC Station P**	**2.24**	**303**		**Pn**	**20 33 08.1**	**+1.0**
PB01				Sn	**Sn**	**20 33 37.6**	**-0.6**
PB01	**IPOC Station P**	**2.24**	**303**	⇑*i*P	**Pn**	**20 33 08.3**	**+1.2**
PB01				*i* S	**Sn**	**20 33 38.4**	**+0.2**
PB01				IAML		20 33 42.0	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**2.24**	**303**	P	**Pn**	**20 33 08.3**	**+1.2**
PB01				IAML		20 33 41.1	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**2.30**	**284**		**Pn**	**20 33 08.2**	**+0.4**
PB07				Sn	**Sn**	**20 33 38.7**	**-0.8**
PB07	**IPOC Station P**	**2.30**	**284**	⇑*i*P	**Pn**	**20 33 09.1**	**+1.2**
PB07				*i* S	**Sn**	**20 33 39.0**	**-0.5**
PB07				IAML		20 33 40.0	
	comp=N,4μm,0.3s						
PB07	**IPOC Station P**	**2.30**	**284**	P	**Pn**	**20 33 09.0**	**+1.2**
PB07				S	**Sn**	**20 33 36.9**	**-2.6**
PB07				IAML		20 33 40.0	
	comp=N,3μm,0.3s						
PB02	**IPOC Station P**	**2.44**	**293**		**Pn**	**20 33 10.2**	**+0.8**
PB02				Sn	**Sn**	**20 33 41.2**	**-1.0**
PB02	**IPOC Station P**	**2.44**	**293**	⇑*i*P	**Pn**	**20 33 10.3**	**+1.0**
PB02				*i* S	**Sn**	**20 33 41.7**	**-0.6**
PB02				IAML		20 33 44.4	
	comp=E,4μm,0.3s						
PB02	**IPOC Station P**	**2.44**	**293**	P	**Pn**	**20 33 10.5**	**+1.1**
PB02				IAML		20 33 45.9	
	comp=E,3μm,0.4s						
PB04	**IPOC Station P**	**2.47**	**269**		**Pn**	**20 33 10.5**	**+0.8**
PB04				Sn	**Sn**	**20 33 41.7**	**-1.2**
PB04	**IPOC Station P**	**2.47**	**269**	⇑*i*P	**Pn**	**20 33 10.7**	**+1.0**
PB04				*i* S	**Sn**	**20 33 42.3**	**-0.6**
PB04				IAML		20 33 45.2	
	comp=E,3μm,0.1s						
PB04	**IPOC Station P**	**2.47**	**269**	P	**Pn**	**20 33 10.9**	**+1.2**
PB04				IAML		20 33 45.5	
	comp=E,2μm,0.4s						
PB08	**IPOC Station P**	**2.65**	**324**		**Pn**	**20 33 13.8**	**+1.7**
PB08				Sn	**Sn**	**20 33 47.3**	**+0.2**
PB08	**IPOC Station P**	**2.65**	**324**	⇑*i*P	**Pn**	**20 33 14.1**	**+2.0**
PB08				*i* S	**Sn**	**20 33 48.3**	**+1.2**
PB08				IAML		20 33 52.0	
	comp=E,1μm,0.5s						
PB08	**IPOC Station P**	**2.65**	**324**	P	**Pn**	**20 33 14.1**	**+2.0**
PB08				IAML		20 33 52.7	
	comp=E,529nm,0.6s						
PATCX	**Punta Patache**	**2.89**	**300**	Pn	**Pn**	**20 33 14.8**	**+0.3**
PATCX				Sn	**Sn**	**20 33 50.2**	**-1.4**
PATCX	**Punta Patache**	**2.89**	**300**	⇑*i*P	**Pn**	**20 33 15.1**	**+0.6**
PATCX				*i* S	**Sn**	**20 33 50.7**	**-0.9**
PATCX				IAML		20 33 56.0	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**3.01**	**311**	⇑*i*P	**Pn**	**20 33 16.3**	**+0.2**
HMBC				*i* S	**Sn**	**20 33 53.0**	**-1.3**
HMBC				IAML		20 33 54.2	
	comp=E,4μm,0.3s						
TA01	**Diego Aracena**	**3.05**	**304**	Pn	**Pn**	**20 33 16.6**	**+0.2**
TA01				Sn	**Sn**	**20 33 53.2**	**-1.7**
TA01	**Diego Aracena**	**3.05**	**304**	*e*P	**Pn**	**20 33 16.6**	**+0.2**
TA01				*i* S	**Sn**	**20 33 53.6**	**-1.2**
TA01				IAML		20 33 56.5	
	comp=E,2μm,0.4s						
GO01	**Chusmiza**	**3.06**	**328**	Pn	**Pn**	**20 33 18.4**	**+1.3**
GO01				Sn	**Sn**	**20 33 56.1**	**-0.1**
GO01	**Chusmiza**	**3.06**	**328**	⇑*i*P	**Pn**	**20 33 18.6**	**+1.5**
GO01				*i* S	**Sn**	**20 33 57.0**	**+0.9**
GO01				IAML		20 33 59.6	
	comp=N,2μm,0.3s						
PB10	**IPOC Station P**	**3.08**	**246**	Pn	**Pn**	**20 33 17.1**	**+0.3**
PB10				Sn	**Sn**	**20 33 52.7**	**-2.9**
PB10	**IPOC Station P**	**3.08**	**246**	⇑*i*P	**Pn**	**20 33 17.5**	**+0.7**
PB10				*i* S	**Sn**	**20 33 53.7**	**-1.9**
PB10				IAML		20 33 55.7	
	comp=N,776nm,0.3s						
PB10	**IPOC Station P**	**3.08**	**246**	P	**Pn**	**20 33 17.5**	**+0.7**
PB10				IAML		20 33 56.2	
	comp=N,431nm,0.3s						
TA02	**Huaiquique**	**3.19**	**309**		**Pn**	**20 33 17.8**	**-0.3**
TA02				Sn	**Sn**	**20 33 55.7**	**-2.3**
TA02	**Huaiquique**	**3.19**	**309**	*e*P	**Pn**	**20 33 18.2**	**+0.1**
TA02				IAML		20 34 02.9	
	comp=N,2μm,0.5s						
PB11	**IPOC Station P**	**3.24**	**321**		**Pn**	**20 33 19.0**	**+0.1**
PB11				Sn	**Sn**	**20 33 57.3**	**-2.1**
PB11	**IPOC Station P**	**3.24**	**321**	⇑*i*P	**Pn**	**20 33 19.2**	**+0.3**
PB11				*i* S	**Sn**	**20 33 58.2**	**-1.2**
PB11	**IPOC Station P**	**3.24**	**321**	P	**Pn**	**20 33 19.5**	**+0.6**
PB11				IAML		20 34 00.7	
	comp=N,845nm,0.2s						
GO02	**Mina Guanaco**	**3.44**	**214**	Pn	**Pn**	**20 33 22.3**	**+0.8**
GO02				Sn	**Sn**	**20 34 03.1**	**-1.1**
GO02	**Mina Guanaco**	**3.44**	**214**	⇑*i*P	**Pn**	**20 33 22.7**	**+1.2**
GO02				*i* S	**Sn**	**20 34 03.6**	**-0.6**
PB14	**IPOC Station P**	**3.54**	**229**	Pn	**Pn**	**20 33 23.2**	**+0.5**
PB14				Sn	**Sn**	**20 34 04.0**	**-2.4**
PB14	**IPOC Station P**	**3.54**	**229**	⇑*i*P	**Pn**	**20 33 23.5**	**+0.7**
PB14				*i* S	**Sn**	**20 34 04.8**	**-1.6**
PB16	**IPOC Station P**	**4.38**	**334**		**Pn**	**20 33 34.3**	**+0.7**
PB16				Sn	**Sn**	**20 34 23.5**	**-2.2**
PB16	**IPOC Station P**	**4.38**	**334**	*e*P	**Pn**	**20 33 35.0**	**+1.4**
PB16				*i* S	**Sn**	**20 34 25.2**	**-0.5**
PB16	**IPOC Station P**	**4.38**	**334**	P	**Pn**	**20 33 35.2**	**+1.6**
PB16				S	**Sn**	**20 34 22.5**	**-3.2**
PB16				IAML		20 34 26.0	
	comp=N,198nm,0.3s						
PB12	**IPOC Station P**	**4.53**	**323**	Pn	**Pn**	**20 33 35.0**	**-0.1**
PB12				Sn	**Sn**	**20 34 23.1**	**-5.4**
PB12	**IPOC Station P**	**4.53**	**323**	*e*P	**Pn**	**20 33 34.3**	**-0.8**
PB12				*i* S	**Sn**	**20 34 25.0**	**-3.5**
AP01	**Chacalluta**	**4.74**	**325**	Pn	**Pn**	**20 33 36.5**	**-1.2**
AP01				Sn	**Sn**	**20 34 27.6**	**-5.6**
AC02	**Maricunga**	**4.76**	**198**	Pn	**Pn**	**20 33 37.4**	**-1.0**
AC01	**Pan de Azucar**	**4.77**	**216**	Pn	**Pn**	**20 33 37.1**	**-0.9**
AC01				Sn	**Sn**	**20 34 26.7**	**-7.3**
BBOE	**La Paz, Chanca**	**5.48**	**355**	P	**Pn**	**20 33 50.1**	**+2.3**
BBOE				IAML		20 35 03.4	
	comp=N,22nm,0.6s						
AC06	**Mina Casimiro**	**5.67**	**207**		**Pn**	**20 33 47.2**	**-2.6**
BBOD	**La Paz, Gloria**	**5.73**	**349**	P	**Pn**	**20 33 53.4**	**+2.4**
BBOD				IAML		20 35 02.5	
	comp=N,20nm,0.9s						
GO03	**Copiap**	**5.83**	**205**		**Pn**	**20 33 48.3**	**-3.6**
LPAZ	**La Paz**	**6.01**	**354**	P	**Pn**	**20 33 56.6**	**+1.8**
	comp=N,3.2nm,0.3s,baz=183,slow=9.1,SNR=26						
LPAZ				S	**Sn**	**20 35 03.0**	**-0.9**
	comp=N,1.0nm,0.3s,baz=40,slow=21,SNR=3.9						
LPAZ	**La Paz**	**6.01**	**354**	Pn	**Pn**	**20 33 55.1**	**+0.3**
LPAZ	**La Paz**	**6.01**	**354**	*e*P	**Pn**	**20 33 56.2**	**+1.4**
LPAZ	**La Paz**	**6.01**	**354**	P	**Pn**	**20 33 56.8**	**+2.0**
LPAZ				IAML		20 35 05.4	
	comp=N,6.3nm,0.6s						
AC04	**Llanos de Chal**	**6.72**	**208**	Pn	Pn	20 33 59.1	-4.3
CO05	**La Serena**	**8.31**	**203**	Pn	**Pn**	**20 34 22.6**	**-1.7**
GO04	**Tololo Observa**	**8.39**	**200**	Pn	**Pn**	**20 34 23.7**	**-1.9**
SIV	**San Ignacio**	**8.72**	**45**	P	**Pn**	**20 34 27.7**	**-2.1**
	comp=N,10.0nm,0.3s,baz=222,slow=11,SNR=79						
SIV				S	**Sn**	**20 36 02.1**	**-5.4**
	comp=N,5.0nm,0.3s,baz=320,slow=2,SNR=17						
CO03	**El Pedregal**	**8.98**	**198**	Pn	**Pn**	**20 34 31.4**	**-1.7**
CPUP	**Villa Florida**	**10.09**	**115**	P	**Pn**	**20 34 48.9**	**+1.2**
	comp=N,0.6nm,0.3s,baz=300,slow=11,SNR=12						
CPUP	**Villa Florida**	**10.09**	**115**	Pn	**Pn**	**20 34 46.0**	**-1.6**
CPUP	**Villa Florida**	**10.09**	**115**	*e*P	**Pn**	**20 34 48.3**	**+0.6**
PTLB	**Pontes e Lacer**	**10.43**	**51**	*e*P	**Pn**	**20 34 50.5**	**-1.6**
VA03	**San Esteban**	**10.78**	**194**	Pn	**Pn**	**20 34 57.5**	**+0.9**
ROC1	**El Roble**	**11.09**	**196**	Pn	**Pn**	**20 34 59.1**	**-1.6**
AQDB	**Aquidauana**	**11.13**	**83**	Pn	**Pn**	**20 34 59.5**	**-1.7**
AQDB	**Aquidauana**	**11.13**	**83**	*e*P	**Pn**	**20 35 01.4**	**+0.2**
MT05	**Renca**	**11.42**	**194**	Pn	**Pn**	**20 35 01.8**	**-3.1**
VILB	**Vilhena**	**11.60**	**38**	*e*P	**Pn**	**20 35 06.3**	**-0.9**
BO04	**La Punta**	**11.97**	**193**	Pn	**Pn**	**20 35 09.5**	**-2.4**
MT01	**Popeta**	**11.99**	**195**	Pn	**Pn**	**20 35 11.2**	**-1.0**
ITQB	**Itaqui**	**12.21**	**129**	*e*P	**Pn**	**20 35 16.0**	**+1.0**
ETMB	**Extrema**	**12.47**	**6**	*e*P	**Pn**	**20 35 17.4**	**-1.0**
SALV	**Santo Antonio**	**12.83**	**62**	*e*P	**Pn**	**20 35 22.3**	**-0.6**
NNA	**Nana**	**13.60**	**317**	P	**P**	**20 35 35.3**	**-0.3**
	comp=N,2.1nm,0.3s,baz=155,slow=10,SNR=10						
NNA	**Nana**	**13.60**	**317**	Pn	**Pn**	**20 35 30.7**	**-2.0**
PTGB	**Pitanga**	**14.35**	**103**	*e*P	**Pn**	**20 35 41.9**	**-0.1**
PDRB	**Porto dos Gac**	**14.78**	**46**	*e*P	**P**	**20 35 48.9**	**+0.3**
ITAB	**Concordia**	**14.78**	**113**		**Pn**	**20 35 46.3**	**-1.0**
ITAB	**Concordia**	**14.78**	**113**	*e*P	**Pn**	**20 35 47.0**	**-0.3**
PCMB	**Pacaembu**	**15.07**	**90**	*e*P	**Pn**	**20 35 51.0**	**+0.1**
CZSB	**Cruzeiro do Su**	**15.33**	**340**	*e*P	**Pn**	**20 35 53.9**	**-0.2**
PLTB	**Pedras Altas**	**15.54**	**130**		**Pn**	**20 35 54.0**	**-2.5**
PLTB	**Pedras Altas**	**15.54**	**130**	*e*P	**Pn**	**20 35 55.5**	**-1.0**
ITRB	**Iturama**	**16.20**	**84**	*e*P	**Pn**	**20 36 05.8**	**+1.2**
CNLB	**Canela**	**16.52**	**118**	*e*P	**Pn**	**20 36 08.2**	**-0.2**
BB19B	**Belmiouro**	**17.66**	**90**	*e*P	**P**	**20 36 21.3**	**+1.0**
TER01	**Tubaro-SC**	**17.70**	**114**	*e*P	**P**	**20 36 21.3**	**+0.7**
RCLB	**Rio Claro- Sao**	**18.46**	**94**	*e*P	**P**	**20 36 29.6**	**+0.5**
SNDB	**Serra Nova Dou**	**18.55**	**59**	*e*P	**P**	**20 36 29.9**	**-0.1**
PLCA	**Paso Flores**	**18.56**	**187**	P	**Pn**	**20 36 30.8**	**-1.6**
	comp=N,0.3nm,0.3s,baz=4.1,slow=11,SNR=8.5						
PLCA	**Paso Flores**	**18.56**	**187**	P	**P**	**20 36 27.7**	**-2.3**
PLCA	**Paso Flores**	**18.56**	**187**	*e*P	**P**	**20 36 30.1**	**+0.1**
IPMB	**Ipameri, GO**	**18.59**	**80**	*e*P	**P**	**20 36 31.2**	**+0.6**
PET01	**Itanhaem-SP**	**18.67**	**100**	*e*P	**P**	**20 36 31.6**	**+0.4**
VAO	**Valinhos**	**18.95**	**96**	*e*P	**P**	**20 36 34.6**	**+0.1**
NPGB	**Novo Progresso**	**19.15**	**39**	*e*P	**P**	**20 36 35.7**	**-0.8**
BDFB	**Brasilia**	**19.56**	**74**	P	**P**	**20 36 41.1**	**+0.1**
	comp=N,1.0nm,0.3s,baz=260,slow=11,SNR=18						
BDFB	**Brasília**	**19.56**	**74**	P	**P**	**20 36 38.8**	**-2.2**
BDFB				IAmb	IAmb	20 36 42.1	
	comp=Z,13nm,0.8s						
PARB	**Paraibuna**	**20.18**	**97**	*e*P	**P**	**20 36 46.9**	**-0.7**
PEXB	**Peixe**	**20.92**	**64**	*e*P	**P**	**20 36 54.4**	**-1.0**
GO07	**Milladeo Hill,**	**21.39**	**192**	P	**P**	**20 36 59.3**	**-0.8**
MCRA	**Macar, Loja**	**21.53**	**324**	P	**P**	**20 37 00.6**	**-1.4**
BOSC	**San Juan Bosco**	**21.83**	**329**	P	**P**	**20 37 02.4**	**-2.8**
VAS01	**Vassouras-RJ**	**22.24**	**95**	*e*P	**P**	**20 37 08.8**	**-0.1**
DIAM	**Diamantina, MG**	**22.68**	**84**	*e*P	**P**	**20 37 13.1**	**-0.1**
MC01	**Montes Claros**	**22.86**	**80**	*e*P	**P**	**20 37 13.3**	**-1.4**
JANB	**Januaria**	**23.08**	**76**	*e*P	**P**	**20 37 15.8**	**-0.9**
SMTB	**Santa Maria do**	**23.32**	**58**	*e*P	**P**	**20 37 17.9**	**-1.0**
SDBA	**SAO DESIDERIO**	**23.66**	**69**	*e*P	**P**	**20 37 21.6**	**-0.4**
MALB	**Monte Alegre**	**24.04**	**34**	*e*P	**P**	**20 37 25.6**	**+0.2**
SJMB	**Sao Joao De Ma**	**24.88**	**87**	*e*P	**P**	**20 37 32.3**	**-0.6**
TULM	**Tulcn-Chalpat**	**24.98**	**335**	P	**P**	**20 37 32.2**	**-2.2**
TULM				IAmb	IAmb	20 38 09.6	
	comp=Z,26nm,0.8s						
BOAV	**Boa Vista**	**25.47**	**16**	*e*P	**P**	**20 37 39.0**	**+0.7**
MCPB	**Macapa, AP**	**26.48**	**37**	*e*P	**P**	**20 37 46.4**	**-1.0**
GDU01	**Guandu, BA**	**27.84**	**77**	*e*P	**P**	**20 37 58.8**	**-0.7**
NBPN	**Ponto Novo - B**	**28.47**	**71**	*e*P	**P**	**20 38 05.5**	**+0.3**
EFI	**East Falkland**	**30.22**	**168**	P	**P**	**20 38 18.3**	**-1.9**
EFI				IAmb	IAmb	20 38 22.0	
	comp=Z,15nm,0.8s						
NBLA	**Lagarto - SE**	**30.53**	**73**	*e*P	**P**	**20 38 23.0**	**-0.3**
NBMA	**Muriti-CE**	**31.39**	**66**	*e*P	**P**	**20 38 31.9**	**+1.0**
MG03	**Isla Dawson**	**31.58**	**183**	P	**P**	**20 38 31.6**	**-0.4**
NBPB	**Pedra_Branca-C**	**31.69**	**62**	*e*P	**P**	**20 38 33.8**	**+0.3**
NBAN	**Anadia - AL**	**32.44**	**72**	*e*P	**P**	**20 38 39.3**	**-0.7**
RCBR	**Riachuelo**	**34.62**	**67**	P	**P**	**20 38 59.7**	**+0.8**
RCBR				IAmb	IAmb	20 39 04.0	
	comp=Z,36nm,1.4s						
NBPV	**Pedro Velho**	**34.84**	**68**	*e*P	**P**	**20 39 00.9**	**+0.2**
VNA3	**Neumayer Olymp**	**58.90**	**161**	P	**P**	**20 42 08.8**	**+2.5**
VNA2	**Neumayer--Watz**	**59.46**	**161**	P	**P**	**20 42 12.7**	**+2.5**
	baz=320,slow=8.0						
SNAA	**Sanae**	**61.10**	**161**	P	**P**	**20 42 23.8**	**+2.5**
SNAA	**Sanae**	**61.10**	**161**	P	**P**	**20 42 20.6**	**-0.6**
SNAA				IAmb	IAmb	20 42 22.2	
	comp=Z,7.5nm,1.1s						
TXAR	**Lajitas Array**	**62.04**	**324**	P	**P**	**20 42 30.4**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=144,slow=8.8,SNR=4.4						
TROLL	**Troll, Antarti**	**62.81**	**161**	P	**P**	**20 42 35.4**	**+2.7**
DBIC	**Dimbokro**	**67.70**	**72**	P	**P**	**20 43 05.9**	**+1.0**
	comp=Z,8.0nm,0.7s,baz=228,slow=4.8,SNR=6.3						
DBIC	**Dimbokro**	**67.70**	**72**	IAmb	IAmb	20 43 06.5	
	comp=Z,15nm,1.0s						
PFO	**Pinyon Flats O**	**72.58**	**319**	P	**P**	**20 43 36.0**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=148,slow=9.5,SNR=1.9						
PFO	**Pinyon Flats O**	**72.58**	**319**	IAmb	IAmb	20 44 03.4	
	comp=Z,18nm,1.5s						
PDAR	**Pinedale Array**	**75.46**	**329**	P	**P**	**20 43 53.5**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.38**	**70**	P	**P**	**20 43 57.4**	**+0.9**
	comp=Z,16nm,0.7s,baz=251,slow=5.3,SNR=80						
TORD	**Torodi Ar. Bea**	**76.38**	**70**	P	**P**	**20 43 57.0**	**+0.5**
TORD				IAmb	IAmb	20 43 58.3	
	comp=Z,15nm,0.8s						
ULM	**Lac du Bonnet**	**76.48**	**342**	P	**P**	**20 43 57.7**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=114,slow=3.1,SNR=1.9						
BOSA	**Boshof**	**81.91**	**117**	P	**P**	**20 44 27.8**	**+1.3**
	comp=Z,2.3nm,0.4s,baz=269,slow=3.9,SNR=20						
BOSA	**Boshof**	**81.91**	**117**	IAmb	IAmb	20 45 02.2	
	comp=Z,23nm,1.4s						
ESDC	**Sonseca Array**	**85.48**	**44**	P	**P**	**20 44 45.3**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=237,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**92.38**	**340**	P	**P**	**20 45 18.5**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=132,slow=4.4,SNR=11						
ASAR	**Alice Springs**	**129.80**	**206**	PKP	**PKiKP**	**20 51 17.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=114,slow=1.8,SNR=5.7						
ASAR				SKPbc	SKPbc	20 54 23.2	+2.9
	comp=Z,0.4nm,0.7s,baz=152,slow=4.2,SNR=4.2						
ASAR	**Alice Springs**	**129.80**	**206**		**PKPdf**	**20 51 13.8**	**-1.4**
WRA	**Warramunga Arr**	**132.92**	**209**	PKP	**PKiKP**	**20 51 23.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=169,slow=1.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**142.09**	**27**	PKhKP	PKPpre	20 51 35.0	
	comp=Z,0.7nm,0.6s,baz=337,slow=3.7,SNR=4.7						
MKAR	**Makanchi Array**	**145.48**	**38**	PKPbc	**PKiKP**	**20 51 45.4**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=315,slow=4.1,SNR=30						
MKAR	**Makanchi Array**	**145.48**	**38**		**PKiKP**	**20 51 44.9**	**-2.3**
SONM	**Songino Array**	**154.05**	**9**	PKPbc	**PKiKP**	**20 52 06.9**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=333,slow=3.0,SNR=2.9						
SONM	**Songino Array**	**154.05**	**9**		**PKPdf**	**20 51 53.2**	**-3.4**
PZH	**PanZhiHua**	**169.33**	**65**	PKP	**PKPdf**	**20 52 09.5**	**-3.4**

MOS ***29*** *20:53:16.7±1.1,6.˚52N×60.˚35E,h10km,mb4.9/29,Error ellipse: s-maj=8.4km s-min=5.2km az=102.9*

IDC ***29*** *20:53:17.6±0.5,6.˚52N×60.˚41E,h0km,mb4.4/26, mb1 4.5/26,mb1mx4.5/32,mbtmp4.4/26,MS3.8/58, Ms1 3.8/58,ms1mx3.7/80,Error ellipse: s-maj=13.7km s-min=12.0km az=129.0*

BJI ***29*** *20:53:18.0±0.0,6.˚40N×60.˚40E,h20km,mb4.6/55, mB4.9/32,Ms4.4/19,Ms7 4.1/19*

GCMT ***29*** *20:53:19.5±0.3,6.˚39N±0.˚03×60.˚39E±0.˚03,h12km, MW4.7/65,Moment Tensor Solution. s14,c17; s65,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.27±.05; Mθθ0.52±.05; Mϕϕ0.74±.06; Mrθ0.46±.22; Mϕθ-0.53±.04; Mϕr-0.33±.23; Best double couple: M₀1.34700×10¹⁶ NP1:φs146.00000°,δ33.00000°,λ-80.00000°. NP2: φs315.00000°,δ57.00000°,λ-96.00000°. Principal axes: T 1.2920, Plg12.0000°, Azm49.0000°; N 0.1060, Plg5.0000°, Azm318.0000°; P -1.4020, Plg77.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *20:53:20.5±2.2,6.˚6N±0.˚1×60.˚37E±0.˚09,h16km±4km, mb5.0/81 Error ellipse: s-maj=15.3km s-min=13.4km az=169.0*

ISC 29 20:53:19.0±0.3,6.˚52N±0.˚05×60.˚32E±0.˚05,h10km,n375, σ1§54/387,mb4.9/131,MS3.9/67,40C-7D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHFO	**Wadi Hawf**	**13.01**	**331**	P	Pn	20 56 29.1	+5.0
	SNR=6.7						
WHFO				P	Pn	20 56 29.1	+5.0
	SNR=6.7						
KAAM	**Kaadhehdhoo**	**13.99**	**115**	Pn	**Pn**	**20 56 38.7**	**+1.1**
JMDO	**Jabal Madar**	**15.91**	**353**	P	**Pn**	**20 57 01.2**	**-1.9**
	SNR=18						
JMDO				P	**Pn**	**20 57 01.2**	**-1.9**
	SNR=18						
BSY	**Bisya**	**16.41**	**350**	P	**Pn**	**20 57 10.9**	**+1.2**
	SNR=32						
BSY				P	**Pn**	**20 57 10.9**	**+1.2**
	SNR=32						
SMDO	**Samad**	**16.59**	**353**	P	**Pn**	**20 57 13.5**	**+1.5**
	SNR=12						
SMDO				P	**Pn**	**20 57 13.5**	**+1.5**
	SNR=12						
WSAR	**Wadi Sarin**	**16.71**	**355**	Pn	**P**	**20 57 16.8**	**+1.1**
	0.1nm,0.3s,baz=214,slow=9.4,SNR=3.5						
WSAR				LR	LR	21 02 31.3	
	comp=Z,128nm,20.3s,baz=197,slow=33						
BIDO	**Bidbid**	**17.04**	**353**	P	**P**	**20 57 19.2**	**-0.2**

SMLA Simla 29.14 31 *e*P **P** **20 59 21.1 +0.8**
SMLA IAmb IAmb 20 59 35.7
comp=Z,129nm,2.8s
MBAR Mbarara 30.35 258 LR LR 21 12 10.5
comp=Z,230nm,18.4s,baz=68,slow=37
MBAR Mbarara 30.35 258 *i* P **P** **20 59 33.1 +1.6**
MBAR pmax pmax
comp=Z,8.0nm,1.6s
GEYT Alibeck 31.34 357 P **P** **20 59 40.5 +0.7**
comp=Z,1.0nm,0.4s,baz=110,slow=12,SNR=1.9
GEYT LR LR 21 13 02.8
comp=Z,69nm,18.6s,baz=174,slow=38
CHGR Chuyangaron 32.98 13 P **P** **20 59 52.9 -1.4**
CHGR IAmb IAmb 21 00 25.6
comp=Z,28nm,1.4s
EIL Elat 33.18 317 LR LR 21 12 59.4
comp=Z,177nm,19.2s,baz=90,slow=36
GAR Garm 33.58 14 P **P** **20 59 58.6 -0.9**
BTK Batken 34.70 14 P **P** **21 00 09.8 +0.5**
BTK pmax pmax
comp=Z,30nm,1.2s
BTK Batken 34.70 14 P **P** **21 00 09.8 +0.5**
BTK IAmb IAmb 21 00 23.7
comp=Z,30nm,1.2s
MMAI Mount Meron Ar 35.09 322 LR LR 21 14 26.4
comp=Z,161nm,18.6s,baz=277,slow=36
SHL Shillong 35.61 54 *e*P **P** **21 00 17.8 +0.5**
KSH Kashi 35.76 21 P **P** **21 00 15.5 -2.9**
KSH sP pwP 21 00 25.0 +1.1
KSH PcP **PcP** **21 02 41.3 -5.0**
KSH ScP **ScP** **21 06 27.5 -5.2**
KSH pmax pmax
comp=Z,7.0nm,1.5s
GURO Guroymak-BITLI 35.93 335 P **P** **21 00 19.6 -0.3**
GNI Garni 36.29 340 LR LR 21 15 50.0
comp=Z,35nm,18.4s,baz=153,slow=37
GNI Garni 36.29 340 *i* P **P** **21 00 24.0 +1.0**
GNI pmax pmax
comp=Z,26nm,1.2s
GNI Garni 36.29 340 P **P** **21 00 25.0 +2.1**
LSA Lhasa 37.07 48 P **P** **21 00 29.6 -0.5**
LSA pmax pmax
comp=Z,35nm,1.2s
LSA Lhasa 37.07 48 P **P** **21 00 29.6 -0.5**
LSA IAmb IAmb 21 00 43.4
comp=Z,34nm,1.2s
LSA Lhasa 37.07 48 P **P** **21 00 31.3 +1.1**
LSA pmax pmax
comp=Z,27nm,1.2s
LSA Lhasa 37.07 48 P **P** **21 00 31.3 +1.1**
KKAR Karatay Array 37.53 12 P **P** **21 00 34.6 +1.3**
KKAR Karatay Array 37.53 12 P **P** **21 00 34.6 +1.3**
UCH Uchtor 37.73 17 P **P** **21 00 37.7 +2.2**
SNR=9.0
KOPT Kop Dagi 37.81 335 P **P** **21 00 35.9 -0.2**
AKH Akhalkalaki 37.84 339 ⇑P **P** **21 00 38.6 +2.4**
EKS2 Erkin-Say 37.92 16 P **P** **21 00 39.0 +2.3**
SNR=51
AAK Ala-Archa 38.10 17 LR LR 21 15 59.4
comp=Z,168nm,21.9s,baz=210,slow=36
AAK Ala-Archa 38.10 17 *ce*P **P** **21 00 38.3 0.0**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa 38.10 17 P **P** **21 00 38.2 0.0**
AAK IAmb IAmb 21 00 42.6
comp=Z,26nm,1.4s
AAK Ala-Archa 38.10 17 *i* P **P** **21 00 40.0 +1.7**
SNR=18
KBK Karagaybulak 38.25 18 P **P** **21 00 42.3 +2.7**
SNR=8.2
FRU1 Bishkek 38.30 17 P **P** **21 00 38.0 -1.8**
FRU1 pmax pmax
comp=Z,55nm,1.5s
FRU1 Bishkek 38.30 17 P **P** **21 00 38.0 -1.8**
FRU1 IAmb IAmb 21 00 54.1
comp=Z,54nm,1.4s
BOOM Boomskoye usch 38.41 19 P **P** **21 00 40.0 -0.9**
BOOM pmax pmax
comp=Z,18nm,1.3s
BOOM Boomskoye usch 38.41 19 P **P** **21 00 40.0 -0.9**
KDJ Kajisay 38.49 20 P **P** **21 00 41.3 -0.4**
KDJ pmax pmax
comp=Z,36nm,1.5s
KDJ Kajisay 38.49 20 P **P** **21 00 41.3 -0.4**
KDJ IAmb IAmb 21 01 00.4
comp=Z,36nm,1.5s
LSZ Lusaka 38.50 236 P **P** **21 00 43.0 +1.0**
comp=Z,1.7nm,0.5s,baz=55,slow=7.4,SNR=4.9
LSZ LR LR 21 15 06.1
comp=Z,194nm,18.6s,baz=54,slow=34
LSZ Lusaka 38.50 236 P **P** **21 00 42.4 +0.4**
LSZ pmax pmax
comp=Z,18nm,1.5s
LSZ Lusaka 38.50 236 P **P** **21 00 42.4 +0.4**
CHMS Chumysh 38.51 17 P **P** **21 00 44.1 +2.6**
SNR=7.4
USP Ospenovka 38.68 17 P **P** **21 00 44.9 +1.8**
SNR=10.0
TKM2 Tokmak 2 38.69 18 P **P** **21 00 45.2 +1.9**
SNR=6.9
GROC Groznyy 38.72 343 *e*P **P** **21 00 44.4 +1.1**
GROC *e* 21 02 13.8
GROC pmax pmax
comp=Z,24nm,1.1s
ZEI Tsey 38.93 341 *e*P **P** **21 00 46.0 +0.7**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
BNN Bunyan 39.05 329 P **P** **21 00 45.7 -0.6**
BNN IAmb IAmb 21 00 49.5
comp=Z,54nm,1.4s
CM31 Chiang Mai Arr 39.44 69 P **P** **21 00 48.4 -1.3**
CMAR Chiang Mai Arr 39.44 69 P **P** **21 00 51.0 +1.3**
comp=Z,5.3nm,1.1s,baz=260,slow=9.1,SNR=33
CMAR PcP **PcP** **21 02 58.1 +0.3**
comp=Z,1.7nm,1.0s,baz=274,slow=5.0,SNR=5.7
CMAR Chiang Mai Arr 39.44 69 P **P** **21 00 49.1 -0.6**
CMAR 21 02 58.2
CMAR Chiang Mai Arr 39.44 69 P **P** **21 00 49.1 -0.6**
CHTO Chiang Mai 39.52 68 P **P** **21 00 49.5 -0.9**
CHTO pmax pmax
comp=Z,19nm,1.4s
CHTO Chiang Mai 39.52 68 P **P** **21 00 49.5 -0.9**
NEY Neytrino 39.73 340 *i* P **P** **21 00 51.3 -0.7**
NEY pmax pmax
comp=Z,8.0nm,1.6s
TOKA Tokat 39.87 331 P **P** **21 00 53.1 +0.1**
KBZ Khabaz 40.10 340 P **P** **21 00 56.8 +2.0**
comp=Z,9.0nm,1.0s,baz=152,slow=4.3,SNR=8.6
KBZ PP **PP** **21 02 29.4 +2.4**
comp=Z,5.6nm,1.0s,baz=150,slow=8.5,SNR=3.1
KBZ LR LR 21 20 12.0
comp=Z,46nm,19.2s,baz=149,slow=40
KBZ Khabaz 40.10 340 *ce*P **P** **21 00 55.6 +0.8**
KBZ pmax pmax
comp=Z,18nm,1.2s
SHA1 Shidzhatmaz 40.19 340 *i* P **P** **21 00 57.4 +1.6**
KIV Kislovodsk 40.37 340 ⇑P **P** **21 00 58.9 +1.7**
KIV Kislovodsk 40.37 340 *e*P **P** **21 00 57.8 +0.6**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,40nm,16.0s
KIV Kislovodsk 40.37 340 P **P** **21 00 57.2 0.0**
KIV Kislovodsk 40.37 340 P **P** **21 00 58.0 +0.8**
KIV P **P** **21 00 58.0 +0.8**
KIV Kislovodsk 40.37 340 *i* P **P** **21 00 58.5 +1.3**
SNR=6.4
BR131 Keskin Array S 40.84 328 P **P** **21 01 01.8 +0.5**
BR131 21 02 31.8
BR131 21 03 02.3
BR131 pmax pmax
comp=Z,16nm,1.1s
BR131 Keskin Array S 40.84 328 P **P** **21 01 01.8 +0.5**
BR131 PP **PP** **21 02 31.8 -3.6**
BR131 PcP **PcP** **21 03 02.3 +0.2**
BRTR Keskin Array B 40.84 328 P **P** **21 01 02.5 +1.2**
comp=Z,5.4nm,1.0s,baz=146,slow=9.0,SNR=17
BRTR PP **PP** **21 02 32.8 -2.6**
comp=Z,0.5nm,0.4s,baz=132,slow=6.4,SNR=1.5
BRTR PcP **PcP** **21 03 02.9 +0.8**
comp=Z,2.0nm,0.9s,baz=154,slow=6.6,SNR=4.5
BRTR LR LR 21 18 40.0
comp=Z,84nm,19.0s,baz=126,slow=37
BRTR Keskin Array B 40.84 328 P **P** **21 01 01.6 +0.4**
BRTR 21 02 32.2
BRTR 21 03 01.6
BRTR Keskin Array B 40.84 328 P **P** **21 01 01.6 +0.4**
BRTR PP **PP** **21 02 32.2 -3.2**
BRTR PcP **PcP** **21 03 01.6 -0.5**
MATP Matopo 41.17 229 P **P** **21 01 04.6 +0.5**
comp=Z,11nm,1.1s,baz=39,slow=11,SNR=8.9
MATP LR LR 21 15 56.3
comp=Z,259nm,19.4s,baz=58,slow=33
ILGA Ilgaz 41.78 329 P **P** **21 01 09.0 0.0**
ILGA IAmb IAmb 21 01 19.9
comp=Z,56nm,1.3s
ILGA PcP **PcP** **21 03 03.1 -2.1**
ABKAR Akbulak array 42.59 360 P **P** **21 01 13.7 -1.6**
ABKAR PP **PP** **21 03 00.5 +6.5**
ABKAR PcP **PcP** **21 03 06.5 -0.9**
ABKAR Akbulak array 42.59 360 P **P** **21 01 13.2 -2.0**
ABKAR IAmb IAmb 21 01 17.9
comp=Z,12nm,1.2s
ABKAR **PP** **21 02 59.6 +5.6**
GOMU GeErMu 43.23 42 P **P** **21 01 24.3 +3.3**
GOMU pP pwP 21 01 27.5 -0.1
GOMU sP sP 21 01 29.8 +5.8
GOMU PP **PP** **21 03 07.0 +5.5**
GOMU PcP **PcP** **21 03 11.8 +1.4**
GOMU S **S** **21 07 45.8 -2.6**
GOMU pmax pmax
comp=Z,10.0nm,1.3s
GOMU pmax pmax
comp=Z,110nm,6.5s
GOMU pmax pmax
comp=Z,74nm,16.5s
GOMU LR LR
comp=Z,120nm,14.1s
GOMU LR LR
comp=Z,140nm,16.6s
IDI Anoyia 43.35 316 LR LR 21 21 36.1
comp=Z,25nm,19.4s,baz=93,slow=39
AKTO Aktyubinsk 43.82 358 LR LR 21 21 19.3
comp=Z,100nm,19.4s,baz=183,slow=38
APE Apeiranthos 43.91 319 ⇑P **P** **21 01 28.2 +2.0**
PZH PanZhiHua 44.14 58 ⇑P **P** **21 01 28.3 0.0**
PZH sP **pwP** **21 01 40.8 +6.0**
PZH S **S** **21 07 58.5 -3.1**
PZH ScS **SS** **21 11 19.0 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,70nm,5.6s
PZH LR LR
comp=Z,270nm,18.4s
PZH LR LR
comp=Z,570nm,20.0s
PZH LR LR
comp=Z,330nm,19.3s
WMQ Urumqi 44.24 28 *e*P **P** **21 01 29.5 +0.8**
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ LR LR
comp=Z,120nm,20.1s
MAKZ Makanchi 44.26 21 P **P** **21 01 28.0 -0.7**
MAKZ 21 03 11.8
MAKZ pmax pmax
comp=Z,15nm,1.3s
MAKZ Makanchi 44.26 21 P **P** **21 01 28.0 -0.7**
MAKZ PcP **PP** **21 03 11.8 -0.2**
MK31 Makanchi Array 44.36 22 *i* P **P** **21 01 29.6 0.0**
MK31 Makanchi Array 44.36 22 P **P** **21 01 27.9 -1.6**
MK31 PcP **PP** **21 03 12.7 -0.4**
MKAR Makanchi Array 44.36 22 P **P** **21 01 30.1 +0.5**
comp=Z,4.0nm,1.1s,baz=204,slow=8.7,SNR=25
MKAR PcP **PP** **21 03 13.2 +0.1**
comp=Z,1.8nm,1.0s,baz=236,slow=3.9,SNR=5.4
MKAR LR LR 21 21 13.3
comp=Z,76nm,20.7s,baz=192,slow=38
MKAR Makanchi Array 44.36 22 P **P** **21 01 28.7 -0.9**
MKAR 21 03 12.8
MKAR Makanchi Array 44.36 22 P **P** **21 01 28.6 -0.9**
MKAR **PP** **21 03 12.8 -0.3**
KMI Kunming 44.56 61 ⇑P **P** **21 01 32.8 +1.0**
KMI pP pwP 21 01 38.3 0.0
KMI pmax pmax
comp=Z,12nm,1.5s
KMI LR LR
comp=Z,130nm,21.3s
KMI LR LR
comp=Z,160nm,26.4s
KMI LR LR
comp=Z,170nm,23.8s
LWLI Liwa 45.14 104 P P 21 01 31.4 -5.0
LBTB Lobatse 46.08 226 P **P** **21 01 44.9 +1.2**
comp=Z,12nm,1.1s,baz=53,slow=12,SNR=5.3
LBTB LR LR 21 18 15.9
comp=Z,218nm,21.1s,baz=66,slow=32
LBTB Lobatse 46.08 226 P **P** **21 01 43.1 -0.6**
LBTB pmax pmax
comp=Z,43nm,1.5s
LBTB Lobatse 46.08 226 P **P** **21 01 43.1 -0.6**
KURBB Kurchatov Arra 46.52 16 LR LR 21 21 53.0
comp=Z,86nm,19.4s,baz=179,slow=37
KURK Kurchatov 46.63 16 P **P** **21 01 46.8 -0.6**
KURK 21 03 35.3
KURK pmax pmax
comp=Z,13nm,1.2s
KURK Kurchatov 46.63 16 P **P** **21 01 46.8 -0.6**
KURK IAmb IAmb 21 01 49.3
comp=Z,13nm,1.2s
KURK PP **PP** **21 03 35.3 -1.8**
TIRR Tirgusor 46.94 329 ⇑P **P** **21 01 50.5 +0.6**
TIRR Tirgusor 46.94 329 P **P** **21 01 49.3 -0.7**
TIRR PcP **PcP** **21 03 20.5 -2.0**
TIRR PP **PP** **21 03 37.8 -2.6**
AGG Agios Georgios 47.10 319 P **P** **21 01 51.4 0.0**
AGG pmax pmax
comp=Z,25nm,1.2s
AGG Agios Georgios 47.10 319 P **P** **21 01 51.4 0.0**
BRVK Borovoye 47.11 8 *ce*P **P** **21 01 49.9 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
CD2 Chengdu 47.34 53 P **P** **21 01 54.3 +0.9**
HARR Harsova 47.35 329 ⇑P **P** **21 01 54.1 +0.9**
LIT Litokhoron 47.60 320 P **P** **21 01 55.3 +0.1**
LIT IAmb IAmb 21 01 57.6
comp=Z,13nm,1.1s
LIT PcP **PcP** **21 03 25.1 +0.1**
VORR Voronezh 48.28 343 *e*P **P** **21 01 57.7 -2.6**
VORR pmax pmax
comp=Z,20nm,0.4s
GTA Gaotai 48.30 41 *e*P **P** **21 02 01.5 +0.7**
GTA pP pwP 21 02 08.5 +1.1
GTA sP sP 21 02 12.3 +8.6
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,33nm,7.2s
GTA LR LR
comp=Z,200nm,18.3s
GTA LR LR
comp=Z,160nm,17.5s
GTA LR LR
comp=Z,180nm,20.7s
GYA Guiyang 48.33 60 ⇑*i*P **P** **21 02 01.0 -0.3**
GYA sP pwP 21 02 11.5 +3.7
GYA pmax pmax
comp=Z,16nm,1.3s
BOSA Boshof 48.59 222 P **P** **21 02 03.1 -0.1**
comp=Z,10nm,1.1s,baz=21,slow=8.6,SNR=5.0
BOSA PcP **PcP** **21 03 27.2 -1.7**
comp=Z,3.0nm,1.0s,baz=26,slow=3.3,SNR=3.0
BOSA LR LR 21 20 54.4
comp=Z,183nm,18.9s,baz=56,slow=34
VTS Vitosha 48.61 324 ⇓P **P** **21 02 03.7 +0.5**
VTS Vitosha 48.61 324 P **P** **21 02 02.9 -0.3**
VTS pmax pmax
comp=Z,24nm,1.2s
VTS Vitosha 48.61 324 P **P** **21 02 02.9 -0.3**
VTS IAmb IAmb 21 02 05.1
comp=Z,24nm,1.2s
FNA Florina 48.68 321 P **P** **21 02 02.7 -1.0**
FNA pmax pmax
comp=Z,19nm,1.5s
FNA Florina 48.68 321 P **P** **21 02 02.7 -1.0**
FNA IAmb IAmb 21 02 05.5
comp=Z,19nm,1.5s
NEHR Nehoiu 48.70 328 ⇑P **P** **21 02 05.3 +1.6**
VRI Vrincioaia 48.78 329 ⇓P **P** **21 02 05.6 +1.3**
VLAD Vladila 48.79 326 ⇓P **P** **21 02 06.0 +1.6**
PLOR Plostina 48.80 329 ⇑P **P** **21 02 06.5 +2.0**
MLR Muntele Rosu 48.93 328 ⇓P **P** **21 02 07.6 +2.1**
MLR Muntele Rosu 48.93 328 LR LR 21 23 25.0
comp=Z,57nm,21.1s,baz=266,slow=37
MLR Muntele Rosu 48.93 328 P **P** **21 02 05.4 -0.1**
MLR PcP **PcP** **21 03 30.7 +0.9**
KBN Korca 48.97 320 P **P** **21 02 05.1 -0.8**
KBN pmax pmax
comp=Z,29nm,1.3s
KBN Korca 48.97 320 P **P** **21 02 05.1 -0.8**
LEM Lembang 49.02 105 LR LR 21 19 04.4
comp=Z,133nm,21.3s,baz=315,slow=32
COVR Voineasa-Covas 49.03 329 ⇑P **P** **21 02 06.1 -0.1**
TSUM Tsumeb 49.24 238 LR LR 21 20 55.1
comp=Z,120nm,21.4s,baz=79,slow=34
TSUM Tsumeb 49.24 238 P **P** **21 02 07.7 -0.6**
TSUM IAmb IAmb 21 02 11.0
comp=Z,24nm,1.3s
TESR Tescani 49.26 330 ⇑P **P** **21 02 08.8 +0.9**
VOIR 49.36 328 ⇑P **P** **21 02 09.7 +0.9**
LZH Lanzhou 49.49 47 *e*P P 21 02 17.5 +7.5
LZH pP pwP 21 02 23.3 +6.7
LZH S **S** **21 09 24.5 +6.7**
LZH pmax pmax
comp=Z,11nm,1.5s
LZH pmax pmax
comp=Z,92nm,6.0s
LZH LR LR
comp=N,200nm,16.8s
LZH LR LR
comp=E,170nm,15.2s
LZH LR LR
comp=Z,230nm,16.8s
DOPR Dopca 49.53 328 ⇑P **P** **21 02 10.9 +0.8**
ARR Arges 49.54 327 ⇑P **P** **21 02 11.0 +0.8**
SORM Soroca 49.58 332 ⇑P **P** **21 02 10.1 -0.2**
ARU Arti 49.80 359 *c* *i*P **P** **21 02 09.2 -2.6**
ARU 21 04 01.2
ARU S **S** **21 09 14.7 -6.5**
ARU pmax pmax
comp=Z,10.0nm,1.4s
LOT Lotru 50.06 327 ⇑P **P** **21 02 14.5 +0.4**
HERR Herculane 50.45 326 ⇑P **P** **21 02 18.0 +1.0**
GZR Gura Zlata 50.57 326 ⇓P **P** **21 02 19.2 +1.3**
BURAR Bucovina Array 50.73 330 ⇑P **P** **21 02 20.7 +1.5**
BUR08 Bucovina Ar. S 50.75 330 P **P** **21 02 18.9 -0.5**
BUR08 IAmb IAmb 21 02 25.4
comp=Z,29nm,1.8s
MDVR Moldovita 50.79 325 ⇑P **P** **21 02 21.0 +1.4**
ARCR ARCALIA 50.81 329 ⇑P **P** **21 02 21.0 +1.3**
AKASG Malin Array Be 51.09 335 P **P** **21 02 21.5 -0.2**
comp=Z,5.4nm,0.9s,baz=131,slow=6.7,SNR=35
AKASG PcP **PcP** **21 03 37.6 +0.2**
comp=Z,0.2nm,0.3s,baz=142,slow=3.2,SNR=6.0
AKASG LR LR 21 26 17.5
comp=Z,37nm,20.4s,baz=182,slow=39
AKASG Malin Array Be 51.09 335 *i* P **P** **21 02 21.5 -0.2**
AKASG pmax pmax
comp=Z,7.0nm,1.0s
AKBB Malin Array Si 51.09 335 P **P** **21 02 20.6 -1.1**
AKBB pmax pmax
comp=Z,21nm,1.2s
AKBB Malin Array Si 51.09 335 P **P** **21 02 20.6 -1.1**
AKBB IAmb IAmb 21 02 23.4
comp=Z,21nm,1.1s
ZAA0 Zalesovo Array 51.29 18 P **P** **21 02 22.9 -0.3**
ZAA0 IAmb IAmb 21 02 24.8
comp=Z,21nm,1.2s
ZAA0 PcP **PcP** **21 03 35.8 -2.3**
ZALV Zalesovo Beam 51.29 18 P **P** **21 02 22.8 -0.3**
comp=Z,9.7nm,1.1s,baz=233,slow=7.2,SNR=29
ZALV LR LR 21 25 44.9
comp=Z,66nm,18.5s,baz=210,slow=38
ZALV Zalesovo Beam 51.29 18 P **P** **21 02 22.9 -0.3**
ZALV 21 03 36.5
ZALV Zalesovo Beam 51.29 18 P **P** **21 02 22.9 -0.3**
ZALV PcP **PcP** **21 03 36.5 -1.6**
BZS Buzias 51.35 326 ⇑P **P** **21 02 24.4 +0.6**
DIVS Divibare 51.39 323 P **P** **21 02 23.7 -0.5**
DIVS IAmb IAmb 21 02 26.1
comp=Z,14nm,1.1s
DRGR 51.48 328 ⇑P **P** **21 02 25.9 +1.1**
BMR Baia Mare 51.64 329 ⇑P **P** **21 02 26.4 +0.6**
SIRR Siria 51.72 326 ⇑P **P** **21 02 27.9 +1.3**
ENH Enshi 51.79 56 P **P** **21 02 26.4 -1.0**
ENH IAmb IAmb 21 02 44.7
comp=Z,23nm,1.5s
OBN Obninsk 52.06 343 ⇑*e*P **P** **21 02 29.0 +0.1**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,50nm,16.0s
MOS Moscow 52.31 344 *e*P **P** **21 02 30.2 -0.5**
TRPA Tarpa 52.42 329 ⇑P **P** **21 02 32.8 +1.2**
TRPA Tarpa 52.42 329 P **P** **21 02 31.7 0.0**
XAN Xi'an 52.53 52 P **P** **21 02 32.5 -0.3**
XAN pP sP 21 02 38.3 +2.5
XAN pmax pmax
comp=Z,15nm,1.3s
XAN pmax pmax
comp=Z,110nm,6.9s
KIRV Kirov 52.62 353 LR LR 21 27 10.7
comp=Z,72nm,19.6s,baz=160,slow=39
KIRV Kirov 52.62 353 *ce*P **P** **21 02 31.0 -1.9**
LVV L'vov 52.79 331 *e*P **P** **21 02 35.4 +1.0**
SGRT San Giovanni R 52.81 319 P **P** **21 02 35.0 +0.1**
SGRT IAmb IAmb 21 02 37.5
comp=Z,34nm,1.3s
UZH Uzhgorod 52.87 329 *e*P **P** **21 02 35.4 +0.4**
UZH *e* 21 02 39.4
KWP Kalwaria Pacla 53.31 330 P **P** **21 02 38.6 +0.3**
KWP pmax pmax
comp=Z,146nm,1.0s
KWP Kalwaria Pacla 53.31 330 P **P** **21 02 38.6 +0.3**
CRVS Cervenica-Dubn 53.47 329 *e*P **P** **21 02 40.3 +0.9**
CRVS pmax pmax
comp=Z,43nm,1.5s
CRVS Cervenica-Dubn 53.47 329 *e*P **P** **21 02 40.3 +0.9**
KOVH Kovagotottos 53.62 324 P **P** **21 02 41.2 +0.6**
PSZ Piszkesteto 53.68 327 P **P** **21 02 40.8 -0.3**
SUR Sutherland 53.94 222 LR LR 21 24 23.4
comp=Z,217nm,18.4s,baz=6.5,slow=35
SRO Srobarova 54.48 326 *e*P **P** **21 02 47.5 +0.7**
SRO pmax pmax
comp=Z,24nm,1.3s
SRO Srobarova 54.48 326 *e*P **P** **21 02 47.5 +0.7**
MNK Minsk 54.50 337 *i* P **P** **21 02 45.0 -1.8**
MNK *i* 21 03 48.3
MNK *i* 21 04 48.6
MNK *i* PPP PPP 21 05 58.1
MNK *i* S **S** **21 10 21.7 -4.0**
MNK *i* SS **SS** **21 14 13.2 +4.9**
MNK *i* SSS SSS 21 16 09.7
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK MLR MLR
comp=N,53nm,14.0s
MNK MLR MLR
comp=E,7.0nm,14.0s
MNK MLR MLR
comp=Z,57nm,14.0s
MNK Minsk 54.50 337 *i* P **P** **21 02 45.0 -1.8**
comp=E,1.0nm,1.0s
MNK *i* P **P** **21 02 45.0 -1.8**
comp=N,11nm,1.0s
MNK *i* P **P** **21 02 45.0 -1.8**
comp=Z,14nm,1.0s,baz=139
MNK *i* PcP **PcP** **21 03 48.3 -1.9**
MNK *i* PP **PP** **21 04 48.6 -0.5**
MNK *i* PPP PPP 21 05 58.1
MNK *i* S **S** **21 10 21.8 -4.0**
MNK *i* SS **SS** **21 14 13.2 +4.9**
MNK *i* SSS SSS 21 16 09.7
MNK *i* LQ LQ 21 20 53.1
MNK *i* LR LR 21 24 20.7
MNK *i* LRM MLR 21 28 16.6
comp=E,7.0nm,14.2s

MNK *i* LRM MLR 21 28 16.6
comp=N,53nm,14.2s
MNK *i* LRM MLR 21 28 21.1
comp=Z,57nm,14.2s
MPLH Magyarpolny 54.55 325 P **P** **21 02 48.6 +1.3**
VYHS Vyhne 54.59 327 *e*P **P** **21 02 48.1 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 54.59 327 *e*P **P** **21 02 48.1 +0.4**
LANS Liptovska Anna 54.65 328 *e*P **P** **21 02 48.8 +0.7**
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 54.65 328 *e*P **P** **21 02 48.8 +0.7**
KOLL Kolacno 54.88 327 *e*P **P** **21 02 50.8 +1.1**
KEST Kesra 54.93 309 P **P** **21 02 50.9 +0.5**
comp=Z,14nm,1.2s,baz=120,slow=3.9,SNR=6.1
KEST Kesra 54.93 309 P **P** **21 02 50.1 -0.3**
KEST IAmb IAmb 21 03 11.9
comp=Z,21nm,1.3s
JAVC Velka Javorina 55.44 327 *e*P **P** **21 02 54.9 +1.1**
SOKA Soboth 55.73 324 *e*P **P** **21 02 56.4 +0.4**
comp=Z,7.6nm,1.2s
ARSA Arzberg 55.74 324 *e*P **P** **21 02 56.8 +0.8**
comp=Z,9.2nm,1.1s
WHN Wuhan 55.91 57 ⇓P **P** **21 02 56.8 -0.7**
WHN pmax pmax
comp=Z,54nm,1.4s
CONA Conrad Observa 55.91 325 *e*P **P** **21 02 57.8 +0.5**
comp=Z,20nm,1.5s,SNR=10
OBKA Obir 55.93 323 *i* P **P** **21 02 57.6 +0.2**
comp=Z,14nm,1.3s
MORC Moravsky Berou 56.04 328 P **P** **21 02 57.8 -0.3**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 56.04 328 P **P** **21 02 57.8 -0.3**
MORC IAmb IAmb 21 02 59.3
comp=Z,18nm,1.1s
MORC Moravsky Berou 56.04 328 *e*P **P** **21 02 58.3 +0.2**
SUW Suwalki 56.05 335 P **P** **21 02 56.4 -1.6**
SUW pmax pmax
comp=Z,29nm,1.0s
SUW Suwalki 56.05 335 P **P** **21 02 56.4 -1.6**
MOY Mondy 56.12 29 *e*P P 21 03 10.1 +11
KRUC Moravsky 56.24 327 *e*P **P** **21 02 59.7 +0.2**
VRAC Vranov 56.27 327 LR LR 21 27 41.3
comp=Z,15nm,19.4s,baz=98,slow=37
VRAC Vranov 56.27 327 *e*P **P** **21 03 00.2 +0.4**
KLMR Klimovskoe 56.43 348 *e*P P 21 02 56.4 -4.2
KLMR pmax pmax
comp=Z,49nm,1.5s
KLMR Klimovskoe 56.43 348 *e*P P 21 02 56.5 -4.1
KLMR AMP 21 03 02.4
comp=Z,49nm,1.5s
ZAK Zakamensk 56.49 32 *e*P **P** **21 03 01.1 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
MYKA Terra Mystica 56.53 323 *e*P **P** **21 03 02.3 +0.6**
comp=Z,20nm,1.5s
KRLC Kraliky 56.61 328 *e*P **P** **21 03 01.6 -0.6**
KRLC Kraliky 56.61 328 *e*P **P** **21 03 01.6 -0.6**
MOA Molln 56.78 325 *e*P **P** **21 03 03.9 +0.5**
comp=Z,16nm,1.2s,SNR=8.2
SONM Songino Array 56.79 35 P **P** **21 03 03.5 -0.2**
comp=Z,4.2nm,1.1s,baz=228,slow=7.3,SNR=30
SONM Songino Array 56.79 35 P **P** **21 03 02.9 -0.8**
SONM pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 56.79 35 P **P** **21 03 02.9 -0.8**
KBA Koelnbreinsper 56.93 323 *e*P **P** **21 03 04.7 0.0**
comp=Z,10nm,1.4s
HHC Hu-ho-hao-te 56.96 45 *e*P P **21 03 06.0 +1.1**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,90nm,5.6s
DPC Dobruska-Polom 57.01 328 *e*P **P** **21 03 04.5 -0.5**
DPC Dobruska-Polom 57.01 328 *e*P **P** **21 03 04.5 -0.5**
BIOA Bad Ischl, Aus 57.06 324 *i* P **P** **21 03 05.6 +0.1**
comp=Z,16nm,1.3s
OSTC Ostas 57.18 328 *e*P **P** **21 03 05.7 -0.5**
ULN Ulaanbaatar 57.19 36*ce*P **P** **21 03 04.1 -2.4**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN Ulaanbaatar 57.19 36 P **P** **21 03 02.8 -3.7**
ABTA Abfaltersbach 57.26 323 *e*P **P** **21 03 07.2 +0.3**
comp=Z,12nm,1.2s,SNR=5.9
CKRC Cesky Krumlov 57.27 326 *e*P **P** **21 03 06.2 -0.6**
CHVC Chvalec 57.28 328 *e*P **P** **21 03 06.7 -0.3**
CTI Castel Tesino 57.46 322 P **P** **21 03 07.0 -1.4**
CTI pmax pmax
comp=Z,14nm,1.1s
CTI Castel Tesino 57.46 322 P **P** **21 03 07.0 -1.4**
CTI IAmb IAmb 21 03 09.5
comp=Z,14nm,1.1s
GERES GERESS Array B 57.62 325 P **P** **21 03 08.8 -0.7**
comp=Z,0.7nm,0.8s,baz=137,slow=16,SNR=6.5
GERES LR LR 21 29 27.2
comp=Z,22nm,18.4s,baz=184,slow=38
PRU Pruhonice 57.76 327 *e*P **P** **21 03 10.1 -0.2**
PRU Pruhonice 57.76 327 *e*P **P** **21 03 10.1 -0.2**
KHC Kasperske Hory 57.84 326 *e*P **P** **21 03 09.6 -1.3**
KHC Kasperske Hory 57.84 326 *e*P **P** **21 03 09.6 -1.3**
KHC Kasperske Hory 57.84 326 P **P** **21 03 09.3 -1.6**
KHC IAmb IAmb 21 03 11.7
comp=Z,18nm,1.4s
VSU Vasula 57.93 340 *i* P **P** **21 03 10.7 -0.5**
TOA0 Torodi Ar. Sit 58.03 281 P **P** **21 03 12.2 -0.6**
TOA0 IAmb IAmb 21 03 15.3
comp=Z,20nm,1.2s
TORD Torodi Ar. Bea 58.03 281 P **P** **21 03 14.3 +1.5**
comp=Z,9.2nm,1.1s,baz=78,slow=5.2,SNR=30
TORD Torodi Ar. Bea 58.03 281 P **P** **21 03 12.0 -0.7**
TORD IAmb IAmb 21 03 16.0
comp=Z,20nm,1.3s
WTTA Wattenberg 58.04 323 *e*P **P** **21 03 12.3 -0.2**
comp=Z,16nm,1.1s,SNR=5.6
HNS HongShan 58.07 50 ⇑P **P** **21 03 13.0 +0.4**
HNS pmax pmax
comp=Z,14nm,1.2s
WATA Walderalm 58.11 323 *e*P **P** **21 03 12.5 -0.5**
comp=Z,21nm,1.7s,SNR=7.3
SQTA Sankt Quirin 58.27 323 *e*P **P** **21 03 13.8 -0.3**
comp=Z,9.3nm,1.1s
MOTA Moosalm 58.40 323 *i* P **P** **21 03 14.4 -0.6**
comp=Z,14nm,1.1s
FETA Feichten 58.47 322 *e*P **P** **21 03 15.5 0.0**
comp=Z,7.4nm,1.3s
BRG Berggiesshubel 58.56 327 *e*P **P** **21 03 16.6 +0.7**
BRG Amp 21 03 17.7
comp=Z,7.7nm,1.3s
BRG Berggiesshubel 58.56 327 *e*P **P** **21 03 16.6 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.3s
RETA Reutte 58.67 323 *e*P **P** **21 03 16.2 -0.6**
comp=Z,12nm,1.6s
DAVOX Davos/Dischmat 58.88 322 LR LR 21 29 16.1
comp=Z,34nm,20.4s,baz=88,slow=37
VALR Valaam 58.95 344 *i* P **P** **21 03 17.4 -1.0**
VALR pmax pmax
comp=Z,18nm,1.1s
NKC Novy Kostel 59.04 326 *e*P **P** **21 03 19.5 +0.3**
NKC Novy Kostel 59.04 326 *e*P **P** **21 03 19.5 +0.3**
DAVA Damuels 59.11 322 *e*P **P** **21 03 19.9 -0.1**
comp=Z,19nm,1.6s
CLL Collm 59.30 328 *i* P **P** **21 03 21.4 +0.5**
comp=Z,22nm,1.5s
CLL *ep*P **sP** **21 03 26.0 +1.9**
CLL *ex* x 21 03 41.0
GRF Grafenberg Arr 59.45 325 *e*P **P** **21 03 21.1 -1.0**
comp=Z,11nm,1.4s,baz=119,slow=8.5
TIA Tai'an 59.59 52 *e*P P 21 03 14.8 -8.5
TIA pmax pmax
comp=Z,8.0nm,1.5s
BJI Beijing 59.98 47 P **P** **21 03 26.5 +0.7**
BJI pmax pmax
comp=Z,10.0nm,1.2s
NJ2 Nanjing 60.01 57 *e*P **P** **21 03 27.0 +0.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
SENIN Lac Senin/Sane 60.31 320 P **P** **21 03 27.4 -1.0**
FINES FINESS Array B 60.42 342 P **P** **21 03 27.6 -0.9**
comp=Z,2.9nm,1.0s,baz=91,slow=10,SNR=6.8
FINES LR LR 21 32 26.4
comp=Z,36nm,19.1s,baz=152,slow=39
BFO Black Forest 60.51 323 P **P** **21 03 28.8 -0.6**
BFO pmax pmax
comp=Z,27nm,1.4s
BFO Black Forest 60.51 323 P **P** **21 03 28.8 -0.6**
ECH Echery 61.16 322 P **P** **21 03 33.9 0.0**
ECH pmax pmax
comp=Z,21nm,1.3s
ECH Echery 61.16 322 P **P** **21 03 33.9 0.0**
ECH IAmb IAmb 21 03 35.1
comp=Z,21nm,1.3s
XLT XiLinHaoTe 61.19 43 *e*P **P** **21 03 34.8 +0.6**
XLT pP pwP 21 03 42.0 +1.2
XLT sP sP 21 03 44.5 +7.4
XLT PcP **PcP** **21 04 16.3 -0.6**
XLT PP **PP** **21 05 52.0 +3.1**
XLT PcS **PcS** **21 08 16.5 -3.2**
XLT sS sS 21 12 00.5 +2.9
XLT pmax pmax
comp=Z,11nm,1.4s
XLT pmax pmax
comp=Z,130nm,5.1s
XLT LR LR
comp=Z,210nm,19.4s
XLT LR LR
comp=Z,260nm,17.7s
SSB Saint Sauveur 61.68 318 P **P** **21 03 35.9 -1.5**
SSB pmax pmax
comp=Z,12nm,1.2s
SSB Saint Sauveur 61.68 318 P **P** **21 03 35.9 -1.5**
SSB IAmb IAmb 21 03 39.0
comp=Z,12nm,1.2s
KOWA Kowa 63.58 283 P **P** **21 03 49.3 -1.3**
CLF Chambon-Foret 64.12 321 P **P** **21 03 52.6 -1.0**
DBIC Dimbokro 64.69 274 P **P** **21 03 58.5 +0.6**
comp=Z,8.4nm,1.1s,baz=121,slow=8.0,SNR=3.3
DBIC LR LR 21 33 02.4
comp=Z,142nm,18.6s,baz=110,slow=37
DBIC Dimbokro 64.69 274 P **P** **21 03 58.5 +0.6**
DBIC pmax pmax
comp=Z,29nm,1.5s
BATI Baumata 65.23 104 LR LR 21 32 12.8
comp=Z,128nm,18.1s,baz=248,slow=36
MDT Midelt 65.45 303 LR LR 21 30 55.0
comp=Z,74nm,20.5s,baz=128,slow=34
NB2 NORSAR Subarra 65.47 336 P **P** **21 04 01.7 -0.5**
comp=Z,39nm,1.7s,baz=119,slow=7.4
NB2 NORSAR Subarra 65.47 336 P **P** **21 04 01.7 -0.5**
baz=119,slow=7.4
NOA NORSAR Array B 65.47 336 P **P** **21 04 01.9 -0.3**
comp=Z,4.6nm,1.1s,baz=116,slow=7.2,SNR=4.1
ESBB Sonseca Array 66.14 311 P **P** **21 04 06.2 -0.8**
ESDC Sonseca Array 66.14 311 P **P** **21 04 07.1 +0.1**
comp=Z,8.6nm,1.1s,baz=87,slow=6.0,SNR=27
ESDC Sonseca Array 66.14 311 P **P** **21 04 07.0 +0.1**
ESDC IAmb IAmb 21 04 08.4
comp=Z,13nm,1.2s
PAB San Pablo 66.41 310 P **P** **21 04 08.6 -0.1**
PAB pmax pmax
comp=Z,18nm,1.3s
PAB San Pablo 66.41 310 P **P** **21 04 08.6 -0.1**
PAB IAmb IAmb 21 04 10.9
comp=Z,18nm,1.2s
ARCES ARCESS Array B 66.89 347 LR LR 21 35 55.0
comp=Z,76nm,19.8s,baz=191,slow=38
JOW Kunigami 67.43 64 LR LR 21 33 44.3
comp=Z,73nm,21.3s,baz=284,slow=36
KSRS Korea Array 68.32 52 P **P** **21 04 19.6 -1.0**
comp=Z,2.5nm,0.9s,baz=254,slow=8.0,SNR=7.5
KSRS LR LR 21 35 49.0
comp=Z,30nm,18.8s,baz=210,slow=37
FITZ Fitzroy Crossi 68.92 112 LR LR 21 30 21.8
comp=Z,66nm,18.1s,baz=244,slow=32
JNU Nakatsue 70.20 57 LR LR 21 37 03.6
comp=Z,38nm,18.7s,baz=196,slow=37
MDJ Mudanjiang 70.73 45 P **P** **21 04 35.8 +0.3**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,99nm,4.9s
ZEA Zeya 71.22 35 *e*P **P** **21 04 38.7 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
USRK Ussuriysk Ar. 72.36 46 LR LR 21 37 48.4
comp=Z,74nm,20.1s,baz=266,slow=37
KLR Kul'dur 72.99 41 LR LR 21 37 46.4
comp=Z,232nm,20.6s,baz=265,slow=37
KLR Kul'dur 72.99 41*ce*P **P** **21 04 46.3 -2.7**
KLR pmax pmax
comp=Z,11nm,1.4s
MAW Mawson 73.96 179 P **P** **21 04 55.3 +1.1**
comp=Z,4.2nm,0.4s,baz=344,slow=8.8,SNR=3.8
YAK Yakutsk 74.66 27 LR LR 21 39 17.9
comp=Z,75nm,19.5s,baz=268,slow=37
YAK Yakutsk 74.66 27*ce*P **P** **21 04 58.2 -0.3**
YAK pmax pmax
comp=Z,18nm,1.3s
SPITS Spitsbergen Ar 75.06 351 LR LR 21 43 14.0
comp=Z,54nm,18.0s,baz=185,slow=40
MJAR Matsushiro Arr 76.43 54 LR LR 21 41 24.8
comp=Z,50nm,18.1s,baz=258,slow=38
TIXI Tiksi 77.17 18 LR LR 21 40 49.9
comp=Z,71nm,19.4s,baz=198,slow=37
TIXI Tiksi 77.17 18 P **P** **21 05 11.7 -1.0**
TIXI pmax pmax
comp=Z,17nm,1.4s
TIXI Tiksi 77.17 18 P **P** **21 05 11.7 -1.0**
TIXI IAmb IAmb 21 05 23.9
comp=Z,16nm,1.4s
WRA Warramunga Arr 77.35 112 P **P** **21 05 13.9 -0.8**
comp=Z,6.6nm,1.0s,baz=288,slow=4.8,SNR=19
WRA Warramunga Arr 77.35 112 P **P** **21 05 12.6 -2.1**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 77.35 112 P **P** **21 05 12.6 -2.1**
WRAB Tennant Creek 77.35 112*ce*P **P** **21 05 13.4 -1.3**
WRAB pmax pmax
comp=Z,13nm,1.3s
WB2 Warramunga Arr 77.36 112 P **P** **21 05 12.5 -2.2**
WB2 IAmb IAmb 21 05 15.6
comp=Z,15nm,1.2s
WB0 Warramunga Arr 77.36 112 P **P** **21 05 12.7 -2.1**
WB0 IAmb IAmb 21 05 14.9
comp=Z,13nm,1.2s
WR0 Warramunga Arr 77.53 112 P **P** **21 05 14.1 -1.6**
WR0 IAmb IAmb 21 05 15.8
comp=Z,11nm,1.2s
ASAR Alice Springs 77.74 116 P **P** **21 05 15.8 -1.0**
comp=Z,6.1nm,1.0s,baz=284,slow=5.4,SNR=29
ASAR LR LR 21 37 51.3
comp=Z,64nm,18.0s,baz=227,slow=34
ASAR Alice Springs 77.74 116 P **P** **21 05 14.2 -2.6**
ASAR Alice Springs 77.74 116 P **P** **21 05 14.2 -2.6**
AS31 Alice Springs 77.74 116 P **P** **21 05 14.8 -2.0**
JTM Tenmabayashi 78.78 50 P P 21 05 17.4 -4.8
JCJ Chichijima 79.84 64 LR LR 21 40 22.7
comp=Z,16nm,21.1s,baz=301,slow=35
ASAJ Asahikawa 79.96 46 LR LR 21 42 02.6
comp=Z,83nm,19.3s,baz=179,slow=37
ASAJ Asahikawa 79.96 46 P **P** **21 05 26.7 -1.9**
ASAJ pmax pmax
comp=Z,52nm,1.6s
JKA Kamikawa-asahi 79.96 46 P **P** **21 05 26.7 -1.9**
YSS Yuzh-Sakhalins 80.11 44 *e*P **P** **21 05 28.4 -1.0**
YSS pmax pmax
comp=Z,10.0nm,0.7s
BORG Borgarnes 80.57 335 LR LR 21 44 19.4
comp=Z,20nm,20.3s,baz=46,slow=38
DAG Danmarks Havn 81.17 347 *i* P **P** **21 05 34.0 -0.5**
MA2 Magadan 84.66 31 LR LR 21 46 16.4
comp=Z,53nm,19.1s,baz=264,slow=38
MA2 Magadan 84.66 31*ce*P **P** **21 05 51.8 -1.1**
MA2 pmax pmax
comp=Z,21nm,1.7s
MA2 Magadan 84.66 31 P **P** **21 05 51.5 -1.4**
MA2 IAmb IAmb 21 05 53.6
comp=Z,18nm,1.3s
SEY Seymchan 85.19 27*ce*P **P** **21 05 55.7 +0.2**
SEY pmax pmax
comp=Z,10.0nm,1.3s
STKA Stephens Creek 86.05 123 P **P** **21 05 59.9 -0.5**
comp=Z,2.4nm,0.9s,baz=307,slow=4.0,SNR=4.7
STKA LR LR 21 38 53.3
comp=Z,94nm,20.8s,baz=209,slow=32
STKA Stephens Creek 86.05 123 P **P** **21 05 59.6 -0.8**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 86.05 123 P **P** **21 05 59.6 -0.8**
PMG Port Moresby 87.95 100*ce*P **P** **21 06 09.9 -0.1**
PMG pmax pmax
comp=Z,23nm,1.7s
VNA2 Neumayer--Watz 89.00 198 P **P** **21 06 15.0 +1.3**
VNA1 Neumayer--Stat 89.16 198 P **P** **21 06 15.3 +0.8**
PETK Petropavlovsk- 89.26 37 LR LR 21 48 23.1
comp=Z,72nm,19.6s,baz=266,slow=37
BILL Bilibino 89.90 21 ⇓*i*P **P** **21 06 19.2 +1.1**
BILL PPS PPS 21 18 52.0
BILL pmax pmax
comp=Z,7.0nm,1.3s
SFJD Kangerlussuaq 92.06 338 LR LR 21 50 18.8
comp=Z,24nm,18.6s,baz=48,slow=37
RCBR Riachuelo 96.80 265 LR LR 21 45 14.7
comp=Z,88nm,21.2s,baz=265,slow=32
RES Resolute Bay 97.53 354 LR LR 21 56 14.2
comp=Z,56nm,19.2s,baz=84,slow=39
VNDA Vanda 98.82 168 LR LR 21 46 60.0
comp=Z,150nm,18.1s,baz=297,slow=33
SHEM Shemya Is, Ala 98.87 34 LR LR 21 53 51.5
comp=Z,62nm,20.5s,baz=285,slow=37
PDAR Pinedale Array 130.09 350 PKP **PKPdf** **21 12 30.0 0.0**
comp=Z,0.3nm,0.5s,baz=11,slow=1.5,SNR=6.9
PDAR Pinedale Array 130.09 350 **PKPdf** **21 12 29.0 -1.0**
NVAR Mina Array Bea 135.27 358 PKP **PKPdf** **21 12 40.4 +0.5**
comp=Z,1.5nm,0.9s,baz=343,slow=0.9,SNR=2.0

IDC 29 20:53:50.8±6.2, 5°23S×134°28E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/21, mbtmpb3.5/3, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/37, Error ellipse: s-maj=337.5km s-min=33.9km az=79.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.62**	**180**	Pn	Pn	20 57 17.0	-2.2
	0.1nm,0.3s,baz=358,slow=13,SNR=2.3						
WRA				Sn	Sn	20 59 56.6	-5.5
	0.2nm,0.3s,baz=359,slow=23,SNR=2.1						
WRA				Lg	Lg	21 01 37.4	
	0.1nm,0.3s,baz=346,slow=27,SNR=5.1						
ASAR	**Alice Springs**	**18.33**	**181**	P	P	20 58 07.6	+0.7
	0.5nm,0.3s,baz=6.0,slow=11,SNR=28						
SONM	**Songino Array**	**58.25**	**338**	LR	LR	21 28 57.1	
	comp=Z,45nm,21.4s,baz=181,slow=36						
MKAR	**Makanchi Array**	**69.17**	**325**	P	P	21 04 59.3	0.0
	0.4nm,0.9s,baz=128,slow=4.9,SNR=2.4						

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*SJA **29** 20:56:41.3±0.6, 21°.91S×67°.19W, h213km±4km, ML4.7, MW4.3*
*NEIC **29** 20:56:41.5±2.6, 21°.94S±0°.06×67°.23W±0°.09, h216km±8km, mb4.7/29, ML5.0(GUC), Error ellipse: s-maj=12.3km s-min=8.6km az=86.0*
*IDC **29** 20:56:42.1±0.8, 21°.96S×66°.98W, h177km±8km, mb3.8/6, mb1 4.0/12, mb1mx3.8/26, mbtmp4.4/12, MS3.8/1, Ms1 3.8/1, ms1mx2.7/56, Error ellipse: s-maj=16.4km s-min=12.3km az=155.0*
*VAO **29** 20:56:43.7±0.3, 21°.91S×67°.11W, h208km, mb4.2*
*GUC **29** 20:56:44.5±0.7, 21°.94S×67°.41W, h211km±6km, ML5.0, MW4.8*
*SCB **29** 20:56:45.3±1.8, 21°.91S×67°.26W, h157km±23km, ML4.4/18, MW4.1, Error ellipse: s-maj=6.4km s-min=6.3km az=0.0*

ISC 29 20:56:41.6±0.5, 21°.97S±0°.03×67°.18W±0°.03, h197km±5km, n205, σ1s72/267, mb4.6/13, 10C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.56**	**98**	P	**Pn**	**20 57 17.8**	**+1.8**
YJA				IAML		20 57 44.6	
	358nm,0.8s						
YJA	**Yavi**	**1.56**	**98**	*e*P	**Pn**	**20 57 18.1**	**+2.0**
YJA				*e*S	**Sn**	**20 57 35.9**	**-6.8**
MOCB	**Mochara**	**1.61**	**64**	P	**Pn**	**20 57 17.9**	**+1.4**
MOCB				S	**Sn**	**20 57 42.6**	**-0.9**
MOCB				IAML		20 57 44.5	
	3μm,0.3s						
MOCB				IAML		20 57 49.3	
	2μm,0.8s						
LVC	**Limon Verde**	**1.72**	**248**	P	**Pn**	**20 57 19.3**	**+1.9**
	82nm,0.3s,baz=35,slow=6.3,SNR=1461						
LVC				S	**Sn**	**20 57 46.0**	**+0.7**
	267nm,0.3s,baz=242,slow=19,SNR=124						
LVC				LR	LR	20 58 02.7	
	comp=Z,201nm,20.2s,baz=93,slow=42						
LVC	**Limon Verde**	**1.72**	**248**	⇑*i*P	**Pn**	**20 57 19.4**	**+1.9**
LVC				*i* S	**Sn**	**20 57 46.6**	**+1.2**
LVC	**Limon Verde**	**1.72**	**248**	*e*P	**Pn**	**20 57 19.5**	**+2.0**
LVC	**Limon Verde**	**1.72**	**248**	P	**Pn**	**20 57 19.5**	**+2.0**
LVC	**Limon Verde**	**1.72**	**248**	*e*P	**Pn**	**20 57 19.0**	**+1.5**
LVC				*e*S	**Sn**	**20 57 47.7**	**+2.3**
PB09	**IPOC Station P**	**1.92**	**275**		**Pn**	**20 57 20.8**	**+1.5**
PB09				Sn	**Sn**	**20 57 48.5**	**0.0**
PB09	**IPOC Station P**	**1.92**	**275**	⇑*i*P	**Pn**	**20 57 21.1**	**+1.8**
PB09				*i* S	**Sn**	**20 57 48.9**	**+0.5**
PB09				IAML		20 57 56.4	
	comp=E,2μm,0.4s						
PB09	**IPOC Station P**	**1.92**	**275**	P	**Pn**	**20 57 21.2**	**+1.9**
PB09				IAML		20 57 58.5	
	comp=E,1μm,0.6s						
PB09	**IPOC Station P**	**1.92**	**275**	*e*P	**Pn**	**20 57 21.0**	**+1.8**
PB09				*e*S	**Sn**	**20 57 50.7**	**+2.2**
PB09				IAML		20 57 54.6	
	comp=Z,1μm,0.4s						
HJA	**Humahuaca**	**2.05**	**127**	*e*P	**Pn**	**20 57 23.1**	**+2.3**
HJA				*e*S	**Sn**	**20 57 53.9**	**+2.6**
PB06	**IPOC Station P**	**2.33**	**251**		**Pn**	**20 57 24.9**	**+1.4**
PB06				Sn	**Sn**	**20 57 56.2**	**0.0**
PB06	**IPOC Station P**	**2.33**	**251**	*e*P	**Pn**	**20 57 25.1**	**+1.5**
PB06				*i* S	**Sn**	**20 57 55.9**	**-0.4**
PB06				IAML		20 57 58.8	
	comp=E,4μm,0.1s						
PB06	**IPOC Station P**	**2.33**	**251**	P	**Pn**	**20 57 25.1**	**+1.5**
PB06				IAML		20 58 06.4	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**2.33**	**251**	*e*P	**Pn**	**20 57 19.9**	**-3.7**
PB06				*e*P	**Pn**	**20 57 25.0**	**+1.4**
PB06				*e*S	**Sn**	**20 57 57.2**	**+1.0**
PB06				*e*S	**Sn**	**20 57 58.3**	**+2.0**
PB06				IAML		20 57 58.5	
	comp=Z,2μm,0.3s						
PB01	**IPOC Station P**	**2.34**	**293**		**Pn**	**20 57 24.3**	**+0.7**
PB01				Sn	**Sn**	**20 57 55.5**	**-0.7**
PB01	**IPOC Station P**	**2.34**	**293**	⇑*i*P	**Pn**	**20 57 24.6**	**+1.0**
PB01				*i* S	**Sn**	**20 57 55.6**	**-0.6**
PB01				IAML		20 57 57.5	
	comp=N,10μm,0.4s						
PB01	**IPOC Station P**	**2.34**	**293**	*e*P	**Pn**	**20 57 24.7**	**+1.0**
PB01				*e*S	**Sn**	**20 57 56.6**	**+0.3**
PB01				IAML		20 57 58.0	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**2.45**	**239**		**Pn**	**20 57 26.3**	**+1.4**
PB15				Sn	**Sn**	**20 57 58.9**	**+0.2**
PB15	**IPOC Station P**	**2.45**	**239**	⇓*i*P	**Pn**	**20 57 26.7**	**+1.7**
PB15				*i* S	**Sn**	**20 57 59.8**	**+1.1**
PB15	**IPOC Station P**	**2.45**	**239**	P	**Pn**	**20 57 26.8**	**+1.9**
PB15				S	**Sn**	**20 57 56.9**	**-1.8**
PB15				IAML		20 58 02.5	
	comp=Z,15μm,0.3s						
PB15				IAML		20 58 03.5	
	comp=Z,9μm,0.2s						
PB15	**IPOC Station P**	**2.45**	**239**	*e*P	**Pn**	**20 57 26.7**	**+1.7**
PB15				*e*S	**Sn**	**20 57 53.9**	**-4.8**
PB15				*e*S	**Sn**	**20 57 59.9**	**+1.1**
PB15				IAML		20 58 03.4	
	comp=Z,9μm,0.2s						
PB07	**IPOC Station P**	**2.52**	**275**		**Pn**	**20 57 26.2**	**+0.4**
PB07				Sn	**Sn**	**20 57 59.4**	**-0.7**
PB07	**IPOC Station P**	**2.52**	**275**	⇑*i*P	**Pn**	**20 57 27.3**	**+1.6**
PB07				*i* S	**Sn**	**20 57 58.7**	**-1.5**
PB07	**IPOC Station P**	**2.52**	**275**	P	**Pn**	**20 57 27.4**	**+1.6**
PB07				IAML		20 58 00.6	
	comp=Z,4μm,0.7s						
PB07	**IPOC Station P**	**2.52**	**275**	*e*P	**Pn**	**20 57 26.8**	**+1.0**
PB07				*e*S	**Sn**	**20 57 59.9**	**-0.3**
PB07				*e*S	**Sn**	**20 58 00.5**	**+0.3**
PB07				IAML		20 58 00.6	
	comp=Z,4μm,0.6s						
PB08	**IPOC Station P**	**2.59**	**314**		**Pn**	**20 57 28.1**	**+1.3**
PB08				Sn	**Sn**	**20 58 02.3**	**+0.4**
PB08	**IPOC Station P**	**2.59**	**314**	⇑*i*P	**Pn**	**20 57 28.6**	**+1.9**

PB08			*i* S		**Sn**	**20 58 01.9**	**+0.1**	
PB08			IAML			20 58 06.4		
	comp=N,1µm,0.5s							
PB08	**IPOC Station P**	**2.59 314**	P		**Pn**	**20 57 28.8**	**+2.0**	
PB08			IAML			20 58 06.1		
	comp=N,709nm,0.7s							
PB08	**IPOC Station P**	**2.59 314**	*eP*		**Pn**	**20 57 28.0**	**+1.2**	
PB08			*eP*		**Pn**	**20 57 28.7**	**+1.9**	
PB08			*eS*		**Sn**	**20 58 03.5**	**+1.6**	
PB08			IAML			20 58 06.0		
	comp=Z,741nm,0.6s							
PB02	**IPOC Station P**	**2.61 284**			**Pn**	**20 57 27.1**	**+0.5**	
PB02			Sn		**Sn**	**20 58 00.4**	**-1.3**	
PB02	**IPOC Station P**	**2.61 284**	*iP*		**Pn**	**20 57 27.5**	**+0.8**	
PB02			*i* S		**Sn**	**20 58 00.0**	**-1.7**	
PB02			IAML			20 58 02.6		
	comp=E,6µm,0.4s							
PB02	**IPOC Station P**	**2.61 284**	P		**Pn**	**20 57 28.0**	**+1.4**	
PB02			IAML			20 58 02.2		
	comp=E,6µm,0.3s							
PB02	**IPOC Station P**	**2.61 284**	*eP*		**Pn**	**20 57 27.5**	**+0.8**	
PB02			*eS*		**Sn**	**20 58 01.4**	**-0.3**	
PB02			IAML			20 58 02.1		
	comp=Z,6µm,0.3s							
PB04	**IPOC Station P**	**2.77 262**			**Pn**	**20 57 29.3**	**+0.8**	
PB04			Sn		**Sn**	**20 58 03.5**	**-1.8**	
PB04	**IPOC Station P**	**2.77 262**	*iP*		**Pn**	**20 57 29.4**	**+0.8**	
PB04			*i* S		**Sn**	**20 58 03.9**	**-1.4**	
PB04			IAML			20 58 10.6		
	comp=N,3µm,0.2s							
PB04	**IPOC Station P**	**2.77 262**	P		**Pn**	**20 57 30.1**	**+1.5**	
PB04			IAML			20 58 07.6		
	comp=N,2µm,0.4s							
PB04	**IPOC Station P**	**2.77 262**	*eP*		**Pn**	**20 57 29.8**	**+1.1**	
PB04			*eS*		**Sn**	**20 58 05.3**	**0.0**	
PB04			IAML			20 58 07.7		
	comp=Z,2µm,0.2s							
GO01	**Chusmiza**	**2.97 320**			**Pn**	**20 57 32.1**	**+0.9**	
GO01	**Chusmiza**	**2.97 320**	*eP*		**Pn**	**20 57 32.0**	**+0.8**	
GO01			*eS*		**Sn**	**20 58 13.5**	**+3.6**	
PATCX	**Punta Patache**	**3.00 292**	Pn		**Pn**	**20 57 31.6**	**+0.4**	
PATCX			Sn		**Sn**	**20 58 07.7**	**-2.1**	
PATCX	**Punta Patache**	**3.00 292**	*eP*		**Pn**	**20 57 31.8**	**+0.6**	
PATCX			*eP*		**P**	**20 57 31.9**	**+0.8**	
PATCX			*eP*		**P**	**20 57 31.9**	**+0.8**	
PATCX			*eP*			20 57 32.1		
PATCX			IAML			20 58 12.7		
	comp=Z,2µm,0.5s							
TA01	**Diego Aracena**	**3.13 296**	Pn		**Pn**	**20 57 32.8**	**+0.2**	
TA01			Sn		**Sn**	**20 58 09.6**	**-2.8**	
TA01	**Diego Aracena**	**3.13 296**	*iP*		**Pn**	**20 57 32.8**	**+0.2**	
TA01			*i* S		**Sn**	**20 58 09.8**	**-2.7**	
TA01	**Diego Aracena**	**3.13 296**	*eP*		**Pn**	**20 57 33.1**	**+0.4**	
TA01			*eS*		**Sn**	**20 58 11.7**	**-0.8**	
TA01			IAML			20 58 15.0		
	comp=Z,1µm,0.3s							
SLA	**San Lorenzo**	**3.14 151**	*eP*		**Pn**	**20 57 35.0**	**+2.1**	
SLA			*eP*		**Pn**	**20 57 35.9**	**+3.0**	
SLA			*eS*		**Sn**	**20 58 15.5**	**+2.4**	
SLA			*eS*			20 58 24.7		
PB11	**IPOC Station P**	**3.19 313**			**Pn**	**20 57 33.5**	**-0.1**	
PB11			Sn		**Sn**	**20 58 12.0**	**-2.2**	
PB11	**IPOC Station P**	**3.19 313**	*iP*		**Pn**	**20 57 34.0**	**+0.4**	
PB11			*i* S		**Sn**	**20 58 12.4**	**-1.8**	
PB11			IAML			20 58 15.7		
	comp=E,3µm,0.3s							
PB11	**IPOC Station P**	**3.19 313**	P		**Pn**	**20 57 34.5**	**+0.9**	
PB11			IAML			20 58 17.3		
	comp=E,719nm,0.4s							
PB11	**IPOC Station P**	**3.19 313**	*eP*		**Pn**	**20 57 34.0**	**+0.4**	
PB11			*eS*		**Sn**	**20 58 13.0**	**-1.2**	
PB11			IAML			20 58 17.3		
	comp=Z,815nm,0.4s							
TA02	**Huaiquique**	**3.23 301**			**Pn**	**20 57 34.0**	**+0.1**	
TA02	**Huaiquique**	**3.23 301**	*eP*		**Pn**	**20 57 34.1**	**+0.1**	
TA02			*i* S		**Sn**	**20 58 12.4**	**-2.4**	
TA02			IAML			20 58 18.4		
	comp=N,2µm,0.1s							
TA02	**Huaiquique**	**3.23 301**	*eP*		**Pn**	**20 57 34.0**	**+0.1**	
TA02			*eP*		**Pn**	**20 57 34.3**	**+0.5**	
TA02			*eS*		**Sn**	**20 58 13.0**	**-1.8**	
TA02			IAML			20 58 19.0		
	comp=Z,792nm,0.3s							
PB10	**IPOC Station P**	**3.47 243**	Pn		**Pn**	**20 57 37.6**	**+0.8**	
PB10	**IPOC Station P**	**3.47 243**	*iP*		**Pn**	**20 57 37.8**	**+1.0**	
PB10			*i* S		**Sn**	**20 58 17.9**	**-2.0**	
PB10			IAML			20 58 23.0		
	comp=N,2µm,0.3s							
PB10	**IPOC Station P**	**3.47 243**	P		**Pn**	**20 57 38.1**	**+1.4**	
PB10			IAML			20 58 23.6		
	comp=N,866nm,0.3s							
PB10	**IPOC Station P**	**3.47 243**	*eP*		**Pn**	**20 57 37.9**	**+1.1**	
PB10			*eS*		**Sn**	**20 58 18.1**	**-1.9**	
PB10			*eS*		**Sn**	**20 58 19.1**	**-0.9**	
PB10			IAML			20 58 23.6		
	comp=Z,893nm,0.3s							
GO02	**Mina Guanaco**	**3.87 214**	Pn		**Pn**	**20 57 43.4**	**+1.5**	
GO02			Sn		**Sn**	**20 58 28.6**	**-0.8**	
GO02	**Mina Guanaco**	**3.87 214**	*eP*		**Pn**	**20 57 43.4**	**+1.5**	
GO02			*eS*		**Sn**	**20 58 29.5**	**+0.2**	
GO02			*eS*		**Sn**	**20 58 29.8**	**+0.5**	
PB14	**IPOC Station P**	**3.97 228**	Pn		**Pn**	**20 57 44.1**	**+0.9**	
PB14	**IPOC Station P**	**3.97 228**	*eS*		**Sn**	**20 58 30.8**	**-0.8**	
PB14			IAML			20 58 32.9		
	comp=Z,985nm,0.5s							
PB16	**IPOC Station P**	**4.23 328**			**Pn**	**20 57 47.9**	**+1.2**	
PB16	**IPOC Station P**	**4.23 328**	P		**Pn**	**20 57 48.4**	**+1.6**	
PB16			S		**Sn**	**20 58 34.8**	**-3.0**	
PB16			IAML			20 58 40.1		
	comp=Z,484nm,0.5s							
PB16			IAML			20 58 41.4		
	comp=Z,215nm,0.4s							
FSA	**Cafayete**	**4.26 165**	*eP*		**Pn**	**20 57 49.9**	**+3.1**	
PB12	**IPOC Station P**	**4.46 318**	Pn		**Pn**	**20 57 47.7**	**-1.5**	
PB12	**IPOC Station P**	**4.46 318**	*iP*		**Pn**	**20 57 48.0**	**-1.2**	
PB12			*i* S		**Sn**	**20 58 37.6**	**-4.8**	
AP01	**Chacalluta**	**4.65 320**			**Pn**	**20 57 51.2**	**-0.4**	
AHML	**Horco Molle**	**5.08 161**	*eP*		**Pn**	**20 57 59.5**	**+2.5**	
AC02	**Maricunga**	**5.16 200**	Pn		**Pn**	**20 57 59.9**	**+1.4**	
AC02	**Maricunga**	**5.16 200**	*eP*		**Pn**	**20 58 00.0**	**+1.6**	
BBOE	**La Paz, Chanca**	**5.19 351**	P		**Pn**	**20 58 01.7**	**+2.7**	
BBOE			IAML			20 59 06.6		
	comp=Z,117nm,0.9s							
AC01	**Pan de Azucar**	**5.20 216**	Pn		**Pn**	**20 57 58.3**	**-0.2**	
BBOD	**La Paz, Gloria**	**5.47 346**	P		**Pn**	**20 58 04.9**	**+2.3**	
BBOD			IAML			20 59 13.9		
	comp=Z,44nm,1.2s							
LPAZ	**La Paz**	**5.73 351**	P		**Pn**	**20 58 07.4**	**+1.5**	
	comp=Z,10nm,0.3s,baz=123,slow=4.4,SNR=199							
LPAZ			S		**Sn**	**20 59 11.3**	**-1.1**	
	comp=Z,2.7nm,0.3s,baz=17,slow=13,SNR=8.8							
LPAZ	**La Paz**	**5.73 351**	Pn		**Pn**	**20 58 07.0**	**+1.0**	
LPAZ	**La Paz**	**5.73 351**	*eP*		**Pn**	**20 58 07.3**	**+1.3**	
LPAZ	**La Paz**	**5.73 351**	P		**Pn**	**20 58 07.7**	**+1.8**	
LPAZ			IAML			20 59 15.0		
	comp=Z,49nm,0.8s							
AC06	**Mina Casimiro**	**6.09 208**			**Pn**	**20 58 09.1**	**-0.9**	
GO03	**Copiap**	**6.25 206**			**Pn**	**20 58 11.3**	**-0.7**	
AC04	**Llanos de Chal**	**7.14 209**			**Pn**	**20 58 21.7**	**-1.9**	
LCO	**Las Campanas**	**7.70 204**	Pn		**Pn**	**20 58 30.1**	**-1.1**	
LCO	**Las Campanas**	**7.70 204**	*eP*		**Pn**	**20 58 30.0**	**-1.1**	
SIV	**San Ignacio**	**8.29 45**	P		**Pn**	**20 58 36.8**	**-2.0**	
	comp=Z,27nm,0.3s,baz=230,slow=9.9,SNR=401							
SIV			S		**Sn**	**21 00 04.5**	**-7.7**	
	comp=Z,2.9nm,0.3s,baz=312,slow=24,SNR=2.0							
APLL	**PUNTA DE LOS L**	**8.41 176**	*eS*		**Sn**	**21 00 11.0**	**-3.8**	
AROD	**Rodeo**	**8.42 194**	*eP*		**Pn**	**20 58 42.0**	**+1.4**	
CO05	**La Serena**	**8.71 204**	Pn		**Pn**	**20 58 42.6**	**-1.5**	
GO04	**Tololo Observa**	**8.79 201**			**Pn**	**20 58 43.9**	**-1.5**	
CO03	**El Pedregal**	**9.37 199**	Pn		**Pn**	**20 58 51.3**	**-1.5**	
CO06	**Fray Jorge**	**9.54 204**	Pn		**Pn**	**20 58 52.3**	**-2.6**	
ZON	**Zonda**	**9.63 188**	Pn		**Pn**	**20 58 56.8**	**+0.7**	
ZON			S		**Sn**	**21 00 40.2**	**-3.6**	
CPUP	**Villa Florida**	**9.99 118**	P		**Pn**	**20 59 00.8**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=290,slow=12,SNR=15							
CPUP	**Villa Florida**	**9.99 118**	Pn		**Pn**	**20 59 00.5**	**-0.2**	
CPUP	**Villa Florida**	**9.99 118**	*eP*		**Pn**	**20 59 02.0**	**+1.2**	
AQDB	**Aquidauana**	**10.81 84**			**Pn**	**20 59 10.8**	**-0.6**	
AQDB	**Aquidauana**	**10.81 84**	*eP*		**Pn**	**20 59 11.4**	**0.0**	
VA03	**San Esteban**	**11.16 195**			**Pn**	**20 59 15.9**	**0.0**	
VA06	**Catapilco**	**11.16 198**			**Pn**	**20 59 14.4**	**-1.5**	
VILB	**Vilhena**	**11.17 38**	*eP*		**Pn**	**20 59 16.0**	**-0.1**	

ROC1	**El Roble**	**11.47 196**			**Pn**	**20 59 17.8**	**-2.3**	
MT02	**Curacav**	**11.78 196**	P		**Pn**	**20 59 21.3**	**-2.4**	
MT05	**Renca**	**11.80 195**	Pn		**Pn**	**20 59 24.1**	**0.0**	
MT03	**Universidad Ad**	**11.85 194**			**Pn**	**20 59 24.7**	**0.0**	
LMEL	**Las Melosas**	**12.13 192**			**Pn**	**20 59 29.0**	**+0.7**	
ITQB	**Itaqui**	**12.21 131**	P		**Pn**	**20 59 27.5**	**-1.7**	
ITQB	**Itaqui**	**12.21 131**	*eP*		**Pn**	**20 59 30.6**	**+1.5**	
MT09	**Talagante**	**12.23 195**	P		**Pn**	**20 59 26.6**	**-2.9**	
VA05	**Santo Domingo**	**12.28 198**	P		**Pn**	**20 59 29.3**	**-0.8**	
BO04	**La Punta**	**12.35 193**	P		**Pn**	**20 59 28.4**	**-2.6**	
PP1B	**Ponte de Pedra**	**12.37 72**	*eP*		**Pn**	**20 59 31.0**	**-0.4**	
MT01	**Popeta**	**12.38 196**	P		**Pn**	**20 59 28.3**	**-3.0**	
SALV	**Santo Antonio**	**12.43 63**	*eP*		**Pn**	**20 59 32.3**	**+0.2**	
BO01	**Tunca**	**12.84 195**	P		**Pn**	**20 59 34.3**	**-2.9**	
BO02	**Sierra Bellavi**	**13.16 193**			**Pn**	**20 59 38.4**	**-2.8**	
NNA	**Nana**	**13.56 316**	P		**P**	**20 59 50.1**	**+1.2**	
	comp=Z,2.3nm,0.3s,baz=157,slow=12,SNR=7.5							
NNA	**Nana**	**13.56 316**	P		**Pn**	**20 59 44.2**	**-2.1**	
GO05	**Huala**	**13.64 197**	P		**Pn**	**20 59 45.8**	**-1.4**	
PTGB	**Pitanga**	**14.15 104**	*eP*		**P**	**20 59 54.9**	**-0.5**	
ML02	**Panimavida**	**14.23 194**			**Pn**	**20 59 52.1**	**-2.4**	
PDRB	**Porto dos Gac**	**14.35 46**	*eP*		**Pn**	**20 59 55.5**	**-0.6**	
ITAB	**Concordia**	**14.65 114**			**Pn**	**20 59 57.7**	**-2.0**	
ITAB	**Concordia**	**14.65 114**	*eP*		**P**	**21 00 00.8**	**-0.1**	
PCMB	**Pacaembu**	**14.79 92**	*eP*		**P**	**21 00 02.6**	**0.0**	
CZSB	**Cruzeiro do Su**	**15.13 339**	*eP*		**P**	**21 00 06.8**	**+0.6**	
CLDB	**Colider**	**15.51 46**	*eP*		**P**	**21 00 10.6**	**+0.1**	
PLTB	**Pedras Altas**	**15.54 132**			**Pn**	**21 00 08.1**	**-2.4**	
PLTB				IAmb	IAmb	21 00 13.0		
	comp=Z,58nm,1.5s							
PLTB	**Pedras Altas**	**15.54 132**	*eP*		**P**	**21 00 11.6**	**+0.9**	
ITRB	**Iturama**	**15.89 85**	*eP*		**Pn**	**21 00 16.0**	**+1.2**	
CNLB	**Canela**	**16.43 120**	*eP*		**Pn**	**21 00 22.2**	**+0.9**	
TIJ01	**Guaruva-PR**	**16.98 105**	*eP*		**Pn**	**21 00 27.7**	**-0.3**	
LC01	**Cunco**	**17.34 192**	P		**P**	**21 00 28.0**	**-2.5**	
TER01	**Tubaro-SC**	**17.58 115**	*eP*		**P**	**21 00 33.4**	**+0.3**	
LC02	**Puerto Saavedr**	**17.59 196**	P		**P**	**21 00 30.6**	**-2.4**	
SNDB	**Serra Nova Dou**	**18.14 59**	*eP*		**P**	**21 00 39.7**	**+0.3**	
RCLB	**Rio Claro- Sao**	**18.20 95**	*eP*		**P**	**21 00 40.7**	**+0.7**	
IPMB	**Ipameri, GO**	**18.26 81**	*eP*		**P**	**21 00 41.7**	**+1.0**	
PET01	**Itanhaem-SP**	**18.45 101**	*eP*		**Pn**	**21 00 44.4**	**-0.8**	
LR04	**Corral**	**18.63 195**	P		**P**	**21 00 42.8**	**-1.6**	
LR04				IAmb	IAmb	21 00 51.7		
	comp=Z,36nm,1.0s							
VAO	**Valinhos**	**18.71 97**	*eP*		**P**	**21 00 46.3**	**+0.8**	
NPGB	**Novo Progresso**	**18.72 39**	*eP*		**P**	**21 00 45.4**	**-0.3**	
PLCA	**Paso Flores**	**18.92 188**	P		**Pn**	**21 00 50.0**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=11,slow=11,SNR=14							
PLCA	**Paso Flores**	**18.92 188**	P		**P**	**21 00 46.1**	**-1.5**	
PLCA	**Paso Flores**	**18.92 188**	*eP*		**Pn**	**21 00 50.4**	**-0.2**	
BDFB	**Brasilia**	**19.20 74**	P		**P**	**21 00 51.7**	**+0.8**	
	comp=Z,1.0nm,0.3s,baz=250,slow=2.1,SNR=9.7							
BDFB	**Brasilia**	**19.20 74**	P		**P**	**21 00 48.5**	**-2.4**	
LL04	**Puerto Octay**	**19.39 192**	P		**P**	**21 00 50.3**	**-2.3**	
LL04				IAmb	IAmb	21 01 23.4		
	comp=Z,30nm,0.6s							
LL03	**Petrohue**	**19.61 192**	P		**P**	**21 00 52.1**	**-2.8**	
MACA	**Manacapuru-AM**	**19.73 20**	*eP*		**P**	**21 00 57.3**	**+0.8**	
PARB	**Paraibuna**	**19.94 98**	*eP*		**P**	**21 00 59.4**	**+0.6**	
LL05	**Los Muermos**	**20.09 194**	P		**P**	**21 00 57.9**	**-2.1**	
PEXB	**Peixe**	**20.52 65**	*eP*		**P**	**21 01 05.4**	**+0.4**	
ITTB	**Itaituba**	**20.72 34**	*eP*		**P**	**21 01 06.6**	**-0.4**	
LL01	**San Ignacio de**	**20.82 191**	P		**P**	**21 01 06.1**	**-1.7**	
MCRA	**Macar, Loja**	**21.44 323**	P		**P**	**21 01 12.1**	**-2.6**	
BOSC	**San Juan Bosco**	**21.70 328**	P		**P**	**21 01 15.5**	**-1.9**	
VAS01	**Vassouras-RJ**	**21.99 95**	*eP*		**P**	**21 01 20.4**	**+0.2**	
DIAM	**Diamantina, MG**	**22.37 85**	*eP*		**P**	**21 01 23.5**	**-0.3**	
MC01	**Montes Claros**	**22.53 81**	*eP*		**P**	**21 01 25.4**	**+0.1**	
JANB	**Januaria**	**22.73 76**	*eP*		**P**	**21 01 27.0**	**-0.1**	
SMTB	**Santa Maria do**	**22.91 58**	*eP*		**P**	**21 01 29.8**	**+1.2**	
PRPB	**Paraiuapebas**	**22.99 49**	*eP*		**P**	**21 01 29.3**	**0.0**	
DUB01	**Friburgo-RJ**	**22.99 95**	*eP*		**P**	**21 01 31.0**	**+1.6**	
SDBA	**SAO DESIDERIO**	**23.28 70**	*eP*		**P**	**21 01 33.1**	**+1.1**	
MALB	**Monte Alegre**	**23.62 34**	*eP*		**P**	**21 01 36.4**	**+1.3**	
SJMB	**Sao Joao De Ma**	**24.58 87**	*eP*		**P**	**21 01 44.9**	**+1.1**	
BOAV	**Boa Vista**	**25.08 16**	*eP*		**P**	**21 01 49.6**	**+1.4**	
RIB01	**Linhares ES**	**25.20 89**	*eP*		**P**	**21 01 49.7**	**+0.3**	
GUA01	**Guaratinga, BA**	**26.37 83**	*eP*		**P**	**21 02 00.9**	**+1.0**	
CMC01	**Camacan, BA**	**26.99 81**	*eP*		**P**	**21 02 06.4**	**+0.9**	
NBIT	**Itapeh - BA**	**27.21 80**	*eP*		**P**	**21 02 08.6**	**+1.2**	
GDU01	**Guandu, BA**	**27.49 77**	*eP*		**P**	**21 02 09.4**	**-0.6**	
NBPN	**Ponto Novo - B**	**28.10 71**	*eP*		**P**	**21 02 16.1**	**+0.8**	
ROSB	**Rosrio**	**29.35 53**	*eP*		**P**	**21 02 28.0**	**+1.7**	
NBLA	**Lagarto - SE**	**30.16 74**	*eP*		**P**	**21 02 32.7**	**-0.9**	
MG03	**Isla Dawson**	**31.92 184**	P		**P**	**21 02 50.0**	**+1.6**	
MG03				IAmb	IAmb	21 03 25.1		
	comp=Z,55nm,1.5s							
NBAN	**Anadia - AL**	**32.08 72**	*eP*		**P**	**21 02 49.7**	**-0.6**	
BIRV	**Birongo**	**32.26 2**	P		**P**	**21 02 52.9**	**+1.1**	
BIRV				IAmb	IAmb	21 02 55.4		
	comp=Z,20nm,1.1s							
SJCC	**San Jacinto, C**	**32.63 345**	P		**P**	**21 02 56.6**	**+1.4**	
SJCC				IAmb	IAmb	21 03 06.7		
	comp=Z,32nm,1.5s							
TOSP	**Speyside**	**33.70 12**	P		**P**	**21 03 04.8**	**+0.5**	
MPOM	**Morne Pois Mar**	**36.72 10**	P		**P**	**21 03 30.1**	**0.0**	
BIM	**Bigot**	**36.76 10**	P		**P**	**21 03 28.9**	**-1.5**	
FDF	**Fort de France**	**36.95 10**	P		**P**	**21 03 33.2**	**+1.1**	
PDPR	**Patillas Dam,**	**39.76 2**	P		**P**	**21 03 54.3**	**-1.1**	
PDPR				IAmb	IAmb	21 04 12.4		
	comp=Z,44nm,1.6s							
CELP	**Cerrillos**	**39.80 1**	P		**P**	**21 03 56.3**	**+0.5**	
CELP				IAmb	IAmb	21 04 01.1		
	comp=Z,50nm,1.4s							
DR12	**Loma Pena Alta**	**40.57 357**	P		**P**	**21 04 00.5**	**-1.6**	
MTO3	**Montecristo**	**42.19 327**	P		**P**	**21 04 16.0**	**+0.5**	
VNA3	**Neumayer Olymp**	**59.12 161**	P		**P**	**21 06 18.7**	**-2.3**	
DBIC	**Dimbokro**	**67.34 72**	P		**P**	**21 07 16.0**	**+0.1**	
	comp=Z,2.4nm,0.6s,baz=258,slow=7.4,SNR=2.1							
DBIC	**Dimbokro**	**67.34 72**		IAmb	IAmb	21 07 32.5		
	comp=Z,28nm,1.6s							
PRN	**Pahroc Range**	**74.29 322**	P		**P**	**21 07 54.5**	**-2.9**	
PDAR	**Pinedale Array**	**75.33 329**	P		**P**	**21 08 06.5**	**+3.0**	
	comp=Z,0.4nm,0.5s,baz=120,slow=5.3,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**76.01 69**	P		**P**	**21 08 06.6**	**-1.0**	
TOA0				IAmb	IAmb	21 08 09.7		
	comp=Z,9.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.01 69**	P		**P**	**21 08 08.7**	**+1.1**	
	comp=Z,6.4nm,0.4s,baz=258,slow=5.7,SNR=125							
TORD	**Torodi Ar. Bea**	**76.01 69**	P		**P**	**21 08 07.5**	**-0.2**	
TORD				IAmb	IAmb	21 08 09.7		
	comp=Z,6.2nm,0.7s							
NVAR	**Mina Array Bea**	**76.86 321**	P		**P**	**21 08 16.8**	**+4.6**	
	comp=Z,0.2nm,0.3s,baz=174,slow=10.0,SNR=1.8							
NVAR				pP	**pP**	**21 09 01.4**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=162,slow=6.2,SNR=1.6							
TSUM	**Tsumeb**	**78.37 106**	P		**P**	**21 08 19.3**	**-1.6**	
TSUM				IAmb	IAmb	21 08 24.1		
	comp=Z,6.1nm,0.8s							
BOSA	**Boshof**	**81.81 117**	P		**P**	**21 08 41.4**	**+2.2**	
	comp=Z,5.2nm,0.8s,baz=268,slow=4.6,SNR=9.9							
BOSA	**Boshof**	**81.81 117**		IAmb	IAmb	21 09 19.8		
	comp=Z,24nm,1.4s							
YKA	**Yellowknife Ar**	**92.17 340**	P		**P**	**21 09 30.4**	**+2.2**	
	comp=Z,0.4nm,0.4s,baz=131,slow=4.5,SNR=15							
YKA				pP	**pP**	**21 10 18.0**	**-0.2**	
	comp=Z,0.8nm,0.9s,baz=132,slow=4.2,SNR=3.2							
KEST	**Kesra**	**92.31 52**	LR		LR	21 52 04.1		
	comp=Z,41nm,19.6s,baz=304,slow=36							
ASAR	**Alice Springs**	**130.21 206**	PKP		**PKiKP**	**21 15 31.4**	**+1.5**	
	comp=Z,0.4nm,0.7s,baz=128,slow=2.1,SNR=4.8							
WRA	**Warramunga Arr**	**133.33 208**	PKP		**PKiKP**	**21 15 37.5**	**+1.2**	
	comp=Z,0.4nm,0.6s,baz=163,slow=1.9,SNR=6.6							
WRA				SKPbc	**SKPab**	**21 18 49.6**	**+2.6**	
	comp=Z,0.5nm,0.9s,baz=138,slow=4.3,SNR=5.7							
MKAR	**Makanchi Array**	**145.05 38**	PKP		**PKiKP**	**21 15 58.1**	**-1.2**	
	comp=Z,0.8nm,0.8s,baz=327,slow=2.0,SNR=9.7							
PZH	**PanZhiHua**	**168.93 64**	PKP		**PKPdf**	**21 16 22.8**	**-3.0**	

*TUL **29** 21:12:44.6±1.0, 36.45N±0.02×98.77W±0.05, h8km±6km, Error ellipse: s-maj=6.2km s-min=1.4km az=116.0*
*IDC **29** 21:12:45.2±1.6, 36.52N×98.93W, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.4/43, mbtmp3.3/5, ML4.0/2, Error ellipse: s-maj=29.4km s-min=11.4km az=100.0*
*NEIC **29** 21:12:46.1±1.0, 36.44N±0.01×98.70W±0.04, h5km±6km, mb_Lg3.6/92, ML3.7(TUL), Mwr3.3/6(SLM), Error ellipse: s-maj=5.1km s-min=0.7km az=68.0*
*ANF **29** 21:12:46.2±2.4, 36.39N×98.71W, h12km±16km, ML4.5/8, Error ellipse: s-maj=5.7km s-min=4.4km az=141.0*
*NEIC **29** 21:12:46, 36.45N×98.76W, h7km, Moment Tensor*

Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.19; $M_{\theta\theta}$1.12; $M_{\phi\phi}$-0.93; $M_{r\theta}$-0.15; $M_{\theta\phi}$-0.28; $M_{r\phi}$-0.42; Fault plane solution: $M_0$1.16000×10^{14} NP1:ϕ_s320.00000°, δ70.00000°, λ-15.00000°. NP2:ϕ_s55.00000°, δ76.00000°, λ-159.00000°. Principal axes: T 1.1627, Plg4.0000°, Azm187.0000°; N -0.0006, Plg65.0000°, Azm88.0000°; P -1.1621, Plg24.0000°, Azm279.0000°;

ISC 29 21:12:44.9±0.7, 36.47N±0.03×98.66W±0.03, h10km, n89, σ2.504/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
U32A	**Winter Ranch,**	**0.29**	**252**	Pg		**Pg**	**21 12 49.1**	**-1.6**
U32A				Sg		**Sg**	**21 12 52.5**	**-2.1**
OK009	**Oakdale Elemen**	**1.34**	**131**			**Pn**	**21 13 10.0**	**+0.3**
OK001	**Jones High Sch**	**1.44**	**129**			**Pn**	**21 13 11.8**	**+0.8**
OKCFA	**Oklahoma City**	**1.44**	**136**	Pg		**Pn**	**21 13 11.8**	**+0.8**
OK005	**Luther M Schoo**	**1.44**	**124**			**Pn**	**21 13 12.1**	**+0.9**
OKCSW	**OKLAHOMA CITY**	**1.45**	**136**	Pg		**Pn**	**21 13 12.1**	**+0.8**
FNO	**Franklin**	**1.58**	**139**			**Pn**	**21 13 14.1**	**+1.0**
WMOK	**Wichita Mounta**	**1.73**	**183**			**Pn**	**21 13 14.6**	**-0.4**
WMOK	**Wichita Mounta**	**1.73**	**183**	P		**Pn**	**21 13 14.7**	**-0.4**
	baz=2.2							
WMOK				S		**Sb**	**21 13 38.1**	**-0.5**
	baz=2.2							
T35A	**Sooner Cattle**	**1.79**	**75**	Pn		**Pn**	**21 13 17.3**	**+1.5**
T35A				IAmb_Lg			21 13 43.9	
	comp=Z,260nm,0.9s							
R32A	**Long Quarter,**	**1.95**	**359**	Pn		**Pn**	**21 13 19.8**	**+1.7**
W35A	**Tecumseh**	**1.96**	**132**			**Pn**	**21 13 19.8**	**+1.6**
X34A	**Smith Ranch, M**	**1.98**	**160**	Pn		**Pb**	**21 13 20.3**	**-0.8**
X34A				IAmb_Lg			21 13 51.9	
	comp=Z,379nm,0.7s							
TUL1	**Leonard**	**2.39**	**103**			**Pn**	**21 13 25.6**	**+1.4**
TUL1				IAmb_Lg			21 14 01.1	
	comp=Z,178nm,0.8s							
TUL1	**Leonard**	**2.39**	**103**	P		**Pn**	**21 13 25.6**	**+1.4**
	baz=284							
TUL1				S		**Sn**	**21 13 56.6**	**+3.1**
	baz=284							
CBKS	**Cedar Bluff**	**2.49**	**340**	Pn		**Pn**	**21 13 27.3**	**

comp=Z,44nm,0.8s
TX32 **Lajitas Array** 8.26 212 Pn **Pn** 21 14 44.1 -0.9
TXAR **Lajitas Array** 8.26 212 Pn **Pn** 21 14 43.9 -1.1
comp=Z,0.8nm,0.3s,baz=33,slow=11,SNR=20
TXAR Pg **Pb** 21 15 08.8 +0.6
comp=Z,0.7nm,0.3s,baz=41,slow=11,SNR=4.4
TXAR Lg Lg 21 17 00.9
comp=Z,2.4nm,0.3s,baz=19,slow=28,SNR=8.5
RWWY **Rawlins** 8.44 311 IAmb_Lg 21 17 20.3
comp=Z,45nm,1.0s
I37A **Lemond, Waseca** 8.54 26 IAmb_Lg 21 17 29.2
comp=Z,48nm,0.9s
K22A **Casper** 8.66 318 IAmb_Lg 21 17 34.2
comp=Z,65nm,0.9s
RSSD **Black Hills** 8.67 333 IAmb_Lg 21 17 24.5
comp=Z,66nm,1.1s
JFWS **Jewell Farm** 9.14 43 IAmb_Lg 21 18 01.2
comp=Z,55nm,0.8s
F33A **5 Mile Ranch,** 9.53 10 IAmb_Lg 21 17 52.7
comp=Z,31nm,1.1s
I40A **Norwalk** 9.63 37 IAmb_Lg 21 17 55.4
comp=Z,34nm,0.9s
SPMN **Marine on St.** 9.81 25 IAmb_Lg 21 17 58.5
comp=Z,31nm,1.1s
PDAR **Pinedale Array** 10.49 310 Pn **Pn** 21 15 14.2 -1.3
comp=Z,0.1nm,0.3s,baz=121,slow=15,SNR=3.0
PDAR Lg Lg 21 18 09.6
comp=Z,0.7nm,0.3s,baz=110,slow=34,SNR=4.3
ULM **Lac du Bonnet** 13.92 7 Pn **Pn** 21 15 58.9 -3.3
comp=Z,0.2nm,0.3s,baz=187,slow=9.7,SNR=1.5
ULM Sn Sn 21 18 24.7 -12
comp=Z,0.4nm,0.3s,baz=198,slow=19,SNR=1.8
ULM Lg Lg 21 19 59.6
comp=Z,0.2nm,0.3s,baz=284,slow=22,SNR=1.7
YKA **Yellowknife Ar** 27.87 344 P **P** 21 18 36.1 +1.7
comp=Z,0.1nm,0.6s,baz=153,slow=9.2,SNR=2.3
ILAR **Eielson Array** 40.11 330 P **P** 21 20 21.4 +1.0
comp=Z,0.4nm,0.9s,baz=129,slow=8.2,SNR=2.9

*NEIC **29** 21:20:17.2±1.4,23.7S±0.1×179.6W±0.1,h507km±8km, mb4.3/26,Error ellipse: s-maj=19.8km s-min=16.0km az=104.0*
*IDC **29** 21:20:18.1±2.6,23.59S×179.64W,h514km±27km, mb3.6/10,mb1 3.7/12,mb1mx3.5/34,mbtmp4.5/12,Error ellipse: s-maj=20.5km s-min=17.0km az=80.0*

ISC 29 21:20:17.6±0.5,23.65S±0.06×179.78W±0.08,h500km, n90,σ2=58/103,mb4.2/24,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.84**	**164**	**P**	**P**	**21 21 56.4**	**+4.2**
GLKZ				S	S	21 21 13.4	+4.7
PINNC	**Pines Island,**	**11.80**	**272**	**P**	**P**	**21 22 58.5**	**+4.4**
AFI	**Afiamalu**	**12.29**	**39**	**P**	**P**	**21 22 56.9**	**-2.6**
	5.0nm,0.3s,baz=346,slow=11,SNR=5.2						
AFI	**Afiamalu**	**12.29**	**39**	**P**	**P**	**21 22 57.8**	**-1.7**
OUZ	**Omahuta**	**12.89**	**205**	**P**	**P**	**21 23 07.9**	**+2.5**
WIAZ	**Waiheke Island**	**13.82**	**197**	**P**	**P**	**21 23 17.9**	**+2.7**
MKAZ	**Moumakai**	**14.10**	**197**	**P**	**P**	**21 23 20.3**	**+2.1**
HAZ	**Te Kaha**	**14.22**	**188**	**P**	**P**	**21 23 20.0**	**+0.6**
PUZ	**Puketiti**	**14.48**	**186**	**P**	**P**	**21 23 26.1**	**+3.9**
URZ	**Urewera**	**14.81**	**190**	**P**	**P**	**21 23 24.7**	**-0.9**
	2.2nm,0.3s,baz=266,slow=4.1,SNR=9.6						
URZ				S	**S**	**21 25 56.8**	**-3.8**
	0.6nm,0.3s,baz=122,slow=17,SNR=2.6						
URZ	**Urewera**	**14.81**	**190**	**P**	**P**	**21 23 24.5**	**-1.1**
URZ	**Urewera**	**14.81**	**190**	**P**	**P**	**21 23 23.5**	**-2.1**
CNGZ	**Carnagh Statio**	**14.89**	**186**	**P**	**P**	**21 23 26.8**	**+0.3**
MTHZ	**Maungataniwha**	**15.43**	**190**	**P**	**P**	**21 23 33.9**	**+1.7**
MTHZ				S	**S**	**21 26 13.6**	**+0.9**
BKZ	**Black Stump Fm**	**15.79**	**191**	**P**	**P**	**21 23 34.3**	**-1.6**
BKZ	**Black Stump Fm**	**15.79**	**191**	**P**	**P**	**21 23 34.4**	**-1.6**
BKZ				S	**S**	**21 26 12.9**	**-6.7**
TWVZ	**Taurewa**	**15.91**	**194**	**P**	**P**	**21 23 37.8**	**+0.6**
OTVZ	**Oturere**	**15.95**	**193**	**P**	**P**	**21 23 37.1**	**-0.6**
KWHZ	**Kaweka Forest**	**16.06**	**191**	**P**	**P**	**21 23 38.3**	**-0.5**
KWHZ				S	**S**	**21 26 19.7**	**-4.8**
VRZ	**Vera Road**	**16.11**	**195**	**P**	**P**	**21 23 42.7**	**+3.5**
BHHZ	**Black Hill Sta**	**16.18**	**192**	**P**	**P**	**21 23 37.4**	**-2.6**
BHHZ				S	**S**	**21 26 21.9**	**-5.0**
PNHZ	**Pukenui**	**16.57**	**191**	**P**	**P**	**21 23 43.0**	**-1.1**
PNHZ				S	**S**	**21 26 27.4**	**-6.4**
DVHZ	**Dannevirke**	**16.95**	**191**	**P**	**P**	**21 23 46.3**	**-1.6**
BFZ	**Birch Farm**	**17.31**	**190**	**P**	**P**	**21 23 46.8**	**-4.6**
BFZ				S	**S**	**21 26 42.7**	**-3.6**
MRZ	**Mangatainoka R**	**17.41**	**192**	**P**	**P**	**21 23 49.6**	**-2.7**
MRZ				S	**S**	**21 26 40.8**	**-7.1**
OGWZ	**Otaki Gorge**	**17.64**	**193**	**P**	**P**	**21 23 52.6**	**-1.9**
HOWZ	**Holdsworth Sta**	**17.65**	**192**	**P**	**P**	**21 23 53.0**	**-1.6**
KIW	**Kapiti Island**	**17.74**	**193**	**P**	**P**	**21 23 53.0**	**-2.4**
CAW	**Cannon Point**	**17.94**	**193**	**P**	**P**	**21 23 55.7**	**-1.5**
TRWZ	**Traveller**	**18.10**	**191**	**P**	**P**	**21 23 57.1**	**-1.7**
PAWZ	**Paruwai Farm**	**18.14**	**192**	**P**	**P**	**21 23 57.4**	**-1.6**
QRZ	**Quartz Range**	**18.31**	**199**	**P**	**P**	**21 24 01.6**	**+1.0**
RPZ	**Rata Peaks**	**21.39**	**198**	**P**	**P**	**21 24 30.7**	**+2.0**
	8.2nm,0.4s,baz=289,slow=4.0,SNR=4.2						
EIDS	**Eidsvold**	**26.55**	**260**	**P**	**P**	**21 25 15.7**	**+0.8**
EIDS				IAmb	IAmb	21 25 44.6	
	comp=Z,13nm,1.4s						
CTA	**Charters Tower**	**31.68**	**270**	**P**	**P**	**21 26 01.0**	**+1.4**
	comp=Z,13nm,0.4s,baz=92,slow=10,SNR=32						
TOO	**Toolangi**	**32.75**	**237**	**P**	**P**	**21 26 08.8**	**+0.2**
TOO				IAmb	IAmb	21 26 13.6	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**35.00**	**248**	**P**	**P**	**21 26 28.0**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=93,slow=9.5,SNR=10						
STKA	**Stephens Creek**	**35.00**	**248**	**P**	**P**	**21 26 28.0**	**+0.4**
COEN	**Coen**	**36.27**	**279**	**P**	**P**	**21 26 39.1**	**+0.8**
COEN				IAmb	IAmb	21 26 41.9	
	comp=Z,10nm,1.4s						
BBOO	**Buckleboo**	**39.73**	**247**	**P**	**P**	**21 27 05.9**	**-0.5**
BBOO				IAmb	IAmb	21 27 06.7	
	comp=Z,3.3nm,0.8s						
AS31	**Alice Springs**	**42.27**	**260**	**P**	**P**	**21 27 27.1**	**+0.2**
ASAR	**Alice Springs**	**42.27**	**260**	**P**	**P**	**21 27 27.1**	**+0.2**
	comp=Z,3.6nm,0.5s,baz=95,slow=6.9,SNR=59						
ASAR				PcP	**pwP**	**21 29 07.5**	**+4.5**
	comp=Z,0.7nm,0.7s,baz=96,slow=5.2,SNR=3.5						
ASAR				S	**S**	**21 33 06.8**	**-4.3**
	comp=Z,0.4nm,0.6s,baz=94,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**42.27**	**260**	**P**	**P**	**21 27 26.7**	**-0.2**
WR0	**Warramunga Arr**	**42.44**	**266**	**P**	**P**	**21 27 27.7**	**-0.4**
WR0				IAmb	IAmb	21 27 28.1	
	comp=Z,5.2nm,0.5s						
WB2	**Warramunga Arr**	**42.61**	**266**	**P**	**P**	**21 27 29.2**	**-0.3**
WRA	**Warramunga Arr**	**42.62**	**266**	**P**	**P**	**21 27 29.1**	**-0.5**
	comp=Z,7.4nm,0.4s,baz=90,slow=5.9,SNR=211						
WRA				PcP	**pwP**	**21 29 08.1**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=98,slow=3.2,SNR=3.5						
WRA				S	**S**	**21 33 10.2**	**-5.9**
	comp=Z,1.1nm,0.8s,baz=104,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	**42.62**	**266**	**P**	**P**	**21 27 28.6**	**-1.1**
FORT	**Forrest**	**46.59**	**249**	**P**	**P**	**21 27 59.4**	**-0.6**
MTN	**Manton Dam**	**47.64**	**274**	**P**	**P**	**21 28 07.7**	**-0.5**
MTN				IAmb	IAmb	21 28 08.1	
	comp=Z,5.7nm,0.7s						
KNRA	**Kununurra**	**48.89**	**269**	**P**	**P**	**21 28 17.2**	**-0.3**
KNRA				IAmb	IAmb	21 28 18.3	
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.05**	**265**	**P**	**P**	**21 28 33.6**	**+0.2**
FITZ				IAmb	IAmb	21 28 34.9	
	comp=Z,6.8nm,0.7s						
VNDA	**Vanda**	**54.65**	**185**	**P**	**P**	**21 28 58.9**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=12,slow=7.4,SNR=7.0						
VNDA				PcP	**PcP**	**21 29 52.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=347,slow=3.3,SNR=3.0						
VNDA	**Vanda**	**54.65**	**185**	**P**	**P**	**21 28 58.7**	**+0.5**
PSA00	**Pilbara Seismi**	**55.41**	**259**	**P**	**P**	**21 29 03.3**	**-1.1**
PSA00	**Pilbara Seismi**	**55.41**	**259**	**P**	**P**	**21 29 03.4**	**-1.0**
PSA00				IAmb	IAmb	21 29 30.7	
	comp=Z,17nm,1.4s						
MORW	**Morawa**	**57.15**	**250**	**P**	**P**	**21 29 15.9**	**-0.5**
MORW				IAmb	IAmb	21 29 16.6	
	comp=Z,12nm,0.5s						
GIRL	**Giralia**	**60.17**	**257**	**P**	**P**	**21 29 37.2**	**+0.4**
TOLI2	**Tolitoli**	**62.71**	**284**	**P**	**P**	**21 29 52.8**	**-0.8**
TOLI2				IAmb	IAmb	21 29 55.2	
	comp=Z,8.4nm,0.6s						
JAGI	**Jajag, Banyuwa**	**64.76**	**272**	**P**	**P**	**21 30 05.2**	**-1.6**
JAGI				IAmb	IAmb	21 30 05.7	
	comp=Z,8.1nm,0.5s						
QSPA	**South Pole Qui**	**66.44**	**180**	**P**	**P**	**21 30 16.6**	**0.0**
UGM	**Wanagama**	**68.30**	**271**	**P**	**P**	**21 30 27.8**	**-1.0**
KKM	**Kota Kinabalu**	**69.02**	**287**	**P**	**P**	**21 30 32.5**	**-0.7**
JOW	**Kunigami**	**70.97**	**312**	**P**	**P**	**21 30 44.2**	**-0.2**
JOW				IAmb	IAmb	21 31 10.9	
	comp=Z,13nm,1.1s						
BELA	**Belgrano 2**	**76.66**	**173**	**P**	**P**	**21 31 14.8**	**-1.2**
KSRS	**Korea Array**	**78.18**	**320**	**P**	**P**	**21 31 25.8**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=139,slow=4.6,SNR=4.3						
PETK	**Petropavlovsk-**	**78.90**	**346**	**P**	**P**	**21 31 28.0**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=100,slow=10.0,SNR=4.0						
PETK	**Petropavlovsk-**	**78.90**	**346**	**P**	**P**	**21 31 27.6**	**-0.7**
USRK	**Ussuriysk Ar.**	**80.66**	**327**	**P**	**P**	**21 31 38.1**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=118,slow=4.2,SNR=4.8						
USRK	**Ussuriysk Ar.**	**80.66**	**327**	**P**	**P**	**21 31 38.0**	**+0.2**
L19K	**White Mountain**	**87.83**	**11**	**P**	**P**	**21 32 11.7**	**-1.1**
L19K				IAmb	IAmb	21 32 12.9	
	comp=Z,6.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	**P**	**P**	**21 32 23.3**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=133,slow=3.2,SNR=13						
MKAR	**Makanchi Array**	**112.13**	**313**	**PKiKP**	**PKiKP**	**21 37 53.5**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=139,slow=6.6,SNR=6.5						
BVAR	**Borovoye Array**	**120.38**	**319**	**PKP**	**PKPdf**	**21 38 09.2**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=328,slow=0.9,SNR=6.7						
ARU	**Arti**	**126.80**	**324**	**PKP**	**PKPdf**	**21 38 22.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=97,slow=20,SNR=5.1						
ARU	**Arti**	**126.80**	**324**		**PKPdf**	**21 38 21.9**	**-1.7**
ARCES	**ARCESS Array B**	**131.68**	**348**	**PKP**	**PKPdf**	**21 38 31.0**	**-1.5**
	comp=Z,5.2nm,1.0s,baz=350,slow=6.2,SNR=7.4						
FINES	**FINESS Array B**	**138.27**	**342**	**PKhKP**	**PKPpre**	21 38 32.5	
	comp=Z,0.7nm,0.7s,baz=18,slow=5.8,SNR=1.8						
PABE	**Paberze**	**143.66**	**337**		**PKPab**	21 38 52.1	-1.3
AKASG	**Malin Array Be**	**144.87**	**328**	**PKP**	**PKPdf**	**21 38 55.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=47,slow=4.3,SNR=8.0						
BRTR	**Keskin Array B**	**147.58**	**308**	**PKPbc**	**PKPdf**	**21 39 04.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=160,slow=4.2,SNR=3.0						
BRTR				PKPab	**PKiKP**	**21 39 09.2**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=110,slow=2.2,SNR=7.1						
BURAR	**Bucovina Array**	**148.87**	**326**		**PKPdf**	**21 39 08.1**	**+4.1**
OSTC	**Ostas**	**150.39**	**339**	*e*PKP	**PKPdf**	**21 39 11.0**	**+4.9**
CHVC	**Chvalec**	**150.42**	**339**	*e*PKP	**PKPdf**	**21 39 10.8**	**+4.6**
UPC	**Upice**	**150.50**	**339**	*e*PKP	**PKPdf**	**21 39 11.2**	**+4.9**
DPC	**Dobruska-Polom**	**150.54**	**339**	*e*PKP	**PKPbc**	**21 39 11.6**	**-0.8**
KRLC	**Kraliky**	**150.62**	**338**	*e*PKP	**PKPdf**	**21 39 10.8**	**+4.3**
CLL	**Collm**	**150.67**	**344**	*i* PKPbc	**PKPdf**	**21 39 11.4**	**+4.9**
	comp=Z,7.0nm,0.8s						
CKRC	**Cesky Krumlov**	**152.52**	**340**	*e*PKP	**PKPbc**	**21 39 15.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**169.47**	**188**	PKPab	**PKPab**	**21 40 43.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=165,slow=3.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**169.47**	**188**		**PKPab**	**21 40 42.8**	**-1.5**

*IDC **29** 21:42:53.0±0.6,2.33N×125.70E,h0km,mb4.1/19, mb1 4.2/20,mb1mx4.0/46,mbtmp4.1/20,ML3.7/1,MS3.1/6, Ms1 3.1/6,ms1mx2.6/74,Error ellipse: s-maj=30.9km s-min=12.2km az=75.0*
*DJA **29** 21:43:00.7±1.3,2.7N±2.2×12.6E±.9,h12km±10km,M4.3/15, mb4.5/6,mB4.8/3,MLv4.3/15,Mw(mB)4.1/3*
*NEIC **29** 21:43:03.8±2.1,2.32N±0.06×126.14E±0.08,h83km±6km, mb4.3/38,Error ellipse: s-maj=11.9km s-min=8.1km az=60.0*

ISC 29 21:43:00.6±0.4,2.32N±0.04×126.17E±0.06,h50km,n94, σ1=73/78,mb4.3/35,MS3.2/5,2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.50**	**335**	**P**	**Pn**	**21 43 26.6**	**+1.5**
SGSI				S	**Sn**	**21 43 45.5**	**+2.0**
TNTI	**Ternate**	**1.95**	**142**	Pn	**Pn**	**21 43 33.7**	**+2.4**
TNTI				Sn	**Sn**	**21 43 59.5**	**+4.8**
TNTI	**Ternate**	**1.95**	**142**	**P**	**Pn**	**21 43 33.7**	**+2.4**
KMSI	**Cibinong**	**2.79**	**232**	**P**	**Pn**	**21 43 44.7**	**+1.9**
LBMI	**Labuha**	**3.23**	**156**	**P**	**Pn**	**21 43 51.9**	**+3.1**
GTOI	**Gorontalo**	**3.57**	**242**	**P**	**Pn**	**21 43 56.2**	**+2.7**
DDMP	**Don Marcelino,**	**3.79**	**353**	*i* **P**	**Pn**	**21 43 59.2**	**+2.7**
SANI	**Sanana**	**4.35**	**182**	**P**	**Pn**	**21 44 06.5**	**+2.4**
MRSI	**Marisa**	**4.60**	**247**	**P**	**Pn**	**21 44 11.1**	**+3.4**
LUWI	**Luwuk**	**4.76**	**225**	Pn	**Pn**	**21 44 13.0**	**+3.1**
LUWI	**Luwuk**	**4.76**	**225**	**P**	**Pn**	**21 44 12.8**	**+2.9**
TOLI2	**Tolitoli**	**5.51**	**257**	Pn	**Pn**	**21 44 21.4**	**+1.2**
APSI	**Ampana**	**5.54**	**235**	**P**	**Pn**	**21 44 22.3**	**+1.8**
	0.3nm625nm45nm,0.6s						
SWI	**Sorong**	**6.00**	**122**	**P**	**Pn**	**21 44 28.6**	**+1.8**
	0.1nm18nm,1.0s						
SIJI	**Sorong**	**6.00**	**122**	Pn	**Pn**	**21 44 29.9**	**+3.0**
	1.8nm,0.3s,baz=338,slow=19,SNR=5.1						
SIJI				LR	LR	21 47 11.7	
	comp=Z,88nm,19.5s,baz=232,slow=40						
PAGZ	**Pagadian**	**6.15**	**333**	*i* **P**	**Pn**	**21 44 30.8**	**+1.9**
MPSI	**Mapaga**	**6.57**	**253**	**P**	**Pn**	**21 44 37.4**	**+2.8**
	0.2nm2μm14nm,1.1s						
MYLDM	**Lahad Datu**	**8.16**	**291**	Pn	**Pn**	**21 45 00.1**	**+3.6**
KKM	**Kota Kinabalu**	**10.59**	**291**	Pn	**Pn**	**21 45 34.0**	**+4.1**
MTN	**Manton Dam**	**15.85**	**162**	Pn	**Pn**	**21 46 39.5**	**-1.0**
MTN				IAmb	IAmb	21 46 50.4	
	comp=Z,20nm,1.4s						
KNRA	**Kununurra**	**18.07**	**172**	**P**	**P**	**21 47 07.3**	**-0.7**
KNRA				IAmb	IAmb	21 47 22.4	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.30**	**181**	**P**	**P**	**21 47 32.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=15,slow=10,SNR=7.1						
FITZ	**Fitzroy Crossi**	**20.30**	**181**	**P**	**P**	**21 47 31.1**	**-1.3**
COEN	**Coen**	**23.37**	**134**	**P**	**P**	**21 48 03.9**	**-1.0**
WB0	**Warramunga Arr**	**23.39**	**160**	**P**	**P**	**21 48 04.5**	**-0.7**
WB0				IAmb	IAmb	21 48 06.9	
	comp=Z,7.9nm,0.7s						
WRA	**Warramunga Arr**	**23.54**	**160**	**P**	**P**	**21 48 06.2**	**-0.4**
	comp=Z,6.1nm,0.5s,baz=336,slow=11,SNR=52						
WRA				S	**S**	**21 52 14.2**	**-2.9**
	comp=Z,2.7nm,0.8s,baz=328,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**23.54**	**160**	**P**	**P**	**21 48 05.0**	**-1.5**
WB2	**Warramunga Arr**	**23.54**	**160**	**P**	**P**	**21 48 06.0**	**-0.5**
WB2				IAmb	IAmb	21 48 08.5	
	comp=Z,6.8nm,0.7s						
JOW	**Kunigami**	**24.45**	**5**	**P**	**P**	**21 48 15.9**	**+1.1**
	comp=Z,5.4nm,0.6s,baz=199,slow=17,SNR=5.4						
JOW	**Kunigami**	**24.45**	**5**	**P**	**P**	**21 48 14.8**	**-0.1**
JOW				IAmb	IAmb	21 48 33.3	
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	**24.54**	**194**	**P**	**P**	**21 48 14.7**	**-1.1**
PSA00				IAmb	IAmb	21 48 17.0	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**24.54**	**194**	**P**	**P**	**21 48 15.1**	**-0.6**
PSA00				IAmb	IAmb	21 48 16.6	
	comp=Z,4.5nm,1.0s						
AS31	**Alice Springs**	**26.91**	**164**	**P**	**P**	**21 48 36.8**	**-0.4**
ASAR	**Alice Springs**	**26.91**	**164**	**P**	**P**	**21 48 37.2**	**0.0**
	comp=Z,1.7nm,0.5s,baz=345,slow=7.7,SNR=24						
ASAR				PcP	**PcP**	**21 51 58.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=339,slow=1.9,SNR=6.4						
ASAR				S	**S**	**21 53 07.3**	**-3.4**
	comp=Z,0.5nm,0.8s,baz=346,slow=17,SNR=2.4						
JNU	**Nakatsue**	**30.96**	**8**	**P**	**P**	**21 49 11.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**31.12**	**303**	**P**	**P**	**21 49 13.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=100,slow=7.9,SNR=4.5						
CMAR				LR	LR	22 01 05.5	
	comp=Z,21nm,21.9s,baz=210,slow=36						
MORW	**Morawa**	**32.69**	**197**	**P**	**P**	**21 49 27.9**	**-0.3**
MORW				IAmb	IAmb	21 49 29.1	
	comp=Z,7.3nm,0.8s						
FORT	**Forrest**	**32.97**	**177**	**P**	**P**	**21 49 30.1**	**-0.5**
PZH	**PanZhiHua**	**33.58**	**318**	**P**	**P**	**21 49 37.8**	**+1.5**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
KSRS	**Korea Array**	**35.00**	**2**	**P**	**P**	**21 49 47.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=180,slow=9.5,SNR=5.4						
MJAR	**Matsushiro Arr**	**35.82**	**17**	**P**	**P**	21 49 53.4	-1.9
	comp=Z,2.1nm,0.6s,baz=213,slow=9.3,SNR=7.0						
BBOO	**Buckleboo**	**36.17**	**166**	**P**	**P**	**21 49 58.2**	**-0.2**
STKA	**Stephens Creek**	**37.03**	**158**	**P**	**P**	**21 50 06.2**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=329,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**37.03**	**158**	**P**	**P**	**21 50 05.7**	**0.0**
HHC	**Hu-ho-hao-te**	**40.56**	**343**	*e***P**	**P**	**21 50 36.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,5.3s						
USRK	**Ussuriysk Ar.**	**42.02**	**6**	**P**	**P**	**21 50 47.2**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=185,slow=4.2,SNR=3.5						
USRK	**Ussuriysk Ar.**	**42.02**	**6**	**P**	**P**	**21 50 46.5**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**42.82**	**65**	T	T	22 37 46.0	
	SNR=4.1						
LSA	**Lhasa**	**42.96**	**313**	**P**	**P**	**21 50 55.2**	**-0.3**
LSA				IAmb	IAmb	21 50 55.8	
	comp=Z,3.5nm,0.5s						
ASAJ	**Asahikawa**	**44.09**	**17**	LR	LR	22 09 12.5	
	comp=Z,16nm,19.8s,baz=192,slow=36						
LIFNC	**LIFOU**	**46.32**	**122**	**P**	**P**	**21 51 22.1**	**+0.2**
SONM	**Songino Array**	**48.45**	**342**	**P**	**P**	21 51 36.3	-1.8
	comp=Z,0.5nm,0.5s,baz=157,slow=7.5,SNR=4.5						
SONM				PcP	**PcP**	**21 53 02.7**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=127,slow=3.5,SNR=4.9						
SONM	**Songino Array**	**48.45**	**342**	**P**	**P**	21 51 36.6	-1.6
SONM				IAmb	IAmb	21 51 45.3	
	comp=Z,3.0nm,1.5s						
WMQ	**Urumqi**	**53.56**	**326**	*e***P**	**P**	**21 52 18.0**	**+1.4**
PETK	**Petropavlovsk-**	**56.94**	**22**	**P**	**P**	**21 52 41.2**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=180,slow=4.4,SNR=3.5						
MK31	**Makanchi Array**	**58.39**	**326**	**P**	**P**	**21 52 49.4**	**-1.6**
MKAR	**Makanchi Array**	**58.39**	**326**	**P**	**P**	21 52 49.3	-1.7
	comp=Z,0.9nm,0.5s,baz=120,slow=8.1,SNR=18						
MKAR				PcP	**PcP**	**21 53 39.8**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=126,slow=4.8,SNR=5.6						
KDJ	**Kajisay**	**59.02**	**319**	**P**	**P**	**21 52 54.2**	**-1.5**
KDJ				IAmb	IAmb	21 53 20.2	
	comp=Z,2.3nm,0.8s						
BOOM	**Boomskoye usch**	**60.01**	**319**	**P**	**P**	**21 53 01.0**	**-1.5**
BOOM				IAmb	IAmb	21 53 19.7	
	comp=Z,2.4nm,1.2s						
LBZ	**Lake Benmore**	**60.85**	**145**	**P**	**P**	**21 53 07.6**	**-0.4**
ZALV	**Zalesovo Beam**	**61.59**	**334**	**P**	**P**	21 53 10.2	-2.5
	comp=Z,0.4nm,0.5s,baz=115,slow=6.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.59**	**334**	**P**	**P**	21 53 10.8	-1.9
GAR	**Garm**	**62.46**	**313**	**P**	**P**	21 53 16.9	-2.2
KURK	**Kurchatov**	**62.62**	**328**	**P**	**P**	21 53 17.8	-2.0
KURK				IAmb	IAmb	21 53 18.4	
	comp=Z,2.9nm,0.6s						
KKAR	**Karatay Array**	**63.88**	**318**	**P**	**P**	21 53 26.2	-2.1
BRVK	**Borovoye**	**68.26**	**327**	**P**	**P**	21 53 54.0	-2.2
WSAR	**Wadi Sarin**	**68.47**	**294**	LR	LR	22 25 56.0	
	comp=Z,14nm,19.5s,baz=183,slow=38						
TIXI	**Tiksi**	**69.25**	**1**	**P**	**P**	**21 54 00.7**	**-1.2**
TIXI				IAmb	IAmb	21 54 01.5	
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**72.88**	**321**	**P**	**P**	21 54 22.1	-2.3
ABKAR	**Akbulak array**	**72.88**	**321**	**P**	**P**	21 54 22.1	-2.2
ABKAR				IAmb	IAmb	21 54 24.5	
	comp=Z,3.1nm,1.5s						
AKTO	**Aktyubinsk**	**74.41**	**322**	**P**	**P**	21 54 31.2	-2.1
	comp=Z,1.5nm,0.5s,baz=118,slow=10,SNR=7.4						
AKTO				LR	LR	22 29 48.2	
	comp=Z,16nm,19.7s,baz=67,slow=38						
ARU	**Arti**	**75.82**	**328**	**P**	**P**	21 54 39.2	-2.1
	comp=Z,0.6nm,0.6s,baz=141,slow=22,SNR=5.1						
ARU	**Arti**	**75.82**	**328**	**P**	**P**	21 54 39.0	-2.3
ARU				IAmb	IAmb	21 54 54.2	
	comp=Z,5.8nm,1.3s						
VNDA	**Vanda**	**82.11**	**173**	**P**	**P**	**21 55 15.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz

DRAG				S		Sn	21 43 36.4	+2.9	
	comp=N,13μm,0.5s								
NYDR	Nydri-Lefkada	1.07	18	P		Pn	21 43 19.7	-0.9	
NYDR	Nydri-Lefkada	1.07	18	P		Pn	21 43 19.9	-0.7	
NYDR				S		Sn	21 43 38.3	+3.5	
LKD2	Lefkada island	1.14	15	P		Pn	21 43 21.4	-0.1	
LKD2				AML	AML		21 43 43.5		
	comp=N,10752μm,0.7s								
LKD2				AML	AML		21 43 44.3		
	comp=E,7821μm,0.4s								
LKD2	Lefkada island	1.14	15	P		Pn	21 43 21.3	-0.1	
LKD2				S		Sn	21 43 40.1	+3.7	
	comp=E,5μm,0.6s								
DRO	Drossia	1.17	77	P		Pn	21 43 21.6	-0.3	
DRO				S		Sn	21 43 37.4	+0.2	
DRO				AML	AML		21 43 45.6		
	comp=N,14114μm,0.5s								
DRO				AML	AML		21 43 48.4		
	comp=E,14991μm,0.4s								
DRO	Drossia	1.17	77	P		Pn	21 43 21.2	-0.7	
DRO				S		Sn	21 43 41.0	+3.9	
	comp=E,7μm,0.5s								
TSLK	Tsoukalades, L	1.17	15	P		Pn	21 43 21.8	-0.2	
TSLK				AML	AML		21 43 44.1		
	comp=E,15590μm,0.5s								
TSLK				AML	AML		21 43 45.0		
	comp=N,25386μm,0.5s								
TSLK	Tsoukalades, L	1.17	15	P		Pn	21 43 21.7	-0.2	
TSLK				S		Sn	21 43 41.0	+3.8	
	comp=N,10μm,0.5s								
UPR	University Cam	1.33	63	P		Pb	21 43 25.5	+0.2	
UPR				S		Sb	21 43 45.2	+3.3	
ITM	Ithomi	1.41	111	P		Pn	21 43 25.2	0.0	
ITM				S		Sb	21 43 43.2	-0.9	
ITM				AML	AML		21 43 58.5		
	comp=N,3766μm,0.7s								
ITM				AML	AML		21 43 58.9		
	comp=E,5090μm,0.9s								
ITM	Ithomi	1.41	111	P		Pn	21 43 25.3	0.0	
ITM	Ithomi	1.41	111	Pn		Pn	21 43 25.4	+0.2	
ITM				Sn		Sb	21 43 44.1	-0.1	
PYL	PYLOS	1.42	124	P		Pn	21 43 25.4	+0.2	
PYL				S		Sb	21 43 43.5	-0.7	
PYL				AML	AML		21 43 57.3		
	comp=E,4484μm,0.5s								
PYL				AML	AML		21 43 57.9		
	comp=N,2672μm,0.5s								
PYL	PYLOS	1.42	124	P		Pn	21 43 24.7	-0.6	
PYL				S		Sb	21 43 45.0	+0.8	
	comp=N,2μm,0.5s								
LAKA	Lakka	1.46	67	P		Pn	21 43 26.3	+0.5	
LAKA	Lakka	1.46	67	P		Pn	21 43 26.3	+0.5	
LAKA				S		Sb	21 43 47.9	+2.4	
	comp=N,7μm,0.6s								
EFP	Efpalio	1.48	60	P		Pn	21 43 26.7	+0.5	
EFP	Efpalio	1.48	60	P		Pn	21 43 26.7	+0.5	
KLV	Kalavryta, Ach	1.53	76	P		Pb	21 43 27.7	-0.9	
KLV				AML	AML		21 43 58.1		
	comp=N,2838μm,0.4s								
KLV				AML	AML		21 43 59.6		
	comp=E,2911μm,1.0s								
KLV	Kalavryta, Ach	1.53	76	P		Pb	21 43 27.7	-0.9	
ALIK	Aliki, Aigiali	1.56	68	P		Pb	21 43 28.5	-0.6	
TRIZ	Trizonia	1.57	64	P		Pb	21 43 28.8	-0.5	
TRIZ	Trizonia	1.57	64	P		Pb	21 43 28.8	-0.5	
TRIZ				S		Sb	21 43 51.9	+3.1	
ANX	Ano Chora	1.58	55	P		Pb	21 43 29.1	-0.5	
ANX	Ano Chora	1.58	55	P		Pn	21 43 28.2	+0.6	
ANX				S		Sb	21 43 52.0	+2.9	
	comp=E,4μm,0.5s								
EVR	Evrytania	1.72	44	P		Pb	21 43 31.5	-0.5	
EVR	Evrytania	1.72	44	P		Pb	21 43 31.2	-0.7	
IGT	Igoumenitsa	1.84	1	P		Pn	21 43 31.9	+0.8	
IGT				S		Sb	21 43 57.7	+1.2	
	comp=E,1μm,0.6s								
THAL	Thalero	1.92	79	P		Pb	21 43 33.8	-1.5	
THAL	Thalero	1.92	79	P		Pb	21 43 33.7	-1.5	
KEK	Kerkira	2.05	350	P		Pn	21 43 35.1	+1.1	
AGG	Agios Georgios	2.09	50	P		Pb	21 43 36.7	-1.5	
AGG	Agios Georgios	2.09	50			Pb	21 43 36.6	-1.6	
KRND	KRANIDI	2.31	97	P		Pn	21 43 38.0	+0.5	
THL	Klokotos Trika	2.32	36	P		Pb	21 43 40.1	-1.9	
VLI	Veliai	2.34	114	P		Pn	21 43 39.2	+1.3	
LKR	Lokris	2.35	65	P		Pn	21 43 39.4	+1.3	
ATAL	Atalanti	2.38	64	P		Pn	21 43 39.7	+1.1	
KPRO	Kipourio	2.42	20	P		Pb	21 43 41.7	-2.1	
VILL	Villia	2.45	78	P		Pn	21 43 40.2	+0.7	
ATH	Athens Observa	2.74	83	P		Pn	21 43 44.9	+1.4	
SCTE	Santa Cesarea	2.76	330			Pn	21 43 45.0	+1.2	
SCTE				Sn		Sn	21 44 18.2	+1.8	
VLY	Voula,Athens	2.79	86	P		Pn	21 43 44.4	+0.2	
NEO	Neokhori	2.82	54	P		Pn	21 43 45.2	+0.6	
XOR	Xorichti	2.83	53	P		Pn	21 43 45.7	+0.9	
VLO	Vlora	2.84	348			Pn	21 43 45.7	+0.9	
PTL	Penteli	2.87	82	P		Pn	21 43 45.7	+0.5	
DION	Dionisos Attik	2.92	81	P		Pn	21 43 46.6	+0.6	
KBN	Korca	2.96	8			Pn	21 43 47.3	+0.8	
LIT	Litokhoron	2.96	35	P		Pn	21 43 48.2	+1.6	
LIT	Litokhoron	2.96	35	Pn		Pn	21 43 47.7	+1.1	
KTI	Kastanea	3.06	27	P		Pn	21 43 50.5	+2.5	
TIP	Timpagrande	3.13	299	⇑P		Pn	21 43 50.6	+1.6	
TIP				⇑S		Sn	21 44 27.1	+1.4	
TIP	Timpagrande	3.13	299			Pn	21 43 50.1	+1.1	
KYMI	Kymi, Euboea I	3.16	72	P		Pn	21 43 49.9	+0.7	
FNA	Florina	3.21	15	P		Pn	21 43 51.9	+2.0	
FNA	Florina	3.21	15			Pn	21 43 51.7	+1.8	
KARY	Karystos	3.31	83	P		Pn	21 43 51.6	+0.2	
OHR	Ohrid	3.44	7	*e*Pn		Pn	21 43 54.9	+1.7	
OHR				*e*Sn		Sn	21 44 32.6	-0.6	
OHR	Ohrid	3.44	7	*i* Pn		Pb	21 44 07.0	+5.8	
PAIG	Paliouri	3.47	49	P		Pn	21 43 54.1	+0.5	
CEL	Celeste	3.51	281	Pn		Pn	21 43 56.5	+2.4	
HORT	Hortiatis	3.64	36	P		Pn	21 43 56.6	+0.7	
PLG	Polygyros	3.64	42	P		Pn	21 43 56.7	+0.8	
TIR	Tirane	3.67	355	⇑P		Pn	21 43 58.0	+1.8	
TIR				⇑S		Sn	21 44 38.4	-0.3	
TIR	Tirane	3.67	355	*e*Pn		Pn	21 43 56.5	+0.3	
TIR				*e*Sn		Sn	21 44 37.7	-1.0	
TIR	Tirane	3.67	355	Pn		Pn	21 43 57.8	+1.6	
SOH	Sokhos	3.94	36	P		Pn	21 44 01.6	+1.6	
KNT	Kendrikon	4.02	30	P		Pn	21 44 02.7	+1.6	
VAY	Valandovo	4.04	25	*e*Pn		Pn	21 44 02.7	+1.5	
VAY	Valandovo	4.04	25	*i* Pn		Pn	21 44 02.8	+1.5	
MATE	Matera	4.05	318	⇓S		Sn	21 44 48.8	+0.7	
APE	Apeiranthos	4.23	97	⇑P		Pn	21 44 07.8	+3.8	
KOKK	Kokkinochori,	4.26	42	P		Pn	21 44 05.3	+1.0	
STIP	Stip	4.26	20	*i* Pn		Pn	21 44 07.4	+3.0	
SRS	Serrai	4.28	36	P		Pn	21 44 05.9	+1.2	
ULC	Ulcinj	4.34	350	⇓*i* Pn		Pn	21 44 05.7	+0.2	
ULC				*i* Sn		Sn	21 44 54.3	-1.1	
SKO	Skopje	4.37	11	*i* Pn		Pn	21 44 07.0	+1.2	
IDI	Anoyia	4.43	121	⇑P		Pn	21 44 09.7	+3.0	
IDI	Anoyia	4.43	121	Pn		Pn	21 44 04.6	-2.1	
	comp=E,0.2nm,0.3s,baz=332,slow=20,SNR=1.5								
IDI				Sn		Sn	21 44 53.1	-4.5	
	comp=E,5.7nm,0.3s,baz=58,slow=22,SNR=3.2								
IDI	Anoyia	4.43	121	Pn		Pn	21 44 08.0	+1.3	
DRME	Dracevica, Mon	4.57	350	*e*Pn		Pn	21 44 08.5	-0.1	
DRME	Dracevica, Mon	4.57	350	⇑*i* Pn		Pn	21 44 09.1	+0.5	
DRME				*i* Sn		Sn	21 44 59.5	-1.4	
NVR	Nevrokopi	4.59	36	P		Pn	21 44 10.1	+1.2	
VAE	Valguarnera	4.66	269	Pn		Pn	21 44 12.6	+2.6	
	comp=E,1.1nm,0.3s,baz=162,slow=1.6,SNR=6.8								
VAE				Sn		Sn	21 45 03.4	0.0	
	comp=E,4.4nm,0.3s,baz=9.6,slow=5.5,SNR=6.2								
BUM	Brajici-Budva	4.72	347	⇓*i* Pn		Pn	21 44 11.0	+0.2	
BUM				*i* Sn		Sn	21 45 03.5	-1.4	
PDG	Podgorica	4.80	351	⇑P		Pn	21 44 12.3	+0.5	
PDG	Podgorica	4.80	351	*e*Pn		Pn	21 44 12.2	+0.5	
PDG				*e*Sn		Sn	21 45 03.8	-2.8	
PDG	Podgorica	4.80	351	Pn		Pn	21 44 12.3	+0.5	
PDG	Podgorica	4.80	351	*e*Pn		Pn	21 44 12.2	+0.5	
TTG	Podgorica	4.80	351	⇑*i* Pn		Pn	21 44 12.2	+0.5	
TTG				*i* Sn		Sn	21 45 05.6	-1.0	
HCY	Herceg Novi	4.94	345	*e*Pn		Pn	21 44 12.6	-1.2	
HCY	Herceg Novi	4.94	345	⇑*i* Pn		Pn	21 44 13.2	-0.6	
HCY				*i* Sn		Sn	21 45 08.8	-1.4	
CEME	Cevo	4.96	348	⇓*i* Pn		Pn	21 44 13.9	-0.1	
CEME				*i* Sn		Sn	21 45 09.3	-1.4	
PRVS	Prvonek	5.01	15	*e*Pn		Pn	21 44 14.9	+0.2	
PRVS				*e*Sn		Sn	21 45 10.2	-1.6	
BOSS	Bosilegrad	5.09	19	*e*Pn		Pn	21 44 16.5	+0.7	
BOSS				*e*Sn		Sn	21 45 12.1	-1.7	
NKME	Niksic	5.17	349	⇑*i* Pn		Pn	21 44 17.2	+0.3	
NKME				*i* Sn		Sn	21 45 14.8	-1.1	
IVA	Berane	5.18	357	⇑*i* Pn		Pn	21 44 17.7	+0.6	
IVA				*i* Sn		Sn	21 45 14.9	-1.3	
KOME	Kolasin	5.19	354	⇑*i* Pn		Pn	21 44 17.9	+0.7	
KOME				*i* Sn		Sn	21 45 14.7	-1.6	
NKY	Niksic	5.21	350	⇓*i* Pn		Pn	21 44 18.2	+0.7	
NKY				*i* Sn		Sn	21 45 15.4	-1.5	
DBRK	Dubrovnik	5.23	343	*e*Pn		Pn	21 44 17.3	-0.4	
TREB	Trebinje	5.23	344	*e*Pn		Pn	21 44 17.1	-0.7	
TREB				*e*Sn		Sn	21 45 13.6	-3.7	
TREB	Trebinje	5.23	344	*e*Pn		Pn	21 44 17.0	-0.7	
BARS	Barje	5.25	12	*e*Pn		Pn	21 44 18.5	+0.5	
BARS				*e*Sn		Sn	21 45 15.1	-2.8	
SGRT	San Giovanni R	5.35	321	Pn		Pn	21 44 20.6	+1.1	
BRY	Bratogost	5.37	346	*e*Pn		Pn	21 44 19.2	-0.6	
BRY	Bratogost	5.37	346	⇑*i* Pn		Pn	21 44 19.6	-0.2	
BRY				*i* Sn		Sn	21 45 19.3	-1.6	
VTS	Vitosha	5.42	24	⇑P		Pn	21 44 21.7	+1.2	
VTS				⇑S		Sn	21 45 22.1	0.0	
VTS	Vitosha	5.42	24	*e*Pn		Pn	21 44 21.4	+1.0	
VTS				*e*Sn		Sn	21 45 19.9	-2.2	
VTS	Vitosha	5.42	24	Pn		Pn	21 44 20.9	+0.5	
ALN	Alexandroupoli	5.50	53			Pn	21 44 21.8	+0.3	
STON	Ston	5.54	340	*e*Pn		Pn	21 44 21.3	-0.6	
STON	Ston	5.54	340	*e*Pn		Pn	21 44 21.3	-0.6	
SELS	Selova	5.56	6	*e*Pn		Pn	21 44 21.8	-0.5	
SJES	Sjenica	5.57	358	*e*Pn		Pn	21 44 23.2	+0.7	
SJES				*e*Sn		Sn	21 45 23.2	-2.6	
CLTB	Caltabellotta	5.60	271	Pn		Pn	21 44 24.3	+1.4	
UPM	Unac-Piva	5.60	350	*e*Pn		Pn	21 44 23.6	+0.6	
UPM	Unac-Piva	5.60	350	⇑*i* Pn		Pn	21 44 23.3	+0.3	
UPM				*i* Sn		Sn	21 45 25.5	-1.2	
PLE	Pljevlja	5.67	353	⇓*i* Pn		Pn	21 44 24.0	+0.1	
PLE				*i* Sn		Sn	21 45 27.0	-1.3	
LSTV	Lastovo	5.69	334	*e*Pn		Pn	21 44 23.8	-0.2	
KARP	Karpathos	5.94	109	Pn		Pn	21 44 28.3	+0.9	
RUDO	Rudo	5.96	354	*e*Pn		Pn	21 44 27.0	-0.7	
BOVS	Bovan	6.04	10	⇓P		Pn	21 44 29.2	+0.4	
MAKA	Makarska	6.12	337	*e*Pn		Pn	21 44 29.8	0.0	
BBLS	Lazići	6.20	354	*e*Pn		Pn	21 44 31.1	0.0	
BBLS				*e*Sn		Sn	21 45 38.2	-3.1	
BBLS	Lazići	6.20	354	*e*Pn		Pn	21 44 30.5	-0.6	
HVAR	Hvar	6.21	333	*e*Pn		Pn	21 44 32.4	+1.3	
RICI	Ricice	6.27	339	*e*Pn		Pn	21 44 31.6	-0.4	
ZAGS	Zajecar	6.29	13	*e*Pn		Pn	21 44 32.0	-0.3	
DIVS	Divibare	6.41	358	*e*Pn		Pn	21 44 33.3	-0.6	
DIVS				*e*Sn		Sn	21 45 41.6	-4.7	
DIVS	Divibare	6.41	358			Pn	21 44 33.7	-0.2	
DIVS	Divibare	6.41	358	*e*Pn		Pn	21 44 33.7	-0.2	
ZIRJ	Zirje	6.92	331	*e*Pn		Pn	21 44 40.8	-0.1	
KIJV	Kijevo	6.96	336	*e*Pn		Pn	21 44 42.0	+0.7	
VLAD	Vladila	7.04	25	⇓P		Pn	21 44 43.6	+1.2	
MORI	Morici	7.07	332	*e*Pn		Pn	21 44 43.6	+0.6	
MORI				Sn		Sn	21 45 58.9	-3.7	
MGRS	Mrkonjic Grad	7.14	341	*e*Pn		Pn	21 44 45.0	+1.1	
HERR	Herculane	7.36	12	⇑P		Pn	21 44 48.0	+1.1	
HERR				⇑S		Sn	21 46 10.1	+0.4	
BLY	Banja Luka	7.42	343	*e*Pn		Pn	21 44 47.6	-0.2	
DUGI	Dugi Otok	7.43	330	*e*Pn		Pn	21 44 48.8	+0.9	
FRGS	Fruska Gora	7.47	357	*e*Pn		Pn	21 44 46.5	-1.9	
FRGS	Fruska Gora	7.47	357	*e*Pn		Pn	21 44 46.6	-1.9	
NRCA	Norcia	7.50	315			Pn	21 44 51.6	+2.6	
AKAS	Kas	7.61	98	Pn		Pn	21 44 52.0	+1.5	
UDBI	Udbina	7.63	335	*e*Pn		Pn	21 44 52.3	+1.6	
VIRC	Vir	7.68	331	*i* Pn		Pn	21 44 53.0	+1.7	
HUMR	Humele	7.70	26	⇑P		Pn	21 44 53.0	+1.5	
ELL	Elmali	7.75	94	Pn		Pn	21 44 53.8	+1.4	
GZR	Gura Zlata	7.92	13	⇓P		Pn	21 44 55.4	+0.7	
A252A	Venje	7.95	348	*e*Pn		Pn	21 44 55.3	+0.3	
A252A				Sn		Sn	21 46 19.1	-5.1	
BZS	Buzias	7.98	7	⇑P		Pn	21 44 55.1	-0.4	
NVLJ	Novalja	7.98	331	*e*Pn		Pn	21 44 56.2	+0.8	
A251A	Rujevac	8.02	339	*e*Pn		Pn	21 44 56.8	+0.9	
MURB	Monte Urbino	8.11	316	Pn		Pn	21 44 59.5	+2.2	
RABC	Rab	8.18	331	*e*Pn		Pn	21 44 59.7	+1.6	
A250A	Rusevo Krmpots	8.41	333	*e*Pn		Pn	21 45 02.9	+1.5	
VOIR		8.53	23	⇑P		Pn	21 45 04.5	+1.5	
OZLJ	Ozalj	8.70	337	*e*Pn		Pn	21 45 05.3	+0.1	
BRJN	Brijuni	8.72	328	*e*Pn		Pn	21 45 06.4	+0.9	
RIY	Rijeka	8.78	332	*e*Pn		Pn	21 45 08.1	+1.8	
MLR	Muntele Rosu	8.87	27	⇓P		Pn	21 45 09.6	+1.8	
MLR	Muntele Rosu	8.87	27	Pn		Pn	21 45 09.0	+1.2	
	comp=E,2.1nm,0.3s,baz=176,slow=1.8,SNR=23								
MLR	Muntele Rosu	8.87	27			Pn	21 45 09.4	+1.6	
CRES	Cresnjev	8.89	338	*e*Pn		Pn	21 45 07.4	-0.5	
NEHR	Nehoiu	8.95	28	⇓P		Pn	21 45 10.4	+1.6	
KEST	Kesra	8.99	261	Pn		Pn	21 45 11.4	+2.0	
	comp=E,0.2nm,0.3s,baz=30,slow=7.7,SNR=4.2								
LOBO	Lobor	9.02	341	*e*Pn		Pn	21 45 08.8	-0.8	
DOPR	Dopca	9.11	23	⇓P		Pn	21 45 11.9	+1.0	
TIRR	Tirgusor	9.13	40	Pn		Pn	21 45 11.7	+0.5	
SKDS	Skadanscina	9.14	331	*e*Pn		Pn	21 45 11.1	-0.2	
CEY	Cerknica	9.15	333	*e*Pn		Pn	21 45 12.8	+1.3	
COVR	Voineasa-Covas	9.27	27	⇑P		Pn	21 45 15.0	+1.8	
TRI	Trieste	9.37	331	Pn		Pn	21 45 15.8	+1.3	
LJU	Ljubljana	9.38	335	*e*Pn		Pn	21 45 15.6	+1.0	
VRI	Vrincioaia	9.48	28	⇓P		Pn	21 45 17.2	+1.6	
CFR	Carcaliu	9.53	36	⇑P		Pn	21 45 17.4	+0.6	
OBKA	Obir	9.78	336	*e*Pn		Pn	21 45 21.3	+1.1	
	comp=E,1.8nm,0.4s								
OBKA				*e*Sn		Sn	21 47 06.3	-3.0	
	comp=E,5.7nm,0.5s								
SOKA	Soboth	9.78	338	*i* Pn		Pn	21 45 20.0	-0.2	
	comp=E,2.7nm,0.4s								
SOKA				*e*Sn		Sn	21 47 03.7	-5.7	
	comp=E,2.5nm,0.6s								
TEOL	Teolo	10.01	323	Pn		Pn	21 45 24.4	+1.1	
ARSA	Arzberg	10.18	341	*e*Pn		Pn	21 45 26.3	+0.8	
	comp=E,1.1nm,0.4s								
CTI	Castel Tesino	10.53	325	Pn		Pn	21 45 31.4	+0.8	
BURAR	Bucovina Array	10.56	19	⇑P		Pn	21 45 32.2	+1.3	
BURAR	Bucovina Array	10.56	19	Pn		Pn	21 45 30.6	-0.3	
KBA	Koelnbreinsper	10.68	334	*e*Pn		Pn	21 45 35.0	+2.4	
	comp=E,0.9nm,0.5s								
KBA				*e*Sn		Sn	21 47 28.8	-2.8	
	comp=E,2.9nm,0.7s								
ABTA	Abfaltersbach	10.72	330	*e*Sn		Sn	21 47 29.6	-2.7	
	comp=E,8.2nm,0.9s								
MOA	Mon	11.07	338	*i* Pn		Pn	21 45 38.9	+1.1	
	comp=E,2.1nm,0.3s								
MOA				*e*Sn		Sn	21 47 37.1	-3.6	
	comp=E,2.3nm,0.5s								
WTTA	Wattenberg	11.49	329	*e*Pn		Pn	21 45 46.8	+3.2	
	comp=E,0.9nm,0.2s								
WTTA				*e*Sn		Sn	21 47 48.1	-3.2	
	comp=E,2.6nm,0.4s								
TUE	Stuetta	11.94	321	Pn		Pn	21 45 50.8	+0.9	
GEC2	GERESS Array S	12.13	339	Pn		Pn	21 45 52.5	+0.3	
GERES	GERESS Array B	12.13	339	Pn		Pn	21 45 53.1	+0.8	
	comp=E,0.2nm,0.3s,baz=158,slow=15,SNR=4.2								
GERES				Sn		Sn	21 47 58.9	-7.9	
	comp=E,0.2nm,0.3s,baz=152,slow=26,SNR=2.2								
KHC	Kasperske Hory	12.42	339	Pn		Pn	21 45 57.1	+0.8	
SENIN	Lac Senin/Sane	12.95	316	Pn		Pn	21 46 04.8	+1.1	
MMAI	Mount Meron Ar	13.20	106	Pn		Pn	21 46 04.8	-2.2	
	comp=E,0.5nm,0.3s,baz=232,slow=21,SNR=1.3								
MMAI				Sn		Sn	21 48 21.8	-11	
	comp=E,1.1nm,0.3s,baz=304,slow=16,SNR=1.6								
GHAJ	Ghor Haditha	14.12	112	Pn		Pn	21 46 18.8	-0.7	
AKASG	Malin Array Be	14.49	23	Pn		Pn	21 46 22.3	-2.1	
	comp=E,0.5nm,0.3s,baz=215,slow=12,SNR=3.4								
AKASG				LR		LR	21 52 58.2		
	comp=E,70nm,20.2s,baz=196,slow=42								
EIL	Elat	14.59	119	Pn		Pn	21 46 23.1	-2.8	
	comp=E,0.3nm,0.3s,baz=96,slow=11,SNR=1.6								
EIL				Sn		Sn	21 48 54.9	-12	
	comp=E,1.3nm,0.3s,baz=84,slow=18,SNR=6.9								
PABE	Paberze	18.00	7	Pn		Pn	21 47 08.6	-0.8	
KBZ	Khabaz	18.16	64	P		Pn	21 47 11.0	-0.4	
	comp=E,0.1nm,0.3s,baz=270,slow=8.1,SNR=1.8								
ESDC	Sonseca Array	19.01	283	P		Pn	21 47 23.9	+1.9	
	comp=E,0.0nm,0.3s,baz=90,slow=13,SNR=2.8								
GNI	Garni	19.18	75	LR		LR	21 56 26.8		
	comp=E,36nm,20.8s,baz=257,slow=42								
GNI	Garni	19.18	75	P		P	21 47 23.1	0.0	
GNI				IAmb		IAmb	21 47 30.5		
	comp=Z,24nm,1.1s								
VIKU	Vikbolandet	20.96	355	*e*P		Pn	21 47 43.9	-0.7	
MTSE	Matsula	21.16	5	*e*P		P	21 47 44.8	+0.6	
VSU	Vasula	21.21	9	*e*P		P	21 47 45.4	+0.7	
AAL	Aland	22.51	360	*e*P		P	21 47 58.6	0.0	
MEF	Metsahovi	22.70	5	*e*P		P	21 48 00.7	+0.1	
HFS	Hagfors	22.85	352	P		P	21 48 02.4	+0.1	
	comp=Z,2.0nm,0.5s,baz=172,slow=13,SNR=8.7								
RAF	Rauma	23.37	2	*e*P		P	21 48 07.3	-0.2	
EKA	Eskdalemuir Ar	23.71	326	P		P	21 48 12.4	+1.5	
	comp=Z,5.6nm,1.1s,baz=123,slow=12,SNR=8.2								
NAO01	NORSAR Array S	23.92	349	P		P	21 48 12.7	-0.1	
FINES	FINESS Array B	24.05	7	P		P	21 48 13.8	-0.2	
	comp=Z,3.1nm,0.4s,baz=173,slow=9.6,SNR=51								
FINES	FINESS Array B	24.05	7	P		P	21 48 13.3	-0.7	
FIA1	FINESS Array S	24.05	7	P		P	21 48 13.8	-0.2	
FIA1				IAmb	IAmb		21 48 24.5		
	comp=Z,7.2nm,1.1s								
NB2	NORSAR Subarra	24.06	349	P		P	21 48 14.7	+0.5	
	comp=Z,1.8nm,1.0s,baz=162,slow=9.3								
NOA	NORSAR Array B	24.06	349	P		P	21 48 14.7	+0.5	
	comp=Z,0.7nm,0.6s,baz=154,slow=9.1,SNR=5.7								
RAYN	Ar Rayn	25.80	116	P		P	21 48 30.1	-0.3	
KLMR	Klimovskoe	26.16	21	*e*P		P	21 48 34.2	+1.0	
	comp=Z,48nm,3.0s								
TOA0	Torodi Ar. Sit	29.53	219	P		P	21 49 05.2	+1.5	
TOA0				IAmb	IAmb		21 49 18.0		
	comp=Z,7.6nm,1.5s								
TORD	Torodi Ar. Bea	29.53	219	P		P	21 49 05.5	+1.7	
	comp=Z,0.5nm,0.5s,baz=33,slow=8.7,SNR=8.5								
TORD	Torodi Ar. Bea	29.53	219	P		P	21 49 04.3	+0.6	
AKTO	Aktyubinsk	29.63	52	P		P	21 49 03.4	-1.0	
	comp=Z,0.6nm,0.4s,baz=288,slow=14,SNR=2.6								
GEYT	Alibeck	29.77	78	P		P	21 49 05.4	-0.3	
	comp=Z,0.8nm,0.4s,baz=316,slow=6.2,SNR=2.3								
GEYT				LR		LR	22 03 32.8		
	comp=Z,21nm,19.5s,baz=212,slow=42								
ABKAR	Akbulak array	30.68	55	P		P	21 49 13.0	-0.6	
ABKAR	Akbulak array	30.68	55	P		P	21 49 13.0	-0.6	
ABKAR				IAmb	IAmb		21 49 27.7		
	comp=Z,3.9nm,1.5s								
LSH	Leshukonskoye	31.09	21	*e*P		P	21 49 15.9	-1.2	
	comp=Z,69nm,3.2s								
ARU	Arti	31.55	41

ACDV	**Cuesta del Vie**	**2.56**	**85**	*eP*		**Pg**	**22 03 25.0**	**-1.3**
ACDV				*eS*		**Sb**	**22 03 53.4**	**-2.4**
ACDV				IAML			22 04 03.5	
	comp=Z,874nm,0.6s							
ACCO	**Cerro Coronel**	**2.60**	**94**	*eP*		**Pb**	**22 03 25.0**	**+0.4**
ACCO				*eS*		**Sg**	**22 04 00.8**	**0.0**
VA01	**Torpederas**	**2.62**	**172**			**Pb**	**22 03 22.1**	**-2.7**
VA01	**Torpederas**	**2.62**	**172**	*eP*		**Pb**	**22 03 25.2**	**+0.5**
VA01				*i S*		**Sb**	**22 03 58.0**	**+0.7**
VA03	**San Esteban**	**2.67**	**151**			**Pb**	**22 03 23.3**	**-2.5**
VA03	**San Esteban**	**2.67**	**151**	*eP*		**Pb**	**22 03 23.2**	**-2.5**
VA03				IAML			22 04 05.3	
	comp=E,3µm,0.5s							
VA03	**San Esteban**	**2.67**	**151**	*eP*		**Pb**	**22 03 23.4**	**-2.3**
VA03				IAML			22 04 06.5	
	comp=Z,1µm,0.6s							
ROCH	**El Roble**	**2.70**	**161**	⇑*iP*		**Pb**	**22 03 23.1**	**-3.2**
ROCH				*eP*		**Pn**	**22 03 21.0**	**-0.7**
ROCH				IAML			22 04 11.4	
	comp=N,3µm,0.7s							
ROCH				IAML			22 04 14.5	
	comp=N,2µm,0.6s							
ROC1	**El Roble**	**2.70**	**161**			**Pn**	**22 03 21.0**	**-0.7**
ROC1	**El Roble**	**2.70**	**161**	*eP*		**Pn**	**22 03 21.0**	**-0.7**
ROC1				*eS*		**Sn**	**22 03 54.2**	**-0.9**
RTLS	**Leoncito**	**2.75**	**121**	*eP*		**Pb**	**22 03 26.0**	**-1.1**
RTLS				*eP*		**Pg**	**22 03 26.9**	**-2.9**
RTLS				IAML			22 04 12.6	
	comp=Z,867nm,0.7s							
AUSP	**Uspallata**	**2.92**	**129**	*eP*		**Pn**	**22 03 23.4**	**-1.3**
AUSP				*eP*		**Pb**	**22 03 29.0**	**-1.0**
AUSP				*eS*		**Sb**	**22 04 04.4**	**-1.7**
MT02	**Curacav**	**2.94**	**165**			**Pn**	**22 03 25.9**	**+1.2**
MT02	**Curacav**	**2.94**	**165**	*eP*		**Pn**	**22 03 25.9**	**+1.2**
MT02				IAML			22 04 15.3	
	comp=E,595nm,0.5s							
MT02	**Curacav**	**2.94**	**165**	*eP*		**Pn**	**22 03 26.0**	**+1.2**
MT02				IAML			22 04 19.1	
	comp=Z,706nm,0.7s							
PEL	**Peldehue**	**2.96**	**157**			**Pb**	**22 03 27.1**	**-3.5**
ZON	**Zonda**	**3.12**	**112**	Pn		**Pb**	**22 03 30.3**	**-3.0**
ZON	**Zonda**	**3.12**	**112**	*eP*		**Pb**	**22 03 32.0**	**-1.3**
ZON				IAML			22 04 25.9	
	comp=Z,745nm,1.5s							
MT05	**Renca**	**3.17**	**159**	Pn		**Pn**	**22 03 29.8**	**+1.8**
MT05	**Renca**	**3.17**	**159**	*eP*		**Pn**	**22 03 30.0**	**+2.0**
MT05				*eS*		**Sb**	**22 04 09.9**	**-3.4**
MT05				IAML			22 04 20.7	
	comp=Z,1µm,0.5s							
RTLL	**Cerro Villicun**	**3.22**	**107**	*eP*		**Pb**	**22 03 32.0**	**-3.0**
RTLL				*eP*		Pn	22 03 32.5	+3.8
GO03	**Copiap**	**3.24**	**30**			**Pn**	**22 03 30.3**	**+1.4**
GO03	**Copiap**	**3.24**	**30**	*eP*		**Pn**	**22 03 30.3**	**+1.4**
GO03	**Copiap**	**3.24**	**30**	*eP*		**Pn**	**22 03 30.7**	**+1.7**
GO03				*eS*		**Sb**	**22 04 13.9**	**-1.3**
VA05	**Santo Domingo**	**3.25**	**173**			**Pn**	**22 03 30.3**	**+1.3**
FCH	**Farellones**	**3.27**	**153**	*eP*		**Pn**	**22 03 31.8**	**+2.2**
MT03	**Universidad Ad**	**3.34**	**157**			**Pn**	**22 03 32.4**	**+2.0**
MT03	**Universidad Ad**	**3.34**	**157**	*eP*		**Pb**	**22 03 33.0**	**-4.1**
MT03				IAML			22 04 32.3	
	comp=Z,836nm,1.1s							
RTCV	**Cerro Valdivia**	**3.35**	**116**	*eP*		**Pb**	**22 03 36.0**	**-1.2**
AC06	**Mina Casimiro**	**3.40**	**27**			**Pn**	**22 03 32.8**	**+1.8**
MT09	**Talagante**	**3.47**	**165**			**Pn**	**22 03 33.8**	**+1.6**
MT09	**Talagante**	**3.47**	**165**	*eP*		**Pn**	**22 03 34.1**	**+1.9**
MT01	**Popeta**	**3.51**	**169**			**Pn**	**22 03 33.7**	**+1.1**
MT01	**Popeta**	**3.51**	**169**	*eP*		**Pn**	**22 03 33.6**	**+1.1**
MT01				IAML			22 04 35.3	
	comp=E,539nm,0.5s							
MT01	**Popeta**	**3.51**	**169**	*eP*		**Pn**	**22 03 33.9**	**+1.4**
MT01				*eS*		**Sb**	**22 04 23.4**	**+0.6**
MT01				IAML			22 04 32.4	
	comp=Z,388nm,0.5s							
VCA	**Vinchina**	**3.76**	**65**	*eP*		**Pb**	**22 03 41.0**	**-3.3**
LMEL	**Las Melosas**	**3.77**	**156**			**Pn**	**22 03 38.7**	**+2.5**
LMEL	**Las Melosas**	**3.77**	**156**	⇓*iP*		**Pn**	**22 03 39.0**	**+2.8**
BO04	**La Punta**	**3.77**	**161**			**Pn**	**22 03 38.2**	**+2.0**
BO01	**Tunca**	**4.05**	**168**			**Pn**	**22 03 42.0**	**+2.1**
BO01	**Tunca**	**4.05**	**168**	*eP*		**Pn**	**22 03 41.4**	**+1.4**
BO01	**Tunca**	**4.05**	**168**	*eP*		**Pn**	**22 03 41.4**	**+1.4**
BO01				*eS*		**Sn**	**22 04 28.4**	**+0.5**
BO01				IAML			22 04 57.3	
	comp=Z,199nm,0.8s							
AC02	**Maricunga**	**4.41**	**37**	Pn		**Pn**	**22 03 47.4**	**+2.0**
AC02	**Maricunga**	**4.41**	**37**	*eP*		Pn	22 03 49.2	+3.8
AC02				*eS*		**Sb**	**22 04 51.9**	**+2.7**
AC01	**Pan de Azucar**	**4.45**	**17**			**Pn**	**22 03 45.4**	**-0.1**
AC01	**Pan de Azucar**	**4.45**	**17**	*eP*		**Pn**	**22 03 45.6**	**+0.1**
AC01				*eS*		**Sg**	**22 04 57.4**	**-2.6**
BO02	**Sierra Bellavi**	**4.50**	**166**	Pn		**Pn**	**22 03 47.9**	**+1.7**
BO02	**Sierra Bellavi**	**4.50**	**166**	*eP*		**Pn**	**22 03 47.9**	**+1.7**
BO02	**Sierra Bellavi**	**4.50**	**166**	*eP*		**Pn**	**22 03 48.0**	**+1.7**
BO02				*eP*		Pb	22 03 48.1	-8.6
BO02				*eS*		**Sb**	**22 04 51.4**	**+0.1**
ACLC	**CERRO LA CRUZ**	**4.55**	**79**	*eP*		**Pn**	**22 03 50.6**	**+3.6**
ACLC				*eS*		**Sb**	**22 04 52.9**	**-0.2**
GO05	**Huala**	**4.58**	**179**			**Pn**	**22 03 47.5**	**+0.2**
GO05	**Huala**	**4.58**	**179**	*eP*		Pn	22 03 33.9	-13
GO05				*eP*		**Pn**	**22 03 48.0**	**+0.7**
GO05				*eS*		**Sn**	**22 04 36.8**	**-4.2**
APLL	**PUNTA DE LOS L**	**4.79**	**91**	*eP*		**Pn**	**22 03 53.6**	**+3.4**
APLL				*eS*		**Sb**	**22 04 54.9**	**-4.9**
RFA	**San Rafael**	**5.30**	**146**	*eP*		**Pn**	**22 04 00.4**	**+3.2**
ML02	**Panimavida**	**5.36**	**174**	Pn		**Pn**	**22 03 59.4**	**+1.4**
GO02	**Mina Guanaco**	**5.68**	**23**	Pn		**Pn**	**22 04 02.9**	**+0.3**
GO02	**Mina Guanaco**	**5.68**	**23**	*eP*		**Pn**	**22 04 04.0**	**+1.4**
GO02				*eS*		**Sn**	**22 05 09.3**	**+0.8**
MRA	**San Martin**	**5.79**	**112**	*eP*		**Pn**	**22 04 00.4**	**-3.5**
MRA				*eP*		**Pn**	**22 04 06.4**	**+2.5**
MRA				*eS*		**Sn**	**22 05 17.4**	**+6.5**
PB14	**IPOC Station P**	**5.96**	**15**			**Pn**	**22 04 05.7**	**-0.8**
H03N1	**Juan Fernandez**	**6.55**	**241**	Pn		**Pn**	**22 04 15.0**	**+1.0**
	baz=113,slow=19,SNR=96							
H03N1				T		T	22 11 16.2	
	baz=71,slow=72,SNR=3593							
H03N2	**Juan Fernandez**	**6.56**	**241**	Pn		**Pn**	**22 04 15.4**	**+1.2**
	baz=113,slow=19,SNR=55							
H03N2				T		T	22 11 16.8	
	baz=71,slow=72,SNR=2830							
H03N3	**Juan Fernandez**	**6.56**	**241**	Pn		**Pn**	**22 04 15.3**	**+0.9**
	baz=113,slow=19,SNR=68							
H03N3				T		T	22 11 15.4	
	baz=71,slow=72,SNR=2063							
H03S3	**Juan Fernandez**	**6.72**	**238**	Pn		**Pn**	**22 04 16.8**	**+0.4**
	SNR=16							
H03S3				T		T	22 11 29.9	
	baz=82,SNR=4.6							
H03S1	**Juan Fernandez**	**6.73**	**238**	Pn		**Pn**	**22 04 16.4**	**-0.1**
	SNR=12							
H03S1				T		T	22 11 29.4	
	baz=82							
H03S2	**Juan Fernandez**	**6.74**	**238**	Pn		**Pn**	**22 04 16.7**	**0.0**
	SNR=14							
H03S2				T		T	22 11 27.5	
	baz=82,SNR=4.1							
FSA	**Cafayete**	**6.87**	**53**	*eP*		Pn	22 04 24.0	+5.0
PB15	**IPOC Station P**	**7.55**	**19**	Pn		**Pn**	**22 04 27.7**	**-0.5**
LVC	**Limon Verde**	**8.28**	**21**	Pn		**Pn**	**22 04 37.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=192,slow=7.3,SNR=1.4							
LVC				Sn		**Sn**	**22 06 10.3**	**-2.2**
	baz=96,slow=20,SNR=1.4							
LVC				Lg		Lg	22 06 59.2	
	comp=Z,3.0nm,0.3s,baz=162,slow=19,SNR=7.3							
LVC				LR		LR	22 07 51.3	
	comp=Z,215nm,19.5s,baz=198,slow=38							
LVC	**Limon Verde**	**8.28**	**21**	Pn		**Pn**	**22 04 39.1**	**+0.7**
LC01	**Cunco**	**8.46**	**179**			**Pn**	**22 04 40.4**	**-0.2**
PB09	**IPOC Station P**	**8.95**	**17**	Pn		**Pn**	**22 04 47.6**	**+0.1**
PLCA	**Paso Flores**	**10.37**	**174**	Pn		**Pn**	**22 05 06.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=343,slow=11,SNR=12							
PLCA	**Paso Flores**	**10.37**	**174**	Pn		**Pn**	**22 05 07.4**	**+0.6**
ITQB	**Itaqui**	**13.40**	**91**			**Pn**	**22 05 49.1**	**+0.8**
CPUP	**Villa Florida**	**13.60**	**76**	Pn		**Pn**	**22 05 53.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=2.0							
CPUP				LR		LR	22 11 33.4	
	comp=Z,230nm,18.8s,baz=222,slow=40							
CPUP	**Villa Florida**	**13.60**	**76**	Pn		**Pn**	**22 05 52.9**	**+1.9**
LPAZ	**La Paz**	**14.52**	**15**	Pn		**P**	**22 06 07.7**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=202,slow=8.0,SNR=2.7							
LPAZ	**La Paz**	**14.52**	**15**	Pn		**P**	**22 06 06.8**	**-4.2**
PLTB	**Pedras Altas**	**15.88**	**100**	Pn		**P**	**22 06 23.6**	**-1.8**
SIV	**San Ignacio**	**17.54**	**38**	P		**P**	**22 06 43.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=219,slow=9.8,SNR=31							
SIV				LR		LR	22 14 45.6	
	comp=Z,116nm,20.8s,baz=242,slow=42							
ITAB	**Concordia**	**17.76**	**85**			**P**	**22 06 46.9**	**+0.7**
BDFB	**Brasilia**	**26.50**	**62**	P		**P**	**22 08 15.9**	**-0.1**
	comp=Z,4.0nm,0.5s,baz=236,slow=11,SNR=7.7							
BDFB	**Brasilia**	**26.50**	**62**	P		**P**	**22 08 16.2**	**+0.2**
BDFB				IAmb		IAmb	22 08 16.9	
	comp=Z,5.3nm,0.8s							
MDP	**Montagnes des**	**39.92**	**31**	LR		LR	22 28 59.0	
	comp=Z,57nm,21.6s,baz=204,slow=40							
VNA3	**Neumayer Olymp**	**52.69**	**159**	P		**P**	**22 11 54.4**	**+2.0**
VNA2	**Neumayer--Watz**	**53.33**	**158**	P		**P**	**22 11 58.8**	**+1.7**
	baz=294,slow=8.0							
SNAA	**Sanae**	**54.91**	**159**	P		**P**	**22 12 10.2**	**+1.5**
SNAA	**Sanae**	**54.91**	**159**	PP		PP	22 14 11.9	+0.6
SNAA	**Sanae**	**54.91**	**159**	P		**P**	**22 12 09.6**	**+0.9**
TROLL	**Troll, Antarti**	**56.62**	**159**	P		**P**	**22 12 22.9**	**+1.8**
QSPA	**South Pole Qui**	**59.81**	**180**	P		**P**	**22 12 44.7**	**+1.2**
QSPA				IAmb		IAmb	22 13 01.7	
	comp=Z,2.1nm,1.0s							
DBIC	**Dimbokro**	**74.09**	**72**	P		**P**	**22 14 15.9**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=209,slow=6.9,SNR=1.7							
DBIC	**Dimbokro**	**74.09**	**72**	P		**P**	**22 14 15.9**	**+1.0**
NVAR	**Mina Array Bea**	**80.94**	**325**	P		P	22 14 57.2	+4.2
	comp=Z,0.5nm,0.6s,baz=173,slow=2.5,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**83.03**	**70**	P		**P**	**22 15 05.1**	**+0.8**
TOA0				IAmb		IAmb	22 15 07.2	
	comp=Z,3.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P		**P**	**22 15 04.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=265,slow=4.5,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P		**P**	**22 15 05.1**	**+0.8**
TORD				IAmb		IAmb	22 15 07.1	
	comp=Z,1.9nm,1.1s							
H11S2	**WAKE ISLAND Hyl**	**25.72**	**272**	T		T	00 40 27.6	
	baz=115,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hyl**	**25.73**	**272**	T		T	00 40 24.9	
	baz=115,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hyl**	**25.73**	**272**	T		T	00 40 26.3	
	baz=115,slow=75,SNR=8.6							
H11N2	**WAKE ISLAND Hyl**	**26.06**	**273**	T		T	00 40 51.7	
	SNR=7.6							
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKP		**PKPdf**	**22 22 27.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=263,slow=2.5,SNR=4.3							
ZALV				PKPbc		**sPKPbc**	**22 22 33.1**	**+1.8**
	comp=Z,7.6nm,0.7s,baz=293,slow=3.0,SNR=37							
ZALV	**Zalesovo Beam**	**151.16**	**29**			**PKPdf**	**22 22 26.8**	**+1.4**
ZALV				PKPbc		**pPKPbc**	**22 22 32.6**	**+1.4**
MKAR	**Makanchi Array**	**154.31**	**43**	PKP		**PKPdf**	**22 22 31.7**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=357,slow=2.9,SNR=3.0							
MKAR				PKPbc		**pPKPbc**	**22 22 40.0**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=11,slow=1.2,SNR=8.9							
MKAR	**Makanchi Array**	**154.31**	**43**			**PKPdf**	**22 22 31.3**	**+1.0**
MKAR						**pPKPbc**	**22 22 40.0**	**+1.4**
PZH	**PanZhiHua**	**173.30**	**124**	PKP		**PKPdf**	**22 22 48.8**	**+0.4**

TUL **29** *22:05:49.5±0.8, 36.46°N±0.03°×98.75°W±0.05, h7km±5km, ML3.6, mb_Lg3.5/92(NEIC), Mwr3.3/6(SLM), Error ellipse: s-maj=6.2km s-min=3.5km az=110.0*

NEIC **29** *22:05:49.5, 36.46°N×98.72°W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr=0.14; Mθθ=0.75; Mφφ=-0.89; Mrθ=0.35; Mrφ=-0.60; Mθφ=-0.11; Fault plane solution: M0=1.08000×10^14 NP1:φs=155.00000°, δ=75.00000°, λ=15.00000°. NP2:φs=61.00000°, δ=76.00000°, λ=164.00000°. Principal axes: T 1.0839, Plg21.0000°, Azm18.0000°; N -0.0001, Plg69.0000°, Azm199.0000°; P -1.0838, Plg0.0000°, Azm108.0000°;*

IDC **29** *22:05:49.2±1.0, 36.55°N×98.71°W, h0km, mb3.0/1, mb1 3.7/6, mb1mx3.4/41, mbtmp3.4/6, ML3.4/5, MS2.8/1, Ms1 2.7/1, ms1mx2.4/19 Error ellipse: s-maj=13.9km s-min=11.8km az=133.0*

NEIC **29** *22:05:50.3±0.8, 36.46°N±0.01°×98.73°W±0.05, h7km±5km, Error ellipse: s-maj=6.7km s-min=0.8km az=103.0*

ANF **29** *22:05:51.3±1.5, 36.48°N×98.78°W, h17km±11km, ML4.4/11, Error ellipse: s-maj=4.6km s-min=3.6km az=151.0*

ISC 29 22:05:49.7±0.7,**36.49N**±0.04×**98.71W**±0.04,**h10**km,**n87,**
σ1**8**43/64,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.26**	**245**	Pg	**Pg**	**Pg**	**22 05 54.3**	**-0.6**
OKCFA	**Oklahoma City**	**1.48**	**136**			**Pn**	**22 06 16.2**	**-0.2**
FNO	**Franklin**	**1.63**	**139**			**Pn**	**22 06 19.0**	**+0.6**
WMOK	**Wichita Mounta**	**1.75**	**182**			**Pn**	**22 06 19.9**	**-0.2**
WMOK	**Wichita Mounta**	**1.75**	**182**	P		**Pn**	**22 06 19.7**	**-0.4**
	baz=0.8							
WMOK				S		**Sn**	**22 06 43.5**	**+1.1**
	baz=0.8							
T35A	**Sooner Cattle**	**1.82**	**76**			**Pn**	**22 06 22.1**	**+1.0**
R32A	**Long Quarter,**	**1.93**	**0**			**Pn**	**22 06 24.3**	**+1.8**
W35A	**Tecumseh**	**2.00**	**131**			**Pn**	**22 06 24.1**	**+0.6**
X34A	**Smith Ranch, M**	**2.02**	**159**			**Pn**	**22 06 25.2**	**+1.5**
TUL1	**Leonard**	**2.43**	**103**	Pn		**Pn**	**22 06 30.1**	**+0.6**
TUL1				IAmb_Lg			22 07 11.2	
	comp=Z,168nm,0.8s							
TUL1	**Leonard**	**2.43**	**103**	P		**Pn**	**22 06 30.5**	**+1.0**
	baz=284							
TUL1				S		**Sn**	**22 07 01.4**	**+2.2**
	baz=284							
CBKS	**Cedar Bluff**	**2.46**	**341**	Sb		**Sb**	**22 07 05.3**	**+1.0**
	baz=161							
AMTX	**Amarillo**	**2.90**	**237**			**Pn**	**22 06 35.4**	**-0.5**
AMTX	**Amarillo**	**2.90**	**237**	Pb		**Pb**	**22 06 41.8**	**+0.3**
	baz=56							
AMTX				Sb		**Sb**	**22 07 19.0**	**+1.9**
	baz=56							
KSU1	**Kansas State U**	**3.09**	**32**			**Pn**	**22 06 40.4**	**+1.8**
KSU1	**Kansas State U**	**3.09**	**32**	P		**Pn**	**22 06 40.5**	**+2.0**
	baz=213							
X37A	**Clayton**	**3.32**	**124**	Pn		**Pn**	**22 06 42.4**	**+0.7**
Z35A	**Perchaven, San**	**3.37**	**159**			**Pn**	**22 06 42.9**	**+0.6**
HHAR	**Hobbs**	**3.86**	**92**			**Pn**	**22 06 49.7**	**+0.6**
ABTX	**Abilene, Hawle**	**3.93**	**192**			**Pn**	**22 06 50.1**	**0.0**
ABTX	**Abilene, Hawle**	**3.93**	**192**	P		**Pn**	**22 06 50.3**	**+0.2**
	baz=11							
KSCO	**Kaye Shedlock'**	**3.99**	**310**	IAmb_Lg			22 08 06.5	
	comp=Z,173nm,0.8s							
MSTX	**Muleshoe**	**4.17**	**234**	IAmb_Lg			22 08 08.9	
	comp=Z,144nm,0.8s							
W39A	**Magazine**	**4.21**	**106**	Pn		**Pn**	**22 06 55.4**	**+1.6**
W39A				IAmb_Lg			22 08 10.6	
	comp=Z,176nm,0.9s							
W39A	**Magazine**	**4.21**	**106**	P		**Pn**	**22 06 56.2**	**+2.3**
	baz=289							
N33A	**J Bar K, Exete**	**4.36**	**13**	IAmb_Lg			22 08 17.1	
	comp=Z,83nm,0.8s							
Z38A	**Mt. Pleasant**	**4.45**	**135**	IAmb_Lg			22 08 12.6	
	comp=Z,140nm,0.9s							
S39A	**Bolivar**	**4.47**	**73**	Pn		**Pn**	**22 06 58.1**	**+0.5**
WHTX	**Lake Whitney,**	**4.61**	**167**	Pn		**Pn**	**22 06 59.0**	**-0.4**
WHTX	**Lake Whitney,**	**4.61**	**167**	P		**Pn**	**22 06 59.8**	**+0.4**
	baz=347							
T25A	**Trinidad**	**4.62**	**280**	Pn		**Pn**	**22 06 59.8**	**+0.1**
T25A				IAmb_Lg			22 08 15.8	
	comp=Z,138nm,1.1s							
T25A	**Trinidad**	**4.62**	**280**	P		**Pn**	**22 07 00.2**	**+0.5**
	baz=97							
T25A				Sb		**Sg**	**22 08 12.9**	**-5.0**
	baz=97							
U40A	**Yellville**	**4.73**	**90**	Pn		**Pn**	**22 07 01.7**	**+0.7**
U40A				IAmb_Lg			22 08 26.8	
	comp=Z,83nm,0.8s							
U40A	**Yellville**	**4.73**	**90**	P		**Pn**	**22 07 01.8**	**+0.8**
	baz=273							
BGNE	**Belgrade**	**4.93**	**5**	Pn		**Pn**	**22 07 04.3**	**+0.5**
BGNE				IAmb_Lg			22 08 39.6	
	comp=Z,128nm,0.9s							
237A	**Washetta, Mont**	**5.08**	**151**	Pn		**Pn**	**22 07 04.9**	**-1.0**
237A				IAmb_Lg			22 08 43.4	
	comp=Z,90nm,0.7s							
P38A	**Dawn**	**5.15**	**51**	Pn		**Pn**	**22 07 07.7**	**+0.9**
OGNE	**Ogallala**	**5.15**	**331**	Pn		**Pn**	**22 07 07.9**	**+1.0**
X40A	**Basin Creek Fa**	**5.20**	**111**	Pn		**Pn**	**22 07 09.0**	**+1.6**
X40A				IAmb_Lg			22 08 48.7	
	comp=Z,75nm,0.7s							
X40A	**Basin Creek Fa**	**5.20**	**111**	P		**Pn**	**22 07 09.3**	**+1.8**
	baz=294							
MGMO	**Mountain Grove**	**5.21**	**81**	Pn		**Pn**	**22 07 08.3**	**+0.6**
MGMO				IAmb_Lg			22 08 36.6	
	comp=Z,76nm,0.9s							
WHAR	**Wooly Hollow**	**5.35**	**101**	Pn		**Pn**	**22 07 10.5**	**+0.9**
WHAR				IAmb_Lg			22 08 43.2	
	comp=Z,111nm,0.9s							
FCAR	**Ozark Folk Cen**	**5.36**	**94**	IAmb_Lg			22 08 42.3	
	comp=Z,72nm,0.8s							
WLAR	**White Oak Lake**	**5.38**	**120**	IAmb_Lg			22 08 50.7	
	comp=Z,69nm,0.8s							
W41B	**Gary Mavity, V**	**5.42**	**102**	IAmb_Lg			22 08 42.9	
	comp=Z,95nm,0.9s							
W41B	**Gary Mavity, V**	**5.42**	**102**	Sb		**Sg**	**22 08 41.9**	**-1.6**
	baz=286							
R40A	**Maddies Statio**	**5.44**	**69**			**Pn**	**22 07 12.0**	**+1.3**
R40A				IAmb_Lg			22 08 51.2	
	comp=Z,66nm,0.9s							
UALR	**University of**	**5.46**	**106**	IAmb_Lg			22 08 48.4	
	comp=Z,57nm,0.8s							
SDCO	**Great Sand Dun**	**5.57**	**285**	P		**Pn**	**22 07 14.7**	**+1.8**
	baz=101							
Q24A	**Divide**	**5.67**	**298**	Pn		**Pn**	**22 07 14.1**	**-0.1**
Q24A				IAmb_Lg			22 08 56.3	
	comp=Z,73nm,0.8s							
435B	**Jarrell**	**5.77**	**170**	Pn		**Pn**	**22 07 14.5**	**-0.8**
435B				IAmb_Lg			22 09 01.2	
	comp=Z,100nm,0.8s							
NATX	**Nacogdoches**	**5.79**	**143**	IAmb_Lg			22 09 07.1	
	comp=Z,103nm,1.1s							
Z41A	**Richland Creek**	**5.83**	**122**	IAmb_Lg			22 09 09.4	
	comp=Z,84nm,0.7s							
JCT	**Junction City**	**6.06**	**189**	Pn		**Pn**	**22 07 19.6**	**+0.2**
JCT				IAmb_Lg			22 09 11.2	
	comp=Z,96nm,0.8s							
K31A	**O'Neill**	**6.12**	**360**	IAmb_Lg			22 09 13.5	
	comp=Z,110nm,0.8s							
CCM	**Cathedral Cave**	**6.16**	**73**	IAmb_Lg			22 09 04.7	
	comp=Z,105nm,0.9s							
CCM	**Cathedral Cave**	**6.16**	**73**	Sb		**Sg**	**22 09 02.7**	**-4.6**
	baz=257							
ISCO	**Idaho Springs**	**6.36**	**303**	Pn		**Pn**	**22 07 24.0**	**+0.3**
ISCO				IAmb_Lg			22 09 24.7	
	comp=Z,45nm,0.8s							
ANMO	**Albuquerque**	**6.49**	**259**	Pn		**Pn**	**22 07 26.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=88,slow=17,SNR=3.5							
ANMO				Pg		**Pb**	**22 07 46.0**	**+3.3**
	comp=Z,1.8nm,0.3s,baz=86,slow=19,SNR=10							
ANMO				Lg		Lg	22 09 11.8	
	comp=Z,4.2nm,0.3s,baz=336,slow=20,SNR=9.1							
ANMO	**Albuquerque**	**6.49**	**259**			**Pn**	**22 07 25.6**	**+0.3**
PBMO	**Poplar Bluff**	**6.67**	**85**	IAmb_Lg			22 09 23.4	
	comp=Z,49nm,0.7s							
FVM	**French Village**	**6.78**	**75**	Pn		**Pn**	**22 07 30.0**	**+0.8**
FVM				IAmb_Lg			22 09 24.8	
	comp=Z,72nm,0.8s							
SCIA	**State Center**	**6.89**	**37**	IAmb_Lg			22 09 32.1	
	comp=Z,71nm,0.8s							
PHWY	**Pilot Hill**	**7.12**	**314**	Pn		**Pn**	**22 07 34.8**	**+0.7**
PHWY				IAmb_Lg			22 09 35.5	
	comp=Z,62nm,1.0s							
Y22D	**IRIS PASSCAL I**	**7.13**	**253**	IAmb_Lg			22 09 45.3	
	comp=Z,94nm,0.8s							
N23A	**Red Feather La**	**7.16**	**310**	Pn		**Pn**	**22 07 35.2**	**+0.5**
MNTX	**Cornudas Mount**	**7.31**	**231**	Pn		**Pn**	**22 07 36.9**	**+0.4**
MNTX				IAmb_Lg			22 09 39.3	
	comp=Z,42nm,0.7s							
ECSD	**EROS Data Cent**	**7.41**	**12**			**Pn**	**22 07 37.2**	**-0.7**
ECSD				IAmb_Lg			22 09 54.5	
	comp=Z,41nm,1.1s							
735A	**Ken

JAY	**Jayapura**	**42.67**	**286**	P		**P**	**22 22 06.5**	**+0.2**
	comp=Z,9.8nm,0.6s,baz=109,slow=3.3,SNR=6.9							
OOD	**Oodnadatta**	**43.17**	**248**	P		**P**	**22 22 10.8**	**+0.8**
BBOO	**Buckleboo**	**43.40**	**241**	P		**P**	**22 22 11.8**	**+0.1**
BBOO				IAmb	IAmb		22 22 12.4	
	comp=Z,13nm,0.5s							
BBOO	**Buckleboo**	**43.40**	**241**	P		**P**	**22 22 12.1**	**+0.4**
WR0	**Warramunga Arr**	**44.33**	**259**	P		**P**	**22 22 17.6**	**-1.6**
WR0				IAmb	IAmb		22 22 19.1	
	comp=Z,7.7nm,1.4s							
WB0	**Warramunga Arr**	**44.49**	**260**	P		**P**	**22 22 19.1**	**-1.2**
WB0				IAmb	IAmb		22 22 19.7	
	comp=Z,5.5nm,1.1s							
WRAB	**Tennant Creek**	**44.52**	**259**	P		**P**	**22 22 19.8**	**-0.7**
WRA	**Warramunga Arr**	**44.52**	**259**	P		**P**	**22 22 19.4**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=96,slow=7.3,SNR=50							
WRA				PcP		**PcP**	**22 23 52.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=92,slow=3.5,SNR=3.3							
WRA	**Warramunga Arr**	**44.52**	**259**	P		**P**	**22 22 19.3**	**-1.2**
AS31	**Alice Springs**	**44.71**	**254**	P		**P**	**22 22 21.6**	**-0.4**
AS31				IAmb	IAmb		22 22 22.4	
	comp=Z,12nm,0.5s							
ASAR	**Alice Springs**	**44.71**	**254**	P		**P**	**22 22 21.8**	**-0.2**
	comp=Z,34nm,0.6s,baz=88,slow=8.0,SNR=405							
ASAR				PcP		**PcP**	**22 23 53.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=106,slow=3.7,SNR=5.3							
ASAR				ScP		**ScP**	**22 26 56.5**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=90,slow=3.7,SNR=3.5							
ASAR				S		**S**	**22 28 16.4**	**-2.9**
	comp=Z,0.4nm,0.8s,baz=81,slow=15,SNR=5.0							
ASAR	**Alice Springs**	**44.71**	**254**	P		**P**	**22 22 21.7**	**-0.4**
MULG	**Mulgathing**	**44.79**	**245**	P		**P**	**22 22 22.4**	**0.0**
KDU	**Kakadu**	**47.40**	**269**	P		**P**	**22 22 42.3**	**-0.2**
MTN	**Manton Dam**	**48.64**	**268**	P		**P**	**22 22 51.1**	**-0.7**
MTN				IAmb	IAmb		22 22 51.8	
	comp=Z,16nm,0.8s							
WRKA	**Warakurna**	**49.78**	**252**	P		**P**	**22 23 00.2**	**+0.1**
FORT	**Forrest**	**49.98**	**244**			**P**	**22 23 00.8**	**-0.6**
FORT	**Forrest**	**49.98**	**244**	P		**P**	**22 23 01.2**	**-0.2**
KNRA	**Kununurra**	**50.35**	**264**	P		**P**	**22 23 03.9**	**-0.4**
KNRA				IAmb	IAmb		22 23 04.7	
	comp=Z,17nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.91**	**260**	P		**P**	**22 23 22.8**	**0.0**
PSA00	**Pilbara Seismi**	**57.82**	**255**	P		**P**	**22 23 56.0**	**-0.9**
PSA00	**Pilbara Seismi**	**57.82**	**255**	P		**P**	**22 23 56.3**	**-0.6**
PSA00				IAmb	IAmb		22 23 57.3	
	comp=Z,11nm,0.7s							
MORW	**Morawa**	**60.45**	**246**	P		**P**	**22 24 13.9**	**-0.5**
MORW				IAmb	IAmb		22 24 34.6	
	comp=Z,18nm,1.4s							
TOLI2	**Tolitoli**	**62.50**	**281**	P		**P**	**22 24 29.0**	**+1.1**
TOLI2				IAmb	IAmb		22 24 36.4	
	comp=Z,18nm,1.5s							
GIRL	**Giralia**	**62.82**	**253**	P		**P**	**22 24 30.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**65.88**	**268**	P		**P**	**22 24 48.0**	**-1.4**
KKM	**Kota Kinabalu**	**68.51**	**284**	P		**P**	**22 25 05.6**	**-0.1**
KKM				IAmb	IAmb		22 25 09.9	
	comp=Z,20nm,1.1s							
UGM	**Wanagama**	**69.49**	**268**	P		**P**	**22 25 11.4**	**-0.1**
JHS	**Saijyo**	**69.57**	**319**	P		**P**	**22 25 10.4**	**-1.1**
NJ2	**Nanjing**	**77.63**	**310**	*e*P		**P**	**22 25 58.0**	**+0.7**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
P18K	**Big Mountain,**	**79.07**	**12**	P		**P**	**22 26 04.3**	**-0.2**
NVAR	**Mina Array Bea**	**79.33**	**44**	P		**P**	**22 26 08.1**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=220,slow=9.9,SNR=6.1							
K20K	**Telida**	**82.95**	**11**	P		**P**	**22 26 24.4**	**0.0**
SCM	**Sheep Creek Mo**	**82.99**	**14**	P		**P**	**22 26 24.3**	**-0.4**
MTPU	**Mount Pierson**	**83.29**	**47**	P		**P**	**22 26 25.2**	**-1.9**
N25K	**Chitina, Valde**	**83.47**	**16**	P		**P**	**22 26 27.0**	**-0.1**
N25K				IAmb	IAmb		22 26 44.1	
	comp=Z,18nm,1.3s							
TRF	**Thorofare Moun**	**83.76**	**12**	P		**P**	**22 26 27.8**	**-0.8**
DHY	**Denali Highway**	**84.06**	**14**	P		**P**	**22 26 29.7**	**-0.4**
DHY				IAmb	IAmb		22 26 36.0	
	comp=Z,11nm,1.4s							
IMAR	**Indian Mountai**	**85.42**	**10**	P		**P**	**22 26 36.1**	**-0.3**
ILAR	**Eielson Array**	**85.64**	**13**	P		**P**	**22 26 36.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=222,slow=5.4,SNR=5.8							
TXAR	**Lajitas Array**	**85.98**	**58**	P		**P**	**22 26 42.5**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=6.7,SNR=6.9							
TXAR	**Lajitas Array**	**85.98**	**58**	P		**P**	**22 26 41.7**	**+1.7**
HHC	**Hu-ho-hao-te**	**86.95**	**315**	*e*P		**P**	**22 26 46.0**	**+1.6**
HHC				pmax	pmax			
	comp=Z,16nm,0.8s							
HHC				pmax	pmax			
	comp=Z,120nm,5.4s							
PDAR	**Pinedale Array**	**87.25**	**44**	P		**P**	**22 26 46.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=223,slow=3.4,SNR=5.5							
PDAR	**Pinedale Array**	**87.25**	**44**	P		**P**	**22 26 46.2**	**+0.3**
BMAR	**Burnt Mountain**	**88.41**	**12**	P		**P**	**22 26 50.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**88.63**	**290**	P		**P**	**22 26 54.4**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=106,slow=3.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	**88.63**	**290**	P		**P**	**22 26 53.6**	**+1.0**
PZH	**PanZhiHua**	**88.88**	**298**	P		**P**	**22 26 54.0**	**+0.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,5.1s							
YKA	**Yellowknife Ar**	**94.14**	**25**	P		**P**	**22 27 16.1**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=239,slow=4.5,SNR=3.6							
BRTR	**Keskin Array B**	**144.46**	**315**	PKP		**PKPdf**	**22 33 31.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=80,slow=6.8,SNR=5.1							
BRTR	**Keskin Array B**	**144.46**	**315**		PKPbc	**PKPbc**	**22 33 31.6**	**-0.2**
GERES	**GERESS Array B**	**147.29**	**345**		PKPbc	**PKPbc**	**22 33 39.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=32,slow=3.3,SNR=5.6							

CNRM ***29*** *22:53:57.2,35˚.72N×3˚.57W,h18km,ml3.8*
IDC ***29*** *22:53:57.0±0.9,35˚.71N×3˚.58W,h0km,mb3.6/6,mb1 3.7/9, mb1mx3.4/49,mbtmp3.5/9,ML3.5/3,MS3.2/3,Ms1 3.3/3, ms1mx2.5/84,Error ellipse: s-maj=31.0km s-min=11.8km az=98.0*
IGIL ***29*** *22:53:58.4,35˚.56N×3˚.66W,h16km,ML3.2*
MDD ***29*** *22:53:58.4±0.2,35˚.60N×3˚.67W,h12km,mb_Lg3.2/22, Error ellipse: s-maj=2.4km s-min=1.6km az=163.0*
INMG ***29*** *22:53:59.1±1.8,35˚.64N×3˚.68W,h16km±6km,ML3.2, Error ellipse: s-maj=3.4km s-min=3.0km az=140.0*
LDG ***29*** *22:53:59.4±0.3,35˚.62N×3˚.64W,h10km,Ml2.9/6, Error ellipse: s-maj=5.9km s-min=3.4km az=1.0*
SFS ***29*** *22:53:59.0,35˚.50N×3˚.60W,h22km,ML3.5,ALBORAN SUR*

ISC 29 22:53:60.0±1.1,**35˚.69N**±0˚.02×**3˚.62W**±0˚.02,**h25**km±9km, **n132,**σ**2°28/216,mb3.7/6,MS3.3/3,2D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.54**	**209**	P	**Pb**	**22 54 08.2**	**-2.6**
PALE				S	**Sn**	**22 54 20.0**	**-0.3**
EALB	**Alboran**	**0.54**	**62**	Pg	**Pb**	**22 54 09.8**	**-1.1**
EALB				Sg	**Sb**	**22 54 18.3**	**+0.1**
EALB				*i* Vmb_Lg		22 54 20.0	
EMEL	**Melilla**	**0.66**	**125**	Pg	**Pn**	**22 54 11.1**	**-2.7**
EMEL				Sg	**Sn**	**22 54 20.6**	**-2.7**
GOG	**Mont Gurugu**	**0.69**	**132**	P	**Pn**	**22 54 11.3**	**-2.9**
GOG				S	**Sn**	**22 54 21.3**	**-2.8**
PVLZ	**Peæn de**	**0.76**	**228**	P	**Pn**	**22 54 11.7**	**-3.4**
PVLZ				S	**Sb**	**22 54 20.1**	**-4.2**
ELGU	**Los Guajares,**	**1.18**	**360**	Pg	**Pn**	**22 54 19.1**	**-1.8**
ELGU				Pg	**Pn**	**22 54 19.2**	**-1.8**
ELGU				Sg	**Sn**	**22 54 35.2**	**-1.1**
ELGU				*i* Vmb_Lg		22 54 37.5	
AKLM	**AKL**	**1.19**	**190**	P	**Pn**	**22 54 19.5**	**-1.6**
AKLM				S	**Sn**	**22 54 35.8**	**-0.7**
EMAL	**Malaga-Limoner**	**1.26**	**329**	P	**Pn**	**22 54 19.8**	**-2.2**
EMAL				S	**Sn**	**22 54 35.1**	**-3.0**
EMIJ	**Mijas**	**1.28**	**314**	Pn	**Pn**	**22 54 20.1**	**-2.2**
EMIJ				Sn	**Sn**	**22 54 36.3**	**-2.5**
EMIJ				*i* Vmb_Lg		22 54 37.0	
TAF	**Taforalt**	**1.31**	**131**	P	**Pn**	**22 54 21.3**	**-1.5**
TAF				S	**Sb**	**22 54 46.2**	**+5.7**
EBER	**Berja**	**1.35**	**26**	Pn	**Pn**	**22 54 21.8**	**-1.6**
EBER				Sn	**Sn**	**22 54 41.2**	**+0.7**
EBER				*i* Vmb_Lg		22 54 44.1	
SMIR	**Smir Dam**	**1.44**	**270**	P	**Pn**	**22 54 24.0**	**-0.3**
ECEU	**Ceuta**	**1.45**	**279**	Pn	**Pn**	**22 54 21.1**	**-3.4**
ECEU				Sn	**Sn**	**22 54 39.7**	**-3.0**
ECEU				*i* Vmb_Lg		22 54 40.6	
EGOR	**Sierra Gorda,**	**1.48**	**345**	Pn	**Pn**	**22 54 24.1**	**-1.0**
EGOR				Sn	**Sb**	**22 54 44.4**	**-0.9**
EGOR				*i* Vmb_Lg		22 54 50.2	
CHEFC	**Chefchaouen**	**1.52**	**248**	P	**Pn**	**22 54 24.1**	**-1.5**
CHEFC				S	**Sb**	**22 54 51.7**	**+5.3**
EQUE	**Quentar**	**1.52**	**5**	Pn	**Pn**	**22 54 24.6**	**-1.1**
EQUE				Sn	**Sn**	**22 54 44.2**	**-0.5**
EQUE				*i* Vmb_Lg		22 54 51.5	
JBK	**JBK**	**1.60**	**147**	P	**Pn**	**22 54 25.0**	**-1.9**
JBK				S	**Sb**	**22 54 51.4**	**+2.6**
EJIF	**Jimena Fronter**	**1.68**	**298**	Pn	**Pn**	**22 54 25.9**	**-1.9**
EJIF				Sn	**Sn**	**22 54 45.4**	**-3.2**
ENIJ	**Nijar**	**1.72**	**41**	Pn	**Pn**	**22 54 26.6**	**-1.7**
ENIJ				Sn	**Sn**	**22 54 49.3**	**-0.1**
ENIJ				*i* Vmb_Lg		22 54 50.3	
ALJ	**Aljibe**	**1.85**	**298**	P	**Pb**	**22 54 33.2**	**+0.1**
LIJA	**Lijar**	**1.89**	**311**	P	**Pb**	**22 54 32.8**	**-1.0**
LIJA				S	**Sb**	**22 55 02.0**	**+5.0**
RSA	**Sarsar**	**1.97**	**247**	P	**Pn**	**22 54 32.1**	**+0.3**
RSA				S	**Sb**	**22 54 58.5**	**-0.8**
CNIL	**Conil**	**2.09**	**290**	P	**Pb**	**22 54 36.3**	**-0.8**
SICH	**Sidi Chahed**	**2.11**	**222**	P	**Pb**	**22 54 42.0**	**+4.5**
ESPR	**Espera**	**2.16**	**304**	Pn	**Pn**	**22 54 34.8**	**+0.5**
ESPR				Sn	**Sn**	**22 55 00.2**	**-0.1**
ESPR				*i* Vmb_Lg		22 55 10.8	
SFS	**San Fernando**	**2.24**	**291**	P	**Pn**	**22 54 34.7**	**-0.7**
SFS				S	**Sn**	**22 54 57.9**	**-4.3**
LCRM	**LCR**	**2.24**	**207**	P	**Pn**	**22 54 35.0**	**-0.7**
LCRM				S	Sb	22 55 21.3	+14
IFR	**Ifrane**	**2.50**	**210**	P	**Pn**	**22 54 37.5**	**-1.7**
IFR				S	**Sn**	**22 55 06.3**	**-2.6**
TLOR	**Lorca, Murcia**	**2.50**	**38**	Sn	**Sn**	**22 55 07.7**	**-1.1**
EADA	**Adamuz**	**2.59**	**343**	Pn	**Pn**	**22 54 40.3**	**-0.1**
EADA				Sn	**Sn**	**22 55 11.4**	**+0.3**
EADA				*i* Vmb_Lg		22 55 20.0	
EZAR	**Zarzadilla de**	**2.68**	**35**	Pn	**Pn**	**22 54 40.9**	**-0.6**
EZAR				Sn	**Sn**	**22 55 12.7**	**-0.5**
ECAB	**El Cabril**	**2.79**	**329**	Pn	**Pn**	**22 54 42.8**	**-0.2**
ECAB				Sn	**Sn**	**22 55 15.1**	**-0.7**
ECAB				*i* Vmb_Lg		22 55 25.3	
CART	**Cartagena**	**2.83**	**47**	P	**Pn**	**22 54 41.9**	**-1.7**
CART				S	**Sn**	**22 55 12.0**	**-4.9**
CART	**Cartagena**	**2.83**	**47**	P	**Pn**	**22 54 42.4**	**-1.2**
CART				S	**Sn**	**22 55 13.5**	**-3.4**
ARNO	**Arenosillo**	**2.88**	**300**	S	**Sn**	**22 55 17.5**	**-0.6**
CZD	**Col de Zad**	**2.90**	**204**	P	**Pn**	**22 54 44.1**	**-0.7**
CZD				S	**Sb**	**22 55 33.6**	**+7.4**
TDRA	**Tendrara**	**2.95**	**153**	P	**Pn**	**22 54 45.0**	**-0.4**
MD31	**MD31**	**2.97**	**199**	P	**Pn**	**22 54 44.6**	**-0.9**
MDT	**Midelt**	**2.98**	**196**	Pn	**Pn**	**22 54 44.6**	**-1.1**
	1.5nm,0.3s,baz=129,slow=15,SNR=67						
MDT				Pg	**Pb**	**22 54 53.3**	**+0.9**
	6.6nm,0.3s,baz=185,slow=8.8,SNR=20						
MDT				Lg	Lg	22 55 32.2	
	14nm,0.3s,baz=137,slow=14,SNR=7.0						
MDT	**Midelt**	**2.98**	**196**	P	**Pn**	**22 54 44.3**	**-1.4**
EMIN	**Mina Concepcio**	**3.21**	**311**	Pn	**Pn**	**22 54 47.4**	**-1.4**
EMIN				Sn	**Sn**	**22 55 24.8**	**-1.5**
EMIN				*i* Vmb_Lg		22 55 27.1	
ETOB	**Tobarra**	**3.38**	**29**	Pn	**Pn**	**22 54 52.3**	**+1.0**
ETOB				Sn	**Sn**	**22 55 31.5**	**+0.8**
ETOB				*i* Vmb_Lg		22 55 34.0	
EGRO	**El Granado**	**3.62**	**302**	Pn	**Pn**	**22 54 52.7**	**-1.7**
EGRO				Sn	**Sn**	**22 55 33.3**	**-2.9**
EGRO				*i* Vmb_Lg		22 55 37.3	
PBAR	**Barrancos**	**3.70**	**313**	*e*Pn	**Pn**	**22 54 54.4**	**-1.1**
PBAR				*e*Sn	**Sn**	**22 55 36.4**	**-1.9**
PBAR				A	A	22 55 39.8	
	32nm,0.5s						
PVAQ	**Vaqueiros**	**3.72**	**299**	*e*Pn	**Pn**	**22 54 54.5**	**-1.3**
PVAQ				*e*Sn	**Sn**	**22 55 36.5**	**-2.3**
PVAQ				A	A	22 55 42.0	
	42nm,0.3s						
PVAQ	**Vaqueiros**	**3.72**	**299**	P	**Pn**	**22 54 54.6**	**-1.1**
PVAQ				S	**Sn**	**22 55 41.4**	**+2.6**
PBDV	**Barranco-do-Ve**	**3.81**	**295**	*e*Pn	**Pn**	**22 54 55.8**	**-1.2**
PBDV				*e*Sn	**Sn**	**22 55 38.1**	**-2.9**
PBDV				A	A	22 55 47.8	
	24nm,0.6s						
AFON	**Font Roja**	**3.86**	**39**	Pn	**Pn**	**22 54 58.4**	**+0.6**
AFON				Sn	**Sn**	**22 55 42.8**	**+0.4**
AFON				*i* Vmb_Lg		22 56 30.3	
PAB	**San Pablo**	**3.90**	**352**	Pn	**Pn**	**22 54 58.1**	**-0.2**
PAB				Sn	**Sn**	**22 55 43.0**	**-0.3**
PAB				*i* Vmb_Lg		22 55 46.2	
AVE	**Averroes**	**3.94**	**234**	P	**Pn**	**22 54 56.8**	**-2.0**
ESDC	**Sonseca Array**	**3.99**	**356**	Pn	**Pn**	**22 55 00.2**	**+0.7**
	2.0nm,0.3s,baz=178,slow=12,SNR=169						
ESDC				Sn	**Sn**	**22 55 46.3**	**+0.7**
	2.7nm,0.3s,baz=179,slow=22,SNR=7.4						
ESDC				Lg	Lg	22 56 03.6	
	3.9nm,0.3s,baz=171,slow=29,SNR=2.1						
ESDC	**Sonseca Array**	**3.99**	**356**	Pn	**Pn**	**22 55 00.0**	**+0.4**
ESDC				Sn	**Sn**	**22 55 46.4**	**+0.7**
ESDC				*i* Vmb_Lg		22 55 48.7	
FIGM	**Figuig**	**4.05**	**150**	P	**Pn**	**22 55 00.1**	**-0.4**
PCVE	**Castro Verde**	**4.05**	**300**	*e*Pn	**Pn**	**22 54 59.0**	**-1.3**
PCVE				*e*Sn	**Sn**	**22 55 43.8**	**-3.2**
PCVE				A	A	22 55 48.1	
	23nm,0.4s						
EBAD	**Badajoz**	**4.09**	**320**	Pn	**Pn**	**22 55 00.2**	**-0.7**
EBAD				Sn	**Sn**	**22 55 45.0**	**-2.9**
EBAD				*i* Vmb_Lg		22 55 49.8	
EVIV	**Cofrentes, Val**	**4.09**	**28**	Pn	**Pn**	**22 55 01.9**	**+0.9**
EVIV				Sn	**Sn**	**22 55 48.8**	**-0.1**
GOLM	**Goulmima**	**4.12**	**196**	P	**Pn**	**22 54 59.4**	**-0.1**
PBEJ	**Beja**	**4.13**	**306**	*e*Sn	**Sn**	**22 55 46.9**	**-2.0**
MORF	**Marmelete**	**4.37**	**293**	*e*P	**Pn**	**22 55 02.7**	**-2.1**
MORF				*e*S	**Sn**	**22 55 49.6**	**-5.2**
MORF				IAML		22 55 57.0	
	comp=N,49nm,0.4s						
MORF	**Marmelete**	**4.37**	**293**	*e*Pn	**Pn**	**22 55 03.3**	**-1.4**
MORF				*e*Sn	**Sn**	**22 55 52.4**	**-2.4**
MORF				A	A	22 56 00.0	
	comp=N,18nm,0.5s						
ECHE	**Chera**	**4.43**	**28**	Pn	**Pn**	**22 55 06.0**	**+0.3**
ECHE				Sn	**Sn**	**22 55 53.0**	**-3.4**
PFVI	**Vila Bisbo**	**4.44**	**290**	*e*Pn	**Pn**	**22 55 05.3**	**-0.4**
PFVI				*e*Sn	**Sn**	**22 55 55.0**	**-1.6**
PFVI				A	A	22 56 06.5	
	comp=N,28nm,0.7s						
PFVI	**Vila Bisbo**	**4.44**	**290**	P	**Pn**	**22 55 05.6**	**-0.2**
PESTR	**Estremoz**	**4.49**	**316**	*e*Pn	**Pn**	**22 55 05.9**	**-0.4**
PESTR				*e*Sn	**Sn**	**22 55 55.4**	**-2.3**
PESTR				A	A	22 56 26.8	
	comp=N,31nm,0.5s						
PESTR	**Estremoz**	**4.49**	**316**	P	**Pn**	**22 55 06.1**	**-0.3**
PTEO	**Sao Teotonio**	**4.51**	**296**	*e*Pn	**Pn**	**22 55 06.7**	**+0.1**
PTEO				*e*Sn	**Sn**	**22 55 56.9**	**-1.3**
PTEO				A	A	22 56 08.4	
	comp=N,24nm,0.6s						
EVO	**Evora**	**4.52**	**310**	P	**Pn**	**22 55 05.8**	**-1.0**
EVO				S	**Sn**	**22 55 55.0**	**-3.4**
EVO	**Evora**	**4.52**	**310**	*e*Pn	**Pn**	**22 55 06.0**	**-0.8**
EVO				*e*Sn	**Sn**	**22 55 56.4**	**-2.1**
EVO				A	A	22 55 57.8	
	comp=N,41nm,0.4s						
PNCL	**Nicolau / Gran**	**4.62**	**303**	*e*Pn	**Pn**	**22 55 06.9**	**-1.3**
PNCL				*e*Sn	**Sn**	**22 55 58.3**	**-2.7**
PNCL				A	A	22 56 01.1	
	comp=N,18nm,0.5s						
UCM	**Universidad Co**	**4.62**	**4**	P	**Pn**	**22 55 08.7**	**+0.5**
UCM				S	**Sn**	**22 56 02.6**	**+1.5**
PMRV	**Marv??o**	**4.79**	**322**	*e*Pn	**Pn**	**22 55 10.4**	**-0.1**
PMRV				*e*Sn	**Sn**	**22 56 02.4**	**-2.8**
PMRV				A	A	22 56 19.3	
	comp=N,26nm,0.5s						
GUD	**Guadarrama**	**4.97**	**355**	Pn	**Pn**	**22 55 12.3**	**-0.7**
GUD				Sn	**Sn**	**22 56 08.5**	**-1.3**
GUD				Sg	**Sb**	**22 56 33.0**	**+7.4**
PMTG	**Montargil**	**4.99**	**314**	*e*Pn	**Pn**	**22 55 13.0**	**-0.2**
PMTG				*e*Sn	**Sn**	**22 56 07.7**	**-2.3**
PMTG				A	A	22 56 09.6	
	comp=N,22nm,0.4s						
PCBR	**Castelo Branco**	**5.15**	**325**	*e*Pn	**Pn**	**22 55 15.6**	**+0.1**
PCBR				*e*Sn	**Sn**	**22 56 12.0**	**-2.1**
PCBR				A	A	22 56 48.5	
	comp=N,24nm,0.5s						
TZRR	**Tazzarine**	**5.15**	**199**	P	**Pn**	**22 55 15.1**	**-0.5**
PACT	**Alcochete**	**5.17**	**308**	*e*Pn	**Pn**	**22 55 15.7**	**-0.1**
PACT				*e*Sn	**Sn**	**22 56 13.2**	**-1.4**
ETOR	**Torete**	**5.27**	**13**	Pn	**Pn**	**22 55 17.8**	**+0.6**
ETOR				Pg	**Pb**	**22 55 32.5**	**+1.1**
ETOR				Sn	**Sn**	**22 56 16.1**	**-1.1**
ETOR				*i* Vmb_Lg		22 56 46.0	
EMOS	**Mosqueruela**	**5.29**	**27**	Pn	**Pn**	**22 55 17.8**	**+0.3**
EMOS				Sn	**Sn**	**22 56 15.4**	**-2.4**
LIS	**Lisbon**	**5.35**	**306**	*e*Pn	**Pn**	**22 55 18.3**	**+0.1**
PMST	**Lisbon--Monsan**	**5.38**	**306**	*e*Pn	**Pn**	**22 55 18.6**	**-0.1**
PMST				*e*Sn	**Sn**	**22 56 17.9**	**-1.9**
ECOL	**Islas Columbre**	**5.41**	**38**	Pn	**Pn**	**22 55 19.1**	**+0.1**
ECOL				Sn	**Sn**	**22 56 16.2**	**-4.3**
OUZM	**OUZ**	**5.44**	**210**	P	**Pn**	**22 55 20.0**	**+0.4**
PMAFR	**Mafra**	**5.57**	**308**	*e*Pn	**Pn**	**22 55 21.1**	**-0.1**
PMAFR				*e*Sn	**Sn**	**22 56 20.7**	**-3.7**
PMAFR				A	A	22 56 24.1	
	comp=N,40nm,0.4s						
PSBE	**So Bento**	**5.61**	**314**	*e*Pn	**Pn**	**22 55 21.8**	**0.0**
PSBE				*e*Sn	**Sn**	**22 56 22.4**	**-3.1**
PSBE				A	A	22 56 52.9	
	comp=N,24nm,0.5s						
MTE	**Manteigas**	**5.63**	**328**	*e*Pn	**Pn**	**22 55 22.3**	**+0.1**
MTE				*e*Sn	**Sn**	**22 56 23.2**	**-2.9**
MTE				A	A	22 56 55.3	
	comp=N,28nm,0.6s						
OUK	**Oukaimeden**	**5.71**	**220**	P	**Pn**	**22 55 21.8**	**-1.7**
ZGR	**Zagora**	**5.80**	**197**	P	**Pn**	**22 55 23.9**	**-0.7**
PCAS	**Casmilo, Conde**	**5.82**	**320**	*e*Pn	**Pn**	**22 55 24.6**	**-0.1**
PCAS				*e*Sn	**Sn**	**22 56 26.6**	**-4.0**
PCAS				A	A	22 57 08.7	
	comp=N,23nm,0.6s						
COI	**Coimbra**	**5.89**	**321**	*e*Pn	**Pn**	**22 55 25.2**	**-0.4**
COI				*e*Sn	**Sn**	**22 56 29.4**	**-2.9**
COI				A	A	22 56 32.9	
	comp=N,38nm,0.4s						
PVIS	**Viseu**	**6.05**	**327**	*e*Pn	**Pn**	**22 55 27.8**	**0.0**
PVIS				*e*Sn	**Sn**	**22 56 33.0**	**-3.2**
PVIS				A	A	22 56 34.6	
	comp=N,16nm,0.4s						
MVO	**Moncorvo**	**6.09**	**335**	*e*Pn	**Pn**	**22 55 28.8**	**+0.4**
MVO				*e*Sn	**Sn**	**22 56 35.1**	**-2.2**
MVO				A	A	22 57 12.8	
	comp=N,28nm,0.6s						
ERTA	**Horta de San J**	**6.11**	**29**	Pn	**Pn**	**22 55 29.8**	**+1.1**
ERTA				Sn	**Sn**	**22 56 34.0**	**-3.8**
EAH	**EAH**	**6.40**	**233**	P	**Pn**	**22 55 30.3**	**-2.3**
PVRL	**Vila Real**	**6.44**	**331**	*e*Pn	**Pn**	**22 55 33.4**	**+0.2**
PVRL				*e*Sn	**Sn**	**22 56 42.2**	**-3.7**
PVRL				A	A	22 56 45.8	
	comp=N,35nm,0.5s						
TTIG	**Tnine Tigouga,**	**6.53**	**220**	P	**Pn**	**22 55 31.2**	**-3.4**
POLO	**Lamas de Olo**	**6.55**	**331**	*e*Pn	**Pn**	**22 55 35.1**	**+0.3**
POLO				*e*Sn	**Sn**	**22 56 44.7**	**-4.1**
POLO				A	A	22 56 50.7	
	comp=N,8.5nm,0.5s						
PBRG	**Braganca**	**6.58**	**339**	*e*Pn	**Pn**	**22 55 35.3**	**+0.2**
PBRG				*e*Sn	**Sn**	**22 56 47.3**	**-2.0**
PTO	**Porto**	**6.70**	**326**	*e*Pn	**Pn**	**22 55 36.8**	**0.0**
PTO				*e*Sn	**Sn**	**22 56 47.9**	**-4.4**
PCAB	**Cabril**	**6.93**	**332**	*e*Pn	**Pn**	**22 55 40.3**	**+0.3**
PCAB				*e*Sn	**Sn**	**22 56 54.0**	**-4.0**
ELOB	**Lobios**	**7.08**	**332**	Pn	**Pn**	**22 55 42.0**	**-0.1**
ELOB				Sn	**Sn**	**22 56 59.1**	**-2.7**
PGAV	**Gavieira, Arco**	**7.24**	**331**	*e*Pn	**Pn**	**22 55 45.1**	**+0.8**
PGAV				*e*Sn	**Sn**	**22 57 03.2**	**-2.6**
ELAN	**Lanestosa**	**7.54**	**1**	Pn	**Pn**	**22 55 47.6**	**-0.6**
ELAN				Sn

BW06				IAML			22 58 27.1	
	comp=N,33nm,0.6s							
BW06				IAML			22 58 38.0	
	comp=N,32nm,0.7s							
PD31	**Pinedale Array**	**3.12**	**222**			**Pn**	**22 57 42.5**	**-0.7**
PDAR	**Pinedale Array**	**3.12**	**222**	Pn		**Pn**	**22 57 42.5**	**-0.7**
	comp=N,3.8nm,0.3s,baz=54,slow=18,SNR=30							
PDAR				Lg		Lg	22 58 22.2	
	comp=N,7.4nm,0.3s,baz=53,slow=30,SNR=18							
LOHW	**Long Hollow**	**3.17**	**243**			**Pn**	**22 57 44.0**	**+0.2**
YHL	**Hebgen Lake**	**3.19**	**267**			**Pn**	**22 57 44.8**	**+0.7**
MOOW	**Moose Ponds**	**3.20**	**246**			**Pn**	**22 57 43.7**	**-0.5**
SNOW	**Snow King Moun**	**3.34**	**242**			**Pn**	**22 57 43.5**	**-2.8**
SNOW				IAML			22 58 57.4	
	comp=N,31nm,4.7s							
SNOW				IAML			22 59 09.0	
	comp=N,23nm,3.9s							
QLMT	**Earthquake Lak**	**3.36**	**267**			**Pn**	**22 57 44.4**	**-2.1**
RWWY	**Rawlins**	**3.45**	**186**			**Pn**	**22 57 46.4**	**-1.3**
RWWY				IAML			22 58 42.3	
	comp=N,35nm,0.7s							
REDW	**Red Top Meadow**	**3.46**	**241**			**Pn**	**22 57 47.7**	**-0.1**
REDW				IAML			22 59 17.0	
	comp=N,25nm,3.1s							
REDW				IAML			22 59 44.1	
	comp=N,27nm,4.8s							
BOZ	**Bozeman (W)**	**3.50**	**280**			**Pn**	**22 57 45.0**	**-3.3**
BOZ				IAML			22 58 42.4	
	comp=N,25nm,0.7s							
EGMT	**Eagleton**	**3.59**	**325**			**Pn**	**22 57 48.2**	**-1.3**
DGMT	**Dagmar**	**3.77**	**26**			**Pn**	**22 57 53.0**	**+1.0**
AHID	**Auburn Hatcher**	**3.95**	**235**			**Pn**	**22 57 54.8**	**+0.3**
AHID				IAML			22 58 55.2	
	comp=N,14nm,0.9s							
AHID				IAML			22 58 58.2	
	comp=N,18nm,0.6s							
LRM	**Limekiln Ridge**	**4.10**	**282**			**Pn**	**22 57 54.4**	**-2.3**
N23A	**Red Feather La**	**4.26**	**172**			**Pn**	**22 57 57.8**	**-1.1**
MCMT	**McKenzie Canyo**	**4.37**	**268**			**Pn**	**22 57 59.1**	**-1.2**
RDMU	**Red Mountain**	**5.01**	**206**			**Pn**	**22 58 08.8**	**-0.3**
I10CA	**LAC DU BONNET**	**8.82**	**51**	*i*			23 50 30.0	
	baz=234,slow=321,SNR=3.2							
ULM	**Lac du Bonnet**	**8.93**	**51**	Pn		**Pn**	**22 59 02.1**	**-0.6**
	comp=N,0.9nm,0.3s,baz=241,slow=11,SNR=8.9							
ULM				Lg		Lg	23 01 33.1	
	comp=N,0.3nm,0.3s,baz=2.9,slow=12,SNR=2.5							
YKA	**Yellowknife Ar**	**18.00**	**348**	P		**P**	**23 01 08.6**	**+4.2**
	comp=N,0.0nm,0.3s,baz=161,slow=13,SNR=2.7							

*DSN **29** 23:02:46.2±2.7,23°.22N×62°.11E,h10km,ML3.3/6,Error ellipse: s-maj=46.2km s-min=23.1km az=31.0*
*OMAN **29** 23:02:46.6±0.2,22°.53N×62°.03E,h34km±8km, mb5.0/8, ml3.3/9,Error ellipse: s-maj=11.2km s-min=1.7km az=265.0*

ISC 29 23:02:42.6±3.2,22°.59N±0°.06×62°.1E±0°.2,h10km,n26, σ1°.90/45,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**2.49**	**260**	P	**Pn**	**23 03 24.0**	**+0.8**
	SNR=14						
JLN				S	**Sb**	**23 03 55.2**	**-2.8**
WBK	**Wadi Bani Khal**	**2.85**	**271**	P	**Pn**	**23 03 29.6**	**+1.4**
	SNR=7.1						
WBK				S	**Sn**	**23 04 02.9**	**+0.3**
JMDO	**Jabal Madar**	**3.66**	**267**	P	**Pn**	**23 03 41.5**	**+2.2**
	SNR=71						
JMDO				S	**Sn**	**23 04 24.5**	**+1.9**
SMDO	**Samad**	**3.72**	**278**	P	**Pn**	**23 03 41.6**	**+1.3**
	SNR=9.9						
SMDO				S	**Sn**	**23 04 25.0**	**+0.7**
BIDO	**Bidbid**	**3.73**	**285**	P	**Pn**	**23 03 41.7**	**+1.4**
BIDO				S	**Sn**	**23 04 24.1**	**-0.3**
	SNR=5.8						
MHTO	**MHTO**	**4.12**	**248**	P	**Pn**	**23 03 46.9**	**+1.3**
	SNR=17						
MHTO				S	**Sn**	**23 04 31.6**	**-2.3**
HOQ	**Hoqain**	**4.48**	**284**	P	**Pn**	**23 03 52.1**	**+1.5**
HOQ				S	**Sn**	**23 04 44.1**	**+1.3**
BSY	**Bisya**	**4.49**	**273**	P	**Pn**	**23 03 52.8**	**+2.1**
	SNR=5.4						
BSY				S	**Sn**	**23 04 43.2**	**+0.2**
DQM	**DQM**	**4.97**	**239**	P	**Pn**	**23 03 58.3**	**+0.9**
DQM				S	**Sn**	**23 04 55.9**	**+0.9**
UOSS	**Minazif**	**5.85**	**295**	P	**Pn**	**23 04 09.8**	**+0.4**
UOSS				S	**Sn**	**23 05 13.3**	**-3.3**
UOSS	**Minazif**	**5.85**	**295**	P	**Pn**	**23 04 09.6**	**+0.2**
HATD	**Hatta, Dubai**	**5.87**	**293**	P	**Pn**	**23 04 11.9**	**+2.3**
	SNR=7.2						
HATD				S	**Sn**	**23 05 17.8**	**+0.9**
HATD	**Hatta, Dubai**	**5.87**	**293**	P	**Pn**	**23 04 11.9**	**+2.3**
ASHO	**Ashiyiah**	**5.88**	**292**	P	**Pn**	**23 04 12.5**	**+2.6**
	SNR=7.7						
ASHO				S	**Sn**	**23 05 18.7**	**+1.3**
ASHO	**Ashiyiah**	**5.88**	**292**	P	**Pn**	**23 04 13.0**	**+3.2**
ASHO				S	**Sn**	**23 05 20.0**	**+2.7**
MSFE	**Esma-Masafi**	**6.05**	**298**	P	**Pn**	**23 04 11.1**	**-1.2**
BANOM	**Banah**	**6.21**	**303**	P	**Pn**	**23 04 14.8**	**+0.4**
BANOM				S	**Sn**	**23 05 22.4**	**-3.1**
BANOM	**Banah**	**6.21**	**303**	P	**Pn**	**23 04 14.7**	**+0.4**
FAQ	**Al Faqa, Dubai**	**6.30**	**291**	P	**Pn**	**23 04 18.4**	**+2.8**
	SNR=9.5						
FAQ				S	**Sn**	**23 05 27.9**	**+0.2**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**6.30**	**291**	P	**Pn**	**23 04 18.4**	**+2.8**
UMZA	**Um Al Zommool**	**6.37**	**272**	P	**Pn**	**23 04 18.6**	**+2.1**
UMZA				S	**Sn**	**23 05 29.3**	**0.0**
SHME	**Shamm**	**6.40**	**304**	P	**Pn**	**23 04 17.7**	**+0.8**
SHME	**Shamm**	**6.40**	**304**	P	**Pn**	**23 04 17.6**	**+0.6**
DOK	**Doka**	**8.41**	**243**	P	**Pn**	**23 04 46.0**	**+1.4**
DOK				S	**Sn**	**23 06 17.6**	**-2.1**
WHFO	**Wadi Hawf**	**9.06**	**241**	P	**Pn**	**23 04 54.1**	**+0.6**
	SNR=11						
WHFO				S	**Sn**	**23 06 33.6**	**-2.0**
ABTO	**Aybut**	**9.74**	**239**	P	**Pn**	**23 05 04.1**	**+1.2**

IDC 29 23:08:30.9±6.6,20°.53S×178°.98W,h642km±77km, mb2.9/6,mb1 3.3/6,mb1mx2.9/22,mbtmp3.8/6,Error ellipse: s-maj=112.7km s-min=28.6km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.62**	**257**	P	P	23 15 41.8	+0.5
	0.3nm,0.3s,baz=92,slow=9.1,SNR=6.2						
ASAR				PcP	PcP	23 17 13.9	+0.1
	0.4nm,0.6s,baz=95,slow=5.1,SNR=3.2						
WRA	**Warramunga Arr**	**43.69**	**262**	P	P	23 15 41.5	-0.4
	0.2nm,0.3s,baz=96,slow=7.6,SNR=9.3						
NVAR	**Mina Array Bea**	**81.68**	**44**	P	P	23 19 44.4	0.0
	0.7nm,0.7s,baz=225,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**87.84**	**58**	P	P	23 20 14.4	+0.1
	0.7nm,1.1s,baz=207,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**88.55**	**13**	P	P	23 20 16.9	+0.3
	0.6nm,0.6s,baz=213,slow=5.9,SNR=5.8						
PDAR	**Pinedale Array**	**89.61**	**44**	P	P	23 20 22.4	0.0
	0.6nm,0.6s,baz=216,slow=3.2,SNR=6.4						
AKASG	**Malin Array Be**	**142.59**	**330**	PKP	PKPdf	23 26 50.9	-1.4
	1.8nm,0.5s,baz=44,slow=4.5,SNR=12						
GERES	**GERESS Array B**	**149.97**	**343**	PKPbc	PKPbc	23 27 10.8	+0.2
	0.9nm,0.8s,baz=65,slow=4.9,SNR=4.5						

*PRE **29** 23:13:29.6±0.8,28°.13S×26°.81E,h2km,ML2.5*
*EAF **29** 23:13:33.5±1.4,28°.07S×26°.80E,h10km,MD3.6*
*BUL **29** 23:13:33.8±0.8,28°.07S×26°.78E,h10km,MD3.9*

ISC 29 23:13:31.1±1.1,27°.97S±0°.05×26°.84E±0°.04,h7km,n15, σ2°.23/30,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.54**	**245**	*i* P	**Pb**	**23 13 59.8**	**-0.3**
BOSA				*i* S	**Sn**	**23 14 17.4**	**-2.0**
BOSA	**Boshof**	**1.54**	**245**	*i* P	**Pb**	**23 13 59.8**	**-0.3**
BOSA				*i* S	**Sn**	**23 14 17.4**	**-2.0**
SWZ	**Schweizer**	**1.55**	**300**	*eP*	**Pb**	**23 13 60.0**	**-0.3**
SWZ				*eS*	**Sg**	**23 14 21.6**	**+0.5**
SWZ				IAML		23 14 24.6	
	comp=Z,52nm,0.3s						
LBTB	**Lobatse**	**3.15**	**339**	*eP*	**Pn**	**23 14 23.5**	**+2.3**
LBTB				*eS*	**Sb**	**23 15 02.1**	**-3.9**
LBTB				IAML		23 15 16.5	
	comp=Z,21nm,0.5s						
LBTB	**Lobatse**	**3.15**	**339**	*i* P	**Pn**	**23 14 23.7**	**+2.5**
LBTB				*i* S	**Sn**	**23 15 01.4**	**+2.3**
LBTB	**Lobatse**	**3.15**	**339**	*i* P	**Pn**	**23 14 23.7**	**+2.5**
LBTB				*i* S	**Sn**	**23 15 01.4**	**+2.3**
POGA	**Pongola**	**4.36**	**83**	*eP*	**Pn**	**23 14 39.1**	**+1.2**
POGA				*eS*	**Sn**	**23 15 28.2**	**-0.7**
POGA				IAML		23 15 48.0	
	comp=Z,22nm,3.8s						
CNG	**Changalane**	**5.05**	**72**	*i* P	**Pn**	**23 14 50.4**	**+3.1**
CNG				*i* S	**Sn**	**23 15 45.7**	**-0.2**
CNG	**Changalane**	**5.05**	**72**	*i* P	**Pn**	**23 14 50.4**	**+3.1**
CNG				*i* S	**Sn**	**23 15 45.7**	**-0.2**
MOPA	**Mopani**	**6.04**	**44**	*i* P	**Pn**	**23 15 02.0**	**+1.0**
MOPA				*i* S	**Sn**	**23 16 07.8**	**-2.7**
MOPA	**Mopani**	**6.04**	**44**	*i* P	**Pn**	**23 15 02.0**	**+1.0**
MOPA				*i* S	**Sn**	**23 16 07.8**	**-2.7**
MSNA	**Messina**	**6.30**	**28**	*i* P	**Pn**	**23 15 07.2**	**+2.6**
MSNA				*i* S	**Sn**	**23 16 15.9**	**-0.9**
MSNA	**Messina**	**6.30**	**28**	*i* P	**Pn**	**23 15 07.2**	**+2.6**
MSNA				*i* S	**Sn**	**23 16 15.9**	**-0.9**
MATP	**Matopo**	**7.66**	**12**	*i* P	**Pn**	**23 15 25.5**	**+2.1**
MATP				*i* S	**Sn**	**23 16 47.3**	**-3.1**
MATP	**Matopo**	**7.66**	**12**	*i* P	**Pn**	**23 15 25.5**	**+2.1**
MATP				*i* S	**Sn**	**23 16 47.3**	**-3.1**

*IDC **29** 23:45:30.6±1.0,2°.20N×125°.55E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.6/43,mbtmp3.9/6,MS3.2/2,Ms1 3.2/2, ms1mx2.4/72,Error ellipse: s-maj=90.0km s-min=19.1km az=71.0*
*DJA **29** 23:45:38.3±1.3,2°.N±2°×12°.6E±°,h33km±20km,M4.3/12, mb5.0/3,mB4.6/1,MLv3.9/12,Mw(mB)3.8/1*
*NEIC **29** 23:45:40.0±1.8,2°.3N±0°.1×126°.0E±0°.1,h70km±8km, mb4.1/12,Error ellipse: s-maj=18.8km s-min=11.6km az=222.0*

ISC 29 23:45:37.8±0.6,2°.41N±0°.06×126°.14E±0°.07,h50km,n36, σ1°.36/36,mb4.1/12,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.41**	**334**	P	**Pn**	**23 46 02.5**	**+1.5**
SGSI				S	**Sn**	**23 46 19.7**	**+1.2**
TNTI	**Ternate**	**2.04**	**143**	Pn	**Pn**	**23 46 12.1**	**+2.5**
TNTI	**Ternate**	**2.04**	**143**	P	**Pn**	**23 46 10.7**	**+1.1**
KMSI	**Cibinong**	**2.83**	**230**	P	**Pn**	**23 46 21.5**	**+1.1**
LBMI	**Labuha**	**3.32**	**156**	P	**Pn**	**23 46 28.9**	**+1.7**
GTOI	**Gorontalo**	**3.59**	**241**	P	**Pn**	**23 46 32.4**	**+1.5**
SANI	**Sanana**	**4.43**	**182**	P	**Pn**	**23 46 43.0**	**+0.5**
MRSI	**Marisa**	**4.62**	**245**	P	**Pn**	**23 46 48.0**	**+3.0**
LUWI	**Luwuk**	**4.80**	**225**	P	**Pn**	**23 46 49.1**	**+1.5**
TOLI2	**Tolitoli**	**5.51**	**257**		**Pn**	**23 46 57.5**	**+0.2**
APSI	**Ampana**	**5.57**	**234**	P	**Pn**	**23 47 00.6**	**+2.5**
SIJI	**Sorong**	**6.07**	**122**	LR	LR	23 50 05.9	
	comp=Z,151nm,20.3s,baz=4.5,slow=42						
FITZ	**Fitzroy Crossi**	**20.38**	**181**	P	**P**	**23 50 10.7**	**+0.2**
WB0	**Warramunga Arr**	**23.48**	**160**	P	**P**	**23 50 41.9**	**-1.3**
WB0				IAmb	IAmb	23 50 44.8	
	comp=Z,3.3nm,0.6s						
WRA	**Warramunga Arr**	**23.63**	**160**	P	**P**	**23 50 43.5**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=339,slow=11,SNR=9.4						
WRA	**Warramunga Arr**	**23.63**	**160**	P	**P**	**23 50 43.8**	**-0.7**
WB2	**Warramunga Arr**	**23.63**	**160**	P	**P**	**23 50 43.1**	**-1.5**
WB2				IAmb	IAmb	23 50 44.1	
	comp=Z,5.2nm,0.8s						
WR0	**Warramunga Arr**	**23.71**	**160**	P	**P**	**23 50 44.0**	**-1.3**
ASAR	**Alice Springs**	**27.00**	**164**	P	**P**	**23 51 14.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=344,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**27.00**	**164**	P	**P**	**23 51 14.7**	**-0.5**
KSRS	**Korea Array**	**34.91**	**2**	P	**P**	**23 52 26.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=188,slow=9.7,SNR=4.5						
BBOO	**Buckleboo**	**36.27**	**166**	P	**P**	**23 52 36.2**	**-0.1**
USA0B	**Ussuriysk Arra**	**41.94**	**6**	P	**P**	**23 53 24.4**	**+0.9**
USA0B				IAmb	IAmb	23 53 27.9	
	comp=Z,6.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.94**	**6**	P	**P**	**23 53 24.8**	**+1.3**
SONM	**Songino Array**	**48.36**	**342**	P	**P**	**23 54 14.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=9.4,SNR=2.0						
MK31	**Makanchi Array**	**58.30**	**326**	P	**P**	**23 55 26.6**	**-1.0**
MK31				IAmb	IAmb	23 55 49.2	
	comp=Z,1.1nm,1.2s						
MKAR	**Makanchi Array**	**58.30**	**326**	P	**P**	**23 55 26.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=123,slow=8.3,SNR=26						
MKAR				PcP	**PcP**	**23 56 17.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=116,slow=4.6,SNR=6.4						
MAKZ	**Makanchi**	**58.49**	**326**	P	**P**	**23 55 28.0**	**-0.9**
MAKZ				IAmb	IAmb	23 55 41.4	
	comp=Z,3.9nm,1.5s						
KDJ	**Kajisay**	**58.94**	**319**	P	**P**	**23 55 31.7**	**-0.7**
AAK	**Ala-Archa**	**60.94**	**319**	LR	LR	00 23 02.4	
	comp=Z,23nm,19.7s,baz=181,slow=37						
KURK	**Kurchatov**	**62.54**	**328**	P	**P**	**23 55 55.4**	**-1.0**
KKAR	**Karatay Array**	**63.80**	**318**	P	**P**	**23 56 03.1**	**-1.8**
ABKAR	**Akbulak array**	**72.80**	**321**	P	**P**	**23 56 59.5**	**-1.6**
TTA	**Tatalina**	**82.34**	**27**	P	**P**	**23 57 54.8**	**+0.7**
TTA				IAmb	IAmb	23 58 06.7	
	comp=Z,3.7nm,1.3s						
IMAR	**Indian Mountai**	**83.78**	**24**	P	**P**	**23 58 03.0**	**+1.6**
FINES	**FINESS Array B**	**92.71**	**332**	P	**P**	**23 58 43.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=93,slow=7.6,SNR=5.0						

*IDC **29** 23:53:36.5±4.7,5°.96S×145°.54E,h145km±56km,mb3.2/6, mb1 3.3/8,mb1mx3.2/34,mbtmp3.6/8,Error ellipse: s-maj=49.9km s-min=26.9km az=138.0*

ISC 29 23:53:37.1±1.0,6°.0S±0°.1×145°.5E±0°.2,h150km,n9, σ0°.96/10,mb3.4/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**154**	P	**Pn**	**23 54 35.8**	**+1.2**
	2.9nm,0.3s,baz=354,slow=6.1,SNR=2.4						
PMG				S	**Sn**	**23 55 17.8**	**-1.6**
	2.4nm,0.3s,baz=74,slow=9.6,SNR=3.2						
WRA	**Warramunga Arr**	**17.61**	**217**	P	**Pn**	**23 57 33.3**	**-0.2**
	0.1nm,0.3s,baz=40,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**20.82**	**211**	P	**P**	**23 58 08.1**	**+1.1**
	0.4nm,0.5s,baz=36,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**22.81**	**236**	P	**P**	**23 58 26.4**	**-0.9**
	0.9nm,0.6s,baz=66,slow=15,SNR=1.4						
CMAR	**Chiang Mai Arr**	**51.92**	**299**	P	**P**	**00 02 30.9**	**0.0**
	0.8nm,0.3s,baz=116,slow=6.2,SNR=1.1						
MKAR	**Makanchi Array**	**76.53**	**321**	P	**P**	**00 05 11.2**	**+0.4**
	0.5nm,0.7s,baz=106,slow=7.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**78.20**	**328**	P	**P**	**00 05 19.1**	**-0.7**
	0.7nm,0.5s,baz=112,slow=6.6,SNR=4.3						
ILAR	**Eielson Array**	**86.06**	**23**	P	**P**	**00 06 00.5**	**0.0**
	0.4nm,0.8s,baz=254,slow=5.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**143.63**	**284**	PKP	**PKPdf**	**00 12 55.2**	**0.0**
	0.3nm,0.6s,baz=59,slow=3.3,SNR=2.6						

*IDC **29** 23:57:56.0±1.2,28°.17N×142°.98E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.5/44,mbtmp3.6/7,MS3.1/1,Ms1 3.2/1, ms1mx2.1/73,Error ellipse: s-maj=37.2km s-min=18.7km az=92.0*

ISC 29 23:57:59.6±1.3,28°.1N±0°.1×142°.8E±0°.2,h22km,n12, σ0°.92/9,mb3.5/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.16**	**210**	Pn	**Pb**	**23 58 21.0**	**+0.1**
	18nm,0.3s,baz=283,slow=23,SNR=16						
JCJ				Sn	**Sb**	**23 58 35.0**	**-0.6**
	71nm,0.3s,baz=85,slow=23,SNR=15						
H11N2	**WAKE ISLAND Hy**	**23.49**	**106**	T	T	00 27 55.6	
	baz=300						
H11N1	**WAKE ISLAND Hy**	**23.49**	**106**	T	T	00 27 40.9	
	baz=300						
H11N3	**WAKE ISLAND Hy**	**23.50**	**106**	T	T	00 27 38.3	
	baz=300						
SONM	**Songino Array**	**34.40**	**315**	P	**P**	**00 04 44.2**	**-1.1**
	0.2nm,0.4s,baz=134,slow=8.3,SNR=1.2						
WRA	**Warramunga Arr**	**48.47**	**191**	P	**P**	**00 06 41.0**	**+0.4**
	2.2nm,0.7s,baz=12,slow=8.3,SNR=15						
MKAR	**Makanchi Array**	**50.29**	**309**	P	**P**	**00 06 54.6**	**+0.2**
	0.2nm,0.7s,baz=98,slow=10,SNR=2.3						
ASAR	**Alice Springs**	**52.19**	**190**	P	**P**	**00 07 09.2**	**+0.5**
	0.1nm,0.4s,baz=17,slow=10.0,SNR=2.2						
KURBB	**Kurchatov Arra**	**52.76**	**314**	P	**P**	**00 07 12.7**	**-0.1**
	1.3nm,0.9s,baz=90,slow=6.8,SNR=12						
ILAR	**Eielson Array**	**56.55**	**29**	LR	LR	00 33 41.1	
	comp=Z,15nm,18.9s,baz=336,slow=38						
BVAR	**Borovoye Array**	**57.70**	**317**	P	**P**	**00 07 49.9**	**+1.5**
	0.6nm,0.6s,baz=142,slow=7.3,SNR=3.0						
YKA	**Yellowknife Ar**	**70.98**	**29**	P	**P**	**00 09 14.3**	**-0.8**
	0.2nm,0.5s,baz=296,slow=6.5,SNR=5.7						

*IDC **30** 00:08:22.6±2.5,36°.35N×70°.85E,h170km±23km,mb3.5/13, mb1 3.6/18,mb1mx3.3/43,mbtmp3.9/18,Error ellipse: s-maj=18.0km s-min=13.0km az=16.0*
*NNC **30** 00:08:28.9±15.0,37°.01N×70°.57E,h154km±231km,mb3.3, mpv4.1,Error ellipse: s-maj=140.9km s-min=76.3km az=8.0*

ISC 30 00:08:24.4±0.5,36°.56N±0°.05×70°.93E±0°.06,h188km,n47, σ1°.27/52,mb3.8/13,2C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.85**	**163**	P	**Pn**	**00 09 12.3**	**+0.5**
CEP				S	**Sn**	**00 09 48.0**	**-0.8**
CHCP	**Chirah Chowk**	**3.48**	**146**	P	**Pn**	**00 09 20.1**	**+0.8**
THW	**Thamme Wali**	**3.82**	**170**	P	**Pn**	**00 09 23.7**	**+0.1**
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**00 09 51.6**	**+0.4**
	SNR=108						
UCH	**Uchtor**	**6.30**	**25**	P	**Pn**	**00 09 56.2**	**+0.5**
	SNR=18						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**00 09 58.6**	**+0.9**
	SNR=17						
KK08	**Karatay Array**	**6.54**	**357**	⇑P	**Pn**	**00 09 58.4**	**-0.1**
	6.4nm,0.7s,baz=177,slow=13						
KK08				⇓S	Sn	00 11 06.8	-6.1
	17nm,0.5s,baz=185,slow=21						
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**00 10 01.0**	**+0.8**
	2.8nm,0.3s,baz=203,slow=7.7,SNR=52						
AAK				S	**Sn**	**00 11 14.8**	**-1.2**
	0.9nm,0.3s,baz=323,slow=22,SNR=20						
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**00 10 03.6**	**+1.2**
	SNR=11						
CHMS	**Chumysh**	**7.07**	**23**	P	**Pn**	**00 10 05.8**	**+0.5**
	SNR=10						
USP	**Ospenovka**	**7.24**	**21**	P	**Pn**	**00 10 07.9**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**7.30**	**28**	P	**Pn**	**00 10 09.4**	**+0.9**
	SNR=29						
TKM2	**Tokmak 2**	**7.30**	**28**	⇓P	**Pn**	**00 10 08.6**	**+0.1**
	15nm,0.7s						
TKM2				⇓S	**Sn**	**00 11 27.8**	**-3.2**
	14nm,0.8s						
GEYT	**Alibeck**	**10.30**	**281**	P	**Pn**	**00 10 45.7**	**-2.0**
	0.4nm,0.3s,baz=157,slow=7.9,SNR=7.1						
GEYT				S	**Sn**	**00 12 41.2**	**-1.2**
	0.4nm,0.3s,baz=45,slow=23,SNR=2.8						
PYUN	**Piuthan**	**13.23**	**126**	*eP*	**Pn**	**00 11 23.2**	**-2.2**
	28nm,0.5s						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**00 11 26.3**	**+0.7**
	0.1nm,0.3s,baz=221,slow=14,SNR=7.9						
DANN	**Dangsing**	**13.57**	**123**	*eP*	**Pn**	**00 11 28.7**	**-1.1**
	32nm,0.4s						
KOLN	**Koldanda**	**13.85**	**126**	*eP*	**Pn**	**00 11 31.8**	**-1.3**
	16nm,0.4s						
GKN	**Gorkha**	**14.39**	**122**	*eP*	**Pn**	**00 11 39.1**	**-0.7**
	48nm,0.4s						
DMN	**Daman**	**14.96**	**123**	*eP*	**P**	**00 11 46.9**	**-1.0**
	32nm,0.4s						
KKN	**Kakani**	**14.96**	**122**	*eP*	**Pn**	**00 11 44.7**	**-2.2**
	47nm,0.8s						
AB31	**Akbulak array**	**15.00**	**331**	⇑P	**Pn**	**00 11 46.0**	**-0.9**
	1.1nm,0.4s,baz=148,slow=12,SNR=13						
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**00 11 49.4**	**+1.5**
	0.1nm,0.3s,baz=205,slow=12,SNR=6.2						
PKIN	**Phulchoki**	**15.18**	**122**	*eP*	**Pn**	**00 11 49.0**	**-0.6**
	102nm,0.5s						
PKI	**Pulchoki**	**15.19**	**122**	*eP*	**P**	**00 11 49.5**	**-1.0**
	105nm,0.6s						
GUN	**Gumba**	**15.30**	**120**	*eP*	**P**	**00 11 51.1**	**-0.6**
	23nm,0.5s						
JIRN	**Jiri**	**15.67**	**120**	*eP*	**P**	**00 11 56.1**	**+0.2**
	39nm,0.5s						
RAMN	**Ramite**	**16.40**	**121**	*eP*	**Pn**	**00 12 03.8**	**-0.6**
	30nm,0.4s						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**P**	**00 12 08.0**	**+1.5**
	0.9nm,0.3s,baz=144,slow=10,SNR=13						
AKTO				S	**S**	**00 15 07.1**	**-3.8**
	0.1nm,0.3s,baz=212,slow=15,SNR=2.2						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P	**P**	**00 12 07.7**	**+1.2**
	5.1nm,0.9s						
TAPN	**Taplejung**	**16.93**	**118**	*eP*	**Pn**	**00 12 11.4**	**+0.7**
	19nm,0.5s						
ODAN	**Odare**	**17.00**	**120**	*eP*	**Pn**	**00 12 11.6**	**0.0**
	55nm,0.7s						
ZALV	**Zalesovo Beam**	**19.88**

baz=277,slow=74,SNR=11
H11S1 WAKE ISLAND Hy 43.22 82 T T 01 21 00.0
baz=277,slow=74,SNR=3.8
H11S2 WAKE ISLAND Hy 43.22 82 T T 01 20 54.0
baz=277,slow=74,SNR=6.6
H11N1 WAKE ISLAND Hy 43.25 81 T T 01 20 54.6
baz=275
H11N2 WAKE ISLAND Hy 43.26 81 T T 01 20 55.2
baz=275
H11N3 WAKE ISLAND Hy 43.27 81 T T 01 21 09.3
baz=275
ASAR Alice Springs 43.63 163 P **P** **00 35 39.5 -2.4**
0.2nm,0.5s,baz=344,slow=6.3,SNR=2.3
ZALV Zalesovo Beam 45.12 330 P **P** **00 35 53.8 +0.3**
2.0nm,0.9s,baz=119,slow=8.6,SNR=7.7
AAK Ala-Archa 46.10 312 LR LR 00 57 34.5
comp=Z,46nm,18.2s,baz=72,slow=38
YKA Yellowknife Ar 88.35 23 P **P** **00 40 26.1 -2.8**
0.3nm,0.7s,baz=308,slow=4.5,SNR=7.1

LJU 30 00:38:23.5, 46.39N×15.07E, h0km, Confirmed
Rockburst, Northwestern Balkan Peninsula

*SKO **30** 00:40:01.5, 40.88N×20.08E, h4km*
*TIR **30** 00:40:03.9, 41.15N×20.24E, h14km, Md2.5*
ISC 30 00:40:03.0±1.4, 41.07N±0.05×20.05E±0.04, h6km±12km, n18, σ2.9≈16/28, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIR	**Tirane**	**0.31**	**333**	*i* Pg		**Pg**	**00 40 09.5**	**+0.4**
TIR	**Tirane**	**0.31**	**333**	P		**Pg**	**00 40 09.6**	**+0.5**
	baz=306							
TIR				S		**Sb**	**00 40 16.6**	**+0.2**
	baz=306							
OHR	**Ohrid**	**0.56**	**85**	*i* Pg		**Pg**	**00 40 13.2**	**-0.7**
OHR				*i* Sg		**Sg**	**00 40 20.8**	**-0.4**
OHR				*e*Lg		Lg	00 40 21.5	
	comp=E,91nm,0.5s							
OHR				*e*Lg		Lg	00 40 21.8	
	comp=N,83nm,0.4s							
PHP	**Peshkopia**	**0.68**	**25**	P		**Pg**	**00 40 15.0**	**-1.1**
	baz=15							
PHP				S		**Sg**	**00 40 25.1**	**+0.1**
	baz=15							
KBN	**Korca**	**0.71**	**128**	P		**Pg**	**00 40 16.2**	**-0.5**
	baz=141							
KBN				S		**Sb**	**00 40 27.2**	**-0.7**
	baz=141							
FNA	**Florina**	**1.04**	**105**	P		**Pg**	**00 40 21.4**	**-1.6**
	baz=112							
FNA				S		**Sg**	**00 40 35.9**	**-0.6**
	baz=112							
ULC	**Ulcinj**	**1.08**	**326**	*e*Pg		**Pb**	**00 40 23.4**	**-0.7**
SRN	**Sarande**	**1.19**	**182**	P		Pn	00 40 29.3	+3.2
	baz=189							
SRN				S		**Sn**	**00 40 47.1**	**+4.6**
	baz=189							
BCI	**Bajram Curri**	**1.30**	**0**	P		**Pb**	**00 40 27.2**	**-0.6**
	baz=354							
BCI				S		**Sg**	**00 40 45.2**	**+0.5**
	baz=354							
PDG	**Podgorica**	**1.49**	**337**	*e*Pn		**Pg**	**00 40 31.1**	**-0.4**
PDG				*i* Sg		**Sg**	**00 40 55.7**	**+4.9**
STIP	**Stip**	**1.72**	**68**	*e*Pn		**Pg**	**00 40 36.2**	**+0.2**
STIP				*i* Sg		**Sg**	**00 41 03.4**	**+5.1**
VAY	**Valandovo**	**1.92**	**82**	*e*Pn		**Pn**	**00 40 35.7**	**-0.5**
VAY				*i* Sg		**Sb**	**00 41 03.0**	**+0.5**
VAY				*e*Lg		Lg	00 41 04.5	
	comp=E,4.2nm,0.5s							
DBRK	**Dubrovnik**	**2.14**	**319**	*e*Pn		**Pn**	**00 40 39.0**	**-0.3**
STON	**Ston**	**2.52**	**317**	*e*Pn		**Pn**	**00 40 43.6**	**-0.8**
LSTV	**Lastovo**	**2.91**	**307**	*e*Pn		**Pn**	**00 40 47.7**	**-2.1**
MAKA	**Makarska**	**3.16**	**316**	*e*Pn		**Pn**	**00 40 50.7**	**-2.5**
RICI	**Ricice**	**3.25**	**319**	*e*Pn		**Pn**	**00 40 53.5**	**-1.1**
RICI				Sn		**Sb**	**00 41 36.4**	**-4.6**
KIJV	**Kijevo**	**3.98**	**319**	*e*Pn		**Pn**	**00 41 04.4**	**-0.2**

*MDD **30** 00:50:59.6±0.5, 35.46N×3.76W, h14km±4km, mb_Lg2.4/21,*
Error ellipse: s-maj=4.1km s-min=2.1km az=156.0
*CNRM **30** 00:50:60.0, 35.49N×3.73W, h23km, ml3.0*
*SFS **30** 00:50:59.0, 35.46N×3.75W, ML2.4, ALBORAN SUR*
*IGIL **30** 00:51:00.4, 35.46N×3.76W, h14km, ML2.4*
ISC 30 00:50:58.9±0.9, 35.51N±0.02×3.75W±0.02, h17km±7km, n51, σ1.9≈22/91, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.34**	**208**	P		**Pg**	**00 51 05.2**	**-0.7**
PALE	**Palemas**	**0.34**	**208**	P		**Pg**	**00 51 05.4**	**-0.5**
PALE				S		**Sg**	**00 51 10.4**	**-0.3**
PVLZ	**Peæn de**	**0.57**	**233**	P		**Pg**	**00 51 09.4**	**-0.7**
PVLZ				S		**Sg**	**00 51 16.7**	**-0.9**
GOG	**Mont Gurugu**	**0.68**	**115**	S		**Sb**	**00 51 22.0**	**+0.5**
GOG	**Mont Gurugu**	**0.68**	**115**	P		**Pb**	**00 51 13.1**	**+0.8**
GOG				S		**Sb**	**00 51 21.8**	**+0.3**
EMEL	**Melilla**	**0.68**	**108**	Pg		**Pg**	**00 51 12.1**	**0.0**
EMEL				Sg		**Sg**	**00 51 21.3**	**+0.1**
EALB	**Alboran**	**0.72**	**53**	Pg		**Pg**	**00 51 13.5**	**+0.5**
EALB				Sg		**Sg**	**00 51 23.5**	**+1.0**
EALB				*i* Vmb_Lg			00 51 26.7	
AKLM	**AKL**	**1.00**	**186**	P		**Pg**	**00 51 18.4**	**+0.1**
AKLM				S		**Sb**	**00 51 30.5**	**-0.3**
TAF	**Taforalt**	**1.29**	**122**	P		**Pg**	**00 51 24.0**	**+0.1**
TAF	**Taforalt**	**1.29**	**122**	P		**Pn**	**00 51 21.1**	**-1.1**
TAF				S		**Sg**	**00 51 40.9**	**+0.2**
EMIJ	**Mijas**	**1.34**	**322**	Pn		**Pn**	**00 51 22.1**	**-0.7**
EMIJ				Sn		**Sn**	**00 51 40.1**	**-0.2**
EMIJ				*i* Vmb_Lg			00 51 50.0	
SMIR	**Smir Dam**	**1.34**	**278**	P		**Pg**	**00 51 25.0**	**+0.2**
SMIR	**Smir Dam**	**1.34**	**278**	P		**Pb**	**00 51 23.8**	**+0.2**
SMIR				S		**Sb**	**00 51 41.2**	**+0.7**
ELGU	**Los Guajares,**	**1.36**	**4**	Pn		**Pn**	**00 51 22.5**	**-0.6**
ELGU				Sn		**Sn**	**00 51 40.5**	**-0.2**
ELGU				*i* Vmb_Lg			00 51 46.9	
EMAL	**Malaga-Limoner**	**1.36**	**336**	P		**Pn**	**00 51 23.2**	**0.0**
EMAL				S		**Sb**	**00 51 41.9**	**+0.8**
CHEFC	**Chefchaouen**	**1.36**	**253**	P		**Pb**	**00 51 24.0**	**-0.1**
CHEFC	**Chefchaouen**	**1.36**	**253**	P		**Pb**	**00 51 24.5**	**+0.5**
CHEFC				S		**Sb**	**00 51 41.9**	**+0.7**
ECEU	**Ceuta**	**1.38**	**287**	Pn		**Pn**	**00 51 21.9**	**-1.5**
ECEU				Sn		**Sn**	**00 51 38.0**	**-3.3**
ECEU				*i* Vmb_Lg			00 51 41.7	
JBK	**JBK**	**1.52**	**140**	P		**Pg**	**00 51 28.0**	**-0.2**
JBK	**JBK**	**1.52**	**140**	P		**Pn**	**00 51 25.1**	**-0.4**
JBK				S		**Sn**	**00 51 42.3**	**-2.8**
EBER	**Berja**	**1.55**	**26**	Pn		**Pn**	**00 51 26.3**	**+0.5**
EBER				Sn		**Sb**	**00 51 46.6**	**0.0**
EBER				*i* Vmb_Lg			00 51 49.9	
EGOR	**Sierra Gorda,**	**1.62**	**350**	Pn		**Pn**	**00 51 27.3**	**+0.5**
EGOR				Sn		**Sb**	**00 51 48.9**	**+0.2**
EGOR				*i* Vmb_Lg			00 52 03.5	
EJIF	**Jimena Fronter**	**1.68**	**304**	Pn		**Pn**	**00 51 27.7**	**+0.1**
EJIF				Sn		**Sn**	**00 51 48.6**	**-0.1**
EQUE	**Quentar**	**1.71**	**8**	Pn		**Pb**	**00 51 29.3**	**-0.5**
EQUE				Sn		**Sn**	**00 51 49.1**	**-0.4**
EQUE				*i* Vmb_Lg			00 51 57.8	
SICH	**Sidi Chahed**	**1.91**	**223**	P		**Pb**	**00 51 32.2**	**-1.1**
SICH				S		**Sb**	**00 51 57.7**	**+0.8**
ENIJ	**Nijar**	**1.92**	**40**	Pn		**Pn**	**00 51 30.7**	**-0.1**
ENIJ				Sn		**Sn**	**00 51 53.9**	**-0.6**
ENIJ				*i* Vmb_Lg			00 51 55.5	
LCRM	**LCR**	**2.04**	**207**	P		**Pb**	**00 51 36.0**	**+0.4**
LCRM	**LCR**	**2.04**	**207**	P		**Pb**	**00 51 35.5**	**0.0**
LCRM				S		**Sb**	**00 52 01.4**	**+0.6**
ESPR	**Espera**	**2.18**	**309**	Pn		**Pn**	**00 51 35.0**	**+0.7**
ESPR				Sn		**Sn**	**00 51 59.9**	**-1.1**
ESPR				*i* Vmb_Lg			00 52 10.4	
CZD	**Col de Zad**	**2.70**	**204**	P		**Pn**	**00 51 43.3**	**+1.5**
CZD				S		**Sn**	**00 52 13.8**	**-0.4**
EADA	**Adamuz**	**2.73**	**346**	Pn		**Pn**	**00 51 43.0**	**+1.0**
EADA				Sn		**Sn**	**00 52 14.5**	**-0.1**
EADA				*i* Vmb_Lg			00 52 30.8	
MD31	**MD31**	**2.77**	**198**	P		**Pn**	**00 51 43.6**	**+1.0**
MD31				S		**Sn**	**00 52 16.5**	**+0.8**
MDT	**Midelt**	**2.79**	**195**	P		**Pn**	**00 51 44.4**	**+1.6**
MDT	**Midelt**	**2.79**	**195**	P		**Pn**	**00 51 44.3**	**+1.5**
MDT				S		**Sn**	**00 52 16.1**	**+0.1**
TDRA	**Tendrara**	**2.85**	**150**	P		**Pn**	**00 51 43.9**	**+0.2**
TDRA				S		**Sn**	**00 52 16.1**	**-1.6**
EZAR	**Zarzadilla de**	**2.88**	**34**	Pn		**Pn**	**00 51 44.6**	**+0.5**
EZAR				Sn		**Sn**	**00 52 17.7**	**-0.7**
ECAB	**El Cabril**	**2.89**	**333**	Pn		**Pn**	**00 51 45.6**	**+1.5**
ECAB				Sn		**Sn**	**00 52 17.9**	**-0.6**
ECAB				*i* Vmb_Lg			00 52 37.3	
EMIN	**Mina Concepcio**	**3.26**	**315**	Pn		**Pn**	**00 51 49.5**	**+0.3**
EMIN				Sn		**Sn**	**00 52 26.3**	**-1.2**
EMIN				*i* Vmb_Lg			00 52 30.4	
ETOB	**Tobarra**	**3.59**	**29**	Pn		**Pn**	**00 51 54.8**	**+1.0**
ETOB				Sn		**Sn**	**00 52 35.8**	**0.0**
ETOB				*i* Vmb_Lg			00 52 41.2	
EGRO	**El Granado**	**3.62**	**305**	Pn		**Pn**	**00 51 54.4**	**+0.2**
EGRO				Sn		**Sn**	**00 52 34.5**	**-2.1**
EGRO				*i* Vmb_Lg			00 52 41.3	
PVAQ	**Vaqueiros**	**3.72**	**302**	P		**Pn**	**00 51 56.1**	**+0.6**
PVAQ	**Vaqueiros**	**3.72**	**302**	P		**Pn**	**00 51 56.3**	**+0.8**
PVAQ				S		**Sn**	**00 52 37.9**	**-1.0**
AVE	**Averroes**	**3.75**	**235**	P		**Pn**	**00 51 59.7**	**+3.7**
AVE				S		**Sn**	**00 52 38.9**	**-0.8**
PAB	**San Pablo**	**4.05**	**353**	P		**Pn**	**00 52 02.6**	**+2.3**
PAB	**San Pablo**	**4.05**	**353**	Pn		**Pn**	**00 52 02.0**	**+1.8**
PAB				Sn		**Sn**	**00 52 46.7**	**-0.6**
PAB				*i* Vmb_Lg			00 53 08.8	
AFON	**Font Roja**	**4.06**	**38**	Pn		**Pn**	**00 52 00.7**	**+0.4**
AFON				Sn		**Sn**	**00 52 43.2**	**-4.3**
AFON				*i* Vmb_Lg			00 52 45.9	
EBAD	**Badajoz**	**4.16**	**322**	Pn		**Pn**	**00 52 02.4**	**+0.8**
EBAD				Sn		**Sn**	**00 52 49.0**	**-0.8**
EBAD				*i* Vmb_Lg			00 52 54.6	
ESDC	**Sonseca Array**	**4.16**	**358**	Pn		**Pn**	**00 52 03.3**	**+1.7**
ESDC				Sn		**Sn**	**00 52 47.7**	**-2.2**
ESDC				*i* Vmb_Lg			00 53 11.9	
MORF	**Marmelete**	**4.34**	**296**	*e*P		**Pn**	**00 52 04.3**	**+0.2**
MORF				*e*S		**Sn**	**00 52 51.2**	**-3.2**
MORF				IAML			00 52 56.5	
	comp=E,7.3nm,0.3s							
PESTR	**Estremoz**	**4.54**	**319**	P		**Pn**	**00 52 09.1**	**+2.2**
ETOR	**Torete**	**5.46**	**14**	Pn		**Pn**	**00 52 19.9**	**+0.3**
ETOR				Sn		**Sn**	**00 53 20.1**	**-2.0**
ETOR				*i* Vmb_Lg			00 53 51.3	

*SOME **30** 00:59:15.1, 41.85N×80.88E, h15km*
*NNC **30** 00:59:17.4±1.7, 41.95N×80.87E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=11.5km s-min=9.0km az=153.0
ISC 30 00:59:18.5±2.5, 42.01N±0.08×80.77E±0.07, h3km±12km, n48, σ1.9≈68/73, 7C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KTMS	**Ketmen**	**1.47**	**348**	⇓*e*P		**Pn**	**00 59 45.3**	**-0.7**
	19nm,0.3s							
KTMS				*e*S		**Sb**	**01 00 06.6**	**+0.9**
	40nm,0.4s							
KTMS	**Ketmen**	**1.47**	**348**	P		**Pn**	**00 59 45.3**	**-0.7**
	19nm,0.3s							
KTMS				S		**Sb**	**01 00 06.5**	**+0.9**
	40nm,0.4s							
SHLS	**Shalkode**	**1.50**	**320**	⇓*e*P		**Pn**	**00 59 43.8**	**-2.6**
	78nm,0.2s							
SHLS				*e*S		**Sn**	**01 00 04.1**	**-2.5**
	149nm,0.2s							
SHLS	**Shalkode**	**1.50**	**320**	P		**Pn**	**00 59 43.8**	**-2.6**
	78nm,0.2s							
SHLS				S		**Sn**	**01 00 03.8**	**-2.8**
	149nm,0.2s							
PDGK	**Podgornoye**	**1.63**	**325**	P		**Pb**	**00 59 48.7**	**-0.5**
	8.6nm,0.2s							
PDGK				S		**Sg**	**01 00 12.1**	**+1.4**
	96nm,0.5s							
PDGK	**Podgornoye**	**1.63**	**325**	⇑Pn		**Pb**	**00 59 48.6**	**-0.5**
	7.4nm,0.5s							
PDGK				⇓Sn		**Sg**	**01 00 16.4**	**+5.7**
	146nm,0.6s							
UZB	**Uzynbulak**	**1.72**	**312**	*e*P		**Pb**	**00 59 50.6**	**-0.2**
	12nm,0.2s							
UZB				*e*S		**Sg**	**01 00 15.6**	**+1.8**
	145nm,0.3s							
UZB	**Uzynbulak**	**1.72**	**312**	Pg		**Pg**	**00 59 51.7**	**+0.2**
	12nm,0.2s							
UZB				Lg		Lg	01 00 17.4	
	145nm,0.3s							
SATY	**Saty**	**2.04**	**302**	⇑*e*P		**Pb**	**00 59 56.3**	**+0.1**
	15nm,0.3s							
SATY				*e*S		**Sg**	**01 00 25.4**	**+1.4**
	110nm,0.3s							
SATY	**Saty**	**2.04**	**302**	Pg		**Pg**	**00 59 57.8**	**+0.2**
	15nm,0.3s							
SATY				Lg		Lg	01 00 27.7	
	110nm,0.3s							
ZHN	**Zhinishke**	**2.08**	**305**	*e*P		**Pb**	**00 59 57.1**	**+0.2**
	66nm,0.3s							
ZHN				*e*S		**Sg**	**01 00 26.9**	**+1.6**
	161nm,0.3s							
ZHN	**Zhinishke**	**2.08**	**305**	Pg		**Pb**	**00 59 57.3**	**+0.4**
	66nm,0.3s							
ZHN				Lg		Lg	01 00 27.4	
	161nm,0.3s							
KPKS	**Kokpek**	**2.12**	**314**	*e*P		**Pb**	**00 59 57.2**	**-0.3**
	30nm,0.2s							
KPKS				*e*S		**Sg**	**01 00 27.1**	**+0.6**
	110nm,0.3s							
KURS	**Kuram**	**2.42**	**309**	*e*P		**Pb**	**01 00 02.7**	**0.0**
	6.6nm,0.3s							
KURS				*e*S		**Sg**	**01 00 36.4**	**+0.1**
	22nm,0.6s							
KURS	**Kuram**	**2.42**	**309**	Pg		**Pb**	**01 00 03.5**	**+0.8**
	6.6nm,0.3s							
KURS				Lg		Lg	01 00 37.3	
	22nm,0.6s							
DJR	**Jarkent**	**2.43**	**343**	*e*P		**Pb**	**01 00 01.0**	**-1.9**
	2.4nm,0.2s							
DJR				*e*S		**Sb**	**01 00 33.6**	**+0.3**
	30nm,0.4s							
DJR	**Jarkent**	**2.43**	**343**	Pg		**Pb**	**01 00 02.3**	**-0.6**
	2.4nm,0.2s							
DJR				Lg		Lg	01 00 35.0	
	30nm,0.4s							
BLB	**Baldybastay**	**2.68**	**322**	*e*P		**Pb**	**01 00 05.0**	**-2.1**
	17nm,0.2s							
BLB				*e*S		**Sb**	**01 00 40.5**	**0.0**
	42nm,0.3s							
BLB	**Baldybastay**	**2.68**	**322**	Pg		**Pb**	**01 00 07.2**	**0.0**
	17nm,0.2s							
BLB				Lg		Lg	01 00 43.4	
	42nm,0.3s							
KOTS	**Kotyrbulak**	**2.97**	**296**	*e*P		**Pb**	**01 00 11.9**	**-0.1**
	3.4nm,0.3s							
KOTS				*e*S		**Sg**	**01 00 52.6**	**-1.2**
	49nm,0.4s							
KOTS	**Kotyrbulak**	**2.97**	**296**	Pg		**Pb**	**01 00 09.8**	**-2.3**
	5.0nm,0.2s							
KOTS				Lg		Lg	01 00 48.1	
	49nm,0.4s							
MDOK	**Medeo**	**2.98**	**294**	*e*P		**Pb**	**01 00 10.9**	**-1.4**
	5.3nm,0.5s							
MDOK				*e*S		**Sb**	**01 00 50.2**	**+1.0**
	12nm,0.6s							
MDOK	**Medeo**	**2.98**	**294**	Pg		**Pb**	**01 00 12.6**	**+0.3**
	2.4nm,0.4s							
MDOK				⇓Lg		Lg	01 00 54.2	
	12nm,0.5s							
MDOK	**Medeo**	**2.98**	**294**	Pg		**Pb**	**01 00 12.8**	**+0.5**
	5.3nm,0.5s							
MDOK				Lg		Lg	01 00 53.5	
	12nm,0.6s							
TNSS	**Tian-Shan**	**3.01**	**291**	*e*P		**Pb**	**01 00 12.9**	**0.0**
	5.1nm,0.3s							
TNSS				*e*S		**Sg**	**01 00 54.1**	**-1.1**
	6.9nm,0.3s							
TNSS	**Tian-Shan**	**3.01**	**291**	Pg		**Pb**	**01 00 13.7**	**+0.8**
	5.1nm,0.3s							
TNSS				Lg		Lg	01 00 54.9	
	6.9nm,0.3s							
ARXS	**Arharly**	**3.08**	**317**	*e*P		**Pb**	**01 00 14.5**	**+0.5**
	4.8nm,0.5s							
ARXS				*e*S		**Sg**	**01 00 56.9**	**-0.6**
	22nm,0.7s							
CHKK	**Chushkaly**	**3.34**	**305**	*e*P		**Pb**	**01 00 17.7**	**-0.5**
	1.4nm,0.1s							
CHKK				*e*S		**Sb**	**01 01 02.0**	**+2.8**
	19nm,0.3s							
CHKK	**Chushkaly**	**3.34**	**305**	Pg		**Pb**	**01 00 19.3**	**+1.0**
	1.4nm,0.1s							
CHKK				Lg		Lg	01 01 04.1	
	19nm,0.3s							
MTBS	**Maitube**	**3.40**	**291**	*e*P		**Pb**	**01 00 18.6**	**-0.8**
	5.8nm,0.2s							
MTBS				*e*S		**Sb**	**01 01 03.9**	**+2.8**
	9.1nm,0.6s							
MTBS	**Maitube**	**3.40**	**291**	Pg		**Pb**	**01 00 19.8**	**+0.5**
	5.8nm,0.2s							
MTBS				Lg		Lg	01 01 05.5	
	9.1nm,0.6s							
KAPS	**Kapalarasan**	**3.44**	**343**	*e*P		**Pb**	**01 00 18.1**	**-1.9**
	2.2nm,0.3s							
KAPS				*e*S		**Sb**	**01 01 02.7**	**+0.6**
	6.7nm,0.4s							
KAPS	**Kapalarasan**	**3.44**	**343**	Pg		**Pb**	**01 00 17.6**	**-2.4**
	2.2nm,0.3s							
KAPS				Lg		Lg	01 01 00.2	
	6.8nm,0.2s							
KTBS	**Karatobe**	**3.46**	**301**	*e*P		**Pb**	**01 00 21.2**	**+0.9**
	2.4nm,0.4s							
KTBS				*e*S		**Sg**	**01 01 08.3**	**-1.2**
	21nm,0.5s							
KTBS	**Karatobe**	**3.46**	**301**	Pg		**Pb**	**01 00 21.4**	**+1.1**
	2.4nm,0.4s							
KTBS				Lg		Lg	01 01 08.0	
	21nm,0.5s							
KST	**Kastek**	**3.70**	**288**	*e*P		**Pb**	**01 00 23.6**	**-1.0**
	4.3nm,0.2s							
KST				*e*S		**Sb**	**01 01 12.5**	**+2.6**
	10nm,0.5s							
KST	**Kastek**	**3.70**	**288**	Pg		**Pg**	**01 00 27.9**	**-1.5**
	4.3nm,0.2s							
KST				Lg		Lg	01 01 19.1	
	10nm,0.5s							
KUU	**Kurty**	**3.76**	**302**	*e*P		**Pb**	**01 00 26.2**	**+0.7**
	1.3nm,0.1s							
KUU				*e*S		**Sg**	**01 01 16.7**	**-2.5**
	15nm,0.3s							
KUU	**Kurty**	**3.76**	**302**	Pg		**Pb**	**01 00 26.5**	**+1.0**
	1.3nm,0.1s							
KUU				Lg		Lg	01 01 17.0	
	15nm,0.3s							
DGS	**Degeres**	**3.89**	**290**	*e*P		**Pb**	**01 00 29.2**	**+1.5**
	3.5nm,0.3s							
DGS				*e*S		**Sg**	**01 01 22.1**	**-1.3**
	14nm,0.5s							
DGS	**Degeres**	**3.89**	**290**	Pg		**Pg**	**01 00 30.0**	**-3.0**
	3.5nm,0.3s							
DGS				Lg		Lg	01 01 22.6	
	14nm,0.5s							
TKM2	**Tokmak 2**	**3.94**	**285**	⇓Pg		**Pg**	**01 00 34.9**	**+1.0**
	2.9nm,0.5s							
TKM2				⇓Lg		Lg	01 01 23.9	
	5.7nm,0.5s							
KRBS	**Karabastau**	**4.11**	**296**	*e*P		**Pb**	**01 00 32.0**	**+0.6**
	1.6nm,0.3s							
KRBS				*e*S		**Sb**	**01 01 26.8**	**+5.3**
	7.9nm,0.5s							
KRBS	**Karabastau**	**4.11**	**296**	Pg		**Pb**	**01 00 32.4**	**+0.9**
	1.6nm,0.3s							
KRBS				Lg		Lg	01 01 26.8	
	7.9nm,0.5s							
MAKZ	**Makanchi**	**4.88**	**10**	⇓Pn		**Pn**	**01 00 33.4**	**+0.7**
	6.4nm,0.7s							
MAKZ				⇑Sn		**Sn**	**01 01 32.0**	**+2.4**
	1.6nm,0.5s							
MK31	**Makanchi Array**	**4.91**	**12**	⇑Pn		**Pn**	**01 00 34.3**	**+1.2**
	0.1nm,0.2s,baz=194,slow=13,SNR=34							
MK31				⇑Sn		**Sn**	**01 01 31.0**	**+0.6**
	0.5nm,0.3s,baz=182,slow=24,SNR=6.4							
OTUK	**Ortayu**	**8.63**	**319**	⇑Lg		Lg	01 03 53.8	
	0.9nm,0.7s							
KURBB	**Kurchatov Arra**	**8.76**	**351**	⇑Lg		Lg	01 03 59.0	
	2.5nm,0.6s							

*BJI **30** 01:15:41.0±0.0, 52.30N×168.70W, h20km, mb4.9/50,*
mB4.9/24, Ms4.5/11, Ms7 4.3/13
*IDC **30** 01:15:41.5±0.8, 52.20N×168.73W, h0km, mb4.5/31,*
mb1 4.6/32, mb1mx4.5/45, mbtmp4.5/32, ML3.7/1, MS3.6/7,
Ms1 3.6/7, ms1mx3.0/99, Error ellipse: s-maj=20.4km
s-min=12.0km az=168.0
*MOS **30** 01:15:45.6±1.1, 52.33N×168.93W, h32km, mb5.0/45,*
Error ellipse: s-maj=11.2km s-min=5.8km az=99.7
*NEIC **30** 01:15:46.6±2.2, 52.22N±0.06×168.66W±0.07, h33km±5km,*
mb4.7/142, ML3.8(AEIC), Error ellipse: s-maj=8.4km
s-min=5.8km az=198.0
*AEIC **30** 01:15:47±2.4, 52.19N±0.07×168.64W±0.05, h34km±4km,*
Error ellipse: s-maj=10.4km s-min=4.4km az=187.0
*BGR **30** 01:15:48.8±0.0, 52.20N×168.78W, h33km, mb5.1*
*ANF **30** 01:15:49.8±1.9, 52.52N×168.25W, h25km±11km, ML4.0/3,*
Error ellipse: s-maj=14.1km s-min=9.5km az=19.0
ISC 30 01:15:45.3±0.5, 52.24N±0.06×168.72W±0.04, h26km, n472, σ1.9≈31/432, mb4.8/144, MS3.7/12, 30C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIKH	**Nikolski High**	**0.73**	**354**			**Pb**	**01 16 00.8**	**+1.3**
NIKH	**Nikolski High**	**0.73**	**354**	P		**Pb**	**01 16 00.8**	**+1.3**
	baz=173,SNR=122							
NIKH				S		**Sb**	**01 16 10.6**	**+1.5**
	baz=173							
OKFG	**Magazine Ridge**	**1.27**	**22**			**Pn**	**01 16 08.0**	**+0.7**
OKFG						**Sn**	**01 16 24.0**	**+0.5**
MSW	**Makushin Switc**	**2.04**	**34**			**Pn**	**01 16 18.7**	**+0.7**
MSW						**Sn**	**01 16 42.7**	**+0.1**
UNV	**Unalaska Valle**	**2.09**	**39**			**Sn**	**01 16 43.1**	**-0.7**
UNV	**Unalaska Valle**	**2.09**	**39**	Pn		**Pn**	**01 16 18.8**	**+0.2**
UNV	**Unalaska Valle**	**2.09**	**39**	P		**Pn**	**01 16 18.7**	**+0.1**
	baz=221,SNR=30							
MTBL	**Makushin Table**	**2.12**	**35**			**Pn**	**01 16 20.0**	**+0.9**
AKBBA	**Akutan Broad B**	**2.50**	**41**			**Pn**	**01 16 25.4**	**+1.1**
KOFP	**Korovin Flat P**	**3.30**	**273**			**Pn**	**01 16 37.1**	**+1.8**
ATKA	**Atka Island**	**3.37**	**271**			**Pn**	**01 16 36.8**	**+0.7**
GSTR	**Great Sitkin T**

ANM Nome 12.48 7 P Pn 01 18 43.8 +2.8
ANM Nome 12.48 7 Pn Pn 01 18 43.8 +2.8
ANM Nome 12.48 7 P Pn 01 18 42.0 +1.1
baz=190
TTA Tatalina 12.67 27 P Pn 01 18 46.3 +2.7
TTA Tatalina 12.67 27 Pn Pn 01 18 46.3 +2.7
SPU Mount Spurr 12.77 39 Pn 01 18 46.8 +1.8
M20K Styx River 12.82 35 Pn Pn 01 18 48.9 +3.2
M20K Styx River 12.82 35 P Pn 01 18 47.2 +1.6
baz=228
L20K Farewell, AK 12.97 32 P Pn 01 18 48.8 +1.0
baz=225
SEW Seward 13.27 46 Pn Pn 01 18 51.7 -0.1
SEW Seward 13.27 46 P Pn 01 18 50.6 -1.1
baz=242
TNA Tin City 13.37 1 P Pn 01 18 54.3 +1.3
baz=182,SNR=5.6
K20K Telida 13.56 29 Pn Pn 01 18 58.5 +2.7
K20K Telida 13.56 29 P Pn 01 18 57.5 +1.8
baz=222
PPLA Purkeypile 13.83 33 Pn Pn 01 18 58.6 -0.9
PPLA Purkeypile 13.83 33 P Pn 01 19 00.0 +0.5
baz=227
PWL Port Wells 14.12 44 Pn Pn 01 19 01.4 -1.9
PWL Port Wells 14.12 44 P Pn 01 19 01.6 -1.7
baz=242
J20K Nowinta River 14.16 27 Pn 01 19 06.2 +2.2
J20K Nowinta River 14.16 27 P Pn 01 19 04.4 +0.5
baz=219,SNR=8.2
CAST Castle Rocks 14.22 32 P Pn 01 19 05.8 +1.0
baz=226,SNR=31
KNK Knik Glacier 14.34 42 Pn Pn 01 19 05.7 -0.6
KNK Knik Glacier 14.34 42 P Pn 01 19 05.4 -0.9
baz=239
CHUM Lake Minchumin 14.48 30 P Pn 01 19 09.0 +0.8
baz=224,SNR=11
SML Sawmill 14.60 41 P Pn 01 19 08.8 -1.1
baz=238
SCM Sheep Creek Mo 15.02 42 P Pn 01 19 12.5 -3.2
baz=240,SNR=11
BPAW Bear Paw Mtn. 15.05 31 IAmb IAmb 01 19 22.1
comp=Z,16nm,0.6s
BPAW Bear Paw Mtn. 15.05 31 P Pn 01 19 16.0 0.0
baz=226,SNR=14
WAT6 Susitna Watana 15.25 39 P Pn 01 19 16.9 -1.9
baz=237
RND Reindeer 15.31 35 P Pn 01 19 19.2 -0.3
RND pmax pmax
comp=Z,8.0nm,0.9s
RND Reindeer 15.31 35 Pn Pn 01 19 19.2 -0.3
KLU Klutina 15.45 44 Pn Pn 01 19 18.7 -2.6
KLU IAmb IAmb 01 19 25.1
comp=Z,28nm,0.7s
KLU Klutina 15.45 44 P Pn 01 19 18.1 -3.1
baz=244,SNR=9.3
I21K Tanana 15.54 27 Pn 01 19 23.6 +1.3
I21K IAmb IAmb 01 19 28.3
comp=Z,30nm,0.8s
I21K Tanana 15.54 27 P Pn 01 19 22.7 +0.4
baz=221,SNR=31
M24K Tolsona, Glenn 15.63 42 IAmb IAmb 01 19 22.9
comp=Z,51nm,0.8s
M24K Tolsona, Glenn 15.63 42 P Pn 01 19 21.8 -1.8
baz=241,SNR=10
DHY Denali Highway 15.66 38 P Pn 01 19 23.3 -0.8
baz=236,SNR=5.6
H21K Melozitna Rive 15.68 25 IAmb IAmb 01 19 31.1
comp=Z,28nm,0.9s
H21K Melozitna Rive 15.68 25 P Pn 01 19 24.5 +0.3
baz=219,SNR=24
IMAR Indian Mountai 15.71 23 P Pn 01 19 27.2 +2.7
MLY Manley 15.78 29 IAmb IAmb 01 19 30.5
comp=Z,55nm,0.9s
MLY Manley 15.78 29 P Pn 01 19 25.8 +0.3
baz=224
NEA2 Nenana 16.00 32 P Pn 01 19 27.6 -0.7
baz=229,SNR=7.8
N25K Chitina, Valde 16.07 45 IAmb IAmb 01 19 33.6
comp=Z,45nm,1.4s
N25K Chitina, Valde 16.07 45 P Pn 01 19 27.3 -2.0
baz=245
HARP HAARP 16.19 42 P Pn 01 19 30.0 -0.7
baz=242
I23K Minto, Yukon-K 16.28 30 IAmb IAmb 01 19 35.2
comp=Z,35nm,1.1s
I23K Minto, Yukon-K 16.28 30 P Pn 01 19 31.5 -0.4
baz=227,SNR=23
PAX Paxson 16.34 40 P Pn 01 19 31.8 -0.9
baz=240
GLB Gilahina Butte 16.35 46 Pn Pn 01 19 30.7 -2.1
TGL Tana Glacier 16.54 49 IAmb IAmb 01 19 57.5
comp=Z,53nm,1.0s
COLA College 16.58 32 P Pn 01 19 35.0 -0.6
COLA pmax pmax
comp=Z,25nm,1.0s
COLA College 16.58 32 Pn 01 19 35.0 -0.6
MCARA McCarthy VSAT 16.67 47 P Pn 01 19 35.8 -1.1
baz=248
ISLE Juniper Island 16.72 50 IAmb IAmb 01 20 03.6
comp=Z,107nm,1.4s
ILAR Eielson Array 16.84 33 Pn Pn 01 19 37.7 -1.2
comp=Z,0.3nm,0.3s,baz=239,slow=11,SNR=23
RIDG Independent Ri 16.98 38 P Pn 01 19 40.3 -0.5
baz=238
MENT Mentasta 17.02 41 Pn Pn 01 19 39.4 -1.9
GRNC Granite Creek 17.03 50 IAmb IAmb 01 19 46.3
comp=Z,39nm,0.9s
BARN Barnard Glacie 17.18 49 IAmb IAmb 01 19 49.2
comp=Z,65nm,1.5s
H24K Noodor Dome 17.21 30 P Pn 01 19 43.1 -0.5
baz=228,SNR=21
TABL Table Mountain 17.24 51 IAmb IAmb 01 19 50.5
comp=Z,40nm,0.8s
J25K Salcha River, 17.27 35 Pn 01 19 42.7 -1.6
J25K Salcha River, 17.27 35 P Pn 01 19 42.9 -1.4
baz=235,SNR=14
CTG Chitna Glacier 17.30 49 P Pn 01 19 44.0 -0.9
baz=252
CTGM Chitina Glacie 17.30 49 IAmb IAmb 01 19 59.0
comp=Z,25nm,0.8s
LOGN Logan Glacier 17.41 50 IAmb IAmb 01 20 18.4
comp=Z,34nm,0.9s
SCRK Sand Creek 17.43 38 P Pn 01 19 44.7 -1.7
baz=239,SNR=7.2
M27K Edge Creek, AK 17.55 44 IAmb IAmb 01 19 50.8
comp=Z,61nm,1.4s
M27K Edge Creek, AK 17.55 44 P Pn 01 19 46.7 -1.2
baz=247
COLD Coldfoot 17.56 24 P Pn 01 19 48.0 +0.1
baz=220,SNR=9.3
PCA Pinnacle 17.57 52 IAmb IAmb 01 20 15.0
comp=Z,53nm,1.0s
L27K Beaver Creek, 17.86 42 Pn 01 19 50.7 -0.9
L27K Beaver Creek, 17.86 42 P Pn 01 19 50.8 -0.9
baz=245
J26L Joseph Creek 17.86 37 P Pn 01 19 50.1 -1.6
baz=238,SNR=32
YUK3 Moose Creek 17.96 47 P Pn 01 19 51.9 -1.2
baz=251
YUK4 Talbot Arm 18.66 49 P P 01 20 01.9 +0.8
baz=254
YUK6 Outpost Mounta 18.69 50 P P 01 20 02.2 +0.7
baz=256,SNR=6.7
TOLK Toolik Lake Re 18.81 22 P P 01 20 02.6 0.0
baz=219,SNR=6.8
HYT Haines Junctio 19.07 51 IAmb IAmb 01 20 15.3
comp=Z,35nm,0.7s
HYT Haines Junctio 19.07 51 P P 01 20 05.9 +0.3
baz=257,SNR=19
DAWY Dawson 19.27 41 P P 01 20 07.0 -0.6
baz=246,SNR=12
PET Petropavlovsk 19.73 285 eP P 01 20 12.0 -0.6
PET eS S 01 23 48.0 -5.4
PET pmax pmax
comp=Z,25nm,1.5s
PET MLR MLR
comp=Z,200nm,13.0s
M30M Minto, Yukon 19.84 46 P P 01 20 15.0 +1.1
M30M Minto, Yukon 19.84 46 P P 01 20 14.3 +0.3
baz=253
BILL Bilibino 19.90 332 eP P 01 20 11.0 -3.4
BILL pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 19.90 332 Pn 01 20 16.5 +0.4
BILL IAmb IAmb 01 20 21.5
comp=Z,22nm,1.0s
N31M Braeburn, Yuko 20.03 50 P P 01 20 17.0 +1.0
baz=258,SNR=22
PEA0B Petropavlovsk- 20.28 286 P P 01 20 18.9 +0.3
PEA0B pmax pmax
comp=Z,29nm,0.6s
PEA0B Petropavlovsk- 20.28 286 P P 01 20 18.9 +0.3
PEA0B IAmb IAmb 01 20 19.6
comp=Z,29nm,0.6s
PETK Petropavlovsk- 20.28 286 P P 01 20 18.2 -0.5
comp=Z,22nm,0.5s,baz=87,slow=13,SNR=65
WHY Whitehorse 20.30 52 Pn Pn 01 20 22.1 +1.0
WHY IAmb IAmb 01 20 35.8
comp=Z,26nm,1.0s
WHY Whitehorse 20.30 52 P P 01 20 19.9 +0.9
baz=261,SNR=10
M31M Drury Creek, Y 20.83 48 P P 01 20 26.0 +1.4
M31M IAmb IAmb 01 20 27.5
comp=Z,20nm,0.8s
M31M Drury Creek, Y 20.83 48 P P 01 20 25.6 +1.0
baz=257,SNR=13
P33M Teslin, Yukon 21.26 54 P P 01 20 30.9 +1.6
P33M IAmb IAmb 01 20 34.3
comp=Z,18nm,0.7s
P33M Teslin, Yukon 21.26 54 P P 01 20 30.1 +0.8
baz=264,SNR=13
EPYK Eagle Plains 21.27 36 P P 01 20 27.7 -1.6
baz=244,SNR=60
DLBC Dease Lake 22.61 59 P P 01 20 46.6 +2.8
comp=Z,4.1nm,0.9s,baz=292,slow=14,SNR=8.0
SEY Seymchan 23.05 313 P P 01 20 48.3 +0.1
comp=Z,8.0nm,0.7s,baz=102,slow=8.9,SNR=29
SEY Seymchan 23.05 313 ceP P 01 20 43.7 -4.5
SEY pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 23.23 33 P P 01 20 49.0 -1.0
comp=Z,7.8nm,0.5s,baz=232,slow=11,SNR=24
INK Inuvik 23.23 33 P P 01 20 48.8 -1.2
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 23.23 33 P P 01 20 48.8 -1.2
INK IAmb IAmb 01 20 52.6
comp=Z,18nm,1.1s
INK Inuvik 23.23 33 P P 01 20 48.6 -1.4
baz=244,SNR=11
MA2 Magadan 23.54 304 P P 01 20 53.2 0.0
comp=Z,3.0nm,0.3s,baz=90,slow=4.0,SNR=4.7
MA2 Magadan 23.54 304 P P 01 20 52.4 -0.7
MA2 pmax pmax
comp=Z,5.0nm,0.6s
MA2 Magadan 23.54 304 P P 01 20 52.4 -0.7
TGTN Hyland Airport 23.59 51 P P 01 20 54.2 +0.5
baz=265,SNR=11
C36M Paulatuk 26.81 34 IAmb IAmb 01 21 26.7
comp=Z,19nm,1.2s
C36M Paulatuk 26.81 34 P P 01 21 22.5 -0.4
baz=253,SNR=17
A36M Sachs Harbour 27.34 28 P P 01 21 27.0 -0.6
A36M IAmb IAmb 01 21 34.8
comp=Z,7.6nm,0.8s
A36M Sachs Harbour 27.34 28 P P 01 21 27.9 +0.3
baz=247
YKA Yellowknife Ar 30.03 49 P P 01 21 52.4 +0.9
comp=Z,1.4nm,0.4s,baz=277,slow=7.9,SNR=30
YSS Yuzh-Sakhalins 31.41 280 eP P 01 22 12.6 +8.7
YSS MLR MLR
comp=Z,400nm,15.0s
L02E Cave Junction 31.79 90 P P 01 22 07.1 -0.3
L02E IAmb IAmb 01 22 13.0
comp=Z,18nm,1.1s
YBH Yreka Blue Hor 32.58 90 LR LR 01 32 28.6
comp=Z,66nm,19.8s,baz=294,slow=31
NEW Newport 32.66 76 LR LR 01 33 42.5
comp=Z,87nm,21.3s,baz=300,slow=33
NEW Newport 32.66 76 IAmb IAmb 01 22 33.7
comp=Z,8.7nm,1.1s
YAK Yakutsk 33.55 311 ceP P 01 22 19.8 -2.7
YAK pmax pmax
comp=Z,20nm,0.6s
MSO Missoula 35.23 76 P P 01 22 38.3 +0.9
MSO IAmb IAmb 01 22 50.7
comp=Z,15nm,1.4s
RES Resolute Bay 36.31 26 P P 01 22 46.0 -0.1
comp=Z,1.2nm,0.5s,baz=278,slow=7.6,SNR=31
RES LR LR 01 40 10.1
comp=Z,92nm,19.0s,baz=317,slow=40
RES Resolute Bay 36.31 26 P P 01 22 42.8 -3.4
RES pmax pmax
comp=Z,5.0nm,1.3s
RES Resolute Bay 36.31 26 P P 01 22 42.8 -3.4
KLR Kul'dur 36.88 290 ceP P 01 22 48.9 -2.4
KLR pmax pmax
comp=Z,12nm,1.7s
EGMT Eagleton 37.13 72 IAmb IAmb 01 23 16.4
comp=Z,8.9nm,0.8s
ZEA Zeya 37.41 298 eP P 01 22 55.2 -0.5
ZEA MLR MLR
comp=Z,100nm,18.0s
H11N2 WAKE ISLAND Hy 37.61 220 T T 02 04 11.6
baz=24
H11N3 WAKE ISLAND Hy 37.61 220 T T 02 04 10.3
baz=24
H11N1 WAKE ISLAND Hy 37.62 220 T T 02 04 18.8
baz=24
ELK Elko 37.75 86 LR LR 01 36 00.1
comp=Z,77nm,21.8s,baz=283,slow=32
H17A Grant Village 38.51 78 IAmb IAmb 01 23 28.1
comp=Z,9.5nm,1.1s
LKWY Lake 38.53 78 IAmb IAmb 01 23 25.4
comp=Z,7.7nm,0.8s
H11S1 WAKE ISLAND Hy 38.79 219 T T 02 05 07.6
baz=23,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 38.80 219 T T 02 04 59.1
baz=23,slow=76,SNR=5.9
H11S3 WAKE ISLAND Hy 38.81 219 T T 02 04 49.2
baz=23,slow=76,SNR=4.2
USRK Ussuriysk Ar. 39.31 283 P P 01 23 11.1 -0.7
comp=Z,3.3nm,0.8s,baz=46,slow=10,SNR=2.6
DUG Dugway, Tooele 39.56 85 P P 01 23 14.5 +0.3
DUG pmax pmax
comp=Z,7.0nm,1.2s
DUG Dugway, Tooele 39.56 85 P P 01 23 14.5 +0.3
BW06 Boulder Array 40.04 79 P P 01 23 18.1 -0.1
baz=305,SNR=5.6
PDAR Pinedale Array 40.04 79 P P 01 23 18.6 +0.4
comp=Z,1.9nm,0.5s,baz=296,slow=3.2,SNR=34
PDAR Pinedale Array 40.04 79 P P 01 23 18.4 +0.2
MAJO Matsushiro 40.09 268 iP P 01 23 18.6 +0.2
MAJO pmax pmax
comp=Z,10.0nm,1.1s
FCC Fort Churchill 40.72 50 P P 01 23 24.1 +0.9
FCC pmax pmax
comp=Z,17nm,0.9s
FCC Fort Churchill 40.72 50 P P 01 23 24.1 +0.9
FCC IAmb IAmb 01 23 25.3
comp=Z,17nm,0.9s
MSHR Mys Shultsa 40.72 281 ceP P 01 23 22.4 -1.1
MSHR pmax pmax
comp=Z,16nm,1.0s
BNX BinXian 41.19 287 ⇓P P 01 23 26.5 -0.9
BNX pmax pmax
comp=Z,26nm,0.7s
BNX pmax pmax
comp=Z,250nm,7.7s
P18A Preston Nutter 41.47 84 P P 01 23 31.8 +1.6
SRU San Rafael Swe 41.62 85 P P 01 23 31.5 +0.2
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 41.62 85 P P 01 23 31.5 +0.2
TKX Tecate 42.16 97 P P 01 23 37.9 +2.4
TKX IAmb IAmb 01 23 39.0
comp=Z,12nm,0.7s
BOD Bodaibo 42.38 309 eP P 01 23 36.0 -1.0
BOD pmax pmax
comp=Z,11nm,0.7s
O20A White River Ci 42.39 82 IAmb IAmb 01 23 55.7
comp=Z,17nm,0.9s
PV13 Radium Mtn., P 43.26 84 P P 01 23 45.1 +0.5
PV13 IAmb IAmb 01 24 02.5
comp=Z,7.0nm,0.8s
CN2 Changchun 43.43 286 eP P 01 23 45.3 -0.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
HIA Hailar 43.66 296 iP P 01 23 46.0 -1.5
HIA pmax pmax
comp=Z,10.0nm,0.7s
ULM Lac du Bonnet 43.86 62 LR LR 01 43 54.5
comp=Z,88nm,18.2s,baz=302,slow=39
KSRS Korea Array 45.81 277 P P 01 24 05.7 +1.0
comp=Z,5.8nm,0.9s,baz=54,slow=8.0,SNR=16
B35A Bob, Littlefor 46.07 63 IAmb IAmb 01 24 22.4
comp=Z,7.7nm,0.9s
ANMO Albuquerque 46.78 86 iP P 01 24 15.4 +2.8
ANMO pmax pmax
comp=Z,7.0nm,2.5s
TJN Taejon 46.85 277 ceP P 01 24 12.5 -0.4
ECSD EROS Data Cent 47.14 70 P P 01 24 14.6 -0.5
ECSD IAmb IAmb 01 24 28.9
comp=Z,5.4nm,1.0s
SPITS Spitsbergen Ar 49.81 359 P P 01 24 35.5 +0.3
comp=Z,1.5nm,0.4s,baz=17,slow=6.1,SNR=13
DAG Danmarks Havn 49.86 9 iP P 01 24 33.9 -1.6
DAG IAmb IAmb 01 24 35.8
comp=Z,4.9nm,0.6s
ULN Ulaanbaatar 51.34 301 P P 01 24 47.3 0.0
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 51.34 301 P P 01 24 47.3 0.0
ULN IAmb IAmb 01 24 48.8
comp=Z,7.6nm,0.8s
SONM Songino Array 51.70 301 P P 01 24 50.4 +0.4
comp=Z,3.3nm,0.8s,baz=56,slow=6.7,SNR=18
SONM PcP PcP 01 26 04.1 +1.0
comp=Z,3.2nm,0.9s,baz=62,slow=2.4,SNR=5.7
SONM Songino Array 51.70 301 P P 01 24 50.8 +0.8
SONM pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 51.70 301 P P 01 24 50.8 +0.8
SONM IAmb IAmb 01 24 52.0
comp=Z,9.8nm,1.4s
ZAK Zakamensk 51.72 305 eP P 01 24 49.5 -0.5
ZAK pmax pmax
comp=Z,7.0nm,1.3s
DBG Daneborg 51.96 10 iP P 01 24 49.7 -1.7
DBG IAmb IAmb 01 24 51.5
comp=Z,7.0nm,0.8s
SFJD Kangerlussuaq 52.31 26 LR LR 01 52 05.9
comp=Z,124nm,18.4s,baz=316,slow=42
SFJD Kangerlussuaq 52.31 26 iP P 01 24 54.5 +0.4
SFJD IAmb IAmb 01 24 55.0
comp=Z,4.3nm,0.7s
TX32 Lajitas Array 52.35 89 P P 01 24 54.7 -0.3
TX32 IAmb IAmb 01 25 13.5
comp=Z,18nm,1.5s
TXAR Lajitas Array 52.35 89 P P 01 24 55.1 +0.1
comp=Z,1.0nm,0.6s,baz=308,slow=5.9,SNR=17
TIA Tai'an 53.16 284 ⇑P P 01 25 01.0 +0.2
TIA pmax pmax
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 53.34 291 eP P 01 25 03.8 +1.7
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,120nm,6.2s
HHC LR LR
comp=Z,100nm,12.7s
HHC LR LR
comp=Z,190nm,12.1s
HHC LR LR
comp=Z,210nm,14.0s
ICESG Greenland Ices 53.35 20 iP P 01 25 00.3 -1.8
ICESG IAmb IAmb 01 25 02.7
comp=Z,11nm,0.6s
HNS HongShan 53.80 286 ⇑P P 01 25 06.5 +1.1
HNS pmax pmax
comp=Z,32nm,1.0s
DY2G Dye2 53.86 25 iP P 01 25 04.3 -1.4
DY2G IAmb IAmb 01 25 08.1
comp=Z,7.8nm,0.6s
KNGR Kungurtug, Tuv 54.40 309 iP P 01 25 10.7 +0.9
FCAR Ozark Folk Cen 54.83 75 IAmb IAmb 01 25 33.8
comp=Z,6.9nm,1.0s
NJ2 Nanjing 54.96 279 eP P 01 25 13.8 -0.1
NJ2 pmax pmax
comp=Z,14nm,0.5s
SCHQ Schefferville 55.25 44 P P 01 25 16.3 +0.5
comp=Z,5.9nm,0.8s,baz=286,slow=9.4,SNR=8.1
SCO Scoresbysund 55.26 13 P P 01 25 16.2 +0.7
SCO pmax pmax
comp=Z,8.0nm,1.1s
SCO Scoresbysund 55.26 13 iP P 01 25 12.3 -3.2
SCO IAmb IAmb 01 25 16.1
comp=Z,4.0nm,0.7s
SCO Scoresbysund 55.26 13 P P 01 25 16.2 +0.7
SCO IAmb IAmb 01 25 16.9
comp=Z,7.6nm,1.1s
SOEG Soedalen 55.76 18 iP P 01 25 18.3 -0.9
SOEG IAmb IAmb 01 25 19.7
comp=Z,5.8nm,0.7s
IVI Ivigtut 57.40 30 iP P 01 25 29.2 -1.7
IVI IAmb IAmb 01 25 32.5
comp=Z,18nm,0.6s
IVI Ivigtut 57.40 30 P P 01 25 32.2 +1.2
KEV Kevo 57.77 354 P P 01 25 33.3 -0.1
KEV pmax pmax
comp=Z,38nm,1.3s
KEV Kevo 57.77 354 P P 01 25 33.3 -0.1
ZAA0 Zalesovo Array 57.78 318 P P 01 25 33.2 -0.5
ZAA0 IAmb IAmb 01 25 35.0
comp=Z,3.8nm,0.9s
ZALV Zalesovo Beam 57.78 318 P P 01 25 34.1 +0.4
comp=Z,2.7nm,0.8s,baz=28,slow=6.7,SNR=13
ZALV PcP PcP 01 26 27.0 +0.9
comp=Z,1.2nm,0.7s,baz=28,slow=6.7,SNR=3.6
ZALV Zalesovo Beam 57.78 318 P P 01 25 32.9 -0.8
ARA0 ARCESS Array S 58.09 354 eP P 01 25 35.2 -0.4
ARCES ARCESS Array B 58.09 354 P P 01 25 35.7 0.0
comp=Z,6.7nm,0.7s,baz=24,slow=8.9,SNR=12
ARCES ARCESS Array B 58.09 354 P P 01 25 35.7 0.0
ARCES pmax pmax
comp=Z,22nm,1.4s
ARCES ARCESS Array B 58.09 354 P P 01 25 35.7 0.0
TRO Tromso 58.31 357 eP P 01 25 37.7 +0.5
JETT Jettan, Norway 58.33 356 eP P 01 25 38.6 +1.2
LONY Lake Ozonia 58.65 57 P P 01 25 39.3 -0.7
LONY IAmb IAmb 01 25 58.9
comp=Z,9.6nm,1.0s
KTK1 Kautokeino 58.74 355 eP P 01 25 40.2 0.0
LVZ Lovozero 58.91 350 P P 01 25 41.6 +0.1
LVZ pmax pmax
comp=Z,33nm,0.7s
LVZ Lovozero 58.91 350 P P 01 25 41.5 +0.1
XAN Xi'an 59.52 287 P P 01 25 46.8 +0.6
XAN pmax pmax
comp=Z,11nm,1.2s
LOF Lofoten 59.93 359 eP P 01 25 49.0 +0.6
STEI Steigen 60.11 358 eP P 01 25 49.7 +0.1
FAUS Fauske 60.66 358 eP P 01 25 53.4 0.0
GTA Gaotai 60.89 298 eP P 01 25 55.5 -0.1
GTA pP pP 01 26 00.5 -2.2
GTA pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 61.00 292 ⇓P P 01 25 57.8 +1.3
LZH pP pP 01 26 05.3 +1.7
LZH sP pwP 01 26 10.8 +3.0
LZH pmax pmax
comp=Z,27nm,1.5s
JSRW J. Sargeant Re 61.77 64 P P 01 26 01.2 -0.2
MOR8 Moi Rana 61.89 359 eP P 01 26 01.0 -0.8
KURK Kurchatov 62.73 319 P P 01 26 07.7 +0.1
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 62.73 319 P P 01 26 07.7 +0.1
KURBB Kurchatov Arra 62.84 319 P P 01 26 08.7 +0.3
comp=Z,7.6nm,0.8s,baz=46,slow=7.4,SNR=97
PRGR Permogore 63.23 342 eP P 01 26 09.4 -1.3
PRGR pmax pmax
comp=Z,53nm,1.3s
NSS Namsos 63.56 360 eP P 01 26 12.7 -0.2
WMQ Urumqi 63.92 308 eP P 01 26 17.0 +1.3
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,110nm,18.3s
SVE Sverdlovsk 63.99 332 ⇑eP P 01 26 17.1 +1.3
SVE pmax pmax

comp=Z,21nm,1.0s
BVAR Borovoye Array 64.04 325 P **P 01 26 17.2 +0.9**
comp=Z,7.5nm,0.6s,baz=270,slow=1.4,SNR=42
BRVK Borovoye 64.05 325 P **P 01 26 17.0 +0.7**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 64.05 325 P **P 01 26 17.0 +0.7**
MK31 Makanchi Array 64.18 314 P **P 01 26 17.0 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 64.18 314 P **P 01 26 17.0 -0.3**
MK31 IAmb IAmb 01 26 17.8
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 64.18 314 P **P 01 26 17.2 -0.1**
comp=Z,7.1nm,0.8s,baz=49,slow=6.5,SNR=81
MAKZ Makanchi 64.31 314 P **P 01 26 17.9 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 64.31 314 P **P 01 26 17.9 -0.3**
MAKZ IAmb IAmb 01 26 18.6
comp=Z,5.7nm,0.7s
CD2 Chengdu 64.79 288 P **P 01 26 23.0 +1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ARU Arti 64.91 333 P **P 01 26 22.4 +0.5**
comp=Z,8.8nm,0.8s,baz=19,slow=3.6,SNR=27
ARU Arti 64.91 333*c i* P **P 01 26 22.1 +0.2**
ARU S **S 01 35 02.7 +1.4**
ARU SS **SS 01 39 12.7 +0.6**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 64.91 333 P **P 01 26 22.0 +0.2**
KLMR Klimovskoe 65.01 345 *e*P **P 01 26 19.0 -3.4**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 65.01 345 *e*P **P 01 26 19.1 -3.4**
KLMR AMP 01 26 23.7
comp=Z,11nm,1.1s
KIRV Kirov 65.26 339*ce*P **P 01 26 23.7 -0.4**
MOL Molde 65.49 2 *e*P **P 01 26 26.3 +0.8**
AKN Aaknes 65.87 2 *e*P **P 01 26 28.4 +0.3**
GOMU GeErMu 65.94 298 P **P 01 26 28.3 -1.0**
GOMU pP pP 01 26 32.3 -4.2
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,64nm,6.7s
FIA1 FINESS Array S 66.05 352 P **P 01 26 29.3 +0.2**
FINES FINESS Array B 66.05 352 P **P 01 26 29.3 +0.2**
comp=Z,7.8nm,0.6s,baz=20,slow=8.1,SNR=54
FOO Floro 66.40 3 *e*P **P 01 26 31.0 -0.4**
RAF Rauma 66.77 354 *e*P **P 01 26 34.1 +0.3**
NC405 NORSAR Array S 66.99 360 P **P 01 26 35.6 +0.3**
NB2 NORSAR Subarra 67.07 0 P **P 01 26 36.0 +0.3**
comp=Z,7.8nm,0.8s,baz=0.7,slow=6.9
NB2 NORSAR Subarra 67.07 0 P **P 01 26 36.0 +0.3**
baz=0.7,slow=6.9
NOA NORSAR Array B 67.07 0 P **P 01 26 36.2 +0.5**
comp=Z,4.8nm,0.8s,baz=0.1,slow=6.3,SNR=13
OTUK Ortayu 67.19 321 P **P 01 26 36.8 +0.1**
MEF Metsahovi 67.40 353 *e*P **P 01 26 38.2 +0.5**
BER Bergen 67.62 3 *e*P **P 01 26 39.3 +0.1**
PDGK Podgornoye 68.12 313 P **P 01 26 42.4 -0.4**
MTSE Matsula 68.93 353 *e*P **P 01 26 48.2 +0.8**
VSU Vasula 68.94 351 *i* P **P 01 26 45.7 -1.7**
VSU Vasula 68.94 351 *e*P **P 01 26 47.6 +0.2**
PZH PanZhiHua 69.24 287 P **P 01 26 50.8 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
MDOK Medeo 69.33 315 P **P 01 26 50.7 +0.3**
KDJ Kajisay 70.10 314 P **P 01 26 56.2 +1.0**
KDJ pmax pmax
comp=Z,11nm,0.9s
KDJ Kajisay 70.10 314 P **P 01 26 56.2 +1.0**
KDJ IAmb IAmb 01 26 56.9
comp=Z,11nm,0.9s
SLIT Slitere, Latvi 70.12 354 *e*P **P 01 26 55.4 +0.7**
TARG Taragay, Kyrgy 70.15 313 IAmb IAmb 01 26 58.2
comp=Z,7.2nm,0.7s
TKM2 Tokmak 2 70.16 315 P **P 01 26 56.4 +0.8**
SNR=6.3
TKM2 Tokmak 2 70.16 315 P **P 01 26 56.1 +0.5**
AKTO Aktyubinsk 70.32 330 P **P 01 26 56.9 +0.8**
comp=Z,14nm,0.7s,baz=45,slow=6.9,SNR=46
AKTO Aktyubinsk 70.32 330 P **P 01 26 56.3 +0.2**
USP Ospenovka 70.35 316 P **P 01 26 57.1 +0.6**
SNR=12
BOOM Boomskoye usch 70.36 315 P **P 01 26 57.8 +1.1**
BOOM pmax pmax
comp=Z,12nm,0.8s
BOOM Boomskoye usch 70.36 315 P **P 01 26 57.8 +1.1**
ULHL Ulahol 70.42 314 P **P 01 26 58.1 +0.9**
SNR=6.5
KBK Karagaybulak 70.66 316 P **P 01 26 59.6 +1.0**
SNR=6.8
AB31 Akbulak array 70.75 329 *i* P **P 01 26 59.1 +0.3**
ABKAR Akbulak array 70.75 329 P **P 01 26 59.2 +0.5**
AAK Ala-Archa 70.87 316 P **P 01 27 00.3 +0.5**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 70.87 316 P **P 01 27 00.3 +0.5**
AAK IAmb IAmb 01 27 01.6
comp=Z,12nm,0.8s
OBN Obninsk 70.97 345 *e*P **P 01 26 59.1 -0.8**
OBN *e* 01 27 20.5
OBN *e* 01 29 36.0
OBN pmax pmax
comp=Z,15nm,1.0s
EKS2 Erkin-Say 71.15 316 P **P 01 27 02.5 +1.0**
SNR=11
IDID Didziasalis 72.04 351 *e*P **P 01 27 06.7 +0.3**
IIGN Ignalina 72.06 351 *e*P **P 01 27 06.8 +0.3**
PABE Paberze 72.10 352 P **P 01 27 07.5 +0.7**
PABE Paberze 72.10 352 *e*P **P 01 27 07.7 +0.9**
ESK Eskdalemuir 72.14 9 P **P 01 27 08.8 +1.8**
ESK pmax pmax
comp=Z,35nm,1.5s
ESK Eskdalemuir 72.14 9 P **P 01 27 08.8 +1.8**
KKAR Karatay Array 72.15 319 P **P 01 27 07.8 +0.5**
KKAR Karatay Array 72.15 319 P **P 01 27 07.8 +0.5**
NACGM Naroch 72.45 351*e*P **P 01 27 09.6 +0.7**
KSH Kashi 72.75 313 P **P 01 27 14.8 +3.7**
KSH pP PcP 01 27 26.8 -1.6
KSH PcP pwP 01 27 31.8 +9.2
KSH pmax pmax
comp=Z,18nm,0.8s
SUW Suwalki 73.65 353 P **P 01 27 16.1 +0.1**
SUW pmax pmax
comp=Z,32nm,1.1s
SUW Suwalki 73.65 353 P **P 01 27 16.1 +0.1**
SUW Suwalki 73.65 353 *e*P **P 01 27 16.2 +0.1**
VORR Voronezh 73.81 342 *e*P **P 01 27 18.8 +1.8**
VORR pmax pmax
comp=Z,20nm,0.5s
BTK Batken 74.56 317 IAmb IAmb 01 27 23.4
comp=Z,14nm,0.8s
GAR Garm 75.65 316 P **P 01 27 29.2 +1.1**
AKASG Malin Array Be 76.31 348 P **P 01 27 31.4 -0.1**
comp=Z,4.7nm,0.5s,baz=16,slow=5.8,SNR=22
AKBB Malin Array Si 76.31 348 P **P 01 27 31.4 0.0**
AKBB pmax pmax
comp=Z,21nm,1.3s
AKBB Malin Array Si 76.31 348 P **P 01 27 31.4 0.0**
AKBB IAmb IAmb 01 27 32.2
comp=Z,21nm,1.3s
CHGR Chuyangaron 76.43 317 P **P 01 27 33.5 +1.1**
CHGR pmax pmax
comp=Z,43nm,0.8s
CHGR Chuyangaron 76.43 317 P **P 01 27 33.5 +1.1**
TAPN Taplejung 76.58 297 *e*P **P 01 27 34.1 +0.4**
comp=Z,14nm,0.6s
CLL Collm 76.81 359 *i* P **P 01 27 35.1 +0.9**
CMAR Chiang Mai Arr 77.03 283 P **P 01 27 36.9 +0.9**
comp=Z,3.2nm,0.8s,baz=25,slow=6.5,SNR=17
CMAR Chiang Mai Arr 77.03 283*ce*P **P 01 27 37.0 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
GUN Gumba 77.13 299 *e*P **P 01 27 37.6 +0.7**
comp=Z,19nm,0.6s
JIRN Jiri 77.16 299 *e*P **P 01 27 37.8 +0.7**
BRG Berggiesshubel 77.23 358 *e*P **P 01 27 38.0 +1.3**
BRG Amp 01 27 40.0
comp=Z,18nm,1.4s
BRG Berggiesshubel 77.23 358 *e*P **P 01 27 37.9 +1.3**
BRG pmax pmax
comp=Z,18nm,1.4s
CHVC Chvalec 77.46 357 *e*P **P 01 27 39.1 +1.1**
RAMN Ramite 77.50 298 *e*P **P 01 27 39.3 +0.5**
comp=Z,12nm,0.5s
UPC Upice 77.55 357 *e*P **P 01 27 40.2 +1.8**
UPC Upice 77.55 357 *e*P **P 01 27 40.2 +1.8**
PVCC Panska Ves 77.57 358 *e*P **P 01 27 39.9 +1.4**
PVCC Panska Ves 77.57 358 *e*P **P 01 27 39.9 +1.4**
PKI Pulchoki 77.65 299 *e*P **P 01 27 40.1 +0.3**
PKIN Phulchoki 77.66 299 *e*P **P 01 27 40.3 +0.6**
DPC Dobruska-Polom 77.69 357 *e*P **P 01 27 40.7 +1.4**
DPC Dobruska-Polom 77.69 357 *e*P **P 01 27 40.7 +1.4**
NKC Novy Kostel 77.89 359 *e*P **P 01 27 41.8 +1.4**
NKC Novy Kostel 77.89 359 *e*P **P 01 27 41.8 +1.4**
DANN Dangsing 77.91 301 *e*P **P 01 27 41.9 +0.7**
comp=Z,29nm,0.6s
KRLC Kraliky 77.95 356 *e*P **P 01 27 42.0 +1.3**
KRLC Kraliky 77.95 356 *e*P **P 01 27 42.0 +1.3**
PRU Pruhonice 78.11 358 *e*P **P 01 27 42.7 +1.2**
PRU Pruhonice 78.11 358 *e*P **P 01 27 42.7 +1.2**
MORC Moravsky Berou 78.22 356 ⇑P **P 01 27 43.4 +1.1**
MORC Moravsky Berou 78.22 356 IAmb IAmb 01 27 44.5
comp=Z,6.3nm,1.0s
MORC Moravsky Berou 78.22 356 *e*P **P 01 27 43.3 +1.1**
GRF Grafenberg Arr 78.44 0 *e*P **P 01 27 45.0 +1.6**
comp=Z,19nm,1.2s,baz=2.9,slow=4.9
KOLN Koldanda 78.46 300 *e*P **P 01 27 44.5 +0.4**
PYUN Piuthan 78.52 301 *e*P **P 01 27 44.8 +0.4**
comp=Z,15nm,0.7s
VRAC Vranov 78.72 356 ⇑P **P 01 27 46.4 +1.4**
VRAC Vranov 78.72 356 *e*P **P 01 27 46.4 +1.4**
LANS Liptovska Anna 78.74 355 *e*P **P 01 27 47.3 +2.2**
LANS pmax pmax
comp=Z,11nm,1.3s
LANS Liptovska Anna 78.74 355 *e*P **P 01 27 47.3 +2.2**
TREC Trest 78.78 357 *e*P **P 01 27 46.6 +1.3**
TREC Trest 78.78 357 *e*P **P 01 27 46.6 +1.3**
NIL Nilore 78.82 311 P **P 01 27 46.3 +0.5**
NIL pmax pmax
comp=Z,14nm,0.9s
NIL Nilore 78.82 311 P **P 01 27 46.3 +0.5**
NIL IAmb IAmb 01 27 47.8
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 78.86 353 *e*P **P 01 27 46.5 +0.8**
CRVS Cervenica-Dubn 78.86 353 *e*P **P 01 27 46.5 +0.8**
SORM Soroca 78.94 348 ⇑P **P 01 27 46.0 -0.1**
KRUC Moravsky 78.98 357 *e*P **P 01 27 47.3 +1.0**
KHC Kasperske Hory 78.98 358 *e*P **P 01 27 48.1 +1.7**
KHC Kasperske Hory 78.98 358 *e*P **P 01 27 48.1 +1.7**
KHC Kasperske Hory 78.98 358 IAmb IAmb 01 27 49.2
comp=Z,15nm,1.3s
UZH Uzhgorod 79.06 353 *e*P **P 01 27 46.7 -0.1**
UZH *e* 01 27 54.3
UZH *i* 01 28 01.0
JAVC Velka Javorina 79.13 356 *e*P **P 01 27 49.2 +2.0**
GEC2 GERESS Array S 79.27 358 IAmb IAmb 01 27 50.3
comp=Z,8.0nm,1.2s
GERES GERESS Array B 79.27 358 P **P 01 27 49.1 +1.1**
comp=Z,1.6nm,0.7s,baz=20,slow=4.3,SNR=12
GOF Gofitskoye 79.29 338⇑*e*P **P 01 27 49.8 +1.7**
VYHS Vyhne 79.43 355 *e*P **P 01 27 50.7 +1.8**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 79.43 355 *e*P **P 01 27 50.7 +1.8**
SMOL Smolenice 79.48 356 *e*P **P 01 27 51.0 +1.9**
SMOL pmax pmax
comp=Z,8.0nm,1.3s
SMOL Smolenice 79.48 356 *e*P **P 01 27 51.0 +1.9**
TRPA Tarpa 79.54 352 ⇑P **P 01 27 50.5 +1.1**
BUR08 Bucovina Ar. S 79.78 350 P **P 01 27 51.4 +0.6**
BURAR Bucovina Array 79.81 350 ⇑P **P 01 27 51.6 +0.6**
BURAR Bucovina Array 79.81 350 P **P 01 27 51.3 +0.2**
BURAR IAmb IAmb 01 27 53.4
comp=Z,3.4nm,0.8s
ECH Echery 79.86 3 IAmb IAmb 01 27 53.8
comp=Z,10.0nm,1.1s
PSZ Piszkesteto 79.94 354 IAmb IAmb 01 27 54.4
comp=Z,8.5nm,1.1s
KBL Kabul 79.96 315 P **P 01 27 51.7 -0.5**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 79.96 315 P **P 01 27 51.7 -0.5**
KBL IAmb IAmb 01 27 52.9
comp=Z,9.4nm,0.9s
CONA Conrad Observa 80.13 357 *e*P **P 01 27 54.4 +1.6**
comp=Z,11nm,1.2s,SNR=6.8
SRO Srobarova 80.14 355 *e*P **P 01 27 54.8 +2.2**
SRO pmax pmax
comp=Z,16nm,1.5s
SRO Srobarova 80.14 355 *e*P **P 01 27 54.8 +2.2**
PYA1 Pyatigorsk 80.22 337 *i* P **P 01 27 53.7 +0.5**
ARCR ARCALIA 80.42 351 ⇓P **P 01 27 55.7 +1.5**
KIV Kislovodsk 80.42 338 ⇑P **P 01 27 55.7 +1.3**
KIV Kislovodsk 80.42 338 *e*P **P 01 27 55.2 +0.9**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 80.42 338 P **P 01 27 55.2 +0.9**
KIV IAmb IAmb 01 27 58.6
comp=Z,12nm,1.0s
BIOA Bad Ischl, Aus 80.42 358 *i* P **P 01 27 55.6 +1.3**
comp=Z,9.3nm,1.2s
KBZ Khabaz 80.58 337 P **P 01 27 56.5 +1.4**
comp=Z,6.7nm,0.9s,baz=36,slow=1.6,SNR=10
KBZ Khabaz 80.58 337*ce*P **P 01 27 55.3 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
NCK Nalchik 80.64 337 *i* P **P 01 27 53.3 -2.1**
NCK pmax pmax
comp=Z,20nm,1.0s
RETA Reutte 80.65 0 *e*P **P 01 27 56.8 +1.3**
comp=Z,4.7nm,0.8s
ANN Anapa 80.74 341 *e*P P 01 27 51.6 -4.3
ANN *e**PP **PcP 01 28 01.3 -1.3**
ANN *e*PPP PPP 01 32 46.6
ANN *e*S S 01 37 53.7 -8.0
ANN *e*SS **SS 01 43 10.0 -3.6**
ANN pmax pmax
comp=Z,29nm,0.8s
MOTA Moosalm 80.79 0 *e*P **P 01 27 57.8 +1.5**
comp=Z,14nm,1.2s
WATA Walderalm 80.80 360 *e*P **P 01 27 57.6 +1.2**
comp=Z,9.2nm,0.8s,SNR=5.5
ARSA Arzberg 80.82 357 *i* P **P 01 27 57.7 +1.3**
comp=Z,4.4nm,0.7s
DRGR 80.86 352 ⇑P **P 01 27 57.4 +0.8**
WTTA Wattenberg 80.87 360 *i* P **P 01 27 58.5 +1.7**
comp=Z,9.3nm,0.7s
SQTA Sankt Quirin 80.92 0 *i* P **P 01 27 58.6 +1.5**
comp=Z,11nm,0.8s
KBA Koelnbreinsper 81.04 359 *i* P **P 01 27 59.8 +2.0**
comp=Z,15nm,0.7s,SNR=11
FETA Feichten 81.11 0 *i* P **P 01 27 59.8 +1.7**
comp=Z,13nm,1.1s
ZEI Tsey 81.23 336 *e*P **P 01 27 58.4 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,1.6s
VLDR Vladesti 81.23 348 ⇑P **P 01 27 59.2 +0.6**
GEYT Alibeck 81.37 324 P **P 01 28 00.8 +1.3**
comp=Z,5.4nm,0.7s,baz=261,slow=9.5,SNR=12
GEYT Alibeck 81.37 324 IAmb IAmb 01 28 01.5
comp=Z,9.9nm,0.9s
GYA0B ALIBECK ARRAY 81.37 324 IAmb IAmb 01 28 01.4
comp=Z,12nm,1.0s
ABTA Abfaltersbach 81.38 359 *i* P **P 01 28 00.7 +1.3**
comp=Z,12nm,1.3s
SOKA Soboth 81.41 357 *e*P **P 01 28 01.0 +1.5**
comp=Z,10nm,0.9s,SNR=8.7
DOPR Dopca 81.42 350 ⇑P **P 01 28 01.0 +1.5**
PERS Pernice 81.44 357 *i* P **P 01 28 01.3 +1.5**
COVR Voineasa-Covas 81.45 350 ⇓P **P 01 28 01.2 +1.4**
MYKA Terra Mystica 81.48 358 *i* P **P 01 28 02.1 +2.1**
comp=Z,4.6nm,1.0s
OBKA Obir 81.59 358 *i* P **P 01 28 01.9 +1.4**
comp=Z,9.6nm,0.9s
GROS Grobnik 81.61 357 *i* P **P 01 28 01.8 +1.1**
TUE Stuetta 81.65 1 IAmb IAmb 01 28 03.8
comp=Z,7.7nm,0.9s
CADS Cadrg 81.89 358 *i* P **P 01 28 02.5 +0.4**
CTI Castel Tesino 82.09 360 P **P 01 28 04.0 +0.8**
CTI pmax pmax
comp=Z,8.0nm,1.0s
CTI Castel Tesino 82.09 360 P **P 01 28 04.0 +0.8**
CTI IAmb IAmb 01 28 04.9
comp=Z,7.5nm,1.0s
BZS Buzias 82.11 353 ⇑P **P 01 28 03.9 +0.7**
GZR Gura Zlata 82.24 352 ⇑P **P 01 28 04.6 +0.7**
HARR Harsova 82.38 348 ⇑P **P 01 28 05.3 +0.7**
TEOL Teolo 82.78 360 P **P 01 28 08.3 +1.6**
HERR Herculane 82.78 352 ⇑P **P 01 28 06.7 0.0**
BNI Bardonecchia 83.00 3 P **P 01 28 10.2 +2.2**
BNI pmax pmax
comp=Z,20nm,1.3s
BNI Bardonecchia 83.00 3 P **P 01 28 10.2 +2.2**
KTUT Trabzon 83.91 339 ⇑P **P 01 28 13.7 +1.1**
OSSC Osservatorio P 84.61 0 P **P 01 28 17.0 +0.9**
KOPT Kop Dagi 84.67 338 IAmb IAmb 01 28 30.9
comp=Z,8.9nm,1.0s
VTS Vitosha 84.95 351 ⇓P **P 01 28 18.8 +0.7**
NRCA Norcia 85.29 359 IAmb IAmb 01 28 23.3
comp=Z,8.7nm,0.8s
PDG Podgorica 85.45 354 ⇑P **P 01 28 20.4 +0.1**
BRTR Keskin Array B 86.36 343 P **P 01 28 25.7 +0.6**
comp=Z,1.6nm,0.7s,baz=12,slow=7.4,SNR=8.1
BRTR Keskin Array B 86.36 343 *i* P **P 01 28 26.5 +1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BORA Eskisehir 86.75 345 P **P 01 28 27.8 +0.9**
WRA Warramunga Arr 87.24 232 P **P 01 28 27.9 -1.3**
comp=Z,0.5nm,0.6s,baz=33,slow=5.8,SNR=4.8
WRA Warramunga Arr 87.24 232 P **P 01 28 28.8 -0.4**
WRA Warramunga Arr 87.24 232 P **P 01 28 28.8 -0.4**
ESDC Sonseca Array 87.50 12 P **P 01 28 31.2 +0.7**
comp=Z,2.4nm,0.9s,baz=353,slow=2.7,SNR=15
ESDC Sonseca Array 87.50 12 P **P 01 28 31.1 +0.6**
ESDC IAmb IAmb 01 28 32.6
comp=Z,2.9nm,1.1s
LIT Litokhoron 87.52 351 P **P 01 28 30.1 -0.5**
LIT pmax pmax
comp=Z,4.0nm,0.9s
LIT Litokhoron 87.52 351 P **P 01 28 30.1 -0.5**
LIT IAmb IAmb 01 28 31.6
comp=Z,4.1nm,0.9s
ASAR Alice Springs 90.62 231 P **P 01 28 44.8 -0.4**
comp=Z,0.9nm,0.6s,baz=36,slow=4.3,SNR=10.0
KMBO Kilima Mbogo 124.62 328 PKP **PKiKP 01 34 44.0 +0.9**
comp=Z,0.9nm,0.5s,baz=336,slow=4.2,SNR=4.3

MDD ***30*** *01:27:14.0±1.6, 35.40N×3.56W, h49km±26km, mb_Lg1.8/4, Error ellipse: s-maj=9.9km s-min=5.7km az=147.0*

CNRM 30 01:27:14.2, 35.52N×3.58W, h24km, ml1.5, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.42**	**224**	P		Pb		01 27 21.9	-1.2
PALE				S		Sb		01 27 29.6	+0.5
EMEL	**Melilla**	**0.55**	**113**	Pg		Pb		01 27 24.8	-0.5
EMEL				Sg		Sb		01 27 32.3	-0.6
GOG	**Mont Gurugu**	**0.56**	**122**	P		Pb		01 27 25.3	-0.2
GOG				S		Sb		01 27 33.3	+0.2
EALB	**Alboran**	**0.61**	**47**	Pn		Pb		01 27 26.7	+0.5
EALB				Sn		Sn		01 27 36.9	+0.5
EALB				*i* Vmb_Lg				01 27 37.8	
PVLZ	**Peæn de**	**0.69**	**240**	P		Pb		01 27 26.8	-0.7
PVLZ				S		Sb		01 27 36.1	-0.5
AKLM	**AKL**	**1.03**	**193**	P		Pb		01 27 33.7	+0.1
AKLM				S		Sb		01 27 46.8	0.0
TAF	**Taforalt**	**1.19**	**126**	P		Pn		01 27 35.3	-0.1
TAF				S		Sb		01 27 53.5	+2.4
ELGU	**Los Guajares,**	**1.34**	**358**	Pn		Pn		01 27 37.3	-0.3
ELGU				Sn		Sn		01 27 54.1	-0.7
ELGU				*i* Vmb_Lg				01 27 59.7	
EMIJ	**Mijas**	**1.42**	**317**	Pn		Pn		01 27 38.6	0.0
EMIJ				Sn		Sn		01 27 55.3	-1.3
EMIJ				*i* Vmb_Lg				01 28 01.2	
JBK	**JBK**	**1.45**	**145**	P		Pn		01 27 38.4	-0.7
JBK				S		Sn		01 27 56.1	-1.3
SMIR	**Smir Dam**	**1.48**	**277**	P		Pn		01 27 38.7	-0.6
SMIR				S		Sb		01 27 59.8	+0.5
EBER	**Berja**	**1.48**	**22**	Sn		Sn		01 27 58.4	+0.1
EBER				*i* Vmb_Lg				01 28 04.3	
MD31	**MD31**	**2.82**	**201**	P		Pn		01 27 58.8	+0.9
MD31				S		Sn		01 28 31.0	-0.2
MDT	**Midelt**	**2.83**	**198**	P		Pn		01 27 59.5	+1.4
MDT				S		Sn		01 28 32.0	+0.6

MDD ***30*** *01:30:55.6±0.5, 35.50N×3.63W, h20km±6km, mb_Lg1.9/5, Error ellipse: s-maj=5.8km s-min=3.6km az=138.0*

CNRM 30 01:30:54.2, 35.57N×3.58W, h28km, ml1.7, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.46**	**220**	P		Pb		01 31 03.6	-0.2
PALE				S		Sb		01 31 10.3	-0.1
EMEL	**Melilla**	**0.57**	**118**	Pg		Pn		01 31 06.3	-0.3
EMEL				Sg		Sb		01 31 13.6	0.0
EALB	**Alboran**	**0.58**	**50**	Pg		Pn		01 31 07.7	+1.1
EALB				Sg		Sn		01 31 17.5	+2.4
EALB				*i* Vmb_Lg				01 31 18.8	
GOG	**Mont Gurugu**	**0.59**	**126**	P		Pb		01 31 06.3	+0.3
GOG				S		Sb		01 31 14.0	-0.1
PVLZ	**Peæn de**	**0.71**	**236**	P		Pn		01 31 17.2	+8.8
PVLZ	**Peæn de**	**0.71**	**236**	S		Pn		01 31 17.2	+8.8
AKLM	**AKL**	**1.08**	**193**	P		Pb		01 31 14.3	0.0
AKLM				S		Sn		01 31 27.4	-0.3
TAF	**Taforalt**	**1.22**	**128**	P		Pb		01 31 16.0	-0.5
TAF				S		Sn		01 31 31.5	+0.4
ELGU	**Los Guajares,**	**1.30**	**358**	Pn		Pb		01 31 19.3	+1.3
ELGU				Sn		Sb		01 31 35.4	+1.2
ELGU				*i* Vmb_Lg				01 31 40.0	
EMIJ	**Mijas**	**1.39**	**316**	Pn		Pb		01 31 18.8	-0.6
EMIJ				Sn		Sb		01 31 36.2	-0.6
EMIJ				*i* Vmb_Lg				01 31 44.2	
EBER	**Berja**	**1.44**	**23**	Pn		Pb		01 31 20.8	+0.4
EBER				Sn		Sb		01 31 39.9	+1.4
EBER				*i* Vmb_Lg				01 31 42.2	
SMIR	**Smir Dam**	**1.47**	**275**	P		Pb		01 31 20.0	-0.8
SMIR				S		Sn		01 31 36.8	-0.4
JBK	**JBK**	**1.48**	**146**	P		Pn		01 31 18.8	-1.2
JBK				S		Sn		01 31 37.5	-0.4
ECEU	**Ceuta**	**1.50**	**283**	Pn		Pn		01 31 18.8	-0.5
ECEU				Sn		Sn		01 31 37.0	-0.9
ECEU				*i* Vmb_Lg				01 31 39.5	
CHEFC	**Chefchaouen**	**1.51**	**253**	P		Pb		01 31 21.1	-0.6
CHEFC				S		Sn		01 31 38.2	-0.2
MD31	**MD31**	**2.87**	**200**	P		Pn		01 31 38.5	+0.3
MD31				S		Sn		01 32 12.7	+0.9
MDT	**Midelt**	**2.88**	**198**	P		Pn		01 31 39.2	+0.8
MDT				S		Sn		01 32 13.0	+1.0

SKHL ***30*** *01:32:11.9±0.5, 45.50N×150.30E, h117km±8km, mb6.0/5, msh6.1/3, msha6.6/6*

BJI ***30*** *01:32:12.1±0.0, 45.77N×149.98E, h107km, mb4.9/65, mB4.7/36*

MOS ***30*** *01:32:13.4±1.2, 45.82N×149.82E, h111km, mb4.7/35, Error ellipse: s-maj=6.6km s-min=5.2km az=68.5*

NEIC ***30*** *01:32:15.1±1.5, 45.81N±0.08×149.9E±0.1, h107km±4km, mb4.8/338, Error ellipse: s-maj=13.2km s-min=9.5km az=144.0*

IDC ***30*** *01:32:15.6±1.4, 45.93N×149.77E, h112km±11km, mb4.2/24, mb1 4.4/31, mb1mx4.3/41, mbtmp4.6/31, MS3.5/22, Ms1 3.5/22, ms1mx3.2/85, Error ellipse: s-maj=12.2km s-min=8.7km az=141.0*

NIED ***30*** *01:32:16.5, 45.11N×149.95E, h105km, MW4.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}1.25; $M_{\theta\theta}$-1.92; $M_{\phi\phi}$0.67; $M_{r\theta}$0.60; $M_{\theta\phi}$0.12; $M_{\phi r}$-0.91; Fault plane solution: $M_0$2.01000×10^{16} NP1: ϕ_s122.00000°, δ64.00000°, λ127.00000°. NP2: ϕ_s242.00000°, δ44.00000°, λ39.00000°.*

GCMT ***30*** *01:32:16.1±0.5, 45.92N±0.03×150.12E±0.04, h92km±9km, MW4.7/77, Moment Tensor Solution. s9,c9; s77,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.27±.12; $M_{\theta\theta}$0.11±.16; $M_{\phi\phi}$0.15±.16; $M_{r\theta}$-0.67±.06; $M_{\theta\phi}$-0.36±.14; $M_{\phi r}$-1.24±.05; Best double couple: $M_0$1.43000×10^{16} NP1:ϕ_s123.00000°, δ11.00000°, λ-171.00000°. NP2:*

ϕ_s24.00000°,δ88.00000°,λ-80.00000°. Principal axes: T 1.2300, Plg42.0000°, Azm104.0000°; N 0.4000, Plg10.0000°, Azm203.0000°; P -1.6300, Plg46.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*JMA **30** 01:32:16.5±0.7, 45.11N×149.95E, h105km, M4.9*

JMA Felt I J1.

ISC 30 01:32:14.4±0.5,**45.71N**±0.04×**149.91E**±0.04,**h109**km±3km, **n768,σ1^{s}27/671,mb4.8**/252,**98C-53D,Fault plane solution: NP1:**ϕ_s101.37582°,δ71.86052°,λ110.62557°. **NP2:**ϕ_s230.97209°,δ27.20338°,λ42.92387°. **Principal axes:** T Plg58.1072°, Azm39.5046°; N Plg19.5575°, Azm274.6924°; P Plg24.1263°, Azm175.5374°; **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KUR	**Kuril'sk**	**1.52**	**253**	*c i*	PN	**Pn**	**01 32 37.8**	**-3.5**
KUR				*e*	S	**Sn**	**01 32 58.7**	**-3.1**
KUR					pmax	pmax		
	comp=Z,6μm,0.4s							
KUR					pmax	pmax		
	comp=N,2μm,0.2s							
KUR					pmax	pmax		
	comp=E,504nm,0.2s							
KUR					smax	smax		
	comp=E,38μm,2.0s							
KUR					smax	smax		
	comp=N,26μm,2.1s							
KUR					smax	smax		
	comp=E,11μm,0.8s							
KUR					smax	smax		
	comp=N,6μm,0.3s							
KUR	**Kuril'sk**	**1.52**	**253**	*i*	P	**Pn**	**01 32 41.3**	**0.0**
KUR					AMB	AMB	01 32 42.8	
	comp=N,5μm,0.3s							
KUR				*e*	S	**Sn**	**01 33 03.0**	**+1.2**
KUR					A	A	01 33 03.8	
	comp=N,26μm,2.1s							
KUR					A	A	01 33 03.8	
	comp=N,38μm,2.1s							
KUR					A	A	01 33 04.1	
	comp=N,11μm,0.3s							
KUR					A	A	01 33 04.1	
	comp=N,8μm,0.3s							
SHO	**Shikotan**	**2.86**	**231**	*d i*	PN	**Pn**	**01 32 57.1**	**-1.4**
SHO				*i*	S	**Sn**	**01 33 31.9**	**-0.5**
SHO					pmax	pmax		
	comp=N,137nm,0.2s							
SHO					pmax	pmax		
	comp=E,167nm,0.2s							
SHO					pmax	pmax		
	comp=Z,269nm,0.2s							
SHO					smax	smax		
	comp=E,5μm,0.4s							
SHO					smax	smax		
	comp=N,2μm,0.2s							
SHO	**Shikotan**	**2.86**	**231**	*i*	P	**Pn**	**01 32 57.3**	**-1.2**
SHO					AMB	AMB	01 33 02.6	
	comp=N,370nm,0.2s							
SHO				*i*	S	**Sn**	**01 33 32.0**	**-0.5**
SHO					A	A	01 33 42.4	
	comp=N,7μm,0.4s							
SHO					A	A	01 33 42.4	
	comp=N,7μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.33**	**241**	*c i*	PN	**Pn**	**01 33 05.2**	**+0.5**
YUK				*i*	S	**Sn**	**01 33 46.4**	**+2.8**
YUK					pmax	pmax		
	comp=N,440nm,0.2s							
YUK					pmax	pmax		
	comp=E,277nm,0.2s							
YUK					pmax	pmax		
	comp=Z,2μm,0.2s							
YUK					smax	smax		
	comp=N,5μm,0.8s							
YUK					smax	smax		
	comp=E,7μm,1.2s							
YUK					smax	smax		
	comp=N,2μm,0.6s							
YUK					smax	smax		
	comp=E,8μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.33**	**241**	*e*	P	**Pn**	**01 33 05.3**	**+0.5**
YUK					AMB	AMB	01 33 08.6	
	comp=E,2μm,0.3s							
YUK				*i*	S	**Sn**	**01 33 45.7**	**+2.1**
YUK					A	A	01 33 51.1	
	comp=E,5μm,1.0s							
YUK					A	A	01 33 51.1	
	comp=E,7μm,1.0s							
YUK					A	A	01 33 52.9	
	comp=E,2μm,0.6s							
YUK					A	A	01 33 52.9	
	comp=E,8μm,0.6s							
RUSJ	**Misakicho**	**3.68**	**246**	*c i*	PN	**Pn**	**01 33 11.4**	**+2.0**
GLVR	**Golovnino**	**3.70**	**239**	*e*	PN	**Pn**	**01 33 10.0**	**+0.4**
GLVR				*i*	S	**Sn**	**01 33 55.9**	**+3.5**
GLVR					pmax	pmax		
	comp=Z,545nm,0.4s							
GLVR					pmax	pmax		
	comp=E,145nm,0.3s							
GLVR					pmax	pmax		
	comp=N,229nm,0.4s							
GLVR					smax	smax		
	comp=N,4μm,1.4s							
GLVR					smax	smax		
	comp=E,3μm,1.0s							
GLVR					smax	smax		
	comp=N,7μm,0.3s							
GLVR					smax	smax		
	comp=E,3μm,0.3s							
GLVR	**Golovnino**	**3.70**	**239**	*e*	P	**Pn**	**01 33 10.0**	**+0.4**
GLVR					AMB	AMB	01 33 12.3	
	comp=E,800nm,1.0s							
GLVR					AMB	AMB	01 33 13.3	
	comp=E,550nm,0.4s							
GLVR				*i*	S	**Sn**	**01 33 53.9**	**+1.5**
GLVR					A	A	01 33 59.1	
	comp=E,4μm,1.0s							
GLVR					A	A	01 33 59.1	
	comp=E,3μm,1.0s							
GLVR					A	A	01 34 02.9	
	comp=E,7μm,0.3s							
GLVR					A	A	01 34 02.9	
	comp=E,3μm,0.3s							
NEM2	**Nemuro 2**	**3.79**	**233**		P	**Pn**	**01 33 09.7**	**-1.2**
NEM2				*e*	S	**Sn**	**01 33 50.4**	**-4.2**
NMR	**Nemuro--Hokkai**	**3.79**	**233**	⇓*i*	PN	**Pn**	**01 33 09.7**	**-1.3**
NMR				*i*	S	**Sn**	**01 33 54.4**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.79**	**233**	*i*	P	**Pn**	**01 33 09.7**	**-1.3**
NMR				*i*	S	**Sn**	**01 33 54.2**	**-0.5**
JRA	**Rausu**	**3.84**	**244**		P	**Pn**	**01 33 12.5**	**+1.0**
JNK	**Nakash**	**4.27**	**242**		P	**Pn**	**01 33 17.8**	**+0.5**
AKK	**Akkeshi**	**4.52**	**235**	*i*	P	**Pn**	**01 33 19.5**	**-1.2**
AKK				*e*	S	**Sn**	**01 34 11.7**	**-0.5**
JTKR	**Abashiri--Toko**	**4.61**	**250**		P	**Pn**	**01 33 23.0**	**+1.1**
JAK	**Akkeshi**	**4.62**	**236**		P	**Pn**	**01 33 20.8**	**-1.2**
JMP	**Maruseppu**	**4.96**	**252**		P	**Pn**	**01 33 28.0**	**+1.3**
JAR	**Ashorobuto**	**5.01**	**243**		P	**Pn**	**01 33 28.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.11**	**287**	*α i*	PN	**Pn**	**01 33 30.1**	**+1.4**
YSS				*e*	S	**Sn**	**01 34 27.7**	**+1.2**
YSS					pmax	pmax		
	comp=Z,200nm,1.0s							
YSS					smax	smax		
	comp=E,340nm,0.7s							
YSS					smax	smax		
	comp=E,450nm,0.9s							
YSS					MLR	MLR		
	comp=N,200nm,9.0s							
YSS					MLR	MLR		
	comp=Z,500nm,9.0s							
YSS	**Yuzh-Sakhalins**	**5.11**	**287**		Pn	**Pn**	**01 33 30.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.11**	**287**	*e*	P	**Pn**	**01 33 30.3**	**+1.6**
YSS					AMB	AMB	01 33 34.8	
	comp=Z,130nm,0.4s							
YSS				*e*	S	**Sn**	**01 34 30.1**	**+3.6**
YSS					A	A	01 34 34.5	
	comp=Z,50nm,0.7s							
YSS					A	A	01 34 34.5	
	comp=Z,370nm,0.7s							
YSS					AMS	AMS	01 35 25.0	
	comp=Z,200nm,9.0s							
YSS					AMS	AMS	01 35 25.0	
	comp=Z,500nm,9.0s							
JOB	**Onbets**	**5.18**	**239**		P	**Pn**	**01 33 29.5**	**-0.2**
JOB				*e*	S	**Sn**	**01 34 26.8**	**-1.4**
JSE	**Soyaes**	**5.22**	**264**		P	**Pn**	**01 33 32.1**	**+2.0**
JKK2	**Kamakawa 2**	**5.42**	**253**		P	**Pn**	**01 33 34.6**	**+1.7**
JKA	**Kamikawa-asahi**	**5.43**	**256**		Pn	**Pn**	**01 33 34.4**	**+1.4**
ASAJ	**Asahikawa**	**5.43**	**256**		P	**Pn**	**01 33 34.5**	**+1.5**
	comp=Z,63nm,0.3s,baz=85,slow=19,SNR=56							
ASAJ					S	**Sn**	**01 34 36.0**	**+1.7**
	baz=56,slow=18,SNR=1.0							
ASAJ	**Asahikawa**	**5.43**	**256**		P	**Pn**	**01 33 35.2**	**+2.2**
CHJ	**Churui**	**5.63**	**239**		P	**Pn**	**01 33 34.7**	**-1.1**
JCH				*e*	S	**Sn**	**01 34 35.6**	**-3.6**
JWK2	**Keihoku**	**5.65**	**269**		P	**Pn**	**01 33 39.5**	**+3.6**
JFR	**Furan**	**5.82**	**247**		P	**Pn**	**01 33 39.5**	**+1.2**
JSS	**Shosan**	**5.86**	**260**		P	**Pn**	**01 33 42.7**	**+3.9**
JAB	**Ashibetsu**	**5.91**	**251**		P	**Pn**	**01 33 41.9**	**+2.4**
ERM	**Erimo**	**6.12**	**235**		PN	**Pn**	**01 33 42.5**	**+0.2**
ERM	**Erimo**	**6.12**	**235**			**Pn**	**01 33 42.5**	**+0.2**
JEM	**Erimo**	**6.12**	**235**		P	**Pn**	**01 33 41.8**	**-0.5**
JHR	**Hokuryu**	**6.15**	**254**		P	**Pn**	**01 33 45.7**	**+2.9**
JBT2	**Biratori 2**	**6.16**	**244**		P	**Pn**	**01 33 42.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**6.20**	**239**		P	**Pn**	**01 33 41.5**	**-1.9**
JRBN	**Rebuntou**	**6.22**	**271**		P	**Pn**	**01 33 45.9**	**+2.3**
UGL	**Uglegorsk**	**6.30**	**305**	*e*	PN	**Pn**	**01 33 41.0**	**-3.8**
UGL					pmax	pmax		
	comp=Z,111nm,0.9s							
UGL	**Uglegorsk**	**6.30**	**305**	*e*	P	**Pn**	**01 33 46.5**	**+1.7**
UGL					AMB	AMB	01 33 48.2	
	comp=Z,40nm,0.8s							
UGL				*e*	S	**Sn**	**01 35 00.2**	**+4.9**
UGL					A	A	01 35 03.8	
	comp=Z,60nm,0.8s							
UGL					A	A	01 35 03.8	
	comp=Z,60nm,0.8s							
SKR	**Severo-Kuril's**	**6.48**	**38**	*e*	PN	**Pn**	**01 33 46.1**	**-1.0**
SKR				*e*	S	**Sn**	**01 35 03.5**	**+4.0**
SKR					pmax	pmax		
	comp=Z,220nm,0.5s							
SKR					smax	smax		
	comp=N,185nm,0.8s							
SKR					smax	smax		
	comp=E,174nm,0.7s							
SKR	**Severo-Kuril's**	**6.48**	**38**	*i*	P	**Pn**	**01 33 45.8**	**-1.3**
SKR					AMB	AMB	01 33 48.8	
	comp=E,330nm,0.4s							
SKR				*e*	S	**Sn**	**01 34 57.5**	**-2.0**
SKR					A	A	01 35 12.6	
	comp=E,170nm,0.5s							
SKR					A	A	01 35 12.6	
	comp=E,230nm,0.5s							
JEW	**Eniwo**	**6.72**	**248**		Pn	**Pn**	**01 33 51.7**	**+1.3**
TYV	**Tymovskoe**	**7.07**	**319**	*e*	PN	**Pn**	**01 33 56.5**	**+1.3**
TYV				*e*	S	**Sn**	**01 35 15.2**	**+1.2**
TYV					pmax	pmax		
	comp=Z,35nm,0.9s							
TYV					pmax	pmax		
	comp=Z,200nm,4.1s							
TYV					smax	smax		
	comp=N,53nm,0.9s							
TYV					smax	smax		
	comp=E,52nm,0.9s							
TYV	**Tymovskoe**	**7.07**	**319**	*e*	P	**Pn**	**01 33 56.7**	**+1.5**
TYV					AMB	AMB	01 33 57.8	
	comp=E,40nm,0.9s							
TYV					AMB	AMB	01 33 58.8	
	comp=E,200nm,4.0s							
TYV				*e*	S	**Sn**	**01 35 16.0**	**+2.0**
TYV					A	A	01 35 18.9	
	comp=E,20nm,0.7s							
TYV					A	A	01 35 18.9	
	comp=E,40nm,0.7s							
JSK	**Shakotan**	**7.14**	**254**		P	**Pn**	**01 33 58.0**	**+1.8**
JNB	**Noboribetsu**	**7.16**	**246**		P	**Pn**	**01 33 55.8**	**-0.6**
JNB				*e*	S	**Sn**	**01 35 12.9**	**-3.3**
PAU	**Pauzhetka**	**7.36**	**36**	*e*	P	**Pn**	**01 33 57.5**	**-1.5**
PAU					AMB	AMB	01 33 59.1	
	comp=E,160nm,0.5s							
PAU				*e*	S	**Sn**	**01 35 18.3**	**-2.5**
PAU					A	A	01 35 41.1	
	comp=E,330nm,0.5s							
PAU					A	A	01 35 41.1	
	comp=E,180nm,0.5s							
JKB	**Kayabe**	**7.47**	**242**		P	**Pn**	**01 33 59.1**	**-1.5**
JKB				*e*	S	**Sn**	**01 35 17.6**	**-6.1**
JSH	**Shimam**	**7.72**	**250**		P	**Pn**	**01 34 04.7**	**+0.6**
JYM2	**Yakumo 2**	**7.77**	**246**		P	**Pn**	**01 34 03.9**	**-0.8**
JSR	**Shiriuchi**	**8.05**	**242**		P	**Pn**	**01 34 07.4**	**-1.1**
JSR				*e*	S	**Sn**	**01 35 31.8**	**-6.1**
JTM	**Tenmabayashi**	**8.11**	**236**		P	**Pn**	**01 34 07.0**	**-2.4**
JANG	**Nango**	**8.13**	**232**		P	Pn	01 34 05.8	-3.9
JANG				*e*	S	Sn	01 35 29.9	-10
JTH	**Tanohata**	**8.26**	**229**	*e*	S	Sn	01 35 33.3	-10
JOSM	**Okushiri--Mats**	**8.36**	**248**		P	**Pn**	**01 34 11.8**	**-0.9**
PEA0B	**Petropavlovsk-**	**8.98**	**32**		PN	**Pn**	**01 34 20.3**	**-0.7**
PEA0B	**Petropavlovsk-**	**8.98**	**32**		Pn	**Pn**	**01 34 20.3**	**-0.7**
PETK	**Petropavlovsk-**	**8.98**	**32**		P	**Pn**	**01 34 20.4**	**-0.6**
	comp=E,7.8nm,0.3s,baz=209,slow=15,SNR=63							
PETK					LR	LR	01 37 45.9	
	comp=E,209nm,18.8s,baz=201,slow=37							
PETK	**Petropavlovsk-**	**8.98**	**32**		Pn	**Pn**	**01 34 19.8**	**-1.2**
OFUJ	**Ofunato**	**9.00**	**226**		P	Pn	01 34 18.2	-3.2
PET	**Petropavlovsk**	**9.28**	**35**	*e*	PN	**Pn**	**01 34 22.4**	**-2.6**
PET				*e*	S	**Sn**	**01 36 03.7**	**-3.7**
PET					pmax	pmax		
	comp=Z,41nm,0.5s							
PET					MLR	MLR		
	comp=Z,200nm,12.0s							
PET	**Petropavlovsk**	**9.28**	**35**			**Pn**	**01 34 22.9**	**-2.1**
PET	**Petropavlovsk**	**9.28**	**35**	*e*	P	**Pn**	**01 34 22.4**	**-2.6**
PET					AMB	AMB	01 34 28.0	
	comp=Z,40nm,0.5s							
PET				*e*	S	**Sn**	**01 36 03.5**	**-3.9**
JRG	**Rokugo**	**9.30**	**231**		P	**Pn**	**01 34 22.7**	**-2.8**
NKL	**Nikolayevsk**	**9.57**	**324**	*e*	P	**Pn**	**01 34 29.8**	**+0.8**
NKL					AMB	AMB	01 34 31.0	
	comp=Z,80nm,0.6s							
JIO	**Ouri**	**9.64**	**224**		P	Pn	01 34 26.0	-4.1
GRNR	**Gornyy**	**10.32**	**304**	⇓*i*	PN	**Pn**	**01 34 41.3**	**+2.0**
GRNR					pmax	pmax		
	comp=E,50nm,1.0s							
GRNR					pmax	pmax		
	comp=Z,40nm,1.2s							
GRNR	**Gornyy**	**10.32**	**304**	*e*	P	**Pn**	**01 34 41.3**	**+2.0**
GRNR					AMB	AMB	01 34 42.5	
	comp=Z,40nm,0.9s							
JYA	**Atsumi**	**10.38**	**230**		P	**Pn**	**01 34 37.6**	**-2.5**
JFK	**Kawauchi**	**10.73**	**222**	*e*	S	Sn	01 36 32.7	-10
MAJO	**Matsushiro**	**12.70**	**228**	*i*	PN	Pn	01 35 08.1	-3.0
MJAR	**Matsushiro Arr**	**12.70**	**228**		P	**Pn**	**01 35 09.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=22,slow=14,SNR=8.7							
MJAR					LR	LR	01 40 54.6	
	comp=Z,83nm,19.5s,baz=65,slow=41							
MJAR	**Matsushiro Arr**	**12.70**	**228**		PN	**Pn**	**01 35 08.7**	**-2.4**
MJAR	**Matsushiro Arr**	**12.70**	**228**			**Pn**	**01 35 08.7**	**-2.4**
KLR	**Kul'dur**	**12.78**	**293**		P	**Pn**	**01 35 13.9**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=99,slow=14,SNR=187							
KLR					LR	LR	01 40 14.3	
	comp=Z,163nm,18.4s,baz=84,slow=38							
KLR	**Kul'dur**	**12.78**	**293**		PN	**Pn**	**01 35 14.0**	**+2.0**
KLR	**Kul'dur**	**12.78**	**293**	*e*	P	**Pn**	**01 35 13.6**	**+1.6**
USA0B	**Ussuriysk Arra**	**12.79**	**270**		PN	**Pn**	**01 35 12.0**	**-0.1**
USA0B	**Ussuriysk Arra**	**12.79**	**270**			**Pn**	**01 35 12.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**12.79**	**270**		P	**Pn**	**01 35 12.7**	**+0.6**
	baz=84,slow=14,SNR=30							
USRK					LR	LR	01 40 22.0	
	comp=Z,138nm,21.3s,baz=71,slow=38							
USRK	**Ussuriysk Ar.**	**12.79**	**270**		PN	**Pn**	**01 35 12.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**12.79**	**270**		Pn	**Pn**	**01 35 12.9**	**+0.8**
MSHR	**Mys Shultsa**	**13.82**	**264**	*i*	P	**Pn**	**01 35 25.5**	**-0.1**
JGF	**Kuroka**	**13.87**	**228**			**Pn**	**01 35 27.0**	**+0.8**
MA2	**Magadan**	**13.90**	**2**		P	**Pn**	**01 35 26.0**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=170,slow=11,SNR=6.1							
MA2	**Magadan**	**13.90**	**2**		P	**Pn**	**01 35 26.0**	**-0.5**
MA2	**Magadan**	**13.90**	**2**			**Pn**	**01 35 24.7**	**-1.8**
MA2	**Magadan**	**13.90**	**2**	*e*	P	**Pn**	**01 35 24.6**	**-1.9**
INU	**Inuyama**	**14.23**	**228**		P	**Pn**	**01 35 35.8**	**+0.9**
MDJ	**Mudanjiang**	**14.38**	**273**		Pn	**Pn**	**01 35 32.8**	**+0.1**
MDJ	**Mudanjiang**	**14.38**	**273**		P	**Pn**	**01 35 34.0**	**+1.3**
MDJ					pmax	pmax		
	comp=Z,9.0nm,0.7s							
MDJ					pmax	pmax		
	comp=Z,160nm,3.6s							
BNX	**BinXian**	**15.71**	**278**	⇑	P	**Pn**	**01 35 49.5**	**0.0**
BNX					pmax	pmax		
	comp=Z,15nm,0.5s							
BNX					pmax	pmax		
	comp=Z,250nm,9.0s							
JHS	**Saijyo**	**16.65**	**236**		Pn	**Pn**	**01 35 58.8**	**-2.4**
ZEA	**Zeya**	**16.66**	**307**	*de*	P	**Pn**	**01 36 01.6**	**+0.5**
ZEA					pmax	pmax		
	comp=N,80nm,1.0s							
ZEA					pmax	pmax		
	comp=E,70nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,120nm,1.0s							
ZEA	**Zeya**	**16.66**	**307**	*e*	P	**Pn**	**01 36 01.0**	**-0.1**
ZEA					AMB	AMB	01 36 03.3	
	comp=Z,120nm,0.9s							
SHEM	**Shemya Is, Ala**	**17.24**	**57**		LR	LR	01 45 13.8	
	comp=Z,21nm,18.2s,baz=329,slow=45							
SEY	**Seymchan**	**17.32**	**4**		P	**P**	**01 36 08.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=183,slow=8.0,SNR=18							
SEY	**Seymchan**	**17.32**	**4**	*i*	P	**Pn**	**01 36 08.6**	**-0.4**
SEY	**Seymchan**	**17.32**	**4**	*e*	P	**Pn**	**01 36 08.6**	**-0.4**
CN2	**Changchun**	**17.47**	**273**	*e*	P	**P**	**01 36 08.3**	**-2.3**
CN2					pmax	pmax		
	comp=Z,20nm,0.5s							
CN2					LR	LR		
	comp=Z,200nm,16.0s							
CN2					LR	LR		
	comp=Z,200nm,16.0s							
CN2					LR	LR		
	comp=Z,200nm,16.0s							
KSRS	**Korea Array**	**18.36**	**251**		P	**P**	**01 36 21.2**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=58,slow=11,SNR=34							
KS19	**Wonju Array Si**	**18.37**	**251**		P	**P**	**01 36 21.4**	**+0.8**
KSAR	**Wonju Array Be**	**18.39**	**251**		P	**P**	**01 36 20.4**	**-0.4**
KSAR	**Wonju Array Be**	**18.39**	**251**		P	**P**	**01 36 20.4**	**-0.4**
INCN	**Inchon**	**19.20**	**253**		P	**Pn**	**01 36 32.6**	**+0.9**
INCN					pmax	pmax		
	comp=Z,47nm,0.8s							
INCN	**Inchon**	**19.20**	**253**		Pn	**Pn**	**01 36 32.6**	**+0.9**
INCN					lAmb	lAmb	01 36 34.2	
	comp=Z,47nm,0.8s							
JNU	**Nakatsue**	**19.29**	**236**		P	**P**	**01 36 31.9**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=354,slow=3.1,SNR=3.1							
TJN	**Taejon**	**19.34**	**249**	*i*	P	**P**	**01 36 30.0**	**-1.1**
YAK	**Yakutsk**	**20.09**	**332**		P	Pn	01 36 42.6	+0.8
	comp=Z,0.7nm,0.3s,baz=146,slow=2.0,SNR=52							
YAK	**Yakutsk**	**20.09**	**332**	*e*	P	**P**	**01 36 38.6**	**-0.4**
YAK				*e*	S	**S**	**01 40 14.1**	**-4.3**
YAK					pmax	pmax		
	comp=Z,424nm,0.9s							
YAK					pmax	pmax		
	comp=N,77nm,0.9s							
YAK					pmax	pmax		
	comp=E,67nm,1.0s							
YAK					smax	smax		
	comp=E,110nm,2.0s							
YAK					smax	smax		
	comp=N,66nm,1.5s							
YAK	**Yakutsk**	**20.09**	**332**		P	**P**	**01 36 38.8**	**-0.2**
YAK	**Yakutsk**	**20.09**	**332**	*e*	P	**P**	**01 36 39.6**	**+0.6**
HIA	**Hailar**	**20.63**	**291**	*i*	P	**P**	**01 36 45.9**	**+0.9**
HIA					pmax	pmax		
	comp=Z,24nm,0.9s							
ADK	**Adak**	**22.71**	**62**		P	**P**	**01 37 06.8**	**0.0**
ADK					pmax	pmax		
	comp=Z,56nm,1.1s							
ADK	**Adak**	**22.71**	**62**		P	**P**	**01 37 06.8**	**0.0**
ADK					lAmb	lAmb	01 37 07.6	
	comp=Z,56nm,1.1s							
BILL	**Bilibino**	**23.95**	**15**	*i*	P	**P**	**01 37 16.9**	**-1.1**
BILL				*e**	PP	**pwP**	**01 37 41.7**	**-2.4**
BILL				*e**	SP	**sP**	**01 37 57.1**	**+3.9**
BILL				*e*			01 40 56.5	
BILL					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BILL	**Bilibino**	**23.95**	**15**		P	**P**	**01 37 17.9**	**-0.1**
BILL	**Bilibino**	**23.95**	**15**	*e*	P	**P**	**01 37 16.9**	**-1.1**
XLT	**XiLinHaoTe**	**23.97**	**278**	*e*	P	**P**	**01 37 18.8**	**+0.1**
XLT					pP	pP	01 37 42.0	+0.9
XLT					sP	sP	01 37 55.0	+0.5
XLT					S	**S**	**01 41 23.8**	**-3.7**
XLT					sS	Sn	01 42 04.0	+2.4
XLT					pmax	pmax		
	comp=Z,28nm,1.0s							
XLT					pmax	pmax		
	comp=Z,150nm,6.8s							
XLT					LR	LR		
	comp=Z,220nm,12.8s							
XLT					LR	LR		
	comp=Z,140nm,12.8s							
BOD	**Bodaibo**	**24.99**	**312**	*e*	P	**P**	**01 37 25.7**	**-1.9**
BOD				*e*			01 37 50.0	
BOD					pmax	pmax		
	comp=Z,9.0nm,1.0s							
BOD	**Bodaibo**	**24.99**	**312**	*e*	P	**P**	**01 37 25.7**	**-1.9**
BJI	**Beijing**	**25.24**	**269**		P	**P**	**01 37 30.5**	**+0.4**
BJI					S	**S**	**01 41 48.0**	**+0.5**
BJI					pmax	pmax		
	comp=Z,12nm,1.0s							
BJI					LR	LR		
	comp=Z,110nm,16.1s							
BJI					LR	LR		
	comp=Z,100nm,17.2s							
BJI					LR	LR		
	comp=Z,260nm,19.2s							
BJT	**Baijiatuau**	**25.25**	**269**		P	**P**	**01 37 30.2**	**0.0**
BJT					pmax	pmax		
	comp=Z,24nm,0.9s							
BJT	**Baijiatuau**	**25.25**	**269**			**P**	**01 37 30.2**	**0.0**
BJT					lAmb	lAmb	01 37 33.3	
	comp=Z,24nm,0.9s							
JOW	**Kunigami**	**25.54**	**230**		P	**P**	**01 37 34.4**	**+1.5**
	comp=Z,6.2nm,0.3s,baz=293,slow=3.1,SNR=4.3							
JOW	**Kunigami**	**25.54**	**230**		P	**P**	**01 37 34.4**	**+1.5**
TIA	**Tai'an**	**26.36**	**261**	⇑	P	**P**	**01 37 43.0**	**+2.8**
TIA					pmax	pmax		
	comp=Z,17nm,0.8s							
HNS	**HongShan**	**27.45**	**265**	⇓	P	**P**	**01 37 50.8**	**+0.9**
HNS					pmax	pmax		
	comp=Z,35nm,1.0s							
NJ2	**Nanjing**	**27.56**	**251**	*e*	P	**P**	**01 37 51.8**	**+0.8**
NJ2					pmax	pmax		
	comp=Z,13nm,0.5s							
GAMB	**Gambell**	**27.97**	**36**		P	**P**	**01 37 55.9**	**+1.6**
HHC	**Hu-ho-hao-te**	**28.15**	**274**	*e*	P	**P**	**01 37 57.3**	**+1.0**
HHC					pmax	pmax		
	comp=Z,34nm,1.1s							
HHC					pmax	pmax		
	comp=Z,91nm,4.5s							
HHC					LR	LR		
	comp=Z,180nm,12.7s							
HHC					LR	LR		
	comp=Z,130nm,13.3s							
HHC					LR	LR		
	comp=Z,190nm,14.6s							
ULN	**Ulaanbaatar**	**29.15**	**290**		P	**P**	**01 38 06.3**	**+1.1**
ULN					pmax	pmax		

WHN	Wuhan	31.51	254	⇓P		P		01 38 26.5	+0.6	
WHN				pmax		pmax				
	comp=Z,48nm,0.8s									
RDOG	Red Dog Mine	32.85	31	P		P		01 38 36.8	-0.5	
RDOG				IAmb		IAmb		01 38 37.9		
	comp=Z,14nm,0.9s									
RDOG	Red Dog Mine	32.85	31	P		P		01 38 36.8	-0.5	
	baz=252,SNR=6.3									
XAN	Xi'an	33.20	264	P		P		01 38 41.0	+0.2	
XAN				pmax		pmax				
	comp=Z,18nm,0.8s									
XAN				pmax		pmax				
	comp=Z,99nm,6.0s									
CHGN	Chignik	33.43	53	P		P		01 38 42.4	0.0	
	baz=274									
GCSA	Galena City Sc	34.47	37	P		P		01 38 50.8	-0.5	
	baz=263									
TTA	Tatalina	34.67	41	P		P		01 38 53.1	0.0	
TTA								01 41 25.5		
TTA				pmax		pmax				
	comp=Z,11nm,0.8s									
TTA	Tatalina	34.67	41	P		P		01 38 53.1	0.0	
TTA				IAmb		IAmb		01 38 54.4		
	comp=Z,11nm,0.8s									
TTA				PcP		PcP		01 41 25.5	+0.9	
TTA	Tatalina	34.67	41	P		P		01 38 53.4	+0.3	
	baz=266,SNR=9.4									
SVW2	Sparrevohn	34.79	44	P		P		01 38 54.7	+0.5	
SVW2				IAmb		IAmb		01 38 56.0		
	comp=Z,12nm,0.8s									
SVW2				PcP		PcP		01 41 25.9	+1.0	
P18K	Big Mountain,	34.98	47	P		P		01 38 56.4	+0.5	
	baz=272									
L19K	White Mountain	35.16	42	P		P		01 38 57.5	+0.1	
	baz=268									
N19K	Bonanza Creek	35.33	44	IAmb		IAmb		01 39 00.7		
	comp=Z,17nm,0.8s									
N19K	Bonanza Creek	35.33	44	P		P		01 38 59.7	+0.9	
	baz=271,SNR=10									
M19K	Big River Lodg	35.38	42	P		P		01 38 59.8	+0.6	
	baz=269									
O19K	Port Alsworth	35.42	45	IAmb		IAmb		01 39 03.5		
	comp=Z,19nm,0.8s									
O19K	Port Alsworth	35.42	45	P		P		01 39 01.7	+2.2	
	baz=272									
K20K	Telida	35.57	40	P		P		01 39 01.4	+0.6	
K20K				IAmb		IAmb		01 39 02.5		
	comp=Z,16nm,1.4s									
K20K				PcP		PcP		01 41 28.8	+1.6	
K20K	Telida	35.57	40	P		P		01 39 00.9	+0.1	
	baz=267,SNR=5.8									
J20K	Nowinta River	35.59	39	P		P		01 39 00.6	-0.3	
J20K				IAmb		IAmb		01 39 02.3		
	comp=Z,13nm,0.7s									
J20K	Nowinta River	35.59	39	P		P		01 39 01.2	+0.3	
	baz=266,SNR=17									
L20K	Farewell, AK	35.63	42	P		P		01 39 01.6	+0.2	
	baz=269,SNR=5.3									
LZH	Lanzhou	35.69	271	*e*P		P		01 39 03.8	+1.5	
LZH				pP		pP		01 39 27.3	+0.8	
LZH				sP		sP		01 39 43.8	+4.9	
LZH				pmax		pmax				
	comp=Z,57nm,1.5s									
LZH				LR		LR				
	comp=Z,190nm,14.1s									
LZH				LR		LR				
	comp=Z,190nm,14.1s									
LZH				LR		LR				
	comp=Z,230nm,13.6s									
Q19K	Cape Douglas,	35.82	48	P		P		01 39 03.1	+0.1	
	baz=274									
IMAR	Indian Mountai	35.91	36	P		P		01 39 03.7	0.0	
IMAR				PcP		PcP		01 41 28.8	+0.7	
A21K	Barrow	35.93	26	P		P		01 39 03.1	-0.6	
	baz=254									
M20K	Styx River	35.97	43	IAmb		IAmb		01 39 06.4		
	comp=Z,15nm,0.8s									
M20K	Styx River	35.97	43	P		P		01 39 05.4	+1.1	
	baz=270,SNR=9.3									
P19K	Oil Pt	35.99	46	P		P		01 39 05.0	+0.6	
	baz=273									
OHAK	Old Harbor	36.16	50	P		P		01 39 06.7	+0.9	
	baz=277									
RSO	Redoubt South	36.19	45	P		P		01 39 07.1	+0.8	
H21K	Melozitna Rive	36.27	36	IAmb		IAmb		01 39 08.0		
	comp=Z,12nm,0.7s									
H21K	Melozitna Rive	36.27	36	P		P		01 39 07.1	+0.4	
	baz=265,SNR=18									
O20K	Slope Mountain	36.27	46	P		P		01 39 06.8	-0.1	
	baz=273,SNR=5.2									
CHUM	Lake Minchumin	36.38	39	P		P		01 39 08.5	+0.9	
	baz=268									
PPLA	Purkeypile	36.41	41	P		P		01 39 08.9	+0.7	
PPLA						PcP		01 41 30.6	+0.8	
PPLA	Purkeypile	36.41	41	P		P		01 39 08.3	+0.1	
	baz=270,SNR=5.5									
SPCR	Spurr Chakacha	36.43	44	P		P		01 39 08.8	+0.6	
	baz=272,SNR=8.0									
CAST	Castle Rocks	36.47	40	IAmb		IAmb		01 39 10.3		
	comp=Z,12nm,0.7s									
CAST	Castle Rocks	36.47	40	P		P		01 39 09.1	+0.7	
	baz=269,SNR=12									
KDAK	Kodiak Island	36.48	49	P		P		01 39 07.9	-0.6	
KDAK				pmax		pmax				
	comp=Z,34nm,0.7s									
KDAK	Kodiak Island	36.48	49	P		P		01 39 07.9	-0.6	
KDAK	Kodiak Island	36.48	49	P		P		01 39 08.1	-0.4	
	baz=276									
I21K	Tanana	36.58	37	P		P		01 39 09.9	+0.6	
	baz=267,SNR=16									
HOM	Homer	36.79	46	P		P		01 39 11.3	+0.2	
	baz=275									
GTA	Gaotai	36.93	278	⇑P		P		01 39 13.5	+0.7	
GTA				pP		pP		01 39 36.5	-0.4	
GTA				pmax		pmax				
	comp=Z,32nm,1.0s									
GTA				pmax		pmax				
	comp=Z,72nm,6.0s									
GTA				LR		LR				
	comp=Z,110nm,14.7s									
GTA				LR		LR				
	comp=Z,170nm,16.3s									
GTA				LR		LR				
	comp=Z,120nm,18.7s									
BPAW	Bear Paw Mtn.	36.97	39	P		P		01 39 13.1	+0.4	
BPAW				IAmb		IAmb		01 39 14.2		
	comp=Z,9.3nm,0.8s									
BPAW				PcP		PcP		01 41 32.6	+1.2	
BPAW	Bear Paw Mtn.	36.97	39	P		P		01 39 13.1	+0.4	
	baz=269,SNR=6.6									
KTH	Kantishna Hill	36.99	40	P		P		01 39 13.2	+0.3	
MLY	Manley	37.10	37	IAmb		IAmb		01 39 15.4		
	comp=Z,11nm,0.7s									
MLY	Manley	37.10	37	P		P		01 39 14.5	+0.7	
	baz=268,SNR=14									
BRSE	Bradley Lake S	37.24	46	P		P		01 39 14.8	-0.2	
	baz=275									
TRF	Thorofare Moun	37.28	40	P		P		01 39 15.6	+0.1	
	baz=271									
CUT	Chulitna	37.31	42	IAmb		IAmb		01 39 15.8		
	comp=Z,22nm,1.1s									
CUT	Chulitna	37.31	42	P		P		01 39 15.2	-0.3	
	baz=272									
M22K	Willow	37.41	43	P		P		01 39 16.0	-0.3	
	baz=273									
COLD	Coldfoot	37.44	34	P		P		01 39 16.0	-0.6	
COLD	Coldfoot	37.44	34	P		P		01 39 16.8	+0.2	
	baz=266,SNR=20									
RC01	Rabbit Creek A	37.63	44	P		P		01 39 18.5	+0.2	
	baz=274,SNR=6.6									
O22K	Cooper Landing	37.68	45	P		P		01 39 18.2	-0.5	
	baz=275									
I23K	Minto, Yukon-K	37.69	37	IAmb		IAmb		01 39 19.8		
	comp=Z,10nm,0.6s									
I23K	Minto, Yukon-K	37.69	37	P		P		01 39 19.4	+0.8	
	baz=269,SNR=10									
TOLK	Toolik Lake Re	37.80	31	P		P		01 39 19.4	-0.2	
TOLK	Toolik Lake Re	37.80	31	P		P		01 39 19.9	+0.3	
	baz=265,SNR=17									
NEA2	Nenana	37.81	38	P		P		01 39 20.2	+0.5	
	baz=270,SNR=27									
SEW	Seward	37.85	45	P		P		01 39 19.7	-0.4	
	baz=276									
MCK	McKinley	37.88	39	IAmb		IAmb		01 39 22.9		
	comp=Z,12nm,1.0s									
MCK	McKinley	37.88	39	P		P		01 39 20.3	-0.1	
	baz=272,SNR=6.1									
PMR	Palmer	37.89	43	IAmb		IAmb		01 39 22.1		
	comp=Z,18nm,1.0s									
PMR	Palmer	37.89	43	P		P		01 39 20.3	-0.1	
	baz=274									
MDM	Murphy Dome	38.16	37	IAmb		IAmb		01 39 24.1		
	comp=Z,19nm,0.8s									
KNK	Knik Glacier	38.22	43	P		P		01 39 23.4	+0.1	
	baz=275,SNR=6.1									
WRH	Wood River Hil	38.23	38	IAmb		IAmb		01 39 25.8		
	comp=Z,7.4nm,0.6s									
SML	Sawmill	38.25	43	P		P		01 39 23.5	0.0	
SML	Sawmill	38.25	43	P		P		01 39 23.6	+0.1	
	baz=274,SNR=14									
H24K	Noodor Dome	38.31	36	IAmb		IAmb		01 39 25.8		
	comp=Z,13nm,0.9s									
H24K	Noodor Dome	38.31	36	P		P		01 39 24.7	+0.7	
	baz=270,SNR=13									
TCOL	CIGO, UAF Yank	38.32	38	P		P		01 39 24.5	+0.5	
	baz=271,SNR=16									
COLA	College	38.33	38	P		P		01 39 24.1	+0.1	
COLA				pmax		pmax				
	comp=Z,51nm,0.6s									
COLA	College	38.33	38	P		P		01 39 24.1	+0.1	
COLA	College	38.33	38	P		P		01 39 24.6	+0.6	
	baz=271									
PWL	Port Wells	38.33	44	P		P		01 39 24.4	+0.2	
	baz=276									
WAT6	Susitna Watana	38.47	41	P		P		01 39 24.6	-0.9	
	baz=274									
POKR	Poker Plat Res	38.50	37	P		P		01 39 26.1	+0.6	
	baz=271,SNR=12									
NRIK	Noril'sk	38.52	330	ScP		S		01 45 13.1	+0.2	
	comp=Z,3.8nm,0.8s,baz=57,slow=4.8,SNR=5.6									
CD2	Chengdu	38.57	264	P		P		01 39 27.5	+1.0	
CD2				pmax		pmax				
	comp=Z,20nm,0.5s									
DHY	Denali Highway	38.61	40	IAmb		IAmb		01 39 27.4		
	comp=Z,24nm,1.4s									
DHY	Denali Highway	38.61	40	P		P		01 39 26.2	-0.4	
	baz=274									
SCM	Sheep Creek Mo	38.72	42	P		P		01 39 27.9	+0.4	
	baz=275									
IL31		38.74	38	IAmb		IAmb		01 39 29.4		
	comp=Z,11nm,0.9s									
ILAR	Eielson Array	38.74	38	P		P		01 39 27.3	-0.2	
	comp=Z,6.0nm,0.6s,baz=269,slow=7.3,SNR=70									
ILAR				ScP		ScP		01 45 15.1	+0.4	
	comp=Z,0.4nm,0.8s,baz=294,slow=4.6,SNR=4.7									
ILAR				LR		LR		01 55 56.8		
	comp=Z,23nm,18.5s,baz=164,slow=37									
ILAR	Eielson Array	38.74	38	P		P		01 39 27.3	-0.2	
ILAR								01 41 36.3		
ILAR	Eielson Array	38.74	38	P		P		01 39 27.3	-0.2	
ILAR				PcP		PcP		01 41 36.2	-0.5	
GLI	Glacier Island	38.93	44	P		P		01 39 28.9	-0.3	
	baz=277									
M24K	Tolsona, Glenn	39.24	42	P		P		01 39 32.2	+0.4	
	baz=276									
GYA	Guiyang	39.31	256	⇑P		P		01 39 33.5	+0.6	
GYA				pP		pP		01 39 57.0	-0.5	
GYA				pmax		pmax				
	comp=Z,19nm,0.5s									
J25K	Salcha River,	39.40	38	IAmb		IAmb		01 39 34.0		
	comp=Z,11nm,0.7s									
J25K	Salcha River,	39.40	38	P		P		01 39 32.0	-1.1	
	baz=274,SNR=13									
KLU	Klutina	39.42	43	IAmb		IAmb		01 39 35.3		
	comp=Z,21nm,0.8s									
KLU	Klutina	39.42	43	P		P		01 39 34.0	+0.6	
	baz=277									
PAX	Paxson	39.48	40	P		P		01 39 34.3	+0.5	
	baz=276									
Q23K	Middleton Isla	39.50	46	P		P		01 39 33.7	-0.2	
	baz=279									
BMAR	Burnt Mountain	39.62	33	P		P		01 39 35.8	+0.9	
HARP	HAARP	39.68	41	P		P		01 39 35.1	-0.3	
	baz=276									
RIDG	Independent Ri	39.69	39	P		P		01 39 34.6	-0.9	
	baz=275,SNR=6.0									
DOT	Dot Lake	40.05	39	IAmb		IAmb		01 39 39.0		
	comp=Z,8.7nm,0.7s									
SCRK	Sand Creek	40.05	39	P		P		01 39 37.2	-1.4	
SCRK				IAmb		IAmb		01 39 39.0		
	comp=Z,9.5nm,0.7s									
SCRK	Sand Creek	40.05	39	P		P		01 39 37.8	-0.8	
	baz=276,SNR=18									
J26L	Joseph Creek	40.19	38	P		P		01 39 38.8	-0.9	
	baz=275,SNR=7.8									
L26K	Log Cabin Wild	40.44	40	IAmb		IAmb		01 39 44.1		
	comp=Z,9.5nm,0.7s									
L26K	Log Cabin Wild	40.44	40	P		P		01 39 42.6	+1.0	
	baz=277,SNR=6.3									
VRDI	Verde Repeater	40.64	43	P		P		01 39 43.8	+0.3	
VRDI				IAmb		IAmb		01 39 45.6		
	comp=Z,16nm,0.9s									
MCARA	McCarthy VSAT	40.82	43	P		P		01 39 45.5	+0.7	
	baz=279									
L27K	Beaver Creek,	41.12	40	P		P		01 39 48.2	+1.0	
L27K				IAmb		IAmb		01 39 49.5		
	comp=Z,22nm,0.8s									
L27K	Beaver Creek,	41.12	40	P		P		01 39 48.5	+1.2	
	baz=278,SNR=22									
BCAR	Beaver Creek A	41.14	40	P		P		01 39 48.4	+0.9	
EGAK	Eagle	41.19	37	IAmb		IAmb		01 39 48.5		
	comp=Z,20nm,0.8s									
EGAK	Eagle	41.19	37	P		P		01 39 47.5	-0.3	
	baz=277,SNR=13									
M27K	Edge Creek, AK	41.20	41	P		P		01 39 48.9	+0.8	
	baz=279									
ZALV	Zalesovo Beam	41.42	306	P		P		01 39 48.2	-1.5	
	comp=Z,2.1nm,0.4s,baz=76,slow=6.9,SNR=8.6									
ZALV				PcP		PcP		01 41 46.1	+0.5	
	comp=Z,6.7nm,0.7s,baz=73,slow=3.2,SNR=17									
ZALV				ScP		ScP		01 45 24.7	-0.7	
	comp=Z,1.0nm,0.6s,baz=65,slow=3.9,SNR=4.8									
ZALV	Zalesovo Beam	41.42	306	P		P		01 39 47.8	-1.9	
BARN	Barnard Glacie	41.53	43	IAmb		IAmb		01 39 52.8		
	comp=Z,25nm,0.9s									
BVCY	Beaver Creek	41.66	41	P		P		01 39 52.7	+1.0	
	baz=280,SNR=12									
CTG	Chitna Glacier	41.70	43	P		P		01 39 52.9	+0.7	
	baz=281,SNR=6.3									
GOMU	GeErMu	41.94	277	P		P		01 39 55.3	+0.6	
GOMU				PP		PP		01 41 33.8	+0.1	
GOMU				S		S		01 46 04.3	-0.9	
GOMU				pmax		pmax				
	comp=Z,20nm,0.9s									
GOMU				pmax		pmax				
	comp=Z,110nm,6.6s									
GOMU				LR		LR				
	comp=Z,66nm,15.9s									
GOMU				LR		LR				
	comp=Z,84nm,10.3s									
GOMU				LR		LR				
	comp=Z,130nm,12.4s									
YUK3	Moose Creek	41.96	42	P		P		01 39 54.9	+0.6	
	baz=281,SNR=6.9									
DAWY	Dawson	42.05	38	P		P		01 39 55.1	+0.2	
DAWY	Dawson	42.05	38	P		P		01 39 55.0	+0.2	
	baz=279									
I29M	Ogilvie Camp,	42.31	36	IAmb		IAmb		01 39 58.4		
	comp=Z,22nm,0.8s									
I29M	Ogilvie Camp,	42.31	36	P		P		01 39 57.3	+0.4	
	baz=279,SNR=16									
PZH	PanZhiHua	42.66	260	P		P		01 40 01.5	+1.2	
PZH				pmax		pmax				
	comp=Z,8.0nm,0.9s									
PZH				pmax		pmax				
	comp=Z,110nm,5.6s									
EPYK	Eagle Plains	42.80	35	IAmb		IAmb		01 40 02.6		
	comp=Z,30nm,1.1s									
EPYK	Eagle Plains	42.80	35	P		P		01 40 01.8	+0.9	
	baz=279,SNR=7.6									
KMI	Kunming	42.86	258	⇑P		P		01 40 03.5	+1.4	
KMI				pmax		pmax				
	comp=Z,12nm,1.4s									
YUK4	Talbot Arm	42.90	42	P		P		01 40 02.4	+0.5	
	baz=283									
WMQ	Urumqi	43.23	291	*e*P		P		01 40 07.5	+2.9	
WMQ				pP		pwP		01 40 31.8	-0.9	
WMQ				pmax		pmax				
	comp=Z,30nm,0.7s									
WMQ				LR		LR				
	comp=Z,150nm,20.9s									
M30M	Minto, Yukon	43.48	40	P		P		01 40 07.7	+1.3	
M30M	Minto, Yukon	43.48	40	P		P		01 40 07.7	+1.3	
	baz=283,SNR=7.0									
HYT	Haines Junctio	43.56	43	P		P		01 40 08.4	+1.3	
	baz=284,SNR=14									
INK	Inuvik	43.71	32	P		P		01 40 08.5	+0.5	
	comp=Z,7.8nm,0.5s,baz=290,slow=7.9,SNR=35									
INK	Inuvik	43.71	32	P		P		01 40 08.0	0.0	
INK				IAmb		IAmb		01 40 09.5		
	comp=Z,13nm,0.9s									
INK	Inuvik	43.71	32	P		P		01 40 08.6	+0.5	
	baz=280,SNR=21									
N31M	Braeburn, Yuko	44.20	41	IAmb		IAmb		01 40 14.9		
	comp=Z,24nm,0.9s									
N31M	Braeburn, Yuko	44.20	41	P		P		01 40 13.7	+1.5	
	baz=285,SNR=7.5									
M31M	Drury Creek, Y	44.66	40	IAmb		IAmb		01 40 18.4		
	comp=Z,16nm,0.9s									
M31M	Drury Creek, Y	44.66	40	P		P		01 40 16.9	+1.1	
	baz=285,SNR=11									
WHY	Whitehorse	44.85	42	P		P		01 40 18.8	+1.4	
WHY	Whitehorse	44.85	42	P		P		01 40 18.4	+1.0	
	baz=286									
SKAG	Skagway	44.97	44	P		P		01 40 19.1	+0.9	
	baz=287									
MK31	Makanchi Array	45.44	297	*i* P		P		01 40 20.9	-1.3	
MK31	Makanchi Array	45.44	297	P		P		01 40 20.7	-1.5	
MKAR	Makanchi Array	45.44	297	P		P		01 40 21.4	-0.7	
	comp=Z,3.5nm,0.6s,baz=76,slow=8.2,SNR=32									
MKAR				PcP		PcP		01 42 00.2	+0.8	
	comp=Z,3.3nm,0.6s,baz=68,slow=3.9,SNR=5.9									
MKAR				ScP		ScP		01 45 42.2	+0.3	
	comp=Z,1.1nm,0.7s,baz=57,slow=2.7,SNR=6.0									
MKAR				LR		LR		01 58 37.3		
	comp=Z,89nm,20.7s,baz=50,slow=35									
MKAR	Makanchi Array	45.44	297	P		P		01 40 20.1	-2.1	
MKAR				PcP		PcP		01 42 00.1	+0.8	
MAKZ	Makanchi	45.63	297	P		P		01 40 22.6	-1.1	
MAKZ				pmax		pmax				
	comp=Z,5.0nm,0.7s									
MAKZ	Makanchi	45.63	297	P		P		01 40 22.6	-1.1	
A36M	Sachs Harbour	45.76	26	IAmb		IAmb		01 40 25.4		
	comp=Z,15nm,0.7s									
A36M	Sachs Harbour	45.76	26	P		P		01 40 24.5	+0.2	
	baz=283,SNR=23									
P33M	Teslin, Yukon	45.96	43	IAmb		IAmb		01 40 28.5		
	comp=Z,19nm,1.1s									
P33M	Teslin, Yukon	45.96	43	P		P		01 40 27.3	+1.2	
	baz=288,SNR=9.1									
KURK	Kurchatov	46.09	303	P		P		01 40 25.4	-1.7	
KURK				pmax		pmax				
	comp=Z,10.0nm,0.6s									
KURK	Kurchatov	46.09	303	P		P		01 40 25.4	-1.7	
KURK				IAmb		IAmb		01 40 26.6		
	comp=Z,10nm,0.6s									
KURK	Kurchatov	46.09	303	*e*P		P		01 40 25.4	-1.7	
C36M	Paulatuk	46.82	29	P		P		01 40 32.8	+0.2	
	baz=287,SNR=39									
WRAK	Wrangell Islan	47.48	47	P		P		01 40 39.0	+1.1	
	baz=292									
TGTN	Hyland Airport	47.63	40	P		P		01 40 40.1	+1.1	
	baz=290,SNR=5.3									
CHTO	Chiang Mai	49.71	255	P		P		01 40 56.0	+0.6	
CHTO				pmax		pmax				
	comp=Z,18nm,0.9s									
CHTO	Chiang Mai	49.71	255	P		P		01 40 56.0	+0.6	
BRVK	Borovoye	49.84	309	P		P		01 40 54.7	-1.3	
BRVK								01 42 15.2		
BRVK				pmax		pmax				
	comp=Z,3.0nm,0.7s									
BRVK	Borovoye	49.84	309	P		P		01 40 54.7	-1.3	
BRVK				PcP		PcP		01 42 15.2	+0.3	
BRVK	Borovoye	49.84	309	*e*P		P		01 40 54.7	-1.3	
CM31	Chiang Mai Arr	49.96	254	P		P		01 40 59.0	+1.6	
CM31				IAmb		IAmb		01 40 59.9		
	comp=Z,11nm,0.8s									
CMAR	Chiang Mai Arr	49.96	254	P		P		01 40 58.4	+1.1	
	comp=Z,6.5nm,0.5s,baz=40,slow=7.1,SNR=25									
CMAR	Chiang Mai Arr	49.96	254	P		P		01 40 57.9	+0.6	
TAPN	Taplejung	51.92	272	*e*P		P		01 41 13.3	+1.0	
	comp=Z,39nm,0.6s									
AAK	Ala-Archa	52.29	295	LR		LR		02 03 12.0		
	comp=Z,79nm,20.3s,baz=40,slow=36									
AAK	Ala-Archa	52.29	295	P		P		01 41 14.3	-0.4	
AAK				pmax		pmax				
	comp=Z,5.0nm,1.3s									
AAK	Ala-Archa	52.29	295	P		P		01 41 14.3	-0.4	
AAK	Ala-Archa	52.29	295	*e*P		P		01 41 14.3	-0.4	
ODAN	Odare	52.45	272	*e*P		P		01 41 17.1	+0.9	
	comp=Z,22nm,0.5s									
RES	Resolute Bay	52.52	18	IAmb		IAmb		01 41 16.6		
	comp=Z,8.6nm,0.8s									
JIRN	Jiri	52.80	273	*e*P		P		01 41 19.9	+1.0	
	comp=Z,126nm,0.6s									
GUN	Gumba	52.86	274	*e*P		P		01 41 20.0	+0.7	
	comp=Z,73nm,0.5s									
RAMN	Ramite	52.95	272	*e*P		P		01 41 20.6	+0.8	
	comp=Z,77nm,0.4s									
KSH	Kashi	52.98	291	P		P		01 41 24.0	+4.2	
KSH				sP		sP		01 41 59.0	+1.9	
KSH				PcP		PcP		01 42 27.5	+0.4	
KSH				pmax		pmax				
	comp=Z,5.0nm,0.6s									
SVE	Sverdlovsk	53.07	317	*e*P		P		01 41 19.4	-0.6	
SVE				pmax		pmax				
	comp=Z,21nm,0.8s									
SVE	Sverdlovsk	53.07	317	*e*P		P		01 41 19.4	-0.6	
KKN	Kakani	53.35	274	*e*P		P		01 41 24.2	+1.4	
PKI	Pulchoki	53.40	274	*e*P		P		01 41 23.8	+0.6	
	comp=Z,29nm,0.5s									
PKIN	Phulchoki	53.40	274	*e*P		P		01 41 23.7	+0.5	
	comp=Z,33nm,0.5s									
DMN	Daman	53.59	274	*e*P		P		01 41 25.6	+1.1	
	comp=Z,85nm,0.8s									
GKN	Gorkha	53.67	275	*e*P		P		01 41 25.9	+0.9	
	comp=Z,98nm,0.4s									
DANN	D

baz=306
C09A Chrisman Ranch 59.21 52 IAmb IAmb 01 42 05.1
comp=Z,7.5nm,0.6s
L02E Cave Junction 59.40 60 P **P** **01 42 06.1 +0.9**
baz=306
I05D Terrebonne, OR 59.48 56 P **P** **01 42 06.5 +0.8**
baz=306
NEW Newport 59.56 51 LR LR 02 08 40.3
comp=Z,29nm,18.9s,baz=302,slow=37
NEW Newport 59.56 51 IAmb IAmb 01 42 07.8
comp=Z,12nm,1.1s
NEW Newport 59.56 51 P **P** **01 42 06.6 +0.3**
baz=306,SNR=7.5
J04D Umpqua Nationa 59.66 58 P **P** **01 42 08.0 +0.7**
baz=306
COEN Coen 59.69 188 P **P** **01 42 09.0 +1.6**
COEN IAmb IAmb 01 42 10.4
comp=Z,14nm,0.9s
KLMR Klimovskoe 59.83 328 *e*P **P** **01 42 05.7 -2.1**
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 59.83 328 *e*P **P** **01 42 05.7 -2.1**
KLMR AMP 01 42 08.8
comp=Z,10.0nm,1.2s
L04D Klamath Falls 60.15 59 P **P** **01 42 11.8 +1.3**
baz=306,SNR=8.4
J05D Fort Rock, OR 60.16 57 P **P** **01 42 12.2 +1.6**
baz=306,SNR=7.5
YBH Yreka Blue Hor 60.19 60 P **P** **01 42 11.7 +1.0**
YBH pmax pmax
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 60.19 60 P **P** **01 42 11.7 +1.0**
YBH IAmb IAmb 01 42 13.4
comp=Z,7.9nm,0.7s
G08A Pilot Rock 60.29 54 IAmb IAmb 01 42 13.3
comp=Z,6.9nm,1.1s
M02C Callahan 60.31 60 P **P** **01 42 13.0 +1.5**
baz=307
KBL Kabul 60.37 290 P **P** **01 42 10.9 -1.3**
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 60.37 290 P **P** **01 42 10.9 -1.3**
KBL IAmb IAmb 01 42 12.8
comp=Z,8.6nm,0.7s
N02D Trinity Center 60.64 60 P **P** **01 42 15.4 +1.6**
baz=307,SNR=6.0
M04C Macdoel 60.69 59 P **P** **01 42 15.5 +1.3**
baz=307,SNR=6.4
K05A Summer Lake 60.69 58 P **P** **01 42 14.9 +0.7**
K05A PcP **PcP** **01 42 59.1 +1.8**
MTN Manton Dam 60.69 201 P **P** **01 42 15.4 +1.2**
MTN IAmb IAmb 01 42 16.6
comp=Z,11nm,0.9s
I07A Izee 60.70 56 P **P** **01 42 14.9 +0.8**
WALA Waterton Lakes 60.81 49 IAmb IAmb 01 42 16.3
comp=Z,11nm,0.7s
O02D Mt. Diablo Mer 61.07 61 P **P** **01 42 18.0 +1.3**
baz=307,SNR=5.0
JTMT Jette 61.41 50 IAmb IAmb 01 42 20.4
comp=Z,7.3nm,0.6s
MOD Modoc Plateau 61.53 58 P **P** **01 42 20.1 +0.2**
O03E Paynes Creek 61.60 60 P **P** **01 42 21.0 +0.7**
baz=308,SNR=9.6
J08A Circle Bar Ran 61.73 56 IAmb IAmb 01 42 23.5
comp=Z,19nm,1.1s
MSO Missoula 62.15 51 P **P** **01 42 23.9 -0.1**
MSO IAmb IAmb 01 42 25.6
comp=Z,19nm,1.2s
MSO Missoula 62.15 51 P **P** **01 42 24.7 +0.8**
baz=308,SNR=14
WVOR Wild Horse Val 62.20 57 IAmb IAmb 01 42 26.4
comp=Z,15nm,0.9s
ORV Oroville 62.23 61 IAmb IAmb 01 42 25.8
comp=Z,8.3nm,0.8s
BEKR Beckworth 62.74 60 IAmb IAmb 01 42 29.8
comp=Z,18nm,0.9s
FFC Flin Flon 62.95 38 P **P** **01 42 28.9 0.0**
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 62.95 38 P **P** **01 42 28.9 0.0**
FFC IAmb IAmb 01 42 30.7
comp=Z,16nm,0.9s
FCC Fort Churchill 63.33 32 P **P** **01 42 30.8 -0.6**
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 63.33 32 P **P** **01 42 30.8 -0.6**
PAHR Pah Rah Range 63.43 60 IAmb IAmb 01 42 34.4
comp=Z,20nm,1.2s
VCNR Virginia City 63.52 60 P **P** **01 42 33.9 +0.7**
VCNR IAmb IAmb 01 42 35.3
comp=Z,14nm,0.8s
EGMT Eagleton 63.62 47 P **P** **01 42 34.0 +0.4**
baz=310
PNTR Pine Nut 63.68 60 IAmb IAmb 01 42 36.5
comp=Z,17nm,0.8s
CMB Columbia Colle 63.86 62 IAmb IAmb 01 42 37.2
comp=Z,7.3nm,0.8s
HLID Hailey 63.92 54 P **P** **01 42 36.8 +1.0**
baz=309,SNR=7.2
YERR Yerington 63.97 60 IAmb IAmb 01 42 38.2
comp=Z,22nm,1.1s
FINES FINESS Array B 64.01 334 P **P** **01 42 34.6 -1.1**
comp=Z,5.1nm,0.6s,baz=31,slow=8.6,SNR=46
BOZ Bozeman (W) 64.17 50 IAmb IAmb 01 42 39.2
comp=Z,12nm,0.8s
BOZ Bozeman (W) 64.17 50 P **P** **01 42 38.3 +0.9**
baz=310,SNR=26
BMN Battle Mountai 64.27 58 P **P** **01 42 39.3 +1.2**
BMN pmax pmax
comp=Z,15nm,0.8s
BMN Battle Mountai 64.27 58 P **P** **01 42 39.3 +1.2**
BMN IAmb IAmb 01 42 40.2
comp=Z,15nm,0.8s
KVN Kaiserville 64.61 59 IAmb IAmb 01 42 42.4
comp=Z,18nm,0.8s
RYN Ryan 64.62 60 IAmb IAmb 01 42 42.4
comp=Z,13nm,0.7s
NVAR Mina Array Bea 64.88 60 P **P** **01 42 43.3 +1.2**
comp=Z,15nm,0.7s,baz=297,slow=7.1,SNR=82
OBN Obninsk 64.89 324 *e*P **P** **01 42 40.0 -1.5**
OBN *e**PP **pP** **01 43 06.3 -1.4**
OBN *e* 01 43 12.6
OBN *e**SP **sP** **01 43 19.6 +0.2**
OBN *e* 01 45 03.9
OBN *e*PPP PPP 01 46 40.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,56nm,16.0s
OBN Obninsk 64.89 324 *e*P **P** **01 42 39.1 -2.4**
NV11 Mina Array Sit 64.97 60 IAmb IAmb 01 42 44.7
comp=Z,10nm,0.9s
YMR Madison River 65.13 51 IAmb IAmb 01 42 45.8
comp=Z,6.5nm,0.7s
GEYT Alibeck 65.21 299 P **P** **01 42 43.8 -0.3**
comp=Z,3.8nm,0.5s,baz=75,slow=1.7,SNR=13
ELK Elko 65.24 56 P **P** **01 42 45.1 +0.6**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 65.24 56 P **P** **01 42 45.1 +0.6**
YNR Norris Junctio 65.26 51 IAmb IAmb 01 42 48.4
comp=Z,12nm,1.2s
YFT Old Faithful 65.34 51 IAmb IAmb 01 42 48.7
comp=Z,13nm,1.2s
VRH Novokhopyorsk 65.36 319 *e*P **P** **01 42 42.5 -2.2**
VRH pmax pmax
comp=Z,6.0nm,0.8s
H17A Grant Village 65.52 51 IAmb IAmb 01 42 49.8
comp=Z,11nm,1.0s
H17A Grant Village 65.52 51 P **P** **01 42 48.6 +2.4**
baz=311,SNR=9.2
RAF Rauma 65.65 335 *e*P **P** **01 42 45.5 -0.8**
LPSR Galich'ya Gora 65.65 321 *e*P **P** **01 42 45.3 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MOOW Moose Ponds 65.85 52 IAmb IAmb 01 42 50.8
comp=Z,14nm,1.2s
TPAW Teton Pass 65.90 52 IAmb IAmb 01 42 51.4
comp=Z,17nm,0.8s
LOHW Long Hollow 66.02 52 IAmb IAmb 01 42 51.9
comp=Z,21nm,1.5s
SNOW Snow King Moun 66.03 52 IAmb IAmb 01 42 52.1
comp=Z,17nm,1.1s
REDW Red Top Meadow 66.04 52 P **P** **01 42 50.4 +0.9**
REDW IAmb IAmb 01 42 52.0
comp=Z,13nm,1.0s
DGMT Dagmar 66.12 44 P **P** **01 42 50.1 +0.4**
baz=313,SNR=10
VORR Voronezh 66.18 320 *e*P **P** **01 42 50.2 +0.3**
VORR pmax pmax
comp=Z,20nm,0.4s
CWC Cottonwood Cre 66.29 62 P **P** **01 42 51.9 +0.7**
baz=310
LAO LASA Array 66.31 47 P **P** **01 42 51.9 +0.9**
baz=312
GRAC Grapevine Rang 66.37 61 P **P** **01 42 52.7 +1.2**
baz=310,SNR=12
ISA Isabella, Lake 66.55 63 P **P** **01 42 52.8 +0.1**
baz=310,SNR=5.0
R11A Troy Canyon, C 66.58 59 IAmb IAmb 01 42 54.7
comp=Z,9.8nm,0.9s
R11A Troy Canyon, C 66.58 59 P **P** **01 42 53.7 +0.8**
baz=311,SNR=19
VORD Divnogorie 66.63 320 *e*P **P** **01 42 52.0 -0.8**
VORD pmax pmax
comp=Z,7.0nm,0.5s
WB0 Warramunga Arr 66.67 196 IAmb IAmb 01 42 55.3
comp=Z,10nm,0.7s
FRB Frobisher Bay 66.74 18 LR LR 02 16 08.4
comp=Z,46nm,18.2s,baz=148,slow=40
HWUT Hardware Ranch 66.79 54 IAmb IAmb 01 42 55.9
comp=Z,7.3nm,0.7s
WR0 Warramunga Arr 66.83 196 IAmb IAmb 01 42 56.3
comp=Z,6.1nm,0.7s
WRAB Tennant Creek 66.84 196 *i* P **P** **01 42 51.7 -2.7**
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WB2 Warramunga Arr 66.85 196 P **P** **01 42 55.0 +0.6**
WB2 IAmb IAmb 01 42 56.5
comp=Z,8.8nm,0.8s
AAL Aland 66.85 335 *e*P **P** **01 42 52.2 -1.8**
WRA Warramunga Arr 66.85 196 P **P** **01 42 55.4 +0.9**
comp=Z,6.3nm,0.7s,baz=15,slow=6.8,SNR=53
MPMC Manual Prospec 66.90 62 P **P** **01 42 56.0 +0.9**
baz=311,SNR=14
S11A Rachel 66.93 59 P **P** **01 42 55.7 +0.5**
DUG Dugway, Tooele 67.00 56 IAmb IAmb 01 42 57.7
comp=Z,14nm,1.0s
DUG Dugway, Tooele 67.00 56 P **P** **01 42 56.7 +1.1**
baz=311,SNR=16
FURC Furnace Creek, 67.02 61 P **P** **01 42 56.8 +1.2**
baz=311,SNR=11
TPNV Topopah Spring 67.08 60 IAmb IAmb 01 42 58.1
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 67.08 60 P **P** **01 42 57.1 +0.9**
baz=311,SNR=14
BW06 Boulder Array 67.15 52 IAmb IAmb 01 42 58.0
comp=Z,12nm,0.7s
BW06 Boulder Array 67.15 52 P **P** **01 42 57.2 +0.6**
baz=312,SNR=21
PD31 Pinedale Array 67.15 52 IAmb IAmb 01 42 58.0
comp=Z,10nm,0.7s
PDAR Pinedale Array 67.15 52 P **P** **01 42 57.1 +0.5**
comp=Z,9.4nm,0.6s,baz=274,slow=1.5,SNR=114
LRMC Laurel Mtn Rad 67.16 62 P **P** **01 42 57.3 +0.7**
baz=311
CCAC Calif City Air 67.16 63 IAmb IAmb 01 42 58.2
comp=Z,14nm,0.8s
EDW2 Edwards Air Fo 67.35 63 P **P** **01 42 58.7 +0.9**
baz=311,SNR=8.8
PRN Pahroc Range 67.51 59 P **P** **01 42 59.7 +0.9**
JLU Jordanelle 67.52 55 IAmb IAmb 01 43 01.0
comp=Z,14nm,1.4s
DECC Green Verdugo 67.55 64 P **P** **01 42 59.6 +0.6**
baz=311
NLU North Lily Min 67.59 55 IAmb IAmb 01 43 01.3
comp=Z,9.5nm,0.9s
GSC Goldstone, Bar 67.81 62 IAmb IAmb 01 43 02.4
comp=Z,8.7nm,0.8s
GSC Goldstone, Bar 67.81 62 P **P** **01 43 01.5 +0.7**
baz=311,SNR=6.2
BFSC Mount Baldy Ra 67.98 63 P **P** **01 43 02.6 +0.8**
baz=311
SHPR Sheep Range 68.03 60 IAmb IAmb 01 43 04.4
comp=Z,9.5nm,0.9s
HEC Hector,Ludlow 68.42 62 P **P** **01 43 05.4 +0.9**
baz=312,SNR=8.4
NB2 NORSAR Subarra 68.47 340 P **P** **01 43 02.2 -2.1**
comp=Z,1.4nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 68.47 340 P **P** **01 43 02.3 -2.1**
comp=Z,1.5nm,0.5s,baz=26,slow=6.5,SNR=14
NOA LR LR 02 17 23.0
comp=Z,36nm,18.8s,baz=50,slow=40
MSU Marysvale 68.48 57 P **P** **01 43 05.8 +0.8**
MSU Marysvale 68.48 57 P **P** **01 43 05.8 +0.8**
IDID Didziasalis 68.52 329 *e*P **P** **01 43 03.4 -1.2**
HFS Hagfors 68.63 338 LR LR 02 17 25.5
comp=Z,43nm,19.5s,baz=18,slow=40
IIGN Ignalina 68.68 329 *e*P **P** **01 43 04.2 -1.4**
P17A Butcher Ranch, 68.68 55 P **P** **01 43 06.8 +0.7**
P17A IAmb IAmb 01 43 08.1
comp=Z,13nm,0.9s
ULM Lac du Bonnet 68.75 39 P **P** **01 43 05.5 -0.7**
comp=Z,5.8nm,0.6s,baz=315,slow=6.0,SNR=8.2
ULM Lac du Bonnet 68.75 39 P **P** **01 43 05.2 -0.9**
MDND Maddock 68.77 43 P **P** **01 43 07.0 +0.6**
baz=315
LCMT Little Creek M 68.85 58 IAmb IAmb 01 43 09.4
comp=Z,12nm,0.9s
GMRC Granite Mounta 68.86 62 P **P** **01 43 08.0 +0.7**
baz=312,SNR=9.7
K22A Casper 68.88 50 IAmb IAmb 01 43 08.9
comp=Z,27nm,1.5s
K22A Casper 68.88 50 P **P** **01 43 07.5 +0.2**
baz=313
GOF Gofitskoye 68.95 313⇑ *e*P **P** **01 43 08.0 +0.5**
SRU San Rafael Swe 69.05 55 IAmb IAmb 01 43 10.1
comp=Z,23nm,0.9s
KNB Kanab 69.10 58 IAmb IAmb 01 43 11.2
comp=Z,12nm,0.9s
PFO Pinyon Flats O 69.14 63 P **P** **01 43 09.4 +0.4**
baz=312
RWWY Rawlins 69.16 51 IAmb IAmb 01 43 10.5
comp=Z,14nm,1.1s
BELC Belle Mtn. Jos 69.17 62 P **P** **01 43 09.5 +0.2**
baz=312
RSSD Black Hills 69.18 48 P **P** **01 43 08.6 -0.7**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 69.18 48 P **P** **01 43 08.6 -0.7**
RSSD IAmb IAmb 01 43 10.4
comp=Z,9.1nm,0.7s
RSSD Black Hills 69.18 48 P **P** **01 43 09.4 +0.2**
baz=314
VIKU Vikbolandet 69.19 336 *e*P **P** **01 43 07.7 -1.0**
IRM Iron Mountain 69.59 62 P **P** **01 43 12.6 +0.9**
baz=312,SNR=11
MONP2 Monument Peak 69.64 64 P **P** **01 43 12.9 +0.6**
baz=312
O20A White River Ci 69.65 53 IAmb IAmb 01 43 13.4
comp=Z,21nm,1.4s
O20A White River Ci 69.65 53 P **P** **01 43 12.5 +0.3**
baz=313,SNR=7.6
BC3 Big Chuckawall 69.74 62 P **P** **01 43 13.3 +0.6**
baz=312
KIV Kislovodsk 69.90 313 ⇑P **P** **01 43 14.2 +0.7**
KIV Kislovodsk 69.90 313 *e*P **P** **01 43 12.2 -1.3**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 69.90 313 P **P** **01 43 13.8 +0.3**
KIV IAmb IAmb 01 43 17.0
comp=Z,9.2nm,0.7s
KIV Kislovodsk 69.90 313 *e*P **P** **01 43 12.2 -1.3**
KBZ Khabaz 69.95 312 P **P** **01 43 13.8 +0.2**
comp=Z,5.1nm,0.8s,baz=51,slow=2.6,SNR=15
KBZ Khabaz 69.95 312 *e*P **P** **01 43 12.1 -1.6**
SWSC Sam W. Stewart 70.00 63 P **P** **01 43 14.9 +0.8**
baz=312
IKP In-Ko-Pah, Jac 70.00 64 P **P** **01 43 15.0 +0.7**
baz=312
ZEI Tsey 70.09 311 *e*P **P** **01 43 14.2 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
PDMCI Parker Dam,Lak 70.12 61 P **P** **01 43 15.4 +0.6**
baz=312,SNR=13
AGMN Agassiz Nation 70.18 40 P **P** **01 43 14.5 -0.6**
baz=317,SNR=5.5
BLYC Blythe 70.25 62 IAmb IAmb 01 43 17.6
comp=Z,15nm,0.8s
N23A Red Feather La 70.40 51 IAmb IAmb 01 43 18.8
comp=Z,22nm,1.4s
N23A Red Feather La 70.40 51 P **P** **01 43 17.6 +0.8**
baz=314,SNR=6.7
GLA Glamis 70.53 63 P **P** **01 43 18.5 +1.1**
baz=312
ASAR Alice Springs 70.56 196 P **P** **01 43 19.4 +1.9**
comp=Z,5.6nm,0.7s,baz=9.5,slow=5.4,SNR=59
ASAR Alice Springs 70.56 196 **P** **01 43 19.1 +1.6**
PV15 Paradox Valley 70.74 55 IAmb IAmb 01 43 20.9
comp=Z,12nm,0.7s
WUAZ Wupatki 70.97 59 P **P** **01 43 20.9 +0.7**
baz=313
SMCO Snowmass 71.02 53 IAmb IAmb 01 43 22.3
comp=Z,8.7nm,0.7s
Y14A Wickenburg 71.06 61 IAmb IAmb 01 43 22.6
comp=Z,13nm,0.8s
B35A Bob, Littlefor 71.09 39 IAmb IAmb 01 43 20.8
comp=Z,11nm,0.9s
AKASG Malin Array Be 71.14 325 P **P** **01 43 19.5 -1.3**
comp=Z,2.1nm,0.3s,baz=39,slow=6.2,SNR=24
AKASG LR LR 02 17 19.0
comp=Z,51nm,18.3s,baz=25,slow=38
AKH Akhalkalaki 71.27 310 ⇑P **P** **01 43 23.6 +1.7**
ISCO Idaho Springs 71.34 52 P **P** **01 43 23.5 +0.9**
baz=314,SNR=10
MVCO Mesa Verde 71.51 56 P **P** **01 43 23.8 +0.2**
MVCO IAmb IAmb 01 43 25.2
comp=Z,14nm,0.8s
MVCO Mesa Verde 71.51 56 P **P** **01 43 24.2 +0.7**
baz=314,SNR=7.3
SUSD Miller 71.53 45 P **P** **01 43 22.9 -0.4**
baz=317
X16A Lo Mia Camp, P 71.68 59 IAmb IAmb 01 43 27.4
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 72.09 54 P **P** **01 43 28.0 +0.9**
baz=314,SNR=9.4
Q24A Divide 72.18 52 P **P** **01 43 28.1 +0.4**
baz=315
EYMN Ely 72.38 38 IAmb IAmb 01 43 29.3
comp=Z,12nm,0.8s
EYMN Ely 72.38 38 P **P** **01 43 27.8 -0.5**
baz=320,SNR=8.3
OGNE Ogallala 72.47 49 P **P** **01 43 29.5 +0.4**
baz=316
214A Organ Pipe Nat 72.52 62 P **P** **01 43 30.3 +0.8**
baz=314
SDCO Great Sand Dun 72.84 53 P **P** **01 43 31.6 +0.1**
SDCO Great Sand Dun 72.84 53 P **P** **01 43 32.2 +0.7**
baz=315,SNR=7.4
ECSD EROS Data Cent 73.19 44 P **P** **01 43 33.0 -0.2**
baz=318,SNR=8.5
SORM Soroca 73.50 323 ⇓P **P** **01 43 33.8 -1.0**
TUC Tucson 73.53 61 P **P** **01 43 35.3 -0.1**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 73.53 61 P **P** **01 43 35.3 -0.1**
TUC Tucson 73.53 61 P **P** **01 43 36.3 +0.9**
baz=314
SPMN Marine on St. 73.88 41 IAmb IAmb 01 43 37.6
comp=Z,13nm,1.1s
SPMN Marine on St. 73.88 41 P **P** **01 43 36.6 -0.5**
baz=320
T25A Trinidad 73.89 53 IAmb IAmb 01 43 39.1
comp=Z,16nm,0.8s
T25A Trinidad 73.89 53 P **P** **01 43 37.8 +0.3**
baz=316,SNR=11
BGNE Belgrade 74.15 46 P **P** **01 43 38.5 -0.3**
baz=318
MILM Milestii Mici 74.26 322 ⇓P **P** **01 43 38.7 -0.6**
ANMO Albuquerque 74.27 56 P **P** **01 43 40.1 +0.3**
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 74.27 56 P **P** **01 43 40.1 +0.3**
ANMO Albuquerque 74.27 56 P **P** **01 43 40.8 +0.9**
baz=315
WSAR Wadi Sarin 74.60 287 LR LR 02 20 40.4
comp=Z,56nm,18.6s,baz=84,slow=39
UOSS Minazif 75.04 290 P **P** **01 43 43.5 -0.7**
UOSS IAmb IAmb 01 43 45.2
comp=Z,11nm,0.8s
SCHQ Schefferville 75.11 21 P **P** **01 43 44.1 0.0**
comp=Z,7.9nm,0.9s,baz=344,slow=5.6,SNR=16
BUR08 Bucovina Ar. S 75.18 325 IAmb IAmb 01 43 46.0
comp=Z,6.4nm,0.6s
121A Cookes Peak, D 75.19 59 IAmb IAmb 01 43 47.5
comp=Z,12nm,0.8s
121A Cookes Peak, D 75.19 59 P **P** **01 43 46.4 +1.3**
baz=315,SNR=8.6
BURAR Bucovina Array 75.20 325 ⇓P **P** **01 43 44.6 -0.2**
BURAR Bucovina Array 75.20 325 P **P** **01 43 44.6 -0.2**
BURAR IAmb IAmb 01 43 46.3
comp=Z,9.1nm,0.6s
TESR Tescani 75.49 323 ⇓P **P** **01 43 46.2 -0.2**
CRVS Cervenica-Dubn 75.61 328 *e*P **P** **01 43 47.8 +0.8**
CRVS Cervenica-Dubn 75.61 328 *e*P **P** **01 43 47.8 +0.8**
TRPA Tarpa 75.83 327 ⇑P **P** **01 43 48.9 +0.6**
I40A Norwalk 75.90 40 IAmb IAmb 01 43 49.0
comp=Z,12nm,0.6s
CFR Carcaliu 75.92 322 ⇓P **P** **01 43 48.7 -0.1**
ARCR ARCALIA 75.97 325 ⇓P **P** **01 43 49.9 +0.8**
TPGR Topolog 76.05 321 ⇑P **P** **01 43 49.8 +0.2**
OSTC Ostas 76.08 332 *e*P **P** **01 43 49.9 +0.2**
CHVC Chvalec 76.10 332 *e*P **P** **01 43 50.0 +0.2**
LANS Liptovska Anna 76.14 329 *e*P **P** **01 43 51.0 +0.9**
LANS pmax pmax
comp=Z,3.0nm,0.6s
LANS Liptovska Anna 76.14 329 *e*P **P** **01 43 51.0 +0.9**
DPC Dobruska-Polom 76.22 331 *e*P **P** **01 43 50.5 0.0**
DPC Dobruska-Polom 76.22 331 *e*P **P** **01 43 50.5 0.0**
MORC Moravsky Berou 76.29 330 ⇓P **P** **01 43 51.6 +0.7**
KRLC Kraliky 76.30 331 *e*P **P** **01 43 51.2 +0.2**
KRLC Kraliky 76.30 331 *e*P **P** **01 43 51.2 +0.2**
HARR Harsova 76.39 322 ⇓P **P** **01 43 52.1 +0.6**
CLL Collm 76.46 334 P **P** **01 43 51.5 -0.3**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 76.46 334 P **P** **01 43 51.5 -0.3**
CLL Collm 76.46 334 *i* P **P** **01 43 51.3 -0.5**
comp=Z,5.0nm,0.6s
I42A Draeger Farm, 76.67 39 IAmb IAmb 01 43 54.8
comp=Z,11nm,0.9s
DRGR 76.86 326 ⇓P **P** **01 43 54.2 -0.1**
VYHS Vyhne 76.91 329 *e*P **P** **01 43 55.5 +1.1**
VYHS Vyhne 76.91 329 *e*P **P** **01 43 55.5 +1.1**
VRAC Vranov 77.01 331 ⇑P **P** **01 43 54.9 -0.1**
VRAC Vranov 77.01 331 LR LR 02 21 26.3
comp=Z,31nm,18.5s,baz=21,slow=38
VOIR 77.02 324 ⇑P **P** **01 43 55.5 +0.3**
AMTX Amarillo 77.04 53 P **P** **01 43 55.9 +0.5**
baz=317
MSTX Muleshoe 77.09 54 IAmb IAmb 01 43 57.6
comp=Z,12nm,0.8s
MSTX Muleshoe 77.09 54 P **P** **01 43 56.2 +0.4**
baz=317,SNR=5.5
PRU Pruhonice 77.11 332 *e*P **P** **01 43 53.1 -2.4**
PRU Pruhonice 77.11 332 *e*P **P** **01 43 53.1 -2.4**
BNN Bunyan 77.14 313 IAmb IAmb 01 43 58.1
comp=Z,13nm,0.9s
MNTX Cornudas Mount 77.21 58 P **P** **01 43 57.2 +0.8**
baz=316,SNR=6.4
ARR Arges 77.25 324 ⇑P **P** **01 43 57.7 +1.3**
SMOL Smolenice 77.40 330 *e*P **P** **01 43 58.5 +1.4**
SMOL Smolenice 77.40 330 *e*P **P** **01 43 58.5 +1.4**
NKC Novy Kostel 77.57 334 *e*P **P** **01 43 53.9 -4.2**
NKC Novy Kostel 77.57 334 *e*P **P** **01 43 53.9 -4.2**
STKA Stephens Creek 77.59 187 P **P** **01 44 00.5 +2.4**
comp=Z,3.1nm,0.6s,baz=349,slow=7.2,SNR=11
BRTR Keskin Array B 77.59 315 P **P** **01 43 59.0 +0.5**
comp=Z,1.0nm,0.5s,baz=98,slow=4.0,SNR=7.6
BRTR LR LR 02 22 38.5
comp=Z,48nm,18.8s,baz=101,slow=39
GLMI Grayling 77.77 36 P **P** **01 43 59.1 -0.1**
GLMI Grayling 77.77 36 P **P** **01 43 59.0 -0.2**
baz=324
VLDQ Val d'Or 77.79 30 IAmb IAmb 01 43 58.7
comp=Z,13nm,1.0s
P38A Dawn 77.81 45 IAmb IAmb 01 43 59.9
comp=Z,10nm,0.6s
GZR Gura Zlata 77.99 325 ⇑P **P** **01 44 00.6 +0.1**
KHC Kasperske Hory 78.17 332 *e*P **P** **01 44 00.7 -0.8**
KHC Kasperske Hory 78.17 332 *e*P **P** **01 44 00.7 -0.8**
KHC *ex* x 01 44 23.0
T35A Sooner Cattle 78.34 49 IAmb IAmb 01 44 04.0
comp=Z,24nm,0.9s
GERES GERESS Array B 78.38 332 P **P** **01 44 02.5 -0.1**
comp=Z,0.8nm,0.4s,baz=41,slow=6.4,SNR=7.6
CONA Conrad Observa 78.44 330 *e*P **P** **01 44 02.7 -0.4**
comp=Z,1.3nm,0.4s
P40A Paris 78.61 44 IAmb IAmb 01 44 04.8
comp=Z,20nm,1.2s

FORT	**Forrest**	**78.67**	**199**	P	**P**	**01 44 06.0**	**+1.9**
FORT				IAmb	IAmb	01 44 07.1	
	comp=Z,19nm,0.8s						
WMOK	**Wichita Mounta**	**78.76**	**51**	P	**P**	**01 44 05.1**	**+0.2**
	baz=318,SNR=5.5						
HDIL	**Hopedale**	**79.12**	**42**	P	**P**	**01 44 06.4**	**-0.3**
	baz=322,SNR=5.1						
W35A	**Tecumseh**	**79.48**	**50**	IAmb	IAmb	01 44 10.0	
	comp=Z,16nm,1.0s						
TUL1	**Leonard**	**79.48**	**49**	P	**P**	**01 44 08.4**	**-0.4**
TUL1				IAmb	IAmb	01 44 09.9	
	comp=Z,9.3nm,0.7s						
TUL1	**Leonard**	**79.48**	**49**	P	**P**	**01 44 09.1**	**+0.3**
	baz=320						
P43A	**Skaggs, Pawnee**	**79.74**	**43**	IAmb	IAmb	01 44 10.7	
	comp=Z,12nm,0.8s						
SOKA	**Soboth**	**79.81**	**330**	*e*P	**P**	**01 44 10.4**	**-0.1**
	comp=Z,8.7nm,1.2s						
ABTX	**Abilene, Hawle**	**79.85**	**53**	P	**P**	**01 44 11.3**	**+0.5**
	baz=318						
A252A	**Venje**	**79.86**	**328**	*i* P	**P**	**01 44 09.9**	**-0.8**
BOVS	**Bovan**	**79.87**	**325**	⇑P	**P**	**01 44 10.2**	**-0.5**
LOBO	**Lobor**	**79.89**	**329**	*i* P	**P**	**01 44 10.4**	**-0.5**
TX32	**Lajitas Array**	**79.94**	**58**	P	**P**	**01 44 12.3**	**+0.8**
TXAR	**Lajitas Array**	**79.94**	**58**	P	**P**	**01 44 12.2**	**+0.8**
	comp=Z,17nm,0.5s,baz=297,slow=4.3,SNR=486						
KBA	**Koelnbreinsper**	**80.04**	**332**	*e*P	**P**	**01 44 12.4**	**+0.6**
	comp=Z,6.0nm,0.8s						
VTS	**Vitosha**	**80.08**	**323**	⇑P	**P**	**01 44 12.4**	**+0.3**
VTS	**Vitosha**	**80.08**	**323**	P	**P**	**01 44 11.6**	**-0.5**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VTS	**Vitosha**	**80.08**	**323**	P	**P**	**01 44 11.6**	**-0.5**
OBKA	**Obir**	**80.12**	**330**	*i* P	**P**	**01 44 11.9**	**-0.3**
	comp=Z,2.5nm,0.7s						
CCM	**Cathedral Cave**	**80.15**	**45**	P	**P**	**01 44 12.5**	**+0.1**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CCM	**Cathedral Cave**	**80.15**	**45**	P	**P**	**01 44 12.4**	**+0.1**
CCM	**Cathedral Cave**	**80.15**	**45**	P	**P**	**01 44 12.2**	**-0.2**
	baz=322						
L48A	**N Adams**	**80.19**	**38**	IAmb	IAmb	01 44 13.2	
	comp=Z,10nm,0.7s						
SFIN	**Lafayette**	**80.28**	**41**	P	**P**	**01 44 12.9**	**-0.1**
	baz=324						
MYKA	**Terra Mystica**	**80.33**	**331**	*e*P	**P**	**01 44 13.4**	**+0.2**
	comp=Z,1.2nm,0.5s						
WATA	**Walderalm**	**80.39**	**333**	*i* P	**P**	**01 44 14.1**	**+0.4**
	comp=Z,3.5nm,0.5s						
TRQ	**Mont Tremblant**	**80.43**	**30**	IAmb	IAmb	01 44 14.0	
	comp=Z,21nm,1.0s						
WTTA	**Wattenberg**	**80.44**	**333**	*i* P	**P**	**01 44 14.5**	**+0.5**
	comp=Z,9.4nm,0.8s						
N47A	**Urbana**	**80.50**	**39**	IAmb	IAmb	01 44 14.4	
	comp=Z,13nm,0.7s						
RETA	**Reutte**	**80.52**	**333**	*i* P	**P**	**01 44 15.0**	**+0.7**
	comp=Z,2.8nm,0.7s						
MOTA	**Moosalm**	**80.53**	**333**	*e*P	**P**	**01 44 14.7**	**+0.3**
	comp=Z,4.3nm,0.8s						
SQTA	**Sankt Quirin**	**80.61**	**333**	*i* P	**P**	**01 44 15.2**	**+0.4**
	comp=Z,2.9nm,0.6s						
U40A	**Yellville**	**80.67**	**47**	IAmb	IAmb	01 44 16.4	
	comp=Z,22nm,1.0s						
U40A	**Yellville**	**80.67**	**47**	P	**P**	**01 44 14.9**	**-0.3**
	baz=321,SNR=15						
RAR	**Rarotonga**	**80.74**	**133**	LR	LR	02 14 36.9	
	comp=Z,34nm,21.5s,baz=358,slow=31						
W39A	**Magazine**	**81.08**	**48**	P	**P**	**01 44 17.2**	**-0.2**
	baz=321						
O48B	**Farmland**	**81.25**	**39**	P	**P**	**01 44 17.8**	**-0.4**
	baz=325						
JCT	**Junction City**	**81.35**	**55**	P	**P**	**01 44 18.9**	**-0.1**
JCT				pmax	pmax		
	comp=Z,25nm,1.1s						
JCT	**Junction City**	**81.35**	**55**	P	**P**	**01 44 18.9**	**-0.1**
JCT				IAmb	IAmb	01 44 20.2	
	comp=Z,25nm,1.1s						
JCT	**Junction City**	**81.35**	**55**	P	**P**	**01 44 19.3**	**+0.3**
	baz=319,SNR=8.3						
FCAR	**Ozark Folk Cen**	**81.40**	**46**	IAmb	IAmb	01 44 19.6	
	comp=Z,15nm,1.1s						
S44A	**Carbondale**	**81.40**	**44**	IAmb	IAmb	01 44 20.0	
	comp=Z,19nm,0.8s						
SIUC	**Southern Illin**	**81.41**	**44**	IAmb	IAmb	01 44 20.5	
	comp=Z,29nm,1.2s						
DAVOX	**Davos/Dischmat**	**81.42**	**333**	LR	LR	02 23 57.8	
	comp=Z,52nm,18.7s,baz=62,slow=38						
WHTX	**Lake Whitney,**	**81.55**	**52**	P	**P**	**01 44 20.3**	**+0.4**
	baz=319						
PBMO	**Poplar Bluff**	**81.55**	**45**	IAmb	IAmb	01 44 20.5	
	comp=Z,8.8nm,0.6s						
KIJV	**Kijevo**	**81.62**	**328**	*i* P	**P**	**01 44 19.2**	**-0.9**
WHAR	**Wooly Hollow**	**81.78**	**47**	IAmb	IAmb	01 44 22.0	
	comp=Z,11nm,0.8s						
RICI	**Ricice**	**81.78**	**327**	P	**P**	**01 44 19.5**	**-1.5**
BRJN	**Brijuni**	**81.79**	**330**	*i* P	P	01 44 09.6	-11
MMAI	**Mount Meron Ar**	**81.80**	**309**	LR	LR	02 24 23.8	
	comp=Z,36nm,19.9s,baz=189,slow=38						
PDG	**Podgorica**	**81.86**	**325**	⇑P	**P**	**01 44 20.9**	**-0.4**
PDG	**Podgorica**	**81.86**	**325**	IAmb	IAmb	01 44 23.2	
	comp=Z,26nm,1.5s						
VIRC	**Vir**	**81.86**	**329**	*i* P	**P**	**01 44 19.8**	**-1.5**
W41B	**Gary Mavity, V**	**81.89**	**47**	IAmb	IAmb	01 44 23.0	
	comp=Z,11nm,0.9s						
W41B	**Gary Mavity, V**	**81.89**	**47**	P	**P**	**01 44 21.7**	**+0.1**
	baz=322,SNR=5.7						
ERPA	**Erie**	**81.90**	**35**	P	**P**	**01 44 21.2**	**-0.3**
	baz=327						
Z38A	**Mt. Pleasant**	**81.93**	**50**	IAmb	IAmb	01 44 24.2	
	comp=Z,24nm,0.8s						
P49A	**Miami Univ. Ec**	**82.03**	**40**	P	**P**	**01 44 21.8**	**-0.5**
	baz=325						
STON	**Ston**	**82.10**	**327**	*i* P	**P**	**01 44 20.7**	**-1.8**
X40A	**Basin Creek Fa**	**82.12**	**48**	P	**P**	**01 44 23.2**	**+0.4**
	baz=321						
M53A	**WI Miller and**	**82.19**	**36**	P	**P**	**01 44 22.7**	**-0.4**
	baz=327						
ACSO	**Alum Creek Sta**	**82.22**	**38**	P	**P**	**01 44 23.2**	**-0.1**
	baz=326						
LSTV	**Lastovo**	**82.49**	**327**	*i* P	**P**	**01 44 22.5**	**-2.1**
M54A	**Oil Creek Stat**	**82.55**	**35**	P	**P**	**01 44 24.4**	**-0.6**
	baz=328						
WLAR	**White Oak Lake**	**82.60**	**49**	IAmb	IAmb	01 44 27.4	
	comp=Z,24nm,0.9s						
KBN	**Korca**	**82.75**	**323**	IAmb	IAmb	01 44 26.6	
	comp=Z,17nm,1.4s						
N54A	**Moraine State**	**82.87**	**36**	P	**P**	**01 44 26.4**	**-0.2**
	baz=328						
RAYN	**Ar Rayn**	**82.93**	**296**	P	**P**	**01 44 27.2**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAYN	**Ar Rayn**	**82.93**	**296**	P	**P**	**01 44 27.2**	**-0.1**
O53A	**New Philadelph**	**82.96**	**37**	P	**P**	**01 44 26.7**	**-0.4**
	baz=327						
T47A	**Sharon Grove**	**83.00**	**43**	IAmb	IAmb	01 44 28.6	
	comp=Z,10nm,0.7s						
P52A	**Corning**	**83.08**	**38**	P	**P**	**01 44 27.0**	**-0.7**
	baz=326						
833A	**Chaparral WMA,**	**83.20**	**56**	P	**P**	**01 44 29.0**	**+0.5**
	baz=319						
NATX	**Nacogdoches**	**83.26**	**51**	P	**P**	**01 44 29.7**	**+0.9**
	baz=321						
WVT	**Waverly**	**83.34**	**44**	P	**P**	**01 44 28.6**	**-0.5**
WVT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WVT	**Waverly**	**83.34**	**44**	P	**P**	**01 44 28.6**	**-0.5**
WVT				IAmb	IAmb	01 44 30.2	
	comp=Z,8.9nm,0.8s						
WVT	**Waverly**	**83.34**	**44**	P	**P**	**01 44 29.4**	**+0.3**
	baz=324						
BINY	**Binghamton**	**83.39**	**32**	P	**P**	**01 44 28.6**	**-0.7**
	baz=330						
PPT	**Papeete**	**83.39**	**123**	LR	LR	02 15 49.8	
	comp=Z,79nm,20.2s,baz=334,slow=31						
M57A	**Sunshine Farm,**	**83.70**	**34**	IAmb	IAmb	01 44 31.9	
	comp=Z,13nm,0.8s						
NRCA	**Norcia**	**83.83**	**330**	IAmb	IAmb	01 44 35.6	
	comp=Z,16nm,1.4s						
OXF	**Oxford**	**83.85**	**46**	P	**P**	**01 44 31.8**	**0.0**
	baz=323						
SSPA	**Standing Stone**	**84.00**	**35**	P	**P**	**01 44 32.4**	**0.0**
	baz=329						
U49A	**Red Boiling Sp**	**84.00**	**42**	IAmb	IAmb	01 44 34.0	
	comp=Z,19nm,1.1s						
MCWV	**Mont Chateau**	**84.03**	**36**	P	**P**	**01 44 32.5**	**-0.1**
	baz=328						
T50A	**Nancy**	**84.03**	**41**	IAmb	IAmb	01 44 33.6	
	comp=Z,14nm,0.7s						
O56A	**Blue Knob Stat**	**84.04**	**35**	P	**P**	**01 44 32.6**	**-0.1**
	baz=328						
CLTN	**Cedars of Leba**	**84.09**	**43**	IAmb	IAmb	01 44 34.2	
	comp=Z,12nm,1.0s						
V48A	**Smith Brothers**	**84.14**	**43**	IAmb	IAmb	01 44 34.1	
	comp=Z,9.7nm,0.9s						
N59A	**State Game Lan**	**84.58**	**33**	P	**P**	**01 44 35.3**	**-0.1**
	baz=330						
EIL	**Elat**	**84.61**	**308**	LR	LR	02 28 46.4	
	comp=Z,31nm,18.1s,baz=345,slow=40						
SWET	**Sewanee**	**84.98**	**43**	IAmb	IAmb	01 44 38.2	
	comp=Z,16nm,0.8s						
TZTN	**Tazewell**	**85.01**	**41**	P	**P**	**01 44 38.0**	**+0.4**
	baz=326						
VBMS	**Vicksburg**	**85.10**	**48**	P	**P**	**01 44 39.1**	**+1.0**
	baz=322						
ITM	**Ithomi**	**85.13**	**321**	IAmb	IAmb	01 44 38.0	
	comp=Z,19nm,1.1s						
PAL	**Palisades**	**85.20**	**32**	P	**P**	**01 44 39.2**	**+0.8**
	baz=331						
V51A	**Loudon**	**85.25**	**41**	IAmb	IAmb	01 44 40.3	
	comp=Z,9.1nm,0.8s						
W50A	**Signal Mountai**	**85.29**	**42**	IAmb	IAmb	01 44 40.4	
	comp=Z,13nm,0.9s						
CPCT	**Cooper Cave**	**85.46**	**42**	IAmb	IAmb	01 44 41.2	
	comp=Z,13nm,1.0s						
SOCY	**Socotra**	**85.47**	**283**	P	**P**	**01 44 38.0**	**-2.3**
SOCY				IAmb	IAmb	01 44 40.5	
	comp=Z,15nm,1.0s						
V52A	**Sevierville**	**85.57**	**41**	IAmb	IAmb	01 44 42.0	
	comp=Z,11nm,0.8s						
Z47A	**Carrollton**	**85.57**	**45**	IAmb	IAmb	01 44 41.5	
	comp=Z,16nm,0.9s						
TKL	**Tuckaleechee C**	**85.64**	**41**	P	**P**	**01 44 39.9**	**-0.8**
TKL				pmax	pmax		
	comp=Z,12nm,0.9s						
TKL	**Tuckaleechee C**	**85.64**	**41**	P	**P**	**01 44 39.9**	**-0.8**
TKL				IAmb	IAmb	01 44 42.6	
	comp=Z,12nm,0.9s						
BLA	**Blacksburg**	**85.84**	**38**	P	**P**	**01 44 41.9**	**+0.1**
	baz=328						
LRAL	**Lakeview Retre**	**86.23**	**45**	P	**P**	**01 44 43.1**	**-0.6**
	baz=324						
CBN	**Corbin Frederi**	**86.28**	**35**	P	**P**	**01 44 43.9**	**+0.1**
	baz=329						
BG3	**Lake Jocassee**	**86.57**	**41**	IAmb	IAmb	01 44 47.1	
	comp=Z,10nm,0.9s						
KMSC	**Kings Mountain**	**87.17**	**40**	P	**P**	**01 44 48.3**	**0.0**
	baz=327						
HODGE	**Hodges**	**87.51**	**41**	IAmb	IAmb	01 44 51.7	
	comp=Z,9.9nm,1.1s						
152A	**Waverly Hall**	**87.64**	**44**	IAmb	IAmb	01 44 51.5	
	comp=Z,9.2nm,1.1s						
BRAL	**Brewton**	**87.71**	**46**	P	**P**	**01 44 51.6**	**+0.7**
	baz=324						
TIGA	**Tifton**	**89.20**	**43**	P	**P**	**01 44 58.5**	**+0.7**
	baz=326						
NHSC	**New Hope**	**89.40**	**40**	P	**P**	**01 44 59.2**	**+0.4**
	baz=328						
KEST	**Kesra**	**91.47**	**329**	P	**P**	**01 45 07.8**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=304,slow=0.5,SNR=10						
ESDC	**Sonseca Array**	**91.83**	**340**	P	**P**	**01 45 08.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=4.4,SNR=12						
MDT	**Midelt**	**98.51**	**339**	LR	LR	02 36 23.7	
	comp=Z,28nm,18.3s,baz=47,slow=39						
TORD	**Torodi Ar. Bea**	**114.77**	**326**	PKP	**PKiKP**	**01 50 41.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=29,slow=2.2,SNR=8.3						
VNDA	**Vanda**	**123.17**	**177**	PKP	**PKPdf**	**01 50 57.6**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=262,slow=4.6,SNR=4.0						
VNDA	**Vanda**	**123.17**	**177**	PKIKP	**PKPdf**	**01 50 57.5**	**+0.9**
VNDA	**Vanda**	**123.17**	**177**	PKPdf	**PKPdf**	**01 50 57.5**	**+0.9**
DBIC	**Dimbokro**	**123.18**	**330**	PKIKP	**PKPdf**	**01 50 58.5**	**-0.1**
DBIC	**Dimbokro**	**123.18**	**330**	PKPdf	**PKPdf**	**01 50 58.5**	**-0.1**
LPAZ	**La Paz**	**135.79**	**60**	PKP	**PKPdf**	**01 51 25.4**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=357,slow=5.2,SNR=4.7						
H03N2	**Juan Fernandez**	**140.98**	**89**	T	T	04 28 47.3	
	baz=306,slow=77,SNR=65						
H03N3	**Juan Fernandez**	**140.99**	**89**	T	T	04 28 48.5	
	baz=306,slow=77,SNR=75						
H03N1	**Juan Fernandez**	**140.99**	**89**	T	T	04 28 49.4	
	baz=306,slow=77,SNR=67						
AC02	**Maricunga**	**143.77**	**72**	PKPdf	PKPbc	01 51 36.1	+1.1
GO04	**Tololo Observa**	**144.76**	**78**	PKPdf	**PKPab**	**01 51 38.1**	**+0.4**
CO03	**El Pedregal**	**145.24**	**79**		**PKPbc**	**01 51 39.4**	**+0.3**
VA03	**San Esteban**	**146.46**	**82**	PKPbc	**PKPbc**	**01 51 43.1**	**+0.4**
BDFB	**Brasilia**	**146.46**	**32**	PKPbc	**PKPdf**	**01 51 43.0**	**+1.4**
	comp=Z,13nm,0.9s,baz=314,slow=1.6,SNR=18						
BDFB	**Brasilia**	**146.46**	**32**	PKP2	**PKPdf**	**01 51 42.8**	**+1.2**
BDFB	**Brasilia**	**146.46**	**32**		**PKPdf**	**01 51 42.8**	**+1.2**
MT01	**Popeta**	**146.58**	**84**	PKPdf	**PKPdf**	**01 51 42.4**	**+1.3**
BELA	**Belgrano 2**	**147.67**	**178**	PKPbc	**PKPbc**	**01 51 45.1**	**+0.5**
LC01	**Cunco**	**148.63**	**93**	PKPbc	**PKPbc**	**01 51 48.6**	**+0.3**
TROLL	**Troll, Antarti**	**149.49**	**199**	PKPbc	**PKPbc**	**01 51 50.9**	**+1.3**
PLCA	**Paso Flores**	**150.33**	**95**	PKPbc	**PKPbc**	**01 51 53.7**	**+1.3**
	comp=Z,14nm,0.7s,baz=267,slow=2.9,SNR=48						
PLCA	**Paso Flores**	**150.33**	**95**	PKIKP	**PKPbc**	**01 51 53.0**	**+0.6**
PLCA	**Paso Flores**	**150.33**	**95**	PKPbc	**PKPbc**	**01 51 53.0**	**+0.6**
CPUP	**Villa Florida**	**150.91**	**58**	PKPbc	**PKPbc**	**01 51 54.6**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=342,slow=3.3,SNR=16						
CPUP	**Villa Florida**	**150.91**	**58**	PKPbc	**PKPbc**	**01 51 54.7**	**+0.6**
SNAA	**Sanae**	**150.91**	**197**	PKPbc	**PKPbc**	**01 51 53.5**	**+0.7**
SNAA	**Sanae**	**150.91**	**197**	PKIKP	**PKPbc**	**01 51 53.6**	**+0.7**
SNAA	**Sanae**	**150.91**	**197**	PKPbc	**PKPbc**	**01 51 53.6**	**+0.7**
VNA2	**Neumayer--Watz**	**152.41**	**196**	PKPbc	**PKPbc**	**01 51 57.1**	**+0.9**
	baz=178,slow=1.0						
VNA3	**Neumayer Olymp**	**152.56**	**194**	PKPbc	**PKPbc**	**01 51 57.3**	**+0.7**
MG03	**Isla Dawson**	**153.00**	**122**	PKPbc	**PKPbc**	**01 51 57.7**	**-0.2**

*OMAN **30** 01:32:25.8±0.1, 22°.64N×62°.02E, h15km, mb4.8/4, ml3.1/8*
Error ellipse: s-maj=2.8km s-min=1.9km az=320.0
*DSN **30** 01:32:27.5±1.8, 23°.57N×62°.19E, h10km, ML3.2/4, Error ellipse: s-maj=41.8km s-min=15.5km az=19.0*

ISC 30 01:32:21.5±3.8, 22°.71N±0°.08×62°.2E±0°.2, h10km, n20, σ1998/34, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh**	**2.67**	**259**	P	**Pn**	**01 33 04.4**	**-0.2**
JLN				S	**Sn**	**01 33 36.3**	**-0.6**
WBK	**Wadi Bani Khal**	**3.01**	**269**	P	**Pn**	**01 33 10.0**	**+0.6**
	SNR=94						
WBK				S	**Sn**	**01 33 45.0**	**-0.6**
JMDO	**Jabal Madar**	**3.83**	**266**	P	**Pn**	**01 33 21.9**	**+1.3**
JMDO				S	**Sn**	**01 34 06.3**	**+0.6**
BIDO	**Bidbid**	**3.87**	**283**	P	**Pn**	**01 33 22.5**	**+1.5**
BIDO				S	**Sn**	**01 34 04.5**	**-2.0**
SMDO	**Samad**	**3.87**	**276**	P	**Pn**	**01 33 22.3**	**+1.1**
	SNR=24						
SMDO				S	**Sn**	**01 34 05.5**	**-1.3**
MHTO	**MHTO**	**4.32**	**247**	P	**Pn**	**01 33 27.4**	**+0.2**
MHTO				S	**Sn**	**01 34 16.5**	**-1.1**
HOQ	**Hoqain**	**4.61**	**282**	P	**Pn**	**01 33 32.5**	**+1.2**
	SNR=8.4						
BSY	**Bisya**	**4.65**	**271**	P	**Pn**	**01 33 33.1**	**+1.4**
	SNR=7.0						
BSY				S	**Sn**	**01 34 25.5**	**-0.4**
DQM	**DQM**	**5.17**	**239**	P	**Pn**	**01 33 38.6**	**-0.4**
UOSS	**Minazif**	**5.95**	**293**	P	**Pn**	**01 33 50.2**	**+0.5**
UOSS				S	**Sn**	**01 34 55.5**	**-2.5**
UOSS	**Minazif**	**5.95**	**293**	P	**Pn**	**01 33 49.5**	**-0.2**
HATD	**Hatta, Dubai**	**5.97**	**292**	P	**Pn**	**01 33 51.6**	**+1.6**
HATD				S	**Sn**	**01 35 00.8**	**+2.3**
HATD	**Hatta, Dubai**	**5.97**	**292**	P	**Pn**	**01 33 51.4**	**+1.4**
ASHO	**Ashiyiah**	**5.99**	**290**	P	**Pn**	**01 33 53.7**	**+3.4**
ASHO				S	**Sn**	**01 34 59.9**	**+0.9**
ASHO	**Ashiyiah**	**5.99**	**290**	P	**Pn**	**01 33 52.8**	**+2.5**
ASHO				S	**Sn**	**01 34 59.8**	**+0.8**
BANOM	**Banah**	**6.29**	**302**	P	**Pn**	**01 33 55.5**	**+1.2**
BANOM	**Banah**	**6.29**	**302**	P	**Pn**	**01 33 54.7**	**+0.4**
BANOM				S	**Sn**	**01 35 01.6**	**-4.6**
FAQ	**Al Faqa, Dubai**	**6.41**	**290**	P	**Pn**	**01 33 59.0**	**+3.0**
FAQ				S	**Sn**	**01 35 08.3**	**-1.0**
SHME	**Shamm**	**6.47**	**302**	P	**Pn**	**01 33 58.9**	**+2.0**
SHME				S	**Sn**	**01 35 05.3**	**-5.5**
SHME	**Shamm**	**6.47**	**302**	P	**Pn**	**01 33 58.0**	**+1.2**

*IDC **30** 01:32:34.1±5.8, 23°.80N×122°.45E, h0km, mb3.4/3,*
mb1 3.6/3, mb1mx3.4/40, mbtmp3.4/3, MS3.8/2, Ms1 3.8/2,
ms1mx2.7/45, Error ellipse: s-maj=397.6km s-min=28.3km az=60.0
*JMA **30** 01:32:37.3±0.2, 23°.33N×121°.45E, h34km±3km, M3.5*

*TAP **30** 01:32:40.3, 23°.47N×121°.49E, h26km, ML3.8, B*

ISC 30 01:32:40.0±0.8, 23°.48N±0°.02×121°.54E±0°.02, h30km±4km, n123, σ0994/173, mb3.3/3, 5C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.10**	**276**	⇑*i*P	**Pb**	**01 32 45.1**	**-0.3**
	baz=294						
HGSD				*e*S	**Sb**	**01 32 49.5**	**+0.4**
	baz=294						
EHY	**Hungye**	**0.20**	**277**	⇓*i*P	**Pb**	**01 32 45.6**	**-0.7**
	baz=284						
EHY				*e*S	**Sb**	**01 32 49.4**	**-1.1**
	baz=284						
EGFH	**Guangfu**	**0.21**	**332**	⇓*i*P	**Pb**	**01 32 46.2**	**-0.2**
	baz=334						
EGFH				S	**Sb**	**01 32 50.8**	**0.0**
	baz=334						
YULB	**Yu-li**	**0.24**	**248**	⇓*i*P	**Pb**	**01 32 46.2**	**-0.5**
	baz=258						
YULB				*i* S	**Sb**	**01 32 49.9**	**-1.4**
	baz=258						
EYUL	**Yuli**	**0.24**	**236**	⇓*i*P	**Pb**	**01 32 46.6**	**-0.1**
	baz=247						
EYUL				S	**Sb**	**01 32 51.0**	**-0.3**
	baz=247						
ESL	**Shilin**	**0.34**	**344**	⇓P	**Pb**	**01 32 47.7**	**-0.4**
	baz=343						
ESL				*e*S	**Sn**	**01 32 53.2**	**-1.7**
	baz=343						
FULB	**Fuli**	**0.36**	**218**	*e*P	**Pb**	**01 32 48.4**	**+0.1**
	baz=232						
FULB				*e*S	**Sb**	**01 32 54.7**	**+0.7**
	baz=232						
CHKT	**Chengkung**	**0.41**	**202**	⇓*i*P	**Pb**	**01 32 49.1**	**0.0**
	baz=191						
CHKT				*e*S	**Sb**	**01 32 55.6**	**+0.4**
	baz=191						
VWDT	**VWDT**	**0.45**	**307**	⇓*i*P	**Pb**	**01 32 49.6**	**-0.1**
	baz=311						
VWDT				S	**Sb**	**01 32 55.3**	**-1.1**
	baz=311						
HWA	**Hwalien**	**0.50**	**7**	*e*P	**Pn**	**01 32 51.0**	**-0.1**
	baz=358						
HWA				*e*S	**Sn**	**01 32 59.1**	**+0.5**
	baz=358						
YUS	**Yu-Shan**	**0.54**	**271**	⇓*i*P	**Pb**	**01 32 50.9**	**-0.5**
	baz=282						
YUS				*e*S	**Sb**	**01 32 58.0**	**-1.2**
	baz=282						
EDH	**Donghe**	**0.55**	**203**	⇑*i*P	**Pb**	**01 32 51.1**	**-0.2**
	baz=217						
EDH				S	**Sb**	**01 32 59.0**	**+0.1**
	baz=217						
ELDTW	**Lidau**	**0.56**	**239**	P	**Pb**	**01 32 50.3**	**-1.2**
	baz=246						
ELDTW				*e*S	**Sb**	**01 32 56.8**	**-2.5**
	baz=246						
OWD	**Renai**	**0.57**	**325**	⇓*i*P	**Pb**	**01 32 51.4**	**-0.4**
	baz=335						
OWD				*e*S	**Sb**	**01 32 58.3**	**-1.5**
	baz=335						
TWD	**Chiawan**	**0.60**	**5**	*e*P	**Pb**	**01 32 51.7**	**-0.4**
	baz=354						
TWD				*e*S	**Sn**	**01 33 02.4**	**+1.3**
	baz=354						
SSLB	**Suanglung**	**0.61**	**300**	⇓*i*P	**Pb**	**01 32 51.6**	**-0.7**
	baz=298						
SSLB				*e*S	**Sb**	**01 32 59.4**	**-1.4**
	baz=298						
WUSB	**Renai**	**0.64**	**323**	⇓*i*P	**Pn**	**01 32 52.5**	**-0.6**
	baz=332						
WUSB				*e*S	**Sb**	**01 33 00.4**	**-1.1**
	baz=332						
CHGB	**Renai**	**0.67**	**330**	⇓*i*P	**Pb**	**01 32 53.0**	**-0.5**
	baz=338						
CHGB				*e*S	**Sb**	**01 33 01.2**	**-1.2**
	baz=338						
ALS	**Alishan**	**0.67**	**273**	⇓*i*P	**Pb**	**01 32 53.2**	**-0.3**
	baz=275						
ALS				*i* S	**Sb**	**01 33 01.9**	**-0.8**
	baz=275						
ETL	**Fush Village**	**0.68**	**7**	*e*P	**Pn**	**01 32 53.8**	**+0.1**
	baz=355						
ETL				*e*S	**Sn**	**01 33 04.5**	**+1.3**
	baz=355						
LONT	**Longtian**	**0.68**	**213**	⇑*i*P	**Pb**	**01 32 52.2**	**-1.3**
	baz=214						
LONT				*e*S	**Sb**	**01 33 01.9**	**-0.7**
	baz=214						
NACB	**Ninganchiao**	**0.69**	**4**	⇓*i*P	**Pb**	**01 32 52.9**	**-0.8**
	baz=353						
NACB				*e*S	**Sn**	**01 33 04.3**	**+0.9**
	baz=353						
WHF	**Hehuan Shan**	**0.71**	**340**	⇓*i*P	**Pb**	**01 32 53.4**	**-0.8**
	baz=341						
WHF				*e*S	**Sb**	**01 33 02.8**	**-1.0**
	baz=341						
ETLH	**Xiulin Townshi**	**0.72**	**356**	*e*P	**Pb**	**01 32 53.1**	**-1.2**
	baz=356						
ETLH				*e*S	**Sb**	**01 33 02.5**	**-1.4**

baz=329
ENA Nanau 0.96 11 *e*P **Pb 01 32 57.1 -1.1**
baz=357
SGST Jiashian 0.96 246 *e*P **Pn 01 32 57.4 -0.1**
baz=247
SGST *e*S **Sb 01 33 09.8 -0.8**
baz=247
NNS Nan Shan 0.97 351 *e*P **Pn 01 32 57.7 0.0**
baz=350
NNS *e*S **Sn 01 33 09.6 -0.9**
baz=350
CHN1 Nanshi 0.97 253 P **Pn 01 32 58.2 +0.6**
baz=255
CHN1 *e*S **Sn 01 33 11.6 +1.2**
baz=255
CHN2 Minshiung 0.97 273 *e*P **Pb 01 32 58.6 +0.3**
baz=275
CHN2 *e*S **Sn 01 33 12.1 +1.6**
baz=275
EWUT Wuta 0.98 13 *e*P **Pn 01 32 57.9 +0.2**
baz=357
TWK Hsinying 0.99 258 *e*P **Pn 01 32 58.4 +0.6**
baz=260
TWK *e*S **Sn 01 33 11.6 +0.8**
baz=260
SNST Tainan City 0.99 255 *e*P **Pb 01 32 58.9 +0.3**
baz=257
SNST *e*S **Sn 01 33 12.0 +1.2**
baz=257
CHY Chiayi 1.02 271 *e*P **Pb 01 32 59.3 +0.2**
baz=273
CHY *e*S **Sn 01 33 13.8 +2.2**
baz=273
TCU Taichung 1.03 310 *e*P **Pb 01 32 59.8 +0.5**
baz=311
ECL Taimali 1.03 211 *e*P **Pn 01 32 56.5 -1.9**
baz=201
LATG Datong 1.05 360 *e*P **Pn 01 32 58.7 -0.1**
baz=357
WTK Tuku 1.07 281 *e*P **Pb 01 32 59.8 -0.2**
baz=283
WTK *e*S **Sn 01 33 13.7 +0.9**
baz=283
WCHH Zhanghua 1.07 304 *e*P **Pb 01 33 00.6 +0.6**
baz=304
WCHH *e*S **Sn 01 33 14.7 +1.8**
baz=304
SSD Sandimen 1.11 229 P **Pn 01 32 59.5 +0.1**
baz=226
TWQ1 Liyutan 1.11 321 *e*P **Pb 01 33 01.1 +0.4**
baz=321
NDT Datong Townshi 1.12 359 *e*P **Pn 01 32 59.8 +0.2**
baz=7.0
TSMG Majia 1.13 227 *e*P **Pn 01 32 59.8 +0.1**
baz=224
SCST Cishan 1.13 238 *e*P **Pn 01 33 00.6 +0.9**
baz=239
WRL Guolierlin Hig 1.14 292 *e*P **Pb 01 33 00.6 -0.6**
baz=292
CHN3 Shinhua 1.15 250 *e*P **Pb 01 33 01.4 +0.1**
baz=265
ENTT Nioudou 1.15 1 *e*P **Pb 01 33 00.9 -0.5**
baz=359
NDS Dongshan 1.16 8 *e*P **Pb 01 33 01.8 +0.3**
baz=5.0
TWC Suao 1.16 14 *e*P **Pb 01 33 01.2 -0.2**
baz=358
ICHU Yijhu 1.16 264 *e*P **Pn 01 33 00.8 +0.6**
baz=265
NSY Sanyi 1.17 323 *e*P **Pb 01 33 02.4 +0.8**
baz=322
SHHT Tainan City 1.18 247 *e*P **Pb 01 33 02.2 +0.3**
baz=265
WDJ Dajia District 1.19 317 *e*P **Pb 01 33 02.7 +0.7**
baz=316
YHNB Yeheng 1.19 353 *e*P **Pn 01 33 00.9 +0.2**
baz=2.0
MASBT Mashibuluo 1.20 224 *e*P **Pn 01 33 00.3 -0.4**
baz=217
NFF Wufeng Townshi 1.21 342 *e*P **Pb 01 33 02.2 -0.2**
baz=348
TWM1 Shoushan 1.22 238 *e*P **Pb 01 33 02.7 +0.2**
baz=239
CHN8 Yiju 1.22 264 *e*P **Pb 01 33 02.4 -0.2**
baz=265
TWE Neicheng 1.24 6 *e*P **Pb 01 33 02.7 -0.2**
baz=3.0
NSTT Nanjuang 1.24 337 *e*P **Pb 01 33 02.8 -0.1**
baz=336
NMLH Miaoli 1.25 327 *e*P **Pb 01 33 03.1 0.0**
baz=326
LIOB Emei 1.25 338 *e*P **Pb 01 33 03.3 +0.2**
baz=344
EAST Anshuo 1.26 210 *e*P **Pn 01 33 00.2 -1.5**
baz=202
FUSB Fushanzhiwuyua 1.27 2 *e*P **Pn 01 33 02.3 +0.5**
baz=359
TAWH Dawu Township 1.28 208 *e*P **Pn 01 33 00.5 -1.4**
baz=199
NWLT Wulai 1.29 359 *e*P **Pb 01 33 03.0 -0.7**
baz=8.0
SSPT Xinbi 1.33 222 *e*P **Pn 01 33 03.0 +0.5**
baz=217
SCZT Fangliau 1.39 218 *e*P **Pn 01 33 03.6 +0.3**
baz=209
SLIU Shizi 1.43 208 *e*P **Pn 01 33 02.5 -1.5**
baz=200
LAY Lan-yu 1.44 179 *e*P **Pn 01 33 02.7 -1.3**
baz=169
LYUB Lan-yu 1.47 178 *e*P **Pn 01 33 02.3 -2.2**
baz=168
TIPB Shuangxi 1.51 10 *e*P **Pb 01 33 06.6 -0.8**
baz=355
WLCH Liuqiu 1.55 224 *e*P **Pb 01 33 08.3 +0.2**
baz=225
NWF Wu-fen Shan 1.60 8 *e*P **Pb 01 33 07.7 -1.3**
baz=3.0
JYNG Yonagunijimaku 1.61 53 S **Sn 01 33 27.5 +1.4**
SXI1 Grass Mountain 1.64 11 *e*P **Pb 01 33 08.3 -1.3**
baz=353
YM01 YM01 1.66 1 *e*P **Pb 01 33 08.4 -1.6**
baz=356
YOJ Yonaguni jima 1.67 54 P **Pn 01 33 07.2 +0.1**
YOJ *e*S **Sn 01 33 29.2 +1.7**
YOJ Yonaguni jima 1.67 54 *e*P **Pn 01 33 08.1 +0.9**
baz=57
TWKBT Hengchun 1.67 204 *e*P **Pn 01 33 07.8 +0.6**
baz=196
TWK1 Hengchun 1.67 204 *e*P **Pn 01 33 08.5 +1.3**
baz=196
TSEB Hengchuen, Pin 1.68 201 *e*P **Pn 01 33 08.4 +1.1**
baz=195
WDGT Dungji 1.74 263 *e*P **Pn 01 33 08.6 +0.5**
baz=266
WDGT *e*S **Sn 01 33 29.0 -0.3**
baz=266
PHUB P'eng-hu 1.80 271 *e*P **Pn 01 33 09.4 +0.4**
baz=274
PHUB *e*S **Sn 01 33 30.8 -0.1**
baz=274
PNG Penghu 1.82 273 *e*P **Pn 01 33 09.7 +0.4**
baz=275
PNG *e*S **Sn 01 33 31.4 +0.1**
baz=275
VCHM Qimei 1.95 262 *e*P **Pn 01 33 11.3 +0.2**
baz=263
HATJ Hateruma jima 2.16 74 P **Pn 01 33 14.6 +0.7**
HATJ S **Sn 01 33 40.3 +0.7**
IRIF Iriomote-Funau 2.18 67 S **Sn 01 33 42.0 +1.8**
JKRS Kuro-shima 2.39 71 P **Pn 01 33 17.7 +0.7**
JKRS S **Sn 01 33 46.7 +1.4**
VWUC VWUC 2.43 309 *e*P **Pn 01 33 18.1 +0.5**
baz=308
JIJ Ishigaki jima 2.54 69 P **Pn 01 33 19.9 +0.7**
JIJ S **Sn 01 33 49.1 0.0**
JISG Ishigakijimahi 2.77 66 P **Pn 01 33 22.8 +0.5**
JISG *e*S **Sn 01 33 55.0 +0.4**
KNMB Chin-men Tao 3.04 289 *e*P **Pn 01 33 26.6 +0.6**
baz=289
JTJ Tarama 3.12 68 P **Pn 01 33 28.3 +1.2**
JTJ S **Sn 01 34 05.7 +2.4**
AXDP Jialang 3.55 294 *e*P **Pn 01 33 33.4 +0.3**
baz=294
MKAR Makanchi Array 39.06 316 P **P 01 40 05.7 +1.4**
0.3nm,0.6s,baz=107,slow=8.0,SNR=5.0
H11N1 WAKE ISLAND Hy 42.21 86 T T 02 25 34.2
baz=283,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 42.21 86 T T 02 25 34.0
baz=283,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 42.23 86 T T 02 25 34.9
baz=283,slow=75,SNR=15
H11S3 WAKE ISLAND Hy 42.32 88 T T 02 25 41.5
baz=284,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 42.33 88 T T 02 25 41.9
baz=284,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 42.34 88 T T 02 25 42.6
baz=284,slow=75,SNR=11
WRA Warramunga Arr 44.93 163 P **P 01 40 51.0 -1.3**
0.4nm,0.9s,baz=345,slow=8.6,SNR=6.4
ASAR Alice Springs 48.38 165 P **P 01 41 19.0 -0.3**
0.1nm,0.3s,baz=356,slow=14,SNR=4.5
GEYT Alibeck 55.43 301 LR LR 02 08 38.6
comp=Z,80nm,18.0s,baz=102,slow=39
GNI Garni 65.47 305 LR LR 02 14 35.2
comp=Z,65nm,20.4s,baz=44,slow=38

ASRS 30 01:33:06.1±0.3, 52°N±2°×9°8E±°, h8km, MLh3.4/7, Error ellipse: s-maj=5.0km s-min=2.5km az=20.2, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.26**	**210**	Pg	Pg	01 33 32.3	+2.0
KNGR				Sg	Sn	01 33 47.5	+0.2
MOY	**Mondy**	**1.55**	**90**	Pg	Pg	01 33 38.0	+2.1
MOY				Sg	Sg	01 33 59.0	+3.0
KZLR	**Kyzyl**	**2.52**	**272**	Pg	Pg	01 33 56.6	+2.2
KZLR				Sg	Sg	01 34 30.9	+3.9
ARDR	**Aradan**	**3.25**	**288**	Pg	Pg	01 34 08.5	+0.2
ARDR				Sg	Sg	01 34 53.4	+3.1
ZAK	**Zakamensk**	**3.29**	**112**	Pg	Pb	01 34 06.8	+1.9
ZAK				Sg	Sg	01 34 50.7	-1.2
MINR	**Mina**	**4.12**	**323**	Pg	Pg	01 34 27.9	+3.0
MINR				Sg	Sg	01 35 25.8	+7.7
DJOS	**Djoyskaya Sosn**	**4.50**	**287**	Pg	Pg	01 34 35.4	+3.1
DJOS				Sg	Sg	01 35 33.9	+3.4
CERR	**Cheremushki**	**4.50**	**288**	Pg	Pg	01 34 34.8	+2.5
CERR				Sg	Sg	01 35 31.5	+0.9
DJO	**Djoy, Khakassi**	**4.61**	**286**	Pg	Pg	01 34 35.4	+1.1
DJO				Sg	Sg	01 35 33.8	-0.1
SHRR	**Shira**	**5.75**	**302**	Sg	Sg	01 36 13.8	+3.2
LUZB	**Luzhba, Kemero**	**6.16**	**292**	Pg	Pg	01 35 03.7	-0.3
LUZB				Sg	Sg	01 36 23.1	-0.6
TASR	**Tashtagol**	**6.61**	**283**	Sg	Sg	01 36 38.0	-0.2
CUR	**Chagan-Uzun**	**6.62**	**260**	Sg	Sg	01 36 38.0	-0.5
ULGR	**Ulagan, Altay**	**6.72**	**265**	Sg	Sg	01 36 41.7	+0.1
ARTR	**Artybash**	**6.97**	**275**	Sg	Sg	01 36 49.3	-0.3

IDC 30 01:46:10.1±1.8, 3°36N×129°04E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/39, mbtmp3.7/5, Error ellipse: s-maj=100.2km s-min=21.6km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.59**	**189**	P	P	01 51 02.0	+0.3
	1.6nm,0.6s,baz=10,slow=10,SNR=10.0						
WRA	**Warramunga Arr**	**23.74**	**168**	P	P	01 51 24.3	+0.1
	0.9nm,0.3s,baz=345,slow=9.9,SNR=15						
ASAR	**Alice Springs**	**27.28**	**170**	P	P	01 51 55.9	-0.6
	0.5nm,0.4s,baz=353,slow=8.4,SNR=14						
STKA	**Stephens Creek**	**37.02**	**162**	P	P	01 53 21.1	-0.6
	0.6nm,0.4s,baz=357,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**59.18**	**324**	P	P	01 56 13.5	+0.5
	0.4nm,0.5s,baz=124,slow=8.7,SNR=9.3						

*IDC **30** 02:04:02.1±4.1, 32°.38N×76°.39E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/46, mbtmp3.5/7, ML3.3/3, Error ellipse: s-maj=86.4km s-min=31.6km az=123.0*
*NDI **30** 02:04:10.6±2.4, 32°.53N×76°.11E, h10km±10km, ML3.4*
ISC 30 02:04:06.7±0.8, 32°.68N±0°.04×76°.25E±0°.05, h14km, n14, σ2s34/20, mb3.5/3, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**0.52**	**241**	*e*P	**Pg**	**02 04 17.1**	**+0.2**
THN				*e*S	**Sg**	**02 04 22.9**	**-0.8**
JMU	**Jammu**	**1.14**	**272**	*e*P	**Pg**	**02 04 30.3**	**+1.6**
JMU				*e*S	**Sn**	**02 04 44.9**	**+1.3**
BHK	**Bhakra**	**1.27**	**174**	*e*P	**Pg**	**02 04 33.7**	**+2.5**
BHK				*ex*	x	02 04 33.9	
BHK				*e*S	**Sb**	**02 04 46.4**	**-0.2**
BHK				*e*S	**Sg**	**02 04 49.2**	**+1.6**
SMLA	**Simla**	**1.73**	**153**	*e*P	**Pg**	**02 04 41.1**	**+1.1**
SMLA				*e*S	**Sg**	**02 05 05.1**	**+2.6**
SMLA				IAML		02 05 07.6	
	comp=E,518nm,0.3s						
SMLA				IAML		02 05 07.7	
	comp=N,535nm,0.3s						
NDI	**New Delhi**	**4.07**	**168**	*ex*	**Sg**	**02 06 15.0**	**-2.5**
AJM	**Ajmer**	**6.34**	**193**	*ex*	x	02 06 56.8	
BHPL	**Bhopal**	**9.46**	**173**	*e*S	**Sn**	**02 08 04.5**	**-4.4**
BHPL				IAML		02 08 11.5	
	comp=N,111nm,0.2s						
AAK	**Ala-Archa**	**10.04**	**353**	Pn	**Pn**	**02 06 33.0**	**+2.5**
	comp=N,0.3nm,0.3s,baz=77,slow=15,SNR=2.2						
AAK				Sn	**Sn**	**02 08 23.8**	**+0.8**
	comp=N,0.3nm,0.3s,baz=216,slow=19,SNR=1.9						
MKAR	**Makanchi Array**	**14.83**	**16**	Pn	**Pn**	**02 07 36.7**	**+0.7**
	comp=N,0.3nm,0.3s,baz=200,slow=14,SNR=14						
MKAR				Sn	**Sn**	**02 10 14.4**	**-5.7**
	comp=N,0.5nm,0.3s,baz=201,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**18.00**	**5**	P	**Pn**	**02 08 15.4**	**-1.0**
	comp=N,0.0nm,0.3s,baz=192,slow=12,SNR=8.6						
BVAR	**Borovoye Array**	**20.77**	**350**	P	**P**	**02 08 48.1**	**+1.0**
	comp=N,0.8nm,0.4s,baz=186,slow=13,SNR=5.7						
ZALV	**Zalesovo Beam**	**22.12**	**14**	P	**P**	**02 09 02.3**	**+0.8**
	comp=N,0.8nm,0.5s,baz=206,slow=10,SNR=3.9						
AKTO	**Aktyubinsk**	**22.27**	**328**	P	**P**	**02 09 04.6**	**+1.3**
	comp=N,1.3nm,0.6s,baz=130,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**70.11**	**273**	P	**P**	**02 15 17.4**	**-1.5**
	comp=N,0.2nm,0.5s,baz=49,slow=5.0,SNR=4.4						

*GUC **30** 02:13:18.7±0.7, 21°.57S×68°.48W, h124km±5km, ML3.3*
*IDC **30** 02:13:19.2±1.2, 21°.57S×68°.92W, h129km±16km, mb3.1/2, mb1 3.2/3, mb1mx3.0/34, mbtmp3.3/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/13, Error ellipse: s-maj=61.8km s-min=28.5km az=89.0*
ISC 30 02:13:19.3±1.0, 21°.55S±0°.04×68°.65W±0°.09, h129km±8km, n24, σ0s81/39, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**246**	⇑*i*P	**Pn**	**02 13 39.1**	**0.0**
PB09				*e*S	**Sn**	**02 13 54.8**	**+0.7**
PB09				IAML		02 13 55.8	
	comp=N,311nm,0.2s						
PB01	**IPOC Station P**	**0.93**	**303**	⇑*i*P	**Pn**	**02 13 41.2**	**-0.4**
PB01				*e*S	**Sn**	**02 13 59.0**	**+0.4**
PB01				IAML		02 14 00.5	
	comp=N,476nm,0.3s						
LVC	**Limon Verde**	**1.08**	**193**	P	**Pn**	**02 13 42.5**	**-0.8**
	comp=N,6.1nm,0.3s,baz=11,slow=8.5,SNR=56						
LVC				S	**Sn**	**02 14 00.7**	**-0.9**
	comp=N,13nm,0.3s,baz=312,slow=9.4,SNR=51						
LVC	**Limon Verde**	**1.08**	**193**	*e*P	**Pn**	**02 13 42.4**	**-0.9**
LVC				*e*S	**Sn**	**02 14 00.6**	**-1.1**
PB07	**IPOC Station P**	**1.16**	**261**	⇑*i*P	**Pn**	**02 13 44.1**	**+0.2**
PB07				*e*S	**Sn**	**02 14 03.2**	**+0.6**
PB07				*i* S	**Sn**	**02 14 03.2**	**+0.6**
PB07				IAML		02 14 04.4	
	comp=N,609nm,0.1s						
PB02	**IPOC Station P**	**1.18**	**281**	⇑*i*P	**Pn**	**02 13 44.0**	**0.0**
PB02				*e*S	**Sn**	**02 14 03.2**	**+0.4**
PB02				IAML		02 14 04.9	
	comp=N,660nm,0.2s						
PB06	**IPOC Station P**	**1.43**	**216**	*e*P	**Pn**	**02 13 46.6**	**-0.2**
PB06				*e*S	**Sn**	**02 14 07.9**	**+0.2**
PB06				IAML		02 14 08.8	
	comp=E,294nm,0.2s						
PB08	**IPOC Station P**	**1.48**	**341**	⇑*i*P	**Pn**	**02 13 47.3**	**-0.2**
PB08				*e*S	**Sn**	**02 14 08.9**	**-0.1**
PB08				IAML		02 14 11.9	
	comp=E,212nm,0.4s						
PATCX	**Punta Patache**	**1.58**	**297**	*e*P	**Pn**	**02 13 48.4**	**+0.1**
PATCX				*e*S	**Sn**	**02 14 11.6**	**+1.1**
PATCX				IAML		02 14 13.2	
	comp=N,422nm,0.3s						
PB04	**IPOC Station P**	**1.59**	**240**	*e*P	**Pn**	**02 13 48.1**	**-0.5**
PB04				*e*S	**Sn**	**02 14 10.8**	**-0.2**
PB04				IAML		02 14 14.2	
	comp=E,184nm,0.3s						
HMBC	**Humberstone**	**1.71**	**317**	*i* P	**Pn**	**02 13 49.1**	**-0.8**
HMBC				*e*S	**Sn**	**02 14 13.1**	**-0.2**
HMBC				IAML		02 14 15.0	
	comp=N,408nm,0.5s						
TA01	**Diego Aracena**	**1.73**	**304**	*e*P	**Pn**	**02 13 49.4**	**-0.6**
TA01				*e*S	**Sn**	**02 14 13.5**	**0.0**
PB15	**IPOC Station P**	**1.82**	**205**	*e*P	**Pn**	**02 13 51.2**	**-0.1**
PB15				*e*S	**Sn**	**02 14 16.1**	**+0.4**
TA02	**Huaiquique**	**1.88**	**312**	*e*P	**Pn**	**02 13 50.9**	**-0.9**
TA02				*e*S	**Sn**	**02 14 14.8**	**-1.8**
GO01	**Chusmiza**	**1.94**	**345**	*e*P	**Pn**	**02 13 52.5**	**-0.6**
GO01				*e*S	**Sn**	**02 14 18.7**	**0.0**
GO01				IAML		02 14 21.0	
	comp=E,429nm,0.1s						
PB11	**IPOC Station P**	**2.01**	**332**	*e*P	**Pn**	**02 13 52.6**	**-1.0**
PB11				*i* S	**Sn**	**02 14 19.2**	**-0.6**
PB11				IAML		02 14 20.8	
	comp=E,418nm,0.2s						
PB16	**IPOC Station P**	**3.30**	**346**	*e*P	**Pn**	**02 14 09.9**	**-0.4**
PB12	**IPOC Station P**	**3.32**	**331**	⇓*e*P	**Pn**	**02 14 08.1**	**-2.1**
PB12				IAML		02 14 50.2	
	comp=E,67nm,0.1s						
GO02	**Mina Guanaco**	**3.70**	**193**	*e*P	**Pn**	**02 14 14.1**	**-1.3**
LPAZ	**La Paz**	**5.26**	**5**	P	**Pn**	**02 14 37.1**	**+0.6**
	comp=E,0.2nm,0.3s,baz=183,slow=7.8,SNR=4.7						
JTS	**Las Juntas de**	**35.46**	**332**	LR	LR	02 33 20.7	
	comp=E,45nm,20.8s,baz=293,slow=34						
PMSA	**Palmer Station**	**43.31**	**177**	LR	LR	02 41 13.1	
	comp=E,178nm,18.6s,baz=330,slow=39						
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**02 25 00.7**	**+1.5**
	comp=E,0.2nm,0.6s,baz=258,slow=6.4,SNR=1.7						
YKA	**Yellowknife Ar**	**91.31**	**340**	P	**P**	**02 26 09.2**	**-0.5**
	comp=E,0.2nm,0.6s,baz=132,slow=4.4,SNR=7.5						

*IDC **30** 02:17:54.6±3.1, 25°.86S×179°.10E, h550km±31km, mb3.5/7, mb1 3.7/8, mb1mx3.4/32, mbtmp4.4/8, Error ellipse: s-maj=26.2km s-min=19.8km az=65.0*
*NEIC **30** 02:18:03.3±1.4, 25°.4S±0°.2×178°.4E±0°.1, h610km±8km, mb4.3/18, Error ellipse: s-maj=23.7km s-min=15.9km az=179.0*
ISC 30 02:17:59.8±0.8, 25°.8S±0°.1×178°.8E±0°.1, h600km, n44, σ1s38/45, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**10.72**	**291**	P	**P**	**02 20 24.2**	**-1.6**
PINNC	**Pines Island,**	**10.79**	**285**	P	**P**	**02 20 24.8**	**-1.7**
OUENC	**Ouen Island, N**	**11.38**	**285**	P	**P**	**02 20 31.6**	**-0.8**
DZM	**Mont Dzumac**	**11.85**	**286**	P	**P**	**02 20 35.4**	**-1.8**
	2.0nm,0.3s,baz=88,slow=12,SNR=16						
DZM	**Mont Dzumac**	**11.85**	**286**	P	**P**	**02 20 36.4**	**-0.8**
EIDS	**Eidsvold**	**24.95**	**265**	P	**P**	**02 22 37.4**	**-0.3**
EIDS				IAmb	IAmb	02 22 58.5	
	comp=Z,5.5nm,1.2s						
CAN	**Canberra**	**27.26**	**242**	P	**P**	**02 23 00.8**	**+2.9**
CTA	**Charters Tower**	**30.41**	**274**	P	**P**	**02 23 25.4**	**+0.1**
	comp=Z,9.0nm,0.5s,baz=96,slow=10,SNR=18						
TOO	**Toolangi**	**30.51**	**239**	P	**P**	**02 23 28.5**	**+2.6**
TOO				IAmb	IAmb	02 23 28.9	
	comp=Z,4.4nm,0.7s						
STKA	**Stephens Creek**	**33.01**	**251**	P	**P**	**02 23 47.9**	**+0.7**
	comp=Z,6.1nm,0.6s,baz=98,slow=11,SNR=17						
STKA	**Stephens Creek**	**33.01**	**251**	P	**P**	**02 23 48.6**	**+1.5**
COEN	**Coen**	**35.35**	**282**	P	**P**	**02 24 06.5**	**-0.4**
COEN				IAmb	IAmb	02 24 07.3	
	comp=Z,5.3nm,0.7s						
BBOO	**Buckleboo**	**37.70**	**249**	P	**P**	**02 24 26.6**	**+0.7**
BBOO				IAmb	IAmb	02 24 27.2	
	comp=Z,9.2nm,0.8s						
AS31	**Alice Springs**	**40.65**	**263**	P	**P**	**02 24 49.9**	**+0.3**
AS31				IAmb	IAmb	02 24 51.0	
	comp=Z,6.0nm,1.3s						
ASAR	**Alice Springs**	**40.65**	**263**	P	**P**	**02 24 49.8**	**+0.1**
	comp=Z,4.3nm,0.4s,baz=90,slow=6.8,SNR=69						
ASAR				PcP	**pwP**	**02 26 36.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=121,slow=3.4,SNR=2.8						
ASAR				S	**S**	**02 30 17.1**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=101,slow=16,SNR=4.4						
ASAR	**Alice Springs**	**40.65**	**263**	P	**P**	**02 24 49.4**	**-0.3**
WR0	**Warramunga Arr**	**41.01**	**269**	P	**P**	**02 24 51.5**	**-0.9**
WR0				IAmb	IAmb	02 24 52.5	
	comp=Z,13nm,1.3s						
WB2	**Warramunga Arr**	**41.18**	**269**	P	**P**	**02 24 53.5**	**-0.4**
WRA	**Warramunga Arr**	**41.19**	**269**	P	**P**	**02 24 53.3**	**-0.6**
	comp=Z,7.7nm,0.4s,baz=104,slow=7.7,SNR=63						
WRA				ScP	**ScP**	**02 29 35.5**	**+3.7**
	comp=Z,0.4nm,0.7s,baz=103,slow=4.0,SNR=3.1						
WRA	**Warramunga Arr**	**41.19**	**269**	P	**P**	**02 24 53.4**	**-0.6**
WB0	**Warramunga Arr**	**41.20**	**269**	P	**P**	**02 24 53.5**	**-0.5**
WB0				IAmb	IAmb	02 24 54.0	
	comp=Z,10nm,0.7s						
FORT	**Forrest**	**44.63**	**251**	P	**P**	**02 25 20.6**	**+0.2**
KNRA	**Kununurra**	**47.59**	**272**	P	**P**	**02 25 42.8**	**-0.1**
KNRA				IAmb	IAmb	02 25 43.6	
	comp=Z,25nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.59**	**268**	P	**P**	**02 25 58.1**	**+0.4**
FITZ				IAmb	IAmb	02 25 59.3	
	comp=Z,9.6nm,1.1s						
VNDA	**Vanda**	**52.44**	**185**	P	**P**	**02 26 14.2**	**-3.1**
	comp=Z,0.8nm,0.4s,baz=11,slow=7.1,SNR=12						
PSA00	**Hlbara Seismi**	**53.74**	**261**	P	**P**	**02 26 27.0**	**-0.5**
MORW	**Morawa**	**55.19**	**251**	P	**P**	**02 26 38.1**	**+0.5**
MORW				IAmb	IAmb	02 27 00.0	
	comp=Z,23nm,1.4s						
QSPA	**South Pole Qui**	**64.33**	**180**	P	P	02 27 42.8	+5.3
SMY	**Shemya**	**78.26**	**357**	P	**P**	**02 29 01.0**	**+2.6**
KSRS	**Korea Array**	**78.96**	**321**	P	**P**	**02 29 02.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=144,slow=6.3,SNR=4.6						
ILAR	**Eielson Array**	**94.10**	**14**	P	**P**	**02 30 13.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=202,slow=4.5,SNR=2.1						
ILAR	**Eielson Array**	**94.10**	**14**	P	**P**	**02 30 14.8**	**+0.2**
KURBB	**Kurchatov Arra**	**115.80**	**316**	PKP	**PKiKP**	**02 35 34.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=70,slow=3.0,SNR=1.9						
BVAR	**Borovoye Array**	**121.08**	**318**	PKP	**PKiKP**	**02 35 45.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=232,slow=9.7,SNR=4.5						
FINES	**FINESS Array B**	**139.82**	**340**	PKhKP	PKPpre	02 36 12.5	
	comp=Z,2.6nm,1.0s,baz=36,slow=5.2,SNR=2.4						
NB2	**NORSAR Subarra**	**143.72**	**350**	PKP	**PKPdf**	**02 36 26.1**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**143.72**	**350**	PKP	**PKPdf**	**02 36 26.1**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=22,slow=3.8,SNR=11						
AKASG	**Malin Array Be**	**145.88**	**325**	PKPbc	**PKPbc**	**02 36 32.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=44,slow=3.9,SNR=6.2						
AKASG	**Malin Array Be**	**145.88**	**325**		**PKPab**	**02 36 32.8**	**-2.1**
EKA	**Eskdalemuir Ar**	**150.43**	**2**	PKPbc	**PKiKP**	**02 36 44.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=338,slow=2.4,SNR=8.3						
MLR	**Muntele Rosu**	**150.63**	**319**	PKPbc	**PKiKP**	**02 36 45.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=188,slow=4.7,SNR=3.9						
MLR	**Muntele Rosu**	**150.63**	**319**		**PKiKP**	**02 36 44.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**167.15**	**193**	PKPab	**PKPab**	**02 38 07.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=157,slow=4.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**167.15**	**193**		**PKPab**	**02 38 10.0**	**+3.0**

KRSC 30 02:22:42.7±0.9, 50°.19N×157°.03E, h89km±13km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.76**	**310**	P	Pn	02 23 00.9	+1.3
SKR				S	Sn	02 23 13.2	+0.9
PAU	**Pauzhetka**	**1.28**	**354**	P	Pn	02 23 07.5	+1.9
PAU				S	Sn	02 23 25.1	+2.2
KDTR	**Khodutka, Kamc**	**1.75**	**22**	P	Pn	02 23 13.6	+2.1
KDTR				S	Sn	02 23 35.7	+2.3
MIPR	**Malaya Ipel'ka**	**2.09**	**355**	P	Pn	02 23 17.1	+1.1
MTVR	**Mutnovka**	**2.41**	**17**	P	Pn	02 23 22.7	+2.4
MTVR				S

NEIC ***30*** *02:24:42.1±1.3,34.60S±0.04×71.89W±0.05,h11km±2km, Error ellipse: s-maj=7.8km s-min=2.6km az=125.0*
GUC ***30*** *02:24:42.5±0.8,34.61S×71.89W,h20km±2km,ML3.6*

ISC 30 02:24:42.1±0.9,34.60S±0.02×71.89W±0.04,h15km±7km, n42,σ0 92/65,11C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.12**	**332**	*eP*	**Pb**	**02 24 46.3**	**+0.2**
BO03				*eS*	**Sg**	**02 24 48.5**	**+0.7**
GO05	**Huala**	**0.41**	**184**	Pg	**Pg**	**02 24 50.4**	**0.0**
GO05				Sg	**Sg**	**02 24 55.6**	**-0.4**
GO05	**Huala**	**0.41**	**184**	*eP*	**Pg**	**02 24 50.4**	**0.0**
GO05				*eS*	**Sg**	**02 24 56.3**	**+0.3**
BO01	**Tunca**	**0.70**	**73**	Pg	**Pg**	**02 24 55.7**	**-0.1**
BO01				Sg	**Sg**	**02 25 04.7**	**-0.4**
BO01	**Tunca**	**0.70**	**73**	*eP*	**Pg**	**02 24 55.4**	**-0.3**
BO01				*eS*	**Sg**	**02 25 05.0**	**-0.1**
BO01				IAML		02 25 05.5	
	comp=N,4μm,0.3s						
MT01	**Popeta**	**0.91**	**36**		**Pb**	**02 24 59.1**	**-0.5**
MT01	**Popeta**	**0.91**	**36**	*eP*	**Pb**	**02 24 59.1**	**-0.5**
MT01				*eS*	**Sb**	**02 25 11.3**	**-0.2**
BO02	**Sierra Bellavi**	**0.94**	**102**		**Pb**	**02 24 59.9**	**-0.3**
BO02				Sg	**Sb**	**02 25 11.9**	**-0.6**
BO02	**Sierra Bellavi**	**0.94**	**102**	*eP*	**Pb**	**02 24 59.9**	**-0.3**
BO02				*eS*	**Sb**	**02 25 12.0**	**-0.4**
BO02				IAML		02 25 13.6	
	comp=E,5μm,0.2s						
VA05	**Santo Domingo**	**0.97**	**14**		**Pb**	**02 25 00.5**	**-0.1**
VA05	**Santo Domingo**	**0.97**	**14**	*eP*	**Pb**	**02 25 00.3**	**-0.3**
VA05				*eS*	**Sg**	**02 25 13.7**	**+0.2**
VA05				IAML		02 25 17.3	
	comp=E,3μm,0.3s						
MT09	**Talagante**	**1.11**	**43**		**Pb**	**02 25 02.9**	**-0.3**
MT09	**Talagante**	**1.11**	**43**	*eP*	**Pb**	**02 25 02.6**	**-0.5**
MT09				*eS*	**Sb**	**02 25 17.6**	**+0.1**
MT09				IAML		02 25 20.6	
	comp=E,2μm,0.5s						
ML02	**Panimavida**	**1.22**	**162**		**Pn**	**02 25 04.8**	**0.0**
ML02				Sg	**Sb**	**02 25 20.7**	**+0.1**
ML02	**Panimavida**	**1.22**	**162**	*eP*	**Pn**	**02 25 04.0**	**-0.8**
ML02				*eS*	**Sb**	**02 25 19.9**	**-0.7**
ML02				IAML		02 25 23.1	
	comp=E,4μm,0.2s						
BO04	**La Punta**	**1.23**	**61**		**Pn**	**02 25 04.7**	**-0.1**
BO04	**La Punta**	**1.23**	**61**	*eP*	**Pn**	**02 25 04.6**	**-0.2**
BO04				*eS*	**Sb**	**02 25 20.5**	**-0.2**
MT02	**Curacav**	**1.48**	**25**		**Pn**	**02 25 07.8**	**-0.4**
MT02	**Curacav**	**1.48**	**25**	*eP*	**Pn**	**02 25 07.8**	**-0.4**
MT02				*eS*	**Sn**	**02 25 27.6**	**+0.3**
MT02				IAML		02 25 30.9	
	comp=E,1μm,0.3s						
MT05	**Renca**	**1.54**	**39**	Pn	**Pn**	**02 25 09.5**	**+0.4**
MT05	**Renca**	**1.54**	**39**	*eP*	**Pn**	**02 25 09.2**	**0.0**
MT05				*eS*	**Sn**	**02 25 29.4**	**+0.4**
MT05				IAML		02 25 37.0	
	comp=E,1μm,0.2s						
LMEL	**Las Melosas**	**1.59**	**62**		**Pn**	**02 25 10.6**	**+0.7**
LMEL	**Las Melosas**	**1.59**	**62**	*eP*	**Pn**	**02 25 10.2**	**+0.3**
LMEL				*eS*	**Sb**	**02 25 31.3**	**0.0**
LMEL				IAML		02 25 35.1	
	comp=N,1μm,0.5s						
MT03	**Universidad Ad**	**1.59**	**47**		**Pn**	**02 25 10.7**	**+0.8**
MT03	**Universidad Ad**	**1.59**	**47**	*eP*	**Pn**	**02 25 10.5**	**+0.6**
MT03				*eS*	**Sn**	**02 25 30.7**	**+0.4**
MT03				IAML		02 25 42.1	
	comp=N,1μm,0.6s						
ROC1	**El Roble**	**1.78**	**25**	Pn	**Pn**	**02 25 10.8**	**-1.8**
ROCH	**El Roble**	**1.78**	**25**	*eP*	**Pb**	**02 25 13.8**	**-0.8**
ROCH				*eP*	**Pn**	**02 25 10.7**	**-2.0**
ROCH				*eS*	**Sb**	**02 25 36.3**	**-0.6**
ROCH				*eS*	**Sn**	**02 25 36.8**	**+1.6**
ROCH				IAML		02 25 39.6	
	comp=N,731nm,0.6s						
ROCH				IAML		02 25 41.8	
	comp=N,940nm,0.5s						
FCH	**Farellones**	**1.84**	**47**	*eP*	**Pb**	**02 25 14.8**	**-0.9**
FCH				*eS*	**Sb**	**02 25 38.9**	**+0.2**
VA06	**Catapilco**	**2.09**	**14**	Pn	**Pn**	**02 25 17.9**	**+1.2**
VA06	**Catapilco**	**2.09**	**14**	*eP*	**Pb**	**02 25 18.5**	**-1.3**
VA06				*eS*	**Sb**	**02 25 44.9**	**-0.7**
VA06				IAML		02 25 50.4	
	comp=E,631nm,0.5s						
VA03	**San Esteban**	**2.15**	**32**	Pn	**Pn**	**02 25 18.2**	**+0.7**
VA03	**San Esteban**	**2.15**	**32**	*eP*	**Pb**	**02 25 19.5**	**-1.3**
VA03				*eS*	**Sb**	**02 25 46.9**	**-0.4**
VA03				IAML		02 25 53.6	
	comp=E,500nm,0.5s						
BI05	**Punta Hualpn**	**2.39**	**206**	Pn	**Pn**	**02 25 18.1**	**-2.7**
CO03	**El Pedregal**	**3.89**	**15**	Pn	**Pn**	**02 25 43.6**	**+2.2**
CO06	**Fray Jorge**	**3.92**	**3**	Pn	**Pn**	**02 25 42.2**	**+0.4**
LC01	**Cunco**	**4.29**	**180**	Pn	**Pn**	**02 25 48.2**	**+1.3**
GO04	**Tololo Observa**	**4.51**	**12**	Pn	**Pn**	**02 25 51.7**	**+1.5**
PLCA	**Paso Flores**	**6.21**	**171**	Pn	**Pn**	**02 26 16.6**	**+3.2**
LL04	**Puerto Octay**	**6.31**	**184**	Pn	**Pn**	**02 26 15.5**	**+0.8**
AC04	**Llanos de Chal**	**6.41**	**6**	Pn	**Pn**	**02 26 15.9**	**-0.2**
AC06	**Mina Casimiro**	**7.34**	**11**	Pn	**Pn**	**02 26 28.9**	**+0.1**
AC02	**Maricunga**	**8.10**	**18**	Pn	**Pn**	**02 26 40.8**	**+1.1**

INET ***30*** *02:32:44.5±1.4,9.33N×85.84W,h10km±2km,MW2.8*
UCR ***30*** *02:32:46.2±1.6,9.10N×85.07W,h16km±5km,MW3.9*

ISC 30 02:32:41.0±5.1,8.9N±0.1×85.24W±0.0,h19km±16km,n29, σ0 69/35,1D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.97**	**36**	*eP*	**Pn**	**02 32 59.5**	**-0.1**
LAFE	**Finca La Fe, P**	**0.98**	**19**	*eP*	**Pn**	**02 32 59.8**	**0.0**
GUAI	**GUAI**	**1.42**	**349**	*eP*	**Pb**	**02 33 07.0**	**+0.2**
GUAI				*eS*	**Sn**	**02 33 23.5**	**-0.3**
JTS	**Las Juntas de**	**1.44**	**11**	*eP*	**Pb**	**02 33 06.8**	**-0.4**
LCR2	**La Lucha 2**	**1.49**	**54**	*eP*	**Pb**	**02 33 07.8**	**-0.4**
LCR2				*eS*	**Sn**	**02 33 24.5**	**-1.5**
PEZE	**Perez Zeledon,**	**1.62**	**72**	*eP*	**Pb**	**02 33 10.4**	**+0.1**
RIMA	**Rio Macho**	**1.62**	**57**	*eP*	**Pb**	**02 33 09.9**	**-0.5**
ARE1	**Arenal 1**	**1.66**	**18**	*eP*	**Pb**	**02 33 11.1**	**+0.1**
CEDE	**Laguna Cedeo**	**1.69**	**18**	*eP*	**Pb**	**02 33 11.7**	**+0.2**
ACAL	**Aguas Claras**	**1.76**	**6**	*eP*	**Pb**	**02 33 12.9**	**+0.2**
ACAL				*eS*	**Sn**	**02 33 32.7**	**+0.2**
CUI	**Cuipilapa**	**1.77**	**2**	*eP*	**Pb**	**02 33 12.7**	**-0.3**
COLC	**Colonia**	**1.78**	**1**	*eP*	**Pb**	**02 33 12.9**	**-0.2**
LIM1	**Limonal**	**1.81**	**359**	*eP*	**Pb**	**02 33 13.5**	**-0.2**
GUAB	**Guayabo de Bag**	**1.82**	**0**	*eP*	**Pb**	**02 33 13.7**	**-0.1**
HORNC	**Hornillas**	**1.83**	**2**	*eP*	**Pb**	**02 33 13.7**	**-0.2**
HORNC				*eS*	**Sn**	**02 33 34.3**	**+0.1**
PTEN	**Parque Tenorio**	**1.85**	**8**	*eP*	**Pb**	**02 33 14.2**	**0.0**
HZTE	**Horizontes, Gu**	**1.86**	**349**	*eP*	**Pb**	**02 33 15.0**	**+0.6**
GPS2	**Hotel Rincn d**	**1.87**	**356**	*eP*	**Pb**	**02 33 14.0**	**-0.6**
SRBA	**San Rafael, Bu**	**1.89**	**79**	*eP*	**Pb**	**02 33 14.4**	**-0.4**
LAPC	**Finca la Perla**	**1.89**	**354**	*iP*	**Pb**	**02 33 14.5**	**-0.5**
LAPC				*eS*	**Sn**	**02 33 35.9**	**+0.1**
GBS3	**Finca Las Img**	**1.91**	**353**	*eP*	**Pb**	**02 33 15.0**	**-0.3**
BUEV	**Buena Vista**	**1.92**	**355**	*eP*	**Pb**	**02 33 15.1**	**-0.4**
VMAR	**Armenia, Volca**	**1.93**	**3**	*eP*	**Pb**	**02 33 15.4**	**-0.2**
PIRO	**Carate, Puerto**	**1.93**	**104**	*eP*	**Pb**	**02 33 16.0**	**+0.4**
GB1A	**Boringuen Arri**	**1.94**	**355**	*eP*	**Pb**	**02 33 15.4**	**-0.4**
BUAI	**Buenos Aires**	**1.99**	**357**	*eP*	**Pb**	**02 33 16.5**	**-0.2**
ACON	**Acoyapa**	**3.08**	**1**	*eP*	**Pn**	**02 33 27.0**	**-1.6**
ESPN	**Las Esperanzas**	**3.43**	**15**	*eP*	**Pn**	**02 33 35.6**	**+2.2**
ESPN				*eS*	**Sn**	**02 34 14.8**	**+1.3**
BOAB	**BOACO BROADBAN**	**3.58**	**353**	*eP*	**Pn**	**02 33 34.7**	**-0.8**

IDC 30 03:09:15.9±4.5,23.26S×148.57E,h0km,mb1 3.4/4, mb1mx3.1/25,mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=45.0km s-min=20.2km az=89.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.82**	**325**	Pn	Pn	03 10 16.2	+0.2
	1.0nm,0.3s,baz=138,slow=15,SNR=13						
CTA				Pg	Pb	03 10 26.1	+1.9
	0.7nm,0.3s,baz=136,slow=16,SNR=7.0						
CTA				Lg	Lg	03 11 17.1	
	1.6nm,0.3s,baz=50,slow=23,SNR=15						
STKA	**Stephens Creek**	**10.58**	**214**	Pn	Pn	03 11 48.6	-0.3
	0.1nm,0.3s,baz=39,slow=12,SNR=3.5						
STKA				Sn	Sn	03 13 49.0	+0.9
	0.1nm,0.3s,baz=287,slow=17,SNR=0.9						
STKA				Lg	Lg	03 14 51.5	
	0.1nm,0.3s,baz=323,slow=20,SNR=1.4						
ASAR	**Alice Springs**	**13.47**	**265**	Pn	Pn	03 12 28.4	-0.1
	0.1nm,0.3s,baz=94,slow=13,SNR=16						
ASAR				Lg	Lg	03 16 24.5	
	0.1nm,0.3s,baz=83,slow=30,SNR=2.6						
WRA	**Warramunga Ar**	**13.64**	**281**	Pn	Pn	03 12 30.8	+0.1
	baz=103,slow=12,SNR=2.5						
WRA				Lg	Lg	03 16 28.4	
	0.1nm,0.3s,baz=103,slow=28,SNR=1.8						

JMA ***30*** *03:27:17.9,38.77N×141.61E,h62km±1km,M3.3 Broadband fault plane solution: P waves. NP1: ϕs348.00000°,δ88.00000°,λ-84.00000°. NP2:ϕs92.00000°, δ6.00000°,λ-166.00000°. Principal axes: T Plg43.0000°, Azm72.0000°; N Plg6.0000°, Azm168.0000°; P Plg46.0000°, Azm264.0000°;*
JMA Felt I J1.
IDC ***30*** *03:27:18.7±2.6,38.86N×141.63E,h72km±25km,mb3.0/3, mb1 3.3/5,mb1mx3.1/46,mbtmp3.3/5,MS2.3/1,Ms1 2.3/1, ms1mx2.0/12 Error ellipse: s-maj=41.8km s-min=12.1km az=118.0*

ISC 30 03:27:17.5±1.0,38.77N±0.04×141.69E±0.07,h62km±6km, n23,σ0 68/31,mb3.3/3,7C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.17**	**284**	⇑P	**Pn**	**03 27 27.4**	**+0.4**
JKMT				S	**Sn**	**03 27 33.9**	**0.0**
OFUJ	**Ofunato**	**0.31**	**357**	⇓P	**Pn**	**03 27 28.4**	**+0.5**
OFUJ				S	**Sn**	**03 27 35.8**	**+0.3**
JMK	**Ichinoseki**	**0.41**	**297**	⇑P	**Pn**	**03 27 28.7**	**0.0**
JMK				S	**Sn**	**03 27 36.5**	**-0.4**
JIO	**Ouri**	**0.41**	**221**	⇑P	**Pn**	**03 27 28.9**	**+0.2**
JIO				S	**Sn**	**03 27 36.4**	**-0.5**
JOM	**Ohasama**	**0.77**	**336**	P	**Pn**	**03 27 33.2**	**+0.5**
JOM				S	**Sn**	**03 27 43.8**	**-0.1**
JOU	**Okura**	**0.90**	**244**	⇑P	**Pn**	**03 27 34.1**	**-0.2**
JOU				S	**Sn**	**03 27 46.6**	**-0.2**
JRG	**Rokugo**	**1.03**	**308**	P	**Pn**	**03 27 36.2**	**+0.2**
JRG				S	**Sn**	**03 27 49.7**	**-0.1**
JYK	**Kaneyama**	**1.05**	**279**	⇑P	**Pn**	**03 27 36.1**	**-0.2**
JYK				S	**Sn**	**03 27 49.8**	**-0.4**
JMM	**Marumori**	**1.15**	**218**	⇑P	**Pn**	**03 27 37.0**	**-0.5**
JMM				S	**Sn**	**03 27 51.5**	**-0.9**
JYS	**Shirataka**	**1.39**	**247**	P	**Pn**	**03 27 40.8**	**+0.1**
JYS				S	**Sn**	**03 27 58.1**	**0.0**
JFK	**Kawauchi**	**1.54**	**205**	⇑P	**Pn**	**03 27 42.8**	**0.0**
JFK				S	**Sn**	**03 28 01.2**	**-0.7**
JYA	**Atsumi**	**1.56**	**264**	P	**Pn**	**03 27 42.9**	**-0.1**
JYA				eS	**Sn**	**03 28 01.6**	**-0.6**
MJAR	**Matsushiro Arr**	**3.55**	**232**	P	**Pn**	**03 28 11.7**	**+1.6**
	0.4nm,0.3s,baz=34,slow=12,SNR=20						
MJAR				S	**Sn**	**03 28 53.1**	**+2.3**
	0.1nm,0.3s,baz=226,slow=26,SNR=1.5						
MJAR				LR	LR	03 29 50.1	
	comp=Z,45nm,21.9s,baz=142,slow=42						
ASAJ	**Asahikawa**	**5.39**	**7**	P	**Pn**	**03 28 35.2**	**0.0**
	1.8nm,0.3s,baz=200,slow=9.7,SNR=10						
ASAJ				S	**Sn**	**03 29 35.1**	**-0.7**
	0.5nm,0.3s,baz=127,slow=20,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	04 03 39.8	
	baz=317,slow=75,SNR=79						
H11N1	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	04 03 35.5	
	baz=317,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	04 03 42.7	
	baz=317,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	04 04 28.7	
	baz=318,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	04 04 33.4	
	baz=318,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**29.67**	**126**	T	T	04 04 33.7	
	baz=318,slow=76,SNR=28						
MKAR	**Makanchi Array**	**43.40**	**301**	P	**P**	**03 35 13.6**	**-0.3**
	0.4nm,0.7s,baz=86,slow=9.9,SNR=3.7						
ILAR	**Eielson Array**	**47.92**	**33**	P	**P**	**03 35 49.8**	**+0.5**
	0.3nm,0.7s,baz=260,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**58.81**	**188**	P	**P**	**03 37 08.9**	**-0.5**
	0.1nm,0.4s,baz=5.5,slow=7.1,SNR=2.1						

IDC ***30*** *03:39:08.5±0.9,24.03S×115.43W,h0km,mb4.2/8, mb1 4.5/8,mb1mx4.1/35,mbtmp4.2/8,MS3.9/30, Ms1 3.9/30,ms1mx3.8/57,Error ellipse: s-maj=30.2km s-min=24.1km az=51.0*
NEIC ***30*** *03:39:09.4±1.6,24.05S±0.2×115.5W±0.2,h10km±1km, mb4.8/59,Ms_20 4.8/11,Error ellipse: s-maj=28.4km s-min=20.0km az=218.0*
GCMT ***30*** *03:39:11.4±0.4,24.32S±0.03×115.44W±0.02,h13km±2km, MW4.8/69,Moment Tensor Solution. s15,c15; s69,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.59±.13; Mθθ-1.04±.10; Mϕϕ 1.63±.12; Mrθ-0.99±.33; Mϕθ 1.32±.08; Mϕr 0.71±.29; Best double couple: Mo2.29000×10^16 NP1:ϕs62.00000°,δ62.00000°,λ-21.00000°. NP2: ϕs162.00000°,δ72.00000°,λ-150.00000°. Principal axes: T 2.2040, Plg7.0000°, Azm290.0000°; N 0.1680, Plg55.0000°, Azm191.0000°; P -2.3760, Plg34.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 03:39:10.7±0.7,24.05S±0.2×115.6W±0.1,h21km,n113, σ0 97/73,mb4.7/37,MS4.0/38,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**6.38**	**121**	Pn	**Pn**	**03 40 43.0**	**-0.4**
RPN	**Rapa Nui**	**6.44**	**120**	LR	LR	03 42 25.9	
	comp=Z,2μm,18.9s,baz=317,slow=31						
TAOE	**Nuku Hiva Isla**	**27.89**	**299**	*eS*	**S**	**03 49 39.5**	**-2.6**
	166nm,25.3s						
TAOE				*eLR*	LR	03 52 06.7	
	comp=Z,1μm,25.9s						
TBI	**Tubuai**	**30.98**	**264**	*eLR*	LR	03 53 28.1	
	comp=Z,614nm,27.5s,baz=95						
PPT2	**Papeete2**	**32.35**	**275**	*eLR*	LR	03 53 59.9	
	comp=Z,620nm,29.2s						
H03N2	**Juan Fernandez**	**33.35**	**115**	T	T	04 21 14.6	
	baz=279,SNR=29						
H03N3	**Juan Fernandez**	**33.35**	**115**	T	T	04 21 14.6	
	baz=279,slow=74,SNR=39						
H03N1	**Juan Fernandez**	**33.36**	**115**	T	T	04 21 17.0	
	baz=279,slow=74,SNR=47						
NNA	**Nana**	**38.62**	**79**	LR	LR	03 58 16.6	
	comp=Z,411nm,18.9s,baz=244,slow=30						
RAR	**Rarotonga**	**40.76**	**265**	LR	LR	03 58 57.3	
	comp=Z,168nm,20.7s,baz=110,slow=29						
PLCA	**Paso Flores**	**41.05**	**125**	P	**P**	**03 46 52.8**	**0.0**
	3.8nm,0.8s,baz=292,slow=8.7,SNR=9.2						
PLCA				LR	LR	03 59 26.9	
	comp=Z,437nm,21.5s,baz=276,slow=30						
PLCA	**Paso Flores**	**41.05**	**125**	P	**P**	**03 46 52.8**	**0.0**
LVC	**Limon Verde**	**42.74**	**98**	LR	LR	04 00 12.9	
	comp=Z,289nm,19.0s,baz=264,slow=30						
LPAZ	**La Paz**	**45.04**	**89**	P	**P**	**03 47 25.9**	**-0.1**
	5.2nm,1.2s,baz=311,slow=5.3,SNR=8.5						
LPAZ				LR	LR	04 01 44.4	
	comp=Z,171nm,19.4s,baz=240,slow=30						
LPAZ	**La Paz**	**45.04**	**89**	P	**P**	**03 47 24.2**	**-1.8**
JTS	**Las Juntas de**	**45.38**	**45**	LR	LR	04 01 30.2	
	comp=Z,86nm,20.6s,baz=26,slow=30						
CMIG	**Matias Romero**	**45.58**	**28**	LR	LR	04 02 30.1	
	comp=Z,77nm,20.5s,baz=220,slow=31						
USHA	**Ushuaia**	**46.38**	**144**	LR	LR	04 02 31.8	
	comp=Z,283nm,19.7s,baz=254,slow=30						
LPIG	**La Paz**	**48.11**	**6**	LR	LR	04 03 05.4	
	comp=Z,133nm,20.9s,baz=194,slow=30						
SIV	**San Ignacio**	**51.59**	**92**	LR	LR	04 06 50.9	
	comp=Z,141nm,18.4s,baz=274,slow=32						
CPUP	**Villa Florida**	**52.39**	**106**	LR	LR	04 06 24.9	
	comp=Z,174nm,20.8s,baz=235,slow=31						
AFI	**Afiamalu**	**53.78**	**270**	LR	LR	04 05 29.7	
	comp=Z,278nm,18.6s,baz=113,slow=29						
TXAR	**Lajitas Array**	**54.27**	**13**	P	**P**	**03 48 37.0**	**+1.7**
	0.9nm,1.0s,baz=161,slow=8.0,SNR=5.2						
TXAR				LR	LR	04 07 43.2	
	comp=Z,49nm,19.0s,baz=172,slow=32						
SDV	**Santo Domingo**	**54.74**	**59**	P	**P**	**03 48 39.6**	**+0.4**
	3.3nm,0.7s,baz=245,slow=8.6,SNR=2.6						
SDV				LR	LR	04 08 38.7	
	comp=Z,84nm,18.8s,baz=244,slow=32						
MNTX	**Cornudas Mount**	**56.26**	**10**	P	**P**	**03 48 48.4**	**-1.1**
JCT	**Junction City**	**56.26**	**16**	P	**P**	**03 48 49.5**	**-0.1**
JCT				IAmb	IAmb	03 48 51.6	
	comp=Z,13nm,1.1s						
121A	**Cookes Peak, D**	**56.72**	**8**	P	**P**	**03 48 52.8**	**-0.2**
PFO	**Pinyon Flats O**	**57.31**	**359**	LR	LR	04 08 24.4	
	comp=Z,87nm,19.7s,baz=196,slow=31						
URZ	**Urewera**	**58.17**	**239**	LR	LR	04 08 09.9	
	comp=Z,80nm,18.9s,baz=211,slow=30						
X16A	**Lo Mia Camp, P**	**58.24**	**4**	P	**P**	**03 49 03.3**	**-0.5**
X18A	**Snowflake**	**58.47**	**5**	P	**P**	**03 49 04.4**	**-0.9**
X18A				IAmb	IAmb	03 49 10.0	
	comp=Z,8.9nm,1.3s						
W13A	**Hualapai Mount**	**58.81**	**2**	P	**P**	**03 49 07.2**	**-0.5**
ANMO	**Albuquerque**	**59.28**	**9**	LR	LR	04 09 34.6	
	comp=Z,64nm,20.6s,baz=186,slow=31						
ANMO	**Albuquerque**	**59.28**	**9**	P	**P**	**03 49 10.3**	**-0.7**
QSM	**Queen of Sheba**	**59.67**	**359**	P	**P**	**03 49 13.5**	**+0.1**
QSM				IAmb	IAmb	03 49 15.9	
	comp=Z,6.1nm,1.0s						
SHPR	**Sheep Range**	**60.20**	**0**	P	**P**	**03 49 15.9**	**-1.3**
U15A	**North Rim**	**60.20**	**3**	P	**P**	**03 49 16.9**	**-0.5**
U15A				IAmb	IAmb	03 49 22.2	
	comp=Z,13nm,1.4s						
KNB	**Kanab**	**60.76**	**3**	P	**P**	**03 49 19.5**	**-1.6**
KNB				IAmb	IAmb	03 49 58.2	
	comp=Z,16nm,1.7s						
PRN	**Pahroc Range**	**61.10**	**0**	P	**P**	**03 49 23.1**	**-0.2**
PRN				IAmb	IAmb	03 49 31.5	
	comp=Z,9.6nm,1.0s						
CCUT	**Cedar City**	**61.27**	**2**	P	**P**	**03 49 24.1**	**-0.5**
CCUT				IAmb	IAmb	03 49 33.2	
	comp=Z,8.0nm,1.1s						
S11A	**Rachel**	**61.33**	**360**	P	**P**	**03 49 25.0**	**+0.1**
TPH	**Tonopah**	**61.78**	**359**	P	**P**	**03 49 27.3**	**-0.7**
MSVF	**Nonsavu**	**61.84**	**262**	LR	LR	04 09 32.3	
	comp=Z,168nm,19.9s,baz=143,slow=29						
LHV	**Little Huntoon**	**62.00**	**357**	P	**P**	**03 49 29.7**	**+0.6**
R11A	**Troy Canyon, C**	**62.03**	**0**	P	**P**	**03 49 28.1**	**-1.6**
R11A				IAmb	IAmb	03 49 34.8	
	comp=Z,11nm,1.4s						
SDCO	**Great Sand Dun**	**62.16**	**9**	P	**P**	**03 49 29.9**	**-0.8**
SDCO				IAmb	IAmb	03 49 35.0	
	comp=Z,7.1nm,1.4s						
NV11	**Mina Array Sit**	**62.16**	**358**	P	**P**	**03 49 30.0**	**-0.5**
NV11				IAmb	IAmb	03 49 36.0	
	comp=Z,6.8nm,1.1s						
NVAR	**Mina Array Bea**	**62.17**	**358**	P	**P**	**03 49 32.5**	**+1.9**
	comp=Z,2.8nm,0.9s,baz=181,slow=9.4,SNR=12						
NVAR				LR	LR	04 10 11.4	
	comp=Z,91nm,18.7s,baz=179,slow=30						
NVAR	**Mina Array Bea**	**62.17**	**358**	P	**P**	**03 49 29.8**	**-0.8**
PSUT	**Pine Spring**	**62.24**	**2**	P	**P**	**03 49 30.6**	**-0.5**
YERR	**Yerington**	**62.76**	**357**	P	**P**	**03 49 36.9**	**+2.3**
YERR				IAmb	IAmb	03 49 38.8	
	comp=Z,8.0nm,1.2s						
KVN	**Kaiserville**	**62.78**	**358**	P	**P**	**03 49 37.5**	**+2.8**
KVN				IAmb	IAmb	03 49 39.5	
	comp=Z,9.2nm,1.4s						
PNTR	**Pine Nut**	**62.89**	**356**	P	**P**	**03 49 36.5**	**+1.1**
PNTR				IAmb	IAmb	03 49 38.7	
	comp=Z,7.2nm,1.0s						
MPK	**Martis Peak**	**63.12**	**356**	P	**P**	**03 49 36.9**	**-0.1**
P17A	**Butcher Ranch,**	**63.32**	**4**	P	**P**	**03 49 37.9**	**-0.3**
P17A				IAmb	IAmb	03 49 45.2	
	comp=Z,6.0nm,1.1s						
BEKR	**Beckworth**	**63.71**	**356**	P	**P**	**03 49 42.2**	**+1.5**
BEKR				IAmb	IAmb	03 49 46.0	
	comp=Z,13nm,1.5s						
NLU	**North Lily Min**	**63.72**	**3**	P	**P**	**03 49 41.1**	**+0.2**
SJG	**San Juan**	**63.87**	**54**	LR	LR	04 12 44.9	
	comp=Z,42nm,20.6s,baz=206,slow=32						
DUG	**Dugway, Tooele**	**63.93**	**2**	P	**P**	**03 49 41.4**	**-0.8**
DUG				IAmb	IAmb	03 49 48.1	
	comp=Z,6.3nm,1.1s						
ISCO	**Idaho Springs**	**64.16**	**9**	P	**P**	**03 49 43.9**	**0.0**
ISCO				IAmb	IAmb	03 49 59.2	
	comp=Z,10nm,1.7s						
ELK	**Elko**	**64.43**	**0**	LR	LR	04 13 12.1	
	comp=Z,57nm,19.7s,baz=186,slow=32						
ELK	**Elko**	**64.43**	**0**	P	**P**	**03 49 46.1**	**+0.5**
CTU	**Camp Tracy**	**64.47**	**3**	P	**P**	**03 49 44.5**	**-1.3**
CTU				IAmb	IAmb	03 49 48.8	
	comp=Z,4.1nm,0.9s						
RDMU	**Red

STKA	**Stephens Creek**	**87.70**	**236**	P	**P**		**03 51 59.8**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=142,slow=7.2,SNR=5.0							
STKA	**Stephens Creek**	**87.70**	**236**	P	**P**		**03 51 57.7**	**-0.4**
SCHQ	**Schefferville**	**88.93**	**26**	LR	LR		04 32 02.7	
	comp=Z,53nm,18.1s,baz=260,slow=36							
GHO	**Glory Hole Cre**	**89.59**	**345**	IAMs_20	IAMs_20		04 38 55.1	
	comp=Z,840nm,22.0s							
TULEG	**Thule**	**104.28**	**10**	IAMs_20	IAMs_20		04 35 45.5	
	comp=Z,211nm,18.0s							
YSS	**Yuzh-Sakhalins**	**114.92**	**312**	IAMs_20	IAMs_20		04 56 09.9	
	comp=Z,450nm,19.0s							
ZALV	**Zalesovo Beam**	**146.41**	**338**	PKPbc	**PKPab**		**03 58 50.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=42,slow=2.4,SNR=12							
ZALV	**Zalesovo Beam**	**146.41**	**338**		**PKPdf**		**03 58 49.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**147.40**	**267**	PKPbc	**PKPab**		**03 58 55.7**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=55,slow=1.5,SNR=6.7							
BRTR	**Keskin Array B**	**149.72**	**51**	PKPbc	**PKPbc**		**03 58 59.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=255,slow=2.8,SNR=4.2							
MKAR	**Makanchi Array**	**153.13**	**332**	PKPbc	**PKiKP**		**03 59 07.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=46,slow=4.2,SNR=5.5							
MKAR	**Makanchi Array**	**153.13**	**332**	PKPdf	**PKPdf**		**03 58 58.6**	**-0.7**

*UPA **30** 03:39:45.4±0.7, 9.02N×85.16W, h20km±14km, MW4.3*
*UCR **30** 03:39:45.3±1.5, 9.02N×85.11W, h20km±5km, MW3.7*

ISC 30 03:39:44.4±3.4, **9.02N**±0.08×**85.16W**±0.08, **h15**km±25km, **n24**, σ0.8**55**/33, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO2	**Cobano, Puntar**	**0.66**	**4**	*eP*	**Pb**	**03 39 58.0**	**+0.4**
JACO	**JACO, Garabito**	**0.80**	**38**	*eP*	**Pb**	**03 39 59.7**	**-0.3**
JACO				*eS*	**Sb**	**03 40 11.2**	**+0.5**
LAFE	**Finca La Fe, P**	**0.82**	**17**	*eP*	**Pb**	**03 40 00.0**	**-0.2**
LAFE				*eS*	**Sb**	**03 40 11.7**	**+0.6**
SAJU	**San Juanillo,**	**1.17**	**332**	*eP*	**Pn**	**03 40 05.3**	**-0.9**
JTS	**Las Juntas de**	**1.28**	**9**	*eP*	**Pn**	**03 40 07.0**	**-0.6**
JTS	**Las Juntas de**	**1.28**	**9**	*eP*	**Pn**	**03 40 07.1**	**-0.6**
JTS				*eS*	**Sn**	**03 40 23.6**	**-0.9**
LCR2	**La Lucha 2**	**1.34**	**58**	*eP*	**Pn**	**03 40 08.0**	**-0.7**
HDC	**Heredia**	**1.42**	**46**	*eP*	**Pn**	**03 40 09.5**	**-0.2**
HDC				*eS*	**Sn**	**03 40 27.7**	**-0.4**
RIMA	**Rio Macho**	**1.47**	**60**	*eP*	**Pn**	**03 40 09.9**	**-0.7**
ARE1	**Arenal 1**	**1.49**	**17**	*eP*	**Pb**	**03 40 11.5**	**-0.3**
PEZE	**Perez Zeledon,**	**1.50**	**76**	*eP*	**Pn**	**03 40 10.1**	**-0.7**
CEDE	**Laguna Cedeo**	**1.52**	**17**	*iP*	**Pn**	**03 40 12.1**	**-0.3**
ACAL	**Aguas Claras**	**1.61**	**4**	*iP*	**Pn**	**03 40 12.4**	**+0.2**
CUI	**Cuipilapa**	**1.63**	**360**	*i* P	**Pn**	**03 40 12.9**	**+0.4**
CUI				*i* S	**Sn**	**03 40 33.2**	**0.0**
GPS2	**Hotel Rincn d**	**1.73**	**354**	*iP*	**Pn**	**03 40 14.3**	**+0.3**
HZTE	**Horizontes, Gu**	**1.74**	**346**	*eP*	**Pn**	**03 40 14.1**	**+0.2**
LAPC	**Finca la Perla**	**1.76**	**351**	*iP*	**Pn**	**03 40 14.5**	**+0.2**
VMAR	**Armenia, Volca**	**1.78**	**1**	*eP*	**Pn**	**03 40 15.7**	**+1.1**
SRBA	**San Rafael, Bu**	**1.79**	**83**	*eP*	**Pn**	**03 40 14.5**	**-0.2**
PIRO	**Carate, Puerto**	**1.90**	**109**	*eP*	**Pn**	**03 40 15.7**	**-0.5**
DRK0	**Durika**	**1.90**	**83**	*eP*	**Pn**	**03 40 16.2**	**-0.2**
DRK0				*eS*	**Sn**	**03 40 39.5**	**-0.7**
BATAN	**Batan**	**2.06**	**59**	*eP*	**Pn**	**03 40 18.9**	**+0.6**
BATAN				*eS*	**Sn**	**03 40 43.8**	**+0.1**
BRU2	**Volcan**	**2.45**	**95**	*eP*	**Pn**	**03 40 24.0**	**+0.1**
BRU2				*eS*	**Sn**	**03 40 54.0**	**+0.4**
BCO2	**Palmira**	**2.61**	**96**	*eP*	**Pn**	**03 40 26.9**	**+0.8**
BCO2				*eS*	**Sn**	**03 40 58.3**	**+0.5**

*NCEDC **30** 03:51:10.8±1.2, 37.35N±0.01×121.70W±0.02, h10km±3km, ML3.1/53, ML3.0/72(NEIC), Error ellipse: s-maj=2.1km s-min=1.8km az=46.0*

NEIC 30 03:51:10.8±1.0, **37.32N**±0.01×**121.74W**±0.02, **h18**km±2km, **Error ellipse: s-maj=3.3km s-min=0.6km az=55.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHC	**Mount Hamilton**	**0.08**	**76**		Pg	03 51 14.5	0.0
SCCB	**Santa Clara Co**	**0.10**	**250**		Pg	03 51 14.2	-0.3
WENL	**Wente Vineyard**	**0.30**	**357**		Pg	03 51 16.9	-0.5
COSM	**Mount Oso**	**0.34**	**57**		Pg	03 51 17.3	-0.9
JRSC	**Jasper Ridge**	**0.41**	**282**		Pg	03 51 19.1	-0.2
HFEM	**San Felipe**	**0.43**	**141**		Pg	03 51 19.2	-0.5
HCOM	**Corn Cob Canyo**	**0.43**	**177**		Pb	03 51 20.2	+0.2
C055	**Cottonwood Ave**	**0.45**	**319**		Pg	03 51 19.8	0.0
PACP	**Pacheco Peak**	**0.48**	**131**		Pg	03 51 20.0	-0.6
HSFM	**Saint Francis**	**0.55**	**159**		Pb	03 51 22.5	+0.7
CMCM	**Mills College**	**0.57**	**323**		Pg	03 51 22.2	-0.1
SMCB	**Saint Mary's C**	**0.59**	**330**		Pb	03 51 22.7	0.0
SAO	**San Andreas Ge**	**0.60**	**157**	Pg	Pb	03 51 23.2	+0.3
SAO				Sg	Sb	03 51 31.9	+0.8
BDM	**Black Diamond**	**0.64**	**351**		Pb	03 51 23.4	-0.1
BKS	**Berkeley--Byer**	**0.68**	**325**		Pb	03 51 23.9	-0.2
BL67	**Building 67, L**	**0.69**	**324**		Pb	03 51 24.1	-0.2
VAK	**Adit at Lawren**	**0.69**	**324**		Pb	03 51 24.1	-0.2
BL88	**Building 88, L**	**0.69**	**324**		Pg	03 51 24.5	+0.1
BRK	**Berkeley--Havi**	**0.69**	**323**		Pb	03 51 24.0	-0.3
MOBB	**Monterey Bay O**	**0.72**	**209**		Pn	03 51 25.7	-0.2
BLRM	**Lewis Ranch**	**0.76**	**150**		Pg	03 51 26.1	+0.4
SCZ	**Santa Cruz**	**0.77**	**159**		Pg	03 51 25.4	-0.4
HERB	**Hercules**	**0.80**	**329**		Pg	03 51 26.6	0.0
BJCM	**Johnson Can.**	**0.82**	**160**		Pb	03 51 26.2	-0.4
BBGB	**Big Mountain B**	**0.93**	**143**		Pb	03 51 27.9	-0.6
HAST	**Hastings Reser**	**0.94**	**171**		Pb	03 51 28.5	-0.2
BSMM	**Soledad Missio**	**0.97**	**165**		Pb	03 51 29.1	-0.1
FARB	**Farallon Islan**	**1.07**	**291**		Pb	03 51 29.5	-1.3
CVS	**Carmenet Viney**	**1.17**	**331**		Pn	03 51 31.4	-0.9
MCCM	**Marconi Confer**	**1.22**	**313**		Pn	03 51 32.1	-0.9
MCCM	**Marconi Confer**	**1.22**	**313**	IAML		03 51 55.1	
	comp=E,338nm,0.8s						
MCCM				IAML		03 51 56.7	
	comp=N,347nm,1.0s						
CMB	**Columbia Colle**	**1.29**	**56**		Pn	03 51 33.8	-0.2
CMB	**Columbia Colle**	**1.29**	**56**	IAML		03 51 52.0	
	comp=N,344nm,0.6s						
CMB				IAML		03 51 52.0	
	comp=E,211nm,0.9s						
PMPB	**Monarch Peak**	**1.34**	**145**		Pn	03 51 34.1	-0.6
PAPM	**Alder Peak**	**1.44**	**168**		Pn	03 51 35.8	-0.3
PDRM	**Domengine Ranc**	**1.48**	**131**		Pn	03 51 36.5	-0.1
GCRM	**Castle Rock Sp**	**1.64**	**332**		Pn	03 51 38.3	-0.5
FTR	**Fort Ross**	**1.64**	**317**		Pn	03 51 38.1	-0.7
MNRC	**McLaughlin Min**	**1.65**	**341**		Pn	03 51 39.6	+0.6
PKD	**Bear Valley Ra**	**1.68**	**145**		Pn	03 51 38.7	-0.7
GDXM	**Geysers**	**1.70**	**331**		Pn	03 51 38.1	-1.6
RAMR	**Ramage Ranch**	**1.82**	**157**		Pn	03 51 41.3	0.0
SUTB	**Sutter Butte**	**1.90**	**359**		Pn	03 51 41.7	-0.8
KCC	**Kaiser Creek**	**1.93**	**89**		Pn	03 51 43.9	+1.0
TCHL	**Shandon**	**1.96**	**146**		Pn	03 51 43.0	-0.1
HOPS	**Hopland Field**	**1.97**	**328**		Pn	03 51 43.0	-0.3
HOPS	**Hopland Field**	**1.97**	**328**	IAML		03 52 35.8	
	comp=N,91nm,2.7s						
PAGB	**Antelope Grade**	**1.99**	**142**	Pn	Pn	03 51 43.3	-0.3
THIS	**South End of C**	**2.01**	**142**		Pn	03 51 44.5	+0.6
TRAM	**Private Proper**	**2.02**	**144**		Pn	03 51 44.0	-0.1
EMB	**Emerald Bay**	**2.09**	**38**		Pn	03 51 45.4	+0.2
EMB				IAML		03 52 16.5	
	comp=E,137nm,0.6s						
TSCN	**Private Proper**	**2.10**	**147**		Pn	03 51 44.1	-1.1
RUBR	**Rubicon Trail**	**2.13**	**35**		Pn	03 51 47.2	+1.4
RUBR				IAML		03 52 20.6	
	comp=E,158nm,0.6s						
MRDM	**Red Cones**	**2.15**	**82**		Pn	03 51 47.5	+1.4
MDCM	**Deadman Creek**	**2.18**	**79**		Pn	03 51 47.6	+1.1
OMMB	**Old Mammoth Mi**	**2.20**	**82**	Pn	Pn	03 51 47.9	+1.1
OMMB				IAML		03 52 20.5	
	comp=E,81nm,0.5s						
ORV	**Oroville**	**2.24**	**5**		Pn	03 51 47.2	+0.2
HELL	**Mitchell Peak,**	**2.27**	**106**		Pn	03 51 47.5	-0.1
MPK	**Martis Peak**	**2.38**	**34**	Pn	Pn	03 51 50.6	+1.2
MPK				IAML		03 52 30.2	
	comp=E,121nm,0.9s						
PNTR	**Pine Nut**	**2.44**	**43**		Pn	03 51 51.7	+1.7
MTUM	**Tungsten Hills**	**2.53**	**88**		Pb	03 51 53.6	-2.3
VCNR	**Virginia City**	**2.56**	**39**		Pn	03 51 54.0	+2.3
VCNR				IAML		03 52 33.8	
	comp=E,78nm,0.6s						
VCNR				IAML		03 52 34.4	
	comp=N,75nm,0.8s						
YERR	**Yerington**	**2.58**	**49**		Pn	03 51 52.6	+0.7
YERR				IAML		03 52 31.3	
	comp=N,93nm,0.9s						
LHV	**Little Huntoon**	**2.73**	**69**		Pn	03 51 53.9	+0.2
LHV				IAML		03 52 45.1	
	comp=N,83nm,1.2s						
LHV				IAML		03 52 46.1	
	comp=E,81nm,1.8s						
BEKR	**Beckworth**	**2.76**	**23**		Pn	03 51 54.6	+0.2
BEKR				IAML		03 52 42.0	
	comp=E,48nm,0.6s						
RYN	**Ryan**	**2.86**	**62**	Pn	Pn	03 51 56.1	+0.4
RYN				IAML		03 52 40.1	
	comp=E,67nm,0.3s						
RYN				IAML		03 52 43.5	
	comp=N,48nm,1.0s						
NVAR	**Mina Array Bea**	**2.94**	**67**	Pn	Pn	03 51 56.6	-0.2
O03E	**Paynes Creek**	**2.97**	**359**		Pn	03 51 57.4	+0.3
O03E				IAML		03 53 04.5	
	comp=E,35nm,2.2s						
PAHR	**Pah Rah Range**	**3.01**	**37**		Pn	03 51 58.5	+0.7
BCW	**Bitter Crk WRg**	**3.03**	**141**	Pn	Pn	03 51 58.5	+0.5
BCW				IAML		03 53 07.8	
	comp=E,52nm,2.8s						
BCW				IAML		03 53 24.7	
	comp=N,52nm,3.8s						
NV11	**Mina Array Sit**	**3.04**	**68**	Pn	Pn	03 51 57.6	-0.6
ISA	**Isabella, Lake**	**3.11**	**121**	Pn	Pn	03 51 59.6	+0.5
ISA				IAML		03 52 56.0	
	comp=E,32nm,0.8s						
LCH	**Last Change Ra**	**3.27**	**90**		Pn	03 52 03.2	+1.9
LCH				IAML		03 52 56.7	
	comp=N,37nm,0.6s						
LCH				IAML		03 52 59.1	
	comp=E,28nm,0.6s						
KVN	**Kaiserville**	**3.35**	**58**		Pn	03 52 03.0	+0.5
KVN				IAML		03 52 57.8	
	comp=N,45nm,0.9s						
KVN				IAML		03 52 59.8	
	comp=E,34nm,0.6s						
GRAC	**Grapevine Rang**	**3.51**	**94**		Pn	03 52 06.2	+1.7
TPH	**Tonopah**	**3.66**	**77**		Pn	03 52 07.1	+0.4
CCAC	**Calif City Air**	**3.71**	**125**		Pn	03 52 07.5	+0.2
CCAC				IAML		03 53 22.3	
	comp=E,28nm,1.6s						
CCAC				IAML		03 53 25.2	
	comp=N,30nm,1.3s						
QSM	**Queen of Sheba**	**4.14**	**108**		Pn	03 52 14.4	+1.2
QSM				IAML		03 53 17.1	
	comp=N,12nm,4.6s						
QSM				IAML		03 53 32.5	
	comp=E,20nm,4.4s						
GWY	**Greenwater Val**	**4.23**	**104**		Pn	03 52 16.0	+1.5
GSC	**Goldstone, Bar**	**4.47**	**115**	Pn	Pn	03 52 18.2	+0.5
GSC				IAML		03 52 49.9	
	comp=E,15nm,4.0s						
GSC				IAML		03 53 30.5	
	comp=N,11nm,2.6s						
MOD	**Modoc Plateau**	**4.71**	**13**		Pn	03 52 19.6	-1.5
MOD				IAML		03 53 29.3	
	comp=E,9.2nm,4.9s						
MOD				IAML		03 53 50.8	
	comp=N,9.5nm,4.0s						
S11A	**Rachel**	**4.78**	**84**		Pn	03 52 23.0	+0.9
PRN	**Pahroc Range**	**5.33**	**87**	Pn	Pn	03 52 29.7	0.0

*IDC **30** 03:52:01.3±0.6, 14.88S×66.83E, h0km, mb4.1/18, mb1 4.2/18, mb1mx3.9/63, mbtmp4.1/18, Error ellipse: s-maj=19.1km s-min=17.4km az=36.0*
*NEIC **30** 03:52:02.9±1.8, 15.0S±0.1×66.7E±0.1, h10km±1km, mb4.7/21, Error ellipse: s-maj=21.7km s-min=19.8km az=170.0*
*GCMT **30** 03:52:03.9±0.3, 14.69S±0.04×66.66E±0.03, h13km±1km, MW4.9/84, Moment Tensor Solution. s17,c18; s84,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.98±.19; Mθθ0.37±.12; Mϕϕ 1.61±.13; Mrθ 1.63±.47; Mrϕ-0.83±.09; Mθϕ0.94±.36; Best double couple: Mo2.57900×10^16 NP1:ϕ307.00000°, δ51.00000°, λ-132.00000°. NP2: ϕs182.00000°, δ55.00000°, λ-51.00000°. Principal axes: T 2.0320, Plg3.0000°, Azm246.0000°; N 1.0920, Plg31.0000°, Azm337.0000°; P -3.1260, Plg59.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 03:52:04.0±0.5, **15.0S**±0.1×**66.72E**±0.1, **h19**km, **n55**, σ0.8**84**/50, **mb4.4**/25, **1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.21**	**38**	T	T	04 03 26.6	
	baz=217,slow=76,SNR=417						
H08S2	**Diego Garcia H**	**9.23**	**38**	T	T	04 03 33.3	
	baz=217,slow=76,SNR=461						
H08S3	**Diego Garcia H**	**9.23**	**38**	T	T	04 03 36.0	
	baz=217,slow=76,SNR=290						
ABPO	**Ambohimpanom**	**19.06**	**255**	P	**P**	**03 56 22.7**	**-3.0**
PALK	**Pallekele**	**26.09**	**33**	P	**P**	**03 57 35.7**	**-1.2**
KMBO	**Kilima Mbogo**	**32.18**	**293**	P	**P**	**03 58 32.3**	**+0.9**
	0.3nm,0.3s,baz=118,slow=14,SNR=3.2						
KMBO	**Kilima Mbogo**	**32.18**	**293**	P	**P**	**03 58 31.3**	**0.0**
LSZ	**Lusaka**	**37.16**	**264**	P	**P**	**03 59 15.9**	**+1.6**
	1.0nm,0.3s,baz=130,slow=6.7,SNR=3.8						
LSZ	**Lusaka**	**37.16**	**264**	P	**P**	**03 59 13.6**	**-0.6**
LSZ				IAmb	IAmb	03 59 23.8	
	comp=Z,26nm,1.8s						
KULM	**Kulim**	**39.20**	**62**	P	**P**	**03 59 32.0**	**+0.8**
BOSA	**Boshof**	**40.61**	**243**	P	**P**	**03 59 44.3**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=180,slow=5.1,SNR=1.5						
CMAR	**Chiang Mai Arr**	**45.95**	**45**	P	**P**	**04 00 27.0**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=251,slow=8.2,SNR=1.9						
CMAR	**Chiang Mai Arr**	**45.95**	**45**	P	**P**	**04 00 26.3**	**+0.2**
H01W3	**Cape Leeuwin H**	**46.86**	**124**	T	T	04 50 37.9	
	baz=283,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**46.86**	**124**	T	T	04 50 42.3	
	baz=283,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**46.88**	**124**	T	T	04 50 43.4	
	baz=283,slow=75,SNR=22						
FITZ	**Fitzroy Crossi**	**56.37**	**102**	P	**P**	**04 01 43.3**	**-1.2**
FITZ				IAmb	IAmb	04 01 52.6	
	comp=Z,8.5nm,1.2s						
SYO	**Syowa Base**	**56.67**	**191**	*iP*	**P**	**04 01 45.0**	**-0.8**
AAK	**Ala-Archa**	**57.77**	**7**	P	**P**	**04 01 53.3**	**-0.8**
	comp=Z,0.4nm,0.2s,baz=170,slow=12,SNR=1.6						
BRTR	**Keskin Array B**	**62.54**	**332**	P	**P**	**04 02 27.2**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=142,slow=9.0,SNR=4.0						
BRTR	**Keskin Array B**	**62.54**	**332**	P	**P**	**04 02 27.0**	**+0.2**
MK31	**Makanchi Array**	**63.06**	**12**	P	**P**	**04 02 28.9**	**-1.1**
MK31				IAmb	IAmb	04 02 36.1	
	comp=Z,8.8nm,1.6s						
MKAR	**Makanchi Array**	**63.06**	**12**	P	**P**	**04 02 28.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=201,slow=7.7,SNR=5.8						
MKAR	**Makanchi Array**	**63.06**	**12**	P	**P**	**04 02 29.2**	**-0.8**
ASAR	**Alice Springs**	**63.51**	**109**	P	**P**	**04 02 33.0**	**-0.6**
	comp=Z,2.6nm,1.1s,baz=263,slow=6.4,SNR=13						
ASAR	**Alice Springs**	**63.51**	**109**	P	**P**	**04 02 33.4**	**-0.2**
ABKAR	**Akbulak array**	**64.22**	**355**	P	**P**	**04 02 38.6**	**+1.0**
ABKAR				IAmb	IAmb	04 02 44.1	
	comp=Z,12nm,1.6s						
ABKAR	**Akbulak array**	**64.22**	**355**	P	**P**	**04 02 37.6**	**+0.1**
WRA	**Warramunga Arr**	**64.33**	**105**	P	**P**	**04 02 38.9**	**-0.1**
	comp=Z,5.9nm,1.1s,baz=268,slow=6.6,SNR=20						
WRA	**Warramunga Arr**	**64.33**	**105**	P	**P**	**04 02 38.5**	**-0.6**
WB2	**Warramunga Arr**	**64.34**	**105**	P	**P**	**04 02 38.8**	**-0.3**
WB0	**Warramunga Arr**	**64.40**	**105**	P	**P**	**04 02 39.2**	**-0.3**
WR0	**Warramunga Arr**	**64.52**	**105**	P	**P**	**04 02 39.8**	**-0.4**
KURK	**Kurchatov**	**66.23**	**8**	P	**P**	**04 02 49.9**	**-0.7**
KURK				IAmb	IAmb	04 02 57.1	
	comp=Z,3.6nm,0.8s						
LIT	**Litokhoron**	**68.50**	**325**	P	**P**	**04 03 04.9**	**-0.4**
LIT				IAmb	IAmb	04 03 05.8	
	comp=Z,4.5nm,0.8s						
ZAA0	**Zalesovo Array**	**70.37**	**11**	P	**P**	**04 03 16.4**	**-0.1**
ZAA0				IAmb	IAmb	04 03 22.5	
	comp=Z,6.5nm,1.1s						
ZALV	**Zalesovo Beam**	**70.37**	**11**	P	**P**	**04 03 15.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=241,slow=3.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**70.37**	**11**	P	**P**	**04 03 15.3**	**-1.2**
SONM	**Songino Array**	**71.86**	**27**	P	**P**	**04 03 25.8**	**0.0**
	comp=Z,0.9nm,0.9s,baz=212,slow=5.1,SNR=3.3						
DIVS	**Divibare**	**72.59**	**327**	P	**P**	**04 03 30.0**	**-0.1**
DIVS				IAmb	IAmb	04 03 34.6	
	comp=Z,9.2nm,1.2s						
AKASG	**Malin Array Be**	**73.17**	**336**	P	**P**	**04 03 32.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=164,slow=5.3,SNR=4.2						
AKASG	**Malin Array Be**	**73.17**	**336**	P	**P**	**04 03 33.4**	**0.0**
QSPA	**South Pole Qui**	**75.11**	**180**	P	**P**	**04 03 45.6**	**+0.9**
	comp=Z,7.7nm,1.0s,baz=278,slow=3.9,SNR=7.9						
QSPA	**South Pole Qui**	**75.11**	**180**	P	**P**	**04 03 44.1**	**-0.7**
QSPA				IAmb	IAmb	04 03 46.8	
	comp=Z,21nm,1.4s						
VNDA	**Vanda**	**76.60**	**167**	P	**P**	**04 03 54.0**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=250,slow=4.7,SNR=4.4						
VNDA	**Vanda**	**76.60**	**167**	P	**P**	**04 03 52.9**	**0.0**
VNDA				IAmb	IAmb	04 04 08.9	
	comp=Z,8.4nm,1.6s						
KSRS	**Korea Array**	**77.59**	**46**	P	**P**	**04 03 58.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=224,slow=5.1,SNR=1.7						
MJAR	**Matsushiro Arr**	**84.56**	**50**	P	**P**	**04 04 36.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=246,slow=7.8,SNR=1.6						
ESDC	**Sonseca Array**	**85.21**	**313**	P	**P**	**04 04 40.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=105,slow=3.9,SNR=6.2						
ESDC	**Sonseca Array**	**85.21**	**313**	P	**P**	**04 04 39.6**	**+0.1**
ESDC				IAmb	IAmb	04 04 43.1	
	comp=Z,19nm,1.9s						
HFS	**Hagfors**	**86.06**	**336**	P	**P**	**04 04 43.8**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=164,slow=5.8,SNR=1.9						
ILAR	**Eielson Array**	**125.24**	**17**	PKP	**PKPdf**	**04 11 02.9**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=242,slow=1.9,SNR=1.9						
YKA	**Yellowknife Ar**	**132.53**	**1**	PKP	**PKPdf**	**04 11 17.2**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=337,slow=2.3,SNR=5.0						
PDAR	**Pinedale Array**	**152.12**	**354**	PKPbc	**PKPbc**	**04 11 58.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=71,slow=1.6,SNR=11						
TXAR	**Lajitas Array**	**163.18**	**330**	PKP	**PKPdf**	**04 12 06.5**	**+0.4**
	comp=Z,0.1nm,0.7s,baz=298,slow=1.9,SNR=2.1						
TXAR				PKPab	**PKPab**	**04 12 56.3**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=52,slow=4.4,SNR=5.6						

*NAO **30** 03:55:49.6±1.5, 77.76N×20.49E, h15km±9km, ML3.4*
*IEPN **30** 03:55:50.0, 77.89N×20.64E, h10km*
*BER **30** 03:55:50.7±3.3, 77.75N×20.65E, h15km±14km, ML3.3, MW3.5, ML3.4(NAO), Confirmed Earthquake*
*KOLA **30** 03:55:57.2, 77.38N×22.11E, h0km, ML2.8*

ISC 30 03:55:46.7±0.8, **77.81N**±0.04×**21.08E**±0.03, **h10**km, **n36**, σ2.5**88**/67, **1C-2D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.05**	**293**	Pn	**Pb**	**03 56 07.7**	**+0.8**
	baz=118,slow=18						
SPA0				Lg	Lg	03 56 19.7	
	baz=130,slow=37						
SPA0	**Spitsbergen Ar**	**1.05**	**293**	Pn	**Pb**	**03 56 07.7**	**+0.8**
	baz=118,slow=18						
SPA0				Sg	**Sg**	**03 56 19.7**	**-0.8**
	baz=130,slow=37						
BRBA	**Barentsburg A**	**1.46**	**283**	Pn	**Pn**	**03 56 13.7**	**+0.6**
BRBA				Pg	**Pb**	**03 56 15.2**	**+1.3**
BRBA				Lg	Lg	03 56 33.8	
BRBA	**Barentsburg A**	**1.46**	**283**	Pn	**Pn**	**03 56 13.7**	**+0.6**
BRBA				Pg	**Pb**	**03 56 15.2**	**+1.3**
BRBA				Sg	**Sn**	**03 56 33.8**	**+1.6**
HSPB	**Hornsund (broa**	**1.47**	**239**	Pn	**Pn**	**03 56 13.2**	**+0.2**
HSPB				Pg	**Pb**	**03 56 14.9**	**+1.0**
HSPB				Lg	Lg	03 56 32.5	
HSPB	**Hornsund (broa**	**1.47**	**239**	⇓*iP*	**Pn**	**03 56 13.2**	**+0.2**
HSPB				*eS*	**Sn**	**03 56 30.2**	**-2.0**
HSPB				*eSg*	**Sb**	**03 56 32.5**	**-0.1**
HSPB				IAML		03 56 33.2	
	comp=Z,526nm,0.4s						
HSPB	**Hornsund (broa**	**1.47**	**239**	⇓*iP*	**Pn**	**03 56 13.2**	**+0.2**
HSPB				*eS*	**Sn**	**03 56 29.9**	**-2.3**
BRBB	**Barentsburg B**	**1.47**	**284**	Pn	**Pn**	**03 56 13.8**	**+0.7**
BRBB				Pg	**Pb**	**03 56 15.2**	**+1.2**
BRBB				Lg	Lg	03 56 33.9	
BRBB	**Barentsburg B**	**1.47**	**284**	Pn	**Pn**	**03 56 13.8**	**+0.7**
BRBB				Pg	**Pb**	**03 56 15.2**	**+1.2**
BRBB				Sg	**Sn**	**03 56 33.9**	**+1.5**
HOPEN	**Hopen**	**1.58**	**144**	Pn	**Pg**	**03 56 18.8**	**+1.9**
HOPEN				Lg

baz=211
TWE *i* S Sb 03 59 51.7 -1.3
baz=211
FUSB Fushanzhiwuyua 0.29 230 P Pb 03 59 47.6 -0.8
baz=230
FUSB *e*S Sb 03 59 51.9 -1.8
baz=230
YM08 YM08 0.33 317 *e*P Pg 03 59 47.9 +1.0
baz=317
YM08 S Sb 03 59 53.4 -1.2
baz=317

TAP 30 03:59:44.0, 24.96N × 121.80E, h1 km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.03**	**64**	*i* P	Pg	03 59 45.0	+0.4
	baz=64						
TIPB				*i* S	Sg	03 59 45.6	+0.6
	baz=64						
NTC	**Toucheng**	**0.11**	**165**	*i* S	Sg	03 59 49.5	+2.0
	baz=165						
NWF	**Wu-fen Shan**	**0.11**	**352**	P	Pg	03 59 47.4	+1.2
	baz=352						
NWF				*e*S	Sg	03 59 49.9	+2.2
	baz=352						
NWF	**Wu-fen Shan**	**0.11**	**352**	S	Pg	03 59 47.3	+1.1
	baz=338						
WFSB	**Wu-fen Shan**	**0.11**	**352**	P	Pg	03 59 47.3	+1.1
	baz=351						
WFSB				S	Sg	03 59 49.5	+1.9
	baz=351						
WFSB	**Wu-fen Shan**	**0.11**	**352**	S	Pg	03 59 47.3	+1.2
	baz=338						
SXI1	**Grass Mountain**	**0.15**	**27**	*e*P	Pg	03 59 47.9	+1.0
	baz=27						
SXI1				*e*S	Sg	03 59 51.6	+2.7
	baz=27						
TNOU	**National Taiwa**	**0.19**	**353**	P	Pg	03 59 48.7	+1.1
	baz=353						
TNOU				S	Sg	03 59 52.6	+2.5
	baz=353						
NWLT	**Wulai**	**0.33**	**236**	*e*P	Pb	03 59 51.9	-0.7
	baz=235						

*MOS **30** 03:59:44.8±1.0, 14.88S×66.81E, h13 km, mb5.0/35, Error ellipse: s-maj=10.0km s-min=6.5km az=108.8*
*IDC **30** 03:59:45.0±0.4, 14.88S×66.90E, h0 km, mb4.4/37, mb1 4.4/38, mb1mx4.3/61, mbtmp4.3/38, ML3.8/1, Error ellipse: s-maj=13.0km s-min=11.9km az=160.0*
*BJI **30** 03:59:46.0±0.0, 14.90S×66.80E, h8 km, mb4.7/46, mB5.2/31, Ms5.0/31, Ms7 4.7/30*
*NEIC **30** 03:59:46.9±1.4, 14.9S±0.1×66.81E±0.10, h10 km±1 km, mb5.0/65, Error ellipse: s-maj=17.0km s-min=15.8km az=173.0*
*GCMT **30** 03:59:47.9±0.2, 14.89S±0.02×66.76E±0.02, h12 km, MW5.2/132, Moment Tensor Solution. s54, c62; s132, c205; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-6.60±.15; Mθθ2.84±.16; Mϕϕ3.76±.16; Mrθ-0.90±.48; Mθϕ-3.32±.12; Mϕr0.83±.51; Best double couple: M0 6.73800×10^16 NP1:ϕs320.00000°, δ40.00000°, λ-88.00000°. NP2:ϕs138.00000°, δ50.00000°, λ-91.00000°. Principal axes: T 6.7630, Plg5.0000°, Azm229.0000°; N -0.0490, Plg1.0000°, Azm139.0000°; P -6.7140, Plg85.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 03:59:47.9±0.4, 14.99S±0.06×66.68E±0.05, h19 km, n267, σ1 s56/282, mb4.8/105, MS4.8/15, 26C-14D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.24**	**39**	T	T	04 11 21.3	
	baz=217,slow=76,SNR=569						
H08S2	**Diego Garcia H**	**9.26**	**39**	T	T	04 11 21.2	
	baz=217,slow=76,SNR=615						
H08S3	**Diego Garcia H**	**9.26**	**39**	T	T	04 11 24.1	
	baz=217,slow=76,SNR=599						
MSEY	**Mahe Island**	**15.05**	**312**	P	**Pn**	**04 03 19.9**	**+0.2**
MSEY				pmax	pmax		
	comp=Z,81nm,1.3s						
MSEY	**Mahe Island**	**15.05**	**312**	Pn	**Pn**	**04 03 19.9**	**+0.2**
MSEY				IAmb	IAmb	04 03 46.4	
	comp=Z,80nm,1.3s						
KAAM	**Kaadhehdhoo**	**16.60**	**23**	Pn	**Pn**	**04 03 37.8**	**-1.9**
KAAM				IAmb	IAmb	04 03 48.4	
	comp=Z,110nm,1.4s						
OPO	**Ambohidratompo**	**19.00**	**256**	P	**Pn**	**04 04 11.8**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=47,slow=12,SNR=4.9						
ABPO	**Ambohimpanom**	**19.03**	**255**	P	**P**	**04 04 09.2**	**+0.1**
ABPO				pmax	pmax		
	comp=Z,47nm,1.4s						
ABPO	**Ambohimpanom**	**19.03**	**255**	P	**P**	**04 04 09.2**	**+0.1**
VOI	**Vohitsoka**	**20.07**	**247**	P	Pn	04 04 22.3	0.0
VOI				IAmb	IAmb	04 04 34.9	
	comp=Z,63nm,1.6s						
PALK	**Pallekele**	**26.12**	**33**	P	**P**	**04 05 20.3**	**-0.7**
	comp=Z,18nm,1.1s,baz=316,slow=5.5,SNR=4.3						
PALK	**Pallekele**	**26.12**	**33**	P	**P**	**04 05 21.0**	**+0.1**
PALK				pmax	pmax		
	comp=Z,51nm,1.6s						
PALK	**Pallekele**	**26.12**	**33**	P	**P**	**04 05 21.0**	**+0.1**
PALK				IAmb	IAmb	04 05 35.0	
	comp=Z,51nm,1.6s						
KIBK	**Kibwezi**	**30.91**	**291**	P	**P**	**04 06 04.9**	**+1.1**
KIBK				IAmb	IAmb	04 06 12.9	
	comp=Z,35nm,1.9s						
KMBO	**Kilima Mbogo**	**32.16**	**293**	P	**P**	**04 06 17.5**	**+2.5**
	comp=Z,3.1nm,0.9s,baz=105,slow=10,SNR=7.8						
KMBO	**Kilima Mbogo**	**32.16**	**293**	P	**P**	**04 06 16.4**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,34nm,2.0s						
KMBO	**Kilima Mbogo**	**32.16**	**293**	P	**P**	**04 06 16.4**	**+1.4**
KMBO				IAmb	IAmb	04 06 23.6	
	comp=Z,34nm,2.0s						
ATD	**Arta Tunnel**	**35.38**	**317**	P	**P**	**04 06 45.5**	**+2.8**
ATD				IAmb	IAmb	04 06 46.2	
	comp=Z,18nm,1.1s						
LODK	**Lodwar**	**36.01**	**298**	P	**P**	**04 06 48.7**	**+0.5**
PSI	**Prapat**	**36.49**	**64**	P	**P**	**04 06 50.2**	**-2.2**
	comp=Z,2.1nm,0.6s,baz=22,slow=5.3,SNR=1.1						
FURI	**Furi**	**36.52**	**309**	P	**P**	**04 06 54.8**	**+2.0**
MATP	**Matopo**	**36.71**	**256**	P	**P**	**04 06 57.1**	**+2.9**
	comp=Z,10nm,1.2s,baz=91,slow=11,SNR=4.0						
LSZ	**Lusaka**	**37.13**	**264**	P	**P**	**04 07 00.6**	**+2.8**
	comp=Z,11nm,0.9s,baz=103,slow=7.3,SNR=14						
LSZ	**Lusaka**	**37.13**	**264**	P	**P**	**04 06 59.1**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,30nm,1.2s						
LSZ	**Lusaka**	**37.13**	**264**	P	**P**	**04 06 59.1**	**+1.3**
LSZ				IAmb	IAmb	04 07 06.9	
	comp=Z,30nm,1.1s						
WSAR	**Wadi Sarin**	**38.80**	**348**	P	**P**	**04 07 12.9**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=199,slow=7.8,SNR=2.2						
LBTB	**Lobatse**	**39.74**	**249**	P	**P**	**04 07 22.2**	**+2.5**
	comp=Z,4.6nm,0.9s,baz=91,slow=9.7,SNR=4.5						
LBTB	**Lobatse**	**39.74**	**249**	P	**P**	**04 07 21.6**	**+1.9**
LBTB				pmax	pmax		
	comp=Z,14nm,1.2s						
LBTB	**Lobatse**	**39.74**	**249**	P	**P**	**04 07 21.6**	**+1.9**
SRIT	**Nakonsritamara**	**40.17**	**56**	P	**P**	**04 07 21.8**	**-1.5**
MYKOM	**Kota Tinggi**	**40.38**	**69**	P	**P**	**04 07 24.0**	**-1.0**
BOSA	**Boshof**	**40.58**	**243**	P	**P**	**04 07 28.9**	**+2.3**
	comp=Z,4.5nm,1.0s,baz=74,slow=9.3,SNR=5.9						
BOSA	**Boshof**	**40.58**	**243**	P	**P**	**04 07 26.9**	**+0.3**
BOSA				pmax	pmax		
	comp=Z,28nm,1.4s						
BOSA	**Boshof**	**40.58**	**243**	P	**P**	**04 07 26.9**	**+0.3**
BOSA				IAmb	IAmb	04 07 34.9	
	comp=Z,28nm,1.4s						
UOSS	**Minazif**	**40.98**	**345**	P	**P**	**04 07 29.8**	**+0.1**
UOSS				IAmb	IAmb	04 07 36.5	
	comp=Z,23nm,1.1s						
RAYN	**Ar Rayn**	**43.52**	**331**	P	**P**	**04 07 49.9**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,17nm,1.5s						
RAYN	**Ar Rayn**	**43.52**	**331**	P	**P**	**04 07 49.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**45.99**	**45**	P	**P**	**04 08 10.4**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=235,slow=7.8,SNR=15						
CMAR	**Chiang Mai Arr**	**45.99**	**45**	P	**P**	**04 08 07.1**	**-3.1**
JAGI	**Jajag, Banyuwa**	**46.86**	**88**	P	**P**	**04 08 16.2**	**-1.0**
H01W3	**Cape Leeuwin H**	**46.88**	**124**	T	T	04 58 25.8	
	baz=283,slow=75,SNR=32						
H01W2	**Cape Leeuwin H**	**46.88**	**124**	T	T	04 58 24.2	
	baz=283,slow=75,SNR=38						
H01W1	**Cape Leeuwin H**	**46.90**	**124**	T	T	04 58 25.3	
	baz=283,slow=75,SNR=42						
UBPT	**Khong Chiam**	**48.72**	**54**	P	**P**	**04 08 29.0**	**-2.5**
KMI	**Kunming**	**53.15**	**42**	⇓P	P	04 09 10.5	+5.4
KMI				sP	pwP	04 09 16.0	+2.7
KMI				S	**S**	**04 16 36.3**	**+1.1**
KMI				SS	**SS**	**04 20 16.8**	**+1.7**
KMI				pmax	pmax		
	comp=Z,11nm,2.0s						
KMI				pmax	pmax		
	comp=Z,120nm,3.6s						
KMI				LR	LR		
	comp=Z,250nm,21.8s						
KMI				LR	LR		
	comp=Z,360nm,20.1s						
KMI				LR	LR		
	comp=Z,530nm,21.8s						
PZH	**PanZhiHua**	**53.50**	**40**	P	**P**	**04 09 09.0**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
GAR	**Garm**	**53.81**	**4**	P	**P**	**04 09 08.2**	**-1.3**
GAR				IAmb	IAmb	04 09 15.9	
	comp=Z,23nm,1.1s						
QIZ	**Qiongzhong**	**54.30**	**53**	P	**P**	**04 09 13.5**	**+0.2**
QIZ				S	**S**	**04 16 55.8**	**+5.4**
QIZ				LR	LR		
	comp=Z,550nm,14.3s						
QIZ				LR	LR		
	comp=Z,890nm,17.1s						
QIZ				LR	LR		
	comp=Z,1μm,17.9s						
GYA	**Guiyang**	**56.64**	**44**	⇑P	P	04 09 35.3	+5.1
GYA				S	**S**	**04 17 27.8**	**+6.0**
GYA				pmax	pmax		
	comp=Z,17nm,1.7s						
GYA				LR	LR		
	comp=Z,350nm,17.0s						
GYA				LR	LR		
	comp=Z,480nm,17.1s						
GYA				LR	LR		
	comp=Z,830nm,19.8s						
SYO	**Syowa Base**	**56.65**	**191**	⇓*i*P	**P**	**04 09 30.2**	**+0.7**
GOMU	**GeErMu**	**57.44**	**27**	P	**P**	**04 09 37.5**	**+1.6**
GOMU				pP	sP	04 09 42.8	-0.6
GOMU				sP	pwP	04 09 45.0	+0.7
GOMU				PcP	**PcP**	**04 10 31.5**	**+1.9**
GOMU				PP	**PP**	**04 11 45.5**	**+1.8**
GOMU				S	**S**	**04 17 36.0**	**+3.5**
GOMU				sS	sS	04 17 43.3	+2.4
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,80nm,5.5s						
GOMU				LR	LR		
	comp=Z,320nm,15.7s						
GOMU				LR	LR		
	comp=Z,210nm,17.7s						
GOMU				LR	LR		
	comp=Z,360nm,18.2s						
AAK	**Ala-Archa**	**57.78**	**7**	P	**P**	**04 09 37.2**	**-0.8**
	baz=183,slow=9.6						
AAK	**Ala-Archa**	**57.78**	**7**	*ce*P	**P**	**04 09 37.2**	**-0.8**
AAK				pmax	pmax		
	comp=Z,15nm,2.5s						
AAK	**Ala-Archa**	**57.78**	**7**	P	**P**	**04 09 36.3**	**-1.7**
BOOM	**Boomskoye usch**	**57.82**	**8**	P	**P**	**04 09 36.9**	**-1.4**
BOOM				pmax	pmax		
	comp=Z,14nm,1.5s						
BOOM	**Boomskoye usch**	**57.82**	**8**	P	**P**	**04 09 36.9**	**-1.4**
BOOM				IAmb	IAmb	04 09 44.2	
	comp=Z,14nm,1.5s						
CD2	**Chengdu**	**57.90**	**38**	P	**P**	**04 09 40.5**	**+1.6**
CD2				pP	pP	04 09 43.8	-0.5
CD2				S	**S**	**04 17 40.3**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KKAR	**Karatay Array**	**57.91**	**3**	P	**P**	**04 09 38.1**	**-0.6**
KKAR	**Karatay Array**	**57.91**	**3**	P	**P**	**04 09 38.1**	**-0.6**
GURO	**Guroymak-BITLI**	**58.05**	**337**	P	**P**	**04 09 39.7**	**-0.2**
GURO				IAmb	IAmb	04 09 47.6	
	comp=Z,17nm,1.3s						
GNI	**Garni**	**58.53**	**340**	P	**P**	**04 09 43.7**	**+0.4**
	comp=Z,33nm,1.2s,baz=69,slow=3.5,SNR=3.7						
GNI	**Garni**	**58.53**	**340**	P	**P**	**04 09 42.9**	**-0.4**
GNI				pmax	pmax		
	comp=Z,113nm,1.5s						
GNI	**Garni**	**58.53**	**340**	P	**P**	**04 09 42.9**	**-0.4**
BNN	**Bunyan**	**60.83**	**333**	P	**P**	**04 09 59.0**	**-0.1**
ZEI	**Tsey**	**61.18**	**341**	*e*P	**P**	**04 10 05.7**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WMQ	**Urumqi**	**61.60**	**17**	*e*P	**P**	**04 10 06.5**	**+2.4**
WMQ				pP	pP	04 10 10.0	+0.5
WMQ				sP	pwP	04 10 14.8	+2.3
WMQ				pmax	pmax		
	comp=Z,33nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,280nm,4.3s						
WMQ				LR	LR		
	comp=Z,580nm,16.3s						
WMQ				LR	LR		
	comp=Z,430nm,15.1s						
WMQ				LR	LR		
	comp=Z,320nm,15.7s						
LBMI	**Labuha**	**61.71**	**83**	P	**P**	**04 10 04.8**	**-0.6**
	comp=Z,807nmcomp=Z,25nm,1.4s						
GTA	**Gaotai**	**62.33**	**29**	*e*P	P	04 10 14.3	+5.1
GTA				sP	pwP	04 10 20.8	+3.2
GTA				S	**S**	**04 18 35.8**	**+1.0**
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA				pmax	pmax		
	comp=Z,91nm,8.0s						
GTA				LR	LR		
	comp=Z,450nm,22.3s						
GTA				LR	LR		
	comp=Z,330nm,19.5s						
GTA				LR	LR		
	comp=Z,660nm,23.9s						
KBZ	**Khabaz**	**62.35**	**341**	*ce*P	**P**	**04 10 08.4**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,11nm,1.5s						
BR131	**Keskin Array S**	**62.53**	**332**	*i* P	**P**	**04 10 08.8**	**-1.8**
BRTR	**Keskin Array B**	**62.53**	**332**	P	**P**	**04 10 10.7**	**0.0**
	comp=Z,2.8nm,1.0s,baz=157,slow=8.0,SNR=8.9						
BRTR	**Keskin Array B**	**62.53**	**332**	P	**P**	**04 10 10.4**	**-0.2**
BRTR	**Keskin Array B**	**62.53**	**332**	P	**P**	**04 10 10.4**	**-0.2**
KIV	**Kislovodsk**	**62.62**	**341**	*e*P	**P**	**04 10 11.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,167nm,17.0s						
MAKZ	**Makanchi**	**63.03**	**12**	P	**P**	**04 10 12.6**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**63.03**	**12**	P	**P**	**04 10 12.6**	**-1.0**
MAKZ				IAmb	IAmb	04 10 18.5	
	comp=Z,4.9nm,0.9s						
MK31	**Makanchi Array**	**63.08**	**12**	*i* P	**P**	**04 10 12.9**	**-1.0**
MK31	**Makanchi Array**	**63.08**	**12**	P	**P**	**04 10 12.3**	**-1.7**
MK31				IAmb	IAmb	04 10 20.4	
	comp=Z,20nm,1.5s						
MKAR	**Makanchi Array**	**63.08**	**12**	P	**P**	**04 10 12.7**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=205,slow=8.2,SNR=18						
MKAR				PcP	**PcP**	**04 10 51.1**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=204,slow=3.2,SNR=2.0						
MKAR	**Makanchi Array**	**63.08**	**12**	P	**P**	**04 10 12.3**	**-1.6**
MKAR						04 10 51.7	
MKAR	**Makanchi Array**	**63.08**	**12**	P	**P**	**04 10 12.3**	**-1.6**
MKAR					**PcP**	**04 10 51.6**	**+0.1**
XAN	**Xi'an**	**63.20**	**39**	P	**P**	**04 10 14.0**	**-1.0**
XAN				pmax	pmax		
	comp=Z,19nm,1.8s						
XAN				pmax	pmax		
	comp=Z,140nm,3.4s						
ASAR	**Alice Springs**	**63.54**	**109**	P	**P**	**04 10 16.6**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=267,slow=6.3,SNR=35						
ASAR	**Alice Springs**	**63.54**	**109**	P	**P**	**04 10 17.0**	**-0.6**
ASAR	**Alice Springs**	**63.54**	**109**	P	**P**	**04 10 17.0**	**-0.6**
AS31	**Alice Springs**	**63.54**	**109**	P	**P**	**04 10 16.7**	**-0.9**
BORA	**Eskisehir**	**64.17**	**330**	P	**P**	**04 10 20.8**	**-0.6**
BORA				IAmb	IAmb	04 10 29.3	
	comp=Z,16nm,1.3s						
ABKAR	**Akbulak array**	**64.23**	**355**	P	**P**	**04 10 20.6**	**-0.9**
ABKAR	**Akbulak array**	**64.23**	**355**	P	**P**	**04 10 20.5**	**-0.9**
WRA	**Warramunga Arr**	**64.36**	**105**	P	**P**	**04 10 22.6**	**-0.4**
	comp=Z,16nm,1.0s,baz=267,slow=6.3,SNR=74						
WRA	**Warramunga Arr**	**64.36**	**105**	P	**P**	**04 10 22.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
WRA	**Warramunga Arr**	**64.36**	**105**	P	**P**	**04 10 22.6**	**-0.4**
WB2	**Warramunga Arr**	**64.37**	**105**	P	**P**	**04 10 22.7**	**-0.4**
WRAB	**Tennant Creek**	**64.37**	**105**	*i* P	**P**	**04 10 21.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**64.43**	**105**	P	**P**	**04 10 22.0**	**-1.5**
WHN	**Wuhan**	**64.44**	**45**	⇓P	**P**	**04 10 25.3**	**+2.1**
WR0	**Warramunga Arr**	**64.55**	**105**	P	**P**	**04 10 23.2**	**-1.0**
BBOO	**Buckleboo**	**64.84**	**119**	P	**P**	**04 10 25.4**	**-0.5**
ANN	**Anapa**	**65.17**	**337**	*e*P	**P**	**04 10 24.1**	**-3.6**
ANN				*e**PP	**pP**	**04 10 28.1**	**-5.1**
ANN				*e*S	**S**	**04 19 08.5**	**-1.2**
ANN				*e*SS	**SS**	**04 23 20.4**	**-2.5**
ANN				pmax	pmax		
	comp=Z,34nm,1.0s						
AKTO	**Aktyubinsk**	**65.58**	**354**	P	**P**	**04 10 29.5**	**-0.8**
	comp=Z,3.4nm,1.1s,baz=158,slow=9.1,SNR=6.3						
LYN	**LuoYang**	**65.72**	**40**	*e*P	**P**	**04 10 33.5**	**+2.0**
LYN				S	**S**	**04 19 21.8**	**+4.9**
LYN				pmax	pmax		
	comp=Z,150nm,4.7s						
LYN				LR	LR		
	comp=Z,400nm,17.7s						
LYN				LR	LR		
	comp=Z,350nm,17.8s						
LYN				LR	LR		
	comp=Z,450nm,18.0s						
KURBB	**Kurchatov Arra**	**66.15**	**8**	P	**P**	**04 10 32.8**	**-1.0**
	comp=Z,3.2nm,1.0s,baz=204,slow=6.7,SNR=13						
KURK	**Kurchatov**	**66.25**	**8**	*ce*P	**P**	**04 10 33.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,27nm,2.5s						
KURK	**Kurchatov**	**66.25**	**8**	P	**P**	**04 10 33.1**	**-1.4**
KURK				IAmb	IAmb	04 10 46.2	
	comp=Z,19nm,1.4s						
BVAR	**Borovoye Array**	**67.81**	**2**	P	**P**	**04 10 43.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=58,slow=20,SNR=7.3						
BRVK	**Borovoye**	**67.83**	**2**	*ce*P	**P**	**04 10 43.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,21nm,2.5s						
BRVK	**Borovoye**	**67.83**	**2**	P	**P**	**04 10 43.6**	**-1.0**
BRVK				IAmb	IAmb	04 10 51.2	
	comp=Z,12nm,1.1s						
AGG	**Agios Georgios**	**67.84**	**324**	P	**P**	**04 10 43.9**	**-1.1**
AGG				pmax	pmax		
	comp=Z,16nm,1.2s						
AGG	**Agios Georgios**	**67.84**	**324**	P	**P**	**04 10 43.9**	**-1.1**
AGG				IAmb	IAmb	04 10 51.6	
	comp=Z,16nm,1.2s						
PSN	**Preselentsi**	**68.17**	**331**	P	P	04 10 52.5	+5.7
PRD	**Provadia**	**68.18**	**330**	P	**P**	**04 10 47.6**	**+0.7**
RZN	**Rozhen**	**68.41**	**327**	P	**P**	**04 10 49.6**	**+0.9**
NJ2	**Nanjing**	**68.43**	**46**	*e*P	**P**	**04 10 50.0**	**+1.2**
NJ2				sP	**pP**	**04 10 54.0**	**-0.2**
NJ2				S	**S**	**04 19 51.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2				LR	LR		
	comp=Z,410nm,18.0s						
NJ2				LR	LR		
	comp=Z,410nm,14.2s						
NJ2				LR	LR		
	comp=Z,800nm,24.5s						
LIT	**Litokhoron**	**68.49**	**325**	P	**P**	**04 10 48.5**	**-0.5**
LIT				pmax	pmax		
	comp=Z,17nm,1.2s						
LIT	**Litokhoron**	**68.49**	**325**	P	**P**	**04 10 48.5**	**-0.5**
LIT				IAmb	IAmb	04 10 56.0	
	comp=Z,16nm,1.2s						
TIRR	**Tirgusor**	**68.65**	**332**	⇑P	**P**	**04 10 49.2**	**-0.7**
TIRR	**Tirgusor**	**68.65**	**332**	⇑P	**P**	**04 10 49.2**	**-0.7**
PLD	**Plovdiv**	**68.72**	**328**	P	**P**	**04 10 51.5**	**+1.2**
MMB	**Musomiste**	**68.86**	**327**	P	**P**	**04 10 51.2**	**-0.1**
HNS	**HongShan**	**68.94**	**39**	⇓P	**P**	**04 10 53.5**	**+1.7**
HNS				pmax	pmax		
	comp=Z,15nm,1.6s						
SZH	**Strazhica**	**68.94**	**329**	P	P	04 10 45.0	-6.7
HARR	**Harsova**	**69.05**	**331**	⇑P	**P**	**04 10 52.5**	**+0.1**
HARR	**Harsova**	**69.05**	**331**	⇑P	**P**	**04 10 52.5**	**+0.1**
CFR	**Carcaliu**	**69.33**	**332**	⇓P	**P**	**04 10 54.0**	**0.0**
CFR	**Carcaliu**	**69.33**	**332**	⇓P	**P**	**04 10 54.0**	**0.0**
HHC	**Hu-ho-hao-te**	**69.39**	**35**	*e*P	**P**	**04 10 56.0**	**+1.3**
HHC				S	**S**	**04 19 58.5**	**-2.4**
HHC				SS	**SS**	**04 24 29.8**	**+1.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,5.5s						
HHC				LR	LR		
	comp=Z,360nm,15.2s						
HHC				LR	LR		
	comp=Z,400nm,15.9s						
HHC				LR	LR		
	comp=Z,610nm,20.2s						
KKB	**Krupnik**	**69.40**	**327**	P	**P**	**04 10 54.8**	**+0.2**
STKA	**Stephens Creek**	**69.57**	**119**	P	**P**	**04 10 55.4**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=289,slow=6.5,SNR=4.6						
STKA	**Stephens Creek**	**69.57**	**119**	P	**P**	**04 10 55.2**	**-0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
STKA	**Stephens Creek**	**69.57**	**119**	P	**P**	**04 10 55.2**	**-0.8**
FNA	**Florina**	**69.58**	**325**	P	**P**	**04 10 54.1**	**-1.7**
FNA				pmax	pmax		
	comp=Z,14nm,1.3s						
FNA	**Florina**	**69.58**	**325**	P	**P**	**04 10 54.1**	**-1.7**
FNA				IAmb	IAmb	04 11 03.0	
	comp=Z,14nm,1.3s						
TIA	**Tai'an**	**69.72**	**42**	*e*P	**P**	**04 10 56.5**	**-0.2**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TIA				LR	LR		
	comp=Z,540nm,20.8s						
TIA				LR	LR		
	comp=Z,430nm,17.5s						
TIA				LR	LR		
	comp=Z,820nm,21.5s						
KBN	**Korca**	**69.80**	**324**	P	**P**	**04 10 57.3**	**+0.1**
KBN				pmax	pmax		
	comp=Z,14nm,1.1s						
KBN	**Korca**	**69.80**	**324**	P	**P**	**04 10 57.3**	**+0.1**
KBN				IAmb	IAmb	04 11 00.9	
	comp=Z,14nm,1.1s						
VTS	**Vitosha**	**69.84**	**327**	⇑P	**P**	**04 10 57.5**	**0.0**
VTS	**Vitosha**	**69.84**	**327**	⇑P	**P**	**04 10 57.5**	**0.0**
VTS	**Vitosha**	**69.84**	**327**	P	**P**	**04 10 57.4**	**-0.2**
VTS				IAmb	IAmb	04 11 05.5	
	comp=Z,22nm,1.5s						
VTS	**Vitosha**	**69.84**	**327**	P	**P**	**04 10 57.7**	**+0.2**
MPEP	**Malo Peshtene**	**70.11**	**328**	P	**P**	**04 11 00.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**70.12**	**290**	P	**P**	**04 10 59.8**	**+0.1**
	comp=Z,1.5nm,1.2s,baz=316,slow=4.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**70.12**	**290**	P	**P**	**04 10 59.7**	**+0.1**
TORD				IAmb	IAmb

comp=Z,26nm,1.5s
VOIR 70.97 330 ⇑P P 04 11 04.1 -0.1
VOIR 70.97 330 ⇑P P 04 11 04.1 -0.1
ARU Arti 71.47 355 P P 04 11 06.4 -0.5
comp=Z,1.7nm,0.2s,baz=172,slow=8.2,SNR=6.0
ARU Arti 71.47 355*c* *i*P P 04 11 06.1 -0.8
ARU 04 13 41.6
ARU S **S** 04 20 28.7 +4.4
ARU SS **SS** 04 24 59.5 -0.3
ARU pmax pmax
comp=Z,10.0nm,1.1s
ARU MLR MLR
comp=Z,337nm,19.0s
ARU Arti 71.47 355 P P 04 11 06.1 -0.8
BJI Beijing 71.50 38 P P 04 11 08.5 +1.1
BJI sP **pP** 04 11 13.0 +0.1
BJI S **S** 04 20 28.8 +3.4
BJI SS **SS** 04 25 05.5 +4.6
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI LR LR
comp=Z,330nm,17.0s
BJI LR LR
comp=Z,290nm,19.7s
BJI LR LR
comp=Z,430nm,19.2s
SORM Soroca 71.52 334 ⇑P P 04 11 05.3 -2.0
SORM Soroca 71.52 334 ⇑P P 04 11 05.3 -2.0
SVE Sverdlovsk 71.72 357 *e*P P 04 11 13.8 +5.4
SVE pmax pmax
comp=Z,42nm,1.6s
HERR Herculane 71.86 329 ⇑P P 04 11 09.7 +0.2
SONM Songino Array 71.88 27 P P 04 11 09.1 -0.7
comp=Z,0.9nm,0.7s,baz=218,slow=6.2,SNR=6.7
SONM Songino Array 71.88 27 P P 04 11 09.7 0.0
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 71.88 27 P P 04 11 09.7 0.0
GZR Gura Zlata 72.04 329 ⇑P P 04 11 11.4 +0.7
GZR Gura Zlata 72.04 329 ⇑P P 04 11 11.4 +0.7
ULN Ulaanbaatar 72.19 27*ce*P P 04 11 11.7 0.0
ULN pmax pmax
comp=Z,7.0nm,1.7s
BURAR Bucovina Array 72.50 332 P P 04 11 13.7 +0.3
DIVS Divibare 72.58 327 P P 04 11 14.0 +0.1
DIVS IAmb IAmb 04 11 22.3
comp=Z,31nm,1.5s
BZS Buzias 72.78 329 ⇓P P 04 11 15.8 +0.8
BZS Buzias 72.78 329 ⇓P P 04 11 15.8 +0.8
DRGR 73.07 330 ⇑P P 04 11 17.3 +0.5
DRGR 73.07 330 ⇑P P 04 11 17.3 +0.5
AKASG Malin Array Be 73.17 336 P P 04 11 16.5 -0.7
comp=Z,2.2nm,0.8s,baz=137,slow=5.0,SNR=9.6
AKASG Malin Array Be 73.17 336 *i* P P 04 11 16.0 -1.2
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 73.17 336*ce*P P 04 11 16.6 -0.6
AKBB Malin Array Si 73.17 336 P P 04 11 16.0 -1.2
KEST Kesra 74.04 315 P P 04 11 24.1 +1.3
comp=Z,1.9nm,0.8s,baz=56,slow=6.8,SNR=3.6
KEST Kesra 74.04 315 P P 04 11 22.0 -0.8
TRPA Tarpa 74.11 331 ⇑P P 04 11 24.0 +1.2
OBN Obninsk 74.34 343 *e*P P 04 11 22.6 -1.3
OBN *e* 04 11 29.6
OBN *e* 04 11 36.6
OBN *e* 04 14 08.9
OBN pmax pmax
comp=Z,8.0nm,1.2s
UZH Uzhgorod 74.58 331 *e*P P 04 11 28.0 +2.5
UZH *e* 04 11 29.9
UZH *e* 04 11 34.9
UZH *i* 04 11 42.6
MOS Moscow 74.58 343 *e*P P 04 11 22.7 -2.6
MOS pmax pmax
comp=Z,61nm,1.5s
LVV L'vov 74.66 333 *e*P P 04 11 25.4 -0.5
KIRV Kirov 74.66 351 *i*P P 04 11 25.5 -0.2
QSPA South Pole Qui 75.09 180 P P 04 11 29.3 +0.8
comp=Z,14nm,1.0s,baz=266,slow=3.5,SNR=16
QSPA South Pole Qui 75.09 180 P P 04 11 29.4 +0.9
CRVS Cervenica-Dubn 75.16 331 *e*P P 04 11 31.6 +2.7
CRVS Cervenica-Dubn 75.16 331 *e*P P 04 11 31.6 +2.7
NRCA Norcia 75.63 322 P P 04 11 30.4 -1.4
LANS Liptovska Anna 76.28 330 *e*P P 04 11 36.4 +1.1
LANS Liptovska Anna 76.28 330 *e*P P 04 11 36.4 +1.1
VNDA Vanda 76.59 167 P P 04 11 37.1 +0.4
comp=Z,3.4nm,1.1s,baz=267,slow=5.9,SNR=7.4
VNDA Vanda 76.59 167 P P 04 11 37.0 +0.3
VNDA pmax pmax
comp=Z,8.0nm,1.2s
VNDA Vanda 76.59 167 P P 04 11 37.0 +0.3
MNK Minsk 76.67 338 *i*P P 04 11 33.4 -3.9
MNK *i* 04 14 27.0
MNK *i*PPP PPP 04 16 14.1
MNK *i*S **S** 04 21 21.0 -1.9
MNK *i*SS **SS** 04 26 16.5 -2.6
MNK *i*SSS SSS 04 29 39.3
MNK pmax pmax
comp=N,17nm,1.2s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK MLR MLR
comp=Z,189nm,20.0s
MNK MLR MLR
comp=E,8.0nm,16.0s
MNK MLR MLR
comp=N,51nm,10.0s
MNK Minsk 76.67 338 *i*P P 04 11 33.4 -3.9
comp=E,2.0nm,1.1s
MNK *i*P P 04 11 33.4 -3.9
comp=N,17nm,1.1s
MNK *i*P P 04 11 33.4 -3.9
comp=Z,8.0nm,1.0s,baz=142
MNK *i*PP **PP** 04 14 27.1 -3.0
MNK *i*PPP PPP 04 16 14.2
MNK *i*S **S** 04 21 21.0 -1.9
MNK *i*SS **SS** 04 26 16.5 -2.6
MNK *i*SSS SSS 04 29 39.4
MNK *i*LQ LQ 04 40 19.3
MNK *i*LR LR 04 45 52.5
MNK *i*LRM MLR 04 47 32.7
comp=Z,189nm,19.5s
MNK *i*LRM MLR 04 47 42.1
comp=E,8.0nm,16.2s
MNK *i*LRM MLR 04 47 56.4
comp=N,51nm,10.1s
ARSA Arzberg 77.01 327 *e*P P 04 11 39.9 +0.4
comp=N,15nm,1.2s
OBKA Obir 77.06 326 *e*P P 04 11 41.8 +1.9
comp=N,14nm,1.4s
CONA Conrad Observa 77.27 328 *i*P P 04 11 41.1 +0.1
comp=N,22nm,1.5s
NACGM Naroch 77.38 338⇑*e*P P 04 11 41.2 -0.1
KSAR Wonju Array Be 77.59 46 P P 04 11 42.0 -0.9
KSAR Wonju Array Be 77.59 46 P P 04 11 42.0 -0.9
KSRS Korea Array 77.62 46 P P 04 11 42.0 -1.0
comp=N,0.8nm,0.4s,baz=233,slow=7.1,SNR=7.0
MORC Moravsky Berou 77.63 330 P P 04 11 42.9 0.0
MORC pmax pmax
comp=Z,5.0nm,1.1s
MORC Moravsky Berou 77.63 330 P P 04 11 42.9 0.0
MORC Moravsky Berou 77.63 330 *e*P P 04 11 42.0 -0.9
KRUC Moravsky 77.72 329 *e*P P 04 11 43.1 -0.3
VRAC Vranov 77.79 329 P P 04 11 44.3 +0.5
comp=Z,2.3nm,0.4s,baz=144,slow=5.0,SNR=4.8
MOA Molln 78.05 327 *i*P P 04 11 45.5 +0.2
comp=Z,19nm,1.3s
KBA Koelnbreinsper 78.06 326 *e*P P 04 11 45.6 0.0
comp=Z,4.6nm,0.9s
PRGR Permogore 78.17 350 *e*P P 04 11 42.8 -2.8
PRGR pmax pmax
comp=Z,21nm,1.5s
KRLC Kraliky 78.20 330 *e*P P 04 11 52.6 +6.5
KRLC Kraliky 78.20 330 *ep*P pP 04 11 52.6 +0.9
ABTA Abfaltersbach 78.32 325 *e*P P 04 11 47.5 +0.7
comp=Z,16nm,1.4s
PMG Port Moresby 78.49 97 *i*P P 04 11 47.9 -0.6
PMG pmax pmax
comp=Z,16nm,1.4s
DPC Dobruska-Polom 78.60 330 *e*P P 04 11 47.6 -0.7
DPC Dobruska-Polom 78.60 330 *e*P P 04 11 47.6 -0.7
KLMR Klimovskoe 78.65 347 *e*P P 04 11 45.9 -2.3
KLMR pmax pmax
comp=Z,75nm,1.4s
KLMR Klimovskoe 78.65 347 *e*P P 04 11 46.0 -2.3
KLMR AMP 04 11 55.5
comp=Z,75nm,1.4s
EIDS Eidsvold 78.77 113 P P 04 11 49.3 -0.5
EIDS IAmb IAmb 04 11 56.8
comp=Z,26nm,1.4s
GERES GERESS Array B 78.96 327 P P 04 11 50.0 -0.3
comp=Z,0.8nm,0.9s,baz=134,slow=5.8,SNR=5.4
WTTA Wattenberg 79.11 325 *i*P P 04 11 51.4 0.0
comp=Z,9.3nm,0.9s
WATA Walderalm 79.18 325 *e*P P 04 11 51.6 -0.1
comp=Z,11nm,1.0s
KHC Kasperske Hory 79.20 328 *e*P P 04 11 51.4 -0.2
KHC Kasperske Hory 79.20 328 *e*P P 04 11 51.4 -0.2
KHC Kasperske Hory 79.20 328 P P 04 11 51.3 -0.2
KHC IAmb IAmb 04 11 59.2
comp=Z,14nm,1.4s
HIA Hailar 79.26 32 *i*P P 04 11 50.9 -1.0
HIA pmax pmax
comp=Z,23nm,2.1s
CN2 Changchun 79.30 39 *e*P P 04 11 51.3 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
SQTA Sankt Quirin 79.32 325 *e*P P 04 11 52.5 +0.1
comp=Z,16nm,1.4s
MOTA Moosalm 79.45 325 *e*P P 04 11 53.0 -0.2
comp=Z,9.5nm,1.2s
FETA Feichten 79.47 325 *e*P P 04 11 53.5 +0.3
comp=Z,17nm,1.6s
RETA Reute 79.72 325 *e*P P 04 11 52.5 -2.0
comp=Z,3.0nm,0.6s
DAVOX Davos/Dischmat 79.81 324 P P 04 11 55.4 +0.2
comp=Z,3.6nm,1.0s,baz=143,slow=23,SNR=5.0
TUE Stuetta 79.93 324 P P 04 11 53.9 -1.9
TUE IAmb IAmb 04 12 02.6
comp=Z,37nm,1.7s
SENIN Lac Senin/Sane 81.06 323 P P 04 12 01.7 -0.2
SENIN IAmb IAmb 04 12 16.3
comp=Z,34nm,1.6s
FINES FINESS Array B 82.69 342 P P 04 12 09.6 -0.3
comp=Z,1.0nm,0.8s,baz=131,slow=7.9,SNR=2.0
FINES FINESS Array B 82.69 342 P P 04 12 10.6 +0.8
FINES FINESS Array B 82.69 342 P P 04 12 10.6 +0.8
USRK Ussuriysk Ar. 83.58 41 P P 04 12 16.5 +1.6
comp=Z,2.3nm,0.8s,baz=251,slow=9.0,SNR=2.3
MAJO Matsushiro 84.59 50 *i*P P 04 12 18.2 -2.1
MAJO pmax pmax
comp=Z,15nm,1.2s
MJAR Matsushiro Arr 84.59 50 P P 04 12 20.0 -0.3
comp=Z,6.5nm,0.8s,baz=256,slow=5.0,SNR=5.9
MJAR Matsushiro Arr 84.59 50 P P 04 12 19.5 -0.7
MJAR pmax pmax
comp=Z,29nm,1.4s
MJAR Matsushiro Arr 84.59 50 P P 04 12 19.5 -0.7
ESDC Sonseca Array 85.19 313 P P 04 12 23.7 +0.4
comp=Z,3.0nm,1.0s,baz=100,slow=3.9,SNR=14
ESDC Sonseca Array 85.19 313 P P 04 12 23.6 +0.4
ESDC IAmb IAmb 04 12 27.4
comp=Z,8.7nm,1.2s
NRIK Nal'sk 85.40 7 P P 04 12 23.7 +0.2
comp=Z,1.6nm,0.6s,baz=180,slow=4.0,SNR=4.7
ZEA Zeya 85.68 31 *e*P P 04 12 31.4 +6.2
HFS Hagfors 86.06 336 P P 04 12 27.1 +0.1
comp=Z,4.2nm,1.0s,baz=181,slow=10,SNR=3.9
ARCES ARCESS Array B 89.12 347 P P 04 12 42.7 +1.1
comp=Z,2.2nm,0.8s,baz=207,slow=1.4,SNR=3.5
YSS Yuzh-Sakhalins 91.60 42 *i*P P 04 12 50.8 -2.8
YSS pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 95.79 16*ce*P P 04 13 11.3 -1.0
TIXI pmax pmax
comp=Z,12nm,2.5s
MA2 Magadan 99.82 31 *i*P Pdif P 04 13 31.0 +0.3
SEY Seymchan 101.27 28 *i*P Pdif P 04 13 37.9 +0.8
SEY pmax pmax
comp=Z,2.0nm,1.5s
IMAR Indian Mountai 122.38 18 PKiKP PKPdf 04 18 41.3 -0.3
ILAR Eielson Array 125.26 17 PKP PKPdf 04 18 45.5 -1.4
comp=Z,1.0nm,1.0s,baz=323,slow=3.4,SNR=6.3
LPAZ La Paz 125.63 237 PKP PKPdf 04 18 49.7 -0.1
comp=Z,2.2nm,1.0s,baz=93,slow=1.0,SNR=5.7
LPAZ La Paz 125.63 237 PKiKP PKPdf 04 18 48.1 -1.7
LPAZ La Paz 125.63 237 PKPdf PKPdf 04 18 48.1 -1.7
YKA Yellowknife Ar 132.55 1 PKP PKPdf 04 19 00.6 -0.2
comp=Z,1.6nm,1.1s,baz=344,slow=2.1,SNR=9.7
PDAR Pinedale Array 152.13 354 PKPbc PKPbc 04 19 41.9 -0.7
comp=Z,4.8nm,0.9s,baz=75,slow=2.0,SNR=23
NVAR Mina Array Bea 156.24 10 PKPbc PKPdf 04 19 49.8 +7.9
comp=Z,0.9nm,0.9s,baz=325,slow=1.8,SNR=4.2
TXAR Lajitas Array 163.17 330 PKP PKPdf 04 19 49.0 -0.9
comp=Z,0.9nm,1.0s,baz=0.0,slow=0.0,SNR=6.7
TXAR PKPbab PKPab 04 20 39.6 -0.3
comp=Z,1.1nm,0.8s,baz=54,slow=4.0,SNR=8.1

*IDC **30** 04:00:41.3±1.1, 23°.87S×115°.29W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/32, mbtmp3.9/6, MS3.8/10, Ms1 3.8/10, ms1mx3.5/57, Error ellipse: s-maj=43.6km s-min=25.2km az=51.0*
*NEIC **30** 04:00:43.1±1.9, 24°.0S±0°.2×115°.2W±0°.2, h10km±1km, mb4.6/17, Error ellipse: s-maj=34.3km s-min=20.6km az=223.0*
ISC 30 04:00:43.5±1.1, 23°.8S±0°.2×115°.0W±0°.2, h10km, n50, σ1§14/35, mb4.5/14, MS3.9/12, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
RPN	**Rapa Nui**	**6.12**	**124**	LR	LR	04 03 58.2	
	comp=Z,1μm,18.8s,baz=289,slow=31						
RPN	**Rapa Nui**	**6.12**	**124**	Pn	**Pn**	**04 02 13.1**	**-1.0**
TAOE	**Nuku Hiva Isla**	**28.24**	**298**	*e*LR	LR	04 13 39.0	
	comp=Z,423nm,25.4s						
TBI	**Tubuai**	**31.52**	**264**	*e*LR	LR	04 14 59.9	
	comp=Z,310nm,28.2s						
TBI	**Tubuai**	**31.52**	**264**	*e*T	T	04 39 29.2	
	4.1nm,0.3s						
PPT2	**Papeete2**	**32.84**	**274**	*e*LR	LR	04 15 33.0	
	comp=Z,319nm,28.8s						
PPT	**Papeete**	**32.85**	**274**	LR	LR	04 16 12.5	
	comp=Z,231nm,19.3s,baz=63,slow=29						
H03N2	**Juan Fernandez**	**32.97**	**115**	T	T	04 42 53.7	
	baz=281,slow=75,SNR=14						
H03N3	**Juan Fernandez**	**32.98**	**115**	T	T	04 43 25.2	
	baz=281,slow=75,SNR=20						
H03N1	**Juan Fernandez**	**32.99**	**115**	T	T	04 43 21.3	
	baz=281,slow=75,SNR=18						
NNA	**Nana**	**38.07**	**79**	LR	LR	04 19 39.1	
	comp=Z,185nm,19.1s,baz=234,slow=30						
PLCA	**Paso Flores**	**40.76**	**125**	P	**P**	**04 08 25.4**	**+0.5**
	2.9nm,0.9s,baz=261,slow=7.3,SNR=6.8						
PLCA	**Paso Flores**	**40.76**	**125**	P	**P**	**04 08 25.5**	**+0.5**
RAR	**Rarotonga**	**41.29**	**264**	LR	LR	04 20 17.6	
	comp=Z,191nm,21.8s,baz=117,slow=29						
LVC	**Limon Verde**	**42.26**	**98**	LR	LR	04 21 45.8	
	comp=Z,151nm,19.4s,baz=240,slow=30						
LPAZ	**La Paz**	**44.53**	**89**	P	**P**	**04 08 58.1**	**+1.6**
	1.2nm,0.6s,baz=256,slow=8.3,SNR=6.9						
LPAZ				LR	LR	04 23 45.4	
	comp=Z,121nm,19.3s,baz=238,slow=31						
LPAZ	**La Paz**	**44.53**	**89**	P	**P**	**04 08 57.0**	**+0.5**
CMIG	**Matias Romero**	**45.15**	**28**	LR	LR	04 24 05.3	
	comp=Z,52nm,18.6s,baz=249,slow=31						
LPIG	**La Paz**	**47.84**	**6**	LR	LR	04 23 59.5	
	comp=Z,26nm,20.4s,baz=194,slow=29						
TXAR	**Lajitas Array**	**53.95**	**12**	P	**P**	**04 10 07.8**	**+0.2**
	0.6nm,0.9s,baz=194,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**53.95**	**12**	P	**P**	**04 10 08.1**	**+0.5**
AFI	**Afiamalu**	**54.30**	**270**	LR	LR	04 26 51.2	
	comp=Z,176nm,18.1s,baz=102,slow=29						
JCT	**Junction City**	**55.91**	**16**	P	**P**	**04 10 22.2**	**+0.5**
JCT				IAmb	IAmb	04 10 24.0	
	comp=Z,6.7nm,0.8s						
MSTX	**Muleshoe**	**58.62**	**12**	P	**P**	**04 10 41.7**	**+0.7**
ANMO	**Albuquerque**	**58.99**	**8**	LR	LR	04 32 51.2	
	comp=Z,70nm,18.2s,baz=181,slow=33						
SHPR	**Sheep Range**	**59.98**	**360**	P	**P**	**04 10 51.3**	**+0.9**
SHPR				IAmb	IAmb	04 10 53.1	
	comp=Z,5.8nm,0.9s						
CCUT	**Cedar City**	**61.04**	**2**	P	**P**	**04 10 58.6**	**+0.9**
CCUT				IAmb	IAmb	04 11 00.6	
	comp=Z,4.1nm,0.9s						
R11A	**Troy Canyon, C**	**61.82**	**360**	P	**P**	**04 11 03.8**	**+0.9**
SDCO	**Great Sand Dun**	**61.87**	**9**	P	**P**	**04 11 02.5**	**-0.9**
SDCO				IAmb	IAmb	04 11 04.6	
	comp=Z,4.9nm,1.2s						
NVAR	**Mina Array Bea**	**61.98**	**357**	P	**P**	**04 11 04.7**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=189,slow=10.0,SNR=10						
NVAR	**Mina Array Bea**	**61.98**	**357**	P	**P**	**04 11 03.9**	**-0.1**
ELK	**Elko**	**64.21**	**360**	P	**P**	**04 11 18.8**	**0.0**
ELK				IAmb	IAmb	04 11 25.4	
	comp=Z,4.9nm,1.4s						
RDMU	**Red Mountain**	**64.24**	**5**	P	**P**	**04 11 19.2**	**+0.3**
RDMU				IAmb	IAmb	04 11 20.6	
	comp=Z,5.5nm,0.9s						
PDAR	**Pinedale Array**	**66.42**	**4**	P	**P**	**04 11 32.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=176,slow=5.3,SNR=8.2						
K22A	**Casper**	**66.58**	**7**	P	**P**	**04 11 33.5**	**-0.5**
HLID	**Hailey**	**67.03**	**0**	P	**P**	**04 11 37.4**	**+0.6**
HLID				IAmb	IAmb	04 11 43.9	
	comp=Z,5.2nm,1.1s						
G08A	**Pilot Rock**	**68.85**	**357**	P	**P**	**04 11 49.4**	**+1.2**
G08A				IAmb	IAmb	04 11 50.2	
	comp=Z,3.7nm,0.9s						
DLMT	**Dillon**	**68.86**	**2**	P	**P**	**04 11 48.4**	**0.0**
ECSD	**EROS Data Cent**	**69.30**	**14**	P	**P**	**04 11 49.6**	**-1.3**
YKA	**Yellowknife Ar**	**85.99**	**0**	P	**P**	**04 13 22.7**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=177,slow=5.4,SNR=25						
YKA	**Yellowknife Ar**	**85.99**	**0**	P	**P**	**04 13 22.2**	**-1.4**
ZALV	**Zalesovo Beam**	**146.40**	**339**	PKPbc	**PKPdf**	**04 20 23.4**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=46,slow=4.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**146.40**	**339**		**PKPdf**	**04 20 23.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**147.92**	**267**	PKPbc	**PKPdf**	**04 20 29.1**	**+2.3**
	comp=Z,4.6nm,0.3s,baz=90,slow=2.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**147.92**	**267**		**PKPdf**	**04 20 25.7**	**-1.1**
BRTR	**Keskin Array B**	**149.19**	**52**	PKPbc	**PKPbc**	**04 20 31.6**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=250,slow=3.7,SNR=5.3						
BRTR	**Keskin Array B**	**149.19**	**52**		**PKPdf**	**04 20 29.2**	**+0.8**
KURK	**Kurchatov**	**151.12**	**342**	PKPdf	**PKPdf**	**04 20 29.8**	**-1.1**
KURBB	**Kurchatov Arra**	**151.22**	**342**	PKPbc	**PKPdf**	**04 20 34.9**	**+3.8**
	comp=Z,1.0nm,0.9s,baz=16,slow=2.1,SNR=6.1						
MKAR	**Makanchi Array**	**153.17**	**333**	PKP	**PKPdf**	**04 20 33.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=20,slow=2.2,SNR=2.5						
MKAR				PKPbc	**PKPbc**	**04 20 40.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=48,slow=3.6,SNR=3.8						

*MOS **30** 04:05:24.7±1.0, 14°.70S×66°.99E, h7km, mb5.1/49, Error ellipse: s-maj=11.2km s-min=6.1km az=105.1*
*IDC **30** 04:05:25.0±0.4, 14°.86S×66°.86E, h0km, mb4.5/36, mb1 4.5/37, mb1mx4.4/53, mbtmp4.4/37, ML3.9/1, MS4.6/65, Ms1 4.6/65, ms1mx4.5/82, Error ellipse: s-maj=14.0km s-min=11.3km az=9.0*
*BGR **30** 04:05:25.9±0.0, 14°.91S×67°.61E, h33km, mb5.1*
*BJI **30** 04:05:26.0±0.0, 14°.80S×66°.90E, h10km, mb4.7/55, mB5.2/39, Ms5.0/45, Ms7 4.8/43*
*NEIC **30** 04:05:27.6±2.0, 14°.78S±0°.10×66°.94E±0°.10, h10km±1km, mb5.1/98, Error ellipse: s-maj=17.0km s-min=16.0km az=159.0*
*GCMT **30** 04:05:27.6±0.2, 14°.85S±0°.01×66°.71E±0°.01, h12km, MW5.2/134, Moment Tensor Solution. s56,c71; s134,c229; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr=0.83±.01; Mθθ=0.33±.01; Mφφ=0.49±.01; Mrθ=0.10±.05; Mθφ=-0.35±.01; Mφr=0.38±.05; Best double couple: M0=0.88500×10^17 NP1:φs=307.00000°, δs=39.00000°, λs=-117.00000°. NP2:φs=159.00000°, δs=56.00000°, λs=-70.00000°. Principal axes: T 0.8140, Plg9.0000°, Azm235.0000°; N 0.1430, Plg16.0000°, Azm328.0000°; P -0.9570, Plg71.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 04:05:27.5±0.3, 14°.96S±0°.06×66°.76E±0°.05, h16km, n453, σ1§40/438, mb5.0/145, MS4.7/85, 8C-4D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
H08S1	**Diego Carcia H**	**9.18**	**38**	T	T	04 17 03.5	
	baz=218,slow=76,SNR=703						
H08S2	**Diego Garcia H**	**9.19**	**38**	T	T	04 17 04.4	
	baz=218,slow=76,SNR=787						
H08S3	**Diego Garcia H**	**9.20**	**38**	T	T	04 16 58.9	
	baz=218,slow=76,SNR=688						
KAAM	**Kaadhehdhoo**	**16.55**	**22**	Pn	**Pn**	**04 09 16.1**	**-2.9**
OPO	**Ambohidratompo**	**19.08**	**256**	P	**Pn**	**04 09 51.8**	**+1.3**
	0.3nm,0.3s,baz=71,slow=12,SNR=7.6						
OPO				LR	LR	04 15 12.8	
	comp=Z,1μm,18.9s,baz=233,slow=31						
ABPO	**Ambohimpanom**	**19.11**	**255**	P	**Pn**	**04 09 51.2**	**+0.4**
ABPO				pmax	pmax		
	comp=Z,89nm,1.8s						
ABPO	**Ambohimpanom**	**19.11**	**255**	P	**Pn**	**04 09 51.2**	**+0.4**
VOI	**Vohitsoka**	**20.15**	**247**	P	Pn	04 10 05.9	+2.8
PALK	**Pallekele**	**26.06**	**33**	P	**P**	**04 10 59.8**	**-0.6**
	comp=Z,3.7nm,0.6s,baz=315,slow=14,SNR=4.8						
PALK				LR	LR	04 18 51.6	
	comp=Z,3μm,21.0s,baz=314,slow=31						
PALK	**Pallekele**	**26.06**	**33**	⇓P	**P**	**04 11 06.2**	**+5.7**
PALK	**Pallekele**	**26.06**	**33**	P	**P**	**04 10 58.3**	**-2.1**
PALK				IAmb	IAmb	04 11 13.8	
	comp=Z,49nm,1.4s						
KIBK	**Kibwezi**	**30.97**	**291**	P	**P**	**04 11 45.1**	**+0.7**
KMBO	**Kilima Mbogo**	**32.22**	**293**	P	**P**	**04 11 56.9**	**+1.4**
	comp=Z,4.3nm,1.0s,baz=85,slow=6.5,SNR=8.2						
KMBO				LR	LR	04 22 04.8	
	comp=Z,788nm,21.7s,baz=97,slow=31						
KMBO	**Kilima Mbogo**	**32.22**	**293**	P	**P**	**04 11 56.1**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,20nm,1.5s						
KMBO	**Kilima Mbogo**	**32.22**	**293**	P	**P**	**04 11 56.1**	**+0.6**
LODK	**Lodwar**	**36.06**	**298**	P	**P**	**04 12 30.6**	**+1.9**
PSI	**Prapat**	**36.41**	**64**	P	**P**	**04 12 30.4**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=258,slow=5.7,SNR=4.3						
PSI				LR	LR	04 24 38.9	
	comp=Z,2μm,20.3s,baz=257,slow=32						
FURI	**Furi**	**36.56**	**309**	P	**P**	**04 12 34.2**	**+1.0**
MATP	**Matopo**	**36.79**	**256**	P	**P**	**04 12 36.6**	**+1.7**
	comp=Z,4.5nm,1.1s,baz=77,slow=5.1,SNR=4.0						
MATP				LR	LR	04 25 42.1	
	comp=Z,2μm,21.4s,baz=72,slow=33						
LSZ	**Lusaka**	**37.20**	**264**	LR	LR	04 26 52.0	
	comp=Z,3μm,18.2s,baz=120,slow=34						
LSZ	**Lusaka**	**37.20**	**264**	P	**P**	**04 12 39.1**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,16nm,1.1s						
LSZ	**Lusaka**	**37.20**	**264**	P	**P**	**04 12 39.1**	**+0.6**
MBAR	**Mbarara**	**38.34**	**289**	LR	LR	04 26 50.0	
	comp=Z,1μm,18.4s,baz=106,slow=34						
WSAR	**Wadi Sarin**	**38.79**	**348**	P	**P**	**04 12 51.4**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=207,slow=7.9,SNR=5.1						
WSAR				LR	LR	04 25 38.2	
	comp=Z,566nm,19.4s,baz=174,slow=31						
IPM	**Ipoh**	**39.07**	**63**	P	**P**	**04 12 53.2**	**-0.9**
IPM				IAmb	IAmb	04 13 12.3	
	comp=Z,72nm,1.8s						
LBTB	**Lobatse**	**39.82**	**249**	P	**P**	**04 13 01.8**	**+1.4**
	comp=Z,3.8nm,0.6s,baz=81,slow=9.3,SNR=7.9						
LBTB				LR	LR	04 27 12.4	
	comp=Z,1μm,18.5s,baz=78,slow=33						
BOSA	**Boshof**	**40.65**	**243**	P	**P**	**04 13 08.8**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=97,slow=6.3,SNR=6.1						
BOSA				LR	LR	04 27 21.4	
	comp=Z,1μm,19.3s,baz=90,slow=32						
BOSA	**Boshof**	**40.65**	**243**	P	**P**	**04 13 10.2**	**+2.9**
BOSA				pmax	pmax		
	comp=Z,30nm,1.6s						
BOSA	**Boshof**	**40.65**	**243**	P	**P**	**04 13 10.2**	**+2.9**
LEM	**Lembang**	**40.87**	**83**	LR	LR	04 27 36.1	
	comp=Z,695nm,20.0s,baz=257,slow=33						
UOSS	**Minazif**	**40.98**	**345**	P	**P**	**04 13 07.5**	**-2.3**
RAYN	**Ar Rayn**	**43.53**	**331**	P	**P**	**04 13 31.1**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,14nm,1.4s						
RAYN	**Ar Rayn**	**43.53**	**331**	P	**P**	**04 13 31.1**	**+0.4**
SUR	**Sutherland**	**45.14**	**239**	LR	LR	04 29 32.5	
	comp=Z,1μm,19.1s,baz=88,slow=32						
CMAR	**Chiang Mai Arr**	**45.92**	**45**	P	**P**	**04 13 50.0**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=234,slow=8.9,SNR=12						
CMAR				LR	LR	04 30 37.8	

comp=Z,1µm,20.7s,baz=225,slow=33
CMAR Chiang Mai Arr 45.92 45 P **P** **04 13 47.9 -1.9**
CMAR Chiang Mai Arr 45.92 45 P **P** **04 13 47.9 -1.9**
CHTO Chiang Mai 46.17 44 P **P** **04 13 49.5 -2.2**
CHTO pmax pmax
comp=Z,18nm,1.4s
CHTO Chiang Mai 46.17 44 P **P** **04 13 49.5 -2.2**
CHTO IAmb IAmb 04 13 59.8
comp=Z,18nm,1.4s
JAGI Jajag, Banyuwa 46.78 88 P **P** **04 13 56.4 -0.2**
H01W3 Cape Leeuwin H 46.83 124 T T 05 04 09.9
baz=283,slow=75,SNR=47
H01W2 Cape Leeuwin H 46.84 124 T T 05 04 10.1
baz=283,slow=75,SNR=49
H01W1 Cape Leeuwin H 46.85 124 T T 05 04 11.2
baz=283,slow=75,SNR=48
TSUM Tsumeb 47.07 258 LR LR 04 32 49.1
comp=Z,1µm,18.4s,baz=92,slow=35
HRA Herat 49.26 355 P **P** **04 14 15.3 -0.4**
KBL Kabul 49.28 2 P **P** **04 14 16.1 +0.3**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 49.28 2 P **P** **04 14 16.1 +0.3**
KBL IAmb IAmb 04 14 23.9
comp=Z,7.7nm,0.6s
PSA00 Pilbara Seismi 50.65 106 P **P** **04 14 24.8 -1.5**
MAW Mawson 52.66 182 LR LR 04 31 28.8
comp=Z,832nm,21.9s,baz=354,slow=30
KMI Kunming 53.09 42 ⇑P **P** **04 14 45.5 +0.9**
KMI pP pwP 04 14 51.3 -1.2
KMI sP sP 04 14 53.8 +3.4
KMI PP **PP** **04 16 49.3 +4.6**
KMI S **S** **04 22 16.8 +2.2**
KMI sS sS 04 22 22.5 +1.0
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.6s
KMI LR LR
comp=Z,730nm,14.7s
KMI LR LR
comp=Z,400nm,16.6s
KMI LR LR
comp=Z,640nm,18.4s
GEYT Alibeck 53.23 351 LR LR 04 34 56.5
comp=Z,358nm,20.0s,baz=166,slow=33
PZH PanZhiHua 53.44 40 P **P** **04 14 47.5 +0.4**
PZH sP **pwP** **04 14 54.3 -0.7**
PZH PP **PP** **04 16 44.0 -3.8**
PZH S **S** **04 22 23.0 +3.8**
PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,140nm,4.8s
PZH LR LR
comp=Z,1µm,21.0s
PZH LR LR
comp=Z,1µm,19.2s
PZH LR LR
comp=Z,1µm,20.8s
GAR Garm 53.78 3 P **P** **04 14 48.3 -1.1**
GAR IAmb IAmb 04 14 55.4
comp=Z,14nm,1.0s
EIL Elat 53.95 325 LR LR 04 34 27.9
comp=Z,337nm,21.6s,baz=96,slow=32
QIZ Qiongzhong 54.22 53 P **P** **04 14 52.3 -0.5**
QIZ S **S** **04 22 32.5 +2.7**
QIZ LR LR
comp=Z,600nm,15.7s
QIZ LR LR
comp=Z,880nm,17.2s
QIZ LR LR
comp=Z,1µm,17.7s
DRK Karamyk 54.36 5 P **P** **04 14 52.4 -1.5**
DRK IAmb IAmb 04 15 05.7
comp=Z,19nm,1.1s
BTK Batken 54.87 4 P **P** **04 14 55.8 -1.4**
BTK pmax pmax
comp=Z,11nm,1.1s
BTK Batken 54.87 4 P **P** **04 14 55.8 -1.4**
KSH Kashi 54.87 9 P **P** **04 14 53.5 -3.8**
KSH sP pP 04 14 59.8 -1.5
KSH PP **PP** **04 17 01.3 +0.8**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,200nm,4.0s
KSH LR LR
comp=Z,1µm,19.0s
KSH LR LR
comp=Z,600nm,17.5s
KSH LR LR
comp=Z,1µm,19.4s
BATI Baumata 55.62 92 P **P** **04 15 04.2 +1.1**
comp=Z,17nm,0.4s,baz=287,slow=11,SNR=6.8
TOLI2 Tolitoli 55.76 78 P **P** **04 15 02.4 -1.6**
TOLI2 IAmb IAmb 04 15 06.3
comp=Z,60nm,1.8s
MMAI Mount Meron Ar 56.34 328 LR LR 04 37 12.0
comp=Z,306nm,18.4s,baz=308,slow=34
FITZ Fitzroy Crossi 56.34 102 LR LR 04 36 27.9
comp=Z,877nm,19.9s,baz=276,slow=33
GYA Guiyang 56.57 44 ⇓P **P** **04 15 10.5 +0.7**
GYA S **S** **04 23 04.8 +3.6**
GYA pmax pmax
comp=Z,18nm,1.1s
GYA LR LR
comp=Z,530nm,18.4s
GYA LR LR
comp=Z,530nm,15.8s
GYA LR LR
comp=Z,680nm,18.9s
GOMU GeErMu 57.38 27 P **P** **04 15 16.0 +0.4**
GOMU pP pP 04 15 20.0 +0.4
GOMU sP sP 04 15 21.5 +0.1
GOMU PcP **PcP** **04 16 09.0 -0.5**
GOMU S **S** **04 23 18.8 +6.7**
GOMU sS sS 04 23 25.5 +6.6
GOMU SS **SS** **04 27 00.3 -1.8**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,140nm,5.5s
GOMU LR LR
comp=Z,430nm,14.7s
GOMU LR LR
comp=Z,240nm,17.9s
GOMU LR LR
comp=Z,440nm,16.3s
MARD Mardin 57.46 336 P **P** **04 15 15.3 -0.5**
MARD IAmb IAmb 04 15 18.0
comp=Z,34nm,1.6s
KDJ Kajisay 57.62 9 P **P** **04 15 15.6 -1.3**
KDJ pmax pmax
comp=Z,42nm,2.0s
KDJ Kajisay 57.62 9 P **P** **04 15 15.6 -1.3**
KDJ IAmb IAmb 04 15 29.5
comp=Z,42nm,2.0s
AAK Ala-Archa 57.75 7 LR LR 04 39 40.0
comp=Z,649nm,18.7s,baz=192,slow=36
AAK Ala-Archa 57.75 7 P **P** **04 15 17.2 -0.7**
AAK pmax pmax
comp=Z,10.0nm,1.1s
AAK Ala-Archa 57.75 7 P **P** **04 15 17.2 -0.7**
BOOM Boomskoye usch 57.79 8 P **P** **04 15 16.1 -2.0**
BOOM pmax pmax
comp=Z,9.0nm,1.3s
BOOM Boomskoye usch 57.79 8 P **P** **04 15 16.1 -2.0**
CD2 Chengdu 57.84 38 P **P** **04 15 18.8 +0.2**
CD2 S **S** **04 23 21.8 +4.1**
CD2 pmax pmax
comp=Z,20nm,1.4s
CD2 pmax pmax
comp=Z,140nm,5.5s
CD2 LR LR
comp=Z,50nm,16.2s
CD2 LR LR
comp=Z,410nm,14.7s
CD2 LR LR
comp=Z,700nm,17.6s
KKAR Karatay Array 57.88 3 P **P** **04 15 17.7 -0.9**
KKAR Karatay Array 57.88 3 P **P** **04 15 17.7 -0.9**
FORT Forrest 57.99 117 P **P** **04 15 19.0 -0.7**
FORT IAmb IAmb 04 15 21.1
comp=Z,19nm,0.8s
GURO Guroymak-BITLI 58.05 337 P **P** **04 15 20.2 +0.2**

GNI Garni 58.53 340 P **P** **04 15 24.0 +0.7**
comp=Z,47nm,1.2s,baz=57,slow=3.3,SNR=7.9
GNI LR LR 04 39 16.3
comp=Z,238nm,20.0s,baz=146,slow=35
GNI Garni 58.53 340 P **P** **04 15 23.4 0.0**
GNI pmax pmax
comp=Z,107nm,1.4s
GNI Garni 58.53 340 P **P** **04 15 23.4 0.0**
KARS Kars 59.52 339 P **P** **04 15 29.4 -0.8**
KARS pmax pmax
comp=Z,151nm,1.5s
KARS Kars 59.52 339 P **P** **04 15 29.4 -0.8**
KOPT Kop Dagi 59.91 337 P **P** **04 15 33.6 +0.5**
KOPT IAmb IAmb 04 15 53.1
comp=Z,16nm,1.3s
BNN Bunyan 60.84 333 P **P** **04 15 39.0 -0.3**
TGY Tagaytay City 60.88 64 LR LR 04 40 46.0
comp=Z,315nm,20.2s,baz=224,slow=35
ZEI Tsey 61.19 341 *e*P **P** **04 15 41.3 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 61.55 17 *e*P **P** **04 15 45.3 +1.4**
WMQ pP pwP 04 15 51.8 -0.9
WMQ sP sP 04 15 57.5 +7.8
WMQ S **S** **04 24 06.0 +0.9**
WMQ ScS **ScS** **04 25 34.5 -0.4**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,260nm,3.7s
WMQ LR LR
comp=Z,810nm,17.3s
WMQ LR LR
comp=Z,630nm,18.7s
WMQ LR LR
comp=Z,480nm,18.1s
LZH Lanzhou 61.70 34 *e*P P 04 15 50.3 +5.1
LZH sP pwP 04 16 00.5 +7.2
LZH S **S** **04 24 08.5 +1.0**
LZH pmax pmax
comp=Z,11nm,1.5s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,460nm,17.4s
LZH LR LR
comp=Z,670nm,17.9s
LZH LR LR
comp=Z,510nm,18.4s
TOKA Tokat 61.79 334 P **P** **04 15 45.5 0.0**
GTA Gaotai 62.27 29 *e*P **P** **04 15 49.3 +0.4**
GTA pP sP 04 15 55.0 +0.3
GTA sP pwP 04 15 58.8 +1.8
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,83nm,7.2s
GTA LR LR
comp=Z,590nm,21.5s
GTA LR LR
comp=Z,330nm,19.9s
GTA LR LR
comp=Z,860nm,23.5s
DAV Davao City (W) 62.27 74 LR LR 04 41 39.4
comp=Z,364nm,19.2s,baz=250,slow=35
KBZ Khabaz 62.35 341 LR LR 04 42 12.1
comp=Z,230nm,19.2s,baz=147,slow=35
BR131 Keskin Array S 62.55 332 P **P** **04 15 50.5 -0.3**
BR131 pmax pmax
comp=Z,20nm,1.3s
BR131 Keskin Array S 62.55 332 P **P** **04 15 50.5 -0.3**
BR131 IAmb IAmb 04 15 52.9
comp=Z,20nm,1.2s
BRTR Keskin Array B 62.55 332 P **P** **04 15 50.8 0.0**
comp=Z,4.0nm,1.0s,baz=157,slow=6.7,SNR=15
BRTR LR LR 04 41 42.5
comp=Z,202nm,18.6s,baz=122,slow=35
BRTR Keskin Array B 62.55 332 *i* P **P** **04 15 50.7 0.0**
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 62.55 332 P **P** **04 15 50.6 -0.3**
KIV Kislovodsk 62.62 341 *e*P **P** **04 15 48.7 -2.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 62.99 12 P **P** **04 15 51.8 -1.6**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 62.99 12 P **P** **04 15 51.8 -1.6**
MK31 Makanchi Array 63.04 12 P **P** **04 15 52.4 -1.4**
MK31 pmax pmax
comp=Z,31nm,1.9s
MK31 Makanchi Array 63.04 12 P **P** **04 15 52.4 -1.4**
MK31 IAmb IAmb 04 15 55.0
comp=Z,31nm,1.9s
MKAR Makanchi Array 63.04 12 P **P** **04 15 52.4 -1.3**
comp=Z,2.2nm,0.6s,baz=212,slow=8.5,SNR=26
MKAR LR LR 04 42 34.2
comp=Z,549nm,20.6s,baz=183,slow=35
MKAR Makanchi Array 63.04 12 *i* P **P** **04 15 52.2 -1.6**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 63.04 12 P **P** **04 15 52.0 -1.8**
XAN Xi'an 63.13 39 P **P** **04 15 54.5 -0.2**
XAN pP sP 04 16 00.8 +0.3
XAN S **S** **04 24 29.0 +3.6**
XAN pmax pmax
comp=Z,13nm,1.8s
XAN pmax pmax
comp=Z,230nm,6.1s
XAN LR LR
comp=Z,290nm,18.4s
XAN LR LR
comp=Z,720nm,17.1s
XAN LR LR
comp=Z,520nm,20.6s
ASAR Alice Springs 63.48 109 P **P** **04 15 56.6 -0.7**
comp=Z,4.9nm,0.8s,baz=271,slow=6.4,SNR=49
ASAR LR LR 04 41 20.6
comp=Z,966nm,18.1s,baz=286,slow=34
ASAR Alice Springs 63.48 109 P **P** **04 15 55.3 -2.0**
ASAR Alice Springs 63.48 109 P **P** **04 15 55.3 -2.0**
AS31 Alice Springs 63.48 109 P **P** **04 15 56.3 -1.0**
BORA Eskisehir 64.18 330 P **P** **04 16 01.7 +0.2**
BORA IAmb IAmb 04 16 03.8
comp=Z,30nm,1.3s
ABKAR Akbulak array 64.22 355 P **P** **04 16 00.5 -0.9**
ABKAR Akbulak array 64.22 355 P **P** **04 16 00.7 -0.7**
WRA Warramunga Arr 64.29 105 P **P** **04 16 02.5 -0.1**
comp=Z,11nm,0.8s,baz=271,slow=6.4,SNR=95
WRA LR LR 04 44 23.1
comp=Z,362nm,18.1s,baz=265,slow=36
WRA Warramunga Arr 64.29 105 P **P** **04 16 01.8 -0.9**
WRA pmax pmax
comp=Z,9.0nm,2.0s
WRA Warramunga Arr 64.29 105 P **P** **04 16 01.8 -0.9**
WB2 Warramunga Arr 64.31 105 P **P** **04 16 02.4 -0.4**
WRAB Tennant Creek 64.31 105 *c*e P **P** **04 16 02.2 -0.5**
WRAB pmax pmax
comp=Z,53nm,1.7s
WRAB Tennant Creek 64.31 105 P **P** **04 16 01.0 -1.8**
WB0 Warramunga Arr 64.37 105 P **P** **04 16 02.1 -1.0**
WB0 IAmb IAmb 04 16 05.3
comp=Z,29nm,1.3s
WHN Wuhan 64.37 45 ⇑P **P** **04 16 03.0 +0.2**
WR0 Warramunga Arr 64.48 105 P **P** **04 16 04.0 +0.1**
WR0 IAmb IAmb 04 16 05.1
comp=Z,19nm,0.9s
BBOO Buckleboo 64.78 119 P **P** **04 16 05.2 -0.4**
BBOO IAmb IAmb 04 16 06.6
comp=Z,9.4nm,0.8s
SIJI Sorong 65.18 84 P **P** **04 16 08.0 -0.5**
comp=Z,9.6nm,0.8s,baz=248,slow=0.5,SNR=6.8
ANN Anapa 65.18 337 *e*P **P** **04 16 03.4 -4.4**
ANN *e**PP **pP** **04 16 07.2 -5.1**
ANN *e*PPP PPP 04 20 01.8
ANN *e*S **S** **04 24 45.5 -4.7**
ANN *e*SSS SSS 04 31 57.1
ANN pmax pmax
comp=Z,31nm,0.8s
SSLB Suanglung 65.48 55 P **P** **04 16 10.1 -0.2**
YULB Yu-li 65.55 55 P **P** **04 16 10.2 -0.6**
YULB IAmb IAmb 04 16 22.6
comp=Z,16nm,1.0s
AKTO Aktyubinsk 65.57 354 P **P** **04 16 09.7 -0.5**
comp=Z,4.4nm,1.0s,baz=161,slow=7.5,SNR=10

AKTO LR LR 04 44 00.7
comp=Z,254nm,19.2s,baz=159,slow=35
KURBB Kurchatov Arra 66.11 8 P **P** **04 16 12.8 -0.9**
comp=Z,4.5nm,0.8s,baz=206,slow=6.8,SNR=23
KURBB LR LR 04 42 18.5
comp=Z,815nm,21.7s,baz=172,slow=34
KURK Kurchatov 66.22 8 P **P** **04 16 12.8 -1.6**
KURK pmax pmax
comp=Z,50nm,1.9s
KURK Kurchatov 66.22 8 P **P** **04 16 12.8 -1.6**
ALN Alexandroupoli 67.17 328 P **P** **04 16 19.9 -0.7**
ALN pmax pmax
comp=Z,23nm,1.4s
ALN Alexandroupoli 67.17 328 P **P** **04 16 19.9 -0.7**
ALN IAmb IAmb 04 16 22.3
comp=Z,23nm,1.4s
BVAR Borovoye Array 67.78 2 P **P** **04 16 23.5 -0.8**
comp=Z,3.4nm,0.8s,baz=210,slow=8.3,SNR=12
BRVK Borovoye 67.81 2 P **P** **04 16 23.1 -1.3**
BRVK pmax pmax
comp=Z,50nm,2.0s
BRVK Borovoye 67.81 2 P **P** **04 16 23.1 -1.3**
BRVK IAmb IAmb 04 16 25.0
comp=Z,50nm,1.9s
AGG Agios Georgios 67.86 324 P **P** **04 16 24.6 -0.6**
AGG pmax pmax
comp=Z,16nm,1.0s
AGG Agios Georgios 67.86 324 P **P** **04 16 24.6 -0.6**
AGG IAmb IAmb 04 16 31.8
comp=Z,16nm,1.0s
PRD Provadia 68.19 330 P **P** **04 16 27.6 +0.5**
DIM Dimitrovgrad 68.27 328 P **P** **04 16 28.8 +1.2**
BTO Baotou 68.31 34 *e*P **P** **04 16 30.3 +2.2**
NJ2 Nanjing 68.36 46 *e*P **P** **04 16 29.0 +0.6**
NJ2 pmax pmax
comp=Z,17nm,0.5s
RZN Rozhen 68.43 327 P **P** **04 16 30.2 +1.3**
LIT Litokhoron 68.51 325 P **P** **04 16 28.8 -0.4**
LIT pmax pmax
comp=Z,60nm,1.6s
LIT Litokhoron 68.51 325 P **P** **04 16 28.8 -0.4**
TIRR Tirgusor 68.67 332 P **P** **04 16 29.0 -1.0**
TIRR pmax pmax
comp=Z,79nm,1.6s
TIRR Tirgusor 68.67 332 P **P** **04 16 29.0 -1.0**
PLD Plovdiv 68.74 328 P **P** **04 16 31.5 +1.0**
HNS HongShan 68.88 39 ⇓P **P** **04 16 33.5 +2.0**
HNS S **S** **04 25 41.5 +6.4**
HNS pmax pmax
comp=Z,13nm,1.7s
HNS LR LR
comp=Z,400nm,19.5s
HNS LR LR
comp=Z,540nm,19.5s
MMB Musomiste 68.88 327 P **P** **04 16 32.1 +0.6**
HHC Hu-ho-hao-te 69.33 35 *e*P **P** **04 16 36.0 +1.6**
HHC S **S** **04 25 40.5 -0.1**
HHC ScS **SKSac** **04 26 32.0 -2.1**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,330nm,17.8s
HHC LR LR
comp=Z,350nm,18.4s
HHC LR LR
comp=Z,580nm,18.0s
PGB Panagyurishte 69.33 328 P **P** **04 16 34.4 +0.1**
KKB Krupnik 69.42 327 P **P** **04 16 34.9 +0.1**
VRH Novokhopyorsk 69.42 343 *e*P **P** **04 16 33.9 -0.6**
VRH pmax pmax
comp=Z,30nm,1.5s
SSE Sheshan 69.49 48 P **P** **04 16 36.0 +0.6**
SSE S **S** **04 25 42.8 +0.2**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,83nm,4.2s
SSE LR LR
comp=Z,140nm,17.9s
SSE LR LR
comp=Z,260nm,18.0s
SNAA Sanae 69.51 198 LR LR 04 41 16.1
comp=Z,719nm,19.2s,baz=32,slow=31
STKA Stephens Creek 69.52 119 P **P** **04 16 35.5 -0.3**
comp=Z,2.7nm,0.7s,baz=274,slow=8.1,SNR=7.9
STKA LR LR 04 42 33.6
comp=Z,407nm,21.6s,baz=254,slow=32
STKA Stephens Creek 69.52 119 P **P** **04 16 35.6 -0.2**
STKA pmax pmax
comp=Z,6.0nm,1.9s
STKA Stephens Creek 69.52 119 P **P** **04 16 35.6 -0.2**
FNA Florina 69.60 325 P **P** **04 16 36.2 +0.2**
FNA pmax pmax
comp=Z,17nm,1.2s
FNA Florina 69.60 325 P **P** **04 16 36.2 +0.2**
FNA IAmb IAmb 04 16 42.5
comp=Z,17nm,1.2s
KBN Korca 69.82 324 P **P** **04 16 37.5 +0.1**
KBN pmax pmax
comp=Z,71nm,1.9s
KBN Korca 69.82 324 P **P** **04 16 37.5 +0.1**
VTS Vitosha 69.87 327 P **P** **04 16 37.4 -0.3**
VTS pmax pmax
comp=Z,26nm,1.4s
VTS Vitosha 69.87 327 P **P** **04 16 37.4 -0.3**
VTS IAmb IAmb 04 16 39.2
comp=Z,26nm,1.4s
VTS Vitosha 69.87 327 P **P** **04 16 38.0 +0.3**
MPEP Malo Peshtene 70.13 328 P **P** **04 16 40.2 +1.1**
TOA0 Torodi Ar. Sit 70.19 290 P **P** **04 16 41.1 +1.0**
TOA0 IAmb IAmb 04 16 48.0
comp=Z,21nm,1.6s
TORD Torodi Ar. Bea 70.19 290 P **P** **04 16 40.0 0.0**
comp=Z,2.7nm,1.2s,baz=126,slow=3.8,SNR=8.6
TORD Torodi Ar. Bea 70.19 290 P **P** **04 16 41.2 +1.1**
ZAA0 Zalesovo Array 70.36 11 P **P** **04 16 38.6 -1.6**
ZAA0 IAmb IAmb 04 16 41.4
comp=Z,19nm,1.2s
ZALV Zalesovo Beam 70.36 11 P **P** **04 16 39.0 -1.3**
comp=Z,4.6nm,0.8s,baz=203,slow=6.3,SNR=16
ZALV LR LR 04 46 34.2
comp=Z,326nm,19.6s,baz=195,slow=35
ZALV Zalesovo Beam 70.36 11 *i* P **P** **04 16 39.0 -1.3**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 70.36 11 P **P** **04 16 38.4 -1.8**
VORR Voronezh 70.56 342 *e*P **P** **04 16 39.5 -2.0**
VORR pmax pmax
comp=Z,90nm,0.4s
MLR Muntele Rosu 70.60 331 P **P** **04 16 42.6 +0.5**
comp=Z,7.9nm,1.2s,baz=110,slow=10.0,SNR=11
MLR LR LR 04 47 33.4
comp=Z,188nm,19.0s,baz=97,slow=36
MLR Muntele Rosu 70.60 331 P **P** **04 16 41.4 -0.7**
MLR pmax pmax
comp=Z,74nm,1.8s
MLR Muntele Rosu 70.60 331 P **P** **04 16 41.4 -0.7**
VNA2 Neumayer--Watz 70.78 200 P **P** **04 16 43.3 +0.5**
baz=72,slow=6.0
BJI Beijing 71.44 38 P **P** **04 16 47.8 +0.7**
BJI S **S** **04 26 08.0 +3.0**
BJI pmax pmax
comp=Z,6.0nm,1.5s
BJI LR LR
comp=Z,330nm,17.6s
BJI LR LR
comp=Z,290nm,19.8s
BJI LR LR
comp=Z,350nm,18.7s
ARU Arti 71.45 355 P **P** **04 16 46.6 -0.2**
comp=Z,0.8nm,0.3s,baz=172,slow=5.6,SNR=8.9
ARU Arti 71.45 355*c i*P **P** **04 16 46.8 0.0**
ARU 04 19 19.2
ARU S **S** **04 26 07.8 +3.3**
ARU SS **SS** **04 30 38.8 -1.1**
ARU pmax pmax
comp=Z,34nm,1.8s
ARU Arti 71.45 355 P **P** **04 16 46.0 -0.9**
LPSR Galich'ya Gora 71.46 343 *e*P **P** **04 16 44.3 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,1.6s
VNA3 Neumayer Olymp 71.57 199 P **P** **04 16 48.0 +0.5**
SONM Songino Array 71.83 27 P **P** **04 16 49.3 -0.2**

comp=Z,1.8nm,0.7s,baz=207,slow=6.3,SNR=12
SONM LR LR 04 47 13.6
comp=Z,822nm,21.1s,baz=180,slow=35
SONM Songino Array 71.83 27 P **P 04 16 48.5 -1.0**
SONM pmax pmax
comp=Z,12nm,1.5s
SONM Songino Array 71.83 27 P **P 04 16 48.5 -1.0**
PDG Podgorica 71.88 325 P **P 04 16 50.5 +0.8**
ULN Ulaanbaatar 72.14 27 *ce*P **P 04 16 49.7 -1.7**
ULN pmax pmax
comp=Z,14nm,2.5s
BURAR Bucovina Array 72.51 332 P **P 04 16 53.6 +0.1**
DIVS Divibare 72.60 327 P **P 04 16 54.6 +0.5**
DIVS IAmb IAmb 04 16 56.8
comp=Z,26nm,1.2s
JOW Kunigami 72.74 55 LR LR 04 48 03.2
comp=Z,412nm,19.7s,baz=251,slow=35
AKASG Malin Array Be 73.18 336 P **P 04 16 56.1 -1.2**
comp=Z,2.2nm,0.7s,baz=137,slow=4.8,SNR=19
AKASG LR LR 04 49 24.7
comp=Z,91nm,20.9s,baz=114,slow=36
AKASG Malin Array Be 73.18 336 *i* P **P 04 16 57.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 73.18 336 P **P 04 16 56.1 -1.2**
AKBB Malin Array Si 73.18 336 P **P 04 16 56.8 -0.5**
AKBB pmax pmax
comp=Z,16nm,1.2s
AKBB Malin Array Si 73.18 336 P **P 04 16 56.8 -0.5**
AKBB IAmb IAmb 04 16 58.7
comp=Z,16nm,1.2s
JAY Jayapura 73.85 88 LR LR 04 51 47.3
comp=Z,63nm,18.8s,baz=247,slow=38
XLT XiLinHaoTe 73.85 35 *e*P **P 04 17 03.5 +1.9**
XLT pP sP 04 17 08.0 +0.6
XLT sP pwP 04 17 10.5 +0.7
XLT sS sS 04 26 37.5 -2.0
XLT S **S 04 26 38.8 +6.1**
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,240nm,5.5s
XLT LR LR
comp=Z,610nm,17.3s
XLT LR LR
comp=Z,510nm,16.9s
KEST Kesra 74.08 315 P **P 04 17 04.1 +1.1**
comp=Z,3.3nm,0.9s,baz=124,slow=4.0,SNR=5.9
KEST LR LR 04 49 39.0
comp=Z,287nm,19.3s,baz=122,slow=36
KEST Kesra 74.08 315 P **P 04 17 04.5 +1.5**
KEST IAmb IAmb 04 17 05.7
comp=Z,38nm,1.8s
TRPA Tarpa 74.12 331 P **P 04 17 01.6 -1.3**
DBIC Dimbokro 74.14 282 LR LR 04 48 16.3
comp=Z,409nm,20.7s,baz=128,slow=35
OBN Obninsk 74.34 343 *e*P **P 04 17 04.0 0.0**
OBN *e* 04 17 16.5
OBN *e* 04 19 47.1
OBN *e*PPP PPP 04 21 34.7
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,225nm,18.0s
KIRV Kirov 74.65 351 LR LR 04 50 01.9
comp=Z,384nm,19.4s,baz=153,slow=36
KIRV Kirov 74.65 351 *ce*P **P 04 17 04.6 -1.1**
LVV L'vov 74.67 333 *e*P **P 04 17 06.3 +0.2**
LVV *e* 04 26 40.4
LVV *e* 04 31 32.8
LVV pmax pmax
comp=Z,30nm,1.8s
QSPA South Pole Qui 75.12 180 LR LR 04 45 57.0
comp=Z,375nm,18.9s,baz=284,slow=32
QSPA South Pole Qui 75.12 180 P **P 04 17 10.1 +1.4**
QSPA IAmb IAmb 04 17 10.6
comp=Z,45nm,1.3s
KWP Kalwaria Pacla 75.12 332 P **P 04 17 07.4 -1.3**
KWP pmax pmax
comp=Z,225nm,1.3s
KWP Kalwaria Pacla 75.12 332 P **P 04 17 07.4 -1.3**
CRVS Cervenica-Dubn 75.18 331 *e*P **P 04 17 09.8 +0.8**
CRVS Cervenica-Dubn 75.18 331 *e*P **P 04 17 09.8 +0.8**
AQU L'Aquila 75.20 322 P **P 04 17 09.8 +0.4**
AQU pmax pmax
comp=Z,43nm,1.5s
AQU L'Aquila 75.20 322 P **P 04 17 09.8 +0.4**
AQU IAmb IAmb 04 17 11.6
comp=Z,43nm,1.5s
CTA Charters Tower 75.33 107 LR LR 04 46 54.6
comp=Z,671nm,21.6s,baz=261,slow=33
NRCA Norcia 75.66 322 P **P 04 17 11.2 -0.8**
NRCA IAmb IAmb 04 17 13.9
comp=Z,29nm,1.2s
KOWA Kowa 75.85 289 P **P 04 17 14.1 +0.4**
KOWA IAmb IAmb 04 17 37.4
comp=Z,20nm,1.5s
MPLH Magyarpolny 75.93 328 P **P 04 17 15.1 +1.7**
VSL Villasalto 76.08 318 P **P 04 17 13.4 -1.0**
VSL IAmb IAmb 04 17 16.2
comp=Z,24nm,1.2s
VYHS Vyhne 76.16 329 *e*P **P 04 17 16.1 +1.4**
VYHS Vyhne 76.16 329 *e*P **P 04 17 16.1 +1.4**
LANS Liptovska Anna 76.30 330 *e*P **P 04 17 16.2 +0.7**
LANS Liptovska Anna 76.30 330 *e*P **P 04 17 16.2 +0.7**
VNDA Vanda 76.60 167 P **P 04 17 16.9 +0.1**
comp=Z,2.1nm,1.0s,baz=275,slow=6.1,SNR=5.3
VNDA LR LR 04 46 19.7
comp=Z,350nm,19.1s,baz=266,slow=32
VNDA Vanda 76.60 167 P **P 04 17 18.0 +1.2**
VNDA pmax pmax
comp=Z,23nm,1.8s
VNDA Vanda 76.60 167 P **P 04 17 18.0 +1.2**
VNDA IAmb IAmb 04 17 19.3
comp=Z,23nm,1.8s
SOKA Soboth 76.93 326 *e*P **P 04 17 20.0 +0.8**
comp=Z,20nm,1.6s,SNR=8.1
SNY Shenyang 77.01 40 ⇑P **P 04 17 19.0 -0.6**
SNY S **S 04 27 14.5 +7.0**
SNY pmax pmax
comp=Z,15nm,0.5s
SNY pmax pmax
comp=Z,180nm,5.3s
SNY LR LR
comp=Z,360nm,20.6s
SNY LR LR
comp=Z,760nm,17.6s
SNY LR LR
comp=Z,1μm,17.7s
ARSA Arzberg 77.03 327 *e*P **P 04 17 20.0 +0.3**
comp=Z,22nm,1.5s,SNR=8.2
OBKA Obir 77.08 326 *e*P **P 04 17 19.6 -0.5**
comp=Z,15nm,1.1s
CONA Conrad Observa 77.28 328 *e*P **P 04 17 21.1 0.0**
comp=Z,29nm,1.5s,SNR=9.2
NACGM Naroch 77.39 338 ⇓*e*P **P 04 17 18.8 -2.7**
KSAR Wonju Array Be 77.52 46 P **P 04 17 21.9 -0.7**
KSAR Wonju Array Be 77.52 46 P **P 04 17 21.9 -0.7**
KSRS Korea Array 77.55 46 P **P 04 17 21.7 -1.0**
comp=Z,2.2nm,0.9s,baz=239,slow=6.8,SNR=10
KSRS LR LR 04 53 15.2
comp=Z,380nm,18.0s,baz=235,slow=37
SBA Scott Base 77.57 168 P **P 04 17 24.3 +2.0**
SBA pmax pmax
comp=Z,66nm,2.0s
SBA Scott Base 77.57 168 P **P 04 17 24.3 +2.0**
JNU Nakatsue 77.62 51 LR LR 04 52 31.7
comp=Z,352nm,19.0s,baz=229,slow=36
MORC Moravsky Berou 77.65 330 P **P 04 17 22.3 -0.7**
MORC pmax pmax
comp=Z,38nm,1.9s
MORC Moravsky Berou 77.65 330 P **P 04 17 22.3 -0.7**
MORC IAmb IAmb 04 17 24.5
comp=Z,38nm,1.9s
MORC Moravsky Berou 77.65 330 *e*P **P 04 17 22.4 -0.7**
MYKA Terra Mystica 77.65 326 *e*P **P 04 17 23.1 -0.1**
comp=Z,12nm,1.2s
KRUC Moravsky 77.74 329 *e*P **P 04 17 23.0 -0.6**
VRAC Vranov 77.80 329 P **P 04 17 24.7 +0.8**
comp=Z,1.8nm,0.5s,baz=140,slow=6.0,SNR=6.1
VRAC LR LR 04 54 11.6
comp=Z,52nm,18.1s,baz=108,slow=38
ZCCA Zocca 77.81 323 P **P 04 17 23.8 -0.3**
MOA Molln 78.07 327 *e*P **P 04 17 25.6 +0.1**
comp=Z,30nm,1.4s,SNR=12

KBA Koelnbreinsper 78.09 326 *e*P **P 04 17 26.4 +0.7**
comp=Z,12nm,1.1s,SNR=6.4
PRGR Permogore 78.17 350 *e*P **P 04 17 22.0 -3.6**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
KRLC Kraliky 78.21 330 *e*P **P 04 17 27.9 +1.7**
KRLC Kraliky 78.21 330 *e*P **P 04 17 27.9 +1.7**
BIOA Bad Ischl, Aus 78.30 327 *e*P **P 04 17 27.3 +0.6**
comp=Z,17nm,1.6s
ABTA Abfaltersbach 78.34 325 *e*P **P 04 17 27.3 +0.2**
comp=Z,26nm,1.2s,SNR=10
PMG Port Moresby 78.42 97 *i* P **P 04 17 28.0 -0.2**
PMG pmax pmax
comp=Z,14nm,1.6s
DPC Dobruska-Polom 78.62 330 *e*P **P 04 17 29.1 +0.6**
DPC Dobruska-Polom 78.62 330 *e*P **P 04 17 29.1 +0.6**
KLMR Klimovskoe 78.64 347 *e*P **P 04 17 26.7 -1.5**
KLMR pmax pmax
comp=Z,62nm,1.4s
KLMR Klimovskoe 78.64 347 *e*P **P 04 17 26.8 -1.5**
KLMR AMP 04 17 30.1
comp=Z,62nm,1.4s
EIDS Eidsvold 78.71 113 P **P 04 17 29.5 0.0**
EIDS IAmb IAmb 04 17 32.0
comp=Z,38nm,1.6s
GEC2 GERESS Array S 78.98 327 P **P 04 17 29.4 -1.1**
GEC2 IAmb IAmb 04 17 42.6
comp=Z,31nm,2.0s
GERES GERESS Array B 78.98 327 P **P 04 17 30.0 -0.5**
comp=Z,3.6nm,1.1s,baz=144,slow=9.3,SNR=9.1
GERES LR LR 04 52 00.8
comp=Z,72nm,20.6s,baz=112,slow=35
WTTA Wattenberg 79.13 325 *e*P **P 04 17 31.1 -0.4**
comp=Z,27nm,1.5s,SNR=6.0
HIA Hailar 79.21 32 *i* P **P 04 17 31.1 -0.6**
HIA pmax pmax
comp=Z,17nm,1.9s
WATA Walderalm 79.21 325 *e*P **P 04 17 32.1 +0.2**
comp=Z,24nm,1.4s,SNR=5.9
KHC Kasperske Hory 79.22 328 *e*P **P 04 17 31.9 +0.1**
KHC *e* 04 17 38.1
KHC Kasperske Hory 79.22 328 *e*P **P 04 17 31.9 +0.1**
KHC *ep*P **sP 04 17 38.1 +0.1**
KHC Kasperske Hory 79.22 328 P **P 04 17 32.2 +0.4**
KHC IAmb IAmb 04 17 33.5
comp=Z,30nm,1.5s
PRU Pruhonice 79.27 329 *e*P **P 04 17 32.7 +0.8**
PRU Pruhonice 79.27 329 *e*P **P 04 17 32.7 +0.8**
SQTA Sankt Quirin 79.34 325 *e*P **P 04 17 32.9 +0.3**
comp=Z,21nm,1.5s,SNR=5.8
MOTA Moosalm 79.47 325 *e*P **P 04 17 33.7 +0.3**
comp=Z,17nm,1.4s
FETA Feichten 79.49 325 *e*P **P 04 17 34.0 +0.6**
comp=Z,17nm,1.2s
PVCC Panska Ves 79.59 329 *e*P **P 04 17 35.3 +1.6**
PVCC Panska Ves 79.59 329 *e*P **P 04 17 35.3 +1.6**
RETA Reutte 79.74 325 *e*P **P 04 17 34.0 -0.8**
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 79.83 324 P **P 04 17 34.9 -0.4**
comp=Z,2.8nm,0.7s,baz=142,slow=12,SNR=4.8
DAVOX LR LR 04 55 12.5
comp=Z,56nm,18.9s,baz=75,slow=37
TUE Stuetta 79.96 324 P **P 04 17 35.6 -0.5**
TUE IAmb IAmb 04 17 37.8
comp=Z,29nm,1.4s
BRG Berggiesshubel 80.12 329 *e*P **P 04 17 38.6 +2.1**
BRG Amp 04 17 40.5
comp=Z,47nm,1.8s
BRG Berggiesshubel 80.12 329 *e*P **P 04 17 38.6 +2.1**
BRG pmax pmax
comp=Z,47nm,1.8s
DAVA Damuels 80.12 325 *e*P **P 04 17 37.5 +0.6**
comp=Z,18nm,1.4s
NKC Novy Kostel 80.48 328 *e*P **P 04 17 39.5 +0.9**
NKC Novy Kostel 80.48 328 *e*P **P 04 17 39.5 +0.9**
BNI Bardonecchia 80.75 322 P **P 04 17 40.7 +0.4**
BNI pmax pmax
comp=Z,52nm,2.0s
BNI Bardonecchia 80.75 322 P **P 04 17 40.6 +0.4**
BNI IAmb IAmb 04 18 29.9
comp=Z,52nm,2.0s
GRF Grafenberg Arr 80.79 327 *e*P **P 04 17 39.8 -0.5**
comp=Z,34nm,1.7s,baz=125,slow=6.4
CLL Collm 80.85 329 P **P 04 17 41.6 +1.1**
CLL pmax pmax
comp=Z,28nm,1.5s
CLL Collm 80.85 329 P **P 04 17 41.6 +1.1**
CLL IAmb IAmb 04 17 43.5
comp=Z,28nm,1.5s
CLL Collm 80.85 329 *i* P **P 04 17 41.8 +1.3**
comp=Z,21nm,1.4s
CLL *ex* x 04 17 50.0
CLL LmV 04 56 00.0
comp=Z,100nm,19.5s
SENIN Lac Senin/Sane 81.08 323 P **P 04 17 42.8 +0.6**
SENIN IAmb IAmb 04 17 53.3
comp=Z,19nm,1.2s
SSB Saint Sauveur 82.16 321 P **P 04 17 47.2 -0.4**
SSB pmax pmax
comp=Z,25nm,1.3s
SSB Saint Sauveur 82.16 321 P **P 04 17 47.2 -0.4**
SSB IAmb IAmb 04 17 50.2
comp=Z,24nm,1.3s
GUMO Guam 82.32 74 LR LR 04 53 01.9
comp=Z,68nm,19.9s,baz=124,slow=35
FINES FINESS Array B 82.69 342 P **P 04 17 49.4 -0.5**
comp=Z,1.8nm,0.7s,baz=145,slow=5.1,SNR=6.1
FINES LR LR 04 54 54.0
comp=Z,185nm,20.8s,baz=138,slow=36
FINES FINESS Array B 82.69 342 P **P 04 17 50.1 +0.2**
FINES FINESS Array B 82.69 342 P **P 04 17 50.1 +0.2**
MDT Midelt 83.01 306 LR LR 04 55 13.4
comp=Z,306nm,20.1s,baz=129,slow=36
USRK Ussuriysk Ar. 83.51 41 LR LR 04 54 03.9
comp=Z,228nm,21.0s,baz=209,slow=35
JCJ Chichijima 84.23 60 LR LR 04 50 33.2
comp=Z,256nm,21.1s,baz=288,slow=32
MJAR Matsushiro Arr 84.52 50 P **P 04 17 59.5 -0.5**
comp=Z,1.9nm,0.4s,baz=245,slow=5.4,SNR=8.6
MJAR LR LR 04 55 54.2
comp=Z,180nm,19.9s,baz=198,slow=36
MJAR Matsushiro Arr 84.52 50 P **P 04 17 59.3 -0.7**
MJAR pmax pmax
comp=Z,34nm,1.6s
MJAR Matsushiro Arr 84.52 50 P **P 04 17 59.3 -0.7**
MJAR IAmb IAmb 04 18 02.2
comp=Z,34nm,1.6s
ESBB Sonseca Array 85.23 313 P **P 04 18 04.6 +1.1**
ESBB IAmb IAmb 04 18 11.2
comp=Z,17nm,1.2s
ESDC Sonseca Array 85.23 313 P **P 04 18 03.8 +0.2**
comp=Z,4.4nm,1.0s,baz=96,slow=4.2,SNR=21
ESDC LR LR 04 53 55.9
comp=Z,140nm,21.9s,baz=122,slow=34
ESDC Sonseca Array 85.23 313 P **P 04 18 03.9 +0.4**
ESDC IAmb IAmb 04 18 06.1
comp=Z,26nm,1.6s
NRIK Noril'sk 85.37 7 P **P 04 18 03.0 -0.4**
comp=Z,1.0nm,0.3s,baz=186,slow=3.4,SNR=7.0
NRIK LR LR 04 56 49.7
comp=Z,417nm,19.0s,baz=196,slow=36
NRIK Noril'sk 85.37 7 P **P 04 18 04.0 +0.5**
NRIK pmax pmax
comp=Z,49nm,2.0s
NRIK Noril'sk 85.37 7 P **P 04 18 04.0 +0.5**
PAB San Pablo 85.45 313 P **P 04 18 03.7 -1.0**
PAB pmax pmax
comp=Z,40nm,1.5s
PAB San Pablo 85.45 313 P **P 04 18 03.7 -1.0**
ZEA Zeya 85.62 31 *e*P **P 04 18 06.4 +1.4**
ZEA MLR MLR
comp=N,200nm,17.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
KLR Kul'dur 85.75 37 *i* P **P 04 18 04.9 -0.9**
KLR pmax pmax
comp=Z,7.0nm,1.7s
PBAR Barrancos 86.87 311 *e*P P 04 18 18.8 +7.2
comp=Z,21nm,2.0s
PBEJ Beja 87.42 310 A A 04 18 19.1
comp=Z,20nm,1.7s
PBEJ Beja 87.42 310 *e*P P 04 18 19.4 +5.1
comp=Z,1.7nm,0.5s
PESTR Estremoz 87.52 311 *e*P **P 04 18 15.3 +0.5**
comp=Z,27nm,2.0s
PFVI Vila Bisbo 87.82 309 *e*P P 04 18 24.6 +8.4
comp=Z,61nm,1.6s
PNCL Nicolau / Gran 87.94 310 *e*P **P 04 18 14.6 -2.1**
comp=Z,32nm,1.9s
MVO Moncorvo 87.96 313 *e*P **P 04 18 18.7 +1.8**
comp=Z,56nm,1.5s
PBRG Braganca 88.00 314 *e*P **P 04 18 18.9 +1.9**
comp=Z,54nm,1.6s
ARCES ARCESS Array B 89.12 347 P **P 04 18 21.8 +0.2**
comp=Z,2.9nm,0.7s,baz=128,slow=3.8,SNR=5.9
ARCES LR LR 04 57 34.7
comp=Z,234nm,21.7s,baz=116,slow=35
ARCES ARCESS Array B 89.12 347 P **P 04 18 22.2 +0.6**
ARCES pmax pmax
comp=Z,50nm,1.5s
ARCES ARCESS Array B 89.12 347 P **P 04 18 22.2 +0.6**
YAK Yakutsk 91.08 25 LR LR 04 59 06.7
comp=Z,541nm,19.2s,baz=264,slow=35
PMSA Palmer Station 92.23 199 LR LR 04 52 16.5
comp=Z,284nm,20.4s,baz=112,slow=30
DZM Mont Dzumac 93.15 114 LR LR 05 00 01.9
comp=Z,325nm,18.1s,baz=226,slow=35
TIXI Tiksi 95.75 16 LR LR 05 02 33.8
comp=Z,664nm,19.5s,baz=184,slow=36
TIXI Tiksi 95.75 16 *ce*P **P 04 18 49.9 -2.3**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
URZ Urewera 96.11 132 LR LR 04 56 26.4
comp=Z,191nm,18.8s,baz=214,slow=32
SPITS Spitsbergen Ar 97.12 351 LR LR 05 05 05.6
comp=Z,232nm,19.0s,baz=194,slow=37
MA2 Magadan 99.76 31 LR LR 05 08 05.8
comp=Z,342nm,18.3s,baz=254,slow=38
PET Petropavlovsk 102.93 38 *e*P **Pdif 04 19 29.7 +4.9**
PET *e*S **Sdif 04 31 08.5 -1.6**
PET *e*PPS PPS 04 33 34.0
PET MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 107.33 23 *e*P **Pdif 04 19 42.8 -1.2**
BILL *e* 04 24 09.1
BILL *e*PPP PPP 04 26 29.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,263nm,18.0s
H21K Melozitna Rive 122.84 18 P **PKiKP 04 24 22.3 -0.2**
baz=313
J20K Nowinta River 123.41 20 P **PKiKP 04 24 23.8 +0.1**
baz=311
I21K Tanana 123.42 18 P **PKiKP 04 24 23.8 +0.1**
baz=314
MLY Manley 123.91 18 P **PKPdf 04 24 24.3 -0.2**
baz=315
K20K Telida 123.97 21 P **PKiKP 04 24 24.6 -0.3**
baz=310
INK Inuvik 125.12 9 P **PKiKP 04 24 26.6 -0.3**
baz=336
ILAR Eielson Array 125.22 17 PKP **PKPdf 04 24 25.6 -1.3**
comp=Z,1.1nm,0.8s,baz=301,slow=2.6,SNR=8.8
ILAR Eielson Array 125.22 17 PKIKP **PKPdf 04 24 25.2 -1.7**
ILAR Eielson Array 125.22 17 **PKPdf 04 24 25.2 -1.7**
C36M Paulatuk 125.22 5 P **PKPdf 04 24 26.2 -0.5**
baz=347
LPAZ La Paz 125.70 237 PKP **PKPdf 04 24 29.8 -0.3**
comp=Z,2.4nm,0.8s,baz=77,slow=2.9,SNR=7.6
LPAZ La Paz 125.70 237 PKIKP **PKPdf 04 24 29.3 -0.7**
LPAZ La Paz 125.70 237 PKPdf **PKPdf 04 24 29.3 -0.7**
J25K Salcha River, 125.76 16 P **PKiKP 04 24 28.2 -0.2**
baz=321
EPYK Eagle Plains 126.31 11 **PKiKP 04 24 29.4 0.0**
EPYK Eagle Plains 126.31 11 P **PKiKP 04 24 29.2 -0.3**
baz=331
J26L Joseph Creek 126.33 16 P **PKiKP 04 24 29.5 -0.1**
baz=323
DOT Dot Lake 126.87 17 **PKiKP 04 24 30.6 -0.1**
YKA Yellowknife Ar 132.52 1 PKP **PKPdf 04 24 40.1 -0.8**
comp=Z,1.0nm,0.8s,baz=341,slow=2.2,SNR=13
ZARC Zaragoza, Cauc 141.67 263 PKPdf **PKPdf 04 24 59.0 -0.3**
G40A Rib Lake 144.07 332 PKPdf PKPbc 04 25 00.7 +0.2
O49A Covington 144.40 320 PKPdf PKPbc 04 25 02.2 +0.5
L46A Eue Claire 144.41 325 PKPbc 04 25 02.3 +0.6
V55A Taylorsville 144.52 312 **PKPdf 04 25 03.6 -0.2**
U54A Nelsons Funny 144.73 313 **PKPdf 04 25 03.5 -0.6**
N47A Urbana 144.79 323 PKPdf **PKPab 04 25 02.0 -0.8**
Y57A Sumter 144.81 309 **PKPab 04 25 02.3 -0.8**
O48B Farmland 144.86 321 P **PKPab 04 25 02.7 -0.4**
baz=52
F36A Milaca 145.02 336 PKPdf **PKPab 04 25 02.0 -1.4**
NHSC New Hope 145.02 307 P **PKPdf 04 25 04.5 0.0**
baz=66
P49A Miami Univ. Ec 145.02 320 **PKPbc 04 25 03.1 -0.6**
P49A Miami Univ. Ec 145.02 320 P **PKPbc 04 25 03.0 -0.7**
baz=53
KMSC Kings Mountain 145.03 311 **PKPbc 04 25 03.6 -0.3**
KMSC Kings Mountain 145.03 311 P **PKPdf 04 25 04.2 -0.3**
baz=63
K43A Burlington 145.04 327 **PKPbc 04 25 03.4 -0.3**
D32A Dogwood Acres, 145.19 340 **PKPbc 04 25 02.3 -1.7**
SPMN Marine on St. 145.24 334 **PKPbc 04 25 03.3 -1.0**
SPMN Marine on St. 145.24 334 P **PKPbc 04 25 03.9 -0.4**
baz=36
I40A Norwalk 145.31 331 **PKPbc 04 25 02.7 -1.8**
MDND Maddock 145.32 344 **PKPbc 04 25 03.6 -0.8**
MDND Maddock 145.32 344 P **PKPbc 04 25 04.0 -0.4**
baz=23
JSC Jenkinsville 145.35 310 PKIKP **PKPbc 04 25 04.8 -0.1**
JSC Jenkinsville 145.35 310 **PKPbc 04 25 04.8 -0.1**
S51A Beattyville 145.37 316 **PKPbc 04 25 04.0 -0.9**
R50A Paris 145.50 318 **PKPdf 04 25 04.6 -0.7**
P48A Milroy 145.51 320 **PKPdf 04 25 04.0 -1.2**
PAULI Pauline 145.53 311 **PKPdf 04 25 04.8 -0.6**
DGMT Dagmar 145.76 349 PKPdf **PKPdf 04 25 05.4 0.0**
DGMT Dagmar 145.76 349 P **PKPab 04 25 06.5 +0.3**
baz=15
M44A Midewin, Midew 145.80 325 **PKPbc 04 25 05.9 -0.2**
V53A Saluda 145.84 313 **PKPdf 04 25 05.7 -0.3**
B06A Marblemount 145.86 10 **PKPdf 04 25 05.0 -0.5**
JFWS Jewell Farm 145.86 329 PKP2 **PKPdf 04 25 05.7 0.0**
JFWS Jewell Farm 145.86 329 PKPdf **PKPdf 04 25 05.7 0.0**
JFWS Jewell Farm 145.86 329 P **PKPdf 04 25 05.8 0.0**
baz=42
TZTN Tazewell 145.92 315 P **PKPbc 04 25 06.5 -0.2**
baz=58
SFIN Lafayette 145.93 323 PKPdf **PKPdf 04 25 05.9 0.0**
SFIN Lafayette 145.93 323 P **PKPab 04 25 07.0 0.0**
baz=49
B05A Bryant 146.00 11 P **PKPab 04 25 06.7 -0.3**
baz=344
R49A Shelbyville 146.04 318 PKPdf **PKPdf 04 25 06.1 0.0**
BG3 Lake Jocassee 146.26 312 **PKPdf 04 25 06.4 -0.3**
BLO Bloomington 146.35 321 PKP2 **PKPbc 04 25 08.1 +0.2**
BLO Bloomington 146.35 321 **PKPbc 04 25 08.1 +0.2**
I37A Lemond, Waseca 146.47 334 **PKPab 04 25 08.5 -0.5**
D03D Eldon 146.51 12 P **PKPbc 04 25 07.9 -0.2**
baz=342
TKL Tuckaleechee C 146.53 313 PKP2 **PKPdf 04 25 07.1 0.0**
TKL Tuckaleechee C 146.53 313 PKPdf **PKPdf 04 25 07.1 0.0**
T50A Nancy 146.54 316 **PKPbc 04 25 08.7 +0.1**
NEW Newport 146.64 5 PKP2 **PKPdf 04 25 07.2 +0.3**
NEW Newport 146.64 5 PKPdf **PKPdf 04 25 07.2 +0.3**
NEW Newport 146.64 5 P **PKPbc 04 25 08.6 +0.1**
baz=353
V51A Loudon 146.86 314 **PKPbc 04 25 09.7 +0.3**
EGMT Eagleton 146.91 356 P **PKPbc 04 25 09.2 -0.1**
baz=5.9
W52A Murphy 146.92 313 **PKPbc 04 25 09.3 -0.4**
LTY Liberty 147.21 9 PKPdf **PKPdf 04 25 08.2 +0.2**
JTMT Jette 147.30 1 PKPdf **PKPdf 04 25 08.2 +0.1**
OLIL Olney 147.58 322 **PKPbc 04 25 10.6 -0.8**
LAO LASA Array 147.83 351 PKPbc **PKPbc 04 25 12.0 +0.1**
LAO LASA Array 147.83 351 P **PKPbc 04 25 12.6 +0.7**
baz=12
X51A Calhoun 147.85 313 PKPdf **PKPdf 04 25 08.0 -1.3**
ECSD EROS Data Cent 148.00 337 P **PKPbc 04 25 10.8 -1.6**
baz=31
T47A Sharon Grove 148.04 318 **PKPdf 04 25 10.0 +0.4**
CLTN Cedars of Leba 148.05 316 **PKPdf 04 25 09.9 +0.4**
SUSD Miller 148.21 340 PKPdf **PKPdf 04 25 09.8 +0.2**
MSO Missoula 148.22 1 P **PKPbc 04 25 12.8 -0.2**
baz=358
HAWA Hanford 148.23 8 PKPdf **PKPdf 04 25 09.6 0.0**
SWET Sewanee 148.26 314 PKPdf **PKPdf 04 25 10.0 0.0**
E09A Wood Farm, Sta 148.28 6 PKPdf **PKPdf 04 25 09.8 +0.1**
HRY Holter Researc 148.33 358 PKPdf **PKPdf 04 25 09.8 -0.1**
F10A Beach Ranch, E 148.91 5 PKPdf **PKPdf 04 25 10.8 0.0**

S44A	**Carbondale**	**148.95**	**321**		**PKPdf**	**04 25 11.3**	**+0.3**
WVT	**Waverly**	**149.02**	**318**	P	**PKPbc**	**04 25 14.1**	**-1.1**
	baz=53						
G05D	**Wamic, OR**	**149.06**	**11**	P	**PKPbc**	**04 25 15.0**	**-0.1**
	baz=345						
FSCY	**Frank Sound, G**	**149.09**	**283**	PKPdf	**PKPdf**	**04 25 10.5**	**-1.2**
BOZ	**Bozeman (W)**	**149.43**	**358**	P	**PKPbc**	**04 25 16.4**	**+0.2**
	baz=2.8						
X48A	**Hartselle**	**149.44**	**314**	PKPdf	**PKPdf**	**04 25 11.9**	**0.0**
CCM	**Cathedral Cave**	**149.88**	**324**	P	**PKiKP**	**04 25 17.7**	**-0.6**
	baz=46						
RSSD	**Black Hills**	**149.90**	**347**	P	**PKPbc**	**04 25 17.7**	**+0.2**
	baz=18						
LRAL	**Lakeview Retre**	**150.16**	**312**	P	**PKPbc**	**04 25 17.8**	**-0.3**
	baz=59						
I04A	**Tendick Farm,**	**150.22**	**13**	P	**PKPbc**	**04 25 17.3**	**-0.7**
	baz=342						
BGNE	**Belgrade**	**150.58**	**337**	P	**PKPbc**	**04 25 18.8**	**-0.1**
	baz=30						
H17A	**Grant Village**	**150.58**	**356**	P	**PKiKP**	**04 25 21.2**	**+1.3**
	baz=5.0						
J05D	**Fort Rock, OR**	**150.96**	**12**	P	**PKiKP**	**04 25 20.8**	**+0.3**
	baz=344						
OXF	**Oxford**	**151.02**	**316**	P	**PKPbc**	**04 25 20.0**	**-0.1**
	baz=53						
HLID	**Hailey**	**151.48**	**2**	P	**PKiKP**	**04 25 21.7**	**+0.1**
	baz=357						
L04D	**Klamath Falls**	**151.74**	**14**	P	**PKiKP**	**04 25 21.8**	**-0.3**
	baz=341						
K22A	**Casper**	**151.81**	**349**	P	**PKPbc**	**04 25 21.5**	**-0.5**
	baz=14						
KSU1	**Kansas State U**	**151.85**	**332**	P	**PKPbc**	**04 25 21.3**	**-0.6**
	baz=35						
U40A	**Yellville**	**151.98**	**323**	P	**PKPbc**	**04 25 22.0**	**-0.3**
	baz=45						
BW06	**Boulder Array**	**152.11**	**354**	P	**PKPbc**	**04 25 22.2**	**-0.5**
	baz=7.3						
PDAR	**Pinedale Array**	**152.11**	**354**	PKP	**PKPdf**	**04 25 16.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=346,slow=0.6,SNR=4.4						
PDAR				PKPbc	**PKPbc**	**04 25 22.2**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=72,slow=2.3,SNR=39						
PDAR	**Pinedale Array**	**152.11**	**354**		**PKPdf**	**04 25 16.0**	**-0.1**
W41B	**Gary Mavity, V**	**152.42**	**321**	P	**PKiKP**	**04 25 23.9**	**+0.4**
	baz=48						
SMCO	**Snowmass**	**155.26**	**348**	PKPdf	**PKPdf**	**04 25 20.3**	**-0.6**
NVAR	**Mina Array Bea**	**156.20**	**10**	PKP	**PKPdf**	**04 25 22.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=14,slow=2.0,SNR=3.7						
NVAR				PKPbc	**sPKPdf**	**04 25 31.6**	**+3.8**
	comp=Z,0.5nm,0.7s,baz=252,slow=0.6,SNR=4.2						
NVAR				PKPab	**PKPab**	**04 25 48.9**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=4.3,slow=3.1,SNR=6.2						
NVAR	**Mina Array Bea**	**156.20**	**10**	PKPdf	**PKPdf**	**04 25 21.3**	**-0.7**
ANMO	**Albuquerque**	**159.19**	**344**	P	**PKPab**	**04 26 03.4**	**+0.9**
	baz=18						
WUAZ	**Wupatki**	**159.46**	**356**	P	**PKPab**	**04 26 04.8**	**+1.1**
	baz=4.8						
TXAR	**Lajitas Array**	**163.19**	**330**	PKP	**PKPdf**	**04 25 30.3**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=90,slow=1.3,SNR=7.9						
TXAR				PKPab	**PKPab**	**04 26 19.6**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=64,slow=4.4,SNR=11						

*JMA **30** 04:37:38.9, 38.64N× 141.91E, h48km± 1km, M3.4*
*IDC **30** 04:37:59.6± 1.8, 37.11N× 135.82E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/42, mbtmp3.1/3, ML1.8/1, Error ellipse: s-maj=62.0km s-min=28.7km az=28.0*

ISC 30 04:37:38.1± 2.1, 38.64N± 0.05× 142.0E± 0.1, h35km, n13, σ1 9 00/21, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.44**	**293**	⇓P	**Pn**	**04 37 48.7**	**+0.8**
JKMT				S	**Sn**	**04 37 55.4**	**+0.7**
OFUJ	**Ofunato**	**0.51**	**330**	⇓P	**Pn**	**04 37 49.8**	**+0.9**
OFUJ				S	**Sn**	**04 37 57.3**	**+0.8**
JIKH	**Ishinomakikobu**	**0.53**	**232**	⇓P	**Pn**	**04 37 49.6**	**+0.5**
JIKH				S	**Sn**	**04 37 57.0**	**+0.2**
JIO	**Ouri**	**0.54**	**250**	⇓P	**Pn**	**04 37 49.7**	**+0.4**
JIO				*i* S	**Sn**	**04 37 57.0**	**-0.1**
JMK	**Ichinoseki**	**0.68**	**298**	⇓P	**Pn**	**04 37 51.7**	**+0.4**
JMK				S	**Sn**	**04 38 00.7**	**0.0**
JOM	**Ohasama**	**1.00**	**327**	⇓P	**Pn**	**04 37 56.2**	**+0.6**
JOM				S	**Sn**	**04 38 07.5**	**-1.0**
JOU	**Okura**	**1.08**	**256**	⇓P	**Pn**	**04 37 56.8**	**+0.1**
JOU				S	**Sn**	**04 38 10.1**	**-0.4**
JMM	**Marumori**	**1.22**	**231**	⇓P	**Pn**	**04 37 58.4**	**-0.2**
JMM				S	**Sn**	**04 38 12.7**	**-1.2**
JRG	**Rokugo**	**1.30**	**306**	⇓P	**Pn**	**04 38 00.3**	**+0.5**
JYK	**Kaneyama**	**1.31**	**283**	⇓P	**Pn**	**04 38 00.1**	**+0.2**
JYK				*e*S	**Sn**	**04 38 16.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.66**	**236**	Pn	**Pn**	**04 38 35.4**	**+3.2**
	0.3nm,0.3s,baz=26,slow=12,SNR=7.1						
MJAR				Sn	Sn	04 38 57.5	-17
	0.2nm,0.3s,baz=64,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**43.67**	**301**	P	**P**	**04 45 38.1**	**-1.3**
	0.4nm,0.8s,baz=77,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**58.71**	**188**	P	P	04 47 45.2	+13
	0.2nm,0.6s,baz=5.5,slow=7.4,SNR=1.7						

*NAO **30** 04:38:08.3± 1.3, 77.72N× 20.53E, h18km± 8km, ML3.3*
*IEPN **30** 04:38:09.0, 77.77N× 20.44E, h10km*
*BER **30** 04:38:10.3± 1.8, 77.76N× 20.47E, h22km± 6km, ML3.2, MW3.5, ML3.3(NAO), Confirmed Earthquake*

ISC 30 04:38:08.9± 1.2, 77.71N± 0.04× 20.56E± 0.03, h31km± 12km, n31, σ2 9 06/57, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPA0	**Spitsbergen Ar**	**1.00**	**300**	Pn	**Pn**	**04 38 26.5**	**-0.3**
SPA0				Lg	Lg	04 38 39.0	
	baz=122,slow=28						
SPA0	**Spitsbergen Ar**	**1.00**	**300**	Pn	**Pn**	**04 38 26.5**	**-0.3**
SPA0				Sg	**Sn**	**04 38 39.0**	**-0.8**
	baz=122,slow=28						
SPA0				IAML		04 38 41.5	
	comp=Z,560nm,0.3s						
HSPB	**Hornsund (broa**	**1.32**	**240**	Pn	**Pb**	**04 38 31.8**	**-1.1**
HSPB				Pg	Pn	**04 38 33.1**	**+2.1**
HSPB				Lg	Lg	04 38 50.9	
HSPB	**Hornsund (broa**	**1.32**	**240**	*e*P	**Pb**	**04 38 31.8**	**-1.1**
HSPB				*e*Pg	**Pn**	**04 38 33.2**	**+2.1**
HSPB				*e*S	**Sn**	**04 38 48.5**	**+0.9**
HSPB				*e*Sg	**Sb**	**04 38 50.6**	**+1.2**
HSPB				IAML		04 38 51.2	
	comp=Z,426nm,0.5s						
HSPB	**Hornsund (broa**	**1.32**	**240**	*e*P	**Pb**	**04 38 31.7**	**-1.3**
HSPB				*i* S	**Sn**	**04 38 47.7**	**+0.1**
BRBA	**Barentsburg A**	**1.39**	**288**	Pn	**Pb**	**04 38 32.7**	**-1.4**
BRBA				Pg	**Pn**	**04 38 34.3**	**+2.2**
BRBA				Lg	Lg	04 38 52.6	
BRBB	**Barentsburg B**	**1.39**	**289**	Pn	**Pb**	**04 38 32.8**	**-1.5**
BRBB				Pg	**Pn**	**04 38 34.4**	**+2.2**
BRBB				Lg	Lg	04 38 52.7	
HOPEN	**Hopen**	**1.57**	**138**	Pn	**Pb**	**04 38 35.2**	**-2.0**
HOPEN				Pg	**Pn**	**04 38 38.0**	**+3.4**
HOPEN				Lg	Lg	04 38 58.4	
HOPEN	**Hopen**	**1.57**	**138**	*e*P	**Pb**	**04 38 35.0**	**-2.1**
HOPEN				*e*Pg	**Pn**	**04 38 37.8**	**+3.3**
HOPEN				*e*S	**Sb**	**04 38 56.2**	**-0.3**
HOPEN				*e*Sg	**Sn**	**04 38 58.7**	**+4.9**
HOPEN				IAML		04 39 00.9	
	comp=Z,765nm,0.6s						
HOPEN	**Hopen**	**1.57**	**138**	*e*P	**Pb**	**04 38 37.6**	**+0.4**
HOPEN				*e*S	**Sb**	**04 38 56.1**	**-0.3**
KBS	**Kingsbay**	**2.14**	**309**	Pn	**Pn**	**04 38 42.2**	**-0.2**
KBS				Pg	**Pb**	**04 38 46.8**	**-0.1**
KBS				Lg	Lg	04 39 13.3	
KBS	**Kingsbay**	**2.14**	**309**	*e*P	**Pn**	**04 38 42.4**	**0.0**
KBS				*e*Pg	**Pb**	**04 38 47.1**	**+0.2**
KBS				*e*Sg	**Sb**	**04 38 12.8**	**-0.1**
KBS				IAML		04 39 21.4	
	comp=Z,438nm,0.5s						
KBS				IAML		04 39 21.4	
	comp=Z,458nm,0.5s						
KBS	**Kingsbay**	**2.14**	**309**	*e*P	**Pn**	**04 38 42.0**	**-0.4**
KBS				S	**Sn**	**04 39 06.2**	**-1.6**
BJO1	**Bjornoya**	**3.25**	**187**	Pn	**Pn**	**04 38 58.0**	**+0.3**
BJO1				Pg	**Pb**	**04 39 06.7**	**+0.9**
BJO1				Lg	Lg	04 39 48.3	
BJO1	**Bjornoya**	**3.25**	**187**	*e*P	**Pn**	**04 38 59.2**	**+1.5**
BJO1				*e*Pg	**Pb**	**04 39 06.8**	**+1.1**
BJO1				*e*S	**Sn**	**04 39 35.2**	**0.0**
BJO1				*e*Sg	**Sb**	**04 39 48.4**	**+3.6**
BJO1				IAML		04 39 52.5	
	comp=Z,122nm,0.5s						
BJO1	**Bjornoya**	**3.25**	**187**	*e*P	**Pn**	**04 38 59.1**	**+1.5**
BJO1				*e*S	**Sn**	**04 39 33.5**	**-1.7**
ZFI	**Zemlya Franca-**	**5.88**	**46**	*e*P	**Pn**	**04 39 33.9**	**+0.1**
ZFI				*e*S	**Sn**	**04 40 36.0**	**-4.0**
	comp=Z,31nm,1.5s						
ZFI2	**Zemlya Franca-**	**5.88**	**46**	*e*P	**Pn**	**04 39 33.8**	**+0.1**
ZFI2				*e*S	**Sn**	**04 40 36.4**	**-3.6**
HAMF	**Hammerfest**	**7.16**	**172**	*e*P	**Pn**	**04 39 50.4**	**-0.8**
HAMF				*e*S	Sn	04 41 04.3	-7.1
TRO	**Tromso**	**8.13**	**184**	*e*P	**Pn**	**04 40 03.0**	**-1.7**
KEV	**Kevo**	**8.19**	**164**	*e*P	**Pn**	**04 40 05.3**	**-0.2**
JETT	**Jettan, Norway**	**8.20**	**180**	*e*P	**Pn**	**04 40 05.3**	**-0.3**
ARA0	**ARCESS Array S**	**8.33**	**168**	Pn	**Pn**	**04 40 06.9**	**-0.5**
	baz=358,slow=12						
ARA0				Sn	**Sn**	**04 41 34.0**	**-6.3**
	baz=0.7,slow=22						
ARA0	**ARCESS Array S**	**8.33**	**168**	Pn	**Pn**	**04 40 06.9**	**-0.5**
	baz=358,slow=12						
ARA0				Sn	**Sn**	**04 41 34.0**	**-6.3**
	baz=0.7,slow=22						
KIF	**Kilpisjarvi**	**8.75**	**179**	Pn	**Pn**	**04 40 12.4**	**-0.7**
KIF				Sn	Sn	04 41 43.6	-6.9
KIF	**Kilpisjarvi**	**8.75**	**179**	*e*P	**Pn**	**04 40 12.3**	**-0.8**
KIF				Sn	Sn	04 41 43.6	-6.9
KTK1	**Kautokeino**	**8.78**	**174**	*e*P	**Pn**	**04 40 13.1**	**-0.4**
HEF	**Hetta**	**9.39**	**173**	*e*P	**Pn**	**04 40 21.4**	**-0.6**
APA0	**Apatity Array**	**10.77**	**154**	Pn	**Pn**	**04 40 40.9**	**+0.2**
	baz=356,slow=10						
APA0				Sn	Sn	04 42 31.6	-8.3
	baz=6.0,slow=22						
APA0	**Apatity Array**	**10.77**	**154**	Pn	**Pn**	**04 40 40.9**	**+0.2**
	baz=356,slow=10						
APA0				Sn	Sn	04 42 31.6	-8.3
	baz=6.0,slow=22						
LSH	**Leshukonskoye**	**14.97**	**135**	P	**Pn**	**04 41 38.2**	**+0.3**
	comp=Z,80nm,3.8s						
LSH				*e*S	Sn	04 44 12.0	-10

*IDC **30** 04:38:20.6± 2.1, 21.66N× 143.06E, h307km± 19km, mb3.0/8, mb1 3.3/9, mb1mx3.0/43, mbtmp3.7/9, Error ellipse: s-maj=27.0km s-min=16.0km az=94.0*

ISC 30 04:38:20.9± 0.9, 21.7N± 0.1× 143.1E± 0.2, h311km, n11, σ0 8 42/12, mb3.4/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.47**	**352**	P	**Pn**	**04 39 44.0**	**-0.2**
	5.6nm,0.3s,baz=182,slow=17,SNR=1.7						
JCJ				S	**S**	**04 40 51.1**	**-0.3**
	12nm,0.3s,baz=117,slow=23,SNR=5.8						
KSRS	**Korea Array**	**20.48**	**324**	P	**P**	**04 42 36.3**	**+0.5**
	1.2nm,0.6s,baz=143,slow=8.0,SNR=4.8						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**04 45 44.0**	**-0.4**
	0.6nm,0.5s,baz=15,slow=7.7,SNR=13						
MKAR	**Makanchi Array**	**54.64**	**313**	P	**P**	**04 47 18.4**	**+0.3**
	0.1nm,0.3s,baz=78,slow=7.2,SNR=1.6						
ILAR	**Eielson Array**	**62.12**	**27**	P	**P**	**04 48 08.6**	**-0.5**
	0.5nm,0.6s,baz=258,slow=5.4,SNR=7.5						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**04 49 37.2**	**+0.3**
	0.7nm,0.5s,baz=292,slow=6.0,SNR=17						
ARCES	**ARCESS Array B**	**78.92**	**341**	P	**P**	**04 49 50.1**	**+0.2**
	0.9nm,0.5s,baz=68,slow=6.7,SNR=8.5						
FINES	**FINESS Array B**	**83.17**	**334**	P	**P**	**04 50 11.6**	**-0.6**
	0.8nm,0.4s,baz=67,slow=5.9,SNR=8.1						
NVAR	**Mina Array Bea**	**83.25**	**51**	P	**P**	**04 50 13.9**	**+0.4**
	0.3nm,0.5s,baz=287,slow=6.3,SNR=2.6						
PLCA	**Paso Flores**	**145.81**	**132**	PKPbc	**PKPbc**	**04 57 24.1**	**0.0**
	0.8nm,0.5s,baz=268,slow=4.6,SNR=4.8						
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	**PKPbc**	**04 57 36.8**	**+0.3**
	0.6nm,0.5s,baz=353,slow=4.0,SNR=5.1						

*BGR **30** 05:09:51.9± 0.0, 41.45N× 143.88E, h33km, mb4.8*
*BJI **30** 05:09:55.7± 0.0, 42.96N× 144.84E, h55km, mb5.0/73, mB4.8/40, Ms4.0/22, Ms7 3.8/21*
*MOS **30** 05:09:57.6± 0.9, 42.90N× 144.71E, h64km, mb5.0/41, Error ellipse: s-maj=5.7km s-min=4.3km az=105.3*
MOS Felt (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh, Malokuril'skoe.
*SKHL **30** 05:09:58.9± 0.2, 42.90N× 144.80E, h73km± 2km, mb6.1/3*
*NEIC **30** 05:09:59.0± 1.7, 42.92N± 0.06× 144.70E± 0.05, h54km± 5km, mb4.8/239, Error ellipse: s-maj=9.9km s-min=3.0km az=149.0*
*NIED **30** 05:09:59.0, 42.92N× 144.72E, h57km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10 16Nm; Mrr0.92; Mθθ-0.36; Mφφ-0.56; Mrθ0.28; Mθφ-0.42; Mφr0.68; Fault plane solution: M0 1.16000×10 16 NP1:φs29.00000°, δ65.00000°, λ82.00000°. NP2:φs227.00000°, δ27.00000°, λ106.00000°.*
*JMA **30** 05:09:59.0± 0.1, 42.92N× 144.72E, h57km± 1km, M4.7 Broadband fault plane solution: P waves. NP1: φs9.00000°, δ77.00000°, λ76.00000°. NP2:φs237.00000°, δ20.00000°, λ136.00000°. Principal axes: T Plg56.0000°, Azm261.0000°; N Plg14.0000°, Azm13.0000°; P Plg30.0000°, Azm111.0000°;*
JMA Felt III J1.
*IDC **30** 05:10:00.7± 1.6, 42.98N× 144.57E, h72km± 14km, mb4.4/36, mb1 4.5/42, mb1mx4.4/57, mbtmp4.7/42, MS3.8/40, Ms1 3.8/40, ms1mx3.5/93 Error ellipse: s-maj=11.5km s-min=9.5km az=125.0*

ISC 30 05:09:58.9± 0.3, 42.94N± 0.03× 144.74E± 0.03, h59km± 2km, h59km: pP-P, n699, σ1 9 26/670, mb4.8/238, MS3.9/43, 120C-46D, Fault plane solution: NP1:φs183.63245°, δ84.09826°, λ-64.82105°. NP2:φs285.96979°, δ25.81738°, λ-166.34349°. Principal axes: T Plg34.3205°, Azm252.2708°; N Plg25.0363°, Azm0.8650°; P Plg45.1727°, Azm118.8930°; Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.07**	**329**	⇑P	**Pn**	**05 10 07.6**	**-0.1**
JAK				*e*S	**Sn**	**05 10 14.0**	**-0.1**
AKK	**Akkeshi**	**0.11**	**43**	*i* P	**Pn**	**05 10 07.9**	**+0.1**
JKHN	**Kushirohamanak**	**0.34**	**65**	⇑P	**Pn**	**05 10 09.6**	**+0.4**
JKHN				*e*S	**Sn**	**05 10 17.1**	**+0.4**
JNK	**Nakash**	**0.65**	**358**	⇓P	**Pn**	**05 10 12.2**	**-0.3**
JNK				*e*S	**Sn**	**05 10 21.7**	**-0.7**
JOB	**Onbets**	**0.67**	**267**	⇓P	**Pn**	**05 10 12.5**	**-0.2**
JOB				*e*S	**Sn**	**05 10 22.3**	**-0.5**
JAR	**Ashorobuto**	**0.80**	**297**	⇓P	**Pn**	**05 10 14.3**	**0.0**
JAR				*e*S	**Sn**	**05 10 25.2**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.84**	**59**	⇑*i*PN	**Pn**	**05 10 14.6**	**-0.2**
NMR				*i* S	**Sn**	**05 10 25.7**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.84**	**59**	*i* P	**Pn**	**05 10 14.6**	**-0.2**
NMR				*i* S	**Sn**	**05 10 25.9**	**-0.6**
NEM2	**Nemuro 2**	**0.85**	**59**	⇑P	**Pn**	**05 10 14.5**	**-0.4**
NEM2				*e*S	**Sn**	**05 10 25.7**	**-1.0**
GLVR	**Golovnino**	**0.98**	**35**	⇑*i*PN	**Pn**	**05 10 17.2**	**+0.6**
GLVR				*i* S	**Sn**	**05 10 30.8**	**+1.1**
GLVR				pmax	pmax		
	comp=N,1μm,0.3s						
GLVR				pmax	pmax		
	comp=E,2μm,0.3s						
GLVR				pmax	pmax		
	comp=Z,13μm,0.3s						
GLVR				smax	smax		
	comp=N,26μm,0.3s						
GLVR				smax	smax		
	comp=E,102μm,0.3s						
GLVR	**Golovnino**	**0.98**	**35**	*i* P	**Pn**	**05 10 17.2**	**+0.6**
GLVR				AMB	AMB	05 10 17.7	
	comp=E,13μm,0.3s						
GLVR				*i* S	**Sn**	**05 10 30.8**	**+1.1**
GLVR				A	A	05 10 31.3	
	comp=E,26μm,0.5s						
GLVR				A	A	05 10 31.3	
	comp=E,102μm,0.5s						
JRA	**Rausu**	**1.04**	**15**	⇑P	**Pn**	**05 10 17.8**	**+0.5**
JRA				*e*S	**Sn**	**05 10 31.5**	**+0.5**
JCH	**Churui**	**1.07**	**253**	⇓P	**Pn**	**05 10 17.2**	**-0.6**
JCH				*e*S	**Sn**	**05 10 30.6**	**-1.2**
JTKR	**Abashiri--Toko**	**1.20**	**330**	⇓P	**Pn**	**05 10 20.3**	**+0.8**
JTKR				*e*S	**Sn**	**05 10 36.4**	**+1.6**
RUSJ	**Misakicho**	**1.22**	**17**	⇑*i*PN	**Pn**	**05 10 20.8**	**+1.0**
RUSJ				*i* S	**Sn**	**05 10 36.8**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**1.36**	**36**	*c i*PN	**Pn**	**05 10 22.3**	**+0.6**
YUK				*i* S	**Sn**	**05 10 39.1**	**+0.3**
YUK				pmax	pmax		
	comp=Z,10μm,0.3s						
YUK				pmax	pmax		
	comp=N,883nm,0.2s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,64μm,0.4s						
YUK				smax	smax		
	comp=E,64μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.36**	**36**	*i* P	**Pn**	**05 10 22.4**	**+0.7**
YUK				AMB	AMB	05 10 23.0	
	comp=E,6μm,0.2s						
YUK				*i* S	**Sn**	**05 10 39.1**	**+0.3**
YUK				A	A	05 10 40.8	
	comp=E,41μm,0.5s						
YUK				A	A	05 10 40.8	
	comp=E,57μm,0.5s						
JMP	**Maruseppu**	**1.47**	**317**	⇓P	**Pn**	**05 10 23.7**	**+0.6**
ERM	**Erimo**	**1.49**	**232**	PN	**Pn**	**05 10 23.6**	**+0.2**
ERM	**Erimo**	**1.49**	**232**		**Pn**	**05 10 23.6**	**+0.2**
SHO	**Shikotan**	**1.78**	**58**	*c i*PN	**Pn**	**05 10 27.1**	**-0.2**
SHO				*i* S	**Sn**	**05 10 47.1**	**-1.8**
SHO				pmax	pmax		
	comp=Z,2μm,0.5s						
SHO				pmax	pmax		
	comp=N,453nm,0.3s						
SHO				pmax	pmax		
	comp=E,939nm,0.5s						
SHO				smax	smax		
	comp=E,4μm,0.3s						
SHO				smax	smax		
	comp=N,12μm,0.4s						
SHO	**Shikotan**	**1.78**	**58**	*i* P	**Pn**	**05 10 27.1**	**-0.2**
SHO				AMB	AMB	05 10 28.2	
	comp=N,2μm,0.5s						
SHO				*i* S	**Sn**	**05 10 47.4**	**-1.5**
SHO				A	A	05 10 49.5	
	comp=N,13μm,0.4s						
SHO				A	A	05 10 49.5	
	comp=N,7μm,0.4s						
JKA	**Kamikawa-asahi**	**1.95**	**308**	Pn	**Pn**	**05 10 30.9**	**+1.2**
JKA	**Kamikawa-asahi**	**1.95**	**308**	*i* P	**Pn**	**05 10 30.9**	**+1.2**
ASAJ	**Asahikawa**	**1.96**	**308**	P	**Pn**	**05 10 30.6**	**+0.9**
	comp=N,610nm,0.3s,baz=158,slow=11,SNR=750						
ASAJ				S	**Sn**	**05 10 48.8**	**-4.4**
	comp=N,370nm,0.3s,baz=60,slow=4.4,SNR=5.6						
ASAJ				LR	LR	05 11 26.2	
	comp=N,3μm,22.0s,baz=134,slow=47						
ASAJ	**Asahikawa**	**1.96**	**308**	PN	**Pn**	**05 10 30.9**	**+1.2**
JEW	**Eniwo**	**2.42**	**269**		**Pn**	**05 10 36.9**	**+0.9**
KUR	**Kuril'sk**	**3.21**	**43**	*c i*PN	**Pn**	**05 10 45.4**	**-1.4**
KUR				*e*S	**Sn**	**05 11 22.5**	**-1.4**
KUR				pmax	pmax		
	comp=Z,683nm,1.0s						
KUR				pmax	pmax		
	comp=E,210nm,0.8s						
KUR				smax	smax		
	comp=N,5μm,2.0s						
KUR				smax	smax		
	comp=N,2μm,0.6s						
KUR				smax	smax		
	comp=E,2μm,0.6s						
KUR	**Kuril'sk**	**3.21**	**43**	*i* P	**Pn**	**05 10 48.6**	**+1.8**
KUR				AMB	AMB	05 10 51.5	
	comp=E,540nm,0.6s						
KUR				*e*S	**Sn**	**05 11 23.9**	**0.0**
KUR				A	A	05 11 26.5	
	comp=E,5μm,2.0s						
KUR				A	A	05 11 32.8	
	comp=E,2μm,0.6s						
KUR				A	A	05 11 32.8	
	comp=E,2μm,0.6s						
JTM	**Tenmabayashi**	**3.49**	**233**	Pn	**Pn**	**05 10 50.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.26**	**341**	*ce*PN	**Pn**	**05 11 01.7**	**+0.6**
YSS				*e*S	**Sn**	**05 11 48.9**	**-0.5**
YSS				pmax	pmax		
	comp=Z,190nm,0.5s						
YSS				smax	smax		
	comp=E,120nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=N,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.26**	**341**		**Pn**	**05 11 01.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.26**	**341**	*e*P	**Pn**	**05 11 01.7**	**+0.6**
YSS				AMB	AMB	05 11 03.0	
	comp=N,190nm,0.5s						
YSS				*e*S	**Sn**	**05 11 48.9**	**-0.5**
YSS				A	A	05 11 56.7	
	comp=N,120nm,1.0s						
YSS				AMS	AMS	05 13 10.8	
	comp=N,600nm,14.0s						
YSS				AMS	AMS	05 13 10.8	
	comp=N,1μm,14.0s						
JMM	**Marumori**	**5.90**	**212**		**Pn**	**05 11 22.4**	**-1.2**
UGL	**Uglegorsk**	**6.42**	**344**	*e*PN	**Pn**	**05 11 32.3**	**+1.6**
UGL				*e*		05 12 53.8	
UGL				pmax	pmax		
	comp=Z,100nm,0.7s						
UGL	**Uglegorsk**	**6.42**	**344**	*e*P	**Pn**	**05 11 32.3**	**+1.6**
UGL				AMB	AMB	05 11 42.0	
	comp=Z,100nm,0.7s						
UGL				*e*S	**Sn**	**05 12 42.8**	**+0.4**
UGL				A	A	05 12 49.2	
	comp=Z,60nm,0.4s						
UGL				A	A	05 12 49.2	
	comp=Z,110nm,0.4s						
JSD	**Sado**	**6.96**	**227**	Pn	**Pn**	**05 11 37.8**	**-0.3**
JYT	**Yasato**	**7.57**	**209**	Pn	**Pn**	**05 11 43.9**	**-2.5**
TYV	**Tymovskoe**	**8.05**	**351**	*e*PN	**Pn**	**05 11 55.4**	**+2.3**
TYV				pmax	pmax		
	comp=Z,72nm,0.6s						
TYV	**Tymovskoe**	**8.05**	**351**	*e*P	**Pn**	**05 11 55.1**	**+2.0

comp=Z,50nm,0.5s
KLR Kul'dur 10.99 309 P **Pn 05 12 34.9 +1.6**
comp=Z,1.8nm,0.3s,baz=113,slow=13,SNR=129
KLR LR LR 05 17 03.2
comp=Z,609nm,20.8s,baz=124,slow=39
KLR PcP **PcP 05 18 28.5 +1.2**
comp=Z,0.1nm,0.3s,baz=131,slow=2.0,SNR=3.7
KLR Kul'dur 10.99 309 *eP* **Pn 05 12 34.5 +1.2**
MDJ Mudanjiang 11.09 284 P **Pn 05 12 37.0 +2.4**
MDJ pmax pmax
comp=Z,21nm,1.4s
MDJ pmax pmax
comp=Z,120nm,4.3s
PAU Pauzhetka 11.82 40 *eP* **Pn 05 12 45.4 +0.8**
PAU AMB AMB 05 12 50.0
comp=Z,50nm,0.5s
JHS Saijyo 12.02 233 Pn **Pn 05 12 46.8 -0.6**
JMN Monobe 12.53 226 Pn **Pn 05 12 52.8 -1.6**
BNX BinXian 12.73 289 ⇓P **Pn 05 12 57.5 +0.6**
BNX pmax pmax
comp=Z,42nm,0.9s
BNX pmax pmax
comp=Z,340nm,11.2s
PEA0B Petropavlovsk- 13.34 36 *i* PN **Pn 05 13 05.4 +0.1**
PETK Petropavlovsk- 13.34 36 P **Pn 05 13 06.9 +1.6**
comp=Z,0.4nm,0.3s,baz=186,slow=13,SNR=5.1
PET Petropavlovsk 13.71 38 *eP* **Pn 05 13 06.8 -3.4**
PET AMB AMB 05 13 07.9
comp=Z,10.0nm,0.5s
KSRS Korea Array 13.97 253 P **Pn 05 13 13.3 -0.5**
comp=Z,0.3nm,0.3s,baz=61,slow=12,SNR=51
KSRS LR LR 05 18 10.5
comp=Z,194nm,20.5s,baz=65,slow=35
KSRS PcP **PcP 05 18 31.1 +0.1**
comp=Z,0.4nm,0.3s,baz=174,slow=0.6,SNR=6.2
KS19 Wonju Array Si 13.99 253 Pn 05 13 14.4 +0.4
KSAR Wonju Array Be 14.00 253 P **Pn 05 13 13.1 -1.1**
KSAR Wonju Array Be 14.00 253 Pn **Pn 05 13 13.1 -1.1**
CN2 Changchun 14.07 280 *eP* **Pn 05 13 14.5 -0.5**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,15.0s
JTU Tsushima 14.61 240 Pn **Pn 05 13 21.0 -1.3**
JNU Nakatsue 14.66 233 P **Pn 05 13 20.6 -2.3**
comp=Z,0.2nm,0.3s,baz=96,slow=8.3,SNR=3.0
JNU LR LR 05 19 59.6
comp=Z,191nm,19.3s,baz=82,slow=41
JNU Nakatsue 14.66 233 Pn **Pn 05 13 21.4 -1.6**
TJN Taejon 14.89 250 *ceP* **Pn 05 13 25.1 -0.8**
ZEA Zeya 15.83 319 *eP* **Pn 05 13 39.2 +1.4**
ZEA pmax pmax
comp=N,10.0nm,0.3s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=N,100nm,15.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
ZEA Zeya 15.83 319 *eP* **Pn 05 13 36.0 -1.8**
ZEA AMB AMB 05 13 43.2
comp=Z,10.0nm,0.7s
JCJ Chichijima 15.94 188 LR LR 05 18 51.7
comp=Z,86nm,21.5s,baz=334,slow=33
JCJ Chichijima 15.94 188 Pn **Pn 05 13 38.4 -1.0**
JCJ IAmb IAmb 05 13 58.0
comp=Z,62nm,0.9s
MA2 Magadan 17.07 10 LR LR 05 19 46.4
comp=Z,125nm,20.2s,baz=180,slow=34
MA2 Magadan 17.07 10 *i* P **Pn 05 13 50.3 -2.9**
HIA Hailar 18.41 299 *i* P **P 05 14 07.8 -1.3**
HIA pmax pmax
comp=Z,11nm,0.7s
SEY Seymchan 20.52 10 P **P 05 14 30.2 -1.8**
comp=Z,3.1nm,0.4s,baz=194,slow=7.6,SNR=16
SEY Seymchan 20.52 10 *ceP* **P 05 14 29.0 -2.9**
SEY pmax pmax
comp=Z,9.0nm,1.1s
XLT XiLinHaoTe 20.80 283 *eP* **P 05 14 34.8 -0.5**
XLT pmax pmax
comp=Z,14nm,0.6s
XLT pmax pmax
comp=Z,68nm,7.6s
JOW Kunigami 20.93 225 P **P 05 14 35.8 -0.9**
comp=Z,18nm,0.9s,baz=2.3,slow=8.3,SNR=5.7
JOW LR LR 05 23 01.3
comp=Z,150nm,21.9s,baz=108,slow=37
JOW Kunigami 20.93 225 P **P 05 14 37.4 +0.7**
YAK Yakutsk 21.11 340 P **P 05 14 37.4 -0.8**
comp=Z,14nm,0.3s,baz=41,slow=0.4,SNR=4.2
YAK LR LR 05 23 24.4
comp=Z,250nm,19.7s,baz=96,slow=38
YAK Yakutsk 21.11 340 *eP* **P 05 14 32.4 -5.8**
YAK *e**PP **pP 05 14 49.9 -1.4**
YAK *eS* **S 05 18 21.1 -8.4**
YAK *e**SS **sS 05 18 48.5 -2.2**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK smax smax
comp=N,55nm,1.7s
YAK smax smax
comp=E,35nm,1.6s
YAK Yakutsk 21.11 340 IAmb IAmb 05 14 39.0
comp=Z,33nm,0.6s
YAK Yakutsk 21.11 340 *eP* **P 05 14 37.6 -0.6**
BJI Beijing 21.55 272 P **P 05 14 42.3 -0.9**
BJI S **S 05 18 39.5 +0.7**
BJI PcP **PcP 05 18 45.5 +2.2**
BJI pmax pmax
comp=Z,40nm,0.9s
BJI LR LR
comp=Z,67nm,13.9s
BJI LR LR
comp=Z,190nm,17.6s
BJI LR LR
comp=Z,170nm,15.5s
BJT Baijiatuau 21.57 272 P **P 05 14 42.6 -0.7**
BJT pmax pmax
comp=Z,33nm,0.9s
BJT Baijiatuau 21.57 272 P **P 05 14 42.6 -0.7**
BJT IAmb IAmb 05 14 43.6
comp=Z,33nm,0.9s
SHEM Shemya Is, Ala 21.86 53 LR LR 05 23 01.8
comp=Z,63nm,20.5s,baz=330,slow=36
TIA Tai'an 22.26 262 ⇓P **P 05 14 49.5 -1.4**
TIA pmax pmax
comp=Z,18nm,0.4s
NJ2 Nanjing 23.15 251 *eP* **P 05 15 00.0 -0.1**
NJ2 sP **sP 05 15 17.5 -3.2**
NJ2 pmax pmax
comp=Z,18nm,0.7s
HNS HongShan 23.54 267 ⇓P **P 05 15 02.0 -1.7**
HNS sP **sP 05 15 22.3 -2.4**
HNS S **S 05 19 18.0 +4.8**
HNS pmax pmax
comp=Z,85nm,0.9s
HHC Hu-ho-hao-te 24.70 277 *eP* **P 05 15 15.0 +0.6**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.0s
LYN LuoYang 26.40 262 *eP* **P 05 15 30.5 +0.7**
LYN S **S 05 20 03.8 +4.8**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,100nm,3.7s
LYN LR LR
comp=Z,130nm,16.1s
LYN LR LR
comp=Z,110nm,13.5s
ULN Ulaanbaatar 26.73 294 *ceP* **P 05 15 32.5 -0.3**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 26.73 294 *eP* **P 05 15 32.5 -0.3**
WHN Wuhan 27.16 253 ⇑P **P 05 15 37.0 +0.4**
WHN pmax pmax
comp=Z,80nm,0.7s
SONM Songino Array 27.18 294 P **P 05 15 35.9 -0.9**
comp=Z,16nm,0.8s,baz=86,slow=8.7,SNR=33
SONM LR LR 05 27 15.2
comp=Z,272nm,19.3s,baz=183,slow=38
SONM Songino Array 27.18 294 P **P 05 15 36.6 -0.2**
SONM pmax pmax
comp=Z,15nm,0.8s
SONM Songino Array 27.18 294 P **P 05 15 36.6 -0.2**
SONM IAmb IAmb 05 15 37.7
comp=Z,15nm,0.8s
BILL Bilibino 27.64 17 *eP* **P 05 15 39.9 -0.6**
BILL *e**PP **pP 05 15 51.9 -3.2**
BILL *e**SP **sP 05 16 06.3 +4.1**
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 27.64 17 *eP* **P 05 15 39.9 -0.6**
ZAK Zakamensk 29.10 299 *eP* **P 05 15 53.2 -0.7**
ZAK pmax pmax
comp=Z,12nm,1.3s
XAN Xi'an 29.23 264 P **P 05 15 55.3 +0.2**
XAN pP pP 05 16 08.0 -1.7
XAN pmax pmax
comp=Z,21nm,0.9s
XAN pmax pmax
comp=Z,120nm,5.7s
GUMO Guam 29.25 180 LR LR 05 26 07.0
comp=Z,31nm,21.2s,baz=81,slow=33
H11N2 WAKE ISLAND Hy 29.72 134 T T 05 47 08.1
baz=327,slow=75,SNR=3123
H11N1 WAKE ISLAND Hy 29.73 134 T T 05 47 09.4
baz=327,slow=75,SNR=4557
H11N3 WAKE ISLAND Hy 29.73 134 T T 05 47 11.1
baz=327,slow=75,SNR=4359
TIXI Tiksi 29.82 350 LR LR 05 28 33.5
comp=Z,169nm,20.9s,baz=181,slow=37
TIXI Tiksi 29.82 350 *i* P **P 05 16 00.3 +0.4**
TIXI pmax pmax
comp=Z,6.0nm,2.1s
TIXI Tiksi 29.82 350 *eP* **P 05 16 00.3 +0.4**
H11S1 WAKE ISLAND Hy 30.63 136 T T 05 48 18.1
baz=328,slow=76,SNR=4455
H11S3 WAKE ISLAND Hy 30.64 136 T T 05 48 19.0
baz=328,slow=76,SNR=2114
H11S2 WAKE ISLAND Hy 30.65 136 T T 05 48 19.9
baz=328,slow=76,SNR=1554
LZH Lanzhou 32.04 272 ⇑P **P 05 16 21.0 +1.0**
LZH pP pP 05 16 36.5 +1.8
LZH sP sP 05 16 40.8 -0.9
LZH pmax pmax
comp=Z,69nm,1.6s
LZH pmax pmax
comp=Z,88nm,4.3s
LZH LR LR
comp=Z,160nm,12.5s
LZH LR LR
comp=Z,130nm,11.9s
LZH LR LR
comp=Z,140nm,11.4s
GAMB Gambell 32.38 35 P **P 05 16 22.8 +0.4**
baz=251
GTA Gaotai 33.70 280 ⇑P **P 05 16 34.5 +0.1**
GTA sP pP 05 16 51.3 +2.2
GTA PcP **PcP 05 19 14.5 +1.6**
GTA pmax pmax
comp=Z,13nm,1.0s
TNA Tin City 34.48 33 P **P 05 16 41.0 +0.3**
TNA IAmb IAmb 05 16 42.7
comp=Z,6.1nm,0.8s
TNA Tin City 34.48 33 P **P 05 16 41.2 +0.6**
baz=252,SNR=13
CD2 Chengdu 34.57 263 P **P 05 16 42.0 0.0**
CD2 sP sP 05 17 02.5 -1.1
CD2 pmax pmax
comp=Z,70nm,0.7s
GYA Guiyang 35.02 254 *eP* **P 05 16 50.0 +4.1**
GYA pmax pmax
comp=Z,15nm,0.8s
ANM Nome 35.26 35 P **P 05 16 48.5 +1.1**
ANM pmax pmax
comp=Z,9.0nm,1.4s
ANM Nome 35.26 35 P **P 05 16 48.5 +1.1**
ANM Nome 35.26 35 P **P 05 16 48.7 +1.3**
baz=257
PZH PanZhiHua 38.51 259 ⇓P **P 05 17 16.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.2s
GOMU GeErMu 38.60 277 P **P 05 17 16.5 -0.1**
GOMU PcP **PcP 05 19 29.0 +1.1**
GOMU S **S 05 23 11.3 +2.5**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU pmax pmax
comp=Z,75nm,5.4s
GOMU LR LR
comp=Z,96nm,15.1s
GOMU LR LR
comp=Z,70nm,14.2s
GOMU LR LR
comp=Z,110nm,16.1s
KMI Kunming 38.62 256 ⇑P **P 05 17 17.3 +0.6**
KMI pP pP 05 17 31.8 +0.2
KMI sP sP 05 17 36.8 -1.7
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,110nm,3.5s
GCSA Galena City Sc 38.89 36 P **P 05 17 19.0 +0.8**
baz=265
NRIK Noril'sk 39.12 332 P **P 05 17 18.7 -1.4**
comp=Z,1.5nm,0.4s,baz=119,slow=10,SNR=2.2
NRIK LR LR 05 34 09.7
comp=Z,164nm,20.9s,baz=91,slow=37
NRIK Noril'sk 39.12 332 P **P 05 17 18.7 -1.4**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
TTA Tatalina 39.16 39 P **P 05 17 21.9 +1.3**
TTA pmax pmax
comp=Z,7.0nm,1.1s
TTA Tatalina 39.16 39 P **P 05 17 21.9 +1.3**
TTA Tatalina 39.16 39 P **P 05 17 21.9 +1.3**
baz=268
SVW2 Sparrevohn 39.34 41 P **P 05 17 23.1 +1.1**
P18K Big Mountain, 39.56 44 P **P 05 17 25.3 +1.3**
baz=273
L19K White Mountain 39.68 40 P **P 05 17 25.7 +0.8**
L19K White Mountain 39.68 40 P **P 05 17 26.2 +1.4**
baz=270
N19K Bonanza Creek 39.88 42 P **P 05 17 28.1 +1.5**
baz=272
J20K Nowinta River 40.04 37 P **P 05 17 28.8 +1.1**
J20K IAmb IAmb 05 17 30.0
comp=Z,9.7nm,0.7s
J20K Nowinta River 40.04 37 P **P 05 17 29.1 +1.3**
baz=268,SNR=12
K20K Telida 40.05 38 IAmb IAmb 05 17 45.0
comp=Z,9.2nm,1.1s
K20K Telida 40.05 38 P **P 05 17 29.6 +1.7**
baz=269
ZAA0 Zalesovo Array 40.09 307 P **P 05 17 28.9 +0.6**
ZALV Zalesovo Beam 40.09 307 P **P 05 17 27.9 -0.4**
comp=Z,3.8nm,0.4s,baz=92,slow=8.3,SNR=21
ZALV PcP **PcP 05 19 31.8 0.0**
comp=Z,13nm,0.7s,baz=84,slow=3.0,SNR=21
ZALV LR LR 05 35 24.8
comp=Z,178nm,18.0s,baz=92,slow=38
ZALV Zalesovo Beam 40.09 307 P **P 05 17 27.6 -0.7**
L20K Farewell, AK 40.14 39 P **P 05 17 30.1 +1.5**
baz=270
M20K Styx River 40.50 40 P **P 05 17 33.3 +1.6**
baz=272
P19K Oil Pt 40.56 44 P **P 05 17 33.8 +1.6**
P19K IAmb IAmb 05 18 01.7
comp=Z,34nm,1.4s
H21K Melozitna Rive 40.67 34 IAmb IAmb 05 17 34.9
comp=Z,9.1nm,0.8s
H21K Melozitna Rive 40.67 34 P **P 05 17 33.2 +0.2**
baz=268,SNR=11
RSO Redoubt South 40.75 42 P **P 05 17 33.7 -0.2**
WMQ Urumqi 40.76 292 *eP* **P 05 17 34.5 +0.4**
WMQ sP sP 05 17 55.5 -0.5
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=Z,170nm,19.3s
CHUM Lake Minchumin 40.84 37 P **P 05 17 35.9 +1.5**
baz=270,SNR=5.7
CAST Castle Rocks 40.95 38 P **P 05 17 36.5 +1.2**
baz=271,SNR=8.9
SPCR Spurr Chakacha 40.97 41 P **P 05 17 36.9 +1.4**
baz=273
I21K Tanana 41.00 35 P **P 05 17 36.8 +1.2**
baz=269,SNR=6.3
KDAK Kodiak Island 41.08 46 LR LR 05 35 37.5
comp=Z,75nm,21.0s,baz=314,slow=37
KDAK Kodiak Island 41.08 46 P **P 05 17 36.9 +0.4**
baz=277
BPAW Bear Paw Mtn. 41.42 37 P **P 05 17 40.3 +1.1**
baz=271
KTH Kantishna Hill 41.47 38 pP 05 17 53.7 -1.0
KTH IAmb IAmb 05 17 55.6
comp=Z,16nm,1.0s
MLY Manley 41.52 35 P **P 05 17 41.3 +1.3**
baz=270,SNR=8.5
ZSN Zaisan 41.53 298 *eP* **P 05 17 40.0 -0.2**
ZSN Zaisan 41.53 298 *eP* **P 05 17 40.1 -0.2**
baz=298
TRF Thorofare Moun 41.75 38 P **P 05 17 43.2 +1.1**
baz=272
COLD Coldfoot 41.77 32 P **P 05 17 42.8 +0.8**
baz=268
CUT Chulitna 41.82 39 P **P 05 17 43.1 +0.7**
baz=274
TOLK Toolik Lake Re 42.07 30 P **P 05 17 45.3 +0.8**
TOLK Toolik Lake Re 42.07 30 P **P 05 17 44.4 0.0**
baz=267,SNR=6.6
I23K Minto, Yukon-K 42.10 35 IAmb IAmb 05 17 46.8
comp=Z,8.2nm,0.7s
I23K Minto, Yukon-K 42.10 35 P **P 05 17 45.7 +1.0**
baz=271,SNR=8.5
RC01 Rabbit Creek A 42.17 41 P **P 05 17 46.0 +0.7**
baz=276
O22K Cooper Landing 42.24 42 P **P 05 17 46.3 +0.4**
baz=276
NEA2 Nenana 42.25 36 P **P 05 17 46.6 +0.8**
baz=272,SNR=30
MCK McKinley 42.34 37 P **P 05 17 47.7 +0.9**
baz=273
PMR Palmer 42.42 40 P **P 05 17 47.1 -0.1**
baz=275
SEW Seward 42.42 43 P **P 05 17 47.0 -0.2**
baz=277
GHO Glory Hole Cre 42.50 40 IAmb IAmb 05 18 02.7
comp=Z,13nm,0.9s
MDM Murphy Dome 42.59 35 IAmb IAmb 05 17 50.7
comp=Z,14nm,0.8s
WRH Wood River Hil 42.67 36 IAmb IAmb 05 18 05.0
comp=Z,14nm,1.3s
H24K Noodor Dome 42.70 34 IAmb IAmb 05 17 52.1
comp=Z,15nm,0.9s
H24K Noodor Dome 42.70 34 P **P 05 17 50.6 +0.9**
baz=272,SNR=9.3
TCOL CGO, IAF Yank 42.75 35 P **P 05 17 50.6 +0.7**
baz=273,SNR=5.3
COLA College 42.76 35 *i* P **P 05 17 50.7 +0.8**
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 42.76 35 P **P 05 17 50.9 +1.0**
baz=273
KNK Knik Glacier 42.76 41 P **P 05 17 50.5 +0.5**
baz=276
SML Sawmill 42.77 40 P **P 05 17 51.1 +0.9**
SML IAmb IAmb 05 17 52.4
comp=Z,18nm,0.8s
SML Sawmill 42.77 40 P **P 05 17 51.1 +0.9**
baz=276
PWL Port Wells 42.88 41 P **P 05 17 52.1 +1.0**
baz=277
POKR Poker Plat Res 42.92 35 P **P 05 17 52.7 +1.4**
POKR IAmb IAmb 05 17 53.7
comp=Z,21nm,0.8s
POKR Poker Plat Res 42.92 35 P **P 05 17 52.1 +0.7**
baz=273,SNR=5.6
WAT6 Susitna Watana 42.97 39 P **P 05 17 52.5 +0.5**
baz=276
DHY Denali Highway 43.09 38 P **P 05 17 53.6 +0.7**
baz=275
IL31 43.17 36 IAmb IAmb 05 17 56.3
comp=Z,12nm,1.1s
ILAR Eielson Array 43.17 36 P **P 05 17 54.0 +0.6**
comp=Z,6.6nm,0.7s,baz=276,slow=8.5,SNR=58
ILAR Eielson Array 43.17 36 P **P 05 17 54.3 +0.9**
ILAR Eielson Array 43.17 36 P **P 05 17 54.2 +0.9**
SCM Sheep Creek Mo 43.25 40 P **P 05 17 55.2 +1.1**
baz=277
MK31 Makanchi Array 43.40 298 *i* P **P 05 17 55.3 -0.2**
MK31 Makanchi Array 43.40 298 IAmb IAmb 05 17 56.7
comp=Z,18nm,0.8s
MKAR Makanchi Array 43.40 298 P **P 05 17 55.4 -0.2**
comp=Z,19nm,0.7s,baz=81,slow=9.4,SNR=175
MKAR PcP **PcP 05 19 43.1 +0.1**
comp=Z,3.0nm,0.7s,baz=43,slow=3.2,SNR=4.4
MKAR LR LR 05 37 09.3
comp=Z,135nm,18.6s,baz=60,slow=38
MKAR Makanchi Array 43.40 298 P **P 05 17 54.8 -0.7**
UBPT Khong Chiam 43.41 243 P **P 05 17 56.5 +0.7**
UBPT IAmb IAmb 05 18 18.3
comp=Z,11nm,1.0s
MAKZ Makanchi 43.60 298 P **P 05 17 57.1 0.0**
MAKZ pmax pmax
comp=Z,26nm,0.9s
MAKZ Makanchi 43.60 298 P **P 05 17 57.1 0.0**
MAKZ IAmb IAmb 05 17 57.9
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 43.75 39 P **P 05 17 59.4 +1.3**
baz=277
J25K Salcha River, 43.84 36 P **P 05 17 59.0 +0.2**
baz=275
BMAR Burnt Mountain 43.95 32 P **P 05 17 59.6 0.0**
KLU Klutina 43.95 40 P **P 05 17 59.6 -0.2**
baz=278
PAX Paxson 43.97 38 P **P 05 18 00.9 +1.0**
baz=277
DLV T Lat 44.02 236 P **P 05 17 59.3 -1.6**
DLV IAmb IAmb 05 18 03.6
comp=Z,24nm,0.7s
RIDG Independent Ri 44.16 37 P **P 05 18 02.0 +0.6**
baz=277
HARP HAARP 44.19 39 P **P 05 18 02.7 +1.1**
baz=278
LSA Lhasa 44.45 271 P **P 05 18 05.3 +0.6**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 44.45 271 P **P 05 18 05.3 +0.6**
LSA IAmb IAmb 05 18 06.3
comp=Z,11nm,0.7s
SCRK Sand Creek 44.51 37 P **P 05 18 04.3 +0.1**
baz=277,SNR=8.4
KURK Kurchatov 44.53 304 *ceP* **P 05 18 03.8 -0.6**
KURK pmax pmax
comp=Z,17nm,0.7s
KURK Kurchatov 44.53 304 P **P 05 18 03.4 -1.0**
KURK IAmb IAmb 05 18 05.0
comp=Z,21nm,0.9s
KURK Kurchatov 44.53 304 *eP* **P 05 18 03.8 -0.6**
KURBB Kurchatov Arra 44.61 304 P **P 05 18 04.5 -0.5**
J26L Joseph Creek 44.62 36 P **P 05 18 05.2 +0.1**
baz=277
MANU Manus Island 44.84 176 P **P 05 18 05.8 -1.4**
L26K Log Cabin Wild 44.92 38 IAmb IAmb 05 18 23.7
comp=Z,29nm,1.5s
L26K Log Cabin Wild 44.92 38 P **P 05 18 08.9 +1.4**
baz=279,SNR=5.8
CHTO Chiang Mai 45.37 253 P **P 05 18 12.2 +0.8**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 45.37 253 P **P 05 18 12.2 +0.8**
CHTO IAmb IAmb 05 18 13.0
comp=Z,14nm,0.8s
L27K Beaver Creek, 45.60 38 IAmb IAmb 05 18 15.4
comp=Z,9.4nm,0.7s
L27K Beaver Creek, 45.60 38 P **P 05 18 14.1 +1.3**
baz=280,SNR=10.0
CMAR Chiang Mai Arr 45.61 252 P **P 05 18 12.8 -0.6**

comp=Z,6.3nm,0.7s,baz=44,slow=6.8,SNR=28
CMAR PcP **PcP** **05 19 51.4 +0.5**
comp=Z,1.7nm,0.3s,baz=357,slow=3.0,SNR=6.0
CMAR LR LR 05 39 06.0
comp=Z,86nm,18.6s,baz=55,slow=38
EGAK Eagle 45.61 35 IAmb IAmb 05 18 14.2
comp=Z,6.7nm,0.8s
M27K Edge Creek, AK 45.70 39 IAmb IAmb 05 18 16.3
comp=Z,11nm,0.9s
M27K Edge Creek, AK 45.70 39 P **P** **05 18 15.2 +1.5**
baz=281
BVCY Beaver Creek 46.16 38 P **P** **05 18 18.4 +1.2**
baz=281
CTG Chitna Glacier 46.23 40 P **P** **05 18 18.8 +0.9**
baz=282
CTGM Chitina Glacie 46.23 40 P **P** **05 18 19.1 +1.2**
CTGM IAmb IAmb 05 18 34.4
comp=Z,16nm,0.9s
LOGN Logan Glacier 46.42 41 P **P** **05 18 20.9 +1.5**
LOGN IAmb IAmb 05 18 43.3
comp=Z,19nm,1.1s
YUK3 Moose Creek 46.47 39 P **P** **05 18 20.6 +0.7**
baz=282
DAWY Dawson 46.49 36 P **P** **05 18 20.4 +0.6**
baz=281
PDGK Podgornoye 46.49 294 P **P** **05 18 19.3 -0.9**
TDK Taldyqorghan 46.57 297 *eP* **P** **05 18 20.8 +0.2**
TDK Taldyqorghan 46.57 297 *eP* **P** **05 18 20.9 +0.2**
baz=297
I29M Ogilvie Camp, 46.70 34 IAmb IAmb 05 18 23.5
comp=Z,14nm,0.9s
I29M Ogilvie Camp, 46.70 34 P **P** **05 18 22.3 +0.9**
baz=281,SNR=10
KPKS Kokpek 46.98 294*c iP* **P** **05 18 23.9 0.0**
KPKS pmax pmax
comp=Z,4.0nm,0.5s
KPKS Kokpek 46.98 294⇑ *iP* **P** **05 18 24.0 0.0**
comp=Z,3.9nm,0.5s,baz=294
EPYK Eagle Plains 47.16 33 P **P** **05 18 25.8 +0.8**
baz=281,SNR=12
SATY Saty 47.33 294*c iP* **P** **05 18 26.8 +0.1**
SATY Saty 47.33 294⇑ *iP* **P** **05 18 26.8 +0.1**
baz=294
YUK4 Talbot Arm 47.41 40 P **P** **05 18 28.6 +1.3**
baz=284
M30M Minto, Yukon 47.96 38 IAmb IAmb 05 18 48.4
comp=Z,6.6nm,0.9s
M30M Minto, Yukon 47.96 38 P **P** **05 18 32.4 +1.1**
baz=284
INK Inuvik 47.98 30 P **P** **05 18 31.9 +0.6**
comp=Z,7.3nm,0.7s,baz=296,slow=8.8,SNR=22
INK Inuvik 47.98 30 IAmb IAmb 05 18 32.7
comp=Z,8.1nm,0.9s
INK Inuvik 47.98 30 P **P** **05 18 31.6 +0.4**
baz=282,SNR=8.1
HYT Haines Junctio 48.08 40 P **P** **05 18 33.4 +1.1**
baz=285,SNR=16
MDOK Medeo 48.20 295 *i* P **P** **05 18 33.6 +0.1**
MDOK Medeo 48.20 295 *i* P **P** **05 18 33.6 +0.1**
baz=295
TAPN Taplejung 48.27 271 *eP* **P** **05 18 34.6 +0.2**
comp=Z,20nm,0.6s
TARG Taragay, Kyrgy 48.29 293 IAmb IAmb 05 18 36.3
comp=Z,4.6nm,0.6s
TNSS Tian-Shan 48.31 295 *eP* **P** **05 18 34.9 +0.2**
baz=295
BRZS Berezniki 48.37 305*c iP* **P** **05 18 34.3 -0.2**
BRZS pmax pmax
comp=Z,11nm,0.6s
BRZS Berezniki 48.37 305⇑ *iP* **P** **05 18 34.4 -0.2**
comp=Z,10nm,0.6s,baz=305
KUU Kurty 48.37 296*c iP* **P** **05 18 34.0 -0.6**
KUU pmax pmax
comp=Z,12nm,0.5s
KUU Kurty 48.37 296⇑ *iP* **P** **05 18 34.0 -0.6**
comp=Z,12nm,0.5s,baz=296
KDJ Kajisay 48.54 293 IAmb IAmb 05 18 36.6
comp=Z,6.4nm,0.7s
BRVK Borovoye 48.71 309 P **P** **05 18 37.3 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 48.71 309 P **P** **05 18 37.3 +0.2**
BRVK IAmb IAmb 05 18 38.0
comp=Z,10.0nm,0.9s
BRVK Borovoye 48.71 309 *eP* **P** **05 18 37.3 +0.2**
N31M Braeburn, Yuko 48.71 39 IAmb IAmb 05 18 53.3
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 48.71 39 P **P** **05 18 38.8 +1.8**
baz=286
ULHL Ulahol 49.12 294 P **P** **05 18 40.5 -0.1**
SNR=7.4
M31M Drury Creek, Y 49.14 38 IAmb IAmb 05 18 42.9
comp=Z,8.7nm,1.0s
M31M Drury Creek, Y 49.14 38 P **P** **05 18 41.8 +1.6**
baz=287,SNR=5.4
JIRN Jiri 49.21 272 *eP* **P** **05 18 41.8 +0.1**
OTUK Ortayu 49.22 303 P **P** **05 18 41.0 -0.1**
TKM2 Tokmak 2 49.26 295 P **P** **05 18 42.2 +0.4**
SNR=25
TKM2 Tokmak 2 49.26 295 P **P** **05 18 41.7 0.0**
GUN Gumba 49.30 272 *eP* **P** **05 18 42.3 0.0**
comp=Z,70nm,0.6s
WHY Whitehorse 49.37 40 P **P** **05 18 43.1 +1.0**
baz=288
BTLS Baital 49.40 298*c iP* **P** **05 18 41.9 -0.5**
BTLS pmax pmax
comp=Z,3.0nm,0.4s
BTLS Baital 49.40 298⇑ *iP* **P** **05 18 41.9 -0.5**
comp=Z,3.4nm,0.4s,baz=298
SGDS Sogindy 49.68 296⇑ *iP* **P** **05 18 44.6 -0.1**
baz=296
KKN Kakani 49.81 273 *eP* **P** **05 18 45.9 -0.2**
KBK Karagaybulak 49.81 295 P **P** **05 18 46.0 +0.2**
SNR=9.0
A36M Sachs Harbour 49.83 24 IAmb IAmb 05 18 47.5
comp=Z,7.8nm,0.9s
A36M Sachs Harbour 49.83 24 P **P** **05 18 45.3 0.0**
baz=286,SNR=9.6
PKI Pulchoki 49.84 272 *eP* **P** **05 18 46.0 -0.4**
USP Ospenovka 49.84 296 P **P** **05 18 46.0 +0.1**
SNR=7.9
DMN Daman 50.04 273 *eP* **P** **05 18 47.7 -0.1**
comp=Z,30nm,0.6s
AAK Ala-Archa 50.12 295 LR LR 05 39 50.1
comp=Z,70nm,18.1s,baz=51,slow=36
AAK Ala-Archa 50.12 295*ceP* **P** **05 18 47.9 -0.3**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 50.12 295 P **P** **05 18 47.6 -0.6**
AAK IAmb IAmb 05 18 48.5
comp=Z,6.8nm,0.6s
AAK Ala-Archa 50.12 295 *eP* **P** **05 18 47.9 -0.3**
GKN Gorkha 50.16 273 *eP* **P** **05 18 48.4 -0.3**
comp=Z,23nm,0.5s
P33M Teslin, Yukon 50.48 40 IAmb IAmb 05 18 54.4
comp=Z,13nm,1.1s
P33M pP 05 19 06.0 -0.1
P33M Teslin, Yukon 50.48 40 P **P** **05 18 52.1 +1.6**
baz=289
KSH Kashi 50.52 291 P **P** **05 18 55.0 +3.8**
KSH pP pP 05 19 08.3 +1.6
KSH PcS **PcS** **05 24 07.8 +2.0**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=Z,760nm,26.0s
KSH LR LR
comp=Z,480nm,22.2s
EKS2 Erkin-Say 50.58 295 P **P** **05 18 51.7 +0.1**
SNR=16
DANN Dangsing 50.61 274 *eP* **P** **05 18 52.6 +0.4**
comp=Z,244nm,0.7s
C36M Paulatuk 51.01 27 IAmb IAmb 05 18 55.4
comp=Z,6.1nm,0.8s
C36M Paulatuk 51.01 27 P **P** **05 18 54.5 +0.3**
baz=289,SNR=11
KOLN Koldanda 51.05 274 *eP* **P** **05 18 55.6 +0.2**
PYUN Piuthan 51.31 274 *eP* **P** **05 18 57.5 +0.1**
DZA Taraz 52.09 297 *eP* **P** **05 19 02.7 -0.1**
DZA Taraz 52.09 297 *eP* **P** **05 19 02.8 -0.1**
baz=297
TGTN Hyland Airport 52.10 37 P **P** **05 19 03.9 +1.2**
baz=292
PMG Port Moresby 52.14 177 LR LR 05 38 43.1
comp=Z,26nm,21.5s,baz=25,slow=33
DLBC Dease Lake 52.45 41 P **P** **05 19 07.2 +2.0**
comp=Z,2.7nm,0.7s,baz=285,slow=5.7,SNR=6.0
DLBC Dease Lake 52.45 41 IAmb IAmb 05 19 23.6
comp=Z,7.4nm,1.2s
SVE Sverdlovsk 52.52 316 *eP* **P** **05 19 05.8 +0.1**
SVE pmax pmax
comp=Z,24nm,1.0s
SVE Sverdlovsk 52.52 316 *eP* **P** **05 19 05.8 +0.1**
IUG Iuzhnay 53.29 297 *eP* **P** **05 19 11.6 -0.1**
IUG Iuzhnay 53.29 297 *eP* **P** **05 19 11.7 -0.1**
baz=297
ARU Arti 53.73 317 LR LR 05 43 59.9
comp=Z,119nm,20.4s,baz=82,slow=38
ARU Arti 53.73 317*c iP* **P** **05 19 13.9 -0.7**
ARU *PP **pP** **05 19 30.5 +0.3**
ARU 05 20 14.5
ARU 05 21 11.5
ARU S **S** **05 26 45.1 +0.9**
ARU SS **SS** **05 30 26.1 +1.2**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 53.73 317 P **P** **05 19 14.0 -0.6**
ARU Arti 53.73 317 *eP* **P** **05 19 13.9 -0.7**
BTK Batken 53.76 294 IAmb IAmb 05 19 15.7
comp=Z,10nm,0.9s
EUNU Eureka 53.96 10 IAmb IAmb 05 19 16.6
comp=Z,9.0nm,0.7s
SPITS Spitsbergen Ar 55.24 349 LR LR 05 43 39.9
comp=Z,61nm,20.9s,baz=265,slow=37
NOR Nord 55.32 357 *i* P **P** **05 19 23.6 -2.2**
NOR IAmb IAmb 05 19 25.3
comp=Z,2.4nm,0.6s
NIL Nilore 55.33 286 P **P** **05 19 27.0 +0.4**
NIL pmax pmax
comp=Z,39nm,0.7s
NIL Nilore 55.33 286 P **P** **05 19 27.0 +0.4**
AB31 Akbulak array 56.19 308 *eP* **P** **05 19 32.4 -0.1**
RES Resolute Bay 56.24 16 P **P** **05 19 32.3 -0.1**
comp=Z,30nm,0.8s,baz=310,slow=6.4,SNR=110
COEN Coen 56.63 182 P **P** **05 19 36.9 +1.0**
COEN IAmb IAmb 05 19 37.8
comp=Z,6.9nm,0.7s
AKTO Aktyubinsk 56.73 310 LR LR 05 46 19.2
comp=Z,128nm,19.2s,baz=84,slow=38
AKTO Aktyubinsk 56.73 310 P **P** **05 19 35.9 -0.4**
MTN Manton Dam 56.90 196 P **P** **05 19 38.1 +0.4**
KIRV Kirov 57.15 322 LR LR 05 46 18.2
comp=Z,76nm,19.5s,baz=47,slow=38
KIRV Kirov 57.15 322*ceP* **P** **05 19 38.1 -0.9**
PRGR Permogore 57.26 326 *eP* **P** **05 19 37.0 -2.8**
PRGR pmax pmax
comp=Z,12nm,0.7s
YKA Yellowknife Ar 57.44 33 P **P** **05 19 41.5 +0.4**
comp=Z,3.7nm,0.7s,baz=304,slow=6.6,SNR=82
KBL Kabul 57.80 289 P **P** **05 19 43.5 -0.9**
KBL pmax pmax
comp=Z,22nm,0.7s
KBL Kabul 57.80 289 P **P** **05 19 43.5 -0.9**
TULEG Thule 58.90 9 *i* P **P** **05 19 49.0 -2.1**
TULEG IAmb IAmb 05 19 50.5
comp=Z,11nm,0.7s
ARCES ARCESS Array B 59.39 339 P **P** **05 19 54.1 -0.5**
comp=Z,3.2nm,0.8s,baz=36,slow=6.6,SNR=10
ARCES ARCESS Array B 59.39 339 P **P** **05 19 54.1 -0.5**
ARCES pmax pmax
comp=Z,15nm,1.4s
ARCES ARCESS Array B 59.39 339 IAmb IAmb 05 19 55.4
comp=Z,15nm,1.4s
MASI Maura Aman, Be 59.76 231 P **P** **05 19 58.4 +0.5**
comp=Z,2µmcomp=Z,90nm,1.0s
DAG Danmarks Havn 60.10 356 *i* P **P** **05 19 57.5 -1.9**
DAG IAmb IAmb 05 19 59.0
comp=Z,5.0nm,0.8s
KNRA Kununurra 60.15 198 P **P** **05 20 00.2 -0.1**
KNRA IAmb IAmb 05 20 16.6
comp=Z,7.6nm,0.7s
KLMR Klimovskoe 60.17 327 *eP* **P** **05 19 58.3 -1.7**
KLMR pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 60.17 327 *eP* **P** **05 19 58.4 -1.6**
KLMR AMP 05 20 01.5
comp=Z,14nm,1.0s
B05A Bryant 61.45 49 P **P** **05 20 10.4 +1.5**
baz=304
E04D Cinebar 62.13 51 P **P** **05 20 15.1 +1.6**
baz=304
HRA Herat 62.56 292 P **P** **05 20 17.1 +0.2**
DBG Daneborg 62.60 355 *i* P **P** **05 20 14.3 -2.0**
DBG IAmb IAmb 05 20 15.9
comp=Z,2.4nm,0.6s
B08A Colville Reser 62.92 48 P **P** **05 20 19.5 +0.6**
B08A **pP** **05 20 34.0 -0.8**
B08A IAmb IAmb 05 20 34.6
comp=Z,10nm,1.2s
WB0 Warramunga Arr 63.12 191 IAmb IAmb 05 20 20.9
comp=Z,7.2nm,0.9s
VALR Valaam 63.15 330 *i* P **P** **05 20 18.6 -1.4**
VALR pmax pmax
comp=Z,11nm,0.9s
EDM Edmonton 63.18 41 IAmb IAmb 05 20 22.0
comp=Z,10.0nm,0.9s
EDM pP 05 20 35.0 -1.4
GEYT Alibeck 63.28 298 P **P** **05 20 20.8 -0.6**
comp=Z,8.8nm,0.4s,baz=270,slow=1.5,SNR=12
GEYT LR LR 05 50 09.5
comp=Z,215nm,18.9s,baz=60,slow=38
WR0 Warramunga Arr 63.29 191 IAmb IAmb 05 20 22.1
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 63.29 191*ceP* **P** **05 20 20.9 -0.5**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WB2 Warramunga Arr 63.30 191 IAmb IAmb 05 20 22.2
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 63.30 191 P **P** **05 20 21.1 -0.3**
comp=Z,3.9nm,0.7s,baz=6.9,slow=6.8,SNR=48
E07A Sunnyside 63.67 50 IAmb IAmb 05 20 40.0
comp=Z,11nm,1.2s
I04A Tendick Farm, 63.79 54 P **P** **05 20 25.8 +1.2**
baz=305
F07A Phinny Hill Vi 64.01 51 **pP** **05 20 41.5 -0.5**
F07A IAmb IAmb 05 20 42.8
comp=Z,10nm,0.9s
I05D Terrebonne, OR 64.10 53 P **P** **05 20 27.7 +0.9**
baz=306
E08A Dider Farm, El 64.15 50 IAmb IAmb 05 20 42.9
comp=Z,4.0nm,0.7s
NEW Newport 64.18 47 P **P** **05 20 26.7 -0.4**
NEW *PP **pP** **05 20 42.3 -0.9**
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 64.18 47 P **P** **05 20 26.7 -0.4**
NEW **pP** **05 20 42.3 -0.9**
NEW IAmb IAmb 05 20 43.0
comp=Z,7.4nm,1.0s
E09A Wood Farm, Sta 64.65 49 P **P** **05 20 31.1 +0.9**
E09A **pP** **05 20 45.7 -0.6**
E09A IAmb IAmb 05 20 46.3
comp=Z,7.5nm,0.8s
L04D Klamath Falls 64.77 55 P **P** **05 20 32.6 +1.4**
baz=306
J05D Fort Rock, OR 64.78 54 P **P** **05 20 32.7 +1.4**
baz=306
FINES FINESS Array B 64.79 332 P **P** **05 20 30.1 -0.7**
comp=Z,21nm,0.5s,baz=46,slow=7.6,SNR=136
FINES LR LR 05 51 52.9
comp=Z,124nm,20.7s,baz=46,slow=39
YBH Yreka Blue Hor 64.80 56 P **P** **05 20 33.1 +1.7**
comp=Z,2.3nm,1.0s,baz=319,slow=16,SNR=5.7
YBH Yreka Blue Hor 64.80 56 IAmb IAmb 05 20 47.5
comp=Z,8.6nm,1.3s
M02C Callahan 64.92 56 P **P** **05 20 34.2 +2.1**
baz=306
OBN Obninsk 64.92 323 *eP* **P** **05 20 30.8 -0.9**
OBN *e*PP **pP** **05 20 50.5 +2.7**
OBN *e*SP **sP** **05 20 58.3 +3.9**
OBN pmax pmax
comp=Z,13nm,0.6s
OBN Obninsk 64.92 323 *eP* **P** **05 20 30.8 -0.9**
VRH Novokhopyorsk 64.94 317 *eP* **P** **05 20 30.7 -1.3**
VRH pmax pmax
comp=Z,40nm,0.7s
N02D Trinity Center 65.25 56 P **P** **05 20 36.0 +1.7**
baz=306
LPSR Galich'ya Gora 65.43 320 *eP* **P** **05 20 34.1 -1.0**
LPSR pmax pmax
comp=Z,40nm,0.7s
VORR Voronezh 65.88 319 *eP* **P** **05 20 38.4 +0.3**
VORR pmax pmax
comp=Z,90nm,0.4s
JTMT Jette 66.01 46 P **P** **05 20 39.5 +0.4**
JTMT IAmb IAmb 05 20 55.4
comp=Z,6.9nm,0.9s
O03E Paynes Creek 66.21 57 P **P** **05 20 41.1 +0.6**
baz=307
MEF Metsahovi 66.24 332 *eP* **P** **05 20 39.2 -1.0**
VORD Divnogorie 66.29 318 *eP* **P** **05 20 40.0 -0.7**
VORD pmax pmax
comp=Z,30nm,1.0s
J08A Circle Bar Ran 66.35 52 pP 05 20 56.2 -1.3
SCO Scoresbysund 66.48 355 P **P** **05 20 41.0 -0.6**
SCO pmax pmax
comp=Z,6.0nm,0.7s
SCO Scoresbysund 66.48 355 *i* P **P** **05 20 40.6 -1.0**
SCO IAmb IAmb 05 20 41.8
comp=Z,4.3nm,0.7s
SCO Scoresbysund 66.48 355 P **P** **05 20 41.0 -0.6**
SCO IAmb IAmb 05 20 42.2
comp=Z,5.9nm,0.7s
RAF Rauma 66.53 334 *eP* **P** **05 20 41.0 -1.1**
VSU Vasula 66.66 330 *i* P **P** **05 20 42.6 -0.3**
VSU Vasula 66.66 330 *eP* **P** **05 20 42.4 -0.5**
MSO Missoula 66.76 47 pP 05 20 58.9 -1.1
MSO Missoula 66.76 47 P **P** **05 20 44.8 +0.8**
baz=308
MAK Makhachkala 66.86 308 *eP* **P** **05 20 46.6 +2.2**
MAK *e*SP **pP** **05 21 03.4 +2.9**
MAK *e* 05 23 12.1
MAK *e*PPP PPP 05 24 49.2
MAK *e*S **S** **05 29 36.2 +3.7**
MAK *e*SS **sS** **05 29 56.0 -3.9**
MAK *e*SS **SS** **05 33 56.8 +6.0**
MAK pmax pmax
comp=Z,134nm,0.8s
MAK MLR MLR
comp=Z,206nm,17.0s
AS31 Alice Springs 67.02 191 P **P** **05 20 45.1 -0.4**
ASAR Alice Springs 67.02 191 P **P** **05 20 46.2 +0.7**
comp=Z,7.2nm,0.8s,baz=11,slow=5.9,SNR=81
ASAR Alice Springs 67.02 191 P **P** **05 20 45.8 +0.2**
BEKR Beckworth 67.35 56 IAmb IAmb 05 21 04.2
comp=Z,6.0nm,0.9s
FFC Flin Flon 67.39 35 P **P** **05 20 47.7 +0.1**
FFC IAmb IAmb 05 20 49.1
comp=Z,9.6nm,0.8s
FFC **pP** **05 21 01.8 -1.9**
MTSE Matsula 67.54 331 *eP* **P** **05 20 48.2 -0.3**
FCC Fort Churchill 67.59 29 P **P** **05 20 48.4 -0.4**
FCC pmax pmax
comp=Z,7.0nm,0.6s
FCC Fort Churchill 67.59 29 P **P** **05 20 48.4 -0.4**
FCC IAmb IAmb 05 20 49.4
comp=Z,6.9nm,0.6s
AAL Aland 67.75 334 *eP* **P** **05 20 48.4 -1.4**
MFID Camas Ranch 67.84 51 pP 05 21 05.8 -1.2
PAHR Pah Rah Range 68.04 56 P **P** **05 20 52.8 +0.6**
PAHR **pP** **05 21 07.8 -0.5**
PAHR IAmb IAmb 05 21 08.8
comp=Z,5.8nm,1.0s
VCNR Virginia City 68.13 56 IAmb IAmb 05 21 20.7
comp=Z,5.4nm,0.9s
LRM Limekiln Ridge 68.20 47 P **P** **05 20 53.9 +0.7**
LRM **pP** **05 21 08.0 -1.3**
EGMT Eagleton 68.20 44 P **P** **05 20 53.1 +0.2**
EGMT **pP** **05 21 07.8 -1.4**
EGMT IAmb IAmb 05 21 09.3
comp=Z,20nm,1.3s
EGMT Eagleton 68.20 44 P **P** **05 20 53.5 +0.5**
baz=310,SNR=6.3
ICESG Greenland Ices 68.24 2 *i* P **P** **05 20 52.1 -1.0**
ICESG IAmb IAmb 05 20 55.3
comp=Z,21nm,0.7s
PNTR Pine Nut 68.29 56 IAmb IAmb 05 20 56.9
comp=Z,4.7nm,0.7s
DLMT Dillon 68.41 48 IAmb IAmb 05 21 11.1
comp=Z,8.9nm,1.1s
HLID Hailey 68.55 50 P **P** **05 20 56.8 +1.5**
HLID **pP** **05 21 10.8 -0.7**
HLID Hailey 68.55 50 P **P** **05 20 56.2 +0.9**
baz=309
YERR Yerington 68.57 56 IAmb IAmb 05 21 11.9
comp=Z,8.4nm,0.9s
UPP Uppsala 68.76 334 *eP* **P** **05 20 55.6 -0.4**
BOZ Bozeman (W) 68.78 47 IAmb IAmb 05 20 58.8
comp=Z,8.7nm,0.7s
BOZ Bozeman (W) 68.78 47 P **P** **05 20 57.6 +0.9**
baz=310,SNR=20
SLIT Slitere, Latvi 68.89 331 *eP* **P** **05 20 55.9 -1.0**
IDID Didziasalis 68.91 327 *eP* **P** **05 20 56.9 -0.2**
ISAL Salakas 68.97 328 *eP* **P** **05 20 57.2 -0.3**
KIV Kislovodsk 68.98 311⇑ P **P** **05 20 59.0 +1.1**
KIV Kislovodsk 68.98 311 *eP* **P** **05 20 57.1 -0.8**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,82nm,17.0s
KIV Kislovodsk 68.98 311 *eP* **P** **05 20 57.1 -0.8**
KBZ Khabaz 69.01 311 P **P** **05 20 57.9 0.0**
comp=Z,16nm,0.9s,baz=62,slow=3.6,SNR=27
KBZ LR LR 05 54 32.2
comp=Z,96nm,19.6s,baz=41,slow=39
KBZ Khabaz 69.01 311 *eP* **P** **05 20 57.5 -0.4**
MNK Minsk 69.03 326 *i* P **P** **05 20 57.9 0.0**
MNK *i* *PP **pP** **05 21 16.4 +2.4**
MNK *i* *SP **PcP** **05 21 24.6 +3.0**
MNK *i* 05 23 30.7
MNK *i* PPP PPP 05 25 11.7
MNK *i* S **S** **05 29 58.5 +0.5**
MNK *i* *SS **sS** **05 30 30.9 +5.2**
MNK *i* SS **SS** **05 34 26.2 +2.4**
MNK pmax pmax
comp=Z,54nm,0.8s
MNK pmax pmax
comp=E,4.0nm,1.3s
MNK pmax pmax
comp=N,33nm,0.8s
MNK MLR MLR
comp=Z,106nm,15.0s
MNK MLR MLR
comp=N,92nm,16.0s
MNK MLR MLR
comp=E,19nm,14.0s
MNK Minsk 69.03 326 *i* P **P** **05 20 57.9 0.0**
comp=E,4.0nm,1.2s
MNK *i* P **P** **05 20 57.9 0.0**
comp=N,33nm,0.8s
MNK *i* P **P** **05 20 57.9 0.0**
comp=Z,54nm,0.8s,baz=44
MNK *i* pP **pP** **05 21 16.5 +2.4**
MNK *i* sP **PcP** **05 21 24.7 +3.0**
MNK *i* PP **PP** **05 23 30.7 +0.3**
MNK *i* PPP PPP 05 25 11.8
MNK *i* S **S** **05 29 58.6 +0.5**
MNK *i* sS **sS** **05 30 30.9 +5.2**
MNK *i* SS **SS** **05 34 26.2 +2.4**
MNK *i* SSS SSS 05 37 44.8
MNK *i* LQ LQ 05 46 14.8
MNK *i* LR LR 05 51 50.0
MNK *i* LRM MLR 05 53 23.9
comp=Z,106nm,15.1s
MNK *i* LRM MLR 05 53 25.9
comp=N,92nm,15.7s
MNK *i* LRM MLR 05 53 42.3
comp=E,19nm,13.8s
ZEI Tsey 69.04 309 *eP* **P** **05 20 57.4 -1.0**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
IIGN Ignalina 69.09 328 *eP* **P** **05 20 57.7 -0.5**
SHA1 Shidzhatmaz 69.14 311 *i* P **P** **05 20 57.8 -1.2**
SOEG Soedalen 69.14 358 *i* P **P** **05 20 57.5 -0.9**
SOEG IAmb IAmb 05 20 58.6
comp=Z,5.5nm,0.6s
AFI Afiamalu 69.19 134 LR LR 05 43 03.3
comp=Z,64nm,21.9s,baz=252,slow=29
NACGM Naroch 69.19 327⇑ *eP* **P** **05 20 58.3 -0.5**
KVN Kaiserville 69.23 56 P **P** **05 21 01.4 +1.8**
KVN pmax pmax
comp=Z,8.0nm,0.8s
KVN Kaiserville 69.23 56 P **P** **05 21 01.4 +1.8**
KVN IAmb IAmb 05 21 15.9
comp=Z,7.6nm,0.8s
NEY Neytrino 69.41 310 *i* P **P** **05 21 00.0 -0.7**
NEY pmax pmax

comp=Z,2.0nm,0.9s
LHV Little Huntoon 69.48 57 IAmb IAmb 05 21 17.9
comp=Z,7.9nm,0.8s
NVAR Mina Array Bea 69.49 56 P P 05 21 02.2 +0.9
comp=Z,4.1nm,0.7s,baz=291,slow=6.1,SNR=33
NC303 NORSAR Array S 69.51 338 IAmb IAmb 05 21 01.7
comp=Z,16nm,0.9s
GCMT Greycliff 69.70 46 P P 05 21 03.3 +0.9
GCMT pP 05 21 18.0 -0.6
NB2 NORSAR Subarra 69.71 338 P P 05 21 01.8 -0.2
comp=Z,5.8nm,0.7s,baz=33,slow=6.5
NOA NORSAR Array B 69.71 338 P P 05 21 01.6 -0.5
comp=Z,8.8nm,0.8s,baz=35,slow=6.2,SNR=30
NOA LR LR 05 55 01.9
comp=Z,84nm,21.6s,baz=25,slow=39
HFS Hagfors 69.74 336 LR LR 05 55 26.5
comp=Z,64nm,19.0s,baz=12,slow=39
YMR Madison River 69.75 47 IAmb IAmb 05 21 05.1
comp=Z,5.9nm,0.8s
SFJD Kangerlussuaq 69.77 6 i P P 05 21 00.8 -1.4
SFJD IAmb IAmb 05 21 04.6
comp=Z,5.8nm,0.7s
PABE Paberze 69.85 329 P P 05 21 02.1 -0.8
PABE Paberze 69.85 329 eP P 05 21 02.9 -0.1
VIKU Vikbolandet 70.12 334 eP P 05 21 03.5 -1.0
H17A Grant Village 70.13 48 IAmb IAmb 05 21 23.5
comp=Z,9.7nm,0.9s
H17A Grant Village 70.13 48 P P 05 21 07.6 +2.3
baz=311,SNR=5.9
AKH Akhalkalaki 70.15 308 ⇑P P 05 21 05.2 -0.1
GNI Garni 70.23 307 LR LR 05 55 41.9
comp=Z,57nm,18.9s,baz=64,slow=39
FRB Frobisher Bay 70.43 15 P P 05 21 05.9 -0.4
comp=Z,9.7nm,0.6s,baz=334,slow=6.9,SNR=43
DY2G Dye2 70.59 5 i P P 05 21 06.3 -1.2
DY2G IAmb IAmb 05 21 08.0
comp=Z,10nm,0.7s
REDW Red Top Meadow 70.66 48 IAmb IAmb 05 21 25.0
comp=Z,9.9nm,1.0s
DGMT Dagmar 70.67 41 IAmb IAmb 05 21 09.6
comp=Z,14nm,0.8s
DGMT pP 05 21 23.2 -1.2
DGMT Dagmar 70.67 41 P P 05 21 08.4 +0.3
baz=314,SNR=5.2
LAO LASA Array 70.89 44 pP 05 21 25.0 -0.7
LAO IAmb IAmb 05 21 25.6
comp=Z,8.0nm,0.9s
LAO LASA Array 70.89 44 P P 05 21 10.5 +1.0
baz=313
GRAC Grapevine Rang 70.97 57 IAmb IAmb 05 21 26.7
comp=Z,7.7nm,0.8s
GRAC Grapevine Rang 70.97 57 P P 05 21 10.9 +0.8
baz=310,SNR=5.6
BATM Batumi 71.06 309 ⇑P P 05 21 11.4 +0.8
AKASG Malin Array Be 71.18 323 P P 05 21 10.3 -0.8
comp=Z,14nm,0.5s,baz=42,slow=6.1,SNR=13
AKASG LR LR 05 55 44.9
comp=Z,81nm,18.2s,baz=62,slow=39
AKBB Malin Array Si 71.18 323 P P 05 21 10.1 -1.0
AKBB pmax pmax
comp=Z,20nm,0.8s
AKBB Malin Array Si 71.18 323 P P 05 21 10.1 -1.0
R11A Troy Canyon, C 71.19 55 P P 05 21 12.6 +0.9
baz=310
ANN Anapa 71.27 314 eP P 05 21 08.9 -2.8
ANN e*PP pP 05 21 27.3 -0.7
ANN e 05 23 45.9
ANN ePPP PPP 05 25 30.0
ANN eS S 05 30 21.5 -3.0
ANN pmax pmax
comp=Z,38nm,1.0s
MPMC Manual Prospec 71.50 58 P P 05 21 14.5 +0.9
baz=310
S11A Rachel 71.55 56 IAmb IAmb 05 21 36.5
comp=Z,6.8nm,0.9s
FURC Furnace Creek, 71.62 57 P P 05 21 14.8 +0.8
baz=310,SNR=5.6
DUG Dugway, Tooele 71.63 52 P P 05 21 15.3 +1.0
baz=311
TPNV Topopah Spring 71.69 56 P P 05 21 15.6 +1.0
baz=310,SNR=5.7
ANGG Ammassalik, Gr 71.77 1 i P P 05 21 12.5 -1.8
BW06 Boulder Array 71.77 48 P P 05 21 15.9 +0.8
baz=312
PDAR Pinedale Array 71.77 48 P P 05 21 15.9 +0.8
comp=Z,3.6nm,0.8s,baz=268,slow=2.0,SNR=31
ISOG Isortoq, Green 71.81 2 i P P 05 21 14.0 -0.6
ISOG IAmb IAmb 05 21 14.9
comp=Z,8.8nm,0.7s
WSAR Wadi Sarin 71.81 285 LR LR 05 58 51.4
comp=Z,53nm,18.1s,baz=61,slow=41
QSM Queen of Sheba 71.94 58 IAmb IAmb 05 21 32.2
comp=Z,10nm,0.8s
DEL Delary 72.67 334 eP P 05 21 19.1 -0.8
KOPT Kop Dagi 72.78 309 P P 05 21 23.4 +2.1
KOPT IAmb IAmb 05 21 23.7
comp=Z,9.7nm,1.2s
TUQ Turquoise Moun 72.87 57 P P 05 21 22.9 +1.2
baz=311
HEC Hector,Ludlow 73.01 58 P P 05 21 23.3 +0.9
baz=311
ULM Lac du Bonnet 73.19 36 P P 05 21 22.0 -1.1
comp=Z,4.5nm,0.7s,baz=271,slow=4.8,SNR=6.7
RDMU Red Mountain 73.23 50 IAmb IAmb 05 21 40.6
comp=Z,18nm,1.0s
MDND Maddock 73.29 39 P P 05 21 24.7 +0.9
baz=316
BSD Bornholm Skovb 73.42 333 i P P 05 21 23.0 -1.4
BSD IAmb IAmb 05 21 24.1
comp=Z,12nm,0.7s
BSD Bornholm Skovb 73.42 333 eP P 05 21 23.9 -0.5
SORM Soroca 73.42 321 ⇑P P 05 21 24.0 -0.5
GMRC Granite Mounta 73.46 58 P P 05 21 25.9 +0.8
baz=311
K22A Casper 73.49 47 P P 05 21 25.8 +0.5
baz=314
E28A Huff 73.69 41 IAmb IAmb 05 21 27.6
comp=Z,13nm,0.8s
RSSD Black Hills 73.77 44 P P 05 21 27.6 +0.7
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 73.77 44 P P 05 21 27.6 +0.7
RSSD Black Hills 73.77 44 P P 05 21 27.7 +0.8
baz=315
RWWY Rawlins 73.78 48 IAmb IAmb 05 21 43.3
comp=Z,7.8nm,0.9s
LVV L'vov 74.09 325 eP P 05 21 28.3 -0.1
LVV MLR MLR
comp=Z,400nm,21.0s
LVV MLR MLR
comp=N,700nm,18.0s
LVV MLR MLR
comp=E,500nm,17.0s
MUD Monsted U'grnd 74.13 336 i P P 05 21 21.2 -7.3
IRM Iron Mountain 74.19 58 P P 05 21 30.7 +1.4
baz=311
BC3 Big Chuckawall 74.33 59 P P 05 21 30.9 +0.7
baz=311
STKA Stephens Creek 74.51 183 P P 05 21 31.4 +0.6
comp=E,3.4nm,0.6s,baz=351,slow=7.5,SNR=11
AGMN Agassiz Nation 74.66 37 P P 05 21 31.8 +0.1
AGMN IAmb IAmb 05 21 47.0
comp=Z,15nm,1.4s
AGMN Agassiz Nation 74.66 37 P P 05 21 31.8 +0.1
baz=318
PDMCI Parker Dam,Lak 74.72 57 P P 05 21 33.6 +1.3
baz=312
PV11 David Mesa, Pa 75.17 51 IAmb IAmb 05 21 51.5
comp=Z,9.2nm,0.9s
BUR08 Bucovina Ar. S 75.21 323 IAmb IAmb 05 21 36.1
comp=Z,9.7nm,0.6s
BURAR Bucovina Array 75.23 322 ⇑P P 05 21 35.3 +0.1
BURAR Bucovina Array 75.23 322 IAmb IAmb 05 21 36.1
comp=Z,9.9nm,0.7s
TESR Tescani 75.40 321 ⇑P P 05 21 36.3 +0.2
B35A Bob, Littlefor 75.54 36 IAmb IAmb 05 21 37.5
comp=Z,11nm,0.8s
WUAZ Wupatki 75.59 55 P P 05 21 39.0 +1.4
baz=313
CFR Carcaliu 75.69 319 ⇑P P 05 21 36.9 -0.7
TPGR Topolog 75.79 319 ⇑P P 05 21 38.6 +0.3
VRI Vrincioaia 75.84 320 ⇑P P 05 21 38.9 +0.3
CRVS Cervenica-Dubn 75.87 325 eP P 05 21 38.8 +0.1
CRVS Cervenica-Dubn 75.87 325 eP P 05 21 38.8 +0.1
ISCO Idaho Springs 75.96 48 P P 05 21 40.9 +1.2
baz=315

TRPA Tarpa 76.01 324 ⇑P P 05 21 40.3 +0.8
COVR Voineasa-Covas 76.10 321 ⇑P P 05 21 40.2 +0.1
OZUR 76.11 321 ⇑P P 05 21 41.1 +0.9
MVCO Mesa Verde 76.13 52 P P 05 21 41.8 +1.1
baz=314
HARR Harsova 76.15 319 ⇑P P 05 21 40.2 -0.1
F33A 5 Mile Ranch, 76.31 39 IAmb IAmb 05 21 42.2
comp=Z,8.1nm,0.9s
DOPR Dopca 76.39 321 ⇑P P 05 21 42.6 +0.9
MLR Muntele Rosu 76.49 321 ⇑P P 05 21 42.6 +0.1
MLR Muntele Rosu 76.49 321 P P 05 21 42.5 +0.1
comp=Z,1.7nm,0.5s,baz=140,slow=19,SNR=5.2
LANS Liptovska Anna 76.50 327 eP P 05 21 43.7 +1.4
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 76.50 327 eP P 05 21 43.7 +1.4
OSTC Ostas 76.65 329 eP P 05 21 43.2 +0.1
OSTC ex x 05 21 59.6
CHVC Chvalec 76.68 329 eP P 05 21 43.9 +0.6
S22A 4UR Ranch, Cre 76.72 51 P P 05 21 45.4 +1.3
baz=314
UPC Upice 76.76 329 eP P 05 21 44.2 +0.5
UPC Upice 76.76 329 eP P 05 21 44.2 +0.5
MORC Moravsky Berou 76.76 328 ⇑P P 05 21 44.3 +0.5
MORC Moravsky Berou 76.76 328 IAmb IAmb 05 21 45.3
comp=Z,14nm,0.8s
MORC Moravsky Berou 76.76 328 eP P 05 21 44.3 +0.5
DPC Dobruska-Polom 76.77 329 eP P 05 21 44.6 +0.8
DPC e 05 22 03.0
DPC Dobruska-Polom 76.77 329 eP P 05 21 44.6 +0.8
DPC ex x 05 22 03.0
BR131 Keskin Array S 76.81 312 i P P 05 21 43.9 -0.5
BRTR Keskin Array B 76.81 312 P P 05 21 44.2 -0.2
comp=Z,2.0nm,0.7s,baz=118,slow=1.8,SNR=8.0
BRTR LR LR 06 01 50.6
comp=Z,50nm,20.6s,baz=36,slow=41
EYMN Ely 76.81 35 IAmb IAmb 05 21 45.2
comp=Z,8.5nm,0.8s
EYMN Ely 76.81 35 P P 05 21 43.9 -0.2
baz=321,SNR=6.3
KRLC Kraliky 76.82 329 eP P 05 21 44.6 +0.5
KRLC Kraliky 76.82 329 eP P 05 21 44.6 +0.5
KAC Achnashellach 76.83 344 eP P 05 21 44.5 +0.5
VOIR 76.95 321 ⇑P P 05 21 45.2 +0.2
DRGR 76.97 323 ⇑P P 05 21 44.8 -0.3
KPL Plockton 77.05 344 eP P 05 21 45.5 +0.3
OGNE Ogallala 77.07 46 P P 05 21 46.7 +1.0
baz=316
214A Organ Pipe Nat 77.11 58 P P 05 21 47.2 +1.2
baz=313
CLL Collm 77.20 331 ⇑i P P 05 21 45.7 -0.4
comp=Z,23nm,0.9s
CLL epP pP 05 22 02.0 -0.6
BRG Berggiesshubel 77.23 331 eP P 05 21 46.1 -0.2
BRG Amp 05 21 48.1
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 77.23 331 eP P 05 21 46.1 -0.2
BRG pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 77.27 326 eP P 05 21 47.3 +0.7
VYHS pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 77.27 326 eP P 05 21 47.3 +0.7
PVCC Panska Ves 77.28 330 eP P 05 21 47.2 +0.6
PVCC Panska Ves 77.28 330 eP P 05 21 47.2 +0.6
PSZ Piszkesteto 77.29 326 ⇑P P 05 21 47.4 +0.6
PSZ Piszkesteto 77.29 326 IAmb IAmb 05 21 48.5
comp=Z,10.0nm,1.0s
JAVC Velka Javorina 77.45 327 eP P 05 21 49.0 +1.3
SDCO Great Sand Dun 77.47 50 P P 05 21 49.1 +0.9
baz=315
VRAC Vranov 77.51 328 ⇑P P 05 21 47.5 -0.4
VRAC Vranov 77.51 328 LR LR 05 59 03.1
comp=Z,103nm,18.4s,baz=30,slow=38
VRAC Vranov 77.51 328 eP P 05 21 48.4 +0.5
INVG Invergeldie, C 77.56 343 eP P 05 21 47.7 -0.3
PRU Pruhonice 77.73 330 eP P 05 21 49.5 +0.4
PRU Pruhonice 77.73 330 eP P 05 21 49.5 +0.4
ECSD EROS Data Cent 77.73 41 IAmb IAmb 05 22 05.2
comp=Z,11nm,1.1s
ECSD EROS Data Cent 77.73 41 P P 05 21 49.2 -0.1
baz=319,SNR=6.8
KRUC Moravsky 77.78 328 eP P 05 21 50.0 +0.5
SMOL Smolenice 77.82 327 eP P 05 21 50.8 +1.1
SMOL pmax pmax
comp=Z,6.0nm,0.7s
SMOL Smolenice 77.82 327 eP P 05 21 50.8 +1.1
E38A The Farm, Brul 77.83 36 IAmb IAmb 05 21 50.3
comp=Z,12nm,0.8s
LAWE Loch Awe, Argy 78.00 344 eP P 05 21 50.7 +0.2
LAWE IAmb IAmb 05 21 52.3
comp=Z,20nm,1.1s
GZR Gura Zlata 78.01 322 ⇑P P 05 21 50.7 -0.2
TUC Tucson 78.13 57 P P 05 21 51.6 -0.2
baz=314
PGBU Glenifferbraes 78.22 343 eP P 05 21 52.2 +0.5
BZS Buzias 78.36 323 ⇑P P 05 21 52.7 0.0
SPMN Marine on St. 78.36 38 P P 05 21 52.5 -0.2
baz=321
ESK Eskdalemuir 78.40 342 eP P 05 21 53.0 +0.3
T25A Trinidad 78.51 50 P P 05 21 54.7 +0.7
baz=316
EDMD Edmundbyers 78.55 341 eP P 05 21 53.2 -0.4
HERR Herculane 78.57 322 ⇑P P 05 21 53.4 -0.5
CKRC Cesky Krumlov 78.78 329 eP P 05 21 55.2 +0.2
KHC Kasperske Hory 78.80 330 eP P 05 21 55.6 +0.5
KHC e 05 22 12.9
KHC Kasperske Hory 78.80 330 eP P 05 21 55.6 +0.5
KHC epP pP 05 22 12.9 +1.3
ANMO Albuquerque 78.89 52 i P P 05 21 53.1 -3.0
ANMO pmax pmax
comp=Z,14nm,3.2s
ANMO Albuquerque 78.89 52 P P 05 21 56.8 +0.7
baz=315
CONA Conrad Observa 78.91 328 eP P 05 21 56.7 +0.9
comp=Z,7.4nm,0.7s,SNR=5.1
SCHQ Schefferville 78.95 18 P P 05 21 56.0 +0.3
comp=Z,3.2nm,0.8s,baz=340,slow=9.4,SNR=5.9
GERES GERESS Array B 78.99 329 P P 05 21 55.9 -0.3
comp=Z,4.1nm,0.5s,baz=45,slow=5.8,SNR=21
GERES LR LR 06 00 27.4
comp=Z,117nm,18.9s,baz=56,slow=38
GAL1 Galloway 79.15 343 eP P 05 21 56.9 +0.1
GAL1 IAmb IAmb 05 21 58.5
comp=Z,33nm,1.2s
GRF Grafenberg Arr 79.18 331 eP P 05 21 57.6 +0.4
comp=Z,11nm,0.8s,baz=32,slow=4.7
COWI Conover 79.26 35 IAmb IAmb 05 21 58.0
comp=Z,9.0nm,0.9s
FRGS Fruska Gora 79.51 324 ⇑P P 05 21 58.8 -0.2
MOA Molln 79.59 329 eP P 05 21 59.4 -0.1
comp=Z,4.9nm,0.8s,SNR=5.4
319A Douglas 79.70 57 IAmb IAmb 05 22 17.5
comp=Z,12nm,0.8s
LBWR Ladybower, Pea 79.80 340 eP P 05 22 00.7 +0.2
LBWR IAmb IAmb 05 22 01.9
comp=Z,35nm,0.9s
121A Cookes Peak, D 79.80 55 P P 05 22 02.6 +1.5
baz=315
VTS Vitosha 79.94 320 ⇑P P 05 22 02.3 +0.7
VTS Vitosha 79.94 320 IAmb IAmb 05 22 03.2
comp=Z,15nm,1.2s
BIOA Bad Ischl, Aus 79.97 329 i P P 05 22 02.0 +0.5
comp=Z,4.4nm,0.5s
MEM Membach 80.13 335 dP P 05 22 02.6 +0.3
comp=Z,9.1nm,0.8s
GROS Grobnik 80.25 327 i P P 05 22 03.1 0.0
SOKA Sobath 80.26 327 i P P 05 22 03.4 +0.2
comp=Z,9.7nm,0.8s
BCLA Clavier 80.51 335 dP P 05 22 04.1 -0.2
comp=Z,5.0nm,0.8s
MMAI Mount Meron Ar 80.58 307 P P 05 22 04.9 -0.2
comp=Z,1.6nm,0.2s,baz=172,slow=14,SNR=8.2
KBA Koelnbreinsper 80.58 329 i P P 05 22 05.7 +0.7
comp=Z,12nm,0.7s,SNR=7.9
OBKA Obir 80.59 328 i P P 05 22 05.0 0.0
comp=Z,6.8nm,0.7s
FOEL Foel Wylfa 80.63 341 eP P 05 22 05.2 +0.3
FOEL IAmb IAmb 05 22 06.5
comp=Z,24nm,0.7s
RAYN Ar Rayn 80.73 293 P P 05 22 06.1 +0.1
RAYN pmax pmax
comp=Z,7.0nm,0.7s
RAYN Ar Rayn 80.73 293 P P 05 22 06.1 +0.1
RAYN IAmb IAmb 05 22 06.5

comp=Z,6.7nm,0.7s
LEGS Legarje 80.74 327 i P P 05 22 05.5 -0.1
SCIA State Center 80.74 40 P P 05 22 06.6 +0.9
baz=321
RCHB Rochefort 80.77 335 dP P 05 22 05.5 -0.1
BMRD Maredsous 80.78 335 dP P 05 22 05.7 -0.1
comp=Z,6.7nm,0.8s
MYKA Terra Mystica 80.84 328 i P P 05 22 05.9 -0.3
comp=Z,5.4nm,0.7s
WATA Walderalm 81.03 330 i P P 05 22 07.7 +0.4
comp=Z,6.7nm,0.5s
VISS Visnje 81.05 327 i P P 05 22 07.0 -0.3
WTTA Wattenberg 81.07 330 i P P 05 22 07.9 +0.3
comp=Z,11nm,0.7s,SNR=4.2
ABTA Abfaltersbach 81.18 329 i P P 05 22 08.1 +0.1
comp=Z,8.1nm,1.2s
MOTA Moosalm 81.20 330 i P P 05 22 08.6 +0.4
comp=Z,14nm,0.8s
RETA Reutte 81.20 330 i P P 05 22 08.4 +0.2
comp=Z,4.9nm,0.6s,SNR=4.6
KSU1 Kansas State U 81.23 44 P P 05 22 08.2 -0.2
baz=319
SQTA Sankt Quirin 81.27 330 i P P 05 22 08.8 +0.2
comp=Z,9.7nm,0.7s
L40A Anamosa 81.55 39 IAmb IAmb 05 22 10.5
comp=Z,8.3nm,0.8s
FETA Feichten 81.61 330 eP P 05 22 10.6 +0.2
comp=Z,5.2nm,0.8s,SNR=4.3
DAVA Damuels 81.69 331 eP P 05 22 11.0 +0.1
comp=Z,8.6nm,0.8s,SNR=4.8
MSTX Muleshoe 81.71 51 P P 05 22 11.6 +0.4
baz=317
MNTX Cornudas Mount 81.83 54 pP 05 22 27.5 -0.7
MNTX Cornudas Mount 81.83 54 P P 05 22 12.8 +1.1
baz=316
ECH Echery 81.84 333 IAmb IAmb 05 22 12.5
comp=Z,5.7nm,0.8s
DAVOX Davos/Dischmat 82.12 331 P P 05 22 13.5 +0.4
baz=60,slow=4.7
DAVOX LR LR 06 01 32.0
comp=Z,76nm,20.8s,baz=42,slow=38
GLMI Grayling 82.15 33 P P 05 22 13.7 +0.6
baz=326
SOCY Socotra 82.36 279 P P 05 22 13.2 -1.6
SOCY IAmb IAmb 05 22 14.4
comp=Z,17nm,1.0s
TUE Stuetta 82.58 331 P P 05 22 15.5 0.0
TUE IAmb IAmb 05 22 16.5
comp=Z,9.7nm,0.7s
L44A Lake County Fo 82.94 37 P P 05 22 17.8 +0.5
baz=324
P40A Paris 83.15 41 IAmb IAmb 05 22 34.1
comp=Z,14nm,1.1s
SENIN Lac Senin/Sane 83.39 332 IAmb IAmb 05 22 20.5
comp=Z,5.5nm,0.7s
HDIL Hopedale 83.62 38 P P 05 22 21.0 +0.2
baz=323
S39A Bolivar 83.97 43 IAmb IAmb 05 22 23.9
comp=Z,5.9nm,0.8s
R40A Maddies Statio 84.02 42 IAmb IAmb 05 22 23.8
comp=Z,6.5nm,0.7s
TUL1 Leonard 84.08 45 IAmb IAmb 05 22 24.7
comp=Z,9.9nm,0.8s
TUL1 Leonard 84.08 45 P P 05 22 23.9 +0.7
baz=320
TX31 Lajitas Ar. Si 84.55 55 IAmb IAmb 05 22 27.7
comp=Z,12nm,0.8s
TXAR Lajitas Array 84.56 55 P P 05 22 26.8 +0.9
comp=Z,3.1nm,0.7s,baz=295,slow=3.5,SNR=58
CCM Cathedral Cave 84.70 41 P P 05 22 26.9 +0.6
CCM pmax pmax
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 84.70 41 P P 05 22 26.9 +0.6
CCM IAmb IAmb 05 22 27.5
comp=Z,8.5nm,0.8s
CCM Cathedral Cave 84.70 41 P P 05 22 26.9 +0.6
baz=322
HHAR Hobbs 84.75 44 IAmb IAmb 05 22 27.9
comp=Z,4.7nm,0.7s
IDI Anoyia 84.76 315 ⇑P P 05 22 25.5 -1.2
IDI Anoyia 84.76 315 P P 05 22 25.5 -1.2
comp=Z,16nm,0.7s,baz=31,slow=11,SNR=19
U40A Yellville 85.24 43 P P 05 22 29.0 -0.1
baz=322,SNR=9.1
W39A Magazine 85.67 44 P P 05 22 31.6 +0.4
baz=321
O48B Farmland 85.70 36 P P 05 22 31.3 0.0
baz=326
FCAR Ozark Folk Cen 85.97 43 IAmb IAmb 05 22 33.5
comp=Z,7.0nm,0.8s
JCT Junction City 85.98 51 P P 05 22 33.7 +0.8
baz=318
LONY Lake Ozonia 86.02 27 P P 05 22 33.4 +0.6
baz=332
PBMO Poplar Bluff 86.11 41 IAmb IAmb 05 22 34.8
comp=Z,10nm,0.8s
W41B Gary Mavity, V 86.47 43 P P 05 22 35.6 +0.5
baz=322
P49A Miami Univ. Ec 86.49 36 P P 05 22 35.5 +0.3
baz=326
M53A WI Miller and 86.56 32 P P 05 22 36.0 +0.5
baz=328
ACSO Alum Creek Sta 86.65 35 P P 05 22 36.4 +0.5
baz=327
X40A Basin Creek Fa 86.71 44 P P 05 22 36.9 +0.6
baz=322
M54A Oil Creek Stat 86.90 32 P P 05 22 37.5 +0.3
baz=329
N54A Moraine State 87.24 32 P P 05 22 39.3 +0.5
baz=329
O53A New Philadelph 87.36 33 P P 05 22 39.9 +0.5
baz=328
P52A Corning 87.50 34 P P 05 22 40.0 -0.1
baz=326
WVT Waverly 87.87 40 P P 05 22 42.2 +0.3
baz=324
SSPA Standing Stone 88.33 31 P P 05 22 44.3 +0.3
baz=330
O56A Blue Knob Stat 88.39 32 P P 05 22 44.9 +0.5
baz=330,SNR=6.4
MCWV Mont Chateau 88.41 33 P P 05 22 44.6 +0.2
baz=329
CLTN Cedars of Leba 88.60 39 IAmb IAmb 05 22 46.5
comp=Z,5.2nm,0.7s
N59A State Game Lan 88.87 29 P P 05 22 47.5 +1.0
baz=332
PAL Palisades 89.45 28 P P 05 22 49.9 +0.7
baz=333
TZTN Tazewell 89.49 37 P P 05 22 49.6 0.0
baz=327
TKL Tuckaleechee C 90.13 38 P P 05 22 52.5 0.0
comp=Z,7.5nm,0.8s,baz=203,slow=1.6,SNR=11
KEST Kesra 91.76 325 P P 05 22 59.7 -0.5
comp=Z,3.7nm,0.8s,baz=280,slow=6.2,SNR=5.9
KEST LR LR 06 10 27.3
comp=Z,60nm,18.2s,baz=259,slow=40
KEST Kesra 91.76 325 IAmb IAmb 05 23 00.7
comp=Z,5.6nm,0.9s
ESDC Sonseca Array 93.02 336 P P 05 23 05.3 -0.6
comp=Z,1.3nm,0.8s,baz=8.0,slow=3.8,SNR=7.7
ESDC LR LR 06 10 47.3
comp=Z,53nm,19.1s,baz=8.0,slow=39
MDT Midelt 99.55 334 LR LR 06 12 46.0
comp=Z,83nm,18.1s,baz=11,slow=38
TORD Torodi Ar. Bea 114.72 320 PKP PKiKP 05 28 32.2 -0.8
comp=Z,0.8nm,0.4s,baz=25,slow=2.5,SNR=19
TORD PP PP 05 29 26.6 -3.9
comp=Z,1.9nm,1.1s,baz=33,slow=8.6,SNR=5.7
VNDA Vanda 120.65 176 PKP PKPdf 05 28 42.6 +0.2
comp=Z,0.9nm,0.6s,baz=319,slow=2.6,SNR=7.3
DBIC Dimbokro 123.42 323 PKP PKPdf 05 28 49.3 -0.5
comp=Z,3.3nm,0.7s,baz=47,slow=3.4,SNR=5.1
H03N2 Juan Fernandez 144.73 89 T T 08 10 45.5
baz=316,slow=76,SNR=8.6
H03N3 Juan Fernandez 144.74 89 T T 08 11 18.6
SNR=8.4
H03N1 Juan Fernandez 144.74 89 T T 08 11 04.7
baz=306,slow=76,SNR=8.8
TROLL Troll, Antarti 145.64 200 PKPdf PKPab 05 29 30.3 +0.2
SNAA Sanae 147.14 198 PKPdf PKPbc 05 29 33.6 -0.4
VNA2 Neumayer--Watz 148.70 197 PKPdf PKPbc 05 29 38.4 +0.3
baz=117,slow=2.0
VNA3 Neumayer Olymp 148.93 196 PKPdf PKPbc 05 29 38.5 -0.2
BDFB Brasilia 150.68 26 PKPbc PKPbc 05 29 45.1 +0.4
comp=Z,11nm,0.7s,baz=200,slow=0.1,SNR=22
BDFB Brasilia 150.68 26 PKiKP 05 29 45.5 +0.2
PLCA Paso Flores 153.73 97 PKPbc PKiKP 05 29 51.4 +0.4
comp=Z,1.8nm,0.6s,baz=258,slow=1.5,SNR=8.6

IDC 30 05:23:49.8±3.5, 54°07'N×87°70'E, h0km, mb1 2.4/2, mb1mx2.4/49, mbtmp2.4/2, ML2.3/2 Error ellipse: s-maj=30.2km s-min=19.4km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**267**	*i*			05 33 15.6	
	baz=82,slow=329,SNR=2.5							
ZALV	**Zalesovo Beam**	**1.70**	**267**	Pg		Pn	05 24 20.0	-0.7
	1.2nm,0.3s,baz=84,slow=16,SNR=14							
ZALV				Lg		Lg	05 24 44.0	
	0.9nm,0.3s,baz=84,slow=24,SNR=8.7							
KURBB	**Kurchatov Arra**	**6.59**	**242**	Pn		Pn	05 25 29.8	+2.0
	0.0nm,0.3s,baz=58,slow=14,SNR=3.7							
KURBB				Lg		Lg	05 27 16.6	
	0.0nm,0.3s,baz=57,slow=32,SNR=4.2							
MKAR	**Makanchi Array**	**8.06**	**207**	Pn		Pn	05 25 48.1	+0.1
	0.1nm,0.3s,baz=29,slow=14,SNR=2.0							

DJA 30 05:46:47.8±0.4, 0°N±4°×12°4E±°, h87km±8km, M3.8/11, mb3.9/1, mB4.6/1, MLv3.8/11, Mw(mB)3.8/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.56**	**345**	P		Pn	05 47 03.9	+1.1
KMSI				S		Sn	05 47 16.8	+2.9
LUWI	**Luwuk**	**1.73**	**232**	S		Sn	05 47 47.0	+9.0
MRSI	**Marisa**	**2.23**	**281**	P		Pn	05 47 21.9	-1.1
APSI	**Ampana**	**2.65**	**249**	P		Pn	05 47 29.0	+0.4
SANI	**Sanana**	**2.78**	**138**	P		Pn	05 47 30.1	-0.2
LBMI	**Labuha**	**3.44**	**101**	P		Pn	05 47 38.7	-0.5
MPSI	**Mapaga**	**4.24**	**274**	P		Pn	05 47 51.0	+0.9
TTSI	**Tana Toraja**	**5.28**	**235**	P		Pn	05 48 07.6	+3.3
BBSI	**Bau Bau**	**5.70**	**196**	P		Pn	05 48 10.3	+0.3

*KRNET **30** 05:50:25.2±0.1, 41°.04'N×69°.58'E, h12km, mb3.1*
*SOME **30** 05:50:25.5, 40°.77'N×69°.85'E, h10km*
*NNC **30** 05:50:27.0±3.4, 40°.83'N×69°.78'E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=22.8km s-min=12.6km az=40.0*

ISC 30 05:50:21.8±2.1, 40°.81'N±0°.05×69°.1'E±0°.1, h17km±8km, n29, σ2s 01/48, 9C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.55**	**18**	⇓*i*P		**Pg**	**05 50 32.1**	**-0.6**
	baz=23							
TAS				⇓*i*S		**Sg**	**05 50 37.8**	**-2.2**
	baz=23							
IUG	**Iuzhnay**	**1.52**	**28**	*e*P		**Pg**	**05 50 51.9**	**+0.8**
	1µm,0.1s							
IUG				*e*S		**Sg**	**05 51 10.9**	**-0.1**
	234nm,0.5s							
BTK	**Batken**	**1.53**	**119**	⇓*i*P		**Pg**	**05 50 51.4**	**+0.1**
	baz=36							
BTK				⇓*i*S		**Sg**	**05 51 09.9**	**-1.4**
	baz=36							
TRKS	**Terek-Say**	**1.72**	**65**	⇑*e*P		**Pn**	**05 50 49.2**	**-2.0**
	baz=70							
TRKS				⇑*i*S		**Sn**	**05 51 07.5**	**-5.4**
	baz=70							
ARK	**Arkit**	**2.40**	**65**	⇓*i*P		**Pn**	**05 51 01.3**	**+0.9**
	baz=66							
ARK				⇓*i*S		**Sn**	**05 51 28.1**	**-1.4**
	baz=66							
DRK	**Karamyk**	**2.48**	**121**	⇑*i*P		**Pb**	**05 51 07.0**	**+0.9**
	baz=32							
DRK				⇑*i*S		**Sb**	**05 51 37.0**	**+0.5**
	baz=32							
KK08	**Karatay Array**	**2.53**	**24**	⇑P		**Pb**	**05 51 07.4**	**+0.6**
	5.3nm,0.5s,baz=193,slow=16							
KK08				⇓S		**Sb**	**05 51 37.9**	**+0.3**
	25nm,0.5s,baz=202,slow=26							
DZA	**Taraz**	**2.68**	**38**	*e*P		**Pb**	**05 51 10.8**	**+1.3**
	332nm,0.1s							
DZA				*e*S		**Sb**	**05 51 42.6**	**+0.5**
	189nm,0.4s							
MRKS	**Merke**	**3.66**	**57**	*e*P		**Pb**	**05 51 27.1**	**+0.9**
	5.9nm,0.5s							
MRKS				*e*S		**Sb**	**05 52 10.6**	**+0.2**
	15nm,0.4s							
MRKS	**Merke**	**3.66**	**57**	Pg		**Pb**	**05 51 27.1**	**+0.9**
	5.9nm,0.5s							
EKS2	**Erkin-Say**	**3.98**	**61**	⇑*i*P		**Pn**	**05 51 23.5**	**+1.3**
	baz=61							
EKS2				⇑*i*S		**Sn**	**05 52 06.3**	**-2.3**
	baz=61							
USP	**Ospenovka**	**4.73**	**57**	⇑*i*P		**Pn**	**05 51 33.7**	**+1.2**
	baz=57							
USP				⇑*e*S		**Sn**	**05 52 24.2**	**-2.8**
	baz=57							
SGDS	**Sogindy**	**4.91**	**56**	*e*P		**Pb**	**05 51 46.5**	**-0.9**
	4.8nm,0.7s							
SGDS				*e*S		**Sb**	**05 52 43.5**	**-2.6**
	6.0nm,0.4s							
SGDS	**Sogindy**	**4.91**	**56**	Pg		**Pb**	**05 51 46.5**	**-0.9**
	4.8nm,0.7s							
SGDS				Lg		Lg	05 52 43.5	
	6.0nm,0.4s							
DGS	**Degeres**	**5.55**	**62**	*e*P		**Pb**	**05 51 58.8**	**+0.4**
	3.6nm,0.5s							
DGS				*e*S		**Sb**	**05 53 05.0**	**+0.2**
	7.3nm,0.7s							
DGS	**Degeres**	**5.55**	**62**	Pg		**Pb**	**05 51 58.8**	**+0.4**
	3.6nm,0.5s							
DGS				Lg		Lg	05 53 05.0	
	7.3nm,0.7s							
BTLS	**Baital**	**5.59**	**39**	*e*P		**Pb**	**05 52 00.5**	**+1.5**
	1.2nm,0.2s							
BTLS				*e*S		**Sb**	**05 53 08.2**	**+2.5**
	6.7nm,0.5s							
BTLS	**Baital**	**5.59**	**39**	Pg		**Pb**	**05 52 00.5**	**+1.5**
	1.2nm,0.2s							
BTLS				Lg		Lg	05 53 08.2	
	6.7nm,0.5s							
KST	**Kastek**	**5.61**	**64**	*e*P		**Pb**	**05 51 59.8**	**+0.5**
	3.3nm,0.8s							
KST				*e*S		**Sb**	**05 53 06.7**	**+0.4**
	7.0nm,0.6s							
KST	**Kastek**	**5.61**	**64**	Pg		**Pb**	**05 51 59.8**	**+0.5**
	3.3nm,0.8s							
KST				Lg		Lg	05 53 06.7	
	7.0nm,0.6s							
KRBS	**Karabastau**	**5.69**	**57**	*e*P		**Pb**	**05 52 01.6**	**+0.9**
	2.0nm,0.9s							
KRBS				*e*S		**Sb**	**05 53 09.8**	**+1.2**
	3.8nm,0.5s							
KRBS	**Karabastau**	**5.69**	**57**	Pg		**Pb**	**05 52 01.6**	**+0.9**
	2.0nm,0.9s							
KRBS				Lg		Lg	05 53 09.8	
	3.8nm,0.5s							
KUU	**Kurty**	**6.21**	**58**	*e*P		**Pb**	**05 52 12.1**	**+2.7**
	3.6nm,0.7s							
KUU				*e*S		**Sb**	**05 53 27.8**	**+4.4**
	3.5nm,0.2s							
KUU	**Kurty**	**6.21**	**58**	Pg		**Pb**	**05 52 12.1**	**+2.7**
	3.6nm,0.7s							
KUU				Lg		Lg	05 53 27.8	
	3.5nm,0.2s							
TNSS	**Tian-Shan**	**6.29**	**67**	*e*P		**Pb**	**05 52 13.9**	**+2.9**
	1.8nm,0.5s							
TNSS				*e*S		**Sb**	**05 53 30.4**	**+4.4**
	1.4nm,0.5s							
TNSS	**Tian-Shan**	**6.29**	**67**	Pg		**Pb**	**05 52 13.9**	**+2.9**
	1.8nm,0.5s							
TNSS				Lg		Lg	05 53 30.4	
	1.4nm,0.5s							
KTBS	**Karatobe**	**6.35**	**60**	*e*P		**Pb**	**05 52 13.4**	**+1.5**
	1.9nm,0.6s							
KTBS				*e*S		**Sb**	**05 53 30.0**	**+2.4**
	7.9nm,0.4s							
KTBS	**Karatobe**	**6.35**	**60**	Pg		**Pb**	**05 52 13.4**	**+1.5**
	1.9nm,0.6s							
KTBS				Lg		Lg	05 53 30.0	
	7.9nm,0.4s							
ARXS	**Arharly**	**7.31**	**59**	Pg		**Pb**	**05 52 31.5**	**+3.2**
	1.3nm,0.2s							
ARXS				Lg		Lg	05 54 01.1	
	3.6nm,0.5s							

*BJI **30** 06:01:25.8±0.0, 6°.01S×155°.08E, h78km, mb4.9/58, mB5.0/28, Ms4.6/8, Ms7 4.2/5*

*GCMT **30** 06:01:26.1±0.3, 6°.40S±0°.02×154°.85E±0°.03, h58km±1km, MW4.9/63, Moment Tensor Solution. s45,c49; s63,c78; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 2.78±.16; Mθθ-1.66±.14; Mϕϕ-1.11±.14; Mrθ-0.49±.08; Mrϕ 1.95±.10; Mθϕ 0.29±.09; Best double couple: M₀3.12100×10¹⁶ NP1:ϕs134.00000°, δ40.00000°, λ94.00000°. NP2: ϕs308.00000°, δ50.00000°, λ87.00000°. Principal axes: T 2.8360, Plg84.0000°, Azm193.0000°; N 0.5790, Plg3.0000°, Azm311.0000°; P -3.4050, Plg5.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **30** 06:01:26.5±0.8, 6°.18S×154°.83E, h79km, mb5.4/26 Error ellipse: s-maj=9.7km s-min=7.4km az=89.7*
*NEIC **30** 06:01:28.1±1.5, 6°.24S±0°.08×154°.89E±0°.08, h78km±5km, mb5.1/113, Error ellipse: s-maj=13.0km s-min=10.0km az=221.0*
*IDC **30** 06:01:29.2±2.3, 6°.29S×154°.88E, h94km±20km, mb4.7/21, mb1 4.9/24, mb1mx4.7/31, mbtmp5.1/24, MS3.8/50, Ms1 3.8/50, ms1mx3.7/67, Error ellipse: s-maj=13.9km s-min=10.6km az=63.0*
*DJA **30** 06:01:30.1±0.5, 6°.S±3°×15°.5E±°, h102km±5km, M5.0/57, mB5.5/27, mb5.2/57, MLv5.4/2, Mw(mB)5.0/27*

ISC 30 06:01:28.6±0.2, 6°.24S±0°.04×154°.88E±0°.05, h89km, n596, σ0s 95/555, mb5.2/152, 12C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.38**	**307**			**Pn**	**06 02 19.5**	**+0.2**
RABL	**Rabaul**	**3.38**	**307**	P		**Pn**	**06 02 16.2**	**-3.1**
HNR	**Honiara**	**5.94**	**123**	P		**Pn**	**06 02 53.4**	**-0.6**
	26nm,0.3s,baz=243,slow=7.0,SNR=7.4							
HNR				LR		LR	06 05 12.1	
	comp=Z,702nm,21.4s,baz=318,slow=38							
HNR	**Honiara**	**5.94**	**123**	P		**Pn**	**06 02 53.9**	**-0.1**
HNR	**Honiara**	**5.94**	**123**			**Pn**	**06 02 53.9**	**-0.1**
HNR	**Honiara**	**5.94**	**123**	P		**Pn**	**06 02 54.1**	**+0.1**
PMG	**Port Moresby**	**8.27**	**247**	P		**Pn**	**06 03 25.8**	**-0.1**
	16nm,0.3s,baz=36,slow=7.5,SNR=55							
PMG				LR		LR	06 06 30.9	
	comp=Z,938nm,21.9s,baz=50,slow=36							
PMG	**Port Moresby**	**8.27**	**247**	Pn		**Pn**	**06 03 25.4**	**-0.5**
PMG	**Port Moresby**	**8.27**	**247**	P		**Pn**	**06 03 23.5**	**-2.4**
PATS	**Pohnpei**	**13.43**	**15**	P		**Pn**	**06 04 33.3**	**-2.3**
	baz=14							
PATS	**Pohnpei**	**13.43**	**15**	Pn		**Pn**	**06 04 32.5**	**-3.1**
COEN	**Coen**	**13.84**	**235**	P		**Pn**	**06 04 40.6**	**-0.4**
	baz=14							
COEN	**Coen**	**13.84**	**235**	Pn		**Pn**	**06 04 40.0**	**-1.0**
COEN	**Coen**	**13.84**	**235**	P		**Pn**	**06 04 41.4**	**+0.4**
JAY	**Jayapura**	**14.61**	**284**	LR		LR	06 10 16.6	
	comp=Z,434nm,21.8s,baz=92,slow=36							
JAY	**Jayapura**	**14.61**	**284**	P		**Pn**	**06 04 50.9**	**-0.1**
	15nm,0.9s							
SANVU	**Saraoutou**	**15.16**	**128**			**Pn**	**06 04 56.4**	**-1.6**
SANVU					IAmb	IAmb	06 05 03.2	
	comp=Z,66nm,0.8s							
SANVU	**Saraoutou**	**15.16**	**128**	P		**P**	**06 05 00.5**	**-0.5**
MTSU	**Mount Surprise**	**15.69**	**220**	P		**Pn**	**06 05 05.4**	**+0.7**
	baz=16,SNR=4.7							
CTA	**Charters Tower**	**16.12**	**211**	P		**Pn**	**06 05 10.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=28,slow=16,SNR=5.2							
CTA				LR		LR	06 10 47.1	
	comp=Z,471nm,20.1s,baz=42,slow=35							
CTA	**Charters Tower**	**16.12**	**211**	P		**Pn**	**06 05 10.0**	**0.0**
CTAO	**Charters Tower**	**16.12**	**211**	P		**P**	**06 05 11.3**	**-0.3**
CTAO					pmax	pmax		
	comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**16.12**	**211**	P		**P**	**06 05 11.3**	**-0.3**
SMPI	**Sarmi**	**16.67**	**284**	P		**P**	**06 05 18.4**	**+0.6**
	comp=Z,1µmcomp=Z,32nm,1.0s							
KOUNC	**Koumac, New Ca**	**16.90**	**148**	P		**Pn**	**06 05 18.6**	**-1.1**
LIFNC	**LIFOU**	**18.77**	**142**	P		**P**	**06 05 40.0**	**-0.9**
LIFNC	**LIFOU**	**18.77**	**142**	P		**P**	**06 05 41.0**	**+0.1**
DZM	**Mont Dzumac**	**19.30**	**146**	P		**P**	**06 05 47.2**	**+0.5**
	comp=Z,7.7nm,0.3s,baz=286,slow=9.0,SNR=84							
DZM				LR		LR	06 12 22.6	
	comp=Z,234nm,19.5s,baz=332,slow=34							
DZM	**Mont Dzumac**	**19.30**	**146**	*e*P		**P**	**06 05 46.5**	**-0.2**
	comp=Z,223nm,1.1s							
DZM				*e*LR		LR	06 10 00.6	
	comp=Z,805nm,26.9s							
DZM	**Mont Dzumac**	**19.30**	**146**			**P**	**06 05 45.9**	**-0.9**
DZM					IAmb	IAmb	06 05 48.5	
	comp=Z,73nm,0.7s							
DZM	**Mont Dzumac**	**19.30**	**146**	P		**P**	**06 05 47.3**	**+0.5**
EIDS	**Eidsvold**	**19.37**	**190**	P		**P**	**06 05 48.1**	**+0.7**
	baz=19,SNR=8.8							
EIDS	**Eidsvold**	**19.37**	**190**	P		**P**	**06 05 47.7**	**+0.4**
EIDS	**Eidsvold**	**19.37**	**190**	P		**Pn**	**06 05 48.9**	**-0.4**
ONTNC	**Ouen Toro**	**19.50**	**146**	P		**P**	**06 05 48.6**	**-0.1**
ONTNC					IAmb	IAmb	06 05 49.6	
	comp=Z,105nm,0.8s							
YATNC	**Mamie plateau,**	**19.55**	**145**	P		**P**	**06 05 49.4**	**+0.1**
MARNC	**Mare, Loyalty**	**19.79**	**141**	P		**P**	**06 05 52.5**	**+0.6**
OUENC	**Ouen Island, N**	**19.80**	**146**	P		**P**	**06 05 51.4**	**-0.6**
OUENC					IAmb	IAmb	06 05 53.1	
	comp=Z,80nm,0.8s							
OUENC	**Ouen Island, N**	**19.80**	**146**	P		**P**	**06 05 52.4**	**+0.4**
PINNC	**Pines Island,**	**20.30**	**145**	P		**P**	**06 05 57.0**	**-0.4**
PINNC					IAmb	IAmb	06 05 58.3	
	comp=Z,76nm,1.0s							
QIS	**Mount Isa**	**20.55**	**225**	P		**P**	**06 06 00.9**	**+0.7**
	baz=21,SNR=20							
QIS	**Mount Isa**	**20.55**	**225**	P		**P**	**06 06 00.8**	**+0.6**
RMQ	**Roma**	**20.97**	**195**	P		**P**	**06 06 05.4**	**+0.8**
	baz=21,SNR=5.9							
RMQ	**Roma**	**20.97**	**195**	P		**P**	**06 06 04.6**	**0.0**
GUMO	**Guam**	**22.06**	**333**	LR		LR	06 14 11.0	
	comp=Z,82nm,21.6s,baz=158,slow=34							
QLP	**Quilpie**	**22.64**	**205**	P		**P**	**06 06 22.0**	**-0.3**
	baz=23,SNR=13							
QLP	**Quilpie**	**22.64**	**205**	P		**P**	**06 06 21.7**	**-0.6**
FAKI	**Fak Fak**	**22.80**	**277**	P		**P**	**06 06 23.1**	**-1.0**
FAKI					IAmb	IAmb	06 06 26.1	
	comp=Z,64nm,0.9s							
FAKI	**Fak Fak**	**22.80**	**277**	P		**P**	**06 06 25.0**	**+0.9**
	comp=Z,5µmcomp=Z,91nm,1.0s							
FAKI	**Fak Fak**	**22.80**	**277**	P		**P**	**06 06 25.0**	**+0.9**
	comp=Z,91nm,1.0s							
KDU	**Kakadu**	**23.00**	**252**	P		**P**	**06 06 25.5**	**-0.6**
	baz=23,SNR=13							
KDU	**Kakadu**	**23.00**	**252**	P		**P**	**06 06 25.8**	**-0.3**
WR0	**Warramunga Arr**	**24.01**	**233**	P		**P**	**06 06 35.6**	**+0.3**
WR0					IAmb	IAmb	06 06 37.1	
	comp=Z,114nm,1.1s							
WRAB	**Tennant Creek**	**24.15**	**234**	*ce*P		**P**	**06 06 37.0**	**+0.4**
WRAB					pmax	pmax		
	comp=Z,132nm,1.7s							
WRAB	**Tennant Creek**	**24.15**	**234**	P		**P**	**06 06 36.8**	**+0.2**
WB2	**Warramunga Arr**	**24.15**	**234**	P		**P**	**06 06 36.6**	**0.0**
WB2					IAmb	IAmb	06 06 38.4	
	comp=Z,146nm,1.4s							
SIJI	**Sorong**	**24.16**	**282**	P		**P**	**06 06 37.0**	**+0.3**
	comp=Z,32nm,0.8s,baz=75,slow=7.8,SNR=8.9							
WRA	**Warramunga Arr**	**24.16**	**234**	P		**P**	**06 06 36.1**	**-0.6**
	comp=Z,44nm,0.9s,baz=58,slow=9.4,SNR=116							
WRA				LR		LR	06 15 32.1	
	comp=Z,441nm,21.0s,baz=62,slow=35							
WRA	**Warramunga Arr**	**24.16**	**234**	P		**P**	**06 06 35.9**	**-0.8**
SWI	**Sorong**	**24.16**	**282**	P		**P**	**06 06 37.7**	**+0.9**
	comp=Z,66nm,0.9s							
ARMA	**Armidale**	**24.25**	**187**	P		**P**	**06 06 38.0**	**+0.5**
	baz=24,SNR=12							
ARMA	**Armidale**	**24.25**	**187**	P		**P**	**06 06 38.1**	**+0.6**
ARMA					IAmb	IAmb	06 06 39.1	
	comp=Z,45nm,0.9s							
ARMA	**Armidale**	**24.25**	**187**	P		**P**	**06 06 37.8**	**+0.3**
MTN	**Manton Dam**	**24.31**	**253**	P		**P**	**06 06 38.7**	**+0.7**
	baz=24,SNR=7.7							
MTN	**Manton Dam**	**24.31**	**253**	P		**P**	**06 06 38.2**	**+0.2**
MTN					IAmb	IAmb	06 06 39.5	
	comp=Z,76nm,1.1s							
MTN	**Manton Dam**	**24.31**	**253**	P		**P**	**06 06 38.8**	**+0.7**
	comp=Z,79nm,1.0s							
INKA	**Innaminka**	**25.25**	**210**	P		**P**	**06 06 46.2**	**-0.3**
	comp=Z,91nm,0.7s							
MSVF	**Nonsavu**	**25.34**	**119**	P		**P**	**06 06 46.6**	**-0.9**
	comp=Z,6.9nm,0.6s,baz=274,slow=11,SNR=4.9							
MSVF				LR		LR	06 15 41.4	
	comp=Z,331nm,21.2s,baz=288,slow=34							
MSVF	**Nonsavu**	**25.34**	**119**	P		**P**	**06 06 47.5**	**0.0**
MSVF				pmax		pmax		
	comp=Z,63nm,1.6s							
MSVF	**Nonsavu**	**25.34**	**119**	P		**P**	**06 06 47.5**	**0.0**
AS31	**Alice Springs**	**26.59**	**227**	P		**P**	**06 06 58.4**	**-0.4**
ASAR	**Alice Springs**	**26.60**	**227**	P		**P**	**06 06 58.5**	**-0.3**
	comp=Z,11nm,0.6s,baz=60,slow=8.5,SNR=172							
ASAR				LR		LR	06 16 56.1	
	comp=Z,368nm,20.3s,baz=112,slow=35							
ASAR	**Alice Springs**	**26.60**	**227**	P		**P**	**06 06 58.2**	**-0.6**
ASAR							06 10 21.0	
ASAR	**Alice Springs**	**26.60**	**227**	P		**P**	**06 06 58.2**	**-0.6**
ASAR						**PcP**	**06 10 20.9**	**-0.1**
CMSA	**Cobar Meteorol**	**26.60**	**198**	P		**P**	**06 06 58.3**	**-0.3**
	baz=27,SNR=7.1							
CMSA	**Cobar Meteorol**	**26.60**	**198**	P		**P**	**06 06 58.2**	**-0.4**
MGCD	**Mangrove Creek**	**27.07**	**187**	P		**P**	**06 07 03.2**	**+0.4**
	baz=27,SNR=6.6							
MGCD	**Mangrove Creek**	**27.07**	**187**	P		**P**	**06 07 03.5**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**27.19**	**25**	T		T	06 35 13.5	
	baz=205,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**27.20**	**25**	T		T	06 35 15.0	
	baz=205,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**27.21**	**25**	T		T	06 35 12.3	
	baz=205,slow=76,SNR=30							
KNRA	**Kununurra**	**27.27**	**248**	P		**P**	**06 07 05.0**	**+0.2**
	baz=27,SNR=6.9							
KNRA	**Kununurra**	**27.27**	**248**	P		**P**	**06 07 04.0**	**-0.8**
KNRA	**Kununurra**	**27.27**	**248**	P		**P**	**06 07 05.1**	**+0.2**
LBMI	**Labuha**	**27.88**	**280**	P		**P**	**06 07 11.2**	**+0.9**
	comp=Z,1µmcomp=Z,88nm,0.9s							
OOD	**Oodnadatta**	**28.14**	**218**	P		**P**	**06 07 11.8**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**28.37**	**24**	T		T	06 37 10.9	
	baz=202,slow=76,SNR=16							
STKA	**Stephens Creek**	**28.37**	**204**	P		**P**	**06 07 13.9**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=3.2,slow=9.6,SNR=12							
STKA				LR		LR	06 17 52.0	
	comp=Z,408nm,22.0s,baz=23,slow=35							
STKA	**Stephens Creek**	**28.37**	**204**	P		**P**	**06 07 13.9**	**-0.6**
	baz=28,SNR=11							
STKA	**Stephens Creek**	**28.37**	**204**	P		**P**	**06 07 13.8**	**-0.6**
STKA	**Stephens Creek**	**28.37**	**204**	P		**P**	**06 07 13.9**	**-0.6**
H11N3	**WAKE ISLAND Hy**	**28.38**	**24**	T		T	06 37 08.0	
H11N2	**WAKE ISLAND Hy**	**28.39**	**24**	T		T	06 37 10.9	
	baz=192,slow=76,SNR=16							
LCRK	**Leigh Creek**	**28.73**	**211**	P		**P**	**06 07 17.0**	**-0.7**
SANI	**Sanana**	**29.11**	**277**	P		**P**	**06 07 21.7**	**+0.4**
	comp=Z,76nm,0.8s							
CNB	**Canberra Magne**	**29.38**	**189**	P		**P**	**06 07 23.5**	**0.0**
	baz=30,SNR=6.1							
HTT	**Hallett**	**30.85**	**207**	P		**P**	**06 07 36.1**	**-0.4**
	baz=31,SNR=8.8							
HTT	**Hallett**	**30.85**	**207**	P		**P**	**06 07 36.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.86**	**245**	LR		LR	06 20 37.7	
	comp=Z,320nm,19.5s,baz=82,slow=37							
MULG	**Mulgathing**	**30.91**	**217**	P		**P**	**06 07 36.0**	**-1.0**
NAPP	**Napperby**	**31.00**	**208**	P		**P**	**06 07 37.9**	**+0.2**
BATI	**Baumata**	**31.14**	**261**	LR		LR	06 21 19.9	
	comp=Z,264nm,21.5s,baz=124,slow=38							
WHYH	**Whyalla**	**31.15**	**209**	P		**P**	**06 07 39.4**	**+0.4**
	comp=Z,34nm,0.6s							
KMSI	**Cibinong**	**31.58**	**281**	P		**P**	**06 07 43.9**	**+0.9**
	comp=Z,263nm,0.7s							
WRKA	**Warakurna**	**31.58**	**231**	P		**P**	**06 07 42.4**	**-0.6**
	baz=32,SNR=50							
WRKA	**Warakurna**	**31.58**	**231**	P		**P**	**06 07 42.4**	**-0.6**
BBOO	**Buckleboo**	**31.72**	**211**	P		**P**	**06 07 43.4**	**-0.7**
	baz=32,SNR=8.0							
BBOO	**Buckleboo**	**31.72**	**211**	P		**P**	**06 07 43.8**	**-0.2**
BBOO					IAmb	IAmb	06 07 53.2	
	comp=Z,17nm,0.5s							
BBOO	**Buckleboo**	**31.72**	**211**	P		**P**	**06 07 43.6**	**-0.5**
DAV	**Davao City (W)**	**32.09**	**294**	LR		LR	06 18 12.5	
	comp=Z,136nm,21.2s,baz=338,slow=31							
LUWI	**Luwuk**	**32.45**	**278**	P		**P**	**06 07 51.1**	**+0.4**
MMRI	**Maumere**	**32.45**	**264**	P		**P**	**06 07 49.9**	**-0.9**
MMRI	**Maumere**	**32.45**	**264**	P		**P**	**06 07 51.3**	**+0.6**
	comp=Z,8µmcomp=Z,142nm,0.7s							
MMRI	**Maumere**	**32.45**	**264**	P		**P**	**06 07 51.3**	**+0.6**
	comp=Z,146nm,1.0s							
GTOI	**Gorontalo**	**32.54**	**281**	P		**P**	**06 07 53.3**	**+1.8**
	comp=Z,503nmcomp=Z,65nm,0.7s							
ARPS	**Mount Arapiles**	**32.65**	**200**	P		**P**	**06 07 52.5**	**+0.4**
	baz=33,SNR=12							
ARPS	**Mount Arapiles**	**32.65**	**200**	P		**P**	**06 07 52.5**	**+0.4**
BRAT	**Ballarat**	**32.73**	**196**	P		**P**	**06 07 54.3**	**+1.5**
	comp=Z,9.9nm,1.0s							
MRSI	**Marisa**	**33.55**	**280**	P		**P**	**06 08 01.1**	**+0.8**
APSI	**Ampana**	**33.58**	**278**	P		**P**	**06 08 01.3**	**+0.8**
	comp=Z,453nmcomp=Z,36nm,0.6s							
OUZ	**Omahuta**	**33.60**	**152**	P		**P**	**06 08 01.0**	**+0.6**
OUZ					IAmb	IAmb	06 08 03.3	
	comp=Z,27nm,1.0s							
OUZ	**Omahuta**	**33.60**	**152**	P		**P**	**06 08 01.5**	**+1.1**
AFI	**Afiamalu**	**33.67**	**106**	LR		LR	06 19 07.2	
	comp=Z,206nm,21.1s,baz=278,slow=31							
BSSI	**Bau Bau, Buton**	**34.19**	**268**	P

BFZ	**Birch Farm**	**39.27**	**154**	P		**P**	**06 08 48.4**	**-0.2**
MSWZ	**Moikau Station**	**39.46**	**156**	P		**P**	**06 08 49.4**	**-0.8**
LTZ	**Lake Taylor**	**39.51**	**160**	P		**P**	**06 08 50.6**	**-0.1**
LTZ	comp=Z,29nm,0.9s			IAmb		IAmb	06 08 52.2	
KHZ	**Kahutara**	**39.64**	**158**	P		**P**	**06 08 51.0**	**-0.7**
KHZ	**Kahutara**	**39.64**	**158**	P		**P**	**06 08 50.7**	**-0.9**
RPZ	**Rata Peaks**	**39.95**	**162**	P		**P**	**06 08 54.2**	**0.0**
RPZ	comp=Z,17nm,0.5s,baz=277,slow=2.5,SNR=15			LR		LR	06 23 24.9	
RPZ	**Rata Peaks**	**39.95**	**162**	P		**P**	**06 08 53.5**	**-0.7**
RPZ	comp=Z,199nm,18.3s,baz=317,slow=33			IAmb		IAmb	06 08 55.0	
RPZ	**Rata Peaks**	**39.95**	**162**	P		**P**	**06 08 55.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**40.44**	**264**	P		**P**	**06 08 56.8**	**-1.9**
JAGI	**Jajag, Banyuwa**	**40.44**	**264**	P		**P**	**06 08 58.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**40.44**	**264**	P		**P**	**06 08 58.8**	**+0.1**
KKM	**Kota Kinabalu**	**40.48**	**287**	P		**P**	**06 08 58.9**	**-0.2**
KKM	**Kota Kinabalu**	**40.48**	**287**	P		**P**	**06 09 00.1**	**+1.0**
ODZ	**Otahua Downs**	**41.03**	**163**	P		**P**	**06 09 04.2**	**+1.1**
JOW	**Kunigami**	**41.77**	**323**	LR		LR	06 26 04.9	
JOW	**Kunigami**	**41.77**	**323**	P		**P**	**06 09 10.5**	**+1.1**
GIRL	**Giralia**	**42.43**	**243**	P		**P**	**06 09 15.4**	**+0.6**
GIRL	**Giralia**	**42.43**	**243**	P		**P**	**06 09 15.2**	**+0.3**
GIRL	**Giralia**	**42.43**	**243**	P		**P**	**06 09 15.7**	**+0.9**
KLBR	**Kellerberrin**	**42.89**	**229**	P		**P**	**06 09 17.7**	**-0.8**
KLBR	**Kellerberrin**	**42.89**	**229**	P		**P**	**06 09 17.7**	**-0.8**
MORW	**Morawa**	**43.11**	**233**	P		**P**	**06 09 19.9**	**-0.4**
MORW	**Morawa**	**43.11**	**233**	P		**P**	**06 09 19.2**	**-1.1**
MORW	comp=Z,25nm,0.8s			IAmb		IAmb	06 09 20.8	
MORW	**Morawa**	**43.11**	**233**	P		**P**	**06 09 20.1**	**-0.2**
BLDU	**Ballidu**	**43.24**	**231**	P		**P**	**06 09 20.8**	**-0.5**
BLDU	**Ballidu**	**43.24**	**231**	P		**P**	**06 09 21.8**	**+0.5**
PCJI	**Pacitan**	**43.39**	**265**	P		**P**	**06 09 22.6**	**-0.1**
SBUM	**Sibu**	**43.46**	**280**	P		**P**	**06 09 22.9**	**-0.5**
YOJ	**Yonaguni jima**	**43.54**	**316**	P		**P**	**06 09 24.0**	**+0.3**
YOJ	comp=Z,43nm,0.7s			pmax		pmax		
YOJ	**Yonaguni jima**	**43.54**	**316**	P		**P**	**06 09 24.0**	**+0.3**
UGM	**Wanagama**	**44.04**	**265**	P		**P**	**06 09 28.4**	**+0.4**
YULB	**Yu-li**	**44.08**	**313**	P		**P**	**06 09 28.1**	**-0.1**
YULB	comp=Z,16nm,0.6s			IAmb		IAmb	06 09 30.2	
MUN	**Mundaring**	**44.23**	**230**	P		**P**	**06 09 29.1**	**-0.2**
MUN	**Mundaring**	**44.23**	**230**	P		**P**	**06 09 29.4**	**+0.1**
NACB	**Ninganchiao**	**44.35**	**314**	P		**P**	**06 09 30.5**	**+0.2**
NACB	comp=Z,27nm,0.7s			IAmb		IAmb	06 09 32.7	
TPUB	**Ta-pu**	**44.52**	**312**	P		**P**	**06 09 30.9**	**-0.7**
TPUB	comp=Z,30nm,0.6s			IAmb		IAmb	06 09 35.3	
TPUB	**Ta-pu**	**44.52**	**312**	P		**P**	**06 09 33.7**	**+2.1**
SSLB	**Suanglung**	**44.57**	**313**	P		**P**	**06 09 31.8**	**-0.3**
SSLB	comp=Z,20nm,0.5s			IAmb		IAmb	06 09 33.8	
SSLB	**Suanglung**	**44.57**	**313**	P		**P**	**06 09 33.5**	**+1.4**
YHNB	**Yeheng**	**44.82**	**315**	P		**P**	**06 09 33.2**	**-0.9**
YHNB	comp=Z,19nm,0.7s			IAmb		IAmb	06 09 36.6	
YHNB	**Yeheng**	**44.82**	**315**	P		**P**	**06 09 35.5**	**+1.5**
RKGY	**Rocky Gully**	**44.93**	**226**	P		**P**	**06 09 35.5**	**+0.7**
RKGY	**Rocky Gully**	**44.93**	**226**	P		**P**	**06 09 35.8**	**+1.1**
KSM	**Kuching**	**45.15**	**278**	P		**P**	**06 09 36.9**	**0.0**
KSM	comp=Z,30nm,0.7s			IAmb		IAmb	06 09 38.4	
JNU	**Nakatsue**	**45.30**	**331**	P		**P**	**06 09 37.2**	**-0.5**
JNU	comp=Z,25nm,0.8s			IAmb		IAmb	06 09 40.5	
JNU	**Nakatsue**	**45.30**	**331**	P		**P**	**06 09 39.8**	**+2.1**
MJAR	**Matsushiro Arr**	**45.33**	**341**	LR		LR	06 27 07.5	
KPJI	**Karang Pucung**	**45.63**	**266**	P		**P**	**06 09 41.0**	**+0.4**
CMJI	**Cimerak**	**46.10**	**265**	P		**P**	**06 09 44.1**	**-0.1**
RAR	**Rarotonga**	**46.31**	**113**	LR		LR	06 24 59.7	
LEM	**Lembang**	**46.95**	**266**	LR		LR	06 31 44.3	
CNJI	**Cibinong**	**47.41**	**266**	P		**P**	**06 09 53.9**	**-0.6**
SKJI	**Sukabumi**	**47.99**	**266**	P		**P**	**06 09 58.7**	**-0.3**
CGJI	**Cibinong**	**48.87**	**267**	P		**P**	**06 10 04.4**	**-1.3**
TJN	**Taejon**	**49.62**	**331**	*c*eP		**P**	**06 10 11.0**	**-0.1**
TJN	**Taejon**	**49.62**	**331**	P		**P**	**06 10 13.8**	**+2.7**
KASI	**Kota Agung**	**50.11**	**268**	P		**P**	**06 10 13.6**	**-1.6**
KSRS	**Korea Array**	**50.22**	**332**	P		**P**	**06 10 15.7**	**+0.1**
KSRS	comp=Z,5.8nm,0.7s,baz=148,slow=8.7,SNR=19			LR		LR	06 30 56.0	
MDSI	**Maura Dua**	**50.50**	**269**	P		**P**	**06 10 17.3**	**-0.8**
QIZ	**Qiongzhong**	**50.98**	**301**	IAmb		IAmb	06 10 23.9	
NJ2	**Nanjing**	**51.26**	**320**	*e*P		**P**	**06 10 25.0**	**+1.5**
NJ2	comp=Z,8.0nm,0.6s			pmax		pmax		
ASAJ	**Asahikawa**	**51.33**	**349**	LR		LR	06 30 41.5	
WHN	**Wuhan**	**53.32**	**316**	⇓P		**P**	**06 10 40.0**	**+1.2**
KRJI	**Kerinci**	**53.42**	**272**	P		**P**	**06 10 40.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**54.04**	**350**	*e*P		**P**	**06 10 44.5**	**+0.8**
YSS				*e*			06 11 42.8	
YSS				*e*S		**S**	**06 18 09.8**	**-3.3**
YSS	comp=Z,20nm,0.9s			pmax		pmax		
USRK	**Ussuriysk Ar.**	**54.28**	**340**	P		**P**	**06 10 46.3**	**+0.7**
USRK	comp=Z,4.6nm,0.7s,baz=137,slow=5.8,SNR=5.9			LR		LR	06 32 34.0	
PPI	**Padang Panjang**	**54.66**	**274**	P		**P**	**06 10 48.0**	**-0.9**
PPT	**Papeete**	**55.32**	**107**	LR		LR	06 31 31.8	
PPT2	**Papeete2**	**55.32**	**107**	*e*LR		LR	06 26 48.9	
MNSI	**Mandailing Nat**	**55.64**	**275**	P		**P**	**06 10 55.1**	**-0.8**
TBI	**Tubuai**	**56.08**	**114**	*e*LR		LR	06 27 07.3	
CN2	**Changchun**	**56.46**	**335**	*e*P		**P**	**06 11 01.5**	**+0.3**
CN2	comp=Z,10.0nm,0.6s			pmax		pmax		
BNX	**BinXian**	**57.27**	**337**	⇑P		**P**	**06 11 06.5**	**-0.4**
BNX	comp=Z,17nm,0.7s			pmax		pmax		
HNS	**HongShan**	**57.34**	**322**	⇑P		**P**	**06 11 07.8**	**+0.3**
HNS	comp=Z,11nm,0.9s			pmax		pmax		
GSI	**Gunungsitoli**	**57.70**	**275**	P		**P**	**06 11 09.2**	**-1.3**
BJI	**Beijing**	**58.23**	**326**	P		**P**	**06 11 14.5**	**+0.8**
BJI	comp=Z,6.0nm,0.5s			pmax		pmax		
KLR	**Kul'dur**	**58.81**	**342**	LR		LR	06 37 47.1	
KLR	**Kul'dur**	**58.81**	**342**	*i* P		**P**	**06 11 17.2**	**-0.4**
KLR	comp=Z,11nm,0.8s			pmax		pmax		
XAN	**Xi'an**	**59.09**	**316**	P		**P**	**06 11 19.8**	**-0.1**
XAN	comp=Z,20nm,0.6s			pmax		pmax		
PET	**Petropavlovsk**	**59.12**	**3**⇑	*i*P		**P**	**06 11 20.5**	**+0.9**
PET				*e*PP		**pP**	**06 11 40.6**	**-1.5**
PET				*e*SP		**sP**	**06 11 50.0**	**-2.1**
PET				*e*S		**S**	**06 19 21.5**	**+1.6**
PET	comp=Z,68nm,0.6s			pmax		pmax		
PET	**Petropavlovsk**	**59.12**	**3**	P		**P**	**06 11 20.4**	**+0.9**
PEA0B	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**06 11 21.1**	**+1.1**
PEA0B	comp=Z,46nm,0.7s			pmax		pmax		
PEA0B	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**06 11 21.1**	**+1.1**
PETK	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**06 11 21.0**	**+1.0**
PETK	comp=Z,38nm,0.7s,baz=162,slow=6.2,SNR=41			LR		LR	06 32 56.8	
PETK	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**06 11 21.0**	**+1.0**
PETK	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**06 11 20.4**	**+0.4**
KMI	**Kunming**	**59.50**	**304**	⇑P		**P**	**06 11 24.5**	**+1.4**
KMI				pP		pP	06 11 39.8	-5.5
KMI	comp=Z,14nm,1.1s			pmax		pmax		
CMAR	**Chiang Mai Arr**	**60.36**	**295**	P		**P**	**06 11 30.4**	**+1.6**
CMAR	comp=Z,52nm,0.8s,baz=118,slow=5.0,SNR=175			LR		LR	06 36 12.5	
CMAR	**Chiang Mai Arr**	**60.36**	**295**	P		**P**	**06 11 29.6**	**+0.8**
CHTO	**Chiang Mai**	**60.47**	**296**	P		**P**	**06 11 30.1**	**+0.5**
CHTO	comp=Z,48nm,1.1s			pmax		pmax		
CHTO	**Chiang Mai**	**60.47**	**296**	P		**P**	**06 11 30.1**	**+0.5**
CHTO	**Chiang Mai**	**60.47**	**296**	P		**P**	**06 11 30.5**	**+0.9**
PZH	**PanZhiHua**	**60.89**	**305**	P		**P**	**06 11 32.8**	**+0.3**
PZH	comp=Z,10.0nm,0.7s			pmax		pmax		
PZH	comp=Z,110nm,4.8s			pmax		pmax		
XLT	**XiLinHaoTe**	**60.95**	**329**	*e*P		**P**	**06 11 35.3**	**+2.8**
XLT				pP		pP	06 11 53.8	-1.1
XLT	comp=Z,43nm,0.7s			pmax		pmax		
XLT	comp=Z,77nm,4.3s			pmax		pmax		
SHEM	**Shemya Is, Ala**	**60.97**	**13**	LR		LR	06 35 01.4	
CD2	**Chengdu**	**61.24**	**310**	P		**P**	**06 11 35.0**	**+0.3**
CD2	comp=Z,20nm,0.8s			pmax		pmax		
HHC	**Hu-ho-hao-te**	**61.42**	**324**	*e*P		**P**	**06 11 39.5**	**+3.8**
HHC	comp=Z,12nm,0.8s			pmax		pmax		
HHC	comp=Z,100nm,5.6s			pmax		pmax		
ADK	**Adak**	**62.79**	**19**	P		**P**	**06 11 45.7**	**+1.2**
ADK	comp=Z,52nm,0.8s			pmax		pmax		
ADK	**Adak**	**62.79**	**19**	P		**P**	**06 11 45.7**	**+1.2**
ADK	**Adak**	**62.79**	**19**	P		**P**	**06 11 46.0**	**+1.5**
HIA	**Hailar**	**63.19**	**335**	IAmb		IAmb	06 11 48.5	
LZH	**Lanzhou**	**63.70**	**315**	*e*P		**P**	**06 11 52.0**	**+0.9**
LZH				sP		sP	06 12 23.0	-0.4
LZH	comp=Z,21nm,1.5s			pmax		pmax		
ZEA	**Zeya**	**64.12**	**342**	*e*P		**P**	**06 11 54.3**	**+1.0**
ZEA	comp=N,20nm,0.8s			pmax		pmax		
ZEA	comp=Z,20nm,0.7s			pmax		pmax		
TAOE	**Nuku Hiva Isla**	**64.39**	**97**	*e*LR		LR	06 30 56.5	
MA2	**Magadan**	**65.68**	**358**	LR		LR	06 38 13.8	
MA2	**Magadan**	**65.68**	**358**	P		**P**	**06 12 03.4**	**+0.1**
MA2	comp=Z,40nm,0.7s			pmax		pmax		
MA2	**Magadan**	**65.68**	**358**	P		**P**	**06 12 03.4**	**+0.1**
GTA	**Gaotai**	**68.11**	**317**	⇑P		**P**	**06 12 20.0**	**+0.7**
GTA				pP		pP	06 12 40.3	-1.7
GTA				sP		PcP	06 12 48.5	+3.7
GTA	comp=Z,9.0nm,1.0s			pmax		pmax		
ULN	**Ulaanbaatar**	**68.31**	**328**	P		**P**	**06 12 20.9**	**+0.5**
ULN	comp=Z,9.0nm,0.9s			pmax		pmax		
ULN	**Ulaanbaatar**	**68.31**	**328**	P		**P**	**06 12 20.9**	**+0.5**
SONM	**Songino Array**	**68.64**	**327**	P		**P**	**06 12 23.2**	**+0.7**
SONM	**Songino Array**	**68.64**	**327**	P		**P**	**06 12 22.8**	**+0.4**
SHL	**Shillong**	**68.82**	**300**	P		**P**	**06 12 24.1**	**+0.1**
SHL	comp=Z,19nm,0.6s			pmax		pmax		
SHL	**Shillong**	**68.82**	**300**	P		**P**	**06 12 24.1**	**+0.1**
SHL	comp=Z,19nm,0.6s			IAmb		IAmb	06 12 27.0	
SEY	**Seymchan**	**69.00**	**359**	LR		LR	06 43 45.9	
SEY	**Seymchan**	**69.00**	**359**	*c*eP		**P**	**06 12 24.9**	**+0.8**
SEY	comp=Z,12nm,0.8s			pmax		pmax		
GOMU	**GeErMu**	**70.26**	**312**	P		**P**	**06 12 35.0**	**+2.1**
GOMU				PP		**PP**	**06 15 11.3**	**+1.7**
GOMU	comp=Z,3.0nm,0.6s			pmax		pmax		
GOMU	comp=Z,54nm,4.2s			pmax		pmax		
YAK	**Yakutsk**	**70.80**	**348**	LR		LR	06 41 46.5	
YAK	**Yakutsk**	**70.80**	**348**	*i* P		**P**	**06 12 36.5**	**+1.4**
YAK	comp=Z,19nm,0.9s			pmax		pmax		
VNDA	**Vanda**	**71.34**	**178**	P		**P**	**06 12 38.1**	**-0.1**
ZAK	**Zakamensk**	**71.79**	**328**	*e*P		**P**	**06 12 41.6**	**0.0**
ZAK	comp=Z,19nm,1.0s			pmax		pmax		
SBA	**Scott Base**	**71.85**	**177**	P		**P**	**06 12 42.3**	**+1.0**
SBA	comp=Z,20nm,1.4s			pmax		pmax		
SBA	**Scott Base**	**71.85**	**177**	P		**P**	**06 12 42.3**	**+1.0**
BOD	**Bodaibo**	**71.87**	**338**	*e*P		**P**	**06 12 41.2**	**-0.5**
BOD				pmax		pmax		
TAPN	**Taplejung**	**72.92**	**301**	*e*P		**P**	**06 12 50.1**	**+1.1**
ODAN	**Odare**	**73.05**	**300**	*e*P		**P**	**06 12 50.2**	**+0.4**
CHGN	**Chignik**	**73.12**	**25**	P		**P**	**06 12 50.8**	**+1.7**
GAMB	**Gambell**	**74.22**	**15**	P		**P**	**06 12 56.4**	**+1.0**
GAMB	**Gambell**	**74.22**	**15**	P		**P**	**06 12 57.1**	**+1.7**
JIRN	**Jiri**	**74.30**	**301**	*e*P		**P**	**06 12 58.1**	**+0.9**
BILL	**Bilibino**	**74.54**	**4**⇓	*e*P		**P**	**06 12 58.2**	**+1.0**
BILL				*e*			06 13 11.4	
BILL				*e**PP		**pP**	**06 13 18.6**	**-1.9**
BILL				*e*PPP		PPP	06 17 32.0	
BILL	comp=Z,26nm,0.7s			pmax		pmax		
GUN	**Gumba**	**74.63**	**301**	*e*P		**P**	**06 12 59.4**	**+0.3**
PKI	**Pulchoki**	**74.94**	**301**	*e*P		**P**	**06 13 01.1**	**+0.2**
PKIN	**Phulchoki**	**74.96**	**301**	*e*P		**P**	**06 13 01.0**	**+0.1**
SII	**Sitkinak Islan**	**75.11**	**26**	P		**P**	**06 13 02.4**	**+1.6**
KKN	**Kakani**	**75.11**	**301**	*e*P		**P**	**06 13 02.1**	**+0.4**
PALK	**Pallekele**	**75.21**	**279**	P		**P**	**06 13 02.3**	**0.0**
PALK	comp=Z,29nm,0.9s			pmax		pmax		
PALK	**Pallekele**	**75.21**	**279**	P		**P**	**06 13 02.3**	**0.0**
PALK	comp=Z,29nm,0.9s			IAmb		IAmb	06 13 04.1	
DMN	**Daman**	**75.21**	**301**	*e*P		**P**	**06 13 03.0**	**+0.7**
GKN	**Gorkha**	**75.72**	**301**	*e*P		**P**	**06 13 05.4**	**+0.3**
OHAK	**Old Harbor**	**75.90**	**26**	P		**P**	**06 13 06.9**	**+1.7**
KDAK	**Kodiak Island**	**76.54**	**26**	LR		LR	06 39 54.2	
KDAK	**Kodiak Island**	**76.54**	**26**	P		**P**	**06 13 10.4**	**+1.6**
ANM	**Nome**	**76.54**	**16**	P		**P**	**06 13 09.7**	**+0.9**
ANM	comp=Z,13nm,0.7s			pmax		pmax		
ANM	**Nome**	**76.54**	**16**	P		**P**	**06 13 09.7**	**+0.9**
ANM	comp=Z,13nm,0.7s			IAmb		IAmb	06 13 11.4	
ANM	**Nome**	**76.54**	**16**	P		**P**	**06 13 10.4**	**+1.6**
KOLN	**Koldanda**	**76.55**	**300**	*e*P		**P**	**06 13 11.0**	**+1.1**
DANN	**Dangsing**	**76.55**	**301**	*e*P		**P**	**06 13 09.9**	**-0.1**
TNA	**Tin City**	**76.62**	**15**	P		**P**	**06 13 08.6**	**-0.6**
TNA	**Tin City**	**76.62**	**15**	P		**P**	**06 13 10.3**	**+1.1**
PYUN	**Piuthan**	**77.15**	**301**	*e*P		**P**	**06 13 13.1**	**-0.2**
O19K	**Port Alsworth**	**77.27**	**23**	P		**P**	**06 13 14.2**	**+1.3**
P19K	**Oil Pt**	**77.37**	**24**	P		**P**	**06 13 14.5**	**+0.9**
P19K	comp=Z,29nm,0.7s			IAmb		IAmb	06 13 16.5	
P19K	**Oil Pt**	**77.37**	**24**	P		**P**	**06 13 14.9**	**+1.3**
N19K	**Bonanza Creek**	**77.58**	**23**	P		**P**	**06 13 15.8**	**+1.0**
O20K	**Slope Mountain**	**77.88**	**24**	P		**P**	**06 13 17.8**	**+1.4**
HOM	**Homer**	**78.03**	**25**	P		**P**	**06 13 18.9**	**+1.8**
WMQ	**Urumqi**	**78.20**	**317**	*e*P		**P**	**06 13 19.8**	**+1.2**
WMQ				pP		pP	06 13 39.3	-2.5
WMQ	comp=Z,19nm,0.7s			pmax		pmax		
WMQ	comp=Z,120nm,5.7s			pmax		pmax		
M19K	**Big River Lodg**	**78.29**	**22**	P		**P**	**06 13 20.5**	**+1.9**
L19K	**White Mountain**	**78.30**	**22**	P		**P**	**06 13 20.1**	**+1.4**
L19K	comp=Z,15nm,0.5s			IAmb		IAmb	06 13 21.4	
L19K	**White Mountain**	**78.30**	**22**	P		**P**	**06 13 19.9**	**+1.2**
TTA	**Tatalina**	**78.36**	**21**	P		**P**	**06 13 19.8**	**+0.8**
TTA	comp=Z,11nm,1.2s			pmax		pmax		
TTA	**Tatalina**	**78.36**	**21**	P		**P**	**06 13 19.8**	**+0.8**
TTA	**Tatalina**	**78.36**	**21**	P		**P**	**06 13 20.3**	**+1.3**
BRSE	**Bradley Lake S**	**78.45**	**25**	P		**P**	**06 13 20.8**	**+1.3**
M20K	**Styx River**	**78.75**	**22**	P		**P**	**06 13 21.6**	**+0.3**
M20K	**Styx River**	**78.75**	**22**	P		**P**	**06 13 22.2**	**+1.0**
L20K	**Farewell, AK**	**78.84**	**22**	P		**P**	**06 13 22.9**	**+1.3**
CAPN	**Captain Cook N**	**78.87**	**24**	P		**P**	**06 13 24.3**	**+2.6**
SEW	**Seward**	**79.19**	**25**	P		**P**	**06 13 24.7**	**+1.2**
GCSA	**Galena City Sc**	**79.25**	**19**	P		**P**	**06 13 24.9**	**+1.2**
K20K	**Telida**	**79.31**	**21**	P		**P**	**06 13 24.4**	**+0.2**
K20K	**Telida**	**79.31**	**21**	P		**P**	**06 13 25.2**	**+1.0**
TIXI	**Tiksi**	**79.59**	**352**	LR		LR	06 48 01.5	
TIXI	**Tiksi**	**79.59**	**352**	*i* P		**P**	**06 13 24.8**	**-0.7**
TIXI	comp=Z,3.0nm,0.5s			pmax		pmax		
RC01	**Rabbit Creek A**	**79.62**	**24**	P		**P**	**06 13 26.4**	**+0.6**
RC01	comp=Z,50nm,1.5s			IAmb		IAmb	06 13 29.4	
RC01	**Rabbit Creek A**	**79.62**	**24**	P		**P**	**06 13 26.8**	**+0.9**
J20K	**Nowinta River**	**79.80**	**20**	P		**P**	**06 13 27.7**	**+0.9**
J20K	**Nowinta River**	**79.80**	**20**	P		**P**	**06 13 28.0**	**+1.3**
RDOG	**Red Dog Mine**	**79.82**	**15**	P		**P**	**06 13 28.0**	**+1.2**
M22K	**Willow**	**79.84**	**23**	P		**P**	**06 13 28.0**	**+1.0**
CAST	**Castle Rocks**	**80.06**	**21**	P		**P**	**06 13 28.4**	**+0.2**
CAST	**Castle Rocks**	**80.06**	**21**	P		**P**	**06 13 29.1**	**+0.8**
PWL	**Port Wells**	**80.07**	**25**	P		**P**	**06 13 29.4**	**+1.1**
PWL	**Port Wells**	**80.07**	**25**	P		**P**	**06 13 28.6**	**+0.3**
PMR	**Palmer**	**80.14**	**24**	P		**P**	**06 13 29.3**	**+0.6**
CHUM	**Lake Minchumin**	**80.26**	**21**	P		**P**	**06 13 30.1**	**+0.9**
KNK	**Knik Glacier**	**80.32**	**24**	P		**P**	**06 13 30.5**	**+0.9**
KTH	**Kantishna Hill**	**80.56**	**22**	P		**P**	**06 13 31.1**	**+0.1**
KTH	comp=Z,45nm,2.0s			IAmb		IAmb	06 15 50.2	
SML	**Sawmill**	**80.58**	**24**	P		**P**	**06 13 32.0**	**+0.9**
SML	comp=Z,29nm,1.2s			IAmb		IAmb	06 13 33.7	
SML	**Sawmill**	**80.58**	**24**	P		**P**	**06 13 31.6**	**+0.5**
TRF	**Thorofare Moun**	**80.74**	**22**	P		**P**	**06 13 31.8**	**-0.3**
TRF	comp=Z,53nm,2.0s			IAmb		IAmb	06 15 24.3	
TRF	**Thorofare Moun**	**80.74**	**22**	P		**P**	**06 13 31.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**80.86**	**21**	P		**P**	**06 13 32.7**	**+0.2**
SCM	**Sheep Creek Mo**	**81.00**	**24**	P		**P**	**06 13 34.1**	**+0.8**
IMAR	**Indian Mountai**	**81.05**	**19**	P		**P**	**06 13 34.7**	**+1.2**
I21K	**Tanana**	**81.15**	**20**	P		**P**	**06 13 35.0**	**+1.1**
I21K	**Tanana**	**81.15**	**20**	P		**P**	**06 13 35.1**	**+1.1**
H21K	**Melozitna Rive**	**81.16**	**19**	P		**P**	**06 13 35.1**	**+1.1**
WAT6	**Susitna Watana**	**81.23**	**23**	P		**P**	**06 13 35.3**	**+0.6**
KLU	**Klutina**	**81.40**	**25**	P		**P**	**06 13 36.6**	**+1.1**
MCK	**McKinley**	**81.40**	**22**	P		**P**	**06 13 35.5**	**+0.1**
MLY	**Manley**	**81.48**	**20**	P		**P**	**06 13 36.5**	**+0.7**
M24K	**Tolsona, Glenn**	**81.61**	**24**	P		**P**	**06 13 37.4**	**+0.9**
DHY	**Denali Highway**	**81.64**	**23**	P		**P**	**06 13 37.1**	**+0.4**
NEA2	**Nenana**	**81.83**	**21**	P		**P**	**06 13 38.3**	**+0.7**
N25K	**Chitina, Valde**	**82.00**	**25**	P		**P**	**06 13 39.7**	**+1.1**
WRH	**Wood River Hil**	**82.11**	**22**	P		**P**	**06 13 38.6**	**-0.5**
PAX	**Paxson**	**82.33**	**23**	P		**P**	**06 13 41.4**	**+1.1**
TCOL	**CIGO, UAF Yank**	**82.41**	**21**	P		**P**	**06 13 40.0**	**-0.6**
TCOL	comp=Z,26nm,1.4s			IAmb		IAmb	06 13 41.5	
TCOL	**CIGO, UAF Yank**	**82.41**	**21**	P		**P**	**06 13 40.8**	**+0.1**
COLA	**College**	**82.42**	**21**	P		**P**	**06 13 40.6**	**0.0**
COLA	comp=Z,28nm,1.5s			pmax		pmax		
COLA	**College**	**82.42**	**21**	P		**P**	**06 13 40.6**	**0.0**
COLA	comp=Z,28nm,1.4s			IAmb		IAmb	06 13 41.5	
COLA	**College**	**82.42**	**21**	P		**P**	**06 13 40.8**	**+0.1**
IL31		**82.71**	**22**	P		**P**	**06 13 41.7**	**-0.4**
ILAR	**Eielson Array**	**82.71**	**22**	P		**P**	**06 13 41.6**	**-0.5**
ILAR	comp=Z,2.5nm,0.5s,baz=243,slow=4.9,SNR=50			LR		LR	06 44 15.1	
ILAR	**Eielson Array**	**82.71**	**22**	P		**P**	**06 13 41.9**	**-0.3**
ILAR	**Eielson Array**	**82.71**	**22**	P		**P**	**06 13 41.9**	**-0.3**
MK31	**Makanchi Array**	**82.77**	**319**	*i* P		**P**	**06 13 43.1**	**+0.2**
MK31	**Makanchi Array**	**82.77**	**319**	P		**P**	**06 13 42.5**	**-0.4**
MK31	comp=Z,19nm,0.8s			IAmb		IAmb	06 13 44.4	
MKAR	**Makanchi Array**	**82.77**	**319**	P		**P**	**06 13 42.7**	**-0.2**
MKAR	comp=Z,20nm,0.6s,baz=97,slow=5.5,SNR=213			LR		LR	06 52 00.6	

comp=Z,33nm,18.8s,baz=39,slow=37
MKAR **Makanchi Array** 82.77 319 P P 06 13 43.2 +0.3
MKAR **Makanchi Array** 82.77 319 P P 06 13 43.2 +0.3
H24K **Noodor Dome** 82.93 20 P P 06 13 44.0 +0.6
baz=237
COLD **Coldfoot** 82.93 19 P P 06 13 44.3 +1.1
baz=235
RIDG **Independent Ri** 82.95 23 IAmb IAmb 06 13 45.4
comp=Z,25nm,1.5s
RIDG **Independent Ri** 82.95 23 P P 06 13 44.3 +0.8
baz=240
MAKZ **Makanchi** 82.97 319 P P 06 13 44.1 +0.1
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ **Makanchi** 82.97 319 P P 06 13 44.0 +0.1
MAKZ IAmb IAmb 06 13 45.4
comp=Z,30nm,0.8s
CTG **Chitna Glacier** 83.10 26 P P 06 13 45.0 +0.6
baz=244
CTGM **Chitina Glacie** 83.11 26 P P 06 13 45.1 +0.6
CTGM IAmb IAmb 06 13 48.8
comp=Z,18nm,0.9s
J25K **Salcha River,** 83.19 22 P P 06 13 45.1 +0.3
baz=240,SNR=13
L26K **Log Cabin Wild** 83.20 24 P P 06 13 45.5 +0.7
L26K **Log Cabin Wild** 83.20 24 P P 06 13 45.8 +1.0
baz=242
SCRK **Sand Creek** 83.40 23 P P 06 13 46.6 +0.7
baz=241
ZAA0 **Zalesovo Array** 83.49 326 P P 06 13 45.4 -1.0
ZAA0 IAmb IAmb 06 13 46.3
comp=Z,16nm,0.7s
ZALV **Zalesovo Beam** 83.49 326 P P 06 13 45.7 -0.7
comp=Z,14nm,0.5s,baz=112,slow=5.6,SNR=69
ZALV **Zalesovo Beam** 83.49 326 P P 06 13 45.2 -1.3
M27K **Edge Creek, AK** 83.49 25 IAmb IAmb 06 13 49.3
comp=Z,26nm,1.3s
M27K **Edge Creek, AK** 83.49 25 P P 06 13 47.8 +1.4
baz=243
A21K **Barrow** 83.68 14 P P 06 13 48.2 +1.2
baz=228
QSPA **South Pole Qui** 83.73 180 P P 06 13 47.7 +0.1
J26L **Joseph Creek** 83.82 23 P P 06 13 49.2 +1.2
baz=242
L27K **Beaver Creek,** 83.83 24 P P 06 13 49.3 +1.3
baz=243
YUK3 **Moose Creek** 83.84 26 P P 06 13 49.5 +1.2
baz=245
TOLK **Toolik Lake Re** 83.94 18 P P 06 13 49.0 +0.5
TOLK IAmb IAmb 06 13 50.7
comp=Z,7.2nm,0.6s
TOLK **Toolik Lake Re** 83.94 18 P P 06 13 49.6 +1.1
baz=236
BVCY **Beaver Creek** 83.94 25 P P 06 13 50.1 +1.5
baz=244
YUK6 **Outpost Mounta** 84.41 27 P P 06 13 52.8 +1.5
baz=247
YUK4 **Talbot Arm** 84.45 26 P P 06 13 53.3 +1.9
baz=246
TARG **Taragay, Kyrgy** 84.56 313 IAmb IAmb 06 14 01.0
comp=Z,8.4nm,0.6s
HYT **Haines Junctio** 84.75 27 P P 06 13 54.2 +1.3
baz=247
BMAR **Burnt Mountain** 84.88 20 P P 06 13 54.2 +0.9
MAW **Mawson** 85.05 203 P P 06 13 54.5 +0.5
comp=Z,23nm,0.6s,baz=99,slow=5.8,SNR=82
MAW **Mawson** 85.05 203 P P 06 13 54.5 +0.5
baz=85,SNR=62
MAW **Mawson** 85.05 203 P P 06 13 54.3 +0.2
DAWY **Dawson** 85.25 24 P P 06 13 56.8 +1.6
baz=245
KSH **Kashi** 85.44 310 P P 06 13 59.0 +2.2
KSH pP pP 06 14 15.3 -5.0
KSH pmax pmax
comp=Z,14nm,0.7s
M30M **Minto, Yukon** 85.73 26 P P 06 13 59.3 +1.7
baz=248
N31M **Braeburn, Yuko** 85.78 27 P P 06 13 59.5 +1.6
baz=249
J29M **Klondike Camp** 85.88 24 P P 06 14 00.7 +2.3
baz=246,SNR=9.0
BOOM **Boomskoye usch** 86.08 313 IAmb IAmb 06 14 04.9
comp=Z,9.3nm,0.7s
KURK **Kurchatov** 86.17 322 P P 06 13 59.2 -0.7
KURK pmax pmax
comp=Z,15nm,0.4s
KURK **Kurchatov** 86.17 322 P P 06 13 59.2 -0.7
I29M **Ogilvie Camp,** 86.21 23 P P 06 14 00.7 +0.8
baz=246,SNR=7.3
M31M **Drury Creek, Y** 86.65 26 P P 06 14 02.6 +0.6
M31M **Drury Creek, Y** 86.65 26 P P 06 14 03.0 +0.9
baz=250
BBB **Bella Bella** 86.98 37 LR LR 06 43 39.4
comp=Z,99nm,21.6s,baz=288,slow=29
AAK **Ala-Archa** 87.15 313 LR LR 06 54 03.8
comp=Z,31nm,20.6s,baz=22,slow=36
AAK **Ala-Archa** 87.15 313 *c*eP P 06 14 05.0 -0.2
AAK pmax pmax
comp=Z,6.0nm,0.8s
EPYK **Eagle Plains** 87.20 22 P P 06 14 05.7 +1.0
baz=248,SNR=11
DLBC **Dease Lake** 87.55 31 LR LR 06 50 21.0
comp=Z,57nm,18.5s,baz=258,slow=34
NRIK **Noril'sk** 87.99 341 P P 06 14 07.5 -0.8
comp=Z,9.9nm,0.7s,baz=111,slow=4.7,SNR=13
NRIK LR LR 06 53 59.9
comp=Z,28nm,20.4s,baz=72,slow=36
NRIK **Noril'sk** 87.99 341 IAmb IAmb 06 14 08.7
comp=Z,16nm,1.1s
O02D **Mt. Diablo Mer** 88.15 49 P P 06 14 10.5 +0.6
baz=260
N02D **Trinity Center** 88.34 49 P P 06 14 12.0 +1.2
baz=260
YBH **Yreka Blue Hor** 88.47 48 LR LR 06 47 28.1
comp=Z,149nm,20.3s,baz=240,slow=31
INK **Inuvik** 89.05 21 LR LR 06 46 57.8
comp=Z,157nm,22.0s,baz=223,slow=31
INK **Inuvik** 89.05 21 P P 06 14 13.8 +0.5
baz=251
J04D **Umpqua Nationa** 89.15 47 P P 06 14 15.5 +0.9
baz=261
D03D **Eldon** 89.19 42 P P 06 14 15.4 +0.9
baz=260
TGTN **Hyland Airport** 89.21 28 P P 06 14 15.6 +1.2
baz=256
J05D **Fort Rock, OR** 89.79 47 P P 06 14 18.5 +0.9
baz=261
B05A **Bryant** 89.98 42 P P 06 14 18.8 +0.7
baz=261
G05D **Wamic, OR** 90.03 45 P P 06 14 19.5 +1.0
baz=261
VES **Vestal, Richgr** 90.40 54 P P 06 14 21.5 +1.1
baz=263
CIS **Catalina Islan** 90.65 57 P P 06 14 22.2 +0.5
baz=263
MLAC **Mammoth, Mammo** 90.83 52 P P 06 14 23.5 +0.8
baz=263
ISA **Isabella, Lake** 90.87 54 P P 06 14 23.6 +0.9
baz=263
EDW2 **Edwards Air Fo** 91.17 55 P P 06 14 25.4 +1.3
baz=263
CWC **Cottonwood Cre** 91.28 54 P P 06 14 25.9 +1.2
baz=263
NVAR **Mina Array Bea** 91.34 52 P P 06 14 26.2 +1.2
comp=Z,11nm,0.9s,baz=254,slow=6.3,SNR=47
NVAR LR LR 06 47 35.9
comp=Z,69nm,20.1s,baz=264,slow=30
BFSC **Mount Baldy Ra** 91.37 56 P P 06 14 26.3 +1.2
baz=263
LRMC **Laurel Mtn Rad** 91.49 55 P P 06 14 26.9 +1.2
baz=263,SNR=5.3
KVN **Kaiserville** 91.57 51 P P 06 14 27.1 +1.0
KVN pmax pmax
comp=Z,7.0nm,0.8s
KVN **Kaiserville** 91.57 51 P P 06 14 27.1 +1.0
KVN IAmb IAmb 06 14 28.3
comp=Z,6.9nm,0.8s
109C **Camp Elliot, M** 91.68 57 P P 06 14 27.9 +1.5
baz=264
MURC **Murrieta** 91.68 57 P P 06 14 27.9 +1.4
baz=264
BRVK **Borovoye** 91.69 323 P P 06 14 24.4 -1.6
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK **Borovoye** 91.69 323 P P 06 14 24.4 -1.6
BRVK IAmb IAmb 06 14 25.4
comp=Z,7.0nm,0.7s
MPMC **Manual Prospec** 91.71 54 P P 06 14 28.1 +1.4
baz=264,SNR=8.6
GRAC **Grapevine Rang** 91.92 53 P P 06 14 28.7 +1.3
baz=264
TPH **Tonopah** 92.15 52 P P 06 14 29.6 +0.9
TPH pmax pmax
comp=Z,26nm,0.8s
TPH **Tonopah** 92.15 52 P P 06 14 29.6 +0.9
GSC **Goldstone, Bar** 92.19 55 P P 06 14 30.2 +1.4
baz=264
QSM **Queen of Sheba** 92.20 54 IAmb IAmb 06 14 31.3
comp=Z,6.5nm,0.8s
FURC **Furnace Creek,** 92.26 54 P P 06 14 30.2 +1.2
baz=264,SNR=9.1
PFO **Pinyon Flats O** 92.29 57 LR LR 06 51 40.3
comp=Z,69nm,18.3s,baz=242,slow=33
PFO **Pinyon Flats O** 92.29 57 P P 06 14 30.5 +1.1
baz=264
TPFO **Pinon Flats** 92.30 57 P P 06 14 30.7 +1.3
baz=264
RPN **Rapa Nui** 92.31 117 LR LR 06 47 25.8
comp=Z,50nm,21.0s,baz=200,slow=30
GWY **Greenwater Val** 92.39 54 P P 06 14 30.5 +0.7
GWY IAmb IAmb 06 14 37.9
comp=Z,4.8nm,0.9s
HEC **Hector,Ludlow** 92.52 55 P P 06 14 31.4 +1.0
baz=264,SNR=5.2
C36M **Paulsuk** 92.64 21 P P 06 14 30.2 +0.3
baz=259
BELC **Belle Mtn. Jos** 92.72 56 P P 06 14 32.6 +1.3
baz=264,SNR=6.3
A36M **Sachs Harbour** 92.76 18 P P 06 14 30.6 +0.1
A36M IAmb IAmb 06 14 31.7
comp=Z,7.6nm,0.9s
TPNV **Topopah Spring** 92.80 53 P P 06 14 32.9 +1.2
baz=264,SNR=7.9
TUQ **Turquoise Moun** 92.92 55 P P 06 14 33.5 +1.3
baz=264
SYO **Syowa Base** 93.00 199 *e*P P 06 14 32.2 +0.5
SYO **Syowa Base** 93.00 199 *e*pP pP 06 14 52.4 -2.9
GMRC **Granite Mounta** 93.07 56 P P 06 14 34.4 +1.4
baz=265
BC3 **Big Chuckawall** 93.13 57 P P 06 14 34.7 +1.4
baz=265
NEW **Newport** 93.27 42 LR LR 06 49 39.4
comp=Z,195nm,21.5s,baz=282,slow=31
NEW **Newport** 93.27 42 P P 06 14 34.0 +0.5
baz=264
IRM **Iron Mountain** 93.44 56 P P 06 14 35.9 +1.4
baz=265,SNR=8.5
R11A **Troy Canyon, C** 93.46 52 P P 06 14 35.7 +1.0
baz=265,SNR=9.3
NEE2 **Needles Airpor** 93.92 56 P P 06 14 38.4 +1.7
baz=265
ELK **Elko** 93.93 50 LR LR 06 50 42.1
comp=Z,63nm,20.0s,baz=276,slow=31
PDMCI **Pacer Dam,Lak** 94.28 56 P P 06 14 39.5 +1.2
baz=265
HLID **Hailey** 94.76 47 P P 06 14 41.9 +1.3
baz=266
YKA **Yellowknife Ar** 95.72 28 P P 06 14 44.9 +0.7
comp=Z,4.4nm,0.5s,baz=266,slow=4.5,SNR=82
YKA LR LR 06 54 02.3
comp=Z,33nm,19.4s,baz=306,slow=33
U15A **North Rim** 95.93 54 IAmb IAmb 06 14 49.6
comp=Z,5.0nm,0.9s
WUAZ **Wupatki** 96.62 55 P P 06 14 50.7 +1.5
baz=267
BOZ **Bozeman (W)** 96.85 45 P P 06 14 51.1 +1.0
baz=268
LPIG **La Paz** 96.89 67 LR LR 06 50 34.5
comp=Z,70nm,20.8s,baz=218,slow=30
PDAR **Pinedale Array** 98.28 48 P P 06 14 56.4 -0.3
comp=Z,1.1nm,0.7s,baz=249,slow=2.0,SNR=9.9
PDAR LR LR 06 55 06.5
comp=Z,49nm,18.7s,baz=286,slow=33
MVCO **Mesa Verde** 99.00 53 P Pdif 06 15 01.3 +1.3
baz=269
O20A **White River Ci** 99.24 50 P Pdif 06 15 01.4 +0.5
baz=270
LAO **LASA Array** 100.61 44 P Pdif 06 15 07.5 +0.8
baz=272
ANMO **Albuquerque** 100.63 56 *i* P Pdif 06 15 06.1 -1.2
N23A **Red Feather La** 100.98 50 P Pdif 06 15 09.0 +0.3
baz=271
DGMT **Dagmar** 101.88 42 P Pdif 06 15 12.6 +0.3
baz=274
KLMR **Klimovskoe** 107.61 332 *e*P Pdif 06 15 34.9 -2.4
KLMR pmax pmax
comp=Z,3.0nm,0.6s
KLMR **Klimovskoe** 107.61 332 *e*Pdif Pdif 06 15 35.0 -2.4
KLMR AMP 06 15 36.9
comp=Z,3.0nm,0.6s
ECSD **EROS Data Cent** 107.64 46 P PKiKP 06 19 45.0 -0.6
baz=278
KIV **Kislovodsk** 110.24 315 *e*PKiKP PKiKP 06 19 49.4 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.1s
EYMN **Ely** 110.35 41 P PKiKP 06 19 50.4 -0.2
baz=284
W39A **Magazine** 110.99 55 P PKiKP 06 19 51.6 -0.5
baz=277
OBN **Obninsk** 111.05 327 *i* PKiKP PKiKP 06 19 51.0 -0.6
OBN *e* 06 20 29.2
OBN *e*PPP PPP 06 22 48.7
OBN pmax pmax
comp=Z,3.0nm,0.8s
U40A **Yellville** 111.58 53 P PKiKP 06 19 52.5 -0.7
baz=278
FINES **FINESS Array B** 113.20 336 Pdiff Pdif 06 16 00.2 -2.0
comp=Z,3.3nm,0.9s,baz=322,slow=5.6,SNR=4.0
FINES PKiKP PKiKP 06 19 55.0 -0.5
comp=Z,0.3nm,0.4s,baz=28,slow=4.5,SNR=4.3
FINES **FINESS Array B** 113.20 336 *i* PKiKP PKiKP 06 19 55.0 -0.5
OXF **Oxford** 114.64 55 P PKPdf 06 19 58.6 -0.5
baz=280
WVT **Waverly** 115.62 53 P PKPdf 06 20 00.1 -0.8
baz=282
AKASG **Malin Array Be** 116.86 325 PKP PKPdf 06 20 02.1 -0.7
comp=Z,0.5nm,0.3s,baz=47,slow=2.5,SNR=7.4
AKASG **Malin Array Be** 116.86 325 PKPdf PKPdf 06 20 00.2 -2.6
LRAL **Lakeview Retre** 116.88 56 P PKPdf 06 20 02.8 -0.6
baz=281
P49A **Miami Univ. Ec** 117.22 49 P PKPdf 06 20 03.4 -0.6
baz=285
PLCA **Paso Flores** 117.39 142 PKP PKPdf 06 20 03.7 -0.6
comp=Z,1.2nm,0.8s,baz=237,slow=3.7,SNR=7.0
BRTR **Keskin Array B** 117.80 312 PKP PKPdf 06 20 04.1 -1.1
comp=Z,0.9nm,0.5s,baz=158,slow=1.1,SNR=3.7
ACSO **Alum Creek Sta** 118.31 47 P PKPdf 06 20 05.5 -0.5
baz=287
TZTN **Tazewell** 118.89 52 P PKPdf 06 20 06.8 -0.5
baz=285
NOA **NORSAR Array B** 118.95 341 PKP PKPdf 06 20 06.2 -0.5
comp=Z,0.7nm,0.6s,baz=120,slow=20,SNR=2.3
P52A **Corning** 119.11 48 P PKPdf 06 20 06.8 -0.7
baz=287
O53A **New Philadelph** 119.60 47 P PKPdf 06 20 08.1 -0.4
baz=288
M53A **WI Miller and** 119.60 45 P PKPdf 06 20 07.9 -0.6
baz=290
GOGA **Godfrey** 119.70 55 P PKPdf 06 20 08.3 -0.5
baz=283
TIGA **Tifton** 120.02 57 P PKPdf 06 20 08.8 -0.7
baz=282
N54A **Moraine State** 120.25 46 P PKPdf 06 20 09.3 -0.4
baz=290
M54A **Oil Creek Stat** 120.29 45 P PKPdf 06 20 09.6 -0.1
baz=290
BOSA **Boshof** 120.40 232 PKP PKPdf 06 20 10.2 -0.4
comp=Z,4.3nm,0.6s,baz=117,slow=1.6,SNR=14
MCWV **Mont Chateau** 120.78 47 P PKPdf 06 20 10.4 -0.4
baz=289
KMSC **Kings Mountain** 120.99 53 P PKPdf 06 20 10.8 -0.5
baz=286
BLA **Blacksburg** 121.12 50 P PKPdf 06 20 11.1 -0.4
baz=287
SCHQ **Schefferville** 121.16 27 PKP PKPdf 06 20 10.8 -0.3
comp=Z,1.4nm,0.5s,baz=299,slow=2.2,SNR=6.6
O56A **Blue Knob Stat** 121.50 46 P PKPdf 06 20 11.8 -0.4
baz=291
SSPA **Standing Stone** 121.85 46 P PKPdf 06 20 12.4 -0.4
baz=296
LONY **Lake Ozonia** 122.48 40 P PKPdf 06 20 13.4 -0.4
baz=296
DWPF **Disney Wildern** 122.52 61 P PKPdf 06 20 14.2 -0.2
baz=281
CBN **Corbin Frederi** 123.09 48 P PKPdf 06 20 15.0 -0.2
baz=290
N59A **State Game Lan** 123.24 44 P PKPdf 06 20 15.0 -0.5
baz=293
CNNC **Cliffs of the** 123.66 52 P PKPdf 06 20 16.3 -0.1
baz=288
LBNH **Lisbon** 124.34 39 P PKPdf 06 20 17.1 -0.4
baz=299
PAL **Palisades** 124.49 44 P PKPdf 06 20 17.9 +0.1
baz=295
L61B **Northampton** 124.69 42 P PKPdf 06 20 18.3 +0.2
baz=297
CLL **Collm** 125.09 332 *e*PKPdf PKPdf 06 20 19.0 +0.3
NNA **Nana** 125.47 109 *c i* PKIKP PKPdf 06 20 19.5 -1.0
NNA pmax pmax
comp=Z,52nm,1.7s
KHC **Kasperske Hory** 126.23 329 *e*PKIKP PKPdf 06 20 21.0 0.0
KHC **Kasperske Hory** 126.23 329 *e*PKP PKPdf 06 20 21.0 0.0
GERES **GERESS Array B** 126.35 329 PKP PKPdf 06 20 21.6 +0.3
comp=Z,1.4nm,0.6s,baz=54,slow=2.3,SNR=7.7
TULM **Tulcn-Chalpat** 127.17 94 *e*P PKiKP 06 20 25.1 +0.3
POPC **Popayan, Colom** 128.48 92 *e*P PKPdf 06 20 26.2 -0.3
YOTC **Yotoco, Valle** 128.94 90 *e*P PKPdf 06 20 26.4 -0.9
PLMC **San Jos del P** 129.07 89 *e*P PKPdf 06 20 27.6 +0.1
DBBC **Dabeiba** 129.26 86 *e*P PKiKP 06 20 29.4 +0.8
FLOC **Florencia** 129.39 93 *e*P PKPdf 06 20 28.0 0.0
CBOC **Ciudad Bolivar** 129.40 88 *e*P PKPdf 06 20 28.2 0.0
GARC **Garzon, Huila** 129.62 92 *e*P PKPdf 06 20 28.3 -0.5
HELC **Santa Helena** 129.90 87 *e*P PKPdf 06 20 28.9 -0.5
UREC **San Jos de Ur** 129.96 85 *e*P PKPdf 06 20 28.6 -0.4
GUY2C **Guyana, Caldas** 130.01 88 *e*P PKPdf 06 20 30.3 +0.6
PTLC **Puerto Leguiza** 130.06 95 *e*P PKPdf 06 20 28.7 -0.6
NORC **Norcasia** 130.52 88 *e*P PKPdf 06 20 28.7 -1.5
ZARC **Zaragoza, Cauc** 130.62 85 *e*P PKPdf 06 20 28.6 -1.7
PTBC **PUERTO BERRIO,** 130.98 87 *e*P PKPdf 06 20 29.9 -1.2
ROSC **El Rosal** 131.02 89 PKP PKPdf 06 20 32.1 +0.5
comp=Z,24nm,0.4s,baz=37,slow=22,SNR=14
ROSC **El Rosal** 131.02 89 *e*P PKPdf 06 20 32.4 +0.8
MACC **Macarena, Meta** 131.25 93 *e*P PKPdf 06 20 31.2 -0.3
SPBC **San Pablo de B** 131.32 88 *e*P PKPdf 06 20 29.6 -2.1
CHIC **Chingaza** 131.59 89 *e*P PKPdf 06 20 32.1 -0.6
LPAZ **La Paz** 131.92 118 PKP PKPdf 06 20 33.8 +0.3
comp=Z,1.2nm,0.5s,baz=16,slow=4.0,SNR=6.8
LPAZ **La Paz** 131.92 118 *e*P PKPdf 06 20 33.9 +0.5
LL6C **La Loma 6 Bece** 132.22 83 *e*P PKPdf 06 20 33.7 +0.4
BARC **Barichara** 132.25 87 *e*P PKPdf 06 20 33.1 -0.6
RUSC **La Rusia** 132.31 88 *e*P PKPdf 06 20 33.0 -1.1
PAMC **Pamplona, Colo** 132.76 86 *e*P PKPdf 06 20 34.6 -0.3
SDDR **Presa de Saban** 133.34 70 *e*P PKPdf 06 20 34.6 -0.7
SOCV **Socops** 134.60 85 *e*P PKPdf 06 20 36.8 -1.1
SDV **Santo Domingo** 134.82 84 PKPdf PKPdf 06 20 38.3 -0.2
SDV **Santo Domingo** 134.82 84 *e*P PKPdf 06 20 37.8 -0.6
CPUP **Villa Florida** 135.01 137 PKP PKPdf 06 20 38.5 +0.3
comp=Z,1.8nm,0.8s,baz=305,slow=2.5,SNR=4.7
SVB **Belmont** 143.74 76 PKPab 06 20 51.6 +0.2
BDFB **Brasilia** 148.59 134 PKPbc PKPdf 06 21 03.4 +0.6
comp=Z,3.2nm,0.7s,baz=134,slow=9.5,SNR=3.3
TOA0 **Torodi Ar. Sit** 152.71 287 PKPbc 06 21 15.5 -0.7
TORD **Torodi Ar. Bea** 152.71 287 PKP PKPdf 06 21 07.8 -1.2
comp=Z,1.5nm,0.9s,baz=47,slow=1.9,SNR=7.3
TORD PKPbc PKPbc 06 21 15.3 -0.8
comp=Z,5.4nm,0.7s,baz=32,slow=2.5,SNR=25
KIC **Kosan Boka** 159.75 271 *e*P PKPab 06 21 57.4 -0.1
comp=Z,20nm,0.8s
DBIC **Dimbokro** 159.86 272 PKPab PKPab 06 21 57.2 -0.7
comp=Z,5.7nm,0.7s,baz=109,slow=4.3,SNR=5.5
TIC **Toumodi** 160.03 272 *e*P PKPab 06 21 58.5 -0.2
LIC **Lamto** 160.03 271 *e*P PKPab 06 21 59.1 +0.4
comp=Z,20nm,0.9s

RSNC 30 06:09:52.0±1.0, 6.84N×73.21W, h148km±5km, ML2.6, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**175**	⇑*i*	*e*P	Pn	06 10 12.2	-0.3
BARC					*e*S	Sn	06 10 27.3	-0.8
BARC					*i*		06 10 35.0	
	comp=Z,43nm,0.4s							
BARC	**Barichara**	**0.24**	**175**		*e*P	Pn	06 10 08.3	-4.3
BARC					*i*		06 10 08.6	
	comp=Z,4.8nm,0.1s							
PAMC	**Pamplona, Colo**	**0.71**	**45**	⇓*i*	*e*P	Pn	06 10 15.1	+0.2
PAMC					*e*S	Sn	06 10 31.9	-0.5
PAMC					*i*		06 10 34.1	
	comp=Z,118nm,0.5s							
RUSC	**La Rusia**	**0.95**	**173**		*e*P	Pn	06 10 16.3	-0.5
RUSC					*e*S	Sn	06 10 35.3	-0.4
RUSC					*i*		06 10 36.3	
	comp=Z,30nm,0.2s							
RUSC	**La Rusia**	**0.95**	**173**		*e*P	Pn	06 10 12.2	-4.6
RUSC					*i*		06 10 13.7	
	comp=Z,3.0nm,0.1s							
PTBC	**PUERTO BERRIO,**	**1.28**	**257**		*e*P	Pn	06 10 19.0	-0.2
PTBC					*e*S	Sn	06 10 39.9	0.0
PTBC					*i*		06 10 45.5	
	comp=Z,42nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.28**	**257**		*e*P	Pn	06 10 15.3	-3.9
OCAC	**Ocana**	**1.40**	**355**		*e*P	Pn	06 10 20.2	-0.4
OCAC					*e*S	Sn	06 10 42.2	-0.3
OCAC					*i*		06 10 46.9	
	comp=Z,106nm,0.3s							
OCAC	**Ocana**	**1.40**	**355**		*e*P	Pn	06 10 16.4	-4.2
SPBC	**San Pablo de B**	**1.46**	**216**		*e*P	Pn	06 10 21.4	+0.2
SPBC					*e*S	Sn	06 10 43.2	-0.2
SPBC	**San Pablo de B**	**1.46**	**216**		*e*P	Pn	06 10 17.2	-3.9
SPBC					*i*		06 10 17.7	
	comp=Z,5.1nm,0.2s							
TAMC	**Tame, Arauca**	**1.46**	**106**	⇑*i*	*e*P	Pn	06 10 20.7	-0.4
TAMC					*e*S	Sn	06 10 42.5	-0.8
TAMC					*i*		06 10 43.0	
	comp=Z,21nm,0.2s							
TAMC	**Tame, Arauca**	**1.46**	**106**		*e*P	Pn	06 10 16.6	-4.4
ZARC	**Zaragoza, Cauc**	**1.76**	**292**		*e*P	Pn	06 10 22.7	-1.6
ZARC					*e*S	Sn	06 10 49.4	+0.2
ZARC					*i*		06 10 59.0	
	comp=Z,48nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.76**	**292**		*e*P	Pn	06 10 22.7	-1.6
NORC	**Norcasia**	**2.08**	**233**		*e*P	Pn	06 10 28.2	+0.1
NORC					*e*S	Sn	06 10 55.1	-0.7
NORC					*i*		06 11 00.9	
	comp=Z,18nm,0.2s							
CHIC	**Chingaza**	**2.26**	**193**		*e*P	Pn	06 10 30.7	+0.2
CHIC					*e*S	Sn	06 11 00.4	+0.3
CHIC					*i*		06 11 03.8	
	comp=Z,22nm,0.4s							
CHIC	**Chingaza**	**2.26**	**193**		*e*P	Pn	06 10 26.6	-4.0
ROSC	**El Rosal**	**2.27**	**209**		*e*P	Pn	06 10 32.4	+1.7
ROSC					*e*S	Sn	06 11 00.4	-0.1
ROSC					*i*		06 11 07.7	
	comp=Z,50nm,0.3s							
ROSC	**El Rosal**	**2.27**	**209**		*e*P	Pn	06 10 29.0	-1.7
HELC	**Santa Helena**	**2.40**	**255**		*e*P	Pn	06 10 34.1	+1.9
HELC					*e*S	Sn	06 11 04.8	+1.8
HELC					*i*		06 11 10.7	
	comp=Z,20nm,0.4s							
UREC	**San Jos de Ur**	**2.48**	**292**		*e*P	Pn	06 10 33.0	+0.1
UREC					*e*S	Sn	06 11 03.1	-1.2
UREC					*i*		06 11 12.3	
	comp=Z,38nm,0.3s							
UREC	**San Jos de Ur**	**2.48**	**292**		*e*P	Pn	06 10 33.0	+0.1
GUY2C	**Guyana, Caldas**	**2.68**	**233**		*e*P	Pn	06 10 38.7	+2.9
GUY2C					*e*S	Sn	06 11 11.1	+1.6
GUY2C					*i*		06 11 20.4	
	comp=Z,17nm,0.4s							
VILC	**Villavicencio,**	**2.75**	**190**		*e*P	Pn	06 10 35.7	-0.7
VILC					*e*S	Sn	06 11 09.4	-1.2
PTGC	**Puerto Gaitan,**	**2.83**	**158**		*e*P	Pn	06 10 36.0	-1.3
PTGC					*e*S	Sn	06 11 08.6	-3.6
PTGC					*i*		06 11 11.7	
	comp=Z,34nm,0.3s							
LL6C	**La Loma 6 Bece**	**2.88**	**359**		*e*P	Pn	06 10 33.6	-4.2
CBOC	**Ciudad Bolivar**	**2.95**	**251**		*e*P	Pn	06 10 41.0	+2.1
CBOC					*e*S	Sn	06 11 13.8	-1.3
CBOC					*i*		06 11 33.1	
	comp=Z,6.4nm,0.7s							
DBBC	**Dabeiba**	**2.99**	**274**		*e*P	Pn	06 10 40.0	+0.7
DBBC					*e*S	Sn	06 11 15.3	-0.4
DBBC					*i*		06 11 22.7	
	comp=Z,39nm,0.3s							
MOTC	**Monteria, Cord**	**3.11**	**309**		*e*P	Pn	06 10 39.2	-1.4
MOTC					*e*S	Sn	06 11 17.8	-0.6
MOTC					*i*		06 11 31.7	
	comp=Z,10nm,0.7s							

ORTC	**Ortega, Tolima**	**3.55**	**215**	*eP*	Pn	06 10 47.7	+1.3
ORTC				*eS*	Sn	06 11 27.3	-1.4
ORTC				*i*		06 11 34.9	
	comp=Z,13nm,0.6s						
SJCC	**San Jacinto, C**	**3.61**	**327**	*eP*	Pn	06 10 46.3	-1.0
SJCC				*eS*	Sn	06 11 28.5	-1.6
SJCC				*i*		06 11 31.6	
	comp=Z,12nm,0.5s						
PLMC	**San Jos del P**	**3.61**	**238**	*eP*	Pn	06 10 45.0	-2.3
PLMC				*eS*	Sn	06 11 29.4	-0.8
PLMC				*i*		06 11 47.0	
	comp=Z,3.4nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	*eP*	Pn	06 10 52.7	-1.9
CRJC				*eS*	Sn	06 11 39.0	-4.2
CRJC				*i*		06 11 47.2	
	comp=Z,7.4nm,0.2s						
GUVC	**San Jose del G**	**4.30**	**172**	*eP*	Pn	06 10 53.4	-2.9
GUVC				*eS*	Sn	06 11 42.5	-3.8
SMRC	**Santa Marta, M**	**4.42**	**347**	*eP*	Pn	06 10 57.8	+0.1
SMRC				*eS*	Sn	06 11 44.5	-4.3

*IDC **30** 06:32:19.4±1.8,38°10′S×75°44′W,h0km,mb3.9/6,*
mb1 4.0/8,mb1mx3.9/20,mbtmp3.8/8,ML3.7/2,MS3.2/1,
Ms1 3.2/1,ms1mx2.6/45,Error ellipse: s-maj=43.7km
s-min=29.6km az=40.0
*NEIC **30** 06:32:20.9±2.1,37°96S±0′.06×75°.3W±0′.1,h11km±3km,*
mb4.1/3,ML4.1(GUC),Error ellipse: s-maj=11.7km
s-min=9.1km az=73.0
*GUC **30** 06:32:24.8±0.6,38°24S×75°20W,h31km±4km,ML4.3*
ISC 30 06:32:20.7±3.3,**37°98S**±0′.04×**75°22W**±0′.08,**h9**km±21km,
n61,σ1°**60**/70,**mb3.9**/7,**3C**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LC02	**Puerto Saavedr**	**1.66**	**120**	Pn	**Pb**	**06 32 50.6**	**-0.7**
LC02	**Puerto Saavedr**	**1.66**	**120**	*eP*	**Pn**	**06 32 50.0**	**+0.1**
LC02				*i* S	**Sn**	**06 33 09.3**	**-2.0**
LC02				IAML		06 33 16.4	
	comp=E,5μm,0.4s						
BI05	**Punta Hualpn**	**2.04**	**53**	Pn	**Pn**	**06 32 54.0**	**-1.1**
BI05	**Punta Hualpn**	**2.04**	**53**	*eP*	**Pn**	**06 32 55.5**	**+0.3**
BI05				*eS*	**Sn**	**06 33 18.9**	**-1.7**
LR04	**Corral**	**2.36**	**144**	Pn	**Pn**	**06 32 59.4**	**-0.2**
LR04	**Corral**	**2.36**	**144**	*eP*	**Pn**	**06 32 59.1**	**-0.5**
LR04				*i* S	**Sn**	**06 33 25.1**	**-3.5**
LR04				IAML		06 33 27.4	
	comp=N,3μm,0.3s						
LR02	**Universidad Au**	**2.38**	**140**	*eP*	**Pn**	**06 33 00.1**	**+0.2**
LR02				*eS*	**Sn**	**06 33 26.2**	**-3.0**
LR02				IAML		06 33 30.9	
	comp=N,4μm,0.3s						
LC01	**Cunco**	**2.78**	**110**	Pn	**Pn**	**06 33 06.8**	**+1.3**
LC01	**Cunco**	**2.78**	**110**	*eP*	**Pn**	**06 33 06.6**	**+1.2**
LC01				*i* S	**Sn**	**06 33 38.9**	**-0.2**
LR03	**Panguipulli**	**2.79**	**127**	Pn	**Pn**	**06 33 07.3**	**+1.8**
LR03	**Panguipulli**	**2.79**	**127**	*eP*	**Pn**	**06 33 05.6**	**+0.1**
LR03				*eS*	**Sn**	**06 33 36.9**	**-2.3**
LR03				IAML		06 33 49.4	
	comp=N,2μm,0.4s						
LL04	**Puerto Octay**	**3.65**	**144**	Pn	**Pn**	**06 33 17.8**	**+0.5**
LL04	**Puerto Octay**	**3.65**	**144**	*eP*	**Pn**	**06 33 17.1**	**-0.2**
LL04				*eS*	**Sn**	**06 33 57.1**	**-3.3**
LL05	**Los Muermos**	**3.67**	**159**	Pn	**Pn**	**06 33 17.8**	**+0.1**
ML02	**Panimavida**	**3.77**	**55**	Pn	**Pn**	**06 33 19.4**	**+0.4**
ML02	**Panimavida**	**3.77**	**55**	*eP*	**Pn**	**06 33 20.1**	**+1.1**
ML02				*eS*	**Sn**	**06 34 04.1**	**+0.6**
LL03	**Petrohue**	**3.83**	**146**	Pn	**Pn**	**06 33 20.4**	**+0.5**
GO05	**Huala**	**3.98**	**43**	Pn	**Pn**	**06 33 20.7**	**-1.2**
GO05	**Huala**	**3.98**	**43**	*eP*	**Pn**	**06 33 21.2**	**-0.7**
GO05				*i* S	**Sn**	**06 34 06.2**	**-2.5**
BO03	**Pichilemu**	**4.37**	**38**	*eP*	**Pn**	**06 33 26.0**	**-1.2**
BO03				*i* S	**Sn**	**06 34 14.1**	**-4.1**
PLCA	**Paso Flores**	**4.54**	**129**	Pn	**Pn**	**06 33 31.5**	**+1.8**
	comp=N,0.8nm,0.3s,baz=302,slow=11,SNR=30						
PLCA				Lg	Lg	06 34 29.8	
	comp=N,3.8nm,0.3s,baz=19,slow=19,SNR=7.4						
BO02	**Sierra Bellavi**	**4.79**	**50**	Pn	**Pn**	**06 33 33.9**	**+0.8**
BO02	**Sierra Bellavi**	**4.79**	**50**	*eP*	**Pn**	**06 33 33.6**	**+0.5**
BO02				*eS*	**Sn**	**06 34 27.8**	**-1.0**
LL01	**San Ignacio de**	**4.89**	**155**	Pn	**Pn**	**06 33 34.3**	**-0.1**
BO01	**Tunca**	**4.90**	**44**	Pn	**Pn**	**06 33 33.6**	**-1.0**
LL07	**Hotel Espejo d**	**5.03**	**165**	Pn	**Pn**	**06 33 35.8**	**-0.4**
H03S1	**Juan Fernandez**	**5.10**	**323**	T	T	06 38 44.2	
	SNR=9.1						
H03S2	**Juan Fernandez**	**5.11**	**323**	T	T	06 38 42.4	
	SNR=9.8						
H03S3	**Juan Fernandez**	**5.11**	**323**	T	T	06 38 40.9	
	SNR=8.8						
MT01	**Popeta**	**5.22**	**39**	Pn	**Pn**	**06 33 38.0**	**-0.9**
MT01	**Popeta**	**5.22**	**39**	*eP*	**Pn**	**06 33 37.5**	**-1.5**
MT01				*i* S	**Sn**	**06 34 34.9**	**-4.4**
GO07	**Milladeo Hill,**	**5.26**	**167**	Pn	**Pn**	**06 33 36.6**	**-2.9**
MT09	**Talagante**	**5.42**	**41**	Pn	**Pn**	**06 33 41.7**	**-0.1**
BO04	**La Punta**	**5.46**	**45**	Pn	**Pn**	**06 33 42.3**	**-0.1**
BO04	**La Punta**	**5.46**	**45**	*eP*	**Pn**	**06 33 42.1**	**-0.2**
BO04				*i* S	**Sn**	**06 34 43.9**	**-1.5**
MT02	**Curacav**	**5.77**	**36**	Pn	**Pn**	**06 33 45.0**	**-1.5**
MT02	**Curacav**	**5.77**	**36**	*eP*	**Pn**	**06 33 44.9**	**-1.5**
LMEL	**Las Melosas**	**5.80**	**46**	Pn	**Pn**	**06 33 47.1**	**+0.1**
MT05	**Renca**	**5.86**	**40**	Pn	**Pn**	**06 33 47.3**	**-0.5**
MT03	**Universidad Ad**	**5.89**	**42**	Pn	**Pn**	**06 33 47.6**	**-0.7**
MT03	**Universidad Ad**	**5.89**	**42**	*eP*	**Pn**	**06 33 47.6**	**-0.7**
MT03				*i* S	**Sn**	**06 34 53.1**	**-2.9**
ROC1	**El Roble**	**6.06**	**36**	Pn	**Pn**	**06 33 47.4**	**-3.3**
PEL	**Peldehue**	**6.08**	**39**	Pn	**Pn**	**06 33 50.6**	**-0.2**
FCH	**Farellones**	**6.14**	**42**	*eP*	**Pn**	**06 33 51.2**	**-0.6**
VA06	**Catapilco**	**6.29**	**32**	Pn	**Pn**	**06 33 51.6**	**-2.0**
VA03	**San Esteban**	**6.46**	**38**	Pn	**Pn**	**06 33 55.6**	**-0.4**
AY01	**Puyuhuapi**	**6.72**	**164**	Pn	**Pn**	**06 33 58.9**	**-0.5**
CO03	**El Pedregal**	**8.05**	**29**	Pn	**Pn**	**06 34 16.9**	**-1.0**
AC02	**Maricunga**	**12.24**	**27**	Pn	**Pn**	**06 35 14.4**	**-1.3**
CPUP	**Villa Florida**	**19.05**	**58**	P	**Pn**	**06 36 45.9**	**+1.9**
	comp=N,0.1nm,0.3s,baz=180,slow=4.3,SNR=3.2						
CPUP				LR	LR	06 43 36.1	
	comp=N,67nm,18.5s,baz=246,slow=35						
CPUP	**Villa Florida**	**19.05**	**58**	IAmb	IAmb	06 36 50.8	
	comp=Z,19nm,1.9s						
LPAZ	**La Paz**	**22.50**	**18**	P	**P**	**06 37 23.6**	**+2.4**
	comp=Z,2.4nm,1.0s,baz=166,slow=6.8,SNR=6.1						
LPAZ	**La Paz**	**22.50**	**18**	IAmb	IAmb	06 37 27.0	
	comp=Z,4.2nm,1.1s						
SIV	**San Ignacio**	**25.21**	**34**	P	**P**	**06 37 48.2**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=210,slow=8.0,SNR=6.4						
TXAR	**Lajitas Array**	**72.06**	**334**	P	**P**	**06 43 46.2**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=163,slow=9.2,SNR=5.4						
DBIC	**Dimbokro**	**78.87**	**72**	P	**P**	**06 44 25.7**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=204,slow=4.7,SNR=2.0						
ECSD	**EROS Data Cent**	**83.62**	**345**	P	**P**	**06 44 49.5**	**+0.5**
ECSD				IAmb	IAmb	06 46 51.5	
	comp=Z,15nm,1.7s						
PDAR	**Pinedale Array**	**86.22**	**335**	P	**P**	**06 45 02.5**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=157,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**87.95**	**72**	P	**P**	**06 45 11.9**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=254,slow=3.7,SNR=2.7						
ABKAR	**Akbulak array**	**146.11**	**56**		**PKPdf**	**06 51 59.2**	**-0.4**
ZALV	**Zalesovo Beam**	**158.97**	**34**	PKPab	**PKPab**	**06 52 55.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=323,slow=6.3,SNR=4.1						

*INET **30** 06:34:22.3±0.2,10°59N×85°78W,h367km±3km,MW3.0*
*UCR **30** 06:34:27.1±1.6,9°01N×85°08W,h19km±5km,MW3.9*
ISC 30 06:34:22.5±1.9,**8°89N**±0′.08×**85°20W**±0′.08,**h10**km,**n25**,
σ1°**11**/28,**1D**,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAO2	**Cobano, Puntar**	**0.80**	**7**	*eP*	**Pb**	**06 34 39.5**	**+0.9**
JACO	**JACO, Garabito**	**0.94**	**35**	*eP*	**Pb**	**06 34 41.0**	**+0.2**
LAFE	**Finca La Fe, P**	**0.96**	**17**	*eP*	**Pg**	**06 34 41.4**	**+0.4**
LAFE				*eS*	**Sg**	**06 34 53.2**	**-0.2**
SAJU	**San Juanillo,**	**1.27**	**337**	*eP*	**Pn**	**06 34 46.9**	**+0.4**
SRA1	**San Ramn**	**1.38**	**31**	*eP*	**Pn**	**06 34 48.2**	**+0.1**
JTS	**Las Juntas de**	**1.41**	**10**	*eP*	**Pn**	**06 34 48.6**	**+0.2**
HDC	**Heredia**	**1.54**	**44**	*eP*	**Pb**	**06 34 51.1**	**-0.1**
PEZE	**Perez Zeledon,**	**1.58**	**72**	*eP*	**Pn**	**06 34 51.2**	**+0.5**
RIMA	**Rio Macho**	**1.58**	**56**	*eP*	**Pn**	**06 34 51.3**	**+0.5**
ARE1	**Arenal 1**	**1.63**	**17**	*eP*	**Pb**	**06 34 53.2**	**+0.4**
CEDE	**Laguna Cedeo**	**1.66**	**17**	*i* P	**Pb**	**06 34 53.6**	**+0.3**
EDPN	**Palmar Norte**	**1.72**	**87**	||*i* P	**Pb**	**06 34 54.2**	**0.0**
EDPN				*eS*	**Sn**	**06 35 13.9**	**-0.7**
CUI	**Cuipilapa**	**1.76**	**1**	*i* P	**Pn**	**06 34 54.4**	**+1.3**
SRBA	**San Rafael, Bu**	**1.85**	**79**	*eP*	**Pn**	**06 34 55.6**	**+1.2**
HZTE	**Horizontes, Gu**	**1.85**	**348**	*eP*	**Pb**	**06 34 56.8**	**+0.2**
GPS2	**Hotel Rincn d**	**1.86**	**355**	*i* P	**Pn**	**06 34 55.8**	**+1.3**
LAPC	**Finca la Perla**	**1.88**	**353**	*i* P	**Pn**	**06 34 56.0**	**+1.2**
PIRO	**Carate, Puerto**	**1.90**	**105**	*eP*	**Pb**	**06 34 57.1**	**-0.3**
VMAR	**Armenia, Volca**	**1.91**	**2**	*eP*	**Pb**	**06 34 57.8**	**+0.2**
EDBA	**Buenos Aires**	**1.92**	**82**	*eP*	**Pn**	**06 34 56.6**	**+1.3**
COVE	**Coope Vega, Sa**	**1.98**	**23**	*eP*	**Pn**	**06 34 57.7**	**+1.5**
EDSV	**San Vito**	**2.20**	**92**	*eP*	**Pb**	**06 35 02.4**	**-0.1**
ACON	**Acoyapa**	**3.06**	**0**	*eP*	**Pn**	**06 35 12.8**	**+1.8**
ACON				*eS*	**Sb**	**06 35 52.1**	**-2.4**
ESPN	**Las Esperanzas**	**3.40**	**15**	*eP*	**Pn**	**06 35 17.1**	**+1.4**
BOAB	**BOACO BROADBAN**	**3.57**	**353**	*eP*	**Pn**	**06 35 15.4**	**-2.6**

*GCG **30** 07:01:42.4±0.8, 12°.86N×90°.01W,h36km±138km,MD4.1*
*IDC **30** 07:01:43.2±2.0, 13°.92N×89°.37W,h0km,mb3.7/4,*
mb1 4.0/7,mb1mx3.7/43,mbtmp3.8/7,ML3.2/3,MS3.1/10,
Ms1 3.1/10,ms1mx2.9/66,Error ellipse: s-maj=57.8km
s-min=22.1km az=34.0
*SNET **30** 07:01:44.2±1.3, 13°.14N×89°.99W,h30km±2km,ML4.3*
*INET **30** 07:01:44.8±1.0, 13°.11N×89°.90W,h14km±11km,MW3.5*
*UCR **30** 07:01:45.4±1.6, 13°.20N×89°.97W,h31km±3km,ML4.2,*
mb4.2(NEIC)
*NEIC **30** 07:01:46.9±2.5, 13°.28N±0′.06×89°.87W±0′.06,h55km±10km,*
mb4.2/8,Md4.3(SNET),Error ellipse: s-maj=11.9km
s-min=3.6km az=223.0
ISC 30 07:01:45.3±1.3,**13°21N**±0′.04×**89°90W**±0′.04,**h31**km±10km,
n143,σ1°**56**/181,**mb4.1**/4,**MS3.1**/9,**5D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.62**	**45**	||*i* P	**Pn**	**07 01 58.3**	**+0.1**
JAYA				*eS*	**Sn**	**07 02 09.5**	**+2.3**
JAYA				IAML		07 02 11.1	
	comp=Z,19μm,0.3s						
JAYA	**Jayaque - finc**	**0.62**	**45**	||*i* P	**Pn**	**07 01 58.3**	**+0.1**
JAYA				*eS*	**Sn**	**07 02 09.5**	**+2.3**
JAYA				IAML		07 02 11.1	
	comp=Z,19μm,0.3s						
LALI	**Alcalda de L**	**0.62**	**64**	*eP*	**Pn**	**07 01 58.3**	**+0.2**
LALI				*eS*	**Sn**	**07 02 08.6**	**+1.6**
LALI	**Alcalda de L**	**0.62**	**64**	*eP*	**Pn**	**07 01 58.3**	**+0.2**
LALI				*eS*	**Sn**	**07 02 08.6**	**+1.6**
LALI	**Alcalda de L**	**0.62**	**64**	||*i* P	**Pn**	**07 01 58.2**	**+0.1**
CEVE	**Cerro Verde**	**0.67**	**23**	*eP*	**Pn**	**07 01 59.0**	**+0.1**
CEVE				*eS*	**Sn**	**07 02 10.9**	**+2.4**
CEVE				IAML		07 02 12.3	
	comp=Z,16μm,0.4s						
CEVE	**Cerro Verde**	**0.67**	**23**	*eP*	**Pn**	**07 01 59.0**	**+0.1**
CEVE				*eS*	**Sn**	**07 02 10.9**	**+2.4**
CEVE				IAML		07 02 12.3	
	comp=Z,16μm,0.4s						
SBLS	**San Blas**	**0.68**	**23**	*eP*	**Pn**	**07 01 59.1**	**0.0**
SBLS	**San Blas**	**0.68**	**23**	*eP*	**Pn**	**07 01 59.1**	**0.0**
NUBE	**Las Nubes**	**0.69**	**9**	*i* P	**Pn**	**07 01 59.0**	**-0.3**
NUBE				*eS*	**Sn**	**07 02 09.9**	**+0.9**
NUBE	**Las Nubes**	**0.69**	**9**	*i* P	**Pn**	**07 01 59.0**	**-0.3**
NUBE				*eS*	**Sn**	**07 02 09.9**	**+0.9**
SNJE	**San Jose**	**0.71**	**24**	*eP*	**Pn**	**07 01 59.6**	**+0.1**
SNJE	**San Jose**	**0.71**	**24**	*eP*	**Pn**	**07 01 59.6**	**+0.1**
CEDA	**San Andres**	**0.76**	**40**	*eP*	**Pn**	**07 02 00.8**	**+0.7**
CEDA				*eS*	**Sn**	**07 02 13.7**	**+3.1**
CEDA				IAML		07 02 19.4	
	comp=Z,12μm,0.6s						
CEDA	**San Andres**	**0.76**	**40**	*eP*	**Pn**	**07 02 00.8**	**+0.7**
CEDA				*eS*	**Sn**	**07 02 13.7**	**+3.1**
CEDA				IAML		07 02 19.4	
	comp=Z,12μm,0.6s						
CEDA	**San Andres**	**0.76**	**40**	*eP*	**Pn**	**07 02 00.2**	**+0.1**
CEDA				*eS*	**Sn**	**07 02 12.9**	**+2.3**
LOAL	**Lomas de Alarc**	**0.79**	**8**	*eP*	**Pn**	**07 02 00.9**	**+0.5**
LOAL				*eS*	**Sn**	**07 02 13.8**	**+2.6**
LOAL	**Lomas de Alarc**	**0.79**	**8**	*eP*	**Pn**	**07 02 00.9**	**+0.5**
LOAL				*eS*	**Sn**	**07 02 13.8**	**+2.6**
BOQS	**Boqueron**	**0.79**	**49**	*eP*	**Pn**	**07 02 01.2**	**+0.5**
BOQS	**Boqueron**	**0.79**	**49**	*eP*	**Pn**	**07 02 01.2**	**+0.5**
SNET	**Serv Nac Est T**	**0.80**	**54**		**Pn**	**07 02 00.6**	**0.0**
SNET	**Serv Nac Est T**	**0.80**	**54**	*eP*	**Pn**	**07 02 00.8**	**+0.2**
SNET				*eS*	**Sn**	**07 02 13.8**	**+2.3**
SNET	**Serv Nac Est T**	**0.80**	**54**	*eP*	**Pn**	**07 02 00.8**	**+0.2**
SNET				*eS*	**Sn**	**07 02 13.8**	**+2.3**
SNET	**Serv Nac Est T**	**0.80**	**54**	*eP*	**Pn**	**07 02 00.7**	**0.0**
UEES	**Universidad Ev**	**0.81**	**52**	*eP*	**Pn**	**07 02 01.2**	**+0.4**
UEES				*eS*	**Sn**	**07 02 15.3**	**+3.4**
UEES				IAML		07 02 19.8	
	comp=Z,4μm,0.3s						
UEES	**Universidad Ev**	**0.81**	**52**	*eP*	**Pn**	**07 02 01.2**	**+0.4**
UEES				*eS*	**Sn**	**07 02 15.3**	**+3.4**
UEES				IAML		07 02 19.8	
	comp=Z,4μm,0.3s						
SLOZ	**Alcaldia de Sa**	**0.82**	**8**	*eP*	**Pn**	**07 02 00.9**	**+0.1**
SLOZ				*eS*	**Sn**	**07 02 14.3**	**+2.4**
UNIC	**Universidad Ca**	**0.84**	**24**	*eP*	**Pn**	**07 02 01.3**	**+0.2**
UNIC				*eS*	**Sn**	**07 02 14.6**	**+2.2**
UNIC	**Universidad Ca**	**0.84**	**24**	*eP*	**Pn**	**07 02 01.3**	**+0.2**
UNIC				*eS*	**Sn**	**07 02 14.6**	**+2.2**
UESS	**Universidad de**	**0.84**	**53**	*eP*	**Pn**	**07 02 01.9**	**+0.7**
UESS	**Universidad de**	**0.84**	**53**	*eP*	**Pn**	**07 02 01.9**	**+0.7**
UDBS	**Universidad Do**	**0.88**	**55**	*eP*	**Pn**	**07 02 02.0**	**+0.4**
UDBS				*eS*	**Sn**	**07 02 15.8**	**+2.3**
UDBS	**Universidad Do**	**0.88**	**55**	*eP*	**Pn**	**07 02 02.0**	**+0.4**
UDBS				*eS*	**Sn**	**07 02 15.8**	**+2.3**
AEIL	**Aeropuerto Ilo**	**0.90**	**58**	*eP*	**Pn**	**07 02 02.8**	**+0.8**
AEIL				*eS*	**Sn**	**07 02 17.1**	**+3.1**
AEIL				IAML		07 02 20.9	
	comp=Z,7μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.90**	**58**	*eP*	**Pn**	**07 02 02.8**	**+0.8**
AEIL				*eS*	**Sn**	**07 02 17.1**	**+3.1**
AEIL				IAML		07 02 20.9	
	comp=Z,7μm,0.3s						
LFRS	**El Faro**	**0.91**	**63**	*i* P	**Pn**	**07 02 02.3**	**+0.2**
LFRS	**El Faro**	**0.91**	**63**	*i* P	**Pn**	**07 02 02.3**	**+0.2**
TACO	**Tacachico**	**0.92**	**35**	*eP*	**Pn**	**07 02 02.6**	**+0.4**
TACO				*eS*	**Sn**	**07 02 16.8**	**+2.4**
TACO	**Tacachico**	**0.92**	**35**	*eP*	**Pn**	**07 02 02.6**	**+0.4**
TACO				*eS*	**Sn**	**07 02 16.8**	**+2.4**
LFU	**La Fuente**	**0.93**	**55**	*eP*	**Pn**	**07 02 03.1**	**+0.7**
LFU	**La Fuente**	**0.93**	**55**	*eP*	**Pn**	**07 02 03.1**	**+0.7**
LBRS	**Las Brisas**	**0.98**	**58**	*eP*	**Pn**	**07 02 04.0**	**+0.9**
LBRS	**Las Brisas**	**0.98**	**58**	*eP*	**Pn**	**07 02 04.0**	**+0.9**
PAVA	**Las Pavas**	**1.06**	**62**	*eP*	**Pb**	**07 02 04.8**	**-0.3**
PAVA				*eS*	**Sn**	**07 02 22.7**	**+4.7**
PAVA				IAML		07 02 25.6	
	comp=Z,4μm,0.6s						
PAVA	**Las Pavas**	**1.06**	**62**	*eP*	**Pb**	**07 02 04.8**	**-0.3**
PAVA				*eS*	**Sn**	**07 02 22.7**	**+4.7**
PAVA				IAML		07 02 25.6	
	comp=Z,4μm,0.6s						
PAVA	**Las Pavas**	**1.06**	**62**	||*i* P	**Pb**	**07 02 04.9**	**-0.3**
COEG	**Centro de Oper**	**1.07**	**68**	*eP*	**Pb**	**07 02 04.7**	**-0.6**
COEG				*eS*	**Sn**	**07 02 20.5**	**+2.3**
COEG				IAML		07 02 27.4	
	comp=Z,5μm,0.4s						
COEG	**Centro de Oper**	**1.07**	**68**	*eP*	**Pb**	**07 02 04.7**	**-0.6**
COEG				*eS*	**Sn**	**07 02 20.5**	**+2.3**
COEG				IAML		07 02 27.4	
	comp=Z,5μm,0.4s						
TECO	**Alcaldia de Te**	**1.13**	**73**	*eP*	**Pn**	**07 02 05.3**	**+0.2**
TECO				*eS*	**Sn**	**07 02 21.7**	**+2.0**
TECO	**Alcaldia de Te**	**1.13**	**73**	*eP*	**Pn**	**07 02 05.3**	**+0.2**
TECO				*eS*	**Sn**	**07 02 21.7**	**+2.0**
UESV	**Universidad de**	**1.16**	**69**	*eP*	**Pb**	**07 02 06.3**	**-0.6**
UESV				*eS*	**Sn**	**07 02 23.0**	**+2.6**
UESV	**Universidad de**	**1.16**	**69**	*eP*	**Pb**	**07 02 06.3**	**-0.6**
UESV				*eS*	**Sn**	**07 02 23.0**	**+2.6**
SCLA	**Alcaldia de Sa**	**1.24**	**67**	*eP*	**Pb**	**07 02 07.7**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.24**	**67**	*eP*	**Pb**	**07 02 07.7**	**-0.5**
MTO3	**Montecristo**	**1.29**	**24**		**Pb**	**07 02 08.2**	**-1.0**
MTO3	**Montecristo**	**1.29**	**24**	||*i* P	**Pb**	**07 02 08.1**	**-1.0**
ALJI	**Alcalda de J**	**1.30**	**85**	*eP*	**Pn**	**07 02 07.5**	**+0.2**
ALJI				*eS*	**Sb**	**07 02 24.8**	**-0.6**
ALJI	**Alcalda de J**	**1.30**	**85**	*eP*	**Pn**	**07 02 07.5**	**+0.2**
ALJI				*eS*	**Sb**	**07 02 24.8**	**-0.6**
COEB	**Comit de Eme**	**1.36**	**78**	*eP*	**Pn**	**07 02 08.7**	**+0.3**
COEB				*eS*	**Sb**	**07 02 27.2**	**-0.2**
COEB				IAML		07 02 28.4	
	comp=Z,3μm,0.5s						
COEB	**Comit de Eme**	**1.36**	**78**	*eP*	**Pn**	**07 02 08.6**	**+0.2**
COEB				*eS*	**Sb**	**07 02 27.1**	**-0.3**
PQSS	**Presa 15 de Se**	**1.36**	**72**	*eP*	**Pb**	**07 02 09.0**	**-1.2**
PQSS				*eS*	**Sb**	**07 02 28.3**	**+1.0**
PQSS	**Presa 15 de Se**	**1.36**	**72**	*eP*	**Pb**	**07 02 09.0**	**-1.2**
PQSS				*eS*	**Sb**	**07 02 28.3**	**+1.0**
NBG	**Las Nubes**	**1.43**	**342**	*eP*	**Pb**	**07 02 11.0**	**-0.7**
NBG				*eS*	**Sb**	**07 02 30.0**	**+0.4**
ESQI	**Esquipulas**	**1.44**	**22**	Pn	**Pb**	**07 02 10.7**	**-1.0**
FUG	**Fuego 3**	**1.53**	**323**	*eP*	**Pn**	**07 02 10.2**	**-0.6**
LCY	**Lacayo**	**1.57**	**82**	*eP*	**Pn**	**07 02 12.3**	**+1.0**
LCY	**Lacayo**	**1.57**	**82**	*eP*	**Pn**	**07 02 12.3**	**+1.0**
RANC	**El Ranchito**	**1.58**	**82**	*eP*	**Pn**	**07 02 11.8**	**+0.4**
RANC	**El Ranchito**	**1.58**	**82**	*eP*	**Pn**	**07 02 11.8**	**+0.4**
MRL	**Marmol**	**1.87**	**6**	*eP*	**Pb**	**07 02 17.8**	**-1.2**
MRL				*eS*	**Sb**	**07 02 45.5**	**+3.4**
LCND	**La Caada**	**1.96**	**87**	*eP*	**Pn**	**07 02 17.3**	**+0.9**
LCND				*eS*	**Sn**	**07 02 42.4**	**+2.4**
LCND	**La Caada**	**1.96**	**87**	*eP*	**Pn**	**07 02 17.3**	**+0.9**
LCND				*eS*	**Sn**	**07 02 42.4**	**+2.4**
RTAL	**Retalhuleu**	**2.18**	**307**		**Pn**	**07 02 20.7**	**+1.2**
STG3	**Santiaguito 3,**	**2.20**	**313**	*eP*	**Pn**	**07 02 20.2**	**+0.2**
CSGN	**Cosiguina Volc**	**2.29**	**96**	*eP*	**Pn**	**07 02 21.5**	**+0.4**
HUEH	**Huehuetenango**	**2.61**	**324**		**Pn**	**07 02 26.6**	**+0.9**
HUEH	**Huehuetenango**	**2.61**	**324**	*eP*	**Pn**	**07 02 27.2**	**+1.5**
TGUH	**Tegucigalpa,Ún**	**2.69**	**71**		**Pn**	**07 02 27.4**	**+0.8**
TGUH	**Tegucigalpa,Ún**	**2.69**	**71**	*eP*	**Pn**	**07 02 27.2**	**+0.6**
CRIN	**San Cristobal**	**2.82**	**100**		**Pn**	**07 02 28.4**	**0.0**
CNGN	**Cerro Negro**	**3.20**	**102**		**Pn**	**07 02 33.4**	**-0.2**
MOMN	**Momotombo**	**3.37**	**103**	*eP*	**Pn**	**07 02 34.9**	**-1.1**
COPN	**Copaltepe**	**3.38**	**107**	*eP*	**Pn**	**07 02 34.7**	**-1.4**
PETF	**Flores**	**3.68**	**0**		**Pn**	**07 02 41.8**	**+1.6**
MATN	**Matagalpa**	**3.88**	**94**		**Pn**	**07 02 42.9**	**-0.1**
BOAB	**BOACO BROADBAN**	**4.20**	**100**	Pn	**Pn**	**07 02 46.4**	**-0.9**
ACON	**Acoyapa**	**4.77**	**105**	Pn	**Pn**	**07 02 54.9**	**-0.3**
HZTE	**Horizontes, Gu**	**4.89**	**120**		**Pn**	**07 02 58.1**	**+1.4**
HZTE	**Horizontes, Gu**	**4.89**	**120**	*eP*	**Pn**	**07 02 58.6**	**+1.8**
SAJU	**San Juanillo,**	**5.16**	**127**	*eP*	**Pn**	**07 03 01.1**	**+0.6**
ORTG	**Ortega, Santa**	**5.19**	**123**	Pn	**Pn**	**07 03 02.1**	**+1.1**
ORTG	**Ortega, Santa**	**5.19**	**123**	*eP*	**Pn**	**07 03 02.4**	**+1.4**
COLC	**Colonia**	**5.25**	**118**	*eP*	**Pn**	**07 03 03.4**	**+1.

YER	**Yerkesik**	**1.58**	**314**	PN	**Pb**	**07 16 21.6**	**-0.4**
BCK	**Bucak**	**1.58**	**26**	PN	**Pb**	**07 16 21.6**	**-0.5**
MULA	**Mugla, Merkez-**	**1.65**	**318**	P	**Pg**	**07 16 23.8**	**+0.1**
MULA				S	**Sg**	**07 16 47.4**	**+2.3**
BRDR	**BURDUR-Merkez**	**1.68**	**10**	P	**Pg**	**07 16 24.9**	**+0.6**
BRDR				S	**Sg**	**07 16 48.0**	**+1.9**
SUTC	**Sutluce-Ispart**	**1.77**	**36**	PN	**Pb**	**07 16 24.3**	**-0.9**
BASM	**Basmaki-Afyon**	**1.90**	**8**	PN	**Pn**	**07 16 25.7**	**+0.3**
ISP	**Isparta**	**1.90**	**20**	PN	**Pb**	**07 16 26.1**	**-1.3**
MLSB	**Milas**	**2.00**	**309**	PN	**Pb**	**07 16 27.6**	**-1.4**
GAZI	**Gazipasa**	**2.12**	**84**	PN	**Pn**	**07 16 28.6**	**+0.2**
KARP	**Karpathos**	**2.13**	**257**	P	**Pn**	**07 16 29.3**	**+0.8**
KARP				S	**Sn**	**07 16 54.3**	**-1.1**
	405nm,0.9s						
KARP	**Karpathos**	**2.13**	**257**	PN	**Pn**	**07 16 29.7**	**+1.2**
SEDI	**Konya, Seydise**	**2.17**	**49**	P	**Pg**	**07 16 33.1**	**-0.5**
SEDI				S	**Sg**	**07 17 04.2**	**+2.5**
BODT	**Bodrum**	**2.18**	**299**	PN	**Pn**	**07 16 29.5**	**+0.3**
SEYD	**Seydisehir-KON**	**2.19**	**51**	PN	**Pn**	**07 16 29.8**	**+0.4**
KZIL	**AFYON_Kizioren**	**2.24**	**9**	P	**Pb**	**07 16 31.6**	**-1.6**
KZIL				S	**Sg**	**07 17 02.3**	**-1.8**
KOSK	**Kos Island**	**2.31**	**289**	PN	**Pn**	**07 16 32.4**	**+1.4**
DDIM	**Aydin, Didim**	**2.43**	**306**	P	**Pn**	**07 16 33.5**	**+0.8**
DOGA	**KONYA_Doganhis**	**2.59**	**37**	P	**Pb**	**07 16 39.1**	**-0.1**
DOGA				S	**Sg**	**07 17 13.1**	**-2.3**
MANT	**Manisa**	**2.61**	**340**	P	**Pn**	**07 16 35.6**	**+0.3**
USAK	**Uak-Merkez**	**2.73**	**349**	P	**Pn**	**07 16 37.6**	**+0.8**
ZKR	**Zakros**	**2.99**	**253**	P	**Pn**	**07 16 41.6**	**+1.3**
ZKR				S	**Sn**	**07 17 16.2**	**-0.5**
IDI	**Anoyia**	**3.99**	**261**	Pn	**Pn**	**07 16 54.3**	**+0.2**
	4.2nm,0.3s,baz=63,slow=17,SNR=27						
IDI				Sn	**Sn**	**07 17 41.7**	**+0.2**
	5.7nm,0.3s,baz=321,slow=16,SNR=6.3						
BRTR	**Keskin Array B**	**4.82**	**39**	Pn	**Pn**	**07 17 07.8**	**+2.2**
	1.1nm,0.3s,baz=215,slow=14,SNR=32						
BRTR				Sn	**Sn**	**07 18 06.2**	**+4.2**
	1.1nm,0.3s,baz=210,slow=24,SNR=39						
BRTR				LR	LR	07 19 08.6	
	comp=Z,101nm,21.1s,baz=162,slow=41						
MMAI	**Mount Meron Ar**	**5.59**	**121**	Pn	**Pn**	**07 17 13.8**	**-2.3**
	5.1nm,0.3s,baz=235,slow=11,SNR=5.2						
MMAI				Sn	**Sn**	**07 18 20.9**	**+0.2**
	4.1nm,0.3s,baz=110,slow=42,SNR=1.3						
MMAI				Lg	Lg	07 18 47.3	
	7.6nm,0.3s,baz=65,slow=24,SNR=5.3						
MMAI				LR	LR	07 20 34.0	
	comp=Z,93nm,19.6s,baz=102,slow=51						
MLR	**Muntele Rosu**	**9.86**	**344**	Pn	**Pn**	**07 18 14.7**	**0.0**
	0.3nm,0.3s,baz=174,slow=15,SNR=1.7						
KBZ	**Khabaz**	**12.70**	**49**	LR	LR	07 23 34.5	
	comp=Z,44nm,21.5s,baz=196,slow=36						
AKASG	**Malin Array Be**	**14.66**	**359**	LR	LR	07 25 26.4	
	comp=Z,40nm,20.2s,baz=261,slow=39						
DAVOX	**Davos/Dischmat**	**18.29**	**312**	LR	LR	07 28 35.2	
	comp=Z,73nm,20.0s,baz=78,slow=42						
AKTO	**Aktyubinsk**	**24.95**	**46**	P	**P**	**07 21 15.8**	**-0.7**
	1.2nm,0.7s,baz=243,slow=6.8,SNR=4.9						
FINES	**FINESS Array B**	**25.53**	**356**	P	**P**	**07 21 21.6**	**+0.1**
	2.2nm,1.0s,baz=172,slow=11,SNR=2.6						
NOA	**NORSAR Array B**	**27.65**	**341**	LR	LR	07 34 02.9	
	comp=Z,17nm,20.4s,baz=340,slow=39						
ARU	**Arti**	**28.19**	**35**	LR	LR	07 35 03.4	
	comp=Z,34nm,19.1s,baz=226,slow=41						
ARCES	**ARCESS Array B**	**33.63**	**357**	LR	LR	07 38 10.7	
	comp=Z,22nm,20.3s,baz=260,slow=40						
TORD	**Torodi Ar. Bea**	**33.96**	**235**	P	**P**	**07 22 37.1**	**+0.3**
	2.1nm,0.9s,baz=34,slow=9.8,SNR=9.1						
KURBB	**Kurchatov Arra**	**37.68**	**52**	P	**P**	**07 23 06.9**	**-1.4**
	1.2nm,0.2s,baz=274,slow=8.8,SNR=3.3						
MKAR	**Makanchi Array**	**40.19**	**58**	P	**P**	**07 23 29.6**	**+0.1**
	0.5nm,0.7s,baz=264,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**77.69**	**344**	P	**P**	**07 27 49.9**	**+0.3**
	0.3nm,0.7s,baz=26,slow=5.6,SNR=5.5						
TGY	**Tagaytay City**	**82.82**	**78**	LR	LR	08 07 38.0	
	comp=Z,128nm,21.7s,baz=216,slow=38						

*IDC **30** 07:17:55.2±1.0,29°.57N×70°.26E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.6/75,mbtmp3.7/11,ML3.7/2,Error ellipse: s-maj=29.7km s-min=21.6km az=54.0*

ISC 30 07:18:00.8±1.1,29°.7N±0°.2×70°.3E±0°.2,h35km,n11, σ0≧97/11,mb3.7/9,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.35**	**13**	Pn	**Pn**	**07 21 07.1**	**-0.7**
	0.6nm,0.3s,baz=201,slow=8.8,SNR=6.7						
MKAR	**Makanchi Array**	**19.45**	**25**	P	**P**	**07 22 23.7**	**-0.6**
	0.1nm,0.3s,baz=193,slow=8.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**26.43**	**19**	P	**P**	**07 23 36.3**	**+2.2**
	1.1nm,0.6s,baz=218,slow=11,SNR=4.4						
AKASG	**Malin Array Be**	**37.12**	**316**	P	**P**	**07 25 07.4**	**-0.4**
	0.3nm,0.3s,baz=128,slow=7.2,SNR=1.2						
FINES	**FINESS Array B**	**42.97**	**331**	P	**P**	**07 25 57.0**	**+0.8**
	1.0nm,0.8s,baz=125,slow=12,SNR=1.4						
ARCES	**ARCESS Array B**	**47.27**	**340**	P	**P**	**07 26 30.9**	**+0.6**
	2.4nm,0.8s,baz=125,slow=7.8,SNR=2.3						
NOA	**NORSAR Array B**	**49.61**	**327**	P	**P**	**07 26 47.8**	**-0.6**
	0.7nm,0.8s,baz=102,slow=7.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**65.14**	**271**	P	**P**	**07 28 38.4**	**-0.2**
	0.5nm,0.4s,baz=63,slow=5.6,SNR=5.0						
WRA	**Warramunga Arr**	**78.96**	**120**	P	**P**	**07 30 01.2**	**0.0**
	0.8nm,0.9s,baz=320,slow=5.3,SNR=7.7						
ASAR	**Alice Springs**	**80.90**	**124**	P	**P**	**07 30 11.2**	**-0.4**
	0.5nm,0.7s,baz=317,slow=6.9,SNR=7.4						
YKA	**Yellowknife Ar**	**88.05**	**2**	P	**P**	**07 30 47.3**	**+0.1**
	0.2nm,0.5s,baz=349,slow=4.8,SNR=11						

KRSC 30 07:20:43.0±2.0,50°.59N×160°.01E,h49km±17km,ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.73**	**316**	*eP*	Pn	07 21 12.9	+2.4
KDTR				*eS*	Sn	07 21 32.8	+1.5
RUS	**Russkaya**	**2.07**	**334**	*eP*	Pn	07 21 17.9	+2.7
RUS				*eS*	Sn	07 21 42.3	+2.5
PAU	**Pauzhetka**	**2.21**	**295**	P	Pn	07 21 19.1	+2.1
MTVR	**Mutnovka**	**2.22**	**330**	*eP*	Pn	07 21 20.2	+2.8
MTVR				*eS*	Sn	07 21 46.3	+2.7
GRL	**Gorelyy**	**2.31**	**329**	*eP*	Pn	07 21 22.1	+3.5
SKR	**Severo-Kuril's**	**2.48**	**274**	*eP*	Pn	07 21 21.7	+0.9
SPN	**Mys Shipunski**	**2.52**	**0**	*eP*	Pn	07 21 25.5	+4.2
SPN				*eS*	Sn	07 21 54.3	+3.6
KRMR	**Karymshinskiy**	**2.53**	**333**	*eP*	Pn	07 21 24.8	+3.2
KRMR				*eS*	Sn	07 21 54.9	+3.7
DALK	**Dalny**	**2.57**	**343**	*eP*	Pn	07 21 25.3	+3.3
DALK				*eS*	Sn	07 21 54.8	+2.8
PET	**Petropavlovsk**	**2.58**	**341**	*eP*	Pn	07 21 25.4	+3.2
PET				*eS*	Sn	07 21 55.3	+2.9
MIPR	**Malaya Ipel'ka**	**2.65**	**311**	*eP*	Pn	07 21 26.2	+3.1
MIPR				*eS*	Sn	07 21 57.1	+3.1
UGLR	**Uglovaya**	**2.73**	**345**	*eP*	Pn	07 21 28.0	+3.7
SMAR	**Somma**	**2.78**	**345**	*eP*	Pn	07 21 28.9	+3.7
SDLR	**Sedlovina**	**2.79**	**346**	*eP*	Pn	07 21 28.1	+3.0
AVH	**Avacha**	**2.80**	**344**	*eP*	Pn	07 21 29.1	+3.9
KRER	**Koryakskii**	**2.83**	**344**	*eP*	Pn	07 21 29.6	+3.8
KOK	**Koryaka**	**2.84**	**343**	*eP*	Pn	07 21 29.6	+3.7
APC	**Apacha**	**2.94**	**324**	P	Pn	07 21 30.6	+3.5
GNL	**Ganaly**	**3.36**	**339**	P	Pn	07 21 37.2	+4.1
GNL				*eS*	Sn	07 22 16.1	+4.3
KII	**Karymskiy**	**3.47**	**355**	*eP*	Pn	07 21 39.2	+4.7
KII				*eS*	Sn	07 22 19.0	+4.6
MKZ	**Mys Kozlova**	**4.11**	**14**	*eP*	Pn	07 21 46.9	+3.7
MKZ				*eS*	Sn	07 22 32.1	+2.2
TUMD	**Tumrok D**	**4.63**	**3**	*eP*	Pn	07 21 54.9	+4.6
TUMD				*eS*	Sn	07 22 45.7	+2.9
TUMR	**Tumrok**	**4.71**	**1**	*eP*	Pn	07 21 56.9	+5.5
TUMR				*eS*	Sn	07 22 50.8	+6.1
BKI	**Bering**	**5.86**	**36**	*eS*	Sn	07 23 12.8	-0.2
KBTR	**Krutoberegovo**	**5.88**	**16**	P	Pn	07 22 11.8	+4.4

*CNRM **30** 07:30:15.7,35°.73N×3°.61W,h30km,ml1.7 SFS **30** 07:30:20.5,35°.50N×3°.75W,ML2.5,ALBORAN SUR*

ISC 30 07:30:15.1±1.6,35.76°N±0°.05×3.58°W±0°.06,h25km±15km, n8,σ0≧48/16,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.62**	**208**	P	**Pb**	**07 30 27.7**	**+0.3**
PALE				S	**Sb**	**07 30 35.5**	**-0.2**
PVLZ	**Peæn de**	**0.83**	**225**	P	**Pb**	**07 30 30.5**	**-0.5**
PVLZ				S	**Sn**	**07 30 42.9**	**+0.1**
EMAL	**Malaga-Limoner**	**1.21**	**326**	P	**Pn**	**07 30 36.1**	**-0.4**
EMAL				S	**Sb**	**07 30 53.0**	**+0.4**
TAF	**Taforalt**	**1.34**	**135**	P	**Pn**	**07 30 38.2**	**-0.2**
TAF				S	**Sn**	**07 30 55.8**	**+0.4**
JBK	**JBK**	**1.65**	**150**	P	**Pn**	**07 30 42.5**	**-0.2**
JBK				S	**Sn**	**07 31 03.3**	**+0.1**
MD31	**MD31**	**3.05**	**199**	P	**Pn**	**07 31 02.4**	**+0.5**
MD31				S	**Sn**	**07 31 37.3**	**-0.3**
MDT	**Midelt**	**3.06**	**196**	P	**Pn**	**07 31 01.8**	**-0.3**
MDT				S	**Sn**	**07 31 38.2**	**+0.3**
PVAQ	**Vaqueiros**	**3.71**	**297**	P	**Pn**	**07 31 11.8**	**+0.9**
PVAQ				S	**Sn**	**07 31 53.1**	**-0.8**

*UCR **30** 07:50:37.0±1.2,4°.89N×82°.67W,h30km,MW3.5*

ISC 30 07:50:33.6±2.1,4.8°N±0°.1×82.64°W±0°.10,h10km,n29, σ1≧80/36,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**3.11**	**35**	*eP*	**Pn**	**07 51 22.1**	**-0.6**
CACAO				*eS*	**Sn**	**07 51 56.9**	**-3.0**
AZU	**Azuero**	**3.81**	**38**	*eP*	**Pn**	**07 51 32.4**	**0.0**
AZU				*eS*	**Sn**	**07 52 13.5**	**-3.7**
BRU2	**Volcan**	**3.99**	**359**	*eP*	**Pn**	**07 51 35.0**	**-0.1**
BRU2				*eS*	**Sn**	**07 52 20.8**	**-1.2**
EDSV	**San Vito**	**4.03**	**355**	*eP*	**Pn**	**07 51 36.3**	**+0.8**
EDPN	**Palmar Norte**	**4.24**	**349**	*eP*	**Pn**	**07 51 38.0**	**-0.2**
SRBA	**San Rafael, Bu**	**4.48**	**351**	*eP*	**Pn**	**07 51 41.6**	**-0.1**
DRK0	**Durika**	**4.50**	**352**	*eP*	**Pn**	**07 51 41.9**	**-0.1**
PEZE	**Perez Zeledon,**	**4.69**	**347**	*eP*	**Pn**	**07 51 44.5**	**-0.1**
GR1C	**Gorgona, Isla**	**4.80**	**111**	*eP*	**Pn**	**07 51 46.2**	**+0.1**
GR1C				*eS*	Sn	07 52 33.8	-8.0
RIMA	**Rio Macho**	**5.10**	**346**	*eP*	**Pn**	**07 51 50.0**	**-0.4**
LCR2	**La Lucha 2**	**5.11**	**345**	*eP*	**Pn**	**07 51 50.4**	**-0.1**
BCIP	**Isla Barro Col**	**5.17**	**32**	*eP*	**Pn**	**07 51 52.8**	**+1.6**
BCIP				*eS*	**Sn**	**07 52 51.6**	**+0.7**
JACO	**JACO, Garabito**	**5.25**	**338**	*eP*	**Pn**	**07 51 51.4**	**-0.7**
CVTR	**Volcan Turrial**	**5.33**	**348**	*eP*	**Pn**	**07 51 54.1**	**+0.5**
HDC	**Heredia**	**5.39**	**344**	*eP*	**Pn**	**07 51 54.7**	**+0.5**
HDC3	**Heredia 3**	**5.39**	**344**	*eP*	**Pn**	**07 51 54.7**	**+0.5**
LAFE	**Finca La Fe, P**	**5.48**	**336**	*eP*	**Pn**	**07 51 54.6**	**-0.8**
JTS	**Las Juntas de**	**5.94**	**337**	*eP*	**Pn**	**07 52 01.5**	**-0.2**
ARE1	**Arenal 1**	**6.01**	**340**	*eP*	**Pn**	**07 52 04.0**	**+1.3**
SAJU	**San Juanillo,**	**6.07**	**330**	*eP*	**Pn**	**07 52 03.4**	**-0.2**
COVE	**Coope Vega, Sa**	**6.16**	**344**	*eP*	**Pn**	**07 52 05.4**	**+0.8**
YOTC	**Yotoco, Valle**	**6.33**	**97**	*eP*	**Pn**	**07 52 09.1**	**+1.9**
YOTC				*eS*	**Sn**	**07 53 17.3**	**-2.3**
PLMC	**San Jos del P**	**6.34**	**89**	*eP*	**Pn**	**07 52 09.1**	**+1.9**
PLMC				*eS*	**Sn**	**07 53 16.7**	**-3.1**
CUI	**Cuipilapa**	**6.35**	**337**	*eP*	**Pn**	**07 52 08.6**	**+1.2**
HZTE	**Horizontes, Gu**	**6.58**	**334**	*eP*	**Pn**	**07 52 11.9**	**+1.4**
GUY2C	**Guyana, Caldas**	**7.26**	**86**	*eP*	**Pn**	**07 52 23.8**	**+3.5**
GUY2C				*eS*	**Sn**	**07 53 41.4**	**-1.7**
ORTC	**Ortega, Tolima**	**7.43**	**96**	*eP*	**Pn**	**07 52 26.2**	**+4.0**
MOTC	**Monteria, Cord**	**7.99**	**60**	*eP*	**Pn**	**07 52 34.0**	**+4.1**
MOTC				*eS*	**Sn**	**07 54 00.0**	**-0.3**
LL6C	**La Loma 6 Bece**	**10.52**	**62**	*eP*	Pn	07 53 10.1	+5.5

*UPA **30** 07:52:54.8±1.0,4°.94N×82°.56W,h8km±32km,MW4.8*

ISC 30 07:52:53.1±1.9,4.90N±0°.07×82.55W±0°.08,h12km,n33, σ2≧22/54,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.95**	**35**	*eP*	**Pn**	**07 53 40.2**	**+0.3**
CACAO				*eS*	**Sn**	**07 54 14.7**	**-0.6**
CACAO				*eS*	**Sb**	**07 54 14.8**	**-7.1**
CACAO	**El Cacao, Vera**	**2.95**	**35**	*eP*	**Pn**	**07 54 41.3**	**+1.4**
CACAO				*eS*	**Sn**	**07 54 16.3**	**+1.0**
PTPM	**Petroterminale**	**3.30**	**354**	*eP*	**Pn**	**07 53 45.5**	**+0.8**
PTPM				*eS*	**Sn**	**07 54 24.2**	**+0.3**
PEDE3	**Pedregal, Chir**	**3.47**	**2**	*eP*	**Pn**	**07 53 48.1**	**+1.1**
LESP3	**La Esperanza,**	**3.49**	**356**	*eP*	**Pn**	**07 53 48.5**	**+1.1**
LOMA3	**Las Lomas, Chi**	**3.51**	**3**	*eP*	**Pn**	**07 53 48.6**	**+0.9**
DVD	**David**	**3.52**	**2**	*eP*	**Pn**	**07 53 48.2**	**+0.6**
DVD				*eS*	**Sn**	**07 54 28.8**	**-0.5**
BAGA3	**Bagala, Chiriq**	**3.55**	**0**	*eP*	**Pn**	**07 53 49.6**	**+1.5**
PIRO	**Carate, Puerto**	**3.57**	**347**	*eP*	**Pn**	**07 53 49.8**	**+1.4**
PIRO				*eS*	**Sn**	**07 54 30.7**	**+0.2**
AZU	**Azuero**	**3.66**	**38**	*eP*	**Pn**	**07 53 51.2**	**+1.6**
AZU				*eS*	**Sn**	**07 54 32.8**	**+0.1**
AZU	**Azuero**	**3.66**	**38**	*eP*	**Pn**	**07 53 51.2**	**+1.6**
AZU				*eS*	**Sn**	**07 54 33.0**	**+0.3**
CDITO	**Canoas**	**3.67**	**355**	*eP*	**Pn**	**07 53 49.9**	**+0.2**
CDITO				*eS*	**Sn**	**07 54 33.2**	**+0.3**
PSOM3	**Paja de Sombre**	**3.77**	**3**	*eP*	**Pn**	**07 53 53.0**	**+1.9**
PTAR3	**Potrerillos Ar**	**3.77**	**1**	*eP*	**Pn**	**07 53 52.6**	**+1.3**
BCO2	**Palmira**	**3.80**	**0**	*eP*	**Pn**	**07 53 52.9**	**+1.2**
BCO2				*eS*	**Sn**	**07 54 37.4**	**+1.0**
LNBQ3	**Los Naranjos,**	**3.87**	**2**	*eP*	**Pn**	**07 53 53.8**	**+1.1**
LNBQ3				*eS*	**Sn**	**07 54 38.4**	**+0.3**
BRU2	**Volcan**	**3.87**	**358**	*eP*	**Pn**	**07 53 53.8**	**+1.0**
BRU2				*eS*	**Sn**	**07 54 39.8**	**+1.5**
BC3P	**Paso Ancho**	**3.89**	**359**	*eP*	**Pn**	**07 53 54.0**	**+1.0**
PNME	**Penonome**	**4.19**	**32**	*eP*	**Pn**	**07 54 00.3**	**+3.3**
DRK0	**Durika**	**4.39**	**351**	*eP*	**Pn**	**07 54 00.8**	**+1.0**
DRK0				*eS*	**Sn**	**07 54 52.0**	**+0.9**
CNI2	**El Empalme, Bo**	**4.50**	**1**	*eP*	**Pn**	**07 54 02.4**	**+1.2**
CNI2				*eS*	**Sn**	**07 54 54.1**	**+0.7**
GR1C	**Gorgona, Isla**	**4.76**	**113**	*eP*	**Pn**	**07 54 04.2**	**-0.6**
GR1C				*eS*	Sn	07 54 53.2	-6.7
BCIP	**Isla Barro Col**	**5.02**	**32**	*eP*	**Pn**	**07 54 11.6**	**+3.2**
BCIP				*eS*	**Sn**	**07 55 06.7**	**+0.3**
BCIP	**Isla Barro Col**	**5.02**	**32**	*eP*	**Pn**	**07 54 11.6**	**+3.2**
BCIP				*eS*	**Sn**	**07 55 09.0**	**+2.6**
UPA	**Univ. de Panam**	**5.04**	**36**	*eP*	**Pn**	**07 54 10.4**	**+1.8**
UPA				*eS*	**Sn**	**07 55 06.9**	**+0.1**
BATAN	**Batan**	**5.23**	**351**	*eP*	**Pn**	**07 54 12.9**	**+1.7**
PLMC	**San Jos del P**	**6.24**	**90**	*eP*	**Pn**	**07 54 27.2**	**+2.0**
PLMC				*eS*	**Sn**	**07 55 36.0**	**-0.6**
YOTC	**Yotoco, Valle**	**6.25**	**98**	*eP*	**Pn**	**07 54 27.5**	**+2.1**
YOTC				*eS*	**Sn**	**07 55 35.0**	**-1.9**
POPC	**Popayan, Colom**	**6.31**	**112**	*eP*	**Pn**	**07 54 27.2**	**+0.8**
POPC				*eS*	**Sn**	**07 55 33.3**	**-5.2**
GUY2C	**Guyana, Caldas**	**7.16**	**87**	*eP*	**Pn**	**07 54 42.3**	**+4.1**
GUY2C				*eS*	**Sn**	**07 56 06.1**	**+6.3**
ORTC	**Ortega, Tolima**	**7.35**	**97**	*eP*	**Pn**	**07 54 44.9**	**+4.5**
ORTC				*eS*	**Sn**	**07 56 05.8**	**+2.0**
MOTC	**Monteria, Cord**	**7.85**	**60**	*eP*	Pn	07 54 53.4	+6.2
MOTC				*eS*	**Sn**	**07 56 15.0**	**-1.0**
SJCC	**San Jacinto, C**	**8.84**	**55**	*eP*	Pn	07 55 08.2	+7.3

MAN 30 08:06:22.5,9°.97N×125°.34E,h43km,mb4.2,ML3.0,MS2.7, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.50**	**289**	⇑*eP*	Pn	08 06 35.1	+1.7
BUTP	**Butuan**	**1.03**	**164**	⇓*iP*	Pn	08 06 40.4	-0.2
BIPH	**Bislig**	**2.04**	**150**	⇑*eP*	Pn	08 06 54.8	+0.4
BIPH				*eS*	Sn	08 07 20.6	+1.9

*TUL **30** 08:13:18.2±0.8,36°.81N±0°.01×97°.80W±0°.02,h6km±2km, ML2.8,mb_Lg2.3/6(NEIC),Error ellipse: s-maj=2.3km s-min=1.5km az=144.0*

NEIC 30 08:13:18.4±0.8,36.80°N±0°.01×97.79W±0°.02,h5km±6km, Error ellipse: s-maj=2.2km s-min=1.6km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**1.03**	**83**		Pg	08 13 37.8	-0.4
U32A	**Winter Ranch,**	**1.06**	**247**	Pg	Pg	08 13 38.0	-0.6
U32A				Sg	Sg	08 13 52.3	0.0
OKCFA	**Oklahoma City**	**1.41**	**169**	IAmb_Lg		08 14 03.3	
	comp=Z,11nm,0.8s						
FNO	**Franklin**	**1.57**	**168**	Pn	Pn	08 13 46.7	-0.2
R32A	**Long Quarter,**	**1.78**	**336**	Pn	Pn	08 13 50.6	+0.8
TUL1	**Leonard**	**1.84**	**118**		Pn	08 13 51.2	+0.6
TUL1				IAmb_Lg		08 14 18.2	
	comp=Z,19nm,1.0s						
S39A	**Bolivar**	**3.68**	**75**	IAmb_Lg		08 15 17.0	
	comp=Z,11nm,1.1s						
MGMO	**Mountain Grove**	**4.44**	**84**	IAmb_Lg		08 15 42.3	
	comp=Z,4.7nm,0.8s						

*KRNET **30** 08:17:07.0±0.1,41°.20N×73°.26E,h15km,mb2.2 NNC **30** 08:17:08.7±3.5,41°.17N×73°.34E,h0km,mb3.8,mpv3.0, Error ellipse: s-maj=26.7km s-min=15.1km az=162.0 SOME **30** 08:17:09.4,41°.20N×73°.35E,h10km*

ISC 30 08:17:08.6±1.6,41.08°N±0°.06×73.32E±0°.04,h16km±15km, n14,σ1≧14/24,10C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.69**	**217**	⇑*iP*	**Pg**	**08 17 22.0**	**-0.2**
	baz=8.0						
OHH				⇑*iS*	**Sb**	**08 17 32.9**	**+1.3**
	baz=8.0						
UCH	**Uchtor**	**1.45**	**37**	⇑*iP*	**Pn**	**08 17 33.1**	**-1.5**
	baz=42						
UCH				⇑*iS*	**Sn**	**08 17 52.6**	**-0.9**
	baz=42						
EKS2	**Erkin-Say**	**1.62**	**12**	⇑*iP*	**Pn**	**08 17 35.3**	**-1.3**
	baz=15						
EKS2				⇑*eS*	**Sn**	**08 17 56.3**	**-0.8**
	baz=15						
MRKS	**Merke**	**1.67**	**358**	*eP*	**Pb**	**08 17 39.2**	**+0.2**
	2.4nm,0.2s						
MRKS				*eS*	**Sn**	**08 17 59.4**	**+1.1**
	6.9nm,0.3s						
MRKS	**Merke**	**1.67**	**358**	P	**Pb**	**08 17 39.2**	**+0.2**
	2.4nm,0.2s						
MRKS				S	**Sn**	**08 17 59.4**	**+1.1**
	6.9nm,0.3s						
TRKS	**Terek-Say**	**1.71**	**286**	⇓*iP*	**Pn**	**08 17 36.4**	**-1.4**
	baz=80						
TRKS				⇓*iS*	**Sn**	**08 17 58.6**	**-0.8**
	baz=80						
ULHL	**Ulahol**	**2.48**	**61**	⇑*eP*	**Pn**	**08 17 50.1**	**+1.6**
	baz=64						
ULHL				⇑*eS*	**Sb**	**08 18 22.0**	**-1.2**
	baz=64						
TKM2	**Tokmak 2**	**2.50**	**42**	⇑Pg	**Pb**	**08 17 51.6**	**-1.7**
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	08 18 24.5	
	2.4nm,0.7s						
SGDS	**Sogindy**	**2.56**	**22**	*eP*	**Pb**	**08 17 55.0**	**+0.8**
	1.1nm,0.1s						
SGDS				*eS*	**Sb**	**08 18 26.3**	**+0.8**
	3.3nm,0.4s						
SGDS	**Sogindy**	**2.56**	**22**	Pg	**Pb**	**08 17 55.0**	**+0.8**
	1.1nm,0.1s						
SGDS				Lg	Lg	08 18 26.3	
	3.3nm,0.4s						
IUG	**Iuzhnay**	**2.69**	**294**	*eP*	**Pb**	**08 17 57.0**	**+0.6**
	83nm,0.4s						
IUG				*eS*	**Sb**	**08 18 29.6**	**+0.4**
	5.5nm,0.7s						
IUG	**Iuzhnay**	**2.69**	**294**	Pg	**Pb**	**08 17 57.0**	**+0.6**
	83nm,0.4s						
IUG				Lg	Lg	08 18 29.6	
	5.5nm,0.7s						
KRBS	**Karabastau**	**3.14**	**33**	*eP*	**Pb**	**08 18 05.0**	**+1.0**
	0.8nm,0.3s						
KRBS				*eS*	**Sb**	**08 18 43.6**	**+1.4**
	0.7nm,0.3s						
KRBS	**Karabastau**	**3.14**	**33**	Pg	**Pb**	**08 18 05.0**	**+1.0**
	0.8nm,0.3s						
KRBS				Lg	Lg	08 18 43.6	
	0.7nm,0.3s						

*OSPL **30** 08:20:56.5±1.1,19°.91N×73°.06W,h12km±13km,ML2.3 SSNC **30** 08:20:56.4±1.4,19°.66N×73°.12W,h4km

MK31				Sn		Sg	08 40 31.5	+3.4
	0.5nm,0.5s,baz=24,slow=26,SNR=4.0							
MK31				⇑Lg		Lg	08 41 14.0	
	6.6nm,1.1s,baz=15,slow=27,SNR=5.5							
MKAR	**Makanchi Array**	**6.53**	**207**	Pn		**Pg**	**08 39 00.9**	**-2.7**
	0.1nm,0.3s,baz=28,slow=13,SNR=7.0							
MKAR				Sn		**Sg**	**08 40 31.2**	**+3.1**
	0.2nm,0.3s,baz=21,slow=25,SNR=6.1							
MKAR				Lg		Lg	08 41 13.4	
	baz=67,slow=12,SNR=2.1							
BVAR	**Borovoye Array**	**9.81**	**278**	Pn		Pn	08 39 30.5	+10
	baz=236,slow=45,SNR=1.3							
BVAR				Sn		**Sn**	**08 41 15.0**	**+3.5**
	0.1nm,0.3s,baz=221,slow=16,SNR=4.3							

DJA ***30*** *08:49:11.7±0.2,8°S±3°×12°9E±°, h157km±6km, M4.5/12, mB5.0/7, mb4.4/12, MLv4.7/9, Mw(mB)4.3/7*
NEIC ***30*** *08:49:12.1±3.0, 7°.61S±0°.09×128°.52E±0°.09, h132km±11km, mb4.1/11, Error ellipse: s-maj=13.9km s-min=12.3km az=125.0*
IDC ***30*** *08:49:13.0±1.6, 7°.55S×128°.38E, h143km±17km, mb3.8/5, mb1 3.8/8, mb1mx3.4/43, mbtmp4.3/8, Error ellipse: s-maj=17.3km s-min=13.4km az=113.0*
ISC 30 08:49:12.9±0.5, 7°.63S±0°.05×128°.48E±0°.05, h151km, n69, σ2s00/71, mb4.4/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.82**	**97**	Pn	**Pn**	**08 49 57.1**	**-0.9**
SAUI	**Saumlaki**	**2.82**	**97**	P	**Pn**	**08 49 56.9**	**-1.1**
SAUI				S	**Sn**	**08 50 31.8**	**-1.1**
SAUI	**Saumlaki**	**2.82**	**97**	P	**Pn**	**08 49 57.7**	**-0.3**
AAI	**Ambon**	**3.92**	**356**	P	**Pn**	**08 50 11.3**	**-0.9**
BATI	**Baumata**	**5.40**	**241**	P	**Pn**	**08 50 31.8**	**+0.1**
	103nm,0.3s,baz=111,slow=2.9,SNR=37						
BATI				S	**Sn**	**08 51 32.1**	**-1.1**
	32nm,0.3s,baz=320,slow=20,SNR=2.8						
BATI	**Baumata**	**5.40**	**241**	P	**Pn**	**08 50 31.8**	**+0.1**
	1.1nm3µm348nm,0.6s						
MTN	**Manton Dam**	**5.81**	**153**		**Pn**	**08 50 36.4**	**-0.6**
FAKI	**Fak Fak**	**6.00**	**39**	Pn	**Pn**	**08 50 36.6**	**-3.1**
FAKI	**Fak Fak**	**6.00**	**39**	P	**Pn**	**08 50 37.3**	**-2.3**
	6µm58nm,0.7s						
FAKI	**Fak Fak**	**6.00**	**39**	P	**Pn**	**08 50 37.8**	**-1.8**
	56nm,0.7s						
MMRI	**Maumere**	**6.26**	**260**	P	**Pn**	**08 50 42.8**	**-0.2**
	0.4nm91nm,0.6s						
MMRI	**Maumere**	**6.26**	**260**	P	**Pn**	**08 50 43.3**	**+0.3**
	88nm,0.5s						
KDU	**Kakadu**	**6.38**	**142**	P	**Pn**	**08 50 44.2**	**-0.5**
SIJI	**Sorong**	**7.27**	**23**	P	**Pn**	**08 50 55.6**	**-1.0**
	6.3nm,0.3s,baz=246,slow=22,SNR=13						
SIJI				S	**Sn**	**08 52 18.4**	**+0.5**
	1.6nm,0.3s,baz=228,slow=22,SNR=2.0						
SWI	**Sorong**	**7.27**	**23**	P	**Pn**	**08 50 56.0**	**-0.6**
	0.2nm3µm37nm,0.7s						
KNRA	**Kununurra**	**8.01**	**178**	Pn	**Pn**	**08 51 05.1**	**-1.3**
KNRA	**Kununurra**	**8.01**	**178**	P	**Pn**	**08 51 05.6**	**-0.8**
	56nm,0.6s						
BASI	**Baing, Sumba**	**8.22**	**251**	P	**Pn**	**08 51 07.3**	**-1.9**
	1µm82nm,1.0s						
BKSI	**Bulukumba**	**8.61**	**285**	P	**Pn**	**08 51 14.3**	**-0.1**
	8.4nm,0.7s						
WBSI	**Waikabubak, Su**	**9.20**	**257**	P	**Pn**	**08 51 22.0**	**-0.4**
	1µm94nm,0.6s						
PLAI	**Plampang**	**10.66**	**263**	P	**Pn**	**08 51 39.7**	**-1.9**
	34nm,0.7s						
PLAI	**Plampang**	**10.66**	**263**	P	**Pn**	**08 51 41.8**	**+0.2**
	34nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.77**	**195**	P	**Pn**	**08 51 40.0**	**-3.1**
	2.1nm,0.3s,baz=15,slow=11,SNR=36						
FITZ				S	Sn	08 53 32.3	-10
	3.1nm,0.3s,baz=66,slow=16,SNR=12						
JAY	**Jayapura**	**13.20**	**68**	P	**Pn**	**08 52 12.4**	**-2.3**
	6.6nm,1.0s						
WB0	**Warramunga Arr**	**13.36**	**155**	Pn	**Pn**	**08 52 14.1**	**-2.7**
WRAB	**Tennant Creek**	**13.49**	**156**		**Pn**	**08 52 15.9**	**-2.5**
WRA	**Warramunga Arr**	**13.50**	**156**	P	**Pn**	**08 52 15.2**	**-3.3**
	0.8nm,0.3s,baz=334,slow=14,SNR=44						
WRA				S	Sn	08 54 36.7	-11
	2.1nm,0.3s,baz=332,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.50**	**156**		**Pn**	**08 52 16.4**	**-2.0**
WB2	**Warramunga Arr**	**13.50**	**156**	Pn	**Pn**	**08 52 15.8**	**-2.7**
WR0	**Warramunga Arr**	**13.60**	**155**		**Pn**	**08 52 16.6**	**-3.1**
COEN	**Coen**	**15.75**	**115**		**Pn**	**08 52 45.8**	**-0.8**
COEN				IAmb	IAmb	08 53 09.2	
	comp=Z,5.5nm,0.6s						
COEN	**Coen**	**15.75**	**115**	P	**Pn**	**08 52 46.8**	**+0.2**
	comp=Z,5.4nm,0.8s						
MBWA	**Marble Bar**	**15.89**	**211**	Pn	**Pn**	**08 52 47.8**	**-0.4**
MBWA				IAmb	IAmb	08 52 54.0	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**16.18**	**210**	Pn	**Pn**	**08 52 50.8**	**-1.0**
PSA00				IAmb	IAmb	08 53 07.2	
	comp=Z,6.9nm,0.6s						
PSA00	**Pilbara Seismi**	**16.18**	**210**	P	**P**	**08 52 53.3**	**+1.2**
	comp=Z,11nm,0.6s						
QIS	**Mount Isa**	**16.77**	**141**	P	**Pn**	**08 52 59.6**	**+0.6**
	comp=Z,5.4nm,0.9s						
AS31	**Alice Springs**	**16.78**	**163**		**Pn**	**08 52 59.2**	**+0.1**
AS31				IAmb	IAmb	08 53 02.9	
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**16.78**	**163**	P	**P**	**08 52 58.8**	**0.0**
	comp=Z,1.4nm,0.3s,baz=337,slow=9.8,SNR=79						
ASAR				S	**S**	**08 55 58.9**	**-6.8**
	comp=Z,0.7nm,0.3s,baz=348,slow=27,SNR=8.8						
WRKA	**Warakurna**	**17.32**	**181**	P	**Pn**	**08 53 07.4**	**+1.8**
	comp=Z,14nm,0.9s						
PMG	**Port Moresby**	**18.56**	**97**	P	**Pn**	**08 53 22.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=304,slow=6.9,SNR=4.5						
MTSU	**Mount Surprise**	**18.63**	**126**	P	**Pn**	**08 53 22.5**	**+1.4**
	comp=Z,6.3nm,0.5s						
MEEK	**Meekatharra**	**21.10**	**205**	P	**P**	**08 53 48.7**	**+3.1**
	comp=Z,7.8nm,1.2s						
OOD	**Oodnadatta**	**21.19**	**162**	P	**P**	**08 53 48.4**	**+1.9**
	comp=Z,39nm,0.6s						
FORT	**Forrest**	**23.04**	**181**	P	**P**	**08 54 06.5**	**+1.6**
FORT	**Forrest**	**23.04**	**181**	P	**P**	**08 54 07.7**	**+2.8**
	comp=Z,19nm,0.6s						
INKA	**Innaminka**	**23.14**	**151**	P	**P**	**08 54 09.4**	**+3.6**
	comp=Z,28nm,0.7s						
MULG	**Mulgathing**	**23.14**	**168**	P	**P**	**08 54 08.3**	**+2.5**
	comp=Z,18nm,0.7s						
MORW	**Morawa**	**24.34**	**207**	P	**P**	**08 54 18.4**	**+1.6**
MORW				IAmb	IAmb	08 54 20.4	
	comp=Z,7.1nm,0.8s						
MORW	**Morawa**	**24.34**	**207**	P	**P**	**08 54 19.5**	**+2.8**
	comp=Z,13nm,1.0s						
LCRK	**Leigh Creek**	**24.47**	**159**	P	**P**	**08 54 20.1**	**+2.2**
	comp=Z,26nm,0.7s						
BBOO	**Buckleboo**	**26.03**	**165**	P	**P**	**08 54 33.8**	**+1.8**
BBOO	**Buckleboo**	**26.03**	**165**	P	**P**	**08 54 34.3**	**+2.3**
	comp=Z,19nm,0.6s						
GUMO	**Guam**	**26.63**	**38**	P	**P**	**08 54 39.7**	**+2.1**
STKA	**Stephens Creek**	**27.05**	**155**	P	**P**	**08 54 43.0**	**+1.8**
	comp=Z,3.7nm,0.5s,baz=330,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**27.05**	**155**	P	**P**	**08 54 41.8**	**+0.6**
STKA	**Stephens Creek**	**27.05**	**155**	P	**P**	**08 54 43.4**	**+2.2**
	comp=Z,1.9nm,1.8s						
NWAO	**Narrogin (SRO)**	**27.25**	**201**	P	**P**	**08 54 43.8**	**+0.9**
NWAO				IAmb	IAmb	08 54 55.1	
	comp=Z,12nm,1.2s						
HTT	**Hallett**	**27.44**	**161**	P	**P**	**08 54 47.3**	**+2.6**
	comp=Z,8.4nm,1.4s						
CMSA	**Cobar Meteorol**	**28.70**	**148**	P	**P**	**08 54 58.5**	**+2.6**
	comp=Z,14nm,1.7s						
ARPS	**Mount Arapiles**	**31.46**	**159**	P	**P**	**08 55 22.8**	**+2.7**
	comp=Z,31nm,0.6s						
CAN	**Canberra**	**33.38**	**149**	P	**P**	**08 55 39.0**	**+2.0**
	comp=Z,44nm,2.5s						
TOO	**Toolangi**	**33.57**	**155**	P	**P**	**08 55 42.1**	**+3.5**
	comp=Z,17nm,2.6s						
JCJ	**Chichijima**	**36.98**	**21**	P	**P**	**08 56 06.8**	**-1.0**
	comp=Z,26nm,0.7s,baz=290,slow=18,SNR=2.0						
SONM	**Songino Array**	**58.57**	**343**	P	**P**	**08 58 54.7**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=163,slow=6.0,SNR=1.1						
SONM	**Songino Array**	**58.57**	**343**	IAmb	IAmb	08 58 57.4	
	comp=Z,0.5nm,1.1s						
MKAR	**Makanchi Array**	**67.93**	**328**	P	**P**	**08 59 55.9**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=123,slow=8.1,SNR=11						
KURBB	**Kurchatov Arra**	**72.26**	**329**	P	**P**	**09 00 22.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=132,slow=4.8,SNR=15						
KURK	**Kurchatov**	**72.27**	**329**	P	**P**	**09 00 22.0**	**+0.4**
KURK	**Kurchatov**	**72.27**	**329**	IAmb	IAmb	09 00 22.5	
	comp=Z,1.7nm,0.6s						

IDC 30 09:00:14.6±3.0, 52°.24N×35°.73E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.2/38, mbtmp3.4/3, ML2.7/3, Error ellipse: s-maj=42.7km s-min=15.3km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.93**	**10**	Lg	Lg	09 01 43.3	
	2.2nm,0.3s,baz=2.3,slow=23,SNR=7.9						
AKASG	**Malin Array Be**	**4.35**	**252**	Pn	Pn	09 01 21.3	-0.5
	0.6nm,0.3s,baz=57,slow=15,SNR=2.7						
AKASG				Sn	Sn	09 02 11.8	-1.3
	1.7nm,0.3s,baz=60,slow=19,SNR=4.5						
AKASG				Lg	Lg	09 02 28.1	
	2.0nm,0.3s,baz=68,slow=29,SNR=5.5						
I43RU	**DUBNA INFRASON**	**4.58**	**10**	*i*		09 26 50.0	
	baz=194,slow=322,SNR=5.6						
FINES	**FINESS Array B**	**10.62**	**334**	Pn	Pn	09 02 43.7	-4.1
	0.1nm,0.3s,baz=155,slow=14,SNR=1.9						
ARCES	**ARCESS Array B**	**18.01**	**348**	Pn	Pn	09 04 20.4	-5.5
	baz=165,slow=14,SNR=1.6						
I37NO	**I37NO**	**18.73**	**341**	*i*		10 50 30.0	
	baz=146,slow=320,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**29.06**	**67**	*i*		12 00 50.0	
	baz=287,slow=322,SNR=3.2						
YKA	**Yellowknife Ar**	**63.24**	**345**	P	P	09 10 42.5	-1.6
	0.1nm,0.6s,baz=9.9,slow=6.6,SNR=2.9						

IDC ***30*** *09:07:17.4±3.0, 53°.56N×88°.03E, h0km, mb1 2.8/2, mb1mx2.7/59, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=16.0km az=67.0*
NNC ***30*** *09:07:20.1±3.1, 53°.46N×87°.81E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=23.5km s-min=13.4km az=67.0, Suspected Mining explosion.*
ISC 30 09:07:19.7±3.6, 53°.6N±0°.1×87°.8E±0°.2, h0km, n8, σ0s94/13, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**284**	*i*		09 19 46.5	
	baz=99,slow=338,SNR=3.4						
ZAA0	**Zalesovo Array**	**1.83**	**284**	⇑P	**Pn**	**09 07 52.3**	**-0.1**
	0.1nm,0.2s						
ZAA0				⇓S	**Sb**	**09 08 18.3**	**+0.8**
	4.7nm,0.6s						
ZALV	**Zalesovo Beam**	**1.83**	**284**	Pn	**Pn**	**09 07 52.2**	**-0.2**
	1.4nm,0.3s,baz=98,slow=16,SNR=18						
ZALV				Lg	Lg	09 08 18.8	
	4.4nm,0.3s,baz=104,slow=25,SNR=29						
KURK	**Kurchatov**	**6.34**	**247**	⇓Pn	**Pn**	**09 08 54.7**	**+0.4**
	2.8nm,1.1s						
KURK				⇓Sn	**Sn**	**09 10 05.1**	**-2.2**
	0.5nm,0.5s						
KURK				⇑Lg	Lg	09 10 44.3	
	3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.43**	**247**	Pn	**Pn**	**09 08 55.8**	**+0.1**
	0.1nm,0.3s,baz=61,slow=14,SNR=4.0						
KURBB				Sn	**Sn**	**09 10 09.7**	**0.0**
	0.0nm,0.3s,baz=54,slow=34,SNR=1.9						
KURBB				Lg	Lg	09 10 43.0	
	0.1nm,0.3s,baz=60,slow=32,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.43**	**247**	⇑Pn	**Pn**	**09 08 55.6**	**-0.1**
	1.5nm,0.8s						
KURBB				⇓Sn	**Sn**	**09 10 09.5**	**-0.2**
	3.4nm,0.6s						
KURBB				⇓Lg	Lg	09 10 44.3	
	7.2nm,0.8s						
MK31	**Makanchi Array**	**7.64**	**210**	Pn	**Pn**	**09 09 12.3**	**+0.1**
	0.1nm,0.3s,baz=139,slow=32,SNR=6.1						
MK31				⇑Sn	**Sn**	**09 10 40.5**	**+1.1**
	0.2nm,0.5s						
MK31				⇓Lg	Lg	09 11 21.2	
	1.3nm,0.8s,baz=34,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	**Pn**	**09 09 11.0**	**-1.2**
	0.1nm,0.3s,baz=20,slow=31,SNR=3.1						
MKAR				Sn	**Sn**	**09 10 39.9**	**+0.5**
	0.1nm,0.3s,baz=34,slow=26,SNR=3.5						
MKAR				Lg	Lg	09 11 20.6	
	0.1nm,0.3s,baz=32,slow=31,SNR=7.6						

DDA ***30*** *09:12:35.5±0.0, 38°.29N×38°.78E, h7km±5km, ML2.1*
ISK ***30*** *09:12:35.3, 38°.31N×38°.76E, h5km, ML2.5/3*
ISC 30 09:12:36.9±1.1, 38°.35N±0°.04×38°.78E±0°.03, h13km±10km, n9, σ0s96/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.22**	**47**	P	**Pg**	**09 12 41.8**	**-0.1**
ELZG				S	**Sg**	**09 12 45.5**	**+0.3**
ELZG				*i* AML	AML	09 12 46.0	
	comp=N,422nm,0.5s						
ELZG				*i* AML	AML	09 12 46.0	
	comp=E,394nm,0.2s						
SVRC	**Sivrice-ELAZID**	**0.41**	**86**	PG	**Pg**	**09 12 44.9**	**-0.3**
SVRC				SG	**Sb**	**09 12 52.0**	**-0.5**
AKCD	**Akcadag**	**0.68**	**266**	P	**Pg**	**09 12 49.4**	**-0.7**
AKCD				S	**Sg**	**09 12 58.8**	**-0.3**
AKCD				*i* AML	AML	09 13 01.0	
	comp=E,60nm,0.4s						
AKCD				*i* AML	AML	09 13 02.0	
	comp=N,90nm,0.4s						
ARPR	**Arapgir-MALATY**	**0.82**	**335**	PG	**Pg**	**09 12 52.6**	**-0.3**
ARPR				SG	**Sb**	**09 13 05.4**	**+1.2**
HEKM	**Malatya_Hekimh**	**0.83**	**310**	P	**Pg**	**09 12 51.6**	**-1.5**
HEKM				S	**Sb**	**09 13 04.2**	**-0.4**
KEMA	**Kemaliye**	**0.95**	**346**	P	**Pg**	**09 12 54.6**	**-0.7**
KEMA				S	**Sb**	**09 13 08.3**	**+0.5**
ILIC	**ilic-Erzincan**	**1.11**	**351**	PN	**Pn**	**09 12 58.4**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.30**	**269**	P	**Pg**	**09 13 01.5**	**-0.4**
ELBS				S	**Sg**	**09 13 21.2**	**+2.4**
ELBS				*i* AML	AML	09 13 23.0	
	comp=N,34nm,0.5s						
ELBS				*i* AML	AML	09 13 23.0	
	comp=E,55nm,0.6s						
GZT	**Gaziantep**	**1.38**	**225**	P	**Pg**	**09 13 03.6**	**+0.1**
GZT				S	**Sg**	**09 13 21.0**	**-0.4**

KRNET ***30*** *09:12:59.6±0.1, 39°.64N×76°.12E, mb2.6*
SOME ***30*** *09:13:04.8, 39°.93N×76°.02E, h15km*
NNC ***30*** *09:13:05.4±9.6, 39°.88N×75°.88E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=81.5km s-min=64.9km az=91.0*
ISC 30 09:13:09.2±2.4, 40°.1N±0°.1×75°.99E±0°.05, h10km, n20, σ1s17/35, 4C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.13**	**5**	⇓*i*P	**Pn**	**09 13 45.0**	**-0.1**
	baz=2.0						
ULHL				⇓*e*S	**Sg**	**09 14 18.4**	**+0.7**
	baz=2.0						
KDJ	**Kajisay**	**2.20**	**24**	⇑*i*P	**Pn**	**09 13 45.5**	**-0.5**
	baz=18						
KDJ				⇑*i*S	**Sg**	**09 14 19.1**	**-0.8**
	baz=18						
UCH	**Uchtor**	**2.38**	**333**	⇓*i*P	**Pn**	**09 13 48.8**	**+0.1**
	baz=35						
UCH				⇓*i*S	**Sg**	**09 14 24.9**	**-0.9**
	baz=35						
TKM2	**Tokmak 2**	**2.81**	**354**	⇓*i*P	**Pn**	**09 13 54.8**	**+0.4**
	baz=53						
TKM2				⇓*i*S	**Sb**	**09 14 35.3**	**+1.1**
	baz=53						
TKM2	**Tokmak 2**	**2.81**	**354**	⇓P	**Pn**	**09 13 55.6**	**+1.1**
	2.1nm,0.6s						
TKM2				⇓S	**Sg**	**09 14 39.1**	**-0.5**
	3.3nm,0.4s						
KST	**Kastek**	**2.92**	**360**	*e*P	**Pb**	**09 14 01.6**	**+0.1**
	2.6nm,0.4s						
KST				*e*S	**Sg**	**09 14 42.6**	**-0.4**
	5.1nm,0.5s						
ANVS	**Anan'yevo**	**2.94**	**25**	⇑*i*P	**Pn**	**09 13 55.7**	**-0.5**
	baz=20						
ANVS				⇑*i*S	**Sb**	**09 14 36.7**	**-1.2**
	baz=20						
TNSS	**Tian-Shan**	**3.00**	**14**	*e*P	**Pb**	**09 14 03.1**	**+0.1**
	1.2nm,0.5s						
TNSS				*e*S	**Sg**	**09 14 45.1**	**-0.5**
	1.8nm,0.5s						
DGS	**Degeres**	**3.12**	**357**	Pg	**Pb**	**09 14 05.8**	**+0.9**
	122nm,0.7s						
DGS				Lg	Lg	09 14 49.4	
	4.9nm,0.6s						

MDOK	**Medeo**	**3.14**	**14**	*e*P		**Pb**	**09 14 05.4**	**+0.2**
	2.3nm,0.7s							
MDOK				*e*S		**Sg**	**09 14 49.2**	**-0.9**
	3.8nm,0.8s							
MRKS	**Merke**	**3.35**	**322**	*e*P		**Pb**	**09 14 08.6**	**0.0**
	2.0nm,0.3s							
MRKS				*e*S		**Sg**	**09 14 54.7**	**-1.9**
	6.6nm,0.4s							
MRKS	**Merke**	**3.35**	**322**	Pg		**Pb**	**09 14 08.9**	**+0.2**
	2.0nm,0.3s							
MRKS				Lg		Lg	09 14 55.1	
	6.6nm,0.4s							
SATY	**Saty**	**3.45**	**31**	*e*P		**Pb**	**09 14 10.9**	**+0.4**
	1.6nm,0.7s							
SATY				*e*S		**Sg**	**09 14 58.2**	**-1.7**
	3.5nm,0.4s							
SGDS	**Sogindy**	**3.48**	**343**	*e*P		**Pb**	**09 14 10.9**	**-0.1**
	0.9nm,0.3s							
SGDS				*e*S		**Sg**	**09 14 58.7**	**-2.3**
	2.6nm,0.5s							
SGDS	**Sogindy**	**3.48**	**343**	Pg		**Pb**	**09 14 10.9**	**-0.1**
	0.9nm,0.3s							
SGDS				Lg		Lg	09 14 58.7	
	2.6nm,0.5s							
KRBS	**Karabastau**	**3.58**	**356**	*e*P		**Pb**	**09 14 11.6**	**-1.0**
	1.2nm,0.4s							
KRBS				*e*S		**Sb**	**09 14 59.9**	**+3.7**
	3.3nm,0.5s							
KRBS	**Karabastau**	**3.58**	**356**	Pg		**Pb**	**09 14 12.1**	**-0.5**
	1.2nm,0.4s							
KRBS				Lg		Lg	09 15 00.1	
	3.3nm,0.5s							
KTBS	**Karatobe**	**3.62**	**8**	*e*P		**Pb**	**09 14 13.9**	**+0.6**
	2.5nm,0.5s							
KTBS				*e*S		**Sg**	**09 15 03.6**	**-2.0**
	6.4nm,0.5s							
KTBS	**Karatobe**	**3.62**	**8**	Pg		**Pb**	**09 14 14.0**	**+0.6**
	2.5nm,0.5s							
KTBS				Lg		Lg	09 15 03.6	
	6.4nm,0.5s							
UZB	**Uzynbulak**	**3.78**	**36**	*e*P		**Pb**	**09 14 17.3**	**+1.2**
	3.0nm,0.3s							
UZB				*e*S		**Sg**	**09 15 09.3**	**-1.3**
	2.1nm,0.6s							

IDC ***30*** *09:15:15.6±2.6, 53°.49N×87°.62E, h0km, mb1 3.0/3, mb1mx2.9/59, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=22.3km s-min=13.1km az=63.0*
NNC ***30*** *09:15:16.8±3.5, 53°.39N×87°.38E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=28.3km s-min=13.7km az=65.0, Suspected Mining explosion.*
ISC 30 09:15:16.8±3.4, 53°.5N±0°.1×87°.4E±0°.2, h0km, n9, σ1s28/14, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**287**	*i*		09 26 46.5	
	baz=102,slow=337,SNR=10.0						
ZAA0	**Zalesovo Array**	**1.58**	**287**	⇑P	**Pn**	**09 15 45.4**	**-0.7**
	0.8nm,0.5s						
ZAA0				⇑S	**Sg**	**09 16 08.9**	**+1.3**
	4.3nm,0.6s						
ZALV	**Zalesovo Beam**	**1.58**	**287**	Pg	**Pn**	**09 15 45.4**	**-0.7**
	1.1nm,0.3s,baz=102,slow=15,SNR=24						
ZALV				Lg	Lg	09 16 09.4	
	0.7nm,0.3s,baz=102,slow=28,SNR=4.1						
KURK	**Kurchatov**	**6.08**	**246**	⇑Pn	**Pn**	**09 16 49.0**	**+1.1**
	0.6nm,0.6s						
KURK				⇑Sn	**Sn**	**09 17 54.8**	**-3.3**
	0.7nm,0.5s						
KURK				⇓Lg	Lg	09 18 31.1	
	14nm,1.2s						
KURBB	**Kurchatov Arra**	**6.18**	**246**	Pn	**Pn**	**09 16 49.9**	**+0.7**
	0.1nm,0.3s,baz=62,slow=14,SNR=8.3						
KURBB				Sn	**Sn**	**09 17 59.9**	**-0.7**
	0.0nm,0.3s,baz=40,slow=13,SNR=2.0						
KURBB				Lg	Lg	09 18 34.8	
	0.1nm,0.3s,baz=63,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**6.18**	**246**	⇑Pn	**Pn**	**09 16 48.9**	**-0.3**
	1.6nm,0.6s						
KURBB				⇓Lg	Lg	09 18 34.2	
	13nm,0.8s						
MK31	**Makanchi Array**	**7.48**	**208**	⇑Pn	**Pn**	**09 17 06.5**	**-0.7**
	0.3nm,0.5s,baz=27,slow=11,SNR=7.1						
MK31				⇓Sn	**Sn**	**09 18 32.0**	**-0.6**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	09 19 12.1	
	2.5nm,0.8s,baz=28,slow=30,SNR=6.5						
MKAR	**Makanchi Array**	**7.48**	**208**	Pn	**Pn**	**09 17 07.6**	**+0.4**
	0.1nm,0.3s,baz=24,slow=12,SNR=8.0						
MKAR				Sn	**Sn**	**09 18 33.1**	**+0.5**
	0.1nm,0.3s,baz=30,slow=22,SNR=6.1						
MKAR				Lg	Lg	09 19 14.1	
	0.1nm,0.3s,baz=31,slow=28,SNR=11						
BVAR	**Borovoye Array**	**10.19**	**274**	Pn	**Pn**	**09 17 45.2**	**+1.0**
	0.1nm,0.3s,baz=80,slow=8.9,SNR=1.7						
BVAR				Sn	**Sn**	**09 19 39.0**	**-0.1**
	0.1nm,0.3s,baz=102,slow=11,SNR=1.2						

NNC ***30*** *09:21:11.5±2.8, 54°.18N×87°.43E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=23.4km s-min=16.0km az=17.0, Suspected Mining explosion.*
IDC ***30*** *09:21:13.6±2.7, 54°.19N×87°.19E, h0km, mb1 2.9/2, mb1mx2.8/51, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.6km s-min=15.6km az=64.0*
**ISC 30 09:21:10.3±3.4, 54°.3N±0°.2×87°.3E±0°.1, h0km, n9, σ

ISC 30 09:27:33.8±0.6,52°28N±0.08×168°64W±0.06,h29km, n118,σ1§10/109,mb4.0/28,MS3.2/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.70**	**349**		**Pn**	**09 27 47.7**	**-0.1**
NIKH	**Nikolski High**	**0.70**	**349**		**Sn**	**09 27 57.0**	**-0.7**
OKFG	**Magazine Ridge**	**1.21**	**21**		**Pn**	**09 27 55.2**	**+0.4**
OKFG					**Sb**	**09 28 10.6**	**-0.8**
MSW	**Makushin Switc**	**1.98**	**34**		**Pn**	**09 28 06.3**	**+1.0**
UNV	**Unalaska Valle**	**2.03**	**39**	Pn	**Pn**	**09 28 06.2**	**+0.2**
UNV	**Unalaska Valle**	**2.03**	**39**		**Sn**	**09 28 29.8**	**-0.5**
MTBL	**Makushin Table**	**2.06**	**34**		**Pn**	**09 28 07.7**	**+1.1**
ATKA	**Atka Island**	**3.42**	**271**		**Pn**	**09 28 26.6**	**+1.6**
GSTR	**Great Sitkin T**	**4.57**	**271**	Pn	**Pn**	**09 28 41.9**	**+1.0**
GSTD	**Great Sitkin T**	**4.63**	**270**		**Pn**	**09 28 42.8**	**+1.1**
GSCK	**Great Sitkin C**	**4.64**	**270**		**Pn**	**09 28 43.3**	**+1.4**
ADK	**Adak**	**4.98**	**269**		**Pn**	**09 28 47.4**	**+1.0**
KIWB	**Kanaga Island**	**5.27**	**269**	Pn	**Pn**	**09 28 50.0**	**-0.5**
OHAK	**Old Harbor**	**10.15**	**55**	Pn	**Pn**	**09 29 57.5**	**+0.1**
SHEM	**Shemya Is, Ala**	**10.54**	**279**	LR	LR	09 34 00.4	
	comp=Z,132nm,19.8s,baz=69,slow=37						
SMY	**Shemya**	**10.54**	**279**	Pn	**Pn**	**09 30 02.9**	**+0.3**
KDAK	**Kodiak Island**	**10.72**	**53**	Pn	**Pn**	**09 30 04.5**	**-0.6**
	1.0nm,0.3s,baz=222,slow=3.6,SNR=30						
KDAK	**Kodiak Island**	**10.72**	**53**	Pn	**Pn**	**09 30 05.1**	**-0.1**
SVW2	**Sparrevohn**	**11.36**	**34**	Pn	**Pn**	**09 30 12.1**	**-1.8**
N19K	**Bonanza Creek**	**11.55**	**37**	Pn	**Pn**	**09 30 16.1**	**-0.5**
GAMB	**Gambell**	**11.64**	**353**		**Pn**	**09 30 20.5**	**+2.9**
ANM	**Nome**	**12.44**	**7**	Pn	**Pn**	**09 30 30.3**	**+1.8**
TTA	**Tatalina**	**12.61**	**27**	Pn	**Pn**	**09 30 33.1**	**+2.1**
SEW	**Seward**	**13.21**	**46**	Pn	**Pn**	**09 30 39.3**	**+0.3**
K20K	**Telida**	**13.50**	**29**	Pn	**Pn**	**09 30 45.0**	**+1.9**
PPLA	**Purkeypile**	**13.77**	**33**	Pn	**Pn**	**09 30 49.5**	**+2.7**
PWL	**Port Wells**	**14.05**	**44**	Pn	**Pn**	**09 30 49.8**	**-0.9**
PMR	**Palmer**	**14.10**	**41**	Pn	**Pn**	**09 30 50.6**	**-0.6**
J20K	**Nowinta River**	**14.11**	**27**	Pn	**Pn**	**09 30 51.4**	**0.0**
CAST	**Castle Rocks**	**14.16**	**32**	Pn	**Pn**	**09 30 53.1**	**+0.9**
KNK	**Knik Glacier**	**14.28**	**42**	Pn	**Pn**	**09 30 53.6**	**-0.1**
SML	**Sawmill**	**14.53**	**41**	Pn	**Pn**	**09 30 56.5**	**-0.7**
SCM	**Sheep Creek Mo**	**14.96**	**42**	Pn	**Pn**	**09 31 01.9**	**-1.1**
BPAW	**Bear Paw Mtn.**	**14.99**	**31**	Pn	**Pn**	**09 31 03.6**	**+0.3**
BPAW				IAmb	IAmb	09 31 12.7	
	comp=Z,5.2nm,1.0s						
KLU	**Klutina**	**15.38**	**44**		**Pn**	**09 31 06.3**	**-2.2**
I21K	**Tanana**	**15.48**	**27**	Pn	**Pn**	**09 31 09.6**	**-0.1**
I21K				IAmb	IAmb	09 31 23.0	
	comp=Z,10nm,1.3s						
M24K	**Tolsona, Glenn**	**15.56**	**42**	Pn	**Pn**	**09 31 09.0**	**-1.9**
H21K	**Melozitna Rive**	**15.62**	**25**	Pn	**Pn**	**09 31 12.0**	**+0.3**
H21K				IAmb	IAmb	09 31 22.7	
	comp=Z,4.9nm,0.9s						
I23K	**Minto, Yukon-K**	**16.22**	**30**		**Pn**	**09 31 20.2**	**+1.0**
I23K				IAmb	IAmb	09 31 23.3	
	comp=Z,12nm,1.3s						
PAX	**Paxson**	**16.28**	**40**	Pn	**Pn**	**09 31 20.1**	**0.0**
WAX	**Waxell Ridge**	**16.37**	**50**	Pn	**Pn**	**09 31 21.2**	**0.0**
TGL	**Tana Glacier**	**16.48**	**49**	Pn	**Pn**	**09 31 22.7**	**+0.1**
TGL				IAmb	IAmb	09 31 40.1	
	comp=Z,20nm,0.9s						
ISLE	**Juniper Island**	**16.66**	**50**	Pn	**Pn**	**09 31 24.4**	**-0.5**
ISLE				IAmb	IAmb	09 31 45.1	
	comp=Z,32nm,1.4s						
ILAR	**Eielson Array**	**16.78**	**33**	Pn	**Pn**	**09 31 25.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=6.1						
YAH	**Yahtse**	**16.86**	**51**	P	**Pn**	**09 31 28.1**	**+0.4**
RIDG	**Independent Ri**	**16.92**	**38**	Pn	**Pn**	**09 31 27.8**	**-0.3**
RIDG				IAmb	IAmb	09 31 43.3	
	comp=Z,14nm,1.4s						
MENT	**Mentasta**	**16.96**	**41**	Pn	**Pn**	**09 31 27.5**	**-1.2**
GRNC	**Granite Creek**	**16.97**	**50**	Pn	**Pn**	**09 31 28.2**	**-0.7**
GRNC				IAmb	IAmb	09 31 52.3	
	comp=Z,12nm,0.9s						
BARN	**Barnard Glacie**	**17.12**	**49**		**Pn**	**09 31 30.8**	**0.0**
BARN				IAmb	IAmb	09 31 54.3	
	comp=Z,17nm,1.4s						
H24K	**Noodor Dome**	**17.15**	**30**		**Pn**	**09 31 31.4**	**+0.4**
L26K	**Log Cabin Wild**	**17.15**	**41**	Pn	**Pn**	**09 31 31.1**	**0.0**
TABL	**Table Mountain**	**17.17**	**51**	Pn	**Pn**	**09 31 31.3**	**-0.2**
TABL				IAmb	IAmb	09 31 37.5	
	comp=Z,17nm,0.9s						
J25K	**Salcha River,**	**17.21**	**35**	Pn	**Pn**	**09 31 30.9**	**-0.8**
CTGM	**Chitina Glacie**	**17.24**	**49**		**Pn**	**09 31 32.3**	**+0.1**
CTGM				IAmb	IAmb	09 31 47.3	
	comp=Z,12nm,1.0s						
SCRK	**Sand Creek**	**17.37**	**38**	Pn	**Pn**	**09 31 32.4**	**-1.4**
M27K	**Edge Creek, AK**	**17.48**	**44**	Pn	**Pn**	**09 31 34.9**	**-0.4**
M27K				IAmb	IAmb	09 31 37.4	
	comp=Z,8.8nm,1.1s						
COLD	**Coldfoot**	**17.51**	**24**		**P**	**09 31 35.8**	**-0.5**
BCPM	**Bancas Point**	**17.78**	**53**	P	**Pn**	**09 31 34.0**	**-4.8**
L27K	**Beaver Creek,**	**17.79**	**42**		**Pn**	**09 31 39.2**	**+0.2**
BCAR	**Beaver Creek A**	**17.81**	**42**		**Pn**	**09 31 38.6**	**-0.6**
HYT	**Haines Junctio**	**19.01**	**51**		**P**	**09 31 51.0**	**-2.0**
HYT				IAmb	IAmb	09 32 12.4	
	comp=Z,13nm,0.8s						
BMAR	**Burnt Mountain**	**19.19**	**29**	P	**Pn**	**09 31 56.0**	**+0.1**
DAWY	**Dawson**	**19.20**	**41**		**P**	**09 31 54.8**	**-0.2**
M30M	**Minto, Yukon**	**19.78**	**46**	P	**P**	**09 32 01.8**	**+0.5**
M30M				IAmb	IAmb	09 32 13.8	
	comp=Z,5.0nm,1.1s						
I29M	**Ogilvie Camp,**	**20.18**	**38**	P	**P**	**09 32 06.3**	**+0.7**
I29M				IAmb	IAmb	09 32 16.6	
	comp=Z,5.5nm,1.1s						
WHY	**Whitehorse**	**20.24**	**52**	P	Pn	09 32 07.5	-1.0
WHY				IAmb	IAmb	09 32 24.5	
	comp=Z,8.9nm,1.0s						
PEA0B	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**09 32 07.7**	**+0.5**
PETK	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**09 32 06.6**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=91,slow=13,SNR=33						
PETK	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**09 32 06.8**	**-0.4**
M31M	**Drury Creek, Y**	**20.77**	**48**	P	Pn	09 32 14.3	-0.3
M31M				IAmb	IAmb	09 32 41.7	
	comp=Z,13nm,1.4s						
P33M	**Teslin, Yukon**	**21.19**	**54**	P	**P**	**09 32 17.7**	**+1.0**
P33M				IAmb	IAmb	09 32 45.1	
	comp=Z,4.4nm,0.8s						
EPYK	**Eagle Plains**	**21.21**	**36**	P	**P**	**09 32 15.8**	**-1.0**
SEY	**Seymchan**	**23.06**	**313**	P	**P**	**09 32 35.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=90,slow=8.3,SNR=7.3						
INK	**Inuvik**	**23.17**	**33**	P	**P**	**09 32 36.7**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=239,slow=12,SNR=5.3						
INK	**Inuvik**	**23.17**	**33**	P	**P**	**09 32 37.0**	**-0.5**
INK				IAmb	IAmb	09 32 51.5	
	comp=Z,3.0nm,1.0s						
C36M	**Paulatuk**	**26.75**	**34**	P	**P**	**09 33 10.7**	**+0.4**
C36M				IAmb	IAmb	09 33 14.0	
	comp=Z,6.5nm,1.4s						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**09 33 40.2**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=272,slow=7.7,SNR=29						
YKA				PcP	**PcP**	**09 36 41.4**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=284,slow=2.1,SNR=4.9						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**09 33 40.5**	**+1.4**
MCMT	**McKenzie Canyo**	**36.86**	**79**	P	**P**	**09 34 39.0**	**-0.5**
KLR	**Kul'dur**	**36.91**	**290**	LR	LR	09 49 02.2	
	comp=Z,34nm,21.6s,baz=47,slow=35						
EGMT	**Eagleton**	**37.07**	**72**	P	**P**	**09 34 40.1**	**-1.0**
EGMT				IAmb	IAmb	09 34 44.5	
	comp=Z,4.8nm,0.9s						
NVAR	**Mina Array Bea**	**37.21**	**91**	P	**P**	**09 34 43.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=297,slow=9.8,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**37.67**	**220**	T	T	10 15 27.2	
	baz=24,slow=76,SNR=2.7						
H11N3	**WAKE ISLAND Hy**	**37.67**	**220**	T	T	10 15 27.8	
	baz=24,slow=76,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**37.69**	**220**	T	T	10 15 44.0	
	baz=24,slow=76,SNR=3.5						
YHH	**Holmes Hill**	**38.08**	**78**	P	**P**	**09 34 48.5**	**-1.4**
H11S1	**WAKE ISLAND Hy**	**38.85**	**219**	T	T	10 17 06.7	
	baz=23,slow=76,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**38.87**	**219**	T	T	10 16 50.7	
	baz=23,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**38.87**	**219**	T	T	10 17 05.4	
	baz=23,slow=76,SNR=2.8						
PDAR	**Pinedale Array**	**39.98**	**79**	P	**P**	**09 35 07.5**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=304,slow=3.7,SNR=31						
RDMU	**Red Mountain**	**41.26**	**82**	P	**P**	**09 35 14.9**	**-1.4**
RDMU				IAmb	IAmb	09 35 19.4	
	comp=Z,4.0nm,0.8s						
O20A	**White River Ci**	**42.33**	**82**	P	**P**	**09 35 25.6**	**+0.5**
PV13	**Radium Mtn., P**	**43.20**	**85**	P	**P**	**09 35 32.2**	**0.0**
PV13				IAmb	IAmb	09 35 46.9	
	comp=Z,3.4nm,0.9s						
KSRS	**Korea Array**	**45.86**	**277**	P	**P**	**09 35 52.6**	**-0.5**
KSRS				LR	LR	09 56 45.3	
	comp=Z,13nm,18.1s,baz=195,slow=38						
SPITS	**Spitsbergen Ar**	**49.77**	**359**	P	**P**	**09 36 22.3**	**-0.7**
	comp=Z,12nm,1.1s,baz=35,slow=7.8,SNR=5.6						
SONM	**Songino Array**	**51.73**	**301**	P	**P**	**09 36 38.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=57,slow=7.9,SNR=6.8						
SONM				LR	LR	10 01 23.6	
	comp=Z,24nm,19.2s,baz=80,slow=39						
SONM	**Songino Array**	**51.73**	**301**	P	**P**	**09 36 38.9**	**+0.7**
SONM				IAmb	IAmb	09 36 40.2	
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**52.30**	**89**	P	**P**	**09 36 43.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=300,slow=4.9,SNR=11						
TXAR	**Lajitas Array**	**52.30**	**89**	P	**P**	**09 36 43.7**	**+1.0**
P40A	**Paris**	**52.38**	**72**	P	**P**	**09 36 42.9**	**-0.1**
ZALV	**Zalesovo Beam**	**57.79**	**318**	P	**P**	**09 37 19.8**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=68,slow=9.5,SNR=1.7						
ARCES	**ARCESS Array B**	**58.05**	**354**	P	**P**	**09 37 22.5**	**-1.0**
	comp=Z,4.2nm,1.0s,baz=0.9,slow=7.4,SNR=3.8						
KURK	**Kurchatov**	**62.73**	**319**	P	**P**	**09 37 56.6**	**+0.9**
KURBB	**Kurchatov Arra**	**62.84**	**319**	P	**P**	**09 37 56.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=47,slow=7.9,SNR=1.3						
MKAR	**Makanchi Array**	**64.19**	**314**	P	**P**	**09 38 04.4**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=36,slow=5.5,SNR=7.6						
MKAR	**Makanchi Array**	**64.19**	**314**	P	**P**	**09 38 05.3**	**-0.1**
MAKZ	**Makanchi**	**64.32**	**314**	P	**P**	**09 38 08.5**	**+2.2**
MAKZ				IAmb	IAmb	09 38 35.6	
	comp=Z,1.8nm,1.4s						
FINES	**FINESS Array B**	**66.02**	**352**	P	**P**	**09 38 16.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=12,slow=8.3,SNR=16						
HFS	**Hagfors**	**67.92**	**359**	P	**P**	**09 38 28.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=86,slow=8.8,SNR=2.9						
AKTO	**Aktyubinsk**	**70.31**	**330**	P	**P**	**09 38 44.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=56,slow=14,SNR=2.3						
EKA	**Eskdalemuir Ar**	**72.08**	**9**	P	**P**	**09 38 55.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=359,slow=5.0,SNR=3.7						
AKASG	**Malin Array Be**	**76.28**	**348**	P	**P**	**09 39 18.8**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=16,slow=6.0,SNR=4.8						
AKASG	**Malin Array Be**	**76.28**	**348**	P	**P**	**09 39 19.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**77.07**	**283**	P	**P**	**09 39 23.1**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=30,slow=7.3,SNR=2.0						
MLR	**Muntele Rosu**	**81.80**	**350**	LR	LR	10 20 50.4	
	comp=Z,18nm,18.2s,baz=74,slow=39						
WRA	**Warramunga Arr**	**87.30**	**232**	P	**P**	**09 40 16.5**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=31,slow=5.7,SNR=5.7						
ESDC	**Sonseca Array**	**87.45**	**12**	P	**P**	**09 40 18.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=346,slow=5.0,SNR=4.8						
ASAR	**Alice Springs**	**90.68**	**231**	P	**P**	**09 40 33.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=32,slow=4.3,SNR=13						

*SNET **30** 09:28:37.6±1.3, 14°.45N×91°.20W, h9km±24km, ML3.7*
*UCR **30** 09:28:37.6±1.4, 14°.45N×91°.19W, h9km±24km, ML3.6*
*GCG **30** 09:28:38.1±0.6, 14°.45N×91°.46W, h32km±5km, MD3.8*

ISC 30 09:28:36.3±1.9,14°3N±0°.1×91°3W±0°.1,h10km,n24,
σ1§10/24,2D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.48**	**68**	*eP*	**Pn**	**09 28 50.5**	**+1.1**
STG3	**Santiaguito 3,**	**0.51**	**329**	*eP*	**Pg**	**09 28 46.2**	**-0.2**
PCG	**Pacaya**	**0.68**	**79**	*eP*	**Pn**	**09 28 54.4**	**+2.1**
NBG	**Las Nubes**	**0.98**	**71**	*eP*	**Pn**	**09 28 58.1**	**+1.8**
NBG				*eS*	Sn	09 29 18.1	+7.8
SLOZ	**Alcaldia de Sa**	**1.49**	**99**	*eP*	**Pn**	**09 29 03.5**	**+0.3**
NUBE	**Las Nubes**	**1.52**	**104**	*iP*	**Pn**	**09 29 03.7**	**+0.1**
NUBE	**Las Nubes**	**1.52**	**104**	*iP*	**Pn**	**09 29 03.7**	**+0.1**
SBLS	**San Blas**	**1.68**	**104**	*eP*	**Pn**	**09 29 06.6**	**+0.7**
SBLS	**San Blas**	**1.68**	**104**	*eP*	**Pn**	**09 29 06.6**	**+0.7**
CEVE	**Cerro Verde**	**1.68**	**105**	*eP*	**Pn**	**09 29 06.8**	**+0.8**
CEVE				IAML		09 29 35.7	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.68**	**105**	*eP*	**Pn**	**09 29 06.8**	**+0.8**
CEVE				IAML		09 29 35.7	
	comp=Z,1μm,0.3s						
MRL	**Marmol**	**1.76**	**62**	*eP*	**Pb**	**09 29 07.6**	**-1.3**
MTO3	**Montecristo**	**1.88**	**86**	*eP*	**Pn**	**09 29 08.3**	**-0.4**
MTO3	**Montecristo**	**1.88**	**86**	*eP*	**Pn**	**09 29 08.3**	**-0.4**
JAYA	**Jayaque - finc**	**1.90**	**108**	*eP*	**Pn**	**09 29 08.8**	**-0.1**
JAYA				IAML		09 29 35.3	
	comp=Z,658nm,0.2s						
JAYA	**Jayaque - finc**	**1.90**	**108**	*eP*	**Pn**	**09 29 08.8**	**-0.1**
JAYA				IAML		09 29 35.3	
	comp=Z,658nm,0.2s						
PMON	**Piamonte**	**2.00**	**106**	*eP*	**Pn**	**09 29 11.6**	**+1.4**
PMON	**Piamonte**	**2.00**	**106**	*eP*	**Pn**	**09 29 11.6**	**+1.4**
LFRS	**El Faro**	**2.27**	**106**	*eP*	**Pn**	**09 29 15.2**	**+1.3**
LFRS	**El Faro**	**2.27**	**106**	*eP*	**Pn**	**09 29 15.2**	**+1.3**
PAVA	**Las Pavas**	**2.36**	**103**	*eP*	**Pn**	**09 29 15.3**	**+0.2**
PAVA	**Las Pavas**	**2.36**	**103**	*eP*	**Pn**	**09 29 15.3**	**+0.2**
COEG	**Centro de Oper**	**2.44**	**105**	*eP*	**Pn**	**09 29 17.8**	**+1.6**
COEG	**Centro de Oper**	**2.44**	**105**	*eP*	**Pn**	**09 29 17.8**	**+1.6**

*SKHL **30** 09:29:58.7±0.4, 44°.50N×148°.50E, h36km±6km, mb4.2/4*
*JMA **30** 09:29:59.6±0.5, 44°.10N×148°.14E, h0km, M3.8*

ISC 30 09:29:56.0±3.5,44°38N±0°.10×148°5E±0°.2,h6km±15km,
n14,σ1§65/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**334**	*i P*	**Pg**	**09 30 14.2**	**-0.2**
KUR				AMB	AMB	09 30 14.9	
	60nm,0.3s						
KUR				*eS*	**Sg**	**09 30 25.2**	**-1.6**
KUR				A	A	09 30 31.9	
	710nm,0.4s						
KUR				A	A	09 30 31.9	
	540nm,0.4s						
SHO	**Shikotan**	**1.28**	**247**	*i P*	**Pn**	**09 30 20.6**	**+0.2**
SHO				AMB	AMB	09 30 21.7	
	30nm,0.2s						
SHO				*i S*	**Sg**	**09 30 37.2**	**+0.2**
SHO				A	A	09 30 39.0	
	240nm,0.2s						
SHO				A	A	09 30 39.0	
	360nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**261**	*i P*	**Pn**	**09 30 29.9**	**+0.9**
YUK				AMB	AMB	09 30 31.1	
	180nm,0.5s						
YUK				*i S*	**Sn**	**09 30 52.9**	**-0.3**
YUK				A	A	09 30 58.3	
	430nm,0.4s						
YUK				A	A	09 30 58.3	
	870nm,0.4s						
NEM2	**Nemuro 2**	**2.21**	**244**	P	**Pn**	**09 30 33.3**	**+0.1**
NEM2				*eS*	**Sn**	**09 30 58.5**	**-2.3**
GLVR	**Golovnino**	**2.21**	**254**	*eP*	**Pn**	**09 30 35.0**	**+1.7**
GLVR				AMB	AMB	09 30 37.6	
	60nm,0.3s						
GLVR				*eS*	**Sn**	**09 31 02.1**	**+1.2**
GLVR				A	A	09 31 05.7	
	660nm,0.4s						
GLVR				A	A	09 31 05.7	
	140nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.22**	**244**	*eP*	**Pn**	**09 30 33.3**	**0.0**
NMR				*eS*	**Sn**	**09 30 59.4**	**-1.6**
JRA	**Rausu**	**2.44**	**261**	P	**Pn**	**09 30 37.9**	**+1.5**
JNSB	**Nemuroshibetsu**	**2.56**	**258**	P	**Pn**	**09 30 39.5**	**+1.4**
JNK	**Nakash**	**2.81**	**255**	P	**Pn**	**09 30 42.7**	**+1.1**
JNK				*eS*	**Sn**	**09 31 14.2**	**-1.6**
AKK	**Akkeshi**	**2.95**	**244**	*eP*	**Pn**	**09 30 44.4**	**+0.9**
AKK				*eS*	**Sn**	**09 31 18.1**	**-1.1**
JAK	**Akkeshi**	**3.06**	**244**	P	**Pn**	**09 30 45.4**	**+0.5**
JAK				*eS*	**Sn**	**09 31 19.5**	**-2.3**
JTKR	**Abashiri--Toko**	**3.30**	**265**	P	**Pn**	**09 30 51.0**	**+2.8**
JAR	**Ashorobuto**	**3.56**	**254**	P	**Pn**	**09 30 53.9**	**+2.1**
JCH	**Churui**	**4.10**	**246**	P	**Pn**	**09 31 02.1**	**+2.8**

*IDC **30** 09:56:21.1±1.0, 55°.78S×25°.88W, h0km, mb3.9/4,*
mb1 4.1/5, mb1mx3.9/21, mbtmp3.9/5, ML3.8/1, MS3.7/4,
Ms1 3.7/4, ms1mx3.2/42, Error ellipse: s-maj=40.4km
s-min=25.4km az=63.0
*NEIC **30** 09:56:23.1±0.9, 56°.0S±0°.1×25°.9W±0°.2, h10km±1km,*
mb4.4/21, Error ellipse: s-maj=23.7km s-min=11.0km
az=40.0

ISC 30 09:56:22.6±0.7,55°90S±0°.10×25°8W±0°.1,h10km,n37,
σ1§16/33,mb4.3/14,MS3.6/4,South Sandwich Islands
region

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

2016 MAR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.32**	**280**	Pn	**Pn**	**09 57 56.1**	**+0.5**
VNA1	**Neumayer--Stat**	**16.66**	**159**	P	**P**	**10 00 17.1**	**-1.1**
VNA3	**Neumayer Olymp**	**16.89**	**162**	P	**Pn**	**10 00 19.3**	**+0.7**
VNA2	**Neumayer--Watz**	**17.05**	**159**	P	**Pn**	**10 00 21.2**	**+0.5**
	baz=329,slow=15						
ESPZ	**Base Esperanza**	**17.29**	**232**	P	**Pn**	**10 00 24.0**	**+0.3**
SNAA	**Sanae**	**18.58**	**157**	P	**Pn**	**10 00 42.7**	**+3.1**
SNAA	**Sanae**	**18.58**	**157**	P	**Pn**	**10 00 42.2**	**+2.6**
	0.3nm,0.3s,baz=356,slow=20,SNR=2.2						
SNAA	**Sanae**	**18.58**	**157**	P	**P**	**10 00 38.7**	**-0.7**
BELA	**Belgrano 2**	**22.29**	**185**	P	**P**	**10 01 18.5**	**-1.0**
BELA				IAmb	IAmb	10 01 31.3	
	comp=Z,15nm,1.3s						
USHA	**Ushuaia**	**23.95**	**255**	LR	LR	10 09 16.6	
	comp=Z,137nm,18.5s,baz=91,slow=32						
MG02	**Cerro Sombrero**	**25.17**	**259**	P	**P**	**10 01 47.2**	**-0.5**
QSPA	**South Pole Qui**	**34.35**	**180**	P	**P**	**10 03 09.9**	**+0.7**
QSPA				IAmb	IAmb	10 03 23.9	
	comp=Z,5.5nm,0.8s						
CPUP	**Villa Florida**	**37.29**	**309**	P	**P**	**10 03 32.6**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=121,slow=6.4,SNR=3.6						
CPUP	**Villa Florida**	**37.29**	**309**	P	**P**	**10 03 35.1**	**+0.5**
MT09	**Talagante**	**37.99**	**286**	P	**P**	**10 03 39.7**	**-0.9**
MT09				IAmb	IAmb	10 03 57.2	
	comp=Z,5.5nm,1.1s						
MT02	**Curacav**	**38.46**	**287**	P	**P**	**10 03 44.5**	**+0.1**
MT02				IAmb	IAmb	10 04 13.2	
	comp=Z,7.5nm,1.1s						
VA06	**Catapilco**	**39.08**	**287**	P	**P**	**10 03 49.9**	**+0.3**
VA06				IAmb	IAmb	10 03 53.0	
	comp=Z,10nm,0.9s						
SUR	**Sutherland**	**39.87**	**74**	LR	LR	10 17 26.5	
	comp=Z,146nm,18.9s,baz=171,slow=32						
LCO	**Las Campanas**	**41.55**	**291**	P	**P**	**10 04 11.4**	**+1.0**
LCO				IAmb	IAmb	10 04 19.0	
	comp=Z,12nm,1.3s						
AC04	**Llanos de Chal**	**42.39**	**292**	P	**P**	**10 04 17.8**	**+0.9**
AC04				IAmb	IAmb	10 04 21.7	
	comp=Z,25nm,1.2s						
AC02	**Maricunga**	**42.49**	**295**	P	**P**	**10 04 19.6**	**+1.2**
AC02				IAmb	IAmb	10 04 20.8	
	comp=Z,10nm,1.1s						
AC06	**Mina Casimiro**	**42.70**	**293**	P	**P**	**10 04 19.6**	**+0.1**
AC06				IAmb	IAmb	10 04 20.8	
	comp=Z,15nm,1.4s						
BDFB	**Brasilia**	**43.62**	**328**	P	**P**	**10 04 27.1**	**0.0**
BDFB				IAmb	IAmb	10 04 33.1	
	comp=Z,6.3nm,1.4s						
BOSA	**Boshof**	**45.20**	**75**	LR	LR	10 20 22.8	
	comp=Z,167nm,18.2s,baz=190,slow=32						
LVC	**Limon Verde**	**45.89**	**298**	LR	LR	10 27 33.6	
	comp=Z,40nm,18.0s,baz=199,slow=41						
VNDA	**Vanda**	**46.75**	**182**	P	**P**	**10 04 51.6**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=203,slow=9.9,SNR=4.1						
VNDA	**Vanda**	**46.75**	**182**	P	**P**	**10 04 51.2**	**0.0**
LPAZ	**La Paz**	**50.92**	**304**	P	**P**	**10 05 25.6**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=148,slow=4.7,SNR=8.7						
LPAZ	**La Paz**	**50.92**	**304**	P	**P**	**10 05 25.8**	**+1.2**
LPAZ				IAmb	IAmb	10 05 46.9	
	comp=Z,3.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.56**	**28**	P	**P**	**10 07 49.6**	**0.0

SPSI	**Sidrap Palu**	**3.61**	**182**	P	Pn	10 57 36.9 +0.7
BNSI	**Bone**	**4.05**	**177**	P	Pn	10 57 42.5 +0.3
BKSI	**Bulukumba**	**4.96**	**177**	P	Pn	10 57 55.1 +0.3
PPI	**Padang Panjang**	**19.48**	**270**	P	Pn	11 01 18.6 +10

IDC 30 11:05:41.8±1.6, 24°.07S×176°.75E, h146km±10km, mb3.2/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.7/4, Error ellipse: s-maj=32.6km s-min=26.5km az=78.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.42**	**11**	P	Pn	11 07 15.6	+1.4
	1.2nm,0.3s,baz=128,slow=17,SNR=5.9						
ASAR	**Alice Springs**	**39.07**	**262**	P	P	11 12 55.7	+0.9
	0.6nm,0.6s,baz=95,slow=7.6,SNR=12						
ASAR				pP	pwP	11 13 28.7	-2.8
	0.3nm,0.4s,baz=87,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**39.43**	**267**	P	P	11 12 56.3	-1.5
	0.3nm,0.5s,baz=97,slow=7.6,SNR=28						
WRA				pP	pP	11 13 29.1	+0.7
	0.2nm,0.4s,baz=97,slow=7.7,SNR=2.8						
VNDA	**Vanda**	**53.98**	**184**	P	P	11 14 50.4	+0.3
	1.6nm,1.1s,baz=352,slow=10,SNR=3.0						
VNDA				pP	pP	11 15 22.1	-0.3
	1.0nm,0.8s,baz=38,slow=12,SNR=4.2						

*IDC **30** 11:09:44.8±3.0, 17°.04S×70°.19W, h91km±28km, mb3.2/4, mb1 3.4/7, mb1mx3.2/39, mbtmp3.5/7, MS2.6/2, Ms1 2.7/2, ms1mx2.6/15, Error ellipse: s-maj=39.5km s-min=23.8km az=103.0*

ISC 30 11:09:48.6±1.0, 17°.14S±0°.10×69°.9W±0°.2, h136km, n9, σ2s12/8, mb3.4/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.86**	**63**	P	**Pn**	**11 10 19.4**	**-2.5**
	3.3nm,0.3s,baz=262,slow=12,SNR=83						
LPAZ				LR	LR	11 10 52.3	
	comp=Z,45nm,21.4s,baz=214,slow=32						
LVC	**Limon Verde**	**5.52**	**171**	P	**Pn**	**11 11 06.8**	**-2.3**
	1.2nm,0.3s,baz=358,slow=9.8,SNR=18						
NNA	**Nana**	**8.48**	**306**	LR	LR	11 14 46.4	
	comp=Z,149nm,18.2s,baz=144,slow=37						
SIV	**San Ignacio**	**8.50**	**84**	P	**Pn**	**11 11 48.4**	**-0.5**
	0.6nm,0.3s,baz=286,slow=9.1,SNR=11						
PLCA	**Paso Flores**	**23.52**	**181**	P	**P**	**11 14 47.7**	**+1.2**
	1.6nm,0.8s,baz=356,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**56.57**	**324**	P	**P**	**11 19 16.6**	**-0.8**
	0.1nm,0.4s,baz=58,slow=8.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**76.79**	**72**	P	**P**	**11 21 28.8**	**+2.9**
	0.4nm,0.6s,baz=232,slow=4.3,SNR=2.4						
YKA	**Yellowknife Ar**	**86.80**	**341**	P	**P**	**11 22 17.0**	**-0.1**
	0.4nm,0.6s,baz=136,slow=5.1,SNR=14						
SONM	**Songino Array**	**149.23**	**5**	PKPbc	**PKiKP**	**11 29 22.7**	**+0.1**
	0.1nm,0.3s,baz=267,slow=2.9,SNR=1.4						

*IDC **30** 11:20:35.7±2.5, 29°.85N×113°.97W, h0km, mb3.2/1, mb1 3.4/6, mb1mx3.3/40, mbtmp3.0/6, ML3.0/5, MS3.3/13, Ms1 3.2/13, ms1mx3.1/25, Error ellipse: s-maj=35.7km s-min=14.4km az=26.0*

*ECX **30** 11:20:38.8±0.3, 30°.08N×114°.41W, h10km±19km, MD3.7, ML3.8*

*MEX **30** 11:20:41.6±0.7, 30°.11N×114°.38W, h17km±152km, MD4.0*

ISC 30 11:20:35.8±1.2, 30°.16N±0°.04×114°.34W±0°.04, h6km±10km, n30, σ2s05/29, MS3.5/7, 5C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.98**	**334**	*e*P	**Pn**	**11 20 56.6**	**+0.6**
SFX				*e*S	**Sn**	**11 21 10.7**	**+0.6**
SFX				IAML		11 21 12.9	
	comp=E,2μm,0.8s						
BAHB	**Baha de los**	**1.39**	**150**	*e*P	**Pg**	**11 21 02.1**	**-0.4**
BAHB				*i* S	**Sb**	**11 21 18.9**	**-1.3**
BAHB	**Baha de los**	**1.39**	**150**	*e*P	**Pb**	**11 21 01.7**	**-0.4**
BAHB				*e*S	**Sg**	**11 21 20.3**	**-0.2**
LAPR	**La Primavera**	**1.78**	**79**	*e*P	**Pb**	**11 21 09.3**	**+0.4**
LAPR				*i* S	**Sn**	**11 21 29.8**	**-0.3**
LAPR	**La Primavera**	**1.78**	**79**	*e*P	**Pg**	**11 21 09.9**	**-0.1**
LAPR				*e*S	**Sg**	**11 21 34.5**	**+1.5**
LAPR				IAML		11 21 52.2	
	comp=N,1μm,0.9s						
LAPR				IAML		11 22 08.1	
	comp=E,768nm,1.5s						
SVX	**San Vicente**	**2.01**	**306**	*e*P	**Pb**	**11 21 12.8**	**+0.1**
214A	**Organ Pipe Nat**	**2.22**	**36**	*e*P	**Pn**	**11 21 14.1**	**+0.9**
YMD	**Yuma Desert**	**2.39**	**356**	*e*P	**Pn**	**11 21 17.5**	**+2.0**
CPBX	**Cerro Prieto**	**2.40**	**340**	IAML		11 22 28.4	
	comp=N,1μm,0.9s						
CPBX				*e*		11 22 28.4	
YUH2	**Yuha Desert**	**2.82**	**332**	*e*P	**Pn**	**11 21 23.8**	**+2.4**
CBX	**Cerro Bola**	**2.92**	**318**	*e*P	**Pg**	**11 21 32.7**	**+0.9**
CBX				*e*S	**Sg**	**11 22 09.8**	**+0.1**
CBX	**Cerro Bola**	**2.92**	**318**	*e*P	**Pn**	**11 21 25.1**	**+2.1**
TJIG	**Tijuana**	**3.02**	**319**	*e*P	**Pn**	**11 21 26.3**	**+2.2**
TJIG				*e*S	**Sb**	**11 22 05.3**	**-1.7**
HSIG		**3.17**	**110**	*e*P	**Pg**	**11 21 40.8**	**+4.3**
HSIG				*e*S	**Sg**	**11 22 15.7**	**-1.8**
HSIG		**3.17**	**110**	*e*P	**Pb**	**11 21 30.5**	**-2.0**
PFO	**Pinyon Flats O**	**3.88**	**333**	Pn	**Pb**	**11 21 42.5**	**-2.2**
	comp=N,0.4nm,0.3s,baz=154,slow=15,SNR=4.4						
PFO				Pg	**Pg**	**11 21 51.4**	**+1.2**
	comp=N,3.6nm,0.3s,baz=186,slow=13,SNR=23						
PFO				LR	LR	11 22 39.6	
	comp=N,66nm,21.3s,baz=190,slow=29						
PFO				Lg	Lg	11 22 44.1	
	comp=N,1.5nm,0.3s,baz=217,slow=14,SNR=3.7						
LPIG	**La Paz**	**7.02**	**148**	LR	LR	11 24 45.0	
	comp=N,234nm,20.5s,baz=10,slow=38						
ANMO	**Albuquerque**	**8.19**	**52**	Pn	**Pn**	**11 22 36.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=235,slow=11,SNR=4.8						
ANMO				Lg	Lg	11 24 58.2	
	comp=N,0.0nm,0.3s,baz=245,slow=17,SNR=2.0						
NVAR	**Mina Array Bea**	**8.87**	**339**	Pn	Pn	11 22 52.8	+8.0
	comp=N,0.0nm,0.3s,baz=160,slow=16,SNR=3.0						
NVAR				Pg	**Pg**	**11 23 23.5**	**-2.2**
	comp=N,0.1nm,0.3s,baz=201,slow=41,SNR=2.5						
NVAR				Lg	Lg	11 25 27.9	
	comp=N,0.0nm,0.3s,baz=138,slow=44,SNR=1.3						
NVAR				LR	LR	11 26 12.4	
	comp=N,112nm,21.0s,baz=26,slow=36						
TXAR	**Lajitas Array**	**9.32**	**92**	Pn	**Pn**	**11 22 48.1**	**-2.6**
	comp=N,0.0nm,0.3s,baz=264,slow=16,SNR=1.4						
TXAR				Lg	Lg	11 25 16.4	
	comp=N,0.0nm,0.3s,baz=277,slow=19,SNR=3.5						
TXAR				LR	LR	11 25 26.9	
	comp=N,39nm,19.0s,baz=288,slow=32						
PDAR	**Pinedale Array**	**13.15**	**16**	Pn	**P**	**11 23 49.8**	**-3.8**
	comp=N,0.0nm,0.3s,baz=196,slow=9.4,SNR=2.7						
PDAR				LR	LR	11 29 22.8	
	comp=N,73nm,19.6s,baz=204,slow=39						
YBH	**Yreka Blue Hor**	**13.38**	**332**	LR	LR	11 29 19.9	
	comp=N,75nm,19.9s,baz=152,slow=38						
BBB	**Bella Bella**	**24.24**	**339**	LR	LR	11 35 59.9	
	comp=N,121nm,19.1s,baz=183,slow=38						
TKL	**Tuckaleechee C**	**26.18**	**70**	LR	LR	11 36 58.4	
	comp=N,54nm,19.9s,baz=259,slow=38						
DLBC	**Dease Lake**	**30.26**	**344**	LR	LR	11 40 10.4	
	comp=N,150nm,21.7s,baz=214,slow=38						
SADO	**Sadowa**	**31.24**	**52**	LR	LR	11 39 26.5	
	comp=N,84nm,18.7s,baz=209,slow=36						
ILAR	**Eielson Array**	**40.13**	**339**	P	**P**	**11 28 16.1**	**+4.0**
	comp=N,0.3nm,0.8s,baz=144,slow=7.7,SNR=4.5						
SCHQ	**Schefferville**	**41.74**	**40**	LR	LR	11 44 40.2	
	comp=N,66nm,18.4s,baz=197,slow=35						
FRB	**Frobisher Bay**	**44.25**	**27**	LR	LR	11 47 02.1	
	comp=N,65nm,18.5s,baz=192,slow=36						
SFJD	**Kangerlussuaq**	**52.38**	**26**	LR	LR	11 52 51.5	
	comp=N,56nm,18.9s,baz=240,slow=37						

*NEIC **30** 11:25:29.2±1.4, 18°.6S±0°.1×177°.6W±0°.1, h565km±10km, mb4.2/29, Error ellipse: s-maj=18.6km s-min=17.9km az=161.0*

*IDC **30** 11:25:30.0±1.4, 18°.65S×177°.69W, h566km±17km, mb3.3/9, mb1 3.4/12, mb1mx3.2/31, mbtmp4.1/12, Error ellipse: s-maj=21.3km s-min=16.5km az=130.0*

ISC 30 11:25:28.9±0.5, 18°.56S±0°.10×177°.74W±0°.08, h550km, n48, σ1s47/52, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.09**	**281**	P	**P**	**11 26 56.2**	**+4.6**
	1.3nm,0.3s,baz=126,slow=23,SNR=2.8						
AFI	**Afiamalu**	**7.36**	**52**	P	**P**	**11 27 21.5**	**+1.0**
	1.7nm,0.3s,baz=261,slow=19,SNR=1.6						
AFI				S	**S**	**11 28 49.7**	**-2.2**
	1.8nm,0.3s,baz=266,slow=12,SNR=2.4						
AFI	**Afiamalu**	**7.36**	**52**	P	**P**	**11 27 21.4**	**+0.8**
NIUE	**Niue**	**7.42**	**95**	P	**P**	**11 27 20.7**	**-0.2**
SANVU	**Saraoutou**	**14.73**	**280**	P	**P**	**11 28 37.6**	**+2.0**
DZM	**Mont Dzumac**	**15.24**	**254**	P	**P**	**11 28 41.9**	**+0.9**
	0.4nm,0.3s,baz=76,slow=14,SNR=2.0						
URZ	**Urewera**	**20.13**	**192**	P	**P**	**11 29 24.0**	**-2.0**
	9.4nm,0.5s,baz=284,slow=2.2,SNR=17						
URZ	**Urewera**	**20.13**	**192**	P	**P**	**11 29 24.6**	**-1.4**
BKZ	**Black Stump Fm**	**21.13**	**193**	P	**P**	**11 29 34.0**	**-1.1**
RPZ	**Rata Peaks**	**26.80**	**198**	P	**P**	**11 30 25.6**	**+0.3**
	2.0nm,0.4s,baz=48,slow=18,SNR=2.0						
EIDS	**Eidsvold**	**29.65**	**251**	P	**P**	**11 30 50.6**	**+0.2**
EIDS				IAmb	IAmb	11 30 52.7	
	comp=Z,10nm,1.4s						
ARMA	**Armidale**	**30.17**	**241**	P	**P**	**11 30 56.1**	**+1.1**
ARMA				IAmb	IAmb	11 31 16.1	
	comp=Z,9.4nm,1.4s						
CTAO	**Charters Tower**	**33.97**	**261**	P	**P**	**11 31 27.7**	**+0.4**
CTAO				IAmb	IAmb	11 31 28.1	
	comp=Z,6.9nm,0.7s						
PMG	**Port Moresby**	**35.20**	**280**	P	**P**	**11 31 38.0**	**+0.4**
COEN	**Coen**	**37.75**	**271**	P	**P**	**11 31 58.8**	**+0.2**
COEN				IAmb	IAmb	11 31 59.8	
	comp=Z,7.4nm,0.8s						
STKA	**Stephens Creek**	**38.88**	**242**	P	**P**	**11 32 08.4**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=87,slow=9.7,SNR=5.7						
STKA	**Stephens Creek**	**38.88**	**242**	P	**P**	**11 32 08.5**	**+0.9**
BBOO	**Buckleboo**	**43.65**	**242**	P	**P**	**11 32 45.5**	**+0.2**
BBOO				IAmb	IAmb	11 33 03.9	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**11 32 54.8**	**-0.8**
WB0	**Warramunga Arr**	**45.11**	**260**	P	**P**	**11 32 56.0**	**-0.8**
WB0				IAmb	IAmb	11 32 56.7	
	comp=Z,6.7nm,0.5s						
WB2	**Warramunga Arr**	**45.13**	**260**	P	**P**	**11 32 56.7**	**-0.2**
WB2				IAmb	IAmb	11 32 56.8	
	comp=Z,6.4nm,0.5s						
WRAB	**Tennant Creek**	**45.13**	**260**	P	**P**	**11 32 56.3**	**-0.6**
WRAB				IAmb	IAmb	11 32 56.7	
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**11 32 56.4**	**-0.6**
	comp=Z,4.1nm,0.4s,baz=97,slow=7.3,SNR=78						
WRA				PcP	**PcP**	**11 34 25.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=98,slow=7.5,SNR=2.8						
WRA				S	**S**	**11 38 51.7**	**-5.1**
	comp=Z,0.2nm,0.9s,baz=99,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**11 32 56.4**	**-0.6**
AS31	**Alice Springs**	**45.23**	**255**	P	**P**	**11 32 57.3**	**-0.4**
AS31				IAmb	IAmb	11 32 58.5	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**11 32 57.4**	**-0.3**
	comp=Z,6.0nm,0.4s,baz=90,slow=8.2,SNR=145						
ASAR				PcP	**PcP**	**11 34 25.3**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=102,slow=3.4,SNR=6.2						
ASAR				S	**S**	**11 38 55.0**	**-3.1**
	comp=Z,0.7nm,0.8s,baz=91,slow=16,SNR=7.4						
FORT	**Forrest**	**50.31**	**245**	P	**P**	**11 33 34.7**	**-0.7**
FORT				IAmb	IAmb	11 33 35.2	
	comp=Z,6.3nm,0.8s						
KNRA	**Kununurra**	**51.06**	**265**	P	**P**	**11 33 40.4**	**-0.7**
KNRA				IAmb	IAmb	11 33 53.6	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P	**P**	**11 33 58.8**	**-0.1**
PSA00	**Pilbara Seismi**	**58.36**	**256**	P	**P**	**11 34 31.5**	**-0.7**
PSA00				IAmb	IAmb	11 34 42.4	
	comp=Z,15nm,1.3s						
VNDA	**Vanda**	**59.85**	**185**	P	**P**	**11 34 42.3**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=0.5,slow=4.1,SNR=3.0						
VNDA	**Vanda**	**59.85**	**185**	P	**P**	**11 34 43.0**	**+1.8**
JAGI	**Jajag, Banyuwa**	**66.66**	**269**	P	**P**	**11 35 24.2**	**-1.7**
UGM	**Wanagama**	**70.26**	**268**	P	**P**	**11 35 46.7**	**-1.0**
JHS	**Saijyo**	**70.81**	**319**	P	**P**	**11 35 50.5**	**+0.1**
QSPA	**South Pole Qui**	**71.50**	**180**	P	**P**	**11 35 55.2**	**+1.1**
QSPA				IAmb	IAmb	11 35 58.2	
	comp=Z,6.5nm,1.4s						
TPUB	**Ta-pu**	**73.14**	**302**	P	**P**	**11 36 02.7**	**-1.6**
PEA0B	**Petropavlovsk-**	**74.47**	**345**	P	**P**	**11 36 10.8**	**-0.3**
PEA0B				IAmb	IAmb	11 36 26.7	
	comp=Z,14nm,1.3s						
CHGN	**Chignik**	**76.33**	**11**		pP	11 38 17.0	+0.5
TRF	**Thorofare Moun**	**84.51**	**12**	P	**P**	**11 37 02.7**	**-1.2**
RND	**Reindeer**	**84.76**	**13**	P	**P**	**11 37 04.5**	**-0.5**
RND				IAmb	IAmb	11 37 26.6	
	comp=Z,4.4nm,1.2s						
TXAR	**Lajitas Array**	**85.81**	**57**	P	**P**	**11 37 12.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.7,SNR=3.5						
CCB	**Clear Creek Bu**	**86.08**	**12**	P	**P**	**11 37 09.7**	**-1.5**
IMAR	**Indian Mountai**	**86.21**	**10**	P	**P**	**11 37 11.0**	**-0.8**
ILAR	**Eielson Array**	**86.38**	**13**	P	**P**	**11 37 11.1**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=215,slow=4.9,SNR=7.5						
CMAR	**Chiang Mai Arr**	**89.70**	**289**	P	**P**	**11 37 30.3**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=94,slow=3.6,SNR=4.5						
ARCES	**ARCESS Array B**	**127.07**	**350**	PKP	**PKPdf**	**11 43 29.2**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=338,slow=2.6,SNR=3.7						
ARCES	**ARCESS Array B**	**127.07**	**350**		**PKPdf**	**11 43 29.6**	**-0.5**

*BJI **30** 12:26:37.1±0.0, 27°.87N×85°.65E, h9km, mb4.2/11, mB4.5/4, Ms4.1/1*

*MOS **30** 12:26:38.7±1.3, 27°.79N×85°.52E, h14km, mb4.4/9, Error ellipse: s-maj=11.6km s-min=6.4km az=115.1*

*IDC **30** 12:26:38.1±0.8, 27°.70N×85°.49E, h0km, mb4.0/16, mb1 4.1/19, mb1mx3.8/70, mbtmp3.9/19, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/89, Error ellipse: s-maj=26.7km s-min=15.1km az=53.0*

*NEIC **30** 12:26:40.3±1.1, 27°.82N±0°.08×85°.55E±0°.05, h10km±1km, mb4.1/31, Error ellipse: s-maj=15.4km s-min=4.8km az=157.0*

*DMN **30** 12:26:41.1±0.1, 27°.86N×85°.74E, h10km, Ml4.7/6, Error ellipse: s-maj=2.9km s-min=1.2km az=10.0*

*NDI **30** 12:26:43.3±3.8, 27°.85N×85°.65E, h9km±22km, ML3.9, mb4.1(NEIC)*

ISC 30 12:26:40.4±0.9, 27°.84N±0°.03×85°.71E±0°.02, h12km±6km, n114, σ1s58/133, mb4.1/30, 3C-7D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**0.17**	**66**	*e*Pg	**Pg**	**12 26 45.0**	**+0.4**
GUN				*e*Sg	**Sg**	**12 26 46.9**	**-0.6**
	71μm,0.2s						
PKI	**Pulchoki**	**0.38**	**224**	*e*Pg	**Pb**	**12 26 49.5**	**+0.2**
KKN	**Kakani**	**0.38**	**262**	*e*Pg	**Pb**	**12 26 49.3**	**0.0**
PKIN	**Phulchoki**	**0.38**	**226**	*e*Pg	**Pb**	**12 26 49.5**	**+0.2**
JIRN	**Jiri**	**0.47**	**113**	*e*Pg	**Pg**	**12 26 50.2**	**+0.5**
JIRN				*e*Sg	**Sg**	**12 26 55.9**	**-0.1**
DMN	**Daman**	**0.58**	**247**	*e*Pg	**Pb**	**12 26 53.2**	**+0.5**
DMN				*e*Sg	**Sb**	**12 27 01.9**	**+0.9**
GKN	**Gorkha**	**0.96**	**280**	*e*Pg	**Pn**	**12 27 00.2**	**+0.3**
GKN				*e*Sg	**Sb**	**12 27 11.9**	**+0.1**
	570nm,0.2s						
RAMN	**Ramite**	**1.19**	**138**	*e*Pg	**Pg**	**12 27 03.3**	**-0.1**
RAMN				*e*Sg	**Sb**	**12 27 18.6**	**+0.1**
	2μm,0.3s						
ODAN	**Odare**	**1.79**	**123**	*e*Pg	**Pg**	**12 27 14.3**	**-0.5**
ODAN				*e*Sg	**Sg**	**12 27 38.5**	**+0.5**
	3μm,0.4s						
DANN	**Dangsing**	**1.79**	**287**	*e*Pg	**Pg**	**12 27 14.7**	**-0.2**
DANN				*e*Sg	**Sg**	**12 27 38.7**	**+0.5**
	952nm,0.2s						
TAPN	**Taplejung**	**1.84**	**105**	*e*Pg	**Pb**	**12 27 14.7**	**+0.5**
TAPN				*e*Sg	**Sg**	**12 27 39.0**	**-0.8**
	2μm,0.2s						
TAPN				*e*Sg	**Sg**	**12 27 39.1**	**-0.8**
	757nm,0.4s						
KOLN	**Koldanda**	**1.87**	**268**	*e*Pg	**Pg**	**12 27 15.7**	**-0.6**
KOLN				*e*Sg	**Sg**	**12 27 39.8**	**-0.8**
PYUN	**Piuthan**	**2.42**	**277**	*e*Pg	**Pg**	**12 27 27.0**	**+0.2**
GTK	**Tadong**	**2.62**	**101**	*e*P	**Pb**	**12 27 26.4**	**-1.0**
GTK				*e*S	**Sb**	**12 28 01.9**	**+2.3**
GTK				IAML		12 28 03.0	
	comp=E,1μm,0.1s						
BOK	**Bokaro**	**4.03**	**178**	*e*P	**Pb**	**12 27 47.8**	**-3.6**
BOK				*e*S	**Sn**	**12 28 30.5**	**+1.3**
BOK				IAML		12 28 50.3	
	comp=E,254nm,1.0s						

DHUB	**DHUBRI**	**4.24**	**114**	*e*P	**Pn**	**12 27 46.5**	**+1.8**
DHUB				*e*S	**Sb**	**12 28 44.4**	**-1.6**
TURI	**Tura**	**4.73**	**118**	*e*P	**Pn**	**12 27 54.1**	**+2.6**
TURI				*e*S	**Sn**	**12 28 44.4**	**-1.9**
LSA	**Lhasa**	**5.12**	**68**	P	**Pn**	**12 27 57.6**	**+0.2**
LSA						12 28 59.7	
LSA	**Lhasa**	**5.12**	**68**	Pn	**Pn**	**12 27 57.6**	**+0.2**
LSA				Sn	**Sn**	**12 28 59.7**	**+3.1**
LSA	**Lhasa**	**5.12**	**68**	Pn	**Pn**	**12 27 56.5**	**-0.9**
LSA				Sn	**Sn**	**12 28 59.0**	**+2.3**
GUWA	**GUWAHATI**	**5.58**	**106**	*e*S	**Sn**	**12 29 08.9**	**+1.5**
SHL	**Shillong**	**5.97**	**111**	P	**Pn**	**12 28 10.0**	**+1.2**
SHL	**Shillong**	**5.97**	**111**		**Pn**	**12 28 09.9**	**+1.2**
SHL	**Shillong**	**5.97**	**111**	*e*P	**Pn**	**12 28 10.1**	**+1.2**
SHL				*e*S	**Sn**	**12 29 15.5**	**-1.7**
SHL				IAML		12 29 48.5	
	comp=N,277nm,0.2s						
JBP	**Jabalpur**	**6.96**	**229**	*ex*	**Pb**	**12 28 42.8**	**+1.5**
JBP				*e*S	**Sn**	**12 29 48.4**	**+7.2**
KOHI	**KOHIMA**	**7.80**	**104**	*e*P	Pn	12 28 41.3	+7.4
KOHI				*e*S	**Sn**	**12 30 01.9**	**-0.3**
KOHI				IAML		12 30 51.5	
	comp=E,96nm,1.3s						
KOHI				IAML		12 30 52.2	
	comp=N,78nm,1.3s						
MOKO	**MOKOCHONG**	**8.00**	**99**	*e*P	**Pn**	**12 28 41.3**	**+4.7**
MOKO				*e*S	**Sn**	**12 30 04.4**	**-2.6**
SMLA	**Simla**	**8.13**	**296**	*e*P	**Pn**	**12 28 39.6**	**+1.3**
SMLA				*e*S	**Sn**	**12 30 06.4**	**-3.7**
SMLA				IAML		12 30 10.2	
	comp=E,44nm,0.7s						
SMLA				IAML		12 30 13.1	
	comp=E,36nm,0.4s						
SMLA				IAML		12 30 14.0	
	comp=N,42nm,0.1s						
BHPL	**Bhopal**	**8.77**	**240**	*e*P	**Pn**	**12 28 49.8**	**+2.7**
BHPL				*e*S	**Sn**	**12 30 20.8**	**-5.2**
BHPL				IAML		12 31 22.8	
	comp=E,62nm,1.3s						
BHPL				IAML		12 31 25.3	
	comp=N,78nm,0.8s						
NIL	**Nilore**	**12.17**	**301**	P	**Pn**	**12 29 32.0**	**-1.7**
NIL	**Nilore**	**12.17**	**301**		**Pn**	**12 29 32.0**	**-1.7**
HYBB	**Hyderabad (bro**	**12.29**	**214**	*e*P	**Pn**	**12 29 34.5**	**-0.9**
CEP	**Cherat**	**13.27**	**300**	P	**Pn**	**12 29 45.5**	**-3.2**
KSH	**Kashi**	**14.17**	**328**	P	**Pn**	**12 29 57.3**	**-3.8**
KSH				sP	P	12 30 04.3	-4.3
KSH				pmax	pmax		
	comp=N,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.33**	**125**	Pn	**Pn**	**12 30 17.4**	**+0.7**
	comp=N,0.7nm,0.3s,baz=302,slow=12,SNR=9.7						
CMAR	**Chiang Mai Arr**	**15.33**	**125**	*e*P	**P**	**12 30 20.7**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.33**	**125**		**Pn**	**12 30 16.5**	**-0.2**
KBL	**Kabul**	**15.74**	**299**	P	**Pn**	**12 30 20.3**	**-1.8**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**15.74**	**299**	Pn	**Pn**	**12 30 20.3**	**-1.8**
KBL				IAmb	IAmb	12 30 34.1	
	comp=Z,7.1nm,0.8s						
KDJ	**Kajisay**	**15.86**	**336**	P	**Pn**	**12 30 23.3**	**-0.3**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KDJ	**Kajisay**	**15.86**	**336**	Pn	**Pn**	**12 30 23.3**	**-0.3**
WMQ	**Urumqi**	**16.02**	**5**	*e*P	**Pn**	**12 30 25.5**	**-0.1**
BOOM	**Boomskoye usch**	**16.63**	**334**	P	**Pn**	**12 30 32.2**	**-1.3**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOOM	**Boomskoye usch**	**16.63**	**334**		**Pn**	**12 30 32.2**	**-1.3**
GAR	**Garm**	**16.97**	**315**		**Pn**	**12 30 36.7**	**-1.1**
GAR				IAmb	IAmb	12 30 48.7	
	comp=Z,6.4nm,0.7s						
BTK	**Batken**	**17.32**	**319**	P	**Pn**	**12 30 38.5**	**-3.6**
BTK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BTK	**Batken**	**17.32**	**319**	P	**Pn**	**12 30 38.5**	**-3.6**
BTK				IAmb	IAmb	12 30 45.7	
	comp=Z,8.5nm,0.9s						
AAK	**Ala-Archa**	**17.35**	**331**	P	**Pn**	**12 30 43.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=205,slow=10,SNR=3.6						
AAK	**Ala-Archa**	**17.35**	**331**	*e*P	**P**	**12 30 44.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
AAK	**Ala-Archa**	**17.35**	**331**	P	**Pn**	**12 30 40.6**	**-1.9**
CHGR	**Chuyangaron**	**17.52**	**312**	P	**Pn**	**12 30 42

NACGM	**Naroch**		**49.97 320**	⇑	*eP*		P	12 35 23.3	-11
BURAR	**Bucovina Array**		**50.41 310**		P		**P**	**12 35 36.5**	**-1.3**
BURAR					IAmb		IAmb	12 35 38.8	
	comp=Z,1.9nm,1.1s								
FINES	**FINESS Array B**		**51.50 328**		P		**P**	**12 35 45.3**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=100,slow=9.9,SNR=4.3								
FINES	**FINESS Array B**		**51.50 328**		*eP*		**P**	**12 35 46.5**	**+1.0**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**		**51.50 328**		P		**P**	**12 35 44.9**	**-0.6**
MA2	**Magadan**		**53.85 35**	⇑	*eP*		**P**	**12 36 03.9**	**+0.9**
MA2					pmax		pmax		
	comp=Z,6.0nm,2.5s								
ARCES	**ARCESS Array B**		**53.87 338**		P		**P**	**12 36 03.6**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=95,slow=7.5,SNR=4.7								
ARCES	**ARCESS Array B**		**53.87 338**		*eP*		**P**	**12 36 04.3**	**+1.3**
ARCES					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ARCES	**ARCESS Array B**		**53.87 338**		P		**P**	**12 36 02.5**	**-0.4**
SEY	**Seymchan**		**55.00 31**	⇓	*iP*		**P**	**12 36 12.0**	**+0.7**
HFS	**Hagfors**		**57.38 326**		P		**P**	**12 36 27.3**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=72,slow=9.3,SNR=2.4								
NB201	**NORSAR Array S**		**58.56 327**		P		**P**	**12 36 36.1**	**-0.5**
NOA	**NORSAR Array B**		**58.59 327**		P		**P**	**12 36 35.5**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=87,slow=7.2,SNR=2.3								
BILL	**Bilibino**		**60.98 25**		*eP*		**P**	**12 36 53.8**	**+0.6**
BILL					*e*			12 37 31.6	
BILL					*e*			12 39 10.1	
BILL					pmax		pmax		
	comp=Z,8.0nm,2.3s								
KEST	**Kesra**		**63.90 298**		P		**P**	**12 37 12.4**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=81,slow=4.4,SNR=5.3								
KEST	**Kesra**		**63.90 298**		P		**P**	**12 37 12.2**	**-1.1**
WB0	**Warramunga Arr**		**66.77 130**		P		**P**	**12 37 32.1**	**+0.1**
WRA	**Warramunga Arr**		**66.86 130**		P		**P**	**12 37 32.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=323,slow=6.5,SNR=18								
WRA	**Warramunga Arr**		**66.86 130**		P		**P**	**12 37 31.9**	**-0.6**
WRAB	**Tennant Creek**		**66.86 130**		P		**P**	**12 37 32.6**	**+0.1**
WRAB					pmax		pmax		
	comp=Z,5.0nm,0.6s								
WRAB	**Tennant Creek**		**66.86 130**		P		**P**	**12 37 32.6**	**+0.1**
WB2	**Warramunga Arr**		**66.86 130**		P		**P**	**12 37 32.1**	**-0.4**
WB2					IAmb		IAmb	12 37 33.2	
	comp=Z,5.9nm,1.2s								
WR0	**Warramunga Arr**		**67.00 130**		P		**P**	**12 37 33.7**	**+0.2**
AS31	**Alice Springs**		**69.16 133**		P		**P**	**12 37 47.3**	**+0.3**
AS31					IAmb		IAmb	12 37 47.7	
	comp=Z,0.5nm,0.7s								
ASAR	**Alice Springs**		**69.16 133**		P		**P**	**12 37 47.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=315,slow=6.2,SNR=25								
ASAR	**Alice Springs**		**69.16 133**		P		**P**	**12 37 46.8**	**-0.2**
K20K	**Telida**		**77.66 24**		P		**P**	**12 38 37.4**	**+0.9**
BMAR	**Burnt Mountain**		**77.87 18**		P		**P**	**12 38 39.1**	**+1.5**
TORD	**Torodi Ar. Bea**		**78.76 279**		P		**P**	**12 38 42.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=76,slow=6.1,SNR=2.7								
ILAR	**Eielson Array**		**79.09 20**		P		**P**	**12 38 44.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.0,SNR=2.6								
YKA	**Yellowknife Ar**		**88.52 9**		P		**P**	**12 39 32.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=334,slow=5.0,SNR=5.8								
YKA	**Yellowknife Ar**		**88.52 9**		*eP*		**P**	**12 39 33.6**	**+1.1**

NOU 30 12:29:22.5, 15.91S×168.58E, h265km, MLv4.1/10,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**1.40**	**289**	P		Pn	12 30 01.4	-0.2
DVP	**Devils Point**	**1.84**	**192**	P		Pn	12 30 05.4	+0.5
MARNC	**Mare, Loyalty**	**5.57**	**185**	P		Pn	12 30 44.5	-1.1
DZM	**Mont Dzumac**	**6.45**	**198**	P		Pn	12 30 57.0	+0.4
ONTNC	**Ouen Toro**	**6.67**	**197**	P		Pn	12 30 59.8	+0.5
PINNC	**Pines Island,**	**6.75**	**189**	P		Pn	12 31 00.2	0.0

IDC 30 12:44:60.0±1.4, 18.45N×141.70E, h0km, mb3.8/3,
mb1 4.0/5, mb1mx3.5/42, mbtmp4.1/5, ML4.0/2, MS3.4/1,
Ms1 3.4/1, ms1mx2.3/85, Error ellipse: s-maj=72.9km
s-min=22.2km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.71**	**147**	Pn		Pn	12 46 28.0	+1.9
	4.3nm,0.3s,baz=329,slow=18,SNR=2.3							
GUMO				Sn		Sn	12 47 29.3	-3.1
	3.5nm,0.3s,baz=21,slow=12,SNR=2.0							
JCJ	**Chichijima**	**8.62**	**3**	Pn		Pn	12 47 07.2	+1.2
	1.7nm,0.3s,baz=254,slow=19,SNR=1.5							
JCJ				Sn		Sn	12 48 44.9	+1.0
	1.3nm,0.3s,baz=233,slow=20,SNR=1.4							
BATI	**Baumata**	**33.58**	**213**	LR		LR	13 06 06.7	
	comp=Z,54nm,18.2s,baz=208,slow=38							
PETK	**Petropavlovsk-**	**36.76**	**16**	P		P	12 52 08.6	-0.6
	1.4nm,0.7s,baz=168,slow=7.4,SNR=2.6							
WRA	**Warramunga Arr**	**38.83**	**191**	P		P	12 52 27.0	+0.1
	1.8nm,0.6s,baz=18,slow=8.1,SNR=2.7							
ASAR	**Alice Springs**	**42.55**	**191**	P		P	12 52 56.8	-0.8
	0.3nm,0.7s,baz=21,slow=8.0,SNR=8.4							

*IDC **30** 13:00:07.1±3.7, 16.71S×70.59W, h58km±35km, mb3.3/4,*
mb1 3.7/7, mb1mx3.5/27, mbtmp3.7/7, ML3.5/3, MS3.4/9,
Ms1 3.4/9, ms1mx3.2/21, Error ellipse: s-maj=41.0km
s-min=19.2km az=100.0

ISC 30 13:00:04.4±0.9, 16.80S±0.07×70.8W±0.1, h35km, n22,
σ2s 04/18, mb3.7/4, MS3.4/5, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB12	**IPOC Station P**	**1.86**	**166**	⇑ *iP*		Pn	**13 00 31.8**	**-2.0**
PB12				*eS*		Sn	**13 00 54.1**	**-2.0**
PB12				IAML			13 01 01.6	
	comp=N,613nm,0.5s							
PB16	**IPOC Station P**	**1.96**	**141**	⇑ *eP*		Pn	**13 00 33.0**	**-2.7**
LPAZ	**La Paz**	**2.61**	**79**	P		Pn	**13 00 45.1**	**+0.3**
	comp=N,4.5nm,0.3s,baz=256,slow=14,SNR=109							
LPAZ				LR		LR	13 01 51.5	
	comp=N,463nm,19.7s,baz=222,slow=44							
LPAZ	**La Paz**	**2.61**	**79**	*eP*		Pn	**13 00 45.0**	**+0.3**
PB11	**IPOC Station P**	**3.14**	**160**	*eP*		Pn	**13 00 50.0**	**-1.5**
PB11				*eS*		Sn	**13 01 27.3**	**-0.5**
PB11				IAML			13 01 35.9	
	comp=E,307nm,0.4s							
GO01	**Chusmiza**	**3.23**	**152**	*eP*		Pn	**13 00 54.6**	**+1.4**
HMBC	**Humberstone**	**3.56**	**166**	*eP*		Pn	**13 00 57.7**	**+0.3**
LVC	**Limon Verde**	**6.04**	**163**	P		Pn	**13 01 32.9**	**+1.2**
	comp=E,2.2nm,0.3s,baz=18,slow=7.0,SNR=23							
LVC				S		Sn	**13 02 45.7**	**+5.9**
	comp=E,0.7nm,0.3s,baz=216,slow=16,SNR=1.4							
NNA	**Nana**	**7.56**	**309**	LR		LR	13 04 57.3	
	comp=E,297nm,18.4s,baz=143,slow=38							
SIV	**San Ignacio**	**9.37**	**86**	P		Pn	**13 02 15.7**	**-1.4**
	comp=E,0.7nm,0.3s,baz=272,slow=11,SNR=5.0							
SIV				LR		LR	13 06 13.4	
	comp=E,172nm,20.7s,baz=286,slow=40							
CPUP	**Villa Florida**	**15.70**	**129**	LR		LR	13 10 54.2	
	comp=E,88nm,20.8s,baz=344,slow=42							
PLCA	**Paso Flores**	**23.85**	**180**	P		**P**	**13 05 15.4**	**+1.0**
	comp=E,2.2nm,0.8s,baz=359,slow=11,SNR=7.7							
MDP	**Montagnes des**	**28.21**	**41**	LR		LR	13 17 27.5	
	comp=E,88nm,19.4s,baz=234,slow=37							
JTS	**Las Juntas de**	**30.34**	**332**	LR		LR	13 18 56.4	
	comp=E,94nm,18.2s,baz=202,slow=37							
RCBR	**Riachuelo**	**35.85**	**76**	LR		LR	13 22 34.2	
	comp=E,90nm,20.7s,baz=338,slow=38							
RPN	**Rapa Nui**	**37.05**	**247**	LR		LR	13 18 53.2	
	comp=E,56nm,21.2s,baz=102,slow=30							
TKL	**Tuckaleechee C**	**53.60**	**347**	LR		LR	13 33 26.7	
	comp=E,33nm,18.5s,baz=298,slow=37							
TXAR	**Lajitas Array**	**55.77**	**325**	P		**P**	**13 09 38.6**	**+0.4**
	comp=E,0.2nm,0.6s,baz=156,slow=4.6,SNR=1.9							
TORD	**Torodi Ar. Bea**	**77.55**	**72**	P		**P**	**13 11 55.8**	**-1.5**
	comp=E,0.5nm,0.7s,baz=258,slow=6.3,SNR=2.8							
YKA	**Yellowknife Ar**	**86.19**	**341**	P		**P**	**13 12 42.1**	**+0.4**
	comp=E,0.4nm,0.6s,baz=136,slow=5.1,SNR=10							
ASAR	**Alice Springs**	**133.09**	**212**	PKP		**PKPdf**	**13 19 17.0**	**-0.1**
	comp=E,0.2nm,0.7s,baz=119,slow=1.9,SNR=2.1							
WRA	**Warramunga Arr**	**135.91**	**215**	PKP		**PKPdf**	**13 19 21.8**	**-0.7**
	comp=E,0.4nm,1.0s,baz=129,slow=1.9,SNR=1.9							

*DNK **30** 13:10:20.5±0.6, 58.83N×15.12E, h0km, ML2.0(UPP),*
Explosion

UPP 30 13:10:20.0±0.1, 58.83N×15.12E, h0km, ML2.0,
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASKU	**Askersund**	**0.17**	**292**	P		Pg	13 10 23.4	+0.2
ASKU				S		Sg	13 10 25.7	+0.4
ASKU	**Askersund**	**0.17**	**292**	P		Pg	13 10 23.4	+0.2
ASKU				S		Sg	13 10 25.7	+0.4
LNKU	**Linkoeping**	**0.64**	**162**	P		Pg	13 10 32.2	-0.1
LNKU	**Linkoeping**	**0.64**	**162**	P		Pg	13 10 32.2	-0.1
NRAU	**Nora**	**0.74**	**357**	P		Pg	13 10 34.0	-0.2
NRAU	**Nora**	**0.74**	**357**	P		Pg	13 10 34.0	-0.2
ESKU	**Eskilstuna**	**0.77**	**58**	P		Pg	13 10 34.6	-0.1
ESKU	**Eskilstuna**	**0.77**	**58**	P		Pg	13 10 34.6	-0.1
VIKU	**Vikbolandet**	**0.89**	**111**	P		Pg	13 10 36.3	-0.7
VIKU	**Vikbolandet**	**0.89**	**111**	P		Pg	13 10 36.3	-0.7
FKPU	**Falk**	**1.00**	**228**	P		Pg	13 10 39.0	-0.1
FKPU				S		Sg	13 10 52.2	+0.2
FKPU	**Falk**	**1.00**	**228**	P		Pg	13 10 39.0	-0.1
FKPU				S		Sg	13 10 52.2	+0.2
BACU	**Backbrunna**	**1.44**	**44**	P		Pn	13 10 47.0	-0.3
BACU	**Backbrunna**	**1.44**	**44**	P		Pn	13 10 47.0	-0.3
FINU	**Finntorp**	**1.48**	**294**	P		Pn	13 10 47.0	-0.8
FINU	**Finntorp**	**1.48**	**294**	P		Pn	13 10 47.0	-0.8
UDD	**Uddeholm**	**1.48**	**329**	P		Pn	13 10 47.9	0.0
NYNU	**Nynaeshamn**	**1.50**	**82**	P		Pn	13 10 47.5	-0.7
NYNU	**Nynaeshamn**	**1.50**	**82**	P		Pn	13 10 47.5	-0.7
VANU	**Vaenersborg**	**1.63**	**259**	P		Pn	13 10 49.3	-0.6
VANU				S		Sn	13 11 11.4	-0.1
VANU	**Vaenersborg**	**1.63**	**259**	P		Pn	13 10 49.3	-0.6
VANU				S		Sn	13 11 11.4	-0.1
FALU	**Falun**	**1.71**	**12**	P		Pn	13 10 51.1	+0.1
FALU	**Falun**	**1.71**	**12**	P		Pn	13 10 51.1	+0.1
GNOU	**Gnosjoe**	**1.71**	**206**	P		Pn	13 10 51.3	+0.3
GNOU	**Gnosjoe**	**1.71**	**206**	P		Pn	13 10 51.3	+0.3

BER 30 13:10:50.2±1.1, 60.69N×5.57E, h0km, ML1.1, 1C,
Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASK	**Askoy**	**0.28**	**222**	⇑ *iP*		Pg	13 10 55.7	+0.2
ASK				*eS*		Sg	13 10 59.5	+0.4
ASK				IAML			13 11 00.9	
	comp=Z,34nm,0.4s							
SUE	**Sulen**	**0.54**	**313**	*eP*		Pg	13 10 59.9	-0.6
SUE				*eS*		Sg	13 11 06.9	-0.7
SUE				IAML			13 11 13.7	
	comp=Z,9.4nm,0.5s							
HYA	**Hoyanger**	**0.56**	**32**	*eP*		Pg	13 11 00.4	-0.6
HYA				*eS*		Sg	13 11 08.0	-0.3
HYA				IAML			13 11 15.2	
	comp=Z,9.8nm,0.6s							
FOO	**Floro**	**0.95**	**345**	*eP*		Pg	13 11 06.4	-1.9
FOO				*eS*		Sg	13 11 19.6	-1.0
FOO				IAML			13 11 25.4	
	comp=Z,8.0nm,0.4s							
KMY	**Karmoy**	**1.49**	**186**	*eP*		Pn	13 11 16.6	-1.6
KMY				*eS*		Sg	13 11 34.7	-3.4
KMY				IAML			13 11 42.6	
	comp=Z,4.2nm,0.7s							
AKN	**Aaknes**	**1.64**	**24**	*eP*		Pn	13 11 17.9	-2.4
AKN				*e*Sg		Sn	13 11 41.8	-0.4

*DNK **30** 13:28:56.5±0.8, 59.62N×22.25E, h0km, ML2.1(UPP),*
Suspected explosion
*HEL **30** 13:28:56.7±0.1, 59.62N×22.26E, h0km, ML1.8,*
ML2.1(UPP), Explosion
*HEL **30** 13:28:56.7, 59.62N×22.26E, h0km, ML1.8, Explosion*
*IDC **30** 13:28:57.2±2.2, 59.65N×22.47E, h0km, mb1 3.1/3,*
mb1mx2.9/42, mbtmp3.0/3, ML1.9/3, Error ellipse:
s-maj=26.7km s-min=9.4km az=158.0
*LVSN **30** 13:28:58.0±3.5, 59.61N×22.36E, h0km±34km, ML2.0*
*UPP **30** 13:28:58.7±1.0, 59.63N×21.90E, h0km, ML2.1, Suspected*
explosion

ISC 30 13:28:55.4±0.7, 59.68N±0.03×22.38E±0.02, h0km, n61,
σ0s 99/84, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**1.15**	**61**	*eP*		**Pb**	**13 29 18.1**	**0.0**
MEF	**Metsahovi**	**1.15**	**61**	*eP*		**Pn**	**13 29 18.7**	**0.0**
MEF				*eS*		**Sn**	**13 29 34.5**	**-0.6**
MEF				*eS*		**Sb**	**13 29 34.8**	**+1.2**
MEF				AML		AML	13 29 35.4	
	comp=N,13nm,0.1s							
MEF				AML		AML	13 29 35.4	
	comp=Z,19nm,0.4s							
MEF				AML		AML	13 29 44.8	
	comp=E,16nm,0.1s							
MEF	**Metsahovi**	**1.15**	**61**	*eP*		**Pn**	**13 29 18.7**	**0.0**
MEF				*eS*		**Sn**	**13 29 34.5**	**-0.6**
MTSE	**Matsula**	**1.22**	**142**	*eP*		**Pg**	**13 29 18.3**	**-0.5**
MTSE	**Matsula**	**1.22**	**142**	*eP*		**Pg**	**13 29 18.2**	**-0.5**
MTSE	**Matsula**	**1.22**	**142**	*eP*		**Pg**	**13 29 18.2**	**-0.5**
MTSE				*eS*		**Sg**	**13 29 33.7**	**-0.8**
AAL	**Aland**	**1.30**	**294**	*eP*		**Pg**	**13 29 19.2**	**-1.1**
AAL	**Aland**	**1.30**	**294**	P		**Pg**	**13 29 19.3**	**-1.0**
AAL	**Aland**	**1.30**	**294**	*eP*		**Pg**	**13 29 19.3**	**-1.0**
AAL				*eS*		**Sg**	**13 29 36.7**	**-0.5**
RAF	**Rauma**	**1.38**	**347**	*eP*		**Pn**	**13 29 22.3**	**+0.4**
RAF	**Rauma**	**1.38**	**347**	*eP*		**Pn**	**13 29 22.4**	**+0.4**
RAF				*eS*		**Sn**	**13 29 41.6**	**+0.7**
RAF				AML		AML	13 29 45.6	
	comp=N,14nm,0.1s							
RAF				AML		AML	13 29 46.1	
	comp=E,18nm,0.2s							
RAF				AML		AML	13 29 51.6	
	comp=Z,13nm,0.7s							
RAF	**Rauma**	**1.38**	**347**	*eP*		**Pn**	**13 29 22.2**	**+0.4**
RAF				*eS*		**Sn**	**13 29 41.3**	**+0.4**
RAF				MSG			13 29 44.8	
	comp=Z,7.6nm,0.1s							
NUR	**Nurmijrvi**	**1.41**	**53**	*eP*		**Pb**	**13 29 23.3**	**+0.7**
NUR				*eS*		**Sn**	**13 29 43.1**	**+1.6**
NUR				MSG			13 29 47.1	
	comp=Z,9.6nm,0.1s							
ARBE	**Arbavere**	**1.85**	**96**	*eP*		**Pb**	**13 29 30.2**	**+0.1**
ARBE				*eS*		**Sg**	**13 29 55.5**	**+0.7**
NRTU	**Norrtaelje**	**1.90**	**272**	P		**Pn**	**13 29 29.0**	**-0.1**
NRTU	**Norrtaelje**	**1.90**	**272**	P		**Pn**	**13 29 29.0**	**-0.1**
NRTU	**Norrtaelje**	**1.90**	**272**	*eP*		**Pn**	**13 29 28.9**	**-0.1**
NRTU				*eS*		**Sn**	**13 29 53.4**	**-0.2**
PVF	**Pernaja**	**1.95**	**62**	*eP*		**Pg**	**13 29 32.4**	**-0.3**
PVF				*eS*		**Sg**	**13 29 58.3**	**+0.3**
PVF				MSG			13 30 01.4	
	comp=Z,5.8nm,0.1s							
GRAU	**Graesoe**	**2.04**	**290**	P		**Pn**	**13 29 31.0**	**+0.1**
GRAU				S		**Sn**	**13 29 57.5**	**+0.5**
GRAU	**Graesoe**	**2.04**	**290**	P		**Pn**	**13 29 31.0**	**+0.1**
GRAU				S		**Sn**	**13 29 57.5**	**+0.5**
GRAU	**Graesoe**	**2.04**	**290**	*eP*		**Pn**	**13 29 31.0**	**+0.1**
GRAU				*eS*		**Sn**	**13 29 57.5**	**+0.5**
SLIT	**Slitere, Latvi**	**2.06**	**181**	*eP*		**Pn**	**13 29 31.6**	**+0.5**
SLIT	**Slitere, Latvi**	**2.06**	**181**	*eP*		**Pn**	**13 29 31.6**	**+0.5**
SLIT				*eS*		**Sn**	**13 29 58.1**	**+0.7**
SLIT				AML		AML	13 29 59.1	
	comp=E,51nm,0.4s							
SLIT				AML		AML	13 30 01.0	
	comp=Z,67nm,0.1s							
SLIT				AML		AML	13 30 03.8	
	comp=N,61nm,0.5s							
SLIT	**Slitere, Latvi**	**2.06**	**181**	*eP*		**Pn**	**13 29 31.5**	**+0.3**
SLIT				*e*SG		**Sn**	**13 29 57.7**	**+0.2**
FLYU	**Flymyra**	**2.31**	**283**	P		**Pn**	**13 29 36.0**	**+1.3**
FLYU	**Flymyra**	**2.31**	**283**	P		**Pn**	**13 29 36.0**	**+1.3**
FLYU	**Flymyra**	**2.31**	**283**	*eP*		**Pn**	**13 29 36.0**	**+1.3**
NYNU	**Nynaeshamn**	**2.34**	**255**	P		**Pn**	**13 29 35.6**	**+0.6**
NYNU	**Nynaeshamn**	**2.34**	**255**	P		**Pn**	**13 29 35.6**	**+0.6**
NYNU	**Nynaeshamn**	**2.34**	**255**	*eP*		**Pn**	**13 29 35.6**	**+0.6**
FIA0	**FINESS Array S**	**2.54**	**44**	*e*PB		**Pb**	**13 29 41.8**	**-0.1**
FIA0				*e*SB		**Sg**	**13 30 16.2**	**-0.8**
FIA0				MSG			13 30 19.8	
	comp=Z,2.7nm,0.1s							
FINES	**FINESS Array B**	**2.54**	**44**	Pn		**Pb**	**13 29 41.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=226,slow=12,SNR=18							
FINES				Lg		Lg	13 30 15.0	
	comp=Z,1.2nm,0.3s,baz=230,slow=24,SNR=18							
VSU	**Vasula**	**2.56**	**117**	*eP*		**Pn**	**13 29 34.1**	**-3.9**
VSU	**Vasula**	**2.56**	**117**	*eP*		**Pn**	**13 29 37.5**	**-0.5**
VSU				*eS*		**Sn**	**13 30 09.2**	**-0.6**
VSU				AML		AML	13 30 16.1	
	comp=N,41nm,0.4s							
VSU				AML		AML	13 30 22.8	
	comp=Z,31nm,0.4s							
VSU				AML		AML	13 30 23.4	
	comp=E,81nm,0.3s							
VSU	**Vasula**	**2.56**	**117**	*e*SB		**Sb**	**13 30 14.7**	**+0.7**
BACU	**Backbrunna**	**2.67**	**276**	P		**Pn**	**13 29 40.1**	**+0.4**
BACU	**Backbrunna**	**2.67**	**276**	P		**Pn**	**13 29 40.1**	**+0.4**
BACU	**Backbrunna**	**2.67**	**276**	*eP*		**Pn**	**13 29 40.1**	**+0.4**
OSTU	**Oestervaala**	**2.70**	**284**	P		**Pn**	**13 29 40.6**	**+0.7**
OSTU	**Oestervaala**	**2.70**	**284**	P		**Pn**	**13 29 40.6**	**+0.7**
OSTU	**Oestervaala**	**2.70**	**284**	*eP*		**Pn**	**13 29 40.6**	**+0.7**
VJF	**Virojoki**	**2.73**	**69**	*eP*		**Pn**	**13 29 42.0**	**+1.5**
KEF	**Keuruu**	**2.78**	**25**	*e*PB		**Pb**	**13 29 45.2**	**-0.7**
KEF				*e*SB		**Sb**	**13 30 22.6**	**+2.2**
KEF				MSG			13 30 26.2	
	comp=Z,2.9nm,0.1s							
IGGU	**Iggoen**	**2.79**	**298**	P		**Pn**	**13 29 42.1**	**+0.8**
IGGU	**Iggoen**	**2.79**	**298**	P		**Pn**	**13 29 42.1**	**+0.8**
IGGU	**Iggoen**	**2.79**	**298**	*eP*		**Pn**	**13 29 42.1**	**+0.8**
GOTU	**Gotland**	**2.82**	**226**	P		**Pn**	**13 29 41.7**	**0.0**
GOTU	**Gotland**	**2.82**	**226**	P		**Pn**	**13 29 41.7**	**0.0**
GOTU	**Gotland**	**2.82**	**226**	*eP*		**Pn**	**13 29 41.8**	**+0.1**
GOTU				*e*SB		**Sn**	**13 30 18.5**	**+2.2**
ESKU	**Eskilstuna**	**3.09**	**264**	P		**Pn**	**13 29 45.6**	**+0.3**
ESKU	**Eskilstuna**	**3.09**	**264**	P		**Pn**	**13 29 45.6**	**+0.3**
ESKU	**Eskilstuna**	**3.09**	**264**	*eP*		**Pn**	**13 29 45.6**	**+0.3**
KAF	**Kangasniemi**	**3.11**	**36**	*e*PB		**Pb**	**13 29 50.7**	**-0.7**
KAF				*e*SB		**Sb**	**13 30 31.1**	**+1.3**
VIKU	**Vikbolandet**	**3.16**	**251**	P		**Pn**	**13 29 46.4**	**0.0**
VIKU	**Vikbolandet**	**3.16**	**251**	P		**Pn**	**13 29 46.4**	**0.0**
VIKU	**Vikbolandet**	**3.16**	**251**	*eP*		**Pn**	**13 29 46.4**	**0.0**
ARNU	**Arnoeviken**	**3.18**	**312**	P		**Pn**	**13 29 48.2**	**+1.6**
ARNU	**Arnoeviken**	**3.18**	**312**	P		**Pn**	**13 29 48.2**	**+1.6**
ARNU	**Arnoeviken**	**3.18**	**312**	*eP*		**Pn**	**13 29 48.2**	**+1.6**
NOA	**NORSAR Array B**	**5.71**	**289**	Pn		**Pn**	**13 30 20.5**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=99,slow=15,SNR=4.7							
NOA				Sn		**Sn**	**13 31 25.6**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=93,slow=16,SNR=1.0							
NOA				Lg		Lg	13 31 51.1	
	comp=Z,0.0nm,0.3s,baz=203,slow=13,SNR=1.9							
ARCES	**ARCESS Array B**	**9.99**	**6**	Pn		**Pn**	**13 31 19.9**	**0.0**
	baz=190,slow=13,SNR=8.4							
ARCES				Sn		**Sn**	**13 33 09.3**	**-3.3**
	baz=192,slow=22,SNR=1.3							

*IDC **30** 13:36:31.6±1.1, 22.21N×142.76E, h0km, mb3.8/14,*
mb1 3.9/16, mb1mx3.7/62, mbtmp3.8/16, ML3.7/2, Error
ellipse: s-maj=30.5km s-min=23.3km az=15.0
*NEIC **30** 13:36:42.2±0.7, 22.26N±0.1×142.9E±0.1, h63km±9km,*
mb4.4/11, Error ellipse: s-maj=20.1km s-min=6.9km
az=136.0

ISC 30 13:36:37.1±0.9, 22.2N±0.1×142.8E±0.1, h35km, n35,
σ0s 94/32, mb4.1/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**4.87**	**354**	Pn		**Pn**	**13 37 47.9**	**+0.1**
	6.2nm,0.3s,baz=273,slow=22,SNR=6.2							
JCJ				Sn		**Sn**	**13 38 44.1**	**+1.1**
	3.9nm,0.3s,baz=302,slow=22,SNR=1.3							
YOJ	**Yonaguni jima**	**18.26**	**281**	P		**P**	**13 40 49.8**	**+2.1**
KSRS	**Korea Array**	**19.85**	**323**	P		**P**	**13 41 03.4**	**-1.5**
	0.1nm,0.3s,baz=147,slow=9.3,SNR=2.1							
KSAR	**Wonju Array Be**	**19.86**	**323**	P		**P**	**13 41 03.7**	**-1.4**
H11N1	**WAKE ISLAND Hy**	**22.67**	**92**	T		T	14 04 51.7	
	baz=281,slow=75,SNR=42							
H11N2	**WAKE ISLAND Hy**	**22.68**	**92**	T		T	14 04 53.8	
	baz=281,slow=75,SNR=41							
H11N3	**WAKE ISLAND Hy**	**22.69**	**92**	T	

MTSE	**Matsula**	**1.21**	**141**	*e*P		**Pg**	**13 38 23.5**	**+0.2**
MTSE	**Matsula**	**1.21**	**141**	*e*P		**Pg**	**13 38 23.4**	**0.0**
MTSE	**Matsula**	**1.21**	**141**	*e*P		**Pg**	**13 38 23.4**	**0.0**
AAL	**Aland**	**1.30**	**295**	*e*P		**Pg**	**13 38 24.8**	**-0.4**
AAL	**Aland**	**1.30**	**295**	P		**Pg**	**13 38 24.6**	**-0.6**
AAL				*e*S		**Sg**	**13 38 41.8**	**-0.3**
AAL	**Aland**	**1.30**	**295**	*e*P		**Pg**	**13 38 24.6**	**-0.6**
AAL				*e*S		**Sg**	**13 38 41.7**	**-0.3**
RAF	**Rauma**	**1.40**	**348**	*e*P		**Pg**	**13 38 27.5**	**+0.3**
RAF	**Rauma**	**1.40**	**348**	*e*P		**Pg**	**13 38 27.5**	**+0.3**
RAF				*e*S		**Sn**	**13 38 46.5**	**+0.3**
RAF				AML	AML		13 38 51.2	
	comp=N,23nm,0.1s							
RAF				AML	AML		13 38 51.3	
	comp=Z,22nm,0.4s							
RAF				AML	AML		13 38 52.0	
	comp=E,37nm,0.1s							
RAF	**Rauma**	**1.40**	**348**	*e*P		**Pg**	**13 38 27.4**	**+0.3**
RAF				*e*S		**Sb**	**13 38 46.2**	**+0.5**
NUR	**Nurmijrvi**	**1.43**	**52**	*e*P		**Pb**	**13 38 28.5**	**+0.7**
NUR				*e*S		**Sn**	**13 38 48.3**	**+1.3**
NUR				MSG			13 38 49.1	
	comp=Z,9.8nm,0.1s							
ARBE	**Arbavere**	**1.86**	**95**	*e*P		**Pg**	**13 38 35.5**	**-0.4**
ARBE				*e*S		**Sg**	**13 39 00.9**	**+1.0**
NRTU	**Norrtaelje**	**1.89**	**272**	P		**Pn**	**13 38 34.0**	**+0.3**
NRTU				S		**Sn**	**13 38 58.0**	**-0.3**
NRTU	**Norrtaelje**	**1.89**	**272**	P		**Pn**	**13 38 34.0**	**+0.3**
NRTU				S		**Sn**	**13 38 58.0**	**-0.3**
NRTU	**Norrtaelje**	**1.89**	**272**	*e*P		**Pn**	**13 38 34.2**	**+0.4**
NRTU				*e*S		**Sn**	**13 38 58.3**	**0.0**
PVF	**Pernaja**	**1.97**	**62**	*e*P		**Pg**	**13 38 37.6**	**-0.4**
PVF				*e*S		**Sg**	**13 39 03.8**	**+0.4**
PVF				MSG			13 39 06.0	
	comp=Z,11nm,0.1s							
SLIT	**Slitere, Latvi**	**2.03**	**181**	*e*P		**Pn**	**13 38 36.8**	**+1.1**
SLIT	**Slitere, Latvi**	**2.03**	**181**	*e*P		**Pn**	**13 38 36.8**	**+1.1**
SLIT				*e*S		**Sb**	**13 39 03.7**	**-0.1**
SLIT				AML	AML		13 39 05.4	
	comp=N,66nm,0.4s							
SLIT				AML	AML		13 39 06.5	
	comp=E,88nm,0.2s							
SLIT				AML	AML		13 39 06.6	
	comp=Z,75nm,0.1s							
SLIT	**Slitere, Latvi**	**2.03**	**181**	*e*P		**Pn**	**13 38 36.7**	**+1.1**
SLIT				*e*S		**Sn**	**13 39 02.3**	**+0.5**
GRAU	**Graesoe**	**2.04**	**291**	P		**Pn**	**13 38 36.1**	**+0.4**
GRAU				S		**Sn**	**13 39 02.9**	**+1.0**
GRAU	**Graesoe**	**2.04**	**291**	P		**Pn**	**13 38 36.1**	**+0.4**
GRAU				S		**Sn**	**13 39 02.9**	**+1.0**
GRAU	**Graesoe**	**2.04**	**291**	*e*P		**Pn**	**13 38 36.1**	**+0.4**
GRAU				*e*S		**Sn**	**13 39 02.9**	**+1.0**
FORU	**Forsmark**	**2.22**	**291**	P		**Pn**	**13 38 39.7**	**+1.4**
FORU	**Forsmark**	**2.22**	**291**	P		**Pn**	**13 38 39.7**	**+1.4**
FORU	**Forsmark**	**2.22**	**291**	*e*P		**Pn**	**13 38 39.7**	**+1.4**
FLYU	**Flymyra**	**2.30**	**284**	P		**Pn**	**13 38 40.0**	**+0.5**
FLYU	**Flymyra**	**2.30**	**284**	P		**Pn**	**13 38 40.0**	**+0.5**
FLYU	**Flymyra**	**2.30**	**284**	*e*P		**Pn**	**13 38 40.0**	**+0.5**
NYNU	**Nynaeshamn**	**2.33**	**256**	P		**Pn**	**13 38 40.8**	**+1.1**
NYNU	**Nynaeshamn**	**2.33**	**256**	P		**Pn**	**13 38 40.8**	**+1.1**
NYNU	**Nynaeshamn**	**2.33**	**256**	*e*P		**Pn**	**13 38 40.8**	**+1.1**
VSU	**Vasula**	**2.56**	**116**	*e*P		**Pb**	**13 38 45.2**	**-1.8**
VSU	**Vasula**	**2.56**	**116**	*e*P		**Pb**	**13 38 46.7**	**-0.2**
VSU				*e*S		**Sb**	**13 39 18.3**	**-0.6**
VSU				AML	AML		13 39 21.2	
	comp=N,54nm,0.4s							
VSU				AML	AML		13 39 21.9	
	comp=E,40nm,0.4s							
VSU				AML	AML		13 39 28.4	
	comp=Z,21nm,0.4s							
VSU	**Vasula**	**2.56**	**116**	*e*P		**Pb**	**13 38 45.6**	**-1.4**
FIA0	**FINESS Array S**	**2.57**	**44**	*e*P		**Pb**	**13 38 46.2**	**-0.9**
FIA0				*e*SB		**Sg**	**13 39 21.6**	**-1.0**
FIA0				MSG			13 39 25.1	
	comp=Z,4.4nm,0.1s							
FINES	**FINESS Array B**	**2.57**	**44**	Pn		**Pb**	**13 38 46.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=227,slow=13,SNR=28							
FINES				Lg		Lg	13 39 20.4	
	comp=Z,1.5nm,0.3s,baz=233,slow=23,SNR=21							
BACU	**Backbrunna**	**2.67**	**277**	P		**Pn**	**13 38 45.3**	**+0.9**
BACU	**Backbrunna**	**2.67**	**277**	P		**Pn**	**13 38 45.3**	**+0.9**
BACU	**Backbrunna**	**2.67**	**277**	*e*P		**Pn**	**13 38 45.3**	**+0.9**
OSTU	**Oestervaala**	**2.69**	**285**	P		**Pn**	**13 38 45.8**	**+1.0**
OSTU	**Oestervaala**	**2.69**	**285**	P		**Pn**	**13 38 45.8**	**+1.0**
OSTU	**Oestervaala**	**2.69**	**285**	*e*P		**Pn**	**13 38 45.8**	**+1.0**
VJF	**Virojoki**	**2.75**	**69**	*e*P		**Pn**	**13 38 47.4**	**+1.9**
VJF				*e*S		**Sb**	**13 39 22.6**	**-1.7**
VJF				MSG			13 39 32.0	
	comp=Z,3.6nm,0.1s							
IGGU	**Iggoen**	**2.79**	**298**	P		**Pn**	**13 38 47.2**	**+1.1**
IGGU	**Iggoen**	**2.79**	**298**	P		**Pn**	**13 38 47.2**	**+1.1**
IGGU	**Iggoen**	**2.79**	**298**	*e*P		**Pn**	**13 38 47.2**	**+1.1**
GOTU	**Gotland**	**2.80**	**227**	*e*P		**Pn**	**13 38 48.8**	**+0.6**
GOTU				*e*SG		**Sb**	**13 39 25.6**	**-0.2**
KEF	**Keuruu**	**2.80**	**25**	*e*PB		**Pb**	**13 38 50.4**	**-0.8**
KEF				*e*SG		**Sg**	**13 39 28.9**	**-1.3**
KEF				MSG			13 39 31.4	
	comp=Z,3.3nm,0.1s							
ESKU	**Eskilstuna**	**3.08**	**265**	P		**Pn**	**13 38 50.9**	**+0.9**
ESKU	**Eskilstuna**	**3.08**	**265**	P		**Pn**	**13 38 50.9**	**+0.9**
ESKU	**Eskilstuna**	**3.08**	**265**	*e*P		**Pn**	**13 38 50.9**	**+0.9**
KAF	**Kangasniemi**	**3.13**	**36**	*e*PB		**Pb**	**13 38 55.8**	**-0.9**
KAF				*e*SB		**Sb**	**13 39 36.4**	**+1.0**
VIKU	**Vikbolandet**	**3.14**	**251**	*e*P		**Pn**	**13 38 51.5**	**+0.6**
NOA	**NORSAR Array B**	**5.71**	**289**	Pn		**Pn**	**13 39 26.3**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=103,slow=13,SNR=4.4							
NOA				Sn		**Sn**	**13 40 30.0**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=283,slow=10,SNR=1.4							
NOA				Lg		Lg	13 40 55.1	
	comp=Z,0.0nm,0.3s,baz=95,slow=19,SNR=1.7							
ARCES	**ARCESS Array B**	**10.01**	**6**	Pn		**Pn**	**13 40 25.5**	**+0.4**
	baz=186,slow=14,SNR=9.3							

IDC ***30*** *13:38:23.6±0.3, 4.24S×129.30E, h0km, mb5.3/44, mb1 5.3/50, mb1mx5.1/60, mbtmp5.3/50, ML4.5/3, MS4.3/52, Ms1 4.3/52, ms1mx4.2/68, Error ellipse: s-maj=12.1km s-min=7.8km az=65.0*

BJI ***30*** *13:38:25.2±0.0, 4.52S×129.64E, h44km, mb5.2/77, mB5.2/62, Ms4.6/68, Ms7 4.3/67*

MOS ***30*** *13:38:26.4±0.9, 4.16S×129.30E, h28km, mb5.6/53, MS4.3/5, Error ellipse: s-maj=8.5km s-min=4.6km az=117.1*

GCMT ***30*** *13:38:28.8±0.1, 4.21S±0.01×129.36E±0.01, h18km, MW5.3/125, Moment Tensor Solution. s113,c186; s125,c219; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.89±.02; Mθθ-0.88±.01; Mφφ0.00±.02; Mrθ0.08±.03; Mθφ0.55±.01; Mφr0.18±.04; Best double couple: Mo1.04400×10^17 NP1:φs100.00000°, δ47.00000°, λ68.00000°. NP2:φs311.00000°, δ47.00000°, λ112.00000°. Principal axes: T 0.9400, Plg74.0000°, Azm295.0000°; N 0.2060, Plg16.0000°, Azm116.0000°; P -1.1470, Plg0.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *13:38:28.8±1.6, 4.20S±0.04×129.40E±0.05, h31km±4km, mb5.4/119 Error ellipse: s-maj=8.5km s-min=4.1km az=129.0*

DJA ***30*** *13:38:29.9±0.2, 4.5S±1.1×12.9E±.1, h39km±3km, M5.1/98, mB5.6/73, mb5.4/98, MLv5.4/18, Mw(mB)5.1/73, MwMwp5.0/28, Mwp5.3/28*

KLM ***30*** *13:38:33, 4.05S×129.42E, h63km, mb5.5*

ISC 30 13:38:30.2±0.4,**4.22S**±0.03×**129.39E**±0.03,**h48**km±3km, **h48**km:**pP-P, n859**,σ1§**39**/933,**mb5.3**/175,**MS4.3**/79, **112C-62D,Fault plane solution: NP1**:φs137.29529°, δ46.03977°,λ111.25438°. **NP2:**φs288.03153°,δ47.86655°, λ69.39820°. **Principal axes:** T Plg74.8432°, Azm125.9280°; N Plg15.1260°, Azm302.1855°; P Plg0.9440°, Azm32.4407°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSAI	**Masohi**	**0.99**	**332**	P		**Pn** **13 38 43.3**	**-4.4**
MSAI				S		**Sn** **13 38 55.0**	**-5.6**
AAI	**Ambon**	**1.31**	**294**	P		**Pn** **13 38 48.5**	**-3.6**
AAI				S		**Sn** **13 39 04.7**	**-3.8**
SIJI	**Sorong**	**3.82**	**29**	Pn		**Pn** **13 39 25.1**	**-1.5**
	635nm,0.3s,baz=226,slow=14,SNR=815						
SIJI				Sn		**Sn** **13 40 06.2**	**-4.1**
	337nm,0.3s,baz=37,slow=21,SNR=12						
SWI	**Sorong**	**3.82**	**29**	P		**Pn** **13 39 24.9**	**-1.7**
SWI				S		**Sn** **13 40 06.7**	**-3.6**
SANI	**Sanana**	**4.03**	**302**	P		**Pn** **13 39 27.4**	**-2.0**
SANI				S		**Sn** **13 40 13.0**	**-2.4**
LBMI	**Labuha**	**4.03**	**332**	P		**Pn** **13 39 27.9**	**-1.6**
LBMI				S		**Sn** **13 40 13.9**	**-1.6**
SAUI	**Saumlaki**	**4.19**	**153**			**Pn** **13 39 29.9**	**-1.8**
SAUI	**Saumlaki**	**4.19**	**153**	P		**Pn** **13 39 33.9**	**+2.2**
TNTI	**Ternate**	**5.36**	**338**	Pn		**Pn** **13 39 45.3**	**-2.5**
TNTI	**Ternate**	**5.36**	**338**	P		**Pn** **13 39 45.6**	**-2.1**
	1.0nm4µm3µm314nm,0.6s						
BBSI	**Bau Bau**	**6.91**	**259**	P		**Pn** **13 40 12.0**	**+2.9**
	0.1nm267nm33nm,0.8s						
KMSI	**Cibinong**	**7.21**	**311**	P		**Pn** **13 40 11.6**	**-1.5**
	2.3nm5µm340nm,0.6s						
SRPI	**Serui, Papua**	**7.22**	**71**	P		**Pn** **13 40 13.2**	**-0.1**
	3.7nm4µm5µm367nm,0.5s						
LUWI	**Luwuk**	**7.33**	**295**	Pn		**Pn** **13 40 14.1**	**-0.7**
LUWI	**Luwuk**	**7.33**	**295**	P		**Pn** **13 40 13.4**	**-1.4**
	2.3nm4µm6µm451nm,1.6s						
GTOI	**Gorontalo**	**8.00**	**307**	P		**Pn** **13 40 25.5**	**+1.6**
	1µm87nm,0.8s						
GTOI				S		**Sn** **13 41 56.3**	**+3.2**
	1µm87nm,0.8s						
BATI	**Baumata**	**8.22**	**223**	Pn		**Pn** **13 40 28.0**	**+0.9**
	104nm,0.3s,baz=95,slow=2.0,SNR=66						
BATI				Sn		**Sn** **13 41 52.9**	**-5.9**
	baz=81,slow=16,SNR=0.7						
BATI				LR	LR		13 44 05.0
	comp=Z,2µm,18.0s,baz=50,slow=42						
BATI	**Baumata**	**8.22**	**223**	P		**Pn** **13 40 28.5**	**+1.4**
	0.8nm4µm2µm223nm,0.7s						
MMRI	**Maumere**	**8.35**	**238**	Pn		**Pn** **13 40 29.9**	**+1.1**
MMRI	**Maumere**	**8.35**	**238**	P		**Pn** **13 40 30.8**	**+2.0**
	9µm3µm300nm,0.9s						
APSI	**Ampana**	**8.41**	**293**	P		**Pn** **13 40 29.9**	**+0.4**
	2µm5µm560nm,0.9s						
MTN	**Manton Dam**	**8.74**	**169**	P		**Pn** **13 40 33.1**	**-0.9**
	baz=8.9,SNR=97						
MTN	**Manton Dam**	**8.74**	**169**	Pn		**Pn** **13 40 33.2**	**-0.9**
MRSI	**Marisa**	**8.79**	**302**	P		**Pn** **13 40 33.9**	**-0.9**
	2µm188nm,0.7s						
KDU	**Kakadu**	**8.94**	**160**	P		**Pn** **13 40 35.3**	**-1.6**
	baz=9.1,SNR=184						
BSSI	**Bau Bau, Buton**	**9.07**	**257**	P		**Pn** **13 40 40.2**	**+1.6**
	3µm1µm144nm,0.8s						
BNSI	**Bone**	**9.26**	**269**	P		**Pn** **13 40 42.1**	**+0.8**
	2µm112nm,1.0s						
BKSI	**Bulukumba**	**9.30**	**263**	P		**Pn** **13 40 41.9**	**+0.1**
	4µm2µm166nm,0.8s						
SMPI	**Sarmi**	**9.56**	**77**	P		**Pn** **13 40 46.2**	**+0.8**
	82nm,0.8s						
SPSI	**Sidrap Palu**	**9.60**	**271**	P		**Pn** **13 40 48.7**	**+2.8**
	3µm2µm118nm,1.0s						
TTSI	**Tana Toraja**	**9.63**	**277**	P		**Pn** **13 40 46.4**	**+0.1**
	3µm1µm94nm,0.8s						
TOLI2	**Tolitoli**	**10.11**	**301**	Pn		**Pn** **13 40 52.2**	**-0.6**
MPSI	**Mapaga**	**10.51**	**295**	P		**Pn** **13 40 58.9**	**+0.5**
	2µm880nm55nm,0.9s						
BASI	**Baing, Sumba**	**10.58**	**235**	P		**Pn** **13 41 02.6**	**+3.3**
	3µm3µm287nm,1.0s						
WBSI	**Waikabubak, Su**	**11.29**	**241**	P		**Pn** **13 41 11.9**	**+2.8**
	2µm222nm,0.8s						
KNRA	**Kununurra**	**11.40**	**183**	P		**Pn** **13 41 08.2**	**-2.3**
	baz=12,SNR=167						
KNRA	**Kununurra**	**11.40**	**183**	Pn		**Pn** **13 41 07.7**	**-2.8**
JAY	**Jayapura**	**11.42**	**82**	Pn		**Pn** **13 41 10.2**	**-0.7**
	0.6nm,0.3s,baz=289,slow=7.8,SNR=6.3						
JAY	**Jayapura**	**11.42**	**82**	P		**Pn** **13 41 09.4**	**-1.4**
	2µm398nm27nm,1.0s						
MMPI	**Merauke**	**11.71**	**112**	P		**Pn** **13 41 12.2**	**-2.5**
	249nm,1.2s						
DAV	**Davao City (W)**	**11.85**	**341**	LR	LR		13 46 45.7
	comp=Z,1µm,19.4s,baz=288,slow=42						
KCP	**Kidapawan**	**11.96**	**339**	*i*P		**Pn** **13 41 14.4**	**-3.8**
PLAI	**Plampang**	**12.41**	**248**	P		**Pn** **13 41 28.6**	**+4.2**
	5µm3µm250nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.27**	**195**	Pn		**Pn** **13 41 45.3**	**-4.4**
	3.9nm,0.3s,baz=25,slow=12,SNR=59						
FITZ				Sn		Sn	13 44 17.5 -9.2
	0.6nm,0.3s,baz=327,slow=18,SNR=1.9						
FITZ				LR	LR		13 47 34.6
	comp=Z,1µm,19.0s,baz=24,slow=39						
MYLDM	**Lahad Datu**	**14.34**	**311**			**Pn** **13 41 48.9**	**-1.7**
BBKI	**Banjar Baru**	**14.54**	**272**	P		**P** **13 41 56.3**	**-2.5**
	7µm92nm,2.8s						
SRBI	**Singaraja**	**14.61**	**254**	P		**P** **13 41 57.3**	**-2.2**
	5µm5µm673nm,1.0s						
DNP	**Denpasar**	**14.77**	**252**	P		**Pn** **13 42 04.5**	**+3.2**
MTKI	**Muara Teweh, K**	**14.84**	**282**	P		**Pn** **13 41 59.0**	**+1.7**
	4µm74nm,0.9s						
IGBI	**Denpasar**	**14.87**	**251**	P		**Pn** **13 41 57.8**	**+0.2**
	2µm190nm,0.9s						
MSLP	**Maasin**	**14.96**	**342**	*i*P		**P** **13 42 07.0**	**+3.6**
ABJI	**Asem Bagus**	**15.49**	**256**	P		**P** **13 42 07.8**	**-1.5**
	7µm7µm447nm,1.4s						
CNOP	**Candoni, Negro**	**15.49**	**334**	*i*P		**P** **13 42 11.0**	**+1.7**
KMMI	**Kalianget**	**15.61**	**259**	P		**P** **13 42 11.0**	**+0.4**
	7µm6µm378nm,1.2s						
SPMM	**Sapulut**	**15.67**	**304**	P		**Pn** **13 42 09.0**	**+1.0**
JAGI	**Jajag, Banyuwa**	**15.72**	**254**			**Pn** **13 42 09.0**	**+0.4**
JAGI				IAmb	IAmb		13 42 15.8
	comp=Z,298nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.72**	**254**	P		**P** **13 42 12.3**	**+0.4**
	comp=Z,4µmcomp=Z,4µmcomp=Z,331nm,1.1s						
BLJI	**Banyuglugur**	**16.09**	**257**	P		**P** **13 42 16.5**	**+0.5**
	comp=Z,4µmcomp=Z,4µmcomp=Z,245nm,1.1s						
WB0	**Warramunga Arr**	**16.20**	**163**			**Pn** **13 42 11.2**	**-3.5**
BESP	**Borongan**	**16.20**	**346**	*i*eP		**Pn** **13 42 08.8**	**-6.0**
WRAB	**Tennant Creek**	**16.35**	**163**	*c i*P		**Pn** **13 42 12.5**	**-4.1**
WRAB				pmax	pmax		
	comp=Z,133nm,1.3s						
WRA	**Warramunga Arr**	**16.35**	**163**	Pn		**Pn** **13 42 13.0**	**-3.6**
	comp=Z,2.6nm,0.3s,baz=345,slow=13,SNR=54						
WRA				Sn		**Sn** **13 45 10.6**	**-6.7**
	comp=Z,1.3nm,0.3s,baz=351,slow=22,SNR=4.5						
WRA				LR	LR		13 48 14.1
	comp=Z,2µm,18.5s,baz=344,slow=36						
WRA				P3KPbc			14 17 23.7
	comp=Z,0.0nm,0.3s,baz=162,slow=4.4,SNR=2.0						
GMJI	**Gumukmas**	**16.35**	**255**	P		**P** **13 42 20.1**	**+1.2**
	comp=Z,3µmcomp=Z,147nm,1.3s						
KKM	**Kota Kinabalu**	**16.65**	**308**	P		**Pn** **13 42 20.2**	**-0.2**
COEN	**Coen**	**16.68**	**126**			**Pn** **13 42 17.8**	**-3.1**
COEN				IAmb	IAmb		13 42 34.7
	comp=Z,250nm,0.9s						
GRJI	**Gresik**	**17.04**	**260**	P		**P** **13 42 29.5**	**+2.9**
	comp=Z,3µmcomp=Z,374nm,1.1s						
BATP	**Barazza**	**17.34**	**318**	*i*P		**P** **13 42 31.2**	**+1.3**
PPR	**Puerto Princes**	**17.50**	**323**	*i*P		**P** **13 42 33.3**	**+1.7**
TBJI	**Tambak Boyo**	**17.65**	**261**	P		**P** **13 42 35.0**	**+1.7**
	comp=Z,4µmcomp=Z,5µmcomp=Z,184nm,0.9s						
PBKI	**Pangkalan Bun**	**17.75**	**274**	P		**P** **13 42 37.8**	**+3.4**
	comp=Z,14µmcomp=Z,3µmcomp=Z,208nm,1.0s						
PWJI	**Pagerwojo**	**17.89**	**257**	P		**P** **13 42 37.2**	**+1.3**
	comp=Z,3µmcomp=Z,244nm,1.0s						
MANU	**Manus Island**	**18.08**	**84**	P		**Pn** **13 42 35.0**	**-3.1**
PMG	**Port Moresby**	**18.37**	**107**	P		**Pn** **13 42 41.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=308,slow=9.0,SNR=41						
PMG	**Port Moresby**	**18.37**	**107**	P		**P** **13 42 39.5**	**-1.8**
SBUM	**Sibu**	**18.40**	**291**	P		**P** **13 42 41.9**	**+0.4**
SBUM	**Sibu**	**18.40**	**291**	P		**Pn** **13 42 43.0**	**+1.0**
STKI	**Sintang**	**18.40**	**283**	P		**Pn** **13 42 43.4**	**+1.4**
	comp=Z,55nm,1.0s						
PVCP	**Virac**	**18.45**	**344**	*i*eP		**Pn** **13 42 42.8**	**+0.2**
UWJI	**Ujung Watu**	**18.49**	**262**	P		**Pn** **13 42 45.3**	**+2.2**
	comp=Z,96nm,0.8s						
SJMP	**San Jose**	**18.50**	**334**	*i*eP		**Pn** **13 42 45.9**	**+2.7**
BUSP	**Coron**	**18.53**	**331**	*i*P		**Pn** **13 42 52.2**	**+8.6**
PCJI	**Pacitan**	**18.53**	**257**	P		**P** **13 42 41.5**	**-1.5**
	comp=Z,3µmcomp=Z,249nm,1.4s						
QIS	**Mont Isa**	**19.04**	**149**	P		**P** **13 42 48.6**	**+0.1**
	baz=19,SNR=218						
SMRI	**Semarang**	**19.07**	**261**	P		**Pn** **13 42 56.0**	**+5.9**
BOAC	**Boac**	**19.10**	**337**	*i*eP		**Pn** **13 42 52.6**	**+2.2**
UGM	**Wanagama**	**19.12**	**258**	P		**Pn** **13 42 50.6**	**-0.1**
	comp=Z,4µmcomp=Z,162nm,1.1s						
YOGI	**Yogyakarta**	**19.32**	**258**	P		**Pn** **13 42 56.5**	**+3.4**
	comp=Z,2µmcomp=Z,228nm,0.9s						
PGP	**Puerto Galera**	**19.50**	**335**	*i*eP		**Pn** **13 42 55.4**	**+0.2**
PSA00	**Pilbara Seismi**	**19.58**	**207**	P		**P** **13 42 54.9**	**+0.5**
PSA00				IAmb	IAmb		13 42 57.4
	comp=Z,208nm,0.8s						
PSA00	**Pilbara Seismi**	**19.58**	**207**	P		**P** **13 42 54.2**	**-0.2**
PSA00				IAmb	IAmb		13 42 57.4
	comp=Z,94nm,0.9s						
LQP	**Lukban**	**19.81**	**337**	*i*eP		**P** **13 42 47.7**	**-9.5**
AS31	**Alice Springs**	**19.82**	**168**	P		**P** **13 42 57.6**	**+0.6**
ASAR	**Alice Springs**	**19.82**	**168**	P		**P** **13 42 57.5**	**+0.4**
	comp=Z,12nm,0.3s,baz=348,slow=10,SNR=348						
ASAR				S		**S**	**13 46 34.2** **-3.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=21,SNR=3.8						
ASAR				PcP		**PcP**	**13 47 13.4** **-0.2**
	comp=Z,0.6nm,0.3s,baz=11,slow=1.9,SNR=3.6						
ASAR				LR	LR		13 49 57.8
	comp=Z,1µm,21.0s,baz=348,slow=35						
ASAR				ScP		**ScP**	**13 50 47.8** **+1.7**
	comp=Z,0.1nm,0.3s,baz=346,slow=1.8,SNR=6.5						
ASAR				P3KPbc			14 17 11.7
	comp=Z,0.0nm,0.3s,baz=168,slow=4.4,SNR=5.9						
ASAR	**Alice Springs**	**19.82**	**168**	P		**P** **13 42 56.8**	**-0.2**
KSM	**Kuching**	**19.89**	**286**	P		**P** **13 42 56.8**	**-1.1**
KSM				IAmb	IAmb		13 43 00.3
	comp=Z,197nm,0.9s						
KSM	**Kuching**	**19.89**	**286**	P		**P** **13 42 59.0**	**+1.1**
LUBP	**Lubang**	**20.02**	**333**	*i*eP		**Pn** **13 43 00.8**	**-0.4**
TGY	**Tagaytay City**	**20.05**	**335**	P		**P** **13 42 59.4**	**-0.2**
	comp=Z,165nm,0.8s,baz=348,slow=2.6,SNR=3.5						
MTSU	**Mount Surprise**	**20.11**	**135**	P		**P** **13 43 01.2**	**+0.9**
	baz=20,SNR=106						
MACP	**Maragondon, Ca**	**20.28**	**335**	*i*P		Pn	13 43 09.9 +5.6
QVP	**Quezon City--P**	**20.49**	**336**	*i*P		Pn	13 43 09.1 +2.3
KPJI	**Karang Pucung**	**20.59**	**260**	P		**P** **13 43 05.9**	**+0.5**
	comp=Z,2µmcomp=Z,165nm,1.3s						
WRKA	**Warakurna**	**20.72**	**183**	P		**P** **13 43 08.0**	**+1.1**
	baz=21,SNR=326						
BALP	**Baler**	**21.29**	**339**	*i*eP		**P** **13 43 13.2**	**+0.3**
LEM	**Lembang**	**21.83**	**262**	P		**P** **13 43 17.9**	**-1.0**
	comp=Z,35nm,0.7s,baz=81,slow=14,SNR=4.1						
LEM				LR	LR		13 52 17.5
	comp=Z,2µm,18.2s,baz=72,slow=38						
LEM	**Lembang**	**21.83**	**262**	P		**P** **13 43 20.0**	**+1.1**
	comp=Z,1µmcomp=Z,1µmcomp=Z,59nm,1.0s						
SCZP	**Santa Cruz**	**21.98**	**335**	*i*eP		**P** **13 43 19.3**	**-0.9**
SMPP	**San Manuel, Pa**	**22.00**	**337**	*i*P		**P** **13 43 19.9**	**-0.7**
CNJI	**Cibinong**	**22.36**	**261**	P		**P** **13 43 23.6**	**-0.9**
	comp=Z,2µmcomp=Z,149nm,0.9s						
BOLP	**Bolinao**	**22.52**	**336**	*i*eP		**P** **13 43 27.1**	**+1.0**
CBJI	**Citeko**	**22.55**	**263**	P		**P** **13 43 29.1**	**+2.6**
	comp=Z,113nm,0.7s						
RABL	**Rabaul**	**22.71**	**91**	P		**P** **13 43 27.3**	**-1.0**
CTA	**Charters Tower**	**22.77**	**135**	P		**P** **13 43 29.1**	**+0.3**
	comp=Z,114nm,1.0s,baz=318,slow=11,SNR=54						
CTA				LR	LR		13 53 01.8
	comp=Z,574nm,20.9s,baz=311,slow=38						
APYP	**Conner**	**23.37**	**340**	*i*eP		**P** **13 43 33.7**	**-1.0**
GUMO	**Guam**	**23.43**	**41**	LR	LR		13 53 19.6
	comp=Z,227nm,19.7s,baz=224,slow=38						
GIRL	**Giralia**	**23.47**	**217**	P		**P** **13 43 36.4**	**+0.8**
	baz=24,SNR=15						
GIRL	**Giralia**	**23.47**	**217**	P		**P** **13 43 36.5**	**+0.8**
CGJI	**Cibinong**	**23.71**	**263**	P		**P** **13 43 52.3**	**+14**
XMIS	**Christmas Isla**	**24.34**	**254**	P		**P** **13 43 43.0**	**-0.9**
XMIS				IAmb	IAmb		13 43 55.3
	comp=Z,142nm,1.0s						
MEEK	**Meekatharra**	**24.56**	**204**	P		**P** **13 43 45.0**	**-0.7**
	baz=25,SNR=29

comp=Z,76nm,0.9s
SRIT Nakonsritamara 32.32 293 P P 13 44 54.5 -0.6
KCSI Kotacane, Aceh 32.52 283 P P 13 44 56.3 -0.6
comp=Z,27nm,1.0s
ARMA Armidale 33.46 144 P P 13 45 06.3 +1.3
baz=34,SNR=7.4
ARMA Armidale 33.46 144 P P 13 45 04.1 -0.9
ARMA IAmb IAmb 13 45 19.1
comp=Z,34nm,1.0s
JCJ Chichijima 33.50 21 LR LR 13 56 21.2
comp=Z,1μm,20.9s,baz=206,slow=32
ARPS Mount Arapiles 34.35 162 P P 13 45 13.8 +1.2
baz=35,SNR=24
MGCD Mangrove Creek 35.25 147 P P 13 45 22.1 +1.7
baz=35,SNR=16
JSU Suzuyama 35.54 2 P P 13 45 22.2 -0.7
JSU IAmb IAmb 13 45 34.6
comp=Z,56nm,1.0s
CAN Canberra 35.87 152 P P 13 45 26.4 +0.7
CAN pmax pmax
comp=Z,104nm,0.9s
CAN Canberra 35.87 152 P P 13 45 26.4 +0.7
SSE Sheshan 35.98 348 P P 13 45 23.0 -3.6
SSE S **S 13 50 59.5 -2.5**
SSE pmax pmax
comp=Z,16nm,0.5s
SSE LR LR
comp=Z,72nm,14.4s
SSE LR LR
comp=Z,160nm,13.6s
CNB Canberra Magne 36.03 152 P P 13 45 28.4 +1.3
baz=36,SNR=14
TOO Toolangi 36.31 158 P P 13 45 31.2 +1.7
baz=36,SNR=9.3
TOO Toolangi 36.31 158 P P 13 45 30.6 +1.1
TOO pmax pmax
comp=Z,67nm,0.9s
TOO Toolangi 36.31 158 P P 13 45 30.6 +1.1
JNU Nakatsue 37.17 2 P P 13 45 36.3 -0.4
comp=Z,27nm,0.9s,baz=220,slow=20,SNR=14
JNU LR LR 14 02 02.4
comp=Z,640nm,18.6s,baz=170,slow=38
JNU Nakatsue 37.17 2 P P 13 45 36.3 -0.4
JNU IAmb IAmb 13 45 45.3
comp=Z,46nm,1.0s
NJ2 Nanjing 37.44 345 *e*P **P 13 45 39.3 +0.3**
NJ2 pP **pwP 13 45 54.8 -0.5**
NJ2 sP **sP 13 46 01.0 +5.1**
NJ2 PP **PnPn 13 47 06.8 +0.4**
NJ2 S **S 13 51 25.0 +0.8**
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 pmax pmax
comp=Z,140nm,5.4s
WHN Wuhan 37.44 338 ⇑P **P 13 45 39.8 +0.7**
WHN S **S 13 51 17.0 -7.3**
WHN pmax pmax
comp=Z,42nm,0.8s
WHN LR LR
comp=Z,310nm,12.4s
WHN LR LR
comp=Z,1μm,17.7s
WHN LR LR
comp=Z,720nm,16.4s
CM31 Chiang Mai Arr 37.53 308 P P 13 45 40.8 +0.8
CMAR Chiang Mai Arr 37.53 308 P P 13 45 40.8 +0.8
comp=Z,50nm,0.8s,baz=140,slow=7.8,SNR=256
CMAR PcP **PcP 13 47 59.2 +1.7**
comp=Z,20nm,0.9s,baz=166,slow=2.6,SNR=15
CMAR ScP **ScP 13 51 43.9 +2.7**
comp=Z,5.0nm,0.8s,baz=158,slow=3.2,SNR=18
CMAR PKiKP **PKiKP 13 55 14.2 0.0**
comp=Z,0.3nm,0.4s,baz=224,slow=0.6,SNR=4.1
CMAR LR LR 14 04 31.7
comp=Z,126nm,18.7s,baz=130,slow=42
CMAR Chiang Mai Arr 37.53 308 P P 13 45 40.1 +0.1
GYA Guiyang 37.61 325 ⇑P **P 13 45 41.0 +0.3**
GYA pP pP 13 45 53.3 +0.5
GYA S **S 13 51 29.5 +2.3**
GYA pmax pmax
comp=Z,45nm,0.8s
GYA pmax pmax
comp=Z,320nm,3.9s
GYA LR LR
comp=Z,440nm,16.6s
GYA LR LR
comp=Z,390nm,20.2s
GYA LR LR
comp=Z,410nm,14.5s
CHTO Chiang Mai 37.73 308 P P 13 45 41.7 0.0
CHTO pmax pmax
comp=Z,145nm,1.0s
CHTO Chiang Mai 37.73 308 P P 13 45 41.6 0.0
CHTO Chiang Mai 37.73 308 P P 13 45 42.4 +0.7
JMN Monobe 37.98 6 P P 13 45 43.8 +0.1
JMN IAmb IAmb 13 45 56.1
comp=Z,57nm,0.8s
JHJ Hachijo jima 2 38.42 14 LR LR 13 59 45.7
comp=Z,1μm,19.3s,baz=80,slow=33
SANVU Saraoutou 38.81 109 P P 13 45 51.5 +0.7
KMI Kunming 39.00 320 ⇑P **P 13 45 53.8 +1.2**
KMI pP pP 13 46 05.0 +0.5
KMI sP pwP 13 46 09.8 +1.8
KMI PcP **PcP 13 48 04.0 +1.7**
KMI S **S 13 51 50.5 +2.0**
KMI sS sS 13 52 12.5 +4.8
KMI pmax pmax
comp=Z,35nm,1.2s
KMI pmax pmax
comp=Z,300nm,6.1s
KMI LR LR
comp=Z,220nm,16.6s
KMI LR LR
comp=Z,280nm,23.7s
KMI LR LR
comp=Z,360nm,22.5s
JHS Saijyo 39.17 5 P P 13 45 53.6 0.0
JHS IAmb IAmb 13 46 05.9
comp=Z,61nm,1.0s
ENH Enshi 39.23 332 P P 13 45 53.0 -1.2
PBA Port Blair 39.72 294 P P 13 45 58.6 +0.2
INU Inuyama 40.01 10 P P 13 46 00.1 -0.4
DZM Mont Dzumac 40.03 120 P P 13 46 01.8 +0.7
comp=Z,27nm,0.9s,baz=311,slow=21,SNR=13
DZM Mont Dzumac 40.03 120 *e*P **P 13 46 01.5 +0.4**
comp=Z,150nm,1.2s
DZM Mont Dzumac 40.03 120 *e*LR LR 13 56 56.7
comp=Z,472nm,24.2s
DZM Mont Dzumac 40.03 120 P P 13 46 01.8 +0.7
DZM IAmb IAmb 13 46 13.5
comp=Z,46nm,0.8s
ONTNC Ouen Toro 40.13 120 P P 13 46 00.8 -0.9
ONTNC IAmb IAmb 13 46 14.0
comp=Z,52nm,0.9s
JGF Kuroka 40.31 10 P P 13 46 01.8 -1.3
TJN Taejon 40.43 357⇓ *e*P **P 13 46 04.3 +0.3**
PZH PanZhiHua 40.61 320 ⇑P **P 13 46 05.5 -0.3**
PZH PcS **PcS 13 51 58.5 +0.3**
PZH S **S 13 52 10.8 -1.6**
PZH ScS **ScS 13 56 05.0 -2.7**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.3s
PZH LR LR
comp=Z,730nm,17.7s
PZH LR LR
comp=Z,660nm,19.8s
PZH LR LR
comp=Z,710nm,19.0s
MOO Moorlands 41.23 160 P P 13 46 11.4 +0.9
baz=42,SNR=5.8
MJAR Matsushiro Arr 41.38 11 P P 13 46 10.9 -0.9
comp=Z,33nm,0.9s,baz=203,slow=9.5,SNR=46
MJAR PcP **PcP 13 48 09.7 +0.3**
comp=Z,12nm,0.9s,baz=222,slow=3.3,SNR=5.9
MJAR LR LR 14 01 52.7
comp=Z,395nm,19.8s,baz=192,slow=34
MJAR Matsushiro Arr 41.38 11 P P 13 46 10.4 -1.4
MJAR IAmb IAmb 13 46 22.4
comp=Z,63nm,0.8s
MAJO Matsushiro 41.38 11 *de*P **P 13 46 11.1 -0.7**
MAJO pmax pmax
comp=Z,54nm,0.9s
MAJO Matsushiro 41.38 11 P P 13 46 10.6 -1.2
MJB9 Matsu-Tunnel 41.38 11 P P 13 46 10.9 -1.0

KSAR Wonju Array Be 41.47 358 P P 13 46 12.7 +0.2
KSAR Wonju Array Be 41.47 358 P P 13 46 12.7 +0.2
KSRS Korea Array 41.48 358 P P 13 46 13.1 +0.5
comp=Z,15nm,0.8s,baz=176,slow=9.4,SNR=38
KSRS PcP **PcP 13 48 10.4 +0.8**
comp=Z,7.9nm,1.0s,baz=185,slow=3.8,SNR=7.1
KSRS ScP **ScP 13 51 57.5 +1.6**
comp=Z,1.4nm,0.9s,baz=185,slow=4.1,SNR=4.7
KSRS LR LR 14 02 44.3
comp=Z,378nm,22.0s,baz=180,slow=35
JYT Yasato 41.49 13 P P 13 46 11.9 -0.8
KS19 Wonju Array Si 41.53 358 P P 13 46 13.0 -0.1
INCN Inchon 41.57 357 P P 13 46 13.1 -0.3
INCN pmax pmax
comp=Z,44nm,1.1s
INCN Inchon 41.57 357 P P 13 46 13.1 -0.3
INCN Inchon 41.57 357 P P 13 46 14.6 +1.2
LYN LuoYang 41.73 339 *e*P **P 13 46 14.3 -0.4**
LYN S **S 13 52 27.3 -1.3**
LYN SS **SS 13 55 38.8 +2.9**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,220nm,5.9s
LYN LR LR
comp=Z,270nm,23.5s
LYN LR LR
comp=Z,350nm,23.3s
LYN LR LR
comp=Z,250nm,15.7s
CD2 Chengdu 42.66 327 P P 13 46 22.0 -0.4
CD2 S **S 13 52 43.0 +0.6**
CD2 SS **SS 13 55 50.5 -3.8**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,220nm,6.9s
CD2 LR LR
comp=Z,390nm,15.2s
CD2 LR LR
comp=Z,320nm,11.3s
XAN Xi'an 42.68 335 P P 13 46 21.5 -1.0
XAN S **S 13 52 37.8 -4.9**
XAN pmax pmax
comp=Z,36nm,0.8s
XAN pmax pmax
comp=Z,230nm,5.7s
XAN LR LR
comp=Z,370nm,17.2s
XAN LR LR
comp=Z,400nm,29.9s
XAN LR LR
comp=Z,310nm,17.2s
JSD Sado 42.84 10 P P 13 46 24.0 +0.3
JSD IAmb IAmb 13 47 02.6
comp=Z,125nm,1.4s
JMM Marumori 43.19 13 P P 13 46 26.1 -0.5
DL2 Dalian 43.51 351 P P 13 46 29.3 +0.3
DL2 S **S 13 52 52.3 -2.2**
DL2 pmax pmax
comp=Z,26nm,0.7s
DL2 pmax pmax
comp=Z,200nm,3.8s
DL2 LR LR
comp=Z,180nm,8.6s
DL2 LR LR
comp=Z,240nm,13.9s
DL2 LR LR
comp=Z,380nm,17.3s
HNS HongShan 43.61 343 ⇑P **P 13 46 29.5 -0.4**
HNS PP **PcP 13 48 17.5 +0.8**
HNS S **S 13 52 52.0 -4.0**
HNS pmax pmax
comp=Z,41nm,0.8s
TIY Taiyuan 44.60 341 *e*P **P 13 46 38.3 +0.3**
TIY S **S 13 53 08.0 -2.7**
TIY pmax pmax
comp=Z,200nm,5.2s
TIY LR LR
comp=Z,230nm,18.6s
TIY LR LR
comp=Z,250nm,26.8s
TIY LR LR
comp=Z,200nm,22.2s
BJI Beijing 45.69 346 P P 13 46 46.0 -0.4
BJI sP **pwP 13 47 06.8 +3.6**
BJI PcP **PcP 13 48 24.8 +1.0**
BJI PP **PP 13 48 37.5 +3.2**
BJI S **S 13 53 21.0 -5.2**
BJI pmax pmax
comp=Z,30nm,0.8s
BJI pmax pmax
comp=Z,200nm,5.8s
BJI LR LR
comp=Z,110nm,12.7s
BJI LR LR
comp=Z,210nm,12.6s
BJI LR LR
comp=Z,270nm,16.5s
SNY Shenyang 46.14 354⇓ P **P 13 46 50.0 +0.1**
SNY S **S 13 53 31.0 -1.5**
SNY pmax pmax
comp=Z,36nm,0.8s
SNY pmax pmax
comp=Z,290nm,5.2s
SNY LR LR
comp=Z,470nm,20.6s
SNY LR LR
comp=Z,300nm,15.7s
SNY LR LR
comp=Z,550nm,22.6s
LZH Lanzhou 46.69 331 ⇑P **P 13 46 54.8 +0.2**
LZH pP pP 13 47 08.0 +1.6
LZH PcP **PcP 13 48 29.5 +1.8**
LZH S **S 13 53 39.8 -1.2**
LZH pmax pmax
comp=Z,61nm,1.5s
LZH pmax pmax
comp=Z,200nm,5.4s
LZH LR LR
comp=Z,350nm,19.5s
LZH LR LR
comp=Z,370nm,17.9s
LZH LR LR
comp=Z,420nm,20.6s
SHL Shillong 46.91 311 P P 13 46 55.3 -1.2
SHL pmax pmax
comp=Z,64nm,0.8s
SHL Shillong 46.91 311 P P 13 46 55.3 -1.2
SHL Shillong 46.91 311 P P 13 46 56.3 -0.2
SNR=20
VLA Vladivostok 47.18 2 *de*P **P 13 46 59.9 +1.9**
VLA pmax pmax
comp=Z,62nm,1.6s
HHC Hu-ho-hao-te 47.73 342 *e*P **P 13 47 03.3 +0.7**
HHC S **S 13 53 52.8 -2.8**
HHC SS **SS 13 57 20.3 -4.4**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.0s
HHC LR LR
comp=Z,160nm,15.2s
HHC LR LR
comp=Z,310nm,15.2s
HHC LR LR
comp=Z,340nm,16.6s
CN2 Changchun 47.94 356 *e*P **P 13 47 03.5 -0.4**
CN2 pP sP 13 47 17.3 -3.7
CN2 PcP **PcP 13 48 31.8 +0.1**
CN2 S **S 13 53 57.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,400nm,20.0s
USA0B Ussuriysk Arra 48.26 3 P P 13 47 06.5 +0.1
USA0B pmax pmax
comp=Z,17nm,0.8s
USA0B Ussuriysk Arra 48.26 3 P P 13 47 06.5 +0.1
USRK Ussuriysk Ar. 48.26 3 P P 13 47 06.8 +0.3

comp=Z,9.8nm,0.6s,baz=191,slow=8.5,SNR=17
USRK LR LR 14 08 15.5
comp=Z,397nm,19.5s,baz=159,slow=37
USRK Ussuriysk Ar. 48.26 3 P P 13 47 06.3 -0.1
MDJ Mudanjiang 48.62 0 P P 13 47 09.8 +0.6
MDJ S **S 13 54 08.0 +0.3**
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ pmax pmax
comp=Z,190nm,3.9s
MDJ LR LR
comp=Z,270nm,5.1s
MDJ LR LR
comp=Z,290nm,3.8s
MDJ LR LR
comp=Z,330nm,24.3s
XLT XiLinHaoTe 49.38 347 *e*P **P 13 47 14.8 -0.4**
XLT S **S 13 54 21.0 +2.3**
XLT sS sS 13 54 40.8 +2.5
XLT SS **SS 13 57 47.3 -3.8**
XLT pmax pmax
comp=Z,37nm,0.9s
XLT pmax pmax
comp=Z,290nm,5.5s
XLT LR LR
comp=Z,240nm,12.9s
XLT LR LR
comp=Z,250nm,18.6s
MSVF Nonsavu 49.46 110 P P 13 47 17.4 +1.2
comp=Z,9.7nm,0.7s,baz=254,slow=22,SNR=3.4
ASAJ Asahikawa 49.56 12 P P 13 47 16.7 +0.3
comp=Z,19nm,0.8s,baz=227,slow=4.8,SNR=11
ASAJ LR LR 14 07 04.5
comp=Z,454nm,21.2s,baz=214,slow=35
JKA Kamikawa-asahi 49.56 12 P P 13 47 15.4 -1.0
JKA IAmb IAmb 13 47 30.6
comp=Z,37nm,0.9s
BNX BinXian 49.77 358⇓ P **P 13 47 17.8 -0.2**
BNX PP **PP 13 49 15.3 +2.2**
BNX S **S 13 54 23.5 -0.4**
BNX pmax pmax
comp=Z,20nm,0.6s
BNX pmax pmax
comp=Z,400nm,5.6s
LSA Lhasa 49.80 315 P P 13 47 18.8 -0.3
LSA pmax pmax
comp=Z,36nm,0.9s
LSA Lhasa 49.80 315 P P 13 47 18.8 -0.3
LSA IAmb IAmb 13 47 20.8
comp=Z,36nm,0.9s
PALK Pallekele 49.91 283 PcP PcP 13 48 40.4 +0.8
comp=Z,16nm,0.9s,baz=227,slow=1.2,SNR=4.4
PALK LR LR 14 09 50.2
comp=Z,312nm,19.0s,baz=211,slow=38
PALK Pallekele 49.91 283 P P 13 47 19.9 +0.2
ODAN Odare 51.01 310 *e*P **P 13 47 27.5 -0.5**
comp=Z,138nm,0.8s
TAPN Taplejung 51.02 310 *e*P **P 13 47 27.7 -0.4**
comp=Z,68nm,0.5s
GTA Gaotai 51.27 331 ⇑P **P 13 47 29.5 -0.1**
GTA pP pP 13 47 41.8 +0.3
GTA sP pwP 13 47 46.8 +0.1
GTA PcP **PcP 13 48 45.5 +1.3**
GTA S **S 13 54 43.0 -2.2**
GTA pmax pmax
comp=Z,38nm,1.0s
GTA pmax pmax
comp=Z,210nm,8.4s
GTA LR LR
comp=Z,140nm,17.9s
GTA LR LR
comp=Z,150nm,15.5s
GTA LR LR
comp=Z,220nm,19.5s
GOMU GeErMu 51.60 324 P P 13 47 31.8 -0.6
GOMU PcP **PcP 13 48 45.5 -0.3**
GOMU PP **PP 13 49 31.3 +1.0**
GOMU S **S 13 54 49.0 -1.3**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,120nm,4.4s
GOMU LR LR
comp=Z,190nm,15.9s
GOMU LR LR
comp=Z,190nm,19.4s
GOMU LR LR
comp=Z,68nm,15.3s
RAMN Ramite 51.66 309 *e*P **P 13 47 32.8 -0.1**
comp=Z,100nm,0.4s
YSS Yuzh-Sakhalins 52.31 12 *e*P **P 13 47 36.5 -0.5**
YSS *e*S **S 13 54 57.0 -1.9**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,200nm,6.0s
JIRN Jiri 52.33 310 *e*P **P 13 47 37.6 -0.4**
DCZ Deep Cove 52.64 147 P P 13 47 39.9 +0.3
DCZ IAmb IAmb 13 47 58.4
comp=Z,40nm,1.0s
GUN Gumba 52.70 310 *e*P **P 13 47 40.2 -0.5**
comp=Z,139nm,0.6s
PKI Pulchoki 52.89 309 *e*P **P 13 47 41.2 -0.9**
PKIN Phulchoki 52.90 309 *e*P **P 13 47 41.1 -1.0**
KKN Kakani 53.10 310 *e*P **P 13 47 42.9 -0.6**
comp=Z,107nm,0.8s
MLZ Mavora Lakes 53.10 147 P P 13 47 43.7 +0.7
MLZ IAmb IAmb 13 47 57.1
comp=Z,46nm,1.4s
DMN Daman 53.14 309 *e*P **P 13 47 43.3 -0.6**
KLR Kul'dur 53.27 2 P P 13 47 44.3 +0.2
comp=Z,8.4nm,1.0s,baz=216,slow=3.8,SNR=17
KLR PcP **PcP 13 48 51.6 +0.3**
comp=Z,11nm,1.0s,baz=299,slow=4.1,SNR=4.2
KLR LR LR 14 10 03.7
comp=Z,314nm,20.5s,baz=177,slow=36
WHZ Wether Hill Ro 53.34 147 P P 13 47 45.0 +0.3
GKN Gorkha 53.70 309 *e*P **P 13 47 47.2 -0.6**
comp=Z,220nm,0.9s
RPZ Rata Peaks 53.80 143 P P 13 47 49.2 +1.1
comp=Z,17nm,0.9s,baz=288,slow=3.4,SNR=8.0
RPZ PcP **PcP 13 48 54.0 +0.5**
comp=Z,6.7nm,0.6s,baz=0.0,slow=3.0,SNR=1.1
RPZ LR LR 14 12 07.1
comp=Z,528nm,18.5s,baz=302,slow=38
THZ Tophouse 53.87 140 P P 13 47 49.1 +0.4
THZ IAmb IAmb 13 48 02.2
comp=Z,24nm,0.8s
TLZ Tolley Road 53.94 135 P P 13 48 02.3 +13
OXZ Oxford 54.17 142 P P 13 47 50.9 +0.1
OXZ IAmb IAmb 13 48 06.4
comp=Z,28nm,0.7s
TUWZ Tuamarina 54.36 140 P P 13 47 52.1 -0.1
KOLN Koldanda 54.39 309 *e*P **P 13 47 52.6 -0.3**
DANN Dangsing 54.54 309 *e*P **P 13 47 53.6 -0.5**
comp=Z,331nm,0.9s
HYBB Hyderabad (bro 54.58 295 *e*P **P 13 47 52.8 -1.5**
BHHZ Black Hill Sta 54.84 136 P P 13 47 56.2 +0.4
BKZ Black Stump Fm 54.99 136 P P 13 47 57.2 +0.3
URZ Urewera 55.02 135 P P 13 47 57.5 +0.4
comp=Z,13nm,0.7s,baz=48,slow=2.8,SNR=12
URZ Urewera 55.02 135 P P 13 47 57.1 0.0
PYUN Piuthan 55.02 309 *e*P **P 13 47 57.2 -0.3**
comp=Z,434nm,0.9s
KWHZ Kaweka Forest 55.05 136 P P 13 47 58.0 +0.6
RTZ Ruatahuna 55.08 135 P P 13 47 58.1 +0.5
GRNR Gornyy 55.11 5⇑ *i*P **P 13 47 58.0 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=N,90nm,17.0s
GRNR MLR MLR
comp=E,280nm,17.0s
GRNR MLR MLR
comp=Z,240nm,18.0s
MCHZ McNeill Hill 55.25 136 P P 13 47 59.7 +1.0
RAHZ Arahi 55.29 135 P P 13 47 59.9 +0.9
RAGZ Rawiri 55.34 135 P P 13 47 60.0 +0.5
MWZ Matawai 55.35 135 P P 13 48 00.0 +0.5
SNGZ Shannon Statio 55.41 135 P P 13 48 00.6 +0.7
ULN Ulaanbaatar 55.45 342 *c i*P **P 13 48 00.6 +0.4**
ULN pmax pmax
comp=Z,54nm,1.0s
ULN Ulaanbaatar 55.45 342 P P 13 48 00.3 +0.2
ULN IAmb IAmb 13 48 02.1
comp=Z,41nm,0.8s

ULN Ulaanbaatar 55.45 342 P **P** **13 48 00.8 +0.6**
KAHZ Kahuranaki 55.53 136 P **P** **13 48 01.9 +1.1**
PKGZ Pakihiroa 55.55 134 P P 13 48 13.7 +13
TKGZ Te Karaka 55.62 135 P **P** **13 48 02.2 +0.8**
SONM Songino Array 55.63 341 P **P** **13 48 01.7 +0.3**
comp=Z,34nm,1.0s,baz=155,slow=8.3,SNR=92
SONM PcP **PcP** **13 49 01.0 +0.4**
comp=Z,8.1nm,0.9s,baz=169,slow=5.2,SNR=1.3
SONM PKPPKP 14 17 57.9
comp=Z,0.3nm,0.5s,baz=355,slow=1.6,SNR=3.5
SONM Songino Array 55.63 341 P **P** **13 48 01.3 -0.1**
SONM IAmb IAmb 13 48 04.3
comp=Z,40nm,1.0s
RIGZ Rimuhau 55.67 135 P **P** **13 48 03.4 +1.6**
TYV Tymovskoe 56.04 10 *e*P **P** **13 48 05.2 +1.1**
TYV *e*S **S** **13 55 56.7 +7.6**
TYV pmax pmax
comp=Z,400nm,5.0s
TYV pmax pmax
comp=Z,22nm,0.8s
TYV smax smax
comp=N,900nm,8.0s
TYV smax smax
comp=E,800nm,8.0s
KAAM Kaadhehdhoo 56.54 273 P **P** **13 48 09.1 +0.7**
ZEA Zeya 57.78 358 *e*P **P** **13 48 16.3 -0.1**
ZEA *e* 13 48 26.5
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
AFI Afiamalu 58.75 104 LR LR 14 13 59.9
comp=Z,164nm,20.4s,baz=282,slow=36
ZAK Zakamensk 58.86 341 *e*P **P** **13 48 23.6 -0.5**
ZAK pmax pmax
comp=Z,36nm,1.1s
IRK Irkutsk 60.16 342 *e*P **P** **13 48 30.8 -2.2**
IRK pmax pmax
comp=Z,90nm,0.8s
MOY Mondy 60.72 340 *e*P **P** **13 48 37.6 +0.7**
MOY pmax pmax
comp=Z,62nm,1.6s
WMQ Urumqi 60.76 327 *e*P **P** **13 48 37.8 +0.5**
WMQ pP pP 13 48 49.8 +0.3
WMQ PcP **PcP** **13 49 22.0 +1.2**
WMQ PcS **PcS** **13 53 20.3 -3.1**
WMQ S **S** **13 56 51.3 +0.3**
WMQ pmax pmax
comp=Z,84nm,0.9s
WMQ pmax pmax
comp=Z,390nm,3.9s
WMQ LR LR
comp=Z,380nm,18.1s
WMQ LR LR
comp=Z,190nm,20.1s
PETK Petropavlovsk- 61.90 19 P **P** **13 48 45.3 +0.6**
comp=Z,30nm,0.8s,baz=208,slow=11,SNR=38
PETK LR LR 14 11 41.9
comp=Z,346nm,21.9s,baz=206,slow=32
PETK PKP2ab 14 18 08.1
comp=Z,3.6nm,1.0s,baz=130,slow=4.6,SNR=3.5
PETK Petropavlovsk- 61.90 19 P **P** **13 48 44.7 0.0**
PET Petropavlovsk 62.14 20 *e*P **P** **13 48 47.2 +0.9**
PET *e* 13 49 26.7
PET *e*S **S** **13 57 09.5 +1.5**
PET *e* 13 58 32.6
PET *e*SS **SS** **14 01 14.5 +2.7**
PET pmax pmax
comp=Z,38nm,1.0s
PET Petropavlovsk 62.14 20 P **P** **13 48 45.3 -0.9**
PET IAmb IAmb 13 48 58.9
comp=Z,28nm,0.8s
BOD Bodaibo 63.08 351 *e*P **P** **13 48 52.9 +0.5**
BOD pmax pmax
comp=Z,34nm,1.6s
ZSN Zaisan 64.61 328*c i*P **P** **13 49 02.4 -0.4**
ZSN pmax pmax
comp=Z,11nm,1.1s
ZSN Zaisan 64.61 328⇑*i*P **P** **13 49 02.4 -0.4**
comp=Z,11nm,1.1s,baz=328
NIL Nilore 64.97 310 P **P** **13 49 04.1 -1.4**
NIL pmax pmax
comp=Z,32nm,1.0s
NIL Nilore 64.97 310 P **P** **13 49 04.1 -1.4**
NIL IAmb IAmb 13 49 40.6
comp=Z,32nm,0.9s
SHLS Shalkode 65.17 322*c i*P **P** **13 49 05.0 -1.7**
SHLS pmax pmax
comp=Z,10.0nm,0.9s
SHLS Shalkode 65.17 322⇑*i*P **P** **13 49 05.1 -1.7**
comp=Z,10nm,0.9s,baz=322
UZB Uzynbulak 65.44 322*c i*P **P** **13 49 08.2 -0.2**
UZB pmax pmax
comp=Z,16nm,1.0s
UZB Uzynbulak 65.44 322⇑*i*P **P** **13 49 08.3 -0.2**
comp=Z,16nm,1.0s,baz=322
TARG Taragay, Kyrgy 65.46 320 P **P** **13 49 08.9 -0.1**
TARG IAmb IAmb 13 49 43.6
comp=Z,35nm,1.4s
KSH Kashi 65.58 317 P **P** **13 49 09.5 +0.1**
KSH PcP **PcP** **13 49 42.3 +1.5**
KSH S **S** **13 57 53.5 +1.9**
KSH pmax pmax
comp=Z,24nm,1.0s
MK31 Makanchi Array 65.59 326 *e*P **P** **13 49 08.9 -0.3**
MK31 Makanchi Array 65.59 326 P **P** **13 49 08.5 -0.7**
MK31 IAmb IAmb 13 49 22.2
comp=Z,25nm,0.8s
MKAR Makanchi Array 65.59 326 P **P** **13 49 09.1 -0.1**
comp=Z,28nm,0.6s,baz=124,slow=7.7,SNR=284
MKAR PKPPKP 14 17 43.3
comp=Z,0.9nm,0.9s,baz=279,slow=2.3,SNR=4.9
MKAR P4KPbc 14 25 52.9
comp=Z,0.6nm,1.1s,baz=132,slow=4.3,SNR=2.4
MKAR Makanchi Array 65.59 326 P **P** **13 49 08.7 -0.5**
MAKZ Makanchi 65.77 326 P **P** **13 49 10.0 -0.4**
MAKZ pmax pmax
comp=Z,29nm,1.0s
MAKZ Makanchi 65.77 326 P **P** **13 49 10.0 -0.4**
MAKZ IAmb IAmb 13 49 23.2
comp=Z,29nm,0.9s
SATY Saty 65.77 321*c i*P **P** **13 49 10.5 0.0**
SATY pmax pmax
comp=Z,24nm,1.0s
SATY Saty 65.77 321⇑*i*P **P** **13 49 10.6 0.0**
comp=Z,24nm,1.0s,baz=321
KPKS Kokpek 65.81 322*c i*P **P** **13 49 10.5 -0.3**
KPKS pmax pmax
comp=Z,23nm,1.1s
KPKS Kokpek 65.81 322⇑*i*P **P** **13 49 10.6 -0.3**
comp=Z,23nm,1.1s,baz=322
MA2 Magadan 65.81 12 P **P** **13 49 11.2 +0.9**
comp=Z,26nm,0.8s,baz=187,slow=5.8,SNR=43
MA2 LR LR 14 16 20.8
comp=Z,255nm,20.4s,baz=208,slow=35
MA2 Magadan 65.81 12 P **P** **13 49 10.8 +0.5**
KDJ Kajisay 66.07 320 P **P** **13 49 12.3 -0.3**
KDJ pmax pmax
comp=Z,31nm,1.3s
KDJ Kajisay 66.07 320 P **P** **13 49 12.3 -0.3**
KDJ IAmb IAmb 13 49 14.6
comp=Z,31nm,1.2s
YAK Yakutsk 66.07 0 P **P** **13 49 12.3 +0.5**
comp=Z,89nm,0.8s,baz=16,slow=1.3,SNR=69
YAK LR LR 14 18 44.0
comp=Z,214nm,19.9s,baz=232,slow=37
YAK Yakutsk 66.07 0 *e*P **P** **13 49 12.1 +0.2**
YAK *e**PP **pP** **13 49 22.8 -1.3**
YAK *e* 13 49 37.6
YAK *e* 13 51 37.3
YAK *e*S **S** **13 57 56.2 -0.1**
YAK pmax pmax
comp=Z,152nm,0.8s
YAK pmax pmax
comp=N,21nm,0.9s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=Z,111nm,3.4s
YAK pmax pmax
comp=N,71nm,3.8s
YAK pmax pmax
comp=E,60nm,3.8s
YAK smax smax
comp=E,80nm,2.5s
YAK smax smax
comp=N,118nm,2.7s
YAK Yakutsk 66.07 0 P **P** **13 49 12.0 +0.1**
TNSS Tian-Shan 66.67 321 *e*P **P** **13 49 16.9 +0.2**
baz=321
MDOK Medeo 66.67 321 *i*P **P** **13 49 16.4 0.0**
MDOK Medeo 66.67 321 *i*P **P** **13 49 16.4 0.0**
baz=321
ULHL Ulahol 66.73 320 P **P** **13 49 16.9 0.0**
SNR=8.8
ARXS Arharly 66.74 322 *e*P **P** **13 49 15.5 -1.2**
AAA Alma-Ata 66.78 321 *e*P **P** **13 49 16.9 -0.1**
AAA Alma-Ata 66.78 321 *e*P **P** **13 49 16.9 -0.1**
baz=321
TDK Taldyqorghan 66.81 323 *e*P **P** **13 49 16.7 -0.3**
TDK pmax pmax
comp=Z,17nm,1.1s
TDK Taldyqorghan 66.81 323 *e*P **P** **13 49 16.7 -0.3**
comp=Z,17nm,1.1s,baz=323
BOOM Boomskoye usch 67.04 320 P **P** **13 49 18.3 -0.5**
BOOM pmax pmax
comp=Z,28nm,1.2s
BOOM Boomskoye usch 67.04 320 P **P** **13 49 18.3 -0.5**
BOOM IAmb IAmb 13 49 20.7
comp=Z,28nm,1.1s
CHKK Chushkaly 67.07 322 *e*P **P** **13 49 18.2 -0.5**
baz=322
TKM2 Tokmak 2 67.47 320 P **P** **13 49 21.5 0.0**
SNR=18
TKM2 Tokmak 2 67.47 320 P **P** **13 49 21.0 -0.6**
KUU Kurty 67.49 321*c i*P **P** **13 49 21.0 -0.4**
KUU Kurty 67.49 321⇑*i*P **P** **13 49 21.1 -0.4**
baz=321
UCH Uchtor 67.84 319 P **P** **13 49 24.5 +0.3**
SNR=25
AAK Ala-Archa 68.05 319 P **P** **13 49 25.1 0.0**
comp=Z,15nm,1.0s,baz=139,slow=4.4,SNR=23
AAK Ala-Archa 68.05 319 P **P** **13 49 24.6 -0.5**
AAK Ala-Archa 68.05 319 P **P** **13 49 25.3 +0.2**
AAK Ala-Archa 68.05 319 *i*P **P** **13 49 25.3 +0.2**
SNR=15
SHEM Shemya Is, Ala 68.10 27 LR LR 14 14 54.2
comp=Z,422nm,20.6s,baz=302,slow=32
AML Almayashu 68.33 319 P **P** **13 49 26.8 -0.4**
SNR=26
AML Almayashu 68.33 319 P **P** **13 49 27.4 +0.2**
AML Almayashu 68.33 319 *i*P **P** **13 49 27.1 -0.1**
SNR=26
USP Ospenovka 68.34 320 P **P** **13 49 26.6 -0.2**
SNR=33
SGDS Sogindy 68.35 320⇑*i*P **P** **13 49 26.4 -0.5**
baz=320
EKS2 Erkin-Say 68.53 319 P **P** **13 49 28.4 +0.4**
SNR=18
KBL Kabul 68.53 310 P **P** **13 49 27.1 -1.2**
KBL pmax pmax
comp=Z,36nm,1.0s
KBL Kabul 68.53 310 P **P** **13 49 27.1 -1.2**
KBL IAmb IAmb 13 49 29.4
comp=Z,36nm,1.0s
KBL Kabul 68.53 310 P **P** **13 49 27.7 -0.6**
SNR=12
SEM Semipalatinsk 68.82 329 *e*P **P** **13 49 28.7 -1.1**
SEM Semipalatinsk 68.82 329 *e*P **P** **13 49 28.8 -1.1**
baz=329
ZALV Zalesovo Beam 68.84 334 P **P** **13 49 28.9 -0.7**
comp=Z,56nm,0.8s,baz=108,slow=4.8,SNR=186
ZALV PKP2bc 14 17 41.5
comp=Z,4.0nm,1.0s,baz=297,slow=4.5,SNR=11
ZALV Zalesovo Beam 68.84 334 P **P** **13 49 28.6 -1.0**
SEY Seymchan 69.21 11 LR LR 14 18 18.7
comp=Z,339nm,21.1s,baz=178,slow=35
SEY Seymchan 69.21 11⇑*i*P **P** **13 49 32.8 +1.1**
SEY pmax pmax
comp=Z,57nm,0.9s
GAR Garm 69.30 314 P **P** **13 49 32.1 -0.8**
BTK Batken 69.38 316 P **P** **13 49 32.5 -0.8**
BTK pmax pmax
comp=Z,14nm,0.5s
BTK Batken 69.38 316 P **P** **13 49 32.5 -0.8**
BTK IAmb IAmb 13 50 33.3
comp=Z,14nm,0.5s
BTLS Baital 69.48 321*c i*P **P** **13 49 33.1 -0.7**
BTLS Baital 69.48 321⇑*i*P **P** **13 49 33.1 -0.7**
baz=322
KURBB Kurchatov Arra 69.84 328 P **P** **13 49 35.7 -0.2**
comp=Z,56nm,0.9s,baz=128,slow=5.4,SNR=314
KURK Kurchatov 69.85 328 P **P** **13 49 35.9 0.0**
KURK pmax pmax
comp=Z,135nm,1.0s
KURK Kurchatov 69.85 328 P **P** **13 49 35.9 0.0**
KURK Kurchatov 69.85 328 P **P** **13 49 36.0 +0.1**
CHGR Chuyangaron 69.99 314 P **P** **13 49 36.4 -0.8**
DZA Taraz 70.24 318 *e*P **P** **13 49 37.7 -0.8**
DZA Taraz 70.24 318 *e*P **P** **13 49 37.8 -0.8**
baz=318
RAR Rarotonga 70.62 111 LR LR 14 19 28.4
comp=Z,40nm,19.4s,baz=292,slow=35
IUG Iuzhnay 70.79 317 *i*P **P** **13 49 41.8 -0.2**
IUG Iuzhnay 70.79 317 *i*P **P** **13 49 41.8 -0.2**
baz=317
KKAR Karatay Array 70.87 318 P **P** **13 49 41.4 -1.0**
KKAR Karatay Array 70.87 318 P **P** **13 49 41.4 -1.0**
BRZS Berezniki 72.69 326*c i*P **P** **13 49 53.0 -0.1**
BRZS pmax pmax
comp=Z,19nm,1.1s
BRZS Berezniki 72.69 326⇑*i*P **P** **13 49 53.1 -0.1**
comp=Z,19nm,1.1s,baz=326
JLN Jalan Bani Buh 73.20 295 P **P** **13 49 56.1 -0.6**
WBK Wadi Bani Khal 73.69 295 P **P** **13 49 59.4 -0.2**
SNR=5.1
HRA Herat 73.79 307 P **P** **13 49 59.2 -1.0**
WSAR Wadi Sarin 74.12 295 P **P** **13 50 03.1 +1.0**
comp=Z,40nm,1.0s,baz=134,slow=6.3,SNR=20
WSAR LR LR 14 28 01.4
comp=Z,116nm,18.1s,baz=122,slow=40
MHTO MHTO 74.29 293 P **P** **13 50 02.6 -0.5**
SNR=5.3
JMDO Jabal Madar 74.43 294 P **P** **13 50 03.6 -0.3**
SNR=8.1
DQM DQM 74.49 292 P **P** **13 50 04.8 +0.6**
SMDO Samad 74.61 295 P **P** **13 50 04.5 -0.5**
SNR=21
BIDO Bidbid 74.63 296 P **P** **13 50 04.8 -0.2**
SNR=14
VNDA Vanda 75.26 173 P **P** **13 50 07.7 0.0**
comp=Z,17nm,0.8s,baz=318,slow=6.4,SNR=55
VNDA LR LR 14 22 53.8
comp=Z,319nm,18.8s,baz=336,slow=36
VNDA Vanda 75.26 173 P **P** **13 50 07.5 -0.1**
BSY Bisya 75.32 295 P **P** **13 50 09.2 +0.1**
HOQ Hoqain 75.38 296 P **P** **13 50 09.7 +0.3**
SNR=13
BVAR Borovoye Array 75.41 328 P **P** **13 50 09.1 +0.2**
comp=Z,17nm,0.8s,baz=168,slow=9.2,SNR=47
BRVK Borovoye 75.48 328*c i*P **P** **13 50 09.2 -0.1**
BRVK pmax pmax
comp=Z,50nm,1.3s
BRVK Borovoye 75.48 328 P **P** **13 50 08.9 -0.4**
BRVK IAmb IAmb 13 50 10.8
comp=Z,34nm,0.8s
BRVK Borovoye 75.48 328 P **P** **13 50 09.6 +0.3**
TIXI Tiksi 75.73 360 LR LR 14 23 44.9
comp=Z,316nm,20.6s,baz=181,slow=36
TIXI Tiksi 75.73 360 P **P** **13 50 09.4 -0.9**
TIXI pmax pmax
comp=Z,31nm,0.9s
TIXI Tiksi 75.73 360 P **P** **13 50 09.4 -0.9**
TIXI IAmb IAmb 13 50 12.1
comp=Z,31nm,0.9s
SHAO Shalim 75.95 290 P **P** **13 50 12.9 +0.1**
ARQ Araqi 76.04 295 P **P** **13 50 13.2 0.0**
SBA Scott Base 76.15 172 P **P** **13 50 13.2 +0.5**
SBA pmax pmax
comp=Z,33nm,1.1s
SBA Scott Base 76.15 172 P **P** **13 50 13.2 +0.5**
SBA IAmb IAmb 13 50 15.9
comp=Z,33nm,1.1s
SOHO SOHO 76.18 296 P **P** **13 50 13.7 -0.2**
SOHO SOHO 76.18 296 *i*P **P** **13 50 13.2 -0.7**
SNR=8.1
DMTO DMTO 76.54 289 P **P** **13 50 15.9 -0.1**
BILL Bilibino 76.57 13 *e*P **P** **13 50 15.7 +0.5**
BILL *e* 13 50 28.0
BILL *e* 13 53 09.5
BILL pmax pmax
comp=Z,22nm,2.5s
BILL MLR MLR
comp=Z,160nm,18.0s
UOSS Minazif 76.63 297 P **P** **13 50 17.1 +0.6**
UOSS Minazif 76.63 297 P **P** **13 50 16.2 -0.3**
HATD Hatta, Dubai 76.67 297 P **P** **13 50 17.0 +0.3**
SNR=5.9
HATD Hatta, Dubai 76.67 297 *i*P **P** **13 50 16.1 -0.7**
SNR=5.6
SOCY Socotra 76.68 284 P **P** **13 50 15.3 -1.7**
SOCY IAmb IAmb 13 50 17.1
comp=Z,44nm,0.8s
SOCY Socotra 76.68 284 P **P** **13 50 16.2 -0.8**
SNR=5.6
ASHO Ashiyiah 76.71 296 P **P** **13 50 17.2 +0.2**
ASHO Ashiyiah 76.71 296 P **P** **13 50 16.8 -0.2**
BANOM Banah 76.74 298 P **P** **13 50 17.7 +0.6**
BANOM Banah 76.74 298 P **P** **13 50 17.1 0.0**
MSFE Esma-Masafi 76.75 297 *i*P **P** **13 50 17.3 +0.1**
SNR=9.5
MASF Masafi 76.76 297 P **P** **13 50 17.9 +0.7**
NIKH Nikolski High 76.87 33 P **P** **13 50 16.6 -0.5**
baz=244
ALNE Al Ain 76.87 296 P **P** **13 50 17.8 -0.1**
SNR=6.2
ALNE Al Ain 76.87 296 *i*P **P** **13 50 17.7 -0.1**
SNR=5.1
SHME Shamm 76.90 298 P **P** **13 50 18.6 +0.6**
SHME Shamm 76.90 298 P **P** **13 50 18.0 0.0**
NAZ Nazwa, Dubai 77.12 297 P **P** **13 50 19.4 +0.1**
FAQ Al Faqa, Dubai 77.14 296 P **P** **13 50 19.2 -0.2**
FAQ Al Faqa, Dubai 77.14 296 *i*P **P** **13 50 18.6 -0.7**
SNR=7.9
UMZA Um Al Zommool 77.16 294 P **P** **13 50 18.9 -0.6**
RBK Rabkut 77.21 289 P **P** **13 50 20.1 +0.2**
MAW Mawson 77.30 201 P **P** **13 50 19.4 +0.1**
comp=Z,19nm,1.1s,baz=65,slow=7.8,SNR=12
MAW LR LR 14 19 50.6
comp=Z,178nm,21.4s,baz=72,slow=32
MAW Mawson 77.30 201 P **P** **13 50 20.0 +0.7**
baz=77,SNR=8.8
MAW Mawson 77.30 201 P **P** **13 50 19.4 +0.1**
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 77.30 201 P **P** **13 50 19.4 +0.1**
ASUD Al Ashush, Dub 77.36 296 P **P** **13 50 21.2 +0.6**
ASUD Al Ashush, Dub 77.36 296 *i*P **P** **13 50 20.8 +0.2**
SNR=5.9
DOK Doka 77.45 290 P **P** **13 50 20.4 -0.8**
MLH Mauna Loa 77.54 69 P **P** **13 50 22.2 +0.2**
AJN Ajban 77.65 296 P **P** **13 50 22.2 +0.1**
WHFO Wadi Hawf 77.68 289 P **P** **13 50 21.6 -0.9**
GEYT Alibeck 77.97 310 P **P** **13 50 24.4 +0.6**
comp=Z,21nm,0.9s,baz=163,slow=6.2,SNR=24
GEYT Alibeck 77.97 310 P **P** **13 50 23.4 -0.3**
GYA0B ALIBECK ARRAY 77.97 310 P **P** **13 50 23.6 -0.2**
GYA0B IAmb IAmb 13 50 28.2
comp=Z,28nm,0.9s
ABTO Aybut 78.04 289 P **P** **13 50 24.3 -0.3**
MZWR Madinat Zayed 78.50 295 P **P** **13 50 26.9 0.0**
NRIK Noril'sk 78.74 346 P **P** **13 50 27.8 +0.6**
comp=Z,51nm,1.0s,baz=122,slow=5.9,SNR=60
NRIK LR LR 14 28 19.5
comp=Z,162nm,20.5s,baz=137,slow=38
NRIK Noril'sk 78.74 346 P **P** **13 50 27.4 +0.1**
NRIK IAmb IAmb 13 50 29.8
comp=Z,56nm,1.1s
MZR Muzera 78.74 294 P **P** **13 50 28.5 +0.2**
MZR Muzera 78.74 294 *i*P **P** **13 50 28.0 -0.3**
SNR=8.8
GHWR Ruwais 79.44 295 P **P** **13 50 32.5 +0.4**
JRN Qarnain Island 79.63 296 P **P** **13 50 33.0 -0.1**
AB31 Akbulak array 79.97 321 *i*P **P** **13 50 34.0 -0.4**
ABKAR Akbulak array 79.97 321 P **P** **13 50 33.8 -0.6**
ABKAR Akbulak array 79.97 321 P **P** **13 50 33.9 -0.6**
ABKAR IAmb IAmb 13 50 39.1
comp=Z,48nm,0.9s
PAE Paea 80.19 107 *e*P **P** **13 50 39.4 +3.2**
comp=Z,13nm,1.0s
PPT2 Papeete2 80.20 107 *e*P **P** **13 50 39.5 +3.1**
comp=Z,88nm,1.0s
PPT2 Papeete2 80.20 107 *e*S **S** **14 00 41.5 +3.1**
comp=Z,77nm,24.5s
PPT2 Papeete2 80.20 107 *e*LR LR 14 15 31.7
comp=Z,150nm,25.2s
PPT Papeete 80.20 107 P **P** **13 50 38.0 +1.7**
comp=Z,79nm,1.0s,baz=318,slow=7.1,SNR=8.4
PPT LR LR 14 24 21.7
comp=Z,30nm,21.6s,baz=294,slow=34
TBI Tubuai 80.22 113 *e*LR LR 14 15 32.3
comp=Z,186nm,26.2s
TVO Taravao 80.50 107 *e*P **P** **13 50 41.2 +3.2**
comp=Z,0.4nm,0.9s
SLWR Sila 80.53 295 P **P** **13 50 38.1 +0.2**
GAMB Gambell 80.60 23 P **P** **13 50 38.1 +0.6**
GAMB Gambell 80.60 23 P **P** **13 50 38.2 +0.8**
baz=240
KHOR Al-Khor Airpor 80.93 297 P **P** **13 50 40.4 +0.4**
TRNA Turayna 81.06 296 P **P** **13 50 41.1 +0.3**
OPO Ambohidratompo 81.29 252 P **P** **13 50 42.7 +0.4**
comp=Z,7.5nm,0.8s,baz=86,slow=5.3,SNR=7.1
SHMA Al-Shehemyia 81.46 297 P **P** **13 50 43.2 +0.4**
AKTO Aktyubinsk 81.52 322 P **P** **13 50 42.6 -0.1**
comp=Z,29nm,0.9s,baz=110,slow=5.3,SNR=52
AKTO LR LR 14 29 12.8
comp=Z,88nm,21.5s,baz=106,slow=37
SAKB Bahrain 81.86 297 P **P** **13 50 45.2 +0.3**
PMOR Pomariorio Ree 81.89 104 *e*P **P** **13 50 48.2 +2.9**
comp=Z,123nm,1.1s
SVE Sverdlovsk 82.09 329*de*P **P** **13 50 45.5 0.0**
SVE pmax pmax
comp=Z,81nm,1.0s
TNA Tin City 82.88 22 P **P** **13 50 50.2 +0.8**
ARU Arti 83.04 328*c i*P **P** **13 50 49.9 -0.6**
ARU 13 53 59.1
ARU S **S** **14 01 10.6 +4.4**
ARU SS **SS** **14 06 27.1 -3.7**
ARU pmax pmax
comp=Z,27nm,1.1s
ARU Arti 83.04 328 P **P** **13 50 49.5 -1.0**
ARU IAmb IAmb 13 50 53.9
comp=Z,30nm,1.0s
ANM Nome 83.43 23 P **P** **13 50 52.8 +0.5**
ANM pmax pmax
comp=Z,18nm,1.1s
ANM Nome 83.43 23 P **P** **13 50 52.8 +0.5**
ANM Nome 83.43 23 P **P** **13 50 53.2 +0.9**
baz=246
RDOG Red Dog Mine 85.73 20 P **P** **13 51 04.2 +0.4**
RDOG IAmb IAmb 13 51 06.4
comp=Z,19nm,1.1s
RDOG Red Dog Mine 85.73 20 P **P** **13 51 04.6 +0.7**
baz=248
QSPA South Pole Qui 85.74 180 P **P** **13 51 03.6 -0.5**
comp=Z,41nm,1.1s,baz=230,slow=0.2,SNR=36
QSPA LR LR 14 30 39.1
comp=Z,270nm,18.1s,baz=354,slow=37
QSPA South Pole Qui 85.74 180 P **P** **13 51 03.6 -0.5**
RAYN Ar Rayn 86.08 294 P **P** **13 51 06.3 -0.3**
RAYN pmax pmax
comp=Z,60nm,0.9s
RAYN Ar Rayn 86.08 294 P **P** **13 51 06.3 -0.3**
RAYN Ar Rayn 86.08 294 P **P** **13 51 06.9 +0.3**
RAYN Ar Rayn 86.08 294 *i*P **P** **13 51 06.6 0.0**
SNR=51
P18K Big Mountain, 86.22 30 P **P** **13 51 06.2 -0.3**
baz=255
OHAK Old Harbor 86.69 32 P **P** **13 51 08.7 -0.1**
baz=257
TTA Tatalina 86.78 26 P **P** **13 51 09.7 +0.5**
TTA pmax pmax
comp=Z,68nm,1.5s
TTA Tatalina 86.78 26 P **P** **13 51 09.7 +0.5**
TTA Tatalina 86.78 26 P **P** **13 51 10.4 +1.2**
baz=254,SNR=12
O19K Port Alsworth 86.86 29 P **P** **13 51 09.4 -0.1**
baz=256
GCSA Galena City Sc 86.92 24 P **P** **13 51 09.7 0.0**
baz=254
MAK Makhachkala 86.92 313 *e*P P 13 51 05.2 -5.0
MAK *e*SSS SSS 14 10 57.0
MAK pmax pmax
comp=Z,198nm,0.9s
MAK MLR MLR
comp=Z,365nm,16.0s

N19K	**Bonanza Creek**	**86.93**	**28**	P		**P**		**13 51 10.8**	**+0.7**
	baz=256,SNR=18								
L19K	**White Mountain**	**87.10**	**27**	P		**P**		**13 51 11.4**	**+0.6**
	baz=255,SNR=14								
KDAK	**Kodiak Island**	**87.19**	**32**	LR		LR		14 25 20.4	
	comp=Z,243nm,21.9s,baz=251,slow=32								
KDAK	**Kodiak Island**	**87.19**	**32**	*d*	*i*P	**P**		**13 51 12.1**	**+0.9**
KDAK					pmax	pmax			
	comp=Z,78nm,1.1s								
KDAK	**Kodiak Island**	**87.19**	**32**	P		**P**		**13 51 11.5**	**+0.4**
	baz=258								
L20K	**Farewell, AK**	**87.62**	**27**	P		**P**		**13 51 13.7**	**+0.5**
	baz=256								
K20K	**Telida**	**87.74**	**26**	P		**P**		**13 51 14.1**	**+0.3**
	baz=256,SNR=5.9								
M20K	**Styx River**	**87.82**	**28**	P		**P**		**13 51 14.7**	**+0.5**
M20K					IAmb	IAmb		13 51 29.0	
	comp=Z,34nm,1.2s								
J20K	**Nowinta River**	**87.91**	**25**	P		**P**		**13 51 14.9**	**+0.3**
	baz=256,SNR=10								
HOM	**Homer**	**88.06**	**30**	P		**P**		**13 51 15.6**	**+0.3**
	baz=258								
SPCR	**Spurr Chakacha**	**88.10**	**28**	P		**P**		**13 51 16.3**	**+0.7**
	baz=258								
GROC	**Groznyy**	**88.20**	**313**	*e*P		**P**		**13 51 14.1**	**-2.3**
GROC				*e*				13 54 41.2	
GROC					pmax	pmax			
	comp=Z,34nm,0.8s								
KIRV	**Kirov**	**88.36**	**329**	ǁ*e*P		**P**		**13 51 15.9**	**-0.8**
PPLA	**Purkeypile**	**88.47**	**27**	P		**P**		**13 51 18.0**	**+0.5**
	baz=258								
IMAR	**Indian Mountai**	**88.51**	**23**	P		**P**		**13 51 17.4**	**+0.1**
GNI	**Garni**	**88.61**	**310**	ǁ*e*P		**P**		**13 51 19.4**	**+0.8**
GNI					pmax	pmax			
	comp=Z,33nm,1.0s								
CHUM	**Lake Minchumin**	**88.62**	**26**	P		**P**		**13 51 17.8**	**-0.1**
	baz=258,SNR=10.0								
CAST	**Castle Rocks**	**88.63**	**26**	P		**P**		**13 51 18.4**	**+0.4**
	baz=258								
H21K	**Melozitna Rive**	**88.81**	**24**	P		**P**		**13 51 18.6**	**-0.1**
	baz=257								
I21K	**Tanana**	**89.04**	**24**	P		**P**		**13 51 19.7**	**-0.1**
	baz=258								
M22K	**Willow**	**89.19**	**28**	P		**P**		**13 51 20.4**	**-0.2**
	baz=260								
SEW	**Seward**	**89.22**	**30**	P		**P**		**13 51 20.1**	**-0.7**
	baz=260								
CUT	**Chulitna**	**89.24**	**27**	P		**P**		**13 51 20.4**	**-0.4**
	baz=260								
BPAW	**Bear Paw Mtn.**	**89.24**	**26**	P		**P**		**13 51 20.2**	**-0.7**
	baz=259								
RC01	**Rabbit Creek A**	**89.26**	**29**	P		**P**		**13 51 20.5**	**-0.5**
	baz=260								
TRF	**Thorofare Moun**	**89.42**	**26**	P		**P**		**13 51 21.4**	**-0.5**
	baz=259								
MLY	**Manley**	**89.53**	**25**	P		**P**		**13 51 21.5**	**-0.7**
	baz=259,SNR=13								
ZEI	**Tsey**	**89.53**	**313**	*e*P		**P**		**13 51 22.6**	**-0.3**
ZEI					pmax	pmax			
	comp=Z,39nm,1.0s								
PMR	**Palmer**	**89.63**	**28**	P		**P**		**13 51 22.9**	**+0.3**
	baz=260								
TAOE	**Nuku Hiva Isla**	**89.81**	**99**	*e*LR		LR		14 19 56.1	
	comp=Z,222nm,25.5s								
NCK	**Nalchik**	**89.83**	**313**	ǁ*e*P		**P**		**13 51 24.8**	**+0.7**
NCK					pmax	pmax			
	comp=Z,33nm,0.8s								
ONI	**Oni**	**89.84**	**313**	P		**P**		**13 51 24.3**	**+0.1**
ONI					pmax	pmax			
	comp=Z,15nm,0.8s								
ONI	**Oni**	**89.84**	**313**	P		**P**		**13 51 24.2**	**+0.1**
ONI					IAmb	IAmb		13 51 43.2	
	comp=Z,15nm,0.8s								
PWL	**Port Wells**	**89.89**	**29**	P		**P**		**13 51 23.2**	**-0.8**
	baz=261								
KNK	**Knik Glacier**	**89.92**	**28**	P		**P**		**13 51 23.9**	**-0.2**
KNK					IAmb	IAmb		13 51 35.9	
	comp=Z,28nm,0.9s								
KNK	**Knik Glacier**	**89.92**	**28**	P		**P**		**13 51 23.2**	**-0.9**
	baz=261								
SML	**Sawmill**	**90.04**	**28**	P		**P**		**13 51 24.6**	**-0.1**
SML					IAmb	IAmb		13 51 26.4	
	comp=Z,25nm,0.8s								
SML	**Sawmill**	**90.04**	**28**	P		**P**		**13 51 24.4**	**-0.3**
	baz=261								
MCK	**McKinley**	**90.07**	**26**	P		**P**		**13 51 24.4**	**-0.4**
	baz=261,SNR=7.2								
I23K	**Minto, Yukon-K**	**90.12**	**25**	P		**P**		**13 51 24.2**	**-0.7**
	baz=260								
COLD	**Coldfoot**	**90.15**	**23**	P		**P**		**13 51 24.5**	**-0.5**
	baz=260,SNR=17								
NEA2	**Nenana**	**90.15**	**25**	P		**P**		**13 51 24.9**	**-0.2**
	baz=260								
KBZ	**Khabaz**	**90.35**	**314**	P		**P**		**13 51 26.2**	**-0.2**
	comp=Z,16nm,0.9s,baz=99,slow=3.4,SNR=21								
KBZ					LR	LR		14 39 10.5	
	comp=Z,50nm,18.9s,baz=74,slow=40								
WAT6	**Susitna Watana**	**90.43**	**27**	P		**P**		**13 51 26.7**	**+0.1**
	baz=262								
NEY	**Neytrino**	**90.44**	**313**	ǁ*e*P		**P**		**13 51 28.9**	**+1.8**
NEY					pmax	pmax			
	comp=Z,7.0nm,0.9s								
SCM	**Sheep Creek Mo**	**90.52**	**28**	P		**P**		**13 51 26.2**	**-0.7**
	baz=262								
KIV	**Kislovodsk**	**90.53**	**314**	*e*P		**P**		**13 51 27.9**	**+0.5**
KIV				*e*				14 01 58.4	
KIV					pmax	pmax			
	comp=Z,15nm,1.1s								
KIV					pmax	pmax			
	comp=Z,41nm,4.3s								
KIV					MLR	MLR			
	comp=Z,49nm,20.0s								
GURO	**Guroymak-BITLI**	**90.54**	**308**	P		**P**		**13 51 28.2**	**+0.6**
TOLK	**Toolik Lake Re**	**90.64**	**21**	P		**P**		**13 51 26.9**	**-0.4**
	baz=260,SNR=11								
DHY	**Denali Highway**	**90.67**	**27**	P		**P**		**13 51 27.5**	**-0.2**
	baz=262,SNR=6.1								
CCB	**Clear Creek Bu**	**90.70**	**25**	P		**P**		**13 51 26.4**	**-1.2**
CCB					IAmb	IAmb		13 51 41.6	
	comp=Z,18nm,1.0s								
TCOL	**CIGO, UAF Yank**	**90.71**	**25**	P		**P**		**13 51 27.8**	**+0.2**
	baz=262								
COLA	**College**	**90.71**	**25**	*ce*P		**P**		**13 51 27.0**	**-0.6**
COLA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
COLA	**College**	**90.71**	**25**	P		**P**		**13 51 27.7**	**0.0**
	baz=262								
PRGR	**Permogore**	**90.72**	**332**	*e*P		**P**		**13 51 25.5**	**-2.2**
PRGR					pmax	pmax			
	comp=Z,7.0nm,0.7s								
H24K	**Noodor Dome**	**90.84**	**24**	P		**P**		**13 51 28.1**	**-0.3**
	baz=262,SNR=18								
POKR	**Poker Plat Res**	**90.92**	**25**	P		**P**		**13 51 29.2**	**+0.6**
	baz=262								
ILAR	**Eielson Array**	**91.11**	**25**	P		**P**		**13 51 28.3**	**-1.2**
	comp=Z,4.2nm,0.9s,baz=277,slow=4.2,SNR=36								
ILAR					PKKP	**PKKPdf**		**14 08 52.8**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=23,slow=2.1,SNR=11								
ILAR					LR	LR		14 27 17.2	
	comp=Z,187nm,19.8s,baz=266,slow=32								
KLU	**Klutina**	**91.14**	**29**	P		**P**		**13 51 29.5**	**-0.3**
	baz=263								
PAX	**Paxson**	**91.52**	**27**	P		**P**		**13 51 31.9**	**+0.3**
PAX					pmax	pmax			
	comp=Z,21nm,1.2s								
PAX	**Paxson**	**91.52**	**27**	P		**P**		**13 51 31.9**	**+0.3**
PAX					IAmb	IAmb		13 51 46.1	
	comp=Z,21nm,1.2s								
PAX	**Paxson**	**91.52**	**27**	P		**P**		**13 51 31.5**	**-0.1**
	baz=264								
HARP	**HAARP**	**91.60**	**28**	P		**P**		**13 51 31.3**	**-0.6**
	baz=264								
J25K	**Salcha River,**	**91.74**	**25**	P		**P**		**13 51 31.4**	**-1.1**
	baz=264								
N25K	**Chitina, Valde**	**91.78**	**28**	P		**P**		**13 51 32.0**	**-0.8**
	baz=264								
RIDG	**Independent Ri**	**91.87**	**26**	P		**P**		**13 51 32.9**	**-0.2**
	baz=264								
KMBO	**Kilima Mbogo**	**92.05**	**269**	P		**P**		**13 51 35.3**	**0.0**
	comp=Z,6.3nm,0.9s,baz=44,slow=6.1,SNR=8.8								
KMBO					LR	LR		14 29 26.3	
	comp=Z,270nm,20.0s,baz=92,slow=33								
SCRK	**Sand Creek**	**92.28**	**26**	P		**P**		**13 51 35.4**	**+0.3**
SCRK	**Sand Creek**	**92.28**	**26**	P		**P**		**13 51 34.3**	**-0.8**
	baz=265								
BMAR	**Burnt Mountain**	**92.34**	**23**	P		**P**		**13 51 35.8**	**+0.6**
VSLR	**Vesyoloye**	**92.41**	**313**	*ce*P		**P**		**13 51 35.2**	**-0.8**
L26K	**Log Cabin Wild**	**92.48**	**27**	P		**P**		**13 51 36.1**	**+0.1**
	baz=266								
J26L	**Joseph Creek**	**92.50**	**26**	P		**P**		**13 51 35.8**	**-0.3**
	baz=266								
M27K	**Edge Creek, AK**	**93.12**	**28**	P		**P**		**13 51 39.0**	**-0.1**
	baz=267								
L27K	**Beaver Creek,**	**93.18**	**27**	P		**P**		**13 51 39.4**	**+0.3**
L27K					IAmb	IAmb		13 51 51.5	
	comp=Z,16nm,0.8s								
L27K	**Beaver Creek,**	**93.18**	**27**	P		**P**		**13 51 39.5**	**+0.3**
	baz=267								
BCAR	**Beaver Creek A**	**93.20**	**27**	P		**P**		**13 51 39.5**	**+0.2**
CTG	**Chitna Glacier**	**93.30**	**29**	P		**P**		**13 51 39.9**	**0.0**
	baz=267								
BVCY	**Beaver Creek**	**93.59**	**28**	P		**P**		**13 51 41.8**	**+0.7**
	baz=268								
KLMR	**Klimovskoe**	**93.59**	**331**	*e*P		**P**		**13 51 37.8**	**-3.3**
KLMR					pmax	pmax			
	comp=Z,19nm,0.9s								
KLMR	**Klimovskoe**	**93.59**	**331**	*e*P		**P**		**13 51 37.8**	**-3.3**
KLMR					AMP			13 51 40.5	
	comp=Z,19nm,0.9s								
YUK3	**Moose Creek**	**93.76**	**28**	P		**P**		**13 51 42.7**	**+0.6**
	baz=268								
DAWY	**Dawson**	**94.30**	**26**	P		**P**		**13 51 44.5**	**+0.1**
DAWY					IAmb	IAmb		13 51 46.3	
	comp=Z,16nm,0.8s								
DAWY	**Dawson**	**94.30**	**26**	P		**P**		**13 51 44.6**	**+0.2**
	baz=269,SNR=17								
ANN	**Anapa**	**94.34**	**314**	*e*P		**P**		**13 51 42.5**	**-2.3**
ANN					*e**PP	**PcP**		**13 51 46.9**	**+1.7**
ANN					*e*S	**SKSac**		**14 02 16.9**	**+0.7**
ANN					pmax	pmax			
	comp=Z,56nm,0.8s								
YUK4	**Talbot Arm**	**94.62**	**29**	P		**P**		**13 51 46.8**	**+0.7**
	baz=270								
I29M	**Ogilvie Camp,**	**94.77**	**25**	P		**P**		**13 51 47.4**	**+1.0**
	baz=270								
J29M	**Klondike Camp**	**94.81**	**26**	P		**P**		**13 51 47.6**	**+0.9**
	baz=270								
OBN	**Obninsk**	**95.05**	**325**	*e*P		**P**		**13 51 46.8**	**-1.1**
OBN				*e*				13 55 37.8	
OBN				*e*	PPP	PPP		13 57 39.1	
OBN					pmax	pmax			
	comp=Z,30nm,1.3s								
OBN					MLR	MLR			
	comp=Z,64nm,19.0s								
HYT	**Haines Junctio**	**95.18**	**29**	P		**P**		**13 51 48.9**	**+0.4**
	baz=271								
M30M	**Minto, Yukon**	**95.48**	**28**	P		**P**		**13 51 50.3**	**+0.5**
	baz=271,SNR=5.9								
MMAI	**Mount Meron Ar**	**95.62**	**303**	LR		LR		14 40 39.2	
	comp=Z,76nm,20.1s,baz=252,slow=39								
LVZ	**Lovozero**	**95.68**	**338**	ǁ*e*P		**P**		**13 51 48.8**	**-1.7**
LVZ					pmax	pmax			
	comp=Z,26nm,1.0s								
EIL	**Elat**	**95.93**	**299**	LR		LR		14 40 46.9	
	comp=Z,85nm,20.4s,baz=90,slow=39								
N31M	**Braeburn, Yuko**	**96.00**	**29**	P		**P**		**13 51 52.5**	**+0.3**
	baz=272								
APA	**Apatity**	**96.17**	**337**	ǁ*i*P		**P**		**13 51 50.0**	**-2.7**
APA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
INK	**Inuvik**	**96.52**	**22**	P		**P**		**13 51 53.6**	**-0.7**
	comp=Z,10nm,0.9s,baz=252,slow=6.1,SNR=13								
INK					LR	LR		14 34 31.8	
	comp=Z,99nm,18.9s,baz=278,slow=35								
INK	**Inuvik**	**96.52**	**22**	P		**P**		**13 51 53.4**	**-0.9**
	baz=275,SNR=6.9								
TROLL	**Troll, Antarti**	**96.69**	**194**	P		**P**		**13 51 55.5**	**+0.3**
BR131	**Keskin Array S**	**97.10**	**309**	ǁ*e*P		**P**		**13 51 56.6**	**-1.2**
BR131	**Keskin Array S**	**97.10**	**309**	P		**P**		**13 51 56.4**	**-1.4**
BR131					IAmb	IAmb		13 51 58.3	
	comp=Z,16nm,1.0s								
BRTR	**Keskin Array B**	**97.10**	**309**	P		**P**		**13 51 56.8**	**-1.1**
	comp=Z,7.4nm,0.9s,baz=122,slow=6.0,SNR=25								
BRTR					LR	LR		14 43 08.6	
	comp=Z,76nm,19.3s,baz=94,slow=40								
BRTR	**Keskin Array B**	**97.10**	**309**	P		**P**		**13 51 56.5**	**-1.2**
VALR	**Valaam**	**97.77**	**331**	ǁ*e*P		**P**		**13 51 57.9**	**-2.1**
VALR					pmax	pmax			
	comp=Z,23nm,0.9s								
SNAA	**Sanae**	**98.20**	**194**	P		**P**		**13 52 02.1**	**+0.1**
SNAA	**Sanae**	**98.20**	**194**	P		**P**		**13 52 01.9**	**0.0**
	comp=Z,7.6nm,1.0s,baz=198,slow=1.5,SNR=4.5								
SNAA					LR	LR		14 36 00.5	
	comp=Z,240nm,18.8s,baz=178,slow=35								
SNAA	**Sanae**	**98.20**	**194**	ǁ*e*P		**P**		**13 52 02.1**	**+0.1**
MBAR	**Mbarara**	**98.59**	**269**	LR		LR		14 32 20.1	
	comp=Z,186nm,20.7s,baz=90,slow=33								
MATP	**Matopo**	**98.71**	**249**	LR		LR		14 37 05.0	
	comp=Z,76nm,18.0s,baz=108,slow=36								
A36M	**Sachs Harbour**	**98.72**	**18**			**P**		**13 52 03.5**	**-0.6**
A36M					IAmb	IAmb		13 52 05.7	
	comp=Z,11nm,0.9s								
A36M	**Sachs Harbour**	**98.72**	**18**	P		**P**		**13 52 04.1**	**0.0**
	baz=283								
SPA0	**Spitsbergen Ar**	**98.74**	**349**	*e*P		**P**		**13 52 04.6**	**+0.4**
SPITS	**Spitsbergen Ar**	**98.74**	**349**	LR		LR		14 41 30.9	
	comp=Z,70nm,21.3s,baz=245,slow=38								
ARA0	**ARCESS Array S**	**98.78**	**340**	*e*P		**P**		**13 52 03.6**	**-0.8**
ARCES	**ARCESS Array B**	**98.78**	**340**	P		**P**		**13 52 03.4**	**-1.1**
	comp=Z,15nm,0.8s,baz=92,slow=1.7,SNR=38								
ARCES					LR	LR		14 42 06.2	
	comp=Z,152nm,19.9s,baz=80,slow=39								
DLBC	**Dease Lake**	**99.12**	**32**	LR		LR		14 31 14.2	
	comp=Z,111nm,20.2s,baz=281,slow=32								
TGTN	**Hyland Airport**	**99.57**	**28**	P		**Pdif**		**13 52 08.2**	**0.0**
	baz=279								
LSZ	**Lusaka**	**99.67**	**254**	LR		LR		14 33 20.7	
	comp=Z,130nm,20.2s,baz=136,slow=33								
KTK1	**Kautokeino**	**99.68**	**339**	*e*P		**Pdif**		**13 52 07.1**	**-1.4**
AKASG	**Malin Array Be**	**99.69**	**321**	P		**Pdif**		**13 52 09.6**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=76,slow=4.2,SNR=7.6								
AKBB	**Malin Array Si**	**99.69**	**321**	ǁ*e*P		**Pdif**		**13 52 10.5**	**+1.6**
AKBB					pmax	pmax			
	comp=Z,14nm,3.1s								
C36M	**Paulatuk**	**99.73**	**20**	P		**Pdif**		**13 52 08.6**	**-0.1**
	baz=284								
VNA2	**Neumayer--Watz**	**99.78**	**193**	Pdiff		**Pdif**		**13 52 13.3**	**+4.3**
	baz=106,slow=4.0								
FINES	**FINESS Array B**	**100.05**	**332**	P		**Pdif**		**13 52 08.8**	**-1.5**
	comp=Z,6.9nm,0.9s,baz=85,slow=6.5,SNR=14								
MNK	**Minsk**	**100.11**	**325**	*i* P		**Pdif**		**13 52 07.6**	**-3.1**
MNK				*i*				13 56 12.1	
MNK				*i*	S	**SKSac**		**14 02 45.8**	**+0.3**
MNK				*i*	SS	**SS**		**14 10 35.9**	**-0.3**
MNK				*i*	SSS	SSS		14 14 27.4	
MNK					pmax	pmax			
	comp=Z,29nm,0.9s								
MNK					pmax	pmax			
	comp=N,23nm,0.8s								
MNK					pmax	pmax			
	comp=E,3.0nm,0.7s								
MNK					MLR	MLR			
	comp=Z,141nm,20.0s								
MNK					MLR	MLR			
	comp=E,17nm,18.0s								
MNK					MLR	MLR			
	comp=N,105nm,15.0s								
MNK	**Minsk**	**100.11**	**325**	*i* P		**Pdif**		**13 52 07.6**	**-3.1**
	comp=E,3.0nm,0.7s								
MNK				*i* P		**Pdif**		**13 52 07.6**	**-3.1**
	comp=N,23nm,0.8s								
MNK				*i* P		**Pdif**		**13 52 07.6**	**-3.1**
	comp=Z,29nm,0.9s,baz=83								
MNK				*i* PP		**PP**		**13 56 12.2**	**-4.3**
MNK				*i* PPP		PPP		13 58 15.6	
MNK				*i* S		**SKSac**		**14 02 45.8**	**+0.3**
MNK				*i* SS		**SS**		**14 10 35.9**	**-0.3**
MNK				*i* SSS		SSS		14 14 27.4	
MNK				*i* LQ		LQ		14 31 22.8	
MNK				*i* LR		LR		14 37 31.1	
MNK				*i* LRM		MLR		14 39 46.6	
	comp=Z,141nm,19.7s								
MNK				*i* LRM		MLR		14 40 23.5	
	comp=E,17nm,17.8s								
MNK				*i* LRM		MLR		14 40 31.1	
	comp=N,105nm,14.6s								
BOSA	**Boshof**	**100.33**	**240**	P		**Pdif**		**13 52 10.9**	**-1.5**
	comp=N,4.1nm,0.9s,baz=201,slow=4.5,SNR=4.0								
BOSA	**Boshof**	**100.33**	**240**	P		**Pdif**		**13 52 11.0**	**-1.5**
JETT	**Jettan, Norway**	**100.51**	**340**	*e*P		**Pdif**		**13 52 11.4**	**-0.9**
NACGM	**Naroch**	**100.69**	**325**	ǁ*e*P		**Pdif**		**13 52 11.3**	**-1.9**
FAUS	**Fauske**	**103.00**	**339**	*e*P		**Pdif**		**13 52 22.3**	**-1.0**
D03D	**Eldon**	**104.90**	**42**	P		**Pdif**		**13 52 31.5**	**-0.7**
	baz=280								
CRVS	**Cervenica-Dubn**	**104.93**	**319**	*e*P		**Pdif**		**13 52 34.0**	**+1.7**
CRVS	**Cervenica-Dubn**	**104.93**	**319**	*e*PDIFF		**Pdif**		**13 52 34.0**	**+1.7**
YKA	**Yellowknife Ar**	**105.53**	**26**	Pdiff		**Pdif**		**13 52 34.2**	**-0.4**
	comp=N,0.8nm,0.8s,baz=292,slow=4.7,SNR=7.6								
YKA					PKiKP	**PKiKP**		**13 56 47.5**	**-0.3**
	comp=N,1.8nm,0.7s,baz=290,slow=1.7,SNR=20								
YKA					PKKPbc	**PKKPbc**		**14 08 11.9**	**-3.2**
	comp=N,4.0nm,1.0s,baz=106,slow=3.1,SNR=23								
I04A	**Tendick Farm,**	**106.02**	**46**	P		**PKiKP**		**13 56 49.9**	**+0.6**
	baz=280								
J05D	**Fort Rock, OR**	**106.95**	**46**	P		**PKiKP**		**13 56 51.4**	**+0.2**
	baz=280								
NB2	**NORSAR Subarra**	**107.04**	**333**	P		**Pdif**		**13 52 39.9**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=71,slow=4.4								
NB2	**NORSAR Subarra**	**107.04**	**333**	P		**Pdif**		**13 52 39.9**	**-1.6**
	baz=71,slow=4.4								
NOA	**NORSAR Array B**	**107.04**	**333**	Pdiff		**Pdif**		**13 52 39.6**	**-1.9**
	comp=Z,2.6nm,0.9s,baz=67,slow=4.7,SNR=6.9								
NEW	**Newport**	**108.66**	**40**	P		**PKiKP**		**13 56 54.5**	**+0.3**
	baz=285								
SMMC	**Simmler**	**109.22**	**54**	P		**PKiKP**		**13 56 55.8**	**+0.2**
	baz=279								
ODD1	**Odda**	**109.58**	**333**	*e*P		**Pdif**		**13 52 52.4**	**-0.4**
CLL	**Collm**	**109.58**	**323**	*e*PKiKP		**PKiKP**		**13 56 55.0**	**-0.7**
	comp=Z,4.0nm,0.9s								
CLL				*e*PS		**PS**		**14 06 48.0**	**-7.5**
CLL				LmV				20 36 00.0	
	comp=Z,100nm,18.7s								
GERES	**GERESS Array B**	**109.91**	**321**	PKiKP		**PKiKP**		**13 56 56.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=64,slow=3.1,SNR=7.2								
NVAR	**Mina Array Bea**	**110.03**	**51**	Pdiff		**Pdif**		**13 52 55.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=263,slow=7.2,SNR=2.4								
NVAR					PKiKP	**PKiKP**		**13 56 58.6**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=264,slow=2.2,SNR=11								
NVAR					PKKPbc	**PKKPbc**		**14 08 00.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=120,slow=3.4,SNR=3.5								
CWC	**Cottonwood Cre**	**110.57**	**53**	P		**PKiKP**		**13 56 58.4**	**+0.2**
	baz=280								
EDW2	**Edwards Air Fo**	**110.91**	**54**	P		**PKiKP**		**13 56 59.5**	**+0.7**
	baz=280								
GRAC	**Grapevine Rang**	**111.03**	**52**	P		**PKiKP**		**13 56 59.5**	**+0.6**
	baz=281								
LRMC	**Laurel Mtn Rad**	**111.06**	**54**	P		**PKiKP**		**13 56 59.8**	**+0.6**
	baz=280								
MPMC	**Manual Prospec**	**111.11**	**53**	P		**PKiKP**		**13 56 59.8**	**+0.5**
	baz=281								
MSO	**Missoula**	**111.13**	**41**	P		**PKiKP**		**13 56 59.1**	**+0.2**
	baz=287								
ABTA	**Abfaltersbach**	**111.30**	**319**	*e*P		**PKiKP**		**13 56 59.5**	**+0.3**
	comp=Z,7.7nm,1.1s								
FURC	**Furnace Creek,**	**111.53**	**52**	P		**PKiKP**		**13 57 00.7**	**+0.9**
	baz=281								
WTTA	**Wattenberg**	**111.71**	**320**	P		**PKiKP**		**13 57 00.6**	**+0.5**
	comp=Z,12nm,0.9s								
WATA	**Walderalm**	**111.72**	**320**	*e*P		**PKiKP**		**13 57 00.3**	**+0.3**
	comp=Z,3.9nm,0.7s								
HLID	**Hailey**	**111.73**	**45**	P		**PKiKP**		**13 57 00.7**	**+0.5**
	baz=286								
GSC	**Goldstone, Bar**	**111.80**	**54**	P		**PKiKP**		**13 57 01.4**	**+0.9**
	baz=281								
TPNV	**Topopah Spring**	**111.92**	**52**	P		**PKiKP**		**13 57 00.9**	**+0.1**
	baz=282								
MOTA	**Moosalm**	**112.03**	**320**	P		**PKiKP**		**13 57 00.9**	**+0.2**
	comp=Z,5.8nm,0.8s								
R11A	**Troy Canyon, C**	**112.14**	**50**	P		**PKiKP**		**13 57 02.1**	**+0.9**
	baz=283,SNR=6.9								
FETA	**Feichten**	**112.37**	**320**	*e*P		**PKiKP**		**13 57 01.1**	**-0.2**
	comp=Z,4.5nm,0.9s								
PFO	**Pinyon Flats O**	**112.38**	**55**	P		**PKiKP**		**13 57 02.5**	**+0.8**
	baz=280								
TPFO	**Pinon Flats**	**112.39**	**55**	P		**PKiKP**		**13 57 01.5**	**-0.2**
	baz=280								
TUQ	**Turquoise Moun**	**112.48**	**53**	P		**PKiKP**		**13 57 02.5**	**+0.6**
	baz=281								
MONP2	**Monument Peak**	**112.54**	**56**	P		**PKiKP**		**13 57 01.5**	**-0.7**
	baz=280								
BELC	**Belle Mtn. Jos**	**112.69**	**55**	P		**PKiKP**		**13 57 02.1**	**-0.2**
	baz=281,SNR=6.9								
GMRC	**Granite Mounta**	**112.82**	**54**	P		**PKiKP**		**13 57 02.7**	**+0.2**
	baz=281,SNR=6.1								
DAVA	**Damuels**	**112.83**	**320**	*e*P		**PKiKP**		**13 57 02.2**	**0.0**
	comp=Z,5.2nm,0.7s								
IKP	**In-Ko-Pah, Jac**	**112.84**	**56**	P

comp=Z,8.7nm,0.8s,baz=270,slow=1.3,SNR=32
EYMN Ely 124.13 32 P **PKPdf 13 57 24.2 +0.5**
baz=308
SPMN Marine on St. 125.02 35 P **PKPdf 13 57 25.4 0.0**
baz=305
ESDC Sonseca Array 125.10 317 PKP **PKPdf 13 57 25.9 +0.1**
comp=Z,2.2nm,1.0s,baz=109,slow=1.7,SNR=6.5
KSU1 Kansas State U 125.80 44 P **PKPdf 13 57 26.8 -0.3**
baz=298
WMOK Wichita Mounta 126.10 49 P **PKPdf 13 57 27.9 0.0**
baz=293
ABTX Abilene, Hawle 126.23 52 P **PKPdf 13 57 28.3 0.0**
baz=291
SCIA State Center 126.63 39 P **PKPdf 13 57 28.8 +0.2**
baz=303
JCT Junction City 126.84 55 P **PKPdf 13 57 29.4 0.0**
baz=290
TORD Torodi Ar. Bea 127.63 283 PKP **PKPdf 13 57 31.4 +0.1**
comp=Z,16nm,0.8s,baz=75,slow=2.7,SNR=54
TUL1 Leonard 127.83 47 P **PKPdf 13 57 31.7 +0.6**
baz=296
SCHQ Schefferville 127.86 12 PKP **PKPdf 13 57 31.1 +0.4**
comp=Z,2.2nm,0.5s,baz=26,slow=4.2,SNR=3.9
833A Chaparral WMA, 127.87 57 P **PKPdf 13 57 31.3 -0.1**
baz=288
JFWS Jewell Farm 127.87 36 P **PKPdf 13 57 30.8 -0.2**
baz=306
WHTX Lake Whitney, 128.18 52 P **PKPdf 13 57 32.2 +0.3**
baz=292
435B Jarrell 128.53 54 P **PKPdf 13 57 32.8 +0.2**
baz=291
W39A Magazine 129.61 47 P **PKPdf 13 57 34.7 +0.2**
baz=298
U40A Yellville 129.73 45 P **PKPdf 13 57 34.7 0.0**
baz=299
GLMI Grayling 129.77 31 P **PKPdf 13 57 34.8 +0.3**
baz=314
HDIL Hopedale 129.83 38 P **PKPdf 13 57 35.0 +0.2**
baz=306
CCM Cathedral Cave 129.97 42 P **PKPdf 13 57 35.4 +0.2**
baz=302
NATX Nacogdoches 130.46 51 P **PKPdf 13 57 36.5 +0.2**
baz=294
Z41A Richland Creek 131.22 48 P **PKPdf 13 57 37.7 0.0**
baz=297
PLCA Paso Flores 131.67 160 PKP **PKPdf 13 57 39.4 +0.9**
comp=Z,9.5nm,1.0s,baz=174,slow=3.3,SNR=8.4
PLCA SKPbc **SKPab 14 01 03.4 +2.5**
comp=Z,12nm,1.2s,baz=166,slow=8.3,SNR=4.3
O48B Farmland 132.51 36 P **PKPdf 13 57 40.3 +0.5**
baz=310
OXF Oxford 133.08 45 P **PKPdf 13 57 41.5 +0.3**
baz=301
P49A Miami Univ. Ec 133.23 37 P **PKPdf 13 57 42.0 +0.8**
baz=310
WVT Waverly 133.30 42 P **PKPdf 13 57 40.7 -0.8**
baz=304
VBMS Vicksburg 133.41 48 P **PKPdf 13 57 42.3 +0.5**
baz=298
ACSO Alum Creek Sta 133.78 35 P **PKPdf 13 57 42.6 +0.3**
baz=312
M53A WI Miller and 134.20 32 P **PKPdf 13 57 42.8 -0.3**
baz=316
DBIC Dimbokro 134.40 275 PKP **PKPdf 13 57 43.5 -0.6**
comp=Z,11nm,0.8s,baz=129,slow=2.6,SNR=8.5
LONY Lake Ozonia 134.59 24 P **PKPdf 13 57 43.8 +0.1**
baz=325
P52A Corning 134.66 35 P **PKPdf 13 57 44.0 0.0**
baz=313
M54A Oil Creek Stat 134.67 31 P **PKPdf 13 57 44.1 +0.2**
baz=317
O53A New Philadelph 134.75 33 P **PKPdf 13 57 43.8 -0.3**
baz=314
CMIG Matias Romero 134.77 70 PKP **PKPdf 13 57 45.0 +0.3**
comp=Z,3.4nm,0.8s,baz=331,slow=6.1,SNR=6.7
N54A Moraine State 134.90 32 P **PKPdf 13 57 44.5 +0.2**
baz=316
LRAL Lakeview Retre 135.57 45 P **PKPdf 13 57 46.2 +0.4**
baz=302
TZTN Tazewell 135.84 39 P **PKPdf 13 57 46.5 +0.3**
baz=309
BINY Binghamton 135.93 27 P **PKPdf 13 57 47.3 +1.1**
baz=322
LBNH Lisbon 135.94 22 P **PKPdf 13 57 47.3 +1.1**
baz=329
PKME Peaks-Kenny Pk 135.97 19 P **PKPdf 13 57 47.4 +1.2**
baz=333
O56A Blue Knob Stat 136.15 31 P **PKPdf 13 57 47.6 +0.9**
baz=318
SSPA Standing Stone 136.22 30 P **PKPdf 13 57 47.5 +0.7**
baz=319
N59A State Game Lan 137.04 28 P **PKPdf 13 57 48.7 +0.3**
baz=322
L61B Northampton 137.16 24 P **PKPdf 13 57 49.8 +1.3**
baz=327
BLA Blacksburg 137.30 36 P **PKPdf 13 57 49.2 +0.2**
baz=313
GOGA Godfrey 137.80 43 P **PKPdf 13 57 51.1 +1.1**
baz=306
PAL Palisades 137.82 26 P **PKPdf 13 57 51.1 +1.4**
baz=324
KMSC Kings Mountain 138.12 39 P **PKPdf 13 57 51.2 +0.7**
baz=310
PLTB Pedras Altas 144.10 176 *eP* **PKPab 13 57 59.5 +0.6**
JTS Las Juntas de 145.42 78 PKPbc **PKPab 13 58 05.1 +0.7**
baz=341,slow=4.9
JTS Las Juntas de 145.42 78 *eP* **PKPab 13 58 04.7 +0.4**
CPSB Cacapava Do Su 145.46 176 *eP* **PKPbc 13 58 01.5 -2.2**
ITQB Itaqui 145.81 171 *eP* **PKPdf 13 58 02.0 -2.3**
BRU2 Volcan 147.81 80 *eP* **PKPbc 13 58 10.5 -0.8**
LVC Limon Verde 147.89 147 PKPbc **PKPbc 13 58 12.4 +0.9**
comp=Z,50nm,0.9s,baz=249,slow=3.2,SNR=23
LVC Limon Verde 147.89 147 *eP* **PKPdf 13 58 06.5 -2.0**
LVC Limon Verde 147.89 147 *eP* **PKPdf 13 58 09.9 +1.4**
CPUP Villa Florida 148.94 168 PKP **PKPdf 13 58 09.8 +0.1**
comp=Z,66nm,0.9s,baz=350,slow=0.5,SNR=15
CPUP PKPbc **PKPbc 13 58 14.1 +0.4**
comp=Z,66nm,0.9s,baz=208,slow=2.3,SNR=51
NNA Nana 149.34 122 PKPbc **PKPdf 13 58 13.1 +2.4**
comp=Z,38nm,0.8s,baz=262,slow=5.6,SNR=6.8
CACAO El Cacao, Vera 149.75 83 *eP* **PKPbc 13 58 15.3 -0.7**
MTDJ Mount Denham 150.21 60 *eP* **PKPbc 13 58 17.3 +0.1**
AZU Azuero 150.29 82 *eP* **PKPdf 13 58 14.4 +2.3**
BCIP Isla Barro Col 150.57 79 *eP* **PKPdf 13 58 15.3 +2.8**
UPA Univ. de Panam 150.89 79 *eP* **PKPbc 13 58 17.3 -1.5**
GTBY Guantanamo Bay 151.47 55 *eP* **PKPbc 13 58 19.2 -0.7**
PAC1 Pacto, Paraso 151.57 97 *eP* **PKPbc 13 58 20.2 -0.4**
GR1C Gorgona, Isla 152.47 92 *eP* **PKPdf 13 58 19.2 +3.7**
DUB01 Friburgo-RJ 152.65 197 *eP* **PKPdf 13 58 16.5 +0.9**
CAM01 Campos-RJ 152.67 198 *eP* **PKPdf 13 58 14.6 -0.9**
VAS01 Vassouras-RJ 152.74 195 *eP* **PKPdf 13 58 15.9 +0.2**
LPAZ La Paz 153.25 140 PKP **PKPdf 13 58 18.3 +1.0**
comp=Z,7.9nm,0.9s,baz=112,slow=1.2,SNR=12
LPAZ PKPbc **PKiKP 13 58 25.3 +0.4**
comp=Z,14nm,0.9s,baz=66,slow=0.5,SNR=16
LPAZ La Paz 153.25 140 *eP* **PKPdf 13 58 19.1 +1.8**
RCLB Rio Claro- Sao 153.35 186 *eP* **PKPdf 13 58 13.6 -3.0**
ALF01 Guarapari-ES 153.48 201 *eP* **PKPdf 13 58 16.1 -0.6**
BSCB Bom Sucesso 154.29 193 *eP* **PKPdf 13 58 17.1 -0.9**
PCMB Pacaembu 154.32 179 *eP* **PKPdf 13 58 18.6 +0.7**
YOTC Yotoco, Valle 154.33 90 *eP* **PKPdf 13 58 18.2 -0.1**
PLMC San Jos del P 154.40 87 *eP* **PKPdf 13 58 19.2 +0.9**
RIB01 Linhares ES 154.54 203 *eP* **PKPdf 13 58 16.1 -2.2**
CBOC Ciudad Bolivar 154.64 85 *eP* **PKPdf 13 58 18.2 -0.6**
MOTC Monteria, Cord 154.70 78 *eP* **PKPdf 13 58 19.2 +0.6**
BB19B Bebedouro 154.79 185 *eP* **PKPdf 13 58 18.1 -0.5**
AQDB Aquidauana 154.95 169 *eP* **PKPdf 13 58 18.4 -0.4**
CZSB Cruzeiro do Su 154.96 118 *eP* **PKPdf 13 58 18.6 -0.4**
SJCC San Jacinto, C 154.98 76 *eP* **PKPdf 13 58 20.2 +1.1**
GUY2C Guyana, Caldas 155.31 87 *eP* **PKPdf 13 58 22.1 +2.0**
SJMB Sao Joao De Ma 155.40 202 *eP* **PKPdf 13 58 19.9 +0.4**
ORTC Ortega, Tolima 155.42 90 *eP* **PKPdf 13 58 20.2 +0.5**
ZARC Zaragoza, Cauc 155.66 81 *eP* **PKPdf 13 58 18.2 -1.7**
NORC Norcasia 155.79 86 *eP* **PKPdf 13 58 20.2 -0.1**
ITRB Iturama 156.22 181 *eP* **PKPdf 13 58 21.1 +0.5**
ROSC El Rosal 156.35 88 PKP **PKPdf 13 58 21.7 +0.3**
comp=Z,12nm,0.6s,baz=343,slow=23,SNR=4.6
SPBC San Pablo de B 156.58 86 *eP* **PKPdf 13 58 22.1 +0.8**
DIAM Diamantina, MG 156.60 197 *eP* **PKPdf 13 58 20.9 -0.4**
MACC Macarena, Meta 156.71 94 *eP* **PKPdf 13 58 22.1 +0.7**
GUA01 Guaratinga, BA 156.73 207 *eP* **PKPdf 13 58 20.1 -1.1**
CRJC Cerrejon, Guaj 156.93 72‖ *eP* **PKPdf 13 58 25.0 +3.3**
CHIC Chingaza 156.94 88 *eP* PKPdf 13 58 32.7 +11
BARC Barichara 157.40 83 *eP* **PKPdf 13 58 22.1 -0.4**
SIV San Ignacio 157.40 153 PKP **PKPdf 13 58 23.2 +1.0**
comp=Z,4.5nm,0.9s,baz=233,slow=1.8,SNR=12
SIV PKPab **PKPab 13 58 54.4 +0.9**
comp=Z,27nm,1.0s,baz=217,slow=4.4,SNR=20
RUSC La Rusia 157.55 85 *eP* **PKPdf 13 58 23.1 0.0**
CMC01 Camacan, BA 157.66 209 *eP* **PKPdf 13 58 21.6 -0.8**
PAMC Pamplona, Colo 157.81 81 *eP* **PKPdf 13 58 25.0 +1.7**
IPMB Ipameri, GO 157.81 186 *eP* **PKPdf 13 58 22.4 -0.3**
PP1B Ponte de Pedra 157.91 169 *eP* **PKPdf 13 58 22.9 +0.1**
NBIT Itapeh - BA 157.98 210 *eP* **PKPdf 13 58 22.6 -0.2**
MC01 Montes Claros 158.19 197 *eP* **PKPdf 13 58 23.1 -0.1**
PTLB Pontes e Lacer 158.71 157 *eP* **PKPdf 13 58 23.6 -0.1**
TBTG Tabatinga, AM 158.98 113 *eP* **PKPdf 13 58 24.4 +0.2**
GDU01 Guandu, BA 159.08 211 *eP* **PKPdf 13 58 23.9 -0.4**
ETMB Extrema 159.11 132 *eP* **PKPdf 13 58 24.5 +0.2**
SALV Santo Antonio 159.38 166 *eP* **PKPdf 13 58 22.6 -1.9**
SOCV Socops 159.47 78 *eP* **PKPdf 13 58 23.1 -1.7**
SDV Santo Domingo 159.58 76 PKP **PKPdf 13 58 25.3 +0.3**
comp=Z,55nm,1.0s,baz=87,slow=0.2,SNR=43
SDV PKPab **PKPab 13 59 04.1 +0.7**
comp=Z,14nm,0.8s,baz=128,slow=0.2,SNR=4.2
SDV Santo Domingo 159.58 76 *eP* **PKPdf 13 58 25.9 +0.9**
SDV Santo Domingo 159.58 76 *eP* **PKPdf 13 58 24.6 -0.5**
SDV Santo Domingo 159.58 76 *eP* **PKPdf 13 58 24.8 -0.3**
JANB Januaria 159.85 198 *eP* **PKPdf 13 58 24.3 -0.8**
NBRF Rio Formoso - 159.94 230 *eP* **PKPdf 13 58 26.3 +1.1**
BDFB Brasilia 160.10 187 PKP **PKPdf 13 58 25.7 +0.2**
comp=Z,7.0nm,0.9s,baz=114,slow=4,SNR=7.0
BDFB PKPab **PKPab 13 59 04.9 -0.2**
comp=Z,10nm,0.9s,baz=240,slow=0.2,SNR=5.6
NBAN Anadia - AL 160.14 226 *eP* **PKPdf 13 58 26.1 +0.6**
NBLA Lagarto - SE 160.22 220 *eP* **PKPdf 13 58 26.1 +0.5**
VILB Vilhena 160.46 151 *eP* **PKPdf 13 58 26.1 +0.3**
ELOV Elorza 161.01 81 *eP* **PKPdf 13 58 25.9 -0.5**
NBPV Pedro Velho 161.41 235 *eP* **PKPdf 13 58 27.6 +0.7**
NBPN Ponto Novo - B 161.79 215 *eP* **PKPdf 13 58 28.6 +1.3**
PDRB Porto dos Gac 163.13 159 *eP* **PKPdf 13 58 29.2 +0.7**
SNDB Serra Nova Dou 163.90 178 *eP* **PKPdf 13 58 29.1 -0.2**
CLDB Colider 164.14 161 *eP* **PKPdf 13 58 30.0 +0.5**
NBPB Pedra_Branca-C 165.33 229 *eP* **PKPdf 13 58 31.1 +0.5**
SMTB Santa Maria do 166.66 193 *eP* **PKPdf 13 58 31.6 -0.1**
NBPS Pedro II - PI 167.47 227 *eP* **PKPdf 13 58 33.1 +0.7**
NPGB Novo Progresso 167.84 157 *eP* **PKPdf 13 58 33.2 +0.7**
BOAV Boa Vista 169.94 100 *eP* **PKPdf 13 58 35.6 +1.7**
ITTB Itaituba 170.05 149 *eP* **PKPdf 13 58 34.5 +0.6**
MALB Monte Alegre 172.94 149 *eP* **PKPdf 13 58 35.6 +0.3**
MCPB Macapa, AP 175.22 162 *eP* **PKPdf 13 58 36.1 0.0**

*ARE **30** 13:47:01±4.1, 16°.76S±0°.05×70°.58W±0°.08, h15km±4km*
Error ellipse: s-maj=0.0km s-min=0.0km az=178.0
*NEIC **30** 13:47:06.7±2.9, 16°.91S±0°.06×70°.72W±0°.09, h33km±6km, mb4.2/15, ML4.1(ARE), Error ellipse: s-maj=12.8km s-min=8.2km az=103.0*
*IDC **30** 13:47:09.1±3.6, 16°.77S×70°.52W, h56km±33km, mb4.0/5, mb1 4.2/8, mb1mx3.8/33, mbtmp4.3/8, ML3.9/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/59, Error ellipse: s-maj=36.5km s-min=22.9km az=110.0*

ISC 30 13:47:05.6±0.6, 16.86S±0°.06×70.78W±0°.10, h35km, n60, σ1§36/60, mb4.4/5, 3C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.56**	**165**	Pn		**Pn**		**13 47 30.6**	**-0.2**
AP01	**Chacalluta**	**1.56**	**165**	*eP*		**Pn**		**13 47 29.5**	**-1.3**
AP01				*eS*		**Sn**		**13 47 49.6**	**-0.2**
AP01				IAML				13 47 53.4	
comp=N,5μm,0.4s									
PB12	**IPOC Station P**	**1.80**	**166**	Pn		**Pn**		**13 47 34.4**	**+0.2**
PB12	**IPOC Station P**	**1.80**	**166**	⇑*iP*		**Pn**		**13 47 34.4**	**+0.2**
PB12				*eS*		**Sn**		**13 47 56.4**	**+0.5**
PB12				IAML				13 48 00.8	
comp=N,1μm,0.4s									
PB16	**IPOC Station P**	**1.90**	**141**			**Pn**		**13 47 35.0**	**-1.0**
PB16	**IPOC Station P**	**1.90**	**141**	⇑*iP*		**Pn**		**13 47 35.6**	**-0.5**
I08BO	**LAS PENAS INFR**	**2.32**	**74**	*i*				14 00 40.0	
baz=256,slow=326,SNR=2.9									
LPAZ	**La Paz**	**2.60**	**78**	P		**Pn**		**13 47 47.5**	**+1.7**
comp=N,22nm,0.3s,baz=258,slow=14,SNR=187									
LPAZ				LR		LR		13 48 44.6	
comp=N,246nm,20.6s,baz=228,slow=41									
LPAZ	**La Paz**	**2.60**	**78**			**Pn**		**13 47 47.2**	**+1.5**
LPAZ	**La Paz**	**2.60**	**78**	⇑*iP*		**Pn**		**13 47 47.4**	**+1.7**
PB11	**IPOC Station P**	**3.08**	**160**			**Pn**		**13 47 53.3**	**+1.5**
PB11	**IPOC Station P**	**3.08**	**160**	*eP*		**Pn**		**13 47 52.7**	**+0.9**
PB11				*eS*		**Sn**		**13 48 30.3**	**+2.7**
PB11				IAML				13 48 37.8	
comp=E,751nm,0.3s									
GO01	**Chusmiza**	**3.17**	**152**			**Pn**		**13 47 55.8**	**+2.3**
GO01	**Chusmiza**	**3.17**	**152**	*eP*		**Pn**		**13 47 56.4**	**+2.9**
GO01				*eS*		**Sn**		**13 48 31.5**	**+1.2**
TA02	**Huaiquique**	**3.45**	**170**			**Pn**		**13 47 58.4**	**+1.6**
TA02	**Huaiquique**	**3.45**	**170**	*eP*		**Pn**		**13 47 58.7**	**+1.9**
TA02				*eS*		**Sn**		**13 48 33.6**	**-2.9**
PB08	**IPOC Station P**	**3.61**	**155**			**Pn**		**13 48 02.1**	**+2.7**
TA01	**Diego Aracena**	**3.73**	**171**	Pn		**Pn**		**13 48 01.5**	**+0.9**
PATCX	**Punta Patache**	**3.98**	**172**	Pn		**Pn**		**13 48 05.2**	**+0.9**
PB01	**IPOC Station P**	**4.34**	**164**			**Pn**		**13 48 10.3**	**+1.2**
PB02	**IPOC Station P**	**4.51**	**170**			**Pn**		**13 48 13.2**	**+1.6**
PB07	**IPOC Station P**	**4.91**	**170**			**Pn**		**13 48 18.4**	**+1.2**
PB09	**IPOC Station P**	**5.12**	**164**			**Pn**		**13 48 21.9**	**+2.0**
PB04	**IPOC Station P**	**5.48**	**174**			**Pn**		**13 48 25.3**	**+0.4**
PB06	**IPOC Station P**	**5.92**	**169**			**Pn**		**13 48 31.4**	**+0.4**
LVC	**Limon Verde**	**5.98**	**163**	P		**Pn**		**13 48 34.5**	**+2.5**
comp=E,3.0nm,0.3s,baz=349,slow=10.0,SNR=24									
LVC	**Limon Verde**	**5.98**	**163**	Pn		**Pn**		**13 48 33.4**	**+1.4**
PB15	**IPOC Station P**	**6.43**	**169**			**Pn**		**13 48 38.9**	**+0.8**
NNA	**Nana**	**7.61**	**309**	LR		LR		13 52 23.6	
comp=E,230nm,19.2s,baz=152,slow=40									
GO02	**Mina Guanaco**	**8.34**	**173**	Pn		**Pn**		**13 49 03.8**	**-0.5**
SIV	**San Ignacio**	**9.35**	**86**	P		**Pn**		**13 49 16.6**	**-1.4**
comp=E,2.3nm,0.3s,baz=281,slow=9.5,SNR=27									
SIV				LR		LR		13 53 14.9	
comp=E,210nm,20.4s,baz=275,slow=40									
AC02	**Maricunga**	**10.04**	**172**	Pn		**Pn**		**13 49 28.1**	**+0.2**
CO03	**El Pedregal**	**13.92**	**180**			**Pn**		**13 50 19.6**	**-0.8**
ZON	**Zonda**	**14.74**	**173**			**Pn**		**13 50 30.4**	**-1.3**
MCRA	**Macar, Loja**	**15.33**	**323**			**Pn**		**13 50 40.1**	**+0.5**
VA06	**Catapilco**	**15.64**	**182**	Pn		**P**		**13 50 45.4**	**-1.7**
VA06				IAmb		IAmb		13 50 47.4	
comp=Z,14nm,0.8s									
CPUP	**Villa Florida**	**15.65**	**129**	LR		LR		13 57 57.5	
comp=Z,116nm,18.4s,baz=320,slow=42									
ROC1	**El Roble**	**16.05**	**181**	Pn		**Pn**		**13 50 48.0**	**-0.9**
MT02	**Curacav**	**16.33**	**181**			**Pn**		**13 50 53.0**	**+0.7**
MT02				IAmb		IAmb		13 50 58.6	
comp=Z,22nm,1.0s									
MT09	**Talagante**	**16.85**	**181**	P		**P**		**13 51 00.1**	**-0.6**
MT09				IAmb		IAmb		13 51 05.2	
comp=Z,20nm,0.9s									
LMEL	**Las Melosas**	**16.92**	**178**	P		**P**		**13 51 01.8**	**+0.2**
LMEL				IAmb		IAmb		13 51 09.8	
comp=Z,27nm,1.0s									
MT01	**Popeta**	**16.94**	**181**	P		**P**		**13 51 01.1**	**-0.5**
MT01				IAmb		IAmb		13 51 02.9	
comp=Z,23nm,0.8s									
BO04	**La Punta**	**17.06**	**180**	P		**P**		**13 51 02.1**	**-0.8**
BO04				IAmb		IAmb		13 51 05.1	
comp=Z,14nm,0.8s									
BO01	**Tunca**	**17.46**	**181**	P		**P**		**13 51 06.7**	**-0.6**
BO01				IAmb		IAmb		13 51 11.5	
comp=Z,22nm,1.4s									
ML02	**Panimavida**	**18.84**	**182**			**P**		**13 51 21.6**	**-0.9**
BDFB	**Brasilia**	**21.89**	**90**	P		**P**		**13 51 55.4**	**-0.4**
comp=Z,1.6nm,0.3s,baz=252,slow=9.9,SNR=4.2									
BDFB	**Brasilia**	**21.89**	**90**	IAmb		IAmb		13 52 10.4	
comp=Z,14nm,1.6s									
PLCA	**Paso Flores**	**23.79**	**180**	P		**P**		**13 52 17.6**	**+2.4**
comp=Z,6.8nm,0.8s,baz=352,slow=11,SNR=21									
PLCA	**Paso Flores**	**23.79**	**180**	P		**P**		**13 52 15.4**	**+0.3**
PLCA				IAmb		IAmb		13 52 18.3	
comp=Z,6.2nm,0.8s									
ACON	**Acoyapa**	**31.98**	**333**	P		**P**		**13 53 28.5**	**-0.2**
ULM	**Lac du Bonnet**	**70.39**	**343**	P		**P**		**13 58 15.8**	**0.0**
comp=Z,4.0nm,0.7s,baz=149,slow=8.5,SNR=4.0									
TORD	**Torodi Ar. Bea**	**77.54**	**72**	P		**P**		**13 58 57.1**	**-1.3**
comp=Z,2.8nm,0.8s,baz=260,slow=6.1,SNR=4.1									
SUR	**Sutherland**	**82.46**	**121**	LR		LR		14 33 20.0	
comp=Z,155nm,20.1s,baz=145,slow=34									
YKA	**Yellowknife Ar**	**86.25**	**341**	P		**P**		**13 59 44.2**	**+1.0**
comp=Z,2.6nm,0.8s,baz=136,slow=5.2,SNR=23									
YKA				LR		LR		14 40 03.9	
comp=Z,136nm,21.0s,baz=306,slow=37									
ASAR	**Alice Springs**	**133.06**	**212**	PKP		**PKiKP**		**14 06 19.4**	**-0.1**
comp=Z,0.3nm,0.7s,baz=142,slow=2.2,SNR=6.6									
WRA	**Warramunga Arr**	**135.88**	**215**	PKP		**PKiKP**		**14 06 25.0**	**-0.2**
comp=Z,0.8nm,0.9s,baz=138,slow=1.6,SNR=5.9									
ZALV	**Zalesovo Beam**	**138.41**	**22**	PKP		**PKiKP**		**14 06 29.5**	**+0.2**
comp=Z,1.6nm,0.7s,baz=318,slow=2.0,SNR=11									
MKAR	**Makanchi Array**	**142.75**	**31**	PKP		**PKPdf**		**14 06 33.7**	**-1.7**
comp=Z,0.4nm,0.7s,baz=350,slow=3.7,SNR=4.8									
MJAR	**Matsushiro Arr**	**147.72**	**313**	PKPbc		**PKiKP**		**14 06 48.4**	**-0.6**
comp=Z,4.4nm,0.9s,baz=267,slow=2.5,SNR=6.8									
KSRS	**Korea Array**	**153.68**	**325**	PKPbc		**PKiKP**		**14 07 02.9**	**+1.6**
comp=Z,1.3nm,0.9s,baz=48,slow=1.6,SNR=6.0									

*IDC **30** 13:48:11.9±3.2, 31°.96S×178°.17W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/39, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=73.9km s-min=47.6km az=121.0*

ISC 30 13:48:12.3±2.0, 32°.0S±0°.1×177°.8W±0°.3, h24km, n22, σ1§37/35, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.75**	**359**	P		**Pn**		**13 48 53.9**	**-1.1**
GLKZ				S		**Sn**		**13 49 27.4**	**-0.1**
MXZ	**Matakaoa Point**	**6.37**	**209**	S		**Sn**		**13 50 58.2**	**+1.6**
WMGZ	**Waiomatatini S**	**6.55**	**207**	P		**Pn**		**13 49 48.4**	**+1.3**
WMGZ				S		**Sn**		**13 51 02.9**	**+1.8**
PKGZ	**Pakihiroa**	**6.74**	**209**	P		**Pn**		**13 49 51.2**	**+1.4**
PKGZ				S		**Sn**		**13 51 05.0**	**-0.9**
HAZ	**Te Kaha**	**6.76**	**211**	P		**Pn**		**13 49 49.3**	**-0.6**
HAZ				S		**Sn**		**13 51 08.0**	**+1.9**
TKGZ	**Te Karaka**	**7.31**	**208**	P		**Pn**		**13 49 58.1**	**+0.6**
TKGZ				S		**Sn**		**13 51 19.0**	**-0.7**
MWZ	**Matawai**	**7.35**	**210**	P		**Pn**		**13 49 58.1**	**0.0**
MWZ				S		**Sn**		**13 51 19.8**	**-1.0**
URZ	**Urewera**	**7.47**	**212**	Pn		**Pn**		**13 49 59.3**	**-0.4**
0.3nm,0.3s,baz=201,slow=14,SNR=1.6									
URZ				Sn		**Sn**		**13 51 22.7**	**-1.0**
1.5nm,0.3s,baz=189,slow=19,SNR=6.6									
URZ	**Urewera**	**7.47**	**212**	P		**Pn**		**13 50 00.6**	**+0.9**
URZ				S		**Sn**		**13 51 24.0**	**+0.3**
RAGZ	**Rawiri**	**7.53**	**210**	P		**Pn**		**13 50 01.4**	**+0.7**
RAGZ				S		**Sn**		**13 51 26.4**	**+1.0**
RIGZ	**Rimuhau**	**7.57**	**207**	P		**Pn**		**13 50 03.1**	**+1.9**
RIGZ				S		**Sn**		**13 51 24.0**	**-2.4**
SNGZ	**Shannon Statio**	**7.81**	**209**	P		**Pn**		**13 50 04.7**	**+0.3**
SNGZ				S		**Sn**		**13 51 30.6**	**-1.5**
RTZ	**Ruatahuna**	**7.82**	**211**	P		**Pn**		**13 50 05.6**	**+0.9**
RTZ				S		Sn		13 51 25.1	-7.4
RAHZ	**Arahi**	**8.03**	**210**	P		**Pn**		**13 51 34.7**	**-2.7**
BKZ	**Black Stump Fm**	**8.49**	**211**	P		**Pn**		**13 50 14.6**	**+0.8**
BKZ				S		**Sn**		**13 51 47.1**	**-1.8**
MCHZ	**McNeill Hill**	**8.63**	**209**	S		**Sn**		**13 51 50.4**	**-2.0**
KWHZ	**Kaweka Forest**	**8.73**	**211**	S		**Sn**		**13 51 53.7**	**-1.2**
KAHZ	**Kahuranaki**	**8.86**	**207**	P		**Pn**		**13 50 18.8**	**-0.1**
KAHZ				S		**Sn**		**13 51 56.1**	**-1.8**
BHHZ	**Black Hill Sta**	**8.95**	**212**	S		**Sn**		**13 51 57.8**	**-2.3**
ASAR	**Alice Springs**	**43.18**	**269**	P		**P**		**13 56 12.5**	**+1.1**
0.2nm,0.4s,baz=110,slow=7.3,SNR=5.6									
WRA	**Warramunga Arr**	**44.31**	**274**	P		**P**		**13 56 21.6**	**+1.0**
0.4nm,0.4s,baz=112,slow=8.0,SNR=12									
FINES	**FINESS Array B**	**146.71**	**339**	PKPbc		**PKiKP**		**14 07 53.7**	**-0.4**
1.7nm,0.9s,baz=44,slow=4.2,SNR=5.0									

*IDC **30** 13:56:20.2±0.9, 53°.87N×132°.34E, h0km, mb3.4/6, mb1 3.6/10, mb1mx3.4/50, mbtmp3.5/10, ML4.0/3, MS4.2/1, Ms1 4.2/1, ms1mx2.8/49, Error ellipse: s-maj=27.3km s-min=15.0km az=93.0*
*MOS **30** 13:56:20.2±2.5, 53°.88N×132°.59E, h12km, mb4.4/1, Error ellipse: s-maj=20.5km s-min=10.4km az=95.3*
*SKHL **30** 13:56:21.3±0.4, 53°.85N×132°.33E, h6km±4km, mb4.4/5*

ISC 30 13:56:21.9±0.6, 53°.96N±0°.05×132°.39E±0°.04, h10km, n24, σ2§27/35, mb3.3/7, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.95**	**159**	⇓*iPg*		**Pg**		**13 56 37.5**	**-2.7**
EKMR				AMB		AMB		13 56 38.9	
180nm,0.6s									
EKMR				*eSg*		**Sg**		**13 56 49.6**	**-3.0**
EKMR				A		A		13 56 51.3	
2μm,0.6s									
ZEA	**Zeya**	**3.06**	**268**	*eP*		**Pn**		**13 57 10.1**	**-0.1**
ZEA				*eS*		**Sn**		**13 57 45.9**	**-0.9**
ZEA				pmax		pmax			
comp=E,10.0nm,0.9s									
ZEA				pmax		pmax			
comp=Z,10.0nm,0.5s									
ZEA				pmax		pmax			
comp=E,110nm,0.8s									
ZEA				pmax		pmax			
comp=N,80nm,0.6s									
ZEA				pmax		pmax			
comp=Z,140nm,0.6s									
ZEA				smax		smax			
comp=Z,470nm,0.5s									
ZEA				smax		smax			
comp=N,570nm,0.6s									
ZEA				smax		smax			
comp=E,220nm,0.6s									
ZEA				smax

YAK				smax	smax			
	comp=N,5.0nm,0.5s							
YAK				smax	smax			
	comp=E,3.0nm,0.4s							
YAK				smax	smax			
	comp=N,102nm,0.8s							
YAK				smax	smax			
	comp=E,118nm,0.6s							
USRK	**Ussuriysk Ar.**	**9.78**	**182**	Pn	**Pn**	**13 58 40.3**	**-2.1**
	baz=353,slow=15,SNR=3.2							
USRK				Lg	Lg	14 01 25.9		
	baz=356,slow=28,SNR=4.1							
SONM	**Songino Array**	**17.45**	**260**	P	**Pn**	**14 00 24.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=62,slow=10,SNR=2.8							
ZALV	**Zalesovo Beam**	**27.58**	**290**	PcP	**PcP**	**14 05 24.9**	**-1.1**
	comp=E,0.4nm,0.5s,baz=48,slow=2.1,SNR=1.6							
MKAR	**Makanchi Array**	**32.15**	**279**	P	**P**	**14 02 49.8**	**+0.4**
	comp=E,0.8nm,0.6s,baz=62,slow=8.0,SNR=12							
ILAR	**Eielson Array**	**39.67**	**41**	P	**P**	**14 03 54.5**	**+1.0**
	comp=E,0.3nm,0.6s,baz=290,slow=6.6,SNR=4.2							
YKA	**Yellowknife Ar**	**52.60**	**33**	P	**P**	**14 05 36.6**	**+1.4**
	comp=E,0.2nm,0.5s,baz=315,slow=6.8,SNR=2.7							
BBB	**Bella Bella**	**54.85**	**48**	LR	LR	14 30 37.0		
	comp=E,197nm,19.9s,baz=294,slow=37							
AKT	**Akhty**	**54.99**	**294**	*i* P	**P**	**14 05 56.9**	**+3.7**
AKT				pmax	pmax			
	comp=Z,5.0nm,0.1s							
AKASG	**Malin Array Be**	**57.52**	**313**	P	**P**	**14 06 10.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=7.9,SNR=2.5							
WRA	**Warramunga Arr**	**73.62**	**178**	P	**P**	**14 07 53.5**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=342,slow=7.2,SNR=1.7							
ASAR	**Alice Springs**	**77.32**	**179**	P	**P**	**14 08 15.2**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=358,slow=6.2,SNR=1.5							

*IDC **30** 14:03:36.4±2.3,31°.20S×68°.93W,h85km±20km,mb3.6/5, mb1 3.7/10,mb1mx3.5/32,mbtmp3.8/10,Error ellipse: s-maj=29.4km s-min=16.8km az=95.0*
*NEIC **30** 14:03:39.7±2.2,31°.26S±0°.06×69°.0W±0°.1,h123km±8km, mb4.2/6,Md3.7(SJA),Error ellipse: s-maj=14.2km s-min=8.7km az=90.0*

ISC 30 14:03:38.6±0.6,31°.23S±0°.05×68°.88W±0°.08,h111km,n49, σ1§13/52,mb4.1/6,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZON	**Zonda**	**0.36**	**152**	Pn		**Pn**	**14 03 55.0**	**+0.2**
CO03	**El Pedregal**	**1.60**	**283**	Pn		**Pn**	**14 04 08.7**	**+1.8**
GO04	**Tololo Observa**	**1.96**	**302**			**Pn**	**14 04 13.1**	**+1.6**
VA03	**San Esteban**	**2.09**	**222**			**Pn**	**14 04 13.5**	**+0.6**
CO05	**La Serena**	**2.42**	**302**			**Pn**	**14 04 17.7**	**+0.7**
CO06	**Fray Jorge**	**2.43**	**282**	Pn		**Pn**	**14 04 16.9**	**-0.3**
PEL	**Peldehue**	**2.45**	**218**			**Pn**	**14 04 17.8**	**+0.3**
VA06	**Catapilco**	**2.45**	**237**			**Pn**	**14 04 16.8**	**-0.6**
ROC1	**El Roble**	**2.52**	**226**			**Pn**	**14 04 16.3**	**-2.3**
MT03	**Universidad Ad**	**2.65**	**211**			**Pn**	**14 04 20.9**	**+0.8**
MT05	**Renca**	**2.67**	**216**	Pn		**Pn**	**14 04 20.7**	**+0.3**
LCO	**Las Campanas**	**2.72**	**324**	Pn		**Pn**	**14 04 22.6**	**+1.4**
MT02	**Curacav**	**2.79**	**223**			**Pn**	**14 04 21.2**	**-0.6**
LMEL	**Las Melosas**	**2.84**	**203**			**Pn**	**14 04 23.4**	**+0.7**
VA01	**Torpederas**	**2.96**	**232**			**Pn**	**14 04 23.4**	**-0.6**
MT09	**Talagante**	**3.11**	**215**			**Pn**	**14 04 25.3**	**-0.9**
BO04	**La Punta**	**3.12**	**208**			**Pn**	**14 04 26.6**	**+0.4**
MT01	**Popeta**	**3.31**	**217**			**Pn**	**14 04 27.5**	**-1.2**
VA05	**Santo Domingo**	**3.35**	**223**			**Pn**	**14 04 28.2**	**-1.1**
AC04	**Llanos de Chal**	**3.57**	**327**	Pn		**Pn**	**14 04 32.8**	**+0.6**
BO01	**Tunca**	**3.66**	**210**			**Pn**	**14 04 32.7**	**-0.7**
GO03	**Copiap**	**3.81**	**342**			**Pn**	**14 04 36.6**	**+1.1**
BO02	**Sierra Bellavi**	**3.90**	**204**	Pn		**Pn**	**14 04 35.9**	**-0.8**
AC06	**Mina Casimiro**	**4.07**	**341**			**Pn**	**14 04 39.9**	**+1.0**
AC02	**Maricunga**	**4.38**	**357**	Pn		**Pn**	**14 04 45.8**	**+2.2**
GO02	**Mina Guanaco**	**6.08**	**354**	Pn		**Pn**	**14 05 07.1**	**+0.8**
PB14	**IPOC Station P**	**6.71**	**348**	Pn		**Pn**	**14 05 14.7**	**-0.3**
PB15	**IPOC Station P**	**8.01**	**356**			**Pn**	**14 05 32.3**	**-0.1**
LVC	**Limon Verde**	**8.58**	**360**	P		**Pn**	**14 05 38.9**	**-1.4**
	2.2nm,0.3s,baz=201,slow=8.6,SNR=9.2							
LVC				S		**Sn**	**14 07 13.4**	**-2.2**
	0.6nm,0.3s,baz=57,slow=5.7,SNR=3.2							
PLCA	**Paso Flores**	**9.58**	**188**	P		**Pn**	**14 05 51.5**	**-2.0**
	0.2nm,0.3s,baz=341,slow=11,SNR=6.0							
CPUP	**Villa Florida**	**11.24**	**67**	P		**Pn**	**14 06 13.7**	**-2.2**
	0.2nm,0.3s,baz=270,slow=7.1,SNR=2.0							
CPUP	**Villa Florida**	**11.24**	**67**			**Pn**	**14 06 15.2**	**-0.8**
LPAZ	**La Paz**	**14.89**	**3**	P		**Pn**	**14 07 02.5**	**-1.6**
	0.1nm,0.3s,baz=211,slow=15,SNR=1.4							
SIV	**San Ignacio**	**16.76**	**27**	P		**Pn**	**14 07 25.7**	**-1.0**
	0.2nm,0.3s,baz=194,slow=10,SNR=6.7							
BELA	**Belgrano 2**	**49.16**	**171**	P		**P**	**14 12 16.2**	**+1.5**
SNAA	**Sanae**	**53.17**	**159**	P		**P**	**14 12 45.0**	**+0.2**
QSPA	**South Pole Qui**	**59.00**	**180**	P		**P**	**14 13 27.6**	**+1.2**
	1.4nm,0.6s,baz=197,slow=2.8,SNR=9.2							
QSPA	**South Pole Qui**	**59.00**	**180**	P		**P**	**14 13 27.6**	**+1.2**
TXAR	**Lajitas Array**	**68.72**	**328**	P		**P**	**14 14 29.7**	**-0.8**
	0.1nm,0.3s,baz=147,slow=8.5,SNR=1.5							
DBIC	**Dimbokro**	**71.75**	**70**	P		**P**	**14 14 49.0**	**-0.2**
	2.8nm,0.6s,baz=267,slow=8.1,SNR=4.0							
DBIC	**Dimbokro**	**71.75**	**70**	IAmb		IAmb	14 14 50.1	
	comp=Z,12nm,1.4s							
TOA0	**Torodi Ar. Sit**	**80.73**	**69**	P		**P**	**14 15 41.0**	**+1.1**
TOA0				IAmb		IAmb	14 15 42.4	
	comp=Z,5.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**80.73**	**69**	P		**P**	**14 15 41.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=282,slow=6.8,SNR=9.9							
TORD	**Torodi Ar. Bea**	**80.73**	**69**	P		**P**	**14 15 40.6**	**+0.6**
TORD				IAmb		IAmb	14 15 42.4	
	comp=Z,3.3nm,1.1s							
PDAR	**Pinedale Array**	**82.57**	**331**	P		**P**	**14 15 50.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=118,slow=7.6,SNR=2.8							
ASAR	**Alice Springs**	**121.22**	**205**	PKP		**PKPdf**	**14 22 18.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=127,slow=2.0,SNR=1.7							
WRA	**Warramunga Arr**	**124.45**	**207**	PKP		**PKPdf**	**14 22 25.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=152,slow=2.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**150.46**	**32**	PKPbc		**PKiKP**	**14 23 18.1**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=306,slow=2.7,SNR=14							
ZALV				pPKPbc		**pPKPbc**	**14 23 48.0**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=318,slow=2.0,SNR=5.9							
MKAR	**Makanchi Array**	**152.93**	**47**	PKPbc		**PKiKP**	**14 23 23.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=277,slow=1.5,SNR=9.0							
MKAR				PKPab		**PKPab**	**14 23 35.5**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=287,slow=4.2,SNR=9.6							
MKAR				pPKPbc		**pPKPbc**	**14 23 53.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=341,slow=2.6,SNR=4.2							

*IDC **30** 14:20:40.8±2.6,41°.16N×127°.09W,h0km,mb3.1/2, mb1 3.1/4,mb1mx3.0/37,mbtmp2.8/4,ML2.9/2,MS2.2/1, Ms1 2.2/1,ms1mx2.1/23,Error ellipse: s-maj=54.9km s-min=24.3km az=31.0*
*NEIC **30** 14:20:44.4±1.9,41°.11N±0°.08×126°.7W±0°.2,h10km±2km, ML2.7/44,Error ellipse: s-maj=21.9km s-min=13.4km az=255.0*

ISC 30 14:20:42.2±1.6,41°.07N±0°.08×127°.0W±0°.2,h10km,n37, σ1§42/30,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRPM	**Rodgers**	**2.25**	**87**	Pn		**Pn**	**14 21 16.4**	**-3.1**
KRPM				IAML			14 21 55.2	
	comp=N,59nm,3.0s							
KRPM				IAML			14 22 32.1	
	comp=E,56nm,4.3s							
JCC	**Jacoby Creek,**	**2.26**	**95**	Pn		**Pn**	**14 21 18.4**	**-1.2**
KMPM	**Mount Pierce**	**2.28**	**106**	Pn		**Pn**	**14 21 18.3**	**-1.6**
KMPM				IAML			14 21 37.5	
	comp=E,54nm,3.8s							
KMPM				IAML			14 21 38.3	
	comp=N,46nm,3.0s							
KHMM	**Horse Mountain**	**2.48**	**93**	Pn		**Pn**	**14 21 20.9**	**-1.9**
KHMM				IAML			14 22 05.5	
	comp=N,30nm,3.0s							
KMRM	**Mail Ridge**	**2.64**	**108**	Pn		**Pn**	**14 21 23.6**	**-1.3**
KMRM				IAML			14 22 03.8	
	comp=E,41nm,1.9s							
KMRM				IAML			14 22 09.7	
	comp=N,40nm,3.4s							
L02E	**Cave Junction**	**2.77**	**66**	Pn		**Pn**	**14 21 25.8**	**-0.8**
L02E				IAML			14 22 37.0	
	comp=N,19nm,5.0s							
KCPM	**Cahto Peak**	**2.95**	**117**	Pn		**Pn**	**14 21 28.7**	**-0.5**
KCPM				IAML			14 22 31.9	
	comp=E,41nm,4.7s							
KCPM				IAML			14 23 10.4	
	comp=N,31nm,3.6s							
J01E	**Myrtle Point**	**3.09**	**46**	Pn		**Pn**	**14 21 30.6**	**-0.5**
J01E				IAML			14 22 51.2	
	comp=E,38nm,3.9s							
J01E				IAML			14 23 25.5	
	comp=N,30nm,2.9s							
M02C	**Callahan**	**3.14**	**83**			**Pn**	**14 21 32.4**	**+0.6**
N02D	**Trinity Center**	**3.25**	**90**	Pn		**Pn**	**14 21 32.0**	**-1.2**
YBH	**Yreka Blue Hor**	**3.29**	**77**	LR		LR	14 22 44.2	
	comp=N,36nm,20.2s,baz=284,slow=37							
YBH	**Yreka Blue Hor**	**3.29**	**77**			**Pn**	**14 21 32.5**	**-1.4**
YBH				IAML			14 23 24.3	
	comp=E,12nm,5.0s							
O02D	**Mt. Diablo Mer**	**3.32**	**104**	Pn		**Pn**	**14 21 34.9**	**+0.6**
O02D				IAML			14 22 13.2	
	comp=N,14nm,5.0s							
O02D				IAML			14 23 02.8	
	comp=E,12nm,5.0s							
HUMO	**Hull Mountain**	**3.39**	**62**			**Pn**	**14 21 34.6**	**-0.5**
HOPS	**Hopland Field**	**3.66**	**123**	Pn		**Pn**	**14 21 39.0**	**+0.2**
L04D	**Klamath Falls**	**3.70**	**70**			**Pn**	**14 21 39.0**	**-0.5**
L04D				IAML			14 22 43.6	
	comp=N,22nm,4.9s							
L04D				IAML			14 23 30.9	
	comp=E,24nm,4.5s							
M04C	**Macdoel**	**3.94**	**78**			**Pn**	**14 21 42.0**	**-0.8**
M04C				IAML			14 22 13.4	
	comp=E,23nm,1.4s							
O03E	**Paynes Creek**	**4.02**	**99**	Pn		**Pn**	**14 21 42.7**	**-1.2**
O03E				IAML			14 22 49.9	
	comp=N,11nm,4.2s							
O03E				IAML			14 24 03.2	
	comp=E,13nm,4.3s							
J04D	**Umpqua Nationa**	**4.23**	**58**			**Pn**	**14 21 46.2**	**-0.7**
K05A	**Summer Lake**	**4.85**	**68**	Pn		**Pn**	**14 21 55.9**	**+0.6**
H04A	**Detroit Lake**	**5.05**	**43**	Pn		**Pn**	**14 21 58.6**	**+0.6**
H04A				IAML			14 25 10.9	
	comp=N,11nm,4.4s							
PINE	**Pine Mountain**	**5.24**	**57**	Pn		**Pn**	**14 22 01.4**	**+0.7**
HOOD	**Mount Hood Mea**	**5.77**	**41**	Pn		**Pn**	**14 22 08.3**	**+0.4**
NVAR	**Mina Array Bea**	**7.20**	**109**	Pn		**Pn**	**14 22 30.3**	**+2.6**
	comp=N,0.0nm,0.3s,baz=285,slow=14,SNR=1.6							
E07A	**Sunnyside**	**7.53**	**41**	Pn		**Pn**	**14 22 32.5**	**+0.4**
PDAR	**Pinedale Array**	**13.10**	**77**	Pn		**Pn**	**14 23 52.6**	**+4.2**
	comp=N,0.0nm,0.3s,baz=261,slow=9.9,SNR=1.9							
Y14A	**Wickenburg**	**13.18**	**118**	Pn		**Pn**	**14 23 49.6**	**+0.1**
GCMT	**Greyclif**	**13.44**	**64**	Pn		**Pn**	**14 23 52.6**	**-0.4**
WUAZ	**Wupatki**	**13.46**	**109**	Pn		**Pn**	**14 23 52.5**	**-0.9**
YKA	**Yellowknife Ar**	**22.70**	**15**	P		**P**	**14 25 43.8**	**+0.1**
	comp=N,0.6nm,1.0s,baz=203,slow=9.3,SNR=3.9							
H11N3	**WAKE ISLAND Hy**	**59.46**	**270**	T		T	15 34 49.0	
	baz=53,slow=75,SNR=56							
H11N2	**WAKE ISLAND Hy**	**59.46**	**270**	T		T	15 34 49.9	
	baz=53,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**59.48**	**270**	T		T	15 34 49.4	
	baz=53,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hy**	**60.34**	**269**	T		T	15 35 51.4	
	baz=52,slow=75,SNR=18							
H11S2	**WAKE ISLAND Hy**	**60.35**	**269**	T		T	15 35 53.7	
	baz=52,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hy**	**60.36**	**269**	T		T	15 35 56.3	
	baz=52,slow=75,SNR=9.2							
SONM	**Songino Array**	**79.64**	**327**	P		**P**	**14 32 49.1**	**-0.7**
	comp=N,0.1nm,0.3s,baz=25,slow=4.8,SNR=1.7							

*CNRM **30** 14:31:33.3,35°.65N×3°.54W,h16km,ml2.0*
*SFS **30** 14:31:35.0,35°.57N×3°.67W,ML2.6,ALBORAN SUR*
*MDD **30** 14:31:36.0±0.5,35°.49N×3°.60W,h21km±10km,mb_Lg2.1/9, Error ellipse: s-maj=9.9km s-min=3.8km az=154.0*

ISC 30 14:31:34.5±1.1,35°.55N±0°.03×3°.61W±0°.03,h17km±9km, n21,σ0§99/41,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALE	**Palemas**	**0.42**	**219**	P		**Pg**	**14 31 43.1**	**0.0**
PALE				S		**Sb**	**14 31 51.7**	**+2.1**
EMEL	**Melilla**	**0.59**	**115**	Pg		**Pb**	**14 31 46.3**	**0.0**
EMEL				Sg		**Sg**	**14 31 54.1**	**+0.1**
GOG	**Mont Gurugu**	**0.60**	**123**	P		**Pb**	**14 31 46.1**	**-0.5**
GOG				S		**Sg**	**14 31 53.9**	**-0.5**
EALB	**Alboran**	**0.61**	**50**	Pg		**Pn**	**14 31 48.0**	**-0.4**
EALB				Sg		**Sn**	**14 31 57.5**	**-0.4**
EALB				*i* Vmb_Lg			14 31 58.9	
PVLZ	**Peæn de**	**0.68**	**237**	P		**Pb**	**14 31 47.7**	**0.0**
PVLZ				S		**Sb**	**14 31 56.6**	**-0.2**
TAF	**Taforalt**	**1.22**	**126**	P		**Pn**	**14 31 55.8**	**-1.0**
TAF				S		**Sn**	**14 32 13.5**	**+0.4**
ELGU	**Los Guajares,**	**1.32**	**359**	Pn		**Pn**	**14 31 58.2**	**0.0**
ELGU				Sn		**Sn**	**14 32 14.6**	**-0.8**
ELGU				*i* Vmb_Lg			14 32 17.6	
EMAL	**Malaga-Limoner**	**1.38**	**332**	P		**Pb**	**14 31 59.9**	**+0.1**
EMAL				S		**Sn**	**14 32 15.4**	**-1.4**
EMIJ	**Mijas**	**1.38**	**318**	Pn		**Pn**	**14 31 58.7**	**-0.3**
EMIJ				Sn		**Sn**	**14 32 16.9**	**-0.1**
EMIJ				*i* Vmb_Lg			14 32 20.1	
SMIR	**Smir Dam**	**1.45**	**276**	P		**Pn**	**14 31 59.1**	**-0.8**
SMIR				S		**Sn**	**14 32 18.6**	**+0.2**
EBER	**Berja**	**1.47**	**23**	Pn		**Pn**	**14 32 00.8**	**+0.4**
EBER				Sn		**Sb**	**14 32 20.2**	**+0.3**
EBER				*i* Vmb_Lg			14 32 27.8	
ECEU	**Ceuta**	**1.48**	**284**	Pn		**Pn**	**14 31 59.3**	**-1.0**
ECEU				Sn		**Sn**	**14 32 17.8**	**-1.4**
ECEU				*i* Vmb_Lg			14 32 23.1	
JBK	**JBK**	**1.48**	**144**	P		**Pn**	**14 32 00.7**	**+0.1**
JBK				S		**Sn**	**14 32 19.3**	**-0.3**
EGOR	**Sierra Gorda,**	**1.61**	**346**	Pn		**Pb**	**14 32 03.6**	**-0.3**
EGOR				Sn		**Sn**	**14 32 22.2**	**-0.5**
EGOR				*i* Vmb_Lg			14 32 29.4	
EADA	**Adamuz**	**2.73**	**344**	Pn		**Pn**	**14 32 19.3**	**+1.8**
EADA				Sn		**Sn**	**14 32 49.8**	**-0.3**
EADA				*i* Vmb_Lg			14 32 58.4	
MD31	**MD31**	**2.84**	**200**	P		**Pn**	**14 32 21.8**	**+2.7**
MD31				S		**Sb**	**14 32 57.1**	**-2.1**
ECAB	**El Cabril**	**2.91**	**331**	Pn		**Pn**	**14 32 21.5**	**+1.5**
ECAB				Sn		**Sn**	**14 32 54.2**	**-0.4**
ECAB				*i* Vmb_Lg			14 33 04.9	
EMIN	**Mina Concepcio**	**3.31**	**313**	Pn		**Pn**	**14 32 26.4**	**+0.9**
EMIN				Sn		**Sn**	**14 33 04.1**	**-0.4**
EMIN				*i* Vmb_Lg			14 33 09.8	
ETOB	**Tobarra**	**3.50**	**27**	Pn		**Pn**	**14 32 29.8**	**+1.6**
EGRO	**El Granado**	**3.69**	**304**	Pn		**Pn**	**14 32 31.5**	**+0.8**
EGRO				Sn		**Sn**	**14 33 13.0**	**-0.9**
PVAQ	**Vaqueiros**	**3.79**	**300**	P		**Pn**	**14 32 31.9**	**-0.2**
PVAQ				S		**Sn**	**14 33 16.6**	**+0.3**

MAN 30 14:39:41.6,9°.46N×125°.48E,h43km,mb3.9,ML2.7,MS2.3, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUTP	**Butuan**	**0.51**	**165**	*i*eP		Pn	14 39 54.6	+1.9
MSLP	**Maasin**	**0.91**	**317**	*i*eP		Pn	14 39 58.0	0.0
CGP	**Cagayan de Oro**	**1.27**	**218**	*i* P		Pn	14 40 03.9	+1.0
CGP				*i* S		Sn	14 40 19.9	+1.1

*NEIC **30** 14:43:51.0±2.2,5°.01S±0°.07×153°.05E±0°.05,h11km±5km, mb4.3/14,Error ellipse: s-maj=12.2km s-min=3.5km az=150.0*
*IDC **30** 14:43:56.3±2.6,5°.03S×152°.98E,h60km±19km,mb3.7/7, mb1 3.9/8,mb1mx3.5/37,mbtmp4.0/8,MS3.2/9,Ms1 3.2/9, ms1mx2.8/65,Error ellipse: s-maj=27.8km s-min=15.5km az=85.0*

ISC 30 14:43:54.7±0.6,4°.98S±0°.06×153°.03E±0°.08,h43km,n35, σ1§49/30,mb4.2/13,MS3.3/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**1.17**	**312**			**Pn**	**14 44 14.2**	**-0.5**
KRVT	**Keravat (AS076**	**1.21**	**304**	P		**Pn**	**14 44 15.7**	**+0.5**
	baz=197,slow=19							
KRVT				S		**Sn**	**14 44 32.3**	**+1.9**
	baz=107,slow=19							
MANU	**Manus Island**	**6.36**	**297**	Pn		**Pn**	**14 45 26.1**	**+0.1**
PMG	**Port Moresby**	**7.30**	**233**	P		**Pn**	**14 45 40.5**	**+1.7**
	2.8nm,0.3s,baz=38,slow=13,SNR=16							
PMG				S		**Sn**	**14 47 01.4**	**+1.0**
	7.2nm,0.3s,baz=150,slow=16,SNR=9.7							
PMG				LR		LR	14 48 38.5	
	comp=Z,129nm,21.6s,baz=59,slow=39							
PMG	**Port Moresby**	**7.30**	**233**			**Pn**	**14 45 38.8**	**-0.1**
PATS	**Pohnpei**	**12.87**	**24**	Pn		**Pn**	**14 46 55.8**	**+0.6**
CTA	**Charters Tower**	**16.40**	**203**	LR		LR	14 53 10.6	
	comp=Z,83nm,19.2s,baz=88,slow=34							
SANVU	**Saraoutou**	**17.38**	**128**			**Pn**	**14 47 54.1**	**-0.2**
GUMO	**Guam**	**20.15**	**336**	LR		LR	14 56 38.2	
	comp=Z,26nm,18.6s,baz=98,slow=38							
EIDS	**Eidsvold**	**20.36**	**185**	P		**P**	**14 48 26.1**	**-1.6**
EIDS				IAmb		IAmb	14 48 32.1	
	comp=Z,5.4nm,1.0s							
DZM	**Mont Dzumac**	**21.38**	**144**	P		**P**	**14 48 39.9**	**+1.0**
	comp=Z,12nm,1.0s,baz=133,slow=23,SNR=2.9							
DZM				LR		LR	14 54 55.4	
	comp=Z,133nm,19.5s,baz=217,slow=31							
DZM	**Mont Dzumac**	**21.38**	**144**	P		**P**	**14 48 38.0**	**-0.9**
DZM				IAmb		IAmb	14 48 44.2	
	comp=Z,16nm,1.1s							
SIJI	**Sorong**	**22.11**	**280**	LR		LR	14 57 23.3	
	comp=Z,61nm,19.6s,baz=32,slow=37							
MTN	**Manton Dam**	**22.98**	**249**	P		**P**	**14 48 55.6**	**-0.3**
MTN				IAmb		IAmb	14 49 00.4	
	comp=Z,8.3nm,1.0s							
WB0	**Warramunga Arr**	**23.35**	**229**	P		**P**	**14 48 57.6**	**-2.0**
WB0				IAmb		IAmb	14 49 00.6	
	comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**23.50**	**229**	P		**P**	**14 49 00.1**	**-0.9**
	comp=Z,6.7nm,0.9s,baz=54,slow=10.0,SNR=38							
WRA	**Warramunga Arr**	**23.50**	**229**	P		**P**	**14 48 58.7**	**-2.3**
KNRA	**Kununurra**	**26.10**	**244**	P		**P**	**14 49 23.4**	**-1.3**
AS31	**Alice Springs**	**26.17**	**223**	P		**P**	**14 49 24.2**	**-1.2**
ASAR	**Alice Springs**	**26.17**	**223**	P		**P**	**14 49 24.4**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.0,SNR=20							
STKA	**Stephens Creek**	**28.82**	**200**	P		**P**	**14 49 48.0**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=27,slow=6.8,SNR=3.1							
FITZ	**Fitzroy Crossi**	**29.77**	**242**	P		**P**	**14 49 56.2**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=50,slow=6.9,SNR=16							
JCJ	**Chichijima**	**33.57**	**342**	LR		LR	15 02 43.5	
	comp=Z,31nm,21.0s,baz=78,slow=34							
FORT	**Forrest**	**34.80**	**220**	P		**P**	**14 50 40.3**	**-1.1**
FOZ	**Fox Glacier**	**41.16**	**161**	P		**P**	**14 51 36.1**	**+1.3**
FOZ				IAmb		IAmb	14 52 00.1	
	comp=Z,12nm,1.1s							
RPZ	**Rata Peaks**	**41.72**	**160**	LR		LR	15 07 51.5	
	comp=Z,46nm,19.6s,baz=292,slow=34							
MJAR	**Matsushiro Arr**	**43.57**	**343**	LR		LR	15 09 24.1	
	comp=Z,35nm,18.5s,baz=121,slow=35							
MAJO	**Matsushiro**	**43.57**	**343**	P		**P**	**14 51 52.8**	**-1.9**
MAJO				IAmb		IAmb	14 52 16.9	
	comp=Z,6.8nm,1.0s							
MJB9	**Matsu-Tunnel**	**43.58**	**343**	P		**P**	**14 51 52.6**	**-2.1**
MJB9				IAmb		IAmb	14 51 55.7	
	comp=Z,5.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P		**P**	**14 53 45.3**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=126,slow=5.9,SNR=6.1							
MA2	**Magadan**	**64.38**	**359**	LR		LR	15 19 02.3	
	comp=Z,20nm,21.4s,baz=144,slow=33							
VNDA	**Vanda**	**72.64**	**178**	P		**P**	**14 55 17.8**	**+0.4**
MKAR	**Makanchi Array**	**80.61**	**319**	P		**P**	**14 56 02.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=123,slow=5.3,SNR=2.6							
QSPA	**South Pole Qui**	**84.98**	**180**	P		**P**	**14 56 26.6**	**+1.2**
QSPA				IAmb		IAmb	14 56 30.4	
	comp=Z,3.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**150.58**	**288**	PKPbc		**PKPdf**	**15 03 41.7**	**+4.1**
	comp=Z,1.3nm,0.8s,baz=73,slow=3.2,SNR=6.3							

*IDC **30** 14:58:42.8±1.0,9°.28N×75°.50W,h0km,mb3.8/4,mb1 4.2/8, mb1mx3.8/43,mbtmp4.1/8,ML3.6/4,Error ellipse: s-maj=29.3km s-min=18.6km az=45.0*
*RSNC **30** 14:58:46.4±0.8,8°.79N×75°.61W,h26km±2km,ML3.6, Mw3.7,Fault plane solution: NP1:φ±148.00000°, δ68.00000°,λ138.00000°.*

**ISC 30 14:58:45.5±0.8,8°.80N±0°.02×75°.56W±0°.03,h28km±6km, n40,

TAMC				*eS*		**Sn**	**15 00 44.1**	**+2.7**
TAMC				*i*			15 01 13.3	
	comp=Z,67nm,0.5s							
CHIC	**Chingaza**	**4.53**	**156**	*eP*		**Pn**	**14 59 53.8**	**+1.1**
CHIC				*eS*		**Sb**	**15 00 54.8**	**-4.1**
CHIC				*i*			15 01 08.3	
	comp=Z,34nm,0.5s							
URIC	**Uribia, Colomb**	**4.54**	**50**	*eP*		**Pn**	**14 59 51.4**	**-1.0**
URIC				*eS*		**Sn**	**15 00 42.3**	**-2.0**
URIC				*i*			15 00 45.1	
	comp=Z,39nm,0.3s							
SOCV	**Socops**	**4.69**	**96⇑**	*eP*		**Pn**	**14 59 55.0**	**+0.5**
SOCV				*eS*		**Sn**	**15 00 48.1**	**+0.2**
SDV	**Santo Domingo**	**4.87**	**89**	Pn		**Sn**	**14 59 58.3**	**+1.2**
	comp=Z,43nm,0.3s,baz=230,slow=4.6,SNR=332							
SDV				Sn		**Sn**	**15 00 53.3**	**+0.5**
	comp=Z,28nm,0.3s,baz=320,slow=17,SNR=7.9							
SDV	**Santo Domingo**	**4.87**	**89**	*eP*		**Pn**	**14 59 58.4**	**+1.2**
SDV				*eS*		**Sn**	**15 00 53.6**	**+0.8**
SDV				*i*			15 00 55.8	
	comp=Z,62nm,0.3s							
ORTC	**Ortega, Tolima**	**4.87**	**176**	*eP*		Pb	15 00 05.2	-5.1
ORTC				*i*			15 01 21.7	
	comp=Z,62nm,0.6s							
ELOV	**Elorza**	**6.28**	**106**	*eP*		**Pn**	**15 00 16.4**	**0.0**
ELOV				*eS*		**Sn**	**15 01 26.3**	**-1.1**
JTS	**Las Juntas de**	**9.38**	**280**	Pn		**Pn**	**15 00 59.2**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=32,slow=6.8,SNR=7.0							
PCRV	**Puerto La Cruz**	**10.87**	**82**	Pn		**Pn**	**15 01 18.3**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=325,slow=2.4,SNR=1.8							
LPAZ	**La Paz**	**25.99**	**164**	P		**P**	**15 04 22.2**	**+5.4**
	comp=Z,1.3nm,0.6s,baz=340,slow=11,SNR=2.8							
SIV	**San Ignacio**	**28.51**	**150**	P		P	15 04 43.5	+4.7
	comp=Z,0.8nm,0.2s,baz=297,slow=17,SNR=1.1							
PDAR	**Pinedale Array**	**45.06**	**324**	P		**P**	**15 06 58.2**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=125,slow=11,SNR=2.7							
YKA	**Yellowknife Ar**	**60.59**	**340**	P		**P**	**15 08 52.2**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=133,slow=7.1,SNR=19							
MKAR	**Makanchi Array**	**121.23**	**18**	PKP		**PKiKP**	**15 17 36.0**	**-0.2**
	comp=Z,0.1nm,0.8s,baz=333,slow=0.6,SNR=1.5							
ASAR	**Alice Springs**	**148.18**	**239**	PKPbc		**PKPab**	**15 18 31.9**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=110,slow=2.9,SNR=2.2							

*TUL **30** 15:03:29.3±0.4,36°.427N±0°.009×97°.36W±0°.01, h5km±3km, ML2.5,mb_Lg2.4/5(NEIC),Error ellipse: s-maj=1.5km s-min=0.9km az=137.0*

NEIC 30 15:03:29.8±0.3,36°.427N±0°.009×97°.36W±0°.01,h3km±3km, Error ellipse: s-maj=1.5km s-min=1.2km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**0.84**	**54**	Pg	Pg	15 03 45.2	-0.8
T35A				lAmb_Lg		15 03 55.9	
	comp=Z,48nm,1.3s						
T35A				Sg	Sg	15 03 56.4	-0.4
FNO	**Franklin**	**1.17**	**182**	Pg	Pg	15 03 50.9	-1.3
U32A	**Winter Ranch,**	**1.33**	**268**		Pn	15 03 53.7	-1.6
W35A	**Tecumseh**	**1.33**	**163**		Pn	15 03 53.4	-1.9
TUL1	**Leonard**	**1.37**	**112**		Pn	15 03 54.4	-1.4
WMOK	**Wichita Mounta**	**2.04**	**215**	lAmb_Lg		15 04 34.0	
	comp=Z,16nm,0.9s						
AMTX	**Amarillo**	**3.84**	**248**	lAmb_Lg		15 05 32.2	
	comp=Z,7.7nm,1.0s						
X40A	**Basin Creek Fa**	**4.17**	**116**	Pn	Pn	15 04 32.8	-1.5
FCAR	**Ozark Folk Cen**	**4.27**	**96**	Pn	Pn	15 04 34.6	-1.1
W41B	**Gary Mavity, V**	**4.34**	**105**	Pn	Pn	15 04 36.6	0.0

*TUL **30** 15:57:25.2±1.0,36°.468N±0°.009×98°.75W±0°.01, h7km±2km, ML3.2,ML2.2/19(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=90.0*

*NEIC **30** 15:57:25.2±0.4,36°.467N±0°.010×98°.74W±0°.01, h9km±2km, Error ellipse: s-maj=1.6km s-min=1.5km az=95.0*

*IDC **30** 15:57:35.9±1.0,36°.67N×97°.62W,h0km,mb3.3/2, mb1 3.8/8,mb1mx3.5/69,mbtmp3.5/8,ML3.5/6,Error ellipse: s-maj=13.8km s-min=11.9km az=164.0*

*NEIC **30** 15:57:36.8,36°.62N×97°.69W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.58; $M_{\theta\theta}$1.73; $M_{\phi\phi}$-1.15; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.76; $M_{\phi r}$-0.35; Fault plane solution: M_o1.84000×10^{14} NP1:φs327.59000°, δ89.01000°,λ-21.38000°. NP2:φs57.98000°,δ68.63000°, λ-178.94000°. Principal axes: T 2.0876, Plg14.0000°, Azm15.0000°; N -0.6931, Plg69.0000°, Azm145.0000°; P -1.3945, Plg16.0000°, Azm281.0000°;*

*NEIC **30** 15:57:37.4±0.7,36°.62N±0°.01×97°.68W±0°.02,h1km±9km Error ellipse: s-maj=2.7km s-min=2.1km az=109.0*

*ANF **30** 15:57:37.6±1.2,36°.61N×97°.67W,h9km±9km,ML4.6/10, Error ellipse: s-maj=3.6km s-min=3.1km az=178.0*

ISC 30 15:57:36.2±0.6,36°.61N±0°.04×97°.76W±0°.04,h10km,n129, σ1s43/113,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.03**	**257**	IAML		15 57 34.1	
	comp=N,771nm,0.1s						
U32A				IAML		15 57 34.2	
	comp=E,393nm,0.1s						
U32A	**Winter Ranch,**	**1.03**	**257**		**Pn**	**15 57 57.1**	**+0.3**
T35A	**Sooner Cattle**	**1.04**	**73**		**Pg**	**15 57 55.4**	**-0.9**
OK009	**Oakdale Elemen**	**1.06**	**165**		**Pb**	**15 57 56.8**	**0.0**
OK001	**Jones High Sch**	**1.11**	**160**	Pg	**Pg**	**15 57 57.6**	**0.0**
OKCFA	**Oklahoma City**	**1.22**	**168**	Pg	**Pg**	**15 57 59.5**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.23**	**168**	Pg	**Pg**	**15 57 59.7**	**-0.1**
FNO	**Franklin**	**1.38**	**168**		**Pb**	**15 58 02.2**	**0.0**
W35A	**Tecumseh**	**1.62**	**154**		**Pb**	**15 58 05.8**	**-0.5**
TUL1	**Leonard**	**1.73**	**113**		**Pn**	**15 58 07.1**	**+0.7**
TUL1				lAmb_Lg		15 58 31.2	
	comp=Z,457nm,0.9s						
TUL1	**Leonard**	**1.73**	**113**	P	**Pn**	**15 58 07.1**	**+0.7**
	baz=296						
TUL1				S	**Sb**	**15 58 30.0**	**0.0**
	baz=296						
R32A	**Long Quarter,**	**1.96**	**337**	lAmb_Lg		15 58 38.5	
	comp=Z,271nm,0.7s						
WMOK	**Wichita Mounta**	**2.05**	**204**	Pn	**Pb**	**15 58 12.6**	**-0.9**
WMOK				lAmb_Lg		15 58 45.1	
	comp=Z,494nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**204**	P	**Pb**	**15 58 12.7**	**-0.9**
	baz=25						
WMOK				S	**Sb**	**15 58 40.1**	**+1.1**
	baz=25						
KSU1	**Kansas State U**	**2.65**	**20**	Pn	**Pn**	**15 58 19.9**	**+1.0**
KSU1	**Kansas State U**	**2.65**	**20**	P	**Pn**	**15 58 20.3**	**+1.4**
	baz=199						
CBKS	**Cedar Bluff**	**2.70**	**325**	Pn	**Pn**	**15 58 21.9**	**+2.1**
X37A	**Clayton**	**2.80**	**135**		**Pn**	**15 58 22.4**	**+1.3**
X37A				lAmb_Lg		15 59 10.6	
	comp=Z,508nm,0.8s						
HHAR	**Hobbs**	**3.09**	**95**	Pn	**Pn**	**15 58 25.7**	**+0.6**
Z35A	**Perchaven, San**	**3.30**	**173**	Pn	**Pn**	**15 58 29.4**	**+1.4**
Z35A				lAmb_Lg		15 59 28.1	
	comp=Z,194nm,1.2s						
W39A	**Magazine**	**3.52**	**113**	Pn	**Pn**	**15 58 32.1**	**+1.1**
W39A				lAmb_Lg		15 59 35.7	
	comp=Z,291nm,0.9s						
AMTX	**Amarillo**	**3.63**	**243**	Pn	**Pn**	**15 58 35.3**	**+2.8**
AMTX				lAmb_Lg		15 59 43.6	
	comp=Z,210nm,0.8s						
AMTX	**Amarillo**	**3.63**	**243**	Sb	**Sg**	**15 59 31.7**	**-1.1**
	baz=61						
S39A	**Bolivar**	**3.70**	**72**	Pn	**Pn**	**15 58 34.0**	**+0.5**
S39A				lAmb_Lg		15 59 40.3	
	comp=Z,144nm,0.7s						
U40A	**Yellville**	**3.96**	**92**	Pn	**Pn**	**15 58 37.6**	**+0.5**
U40A				lAmb_Lg		15 59 43.3	
	comp=Z,288nm,0.7s						
U40A	**Yellville**	**3.96**	**92**	P	**Pn**	**15 58 37.5**	**+0.5**
	baz=275						
Z38A	**Mt. Pleasant**	**4.04**	**145**	Pn	**Pn**	**15 58 39.1**	**+1.0**
N33A	**J Bar K, Exete**	**4.13**	**3**	Pn	**Pn**	**15 58 38.7**	**-0.6**
N33A				lAmb_Lg		15 59 49.3	
	comp=Z,176nm,1.1s						
ABTX	**Abilene, Hawle**	**4.27**	**202**	Pn	**Pn**	**15 58 42.9**	**+1.5**
MGMO	**Mountain Grove**	**4.43**	**81**		**Pn**	**15 58 44.5**	**+1.0**
MGMO				lAmb_Lg		15 59 57.9	
	comp=Z,326nm,0.7s						
P38A	**Dawn**	**4.49**	**47**	Pn	**Pn**	**15 58 45.8**	**+1.5**
P38A				lAmb_Lg		16 00 00.4	
	comp=Z,255nm,0.8s						
X40A	**Basin Creek Fa**	**4.54**	**116**	Pn	**Pn**	**15 58 46.3**	**+1.3**
X40A				lAmb_Lg		15 59 59.1	
	comp=Z,125nm,0.8s						
X40A	**Basin Creek Fa**	**4.54**	**116**	Pb	**Pb**	**15 58 56.4**	**+0.5**
	baz=300						
KSCO	**Kaye Shedlock'**	**4.54**	**303**	Pn	**Pn**	**15 58 47.0**	**+1.9**
KSCO				lAmb_Lg		16 00 14.6	
	comp=Z,128nm,0.7s						
N35A	**Tabor**	**4.55**	**21**	Pn	**Pn**	**15 58 46.0**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.61**	**97**	Pn	**Pn**	**15 58 46.0**	**+0.1**
WHTX	**Lake Whitney,**	**4.62**	**177**	Pn	**Pn**	**15 58 47.4**	**+1.4**
WHTX	**Lake Whitney,**	**4.62**	**177**	P	**Pn**	**15 58 47.5**	**+1.4**
	baz=358						
WHAR	**Wooly Hollow**	**4.63**	**105**	Pn	**Pn**	**15 58 45.6**	**-0.5**
WHAR				lAmb_Lg		16 00 00.7	
	comp=Z,140nm,0.8s						
R40A	**Maddies Statio**	**4.68**	**67**		**Pn**	**15 58 47.3**	**+0.5**
R40A				lAmb_Lg		16 00 07.8	
	comp=Z,226nm,0.8s						
W41B	**Gary Mavity, V**	**4.70**	**106**	Pn	**Pn**	**15 58 46.9**	**-0.2**
W41B				lAmb_Lg		16 00 10.7	
	comp=Z,142nm,0.8s						
W41B	**Gary Mavity, V**	**4.70**	**106**	Sb	**Sb**	**15 59 59.3**	**+4.0**
	baz=290						
UALR	**University of**	**4.77**	**111**	lAmb_Lg		16 00 06.9	
	comp=Z,143nm,0.7s						
WLAR	**White Oak Lake**	**4.79**	**126**	Pn	**Pn**	**15 58 49.2**	**+0.8**
WLAR				lAmb_Lg		16 00 12.1	
	comp=Z,142nm,0.8s						
BGNE	**Belgrade**	**4.80**	**356**	Pn	**Pn**	**15 58 49.6**	**+1.0**
BGNE	**Belgrade**	**4.80**	**356**	P	**Pn**	**15 58 49.6**	**+1.0**
	baz=176						
237A	**Washetta, Mont**	**4.87**	**160**	Pn	**Pn**	**15 58 49.6**	**+0.1**
237A				lAmb_Lg		16 00 22.9	
	comp=Z,173nm,0.9s						
Z41A	**Richland Creek**	**5.27**	**128**	Pn	**Pn**	**15 58 54.6**	**-0.3**
Z41A				lAmb_Lg		16 00 30.0	
	comp=Z,108nm,0.8s						
Z41A	**Richland Creek**	**5.27**	**128**	S	**Sn**	**15 59 54.2**	**-1.5**
	baz=311						
LCAR	**Lake Charles**	**5.36**	**94**	Pn	**Pn**	**15 58 56.4**	**+0.2**
LCAR				lAmb_Lg		16 00 27.4	
	comp=Z,140nm,0.7s						
T25A	**Trinidad**	**5.36**	**278**	Pn	**Pn**	**15 58 58.1**	**+1.6**
T25A				lAmb_Lg		16 00 34.4	
	comp=Z,130nm,0.9s						
T25A	**Trinidad**	**5.36**	**278**	P	**Pn**	**15 58 58.5**	**+2.1**
	baz=93						
P40A	**Paris**	**5.36**	**55**	Pn	**Pn**	**15 58 56.5**	**+0.3**
P40A				lAmb_Lg		16 00 26.9	
	comp=Z,229nm,0.7s						
CCM	**Cathedral Cave**	**5.38**	**73**	Pn	**Pn**	**15 58 56.3**	**-0.2**
L34A	**Svendsen Farm,**	**5.45**	**11**	Pn	**Pn**	**15 58 57.2**	**-0.3**
L34A				lAmb_Lg		16 00 44.0	
	comp=Z,186nm,0.8s						
OGNE	**Ogallala**	**5.47**	**324**	Pn	**Pn**	**15 59 00.5**	**+2.7**
OGNE				lAmb_Lg		16 00 33.0	
	comp=Z,164nm,0.7s						
OGNE	**Ogallala**	**5.47**	**324**	P	**Pn**	**15 59 00.6**	**+2.8**
	baz=140						
N38A	**Joes South For**	**5.47**	**39**	Pn	**Pn**	**15 58 57.3**	**-0.4**
CCAR	**Cane Creek**	**5.58**	**117**	lAmb_Lg		16 00 43.0	
	comp=Z,109nm,0.8s						
435B	**Jarrell**	**5.82**	**179**	Pn	**Pn**	**15 59 02.0**	**-0.5**
435B				lAmb_Lg		16 00 53.1	
	comp=Z,130nm,0.8s						
435B	**Jarrell**	**5.82**	**179**	P	**Pn**	**15 59 03.5**	**+0.9**
	baz=359						
PBMO	**Poplar Bluff**	**5.89**	**86**	lAmb_Lg		16 00 52.6	
	comp=Z,176nm,0.7s						
FVM	**French Village**	**6.00**	**75**	Pn	**Pn**	**15 59 03.1**	**-2.0**
FVM				lAmb_Lg		16 00 44.7	
	comp=Z,210nm,0.8s						
K31A	**O'Neill**	**6.05**	**353**	Pn	**Pn**	**15 59 06.7**	**+0.9**
SDCO	**Great Sand Dun**	**6.29**	**283**	Pn	**Pn**	**15 59 12.0**	**+2.8**
SDCO	**Great Sand Dun**	**6.29**	**283**	P	**Pn**	**15 59 12.3**	**+3.0**
	baz=98						
Q24A	**Divide**	**6.31**	**294**	Pn	**Pn**	**15 59 10.9**	**+1.3**
Q24A				lAmb_Lg		16 01 00.5	
	comp=Z,84nm,0.7s						
JCT	**Junction City**	**6.35**	**196**	Pn	**Pn**	**15 59 10.5**	**+0.6**
JCT				lAmb_Lg		16 01 05.5	
	comp=Z,210nm,1.2s						
SCIA	**State Center**	**6.35**	**32**	Pn	**Pn**	**15 59 11.0**	**+1.1**
SCIA				lAmb_Lg		16 01 06.4	
	comp=Z,179nm,0.8s						
PARMO	**Parma**	**6.44**	**87**	lAmb_Lg		16 01 02.2	
	comp=Z,174nm,0.8s						
143A	**Socs Landing,**	**6.53**	**125**	lAmb_Lg		16 01 14.2	
	comp=Z,96nm,0.9s						
LNXT	**Lenox**	**6.69**	**92**	lAmb_Lg		16 01 21.8	
	comp=Z,203nm,0.8s						
N41A	**Harden Midland**	**6.77**	**51**	Pn	**Pn**	**15 59 16.9**	**+1.3**
S44A	**Carbondale**	**6.87**	**78**	Pn	**Pn**	**15 59 17.8**	**+0.8**
SIUC	**Southern Illin**	**6.91**	**78**	Pn	**Pn**	**15 59 18.2**	**-1.3**
ISCO	**Idaho Springs**	**6.96**	**300**	Pn	**Pn**	**15 59 20.1**	**+1.7**
ISCO				lAmb_Lg		16 01 33.1	
	comp=Z,67nm,1.2s						
W45A	**Hickory Valley**	**7.11**	**99**	lAmb_Lg		16 01 30.5	
	comp=Z,103nm,0.7s						
OXF	**Oxford**	**7.12**	**105**	lAmb_Lg		16 01 32.5	
	comp=Z,96nm,0.9s						
K38A	**Parkersburg**	**7.15**	**31**	Pn	**Pn**	**15 59 20.3**	**-0.5**
K38A				lAmb_Lg		16 01 31.1	
	comp=Z,159nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.16**	**63**	Pn	**Pn**	**15 59 21.7**	**+0.8**
ECSD	**EROS Data Cent**	**7.17**	**7**	Pn	**Pn**	**15 59 20.7**	**-0.4**
Y45A	**Yeager Farm, C**	**7.26**	**110**	lAmb_Lg		16 01 42.3	
	comp=Z,65nm,0.7s						
ANMO	**Albuquerque**	**7.26**	**259**	Pn	**Pn**	**15 59 23.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=290,slow=22,SNR=1.5						
ANMO				Pg	Pg	15 59 50.0	-5.3
	comp=Z,2.3nm,0.3s,baz=85,slow=15,SNR=20						
ANMO				Lg	Lg	16 01 24.1	
	comp=Z,2.0nm,0.3s,baz=143,slow=20,SNR=4.2						
ANMO	**Albuquerque**	**7.26**	**259**		**Pn**	**15 59 22.7**	**+0.1**
Q44A	**Meyer Farm, Va**	**7.29**	**69**	Pn	**Pn**	**15 59 23.7**	**+0.9**
L40A	**Anamosa**	**7.43**	**41**	Pn	**Pn**	**15 59 22.5**	**-2.2**
L40A				lAmb_Lg		16 01 51.9	
	comp=Z,149nm,1.1s						
PHWY	**Pilot Hill**	**7.61**	**310**	lAmb_Lg		16 01 58.1	
	comp=Z,66nm,0.7s						
N23A	**Red Feather La**	**7.69**	**306**	Pn	**Pn**	**15 59 30.6**	**+2.0**
N23A				lAmb_Lg		16 01 50.0	
	comp=Z,127nm,0.8s						
735A	**Kenedy**	**7.74**	**180**	lAmb_Lg		16 01 54.5	
	comp=Z,74nm,1.1s						
SUSD	**Miller**	**7.88**	**354**	Pn	**Pn**	**15 59 31.3**	**+0.5**
SUSD				lAmb_Lg		16 01 58.8	
	comp=Z,86nm,0.8s						
MNTX	**Cornudas Mount**	**8.00**	**234**	Pn	**Pn**	**15 59 33.6**	**+1.1**
WVT	**Waverly**	**8.02**	**90**	Pn	**Pn**	**15 59 32.8**	**0.0**
I37A	**Lemond, Waseca**	**8.11**	**23**	lAmb_Lg		16 02 03.0	
	comp=Z,83nm,1.0s						
L42A	**Oliver, Polo**	**8.26**	**47**	Pn	**Pn**	**15 59 36.8**	**+0.7**
833A	**Chaparral WMA,**	**8.38**	**190**	Pn	**Pn**	**15 59 38.0**	**+0.3**
JFWS	**Jewell Farm**	**8.54**	**40**	Pn	**Pn**	**15 59 39.5**	**-0.4**
JFWS				lAmb_Lg		16 02 14.3	
	comp=Z,96nm,0.7s						
T47A	**Sharon Grove**	**8.55**	**84**	Pn	**Pn**	**15 59 40.4**	**+0.3**
TX31	**Lajitas Ar. Si**	**8.79**	**216**	Pn	**Pn**	**15 59 44.8**	**+1.3**
TXAR	**Lajitas Array**	**8.79**	**216**	Pn	**Pn**	**15 59 44.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=38,slow=11,SNR=5.7						
TXAR				Pg	Pg	16 00 10.1	-14
	comp=Z,0.6nm,0.3s,baz=30,slow=10,SNR=5.4						
TXAR				Lg	Lg	16 02 10.1	
	comp=Z,1.2nm,0.3s,baz=34,slow=28,SNR=2.8						
TXAR	**Lajitas Array**	**8.79**	**216**	Pn	**Pn**	**15 59 45.6**	**+2.1**
RSSD	**Black Hills**	**8.90**	**329**	Pn	**Pn**	**15 59 45.3**	**+0.3**
RSSD				lAmb_Lg		16 02 25.4	
	comp=Z,68nm,1.0s						
RWWY	**Rawlins**	**8.92**	**307**	lAmb_Lg		16 02 24.4	
	comp=Z,93nm,1.1s						
K22A	**Casper**	**9.06**	**314**	lAmb_Lg		16 02 39.3	
	comp=Z,73nm,0.9s						
I40A	**Norwalk**	**9.09**	**35**	Pn	**Pn**	**15 59 46.0**	**-1.4**
I40A				lAmb_Lg		16 02 28.1	
	comp=Z,51nm,0.7s						
F33A	**5 Mile Ranch,**	**9.28**	**6**	Pn	**Pn**	**15 59 48.4**	**-1.7**
SPMN	**Marine on St.**	**9.38**	**22**	Pn	**Pn**	**15 59 51.9**	**+0.4**
F36A	**Milaca**	**9.77**	**18**	Pn	**Pn**	**15 59 55.1**	**-1.7**
I42A	**Draeger Farm,**	**9.92**	**40**	Pn	**Pn**	**15 59 58.9**	**+0.1**
I42A				lAmb_Lg		16 03 00.1	
	comp=Z,54nm,0.8s						
G40A	**Rib Lake**	**10.36**	**31**	Pn	**Pn**	**16 00 03.9**	**-0.9**
CPCT	**Cooper Cave**	**10.78**	**92**	Pn	**Pn**	**16 00 10.7**	**+0.1**
V51A	**Loudon**	**10.86**	**90**	Pn	**Pn**	**16 00 12.1**	**+0.3**
H43A	**Windswept, Lux**	**10.92**	**41**	Pn	**Pn**	**16 00 11.6**	**-0.9**
PDAR	**Pinedale Array**	**10.97**	**308**	Pn	**Pn**	**16 00 15.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=117,slow=15,SNR=4.3						
PDAR				Lg	Lg	16 03 17.2	
	comp=Z,0.6nm,0.3s,baz=105,slow=35,SNR=3.0						
PDAR	**Pinedale Array**	**10.97**	**308**		**Pn**	**16 00 14.0**	**+0.6**
TKL	**Tuckaleechee C**	**11.35**	**91**	Pn	**Pn**	**16 00 16.1**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=219,slow=5.3,SNR=5.0						
TKL				Lg	Lg	16 03 25.7	
	comp=Z,2.7nm,0.3s,baz=55,slow=7.0,SNR=5.5						
S51A	**Beattyville**	**11.36**	**81**	Pn	**Pn**	**16 00 18.2**	**-0.2**
COWI	**Conover**	**11.47**	**32**	Pn	**Pn**	**16 00 18.2**	**-1.9**
B35A	**Bob, Littlefor**	**12.11**	**13**	Pn	**Pn**	**16 00 26.7**	**-2.0**
EYMN	**Ely**	**12.23**	**20**	Pn	**Pn**	**16 00 27.4**	**-3.0**
D41A	**Chassel**	**12.48**	**30**	Pn	**Pn**	**16 00 31.0**	**-2.8**
E43A	**Lone Tree Farm**	**12.64**	**36**	Pn	**Pn**	**16 00 32.4**	**-3.7**
DGMT	**Dagmar**	**12.76**	**340**	Pn	**Pn**	**16 00 38.5**	**+0.8**
U54A	**Nelsons Funny**	**12.81**	**86**	Pn	**Pn**	**16 00 37.8**	**-0.7**
ULM	**Lac du Bonnet**	**13.70**	**5**	Pn	Pn	16 00 45.8	-4.6
	comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=2.7						
ULM				Lg	Lg	16 04 39.9	
	comp=Z,0.4nm,0.3s,baz=274,slow=17,SNR=2.9						
ULM	**Lac du Bonnet**	**13.70**	**5**		**Pn**	**16 00 46.0**	**-4.4**
SADO	**Sadowa**	**16.28**	**54**	Lg	Lg	16 05 59.4	
	comp=Z,0.5nm,0.3s,baz=73,slow=5.8,SNR=3.6						
NVAR	**Mina Array Bea**	**16.40**	**283**	Pn	**P**	**16 01 30.5**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=85,slow=15,SNR=12						
YKA	**Yellowknife Ar**	**27.94**	**343**	P	**P**	**16 03 27.2**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=135,slow=7.9,SNR=1.8						
YKA				Lg	Lg	16 12 17.8	
	comp=Z,0.1nm,0.4s,baz=220,slow=26,SNR=2.2						
ILAR	**Eielson Array**	**40.35**	**330**	P	**P**	**16 05 15.4**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=104,slow=7.3,SNR=3.7						

*IDC **30** 16:05:20.2±1.3,32°.61N×132°.75E,h0km,mb3.3/5, mb1 3.4/7,mb1mx3.2/69,mbtmp3.2/7,ML2.5/2,MS2.8/4, Ms1 2.9/4,ms1mx2.5/39,Error ellipse: s-maj=30.4km s-min=16.9km az=51.0*

*JMA **30** 16:05:24.9,32°.57N×132°.65E,h25km±1km,M3.4*

ISC 30 16:05:23.6±2.0,32°.58N±0°.07×132°.73E±0°.07,h25km±14km, n22,σ0s86/20,mb3.3/5,4C-1D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.29**	**12**	⇑P	**Pn**	**16 05 31.9**	**-0.4**
JTO				S	Sn	**16 05 36.8**	**-1.1**
UWA2	**Uwa jima 2**	**0.64**	**352**	P	**Pn**	**16 05 37.4**	**+0.2**
UWA2				S	**Sn**	**16 05 46.1**	**-0.5**
JSKE	**Saikikamae**	**0.73**	**288**	⇑P	**Pb**	**16 05 37.8**	**+0.1**
JSKE				S	**Sb**	**16 05 47.4**	**+0.1**
JKU	**Kubokawa**	**0.78**	**21**	⇓P	**Pn**	**16 05 40.0**	**+0.9**
JKU				S	**Sn**	**16 05 51.3**	**+1.2**
JUS	**Usuki**	**0.96**	**301**	⇑P	**Pb**	**16 05 41.6**	**+0.1**
JNA	**Nagahama**	**1.00**	**348**	P	**Pb**	**16 05 42.7**	**+0.4**
JTSN	**Tsuno**	**1.09**	**253**	⇑P	**Pn**	**16 05 42.8**	**-0.4**
JNU	**Nakatsue**	**1.65**	**290**	Pn	**Pn**	**16 05 52.1**	**+1.1**
	65nm,0.3s,baz=95,slow=5.0,SNR=737						
JNU				Sn	**Sb**	**16 06 12.6**	**-1.2**
	28nm,0.3s,baz=99,slow=8.5,SNR=8.0						
MJAR	**Matsushiro Arr**	**6.01**	**47**	Pn	**Pn**	**16 06 50.2**	**-0.7**
	0.1nm,0.3s,baz=243,slow=15,SNR=2.2						
MJAR				LR	LR	16 08 40.6	
	comp=Z,28nm,18.5s,baz=254,slow=34						
KSRS	**Korea Array**	**6.26**	**322**	Pn	**Pn**	**16 06 55.2**	**+0.9**
	0.2nm,0.3s,baz=138,slow=14,SNR=4.5						
KSRS				Lg	Lg	16 08 39.7	
	0.0nm,0.3s,baz=63,slow=7.3,SNR=4.2						
JCJ	**Chichijima**	**9.86**	**121**	LR	LR	16 10 55.0	
	comp=Z,59nm,20.1s,baz=176,slow=34						
SONM	**Songino Array**	**25.07**	**315**	P	**P**	**16 10 46.2**	**+0.1**
	0.7nm,1.0s,baz=134,slow=8.5,SNR=3.8						
SONM				LR	LR	16 21 35.4	
	comp=Z,47nm,18.4s,baz=0.5,slow=39				

WRA	**Warramunga Arr**	**48.19**	**257**	P		**P**	**16 27 34.5**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=91,slow=7.0,SNR=52							
WRA	**Warramunga Arr**	**48.19**	**257**	P		**P**	**16 27 34.7**	**-1.0**
AS31	**Alice Springs**	**48.47**	**252**	P		**P**	**16 27 37.1**	**-0.6**
AS31				IAmb		IAmb	16 27 38.4	
	comp=Z,6.9nm,0.7s							
ASAR	**Alice Springs**	**48.47**	**252**	P		**P**	**16 27 37.0**	**-0.7**
	comp=Z,29nm,0.6s,baz=88,slow=7.6,SNR=896							
ASAR	**Alice Springs**	**48.47**	**252**	P		**P**	**16 27 37.3**	**-0.5**
FORT	**Forrest**	**53.82**	**243**	P		**P**	**16 28 15.7**	**-1.5**
KNRA	**Kununurra**	**53.92**	**262**	P		**P**	**16 28 17.7**	**-0.4**
KNRA				IAmb		IAmb	16 28 40.4	
	comp=Z,22nm,1.4s							
FITZ	**Fitzroy Crossi**	**56.56**	**259**	P		**P**	**16 28 36.9**	**+0.1**
PSA00	**Pilbara Seismi**	**61.56**	**254**	P		**P**	**16 29 09.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**69.32**	**267**	P		**P**	**16 29 59.5**	**-1.0**
QSPA	**South Pole Qui**	**74.30**	**180**	P		**P**	**16 30 27.8**	**-1.4**
NVAR	**Mina Array Bea**	**75.67**	**43**	P		**P**	**16 30 38.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=229,slow=9.0,SNR=4.3							
IMAR	**Indian Mountai**	**83.05**	**9**	P		**P**	**16 31 18.0**	**+1.9**
ILAR	**Eielson Array**	**83.10**	**12**	P		**P**	**16 31 15.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=240,slow=5.9,SNR=5.6							
PDAR	**Pinedale Array**	**83.60**	**42**	P		**P**	**16 31 19.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=201,slow=3.8,SNR=5.8							
PDAR	**Pinedale Array**	**83.60**	**42**	P		**P**	**16 31 18.2**	**-1.6**

*IDC **30** 16:27:27.2±3.3,36°.09N×71°.25E,h100km±27km, mb3.4/12, mb1 3.6/17,mb1mx3.4/41,mbtmp3.9/17,Error ellipse: s-maj=25.1km s-min=19.6km az=2.0*

*NNC **30** 16:27:35.8±5.5,36°.83N×71°.28E,h139km±71km,mb3.5, mpv4.2,Error ellipse: s-maj=47.8km s-min=29.2km az=20.0*

*SOME **30** 16:27:40.0,37°.28N×71°.03E,h5km*

ISC 30 16:27:29.8±0.7,36°.36N±0°.06×71°.20E±0°.07,h150km,n55, σ2.43/50,mb3.5/11,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**167**	P	Pn	16 28 14.2	+2.0
CEP				S	**Sn**	**16 28 46.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.18**	**147**	P	Pn	16 28 21.5	+2.0
THW	**Thamme Wali**	**3.58**	**173**	P	Pn	16 28 26.5	+1.9
IUG	**Iuzhnay**	**5.85**	**351**	*eP*	**Pn**	**16 28 56.4**	**+1.9**
	213nm,0.3s						
IUG				*eS*	**Sn**	**16 29 57.9**	**-3.0**
	170nm,0.3s						
CHM	**Chimkent**	**6.08**	**349**	*eP*	**Pn**	**16 28 59.7**	**+2.2**
CHM				*eS*	**Sn**	**16 30 03.5**	**-2.7**
AML	**Almayashu**	**6.08**	**18**	P	**Pn**	**16 28 58.0**	**+0.1**
	SNR=180						
UCH	**Uchtor**	**6.40**	**23**	P	**Pn**	**16 29 02.7**	**+0.5**
	SNR=74						
MRKS	**Merke**	**6.57**	**13**	*eP*	**Pn**	**16 29 07.1**	**+3.0**
	12nm,0.5s						
MRKS				*eS*	**Sn**	**16 30 17.1**	**-0.9**
	142nm,0.6s						
EKS2	**Erkin-Say**	**6.61**	**17**	P	**Pn**	**16 29 05.5**	**+0.9**
	SNR=38						
BRLS	**Borolday**	**6.75**	**351**	*eP*	**Pn**	**16 29 04.1**	**-2.3**
	8.7nm,0.2s						
BRLS				*eS*	Sn	16 30 11.9	-10
	46nm,0.3s						
KK08	**Karatay Array**	**6.76**	**356**	⇓P	**Pn**	**16 29 07.5**	**+0.9**
	6.3nm,0.4s,baz=180,slow=13						
KK08				⇑S	**Sn**	**16 30 16.5**	**-5.9**
	16nm,0.6s,baz=182,slow=21						
AAK	**Ala-Archa**	**6.77**	**21**	P	**Pn**	**16 29 08.0**	**+1.2**
	13nm,0.3s,baz=176,slow=5.9,SNR=197						
AAK				S	**Sn**	**16 30 18.4**	**-4.5**
	3.8nm,0.3s,baz=338,slow=21,SNR=14						
KBK	**Karagaybulak**	**6.93**	**24**	P	**Pn**	**16 29 10.1**	**+1.2**
	SNR=16						
ULHL	**Ulahol**	**7.06**	**32**	P	**Pn**	**16 29 11.4**	**+0.6**
	SNR=26						
CHMS	**Chumysh**	**7.18**	**21**	P	**Pn**	**16 29 12.8**	**+0.7**
	SNR=17						
USP	**Ospenovka**	**7.36**	**19**	P	**Pn**	**16 29 14.9**	**+0.4**
	SNR=29						
TKM2	**Tokmak 2**	**7.38**	**26**	P	**Pn**	**16 29 15.9**	**+0.8**
	SNR=26						
TKM2	**Tokmak 2**	**7.38**	**26**	⇑P	**Pn**	**16 29 15.6**	**+0.6**
	7.9nm,0.4s						
TKM2				⇓S	**Sn**	**16 30 34.4**	**-3.2**
	12nm,0.9s						
MDOK	**Medeo**	**8.15**	**32**	P	**Pn**	**16 29 25.7**	**+0.4**
	8.3nm,0.6s						
PDGK	**Podgornoye**	**9.44**	**40**	⇑P	**Pn**	**16 29 41.0**	**-1.3**
	2.3nm,0.6s						
GEYT	**Alibeck**	**10.56**	**282**	P	**Pn**	**16 29 56.3**	**-0.8**
	1.4nm,0.3s,baz=118,slow=12,SNR=12						
GEYT				S	**Sn**	**16 31 48.6**	**-5.3**
	0.8nm,0.3s,baz=102,slow=40,SNR=2.4						
PYUN	**Piuthan**	**12.93**	**126**	*eP*	**Pn**	**16 30 27.0**	**-1.3**
	20nm,0.3s						
DANN	**Dangsing**	**13.28**	**123**	*eP*	**Pn**	**16 30 31.9**	**-0.9**
	34nm,0.3s						
MK31	**Makanchi Array**	**13.32**	**35**	⇓P	**Pn**	**16 30 32.8**	**0.0**
	1.0nm,0.5s,baz=218,slow=12,SNR=24						
MKAR	**Makanchi Array**	**13.32**	**35**	P	**Pn**	**16 30 33.5**	**+0.7**
	0.2nm,0.3s,baz=221,slow=12,SNR=22						
KOLN	**Koldanda**	**13.55**	**126**	*eP*	**Pn**	**16 30 35.3**	**-0.9**
	22nm,0.4s						
GKN	**Gorkha**	**14.09**	**122**	*eP*	**P**	**16 30 42.1**	**-4.0**
	31nm,0.4s						
DMN	**Daman**	**14.66**	**123**	*eP*	**P**	**16 30 50.4**	**-2.1**
	18nm,0.3s						
KKN	**Kakani**	**14.67**	**122**	*eP*	**P**	**16 30 49.8**	**-2.7**
	46nm,0.5s						
PKIN	**Phulchoki**	**14.88**	**122**	*eP*	**P**	**16 30 52.8**	**-2.1**
PKI	**Pulchoki**	**14.89**	**122**	*eP*	**P**	**16 30 52.9**	**-2.2**
	22nm,0.3s						
GUN	**Gumba**	**15.01**	**120**	*eP*	**P**	**16 30 54.1**	**-2.3**
	20nm,0.3s						
KURBB	**Kurchatov Arra**	**15.21**	**18**	P	**Pn**	**16 30 55.2**	**-1.3**
	0.0nm,0.3s,baz=209,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**15.21**	**18**	⇑P	**Pn**	**16 30 55.8**	**-0.7**
	5.5nm,0.6s						
AB31	**Akbulak array**	**15.29**	**331**	P	**P**	**16 30 59.6**	**+0.7**
	0.8nm,0.3s,baz=0.0,slow=0.1,SNR=72						
JIRN	**Jiri**	**15.38**	**120**	*eP*	**P**	**16 30 59.2**	**-1.4**
	44nm,0.3s						
RAMN	**Ramite**	**16.11**	**121**	*eP*	**P**	**16 31 07.3**	**-1.2**
	18nm,0.3s						
TAPN	**Taplejung**	**16.64**	**118**	*eP*	**Pn**	**16 31 14.6**	**0.0**
	29nm,0.4s						
BVAR	**Borovoye Array**	**16.68**	**358**	P	**Pn**	**16 31 17.3**	**+2.8**
	0.6nm,0.3s,baz=35,slow=49,SNR=4.7						
ODAN	**Odare**	**16.71**	**120**	*eP*	**Pn**	**16 31 15.2**	**-0.2**
	25nm,0.5s						
AKTO	**Aktyubinsk**	**16.98**	**330**	P	**Pn**	**16 31 22.1**	**+3.9**
	1.0nm,0.3s,baz=142,slow=9.2,SNR=14						
AKTO	**Aktyubinsk**	**16.98**	**330**	⇑P	**Pn**	**16 31 22.5**	**+4.3**
	3.7nm,0.6s						
ZALV	**Zalesovo Beam**	**19.98**	**24**	P	Pn	16 31 53.4	-0.1
	5.3nm,0.4s,baz=211,slow=9.9,SNR=43						
ARU	**Arti**	**21.82**	**341**	P	**P**	**16 32 15.3**	**+5.5**
	2.0nm,0.6s,baz=156,slow=6.7,SNR=10						
SONM	**Songino Array**	**28.29**	**55**	P	**P**	**16 33 11.6**	**+2.5**
	0.2nm,0.3s,baz=248,slow=10,SNR=2.6						
NRIK	**Noril'sk**	**34.24**	**10**	P	P	16 34 05.5	+4.7
	1.0nm,0.4s,baz=205,slow=2.7,SNR=4.5						
FINES	**FINESS Array B**	**37.69**	**326**	P	P	16 34 33.9	+3.7
	1.2nm,1.0s,baz=120,slow=8.2,SNR=1.5						
ARCES	**ARCESS Array B**	**41.34**	**338**	P	P	16 35 05.0	+4.7
	0.8nm,0.5s,baz=116,slow=8.9,SNR=8.7						
NB2	**NORSAR Subarra**	**44.59**	**323**	P	P	16 35 32.3	+5.7
	comp=Z,0.5nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.59**	**323**	P	P	16 35 30.5	+3.9
	comp=Z,1.0nm,0.5s,baz=94,slow=7.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P	P	16 38 02.4	+2.9
	comp=Z,0.2nm,0.5s,baz=50,slow=5.4,SNR=1.3						
ILAR	**Eielson Array**	**74.87**	**16**	P	P	16 38 57.7	+4.2
	comp=Z,0.4nm,0.8s,baz=318,slow=5.5,SNR=5.5						
YKA	**Yellowknife Ar**	**81.38**	**3**	P	P	16 39 34.0	+4.7
	comp=Z,0.7nm,0.5s,baz=348,slow=5.2,SNR=13						
WRA	**Warramunga Arr**	**81.78**	**122**	P	P	16 39 35.8	+3.8
	comp=Z,0.2nm,0.6s,baz=324,slow=4.4,SNR=1.5						
ASAR	**Alice Springs**	**84.04**	**125**	P	**P**	**16 39 45.6**	**+1.9**
	comp=Z,0.2nm,0.9s,baz=309,slow=4.3,SNR=1.8						

*NOU **30** 16:39:38.1,42°.70S×174°.19E,h35km,MLv3.9/5,Off E. Coast of S. Island, N.Z.*

*WEL **30** 16:39:40.7±0.5,42°.5S±3°.×17°.4E±°,h12km±4km,M3.1/28, ML3.4/28,MLv3.1/28,Error ellipse: s-maj=0.0km s-min=0.0km az=129.1*

ISC 30 16:39:40.0±1.4,42°.31S±0°.03×174°.13E±0°.04,h7km±12km, n85,σ0.86/92,Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.45**	**256**	P	**Pb**	**16 39 50.4**	**+0.2**
KHZ				S	**Sb**	**16 39 57.4**	**+0.3**
KHZ	**Kahutara**	**0.45**	**256**	P	**Pb**	**16 39 50.6**	**+0.4**
CMWZ	**Cape Campbell**	**0.56**	**7**	P	**Pb**	**16 39 52.8**	**+0.7**
BSWZ	**Blackbirch Sta**	**0.62**	**342**	P	**Pg**	**16 39 52.1**	**+0.1**
TUWZ	**Tuamarina**	**0.89**	**351**	P	**Pg**	**16 39 57.3**	**+0.3**
TUWZ				S	**Sb**	**16 40 09.5**	**-0.2**
GVZ	**Greta Valley S**	**1.04**	**230**	P	**Pn**	**16 40 01.4**	**+0.4**
GVZ				S	**Sn**	**16 40 16.6**	**+0.8**
BHW	**Baring Head**	**1.06**	**32**	P	**Pg**	**16 40 01.0**	**+0.7**
THZ	**Tophouse**	**1.06**	**301**	P	**Pb**	**16 39 59.7**	**-1.0**
TCW	**Tory Channel**	**1.10**	**6**	P	**Pb**	**16 40 00.8**	**-0.5**
TCW				S	**Sb**	**16 40 15.3**	**-0.6**
PLWZ	**Palliser**	**1.12**	**49**	P	**Pg**	**16 40 02.0**	**+0.5**
WEL	**Wellington**	**1.13**	**25**	P	**Pb**	**16 40 02.0**	**+0.1**
WEL				S	**Sg**	**16 40 16.9**	**+0.3**
MSWZ	**Moikau Station**	**1.22**	**44**	P	**Pn**	**16 40 03.2**	**-0.3**
NNZ	**Nelson**	**1.22**	**333**	P	**Pn**	**16 40 02.4**	**-1.1**
NNZ				S	**Sb**	**16 40 18.9**	**-0.5**
PAWZ	**Paruwai Farm**	**1.34**	**47**	P	**Pn**	**16 40 04.7**	**-0.5**
MRNZ	**Matariki Terra**	**1.37**	**311**	P	**Pn**	**16 40 04.9**	**-0.6**
MRNZ				S	**Sb**	**16 40 23.3**	**-0.2**
AMCZ	**Amberley**	**1.39**	**231**	P	**Pn**	**16 40 05.9**	**+0.1**
LTZ	**Lake Taylor**	**1.45**	**250**	P	**Pn**	**16 40 06.4**	**-0.3**
TRWZ	**Traveller**	**1.48**	**53**	P	**Pn**	**16 40 06.7**	**-0.3**
DUWZ	**D'Urville Isla**	**1.51**	**354**	P	**Pn**	**16 40 06.6**	**-0.9**
DUWZ				S	**Sn**	**16 40 27.2**	**-0.2**
MTW	**Mount Morrison**	**1.54**	**42**	P	**Pn**	**16 40 07.3**	**-0.6**
TKNZ	**Takaka Hill**	**1.54**	**325**	P	**Pn**	**16 40 07.3**	**-0.6**
KIW	**Kapiti Island**	**1.56**	**22**	P	**Pn**	**16 40 07.9**	**-0.2**
OKCZ	**Okains Bay**	**1.62**	**209**	P	**Pn**	**16 40 09.5**	**+0.5**
OGWZ	**Otaki Gorge**	**1.68**	**28**	P	**Pn**	**16 40 09.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.75**	**37**	P	**Pn**	**16 40 10.7**	**-0.1**
MQZ	**McQueen's Vall**	**1.77**	**217**	P	**Pn**	**16 40 10.4**	**-0.5**
AKCZ	**Akaroa Harbour**	**1.80**	**209**	P	**Pn**	**16 40 11.6**	**+0.2**
DSZ	**Denniston Nort**	**1.82**	**287**	P	**Pn**	**16 40 12.1**	**+0.3**
DSZ				S	**Sb**	**16 40 36.0**	**-0.6**
OXZ	**Oxford**	**1.84**	**236**	P	**Pn**	**16 40 11.3**	**-0.7**
QRZ	**Quartz Range**	**1.90**	**321**	P	**Pn**	**16 40 12.6**	**-0.2**
QRZ	**Quartz Range**	**1.90**	**321**	P	**Pn**	**16 40 12.9**	**0.0**
MRZ	**Mangatainoka R**	**1.98**	**34**	P	**Pn**	**16 40 13.2**	**-0.6**
TIWZ	**Tintock**	**2.02**	**41**	P	**Pn**	**16 40 14.8**	**+0.3**
INZ	**Inchbonnie**	**2.02**	**257**	P	**Pn**	**16 40 14.4**	**-0.1**
RACZ	**Rakaia**	**2.03**	**225**	P	**Pn**	**16 40 14.1**	**-0.5**
PRWZ	**Pori Road**	**2.23**	**39**	P	**Pn**	**16 40 17.1**	**-0.3**
BFZ	**Birch Farm**	**2.27**	**45**	P	**Pn**	**16 40 16.9**	**-1.1**
BFZ	**Birch Farm**	**2.27**	**45**	P	**Pn**	**16 40 17.2**	**-0.8**
WACZ	**Wakanui South**	**2.34**	**225**	P	**Pn**	**16 40 18.6**	**-0.2**
DVHZ	**Dannevirke**	**2.53**	**38**	P	Pg	16 40 36.8	+8.4
ANWZ	**Angora Road**	**2.56**	**45**	P	**Pn**	**16 40 22.6**	**+0.7**
WAZ	**Wanganui**	**2.63**	**15**	P	**Pn**	**16 40 24.1**	**+1.3**
TSZ	**Takapari Road**	**2.64**	**32**	P	**Pn**	**16 40 22.1**	**-0.9**
RPZ	**Rata Peaks**	**2.66**	**237**	P	**Pn**	**16 40 22.6**	**-0.6**
ARCZ	**Arundel**	**2.71**	**232**	P	**Pn**	**16 40 23.6**	**-0.4**
WPHZ	**Waipukurau**	**2.84**	**39**	P	Pg	16 40 42.8	+8.4
LREZ	**Lake Rotokare**	**2.85**	**4**	P	**Pn**	**16 40 27.8**	**+1.9**
PREZ	**Palmer Road**	**2.96**	**1**	P	**Pn**	**16 40 29.9**	**+2.4**
GCSZ	**Gaunt Creek Bo**	**2.97**	**249**	P	**Pn**	**16 40 27.9**	**+0.4**
KHEZ	**Kahui Hut**	**3.01**	**358**	P	**Pn**	**16 40 31.0**	**+2.8**
NEZ	**North Egmont**	**3.03**	**360**	P	**Pg**	**16 40 37.7**	**-0.5**
NBEZ	**Newall Road No**	**3.04**	**356**	P	**Pg**	**16 40 38.9**	**+0.6**
TMZ	**Timaru**	**3.08**	**227**	P	**Pn**	**16 40 28.7**	**-0.3**
PKE	**Pukeiti**	**3.11**	**358**	P	**Pb**	**16 40 35.3**	**-0.4**
MOVZ	**Moawhango**	**3.15**	**24**	P	**Pn**	**16 40 30.2**	**+0.2**
BHHZ	**Black Hill Sta**	**3.17**	**28**	P	**Pg**	**16 40 39.7**	**-1.1**
WNVZ	**Wahianoa**	**3.18**	**21**	P	**Pn**	**16 40 31.2**	**+0.6**
TRVZ	**Turoa**	**3.19**	**20**	P	**Pb**	**16 40 39.5**	**+2.3**
VRZ	**Vera Road**	**3.22**	**9**	P	**Pn**	**16 40 31.9**	**+1.0**
FWZ	**Far West T-bar**	**3.24**	**20**	P	**Pg**	**16 40 16.3**	**-1.7**
TUVZ	**Tukino**	**3.25**	**21**	P	**Pn**	**16 40 31.7**	**+0.2**
NGZ	**Ngauruhoe**	**3.32**	**20**	P	**Pg**	**16 40 42.2**	**-1.5**
SNVZ	**South Ngauruho**	**3.32**	**21**	P	**Pn**	**16 40 33.3**	**+0.7**
OTVZ	**Oturere**	**3.35**	**21**	P	**Pn**	**16 40 33.0**	**+0.1**
NNVZ	**North Ngauruho**	**3.37**	**20**	P	**Pn**	**16 40 33.7**	**+0.6**
WTVZ	**West Tongariro**	**3.38**	**20**	P	**Pn**	**16 40 35.0**	**+1.8**
ETVZ	**East Tongariro**	**3.39**	**21**	P	**Pn**	**16 40 33.8**	**+0.4**
FOZ	**Fox Glacier**	**3.39**	**247**	P	**Pn**	**16 40 34.0**	**+0.7**
TMVZ	**Te Maari**	**3.41**	**21**	P	**Pn**	**16 40 33.6**	**-0.1**
KRVZ	**Karewarewa**	**3.41**	**20**	P	**Pg**	**16 40 43.6**	**-1.7**
NTVZ	**North Tongarir**	**3.42**	**21**	P	**Pn**	**16 40 34.0**	**+0.2**
KATZ	**Kakaramea**	**3.54**	**20**	P	**Pg**	**16 40 45.7**	**-2.0**
LBZ	**Lake Benmore**	**3.55**	**233**	P	**Pn**	**16 40 35.4**	**-0.1**
BKZ	**Black Stump Fm**	**3.62**	**31**	P	**Pn**	**16 40 35.2**	**-1.2**
BKZ	**Black Stump Fm**	**3.62**	**31**	P	**Pn**	**16 40 35.8**	**-0.7**
ODZ	**Otahua Downs**	**3.72**	**222**	P	**Pn**	**16 40 37.4**	**-0.5**
HIZ	**Hauiti**	**3.83**	**9**	P	**Pn**	**16 40 40.1**	**+0.8**
HIZ	**Hauiti**	**3.83**	**9**	P	**Pn**	**16 40 40.2**	**+0.8**
TLZ	**Tolley Road**	**4.12**	**16**	P	**Pn**	**16 40 43.8**	**+0.4**
JCZ	**Jackson Bay**	**4.28**	**244**	P	**Pn**	**16 40 45.9**	**+0.3**
EAZ	**Earnscleugh**	**4.55**	**228**	P	**Pn**	**16 40 48.7**	**-0.5**
TUZ	**Tuapeka**	**4.87**	**220**	P	**Pn**	**16 40 53.6**	**0.0**
MKAZ	**Moumakai**	**5.26**	**9**	P	**Pn**	**16 40 58.9**	**0.0**
MLZ	**Mavora Lakes**	**5.31**	**233**	P	**Pn**	**16 40 58.9**	**-0.8**
SYZ	**Scrubby Hill**	**5.53**	**218**	P	**Pn**	**16 41 02.1**	**-0.6**

IDC 30 16:48:47.9±3.3,10°.99S×165°.66E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.6/36,mbtmp3.8/5,ML3.5/1,Error ellipse: s-maj=62.2km s-min=44.2km az=86.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.05**	**176**	Pn	Pn	16 51 27.5	+0.1
	0.3nm,0.3s,baz=128,slow=17,SNR=19						
CTA	**Charters Tower**	**20.76**	**242**	P	P	16 53 30.6	+0.1
	1.7nm,0.7s,baz=75,slow=12,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**29.31**	**2**	T	T	17 25 59.8	
	baz=179						
H11S3	**WAKE ISLAND Hy**	**29.31**	**2**	T	T	17 26 00.2	
	baz=179						
H11S1	**WAKE ISLAND Hy**	**29.32**	**2**	T	T	17 26 01.0	
	baz=179						
H11N1	**WAKE ISLAND Hy**	**30.53**	**2**	T	T	17 27 05.9	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**30.54**	**2**	T	T	17 27 17.3	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**30.55**	**2**	T	T	17 27 27.1	
	baz=182						
WRA	**Warramunga Arr**	**31.43**	**250**	P	P	16 55 11.1	-0.1
	1.2nm,0.9s,baz=81,slow=8.5,SNR=9.9						
ASAR	**Alice Springs**	**32.75**	**243**	P	P	16 55 22.8	-0.1
	1.3nm,0.7s,baz=70,slow=9.7,SNR=30						
MKAR	**Makanchi Array**	**93.42**	**317**	P	P	17 02 05.3	-0.1
	0.2nm,0.6s,baz=111,slow=3.7,SNR=2.0						

*IDC **30** 16:53:25.2±1.2,40°.28N×51°.01E,h0km,mb3.7/7, mb1 3.7/15,mb1mx3.6/42,mbtmp3.7/15,ML3.4/5,MS2.7/3, Ms1 2.7/3,ms1mx2.3/87,Error ellipse: s-maj=23.3km s-min=11.9km az=3.0*

*AZER **30** 16:53:30.9±0.1,40°.29N×51°.03E,h60km±2km,Error ellipse: s-maj=2.9km s-min=1.3km az=279.0*

ISC 30 16:53:32.5±0.8,40°.35N±0°.04×51°.05E±0°.05,h72km±9km, n49,σ1.91/82,mb3.5/7,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**0.69**	**275**	P	**Pn**	**16 53 45.9**	**-1.5**
GALA				S	**Sn**	**16 54 00.2**	**+1.8**
NDR	**Nardaran**	**0.85**	**286**	P	**Pn**	**16 53 48.3**	**-1.0**
NDR				S	**Sn**	**16 54 04.3**	**+2.7**
GOBA	**Gobu**	**1.01**	**273**	P	**Pn**	**16 53 51.3**	**+0.1**
	SNR=3.2						
GOBA				S	**Sn**	**16 54 08.0**	**+2.8**
ALIB	**Äli-Bayra**	**1.62**	**257**	Pg	**Pn**	**16 54 01.2**	**+2.1**
	SNR=6.2						
ALIB				Sg	**Sn**	**16 54 24.2**	**+5.0**
GBS	**Qobustan**	**1.62**	**277**	Pn	**Pn**	**16 53 59.9**	**+0.7**
	SNR=5.9						
GBS				Sn	**Sn**	**16 54 20.2**	**+0.8**
ATGJ	**Altiaghaj**	**1.69**	**288**	Pn	**Pn**	**16 54 00.3**	**+0.1**
	SNR=4.1						
ATGJ				Sn	**Sn**	**16 54 20.7**	**-0.4**
SIZA	**Siyzn**	**1.79**	**295**	Pn	**Pn**	**16 54 01.4**	**-0.1**
	SNR=5.6						
SIZA				Sn	**Sn**	**16 54 24.6**	**+1.2**
PQL	**Pirkuli**	**1.93**	**284**	Pn	**Pn**	**16 54 03.5**	**+0.2**
	SNR=5.3						
PQL				Sn	**Sn**	**16 54 27.9**	**+1.1**
SAAT	**Saatly**	**2.08**	**257**	Pn	**Sn**	**16 54 06.7**	**+1.5**
SAAT				Sn	**Sn**	**16 54 31.8**	**+1.6**
QUBA	**Quba, Azerbaij**	**2.19**	**298**	Pn	**Pn**	**16 54 07.4**	**+0.7**
	SNR=3.4						
QUBA				Sn	**Sn**	**16 54 33.2**	**+0.4**
KDMR	**Kurdemir**	**2.19**	**272**	Sn	**Sn**	**16 54 33.6**	**+0.7**
IML	**Ismayilli**	**2.23**	**282**	Pn	**Pn**	**16 54 06.9**	**-0.4**
IML				Sn	**Sn**	**16 54 33.3**	**-0.7**
GLBA	**Clilabad**	**2.33**	**242**	Pn	**Pn**	**16 54 08.4**	**-0.2**
	SNR=9.8						
GLBA				Sn	**Sn**	**16 54 35.9**	**-0.4**
XNQ	**Khinaliq**	**2.36**	**291**	Pn	**Pn**	**16 54 09.0**	**-0.2**
	SNR=45						
XNQ				Sn	**Sn**	**16 54 37.3**	**-0.1**
LKRN	**Lenkeran, Azer**	**2.40**	**228**	Pn	**Pn**	**16 54 09.1**	**-0.6**
	SNR=4.5						
LKRN				Sn	**Sn**	**16 54 36.9**	**-1.2**
QSAR	**Qusar**	**2.41**	**300**	Pn	**Pn**	**16 54 10.0**	**+0.2**
	SNR=56						
QSAR				Sn	**Sn**	**16 54 37.6**	**-0.8**
ASTR	**Astara**	**2.50**	**225**	Pn	**Pn**	**16 54 09.9**	**-1.1**
ASTR				Sn	**Sn**	**16 54 39.0**	**-1.5**
QBL	**Gabala**	**2.52**	**285**	Pn	**Pn**	**16 54 10.6**	**-0.6**
	SNR=6.2						
QBL				Sn	**Sn**	**16 54 39.8**	**-1.2**
ZRD	**Zardab**	**2.58**	**269**	Pn	**Pn**	**16 54 11.8**	**-0.1**
ZRD				Sn	**Sn**	**16 54 43.3**	**+1.0**
YRD	**Yardimli**	**2.60**	**237**	Pn	**Pn**	**16 54 11.6**	**-1.0**
	SNR=33						
YRD				Sn	**Sn**	**16 54 41.5**	**-1.7**
LRK	**Lerik**	**2.71**	**232**	Pn	**Pn**	**16 54 13.4**	**-0.5**
	SNR=6.4						
LRK				Sn	**Sn**	**16 54 44.1**	**-1.5**
BLQ	**Beylaqan**	**2.76**	**258**	Pn	**Pn**	**16 54 13.5**	**-0.9**
	SNR=5.0						
BLQ				Sn	**Sn**	**16 54 45.0**	**-1.7**
QRD	**Qoradiz**	**3.01**	**254**	Pn	**Pn**	**16 54 17.0**	**-0.8**
QRD				Sn	**Sn**	**16 54 50.4**	**-2.3**
AGDM	**Agdam**	**3.03**	**267**	Pn	**Pn**	**16 54 17.1**	**-1.1**
AGDM				Sn	**Sn**	**16 54 53.0**	**-0.4**
SEKA	**Sheki**	**3.05**	**288**	Pn	**Pn**	**16 54 18.6**	**+0.1**
	SNR=9.5						
SEKA				Sn	**Sn**	**16 54 53.9**	**0.0**
MNGR	**Mingechevir, A**	**3.05**	**279**	Sn	**Sn**	**16 54 53.7**	**-0.1**
ZKTA	**Zakatala**	**3.59**	**292**	Pn	**Pn**	**16 54 26.0**	**+0.2**
	SNR=3.5						
ZKTA				Sn	**Sn**	**16 55 07.3**	**+0.3**
GANJ	**Ganja**	**3.62**	**276**	Pn	**Pn**	**16 54 24.5**	**-1.7**
	SNR=4.0						
GANJ				Sn	**Sn**	**16 55 05.0**	**-2.7**
GDB	**GEDABAY**	**4.06**	**277**	Pn	**Pn**	**16 54 30.8**	**-1.5**
	SNR=16						
GDB				Sn	**Sn**	**16 55 15.9**	**-2.7**
ORD	**Ordubad**	**4.16**	**252**	Pn	**Pn**	**16 54 33.8**	**+0.2**
	SNR=14						
ORD				Sn	**Sn**	**16 55 20.2**	**-0.8**
SBZ

SHME			S	**Sn**	17 18 04.1	**+0.4**
BIDO	**Bidbid**	**7.80 221**	P	**Pn**	17 16 45.9	**+3.6**
MASF	**Masafi**	**7.86 240**	P	**Pn**	17 16 47.1	**+3.9**
	SNR=9.4					
MASF			S	Sn	17 18 08.0	-4.2
UOSS	**Minazif**	**8.07 237**	P	**Pn**	17 16 49.5	**+3.4**
UOSS			S	**Sn**	17 18 14.3	**-3.1**
WBK	**Wadi Bani Khal**	**8.11 212**	P	**Pn**	17 16 48.1	**+1.4**
WBK			S	Sn	17 18 08.2	-10
HATD	**Hatta, Dubai**	**8.19 236**	P	Pn	17 16 52.2	+4.4
HATD			S	Sn	17 18 13.7	-6.7
SMDO	**Samad**	**8.21 219**	P	**Pn**	17 16 51.3	**+3.2**
SMDO			S	Sn	17 18 11.9	-9.0
HOQ	**Hoqain**	**8.23 225**	P	**Pn**	17 16 50.1	**+1.8**
	SNR=18					
HOQ			S	Sn	17 18 12.3	-9.1
JLN	**Jalan Bani Buh**	**8.32 208**	P	**Pn**	17 16 50.1	**+0.6**
JLN			S	Sn	17 18 13.6	-10
ASHO	**Ashiyiah**	**8.33 236**	P	**Pn**	17 16 53.7	**+4.0**
	SNR=16					
ASHO			S	Sn	17 18 17.7	-6.2
FAQ	**Al Faqa, Dubai**	**8.63 238**	P	Pn	17 16 59.8	+6.0
	SNR=5.9					
FAQ			S	**Sn**	17 18 31.8	**+0.5**
JMDO	**Jabal Madar**	**8.74 216**	P	**Pn**	17 16 58.7	**+3.4**
JMDO			S	Sn	17 18 27.2	-6.6
ASUD	**Al Ashush, Dub**	**8.90 238**	P	Pn	17 17 04.0	+6.6
	SNR=28					
ARQ	**Araqi**	**8.91 227**	P	Pn	17 17 03.3	+5.7
	SNR=26					
ARQ			S	**Sn**	17 18 36.7	**-1.3**
BSY	**Bisya**	**8.93 222**	P	Pn	17 17 02.2	+4.3
	SNR=7.8					
BSY			S	Sn	17 18 33.7	-5.0
MKAR	**Makanchi Array**	**22.49 35**	P	**P**	17 19 46.1	**-2.3**
	0.2nm,0.7s,baz=243,slow=12,SNR=3.2					
KURBB	**Kurchatov Arra**	**23.82 24**	P	**P**	17 19 57.6	**-4.1**
	0.4nm,0.5s,baz=221,slow=9.1,SNR=8.6					
KURBB			LR	LR	17 29 51.8	
	comp=Z,33nm,19.7s,baz=225,slow=42					
FINES	**FINESS Array B**	**40.31 333**	P	P	17 22 21.7	-4.3
	2.7nm,1.1s,baz=138,slow=11,SNR=4.4					
TORD	**Torodi Ar. Bea**	**59.33 268**	P	P	17 25 11.4	+20
	0.4nm,0.5s,baz=57,slow=7.2,SNR=2.6					

*DJA **30** 17:39:19.8±0.4,8˚S±2˚×10˚7E±˚, h36km±6km, M4.2/17, mb4.4/6, mB4.8/1, MLv4.2/17, Mw(mB)4.0/1*
*IDC **30** 17:39:20.4±3.9, 7˚.55S×107˚.17E, h86km±25km, mb3.4/6, mb1 3.6/6, mb1mx3.2/31, mbtmp3.7/6, MS2.9/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=75.8km s-min=16.4km az=56.0*
ISC 30 17:39:19.8±1.0, 7.72S±0.10×107.27E±0.05, h78km±8km, n35, σ1°976/41, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.43**	**342**	P	**Pn**	**17 39 31.9**	**-1.0**
CNJI				S	**Sn**	**17 39 39.8**	**-2.7**
LEM	**Lembang**	**0.96**	**21**	LR	LR	17 39 38.7	
	comp=Z,31nm,21.8s,baz=296,slon=22						
LEM				P	**Pn**	**17 39 38.8**	**+0.3**
	331nm,0.3s,baz=324,slow=23,SNR=161						
LEM				S	**Sn**	**17 39 52.6**	**+0.3**
	213nm,0.3s,baz=297,slow=23,SNR=6.3						
LEM	**Lembang**	**0.96**	**21**	P	**Pn**	**17 39 38.9**	**+0.4**
LEM				S	**Sn**	**17 39 55.0**	**+2.7**
SKJI	**Sukabumi**	**1.00**	**315**	P	**Pn**	**17 39 39.3**	**+0.5**
SKJI				S	**Sn**	**17 39 52.6**	**-0.4**
DBJI	**Dramaga**	**1.27**	**336**	P	**Pn**	**17 39 43.5**	**+1.3**
DBJI				S	**Sn**	**17 39 59.1**	**+0.2**
KPJI	**Karang Pucung**	**1.70**	**77**	P	**Pn**	**17 39 47.6**	**-0.1**
KPJI				S	**Sn**	**17 40 08.5**	**-0.3**
CGJI	**Cibinong**	**1.91**	**305**	P	**Pn**	**17 39 51.0**	**+0.5**
CGJI				S	**Sn**	**17 40 13.1**	**-0.7**
YOGI	**Yogyakarta**	**3.00**	**92**	P	**Pn**	**17 40 07.3**	**+2.1**
BLSI	**Bandar Lampung**	**3.08**	**319**	P	**Pn**	**17 40 09.3**	**+3.0**
UGM	**Wanagama**	**3.23**	**94**	P	**Pn**	**17 40 08.4**	**0.0**
UGM				S	**Sn**	**17 40 44.1**	**-1.8**
KASI	**Kota Agung**	**3.51**	**308**	P	**Pn**	**17 40 14.3**	**+2.2**
KASI				S	**Sn**	**17 40 56.3**	**+3.7**
UWJI	**Ujung Watu**	**3.88**	**71**	P	**Pn**	**17 40 18.0**	**+0.9**
PCJI	**Pacitan**	**3.90**	**97**	P	**Pn**	**17 40 18.4**	**+1.0**
KLSI		**3.93**	**320**	P	**Pn**	**17 40 20.0**	**+2.2**
PWJI	**Pagerwojo**	**4.51**	**94**	P	**Pn**	**17 40 27.4**	**+1.7**
MNAI	**Manna**	**5.43**	**308**	P	**Pn**	**17 40 40.8**	**+2.4**
	0.4nm64nm,1.1s						
GMJI	**Gumukmas**	**6.14**	**96**	P	**Pn**	**17 40 50.8**	**+2.8**
	0.1nm17nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.86**	**97**	P	**Pn**	**17 40 59.4**	**+1.6**
	0.1nm620nm13nm,0.7s						
SRBI	**Singaraja**	**7.88**	**93**	P	**Pn**	**17 41 14.7**	**+2.9**
	0.1nm14nm,0.6s						
PPSI	**Pulau Pagai**	**8.74**	**304**	P	**Pn**	**17 41 23.9**	**+0.3**
	46nm,1.1s						
PLAI	**Plampang**	**10.46**	**97**	P	**Pn**	**17 41 48.4**	**+1.4**
	22nm,1.1s						
WBSI	**Waikabubak, Su**	**12.14**	**100**	P	**Pn**	**17 42 11.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**27.28**	**343**	P	**P**	**17 44 54.6**	**-2.5**
	0.8nm,0.3s,baz=172,slow=8.2,SNR=2.0						
CMAR				LR	LR	17 56 07.1	
	comp=Z,25nm,19.1s,baz=115,slow=37						
H01W3	**Cape Leeuwin H**	**27.76**	**168**	T	T	18 14 38.8	
	baz=344,slow=78,SNR=3.5						
H01W1	**Cape Leeuwin H**	**27.77**	**168**	T	T	18 14 39.9	
	baz=344,slow=78,SNR=2.9						
H01W2	**Cape Leeuwin H**	**27.77**	**168**	T	T	18 14 42.1	
	baz=344,slow=78,SNR=3.9						
WRA	**Warramunga Arr**	**28.90**	**118**	P	**P**	**17 45 12.8**	**+1.2**
	0.3nm,0.7s,baz=291,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**30.06**	**125**	P	**P**	**17 45 22.5**	**+0.6**
	0.3nm,0.8s,baz=300,slow=8.8,SNR=8.3						
ASAR				PcP	**PcP**	**17 48 23.2**	**+1.1**
	0.2nm,0.6s,baz=308,slow=2.3,SNR=4.8						
H08S2	**Diego Garcia H**	**34.45**	**268**	T	T	18 23 15.6	
	baz=92,slow=75,SNR=7.9						
H08S3	**Diego Garcia H**	**34.46**	**268**	T	T	18 23 11.9	
	baz=92,slow=75,SNR=5.6						
H08S1	**Diego Garcia H**	**34.47**	**268**	T	T	18 23 17.9	
	baz=92,slow=75,SNR=7.0						
STKA	**Stephens Creek**	**39.97**	**132**	P	**P**	**17 46 48.1**	**+1.3**
	4.5nm,0.7s,baz=307,slow=8.1,SNR=12						
SONM	**Songino Array**	**55.32**	**359**	P	**P**	**17 48 44.3**	**-1.2**
	0.3nm,0.5s,baz=175,slow=9.4,SNR=3.2						
SONM				PcP	**PcP**	**17 49 44.6**	**-0.6**
	1.0nm,0.4s,baz=178,slow=3.6,SNR=15						
MKAR	**Makanchi Array**	**58.65**	**340**	P	**P**	**17 49 06.2**	**-2.8**
	0.4nm,0.6s,baz=147,slow=7.1,SNR=5.1						
MKAR				PcP	**PcP**	**17 49 57.0**	**-1.2**
	0.4nm,0.7s,baz=150,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**143.84**	**50**	PKP	**PKPdf**	**17 58 46.2**	**-0.7**
	0.6nm,0.6s,baz=208,slow=2.4,SNR=4.9						

IDC 30 18:05:13.9±2.0, 6.85S×128.86E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.2/21, mbtmp3.3/3, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/47, Error ellipse: s-maj=113.6km s-min=32.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.06**	**158**	Pn	Pn	18 08 34.0	-0.6
	0.2nm,0.3s,baz=337,slow=13,SNR=12						
WRA				Sn	Sn	18 10 56.2	-15
	0.6nm,0.3s,baz=329,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.41**	**164**	Pn	Pn	18 09 18.9	+0.5
	0.1nm,0.3s,baz=338,slow=10,SNR=11						
ASAR				Sn	Sn	18 12 18.9	-14
	0.1nm,0.3s,baz=354,slow=27,SNR=5.5						
JHJ	**Hachijo jima 2**	**41.08**	**14**	LR	LR	18 27 38.8	
	comp=Z,74nm,21.5s,baz=74,slow=33						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	18 16 11.8	0.0
	0.2nm,0.4s,baz=120,slow=7.5,SNR=7.4						

*JMA **30** 18:28:52.1±0.3, 25˚.10N×123˚.58E, h20km, M2.7*
*IDC **30** 18:28:54.1±8.1, 24˚.28N×121˚.99E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/34, Error ellipse: s-maj=571.5km s-min=28.3km az=59.0*
ISC 30 18:28:51.7±2.0, 25.09N±0.09×123.58E±0.04, h10km±12km, n12, σ0°958/18, mb3.3/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.76**	**169**	P	**Pg**	**18 29 06.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.81**	**220**	P	**Pg**	**18 29 07.2**	**0.0**
YOJ				S	**Sg**	**18 29 17.4**	**-0.4**
JISG	**Ishigakijimahi**	**0.83**	**127**	P	**Pg**	**18 29 07.9**	**+0.2**
JISG				*eS*	**Sg**	**18 29 18.4**	**-0.1**
JYNG	**Yonagunijimaku**	**0.85**	**222**	P	**Pb**	**18 29 08.3**	**-0.3**
JYNG				*eS*	**Sg**	**18 29 19.5**	**+0.2**
JIJ	**Ishigaki jima**	**0.88**	**144**	P	**Pg**	**18 29 08.5**	**-0.2**
JIJ				*eS*	**Sg**	**18 29 20.4**	**+0.2**
JKRS	**Kuro-shima**	**0.93**	**155**	P	**Pg**	**18 29 10.2**	**+0.6**
JKRS				*eS*	**Sg**	**18 29 22.2**	**+0.5**
HATJ	**Hateruma jima**	**1.04**	**169**	P	**Pb**	**18 29 11.4**	**-0.5**
HATJ				*eS*	**Sb**	**18 29 24.7**	**-0.9**
JTJ	**Tarama**	**1.11**	**113**	P	**Pb**	**18 29 12.4**	**-0.6**
JTJ				*eS*	**Sb**	**18 29 27.3**	**-0.3**
SONM	**Songino Array**	**26.46**	**333**	LR	LR	18 47 13.2	
	comp=Z,29nm,18.6s,baz=216,slow=41						
MKAR	**Makanchi Array**	**39.24**	**314**	P	**P**	**18 36 20.2**	**-0.1**
	0.7nm,0.9s,baz=119,slow=8.4,SNR=7.3						
WRA	**Warramunga Arr**	**45.97**	**166**	P	**P**	**18 37 15.0**	**-0.1**
	0.3nm,0.8s,baz=345,slow=9.1,SNR=1.7						
ASAR	**Alice Springs**	**49.48**	**168**	P	**P**	**18 37 43.8**	**+1.4**
	0.2nm,0.9s,baz=353,slow=6.8,SNR=1.6						

*IDC **30** 18:44:33.4±1.7, 6˚.16S×128˚.87E, h250km±20km, mb3.5/2, mb1 3.6/7, mb1mx3.1/35, mbtmp4.2/7, Error ellipse: s-maj=31.2km s-min=17.0km az=89.0*
*NEIC **30** 18:44:33.8±1.3, 6˚.18S±0˚.07×128˚.87E±0˚.08, h262km±12km, mb4.1/4, Error ellipse: s-maj=13.7km s-min=4.9km az=130.0*
ISC 30 18:44:33.2±0.7, 6˚.22S±0˚.06×128˚.87E±0˚.07, h264km, n29, σ2°813/34, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.98**	**126**	Pn	**Pn**	**18 45 28.0**	**+1.7**
SAUI	**Saumlaki**	**2.98**	**126**	P	**Pn**	**18 45 28.1**	**+1.7**
SANI	**Sanana**	**5.04**	**325**	P	**Pn**	**18 45 52.5**	**+2.5**
SIJI	**Sorong**	**5.83**	**24**	P	**Pn**	**18 45 59.1**	**-0.5**
	2.4nm,0.3s,baz=204,slow=23,SNR=25						
SIJI				S	**S**	**18 47 03.0**	**-5.8**
	5.1nm,0.3s,baz=80,slow=23,SNR=20						
BATI	**Baumata**	**6.50**	**232**	P	**Pn**	**18 46 08.9**	**+1.0**
	6.8nm,0.3s,baz=99,slow=3.0,SNR=17						
BATI				S	**S**	**18 47 19.4**	**-4.5**
	13nm,0.3s,baz=279,slow=23,SNR=30						
MTN	**Manton Dam**	**6.95**	**161**		**Pn**	**18 46 13.8**	**+0.3**
MTN	**Manton Dam**	**6.95**	**161**	P	**Pn**	**18 46 13.9**	**+0.5**
MMRI	**Maumere**	**7.00**	**250**	Pn	**Pn**	**18 46 15.6**	**+1.5**
KDU	**Kakadu**	**7.34**	**151**	P	**Pn**	**18 46 18.9**	**+0.6**
KNRA	**Kununurra**	**9.40**	**181**		**Pn**	**18 46 44.3**	**+0.2**
KNRA	**Kununurra**	**9.40**	**181**	P	**Pn**	**18 46 44.3**	**+0.2**
PLAI	**Plampang**	**11.30**	**256**	P	**Pn**	**18 47 09.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**12.22**	**195**	P	**Pn**	**18 47 19.1**	**-0.2**
	0.6nm,0.3s,baz=20,slow=11,SNR=25						
FITZ				S	**S**	**18 49 30.4**	**-5.0**
	0.2nm,0.3s,baz=308,slow=22,SNR=1.2						
WB0	**Warramunga Arr**	**14.50**	**159**	P	**P**	**18 47 47.1**	**+0.3**
WRAB	**Tennant Creek**	**14.63**	**159**	P	**P**	**18 47 48.9**	**+0.6**
WRA	**Warramunga Arr**	**14.64**	**159**	P	**P**	**18 47 48.7**	**+0.4**
	0.6nm,0.3s,baz=341,slow=13,SNR=33						
WRA				S	**S**	**18 50 26.5**	**-3.6**
	0.6nm,0.3s,baz=342,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**14.64**	**159**	P	**P**	**18 47 47.1**	**-1.3**
WB2	**Warramunga Arr**	**14.64**	**159**	P	**P**	**18 47 48.7**	**+0.4**
WR0	**Warramunga Arr**	**14.73**	**159**	P	**P**	**18 47 49.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**14.77**	**260**	P	**P**	**18 47 50.3**	**+0.5**
JAGI	**Jajag, Banyuwa**	**14.77**	**260**	P	**Pn**	**18 47 51.4**	**+1.1**
COEN	**Coen**	**16.04**	**120**	Pn	**P**	**18 48 06.1**	**+2.4**
COEN	**Coen**	**16.04**	**120**	P	**P**	**18 48 06.3**	**+2.5**
PSA00	**Pilbara Seismi**	**17.59**	**209**	P	**P**	**18 48 20.8**	**+0.2**
PSA00				IAmb	IAmb	18 48 33.2	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**17.59**	**209**	P	**P**	**18 48 21.1**	**+0.5**
PSA00				IAmb	IAmb	18 48 45.8	
	comp=Z,11nm,1.8s						
AS31	**Alice Springs**	**18.01**	**165**	P	**P**	**18 48 27.7**	**+2.5**
ASAR	**Alice Springs**	**18.01**	**165**	P	**P**	**18 48 27.6**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=345,slow=11,SNR=186						
ASAR				S	**S**	**18 51 38.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=343,slow=20,SNR=16						
MKAR	**Makanchi Array**	**66.97**	**327**	P	**P**	**18 54 59.3**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=112,slow=8.0,SNR=30						
ZALV	**Zalesovo Beam**	**70.39**	**334**	P	**P**	**18 55 19.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=121,slow=5.6,SNR=4.6						

*IDC **30** 19:03:40.3±2.3, 38˚.80N×27˚.25E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.0/50, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=130.8km s-min=24.0km az=155.0*
*ISK **30** 19:03:42.9, 36˚.05N×29˚.68E, h4km, ML3.2/20*
*ATH **30** 19:03:42.2, 36˚.01N×29˚.73E, h10km±4km, ML2.8/2, Error ellipse: s-maj=6.8km s-min=2.2km az=356.0*
*DDA **30** 19:03:43.0±0.0, 35˚.99N×29˚.66E, h8km±6km, ML3.0*
*NIC **30** 19:03:45.4±0.0, 35˚.98N×29˚.77E, h17km±3km, Ml3.1/4*
*GII **30** 19:03:46.2±0.0, 35˚.82N×29˚.71E, h10km, Mm3.1/3*
ISC 30 19:03:43.0±1.2, 36.00N±0.03×29.71E±0.02, h4km±9km, n70, σ1°922/92, 1C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.18**	**327**	P	**Pg**	**19 03 46.0**	**-0.6**
AKAS	**Kas**	**0.25**	**341**	PG	**Pg**	**19 03 47.5**	**-0.4**
AKAS				SG	**Sg**	**19 03 51.0**	**-0.2**
AKUM	**Antalya-Kumluc**	**0.61**	**57**	P	**Pb**	**19 03 55.6**	**-0.6**
AKUM				*i* AML	AML	19 04 12.0	
	comp=N,898nm,0.5s						
AKUM				*i* AML	AML	19 04 13.0	
	comp=E,648nm,0.5s						
ELL	**Elmali**	**0.77**	**12**	PG	**Pg**	**19 03 55.8**	**-2.0**
ELL	**Elmali**	**0.77**	**12**	S	**Sn**	**19 04 12.1**	**-0.8**
FETY	**Fethiye**	**0.81**	**322**	P	**Pg**	**19 03 58.5**	**-0.1**
FETY	**Fethiye**	**0.81**	**322**	PG	**Pg**	**19 03 58.3**	**-0.3**
FETY	**Fethiye**	**0.81**	**322**	P	**Pg**	**19 03 58.6**	**0.0**
FETY				S	**Sn**	**19 04 12.1**	**-1.6**
FETY				*i* AML	AML	19 04 15.0	
	comp=E,715nm,0.9s						
FETY				*i* AML	AML	19 04 17.0	
	comp=N,515nm,0.6s						
KEMT	**Kemer-ANTALYA**	**0.92**	**48**	PG	**Pb**	**19 04 01.1**	**-0.3**
CAME	**Cameli-Denizli**	**1.00**	**341**	PG	**Pg**	**19 04 01.5**	**-0.7**
KORT	**Korkueli**	**1.13**	**27**	PN	**Pg**	**19 04 04.8**	**+0.1**
CAEL	**Denizli, Camel**	**1.17**	**345**	P	**Pg**	**19 04 05.4**	**0.0**
CAEL				S	**Sn**	**19 04 22.9**	**+0.2**
CAEL				*i* AML	AML	19 04 30.0	
	comp=E,932nm,0.6s						
CAEL				*i* AML	AML	19 04 37.0	
	comp=N,757nm,0.8s						
DALY	**Dalyan (Mula)**	**1.18**	**314**	PN	**Pg**	**19 04 05.3**	**-0.3**
ANTB	**Antalya**	**1.18**	**40**	PN	**Pb**	**19 04 05.9**	**-0.1**
TURN	**Turunc**	**1.41**	**304**	PN	**Pb**	**19 04 09.5**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.60**	**337**	P	**Pb**	**19 04 13.0**	**-0.1**
TAVA				*i* AML	AML	19 04 37.0	
	comp=E,187nm,0.7s						
TAVA				S	**Sg**	**19 04 37.2**	**+2.8**
TAVA				*i* AML	AML	19 04 40.0	
	comp=N,183nm,0.7s						
YER	**Yerkesik**	**1.61**	**315**	P	**Pb**	**19 04 13.1**	**-0.3**
YER				S	**Sb**	**19 04 33.7**	**-0.4**
YER	**Yerkesik**	**1.61**	**315**	PN	**Pn**	**19 04 12.4**	**+0.1**
BCK	**Bucak**	**1.63**	**26**	PN	**Pn**	**19 04 12.8**	**+0.3**
MULA	**Mugla, Merkez-**	**1.68**	**319**	P	**Pg**	**19 04 14.9**	**-0.3**
MULA				S	**Sg**	**19 04 38.3**	**+1.2**
MULA				*i* AML	AML	19 04 42.0	
	comp=N,205nm,0.7s						
MULA				*i* AML	AML	19 04 42.0	
	comp=E,176nm,0.9s						
BRDR	**BURDUR-Merkez**	**1.72**	**9**	P	**Pg**	**19 04 15.5**	**-0.5**
BRDR				S	**Sg**	**19 04 41.0**	**+2.7**
BRDR				*i* AML	AML	19 04 46.0	
	comp=N,114nm,0.8s						
BRDR				*i* AML	AML	19 04 47.0	
	comp=E,180nm,0.9s						
SUTC	**Sutluce-Ispart**	**1.81**	**35**	PN	**Pn**	**19 04 15.6**	**+0.6**
DAT	**Datca**	**1.87**	**294**	P	**Pn**	**19 04 16.1**	**+0.3**
DAT				S	**Sn**	**19 04 40.1**	**+0.2**
DAT	**Datca**	**1.87**	**294**	PN	**Pn**	**19 04 16.1**	**+0.3**
ISP	**Isparta**	**1.94**	**19**	P	**Pn**	**19 04 17.6**	**+0.8**
ISP	**Isparta**	**1.94**	**19**	PN	**Pn**	**19 04 17.2**	**+0.4**

MLSB	**Milas**	**2.02**	**310**	PN	**Pn**	**19 04 18.0**	**+0.1**
KARP	**Karpathos**	**2.12**	**259**	P	**Pb**	**19 04 20.7**	**-1.3**
KARP				S	**Sb**	**19 04 47.1**	**-1.4**
KARP				AML	AML	19 04 49.9	
	comp=E,353μm,0.6s						
KARP				AML	AML	19 04 51.6	
	comp=N,258μm,0.6s						
KARP	**Karpathos**	**2.12**	**259**	P	**Pb**	**19 04 20.7**	**-1.3**
KARP	**Karpathos**	**2.12**	**259**	PN	**Pn**	**19 04 20.0**	**+0.8**
KARP	**Karpathos**	**2.12**	**259**	↑P	**Pb**	**19 04 20.6**	**-1.3**
KARP				S	**Sb**	**19 04 48.4**	**-0.2**
KARP				AML	AML	19 04 49.2	
	comp=N,0.4nm,0.6s						
KARP				AML	AML	19 04 49.2	
	comp=N,0.4nm,0.6s						
KARP				AML	AML	19 04 51.5	
	comp=N,0.3nm,0.6s						
KARP				AML	AML	19 04 51.5	
	comp=N,0.3nm,0.6s						
GAZI	**Gazipasa**	**2.13**	**83**	PN	**Pn**	**19 04 19.5**	**+0.2**
SEDI	**Konya, Seydise**	**2.19**	**48**	P	**Pg**	**19 04 24.4**	**-0.7**
SEDI				S	**Sg**	**19 04 56.5**	**+2.9**
SEDI				*i* AML	AML	19 04 58.0	
	comp=N,291nm,0.8s						
SEDI				*i* AML	AML	19 04 58.0	
	comp=N,228nm,0.6s						
BODT	**Bodrum**	**2.20**	**300**	PN	**Pn**	**19 04 20.7**	**+0.4**
SEYD	**Seydisehir-KON**	**2.22**	**50**	PN	**Pn**	**19 04 21.6**	**+1.0**
KOSK	**Kos Island**	**2.33**	**290**	PN	**Pn**	**19 04 22.6**	**+0.6**
AKMS	**Akamas**	**2.35**	**114**	P	**Pn**	**19 04 23.4**	**+1.0**
AKMS				S	**Sn**	**19 04 51.7**	**0.0**
AKMS				AML	AML	19 04 54.4	
	comp=N,0.4nm,0.7s						
AKMS				AML	AML	19 04 54.4	
	comp=N,0.4nm,0.7s						
AKMS				AML	AML	19 04 54.9	
	comp=N,0.4nm,0.7s						
AKMS				AML	AML	19 04 54.9	
	comp=N,0.4nm,0.7s						
HDMB	**Hadim**	**2.44**	**66**	PN	**Pn**	**19 04 24.8**	**+1.0**
ALFC	**Alefka**	**2.50**	**109**	P	**Pn**	**19 04 24.8**	**+0.3**
ALFC				AML	AML	19 04 57.0	
	comp=N,0.2nm,0.9s						
ALFC				AML	AML	19 04 58.7	
	comp=N,0.2nm,0.7s						
GCAM	**G?zelcaml?**	**2.61**	**311**	PN	**Pn**	**19 04 26.7**	**+0.8**
DOGA	**KONYA_Doganhis**	**2.63**	**36**	P	**Pb**	**19 04 29.6**	**-1.1**
DOGA				S	**Sg**	**19 05 05.4**	**-2.0**
DOGA				*i* AML	AML	19 05 07.0	
	comp=N,165nm,0.5s						
DOGA				*i* AML	AML	19 05 09.0	
	comp=N,130nm,0.5s						
NATA	**Nata**	**2.63**	**117**	P	**Pn**	**19 04 27.2**	**+0.9**
SHUT	**Suhut-Afyon**	**2.64**	**15**	PN	**Pn**	**19 04 27.2**	**+0.8**
KULA	**Kula-Manisa**	**2.65**	**342**	P	**Pn**	**19 04 27.1**	**+0.5**
KULA	**Kula-Manisa**	**2.65**	**342**	PN	**Pn**	**19 04 27.0**	**+0.5**
OSC1	**CSNet OBS 1**	**2.81**	**152**	S	**Sn**	**19 05 03.6**	**+0.8**
SMG	**Samos**	**2.87**	**307**	P	**Pn**	**19 04 29.7**	**+0.2**
KKBE	**Karaman, Kazim**	**2.88**	**64**	P	**Pb**	**19 04 33.0**	**-1.9**
KKBE				S	**Sb**	**19 05 08.4**	**-2.1**
KKBE				*i* AML	AML	19 05 10.0	
	comp=N,32nm,0.6s						
KKBE				*i* AML	AML	19 05 13.0	
	comp=N,31nm,0.5s						
SZAC	**Souni**	**2.88**	**115**	P	**Pn**	**19 04 29.6**	**0.0**
SZAC				AML	AML	19 05 02.0	
	comp=N,0.2nm,0.6s						
SZAC				AML	AML	19 05 07.2	
	comp=N,0.2nm,0.5s						
ZKR	**Zakros**	**2.98**	**254**	P	**Pn**	**19 04 33.1**	**+2.1**
ZKR				S	**Sn**	**19 05 09.3**	**+2.2**
ZKR				AML	AML	19 05 14.8	
	comp=E,138μm,1.0s						
ZKR				AML	AML	19 05 23.5	
	comp=N,74μm,0.6s						
ZKR	**Zakros**	**2.98**	**254**	P	**Pn**	**19 04 32.8**	**+1.8**
ZKR	**Zakros**	**2.98**	**254**	P	**Pn**	**19 04 32.9**	**+2.0**
CSS	**Mathiatis**	**3.13**	**108**	P	**Pn**	**19 04 33.7**	**+0.6**
CSS	**Mathiatis**	**3.13**	**108**	P	**Pn**	**19 04 33.3**	**+0.2**
ASGA	**Asgata**	**3.13**	**112**	P	**Pn**	**19 04 33.9**	**+0.8**
MVOU	**Mavrovouni**	**3.35**	**106**	P	**Pn**	**19 04 36.1**	**+0.1**
SNT5	**Nea Kammeni, S**	**3.51**	**278**	P	**Pn**	**19 04 39.4**	**+1.1**
IDI	**Anoyia**	**3.99**	**261**	P	**Pn**	**19 04 46.0**	**+1.1**
BRTR	**Keskin Array B**	**4.85**	**39**	Pn	**Pn**	**19 04 59.4**	**+2.5**
	comp=N,0.6nm,0.3s,baz=131,slon=12,SNR=11						
BRTR				Sn	**Sn**	**19 05 57.6

PALE	**Palemas**	**0.30**	**207**	P	**Pg**	**19 20 49.5**	**-0.5**
PALE	**Palemas**	**0.30**	**207**	P	**Pg**	**19 20 49.9**	**-0.1**
PALE				S	**Sg**	**19 20 54.2**	**-0.1**
PVLZ	**Peæn de**	**0.53**	**234**	P	**Pg**	**19 20 53.8**	**-0.4**
PVLZ				S	**Sg**	**19 21 01.6**	**+0.3**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**19 20 56.6**	**-0.5**
GOG				S	**Sb**	**19 21 08.0**	**+1.3**
GOG	**Mont Gurugu**	**0.69**	**112**	P	**Pg**	**19 20 56.6**	**-0.5**
GOG				S	**Sg**	**19 21 06.2**	**0.0**
EMEL	**Melilla**	**0.69**	**105**	Pg	**Pg**	**19 20 56.8**	**-0.4**
EMEL				Sg	**Sb**	**19 21 07.5**	**+0.8**
EMEL				*i* Vmb_Lg		19 21 09.2	
EALB	**Alboran**	**0.75**	**53**	Pg	**Pg**	**19 20 58.6**	**+0.3**
EALB				Sg	**Sb**	**19 21 09.4**	**+0.9**
EALB				*i* Vmb_Lg		19 21 10.1	
AKLM	**AKL**	**0.98**	**184**	P	**Pg**	**19 21 02.3**	**-0.2**
AKLM				S	**Sg**	**19 21 15.6**	**+0.2**
TAF	**Taforalt**	**1.30**	**121**	P	**Pg**	**19 21 09.0**	**+0.2**
TAF	**Taforalt**	**1.30**	**121**	P	**Pn**	**19 21 06.2**	**-1.1**
TAF				S	**Sb**	**19 21 20.9**	**-3.4**
SMIR	**Smir Dam**	**1.32**	**279**	P	**Pn**	**19 21 06.6**	**-0.9**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pn**	**19 21 08.1**	**+0.4**
CHEFC	**Chefchaouen**	**1.33**	**254**	P	**Pn**	**19 21 08.2**	**+0.4**
CHEFC				S	**Sb**	**19 21 25.2**	**-0.1**
EMIJ	**Mijas**	**1.35**	**323**	Pn	**Pn**	**19 21 07.9**	**+0.1**
EMIJ				Sn	**Sb**	**19 21 24.6**	**-1.0**
EMIJ				*i* Vmb_Lg		19 21 32.5	
EMAL	**Malaga-Limoner**	**1.38**	**338**	P	**Pn**	**19 21 07.5**	**-0.8**
EMAL				S	**Sn**	**19 21 26.7**	**+0.5**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**19 21 07.8**	**-0.6**
ELGU				Sn	**Sb**	**19 21 25.7**	**-1.1**
ELGU				*i* Vmb_Lg		19 21 29.7	
JBK	**JBK**	**1.52**	**139**	P	**Pn**	**19 21 11.0**	**+0.6**
JBK	**JBK**	**1.52**	**139**	P	**Pn**	**19 21 10.2**	**-0.2**
JBK				S	**Sn**	**19 21 28.1**	**-1.8**
EBER	**Berja**	**1.58**	**27**	Pn	**Pn**	**19 21 10.8**	**-0.5**
EBER				Sn	**Sn**	**19 21 31.2**	**-0.3**
EBER				*i* Vmb_Lg		19 21 34.0	
EGOR	**Sierra Gorda,**	**1.64**	**351**	Pn	**Pn**	**19 21 13.4**	**+1.3**
EGOR				Sn	**Sn**	**19 21 32.0**	**-1.0**
EGOR				*i* Vmb_Lg		19 21 39.5	
EQUE	**Quentar**	**1.74**	**9**	Pn	**Pn**	**19 21 13.9**	**+0.6**
EQUE				Sn	**Sn**	**19 21 34.8**	**-0.5**
EQUE				*i* Vmb_Lg		19 21 39.1	
ENIJ	**Nijar**	**1.95**	**40**	Pn	**Pn**	**19 21 17.2**	**+1.0**
ENIJ				*i* Vmb_Lg		19 21 39.3	
ENIJ				Sn	**Sn**	**19 21 39.5**	**-0.9**
LCRM	**LCR**	**2.00**	**207**	P	**Pb**	**19 21 20.0**	**+0.1**
LCRM				S	**Sb**	**19 21 45.8**	**+1.1**
ESPR	**Espera**	**2.18**	**310**	Pn	**Pn**	**19 21 20.0**	**+0.7**
ESPR				Sn	**Sn**	**19 21 45.7**	**-0.3**
ESPR				*i* Vmb_Lg		19 21 59.4	
MD31	**MD31**	**2.74**	**198**	P	**Pn**	**19 21 28.3**	**+1.3**
MD31				S	**Sn**	**19 22 00.4**	**+0.5**
EADA	**Adamuz**	**2.75**	**347**	Pn	**Pn**	**19 21 28.8**	**+1.6**
EADA				Sn	**Sn**	**19 21 59.2**	**-1.1**
EADA				*i* Vmb_Lg		19 22 11.7	
MDT	**Midelt**	**2.75**	**195**	P	**Pn**	**19 21 28.8**	**+1.5**
MDT				S	**Sn**	**19 22 00.4**	**+0.1**
ECAB	**El Cabril**	**2.90**	**333**	Pn	**Pn**	**19 21 30.9**	**+1.6**
ECAB				Sn	**Sn**	**19 22 02.9**	**-0.9**
ECAB				*i* Vmb_Lg		19 22 11.4	
EZAR	**Zarzadilla de**	**2.91**	**34**	Pn	**Pn**	**19 21 29.6**	**+0.1**
EZAR				Sn	**Sn**	**19 22 04.3**	**0.0**
EZAR				*i* Vmb_Lg		19 22 08.3	
EMIN	**Mina Concepcio**	**3.26**	**315**	Pn	**Pn**	**19 21 34.6**	**+0.5**
EMIN				Sn	**Sn**	**19 22 12.5**	**-0.2**
EMIN				*i* Vmb_Lg		19 22 21.2	
EGRO	**El Granado**	**3.62**	**305**	Pn	**Pn**	**19 21 39.5**	**+0.4**
EGRO				Sn	**Sn**	**19 22 19.9**	**-1.6**
EGRO				*i* Vmb_Lg		19 22 27.2	
ETOB	**Tobarra**	**3.62**	**29**	Pn	**Pn**	**19 21 41.6**	**+2.4**
ETOB				Sn	**Sn**	**19 22 22.2**	**+0.5**
ETOB				*i* Vmb_Lg		19 22 29.1	
PAB	**San Pablo**	**4.08**	**354**	Pn	**Pn**	**19 21 47.5**	**+2.0**
PAB				*i* Vmb_Lg		19 22 52.3	
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**19 21 47.5**	**+0.9**
EBAD				Sn	**Sn**	**19 22 33.8**	**-1.2**
EBAD				*i* Vmb_Lg		19 22 40.4	
PESTR	**Estremoz**	**4.55**	**319**	P	**Pn**	**19 21 52.1**	**+0.2**
PESTR				S	**Sn**	**19 22 43.4**	**-1.0**

IDC 30 19:23:13.4±2.4, 6°87S×129°52E, h0km, mb3.0/1, mb1 3.3/4, mb1mx3.2/29, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=91.1km s-min=30.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.78**	**198**	Pn	Pn	19 26 03.6	+0.8
	0.0nm,0.3s,baz=12,slow=9.9,SNR=1.9						
FITZ				Sn	Sn	19 28 01.9	-13
	0.2nm,0.3s,baz=216,slow=15,SNR=6.1						
WRA	**Warramunga Arr**	**13.81**	**161**	Pn	Pn	19 26 30.7	+0.1
	0.2nm,0.3s,baz=342,slow=13,SNR=8.6						
WRA				Sn	Sn	19 28 53.6	-11
	0.1nm,0.3s,baz=341,slow=26,SNR=2.2						
ASAR	**Alice Springs**	**17.22**	**166**	P	Pn	19 27 14.8	-0.8
	0.0nm,0.3s,baz=342,slow=14,SNR=1.5						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	19 34 13.6	0.0
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.4						

*IDC **30** 19:36:39.2±1.7, 26°61N×126°29E, h122km±16km, mb3.6/10, mb1 3.7/11, mb1mx3.3/51, mbtmp4.0/11, MS3.1/2, Ms1 3.1/2, ms1mx2.4/79, Error ellipse: s-maj=22.6km s-min=12.3km az=65.0*

*JMA **30** 19:36:39.8±0.2, 26°55N×126°23E, h122km±3km, M3.6*

*NEIC **30** 19:36:39.9±1.6, 26°58N±0°09×126°30E±0°08, h121km±4km, mb4.3/32, Error ellipse: s-maj=14.1km s-min=8.4km az=148.0*

ISC 30 19:36:39.6±0.7, 26°57N±0°06×126°23E±0°05, h125km±7km, n74, σ1§08/93, mb4.2/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.55**	**116**	P	**Pn**	**19 36 58.5**	**+0.1**
JKE				S	**Sn**	**19 37 11.9**	**-0.6**
JAGN	**Aguni-jima**	**0.91**	**88**	P	**Pn**	**19 37 01.2**	**+0.1**
JAGN				S	**Sn**	**19 37 16.7**	**-0.7**
JJT3	**Tamagusuku3**	**1.46**	**106**	P	**Pn**	**19 37 07.8**	**+0.9**
JJT3				S	**Sn**	**19 37 27.9**	**+0.3**
JNTH	**Nagotoyohara**	**1.61**	**91**	P	**Pn**	**19 37 08.9**	**+0.3**
JNTH				S	**Sn**	**19 37 29.3**	**-1.3**
JIH	**Iheya**	**1.62**	**73**	P	**Pn**	**19 37 09.1**	**+0.4**
JIH				S	**Sn**	**19 37 30.1**	**-0.8**
JOW	**Kunigami**	**1.85**	**81**	P	**Pn**	**19 37 11.6**	**+0.1**
	62nm,0.3s,baz=86,slow=23,SNR=296						
JOW				S	**Sn**	**19 37 33.8**	**-2.0**
	217nm,0.3s,baz=140,slow=30,SNR=44						
JOW	**Kunigami**	**1.85**	**81**	P	**Pn**	**19 37 11.6**	**+0.1**
JOW				S	**Sn**	**19 37 34.0**	**-1.8**
JIKM	**Ikemajima**	**1.86**	**209**	P	**Pn**	**19 37 11.9**	**+0.3**
JIKM				S	**Sn**	**19 37 35.3**	**-0.8**
JOGS	**Gusukube**	**1.95**	**203**	P	**Pn**	**19 37 13.0**	**+0.3**
JOGS				S	**Sn**	**19 37 37.6**	**-0.3**
JIRB	**Irabujima**	**1.98**	**209**	P	**Pn**	**19 37 12.8**	**-0.2**
JIRB				S	**Sn**	**19 37 37.1**	**-1.5**
JMJ2	**Miyako jima3**	**1.99**	**204**	P	**Pn**	**19 37 13.5**	**+0.3**
JMJ2				S	**Sn**	**19 37 38.1**	**-0.8**
JYRO	**Yoronjima**	**2.04**	**77**	P	**Pn**	**19 37 13.8**	**+0.1**
JYRO				S	**Sn**	**19 37 37.8**	**-2.0**
JOKE	**Okinoerabujima**	**2.23**	**69**	P	**Pn**	**19 37 16.3**	**+0.1**
JOKE				S	**Sn**	**19 37 42.2**	**-2.1**
JTJ	**Tarama**	**2.36**	**216**	P	**Pn**	**19 37 17.7**	**-0.2**
JTJ				S	**Sn**	**19 37 45.5**	**-1.7**
JISG	**Ishigakijimahi**	**2.63**	**222**	P	**Pn**	**19 37 21.0**	**-0.2**
JISG				S	**Sn**	**19 37 51.2**	**-2.0**
JTK	**Tokunoshima**	**2.71**	**63**	P	**Pn**	**19 37 21.9**	**-0.4**
JTK				S	**Sn**	**19 37 53.0**	**-2.1**
JIJ	**Ishigaki jima**	**2.89**	**221**	P	**Pn**	**19 37 23.9**	**-0.8**
JIJ				S	**Sn**	**19 37 55.9**	**-3.5**
JKRS	**Kuro-shima**	**3.07**	**221**	P	**Pn**	**19 37 26.9**	**-0.1**
JKRS				S	**Sn**	**19 38 01.2**	**-2.3**
JAMN	**Amaminishikomi**	**3.10**	**57**	P	**Pn**	**19 37 26.8**	**-0.6**
JAMN				S	**Sn**	**19 38 03.8**	**-0.5**
YOJ	**Yonaguni jima**	**3.59**	**235**	Pn	**Pn**	**19 37 34.3**	**+0.5**
TATO	**Taipei**	**4.56**	**251**	Pn	**Pn**	**19 37 48.6**	**+1.9**
YHNB	**Yeheng**	**4.77**	**248**		**Pn**	**19 37 50.1**	**+0.4**
NACB	**Ninganchiao**	**4.82**	**241**	Pn	**Pn**	**19 37 49.5**	**-0.7**
YULB	**Yu-li**	**5.48**	**236**	Pn	**Pn**	**19 37 56.9**	**-2.2**
SSLB	**Suanglung**	**5.52**	**241**		**Pn**	**19 37 58.7**	**-1.0**
TPUB	**Ta-pu**	**6.04**	**239**	Pn	**Pn**	**19 38 06.2**	**-0.4**
JNU	**Nakatsue**	**7.68**	**31**	P	**Pn**	**19 38 28.3**	**-0.4**
	0.5nm,0.3s,baz=221,slow=9.1,SNR=6.4						
JNU	**Nakatsue**	**7.68**	**31**	Pn	**Pn**	**19 38 28.6**	**-0.2**
JMN	**Monobe**	**9.73**	**41**	Pn	**Pn**	**19 38 53.1**	**-3.4**
KSRS	**Korea Array**	**10.95**	**7**	P	**Pn**	**19 39 15.0**	**+2.3**
	0.2nm,0.3s,baz=186,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**14.24**	**43**	LR	LR	19 45 00.9	
	comp=Z,28nm,19.1s,baz=35,slow=35						
SONM	**Songino Array**	**26.32**	**329**	P	**P**	**19 42 03.7**	**-0.1**
	1.0nm,0.4s,baz=142,slow=11,SNR=9.2						
KSM	**Kuching**	**29.27**	**214**	P	**P**	**19 42 31.3**	**+1.1**
KSM				IAmb	IAmb	19 42 56.3	
	comp=Z,17nm,1.5s						
UGM	**Wanagama**	**37.51**	**206**	P	**P**	**19 43 41.8**	**+0.1**
MK31	**Makanchi Array**	**39.98**	**312**	P	**P**	**19 44 01.3**	**-0.7**
MKAR	**Makanchi Array**	**39.98**	**312**	P	**P**	**19 44 01.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=108,slow=8.8,SNR=20						
MKAR				PcP	**PcP**	**19 46 04.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=93,slow=2.7,SNR=3.1						
MKAR				ScP	**ScP**	**19 49 41.0**	**-1.3**
	comp=Z,0.4nm,1.0s,baz=116,slow=3.4,SNR=2.8						
ZAA0	**Zalesovo Array**	**40.90**	**323**	P	**P**	**19 44 08.9**	**-0.4**
ZAA0				IAmb	IAmb	19 44 09.2	
	comp=Z,2.1nm,0.3s						
ZALV	**Zalesovo Beam**	**40.90**	**323**	P	**P**	**19 44 08.8**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=112,slow=8.7,SNR=14						
KURBB	**Kurchatov Arra**	**43.38**	**317**	P	**P**	**19 44 29.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=104,slow=9.0,SNR=5.4						
WRAB	**Tennant Creek**	**46.89**	**170**	P	**P**	**19 44 58.7**	**+1.1**
WRA	**Warramunga Arr**	**46.90**	**170**	P	**P**	**19 44 56.8**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=352,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**46.90**	**170**	P	**P**	**19 44 56.5**	**-1.2**
WB2	**Warramunga Arr**	**46.90**	**170**	P	**P**	**19 44 58.4**	**+0.8**
WB2				IAmb	IAmb	19 45 03.9	
	comp=Z,4.3nm,1.1s						
WR0	**Warramunga Arr**	**46.95**	**169**	P	**P**	**19 44 58.4**	**+0.4**
WR0				IAmb	IAmb	19 45 02.8	
	comp=Z,7.4nm,1.4s						
AS31	**Alice Springs**	**50.49**	**171**	P	**P**	**19 45 26.0**	**+0.9**
AS31				IAmb	IAmb	19 45 26.5	
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**50.49**	**171**	P	**P**	**19 45 25.7**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=358,slow=13,SNR=42						
ABKAR	**Akbulak array**	**55.11**	**313**	P	**P**	**19 45 58.7**	**-0.1**
GEYT	**Alibeck**	**57.57**	**300**	LR	LR	20 14 18.1	
	comp=Z,38nm,19.0s,baz=336,slow=39						
STKA	**Stephens Creek**	**59.94**	**165**	P	**P**	**19 46 32.8**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=340,slow=9.1,SNR=5.6						
J20K	**Nowinta River**	**61.93**	**29**	P	**P**	**19 46 47.1**	**+1.3**
J20K				IAmb	IAmb	19 46 47.7	
	comp=Z,2.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**63.32**	**29**	P	**P**	**19 46 55.8**	**+0.7**
BPAW				IAmb	IAmb	19 47 15.6	
	comp=Z,5.3nm,1.4s						
MLY	**Manley**	**63.33**	**28**	P	**P**	**19 46 55.3**	**+0.2**
TOLK	**Toolik Lake Re**	**63.44**	**24**	P	**P**	**19 46 57.1**	**+1.3**
TOLK				IAmb	IAmb	19 46 59.5	
	comp=Z,5.7nm,1.5s						
MCK	**McKinley**	**64.26**	**29**	P	**P**	**19 47 01.0**	**-0.3**
MCK				IAmb	IAmb	19 47 25.0	
	comp=Z,5.1nm,1.3s						
RND	**Reindeer**	**64.34**	**30**	P	**P**	**19 47 02.0**	**+0.2**
RND				IAmb	IAmb	19 47 02.4	
	comp=Z,3.5nm,0.6s						
MDM	**Murphy Dome**	**64.39**	**28**	P	**P**	**19 47 02.3**	**+0.2**
MDM				IAmb	IAmb	19 47 03.7	
	comp=Z,4.3nm,0.9s						
SML	**Sawmill**	**64.83**	**32**	P	**P**	**19 47 05.5**	**+0.5**
ILAR	**Eielson Array**	**64.99**	**28**	P	**P**	**19 47 05.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=262,slow=4.7,SNR=4.3						
DHY	**Denali Highway**	**65.06**	**30**	P	**P**	**19 47 05.4**	**-1.2**
DHY				IAmb	IAmb	19 47 16.6	
	comp=Z,7.3nm,1.2s						
SCM	**Sheep Creek Mo**	**65.29**	**31**	P	**P**	**19 47 08.7**	**+0.7**
SCM				IAmb	IAmb	19 47 24.1	
	comp=Z,6.4nm,1.0s						
BMAR	**Burnt Mountain**	**65.46**	**25**	P	**P**	**19 47 10.4**	**+1.4**
KLU	**Klutina**	**66.02**	**32**	P	**P**	**19 47 12.8**	**+0.1**
RIDG	**Independent Ri**	**66.05**	**29**	P	**P**	**19 47 12.7**	**-0.1**
LVZ	**Lovozero**	**66.27**	**336**	P	**P**	**19 47 15.1**	**+0.9**
TOO	**Toolangi**	**66.32**	**163**	P	**P**	**19 47 14.8**	**+0.1**
DOT	**Dot Lake**	**66.41**	**29**	P	**P**	**19 47 14.6**	**-0.5**
DOT				IAmb	IAmb	19 47 40.1	
	comp=Z,3.3nm,1.2s						
GLB	**Gilahina Butte**	**67.02**	**31**	P	**P**	**19 47 19.2**	**+0.2**
BCAR	**Beaver Creek A**	**67.55**	**30**	P	**P**	**19 47 22.6**	**+0.3**
M27K	**Edge Creek, AK**	**67.68**	**30**	P	**P**	**19 47 24.0**	**+0.7**
M27K				IAmb	IAmb	19 47 30.6	
	comp=Z,4.6nm,1.3s						
M30M	**Minto, Yukon**	**69.88**	**29**	P	**P**	**19 47 37.2**	**+0.4**
M30M				IAmb	IAmb	19 47 40.1	
	comp=Z,6.3nm,1.5s						
M31M	**Drury Creek, Y**	**71.06**	**29**	P	**P**	**19 47 44.5**	**+0.5**
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**19 47 46.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=327,slow=4.7,SNR=6.4						
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**19 47 48.2**	**+0.6**
YKA	**Yellowknife Ar**	**78.97**	**24**	P	**P**	**19 48 29.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=299,slow=5.5,SNR=15						

*BJI **30** 19:47:42.0±0.0, 41°00N×127°20W, h10km, mb4.7/25, mB5.2/15, Ms4.5/3, Ms7 4.2/4*

*IDC **30** 19:47:44.6±0.7, 41°22N×127°24W, h0km, mb4.0/22, mb1 4.0/30, mb1mx4.0/51, mbtmp3.9/30, ML3.4/8, MS3.9/65, Ms1 3.9/65, ms1mx3.8/86, Error ellipse: s-maj=19.7km s-min=8.5km az=22.0*

*NEIC **30** 19:47:45.1±2.5, 41°00N±0°07×127°16W±0°05, h10km±1km, mb4.6/92, ML3.5/64, ML3.5/12(NCEDC), Error ellipse: s-maj=12.0km s-min=5.0km az=196.0*

*NCEDC **30** 19:47:45.4±4.5, 40°58N±0°07×127°31W±0°09, h5km±1km, Error ellipse: s-maj=13.5km s-min=9.9km az=225.0*

*GCMT **30** 19:47:47.2±0.2, 41°02N±0°03×127°40W±0°02, h18km, MW4.9/99, Moment Tensor Solution. s24,c26; s99,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.68±.16; $M_{\theta\theta}$=0.02±.10; $M_{\phi\phi}$=2.66±.11; $M_{r\theta}$=1.45±.28; $M_{\theta\phi}$=0.11±.06; $M_{\phi r}$=0.73±.21; Best double couple: M_0=3.07800×10^{16} NP1:ϕs158.00000°, δ42.00000°, λ-125.00000°. NP2: ϕs21.00000°, δ57.00000°, λ-63.00000°. Principal axes: T 2.7610, Plg8.0000°, Azm92.0000°; N 0.6350, Plg22.0000°, Azm186.0000°; P -3.3950, Plg66.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 19:47:45.2±0.5, 41°08N±0°07×127°15W±0°06, h10km, n443, σ1§54/386, mb4.6/55, MS3.9/59, 1D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**2.36**	**87**		**Pn**	**19 48 24.5**	**+0.4**
KRPM				IAML		19 49 12.0	
	comp=N,228nm,1.7s						
KRPM				IAML		19 49 16.6	
	comp=E,365nm,2.6s						
JCC	**Jacoby Creek,**	**2.38**	**95**		**Pn**	**19 48 23.2**	**-1.0**
JCC	**Jacoby Creek,**	**2.38**	**95**		**Sn**	**19 48 53.4**	**0.0**
JCC	**Jacoby Creek,**	**2.38**	**95**	IAML		19 48 56.2	
	comp=E,218nm,2.1s						
JCC				IAML		19 49 03.5	
	comp=N,121nm,1.9s						
KMPM	**Mount Pierce**	**2.39**	**105**		**Pn**	**19 48 24.3**	**-0.2**
KMPM				IAML		19 48 59.0	
	comp=N,461nm,1.4s						
KSMM	**Slide Mountain**	**2.43**	**111**		**Pn**	**19 48 24.3**	**-0.7**
KHMM	**Horse Mountain**	**2.59**	**93**		**Pn**	**19 48 27.4**	**0.0**
KHMM				IAML		19 49 04.0	
	comp=E,165nm,2.9s						
KHMM				IAML		19 49 12.8	
	comp=N,155nm,2.7s						
KCRM	**Chalk Rock**	**2.61**	**103**		**Pn**	**19 48 27.7**	**+0.2**
KMRM	**Mail Ridge**	**2.75**	**107**		**Pn**	**19 48 29.9**	**+0.5**
KMRM				IAML		19 49 15.4	
	comp=N,261nm,1.0s						
KOMM	**Orleans Mounta**	**2.80**	**85**		**Pn**	**19 48 31.0**	**+0.9**
L02E	**Cave Junction**	**2.87**	**67**	Pn	**Pn**	**19 48 31.6**	**+0.6**
L02E	**Cave Junction**	**2.87**	**67**	P	**Pn**	**19 48 31.6**	**+0.6**
	baz=248,SNR=32						
KBSM	**Bell Springs**	**2.95**	**112**		**Pn**	**19 48 32.5**	**+0.4**
KCPM	**Cahto Peak**	**3.06**	**116**		**Pn**	**19 48 33.7**	**0.0**
KCPM				IAML		19 49 17.9	
	comp=N,185nm,0.7s						
KCPM				IAML		19 49 19.1	
	comp=E,216nm,0.7s						
K02D	**Willamette Mer**	**3.06**	**57**	P	**Pn**	**19 48 33.9**	**+0.1**
	baz=238,SNR=35						
J01E	**Myrtle Point**	**3.17**	**48**		**Pn**	**19 48 35.1**	**0.0**
J01E	**Myrtle Point**	**3.17**	**48**	P	**Pn**	**19 48 35.5**	**+0.4**
	baz=229,SNR=7.5						
J01E				S	**Sn**	**19 49 11.3**	**-1.7**
	baz=229						
M02C	**Callahan**	**3.25**	**83**		**Pn**	**19 48 37.3**	**+1.0**
M02C	**Callahan**	**3.25**	**83**	P	**Pn**	**19 48 37.2**	**+0.8**
	baz=264,SNR=38						
M02C				S	**Sn**	**19 49 13.0**	**-2.2**
	baz=264						
N02D	**Trinity Center**	**3.36**	**90**		**Pn**	**19 48 39.2**	**+1.4**
N02D				IAML		19 49 05.2	
	comp=N,81nm,0.7s						
N02D				IAML		19 49 38.1	
	comp=E,90nm,1.4s						
N02D	**Trinity Center**	**3.36**	**90**	P	**Pn**	**19 48 38.8**	**+1.0**
	baz=272,SNR=34						
YBH	**Yreka Blue Hor**	**3.40**	**77**	Pn	**Pn**	**19 48 40.3**	**+1.9**
	comp=E,18nm,0.3s,baz=286,slow=12,SNR=105						
YBH				Sn	**Sn**	**19 49 21.9**	**+3.0**
	baz=289,slow=23,SNR=0.9						
YBH				LR	LR	19 49 45.1	
	comp=E,2μm,19.7s,baz=259,slow=35						
YBH	**Yreka Blue Hor**	**3.40**	**77**	Pn	**Pn**	**19 48 40.5**	**+2.1**
O02D	**Mt. Diablo Mer**	**3.44**	**104**	Pn	**Pn**	**19 48 39.5**	**+0.6**
O02D	**Mt. Diablo Mer**	**3.44**	**104**	S	**Sn**	**19 49 20.3**	**+0.6**
	baz=285						
HUMO	**Hull Mountain**	**3.48**	**63**	Pn	**Pn**	**19 48 40.1**	**+0.6**
DBO	**Dodson Butte**	**3.55**	**54**		**Pn**	**19 48 41.1**	**+0.7**
DBO				IAML		19 49 55.6	
	comp=E,76nm,2.0s						
DBO				IAML		19 50 58.5	
	comp=N,74nm,4.4s						
HOPS	**Hopland Field**	**3.76**	**122**		**Pn**	**19 48 43.1**	**-0.1**
HOPS				IAML		19 49 56.6	
	comp=N,68nm,3.5s						
HOPS				IAML		19 50 43.2	
	comp=E,59nm,2.5s						
L04D	**Klamath Falls**	**3.80**	**71**		**Pn**	**19 48 45.8**	**+1.8**
L04D				IAML		19 49 16.1	
	comp=N,95nm,0.9s						
L04D	**Klamath Falls**	**3.80**	**71**	P	**Pn**	**19 48 45.7**	**+1.7**
	baz=253,SNR=67						
I03D	**Drain, OR**	**3.84**	**46**	P	**Pn**	**19 48 44.5**	**+0.1**
	baz=228,SNR=16						
I02E	**Swisshome, OR**	**3.89**	**38**		**Pn**	**19 48 45.5**	**+0.6**
I02E				IAML		19 50 52.0	
	comp=E,71nm,3.9s						
I02E				IAML		19 50 59.0	
	comp=N,98nm,4.4s						
I02E	**Swisshome, OR**	**3.89**	**38**	P	**Pn**	**19 48 46.3**	**+1.3**
	baz=219						
GDXM	**Geysers**	**4.04**	**123**	Pn	**Pn**	**19 48 46.3**	**-0.8**
M04C	**Macdoel**	**4.05**	**78**		**Pn**	**19 48 49.2**	**+1.8**
M04C	**Macdoel**	**4.05**	**78**	P	**Pn**	**19 48 48.7**	**+1.3**
	baz=261,SNR=56						
M04C				S	**Sn**	**19 49 31.7**	**-3.3**
	baz=261						
O03E	**Paynes Creek**	**4.14**	**99**		**Pn**	**19 48 49.0**	**+0.6**
O03E				IAML		19 49 48.8	
	comp=E,93nm,1.6s						
O03E				IAML		19 49 51.3	
	comp=N,43nm,1.5s						
O03E	**Paynes Creek**	**4.14**	**99**	P	**Pn**	**19 48 49.1**	**+0.6**
	baz=281,SNR=20						
K04D	**Chiloquin, OR**	**4.32**	**67**	P	**Pn**	**19 48 51.7**	**+0.7**
	baz=250						
J04D	**Umpqua Nationa**	**4.32**	**58**		**Pn**	**19 48 52.8**	**+1.6**
J04D	**Umpqua Nationa**	**4.32**	**58**	P	**Pn**	**19 48 52.4**	**+1.2**
	baz=241,SNR=28						
BUCK	**Buck Mountain**	**4.38**	**43**		**Pn**	**19 48 54.1**	**+2.3**
BUCK				IAML		19 49 52.9	
	comp=N,79nm,1.8s						
MCCM	**Marconi Confer**	**4.41**	**130**		**Pn**	**19 48 51.9**	**-0.2**
MCCM				IAML		19 49 52.3	
	comp=N,70nm,1.8s						
I04A	**Tendick Farm,**	**4.43**	**51**	P	**Pn**	**19 48 54.2**	**+1.6**
	baz=233						
COR	**Corvallis**	**4.50**	**38**	Pn	**Pn**	**19 48 54.4**	**+1.0**
COR				IAML		19 51 35.2	
	comp=N,66nm,3.8s						
H04D	**Lebanon**	**4

B05A	**Bryant**	8.04	25	P		Pn		19 49 42.2	+0.3
	baz=208								
SMMC	**Simmler**	8.05	133	P		Pn		19 49 43.0	+0.9
	baz=317								
BMO	**Blue Mountains**	8.14	59	Pn		Pn		19 49 44.1	+0.6
VES	**Vestal, Richgr**	8.20	127	P		Pn		19 49 44.9	+0.7
	baz=312								
TPH	**Tonopah**	8.23	108	Pn		Pn		19 49 45.8	+1.0
LCH	**Last Change Ra**	8.32	114	Pn		Pn		19 49 44.4	-1.6
D08A	**Wollman Farm,**	8.41	42	Pn		Pn		19 49 47.8	+0.7
B06A	**Marblemount**	8.46	26	Pn		Pn		19 49 49.6	+1.9
CWC	**Cottonwood Cre**	8.46	120	P		Pn		19 49 48.6	+0.6
	baz=305								
ISA	**Isabella, Lake**	8.69	126	Pn		Pn		19 49 52.4	+1.3
ISA	**Isabella, Lake**	8.69	126	P		Pn		19 49 52.4	+1.3
	baz=311,SNR=22								
F10A	**Beach Ranch, E**	8.71	53			Pn		19 49 52.7	+1.5
MFID	**Camas Ranch**	8.71	71	Pn		Pn		19 49 51.5	+0.2
ELK	**Elko**	9.02	88	Pn		Pn		19 49 59.9	+4.1
	comp=E,0.1nm,0.3s,baz=262,slow=9.5,SNR=5.5								
ELK				LR		LR		19 53 44.9	
	comp=E,1µm,20.0s,baz=264,slow=40								
ELK	**Elko**	9.02	88	Pn		Pn		19 49 55.0	-0.8
CBB	**Campbell River**	9.04	7	Pn		Pn		19 49 58.0	+2.3
MPMC	**Manual Prospec**	9.07	120	P		Pn		19 49 57.2	+0.8
	baz=306								
PLID	**Pearl Lake**	9.09	60	Pn		Pn		19 49 57.9	+1.3
C09A	**Chrisman Ranch**	9.24	40	Pn		Pn		19 49 58.9	+0.4
FURC	**Furnace Creek,**	9.26	117	P		Pn		19 50 00.3	+1.6
	baz=302								
LRMC	**Laurel Mtn Rad**	9.30	124	P		Pn		19 50 02.4	+2.9
	baz=309								
CCAC	**Calif City Air**	9.31	127	Pn		Pn		19 49 57.4	-2.1
R11A	**Troy Canyon, C**	9.32	103	Pn		Pn		19 49 57.9	-1.8
R11A	**Troy Canyon, C**	9.32	103	P		Pn		19 50 00.2	+0.5
	baz=290								
TPNV	**Topopah Spring**	9.43	112	P		Pn		19 50 05.0	+3.8
	baz=299								
S11A	**Rachel**	9.47	108	Pn		Pn		19 50 02.2	+0.5
EDW2	**Edwards Air Fo**	9.51	128	P		Pn		19 50 04.1	+1.9
	baz=313								
HLID	**Hailey**	9.75	71	Pn		Pn		19 50 04.8	-0.9
HLID	**Hailey**	9.75	71	P		Pn		19 50 08.7	+3.0
	baz=259								
GSC	**Goldstone, Bar**	9.97	122	Pn		Pn		19 50 07.9	-0.7
GSC	**Goldstone, Bar**	9.97	122	P		Pn		19 50 10.4	+1.8
	baz=308								
PRN	**Pahroc Range**	10.07	107	Pn		Pn		19 50 10.3	+0.3
NEW	**Newport**	10.12	41	Pn		Pn		19 50 10.8	+0.3
	comp=E,0.2nm,0.3s,baz=42,slow=16,SNR=1.9								
NEW				LR		LR		19 54 15.5	
	comp=E,1µm,18.0s,baz=226,slow=39								
NEW	**Newport**	10.12	41	Pn		Pn		19 50 11.0	+0.4
NEW	**Newport**	10.12	41	P		Pn		19 50 11.7	+1.1
	baz=228								
LLLB	**Lillooet**	10.21	19	Pn		Pn		19 50 14.2	+2.5
SHPR	**Sheep Range**	10.41	112	Pn		Pn		19 50 19.4	+4.7
TUQ	**Turquoise Moun**	10.46	119	P		Pn		19 50 18.0	+2.6
	baz=306								
HEC	**Hector,Ludlow**	10.57	123	P		Pn		19 50 18.1	+1.4
	baz=309								
BCYI	**Bear Canyon**	10.62	68			Pn		19 50 17.9	+0.3
BGU	**Big Grassy Mou**	10.67	86	Pn		Pn		19 50 21.1	+2.9
DUG	**Dugway, Tooele**	10.93	90			Pn		19 50 25.1	+3.3
DUG	**Dugway, Tooele**	10.93	90	P		Pn		19 50 24.0	+2.2
	baz=279								
GMRC	**Granite Mounta**	11.03	121	P		Pn		19 50 24.1	+1.0
	baz=308								
MSO	**Missoula**	11.12	54			Pn		19 50 26.9	+2.6
MSO	**Missoula**	11.12	54	P		Pn		19 50 27.5	+3.3
	baz=243								
MCMT	**McKenzie Canyo**	11.13	66			Pn		19 50 26.8	+2.3
CCUT	**Cedar City**	11.24	104	Pn		Pn		19 50 25.0	-1.1
PFO	**Pinyon Flats O**	11.30	128	Pn		Pn		19 50 30.6	+3.8
	comp=E,0.3nm,0.3s,baz=307,slow=15,SNR=2.0								
PFO				LR		LR		19 54 47.0	
	comp=E,956nm,19.2s,baz=304,slow=37								
JTMT	**Jette**	11.35	50	Pn		Pn		19 50 27.5	0.0
DLMT	**Dillon**	11.45	63	Pn		Pn		19 50 27.9	-0.9
NLU	**North Lily Min**	11.53	91	Pn		Pn		19 50 33.5	+3.5
LCMT	**Little Creek M**	11.55	106	Pn		Pn		19 50 34.3	+4.1
LRM	**Limekiln Ridge**	11.68	61	Pn		Pn		19 50 36.8	+4.6
HWUT	**Hardware Ranch**	11.73	82	Pn		Pn		19 50 36.2	+3.5
MONP2	**Monument Peak**	11.84	130	P		Pn		19 50 35.8	+1.6
	baz=316								
JLU	**Jordanelle**	11.90	87	Pn		Pn		19 50 36.4	+1.2
W13A	**Hualapai Mount**	12.03	115	Pn		Pn		19 50 36.9	+0.1
AHID	**Auburn Hatcher**	12.07	77	Pn		Pn		19 50 36.7	-0.7
QLMT	**Earthquake Lak**	12.11	67	Pn		Pn		19 50 36.2	-1.7
BOZ	**Bozeman (W)**	12.16	63	Pn		Pn		19 50 40.3	+1.7
BOZ	**Bozeman (W)**	12.16	63	P		Pn		19 50 40.9	+2.3
	baz=253								
TPAW	**Teton Pass**	12.24	73	Pn		Pn		19 50 40.4	+0.7
TMUT	**Trail Mountain**	12.32	93			Pn		19 50 41.4	+0.4
MOOW	**Moose Ponds**	12.41	72	Pn		Pn		19 50 43.4	+1.2
U15A	**North Rim**	12.49	107			Pn		19 50 49.3	+6.1
FLWY	**Flagg Ranch**	12.49	71	Pn		Pn		19 50 39.6	-3.6
YHH	**Holmes Hill**	12.51	67	Pn		Pn		19 50 45.8	+2.4
YNR	**Norris Junctio**	12.61	68	Pn		Pn		19 50 44.5	-0.4
H17A	**Grant Village**	12.63	69	Pn		Pn		19 50 49.3	+4.2
P17A	**Butcher Ranch,**	12.64	92			Pn		19 50 48.9	+3.8
SRU	**San Rafael Swe**	12.88	93	Pn		Pn		19 50 50.4	+1.9
PD31	**Pinedale Array**	13.21	77			P		19 50 59.2	-3.8
PDAR	**Pinedale Array**	13.21	77	Pn		P		19 50 59.8	-3.3
	comp=E,0.0nm,0.3s,baz=262,slow=7.3,SNR=8.8								
PDAR	**Pinedale Array**	13.21	77	Pn		Pn		19 50 58.3	+5.3
RDMU	**Red Mountain**	13.33	86			Pn		19 50 55.0	+0.4
WUAZ	**Wupatki**	13.57	109	Pn		Pn		19 50 57.1	-0.7
WUAZ	**Wupatki**	13.57	109	P		Pn		19 51 02.4	+4.6
	baz=299								
X16A	**Lo Mia Camp, P**	14.08	113			Pn		19 51 04.6	-0.3
PV10	**Paradox Valley**	14.20	95			Pn		19 51 05.6	-0.9
PV23	**Carpenter Ridg**	14.20	95			Pn		19 51 06.7	+0.2
PV14	**Lion Creek, Pa**	14.21	95	Pn		Pn		19 51 07.0	+0.3
PV05	**Paradox Valley**	14.24	96	Pn		Pn		19 51 08.4	+1.3
PV19	**Morning Glory**	14.26	95	Pn		Pn		19 51 06.6	-0.7
PV20	**West Nyswonger**	14.26	95	Pn		Pn		19 51 07.1	-0.2
PV17	**East Wray Mesa**	14.28	95	Pn		Pn		19 51 07.8	+0.2
PV04	**Paradox Valley**	14.29	95	Pn		Pn		19 51 07.7	0.0
PV16	**Nyswonger Mesa**	14.31	95	Pn		Pn		19 51 07.0	-1.0
PV18	**Skein Mesa, Pa**	14.33	95	Pn		Pn		19 51 09.5	+1.2
PV11	**David Mesa, Pa**	14.34	95	P		P		19 51 14.5	-1.1
PV03	**Paradox Valley**	14.38	95	Pn		Pn		19 51 09.8	+0.8
PV12	**Saucer Basin,**	14.39	95	Pn		Pn		19 51 10.6	+1.5
O20A	**White River Ci**	14.40	88	P		P		19 51 14.3	-1.9
PV13	**Radium Mtn., P**	14.42	96	P		P		19 51 14.7	-1.8
PV02	**Paradox Valley**	14.47	95	Pn		Pn		19 51 06.2	-4.1
PV07	**Paradox Valley**	14.47	94	P		P		19 51 15.1	-2.0
PV01	**Paradox Valley**	14.62	96			P		19 51 16.6	-2.2
PV15	**Paradox Valley**	14.63	95	P		P		19 51 17.9	-0.9
W18A	**Petrified Fore**	14.94	108			Pn		19 51 13.8	-2.7
MVCO	**Mesa Verde**	14.97	99			Pn		19 51 20.0	+2.9
MVCO	**Mesa Verde**	14.97	99	P		Pn		19 51 18.2	+1.2
	baz=290								
RWWY	**Rawlins**	14.98	81			Pn		19 51 15.6	-1.6
RWWY				IAmb		IAmb		19 51 36.3	
	comp=Z,25nm,1.2s								
X18A	**Snowflake**	15.07	110	Pn		Pn		19 51 16.1	-2.3
EDM	**Edmonton**	15.32	33	Pn		Pn		19 51 21.1	-0.3
EDM				IAmb		IAmb		19 51 36.0	
	comp=Z,34nm,1.3s								
K22A	**Casper**	15.45	77			Pn		19 51 21.5	-1.7
K22A	**Casper**	15.45	77	P		Pn		19 51 24.2	+1.0
	baz=271								
SMCO	**Snowmass**	15.55	90	Pn		Pn		19 51 22.8	-2.0
TUC	**Tucson**	15.76	119	Pn		Pn		19 51 24.6	-2.6
TUC	**Tucson**	15.76	119	P		Pn		19 51 27.9	+0.6
	baz=308								
N23A	**Red Feather La**	16.01	84	Pn		Pn		19 51 29.3	-1.4
N23A	**Red Feather La**	16.01	84	P		Pn		19 51 31.5	+0.7
	baz=277								
S22A	**4UR Ranch, Cre**	16.05	95	Pn		Pn		19 51 30.5	-0.7
S22A	**4UR Ranch, Cre**	16.05	95	P		P		19 51 33.5	-1.1
	baz=288,SNR=10								
LAO	**LASA Array**	16.08	63			Pn		19 51 31.1	-0.1
LAO				IAmb		IAmb		19 51 51.3	
	comp=Z,52nm,1.5s								
ISCO	**Idaho Springs**	16.44	87	Pn		Pn		19 51 33.7	-2.5
ISCO	**Idaho Springs**	16.44	87	P		Pn		19 51 37.1	+0.9
	baz=281								
Q24A	**Divide**	16.98	90			Pn		19 51 41.3	-1.7
Q24A	**Divide**	16.98	90	P		P		19 51 45.2	+0.2
	baz=284								
SDCO	**Great Sand Dun**	17.05	94			P		19 51 47.3	+1.6
SDCO				IAmb		IAmb		19 51 55.7	
	comp=Z,57nm,1.4s								
SDCO	**Great Sand Dun**	17.05	94	P		Pn		19 51 45.0	+1.1
	baz=288,SNR=36								
RSSD	**Black Hills**	17.27	72	Pn		Pn		19 51 45.9	-0.7
319A	**Douglas**	17.34	118	Pn		Pn		19 51 44.3	-3.1
319A				IAmb		IAmb		19 52 05.8	
	comp=Z,47nm,1.3s								
ANMO	**Albuquerque**	17.40	104	P		P		19 51 51.6	+2.0
	comp=Z,0.1nm,0.3s,baz=15,slow=5.8,SNR=1.7								
ANMO				LR		LR		19 59 05.9	
	comp=Z,1µm,18.2s,baz=296,slow=39								
ANMO	**Albuquerque**	17.40	104	P		P		19 51 50.8	+1.2
	baz=296								
DLBC	**Dease Lake**	17.47	355	P		Pn		19 51 47.2	-1.7
	comp=Z,0.0nm,0.3s,baz=171,slow=10.0,SNR=1.2								
DLBC				LR		LR		19 57 12.9	
	comp=Z,130nm,20.4s,baz=152,slow=33								
DLBC	**Dease Lake**	17.47	355	Pn		Pn		19 51 47.5	-1.4
BNM	**Barren Site**	17.65	106	P		Pn		19 51 48.8	-2.5
121A	**Cookes Peak, D**	17.67	113			Pn		19 51 49.9	-1.7
121A	**Cookes Peak, D**	17.67	113	P		P		19 51 53.3	+0.8
	baz=304								
DGMT	**Dagmar**	17.85	58			Pn		19 51 52.4	-1.2
DGMT				IAmb		IAmb		19 52 05.5	
	comp=Z,75nm,1.4s								
DGMT	**Dagmar**	17.85	58	P		P		19 51 55.6	+1.3
	baz=254								
T25A	**Trinidad**	18.07	95			Pn		19 51 54.2	-2.3
T25A	**Trinidad**	18.07	95	P		P		19 51 59.8	+2.8
	baz=289,SNR=14								
KSCO	**Kaye Shedlock'**	18.87	88	P		P		19 52 04.5	-1.2
KSCO				IAmb		IAmb		19 52 16.7	
	comp=Z,52nm,1.1s								
KSCO	**Kaye Shedlock'**	18.87	88	P		Pn		19 52 07.9	+1.7
	baz=284								
SKAG	**Skagway**	19.11	347	P		Pn		19 52 09.7	+1.0
	baz=161								
P33M	**Teslin, Yukon**	19.48	351	P		P		19 52 11.3	-0.8
P33M	**Teslin, Yukon**	19.48	351	P		Pn		19 52 13.3	0.0
	baz=167								
E28A	**Huff**	19.81	65			P		19 52 16.0	+0.2
E28A				IAmb		IAmb		19 52 30.0	
	comp=Z,65nm,1.2s								
MNTX	**Cornudas Mount**	19.82	111	P		P		19 52 13.6	-2.4
WHY	**Whitehorse**	20.18	349	P		P		19 52 20.9	+1.1
	baz=163								
TGTN	**Hyland Airport**	20.49	358	P		P		19 52 24.1	+1.0
	baz=178								
HYT	**Haines Junctio**	20.77	346	P		P		19 52 24.7	-1.5
HYT	**Haines Junctio**	20.77	346	P		P		19 52 27.6	+1.4
	baz=158								
YUK6	**Outpost Mounta**	21.05	345	P		P		19 52 29.8	+0.5
	baz=156								
N31M	**Braeburn, Yuko**	21.10	348	P		P		19 52 28.0	-1.6
N31M				IAmb		IAmb		19 52 40.1	
	comp=Z,27nm,1.2s								
N31M	**Braeburn, Yuko**	21.10	348	P		P		19 52 30.4	+0.8
	baz=162								
YUK4	**Talbot Arm**	21.47	345	P		P		19 52 36.0	+2.1
	baz=156								
LOGN	**Logan Glacier**	21.52	341	P		P		19 52 32.7	-1.6
LOGN				IAmb		IAmb		19 52 43.9	
	comp=Z,56nm,1.5s								
FFC	**Flin Flon**	21.55	42	P		P		19 52 35.3	+0.8
M31M	**Drury Creek, Y**	21.60	351	P		P		19 52 34.3	-0.7
M31M	**Drury Creek, Y**	21.60	351	P		P		19 52 36.6	+1.6
	baz=165								
GRNC	**Granite Creek**	21.63	340	P		P		19 52 37.0	+1.4
CTGM	**Chitina Glacie**	21.73	341	P		P		19 52 38.0	+1.5
CTG	**Chitna Glacier**	21.73	341	P		P		19 52 38.3	+1.8
	baz=150								
BGNE	**Belgrade**	21.77	80	P		P		19 52 35.4	-1.6
BARN	**Barnard Glacie**	21.89	341	P		P		19 52 37.9	-0.4
LPIG	**La Paz**	22.02	135	LR		LR		20 00 08.0	
	comp=Z,204nm,20.5s,baz=7.0,slow=34								
YUK3	**Moose Creek**	22.24	343	P		P		19 52 44.2	+2.2
	baz=153								
M30M	**Minto, Yukon**	22.29	348	P		P		19 52 42.3	-0.1
M30M				IAmb		IAmb		19 52 51.9	
	comp=Z,39nm,1.5s								
M30M	**Minto, Yukon**	22.29	348	P		P		19 52 44.8	+2.4
	baz=161,SNR=10								
TX31	**Lajitas Ar. Si**	22.41	114	P		P		19 52 43.8	-0.2
TX31				IAmb		IAmb		19 53 01.2	
	comp=Z,38nm,1.1s								
TX32	**Lajitas Array**	22.41	114	P		P		19 52 42.9	-1.1
TXAR	**Lajitas Array**	22.41	114	P		P		19 52 47.3	+3.3
	comp=Z,1.5nm,0.9s,baz=306,slow=7.7,SNR=5.3								
TXAR				LR		LR		20 02 04.4	
	comp=Z,229nm,20.1s,baz=298,slow=38								
TXAR	**Lajitas Array**	22.41	114	P		P		19 52 40.8	-3.2
ECSD	**EROS Data Cent**	22.64	73	P		P		19 52 45.8	-0.5
ECSD				IAmb		IAmb		19 52 58.0	
	comp=Z,34nm,1.5s								
ECSD	**EROS Data Cent**	22.64	73	P		P		19 52 46.8	+0.5
	baz=274								
YKA	**Yellowknife Ar**	22.73	15	P		P		19 52 46.9	-0.1
	comp=Z,2.0nm,0.8s,baz=204,slow=11,SNR=17								
YKA				LR		LR		20 01 18.3	
	comp=Z,165nm,18.3s,baz=109,slow=36								
YKA	**Yellowknife Ar**	22.73	15	P		P		19 52 46.2	-0.8
DIV	**Divide**	23.07	337	P		P		19 52 51.1	+0.4
DIV				IAmb		IAmb		19 53 01.0	
	comp=Z,36nm,1.1s								
N25K	**Chitina, Valde**	23.12	339	P		P		19 52 51.0	-0.2
	baz=145								
AGMN	**Agassiz Nation**	23.27	61	P		P		19 52 52.8	+0.1
AGMN				IAmb		IAmb		19 53 03.0	
	comp=Z,28nm,1.1s								
KDAK	**Kodiak Island**	23.30	324	LR		LR		19 59 31.7	
	comp=Z,384nm,21.7s,baz=140,slow=31								
ABTX	**Abilene, Hawle**	23.50	102	P		P		19 52 54.5	-0.7
ABTX				IAmb		IAmb		19 53 06.4	
	comp=Z,18nm,1.1s								
ULM	**Lac du Bonnet**	23.55	57	P		P		19 52 55.9	+0.3
	comp=Z,1.2nm,0.5s,baz=267,slow=12,SNR=1.9								
ULM				LR		LR		20 02 22.5	
	comp=Z,460nm,19.9s,baz=266,slow=37								
ULM	**Lac du Bonnet**	23.55	57	P		P		19 52 57.1	+1.5
ULM				IAmb		IAmb		19 53 04.3	
	comp=Z,29nm,1.4s								
BCAR	**Beaver Creek A**	23.67	343	P		P		19 52 57.9	+1.2
OKCFA	**Oklahoma City**	23.93	94	P		P		19 52 59.5	+0.2
L26K	**Log Cabin Wild**	23.99	342	P		P		19 52 59.2	-0.5
L26K				IAmb		IAmb		19 53 16.2	
	comp=Z,26nm,1.4s								
L26K	**Log Cabin Wild**	23.99	342	P		P		19 52 59.9	+0.2
	baz=149								
MENT	**Mentasta**	24.00	341	P		P		19 53 01.6	+1.8
SCM	**Sheep Creek Mo**	24.09	336	P		P		19 53 00.3	-0.4
SCM	**Sheep Creek Mo**	24.09	336	P		P		19 53 01.1	+0.4
	baz=140								
T35A	**Sooner Cattle**	24.10	90	P		P		19 52 59.6	-1.4
DAWY	**Dawson**	24.11	347	P		P		19 53 00.6	-0.3
DAWY				IAmb		IAmb		19 53 16.9	
	comp=Z,28nm,1.5s								
DAWY	**Dawson**	24.11	347	P		P		19 53 01.2	+0.4
	baz=157								
W35A	**Tecumseh**	24.47	94	P		P		19 53 03.4	-1.0
W35A				IAmb		IAmb		19 53 14.6	
	comp=Z,16nm,1.1s								
DOT	**Dot Lake**	24.69	342	P		P		19 53 05.2	-1.0
DOT				IAmb		IAmb		19 53 16.4	
	comp=Z,13nm,1.1s								
SCRK	**Sand Creek**	24.96	342	P		P		19 53 10.1	+1.5
SCRK	**Sand Creek**	24.96	342	P		P		19 53 08.7	+0.1
	baz=149								
RIDG	**Independent Ri**	24.96	341	P		P		19 53 08.6	+0.1
	baz=147								
DHY	**Denali Highway**	25.08	338	P		P		19 53 08.8	-0.9
DHY	**Denali Highway**	25.08	338	P		P		19 53 10.4	+0.7
	baz=142								
EGAK	**Eagle**	25.08	346	P		P		19 53 09.8	+0.3
EGAK				IAmb		IAmb		19 53 20.2	
	comp=Z,15nm,1.2s								
EGAK	**Eagle**	25.08	346	P		P		19 53 10.6	+1.1
	baz=155								
I29M	**Ogilvie Camp,**	25.15	349	P		P		19 53 10.1	-0.1
I29M				IAmb		IAmb		19 53 20.2	
	comp=Z,24nm,1.4s								
I29M	**Ogilvie Camp,**	25.15	349	P		P		19 53 10.1	-0.1
	baz=160								
SPCR	**Spurr Chakacha**	25.27	331	P		P		19 53 12.6	+1.3
	baz=132								
J26L	**Joseph Creek**	25.32	343	P		P		19 53 12.5	+0.7
	baz=150,SNR=13								
O19K	**Port Alsworth**	25.44	328	P		P		19 53 13.9	+1.0
	baz=127								
P38A	**Dawn**	25.57	82	P		P		19 53 12.6	-1.6
P38A				IAmb		IAmb		19 53 27.7	
	comp=Z,20nm,1.1s								
J25K	**Salcha River,**	25.82	342	P		P		19 53 16.7	+0.4
J25K				IAmb		IAmb		19 53 30.0	
	comp=Z,33nm,1.5s								
J25K	**Salcha River,**	25.82	342	P		P		19 53 17.2	+0.8
	baz=147								
MCK	**McKinley**	26.03	338	P		P		19 53 18.0	-0.3
	baz=140								
M20K	**Styx River**	26.05	332	P		P		19 53 19.4	+0.8
	baz=131								
SDPT	**Sand Point**	26.09	314	P		P		19 53 22.2	+3.4
	baz=109								
TRF	**Thorofare Moun**	26.21	336	P		P		19 53 20.3	+0.2
	baz=138								
IL31		26.32	341	P		P		19 53 20.5	-0.2
IL31				IAmb		IAmb		19 53 33.6	
	comp=Z,12nm,1.1s								
ILAR	**Eielson Array**	26.32	341	P		P		19 53 20.6	-0.1
	comp=Z,2.1nm,0.7s,baz=158,slow=8.2,SNR=24								
ILAR				LR		LR		20 01 38.6	
	comp=Z,274nm,21.0s,baz=151,slow=32								
ILAR	**Eielson Array**	26.32	341	P		P		19 53 19.6	-1.1
WRH	**Wood River Hil**	26.38	340	P		P		19 53 21.1	-0.2
PPLA	**Purkeypile**	26.41	334	P		P		19 53 21.6	-0.2
	baz=134								
M19K	**Big River Lodg**	26.52	331	P		P		19 53 23.2	+0.6
	baz=129								
L20K	**Farewell, AK**	26.71	332	P		P		19 53 25.5	+1.2
	baz=131								
POKR	**Poker Plat Res**	26.73	341	P		P		19 53 25.1	+0.6
	baz=144								
NEA2	**Nenana**	26.74	339	P		P		19 53 25.4	+0.9
NEA2	**Nenana**	26.74	339	P		P		19 53 25.8	+1.2
	baz=141								
CAST	**Castle Rocks**	26.75	335	P		P		19 53 26.8	+2.1
	baz=135								
W39A	**Magazine**	26.78	92	P		P		19 53 24.6	-0.7
W39A				IAmb		IAmb		19 53 37.2	
	comp=Z,19nm,1.2s								
W39A	**Magazine**	26.78	92	P		P		19 53 25.9	+0.6
	baz=293								
L19K	**White Mountain**	26.87	331	P		P		19 53 26.4	+0.6
L19K	**White Mountain**	26.87	331	P		P		19 53 26.8	+1.0
	baz=129,SNR=5.6								
BPAW	**Bear Paw Mtn.**	26.91	337	P		P		19 53 25.6	-0.6
BPAW	**Bear Paw Mtn.**	26.91	337	P		P		19 53 25.8	-0.3
	baz=138								
CHUM	**Lake Minchumin**	27.15	336	P		P		19 53 29.4	+1.2
	baz=135								
I23K	**Minto, Yukon-K**	27.25	340	P		P		19 53 30.3	+1.2
I23K	**Minto, Yukon-K**	27.25	340	P		P		19 53 30.8	+1.6
	baz=142								
FCC	**Fort Churchill**	27.27	38	P		P		19 53 30.5	+1.1
FCC				IAmb		IAmb		19 53 39.1	
	comp=Z,17nm,1.2s								
K20K	**Telida**	27.36	334	P		P		19 53 31.2	+1.0
	baz=132								
H24K	**Noodor Dome**	27.43	342	P		P		19 53 32.1	+1.3
H24K				IAmb		IAmb		19 53 52.7	
	comp=Z,22nm,1.5s								
H24K	**Noodor Dome**	27.43	342	P		P		19 53 32.3	+1.5
	baz=145								
INK	**Inuvik**	27.50	355	LR		LR		20 02 42.9	
	comp=Z,64nm,18.6s,baz=164,slow=33								
MLY	**Manley**	27.53	338	P		P		19 53 31.2	-0.6
MLY				IAmb		IAmb		19 53 40.8	
	comp=Z,14nm,1.2s								
MLY	**Manley**	27.53	338	P		P		19 53 32

H11N2	**WAKE ISLAND Hy**	**59.35**	**270**	T		T		21 01 52.0
	baz=53,slow=75,SNR=1748							
H11N1	**WAKE ISLAND Hy**	**59.36**	**270**	T		T		21 01 53.1
	baz=53,slow=75,SNR=1840							
BORG	**Borgarnes**	**59.81**	**29**	LR		LR		20 23 20.6
	comp=Z,216nm,18.6s,baz=302,slow=36							
H11S1	**WAKE ISLAND Hy**	**60.23**	**269**	T		T		21 02 58.9
	baz=52,slow=75,SNR=708							
H11S2	**WAKE ISLAND Hy**	**60.23**	**269**	T		T		21 02 56.5
	baz=52,slow=75,SNR=339							
H11S3	**WAKE ISLAND Hy**	**60.24**	**269**	T		T		21 03 00.0
	baz=52,slow=75,SNR=305							
YAK	**Yakutsk**	**60.26**	**328**	P		**P**		**19 57 53.8 +0.5**
	comp=Z,7.4nm,0.8s,baz=36,slow=1.4,SNR=12							
YAK				LR		LR		20 23 06.1
	comp=Z,121nm,20.3s,baz=88,slow=35							
YAK	**Yakutsk**	**60.26**	**328**	P		**P**		**19 57 53.3 +0.1**
PPT2	**Papeete2**	**61.97**	**204**	*e*LR		LR		20 16 21.3
	comp=Z,149nm,25.5s							
ASAJ	**Asahikawa**	**63.15**	**306**	LR		LR		20 22 15.8
	comp=Z,43nm,20.4s,baz=260,slow=33							
RKT	**Rikitea**	**64.28**	**188**	*e*T		T		21 07 57.4
	comp=Z,4.2nm,0.3s							
KLR	**Kul'dur**	**66.49**	**315**	P		**P**		**19 58 35.3 +0.5**
	comp=Z,1.4nm,0.8s,baz=346,slow=8.4,SNR=4.1							
NRIK	**Noril'sk**	**66.96**	**347**	P		**P**		**19 58 37.3 -0.1**
	comp=Z,1.0nm,0.2s,baz=73,slow=3.8,SNR=4.6							
NRIK				LR		LR		20 29 55.4
	comp=Z,44nm,19.4s,baz=41,slow=38							
NRIK	**Noril'sk**	**66.96**	**347**	P		**P**		**19 58 37.0 -0.4**
NRIK				IAmb		IAmb		19 58 46.0
	comp=Z,11nm,1.5s							
TBI	**Tubuai**	**67.37**	**202**	*e*T		T		21 11 48.0
	comp=Z,3.9nm,0.3s							
AFI	**Afiamalu**	**68.53**	**227**	LR		LR		20 22 35.6
	comp=Z,142nm,21.7s,baz=48,slow=30							
USRK	**Usuriysk Ar.**	**69.37**	**311**	P		**P**		**19 58 52.4 -0.6**
	comp=Z,4.2nm,0.9s,baz=56,slow=7.8,SNR=3.0							
USRK				LR		LR		20 24 14.8
	comp=Z,47nm,21.7s,baz=41,slow=32							
RPN	**Rapa Nui**	**69.84**	**163**	LR		LR		20 23 00.1
	comp=Z,113nm,18.9s,baz=94,slow=30							
MJAR	**Matsushiro Arr**	**70.20**	**301**	LR		LR		20 24 10.9
	comp=Z,112nm,20.3s,baz=54,slow=31							
JHJ	**Hachijo jima 2**	**71.22**	**298**	LR		LR		20 32 23.5
	comp=Z,52nm,18.2s,baz=67,slow=38							
NB2	**NORSAR Subarra**	**72.73**	**20**	P		**P**		**19 59 13.9 +0.8**
	comp=Z,1.9nm,0.8s,baz=332,slow=5.9							
NOA	**NORSAR Array B**	**72.73**	**20**	P		**P**		**19 59 13.6 +0.5**
	comp=Z,0.8nm,0.7s,baz=331,slow=5.9,SNR=3.7							
NOA				LR		LR		20 31 57.6
	comp=Z,38nm,18.8s,baz=350,slow=36							
JCJ	**Chichijima**	**73.22**	**291**	LR		LR		20 23 33.8
	comp=Z,233nm,20.9s,baz=55,slow=29							
HFS	**Hagfors**	**74.14**	**19**	P		**P**		**19 59 21.1 -0.2**
	comp=Z,1.2nm,0.8s,baz=322,slow=4.4,SNR=2.4							
MDP	**Montagnes des**	**74.99**	**96**	LR		LR		20 33 39.0
	comp=Z,33nm,21.6s,baz=321,slow=37							
KSRS	**Korea Array**	**76.03**	**308**	P		**P**		**19 59 33.1 +0.4**
	comp=Z,0.6nm,0.6s,baz=47,slow=5.5,SNR=4.2							
KSRS				LR		LR		20 28 30.3
	comp=Z,51nm,21.4s,baz=60,slow=32							
KLMR	**Klimovskoe**	**77.84**	**7**	*e*P		**P**		**19 59 44.2 +1.8**
KLMR				AMP				19 59 52.6
	comp=Z,18nm,1.5s							
LPAZ	**La Paz**	**78.97**	**123**	P		**P**		**19 59 51.1 +1.1**
	comp=Z,1.6nm,0.9s,baz=8.2,slow=10,SNR=4.6							
SONM	**Songino Array**	**79.57**	**327**	P		**P**		**19 59 53.3 +0.9**
	comp=Z,1.8nm,0.9s,baz=21,slow=2.0,SNR=12							
SONM				LR		LR		20 35 00.7
	comp=Z,74nm,19.2s,baz=54,slow=36							
SONM	**Songino Array**	**79.57**	**327**	P		**P**		**19 59 52.6 +0.2**
SONM				IAmb		IAmb		20 00 05.1
	comp=Z,9.2nm,1.2s							
GUMO	**Guam**	**79.71**	**279**	LR		LR		20 27 45.4
	comp=Z,80nm,20.3s,baz=80,slow=30							
ZALV	**Zalesovo Beam**	**81.44**	**342**	P		**P**		**20 00 02.6 +0.5**
	comp=Z,1.7nm,0.8s,baz=5.5,slow=4.6,SNR=6.8							
ZALV				LR		LR		20 37 49.6
	comp=Z,81nm,20.0s,baz=38,slow=37							
ZALV	**Zalesovo Beam**	**81.44**	**342**	P		**P**		**20 00 01.4 -0.8**
BRG	**Berggiesshubel**	**82.32**	**24**	*ex*		x		20 00 15.4
BRG				Amp				20 00 20.3
	comp=Z,6.7nm,1.2s							
HHC	**Hu-ho-hao-te**	**82.61**	**319**	*e*P		**P**		**20 00 06.5 -2.2**
HHC				pmax		pmax		
	comp=Z,12nm,0.8s							
HHC				pmax		pmax		
	comp=Z,83nm,4.1s							
ARU	**Arti**	**82.74**	**357**	LR		LR		20 39 45.8
	comp=Z,19nm,18.2s,baz=29,slow=38							
JOW	**Kunigami**	**82.89**	**299**	LR		LR		20 31 12.4
	comp=Z,54nm,21.2s,baz=111,slow=32							
KHC	**Kasperske Hory**	**83.73**	**26**	*e*P		P		20 00 20.5 +6.2
GERES	**GERESS Array B**	**84.02**	**25**	P		**P**		**20 00 17.0 +1.2**
	comp=Z,0.2nm,0.5s,baz=334,slow=3.6,SNR=1.5							
GERES				LR		LR		20 38 20.7
	comp=Z,113nm,19.5s,baz=324,slow=36							
ESDC	**Sonseca Array**	**84.44**	**40**	P		**P**		**20 00 19.6 +1.5**
	comp=Z,0.7nm,0.8s,baz=322,slow=6.2,SNR=3.1							
ESDC				LR		LR		20 34 23.4
	comp=Z,77nm,21.5s,baz=316,slow=33							
VRAC	**Vranov**	**84.50**	**23**	LR		LR		20 38 32.3
	comp=Z,48nm,19.8s,baz=324,slow=36							
DAVOX	**Davos/Dischmat**	**84.53**	**28**	LR		LR		20 38 42.3
	comp=Z,48nm,18.0s,baz=284,slow=36							
BRVK	**Borovoye**	**85.04**	**350**	P		**P**		**20 00 20.2 -0.5**
BRVK				IAmb		IAmb		20 00 23.2
	comp=Z,4.3nm,0.9s							
NJ2	**Nanjing**	**85.15**	**309**	*e*P		**P**		**20 00 21.5 -0.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KURK	**Kurchatov**	**85.84**	**344**	P		**P**		**20 00 25.3 +0.5**
KURK				IAmb		IAmb		20 00 32.6
	comp=Z,4.0nm,1.0s							
KURBB	**Kurchatov Arra**	**85.95**	**344**	LR		LR		20 42 12.1
	comp=Z,45nm,18.5s,baz=330,slow=38							
AKASG	**Malin Array Be**	**86.29**	**15**	P		**P**		**20 00 27.2 +0.3**
	comp=Z,0.2nm,0.3s,baz=344,slow=4.1,SNR=5.9							
AKASG	**Malin Array Be**	**86.29**	**15**	P		**P**		**20 00 26.4 -0.6**
H03N2	**Juan Fernandez**	**86.43**	**141**	T		T		21 36 31.8
	baz=324							
H03N1	**Juan Fernandez**	**86.44**	**141**	T		T		21 36 25.2
	baz=324							
H03N3	**Juan Fernandez**	**86.45**	**141**	T		T		21 36 25.2
	baz=324							
DZM	**Mont Dzumac**	**87.93**	**238**	LR		LR		20 31 19.5
	comp=Z,118nm,20.0s,baz=97,slow=30							
DZM	**Mont Dzumac**	**87.93**	**238**	*e*LR		LR		20 28 23.8
	comp=Z,179nm,22.4s							
MKAR	**Makanchi Array**	**88.67**	**340**	P		**P**		**20 00 37.8 -0.8**
	comp=Z,0.2nm,0.5s,baz=23,slow=4.5,SNR=2.5							
MKAR				LR		LR		20 42 59.4
	comp=Z,54nm,18.2s,baz=20,slow=38							
MAKZ	**Makanchi**	**88.73**	**340**	P		**P**		**20 00 36.3 -2.6**
AKTO	**Aktyubinsk**	**88.75**	**357**	LR		LR		20 44 25.9
	comp=Z,20nm,18.1s,baz=3.2,slow=38							
WHN	**Wuhan**	**88.87**	**311**	⇓P		P		20 00 34.0 -5.7
XAN	**Xi'an**	**89.18**	**316**	P		**P**		**20 00 41.3 +0.1**
XAN				pP		pwP		20 00 49.8 +2.5
XAN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ABKAR	**Akbulak array**	**89.83**	**355**	P		**P**		**20 00 42.2 -1.8**
ABKAR	**Akbulak array**	**89.83**	**355**	P		**P**		**20 00 41.7 -2.2**
ABKAR				IAmb		IAmb		20 00 45.9
	comp=Z,3.1nm,1.0s							
WMQ	**Urumqi**	**89.86**	**336**	*e*P		**P**		**20 00 42.8 -1.5**
WMQ				sP		pwP		20 00 52.0 +1.7
WMQ				pmax		pmax		
	comp=Z,40nm,0.7s							
ENH	**Enshi**	**91.80**	**314**	P		**P**		**20 00 53.0 -0.4**
PMG	**Port Moresby**	**92.88**	**260**	LR		LR		20 35 15.3
	comp=Z,136nm,21.4s,baz=72,slow=31							
JAY	**Jayapura**	**93.26**	**270**	LR		LR		20 35 37.7
	comp=Z,213nm,20.4s,baz=16,slow=31							
KEST	**Kesra**	**93.76**	**34**	LR		LR		20 41 15.0
	comp=Z,55nm,21.6s,baz=283,slow=34							
URZ	**Urewera**	**93.94**	**221**	LR		LR		20 33 35.5
	comp=Z,69nm,21.7s,baz=31,slow=29							
GOMU	**GeErMu**	**94.00**	**327**	P		**P**		**20 01 01.0 -3.0**
GOMU				pP		pP		20 01 06.0 -0.4
GOMU				sP		sP		20 01 07.5 +0.2
GOMU				pmax		pmax		
	comp=Z,1.0nm,0.9s							
GOMU				pmax		pmax		
	comp=Z,56nm,5.5s							
AAK	**Ala-Archa**	**94.40**	**344**	LR		LR		20 46 00.3
	comp=Z,30nm,19.9s,baz=32,slow=37							
KBZ	**Khabaz**	**95.10**	**7**	LR		LR		20 45 09.0
	comp=Z,30nm,19.6s,baz=185,slow=36							
DAV	**Davao City (W)**	**98.21**	**287**	LR		LR		20 38 35.7
	comp=Z,117nm,20.7s,baz=315,slow=31							
GNI	**Garni**	**98.82**	**6**	LR		LR		20 47 57.9
	comp=Z,33nm,21.8s,baz=29,slow=37							
PZH	**PanZhiHua**	**98.91**	**317**	P		**P**		**20 01 25.0 -1.1**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
SIJI	**Sorong**	**99.31**	**277**	LR		LR		20 37 10.7
	comp=Z,117nm,21.6s,baz=187,slow=30							

*IDC **30** 19:55:15.7±0.8,54.5˚53N×168.5˚97E,h0km,mb3.4/13, mb1 3.7/15,mb1mx3.5/63,mbtmp3.5/15,ML3.8/2,MS3.1/3, Ms1 3.1/3,ms1mx2.5/62,Error ellipse: s-maj=24.4km s-min=16.0km az=173.0*
*MOS **30** 19:55:18.9±0.8,54.5˚26N×168.5˚83E,h54km,mb4.2/5,Error ellipse: s-maj=9.2km s-min=6.7km az=16.5*
*KRSC **30** 19:55:18.0±2.2,54.5˚16N×168.5˚36E,h16km±49km,ML4.4*
*NEIC **30** 19:55:20.7±1.7,54.5˚2N±0.5˚2×168.5˚9E±0.5˚1,h38km±7km, mb4.1/9,Error ellipse: s-maj=31.8km s-min=9.5km az=188.0*

ISC 30 19:55:16.7±0.6,54°21N±0.07°×168°85E±0.05,h10km,n105, σ1§75/128,mb3.7/19,1C-3D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKI	**Bering**	**1.94**	**302**	PN		**Pn**	**19 55 47.8**	**-2.0**
BKI				S		**Sn**	**19 56 12.3**	**-1.9**
BKI	**Bering**	**1.94**	**302**	*e*P		**Pn**	**19 55 47.8**	**-2.0**
BKI				*e*S		**Sn**	**19 56 10.1**	**-4.1**
SHEM	**Shemya Is, Ala**	**3.47**	**113**	Pn		**Pn**	**19 56 11.0**	**+0.2**
	19nm,0.3s,baz=15,slow=3.5,SNR=12							
SHEM				Sn		**Sn**	**19 56 52.5**	**+0.7**
	13nm,0.3s,baz=276,slow=22,SNR=3.0							
SMY	**Shemya**	**3.47**	**113**	PN		**Pn**	**19 56 10.7**	**0.0**
SMY	**Shemya**	**3.47**	**113**	Pn		**Pn**	**19 56 10.7**	**0.0**
KBTR	**Krutoberegovo**	**3.99**	**303**	PN		**Pn**	**19 56 16.9**	**-1.0**
KBTR	**Krutoberegovo**	**3.99**	**303**	*e*P		**Pn**	**19 56 16.8**	**-1.1**
KBTR				*e*S		**Sn**	**19 57 04.1**	**-0.6**
KBG	**Krutoberegovo**	**4.07**	**303**	PN		**Pn**	**19 56 19.0**	**0.0**
KBG	**Krutoberegovo**	**4.07**	**303**	*e*P		**Pn**	**19 56 19.2**	**+0.2**
KBG				*e*S		**Sn**	**19 57 06.4**	**-0.2**
MKZ	**Mys Kozlova**	**4.18**	**278**	PN		**Pn**	**19 56 20.9**	**+0.5**
MKZ				S		**Sn**	**19 57 06.3**	**-2.9**
MKZ	**Mys Kozlova**	**4.18**	**278**	*e*P		**Pn**	**19 56 21.1**	**+0.7**
MKZ				*e*S		**Sn**	**19 57 06.1**	**-3.1**
SMKR	**Semkarok**	**4.83**	**302**	PN		**Pn**	**19 56 31.7**	**+2.2**
SMKR	**Semkarok**	**4.83**	**302**	*e*P		**Pn**	**19 56 31.2**	**+1.7**
SMKR				*e*S		**Sn**	**19 57 27.0**	**+1.5**
BDR	**Baidarnaya**	**4.96**	**302**	PN		**Pn**	**19 56 33.0**	**+1.8**
BDR	**Baidarnaya**	**4.96**	**302**	*e*P		**Pn**	**19 56 33.2**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**5.00**	**294**	*e*S		**Sn**	**19 57 26.7**	**-2.9**
TUMD	**Tumrok D**	**5.00**	**285**	*e*P		**Pn**	**19 56 33.3**	**+1.5**
TUMD				*e*S		**Sn**	**19 57 28.1**	**-1.5**
SRKR	**Sorokina**	**5.01**	**302**	PN		**Pn**	**19 56 34.3**	**+2.3**
SRKR	**Sorokina**	**5.01**	**302**	*e*P		**Pn**	**19 56 33.6**	**+1.6**
BZWR	**Bezymyannyi-We**	**5.11**	**294**	*e*S		**Sn**	**19 57 32.8**	**+0.3**
KLY	**Klyuchi**	**5.14**	**298**	*e*S		**Sn**	**19 57 32.3**	**-0.7**
KRSR	**Krestovskiy**	**5.15**	**296**	*e*S		**Sn**	**19 57 30.3**	**-3.2**
TUMR	**Tumrok**	**5.16**	**286**	PN		**Pn**	**19 56 35.7**	**+1.7**
TUMR				S		**Sn**	**19 57 33.7**	**+0.1**
TUMR	**Tumrok**	**5.16**	**286**	*e*P		**Pn**	**19 56 35.7**	**+1.7**
TUMR				*e*S		**Sn**	**19 57 31.8**	**-1.8**
KIRR	**Kirishev**	**5.19**	**293**	*e*P		**Pn**	**19 56 37.7**	**+3.2**
KIRR				*e*S		**Sn**	**19 57 33.7**	**-0.8**
KMNR	**Kamenistaya**	**5.20**	**291**	PN		**Pn**	**19 56 36.9**	**+2.4**
KMNR	**Kamenistaya**	**5.20**	**291**	*e*P		**Pn**	**19 56 36.9**	**+2.4**
KMNR				*e*S		**Sn**	**19 57 34.7**	**+0.2**
KPT	**Kopyto**	**5.26**	**293**	*e*P		**Pn**	**19 56 36.9**	**+1.5**
KPT				*e*S		**Sn**	**19 57 37.4**	**+1.3**
SPN	**Mys Shipunski**	**5.37**	**262**	PN		**Pn**	**19 56 37.5**	**+0.7**
SPN	**Mys Shipunski**	**5.37**	**262**	*e*P		**Pn**	**19 56 37.5**	**+0.7**
SPN				*e*S		**Sn**	**19 57 34.9**	**-3.7**
KOZ	**Kozyrevsk**	**5.47**	**293**	*e*P		**Pn**	**19 56 39.0**	**+0.7**
KOZ				*e*S		**Sn**	**19 57 41.7**	**+0.5**
KII	**Karymskiy**	**5.53**	**272**	PN		**Pn**	**19 56 40.4**	**+1.3**
KII	**Karymskiy**	**5.53**	**272**	*e*P		**Pn**	**19 56 40.4**	**+1.3**
KII				*e*S		**Sn**	**19 57 40.9**	**-1.9**
SDLR	**Sedlovina**	**5.99**	**265**	PN		**Pn**	**19 56 46.6**	**+1.2**
SDLR	**Sedlovina**	**5.99**	**265**	*e*P		**Pn**	**19 56 46.7**	**+1.3**
SDLR				*e*S		**Sn**	**19 57 51.5**	**-2.5**
UGLR	**Uglovaya**	**6.04**	**265**	PN		**Pn**	**19 56 47.5**	**+1.3**
UGLR	**Uglovaya**	**6.04**	**265**	*e*P		**Pn**	**19 56 47.4**	**+1.3**
UGLR				*e*S		**Sn**	**19 57 53.6**	**-1.7**
SMAR	**Somma**	**6.04**	**265**	PN		**Pn**	**19 56 47.4**	**+1.2**
SMAR	**Somma**	**6.04**	**265**	*e*P		**Pn**	**19 56 47.3**	**+1.1**
SMAR				*e*S		**Sn**	**19 57 53.8**	**-1.6**
KRER	**Koryakskii**	**6.06**	**266**	PN		**Pn**	**19 56 48.1**	**+1.6**
KRER	**Koryakskii**	**6.06**	**266**	*e*P		**Pn**	**19 56 48.0**	**+1.6**
KRER				*e*S		**Sn**	**19 57 54.6**	**-1.3**
AVH	**Avacha**	**6.08**	**265**	PN		**Pn**	**19 56 48.2**	**+1.6**
AVH	**Avacha**	**6.08**	**265**	*e*P		**Pn**	**19 56 48.0**	**+1.4**
AVH				*e*S		**Sn**	**19 57 52.9**	**-3.2**
ESO	**Esso**	**6.08**	**291**	PN		**Pn**	**19 56 48.2**	**+1.6**
DALK	**Dalny**	**6.12**	**263**	PN		**Pn**	**19 56 47.7**	**+1.6**
DALK	**Dalny**	**6.12**	**263**	*e*P		**Pn**	**19 56 48.3**	**+1.2**
DALK				*e*S		**Sn**	**19 57 54.3**	**-2.9**
KOK	**Koryaka**	**6.13**	**266**	PN		**Pn**	**19 56 48.8**	**+1.5**
KOK	**Koryaka**	**6.13**	**266**	*e*P		**Pn**	**19 56 48.6**	**+1.3**
KOK				*e*S		**Sn**	**19 57 55.9**	**-1.6**
PET	**Petropavlovsk**	**6.18**	**263**	*e*PN		**Pn**	**19 56 49.5**	**+1.5**
PET				pmax		pmax		
	comp=Z,30nm,0.4s							
PET				MLR		MLR		
	comp=Z,100nm,12.0s							
PET	**Petropavlovsk**	**6.18**	**263**			**Pn**	**19 56 49.3**	**+1.3**
TILK	**Tilichiki**	**6.42**	**348**	PN		**Pn**	**19 56 50.9**	**-0.3**
RUS	**Russkaya**	**6.44**	**258**	PN		**Pn**	**19 56 52.9**	**+1.4**
RUS	**Russkaya**	**6.44**	**258**	*e*P		**Pn**	**19 56 52.5**	**+1.0**
GNL	**Ganaly**	**6.46**	**270**	PN		**Pn**	**19 56 54.1**	**+2.1**
GNL	**Ganaly**	**6.46**	**270**	*e*P		**Pn**	**19 56 54.0**	**+2.1**
GNL				*e*S		**Sn**	**19 58 05.4**	**-0.3**
KRMR	**Karymshinskiy**	**6.54**	**262**	PN		**Pn**	**19 56 54.4**	**+1.5**
KRMR	**Karymshinskiy**	**6.54**	**262**	*e*P		**Pn**	**19 56 54.4**	**+1.5**
KRMR				*e*S		**Sn**	**19 58 04.8**	**-2.7**
MTVR	**Mutnovka**	**6.62**	**259**	PN		**Pn**	**19 56 55.7**	**+1.6**
MTVR	**Mutnovka**	**6.62**	**259**	*e*P		**Pn**	**19 56 55.7**	**+1.6**
MTVR				*e*S		**Sn**	**19 58 07.1**	**-2.5**
GRL	**Gorelyy**	**6.66**	**260**	PN		**Pn**	**19 56 56.6**	**+2.0**
GRL	**Gorelyy**	**6.66**	**260**	*e*P		**Pn**	**19 56 56.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**6.72**	**265**	*de*PN		**Pn**	**19 56 57.2**	**+1.9**
PEA0B				*e*S		**Sn**	**19 58 13.2**	**+1.3**
PEA0B	**Petropavlovsk-**	**6.72**	**265**			**Pn**	**19 56 57.3**	**+1.9**
PETK	**Petropavlovsk-**	**6.72**	**265**	Pn		**Pn**	**19 56 56.9**	**+1.6**
	comp=Z,4.2nm,0.3s,baz=99,slow=19,SNR=54							
PETK				Sn		**Sn**	**19 58 09.6**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=82,slow=22,SNR=1.3							
PETK				LR		LR	19 59 37.6	
	comp=Z,81nm,18.9s,baz=82,slow=38							
PETK	**Petropavlovsk-**	**6.72**	**265**			**Pn**	**19 56 56.8**	**+1.4**
KDTR	**Khodutka, Kamc**	**6.93**	**254**	PN		**Pn**	**19 56 59.4**	**+1.2**
KDTR	**Khodutka, Kamc**	**6.93**	**254**	*e*P		**Pn**	**19 56 59.0**	**+0.8**
KDTR				*e*S		**Sn**	**19 58 11.7**	**-5.3**
APC	**Apacha**	**7.08**	**264**	PN		**Pn**	**19 57 02.8**	**+2.5**
MIPR	**Malaya Ipel'ka**	**7.51**	**260**	*e*P		**Pn**	**19 57 08.8**	**+2.6**
KMSK	**Kamenskaya**	**8.40**	**352**	PN		**Pn**	**19 57 18.0**	**-0.3**
L19K	**White Mountain**	**20.48**	**53**	P		**P**	**19 59 55.5**	**+1.1**
L19K				IAmb		IAmb	20 00 05.2	
	comp=Z,8.4nm,0.8s							
K20K	**Telida**	**20.99**	**49**	P		**P**	**20 00 00.5**	**+0.6**
K20K				IAmb		IAmb	20 00 26.4	
	comp=Z,8.9nm,1.3s							
J20K	**Nowinta River**	**21.09**	**47**	P		**P**	**20 00 01.4**	**+0.5**
J20K				IAmb		IAmb	20 00 13.4	
	comp=Z,8.9nm,1.4s							
H21K	**Melozitna Rive**	**21.96**	**43**	P		**P**	**20 00 11.4**	**+1.2**
TRF	**Thorofare Moun**	**22.69**	**50**	P		**P**	**20 00 19.4**	**+1.1**
TRF				IAmb		IAmb	20 00 41.1	
	comp=Z,11nm,1.3s							
KLR	**Kul'dur**	**23.32**	**273**	P		**P**	**20 00 25.7**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=63,slow=14,SNR=2.7							
KLR				LR		LR	20 09 33.5	
	comp=Z,21nm,19.2s,baz=36,slow=37							
SML	**Sawmill**	**23.54**	**54**	P		**P**	**20 00 27.0**	**+0.2**
TOLK	**Toolik Lake Re**	**23.94**	**37**	P		**P**	**20 00 30.4**	**-0.2**
TOLK				IAmb		IAmb	20 00 40.8	
	comp=Z,5.4nm,0.8s							
SCM	**Sheep Creek Mo**	**24.01**	**54**	P		**P**	**20 00 32.1**	**+0.7**
SCM				pmax		pmax		
	comp=Z,12nm,0.9s							
SCM	**Sheep Creek Mo**	**24.01**	**54**	P		**P**	**20 00 32.1**	**+0.7**
ILAR	**Eielson Array**	**24.29**	**47**	P		**P**	**20 00 31.2**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=248,slow=7.2,SNR=2.3							
TIXI	**Tiksi**	**24.47**	**331**	P		**P**	**20 00 34.7**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=90,slow=22,SNR=5.7							
TIXI	**Tiksi**	**24.47**	**331**	*e*P		**P**	**20 00 35.0**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,5.0nm,2.1s							
BMAR	**Burnt Mountain**	**25.52**	**41**	P		**P**	**20 00 46.1**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**34.45**	**183**	T		T	20 38 42.8	
	baz=1.7,slow=76,SNR=700							
H11N3	**WAKE ISLAND Hy**	**34.46**	**183**	T		T	20 38 43.7	
	baz=1.7,slow=76,SNR=674							
H11N1	**WAKE ISLAND Hy**	**34.47**	**183**	T		T	20 38 44.1	
	baz=1.7,slow=76,SNR=761							
H11S1	**WAKE ISLAND Hy**	**35.67**	**183**	T		T	20 40 14.5	
	baz=1.8,slow=76,SNR=163							
H11S3	**WAKE ISLAND Hy**	**35.68**	**184**	T		T	20 40 15.8	
	baz=1.8,slow=76,SNR=48							
H11S2	**WAKE ISLAND Hy**	**35.69**	**183**	T		T	20 40 15.9	
	baz=1.8,slow=76,SNR=218							
SONM	**Songino Array**	**38.64**	**287**	P		**P**	**20 02 40.4**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=66,slow=9.7,SNR=2.4							
YKA	**Yellowknife Ar**	**38.72**	**46**	P		**P**	**20 02 39.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=294,slow=8.1,SNR=1.5							
KURK	**Kurchatov**	**51.45**	**306**	⇓*e*P		**P**	**20 04 24.0**	**+2.3**
KURK				pmax		pmax		
	comp=Z,6.0nm,2.6s							
MKAR	**Makanchi Array**	**52.25**	**300**	P		**P**	**20 04 26.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=44,slow=5.6,SNR=4.8							
MKAR	**Makanchi Array**	**52.25**	**300**	*e*P		**P**	**20 04 30.0**	**+2.2**
PDAR	**Pinedale Array**	**52.35**	**67**	P		**P**	**20 04 27.5**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=306,slow=3.2,SNR=1.7							
BRVK	**Borovoye**	**53.67**	**312**	⇓*e*P		**P**	**20 04 37.3**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**53.71**	**345**	P		**P**	**20 04 35.4**	**-2.8**
	comp=Z,4.5nm,1.1s,baz=33,slow=7.2,SNR=6.8							
ARCES	**ARCESS Array B**	**53.71**	**345**	*e*P		**P**	**20 04 36.8**	**-1.4**
ARCES				pmax		pmax		
	comp=Z,5.0nm,1.1s							
FINES	**FINESS Array B**	**60.99**	**341**	LR		LR	20 33 17.6	
	comp=Z,48nm,21.8s,baz=324,slow=38							
CMAR	**Chiang Mai Arr**	**63.50**	**265**	P		**P**	**20 05 48.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.9,SNR=1.8							
NOA	**NORSAR Array B**	**63.73**	**348**	P		**P**	**20 05 46.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=16,slow=6.8,SNR=1.8							
TXAR	**Lajitas Array**	**65.36**	**74**	P		**P**	**20 05 59.3**	**+0.1**
	comp=Z,0

JMTN				eS	**Sb**	**21 21 56.1**	**+1.3**
JTSR	**Tashiro 2**	**0.71**	**330**	P	**Pn**	**21 21 53.8**	**+0.2**
JYAK	**Yakushimahirau**	**0.78**	**247**	P	**Pn**	**21 21 54.4**	**-0.1**
JYAK				eS	**Sn**	**21 22 05.1**	**0.0**
JNAR	**Kushima--Naru**	**0.97**	**357**	P	**Pn**	**21 21 57.9**	**+0.7**
JKC	**Kuchinoerabu**	**0.99**	**265**	P	**Pn**	**21 21 57.8**	**+0.5**
JNKG	**Nichinankitago**	**1.11**	**2**	P	**Pn**	**21 22 00.0**	**+1.0**
JSU	**Suzuyama**	**1.22**	**322**	P	**Pn**	**21 22 01.2**	**+0.7**
JTZ	**Takazaki**	**1.36**	**351**	P	**Pn**	**21 22 03.7**	**+1.2**
JZO	**Okuchi**	**1.71**	**338**	P	**Pn**	**21 22 08.1**	**+0.8**
JNU	**Nakatsue**	**2.59**	**351**	Pn	**Pn**	**21 22 20.2**	**+0.8**
	1.5nm,0.3s,baz=198,slow=20,SNR=14						
JNU				Sn	**Sn**	**21 22 50.3**	**+0.3**
	3.0nm,0.3s,baz=176,slow=13,SNR=4.1						
KSRS	**Korea Array**	**7.45**	**339**	Pn	**Pn**	**21 23 22.9**	**-3.2**
	0.1nm,0.3s,baz=121,slow=23,SNR=1.6						
KLR	**Kul'dur**	**18.66**	**1**	LR	LR	21 33 43.9	
	comp=Z,25nm,19.2s,baz=141,slow=39						
SONM	**Songino Array**	**25.74**	**319**	P	**P**	**21 27 06.6**	**-0.8**
	0.2nm,0.5s,baz=138,slow=10,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**33.82**	**100**	T	T	22 04 11.1	
	baz=292						
H11N1	**WAKE ISLAND Hy**	**33.82**	**100**	T	T	22 04 08.5	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**33.83**	**100**	T	T	22 04 08.7	
	baz=292						
MKAR	**Makanchi Array**	**40.89**	**308**	P	**P**	**21 29 18.1**	**-0.8**
	0.3nm,0.7s,baz=92,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**50.28**	**176**	P	**P**	**21 30 33.1**	**-0.2**
	0.1nm,0.6s,baz=3.2,slow=7.5,SNR=1.6						
KBZ	**Khabaz**	**68.57**	**309**	P	**P**	**21 32 39.8**	**+0.5**
	0.8nm,0.5s,baz=56,slow=5.3,SNR=5.1						
FINES	**FINESS Array B**	**70.46**	**331**	P	**P**	**21 32 50.6**	**-0.1**
	0.7nm,0.5s,baz=58,slow=4.3,SNR=10						
AKASG	**Malin Array Be**	**74.03**	**320**	P	**P**	**21 33 11.6**	**-0.6**
	0.3nm,0.5s,baz=54,slow=6.2,SNR=4.6						
BRTR	**Keskin Array B**	**76.54**	**308**	P	**P**	**21 33 26.5**	**-0.6**
	0.9nm,0.7s,baz=46,slow=14,SNR=5.2						
GERES	**GERESS Array B**	**83.38**	**324**	P	**P**	**21 34 05.0**	**+1.2**
	0.3nm,0.3s,baz=46,slow=7.0,SNR=2.5						

NEIC ***30*** *21:43:60.0±1.7,5°.97S±0°.06×146°.66E±0°.09,h10km±1km, mb4.6/32, Error ellipse: s-maj=15.4km s-min=9.9km az=89.0*

IDC ***30*** *21:44:04.0±1.7,6°.01S×146°.75E,h50km±15km,mb3.9/14, mb1 4.1/19,mb1mx4.0/33,mbtmp4.2/19,ML4.0/4,MS3.4/15, Ms1 3.4/15,ms1mx3.1/64,Error ellipse: s-maj=17.3km s-min=11.2km az=82.0*

DJA ***30*** *21:44:07.3±0.6,6°S±4°×14°7E±°,h67km±8km,M4.8/14, mB4.8/2,mb4.5/14,MLv5.0/2,Mw(mB)4.1/2*

ISC 30 21:44:04.6±0.4,**6°.03S**±0°.05×**146°.64E**±0°.06,**h52**km,**n112,** σ1§**20**/113,**mb4.4**/25,**MS3.4**/10,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.39**	**171**	P	**Pn**	**21 44 54.6**	**-0.5**
	37nm,0.3s,baz=6.0,slow=6.6,SNR=26						
PMG				S	**Sn**	**21 45 34.4**	**+0.3**
	31nm,0.3s,baz=153,slow=23,SNR=1.4						
PMG				LR	LR	21 46 41.2	
	comp=Z,734nm,19.1s,baz=14,slow=46						
PMG	**Port Moresby**	**3.39**	**171**		**Pn**	**21 44 54.3**	**-0.7**
PMG				Sn	**Sn**	**21 45 33.3**	**-0.7**
PMG	**Port Moresby**	**3.39**	**171**	P	**Pn**	**21 44 55.3**	**+0.2**
MANU	**Manus Island**	**4.03**	**10**	Pn	**Pn**	**21 45 00.6**	**-3.3**
RABL	**Rabaul**	**5.80**	**72**		**Pn**	**21 45 26.0**	**-2.1**
JAY	**Jayapura**	**6.87**	**300**	P	**Pn**	**21 45 43.6**	**+0.6**
	0.3nm,0.3s,baz=124,slow=17,SNR=1.4						
JAY				LR	LR	21 48 50.2	
	comp=Z,490nm,21.1s,baz=130,slow=41						
COEN	**Coen**	**8.58**	**203**		**Pn**	**21 46 05.9**	**-0.4**
COEN	**Coen**	**8.58**	**203**	P	**Pn**	**21 46 06.8**	**+0.5**
CTA	**Charters Tower**	**13.97**	**182**	P	**Pn**	**21 47 21.6**	**+1.5**
	0.7nm,0.3s,baz=7.7,slow=15,SNR=7.7						
CTA				LR	LR	21 52 28.6	
	comp=Z,185nm,19.9s,baz=9.0,slow=36						
CTAO	**Charters Tower**	**13.97**	**182**	Pn	**Pn**	**21 47 21.0**	**+1.0**
KDU	**Kakadu**	**15.46**	**244**	P	**Pn**	**21 47 39.3**	**-0.1**
QIS	**Mount Isa**	**15.97**	**205**	P	**Pn**	**21 47 47.2**	**+1.2**
SIJI	**Sorong**	**16.18**	**288**	P	**P**	**21 47 51.0**	**-0.1**
	1.3nm,0.3s,baz=54,slow=10.0,SNR=6.4						
SIJI				LR	LR	21 54 34.9	
	comp=Z,116nm,21.8s,baz=147,slow=39						
SWI	**Sorong**	**16.18**	**288**	P	**P**	**21 47 51.0**	**-0.1**
	45nm,1.1s						
MTN	**Manton Dam**	**16.72**	**245**	P	**Pn**	**21 47 56.0**	**+0.6**
MTN				IAmb	IAmb	21 48 04.1	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**18.11**	**220**	P	**P**	**21 48 11.9**	**-0.6**
WR0	**Warramunga Arr**	**18.16**	**219**	P	**P**	**21 48 12.8**	**-0.2**
WRAB	**Tennant Creek**	**18.26**	**220**	P	**Pn**	**21 48 14.4**	**-0.1**
WRA	**Warramunga Arr**	**18.28**	**220**	P	**P**	**21 48 13.7**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=43,slow=11,SNR=23						
WRA				S	**Sn**	**21 51 32.0**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=22,SNR=1.3						
WRA				PcP	**PcP**	**21 52 45.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=23,slow=2.0,SNR=6.7						
WRA				LR	LR	21 56 05.4	
	comp=Z,133nm,20.2s,baz=3.0,slow=39						
WRA				ScP	**ScP**	**21 56 17.3**	**+1.1**
	baz=46,slow=11,SNR=0.9						
WRA	**Warramunga Arr**	**18.28**	**220**	P	**P**	**21 48 14.3**	**0.0**
EIDS	**Eidsvold**	**19.69**	**168**	P	**P**	**21 48 29.9**	**+0.2**
KNRA	**Kununurra**	**19.98**	**240**	P	**P**	**21 48 31.8**	**-1.1**
KNRA				IAmb	IAmb	21 48 34.9	
	comp=Z,44nm,1.4s						
KNRA	**Kununurra**	**19.98**	**240**	P	**P**	**21 48 32.0**	**-0.9**
SANI	**Sanana**	**20.97**	**280**	P	**P**	**21 48 43.9**	**+0.2**
	comp=Z,17nm,0.6s						
AS31	**Alice Springs**	**21.39**	**214**	P	**P**	**21 48 48.3**	**+0.2**
ASAR	**Alice Springs**	**21.39**	**214**	P	**P**	**21 48 48.6**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=54,slow=8.3,SNR=6.9						
ASAR				S	**S**	**21 52 44.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=36,slow=23,SNR=3.5						
ASAR				LR	LR	21 58 02.5	
	comp=Z,160nm,21.1s,baz=46,slow=39						
ASAR	**Alice Springs**	**21.39**	**214**	P	**P**	**21 48 47.7**	**-0.4**
SANVU	**Saraoutou**	**22.24**	**117**	P	**P**	**21 48 57.0**	**-0.3**
BATI	**Baumata**	**23.12**	**258**	P	**P**	**21 49 08.3**	**+1.8**
	comp=Z,9.6nm,0.4s,baz=348,slow=12,SNR=4.4						
BATI				LR	LR	22 00 26.2	
	comp=Z,194nm,19.4s,baz=94,slow=42						
FITZ	**Fitzroy Crossi**	**23.75**	**238**	P	**P**	**21 49 11.6**	**-0.7**
	comp=Z,14nm,0.6s,baz=61,slow=9.1,SNR=51						
FITZ				LR	LR	21 59 27.6	
	comp=Z,128nm,19.4s,baz=56,slow=39						
FITZ	**Fitzroy Crossi**	**23.75**	**238**	P	**P**	**21 49 11.5**	**-0.8**
FITZ				IAmb	IAmb	21 49 14.1	
	comp=Z,13nm,0.7s						
OOD	**Oodnadatta**	**24.01**	**204**	P	**P**	**21 49 14.5**	**-0.2**
MMRI	**Maumere**	**24.34**	**262**	P	**P**	**21 49 20.4**	**+2.5**
	comp=Z,30nm,0.7s						
GTOI	**Gorontalo**	**24.50**	**285**	P	**P**	**21 49 23.6**	**+4.2**
	comp=Z,264nmcomp=Z,22nm,0.9s						
ARMA	**Armidale**	**24.71**	**170**	P	**P**	**21 49 21.5**	**+0.3**
ARMA				IAmb	IAmb	21 49 49.6	
	comp=Z,11nm,1.1s						
LIFNC	**LIFOU**	**24.77**	**128**	P	**P**	**21 49 20.6**	**-1.2**
DZM	**Mont Dzumac**	**24.91**	**132**	P	**P**	**21 49 22.0**	**-1.1**
	comp=Z,10nm,0.6s,baz=163,slow=23,SNR=10						
DZM				LR	LR	21 57 16.4	
	comp=Z,132nm,18.2s,baz=268,slow=32						
DZM	**Mont Dzumac**	**24.91**	**132**	P	**P**	**21 49 22.6**	**-0.5**
DZM				IAmb	IAmb	21 49 24.5	
	comp=Z,35nm,1.4s						
DZM	**Mont Dzumac**	**24.91**	**132**	P	**P**	**21 49 23.1**	**0.0**
LCRK	**Leigh Creek**	**25.55**	**197**	P	**P**	**21 49 28.9**	**+0.3**
WRKA	**Warakurna**	**25.81**	**221**	P	**P**	**21 49 30.8**	**-0.3**
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**21 49 33.9**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=352,slow=7.8,SNR=9.0						
STKA				LR	LR	22 01 18.0	
	comp=Z,114nm,18.1s,baz=21,slow=40						
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**21 49 33.9**	**-0.1**
TOLI2	**Tolitoli**	**26.78**	**285**	P	**P**	**21 49 35.4**	**-4.6**
MULG	**Mulgathing**	**26.87**	**205**	P	**P**	**21 49 40.9**	**+0.3**
NAPP	**Napperby**	**28.14**	**195**	P	**P**	**21 49 52.1**	**+0.1**
HTT	**Hallett**	**28.19**	**194**	P	**P**	**21 49 54.0**	**+1.6**
BBOO	**Buckleboo**	**28.41**	**199**	P	**P**	**21 49 53.8**	**-0.6**
BBOO				IAmb	IAmb	21 50 05.4	
	comp=Z,9.0nm,1.2s						
BBOO	**Buckleboo**	**28.41**	**199**	P	**P**	**21 49 55.3**	**+1.0**
PSA00	**Pilbara Seismi**	**30.18**	**237**	P	**P**	**21 50 10.2**	**0.0**
PSA00	**Pilbara Seismi**	**30.18**	**237**	P	**P**	**21 50 10.0**	**-0.1**
PSA00				IAmb	IAmb	21 50 31.7	
	comp=Z,13nm,1.2s						
PSA00	**Pilbara Seismi**	**30.18**	**237**	P	**P**	**21 50 10.7**	**+0.5**
MEEK	**Meekatharra**	**33.66**	**229**	P	**P**	**21 50 41.2**	**+0.4**
MORW	**Morawa**	**36.88**	**228**	P	**P**	**21 51 08.3**	**-0.1**
MORW				IAmb	IAmb	21 51 09.4	
	comp=Z,5.3nm,0.9s						
KLBR	**Kellerberrin**	**37.10**	**223**	P	**P**	**21 51 10.2**	**0.0**
JOW	**Kunigami**	**37.20**	**332**	P	**P**	**21 51 12.7**	**+1.6**
BLDU	**Balliduu**	**37.26**	**225**	P	**P**	**21 51 11.6**	**+0.1**
URZ	**Urewera**	**42.34**	**144**	LR	LR	22 07 53.3	
	comp=Z,43nm,20.1s,baz=224,slow=34						
URZ	**Urewera**	**42.34**	**144**	P	**P**	**21 51 54.1**	**+0.5**
URZ				IAmb	IAmb	21 52 10.2	
	comp=Z,16nm,1.2s						
RTZ	**Ruatahuna**	**42.50**	**144**	P	**P**	**21 51 55.6**	**+0.6**
BHHZ	**Black Hill Sta**	**42.57**	**146**	P	**P**	**21 51 56.4**	**+0.8**
BKZ	**Black Stump Fm**	**42.59**	**145**	P	**P**	**21 51 55.8**	**+0.1**
BKZ				IAmb	IAmb	21 51 58.1	
	comp=Z,21nm,1.3s						
KWHZ	**Kaweka Forest**	**42.72**	**145**	P	**P**	**21 51 58.1**	**+1.2**
TUWZ	**Tuamarina**	**42.83**	**150**	P	**P**	**21 51 58.0**	**+0.5**
KRHZ	**Kereru**	**42.84**	**146**	P	**P**	**21 51 59.0**	**+1.3**
TSZ	**Takapari Road**	**42.91**	**146**	P	**P**	**21 51 59.6**	**+1.3**
PNHZ	**Pukenui**	**42.94**	**146**	P	**P**	**21 51 59.6**	**+1.1**
RPZ	**Rata Peaks**	**43.23**	**154**	LR	LR	22 09 13.5	
	comp=Z,41nm,20.9s,baz=258,slow=35						
HOWZ	**Holdsworth Sta**	**43.26**	**148**	P	**P**	**21 52 01.6**	**+0.5**
PRHZ	**Porangahau**	**43.42**	**146**	P	**P**	**21 52 03.3**	**+0.9**
BFZ	**Birch Farm**	**43.50**	**147**	P	**P**	**21 52 03.5**	**+0.5**
BFZ	**Birch Farm**	**43.50**	**147**	P	**P**	**21 52 03.7**	**+0.7**
RGRI	**Rengat**	**44.58**	**276**	P	P	21 52 21.5	+9.5
PPI	**Padang Panjang**	**46.48**	**275**	P	P	21 52 36.1	+9.0
KSRS	**Korea Array**	**46.66**	**339**	P	**P**	**21 52 28.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=150,slow=9.5,SNR=5.2						
KSRS				LR	LR	22 08 59.7	
	comp=Z,26nm,21.2s,baz=135,slow=32						
GSI	**Gunungsitoli**	**49.53**	**277**	P	**P**	**21 52 50.7**	**0.0**
CM31	**Chiang Mai Arr**	**52.95**	**298**	P	**P**	**21 53 15.9**	**-0.4**
CM31				IAmb	IAmb	21 53 41.1	
	comp=Z,5.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.95**	**298**	P	**P**	**21 53 16.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=129,slow=6.0,SNR=7.2						
CMAR				LR	LR	22 17 40.9	
	comp=Z,9.2nm,18.4s,baz=110,slow=38						
CMAR	**Chiang Mai Arr**	**52.95**	**298**	P	**P**	**21 53 16.3**	**0.0**
KLR	**Kul'dur**	**56.55**	**348**	LR	LR	22 16 52.2	
	comp=Z,17nm,19.3s,baz=152,slow=35						
SONM	**Songino Array**	**64.26**	**331**	P	**P**	**21 54 34.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=154,slow=2.5,SNR=3.7						
SONM	**Songino Array**	**64.26**	**331**	P	**P**	**21 54 36.6**	**+2.0**
SONM				IAmb	IAmb	21 54 38.3	
	comp=Z,2.8nm,1.3s						
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**21 55 22.1**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=335,slow=6.6,SNR=21						
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**21 55 22.2**	**+0.4**
VNDA				IAmb	IAmb	21 55 23.2	
	comp=Z,2.4nm,0.6s						
MK31	**Makanchi Array**	**77.30**	**321**	P	**P**	**21 55 52.4**	**-1.3**
MKAR	**Makanchi Array**	**77.30**	**321**	P	**P**	**21 55 53.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=95,slow=9.6,SNR=7.3						
MKAR	**Makanchi Array**	**77.30**	**321**	P	**P**	**21 55 52.8**	**-0.9**
ZALV	**Zalesovo Beam**	**78.85**	**328**	P	**P**	**21 56 00.7**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=109,slow=5.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**78.85**	**328**	P	**P**	**21 56 00.8**	**-1.3**
M20K	**Styx River**	**81.84**	**25**	P	**P**	**21 56 19.0**	**+0.9**
M20K				IAmb	IAmb	21 56 44.0	
	comp=Z,13nm,1.3s						
MAW	**Mawson**	**82.08**	**203**	P	**P**	**21 56 18.0**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=152,slow=8.5,SNR=1.7						
CAST	**Castle Rocks**	**83.01**	**23**	P	**P**	**21 56 24.6**	**+0.5**
CAST				IAmb	IAmb	21 56 37.4	
	comp=Z,10nm,1.5s						
PWL	**Port Wells**	**83.43**	**27**	P	**P**	**21 56 27.4**	**+1.1**
KNK	**Knik Glacier**	**83.61**	**26**	P	**P**	**21 56 27.6**	**+0.4**
IMAR	**Indian Mountai**	**83.65**	**21**	P	**P**	**21 56 27.1**	**-0.2**
SML	**Sawmill**	**83.83**	**26**	P	**P**	**21 56 28.6**	**+0.2**
QSPA	**South Pole Qui**	**83.93**	**180**	P	**P**	**21 56 28.8**	**-0.2**
KKAR	**Karatay Array**	**84.06**	**314**	P	**P**	**21 56 29.7**	**-0.2**
ILAR	**Eielson Array**	**85.65**	**23**	P	**P**	**21 56 35.7**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=252,slow=5.2,SNR=11						
ILAR	**Eielson Array**	**85.65**	**23**	P	**P**	**21 56 36.7**	**-0.7**
J25K	**Salcha River,**	**86.19**	**24**	P	**P**	**21 56 39.9**	**-0.3**
J25K				IAmb	IAmb	21 56 49.7	
	comp=Z,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**99.37**	**28**	P	**Pdif**	**21 57 40.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=268,slow=4.9,SNR=2.6						
LPAZ	**La Paz**	**139.06**	**123**	PKP	**PKPdf**	**22 03 27.5**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=244,slow=3.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.75**	**284**	PKP	**PKPab**	**22 03 35.3**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=70,slow=4.1,SNR=23						
TORD	**Torodi Ar. Bea**	**144.75**	**284**		**PKPab**	**22 03 35.7**	**0.0**
KIC	**Kosan Boka**	**151.55**	**272**	*e*PKP1	**PKiKP**	**22 03 55.0**	**+0.4**
	comp=Z,9.7nm,0.6s						
DBIC	**Dimbokro**	**151.67**	**273**	PKPbc	**PKiKP**	**22 03 54.8**	**-0.1**
	comp=Z,5.2nm,0.5s,baz=103,slow=2.0,SNR=13						
DBIC	**Dimbokro**	**151.67**	**273**		**PKPbc**	**22 03 54.6**	**+0.2**
TIC	**Toumodi**	**151.83**	**273**	*e*PKP1	**PKiKP**	**22 03 55.5**	**+0.3**
LIC	**Lamto**	**151.83**	**272**	*e*PKP1	**PKiKP**	**22 03 56.1**	**+0.9**
	comp=Z,14nm,0.7s						
BDFB	**Brasilia**	**154.03**	**146**	PKPbc	**PKPbc**	**22 03 58.8**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=9.8,slow=4.5,SNR=5.0						
BDFB	**Brasilia**	**154.03**	**146**		**PKiKP**	**22 03 59.8**	**0.0**

NOU ***30*** *21:48:04.9,38°.52S×177°.74E,h25km,MLv3.9/6,North Island, New Zealand*

WEL ***30*** *21:48:08.6±0.3,38°S±3°×17°7E±°,h36km±3km,M3.3/37, ML3.5/37,MLv3.3/37,Error ellipse: s-maj=0.0km s-min=0.0km az=138.6*

ISC 30 21:48:09.4±1.3,**38°.47S**±0°.03×**177°.33E**±0°.03,**h47**km±7km, **n111,** σ1§**38**/121,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAGZ	**Rawiri**	**0.08**	**112**	P	**Pn**	**21 48 16.0**	**-0.8**
RAGZ				S	**Sn**	**21 48 22.3**	**+0.2**
MWZ	**Matawai**	**0.21**	**50**	P	**Pn**	**21 48 16.5**	**-0.9**
MWZ				S	**Sn**	**21 48 23.0**	**-0.2**
URZ	**Urewera**	**0.27**	**321**	P	**Pn**	**21 48 16.6**	**-1.3**
URZ				S	**Sn**	**21 48 22.7**	**-1.1**
URZ	**Urewera**	**0.27**	**321**	P	**Pn**	**21 48 16.8**	**-1.1**
RTZ	**Ruatahuna**	**0.31**	**241**	P	**Pn**	**21 48 17.3**	**-1.0**
SNGZ	**Shannon Statio**	**0.32**	**178**	P	**Pn**	**21 48 18.2**	**-0.2**
SNGZ				S	**Sn**	**21 48 26.0**	**+1.2**
TKGZ	**Te Karaka**	**0.41**	**86**	P	**Pn**	**21 48 19.2**	**-0.1**
TKGZ				S	**Sn**	**21 48 28.2**	**+1.8**
RIGZ	**Rimuhau**	**0.42**	**125**	P	**Pn**	**21 48 19.4**	**-0.1**
RIGZ				S	**Sn**	**21 48 28.8**	**+2.1**
RAHZ	**Arahi**	**0.49**	**203**	P	**Pn**	**21 48 20.3**	**0.0**
RAHZ				S	**Sn**	**21 48 30.0**	**+2.0**
MTHZ	**Maungataniwha**	**0.54**	**224**	P	**Pn**	**21 48 20.4**	**-0.6**
RUGZ	**Raukumara Rang**	**0.57**	**29**	P	**Pn**	**21 48 20.6**	**-0.9**
EDRZ	**Edgecumbe**	**0.58**	**308**	P	**Pn**	**21 48 20.6**	**-1.0**
TWGZ	**Tauwhareparae**	**0.59**	**61**	P	**Pn**	**21 48 21.5**	**-0.1**
TWGZ				S	**Sn**	**21 48 33.1**	**+2.7**
WHHZ	**Waihua**	**0.61**	**187**	P	**Pn**	**21 48 20.9**	**-1.0**
WHHZ				S	**Sn**	**21 48 32.3**	**+1.4**
KNZ	**Kokohu**	**0.62**	**154**	P	**Pn**	**21 48 21.2**	**-0.7**
RRRZ	**Republican Roa**	**0.65**	**281**	P	**Pn**	**21 48 22.9**	**+0.5**
WHRZ	**Whale Island**	**0.67**	**336**	P	**Pn**	**21 48 21.6**	**-1.0**
TARZ	**Mount Tarawera**	**0.68**	**289**	P	**Pn**	**21 48 22.1**	**-0.7**
CNGZ	**Carnagh Statio**	**0.69**	**92**	P	**Pn**	**21 48 23.1**	**+0.2**
PRRZ	**Plateau Road**	**0.73**	**267**	P	**Pn**	**21 48 22.5**	**-0.9**
NMHZ	**Naumai**	**0.75**	**213**	P	**Pn**	**21 48 24.3**	**+0.6**
NMHZ				S	**Sn**	**21 48 37.1**	**+3.0**
MKRZ	**Makatiti**	**0.75**	**296**	P	**Pn**	**21 48 23.4**	**-0.4**
ALRZ	**Allen Road**	**0.78**	**263**	P	**Pn**	**21 48 23.3**	**-0.7**
HLRZ	**Highlands Stat**	**0.79**	**285**	P	**Pn**	**21 48 23.8**	**-0.5**
HAZ	**Te Kaha**	**0.80**	**27**	P	**Pn**	**21 48 22.8**	**-1.4**
MRHZ	**Matea Rd**	**0.80**	**242**	P	**Pn**	**21 48 23.7**	**-0.7**
HRRZ	**Handcock Road**	**0.82**	**275**	P	**Pn**	**21 48 24.3**	**-0.3**
MHGZ	**Mahia Peninsul**	**0.82**	**147**	P	**Pn**	**21 48 23.9**	**-0.7**
PKGZ	**Pakihiroa**	**0.83**	**46**	P	**Pn**	**21 48 24.2**	**-0.5**
OMRZ	**Omania**	**0.83**	**295**	P	**Pn**	**21 48 23.9**	**-0.9**
PUZ	**Puketiti**	**0.83**	**62**	P	**Pn**	**21 48 24.3**	**-0.5**
ARHZ	**Aropaoanui**	**0.84**	**198**	P	**Pn**	**21 48 24.9**	**+0.1**
HSRZ	**Hossack Road**	**0.86**	**280**	P	**Pn**	**21 48 24.7**	**-0.5**
OPRZ	**Ohinepanea**	**0.87**	**315**	P	**Pn**	**21 48 23.7**	**-1.5**
LIRZ	**Lichensteins R**	**0.87**	**302**	P	**Pn**	**21 48 24.2**	**-1.1**
BKZ	**Black Stump Fm**	**0.95**	**223**	P	**Pn**	**21 48 26.0**	**-0.5**
BKZ	**Black Stump Fm**	**0.95**	**223**	P	**Pn**	**21 48 26.0**	**-0.5**
KARZ	**Kaharoa**	**0.96**	**297**	P	**Pn**	**21 48 25.3**	**-1.2**
NGRZ	**Ngongotaha**	**0.97**	**292**	P	**Pn**	**21 48 26.1**	**-0.5**
HATZ	**Hinemaiaia**	**1.05**	**246**	P	**Pn**	**21 48 26.9**	**-0.8**
WMGZ	**Waiomatatini S**	**1.08**	**53**	P	**Pn**	**21 48 27.5**	**-0.5**
WHTZ	**Whakaora**	**1.09**	**259**	P	**Pn**	**21 48 28.1**	**-0.2**
MCHZ	**McNeill Hill**	**1.09**	**206**	P	**Pn**	**21 48 28.3**	**0.0**
KUTZ	**Kaahu Road**	**1.18**	**268**	P	**Pn**	**21 48 28.7**	**-0.8**
KWHZ	**Kaweka Forest**	**1.19**	**216**	P	**Pn**	**21 48 29.3**	**-0.3**
MXZ	**Matakaoa Point**	**1.19**	**41**	P	**Pn**	**21 48 29.2**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.21**	**189**	P	**Pn**	**21 48 28.7**	**-1.1**
RITZ	**Rihia Road**	**1.25**	**246**	P	**Pn**	**21 48 30.0**	**-0.5**
RATZ	**Rangitukua**	**1.28**	**251**	P	**Pn**	**21 48 30.9**	**0.0**
KAHZ	**Kahuranaki**	**1.37**	**195**	P	**Pn**	**21 48 31.2**	**-0.9**
KATZ	**Kakaramea**	**1.37**	**248**	P	**Pn**	**21 48 31.8**	**-0.4**
KRHZ	**Kereru**	**1.39**	**212**	P	**Pn**	**21 48 31.4**	**-0.9**
BHHZ	**Black Hill Sta**	**1.42**	**224**	P	**Pn**	**21 48 32.5**	**-0.2**
TMVZ	**Te Maari**	**1.42**	**242**	P	**Pn**	**21 48 32.2**	**-0.7**
ETVZ	**East Tongariro**	**1.43**	**242**	P	**Pn**	**21 48 32.2**	**-0.7**
NTVZ	**North Tongarir**	**1.44**	**243**	P	**Pn**	**21 48 32.4**	**-0.7**
KRVZ	**Karewarewa**	**1.46**	**244**	P	**Pn**	**21 48 32.7**	**-0.6**
MYRZ	**Mayor Island**	**1.46**	**324**	P	**Pn**	**21 48 31.8**	**-1.6**
OTVZ	**Oturere**	**1.47**	**241**	P	**Pn**	**21 48 32.9**	**-0.6**
NNVZ	**North Ngauruho**	**1.49**	**243**	P	**Pn**	**21 48 33.4**	**-0.5**
SNVZ	**South Ngauruho**	**1.50**	**241**	P	**Pn**	**21 48 33.4**	**-0.5**
WTVZ	**West Tongariro**	**1.50**	**244**	P	**Pn**	**21 48 33.4**	**-0.5**
NGZ	**Ngauruhoe**	**1.52**	**242**	P	**Pn**	**21 48 33.7**	**-0.6**
TUVZ	**Tukino**	**1.53**	**238**	P	**Pn**	**21 48 33.8**	**-0.5**
MOVZ	**Moawhango**	**1.54**	**232**	P	**Pn**	**21 48 33.9**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.58**	**238**	P	**Pn**	**21 48 34.5**	**-0.6**
TWVZ	**Taurewa**	**1.59**	**247**	P	**Pn**	**21 48 34.5**	**-0.7**
WNVZ	**Wahianoa**	**1.60**	**237**	P	**Pn**	**21 48 34.7**	**-0.6**
PXZ	**Pawanui**	**1.60**	**193**	P	**Pn**	**21 48 33.3**	**-2.0**
TOZ	**Tahuroa Road**	**1.61**	**296**	P	**Pn**	**21 48 33.9**	**-1.5**
TRVZ	**Turoa**	**1.62**	**239**	P	**Pn**	**21 48 35.0**	**-0.7**
PNHZ	**Pukenui**	**1.69**	**211**	P	**Pn**	**21 48 34.9**	**-1.6**
MTVZ	**Mangate

az=251.0
*RSNC **30** 22:15:05.8±1.1, 3.2°N × 79.2°W, h23km ± 5km, ML3.1, Mw3.5*

ISC 30 22:15:02.2±3.0, 3.3667°N × 79.4333°W ± 0.05°, h15km ± 20km, n47, σ1§84/64, mb4.1/10, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**1.11**	**101**	⇑*iP*		**Pb**		**22 15 22.5**	**-0.6**
GR1C				*eS*		**Sb**		**22 15 36.4**	**-1.1**
POPC	**Popayan, Colom**	**2.67**	**105**	⇑*iP*		**Pn**		**22 15 44.6**	**-0.3**
POPC				*eS*		**Sn**		**22 16 13.3**	**-3.8**
POPC				*i*				22 16 19.3	
	comp=Z,68nm,0.4s								
CRUC	**La Cruz**	**2.83**	**125**	*eP*		**Pn**		**22 15 49.3**	**+2.0**
CRUC				*eS*		**Sn**		**22 16 20.1**	**-1.3**
CRUC				*i*				22 16 26.6	
	comp=Z,160nm,0.5s								
TULM	**Tulcn-Chalpat**	**2.89**	**149**	Pn		**Pn**		**22 15 48.9**	**+0.6**
TULM	**Tulcn-Chalpat**	**2.89**	**149**	*eP*		**Pb**		**22 15 52.6**	**-1.2**
TULM				*eS*		**Sn**		**22 16 16.9**	**-6.1**
TULM				*i*				22 16 29.2	
	comp=Z,27nm,0.2s								
PAC1	**Pacto, Paraso**	**2.98**	**171**	*eP*		**Pn**		**22 15 49.4**	**+0.4**
PAC1				*eS*		**Sn**		**22 16 22.7**	**-1.9**
YOTC	**Yotoco, Valle**	**3.01**	**75**	*eP*		**Pn**		**22 15 48.5**	**-0.9**
YOTC				*eS*		**Sn**		**22 16 23.1**	**-2.2**
YOTC				*i*				22 16 24.1	
	comp=Z,29nm,0.3s								
CUSE	**Cuicocha Este**	**3.02**	**163**	*eP*		**Pn**		**22 15 51.9**	**+2.0**
CUSE				*eS*		**Sn**		**22 16 26.6**	**+0.5**
OTAV	**Otavalo**	**3.07**	**165**	Pn		**Pn**		**22 15 51.6**	**+0.9**
PLMC	**San Jos del P**	**3.41**	**61**	*eP*		**Pn**		**22 15 53.2**	**-1.7**
PLMC				*eS*		**Sn**		**22 16 31.6**	**-3.6**
PLMC				*i*				22 16 39.7	
	comp=Z,51nm,0.4s								
BETC	**Betania**	**3.85**	**98**	*eP*		**Pn**		**22 16 04.6**	**+3.6**
BETC				*eS*		**Sn**		**22 16 44.7**	**-1.4**
BETC				*i*				22 16 55.4	
	comp=Z,58nm,0.5s								
GARC	**Garzon, Huila**	**3.90**	**105**	*eP*		**Pn**		**22 16 02.4**	**+0.5**
GARC				*eS*		**Sn**		**22 16 45.4**	**-2.2**
GARC				*i*				22 16 54.9	
	comp=Z,42nm,0.3s								
FLOC	**Florencia**	**3.96**	**114**	*eP*		**Pn**		**22 16 03.2**	**+0.8**
FLOC				*eS*		**Sn**		**22 16 49.3**	**+0.7**
FLOC				*i*				22 16 53.1	
	comp=Z,45nm,0.5s								
ANIL	**Santa Ana**	**4.05**	**72**	*eP*		**Pn**		**22 16 04.4**	**+0.4**
ANIL				*eS*		**Sn**		**22 16 49.7**	**-1.6**
ANIL				*i*				22 16 57.7	
	comp=Z,82nm,0.3s								
ORTC	**Ortega, Tolima**	**4.06**	**80**	*eP*		**Pn**		**22 16 06.0**	**+2.1**
ORTC				*eS*		**Sn**		**22 16 52.5**	**+1.3**
ORTC				*i*				22 16 54.8	
	comp=Z,39nm,0.4s								
GUY2C	**Guyana, Caldas**	**4.36**	**63**	*eP*		**Pn**		**22 16 08.8**	**+0.4**
GUY2C				*eS*		**Sn**		**22 16 58.7**	**-0.5**
GUY2C				*i*				22 17 09.8	
	comp=Z,16nm,0.4s								
NORC	**Norcasia**	**4.96**	**62**	*eP*		**Pn**		**22 16 17.7**	**+1.5**
NORC				*eS*		**Sn**		**22 17 11.8**	**-1.6**
ROSC	**El Rosal**	**5.18**	**72**	Pn		**Pn**		**22 16 21.9**	**+2.3**
	comp=Z,5.3nm,0.3s,baz=264,slow=10,SNR=3.9								
ROSC				Sn		**Sn**		**22 17 21.7**	**+2.3**
	comp=Z,1.9nm,0.3s,baz=91,slow=23,SNR=1.4								
ROSC	**El Rosal**	**5.18**	**72**			**Pn**		**22 16 20.1**	**+0.4**
VILC	**Villavicencio,**	**5.62**	**81**	*eP*		**Pn**		**22 16 28.2**	**+2.7**
VILC				*eS*		**Sn**		**22 17 31.4**	**+1.4**
PTBC	**PUERTO BERRIO,**	**5.81**	**55**	*eP*		**Pn**		**22 16 27.9**	**0.0**
PTBC				*eS*		**Sn**		**22 17 30.7**	**-3.6**
ZARC	**Zaragoza, Cauc**	**6.10**	**46**	Pn		**Pn**		**22 16 32.5**	**+0.6**
RUSC	**La Rusia**	**6.70**	**66**	*eP*		**Pn**		**22 16 43.0**	**+2.4**
RUSC				*eS*		**Sn**		**22 17 54.3**	**-2.7**
RUSC				*i*				22 18 10.7	
	comp=Z,2.9nm,0.6s								
DRK0	**Durika**	**7.19**	**327**	Pn		**Pn**		**22 16 45.7**	**-1.3**
SRBA	**San Rafael, Bu**	**7.23**	**326**			**Pn**		**22 16 46.7**	**-0.8**
MCRA	**Macar, Loja**	**7.57**	**185**	Pn		**Pn**		**22 16 52.6**	**+0.4**
RIMA	**Rio Macho**	**7.95**	**325**	Pn		**Pn**		**22 16 56.2**	**-1.2**
SDV	**Santo Domingo**	**10.26**	**56**	Pn		**Pn**		**22 17 31.6**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=270,slow=5.1,SNR=6.4								
SDV				Sn		**Sn**		**22 19 23.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=51,slow=20,SNR=1.8								
SDV	**Santo Domingo**	**10.26**	**56**	Pn		**Pn**		**22 17 29.9**	**+0.8**
BIRV	**Birongo**	**14.77**	**60**	Pn		**Pn**		**22 18 31.1**	**+0.4**
CMIG	**Matias Romero**	**20.62**	**313**	LR		LR		22 26 20.7	
	comp=Z,51nm,19.3s,baz=208,slow=33								
LPAZ	**La Paz**	**22.29**	**151**	P		**P**		**22 20 02.9**	**+3.1**
	comp=Z,1.0nm,0.6s,baz=358,slow=10.0,SNR=1.9								
LPAZ	**La Paz**	**22.29**	**151**	P		**P**		**22 20 00.4**	**+0.6**
PB16	**IPOC Station P**	**23.48**	**156**	P		**P**		**22 20 11.7**	**-0.4**
PB16				IAmb		IAmb		22 20 18.3	
	comp=Z,9.7nm,1.0s								
GO01	**Chusmiza**	**24.81**	**157**	P		**P**		**22 20 25.4**	**+0.9**
PB08	**IPOC Station P**	**25.25**	**157**	P		**P**		**22 20 28.8**	**+0.5**
PB08				IAmb		IAmb		22 20 34.9	
	comp=Z,12nm,1.1s								
SIV	**San Ignacio**	**26.23**	**137**	P		**P**		**22 20 38.8**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=320,slow=12,SNR=4.0								
LVC	**Limon Verde**	**27.59**	**159**	LR		LR		22 33 07.9	
	comp=Z,63nm,20.1s,baz=170,slow=39								
ROC1	**El Roble**	**36.84**	**168**	P		**P**		**22 22 11.0**	**+0.8**
ROC1				IAmb		IAmb		22 22 12.9	
	comp=Z,5.6nm,0.7s								
ANMO	**Albuquerque**	**40.41**	**325**	P		**P**		**22 22 40.3**	**+0.1**
ANMO				IAmb		IAmb		22 22 43.9	
	comp=Z,2.9nm,1.1s								
PLCA	**Paso Flores**	**44.47**	**171**	P		**P**		**22 23 14.6**	**+1.7**
	comp=Z,3.6nm,0.9s,baz=354,slow=8.5,SNR=5.2								
YKA	**Yellowknife Ar**	**64.69**	**343**	P		**P**		**22 25 39.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=134,slow=6.7,SNR=11								
BMAR	**Burnt Mountain**	**77.73**	**339**	P		**P**		**22 26 58.8**	**+0.5**
TOA0	**Torodi Ar. Sit**	**80.47**	**77**	P		**P**		**22 27 14.1**	**-0.2**
TOA0				IAmb		IAmb		22 27 22.9	
	comp=Z,4.5nm,1.4s								
TORD	**Torodi Ar. Bea**	**80.47**	**77**	P		**P**		**22 27 14.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=273,slow=6.8,SNR=2.1								
TORD	**Torodi Ar. Bea**	**80.47**	**77**	P		**P**		**22 27 13.1**	**-1.2**
TORD				IAmb		IAmb		22 27 41.7	
	comp=Z,2.9nm,1.4s								
WRA	**Warramunga Arr**	**143.25**	**240**	PKP		PKPbc		22 34 34.5	+0.6
	comp=Z,0.7nm,0.8s,baz=115,slow=3.1,SNR=4.7								

*IDC **30** 22:15:25.7±0.6, 5.52°S × 147.09°E, h181km ± 5km, mb3.9/19, mb1 4.2/24, mb1mx4.1/34, mbtmp4.6/24, MS3.6/11, Ms1 3.6/11, ms1mx3.2/59, Error ellipse: s-maj=11.4km s-min=8.7km az=72.0*
*DJA **30** 22:15:25.9±0.3, 5°S ± 3° × 147°E ± °, h175km ± 4km, M4.9/30, mb5.0/30, mB5.3/18, MLv5.7/5, Mw(mB)4.7/18, MwMwp4.8/2, Mwp5.1/2*
*NEIC **30** 22:15:26.5±1.2, 5.50°S ± 0.06° × 147.14°E ± 0.06, h183km ± 4km, mb4.9/50, Error ellipse: s-maj=9.6km s-min=8.8km az=223.0*
*GCMT **30** 22:15:27.5±0.3, 5.51°S ± 0.02° × 147.09°E ± 0.02, h195km ± 2km, MW5.1/98, Moment Tensor Solution. s37,c42; s98,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.77±.17; Mθθ -5.38±.17; Mϕϕ 4.61±.18; Mrθ 1.16±.16; Mθϕ 3.01±.17; Mϕr -2.55±.15; Best double couple: Mo 6.49700×10^16 NP1: ϕs 242.00000°, δ 64.00000°, λ 6.00000°. NP2: ϕs 149.00000°, δ 85.00000°, λ 154.00000°. Principal axes: T 6.3170, Plg 22.0000°, Azm 102.0000°; N 0.3550, Plg 63.0000°, Azm 319.0000°; P -6.6760, Plg 14.0000°, Azm 198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 22:15:27.0±0.3, 5.53°S ± 0.04° × 147.10°E ± 0.05°, h195km, n194, σ1§47/199, mb4.6/57, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.48**	**4**			**Pn**		**22 16 21.0**	**-1.1**
PMG	**Port Moresby**	**3.85**	**179**	P		**Pn**		**22 16 24.1**	**-2.6**
	466nm,0.3s,baz=21,slow=5.5,SNR=711								
PMG				S		**Sn**		**22 17 06.2**	**-7.5**
	684nm,0.3s,baz=95,slow=23,SNR=19								
PMG	**Port Moresby**	**3.85**	**179**	Pn		**Pn**		**22 16 24.1**	**-2.6**
PMG				Sn		**Sn**		**22 17 06.9**	**-6.8**
RABL	**Rabaul**	**5.21**	**75**			**Pn**		**22 16 42.5**	**-1.6**
RABL	**Rabaul**	**5.21**	**75**	P		**Pn**		**22 16 43.3**	**-0.8**
JAY	**Jayapura**	**7.05**	**295**	P		**Pn**		**22 17 05.2**	**-2.8**
	14nm,0.3s,baz=166,slow=6.1,SNR=29								
JAY				S		**Sn**		**22 18 21.4**	**-6.7**
	2.9nm,0.3s,baz=1.1,slow=19,SNR=1.2								
JAY	**Jayapura**	**7.05**	**295**	P		**Pn**		**22 17 05.0**	**-3.0**
	0.5nm1μm169nm,1.2s								
MMPI	**Merauke**	**7.28**	**246**	P		**Pn**		**22 17 13.1**	**+2.2**
SMPI	**Sarmi**	**9.08**	**292**	P		**Pn**		**22 17 31.5**	**-3.0**
	2μm104nm,1.2s								
COEN	**Coen**	**9.22**	**205**	Pn		**Pn**		**22 17 36.3**	**0.0**
COEN	**Coen**	**9.22**	**205**	P		**Pn**		**22 17 36.7**	**+0.4**
SRPI	**Serui, Papua**	**11.43**	**288**	P		**Pn**		**22 18 07.0**	**+2.1**
	94nm,0.4s								
MTSU	**Mount Surprise**	**12.82**	**192**	P		**Pn**		**22 18 22.3**	**-0.2**
	baz=13,SNR=177								
MTSU	**Mount Surprise**	**12.82**	**192**	P		**Pn**		**22 18 23.4**	**+0.9**
HNR	**Honiara**	**13.31**	**108**	P		**Pn**		**22 18 27.3**	**-1.3**
	21nm,0.3s,baz=198,slow=3.7,SNR=11								
HNR	**Honiara**	**13.31**	**108**			**Pn**		**22 18 26.8**	**-1.8**
HNR	**Honiara**	**13.31**	**108**	P		**Pn**		**22 18 28.1**	**-0.5**
CTA	**Charters Tower**	**14.49**	**183**	P		**Pn**		**22 18 43.9**	**+0.6**
	5.5nm,0.3s,baz=2.8,slow=13,SNR=76								
CTA				S		**S**		**22 21 24.2**	**-0.9**
	0.5nm,0.3s,baz=276,slow=19,SNR=2.1								
CTA	**Charters Tower**	**14.49**	**183**	P		**Pn**		**22 18 44.5**	**+1.2**
SAUI	**Saumlaki**	**15.88**	**260**	P		**P**		**22 19 00.3**	**+0.3**
KDU	**Kakadu**	**16.09**	**243**	P		**P**		**22 19 01.6**	**-0.7**
	baz=16,SNR=129								
KDU	**Kakadu**	**16.09**	**243**	P		**P**		**22 19 02.3**	**-0.1**
SIJI	**Sorong**	**16.47**	**286**	P		**P**		**22 19 05.6**	**-1.0**
	1.7nm,0.3s,baz=93,slow=11,SNR=11								
SWI	**Sorong**	**16.48**	**286**	P		**P**		**22 19 06.8**	**+0.1**
	1μm89nm,1.1s								
QIS	**Mount Isa**	**16.62**	**205**	P		**P**		**22 19 08.7**	**+0.5**
	baz=17,SNR=193								
QIS	**Mount Isa**	**16.62**	**205**	P		**P**		**22 19 09.5**	**+1.4**
MTN	**Manton Dam**	**17.35**	**244**	P		**P**		**22 19 16.5**	**+0.3**
	baz=17,SNR=36								
MTN	**Manton Dam**	**17.35**	**244**	P		**P**		**22 19 16.3**	**+0.1**
MTN				IAmb		IAmb		22 19 18.0	
	comp=Z,83nm,1.0s								
MTN	**Manton Dam**	**17.35**	**244**	P		**P**		**22 19 16.8**	**+0.6**
RK1H	**Rockhampton Ha**	**18.05**	**170**	P		**P**		**22 19 25.3**	**+1.6**
WB0	**Warramunga Arr**	**18.79**	**220**	P		**P**		**22 19 32.3**	**+0.4**
WR0	**Warramunga Arr**	**18.84**	**219**	P		**P**		**22 19 32.7**	**+0.3**
WRAB	**Tennant Creek**	**18.94**	**220**	P		**P**		**22 19 33.9**	**+0.4**
WRAB	**Tennant Creek**	**18.94**	**220**	P		**P**		**22 19 34.1**	**+0.6**
WB2	**Warramunga Arr**	**18.95**	**220**	P		**P**		**22 19 33.9**	**+0.3**
WRA	**Warramunga Arr**	**18.96**	**220**	P		**P**		**22 19 33.9**	**+0.2**
	comp=Z,10.0nm,0.3s,baz=44,slow=11,SNR=146								
WRA				S		**S**		**22 22 57.0**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=38,slow=20,SNR=17								
WRA				LR		LR		22 27 32.7	
	comp=Z,510nm,18.5s,baz=20,slow=38								
WRA	**Warramunga Arr**	**18.96**	**220**	P		**P**		**22 19 34.2**	**+0.5**
WRA				IAmb		IAmb		22 19 35.5	
	comp=Z,43nm,0.9s								
EIDS	**Eidsvold**	**20.09**	**169**	P		**P**		**22 19 46.8**	**+1.1**
	baz=20,SNR=36								
EIDS	**Eidsvold**	**20.09**	**169**	P		**P**		**22 19 46.4**	**+0.6**
EIDS				IAmb		IAmb		22 19 49.0	
	comp=Z,82nm,0.9s								
EIDS	**Eidsvold**	**20.09**	**169**	P		**P**		**22 19 47.1**	**+1.3**
KNRA	**Kununurra**	**20.64**	**239**	P		**P**		**22 19 51.2**	**-0.4**
	baz=21,SNR=24								
KNRA	**Kununurra**	**20.64**	**239**	P		**P**		**22 19 51.0**	**-0.7**
KNRA				IAmb		IAmb		22 20 12.3	
	comp=Z,80nm,0.9s								
KNRA	**Kununurra**	**20.64**	**239**	P		**P**		**22 19 52.6**	**+1.0**
RMQ	**Roma**	**20.90**	**176**	P		**P**		**22 19 55.9**	**+1.5**
	baz=21,SNR=28								
RMQ	**Roma**	**20.90**	**176**	P		**P**		**22 19 55.2**	**+0.9**
QLP	**Quilpie**	**21.11**	**187**	P		**P**		**22 19 57.2**	**+0.6**
	baz=21,SNR=28								
QLP	**Quilpie**	**21.11**	**187**	P		**P**		**22 19 57.5**	**+0.9**
SANI	**Sanana**	**21.35**	**279**	P		**P**		**22 20 00.0**	**+0.8**
	comp=Z,1μmcomp=Z,38nm,0.7s								
SANI	**Sanana**	**21.35**	**279**	P		**P**		**22 19 59.6**	**+0.4**
SANVU	**Saraoutou**	**22.06**	**118**	P		**P**		**22 20 05.6**	**-0.7**
SANVU	**Saraoutou**	**22.06**	**118**	P		**P**		**22 20 07.1**	**+0.8**
AS31	**Alice Springs**	**22.06**	**214**	P		**P**		**22 20 06.9**	**+0.5**
AS31				IAmb		IAmb		22 20 12.2	
	comp=Z,52nm,0.8s								
ASAR	**Alice Springs**	**22.06**	**214**	P		**P**		**22 20 06.8**	**+0.4**
	comp=Z,139nm,0.8s,baz=51,slow=8.9,SNR=992								
ASAR				S		**S**		**22 23 58.2**	**+2.7**
	comp=Z,57nm,0.9s,baz=30,slow=21,SNR=18								
ASAR				LR		LR		22 30 18.4	
	comp=Z,246nm,19.4s,baz=34,slow=40								
KOUNC	**Koumac, New Ca**	**22.39**	**133**	P		**P**		**22 20 08.9**	**-0.5**
KOUNC				IAmb		IAmb		22 20 22.5	
	comp=Z,19nm,0.8s								
BATI	**Baumata**	**23.67**	**257**	P		**P**		**22 20 21.9**	**+0.7**
	comp=Z,55nm,0.9s,baz=56,slow=1.9,SNR=16								
BATI	**Baumata**	**23.67**	**257**	P		**P**		**22 20 23.2**	**+2.1**
	comp=Z,4168nmcomp=Z,41nm,1.0s								
DVP	**Devils Point**	**23.91**	**122**	P		**P**		**22 20 24.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.40**	**237**	P		**P**		**22 20 27.7**	**+0.1**
	comp=Z,32nm,0.5s,baz=61,slow=8.8,SNR=73								
FITZ				S		**S**		**22 24 37.0**	**+3.9**
	comp=Z,7.7nm,1.0s,baz=100,slow=17,SNR=1.8								
FITZ	**Fitzroy Crossi**	**24.40**	**237**	P		**P**		**22 20 27.6**	**-0.1**
OOD	**Oodnadatta**	**24.66**	**205**	P		**P**		**22 20 31.0**	**+1.1**
LUWI	**Luwuk**	**24.69**	**280**	P		**P**		**22 20 30.8**	**+0.4**
LUWI				IAmb		IAmb		22 20 51.4	
	comp=Z,59nm,1.0s								
LUWI	**Luwuk**	**24.69**	**280**	P		**P**		**22 20 34.0**	**+3.6**
	comp=Z,2μmcomp=Z,60nm,1.1s								
LUWI	**Luwuk**	**24.69**	**280**	P		**P**		**22 20 31.5**	**+1.1**
LIFNC	**LIFOU**	**24.73**	**130**	P		**P**		**22 20 29.5**	**-1.1**
NOUC	**Port Laguerre**	**24.82**	**133**	P		**P**		**22 20 32.3**	**+0.9**
	comp=Z,32nm,1.5s								
MMRI	**Maumere**	**24.86**	**261**	P		**P**		**22 20 30.4**	**-1.5**
MMRI				IAmb		IAmb		22 20 55.4	
	comp=Z,32nm,1.0s								
MMRI	**Maumere**	**24.86**	**261**	P		**P**		**22 20 34.1**	**+2.2**
	comp=Z,32nm,1.0s								
MMRI	**Maumere**	**24.86**	**261**	P		**P**		**22 20 33.6**	**+1.7**
DZM	**Mont Dzumac**	**24.91**	**133**	P		**P**		**22 20 31.9**	**-0.4**
	comp=Z,32nm,0.9s,baz=300,slow=8.1,SNR=11								
DZM	**Mont Dzumac**	**24.91**	**133**	*eP*		**P**		**22 20 31.9**	**-0.4**
	comp=Z,106nm,1.1s								
DZM				*e*LR		LR		22 26 58.6	
	comp=Z,254nm,23.4s								
DZM	**Mont Dzumac**	**24.91**	**133**	P		**P**		**22 20 32.0**	**-0.4**
DZM				IAmb		IAmb		22 20 35.3	
	comp=Z,58nm,1.1s								
DZM	**Mont Dzumac**	**24.91**	**133**	P		**P**		**22 20 32.6**	**+0.3**
ARMA	**Armidale**	**25.12**	**171**	P		**P**		**22 20 35.3**	**+1.1**
	baz=25,SNR=17								
ARMA	**Armidale**	**25.12**	**171**	P		**P**		**22 20 34.9**	**+0.7**
ARMA				IAmb		IAmb		22 20 36.3	
	comp=Z,60nm,0.8s								
ARMA	**Armidale**	**25.12**	**171**	P		**P**		**22 20 35.3**	**+1.1**
YATNC	**Mamie plateau,**	**25.23**	**133**	P		**P**		**22 20 35.7**	**+0.6**
OUENC	**Ouen Island, N**	**25.41**	**133**	P		**P**		**22 20 37.1**	**+0.3**
OUENC				IAmb		IAmb		22 20 39.3	
	comp=Z,45nm,1.2s								
MARNC	**Mare, Loyalty**	**25.74**	**130**	P		**P**		**22 20 40.1**	**+0.4**
CMSA	**Cobar Meteorol**	**25.91**	**183**	P		**P**		**22 20 41.7**	**+0.6**
	baz=26,SNR=9.6								
CMSA	**Cobar Meteorol**	**25.91**	**183**	P		**P**		**22 20 42.8**	**+1.7**
LCRK	**Leigh Creek**	**26.16**	**198**	P		**P**		**22 20 44.1**	**+0.7**
WRKA	**Warakurna**	**26.49**	**221**	P		**P**		**22 20 46.7**	**+0.2**
	baz=26,SNR=177								
WRKA	**Warakurna**	**26.49**	**221**	P		**P**		**22 20 47.2**	**+0.7**
BASI	**Baing, Sumba**	**26.68**	**258**	P		**P**		**22 20 52.0**	**+3.8**
	comp=Z,973nmcomp=Z,60nm,1.0s								
STKA	**Stephens Creek**	**26.71**	**190**	P		**P**		**22 20 47.8**	**-0.5**
	comp=Z,14nm,0.9s,baz=355,slow=8.3,SNR=15								
STKA				LR		LR		22 31 23.5	
	comp=Z,120nm,21.4s,baz=37,slow=36								
STKA	**Stephens Creek**	**26.71**	**190**	P		**P**		**22 20 48.5**	**+0.1**
	baz=27,SNR=18								
STKA	**Stephens Creek**	**26.71**	**190**	P		**P**		**22 20 47.8**	**-0.5**
STKA				IAmb		IAmb		22 21 01.0	
	comp=Z,8.8nm,0.8s								
STKA	**Stephens Creek**	**26.71**	**190**	P		**P**		**22 20 49.7**	**+1.4**
TOLI2	**Tolitoli**	**27.10**	**283**	P		**P**		**22 20 51.9**	**-0.2**
TOLI2				IAmb		IAmb		22 21 31.0	
	comp=Z,12nm,0.9s								
MULG	**Mulgathing**	**27.52**	**205**	P		**P**		**22 20 56.1**	**+0.6**
NAPP	**Napperby**	**28.75**	**196**	P		**P**		**22 21 07.0**	**+0.6**
WHYH	**Whyalla**	**28.77**	**197**	P		**P**		**22 21 07.1**	**+0.6**
	comp=Z,54nm,0.8s								
HTT	**Hallett**	**28.79**	**194**	P		**P**		**22 21 07.6**	**+0.8**
	baz=29,SNR=5.8								
HTT	**Hallett**	**28.79**	**194**	P		**P**		**22 21 07.9**	**+1.1**
	comp=Z,82nm,0.9s								
BBOO	**Buckleboo**	**29.03**	**199**	P		**P**		**22 21 09.0**	**+0.1**
	baz=29,SNR=17								
BBOO	**Buckleboo**	**29.03**	**199**	P		**P**		**22 21 08.7**	**-0.2**
BBOO				IAmb		IAmb		22 21 21.7	
	comp=Z,39nm,1.0s								
BBOO	**Buckleboo**	**29.03**	**199**	P		**P**		**22 21 09.2**	**+0.3**
CAN	**Canberra**	**29.70**	**177**	P		**P**		**22 21 15.0**	**+0.2**
CAN				IAmb		IAmb		22 21 23.2	
	comp=Z,91nm,1.8s								
PSA00	**Pilbara Seismi**	**30.84**	**236**	P		**P**		**22 21 24.9**	**-0.1**
PSA00				IAmb		IAmb		22 21 26.5	
	comp=Z,25nm,0.9s								
PSA00	**Pilbara Seismi**	**30.84**	**236**	P		**P**		**22 21 24.4**	**-0.6**
PSA00				IAmb		IAmb		22 21 26.5	
	comp=Z,10.0nm,1.0s								
PSA00	**Pilbara Seismi**	**30.84**	**236**	P		**P**		**22 21 25.3**	**+0.3**
FORT	**Forrest**	**30.84**	**213**	P		**P**		**22 21 25.6**	**+0.7**
	baz=31,SNR=9.0								
FORT	**Forrest**	**30.84**	**213**	P		**P**		**22 21 25.4**	**+0.5**
FORT	**Forrest**	**30.84**	**213**	P		**P**		**22 21 25.6**	**+0.7**
ARPS	**Mount Arapiles**	**31.46**	**188**	P		**P**		**22 21 31.5**	**+1.3**
	baz=32,SNR=20								
ARPS	**Mount Arapiles**	**31.46**	**188**	P		**P**		**22 21 31.3**	**+1.1**
	comp=Z,85nm,0.8s								
TOO	**Toolangi**	**31.93**	**182**	P		**P**		**22 21 35.7**	**+1.4**
	baz=32,SNR=5.7								
TOO	**Toolangi**	**31.93**	**182**	P		**P**		**22 21 35.4**	**+1.1**
TOO				IAmb		IAmb		22 21 36.4	
	comp=Z,19nm,0.9s								
TOO	**Toolangi**	**31.93**	**182**	P		**P**		**22 21 35.5**	**+1.1**
BRAT	**Ballarat**	**32.00**	**185**	P		**P**		**22 21 36.5**	**+1.6**
MSVF	**Nonsavu**	**32.58**	**114**	P		**P**		**22 21 41.1**	**+0.8**
	comp=Z,3.5nm,0.3s,baz=274,slow=19,SNR=2.7								
JCJ	**Chichijima**	**32.78**	**352**	P		**P**		**22 21 41.2**	**-0.6**
JCJ				IAmb		IAmb		22 21 48.0	
	comp=Z,40nm,0.8s								
MEEK	**Meekatharra**	**34.34**	**229**	P		**P**		**22 21 55.6**	**+0.2**
	baz=34,SNR=36								
MEEK	**Meekatharra**	**34.34**	**229**	P		**P**		**22 21 55.8**	**+0.4**
GIRL	**Giralia**	**36.00**	**239**	P		**P**		**22 22 10.9**	**+1.4**
MORW	**Morawa**	**37.56**	**228**	P		**P**		**22 22 22.9**	**+0.2**
	baz=38,SNR=13								
MORW	**Morawa**	**37.56**	**228**	P		**P**		**22 22 22.7**	**0.0**
MORW				IAmb		IAmb		22 22 24.2	
	comp=Z,36nm,1.1s								
MORW	**Morawa**	**37.56**	**228**	P		**P**		**22 22 23.2**	**+0.5**
KLBR	**Kellerberrin**	**37.78**	**223**	P		**P**		**22 22 24.3**	**-0.2**
	baz=38,SNR=21								
KLBR	**Kellerberrin**	**37.78**	**223**	P		**P**		**22 22 24.8**	**+0.3**
BLDU	**Ballidu**	**37.93**	**225**	P		**P**		**22 22 26.1**	**+0.4**
	baz=38,SNR=10								
BLDU	**Ballidu**	**37.93**	**225**	P		**P**		**22 22 26.2**	**+0.4**
YULB	**Y

SBA	**Scott Base**	**73.01**	**176**	P		**P**	22 26 35.0	**0.0**
MK31	**Makanchi Array**	**77.20**	**320**	P		**P**	22 26 59.2	**-0.3**
MKAR	**Makanchi Array**	**77.20**	**320**	P		**P**	22 26 59.2	**-0.3**
	comp=Z,0.2nm,0.4s,baz=96,slow=8.4,SNR=8.9							
MKAR	**Makanchi Array**	**77.20**	**320**	P		**P**	22 26 58.6	**-0.9**
ZALV	**Zalesovo Beam**	**78.67**	**328**	P		**P**	22 27 06.1	**-1.2**
	comp=Z,0.8nm,0.4s,baz=102,slow=6.2,SNR=4.7							
ZALV				LR		LR	23 02 16.7	
	comp=Z,20nm,19.9s,baz=114,slow=36							
ZALV	**Zalesovo Beam**	**78.67**	**328**	P		**P**	22 27 06.6	**-0.7**
KDJ	**Kajisay**	**79.04**	**315**	P		**P**	22 27 10.3	**+0.4**
KSH	**Kashi**	**79.14**	**312**	P		**P**	22 27 13.0	**+2.6**
BOOM	**Boomskoye usch**	**80.02**	**315**	P		**P**	22 27 15.1	**0.0**
CNPM	**China Poot**	**80.88**	**27**	P		**P**	22 27 19.2	**+0.1**
MAW	**Mawson**	**82.72**	**203**	P		**P**	22 27 28.1	**-0.4**
	comp=Z,3.1nm,0.8s,baz=79,slow=10,SNR=3.2							
KTH	**Kantishna Hill**	**82.89**	**23**	P		**P**	22 27 29.9	**+0.3**
KTH				IAmb		IAmb	22 27 46.4	
	comp=Z,28nm,1.8s							
GAR	**Garm**	**83.27**	**310**	P		**P**	22 27 32.0	**-0.1**
MLY	**Manley**	**83.65**	**22**	P		**P**	22 27 33.4	**0.0**
KKAR	**Karatay Array**	**84.04**	**314**	P		**P**	22 27 35.9	**+0.1**
QSPA	**South Pole Qui**	**84.43**	**180**	LR		LR	23 06 02.7	
	comp=Z,37nm,18.8s,baz=298,slow=36							
QSPA	**South Pole Qui**	**84.43**	**180**	P		**P**	22 27 37.3	**-0.2**
QSPA				IAmb		IAmb	22 27 38.0	
	comp=Z,11nm,1.1s							
ILAR	**Eielson Array**	**85.01**	**23**	P		**P**	22 27 38.9	**-1.3**
	comp=Z,1.2nm,0.8s,baz=254,slow=4.5,SNR=7.8							
ILAR				pP		**pP**	22 28 24.7	**-2.8**
	comp=Z,3.1nm,0.8s,baz=253,slow=5.0,SNR=7.9							
ILAR	**Eielson Array**	**85.01**	**23**	P		**P**	22 27 39.1	**-1.1**
J25K	**Salcha River,**	**85.55**	**24**	P		**P**	22 27 43.0	**+0.1**
BMAR	**Burnt Mountain**	**86.92**	**21**	P		**P**	22 27 50.0	**+0.5**
SYO	**Syowa Base**	**91.07**	**200**	eP		**P**	22 28 10.0	**+1.1**
AKTO	**Aktyubinsk**	**93.64**	**320**	LR		LR	23 12 44.5	
	comp=Z,24nm,19.3s,baz=53,slow=37							
ARU	**Arti**	**93.76**	**326**	LR		LR	23 13 45.9	
	comp=Z,18nm,18.2s,baz=86,slow=37							
YBH	**Yreka Blue Hor**	**93.78**	**49**	LR		LR	23 06 48.2	
	comp=Z,24nm,18.4s,baz=308,slow=33							
NVAR	**Mina Array Bea**	**97.00**	**52**	P		**P**	22 28 38.0	**+0.9**
	comp=Z,0.2nm,0.4s,baz=258,slow=4.3,SNR=2.4							
YKA	**Yellowknife Ar**	**98.71**	**28**	P		Pdif	22 28 44.5	+0.7
	comp=Z,0.1nm,0.5s,baz=272,slow=4.4,SNR=2.4							
YKA				pP		pP	22 29 28.8	-3.1
	comp=Z,1.0nm,1.0s,baz=270,slow=4.4,SNR=5.6							
YKA				LR		LR	23 07 33.0	
	comp=Z,42nm,20.5s,baz=332,slow=32							
PDAR	**Pinedale Array**	**103.53**	**47**	Pdiff		**Pdif**	22 29 06.7	**+0.6**
	comp=Z,0.3nm,0.7s,baz=258,slow=4.5,SNR=3.4							
CRVS	**Cervenica-Dubn**	**117.05**	**323**	eP		PP	22 35 01.5	+0.5
CLL	**Ceilm**	**120.62**	**328**	ePKPdf		**PKPdf**	**22 33 54.0**	**-1.5**
GERES	**GERESS Array B**	**121.58**	**326**	PKP		**PKPdf**	**22 33 57.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=68,slow=2.1,SNR=1.6							
LPAZ	**La Paz**	**138.95**	**122**	PKP		**PKiKP**	**22 34 34.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=313,slow=5.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**145.07**	**285**	PKPbc		**PKPbc**	**22 34 40.7**	**-1.4**
	comp=Z,4.3nm,1.1s,baz=69,slow=4.0,SNR=13							

SNET 30 22:35:26.7±1.0, 13°.12N×89°.60W, h42km±13km, ML3.1, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.46**	**37**	*eP*		Pn	22 35 37.4	+0.4
LALI				*eS*		Sn	22 35 44.3	+0.2
JAYA	**Jayaque - finc**	**0.55**	**16**	*eS*		Sn	22 35 47.3	+0.7
BOQS	**Boqueron**	**0.69**	**27**	*eP*		Pn	22 35 40.6	+0.4
BOQS				*eS*		Sn	22 35 51.7	+1.8
CEVE	**Cerro Verde**	**0.70**	**358**	*eP*		Pn	22 35 40.8	+0.4
CEVE				IAML			22 35 58.3	
	comp=Z,1µm,0.4s							
CEDA	**San Andres**	**0.70**	**17**	*eS*		Sn	22 35 51.1	+1.0
SBLS	**San Blas**	**0.71**	**358**	*eP*		Pn	22 35 40.9	+0.3
LFRS	**El Faro**	**0.72**	**47**	*eP*		Pn	22 35 41.1	+0.4
LFU	**La Fuente**	**0.78**	**37**	*eP*		Pn	22 35 42.0	+0.6
NUBE	**Las Nubes**	**0.79**	**347**	*eP*		Pn	22 35 41.6	0.0
NUBE				*eS*		Sn	22 35 52.7	+0.3
NUBE				IAML			22 35 54.8	
	comp=Z,403nm,0.3s							
COEG	**Centro de Oper**	**0.86**	**55**	*eP*		Pn	22 35 42.9	+0.5
COEG				*eS*		Sn	22 35 54.9	+1.0
COEG	**Centro de Oper**	**0.86**	**55**	*eP*		Pn	22 35 43.0	+0.5
COEG				*eS*		Sn	22 35 54.9	+1.0
COEG				IAML			22 35 56.2	
	comp=Z,448nm,0.4s							
PAVA	**Las Pavas**	**0.87**	**48**	*eS*		Sn	22 35 55.9	+1.6
PAVA	**Las Pavas**	**0.87**	**48**	*eP*		Pn	22 35 43.7	+1.0
SNVI	**San Vicente**	**0.89**	**57**	*eP*		Pn	22 35 43.4	+0.5
TECO	**Alcaldia de Te**	**0.90**	**63**	*eS*		Sn	22 35 55.4	+0.6
SLOZ	**Alcaldia de Sa**	**0.92**	**349**	*eP*		Pn	22 35 43.5	+0.3
SLOZ				*eS*		Sn	22 35 56.1	+0.9
COEB	**Comit de Eme**	**1.11**	**70**	*eP*		Pn	22 35 46.5	+0.6
COEB				*eS*		Sn	22 36 01.0	+0.9
COEB				IAML			22 36 07.4	
	comp=Z,301nm,0.3s							
COEB	**Comit de Eme**	**1.11**	**70**	*eP*		Pn	22 35 46.1	+0.2
COEB				*eS*		Sn	22 36 00.2	+0.1
COEB				IAML			22 36 03.0	
	comp=Z,156nm,0.1s							
MTO3	**Montecristo**	**1.29**	**10**	*eP*		Pn	22 35 49.2	+0.7
MTO3	**Montecristo**	**1.29**	**10**	*eP*		Pn	22 35 49.1	+0.6
JUCU	**Jucuarán**	**1.33**	**84**	*eP*		Pn	22 35 48.8	0.0
JUCU				*eS*		Sn	22 36 05.6	+0.3

IDC 30 22:39:49.8±2.1, 4°.09N×126°.73E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/41, mbtmp3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.4/38, Error ellipse: s-maj=203.0km s-min=23.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.24**	**61**	LR	LR	22 50 32.1	
	comp=Z,18nm,21.5s,baz=66,slow=32						
WRA	**Warramunga Arr**	**25.02**	**163**	P	P	22 45 15.9	+0.2
	0.6nm,0.6s,baz=341,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**28.46**	**166**	P	P	22 45 46.4	-0.3
	0.2nm,0.4s,baz=350,slow=7.4,SNR=4.4						
HNR	**Honiara**	**35.72**	**112**	LR	LR	23 00 58.9	
	comp=Z,237nm,21.4s,baz=174,slow=36						
MKAR	**Makanchi Array**	**57.26**	**325**	P	P	22 49 39.7	+0.4
	0.2nm,0.5s,baz=114,slow=7.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	P	22 50 07.6	-0.4
	0.1nm,0.4s,baz=126,slow=6.4,SNR=4.0						

*IDC **30** 22:41:12.0±1.7, 27°.62N×85°.36E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/47, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=50.2km s-min=27.8km az=57.0*

ISC 30 22:41:17.3±1.7, 27°.7N±0°.2×85°.4E±0°.3, h35km, n8, σ0°56/8, mb3.5/7, Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.25**	**354**	P	**P**	**22 45 38.0**	**-0.6**
	0.2nm,0.3s,baz=172,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**23.51**	**349**	P	**P**	**22 46 23.6**	**-0.4**
	0.4nm,0.6s,baz=164,slow=10,SNR=6.8						
SONM	**Songino Array**	**25.96**	**34**	P	**P**	**22 46 46.5**	**-0.1**
	0.7nm,0.5s,baz=214,slow=10,SNR=5.0						
ZALV	**Zalesovo Beam**	**26.26**	**359**	P	**P**	**22 46 49.6**	**+0.5**
	0.5nm,0.4s,baz=187,slow=9.9,SNR=3.9						
FINES	**FINESS Array B**	**51.49**	**328**	P	**P**	**22 50 19.4**	**+0.3**
	0.5nm,0.5s,baz=104,slow=8.0,SNR=6.3						
ARCES	**ARCESS Array B**	**53.91**	**338**	P	**P**	**22 50 37.5**	**+0.6**
	1.3nm,0.7s,baz=102,slow=7.6,SNR=10						
NOA	**NORSAR Array B**	**58.58**	**327**	P	**P**	**22 51 09.8**	**-0.5**
	0.1nm,0.4s,baz=104,slow=7.3,SNR=1.5						
WRA	**Warramunga Arr**	**66.97**	**130**	P	**P**	**22 52 06.6**	**-0.1**
	0.1nm,0.4s,baz=320,slow=6.6,SNR=1.8						

IDC 30 22:57:30.4±1.2, 4°.04N×126°.56E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/33, mbtmp3.5/5, Error ellipse: s-maj=69.8km s-min=21.6km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.01**	**182**	P	P	23 02 27.2	+0.7
	3.1nm,1.0s,baz=20,slow=9.3,SNR=9.0						
WRA	**Warramunga Arr**	**25.03**	**162**	P	P	23 02 56.1	-0.3
	0.8nm,0.6s,baz=340,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**28.45**	**166**	P	P	23 03 26.9	-0.4
	0.3nm,0.6s,baz=353,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	23 07 19.5	0.0
	0.2nm,0.4s,baz=114,slow=7.4,SNR=12						
ILAR	**Eielson Array**	**84.90**	**25**	P	P	23 10 07.2	+0.1
	0.2nm,0.8s,baz=268,slow=5.8,SNR=1.6						

NOU 30 23:18:22.4, 14°.94S×167°.47E, h76km, MLv4.5/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.57**	**207**	P	Pn	23 18 37.5	+1.1
DVP	**Devils Point**	**2.85**	**166**	P	Pn	23 19 05.3	-0.4
YATNC	**Mamie plateau,**	**7.10**	**184**	P	Pn	23 20 02.6	-1.1
DZM	**Mont Dzumac**	**7.16**	**188**	P	Pn	23 20 03.5	-1.1
NOUC	**Port Laguerre**	**7.21**	**189**	P	Pn	23 20 06.1	+1.0
OUENC	**Ouen Island, N**	**7.46**	**184**	P	Pn	23 20 09.7	+1.1

*IDC **30** 23:26:10.4±2.0, 3°.97N×126°.39E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/33, mbtmp3.4/4, MS2.4/1, Ms1 2.4/1, ms1mx2.1/42, Error ellipse: s-maj=121.5km s-min=24.9km az=69.0*

*DJA **30** 23:26:12.3±0.5, 4°N±16°×12°7E±°, h25km±18km, M3.9/6, mb4.1/2, MLv3.8/6*

ISC 30 23:26:16.4±1.6, 3.9N±0°.2×126°.6E±0°.1, h45km, n8, σ1°63/8, mb3.3/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.06**	**260**	P	**Pn**	**23 26 34.9**	**0.0**
SGSI				S	**Sn**	**23 26 50.2**	**+1.6**
GTOI	**Gorontalo**	**4.80**	**228**	P	**Pn**	**23 27 24.3**	**-1.9**
MRSI	**Marisa**	**5.73**	**234**	P	**Pn**	**23 27 37.2**	**-1.8**
SIJI	**Sorong**	**6.64**	**135**	LR	LR	23 30 08.6	
	comp=Z,32nm,22.0s,baz=155,slow=35						
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P	**P**	**23 31 05.8**	**+0.6**
	0.8nm,0.5s,baz=5.1,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**24.86**	**162**	P	**P**	**23 31 36.3**	**+1.3**
	0.4nm,0.5s,baz=341,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**23 32 06.8**	**+1.0**
	0.1nm,0.3s,baz=346,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**23 35 59.2**	**-0.9**
	0.2nm,0.5s,baz=124,slow=8.0,SNR=6.3						

IDC 30 23:41:03.2±2.1, 52°.58N×159°.38E, h0km, Error ellipse: s-maj=10.7km s-min=8.3km az=47.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**1.15**	**298**	Pn	Pn	23 41 26.7	+0.2
	0.9nm,0.3s,baz=110,slow=20,SNR=7.2						
PETK				Sn	Sn	23 41 43.2	+0.3
	1.1nm,0.3s,baz=139,slow=29,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**33.31**	**167**	H	H	00 22 48.0	
	baz=352,slow=76,SNR=1278						
H11N3	**WAKE ISLAND Hy**	**33.32**	**167**	H	H	00 22 48.0	
	baz=352,slow=76,SNR=1247						
H11N1	**WAKE ISLAND Hy**	**33.32**	**167**	H	H	00 22 48.0	
	baz=352,slow=76,SNR=1490						
H11S1	**WAKE ISLAND Hy**	**34.48**	**168**	H	H	00 24 16.5	
	baz=352,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**34.49**	**168**	H	H	00 24 17.7	
	baz=352,slow=76,SNR=380						
H11S2	**WAKE ISLAND Hy**	**34.50**	**168**	H	H	00 24 17.7	
	baz=352,slow=76,SNR=71						
H03N2	**Juan Fernandez**	**134.63**	**89**	H	H	02 29 42.4	
	baz=314,slow=77,SNR=107						
H03N1	**Juan Fernandez**	**134.65**	**89**	H	H	02 29 39.9	
	baz=314,slow=77,SNR=141						
H03N3	**Juan Fernandez**	**134.65**	**89**	H	H	02 29 41.0	
	baz=314,slow=77,SNR=89						

*ATH **31** 00:03:23.4, 34°.55N×25°.67E, h23km±9km, ML3.0/2, Error ellipse: s-maj=11.9km s-min=1.6km az=355.0*

*THE **31** 00:03:25.7, 34°.70N×25°.62E, h7km±2km, ML2.6/8, Error ellipse: s-maj=3.1km s-min=0.9km az=22.0*

*ISK **31** 00:03:26.4, 34°.88N×25°.62E, h25km, ML2.8/9*

*GII **31** 00:03:30.3±0.0, 34°.22N×26°.30E, h1km±1km*

ISC 31 00:03:23.7±1.4, 34°.65N±0°.06×25°.71E±0°.04, h25km±14km, n45, σ1°94/65, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.37**	**2**	P	**Pn**	**00 03 33.4**	**-0.1**
FRMA				S	**Sn**	**00 03 40.7**	**+0.9**
FRMA				AML	AML	00 03 41.5	
	comp=E,5704µm,0.5s						
FRMA				AML	AML	00 03 43.4	
	comp=N,6597µm,0.3s						
FRMA	**Ierapetra Chan**	**0.37**	**2**	P	**Pn**	**00 03 33.4**	**-0.1**
FRMA				S	**Sn**	**00 03 39.7**	**-0.1**
	comp=N,1µm,0.4s						
ZKR	**Zakros**	**0.62**	**41**	P	**Pn**	**00 03 37.8**	**+0.7**
ZKR				S	**Sn**	**00 03 47.5**	**+1.3**
ZKR				AML	AML	00 03 52.8	
	comp=N,1103µm,0.3s						
ZKR				AML	AML	00 03 57.9	
	comp=E,2108µm,0.6s						
ZKR	**Zakros**	**0.62**	**41**	P	**Pn**	**00 03 37.9**	**+0.9**
ZKR				S	**Sn**	**00 03 48.7**	**+2.5**
	comp=E,805nm,0.4s						
ZKR	**Zakros**	**0.62**	**41**	PG	**Pn**	**00 03 38.0**	**+0.9**
HRKL	**Herakleio**	**0.83**	**323**	P	**Pn**	**00 03 41.3**	**+1.4**
HRKL	**Herakleio**	**0.83**	**323**	P	**Pn**	**00 03 40.8**	**+0.9**
HRKL				S	**Sn**	**00 03 52.2**	**+0.9**
	comp=E,2µm,0.7s						
KSTL	**Kastelli Herak**	**0.84**	**321**	P	**Pb**	**00 03 37.3**	**-2.3**
KSTL	**Kastelli Herak**	**0.84**	**321**	P	**Pb**	**00 03 36.0**	**-3.7**
KSTL				S	**Sb**	**00 03 45.5**	**-5.1**
	comp=E,228nm,0.4s						
TMBK	**Timbaki Herakl**	**0.89**	**299**	P	**Pn**	**00 03 40.5**	**-0.1**
TMBK	**Timbaki Herakl**	**0.89**	**299**	P	**Pn**	**00 03 40.7**	**+0.1**
TMBK				S	**Sn**	**00 03 53.0**	**+0.3**
	comp=E,525nm,0.7s						
IDI	**Anoyia**	**0.93**	**314**	P	**Pb**	**00 03 42.0**	**+0.8**
IDI	**Anoyia**	**0.93**	**314**	P	**Pn**	**00 03 41.3**	**0.0**
IDI				S	**Sn**	**00 03 53.8**	**-0.1**
	comp=E,375nm,0.6s						
IDI	**Anoyia**	**0.93**	**314**	PG	**Pn**	**00 03 41.3**	**0.0**
IDI				SG	**Sb**	**00 03 52.2**	**-1.0**
PRNS	**Prines Rethymn**	**1.23**	**306**	P	**Pb**	**00 03 47.9**	**+1.7**
PRNS				S	**Sb**	**00 04 04.1**	**+2.5**
	comp=E,165nm,0.6s						
GVDS	**Gavdos**	**1.35**	**279**	P	**Pb**	**00 03 49.5**	**+1.2**
GVD	**Gavdhos**	**1.35**	**279**	P	**Pb**	**00 03 48.7**	**+0.3**
GVD	**Gavdhos**	**1.35**	**279**	P	**Pb**	**00 03 49.1**	**+0.7**
GVD				S	**Sb**	**00 04 06.5**	**+1.2**
	comp=E,390nm,0.5s						
GVD	**Gavdhos**	**1.35**	**279**	PN	**Pb**	**00 03 48.9**	**+0.5**
KARP	**Karpathos**	**1.49**	**52**	P	**Pb**	**00 03 52.4**	**+1.7**
KARP	**Karpathos**	**1.49**	**52**	PN	**Pb**	**00 03 51.7**	**+1.0**
IMMV	**Iera Moni Meta**	**1.54**	**300**	PN	**Pn**	**00 03 51.8**	**+0.9**
THR6	**Thira Island,**	**1.73**	**351**	P	**Pn**	**00 03 53.0**	**+0.9**
THR8	**Santorini-Mono**	**1.77**	**354**	P	**Pn**	**00 03 53.2**	**+0.5**
THR3	**Thira Island,**	**1.78**	**352**	P	**Pn**	**00 03 53.3**	**+0.5**
THR5	**Thira Island,**	**1.79**	**351**	P	**Pn**	**00 03 53.5**	**+0.4**
THR2	**Thira island,**	**1.81**	**353**	P	**Pn**	**00 03 53.8**	**+0.5**
KOSK	**Kos Island**	**2.34**	**26**	PN	**Pn**	**00 04 01.8**	**+1.2**
DAT	**Datca**	**2.57**	**36**	P	**Pn**	**00 04 05.5**	**+1.6**
DAT	**Datca**	**2.57**	**36**	PN	**Pn**	**00 04 05.6**	**+1.6**
TURN	**Turunc**	**2.96**	**43**	PN	**Pn**	**00 04 11.2**	**+2.1**
YER	**Yerkesik**	**3.24**	**39**	PN	**Pn**	**00 04 15.5**	**+2.4**
DION	**Dionisos Attik**	**3.71**	**338**	P	**Pn**	**00 04 20.4**	**+0.9**
KZIT	**Kziot**	**8.21**	**115**	Pn	**Pn**	**00 05 21.8**	**+0.6**
KZIT				Sn	**Sn**	**00 06 50.4**	**-2.8**
MMA0B	**Mount Meron ar**	**8.22**	**99**	Pn	**Pn**	**00 05 24.3**	**+2.8**
MMA0B				Sn	**Sn**	**00 06 52.1**	**-1.6**
AMAZ	**Amatzia**	**8.32**	**109**	Pn	**Pn**	**00 05 24.5**	**+1.7**
AMAZ				Sn	**Sn**	**00 06 52.8**	**-3.2**
MMLI	**Mount Malkishu**	**8.40**	**102**	Pn	**Pn**	**00 05 24.9**	**+1.2**
HMDT	**Nahal Hemdat**	**8.54**	**103**	Pn	**Pn**	**00 05 27.0**	**+1.2**
HMDT				Sn	**Sn**	**00 06 59.7**	**-1.6**
YTIR	**Yattir**	**8.55**	**110**	Pn	**Pn**	**00 05 27.7**	**+1.7**
YTIR				Sn	**Sn**	**00 06 58.7**	**-3.0**
DSI	**Dead Sea**	**8.67**	**108**	Pn	**Pn**	**00 05 30.5**	**+2.9**
DSI				Sn	**Sn**	**00 07 02.1**	**-2.4**
KRMI	**Paran Flat**	**8.86**	**118**	Sn	**Sn**	**00 07 05.0**	**-4.2**
GHAJ	**Ghor Haditha**	**8.92**	**109**	Pn	**Pn**	**00 05 32.1**	**+1.1**
PRNI	**Paran**	**8.94**	**116**	Pn	**Pn**	**00 05 32.8**	**+1.5**
PRNI				Sn	**Sn**	**00 07 08.0**	**-3.2**
HRFI	**Mount Harif**	**9.13**	**118**	Pn	**Pn**	**00 05 35.5**	**+1.6**
HRFI				Sn	**Sn**	**00 07 12.2**	**-3.6**
EIL	**Elat**	**9.27**	**120**	Pn	**Pn**	**00 05 37.9**	**+2.1**
EIL				Sn	**Sn**	**00 07 15.1**	**-4.2**

IDC 31 00:25:41.2±3.2, 16°.55S×178°.76W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/31, mbtmp4.0/3, Error ellipse: s-maj=174.9km s-min=47.1km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.00**	**240**	P	P	00 33 09.7	+0.1
	0.9nm,0.5s,baz=80,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**44.56**	**258**	P	P	00 33 55.2	-0.1
	0.5nm,0.6s,baz=92,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**44.84**	**253**	P	P	00 33 57.1	-0.4
	5.1nm,0.6s,baz=88,slow=8.1,SNR=56						
ARCES	**ARCESS Array B**	**124.93**	**350**	PKP	PKPdf	00 44 42.5	-0.2
	1.1nm,0.7s,baz=15,slow=5.0,SNR=6.0						

*IDC **31** 00:49:42.2±2.0, 4°.85S×140°.84E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/31, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=85.4km s-min=24.8km az=96.0*

ISC 31 00:49:43.1±1.5, 4°.9S±0°.1×140°.6E±0°.4, h10km, n6, σ1°56/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.39**	**2**	Pn	**Pn**	**00 50 21.4**	**-1.1**
	6.8nm,0.3s,baz=195,slow=12,SNR=15						
JAY				Sn	**Sn**	**00 50 51.9**	**0.0**
	6.0nm,0.3s,baz=95,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**16.14**	**202**	Pn	**Pn**	**00 53 28.3**	**-2.0**
	2.0nm,0.3s,baz=18,slow=12,SNR=30						
WRA				Sn	Sn	00 56 18.0	-12
	0.1nm,0.3s,baz=25,slow=26,SNR=2.1						
FITZ	**Fitzroy Crossi**	**19.66**	**227**	P	**P**	**00 54 12.0**	**-0.4**
	0.1nm,0.3s,baz=161,slow=9.9,SNR=1.7						
ASAR	**Alice Springs**	**19.74**	**199**	P	**P**	**00 54 14.8**	**+1.6**
	0.7nm,0.3s,baz=24,slow=11,SNR=25						
MKAR	**Makanchi Array**	**72.70**	**322**	P	**P**	**01 01 12.8**	**+1.4**
	0.5nm,0.6s,baz=112,slow=7.1,SNR=8.0						
ILAR	**Eielson Array**	**87.04**	**24**	P	**P**	**01 02 28.9**	**+0.2**
	0.3nm,0.6s,baz=250,slow=4.7,SNR=2.5						

IDC 31 00:53:58.7±2.0, 52°.59N×159°.00E, h0km, Error ellipse: s-maj=11.1km s-min=7.5km az=65.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.95**	**304**	Pn	Pn	00 54 19.2	0.0
	1.1nm,0.3s,baz=114,slow=20,SNR=21						
H11N2	**WAKE ISLAND Hy**	**33.37**	**166**	H	H	01 35 48.4	
	baz=352,slow=76,SNR=1081						
H11N3	**WAKE ISLAND Hy**	**33.38**	**166**	H	H	01 35 49.4	
	baz=352,slow=76,SNR=1234						
H11N1	**WAKE ISLAND Hy**	**33.38**	**166**	H	H	01 35 49.8	
	baz=352,slow=76,SNR=1071						
H11S1	**WAKE ISLAND Hy**	**34.54**	**167**	H	H	01 37 17.1	
	baz=352,slow=76,SNR=232						
H11S3	**WAKE ISLAND Hy**	**34.55**	**167**	H	H	01 37 17.5	
	baz=352,slow=76,SNR=879						
H11S2	**WAKE ISLAND Hy**	**34.56**	**167**	H	H	01 37 18.2	
	baz=352,slow=76,SNR=185						
H03N2	**Juan Fernandez**	**134.86**	**89**	H	H	03 42 52.4	
	baz=314,slow=77,SNR=180						
H03N1	**Juan Fernandez**	**134.87**	**89**	H	H	03 42 52.4	
	baz=314,slow=77,SNR=198						
H03N3	**Juan Fernandez**	**134.88**	**89**	H	H	03 42 52.4	
	baz=314,slow=77,SNR=198						

WEL 31 01:02:59.3, 41°.5S±5°×17°.4E±°, h62km±11km, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.23**	**26**	P	Pn	01 03 09.7	+0.5
DUWZ	**D'Urville Isla**	**0.23**	**26**	P	Pn	01

IDC 31 01:52:12.7±5.7, 6°64S×129°32E, h121km±70km, mb3.4/1, mb1 3.5/4, mb1mx3.1/35, mbtmp3.9/4, Error ellipse: s-maj=118.9km s-min=24.3km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.05**	**19**	P	Pn	01 53 40.1	+0.2
	2.4nm,0.3s,baz=7.4,slow=22,SNR=12						
SIJI				S	Sn	01 54 41.6	-6.4
	2.8nm,0.3s,baz=235,slow=22,SNR=9.9						
FITZ	**Fitzroy Crossi**	**11.94**	**197**	P	P	01 55 04.2	-2.7
	0.3nm,0.3s,baz=45,slow=8.4,SNR=25						
FITZ				S	Sn	01 57 10.9	+0.2
	0.5nm,0.3s,baz=61,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**14.10**	**160**	P	Pn	01 55 25.2	-1.9
	0.5nm,0.3s,baz=339,slow=13,SNR=28						
WRA				S	Sn	01 57 55.1	-7.7
	0.2nm,0.3s,baz=336,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**17.50**	**166**	P	Pn	01 56 10.1	+0.9
	0.6nm,0.3s,baz=341,slow=8.9,SNR=30						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	02 02 56.0	-0.1
	0.5nm,0.5s,baz=118,slow=7.4,SNR=8.4						

WEL 31 01:56:01.3±0.6, 31°S±9°×17°9W±2°, 4, h266km±10km, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7, confirmed, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.61**	**35**	P	Pn	01 56 41.2	-0.8
GLKZ	**Green Lake**	**1.61**	**35**	S	S	01 57 15.0	+0.7
GLKZ	**Green Lake**	**1.61**	**35**	P	Pn	01 56 41.2	-0.8
GLKZ				S	S	01 57 15.0	+0.7
RIZ	**Raoul Island**	**1.62**	**35**	P	Pn	01 56 39.9	-2.2
RIZ	**Raoul Island**	**1.62**	**35**	P	Pn	01 56 39.9	-2.2
MXZ	**Matakaoa Point**	**7.31**	**197**	P	Pn	01 57 48.6	+2.6
MXZ	**Matakaoa Point**	**7.31**	**197**	S	S	01 59 12.2	+1.8
MXZ	**Matakaoa Point**	**7.31**	**197**	P	Pn	01 57 48.6	+2.6
MXZ				S	S	01 59 12.2	+1.8
WMGZ	**Waiomatatini S**	**7.53**	**196**	P	Pn	01 57 51.2	+2.5
WMGZ	**Waiomatatini S**	**7.53**	**196**	S	S	01 59 17.7	+2.4
WMGZ	**Waiomatatini S**	**7.53**	**196**	P	Pn	01 57 51.2	+2.5
WMGZ				S	S	01 59 17.7	+2.4
HAZ	**Te Kaha**	**7.64**	**200**	P	Pn	01 57 49.0	-1.1
HAZ	**Te Kaha**	**7.64**	**200**	S	S	01 59 21.4	+3.6
HAZ	**Te Kaha**	**7.64**	**200**	P	Pn	01 57 49.0	-1.1
HAZ				S	S	01 59 21.4	+3.6
PKGZ	**Pakihiroa**	**7.68**	**198**	P	Pn	01 57 49.7	-1.0
PKGZ	**Pakihiroa**	**7.68**	**198**	S	S	01 59 14.5	-4.4
PKGZ	**Pakihiroa**	**7.68**	**198**	P	Pn	01 57 49.7	-1.0
PKGZ				S	S	01 59 14.5	-4.4
WCZ	**Waipu Caves**	**7.73**	**225**	P	Pn	01 57 53.3	+2.1
WCZ	**Waipu Caves**	**7.73**	**225**	P	Pn	01 57 53.3	+2.1
RUGZ	**Raukumara Rang**	**7.86**	**200**	P	Pn	01 57 52.4	-0.6
RUGZ	**Raukumara Rang**	**7.86**	**200**	S	S	01 59 25.1	+2.0
RUGZ	**Raukumara Rang**	**7.86**	**200**	P	Pn	01 57 52.4	-0.6
RUGZ				S	S	01 59 25.1	+2.0
TWGZ	**Tauwhareparae**	**7.98**	**198**	P	Pn	01 57 57.1	+2.8
TWGZ	**Tauwhareparae**	**7.98**	**198**	S	S	01 59 27.4	+1.8
TWGZ	**Tauwhareparae**	**7.98**	**198**	P	Pn	01 57 57.1	+2.8
TWGZ				S	S	01 59 27.4	+1.8
CNGZ	**Carnagh Statio**	**8.21**	**196**	P	Pn	01 57 59.1	+1.8
CNGZ	**Carnagh Statio**	**8.21**	**196**	P	Pn	01 57 59.1	+1.8
MWZ	**Matawai**	**8.25**	**200**	P	Pn	01 58 00.2	+2.5
MWZ	**Matawai**	**8.25**	**200**	S	S	01 59 32.2	+0.4
MWZ	**Matawai**	**8.25**	**200**	P	Pn	01 58 00.2	+2.5
MWZ				S	S	01 59 32.2	+0.4
TKGZ	**Te Karaka**	**8.26**	**198**	P	Pn	01 57 57.6	-0.2
TKGZ	**Te Karaka**	**8.26**	**198**	S	S	01 59 32.9	+0.9
TKGZ	**Te Karaka**	**8.26**	**198**	P	Pn	01 57 57.6	-0.2
TKGZ				S	S	01 59 32.9	+0.9
URZ	**Urewera**	**8.31**	**202**	P	Pn	01 57 56.1	-2.3
URZ	**Urewera**	**8.31**	**202**	S	S	01 59 34.0	+0.9
URZ	**Urewera**	**8.31**	**202**	P	Pn	01 57 56.1	-2.3
URZ				S	S	01 59 34.0	+0.9
RAGZ	**Rawiri**	**8.43**	**200**	P	Pn	01 57 57.9	-2.1
RAGZ	**Rawiri**	**8.43**	**200**	S	S	01 59 38.7	+2.7
RAGZ	**Rawiri**	**8.43**	**200**	P	Pn	01 57 57.9	-2.1
RAGZ				S	S	01 59 38.7	+2.7
MUGZ	**Murupara**	**8.62**	**203**	P	Pn	01 58 02.8	+0.5
MUGZ	**Murupara**	**8.62**	**203**	P	Pn	01 58 02.8	+0.5
RTZ	**Ruatahuna**	**8.67**	**201**	P	Pn	01 58 02.7	-0.4
RTZ	**Ruatahuna**	**8.67**	**201**	P	Pn	01 58 02.7	-0.4
SNGZ	**Shannon Statio**	**8.72**	**199**	P	Pn	01 58 04.7	+1.1
SNGZ	**Shannon Statio**	**8.72**	**199**	S	S	01 59 43.4	+0.8
SNGZ	**Shannon Statio**	**8.72**	**199**	P	Pn	01 58 04.7	+1.1
SNGZ				S	S	01 59 43.4	+0.8
RAHZ	**Arahi**	**8.92**	**200**	P	Pn	01 58 07.3	+1.2
RAHZ	**Arahi**	**8.92**	**200**	S	S	01 59 46.4	-0.8
RAHZ	**Arahi**	**8.92**	**200**	P	Pn	01 58 07.3	+1.2
RAHZ				S	S	01 59 46.4	-0.8
MTHZ	**Maungataniwha**	**8.93**	**201**	P	Pn	01 58 06.2	-0.1
MTHZ	**Maungataniwha**	**8.93**	**201**	S	S	01 59 45.8	-1.8
MTHZ	**Maungataniwha**	**8.93**	**201**	P	Pn	01 58 06.2	-0.1
MTHZ				S	S	01 59 45.8	-1.8
NMHZ	**Naumai**	**9.17**	**201**	P	Pn	01 58 08.7	-0.6
NMHZ	**Naumai**	**9.17**	**201**	P	Pn	01 58 08.7	-0.6
ARHZ	**Aropaoanui**	**9.26**	**200**	P	Pn	01 58 10.3	-0.1
ARHZ	**Aropaoanui**	**9.26**	**200**	P	Pn	01 58 10.3	-0.1
MCHZ	**McNeill Hill**	**9.52**	**201**	P	Pn	01 58 14.1	+0.5
MCHZ	**McNeill Hill**	**9.52**	**201**	S	S	01 59 60.0	-1.1
MCHZ	**McNeill Hill**	**9.52**	**201**	P	Pn	01 58 14.1	+0.5
MCHZ				S	S	01 59 60.0	-1.1
NTVZ	**North Tongarir**	**9.56**	**206**	P	Pn	01 58 15.7	+1.5
NTVZ	**North Tongarir**	**9.56**	**206**	P	Pn	01 58 15.7	+1.5
TMVZ	**Te Maari**	**9.56**	**206**	P	Pn	01 58 14.8	+0.5
TMVZ	**Te Maari**	**9.56**	**206**	S	S	02 00 00.6	-1.6
TMVZ	**Te Maari**	**9.56**	**206**	P	Pn	01 58 14.8	+0.5
TMVZ				S	S	02 00 00.6	-1.6
ETVZ	**East Tongariro**	**9.58**	**206**	P	Pn	01 58 14.7	+0.3
ETVZ	**East Tongariro**	**9.58**	**206**	P	Pn	01 58 14.7	+0.3
KWHZ	**Kaweka Forest**	**9.59**	**202**	P	Pn	01 58 13.4	-1.1
KWHZ	**Kaweka Forest**	**9.59**	**202**	S	S	02 00 01.8	-0.9
KWHZ	**Kaweka Forest**	**9.59**	**202**	P	Pn	01 58 13.4	-1.1
KWHZ				S	S	02 00 01.8	-0.9
OTVZ	**Oturere**	**9.62**	**206**	P	Pn	01 58 14.0	-1.0
OTVZ	**Oturere**	**9.62**	**206**	P	Pn	01 58 14.0	-1.0
SNVZ	**South Ngauruho**	**9.65**	**206**	P	Pn	01 58 14.9	-0.5
SNVZ	**South Ngauruho**	**9.65**	**206**	S	S	02 00 05.8	+1.5
SNVZ	**South Ngauruho**	**9.65**	**206**	P	Pn	01 58 14.9	-0.5
SNVZ				S	S	02 00 05.8	+1.5
WNVZ	**Wahianoa**	**9.79**	**206**	P	Pn	01 58 16.4	-0.7
WNVZ	**Wahianoa**	**9.79**	**206**	P	Pn	01 58 16.4	-0.7
KAHZ	**Kahuranaki**	**9.79**	**199**	P	Pn	01 58 16.6	-0.4
KAHZ	**Kahuranaki**	**9.79**	**199**	S	S	02 00 04.2	-3.2
KAHZ	**Kahuranaki**	**9.79**	**199**	P	Pn	01 58 16.6	-0.4
KAHZ				S	S	02 00 04.2	-3.2
KRHZ	**Kereru**	**9.80**	**202**	P	Pn	01 58 15.9	-1.3
KRHZ	**Kereru**	**9.80**	**202**	S	S	02 00 03.0	-4.6
KRHZ	**Kereru**	**9.80**	**202**	P	Pn	01 58 15.9	-1.3
KRHZ				S	S	02 00 03.0	-4.6

*IDC **31** 01:56:45.5±0.9, 25°89S×70°37E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/47, mbtmp3.8/7, MS3.5/16, Ms1 3.5/16, ms1mx3.1/77, Error ellipse: s-maj=30.7km s-min=25.3km az=164.0*

*NEIC **31** 01:56:47.5±1.6, 26°0S×70°4E±0°1, h10km±1km, mb4.5/9, Error ellipse: s-maj=24.5km s-min=15.1km az=187.0*

ISC 31 01:56:46.8±0.6, 26°0S×70°4E±0°1, h10km, n37, σ0s55/20, mb4.2/10, MS3.5/16, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.34**	**7**	T	T	02 19 47.8	
	baz=187,slow=76,SNR=26						
H08S2	**Diego Garcia H**	**18.34**	**7**	T	T	02 19 45.3	
	baz=187,slow=76,SNR=50						
H08S3	**Diego Garcia H**	**18.35**	**7**	T	T	02 19 49.2	
	baz=187,slow=76,SNR=38						
PALK	**Pallekele**	**34.53**	**18**	LR	LR	02 13 58.5	
	comp=Z,81nm,21.1s,baz=294,slow=30						
MATP	**Matopo**	**38.80**	**269**	LR	LR	02 18 09.6	
	comp=Z,74nm,20.5s,baz=79,slow=33						
PSI	**Prapat**	**39.75**	**48**	LR	LR	02 17 01.9	
	comp=Z,72nm,18.3s,baz=228,slow=31						
BOSA	**Boshof**	**40.04**	**256**	P	**P**	**02 04 22.9**	**+0.4**
	1.6nm,0.7s,baz=108,slow=4.2,SNR=3.6						
BOSA					LR	LR	02 17 12.8
	comp=Z,128nm,19.7s,baz=154,slow=31						
BOSA	**Boshof**	**40.04**	**256**	P	**P**	**02 04 21.8**	**-0.6**
BOSA					IAmb	IAmb	02 04 44.2
	comp=Z,14nm,1.4s						
LEM	**Lembang**	**40.24**	**68**	LR	LR	02 17 17.2	
	comp=Z,54nm,20.7s,baz=135,slow=31						
LBTB	**Lobatse**	**40.31**	**261**	LR	LR	02 19 17.3	
	comp=Z,86nm,18.7s,baz=122,slow=34						
LSZ	**Lusaka**	**40.77**	**277**	LR	LR	02 18 60.0	
	comp=Z,56nm,18.7s,baz=150,slow=33						
LSZ	**Lusaka**	**40.77**	**277**	P	**P**	**02 04 28.7**	**+0.2**
MAW	**Mawson**	**41.90**	**184**	LR	LR	02 19 03.1	
	comp=Z,97nm,18.0s,baz=270,slow=32						
SUR	**Sutherland**	**43.46**	**250**	LR	LR	02 19 10.7	
	comp=Z,105nm,21.2s,baz=120,slow=31						
MBWA	**Marble Bar**	**45.25**	**95**	P	**P**	**02 05 03.7**	**-1.1**
MBAR	**Mbarara**	**45.79**	**297**	LR	LR	02 22 21.1	
	comp=Z,39nm,18.3s,baz=152,slow=34						
TSUM	**Tsumeb**	**48.97**	**267**	LR	LR	02 23 25.6	
	comp=Z,52nm,20.2s,baz=155,slow=33						
FITZ	**Fitzroy Crossi**	**51.48**	**93**	LR	LR	02 25 21.0	
	comp=Z,41nm,18.5s,baz=158,slow=33						
CMAR	**Chiang Mai Arr**	**52.15**	**35**	P	**P**	**02 05 57.8**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=224,slow=8.1,SNR=8.5						
CMAR					LR	LR	02 23 42.8
	comp=Z,31nm,21.7s,baz=210,slow=31						
CMAR	**Chiang Mai Arr**	**52.15**	**35**	P	**P**	**02 05 58.5**	**+0.8**
ASAR	**Alice Springs**	**57.16**	**102**	P	**P**	**02 06 35.0**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=254,slow=6.2,SNR=4.2						
WRA	**Warramunga Arr**	**58.68**	**98**	P	**P**	**02 06 45.6**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=257,slow=7.5,SNR=5.3						
WRA	**Warramunga Arr**	**58.68**	**98**	P	**P**	**02 06 45.1**	**+0.2**
WB2	**Warramunga Arr**	**58.69**	**98**	P	**P**	**02 06 45.4**	**+0.4**
WB2					IAmb	IAmb	02 06 53.1
	comp=Z,9.2nm,1.4s						
QSPA	**South Pole Qui**	**64.16**	**180**	P	**P**	**02 07 21.8**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=247,slow=5.1,SNR=3.7						
QSPA	**South Pole Qui**	**64.16**	**180**	P	**P**	**02 07 21.7**	**+0.3**
QSPA					IAmb	IAmb	02 07 49.5
	comp=Z,6.1nm,1.5s						
VNDA	**Vanda**	**65.15**	**166**	P	**P**	**02 07 27.1**	**-0.3**
VNDA					IAmb	IAmb	02 07 50.2
	comp=Z,4.4nm,1.4s						
CAN	**Canberra**	**66.65**	**119**	P	**P**	**02 07 38.1**	**+0.1**
KKAR	**Karatay Array**	**68.74**	**0**	P	**P**	**02 07 51.1**	**+0.5**
GNI	**Garni**	**70.00**	**339**	LR	LR	02 35 59.5	
	comp=Z,25nm,21.1s,baz=122,slow=34						
MKAR	**Makanchi Array**	**73.22**	**8**	P	**P**	**02 08 17.2**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=190,slow=6.2,SNR=5.0						
MKAR	**Makanchi Array**	**73.22**	**8**	P	**P**	**02 08 17.4**	**-0.5**
ABKAR	**Akbulak array**	**75.47**	**353**	P	**P**	**02 08 30.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**77.30**	**291**	P	**P**	**02 08 41.9**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=184,slow=36,SNR=2.4						
DBIC	**Dimbokro**	**79.80**	**283**	LR	LR	02 42 20.7	
	comp=Z,47nm,19.0s,baz=138,slow=34						
KOWA	**Kowa**	**82.78**	**290**	P	**P**	**02 09 11.2**	**-0.4**
KOWA					IAmb	IAmb	02 09 39.3
	comp=Z,2.7nm,1.1s						
KSRS	**Korea Array**	**83.05**	**43**	LR	LR	02 45 09.5	
	comp=Z,13nm,18.6s,baz=115,slow=35						

*TIR **31** 02:07:27.9, 41°17N×20°27E, h13km±1km, Md2.6, Ml1.8*
*SKO **31** 02:07:29.2, 41°22N×20°19E, h4km*

ISC 31 02:07:27.7±1.5, 41°07N±0°06×20°11E±0°06, h6km±18km, n8, σ1s87/14, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.34**	**327**	*i* Pg	**Pg**	**02 07 34.1**	**-0.2**
TIR	**Tirane**	**0.34**	**327**	P	**Pb**	**02 07 35.7**	**-0.5**
	baz=301						
TIR				S	**Sb**	**02 07 41.6**	**-0.2**
	baz=301						
TIR					AMP		
	comp=N,0.2nm,0.1s,baz=301						
OHR	**Ohrid**	**0.52**	**85**	*i* Pg	**Pg**	**02 07 37.4**	**-0.3**
OHR				*i* Sg	**Sg**	**02 07 44.7**	**+0.2**
OHR				*e*Lg	Lg	02 07 45.1	
	comp=N,14nm,0.5s						
PHP	**Peshkopia**	**0.67**	**22**	P	**Pg**	**02 07 38.8**	**-1.7**
	baz=13						
PHP				S	**Sg**	**02 07 47.0**	**-2.2**
	baz=13						
PHP					AMP		
	comp=N,0.3nm,0.2s,baz=13						
KBN	**Korca**	**0.68**	**131**	P	**Pg**	**02 07 40.9**	**+0.2**
	baz=144						
KBN				S	**Sb**	**02 07 51.4**	**-0.3**
	baz=144						
FNA	**Florina**	**1.00**	**106**	P	**Pg**	**02 07 46.0**	**-0.8**
	baz=114						
FNA				S	**Sg**	**02 07 58.6**	**-1.3**
	baz=114						
PDG	**Podgorica**	**1.51**	**335**	*i* Pg	Pn	02 07 47.2	-8.0
PDG				*i* Sg	**Sg**	**02 08 19.2**	**+3.1**
STIP	**Stip**	**1.68**	**67**	*i* Pg	**Pg**	**02 08 01.7**	**+1.7**
STIP				*i* Sg	**Sg**	**02 08 25.2**	**+3.5**
STIP				*e*Lg	Lg	02 08 26.3	
	comp=N,0.3nm,0.2s						

*NIED **31** 02:07:56.3, 32°76N×140°95E, h52km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 1014Nm; Mrr0.28; Mθθ0.96; Mϕϕ-1.24; Mrθ0.61; Mθϕ-4.21; Mϕr-1.47; Fault plane solution: M0 4.64000×10^14 NP1: ϕs174.00000°, δ84.00000°, λ20.00000°. NP2:ϕs82.00000°, δ71.00000°, λ174.00000°.*

*JMA **31** 02:07:56.3±0.1, 32°76N×140°95E, h52km, M3.7*

*IDC **31** 02:07:56.0±2.4, 32°63N×140°78E, h49km±20km, mb3.4/9, mb1 3.6/10, mb1mx3.4/39, mbtmp3.6/10, ML2.7/1, Error ellipse: s-maj=27.4km s-min=16.2km az=89.0*

ISC 31 02:07:55.9±1.9, 32°70N±0°07×141°0E±0°1, h49km±16km, n27, σ0s95/31, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.04**	**257**	P	**Pn**	**02 08 14.9**	**+0.7**
JAOM				S	**Sn**	**02 08 28.3**	**+0.7**
JHJ2	**Mitsune**	**1.04**	**293**	P	**Pn**	**02 08 14.6**	**+0.4**
JHJ2				S	**Sn**	**02 08 27.6**	**-0.2**
JHCJ	**Hachijojimakas**	**1.05**	**291**	P	**Pn**	**02 08 14.5**	**+0.2**
JHCJ				S	**Sn**	**02 08 27.5**	**-0.3**
JHJ	**Hachijo jima 2**	**1.07**	**293**	P	**Pn**	**02 08 14.7**	**+0.1**
	336nm,0.3s,baz=81,slow=21,SNR=94						
JHJ				S	**Sn**	**02 08 25.8**	**-2.7**
	342nm,0.3s,baz=225,slow=24,SNR=12						
JMKN	**Mikurajimanish**	**1.65**	**316**	P	**Pn**	**02 08 22.9**	**+0.4**
JMKN				*e*S	**Sn**	**02 08 42.1**	**-0.4**
BSO1	**Boso 1**	**1.95**	**0**	P	**Pn**	**02 08 25.9**	**-0.1**
BSO1				*e*S	**Sn**	**02 08 49.4**	**+0.4**
BSO3	**Boso 3**	**2.13**	**350**	P	**Pn**	**02 08 29.3**	**+0.5**
BSO3				S	**Sn**	**02 08 53.7**	**-0.1**
JIM2	**Oshima 3**	**2.38**	**328**	P	**Pn**	**02 08 32.9**	**+0.4**
JIM2				*e*S	**Sn**	**02 08 59.6**	**-0.9**
JIZS	**Izushimoda**	**2.66**	**320**	P	**Pn**	**02 08 37.6**	**+1.3**
JOD2	**Odawara 2**	**2.99**	**329**	P	**Pn**	**02 08 41.8**	**+0.9**
JOD2				*e*S	**Sn**	**02 09 14.5**	**-1.0**
TK04	**Tokai 4**	**3.08**	**304**	P	**Pn**	**02 08 44.0**	**+2.1**
MJAR	**Matsushiro Arr**	**4.45**	**330**	P	**Pn**	**02 09 02.1**	**+1.2**
	0.4nm,0.3s,baz=158,slow=9.8,SNR=18						
MJAR				S	**Sn**	**02 09 52.2**	**+0.8**
	0.2nm,0.3s,baz=136,slow=21,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**26.53**	**113**	T	T	02 42 35.0	
	baz=304,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**26.54**	**113**	T	T	02 42 41.3	
	baz=304,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**26.55**	**113**	T	T	02 42 42.3	
	baz=304,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**27.08**	**115**	T	T	02 43 04.8	
	SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**27.08**	**115**	T	T	02 42 55.2	
H11S2	**WAKE ISLAND Hy**	**27.10**	**115**	T	T	02 42 55.2	
SONM	**Songino Array**	**30.10**	**310**	P	**P**	**02 14 00.0**	**-0.9**
	0.2nm,0.4s,baz=225,slow=55,SNR=2.4						
ZALV	**Zalesovo Beam**	**44.65**	**316**	P	**P**	**02 16 03.3**	**-0.3**
	0.5nm,0.5s,baz=116,slow=9.8,SNR=2.3						
MKAR	**Makanchi Array**	**46.22**	**306**	P	**P**	**02 16 15.9**	**-0.2**
	0.6nm,0.5s,baz=86,slow=11,SNR=9.0						
WRA	**Warramunga Arr**	**52.73**	**188**	P	**P**	**02 17 04.5**	**-1.3**
	0.4nm,0.3s,baz=3.8,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**53.38**	**31**	P	**P**	**02 17 10.2**	**+0.1**
	0.5nm,0.6s,baz=266,slow=6.7,SNR=7.5						
ASAR	**Alice Springs**	**56.46**	**188**	P	**P**	**02 17 33.2**	**+0.4**
	0.3nm,0.4s,baz=5.3,slow=6.6,SNR=4.2						
YKA	**Yellowknife Ar**	**67.75**	**29**	P	**P**	**02 18 48.0**	**-0.1**
	0.3nm,0.8s,baz=294,slow=6.5,SNR=4.8						
ARCES	**ARCESS Array B**	**67.92**	**340**	P	**P**	**02 18 49.8**	**+0.8**
	2.1nm,1.0s,baz=46,slow=6.4,SNR=1.2						
FINES	**FINESS Array B**	**72.48**	**333**	P	**P**	**02 19 17.8**	**+0.8**
	0.6nm,0.6s,baz=94,slow=5.7,SNR=4.2						

TAP 31 02:20:32.7, 21.71N×120.08E, h54km±1km, ML2.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun**	**0.68**	**64**	*i* P	Pn	02 20 47.2	+0.9
	baz=64						
HEN				S	Sn	02 20 58.2	+1.8
	baz=64						
TWP	**Hsiaoliuchiu**	**0.69**	**22**	*e*P	Pn	02 20 47.3	+0.8
	baz=22						
WLCH	**Liuqiu**	**0.70**	**23**	*e*P	Pn	02 20 48.2	+1.6
	baz=23						
TWK1	**Hengchun**	**0.71**	**71**	P	Pn	02 20 47.5	+0.7
	baz=71						
TWK1				*e*S	Sn	02 20 58.2	+1.1
	baz=71						
TWKBT	**Hengchun**	**0.72**	**71**	P	Pn	02 20 47.4	+0.5
	baz=71						
TWKBT				*i* S	Sn	02 20 58.4	+1.2
	baz=71						
SMST	**Manzhou Townsh**	**0.77**	**66**	*i* P	Pn	02 20 48.2	+0.7
	baz=66						
SMST				*i* S	Sn	02 20 59.7	+1.4
	baz=66						
TSEB	**Hengchuen, Pin**	**0.79**	**76**	*i* P	Pn	02 20 48.0	+0.3
	baz=75						
TSEB				*e*S	Sn	02 20 59.7	+1.0
	baz=75						
SCZT	**Fangliau**	**0.83**	**37**	P	Pn	02 20 49.0	+0.7
	baz=37						
SCZT				*i* S	Sn	02 21 01.2	+1.5
	baz=37						
SLIU	**Shizi**	**0.84**	**53**	*i* P	Pn	02 20 49.2	+0.8
	baz=52						
SLIU				*i* S	Sn	02 21 01.3	+1.3
	baz=52						
KAU	**Kaohsiung**	**0.88**	**14**	*i* P	Pn	02 20 49.8	+0.8
	baz=14						
SSPT	**Xinbi**	**0.90**	**30**	*e*P	Pn	02 20 50.3	+1.1
	baz=30						
TAWH	**Dawu Township**	**0.98**	**50**	*i* P	Pn	02 20 51.1	+0.9
	baz=50						
TAWH				S	Sn	02 21 04.2	+1.0
	baz=50						
EAST	**Anshuo**	**0.98**	**47**	P	Pn	02 20 51.3	+1.0
	baz=47						
EAST				*e*S	Sn	02 21 05.0	+1.7
	baz=47						
TAW	**Tawu**	**1.00**	**49**	*i* P	Pn	02 20 51.5	+1.0
	baz=49						
TAW				*e*S	Sn	02 21 04.9	+1.3
	baz=49						
MASBT	**Mashibuluo**	**1.04**	**30**	*i* P	Pn	02 20 51.9	+0.8
	baz=29						
TSMG	**Majia**	**1.12**	**28**	P	Pn	02 20 53.0	+0.8
	baz=27						
TSMG				*e*S	Sn	02 21 07.8	+1.1
	baz=27						
SSD	**Sandimen**	**1.15**	**26**	*i* P	Pn	02 20 53.5	+0.9
	baz=26						
SSD				*e*S	Sn	02 21 08.6	+1.2
	baz=26						
ECL	**Taimali**	**1.20**	**42**	*i* P	Pn	02 20 54.2	+1.0
	baz=42						
ECL				*e*S	Sn	02 21 09.0	+0.5
	baz=42						
SCST	**Cishan**	**1.23**	**18**	P	Pn	02 20 54.5	+0.8
	baz=18						
LAY	**Lan-yu**	**1.41**	**76**	*e*P	Pn	02 20 55.8	-0.2
	baz=76						
TWG	**Pinlang**	**1.44**	**40**	*e*P	Pn	02 20 57.9	+1.4
	baz=39						
TWG				*e*S	Sn	02 21 16.1	+1.7
	baz=39						
TWGBT	**Beinan**	**1.44**	**40**	*e*P	Pn	02 20 57.9	+1.4
	baz=39						
TWGBT				*e*S	Sn	02 21 16.2	+1.8
	baz=39						
CHN1	**Nanshi**	**1.53**	**16**	P	Pn	02 20 58.9	+1.2
	baz=15						
LONT	**Longtian**	**1.54**	**39**	*e*P	Pn	02 20 59.2	+1.4
	baz=39						
STYH	**Taoyuan**	**1.59**	**24**	P	Pn	02 20 59.9	+1.3
	baz=23						
WDGT	**Dungji**	**1.59**	**346**	*e*P	Pn	02 20 59.0	+0.5
	baz=346						
TWK	**Hsinying**	**1.60**	**14**	P	Pn	02 20 59.8

IDC ***31*** *02:31:54.7±10.0, 20°.93N×145°.66E, h112km±96km, mb3.3/10, mb1 3.5/10, mb1mx3.3/48, mbtmp3.7/10, Error ellipse: s-maj=41.2km s-min=17.1km az=89.0*

ISC 31 02:31:53.3±1.0, 20°.9N±0°.2×145°.7E±0°.2, h100km, n10, σ0°58/10, mb3.6/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.54**	**321**	P	**P**	**02 36 45.0**	**0.0**
	2.6nm,0.7s,baz=146,slow=8.8,SNR=10						
USRK	**Ussuriysk Ar.**	**25.84**	**337**	P	**P**	**02 37 16.5**	**+1.2**
	1.0nm,0.5s,baz=149,slow=40,SNR=3.2						
KLR	**Kul'dur**	**30.35**	**342**	P	**P**	**02 37 55.2**	**-0.2**
	0.6nm,0.3s,baz=162,slow=4.9,SNR=4.6						
WRA	**Warramunga Arr**	**42.10**	**196**	P	**P**	**02 39 35.4**	**-0.3**
	0.2nm,0.3s,baz=10,slow=8.3,SNR=6.8						
FITZ	**Fitzroy Crossi**	**43.46**	**208**	P	**P**	**02 39 47.0**	**+0.3**
	0.5nm,0.4s,baz=19,slow=4.9,SNR=7.2						
ZALV	**Zalesovo Beam**	**56.24**	**322**	P	**P**	**02 41 23.1**	**0.0**
	0.5nm,0.4s,baz=100,slow=6.6,SNR=2.3						
MKAR	**Makanchi Array**	**56.91**	**313**	P	**P**	**02 41 28.4**	**+0.4**
	0.4nm,0.6s,baz=93,slow=8.6,SNR=5.8						
YKA	**Yellowknife Ar**	**76.05**	**28**	P	**P**	**02 43 29.2**	**-0.4**
	0.2nm,0.6s,baz=289,slow=5.3,SNR=3.6						
NVAR	**Mina Array Bea**	**81.81**	**52**	P	**P**	**02 44 02.3**	**+0.5**
	0.3nm,0.7s,baz=270,slow=1.5,SNR=4.4						
FINES	**FINESS Array B**	**84.86**	**335**	P	**P**	**02 44 16.1**	**-0.5**
	0.8nm,0.4s,baz=83,slow=6.0,SNR=11						

IDC 31 02:32:56.3±184.0, 46°.13N×151°.55E, h0km, Error ellipse: s-maj=410.5km s-min=17.1km az=120.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**29.20**	**149**	H	H	03 09 32.3	
	baz=338,slow=76,SNR=108						
H11N1	**WAKE ISLAND Hy**	**29.21**	**149**	H	H	03 09 33.4	
	baz=338,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**29.22**	**149**	H	H	03 09 33.7	
	baz=338,slow=76,SNR=95						
H11S1	**WAKE ISLAND Hy**	**30.26**	**151**	H	H	03 10 51.5	
	baz=339,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**30.27**	**151**	H	H	03 10 52.5	
	baz=339,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**30.28**	**151**	H	H	03 10 54.4	
	baz=339,slow=76,SNR=49						
H03N2	**Juan Fernandez**	**139.84**	**90**	H	H	05 28 01.8	
	baz=309,slow=77,SNR=56						
H03N3	**Juan Fernandez**	**139.85**	**90**	H	H	05 27 58.1	
	baz=309,slow=77,SNR=43						
H03N1	**Juan Fernandez**	**139.85**	**90**	H	H	05 28 00.1	
	baz=309,slow=77,SNR=58						

WEL 31 02:40:33.5, 39°S±11°×17°5E±1°9, h5km±16km, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.07**	**303**	P	Pg	02 40 35.6	+0.4
PKVZ	**Pokaka**	**0.07**	**303**	P	Pg	02 40 35.6	+0.4
MTVZ	**Mangateitei**	**0.07**	**145**	P	Pg	02 40 35.7	+0.5
MTVZ	**Mangateitei**	**0.07**	**145**	P	Pg	02 40 35.7	+0.5
BHHZ	**Black Hill Sta**	**0.53**	**108**	P	Pg	02 40 40.6	-3.1
BHHZ	**Black Hill Sta**	**0.53**	**108**	P	Pg	02 40 40.6	-3.1
KWHZ	**Kaweka Forest**	**0.78**	**97**	P	Pn	02 40 50.9	-0.4
KWHZ	**Kaweka Forest**	**0.78**	**97**	P	Pn	02 40 50.9	-0.4
KRHZ	**Kereru**	**0.80**	**114**	P	Pn	02 40 52.5	+1.0
KRHZ	**Kereru**	**0.80**	**114**	P	Pn	02 40 52.5	+1.0
TSZ	**Takapari Road**	**0.84**	**150**	P	Pn	02 40 53.5	+1.4
TSZ	**Takapari Road**	**0.84**	**150**	P	Pn	02 40 53.5	+1.4
BKZ	**Black Stump Fm**	**0.85**	**79**	P	Pg	02 40 49.1	-0.7
BKZ	**Black Stump Fm**	**0.85**	**79**	P	Pg	02 40 49.1	-0.7
KAHZ	**Kahuranaki**	**1.22**	**113**	P	Pg	02 40 56.2	-0.7
KAHZ	**Kahuranaki**	**1.22**	**113**	P	Pg	02 40 56.2	-0.7
PRHZ	**Porangahau**	**1.33**	**135**	P	Pg	02 40 59.3	+0.3
PRHZ	**Porangahau**	**1.33**	**135**	P	Pg	02 40 59.3	+0.3
MRZ	**Mangatainoka R**	**1.34**	**175**	P	Pn	02 40 51.8	-7.1
MRZ	**Mangatainoka R**	**1.34**	**175**	P	Pn	02 40 51.8	-7.1
OGWZ	**Otaki Gorge**	**1.50**	**187**	P	Pg	02 41 04.5	+2.2
OGWZ	**Otaki Gorge**	**1.50**	**187**	P	Pg	02 41 04.5	+2.2
KIW	**Kapiti Island**	**1.58**	**194**	P	Pg	02 41 05.4	+1.5
KIW	**Kapiti Island**	**1.58**	**194**	P	Pg	02 41 05.4	+1.5
URZ	**Urewera**	**1.70**	**52**	P	Pg	02 41 09.4	+3.3
URZ	**Urewera**	**1.70**	**52**	P	Pg	02 41 09.4	+3.3
RAGZ	**Rawiri**	**1.77**	**63**	P	Pg	02 41 08.4	+1.1
RAGZ	**Rawiri**	**1.77**	**63**	P	Pg	02 41 08.4	+1.1
PLWZ	**Palliser**	**2.24**	**183**	P	Pn	02 41 12.6	+1.2
PLWZ	**Palliser**	**2.24**	**183**	P	Pn	02 41 12.6	+1.2
TUWZ	**Tuamarina**	**2.38**	**208**	P	Pb	02 41 15.1	-1.8
TUWZ	**Tuamarina**	**2.38**	**208**	P	Pb	02 41 15.1	-1.8

WEL 31 02:46:23.5, 39°S±34°×17°4E±3°4, h5km±24km, Error ellipse: s-maj=0.1km s-min=0.0km az=45.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PREZ	**Palmer Road**	**0.12**	**21**	P	Pg	02 46 26.7	+0.7
PREZ	**Palmer Road**	**0.12**	**21**	P	Pg	02 46 26.7	+0.7
KHEZ	**Kahui Hut**	**0.17**	**336**	P	Pg	02 46 28.5	+1.5
KHEZ	**Kahui Hut**	**0.17**	**336**	P	Pg	02 46 28.5	+1.5
NMEZ	**Namu Road**	**0.18**	**282**	P	Pg	02 46 28.1	+1.0
NMEZ	**Namu Road**	**0.18**	**282**	P	Pg	02 46 28.1	+1.0
MTVZ	**Mangateitei**	**1.06**	**87**	P	Pb	02 46 44.6	+0.3
MTVZ	**Mangateitei**	**1.06**	**87**	P	Pb	02 46 44.6	+0.3
TRVZ	**Turoa**	**1.13**	**83**	P	Pb	02 46 45.5	-0.1
TRVZ	**Turoa**	**1.13**	**83**	P	Pb	02 46 45.5	-0.1
FWVZ	**Far West T-bar**	**1.14**	**81**	P	Pb	02 46 45.8	0.0
FWVZ	**Far West T-bar**	**1.14**	**81**	P	Pb	02 46 45.8	0.0
WNVZ	**Wahianoa**	**1.16**	**84**	P	Pn	02 46 47.8	+1.2
WNVZ	**Wahianoa**	**1.16**	**84**	P	Pn	02 46 47.8	+1.2
NGZ	**Ngauruhoe**	**1.19**	**77**	P	Pg	02 46 46.2	-0.2
NGZ	**Ngauruhoe**	**1.19**	**77**	P	Pg	02 46 46.2	-0.2
WTVZ	**West Tongariro**	**1.20**	**74**	P	Pn	02 46 47.7	+0.7
WTVZ	**West Tongariro**	**1.20**	**74**	P	Pn	02 46 47.7	+0.7
NNVZ	**North Ngauruho**	**1.21**	**75**	P	Pg	02 46 46.8	-0.1
NNVZ	**North Ngauruho**	**1.21**	**75**	P	Pg	02 46 46.8	-0.1
TUVZ	**Tukino**	**1.21**	**82**	P	Pg	02 46 46.8	0.0
TUVZ	**Tukino**	**1.21**	**82**	P	Pg	02 46 46.8	0.0
SNVZ	**South Ngauruho**	**1.22**	**78**	P	Pg	02 46 46.5	-0.5
SNVZ	**South Ngauruho**	**1.22**	**78**	P	Pg	02 46 46.5	-0.5
OTVZ	**Oturere**	**1.24**	**77**	P	Pn	02 46 47.8	+0.1
OTVZ	**Oturere**	**1.24**	**77**	P	Pn	02 46 47.8	+0.1
NTVZ	**North Tongarir**	**1.27**	**74**	P	Pn	02 46 51.8	+3.8
NTVZ	**North Tongarir**	**1.27**	**74**	P	Pn	02 46 51.8	+3.8
ETVZ	**East Tongariro**	**1.28**	**76**	P	Pb	02 46 50.1	+1.9
ETVZ	**East Tongariro**	**1.28**	**76**	P	Pb	02 46 50.1	+1.9
TMVZ	**Te Maari**	**1.28**	**75**	P	Pb	02 46 50.4	+2.2
TMVZ	**Te Maari**	**1.28**	**75**	P	Pb	02 46 50.4	+2.2
MRZ	**Mangatainoka R**	**1.65**	**137**	P	Pn	02 46 46.4	-6.8
MRZ	**Mangatainoka R**	**1.65**	**137**	P	Pn	02 46 46.4	-6.8

MOS ***31*** *02:48:25.4±1.2, 36°.26N×140°.09E, h59km, mb4.6/20, Error ellipse: s-maj=10.6km s-min=6.3km az=112.6*

JMA ***31*** *02:48:26.9±0.1, 36°.17N×140°.10E, h55km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs267.00000°, δ86.00000°, λ134.00000°. NP2: φs1.00000°, δ44.00000°, λ6.00000°. Principal axes: T Plg34.0000°, Azm213.0000°; N Plg44.0000°, Azm82.0000°; P Plg27.0000°, Azm323.0000°;*

JMA Felt III J1.

NEIC ***31*** *02:48:26.9±1.6, 36°.19N±0°.05×140°.08E±0°.08, h58km±2km, mb4.5/34 Error ellipse: s-maj=9.6km s-min=6.7km az=117.0*

NIED ***31*** *02:48:27.0, 36°.17N×140°.10E, h55km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr2.04; Mθθ-1.54; Mφφ-0.50; Mrθ-3.89; Mθφ-2.19; Mφr~0.06; Fault plane solution: M0 4.83000×10^15 NP1: φs262.00000°, δ76.00000°, λ115.00000°. NP2: φs20.00000°, δ28.00000°, λ31.00000°.*

IDC ***31*** *02:48:28.4±1.7, 36°.14N×139°.98E, h72km±15km, mb3.8/23, mb1 4.0/25, mb1mx3.9/42, mbtmp4.1/25, MS3.4/41, Ms1 3.4/41, ms1mx3.3/91 Error ellipse: s-maj=15.6km s-min=11.6km az=92.0*

ISC 31 02:48:26.7±0.5, 36°.11N±0°.04×140°.16E±0°.04, h63km±4km, n194, σ1°58/191, mb4.4/57, 12C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.12**	**14**	⇑P	**Pn**	**02 48 35.5**	**-0.6**
JYT				*i* S	**Sn**	**02 48 41.6**	**-1.3**
JYT	**Yasato**	**0.12**	**14**		**Pn**	**02 48 35.6**	**-0.6**
JYT				Sn	**Sn**	**02 48 41.4**	**-1.4**
JAG	**Ashikaga**	**0.65**	**299**	⇓P	**Pn**	**02 48 39.6**	**-0.9**
JAG				S	**Sn**	**02 48 48.4**	**-2.2**
JKT	**Katashina**	**0.98**	**312**	P	**Pn**	**02 48 43.5**	**-1.2**
JKT				S	**Sn**	**02 48 55.5**	**-2.5**
JRY	**Ryogami san**	**1.02**	**265**	⇓P	**Pn**	**02 48 44.9**	**-0.2**
JRY				S	**Sn**	**02 48 57.7**	**-1.2**
JOD2	**Odawara 2**	**1.22**	**226**	P	**Pn**	**02 48 48.1**	**+0.4**
JOD2				S	**Sn**	**02 49 02.7**	**-0.6**
JFY	**Yanaizu**	**1.34**	**344**	⇓P	**Pn**	**02 48 48.9**	**-0.4**
JFY				S	**Sn**	**02 49 05.0**	**-1.3**
JFK	**Kawauchi**	**1.38**	**24**	⇑P	**Pn**	**02 48 49.1**	**-0.7**
JFK				S	**Sn**	**02 49 06.2**	**-1.0**
JFT	**Otama**	**1.41**	**6**	⇑P	**Pn**	**02 48 49.8**	**-0.4**
JFT				*e*S	**Sn**	**02 49 07.1**	**-0.8**
MJA0	**Matsu Arr-Jizo**	**1.60**	**286**	*e*P	**Pn**	**02 48 52.6**	**-0.2**
MJA0				pmax	pmax		
	comp=Z,31nm,0.3s						
MJAR	**Matsushiro Arr**	**1.63**	**286**	P	**Pn**	**02 48 52.6**	**-0.6**
	comp=Z,31nm,0.3s,baz=85,slow=8.6,SNR=250						
MJAR				S	**Sn**	**02 49 07.6**	**-5.7**
	comp=Z,27nm,0.3s,baz=238,slow=43,SNR=5.4						
MJAR	**Matsushiro Arr**	**1.63**	**286**		**Pn**	**02 48 52.5**	**-0.7**
MAJO	**Matsushiro**	**1.63**	**286**	*d* iP	**Pn**	**02 48 53.3**	**0.0**
MAJO	**Matsushiro**	**1.63**	**286**	Pn	**Pn**	**02 48 53.2**	**0.0**
MJB9	**Matsu-Tunnel**	**1.64**	**286**		**Pn**	**02 48 53.3**	**0.0**
JMM	**Marumori**	**1.82**	**16**		**Pn**	**02 48 55.4**	**-0.3**
JGF	**Kuroka**	**2.33**	**258**	Pn	**Pn**	**02 49 04.1**	**+1.4**
JSD	**Sado**	**2.45**	**322**	Pn	**Pn**	**02 49 03.6**	**-0.6**
INU	**Inuyama**	**2.67**	**254**	Pn	**Pn**	**02 49 08.4**	**+1.2**
JHJ	**Hachijo jima 2**	**3.00**	**186**	P	**Pn**	**02 49 12.9**	**+1.1**
	comp=Z,214nm,0.3s,baz=45,slow=1.4,SNR=28						
JHJ				S	**Sn**	**02 49 45.8**	**-0.8**
	comp=Z,485nm,0.3s,baz=68,slow=24,SNR=9.9						
JHJ				LR	LR	02 50 40.8	
	comp=Z,675nm,21.1s,baz=78,slow=44						
JHJ2	**Mitsune**	**3.01**	**185**	Pn	**Pn**	**02 49 13.2**	**+1.3**
JTM	**Tenmabayashi**	**4.72**	**8**	Pn	**Pn**	**02 49 36.5**	**+1.2**
JMN	**Monobe**	**5.68**	**247**	Pn	**Pn**	**02 49 48.5**	**0.0**
JHS	**Saijyo**	**5.85**	**261**	Pn	**Pn**	**02 49 52.0**	**+1.2**
ERM	**Erimo**	**6.34**	**21**	*de*P	**Pn**	**02 49 56.6**	**-0.8**
ERM	**Erimo**	**6.34**	**21**	Pn	**Pn**	**02 49 56.3**	**-1.1**
ASAJ	**Asahikawa**	**8.21**	**12**	P	**Pn**	**02 50 21.8**	**-1.3**
	comp=Z,3.3nm,0.3s,baz=225,slow=15,SNR=12						
ASAJ				S	**Sn**	**02 51 51.0**	**-3.3**
	comp=Z,0.8nm,0.3s,baz=57,slow=31,SNR=1.1						
ASAJ				LR	LR	02 54 19.2	
	comp=Z,51nm,21.3s,baz=73,slow=43						
JKA	**Kamikawa-asahi**	**8.21**	**12**		**Sn**	**02 51 51.0**	**-3.3**
JKA	**Kamikawa-asahi**	**8.21**	**12**		**Pn**	**02 50 21.5**	**-1.5**
JNU	**Nakatsue**	**8.21**	**251**	P	**Pn**	**02 50 24.4**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=117,slow=7.6,SNR=4.7						
JCJ	**Chichijima**	**9.15**	**169**	P	**Pn**	**02 50 34.2**	**-1.8**
	comp=Z,27nm,0.3s,baz=100,slow=20,SNR=16						
JCJ				S	**Sn**	**02 52 10.1**	**-7.5**
	comp=Z,8.7nm,0.3s,baz=276,slow=23,SNR=2.2						
VLA	**Vladivostok**	**9.47**	**320**	⇑*e*P	**Pn**	**02 50 43.7**	**+3.5**
VLA				pmax	pmax		
	comp=Z,22nm,0.5s						
KSRS	**Korea Array**	**9.91**	**281**	P	**Pn**	**02 50 50.2**	**+3.9**
	comp=Z,1.3nm,0.3s,baz=95,slow=14,SNR=11						
KSRS				LR	LR	02 54 24.2	
	comp=Z,96nm,21.7s,baz=80,slow=36						
KSRS	**Korea Array**	**9.91**	**281**	*e*P	**Pn**	**02 50 50.4**	**+4.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USA0B	**Ussuriysk Arra**	**10.21**	**325**	P	**Pn**	**02 50 48.6**	**-1.7**
USA0B	**Ussuriysk Arra**	**10.21**	**325**	Pn	**Pn**	**02 50 48.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**10.21**	**325**	P	**Pn**	**02 50 53.5**	**+3.2**
	baz=139,slow=12,SNR=27						
USRK				LR	LR	02 54 34.5	
	comp=Z,224nm,19.6s,baz=128,slow=36						
USRK	**Ussuriysk Ar.**	**10.21**	**325**	P	**Pn**	**02 50 47.3**	**-3.1**
USRK	**Ussuriysk Ar.**	**10.21**	**325**		**Pn**	**02 50 47.2**	**-3.1**
YSS	**Yuzh-Sakhalins**	**11.00**	**9**	*e*P	**Pn**	**02 51 00.9**	**-0.3**
YSS				*e*S	**Sn**	**02 52 57.2**	**-5.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
MDJ	**Mudanjiang**	**11.70**	**320**	P	**Pn**	**02 51 13.0**	**+2.3**
MDJ				sP		02 51 30.0	
MDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.6s						
MDJ				LR	LR		
	comp=N,190nm,24.2s						
MDJ				LR	LR		
	comp=E,190nm,23.5s						
MDJ				LR	LR		
	comp=Z,270nm,24.2s						
JOW	**Kunigami**	**13.72**	**231**	LR	LR	02 56 40.3	
	comp=Z,86nm,21.4s,baz=121,slow=36						
JOW	**Kunigami**	**13.72**	**231**	P	**Pn**	**02 51 36.0**	**-2.2**
KLR	**Kul'dur**	**14.48**	**337**	LR	LR	02 57 09.2	
	comp=Z,142nm,19.6s,baz=152,slow=36						
KLR	**Kul'dur**	**14.48**	**337**	⇓*e*P	**P**	**02 51 51.1**	**-2.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TYV	**Tymovskoe**	**14.85**	**6**	*e*P	**P**	**02 51 57.2**	**-0.1**
TYV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,100nm,3.2s						
NJ2	**Nanjing**	**18.10**	**263**	*e*P	**Pn**	**02 52 35.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
ZEA	**Zeya**	**19.80**	**337**	*e*P	**P**	**02 52 50.4**	**-1.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HNS	**HongShan**	**20.42**	**281**	⇑P	Pn	02 53 00.0	-1.2
YULB	**Yu-li**	**20.66**	**237**	P	**P**	**02 52 59.8**	**-1.5**
YULB				IAmb	IAmb	02 53 23.9	
	comp=Z,22nm,1.3s						
PETK	**Petropavlovsk-**	**20.99**	**30**	P	**P**	**02 53 05.0**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=220,slow=6.3,SNR=2.0						
PETK				LR	LR	03 01 18.0	
	comp=Z,56nm,19.0s,baz=214,slow=37						
HHC	**Hu-ho-hao-te**	**22.83**	**291**	*e*P	**P**	**02 53 25.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,35nm,4.6s						
MA2	**Magadan**	**24.47**	**13**	P	**P**	**02 53 41.0**	**+1.5**
	comp=Z,9.6nm,0.6s,baz=200,slow=9.1,SNR=17						
MA2				LR	LR	03 03 35.3	
	comp=Z,64nm,21.0s,baz=148,slow=37						
MA2	**Magadan**	**24.47**	**13**	P	**P**	**02 53 38.8**	**-0.7**
MA2				IAmb	IAmb	02 53 42.3	
	comp=Z,25nm,1.2s						
YAK	**Yakutsk**	**26.76**	**349**	LR	LR	03 05 27.6	
	comp=Z,76nm,18.0s,baz=88,slow=38						
ULN	**Ulaanbaatar**	**27.06**	**306**	⇓*e*P	**P**	**02 54 04.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ULN	**Ulaanbaatar**	**27.06**	**306**	P	**P**	**02 54 02.3**	**-0.9**
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**02 54 07.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=107,slow=9.4,SNR=8.3						
SONM				LR	LR	03 05 15.7	
	comp=Z,91nm,21.2s,baz=280,slow=37						
SONM	**Songino Array**	**27.48**	**306**	P	**P**	**02 54 05.2**	**-1.8**
BOD	**Bodaibo**	**27.79**	**330**	*e*P	**P**	**02 54 07.7**	**-1.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.6s						
SEY	**Seymchan**	**27.89**	**12**	P	**P**	**02 54 11.4**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=206,slow=7.1,SNR=10.0						
DAV	**Davao City (W)**	**31.84**	**208**	LR	LR	03 07 26.3	
	comp=Z,49nm,21.0s,baz=338,slow=36						
PZH	**PanZhiHua**	**34.01**	**265**	P	**P**	**02 55 07.5**	**+2.8**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
BILL	**Bilibino**	**35.20**	**17**	⇑*e*P	**P**	**02 55 13.2**	**-1.1**
BILL				*e*		02 56 35.4	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,89nm,16.0s						
TIXI	**Tiksi**	**36.09**	**354**	⇑*e*P	**P**	**02 55 21.3**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,11nm,3.2s						
GOMU	**GeErMu**	**36.35**	**284**	P	**P**	**02 55 23.3**	**-1.8**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,79nm,6.2s						
WMQ	**Urumqi**	**40.36**	**298**	*e*P	**P**	**02 56 00.5**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,26nm,0.9s						
ZAA0	**Zalesovo Array**	**41.80**	**313**	P	**P**	**02 56 08.8**	**-1.1**
ZAA0				IAmb	IAmb	02 56 10.1	
	comp=Z,7.7nm,1.2s						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**02 56 09.4**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=90,slow=7.4,SNR=16						
ZALV				LR	LR	03 13 26.5	
	comp=Z,41nm,18.8s,baz=73,slow=36						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**02 56 08.6**	**-1.2**
NRIK	**Noril'sk**	**43.69**	**336**	LR	LR	03 16 02.4	
	comp=Z,64nm,18.7s,baz=171,slow=38						
NRIK	**Noril'sk**	**43.69**	**336**	⇓*e*P	**P**	**02 56 23.9**	**-1.0**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MK31	**Makanchi Array**	**43.76**	**303**	*c i*P	**P**	**02 56 25.8**	**-0.1**
MK31	**Makanchi Array**	**43.76**	**303**	P	**P**	**02 56 25.4**	**-0.5**
MKAR	**Makanchi Array**	**43.76**	**303**	P	**P**	**02 56 25.7**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=88,slow=10.0,SNR=29						
MKAR				PcP	**PcP**	**02 58 11.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=92,slow=5.0,SNR=2.3						
MKAR				LR	LR	03 15 39.1	
	comp=Z,59nm,18.2s,baz=56,slow=37						
MKAR	**Makanchi Array**	**43.76**	**303**	P	**P**	**02 56 25.3**	**-0.6**
MKAR						02 58 12.0	
MKAR	**Makanchi Array**	**43.76**	**303**	P	**P**	**02 56 25.3**	**-0.6**
MKAR					**PcP**	**02 58 12.0**	**+0.4**
MAKZ	**Makanchi**	**43.97**	**303**	P	**P**	**02 56 27.5**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAKZ	**Makanchi**	**43.97**	**303**	P	**P**	**02 56 27.5**	**-0.1**
KURK	**Kurchatov**	**45.71**	**309**	*c i*P	**P**	**02 56 40.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,22nm,1.3s						
KURK	**Kurchatov**	**45.71**	**309**	P	**P**	**02 56 40.2**	**-1.0**
KURBB	**Kurchatov Arra**	**45.78**	**309**	LR	LR	03 16 29.4	
	comp=Z,85nm,18.9s,baz=50,slow=37						
TTA	**Tatalina**	**46.75**	**34**	P	**P**	**02 56 49.6**	**+0.2**
TTA				pmax	pmax		
	comp=Z,13nm,1.5s						
TTA	**Tatalina**	**46.75**	**34**	P	**P**	**02 56 49.6**	**+0.2**
TTA				IAmb	IAmb	02 57 00.4	
	comp=Z,13nm,1.5s						
TARG	**Taragay, Kyrgy**	**47.91**	**297**	P	**P**	**02 56 59.3**	**+0.2**
TARG				IAmb	IAmb	02 57 03.0	
	comp=Z,6.2nm,0.8s						
IMAR	**Indian Mountai**	**47.95**	**30**	P	**P**	**02 56 58.7**	**+0.1**
KDJ	**Kajisay**	**48.25**	**297**	P	**P**	**02 57 01.1**	**-0.4**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KDJ	**Kajisay**	**48.25**	**297**	P	**P**	**02 57 01.1**	**-0.4**
KDJ				IAmb	IAmb	02 57 06.0	
	comp=Z,2.7nm,0.6s						
KDAK	**Kodiak Island**	**48.46**	**41**	LR	LR	03 16 56.1	
	comp=Z,23nm,21.8s,baz=236,slow=35						
BATI	**Baumata**	**48.63**	**202**	LR	LR	03 17 18.4	
	comp=Z,48nm,21.2s,baz=158,slow=36						
BPAW	**Bear Paw Mtn.**	**49.05**	**33**	P	**P**	**02 57 07.5**	**+0.4**
BPAW				IAmb	IAmb	02 57 09.4	
	comp=Z,7.5nm,1.5s						
BOOM	**Boomskoye usch**	**49.05**	**298**	P	**P**	**02 57 07.7**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOOM	**Boomskoye usch**	**49.05**	**298**	P	**P**	**02 57 07.7**	**+0.1**
BOOM				IAmb	IAmb	02 57 28.3	
	comp=Z,4.4nm,0.9s						
MLY	**Manley**	**49.16**	**32**	P	**P**	**02 57 08.7**	**+0.8**
KSH	**Kashi**	**49.86**	**294**	P	**P**	**02 57 18.3**	**+4.6**
KSH				pP	sP	02 57 35.8	-1.3
KSH				PcP	**PcP**	**02 58 37.3**	**+3.8**
AAK	**Ala-Archa**	**50.04**	**299**	LR	LR	03 19 31.0	
	comp=Z,65nm,20.7s,baz=80,slow=37						
AAK	**Ala-Archa**	**50.04**	**299**	⇓*e*P	**P**	**02 57 15.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AAK	**Ala-Archa**	**50.04**	**299**	P	**P**	**02 57 15.5**	**+0

GEYT	**Alibeck**	**63.39**	**299**	P		**P**	**02 58 50.6**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=42,slow=39,SNR=1.8							
RES	**Resolute Bay**	**63.74**	**14**	P		**P**	**02 58 51.7**	**+0.4**
RES				pmax		pmax		
	comp=Z,4.0nm,1.3s							
RES	**Resolute Bay**	**63.74**	**14**	P		**P**	**02 58 51.7**	**+0.4**
RES				IAmb		IAmb	02 59 12.4	
	comp=Z,4.2nm,1.3s							
ARCES	**ARCESS Array B**	**64.50**	**339**	P		**P**	**02 58 56.1**	**-0.2**
	comp=Z,7.6nm,1.1s,baz=40,slow=6.4,SNR=9.0							
ARCES				LR		LR	03 30 09.3	
	comp=Z,36nm,18.5s,baz=114,slow=39							
ARCES	**ARCESS Array B**	**64.50**	**339**	P		**P**	**02 58 56.5**	**+0.1**
ARCES				pmax		pmax		
	comp=Z,24nm,1.4s							
ARCES	**ARCESS Array B**	**64.50**	**339**	P		**P**	**02 58 56.5**	**+0.1**
YKA	**Yellowknife Ar**	**65.11**	**30**	P		**P**	**02 59 01.6**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=296,slow=6.2,SNR=9.3							
YKA	**Yellowknife Ar**	**65.11**	**30**	P		**P**	**02 59 00.7**	**+0.3**
STKA	**Stephens Creek**	**67.65**	**179**	LR		LR	03 28 43.0	
	comp=Z,44nm,18.2s,baz=203,slow=36							
OBN	**Obninsk**	**68.22**	**323**	LR		LR	03 29 20.6	
	comp=Z,7.9nm,19.2s,baz=330,slow=36							
FINES	**FINESS Array B**	**69.15**	**332**	P		**P**	**02 59 25.5**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=46,slow=6.7,SNR=12							
FINES				LR		LR	03 31 32.0	
	comp=Z,31nm,19.1s,baz=56,slow=37							
FINES	**FINESS Array B**	**69.15**	**332**	*e*P		**P**	**02 59 25.9**	**-0.1**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	**69.15**	**332**	P		**P**	**02 59 25.8**	**-0.2**
KBZ	**Khabaz**	**70.73**	**310**	P		**P**	**02 59 35.8**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=103,slow=3.4,SNR=7.3							
KBZ	**Khabaz**	**70.73**	**310**	*e*P		**P**	**02 59 36.4**	**+0.4**
KBZ				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KIV	**Kislovodsk**	**70.74**	**311**	*e*P		**P**	**02 59 37.1**	**+0.9**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,24nm,18.0s							
RAF	**Rauma**	**71.03**	**333**	*e*P		**P**	**02 59 37.3**	**-0.2**
NEY	**Neytrino**	**71.09**	**310**⇓	*e*P		**P**	**02 59 40.6**	**+2.1**
NEY				pmax		pmax		
	comp=Z,2.0nm,1.0s							
GNI	**Garni**	**71.44**	**306**	LR		LR	03 33 32.3	
	comp=Z,37nm,19.6s,baz=92,slow=38							
MNK	**Minsk**	**72.68**	**326**	*i* P		**P**	**02 59 47.0**	**-0.5**
MNK				*i*			03 00 03.8	
MNK				*i* *PP		**PcP**	**03 00 05.8**	**+1.1**
MNK				*i*			03 02 29.4	
MNK				*i* PPP		PPP	03 04 14.0	
MNK				*i* S		**S**	**03 09 07.7**	**0.0**
MNK				*i* *SS		**sS**	**03 09 40.1**	**+3.4**
MNK				*i* SS		**SS**	**03 13 49.5**	**+2.3**
MNK				pmax		pmax		
	comp=Z,9.0nm,1.1s							
MNK				pmax		pmax		
	comp=E,1.0nm,0.8s							
MNK				pmax		pmax		
	comp=N,9.0nm,1.0s							
MNK				MLR		MLR		
	comp=E,11nm,23.0s							
MNK				MLR		MLR		
	comp=N,208nm,28.0s							
MNK				MLR		MLR		
	comp=Z,123nm,20.0s							
MNK	**Minsk**	**72.68**	**326**	*i* P		**P**	**02 59 47.1**	**-0.5**
	comp=E,1.0nm,0.8s							
MNK				*i* P		**P**	**02 59 47.1**	**-0.5**
	comp=N,9.0nm,1.0s							
MNK				*i* P		**P**	**02 59 47.1**	**-0.5**
	comp=Z,9.0nm,1.1s							
MNK				*i* pP		**PcP**	**03 00 05.8**	**+1.1**
MNK				*i* PP		**PP**	**03 02 29.5**	**+0.1**
MNK				*i* PPP		PPP	03 04 14.1	
MNK				*i* S		**S**	**03 09 07.7**	**0.0**
MNK				*i* sS		**sS**	**03 09 40.1**	**+3.4**
MNK				*i* SS		**SS**	**03 13 49.5**	**+2.3**
MNK				*i* SSS		SSS	03 17 10.4	
MNK				*i* LQ		LQ	03 26 34.1	
MNK				*i* LR		LR	03 32 27.6	
MNK				*i* LRM		MLR	03 34 21.1	
	comp=E,11nm,23.1s							
MNK				*i* LRM		MLR	03 34 36.4	
	comp=N,208nm,27.5s							
MNK				*i* LRM		MLR	03 35 31.4	
	comp=Z,123nm,20.2s							
IDID	**Didziasalis**	**72.69**	**327**	*e*P		**P**	**02 59 47.9**	**+0.3**
IIGN	**Ignalina**	**72.90**	**327**	*e*P		**P**	**02 59 49.0**	**+0.1**
AKASG	**Malin Array Be**	**74.40**	**322**	P		**P**	**02 59 57.1**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=46,slow=6.1,SNR=9.9							
AKASG				LR		LR	03 35 03.4	
	comp=Z,75nm,19.9s,baz=42,slow=38							
AKBB	**Malin Array Si**	**74.40**	**322**⇓	*i* P		**P**	**02 59 57.7**	**0.0**
AKBB				pmax		pmax		
	comp=Z,8.0nm,1.4s							
HFS	**Hagfors**	**74.50**	**335**	LR		LR	03 35 13.2	
	comp=Z,41nm,18.4s,baz=49,slow=38							
NC204	**NORSAR Array S**	**74.60**	**337**	P		**P**	**02 59 58.8**	**0.0**
VIKU	**Vikbolandet**	**74.63**	**333**	*e*P		**P**	**02 59 58.5**	**-0.4**
NB2	**NORSAR Subarra**	**74.64**	**337**	P		**P**	**02 59 58.4**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**74.64**	**337**	P		**P**	**02 59 58.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=55,slow=7.8,SNR=12							
NOA				LR		LR	03 35 48.9	
	comp=Z,42nm,19.0s,baz=50,slow=38							
NVAR	**Mina Array Bea**	**76.35**	**52**	P		**P**	**03 00 11.4**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=297,slow=6.2,SNR=3.5							
NVAR	**Mina Array Bea**	**76.35**	**52**	P		**P**	**03 00 09.4**	**0.0**
FRB	**Frobisher Bay**	**77.89**	**13**	LR		LR	03 38 21.2	
	comp=Z,33nm,18.4s,baz=291,slow=38							
BUR08	**Bucovina Ar. S**	**78.39**	**321**	P		**P**	**03 00 19.9**	**-0.6**
BORG	**Borgarnes**	**78.42**	**352**	LR		LR	03 37 21.5	
	comp=Z,17nm,18.1s,baz=335,slow=37							
BRTR	**Keskin Array B**	**78.70**	**311**	P		**P**	**03 00 22.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=266,slow=32,SNR=4.3							
BRTR	**Keskin Array B**	**78.70**	**311**	*ce*P		**P**	**03 00 23.1**	**+0.7**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**79.03**	**45**	P		**P**	**03 00 25.8**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=108,slow=3.4,SNR=1.8							
PFO	**Pinyon Flats O**	**80.39**	**55**	LR		LR	03 28 26.7	
	comp=Z,48nm,19.9s,baz=320,slow=30							
ULM	**Lac du Bonnet**	**80.82**	**33**	P		**P**	**03 00 33.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=155,slow=16,SNR=1.7							
ULM	**Lac du Bonnet**	**80.82**	**33**	P		**P**	**03 00 33.0**	**-0.5**
VRAC	**Vranov**	**81.34**	**327**	LR		LR	03 39 18.0	
	comp=Z,46nm,19.0s,baz=55,slow=38							
CLL	**Collm**	**81.38**	**330**	*i* P		**P**	**03 00 36.2**	**-0.2**
	comp=Z,4.0nm,1.1s							
KHC	**Kasperske Hory**	**82.79**	**328**⇓	*e*P		**P**	**03 00 44.2**	**+0.3**
KHC				pmax		pmax		
	comp=Z,13nm,2.1s							
GERES	**GERESS Array B**	**82.95**	**328**	P		**P**	**03 00 44.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=35,slow=4.9,SNR=4.8							
GERES	**GERESS Array B**	**82.95**	**328**	*e*P		**P**	**03 00 45.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**83.65**	**340**	LR		LR	03 43 06.4	
	comp=Z,31nm,18.0s,baz=56,slow=39							
PDG	**Podgorica**	**85.03**	**320**	P		**P**	**03 00 55.6**	**+0.2**
DAVOX	**Davos/Dischmat**	**86.19**	**328**	LR		LR	03 45 02.8	
	comp=Z,23nm,18.3s,baz=70,slow=39							
SCHQ	**Schefferville**	**86.49**	**15**	LR		LR	03 44 36.1	
	comp=Z,30nm,18.2s,baz=115,slow=39							
TXAR	**Lajitas Array**	**91.48**	**52**	P		**P**	**03 01 28.2**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=328,slow=4.4,SNR=2.3							
TXAR	**Lajitas Array**	**91.48**	**52**	P		**P**	**03 01 27.4**	**+0.8**
ESDC	**Sonseca Array**	**97.66**	**333**	LR		LR	03 48 54.1	
	comp=Z,24nm,20.6s,baz=324,slow=37							
TORD	**Torodi Ar. Bea**	**117.25**	**313**	PKP		**PKPdf**	**03 07 05.3**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=3.7,slow=2.4,SNR=1.8							
H03N2	**Juan Fernandez**	**147.93**	**97**	T		T	05 53 22.8	
	baz=291,slow=76,SNR=19							
H03N3	**Juan Fernandez**	**147.94**	**97**	T		T	05 53 23.9	
	baz=291,slow=76,SNR=23							
H03N1	**Juan Fernandez**	**147.94**	**97**	T		T	05 53 24.0	
	baz=291,slow=76,SNR=19							
LPAZ	**La Paz**	**148.03**	**59**	PKPbc		**PKiKP**	**03 08 08.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=242,slow=16,SNR=3.3							
H03S2	**Juan Fernandez**	**148.04**	**98**	T		T	05 54 45.1	
	SNR=8.6							
H03S3	**Juan Fernandez**	**148.05**	**98**	T		T	05 54 43.9	
	SNR=8.4							
H03S1	**Juan Fernandez**	**148.06**	**98**	T		T	05 54 42.9	
	SNR=7.7							

MDD ***31*** *02:57:19.8±1.3,34.3°N×9.4°2W, h0km±15km, Mb4.1/1, M_mb3.5/1, Error ellipse: s-maj=22.5km s-min=4.8km az=64.0, M_mb stands for Mw(mb(V-C)) mb_VC stands for mb(V-C)*

IGIL ***31*** *02:57:20.8,34.2°N×9.6°4W, h27km*

INMG ***31*** *02:57:21.6±0.9,34.2°1N×9.6°6W, h31km, ML2.1, Error ellipse: s-maj=6.2km s-min=3.0km az=78.0*

CNRM ***31*** *02:57:25.0,33.5°0N×9.2°0W, h172km*

ISC 31 02:57:19.5±2.1, 34°34N±0.08×9°4W±0.1, h10km, n25, σ1°18/40, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**1.91**	**122**	P		P	**Pg**	**02 57 57.6**	**+1.4**
AVE				S			**Sg**	**02 58 19.9**	**-1.1**
PFVI	**Vila Bisbo**	**2.82**	**8**	*e*Pn		**Pn**	**02 58 04.9**	**+0.3**
PFVI				*e*Sn		**Sn**	**02 58 37.9**	**-0.8**
MORF	**Marmelete**	**3.02**	**11**	*e*P		**Pn**	**02 58 07.8**	**+0.4**
MORF	**Marmelete**	**3.02**	**11**	*e*Pn		**Pn**	**02 58 07.8**	**+0.4**
MORF				*e*Sn		**Sn**	**02 58 42.3**	**-1.3**
PBDV	**Barranco-do-Ve**	**3.12**	**21**	*e*Pn		**Pn**	**02 58 11.3**	**+2.5**
PBDV				*e*Sn		**Sn**	**02 58 46.4**	**+0.3**
PTEO	**Sao Teotonio**	**3.24**	**9**	*e*Pn		**Pn**	**02 58 10.9**	**+0.5**
PTEO				*e*Sn		**Sn**	**02 58 47.4**	**-1.7**
PVAQ	**Vaqueiros**	**3.34**	**23**	*e*Pn		**Pn**	**02 58 13.0**	**+1.3**
PVAQ				*e*Sn		**Sn**	**02 58 51.7**	**+0.3**
PVAQ				A		A	02 59 12.9	
	3.7nm,0.7s							
OUK	**Oukaimeden**	**3.36**	**158**	P		Pn	02 58 09.5	-2.9
OUK				S		Sn	02 58 44.4	-8.0
PCVE	**Castro Verde**	**3.46**	**18**	*e*Pn		**Pn**	**02 58 14.5**	**+1.1**
PCVE				*e*Sn		**Sn**	**02 58 54.0**	**-0.4**
PCVE				A		A	02 59 19.9	
	3.5nm,0.9s							
PNCL	**Nicolau / Gran**	**3.83**	**10**	*e*Pn		**Pn**	**02 58 19.1**	**+0.7**
PNCL				*e*Sn		**Sn**	**02 59 02.2**	**-1.3**
PNCL				A		A	02 59 16.5	
	3.1nm,0.7s							
TTIG	**Tnine Tigouga,**	**3.85**	**168**	P		Pn	02 58 12.2	-6.7
TTIG				S		Sn	02 58 50.4	-14
PBEJ	**Beja**	**3.87**	**18**	*e*Sn		**Sn**	**02 59 04.0**	**-0.6**
MD31	**MD31**	**4.10**	**110**	P		**Pn**	**02 58 22.8**	**+0.5**
MD31				S		**Sn**	**02 59 08.7**	**-1.6**
MDT	**Midelt**	**4.24**	**110**	P		**Pn**	**02 58 24.9**	**+0.7**
MDT				S		**Sn**	**02 59 11.6**	**-2.2**
PBAR	**Barrancos**	**4.26**	**25**	*e*Pn		**Pn**	**02 58 25.4**	**+1.0**
PBAR				*e*Sn		**Sn**	**02 59 13.6**	**-0.6**
PBAR				A		A	02 59 35.4	
	2.0nm,0.7s							
EVO	**Evora**	**4.32**	**14**	*e*Pn		**Pn**	**02 58 25.7**	**+0.4**
EVO				*e*Sn		**Sn**	**02 59 14.2**	**-1.6**
EVO				A		A	02 59 26.7	
	3.0nm,0.8s							
PACT	**Alcochete**	**4.44**	**5**	*e*Sn		**Sn**	**02 59 18.8**	**+0.1**
PMAFR	**Mafra**	**4.61**	**1**	*e*Pn		**Pn**	**02 58 28.6**	**-0.6**
PMAFR				*e*Sn		Sn	02 58 59.0	-24
PESTR	**Estremoz**	**4.74**	**17**	*e*Pn		**Pn**	**02 58 32.1**	**+1.1**
PESTR				*e*Sn		**Sn**	**02 59 24.6**	**-1.4**
PMTG	**Montargil**	**4.81**	**10**	*e*Pn		**Pn**	**02 58 32.2**	**+0.3**
PMTG				*e*Sn		**Sn**	**02 59 25.3**	**-2.4**
ECAB	**El Cabril**	**4.90**	**39**	P		**Pn**	**02 58 34.2**	**+1.0**
ECAB				⇑*i*Vmb_V			02 58 43.2	
	154nm,SNR=1.6							
ECAB				S		**Sn**	**02 59 28.5**	**-1.5**
PSBE	**So Bento**	**5.19**	**5**	*e*Pn		**Pn**	**02 58 37.6**	**+0.4**
PMRV	**Marv??o**	**5.32**	**17**	*e*Pn		**Pn**	**02 58 39.4**	**+0.4**
PMRV				*e*Sn		**Sn**	**02 59 38.5**	**-1.8**
EADA	**Adamuz**	**5.43**	**44**	P		**Pn**	**02 58 40.9**	**+0.4**
EADA				S		**Sn**	**02 59 41.8**	**-1.2**
PCBR	**Castelo Branco**	**5.69**	**15**	*e*Pn		**Pn**	**02 58 44.4**	**+0.3**

RSNC 31 03:08:53.0±1.1, 6°83N×73°16W, h149km±4km, ML3.2, Mw3.6, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	⇑*i*P		Pn		03 09 13.2	-0.4
BARC				*e*S		Sn		03 09 28.8	-0.3
BARC				*i*				03 09 29.5	
	comp=Z,285nm,0.2s								
PAMC	**Pamplona, Colo**	**0.68**	**42**	*e*P		Pn		03 09 15.9	+0.1
PAMC				*e*S		Sn		03 09 32.9	-0.4
PAMC				*i*				03 09 35.3	
	comp=Z,212nm,0.5s								
RUSC	**La Rusia**	**0.93**	**175**⇑	*e*P		Pn		03 09 17.2	-0.5
RUSC				*e*S		Sn		03 09 35.4	-1.0
RUSC				*i*				03 09 38.1	
	comp=Z,133nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	*e*P		Pn		03 09 19.7	-1.0
PTBC				*e*S		Sn		03 09 41.0	-0.8
PTBC				*i*				03 09 42.8	
	comp=Z,207nm,0.4s								
TAMC	**Tame, Arauca**	**1.41**	**106**⇓	*i*P		Pn		03 09 21.5	-0.1
TAMC				*e*S		Sn		03 09 43.0	-0.4
TAMC				*i*				03 09 43.6	
	comp=Z,112nm,0.3s								
OCAC	**Ocana**	**1.41**	**353**	*e*P		Pn		03 09 21.2	-0.6
OCAC				*e*S		Sn		03 09 43.3	-0.5
OCAC				*i*				03 09 48.3	
	comp=Z,584nm,0.2s								
SPBC	**San Pablo de B**	**1.48**	**218**⇑	*e*P		Pn		03 09 22.1	-0.3
SPBC				*e*S		Sn		03 09 44.0	-0.8
SPBC				*i*				03 09 51.4	
	comp=Z,361nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	*e*P		Pn		03 09 25.5	-0.5
ZARC				*e*S		Sn		03 09 51.3	+0.1
ZARC				*i*				03 09 57.4	
	comp=Z,196nm,0.4s								
NORC	**Norcasia**	**2.11**	**234**	*e*P		Pn		03 09 29.2	-0.3
NORC				*e*S		Sn		03 09 56.7	-0.8
NORC				*i*				03 10 05.4	
	comp=Z,139nm,0.2s								
CHIC	**Chingaza**	**2.26**	**195**	*e*P		Pn		03 09 31.2	-0.3
CHIC				*e*S		Sn		03 10 01.1	-0.1
CHIC				*i*				03 10 06.9	
	comp=Z,81nm,0.3s								
ROSC	**El Rosal**	**2.29**	**210**⇑	*e*P		Pn		03 09 33.1	+1.2
ROSC				*e*S		Sn		03 10 02.2	+0.5
ROSC				*i*				03 10 08.2	
	comp=Z,138nm,0.6s								
HELC	**Santa Helena**	**2.44**	**255**	*e*P		Pn		03 09 34.4	+0.7
HELC				*e*S		Sn		03 10 03.5	-1.5
HELC				*i*				03 10 13.5	
	comp=Z,119nm,0.6s								
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P		Pn		03 09 33.0	-1.5
UREC				*e*S		Sn		03 10 04.6	-1.8
UREC				*i*				03 10 18.4	
	comp=Z,104nm,0.2s								
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P		Pn		03 09 37.7	+0.5
GUY2C				*e*S		Sn		03 10 13.0	+1.8
GUY2C				*i*				03 10 19.3	
	comp=Z,94nm,0.6s								
PTGC	**Puerto Gaitan,**	**2.80**	**159**	*e*P		Pn		03 09 36.2	-1.7
PTGC				*e*S		Sn		03 10 09.6	-2.9
PTGC				*i*				03 10 12.2	
	comp=Z,44nm,0.4s								
CBOC	**Ciudad Bolivar**	**2.99**	**252**	*e*P		Pn		03 09 40.9	+0.5
CBOC				*e*S		Sn		03 10 16.3	-0.7
CBOC				*i*				03 10 29.0	
	comp=Z,30nm,0.5s								
DBBC	**Dabeiba**	**3.04**	**274**	*e*P		Pn		03 09 40.7	-0.2
DBBC				*e*S		Sn		03 10 14.3	-3.6
DBBC				*i*				03 10 19.8	
	comp=Z,177nm,0.6s								
MOTC	**Monteria, Cord**	**3.15**	**308**	*e*P		Pn		03 09 40.3	-2.0
MOTC				*e*S		Sn		03 10 18.6	-1.9
MOTC				*i*				03 10 25.1	
	comp=Z,31nm,0.3s								
ANIL	**Santa Ana**	**3.22**	**224**	*e*P		Pn		03 09 44.7	+1.3
ANIL				*e*S		Sn		03 10 24.4	+1.9
ANIL				*i*				03 10 30.4	
	comp=Z,168nm,0.3s								
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P		Pn		03 09 48.4	+0.7
ORTC				*e*S		Sn		03 10 31.4	+1.3
ORTC				*i*				03 10 35.7	
	comp=Z,62nm,0.2s								
PLMC	**San Jos del P**	**3.65**	**239**	*e*P		Pn		03 09 48.9	+0.1
PLMC				*e*S		Sn		03 10 32.0	+0.1
PLMC				*i*				03 10 37.3	
	comp=Z,32nm,0.3s								
SJCC	**San Jacinto, C**	**3.65**	**327**	*e*P		Pn		03 09 47.1	-1.7
SJCC				*e*S		Sn		03 10 28.3	-3.7
SJCC				*i*				03 10 31.6	
	comp=Z,34nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	*e*P		Pn		03 09 53.4	-2.3
CRJC				*e*S		Sn		03 10 39.4	-5.0
CRJC				*i*				03 10 45.9	
	comp=Z,29nm,0.2s								
YOTC	**Yotoco, Valle**	**4.25**	**229**	*e*P		Pn		03 09 56.0	-0.6
YOTC				*e*S		Sn		03 10 47.3	+1.2
GUVC	**San Jose del G**	**4.29**	**173**	*e*P		Pn		03 09 56.1	-0.9
GUVC				*e*S		Sn		03 10 42.3	-4.6
MACC	**Macarena, Meta**	**4.70**	**188**	*e*P		Pn		03 10 00.2	-2.3
MACC				*e*S		Sn		03 10 52.6	-4.1
MACC				*i*				03 10 57.0	
	comp=Z,13nm,0.4s								

JMA ***31*** *03:11:37.2±0.1, 36°17N×140°10E, h55km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs290.00000°, δ90.00000°, λ101.00000°. NP2: φs20.00000°, δ11.00000°, λ0.00000°. Principal axes: T Plg44.0000°, Azm210.0000°; N Plg11.0000°, Azm110.0000°; P Plg44.0000°, Azm9.0000°;*

JMA Felt II J1.

IDC ***31*** *03:11:37.5±3.0, 36°17N×140°14E, h61km±28km, mb3.2/7, mb1 3.5/8, mb1mx3.3/46, mbtmp3.5/8, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.4/30 Error ellipse: s-maj=24.5km s-min=18.3km az=120.0*

NIED ***31*** *03:11:37.2, 36°17N×140°10E, h55km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr1.40; Mθθ-1.74; Mφφ0.35; Mrθ-3.72; Mθφ-0.51; Mφr0.82; Fault plane solution: M0 4.16000×1014 NP1: φs281.00000°, δ80.00000°, λ102.00000°. NP2: φs51.00000°, δ16.00000°, λ42.00000°.*

ISC 31 03:11:37.1±0.9, 36°17N±0.06×140°11E±0.06, h57km±7km, n22, σ0°58/25, mb3.5/7, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.09**	**48**	⇓P		**Pn**		**03 11 45.8**	**+0.1**
JYT				S		**Sn**		**03 11 51.8**	**-0.1**
JAG	**Ashikaga**	**0.59**	**296**	⇑P		**Pn**		**03 11 49.9**	**0.0**
JAG				S		**Sn**		**03 11 59.2**	**+0.1**
JKT	**Katashina**	**0.92**	**311**	P		**Pn**		**03 11 54.0**	**0.0**
JKT				S		**Sn**		**03 12 06.5**	**0.0**
JRY	**Ryogami san**	**0.99**	**262**	⇓P		**Pn**		**03 11 55.0**	**+0.1**
JRY				S		**Sn**		**03 12 08.2**	**+0.1**
JOD2	**Odawara 2**	**1.23**	**223**	P		**Pn**		**03 11 58.2**	**+0.3**
JFY	**Yanaizu**	**1.28**	**345**	P		**Pn**		**03 11 59.2**	**+0.4**
JFY				S		**Sn**		**03 12 15.6**	**+0.6**
JFK	**Kawauchi**	**1.34**	**27**	⇑P		**Pn**		**03 11 59.5**	**-0.2**
JFK				S		**Sn**		**03 12 16.1**	**-0.4**
JFT	**Otama**	**1.36**	**8**	P		**Pn**		**03 12 00.2**	**+0.3**
JFT				S		**Sn**		**03 12 17.7**	**+0.8**
MJAR	**Matsushiro Arr**	**1.58**	**284**	P		**Pn**		**03 12 02.7**	**-0.2**
	2.7nm,0.3s,baz=102,slow=16,SNR=58								
MJAR				S		**Sn**		**03 12 22.7**	**+0.5**
	2.8nm,0.3s,baz=100,slow=12,SNR=7.2								
ASAJ	**Asahikawa**	**8.16**	**13**	P		**Pn**		**03 13 31.6**	**-1.3**
	0.6nm,0.3s,baz=291,slow=23,SNR=1.6								
JOW	**Wanigami**	**13.72**	**231**	LR		LR		03 19 26.9	
	comp=Z,78nm,19.8s,baz=94,slow=34								
SONM	**Songino Array**	**27.42**	**306**	P		**P**		**03 17 17.2**	**-0.3**
	0.7nm,0.8s,baz=109,slow=7.7,SNR=1.7								
H11S1	**WAKE ISLAND Hy**	**29.30**	**120**	T		T		03 48 28.9	
	baz=318,slow=76,SNR=12								
H11S3	**WAKE ISLAND Hy**	**29.30**	**120**	T		T		03 48 29.4	
	baz=318,slow=76,SNR=9.4								
H11S2	**WAKE ISLAND Hy**	**29.32**	**120**	T		T		03 48 31.4	
	baz=318,slow=76								
MKAR	**Makanchi Array**	**43.70**	**303**	P		**P**		**03 19 35.5**	**-0.9**
	0.6nm,0.8s,baz=98,slow=9.1,SNR=6.1								
KURBB	**Kurchatov Arra**	**45.71**	**309**	LR		LR		03 39 26.3	
	comp=Z,65nm,18.9s,baz=67,slow=36								
ILAR	**Eielson Array**	**50.78**	**32**	P		**P**		**03 20 31.6**	**+0.3**
	0.4nm,0.7s,baz=274,slow=6.6,SNR=5.0								
WRA	**Warramunga Arr**	**56.07**	**187**	P		**P**		**03 21 09.3**	**-1.1**
	0.8nm,0.4s,baz=360,slow=7.6,SNR=19								
ASAR	**Alice Springs**	**59.80**	**187**	P		**P**		**03 21 37.5**	**+1.0**
	0.3nm,0.5s,baz=16,slow=11,SNR=9.4								
YKA	**Yellowknife Ar**	**65.08**	**30**	P		**P**		**03 22 11.6**	**+0.3**
	0.2nm,0.7s,baz=301,slow=6.5,SNR=3.8								
TXAR	**Lajitas Array**	**91.48**	**52**	P		**P**		**03 24 38.2**	**+0.5**
	0.1nm,0.4s,baz

FITZ	Fitzroy Crossi	36.71	211	P		P	03 28 03.6	0.0
ASAR	Alice Springs	38.61	196	P		P	03 28 20.0	+0.4
	comp=Z,0.3nm,0.4s,baz=20,slow=12,SNR=5.4							
ASAR	Alice Springs	38.61	196	P		P	03 28 19.0	-0.6
STKA	Stephens Creek	45.46	183	P		P	03 29 15.2	+0.3
	comp=Z,2.0nm,0.6s,baz=294,slow=5.7,SNR=4.4							
MKAR	Makanchi Array	61.11	316	P		P	03 31 10.5	+1.2
	comp=Z,0.5nm,0.3s,baz=91,slow=8.4,SNR=14							
MKAR	Makanchi Array	61.11	316	P		P	03 31 07.9	-1.4
YKA	Yellowknife Ar	82.88	27	P		P	03 33 18.6	+0.1
	comp=Z,0.2nm,0.4s,baz=287,slow=5.0,SNR=6.3							
YKA	Yellowknife Ar	82.88	27	P		P	03 33 17.8	-0.8
NVAR	Mina Array Bea	87.10	51	P		P	03 33 41.7	+1.3
	comp=Z,0.3nm,0.6s,baz=262,slow=4.5,SNR=4.7							

IDC ***31*** *03:52:43.6±0.9, 1°.03N×96°.96E, h0km, mb4.1/13, mb1 4.1/15, mb1mx3.8/64, mbtmp4.1/15, ML4.0/2, MS3.3/5, Ms1 3.4/5, ms1mx2.8/83, Error ellipse: s-maj=20.6km s-min=14.9km az=69.0*

DJA ***31*** *03:52:46.3±1.9, 1°.4N×9°.7E±1°.4, h14km±7km, M4.3/8, mb4.7/3, mB4.5/1, MLv4.1/8, Mw(mB)3.7/1*

NEIC ***31*** *03:52:50.1±1.6, 1°.22N±0°.07×97°.21E±0°.06, h39km±5km, mb4.2/14, Error ellipse: s-maj=11.7km s-min=7.9km az=147.0*

ISC 31 03:52:47.6±0.7, 1°.18N±0°.06×97°.07E±0°.08, h25km, n53, σ0°92/46, mb4.2/19, MS3.7/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	0.53	76	Pn	Pb	03 52 58.9	+0.6
GSI					Sb	03 53 06.8	+1.3
GSI	Gunungsitoli	0.53	76	P	Pb	03 52 58.4	+0.2
KCSI	Kotacane, Aceh	2.43	17	P	Pn	03 53 26.4	+0.6
PSI	Prapat	2.46	49	Pn	Pn	03 53 26.5	+0.3
	5.1nm,0.3s,baz=196,slow=8.0,SNR=25						
PSI				Lg	Lg	03 54 07.0	
	4.5nm,0.3s,baz=23,slow=23,SNR=8.0						
PSI				LR	LR	03 54 14.9	
	comp=Z,186nm,20.7s,baz=294,slow=36						
TSI	Tuntungan	2.75	33	P	Pb	03 53 42.7	+6.6
SISI	Saibi	3.21	141	P	Pn	03 53 36.5	+0.1
PPI	Padang Panjang	3.71	116	P	Pn	03 53 44.9	+1.6
BKNI	Bangkinang	4.06	102	Pn	Pn	03 53 46.7	-1.5
BKNI	Bangkinang	4.06	102	P	Pb	03 54 08.4	+10
PPSI	Pulau Pagai	4.90	143	P	Pn	03 53 59.7	0.0
IPM	Ipoh	5.14	50	Pn	Pn	03 54 02.1	-0.9
KULM	Kulim	5.43	41	Pn	Pn	03 54 07.3	+0.3
MNAI	Manna	8.06	133	Pn	Pn	03 54 43.0	-0.1
MNAI	Manna	8.06	133	P	Pn	03 54 43.3	+0.2
UBPT	Khong Chiam	16.28	30		Pn	03 56 35.0	+0.3
CMAR	Chiang Mai Arr	17.27	6	P	Pn	03 56 46.8	-0.4
	0.6nm,0.3s,baz=206,slow=14,SNR=4.7						
CMAR				LR	LR	04 03 26.9	
	comp=Z,45nm,21.5s,baz=185,slow=37						
CMAR	Chiang Mai Arr	17.27	6	P	Pn	03 56 46.6	-0.6
TOLI2	Tolitoli	23.71	90	P	P	03 57 55.8	-2.0
KMI	Kunming	24.43	13	⇑P	P	03 58 02.8	-1.8
KMI				pP	pP	03 58 07.8	-4.3
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI				LR	LR		
	comp=N,200nm,16.0s						
KMI				LR	LR		
	comp=E,100nm,13.6s						
KMI				LR	LR		
	comp=Z,220nm,15.8s						
SHL	Shillong	24.76	349	P	P	03 58 06.9	-0.7
H08S2	Diego Garcia H	26.03	250	T	T	04 25 18.8	
	baz=71,slow=75,SNR=630						
H08S3	Diego Garcia H	26.03	250	T	T	04 25 17.1	
	baz=71,slow=75,SNR=542						
H08S1	Diego Garcia H	26.05	250	T	T	04 25 18.8	
	baz=71,slow=75,SNR=542						
FITZ	Fitzroy Crossi	34.02	126	P	P	03 59 28.4	-1.4
	comp=Z,1.2nm,0.8s,baz=297,slow=10						
H01W3	Cape Leeuwin H	39.28	158	T	T	04 41 46.7	
	baz=331						
H01W2	Cape Leeuwin H	39.29	158	T	T	04 41 45.9	
	baz=331						
H01W1	Cape Leeuwin H	39.29	158	T	T	04 41 44.7	
	baz=331						
WRA	Warramunga Arr	42.14	122	P	P	04 00 38.0	-0.3
	comp=Z,1.6nm,0.6s,baz=301,slow=9.1,SNR=23						
WRA				PcP	PcP	04 02 33.0	+0.3
	comp=Z,0.5nm,1.0s,baz=300,slow=2.4,SNR=2.2						
WRA	Warramunga Arr	42.14	122	P	P	04 00 37.5	-0.8
WRA					PcP	04 02 31.9	-0.8
WB2	Warramunga Arr	42.15	122	P	P	04 00 38.3	-0.1
WB2				IAmb	IAmb	04 01 02.8	
	comp=Z,9.5nm,1.5s						
WR0	Warramunga Arr	42.32	122	P	P	04 00 38.6	-1.1
WR0				IAmb	IAmb	04 00 57.2	
	comp=Z,5.5nm,1.1s						
ASAR	Alice Springs	43.49	127	P	P	04 00 49.6	+0.3
	comp=Z,0.7nm,0.5s,baz=297,slow=7.5,SNR=8.9						
ASAR	Alice Springs	43.49	127	P	P	04 00 48.3	-1.0
KDJ	Kajisay	44.52	339	P	P	04 00 58.3	+0.9
KDJ				IAmb	IAmb	04 01 01.7	
	comp=Z,3.5nm,0.7s						
KSAR	Wonju Array Be	45.91	35	P	P	04 01 07.4	-0.9
KSRS	Korea Array	45.94	35	P	P	04 01 08.7	+0.2
	comp=Z,3.7nm,0.8s,baz=220,slow=8.6,SNR=17						
SONM	Songino Array	47.17	9	P	P	04 01 18.9	+0.7
	comp=Z,1.3nm,0.7s,baz=182,slow=7.2,SNR=4.7						
SONM	Songino Array	47.17	9	P	P	04 01 18.5	+0.3
SONM				IAmb	IAmb	04 01 19.9	
	comp=Z,1.5nm,0.8s						
MK31	Makanchi Array	47.23	346	P	P	04 01 19.0	+0.4
MK31				IAmb	IAmb	04 01 32.4	
	comp=Z,1.2nm,0.7s						
MKAR	Makanchi Array	47.23	346	P	P	04 01 20.1	+1.6
	comp=Z,1.9nm,0.7s,baz=159,slow=8.4,SNR=23						
KURBB	Kurchatov Arra	51.72	345	P	P	04 01 53.9	+1.3
	comp=Z,0.9nm,0.6s,baz=164,slow=6.7,SNR=9.7						
KURK	Kurchatov	51.78	345	P	P	04 01 52.1	-1.0
KURK				IAmb	IAmb	04 01 55.6	
	comp=Z,1.8nm,0.8s						
STKA	Stephens Creek	53.44	132	P	P	04 02 07.1	+1.3
	comp=Z,1.9nm,0.6s,baz=285,slow=6.7,SNR=3.2						
STKA				LR	LR	04 28 03.3	
	comp=Z,58nm,19.8s,baz=204,slow=40						
STKA	Stephens Creek	53.44	132	P	P	04 02 05.3	-0.5
ZALV	Zalesovo Beam	53.56	351	P	P	04 02 07.5	+1.3
	comp=Z,4.5nm,0.8s,baz=184,slow=6.2,SNR=18						
ZALV	Zalesovo Beam	53.56	351	P	P	04 02 06.0	-0.2
KLR	Kul'dur	56.33	27	P	P	04 02 27.5	+1.1
	comp=Z,3.0nm,0.9s,baz=276,slow=6.3,SNR=8.0						
MA2	Magadan	71.41	26	LR	LR	04 38 57.8	
	comp=Z,21nm,18.2s,baz=105,slow=39						
TIXI	Tiksi	73.23	10	P	P	04 04 16.1	0.0
	comp=Z,1.1nm,0.3s,baz=269,slow=21,SNR=4.7						
TIXI	Tiksi	73.23	10	P	P	04 04 15.7	-0.4
TIXI				IAmb	IAmb	04 04 16.9	
	comp=Z,3.0nm,1.1s						
SEY	Seymchan	73.83	23	P	P	04 04 20.3	+0.5
	comp=Z,1.3nm,0.7s,baz=225,slow=6.6,SNR=6.4						
FINES	FINESS Array B	79.95	333	P	P	04 04 55.0	+0.7
	comp=Z,2.2nm,1.0s,baz=119,slow=8.6,SNR=2.9						
SNAA	Sanae	94.23	198	LR	LR	04 44 00.5	
	comp=Z,60nm,18.2s,baz=339,slow=33						

DNK ***31*** *03:55:18.7±0.7, 51°.65N×15°.97E, h0km, ML2.2(UPP), Suspected explosion*

PRU ***31*** *03:55:18.0±0.0, 51°.45N×16°.10E, h0km*

IDC ***31*** *03:55:18.6±1.1, 51°.43N×16°.05E, h0km, mb1 3.3/5, mb1mx3.1/56, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=17.8km s-min=9.3km az=119.0*

VIE ***31*** *03:55:19.2, 51°.34N×16°.19E, h0km, ML2.5/2 63 km WNW of Wroclaw Suspected Mining induced.*

UPP ***31*** *03:55:22.0±3.1, 51°.79N×15°.86E, h0km, ML2.2, Suspected explosion*

ISC 31 03:55:16.1±0.7, 51°.54N±0°.03×16°.13E±0°.03, h0km, n41, σ1°07/73, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.71	172	*e*Pg	Pg	03 55 30.0	+0.4
KSP				*e*Sg	Sg	03 55 38.7	0.0
CHVC	Chvalec	0.95	183	*e*PG	Pg	03 55 34.5	+0.2
CHVC				*e*SG	Sg	03 55 46.5	-0.2
	comp=Z,31nm,0.6s						

OSTC	Ostas	0.99	177	*e*PG		Pg	03 55 33.9	-1.1
OSTC				*e*SG		Sg	03 55 47.3	-0.4
	comp=Z,37nm,0.4s							
UPC	Upice	1.04	184	*e*PG		Pg	03 55 35.0	-0.9
UPC				*e*SG		Sg	03 55 48.7	-0.7
	comp=Z,68nm,0.5s							
DPC	Dobruska-Polom	1.20	174	*e*PG		Pg	03 55 38.7	-0.3
DPC				*e*SG		Sg	03 55 53.5	-1.0
	comp=Z,49nm,0.8s							
PVCC	Panska Ves	1.42	225	*e*PG		Pn	03 55 42.8	-0.3
PVCC				*e*SG		Sg	03 56 01.2	-0.3
	comp=Z,96nm,0.8s							
KRLC	Kraliky	1.52	164	*e*PG		Pn	03 55 43.9	-0.7
KRLC				*e*SG		Sg	03 56 04.5	-0.5
	comp=Z,74nm,0.9s							
BRG	Berggiesshubel	1.53	245	Pg		Pg	03 55 45.8	+0.4
BRG				Sg		Sn	03 56 06.0	+0.7
BRG				Amp			03 56 06.9	
	comp=Z,24nm,0.4s							
PRU	Pruhonice	1.85	214	*e*PG		Pn	03 55 49.5	+0.4
PRU				*e*SG		Sb	03 56 14.7	+0.2
	comp=Z,74nm,1.3s							
CLL	Collm	1.97	264	*e*Pn		Pn	03 55 51.0	+0.3
CLL				*e*Pg		Pg	03 55 54.0	+0.1
CLL				*e*Sg		Sg	03 56 20.0	+0.6
	comp=Z,16nm,0.7s							
MORC	Moravsky Berou	1.98	153	*e*PN		Pn	03 55 50.8	-0.1
MORC				*e*SG		Sb	03 56 18.1	-0.1
OKC	Ostrava-Krasne	2.13	142	*e*PG		Pb	03 55 55.0	-0.6
OKC				*e*SG		Sb	03 56 23.0	+0.5
	comp=Z,39nm,0.7s							
VRAC	Vranov	2.25	172	Pn		Pn	03 55 55.1	+0.4
	comp=Z,1.7nm,0.3s,baz=352,slow=12,SNR=7.1							
VRAC				Lg		Lg	03 56 26.2	
	comp=Z,2.3nm,0.3s,baz=246,slow=23,SNR=8.2							
VRAC	Vranov	2.25	172	*e*PN		Pn	03 55 55.0	+0.4
VRAC				*e*SG		Sb	03 56 26.3	+0.2
TREC	Trest	2.29	191	*e*PG		Pb	03 55 57.7	-0.5
TREC				*e*SG		Sb	03 56 27.1	+0.1
	comp=Z,22nm,0.6s							
PBCC	Pribram	2.30	217	*e*PG		Pb	03 55 58.9	+0.4
PBCC				*e*SG		Sb	03 56 28.5	+1.0
KRUC	Moravsky	2.49	176	*e*PN		Pn	03 55 58.3	+0.5
KRUC				*e*SG		Sb	03 56 33.7	+0.9
OJC	Ojcow	2.67	118	*e*Pn		Pn	03 56 00.9	+0.6
OJC				*e*Pg		Pg	03 56 09.2	+1.9
OJC				*e*Sg		Sg	03 56 43.6	+1.7
NKC	Novy Kostel	2.68	242	*e*PN		Pn	03 56 01.0	+0.6
NKC				*e*PG		Pb	03 56 05.8	+1.0
NKC				*e*SG		Sg	03 56 41.7	-0.3
	comp=Z,23nm,0.3s							
JAVC	Velka Javorina	2.86	159	*e*PN		Pn	03 56 03.4	+0.4
KHC	Kasperske Hory	2.92	215	*e*PN		Pn	03 56 04.4	+0.7
KHC				*e*PG		Pb	03 56 09.9	+1.0
KHC				*e*SN		Sn	03 56 38.6	-0.9
KHC				*e*SG		Sg	03 56 48.1	-1.6
	comp=Z,13nm,0.5s							
CKRC	Cesky Krumlov	2.96	204	*e*PN		Pn	03 56 05.4	+1.0
CKRC				*e*PG		Pb	03 56 09.4	-0.4
CKRC				*e*SG		Sg	03 56 49.6	-1.7
GERES	GERESS Array B	3.12	211	Pn		Pn	03 56 07.7	+1.1
	comp=Z,0.7nm,0.3s,baz=34,slow=14,SNR=14							
GERES				Pg		Pb	03 56 13.5	+1.1
	comp=Z,2.7nm,0.3s,baz=31,slow=17,SNR=36							
GERES				Lg		Lg	03 56 51.4	
	comp=Z,2.2nm,0.3s,baz=27,slow=26,SNR=7.0							
CONA	Conrad Observa	3.62	183	*i* Pn		Pn	03 56 14.5	+1.1
	comp=Z,0.5nm,0.1s							
CONA				*e*Sg		Sg	03 57 10.8	-1.5
	comp=Z,6.2nm,0.3s							
MOA	Molln	3.89	199	*i* Pn		Pn	03 56 18.2	+1.1
	comp=Z,1.2nm,0.3s							
MOA				*e*Sg		Sg	03 57 20.0	-0.9
	comp=Z,14nm,0.5s							
BIOA	Bad Ischl, Aus	4.18	204	*e*Sg		Sg	03 57 30.5	+0.2
	comp=Z,15nm,0.5s							
BLEU	Blekinge	4.78	358	P		Pn	03 56 30.8	+1.6
BLEU				S		Sn	03 57 23.0	-2.2
BLEU	Blekinge	4.78	358	P		Pn	03 56 30.8	+1.6
BLEU				S		Sn	03 57 23.0	-2.2
DEL	Delary	5.12	346	P		Pn	03 56 34.8	+1.0
DEL	Delary	5.12	346	P		Pn	03 56 34.8	+1.0
WTTA	Wattenberg	5.19	216	*e*Sg		Sg	03 58 04.5	+1.8
	comp=Z,5.6nm,0.6s							
VXJU	Vaexsjoe	5.44	353	P		Pn	03 56 39.8	+1.5
VXJU				S		Sn	03 57 39.4	-2.1
VXJU	Vaexsjoe	5.44	353	P		Pn	03 56 39.8	+1.5
VXJU				S		Sn	03 57 39.4	-2.1
BYXU	Byxelkrok	5.78	5	P		Pn	03 56 44.6	+1.6
BYXU	Byxelkrok	5.78	5	P		Pn	03 56 44.6	+1.6
GNOU	Gnosjoe	5.93	347	P		Pn	03 56 46.1	+1.1
GNOU	Gnosjoe	5.93	347	P		Pn	03 56 46.1	+1.1
DAVOX	Davos/Dischmat	6.28	223	Lg		Lg	03 58 34.5	
	comp=Z,0.1nm,0.3s,baz=0,slow=23,SNR=2.5							
AKASG	Malin Array Be	8.28	91	Pn		Pn	03 57 18.0	+0.7
	comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=1.8							
FINES	FINESS Array B	11.33	25	Pn		Pn	03 57 57.5	-1.5
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=4.5							
ARCES	ARCESS Array B	18.59	10	Pn		P	03 59 33.5	-0.9
	baz=197,slow=12,SNR=2.4							

NEIC ***31*** *04:23:40.3±1.7, 41°.1N±0°.1×127°.2W±0°.1, h10km±8km, ML2.8/36, Error ellipse: s-maj=17.5km s-min=13.4km az=57.0*

ANF ***31*** *04:23:41.5±2.1, 41°.13N×126°.90W, h0km, ML3.2/3, Error ellipse: s-maj=22.8km s-min=11.6km az=53.0*

IDC ***31*** *04:23:42.3±2.3, 41°.44N×126°.88W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.3/38, mbtmp3.1/5, ML2.8/2, MS2.9/4, Ms1 2.9/4, ms1mx2.7/14, Error ellipse: s-maj=38.4km s-min=18.2km az=30.0*

ISC 31 04:23:41.0±1.5, 41°.18N±0°.08×127°.01W±0°.09, h10km, n45, σ1°06/40, mb3.2/3, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRPM	Rodgers	2.25	90	Pn	Pn	04 24 18.3	-0.1
KRPM				Sn	Sb	04 24 47.5	-2.2
KRPM				IAML		04 24 57.8	
	comp=N,49nm,3.8s						
KRPM				IAML		04 25 16.7	
	comp=E,47nm,3.2s						
KMPM	Mount Pierce	2.32	108		Pn	04 24 18.9	-0.4
KMPM				IAML		04 24 53.0	
	comp=E,57nm,0.5s						
KMPM				IAML		04 24 53.0	
	comp=N,68nm,1.0s						
KHMM	Horse Mountain	2.50	96		Pn	04 24 22.1	+0.3
KHMM				IAML		04 24 55.7	
	comp=E,32nm,2.1s						
KHMM				IAML		04 25 01.9	
	comp=N,23nm,2.1s						
KMRM	Mail Ridge	2.68	110	Pn	Pn	04 24 24.8	+0.4
KMRM				IAML		04 25 03.0	
	comp=N,39nm,0.7s						
KMRM				IAML		04 25 04.1	
	comp=E,59nm,1.2s						
L02E	Cave Junction	2.73	68		Pn	04 24 25.3	+0.3
L02E	Cave Junction	2.73	68	P	Pn	04 24 24.8	-0.2
	baz=249,SNR=14						
K02D	Willamette Mer	2.92	58	P	Pn	04 24 27.0	-0.5
	baz=238,SNR=14						
KCPM	Cahto Peak	3.01	119		Pn	04 24 28.4	-0.5
KCPM				IAML		04 24 53.2	
	comp=N,28nm,3.6s						
M02C	Callahan	3.13	85		Pn	04 24 31.8	+1.2
M02C	Callahan	3.13	85	P	Pn	04 24 30.6	0.0
	baz=266,SNR=14						
M02C				S	Sn	04 25 08.0	-0.1
	baz=266						
N02D	Trinity Center	3.26	92	Pn	Pn	04 24 33.3	+1.1
N02D				IAML		04 25 48.2	
	comp=N,33nm,0.3s						
YBH	Yreka Blue Hor	3.27	79	Pn	Pn	04 24 34.2	+1.7
	comp=N,1.9nm,0.3s,baz=265,slow=13,SNR=33						
YBH				LR	LR	04 24 59.1	
	comp=N,62nm,20.4s,baz=297,slow=24						
YBH				Sn	Sn	04 25 11.7	+0.1
	comp=N,0.9nm,0.3s,baz=234,slow=19,SNR=1.0						
YBH	Yreka Blue Hor	3.27	79		Pn	04 24 34.2	+1.7
HUMO	Hull Mountain	3.34	63	Pn	Pn	04 24 33.4	+0.1
O02D	Mt. Diablo Mer	3.36	106		Pn	04 24 34.2	+0.5
O02D				IAML		04 25 28.5	
	comp=E,11nm,4.0s						

O02D	Mt. Diablo Mer	3.36	106	P		Pn	04 24 33.8	+0.1
	baz=288,SNR=18							
O02D				S		Sn	04 25 13.7	0.0
	baz=288							
L04D	Klamath Falls	3.67	72	Pn		Pn	04 24 39.4	+1.4
L04D				IAML			04 25 29.4	
	comp=E,21nm,2.0s							
L04D	Klamath Falls	3.67	72	P		Pn	04 24 39.2	+1.2
	baz=254,SNR=20							
M04C	Macdoel	3.93	80			Pn	04 24 43.1	+1.6
M04C	Macdoel	3.93	80	P		Pn	04 24 42.2	+0.7
	baz=262,SNR=27							
O03E	Paynes Creek	4.05	101			Pn	04 24 43.4	+0.2
O03E				IAML			04 25 38.1	
	comp=N,11nm,3.8s							
O03E				IAML			04 26 58.9	
	comp=E,10nm,4.4s							
O03E	Paynes Creek	4.05	101	P		Pn	04 24 43.4	+0.2
	baz=284							
O03E				S		Sn	04 25 32.2	+1.5
	baz=284							
J04D	Umpqua Nationa	4.18	59	Pn		Pn	04 24 46.4	+1.4
J04D	Umpqua Nationa	4.18	59	P		Pn	04 24 45.2	+0.2
	baz=241,SNR=6.3							
I04A	Tendick Farm,	4.28	51	P		Pn	04 24 47.2	+0.9
	baz=233							
J05D	Fort Rock, OR	4.77	62	P		Pn	04 24 53.6	+0.5
	baz=245,SNR=6.3							
K05A	Summer Lake	4.81	69			Pn	04 24 54.7	+1.0
MOD	Modoc Plateau	5.08	80	Pn		Pn	04 24 58.2	+0.8
MOD				IAML			04 26 30.1	
	comp=E,8.3nm,4.5s							
MOD				IAML			04 27 49.4	
	comp=N,6.5nm,4.7s							
BEKR	Beckworth	5.23	102			Pn	04 25 01.0	+1.5
BEKR				IAML			04 26 08.8	
	comp=N,7.5nm,2.2s							
BEKR				IAML			04 26 13.0	
	comp=E,5.0nm,3.5s							
NVAR	Mina Array Bea	7.24	109	Pn	Pn		04 25 31.1	+4.0
	comp=E,0.1nm,0.3s,baz=286,slow=13,SNR=3.3							
PFO	Pinyon Flats O	11.28	129	LR	LR		04 30 53.7	
	comp=E,62nm,21.3s,baz=293,slow=38							
PDAR	Pinedale Array	13.08	77	LR	LR		04 32 24.9	
	comp=E,78nm,19.5s,baz=270,slow=40							
TXAR	Lajitas Array	22.35	115	P	P		04 28 40.4	+1.1
	comp=E,0.2nm,0.7s,baz=299,slow=6.0,SNR=1.6							
TXAR	Lajitas Array	22.35	115	P	P		04 28 39.8	+0.6
YKA	Yellowknife Ar	22.60	15	P	P		04 28 39.5	-1.9
	comp=E,1.0nm,1.1s,baz=204,slow=10,SNR=4.8							
YKA	Yellowknife Ar	22.60	15	P	P		04 28 41.1	-0.4
ILAR	Eielson Array	26.25	341	P	P		04 29 17.8	+1.7
	comp=E,0.9nm,1.0s,baz=159,slow=7.7,SNR=5.4							
ILAR	Eielson Array	26.25	341	P	P		04 29 14.4	-1.6
FRB	Frobisher Bay	40.26	36	LR	LR		04 49 01.0	
	comp=E,21nm,18.2s,baz=212,slow=38							
H11N3	WAKE ISLAND Hy	59.45	270	T	T		05 37 45.1	
	baz=53,slow=75,SNR=120							
H11N2	WAKE ISLAND Hy	59.45	270	T	T		05 37 42.7	
	baz=53,slow=75,SNR=94							
H11N1	WAKE ISLAND Hy	59.47	270	T	T		05 37 43.2	
	baz=53,slow=75,SNR=107							
H11S1	WAKE ISLAND Hy	60.34	269	T	T		05 38 49.2	
	baz=52,slow=74,SNR=18							
H11S2	WAKE ISLAND Hy	60.34	269	T	T		05 38 53.4	
	baz=52,slow=74,SNR=18							
H11S3	WAKE ISLAND Hy	60.35	269	T	T		05 38 51.7	
	baz=52,slow=74,SNR=12							

WEL 31 04:46:27.8, 41°S±2°×17°5E±°, h6km±2km, Error ellipse: s-maj=0.0km s-min=0.0km az=122.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WEL	Wellington	0.08	218	P	Pg	04 46 30.4	+0.7
WEL	Wellington	0.08	218	P	Pg	04 46 30.4	+0.7
BHW	Baring Head	0.19	172	P	Pg	04 46 32.5	+0.8
BHW	Baring Head	0.19	172	P	Pg	04 46 32.5	+0.8
CAW	Cannon Point	0.21	57	P	Pg	04 46 32.9	+1.0
CAW	Cannon Point	0.21	57	P	Pg	04 46 32.9	+1.0
KIW	Kapiti Island	0.36	9	P	Pb	04 46 35.9	-0.7
KIW	Kapiti Island	0.36	9	P	Pb	04 46 35.9	-0.7
MSWZ	Moikau Station	0.37	122	P	Pb	04 46 36.4	-0.3
MSWZ	Moikau Station	0.37	122	P	Pb	04 46 36.4	-0.3
TCW	Tory Channel	0.42	271	P	Pb	04 46 37.0	-0.6
TCW	Tory Channel	0.42	271	P	Pb	04 46 37.0	-0.6
PLWZ	Palliser	0.47	138	P	Pb	04 46 38.6	+0.1
PLWZ	Palliser	0.47	138	P	Pb	04 46 38.6	+0.1
PAWZ	Paruwai Farm	0.47	110	P	Pb	04 46 38.5	0.0
PAWZ	Paruwai Farm	0.47	110	P	Pb	04 46 38.5	0.0
OGWZ	Otaki Gorge	0.47	32	P	Pb	04 46 38.0	-0.6
OGWZ	Otaki Gorge	0.47	32	P	Pb	04 46 38.0	-0.6
MTW	Mount Morrison	0.51	83	P	Pb	04 46 39.0	0.0
MTW	Mount Morrison	0.51	83	P	Pb	04 46 39.0	0.0
HOWZ	Holdsworth Sta	0.61	58	P	Pb	04 46 40.6	-0.1
HOWZ	Holdsworth Sta	0.61	58	P	Pb	04 46 40.6	-0.1
TRWZ	Traveller	0.67	106	P	Pn	04 46 42.8	-0.9
TRWZ	Traveller	0.67	106	P	Pn	04 46 42.8	-0.9
TUWZ	Tuamarina	0.70	252	P	Pb	04 46 42.0	-0.4
TUWZ	Tuamarina	0.70	252	P	Pb	04 46 42.0	-0.4
MRZ	Mangatainoka R

NEIC ***31*** *04:49:30.7±1.5, 41°.12N±0°.10×127°.2W±0°.2, h8km±9km, ML2.9/38, Error ellipse: s-maj=22.1km s-min=13.2km az=78.0*

IDC ***31*** *04:49:31.4±3.1, 41°.50N×127°.12W, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.3/56, mbtmp3.1/5, ML3.2/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/16, Error ellipse: s-maj=39.2km s-min=26.9km az=48.0*

ISC 31 04:49:30.2±2.2, 41°.16N±0°.09×127°.3W±0°.2, h10km, n38, σ1§70/30, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRPM	**Rodgers**	**2.47**	**89**		**Pn**	**04 50 08.5**	**-2.1**
KRPM				IAML		04 51 01.5	
	comp=N,59nm,1.5s						
KRPM				IAML		04 51 02.7	
	comp=E,51nm,3.5s						
JCC	**Jacoby Creek,**	**2.49**	**97**		**Pn**	**04 50 09.1**	**-1.7**
JCC				IAML		04 50 40.6	
	comp=E,45nm,3.8s						
KMPM	**Mount Pierce**	**2.52**	**106**		**Pn**	**04 50 09.5**	**-1.8**
KMPM				IAML		04 50 45.6	
	comp=E,92nm,0.7s						
KHMM	**Horse Mountain**	**2.71**	**95**		**Pn**	**04 50 13.3**	**-0.6**
KHMM				IAML		04 51 24.3	
	comp=E,27nm,4.9s						
KMRM	**Mail Ridge**	**2.88**	**108**		**Pn**	**04 50 16.3**	**+0.1**
KMRM				IAML		04 50 51.9	
	comp=E,66nm,0.9s						
KMRM				IAML		04 50 53.1	
	comp=N,57nm,1.2s						
L02E	**Cave Junction**	**2.94**	**69**		**Pn**	**04 50 16.1**	**-0.9**
KCPM	**Cahto Peak**	**3.19**	**116**		**Pn**	**04 50 19.0**	**-1.5**
M02C	**Callahan**	**3.35**	**85**		**Pn**	**04 50 22.7**	**0.0**
M02C				IAML		04 51 02.1	
	comp=E,19nm,4.8s						
N02D	**Trinity Center**	**3.47**	**92**		**Pn**	**04 50 23.0**	**-1.3**
N02D				IAML		04 51 03.9	
	comp=E,23nm,0.8s						
N02D				IAML		04 51 13.3	
	comp=N,23nm,1.8s						
YBH	**Yreka Blue Hor**	**3.49**	**79**	Pn	**Pn**	**04 50 25.4**	**+0.8**
	comp=N,2.2nm,0.3s,baz=272,slow=14,SNR=45						
YBH				Sn	**Sn**	**04 51 04.9**	**-1.2**
	baz=47,slow=9.7,SNR=1.2						
YBH	**Yreka Blue Hor**	**3.49**	**79**		**Pn**	**04 50 24.6**	**-0.1**
HUMO	**Hull Mountain**	**3.55**	**64**		**Pn**	**04 50 24.4**	**-0.9**
O02D	**Mt. Diablo Mer**	**3.56**	**104**		**Pn**	**04 50 25.2**	**-0.4**
O02D				IAML		04 51 15.4	
	comp=N,13nm,2.2s						
O02D				IAML		04 51 17.8	
	comp=E,16nm,5.0s						
DBO	**Dodson Butte**	**3.59**	**56**		**Pn**	**04 50 25.8**	**-0.3**
DBO				IAML		04 50 58.0	
	comp=E,16nm,4.8s						
DBO				IAML		04 51 18.4	
	comp=N,18nm,4.5s						
O03E	**Paynes Creek**	**4.26**	**100**		**Pn**	**04 50 34.7**	**-0.5**
O03E				IAML		04 52 07.1	
	comp=E,15nm,5.0s						
O03E				IAML		04 52 07.1	
	comp=N,13nm,4.8s						
J04D	**Umpqua Nationa**	**4.38**	**60**		**Pn**	**04 50 36.9**	**0.0**
K05A	**Summer Lake**	**5.02**	**70**		**Pn**	**04 50 45.9**	**+0.1**
MOD	**Modoc Plateau**	**5.30**	**80**		**Pn**	**04 50 48.6**	**-0.9**
MOD				IAML		04 51 33.7	
	comp=E,7.0nm,5.0s						
MOD				IAML		04 54 15.5	
	comp=N,6.9nm,4.8s						
PINE	**Pine Mountain**	**5.38**	**59**		**Pn**	**04 50 50.8**	**+0.1**
BEKR	**Beckworth**	**5.44**	**101**		**Pn**	**04 50 52.5**	**+1.0**
BEKR				IAML		04 52 00.1	
	comp=E,6.6nm,1.9s						
BEKR				IAML		04 52 03.0	
	comp=N,8.1nm,3.8s						
CMB	**Columbia Colle**	**6.18**	**118**	Pn	**Pn**	**04 51 00.9**	**-0.6**
WVOR	**Wild Horse Val**	**6.59**	**76**		**Pn**	**04 51 07.1**	**-0.2**
NVAR	**Mina Array Bea**	**7.44**	**109**	Pn	**Pn**	**04 51 21.7**	**+2.8**
	comp=N,0.1nm,0.3s,baz=286,slow=14,SNR=10						
NVAR				LR	LR	04 54 26.7	
	comp=N,109nm,21.5s,baz=9.5,slow=39						
NVAR	**Mina Array Bea**	**7.44**	**109**		**Pn**	**04 51 17.7**	**-1.2**
ELK	**Elko**	**9.13**	**89**	LR	LR	04 55 28.7	
	comp=N,103nm,21.1s,baz=278,slow=40						
NEW	**Newport**	**10.14**	**42**	LR	LR	04 55 48.3	
	comp=N,85nm,19.3s,baz=254,slow=38						
PDAR	**Pinedale Array**	**13.30**	**77**	Pn	**Pn**	**04 52 44.0**	**+4.8**
	comp=N,0.0nm,0.3s,baz=264,slow=10,SNR=1.6						
ANMO	**Albuquerque**	**17.52**	**104**	LR	LR	04 59 57.8	
	comp=N,48nm,21.8s,baz=293,slow=36						
TXAR	**Lajitas Array**	**22.54**	**114**	P	**P**	**04 54 34.5**	**+4.1**
	comp=N,0.4nm,0.9s,baz=324,slow=9.0,SNR=2.5						
TXAR	**Lajitas Array**	**22.54**	**114**	P	**P**	**04 54 28.1**	**-2.3**
YKA	**Yellowknife Ar**	**22.68**	**15**	P	**P**	**04 54 29.9**	**-1.6**
	comp=N,1.2nm,1.1s,baz=205,slow=10,SNR=6.6						
YKA	**Yellowknife Ar**	**22.68**	**15**	P	**P**	**04 54 31.0**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**59.23**	**270**	T	T	06 03 38.7	
	baz=53,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**59.24**	**270**	T	T	06 03 39.7	
	baz=53,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**59.25**	**270**	T	T	06 03 46.4	
	baz=53,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**60.12**	**269**	T	T	06 04 42.9	
	baz=52,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**60.12**	**269**	T	T	06 04 42.2	
	baz=52,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**60.13**	**269**	T	T	06 04 43.0	
	baz=52,slow=75,SNR=4.9						

IDC ***31*** *04:52:46.1±5.2, 41°.23N×127°.41W, h0km, mb2.7/2, mb1 3.2/4, mb1mx3.1/53, mbtmp2.8/4, ML2.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/11, Error ellipse: s-maj=76.0km s-min=31.1km az=57.0*

NEIC ***31*** *04:52:48.6±1.3, 41°.2N±0°.1×127°.3W±0°.2, h9km±9km, ML2.8/28, Error ellipse: s-maj=21.7km s-min=12.7km az=63.0*

ISC 31 04:52:47.9±3.8, 41°.2N±0°.2×127°.4W±0°.3, h10km, n25, σ1§11/19, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRPM	**Rodgers**	**2.51**	**91**	Pn	**Pn**	**04 53 28.9**	**+0.1**
KRPM				IAML		04 54 23.9	
	comp=N,47nm,3.9s						
JCC	**Jacoby Creek,**	**2.54**	**98**	Pn	**Pn**	**04 53 27.3**	**-1.9**
KMPM	**Mount Pierce**	**2.58**	**107**	Pn	**Pn**	**04 53 30.1**	**+0.3**
KMPM				IAML		04 53 50.5	
	comp=E,31nm,4.5s						
KMPM				IAML		04 54 01.3	
	comp=N,37nm,1.3s						
KMRM	**Mail Ridge**	**2.94**	**109**	Pn	**Pn**	**04 53 35.3**	**+0.5**
KMRM				IAML		04 54 18.4	
	comp=E,25nm,3.8s						
KMRM				IAML		04 55 06.5	
	comp=N,24nm,4.7s						
L02E	**Cave Junction**	**2.95**	**71**	Pn	**Pn**	**04 53 33.9**	**-0.9**
J01E	**Myrtle Point**	**3.19**	**52**	Pn	**Pn**	**04 53 38.7**	**+0.7**
J01E				IAML		04 54 41.5	
	comp=E,22nm,3.5s						
J01E				IAML		04 55 31.8	
	comp=N,20nm,3.9s						
KCPM	**Cahto Peak**	**3.26**	**117**	Pn	**Pn**	**04 53 38.6**	**-0.6**
KCPM				IAML		04 54 26.5	
	comp=N,29nm,4.9s						
KCPM				IAML		04 54 28.2	
	comp=E,28nm,2.5s						
YBH	**Yreka Blue Hor**	**3.52**	**80**	Pn	**Pn**	**04 53 42.9**	**+0.2**
	comp=E,1.4nm,0.3s,baz=297,slow=11,SNR=12						
YBH				LR	LR	04 54 48.0	
	comp=E,96nm,21.1s,baz=294,slow=34						
YBH	**Yreka Blue Hor**	**3.52**	**80**		**Pn**	**04 53 43.4**	**+0.6**
YBH				IAML		04 55 35.7	
	comp=N,11nm,5.0s						
HUMO	**Hull Mountain**	**3.55**	**66**		**Pn**	**04 53 43.1**	**0.0**
DBO	**Dodson Butte**	**3.58**	**57**	Pn	**Pn**	**04 53 44.1**	**+0.5**
DBO				IAML		04 54 19.9	
	comp=E,21nm,4.4s						
DBO				IAML		04 56 02.1	
	comp=N,15nm,4.5s						
L04D	**Klamath Falls**	**3.90**	**74**		**Pn**	**04 53 49.1**	**+1.1**
L04D				IAML		04 54 46.0	
	comp=N,16nm,3.9s						
M04C	**Macdoel**	**4.17**	**81**		**Pn**	**04 53 53.0**	**+1.3**
H04A	**Detroit Lake**	**5.12**	**46**	Pn	**Pn**	**04 54 03.5**	**-1.2**
H04A				IAML		04 56 07.4	
	comp=N,7.4nm,4.9s						
MOD	**Modoc Plateau**	**5.33**	**80**	Pn	**Pn**	**04 54 07.6**	**0.0**
NVAR	**Mina Array Bea**	**7.50**	**109**	Pn	**Pn**	**04 54 39.7**	**+2.2**
	comp=N,0.1nm,0.3s,baz=286,slow=13,SNR=2.6						
CBB	**Campbell River**	**8.91**	**8**	Pn	**Pn**	**04 54 58.2**	**+1.6**
TXAR	**Lajitas Array**	**22.61**	**114**	P	**P**	**04 57 47.6**	**-1.3**
	comp=N,0.2nm,0.7s,baz=277,slow=7.1,SNR=1.9						
YKA	**Yellowknife Ar**	**22.61**	**15**	P	**P**	**04 57 48.7**	**+0.2**
	comp=N,0.3nm,0.9s,baz=210,slow=10,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**59.19**	**270**	T	T	06 06 55.6	
	baz=54						
H11N2	**WAKE ISLAND Hy**	**59.20**	**270**	T	T	06 06 56.2	
	baz=54						
H11N1	**WAKE ISLAND Hy**	**59.21**	**270**	T	T	06 06 57.2	
	baz=54						
H11S1	**WAKE ISLAND Hy**	**60.08**	**269**	T	T	06 08 02.3	
	baz=52						
H11S2	**WAKE ISLAND Hy**	**60.08**	**269**	T	T	06 08 07.8	
	baz=52						
H11S3	**WAKE ISLAND Hy**	**60.09**	**269**	T	T	06 08 00.8	
	baz=52						

IDC 31 04:57:16.6±2.2, 25°.31N×142°.21E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/45, mbtmp3.5/3, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/50, Error ellipse: s-maj=83.7km s-min=21.8km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.78**	**359**	Pn	Pn	04 57 48.5	0.0
	17nm,0.3s,baz=230,slow=16,SNR=14						
JCJ				Sn	Sn	04 58 11.6	-0.3
	9.1nm,0.3s,baz=323,slow=23,SNR=12						
KSRS	**Korea Array**	**17.16**	**318**	P	Pn	05 01 16.2	-1.6
	0.2nm,0.3s,baz=135,slow=14,SNR=4.1						
PETK	**Petropavlovsk-**	**30.11**	**19**	LR	LR	05 19 50.8	
	comp=Z,16nm,18.4s,baz=94,slow=45						
WRA	**Warramunga Arr**	**45.63**	**190**	P	P	05 05 38.5	-0.5
	0.3nm,0.6s,baz=10,slow=8.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**50.86**	**320**	P	P	05 06 20.1	+1.1
	0.3nm,0.3s,baz=101,slow=7.8,SNR=1.9						

IDC 31 05:04:09.2±1.6, 52°.64N×158°.42E, h0km, Error ellipse: s-maj=13.0km s-min=8.3km az=61.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.64**	**317**	Pn	Pn	05 04 25.8	+0.2
	2.3nm,0.3s,baz=141,slow=15,SNR=56						
PETK				Sn	Sn	05 04 36.5	-0.1
	1.6nm,0.3s,baz=140,slow=17,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**33.50**	**165**	H	H	05 46 12.4	
	baz=351,slow=76,SNR=159						
H11N3	**WAKE ISLAND Hy**	**33.52**	**165**	H	H	05 46 13.0	
	baz=351,slow=76,SNR=178						
H11N1	**WAKE ISLAND Hy**	**33.52**	**165**	H	H	05 46 11.6	
	baz=351,slow=76,SNR=135						
H11S1	**WAKE ISLAND Hy**	**34.67**	**166**	H	H	05 47 42.5	
	baz=352,slow=76,SNR=176						
H11S2	**WAKE ISLAND Hy**	**34.68**	**166**	H	H	05 47 42.5	
	baz=352,slow=76,SNR=125						
H11S2	**WAKE ISLAND Hy**	**34.69**	**166**	H	H	05 47 41.9	
	baz=352,slow=76,SNR=105						
H03N2	**Juan Fernandez**	**135.21**	**88**	H	H	07 53 26.8	
	baz=314,slow=77,SNR=166						
H03N1	**Juan Fernandez**	**135.23**	**88**	H	H	07 53 27.7	
	baz=314,slow=77,SNR=161						
H03N3	**Juan Fernandez**	**135.23**	**88**	H	H	07 53 27.7	
	baz=314,slow=77,SNR=151						

IDC ***31*** *05:06:33.3±1.9, 0°.70N×125°.77E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=167.5km s-min=25.4km az=65.0*

DJA ***31*** *05:06:36.1±0.4, 1°.N±6°×12°.6E±°, h10km, M3.7/7, mb3.8/1, MLv3.6/7*

ISC 31 05:06:35.9±1.1, 0°.8N±0°.2×126°.15E±0°.07, h10km, n9, σ1§57/9, mb3.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.22**	**91**	P	**Pg**	**05 07 01.1**	**+1.7**
LBMI	**Labuha**	**1.96**	**136**	P	**Pn**	**05 07 09.3**	**0.0**
KMSI	**Cibinong**	**2.17**	**264**	P	**Pn**	**05 07 11.8**	**-0.4**
GTOI	**Gorontalo**	**3.14**	**267**	P	**Pn**	**05 07 27.5**	**+2.1**
LUWI	**Luwuk**	**3.82**	**242**	P	**Pn**	**05 07 35.9**	**+0.9**
APSI	**Ampana**	**4.80**	**249**	P	**Pn**	**05 07 49.4**	**+1.0**
WRA	**Warramunga Arr**	**22.12**	**159**	P	**P**	**05 11 30.5**	**-1.2**
	2.9nm,0.7s,baz=337,slow=12,SNR=19						
ASAR	**Alice Springs**	**25.45**	**163**	P	**P**	**05 12 04.0**	**-0.3**
	0.8nm,0.3s,baz=331,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**59.64**	**327**	P	**P**	**05 16 38.4**	**-2.0**
	0.3nm,0.4s,baz=128,slow=7.8,SNR=5.6						

IDC 31 05:20:40.9±1.8, 19°.35N×144°.12E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/44, mbtmp3.4/4, Error ellipse: s-maj=248.1km s-min=24.8km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.21**	**194**	P	P	05 28 19.6	+0.3
	0.3nm,0.3s,baz=16,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**43.90**	**194**	P	P	05 28 48.6	-0.9
	0.2nm,0.4s,baz=13,slow=8.6,SNR=1.9						
ILAR	**Eielson Array**	**63.73**	**26**	P	P	05 31 14.3	+0.2
	0.2nm,0.5s,baz=247,slow=4.7,SNR=2.4						
YKA	**Yellowknife Ar**	**78.11**	**28**	P	P	05 32 41.5	0.0
	0.2nm,0.6s,baz=286,slow=5.4,SNR=4.1						

NNC ***31*** *05:29:20.1±2.4, 53°.42N×87°.64E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=19.2km s-min=9.8km az=66.0, Suspected Mining explosion.*

IDC 31 05:29:17.9±3.0, 53°.60N×87°.84E, h0km, mb1 2.8/2, mb1mx2.7/39, mbtmp2.8/2, ML2.3/2, 8C-6D, Error ellipse: s-maj=23.9km s-min=15.1km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**282**	*i*		05 41 20.0	
	baz=101,slow=332,SNR=5.9						
ZAA0	**Zalesovo Array**	**1.83**	**282**	⇑P	Pn	05 29 50.8	+0.2
	1.2nm,0.8s						
ZAA0				⇓S	Sb	05 30 16.1	+0.4
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.83**	**282**	Pg	Pn	05 29 51.0	+0.5
	0.8nm,0.3s,baz=102,slow=17,SNR=30						
ZALV				Lg	Lg	05 30 16.0	
	2.1nm,0.3s,baz=100,slow=26,SNR=21						
KURK	**Kurchatov**	**6.37**	**247**	⇑Pn	Pn	05 30 54.9	+1.9
	0.6nm,0.5s						
KURK				⇑Sn	Sn	05 32 03.7	-2.6
	1.4nm,0.6s						
KURK				⇓Lg	Lg	05 32 38.3	
	6.9nm,1.0s						
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	Pn	05 30 55.0	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=5.1						
KURBB				Sn	Sn	05 32 06.8	-1.9
	0.0nm,0.3s,baz=23,slow=38,SNR=2.9						
KURBB				Lg	Lg	05 32 43.5	
	0.0nm,0.3s,baz=64,slow=32,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.47**	**246**	⇓Pn	Pn	05 30 54.8	+0.6
	1.1nm,0.5s						
KURBB				⇓Sn	Sn	05 32 06.7	-2.0
	4.6nm,0.6s						
KURBB				⇓Lg	Lg	05 32 40.6	
	8.2nm,0.9s						
MK31	**Makanchi Array**	**7.69**	**210**	⇑Pn	Pn	05 31 11.8	+0.6
	0.5nm,0.7s,baz=27,slow=13,SNR=4.3						
MK31				⇑Sn	Sn	05 32 38.8	-0.1
	0.4nm,0.6s						
MK31				⇑Lg	Lg	05 33 19.1	
	3.7nm,1.1s,baz=25,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	05 31 12.0	+0.8
	0.1nm,0.3s,baz=27,slow=13,SNR=4.5						
MKAR				Sn	Sn	05 32 40.1	+1.1
	0.1nm,0.3s,baz=28,slow=22,SNR=4.4						
MKAR				Lg	Lg	05 33 22.9	
	0.1nm,0.3s,baz=32,slow=30,SNR=8.2						
MAKZ	**Makanchi**	**7.77**	**211**	⇓Pn	Pn	05 31 12.6	+0.3
	0.7nm,0.7s						
MAKZ				⇑Sn	Sn	05 32 36.3	-4.6
	0.9nm,0.9s						
MAKZ				⇑Lg	Lg	05 33 18.6	
	2.0nm,1.1s						

IDC ***31*** *05:54:30.6±0.6, 35°.31N×135°.54E, h363km±6km, mb3.4/22, mb1 3.6/29, mb1mx3.4/61, mbtmp4.2/29, Error ellipse: s-maj=11.4km s-min=8.2km az=119.0*

JMA ***31*** *05:54:31.1±0.1, 35°.39N×135°.54E, h361km±1km, M3.4*

NEIC ***31*** *05:54:31.3±1.5, 35°.31N±0°.07×135°.56E±0°.05, h364km±6km, mb4.1/37, Error ellipse: s-maj=11.0km s-min=4.9km az=155.0*

ISC 31 05:54:30.5±0.5, 35°.35N±0°.05×135°.58E±0°.05, h361km±5km, n122, σ1§26/137, mb4.0/39, 1C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.16**	**245**	P	**Pn**	**05 55 16.4**	**+0.8**
JWT				S	**S**	**05 55 51.6**	**-0.1**
JYTA	**Yamagatataniai**	**0.97**	**75**	P	**Pn**	**05 55 18.3**	**+1.0**
JKG	**Kaga**	**1.11**	**33**	P	**Pn**	**05 55 18.5**	**+0.7**
JKG				eS	**S**	**05 55 55.7**	**-0.1**
JWY	**Kouya**	**1.13**	**180**	P	**Pn**	**05 55 19.1**	**+0.9**
JWY				S	**S**	**05 55 56.1**	**-0.3**
INU	**Inuyama**	**1.17**	**90**	Pn	**Pn**	**05 55 18.9**	**+0.8**
INU				Sn	**S**	**05 55 57.4**	**+1.0**
JIE	**Ise**	**1.33**	**136**	P	**Pn**	**05 55 20.1**	**+1.1**
JIE				S	**S**	**05 55 58.2**	**+0.4**
JGF	**Kuroka**	**1.47**	**80**		**Pn**	**05 55 19.9**	**+0.2**
JTNC	**Tanabenakahech**	**1.53**	**179**	P	**Pn**	**05 55 20.8**	**+0.7**
JTNC				S	**S**	**05 55 59.4**	**-0.4**
JAI	**Aioi**	**1.81**	**211**	P	**Pn**	**05 55 22.5**	**+0.8**
JHS	**Saijyo**	**2.05**	**261**	P	**Pn**	**05 55 23.9**	**+0.7**
JHS				S	**S**	**05 56 05.8**	**+0.2**
JHS	**Saijyo**	**2.05**	**261**		**Pn**	**05 55 23.7**	**+0.5**
JHS				Sn	**S**	**05 56 05.6**	**0.0**
JOI	**OKI**	**2.12**	**297**	P	**Pn**	**05 55 24.2**	**+0.6**
JMN	**Monobe**	**2.14**	**221**	P	**Pn**	**05 55 24.4**	**+0.4**
JMN	**Monobe**	**2.14**	**221**	Pn	**Pn**	**05 55 24.7**	**+0.7**
TK02	**Tokai 2**	**2.28**	**127**	P	**Pn**	**05 55 26.2**	**+1.6**
MJB9	**Matsu-Tunnel**	**2.44**	**60**		**Pn**	**05 55 27.3**	**+1.3**
MAJO	**Matsushiro**	**2.44**	**60**	Pn	**Pn**	**05 55 28.0**	**+2.0**
MAT	**Matsushiro**	**2.44**	**60**	P	**Pn**	**05 55 26.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.44**	**60**	P	**Pn**	**05 55 26.5**	**+0.5**
	0.5nm,0.3s,baz=206,slow=7.3,SNR=11						
MJAR				S	**S**	**05 56 12.9**	**+2.2**
	0.2nm,0.3s,baz=232,slow=35,SNR=4.2						
MJAR	**Matsushiro Arr**	**2.44**	**60**	Pn	**Pn**	**05 55 28.2**	**+2.1**
JGT2	**ShimaneMisato**	**2.53**	**264**	P	**Pn**	**05 55 27.1**	**+0.3**
JGT2				S	**S**	**05 56 11.7**	**-0.4**
JSZ	**Suzu**	**2.54**	**34**	P	**Pn**	**05 55 27.7**	**+1.0**
JHT	**Toyohira**	**2.68**	**256**	P	**Pn**	**05 55 28.6**	**+0.5**
JHT				eS	**S**	**05 56 14.2**	**-0.2**
JRY	**Ryogami san**	**2.78**	**75**	P	**Pn**	**05 55 30.1**	**+1.3**
JTO	**Tosashimizu**	**3.39**	**224**	P	**Pn**	**05 55 35.3**	**+1.0**
JSD	**Sado**	**3.44**	**38**		**Pn**	**05 55 34.8**	**+0.2**
JNU	**Nakatsue**	**4.49**	**242**	P	**Pn**	**05 55 43.7**	**-1.6**
	3.2nm,0.3s,baz=177,slow=23,SNR=28						
JNU				S	**S**	**05 56 45.5**	**-0.1**
	baz=300,slow=22,SNR=3.7						
JMM	**Marumori**	**4.89**	**58**		**Pn**	**05 55 49.2**	**-0.1**
JTU	**Tsushima**	**5.14**	**263**	Pn	**Pn**	**05 55 52.5**	**+0.3**
JSU	**Suzuyama**	**5.75**	**230**	Pn	**Pn**	**05 56 00.1**	**+1.1**
KSRS	**Korea Array**	**6.52**	**291**	P	**P**	**05 56 08.7**	**-0.1**
	7.2nm,0.3s,baz=107,slow=12,SNR=130						
KSAR	**Wonju Array Be**	**6.55**	**291**		**P**	**05 56 08.8**	**-0.3**
KS19	**Wonju Array Si**	**6.58**	**291**		**P**	**05 56 08.9**	**-0.6**
TJN	**Taejon**	**6.75**	**281**		**P**	**05 56 11.5**	**0.0**
JTM	**Tenmabayashi**	**6.94**	**37**	Pn	**Pn**	**05 56 12.1**	**-0.3**
INCN	**Inchon**	**7.52**	**289**	Pn	**Pn**	**05 56 19.7**	**+0.5**
ERM	**Erimo**	**8.90**	**39**	Pn	**Pn**	**05 56 34.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**9.26**	**344**	P	**Pn**	**05 56 40.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.26**	**344**	P	**Pn**	**05 56 40.4**	**+0.9**
	baz=167,slow=11,SNR=29						
USRK	**Ussuriysk Ar.**	**9.26**	**344**		**Pn**	**05 56 40.6**	**+1.1**
JCJ	**Chichijima**	**9.98**	**144**	P	**Pn**	**05 56 44.2**	**-4.2**
	18nm,0.3s,baz=12,slow=17,SNR=14						
JCJ				S	S	05 58 29.4	-12
	27nm,0.3s,baz=302,slow=20,SNR=11						
JCJ	**Chichijima**	**9.98**	**144**	Pn	**Pn**	**05 56 44.7**	**-3.7**
ASAJ	**Asahikawa**	**10.28**	**30**	P	**Pn**	**05 56 50.1**	**-1.5**
	4.8nm,0.3s,baz=225,slow=15,SNR=19						
ASAJ				S	**S**	**05 58 39.5**	**-8.0**
	0.5nm,0.3s,baz=100,slow=26,SNR=4.4						
JKA	**Kamikawa-asahi**	**10.28**	**30**	Pn	**Pn**	**05 56 51.2**	**-0.4**
JOW	**Kunigami**	**10.55**	**218**	P	**P**	**05 56 55.0**	**-0.7**
	6.2nm,0.3s,baz=34,slow=8.4,SNR=7.9						
JOW	**Kunigami**	**10.55**	**218**		**P**	**05 56 55.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**12.78**	**23**		**Pn**	**05 57 21.3**	**+0.3**
KLR	**Kul'dur**	**14.15**	**350**	P	**P**	**05 57 33.7**	**-1.5**
	0.5nm,0.3s,baz=158,slow=7.6,SNR=8.8						
KLR				S	**S**	**06 00 07.5**	**-0.6**
	0.1nm,0.3s,baz=137,slow=20,SNR=2.1						
HNS	**HongShan**	**16.93**	**283**	⇓P	**P**	**05 58 04.3**	**-1.1**
HNS				pmax	pmax		
	comp=Z,16nm,0.9s						
WHN	**Wuhan**	**18.44**	**261**	⇑P	**P**	**05 58 22.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**19.66**	**293**	*eP*	**P**	**05 58 35.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,93nm,4.5s

COLD					IAmb	IAmb	06 03 05.6			
	comp=Z,13nm,1.8s									
ILAR	**Eielson Array**	**53.41**	**31**	P	**P**		**06 03 14.3**	**+0.3**		
	comp=Z,1.9nm,0.5s,baz=261,slow=6.5,SNR=11									
BMAR	**Burnt Mountain**	**54.05**	**28**	P	**P**		**06 03 21.0**	**+2.4**		
WB0	**Warramunga Arr**	**54.83**	**181**	P	**P**		**06 03 23.9**	**-0.6**		
WRAB	**Tennant Creek**	**54.99**	**181**	P	**P**		**06 03 25.0**	**-0.8**		
WRAB					IAmb	IAmb	06 05 17.0			
	comp=Z,6.3nm,0.6s									
WB2	**Warramunga Arr**	**55.00**	**181**	P	**P**		**06 03 25.2**	**-0.6**		
WB2					IAmb	IAmb	06 03 25.9			
	comp=Z,6.5nm,0.9s									
WRA	**Warramunga Arr**	**55.00**	**181**	P	**P**		**06 03 25.1**	**-0.7**		
	comp=Z,3.5nm,0.4s,baz=356,slow=7.6,SNR=163									
WRA	**Warramunga Arr**	**55.00**	**181**	P	**P**		**06 03 25.2**	**-0.6**		
WR0	**Warramunga Arr**	**55.02**	**181**	P	**P**		**06 03 25.4**	**-0.5**		
WR0					IAmb	IAmb	06 03 25.9			
	comp=Z,7.2nm,0.5s									
ABKAR	**Akbulak array**	**55.39**	**310**	P	**P**		**06 03 27.9**	**-0.4**		
BCAR	**Beaver Creek A**	**55.91**	**33**	P	**P**		**06 03 33.8**	**+2.1**		
M27K	**Edge Creek, AK**	**56.01**	**34**	P	**P**		**06 03 34.2**	**+1.6**		
M27K					IAmb	IAmb	06 03 34.7			
	comp=Z,6.4nm,0.8s									
BARN	**Barnard Glacie**	**56.40**	**35**	P	**P**		**06 03 36.9**	**+1.4**		
BARN					IAmb	IAmb	06 04 44.8			
	comp=Z,34nm,1.9s									
INK	**Inuvik**	**58.00**	**26**	P	**P**		**06 03 46.8**	**+0.8**		
	comp=Z,3.5nm,0.4s,baz=297,slow=6.4,SNR=12									
INK	**Inuvik**	**58.00**	**26**	P	**P**		**06 03 47.0**	**+0.9**		
INK					IAmb	IAmb	06 03 47.5			
	comp=Z,3.8nm,0.5s									
M30M	**Minto, Yukon**	**58.25**	**33**	P	**P**		**06 03 50.1**	**+2.1**		
AS31	**Alice Springs**	**58.72**	**182**		**P**		**06 03 51.3**	**-0.3**		
ASAR	**Alice Springs**	**58.72**	**182**	P	**P**		**06 03 51.3**	**-0.3**		
	comp=Z,1.4nm,0.3s,baz=13,slow=14,SNR=32									
ASAR	**Alice Springs**	**58.72**	**182**	P	**P**		**06 03 51.6**	**0.0**		
M31M	**Drury Creek, Y**	**59.43**	**33**	P	**P**		**06 03 57.3**	**+1.3**		
M31M					IAmb	IAmb	06 04 18.4			
	comp=Z,10nm,1.6s									
A36M	**Sachs Harbour**	**59.54**	**21**		**P**		**06 03 57.8**	**+1.3**		
A36M					IAmb	IAmb	06 03 58.2			
	comp=Z,7.5nm,0.8s									
WHY	**Whitehorse**	**59.70**	**35**	P	**P**		**06 03 59.6**	**+1.7**		
WHY					IAmb	IAmb	06 05 17.0			
	comp=Z,27nm,1.9s									
C36M	**Paulatuk**	**60.89**	**24**		**P**		**06 04 06.6**	**+0.9**		
SPITS	**Spitsbergen Ar**	**61.23**	**348**	P	**P**		**06 04 07.3**	**-0.5**		
	comp=Z,3.0nm,0.7s,baz=126,slow=17,SNR=6.3									
EUNU	**Eureka**	**62.51**	**8**	P	**P**		**06 04 16.4**	**+0.2**		
EUNU					IAmb	IAmb	06 04 17.7			
	comp=Z,3.6nm,0.8s									
ARCES	**ARCESS Array B**	**63.86**	**338**	P	**P**		**06 04 25.2**	**+0.1**		
	comp=Z,2.6nm,0.6s,baz=61,slow=8.6,SNR=7.4									
ARCES	**ARCESS Array B**	**63.86**	**338**	P	**P**		**06 04 25.5**	**+0.3**		
RES	**Resolute Bay**	**65.35**	**13**	P	**P**		**06 04 35.1**	**+0.6**		
RES					IAmb	IAmb	06 04 35.5			
	comp=Z,3.8nm,0.9s									
STKA	**Stephens Creek**	**67.11**	**174**	P	**P**		**06 04 45.3**	**-0.9**		
	comp=Z,1.1nm,0.5s,baz=22,slow=8.8,SNR=4.3									
STKA	**Stephens Creek**	**67.11**	**174**	P	**P**		**06 04 44.6**	**-1.5**		
STKA					IAmb	IAmb	06 05 24.2			
	comp=Z,5.3nm,1.9s									
TULEG	**Thule**	**67.32**	**6**	P	**P**		**06 04 47.0**	**+0.1**		
YKA	**Yellowknife Ar**	**67.57**	**28**	P	**P**		**06 04 49.1**	**+0.4**		
	comp=Z,0.6nm,0.4s,baz=300,slow=6.2,SNR=22									
YKA	**Yellowknife Ar**	**67.57**	**28**	P	**P**		**06 04 49.3**	**+0.7**		
BBOO	**Buckleboo**	**67.81**	**180**	P	**P**		**06 04 50.2**	**-0.2**		
FINES	**FINESS Array B**	**68.04**	**331**	P	**P**		**06 04 51.0**	**-0.5**		
	comp=Z,1.0nm,0.4s,baz=61,slow=6.6,SNR=10									
FINES	**FINESS Array B**	**68.04**	**331**	P	**P**		**06 04 51.3**	**-0.3**		
AKASG	**Malin Array Be**	**72.65**	**320**	P	**P**		**06 05 19.0**	**-0.5**		
	comp=Z,0.2nm,0.3s,baz=49,slow=6.1,SNR=2.3									
NC405	**NORSAR Array S**	**73.60**	**335**	P	**P**		**06 05 24.6**	**-0.2**		
NOA	**NORSAR Array B**	**73.82**	**335**	P	**P**		**06 05 25.4**	**-0.7**		
	comp=Z,0.5nm,0.6s,baz=44,slow=5.5,SNR=3.3									
FCC	**Fort Churchill**	**77.53**	**24**	P	**P**		**06 05 47.6**	**+0.8**		
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**		**06 06 12.3**	**+0.3**		
	comp=Z,0.6nm,0.8s,baz=357,slow=1.6,SNR=5.9									
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**		**06 06 13.2**	**+1.1**		
EKA	**Eskdalemuir Ar**	**83.02**	**338**	P	**P**		**06 06 15.5**	**-0.4**		
	comp=Z,0.5nm,0.5s,baz=27,slow=4.8,SNR=4.7									
ULM	**Lac du Bonnet**	**83.42**	**30**	P	**P**		**06 06 18.2**	**+0.1**		
	comp=Z,1.6nm,0.5s,baz=160,slow=3.4,SNR=3.3									
TXAR	**Lajitas Array**	**94.83**	**49**	P	**P**		**06 07 13.2**	**+0.8**		
	comp=Z,0.3nm,0.8s,baz=343,slow=2.8,SNR=2.3									

*NNC **31** 06:01:32.3±1.4, 55°.40N×85°.82E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=16.5km s-min=8.6km az=105.0, Suspected Mining explosion.*

IDC 31 06:01:33.2±3.3, 54°.09N×87°.46E, h0km, mb1 2.6/2, mb1mx2.5/40, mbtmp2.6/2, ML2.2/2, 7C-5D, Error ellipse: s-maj=26.1km s-min=16.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**266**	*i*			06 11 43.9	
	baz=86,slow=333,SNR=4.8							
ZAA0	**Zalesovo Array**	**1.57**	**266**	⇑P		Pn	06 02 00.8	-1.4
	0.2nm,0.3s,baz=80,slow=15							
ZAA0				⇓S		Sn	06 02 22.4	-0.8
	3.5nm,0.8s,baz=86,slow=27							
ZALV	**Zalesovo Beam**	**1.57**	**266**	Pg		Pg	06 02 00.9	-1.3
	1.6nm,0.3s,baz=83,slow=16,SNR=19							
ZALV				Lg		Lg	06 02 23.1	
	3.1nm,0.3s,baz=84,slow=26,SNR=12							
KURK	**Kurchatov**	**6.38**	**242**	⇓Pn		Pn	06 03 08.6	+0.3
	1.8nm,0.8s							
KURK				⇓Sn		Sn	06 04 23.5	+1.7
	1.0nm,0.6s							
KURK				⇑Lg		Lg	06 04 53.3	
	7.8nm,1.7s							
KURBB	**Kurchatov Arra**	**6.48**	**241**	Pn		Pn	06 03 10.2	+0.5
	0.0nm,0.3s,baz=54,slow=14,SNR=2.6							
KURBB				Lg		Lg	06 04 58.7	
	0.0nm,0.3s,baz=53,slow=24,SNR=3.3							
KURBB	**Kurchatov Arra**	**6.48**	**241**	⇑Pn		Pn	06 03 08.5	-1.2
	3.1nm,1.1s							
KURBB				⇑Sn		Sn	06 04 24.0	-0.2
	1.8nm,0.6s							
KURBB				⇑Lg		Lg	06 04 59.8	
	2.9nm,0.7s							
MK31	**Makanchi Array**	**8.01**	**206**	⇓Pn		Pg	06 04 39.5	+33
	0.1nm,0.2s							
MK31				⇓Sn		Sb	06 05 24.5	-4.2
	0.1nm,0.2s							
MK31				⇑Lg		Lg	06 06 13.0	
	3.7nm,1.2s							
MKAR	**Makanchi Array**	**8.01**	**206**	Pn		Pn	06 03 32.1	+1.3
	0.0nm,0.3s,baz=28,slow=14,SNR=1.7							
MKAR				Sn		Sn	06 05 02.3	+0.3
	0.1nm,0.3s,baz=24,slow=32,SNR=2.2							
MKAR				Lg		Lg	06 05 46.9	
	0.1nm,0.3s,baz=24,slow=25,SNR=2.3							
MAKZ	**Makanchi**	**8.08**	**208**	⇑Lg		Lg	06 06 14.4	
	2.9nm,1.2s							

IDC 31 06:05:38.1±2.9, 53°.53N×87°.80E, h0km, mb1 2.8/2, mb1mx2.8/36, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.7km s-min=16.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**285**	*i*			06 16 07.5	
	baz=103,slow=331,SNR=3.5							
ZALV	**Zalesovo Beam**	**1.82**	**285**	Pn		Pn	06 06 09.3	-1.3
	1.9nm,0.3s,baz=102,slow=14,SNR=22							
ZALV				Lg		Lg	06 06 36.0	
	4.1nm,0.3s,baz=104,slow=24,SNR=15							
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn		Pn	06 07 14.4	+0.7
	0.1nm,0.3s,baz=59,slow=14,SNR=8.2							
KURBB				Lg		Lg	06 09 02.4	
	0.0nm,0.3s,baz=62,slow=32,SNR=4.6							
MKAR	**Makanchi Array**	**7.61**	**210**	Pn		Pn	06 07 31.5	+1.3
	0.1nm,0.3s,baz=29,slow=14,SNR=5.9							
MKAR				Lg		Lg	06 09 39.2	
	0.1nm,0.3s,baz=28,slow=25,SNR=2.6							

IDC 31 06:06:31.1±3.3, 54°.38N×86°.70E, h0km, mb1 3.1/2, mb1mx2.9/36, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=27.4km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**249**	*i*			06 13 40.0	
	baz=70,slow=331,SNR=6.1							
ZALV	**Zalesovo Beam**	**1.19**	**249**	Pg		Pg	06 06 52.2	-1.6
	2.1nm,0.3s,baz=66,slow=16,SNR=5.1							
ZALV				Lg		Lg	06 07 10.0	
	0.7nm,0.3s,baz=65,slow=27,SNR=1.6							
KURBB	**Kurchatov Arra**	**6.25**	**236**	Pn		Pn	06 08 05.5	+1.0
	0.2nm,0.3s,baz=54,slow=14,SNR=12							
KURBB				Lg		Lg	06 09 50.4	
	0.0nm,0.3s,baz=60,slow=33,SNR=3.3							
MKAR	**Makanchi Array**	**8.10**	**202**	Pn		Pn	06 08 30.5	+0.6
	0.1nm,0.3s,baz=25,slow=13,SNR=2.9							
MKAR				Lg		Lg	06 10 50.3	
	0.0nm,0.3s,baz=14,slow=36,SNR=2.3							

WEL 31 06:13:18.1±0.6, 38°.3±3°×17°.8E±°, h24km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.13**	**129**	P		Pb	06 13 23.4	+0.5
CNGZ	**Carnagh Statio**	**0.13**	**129**	S		Sb	06 13 28.9	+2.8
CNGZ	**Carnagh Statio**	**0.13**	**129**	P		Pb	06 13 23.4	+0.5
CNGZ				S		Sb	06 13 28.9	+2.8
TKGZ	**Te Karaka**	**0.18**	**258**	P		Pb	06 13 24.4	+0.9
TKGZ	**Te Karaka**	**0.18**	**258**	S		Sb	06 13 30.1	+2.9
TKGZ	**Te Karaka**	**0.18**	**258**	P		Pb	06 13 24.4	+0.9
TKGZ				S		Sb	06 13 30.1	+2.9
TWGZ	**Tauwhareparae**	**0.24**	**341**	P		Pb	06 13 25.2	+0.9
TWGZ	**Tauwhareparae**	**0.24**	**341**	S		Sb	06 13 31.3	+2.9
TWGZ	**Tauwhareparae**	**0.24**	**341**	P		Pb	06 13 25.2	+0.9
TWGZ				S		Sb	06 13 31.3	+2.9
RIGZ	**Rimuhau**	**0.39**	**219**	P		Pn	06 13 27.5	-0.8
RIGZ	**Rimuhau**	**0.39**	**219**	S		Sn	06 13 35.4	+0.5
RIGZ	**Rimuhau**	**0.39**	**219**	P		Pn	06 13 27.5	-0.8
RIGZ				S		Sn	06 13 35.4	+0.5
MWZ	**Matawai**	**0.44**	**279**	P		Pb	06 13 28.0	+0.8
MWZ	**Matawai**	**0.44**	**279**	S		Sn	06 13 36.0	-0.1
MWZ	**Matawai**	**0.44**	**279**	P		Pb	06 13 28.0	+0.8
MWZ				S		Sn	06 13 36.0	-0.1
PKGZ	**Pakihiroa**	**0.51**	**360**	P		Pn	06 13 29.3	-0.6
PKGZ	**Pakihiroa**	**0.51**	**360**	S		Sn	06 13 37.9	-0.1
PKGZ	**Pakihiroa**	**0.51**	**360**	P		Pn	06 13 29.3	-0.6
PKGZ				S		Sn	06 13 37.9	-0.1
RAGZ	**Rawiri**	**0.53**	**260**	P		Pn	06 13 29.7	-0.5
RAGZ	**Rawiri**	**0.53**	**260**	S		Sn	06 13 39.5	+1.1
RAGZ	**Rawiri**	**0.53**	**260**	P		Pn	06 13 29.7	-0.5
RAGZ				S		Sn	06 13 39.5	+1.1
RUGZ	**Raukumara Rang**	**0.54**	**324**	P		Pb	06 13 29.4	+0.4
RUGZ	**Raukumara Rang**	**0.54**	**324**	S		Sn	06 13 38.2	-0.5
RUGZ	**Raukumara Rang**	**0.54**	**324**	P		Pb	06 13 29.4	+0.4
RUGZ				S		Sn	06 13 38.2	-0.5
WMGZ	**Waiomatatini S**	**0.64**	**25**	P		Pn	06 13 31.1	-0.5
WMGZ	**Waiomatatini S**	**0.64**	**25**	S		Sn	06 13 41.9	+0.9
WMGZ	**Waiomatatini S**	**0.64**	**25**	P		Pn	06 13 31.1	-0.5
WMGZ				S		Sn	06 13 41.9	+0.9
HAZ	**Te Kaha**	**0.69**	**340**	P		Pb	06 13 31.5	+0.1
HAZ	**Te Kaha**	**0.69**	**340**	S		Sn	06 13 42.9	+0.8
HAZ	**Te Kaha**	**0.69**	**340**	P		Pb	06 13 31.5	+0.1
HAZ				S		Sn	06 13 42.9	+0.8
URZ	**Urewera**	**0.77**	**280**	P		Pn	06 13 33.3	-0.2
URZ	**Urewera**	**0.77**	**280**	S		Sn	06 13 44.7	+0.3
URZ	**Urewera**	**0.77**	**280**	P		Pn	06 13 33.3	-0.2
URZ				S		Sn	06 13 44.7	+0.3
MXZ	**Matakaoa Point**	**0.86**	**12**	P		Pb	06 13 34.4	+0.1
MXZ	**Matakaoa Point**	**0.86**	**12**	S		Sn	06 13 47.8	+1.5
MXZ	**Matakaoa Point**	**0.86**	**12**	P		Pb	06 13 34.4	+0.1
MXZ				S		Sn	06 13 47.8	+1.5
RTZ	**Ruatahuna**	**0.89**	**256**	P		Pn	06 13 35.5	+0.4
RTZ	**Ruatahuna**	**0.89**	**256**	P		Pn	06 13 35.5	+0.4
MTHZ	**Maungataniwha**	**1.07**	**245**	P		Pn	06 13 36.6	-1.0
MTHZ	**Maungataniwha**	**1.07**	**245**	P		Pn	06 13 36.6	-1.0

IDC 31 06:14:48.8±3.3, 54°.17N×86°.33E, h0km, mb1 2.9/1, mb1mx2.8/41, mbtmp2.9/1, ML2.7/1, Error ellipse: s-maj=22.8km s-min=13.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**257**	*i*			06 21 00.0	
	baz=77,slow=325,SNR=3.1							
ZALV	**Zalesovo Beam**	**0.92**	**257**	Pg		Pg	06 15 05.3	-1.0
	3.9nm,0.3s,baz=75,slow=17,SNR=43							
ZALV				Lg		Lg	06 15 19.6	
	3.7nm,0.3s,baz=75,slow=25,SNR=20							
MKAR	**Makanchi Array**	**7.82**	**201**	Pn		Pn	06 16 45.6	+1.9
	0.1nm,0.3s,baz=22,slow=14,SNR=2.8							
MKAR				Lg		Lg	06 18 56.6	
	0.1nm,0.3s,baz=23,slow=31,SNR=4.8							

*IDC **31** 06:25:34.6±1.9, 37°.43N×78°.17E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.5/43, mbtmp3.7/9, ML3.7/3, MS2.9/8, Ms1 2.9/8, ms1mx2.6/89, Error ellipse: s-maj=40.0km s-min=24.8km az=115.0*

*NNC **31** 06:25:41.1±3.1, 37°.75N×78°.03E, h0km, mb4.5, mpv4.0, Error ellipse: s-maj=27.8km s-min=21.1km az=112.0*

ISC 31 06:25:37.7±0.7, 37°.54N±0°.06×78°.20E±0°.08, h10km, n38, σ1895/37, mb3.6/5, MS3.1/4, 11C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SATY	**Saty**	**5.52**	**2**	Pg		**Pb**	**06 27 18.2**	**+4.0**
	21nm,0.5s							
SATY				Lg		Lg	06 28 33.2	
	102nm,1.5s							
TNSS	**Tian-Shan**	**5.58**	**350**	Pg		**Pb**	**06 27 17.0**	**+1.7**
	36nm,1.0s							
TNSS				Lg		Lg	06 28 31.0	
	21nm,1.1s							
CHCP	**Chirah Chowk**	**5.58**	**228**	P		**Pn**	**06 27 03.6**	**+2.8**
UZB	**Uzynbulak**	**5.64**	**6**	Pg		**Pb**	**06 27 17.2**	**+1.0**
	10nm,0.4s							
UZB				Lg		Lg	06 28 31.5	
	38nm,0.4s							
MDOK	**Medeo**	**5.69**	**351**	⇓Pg		**Pb**	**06 27 19.0**	**+1.9**
	36nm,0.6s							
MDOK				⇑Lg		Lg	06 28 35.3	
	68nm,0.8s							
TKM2	**Tokmak 2**	**5.73**	**340**	⇑Pn		**Pn**	**06 27 06.1**	**+3.1**
	4.0nm,0.7s							
TKM2				⇓Pg		Pb	06 27 23.3	+5.4
	20nm,0.8s							
TKM2				⇑Lg		Lg	06 28 37.3	
	60nm,1.3s							
MTBS	**Maitube**	**5.75**	**347**	Pg		**Pb**	**06 27 20.1**	**+2.1**
	17nm,0.5s							
MTBS				Lg		Lg	06 28 36.6	
	20nm,0.5s							
KOTS	**Kotyrbulak**	**5.75**	**352**	Pg		**Pb**	**06 27 20.8**	**+2.6**
	23nm,0.5s							
KOTS				Lg		Lg	06 28 37.6	
	52nm,0.4s							
AAK	**Ala-Archa**	**5.83**	**332**	Pn		**Pn**	**06 27 06.0**	**+1.6**
	1.5nm,0.3s,baz=135,slow=5.1,SNR=17							
AAK				Pg		**Pb**	**06 27 17.9**	**-1.6**
	4.8nm,0.3s,baz=163,slow=11,SNR=13							
AAK				Lg		Lg	06 28 36.7	
	4.0nm,0.3s,baz=232,slow=19,SNR=19							
AAK				LR		LR	06 29 44.3	
	comp=Z,60nm,21.7s,baz=167,slow=42							
PDGK	**Podgornoye**	**5.87**	**9**	⇑Pn		**Pn**	**06 27 06.0**	**+1.2**
	3.7nm,0.4s							
PDGK				⇑Pg		**Pg**	**06 27 29.3**	**-0.7**
	15nm,0.6s							
PDGK				⇓Lg		Lg	06 28 46.4	
	91nm,0.9s							
CHMS	**Chumysh**	**6.06**	**335**	⇑Pg		**Pb**	**06 27 27.1**	**+3.8**
	15nm,0.6s							
CHMS				⇓Lg		Lg	06 28 44.3	
	27nm,0.7s							
KTBS	**Karatobe**	**6.27**	**350**	Pg		**Pb**	**06 27 28.5**	**+1.5**
	11nm,0.6s							
KTBS				Lg		Lg	06 28 51.8	
	24nm,1.0s							
CEP	**Cherat**	**6.32**	**236**	P		**Pn**	**06 27 11.8**	**+0.7**
CEP				S		**Sn**	**06 28 21.0**	**-2.4**
THW	**Thamme Wali**	**7.10**	**230**	P		**Pn**	**06 27 22.2**	**+0.6**
KK09	**Karatay Array**	**8.10**	**316**	⇑Pn		**Pn**	**06 27 38.6**	**+3.2**
	0.6nm,0.3s							
KK09				⇑Pg		Pb	06 28 04.8	+6.7
	5.1nm,0.7s,baz=135,slow=15							
KK09				⇓Lg		Lg	06 29 48.8	
	7.5nm,0.7s,baz=134,slow=27							
MAKZ	**Makanchi**	**9.68**	**16**	⇑Pn		**Pn**	**06 27 57.6**	**+0.7**
	1.4nm,0.4s							
MAKZ				⇓Lg		Lg	06 29 40.4	
	1.9nm,0.6s							
MK31	**Makanchi Array**	**9.73**	**17**	⇑Pn		**Pn**	**06 27 58.3**	**+0.6**
	0.5nm,0.2s,baz=200,slow=12,SNR=134							
MK31				⇑Pg			06 28 16.1	
	0.7nm,0.3s							
MK31				Lg		Lg	06 29 41.4	
	8.7nm,0.7s,baz=202,slow=23,SNR=7.2							
MKAR	**Makanchi Array**	**9.73**	**17**	Pn		**Pn**	**06 27 58.5**	**+0.8**
	1.3nm,0.3s,baz=201,slow=13,SNR=112							
MKAR				Sn		**Sn**	**06 29 42.9**	**-4.1**
	1.6nm,0.3s,baz=198,slow=23,SNR=8.3							
MKAR				LR		LR	06 32 12.1	
	comp=Z,45nm,21.3s,baz=198,slow=40							
PYUN	**Piuthan**	**10.23**	**155**	*eP*		**Pn**	**06 28 05.4**	**+0.6**
	13nm,0.3s							
DANN	**Dangsing**	**10.28**	**151**	*eP*		**Pn**	**06 28 06.3**	**+0.8**
	10nm,0.3s							
KOLN	**Koldanda**	**10.75**	**153**	*eP*		**Pn**	**06 28 12.4**	**+0.6**
	7.9nm,0.2s							
GKN	**Gorkha**	**10.94**	**149**	*eP*		**Pn**	**06 28 16.0**	**+1.6**
	32nm,0.3s							
GUN	**Gumba**	**11.57**	**144**	*eP*		**Pn**	**06 28 24.5**	**+1.3**
	9.0nm,0.4s							
PKI	**Pulchoki**	**11.64**	**147**	*eP*		**Pn**	**06 28 24.2**	**0.0**
JIRN	**Jiri**	**11.93**	**143**	*eP*		**Pn**	**06 28 29.6**	**+1.5**
	18nm,0.3s							
RAMN	**Ramite**	**12.72**	**144**	*eP*		**Pn**	**06 28 38.5**	**-0.3**
	11nm,0.4s							
KURBB	**Kurchatov Arra**	**13.08**	**1**	Pn		**Pn**	**06 28 43.3**	**-0.1**
	0.0nm,0.3s,baz=187,slow=13,SNR=7.9							
KURBB				Lg		Lg	06 32 34.0	
	0.0nm,0.3s,baz=182,slow=26,SNR=4.6							
KURBB				LR		LR	06 34 35.1	
	comp=Z,37nm,19.1s,baz=149,slow=41							
BVAR	**Borovoye Array**	**16.42**	**343**	Lg		Lg	06 34 21.9	
	0.1nm,0.3s,baz=237,slow=46,SNR=1.6							
ZALV	**Zalesovo Beam**	**17.04**	**13**	LR		LR	06 35 42.3	
	comp=Z,21nm,18.1s,baz=360,slow=35							
AKTO	**Aktyubinsk**	**19.34**	**318**	P		**P**	**06 30 02.3**	**-0.8**
	0.2nm,0.3s,baz=126,slow=12,SNR=2.7							
WSAR	**Wadi Sarin**	**22.03**	**235**	P		**P**	**06 30 29.7**	**-2.7**
	3.0nm,0.8s,baz=190,slow=16,SNR=1.6							
ARU	**Arti**	**23.02**	**331**	LR		LR	06 40 25.2	
	comp=Z,32nm,18.8s,baz=98,slow=38							
FINES	**FINESS Array B**	**39.95**	**324**	P		**P**	**06 33 11.3**	**-0.6**
	0.5nm,0.3s,baz=98,slow=9.8,SNR=5.6							
FINES				LR		LR	06 52 39.1	
	comp=Z,20nm,18.5s,baz=270,slow=41							
ARCES	**ARCESS Array B**	**42.49**	**336**	P		**P**	**06 33 32.1**	**-0.5**
	3.6nm,0.9s,baz=102,slow=8.6,SNR=1.9							
NOA	**NORSAR Array B**	**47.06**	**322**	LR		LR	06 54 52.4	
	comp=Z,21nm,18.1s,baz=60,slow=37							
INK	**Inuvik**	**71.83**	**12**	LR		LR	07 14 25.3	
	comp=Z,28nm,18.1s,baz=293,slow=41							
ILAR	**Eielson Array**	**72.08**	**19**	P		**P**	**06 37 00.9**	**-0.8**
	0.3nm,0.7s,baz=316,slow=5.0,SNR=4.6							
YKA	**Yellowknife Ar**	**79.78**	**6**	P		**P**	**06 37 44.7**	**-0.9**
	0.3nm,0.7s,baz=341,slow=5.3,SNR=6.2							

IDC 31 06:28:36.6±2.8, 54°.10N×86°.45E, h0km, mb1 3.4/2, mb1mx3.1/41, mbtmp3.4/2, ML2.9/2, Error ellipse: s-maj=22.0km s-min=14.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**262**	*i*			06 35 14.7	
	baz=83,slow=323,SNR=4.4							
ZALV	**Zalesovo Beam**	**0.97**	**262**	Pg		Pg	06 28 53.6	-1.7
	1.9nm,0.3s,baz=78,slow=17,SNR=27							
ZALV				Lg		Lg	06 29 09.4	
	2.7nm,0.3s,baz=81,sl

*BGR **31** 07:15:12.2±0.0,30.˙27N×50.˙85E,h33km,mb4.3*
*TEH **31** 07:15:15.3,31.˙93N×50.˙82E,h8km,ML4.9*
*MOS **31** 07:15:15.0±1.1,31.˙80N×50.˙64E,h7km,mb5.0/50, MS4.1/14,Error ellipse: s-maj=4.6km s-min=3.7km az=104.7*
*NEIC **31** 07:15:17.6±1.6,31.˙87N±0.˙05×50.˙67E±0.˙08,h10km±1km, mb4.9/107,mb_Lg4.9(TEH),Error ellipse: s-maj=10.9km s-min=8.0km az=277.0*
*THR **31** 07:15:17.5±1.1,31.˙87N×50.˙76E,h14km±8km,ML4.5*
*GCMT **31** 07:15:18.6±0.3,31.˙79N±0.˙02×50.˙74E±0.˙02,h21km±1km, MW4.9/97,Moment Tensor Solution. s19,c19; s97,c128; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.33±.15; Mθθ-2.64±.12; Mϕϕ2.97±.13; Mrθ0.26±.23; Mrϕ0.88±.11; Mθϕ-0.66±.20; Best double couple: M◎3.01900×10¹⁶ NP1:ϕs234.00000°,δ77.00000°,λ1.00000°. NP2: ϕs144.00000°,δ89.00000°,λ167.00000°. Principal axes: T 3.2120, Plg10.0000°, Azm98.0000°; N -0.3860, Plg77.0000°, Azm319.0000°; P -2.8260, Plg8.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 07:15:18.6±1.7,31.˙97N×50.˙66E,h16km±10km,mb4.5/43, mb1 4.5/50,mb1mx4.4/67,mbtmp4.6/50,ML4.1/5,MS4.2/64, Ms1 4.2/64,ms1mx4.1/85 Error ellipse: s-maj=10.6km s-min=7.7km az=7.0*
*DSN **31** 07:15:19.9±0.9,31.˙60N×50.˙88E,h10km,mb5.1/1, ML4.6/12,Error ellipse: s-maj=12.7km s-min=7.5km az=88.0*
*GII **31** 07:15:20.6±0.0,31.˙78N×50.˙69E,h30km*
*OMAN **31** 07:15:27.1±0.9,31.˙39N×51.˙17E,h33km,mb4.9/29, ms4.1/5, Error ellipse: s-maj=19.1km s-min=12.3km az=322.0*

ISC 31 07:15:17.9±0.6,31.˚85N±0.˚02×50.˚77E±0.˚03,h14km±3km, n814,σ1§63/857,mb4.9/178,MS4.2/89,52C-11D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBRJ	**Brojen**	**0.42**	**82**	*e*Pg	**Pg**	**07 15 23.1**	**-3.3**
IBRJ				*e*Sg	**Sg**	**07 15 29.5**	**-2.7**
SHK1	**Shahrekord**	**0.48**	**11**	*e*Pg	**Pg**	**07 15 23.4**	**-4.2**
SHK1				*e*Sg	**Sg**	**07 15 29.9**	**-4.3**
IPIR	**Pirpir**	**0.84**	**7**	*e*Pg	**Pg**	**07 15 30.3**	**-3.9**
IPIR				*e*Sg	**Sg**	**07 15 41.5**	**-3.8**
KLNJ	**Kolanjah**	**1.09**	**140**	*e*Pg	**Pg**	**07 15 36.6**	**-2.5**
KLNJ				*e*Sg	**Sn**	**07 15 54.4**	**+0.2**
KLNJ				*e*		07 16 05.5	
	comp=Z,79μm,0.6s						
IGAR	**Gharneh**	**1.21**	**63**	*e*Pg	**Pb**	**07 15 37.3**	**-3.4**
AMIS	**Naft Sefid**	**1.28**	**262**	*e*Pg	**Pn**	**07 15 40.6**	**-0.7**
ABEH	**Behbahan**	**1.32**	**200**	*e*Pg	**Pg**	**07 15 42.9**	**-0.5**
IRAM	**Ramesheh**	**1.37**	**91**	*e*Pg	**Pn**	**07 15 40.7**	**-2.1**
IKLH	**Kolahrood**	**1.61**	**25**	*e*Pn	**Pn**	**07 15 44.0**	**-2.2**
IKLH				*e*		07 16 14.1	
	comp=Z,77μm,0.6s						
IZEF	**Zefreh**	**1.68**	**51**	*e*Pg	**Pn**	**07 15 45.6**	**-1.5**
AHWZ	**Ahwaz**	**1.89**	**255**	*e*Pn	**Pn**	**07 15 51.0**	**+1.3**
QAMS	**Qamsar**	**1.95**	**15**	*e*Pn	**Pn**	**07 15 49.9**	**-0.9**
QAMS				*e*		07 16 28.0	
	comp=Z,83μm,0.5s						
NASN	**Na'in**	**1.97**	**61**	*e*Pn	**Pn**	**07 15 52.9**	**+1.8**
NASN	**Na'in**	**1.97**	**61**	*e*Pg	**Pn**	**07 15 52.9**	**+1.8**
KHMZ	**Khomeyn**	**2.00**	**340**	*e*Pg	**Pn**	**07 15 52.8**	**+1.3**
KHMZ	**Khomeyn**	**2.00**	**340**	*e*Pg	**Pn**	**07 15 52.8**	**+1.3**
KHMZ				*e*Sg	**Sb**	**07 16 20.8**	**+1.6**
KHMZ				IAML		07 16 29.9	
	comp=N,3μm,0.7s						
KHMZ				IAML		07 16 31.9	
	comp=E,3μm,0.5s						
KAZ1	**Kazerun**	**2.34**	**161**	*e*Pn	**Pn**	**07 15 57.4**	**+1.4**
KAZ1				*e*		07 17 03.8	
	comp=Z,79μm,0.9s						
KRSH	**Karshahi**	**2.40**	**28**	*e*Pn	**Pn**	**07 15 56.3**	**-0.7**
BMDN	**Meydan**	**2.45**	**318**	*e*Pn	**Pn**	**07 15 57.8**	**+0.2**
ISAD	**Sadrabad**	**2.48**	**88**	*e*Pn	**Pn**	**07 15 58.7**	**+0.6**
ISAD				*e*		07 16 05.2	
	comp=Z,57μm,0.7s						
GHVR	**GHOM**	**2.66**	**9**	*e*Pn	**Pb**	**07 16 06.1**	**+0.8**
GHVR	**GHOM**	**2.66**	**9**	*e*Pn	**Pn**	**07 16 02.5**	**+2.1**
GHVR				IAML		07 16 57.2	
	comp=E,1μm,0.7s						
GHVR				IAML		07 17 01.6	
	comp=N,2μm,0.8s						
SHI	**Shiraz**	**2.66**	**145**	*e*Pn	**Pn**	**07 16 01.4**	**+0.9**
SHI				*e*		07 16 54.2	
	comp=Z,33μm,0.8s						
ASAO	**Ashtian**	**2.76**	**347**	*e*Pn	**Pn**	**07 16 03.8**	**+1.8**
ASAO	**Ashtian**	**2.76**	**347**	*e*Pn	**Pn**	**07 16 03.8**	**+1.8**
ASAO				*e*Sg	**Sb**	**07 16 43.2**	**+2.2**
ASAO				IAML		07 16 55.1	
	comp=E,1μm,0.6s						
ASAO				IAML		07 16 59.0	
	comp=N,2μm,0.7s						
ISFB	**Sefidab**	**2.78**	**26**	*e*Pn	**Pn**	**07 16 01.9**	**-0.2**
IDOB	**Doab**	**2.92**	**312**	*e*Pn	**Pn**	**07 16 04.1**	**+0.1**
HSAM	**Samen**	**2.98**	**323**	*e*Pn	**Pn**	**07 16 05.3**	**+0.4**
HSAM				*e*		07 16 57.3	
	comp=Z,22μm,1.3s						
IKFM	**Kafar-mosalman**	**2.98**	**305**	*e*Pn	**Pn**	**07 16 05.2**	**+0.5**
IKFM				*e*		07 17 01.4	
	comp=Z,70μm,1.0s						
IQOM	**Qom**	**2.99**	**5**	*e*Pn	**Pn**	**07 16 04.1**	**-1.1**
AHBU	**AHRAM**	**3.01**	**171**	*e*Pn	**Pn**	**07 16 06.8**	**+1.7**
DHL1	**Dehloran**	**3.07**	**287**	*e*Pn	**Pn**	**07 16 06.5**	**+0.5**
ICHK	**Chekchek**	**3.11**	**82**	*e*Pn	**Pn**	**07 16 08.0**	**+1.2**
IVRN	**Varamin**	**3.24**	**14**	*e*Pn	**Pn**	**07 16 08.0**	**-0.3**
HAGD	**Aghdareh**	**3.26**	**336**	*e*Pn	**Pn**	**07 16 09.8**	**+1.0**
HAGD				*e*		07 17 09.0	
	comp=Z,26μm,0.8s						
YZKH	**Yazd**	**3.29**	**80**	*e*Pn	**Pn**	**07 16 11.4**	**+2.4**
YZKH	**Yazd**	**3.29**	**80**	*e*Pn	**Pn**	**07 16 11.4**	**+2.4**
IMEH	**Mehriz**	**3.31**	**97**	*e*Pn	**Pn**	**07 16 11.6**	**+2.1**
IMEH				*e*		07 17 14.1	
	comp=Z,14μm,1.0s						
IBZA	**Bozab**	**3.58**	**318**	*e*Pn	**Pn**	**07 16 13.1**	**-0.1**
IHSB	**Hasanabad**	**3.60**	**7**	*e*Pn	**Pn**	**07 16 13.7**	**+0.3**
IHSB				*e*		07 17 34.1	
	comp=Z,15μm,1.0s						
IRAZ	**Razeghan**	**3.61**	**349**	*e*Pn	**Pn**	**07 16 13.8**	**+0.2**
IRAZ				*e*		07 17 33.2	
	comp=Z,22μm,0.9s						
IMHD	**Mahdasht**	**3.83**	**359**	*e*Pn	**Pn**	**07 16 17.5**	**+1.0**
IMHD				*e*		07 17 28.5	
	comp=Z,11μm,1.0s						
IDMV	**Damavand**	**3.86**	**15**	*e*Pn	**Pn**	**07 16 17.7**	**+0.6**
QIR1	**Qir**	**3.90**	**149**	*e*Pn	**Pn**	**07 16 18.5**	**+1.1**
QIR1				*e*		07 17 50.3	
	comp=Z,24μm,0.7s						
DAMV	**Damavand**	**3.90**	**15**	*e*Pn	**Pn**	**07 16 18.6**	**+1.0**
DAMV	**Damavand**	**3.90**	**15**	*e*Pn	**Pn**	**07 16 18.6**	**+1.0**
TEH	**Tehran**	**3.91**	**7**	*e*Pn	**Pn**	**07 16 17.4**	**-0.2**
TEH				*e*		07 16 39.7	
	comp=Z,22μm,0.6s						
TEHA	**Amirabad Tehra**	**3.92**	**7**	*e*Pn	**Pn**	**07 16 18.9**	**+1.1**
KCHF	**Cheshme Sefid,**	**3.96**	**309**	*e*Pn	**Pn**	**07 16 18.0**	**-0.3**
KCHF				*e*		07 17 36.6	
	comp=Z,30μm,1.2s						
KER	**Kermanshah**	**3.96**	**311**	*e*Pn	**Pn**	**07 16 18.4**	**0.0**
ILAS	**Lasjerd**	**3.97**	**27**	*e*Pn	**Pn**	**07 16 19.5**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.97**	**346**	*e*Pn	**Pn**	**07 16 17.6**	**-1.0**
CHTH	**Charan**	**4.06**	**4**	*e*Pn	**Pn**	**07 16 21.2**	**+1.4**
CHTH	**Charan**	**4.06**	**4**	*e*Pn	**Pn**	**07 16 21.2**	**+1.4**
JHRM	**Jahrom**	**4.12**	**143**	*e*Pn	**Pn**	**07 16 21.5**	**+0.9**
JHRM				*e*		07 17 18.0	
	comp=Z,23μm,0.6s						
IFIR	**Firoozkooh**	**4.13**	**23**	*e*Pn	**Pn**	**07 16 22.2**	**+1.5**
IGHG	**Ghaleghazi**	**4.31**	**306**	*e*Pn	**Pn**	**07 16 23.3**	**+0.1**
IANJ	**Anjilo**	**4.46**	**35**	*e*Pn	**Pn**	**07 16 25.8**	**+0.5**
ISHM	**Shahmirzad**	**4.47**	**27**	*e*Pn	**Pn**	**07 16 26.8**	**+1.3**
IGZV	**Ghazvin**	**4.55**	**354**	*e*Pn	**Pn**	**07 16 26.9**	**+0.4**
IGZV				*e*		07 18 00.3	
	comp=Z,12μm,1.0s						
IPRN	**Peran**	**4.57**	**16**	*e*Pn	**Pn**	**07 16 25.7**	**-1.0**
QALM	**Alamut, Qazvin**	**4.57**	**359**	*e*Pn	**Pn**	**07 16 27.1**	**+0.3**
IDHR	**Dehrash**	**4.64**	**309**	*e*Pn	**Pn**	**07 16 26.8**	**-1.0**
JIR1	**Jirandeh**	**4.91**	**351**	*e*Pn	**Pn**	**07 16 31.9**	**+0.5**
ZNJK	**Zanjan**	**5.11**	**341**	*e*Pn	**Pn**	**07 16 35.5**	**+1.3**
ZNJK	**Zanjan**	**5.11**	**341**	*e*Pn	**Pn**	**07 16 35.5**	**+1.3**
KHGB	**Koh Gabri**	**5.11**	**105**	*e*Pn	**Pn**	**07 16 35.4**	**+1.2**
TPRV	**Parvadeh(Tabas**	**5.14**	**75**	*e*Pn	**Pn**	**07 16 33.6**	**-0.9**
LAR1	**LAR**	**5.21**	**142**	*e*Pn	**Pn**	**07 16 35.5**	**0.0**
IGLO	**Ghaloghah**	**5.29**	**28**	*e*Pn	**Pn**	**07 16 39.7**	**+3.1**
LHJ2	**Lahijan - Gila**	**5.33**	**354**	*e*Pn	**Pn**	**07 16 37.2**	**+0.1**
TNSJ	**Nastanj**	**5.34**	**65**	*e*Pn	**Pn**	**07 16 38.8**	**+1.5**
TVBK	**TV Kerman**	**5.47**	**108**	*e*Pn	**Pn**	**07 16 39.4**	**+0.1**
KRBR	**Kerman**	**5.47**	**108**	*e*Pn	**Pn**	**07 16 41.2**	**+1.9**
KRBR	**Kerman**	**5.47**	**108**	*e*Pn	**Pn**	**07 16 41.1**	**+1.9**
NGRK	**Negar Kerman**	**5.58**	**112**	*e*Pn	**Pn**	**07 16 41.8**	**+1.0**
NGRK				*e*		07 17 10.7	
	comp=Z,3μm,0.9s						
TKDS	**Koohdasht(Taba**	**5.63**	**70**	*e*Pn	**Pn**	**07 16 41.8**	**+0.5**
TABS	**Tabas**	**5.64**	**70**	*e*Pn	**Pn**	**07 16 42.9**	**+1.5**
TABS	**Tabas**	**5.64**	**70**	*e*Pn	**Pn**	**07 16 42.9**	**+1.5**
SAKB	**Bahrain**	**5.86**	**182**	P	**Pn**	**07 16 46.0**	**+1.8**
SAKB				S	**Sn**	**07 17 53.7**	**+2.6**
SHMA	**Al-Shehemyia**	**5.97**	**178**	P	**Pn**	**07 16 46.9**	**+1.0**
SHMA				S	**Sn**	**07 17 51.7**	**-2.4**
SHRO	**Shahrood**	**6.00**	**45**	*e*Pn	**Pn**	**07 16 48.2**	**+1.8**
SHRO	**Shahrood**	**6.00**	**45**	*e*Pn	**Pn**	**07 16 48.2**	**+1.8**
CHMN	**Cheshme madani**	**6.15**	**107**	*e*Pn	**Pn**	**07 16 50.4**	**+1.8**
KHOR	**Al-Khor Airpor**	**6.24**	**174**	P	**Pn**	**07 16 51.1**	**+1.5**
GENO	**Geno**	**6.46**	**132**	*e*Pn	**Pn**	**07 16 52.6**	**-0.2**
ISRB	**Sarab**	**6.48**	**338**	*e*Pn	**Pn**	**07 16 52.7**	**-0.4**
IMND	**Minoodasht**	**6.61**	**34**	*e*Pn	**Pn**	**07 16 55.3**	**+0.7**
IBST	**Bostanabad**	**6.65**	**332**	*e*Pn	**Pn**	**07 16 56.3**	**+0.9**
IBND	**Bandar-abas**	**6.67**	**130**	*e*Pn	**Pn**	**07 16 55.8**	**+0.4**
ITEG	**Tejag**	**6.83**	**79**	*e*Pn	**Pn**	**07 16 59.0**	**+1.2**
IKOO	**Kooshah**	**7.01**	**83**	*e*Pn	**Pn**	**07 17 02.3**	**+2.0**
TRNA	**Turayna**	**7.10**	**177**	P	**Pn**	**07 17 02.9**	**+1.6**
BSRN	**Basiran**	**7.11**	**87**	*e*Pn	**Pn**	**07 17 03.7**	**+2.1**
BSRN	**Basiran**	**7.11**	**87**	*e*Pn	**Pn**	**07 17 03.7**	**+2.1**
JRN	**Qarnain Island**	**7.12**	**165**	P	**Pn**	**07 17 00.5**	**-1.1**
AFRZ	**Afriz**	**7.13**	**75**	*e*Pn	**Pn**	**07 17 02.4**	**+0.5**
IHRS	**Heris**	**7.14**	**336**	*e*Pn	**Pn**	**07 17 00.9**	**-1.2**
KBAM	**BAM**	**7.16**	**110**	*e*Pn	**Pn**	**07 17 03.9**	**+1.6**
KHNJ	**Kahnooj**	**7.17**	**121**	*e*Pn	**Pn**	**07 17 04.9**	**+2.6**
SBZV	**Sabzevar**	**7.25**	**50**	*e*Pn	**Pn**	**07 17 05.6**	**+1.9**
MRVT	**Maraveh tapeh**	**7.26**	**36**	*e*Pn	**Pn**	**07 17 06.1**	**+2.5**
MRVT	**Maraveh tapeh**	**7.26**	**36**	*e*Pn	**Pn**	**07 17 06.1**	**+2.5**
GRMI	**Germi**	**7.33**	**342**	*e*Pn	**Pn**	**07 17 06.1**	**+1.5**
GRMI	**Germi**	**7.33**	**342**	*e*Pn	**Pn**	**07 17 06.5**	**+1.9**
ITBZ	**Tabriz**	**7.41**	**331**	*e*Pn	**Pn**	**07 17 06.0**	**+0.2**
SHME	**Shamm**	**7.45**	**140**	P	**Pn**	**07 17 06.4**	**+0.2**
	SNR=8.4						
SHME	**Shamm**	**7.45**	**140**	*i* P	**Pn**	**07 17 04.5**	**-1.7**
	SNR=8.3						
IMON	**Monand**	**7.63**	**78**	*e*Pn	**Pn**	**07 17 12.1**	**+3.2**
BANOM	**Banah**	**7.64**	**139**	P	**Pn**	**07 17 08.1**	**-0.7**
	SNR=12						
BANOM	**Banah**	**7.64**	**139**	*i* P	**Pn**	**07 17 08.1**	**-0.7**
	SNR=56						
BANOM				S	**Sn**	**07 18 32.4**	**-2.8**
ISHB	**Shabestar**	**7.68**	**328**	*e*Pn	**Pn**	**07 17 09.7**	**+0.2**
SLWR	**Sila**	**7.79**	**174**	P	**Pn**	**07 17 13.9**	**+3.0**
SLWR				S	**Sn**	**07 18 38.3**	**-0.6**
BJRD	**Bojnurd**	**7.99**	**41**	*e*Pn	**Pn**	**07 17 15.8**	**+2.1**
BJRD	**Bojnurd**	**7.99**	**41**	*e*Pn	**Pn**	**07 17 15.8**	**+2.1**
MASF	**Masafi**	**8.01**	**142**	P	**Pn**	**07 17 13.2**	**-0.6**
	SNR=60						
MASF				S	**Sn**	**07 18 42.3**	**-1.9**
MSFE	**Esma-Masafi**	**8.01**	**142**	*i* P	**Pn**	**07 17 13.2**	**-0.8**
	SNR=60						
NAZ	**Nazwa, Dubai**	**8.08**	**147**	P	**Pn**	**07 17 15.0**	**+0.2**
	SNR=28						
NAZ	**Nazwa, Dubai**	**8.08**	**147**	*i* P	**Pn**	**07 17 14.9**	**+0.1**
	SNR=28						
SHRT	**Shahrakht**	**8.22**	**75**	*e*Pn	**Pn**	**07 17 19.0**	**+2.3**
SHRT	**Shahrakht**	**8.22**	**75**	*e*Pn	**Pn**	**07 17 19.0**	**+2.3**
ASUD	**Al Ashush, Dub**	**8.24**	**150**	P	**Pn**	**07 17 18.0**	**+0.9**
	SNR=14						
ASUD				S	**Sn**	**07 18 49.7**	**-0.3**
ASUD	**Al Ashush, Dub**	**8.24**	**150**	*i* P	**Pn**	**07 17 17.3**	**+0.3**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**8.26**	**148**	P	**Pn**	**07 17 17.7**	**+0.4**
	SNR=19						
FAQ				S	**Sn**	**07 18 47.8**	**-2.5**
FAQ	**Al Faqa, Dubai**	**8.26**	**148**	*i* P	**Pn**	**07 17 17.3**	**0.0**
	SNR=19						
UOSS	**Minazif**	**8.38**	**144**	Pn	**Pn**	**07 17 17.6**	**-1.3**
UOSS	**Minazif**	**8.38**	**144**	P	**Pn**	**07 17 17.9**	**-1.0**
UOSS	**Minazif**	**8.38**	**144**	*i* P	**Pn**	**07 17 17.9**	**-1.0**
	SNR=7.1						
HATD	**Hatta, Dubai**	**8.44**	**145**	P	**Pn**	**07 17 20.0**	**+0.2**
HATD	**Hatta, Dubai**	**8.44**	**145**	*i* P	**Pn**	**07 17 19.2**	**-0.6**
	SNR=10						
ASHO	**Ashiyiah**	**8.53**	**146**	P	**Pn**	**07 17 20.1**	**-0.9**
ASHO	**Ashiyiah**	**8.53**	**146**	*i* P	**Pn**	**07 17 20.0**	**-1.0**
	SNR=26						
GEYT	**Alibeck**	**8.55**	**43**	Pn	**Pn**	**07 17 22.9**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=219,slow=13,SNR=12						
GEYT				Sn	**Sn**	**07 19 00.5**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=238,slow=24,SNR=3.6						
GEYT				Lg	Lg	07 19 49.4	
	comp=Z,0.2nm,0.3s,baz=212,slow=32,SNR=1.0						
GEYT	**Alibeck**	**8.55**	**43**		**Pn**	**07 17 22.2**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**8.55**	**43**		**Pn**	**07 17 22.5**	**+1.2**
TBJM	**Torbat-e-JAM**	**8.67**	**64**	*e*Pn	**Pn**	**07 17 23.1**	**0.0**
IKRD	**Kardeh**	**8.74**	**53**	*e*Pn	**Pn**	**07 17 28.1**	**+4.0**
ALNE	**Al Ain**	**8.93**	**149**	P	**Pn**	**07 17 28.1**	**+1.7**
	SNR=10.0						
ALNE	**Al Ain**	**8.93**	**149**	*i* P	**Pn**	**07 17 25.8**	**-0.6**
	SNR=9.0						
JRKH	**Jarkhoshk**	**8.93**	**60**	*e*Pn	**Pn**	**07 17 26.1**	**-0.5**
IMYA	**Miami**	**8.94**	**57**	*e*Pn	**Pn**	**07 17 29.7**	**+3.0**
ZHDN	**Zahedan**	**8.99**	**103**	*e*Pn	**Pn**	**07 17 29.5**	**+2.1**
GEVA	**Gevas**	**9.03**	**318**		**Pn**	**07 17 26.6**	**-1.3**
MZR	**Muzera**	**9.14**	**164**	P	**Pn**	**07 17 29.7**	**+0.4**
	SNR=18						
MZR	**Muzera**	**9.14**	**164**	*i* P	**Pn**	**07 17 29.1**	**-0.2**
	SNR=16						
SOHO	**SOHO**	**9.22**	**145**	*i* P	**Pn**	**07 17 28.7**	**-1.7**
	SNR=17						
RAYN	**Ar Rayn**	**9.52**	**211**	P	**Pn**	**07 17 33.8**	**-0.8**
RAYN	**Ar Rayn**	**9.52**	**211**	Pn	**Pn**	**07 17 33.8**	**-0.8**
RAYN	**Ar Rayn**	**9.52**	**211**	*i* P	**Pn**	**07 17 32.9**	**-1.7**
	SNR=135						
GNI	**Garni**	**9.61**	**331**	Pn	**Pn**	**07 17 38.9**	**+2.9**
	comp=Z,1.9nm,0.3s,baz=219,slow=14,SNR=4.5						
GNI				Lg	Lg	07 20 19.9	
	comp=Z,1.5nm,0.3s,baz=235,slow=19,SNR=1.3						
GNI				LR	LR	07 21 01.1	
	comp=Z,541nm,20.1s,baz=149,slow=36						
GNI	**Garni**	**9.61**	**331**	Pn	**Pn**	**07 17 38.5**	**+2.6**
GURO	**Guroymak-BITLI**	**9.78**	**315**		**Pn**	**07 17 38.4**	**+0.1**
MARD	**Mardin**	**9.87**	**306**	Pn	**Pn**	**07 17 37.1**	**-2.4**
ARQ	**Araqi**	**9.89**	**148**	P	**Pn**	**07 17 37.8**	**-2.0**
	SNR=6.9						
HRA	**Herat**	**9.95**	**72**	Pn	**Pn**	**07 17 44.1**	**+3.5**
HOQ	**Hoqain**	**10.07**	**143**	P	**Pn**	**07 17 40.3**	**-1.8**
	SNR=5.6						
HOQ				P	**Pn**	**07 17 40.3**	**-1.8**
	SNR=5.6						
BIDO	**Bidbid**	**10.55**	**140**	P	**Pn**	**07 17 46.1**	**-2.6**
	SNR=6.4						
BIDO				P	**Pn**	**07 17 46.1**	**-2.6**
	SNR=6.4						
BSY	**Bisya**	**10.72**	**146**	P	**Pn**	**07 17 51.2**	**+0.1**
	SNR=28						
KARS	**Kars**	**10.73**	**327**	P	**Pn**	**07 17 53.8**	**+2.5**
KARS	**Kars**	**10.73**	**327**	Pn	**Pn**	**07 17 53.8**	**+2.5**
SMDO	**Samad**	**10.88**	**142**	P	**Pn**	**07 17 52.3**	**-1.0**
	SNR=22						
SMDO				P	**Pn**	**07 17 52.3**	**-1.0**
	SNR=22						
SRVN	**Saravan**	**11.04**	**111**	*e*Pn	**Pn**	**07 17 56.5**	**+0.9**
WSAR	**Wadi Sarin**	**11.05**	**139**	Pn	**Pn**	**07 17 54.8**	**-0.8**
	comp=Z,4.0nm,0.3s,baz=3.8,slow=10,SNR=26						
WSAR				Sn	**Sn**	**07 19 52.4**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=12,slow=19,SNR=1.2						
WSAR				LR	LR	07 22 51.1	
	comp=Z,2μm,20.9s,baz=340,slow=40						
NGCH	**Negor - Chabah**	**11.17**	**123**	*e*Pn	**Pn**	**07 17 55.6**	**-1.5**
MAK	**Makhachkala**	**11.39**	**348**	*e*P	**Pn**	**07 17 58.8**	**-1.3**
MAK				*e*S	**Sn**	**07 20 06.0**	**-1.1**
MAK				pmax	pmax		
	comp=Z,202nm,1.3s						
MAK				MLR	MLR		
	comp=Z,1μm,11.0s						
JMDO	**Jabal Madar**	**11.48**	**144**	P	**Pn**	**07 18 01.5**	**+0.1**
	SNR=7.1						
JMDO				P	**Pn**	**07 18 01.5**	**+0.1**
	SNR=7.1						
WBK	**Wadi Bani Khal**	**11.74**	**140**	P	**Pn**	**07 18 04.1**	**-0.9**
	SNR=7.3						
ASF	**Jabal al Asfar**	**11.78**	**275**	Pn	**Pn**	**07 18 02.4**	**-3.2**
	comp=Z,8.7nm,0.3s,baz=96,slow=11,SNR=23						
ASF				Sn	**Sn**	**07 20 15.3**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=108,slow=19,SNR=6.8						
ONI	**Oni**	**12.20**	**334**	P	**Pn**	**07 18 13.5**	**+2.3**
ONI	**Oni**	**12.20**	**334**		**Pn**	**07 18 13.5**	**+2.3**
ZEI	**Tsey**	**12.20**	**335**	*e*P	**Pn**	**07 18 14.3**	**+2.9**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MHTO	**MHTO**	**12.59**	**148**	P	**Pn**	**07 18 15.2**	**-1.5**
	SNR=100						
NATI	**Neve Ativ**	**12.76**	**280**	Pn	**Pn**	**07 18 17.4**	**-1.5**
GEM	**Giv'at Ha'Em**	**12.82**	**280**	Pn	**Pn**	**07 18 19.7**	**-0.1**
NCK	**Nalchik**	**12.93**	**336**	*i* P	**Pn**	**07 18 22.3**	**+1.1**
HMDT	**Nahal Hemdat**	**12.94**	**276**	Pn	**Pn**	**07 18 22.7**	**+1.3**
MMA0B	**Mount Meron ar**	**13.04**	**279**	Pn	**Pn**	**07 18 23.8**	**+1.1**
MMAI	**Mount Meron Ar**	**13.04**	**279**	Pn	**Pn**	**07 18 20.8**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=90,slow=14,SNR=4.4						
MMAI				Sn	**Sn**	**07 20 45.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=81,slow=21,SNR=1.3						
MMAI				LR	LR	07 24 47.1	
	comp=Z,2μm,18.8s,baz=251,slow=44						
NEY	**Neytrino**	**13.04**	**333**	*i* P	**Pn**	**07 18 26.4**	**+3.6**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DQM	**DQM**	**13.34**	**151**	P	**Pn**	**07 18 24.4**	**-2.4**
	SNR=12						
KBZ	**Khabaz**	**13.38**	**335**	Pn	**Pn**	**07 18 28.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=182,slow=11,SNR=5.5						
KBZ				LR	LR	07 24 20.1	
	comp=Z,909nm,20.9s,baz=152,slow=41						
KBZ	**Khabaz**	**13.38**	**335**	*ce*P	**Pn**	**07 18 27.8**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZFRI	**Zfri**	**13.41**	**269**	Pn	**Pn**	**07 18 28.3**	**+0.5**
SHA1	**Shidzhatmaz**	**13.48**	**334**	*i* P	**Pn**	**07 18 29.7**	**+0.8**
DOK	**Doka**	**13.52**	**166**	P	**Pn**	**07 18 28.0**	**-1.3**
	SNR=36						
PRNI	**Paran**	**13.60**	**268**	Pn	**Pn**	**07 18 30.6**	**+0.3**
HRFI	**Mount Harif**	**13.63**	**266**	Pn	**Pn**	**07 18 31.3**	**+0.5**
KIV	**Kislovodsk**	**13.66**	**335**	⇑P	**Pn**	**07 18 28.7**	**-2.5**
KIV	**Kislovodsk**	**13.66**	**335**	*e*P	**Pn**	**07 18 33.9**	**+2.8**
KIV				*e*S	**Sn**	**07 21 05.0**	**+2.3**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV				MLR	MLR		
	comp=Z,324nm,12.0s						
KIV	**Kislovodsk**	**13.66**	**335**	Pn	**Pn**	**07 18 33.6**	**+2.5**
EIL	**Elat**	**13.78**	**265**	Pn	**Pn**	**07 18 32.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=65,slow=8.4,SNR=4.9						
EIL				LR	LR	07 25 16.8	
	comp=Z,2μm,18.3s,baz=92,slow=44						
EIL	**Elat**	**13.78**	**265**	Pn	**Pn**	**07 18 33.5**	**+0.7**
MBRI

DZA	Taraz	19.66	50	*e*P		P	07 19 47.2	+0.8
	baz=50								
ISK	Istanbul-Kandi	19.70	304	P		P	07 19 47.3	+0.6
DAT	Datca	19.76	291	P		P	07 19 46.7	-0.8
SOCY	Socotra	19.79	171	P		P	07 19 46.8	-1.2
	SNR=11								
KARP	Karpathos	19.98	287	P		P	07 19 49.3	-0.6
KARP	Karpathos	19.98	287	P		P	07 19 49.2	-0.6
KARP				IAmb	IAmb		07 20 00.6		
	comp=Z,89nm,0.9s								
BODT	Bodrum	20.01	291	P		P	07 19 48.6	-1.6
VRH	Novokhopyorsk	20.46	344	*e*P		P	07 19 53.7	-1.2
VRH				pmax	pmax				
	comp=Z,270nm,1.7s								
SMG	Samos	20.48	293	P		P	07 19 54.5	-0.8
ZKR	Zakros	20.72	286	P		P	07 19 57.5	-0.4
VORD	Divnogorie	20.90	339	*e*P		P	07 19 57.2	-2.5
VORD				pmax	pmax				
	comp=Z,100nm,0.7s								
AML	Almayashu	20.93	54	P		P	07 20 01.9	+1.3
	SNR=25								
AML	Almayashu	20.93	54	P		P	07 20 02.2	+1.6
KALB	Balgarevo	21.06	310	⇑P		P	07 20 01.1	-0.4
MANR	Mangalia	21.13	311	⇑P		P	07 20 01.5	-0.7
EKS2	Erkin-Say	21.19	53	P		P	07 20 06.4	+3.4
	SNR=12								
CHOS	Chios island	21.21	295	P		P	07 20 02.7	-0.5
PRK	Paraskevi	21.22	297	P		P	07 20 03.0	-0.2
EFOR	EFORIE	21.23	311	⇓P		P	07 20 02.6	-0.6
PSN	Preselentsi	21.34	310	*i* P		P	07 20 03.8	-0.6
JURR	Jurilovca	21.40	313	⇓P		P	07 20 04.2	-0.9
APE	Apeiranthos	21.43	291	⇑P		P	07 20 05.5	0.0
APE	Apeiranthos	21.43	291	*i* P		P	07 20 04.2	-1.3
APE				pmax	pmax				
	comp=Z,32nm,0.8s								
THR3	Thira Island,	21.46	289	P		P	07 20 04.6	-1.3
ATD	Arta Tunnel	21.50	202	P		P	07 20 08.6	+2.1
	comp=Z,7.4nm,0.3s,baz=20,slow=9.1,SNR=4.3								
ATD				LR	LR		07 28 55.2		
	comp=Z,463nm,18.1s,baz=16,slow=38								
ATD	Arta Tunnel	21.50	202	P		P	07 20 06.4	-0.1
ATD				IAmb	IAmb		07 20 20.2		
	comp=Z,62nm,1.1s								
THR5	Thira Island,	21.51	289	P		P	07 20 05.3	-1.0
UCH	Uchtor	21.53	55	P		P	07 20 09.0	+1.9
	SNR=23								
TIRR	Tirgusor	21.54	312	⇑P		P	07 20 06.1	-0.5
TIRR	Tirgusor	21.54	312	P		P	07 20 05.2	-1.4
TIRR				pmax	pmax				
	comp=Z,109nm,0.8s								
TIRR	Tirgusor	21.54	312	P		P	07 20 05.2	-1.4
VORR	Voronezh	21.55	340	*e*P		P	07 20 05.4	-1.2
VORR				S		S	07 24 05.5	+0.5
VORR				pmax	pmax				
	comp=Z,188nm,2.3s								
TLCR		21.65	314	⇑P		P	07 20 06.5	-1.3
AAK	Ala-Archa	21.67	54	P		P	07 20 09.6	+1.4
	comp=Z,6.0nm,0.8s,baz=262,slow=9.9,SNR=4.3								
AAK				S		S	07 24 12.1	+4.2	
	comp=Z,1.6nm,0.6s,baz=313,slow=18,SNR=2.4								
AAK				ScP		ScP	07 27 48.2	+2.3	
	comp=Z,2.1nm,0.7s,baz=151,slow=4.0,SNR=4.6								
AAK				LR	LR		07 28 44.9		
	comp=Z,591nm,19.0s,baz=264,slow=37								
AAK	Ala-Archa	21.67	54	P		P	07 20 13.0	+4.8
TPGR	Topolog	21.73	313	⇑P		P	07 20 07.5	-1.1
ALN	Alexandroupoli	21.80	301	P		P	07 20 08.6	-0.9
ALN	Alexandroupoli	21.80	301	P		P	07 20 08.1	-1.3
ALN				pmax	pmax				
	comp=Z,38nm,0.8s								
ALN	Alexandroupoli	21.80	301	P		P	07 20 08.1	-1.3
ALN				IAmb	IAmb		07 20 11.0		
	comp=Z,38nm,0.8s								
KSH	Kashi	21.81	62	P		P	07 20 07.3	-2.4
KSH				sP		sP	07 20 19.3	+2.6
KSH				S		S	07 23 58.5	-12
KSH				pmax	pmax				
	comp=Z,45nm,0.8s								
KSH				LR	LR				
	comp=Z,2μm,13.6s								
KSH				LR	LR				
	comp=Z,1μm,13.3s								
KSH				LR	LR				
	comp=Z,930nm,16.2s								
IDI	Anoyia	21.82	286	⇑P		P	07 20 09.8	+0.1
IDI	Anoyia	21.82	286	P		P	07 20 09.7	-0.1
	comp=Z,89nm,0.8s,baz=94,slow=9.1,SNR=29								
IDI				S		S	07 24 08.9	-1.7	
	comp=Z,2.1nm,0.6s,baz=298,slow=18,SNR=1.6								
IDI				LR	LR		07 30 59.6		
	comp=Z,421nm,20.8s,baz=86,slow=43								
IDI	Anoyia	21.82	286	P		P	07 20 09.5	-0.2
IDI	Anoyia	21.82	286	P		P	07 20 09.1	-0.7
USP	Ospenovka	21.92	52	P		P	07 20 15.2	+4.5
	SNR=11								
HARR	Harsova	21.95	312	⇑P		P	07 20 10.0	-1.0
CHMS	Chumysh	21.98	53	P		P	07 20 16.2	+4.8
	SNR=12								
KBK	Karagaybulak	21.99	54	P		P	07 20 17.7	+6.0
	SNR=17								
CFR	Carcaliu	22.06	314	⇑P		P	07 20 10.6	-1.5
SMTH	Samothraki Isl	22.06	300	P		P	07 20 11.6	-0.7
SGDS	Sogindy	22.08	52	*e*P		P	07 20 13.7	+1.2
	baz=52								
RDO	Rodhopi	22.24	302	P		P	07 20 13.7	-0.5
BTLS	Baital	22.39	47	*e*P		P	07 20 16.9	+1.2
BTLS	Baital	22.39	47	*e*P		P	07 20 17.0	+1.2
	baz=47								
LPSR	Galich'ya Gora	22.46	341	*e*P		P	07 20 14.7	-1.7
LPSR				pmax	pmax				
	comp=Z,80nm,0.7s								
TKM2	Tokmak 2	22.53	54	P		P	07 20 20.1	+2.6
	SNR=31								
TKM2	Tokmak 2	22.53	54	P		P	07 20 19.4	+1.9
IMMV	Iera Moni Meta	22.56	286	P		P	07 20 16.6	-1.1
BOOM	Boomskoye usch	22.61	55	P		P	07 20 20.2	+1.8
BOOM				pmax	pmax				
	comp=Z,44nm,1.0s								
BOOM	Boomskoye usch	22.61	55	P		P	07 20 20.2	+1.8
BOOM				IAmb	IAmb		07 20 26.5		
	comp=Z,44nm,1.0s								
THAS	Thassos island	22.70	300	P		P	07 20 16.6	-2.4
ULHL	Ulahol	22.75	56	P		P	07 20 23.0	+3.2
	SNR=7.6								
KYMI	Kymi, Euboea I	22.76	295	P		P	07 20 18.9	-0.9
DION	Dionisos Attik	22.81	293	P		P	07 20 20.3	0.0
VLY	Voula,Athens	22.89	293	P		P	07 20 21.2	+0.1
RZN	Rozhen	22.99	303	*i* P		P	07 20 21.0	-1.3
ISR	Istrita	23.03	312	⇑P		P	07 20 22.5	-0.1
NDI	New Delhi	23.04	91	*e*P		P	07 20 25.0	+2.3
ANKY	Antikythira Is	23.13	287	P		P	07 20 23.5	-0.1
VRI	Vrincioaia	23.26	314	⇑P		P	07 20 24.6	-0.3
PLOR	Plostina	23.30	314	⇑P		P	07 20 25.1	-0.2
VILL	Villia	23.31	293	P		P	07 20 24.0	-1.5
NEHR	Nehoiu	23.32	313	⇑P		P	07 20 25.1	-0.4
KTHA	Kythira Island	23.34	288	P		P	07 20 24.7	-1.0
KDJ	Kajisay	23.37	57	P		P	07 20 28.6	+2.4
KDJ				pmax	pmax				
	comp=Z,34nm,1.3s								
KDJ	Kajisay	23.37	57	P		P	07 20 28.6	+2.4
KDJ				IAmb	IAmb		07 20 36.0		
	comp=Z,34nm,1.3s								
KUU	Kurty	23.39	52	*e*P		P	07 20 26.8	+0.6
KUU	Kurty	23.39	52	*e*P		P	07 20 26.9	+0.6
	baz=52								
VLI	Veliai	23.47	290	P		P	07 20 23.8	-3.2
TNSS	Tian-Shan	23.50	54	*e*P		P	07 20 28.5	+0.8
	baz=54								
NVR	Nevrokopi	23.51	301	P		P	07 20 27.3	-0.1
SORM	Soroca	23.52	320	⇑P		P	07 20 25.4	-2.0
AAA	Alma-Ata	23.53	54	*e*P		P	07 20 28.4	+0.7
AAA	Alma-Ata	23.53	54	*e*P		P	07 20 28.4	+0.7
	baz=54								
LTK	Loutraki	23.56	293	P		P	07 20 38.1	+10
MLR	Muntele Rosu	23.57	312	⇑P		P	07 20 27.9	-0.2
MLR	Muntele Rosu	23.57	312	P		P	07 20 28.5	+0.4
	comp=Z,31nm,0.7s,baz=191,slow=4.7,SNR=50								
MLR				ScP		ScP	07 27 51.6	+0.8	
	comp=Z,3.6nm,0.9s,baz=60,slow=4.2,SNR=3.1								
MLR				LR	LR		07 31 55.9		
	comp=Z,948nm,19.6s,baz=130,slow=43								
MLR	Muntele Rosu	23.57	312	P		P	07 20 28.4	+0.4
MLR				IAmb	IAmb		07 20 50.8		
	comp=Z,40nm,0.8s								
COVR	Voineasa-Covas	23.57	313	⇑P		P	07 20 28.3	+0.3
ATAL	Atalanti	23.61	295	P		P	07 20 27.4	-0.9
MDOK	Medeo	23.61	54	*e*P		P	07 20 29.5	+1.0
MDOK	Medeo	23.61	54	*e*P		P	07 20 29.5	+1.0
	baz=54								
LKR	Lokris	23.62	294	P		P	07 20 28.5	+0.1
TESR	Tescani	23.62	315	⇑P		P	07 20 27.4	-1.1
PGB	Panagyurishte	23.64	304	*i* P		P	07 20 27.9	-0.8
SRS	Serrai	23.65	301	P		P	07 20 28.5	-0.3
TARG	Taragay, Kyrgy	23.70	58	P		P	07 20 31.3	+1.5
TARG				IAmb	IAmb		07 20 41.0		
	comp=Z,28nm,0.9s								
HORT	Hortiatis	23.89	299	P		P	07 20 30.8	-0.4
OZUR		23.95	314	⇑P		P	07 20 31.8	+0.2
VOIR		24.11	312	⇑P		P	07 20 33.2	0.0
DOPR	Dopca	24.14	313	⇑P		P	07 20 33.1	-0.2
AGG	Agios Georgios	24.19	295	P		P	07 20 33.0	-1.0
AGG	Agios Georgios	24.19	295	P		P	07 20 32.9	-1.0
AGG				pmax	pmax				
	comp=Z,47nm,1.0s								
AGG	Agios Georgios	24.19	295	P		P	07 20 32.9	-1.0
AGG				IAmb	IAmb		07 20 49.1		
	comp=Z,47nm,1.0s								
MPEP	Malo Peshtene	24.19	306	*i* P		P	07 20 35.2	+1.3
KLV	Kalavryta, Ach	24.20	293	P		P	07 20 33.6	-0.5
LIT	Litokhoron	24.25	298	P		P	07 20 34.5	+0.1
LIT	Litokhoron	24.25	298	P		P	07 20 33.7	-0.8
LIT				pmax	pmax				
	comp=Z,23nm,0.9s								
LIT	Litokhoron	24.25	298	P		P	07 20 33.7	-0.8
LIT				IAmb	IAmb		07 20 40.9		
	comp=Z,23nm,0.9s								
ITM	Ithomi	24.30	291	P		P	07 20 34.1	-0.9
VTS	Vitosha	24.32	304	⇑P		P	07 20 35.4	+0.3
VTS	Vitosha	24.32	304	P		P	07 20 34.5	-0.7
VTS				pmax	pmax				
	comp=Z,47nm,1.8s								
VTS	Vitosha	24.32	304	P		P	07 20 34.5	-0.7
VTS				IAmb	IAmb		07 20 43.0		
	comp=Z,47nm,1.8s								
VTS	Vitosha	24.32	304	*i* P		P	07 20 33.9	-1.3
ARR	Arges	24.35	311	⇓P		P	07 20 35.8	+0.4
LAKA	Lakka	24.36	293	P		P	07 20 33.7	-1.8
ANX	Ano Chora	24.45	294	P		P	07 20 34.5	-1.9
VAY	Valandovo	24.45	301	*i* P		P	07 20 34.2	-2.0
ARXS	Arharly	24.51	52	*e*P		P	07 20 37.5	+0.7
THL	Klokotos Trika	24.51	296	P		P	07 20 36.1	-0.7
SATY	Saty	24.52	55	*e*P		P	07 20 37.6	+0.6
SATY	Saty	24.52	55	*e*P		P	07 20 37.7	+0.6
	baz=55								
DRO	Drosia	24.54	292	P		P	07 20 36.7	-0.4
ZHN	Zhinishke	24.57	55	*e*P		P	07 20 38.2	+0.7
ZHN	Zhinishke	24.57	55	*e*P		P	07 20 38.2	+0.7
	baz=55								
AKASG	Malin Array Be	24.68	326	P		P	07 20 36.2	-2.0
	comp=Z,20nm,0.6s,baz=130,slow=8.0,SNR=94								
AKASG				ScP		ScP	07 27 53.1	-0.4	
	comp=Z,0.2nm,0.3s,baz=121,slow=1.6,SNR=4.4								
AKASG				LR	LR		07 32 05.2		
	comp=Z,545nm,20.3s,baz=134,slow=41								
AKASG	Malin Array Be	24.68	326	P		P	07 20 37.0	-1.2
AKBB	Malin Array Si	24.68	326	P		P	07 20 37.1	-1.1
AKBB				pmax	pmax				
	comp=Z,158nm,1.6s								
AKBB	Malin Array Si	24.68	326	P		P	07 20 37.1	-1.1
STIP	Stip	24.82	301	*i* P		P	07 20 37.4	-2.2
KPKS	Kokpek	24.84	54	*e*P		P	07 20 40.7	+0.9
KPKS				pmax	pmax				
	comp=Z,17nm,0.9s								
KPKS	Kokpek	24.84	54	*e*P		P	07 20 40.7	+0.9
	comp=Z,17nm,0.9s,baz=54								
LOT	Lotru	24.94	311	⇑P		P	07 20 41.0	+0.2
UZB	Uzynbulak	24.97	55	*e*P		P	07 20 42.2	+1.1
UZB				pmax	pmax				
	comp=Z,32nm,1.1s								
UZB	Uzynbulak	24.97	55	*e*P		P	07 20 42.2	+1.1
	comp=Z,32nm,1.1s,baz=55								
SRE	Strehaia	25.01	309	⇑P		P	07 20 42.2	+0.9
BURAR	Bucovina Array	25.02	316	⇑P		P	07 20 41.2	-0.2
BURAR	Bucovina Array	25.02	316	P		P	07 20 40.7	-0.7
BURAR				IAmb	IAmb		07 20 47.1		
	comp=Z,27nm,0.7s								
BUR08	Bucovina Ar. S	25.05	316	P		P	07 20 41.1	-0.6
BUR08				IAmb	IAmb		07 20 59.4		
	comp=Z,19nm,0.8s								
KPRO	Kipourio	25.07	297	P		P	07 20 41.5	-0.5
ARU	Arti	25.17	10	P		P	07 20 42.8	+0.2
	comp=Z,3.8nm,0.7s,baz=188,slow=8.1,SNR=10								
ARU				LR	LR		07 32 48.7		
	comp=Z,518nm,20.5s,baz=195,slow=42								
ARU	Arti	25.17	10	*c i* P		P	07 20 44.7	+2.2
ARU							07 21 19.6		
ARU				S		S	07 25 11.1	+4.1
ARU				SS		SnSn	07 26 08.6	+11
ARU				pmax	pmax				
	comp=Z,29nm,1.3s								
ARU				MLR	MLR				
	comp=Z,440nm,17.0s								
ARU	Arti	25.17	10	P		P	07 20 43.2	+0.7
ARU				IAmb	IAmb		07 21 17.1		
	comp=Z,24nm,0.9s								
TDK	Taldyqorghan	25.18	51	*e*P		P	07 20 44.0	+1.2
TDK	Taldyqorghan	25.18	51	*e*P		P	07 20 44.1	+1.2
	baz=51								
FNA	Florina	25.21	299	P		P	07 20 43.0	-0.2
FNA				pmax	pmax				
	comp=Z,22nm,0.8s								
FNA	Florina	25.21	299	P		P	07 20 43.0	-0.2
FNA				IAmb	IAmb		07 21 01.1		
	comp=Z,22nm,0.8s								
ARCR	ARCALIA	25.28	315	⇓P		P	07 20 43.6	-0.1
SHLS	Shalkode	25.28	55	*e*P		P	07 20 47.7	+3.8
SHLS				pmax	pmax				
	comp=Z,15nm,1.0s								
SHLS	Shalkode	25.28	55	*e*P		P	07 20 47.8	+3.8
	comp=Z,15nm,1.0s,baz=56								
OBN	Obninsk	25.34	341	P		P	07 20 43.3	-0.8
	comp=Z,24nm,0.7s,baz=180,slow=6.1,SNR=5.5								
OBN	Obninsk	25.34	341	*d i* P		P	07 20 43.6	-0.4
OBN				*e*			07 21 22.1		
OBN				*e*S		S	07 24 59.7	-10	
OBN				pmax	pmax				
	comp=Z,71nm,0.6s								
OBN				MLR	MLR				
	comp=Z,294nm,16.0s								
OBN	Obninsk	25.34	341	P		P	07 20 43.7	-0.3
PDGK	Podgornoye	25.35	55	P		P	07 20 45.7	+1.1
PSDA	Pessada-Kefalo	25.44	293	P		P	07 20 43.4	-1.8
LKD2	Lefkada island	25.45	294	P		P	07 20 43.8	-1.6
BRVK	Borovoye	25.46	28	*ce*P		P	07 20 46.8	+1.5
BRVK				pmax	pmax				
	comp=Z,28nm,1.7s								
BRVK	Borovoye	25.46	28	P		P	07 20 46.0	+0.7
BRVK				IAmb	IAmb		07 21 12.9		
	comp=Z,33nm,1.4s								
DJES	Djerdap	25.47	308	⇑P		P	07 20 45.9	+0.5
BVAR	Borovoye Array	25.48	28	P		P	07 20 45.3	-0.1
	comp=Z,5.6nm,0.7s,baz=231,slow=15,SNR=23								
FSK	Fiskardo	25.49	293	P		P	07 20 44.5	-1.2
GZR	Gura Zlata	25.56	310	⇑P		P	07 20 45.9	-0.4
CJR	Cluj-Napoca	25.58	313	⇑P		P	07 20 47.2	+0.8
MOS	Moscow	25.61	343	*e*P		P	07 20 47.7	+1.2
MOS				pmax	pmax				
	comp=Z,44nm,0.8s								
HERR	Herculane	25.61	309	⇑P		P	07 20 46.7	0.0
KEF3	Kipouria, Keph	25.63	293	P		P	07 20 45.3	-1.7
BOVS	Bovan	25.69	306	⇓P		P	07 20 46.5	-0.9
OHR	Ohrid	25.71	300	*i* P		P	07 20 47.5	-0.2
MDVR	Moldovita	26.05	308	⇑P		P	07 20 51.0	+0.2
BMR	Baia Mare	26.07	315	⇑P		P	07 20 51.5	+0.7
DRGR		26.16	313	⇑P		P	07 20 51.6	-0.2
MESR	Meseseni	26.17	314	⇑P		P	07 20 52.4	+0.7
BZS	Buzias	26.40	310	⇓P		P	07 20 53.9	+0.1
TIR	Tirane	26.44	300	⇑P		P	07 20 55.1	+0.9
TIR	Tirane	26.44	300	P		P	07 20 53.2	-1.1
TIR				pmax	pmax				
	comp=Z,68nm,1.0s								
TIR	Tirane	26.44	300	P		P	07 20 53.2	-1.1
VLO	Vlora	26.57	298	P		P	07 20 54.7	-0.7
VLO				pmax	pmax				
	comp=Z,100nm,0.7s								
VLO	Vlora	26.57	298	P		P	07 20 54.7	-0.7
LVV	L'vov	26.83	320	*e*P		P	07 20 58.6	+0.9
LVV				*e*			07 21 37.7		
LVV				*e*PPP	PPP		07 21 58.8		
LVV				*e*S		S	07 25 28.6	-4.8
LVV				*e*SS		SnSn	07 26 44.2	+6.4
TRPA	Tarpa	26.85	315	⇓P		P	07 20 58.1	+0.2
TRPA	Tarpa	26.85	315	P		P	07 20 58.2	+0.4
UZH	Uzhgorod	27.23	316	*e*P		P	07 21 01.2	0.0
UZH				*i*			07 21 04.3		
UZH				*i*			07 21 08.2		
UZH				*e*S		S	07 25 35.4	-4.3
FRGS	Fruska Gora	27.45	308	⇑P		P	07 21 03.9	+0.6
KURBB	Kurchatov Arra	27.81	39	P		P	07 21 06.5	0.0
	comp=Z,3.0nm,0.8s,baz=241,slow=9.6,SNR=16								
KURBB				PcP		PcP	07 24 22.0	-0.4	
	comp=Z,2.4nm,0.7s,baz=241,slow=2.8,SNR=7.4								
KURBB				ScP		ScP	07 28 00.9	-1.8	
	comp=Z,1.7nm,1.0s,baz=231,slow=3.9,SNR=7.0								
KURBB				LR	LR		07 32 58.6		
	comp=Z,263nm,19.8s,baz=219,slow=38								
KURBB	Kurchatov Arra	27.81	39	P		P	07 21 06.8	+0.4
CRVS	Cervenica-Dubn	27.84	316	*e*P		P	07 21 09.7	+2.9
CRVS				pmax	pmax				
	comp=Z,59nm,1.0s								
CRVS	Cervenica-Dubn	27.84	316	*e*P		P	07 21 09.7	+2.9
MNK	Minsk	27.89	331	*i* P		P	07 21 07.0	-0.1
MNK				*i*			07 21 54.2		
MNK				*i* PPP	PPP		07 22 02.9		
MNK				*i*			07 24 21.9		
MNK				*i* S		S	07 25 49.0	-1.0
MNK				*i* SS		SnSn	07 27 05.2	+1.6
MNK				pmax	pmax				
	comp=N,12nm,0.8s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.8s								
MNK				pmax	pmax				
	comp=Z,24nm,0.8s								
MNK				MLR	MLR				
	comp=Z,252nm,19.0s								
MNK				MLR	MLR				
	comp=E,35nm,19.0s								
MNK				MLR	MLR				
	comp=N,334nm,19.0s								
MNK	Minsk	27.89	331	*i* P		P	07 21 07.0	-0.1	
	comp=E,3.0nm,0.8s								
MNK				*i* P		P	07 21 07.0	-0.1	
	comp=N,12nm,0.8s								
MNK				*i* P		P	07 21 07.0	-0.1	
	comp=Z,24nm,0.8s,baz=134								
MNK				*i* PP		PnPn	07 21 54.3	+0.6	
MNK				*i* PPP	PPP		07 22 02.9		
MNK				*i* S		S	07 25 49.1	-1.0	
MNK				*i* SS		SnSn	07 27 05.3	+1.6	
MNK				*i* SSS	SSS		07 27 20.3		
MNK				*i* LQ	LQ		07 30 05.8		
MNK				*i* LR	LR		07 32 01.0		
MNK				*i* LRM	MLR		07 33 08.8		
	comp=Z,252nm,18.5s								
MNK				*i* LRM	MLR		07 33 14.5		
	comp=E,35nm,18.5s								
MNK				*i* LRM	MLR		07 33 36.2		
	comp=N,334nm,18.5s								
KURK	Kurchatov	27.91	39	P		P	07 21 06.5	-0.8	
KURK							07 24 22.0		
KURK	Kurchatov	27.91	39	P		P	07 21 09.0	+1.7	
KURK	Kurchatov	27.91	39			PcP	07 24 22.0	-0.6	
PYUN	Piuthan	28.10	89	*e*P		P	07 21 10.2	+0.6	
	comp=N,47nm,0.7s								
MAKZ	Makanchi	28.16	49	P		P	07 21 11.0	+1.3	
MAKZ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
MAKZ	Makanchi	28.16	49	P		P	07 21 11.0	+1.3	
MK31	Makanchi Array	28.36	49	P		P	07 21 12.1	+0.7	
MK31				pmax	pmax				
	comp=Z,7.0nm,0.6s								
MK31	Makanchi Array	28.36	49	P		P	07 21 12.1	+0.7	
MKAR	Makanchi Array	28.36	49	P		P	07 21 11.8	+0.3	
	comp=Z,6.2nm,0.7s,baz=240,slow=10,SNR=60								
MKAR				PcP		PcP	07 24 24.4	+0.6	
	comp=Z,1.4nm,0.6s,baz=244,slow=1.9,SNR=4.6								
MKAR				ScP		ScP	07 28 03.6	-1.0	
	comp=Z,1.3nm,1.0s,baz=264,slow=2.9,SNR=5.3								
MKAR				LR	LR		07 34 27.8		
	comp=Z,468nm,18.1s,baz=252,slow=40								
MKAR	Makanchi Array	28.36	49	P		P	07 21 12.3	+0.8	
PSZ	Piszkesteto	28.37	313	P		P	07 21 13.1	+1.5	
TIP	Timpagrande	28.51	294	⇑P		P	07 21 13.2	+0.2	
TIP	Timpagrande	28.51	294	P		P	07 21 12.1	-0.9	
TIP				IAmb	IAmb		07 21 37.1		
	comp=Z,15nm,0.9s								
MORH	Mrgy, Hungar	28.56	309	P		P	07 21 14.4	+1.2	
NACGM	Naroch	28.63	331	*e*P		P	07 21 13.4	-0.3	
SEM	Semipalatinsk	28.64	41	*e*P		P	07 21 15.0	+0.9	
SEM	Semipalatinsk	28.64	41	*e*P		P	07 21 15.1	+0.9	
	baz=41								
DANN	Dangsing	28.69	88	*e*P		P	07 21 16.8	+1.9	
	comp=Z,170nm,1.0s								
MATE	Matera	28.70	297	⇑P		P	07 21 14.9	+0.5	
KOLN	Koldanda	28.71	90	*e*P		P	07 21 17.2	+2.2	
HYBB	Hyderabad (bro	28.95	113	*e*P		P	07 21 15.4	-1.5	
LANS	Liptovska Anna	29.13	316	*e*P		P	07 21 18.8	+0.5	
LANS				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LANS	Liptovska Anna	29.13	316

comp=Z,670nm,18.2s,baz=120,slow=40
VRAC Vranov 30.93 314 *e*P **P 07 21 32.6 -1.5**
JIRN Jiri 30.95 89 *e*P **P 07 21 35.4 +0.4**
KRLC Kraliky 31.10 316 *e*P **P 07 21 36.5 +0.8**
KRLC MLR MLR
comp=Z,400nm,15.5s
KRLC Kraliky 31.10 316 *e*P **P 07 21 36.5 +0.8**
KRLC AMS AMS 07 35 30.0
comp=Z,400nm,15.5s
VSU Vasula 31.21 336 *i*P **P 07 21 36.0 -0.5**
VSU pmax pmax
comp=Z,77nm,0.7s
VSU Vasula 31.21 336 *e*P **P 07 21 36.0 -0.5**
WMQ Urumqi 31.26 57 *e*P **P 07 21 41.0 +3.7**
WMQ pP sP 07 21 48.5 +4.1
WMQ sP pP 07 21 55.5 +13
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.5s
WMQ LR LR
comp=Z,660nm,14.5s
WMQ LR LR
comp=Z,310nm,18.1s
DPC Dobruska-Polom 31.48 316 *e*P **P 07 21 37.5 -1.6**
DPC MLR MLR
comp=Z,500nm,22.3s
DPC Dobruska-Polom 31.48 316 *e*P **P 07 21 37.5 -1.6**
DPC AMS AMS 07 34 10.0
comp=Z,500nm,22.3s
RAMN Ramite 31.50 90 *e*P **P 07 21 40.0 +0.3**
comp=Z,37nm,0.6s
TREC Trest 31.60 314 AMS AMS 07 35 50.0
comp=Z,800nm,22.0s
OSTC Ostas 31.62 316 *e*P **P 07 21 39.5 -0.8**
OSTC AMS AMS 07 34 30.0
comp=Z,600nm,21.3s
UPC Upice 31.73 316 *e*P **P 07 21 41.8 +0.6**
UPC MLR MLR
comp=Z,500nm,17.6s
UPC Upice 31.73 316 *e*P **P 07 21 41.8 +0.6**
UPC AMS AMS 07 34 30.0
comp=Z,500nm,17.6s
CHVC Chvalec 31.73 316 *e*P **P 07 21 41.7 +0.5**
CHVC AMS AMS 07 34 30.0
comp=Z,600nm,24.8s
LODK Lodwar 31.78 210 P **P 07 21 42.5 +0.6**
MOA Molln 31.91 311 *e*P **P 07 21 43.3 +0.5**
comp=Z,5.6nm,0.5s
MYKA Terra Mystica 31.99 308 *i*P **P 07 21 44.0 +0.3**
comp=Z,5.7nm,1.1s
MURB Monte Urbino 32.13 302 P **P 07 21 44.8 -0.1**
MURB IAmb IAmb 07 22 13.9
comp=Z,16nm,0.9s
CKRC Cesky Krumlov 32.17 312 *e*P **P 07 21 46.1 +1.0**
VALR Valaam 32.25 342 *i*P **P 07 21 45.3 -0.3**
VALR pmax pmax
comp=Z,22nm,0.7s
BIOA Bad Ischl, Aus 32.27 310 P **P 07 21 46.0 0.0**
comp=Z,4.3nm,0.4s
KBA Koelnbreinsper 32.30 309 *i*P **P 07 21 46.3 -0.1**
comp=Z,15nm,0.9s
TAPN Taplejung 32.33 88 *e*P **P 07 21 47.8 +0.7**
PRU Pruhonice 32.41 315 *e*P **P 07 21 47.3 +0.1**
PRU MLR MLR
comp=Z,600nm,18.9s
PRU Pruhonice 32.41 315 *e*P **P 07 21 47.3 +0.1**
PRU AMS AMS 07 36 10.0
comp=Z,600nm,18.9s
MTSE Matsula 32.45 334 *e*P **P 07 21 47.0 -0.4**
GEC2 GERESS Array S 32.56 312 P **P 07 21 47.8 -0.8**
GERES GERESS Array B 32.56 312 P **P 07 21 47.9 -0.8**
comp=Z,2.9nm,0.6s,baz=87,slow=7.2,SNR=16
GERES PcP **PcP 07 24 34.4 -0.5**
comp=Z,1.7nm,0.6s,baz=56,slow=3.8,SNR=7.0
GERES ScP **ScP 07 28 17.9 -0.5**
comp=Z,0.5nm,0.2s,baz=99,slow=5.1,SNR=4.1
GERES LR LR 07 37 25.9
comp=Z,273nm,19.5s,baz=113,slow=41
PVCC Panska Ves 32.59 316 AMS AMS 07 36 20.0
comp=Z,500nm,21.0s
KHC Kasperske Hory 32.73 313 *e*P **P 07 21 49.0 -1.0**
KHC MLR MLR
comp=Z,500nm,11.3s
KHC Kasperske Hory 32.73 313 *e*P **P 07 21 49.0 -1.0**
KHC *ex* x 07 22 24.5
KHC AMS AMS 07 37 40.0
comp=Z,500nm,11.3s
KHC Kasperske Hory 32.73 313 P **P 07 21 49.1 -1.0**
ABTA Abfaltersbach 32.78 308 *i*P **P 07 21 50.2 -0.4**
comp=Z,6.2nm,0.8s
ZAA0 Zalesovo Array 32.82 38 P **P 07 21 51.8 +1.1**
ZALV Zalesovo Beam 32.82 38 P **P 07 21 50.9 +0.2**
comp=Z,3.7nm,0.6s,baz=249,slow=9.1,SNR=18
ZALV PcP **PcP 07 24 34.1 -1.3**
comp=Z,1.6nm,0.5s,baz=257,slow=2.4,SNR=3.3
ZALV LR LR 07 36 19.6
comp=Z,195nm,19.4s,baz=232,slow=38
ZALV Zalesovo Beam 32.82 38 P **P 07 21 50.8 +0.1**
BRG Berggiesshubel 33.08 316 *e*P **P 07 21 53.9 +0.9**
BRG Amp 07 21 56.8
comp=Z,4.8nm,0.7s
BRG Amp 07 36 58.0
comp=E,0.4nm,16.6s
BRG Amp 07 37 04.0
comp=Z,0.6nm,15.9s
BRG Amp 07 37 07.0
comp=N,0.5nm,18.5s
BRG Berggiesshubel 33.08 316 *e*P **P 07 21 53.9 +0.9**
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG MLR MLR
comp=E,370nm,16.6s
BRG MLR MLR
comp=Z,560nm,15.9s
BRG MLR MLR
comp=N,490nm,18.5s
CTI Castel Tesino 33.21 307 P **P 07 21 53.0 -1.4**
CTI pmax pmax
comp=Z,9.0nm,0.7s
CTI Castel Tesino 33.21 307 P **P 07 21 53.0 -1.4**
CTI IAmb IAmb 07 22 00.3
comp=Z,9.2nm,0.7s
MEF Metsahovi 33.32 336 *e*P **P 07 21 53.8 -1.1**
WTTA Wattenberg 33.48 309 *e*P **P 07 21 55.8 -0.9**
comp=Z,22nm,1.1s
WATA Walderalm 33.53 309 *e*P **P 07 21 56.5 -0.7**
comp=Z,15nm,1.0s
FIA1 FINESS Array S 33.69 339 P **P 07 21 57.2 -1.0**
FINES FINESS Array B 33.69 339 P **P 07 21 57.1 -1.0**
comp=Z,16nm,0.5s,baz=145,slow=8.3,SNR=34
FINES PcP **PcP 07 24 38.3 +0.7**
comp=Z,1.8nm,0.6s,baz=114,slow=3.5,SNR=2.3
FINES FINESS Array B 33.69 339 P **P 07 21 56.9 -1.3**
SQTA Sankt Quirin 33.75 309 *e*P **P 07 21 58.1 -1.0**
comp=Z,12nm,0.4s
NKC Novy Kostel 33.77 314 AMS AMS 07 37 00.0
comp=Z,400nm,15.8s
CLL Collm 33.79 316 P **P 07 21 58.2 -1.0**
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 33.79 316 P **P 07 21 58.2 -1.0**
CLL IAmb IAmb 07 22 03.6
comp=Z,9.6nm,0.9s
CLL Collm 33.79 316 *e*P **P 07 22 00.0 +0.8**
comp=Z,10.0nm,0.9s
CLL *ex* x 07 22 09.0
CLL *eS* **S 07 27 23.0 +0.6**
CLL *eSS* **SnSn 07 29 36.0 +8.8**
CLL LmV 07 37 00.0
comp=Z,600nm,19.1s
MOTA Moosalm 33.85 309 *e*P **P 07 21 58.2 -1.8**
comp=Z,6.5nm,0.5s
FETA Feichten 34.03 308 *e*P **P 07 21 59.8 -1.8**
comp=Z,12nm,0.7s
VSL Villasalto 34.24 295 P **P 07 22 03.3 0.0**
BSD Bornholm Skovb 34.30 323 *i*P **P 07 22 01.2 -2.3**
BSD IAmb IAmb 07 22 04.0
comp=Z,62nm,0.6s
BSD Bornholm Skovb 34.30 323 *e*P **P 07 22 01.5 -2.1**
GRF Grafenberg Arr 34.36 313 *e*P **P 07 22 05.6 +1.4**
comp=Z,4.3nm,0.9s,baz=112,slow=9.4
BLEU Blekinge 34.44 326 *i*P **P 07 22 04.4 -0.3**
KEST Kesra 34.46 288 P **P 07 22 06.1 +0.8**
comp=Z,10.0nm,0.8s,baz=90,slow=8.1,SNR=11
KEST Kesra 34.46 288 P **P 07 22 05.6 +0.2**

KEST IAmb IAmb 07 22 11.9
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 34.55 308 P **P 07 22 05.2 -0.9**
comp=Z,3.9nm,0.4s,baz=112,slow=6.8,SNR=9.5
DAVOX S **S 07 27 31.9 -2.8**
comp=Z,5.8nm,1.2s,baz=321,slow=19,SNR=2.3
DAVOX LR LR 07 37 27.7
comp=Z,502nm,18.6s,baz=80,slow=39
DAVA Damuels 34.65 308 *e*P **P 07 22 04.8 -2.2**
comp=Z,14nm,0.4s
RAF Rauma 34.80 336 *e*P **P 07 22 06.0 -1.8**
TUE Stuetta 34.86 307 P **P 07 22 07.8 -1.0**
TUE IAmb IAmb 07 22 15.5
comp=Z,9.2nm,0.6s
AAL Aland 34.89 333 *e*P **P 07 22 07.1 -1.4**
VIKU Vikbolandet 35.21 329 *e*P **P 07 22 11.3 -0.1**
DEL Delary 35.46 325 *i*P **P 07 22 11.9 -1.7**
DEL Delary 35.46 325 *e*P **P 07 22 12.2 -1.3**
UPP Uppsala 35.61 332 *e*P **P 07 22 13.2 -1.6**
KIBK Kibwezi 36.09 202 P **P 07 22 18.1 -1.3**
FABU Falkenberg 36.27 325 *i*P **P 07 22 18.9 -1.6**
SHL Shillong 36.44 89 P **P 07 22 22.1 -0.4**
SHL pmax pmax
comp=Z,32nm,1.0s
SHL Shillong 36.44 89 P **P 07 22 22.1 -0.4**
BNI Bardonecchia 36.52 304 P **P 07 22 21.5 -1.5**
BNI pmax pmax
comp=Z,23nm,0.9s
BNI Bardonecchia 36.52 304 P **P 07 22 21.5 -1.5**
BNI IAmb IAmb 07 22 48.5
comp=Z,23nm,0.9s
GOMU GeErMu 36.53 71 P **P 07 22 25.5 +2.1**
GOMU pP sP 07 22 29.5 -1.0
GOMU PP **PnPn 07 23 45.8 -0.3**
GOMU S **S 07 28 09.5 +3.9**
GOMU sS ScP 07 28 23.8 -9.4
GOMU pmax pmax
comp=Z,8.0nm,1.2s
GOMU pmax pmax
comp=Z,55nm,5.3s
GOMU LR LR
comp=Z,490nm,15.1s
GOMU LR LR
comp=Z,380nm,18.7s
GOMU LR LR
comp=Z,280nm,18.6s
BORU Boraas 36.54 326 *i*P **P 07 22 21.2 -1.6**
PALK Pallekele 37.09 125 P **P 07 22 29.7 +1.8**
comp=Z,14nm,1.0s,baz=307,slow=20,SNR=7.9
PALK LR LR 07 38 33.3
comp=Z,364nm,19.0s,baz=59,slow=38
PALK Pallekele 37.09 125 P **P 07 22 29.3 +1.3**
PALK IAmb IAmb 07 22 32.2
comp=Z,13nm,0.9s
TJOU Tjoern 37.27 326 *i*P **P 07 22 25.7 -3.2**
HFS Hagfors 37.40 330 P **P 07 22 28.4 -1.6**
comp=Z,36nm,0.7s,baz=154,slow=14,SNR=34
HFS LR LR 07 41 06.6
comp=Z,289nm,19.6s,baz=126,slow=42
MBAR Mbarara 37.44 214 P **P 07 22 31.4 +0.3**
MBAR pmax pmax
comp=Z,11nm,1.0s
MBAR Mbarara 37.44 214 P **P 07 22 31.4 +0.3**
MUD Monsted U'grnd 37.80 323 *i*P **P 07 22 33.0 -0.5**
MUD IAmb IAmb 07 22 35.3
comp=Z,20nm,0.6s
STRU Stroemstad 37.95 328 *i*P **P 07 22 32.5 -2.2**
OSL Oslo 38.58 329 *e*P **P 07 22 39.2 -0.9**
NC602 NORSAR Array S 38.62 330 *e*P **P 07 22 39.9 -0.5**
NC405 NORSAR Array S 38.74 331 P **P 07 22 39.9 -1.5**
HOMB Homborsund 38.86 325 *e*P **P 07 22 41.9 -0.5**
NB201 NORSAR Array S 38.89 330 P **P 07 22 41.0 -1.7**
NB2 NORSAR Subarra 38.91 330 P **P 07 22 41.1 -1.8**
comp=Z,7.9nm,0.6s,baz=121,slow=8.6
NB2 NORSAR Subarra 38.91 330 P **P 07 22 41.1 -1.8**
baz=121,slow=8.6
NOA NORSAR Array B 38.91 330 P **P 07 22 40.7 -2.2**
comp=Z,7.3nm,0.6s,baz=122,slow=8.3,SNR=22
NOA LR LR 07 40 53.6
comp=Z,273nm,20.0s,baz=135,slow=40
NC303 NORSAR Array S 38.94 331 P **P 07 22 41.9 -1.2**
NC303 IAmb IAmb 07 22 48.7
comp=Z,13nm,0.8s
KONO Kongsberg 38.95 328 *ce*P **P 07 22 42.6 -0.5**
KONO pmax pmax
comp=Z,40nm,1.3s
KONO Kongsberg 38.95 328 *e*P **P 07 22 41.8 -1.3**
NAO01 NORSAR Array S 38.95 330 P **P 07 22 42.2 -1.0**
KNGR Kungurtug, Tuv 39.08 47 *i*P **P 07 22 45.6 +1.1**
NBO00 NORSAR Array S 39.09 330 P **P 07 22 43.0 -1.4**
SNART Snartemo 39.52 325 *e*P **P 07 22 47.3 -0.6**
SKAR Skarslia 39.99 329 *e*P **P 07 22 51.2 -0.7**
GTA Gaotai 40.16 65 *e*P **P 07 22 55.5 +1.8**
GTA pP sP 07 23 02.8 +1.9
GTA sP pP 07 23 07.0 +8.2
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,76nm,7.2s
GTA LR LR
comp=Z,1μm,21.9s
GTA LR LR
comp=Z,620nm,19.5s
GTA LR LR
comp=Z,610nm,19.5s
BLS5 Blasjo 40.30 326 *e*P **P 07 22 53.9 -0.5**
DOMB Dombas 40.31 331 *e*P **P 07 22 53.7 -0.8**
ARCES ARCESS Array B 40.34 347 P **P 07 22 53.9 -0.7**
comp=Z,2.0nm,0.5s,baz=144,slow=10,SNR=14
ARCES PP **PP 07 24 28.1 +0.8**
comp=Z,4.1nm,0.7s,baz=148,slow=10,SNR=3.6
ARCES LR LR 07 40 27.0
comp=Z,215nm,18.6s,baz=146,slow=38
ODD1 Odda 40.42 327 *e*P **P 07 22 55.1 -0.3**
NSS Namsos 40.51 335 *e*P **P 07 22 56.6 +0.5**
HYA Hoyanger 41.14 329 *e*P **P 07 23 00.9 -0.4**
MOL Molde 41.18 331 *e*P **P 07 23 00.4 -1.2**
STOK Stokkvaagen 41.23 338 *e*P **P 07 23 01.5 -0.4**
AKN Aaknes 41.23 330 *e*P **P 07 23 01.6 -0.4**
KONS Konsvik 41.30 338 *e*P **P 07 23 02.3 -0.2**
ASK Askoy 41.30 328 *e*P **P 07 23 02.0 -0.6**
MOY Mondy 41.41 46 *e*P **P 07 23 07.0 +3.2**
MOY pmax pmax
comp=Z,14nm,1.3s
STEI Steigen 41.59 341 *e*P **P 07 23 05.2 +0.3**
SUE Sulen 41.73 328 *e*P **P 07 23 05.2 -0.9**
FOO Floro 41.82 329 *e*P **P 07 23 06.1 -0.7**
ZAK Zakamensk 42.69 49 *e*P **P 07 23 14.8 +0.5**
ZAK *e* 07 24 55.7
ZAK pmax pmax
comp=Z,8.0nm,1.5s
ZAK pmax pmax
comp=Z,6.0nm,1.4s
NRIK Noril'sk 42.87 18 P **P 07 23 15.6 +0.2**
comp=Z,2.4nm,0.6s,baz=236,slow=6.0,SNR=6.0
NRIK LR LR 07 44 38.6
comp=Z,371nm,19.4s,baz=220,slow=41
NRIK Noril'sk 42.87 18 *ce*P **P 07 23 15.9 +0.6**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
NRIK Noril'sk 42.87 18 P **P 07 23 15.6 +0.2**
LZH Lanzhou 43.77 69 *e*P **P 07 23 27.0 +3.7**
LZH pP sP 07 23 34.5 +4.0
LZH pmax pmax
comp=Z,23nm,1.6s
LZH LR LR
comp=Z,1μm,17.3s
LZH LR LR
comp=Z,730nm,16.8s
LZH LR LR
comp=Z,400nm,18.5s
EKA Eskdalemuir Ar 44.17 318 P **P 07 23 23.8 -2.1**
comp=Z,1.5nm,0.4s,baz=107,slow=8.1,SNR=18
EKA PcP **PcP 07 25 11.6 +0.9**
comp=Z,1.2nm,0.6s,baz=106,slow=5.2,SNR=4.4
EKA LR LR 07 44 20.0
comp=Z,430nm,20.7s,baz=106,slow=40
DGAR Diego Garcia 44.19 148 *ce*P **P 07 23 25.7 -0.9**
DGAR pmax pmax
comp=Z,109nm,1.7s
PZH PanZhiHua 44.50 83 ⇓P **P 07 23 31.0 +1.8**
PZH S **S 07 29 58.0 -6.2**
PZH SS **SS 07 33 14.0 -10**
PZH pmax pmax
comp=Z,10.0nm,0.7s

PZH pmax pmax
comp=Z,70nm,6.4s
PZH LR LR
comp=Z,780nm,20.2s
PZH LR LR
comp=Z,1μm,21.4s
PZH LR LR
comp=Z,1μm,20.6s
ESDC Sonseca Array 44.51 296 P **P 07 23 27.0 -2.0**
comp=Z,4.6nm,0.9s,baz=76,slow=7.5,SNR=15
ESDC LR LR 07 43 01.3
comp=Z,227nm,20.1s,baz=81,slow=38
SONM Songino Array 44.62 52 P **P 07 23 31.0 +1.2**
comp=Z,2.1nm,0.8s,baz=265,slow=11,SNR=6.8
SONM PcP **PcP 07 25 13.0 +0.5**
comp=Z,1.1nm,0.6s,baz=241,slow=4.8,SNR=3.4
SONM LR LR 07 42 29.4
comp=Z,335nm,21.4s,baz=262,slow=36
ULN Ulaanbaatar 45.06 52 *ce*P **P 07 23 34.8 +1.4**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 45.06 52 P **P 07 23 34.3 +0.9**
CHTO Chiang Mai 45.10 95 P **P 07 23 34.5 +0.6**
CHTO pmax pmax
comp=Z,18nm,1.3s
CHTO Chiang Mai 45.10 95 P **P 07 23 34.5 +0.6**
CHTO IAmb IAmb 07 23 47.7
comp=Z,18nm,1.2s
CMAR Chiang Mai Arr 45.25 95 P **P 07 23 35.8 +0.7**
comp=Z,1.7nm,0.3s,baz=292,slow=9.2,SNR=11
CMAR LR LR 07 45 52.2
comp=Z,218nm,20.8s,baz=290,slow=40
CMAR Chiang Mai Arr 45.25 95 P **P 07 23 36.1 +1.0**
CMAR Chiang Mai Arr 45.25 95 P **P 07 23 36.0 +1.0**
KMI Kunming 45.81 85 ⇑P **P 07 23 40.5 +0.8**
KMI pP sP 07 23 48.0 +1.1
KMI pmax pmax
comp=Z,19nm,1.2s
KMI LR LR
comp=Z,190nm,16.5s
KMI LR LR
comp=Z,260nm,14.4s
KMI LR LR
comp=Z,290nm,17.6s
MVO Moncorvo 46.63 298 *e*P **P 07 23 44.8 -1.0**
comp=Z,37nm,1.6s
PBAR Barrancos 47.11 294 *e*P **P 07 23 48.9 -0.6**
comp=Z,49nm,2.0s
MTE Manteigas 47.13 298 *e*P **P 07 23 49.9 +0.2**
comp=Z,46nm,1.2s
PVRL Vila Real 47.13 299 *e*P **P 07 23 49.8 +0.1**
comp=Z,45nm,1.9s
PCBR Castelo Branco 47.16 297 *e*P **P 07 23 49.5 -0.4**
comp=Z,62nm,0.9s
PMRV Marv??o 47.17 296 *e*P **P 07 23 49.7 -0.3**
comp=Z,35nm,1.7s
POLO Lamas de Olo 47.17 299 *e*P **P 07 23 50.9 +0.8**
comp=Z,26nm,1.6s
PVIS Viseu 47.34 298 *e*P **P 07 23 48.1 -3.2**
comp=Z,82nm,1.5s
PESTR Estremoz 47.41 295 *e*P **P 07 23 51.6 -0.3**
comp=Z,34nm,1.5s
PGAV Gavieira, Arco 47.44 300 *e*P **P 07 23 53.9 +1.7**
comp=Z,71nm,1.4s
PBEJ Beja 47.78 294 *e*P **P 07 23 54.2 -0.6**
comp=Z,35nm,1.9s
PCAS Casmilo, Conde 47.90 297 *e*P **P 07 23 55.2 -0.5**
comp=Z,78nm,1.9s
XAN Xi'an 48.28 71 P **P 07 23 59.5 +0.8**
XAN pP sP 07 24 08.8 +2.9
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,100nm,3.7s
XAN LR LR
comp=Z,870nm,20.5s
XAN LR LR
comp=Z,740nm,21.7s
XAN LR LR
comp=Z,490nm,23.5s
PNCL Nicolau / Gran 48.28 295 *e*P **P 07 23 59.0 +0.4**
comp=Z,61nm,1.4s
TOA0 Torodi Ar. Sit 48.57 259 P **P 07 23 59.9 -1.2**
TORD Torodi Ar. Bea 48.57 259 P **P 07 24 00.2 -0.9**
comp=Z,18nm,0.9s,baz=58,slow=7.2,SNR=72
TORD Torodi Ar. Bea 48.57 259 P **P 07 23 59.7 -1.4**
GYA Guiyang 48.66 81 ⇓P **P 07 24 03.5 +1.7**
GYA S **S 07 31 01.5 -2.4**
GYA pmax pmax
comp=Z,14nm,1.0s
GYA pmax pmax
comp=Z,41nm,3.5s
GYA LR LR
comp=Z,94nm,5.2s
GYA LR LR
comp=Z,60nm,3.8s
GYA LR LR
comp=Z,18nm,3.4s
SPITS Spitsbergen Ar 48.80 351 P **P 07 24 02.0 0.0**
comp=Z,10nm,0.8s,baz=140,slow=13,SNR=20
HHC Hu-ho-hao-te 48.91 61 *e*P **P 07 24 04.5 +0.9**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,83nm,4.7s
HHC LR LR
comp=Z,310nm,17.4s
HHC LR LR
comp=Z,310nm,15.6s
HHC LR LR
comp=Z,220nm,15.7s
BOD Bodaibo 49.55 39 *e*P **P 07 24 07.8 -0.2**
BOD pmax pmax
comp=Z,14nm,1.5s
JMIC Jan Mayen 50.31 339 LR LR 07 47 10.6
comp=Z,149nm,20.7s,baz=62,slow=38
LYN LuoYang 50.98 69 *e*P **P 07 24 20.3 +1.0**
LYN pP sP 07 24 32.3 +5.8
LYN sP pP 07 24 38.0 +14
LYN S **S 07 31 43.3 +7.4**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,100nm,4.5s
LYN LR LR
comp=Z,680nm,18.1s
LYN LR LR
comp=Z,370nm,18.0s
LYN LR LR
comp=Z,250nm,20.2s
LSZ Lusaka 51.62 208 LR LR 07 45 44.6
comp=Z,407nm,18.3s,baz=36,slow=35
XLT XiLinHaoTe 51.70 57 *e*P P 07 24 30.5 +5.9
XLT S **S 07 31 47.3 +1.6**
XLT SS **SS 07 35 20.0 -1.8**
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,65nm,3.7s
XLT LR LR
comp=Z,520nm,13.1s
XLT LR LR
comp=Z,410nm,12.2s
KOWA Kowa 52.71 264 P **P 07 24 31.2 -1.1**
KOWA IAmb IAmb 07 24 46.5
comp=Z,18nm,0.8s
WHN Wuhan 53.68 74 ⇓P **P 07 24 43.0 +3.7**
WHN pmax pmax
comp=Z,30nm,0.7s
WHN LR LR
comp=Z,520nm,12.1s
WHN LR LR
comp=Z,1μm,18.1s
BORG Borgarnes 54.08 330 LR LR 07 48 47.8
comp=Z,90nm,20.0s,baz=98,slow=37
TIA Tai'an 54.20 66 ⇑P **P 07 24 45.0 +1.9**
TIA pmax pmax
comp=Z,12nm,0.9s
QIZ Qiongzhong 54.27 89 P **P 07 24 44.8 +1.0**
QIZ sP **sP 07 24 56.5 +5.5**
QIZ S **S 07 32 19.0 -2.2**
QIZ LR LR
comp=Z,190nm,21.6s
QIZ LR LR
comp=Z,250nm,18.6s
QIZ LR LR
comp=Z,330nm,21.1s

IPM Ipoh 54.32 109 P P 07 24 43.9 -0.3
IPM IAmb IAmb 07 24 46.7
comp=Z,17nm,1.0s

DBG Daneborg 54.49 342 *i* P P 07 24 44.0 -0.6
DBG IAmb IAmb 07 24 47.0
comp=Z,3.0nm,0.7s

DAG Danmarks Havn 54.56 345 *i* P P 07 24 43.2 -1.8
DAG IAmb IAmb 07 24 46.7
comp=Z,6.7nm,0.6s

NOR Nord 55.43 351 *i* P P 07 24 49.9 -1.4
NOR IAmb IAmb 07 24 52.4
comp=Z,4.7nm,0.7s

MATP Matopo 56.19 205 LR LR 07 49 50.0
comp=Z,253nm,19.4s,baz=28,slow=37

TIXI Tiksi 56.38 22 P P 07 24 57.4 -0.7
comp=Z,1.1nm,0.3s,baz=339,slow=5.5,SNR=3.6

TIXI Tiksi 56.38 22 P P 07 24 59.5 +1.3
TIXI pmax pmax
comp=Z,6.0nm,1.1s

TIXI Tiksi 56.38 22 P P 07 24 59.5 +1.3
NJ2 Nanjing 56.83 70 *eP* P 07 25 02.0 0.0
NJ2 LR LR
comp=Z,580nm,16.7s

NJ2 LR LR
comp=Z,410nm,19.6s

NJ2 LR LR
comp=Z,420nm,18.6s

PPI Padang Panjang 56.83 114 P P 07 25 04.4 +2.2
comp=Z,8.1nm,0.5s

BKNI Bangkinang 56.84 113 P P 07 25 02.5 +0.2
ZEA Zeya 57.27 43 *eP* P 07 25 06.8 +2.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s

ZEA MLR MLR
comp=E,100nm,14.0s

ZEA MLR MLR
comp=Z,200nm,21.0s

YAK Yakutsk 57.30 33 *i* P P 07 25 06.2 +1.4
YAK pmax pmax
comp=Z,12nm,0.8s

DBIC Dimbokro 57.46 257 P P 07 25 06.1 -0.6
comp=Z,18nm,0.9s,baz=65,slow=7.1,SNR=10

DBIC LR LR 07 51 32.1
comp=Z,426nm,18.6s,baz=66,slow=38

KIC Kosan Boka 57.54 256 *eP* P 07 25 06.4 -0.9
comp=Z,43nm,0.9s

TIC Toumodi 57.61 257 *eP* P 07 25 08.3 +0.5
LIC Lamto 57.85 256 *eP* P 07 25 09.1 -0.3
comp=Z,39nm,1.0s

CN2 Changchun 58.33 55 *eP* P 07 25 13.3 +0.9
CN2 S S 07 33 10.8 -3.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s

CN2 pmax pmax
comp=Z,100nm,3.0s

CN2 LR LR
comp=Z,400nm,17.0s

CN2 LR LR
comp=Z,400nm,17.0s

CN2 LR LR
comp=Z,400nm,18.0s

TSUM Tsumeb 59.91 217 LR LR 07 53 01.7
comp=Z,124nm,18.4s,baz=52,slow=38

ICESG Greenland Ices 60.80 336 *i* P P 07 25 28.6 -0.9
ICESG IAmb IAmb 07 25 30.8
comp=Z,7.5nm,0.6s

ANGG Ammassalik, Gr 60.82 332 *i* P P 07 25 28.0 -1.2
ANGG IAmb IAmb 07 25 30.6
comp=Z,10nm,0.6s

KLR Kul'dur 61.05 48 P P 07 25 30.0 -1.1
comp=Z,0.4nm,0.3s,baz=282,slow=4.6,SNR=2.7

KLR LR LR 07 53 56.6
comp=Z,218nm,18.2s,baz=242,slow=38

KLR Kul'dur 61.05 48 *i* P P 07 25 34.0 +2.9
KLR pmax pmax
comp=Z,7.0nm,1.6s

ISOG Isortoq, Green 61.38 332 *i* P P 07 25 31.0 -1.9
ISOG IAmb IAmb 07 25 33.9
comp=Z,10nm,0.6s

LBTB Lobatse 61.45 206 P P 07 25 33.8 -0.3
LBTB pmax pmax
comp=Z,15nm,0.9s

LBTB Lobatse 61.45 206 P P 07 25 33.8 -0.3
KS19 Wonju Array Si 62.00 61 P P 07 25 38.5 +0.8
KS19 IAmb IAmb 07 25 39.6
comp=Z,10nm,0.8s

KSAR Wonju Array Be 62.03 61 P P 07 25 38.6 +0.7
KSAR Wonju Array Be 62.03 61 P P 07 25 38.6 +0.7
KSRS Korea Array 62.06 61 P P 07 25 37.6 -0.4
comp=Z,7.6nm,0.7s,baz=282,slow=6.7,SNR=25

KSRS LR LR 07 54 10.7
comp=Z,280nm,18.1s,baz=275,slow=38

KLSI 62.84 115 P P 07 25 43.1 -0.5
comp=Z,4.6nm,1.0s

KASI Kota Agung 63.19 116 P P 07 25 44.7 -1.2
comp=Z,29nm,1.0s

DY2G Dye2 63.95 334 *i* P P 07 25 49.2 -1.2
DY2G IAmb IAmb 07 25 52.4
comp=Z,19nm,0.6s

BOSA Boshof 64.85 205 P P 07 25 57.5 +1.0
comp=Z,9.1nm,0.7s,baz=22,slow=5.3,SNR=13

BOSA LR LR 07 56 10.8
comp=Z,202nm,18.1s,baz=30,slow=38

BOSA Boshof 64.85 205 P P 07 25 57.0 +0.5
SFJD Kangerlussuaq 65.37 335 LR LR 07 56 37.8
comp=Z,121nm,18.2s,baz=65,slow=38

TULEG Thule 65.67 347 P P 07 26 00.3 -0.9
TULEG IAmb IAmb 07 26 37.4
comp=Z,6.2nm,0.6s

EUNU Eureka 65.88 353 P P 07 26 02.7 +0.1
EUNU IAmb IAmb 07 26 13.4
comp=Z,8.2nm,1.0s

JNU Nakatsue 65.90 65 P P 07 26 03.5 0.0
comp=Z,5.4nm,0.8s,baz=346,slow=4.2,SNR=5.1

JNU Nakatsue 65.90 65 IAmb IAmb 07 28 17.2
comp=Z,16nm,1.3s

CNJI Cibinong 66.34 116 P P 07 26 07.5 +1.1
comp=Z,53nm,1.2s

JOW Kunigami 66.40 72 LR LR 07 56 49.5
comp=Z,286nm,21.8s,baz=273,slow=38

LEM Lembang 66.41 115 LR LR 07 56 40.2
comp=Z,123nm,19.2s,baz=334,slow=37

SEY Seymchan 67.13 29 P P 07 26 11.0 +0.3
comp=Z,7.9nm,0.7s,baz=267,slow=7.4,SNR=39

SEY LR LR 07 58 49.1
comp=Z,207nm,18.8s,baz=254,slow=39

SEY Seymchan 67.13 29 *ceP* P 07 26 11.9 +1.1
SEY pmax pmax
comp=Z,8.0nm,0.7s

MA2 Magadan 67.86 33 *ceP* P 07 26 16.6 +1.2
MA2 pmax pmax
comp=Z,7.0nm,1.0s

MA2 Magadan 67.86 33 P P 07 26 15.3 -0.1
MA2 IAmb IAmb 07 26 18.3
comp=Z,6.1nm,0.9s

JMN Monobe 67.95 63 P P 07 26 17.1 +0.6
YSS Yuzh-Sakhalins 68.75 47 *eP* P 07 26 22.0 +0.8
YSS pmax pmax
comp=Z,10.0nm,0.8s

YSS MLR MLR
comp=E,200nm,14.0s

YSS MLR MLR
comp=Z,500nm,14.0s

BILL Bilibino 69.59 21 *c i* P P 07 26 26.0 -0.1
BILL *e* 07 28 59.0
BILL *eS* PnS 07 36 02.4 +3.3
BILL *eSS* SS 07 40 09.3 +9.0
BILL pmax pmax
comp=Z,7.0nm,0.7s

BILL MLR MLR
comp=Z,147nm,15.0s

BILL Bilibino 69.59 21 P P 07 26 25.8 -0.3
BILL IAmb IAmb 07 26 27.8
comp=Z,7.9nm,0.8s

SUR Sutherland 69.88 207 LR LR 07 59 15.0
comp=Z,231nm,18.2s,baz=32,slow=38

MJAR Matsushiro Arr 70.00 59 LR LR 07 57 56.1
comp=Z,131nm,20.3s,baz=304,slow=36

MPSI Mapaga 72.17 101 P P 07 26 43.8 +1.2
comp=Z,19nm,1.2s

JHJ Hachijo jima 2 72.67 62 LR LR 08 01 16.0
comp=Z,131nm,18.3s,baz=283,slow=38

FRB Frobisher Bay 73.44 336 LR LR 07 59 41.3
comp=Z,150nm,21.4s,baz=37,slow=36

PETK Petropavlovsk- 74.36 37 LR LR 08 02 38.5
comp=Z,126nm,18.1s,baz=304,slow=38

KAPI Kappang 75.02 106 P P 07 26 59.5 +0.1
KAPI pmax pmax
comp=Z,15nm,1.1s

KAPI Kappang 75.02 106 P P 07 26 59.5 +0.1
KAPI IAmb IAmb 07 27 01.4
comp=Z,15nm,1.1s

A36M Sachs Harbour 76.41 359 P P 07 27 05.8 -0.5
A36M Sachs Harbour 76.41 359 P P 07 27 04.7 -1.7
baz=3.6

JCJ Chichijima 77.34 66 LR LR 08 03 36.2
comp=Z,93nm,21.5s,baz=308,slow=37

TNA Tin City 78.39 15 P P 07 27 17.3 -0.3
SCHQ Schefferville 78.45 328 P P 07 27 17.8 -0.3
comp=Z,4.2nm,0.7s,baz=38,slow=3.3,SNR=16

SCHQ LR LR 08 01 39.5
comp=Z,83nm,19.8s,baz=92,slow=36

SCHQ Schefferville 78.45 328 P P 07 27 17.6 -0.5
SANI Sanana 78.56 100 P P 07 27 20.9 +1.5
comp=Z,30nm,0.7s

TOLK Toolik Lake Re 78.68 7 P P 07 27 18.9 -0.3
TOLK IAmb IAmb 07 27 20.8
comp=Z,10nm,0.8s

TOLK Toolik Lake Re 78.68 7 P P 07 27 18.1 -1.1
baz=343

GAMB Gambell 78.95 18 P P 07 27 19.4 -1.2
baz=324

C36M Paulatuk 79.03 358 P P 07 27 21.0 0.0
C36M IAmb IAmb 07 27 28.7
comp=Z,29nm,1.9s

C36M Paulatuk 79.03 358 P P 07 27 19.6 -1.4
baz=4.6

ANM Nome 79.81 15 P P 07 27 24.3 -1.1
baz=330

COLD Coldfoot 79.96 8 P P 07 27 26.1 0.0
COLD Coldfoot 79.96 8 P P 07 27 25.4 -0.7
baz=342

INK Inuvik 80.10 2 P P 07 27 25.7 -1.1
comp=Z,2.2nm,0.7s,baz=343,slow=2.8,SNR=3.1

INK LR LR 08 09 15.4
comp=Z,63nm,20.4s,baz=350,slow=40

INK Inuvik 80.10 2 P P 07 27 27.0 +0.2
INK pmax pmax
comp=Z,5.0nm,1.0s

INK Inuvik 80.10 2 P P 07 27 26.9 +0.2
INK Inuvik 80.10 2 P P 07 27 25.7 -1.1
baz=356

BMAR Burnt Mountain 80.35 6 P P 07 27 27.8 -0.5
IMAR Indian Mountai 80.66 10 P P 07 27 28.9 -1.0
H21K Melozitna Rive 81.11 10 P P 07 27 32.0 -0.3
baz=340,SNR=8.4

BATI Baumata 81.14 108 P P 07 27 34.3 +0.9
comp=Z,22nm,0.4s,baz=346,slow=8.3

BATI LR LR 08 06 29.3
comp=Z,127nm,20.4s,baz=284,slow=38

H24K Noodor Dome 81.56 8 P P 07 27 34.1 -0.7
baz=344

I21K Tanana 81.67 9 P P 07 27 35.7 +0.4
I21K Tanana 81.67 9 P P 07 27 34.7 -0.6
baz=341

EPYK Eagle Plains 81.92 3 P P 07 27 35.6 -1.1
baz=354

MLY Manley 81.98 9 P P 07 27 37.5 +0.4
MLY Manley 81.98 9 P P 07 27 35.2 -1.9
baz=342

I23K Minto, Yukon-K 82.05 8 P P 07 27 36.3 -1.0
baz=343

J20K Nowinta River 82.29 11 P P 07 27 38.4 -0.2
J20K IAmb IAmb 07 27 39.5
comp=Z,6.2nm,0.7s

J20K Nowinta River 82.29 11 P P 07 27 38.0 -0.6
baz=339,SNR=9.2

POKR Poker Plat Res 82.31 8 P P 07 27 37.8 -0.9
baz=345

MDM Murphy Dome 82.37 8 P P 07 27 38.9 -0.1
MDM IAmb IAmb 07 27 40.2
comp=Z,6.6nm,0.9s

SHEM Shemya Is, Ala 82.39 31 LR LR 08 08 58.0
comp=Z,76nm,18.2s,baz=320,slow=39

TCOL CIGO, UAF Yank 82.50 8 P P 07 27 38.2 -1.5
baz=344

COLA College 82.50 8 P P 07 27 38.5 -1.1
baz=344

NEA2 Nenana 82.62 8 P P 07 27 39.4 -0.9
baz=343

ILAR Eielson Array 82.71 8 P P 07 27 39.5 -1.3
comp=Z,1.9nm,0.7s,baz=326,slow=3.9,SNR=24

ILAR LR LR 08 10 37.7
comp=Z,77nm,19.6s,baz=337,slow=40

BPAW Bear Paw Mtn. 82.84 9 P P 07 27 41.1 -0.4
BPAW IAmb IAmb 07 27 48.7
comp=Z,8.3nm,1.0s

BPAW Bear Paw Mtn. 82.84 9 P P 07 27 40.1 -1.4
baz=342,SNR=6.6

I29M Ogilvie Camp, 82.85 4 P P 07 27 39.5 -2.0
baz=352

CHUM Lake Minchumin 82.85 10 P P 07 27 40.4 -1.1
baz=340,SNR=7.3

J25K Salcha River, 83.02 7 P P 07 27 41.9 -0.6
J25K IAmb IAmb 07 27 48.8
comp=Z,5.0nm,0.8s

J25K Salcha River, 83.02 7 P P 07 27 41.2 -1.3
baz=346,SNR=7.8

K20K Telida 83.07 11 P P 07 27 42.5 -0.2
K20K IAmb IAmb 07 27 50.2
comp=Z,13nm,1.1s

K20K Telida 83.07 11 P P 07 27 41.9 -0.8
baz=339

TTA Tatalina 83.14 12 P P 07 27 42.0 -1.1
baz=337

EGAK Eagle 83.24 5 P P 07 27 42.8 -0.7
baz=350

J26L Joseph Creek 83.31 6 P P 07 27 43.0 -1.0
baz=348,SNR=5.8

CAST Castle Rocks 83.33 10 P P 07 27 43.0 -1.1
baz=341,SNR=11

MCK McKinley 83.47 9 P P 07 27 43.9 -0.9
baz=343

TRF Thorofare Moun 83.55 9 P P 07 27 43.9 -1.5
baz=342

SCRK Sand Creek 83.78 6 P P 07 27 46.2 -0.3
SCRK IAmb IAmb 07 27 47.8
comp=Z,6.1nm,0.8s

SCRK Sand Creek 83.78 6 P P 07 27 44.7 -1.8
baz=348,SNR=10

L20K Farewell, AK 83.93 11 P P 07 27 46.2 -1.0
baz=339

RIDG Independent Ri 83.93 7 P P 07 27 45.9 -1.3
baz=347

DAWY Dawson 84.07 4 P P 07 27 46.9 -1.0
baz=351

DHY Denali Highway 84.29 8 P P 07 27 48.0 -1.2
baz=345

M20K Styx River 84.61 11 P P 07 27 49.5 -1.2
baz=340

BCAR Beaver Creek A 84.88 6 P P 07 27 51.8 -0.2
L27K Beaver Creek, 84.88 6 P P 07 27 51.0 -1.0
baz=339,SNR=5.6

HARP HAARP 85.21 7 P P 07 27 52.9 -0.7
baz=347

YKA Yellowknife Ar 85.25 353 P P 07 27 52.4 -1.4
comp=Z,1.5nm,0.7s,baz=12,slow=5.4,SNR=38

YKA PP PP 07 31 02.9 -7.6
comp=Z,0.3nm,0.6s,baz=12,slow=6.6,SNR=3.8

YKA LR LR 08 10 31.9
comp=Z,62nm,20.8s,baz=68,slow=39

YKA Yellowknife Ar 85.25 353 P P 07 27 53.4 -0.4
YKA Yellowknife Ar 85.25 353 P P 07 27 53.4 -0.4
M24K Tolsona, Glenn 85.38 8 P P 07 27 52.6 -1.9
baz=346

SML Sawmill 85.40 9 P P 07 27 53.1 -1.5
baz=344

PMR Palmer 85.50 9 P P 07 27 53.7 -1.3
baz=343

M27K Edge Creek, AK 85.57 6 P P 07 27 56.4 +0.8
M27K IAmb IAmb 07 27 57.8
comp=Z,7.4nm,0.8s

M27K Edge Creek, AK 85.57 6 P P 07 27 54.7 -0.9
baz=349

KLU Klutina 86.00 8 P P 07 27 56.4 -1.2
baz=346

M31M Drury Creek, Y 86.19 2 P P 07 27 57.2 -1.2
baz=356

YUK3 Moose Creek 86.26 5 P P 07 27 57.2 -1.9
baz=351,SNR=7.1

PWL Port Wells 86.31 9 P P 07 27 57.6 -1.5
baz=344

YUK4 Talbot Arm 86.82 5 P P 07 27 59.6 -2.2
baz=352,SNR=5.4

SEW Seward 86.88 10 P P 07 28 00.8 -1.0
baz=343

TGTN Hyland Airport 86.95 360 P P 07 28 02.2 -0.1
baz=0.9

FITZ Fitzroy Crossi 87.18 113 P P 07 28 03.2 -0.7
comp=Z,5.7nm,0.8s,baz=268,slow=4.0,SNR=5.4

HYT Haines Junctio 87.41 4 P P 07 28 03.9 -0.7
baz=353

Q23K Middleton Isla 87.96 9 P P 07 28 06.5 -0.6
baz=346

P33M Teslin, Yukon 88.23 2 P P 07 28 07.6 -0.9
baz=357

KDAK Kodiak Island 88.57 12 LR LR 08 14 22.5
comp=Z,113nm,18.5s,baz=356,slow=40

SKAG Skagway 88.89 3 P P 07 28 10.9 -0.5
baz=355

DLBC Dease Lake 90.05 0 LR LR 08 19 28.9
comp=Z,40nm,18.3s,baz=5.0,slow=43

RCBR Riachuelo 90.22 263 LR LR 08 09 21.7
comp=Z,171nm,20.5s,baz=202,slow=36

SADO Sadowa 91.17 327 LR LR 08 12 04.2
comp=Z,72nm,18.0s,baz=26,slow=37

JAY Jayapura 91.25 92 LR LR 08 12 43.3
comp=Z,44nm,20.6s,baz=346,slow=38

ULM Lac du Bonnet 93.08 339 LR LR 08 10 33.8
comp=Z,84nm,21.2s,baz=41,slow=36

WRA Warramunga Arr 95.07 110 P P 07 28 40.8 0.0
comp=Z,1.1nm,1.0s,baz=305,slow=4.6,SNR=4.8

WRA PKKP PKKPdf 07 45 37.1 +1.8
comp=Z,0.3nm,0.6s,baz=120,slow=2.8,SNR=5.9

WRA LR LR 08 16 30.3
comp=Z,98nm,18.2s,baz=254,slow=39

BBB Bella Bella 96.32 359 LR LR 08 20 49.5
comp=Z,58nm,19.7s,baz=338,slow=41

ASAR Alice Springs 96.68 114 P P 07 28 47.9 -0.2
comp=Z,0.7nm,0.7s,baz=310,slow=4.8,SNR=3.1

MDP Montagnes des 98.64 281 LR LR 08 17 14.9
comp=Z,60nm,19.0s,baz=42,slow=38

MAW Mawson 99.57 175 LR LR 08 13 54.5
comp=Z,64nm,18.1s,baz=324,slow=35

DUG Dugway, Tooele 106.72 347 P PKiKP 07 33 41.7 -1.3
baz=15

M02C Callahan 106.88 355 P PKiKP 07 33 42.1 -1.2
baz=5.8

O03E Paynes Creek 107.89 354 P PKiKP 07 33 44.0 -1.1
baz=6.7

O02D Mt. Diablo Mer 108.09 355 P PKiKP 07 33 44.3 -1.2
baz=5.9

MVCO Mesa Verde 108.61 343 P PKiKP 07 33 45.9 -0.9
baz=19

NVAR Mina Array Bea 109.34 351 PKiKP PKiKP 07 33 49.7 +1.6
comp=Z,0.4nm,0.7s,baz=4.1,slow=1.3,SNR=4.7

NVAR PKKP PKKPdf 07 45 04.1 -3.8
comp=Z,0.3nm,0.7s,baz=196,slow=6.2,SNR=3.5

TXAR Lajitas Array 114.48 336 PKP PKiKP 07 33 57.7 -0.2
comp=Z,0.2nm,0.7s,baz=98,slow=1.8,SNR=2.0

QSPA South Pole Qui 121.68 180 PKP PKiKP 07 34 11.6 +1.0
comp=Z,2.7nm,0.8s,baz=283,slow=0.7,SNR=9.5

NEIC ***31*** *07:17:19.3±1.7, 18°.78S±0°.07×67°.3W±0°.1, h242km±12km, mb4.5/7, Error ellipse: s-maj=16.7km s-min=10.6km az=99.0*

IDC ***31*** *07:17:19.0±1.2, 18°.68S×67°.21W, h236km±10km, mb3.2/5, mb1 3.5/9, mb1mx3.3/33, mbtmp4.0/9, Error ellipse: s-maj=22.0km s-min=17.6km az=61.0*

VAO ***31*** *07:17:19.5±0.5, 18°.73S×67°.21W, h233km±10km, mb3.8*

SCB ***31*** *07:17:23.8±3.9, 18°.94S×67°.22W, h52km±45km, ML4.0/18, MW3.6, Error ellipse: s-maj=17.6km s-min=13.1km az=1.0*

ISC 31 07:17:18.8±0.5, 18°.80S±0°.05×67°.43W±0°.05, h250km, n78, σ1s53/88, mb3.6/5, 2D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GO01	**Chusmiza**	**1.88**	**242**		**Pn**	**07 18 02.0**	**+1.3**
PB16	**IPOC Station P**	**2.02**	**283**		**Pn**	**07 18 03.3**	**+1.1**
PB16	**IPOC Station P**	**2.02**	**283**	P	**Pn**	**07 18 03.6**	**+1.5**
PB16				IAML		07 18 41.8	
	197nm,1.5s						
BBOE	**La Paz, Chanca**	**2.04**	**345**	P	**Pn**	**07 18 03.3**	**+1.0**
BBOE				IAML		07 18 41.6	
	199nm,0.7s						
PB08	**IPOC Station P**	**2.11**	**230**		**Pn**	**07 18 04.2**	**+1.6**
PB08	**IPOC Station P**	**2.11**	**230**	P	**Pn**	**07 18 03.9**	**+1.3**
PB08				IAML		07 18 47.0	
	188nm,0.8s						
PB11	**IPOC Station P**	**2.31**	**245**	Pn	**Pn**	**07 18 04.7**	**+0.4**
PB11	**IPOC Station P**	**2.31**	**245**	P	**Pn**	**07 18 05.1**	**+0.8**
PB11				S	**S**	**07 18 37.1**	**-3.2**
PB11				IAML		07 18 40.8	
	712nm,0.3s						
PB11				IAML		07 18 45.7	
	781nm,1.8s						
BBOD	**La Paz, Gloria**	**2.42**	**332**	P	**Pn**	**07 18 06.9**	**+1.0**
BBOD				IAML		07 18 55.8	
	753nm,0.7s						
LPAZ	**La Paz**	**2.58**	**345**	P	**Pn**	**07 18 07.8**	**+0.2**
	20nm,0.3s,baz=121,slow=5.9,SNR=659						
LPAZ				S	**S**	**07 18 43.9**	**-2.2**
	2.6nm,0.3s,baz=38,slow=24,SNR=12						
LPAZ	**La Paz**	**2.58**	**345**	Pn	**Pn**	**07 18 07.5**	**-0.1**
LPAZ	**La Paz**	**2.58**	**345**	*eP*	**Pn**	**07 18 07.7**	**+0.2**
LPAZ	**La Paz**	**2.58**	**345**	P	**Pn**	**07 18 07.8**	**+0.2**
LPAZ				IAML		07 18 55.9	
	518nm,0.8s						
HMBC	**Humberstone**	**2.75**	**237**	*eP*	**Pn**	**07 18 08.8**	**+0.1**
HMBC				*i* S	**S**	**07 18 47.1**	**-1.1**
PB12	**IPOC Station P**	**2.75**	**273**	Pn	**Pn**	**07 18 09.3**	**+0.6**
TA02	**Huaiquique**	**2.94**	**240**		**Pn**	**07 18 11.5**	**+0.9**
TA02	**Huaiquique**	**2.94**	**240**	*eP*	**Pn**	**07 18 11.8**	**+1.2**
TA02				*i* S	**S**	**07 18 49.8**	**-1.8**
PB01	**IPOC Station P**	**2.96**	**221**		**Pn**	**07 18 11.7**	**+0.9**
PB01	**IPOC Station P**	**2.96**	**221**	‖ *i* P	**Pn**	**07 18 11.6**	**+0.7**
PB01				*i* S	**S**	**07 18 51.6**	**-0.6**
PB01	**IPOC Station P**	**2.96**	**221**	P	**Pn**	**07 18 12.1**	**+1.2**
PB01				S	**S**	**07 18 49.3**	**-2.8**
PB01				IAML		07 18 56.0	
	347nm,0.4s						
PB01				IAML		07 19 00.0	
	720nm,0.2s						
MOCB	**Mochara**	**2.97**	**146**	P	**Pn**	**07 18 11.9**	**+0.5**
MOCB				IAML		07 19 06.7	
	536nm,4.1s						
TA01	**Diego Aracena**	**3.13**	**235**	Pn	**Pn**	**07 18 13.2**	**+0.5**
PATCX	**Punta Patache**	**3.26**	**231**		**Pn**	**07 18 15.3**	**+1.1**
PATCX	**Punta Patache**	**3.26**	**231**	‖ *i* P	**Pn**	**07 18 15.2**	**+1.1**
PATCX				*i* S	**S**	**07 18 55.7**	**-2.4**
PB02	**IPOC Station P**	**3.42**	**222**		**Pn**	**07 18 18.0**	**+2.1**
PB02	**IPOC Station P**	**3.42**	**222**	*eP*	**Pn**	**07 18 17.2**	**+1.2**
PB02				*i* S	**S**	**07 19 00.3**	**-1.0**
PB02	**IPOC Station P**	**3.42**	**222**	P	**Pn**	**07 18 17.9**	**+1.9**
PB02				IAML		07 19 08.5	
	474nm,0.5s						
PB09	**IPOC Station P**	**3.44**	**209**		**Pn**	**07 18 18.0**	**+1.8**
PB09	**IPOC Station P**	**3.44**	**209**	P	**Pn**	**07 18 18.2**	**+2.0**
PB09				IAML		07 19 11.3	
	142nm,0.3s						
PB07	**IPOC Station P**	**3.72**	**218**		**Pn**	**07 18 20.8**	**+1.4**
PB07	**IPOC Station P**	**3.72**	**218**	P	**Pn**	**07 18 21.0**	**+1.5**
PB07				IAML		07 19 11.8	
	596nm,0.3s						
YJA	**Yavi**	**3.81**	**152**	P	**Pn**	**07 18 21.4**	**+0.6**
YJA				IAML		07 19 34.1	
	256nm,0.3s						
LVC	**Limon Verde**	**4.04**	**200**	P	**Pn**	**07 18 24.5**	**+1.1**
	8.5nm,0.3s,baz=38,slow=10,SNR=75						
LVC				S	**S**	**07 19 13.3**	**-1.4**
	15nm,0.3s,baz=164,slow=18,SNR=28						
LVC	**Limon Verde**	**4.04**	**200**		**Pn**	**07 18 24.4**	**+1.0**
LVC	**Limon Verde**	**4.04**	**200**	*eP*	**Pn**	**07 18 24.5**	**+1.1**
LVC	**Limon Verde**	**4.04**	**200**	P	**Pn**	**07 18 24.5**	**+1.1**
PB04	**IPOC Station P**	**4.35**	**215**		**Pn**	**07 18 27.9**	**+1.1**
PB04	**IPOC Station P**	**4.35**	**215**	P	**Pn**	**07 18 28.1**	**+1.3**
PB04				IAML		07 19 28.4	
	198nm,0.6s						
PB06	**IPOC Station P**	**4.38**	**207**		**Pn**	**07 18 28.2**	**+1.0**
PB06	**IPOC Station P**	**4.38**	**207**	P	**Pn**	**07 18 28.8**	**+1.6**
PB06				IAML		07 19 27.4	
	132nm,0.3s						
PB15	**IPOC Station P**	**4.79**	**203**		**Pn**	**07 18 33.4**	**+1.3**
PB15	**IPOC Station P**	**4.79**	**203**	P	**Pn**	**07 18 33.6**	**+1.4**
PB15				S	**S**	**07 19 27.2**	**-3.4**
PB15				IAML		07 19 34.6	

	1μm,0.4s						
PB15				IAML		07 19 34.8	
	671nm,0.2s						
PB10	**IPOC Station P**	**5.53 211**	Pn	**Pn**		**07 18 41.4**	**+0.4**
PB14	**IPOC Station P**	**6.43 205**	Pn	**Pn**		**07 18 52.6**	**+0.1**
GO02	**Mina Guanaco**	**6.65 197**	Pn	**Pn**		**07 18 55.6**	**+0.4**
SIV	**San Ignacio**	**6.68 66**	P	**Pn**		**07 18 52.3**	**-3.2**
	6.8nm,0.3s,baz=258,slow=9.7,SNR=65						
AC01	**Pan de Azucar**	**7.88 201**	Pn	**Pn**		**07 19 09.9**	**-0.7**
AC02	**Maricunga**	**8.15 191**	Pn	**Pn**		**07 19 14.8**	**+0.3**
PTLB	**Pontes e Lacer**	**8.60 68**	*eP*	**Pn**		**07 19 16.9**	**-2.7**
AC06	**Mina Casimiro**	**8.94 197**	Pn	**Pn**		**07 19 23.7**	**-0.2**
ETMB	**Extrema**	**9.00 8**	*eP*	**Pn**		**07 19 23.5**	**-1.3**
VILB	**Vilhena**	**9.06 51**	*eP*	**Pn**		**07 19 23.4**	**-2.2**
GO03	**Copiap**	**9.13 196**	Pn	**Pn**		**07 19 25.5**	**-0.8**
AC04	**Llanos de Chal**	**9.94 199**	Pn	**Pn**		**07 19 36.2**	**-0.4**
NNA	**Nana**	**11.32 305**	P	**Pn**		**07 19 56.1**	**+2.0**
	4.7nm,0.3s,baz=150,slow=12,SNR=8.9						
NNA			S		**S**	**07 21 54.1**	**-6.7**
	1.4nm,0.3s,baz=220,slow=18,SNR=1.9						
GO04	**Tololo Observa**	**11.73 194**	Pn	**Pn**		**07 19 59.6**	**+0.3**
CO03	**El Pedregal**	**12.35 193**	Pn	**Pn**		**07 20 07.1**	**+0.3**
ITQB	**Itaqui**	**14.63 140**	*eP*	**P**		**07 20 34.3**	**-0.2**
MT02	**Curacav**	**14.78 192**		**Pn**		**07 20 38.2**	**+1.9**
PTGB	**Pitanga**	**15.44 115**	*eP*	**Pn**		**07 20 45.0**	**+0.7**
ITAB	**Concordia**	**16.39 124**	*eP*	**Pn**		**07 20 55.2**	**-0.3**
SNDB	**Serra Nova Dou**	**16.96 69**	*eP*	**P**		**07 21 00.1**	**-0.2**
CPSB	**Cacapava Do Su**	**17.17 135**	*eP*	**P**		**07 21 02.6**	**+0.3**
PLTB	**Pedras Altas**	**17.95 139**	P	**P**		**07 21 10.0**	**-0.8**
PLTB			IAmb	IAmb		07 21 11.4	
	comp=Z,6.6nm,0.6s						
PLTB	**Pedras Altas**	**17.95 139**	*eP*	**P**		**07 21 10.7**	**-0.1**
ITTB	**Itaituba**	**18.34 40**	*eP*	**P**		**07 21 15.2**	**0.0**
MCRA	**Macar, Loja**	**18.85 318**	P	**P**		**07 21 22.8**	**+2.0**
MCRA			IAmb	IAmb		07 21 24.1	
	comp=Z,11nm,0.7s						
BOSC	**San Juan Bosco**	**18.95 324**	P	**P**		**07 21 22.9**	**+1.0**
ARNL	**Arenillas**	**19.55 319**	P	**P**		**07 21 29.5**	**+1.3**
ARNL			IAmb	IAmb		07 21 45.6	
	comp=Z,11nm,0.5s						
SDV	**Santo Domingo**	**27.69 353**	P	**P**		**07 22 43.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=165,slow=5.8,SNR=2.3						
TXAR	**Lajitas Array**	**59.26 323**	P	**P**		**07 26 56.2**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=144,slow=6.7,SNR=1.2						
DBIC	**Dimbokro**	**66.64 74**	P	**P**		**07 27 43.4**	**+0.2**
	comp=Z,8.0nm,1.2s,baz=267,slow=6.7,SNR=2.1						
DBIC	**Dimbokro**	**66.64 74**	IAmb	IAmb		07 27 47.2	
	comp=Z,17nm,1.4s						
TORD	**Torodi Ar. Bea**	**75.14 70**	P	**P**		**07 28 34.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=259,slow=5.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**75.14 70**	P	**P**		**07 28 34.1**	**-0.1**
YKA	**Yellowknife Ar**	**89.12 340**	P	**P**		**07 29 47.6**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=129,slow=4.9,SNR=1.8						
WRA	**Warramunga Arr**	**135.98 210**	PKP	**PKiKP**		**07 36 13.0**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=151,slow=1.6,SNR=1.9						
PZH	**PanZhiHua**	**167.41 51**	PKP	**PKPdf**		**07 36 55.8**	**+0.2**

IDC ***31*** *07:21:17.4±1.7,24.˚51S×179.˚81W,h496km±19km, mb3.5/13,mb1 3.7/15,mb1mx3.4/38,mbtmp4.4/15,Error ellipse: s-maj=18.4km s-min=14.7km az=137.0*

ISC 31 07:21:17.1±0.7,24.˚51S±0.˚09×179.˚7W±0.˚1,h500km,n20, σ1§18/23,mb3.9/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**7.06 342**		P		**P**	**07 23 04.7**	**+0.6**
	9.6nm,0.3s,baz=158,slow=6.8,SNR=32							
AFI	**Afiamalu**	**12.93 37**		P		**P**	**07 24 03.9**	**-1.8**
	4.6nm,0.3s,baz=198,slow=20,SNR=5.8							
AFI				S		S	07 26 16.0	-8.7
	1.2nm,0.3s,baz=60,slow=20,SNR=2.3							
DZM	**Mont Dzumac**	**12.96 278**		P		**P**	**07 24 07.8**	**+1.8**
	0.6nm,0.3s,baz=93,slow=15,SNR=11							
URZ	**Urewera**	**13.97 190**		P		**P**	**07 24 15.1**	**-1.2**
	0.9nm,0.3s,baz=46,slow=18,SNR=2.9							
URZ				S		**S**	**07 26 45.0**	**+0.9**
	0.8nm,0.3s,baz=199,slow=20,SNR=6.7							
RPZ	**Rata Peaks**	**20.60 199**		P		**P**	**07 25 21.0**	**0.0**
	16nm,0.6s,baz=343,slow=1.0,SNR=13							
CTA	**Charters Tower**	**31.75 271**		P		**P**	**07 27 00.1**	**+0.4**
	9.8nm,0.4s,baz=93,slow=10,SNR=26							
STKA	**Stephens Creek**	**34.75 249**		P		**P**	**07 27 25.4**	**+0.5**
	2.2nm,0.5s,baz=87,slow=9.2,SNR=9.2							
PMG	**Port Moresby**	**34.95 290**		P		**P**	**07 27 26.1**	**-0.7**
	6.9nm,0.5s,baz=112,slow=4.6,SNR=4.4							
ASAR	**Alice Springs**	**42.20 261**		P		**P**	**07 28 25.4**	**-0.4**
	1.6nm,0.5s,baz=93,slow=6.8,SNR=30							
ASAR				pP		**pwP**	**07 29 59.0**	**-2.9**
	0.5nm,0.8s,baz=90,slow=10,SNR=4.9							
WRA	**Warramunga Arr**	**42.64 267**		P		**P**	**07 28 28.2**	**-1.0**
	6.0nm,0.6s,baz=103,slow=8.0,SNR=122							
WRA				ScP		**ScP**	**07 33 14.8**	**+1.6**
	2.2nm,0.9s,baz=101,slow=3.7,SNR=9.2							
FITZ	**Fitzroy Crossi**	**51.05 266**		P		**P**	**07 29 32.6**	**-0.3**
	5.4nm,0.8s,baz=133,slow=9.0,SNR=9.4							
SIJI	**Sorong**	**52.88 289**		P		**P**	**07 29 45.5**	**-0.7**
	11nm,0.5s,baz=104,slow=7.4,SNR=6.1							
KSRS	**Korea Array**	**78.89 320**		P		**P**	**07 32 28.6**	**+0.5**
	1.2nm,0.7s,baz=128,slow=5.9,SNR=6.3							
NVAR	**Mina Array Bea**	**85.00 44**		P		**P**	**07 33 00.7**	**+1.0**
	0.4nm,0.7s,baz=215,slow=7.7,SNR=5.2							
SEY	**Seymchan**	**89.92 348**		P		**P**	**07 33 22.1**	**+0.2**
	0.7nm,0.6s,baz=140,slow=6.6,SNR=3.9							
TXAR	**Lajitas Array**	**90.53 58**		P		**P**	**07 33 27.3**	**+1.6**
	1.1nm,0.8s,baz=211,slow=6.7,SNR=16							
PDAR	**Pinedale Array**	**92.94 44**		P		**P**	**07 33 36.7**	**+0.1**
	0.3nm,0.8s,baz=210,slow=5.2,SNR=2.2							
ARCES	**ARCESS Array B**	**132.54 348**		PKP		**PKPdf**	**07 39 32.8**	**-0.8**
	2.4nm,0.8s,baz=66,slow=1.1,SNR=1.5							
FINES	**FINESS Array B**	**139.11 341**		PKhKP		PKPpre	07 39 37.2	
	1.1nm,1.0s,baz=29,slow=3.2,SNR=1.7							
FINES				SKPbc		**SKPbc**	**07 42 33.3**	**-0.4**
	1.2nm,0.8s,baz=48,slow=2.1,SNR=4.0							
AKASG	**Malin Array Be**	**145.63 327**		PKPbc		**PKPdf**	**07 39 58.3**	**+0.5**
	0.6nm,0.3s,baz=42,slow=4.3,SNR=7.0							

IDC 31 07:21:37.0±3.6,55.˚43N×86.˚23E,h0km,mb1 3.2/3, mb1mx3.0/64,mbtmp3.2/3,ML2.9/3,Error ellipse: s-maj=36.2km s-min=20.9km az=47.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.69 209**		*i*			07 31 40.0	
	baz=24,slow=331,SNR=5.0							
ZALV	**Zalesovo Beam**	**1.70 209**		Pn		Pn	07 22 06.1	-1.7
	4.7nm,0.3s,baz=36,slow=17,SNR=42							
ZALV				Sn		Sg	07 22 33.2	+1.7
	5.4nm,0.3s,baz=31,slow=27,SNR=10							
KURBB	**Kurchatov Arra**	**6.69 227**		Pn		Pn	07 23 15.7	-0.7
	0.1nm,0.3s,baz=46,slow=14,SNR=3.5							
KURBB				Lg		Lg	07 25 10.2	
	0.0nm,0.3s,baz=40,slow=30,SNR=2.0							
MKAR	**Makanchi Array**	**8.99 198**		Pn		Pn	07 23 48.9	+0.8
	0.1nm,0.3s,baz=18,slow=12,SNR=1.7							
MKAR				Lg		Lg	07 26 22.2	
	baz=18,slow=32,SNR=3.1							
BVAR	**Borovoye Array**	**9.59 262**		Pn		Pn	07 23 55.7	-0.4
	0.3nm,0.3s,baz=66,slow=11,SNR=4.1							

IDC 31 07:24:22.1±22.0,29.˚48N×101.˚51E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.2/60,mbtmp3.8/3,Error ellipse: s-maj=539.6km s-min=44.0km az=117.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**23.38 63**		P		P	07 29 31.7	-0.6
	0.5nm,0.3s,baz=244,slow=10.0,SNR=2.1							
WRA	**Warramunga Arr**	**58.45 143**		P		P	07 34 19.5	-0.4
	2.8nm,0.7s,baz=331,slow=8.0,SNR=31							
ASAR	**Alice Springs**	**61.34 146**		P		P	07 34 40.2	+0.4
	0.4nm,0.6s,baz=327,slow=6.6,SNR=8.1							

NNC ***31*** *07:29:24.6±3.4,55.˚24N×86.˚11E,h0km,mb3.2,mpv3.0, Error ellipse: s-maj=77.6km s-min=21.5km az=118.0, Suspected Mining explosion.*

IDC 31 07:29:27.1±3.1,54.˚21N×86.˚97E,h0km,mb1 2.7/2, mb1mx2.6/45,mbtmp2.7/2,ML2.3/2,4C-6D,Error ellipse: s-maj=27.0km s-min=16.8km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29 259**		*i*			07 38 10.0	
	baz=80,slow=334,SNR=11							
ZAA0	**Zalesovo Array**	**1.29 259**		⇓P		Pg	07 29 51.0	-0.9
	0.5nm,0.7s							
ZAA0				⇓S		Sn	07 30 12.6	+2.2
	3.2nm,1.1s							
ZALV	**Zalesovo Beam**	**1.29 259**		Pg		Pg	07 29 50.2	-1.7
	0.7nm,0.3s,baz=72,slow=15,SNR=10							
ZALV				Lg		Lg	07 30 07.9	
	0.5nm,0.3s,baz=76,slow=27,SNR=3.6							
KURK	**Kurchatov**	**6.19 239**		⇑Pn		Pn	07 31 02.3	+2.7
	6.5nm,1.3s							
KURK				⇓Lg		Lg	07 32 46.0	
	3.2nm,1.0s							
KURBB	**Kurchatov Arra**	**6.29 239**		Pn		Pn	07 31 02.3	+1.3
	0.0nm,0.3s,baz=56,slow=14,SNR=7.8							
KURBB				Lg		Lg	07 32 48.3	
	0.0nm,0.3s,baz=49,slow=30,SNR=4.2							
KURBB	**Kurchatov Arra**	**6.29 239**		⇓Pn		Pn	07 31 02.0	+1.0
	0.6nm,0.5s							
KURBB				⇑Lg		Lg	07 32 50.1	
	4.9nm,1.1s							
MK31	**Makanchi Array**	**8.00 204**		⇑Pn		Pb	07 31 35.9	-11
	0.5nm,0.7s,baz=27,slow=13,SNR=4.5							
MK31				⇓Lg		Lg	07 34 04.9	
	4.3nm,1.2s							
MKAR	**Makanchi Array**	**8.00 204**		Pn		Pn	07 31 25.4	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=2.8							
MKAR				Sn		Sn	07 32 56.2	+0.4
	0.0nm,0.3s,baz=25,slow=25,SNR=4.1							
MKAR				Lg		Lg	07 33 39.0	
	0.0nm,0.3s,baz=23,slow=33,SNR=3.3							
MAKZ	**Makanchi**	**8.06 205**		⇑Pn		Pb	07 31 47.5	-0.1
	2.0nm,1.4s							
MAKZ				⇓Lg		Lg	07 34 06.0	
	3.9nm,1.4s							

GUC ***31*** *07:30:59.4±0.8,20.˚99S×68.˚75W,h111km±4km,ML3.5 IDC* ***31*** *07:31:12.3±26.0,20.˚03S×68.˚08W,h195km±158km, mb3.1/2,mb1 3.2/3,mb1mx2.9/20,mbtmp3.5/3,ML3.2/1, Error ellipse: s-maj=398.2km s-min=62.4km az=20.0*

ISC 31 07:30:59.5±1.0,20.˚99S±0.˚04×68.˚85W±0.˚08,h113km±8km, n21,σ0§77/34,5C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.60 265**		⇓*i*P		**Pn**	**07 31 16.9**	**-0.6**
PB01				*i* S		**Sn**	**07 31 30.7**	**-0.3**
PB09	**IPOC Station P**	**0.88 204**		⇓*i*P		**Pn**	**07 31 19.8**	**-0.2**
PB09				*i* S		**Sn**	**07 31 36.0**	**+0.6**
PB08	**IPOC Station P**	**0.89 341**		⇓*i*P		**Pn**	**07 31 20.3**	**-0.1**
PB08				*i* S		**Sn**	**07 31 36.3**	**+0.3**
PB08				IAML			07 31 37.3	
	comp=E,727nm,0.3s							
PB02	**IPOC Station P**	**1.03 251**		⇓*i*P		**Pn**	**07 31 21.4**	**+0.1**
PB02				*i* S		**Sn**	**07 31 38.5**	**+0.6**
PB02				IAML			07 31 41.0	
	comp=E,2μm,0.2s							
HMBC	**Humberstone**	**1.20 306**		⇑*i*P		**Pn**	**07 31 23.0**	**-0.2**
HMBC				*i* S		**Sn**	**07 31 41.6**	**+0.4**
HMBC				IAML			07 31 45.0	
	comp=E,603nm,0.3s							
PB07	**IPOC Station P**	**1.21 233**		⇑*i*P		**Pn**	**07 31 23.3**	**-0.1**
PB07				*i* S		**Sn**	**07 31 42.0**	**+0.6**
PB07				IAML			07 31 44.8	
	comp=N,684nm,0.2s							
PATCX	**Punta Patache**	**1.23 278**		*e*P		**Pn**	**07 31 23.2**	**-0.3**
PATCX				*i* S		**Sn**	**07 31 42.8**	**+1.1**
PATCX				IAML			07 31 43.9	
	comp=E,2μm,0.4s							
TA01	**Diego Aracena**	**1.31 289**		⇑*i*P		**Pn**	**07 31 24.3**	**0.0**
TA01				*i* S		**Sn**	**07 31 43.6**	**+0.4**
TA01				IAML			07 31 47.2	
	comp=N,621nm,0.4s							
GO01	**Chusmiza**	**1.35 346**		⇓*i*P		**Pn**	**07 31 25.3**	**-0.1**
GO01				*e*S		**Sn**	**07 31 45.1**	**+0.2**
GO01				IAML			07 31 48.6	
	comp=E,862nm,0.1s							
TA02	**Huaiquique**	**1.40 301**		*e*P		**Pn**	**07 31 25.5**	**+0.2**
TA02				*i* S		**Sn**	**07 31 46.5**	**+1.6**
TA02				IAML			07 31 49.9	
	comp=N,1μm,0.1s							
PB11	**IPOC Station P**	**1.44 328**		*e*P		**Pn**	**07 31 25.7**	**-0.3**
PB11				*i* S		**Sn**	**07 31 46.3**	**+0.2**
PB11				IAML			07 31 51.7	
	comp=E,458nm,0.3s							
LVC	**Limon Verde**	**1.61 182**		⇑*i*P		**Pn**	**07 31 28.4**	**+0.1**
LVC				*i* S		**Sn**	**07 31 50.4**	**+0.4**
PB04	**IPOC Station P**	**1.80 222**		IAML			07 32 02.2	
	comp=E,461nm,0.2s							
PB06	**IPOC Station P**	**1.83 201**		⇑*i*P		**Pn**	**07 31 30.6**	**-0.1**
PB06				*i* S		**Sn**	**07 31 55.2**	**+0.7**
PB06				IAML			07 32 02.8	
	comp=N,511nm,0.3s							
PB15	**IPOC Station P**	**2.28 194**		*e*P		**Pn**	**07 31 36.1**	**-0.3**
PB15				*i* S		**Sn**	**07 32 06.4**	**+1.7**
PB12	**IPOC Station P**	**2.74 329**		*e*P		**Pn**	**07 31 41.5**	**-0.8**
PB10	**IPOC Station P**	**2.96 212**		*e*P		**Pn**	**07 31 45.4**	**+0.2**
PB10				IAML			07 32 32.8	
	comp=N,172nm,0.2s							
LPAZ	**La Paz**	**4.73 8**		P		**Pn**	**07 32 11.2**	**+1.9**
	comp=N,1.3nm,0.3s,baz=198,slow=6.6,SNR=32							
TORD	**Torodi Ar. Bea**	**77.14 70**		P		**P**	**07 42 39.3**	**-1.8**
	comp=N,0.7nm,0.8s,baz=262,slow=5.5,SNR=2.7							
YKA	**Yellowknife Ar**	**90.73 341**		P		**P**	**07 43 49.5**	**+0.4**
	comp=N,0.1nm,0.5s,baz=131,slow=5.4,SNR=2.5							
MKAR	**Makanchi Array**	**145.19 36**		PKP		**PKPdf**	**07 50 24.1**	**+0.4**
	comp=N,0.3nm,0.4s,baz=322,slow=3.3,SNR=5.6							

WEL 31 07:41:22.9±0.7,38.˚5±4.˚×17.˚8E±.˚,h56km±5km,Error ellipse: s-maj=0.0km s-min=0.0km az=147.0,confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.15 269**		P		Pn	07 41 33.1	+1.2
RUGZ	**Raukumara Rang**	**0.15 269**		S		Sn	07 41 41.5	+3.2
RUGZ	**Raukumara Rang**	**0.15 269**		P		Pn	07 41 33.1	+1.2
RUGZ				S		Sn	07 41 41.5	+3.2
PKGZ	**Pakihiroa**	**0.18 65**		P		Pn	07 41 33.1	+1.2
PKGZ	**Pakihiroa**	**0.18 65**		S		Sn	07 41 41.2	+3.0
PKGZ	**Pakihiroa**	**0.18 65**		P		Pn	07 41 33.1	+1.2
PKGZ				S		Sn	07 41 41.2	+3.0
HAZ	**Te Kaha**	**0.22 341**		P		Pn	07 41 33.3	+1.3
HAZ	**Te Kaha**	**0.22 341**		S		Sn	07 41 41.3	+2.8
HAZ	**Te Kaha**	**0.22 341**		P		Pn	07 41 33.3	+1.3
HAZ				S		Sn	07 41 41.3	+2.8
TWGZ	**Tauwhareparae**	**0.23 159**		P		Pn	07 41 33.7	+1.5
TWGZ	**Tauwhareparae**	**0.23 159**		S		Sn	07 41 42.6	+3.7
TWGZ	**Tauwhareparae**	**0.23 159**		P		Pn	07 41 33.7	+1.5
TWGZ				S		Sn	07 41 42.6	+3.7
PUZ	**Puketiti**	**0.32 110**		P		Pn	07 41 33.8	+0.9
PUZ	**Puketiti**	**0.32 110**		S		Sn	07 41 42.7	+2.7
PUZ	**Puketiti**	**0.32 110**		P		Pn	07 41 33.8	+0.9
PUZ				S		Sn	07 41 42.7	+2.7
WMGZ	**Waiomatatini S**	**0.45 72**		P		Pn	07 41 35.3	+1.2
WMGZ	**Waiomatatini S**	**0.45 72**		S		Sn	07 41 45.2	+3.1
WMGZ	**Waiomatatini S**	**0.45 72**		P		Pn	07 41 35.3	+1.2
WMGZ				S		Sn	07 41 45.2	+3.1
MWZ	**Matawai**	**0.46 216**		P		Pn	07 41 35.2	+0.9
MWZ	**Matawai**	**0.46 216**		S		Sn	07 41 44.4	+2.0
MWZ	**Matawai**	**0.46 216**		P		Pn	07 41 35.2	+0.9
MWZ				S		Sn	07 41 44.4	+2.0
TKGZ	**Te Karaka**	**0.48 182**		P		Pn	07 41 35.3	+1.0
TKGZ	**Te Karaka**	**0.48 182**		S		Sn	07 41 44.8	+2.2
TKGZ	**Te Karaka**	**0.48 182**		P		Pn	07 41 35.3	+1.0
TKGZ				S		Sn	07 41 44.8	+2.2
MXZ	**Matakaoa Point**	**0.53 41**		P		Pn	07 41 36.1	+1.3
MXZ	**Matakaoa Point**	**0.53 41**		S		Sn	07 41 46.7	+3.2
MXZ	**Matakaoa Point**	**0.53 41**		P		Pn	07 41 36.1	+1.3
MXZ				S		Sn	07 41 46.7	+3.2
CNGZ	**Carnagh Statio**	**0.58 153**		P		Pn	07 41 36.8	+1.2
CNGZ	**Carnagh Statio**	**0.58 153**		P		Pn	07 41 36.8	+1.2
RAGZ	**Rawiri**	**0.64 214**		P		Pn	07 41 37.2	+0.8
RAGZ	**Rawiri**	**0.64 214**		S		Sn	07 41 48.7	+2.6
RAGZ	**Rawiri**	**0.64 214**		P		Pn	07 41 37.2	+0.8
RAGZ				S		Sn	07 41 48.7	+2.6
URZ	**Urewera**	**0.67 244**		P		Pn	07 41 37.2	+0.6
URZ	**Urewera**	**0.67 244**		S		Sn	07 41 47.9	+1.4
URZ	**Urewera**	**0.67 244**		P		Pn	07 41 37.2	+0.6
URZ				S		Sn	07 41 47.9	+1.4
WHRZ	**Whale Island**	**0.72 278**		P		Pn	07 41 37.7	+0.5
WHRZ	**Whale Island**	**0.72 278**		S		Sn	07 41 49.1	+1.5
WHRZ	**Whale Island**	**0.72 278**		P		Pn	07 41 37.7	+0.5
WHRZ				S		Sn	07 41 49.1	+1.5
RIGZ	**Rimuhau**	**0.75 187**		P		Pn	07 41 38.2	+0.6
RIGZ	**Rimuhau**	**0.75 187**		S		Sn	07 41 50.2	+1.9
RIGZ	**Rimuhau**	**0.75 187**		P		Pn	07 41 38.2	+0.6
RIGZ				S		Sn	07 41 50.2	+1.9
SNGZ	**Shannon Statio**	**0.92 207**		P		Pn	07 41 40.7	+0.8
SNGZ	**Shannon Statio**	**0.92 207**		P		Pn	07 41 40.7	+0.8
PRGZ	**Paritu Road**	**0.96 180**		P		Pn	07 41 40.6	+0.3
PRGZ	**Paritu Road**	**0.96 180**		P		Pn	07 41 40.6	+0.3
RTZ	**Ruatahuna**	**0.96 227**		P		Pn	07 41 40.8	+0.4
RTZ	**Ruatahuna**	**0.96 227**		P		Pn	07 41 40.8	+0.4
MUGZ	**Murupara**	**1.01 239**		P		Pn	07 41 41.1	+0.1
MUGZ	**Murupara**	**1.01 239**		P		Pn	07 41 41.1	+0.1
OPRZ	**Ohinepanea**	**1.05 276**		P		Pn	07 41 41.4	-0.1
OPRZ	**Ohinepanea**	**1.05 276**		P		Pn	07 41 41.4	-0.1
TARZ	**Mount Tarawera**	**1.11 255**		P		Pn	07 41 42.8	+0.3
TARZ	**Mount Tarawera**	**1.11 255**		P		Pn	07 41 42.8	+0.3
RAHZ	**Arahi**	**1.14 213**		P		Pn	07 41 43.3	+0.6
RAHZ	**Arahi**	**1.14 213**		P		Pn	07 41 43.3	+0.6
MTHZ	**Maungataniwha**	**1.20 222**		P		Pn	07 41 44.0	+0.4
MTHZ	**Maungataniwha**	**1.20 222**		P		Pn	07 41 44.0	+0.4
NMHZ	**Naumai**	**1.41 216**		P		Pn	07 41 46.9	+0.5
NMHZ	**Naumai**	**1.41 216**		P		Pn	07 41 46.9	+0.5
MRHZ	**Matea Rd**	**1.44 232**		P		Pn	07 41 46.7	-0.1
MRHZ	**Matea Rd**	**1.44 232**		P		Pn	07 41 46.7	-0.1
BKZ	**Black Stump Fm**	**1.62 222**		P		Pn	07 41 49.3	+0.1
BKZ	**Black Stump Fm**	**1.62 222**		P		Pn	07 41 49.3	+0.1
MCHZ	**McNeill Hill**	**1.74 212**		P		Pn	07 41 50.8	0.0
MCHZ	**McNeill Hill**	**1.74 212**		P		Pn	07 41 50.8	0.0
KWHZ	**Kaweka Forest**	**1.85 217**		P		Pn	07 41 51.9	-0.5
KWHZ	**Kaweka Forest**	**1.85 217**		P		Pn	07 41 51.9	-0.5
KAHZ	**Kahuranaki**	**1.99 203**		P		Pn	07 41 53.7	-0.6
KAHZ	**Kahuranaki**	**1.99 203**		P		Pn	07 41 53.7	-0.6
KRHZ	**Kereru**	**2.05 215**		P		Pn	07 41 56.5	+1.5
KRHZ	**Kereru**	**2.05 215**		P		Pn	07 41 56.5	+1.5
TMVZ	**Te Maari**	**2.06 235**		P		Pn	07 41 55.1	-0.1
TMVZ	**Te Maari**	**2.06 235**		P		Pn	07 41 55.1	-0.1
ETVZ	**East Tongariro**	**2.06 235**		P		Pn	07 41 55.2	-0.1
ETVZ	**East Tongariro**	**2.06 235**		P		Pn	07 41 55.2	-0.1
NTVZ	**North Tongarir**	**2.06 236**		P		Pn	07 41 55.3	0.0
NTVZ	**North Tongarir**	**2.06 236**		P		Pn	07 41 55.3	0.0
BHHZ	**Black Hill Sta**	**2.08 222**		P		Pn	07 41 55.3	-0.2
BHHZ	**Black Hill Sta**	**2.08 222**		P		Pn	07 41 55.3	-0.2
KRVZ	**Karewarewa**	**2.08 236**		P		Pn	07 41 55.9	+0.3
KRVZ	**Karewarewa**	**2.08 236**		P		Pn	07 41 55.9	+0.3
OTVZ	**Oturere**	**2.11 235**		P		Pn	07 41 55.8	-0.1
OTVZ	**Oturere**	**2.11 235**		P		Pn	07 41 55.8	-0.1
SNVZ	**South Ngauruho**	**2.13 234**		P		Pn	07 41 56.2	-0.1
SNVZ	**South Ngauruho**	**2.13 234**		P		Pn	07 41 56.2	-0.1
NGZ	**Ngauruhoe**	**2.15 235**		P		Pn	07 41 56.5	-0.1
NGZ	**Ngauruhoe**	**2.15

PB06 IPOC Station P 0.93 266 Pn 07 53 48.5 +0.1
PB06 IPOC Station P 0.93 266⇑ iP Pn 07 53 48.6 +0.1
PB06 *i* S **Sn 07 54 04.1 +0.9**
PB06 IAML 07 54 05.5
comp=E,29µm,0.5s
PB06 IPOC Station P 0.93 266 eP Pn 07 53 48.0 -0.4
PB06 eS **Sn 07 54 04.8 +1.6**
PB06 IAML 07 54 06.4
comp=Z,26µm,0.5s
PB15 IPOC Station P 1.00 235 Pn 07 53 50.2 +0.9
PB15 IPOC Station P 1.00 235⇑ iP Pn 07 53 50.2 +0.9
PB15 *i* S **Sn 07 54 06.1 +1.3**
PB15 IPOC Station P 1.00 235 eP Pn 07 53 50.0 +0.7
PB15 eS **Sn 07 54 06.8 +2.0**
PB09 IPOC Station P 1.04 323 Pn 07 53 50.6 +0.9
PB09 IPOC Station P 1.04 323⇓ iP Pn 07 53 50.6 +0.9
PB09 *i* S **Sn 07 54 06.6 +1.1**
PB09 IAML 07 54 07.7
comp=N,42µm,0.6s
PB09 IPOC Station P 1.04 323 eP Pn 07 53 50.0 +0.3
PB09 eP 07 53 50.9
PB09 eS **Sn 07 54 07.6 +2.1**
PB09 eS 07 54 07.7
PB09 IAML 07 54 10.0
comp=Z,21µm,1.2s
PB04 IPOC Station P 1.49 281 Pn 07 53 54.5 -0.5
PB04 IPOC Station P 1.49 281⇑ iP Pn 07 53 54.7 -0.3
PB04 *i* S **Sn 07 54 13.7 -1.1**
PB04 IAML 07 54 23.9
comp=N,17µm,0.5s
PB04 IPOC Station P 1.49 281 eP Pn 07 53 54.0 -1.0
PB04 eS **Sn 07 54 15.3 +0.5**
PB04 IAML 07 54 18.1
comp=Z,11µm,0.6s
PB07 IPOC Station P 1.52 306 Pn 07 53 55.6 +0.3
PB07 IPOC Station P 1.52 306⇑ iP Pn 07 53 55.5 +0.1
PB07 *i* S **Sn 07 54 15.1 -0.4**
PB07 IAML 07 54 16.3
comp=E,31µm,0.3s
PB07 IPOC Station P 1.52 306 eP Pn 07 53 55.0 -0.3
PB07 eS **Sn 07 54 15.3 -0.1**
PB07 IAML 07 54 17.2
comp=Z,17µm,0.4s
PB02 IPOC Station P 1.80 317 Pn 07 53 59.1 +0.3
PB02 IPOC Station P 1.80 317⇓ iP Pn 07 53 58.9 +0.1
PB02 *i* S **Sn 07 54 20.8 -0.9**
PB02 IAML 07 54 26.7
comp=E,23µm,0.4s
PB01 IPOC Station P 1.80 332 Pn 07 53 59.3 +0.4
PB01 IPOC Station P 1.80 332⇓ iP Pn 07 53 59.2 +0.4
PB01 *i* S **Sn 07 54 21.9 +0.2**
PB01 IAML 07 54 24.8
comp=E,24µm,0.3s
PB01 IPOC Station P 1.80 332 eP Pn 07 53 59.2 +0.4
PB01 eS **Sn 07 54 22.6 +0.9**
PB01 IAML 07 54 24.2
comp=Z,9µm,0.2s
PB10 IPOC Station P 2.02 244 Pn Pn 07 54 01.2 -0.3
PB10 IPOC Station P 2.02 244⇑ iP Pn 07 54 00.6 -1.0
PB10 *i* S **Sn 07 54 24.0 -2.6**
PB10 IPOC Station P 2.02 244 eP Pn 07 54 01.0 -0.6
PB10 eS **Sn 07 54 25.3 -1.3**
PB10 IAML 07 54 42.5
comp=Z,5µm,0.8s
PATCX Punta Patache 2.33 321 Pn Pn 07 54 05.0 -0.7
PATCX Punta Patache 2.33 321⇓ iP Pn 07 54 04.9 -0.7
PATCX IAML 07 54 39.9
comp=N,15µm,0.3s
PB08 IPOC Station P 2.54 348 Pn 07 54 09.8 +1.0
PB08 IPOC Station P 2.54 348⇓ iP Pn 07 54 09.7 +1.0
PB08 IAML 07 54 49.1
comp=E,3µm,0.7s
PB08 IPOC Station P 2.54 348 eP Pn 07 54 09.8 +1.0
PB08 eS **Sn 07 54 40.1 +0.7**
TA01 Diego Aracena 2.55 324 Pn Pn 07 54 07.5 -1.0
TA01 Diego Aracena 2.55 324⇓ iP Pn 07 54 07.3 -1.1
TA01 IAML 07 54 45.8
comp=N,6µm,0.6s
PB14 IPOC Station P 2.59 220 Pn Pn 07 54 09.0 -0.4
PB14 IPOC Station P 2.59 220 eP Pn 07 54 08.7 -0.7
PB14 IAML 07 54 51.4
comp=E,4µm,0.5s
PB14 IPOC Station P 2.59 220 eP Pn 07 54 08.7 -0.7
PB14 eS **Sn 07 54 39.3 -1.2**
PB14 IAML 07 55 03.2
comp=Z,6µm,0.8s
HMBC Humberstone 2.65 332⇓ iP Pn 07 54 09.0 -1.0
HMBC IAML 07 55 06.1
comp=N,10µm,0.7s
GO02 Mina Guanaco 2.68 200 Pn Pn 07 54 10.8 +0.3
GO02 Mina Guanaco 2.68 200⇑ iP Pn 07 54 11.0 +0.5
GO02 IAML 07 55 06.8
comp=N,8µm,0.3s
GO02 Mina Guanaco 2.68 200 eP Pn 07 54 10.9 +0.5
GO02 eS Sn 07 55 01.6 +19
TA02 Huaiquique 2.77 328 Pn 07 54 10.1 -1.3
TA02 Huaiquique 2.77 328 eP Pn 07 54 10.3 -1.1
TA02 IAML 07 54 53.2
comp=E,6µm,0.6s
YJA Yavi 2.87 81 eP Pn 07 54 17.6 +4.5
HJA Humahuaca 2.97 102 eP Pn 07 54 16.6 +4.2
GO01 Chusmiza 3.01 349⇓ iP Pn 07 54 15.6 +0.5
GO01 IAML 07 54 60.0
comp=E,3µm,0.7s
GO01 Chusmiza 3.01 349 eP Pn 07 54 15.0 -0.1
GO01 eP 07 54 15.7
GO01 eS Sn 07 54 39.6 -11
PB11 IPOC Station P 3.04 340 Pn 07 54 14.3 -0.9
PB11 IPOC Station P 3.04 340⇓ iP Pn 07 54 14.2 -0.9
PB11 IAML 07 54 59.6
comp=E,6µm,0.3s
SLA San Lorenzo 3.49 127⇑ iP Pn 07 54 25.9 +4.6
SLA San Lorenzo 3.49 127 eP Pn 07 54 20.6 -0.6
SLA eP 07 54 25.9
SLA eS Sn 07 55 12.8 +11
AC01 Pan de Azucar 3.95 207 Pn Pn 07 54 25.9 -1.4
AC01 Pan de Azucar 3.95 207 eP Pn 07 54 20.6 -6.7
AC01 eP 07 54 25.8
AC01 eS **Sn 07 55 10.0 -2.6**
AC01 IAML 07 55 23.4
comp=Z,3µm,1.1s
FSA Cafayete 4.19 146 eP Pn 07 54 34.0 +3.4
AC02 Maricunga 4.21 187 Pn Pn 07 54 31.5 +0.3
AC02 Maricunga 4.21 187 eP Pn 07 54 32.0 +0.8
AC02 eS Sn 07 55 05.1 -14
AC02 IAML 07 55 57.5
comp=Z,2µm,0.8s
PB16 IPOC Station P 4.37 348 Pn 07 54 33.0 -0.5
PB16 IPOC Station P 4.37 348⇓ iP Pn 07 54 33.5 +0.1
PB16 IPOC Station P 4.37 348 eP Pn 07 54 33.6 +0.1
PB16 eS Sn 07 55 41.6 +18
PB16 IAML 07 55 57.1
comp=Z,902nm,0.6s
AC06 Mina Casimiro 4.97 199 Pn 07 54 39.1 -1.9
AHML Horco Molle 5.07 145 eP Pn 07 54 40.1 -2.4
AHML eP 07 54 41.1
AHML eP 07 54 45.0
GO03 Copiap 5.16 197 eP Pn 07 54 42.0 -1.7
GO03 eS **Sn 07 55 40.5 -1.5**
AC04 Llanos de Chal 5.99 202 eP Pn 07 54 51.0 -3.8
AC04 eS **Sn 07 56 07.6 +5.6**
AC04 IAML 07 56 22.9
comp=Z,2µm,0.6s
VCA Vinchina 6.08 177 eP Pn 07 54 57.0 +0.7
VCA IAML 07 57 03.2
comp=Z,214nm,1.0s
LPAZ La Paz 6.33 4 P Pn 07 55 01.4 +1.2
comp=Z,16nm,0.3s,baz=182,slow=10,SNR=572
LPAZ LR LR 07 58 15.8
comp=Z,452nm,20.1s,baz=184,slow=46
LPAZ La Paz 6.33 4 P Pn 07 55 00.6 +0.5
LPAZ La Paz 6.33 4 Pn 07 55 00.6 +0.5
LCO Las Campanas 6.63 196 P Pn 07 55 05.8 +2.0
LCO Las Campanas 6.63 196 Pn 07 55 05.8 +2.0
LCO Las Campanas 6.63 196 eP Pn 07 55 00.0 -3.8
ACDV Cuesta del Vie 7.52 184 eP Pn 07 55 15.3 -0.5
ACDV eP 07 55 15.4
ACDV IAML 07 57 40.5
comp=Z,224nm,1.4s
AROD Rodeo 7.54 186 eP Pn 07 55 15.0 -1.3
AROD eP 07 55 15.8
AROD eS **Sn 07 56 48.3 +8.0**

GO04 Tololo Observa 7.76 194 eP Pn 07 55 15.0 -4.2
GO04 eS **Sn 07 56 41.1 -4.6**
ACCO Cerro Coronel 7.93 183 eP Pn 07 55 20.6 -1.0
ACCO eP **Pn 07 55 20.6 -1.0**
ACCO eS **Sn 07 56 42.1 -7.7**
CO03 El Pedregal 8.38 193 Pn 07 55 26.3 -1.2
RTLL Cerro Villicun 8.66 179 eP Pn 07 55 29.4 -1.8
RTLL eS **Sn 07 57 02.6 -4.5**
ZON Zonda 8.87 181 P Pn 07 55 33.1 -1.1
ZON Zonda 8.87 181 Pn 07 55 33.1 -1.1
TCA Tanti 9.36 159 eP Pn 07 55 40.5 -0.3
SIV San Ignacio 9.69 48 P Pn 07 55 43.3 -2.0
comp=Z,11nm,0.3s,baz=232,slow=12,SNR=189
SIV S **Sn 07 57 23.9 -8.4**
comp=Z,3.9nm,0.3s,baz=165,slow=19,SNR=3.6
VA03 San Esteban 10.24 189 Pn 07 55 52.4 -0.4
ROC1 El Roble 10.52 191 Pn 07 55 55.2 -1.5
MT02 Curacav 10.82 192 Pn 07 56 00.0 -0.6
CPUP Villa Florida 10.88 112 P Pn 07 56 00.1 -1.3
comp=Z,0.7nm,0.3s,baz=291,slow=12,SNR=20
CPUP LR LR 08 00 53.5
comp=Z,199nm,19.6s,baz=248,slow=41
CPUP Villa Florida 10.88 112 P Pn 07 56 00.3 -1.1
CPUP Villa Florida 10.88 112 Pn 07 56 00.2 -1.1
CPUP Villa Florida 10.88 112 eP Pn 07 56 00.6 -0.8
MT03 Universidad Ad 10.95 189 Pn 07 56 01.4 -1.0
LMEL Las Melosas 11.26 187 Pn 07 56 04.1 -2.6
PTLB Pontes e Lacer 11.43 53 eP Pn 07 56 07.3 -1.6
AQDB Aquidauana 12.17 82 Pn 07 56 17.8 -0.9
AQDB Aquidauana 12.17 82 eP Pn 07 56 17.4 -1.4
VILB Vilhena 12.50 41 eP Pn 07 56 22.2 -1.0
ITQB Itaqui 12.81 126 eP Pn 07 56 27.2 +0.1
ETMB Extrema 12.95 10 eP Pn 07 56 26.0 -3.1
NNA Nana 13.21 322 P Pn 07 56 33.4 +0.8
comp=Z,1.5nm,0.3s,baz=175,slow=11,SNR=1.8
NNA Nana 13.21 322 *i* P Pn 07 56 32.7 +0.2
ML02 Panimavida 13.31 190 Pn 07 56 31.2 -2.5
PP1B Ponte de Pedra 13.80 71 eP Pn 07 56 40.0 -0.3
SALV Santo Antonio 13.88 63 eP Pn 07 56 39.1 -2.2
PTGB Ptanga 15.27 101 eP Pn 07 56 59.8 +0.8
CZSB Cruzeiro do Su 15.35 344 eP Pn 07 56 56.1 -3.9
CPSB Cacapava Do Su 15.59 123 eP Pn 07 57 01.9 -1.1
ITAB Concordia 15.60 110 eP Pn 07 57 03.1 0.0
PDRB Porto dos Gac 15.75 48 eP Pn 07 57 02.9 -2.2
PCMB Pacaembu 16.07 90 eP Pn 07 57 08.9 -0.2
PLTB Pedras Altas 16.11 128 Pn 07 57 07.5 -1.9
PLTB Pedras Altas 16.11 128 eP Pn 07 57 08.1 -1.4
ITRB Iturama 17.23 84 eP P 07 57 23.4 -0.1
CNLB Canela 17.25 116 eP Pn 07 57 23.0 -0.6
FRTB Fartura 17.52 96 eP P 07 57 25.5 -1.1
TIJ01 Guaruva-PR 18.08 102 eP Pn 07 57 33.1 -0.6
PLCA Paso Flores 18.12 185 P P 07 57 33.4 +0.4
comp=Z,0.3nm,0.3s,baz=12,slow=10,SNR=10
PLCA PcP **PcP 08 02 03.8 +1.2**
comp=Z,0.2nm,0.3s,baz=360,slow=2.9,SNR=6.5
PLCA Paso Flores 18.12 185 eP Pn 07 57 34.7 +0.7
PLCA Paso Flores 18.12 185 P P 07 57 31.8 -1.2
PLCA Paso Flores 18.12 185 eP P 07 57 33.1 0.0
TBTG Tabatinga, AM 18.39 356 eP P 07 57 35.3 -0.8
TER01 Tubaro-SC 18.48 113 eP P 07 57 36.6 -0.5
LL04 Puerto Octay 18.50 189 P P 07 57 36.3 -0.9
BB19B Bebedouro 18.67 89 eP P 07 57 39.4 +0.1
RCLB Rio Claro- Sao 19.44 93 eP P 07 57 47.5 -0.1
SNDB Serra Nova Dou 19.59 60 eP P 07 57 48.2 -1.1
PET01 Itanhaem-SP 19.61 99 eP P 07 57 49.1 -0.3
IPMB Ipameri, GO 19.64 80 eP P 07 57 49.2 -0.6
VAO Valinhos 19.92 95 eP P 07 57 52.0 -0.8
NPGB Novo Progresso 20.06 41 eP P 07 57 52.6 -1.7
BDFB Brasilia 20.62 74 P P 07 57 59.4 -1.1
comp=Z,35nm,0.6s,baz=257,slow=12,SNR=82
BDFB Brasilia 20.62 74 P P 07 57 59.4 -1.1
BDFB pmax pmax
comp=Z,40nm,0.8s
BDFB Brasilia 20.62 74 P P 07 57 59.4 -1.1
MACA Manacapuru-AM 20.82 23 eP P 07 58 00.8 -1.7
PARB Paraibuna 21.14 96 eP P 07 58 04.5 -1.4
MCRA Macar, Loja 21.24 327 P P 07 58 07.1 0.0
BOSC San Juan Bosco 21.63 332 P P 07 58 10.7 -0.6
BOSC IAmb IAmb 07 58 14.2
comp=Z,86nm,0.7s
PEXB Peixe 21.97 65 eP P 07 58 13.2 -1.6
ARNL Arenillas 22.01 328 P P 07 58 14.7 -0.4
ARNL IAmb IAmb 07 58 53.1
comp=Z,62nm,0.9s
ITTB Itaituba 22.01 36 eP P 07 58 13.6 -1.5
BSCB Bom Sucesso 22.15 90 eP P 07 58 16.1 -0.7
MAN01 Angra dos Reis 22.69 95 eP P 07 58 20.9 -1.4
COYC Coyhaique 23.06 186 P P 07 58 25.1 -0.5
VAS01 Vassouras-RJ 23.22 94 eP P 07 58 25.9 -1.6
PTLC Puerto Leguiza 23.47 344 eP P 07 58 27.3 -2.4
JANB Januaria 24.14 76 eP P 07 58 34.1 -1.8
DUB01 Friburgo-RJ 24.23 94 eP P 07 58 36.4 -0.1
SMTB Santa Maria do 24.36 59 eP P 07 58 37.2 -0.5
PRPB Parauapebas 24.40 51 eP P 07 58 37.0 -1.1
SDBA SAO DESIDERIO 24.72 70 eP P 07 58 39.4 -1.7
CUSE Cuicocha Este 24.73 336 eP P 07 58 42.6 +1.0
PAC1 Pacto, Paraeo 24.85 335 eP P 07 58 44.5 +2.2
TULM Tulcn-Chalpat 24.89 338 P P 07 58 44.8 +1.7
TULM IAmb IAmb 07 58 48.1
comp=Z,68nm,0.8s
TULM Tulcn-Chalpat 24.89 338 eP P 07 58 45.5 +2.4
MALB Monte Alegre 24.90 36 eP P 07 58 41.4 -1.3
CAM01 Campos-RJ 24.92 93 eP P 07 58 43.1 +0.4
FLOC Florencia 25.05 343 eP P 07 58 44.5 +0.5
CMBC Cumbal 25.11 338 eP P 07 58 47.4 +2.3
MACC Macarena, Meta 25.17 348 eP P 07 58 45.5 +0.4
GUVC San Jose del G 25.34 350 eP P 07 58 47.4 +0.7
GARC Garzon, Huila 25.58 344 eP P 07 58 50.3 +1.1
SJMB Sao Joao De Ma 25.91 86 eP P 07 58 50.5 -1.3
ALF01 Guarapari-ES 25.95 91 eP P 07 58 52.2 +0.1
BOAV Boa Vista 26.09 19 eP P 07 58 54.0 +0.5
POPC Popayan, Colom 26.25 341 eP P 07 58 57.0 +1.9
RIB01 Linhares ES 26.50 88 eP P 07 58 55.2 -1.9
PTGC Puerto Gaitan, 26.90 352 eP P 07 59 01.8 +1.1
NAN01 Guarapari, ES 27.09 85 eP P 07 59 00.5 -1.9
ORTC Ortega, Tolima 27.18 345 eP P 07 59 03.7 +0.4
MCPB Macapa, AP 27.36 38 eP P 07 59 04.1 -0.8
YOTC Yotoco, Valle 27.53 343 eP P 07 59 06.5 +0.1
CHIC Chingaza 27.57 349 eP P 07 59 04.6 -2.5
GUA01 Guaratinga, BA 27.73 83 eP P 07 59 06.7 -1.4
ROSC El Rosal 27.88 348 P P 07 59 11.8 +1.9
comp=Z,9.6nm,0.5s,baz=127,slow=20,SNR=3.2
TMAB Tom-Au,PA,Br 28.30 47 eP P 07 59 13.2 0.0
PLMC San Jos del P 28.39 344 eP P 07 59 13.2 -0.9
GUY2C Guyana, Caldas 28.48 346 eP P 07 59 15.2 -0.1
SPBC San Pablo de B 28.63 349 eP P 07 59 13.2 -2.9
RUSC La Rusia 28.70 351 eP P 07 59 17.1 -0.2
NORC Norcasia 28.70 347 eP P 07 59 16.1 -0.7
GDU01 Guandu, BA 28.90 77 eP P 07 59 17.2 -1.4
CBOC Ciudad Bolivar 29.25 345 eP P 07 59 19.9 -1.8
BARC Barichara 29.40 351 eP P 07 59 21.9 -1.3
HELC Santa Helena 29.45 346 eP P 07 59 22.8 -1.0
NBPN Ponto Novo - B 29.53 71 eP P 07 59 22.8 -1.4
PTBC PUERTO BERRIO, 29.57 348 *i* P P 07 59 21.9 -2.6
PAMC Pamplona, Colo 30.07 352 eP P 07 59 26.6 -2.7
EFI East Falkland 30.11 167 *i* P P 07 59 29.9 +1.1
EFI pmax pmax
comp=Z,104nm,2.1s
ZARC Zaragoza, Cauc 30.57 348 P P 07 59 31.0 -2.3
ZARC Zaragoza, Cauc 30.57 348 eP P 07 59 30.5 -2.8
ROSB Rosrio 30.77 54 eP P 07 59 33.8 -1.4
UREC San Jos de Ur 30.96 346 eP P 07 59 38.1 +1.4
OCAC Ocana 31.04 351 P P 07 59 34.0 -3.5
MG03 Isla Dawson 31.20 182 P P 07 59 39.0 +0.6
MG03 IAmb IAmb 08 00 33.8
comp=Z,54nm,1.4s
SDV Santo Domingo 31.39 356 P P 07 59 39.2 -1.6
SDV Santo Domingo 31.39 356 eP P 07 59 39.5 -1.2
NBLA Lagarto - SE 31.59 74 eP P 07 59 40.2 -2.1
NBPS Pedro II - PI 31.90 59 eP P 07 59 44.1 -1.0
MOTC Monteria, Cord 31.99 347 eP P 07 59 43.9 -1.8
NBMA Muriti-CE 32.45 67 eP P 07 59 48.3 -1.6
NBPB Pedra_Branca-C 32.74 63 eP P 07 59 52.0 -0.5
SJCC San Jacinto, C 32.98 348 P P 07 59 52.0 -2.5
SJCC San Jacinto, C 32.98 348 eP P 07 59 51.5 -2.9
NBAN Anadia - AL 33.50 73 eP P 07 59 57.5 -1.6
NBMO Morrinhos-CE 33.66 59 eP P 07 59 59.5 -0.9
CDITO Canoas 34.04 334 P P 08 00 05.6 +2.0
CDITO IAmb IAmb 08 00 07.1
comp=Z,70nm,1.3s
BRU2 Volcan 34.16 335 P P 08 00 04.9 0.0
BRU2 IAmb IAmb 08 00 08.9
comp=Z,97nm,1.6s
RIOS Rincon, Osa 34.41 333 P P 08 00 08.4 +1.6
NBCL Cascavel-CE 34.55 62 eP P 08 00 08.1 +0.1
DRK0 Durika 34.81 334 P P 08 00 12.1 +1.6
SRBA San Rafael, Bu 34.83 334 P P 08 00 11.9 +1.3
SRBA IAmb IAmb 08 00 13.7
comp=Z,46nm,1.2s
CDM Cerro de Muert 35.29 333 eP P 08 00 17.1 +2.2
RIMA Rio Macho 35.52 333 P P 08 00 18.3 +1.7
RIMA IAmb IAmb 08 00 19.3
comp=Z,18nm,0.7s
LCR2 La Lucha 2 35.56 333 eP P 08 00 18.2 +1.3
RCBR Riachuelo 35.67 67 P P 08 00 17.7 -0.1
comp=Z,18nm,0.7s,baz=301,slow=19,SNR=13
RCBR Riachuelo 35.67 67 eP P 08 00 17.5 -0.3
CVTR Volcan Turrial 35.71 334 P P 08 00 19.9 +1.5
CVTR IAmb IAmb 08 00 22.0
comp=Z,41nm,1.0s
NBPV Pedro Velho 35.90 68 eP P 08 00 19.6 -0.1
JTS Las Juntas de 36.45 332 *i* P P 08 00 26.4 +2.1
JTS pmax pmax
comp=Z,22nm,1.3s
JTS Las Juntas de 36.45 332 P P 08 00 25.8 +1.4
JTS IAmb IAmb 08 00 27.7
comp=Z,24nm,1.1s
JTS Las Juntas de 36.45 332 eP P 08 00 26.5 +2.1
ARE1 Arenal 1 36.50 333 eP P 08 00 27.3 +2.5
COVE Coope Vega, Sa 36.60 333 P P 08 00 27.4 +1.8
COVE Coope Vega, Sa 36.60 333 eP P 08 00 27.4 +1.8
ORTG Ortega, Santa 36.74 331 P P 08 00 28.2 +1.4
ORTG IAmb IAmb 08 00 30.2
comp=Z,57nm,1.2s
VMAR Armenia, Volca 36.99 332 eP P 08 00 30.9 +2.0
HZTE Horizontes, Gu 37.11 332 P P 08 00 31.6 +1.7
RPN Rapa Nui 37.13 255 LR LR 08 10 11.2
comp=Z,41nm,22.0s,baz=76,slow=27
ESPN Las Esperanzas 37.90 334 P P 08 00 37.4 +0.9
SVN Savane Anatole 37.95 12 P P 08 00 38.7 +1.7
ACON Acoyapa 38.05 333 P P 08 00 38.4 +0.6
ACON IAmb IAmb 08 00 39.9
comp=Z,23nm,1.1s
BOAB BOACO BROADBAN 38.69 333 P P 08 00 43.9 +0.7
BOAB IAmb IAmb 08 00 47.2
comp=Z,50nm,1.4s
MATN Matagalpa 39.23 333 P P 08 00 48.0 +0.2
MLPR Magueyes Islan 40.39 2 P P 08 00 54.8 -2.4
MLPR IAmb IAmb 08 00 57.5
comp=Z,27nm,0.8s
PDPR Patillas Dam, 40.48 4 P P 08 00 55.6 -2.4
PDPR IAmb IAmb 08 00 56.5
comp=Z,47nm,1.2s
TGUH Tegucigalpa,Un 40.81 332 P P 08 01 01.2 +0.3
TGUH IAmb IAmb 08 01 02.7
comp=Z,52nm,0.8s
EMPR Esperanza - Ma 40.91 3 P P 08 01 02.0 +0.5
MTO3 Montecristo 42.07 329 P P 08 01 11.9 +0.6
MTO3 IAmb IAmb 08 01 13.4
comp=Z,24nm,0.9s
ESQI Esquipulas 42.20 329 P P 08 01 13.7 +1.5
ESQI IAmb IAmb 08 01 14.2
comp=Z,33nm,0.8s
LCCY Blossom Villag 43.52 344 P P 08 01 23.0 +0.3
SOR Soroa 47.29 342 P P 08 01 52.0 -0.4
SOR pmax pmax
comp=Z,31nm,0.9s
SOR Soroa 47.29 342 P P 08 01 52.0 -0.4
SOR IAmb IAmb 08 01 53.6
comp=Z,32nm,0.9s
DWPF Disney Wildern 51.96 346 P P 08 02 29.7 +1.9
baz=165
TIGA Tifton 55.66 344 P P 08 02 54.4 -0.3
baz=163
352A Blakely 56.05 343 P P 08 02 57.0 -0.4
BRAL Brewton 56.36 341 P P 08 02 59.0 -0.7
baz=160
NHSC New Hope 56.53 348 P P 08 03 00.8 -0.1
baz=167
152A Waverly Hall 57.12 344 P P 08 03 04.2 -0.9
152A IAmb IAmb 08 03 05.3
comp=Z,12nm,0.8s
Y58A Scranton 57.21 349 P P 08 03 05.7 0.0
Y57A Sumter 57.45 348 P P 08 03 07.6 +0.3
Y57A IAmb IAmb 08 03 08.6
comp=Z,33nm,0.9s
GOGA Godfrey 57.52 345 P P 08 03 05.8 -2.0
baz=164
X58A Rowland 57.79 350 P P 08 03 09.3 -0.4
JSC Jenkinsville 57.88 348 P P 08 03 10.3 0.0
JSC pmax pmax
comp=Z,18nm,0.9s
JSC Jenkinsville 57.88 348 P P 08 03 10.3 0.0
JSC IAmb IAmb 08 03 11.4
comp=Z,18nm,0.9s
BIRD Birdtown, Kers 58.08 348 P P 08 03 12.0 +0.3
BIRD IAmb IAmb 08 03 13.0
comp=Z,38nm,0.9s
LRAL Lakeview Retre 58.09 342 P P 08 03 10.7 -1.1
baz=160,SNR=7.1
CNNC Cliffs of the 58.24 351 P P 08 03 11.5 -1.2
baz=170
342A Flagon Creek P 58.33 336 P P 08 03 14.2 +0.6
146A Union 58.35 340 P P 08 03 13.5 -0.1
146A IAmb IAmb 08 03 14.3
comp=Z,38nm,1.0s
VBMS Vicksburg 58.45 338 P P 08 03 13.8 -0.5
baz=156
W57A Gilead 58.49 349 P P 08 03 14.4 -0.1
W57A IAmb IAmb 08 03 15.7
comp=Z,26nm,0.8s
HKT Hockley 58.49 332 *i* P P 08 03 14.8 +0.2
HKT pmax pmax
comp=Z,7.0nm,1.0s
KMSC Kings Mountain 58.73 348 P P 08 03 16.2 0.0
baz=166,SNR=8.0
833A Chaparral WMA, 58.75 328 P P 08 03 16.7 +0.2
833A IAmb IAmb 08 03 17.8
comp=Z,30nm,0.9s
833A Chaparral WMA, 58.75 328 P P 08 03 16.6 +0.1
baz=146,SNR=9.4
VNA3 Neumayer Olymp 58.90 161 P P 08 03 19.4 +2.3
BG3 Lake Jocassee 58.91 346 P P 08 03 17.5 0.0
BG3 IAmb IAmb 08 03 18.6
comp=Z,19nm,1.0s
143A Socs Landing, 59.20 338 P P 08 03 19.9 +0.4
U59A Littleton 59.32 351 P P 08 03 20.1 -0.1
V55A Taylorsville 59.39 348 P P 08 03 21.0 +0.2
X48A Hartselle 59.43 342 P P 08 03 20.1 -0.9
VNA2 Neumayer--Watz 59.48 160 P P 08 03 22.6 +1.5
baz=285,slow=7.0
V53A Saluda 59.54 347 P P 08 03 21.4 -0.5
V53A IAmb IAmb 08 03 22.7
comp=Z,19nm,1.1s
NATX Nacogdoches 59.58 334 P P 08 03 22.8 +0.6
NATX Nacogdoches 59.58 334 P P 08 03 22.3 +0.1
baz=152,SNR=6.3
Y45A Yeager Farm, C 59.63 340 P P 08 03 21.9 -0.6
CPCT Cooper Cave 59.72 345 P P 08 03 22.7 -0.4
CPCT IAmb IAmb 08 03 23.7
comp=Z,21nm,1.0s
U56A King 59.72 349 P P 08 03 23.4 +0.3
SWET Sewanee 59.85 344 P P 08 03 23.3 -0.7
V52A Sevierville 59.88 346 P P 08 03 23.5 -0.7
V52A IAmb IAmb 08 03 24.6
comp=Z,34nm,0.9s
T59A Double "B" Far 59.89 352 P P 08 03 24.4 +0.2
435B Jarrell 59.97 331 P P 08 03 24.7 -0.2
baz=149
U54A Nelsons Funny 60.16 348 P P 08 03 25.8 -0.3
T57A Hurt 60.17 350 P P 08 03 26.2 +0.2
T57A IAmb IAmb 08 03 27.4
comp=Z,26nm,0.9s
OXF Oxford 60.19 340 P P 08 03 24.8 -1.4
baz=158
Z41A Richland Creek 60.20 337 P P 08 03 26.3 -0.1
Z41A Richland Creek 60.20 337 P P 08 03 26.5 +0.1
baz=154,SNR=5.8
PLAL Pickwick Lake 60.22 342 P P 08 03 25.3 -1.2
PLAL IAmb IAmb 08 03 26.4
comp=Z,25nm,1.1s
237A Washetta, Mont 60.26 333 P P 08 03 27.0 +0.2
CCAR Cane Creek 60.42 338 P P 08 03 28.0 +0.1
TZTN Tazewell 60.54 346 P P 08 03 28.4 -0.3
baz=164
BLA Blacksburg 60.57 349 P P 08 03 29.4 +0.5

BLA pmax pmax
comp=Z,97nm,1.8s
BLA Blacksburg 60.57 349 P **P** **08 03 29.4 +0.5**
BLA Blacksburg 60.57 349 P **P** **08 03 28.8 -0.1**
baz=168
WLAR White Oak Lake 60.70 337 P **P** **08 03 30.3 +0.5**
JCT Junction City 60.74 329 P **P** **08 03 29.9 -0.3**
JCT pmax pmax
comp=Z,25nm,0.8s
JCT Junction City 60.74 329 P **P** **08 03 29.9 -0.3**
JCT lAmb lAmb 08 03 31.1
comp=Z,25nm,0.8s
JCT Junction City 60.74 329 P **P** **08 03 30.0 -0.3**
baz=147,SNR=18
CLTN Cedars of Leba 60.78 344 P **P** **08 03 29.6 -0.6**
CLTN lAmb lAmb 08 03 30.6
comp=Z,23nm,0.9s
R58B Mineral 60.91 352 P **P** **08 03 31.0 -0.1**
R58B lAmb lAmb 08 03 32.5
comp=Z,31nm,0.9s
WHTX Lake Whitney, 60.95 332 P **P** **08 03 31.6 +0.1**
WHTX lAmb lAmb 08 03 32.5
comp=Z,22nm,0.8s
WHTX Lake Whitney, 60.95 332 P **P** **08 03 31.5 -0.1**
baz=149,SNR=6.5
Z38A Mt. Pleasant 61.03 335 P **P** **08 03 32.4 +0.4**
Z38A lAmb lAmb 08 03 33.5
comp=Z,35nm,0.9s
SNAA Sanae 61.11 161 P **P** **08 03 33.2 +1.0**
SNAA Sanae 61.11 161 P **P** **08 03 33.3 +1.1**
comp=Z,2.8nm,0.6s,baz=274,slow=10,SNR=9.1
SNAA Sanae 61.11 161 *ce* P **P** **08 03 33.5 +1.3**
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 61.11 161 lAmb lAmb 08 04 00.2
comp=Z,47nm,1.5s
WVT Waverly 61.22 342 P **P** **08 03 32.1 -1.2**
WVT pmax pmax
comp=Z,33nm,0.8s
WVT Waverly 61.22 342 P **P** **08 03 32.1 -1.2**
WVT Waverly 61.22 342 P **P** **08 03 32.1 -1.2**
baz=160
W41B Gary Mavity, V 61.73 338 P **P** **08 03 36.3 -0.4**
baz=155,SNR=12
TXAR Lajitas Array 61.74 325 P **P** **08 03 37.2 +0.2**
comp=Z,1.9nm,0.7s,baz=150,slow=9.3,SNR=27
TXAR Lajitas Array 61.74 325 P **P** **08 03 37.0 -0.1**
TXAR Lajitas Array 61.74 325 P **P** **08 03 37.0 -0.1**
TX31 Lajitas Ar. Si 61.74 325 P **P** **08 03 37.1 +0.1**
TX31 lAmb lAmb 08 03 37.8
comp=Z,9.7nm,0.8s
W39A Magazine 62.29 337 P **P** **08 03 40.7 +0.2**
baz=154,SNR=15
ABTX Abilene, Hawle 62.46 331 P **P** **08 03 41.4 -0.3**
baz=148,SNR=7.1
MVL Millersville 62.73 353 P **P** **08 03 43.6 +0.3**
MVL lAmb lAmb 08 03 44.7
comp=Z,22nm,0.9s
TROLL Troll, Antarti 62.82 161 P **P** **08 03 45.0 +1.2**
MCWV Mont Chateau 62.86 350 P **P** **08 03 44.8 +0.6**
baz=168
U40A Yellville 63.01 338 P **P** **08 03 44.3 -0.9**
U40A lAmb lAmb 08 03 45.6
comp=Z,21nm,0.8s
U40A Yellville 63.01 338 P **P** **08 03 44.7 -0.5**
baz=155,SNR=13
P52A Corning 63.23 348 P **P** **08 03 45.7 -0.9**
baz=166
O56A Blue Knob Stat 63.27 351 P **P** **08 03 45.8 -1.1**
baz=170
PAL Palisades 63.51 355 P **P** **08 03 48.3 -0.1**
baz=174
SSPA Standing Stone 63.54 352 P **P** **08 03 48.7 +0.1**
baz=170
N59A State Game Lan 63.58 354 P **P** **08 03 49.5 +0.5**
baz=173
O53A New Philadelph 63.66 349 P **P** **08 03 48.2 -1.2**
baz=167
P49A Miami Univ. Ec 63.66 346 P **P** **08 03 48.0 -1.5**
baz=163
TUL1 Leonard 63.68 336 **P** **08 03 49.5 -0.1**
TUL1 lAmb lAmb 08 03 50.4
comp=Z,31nm,1.0s
TUL1 Leonard 63.68 336 P **P** **08 03 49.3 -0.3**
baz=152,SNR=11
FVM French Village 63.70 341 P **P** **08 03 48.6 -1.2**
FVM pmax pmax
comp=Z,38nm,0.7s
FVM French Village 63.70 341 P **P** **08 03 48.6 -1.2**
WMOK Wichita Mounta 63.87 333 P **P** **08 03 49.6 -1.4**
baz=149
ACSO Alum Creek Sta 63.97 348 P **P** **08 03 50.5 -1.0**
baz=165
CCM Cathedral Cave 64.02 340 P **P** **08 03 51.0 -0.8**
baz=157
M57A Sunshine Farm, 64.14 353 P **P** **08 03 52.7 +0.1**
N54A Moraine State 64.16 350 P **P** **08 03 53.0 +0.3**
N54A lAmb lAmb 08 03 54.1
comp=Z,30nm,1.1s
N54A Moraine State 64.16 350 P **P** **08 03 52.8 +0.1**
baz=168,SNR=5.7
BRYW Bryant College 64.29 358 P **P** **08 03 53.5 -0.1**
BRYW lAmb lAmb 08 03 55.0
comp=Z,53nm,1.0s
S39A Bolivar 64.37 338 P **P** **08 03 52.9 -1.2**
O48B Farmland 64.45 346 P **P** **08 03 53.2 -1.4**
baz=163
MNTX Cornudas Mount 64.51 326 P **P** **08 03 54.1 -1.1**
MNTX Cornudas Mount 64.51 326 P **P** **08 03 54.7 -0.5**
baz=142,SNR=16
R40A Maddies Statio 64.56 340 P **P** **08 03 54.6 -0.7**
R40A lAmb lAmb 08 03 55.7
comp=Z,19nm,0.7s
M54A Oil Creek Stat 64.64 351 P **P** **08 03 55.6 -0.2**
M54A lAmb lAmb 08 03 56.9
comp=Z,23nm,0.9s
M54A Oil Creek Stat 64.64 351 P **P** **08 03 55.9 0.0**
baz=169,SNR=5.4
M53A WI Miller and 64.73 350 P **P** **08 03 56.0 -0.4**
baz=168
L59A Walton 64.78 355 P **P** **08 03 57.4 +0.7**
L59A lAmb lAmb 08 03 58.5
comp=Z,45nm,0.9s
L61B Northampton 64.87 357 P **P** **08 03 57.5 +0.3**
baz=176
BINY Binghamton 64.87 354 P **P** **08 03 57.6 +0.2**
baz=172,SNR=7.5
HRV Adam Dziewonsk 64.88 358 P **P** **08 03 57.2 -0.1**
baz=177
SFIN Lafayette 65.03 344 P **P** **08 03 56.1 -2.2**
baz=161
MSTX Muleshoe 65.03 329 P **P** **08 03 58.5 -0.2**
baz=145,SNR=12
AMTX Amarillo 65.27 330 P **P** **08 03 59.3 -0.9**
baz=146
ERPA Erie 65.29 351 P **P** **08 03 60.0 0.0**
baz=168
HDIL Hopedale 65.76 343 P **P** **08 04 01.9 -1.2**
baz=159
AAM Ann Arbor 66.10 348 P **P** **08 04 04.6 -0.6**
baz=165
121A Cookes Peak, D 66.43 324 P **P** **08 04 09.0 +1.2**
baz=141,SNR=8.4
LBNH Lisbon 66.62 357 P **P** **08 04 09.9 +1.4**
baz=177
KSU1 Kansas State U 66.79 337 P **P** **08 04 09.0 -0.7**
baz=152
BNM Barren Site 67.08 326 P **P** **08 04 12.5 +0.5**
N38A Joes South For 67.15 340 P **P** **08 04 11.2 -0.7**
N38A lAmb lAmb 08 04 12.1
comp=Z,20nm,0.8s
LONY Lake Ozonia 67.16 355 P **P** **08 04 12.3 +0.4**
baz=174,SNR=5.8
PKME Peaks-Kenny Pk 67.58 359 P **P** **08 04 14.9 +0.4**
baz=179,SNR=5.5
ANMO Albuquerque 67.62 327 *ce* P **P** **08 04 16.3 +1.1**
ANMO pmax pmax
comp=Z,20nm,1.3s
ANMO Albuquerque 67.62 327 P **P** **08 04 16.4 +1.1**
baz=142
CBKS Cedar Bluff 67.75 334 P **P** **08 04 16.0 +0.2**
baz=149
TUC Tucson 67.92 322 P **P** **08 04 17.9 +0.8**
baz=138
SCIA State Center 68.15 340 P **P** **08 04 17.5 -0.7**
baz=156
JFWS Jewell Farm 68.22 343 P **P** **08 04 18.1 -0.5**
baz=158,SNR=7.3
T25A Trinidad 68.38 330 P **P** **08 04 21.0 +0.9**
baz=145,SNR=6.8
GLMI Grayling 68.72 348 P **P** **08 04 20.8 -0.9**
baz=164
TRQ Mont Tremblant 68.75 356 P **P** **08 04 22.0 +0.1**
TRQ lAmb lAmb 08 04 23.0
comp=Z,30nm,0.8s
DBIC Dimbokro 68.76 73 P **P** **08 04 22.7 +0.1**
comp=Z,8.7nm,0.6s,baz=241,slow=8.4,SNR=9.6
DBIC pP **pP** **08 04 49.0 +0.1**
comp=Z,8.9nm,0.9s,baz=254,slow=8.3,SNR=4.0
214A Organ Pipe Nat 68.84 321 P **P** **08 04 23.6 +0.9**
214A Organ Pipe Nat 68.84 321 P **P** **08 04 24.1 +1.3**
baz=136,SNR=10
KSCO Kaye Shedlock' 69.12 332 P **P** **08 04 25.1 +0.6**
KSCO lAmb lAmb 08 04 26.2
comp=Z,30nm,0.7s
KSCO Kaye Shedlock' 69.12 332 P **P** **08 04 25.1 +0.6**
baz=146,SNR=7.2
BGNE Belgrade 69.38 337 P **P** **08 04 25.8 -0.1**
BGNE Belgrade 69.38 337 P **P** **08 04 25.8 -0.1**
baz=151,SNR=8.0
SDCO Great Sand Dun 69.38 329 P **P** **08 04 27.3 +1.0**
baz=144,SNR=31
W18A Petrified Fore 69.45 325 P **P** **08 04 27.6 +0.9**
W18A Petrified Fore 69.45 325 P **P** **08 04 27.9 +1.2**
baz=140,SNR=7.6
X16A Lo Mia Camp, P 69.85 323 P **P** **08 04 30.8 +1.6**
113A Mohawk Valley, 69.98 320 P **P** **08 04 30.7 +1.0**
S22A 4UR Ranch, Cre 70.02 329 P **P** **08 04 31.1 +0.9**
baz=143,SNR=7.1
Q24A Divide 70.20 330 P **P** **08 04 32.2 +0.9**
baz=144,SNR=13
MVCO Mesa Verde 70.42 327 P **P** **08 04 33.6 +1.0**
baz=141,SNR=15
OGNE Ogallala 70.49 334 P **P** **08 04 33.5 +0.7**
baz=147
WUAZ Wupatki 70.63 324 P **P** **08 04 34.7 +0.8**
WUAZ lAmb lAmb 08 04 36.5
comp=Z,20nm,1.0s
WUAZ Wupatki 70.63 324 P **P** **08 04 35.5 +1.6**
baz=138,SNR=14
ECSD EROS Data Cent 70.89 339 P **P** **08 04 34.5 -0.6**
baz=153,SNR=11
SPMN Marine on St. 71.06 342 P **P** **08 04 35.1 -0.9**
baz=156,SNR=5.5
ISCO Idaho Springs 71.09 331 P **P** **08 04 37.7 +0.9**
baz=144,SNR=12
PDMCI Parker Dam,Lak 71.30 321 P **P** **08 04 38.7 +1.0**
baz=136
IKP In-Ko-Pah, Jac 71.30 319 P **P** **08 04 38.8 +0.9**
baz=134
BC3 Big Chuckawall 71.60 320 P **P** **08 04 40.8 +1.1**
baz=135,SNR=7.7
MONP2 Monument Peak 71.65 319 P **P** **08 04 41.2 +1.1**
baz=134
W13A Hualapai Mount 71.72 322 P **P** **08 04 41.5 +1.0**
IRM Iron Mountain 71.78 321 P **P** **08 04 42.1 +1.4**
baz=135,SNR=7.5
U15A North Rim 71.81 324 P **P** **08 04 42.0 +0.9**
N23A Red Feather La 72.12 331 P **P** **08 04 43.5 +0.6**
baz=144,SNR=14
BELC Belle Mtn. Jos 72.17 320 P **P** **08 04 43.8 +0.7**
baz=134
PFO Pinyon Flats O 72.17 319 *i* P **P** **08 04 44.3 +1.2**
PFO pmax pmax
comp=Z,5.0nm,0.9s
PFO Pinyon Flats O 72.17 319 P **P** **08 04 43.9 +0.8**
baz=134
PHWY Pilot Hill 72.24 332 P **P** **08 04 44.1 +0.6**
SUSD Miller 72.31 338 P **P** **08 04 43.1 -0.5**
baz=151
GMRC Granite Mounta 72.52 321 P **P** **08 04 46.4 +1.2**
baz=135,SNR=11
O20A White River Ci 72.58 329 P **P** **08 04 46.7 +1.2**
baz=142,SNR=20
MURC Murrieta 72.61 319 P **P** **08 04 46.8 +1.2**
baz=134
HEC Hector,Ludlow 72.95 320 P **P** **08 04 49.3 +1.6**
baz=134,SNR=7.6
MTPU Mount Pierson 72.95 325 P **P** **08 04 48.9 +1.0**
TUQ Turquoise Moun 73.13 321 P **P** **08 04 49.6 +0.8**
baz=135
EYMN Ely 73.22 344 P **P** **08 04 48.0 -0.8**
baz=158,SNR=7.9
MSU Marysvale 73.29 326 P **P** **08 04 50.7 +0.9**
MSU Marysvale 73.29 326 P **P** **08 04 50.7 +0.9**
BFSC Mount Baldy Ra 73.33 319 P **P** **08 04 50.8 +0.9**
baz=133
RDMU Red Mountain 73.55 329 P **P** **08 04 51.6 +0.4**
RDMU lAmb lAmb 08 04 53.0
comp=Z,14nm,0.7s
GSC Goldstone, Bar 73.55 320 P **P** **08 04 52.6 +1.4**
baz=134
SHOC Shoshone, Teco 73.66 321 P **P** **08 04 53.2 +1.4**
baz=135
K22A Casper 73.79 332 P **P** **08 04 53.5 +0.9**
K22A Casper 73.79 332 P **P** **08 04 53.5 +0.9**
baz=144,SNR=7.3
SNCC San Nicolas Is 73.81 317 P **P** **08 04 52.7 0.0**
baz=132
RSSD Black Hills 73.95 334 P **P** **08 04 53.9 +0.4**
baz=146
EDW2 Edwards Air Fo 73.97 319 P **P** **08 04 53.8 +0.2**
baz=133
LRMC Laurel Mtn Rad 74.19 320 P **P** **08 04 55.9 +0.9**
baz=134
PSUT Pine Spring 74.19 325 P **P** **08 04 55.8 +0.8**
TPNV Topopah Spring 74.38 322 P **P** **08 04 57.2 +1.1**
TPNV pmax pmax
comp=Z,12nm,1.2s
TPNV Topopah Spring 74.38 322 P **P** **08 04 57.2 +1.1**
TPNV Topopah Spring 74.38 322 P **P** **08 04 57.8 +1.7**
baz=135,SNR=9.1
FURC Furnace Creek, 74.39 321 P **P** **08 04 57.6 +1.7**
baz=134,SNR=9.9
MPMC Manual Prospec 74.47 321 P **P** **08 04 57.7 +0.9**
baz=134,SNR=5.7
AGMN Agassiz Nation 74.73 341 P **P** **08 04 57.3 -0.3**
baz=154,SNR=11
E28A Huff 74.77 338 P **P** **08 04 58.3 +0.3**
E28A lAmb lAmb 08 04 59.0
comp=Z,18nm,0.8s
ISA Isabella, Lake 74.79 320 P **P** **08 04 59.8 +1.5**
baz=133,SNR=5.2
DUG Dugway, Tooele 74.87 326 P **P** **08 05 00.0 +1.2**
baz=138,SNR=10
R11A Troy Canyon, C 75.00 323 P **P** **08 05 01.1 +1.4**
baz=136,SNR=8.7
GRAC Grapevine Rang 75.05 321 P **P** **08 05 01.3 +1.5**
baz=134
CWC Cottonwood Cre 75.08 321 P **P** **08 05 01.4 +1.2**
baz=134
BW06 Boulder Array 75.25 330 P **P** **08 05 01.3 +0.3**
baz=141,SNR=7.3
PDAR Pinedale Array 75.25 330 P **P** **08 05 01.4 +0.3**
comp=Z,1.7nm,0.5s,baz=135,slow=7.6,SNR=27
PDAR pP **pP** **08 05 28.2 +1.0**
comp=Z,0.9nm,0.6s,baz=136,slow=6.6,SNR=3.0
VES Vestal, Richgr 75.27 320 P **P** **08 05 02.0 +1.0**
baz=133,SNR=8.2
HWUT Hardware Ranch 75.31 328 P **P** **08 05 01.6 +0.2**
SMMC Simmler 75.47 319 P **P** **08 05 03.8 +1.6**
baz=132,SNR=5.8
MDND Maddock 75.50 339 P **P** **08 05 02.6 +0.5**
baz=151,SNR=10
VNDA Vanda 75.79 190 pP pP 08 05 30.1 +0.4
comp=Z,3.5nm,1.0s,baz=123,slow=7.9,SNR=6.6
AHID Auburn Hatcher 75.97 329 P **P** **08 05 05.6 +0.5**
AHID lAmb lAmb 08 05 06.8
comp=Z,21nm,0.7s
REDW Red Top Meadow 76.31 330 P **P** **08 05 08.0 +0.9**
ULM Lac du Bonnet 76.49 342 P **P** **08 05 07.2 -0.4**
comp=Z,8.9nm,0.6s,baz=152,slow=5.1,SNR=17
NVAR Mina Array Bea 76.58 322 P **P** **08 05 09.8 +1.1**
comp=Z,2.4nm,0.8s,baz=155,slow=6.8,SNR=23
LAO LASA Array 76.94 334 P **P** **08 05 11.1 +0.7**
baz=145
RLMT Red Lodge 76.96 332 P **P** **08 05 11.5 +0.8**
H17A Grant Village 76.98 331 P **P** **08 05 11.8 +1.0**
H17A Grant Village 76.98 331 P **P** **08 05 13.0 +2.1**
baz=141,SNR=7.0
SCHQ Schefferville 77.17 1 P **P** **08 05 11.3 0.0**
comp=Z,11nm,0.7s,baz=194,slow=4.7,SNR=16
YHH Holmes Hill 77.41 331 P **P** **08 05 14.7 +1.4**
YHH lAmb lAmb 08 05 16.0
comp=Z,24nm,1.2s
TORD Torodi Ar. Bea 77.45 70 P **P** **08 05 13.7 -0.1**
comp=Z,13nm,0.4s,baz=260,slow=6.7,SNR=60
TORD pP **pP** **08 05 41.2 +0.9**
comp=Z,14nm,0.7s,baz=252,slow=5.4,SNR=9.0
YERR Yerington 77.49 322 P **P** **08 05 14.0 +0.2**
DGMT Dagmar 77.64 337 P **P** **08 05 15.1 +0.9**
baz=147,SNR=8.6
QLMT Earthquake Lak 77.70 330 P **P** **08 05 16.3 +1.5**
SUR Sutherland 77.74 120 LR LR 08 37 18.9
comp=Z,14nm,19.2s,baz=188,slow=34
PNTR Pine Nut 77.77 322 P **P** **08 05 17.0 +1.6**
HLID Hailey 78.17 328 P **P** **08 05 18.9 +1.5**
baz=138,SNR=40
MCMT McKenzie Canyo 78.36 330 P **P** **08 05 19.4 +0.9**
BOZ Bozeman (W) 78.38 331 P **P** **08 05 19.3 +0.8**
baz=140,SNR=7.8
ORV Oroville 79.17 321 P **P** **08 05 24.0 +1.2**
ORV pmax pmax
comp=Z,14nm,1.1s
ORV Oroville 79.17 321 P **P** **08 05 24.0 +1.2**
TSUM Tsumeb 79.42 106 LR LR 08 36 48.1
comp=Z,41nm,18.9s,baz=149,slow=33
EGMT Eagleton 79.45 333 P **P** **08 05 24.3 +0.1**
baz=142,SNR=6.9
O03E Paynes Creek 79.84 322 P **P** **08 05 26.0 -0.5**
baz=131,SNR=6.2
PLID Pearl Lake 80.06 328 P **P** **08 05 28.2 +0.5**
PLID lAmb lAmb 08 05 29.6
comp=Z,18nm,0.8s
O02D Mt. Diablo Mer 80.33 321 P **P** **08 05 29.2 0.0**
baz=131
MSO Missoula 80.36 330 P **P** **08 05 30.2 +1.0**
baz=138
N02D Trinity Center 80.80 322 P **P** **08 05 31.3 -0.3**
baz=131,SNR=5.3
M04C Macdoel 80.84 323 P **P** **08 05 32.1 +0.2**
M04C Macdoel 80.84 323 P **P** **08 05 32.7 +0.8**
baz=132,SNR=12
M02C Callahan 81.16 322 P **P** **08 05 33.9 +0.4**
baz=131
K04D Chiloquin, OR 81.35 323 P **P** **08 05 35.2 +0.6**
baz=132
L04D Klamath Falls 81.39 323 P **P** **08 05 34.3 -0.4**
baz=131
J05D Fort Rock, OR 81.51 324 P **P** **08 05 36.3 +0.9**
baz=132,SNR=11
J04D Umpqua Nationa 81.95 324 P **P** **08 05 38.4 +0.6**
baz=132,SNR=6.0
L02E Cave Junction 82.08 322 P **P** **08 05 39.2 +0.9**
baz=130
MDT Midelt 82.24 50 LR LR 08 40 35.6
comp=Z,32nm,20.8s,baz=256,slow=34
I05D Terrebonne, OR 82.27 325 P **P** **08 05 40.5 +1.2**
baz=132,SNR=17
K02D Willamette Mer 82.46 322 P **P** **08 05 40.9 +0.6**
baz=130,SNR=5.3
I04A Tendici Farm, 82.48 324 P **P** **08 05 40.1 -0.2**
baz=131,SNR=5.2
BOSA Boshof 82.64 118 P **P** **08 05 42.1 +0.4**
comp=Z,3.1nm,0.7s,baz=232,slow=4.8,SNR=8.4
BOSA pP **pP** **08 06 09.4 +1.0**
comp=Z,5.4nm,0.8s,baz=273,slow=6.8,SNR=4.7
HAWA Hanford 82.73 327 P **P** **08 05 42.0 +0.5**
HAWA lAmb lAmb 08 05 43.4
comp=Z,12nm,0.8s
G05D Wamic, OR 82.86 325 P **P** **08 05 43.2 +0.9**
baz=132,SNR=5.3
NEW Newport 82.88 330 P **P** **08 05 42.5 +0.1**
baz=136
I03D Drain, OR 82.93 323 P **P** **08 05 43.2 +0.6**
baz=131
C09A Chrisman Ranch 83.10 329 P **P** **08 05 43.5 +0.1**
C09A lAmb lAmb 08 05 45.1
comp=Z,35nm,0.7s
MAW Mawson 83.15 163 P **P** **08 05 44.8 +1.3**
comp=Z,2.1nm,0.6s,baz=199,slow=4.8,SNR=9.1
MAW pP **pP** **08 06 11.5 +1.5**
comp=Z,11nm,0.8s,baz=207,slow=9.2,SNR=11
MAW Mawson 83.15 163 P **P** **08 05 44.8 +1.3**
MAW pmax pmax
comp=Z,3.0nm,0.8s
FCC Fort Churchill 83.81 347 P **P** **08 05 46.7 0.0**
FCC pmax pmax
comp=Z,10.0nm,0.7s
FCC Fort Churchill 83.81 347 P **P** **08 05 46.7 0.0**
FCC lAmb lAmb 08 05 47.4
comp=Z,10nm,0.7s
G03D McMinnville, O 83.87 325 P **P** **08 05 49.3 +1.9**
baz=131
LTY Liberty 83.89 327 P **P** **08 05 47.8 +0.3**
E04D Cinebar 84.39 326 P **P** **08 05 50.7 +0.7**
baz=131
EDM Edmonton 84.92 335 P **P** **08 05 51.5 -1.1**
EDM pmax pmax
comp=Z,96nm,2.0s
EDM Edmonton 84.92 335 P **P** **08 05 51.5 -1.1**
EDM lAmb lAmb 08 05 53.7
comp=Z,96nm,2.0s
B06A Marblemount 85.15 328 P **P** **08 05 53.6 -0.2**
B06A lAmb lAmb 08 05 54.4
comp=Z,15nm,1.0s
B05A Bryant 85.28 327 P **P** **08 05 54.1 -0.3**
baz=132,SNR=5.2
D03D Eldon 85.30 326 P **P** **08 05 54.7 +0.2**
baz=131
A04D Lummi Island 85.89 327 P **P** **08 05 57.6 +0.2**
baz=131
ESDC Sonseca Array 86.42 44 P **P** **08 06 00.9 +0.5**
comp=Z,3.7nm,1.1s,baz=248,slow=5.5,SNR=7.4
ESDC LR LR 08 43 39.3
comp=Z,32nm,18.4s,baz=300,slow=35
LLLB Lillooet 86.75 329 P **P** **08 06 01.3 -0.4**
LLLB lAmb lAmb 08 06 02.5
comp=Z,20nm,1.4s
MATP Matopo 88.50 111 LR LR 08 42 45.9
comp=Z,38nm,18.6s,baz=199,slow=33
YKA Yellowknife Ar 92.36 340 P **P** **08 06 27.6 0.0**
comp=Z,14nm,0.8s,baz=137,slow=4.5,SNR=246
YKA pP **pP** **08 06 54.6 +0.1**
comp=Z,2.2nm,0.7s,baz=140,slow=4.3,SNR=3.3
YKA PP **PP** **08 10 13.3 +3.3**
comp=Z,0.3nm,0.8s,baz=144,slow=7.8,SNR=3.5
YKA Yellowknife Ar 92.36 340 *eP* **P** **08 06 27.6 0.0**
YKA pmax pmax
comp=Z,10.0nm,0.7s
BORG Borgarnes 94.40 18 LR LR 08 44 52.4
comp=Z,16nm,19.8s,baz=268,slow=33
MBAR Mbarara 98.36 94 LR LR 08 50 18.6
comp=Z,23nm,18.1s,baz=100,slow=35
DAVOX Davos/Dischmat 98.68 43 LR LR 08 52 57.3
comp=Z,39nm,18.1s,baz=77,slow=36
KHC Kasperske Hory 101.87 42 *i* P **Pdif** **08 07 09.5 -1.5**
KHC pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 105.40 334 PP **PP** **08 11 47.8 -1.5**
comp=Z,0.5nm,0.9s,baz=96,slow=6.4,SNR=4.1
H21K Melozitna Rive 108.05 334 P **PKiKP** **08 11 45.5 +1.2**
baz=105
J20K Nowinta River 108.23 333 P **PKiKP** **08 11 45.8 +1.0**
baz=104
OBN Obninsk 116.86 38 *i* *e* PKiKP **PKiKP** **08 12 02.4 +1.0**
OBN *e* 08 13 09.4
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,31nm,17.0s
KIV Kislovodsk 120.44 51 *e* PKiKP **PKPdf** **08 12 06.6 -2.2**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 120.58 52 PKP **PKiKP** **08 12 09.9 +0.9**
comp=Z,1.6nm,0.6s,baz=175,slow=2.7,SNR=6.6
KBZ Khabaz 120.58 52 *e* PKiKP **PKiKP** **08 12 11.5 +2.5**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
BILL Bilibino 123.69 338 *ce* PKiKP **PKPdf** **08 12 12.7 -1.5**
BILL *e* 08 13 59.1
BILL *e* 08 19 19.2
BILL pmax pmax
comp=Z,1.0nm,1.1s
ARU Arti 128.91 35 PKP **PKiKP** **08 12 26.0 +0.8**
comp=Z,1.9nm,0.3s,baz=230,slow=9.7,SNR=1.6
ARU Arti 128.91 35 *i* PKiKP **PKiKP** **08 12 25.7 +0.5**
ARU 08 14 30.3
ARU 08 19 28.1
ASAR Alice Springs 129.05 207 PKP **PKPdf** **08 12 26.3 +0.4**
comp=Z,3.3nm,0.7s,baz=144,slow=2.3,SNR=33

ASAR					pPKP	**pPKPdf**	**08 12 54.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=152,slow=2.2,SNR=4.9								
TIXI	**Tiksi**	**129.96**	**353**	*c i*	PKIKP	**PKPdf**	**08 12 25.5**	**-0.5**
TIXI					pmax	pmax			
	comp=Z,3.0nm,0.7s								
AKTO	**Aktyubinsk**	**130.27**	**42**		PKP	**PKiKP**	**08 12 28.3**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=297,slow=2.3,SNR=4.4								
SEY	**Seymchan**	**131.26**	**336**	*c i*	PKIKP	**PKiKP**	**08 12 30.4**	**+0.7**
SEY					pmax	pmax			
	comp=Z,10.0nm,1.7s								
WRA	**Warramunga Arr**	**132.13**	**210**		PKP	**PKiKP**	**08 12 32.6**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=158,slow=1.8,SNR=60								
WRA					pPKP	**pPKPdf**	**08 13 00.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=148,slow=1.6,SNR=5.0								
WRA					SKPbc	**SKPbc**	**08 15 48.8**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=162,slow=3.1,SNR=5.9								
PETK	**Petropavlovsk-**	**133.66**	**323**		PKP	**PKiKP**	**08 12 34.9**	**0.0**
	comp=Z,1.5nm,0.6s,baz=103,slow=3.1,SNR=2.5								
MA2	**Magadan**	**133.88**	**333**	*c i*	PKIKP	**PKiKP**	**08 12 34.8**	**-0.3**
MA2					pmax	pmax			
	comp=Z,8.0nm,2.5s								
BRVK	**Borovoye**	**136.47**	**35**	*i*	PKIKP	**PKPdf**	**08 12 39.4**	**+0.5**
KURK	**Kurchatov**	**142.10**	**34**	*i*	PKIKP	**PKPdf**	**08 12 50.0**	**+0.8**
KURK					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ZALV	**Zalesovo Beam**	**142.84**	**26**		PKhKP	PKPpre	08 12 47.2		
	comp=Z,4.0nm,0.6s,baz=324,slow=3.9,SNR=20								
AAK	**Ala-Archa**	**143.44**	**48**	*c i*	PKIKP	**PKPdf**	**08 12 51.2**	**-0.9**
AAK					pmax	pmax			
	comp=Z,5.0nm,1.7s								
BOD	**Bodaibo**	**144.81**	**358**	*e*	PKIKP	**PKPab**	**08 12 52.8**	**-0.1**
BOD					pmax	pmax			
	comp=Z,51nm,1.3s								
YSS	**Yuzh-Sakhalins**	**145.03**	**322**	*e*	PKIKP	**PKPdf**	**08 12 54.9**	**+0.5**
YSS				*e*			08 13 24.9		
YSS					pmax	pmax			
	comp=Z,40nm,0.9s								
KSH	**Kashi**	**145.56**	**52**		PKPbc	**PKPab**	**08 12 56.8**	**+0.3**
KSH					pPKP	pPKPdf	08 13 22.5	-1.5
MKAR	**Makanchi Array**	**146.36**	**37**		PKPbc	**PKPbc**	**08 12 57.9**	**-0.3**
	comp=Z,15nm,0.8s,baz=320,slow=2.6,SNR=78								
MKAR	**Makanchi Array**	**146.36**	**37**			**PKPdf**	**08 12 56.9**	**+0.2**
ZEA	**Zeya**	**146.71**	**343**	*e*	PKPbc	**PKPbc**	**08 12 59.6**	**+0.7**
ZEA					pmax	pmax			
	comp=Z,20nm,0.9s								
MOY	**Mondy**	**149.92**	**13**	*e*	PKP2	**PKiKP**	**08 13 08.6**	**+0.2**
MOY					pmax	pmax			
	comp=Z,24nm,1.3s								
WMQ	**Urumqi**	**151.19**	**37**	*e*	PKPbc	**PKPdf**	**08 13 05.3**	**+0.6**
ZAK	**Zakamensk**	**151.58**	**11**	*e*	PKIKP	**PKPdf**	**08 13 06.2**	**+1.0**
ZAK					pmax	pmax			
	comp=Z,8.0nm,1.3s								
USRK	**Ussuriysk Ar.**	**152.63**	**327**		PKPbc	**PKiKP**	**08 13 14.7**	**+0.6**
	comp=Z,5.9nm,0.9s,baz=139,slow=0.9,SNR=6.7								
MJAR	**Matsushiro Arr**	**153.01**	**307**		PKPbc	**PKiKP**	**08 13 15.2**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=301,slow=2.0,SNR=9.7								
MJAR					PKPab	**PKPab**	**08 13 27.0**	**+0.3**
	comp=Z,6.1nm,0.9s,baz=345,slow=1.5,SNR=7.7								
SONM	**Songino Array**	**154.54**	**8**		PKP	**PKPdf**	**08 13 10.4**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=20,slow=4.6,SNR=5.3								
SONM					PKPbc	**PKiKP**	**08 13 18.6**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=286,slow=1.0,SNR=4.9								
SONM					PKPab	**PKPab**	**08 13 32.5**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=340,slow=3.6,SNR=6.1								
KSRS	**Korea Array**	**159.51**	**320**		PKP	**PKPdf**	**08 13 16.1**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=74,slow=0.3,SNR=12								
KSRS					PKPab	**sPKPdf**	**08 13 55.2**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=49,slow=3.9,SNR=11								
GOMU	**GeErMu**	**160.24**	**43**		PKP	**PKPdf**	**08 13 19.3**	**+1.9**
GOMU					AMB	AMB			
	comp=Z,39nm,4.1s								
GTA	**Gaotai**	**160.57**	**28**		PKPbc	**PKPab**	**08 14 00.0**	**+0.8**
HHC	**Hu-ho-hao-te**	**161.84**	**360**	*e*	PKP	**PKPdf**	**08 13 17.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**167.59**	**107**		PKP	**PKPdf**	**08 13 25.6**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=286,slow=3.4,SNR=4.6								
CMAR					PKPab	**PKPab**	**08 14 32.6**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=251,slow=5.6,SNR=1.7								
NJ2	**Nanjing**	**168.54**	**326**	*e*	PKP	**PKPdf**	**08 13 23.8**	**-0.5**
CD2	**Chengdu**	**169.29**	**38**		PKP	**PKPdf**	**08 13 23.8**	**-1.2**
PZH	**PanZhiHua**	**170.38**	**64**		PKP	**PKPdf**	**08 13 25.0**	**-0.8**

WEL 31 08:04:06.6±0.5, 44°S±2°×17°3E±°, h8km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.19**	**209**	P	Pg	08 04 10.9	+0.6
MQZ	**McQueen's Vall**	**0.19**	**209**	S	Sg	08 04 14.0	+1.1
MQZ	**McQueen's Vall**	**0.19**	**209**	P	Pg	08 04 10.9	+0.6
MQZ				S	Sg	08 04 14.0	+1.1
OKCZ	**Okains Bay**	**0.27**	**131**	P	Pg	08 04 12.8	+0.8
OKCZ	**Okains Bay**	**0.27**	**131**	P	Pg	08 04 12.8	+0.8
AKCZ	**Akaroa Harbour**	**0.34**	**164**	P	Pg	08 04 14.1	+0.8
AKCZ	**Akaroa Harbour**	**0.34**	**164**	P	Pg	08 04 14.1	+0.8
AMCZ	**Amberley**	**0.38**	**346**	P	Pg	08 04 14.6	+0.6
AMCZ	**Amberley**	**0.38**	**346**	S	Sg	08 04 19.8	+0.9
AMCZ	**Amberley**	**0.38**	**346**	P	Pg	08 04 14.6	+0.6
AMCZ				S	Sg	08 04 19.8	+0.9
RACZ	**Rakaia**	**0.50**	**248**	P	Pb	08 04 17.2	-0.4
RACZ	**Rakaia**	**0.50**	**248**	S	Sb	08 04 24.5	-0.5
RACZ	**Rakaia**	**0.50**	**248**	P	Pb	08 04 17.2	-0.4
RACZ				S	Sb	08 04 24.5	-0.5
OXZ	**Oxford**	**0.58**	**292**	P	Pg	08 04 18.0	+0.2
OXZ	**Oxford**	**0.58**	**292**	S	Sb	08 04 27.0	-0.4
OXZ	**Oxford**	**0.58**	**292**	P	Pg	08 04 18.0	+0.2
OXZ				S	Sb	08 04 27.0	-0.4
GVZ	**Greta Valley S**	**0.60**	**18**	P	Pb	08 04 18.9	-0.5
GVZ	**Greta Valley S**	**0.60**	**18**	S	Sb	08 04 27.9	-0.2
GVZ	**Greta Valley S**	**0.60**	**18**	P	Pb	08 04 18.9	-0.5
GVZ				S	Sb	08 04 27.9	-0.2
WACZ	**Wakanui South**	**0.79**	**239**	P	Pb	08 04 22.7	+0.2
WACZ	**Wakanui South**	**0.79**	**239**	S	Sb	08 04 34.3	+0.9
WACZ	**Wakanui South**	**0.79**	**239**	P	Pb	08 04 22.7	+0.2
WACZ				S	Sb	08 04 34.3	+0.9
LTZ	**Lake Taylor**	**0.85**	**334**	P	Pg	08 04 23.2	+0.3
LTZ	**Lake Taylor**	**0.85**	**334**	S	Sb	08 04 34.8	-0.3
LTZ	**Lake Taylor**	**0.85**	**334**	P	Pg	08 04 23.2	+0.3
LTZ				S	Sb	08 04 34.8	-0.3
ARCZ	**Arundel**	**1.23**	**250**	P	Pb	08 04 29.1	-1.0
ARCZ	**Arundel**	**1.23**	**250**	S	Sb	08 04 45.0	-1.1
ARCZ	**Arundel**	**1.23**	**250**	P	Pb	08 04 29.1	-1.0
ARCZ				S	Sb	08 04 45.0	-1.1
KHZ	**Kahutara**	**1.26**	**27**	P	Pn	08 04 28.8	-1.6
KHZ	**Kahutara**	**1.26**	**27**	P	Pn	08 04 28.8	-1.6
RPZ	**Rata Peaks**	**1.26**	**262**	P	Pn	08 04 29.6	-1.0
RPZ	**Rata Peaks**	**1.26**	**262**	S	Sb	08 04 46.7	-0.4
RPZ	**Rata Peaks**	**1.26**	**262**	P	Pn	08 04 29.6	-1.0
RPZ				S	Sb	08 04 46.7	-0.4
INZ	**Inchbonnie**	**1.27**	**310**	P	Pb	08 04 30.9	+0.1
INZ	**Inchbonnie**	**1.27**	**310**	S	Sb	08 04 47.2	-0.2
INZ	**Inchbonnie**	**1.27**	**310**	P	Pb	08 04 30.9	+0.1
INZ				S	Sb	08 04 47.2	-0.2
TMZ	**Timaru**	**1.53**	**236**	P	Pn	08 04 33.4	-0.8
TMZ	**Timaru**	**1.53**	**236**	P	Pn	08 04 33.4	-0.8
WVZ	**Waitaha Valley**	**1.56**	**287**	P	Pg	08 04 36.5	0.0
WVZ	**Waitaha Valley**	**1.56**	**287**	P	Pg	08 04 36.5	0.0
THZ	**Tophouse**	**1.78**	**3**	P	Pn	08 04 37.8	+0.1
THZ	**Tophouse**	**1.78**	**3**	P	Pn	08 04 37.8	+0.1
DSZ	**Denniston Nort**	**1.94**	**338**	P	Pn	08 04 40.0	+0.2
DSZ	**Denniston Nort**	**1.94**	**338**	P	Pn	08 04 40.0	+0.2
ODZ	**Otahua Downs**	**2.14**	**225**	P	Pg	08 04 47.4	-0.3
ODZ	**Otahua Downs**	**2.14**	**225**	P	Pg	08 04 47.4	-0.3

DJA 31 08:15:55.3±0.5, 4°S±6°×10°2E±°, h42km±11km, M3.7/10, mb4.1/1, mB5.5/1, MLv3.5/10, Mw(mB)5.0/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.61**	**88**	P	Pn	08 16 09.3	+1.6
KSI	**Kapahiang**	**0.77**	**19**	P	Pn	08 16 09.5	-0.3
MASI	**Maura Aman, Be**	**1.23**	**355**	P	Pn	08 16 16.0	-0.2
MASI				S	Sn	08 16 32.3	+0.7
LWLI	**Liwa**	**1.83**	**110**	P	Pn	08 16 25.0	+0.7
MDSI	**Maura Dua**	**1.84**	**93**	P	Pn	08 16 24.7	+0.3
KLSI		**2.40**	**97**	P	Pn	08 16 33.3	+1.1
KASI	**Kota Agung**	**2.43**	**118**	P	Pn	08 16 33.3	+0.8
KASI				S	Sn	08 17 00.6	-0.5
PPSI	**Pulau Pagai**	**2.83**	**305**	P	Pn	08 16 38.6	+0.6
SISI	**Saibi**	**4.44**	**313**	P	Pn	08 16 59.6	-0.6
CNJI	**Cibinong**	**5.58**	**122**	P	Pn	08 17 14.7	-1.2

WEL ***31*** *08:22:00.43°47S×172°73E, h5km, ML3.8, Mw3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr2.20; Mθθ-0.82; Mϕϕ-1.38; Mrθ1.01; Mrϕ-1.41; Mθϕ-0.58; Fault plane solution: M0 2.65000×10¹⁴ NP1: ϕs196.00000°, δ48.00000°, λ55.00000°. NP2:ϕs63.00000°, δ53.00000°, λ123.00000°. Principal axes: T -25.4500, Plg64.0000°, Azm35.0000°; N -2.0700, Plg26.0000°, Azm221.0000°; P 27.5300, Plg3.0000°, Azm130.0000°;*

WEL ***31*** *08:22:51.3, 43°S±1°×17°3E±°, h11km±1km, M3.7/12, M3.7/12, ML3.9/12, ML3.9/12, MLv3.7/12, MLv3.7/12 Error ellipse: s-maj=0.0km s-min=0.0km az=38.4, confirmed*

NOU 31 08:22:42.3, 44°14S×172°97E, h0km, MLv4.3/7, Off E. Coast of S. Island, N.Z., Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCZ	**Akaroa Harbour**	**0.27**	**351**	S	Sb	08 23 06.8	+12
AKCZ	**Akaroa Harbour**	**0.27**	**351**	P	Pn	08 23 00.7	+7.1
AKCZ	**Akaroa Harbour**	**0.27**	**351**	P	Pn	08 23 00.7	+7.1
AKCZ				S	Sb	08 23 06.8	+12
OKCZ	**Okains Bay**	**0.42**	**9**	P	Pn	08 22 59.0	+3.4
OKCZ	**Okains Bay**	**0.42**	**9**	P	Pn	08 22 59.0	+3.4
MQZ	**McQueen's Vall**	**0.49**	**332**	P	Pn	08 22 57.7	+1.2
MQZ	**McQueen's Vall**	**0.49**	**332**	S	Sb	08 23 01.7	+0.2
MQZ	**McQueen's Vall**	**0.49**	**332**	P	Pn	08 22 57.7	+1.2
MQZ				S	Sb	08 23 01.7	+0.2
RACZ	**Rakaia**	**0.73**	**304**	P	Pn	08 23 03.5	+3.7
RACZ	**Rakaia**	**0.73**	**304**	P	Pn	08 23 03.5	+3.7
WACZ	**Wakanui South**	**0.84**	**283**	P	Pn	08 23 09.1	+7.8
WACZ	**Wakanui South**	**0.84**	**283**	S	Sn	08 23 21.4	+7.0
WACZ	**Wakanui South**	**0.84**	**283**	P	Pn	08 23 09.1	+7.8
WACZ				S	Sn	08 23 21.4	+7.0
AMCZ	**Amberley**	**0.99**	**346**	P	Pg	08 22 59.2	-2.0
AMCZ	**Amberley**	**0.99**	**346**	S	Sg	08 23 04.4	-10
AMCZ	**Amberley**	**0.99**	**346**	P	Pg	08 22 59.2	-2.0
AMCZ				S	Sg	08 23 04.4	-10
OXZ	**Oxford**	**1.06**	**320**	P	Pb	08 23 03.8	+0.3
OXZ	**Oxford**	**1.06**	**320**	S	Sg	08 23 13.0	-3.2
OXZ	**Oxford**	**1.06**	**320**	P	Pb	08 23 03.8	+0.3
OXZ				S	Sg	08 23 13.0	-3.2
GVZ	**Greta Valley S**	**1.17**	**2**	P	Pg	08 23 03.3	-1.5
GVZ	**Greta Valley S**	**1.17**	**2**	S	Sg	08 23 11.3	-8.6
GVZ	**Greta Valley S**	**1.17**	**2**	P	Pg	08 23 03.3	-1.5
GVZ				S	Sg	08 23 11.3	-8.6
MHCZ	**Mount Hutt**	**1.18**	**300**	P	Pn	08 23 10.2	+4.1
MHCZ	**Mount Hutt**	**1.18**	**300**	S	Sn	08 23 23.1	+0.1
MHCZ	**Mount Hutt**	**1.18**	**300**	P	Pn	08 23 10.2	+4.1
MHCZ				S	Sn	08 23 23.1	+0.1
ARCZ	**Arundel**	**1.31**	**278**	P	Pn	08 23 14.8	+7.0
ARCZ	**Arundel**	**1.31**	**278**	P	Pn	08 23 14.8	+7.0
TMZ	**Timaru**	**1.43**	**260**	P	Pb	08 23 19.6	+10
TMZ	**Timaru**	**1.43**	**260**	P	Pb	08 23 19.6	+10
RPZ	**Rata Peaks**	**1.45**	**286**	P	Pb	08 23 15.3	+5.1
RPZ	**Rata Peaks**	**1.45**	**286**	P	Pb	08 23 15.3	+5.1
LTZ	**Lake Taylor**	**1.45**	**339**	P	Pn	08 23 08.0	-1.8
LTZ	**Lake Taylor**	**1.45**	**339**	S	Sg	08 23 19.3	-10
LTZ	**Lake Taylor**	**1.45**	**339**	P	Pn	08 23 08.0	-1.8
LTZ				S	Sg	08 23 19.3	-10
KHZ	**Kahutara**	**1.77**	**14**	P	Pn	08 23 13.7	-0.5
KHZ	**Kahutara**	**1.77**	**14**	P	Pn	08 23 13.1	-1.1
KHZ	**Kahutara**	**1.77**	**14**	P	Pn	08 23 13.1	-1.1
INZ	**Inchbonnie**	**1.80**	**321**	P	Pn	08 23 14.6	0.0
INZ	**Inchbonnie**	**1.80**	**321**	P	Pn	08 23 14.6	0.0
ODZ	**Otahua Downs**	**1.89**	**241**	P	Pg	08 23 27.9	+9.4
ODZ	**Otahua Downs**	**1.89**	**241**	P	Pg	08 23 27.9	+9.4
WVZ	**Waitaha Valley**	**1.94**	**303**	P	Pg	08 23 19.4	0.0
WVZ	**Waitaha Valley**	**1.94**	**303**	P	Pg	08 23 19.4	0.0
LBZ	**Lake Benmore**	**2.02**	**262**	P	Pg	08 23 27.3	+6.3
LBZ	**Lake Benmore**	**2.02**	**262**	P	Pg	08 23 27.3	+6.3
GCSZ	**Gaunt Creek Bo**	**2.09**	**292**	P	Pg	08 23 23.4	+1.1
GCSZ	**Gaunt Creek Bo**	**2.09**	**292**	P	Pg	08 23 23.4	+1.1
FOZ	**Fox Glacier**	**2.36**	**284**	P	Pg	08 23 29.0	+1.4
FOZ	**Fox Glacier**	**2.36**	**284**	P	Pg	08 23 29.0	+1.4
THZ	**Tophouse**	**2.38**	**359**	P	Pn	08 23 21.0	-1.6
THZ	**Tophouse**	**2.38**	**359**	P	Pn	08 23 21.0	-1.6
HHSZ	**Highcliff Hill**	**2.42**	**223**	P	Pg	08 23 37.1	+8.3
HHSZ	**Highcliff Hill**	**2.42**	**223**	P	Pg	08 23 37.1	+8.3
BSWZ	**Blackbirch Sta**	**2.51**	**16**	P	Pn	08 23 24.1	-0.3
BSWZ	**Blackbirch Sta**	**2.51**	**16**	P	Pn	08 23 24.1	-0.3
DSZ	**Denniston Nort**	**2.54**	**340**	P	Pn	08 23 23.7	-1.1
DSZ	**Denniston Nort**	**2.54**	**340**	P	Pn	08 23 23.7	-1.1
CMWZ	**Cape Campbell**	**2.56**	**21**	P	Pn	08 23 25.7	+0.7
CMWZ	**Cape Campbell**	**2.56**	**21**	P	Pn	08 23 25.7	+0.7
MRNZ	**Matariki Terra**	**2.74**	**357**	P	Pn	08 23 26.7	-0.9
MRNZ	**Matariki Terra**	**2.74**	**357**	P	Pn	08 23 26.7	-0.9
TUWZ	**Tuamarina**	**2.80**	**15**	P	Pn	08 23 27.6	-0.7
TUWZ	**Tuamarina**	**2.80**	**15**	P	Pn	08 23 27.6	-0.7
EAZ	**Earnscleugh**	**2.83**	**246**	P	Pg	08 23 39.7	+3.2
EAZ	**Earnscleugh**	**2.83**	**246**	P	Pg	08 23 39.7	+3.2
WKZ	**Wanaka**	**2.91**	**255**	P	Pg	08 23 40.0	+2.0
WKZ	**Wanaka**	**2.91**	**255**	P	Pg	08 23 40.0	+2.0
NNZ	**Nelson**	**2.94**	**6**	P	Pn	08 23 29.3	-0.9
NNZ	**Nelson**	**2.94**	**6**	P	Pn	08 23 29.3	-0.9
TUZ	**Tuapeka**	**2.98**	**231**	P	Pg	08 23 43.9	+4.5
TUZ	**Tuapeka**	**2.98**	**231**	P	Pg	08 23 43.9	+4.5
JCZ	**Jackson Bay**	**3.02**	**270**	P	Pg	08 23 39.5	-0.5
JCZ	**Jackson Bay**	**3.02**	**270**	P	Pg	08 23 39.5	-0.5
BHW	**Baring Head**	**3.07**	**28**	P	Pn	08 23 32.0	0.0
BHW	**Baring Head**	**3.07**	**28**	P	Pn	08 23 32.0	0.0
PLWZ	**Palliser**	**3.07**	**34**	P	Pn	08 23 32.5	+0.4
PLWZ	**Palliser**	**3.07**	**34**	P	Pn	08 23 32.5	+0.4
TCW	**Tory Channel**	**3.08**	**19**	P	Pn	08 23 31.2	-1.0
TCW	**Tory Channel**	**3.08**	**19**	P	Pn	08 23 31.2	-1.0
SNZO	**South Karori**	**3.10**	**25**	P	Pn	08 23 32.4	-0.1
TKNZ	**Takaka Hill**	**3.10**	**360**	P	Pn	08 23 32.1	-0.4
TKNZ	**Takaka Hill**	**3.10**	**360**	P	Pn	08 23 32.1	-0.4
WEL	**Wellington**	**3.15**	**26**	P	Pn	08 23 33.1	0.0
WEL	**Wellington**	**3.15**	**26**	P	Pn	08 23 33.1	0.0
MSWZ	**Moikau Station**	**3.20**	**32**	P	Pn	08 23 33.9	+0.1
MSWZ	**Moikau Station**	**3.20**	**32**	P	Pn	08 23 33.9	+0.1
PAWZ	**Paruwai Farm**	**3.30**	**34**	P	Pn	08 23 35.4	+0.2
PAWZ	**Paruwai Farm**	**3.30**	**34**	P	Pn	08 23 35.4	+0.2
QRZ	**Quartz Range**	**3.33**	**354**	P	Pn	08 23 35.3	-0.3
QRZ	**Quartz Range**	**3.33**	**354**	P	Pn	08 23 34.4	-1.2
QRZ	**Quartz Range**	**3.33**	**354**	P	Pn	08 23 34.4	-1.2
TRWZ	**Traveller**	**3.39**	**37**	P	Pn	08 23 37.3	+0.8
TRWZ	**Traveller**	**3.39**	**37**	P	Pn	08 23 37.3	+0.8
CAW	**Cannon Point**	**3.40**	**28**	P	Pn	08 23 36.4	-0.2
CAW	**Cannon Point**	**3.40**	**28**	P	Pn	08 23 36.4	-0.2
DUWZ	**D'Urville Isla**	**3.41**	**12**	P	Pn	08 23 36.1	-0.6
DUWZ	**D'Urville Isla**	**3.41**	**12**	P	Pn	08 23 36.1	-0.6
MTW	**Mount Morrison**	**3.52**	**33**	P	Pn	08 23 38.0	-0.1
MTW	**Mount Morrison**	**3.52**	**33**	P	Pn	08 23 38.0	-0.1
KIW	**Kapiti Island**	**3.58**	**24**	P	Pn	08 23 38.7	-0.3
KIW	**Kapiti Island**	**3.58**	**24**	P	Pn	08 23 38.7	-0.3
SYZ	**Scrubby Hill**	**3.61**	**227**	P	Pg	08 23 53.1	+1.7
SYZ	**Scrubby Hill**	**3.61**	**227**	P	Pg	08 23 53.1	+1.7
MSZ	**Milford Sound**	**3.65**	**260**	P	Pg	08 23 50.6	-1.7
MSZ	**Milford Sound**	**3.65**	**260**	P	Pg	08 23 50.6	-1.7
MLZ	**Mavora Lakes**	**3.67**	**249**	P	Pg	08 23 50.3	-2.3
MLZ	**Mavora Lakes**	**3.67**	**249**	P	Pg	08 23 50.3	-2.3
OGWZ	**Otaki Gorge**	**3.70**	**27**	P	Pn	08 23 40.2	-0.4
OGWZ	**Otaki Gorge**	**3.70**	**27**	P	Pn	08 23 40.2	-0.4
TMWZ	**Te Maipa**	**3.72**	**36**	P	Pn	08 23 41.3	+0.3
TMWZ	**Te Maipa**	**3.72**	**36**	P	Pn	08 23 41.3	+0.3
HOWZ	**Holdsworth Sta**	**3.75**	**31**	P	Pn	08 23 41.3	-0.1
HOWZ	**Holdsworth Sta**	**3.75**	**31**	P	Pn	08 23 41.3	-0.1
WHZ	**Wether Hill Ro**	**3.97**	**242**	P	Pb	08 23 54.7	+1.6
WHZ	**Wether Hill Ro**	**3.97**	**242**	P	Pb	08 23 54.7	+1.6
MRZ	**Mangatainoka R**	**3.98**	**30**	P	Pn	08 23 44.0	-0.5
MRZ	**Mangatainoka R**	**3.98**	**30**	P	Pn	08 23 44.0	-0.5
TIWZ	**Tintock**	**3.99**	**34**	P	Pn	08 23 44.5	-0.3
TIWZ	**Tintock**	**3.99**	**34**	P	Pn	08 23 44.5	-0.3
PRWZ	**Pori Road**	**4.22**	**33**	P	Pn	08 23 47.7	-0.1
PRWZ	**Pori Road**	**4.22**	**33**	P	Pn	08 23 47.7	-0.1
BFZ	**Birch Farm**	**4.22**	**36**	P	Pn	08 23 48.1	+0.2
BFZ	**Birch Farm**	**4.22**	**36**	P	Pn	08 23 47.8	-0.1
BFZ	**Birch Farm**	**4.22**	**36**	P	Pn	08 23 47.8	-0.1
POWZ	**Post Office Ro**	**4.28**	**30**	P	Pn	08 23 48.8	+0.1
POWZ	**Post Office Ro**	**4.28**	**30**	P	Pn	08 23 48.8	+0.1
OHWZ	**Ohakea**	**4.30**	**25**	P	Pn	08 23 49.4	+0.5
OHWZ	**Ohakea**	**4.30**	**25**	P	Pn	08 23 49.4	+0.5
APZ	**The Paps**	**4.42**	**231**	P	Pb	08 24 03.4	+2.7
APZ	**The Paps**	**4.42**	**231**	P	Pb	08 24 03.4	+2.7
DVHZ	**Dannevirke**	**4.51**	**33**	P	Pn	08 23 51.2	-0.7
DVHZ	**Dannevirke**	**4.51**	**33**	P	Pn	08 23 51.2	-0.7
WAZ	**Wanganui**	**4.63**	**20**	P	Pn	08 23 54.5	+0.9
WAZ	**Wanganui**	**4.63**	**20**	P	Pn	08 23 54.5	+0.9
PRHZ	**Porangahau**	**4.73**	**36**	P	Pn	08 23 54.6	-0.3
PRHZ	**Porangahau**	**4.73**	**36**	P	Pn	08 23 54.6	-0.3
NMEZ	**Namu Road**	**4.77**	**8**	P	Pn	08 23 56.2	+0.8
NMEZ	**Namu Road**	**4.77**	**8**	P	Pn	08 23 56.2	+0.8
LREZ	**Lake Rotokare**	**4.80**	**13**	P	Pn	08 23 57.6	+1.8
LREZ	**Lake Rotokare**	**4.80**	**13**	P	Pn	08 23 57.6	+1.8
WPHZ	**Waipukurau**	**4.82**	**34**	P	Pn	08 23 55.9	-0.3
WPHZ	**Waipukurau**	**4.82**	**34**	P	Pn	08 23 55.9	-0.3
PNHZ	**Pukenui**	**4.86**	**31**	P	Pn	08 23 56.0	-0.7
PNHZ	**Pukenui**	**4.86**	**31**	P	Pn	08 23 56.0	-0.7
PREZ	**Palmer Road**	**4.88**	**11**	P	Pn	08 23 57.7	+0.8
PREZ	**Palmer Road**	**4.88**	**11**	P	Pn	08 23 57.7	+0.8
KHEZ	**Kahui Hut**	**4.91**	**10**	P	Pn	08 23 58.0	+0.6
KHEZ	**Kahui Hut**	**4.91**	**10**	P	Pn	08 23 58.0	+0.6
NBEZ	**Newall Road No**	**4.91**	**8**	P	Pn	08 23 57.3	-0.1
NBEZ	**Newall Road No**	**4.91**	**8**	P	Pn	08 23 57.3	-0.1
NEZ	**North Egmont**	**4.94**	**10**	P	Pn	08 23 58.0	+0.2
NEZ	**North Egmont**	**4.94**	**10**	P	Pn	08 23 58.0	+0.2
PKE	**Pukeiti**	**5.00**	**9**	P	Pn	08 23 59.2	+0.6
PKE	**Pukeiti**	**5.00**	**9**	P	Pn	08 23 59.2	+0.6
DREZ	**Durham Road**	**5.03**	**11**	P	Pn	08 23 59.5	+0.5
DREZ	**Durham Road**	**5.03**	**11**	P	Pn	08 23 59.5	+0.5
MTVZ	**Mangateitei**	**5.11**	**22**	P	Pn	08 24 01.1	+1.0
MTVZ	**Mangateitei**	**5.11**	**22**	P	Pn	08 24 01.1	+1.0
KRHZ	**Kereru**	**5.16**	**31**	P	Pn	08 23 59

0.9nm,0.3s,baz=149,slow=12,SNR=9.3
AAK Lg Lg 08 25 53.5
3.0nm,0.3s,baz=29,slow=19,SNR=6.6
AAK LR LR 08 27 00.5
comp=Z,79nm,19.5s,baz=174,slow=42
CHMS Chumysh 6.11 334 ⇑Pn Pn 08 24 31.0 +6.6
13nm,0.9s
CHMS ⇑Lg Lg 08 26 00.0
29nm,0.9s
KTBS Karatobe 6.29 349 Pg Pg 08 24 48.9 -5.5
4.8nm,0.7s
KTBS Lg Lg 08 26 09.4
25nm,0.8s
KRBS Karabastau 6.48 342 Pg **Pb 08 24 51.2 +4.5**
8.7nm,0.7s
KRBS Lg Lg 08 26 13.6
11nm,0.8s
MRKS Merke 6.52 324 Pg **Pb 08 24 50.2 +2.7**
4.2nm,0.7s
MRKS Lg Lg 08 26 12.0
16nm,1.3s
MKAR Makanchi Array 9.68 16 Pn **Pn 08 25 15.0 +1.6**
1.2nm,0.3s,baz=199,slow=13,SNR=99
MKAR Sn **Sn 08 27 00.7 -1.4**
0.4nm,0.3s,baz=190,slow=24,SNR=3.2
KURBB Kurchatov Arra 13.07 0 Pn **Pn 08 25 59.3 -0.3**
baz=183,slow=12,SNR=1.6
ZALV Zalesovo Beam 16.99 13 Pn **Pn 08 26 53.4 +1.8**
0.2nm,0.3s,baz=207,slow=11,SNR=5.4
AKTO Aktyubinsk 19.43 318 P **P 08 27 18.8 -1.5**
0.1nm,0.3s,baz=107,slow=14,SNR=2.5
FINES FINESS Array B 40.03 324 P **P 08 30 27.6 -1.2**
0.6nm,0.4s,baz=109,slow=11,SNR=9.0
ARCES ARCESS Array B 42.54 335 P **P 08 30 48.0 -1.3**
1.7nm,0.8s,baz=106,slow=9.5,SNR=1.3
NOA NORSAR Array B 47.14 322 LR LR 08 52 25.9
comp=Z,27nm,19.3s,baz=350,slow=38
TORD Torodi Ar. Bea 71.61 273 P P 08 34 13.5 -2.5
0.1nm,0.4s,baz=45,slow=5.9,SNR=1.7
YKA Yellowknife Ar 79.75 6 P P 08 35 00.7 -1.1
0.2nm,0.6s,baz=346,slow=5.2,SNR=6.4

WEL 31 08:29:28.5±3.6, 40°S±19°×17°6E±1°0, h18km±22km, Error ellipse: s-maj=0.0km s-min=0.0km az=20.5, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOVZ	**Moawhango**	**0.14**	**18**	P	Pg	08 29 34.0	+1.1
MOVZ	**Moawhango**	**0.14**	**18**	P	Pg	08 29 34.0	+1.1
WNVZ	**Wahianoa**	**0.23**	**341**	P	Pg	08 29 35.3	+1.2
WNVZ	**Wahianoa**	**0.23**	**341**	P	Pg	08 29 35.3	+1.2
MTVZ	**Mangateitei**	**0.24**	**313**	P	Pg	08 29 35.4	+1.2
MTVZ	**Mangateitei**	**0.24**	**313**	P	Pg	08 29 35.4	+1.2
BHHZ	**Black Hill Sta**	**0.29**	**79**	P	Pb	08 29 36.2	+1.1
BHHZ	**Black Hill Sta**	**0.29**	**79**	P	Pb	08 29 36.2	+1.1
FWVZ	**Far West T-bar**	**0.31**	**339**	P	Pb	08 29 36.5	+0.9
FWVZ	**Far West T-bar**	**0.31**	**339**	P	Pb	08 29 36.5	+0.9
SNVZ	**South Ngauruho**	**0.36**	**353**	P	Pb	08 29 37.3	+0.8
SNVZ	**South Ngauruho**	**0.36**	**353**	P	Pb	08 29 37.3	+0.8
PKVZ	**Pokaka**	**0.37**	**313**	P	Pn	08 29 40.4	+1.4
PKVZ	**Pokaka**	**0.37**	**313**	P	Pn	08 29 40.4	+1.4
OTVZ	**Oturere**	**0.38**	**356**	P	Pb	08 29 37.7	+0.7
OTVZ	**Oturere**	**0.38**	**356**	P	Pb	08 29 37.7	+0.7
ETVZ	**East Tongariro**	**0.41**	**2**	P	Pb	08 29 38.0	+0.7
ETVZ	**East Tongariro**	**0.41**	**2**	P	Pb	08 29 38.0	+0.7
NNVZ	**North Ngauruho**	**0.42**	**351**	P	Pb	08 29 38.3	+0.8
NNVZ	**North Ngauruho**	**0.42**	**351**	P	Pb	08 29 38.3	+0.8
TMVZ	**Te Maari**	**0.43**	**1**	P	Pb	08 29 38.3	+0.6
TMVZ	**Te Maari**	**0.43**	**1**	P	Pb	08 29 38.3	+0.6
WTVZ	**West Tongariro**	**0.44**	**349**	P	Pb	08 29 38.5	+0.7
WTVZ	**West Tongariro**	**0.44**	**349**	P	Pb	08 29 38.5	+0.7
NTVZ	**North Tongarir**	**0.45**	**358**	P	Pb	08 29 38.6	+0.6
NTVZ	**North Tongarir**	**0.45**	**358**	P	Pb	08 29 38.6	+0.6
TSZ	**Takapari Road**	**0.55**	**158**	P	Pb	08 29 40.0	+0.4
TSZ	**Takapari Road**	**0.55**	**158**	P	Pb	08 29 40.0	+0.4
KWHZ	**Kaweka Forest**	**0.58**	**78**	P	Pn	08 29 41.3	-0.6
KWHZ	**Kaweka Forest**	**0.58**	**78**	P	Pn	08 29 41.3	-0.6
WAZ	**Wanganui**	**0.59**	**249**	P	Pn	08 29 49.0	+7.1
WAZ	**Wanganui**	**0.59**	**249**	P	Pn	08 29 49.0	+7.1
KMRZ	**Kaimai**	**1.71**	**7**	P	Pg	08 30 00.7	-0.7
KMRZ	**Kaimai**	**1.71**	**7**	P	Pg	08 30 00.7	-0.7

WEL 31 08:39:11.1±0.7, 38°S±4°×17°7E±°, h4km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=30.0, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRZ	**Edgecumbe**	**0.06**	**253**	P	Pg	08 39 12.3	-0.1
EDRZ	**Edgecumbe**	**0.06**	**253**	S	Sg	08 39 13.6	+0.2
EDRZ	**Edgecumbe**	**0.06**	**253**	P	Pg	08 39 12.3	-0.1
EDRZ				S	Sg	08 39 13.6	+0.2
MARZ	**Manawahe**	**0.15**	**314**	P	Pg	08 39 14.4	+0.4
MARZ	**Manawahe**	**0.15**	**314**	P	Pg	08 39 14.4	+0.4
TARZ	**Mount Tarawera**	**0.28**	**239**	P	Pb	08 39 18.0	-0.8
TARZ	**Mount Tarawera**	**0.28**	**239**	P	Pb	08 39 18.0	-0.8
URZ	**Urewera**	**0.29**	**126**	P	Pg	08 39 16.8	+0.1
URZ	**Urewera**	**0.29**	**126**	S	Sg	08 39 21.4	+0.9
URZ	**Urewera**	**0.29**	**126**	P	Pg	08 39 16.8	+0.1
URZ				S	Sg	08 39 21.4	+0.9
OPRZ	**Ohinepanea**	**0.32**	**320**	P	Pg	08 39 17.4	+0.2
OPRZ	**Ohinepanea**	**0.32**	**320**	S	Sg	08 39 22.2	+0.9
OPRZ	**Ohinepanea**	**0.32**	**320**	P	Pg	08 39 17.4	+0.2
OPRZ				S	Sg	08 39 22.2	+0.9
RTZ	**Ruatahuna**	**0.54**	**166**	P	Pg	08 39 21.4	-0.1
RTZ	**Ruatahuna**	**0.54**	**166**	P	Pg	08 39 21.4	-0.1
MWZ	**Matawai**	**0.61**	**114**	P	Pg	08 39 23.1	+0.3
MWZ	**Matawai**	**0.61**	**114**	P	Pg	08 39 23.1	+0.3
RAGZ	**Rawiri**	**0.62**	**131**	P	Pg	08 39 23.4	+0.3
RAGZ	**Rawiri**	**0.62**	**131**	P	Pg	08 39 23.4	+0.3
RUGZ	**Raukumara Rang**	**0.69**	**80**	P	Pg	08 39 24.6	+0.2
RUGZ	**Raukumara Rang**	**0.69**	**80**	P	Pg	08 39 24.6	+0.2
HAZ	**Te Kaha**	**0.84**	**67**	P	Pg	08 39 27.2	+0.2
HAZ	**Te Kaha**	**0.84**	**67**	P	Pg	08 39 27.2	+0.2
TOZ	**Tahuroa Road**	**1.10**	**289**	P	Pn	08 39 40.3	+7.1
TOZ	**Tahuroa Road**	**1.10**	**289**	P	Pn	08 39 40.3	+7.1

IDC 31 08:41:55.2±1.5, 3°66S×139°26E, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.7/26, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=45.7km s-min=22.7km az=122.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.83**	**52**	Pn	Pn	08 42 28.4	+0.4
JAY	13nm,0.3s,baz=212,slow=10,SNR=45			Sn	Sn	08 42 47.2	-4.8
WRA	25nm,0.3s,baz=99,slow=17,SNR=9.6 **Warramunga Arr**	**16.88**	**196**	Pn	Pn	08 45 52.2	-0.9
WRA	0.7nm,0.3s,baz=18,slow=12,SNR=34			Sn	Sn	08 48 48.2	-13
FITZ	0.1nm,0.3s,baz=6.5,slow=22,SNR=2.1 **Fitzroy Crossi**	**19.59**	**222**	P	Pn	08 46 26.3	-0.1
FITZ	baz=47,slow=12			S	Sn	08 49 54.2	-13
ASAR	baz=180,slow=20 **Alice Springs**	**20.55**	**194**	P	P	08 46 35.4	-0.3
ASAR	1.8nm,0.6s,baz=24,slow=9.7,SNR=38			S	S	08 50 16.1	-10
MKAR	0.4nm,0.8s,baz=14,slow=27,SNR=2.6 **Makanchi Array**	**70.87**	**322**	P	P	08 53 13.8	-0.3
	0.3nm,0.6s,baz=104,slow=6.7,SNR=3.7						

IDC 31 08:52:54.5±11.0, 23°51S×179°86W, h502km±140km, mb3.3/4, mb1 3.5/5, mb1mx3.1/29, mbtmp4.1/5, Error ellipse: s-maj=78.4km s-min=31.0km az=7.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.93**	**189**	P	P	08 56 03.5	-0.2
URZ	0.4nm,0.3s,baz=356,slow=19,SNR=1.2			S	S	08 58 37.4	-2.4
STKA	0.2nm,0.3s,baz=208,slow=16,SNR=1.6 **Stephens Creek**	**34.98**	**248**	P	P	08 59 05.3	+1.1
ASAR	2.3nm,0.5s,baz=90,slow=11,SNR=5.3 **Alice Springs**	**42.22**	**260**	P	P	09 00 03.0	-0.2
WRA	2.8nm,0.6s,baz=94,slow=7.3,SNR=45 **Warramunga Arr**	**42.56**	**266**	P	P	09 00 05.1	-0.7
	1.4nm,0.3s,baz=103,slow=8.2,SNR=157						

TXAR Lajitas Array 90.12 58 P P 09 05 01.0 0.0
0.3nm,0.7s,baz=206,slow=5.7,SNR=4.3

*NNC **31** 08:54:54.0±2.7, 51°47N×75°29E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.8km s-min=18.2km az=30.0, Suspected Mining explosion.*
*IDC **31** 08:54:56.1±3.6, 51°65N×75°69E, h0km, mb1 3.2/2, mb1mx2.9/40, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=29.2km s-min=22.6km az=91.0*
ISC 31 08:54:50.8±1.4, 51.6N±0.1×75.04E±0.09, h0km, n10, σ1s28/11, 8C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.42**	**113**	Pg	**Pn**	**08 55 32.3**	**+0.8**
KURBB	baz=301,slow=18			Lg	Lg	08 56 02.7	
KURBB	0.6nm,0.3s,baz=300,slow=32,SNR=2.6 **Kurchatov Arra**	**2.42**	**113**	⇑Pn	**Pn**	**08 55 31.8**	**+0.3**
KURBB	5.5nm,0.7s			⇑Sn	**Sn**	**08 56 01.9**	**+0.1**
KURK	34nm,0.6s **Kurchatov**	**2.43**	**111**	⇑Pn	**Pn**	**08 55 32.4**	**+0.7**
KURK	3.2nm,0.5s			⇑Sn	**Sn**	**08 56 00.8**	**-1.3**
BVAR	11nm,0.5s **Borovoye Array**	**3.18**	**298**	Sn	**Sg**	**08 56 32.3**	**-0.6**
I46RU	0.5nm,0.3s,baz=132,slow=24,SNR=1.0 **ZALESOVO INFRA**	**6.37**	**65**	*i*		09 33 30.0	
ZALV	baz=250,slow=325,SNR=4.4 **Zalesovo Beam**	**6.37**	**65**	Pn	**Pn**	**08 56 26.5**	**+0.7**
ZALV	0.8nm,0.3s,baz=256,slow=14,SNR=12			Lg	Lg	08 58 08.2	
MAKZ	0.1nm,0.3s,baz=247,slow=31,SNR=1.8 **Makanchi**	**6.62**	**134**	⇑Sn	**Sn**	**08 57 45.1**	**-0.4**
MAKZ	1.7nm,1.0s			⇑Lg	Lg	08 58 18.9	
MK31	3.4nm,0.6s **Makanchi Array**	**6.78**	**133**	⇑Sn	**Sn**	**08 57 47.2**	**-2.0**
MK31	1.1nm,0.6s			⇑Lg	Lg	08 58 21.0	
MKAR	4.2nm,0.7s,baz=323,slow=28,SNR=6.4 **Makanchi Array**	**6.78**	**133**	Pn	**Pn**	**08 56 33.1**	**+1.7**
MKAR	0.3nm,0.3s,baz=324,slow=11,SNR=6.4			Sn	**Sn**	**08 57 47.9**	**-1.4**
MKAR	0.3nm,0.3s,baz=320,slow=22,SNR=3.0			Lg	Lg	08 58 20.9	
AAK	0.6nm,0.3s,baz=324,slow=27,SNR=7.4 **Ala-Archa**	**9.00**	**183**	Lg	Lg	08 59 40.1	
	0.1nm,0.3s,baz=18,slow=19,SNR=3.9						

*NNC **31** 08:59:49.5±4.8, 53°94N×86°33E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=43.4km s-min=21.1km az=25.0, Suspected Mining explosion.*
IDC 31 08:59:44.4±2.8, 53°54N×87°80E, h0km, mb1 3.2/2, mb1mx3.0/51, mbtmp3.2/2, ML3.0/2, 5C-8D, Error ellipse: s-maj=26.3km s-min=18.0km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**284**	*i*		09 11 40.0	
ZAA0	baz=101,slow=330,SNR=15 **Zalesovo Array**	**1.82**	**284**	⇓P	Pn	09 00 06.8	-10
ZAA0	0.9nm,0.8s			⇓S	Sn	09 00 18.8	-22
ZALV	2.3nm,0.6s **Zalesovo Beam**	**1.82**	**284**	Pn	Pn	09 00 16.6	-0.3
ZALV	3.6nm,0.3s,baz=102,slow=15,SNR=16			Sn	Sb	09 00 41.6	-0.1
KURK	4.7nm,0.3s,baz=104,slow=24,SNR=9.5 **Kurchatov**	**6.32**	**247**	⇑Pn	Pn	09 01 19.1	+0.4
KURK	2.2nm,0.9s			⇓Sn	Sn	09 02 23.7	-7.8
KURK	2.1nm,0.6s			⇓Lg	Lg	09 02 52.0	
KURBB	2.8nm,0.7s **Kurchatov Arra**	**6.41**	**247**	Pn	Pn	09 01 20.6	+0.6
KURBB	0.3nm,0.3s,baz=60,slow=13,SNR=17			Sn	Sn	09 02 32.7	-1.1
KURBB	0.0nm,0.3s,baz=66,slow=24,SNR=3.7			Lg	Lg	09 03 08.8	
KURBB	0.1nm,0.3s,baz=53,slow=31,SNR=5.3 **Kurchatov Arra**	**6.41**	**247**	⇑Pn	Pn	09 01 20.1	+0.1
KURBB	2.0nm,0.3s			⇓Sn	Sn	09 02 26.1	-7.8
KURBB	5.3nm,0.6s			⇓Lg	Lg	09 03 01.6	
MK31	3.3nm,0.7s **Makanchi Array**	**7.62**	**210**	Pn	Pn	09 01 38.5	+2.0
MK31	0.4nm,0.3s,baz=30,slow=14,SNR=13			Pg	Pb	09 01 50.4	-6.9
MK31	0.2nm,0.2s,baz=27,slow=14,SNR=4.7			⇑Sn	Sn	09 03 08.6	+5.1
MK31	0.5nm,0.6s			⇓Lg	Lg	09 03 48.8	
MKAR	0.6nm,0.5s,baz=31,slow=28,SNR=2.8 **Makanchi Array**	**7.62**	**210**	Pn	Pn	09 01 37.8	+1.2
MKAR	0.2nm,0.3s,baz=30,slow=14,SNR=9.2			Sn	Sn	09 03 03.1	-0.4
MKAR	0.1nm,0.3s,baz=32,slow=22,SNR=2.8			Lg	Lg	09 03 45.7	
MAKZ	0.1nm,0.3s,baz=25,slow=31,SNR=2.7 **Makanchi**	**7.70**	**211**	⇓Pn	Pn	09 01 40.6	+2.9
MAKZ	1.1nm,0.9s			⇑Sn	Sn	09 03 00.8	-4.7
MAKZ	0.7nm,0.5s			⇑Lg	Lg	09 03 51.4	
	1.1nm,0.8s						

*VAO **31** 09:27:16.7±0.8, 19°84S×71°52W, h10km, mb4.1*
*NEIC **31** 09:27:21.4±2.1, 19°95S±0°04×71°04W±0°07, h20km±7km, mb4.2/6, Mwr4.1/41, ML4.1(GUC), Error ellipse: s-maj=10.3km s-min=2.9km az=64.0*
*NEIC **31** 09:27:21.4, 19°95S×71°04W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.45; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-1.63; $M_{r\theta}$0.47; $M_{\theta\phi}$0.48; $M_{\phi r}$-1.10; Fault plane solution: $M_0$2.02000×10^{15} NP1:ϕ_s354.31000°, δ27.21000°, λ103.02000°. NP2:ϕ_s159.73000°, δ63.55000°, λ83.39000°. Principal axes: T 1.8594, Plg71.0000°, Azm55.0000°; N 0.2819, Plg6.0000°, Azm163.0000°; P -2.1413, Plg18.0000°, Azm255.0000°;*
*GUC **31** 09:27:23.0±0.7, 20°00S×71°10W, h50km±6km, ML4.1*
*IDC **31** 09:27:24.4±0.9, 19°67S×70°55W, h28km±5km, mb3.5/6, mb1 3.9/7, mb1mx3.7/28, mbtmp3.8/7, ML3.9/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/38, Error ellipse: s-maj=32.7km s-min=19.9km az=53.0*
ISC 31 09:27:20.1±1.2, 19°91S±0°03×71°11W±0°05, h16km±7km, n84, σ1s30/83, mb3.9/6, MS3.4/3, 11C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.99**	**111**		**Pb**	**09 27 38.7**	**-0.2**
TA02	**Huaiquique**	**0.99**	**111**	*eP*	**Pb**	**09 27 38.6**	**-0.2**
TA02				*eS*	**Sb**	**09 27 51.6**	**0.0**
TA02				IAML		09 27 53.0	
TA01	comp=N,8μm,0.5s **Diego Aracena**	**1.09**	**127**		**Pb**	**09 27 40.3**	**-0.3**
TA01	**Diego Aracena**	**1.09**	**127**	⇑*iP*	**Pb**	**09 27 40.3**	**-0.3**
TA01				*i* S	**Sb**	**09 27 53.9**	**-0.7**
TA01				IAML		09 27 55.1	
HMBC	comp=E,4μm,0.2s **Humberstone**	**1.21**	**108**	⇑*iP*	**Pn**	**09 27 41.9**	**-0.6**
HMBC				*i* S	**Sb**	**09 27 58.1**	**0.0**
PATCX	**Punta Patache**	**1.27**	**135**		**Pn**	**09 27 43.0**	**-0.4**
PATCX	**Punta Patache**	**1.27**	**135**	⇑*iP*	**Pn**	**09 27 43.0**	**-0.4**
PATCX				*eS*	**Sb**	**09 27 58.5**	**-1.6**
PATCX				IAML		09 28 13.9	
PB11	comp=E,3μm,0.5s **IPOC Station P**	**1.38**	**84**		**Pn**	**09 27 44.4**	**-0.5**
PB11	**IPOC Station P**	**1.38**	**84**	⇑*iP*	**Pn**	**09 27 44.5**	**-0.4**
PB11				*i* S	**Sn**	**09 28 02.6**	**-0.4**
PB12	**IPOC Station P**	**1.49**	**30**		**Pn**	**09 27 45.4**	**-1.0**
PB12	**IPOC Station P**	**1.49**	**30**	⇑*iP*	**Pn**	**09 27 46.0**	**-0.4**
PB12				*i* S	**Sg**	**09 28 07.5**	**-0.7**
PB12				IAML		09 28 13.1	
AP01	comp=N,3μm,0.6s **Chacalluta**	**1.70**	**25**	IAML		09 28 21.3	
	comp=N,5μm,0.4s						

PB02 IPOC Station P 1.80 141 **Pn 09 27 51.0 +0.3**
PB02 IPOC Station P 1.80 141 ⇑*iP* **Pn 09 27 50.6 -0.1**
PB02 IAML 09 28 22.6
comp=E,6μm,0.4s
GO01 Chusmiza 1.82 83 **Pn 09 27 51.1 -0.2**
GO01 Chusmiza 1.82 83 ⇑*iP* **Pn 09 27 51.3 0.0**
GO01 *i* S **Sn 09 28 14.0 -0.3**
PB08 IPOC Station P 1.85 97 **Pn 09 27 51.8 +0.1**
PB08 IPOC Station P 1.85 97 ⇑*iP* **Pn 09 27 51.6 -0.1**
PB08 *eS* **Sn 09 28 15.5 +0.5**
PB08 IAML 09 28 23.3
comp=E,2μm,0.5s
PB01 IPOC Station P 1.89 127 **Pn 09 27 52.4 +0.4**
PB01 IPOC Station P 1.89 127 ⇑*iP* **Pn 09 27 52.0 +0.1**
PB01 *i* S **Sn 09 28 14.4 -1.1**
PB01 IAML 09 28 25.5
comp=N,5μm,0.4s
PB07 IPOC Station P 2.14 148 **Pn 09 27 55.4 0.0**
PB07 IPOC Station P 2.14 148 ⇑*eP* **Pn 09 27 55.0 -0.3**
PB07 *eS* **Sn 09 28 19.5 -2.2**
PB07 IAML 09 28 38.5
comp=E,2μm,0.8s
PB16 IPOC Station P 2.18 44 **Pb 09 27 58.2 -1.4**
PB16 IPOC Station P 2.18 44 ⇑*iP* **Pn 09 27 56.6 +0.3**
PB16 *i* S **Sb 09 28 26.3 -0.4**
PB16 IAML 09 28 33.3
comp=E,3μm,0.3s
PB09 IPOC Station P 2.56 137 **Pn 09 28 02.4 +1.2**
PB09 IPOC Station P 2.56 137 ⇓*eP* **Pn 09 28 02.3 +1.1**
PB09 IAML 09 28 47.5
comp=E,2μm,0.4s
PB04 IPOC Station P 2.57 160 **Pn 09 28 01.3 0.0**
PB04 IPOC Station P 2.57 160 *eP* **Pn 09 28 00.7 -0.6**
PB04 *eS* **Sn 09 28 29.7 -2.7**
PB04 IAML 09 28 57.5
comp=N,942nm,0.6s
PB06 IPOC Station P 3.13 153 **Pn 09 28 08.8 -0.2**
PB06 IPOC Station P 3.13 153 *eP* **Pn 09 28 08.6 -0.4**
PB06 IAML 09 29 08.9
comp=N,723nm,0.7s
LVC Limon Verde 3.38 143 Pn **Pn 09 28 13.8 +1.2**
comp=N,12nm,0.3s,baz=308,slow=9.4,SNR=53
LVC Sn **Sn 09 28 52.5 -0.1**
comp=N,30nm,0.3s,baz=152,slow=21,SNR=8.5
LVC Lg Lg 09 29 02.3
comp=N,29nm,0.3s,baz=91,slow=17,SNR=5.8
LVC Limon Verde 3.38 143 *eP* **Pn 09 28 13.8 +1.2**
PB15 IPOC Station P 3.62 155 **Pn 09 28 15.5 -0.2**
PB15 IPOC Station P 3.62 155 *eP* **Pn 09 28 15.6 -0.2**
PB10 IPOC Station P 3.62 172 Pn **Pn 09 28 14.5 -1.1**
PB10 IPOC Station P 3.62 172 IAML 09 29 36.4
comp=E,129nm,0.6s
LPAZ La Paz 4.59 39 Pn **Pn 09 28 31.4 +2.0**
comp=E,0.3nm,0.3s,baz=200,slow=6.9,SNR=24
LPAZ LR LR 09 29 43.0
comp=E,58nm,21.5s,baz=252,slow=34
LPAZ La Paz 4.59 39 **Pn 09 28 31.8 +2.4**
PB14 IPOC Station P 4.74 172 Pn **Pn 09 28 30.7 -0.6**
GO02 Mina Guanaco 5.41 165 Pn **Pn 09 28 40.5 0.0**
AC01 Pan de Azucar 6.22 176 Pn **Pn 09 28 50.9 -0.5**
AC02 Maricunga 7.13 166 Pn **Pn 09 29 04.4 +0.1**
SIV San Ignacio 10.32 69 Pn **Pn 09 29 45.8 -1.8**
comp=E,2.1nm,0.3s,baz=256,slow=12,SNR=33
ETMB Extrema 11.10 26 *eP* **Pn 09 29 56.9 -1.4**
CZSB Cruzeiro do Su 12.21 353 *eP* **Pn 09 30 09.3 -4.2**
PTLB Pontes e Lacer 12.24 71 *eP* **Pn 09 30 15.0 +1.1**
VILB Vilhena 12.54 58 *eP* **Pn 09 30 20.2 +2.0**
CPUP Villa Florida 14.19 119 LR LR 09 37 32.1
comp=E,96nm,19.5s,baz=298,slow=44
H03N1 Juan Fernandez 15.16 206 T T 09 47 14.5
baz=33,slow=72,SNR=36
H03N2 Juan Fernandez 15.17 206 T T 09 47 11.9
baz=33,slow=72,SNR=72
H03N3 Juan Fernandez 15.18 206 T T 09 47 10.3
baz=33,slow=72,SNR=80
SALV Santo Antonio 15.21 77 *eP* **Pn 09 30 56.6 +2.3**
PDRB Porto dos Gac 16.11 61 *eP* **Pn 09 31 07.7 +1.6**
CPSB Cacapava Do Su 19.08 127 *eP* **Pn 09 31 43.5 +0.6**
MACA Manacapuru-AM 19.51 33 *eP* **P 09 31 45.3 -1.6**
PLTB Pedras Altas 19.66 130 *eP* **P 09 31 48.6 +0.2**
NPGB Novo Progresso 19.93 52 *eP* **P 09 31 51.0 -0.5**
PLCA Paso Flores 20.76 179 P Pn 09 32 06.3 +3.5
comp=E,2.5nm,1.1s,baz=336,slow=12,SNR=3.2
PLCA Paso Flores 20.76 179 P **P 09 31 59.0 -1.4**
BB19B Bebedouro 21.19 97 *eP* **P 09 32 05.2 0.0**
IPMB Ipameri, GO 21.74 89 *eP* **P 09 32 12.3 +1.1**
BDFB Brasilia 22.39 83 P **P 09 32 15.7 -2.5**
comp=E,1.3nm,0.4s,baz=266,slow=14,SNR=2.0
BDFB LR LR 09 42 36.4
comp=E,148nm,18.1s,baz=351,slow=42
BDFB Brasilia 22.39 83 IAmb IAmb 09 32 31.9
comp=Z,5.3nm,0.8s
PARB Paraibuna 23.93 103 *eP* **P 09 32 36.2 +2.5**
BOAV Boa Vista 24.49 26 *eP* **P 09 32 36.9 -1.9**
PRPB Parauapebas 24.79 59 *eP* **P 09 32 43.2 +1.5**
SMTB Santa Maria do 25.26 68 *eP* **P 09 32 46.0 +0.2**
ZARC Zaragoza, Cauc 27.48 352 P **P 09 33 05.8 -0.1**
ZARC IAmb IAmb 09 33 16.5
comp=Z,5.4nm,1.1s
MDP Montagnes des 30.79 38 LR LR 09 46 38.8
comp=Z,98nm,21.1s,baz=276,slow=38
RPN Rapa Nui 35.67 251 LR LR 09 43 29.4
comp=Z,9.9nm,21.6s,baz=44,slow=27
X43A Marvell 57.30 341 P **P 09 37 05.9 -1.4**
TXAR Lajitas Array 58.16 326 P **P 09 37 16.9 +3.3**
comp=Z,0.2nm,0.7s,baz=148,slow=9.3,SNR=2.4
NVAR Mina Array Bea 72.98 323 P **P 09 38 52.9 +3.5**
comp=Z,0.3nm,0.6s,baz=140,slow=5.7,SNR=2.4
TORD Torodi Ar. Bea 78.79 72 P **P 09 39 21.9 -0.9**
comp=Z,2.8nm,0.6s,baz=251,slow=5.5,SNR=19
TORD pP **PcP 09 39 30.9 -0.6**
comp=Z,4.8nm,0.8s,baz=246,slow=4.6,SNR=14
YKA Yellowknife Ar 89.02 341 P **P 09 40 15.2 +1.3**
comp=Z,0.5nm,0.7s,baz=134,slow=4.8,SNR=12
YKA pP **pwP 09 40 25.0 +1.3**
comp=Z,1.0nm,0.9s,baz=137,slow=4.7,SNR=9.9
H11S2 WAKE ISLAND Hyd 25.62 279 T T 12 05 46.7
baz=101,slow=74,SNR=58
H11S1 WAKE ISLAND Hyd 25.62 279 T T 12 05 54.6
baz=101,slow=74,SNR=8.2
H11S3 WAKE ISLAND Hyd 25.63 279 T T 12 05 48.0
baz=101,slow=74,SNR=27
H11N3 WAKE ISLAND Hyd 25.66 280 T T 12 05 47.6
baz=101,slow=75,SNR=4.2
H11N2 WAKE ISLAND Hyd 25.68 280 T T 12 05 49.3
baz=101,slow=75,SNR=5.7
H11N1 WAKE ISLAND Hyd 25.68 280 T T 12 05 49.4
baz=101,slow=75,SNR=3.8
ZALV Zalesovo Beam 141.34 23 PKP **PKiKP 09 46 51.8 -0.9**
comp=Z,0.8nm,0.6s,baz=318,slow=1.9,SNR=2.5
MKAR Makanchi Array 145.50 33 PKPbc **PKPab 09 46 58.1 +0.2**
comp=Z,0.9nm,0.9s,baz=315,slow=0.6,SNR=5.5
MKAR pPKPbc sPKPab 09 47 07.1 +4.3
comp=Z,1.1nm,0.8s,baz=336,slow=2.7,SNR=6.7
KSH Kashi 145.65 48 PKPbc **PKPab 09 47 00.0 +1.2**
KSH pPKP sPKPab 09 47 08.0 +4.3

IDC 31 09:29:48.3±4.4, 17°22S×179°07W, h567km±19km, mb3.3/3, mb1 3.5/4, mb1mx2.8/43, mbtmp4.2/4, Error ellipse: s-maj=111.3km s-min=77.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.79**	**259**	P	P	09 31 03.6	0.0
STKA	1.8nm,0.3s,baz=105,slow=20,SNR=9.2 **Stephens Creek**	**38.41**	**240**	P	P	09 36 22.3	+0.2
WRA	1.1nm,0.4s,baz=92,slow=10,SNR=7.5 **Warramunga Arr**	**44.14**	**259**	P	P	09 37 07.0	-0.6
ASAR	1.1nm,0.5s,baz=96,slow=8.3,SNR=45 **Alice Springs**	**44.37**	**254**	P	P	09 37 09.4	+0.1
ASAR	9.1nm,0.5s,baz=89,slow=8.0,SNR=214	

Ms1 3.6/34,ms1mx3.4/75,Error ellipse: s-maj=24.8km s-min=13.3km az=65.0

ISC 31 09:34:45.1±0.4,**8°57'S**±0'05×**115°99E**±0'04,**h35**km,**n117,** σ1⁹**46**/97,**mb4.3**/23,**MS3.7**/30,**Bali region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.78**	**262**	P	**Pn**	**09 35 00.3**	**+0.7**
IGBI	**Denpasar**	**0.87**	**253**	P	**Pn**	**09 35 01.0**	**+0.1**
SRBI	**Singaraja**	**0.91**	**302**	P	**Pn**	**09 35 00.9**	**-0.5**
PLAI	**Plampang**	**1.78**	**98**	P	**Pn**	**09 35 14.2**	**+0.7**
PLAI	**Plampang**	**1.78**	**98**	P	**Pn**	**09 35 13.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.82**	**273**		**Pn**	**09 35 14.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.82**	**273**	P	**Pn**	**09 35 14.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.82**	**273**	P	**Pn**	**09 35 15.0**	**+1.0**
ABJI	**Asem Bagus**	**1.90**	**294**	P	**Pn**	**09 35 16.0**	**+0.9**
BLJI	**Banyuglugur**	**2.51**	**289**	P	**Pn**	**09 35 25.1**	**+1.7**
KMMI	**Kalianget**	**2.51**	**307**	P	**Pn**	**09 35 25.3**	**+1.8**
GMJI	**Gumukmas**	**2.54**	**276**	P	**Pn**	**09 35 25.1**	**+1.3**
WBSI	**Waikabubak, Su**	**3.52**	**108**	P	**Pn**	**09 35 38.3**	**+0.8**
GRJI	**Gresik**	**3.85**	**295**	P	**Pn**	**09 35 42.7**	**+0.8**
PWJI	**Pagerwojo**	**4.18**	**277**	P	**Pn**	**09 35 47.7**	**+1.3**
BWJI	**Bawean**	**4.27**	**309**	P	**Pn**	**09 35 48.7**	**+1.0**
PCJI	**Pacitan**	**4.78**	**274**	P	**Pn**	**09 35 55.2**	**+0.5**
BSSI	**Bau Bau, Buton**	**5.07**	**62**	P	**Pn**	**09 35 57.2**	**-1.5**
KAPI	**Kappang**	**5.14**	**47**	Pn	**Pn**	**09 35 58.1**	**-1.5**
BBKI	**Banjar Baru** 0.6nm76nm,0.8s	**5.20**	**347**	P	**Pn**	**09 36 00.7**	**+0.2**
BKSI	**Bulukumba** 0.7nm2μm177nm,0.6s	**5.22**	**52**	P	**Pn**	**09 35 59.1**	**-1.6**
UGM	**Wanagama**	**5.45**	**276**		**Pn**	**09 36 04.2**	**+0.2**
UGM	**Wanagama** 1.6nm3μm201nm,0.7s	**5.45**	**276**	P	**Pn**	**09 36 05.3**	**+1.3**
UGM	**Wanagama**	**5.45**	**276**	P	**Pn**	**09 36 05.8**	**+1.8**
BNSI	**Bone** 0.5nm1μm59nm,0.8s	**5.82**	**45**	P	**Pn**	**09 36 08.6**	**-0.4**
SPSI	**Sidrap Palu** 0.3nm958nm28nm,0.6s	**5.92**	**40**	P	**Pn**	**09 36 08.8**	**-1.5**
MMRI	**Maumere**	**6.18**	**91**	Pn	**Pn**	**09 36 16.1**	**+2.1**
MMRI	**Maumere** 0.5nm132nm,0.8s	**6.18**	**91**	P	**Pn**	**09 36 16.3**	**+2.4**
TTSI	**Tana Toraja** 0.2nm60nm,0.7s	**6.68**	**35**	P	**Pn**	**09 36 20.1**	**-0.7**
KPJI	**Karang Pucung** 0.2nm35nm,0.5s	**7.10**	**279**	P	**Pn**	**09 36 29.2**	**+2.6**
BATI	**Baumata** 5.5nm,0.3s,baz=313,slow=19,SNR=2.3	**7.74**	**103**	P	**Pn**	**09 36 36.1**	**+0.7**
BATI	3.4nm,0.3s,baz=11,slow=17,SNR=1.2			S	**Sn**	**09 38 06.9**	**+4.9**
LEM	**Lembang** comp=Z,583nm,20.3s,baz=70,slow=40	**8.48**	**281**	LR	LR	09 40 25.3	
CNJI	**Cibinong** 70nm,1.0s	**8.87**	**277**	P	**Pn**	**09 36 52.6**	**+1.8**
CGJI	**Cibinong** 1μm94nm,0.9s	**10.39**	**280**	P	**Pn**	**09 37 14.0**	**+2.2**
SANI	**Sanana**	**11.87**	**58**	P	Pn	09 37 42.4	+10
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=331,slow=8.3,SNR=16	**13.33**	**136**	P	**Pn**	**09 37 50.9**	**-1.1**
FITZ	0.4nm,0.3s,baz=188,slow=18,SNR=2.9			S	**Sn**	**09 40 15.4**	**-3.6**
FITZ	comp=Z,310nm,20.8s,baz=325,slow=36			LR	LR	09 42 54.9	
PSA00	**Pilbara Seismi**	**13.45**	**164**	Pn	**Pn**	**09 37 51.5**	**-2.1**
PSA00	**Pilbara Seismi**	**13.45**	**164**	P	**Pn**	**09 37 53.8**	**+0.1**
GIRL	**Giralia**	**14.10**	**187**	Pn	**Pn**	**09 38 00.6**	**-1.8**
KNRA	**Kununurra**	**14.34**	**121**	Pn	**Pn**	**09 38 04.2**	**-1.7**
KNRA	**Kununurra**	**14.34**	**121**	P	**Pn**	**09 38 06.0**	**+0.2**
KKM	**Kota Kinabalu**	**14.52**	**1**	P	**P**	**09 38 14.1**	**-0.4**
MTN	**Manton Dam**	**15.47**	**107**	Pn	**Pn**	**09 38 19.1**	**-1.7**
MTN	comp=Z,9.5nm,0.8s			IAmb	IAmb	09 38 43.7	
SIJI	**Sorong** comp=Z,25nm,18.0s,baz=176,slow=44	**17.03**	**64**	LR	LR	09 46 59.7	
MEEK	**Meekatharra**	**18.14**	**172**	P	**P**	**09 38 55.0**	**+0.5**
DAV	**Davao City (W)** comp=Z,204nm,18.9s,baz=182,slow=41	**18.24**	**32**	LR	LR	09 47 12.4	
WRKA	**Warakurna**	**20.15**	**146**	P	Pn	09 39 18.0	-0.6
WB0	**Warramunga Arr**	**21.00**	**124**	P	**P**	**09 39 25.6**	**-0.3**
WB0	comp=Z,14nm,0.7s			IAmb	IAmb	09 39 33.0	
WRA	**Warramunga Arr** comp=Z,12nm,0.8s,baz=298,slow=12,SNR=60	**21.05**	**124**	P	**P**	**09 39 25.6**	**-0.7**
WRA	comp=Z,1.3nm,0.8s,baz=292,slow=22,SNR=4.3			S	**S**	**09 43 14.2**	**-4.7**
WRA	comp=Z,0.8nm,1.1s,baz=288,slow=2.8,SNR=3.3			ScP	**ScP**	**09 47 05.2**	**-1.6**
WRA	comp=Z,126nm,21.8s,baz=328,slow=38			LR	LR	09 48 04.3	
WRA	**Warramunga Arr**	**21.05**	**124**	P	**P**	**09 39 25.7**	**-0.5**
WRAB	**Tennant Creek**	**21.05**	**124**	P	**P**	**09 39 25.6**	**-0.7**
WRAB	comp=Z,18nm,0.8s			IAmb	IAmb	09 39 33.6	
WRAB	**Tennant Creek**	**21.05**	**124**	P	**P**	**09 39 26.2**	**-0.1**
WB2	**Warramunga Arr**	**21.06**	**124**	P	**P**	**09 39 26.1**	**-0.3**
WB2	comp=Z,18nm,0.8s			IAmb	IAmb	09 39 34.1	
WR0	**Warramunga Arr**	**21.22**	**124**	P	**P**	**09 39 28.2**	**+0.1**
BLDU	**Ballidu**	**21.95**	**178**	P	**P**	**09 39 38.0**	**+2.2**
AS31	**Alice Springs**	**22.79**	**133**	P	**P**	**09 39 44.5**	**-0.5**
AS31	comp=Z,5.2nm,0.7s			IAmb	IAmb	09 39 48.1	
ASAR	**Alice Springs** comp=Z,13nm,0.7s,baz=308,slow=9.2,SNR=96	**22.79**	**133**	P	**P**	**09 39 44.3**	**-0.7**
ASAR	comp=Z,1.2nm,0.8s,baz=322,slow=1.7,SNR=4.6			PcP	**PcP**	**09 43 35.3**	**-0.6**
ASAR	comp=Z,1.5nm,1.0s,baz=320,slow=24,SNR=4.9			S	**S**	**09 43 51.1**	**-0.8**
ASAR	comp=Z,1.2nm,1.0s,baz=313,slow=1.9,SNR=5.1			ScP	**ScP**	**09 47 10.3**	**-0.9**
ASAR	**Alice Springs**	**22.79**	**133**	P	**P**	**09 39 44.8**	**-0.2**
KLBR	**Kellerberrin**	**22.97**	**176**	P	**P**	**09 39 48.7**	**+2.0**
FORT	**Forrest**	**24.81**	**155**	P	**P**	**09 40 06.0**	**+2.0**
FORT	**Forrest**	**24.81**	**155**	P	**P**	**09 40 06.0**	**+2.0**
QIS	**Mount Isa**	**25.73**	**120**	P	**P**	**09 40 13.3**	**+0.7**
COEN	**Coen**	**27.18**	**104**	P	**P**	**09 40 25.6**	**-0.2**
COEN	comp=Z,6.2nm,0.8s			IAmb	IAmb	09 40 42.8	
COEN	**Coen**	**27.18**	**104**	P	**P**	**09 40 25.5**	**-0.2**
BBOO	**Buckleboo**	**30.45**	**145**	P	**P**	**09 40 55.1**	**+0.6**
BBOO	comp=Z,8.7nm,0.9s			IAmb	IAmb	09 40 57.8	
CTA	**Charters Tower** comp=Z,2.6nm,0.8s,baz=270,slow=11,SNR=2.4	**31.42**	**115**	P	**P**	**09 41 03.7**	**+0.4**
CTA	comp=Z,146nm,18.3s,baz=254,slow=42			LR	LR	09 56 49.6	
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=156,slow=6.8,SNR=4.0	**31.69**	**328**	P	**P**	**09 41 07.1**	**+1.5**
CMAR	comp=Z,189nm,18.0s,baz=165,slow=39			LR	LR	09 55 19.6	
STKA	**Stephens Creek** comp=Z,2.7nm,0.7s,baz=308,slow=7.9,SNR=7.6	**33.22**	**138**	P	**P**	**09 41 20.7**	**+1.7**
STKA	comp=Z,218nm,21.1s,baz=250,slow=36			LR	LR	09 54 59.6	
STKA	**Stephens Creek**	**33.22**	**138**	P	**P**	**09 41 19.9**	**+0.9**
GUMO	**Guam** comp=Z,28nm,21.8s,baz=64,slow=35	**36.15**	**53**	LR	LR	09 55 54.2	
PALK	**Pallekele** comp=Z,93nm,18.3s,baz=224,slow=38	**38.53**	**293**	LR	LR	09 58 55.6	
H08S2	**Diego Garcia H** baz=95,slow=76,SNR=6.3	**43.06**	**268**	T	T	10 28 25.4	
H08S3	**Diego Garcia H** baz=95,slow=76,SNR=5.8	**43.07**	**268**	T	T	10 28 06.7	
H08S1	**Diego Garcia H** baz=95,slow=76,SNR=5.0	**43.08**	**268**	T	T	10 28 20.0	
HNR	**Honiara** comp=Z,279nm,19.4s,baz=90,slow=41	**43.40**	**95**	LR	LR	10 04 03.9	
JCJ	**Chichijima** comp=Z,20nm,20.6s,baz=93,slow=37	**43.61**	**35**	LR	LR	10 01 17.4	
KSRS	**Korea Array** comp=Z,0.6nm,0.4s,baz=186,slow=7.9,SNR=5.2	**47.12**	**13**	P	**P**	**09 43 14.1**	**+0.3**
KSRS	comp=Z,27nm,19.3s,baz=185,slow=40			LR	LR	10 06 27.5	
JHJ	**Hachijo jima 2** comp=Z,38nm,21.7s,baz=290,slow=34	**47.24**	**27**	LR	LR	10 01 26.5	
HHC	**Hu-ho-hao-te** comp=Z,10.0nm,1.0s	**49.34**	**356**	*eP*	**P**	**09 43 31.5**	**+0.4**
HHC	comp=Z,95nm,5.6s			pmax	pmax		
HHC				pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.4s,baz=227,slow=8.3,SNR=2.8	**49.49**	**24**	P	**P**	**09 43 31.1**	**-1.2**
MJAR	comp=Z,23nm,21.5s,baz=187,slow=36			LR	LR	10 04 16.6	
DZM	**Mont Dzumac** comp=Z,44nm,20.6s,baz=288,slow=37	**50.25**	**112**	LR	LR	10 05 26.0	
SONM	**Songino Array**	**56.79**	**352**	P	**P**	**09 44 25.0**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=171,slow=9.8,SNR=6.1						
SONM	**Songino Array**	**56.79**	**352**	IAmb	IAmb	09 44 34.9	
ASAJ	**Asahikawa** comp=Z,24nm,20.6s,baz=172,slow=37	**57.71**	**22**	LR	LR	10 10 00.7	
WMQ	**Urumqi**	**58.12**	**336**	*eP*	**P**	**09 44 36.8**	**+1.5**
RPZ	**Rata Peaks** comp=Z,180nm,20.1s,baz=274,slow=36	**59.16**	**136**	LR	LR	10 10 23.4	
KLR	**Kul'dur** comp=Z,27nm,20.8s,baz=139,slow=39	**59.19**	**12**	LR	LR	10 12 43.1	
MK31	**Makanchi Array**	**62.76**	**335**	P	**P**	**09 45 06.0**	**-0.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.4s,baz=155,slow=6.8,SNR=12	**62.76**	**335**	P	**P**	**09 45 05.6**	**-1.3**
MKAR	comp=Z,25nm,19.8s,baz=160,slow=40			LR	LR	10 16 50.1	
MKAR	**Makanchi Array**	**62.76**	**335**	P	**P**	**09 45 05.3**	**-1.5**
AAK	**Ala-Archa** comp=Z,37nm,19.7s,baz=104,slow=38	**63.47**	**327**	LR	LR	10 15 23.6	
KURBB	**Kurchatov Arra** comp=Z,44nm,20.2s,baz=111,slow=39	**67.30**	**335**	LR	LR	10 18 04.3	
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=133,slow=8.1,SNR=1.2	**67.62**	**341**	P	**P**	**09 45 36.1**	**-2.1**
ZALV	comp=Z,21nm,19.1s,baz=131,slow=40			LR	LR	10 19 57.0	
MAW	**Mawson** comp=Z,4.9nm,0.9s,baz=45,slow=13,SNR=4.7	**68.65**	**199**	P	**P**	**09 45 45.8**	**+1.3**
MAW	comp=Z,78nm,20.0s,baz=32,slow=32			LR	LR	10 11 30.4	
PETK	**Petropavlovsk-** comp=Z,29nm,21.8s,baz=160,slow=35	**70.91**	**25**	LR	LR	10 16 06.3	
VNDA	**Vanda** comp=Z,3.6nm,0.9s,baz=303,slow=7.8,SNR=14	**72.89**	**171**	P	**P**	**09 46 11.3**	**+1.2**
VNDA	comp=Z,80nm,20.1s,baz=316,slow=34			LR	LR	10 16 16.9	
VNDA	**Vanda**	**72.89**	**171**	P	**P**	**09 46 11.0**	**+0.9**
SBA	**Scott Base**	**73.91**	**170**	P	**P**	**09 46 18.8**	**+2.6**
SBA	comp=Z,1.7nm,0.9s			IAmb	IAmb	09 46 42.4	
ABKAR	**Akbulak array**	**75.52**	**326**	P	**P**	**09 46 24.9**	**-1.0**
RAYN	**Ar Rayn**	**75.85**	**297**	P	**P**	**09 46 26.4**	**-2.0**
RAYN	comp=Z,8.8nm,1.5s			IAmb	IAmb	09 46 48.6	
AKTO	**Aktyubinsk** comp=Z,36nm,18.0s,baz=128,slow=39	**77.20**	**326**	LR	LR	10 24 26.1	
ARU	**Arti** comp=Z,44nm,19.4s,baz=111,slow=38	**80.05**	**332**	LR	LR	10 25 27.0	
QSPA	**South Pole Qui** comp=Z,85nm,21.5s,baz=331,slow=33	**81.43**	**180**	LR	LR	10 19 24.9	
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**09 46 58.8**	**+0.4**
BOSA	**Boshof** comp=Z,4.9nm,0.9s,baz=102,slow=5.6,SNR=6.1	**86.60**	**242**	P	**P**	**09 47 25.6**	**-0.1**
BOSA	comp=Z,48nm,19.0s,baz=191,slow=34			LR	LR	10 23 24.4	
BRTR	**Keskin Array B** comp=Z,0.3nm,0.4s,baz=46,slow=4.8,SNR=2.2	**89.58**	**310**	P	**P**	**09 47 39.7**	**+0.2**
SUR	**Sutherland** comp=Z,34nm,19.7s,baz=138,slow=30	**89.81**	**237**	LR	LR	10 19 48.5	
SNAA	**Sanae** comp=Z,126nm,19.3s,baz=92,slow=33	**90.60**	**196**	LR	LR	10 24 05.7	
FINES	**FINESS Array B** comp=Z,22nm,18.8s,baz=84,slow=39	**97.42**	**331**	LR	LR	10 38 23.0	
KDAK	**Kodiak Island** comp=Z,44nm,20.7s,baz=149,slow=35	**97.94**	**33**	LR	LR	10 31 43.0	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=310,slow=1.8,SNR=8.7	**115.00**	**23**	PKP	**PKiKP**	**09 53 19.9**	**-2.2**
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.4s,baz=274,slow=2.6,SNR=2.2	**122.02**	**50**	PKP	**PKPdf**	**09 53 38.6**	**0.0**
CPUP	**Villa Florida** comp=Z,10nm,0.9s,baz=163,slow=3.6,SNR=17	**144.71**	**190**	PKP	**PKPdf**	**09 54 18.6**	**-0.4**
CPUP	**Villa Florida**	**144.71**	**190**		**PKPdf**	**09 54 18.8**	**-0.3**
BDFB	**Brasilia** comp=Z,1.4nm,0.4s,baz=162,slow=3.2,SNR=2.2	**151.20**	**213**	PKPbc	**PKPbc**	**09 54 35.9**	**-0.1**
BDFB	comp=Z,3.0nm,0.6s,baz=137,slow=3.8,SNR=5.2			PKPab	**sPKPdf**	**09 54 45.5**	**0.0**
LPAZ	**La Paz** comp=Z,1.8nm,0.7s,baz=168,slow=5.4,SNR=8.3	**154.97**	**171**	PKPab	**PKPab**	**09 55 01.1**	**+1.0**
LPAZ	**La Paz**	**154.97**	**171**		**PKPab**	**09 55 02.2**	**+2.1**

IDC 31 09:37:46.6±8.0,**22°57N**×**143°59E**,**h83**km±81km,**mb3.1**/3, **mb1 3.4**/4,**mb1mx2.9**/41,**mbtmpg3.5**/4,**ML3.6/1**,**MS3.3**/1, **Ms1 3.3**/1,**ms1mx2.5**/19,**Error ellipse: s-maj=122.4km s-min=22.9km az=101.0**,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima** 3.0nm,0.3s,baz=108,slow=20,SNR=11	**4.69**	**344**	P	Pn	09 38 56.7	+1.8
JCJ	6.9nm,0.3s,baz=94,slow=23,SNR=9.4			S	Sn	09 39 47.7	-0.3
JAY	**Jayapura** comp=Z,70nm,22.0s,baz=250,slow=30	**25.09**	**187**	LR	LR	09 50 07.5	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=17,slow=9.3,SNR=6.6	**43.21**	**193**	P	P	09 45 39.6	0.0
ASAR	**Alice Springs** 0.3nm,0.8s,baz=17,slow=10,SNR=1.8	**46.91**	**192**	P	P	09 46 08.3	-0.7
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=293,slow=5.8,SNR=5.4	**75.51**	**28**	P	P	09 49 21.9	+0.2

*SOME **31** 10:26:04.2,39°55N×77°78E,h0km*
*NNC **31** 10:26:09.6±6.0,39°70N×77°47E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=42.7km s-min=36.4km az=150.0*

ISC 31 10:26:08.9±2.4,**39.7N**±0.1×**77.69E**±0.05,**h10**km,**n45,** σ2⁹**13**/68,**1C-2D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNSS	**Tian-Shan** 16nm,0.1s	**3.39**	**351**	*eP*	**Pb**	**10 27 10.8**	**+1.6**
TNSS	7.2nm,0.2s			*eS*	**Sg**	**10 27 58.8**	**+1.1**
TNSS	**Tian-Shan** 17nm,0.4s	**3.39**	**351**	Pg	**Pb**	**10 27 10.9**	**+1.6**
TNSS	7.2nm,0.5s			Lg	Lg	10 27 58.8	
SATY	**Saty** 7.9nm,0.2s	**3.41**	**9**	*eP*	**Pg**	**10 27 11.6**	**-2.5**
SATY	18nm,0.1s			*eS*	**Sg**	**10 28 00.3**	**+2.0**
SATY	**Saty** 10nm,0.8s	**3.41**	**9**	Pg	**Pg**	**10 27 11.6**	**-2.5**
SATY	13nm,0.4s			Lg	Lg	10 28 00.3	
IZV	**Izvestkoviy** 4.9nm,0.0s	**3.44**	**347**	*eP*	**Pb**	**10 27 10.6**	**+0.6**
IZV	23nm,0.1s			*eS*	**Sg**	**10 27 58.2**	**-1.0**
IZV	**Izvestkoviy** 7.1nm,0.6s	**3.44**	**347**	Pg	**Pb**	**10 27 10.6**	**+0.6**
IZV	24nm,0.6s			Lg	Lg	10 27 58.3	
MDOK	**Medeo** 6.1nm,0.4s	**3.50**	**352**	Pn	**Pb**	**10 27 12.8**	**+1.8**
MDOK	43nm,0.8s			Lg	Lg	10 28 05.7	
ZHN	**Zhinishke** 6.1nm,0.1s	**3.52**	**9**	*eP*	**Pg**	**10 27 13.5**	**-2.8**
ZHN	21nm,0.0s			*eS*	**Sg**	**10 28 03.1**	**+1.3**
ZHN	**Zhinishke** 8.4nm,0.2s	**3.52**	**9**	Pg	**Pg**	**10 27 13.5**	**-2.8**
ZHN	21nm,0.3s			Lg	Lg	10 28 03.2	
MTBS	**Maitube** 6.8nm,0.4s	**3.56**	**345**	*eP*	**Pb**	**10 27 14.0**	**+2.0**
MTBS	12nm,0.4s			*eS*	**Sg**	**10 28 04.1**	**+0.8**
MTBS	**Maitube** 6.8nm,0.4s	**3.56**	**345**	Pg	**Pb**	**10 27 14.0**	**+2.0**
MTBS	12nm,0.4s			Lg	Lg	10 28 04.1	
KOTS	**Kotyrbulak** 8.5nm,0.6s	**3.57**	**353**	*eP*	**Pg**	**10 27 14.3**	**-2.9**
KOTS	29nm,0.6s			*eS*	**Sg**	**10 28 04.4**	**+1.1**
KOTS	**Kotyrbulak** 8.5nm,0.6s	**3.57**	**353**	Pg	**Pg**	**10 27 14.3**	**-2.9**
KOTS	29nm,0.6s			Lg	Lg	10 28 04.4	
TKM2	**Tokmak 2** 0.4nm,0.2s	**3.59**	**335**	⇓Pn	**Pn**	**10 27 06.6**	**+1.8**
TKM2	2.8nm,0.4s			⇑Pg	**Pb**	**10 27 13.1**	**+0.5**
TKM2	5.0nm,0.5s			⇓Lg	Lg	10 28 04.5	
UZB	**Uzynbulak** 2.2nm,0.0s	**3.59**	**16**	*eP*	**Pb**	**10 27 13.0**	**+0.4**
UZB	8.5nm,0.0s			*eS*	**Sg**	**10 28 02.6**	**-1.7**
UZB	**Uzynbulak** 2.9nm,0.5s	**3.59**	**16**	Pg	**Pb**	**10 27 13.0**	**+0.4**
UZB	5.6nm,0.5s			Lg	Lg	10 28 02.6	
SHLS	**Shalkode** 4.7nm,0.0s	**3.71**	**20**	*eP*	**Pg**	**10 27 18.0**	**-1.9**
SHLS	11nm,0.1s			*eS*	**Sg**	**10 28 11.3**	**+3.3**
SHLS	**Shalkode** 4.7nm,0.3s	**3.71**	**20**	Pg	**Pg**	**10 27 18.0**	**-1.9**
SHLS	9.4nm,0.6s			Lg	Lg	10 28 11.3	
KURS	**Kuram** 5.6nm,0.7s	**3.81**	**5**	*eP*	**Pb**	**10 27 18.6**	**+2.4**
KURS	19nm,0.8s			*eS*	**Sg**	**10 28 12.3**	**+1.1**
KURS	**Kuram** 5.6nm,0.7s	**3.81**	**5**	Pg	**Pb**	**10 27 18.6**	**+2.4**
KURS	19nm,0.8s			Lg	Lg	10 28 12.3	
DGS	**Degeres** 3.8nm,0.7s	**3.83**	**339**	*eP*	**Pb**	**10 27 18.2**	**+1.6**
DGS	9.0nm,0.4s			*eS*	**Sg**	**10 28 11.4**	**-0.4**
DGS	**Degeres** 3.8nm,0.7s	**3.83**	**339**	Pg	**Pb**	**10 27 18.2**	**+1.6**
DGS	9.0nm,0.4s			Lg	Lg	10 28 11.4	
KPKS	**Kokpek** 6.9nm,0.0s	**3.84**	**11**	*eP*	**Pb**	**10 27 18.8**	**+2.0**
KPKS	22nm,0.2s			*eS*	**Sg**	**10 28 12.7**	**+0.4**
PDGK	**Podgornoye** 1.9nm,0.6s	**3.88**	**20**	Pg	**Pb**	**10 27 18.3**	**+0.9**
PDGK	7.4nm,0.8s			Lg	Lg	10 28 11.7	
KTBS	**Karatobe** 3.9nm,0.7s	**4.09**	**350**	*eP*	**Pb**	**10 27 23.3**	**+2.4**
KTBS	4.6nm,0.8s			*eS*	**Sg**	**10 28 20.4**	**+0.3**
KTBS	**Karatobe** 3.9nm,0.7s	**4.09**	**350**	Pg	**Pb**	**10 27 23.3**	**+2.4**
KTBS	4.6nm,0.8s			Lg	Lg	10 28 20.4	
CHKK	**Chushkaly** 7.1nm,0.8s	**4.19**	**353**	*eP*	**Pb**	**10 27 25.0**	**+2.3**
CHKK	13nm,0.5s			*eS*	**Sg**	**10 28 23.2**	**-0.2**
CHKK	**Chushkaly** 7.1nm,0.8s	**4.19**	**353**	Pg	**Pb**	**10 27 25.0**	**+2.3**
CHKK	13nm,0.5s			Lg	Lg	10 28 23.2	
KTMS	**Ketmen** 1.8nm,0.6s	**4.25**	**27**	*eP*	**Pb**	**10 27 24.7**	**+0.9**
KTMS	8.0nm,0.6s			*eS*	**Sg**	**10 28 22.6**	**-2.7**
KTMS	**Ketmen** 1.8nm,0.6s	**4.25**	**27**	Pg	**Pb**	**10 27 24.7**	**+0.9**
KTMS	8.0nm,0.6s			Lg	Lg	10 28 22.6	
KRBS	**Karabastau** 6.9nm,0.8s	**4.28**	**340**	*eP*	**Pb**	**10 27 25.8**	**+1.7**
KRBS	3.2nm,0.3s			*eS*	**Sg**	**10 28 24.6**	**-1.6**
KRBS	**Karabastau** 6.9nm,0.8s	**4.28**	**340**	Pg	**Pb**	**10 27 25.8**	**+1.7**
KRBS	3.2nm,0.3s			Lg	Lg	10 28 24.6	
KUU	**Kurty** 2.9nm,0.6s	**4.32**	**347**	*eP*	**Pg**	**10 27 28.4**	**-3.1**
KUU	10.0nm,1.1s			*eS*	**Sg**	**10 28 28.8**	**+1.3**
KUU	**Kurty** 2.9nm,0.6s	**4.32**	**347**	Pg	**Pg**	**10 27 28.4**	**-3.1**
KUU	10.0nm,1.1s			Lg	Lg	10 28 28.8	
SGDS	**Sogindy** 2.0nm,0.2s	**4.40**	**330**	*eP*	**Pb**	**10 27 28.1**	**+1.8**
SGDS	2.4nm,0.1s			*eS*	**Sg**	**10 28 28.5**	**-1.7**
SGDS	**Sogindy** 3.2nm,0.6s	**4.40**	**330**	Pg	**Pb**	**10 27 28.1**	**+1.8**
SGDS	2.4nm,0.4s			Lg	Lg	10 28 28.5	
BLB	**Baldybastay** 7.5nm,0.2s	**4.44**	**7**	*eP*	**Pb**	**10 27 29.5**	**+2.5**
BLB	9.1nm,0.7s			*eS*	**Sg**	**10 28 30.7**	**-0.7**
BLB	**Baldybastay** 7.5nm,0.2s	**4.44**	**7**	Pg	**Pb**	**10 27 29.5**	**+2.5**
BLB	9.1nm,0.7s			Lg	Lg	10 28 30.7	
ARXS	**Arharly** 1.8nm,0.4s	**4.52**	**1**	*eP*	**Pb**	**10 27 30.7**	**+2.4**
ARXS	21nm,0.7s			*eS*	**Sg**	**10 28 32.7**	**-1.3**
ARXS	**Arharly** 1.8nm,0.4s	**4.52**	**1**	Pg	**Pb**	**10 27 30.7**	**+2.4**
ARXS	21nm,0.7s			Lg	Lg	10 28 32.7	
MRKS	**Merke** 1.8nm,0.6s	**4.54**	**314**	*eP*	**Pg**	**10 27 32.3**	**-3.6**
MRKS	4.9nm,0.7s			*eS*	**Sg**	**10 28 35.9**	**+1.2**
MRKS	**Merke** 1.8nm,0.6s	**4.54**	**314**	Pg	**Pg**	**10 27 32.3**	**-3.6**
MRKS	4.9nm,0.7s			Lg	Lg	10 28 35.9	
DJR	**Jarkent** 0.8nm,0.1s	**4.89**	**18**	*eP*	**Pb**	**10 27 36.9**	**+2.2**
DJR	5.4nm,0.2s			*eS*	**Sg**	**10 28 43.1**	**-2.8**
BTLS	**Baital** 1.3nm,0.6s	**5.99**	**334**	*eP*	**Pb**	**10 27 57.4**	**+4.1**
BTLS	2.7nm,0.8s			*eS*	**Sg**	**10 29 18.6**	**-2.4**
BTLS	**Baital** 1.3nm,0.6s	**5.99**	**334**	Pg	**Pb**	**10 27 57.4**	**+4.1**
BTLS	2.7nm,0.8s			Lg	Lg	10 29 18.6	

*GUC **31** 10:32:07.5±0.7,19°78S×69°38W,h86km±2km,ML3.8*
*VAO **31** 10:32:08.9±0.8,19°85S×69°09W,h111km±8km,mb4.2*
*IDC **31** 10:32:09.1±2.0,19°78S×69°00W,h112km±18km,mb3.5/3, mb1 3.7/6,mb1mx3.4/32,mbtmp3.9/6,Error ellipse: s-maj=32.4km s-min=17.4km az=114.0*

ISC 31 10:32:05.9±0.7,**19°78S**±0'03×**69°37W**±0'06,**h87**km±6km, **n36**,σ1⁹**76**/52,**5C-5D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.20**	**56**	*eP*	**Pn**	**10 32 19.9**	**+0.7**
GO01				*i* S	**Sn**	**10 32 30.9**	**+1.9**
GO01	comp=E,13μm,0.3s			IAML		10 32 31.4	
PB11	**IPOC Station P**	**0.27**	**274**	⇓*i*P	**Pn**	**10 32 19.9**	**+0.8**
PB11				*i* S	**Sn**	**10 32 30.1**	**+1.2**
PB11	comp=N,9μm,0.4s			IAML		10 32 30.6	
PB08	**IPOC Station P**	**0.41**	**151**	⇓*i*P	**Pn**	**10 32 21.3**	**+1.1**
PB08				*i* S	**Sn**	**10 32 32.2**	**+1.4**
PB08	comp=N,4μ

PB16	**IPOC Station P**	**1.44**	**355**	*iP*	**Pn**	**10 32 33.4**	**+2.0**
PB16				*i* S	**Sn**	**10 32 53.0**	**+2.5**
PB12	**IPOC Station P**	**1.47**	**322**	*eP*	**Pn**	**10 32 31.9**	**+0.6**
PB12				*eS*	**Sn**	**10 32 51.4**	**+1.0**
PB12				IAML		10 32 59.2	
	comp=E,907nm,0.3s						
PB02	**IPOC Station P**	**1.61**	**198**	*eS*	**Sn**	**10 32 54.4**	**+0.7**
PB02				IAML		10 33 02.1	
	comp=E,3µm,0.3s						
PB07	**IPOC Station P**	**2.00**	**194**	*eP*	**Pn**	**10 32 39.3**	**+1.1**
PB07				IAML		10 33 10.4	
	comp=E,1µm,0.7s						
PB09	**IPOC Station P**	**2.01**	**177**	*eP*	**Pn**	**10 32 40.2**	**+1.8**
PB09				*eS*	**Sn**	**10 33 05.2**	**+2.1**
PB09				IAML		10 33 10.5	
	comp=E,749nm,0.5s						
PB04	**IPOC Station P**	**2.64**	**196**	*eP*	**Pn**	**10 32 48.3**	**+1.5**
PB04				*eS*	**Sn**	**10 33 19.4**	**+1.2**
PB04				IAML		10 33 28.0	
	comp=N,539nm,0.5s						
LVC	**Limon Verde**	**2.85**	**171**	P	**Pn**	**10 32 51.7**	**+2.0**
	comp=N,15nm,0.3s,baz=355,slow=11,SNR=56						
LVC				S	**Sn**	**10 33 25.2**	**+1.8**
	comp=N,32nm,0.3s,baz=258,slow=22,SNR=14						
LVC	**Limon Verde**	**2.85**	**171**	*eP*	**Pn**	**10 32 51.5**	**+1.7**
LVC				*eS*	**Sn**	**10 33 25.4**	**+2.0**
LVC	**Limon Verde**	**2.85**	**171**	*eP*	**Pn**	**10 32 51.4**	**+1.7**
PB06	**IPOC Station P**	**2.92**	**184**	*eP*	**Pn**	**10 32 52.0**	**+1.5**
PB06				*eS*	**Sn**	**10 33 22.9**	**-1.8**
PB06				IAML		10 33 33.2	
	comp=E,444nm,0.2s						
PB15	**IPOC Station P**	**3.41**	**182**	*eP*	**Pn**	**10 32 58.9**	**+1.7**
LPAZ	**La Paz**	**3.67**	**19**	P	**Pn**	**10 33 04.6**	**+3.6**
	comp=E,4.0nm,0.3s,baz=216,slow=2.8,SNR=77						
LPAZ				S	**Sn**	**10 33 48.5**	**+5.0**
	comp=E,0.5nm,0.3s,baz=221,slow=20,SNR=1.5						
LPAZ	**La Paz**	**3.67**	**19**	*eP*	**Pn**	**10 33 04.5**	**+3.4**
PB10	**IPOC Station P**	**3.88**	**196**	*eP*	**Pn**	**10 33 04.1**	**+0.8**
PB10				IAML		10 34 03.7	
	comp=E,102nm,0.5s						
SIV	**San Ignacio**	**8.75**	**66**	P	**Pn**	**10 34 08.2**	**-1.6**
	comp=E,1.5nm,0.3s,baz=254,slow=10,SNR=29						
SIV				S	**Sn**	**10 35 42.2**	**-4.6**
	baz=347,slow=15,SNR=1.4						
PTLB	**Pontes e Lacer**	**10.66**	**68**	*eP*	**Pn**	**10 34 35.7**	**-0.1**
VILB	**Vilhena**	**11.11**	**54**	*eP*	**Pn**	**10 34 41.5**	**-0.4**
NPGB	**Novo Progresso**	**18.58**	**49**	*eP*	**P**	**10 36 15.7**	**-0.5**
SNDB	**Serra Nova Dou**	**19.03**	**69**	*eP*	**P**	**10 36 20.2**	**-0.9**
ITTB	**Itaituba**	**20.28**	**43**	*eP*	**P**	**10 36 33.1**	**-1.6**
PLCA	**Paso Flores**	**20.91**	**183**	P	Pn	10 36 44.5	-0.2
	comp=E,2.0nm,0.7s,baz=352,slow=13,SNR=6.6						
JANB	**Januaria**	**24.35**	**83**	*eP*	**P**	**10 37 15.0**	**-1.0**
NBLA	**Lagarto - SE**	**31.63**	**79**	*eP*	**P**	**10 38 19.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**77.19**	**71**	P	**P**	**10 43 49.5**	**-1.3**
	comp=E,0.4nm,0.4s,baz=254,slow=5.8,SNR=7.8						
YKA	**Yellowknife Ar**	**89.43**	**341**	P	**P**	**10 44 52.8**	**+0.2**
	comp=E,1.1nm,0.7s,baz=134,slow=4.7,SNR=26						
ASAR	**Alice Springs**	**131.22**	**209**	PKP	**PKPdf**	**10 51 08.3**	**-0.3**
	comp=E,0.3nm,1.0s,baz=144,slow=2.1,SNR=1.8						
WRA	**Warramunga Arr**	**134.20**	**212**	PKP	**PKPdf**	**10 51 13.9**	**-0.4**
	comp=E,0.1nm,0.4s,baz=152,slow=1.8,SNR=1.6						
MKAR	**Makanchi Array**	**144.48**	**34**	PKP	**PKPdf**	**10 51 31.1**	**-1.1**
	comp=E,0.1nm,0.6s,baz=289,slow=3.6,SNR=1.9						

*NEIC **31** 10:41:52.4, 36.79N×120.99W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.09; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$ 1.01; $M_{r\theta}$-0.70; $M_{\theta\phi}$ 1.56; $M_{\phi r}$-0.11; Fault plane solution: $M_0$2.02000×10^{14} NP1:ϕ_s72.95000°, δ89.02000°, λ-20.21000°. NP2:ϕ_s163.31000°, δ69.79000°, λ-178.95000°. Principal axes: T 1.9447, Plg13.0000°, Azm120.0000°; N 0.1398, Plg70.0000°, Azm250.0000°; P -2.0844, Plg15.0000°, Azm26.0000°;*

*NCEDC **31** 10:41:52.4±1.4, 36.79N±0.04×120.99W±0.04, h5km±7km, Mwr3.5/7, ML3.3/89(NEIC) Error ellipse: s-maj=5.9km s-min=4.7km az=194.0*

*NEIC **31** 10:41:52.7±1.6, 36.77N±0.04×120.97W±0.04, h11km±7km, Error ellipse: s-maj=5.9km s-min=5.3km az=177.0*

*ANF **31** 10:41:53.3±0.6, 36.67N×120.82W, h0km±3km, ML3.4/23, Error ellipse: s-maj=3.6km s-min=2.8km az=117.0*

ISC 31 10:41:52.3±1.0, 36.77N±0.02×121.00W±0.03, h10km±10km, n108, σ1^{9}06/108, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGB	**Big Mountain B**	**0.19**	**191**		**Pg**	**10 41 57.2**	**+0.7**
BLRM	**Lewis Ranch**	**0.25**	**245**		**Pg**	**10 41 58.6**	**+1.2**
PACP	**Pacheco Peak**	**0.33**	**316**		**Pg**	**10 41 59.0**	**0.0**
SAO	**San Andreas Ge**	**0.36**	**269**		**Sg**	**10 42 00.4**	**-4.0**
SAO	**San Andreas Ge**	**0.36**	**269**	Pg	**Pg**	**10 42 00.2**	**+0.6**
SCZ	**Santa Cruz**	**0.37**	**243**		**Pg**	**10 42 00.3**	**+0.6**
SCZ					**Sg**	**10 42 06.1**	**+1.5**
BJCM	**Johnson Can.**	**0.39**	**235**		**Pg**	**10 42 00.6**	**+0.6**
HFEM	**San Felipe**	**0.39**	**303**		**Pg**	**10 42 00.2**	**+0.2**
HSFM	**Saint Francis**	**0.41**	**276**		**Pg**	**10 42 01.3**	**+0.9**
BSMM	**Soledad Missio**	**0.52**	**222**		**Pg**	**10 42 03.2**	**+0.7**
PMPB	**Monarch Peak**	**0.57**	**164**		**Pb**	**10 42 04.8**	**+0.3**
HCOM	**Corn Cob Canyo**	**0.58**	**282**		**Pg**	**10 42 04.3**	**+0.6**
HAST	**Hastings Reser**	**0.59**	**230**		**Pg**	**10 42 04.3**	**+0.5**
PDRM	**Domengine Ranc**	**0.66**	**130**		**Pb**	**10 42 06.0**	**-0.1**
MHC	**Mount Hamilton**	**0.77**	**318**		**Pg**	**10 42 07.1**	**-0.2**
COSM	**Mount Oso**	**0.80**	**338**		**Pg**	**10 42 08.0**	**+0.2**
SCCB	**Santa Clara Co**	**0.87**	**307**		**Pg**	**10 42 09.1**	**0.0**
PKD	**Bear Valley Ra**	**0.90**	**156**		**Pg**	**10 42 09.8**	**+0.2**
PAPM	**Alder Peak**	**0.91**	**199**		**Pg**	**10 42 10.4**	**+0.6**
MOBB	**Monterey Bay O**	**0.94**	**266**		**Pg**	**10 42 11.2**	**+0.7**
WENL	**Wente Vineyard**	**1.05**	**325**		**Pg**	**10 42 12.3**	**-0.2**
RAMR	**Ramage Ranch**	**1.14**	**175**		**Pg**	**10 42 14.1**	**-0.1**
JRSC	**Jasper Ridge**	**1.18**	**303**		**Pg**	**10 42 13.0**	**-2.0**
TCHL	**Shandon**	**1.18**	**156**		**Pg**	**10 42 15.0**	**-0.1**
PAGB	**Antelope Grade**	**1.20**	**150**	Pn	**Pg**	**10 42 14.7**	**-0.6**
THIS	**South End of C**	**1.21**	**149**		**Pg**	**10 42 14.6**	**-1.0**
TRAM	**Private Proper**	**1.24**	**152**		**Pg**	**10 42 15.8**	**-0.4**
TSCN	**Private Proper**	**1.33**	**157**		**Pn**	**10 42 17.2**	**+0.3**
CMB	**Columbia Colle**	**1.35**	**21**	Pn	**Pn**	**10 42 15.9**	**-1.4**
CMB				IAML		10 42 34.8	
	comp=E,361nm,0.7s						
CMB				IAML		10 42 35.0	
	comp=N,346nm,0.7s						
BDM	**Black Diamond**	**1.37**	**330**		**Pn**	**10 42 17.0**	**-0.5**
VOG	**Valley Oaks Go**	**1.37**	**109**	P	**Pn**	**10 42 16.3**	**-1.2**
	baz=290,SNR=29						
VOG				S	**Sb**	**10 42 34.4**	**-1.2**
	baz=290						
CMCM	**Mills College**	**1.38**	**317**		**Pn**	**10 42 16.5**	**-1.1**
SMCB	**Saint Mary's C**	**1.39**	**321**		**Pn**	**10 42 17.1**	**-0.6**
KCC	**Kaiser Creek**	**1.45**	**67**		**Pn**	**10 42 17.9**	**-0.7**
BKS	**Berkeley--Byer**	**1.48**	**319**		**Pn**	**10 42 18.1**	**-1.0**
VAK	**Adit at Lawren**	**1.49**	**318**		**Pn**	**10 42 18.4**	**-0.7**
BL67	**Building 67, L**	**1.49**	**318**		**Pn**	**10 42 18.8**	**-0.5**
BRK	**Berkeley--Havi**	**1.50**	**318**		**Pn**	**10 42 18.6**	**-0.6**
HELL	**Mitchell Peak,**	**1.59**	**93**		**Pn**	**10 42 19.5**	**-1.1**
HERB	**Hercules**	**1.60**	**321**		**Pn**	**10 42 20.5**	**-0.1**
SMMC	**Simmler**	**1.66**	**151**	P	**Pn**	**10 42 21.4**	**-0.2**
	baz=331,SNR=37						
SMMC				S	**Sn**	**10 42 43.5**	**+0.6**
	baz=331						
MRDM	**Red Cones**	**1.75**	**61**		**Pn**	**10 42 23.2**	**+0.2**
VES	**Vestal, Richgr**	**1.80**	**120**	P	**Pn**	**10 42 22.4**	**-1.0**
	baz=302,SNR=119						
VES				S	**Sn**	**10 42 46.2**	**0.0**
	baz=302						
OMMB	**Old Mammoth Mi**	**1.80**	**62**	Pn	**Pn**	**10 42 24.1**	**+0.4**
MDCM	**Deadman Creek**	**1.82**	**58**		**Pn**	**10 42 24.3**	**+0.4**
PMLM	**Mount Lospe**	**1.90**	**170**		**Pn**	**10 42 24.9**	**+0.2**
MLAC	**Mammoth, Mammo**	**1.93**	**63**	P	**Pn**	**10 42 26.4**	**+1.0**
	baz=245,SNR=18						
MLAC				S	**Sb**	**10 42 51.9**	**0.0**
	baz=245						
MDRNC	**Doe Ridge**	**1.93**	**63**		**Pn**	**10 42 26.5**	**+1.1**
CVS	**Carmenet Viney**	**1.96**	**324**		**Pn**	**10 42 24.8**	**-0.8**
MTUM	**Tungsten Hills**	**2.03**	**73**		**Pn**	**10 42 28.2**	**+1.5**
MCCM	**Marconi Confer**	**2.03**	**313**	Pn	**Pn**	**10 42 25.3**	**-1.3**
MCCM				IAML		10 43 04.2	
	comp=N,141nm,0.9s						
MCCM				IAML		10 43 08.8	
	comp=E,165nm,1.1s						
BCW	**Bitter Crk WRg**	**2.23**	**144**		**Pn**	**10 42 28.4**	**-1.1**
BCW				IAML		10 43 20.7	
	comp=N,264nm,0.6s						
BCW				IAML		10 43 27.2	
	comp=E,297nm,0.8s						

TIN	**Tinemaha, Big**	**2.23**	**82**	Sb	**Sb**	**10 43 00.8**	**+0.2**
	baz=264						
ISA	**Isabella, Lake**	**2.32**	**118**	Pn	**Pn**	**10 42 30.1**	**-0.5**
ISA				IAML		10 43 05.7	
	comp=E,159nm,0.4s						
ISA				IAML		10 43 08.4	
	comp=N,157nm,0.3s						
ISA	**Isabella, Lake**	**2.32**	**118**	P	**Pn**	**10 42 30.1**	**-0.5**
	baz=300,SNR=64						
ISA				Sb	**Sn**	**10 43 01.1**	**+1.9**
	baz=300						
CWC	**Cottonwood Cre**	**2.37**	**97**	P	**Pn**	**10 42 31.7**	**+0.4**
	baz=279						
CWC				Sb	**Sb**	**10 43 03.2**	**-1.2**
	baz=279						
RUBR	**Rubicon Trail**	**2.37**	**16**		**Pn**	**10 42 32.3**	**+0.8**
MNRC	**McLaughlin Min**	**2.40**	**332**		**Pn**	**10 42 31.3**	**-0.4**
ARVC	**Arvin**	**2.40**	**132**	P	**Pn**	**10 42 31.2**	**-0.5**
	baz=314,SNR=17						
ARVC				Sb	**Sb**	**10 43 04.9**	**-0.4**
	baz=314						
LHV	**Little Huntoon**	**2.47**	**52**		**Pn**	**10 42 33.9**	**+1.2**
GDXM	**Geysers**	**2.48**	**326**		**Pn**	**10 42 32.2**	**-0.7**
SUTB	**Sutter Butte**	**2.53**	**346**		**Pn**	**10 42 32.5**	**-1.0**
SBC	**Santa Barbara**	**2.55**	**155**	P	**Pn**	**10 42 34.0**	**+0.4**
	baz=336						
PNTR	**Pine Nut**	**2.56**	**25**		**Pn**	**10 42 34.8**	**+0.7**
PNTR				IAML		10 43 26.8	
	comp=E,168nm,0.8s						
PNTR				IAML		10 43 28.7	
	comp=N,162nm,0.8s						
YERR	**Yerington**	**2.61**	**32**	IAML		10 43 24.8	
	comp=N,168nm,0.5s						
MPK	**Martis Peak**	**2.63**	**17**	Pn	**Pn**	**10 42 36.2**	**+1.0**
MPK				IAML		10 43 24.4	
	comp=N,223nm,1.0s						
MPK				IAML		10 43 27.9	
	comp=E,248nm,0.5s						
RYN	**Ryan**	**2.70**	**46**		**Pn**	**10 42 37.1**	**+1.2**
RYN				IAML		10 43 17.8	
	comp=N,231nm,0.3s						
LCH	**Last Change Ra**	**2.72**	**79**		**Pn**	**10 42 37.1**	**+0.9**
LCH				IAML		10 43 20.0	
	comp=E,183nm,0.7s						
LCH				IAML		10 43 21.4	
	comp=N,126nm,0.3s						
VCNR	**Virginia City**	**2.74**	**22**	IAML		10 43 22.0	
	comp=E,147nm,0.6s						
VCNR				IAML		10 43 22.0	
	comp=N,130nm,0.8s						
HOPS	**Hopland Field**	**2.76**	**324**		**Pn**	**10 42 37.1**	**+0.4**
ORV	**Oroville**	**2.81**	**352**	Pn	**Pn**	**10 42 37.6**	**+0.3**
ORV				IAML		10 43 31.3	
	comp=E,63nm,0.8s						
OSI	**Osito Audit: C**	**2.83**	**139**	Sb	**Sb**	**10 43 16.6**	**-1.3**
	baz=320						
CCAC	**Calif City Air**	**2.91**	**123**		**Pn**	**10 42 39.7**	**+1.1**
CCAC				IAML		10 43 38.6	
	comp=E,126nm,0.9s						
CCAC				IAML		10 43 40.2	
	comp=N,131nm,1.3s						
MPMC	**Manual Prospec**	**2.92**	**103**	Pb	**Pb**	**10 42 43.1**	**-1.4**
	baz=286						
MPMC				Sb	**Sb**	**10 43 20.7**	**+0.4**
	baz=286						
GRAC	**Grapevine Rang**	**2.92**	**84**		**Pn**	**10 42 39.9**	**+1.1**
GRAC				IAML		10 43 30.0	
	comp=N,151nm,0.8s						
GRAC				IAML		10 43 33.2	
	comp=E,194nm,0.5s						
GRAC	**Grapevine Rang**	**2.92**	**84**	Sb	**Sb**	**10 43 21.5**	**+1.3**
	baz=267						
LRMC	**Laurel Mtn Rad**	**2.98**	**115**	Sb	**Sb**	**10 43 21.3**	**-0.7**
EDW2	**Edwards Air Fo**	**3.08**	**127**	P	**Pn**	**10 42 41.3**	**+0.2**
	baz=309,SNR=14						
BEKR	**Beckworth**	**3.13**	**9**	IAML		10 43 35.5	
	comp=E,109nm,0.6s						
PAHR	**Pah Rah Range**	**3.19**	**23**		**Pn**	**10 42 42.8**	**0.0**
PAHR				IAML		10 43 38.6	
	comp=E,44nm,1.3s						
KVN	**Kaiserville**	**3.23**	**44**	IAML		10 43 36.7	
	comp=E,82nm,0.7s						
KVN				IAML		10 43 38.0	
	comp=N,86nm,0.8s						
TPH	**Tonopah**	**3.27**	**65**		**Pn**	**10 42 44.6**	**+0.7**
QSM	**Queen of Sheba**	**3.43**	**102**	IAML		10 43 46.9	
	comp=N,47nm,0.8s						
PASC	**Pasadena Art C**	**3.46**	**138**		**Pn**	**10 42 46.3**	**+0.1**
GWY	**Grenwater Val**	**3.54**	**98**	IAML		10 43 46.9	
	comp=E,52nm,0.8s						
GWY				IAML		10 43 52.1	
	comp=N,44nm,0.9s						
O03E	**Paynes Creek**	**3.58**	**350**	IAML		10 43 56.8	
	comp=N,46nm,1.5s						
O03E				IAML		10 43 57.3	
	comp=E,90nm,1.1s						
O03E	**Paynes Creek**	**3.58**	**350**	P	**Pn**	**10 42 48.4**	**+0.5**
	baz=170						
O02D	**Mt. Diablo Mer**	**3.68**	**338**	Pn	**Pn**	**10 42 50.3**	**+0.9**
O02D	**Mt. Diablo Mer**	**3.68**	**338**	P	**Pn**	**10 42 53.6**	**+4.2**
	baz=157						
GSC	**Goldstone, Bar**	**3.70**	**112**	IAML		10 43 55.4	
	comp=N,35nm,0.9s						
GSC				IAML		10 43 58.5	
	comp=E,66nm,0.6s						
BFSC	**Mount Baldy Ra**	**3.71**	**132**	P	**Pn**	**10 42 49.8**	**0.0**
	baz=314,SNR=11						
TPNV	**Topopah Spring**	**3.81**	**86**		**Pn**	**10 42 51.6**	**+0.4**
TPNV				IAML		10 43 58.4	
	comp=E,36nm,0.8s						
TPNV				IAML		10 44 10.4	
	comp=E,30nm,1.5s						
TPNV	**Topopah Spring**	**3.81**	**86**	P	**Pn**	**10 42 52.0**	**+0.8**
	baz=269,SNR=19						
CIS	**Catalina Islan**	**3.97**	**147**	P	**Pn**	**10 42 53.5**	**+0.2**
	baz=329						
HEC	**Hector Ludlow**	**4.25**	**116**	P	**Pn**	**10 42 57.1**	**-0.1**
	baz=299						
SCI2	**San Clemente I**	**4.28**	**151**	P	**Pn**	**10 42 57.8**	**+0.2**
	baz=333						
MURC	**Murrieta**	**4.44**	**134**	P	**Pn**	**10 42 58.9**	**-0.8**
	baz=317						
R11A	**Troy Canyon, C**	**4.58**	**68**	Pb	**Pb**	**10 43 14.5**	**+1.6**
	baz=252						
SHPR	**Sheep Range**	**4.70**	**91**	Pn	**Pn**	**10 43 03.6**	**+0.2**
BMN	**Battle Mountai**	**4.70**	**38**	Pn	**Pn**	**10 43 02.1**	**-1.4**
BMN				IAML		10 44 27.5	
	comp=N,16nm,0.7s						
GMRC	**Granite Mounta**	**4.77**	**113**	P	**Pn**	**10 43 03.7**	**-0.6**
	baz=296						
PRN	**Pahroc Range**	**4.79**	**81**	IAML		10 44 31.2	
	comp=E,35nm,0.7s						
PRN				IAML		10 44 38.7	
	comp=N,41nm,1.2s						
M02C	**Callahan**	**4.84**	**343**	P	**Pn**	**10 43 09.2**	**+3.9**
	baz=162						
PFO	**Pinyon Flats O**	**4.87**	**129**	Pn	**Pn**	**10 43 05.4**	**-0.3**
PFO				IAML		10 44 32.0	
	comp=N,11nm,4.0s						
PFO	**Pinyon Flats O**	**4.87**	**129**	P	**Pn**	**10 43 04.7**	**-1.1**
	baz=312						
BELC	**Belle Mtn. Jos**	**4.93**	**123**	P	**Pn**	**10 43 05.6**	**-0.9**
	baz=306						
109C	**Camp Elliot, M**	**5.02**	**139**	P	**Pn**	**10 43 08.1**	**+0.4**
	baz=322						
IRM	**Iron Mountain**	**5.44**	**117**	P	**Pn**	**10 43 13.6**	**+0.1**
	baz=300						

*IDC **31** 11:04:28.7±2.5, 16.10S×177.79W, h368km±36km, mb2.9/6, mb1 3.3/7, mb1mx3.1/25, mbtmp3.7/7, Error ellipse: s-maj=100.9km s-min=17.7km az=149.0*

ISC 31 11:04:27.5±1.0, 15.19S±0.4×178.10W±0.2, h350km, n7, σ0^{6}64/7, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.32**	**73**	P	**Pn**	**11 06 02.6**	**+0.5**
	4.8nm,0.3s,baz=206,slow=3.1,SNR=9.6						
STKA	**Stephens Creek**	**39.99**	**239**	P	**P**	**11 11 29.1**	**-0.5**
	1.5nm,0.8s,baz=99,slow=5.4,SNR=3.9						
WRA	**Warramunga Arr**	**45.42**	**257**	P	**P**	**11 12 13.7**	**+0.6**
	0.1nm,0.3s,baz=96,slow=7.7,SNR=7.8						
ASAR	**Alice Springs**	**45.76**	**252**	P	**P**	**11 12 16.1**	**+0.5**
	1.2nm,0.4s,baz=88,slow=8.0,SNR=26						
ILAR	**Eielson Array**	**83.81**	**13**	P	**P**	**11 16 17.9**	**-0.1**
	0.3nm,0.5s,baz=225,slow=5.5,SNR=5.7						
TXAR	**Lajitas Array**	**84.57**	**58**	P	**P**	**11 16 22.0**	**-0.7**
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.4						
YKA	**Yellowknife Ar**	**92.31**	**25**	P	**P**	**11 16 58.2**	**-0.1**
	0.1nm,0.6s,baz=248,slow=4.4,SNR=2.6						

HEL 31 11:20:25.8±0.2, 67.81N×20.27E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.69**	**69**	SG	Sg	11 20 47.5	-0.4
KIF	**Kilpisjarvi**	**1.21**	**9**	PG	Pg	11 20 48.4	-0.6
KIF				MSG		11 21 03.6	
	comp=Z,4.9nm,0.2s						
KIF				SG	Sg	11 21 04.0	-0.7
PAJU	**Pajala**	**1.35**	**125**	PG	Pg	11 20 49.9	-1.7
PAJU				SN	Sg	11 21 09.4	+0.3
HEF	**Hetta**	**1.40**	**63**	PG	Pn	11 20 50.7	-1.9
HEF				MSG		11 21 08.1	
	comp=Z,3.0nm,0.2s						
HEF				SB	Sg	11 21 09.8	-1.1
ERTU	**Ertsjaerv**	**1.47**	**149**	PG	Pn	11 20 52.0	-1.5
ERTU				SN	Sn	11 21 14.4	+1.1
KLF	**Kolari**	**1.53**	**111**	PG	Pn	11 20 53.3	-1.1
KLF				SN	Sn	11 21 14.5	-0.5
TOF	**Tornio**	**2.36**	**136**	PB	Pn	11 21 06.6	+0.9
	baz=315						
TOF				MSG		11 21 35.8	
	comp=Z,1.7nm,0.2s						
TOF				SG	Sb	11 21 39.2	+0.5
RNF	**Rovaniemi**	**2.54**	**116**	PB	Pn	11 21 09.8	+1.6
	baz=300						
RNF				SG	Sb	11 21 43.8	-0.1
ARA0	**ARCESS Array S**	**2.58**	**45**	PB	Pn	11 21 08.9	+0.1
	baz=226						
ARA0				SG	Sn	11 21 42.8	+2.0
MSF	**Maaselka**	**3.95**	**115**	SG	Sb	11 22 24.7	+0.2
KU6	**Riekki**	**4.19**	**111**	PN	Pn	11 21 31.4	+0.5

*UPP **31** 11:21:36.7±3.0, 68.07N×33.18E, h0km, ML1.8, Suspected explosion*

*KOLA **31** 11:21:38.0, 68.15N×33.01E, h0km, ML2.1*

HEL 31 11:21:37.0±0.4, 68.12N×33.04E, h0km, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.52**	**182**	P	Pg	11 21 47.1	+0.3
APA0				S	Sb	11 21 55.3	-1.6
APA	**Apatity**	**0.57**	**166**	P	Pg	11 21 48.3	+0.4
APA				S	Sg	11 21 56.7	+1.5
TERR	**Teriberka**	**1.33**	**34**	P	Pg	11 22 01.0	-1.3
TERR				S	Sg	11 22 19.2	-0.4
VRF	**Varrio**	**1.35**	**256**	SN	Pg	11 22 01.0	-1.8
VRF	**Varrio**	**1.35**	**256**	PG	Pg	11 22 01.0	-1.8
	baz=70						
VRF				MSG		11 22 17.7	
	comp=Z,14nm,0.2s						
VRF				SB	Sg	11 22 18.8	-1.4
PRVG	**Vayda Guba**	**1.66**	**350**	P	Pn	11 22 06.3	-1.0
PRVG				S	Sn	11 22 27.3	-2.1
OLKF	**Oulanka, Finla**	**2.29**	**220**	SB	Pg	11 22 17.6	-3.3
OLKF	**Oulanka, Finla**	**2.29**	**220**	PG	Pn	11 22 17.5	+1.5
OLKF				SG	Sb	11 22 47.7	-0.4
KU6	**Riekki**	**2.44**	**212**	PG	Pb	11 22 20.0	-1.7
	baz=33						
KU6				MSG		11 22 49.0	
	comp=Z,3.3nm,0.2s						
KU6				SG	Sb	11 22 52.8	+0.6
KU6	**Riekki**	**2.44**	**212**	SN	Pb	11 22 20.3	-1.3
MSF	**Maaselka**	**2.72**	**217**	PB	Pb	11 22 24.2	-2.2
MSF				SG	Sb	11 22 59.2	-0.9
KEV	**Kevo**	**2.73**	**310**	MSG		11 22 57.3	
	comp=Z,6.0nm,0.2s						
KEV				SB	Sn	11 22 57.9	+2.3
ARA0	**ARCESS Array S**	**3.08**	**301**	PN	Pn	11 22 26.8	0.0
ARA0				SB	Sn	11 23 05.9	+1.6
ARCES	**ARCESS Array B**	**3.08**	**301**	P	Pn	11 22 27.3	+0.5
ARCES				S	Sn	11 23 04.1	-0.3
RNF	**Rovaniemi**	**3.11**	**244**	PN	Pn	11 22 27.3	0.0
	baz=59						
HEF	**Hetta**	**3.50**	**279**	PN	Pn	11 22 32.5	-0.1
KLF	**Kolari**	**3.57**	**260**	PN	Pn	11 22 34.1	+0.5
PAJU	**Pajala**	**3.96**	**259**	PN	Pn	11 22 39.5	+0.6
PAJU				SN	Sn	11 23 25.5	-0.4
TOF	**Tornio**	**3.97**	**243**	PG	Pb	11 22 48.9	+1.1
KALU	**Kalix**	**4.42**	**244**	P	Pn	11 22 44.8	-0.5
KALU				S	Sn	11 23 36.5	-0.9
ERTU	**Ertsjaerv**	**4.48**	**255**	P	Pn	11 22 45.6	-0.4
ERTU				S	Sn	11 23 38.0	-0.7
ERTU	**Ertsjaerv**	**4.48**	**255**	PN	Pn	11 22 45.8	-0.2
	baz=66						
ERTU				SN	Sn	11 23 37.8	-1.0
KIF	**Kilpisjarvi**	**4.58**	**287**	SG	Sb	11 23 56.5	+2.8
KOVU	**Salmi**	**4.81**	**277**	P	Pn

COPN	Copaltepe	0.68	136	eP		Pn	11 42 21.7	-0.4
APYN	Apoyeque	0.83	122	eP		Pn	11 42 22.8	-0.3
TISN	Laguna Tiscapa	0.94	124	eP		Pn	11 42 23.9	-0.1
MGAN	Managua	0.96	123	eP		Pn	11 42 23.9	-0.2
LCND	La Caada	1.02	309⇈	eP		Pn	11 42 25.1	+0.5
LCND				eS		Sn	11 42 44.9	+0.8
LCND	La Caada	1.02	309⇈	eP		Pn	11 42 25.1	+0.5
LCND				eS		Sn	11 42 44.9	+0.8
MATN	Matagalpa	1.15	77	Pn		Pn	11 42 26.2	+0.4
MATN	Matagalpa	1.15	77	eP		Pn	11 42 26.2	+0.4
JUCU	Jucuarįn	1.29	297⇈	eP		Pn	11 42 27.4	+0.3
JUCU				eS		Sn	11 42 49.7	+1.2
JUCU				IAML			11 42 55.5	
	comp=Z,2µm,0.3s							
JUCU	Jucuarįn	1.29	297⇈	eP		Pn	11 42 27.4	+0.3
JUCU				eS		Sn	11 42 49.7	+1.2
JUCU				IAML			11 42 55.5	
	comp=Z,2µm,0.3s							
JUCU	Jucuarįn	1.29	297	eP		Pn	11 42 27.3	+0.2
BOAB	BOACO BROADBAN	.39	99			Pn	11 42 28.1	+0.1
BOAB	BOACO BROADBAN	.39	99	eP		Pn	11 42 28.3	+0.3
TGUH	Tegucigalpa,Un	1.39	352	Pn		Pn	11 42 29.5	+1.3
TGUH	Tegucigalpa,Un	1.39	352	eP		Pn	11 42 29.5	+1.3
TGUH	Tegucigalpa,Un	1.39	352	eP		Pn	11 42 29.5	+1.3
VSM	San Miguel	1.40	303	eP		Pn	11 42 29.3	+0.9
VSM	San Miguel	1.40	303	eP		Pn	11 42 29.3	+0.9
LCY	Lacayo	1.41	302	eP		Pn	11 42 29.2	+0.9
LCY	Lacayo	1.41	302	eP		Pn	11 42 29.2	+0.9
PACA	Pacayal	1.46	303	eP		Pn	11 42 29.9	+1.1
PACA	Pacayal	1.46	303	eP		Pn	11 42 29.9	+1.1
ALJI	Alcalda de J	1.60	294	eP		Pn	11 42 30.8	+0.6
ALJI	Alcalda de J	1.60	294	eP		Pn	11 42 30.8	+0.6
COEB	Comit de Eme	1.64	300	eP		Pn	11 42 31.4	+0.6
COEB	Comit de Eme	1.64	300	eP		Pn	11 42 31.4	+0.6
COEB	Comit de Eme	1.64	300	eP		Pn	11 42 31.7	+0.9
PQSS	Presa 15 de Se	1.73	303	eP		Pn	11 42 32.6	+1.0
PQSS	Presa 15 de Se	1.73	303	eP		Pn	11 42 32.6	+1.0
TECO	Alcaldia de Te	1.88	298	eP		Pn	11 42 33.9	+0.7
TECO	Alcaldia de Te	1.88	298	eP		Pn	11 42 33.9	+0.7
SCLA	Alcaldia de Sa	1.91	303	eP		Pn	11 42 34.7	+1.0
SCLA	Alcaldia de Sa	1.91	303	eP		Pn	11 42 34.7	+1.0
SNVI	San Vicente	1.96	299	eP		Pn	11 42 34.8	+0.4
SNVI	San Vicente	1.96	299	eP		Pn	11 42 34.8	+0.4
ACON	Acoyapa	1.98	110	Pn		Pn	11 42 34.3	-0.1
ACON	Acoyapa	1.98	110	eP		Pn	11 42 34.5	+0.1
COEG	Centro de Oper	2.00	298	eP		Pn	11 42 35.5	+0.8
COEG				IAML			11 43 12.2	
	comp=Z,725nm,0.4s							
COEG	Centro de Oper	2.00	298	eP		Pn	11 42 35.5	+0.8
COEG				IAML			11 43 12.2	
	comp=Z,725nm,0.4s							
COEG	Centro de Oper	2.00	298	eP		Pn	11 42 35.5	+0.8
PAVA	Las Pavas	2.09	300	eP		Pn	11 42 36.2	+0.4
PAVA	Las Pavas	2.09	300	eP		Pn	11 42 36.2	+0.4
PAVA	Las Pavas	2.09	300	eP		Pn	11 42 36.5	+0.7
LFRS	El Faro	2.16	296	eP		Pn	11 42 37.4	+0.8
LFRS				eS		Sn	11 43 05.9	+0.5
LFRS	El Faro	2.16	296	eP		Pn	11 42 37.4	+0.8
LFRS				eS		Sn	11 43 05.9	+0.5
SNET	Serv Nac Est T	2.33	296	Pn		Pn	11 42 39.5	+0.8
SNET	Serv Nac Est T	2.33	296	eP		Pn	11 42 39.5	+0.8
SNET				eS		Sn	11 43 10.2	+1.1
SNET				IAML			11 43 13.3	
	comp=Z,851nm,0.3s							
SNET	Serv Nac Est T	2.33	296	eP		Pn	11 42 39.5	+0.8
SNET				eS		Sn	11 43 10.2	+1.1
SNET				IAML			11 43 13.3	
	comp=Z,851nm,0.3s							
LALI	Alcalda de L	2.34	291	eP		Pn	11 42 39.1	+0.5
LALI	Alcalda de L	2.34	291	eP		Pn	11 42 39.1	+0.5
UEES	Universidad Ev	2.35	296	eP		Pn	11 42 39.9	+1.0
UEES	Universidad Ev	2.35	296	eP		Pn	11 42 39.9	+1.0
BOQS	Boqueron	2.40	296	eP		Pn	11 42 40.6	+1.1
BOQS				eS		Sn	11 43 12.6	+1.9
BOQS	Boqueron	2.40	296	eP		Pn	11 42 40.6	+1.1
BOQS				eS		Sn	11 43 12.6	+1.9
HZTE	Horizontes, Gu	2.42	143			Pn	11 42 40.3	+0.6
JAYA	Jayaque - finc	2.52	293⇈	eP		Pn	11 42 41.6	+0.7
JAYA				eS		Sn	11 43 12.4	-0.7
JAYA				IAML			11 43 15.0	
	comp=Z,2µm,0.2s							
JAYA	Jayaque - finc	2.52	293⇈	eP		Pn	11 42 41.6	+0.7
JAYA				eS		Sn	11 43 12.4	-0.7
JAYA				IAML			11 43 15.0	
	comp=Z,2µm,0.2s							
CEVE	Cerro Verde	2.74	295	eP		Pn	11 42 44.7	+1.0
CEVE				IAML			11 43 28.3	
	comp=Z,1µm,0.3s							
CEVE	Cerro Verde	2.74	295	eP		Pn	11 42 44.7	+1.0
CEVE				IAML			11 43 28.3	
	comp=Z,1µm,0.3s							
SNJE	San Jose	2.74	296	eP		Pn	11 42 44.8	+1.1
SNJE	San Jose	2.74	296	eP		Pn	11 42 44.8	+1.1
SBLS	San Blas	2.74	295	eP		Pn	11 42 44.9	+1.1
SBLS	San Blas	2.74	295	eP		Pn	11 42 44.9	+1.1
ESPN	Las Esperanzas	2.75	100	Pn		Pn	11 42 44.1	+0.5
ESPN	Las Esperanzas	2.75	100	eP		Pn	11 42 43.8	+0.2
ORTG	Ortega, Santa	2.78	145	Pn		Pn	11 42 44.5	+0.4
RTR	El Retiro	2.79	296	eP		Pn	11 42 45.5	+1.2
RTR	El Retiro	2.79	296	eP		Pn	11 42 45.5	+1.2
NUBE	Las Nubes	2.91	295	eP		Pn	11 42 46.6	+0.8
NUBE	Las Nubes	2.91	295	eP		Pn	11 42 46.6	+0.8
DUNO	Dulce Nombre,	3.00	149	Pn		Pn	11 42 47.2	+0.4
JTS	Las Juntas de	3.15	138	P		Pn	11 42 49.3	+0.6
	comp=Z,8.6nm,0.3s,baz=13,slow=23,SNR=13							
JTS				S		Sn	11 43 24.8	-2.2
	comp=Z,26nm,0.3s,baz=354,slow=18,SNR=14							
JTS	Las Juntas de	3.15	138			Pn	11 42 49.2	+0.5
JACO	JACO, Garabito	3.81	141	Pn		Pn	11 42 57.8	+0.6
RIMA	Rio Macho	4.27	132	Pn		Pn	11 43 04.5	+1.2
CMIG	Matias Romero	8.74	301	P		Pn	11 44 03.6	+1.2
	comp=Z,1.1nm,0.3s,baz=144,slow=9.6,SNR=14							
CMIG				S		Sn	11 45 33.5	-6.2
	comp=Z,0.3nm,0.3s,baz=74,slow=10.0,SNR=2.3							
TXAR	Lajitas Array	22.64	320	P		P	11 46 48.3	+1.0
	comp=Z,1.8nm,0.6s,baz=134,slow=10,SNR=23							
TXAR				ScP		ScP	11 53 57.5	-0.6
	comp=Z,0.3nm,0.5s,baz=151,slow=6.7,SNR=5.6							
TX31	Lajitas Ar. Si	22.65	320	P		P	11 46 48.3	+1.0
TX31				IAmb		IAmb	11 46 50.1	
	comp=Z,4.7nm,0.7s							
TX32	Lajitas Array	22.65	320	P		P	11 46 48.5	+1.1
TKL	Tuckaleechee C	23.08	7	P		P	11 46 52.0	+0.8
	comp=Z,4.6nm,0.7s,baz=110,slow=6.2,SNR=6.2							
U40A	Yellville	24.15	349	P		P	11 47 01.4	+0.5
U40A				IAmb		IAmb	11 47 01.9	
	comp=Z,3.3nm,0.6s							
FNO	Franklin	24.36	339	P		P	11 47 03.6	+0.8
S39A	Bolivar	25.54	348	P		P	11 47 13.7	+0.3
S39A				IAmb		IAmb	11 47 14.3	
	comp=Z,3.5nm,0.7s							
PDAR	Pinedale Array	35.76	331	P		P	11 48 44.0	+0.5
	comp=Z,0.5nm,0.5s,baz=132,slow=11,SNR=8.8							
NVAR	Mina Array Bea	37.78	318	P		P	11 49 01.3	+0.7
	comp=Z,0.3nm,0.6s,baz=128,slow=7.0,SNR=3.0							
ULM	Lac du Bonnet	38.16	351	P		P	11 49 01.4	-1.9
	comp=Z,1.8nm,0.4s,baz=176,slow=10,SNR=3.0							
ULM	Lac du Bonnet	38.16	351	IAmb		IAmb	11 49 15.9	
	comp=Z,4.0nm,1.1s							
SCHQ	Schefferville	44.96	16	P		P	11 49 58.0	-0.6
	comp=Z,4.4nm,0.4s,baz=220,slow=6.5,SNR=29							
YKA	Yellowknife Ar	53.50	345	P		P	11 51 02.3	-0.9
	comp=Z,0.6nm,0.5s,baz=142,slow=7.4,SNR=21							
YKA				ScP		ScP	11 55 49.5	-1.8
	comp=Z,0.2nm,0.6s,baz=144,slow=4.5,SNR=6.5							
PLCA	Paso Flores	55.29	165	P		P	11 51 16.9	+0.3
	comp=Z,1.0nm,0.6s,baz=336,slow=9.4,SNR=5.0							
PLCA				PcP		PcP	11 52 15.1	-0.3
	comp=Z,1.5nm,0.8s,baz=302,slow=3.7,SNR=4.0							
PLCA				LR		LR	12 10 56.9	
	comp=Z,25nm,19.5s,baz=170,slow=31							
PLCA	Paso Flores	55.29	165	P		P	11 51 16.5	-0.1
PLCA				IAmb		IAmb	11 51 43.3	
	comp=Z,3.9nm,1.4s							
TABL	Table Mountain	61.76	333	P		P	11 52 02.8	+1.6
BCAR	Beaver Creek A	63.21	335	P		P	11 52 10.7	+0.1
ILAR	Eielson Array	65.97	336	P		P	11 52 27.5	-1.0
	comp=Z,0.3nm,0.7s,baz=152,slow=6.1,SNR=2.7							
BMAR	Burnt Mountain	66.21	339	P		P	11 52 29.3	-0.7
WRA	Warramunga Arr	139.69	254	PKhKP		PKPpre	12 01 02.7	
	comp=Z,0.2nm,0.5s,baz=90,slow=3.6,SNR=5.7							
WRA				PKP		PKPdf	12 01 09.8	+0.3
	comp=Z,1.4nm,0.4s,baz=90,slow=2.3,SNR=36							
WRA				SKPbc		SKPbc	12 04 30.3	-0.4
	comp=Z,0.2nm,0.6s,baz=94,slow=3.6,SNR=4.9							
ASAR	Alice Springs	139.69	248	PKhKP		PKPpre	12 01 02.0	
	comp=Z,0.1nm,0.4s,baz=114,slow=4.1,SNR=5.8							
ASAR				PKP		PKPdf	12 01 09.7	+0.3
	comp=Z,1.1nm,0.6s,baz=93,slow=1.7,SNR=11							
ASAR				SKPbc		SKPbc	12 04 30.5	-0.2
	comp=Z,0.3nm,0.6s,baz=98,slow=2.8,SNR=5.4							

IDC 31 11:42:58.3±8.9, 6.70S×125.10E, h519km±128km, mb2.8/2, mb1 2.9/5, mb1mx2.5/35, mbtmp3.7/5, Error ellipse: s-maj=182.4km s-min=36.5km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.34	177	P	P		11 45 30.1	+0.2
	0.5nm,0.3s,baz=357,slow=8.1,SNR=30							
WRA	Warramunga Arr	15.93	147	P	P		11 46 17.6	-0.3
	0.3nm,0.3s,baz=323,slow=11,SNR=25							
ASAR	Alice Springs	18.87	154	P	P		11 46 45.6	-0.1
	0.3nm,0.3s,baz=330,slow=8.8,SNR=31							
MKAR	Makanchi Array	65.39	329	P	P		11 52 49.3	-0.1
	0.5nm,0.6s,baz=134,slow=7.6,SNR=7.1							
KURBB	Kurchatov Arra	69.78	330	P	P		11 53 16.2	+0.1
	0.6nm,0.5s,baz=134,slow=4.0,SNR=3.1							

INET 31 12:10:17.7±0.3, 12.57N×88.21W, h26km±999km, MW3.4
SNET 31 12:10:18.8±1.0, 12.64N×88.25W, h30km±3km, ML3.1

ISC 31 12:10:15.9±1.7, 12.54N±0.09×88.20W±0.05, h21km±5km, n17, σ0.46/27, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.71	356	eP	P		12 10 31.1	+0.3
JUCU				eS	S		12 10 41.0	-0.2
JUCU				IAML			12 10 45.8	
	comp=Z,1µm,0.3s							
LCND	La Caada	0.82	21⇈	eP	P		12 10 32.8	+0.4
LCND				eS	S		12 10 44.0	+0.2
LCND				IAML			12 10 51.4	
	comp=Z,621nm,0.3s							
ALJI	Alcalda de J	0.86	335	eP	P		12 10 33.4	+0.5
ALJI				eS	S		12 10 44.1	-0.8
ALJI				IAML			12 10 46.1	
	comp=Z,770nm,0.1s							
COEB	Comit de Eme	1.00	341	eP	P		12 10 35.3	+0.3
COEB				eS	S		12 10 48.4	-0.2
COEB				IAML			12 10 52.1	
	comp=Z,492nm,0.2s							
COEB	Comit de Eme	1.00	341	eP	P		12 10 34.9	0.0
CRIN	San Cristobal	1.13	82	eP	P		12 10 37.4	+0.5
PQSS	Presa 15 de Se	1.13	342	eP	P		12 10 37.4	+0.5
PQSS				eS	S		12 10 51.4	-0.1
TECO	Alcaldia de Te	1.14	330	eP	P		12 10 37.0	0.0
TECO				eS	S		12 10 51.3	-0.2
COEG	Centro de Oper	1.26	328	eP	P		12 10 39.1	0.0
COEG				eS	S		12 10 55.1	+0.1
COEG				IAML			12 10 59.4	
	comp=Z,309nm,0.2s							
SCLA	Alcaldia de Sa	1.26	336	eP	P		12 10 39.3	+0.2
SCLA				eS	S		12 10 55.3	+0.3
TEL3	Telica 3	1.32	89	eP	P		12 10 39.7	-0.4
PAVA	Las Pavas	1.37	328	eP	P		12 10 40.7	-0.3
PAVA				eS	S		12 10 58.2	+0.1
MOMN	Momotombo	1.62	95	eP	P		12 10 43.5	+0.1
JAYA	Jayaque - finc	1.65	312	eP	P		12 10 45.2	-0.5
TGUH	Tegucigalpa,Un	1.75	31	eP	P		12 10 46.4	-1.1
NUBE	Las Nubes	2.05	311	eP	P		12 10 49.9	+0.5
NUBE				eS	S		12 11 13.6	-0.9
MATN	Matagalpa	2.25	80	eP	P		12 10 52.3	+0.2

NEIC 31 12:13:57.8±2.7, 24.28S±0.09×179.2W±0.1, h438km±8km, mb4.6/28, Error ellipse: s-maj=16.7km s-min=13.2km az=79.0
WEL 31 12:13:59.0, 24.19S×179.17W, h485km, confirmed
NOU 31 12:14:00.7, 24.17S×179.26W, h514km, mb4.5/21, South of Fiji Islands
IDC 31 12:14:01.8±1.9, 24.30S×179.67W, h474km±21km, mb3.6/9, mb1 3.7/10, mb1mx3.5/21, mbtmp4.4/10, Error ellipse: s-maj=18.9km s-min=16.0km az=75.0

ISC 31 12:14:01.9±0.5, 24.23S±0.06×179.41W±0.08, h500km, n118, σ1.9/73/127, mb4.6/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.89	339	P	P		12 15 44.7	-2.4
	6.4nm,0.3s,baz=172,slow=8.8,SNR=13							
MSVF	Nonsavu	6.89	339	P	P		12 15 43.1	-4.1
MSVF	Nonsavu	6.89	339	P	P		12 15 45.7	-1.4
NIUE	Niue	10.20	62	P	P		12 16 19.6	-1.8
MARNC	Mare, Loyalty	11.90	281	P	P		12 16 38.1	-1.3
MARNC	Mare, Loyalty	11.90	281	P	P		12 16 39.2	-0.2
PINNC	Pines Island,	12.18	275	P	P		12 16 42.5	+0.2
PINNC	Pines Island,	12.18	275	P	P		12 16 42.7	+0.4
OUZ	Omahuta	12.52	207	P	P		12 16 46.3	+0.5
OUZ	Omahuta	12.52	207	P	P		12 16 46.7	+1.0
	24nm,2.1s							
AFI	Afiamalu	12.54	36	P	P		12 16 42.1	-4.3
	3.7nm,0.3s,baz=321,slow=6.6,SNR=7.8							
AFI				S	S		12 18 49.1	-13
	2.1nm,0.3s,baz=240,slow=20,SNR=4.7							
AFI	Afiamalu	12.54	36	P	P		12 16 44.6	-1.8
OUENC	Ouen Island, N	12.76	275	P	P		12 16 48.4	-0.1
OUENC	Ouen Island, N	12.76	275	P	P		12 16 49.6	+1.1
YATNC	Mamie plateau,	12.79	277	P	P		12 16 49.2	+0.4
LIFNC	LIFOU	12.81	283	P	P		12 16 47.5	-1.5
LIFNC	LIFOU	12.81	283	P	P		12 16 47.9	-1.2
ONTNC	Ouen Toro	13.13	276	P	P		12 16 53.0	+0.5
KUZ	Kuaotunu	13.16	197	P	P		12 16 48.3	-4.2
KUZ	Kuaotunu	13.16	197	P	P		12 16 48.3	-4.2
DZM	Mont Dzumac	13.19	277	P	P		12 16 53.8	+0.6
	0.8nm,0.3s,baz=210,slow=22,SNR=18							
DZM	Mont Dzumac	13.19	277	P	P		12 16 53.7	+0.5
MXZ	Matakaoa Point	13.43	188	P	P		12 16 50.8	-4.6
MXZ	Matakaoa Point	13.43	188	P	P		12 16 50.8	-4.6
MXZ				S	S		12 19 20.1	+1.7
MKAZ	Moumakai	13.65	199	P	P		12 16 58.3	+0.6
MKAZ	Moumakai	13.65	199	P	P		12 16 58.3	+0.6
HAZ	Te Kaha	13.69	189	P	P		12 16 56.6	-1.5
HAZ	Te Kaha	13.69	189	P	P		12 16 56.6	-1.5
HAZ				S	S		12 19 24.6	+1.1
RUGZ	Raukumara Rang	13.91	190	P	P		12 17 00.1	-0.5
RUGZ	Raukumara Rang	13.91	190	P	P		12 17 00.1	-0.5
RUGZ				S	S		12 19 29.1	+1.0
PUZ	Puketiti	13.94	188	P	P		12 17 00.5	-0.2
PUZ	Puketiti	13.94	188	P	P		12 17 00.5	-0.2
PUZ				S	S		12 19 26.8	-1.5
TWGZ	Tauwhareparae	14.08	188	S	S		12 19 28.1	-2.9
TOZ	Tahuroa Road	14.14	197	P	P		12 17 02.5	-0.4
TOZ	Tahuroa Road	14.14	197	P	P		12 17 02.5	-0.4
URZ	Urewera	14.29	191	P	P		12 17 02.3	-2.2
URZ	Urewera	14.29	191	P	P		12 17 03.0	-1.5
URZ	Urewera	14.29	191	P	P		12 17 02.7	-1.7
URZ	Urewera	14.29	191	P	P		12 17 02.7	-1.7
URZ				S	S		12 19 30.2	-4.9
MWZ	Matawai	14.30	190	P	P		12 17 04.4	-0.2
MWZ	Matawai	14.30	190	P	P		12 17 04.4	-0.2
MWZ				S	S		12 19 32.4	-2.9
CNGZ	Carnagh Statio	14.35	188	P	P		12 17 06.0	+0.9
CNGZ	Carnagh Statio	14.35	188	P	P		12 17 06.0	+0.9
TKGZ	Te Karaka	14.36	189	P	P		12 17 03.6	-1.5
TKGZ	Te Karaka	14.36	189	P	P		12 17 03.6	-1.5
TKGZ				S	S		12 19 32.4	-3.8
RAGZ	Rawiri	14.47	190	P	P		12 17 06.2	-0.3
RAGZ	Rawiri	14.47	190	P	P		12 17 06.2	-0.3
MUGZ	Murupara	14.57	192	P	P		12 17 07.3	-0.1
MUGZ	Murupara	14.57	192	P	P		12 17 07.3	-0.1
MUGZ				S	S		12 19 37.6	-2.8
RIGZ	Rimuhau	14.63	189	P	P		12 17 07.6	-0.5
RIGZ	Rimuhau	14.63	189	P	P		12 17 07.6	-0.5
RTZ	Ruatahuna	14.66	191	P	P		12 17 08.3	-0.1
RTZ	Ruatahuna	14.66	191	P	P		12 17 08.3	-0.1
SNGZ	Shannon Statio	14.77	190	P	P		12 17 09.2	-0.3
SNGZ	Shannon Statio	14.77	190	P	P		12 17 09.2	-0.3
RAHZ	Arahi	14.94	191	P	P		12 17 08.0	-3.3
RAHZ	Arahi	14.94	191	P	P		12 17 08.0	-3.3
KNZ	Kokohu	14.95	189	P	P		12 17 10.7	-0.7
KNZ	Kokohu	14.95	189	P	P		12 17 10.7	-0.7
HIZ	Hauiti	15.05	198	P	P		12 17 10.9	-1.5
HIZ	Hauiti	15.05	198	P	P		12 17 10.9	-1.5
BKZ	Black Stump Fm	15.29	192	P	P		12 17 12.7	-2.3
BKZ	Black Stump Fm	15.29	192	P	P		12 17 15.4	+0.5
ETVZ	East Tongariro	15.42	194	P	P		12 17 14.4	-2.0
ETVZ	East Tongariro	15.42	194	P	P		12 17 14.4	-2.0
SNZO	South Karori	17.73	195	P	P		12 17 37.2	-2.3
SNZO	South Karori	17.73	195	P	P		12 17 38.5	-1.0
BHW	Baring Head	17.78	194	P	P		12 17 37.6	-2.4
QRZ	Quartz Range	17.87	200	P	P		12 17 39.6	-1.3
QRZ	Quartz Range	17.87	200	P	P		12 17 39.8	-1.1
TUWZ	Tuamarina	18.03	196	P	P		12 17 40.8	-1.4
THZ	Tophouse	18.62	198	P	P		12 17 47.0	-0.7
THZ				IAmb	IAmb		12 17 56.8	
	comp=Z,13nm,0.7s							
KHZ	Kahutara	19.05	196	P	P		12 17 50.0	-1.6
LTZ	Lake Taylor	19.74	198	P	P		12 17 56.5	-1.5
OXZ	Oxford	20.31	198	P	P		12 18 01.0	-2.0
RPZ	Rata Peaks	20.95	200	P	P		12 18 07.5	-1.4
	comp=Z,9.0nm,0.4s,baz=283,slow=0.1,SNR=9.0							
RPZ	Rata Peaks	20.95	200	IAmb	IAmb		12 18 33.8	
	comp=Z,42nm,1.4s							
RPZ	Rata Peaks	20.95	200	P	P		12 18 07.8	-1.2
ODZ	Otahua Downs	22.28	199	P	P		12 18 19.7	-1.2
EIDS	Eidsvold	26.79	261	P	P		12 19 01.3	+0.1
EIDS				IAmb	IAmb		12 19 02.6	
	comp=Z,13nm,0.9s							
CAN	Canberra	29.45	241	P	P		12 19 25.3	+0.9
CAN	Canberra	29.45	241	P	P		12 19 24.5	+0.1
TOO	Toolangi	32.73	238	P	P		12 19 52.8	+0.3
TOO				IAmb	IAmb		12 19 54.8	
	comp=Z,27nm,1.5s							
TAU	Tasmania Unive	33.11	228	P	P		12 19 56.6	+0.9
TAU				IAmb	IAmb		12 20 00.2	
	comp=Z,59nm,1.4s							
TAU	Tasmania Unive	33.11	228	P	P		12 19 54.4	-1.2
STKA	Stephens Creek	35.10	249	P	P		12 20 12.8	+0.2
	comp=Z,7.9nm,0.6s,baz=95,slow=11,SNR=35							
STKA	Stephens Creek	35.10	249	P	P		12 20 12.3	-0.4
PMG	Port Moresby	35.11	289	P	P		12 20 13.0	+0.1
PMG				IAmb	IAmb		12 20 14.0	
	comp=Z,25nm,0.8s							
COEN	Coen	36.70	279	P	P		12 20 26.8	+0.6
BBOO	Buckleboo	39.81	247	P	P		12 20 51.0	-0.3
BBOO				IAmb	IAmb		12 20 52.1	
	comp=Z,14nm,0.8s							
AS31	Alice Springs	42.51	261	P	P		12 21 13.1	+0.1
ASAR	Alice Springs	42.52	261	P	P		12 21 13.1	+0.1
	comp=Z,9.2nm,0.8s,baz=97,slow=8.0,SNR=98							
ASAR				S	S		12 26 56.6	-2.1
	comp=Z,0.2nm,0.8s,baz=94,slow=15,SNR=2.0							
WR0	Warramunga Arr	42.74	266	P	P		12 21 14.3	-0.4
WB2	Warramunga Arr	42.91	266	P	P		12 21 15.6	-0.6
WB2				IAmb	IAmb		12 21 16.5	
	comp=Z,16nm,0.7s							
WRAB	Tennant Creek	42.92	266	P	P		12 21 15.8	-0.3
WRAB				IAmb	IAmb		12 21 16.1	
	comp=Z,15nm,0.5s							
WB0	Warramunga Arr	42.92	267	P	P		12 21 15.7	-0.5
WB0				IAmb	IAmb		12 21 16.5	
	comp=Z,23nm,0.8s							
WRA	Warramunga Arr	42.92	266	P	P		12 21 15.8	-0.4
	comp=Z,12nm,0.5s,baz=98,slow=8.2,SNR=299							
WRA				S	S		12 26 59.6	-5.0
	comp=Z,0.7nm,1.0s,baz=100,slow=12,SNR=4.6							
FORT	Forrest	46.70	250	P	P		12 21 44.8	-0.3
KNRA	Kununurra	49.23	270	P	P		12 22 04.7	+0.4
KNRA				IAmb	IAmb		12 22 05.4	
	comp=Z,27nm,0.8s							
RSD	Rainshed	49.39	31	P	P		12 22 03.2	-2.3
FITZ	Fitzroy Crossi	51.34	266	P	P		12 22 19.7	0.0
FITZ				IAmb	IAmb		12 22 21.7	
	comp=Z,19nm,0.7s							
VNDA	Vanda	54.10	185	P	P		12 22 40.5

MW5.3/129,Moment Tensor Solution. s93,c151; s129,c245; Duration: 1ŝ0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.79±.02; $M_{\theta\theta}$-0.85±.01; $M_{\phi\phi}$0.06±.01; $M_{r\theta}$0.28±.03; $M_{\theta\phi}$-0.33±.01; $M_{\phi r}$-0.25±.04; Best double couple: $M_0$0.96200×10^{17} NP1:ϕ_s231.00000°,δ43.00000°, λ56.00000°. NP2:ϕ_s93.00000°,δ55.00000°,λ118.00000°. Principal axes: T 0.9430, Plg67.0000°, Azm59.0000°; N 0.0380, Plg22.0000°, Azm257.0000°; P -0.9810, Plg6.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 31 12′30:31.3±0.3, 12′06N±0′.03×143°87E±0′.04, h21km±3km, h22km:pP-P, n831, σ1ŝ39/801, mb5.4/302, MS4.8/77, 41C-8D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.81**	**33**	Pn	**Pn**	**12 31 02.2**	**+1.0**
	2μm,0.3s,baz=241,slow=2.6,SNR=230						
GUMO				Sn	**Sb**	**12 31 25.7**	**-0.2**
	2μm,0.3s,baz=297,slow=22,SNR=16						
GUMO	**Guam**	**1.81**	**33**	P	**Pn**	**12 31 02.3**	**+1.1**
GUMO	**Guam**	**1.81**	**33**	P	**Pb**	**12 31 04.4**	**+0.7**
MANU	**Manus Island**	**14.43**	**166**		**Pn**	**12 33 55.1**	**+0.6**
JAY	**Jayapura**	**14.82**	**192**	Pn	**Pn**	**12 34 00.0**	**+0.3**
	0.5nm,0.3s,baz=327,slow=6.9,SNR=7.8						
JAY				LR	LR	12 39 02.9	
	comp=Z,4μm,19.8s,baz=18,slow=35						
JAY	**Jayapura**	**14.82**	**192**	P	**Pn**	**12 34 00.7**	**+1.0**
	942nm72nm,1.3s						
SMPI	**Sarmi**	**14.87**	**201**	P	**Pn**	**12 34 02.2**	**+1.8**
	2μm2μm77nm,1.1s						
JCJ	**Chichijima**	**15.04**	**354**	Pn	**Pn**	**12 34 04.4**	**+1.7**
	1.0nm,0.3s,baz=154,slow=6.2,SNR=9.7						
JCJ				LR	LR	12 37 42.3	
	comp=Z,344nm,19.0s,baz=174,slow=29						
JCJ	**Chichijima**	**15.04**	**354**	P	**P**	**12 34 06.1**	**-1.7**
JCJ	**Chichijima**	**15.04**	**354**	P	**P**	**12 34 06.2**	**-1.7**
PATS	**Pohnpei**	**15.16**	**109**	Pn	**Pn**	**12 34 02.5**	**-1.8**
PATS				IAmb	IAmb	12 34 31.2	
	comp=Z,271nm,1.1s						
SRPI	**Serui, Papua**	**15.78**	**209**	P	**P**	**12 34 16.3**	**+0.2**
	comp=Z,2μmcomp=Z,80nm,0.6s						
SIJI	**Sorong**	**17.93**	**225**	P	**P**	**12 34 40.2**	**+0.1**
	baz=30,slow=11,SNR=6.6						
RABL	**Rabaul**	**18.13**	**152**	P	**P**	**12 34 42.3**	**+0.1**
RABL	**Rabaul**	**18.13**	**152**	P	**P**	**12 34 42.5**	**+0.3**
DAV	**Davao City (W)**	**18.70**	**256**	P	**Pn**	**12 34 48.9**	**0.0**
	comp=Z,51nm,0.3s,baz=35,slow=11,SNR=1.5						
DAV	**Davao City (W)**	**18.70**	**256**	P	**Pn**	**12 34 50.6**	**+1.7**
JOW	**Kunigami**	**20.76**	**317**	P	**P**	**12 35 12.1**	**+1.2**
	comp=Z,70nm,0.6s,baz=155,slow=7.9,SNR=11						
JOW				LR	LR	12 42 38.4	
	comp=Z,2μm,19.5s,baz=126,slow=35						
JOW	**Kunigami**	**20.76**	**317**	P	**P**	**12 35 12.1**	**+1.2**
JOW	**Kunigami**	**20.76**	**317**	P	Pn	12 35 12.7	-0.6
MSAI	**Masohi**	**21.33**	**225**	P	**P**	**12 35 20.7**	**+3.6**
	comp=Z,954nmcomp=Z,40nm,1.0s						
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**12 35 18.4**	**-1.3**
	comp=Z,88nm,1.0s,baz=3.0,slow=8.2,SNR=26						
PMG				LR	LR	12 42 57.5	
	comp=Z,2μm,18.7s,baz=348,slow=35						
PMG	**Port Moresby**	**21.57**	**171**	*de*P	**P**	**12 35 18.2**	**-1.5**
PMG				pmax	pmax		
	comp=Z,166nm,1.3s						
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**12 35 17.9**	**-1.7**
PMG				IAmb	IAmb	12 35 22.9	
	comp=Z,157nm,1.2s						
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**12 35 18.7**	**-1.0**
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**12 35 18.9**	**-0.8**
AAI	**Ambon**	**22.08**	**226**	P	**P**	**12 35 25.8**	**+0.6**
	comp=Z,4μmcomp=Z,448nm,0.9s						
TGY	**Tagaytay City**	**22.43**	**278**	P	**P**	**12 35 27.1**	**-1.8**
	comp=Z,156nm,0.4s,baz=73,slow=0.9,SNR=8.1						
SANI	**Sanana**	**22.63**	**233**	P	**P**	**12 35 35.1**	**+4.0**
	comp=Z,30nm,0.9s						
KMSI	**Cibinong**	**22.80**	**241**	P	**P**	**12 35 34.9**	**+2.1**
	comp=Z,401nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**22.91**	**71**	T	T	12 59 35.7	
	baz=253,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**22.92**	**71**	T	T	12 59 35.6	
	baz=253,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**22.93**	**71**	T	T	12 59 33.8	
	baz=253,slow=75						
JSU	**Suzuyama**	**22.97**	**329**	P	**P**	**12 35 32.9**	**-1.6**
JSU				IAmb	IAmb	12 35 36.4	
	comp=Z,108nm,0.8s						
WAKE	**Wake Island**	**23.07**	**69**	P	**P**	**12 35 33.4**	**-2.2**
WAKE				IAmb	IAmb	12 35 48.0	
	comp=Z,244nm,1.4s						
WAKE	**Wake Island**	**23.07**	**69**	P	**P**	**12 35 39.4**	**+3.8**
H11N1	**WAKE ISLAND Hy**	**23.39**	**68**	T	T	13 00 12.1	
	baz=255,slow=75,SNR=62						
H11N2	**WAKE ISLAND Hy**	**23.41**	**68**	T	T	13 00 14.6	
	baz=255,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**23.41**	**68**	T	T	13 00 11.1	
	baz=255,slow=75,SNR=56						
SAUI	**Saumlaki**	**23.51**	**213**	P	**P**	**12 35 41.1**	**+1.1**
GTOI	**Gorontalo**	**23.60**	**243**	P	**P**	**12 35 41.9**	**+0.9**
	comp=Z,764nmcomp=Z,35nm,1.4s						
INU	**Inuyama**	**24.00**	**346**	P	**P**	**12 35 43.6**	**-1.0**
JNU	**Nakatsue**	**24.11**	**332**	P	**P**	**12 35 45.0**	**-0.6**
	comp=Z,77nm,0.9s,baz=163,slow=5.0,SNR=29						
JNU				LR	LR	12 44 28.8	
	comp=Z,1μm,19.2s,baz=148,slow=35						
JNU	**Nakatsue**	**24.11**	**332**	P	**P**	**12 35 44.4**	**-1.2**
JNU				IAmb	IAmb	12 35 48.0	
	comp=Z,126nm,1.0s						
JNU	**Nakatsue**	**24.11**	**332**	P	**P**	**12 35 46.5**	**+0.9**
JGF	**Kuroka**	**24.17**	**347**	P	**P**	**12 35 45.0**	**-1.2**
YULB	**Yu-li**	**24.24**	**301**	P	**P**	**12 35 45.9**	**-1.0**
JYT	**Yasato**	**24.29**	**353**	P	**P**	**12 35 46.6**	**-0.6**
JYT				IAmb	IAmb	12 35 48.3	
	comp=Z,155nm,1.1s						
NACB	**Ninganchiao**	**24.32**	**303**	P	**P**	**12 35 45.5**	**-2.1**
NACB				IAmb	IAmb	12 35 52.4	
	comp=Z,128nm,1.5s						
MRSI	**Marisa**	**24.61**	**244**	P	**P**	**12 35 51.5**	**+1.1**
	comp=Z,4μmcomp=Z,216nm,1.3s						
LUWI	**Luwuk**	**24.67**	**240**	P	**P**	**12 35 51.7**	**+0.8**
LUWI	**Luwuk**	**24.67**	**240**	P	**P**	**12 35 51.3**	**+0.4**
	comp=Z,5μmcomp=Z,607nm,1.1s						
SSLB	**Suanglung**	**24.68**	**301**	P	**P**	**12 35 50.1**	**-0.9**
SSLB				IAmb	IAmb	12 35 52.9	
	comp=Z,153nm,1.2s						
SSLB	**Suanglung**	**24.68**	**301**	P	**P**	**12 35 51.0**	**0.0**
YHNB	**Yeheng**	**24.71**	**304**	P	**P**	**12 35 50.2**	**-1.1**
YHNB				IAmb	IAmb	12 35 55.2	
	comp=Z,93nm,1.0s						
YHNB	**Yeheng**	**24.71**	**304**	P	**P**	**12 35 51.5**	**+0.2**
TATO	**Taipei**	**24.76**	**304**	P	**P**	**12 35 50.2**	**-1.4**
TPUB	**Ta-pu**	**24.76**	**300**	P	**P**	**12 35 50.7**	**-1.0**
TPUB	**Ta-pu**	**24.76**	**300**	P	**P**	**12 35 51.8**	**+0.1**
JHS	**Saijyo**	**24.84**	**339**	P	**P**	**12 35 51.5**	**-0.8**
MJAR	**Matsushiro Arr**	**24.91**	**349**	P	**P**	**12 35 51.4**	**-1.4**
	comp=Z,25nm,1.0s,baz=187,slow=9.1,SNR=47						
MJAR				LR	LR	12 44 35.7	
	comp=Z,3μm,18.3s,baz=156,slow=34						
MJAR	**Matsushiro Arr**	**24.91**	**349**	P	**P**	**12 35 51.6**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,46nm,1.1s						
MJAR	**Matsushiro Arr**	**24.91**	**349**	P	**P**	**12 35 51.6**	**-1.3**
MAJO	**Matsushiro**	**24.91**	**349**	P	**P**	**12 35 51.5**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,59nm,1.1s						
MAJO	**Matsushiro**	**24.91**	**349**	P	**P**	**12 35 51.5**	**-1.4**
MJB9	**Matsu-Tunnel**	**24.91**	**349**	P	**P**	**12 35 51.2**	**-1.7**
TOLI2	**Tolitoli**	**25.35**	**246**	P	**P**	**12 35 57.6**	**+0.5**
TOLI2				IAmb	IAmb	12 36 00.3	
	comp=Z,71nm,1.0s						
APSI	**Ampana**	**25.55**	**241**	P	**P**	**12 36 00.1**	**+1.2**
	comp=Z,98nm,1.2s						
JMM	**Marumori**	**25.85**	**354**	IAmb	IAmb	12 36 06.2	
	comp=Z,92nm,1.0s						
COEN	**Coen**	**25.86**	**182**	P	**P**	**12 36 01.3**	**-0.3**
MYLDM	**Lahad Datu**	**25.98**	**257**	P	**P**	**12 36 02.9**	**+0.1**
MPSI	**Mapaga**	**26.49**	**246**	P	**P**	**12 36 07.4**	**0.0**
	comp=Z,42nm,1.2s						
HNR	**Honiara**	**26.67**	**142**	LR	LR	12 46 41.4	
	comp=Z,1μm,18.2s,baz=324,slow=36						
KDU	**Kakadu**	**27.06**	**205**	P	**P**	**12 36 14.0**	**+1.5**
QZH	**Quanzhou**	**27.12**	**302**	⇑*i*P	**P**	**12 36 10.8**	**-2.2**
QZH				PP	**PnPn**	**12 36 55.8**	**-0.5**
QZH				S	**S**	**12 40 47.8**	**-2.5**
QZH				pmax	pmax		
	comp=Z,180nm,7.3s						
QZH				LR	LR		
	comp=Z,980nm,15.6s						
QZH				LR	LR		
	comp=Z,680nm,16.0s						
QZH				LR	LR		
	comp=Z,2μm,17.1s						
MTN	**Manton Dam**	**27.78**	**207**	P	**P**	**12 36 18.7**	**-0.2**
SPMM	**Sapulut**	**28.06**	**257**	P	**P**	**12 36 22.0**	**+0.4**
SSE	**Sheshan**	**28.25**	**316**	P	**P**	**12 36 22.5**	**-0.5**
SSE				S	**S**	**12 41 08.5**	**+0.5**
SSE				pmax	pmax		
	comp=Z,16nm,0.7s						
SSE				pmax	pmax		
	comp=Z,120nm,9.8s						
SSE				LR	LR		
	comp=Z,350nm,15.5s						
SSE				LR	LR		
	comp=Z,430nm,15.4s						
TJN	**Taejon**	**28.42**	**331**	*ce*P	**P**	**12 36 23.9**	**-0.6**
TJN	**Taejon**	**28.42**	**331**	P	**P**	**12 36 23.8**	**-0.7**
TJN	**Taejon**	**28.42**	**331**	P	**P**	**12 36 24.4**	**-0.1**
BNSI	**Bone**	**28.73**	**237**	P	**P**	**12 36 30.1**	**+2.6**
	comp=Z,1μmcomp=Z,73nm,1.1s						
SPSI	**Sidrap Palu**	**28.77**	**238**	P	**P**	**12 36 29.2**	**+1.4**
	comp=Z,24nm,1.3s						
KSRS	**Korea Array**	**29.05**	**333**	P	**P**	**12 36 29.6**	**-0.4**
	comp=Z,16nm,1.0s,baz=146,slow=9.5,SNR=62						
KSRS				PcP	**PcP**	**12 39 39.6**	**+1.5**
	comp=Z,5.6nm,1.0s,baz=175,slow=2.9,SNR=11						
KSRS				ScP	**ScP**	**12 43 20.5**	**+1.9**
	comp=Z,1.9nm,1.1s,baz=171,slow=3.1,SNR=2.4						
KSAR	**Wonju Array Be**	**29.05**	**333**	P	**P**	**12 36 28.9**	**-1.2**
KSAR	**Wonju Array Be**	**29.05**	**333**	P	**P**	**12 36 28.9**	**-1.2**
KS19	**Wonju Array Si**	**29.11**	**333**	P	**P**	**12 36 29.7**	**-0.9**
INCN	**Inchon**	**29.66**	**332**	P	**P**	**12 36 33.9**	**-1.6**
INCN				pmax	pmax		
	comp=Z,31nm,1.0s						
INCN	**Inchon**	**29.66**	**332**	P	**P**	**12 36 33.9**	**-1.6**
INCN	**Inchon**	**29.66**	**332**	P	**P**	**12 36 33.5**	**-2.0**
INCN				P	**P**	**12 36 33.5**	**-2.0**
INCN	**Inchon**	**29.66**	**332**	P	**P**	**12 36 35.3**	**-0.2**
MMRI	**Maumere**	**29.75**	**227**	P	**P**	**12 36 35.5**	**-1.0**
MMRI	**Maumere**	**29.75**	**227**	P	**P**	**12 36 37.0**	**+0.5**
	comp=Z,27nm,1.2s						
MMRI	**Maumere**	**29.75**	**227**	P	**P**	**12 36 36.8**	**+0.3**
BATI	**Baumata**	**29.87**	**223**	P	**P**	**12 36 36.9**	**-0.8**
	comp=Z,9.9nm,0.4s,baz=292,slow=18,SNR=2.2						
BATI	**Baumata**	**29.87**	**223**	P	**P**	**12 36 37.7**	**+0.1**
	comp=Z,26nm,1.0s						
MTSU	**Mount Surprise**	**30.00**	**179**	P	**P**	**12 36 39.0**	**+0.3**
NJ2	**Nanjing**	**30.42**	**315**	*e*P	**P**	**12 36 43.0**	**+0.8**
NJ2				PP	**PnPn**	**12 37 40.0**	**-1.0**
NJ2				S	**S**	**12 41 41.8**	**-0.3**
NJ2				sS	**sS**	**12 41 50.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,16.1s						
NJ2				LR	LR		
	comp=Z,1μm,19.4s						
NJ2				LR	LR		
	comp=Z,2μm,18.1s						
KNRA	**Kununurra**	**31.35**	**209**	P	**P**	**12 36 50.2**	**-0.4**
KNRA				IAmb	IAmb	12 36 54.5	
	comp=Z,91nm,1.2s						
KNRA	**Kununurra**	**31.35**	**209**	P	**P**	**12 36 50.9**	**+0.3**
JKA	**Kamikawa-asahi**	**31.96**	**358**		**PcP**	**12 39 47.1**	**+1.5**
ASAJ	**Asahikawa**	**31.96**	**358**	P	**P**	**12 36 55.9**	**+0.1**
	comp=Z,12nm,0.9s,baz=175,slow=8.3,SNR=9.3						
ASAJ				PcP	**PcP**	**12 39 47.1**	**+1.5**
	comp=Z,15nm,0.9s,baz=212,slow=5.3,SNR=5.5						
ASAJ				LR	LR	12 53 03.1	
	comp=Z,572nm,18.2s,baz=175,slow=42						
BASI	**Baing, Sumba**	**32.02**	**227**	P	**P**	**12 36 56.5**	**-0.1**
	comp=Z,784nmcomp=Z,88nm,1.0s						
CTA	**Charters Tower**	**32.03**	**176**	P	**P**	**12 36 56.8**	**+0.3**
	comp=Z,13nm,0.8s,baz=343,slow=9.6,SNR=13						
CTA	**Charters Tower**	**32.03**	**176**	P	**P**	**12 36 56.9**	**+0.3**
MSHR	**Mys Shultsa**	**32.36**	**342**	*i*P	**P**	**12 36 59.3**	**+0.1**
MSHR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SBUM	**Sibu**	**32.78**	**256**	P	**P**	**12 37 03.4**	**+0.1**
SBUM	**Sibu**	**32.78**	**256**	P	**P**	**12 37 04.0**	**+0.8**
WHN	**Wuhan**	**32.93**	**309**	⇓P	**P**	**12 37 05.0**	**+0.6**
WHN				PP	**PnPn**	**12 38 11.5**	**-2.1**
WHN				S	**S**	**12 42 27.3**	**+5.9**
WHN				pmax	pmax		
	comp=Z,58nm,1.0s						
WHN				LR	LR		
	comp=Z,1μm,15.3s						
WHN				LR	LR		
	comp=Z,3μm,22.2s						
WHN				LR	LR		
	comp=Z,3μm,19.0s						
WB0	**Warramunga Arr**	**32.97**	**197**	P	**P**	**12 37 04.5**	**-0.4**
WRAB	**Tennant Creek**	**33.14**	**197**	*ce*P	**P**	**12 37 06.2**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,40nm,1.3s						
WRAB	**Tennant Creek**	**33.14**	**197**	P	**P**	**12 37 05.6**	**-0.7**
WRAB	**Tennant Creek**	**33.14**	**197**	P	**P**	**12 37 06.0**	**-0.3**
WRA	**Warramunga Arr**	**33.16**	**197**	P	**P**	**12 37 05.6**	**-0.8**
	comp=Z,14nm,0.8s,baz=19,slow=9.7,SNR=28						
WRA				ScP	**ScP**	**12 43 32.9**	**+0.3**
	comp=Z,6.0nm,1.2s,baz=20,slow=4.2,SNR=9.4						
WRA				LR	LR	12 51 55.5	
	comp=Z,2μm,18.1s,baz=14,slow=39						
WRA	**Warramunga Arr**	**33.16**	**197**	P	**P**	**12 37 05.6**	**-0.8**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
WRA	**Warramunga Arr**	**33.16**	**197**	P	**P**	**12 37 05.6**	**-0.8**
KUR	**Kuril'sk**	**33.24**	**5**	*i*P	**P**	**12 37 05.7**	**-1.1**
DL2	**Dalian**	**33.25**	**327**	P	**P**	**12 37 07.0**	**-0.1**
DL2				S	**S**	**12 42 28.5**	**+2.4**
DL2				pmax	pmax		
	comp=Z,75nm,1.2s						
DL2				pmax	pmax		
	comp=Z,170nm,6.2s						
DL2				LR	LR		
	comp=Z,1μm,16.5s						
DL2				LR	LR		
	comp=Z,1μm,16.1s						
DL2				LR	LR		
	comp=Z,2μm,17.1s						
QIZ	**Qiongzhong**	**33.46**	**286**	P	**P**	**12 37 09.8**	**+0.6**
QIZ				PP	**PP**	**12 38 26.5**	**+1.4**
QIZ				S	**S**	**12 42 30.0**	**0.0**
QIZ				pmax	pmax		
	comp=Z,16nm,0.6s						
QIZ				pmax	pmax		
	comp=Z,170nm,4.0s						
QIZ				LR	LR		
	comp=Z,780nm,14.1s						
QIZ				LR	LR		
	comp=Z,1μm,18.1s						
QIZ				LR	LR		
	comp=Z,1μm,18.3s						
QIZ	**Qiongzhong**	**33.46**	**286**	P	**P**	**12 37 10.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**33.62**	**344**	P	**P**	**12 37 10.6**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=152,slow=8.6,SNR=18						
USRK				LR	LR	12 49 38.3	
	comp=Z,1μm,20.1s,baz=141,slow=34						
USRK	**Ussuriysk Ar.**	**33.62**	**344**	P	**P**	**12 37 09.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**33.62**	**344**	P	**P**	**12 37 09.6**	**-0.6**
USA0B	**Ussuriysk Arra**	**33.62**	**344**	P	**P**	**12 37 10.0**	**-0.2**
USA0B				pmax	pmax		
	comp=Z,33nm,1.3s						
USA0B	**Ussuriysk Arra**	**33.62**	**344**	P	**P**	**12 37 10.0**	**-0.2**
TIA	**Tai'an**	**34.05**	**319**	⇑P	**P**	**12 37 14.0**	**-0.1**
TIA				pmax	pmax		
	comp=Z,24nm,1.1s						
TIA				pmax	pmax		
	comp=Z,260nm,9.3s						
TIA				LR	LR		
	comp=Z,1μm,18.6s						
TIA				LR	LR		
	comp=Z,970nm,18.6s						
TIA				LR	LR		
	comp=Z,2μm,20.8s						
STKI	**Sintang**	**34.28**	**252**	P	**P**	**12 37 18.7**	**+2.3**
	comp=Z,12nm,0.4s						
SNY	**Shenyang**	**34.55**	**333**	⇑P	**P**	**12 37 18.0**	**-0.3**
SNY				PP	**PnPn**	**12 38 34.5**	**+0.6**
SNY				S	**S**	**12 42 50.8**	**+4.6**
SNY				SS	**SnSn**	**12 44 58.8**	**+0.5**
SNY				pmax	pmax		
	comp=Z,18nm,1.0s						
SNY				LR	LR		
	comp=Z,1μm,14.4s						
SNY				LR	LR		
	comp=Z,560nm,16.8s						
SNY				LR	LR		
	comp=Z,2μm,16.8s						
MDJ	**Mudanjiang**	**34.68**	**342**	P	**P**	**12 37 19.3**	**-0.1**
MDJ				pP	pP	12 37 22.3	-1.7
MDJ				sP	sP	12 37 24.0	-2.7
MDJ				PcP	**PcP**	**12 39 52.5**	**-0.8**
MDJ				S	**S**	**12 42 51.3**	**+3.1**
MDJ				sS	sS	12 43 00.3	+3.2
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,260nm,9.1s						
MDJ				LR	LR		
	comp=Z,1μm,17.1s						
MDJ				LR	LR		
	comp=Z,840nm,15.2s						
MDJ				LR	LR		
	comp=Z,2μm,17.1s						
MDJ	**Mudanjiang**	**34.68**	**342**	P	**P**	**12 37 19.8**	**+0.4**
YSS	**Yuzh-Sakhalins**	**34.79**	**359**	*e*P	**P**	**12 37 19.9**	**-0.5**
YSS				*e*		12 38 36.9	
YSS				*e*		12 39 54.8	
YSS				*e*S	**S**	**12 42 48.5**	**-1.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS				MLR	MLR		
	comp=N,800nm,15.0s						
KSM	**Kuching**	**34.90**	**255**	P	**P**	**12 37 21.5**	**-0.2**
KSM	**Kuching**	**34.90**	**255**	P	**P**	**12 37 22.0**	**+0.3**
KSM	**Kuching**	**34.90**	**255**	P	**P**	**12 37 21.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**34.95**	**211**	P	**P**	**12 37 22.3**	**+0.3**
	comp=N,19nm,1.0s,baz=38,slow=9.0,SNR=12						
FITZ				LR	LR	12 53 05.6	
	comp=N,346nm,18.4s,baz=32,slow=39						
PBKI	**Pangkalan Bun**	**35.20**	**247**	P	**P**	**12 37 25.7**	**+1.4**
	comp=N,1μmcomp=N,77nm,1.1s						
CN2	**Changchun**	**35.40**	**337**	*e*P	**P**	**12 37 24.5**	**-1.1**
CN2				PP	**PP**	**12 38 46.0**	**-0.1**
CN2				*e*S	**S**	**12 42 57.8**	**-1.4**
CN2				pmax	pmax		
	comp=N,10.0nm,1.3s						
CN2				pmax	pmax		
	comp=N,200nm,9.6s						
CN2				LR	LR		
	comp=N,900nm,15.0s						
CN2				LR	LR		
	comp=N,700nm,15.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s						
RK1H	**Rockhampton Ha**	**35.82**	**170**	P	**P**	**12 37 29.4**	**0.0**
LYN	**LuoYang**	**36.26**	**313**	⇑*i*P	**P**	**12 37 33.3**	**+0.1**
LYN				pP	pP	12 37 37.8	-0.2
LYN				sP	sP	12 37 40.0	-0.2
LYN				PcP	**PcP**	**12 39 59.5**	**+1.4**
LYN				S	**S**	**12 43 13.5**	**+0.8**
LYN				sS	pS	12 43 18.5	+0.1
LYN				pmax	pmax		
	comp=N,60nm,0.9s						
LYN				LR	LR		
	comp=N,1μm,19.7s						
LYN				LR	LR		
	comp=N,810nm,18.6s						
LYN				LR	LR		
	comp=N,2μm,19.1s						
HNS	**HongShan**	**36.31**	**319**	⇑P	**P**	**12 37 33.5**	**0.0**
HNS				PP	**PP**	**12 38 59.5**	**+3.2**
HNS				PcP	**PcP**	**12 39 59.3**	**+1.1**
HNS				S	**S**	**12 43 19.5**	**+6.2**
HNS				pmax	pmax		
	comp=N,100nm,1.1s						
HNS				LR	LR		
	comp=N,1μm,18.0s						
HNS				LR	LR		
	comp=N,1μm,18.0s						
HNS				LR	LR		
	comp=N,2μm,17.0s						
GMJI	**Gumukmas**	**36.37**	**238**	P	**P**	**12 37 34.5**	**+0.2**
	comp=N,56nm,1.2s						
BNX	**BinXian**	**36.38**	**340**	⇓P	**P**	**12 37 34.0**	**0.0**
BNX				pP	**pP**	**12 37 38.8**	**+0.3**
BNX				sP	**sP**	**12 37 41.0**	**-0.3**
BNX				PP	**PP**	**12 38 58.3**	**+1.4**
BNX				S	**S**	**12 43 10.5**	**-3.6**
BNX				sS	**sS**	**12 43 22.3**	**-0.8**
BNX				pmax	pmax		
	comp=N,140nm,1.5s						
BNX				pmax	pmax		
	comp=N,670nm,4.5s						
BNX				LR	LR		
	comp=N,2μm,14.3s						
BNX				LR	LR		
	comp=N,960nm,16.5s						
BNX				LR	LR		
	comp=N,2μm,16.9s						
ENH	**Enshi**	**36.63**	**305**	IAmb	IAmb	12 37 37.9	
	comp=Z,75nm,1.0s						
ASAR	**Alice Springs**	**36.82**	**195**	P	**P**	**12 37 37.9**	**-0.1**
	comp=Z,8.6nm,0.9s,baz=17,slow=5.7,SNR=18						
ASAR				ScP	**ScP**	**12 43 46.6**	**+0.8**
	comp=Z,2.2nm,1.1s,baz=53,slow=2.1,SNR=5.6						
ASAR				LR	LR	12 52 58.6	
	comp=Z,2μm,20.4s,baz=16,slow=37						
BJI	**Beijing**	**37.06**	**324**	P	**P**	**12 37 39.8**	**-0.1**
BJI				pP	**pP**	**12 37 44.5**	**-0.2**
BJI				sP	**sP**	**12 37 47.3**	**0.0**
BJI				PP	**PnPn**	**12 39 08.0**	**+3.1**
BJI				PcP	**PcP**	**12 40 01.5**	**+1.1**
BJI				S	**S**	**12 43 30.0**	**+5.2**
BJI				pmax	pmax		
	comp=Z,48nm,1.1s						
BJI				pmax	pmax		
	comp=Z,340nm,4.4s						
BJI				LR	LR		
	comp=Z,1μm,18.6s						
BJI				LR	LR		
	comp=Z,1μm,19.2s						
BJI				LR	LR		
	comp=Z,2μm,18.8s						
PWJI	**Pagerwojo**	**37.61**	**239**	P	**P**	**12 37 44.0**	**-0.8**
	comp=Z,6.5nm,1.0s						
GYA	**Guiyang**	**37.77**	**298**	⇓P	**P**	**12 37 47.8**	**+1.5**
GYA

QLP Quilpie 38.41 179 P P 12 37 50.4 -1.0
XAN Xi'an 38.60 310 P P 12 37 52.5 -0.6
XAN pP pP 12 37 58.5 +0.6
XAN S S 12 43 49.8 +1.3
XAN SS SnSn 12 46 30.8 -6.0
XAN pmax pmax
comp=Z,29nm,1.1s
XAN pmax pmax
comp=Z,340nm,6.0s
XAN LR LR
comp=Z,490nm,16.2s
XAN LR LR
comp=Z,1μm,18.6s
XAN LR LR
comp=Z,2μm,21.6s
RMQ Roma 38.61 173 P P 12 37 52.5 -0.6
UGM Wanagama 38.64 241 P P 12 37 53.1 -0.5
comp=Z,2μmcomp=Z,108nm,1.1s
UGM Wanagama 38.64 241 P P 12 37 54.1 +0.5
TYV Tymovskoe 38.71 359 *eP* **P 12 37 53.2 -0.4**
TYV *eS* **S 12 43 52.3 +2.9**
TYV pmax pmax
comp=Z,500nm,5.9s
TYV pmax pmax
comp=Z,27nm,1.3s
TYV smax smax
comp=N,6.0nm,1.9s
TYV smax smax
comp=E,200nm,7.5s
GRNR Gornyy 39.08 352 ⇑*iP* **P 12 37 56.5 -0.3**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=E,290nm,14.0s
GRNR MLR MLR
comp=N,520nm,19.0s
GRNR MLR MLR
comp=Z,730nm,18.0s
INKA Innaminka 39.68 184 P P 12 38 01.3 -0.7
XLT XiLinHaoTe 39.73 328 ⇑*iP* **P 12 38 02.3 -0.2**
XLT pP pP 12 38 06.0 -1.4
XLT sP sP 12 38 09.0 -0.9
XLT PcP **PcP 12 40 09.3 +0.5**
XLT S **S 12 44 05.0 -0.3**
XLT pmax pmax
comp=Z,61nm,1.0s
XLT pmax pmax
comp=Z,310nm,5.2s
XLT LR LR
comp=Z,2μm,17.3s
XLT LR LR
comp=Z,2μm,18.1s
WRKA Warakurna 39.88 202 P P 12 38 04.2 +0.4
HHC Hu-ho-hao-te 40.32 321 *eP* **P 12 38 08.0 +0.6**
HHC S **S 12 44 10.5 -3.7**
HHC sS sS 12 44 22.5 -0.7
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,290nm,5.1s
HHC LR LR
comp=Z,1μm,20.6s
HHC LR LR
comp=Z,1μm,17.2s
HHC LR LR
comp=Z,3μm,16.7s
OOD Oodnadatta 40.40 191 P P 12 38 07.7 -0.3
NOUC Port Laguerre 40.46 147 P P 12 38 09.7 +1.1
DZM Mont Dzumac 40.51 147 LR LR 12 53 32.0
comp=Z,344nm,19.6s,baz=351,slow=34
DZM Mont Dzumac 40.51 147 *eP* **P 12 38 08.6 -0.5**
comp=Z,148nm,1.1s
DZM *eS* **S 12 44 11.9 -5.3**
comp=Z,517nm,29.3s
DZM *e*LR LR 12 48 58.0
comp=Z,2μm,34.0s
DZM Mont Dzumac 40.51 147 P P 12 38 09.5 +0.4
DZM IAmb IAmb 12 38 13.8
comp=Z,75nm,1.1s
DZM Mont Dzumac 40.51 147 P P 12 38 10.3 +1.2
LEM Lembang 40.64 244 P P 12 38 09.9 -0.5
comp=Z,11nm,0.4s,baz=26,slow=11,SNR=6.8
LEM Lembang 40.64 244 P P 12 38 10.9 +0.5
comp=Z,22nm,0.5s
YATNC Mamie plateau, 40.74 146 P P 12 38 12.9 +2.0
PSA00 Pilbara Seismi 40.91 215 P P 12 38 11.9 -0.4
PSA00 IAmb IAmb 12 38 30.2
comp=Z,109nm,0.9s
PSA00 Pilbara Seismi 40.91 215 P P 12 38 13.1 +0.8
KMI Kunming 40.93 294 ⇑P **P 12 38 14.0 +1.2**
KMI pP sP 12 38 21.3 +1.3
KMI PP **PnPn 12 39 52.3 +0.7**
KMI PcP **PcP 12 40 14.5 +1.3**
KMI S **S 12 44 24.0 +0.2**
KMI sS sS 12 44 38.0 +5.3
KMI SS **SS 12 47 17.5 -8.3**
KMI pmax pmax
comp=Z,36nm,1.5s
KMI pmax pmax
comp=Z,160nm,4.1s
KMI LR LR
comp=Z,280nm,15.8s
KMI LR LR
comp=Z,780nm,17.9s
KMI LR LR
comp=Z,760nm,18.5s
DSRI Dabo 40.95 255 P P 12 38 12.7 -0.1
comp=Z,29nm,1.2s
MYKOM Kota Tinggi 40.95 259 IAmb IAmb 12 38 15.7
comp=Z,83nm,1.2s
MYKOM Kota Tinggi 40.95 259 P P 12 38 14.0 +1.1
NKL Nikolayevsk 41.06 357 *eP* **P 12 38 13.5 +0.3**
NKL *eS* **S 12 44 23.8 -0.8**
NKL pmax pmax
comp=E,3.0nm,0.6s
NKL pmax pmax
comp=N,1.0nm,1.1s
NKL pmax pmax
comp=Z,45nm,1.5s
BTO Baotou 41.14 320 *eP* **P 12 38 15.5 +1.3**
CD2 Chengdu 41.49 303 P P 12 38 17.0 -0.1
CD2 sP pP 12 38 21.5 -0.5
CD2 PP **PP 12 39 52.8 -0.3**
CD2 S **S 12 44 33.0 +1.3**
CD2 sS pS 12 44 38.5 +0.7
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,220nm,5.9s
CD2 LR LR
comp=Z,90nm,16.1s
CD2 LR LR
comp=Z,880nm,15.2s
CD2 LR LR
comp=Z,1μm,14.7s
PZH PanZhiHua 42.08 296 ⇑P **P 12 38 22.5 +0.4**
PZH pP **pP 12 38 25.0 -1.9**
PZH sP **sP 12 38 28.5 -0.8**
PZH S **S 12 44 39.0 -1.7**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,6.3s
PZH LR LR
comp=Z,1μm,17.5s
PZH LR LR
comp=Z,1μm,17.3s
PZH LR LR
comp=Z,1μm,16.9s
BLSI Bandar Lampung 42.13 248 P P 12 38 22.6 +0.1
comp=Z,54nm,0.4s
CGJI Cibinong 42.25 246 P P 12 38 21.6 -1.9
comp=Z,1μmcomp=Z,52nm,0.9s
KLI Kotabumi 42.28 249 P P 12 38 23.4 -0.3
comp=Z,3μmcomp=Z,158nm,1.1s
KLSI 42.32 249 P P 12 38 24.1 0.0
comp=Z,462nmcomp=Z,44nm,1.1s
PEA0B Petropavlovsk- 42.42 12 *iP* P 12 38 36.2 +12
PETK Petropavlovsk- 42.42 12 P P 12 38 25.6 +1.3
comp=Z,1.4nm,0.6s,baz=194,slow=5.7,SNR=2.3
PETK PcP **PcP 12 40 17.3 +0.1**
comp=Z,13nm,0.9s,baz=163,slow=5.7,SNR=6.3
PETK LR LR 12 58 60.0
comp=Z,883nm,18.3s,baz=192,slow=40
PETK Petropavlovsk- 42.42 12 P P 12 38 23.7 -0.6
PETK Petropavlovsk- 42.42 12 P P 12 38 23.7 -0.6

PET Petropavlovsk 42.54 13 *eP* P 12 38 30.3 +5.0
PET *e* 12 38 36.6
PET *e* 12 40 17.4
PET *eS* **S 12 44 51.1 +4.6**
PET pmax pmax
comp=Z,41nm,1.0s
PET pmax pmax
comp=Z,200nm,12.9s
PET MLR MLR
comp=Z,700nm,18.0s
PET MLR MLR
comp=Z,800nm,16.0s
PET Petropavlovsk 42.54 13 P P 12 38 28.4 +3.1
LCRK Leigh Creek 42.61 187 P P 12 38 25.8 -0.3
KASI Kota Agung 42.87 248 P P 12 38 25.6 -2.9
comp=Z,736nmcomp=Z,32nm,0.7s
ARMA Armidale 42.89 170 P P 12 38 27.9 -0.6
ARMA Armidale 42.89 170 P P 12 38 28.8 +0.3
IPM Ipoh 43.02 264 P P 12 38 30.8 +1.1
LWLI Liwa 43.07 249 P P 12 38 30.0 -0.2
comp=Z,3μmcomp=Z,122nm,0.8s
MULG Mulgathing 43.14 192 P P 12 38 30.3 -0.1
KULM Kulim 43.21 265 IAmb IAmb 12 38 35.5
comp=Z,107nm,1.4s
LZH Lanzhou 43.24 310 ⇑P **P 12 38 32.3 +0.8**
LZH sP sP 12 38 39.0 +0.3
LZH S **S 12 44 55.0 -2.7**
LZH sS sS 12 45 07.3 +0.5
LZH SS SS 12 47 57.5 -14
LZH pmax pmax
comp=Z,82nm,1.5s
LZH pmax pmax
comp=Z,240nm,5.4s
LZH LR LR
comp=Z,600nm,17.3s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,2μm,19.0s
CMSA Cobar Meteorol 43.38 178 P P 12 38 32.3 0.0
ZEA Zeya 43.63 346 *eP* **P 12 38 33.4 -0.7**
ZEA *eS* **S 12 45 05.3 +2.8**
ZEA *e*SS **ScS 12 48 31.6 -0.8**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=Z,100nm,10.2s
ZEA smax smax
comp=E,100nm,16.9s
ZEA smax smax
comp=N,300nm,16.4s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,700nm,17.0s
CM31 Chiang Mai Arr 43.72 284 P P 12 38 36.3 +1.0
CMAR Chiang Mai Arr 43.72 284 P P 12 38 36.5 +1.1
comp=Z,19nm,0.8s,baz=86,slow=6.2,SNR=77
CMAR LR LR 12 56 55.5
comp=Z,780nm,19.3s,baz=100,slow=36
CMAR Chiang Mai Arr 43.72 284 *iP* **P 12 38 36.5 +1.1**
CMAR pmax pmax
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 43.72 284 P P 12 38 35.6 +0.3
CHTO Chiang Mai 43.73 285 P P 12 38 35.5 +0.1
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 43.73 285 P P 12 38 35.5 +0.1
CHTO Chiang Mai 43.73 285 P P 12 38 35.6 +0.1
STKA Stephens Creek 43.74 183 P P 12 38 34.5 -0.7
comp=Z,18nm,1.0s,baz=343,slow=7.4,SNR=14
STKA LR LR 12 59 10.9
comp=Z,653nm,18.0s,baz=0.7,slow=39
STKA Stephens Creek 43.74 183 P P 12 38 33.1 -2.1
STKA Stephens Creek 43.74 183 P P 12 38 34.3 -0.9
MNAI Manna 43.83 251 P P 12 38 34.7 -1.5
MNAI Manna 43.83 251 P P 12 38 35.7 -0.6
comp=Z,3μmcomp=Z,342nm,1.1s
MNAI Manna 43.83 251 P P 12 38 35.5 -0.8
MASI Maura Aman, Be 44.05 253 P P 12 38 38.5 +0.4
comp=Z,3μmcomp=Z,333nm,1.5s
KRJI Kerinci 44.41 254 P P 12 38 41.8 +0.7
comp=Z,321nm,1.0s
MSVF Nonsavu 44.89 131 LR LR 12 57 38.4
comp=Z,1μm,18.0s,baz=335,slow=36
MSVF Nonsavu 44.89 131 *iP* **P 12 38 45.7 +0.9**
MSVF pmax pmax
comp=Z,82nm,1.1s
MSVF Nonsavu 44.89 131 P P 12 38 45.0 +0.2
MSVF IAmb IAmb 12 38 50.4
comp=Z,69nm,1.0s
MSVF Nonsavu 44.89 131 P P 12 38 46.3 +1.5
PPI Padang Panjang 44.91 257 P P 12 38 44.6 -0.3
comp=Z,22nm,0.9s
FORT Forrest 45.22 199 P P 12 38 46.2 -0.9
FORT Forrest 45.22 199 P P 12 38 47.6 +0.5
BBOO Buckleboo 45.23 189 P P 12 38 44.5 -2.7
BBOO IAmb IAmb 12 38 50.0
comp=Z,41nm,0.9s
BBOO Buckleboo 45.23 189 P P 12 38 46.9 -0.3
WHYH Whyalla 45.24 187 P P 12 38 47.7 +0.5
NAPP Napperby 45.32 187 P P 12 38 48.2 +0.4
MNSI Mandailing Nat 45.33 259 P P 12 38 48.5 +0.2
comp=Z,2μmcomp=Z,22nm,1.1s
PSI Prapat 45.44 262 P P 12 38 48.2 -1.1
comp=Z,14nm,0.6s,baz=80,slow=4.8,SNR=18
HTT Hallett 45.48 186 P P 12 38 49.2 0.0
TSI Tuntungan 45.63 263 P P 12 38 48.0 -2.6
comp=Z,51nm,0.7s
PPSI Pulau Pagai 46.01 254 P P 12 38 52.7 -0.9
comp=Z,3μmcomp=Z,238nm,1.0s
KCSI Kotacane, Aceh 46.39 263 P P 12 38 56.7 0.0
comp=Z,946nmcomp=Z,87nm,1.3s
SISI Saibi 46.42 256 P P 12 38 55.9 -1.0
comp=Z,709nmcomp=Z,52nm,1.1s
CIT Chita 46.76 335 *eP* **P 12 38 59.3 +0.2**
CIT *e* 12 40 33.5
CIT pmax pmax
comp=Z,128nm,1.7s
LHMI Lhok Sumawe 46.83 266 P P 12 39 00.3 +0.2
ULN Ulaanbaatar 47.09 327 *ceP* **P 12 39 02.2 +0.3**
ULN pmax pmax
comp=Z,68nm,1.7s
ULN Ulaanbaatar 47.09 327 P P 12 39 02.1 +0.2
ULN IAmb IAmb 12 39 03.6
comp=Z,36nm,1.0s
TWOA Tennyson Woods 47.10 186 P P 12 39 02.3 +0.5
GSI Gunungsitoli 47.12 260 P P 12 39 01.8 -0.6
GSI Gunungsitoli 47.12 260 P P 12 39 01.6 -0.8
comp=Z,2μmcomp=Z,71nm,1.0s
GSI Gunungsitoli 47.12 260 P P 12 39 01.8 -0.6
SHEM Shemya Is, Ala 47.25 25 LR LR 12 55 49.1
comp=Z,266nm,21.3s,baz=221,slow=32
CAN Canberra 47.37 174 P P 12 39 04.6 +0.6
SONM Songino Array 47.43 326 P P 12 39 05.2 +0.7
comp=Z,17nm,0.7s,baz=152,slow=7.3,SNR=30
SONM PcP **PcP 12 40 35.1 +0.3**
comp=Z,9.7nm,0.9s,baz=151,slow=4.4,SNR=5.6
SONM Songino Array 47.43 326 P P 12 39 04.9 +0.4
SONM pmax pmax
comp=Z,44nm,1.2s
SONM Songino Array 47.43 326 P P 12 39 04.9 +0.4
SONM IAmb IAmb 12 39 07.2
comp=Z,44nm,1.2s
GTA Gaotai 47.48 313 ⇑P **P 12 39 05.3 +0.3**
GTA pP pwP 12 39 16.0 -0.9
GTA PcP **PcP 12 40 36.8 +1.7**
GTA S **S 12 45 52.8 -5.9**
GTA sS sS 12 46 10.5 +2.5
GTA pmax pmax
comp=Z,48nm,1.0s
GTA pmax pmax
comp=Z,270nm,8.4s
GTA LR LR
comp=Z,640nm,17.5s
GTA LR LR
comp=Z,910nm,20.3s
GTA LR LR
comp=Z,1μm,20.7s
MA2 Magadan 47.71 5 P P 12 39 05.9 -0.3
comp=Z,18nm,1.1s,baz=172,slow=7.7,SNR=15

MA2 PcP **PcP 12 40 35.4 +0.1**
comp=Z,6.0nm,0.8s,baz=78,slow=4.9,SNR=3.8
MA2 LR LR 12 57 32.8
comp=Z,506nm,21.4s,baz=176,slow=34
MA2 Magadan 47.71 5 P P 12 39 06.0 -0.3
MA2 pmax pmax
comp=Z,25nm,1.1s
MA2 Magadan 47.71 5 P P 12 39 06.0 -0.3
MA2 Magadan 47.71 5 P P 12 39 06.4 +0.2
ARPS Mount Arapiles 48.60 182 P P 12 39 14.4 +1.0
MORW Morawa 48.93 213 P P 12 39 15.5 -0.6
MORW IAmb IAmb 12 39 34.0
comp=Z,50nm,0.9s
MORW Morawa 48.93 213 P P 12 39 16.9 +0.8
BRAT Ballarat 49.34 180 P P 12 39 20.5 +1.4
TOO Toolangi 49.39 178 P P 12 39 19.7 +0.2
TOO pmax pmax
comp=Z,34nm,1.0s
TOO Toolangi 49.39 178 P P 12 39 19.7 +0.2
TOO IAmb IAmb 12 39 21.4
comp=Z,34nm,1.0s
TOO Toolangi 49.39 178 P P 12 39 20.7 +1.2
BLDU Ballidu 49.82 211 P P 12 39 23.7 +0.8
GOMU GeErMu 50.16 307 P P 12 39 26.3 +0.3
GOMU pP pP 12 39 29.5 -1.4
GOMU sP sP 12 39 30.8 -2.5
GOMU PcP **PcP 12 40 46.8 +1.6**
GOMU pmax pmax
comp=Z,17nm,1.0s
GOMU pmax pmax
comp=Z,110nm,4.9s
GOMU LR LR
comp=Z,330nm,18.0s
GOMU LR LR
comp=Z,150nm,21.2s
GOMU LR LR
comp=Z,200nm,19.6s
ZAK Zakamensk 50.58 327 *eP* **P 12 39 28.7 +0.2**
ZAK pmax pmax
comp=Z,96nm,1.2s
SHL Shillong 50.71 293 IAmb IAmb 12 39 30.8
comp=Z,44nm,0.8s
SHL Shillong 50.71 293 P P 12 39 29.9 -0.1
SNR=16
YAK Yakutsk 50.94 351 P P 12 39 29.5 -1.3
comp=Z,9.9nm,0.4s,baz=329,slow=1.4,SNR=1.6
YAK LR LR 13 00 30.5
comp=Z,2μm,18.2s,baz=101,slow=35
YAK Yakutsk 50.94 351 *ciP* **P 12 39 29.4 -1.5**
YAK *e* 12 40 45.2
YAK *e* 12 41 23.8
YAK *e*PPP PPP 12 42 24.3
YAK *e*S **S 12 46 44.1 -2.2**
YAK *e**SS sS 12 47 02.3 +6.8
YAK *e* 12 49 17.4
YAK *e*SS **SS 12 50 18.4 -2.8**
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,84nm,3.3s
YAK pmax pmax
comp=N,68nm,4.4s
YAK pmax pmax
comp=E,34nm,2.7s
YAK smax smax
comp=E,94nm,3.7s
YAK smax smax
comp=N,44nm,2.8s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,912nm,18.0s
YAK MLR MLR
comp=E,198nm,14.0s
YAK Yakutsk 50.94 351 IAmb IAmb 12 39 37.6
comp=Z,54nm,0.7s
AFI Afiamalu 50.98 119 LR LR 12 59 24.7
comp=Z,422nm,18.1s,baz=287,slow=34
BOD Bodaibo 51.00 340 *eP* **P 12 39 31.1 -0.3**
BOD pmax pmax
comp=Z,44nm,2.2s
IRK Irkutsk 51.16 330 *eP* **P 12 39 30.9 -1.9**
IRK *e* 12 40 47.7
IRK pmax pmax
comp=Z,89nm,1.1s
SEY Seymchan 51.16 5 P **P 12 39 33.0 +0.4**
comp=Z,14nm,0.9s,baz=183,slow=7.2,SNR=7.9
SEY LR LR 12 59 31.4
comp=Z,837nm,21.6s,baz=172,slow=34
SEY Seymchan 51.16 5 *iP* **P 12 39 32.9 +0.4**
SEY pmax pmax
comp=Z,25nm,1.1s
LSA Lhasa 51.84 298 IAmb IAmb 12 39 40.9
comp=Z,35nm,0.9s
LSA Lhasa 51.84 298 P P 12 39 39.3 +0.5
LSA pmax pmax
comp=Z,49nm,0.9s
LSA Lhasa 51.84 298 P P 12 39 40.1 +1.3
MOY Mondy 52.49 328 *eP* **P 12 39 42.9 0.0**
MOY pmax pmax
comp=Z,58nm,1.6s
GLAD Gladstone 52.91 176 P P 12 39 47.4 +1.6
TAPN Taplejung 54.59 295 *eP* **P 12 39 58.9 0.0**
OUZ Omahuta 54.80 150 P P 12 40 03.1 +3.3
ODAN Odare 54.84 294 *eP* **P 12 40 00.7 +0.1**
RAO Raoul Island 55.20 139 LR LR 13 01 12.4
comp=Z,1μm,19.6s,baz=336,slow=33
NIKH Nikolski High 55.48 33 P P 12 40 03.8 -0.7
baz=241
RAMN Ramite 55.55 294 *eP* **P 12 40 05.9 +0.1**
JIRN Jiri 55.96 295 *eP* **P 12 40 09.0 +0.1**
comp=Z,91nm,0.8s
GUN Gumba 56.25 296 *eP* **P 12 40 11.0 +0.1**
comp=Z,256nm,0.9s
PKI Pulchoki 56.65 295 *eP* **P 12 40 13.4 -0.3**
PKIN Phulchoki 56.66 295 *eP* **P 12 40 13.4 -0.3**
KKN Kakani 56.77 295 *eP* **P 12 40 14.5 0.0**
comp=Z,96nm,0.9s
DMN Daman 56.92 295 *eP* **P 12 40 15.6 +0.1**
comp=Z,134nm,0.9s
UNV Unalaska Valle 57.13 33 P P 12 40 15.9 -0.4
baz=242
GKN Gorkha 57.35 296 *eP* **P 12 40 18.5 0.0**
WMQ Urumqi 57.49 315 ⇑P **P 12 40 19.8 +0.7**
WMQ sP pwP 12 40 30.3 -0.8
WMQ PcP **PcP 12 41 14.3 +1.7**
WMQ PcS **PcS 12 45 12.5 -1.2**
WMQ S **S 12 48 18.8 +3.2**
WMQ pmax pmax
comp=Z,84nm,1.1s
WMQ pmax pmax
comp=Z,310nm,5.5s
WMQ LR LR
comp=Z,860nm,16.9s
WMQ LR LR
comp=Z,1μm,16.7s
WMQ LR LR
comp=Z,1μm,18.3s
BILL Bilibino 57.83 10 *diP* **P 12 40 20.1 -0.8**
BILL *e* 12 42 27.1
BILL *e*SS SS 12 52 18.7 +9.1
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,687nm,18.0s
BILL Bilibino 57.83 10 P P 12 40 20.1 -0.8
BILL IAmb IAmb 12 40 22.9
comp=Z,49nm,1.1s
DANN Dangsing 58.15 296 *eP* **P 12 40 24.2 -0.1**
comp=Z,180nm,0.7s
KOLN Koldanda 58.26 295 *eP* **P 12 40 25.0 +0.1**
comp=Z,125nm,0.9s
PYUN Piuthan 58.81 296 *eP* **P 12 40 28.6 -0.2**
comp=Z,225nm,0.9s
FALS False Pass 59.20 32 P P 12 40 30.0 -0.7
baz=245
BKZ Black Stump Fm 59.34 151 P P 12 40 32.2 +0.3
GAMB Gambell 60.24 21 P P 12 40 37.4 -0.3
baz=232
TIXI Tiksi 60.25 355 P P 12 40 35.8 -1.9
comp=Z,6.7nm,0.9s,baz=270,slow=22,SNR=28
TIXI LR LR 13 06 34.0

comp=Z,226nm,18.0s,baz=179,slow=36
TIXI Tiksi 60.25 355 *de* P **P 12 40 35.8 -1.9**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 60.25 355 IAmb IAmb 12 40 41.0
comp=Z,11nm,1.1s
TIXI Tiksi 60.25 355 P **P 12 40 35.4 -2.2**
ZSN Zaisan 60.37 318 *c i* P **P 12 40 39.4 +0.5**
ZSN pmax pmax
comp=Z,13nm,1.0s
ZSN Zaisan 60.37 318 ⇑ *i* P **P 12 40 39.5 +0.5**
comp=Z,13nm,1.0s,baz=318
KHZ Kahutara 60.66 155 P **P 12 40 40.8 0.0**
RPZ Rata Peaks 60.79 158 P **P 12 40 41.9 +0.1**
RPZ IAmb IAmb 12 41 05.2
comp=Z,36nm,1.0s
RPZ Rata Peaks 60.79 158 P **P 12 40 42.5 +0.8**
SDPT Sand Point 60.95 33 P **P 12 40 42.2 -0.4**
baz=248
ODZ Otahua Downs 61.79 159 P **P 12 40 48.7 +0.3**
MK31 Makanchi Array 61.92 317 *i* P **P 12 40 49.7 +0.2**
MK31 Makanchi Array 61.92 317 P **P 12 40 49.4 -0.1**
MK31 IAmb IAmb 12 40 51.3
comp=Z,34nm,1.0s
MKAR Makanchi Array 61.92 317 P **P 12 40 50.1 +0.6**
comp=Z,30nm,0.9s,baz=94,slow=8.3,SNR=187
MKAR PKP2bc 13 10 05.7
comp=Z,1.0nm,1.0s,baz=270,slow=3.0,SNR=7.1
MAKZ Makanchi 62.13 317 P **P 12 40 51.2 +0.3**
MAKZ pmax pmax
comp=Z,57nm,1.0s
MAKZ Makanchi 62.13 317 P **P 12 40 51.2 +0.3**
ZAA0 Zalesovo Array 62.30 325 P **P 12 40 51.7 -0.2**
ZAA0 IAmb IAmb 12 40 52.8
comp=Z,29nm,0.9s
ZALV Zalesovo Beam 62.30 325 P **P 12 40 51.7 -0.2**
comp=Z,19nm,0.8s,baz=104,slow=6.3,SNR=88
ZALV PcP **PcP 12 41 31.3 -0.2**
comp=Z,8.7nm,0.8s,baz=127,slow=5.6,SNR=5.6
ZALV PKP2bc 13 10 06.5
comp=Z,0.3nm,0.3s,baz=243,slow=0.7,SNR=4.4
ZALV Zalesovo Beam 62.30 325 P 12 40 51.5 -0.3
PALK Pallekele 62.34 272 LR LR 13 07 50.1
comp=Z,122nm,19.1s,baz=187,slow=36
PALK Pallekele 62.34 272 P **P 12 40 52.9 0.0**
PALK pmax pmax
comp=Z,43nm,1.0s
PALK Pallekele 62.34 272 P **P 12 40 52.9 0.0**
PALK Pallekele 62.34 272 P **P 12 40 54.0 +1.1**
PALK P **P 12 40 54.0 +1.1**
TNA Tin City 62.61 20 IAmb IAmb 12 40 54.9
comp=Z,23nm,1.1s
ANM Nome 62.97 22 IAmb IAmb 12 40 57.6
comp=Z,28nm,1.1s
ANM Nome 62.97 22 P **P 12 40 56.3 +0.2**
baz=238,SNR=10
HYBB Hyderabad (bro 63.14 284 *e* P **P 12 40 58.5 +0.3**
SHLS Shalkode 63.21 312 *c i* P **P 12 40 56.5 -1.8**
SHLS pmax pmax
comp=Z,19nm,1.2s
SHLS Shalkode 63.21 312 ⇑ *i* P **P 12 40 56.6 -1.8**
comp=Z,19nm,1.2s,baz=312
UZB Uzynbulak 63.53 312 *c i* P **P 12 41 00.4 0.0**
UZB pmax pmax
comp=Z,15nm,1.1s
UZB Uzynbulak 63.53 312 ⇑ *i* P **P 12 41 00.4 0.0**
comp=Z,15nm,1.1s,baz=312
CHIR Chirikof Islan 63.70 33 P **P 12 41 01.0 0.0**
baz=252
KPKS Kokpek 63.82 313 *e* P **P 12 41 02.4 +0.1**
KPKS pmax pmax
comp=Z,14nm,1.4s
KPKS Kokpek 63.82 313 *e* P **P 12 41 02.4 +0.1**
comp=Z,14nm,1.4s,baz=313
SATY Saty 63.96 312 *c i* P **P 12 41 03.7 +0.4**
SATY pmax pmax
comp=Z,17nm,1.2s
SATY Saty 63.96 312 ⇑ *i* P **P 12 41 03.8 +0.4**
comp=Z,17nm,1.2s,baz=312
SEM Semipalatinsk 64.05 320 *e* P **P 12 41 03.1 -0.7**
SEM pmax pmax
comp=Z,12nm,0.9s
SEM Semipalatinsk 64.05 320 *e* P **P 12 41 03.1 -0.7**
comp=Z,12nm,0.9s,baz=320
TDK Taldyqorghan 64.25 314 *e* P **P 12 41 05.8 +0.8**
TDK Taldyqorghan 64.25 314 *e* P **P 12 41 05.9 +0.8**
baz=314
RAR Rarotonga 64.47 121 LR LR 13 04 41.5
comp=Z,232nm,21.3s,baz=294,slow=32
ARXS Arharly 64.54 313 *e* P **P 12 41 06.6 -0.4**
SII Sitkinak Islan 64.69 33 P **P 12 41 07.9 +0.3**
baz=253
KDJ Kajisay 64.74 311 IAmb IAmb 12 41 10.4
comp=Z,36nm,0.9s
MDOK Medeo 64.96 312 *i* P **P 12 41 10.4 +0.5**
MDOK Medeo 64.96 312 *i* P **P 12 41 10.4 +0.5**
baz=312
TNSS Tian-Shan 65.02 312 *i* P **P 12 41 11.2 +0.7**
baz=312
AAA Alma-Ata 65.06 312 *e* P **P 12 41 11.0 +0.6**
AAA Alma-Ata 65.06 312 *e* P **P 12 41 11.1 +0.6**
baz=312
CHKK Chushkaly 65.09 313 *i* P **P 12 41 10.6 +0.1**
baz=313
KURK Kurchatov 65.13 320 P **P 12 41 10.9 +0.3**
KURK pmax pmax
comp=Z,135nm,0.9s
KURK Kurchatov 65.13 320 P **P 12 41 10.9 +0.3**
KURBB Kurchatov Arra 65.17 320 PKP2bc 13 09 59.4
comp=Z,2.2nm,1.0s,baz=277,slow=3.6,SNR=8.2
KURBB Kurchatov Arra 65.17 320 P **P 12 41 08.8 -2.0**
OHAK Old Harbor 65.35 32 P **P 12 41 12.0 +0.1**
baz=253
KSH Kashi 65.40 308 P **P 12 41 15.3 +2.6**
KSH sP pwP 12 41 25.5 +0.8
KSH PcP **PcP 12 41 48.5 +3.8**
KSH S **S 12 50 02.5 +6.3**
KSH ScS **ScS 12 51 09.8 +2.4**
KSH pmax pmax
comp=Z,45nm,0.8s
KSH pmax pmax
comp=Z,190nm,5.4s
KSH LR LR
comp=Z,380nm,18.4s
KSH LR LR
comp=Z,440nm,17.1s
KSH LR LR
comp=Z,710nm,20.9s
KUU Kurty 65.56 313 *c i* P **P 12 41 13.7 +0.1**
KUU Kurty 65.56 313 ⇑ *i* P **P 12 41 13.8 +0.1**
baz=313
RDOG Red Dog Mine 65.64 19 P **P 12 41 13.8 +0.2**
baz=239,SNR=12
O19K Port Alsworth 65.75 29 P **P 12 41 13.4 -1.0**
baz=251
KDAK Kodiak Island 65.88 32 P **P 12 41 15.4 +0.2**
comp=Z,20nm,1.1s,baz=327,slow=9.5,SNR=2.7
KDAK Kodiak Island 65.88 32 P **P 12 41 14.5 -0.7**
baz=254
N19K Bonanza Creek 65.88 28 P **P 12 41 16.0 +0.7**
baz=251,SNR=5.2
TTA Tatalina 65.95 26 P **P 12 41 16.0 +0.2**
TTA pmax pmax
comp=Z,43nm,1.2s
TTA Tatalina 65.95 26 P **P 12 41 16.0 +0.2**
TTA IAmb IAmb 12 41 17.2
comp=Z,43nm,1.2s
TTA Tatalina 65.95 26 P **P 12 41 15.9 +0.2**
baz=248,SNR=8.9
TKM2 Tokmak 2 65.99 312 P **P 12 41 17.1 +0.5**
SNR=20
TKM2 Tokmak 2 65.99 312 P **P 12 41 16.1 -0.5**
L19K White Mountain 66.18 27 P **P 12 41 17.5 +0.3**
baz=250,SNR=11
M19K Big River Lodg 66.29 27 IAmb IAmb 12 41 23.6
comp=Z,57nm,1.4s
GCSA Galena City Sc 66.29 24 P **P 12 41 17.6 -0.2**
baz=247,SNR=8.7
KBK Karagaybulak 66.44 311 P **P 12 41 20.4 +0.9**
SNR=11
O20K Slope Mountain 66.52 29 P **P 12 41 18.8 -0.7**
baz=253
CHMS Chumysh 66.62 312 P **P 12 41 20.9 +0.5**
SNR=12
L20K Farewell, AK 66.71 27 P **P 12 41 20.8 +0.2**
baz=250
SGDS Sogindy 66.75 312 ⇑ *i* P **P 12 41 21.0 -0.2**
baz=312
AAK Ala-Archa 66.77 311 LR LR 13 12 48.3
comp=Z,1μm,19.4s,baz=94,slow=38
AAK Ala-Archa 66.77 311 *ce* P **P 12 41 21.7 +0.1**
AAK pmax pmax
comp=Z,16nm,1.1s
AAK Ala-Archa 66.77 311 P **P 12 41 21.1 -0.4**
AAK Ala-Archa 66.77 311 P **P 12 41 22.3 +0.7**
AAK P **P 12 41 22.3 +0.7**
AAK Ala-Archa 66.77 311 *i* P **P 12 41 21.7 +0.1**
SNR=10
USP Ospenovka 66.83 312 P **P 12 41 22.0 +0.2**
SNR=18
HOM Homer 66.88 30 P **P 12 41 21.6 0.0**
baz=254
K20K Telida 66.93 26 IAmb IAmb 12 41 24.1
comp=Z,44nm,1.1s
SPCR Spurr Chakacha 67.06 28 P **P 12 41 22.4 -0.4**
baz=253
J20K Nowinta River 67.18 25 P **P 12 41 24.3 +0.8**
baz=250,SNR=29
NRIK Noril'sk 67.26 341 P **P 12 41 23.6 -0.3**
comp=Z,42nm,1.0s,baz=116,slow=7.1,SNR=65
NRIK LR LR 13 10 58.9
comp=Z,747nm,19.2s,baz=122,slow=36
NRIK Noril'sk 67.26 341 *ce* P **P 12 41 23.4 -0.5**
NRIK pmax pmax
comp=Z,95nm,1.2s
EKS2 Erkin-Say 67.30 311 P **P 12 41 25.1 +0.2**
SNR=17
BTLS Baital 67.32 314 *c i* P **P 12 41 24.7 0.0**
BTLS pmax pmax
comp=Z,21nm,1.2s
BTLS Baital 67.32 314 ⇑ *i* P **P 12 41 24.8 0.0**
comp=Z,21nm,1.2s,baz=314
BRSE Bradley Lake S 67.34 30 P **P 12 41 24.1 -0.5**
baz=254
NIL Nilore 67.34 301 P **P 12 41 25.2 +0.1**
NIL pmax pmax
comp=Z,140nm,0.9s
NIL Nilore 67.34 301 P **P 12 41 25.2 +0.1**
CAPN Captain Cook N 67.42 29 P **P 12 41 23.9 -1.1**
baz=254
PPLA Purkeypile 67.58 26 P **P 12 41 26.4 +0.2**
baz=252,SNR=6.7
CAST Castle Rocks 67.79 26 P **P 12 41 27.6 +0.2**
baz=252,SNR=32
CHUM Lake Minchumin 67.84 25 P **P 12 41 28.2 +0.6**
baz=251,SNR=17
O22K Cooper Landing 68.02 29 P **P 12 41 28.7 -0.1**
baz=255,SNR=5.7
SEW Seward 68.06 30 P **P 12 41 28.6 -0.5**
baz=256
M22K Willow 68.17 28 P **P 12 41 29.0 -0.8**
baz=254,SNR=11
RC01 Rabbit Creek A 68.17 29 P **P 12 41 29.3 -0.5**
baz=255,SNR=8.2
H21K Meloztina Rive 68.23 24 P **P 12 41 30.7 +0.6**
baz=250,SNR=19
CUT Chulitna 68.29 27 P **P 12 41 29.5 -1.0**
baz=254
I21K Tanana 68.39 24 IAmb IAmb 12 41 33.2
comp=Z,46nm,1.1s
I21K Tanana 68.39 24 P **P 12 41 31.8 +0.7**
baz=251,SNR=14
BPAW Bear Paw Mtn. 68.47 25 P **P 12 41 31.5 -0.2**
baz=253,SNR=24
TRF Thorofare Moun 68.57 26 P **P 12 41 32.0 -0.5**
baz=254,SNR=8.6
PMR Palmer 68.59 28 P **P 12 41 31.8 -0.6**
baz=255,SNR=10
BRZS Berezniki 68.77 319 *c i* P **P 12 41 33.6 -0.2**
BRZS pmax pmax
comp=Z,14nm,1.0s
BRZS Berezniki 68.77 319 ⇑ *i* P **P 12 41 33.7 -0.2**
comp=Z,14nm,1.0s,baz=319
PWL Port Wells 68.78 29 P **P 12 41 33.6 -0.1**
baz=256,SNR=25
MLY Manley 68.85 24 P **P 12 41 34.1 0.0**
baz=252,SNR=28
KNK Knik Glacier 68.86 28 P **P 12 41 34.0 -0.2**
baz=256,SNR=11
SML Sawmill 69.01 28 P **P 12 41 35.0 -0.1**
baz=256,SNR=17
DZA Taraz 69.11 311 *e* P **P 12 41 36.1 0.0**
DZA Taraz 69.11 311 *e* P **P 12 41 36.1 0.0**
baz=311
A21K Barrow 69.12 17 P **P 12 41 35.9 +0.4**
baz=244
MCK McKinley 69.23 26 P **P 12 41 35.6 -0.8**
baz=255,SNR=12
GLI Glacier Island 69.38 29 P **P 12 41 37.3 -0.1**
baz=257
NEA2 Nenana 69.41 25 IAmb IAmb 12 41 39.6
comp=Z,33nm,1.3s
NEA2 Nenana 69.41 25 P **P 12 41 36.7 -0.7**
baz=254,SNR=8.9
Q23K Middleton Isla 69.44 31 P **P 12 41 37.1 -0.6**
baz=259
I23K Minto, Yukon-K 69.44 25 P **P 12 41 37.9 +0.3**
baz=254,SNR=34
WAT6 Susitna Watana 69.47 27 P **P 12 41 37.7 -0.3**
baz=256,SNR=18
SCM Sheep Creek Mo 69.48 28 P **P 12 41 38.3 +0.3**
baz=257,SNR=26
COLD Coldfoot 69.73 22 P **P 12 41 40.1 +0.8**
baz=252,SNR=37
DHY Denali Highway 69.75 27 IAmb IAmb 12 41 41.7
comp=Z,43nm,1.2s
DHY Denali Highway 69.75 27 P **P 12 41 39.4 -0.4**
baz=256,SNR=12
MDM Murphy Dome 69.85 25 IAmb IAmb 12 41 42.4
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 69.95 30 P **P 12 41 41.3 +0.4**
baz=259
TCOL CIGO, UAF Yank 69.98 25 IAmb IAmb 12 41 41.6
comp=Z,46nm,1.3s
TCOL CIGO, UAF Yank 69.98 25 P **P 12 41 40.1 -0.8**
baz=255,SNR=8.9
COLA College 69.98 25 P **P 12 41 40.5 -0.5**
COLA pmax pmax
comp=Z,45nm,1.3s
COLA College 69.98 25 P **P 12 41 40.5 -0.5**
COLA IAmb IAmb 12 41 41.6
comp=Z,45nm,1.3s
COLA College 69.98 25 P **P 12 41 40.1 -0.9**
baz=255
IUG Iuzhnay 70.05 311 *i* P **P 12 41 42.3 +0.4**
IUG Iuzhnay 70.05 311 *i* P **P 12 41 42.4 +0.4**
baz=310
KLU Klutina 70.06 29 P **P 12 41 41.9 +0.2**
baz=258,SNR=18
M24K Tolsona, Glenn 70.07 28 P **P 12 41 42.2 +0.6**
baz=258,SNR=7.4
POKR Poker Plat Res 70.22 25 IAmb IAmb 12 41 43.8
comp=Z,58nm,1.4s
POKR Poker Plat Res 70.22 25 P **P 12 41 41.6 -0.9**
baz=256,SNR=7.5
H24K Noodor Dome 70.22 24 P **P 12 41 42.8 +0.3**
baz=255,SNR=37
ILAR Eielson Array 70.36 25 P **P 12 41 42.0 -1.3**
comp=Z,16nm,0.9s,baz=256,slow=4.5,SNR=65
TOLK Toolik Lake Re 70.39 21 P **P 12 41 44.0 +0.6**
TOLK Toolik Lake Re 70.39 21 P **P 12 41 44.3 +0.8**
baz=252,SNR=43
KAIM Kayak Island 70.49 30 P **P 12 41 43.1 -1.1**
baz=260
PAX Paxson 70.57 27 P **P 12 41 44.6 -0.1**
baz=258,SNR=20
BRVK Borovoye 70.59 322 *ce* P **P 12 41 44.9 0.0**
BRVK pmax pmax
comp=Z,52nm,0.9s
BRVK Borovoye 70.59 322 P **P 12 41 44.8 -0.1**
HARP HAARP 70.60 28 P **P 12 41 45.3 +0.5**
baz=259,SNR=14
N25K Chitina, Valde 70.70 29 P **P 12 41 46.1 +0.5**
baz=259,SNR=10.0
KBL Kabul 70.82 302 P **P 12 41 46.9 -0.1**
KBL pmax pmax
comp=Z,114nm,1.3s
KBL Kabul 70.82 302 P **P 12 41 46.9 -0.1**
KBL Kabul 70.82 302 P **P 12 41 46.9 -0.1**
SNR=38
KBL P **P 12 41 46.9 -0.1**
SNR=38
J25K Salcha River, 70.96 26 IAmb IAmb 12 41 47.5
comp=Z,57nm,1.4s
J25K Salcha River, 70.96 26 P **P 12 41 46.1 -1.0**
baz=258,SNR=9.4
RIDG Independent Ri 71.00 26 P **P 12 41 47.2 -0.1**
baz=258,SNR=15
DOT Dot Lake 71.33 27 P **P 12 41 48.6 -0.7**
SCRK Sand Creek 71.42 26 IAmb IAmb 12 41 51.2
comp=Z,59nm,1.2s
SCRK Sand Creek 71.42 26 P **P 12 41 49.7 -0.2**
baz=259,SNR=16
L26K Log Cabin Wild 71.53 27 IAmb IAmb 12 41 52.3
comp=Z,41nm,1.1s
L26K Log Cabin Wild 71.53 27 P **P 12 41 51.0 +0.5**
baz=260,SNR=16
J26L Joseph Creek 71.70 26 P **P 12 41 51.4 -0.2**
baz=259,SNR=29
PPT Papeete 72.00 113 LR LR 13 08 52.3
comp=Z,356nm,19.3s,baz=304,slow=32
PPT2 Papeete2 72.01 113 *e* S **S 12 51 08.9 -6.2**
comp=Z,243nm,27.0s
PPT2 Papeete2 72.01 113 *e* LR LR 13 03 28.9
comp=Z,803nm,31.5s,baz=281
BARN Barnard Glacie 72.02 30 IAmb IAmb 12 41 55.7
comp=Z,49nm,1.3s
M27K Edge Creek, AK 72.09 28 IAmb IAmb 12 41 56.0
comp=Z,61nm,1.2s
M27K Edge Creek, AK 72.09 28 P **P 12 41 54.3 +0.2**
baz=262,SNR=19
L27K Beaver Creek, 72.22 27 IAmb IAmb 12 41 56.5
comp=Z,40nm,1.2s
L27K Beaver Creek, 72.22 27 P **P 12 41 55.1 +0.4**
baz=262,SNR=19
BVCY Beaver Creek 72.57 28 P **P 12 41 57.2 +0.4**
baz=263,SNR=20
PCA Pinnacle 72.59 31 IAmb IAmb 12 41 58.9
comp=Z,59nm,1.2s
YUK3 Moose Creek 72.68 29 P **P 12 41 58.2 +0.5**
baz=263,SNR=30
BCPM Bancas Point 72.88 31 IAmb IAmb 12 42 12.2
comp=Z,47nm,1.4s
PNL Peninsula 72.97 31 P **P 12 41 59.1 -0.1**
baz=265
DAWY Dawson 73.44 27 P **P 12 42 02.6 +0.8**
baz=263,SNR=46
YUK4 Talbot Arm 73.50 29 P **P 12 42 03.9 +1.4**
baz=265,SNR=18
YUK6 Outpost Mounta 73.60 30 P **P 12 42 04.4 +1.3**
baz=265,SNR=6.4
J29M Klondike Camp 73.99 26 P **P 12 42 06.3 +1.2**
baz=264,SNR=19
HYT Haines Junctio 74.01 30 P **P 12 42 06.5 +1.1**
baz=266,SNR=25
I29M Ogilvie Camp, 74.04 25 P **P 12 42 05.7 +0.3**
baz=264,SNR=32
TBI Tubuai 74.08 119 *e* S **SKiKP 12 51 32.0 -1.6**
comp=Z,206nm,28.8s
TBI Tubuai 74.08 119 *e* LR LR 13 04 23.5
comp=Z,551nm,33.0s,baz=295
M30M Minto, Yukon 74.47 28 IAmb IAmb 12 42 10.4
comp=Z,60nm,1.2s
M30M Minto, Yukon 74.47 28 P **P 12 42 08.7 +0.8**
baz=266,SNR=30
EPYK Eagle Plains 74.79 24 P **P 12 42 10.3 +0.6**
baz=265,SNR=39
N31M Braeburn, Yuko 74.88 29 P **P 12 42 11.4 +1.0**
baz=267,SNR=17
SIT Sitka 74.97 34 P **P 12 42 11.2 +0.4**
baz=269
SKAG Skagway 75.03 31 P **P 12 42 12.3 +1.2**
SKAG Skagway 75.03 31 P **P 12 42 12.3 +1.2**
baz=268,SNR=17
WHY Whitehorse 75.29 30 P **P 12 42 13.9 +1.1**
baz=268,SNR=20
M31M Drury Creek, Y 75.57 29 P **P 12 42 15.0 +0.7**
baz=268,SNR=18
INK Inuvik 76.14 22 P **P 12 42 17.5 +0.2**
comp=Z,97nm,1.0s,baz=257,slow=7.5,SNR=58
INK Inuvik 76.14 22 P **P 12 42 17.3 0.0**
baz=268
CRAG Craig 76.20 36 P **P 12 42 18.1 +0.2**
baz=271
SVE Sverdlovsk 76.30 326 *d i* P **P 12 42 18.9 +0.4**
SVE pmax pmax
comp=Z,127nm,1.3s
SVE MLR MLR
comp=Z,673nm,17.0s
P33M Teslin, Yukon 76.31 31 IAmb IAmb 12 42 20.9
comp=Z,40nm,1.4s
P33M Teslin, Yukon 76.31 31 P **P 12 42 19.4 +0.8**
baz=270,SNR=13
WRAK Wrangell Islan 76.62 35 IAmb IAmb 12 42 34.7
comp=Z,59nm,1.3s
WRAK Wrangell Islan 76.62 35 P **P 12 42 21.4 +1.2**
baz=272,SNR=7.4
AB31 Akbulak array 77.02 318 *i* P **P 12 42 22.4 -0.3**
ABKAR Akbulak array 77.02 318 IAmb IAmb 12 42 23.8
comp=Z,44nm,1.0s
ARU Arti 77.46 325 *c i* P **P 12 42 24.7 -0.3**
ARU 12 45 15.7
ARU S **S 12 52 17.5 +2.8**
ARU SS **SS 12 57 11.9 -1.5**
ARU pmax pmax
comp=Z,90nm,1.0s
ARU Arti 77.46 325 P **P 12 42 24.3 -0.7**
DLBC Dease Lake 77.79 32 P **P 12 42 28.1 +1.2**
comp=Z,12nm,1.1s,baz=270,slow=5.1,SNR=19
DLBC Dease Lake 77.79 32 IAmb IAmb 12 42 29.0
comp=Z,59nm,1.5s
AKTO Aktyubinsk 78.18 319 P **P 12 42 27.4 -1.8**
TAOE Nuku Hiva Isla 78.32 102 *e* S **S 12 52 19.7 -5.9**
comp=Z,108nm,25.9s
TAOE Nuku Hiva Isla 78.32 102 *e* LR LR 13 06 22.3
comp=Z,248nm,21.4s,baz=291
TGTN Hyland Airport 78.48 29 P **P 12 42 31.7 +1.0**
baz=274,SNR=26
A36M Sachs Harbour 78.90 18 P **P 12 42 32.8 +0.2**
baz=275
BBB Bella Bella 79.37 39 P **P 12 42 37.0 +1.3**
comp=Z,11nm,1.0s,baz=291,slow=8.4,SNR=4.8
GEYT Alibeck 79.38 307 P **P 12 42 36.9 +0.8**
comp=Z,47nm,1.0s,baz=190,slow=4.1,SNR=41
C36M Paulatuk 79.54 21 P **P 12 42 36.0 -0.2**
baz=276
JLN Jalan Bani Buh 80.48 291 P **P 12 42 42.5 +0.2**
SNR=6.4
JLN P **P 12 42 42.5 +0.2**
SNR=6.4
WBK Wadi Bani Khal 80.81 291 P **P 12 42 44.4 +0.3**
SNR=7.8
WBK P **P 12 42 44.4 +0.3**
SNR=7.8
WSAR Wadi Sarin 81.02 292 LR LR 13 22 23.3
comp=Z,173nm,19.1s,baz=102,slow=38
CBB Campbell River 81.36 41 IAmb IAmb 12 42 51.5
comp=Z,41nm,1.3s
BIDO Bidbid 81.43 292 P **P 12 42 47.7 +0.3**
SNR=19
OZB Mount Ozzard 81.44 42 IAmb IAmb 12 43 02.5
comp=Z,46nm,1.2s
SMDO Samad 81.58 292 P **P 12 42 48.2 -0.1**
SNR=6.9
SMDO P **P 12 42 48.2 -0.1**
SNR=6.9
JMDO Jabal Madar 81.64 291 P **P 12 42 48.8 +0.3**
SNR=7.7
JMDO P **P 12 42 48.8 +0.3**
SNR=7.7
MHTO MHTO 82.00 290 P **P 12 42 50.9 +0.5**
SNR=18
MHTO P **P 12 42 50.9 +0.5**
SNR=18
KIRV Kirov 82.12 328 LR LR 13 21 44.4
comp=Z,636nm,18.8s,baz=79,slow=37
HOQ Hoqain 82.16 292 P **P 12 42 51.8 +0.6**
SNR=23
HOQ P **P 12 42 51.8 +0.6**
SNR=23
BSY Bisya 82.40 292 P **P 12 42 53.0 +0.5**
SNR=8.5
BSY P **P 12 42 53.0 +0.5**
SNR=8.5
DQM DQM 82.57 289 P **P 12 42 54.3 +0.9**
DQM P **P 12 42 54.3 +0.9**
BANOM Banah 82.67 295 P **P 12 42 54.9 +1.1**
SNR=8.4
BANOM Banah 82.67 295 *i* P **P 12 42 54.2 +0.4**
SNR=13
NLWA Neilton Lookou 82.76 43 IAmb IAmb 12 43 10.6

	comp=Z,49nm,1.3s										
SOHO	**SOHO**	**82.77**	**293**	*i*	P		**P**		**12 42 54.0**	**-0.3**	
	SNR=9.7										
SHME	**Shamm**	**82.79**	**295**		P		**P**		**12 42 54.4**	**0.0**	
SHME	SNR=5.4				P		**P**		**12 42 54.4**	**0.0**	
	SNR=5.4										
SHME	**Shamm**	**82.79**	**295**		P		**P**		**12 42 54.5**	**0.0**	
PGC	**Sidney**	**82.82**	**42**		IAmb		IAmb		12 43 10.2		
	comp=Z,52nm,1.4s										
MASF	**Masafi**	**82.89**	**294**		P		**P**		**12 42 54.9**	**-0.1**	
	SNR=13										
MASF					P		**P**		**12 42 54.9**	**-0.1**	
	SNR=13										
MSFE	**Esma-Masafi**	**82.89**	**294**	*i*	P		**P**		**12 42 55.1**	**+0.1**	
	SNR=12										
ARQ	**Araqi**	**82.91**	**292**		P		**P**		**12 42 55.3**	**+0.2**	
	SNR=12										
ARQ					P		**P**		**12 42 55.3**	**+0.2**	
	SNR=12										
UOSS	**Minazif**	**82.92**	**294**		P		**P**		**12 42 55.0**	**-0.1**	
UOSS					IAmb		IAmb		12 42 56.1		
	comp=Z,29nm,1.0s										
UOSS	**Minazif**	**82.92**	**294**	*i*	P		**P**		**12 42 54.2**	**-0.9**	
	SNR=8.2										
HATD	**Hatta, Dubai**	**83.01**	**294**		P		**P**		**12 42 55.7**	**+0.1**	
	SNR=9.5										
HATD	**Hatta, Dubai**	**83.01**	**294**	*i*	P		**P**		**12 42 55.4**	**-0.2**	
	SNR=9.9										
ASHO	**Ashiyiah**	**83.10**	**294**		P		**P**		**12 42 55.9**	**-0.2**	
	SNR=9.7										
ASHO					P		**P**		**12 42 55.9**	**-0.2**	
	SNR=9.7										
ASHO	**Ashiyiah**	**83.10**	**294**	*i*	P		**P**		**12 42 55.9**	**-0.2**	
	SNR=12										
E03A	**Lebam**	**83.11**	**44**		IAmb		IAmb		12 43 01.0		
	comp=Z,38nm,1.0s										
D03D	**Eldon**	**83.25**	**43**		P		**P**		**12 42 58.1**	**+1.7**	
	baz=280,SNR=29										
A04D	**Lummi Island**	**83.29**	**42**		P		**P**		**12 42 58.0**	**+1.4**	
	baz=281,SNR=15										
I02E	**Swisshome, OR**	**83.34**	**46**		P		**P**		**12 42 59.4**	**+2.4**	
	baz=280										
PRGR	**Permogore**	**83.37**	**332**	*eP*			**P**		**12 42 53.1**	**-3.6**	
PRGR					pmax		pmax				
	comp=Z,40nm,1.2s										
J01E	**Myrtle Point**	**83.45**	**47**		P		**P**		**12 42 58.4**	**+0.9**	
	baz=280										
LLLB	**Lillooet**	**83.47**	**40**		IAmb		IAmb		12 43 02.3		
	comp=Z,28nm,1.1s										
ALNE	**Al Ain**	**83.48**	**293**		P		**P**		**12 42 58.3**	**+0.3**	
	SNR=7.8										
ALNE					P		**P**		**12 42 58.3**	**+0.3**	
	SNR=7.8										
ALNE	**Al Ain**	**83.48**	**293**	*i*	P		**P**		**12 42 58.2**	**+0.1**	
	SNR=6.8										
FAQ	**Al Faqa, Dubai**	**83.50**	**294**		P		**P**		**12 42 58.5**	**+0.3**	
D04E	**Lakebay**	**83.53**	**43**		P		**P**		**12 42 59.0**	**+1.2**	
	baz=281										
G03D	**McMinnville, O**	**83.56**	**45**		P		**P**		**12 42 59.3**	**+1.3**	
	baz=281										
F04D	**Rainier, OR**	**83.57**	**44**		P		**P**		**12 42 58.6**	**+0.5**	
	baz=281										
K02D	**Willamette Mer**	**83.73**	**48**		P		**P**		**12 42 59.7**	**+0.7**	
	baz=281										
ASUD	**Al Ashush, Dub**	**83.76**	**294**		P		**P**		**12 42 60.0**	**+0.5**	
I03D	**Drain, OR**	**83.77**	**47**		P		**P**		**12 43 00.4**	**+1.2**	
	baz=281,SNR=5.6										
B05A	**Bryant**	**83.77**	**42**		P		**P**		**12 43 00.2**	**+1.2**	
	baz=281,SNR=13										
E04D	**Cinebar**	**83.78**	**44**		IAmb		IAmb		12 43 03.1		
	comp=Z,35nm,1.1s										
E04D	**Cinebar**	**83.78**	**44**		P		**P**		**12 43 00.4**	**+1.3**	
	baz=281,SNR=7.0										
L02E	**Cave Junction**	**83.87**	**48**		IAmb		IAmb		12 43 16.5		
	comp=Z,24nm,1.1s										
L02E	**Cave Junction**	**83.87**	**48**		P		**P**		**12 42 59.9**	**+0.2**	
	baz=281										
F04A	**Amboy**	**84.00**	**44**		IAmb		IAmb		12 43 05.3		
	comp=Z,27nm,0.9s										
KHMM	**Horse Mountain**	**84.02**	**50**		IAmb		IAmb		12 43 05.8		
	comp=Z,34nm,1.1s										
H04D	**Lebanon**	**84.05**	**46**		IAmb		IAmb		12 43 16.6		
	comp=Z,38nm,1.1s										
H04D	**Lebanon**	**84.05**	**46**		P		**P**		**12 43 01.9**	**+1.3**	
	baz=281,SNR=7.4										
AJN	**Ajban**	**84.08**	**294**		P		**P**		**12 43 01.0**	**-0.1**	
AJN					P		**P**		**12 43 01.0**	**-0.1**	
B06A	**Marblemount**	**84.12**	**42**		IAmb		IAmb		12 43 26.1		
	comp=Z,38nm,1.2s										
KMRM	**Mail Ridge**	**84.15**	**50**		P		**P**		**12 43 02.4**	**+1.1**	
KMRM					IAmb		IAmb		12 43 19.0		
	comp=Z,37nm,1.2s										
HUMO	**Hull Mountain**	**84.26**	**48**		IAmb		IAmb		12 43 18.4		
	comp=Z,22nm,1.1s										
H04A	**Detroit Lake**	**84.41**	**46**		P		**P**		**12 43 02.8**	**+0.4**	
H04A					IAmb		IAmb		12 43 17.7		
	comp=Z,27nm,1.1s										
I04A	**Tendick Farm,**	**84.42**	**47**		P		**P**		**12 43 03.3**	**+0.8**	
	baz=281,SNR=9.4										
M02C	**Callahan**	**84.57**	**49**		IAmb		IAmb		12 43 19.6		
	comp=Z,37nm,1.4s										
M02C	**Callahan**	**84.57**	**49**		P		**P**		**12 43 05.0**	**+1.6**	
	baz=281,SNR=16										
YBH	**Yreka Blue Hor**	**84.61**	**49**		IAmb		IAmb		12 43 20.2		
	comp=Z,20nm,1.0s										
C06D	**Leavenworth**	**84.63**	**42**		P		**P**		**12 43 04.3**	**+0.8**	
	baz=282										
HOOD	**Mount Hood Mea**	**84.65**	**45**		IAmb		IAmb		12 43 20.0		
	comp=Z,19nm,0.8s										
YKA	**Yellowknife Ar**	**84.66**	**27**		P		**P**		**12 43 03.4**	**+0.1**	
	comp=Z,16nm,0.8s,baz=286,slow=4.9,SNR=75										
F05D	**White Salmon**	**84.67**	**44**		IAmb		IAmb		12 43 18.0		
	comp=Z,48nm,1.5s										
F05D	**White Salmon**	**84.67**	**44**		P		**P**		**12 43 04.6**	**+0.9**	
	baz=282										
J04D	**Umpqua Nationa**	**84.75**	**47**		P		**P**		**12 43 05.5**	**+1.1**	
	baz=282,SNR=8.3										
N02D	**Trinity Center**	**84.76**	**49**		IAmb		IAmb		12 43 21.2		
	comp=Z,20nm,1.0s										
N02D	**Trinity Center**	**84.76**	**49**		P		**P**		**12 43 05.9**	**+1.6**	
	baz=281,SNR=11										
L04D	**Klamath Falls**	**84.81**	**48**		IAmb		IAmb		12 43 20.4		
	comp=Z,32nm,1.0s										
L04D	**Klamath Falls**	**84.81**	**48**		P		**P**		**12 43 05.7**	**+1.1**	
	baz=282,SNR=9.5										
O02D	**Mt. Diablo Mer**	**84.85**	**50**		IAmb		IAmb		12 43 09.2		
	comp=Z,34nm,1.2s										
O02D	**Mt. Diablo Mer**	**84.85**	**50**		P		**P**		**12 43 06.7**	**+1.9**	
	baz=281,SNR=15										
G05D	**Wamic, OR**	**84.90**	**45**		P		**P**		**12 43 06.0**	**+1.1**	
	baz=282										
LTY	**Liberty**	**84.92**	**43**		IAmb		IAmb		12 43 08.0		
	comp=Z,30nm,1.2s										
I05D	**Terrebonne, OR**	**85.07**	**46**		P		**P**		**12 43 06.9**	**+1.1**	
	baz=282,SNR=6.9										
GDXM	**Geysers**	**85.12**	**52**		IAmb		IAmb		12 43 23.3		
	comp=Z,23nm,1.2s										
K04D	**Chiloquin, OR**	**85.13**	**48**		P		**P**		**12 43 07.5**	**+1.3**	
	baz=282,SNR=7.2										
M04C	**Macdoel**	**85.24**	**48**		IAmb		IAmb		12 43 23.1		
	comp=Z,31nm,1.0s										
M04C	**Macdoel**	**85.24**	**48**		P		**P**		**12 43 07.9**	**+1.1**	
	baz=282,SNR=16										
J05D	**Fort Rock, OR**	**85.36**	**47**		P		**P**		**12 43 08.7**	**+1.3**	
	baz=282,SNR=20										
SPA0	**Spitsbergen Ar**	**85.39**	**351**	*eP*			**P**		**12 43 07.3**	**+0.6**	
SPITS	**Spitsbergen Ar**	**85.39**	**351**		LR		LR		13 22 34.2		
	comp=Z,587nm,19.1s,baz=253,slow=37										
O03E	**Paynes Creek**	**85.57**	**50**		IAmb		IAmb		12 43 24.4		
	comp=Z,34nm,1.1s										
O03E	**Paynes Creek**	**85.57**	**50**		P		**P**		**12 43 09.1**	**+0.7**	
	baz=282,SNR=9.5										
E07A	**Sunnyside**	**85.62**	**43**		IAmb		IAmb		12 43 12.0		
	comp=Z,46nm,1.2s										
F07A	**Phinny Hill Vi**	**85.71**	**44**		IAmb		IAmb		12 43 12.4		
	comp=Z,34nm,1.3s										
K05A	**Summer Lake**	**85.73**	**47**		P		**P**		**12 43 10.8**	**+1.5**	
K05A					IAmb		IAmb		12 43 18.7		
	comp=Z,27nm,1.1s										
MZR	**Muzera**	**85.73**	**292**		P		**P**		**12 43 09.8**	**+0.4**	
	SNR=8.2										
MZR					P		**P**		**12 43 09.8**	**+0.4**	
	SNR=8.2										
MZR	**Muzera**	**85.73**	**292**	*i*	P		**P**		**12 43 09.6**	**+0.2**	
	SNR=5.8										
HAWA	**Hanford**	**85.87**	**44**		IAmb		IAmb		12 43 13.2		
	comp=Z,40nm,1.2s										
LVZ	**Lovozero**	**85.97**	**339**	*ceP*			**P**		**12 43 09.7**	**-0.1**	
LVZ					pmax		pmax				
	comp=Z,87nm,1.3s										
LVZ	**Lovozero**	**85.97**	**339**		P		**P**		**12 43 08.6**	**-1.1**	
DOK	**Doka**	**85.98**	**288**		P		**P**		**12 43 10.0**	**-0.7**	
	SNR=5.3										
DOK					P		**P**		**12 43 10.0**	**-0.7**	
	SNR=5.3										
D08A	**Wollman Farm,**	**86.13**	**43**		IAmb		IAmb		12 43 14.3		
	comp=Z,49nm,1.2s										
RBK	**Rabkut**	**86.13**	**287**		P		**P**		**12 43 10.3**	**-1.2**	
	SNR=5.5										
RBK					P		**P**		**12 43 10.3**	**-1.2**	
	SNR=5.5										
KLMR	**Klimovskoe**	**86.43**	**332**	*eP*			**P**		**12 43 08.8**	**-3.3**	
KLMR					pmax		pmax				
	comp=Z,87nm,1.3s										
KLMR	**Klimovskoe**	**86.43**	**332**	*eP*			**P**		**12 43 08.9**	**-3.2**	
KLMR					AMP				12 43 12.4		
	comp=Z,87nm,1.3s										
KLMR					LQ		LQ		13 16 50.1		
KLMR					LQ		LQ		13 16 50.1		
KLMR					LR		LR		13 20 51.8		
WHFO	**Wadi Hawf**	**86.45**	**287**		P		**P**		**12 43 11.7**	**-1.5**	
WHFO					P		**P**		**12 43 11.7**	**-1.5**	
MAK	**Makhachkala**	**86.48**	**313**	*eP*			P		12 43 06.6	-6.1	
MAK				*e*					12 46 28.2		
MAK					pmax		pmax				
	comp=Z,106nm,0.8s										
APA	**Apatity**	**86.54**	**339**	⇓ *iP*			**P**		**12 43 10.2**	**-2.3**	
APA					pmax		pmax				
	comp=Z,40nm,1.0s										
APA					MLR		MLR				
	comp=Z,700nm,17.0s										
ABTO	**Aybut**	**87.01**	**287**		P		**P**		**12 43 15.0**	**-0.9**	
	SNR=16										
ABTO					P		**P**		**12 43 15.0**	**-0.9**	
	SNR=16										
NEW	**Newport**	**87.01**	**41**		P		**P**		**12 43 16.2**	**+0.9**	
	baz=285,SNR=58										
MPK	**Martis Peak**	**87.12**	**51**		IAmb		IAmb		12 43 21.0		
	comp=Z,40nm,1.2s										
CMB	**Columbia Colle**	**87.13**	**52**		IAmb		IAmb		12 43 20.6		
	comp=Z,32nm,1.4s										
J08A	**Circle Bar Ran**	**87.31**	**46**		IAmb		IAmb		12 43 21.3		
	comp=Z,28nm,1.2s										
SOCY	**Socotra**	**87.39**	**282**		IAmb		IAmb		12 43 23.0		
	comp=Z,25nm,1.0s										
TRNA	**Turayna**	**87.41**	**295**		P		**P**		**12 43 18.1**	**+0.5**	
WVOR	**Wild Horse Val**	**87.42**	**47**		IAmb		IAmb		12 43 21.9		
	comp=Z,34nm,1.4s										
PNTR	**Pine Nut**	**87.49**	**51**		IAmb		IAmb		12 43 35.3		
	comp=Z,22nm,1.0s										
PAHR	**Pah Rah Range**	**87.51**	**50**		IAmb		IAmb		12 43 22.5		
	comp=Z,19nm,1.1s										
KEV	**Kevo**	**87.67**	**342**		P		**P**		**12 43 16.3**	**-1.6**	
KEV					pmax		pmax				
	comp=Z,48nm,1.1s										
KEV	**Kevo**	**87.67**	**342**		P		**P**		**12 43 16.3**	**-1.6**	
SAKB	**Bahrain**	**87.75**	**296**		P		**P**		**12 43 18.9**	**-0.3**	
SMMC	**Simmler**	**88.05**	**54**		P		**P**		**12 43 22.3**	**+1.8**	
	baz=283,SNR=6.0										
VRH	**Novokhopyorsk**	**88.17**	**322**	*eP*			**P**		**12 43 19.0**	**-1.7**	
VRH					pmax		pmax				
	comp=Z,50nm,0.9s										
HAMF	**Hammerfest**	**88.18**	**343**	*eP*			**P**		**12 43 20.2**	**-0.2**	
ARA0	**ARCESS Array S**	**88.23**	**342**	*eP*			**P**		**12 43 20.8**	**+0.1**	
ARCES	**ARCESS Array B**	**88.23**	**342**		P		**P**		**12 43 20.5**	**-0.1**	
	comp=Z,26nm,0.9s,baz=82,slow=7.7,SNR=39										
ARCES					LR		LR		13 26 52.3		
	comp=Z,397nm,18.9s,baz=72,slow=38										
OMMB	**Old Mammoth Mi**	**88.30**	**52**		IAmb		IAmb		12 43 26.8		
	comp=Z,26nm,1.4s										
VOG	**Valley Oaks Go**	**88.31**	**53**		P		**P**		**12 43 22.3**	**+0.6**	
	baz=284										
RYN	**Ryan**	**88.42**	**51**		IAmb		IAmb		12 43 26.5		
	comp=Z,27nm,1.2s										
PLID	**Pearl Lake**	**88.59**	**44**		IAmb		IAmb		12 43 26.4		
	comp=Z,30nm,1.1s										
NVAR	**Mina Array Bea**	**88.63**	**51**		P		**P**		**12 43 24.9**	**+1.4**	
	comp=Z,13nm,0.7s,baz=264,slow=5.5,SNR=45										
NVAR					LR		LR		13 21 43.1		
	comp=Z,92nm,18.3s,baz=282,slow=35										
VES	**Vestal, Richgr**	**88.65**	**54**		P		**P**		**12 43 23.5**	**+0.2**	
	baz=284										
NV11	**Mina Array Sit**	**88.75**	**51**		IAmb		IAmb		12 43 28.8		
	comp=Z,39nm,1.3s										
WALA	**Waterton Lakes**	**88.84**	**40**		IAmb		IAmb		12 43 32.8		
	comp=Z,20nm,0.9s										
BMN	**Battle Mountai**	**88.94**	**49**		IAmb		IAmb		12 43 29.5		
	comp=Z,20nm,1.0s										
ARVC	**Arvin**	**89.03**	**54**		P		**P**		**12 43 26.3**	**+1.2**	
	baz=284										
TIN	**Tinemaha, Big**	**89.03**	**52**		P		**P**		**12 43 26.2**	**+0.9**	
	baz=284										
MOS	**Moscow**	**89.06**	**327**	*eP*			**P**		**12 43 22.1**	**-2.7**	
MOS					pmax		pmax				
	comp=Z,135nm,1.2s										
GOF	**Gofitskoye**	**89.07**	**316**	⇑ *eP*			**P**		**12 43 24.5**	**-0.6**	
GOF					pmax		pmax				
	comp=Z,87nm,1.6s										
ZEI	**Tsey**	**89.09**	**314**	*eP*			**P**		**12 43 23.2**	**-2.3**	
ZEI					pmax		pmax				
	comp=Z,13nm,1.0s										
ISA	**Isabella, Lake**	**89.18**	**54**		P		**P**		**12 43 26.6**	**+0.6**	
	baz=284,SNR=6.4										
KTK1	**Kautokeino**	**89.19**	**342**	*eP*			**P**		**12 43 25.2**	**0.0**	
OSI	**Osito Audit: C**	**89.23**	**55**		P		**P**		**12 43 26.9**	**+0.7**	
	baz=284										
CWC	**Cottonwood Cre**	**89.30**	**53**		P		**P**		**12 43 27.8**	**+1.2**	
	baz=284										
LPSR	**Galich'ya Gora**	**89.39**	**324**	*eP*			**P**		**12 43 24.9**	**-1.5**	
LPSR					pmax		pmax				
	comp=Z,70nm,1.4s										
LCH	**Last Change Ra**	**89.44**	**52**		IAmb		IAmb		12 43 31.9		
	comp=Z,25nm,1.3s										
ONI	**Oni**	**89.46**	**313**		IAmb		IAmb		12 43 31.6		
	comp=Z,19nm,1.0s										
MSO	**Missoula**	**89.48**	**42**		P		**P**		**12 43 27.4**	**+0.2**	
	baz=287										
TULEG	**The**	**89.49**	**7**		IAmb		IAmb		12 43 27.5		
	comp=Z,34nm,1.1s										
VORR	**Voronezh**	**89.53**	**323**	*eP*			**P**		**12 43 27.0**	**-0.1**	
VORR					pmax		pmax				
	comp=Z,140nm,0.4s										
KBZ	**Khabaz**	**89.54**	**315**		P		**P**		**12 43 26.7**	**-0.6**	
	comp=Z,11nm,0.9s,baz=100,slow=5.9,SNR=10.0										
KBZ	**Khabaz**	**89.54**	**315**	*i*	P		**P**		**12 43 26.0**	**-1.3**	
KBZ					pmax		pmax				
	comp=Z,16nm,1.6s										
KIV	**Kislovodsk**	**89.62**	**315**	*eP*			**P**		**12 43 26.9**	**-1.0**	
KIV					pmax		pmax				
	comp=Z,12nm,1.0s										
KIV	**Kislovodsk**	**89.62**	**315**		P		**P**		**12 43 26.8**	**-1.0**	
KIV					P		**P**		**12 43 26.8**	**-1.0**	
DECC	**Green Verdugo**	**89.64**	**55**		P		**P**		**12 43 29.1**	**+1.1**	
	baz=284										
CCAC	**Calif City Air**	**89.67**	**54**		IAmb		IAmb		12 43 31.3		
	comp=Z,49nm,1.4s										
GRAC	**Grapevine Rang**	**89.71**	**52**		P		**P**		**12 43 29.4**	**+1.0**	
	baz=285										
JETT	**Jettan, Norway**	**89.72**	**343**	*eP*			**P**		**12 43 28.4**	**+0.7**	
EDW2	**Edwards Air Fo**	**89.75**	**54**		P		**P**		**12 43 30.1**	**+1.4**	
	baz=284,SNR=12										
SCI2	**San Clemente I**	**89.77**	**56**		P		**P**		**12 43 29.6**	**+0.9**	
	baz=284										
CIS	**Catalina Islan**	**89.78**	**56**		P		**P**		**12 43 29.6**	**+0.9**	
	baz=284										
FMP	**Fort Macarthur**	**89.80**	**56**		P		**P**		**12 43 29.7**	**+0.9**	
	baz=284										
OBN	**Obninsk**	**89.84**	**327**	*c iP*			**P**		**12 43 27.0**	**-1.4**	
OBN				*e*					12 46 58.9		
OBN					*eS*		**SKSac**		**12 53 49.4**	**-8.6**	
OBN					pmax		pmax				
	comp=Z,133nm,1.3s										
LRMC	**Laurel Mtn Rad**	**89.85**	**54**		P		**P**		**12 43 29.9**	**+0.7**	
	baz=285										
MPMC	**Manual Prospec**	**89.85**	**53**		P		**P**		**12 43 30.8**	**+1.5**	
	baz=285,SNR=20										
VNDA	**Vanda**	**90.01**	**176**		P		**P**		**12 43 29.4**	**+0.7**	
	comp=Z,2.4nm,1.1s,baz=342,slow=8.8,SNR=3.9										
VNDA					LR		LR		13 25 20.7		
	comp=Z,138nm,18.2s,baz=340,slow=37										
VNDA	**Vanda**	**90.01**	**176**		P		**P**		**12 43 29.4**	**+0.7**	
VNDA					pmax		pmax				
	comp=Z,7.0nm,1.2s										
TRO	**Tromso**	**90.10**	**343**	*eP*			**P**		**12 43 29.4**	**0.0**	
HLID	**Hailey**	**90.11**	**45**		IAmb		IAmb		12 43 34.7		
	comp=Z,28nm,1.1s										
HLID	**Hailey**	**90.11**	**45**		P		**P**		**12 43 31.5**	**+1.3**	
	baz=287,SNR=29										
BFSC	**Mount Baldy Ra**	**90.18**	**55**		P		**P**		**12 43 31.2**	**+0.5**	
	baz=285										
FURC	**Furnace Creek,**	**90.24**	**53**		P		**P**		**12 43 32.2**	**+1.5**	
	baz=285,SNR=9.1										
ELK	**Elko**	**90.31**	**48**		IAmb		IAmb		12 43 36.0		
	comp=Z,26nm,1.1s										
GWY	**Greenwater Val**	**90.46**	**53**		IAmb		IAmb		12 43 34.8		
	comp=Z,35nm,1.4s										
ELS	**Elsinore Mount**	**90.52**	**56**		IAmb		IAmb		12 43 52.7		
	comp=Z,27nm,1.4s										
RRX	**Edison Barstow**	**90.55**	**54**		P		**P**		**12 43 33.1**	**+0.9**	
	baz=285										
GSC	**Goldstone, Bar**	**90.59**	**54**		P		**P**		**12 43 33.8**	**+1.3**	
	baz=285,SNR=17										
TPNV	**Topopah Spring**	**90.59**	**52**		P		**P**		**12 43 33.9**	**+1.3**	
	baz=286,SNR=15										
MURC	**Murrieta**	**90.72**	**56**		P		**P**		**12 43 33.7**	**+0.6**	
	baz=285										
R11A	**Troy Canyon, C**	**90.72**	**51**		IAmb		IAmb		12 43 48.7		
	comp=Z,30nm,1.5s										
R11A	**Troy Canyon, C**	**90.72**	**51**		P		**P**		**12 43 34.6**	**+1.4**	
	baz=286,SNR=24										
BBRC	**Big Bear Solar**	**90.77**	**55**		P		**P**		**12 43 34.6**	**+1.0**	
	baz=285										
SHOC	**Shoshone, Teco**	**90.85**	**53**		P		**P**		**12 43 35.2**	**+1.6**	
	baz=286										
109C	**Camp Elliot, M**	**90.97**	**56**		IAmb		IAmb		12 43 39.7		
	comp=Z,26nm,1.0s										
109C	**Camp Elliot, M**	**90.97**	**56**		P		**P**		**12 43 35.0**	**+0.8**	
	baz=285										
HEC	**Hector, Ludlow**	**91.08**	**54**		P		**P**		**12 43 36.1**	**+1.3**	
	baz=286,SNR=7.3										
TUQ	**Turquoise Moun**	**91.25**	**54**		P		**P**		**12 43 37.1**	**+1.4**	
	baz=286,SNR=7.1										
PFO	**Pinyon Flats O**	**91.31**	**55**		LR		LR		13 22 22.9		
	comp=Z,296nm,18.6s,baz=288,slow=34										
PFO	**Pinyon Flats O**	**91.31**	**55**		P		**P**		**12 43 36.2**	**+0.2**	
PFO					pmax		pmax				
	comp=Z,50nm,1.4s										
PFO	**Pinyon Flats O**	**91.31**	**55**		P		**P**		**12 43 36.2**	**+0.2**	
PFO	**Pinyon Flats O**	**91.31**	**55**		P		**P**		**12 43 36.9**	**+1.0**	
	baz=285,SNR=11										
TPFO	**Pinon Flats**	**91.31**	**55**		P		**P**		**12 43 37.0**	**+1.0**	
	baz=285,SNR=12										
BAR	**Barrett**	**91.38**	**56**		IAmb		IAmb		12 43 41.7		
	comp=Z,34nm,1.3s										
PRN	**Pahroc Range**	**91.38**	**51**		IAmb		IAmb		12 43 57.4		
	comp=Z,19nm,1.3s										
BOZ	**Bozeman (W)**	**91.39**	**43**		P		**P**		**12 43 37.0**	**+0.9**	
	baz=289,SNR=14										
TKX	**Tecate**	**91.46**	**56**		IAmb		IAmb		12 43 42.0		
	comp=Z,31nm,1.3s										
MONP2	**Monument Peak**	**91.52**	**56**		P		**P**		**12 43 38.0**	**+1.0**	
	baz=285,SNR=11										
BELC	**Belle Mtn. Jos**	**91.57**	**55**		P		**P**		**12 43 38.3**	**+1.0**	
	baz=286,SNR=6.9										
GMRC	**Granite Mounta**	**91.63**	**54**		P		**P**		**12 43 38.8**	**+1.4**	
	baz=286,SNR=20										
GURO	**Guroymak-BITLI**	**91.63**	**310**		IAmb		IAmb		12 43 38.1		
	comp=Z,14nm,0.8s										
SOC	**Sochi**	**91.79**	**315**	*eP*			**P**		**12 43 36.3**	**-1.5**	
SOC				*e*					12 47 14.8		
SOC				*e*	PPP		PPP		12 49 14.5		
SOC				*e*	S		**SKSac**		**12 54 08.9**	**-0.8**	
SOC				*e*	SS		**SS**		**13 00 41.4**	**-3.7**	
SOC				*e*	SSS		SSS		13 04 24.4		

	comp=N,6.0nm,0.7s									
MNK					pmax	pmax				
	comp=E,6.0nm,0.9s									
MNK					MLR	MLR				
	comp=N,399nm,18.0s									
MNK					MLR	MLR				
	comp=E,110nm,18.0s									
MNK					MLR	MLR				
	comp=Z,959nm,19.0s									
MNK	**Minsk**	**94.67**	**328**	*i* P	**P**		**12 43 50.8**	**0.0**		
	comp=E,6.0nm,0.9s									
MNK				*i* P	**P**		**12 43 50.8**	**0.0**		
	comp=N,6.0nm,0.7s									
MNK				*i* P	**P**		**12 43 50.8**	**0.0**		
	comp=Z,47nm,1.1s,baz=61									
MNK				*i* PP	**PP**		**12 47 38.3**	**-0.3**		
MNK				*i* PPP	PPP		12 49 40.3			
MNK				*i* S	**S**		**12 55 01.1**	**-1.7**		
MNK				*i* SS	**SS**		**13 01 29.1**	**+3.6**		
MNK				*i* SSS	SSS		13 05 15.4			
MNK				*i* LQ	LQ		13 16 37.9			
MNK				*i* LR	LR		13 22 01.5			
MNK				*i* LRM	MLR		13 28 25.9			
	comp=N,399nm,18.1s									
MNK				*i* LRM	MLR		13 29 09.1			
	comp=E,110nm,18.0s									
MNK				*i* LRM	MLR		13 29 22.7			
	comp=Z,959nm,18.7s									
214A	**Organ Pipe Nat**	**94.72**	**56**	IAmb	IAmb		12 43 57.6			
	comp=Z,13nm,1.0s									
214A	**Organ Pipe Nat**	**94.72**	**56**	P	**P**		**12 43 52.2**	**+0.6**		
	baz=287									
WUAZ	**Wupatki**	**94.77**	**52**	IAmb	IAmb		12 43 57.0			
	comp=Z,23nm,1.4s									
WUAZ	**Wupatki**	**94.77**	**52**	P	**P**		**12 43 53.6**	**+1.6**		
	baz=288,SNR=5.9									
DGMT	**Dagmar**	**95.06**	**38**	IAmb	IAmb		12 43 56.0			
	comp=Z,13nm,0.9s									
DGMT	**Dagmar**	**95.06**	**38**	P	**P**		**12 43 53.2**	**+0.4**		
	baz=294									
FCC	**Fort Churchill**	**95.36**	**26**	IAmb	IAmb		12 43 56.2			
	comp=Z,20nm,1.0s									
NSS	**Namsos**	**95.47**	**341**	*e*P	**P**		**12 43 54.0**	**-0.3**		
O20A	**White River Ci**	**95.57**	**47**	P	**P**		**12 43 56.0**	**+0.4**		
	baz=291									
PV23	**Carpenter Ridg**	**95.60**	**49**	IAmb	IAmb		12 44 12.1			
	comp=Z,25nm,1.2s									
AKASG	**Malin Array Be**	**95.69**	**324**	P	**P**		**12 43 54.0**	**-1.6**		
	comp=Z,1.3nm,0.5s,baz=50,slow=5.0,SNR=14									
AKASG	**Malin Array Be**	**95.69**	**324**	*i* P	**P**		**12 43 54.2**	**-1.4**		
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.5s									
PV11	**David Mesa, Pa**	**95.75**	**49**	IAmb	IAmb		12 44 00.3			
	comp=Z,15nm,0.9s									
K22A	**Casper**	**95.86**	**44**	IAmb	IAmb		12 44 01.6			
	comp=Z,27nm,1.5s									
K22A	**Casper**	**95.86**	**44**	P	**P**		**12 43 57.7**	**+0.9**		
	baz=292									
W18A	**Petrified Fore**	**96.17**	**52**	P	**P**		**12 43 59.8**	**+1.4**		
	baz=289									
TUC	**Tucson**	**96.25**	**55**	P	**P**		**12 44 00.4**	**+1.7**		
TUC				pmax	pmax					
	comp=Z,18nm,1.5s									
TUC	**Tucson**	**96.25**	**55**	P	**P**		**12 44 00.4**	**+1.7**		
TUC				IAmb	IAmb		12 44 04.7			
	comp=Z,18nm,1.5s									
TUC	**Tucson**	**96.25**	**55**	P	**P**		**12 43 59.8**	**+1.2**		
	baz=288									
MVCO	**Mesa Verde**	**96.41**	**50**	P	**P**		**12 43 59.8**	**+0.4**		
	baz=290									
N23A	**Red Feather La**	**96.92**	**46**	IAmb	IAmb		12 44 06.3			
	comp=Z,23nm,1.4s									
N23A	**Red Feather La**	**96.92**	**46**	P	**P**		**12 44 02.7**	**+1.0**		
	baz=292									
RSSD	**Black Hills**	**96.95**	**42**	P	**P**		**12 44 02.4**	**+0.7**		
RSSD				pmax	pmax					
	comp=Z,12nm,1.2s									
RSSD	**Black Hills**	**96.95**	**42**	P	**P**		**12 44 02.4**	**+0.7**		
RSSD				IAmb	IAmb		12 44 04.9			
	comp=Z,12nm,1.2s									
RSSD	**Black Hills**	**96.95**	**42**	P	**P**		**12 44 02.6**	**+0.8**		
	baz=294									
BR131	**Keskin Array S**	**97.40**	**313**	IAmb	IAmb		12 44 05.4			
	comp=Z,12nm,1.3s									
BRTR	**Keskin Array B**	**97.40**	**313**	P	**P**		**12 44 02.6**	**-1.2**		
	comp=Z,3.8nm,0.9s,baz=76,slow=5.2,SNR=10									
S22A	**4UR Ranch, Cre**	**97.46**	**49**	P	Pdif		12 44 04.7	+0.3		
	baz=292									
MAW	**Mawson**	**97.65**	**202**	LR	LR		13 26 45.4			
	comp=Z,592nm,18.1s,baz=72,slow=35									
MDND	**Maddock**	**98.10**	**37**	P	Pdif		12 44 07.2	+0.6		
	baz=298									
NB2	**NORSAR Subarra**	**98.12**	**339**	P	**P**		**12 44 04.8**	**-1.6**		
	comp=Z,12nm,1.0s,baz=50,slow=4.6									
NB2	**NORSAR Subarra**	**98.12**	**339**	P	**P**		**12 44 04.8**	**-1.6**		
	baz=50,slow=4.6									
NOA	**NORSAR Arra B**	**98.12**	**339**	P	**P**		**12 44 05.3**	**-1.1**		
	comp=Z,6.9nm,0.9s,baz=51,slow=4.2,SNR=4.5									
NOA				PKKPab	PKKPdf		13 01 01.5	+19		
	comp=Z,2.0nm,0.7s,baz=280,slow=5.0,SNR=5.2									
Q24A	**Divide**	**98.22**	**47**	P	Pdif		12 44 08.6	+0.8		
	baz=293									
121A	**Cookes Peak, D**	**98.57**	**54**	P	Pdif		12 44 10.0	+0.7		
	baz=290									
ANMO	**Albuquerque**	**98.75**	**52**	LR	LR		13 28 25.3			
	comp=Z,305nm,18.5s,baz=304,slow=35									
ANMO	**Albuquerque**	**98.75**	**52**	P	Pdif		12 44 11.0	+0.9		
	baz=291									
ULM	**Lac du Bonnet**	**99.05**	**34**	P	**Pdif**		**12 44 09.5**	**-1.2**		
	comp=Z,5.7nm,0.8s,baz=304,slow=3.9,SNR=6.4									
ULM	**Lac du Bonnet**	**99.05**	**34**	IAmb	IAmb		12 44 31.2			
	comp=Z,12nm,1.2s									
LPIG	**La Paz**	**99.17**	**63**	LR	LR		13 24 23.4			
	comp=Z,212nm,18.8s,baz=246,slow=33									
FOO	**Floro**	**99.77**	**341**	*e*Pdif	**Pdif**		**12 44 13.4**	**-0.3**		
SUE	**Sulen**	**100.27**	**341**	*e*Pdif	**Pdif**		**12 44 14.3**	**-1.6**		
UZH	**Uzhgorod**	**100.63**	**325**	*e*P	**Pdif**		**12 44 12.7**	**-5.1**		
MNTX	**Cornudas Mount**	**100.77**	**54**	P	**Pdif**		**12 44 19.5**	**+0.6**		
	baz=292									
CRVS	**Cervenica-Dubn**	**100.95**	**325**	*e*P	**Pdif**		**12 44 19.0**	**-0.3**		
CRVS	**Cervenica-Dubn**	**100.95**	**325**	*e*PDIFF	**Pdif**		**12 44 19.0**	**-0.3**		
LANS	**Liptovska Anna**	**101.91**	**326**	*e*P	**Pdif**		**12 44 24.5**	**+0.9**		
LANS	**Liptovska Anna**	**101.91**	**326**	*e*PDIFF	**Pdif**		**12 44 24.5**	**+0.9**		
IZAB	**Izabela**	**102.10**	**326**	*e*P	**Pdif**		**12 44 24.6**	**+0.2**		
MORC	**Moravsky Berou**	**102.57**	**328**	*e*PDIFF	**Pdif**		**12 44 26.3**	**-0.2**		
VYHS	**Vyhne**	**102.62**	**326**	*e*P	**Pdif**		**12 44 26.3**	**-0.4**		
VYHS	**Vyhne**	**102.62**	**326**	*e*PDIFF	**Pdif**		**12 44 26.3**	**-0.4**		
JAVC	**Velka Javorina**	**103.04**	**327**	*e*PDIFF	**Pdif**		**12 44 29.6**	**+1.0**		
VRAC	**Vranov**	**103.35**	**328**	*e*PDIFF	**Pdif**		**12 44 29.9**	**0.0**		
SMOL	**Smolenice**	**103.38**	**327**	*e*P	**Pdif**		**12 44 30.1**	**0.0**		
SMOL	**Smolenice**	**103.38**	**327**	*e*PDIFF	**Pdif**		**12 44 30.1**	**0.0**		
KRUC	**Moravsky**	**103.60**	**328**	*e*PDIFF	**Pdif**		**12 44 31.1**	**+0.1**		
CLL	**Collm**	**103.90**	**331**	*e*Pdif	**Pdif**		**12 44 32.0**	**-0.3**		
CLL				*es*Pdif	**pPdif**		**12 44 37.0**	**-0.5**		
CLL				*e*PP	**PKiKP**		**12 48 50.0**	**+0.1**		
CLL				*e*SKSac	**SKSac**		**12 55 16.0**	**+4.8**		
CLL				*e*Sdif	**Sdif**		**12 56 24.0**	**+2.9**		
CLL				*e*PS	**PS**		**12 57 59.0**	**-1.3**		
CLL				*e*(PPS)			12 58 40.0			
CLL				*e*SS	**SS**		**13 03 36.0**	**+1.6**		
CLL				*e*SSS	SSS		13 07 42.0			
CLL				*e*SSSS			13 11 00.0			
CLL				Lm	MLR		13 35 00.0			
	comp=Z,900nm,18.1s									
SYO	**Syowa Base**	**106.29**	**201⇑**	*e*PKiKP	**PKiKP**		**12 48 52.2**	**-1.5**		
ESDC	**Sonseca Array**	**120.47**	**332**	PKhKP	PKPpre		12 49 15.3			
	comp=Z,0.2nm,0.5s,baz=20,slow=4.1,SNR=1.2									
ESDC				PP	**PP**		**12 50 46.4**	**-1.1**		
	comp=Z,1.6nm,1.0s,baz=31,slow=7.9,SNR=4.0									
TORD	**Torodi Ar. Bea**	**134.89**	**303**	PKhKP	PKPpre		12 49 35.9			
	comp=Z,0.3nm,0.5s,baz=98,slow=3.3,SNR=2.5									
TORD				PKP	**PKPdf**		**12 49 48.9**	**-0.9**		
	comp=Z,3.3nm,0.9s,baz=61,slow=1.3,SNR=9.7									
TORD				PP	**PP**		**12 52 21.6**	**-2.0**		
	comp=Z,3.6nm,1.1s,baz=40,slow=4.1,SNR=6.5									
PLCA	**Paso Flores**	**138.43**	**140**	PKP	**PKPdf**		**12 49 56.2**	**+0.5**		
	comp=Z,6.5nm,1.1s,baz=241,slow=3.9,SNR=6.0									
PLCA				PKKPbc	PKKPbc		12 58 25.4			
	comp=Z,3.8nm,1.0s,baz=29,slow=1.0,SNR=4.9									
PLCA	**Paso Flores**	**138.43**	**140**	PKIKP	**PKPdf**		**12 49 55.3**	**-0.4**		
PLCA	**Paso Flores**	**138.43**	**140**		**PKPdf**		**12 49 55.3**	**-0.4**		
DBIC	**Dimbokro**	**143.76**	**299**	PKP	PKPbc		12 50 03.7	+0.2		
	comp=Z,28nm,1.0s,baz=84,slow=3.8,SNR=15									
DBIC	**Dimbokro**	**143.76**	**299**	PKIKP	PKPab		12 50 01.8	-1.0		
DBIC	**Dimbokro**	**143.76**	**299**	PKPdf	PKPab		12 50 01.8	-1.0		
GO01	**Chusmiza**	**147.35**	**108**	PKPdf	**PKPdf**		**12 50 09.5**	**-3.0**		
LPAZ	**La Paz**	**148.71**	**102**	PKPbc	**PKPdf**		**12 50 16.6**	**+1.6**		
	comp=Z,14nm,1.1s,baz=321,slow=1.6,SNR=12									
PLTB	**Pedras Altas**	**154.63**	**143**		**PKPdf**		**12 50 26.6**	**+3.8**		
CPUP	**Villa Florida**	**155.51**	**128**	PKP	**PKPdf**		**12 50 25.1**	**+1.0**		
	comp=Z,0.8nm,0.5s,baz=332,slow=18,SNR=3.2									
BDFB	**Brasilia**	**167.92**	**109**	PKP	**PKPdf**		**12 50 39.0**	**+1.7**		
	comp=Z,2.0nm,0.4s,baz=152,slow=4.6,SNR=3.7									

*IDC **31** 12:31:16.8±1.5, 1˚.33S×126˚.20E, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.9/46, mbtmp3.9/6, ML3.7/2, MS4.2/1, Ms1 4.2/1, ms1mx3.2/64, Error ellipse: s-maj=33.9km s-min=23.1km az=46.0*

*DJA **31** 12:31:20.4±0.2, 1˚S±2˚×12˚6E±˚, h10km, M4.4/23, mb4.7/11, mB4.8/7, MLv4.6/23, Mw(mB)4.1/7*

ISC 31 12:31:19.5±0.8, 1˚.30S±0˚.05×126˚.30E±0˚.05, h10km, n26, σ1§80/28, mb3.9/3, 1C, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.81**	**202**	P	**Pg**	**12 31 35.7**	**+0.7**
SANI				S	**Sg**	**12 31 47.7**	**+2.1**
LBMI	**Labuha**	**1.37**	**61**	P	**Pn**	**12 31 45.4**	**+0.7**
TNTI	**Ternate**	**2.32**	**27**	P	**Pn**	**12 31 58.6**	**+0.8**
KMSI	**Cibinong**	**2.97**	**309**	P	**Pn**	**12 32 07.1**	**+0.4**
AAI	**Ambon**	**3.04**	**141**	P	**Pn**	**12 32 08.7**	**+1.1**
MSAI	**Masohi**	**3.32**	**128**	P	**Pn**	**12 32 14.1**	**+2.5**
LUWI	**Luwuk**	**3.53**	**274**	P	**Pn**	**12 32 13.6**	**-0.9**
GTOI	**Gorontalo**	**3.81**	**300**	P	**Pn**	**12 32 20.6**	**+2.4**
APSI	**Ampana**	**4.66**	**275**	P	**Pn**	**12 32 30.1**	**+0.1**
MRSI	**Marisa**	**4.70**	**292**	P	**Pn**	**12 32 30.3**	**-0.2**
SWI	**Sorong**	**4.98**	**85**	P	**Pn**	**12 32 35.6**	**+1.2**
SIJI	**Sorong**	**4.99**	**85**	Pn	**Pn**	**12 32 36.0**	**+1.5**
	5.2nm,0.3s,baz=257,slow=18,SNR=20						
SIJI				Sn	**Sn**	**12 33 32.8**	**+0.5**
	baz=349,slow=22,SNR=1.2						
SIJI				LR	LR	12 35 07.9	
	comp=Z,378nm,20.4s,baz=222,slow=45						
BBSI	**Bau Bau**	**5.58**	**222**	P	**Pn**	**12 32 45.5**	**+2.9**
	0.0nm128nm17nm,1.0s						
MPSI	**Mapaga**	**6.60**	**284**	P	**Pn**	**12 32 57.8**	**+1.1**
	0.2nm777nm28nm,0.5s						
BNSI	**Bone**	**6.91**	**243**	P	**Pn**	**12 33 01.7**	**+0.8**
	0.3nm29nm,0.8s						
SPSI	**Sidrap Palu**	**7.04**	**248**	P	**Pn**	**12 33 04.6**	**+2.0**
	1.3nm4μm284nm,0.5s						
BKSI	**Bulukumba**	**7.34**	**237**	P	**Pn**	**12 33 09.9**	**+3.0**
	0.2nm727nm70nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.53**	**230**	P	**Pn**	**12 33 11.1**	**+1.7**
	0.1nm49nm,0.9s						
KCP	**Kidapawan**	**8.34**	**352⇑**	*e*P	**Pn**	**12 33 25.2**	**+4.5**
KCP				*i* S	**Sn**	**12 34 55.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**16.70**	**182**	Pn	**Pn**	**12 35 13.0**	**-0.8**
	0.1nm,0.3s,baz=10,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**20.13**	**158**	P	**P**	**12 35 52.2**	**-1.7**
	2.8nm,0.7s,baz=337,slow=12,SNR=26						
COEN	**Coen**	**20.90**	**128**	P	**P**	**12 36 01.8**	**-0.5**
ASAR	**Alice Springs**	**23.43**	**162**	P	**P**	**12 36 27.7**	**-1.3**
	3.2nm,0.7s,baz=342,slow=12,SNR=67						
CMAR	**Chiang Mai Ar**	**33.31**	**307**	P	**P**	**12 37 55.8**	**-1.9**
	0.7nm,0.5s,baz=131,slow=7.4,SNR=7.8						
STKA	**Stephens Creek**	**33.67**	**156**	P	**P**	**12 37 59.7**	**-1.0**
	1.0nm,0.7s,baz=354,slow=10,SNR=4.6						
IDI	**Anoyia**	**100.06**	**305**	LR	LR	13 39 17.2	
	comp=Z,89nm,18.6s,baz=82,slow=41						

*IDC **31** 12:33:59.2±0.7, 52˚.31N×168˚.64W, h0km, mb4.5/27, mb1 4.6/29, mb1mx4.5/58, mbtmp4.5/29, ML4.0/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/94, Error ellipse: s-maj=21.1km s-min=11.3km az=169.0*

*NEIC **31** 12:34:00.7±2.6, 52˚.19N±0˚.04×168˚.52W±0˚.03, h10km±1km, mb4.6/158, ML3.9(AEIC), Error ellipse: s-maj=7.3km s-min=2.8km az=172.0*

*MOS **31** 12:34:00.4±1.2, 52˚.35N×168˚.64W, h16km, mb5.0/27, Error ellipse: s-maj=10.9km s-min=6.0km az=86.8*

*AEIC **31** 12:34:02±2.5, 52˚.28N±0˚.04×168˚.49W±0˚.08, h16km±4km, Error ellipse: s-maj=7.5km s-min=6.3km az=93.0*

*BJI **31** 12:34:02.0±0.0, 52˚.50N×168˚.60W, h37km, mb4.9/43, mB5.0/20, Ms4.9/11, MS7 4.8/11*

*BGR **31** 12:34:10.9±0.0, 53˚.13N×168˚.45W, h33km, mb5.2*

ISC 31 12:34:03.4±0.4, 52˚.37N±0˚.06×168˚.60W±0˚.04, h29km, n452, σ1§40/401, mb4.7/128, MS3.8/6, 15C-21D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.62**	**346**	Pg	**Pn**	**12 34 17.0**	**+0.7**
NIKH	**Nikolski High**	**0.62**	**346**		**Sn**	**12 34 26.5**	**+1.2**
NIKH	**Nikolski High**	**0.62**	**346**	P	**Pn**	**12 34 17.4**	**+1.2**
	baz=SNR=66						
MGOD	**Makushin Gods**	**1.77**	**35**		**Pn**	**12 34 32.9**	**+0.8**
MSW	**Makushin Switc**	**1.90**	**35**		**Pn**	**12 34 34.8**	**+1.1**
MSW					**Sb**	**12 35 00.5**	**0.0**
UNV	**Unalaska Valle**	**1.94**	**40**		**Pn**	**12 34 34.5**	**+0.1**
UNV					**Sb**	**12 35 00.2**	**-1.7**
UNV	**Unalaska Valle**	**1.94**	**40**	P	**Pn**	**12 34 35.4**	**+1.0**
	baz=218,SNR=35						
MTBL	**Makushin Table**	**1.98**	**35**		**Pn**	**12 34 35.9**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.33**	**40**		**Pn**	**12 34 41.5**	**+1.8**
AKBBA	**Akutan Broad B**	**2.36**	**42**		**Pn**	**12 34 42.1**	**+2.0**
KOFP	**Korovin Flat P**	**3.37**	**271**		**Pn**	**12 34 56.4**	**+2.3**
ATKA	**Atka Island**	**3.44**	**269**		**Pn**	**12 34 56.3**	**+1.4**
FALS	**False Pass**	**3.97**	**49**	Pn	**Pn**	**12 35 04.2**	**+2.0**
FALS	**False Pass**	**3.97**	**49**	P	**Pn**	**12 35 03.6**	**+1.5**
	baz=232						
GSTD	**Great Sitkin T**	**4.65**	**269**		**Pn**	**12 35 13.2**	**+1.6**
GSCK	**Great Sitkin C**	**4.67**	**269**		**Pn**	**12 35 13.4**	**+1.6**
SPIA	**Saint Paul Isl**	**4.91**	**349**	P	**Pn**	**12 35 15.6**	**+0.4**
	baz=168						
ADK	**Adak**	**5.00**	**268**	P	**Pn**	**12 35 17.7**	**+1.3**
ADK	**Adak**	**5.00**	**268**	Pn	**Pn**	**12 35 17.6**	**+1.3**
KIWB	**Kanaga Island**	**5.29**	**268**		**Pn**	**12 35 21.9**	**+1.5**
SDPT	**Sand Point**	**5.66**	**55**	Pn	**Pn**	**12 35 27.2**	**+1.9**
SDPT	**Sand Point**	**5.66**	**55**	P	**Pn**	**12 35 27.6**	**+2.2**
	baz=240						
CHIR	**Chirikof Islan**	**8.37**	**60**	P	**Pn**	**12 36 04.2**	**+1.6**
	baz=250						
OHAK	**Old Harbor**	**10.08**	**55**	P	**Pn**	**12 36 26.3**	**+0.3**
	baz=247						
P18K	**Big Mountain,**	**10.28**	**42**		**Pn**	**12 36 29.8**	**+1.1**
SHEM	**Shemya Is, Ala**	**10.54**	**279**	Pn	**Pn**	**12 36 32.9**	**+0.5**
	4.4nm,0.3s,baz=120,slow=20,SNR=1.4						
KDAK	**Kodiak Island**	**10.65**	**53**	Pn	**Pn**	**12 36 32.5**	**-1.3**
	2.8nm,0.3s,baz=255,slow=7.4,SNR=28						
KDAK	**Kodiak Island**	**10.65**	**53**	*i* P		**12 36 33.1**	**-0.6**
KDAK	**Kodiak Island**	**10.65**	**53**	P	**Pn**	**12 36 33.2**	**-0.6**
	baz=246						
Q19K	**Cape Douglas,**	**10.69**	**46**	P	**Pn**	**12 36 34.1**	**-0.2**
	baz=238						
O19K	**Port Alsworth**	**11.13**	**40**	Pn	**Pn**	**12 36 42.2**	**+1.8**
O19K	**Port Alsworth**	**11.13**	**40**	P	**Pn**	**12 36 42.2**	**+1.8**
	baz=231						
N19K	**Bonanza Creek**	**11.47**	**37**	Pn	**Pn**	**12 36 47.0**	**+2.0**
N19K	**Bonanza Creek**	**11.47**	**37**	P	**Pn**	**12 36 45.0**	**-0.1**
	baz=228						
GAMB	**Gambell**	**11.55**	**353**	Pn	**Pn**	**12 36 48.3**	**+2.2**
GAMB	**Gambell**	**11.55**	**353**	P	**Pn**	**12 36 46.8**	**+0.7**
	baz=170						
O20K	**Slope Mountain**	**11.75**	**43**	P	**Pn**	**12 36 49.2**	**+0.3**
	baz=235						
RSO	**Redoubt South**	**11.92**	**41**		**Pn**	**12 36 51.8**	**+0.5**
M19K	**Big River Lodg**	**12.25**	**33**		**Pn**	**12 36 57.4**	**+1.8**
L19K	**White Mountain**	**12.30**	**32**		**Pn**	**12 36 57.6**	**+1.3**
L19K	**White Mountain**	**12.30**	**32**	P	**Pn**	**12 36 57.3**	**+0.9**
	baz=223						
ANM	**Nome**	**12.35**	**7**	P	**Pn**	**12 36 58.0**	**+1.1**
ANM	**Nome**	**12.35**	**7**		**Pn**	**12 36 58.0**	**+1.1**
ANM	**Nome**	**12.35**	**7**	P	**Pn**	**12 36 55.5**	**-1.4**
	baz=189						
BRSE	**Bradley Lake S**	**12.38**	**46**	P	**Pn**	**12 36 58.1**	**+0.6**
	baz=241						
TTA	**Tatalina**	**12.52**	**27**	P	**Pn**	**12 37 02.2**	**+2.8**
TTA	**Tatalina**	**12.52**	**27**	Pn	**Pn**	**12 37 02.2**	**+2.8**
TTA	**Tatalina**	**12.52**	**27**	P	**Pn**	**12 37 00.2**	**+0.8**
	baz=218						
SPCR	**Spurr Chakacha**	**12.57**	**39**	P	**Pn**	**12 36 59.8**	**-0.4**
	baz=232						
M20K	**Styx River**	**12.67**	**35**		**Pn**	**12 37 02.7**	**+1.3**
L20K	**Farewell, AK**	**12.83**	**32**	P	**Pn**	**12 37 05.7**	**+2.2**
	baz=224						
SEW	**Seward**	**13.13**	**46**	P	**Pn**	**12 37 08.0**	**+0.4**
	baz=242						
O22K	**Cooper Landing**	**13.19**	**45**		**Pn**	**12 37 09.1**	**+0.6**
O22K	**Cooper Landing**	**13.19**	**45**	P	**Pn**	**12 37 08.2**	**-0.3**
	baz=240						
RC01	**Rabbit Creek A**	**13.50**	**42**	Pn	**Pn**	**12 37 13.6**	**+0.9**
RC01	**Rabbit Creek A**	**13.50**	**42**	P	**Pn**	**12 37 12.9**	**+0.3**
	baz=238						
PPLA	**Purkeypile**	**13.68**	**33**	P	**Pn**	**12 37 19.0**	**+3.7**
	baz=227						
GCSA	**Galena City Sc**	**13.80**	**21**	P	**Pn**	**12 37 19.6**	**+2.9**
	baz=211,SNR=5.8						
PWL	**Port Wells**	**13.97**	**45**		**Pn**	**12 37 18.0**	**-1.2**
PWL	**Port Wells**	**13.97**	**45**	P	**Pn**	**12 37 17.4**	**-1.7**
	baz=241						
PMR	**Palmer**	**14.01**	**41**	P	**Pn**	**12 37 20.3**	**+0.6**
PMR	**Palmer**	**14.01**	**41**	Pn	**Pn**	**12 37 20.3**	**+0.6**
PMR	**Palmer**	**14.01**	**41**	P	**Pn**	**12 37 20.3**	**+0.6**
	baz=237						
J20K	**Nowinta River**	**14.02**	**27**	Pn	**Pn**	**12 37 22.8**	**+3.0**
J20K	**Nowinta River**	**14.02**	**27**	P	**Pn**	**12 37 19.8**	**0.0**
	baz=219,SNR=5.5						
CUT	**Chulitna**	**14.04**	**37**	P	**Pn**	**12 37 21.0**	**+0.9**
	baz=232						
CAST	**Castle Rocks**	**14.08**	**32**		**Pn**	**12 37 23.5**	**+2.9**
CAST	**Castle Rocks**	**14.08**	**32**	P	**Pn**	**12 37 21.0**	**+0.4**
	baz=225,SNR=26						
KNK	**Knik Glacier**	**14.20**	**42**		**Pn**	**12 37 21.9**	**-0.3**
KNK	**Knik Glacier**	**14.20**	**42**	P	**Pn**	**12 37 20.7**	**-1.5**
	baz=239						
CHUM	**Lake Minchumin**	**14.33**	**30**	P	**Pn**	**12 37 22.8**	**-1.2**
	baz=224,SNR=7.3						
SML	**Sawmill**	**14.45**	**41**		**Pn**	**12 37 23.9**	**-1.8**
SML	**Sawmill**	**14.45**	**41**	P	**Pn**	**12 37 24.9**	**-0.9**
	baz=238						
GLI	**Glacier Island**	**14.52**	**46**	P	**Pn**	**12 37 24.9**	**-1.7**
	baz=243						
KTH	**Kantishna Hill**	**14.55**	**33**		**Pn**	**12 37 29.3**	**+2.3**
TRF	**Thorofare Moun**	**14.69**	**34**		**P**	**12 37 32.2**	**-2.8**
TRF	**Thorofare Moun**	**14.69**	**34**	P	**Pn**	**12 37 30.4**	**+1.3**
	baz=229						
SCM	**Sheep Creek Mo**	**14.87**	**42**	P	**Pn**	**12 37 30.0**	**-1.5**
	baz=240,SNR=17						
BPAW	**Bear Paw Mtn.**	**14.90**	**31**	Pn	**Pn**	**12 37 32.5**	**+0.7**
BPAW				IAmb	IAmb	12 37 39.0	
	comp=Z,31nm,1.1s						
BPAW	**Bear Paw Mtn.**	**14.90**	**31**	P	**Pn**	**12 37 30.5**	**-1.2**
	baz=226,SNR=14						
EYAK	**Cordova Ski Ar**	**14.98**	**48**	Pn	**Pn**	**12 37 31.4**	**-1.4**
EYAK				IAmb	IAmb	12 37 43.3	
	comp=Z,30nm,1.2s						
EYAK	**Cordova Ski Ar**	**14.98**	**48**	P	**Pn**	**12 37 31.4**	**-1.4**
	baz=247						
WAT6	**Susitna Watana**	**15.10**	**39**	P	**Pn**	**12 37 32.5**	**-2.1**
	baz=236						
RND	**Reindeer**	**15.17**	**36**	P	**Pn**	**12 37 35.9**	**+0.6**
RND				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RND	**Reindeer**	**15.17**	**36**	Pn	**Pn**	**12 37 35.9**	**+0.6**
DIV	**Divide**	**15.21**	**46**	Pn	**Pn**	**12 37 34.6**	**-1.3**
DIV				IAmb	IAmb	12 37 35.2	
	comp=Z,16nm,0.9s						
**K

baz=246,SNR=19
SIT Sitka 19.66 63 P P 12 38 28.3 -1.3
baz=270
M30M Minto, Yukon 19.70 46 P P 12 38 30.8 +0.7
baz=253,SNR=8.2
J29M Klondike Camp 19.75 40 P P 12 38 30.5 -0.1
baz=246
PET Petropavlovsk 19.77 285 P Pn 12 38 31.8 -0.6
PET IAmb IAmb 12 38 32.7
comp=Z,33nm,1.1s
SKAG Skagway 19.78 56 IAmb IAmb 12 38 34.2
comp=Z,27nm,0.8s
SKAG Skagway 19.78 56 P P 12 38 31.7 +0.8
baz=263,SNR=17
BILL Bilibino 19.82 332*d i*P Pn 12 38 32.7 -0.3
BILL pmax pmax
comp=Z,24nm,1.1s
BILL MLR MLR
comp=Z,174nm,14.0s
BILL Bilibino 19.82 332 P Pn 12 38 33.5 +0.6
BILL IAmb IAmb 12 38 39.0
comp=Z,23nm,1.1s
N31M Braeburn, Yuko 19.89 50 P Pn 12 38 34.7 +0.8
baz=257,SNR=50
BESE Bessie Mountai 19.95 59 IAmb IAmb 12 38 51.3
comp=Z,25nm,1.0s
I29M Ogilvie Camp, 20.09 38 P P 12 38 35.0 +0.7
baz=244,SNR=5.3
WHY Whitehorse 20.17 52 IAmb IAmb 12 38 40.8
comp=Z,32nm,0.9s
WHY Whitehorse 20.17 52 P Pn 12 38 36.5 -0.8
baz=261,SNR=28
JIS Juneau Island 20.18 59 IAmb IAmb 12 39 00.4
comp=Z,33nm,1.2s
PEA0B Petropavlovsk- 20.32 286 P P 12 38 37.8 +1.0
PEA0B pmax pmax
comp=Z,71nm,1.4s
PEA0B Petropavlovsk- 20.32 286 P P 12 38 37.8 +1.0
PEA0B IAmb IAmb 12 38 39.0
comp=Z,71nm,1.4s
PETK Petropavlovsk- 20.32 286 P P 12 38 36.0 -0.8
comp=Z,6.6nm,0.5s,baz=85,slow=13,SNR=34
PETK Petropavlovsk- 20.32 286 P P 12 38 35.4 -1.4
PETK Petropavlovsk- 20.32 286 P P 12 38 35.4 -1.4
M31M Drury Creek, Y 20.69 48 P P 12 38 42.0 +1.2
M31M IAmb IAmb 12 38 56.5
comp=Z,32nm,1.1s
M31M Drury Creek, Y 20.69 48 P Pn 12 38 42.1 -1.2
baz=257,SNR=22
EPYK Eagle Plains 21.12 36 P P 12 38 43.9 -1.5
baz=244,SNR=56
P33M Teslin, Yukon 21.12 54 P P 12 38 47.6 +2.1
P33M IAmb IAmb 12 39 11.8
comp=Z,22nm,0.9s
P33M Teslin, Yukon 21.12 54 P P 12 38 45.2 -0.3
baz=264,SNR=15
DLBC Dease Lake 22.48 59 P P 12 39 01.8 +1.7
comp=Z,5.8nm,0.9s,baz=253,slow=8.0,SNR=7.8
SEY Seymchan 23.02 313 P P 12 39 06.2 +0.6
comp=Z,13nm,1.0s,baz=105,slow=9.4,SNR=23
INK Inuvik 23.09 33 P P 12 39 05.2 -1.0
comp=Z,8.2nm,0.8s,baz=225,slow=10,SNR=35
INK Inuvik 23.09 33 P P 12 39 05.0 -1.2
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 23.09 33 P P 12 39 05.0 -1.2
INK IAmb IAmb 12 39 09.2
comp=Z,11nm,0.9s
INK Inuvik 23.09 33 P P 12 39 05.2 -1.0
baz=244,SNR=10
TGTN Hyland Airport 23.46 51 P P 12 39 09.4 -0.7
baz=265,SNR=16
C36M Paulatuk 26.66 34 P P 12 39 39.5 +0.3
C36M IAmb IAmb 12 39 43.7
comp=Z,8.5nm,0.8s
C36M Paulatuk 26.66 34 P P 12 39 38.6 -0.6
baz=253,SNR=11
A36M Sachs Harbour 27.19 28 P P 12 39 43.2 -0.7
A36M IAmb IAmb 12 39 53.7
comp=Z,10nm,0.8s
A36M Sachs Harbour 27.19 28 P P 12 39 42.6 -1.3
baz=247,SNR=9.3
B05A Bryant 29.57 79 P P 12 40 06.9 +1.5
baz=296
TYV Tymovskoe 29.85 287 *e*P P 12 40 03.5 -4.3
TYV pmax pmax
comp=Z,600nm,5.8s
TYV pmax pmax
comp=Z,17nm,1.0s
YKA Yellowknife Ar 29.89 49 P P 12 40 09.3 +1.3
comp=Z,2.2nm,0.8s,baz=267,slow=9.1,SNR=34
YKA Yellowknife Ar 29.89 49 *e*P P 12 40 09.4 +1.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
D05A Enumclaw 30.12 81 IAmb IAmb 12 40 14.4
comp=Z,14nm,1.0s
B08A Colville Reser 31.19 77 P P 12 40 20.3 +0.6
YSS Yuzh-Sakhalins 31.46 280 *e*P P 12 40 21.4 -0.6
G05D Wamic, OR 31.47 84 P P 12 40 22.7 +0.5
baz=300
I04A Tendick Farm, 31.55 87 P P 12 40 24.5 +1.6
baz=302
I05D Terrebonne, OR 31.92 85 P P 12 40 27.7 +1.5
baz=302
HAWA Hanford 31.98 81 P P 12 40 27.9 +1.3
HAWA IAmb IAmb 12 40 29.9
comp=Z,6.4nm,0.9s
J04D Umpqua Nationa 32.03 88 P P 12 40 29.4 +2.0
baz=303
E08A Dider Farm, El 32.22 80 IAmb IAmb 12 40 31.9
comp=Z,8.8nm,1.2s
YBH Yreka Blue Hor 32.51 91 LR LR 12 51 13.1
comp=Z,82nm,18.6s,baz=304,slow=32
J05D Fort Rock, OR 32.55 87 P P 12 40 34.2 +2.4
baz=303
NEW Newport 32.55 76 P P 12 40 32.2 +0.5
baz=297
M02C Callahan 32.62 91 P P 12 40 33.6 +1.3
baz=305
G08A Pilot Rock 32.88 82 IAmb IAmb 12 40 37.5
comp=Z,6.5nm,1.4s
N02D Trinity Center 32.95 92 P P 12 40 36.9 +1.6
baz=306
JKA Kamikawa-asahi 32.98 275 P P 12 40 35.0 -0.4
ASAJ Asahikawa 32.98 275 P P 12 40 35.0 -0.4
comp=Z,21nm,1.1s,baz=55,slow=7.4,SNR=3.0
ASAJ Asahikawa 32.98 275 P P 12 40 35.0 -0.4
ASAJ pmax pmax
comp=Z,15nm,0.8s
M04C Macdoel 33.01 90 IAmb IAmb 12 41 01.4
comp=Z,6.5nm,0.9s
M04C Macdoel 33.01 90 P P 12 40 36.7 +0.8
baz=305
K05A Summer Lake 33.06 88 P P 12 40 37.8 +1.4
K05A IAmb IAmb 12 40 45.8
comp=Z,5.9nm,0.9s
O02D Mt. Diablo Mer 33.37 93 IAmb IAmb 12 40 56.4
comp=Z,7.0nm,1.1s
O02D Mt. Diablo Mer 33.37 93 P P 12 40 40.0 +1.0
baz=307
MOD Modoc Plateau 33.89 88 P P 12 40 43.1 -0.5
MOD IAmb IAmb 12 41 14.5
comp=Z,7.1nm,1.1s
O03E Paynes Creek 33.91 92 IAmb IAmb 12 41 03.8
comp=Z,10nm,1.1s
O03E Paynes Creek 33.91 92 P P 12 40 46.6 +2.9
baz=307
BMO Blue Mountains 34.11 82 IAmb IAmb 12 41 08.3
comp=Z,7.5nm,1.4s
JTMT Jette 34.48 76 IAmb IAmb 12 41 15.7
comp=Z,6.4nm,1.1s
WVOR Wild Horse Val 34.61 86 IAmb IAmb 12 41 17.3
comp=Z,6.3nm,1.1s
MSO Missoula 35.13 77 P P 12 40 55.1 +0.9
MSO IAmb IAmb 12 41 03.0
comp=Z,14nm,1.5s
MSO Missoula 35.13 77 P P 12 40 52.9 -1.3
baz=300
PAHR Pah Rah Range 35.74 91 IAmb IAmb 12 41 28.7
comp=Z,4.6nm,0.8s
RES Resolute Bay 36.17 26 LR LR 12 58 02.5
comp=Z,125nm,20.6s,baz=88,slow=40
HLID Hailey 36.55 82 P P 12 41 06.6 +0.1
baz=303
KLR Kul'dur 36.90 290 *i* P P 12 41 09.0 -0.2
KLR pmax pmax
comp=Z,12nm,1.2s
EGMT Eagleton 37.02 73 IAmb IAmb 12 41 30.0
comp=Z,12nm,0.9s
EGMT Eagleton 37.02 73 P P 12 41 10.8 +0.6
baz=299
BOZ Bozeman (W) 37.14 77 P P 12 41 11.1 -0.3
baz=302,SNR=6.6
NVAR Mina Array Bea 37.19 92 P P 12 41 12.1 0.0
comp=Z,0.6nm,0.8s,baz=294,slow=8.8,SNR=3.5
ELK Elko 37.66 86 LR LR 12 54 26.7
comp=Z,115nm,18.9s,baz=305,slow=33
YMR Madison River 38.03 78 IAmb IAmb 12 41 28.1
comp=Z,14nm,1.4s
YHH Holmes Hill 38.04 78 IAmb IAmb 12 41 28.6
comp=Z,9.1nm,0.9s
YNR Norris Junctio 38.18 78 IAmb IAmb 12 41 30.5
comp=Z,12nm,1.1s
FFC Flin Flon 38.32 59 P P 12 41 21.5 +0.5
FFC pmax pmax
comp=Z,5.0nm,1.2s
FFC Flin Flon 38.32 59 P P 12 41 21.5 +0.5
H17A Grant Village 38.41 78 IAmb IAmb 12 41 32.8
comp=Z,7.7nm,1.1s
H17A Grant Village 38.41 78 P P 12 41 21.2 -1.1
baz=303,SNR=6.4
YMP Mirror Lake Pl 38.48 77 IAmb IAmb 12 41 36.2
comp=Z,15nm,1.4s
FLWY Flagg Ranch 38.51 79 IAmb IAmb 12 41 37.3
comp=Z,11nm,1.3s
RLMT Red Lodge 38.80 76 IAmb IAmb 12 41 35.5
comp=Z,11nm,1.1s
ISA Isabella, Lake 38.87 95 P P 12 41 28.3 +2.3
baz=311
R11A Troy Canyon, C 38.91 90 P P 12 41 27.4 +0.9
baz=309
H11S1 WAKE ISLAND Hy 38.94 219 T T 13 23 25.5
baz=23,slow=76,SNR=82
H11S2 WAKE ISLAND Hy 38.95 219 T T 13 23 26.6
baz=23,slow=76,SNR=44
H11S3 WAKE ISLAND Hy 38.95 219 T T 13 23 23.2
baz=23,slow=76,SNR=27
BW06 Boulder Array 39.94 80 P P 12 41 35.3 +0.3
baz=305,SNR=7.3
PDAR Pinedale Array 39.94 80 P P 12 41 35.7 +0.6
comp=Z,4.1nm,0.9s,baz=310,slow=5.0,SNR=30
BFSC Mount Baldy Ra 40.31 96 P P 12 41 39.0 +0.9
baz=313
MDJ Mudanjiang 40.55 284 P P 12 41 39.5 -0.3
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,100nm,3.7s
MDJ LR LR
comp=Z,660nm,24.2s
MDJ LR LR
comp=Z,920nm,13.8s
MDJ LR LR
comp=Z,2µm,16.9s
FCC Fort Churchill 40.58 51 P P 12 41 40.3 +0.5
FCC pmax pmax
comp=Z,17nm,0.9s
FCC Fort Churchill 40.58 51 P P 12 41 40.3 +0.5
FCC IAmb IAmb 12 41 42.0
comp=Z,17nm,0.8s
BNX BinXian 41.22 287 ⇓P P 12 41 45.0 -0.3
BNX pmax pmax
comp=Z,26nm,0.9s
BNX pmax pmax
comp=Z,180nm,8.3s
RDMU Red Mountain 41.22 82 IAmb IAmb 12 41 48.1
comp=Z,13nm,1.2s
P18A Preston Nutter 41.39 84 IAmb IAmb 12 42 13.3
comp=Z,7.6nm,1.1s
BC3 Big Chuckawall 42.06 95 P P 12 41 53.9 +1.5
baz=313
O20A White River Ci 42.30 82 IAmb IAmb 12 41 55.9
comp=Z,12nm,0.9s
O20A White River Ci 42.30 82 P P 12 41 54.6 +0.1
baz=308,SNR=9.8
MDND Maddock 42.95 67 P P 12 41 59.2 -0.3
baz=303
PV11 David Mesa, Pa 43.05 85 IAmb IAmb 12 42 26.0
comp=Z,8.4nm,0.9s
PV13 Radium Mtn., P 43.17 85 IAmb IAmb 12 42 05.5
comp=Z,9.4nm,1.0s
N23A Red Feather La 43.22 80 P P 12 42 01.9 -0.1
N23A IAmb IAmb 12 42 27.7
comp=Z,7.9nm,1.1s
N23A Red Feather La 43.22 80 P P 12 42 01.8 -0.2
baz=307
WUAZ Wupatki 43.31 90 P P 12 42 03.6 +0.9
baz=311
CN2 Changchun 43.47 286 *e*P P 12 42 02.3 -1.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MVCO Mesa Verde 43.97 85 P P 12 42 08.8 +0.8
baz=310
ISCO Idaho Springs 44.09 81 P P 12 42 10.2 +1.1
baz=308
S22A 4UR Ranch, Cre 44.65 84 P P 12 42 14.7 +1.2
S22A 4UR Ranch, Cre 44.65 84 P P 12 42 15.0 +1.5
baz=310
AGMN Agassiz Nation 44.80 65 IAmb IAmb 12 42 15.1
comp=Z,7.8nm,0.9s
AGMN Agassiz Nation 44.80 65 P P 12 42 13.4 -0.8
baz=304,SNR=5.7
SDCO Great Sand Dun 45.45 83 P P 12 42 20.4 +0.5
baz=310
TUC Tucson 45.83 92 P P 12 42 22.5 -0.2
baz=314
KSRS Korea Array 45.87 277 P P 12 42 24.1 +1.3
comp=Z,12nm,1.0s,baz=55,slow=7.5,SNR=24
KSAR Wonju Array Be 45.90 277 P P 12 42 23.2 +0.1
KSAR Wonju Array Be 45.90 277 P P 12 42 23.2 +0.1
B35A Bob, Littlefor 45.95 64 IAmb IAmb 12 42 36.6
comp=Z,7.4nm,1.1s
T25A Trinidad 46.51 83 IAmb IAmb 12 42 30.6
comp=Z,15nm,1.3s
T25A Trinidad 46.51 83 P P 12 42 28.6 +0.5
baz=310,SNR=6.8
INCN Inchon 46.64 278 P P 12 42 29.4 +0.5
INCN pmax pmax
comp=Z,27nm,0.9s
INCN Inchon 46.64 278 P P 12 42 29.4 +0.5
ANMO Albuquerque 46.70 86 P P 12 42 29.4 -0.3
baz=312
TJN Taejon 46.91 277 P P 12 42 31.3 +0.3
TJN pmax pmax
comp=Z,96nm,0.9s
TJN Taejon 46.91 277 P P 12 42 31.3 +0.3
JNU Nakatsue 46.94 271 P P 12 42 31.4 +0.1
comp=Z,7.9nm,0.9s,baz=103,slow=5.9,SNR=2.1
ECSD EROS Data Cent 47.03 70 P P 12 42 31.3 -0.6
ECSD IAmb IAmb 12 42 32.1
comp=Z,7.9nm,1.1s
ECSD EROS Data Cent 47.03 70 P P 12 42 31.3 -0.6
baz=307
EYMN Ely 47.41 63 P P 12 42 33.6 -1.1
baz=306
BGNE Belgrade 47.56 74 P P 12 42 35.9 -0.2
baz=308
MNTX Cornudas Mount 49.57 89 P P 12 42 51.8 +0.2
MNTX Cornudas Mount 49.57 89 P P 12 42 51.6 +0.1
baz=314
MSTX Muleshoe 49.61 85 P P 12 42 51.4 -0.6
baz=313
AMTX Amarillo 49.66 83 P P 12 42 50.7 -1.6
baz=312
JFWS Jewell Farm 51.18 67 P P 12 43 02.6 -1.0
baz=310
ULN Ulaanbaatar 51.34 301 P P 12 43 04.9 -0.1
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 51.34 301 P P 12 43 04.8 -0.1
ULN IAmb IAmb 12 43 06.9
comp=Z,9.1nm,1.0s
WMOK Wichita Mounta 51.52 81 P P 12 43 06.4 +0.1
baz=313
SONM Songino Array 51.70 301 P P 12 43 07.7 +0.1
comp=Z,2.8nm,0.6s,baz=51,slow=7.5,SNR=6.4
SONM Songino Array 51.70 301 *e*P P 12 43 08.8 +1.2
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 51.70 301 P P 12 43 07.2 -0.4
SONM IAmb IAmb 12 43 10.1
comp=Z,12nm,1.4s
TX31 Lajitas Ar. Si 52.27 90 IAmb IAmb 12 43 29.4
comp=Z,17nm,1.1s
TX32 Lajitas Array 52.27 90 IAmb IAmb 12 43 29.4
comp=Z,5.7nm,1.1s
TXAR Lajitas Array 52.28 90 P P 12 43 12.8 +0.7
comp=Z,1.2nm,0.7s,baz=302,slow=5.7,SNR=14
TXAR Lajitas Array 52.28 90 P P 12 43 12.4 +0.3
TXAR Lajitas Array 52.28 90 P P 12 43 12.4 +0.3
ABTX Abilene, Hawle 52.44 84 P P 12 43 13.7 +0.5
baz=314
R40A Maddies Statio 53.02 73 IAmb IAmb 12 43 30.2
comp=Z,6.8nm,1.1s
HDIL Hopedale 53.25 69 P P 12 43 17.4 -1.6
baz=311
HHC Hu-ho-hao-te 53.36 291 *e*P P 12 43 22.0 +2.0
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.2s
MGMO Mountain Grove 53.78 74 IAmb IAmb 12 43 22.4
comp=Z,7.1nm,1.1s
HNS HongShan 53.83 286 ⇑P P 12 43 22.5 -0.8
HNS pmax pmax
comp=Z,30nm,1.1s
U40A Yellville 53.98 75 IAmb IAmb 12 43 26.2
comp=Z,5.7nm,1.1s
U40A Yellville 53.98 75 P P 12 43 22.7 -1.8
baz=313
WHTX Lake Whitney, 54.20 82 P P 12 43 25.7 -0.5
baz=314
W39A Magazine 54.21 77 P P 12 43 25.1 -1.0
baz=313
FCAR Ozark Folk Cen 54.73 75 IAmb IAmb 12 43 31.6
comp=Z,6.4nm,0.9s
NJ2 Nanjing 55.01 279 *e*P P 12 43 32.5 +0.5
NJ2 pmax pmax
comp=Z,11nm,0.6s
SCHQ Schefferville 55.11 44 P P 12 43 32.7 +0.3
comp=Z,8.0nm,0.9s,baz=315,slow=6.0,SNR=6.4
SCO Scoresbysund 55.12 13 P P 12 43 32.9 +0.7
SCO pmax pmax
comp=Z,13nm,1.2s
SCO Scoresbysund 55.12 13 P P 12 43 32.9 +0.7
SCO IAmb IAmb 12 43 34.3
comp=Z,13nm,1.2s
W41B Gary Mavity, V 55.14 76 P P 12 43 31.2 -1.7
baz=314
O48B Farmland 55.80 67 P P 12 43 35.5 -2.0
baz=313
WVT Waverly 57.09 72 P P 12 43 44.9 -1.8
baz=314
OXF Oxford 57.28 75 P P 12 43 47.4 -0.7
baz=314
ZALV Zalesovo Beam 57.74 318 P P 12 43 51.7 +0.6
comp=Z,3.4nm,1.0s,baz=36,slow=7.6,SNR=2.4
O56A Blue Knob Stat 59.45 63 P P 12 44 01.8 -1.5
baz=315
SSPA Standing Stone 59.56 62 P P 12 44 01.5 -2.5
baz=315
BLA Blacksburg 60.58 66 P P 12 44 09.7 -1.4
baz=315
GTA Gaotai 60.90 298 *e*P P 12 44 13.8 +0.5
GTA pP pP 12 44 21.0 -0.5
GTA sP pwP 12 44 26.0 +1.3
GTA pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 61.02 292 ⇓P P 12 44 16.0 +1.7
LZH pP pwP 12 44 30.8 +4.4
LZH sP sP 12 44 33.0 +7.8
LZH pmax pmax
comp=Z,25nm,1.5s
L61B Northampton 61.02 57 P P 12 44 14.1 +0.1
baz=316
KMSC Kings Mountain 61.53 69 P P 12 44 16.0 -1.5
baz=316
GOGA Godfrey 61.55 71 P P 12 44 16.5 -1.1
baz=316
WMQ Urumqi 63.90 308 *e*P P 12 44 35.0 +1.8
WMQ pP pwP 12 44 48.5 +3.4
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,230nm,4.5s
MKAR Makanchi Array 64.15 314 P P 12 44 34.9 +0.1
comp=Z,5.4nm,0.8s,baz=38,slow=6.9,SNR=11
MKAR Makanchi Array 64.15 314 P P 12 44 34.1 -0.7
ARU Arti 64.83 333*c i*P P 12 44 38.7 -0.3
ARU S S 12 53 18.6 +0.9
ARU SS SS 12 57 26.5 -1.7
ARU pmax pmax
comp=Z,18nm,1.0s
KLMR Klimovskoe 64.91 345 *e*P P 12 44 38.6 -0.8
KLMR pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 64.91 345 *e*P P 12 44 38.6 -0.8
KLMR AMP 12 44 40.5
comp=Z,16nm,1.0s
FINES FINESS Array B 65.93 352 P P 12 44 46.5 +0.4
comp=Z,17nm,0.9s,baz=33,slow=7.3,SNR=8.3
FINES FINESS Array B 65.93 352 P P 12 44 45.4 -0.6
GOMU GeErMu 65.94 298 P P 12 44 42.5 -4.5
GOMU PcP PcP 12 45 14.0 -3.7
GOMU PP PP 12 47 08.3 -3.6
GOMU sS sS 12 53 53.3 +7.1
GOMU SS SS 12 57 46.0 -1.2
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,99nm,4.5s
GOMU LR LR
comp=Z,170nm,13.3s
GOMU LR LR
comp=Z,170nm,15.7s
GOMU LR LR
comp=Z,240nm,15.5s
GYA Guiyang 66.39 283 ⇑P P 12 44 51.3 +1.6
GYA pmax pmax
comp=Z,17nm,1.4s
NC303 NORSAR Array S 66.75 0 P P 12 44 51.9 +0.6
NB2 NORSAR Subarra 66.94 0 P P 12 44 53.0 +0.4
comp=Z,2.4nm,0.7s,baz=1.3,slow=6.2
NOA NORSAR Array B 66.94 0 P P 12 44 53.1 +0.5
comp=Z,4.2nm,0.8s,baz=360,slow=6.3,SNR=5.1
NOA NORSAR Array B 66.94 0 *e*P P 12 44 53.3 +0.7
NOA pmax pmax
comp=Z,4.0nm,0.8s
TARG Taragay, Kyrgy 70.11 313 IAmb IAmb 12 45 18.3
comp=Z,3.5nm,0.7s
ABKAR Akbulak array 70.68 329 P P 12 45 16.0 0.0
AAK Ala-Archa 70.83 316 P P 12 45 17.6 +0.4
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 70.83 316 P P 12 45 17.6 +0.4
KKAR Karatay Array 72.10 319 P P 12 45 24.9 +0.2
KKAR Karatay Array 72.10 319 P P 12 45 24.9 +0.2
MNK Minsk 72.62 350 *i* P P 12 45 25.5 -2.0
MNK *i* 12 45 42.8
MNK *i* PPP PPP 12 49 51.4
MNK *i* S S 12 54 46.2 -3.8
MNK *i* 12 55 29.8
MNK *i* SS SS 12 59 28.6 +0.5
MNK *i* SSS SSS 13 02 49.3
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.9s
MNK MLR MLR
comp=N,374nm,22.0s
MNK MLR MLR
comp=E,34nm,19.0s
MNK MLR MLR
comp=Z,93nm,15.0s
MNK Minsk 72.62 350 *i* P P 12 45 25.6 -2.0
comp=E,4.0nm,0.9s
MNK *i* P P 12 45 25.6 -2.0
comp=N,16nm,0.8s
MNK *i* P P 12 45 25.6 -2.0
comp=Z,20nm,0.8s,baz=190
MNK *i* PcP PcP 12 45 42.8 -2.1
MNK *i* PP PP 12 47 49.0 -19
MNK *i* PPP PPP 12 49 51.4
MNK *i* S S 12 54 46.2 -3.8
MNK *i* SS SS 12 59 28.6 +0.5
MNK *i* SSS SSS 13 02 49.4
MNK *i* LR LR 13 18 07.9
MNK *i* LRM MLR 13 19 50.9

	comp=N,374nm,22.4s							
MNK				*i*	LRM	MLR	13 20 08.6	
	comp=E,34nm,18.6s							
MNK				*i*	LRM	MLR	13 20 14.4	
	comp=Z,93nm,15.3s							
KSH	**Kashi**	**72.72**	**313**	P		**P**	**12 45 32.5**	**+3.9**
KSH				pP		PcP	12 45 45.0	-0.8
KSH				pmax		pmax		
	comp=Z,22nm,1.3s							
VORR	**Voronezh**	**73.72**	**342**	*e*P		**P**	**12 45 37.7**	**+3.6**
VORR				pmax		pmax		
	comp=Z,90nm,0.4s							
AKASG	**Malin Array Be**	**76.20**	**348**	P		**P**	**12 45 48.4**	**0.0**
	comp=Z,6.7nm,0.7s,baz=16,slow=5.9,SNR=18							
CLL	**Collm**	**76.69**	**359**	*e*P		**P**	**12 45 52.0**	**+0.8**
CHTO	**Chiang Mai**	**76.80**	**284**	P		**P**	**12 45 53.4**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CHTO	**Chiang Mai**	**76.80**	**284**	IAmb		IAmb	12 45 58.8	
	comp=Z,9.6nm,0.9s							
CHTO	**Chiang Mai**	**76.80**	**284**	P		**P**	**12 45 53.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**77.08**	**283**	P		**P**	**12 45 55.0**	**+1.1**
	comp=Z,6.8nm,0.9s,baz=26,slow=6.0,SNR=37							
CMAR	**Chiang Mai Arr**	**77.08**	**283**	P		**P**	**12 45 54.6**	**+0.7**
BRG	**Berggiesshubel**	**77.11**	**358**	*e*P		**P**	**12 45 55.1**	**+1.6**
BRG				Amp			12 45 58.0	
	comp=Z,3.5nm,0.9s							
BRG	**Berggiesshubel**	**77.11**	**358**	*e*P		**P**	**12 45 55.1**	**+1.6**
BRG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MEM	**Membach**	**77.30**	**4**	*d*P		**P**	**12 45 55.9**	**+1.3**
	comp=Z,7.7nm,1.1s							
BTNL	**Ternell**	**77.32**	**3**	*d*P		**P**	**12 45 56.0**	**+1.2**
OSTC	**Ostas**	**77.37**	**357**	*e*P		**P**	**12 45 56.3**	**+1.2**
UPC	**Upice**	**77.42**	**357**	*e*P		**P**	**12 45 56.6**	**+1.3**
UPC	**Upice**	**77.42**	**357**	*e*P		**P**	**12 45 56.6**	**+1.3**
BCLA	**Clavier**	**77.46**	**4**	*d*P		**P**	**12 45 56.6**	**+1.1**
	comp=Z,6.3nm,1.2s							
BGES	**Gesves**	**77.48**	**4**	*d*P		**P**	**12 45 56.5**	**+0.8**
BMRD	**Maredsous**	**77.55**	**4**	*d*P		**P**	**12 45 57.0**	**+1.0**
	comp=Z,8.5nm,1.0s							
DPC	**Dobruska-Polom**	**77.57**	**357**	*e*P		**P**	**12 45 57.7**	**+1.5**
DPC	**Dobruska-Polom**	**77.57**	**357**	*e*P		**P**	**12 45 57.7**	**+1.5**
RCHB	**Rochefort**	**77.72**	**4**	*d*P		**P**	**12 45 58.1**	**+1.1**
DOU	**Dourbes**	**77.75**	**4**	*d*P		**P**	**12 45 58.3**	**+1.2**
	comp=Z,7.4nm,1.1s							
KRLC	**Kraliky**	**77.83**	**356**	*e*P		**P**	**12 45 59.0**	**+1.3**
KRLC	**Kraliky**	**77.83**	**356**	*e*P		**P**	**12 45 59.0**	**+1.3**
MORC	**Moravsky Berou**	**78.10**	**356**	⇓P		**P**	**12 46 00.9**	**+1.7**
MORC	**Moravsky Berou**	**78.10**	**356**	⇓P		**P**	**12 46 00.9**	**+1.7**
MORC	**Moravsky Berou**	**78.10**	**356**	IAmb		IAmb	12 46 01.7	
	comp=Z,11nm,1.1s							
MORC	**Moravsky Berou**	**78.10**	**356**	*e*P		**P**	**12 46 00.4**	**+1.2**
GRF	**Grafenberg Arr**	**78.31**	**0**	*e*P		**P**	**12 46 01.8**	**+1.5**
	comp=Z,23nm,1.1s,baz=2.1,slow=5.0							
VRAC	**Vranov**	**78.60**	**357**	*e*P		**P**	**12 46 03.5**	**+1.6**
LANS	**Liptovska Anna**	**78.62**	**355**	*e*P		**P**	**12 46 04.7**	**+2.6**
LANS				pmax		pmax		
	comp=Z,12nm,1.2s							
LANS	**Liptovska Anna**	**78.62**	**355**	*e*P		**P**	**12 46 04.7**	**+2.6**
CRVS	**Cervenica-Dubn**	**78.74**	**353**	*e*P		**P**	**12 46 04.2**	**+1.5**
CRVS	**Cervenica-Dubn**	**78.74**	**353**	*e*P		**P**	**12 46 04.2**	**+1.5**
SORM	**Soroca**	**78.83**	**349**	⇑P		**P**	**12 46 04.0**	**+0.9**
SORM	**Soroca**	**78.83**	**349**	⇑P		**P**	**12 46 04.0**	**+0.9**
KRUC	**Moravsky**	**78.86**	**357**	*e*P		**P**	**12 46 04.8**	**+1.5**
KHC	**Kasperske Hory**	**78.86**	**359**	*e*P		**P**	**12 46 04.5**	**+1.1**
KHC	**Kasperske Hory**	**78.86**	**359**	*e*P		**P**	**12 46 04.5**	**+1.1**
JAVC	**Velka Javorina**	**79.01**	**356**	*e*P		**P**	**12 46 04.8**	**+2.6**
GERES	**GERESS Array B**	**79.14**	**358**	P		**P**	**12 46 05.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=336,slow=2.9,SNR=11							
GERES	**GERESS Array B**	**79.14**	**358**	*e*P		**P**	**12 46 06.6**	**+1.6**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CKRC	**Cesky Krumlov**	**79.16**	**358**	*e*P		**P**	**12 46 06.6**	**+1.6**
IZAB	**Izabela**	**79.19**	**354**	*e*P		**P**	**12 46 07.3**	**+2.1**
GOF	**Gofitskoye**	**79.20**	**338**	⇑*e*P		**P**	**12 46 06.5**	**+1.2**
GOF				pmax		pmax		
	comp=Z,72nm,1.0s							
VYHS	**Vyhne**	**79.31**	**355**	*e*P		**P**	**12 46 07.9**	**+2.1**
VYHS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
VYHS	**Vyhne**	**79.31**	**355**	*e*P		**P**	**12 46 07.9**	**+2.1**
SMOL	**Smolenice**	**79.36**	**356**	*e*P		**P**	**12 46 08.2**	**+2.1**
SMOL				pmax		pmax		
	comp=Z,13nm,1.3s							
SMOL	**Smolenice**	**79.36**	**356**	*e*P		**P**	**12 46 08.2**	**+2.1**
TRPA	**Tarpa**	**79.43**	**352**	⇑P		**P**	**12 46 08.5**	**+2.1**
BUR08	**Bucovina Ar. S**	**79.67**	**351**	IAmb		IAmb	12 46 09.9	
	comp=Z,5.6nm,1.0s							
ZST	**Bratislava**	**79.69**	**356**	*e*P		**P**	**12 46 10.5**	**+2.6**
ZST				pmax		pmax		
	comp=Z,56nm,1.1s							
ZST	**Bratislava**	**79.69**	**356**	*e*P		**P**	**12 46 10.5**	**+2.6**
BURAR	**Bucovina Array**	**79.69**	**351**	⇓P		**P**	**12 46 09.0**	**+1.0**
BURAR	**Bucovina Array**	**79.69**	**351**	⇓P		**P**	**12 46 09.0**	**+1.0**
BURAR	**Bucovina Array**	**79.69**	**351**	IAmb		IAmb	12 46 10.2	
	comp=Z,5.7nm,0.9s							
ECH	**Echery**	**79.73**	**3**	P		**P**	**12 46 09.2**	**+1.1**
ECH				pmax		pmax		
	comp=Z,15nm,1.0s							
ECH	**Echery**	**79.73**	**3**	P		**P**	**12 46 09.2**	**+1.1**
PSZ	**Piszkesteto**	**79.83**	**354**	⇑P		**P**	**12 46 11.2**	**+2.5**
PSZ	**Piszkesteto**	**79.83**	**354**	⇑P		**P**	**12 46 11.2**	**+2.5**
KBL	**Kabul**	**79.92**	**315**	P		**P**	**12 46 09.4**	**-0.2**
KBL				pmax		pmax		
	comp=Z,18nm,1.1s							
KBL	**Kabul**	**79.92**	**315**	P		**P**	**12 46 09.4**	**-0.2**
CONA	**Conrad Observa**	**80.01**	**357**	*i* P		**P**	**12 46 11.7**	**+2.0**
	comp=Z,20nm,1.1s,SNR=8.7							
MOA	**Molln**	**80.13**	**358**	*e*P		**P**	**12 46 12.7**	**+2.4**
	comp=Z,9.1nm,1.2s							
KIV	**Kislovodsk**	**80.33**	**338**	*e*P		**P**	**12 46 12.9**	**+1.4**
KIV				pmax		pmax		
	comp=Z,17nm,1.1s							
KBZ	**Khabaz**	**80.49**	**337**	P		**P**	**12 46 13.5**	**+1.2**
	comp=Z,11nm,0.9s,baz=24,slow=1.0,SNR=10							
KBZ	**Khabaz**	**80.49**	**337**	*e*P		**P**	**12 46 14.3**	**+2.1**
KBZ				pmax		pmax		
	comp=Z,11nm,0.9s							
RETA	**Reutte**	**80.52**	**0**	*e*P		**P**	**12 46 14.0**	**+1.6**
	comp=Z,14nm,1.3s							
MOTA	**Moosalm**	**80.66**	**0**	*i* P		**P**	**12 46 15.1**	**+1.8**
	comp=Z,22nm,1.1s,SNR=6.0							
WATA	**Walderalm**	**80.67**	**360**	*e*P		**P**	**12 46 15.0**	**+1.7**
	comp=Z,18nm,1.0s							
ARSA	**Arzberg**	**80.69**	**357**	*e*P		**P**	**12 46 15.6**	**+2.2**
	comp=Z,15nm,1.2s							
DAVA	**Damuels**	**80.71**	**1**	*e*P		**P**	**12 46 14.3**	**+0.7**
	comp=Z,9.1nm,1.0s							
DRGR		**80.74**	**352**	⇓P		**P**	**12 46 14.8**	**+1.1**
DRGR		**80.74**	**352**	⇓P		**P**	**12 46 14.8**	**+1.1**
WTTA	**Wattenberg**	**80.75**	**360**	*e*P		**P**	**12 46 15.8**	**+2.0**
	comp=Z,13nm,0.8s							
SQTA	**Sankt Quirin**	**80.79**	**0**	*i* P		**P**	**12 46 16.0**	**+2.1**
	comp=Z,19nm,0.8s,SNR=6.1							
KBA	**Koelnbreinsper**	**80.92**	**359**	*i* P		**P**	**12 46 17.0**	**+2.3**
	comp=Z,39nm,1.1s,SNR=15							
FETA	**Feichten**	**80.99**	**0**	*i* P		**P**	**12 46 16.9**	**+1.8**
	comp=Z,20nm,1.0s,SNR=6.5							
ZEI	**Tsey**	**81.14**	**336**	*e*P		**P**	**12 46 16.3**	**+0.3**
ZEI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ABTA	**Abfaltersbach**	**81.26**	**359**	*i* P		**P**	**12 46 18.1**	**+1.7**
	comp=Z,18nm,1.2s,SNR=5.8							
SOKA	**Soboth**	**81.28**	**357**	*i* P		**P**	**12 46 18.4**	**+1.9**
	comp=Z,26nm,1.1s,SNR=9.3							
GEYT	**Alibeck**	**81.31**	**324**	P		**P**	**12 46 18.2**	**+1.5**
	comp=Z,15nm,0.9s,baz=102,slow=3.7,SNR=8.3							
MYKA	**Terra Mystica**	**81.36**	**358**	*e*P		**P**	**12 46 18.6**	**+1.6**
	comp=Z,10nm,1.1s							
OBKA	**Obir**	**81.46**	**358**	*e*P		**P**	**12 46 19.7**	**+2.1**
	comp=Z,12nm,0.9s							
TUE	**Stuetta**	**81.52**	**1**	P		**P**	**12 46 19.8**	**+1.8**
MLR	**Muntele Rosu**	**81.72**	**350**	P		**P**	**12 46 20.1**	**+1.2**
MLR				pmax		pmax		
	comp=Z,10.0nm,1.3s							
MLR	**Muntele Rosu**	**81.72**	**350**	P		**P**	**12 46 20.1**	**+1.2**
MLR				IAmb		IAmb	12 46 21.4	
	comp=Z,9.9nm,1.3s							
CFR	**Carcaliu**	**81.77**	**348**	⇓P		**P**	**12 46 19.9**	**+0.9**
CFR	**Carcaliu**	**81.77**	**348**	⇓P		**P**	**12 46 19.9**	**+0.9**
VOIR		**81.87**	**350**	⇑P		**P**	**12 46 21.3**	**+1.7**
VOIR		**81.87**	**350**	⇑P		**P**	**12 46 21.3**	**+1.7**
ARR	**Arges**	**81.98**	**351**	⇓P		**P**	**12 46 21.8**	**+1.6**
BZS	**Buzias**	**82.00**	**353**	⇓P		**P**	**12 46 21.6**	**+1.4**
BZS	**Buzias**	**82.00**	**353**	⇓P		**P**	**12 46 21.6**	**+1.4**
TPGR	**Topolog**	**82.05**	**348**	⇑P		**P**	**12 46 21.3**	**+0.8**
GZR	**Gura Zlata**	**82.12**	**352**	⇑P		**P**	**12 46 21.9**	**+0.9**
GZR	**Gura Zlata**	**82.12**	**352**	⇑P		**P**	**12 46 21.9**	**+0.9**
HERR	**Herculane**	**82.66**	**352**	⇑P		**P**	**12 46 24.2**	**+0.5**
BRTR	**Keskin Array B**	**86.26**	**343**	P		**P**	**12 46 43.0**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=58,slow=3.1,SNR=18							
BRTR	**Keskin Array B**	**86.26**	**343**	*e*P		**P**	**12 46 44.7**	**+2.5**
BRTR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ESDC	**Sonseca Array**	**87.36**	**12**	P		**P**	**12 46 48.3**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=349,slow=4.8,SNR=15							
ESDC	**Sonseca Array**	**87.36**	**12**	P		**P**	**12 46 47.6**	**+0.1**
ESDC				IAmb		IAmb	12 46 49.4	
	comp=Z,4.4nm,0.9s							
WRA	**Warramunga Arr**	**87.38**	**232**	P		**P**	**12 46 46.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=36,slow=5.9,SNR=7.1							
WRA	**Warramunga Arr**	**87.38**	**232**	P		**P**	**12 46 45.9**	**-1.7**
PSI	**Prapat**	**89.32**	**274**	P		**P**	**12 46 57.0**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=320,slow=5.5,SNR=4.3							
ASAR	**Alice Springs**	**90.76**	**231**	P		**P**	**12 47 03.2**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=31,slow=4.2,SNR=16							
H03N2	**Juan Fernandez**	**115.49**	**112**	T		T	14 58 59.9	
	baz=321,slow=74							
H03N1	**Juan Fernandez**	**115.50**	**112**	T		T	14 59 05.6	
	baz=321,slow=74,SNR=4.4							
H03N3	**Juan Fernandez**	**115.50**	**112**	T		T	14 59 00.8	
	baz=321,SNR=3.7							

MOS ***31*** *12:38:12.6±1.0,33.˚41N×141.˚72E,h11km,mb4.8/34, Error ellipse: s-maj=10.6km s-min=6.0km az=113.9*
IDC ***31*** *12:38:13.1±0.5,33.˚49N×141.˚79E,h0km,mb4.5/28, mb1 4.5/34,mb1mx4.4/56,mbtmp4.4/34,ML3.3/5, Error ellipse: s-maj=13.4km s-min=10.4km az=104.0*
BJI ***31*** *12:38:13.8±0.0,33.˚49N×141.˚70E,h13km,mb4.5/34, mB4.8/18,Ms4.5/12,Ms7 4.3/12*
NEIC ***31*** *12:38:14.7±1.8,33.˚49N±0.˚02×141.˚81E±0.˚09,h10km±1km, mb4.7/162, Error ellipse: s-maj=12.6km s-min=2.9km az=103.0*
JMA ***31*** *12:38:18.1±0.3,33.˚61N×141.˚62E,h53km,M4.5*
ISC 31 12:38:17.8±0.4,33.˚49N±0.˚04×141.˚81E±0.˚05,h34km,n356, σt18s35/312,mb4.6/122,MS4.7/3,2C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
BSO1	**Boso 1**	**1.35**	**330**	P		**Pn**	**12**	**38 38.5**	**-1.2**
BSO3	**Boso 3**	**1.70**	**321**	P		**Pn**	**12**	**38 43.7**	**-1.0**
JHJ2	**Mitsune**	**1.71**	**258**	P		**Pn**	**12**	**38 44.7**	**-0.5**
JHJ2	**Mitsune**	**1.71**	**258**	Pn		**Pn**	**12**	**38 44.9**	**-0.3**
JHCJ	**Hachijojimakas**	**1.73**	**257**	P		**Pn**	**12**	**38 44.5**	**-1.0**
JHCJ				*e*S		**Sn**	**12**	**39 03.8**	**-2.7**
JHJ	**Hachijo jima 2**	**1.73**	**258**	Pn		**Pn**	**12**	**38 44.9**	**-0.6**
	214nm,0.3s,baz=85,slow=7.6,SNR=39								
JHJ				Sn		**Sn**	**12**	**39 05.6**	**-0.9**
	382nm,0.3s,baz=78,slow=20,SNR=8.2								
JMKN	**Mikurajimanish**	**1.89**	**283**	P		**Pn**	**12**	**38 46.3**	**-1.4**
BSO4	**Boso 4**	**1.93**	**321**	P		**Pn**	**12**	**38 47.2**	**-0.9**
BSO4				*e*S		**Sn**	**12**	**39 08.1**	**-3.1**
JAOM	**Aogashimamukai**	**2.00**	**240**	P		**Pn**	**12**	**38 49.4**	**+0.2**
JAOM				*e*S		**Sn**	**12**	**39 12.0**	**-1.0**
KTR	**Katsuura**	**2.07**	**324**	P		**Pn**	**12**	**38 49.2**	**-0.9**
JIM2	**Oshima 3**	**2.32**	**303**	P		**Pn**	**12**	**38 51.8**	**-1.8**
JIZS	**Izushimoda**	**2.72**	**298**	P		**Pn**	**12**	**38 58.0**	**-1.1**
JOD2	**Odawara 2**	**2.86**	**309**	P		**Pn**	**12**	**38 59.2**	**-1.9**
JYT	**Yasato**	**3.04**	**335**			**Pn**	**12**	**39 03.1**	**-0.4**
JYN	**Shimob**	**3.36**	**308**	P		**Pn**	**12**	**39 07.0**	**-0.9**
SHZ3	**Shizuoka 3**	**3.37**	**299**	P		**Pn**	**12**	**39 08.1**	**0.0**
JRY	**Ryogami san**	**3.48**	**317**	P		**Pn**	**12**	**39 08.2**	**-1.3**
JAG	**Ashikaga**	**3.51**	**327**	P		**Pn**	**12**	**39 08.8**	**-1.1**
JGF	**Kuroka**	**4.24**	**301**			**Pn**	**12**	**39 20.9**	**+1.0**
MJAR	**Matsushiro Arr**	**4.24**	**317**	Pn		**Pn**	**12**	**39 19.9**	**-0.1**
	1.3nm,0.3s,baz=229,slow=21,SNR=27								
MJAR				Sn		**Sn**	**12**	**40 07.9**	**-0.5**
	1.1nm,0.3s,baz=126,slow=25,SNR=8.0								
MJAR	**Matsushiro Arr**	**4.24**	**317**			**Pn**	**12**	**39 20.0**	**0.0**
MAJO	**Matsushiro**	**4.25**	**317**	P		**Pn**	**12**	**39 20.1**	**0.0**
MAJO	**Matsushiro**	**4.25**	**317**			**Pn**	**12**	**39 20.1**	**0.0**
MJB9	**Matsu-Tunnel**	**4.25**	**317**			**Pn**	**12**	**39 20.1**	**0.0**
INU	**Inuyama**	**4.37**	**296**			**Pn**	**12**	**39 20.3**	**-1.5**
JMM	**Marumori**	**4.45**	**350**			**Pn**	**12**	**39 20.4**	**-2.4**
JCJ	**Chichijima**	**6.38**	**177**	Pn		**Pn**	**12**	**39 47.1**	**-2.3**
	16nm,0.3s,baz=291,slow=22,SNR=31								
JCJ				Sn		**Sn**	**12**	**40 55.2**	**-5.9**
	5.2nm,0.3s,baz=308,slow=19,SNR=1.3								
JCJ	**Chichijima**	**6.38**	**177**	Pn		**Pn**	**12**	**39 48.6**	**-0.7**
JTM	**Tenmabayashi**	**7.31**	**356**	Pn		**Pn**	**12**	**40 00.2**	**-1.9**
ERM	**Erimo**	**8.58**	**7**	*i* P		Pn	12	40 14.9	-4.6
ERM	**Erimo**	**8.58**	**7**	Pn		**Pn**	**12**	**40 17.0**	**-2.5**
JNU	**Nakatsue**	**9.16**	**271**	Pn		**Pn**	**12**	**40 27.2**	**-0.3**
	0.2nm,0.3s,baz=71,slow=18,SNR=2.7								
JEW	**Eniwo**	**9.34**	**358**	Pn		**Pn**	**12**	**40 30.9**	**+1.0**
ASAJ	**Asahikawa**	**10.63**	**3**	Pn		**Pn**	**12**	**40 44.5**	**-3.1**
	1.0nm,0.3s,baz=217,slow=12,SNR=11								
ASAJ				Sn		**Sn**	**12**	**42 37.1**	**-8.3**
	0.4nm,0.3s,baz=156,slow=20,SNR=1.0								
SHO	**Shikotan**	**11.08**	**19**	*e*P		**Pn**	**12**	**40 50.2**	**-3.5**
KSRS	**Korea Array**	**11.99**	**293**	Pn		**Pn**	**12**	**41 07.4**	**+1.2**
	0.1nm,0.3s,baz=105,slow=14,SNR=4.4								
TJN	**Taejon**	**12.20**	**288**	*i* P		**Pn**	**12**	**41 09.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**13.47**	**3**	*e*P		Pn	12	41 21.7	-4.7
YSS				pmax		pmax			
	comp=Z,20nm,1.2s								
TYV	**Tymovskoe**	**17.38**	**2**	*e*P		**P**	**12**	**42 18.9**	**+0.4**
TYV				*e*S		**Sn**	**12**	**45 32.6**	**+3.0**
TYV				pmax		pmax			
	comp=Z,29nm,1.2s								
TYV				pmax		pmax			
	comp=Z,200nm,4.4s								
TYV				smax		smax			
	comp=N,500nm,6.4s								
KLR	**Kul'dur**	**17.42**	**338**	P		**Pn**	**12**	**42 16.1**	**-1.9**
	comp=N,0.0nm,0.3s,baz=77,slow=7.8,SNR=1.7								
KLR	**Kul'dur**	**17.42**	**338**	*i* P		**Pn**	**12**	**42 17.1**	**-0.9**
NJ2	**Nanjing**	**19.35**	**272**	*e*P		**P**	**12**	**42 40.3**	**-0.1**
NJ2				pmax		pmax			
	comp=N,10.0nm,0.5s								
XLT	**XiLinHaoTe**	**22.53**	**305**	*e*P		**P**	**12**	**43 15.5**	**+0.8**
XLT				sP		pP	12	43 22.3	+0.5
XLT				S		**S**	**12**	**47 22.5**	**+2.8**
XLT				pmax		pmax			
	comp=N,13nm,0.9s								
XLT				pmax		pmax			
	comp=N,170nm,3.6s								
XLT				LR		LR			
	comp=N,2μm,17.3s								
XLT				LR		LR			
	comp=N,2μm,18.1s								
ZEA	**Zeya**	**22.74**	**337**	*e*P		**P**	**12**	**43 17.3**	**+0.6**
ZEA				pmax		pmax			
	comp=E,10.0nm,0.7s								
ZEA				pmax		pmax			
	comp=N,20nm,1.2s								
ZEA				pmax		pmax			
	comp=Z,30nm,1.1s								
HIA	**Hailar**	**22.74**	**320**	*i* P		**P**	**12**	**43 16.8**	**0.0**
HIA				pmax		pmax			
	comp=Z,16nm,1.4s								
WHN	**Wuhan**	**23.44**	**270**	⇓P		**P**	**12**	**43 23.3**	**-0.7**
WHN				sP		**sP**	**12**	**43 36.0**	**+1.9**
WHN				pmax		pmax			
	comp=Z,62nm,0.7s								
HHC	**Hu-ho-hao-te**	**25.11**	**296**	*e*P		**P**	**12**	**43 39.8**	**+0.3**
HHC				pmax		pmax			
	comp=Z,15nm,0.9s								
HHC				pmax		pmax			
	comp=Z,130nm,5.9s								
H11N2	**WAKE ISLAND Hy**	**26.20**	**115**	T		T	13 11 18.2		
	baz=311,slow=74								
H11N1	**WAKE ISLAND Hy**	**26.20**	**115**	T		T	13 11 25.5		
	baz=311,slow=74								
H11N3	**WAKE ISLAND Hy**	**26.22**	**115**	T		T	13 11 24.4		
	baz=311								
MA2	**Magadan**	**26.76**	**10**	P		**P**	**12**	**43 54.9**	**+0.8**
	comp=Z,14nm,0.8s,baz=191,slow=8.1,SNR=14								
MA2	**Magadan**	**26.76**	**10**	P		**P**	**12**	**43 53.8**	**-0.3**
MA2				IAmb		IAmb	12	43 55.9	
	comp=Z,20nm,0.9s								
H11S3	**WAKE ISLAND Hy**	**26.79**	**118**	T		T	13 12 11.4		
	baz=311								
H11S1	**WAKE ISLAND Hy**	**26.80**	**118**	T		T	13 12 13.3		
	baz=311								
H11S2	**WAKE ISLAND Hy**	**26.81**	**118**	T		T	13 12 08.3		
	baz=311								
YAK	**Yakutsk**	**29.60**	**348**	P		**P**	**12**	**44 18.7**	**-0.6**
	comp=Z,5.2nm,0.4s,baz=341,slow=1.8,SNR=4.2								
YAK	**Yakutsk**	**29.60**	**348**	*i* P		**P**	**12**	**44 19.4**	**+0.1**
YAK				pmax		pmax			
	comp=Z,25nm,1.0s								
ULN	**Ulaanbaatar**	**29.73**	**309**	*i* P		**P**	**12**	**44 21.0**	**+0.1**
ULN				pmax		pmax			
	comp=Z,11nm,0.8s								
ULN	**Ulaanbaatar**	**29.73**	**309**	P		**P**	**12**	**44 20.8**	**-0.1**
ULN				IAmb		IAmb	12	44 25.9	
	comp=Z,10nm,0.8s								
SONM	**Songino Array**	**30.15**	**309**	P		**P**	**12**	**44 26.0**	**+1.4**
	comp=Z,5.3nm,0.8s,baz=108,slow=7.7,SNR=6.3								
SEY	**Seymchan**	**30.21**	**10**	P		**P**	**12**	**44 25.5**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=187,slow=7.0,SNR=8.5								
BOD	**Bodaibo**	**30.74**	**331**	*e*P		**P**	**12**	**44 29.8**	**+0.3**
BOD				pmax		pmax			
	comp=Z,13nm,1.1s								
GYA	**Guiyang**	**31.13**	**266**	⇑P		**P**	**12**	**44 35.0**	**+1.5**
GYA				pmax		pmax			
	comp=Z,12nm,0.7s								
ZAK	**Zakamensk**	**32.81**	**313**	*e*P		**P**	**12**	**44 47.9**	**-0.1**
ZAK				pmax		pmax			
	comp=Z,11nm,1.3s								
PZH	**PanZhiHua**	**35.23**	**269**	P		**P**	**12**	**45 09.5**	**+0.3**
PZH				pmax		pmax			
	comp=Z,20nm,1.1s								
PZH				pmax		pmax			
	comp=Z,110nm,4.8s								
PZH	**PanZhiHua**	**35.23**	**269**	P		**P**	**12**	**45 09.0**	**-0.2**
PZH	**PanZhiHua**	**35.23**	**269**	pmax		pmax			
	comp=Z,20nm,1.2s								
PZH	**PanZhiHua**	**35.23**	**269**	pmax		pmax			
	comp=Z,120nm,5.3s								
BILL	**Bilibino**	**37.35**	**15**	*ce*P		**P**	**12**	**45 26.8**	**+0.2**
BILL				*e*			12	46 52.0	
BILL				pmax		pmax			
	comp=Z,12nm,1.3s								
GOMU	**GeErMu**	**38.37**	**288**	P		**P**	**12**	**45 36.3**	**+0.1**
GOMU				pP		pP	12	45 39.8	-4.0
GOMU				sP		sP	12	45 41.5	-4.7
GOMU				PP		**PP**	**12**	**47 05.0**	**+0.8**
GOMU				PcP		**PcP**	**12**	**47 50.3**	**+0.9**
GOMU				S		**S**	**12**	**51 32.0**	**+3.1**
GOMU				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GOMU				pmax		pmax			
	comp=Z,34nm,4.3s								
GOMU				LR		LR			
	comp=Z,320nm,17.1s								
GOMU				LR		LR			
	comp=Z,680nm,19.4s								
GOMU				LR		LR			
	comp=Z,700nm,20.0s								
TIXI	**Tiksi**	**38.84**	**354**	P		**P**	**12**	**45 39.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=271,slow=23,SNR=5.4								
TIXI	**Tiksi**	**38.84**	**354**	P		**P**	**12**	**45 38.7**	**-0.4**
WMQ	**Urumqi**	**42.82**	**300**	*e*P		**P**	**12**	**46 15.0**	**+2.6**
WMQ				sP		sP	12	46 26.0	+3.4
WMQ				pmax		pmax			
	comp=Z,25nm,0.9s								
WMQ				pmax		pmax		

WAT6	Susitna Watana	51.96	34		P		P	12 47 23.5	+0.2	
	baz=270									
SCM	Sheep Creek Mo	52.16	35		P		P	12 47 25.9	+1.2	
	baz=271									
IL31		52.34	31		P		P	12 47 26.6	+0.7	
IL31					IAmb		IAmb	12 47 26.8		
	comp=Z,7.4nm,1.1s									
ILAR	Eielson Array	52.34	31		P		P	12 47 26.4	+0.5	
	comp=Z,2.8nm,0.9s,baz=268,slow=6.1,SNR=14									
ILAR	Eielson Array	52.34	31		P		P	12 47 26.2	+0.3	
AAK	Ala-Archa	52.52	301	*i*	P		P	12 47 27.9	+0.1	
AAK					pmax		pmax			
	comp=Z,2.0nm,0.8s									
M24K	Tolsona, Glenn	52.70	34		P		P	12 47 29.6	+0.8	
	baz=272									
J25K	Salcha River,	52.99	31		P		P	12 47 31.8	+1.0	
	baz=271									
BRVK	Borovoye	53.29	314	*i*	P		P	12 47 33.7	+0.5	
BRVK					pmax		pmax			
	comp=Z,7.0nm,1.1s									
BRVK	Borovoye	53.29	314		P		P	12 47 33.5	+0.4	
BRVK					IAmb		IAmb	12 47 34.6		
	comp=Z,9.2nm,1.1s									
WB0	Warramunga Arr	53.43	189		P		P	12 47 34.1	-0.3	
FITZ	Fitzroy Crossi	53.57	199		P		P	12 47 35.8	+0.3	
	comp=Z,14nm,0.9s,baz=14,slow=6.8,SNR=20									
FITZ	Fitzroy Crossi	53.57	199		P		P	12 47 36.2	+0.7	
	baz=17									
WRAB	Tennant Creek	53.60	189		P		P	12 47 36.1	+0.4	
WRAB					pmax		pmax			
	comp=Z,12nm,1.0s									
WRAB	Tennant Creek	53.60	189		P		P	12 47 36.1	+0.4	
WR0	Warramunga Arr	53.60	189		P		P	12 47 35.8	+0.2	
WR0					IAmb		IAmb	12 47 38.8		
	comp=Z,11nm,1.1s									
WB2	Warramunga Arr	53.60	189		P		P	12 47 35.5	-0.3	
WRA	Warramunga Arr	53.61	189		P		P	12 47 35.9	+0.2	
	comp=Z,10nm,0.9s,baz=4.0,slow=7.7,SNR=39									
SCRK	Sand Creek	53.62	32		IAmb		IAmb	12 47 37.5		
	comp=Z,9.2nm,1.2s									
SCRK	Sand Creek	53.62	32		P		P	12 47 35.7	+0.2	
	baz=273,SNR=5.5									
J26L	Joseph Creek	53.77	31		P		P	12 47 36.9	+0.2	
	baz=273									
GLB	Gilahina Butte	53.86	35		IAmb		IAmb	12 47 40.6		
	comp=Z,7.1nm,1.1s									
L26K	Log Cabin Wild	53.96	33		P		P	12 47 38.5	+0.6	
	baz=274									
L27K	Beaver Creek,	54.65	33		P		P	12 47 44.3	+1.4	
	baz=275									
M27K	Edge Creek, AK	54.69	34		P		P	12 47 44.3	+0.9	
	baz=276									
BVCY	Beaver Creek	55.15	34		P		P	12 47 47.7	+1.1	
	baz=277									
YUK3	Moose Creek	55.42	34		P		P	12 47 50.0	+1.3	
	baz=277									
YUK4	Talbot Arm	56.34	35		P		P	12 47 56.9	+1.5	
	baz=279									
EPYK	Eagle Plains	56.46	29		IAmb		IAmb	12 48 03.1		
	comp=Z,6.8nm,1.1s									
EPYK	Eagle Plains	56.46	29		P		P	12 47 57.0	+1.1	
	baz=278									
YUK6	Outpost Mounta	56.54	35		P		P	12 47 58.7	+1.9	
	baz=280									
HYT	Haines Junctio	56.98	35		IAmb		IAmb	12 48 07.2		
	comp=Z,6.5nm,1.1s									
HYT	Haines Junctio	56.98	35		P		P	12 48 01.6	+1.8	
	baz=280									
M30M	Minto, Yukon	57.00	33		P		P	12 48 01.8	+2.0	
	baz=280									
AS31	Alice Springs	57.33	189		P		P	12 48 03.3	+0.8	
ASAR	Alice Springs	57.33	189		P		P	12 48 02.9	+0.4	
	comp=Z,3.4nm,0.9s,baz=6.3,slow=6.7,SNR=11									
ASAR	Alice Springs	57.33	189		P		P	12 48 02.4	-0.1	
INK	Inuvik	57.41	26		P		P	12 48 02.7	+0.3	
	comp=Z,1.0nm,0.7s,baz=211,slow=28,SNR=2.3									
INK	Inuvik	57.41	26		P		P	12 48 03.7	+1.2	
	baz=279									
N31M	Braeburn, Yuko	57.67	34		IAmb		IAmb	12 48 09.8		
	comp=Z,11nm,1.1s									
N31M	Braeburn, Yuko	57.67	34		P		P	12 48 06.6	+2.1	
	baz=281									
SVE	Sverdlovsk	58.04	320	*e*	P		P	12 48 06.5	-0.7	
SVE					pmax		pmax			
	comp=Z,15nm,1.3s									
M31M	Drury Creek, Y	58.17	33		P		P	12 48 09.2	+1.2	
	baz=282									
WHY	Whitehorse	58.27	35		P		P	12 48 10.0	+1.2	
	baz=283,SNR=5.6									
SKAG	Skagway	58.32	37		P		P	12 48 11.1	+2.1	
	baz=283									
EIDS	Eidsvold	59.19	170		IAmb		IAmb	12 48 23.5		
	comp=Z,5.5nm,0.9s									
ARU	Arti	59.25	320	*d*	*i* P		P	12 48 14.5	-1.1	
ARU								12 48 58.2		
ARU					S		S	12 56 21.3	+0.2	
ARU					pmax		pmax			
	comp=Z,11nm,1.2s									
ARU	Arti	59.25	320		P		P	12 48 14.8	-0.8	
ARU					IAmb		IAmb	12 48 20.1		
	comp=Z,7.1nm,1.0s									
P33M	Teslin, Yukon	59.37	35		IAmb		IAmb	12 48 22.1		
	comp=Z,6.5nm,1.1s									
P33M	Teslin, Yukon	59.37	35		P		P	12 48 17.9	+1.4	
	baz=285,SNR=7.1									
A36M	Sachs Harbour	59.43	21		IAmb		IAmb	12 48 22.0		
	comp=Z,3.7nm,0.9s									
A36M	Sachs Harbour	59.43	21		P		P	12 48 17.9	+1.3	
	baz=284									
ABKAR	Akbulak array	60.50	312		P		P	12 48 23.4	-0.9	
ABKAR	Akbulak array	60.50	312		IAmb		IAmb	12 48 25.2		
	comp=Z,4.8nm,0.9s									
C36M	Paulatuk	60.52	24		P		P	12 48 25.0	+1.0	
	baz=287									
TGTN	Hyland Airport	61.15	33		P		P	12 48 29.9	+1.4	
	baz=288,SNR=5.7									
DLBC	Dease Lake	61.24	37		P		P	12 48 30.2	+0.9	
	comp=Z,3.5nm,1.0s,baz=269,slow=8.8,SNR=4.6									
DLBC	Dease Lake	61.24	37		IAmb		IAmb	12 48 32.1		
	comp=Z,6.2nm,1.1s									
PALK	Pallekele	61.99	260		P		P	12 48 33.4	-1.5	
PALK					pmax		pmax			
	comp=Z,8.0nm,1.2s									
PALK	Pallekele	61.99	260		P		P	12 48 33.4	-1.5	
PALK					IAmb		IAmb	12 48 41.0		
	comp=Z,7.7nm,1.1s									
STKA	Stephens Creek	65.02	180		P		P	12 48 54.8	+0.5	
	comp=Z,3.2nm,0.9s,baz=323,slow=9.6,SNR=5.6									
STKA	Stephens Creek	65.02	180		P		P	12 48 55.0	+0.6	
STKA					pmax		pmax			
	comp=Z,1.0nm,0.8s									
STKA	Stephens Creek	65.02	180		P		P	12 48 55.0	+0.6	
FORT	Forrest	65.23	193		P		P	12 48 57.8	+2.0	
RES	Resolute Bay	65.95	14		P		P	12 48 59.9	0.0	
RES					pmax		pmax			
	comp=Z,4.0nm,1.1s									
RES	Resolute Bay	65.95	14		P		P	12 48 59.9	0.0	
RES					IAmb		IAmb	12 49 01.1		
	comp=Z,4.2nm,1.1s									
YKA	Yellowknife Ar	66.72	29		P		P	12 49 04.7	-0.4	
	comp=Z,1.2nm,0.9s,baz=296,slow=6.3,SNR=6.4									
KLMR	Klimovskoe	66.93	329	*e*	P		P	12 49 03.4	-3.0	
KLMR					pmax		pmax			
	comp=Z,10.0nm,1.2s									
KLMR	Klimovskoe	66.93	329	*e*	P		P	12 49 03.4	-3.0	
KLMR					AMP			12 49 07.7		
	comp=Z,10.0nm,1.2s									
NLWA	Neilton Lookou	68.89	47		IAmb		IAmb	12 49 21.9		
	comp=Z,6.4nm,0.9s									
A04D	Lummi Island	68.99	45		P		P	12 49 21.3	+1.7	
	baz=297									
D03D	Eldon	69.30	46		P		P	12 49 23.5	+1.9	
	baz=297									
B05A	Bryant	69.56	45		P		P	12 49 24.9	+1.8	
	baz=298									
E04D	Cinebar	70.06	47		IAmb		IAmb	12 49 30.7		
	comp=Z,8.7nm,1.1s									
E04D	Cinebar	70.06	47		P		P	12 49 28.4	+2.2	
	baz=298									
H04D	Lebanon	70.92	49		P		P	12 49 33.3	+1.8	
	baz=298									
I03D	Drain, OR	70.92	50		P		P	12 49 33.7	+2.2	
	baz=298									
B08A	Colville Reser	71.13	44		IAmb		IAmb	12 49 35.5		
	comp=Z,9.3nm,1.1s									
I04A	Tendick Farm,	71.47	49		P		P	12 49 36.3	+1.3	
	baz=299									
L02E	Cave Junction	71.49	51		P		P	12 49 36.4	+1.4	
	baz=299									
I05D	Terrebonne, OR	71.88	49		P		P	12 49 38.4	+1.0	
	baz=299									
J04D	Umpqua Nationa	71.93	50		P		P	12 49 38.7	+0.8	
	baz=299									
KHMM	Horse Mountain	72.02	53		IAmb		IAmb	12 49 42.8		
	comp=Z,7.0nm,1.0s									
FINES	FINESS Array B	72.10	333		P		P	12 49 37.8	-0.5	
	comp=Z,3.4nm,0.9s,baz=46,slow=8.2,SNR=4.6									
FINES	FINESS Array B	72.10	333	*i*	P		P	12 49 40.0	+1.7	
FINES					pmax		pmax			
	comp=Z,3.0nm,1.0s									
YBH	Yreka Blue Hor	72.28	51		IAmb		IAmb	12 49 43.2		
	comp=Z,6.3nm,1.1s									
L04D	Klamath Falls	72.30	51		IAmb		IAmb	12 49 43.6		
	comp=Z,5.1nm,0.8s									
L04D	Klamath Falls	72.30	51		P		P	12 49 41.1	+1.0	
	baz=299									
M02C	Callahan	72.35	52		P		P	12 49 41.6	+1.3	
	baz=299									
K04D	Chiloquin, OR	72.46	50		P		P	12 49 41.7	+0.6	
	baz=300									
NEW	Newport	72.46	43		IAmb		IAmb	12 49 43.9		
	comp=Z,6.7nm,1.1s									
NEW	Newport	72.46	43		P		P	12 49 42.3	+1.5	
	baz=301									
J05D	Fort Rock, OR	72.47	49		P		P	12 49 42.4	+1.3	
	baz=300									
N02D	Trinity Center	72.65	52		IAmb		IAmb	12 49 45.4		
	comp=Z,7.3nm,1.1s									
N02D	Trinity Center	72.65	52		P		P	12 49 43.8	+1.7	
	baz=300									
M04C	Macdoel	72.82	51		P		P	12 49 44.8	+1.6	
	baz=300									
O02D	Mt. Diablo Mer	72.98	53		P		P	12 49 45.9	+1.7	
	baz=300									
ZEI	Tsey	73.32	310	*e*	P		P	12 49 44.1	-2.1	
ZEI					pmax		pmax			
	comp=Z,5.0nm,1.4s									
KBZ	Khabaz	73.47	312		P		P	12 49 47.3	+0.5	
	comp=Z,6.1nm,0.9s,baz=141,slow=2.5,SNR=7.6									
KBZ	Khabaz	73.47	312	*i*	P		P	12 49 47.5	+0.7	
KBZ					pmax		pmax			
	comp=Z,11nm,1.3s									
KIV	Kislovodsk	73.49	312	*e*	P		P	12 49 47.6	+0.6	
KIV					pmax		pmax			
	comp=Z,11nm,1.1s									
O03E	Paynes Creek	73.58	52		P		P	12 49 48.7	+1.1	
	baz=300									
ONI	Oni	73.70	310		IAmb		IAmb	12 49 50.7		
	comp=Z,5.0nm,1.0s									
GNI	Garni	74.10	308	*i*	P		P	12 49 51.5	+0.7	
GNI					pmax		pmax			
	comp=Z,10.0nm,1.1s									
JTMT	Jette	74.36	43		IAmb		IAmb	12 49 54.4		
	comp=Z,4.8nm,0.9s									
BEKR	Beckworth	74.75	52		IAmb		IAmb	12 49 57.0		
	comp=Z,6.6nm,0.9s									
MSO	Missoula	75.05	44		P		P	12 49 57.2	+1.1	
	baz=303,SNR=5.3									
MPK	Martis Peak	75.27	53		IAmb		IAmb	12 50 01.9		
	comp=Z,8.8nm,1.2s									
MNK	Minsk	75.62	327	*i*	P		P	12 49 57.9	-1.1	
MNK					*i*			12 50 10.4		
MNK					*i*			12 52 47.3		
MNK					*i*	PPP	PPP	12 54 43.4		
MNK					*i*	S	S	12 59 36.2	-1.3	
MNK					*i*	SS	SS	13 04 29.4	+1.4	
MNK					*i*	SSS	SSS	13 07 52.5		
MNK						pmax	pmax			
	comp=Z,6.0nm,0.6s									
MNK						pmax	pmax			
	comp=N,4.0nm,0.5s									
MNK						pmax	pmax			
	comp=E,1.0nm,0.6s									
MNK						MLR	MLR			
	comp=N,501nm,25.0s									
MNK						MLR	MLR			
	comp=E,36nm,19.0s									
MNK						MLR	MLR			
	comp=Z,361nm,25.0s									
MNK	Minsk	75.62	327	*i*	P		P	12 49 57.9	-1.1	
	comp=E,1.0nm,0.6s									
MNK					*i*	P	P	12 49 57.9	-1.1	
	comp=N,4.0nm,0.5s									
MNK					*i*	P	P	12 49 57.9	-1.1	
	comp=Z,6.0nm,0.6s,baz=52									
MNK					*i*	PcP	sP	12 50 10.5	+0.4	
MNK					*i*	PP	PP	12 52 47.3	-0.9	
MNK					*i*	PPP	PPP	12 54 43.5		
MNK					*i*	S	S	12 59 36.2	-1.3	
MNK					*i*	SS	SS	13 04 29.4	+1.4	
MNK					*i*	SSS	SSS	13 07 52.5		
MNK					*i*	LQ	LQ	13 16 46.0		
MNK					*i*	LR	LR	13 22 19.2		
MNK					*i*	LRM	MLR	13 25 33.8		
	comp=N,501nm,24.6s									
MNK					*i*	LRM	MLR	13 25 44.0		
	comp=E,36nm,18.8s									
MNK					*i*	LRM	MLR	13 26 13.0		
	comp=Z,361nm,25.3s									
MFID	Camas Ranch	75.78	47		IAmb		IAmb	12 50 02.8		
	comp=Z,4.7nm,0.9s									
YERR	Yerington	75.95	53		IAmb		IAmb	12 50 04.3		
	comp=Z,9.3nm,1.1s									
BMN	Battle Mountai	76.50	50		IAmb		IAmb	12 50 07.1		
	comp=Z,3.8nm,0.9s									
FFC	Flin Flon	76.51	32		P		P	12 50 04.4	+0.2	
FFC					pmax		pmax			
	comp=Z,6.0nm,1.0s									
FFC	Flin Flon	76.51	32		P		P	12 50 04.4	+0.2	
FFC					IAmb		IAmb	12 50 06.4		
	comp=Z,6.1nm,0.9s									
HLID	Hailey	76.56	47		P		P	12 50 06.7	+1.8	
	baz=304									
RYN	Ryan	76.61	53		IAmb		IAmb	12 50 08.0		
	comp=Z,9.8nm,1.2s									
KVN	Kaiserville	76.67	52		IAmb		IAmb	12 50 08.4		
	comp=Z,6.6nm,1.0s									
EGMT	Eagleton	76.72	41		P		P	12 50 06.8	+1.2	
	baz=306									
GURO	Guroymak-BITLI	76.73	307		IAmb		IAmb	12 50 09.8		
	comp=Z,6.5nm,0.8s									
NVAR	Mina Array Bea	76.87	53		P		P	12 50 08.0	+1.3	
	comp=Z,3.6nm,0.9s,baz=287,slow=6.1,SNR=17									
BOZ	Bozeman (W)	77.07	44		IAmb		IAmb	12 50 10.4		
	comp=Z,8.8nm,1.0s									
BOZ	Bozeman (W)	77.07	44		P		P	12 50 09.3	+1.7	
	baz=305,SNR=14									
AKASG	Malin Array Be	77.31	323		P		P	12 50 08.8	+0.1	
	comp=Z,2.4nm,0.7s,baz=48,slow=5.8,SNR=7.1									
AKASG	Malin Array Be	77.31	323		IAmb		IAmb	12 50 11.7		
	comp=Z,2.1nm,1.1s									
AKBB	Malin Array Si	77.31	323		P		P	12 50 07.9	-0.8	
AKBB					pmax		pmax			
	comp=Z,4.0nm,0.8s									
AKBB	Malin Array Si	77.31	323		P		P	12 50 07.9	-0.8	
AKBB					IAmb		IAmb	12 50 09.6		
	comp=Z,4.3nm,0.8s									
NB2	NORSAR Subarra	77.58	338		P		P	12 50 10.3	+0.2	
	comp=Z,4.2nm,0.9s,baz=40,slow=5.6									
NOA	NORSAR Array B	77.58	338		P		P	12 50 10.6	+0.5	
	comp=Z,2.6nm,0.8s,baz=40,slow=5.6,SNR=5.8									
VES	Vestal, Richgr	77.72	55		P		P	12 50 12.6	+1.3	
	baz=302									
CWC	Cottonwood Cre	78.08	54		P		P	12 50 14.5	+1.0	
	baz=303									
YNR	Norris Junctio	78.12	44		IAmb		IAmb	12 50 19.5		
	comp=Z,5.0nm,1.0s									
ISA	Isabella, Lake	78.23	55		P		P	12 50 15.0	+0.8	
	baz=303									
H17A	Grant Village	78.37	44		P		P	12 50 18.1	+3.0	
	baz=306,SNR=20									
YMP	Mirror Lake Pl	78.41	44		IAmb		IAmb	12 50 18.9		
	comp=Z,11nm,1.2s									
TPAW	Teton Pass	78.68	45		IAmb		IAmb	12 50 20.2		
	comp=Z,6.5nm,1.0s									
MPMC	Manual Prospec	78.69	54		P		P	12 50 18.3	+1.4	
	baz=303,SNR=6.3									
RLMT	Red Lodge	78.70	43		IAmb		IAmb	12 50 19.3		
	comp=Z,4.9nm,0.9s									
R11A	Troy Canyon, C	78.70	51		P		P	12 50 18.0	+1.1	
	baz=304,SNR=5.9									
REDW	Red Top Meadow	78.81	45		IAmb		IAmb	12 50 24.0		
	comp=Z,6.5nm,1.1s									
FURC	Furnace Creek,	78.89	54		P		P	12 50 18.8	+1.1	
	baz=304									
EDW2	Edwards Air Fo	78.99	56		P		P	12 50 19.9	+1.5	
	baz=303									
TPNV	Topopah Spring	79.04	53		P		P	12 50 20.1	+1.3	
	baz=304,SNR=6.3									
GWY	Greenwater Val	79.18	54		IAmb		IAmb	12 50 22.0		
	comp=Z,12nm,1.1s									
DGMT	Dagmar	79.41	38		P		P	12 50 21.0	+0.6	
	baz=309									
DUG	Dugway, Tooele	79.44	49		IAmb		IAmb	12 50 23.4		
	comp=Z,5.3nm,0.9s									
DUG	Dugway, Tooele	79.44	49		P		P	12 50 22.8	+1.9	
	baz=305,SNR=6.1									
LAO	LASA Array	79.45	40		P		P	12 50 22.5	+1.8	
	baz=308									
CIS	Catalina Islan	79.50	57		P		P	12 50 22.3	+1.1	
	baz=303									
BFSC	Mount Baldy Ra	79.57	56		P		P	12 50 22.5	+0.8	
	baz=304									
GSC	Goldstone, Bar	79.57	55		IAmb		IAmb	12 50 24.1		
	comp=Z,6.8nm,1.1s									
GSC	Goldstone, Bar	79.57	55		P		P	12 50 22.6	+1.0	
	baz=304									
PRN	Pahroc Range	79.58	52		IAmb		IAmb	12 50 24.6		
	comp=Z,9.7nm,1.2s									
SHOC	Shoshone, Teco	79.60	54		P		P	12 50 23.4	+1.7	
	baz=304									
PSUT	Pine Spring	79.72	51		IAmb		IAmb	12 50 25.2		
	comp=Z,6.6nm,1.0s									
BW06	Boulder Array	79.93	45		P		P	12 50 24.7	+1.1	
	baz=307									
PDAR	Pinedale Array	79.93	45		P		P	12 50 24.8	+1.2	
	comp=Z,1.7nm,0.8s,baz=268,slow=1.9,SNR=12									
JLU	Jordanelle	80.05	48		IAmb		IAmb	12 50 26.7		
	comp=Z,5.3nm,1.0s									
BBRC	Big Bear Solar	80.07	56		P		P	12 50 25.4	+0.9	
	baz=304									
TUQ	Turquoise Moun	80.10	54		P		P	12 50 25.9	+1.4	
	baz=304,SNR=5.7									
HEC	Hector,Ludlow	80.16	55		P		P	12 50 26.2	+1.4	
	baz=304,SNR=8.4									
MURC	Murrieta	80.24	56		P		P	12 50 25.9	+0.7	
	baz=304									
CCUT	Cedar City	80.60	51		IAmb		IAmb	12 50 30.3		
	comp=Z,9.3nm,1.1s									
GMRC	Granite Mounta	80.64	55		P		P	12 50 28.6	+1.2	
	baz=304,SNR=6.9									
109C	Camp Elliot, M	80.70	57		P		P	12 50 29.2	+1.6	
	baz=304									
PFO	Pinyon Flats O	80.75	56		P		P	12 50 28.2	+0.2	
PFO					pmax		pmax			
	comp=Z,16nm,1.1s									
PFO	Pinyon Flats O	80.75	56		P		P	12 50 28.2	+0.2	
PFO	Pinyon Flats O	80.75	56		P		P	12 50 29.0	+0.9	
	baz=304,SNR=7.6									
TPFO	Pinon Flats	80.75	56		P		P	12 50 28.9	+0.9	
	baz=304,SNR=7.5									
BELC	Belle Mtn. Jos	80.85	55		P		P	12 50 29.5	+0.9	
	baz=304									
LCMT	Little Creek M	80.99	52		IAmb		IAmb	12 50 32.2		
	comp=Z,9.8nm,1.0s									
MTPU	Mount Pierson	81.08	50		IAmb		IAmb	12 50 33.5		
	comp=Z,11nm,1.2s									
MONP2	Monument Peak	81.18	56		P		P	12 50 31.4	+1.0	
	baz=304									
Q16A	Castle Valley	81.21	49		IAmb		IAmb	12 50 33.1		
	comp=Z,7.5nm,1.1s									
RDMU	Red Mountain	81.23	47		IAmb		IAmb	12 50 33.0		
	comp=Z,8.4nm,0.9s									
IRM	Iron Mountain	81.34	55		P		P	12 50 32.4	+1.3	
	baz=305,SNR=7.3									
P18A	Preston Nutter	81.37	48		IAmb		IAmb	12 50 37.9		
	comp=Z,6.0nm,1.0s									
BC3	Big Chuckawall	81.42	55		P		P	12 50 32.9	+1.3	
	baz=305,SNR=7.7									
BR131	Keskin Array S	81.45	312		P		P	12 50 32.1	+0.4	
BR131					pmax		pmax			
	comp=Z,5.0nm,0.9s									
BR131	Keskin Array S	81.45	312		P		P	12 50 32.1	+0.4	
BR131					IAmb		IAmb	12 50 33.8		
	comp=Z,4.8nm,0.9s									
BRTR	Keskin Array B	81.45	312		P		P	12 50 32.6	+0.9	
	comp=Z,2.7nm,0.9s,baz=104,slow=5.2,SNR=7.9									
BRTR	Keskin Array B	81.45	312	*i*	P		P	12 50 33.0	+1.3	
BRTR					pmax		pmax			
	comp=Z,3.0nm,0.9s									
BRTR	Keskin Array B	81.45	312		P		P	12 50 31.9	+0.2	
IKP	In-Ko-Pah, Jac	81.53	57		P		P	12 50 33.5	+1.3	
	baz=304									
SWSC	Sam W. Stewart	81.58	56		P		P	12 50 33.3	+1.0	
	baz=305									
YUH	Yuha Desert	81.66	56		IAmb		IAmb	12 50 35.2		
	comp=Z,9.2nm,1.1s									
W13A	Hualapai Mount	81.66	53		IAmb		IAmb	12 50 35.5		
	comp=Z,5.0nm,1.1s									
K22A	Casper	81.77	44		P		P	12 50 34.4	+1.0	
	baz=308									
PDMCI	Parker Dam,Lak	81.94	54		P		P	12 50 35.8	+1.7	
	baz=305									
GLA	Glamis	82.19	56		P		P	12 50 37.2	+1.6	
	baz=305									
RSSD	Black Hills	82.26	42		P		P	12 50 37.3	+1.3	
	baz=310									
ULM	Lac du Bonnet	82.28	33		P		P	12 50 36.0	+0.4	
	comp=Z,1.5nm,0.4s,baz=337,slow=5.1,SNR=4.0									
ULM	Lac du Bonnet	82.28	33		P		P	12 50 35.6	-0.1	
ULM					IAmb		IAmb	12 50 36.5		
	comp=Z,7.

ANMO					IAmb	IAmb	12 51 02.2		
	comp=Z,3.8nm,1.1s								
ANMO	**Albuquerque**	**86.62**	**50**	P	**P**		**12 50 59.5**	**+1.3**	
	baz=309								
121A	**Cookes Peak, D**	**87.26**	**52**	P	**P**		**12 51 02.4**	**+1.0**	
	baz=308								
MNTX	**Cornudas Mount**	**89.37**	**52**	P	**P**		**12 51 12.1**	**+1.0**	
	baz=310								
WMOK	**Wichita Mounta**	**91.52**	**46**	P	**P**		**12 51 21.1**	**0.0**	
	baz=313								
TXAR	**Lajitas Array**	**92.02**	**53**	P	**P**		**12 51 25.2**	**+1.6**	
	comp=Z,3.9nm,1.1s,baz=298,slow=2.7,SNR=13								
U40A	**Yellville**	**93.79**	**41**	P	**P**		**12 51 31.8**	**+0.2**	
	baz=317								
W39A	**Magazine**	**94.11**	**43**	P	**P**		**12 51 34.0**	**+1.0**	
	baz=316								
LONY	**Lake Ozonia**	**95.51**	**25**	P	**P**		**12 51 38.6**	**-0.6**	
	baz=330								
KEST	**Kesra**	**98.03**	**323**	P	Pdif		12 51 52.9	+2.0	
	comp=Z,3.5nm,0.7s,baz=90,slow=20,SNR=2.7								
LPAZ	**La Paz**	**148.06**	**65**	PKPbc	**PKPbc**		**12 58 01.6**	**+0.5**	
	comp=Z,4.9nm,0.9s,baz=360,slow=5.2,SNR=11								
PLCA	**Paso Flores**	**153.31**	**115**	PKPbc	**PKiKP**		**12 58 13.2**	**+0.8**	
	comp=Z,1.8nm,1.0s,baz=322,slow=6.5,SNR=2.9								

*BJI **31** 12:43:37.5±0.0, 1°.63S×126°.46E, h40km, mb4.7/42, mB4.9/16, Ms4.8/4, Ms7 4.6/4*
*IDC **31** 12:43:39.0±4.1, 1°.34S×126°.16E, h20km±26km, mb4.2/23, mb1 4.3/24, mb1mx4.1/41, mbtmp4.4/24, ML4.3/1, MS4.2/3, Ms1 4.2/3, ms1mx3.3/75, Error ellipse: s-maj=17.1km s-min=12.0km az=55.0*
*DJA **31** 12:43:40.0±0.2, 1°.5±3°×12°.6E±°, h10km, M4.6/20, mb4.8/9, mB5.0/6, MLv4.8/20, Mw(mB)4.3/6*
*NEIC **31** 12:43:42.4±1.9, 1°.29S±0°.08×126°.28E±0°.07, h42km±8km, mb4.6/46, Error ellipse: s-maj=11.9km s-min=9.5km az=152.0*
ISC 31 12:43:40.5±0.4, 1°.29S±0°.05×126°.28E±0°.05, h29km, n137, σ1823/134, mb4.7/47, 2C-3D, Southern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.81**	**201**	P	**Pn**	**12 43 54.7**	**-1.3**
SANI	**Sanana**	**0.81**	**201**	P	**Pn**	**12 43 55.0**	**-1.0**
LBMI	**Labuha**	**1.38**	**62**	P	**Pn**	**12 44 03.7**	**-0.2**
TNTI	**Ternate**	**2.32**	**28**		**Pn**	**12 44 18.0**	**+1.2**
TNTI	**Ternate**	**2.32**	**28**	P	**Pn**	**12 44 18.3**	**+1.5**
TNTI	**Ternate**	**2.32**	**28**	P	**Pb**	**12 44 19.1**	**-2.6**
KMSI	**Cibinong**	**2.95**	**309**	P	**Pn**	**12 44 25.8**	**+0.3**
AAI	**Ambon**	**3.06**	**141**	P	**Pn**	**12 44 27.8**	**+0.9**
MSAI	**Masohi**	**3.34**	**128**	P	**Pn**	**12 44 33.0**	**+2.1**
LUWI	**Luwuk**	**3.52**	**274**	Pn	**Pn**	**12 44 32.8**	**-0.4**
LUWI	**Luwuk**	**3.52**	**274**	P	**Pn**	**12 44 33.1**	**-0.2**
LUWI	**Luwuk**	**3.52**	**274**	P	**Pn**	**12 44 33.2**	**-0.1**
APSI	**Ampana**	**4.65**	**275**	P	**Pn**	**12 44 49.2**	**+0.4**
MRSI	**Marisa**	**4.68**	**292**	P	**Pn**	**12 44 49.1**	**-0.2**
BNDI	**Bandanaira**	**4.84**	**132**	P	**Pn**	**12 44 52.7**	**+1.2**
SWI	**Sorong**	**5.00**	**85**	P	**Pn**	**12 44 55.7**	**+2.1**
SIJI	**Sorong**	**5.00**	**85**	Pn	**Pn**	**12 44 54.9**	**+1.1**
	12nm,0.3s,baz=270,slow=12,SNR=31						
SIJI				Sn	**Sn**	**12 45 52.7**	**+2.0**
	2.4nm,0.3s,baz=323,slow=20,SNR=1.1						
BBSI	**Bau Bau**	**5.58**	**222**	P	Pn	12 45 06.6	+5.0
	0.0nm128nm12nm,0.9s						
TOLI2	**Tolitoli**	**5.99**	**293**		**Pn**	**12 45 08.1**	**+0.8**
TOLI2	**Tolitoli**	**5.99**	**293**	P	**Pn**	**12 45 08.5**	**+1.2**
MPSI	**Mapaga**	**6.58**	**284**	P	**Pn**	**12 45 17.1**	**+1.7**
	0.4nm1μm54nm,0.6s						
TTSI	**Tana Toraja**	**6.69**	**255**	P	**Pn**	**12 45 18.2**	**+1.3**
	0.6nm1μm122nm,0.7s						
BNSI	**Bone**	**6.90**	**243**	P	**Pn**	**12 45 22.7**	**+2.9**
	0.2nm734nm46nm,0.7s						
SPSI	**Sidrap Palu**	**7.03**	**248**	P	**Pn**	**12 45 23.8**	**+2.3**
	1.9nm7μm433nm,0.5s						
BKSI	**Bulukumba**	**7.34**	**237**	P	**Pn**	**12 45 29.0**	**+3.2**
	0.3nm908nm74nm,0.6s						
DDMP	**Don Marcelino,**	**7.37**	**356**	eP	**Pn**	**12 45 24.0**	**-2.2**
KAPI	**Kappang**	**7.50**	**240**		**Pn**	**12 45 29.7**	**+1.8**
KAPI	**Kappang**	**7.50**	**240**	P	**Pn**	**12 45 30.7**	**+2.7**
BSSI	**Bau Bau, Buton**	**7.52**	**230**	P	Pn	12 45 35.9	+7.5
KCP	**Kidapawan**	**8.33**	**352**	eP	**Pn**	**12 45 43.1**	**+3.6**
MYLDM	**Lahad Datu**	**10.08**	**310**	Pn	**Pn**	**12 46 05.8**	**+2.3**
BBKI	**Banjar Baru**	**11.63**	**259**	P	**Pn**	**12 46 27.8**	**+3.1**
MTN	**Manton Dam**	**12.45**	**157**	P	**Pn**	**12 46 36.6**	**+0.7**
	baz=12,SNR=3.9						
MTN	**Manton Dam**	**12.45**	**157**	Pn	**Pn**	**12 46 37.2**	**+1.3**
JAY	**Jayapura**	**14.47**	**95**	LR	LR	12 53 20.1	
	comp=Z,1μm,18.4s,baz=276,slow=40						
KNRA	**Kununurra**	**14.51**	**170**	P	**Pn**	**12 47 03.9**	**-0.1**
	baz=14,SNR=6.4						
KNRA	**Kununurra**	**14.51**	**170**	Pn	**Pn**	**12 47 05.1**	**+1.1**
KNRA	**Kununurra**	**14.51**	**170**	P	**Pn**	**12 47 04.1**	**+0.1**
SBUM	**Sibu**	**14.54**	**285**	Pn	**Pn**	**12 47 04.9**	**+0.4**
KSM	**Kuching**	**16.20**	**280**	Pn	**Pn**	**12 47 26.4**	**+0.1**
KSM				IAmb	IAmb	12 47 30.7	
	comp=Z,33nm,0.7s						
WB0	**Warramunga Arr**	**20.01**	**157**	P	**P**	**12 48 10.7**	**-0.4**
WRAB	**Tennant Creek**	**20.14**	**157**	P	**P**	**12 48 11.5**	**-1.1**
WRAB				IAmb	IAmb	12 48 13.8	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**20.15**	**157**	P	**P**	**12 48 10.6**	**-2.0**
	comp=Z,12nm,0.8s,baz=336,slow=12,SNR=15						
WRA	**Warramunga Arr**	**20.15**	**157**	IAmb	IAmb	12 48 14.0	
	comp=Z,0.6nm,1.1s						
WB2	**Warramunga Arr**	**20.15**	**157**	P	**P**	**12 48 11.3**	**-1.4**
WB2				IAmb	IAmb	12 48 13.9	
	comp=Z,18nm,0.8s						
COEN	**Coen**	**20.92**	**128**	P	**P**	**12 48 20.8**	**-0.2**
	baz=21						
COEN	**Coen**	**20.92**	**128**	P	**P**	**12 48 21.0**	**0.0**
COEN				IAmb	IAmb	12 48 22.7	
	comp=Z,28nm,0.8s						
PMG	**Port Moresby**	**22.28**	**112**	P	**P**	**12 48 36.3**	**+0.6**
	comp=Z,14nm,0.7s,baz=291,slow=2.2,SNR=9.6						
PMG	**Port Moresby**	**22.28**	**112**	P	**P**	**12 48 35.8**	**+0.1**
PMG				IAmb	IAmb	12 48 38.2	
	comp=Z,15nm,0.7s						
QIS	**Mount Isa**	**23.16**	**147**	P	**P**	**12 48 43.9**	**-0.9**
	baz=23,SNR=5.4						
AS31	**Alice Springs**	**23.44**	**162**	P	**P**	**12 48 46.3**	**-1.3**
ASPA	**Alice Springs**	**23.44**	**162**	P	**P**	**12 48 46.6**	**-1.0**
	baz=24						
ASAR	**Alice Springs**	**23.44**	**162**	P	**P**	**12 48 46.6**	**-1.0**
	comp=Z,8.0nm,0.8s,baz=343,slow=10,SNR=35						
ASAR				ScP	**ScP**	**12 56 09.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=343,slow=1.9,SNR=4.7						
ASAR	**Alice Springs**	**23.44**	**162**	P	**P**	**12 48 47.2**	**-0.5**
MNAI	**Manna**	**23.49**	**262**	P	**P**	**12 48 50.1**	**+1.9**
TPUB	**Ta-pu**	**25.05**	**348**	P	**P**	**12 49 01.2**	**-1.3**
QIZ	**Qiongzhong**	**25.86**	**322**	P	**P**	**12 49 10.4**	**+0.5**
RABL	**Rabaul**	**26.01**	**97**	P	**P**	**12 49 11.6**	**+0.2**
KULM	**Kulim**	**26.42**	**285**	P	**P**	**12 49 15.9**	**+0.8**
CTA	**Charters Tower**	**27.03**	**135**	P	**P**	**12 49 21.6**	**+1.1**
	comp=Z,11nm,0.8s,baz=317,slow=10,SNR=9.9						
PSI	**Prapat**	**27.65**	**278**	P	**P**	**12 49 25.1**	**-1.1**
	comp=Z,10nm,0.8s,baz=126,slow=5.2,SNR=7.5						
PSI				LR	LR	13 01 27.9	
	comp=Z,420nm,20.0s,baz=96,slow=39						
CMAR	**Chiang Mai Arr**	**33.28**	**307**	P	**P**	**12 50 15.2**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=136,slow=7.0,SNR=15						
CMAR				PcP	**PcP**	**12 52 59.0**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=146,slow=1.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**33.28**	**307**	P	**P**	**12 50 15.0**	**-0.9**
CHTO	**Chiang Mai**	**33.48**	**308**	P	**P**	**12 50 16.4**	**-1.1**
CHTO				IAmb	IAmb	12 50 19.2	
	comp=Z,8.5nm,0.8s						
STKA	**Stephens Creek**	**33.69**	**156**	P	**P**	**12 50 19.2**	**0.0**
	comp=Z,3.6nm,0.9s,baz=314,slow=11,SNR=3.7						
NJ2	**Nanjing**	**33.90**	**349**	eP	**P**	**12 50 22.5**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**36.38**	**321**	P	**P**	**12 50 42.0**	**-0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.8s						
TIA	**Tai'an**	**38.27**	**348**	↑P	**P**	**12 50 58.5**	**+0.1**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSRS	**Korea Array**	**38.58**	**2**	P	**P**	**12 51 01.0**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=178,slow=9.9,SNR=4.5						
KSRS				PcP	**PcP**	**12 53 14.1**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=184,slow=2.2,SNR=4.5						
MJAR	**Matsushiro Arr**	**39.24**	**15**	P	**P**	**12 51 07.3**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=187,slow=9.7,SNR=1.9						
MJAR	**Matsushiro Arr**	**39.24**	**15**	IAmb	IAmb	12 51 09.4	
	comp=Z,1.6nm,1.0s						
HNS	**HongShan**	**39.96**	**346**	⇑P	**P**	**12 51 13.3**	**+0.9**
HNS				pmax	pmax		
	comp=Z,23nm,1.0s						
BJT	**Baijiatuan**	**42.14**	**348**	P	**P**	**12 51 30.3**	**0.0**
BJT				IAmb	IAmb	12 51 31.2	
	comp=Z,8.9nm,0.6s						
BJI	**Beijing**	**42.16**	**348**	P	**P**	**12 51 30.3**	**-0.2**
BJI				pP	**sP**	**12 51 42.5**	**+0.8**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
SHL	**Shillong**	**42.65**	**311**	P	**P**	**12 51 33.7**	**-1.3**
LZH	**Lanzhou**	**42.66**	**333**	⇓P	**P**	**12 51 37.0**	**+2.1**
LZH				pP	pP	12 51 41.8	-1.1
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
HHC	**Hu-ho-hao-te**	**44.03**	**344**	eP	**P**	**12 51 48.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**45.54**	**315**	Pn	**P**	**12 51 57.8**	**-0.7**
LSA				Sn	**pP**	**12 52 08.8**	**+2.2**
LSA				smax	smax		
	comp=N,95nm,0.6s						
LSA				smax	smax		
	comp=E,110nm,0.6s						
USRK	**Ussuriysk Ar.**	**45.57**	**6**	P	**P**	**12 51 58.0**	**+0.2**
	comp=E,1.5nm,0.6s,baz=182,slow=7.2,SNR=2.7						
XLT	**XiLinHaoTe**	**45.91**	**350**	eP	**P**	**12 52 00.5**	**-0.2**
XLT				pmax	pmax		
	comp=E,10.0nm,0.8s						
PALK	**Pallekele**	**46.26**	**281**	P	**P**	**12 52 01.9**	**-2.0**
	comp=E,1.4nm,0.4s,baz=184,slow=6.6,SNR=3.7						
PALK	**Pallekele**	**46.26**	**281**	IAmb	IAmb	12 52 05.2	
	comp=Z,4.1nm,0.8s						
ODAN	**Odare**	**46.76**	**310**	eP	**P**	**12 52 07.4**	**-0.4**
TAPN	**Taplejung**	**46.76**	**310**	eP	**P**	**12 52 07.2**	**-0.7**
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**47.22**	**332**	eP	**P**	**12 52 11.5**	**+0.4**
GTA				pP	sP	12 52 24.5	+2.1
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
RAMN	**Ramite**	**47.41**	**309**	eP	**P**	**12 52 12.7**	**-0.2**
	comp=Z,42nm,0.5s						
ASAJ	**Asahikawa**	**47.50**	**16**	P	**P**	**12 52 13.2**	**+0.2**
	comp=Z,3.1nm,0.4s,baz=230,slow=9.0,SNR=11						
JIRN	**Jiri**	**48.08**	**310**	eP	**P**	**12 52 17.1**	**-1.2**
	comp=Z,28nm,0.6s						
NFK	**Norfolk Island**	**48.33**	**129**	P	**P**	**12 52 20.1**	**+0.3**
	baz=48,SNR=3.1						
GUN	**Gumba**	**48.44**	**310**	eP	**P**	**12 52 20.2**	**-0.8**
	comp=Z,41nm,0.6s						
PKI	**Pulchoki**	**48.64**	**309**	eP	**P**	**12 52 21.2**	**-1.3**
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**49.44**	**309**	eP	**P**	**12 52 27.8**	**-0.7**
KOLN	**Koldanda**	**50.14**	**309**	eP	**P**	**12 52 33.5**	**-0.4**
	comp=Z,44nm,0.7s						
DANN	**Dangsing**	**50.29**	**309**	eP	**P**	**12 52 34.4**	**-0.7**
	comp=Z,63nm,0.6s						
KLR	**Kul'dur**	**50.54**	**5**	P	**P**	**12 52 35.5**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=185,slow=4.0,SNR=3.9						
PYUN	**Piuthan**	**50.77**	**309**	eP	**P**	**12 52 37.9**	**-0.7**
	comp=Z,49nm,0.6s						
ULN	**Ulaanbaatar**	**51.75**	**344**	P	**P**	**12 52 45.3**	**-0.3**
SONM	**Songino Array**	**51.91**	**343**	P	**P**	**12 52 47.3**	**+0.6**
	comp=Z,4.5nm,0.6s,baz=155,slow=7.5,SNR=7.5						
SONM	**Songino Array**	**51.91**	**343**	P	**P**	**12 52 46.9**	**+0.2**
SONM				IAmb	IAmb	12 52 49.2	
	comp=Z,6.5nm,1.0s						
WMQ	**Urumqi**	**56.62**	**327**	eP	**P**	**12 53 22.5**	**+1.5**
WMQ				pP	pwP	12 53 31.5	-0.6
WMQ				sP	sP	12 53 39.0	+6.5
WMQ				PcP	**PcP**	**12 54 19.0**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,42nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.5s						
PETK	**Petropavlovsk-**	**60.23**	**21**	P	**P**	**12 53 45.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=190,slow=3.2,SNR=7.1						
NIL	**Nilore**	**60.71**	**310**	P	**P**	**12 53 49.3**	**-0.3**
TARG	**Taragay, Kyrgy**	**61.23**	**320**	IAmb	IAmb	12 53 58.9	
	comp=Z,5.0nm,0.8s						
KSH	**Kashi**	**61.33**	**317**	P	**P**	**12 53 55.5**	**+1.6**
KSH				sP	sP	12 54 13.8	+8.4
KSH				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**61.45**	**327**	P	**P**	**12 53 54.5**	**+0.1**
	comp=Z,12nm,0.6s,baz=122,slow=7.9,SNR=155						
MKAR	**Makanchi Array**	**61.45**	**327**	P	**P**	**12 53 53.9**	**-0.5**
MAKZ	**Makanchi**	**61.63**	**327**	P	**P**	**12 53 55.3**	**-0.3**
BOOM	**Boomskoye usch**	**62.81**	**320**	P	**P**	**12 54 04.7**	**+0.9**
TKM2	**Tokmak 2**	**63.25**	**320**	P	**P**	**12 54 07.7**	**+0.9**
	SNR=20						
KBK	**Karagaybulak**	**63.53**	**320**	P	**P**	**12 54 09.8**	**+1.2**
	SNR=7.8						
UCH	**Uchtor**	**63.60**	**319**	P	**P**	**12 54 10.5**	**+1.1**
	SNR=26						
MA2	**Magadan**	**63.65**	**14**	P	**P**	**12 54 09.6**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=188,slow=7.8,SNR=8.4						
MA2	**Magadan**	**63.65**	**14**	P	**P**	**12 54 08.3**	**-0.5**
MA2				IAmb	IAmb	12 54 10.6	
	comp=Z,5.7nm,0.9s						
AAK	**Ala-Archa**	**63.81**	**320**	P	**P**	**12 54 11.2**	**+0.7**
AML	**Almayashu**	**64.09**	**319**	P	**P**	**12 54 13.5**	**+0.9**
	SNR=28						
USP	**Ospenovka**	**64.12**	**320**	P	**P**	**12 54 13.1**	**+0.8**
	SNR=24						
KBL	**Kabul**	**64.28**	**310**	P	**P**	**12 54 13.4**	**-0.4**
EKS2	**Erkin-Say**	**64.29**	**319**	P	**P**	**12 54 14.3**	**+0.8**
	SNR=22						
ZAA0	**Zalesovo Array**	**64.86**	**334**	P	**P**	**12 54 15.9**	**-1.0**
ZALV	**Zalesovo Beam**	**64.86**	**334**	P	**P**	**12 54 16.0**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=119,slow=4.9,SNR=22						
ZALV	**Zalesovo Beam**	**64.86**	**334**	P	**P**	**12 54 15.9**	**-0.9**
KURK	**Kurchatov**	**65.74**	**329**	P	**P**	**12 54 21.8**	**-0.9**
BRVK	**Borovoye**	**71.36**	**328**	P	**P**	**12 54 56.8**	**-0.8**
UOSS	**Minazif**	**72.55**	**297**	P	**P**	**12 55 04.9**	**-0.5**
UOSS				IAmb	IAmb	12 55 11.1	
	comp=Z,6.5nm,0.8s						
TIXI	**Tiksi**	**72.83**	**1**	P	**P**	**12 55 04.6**	**-1.5**
GEYT	**Alibeck**	**73.72**	**310**	P	**P**	**12 55 12.1**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=189,slow=5.1,SNR=4.5						
GEYT	**Alibeck**	**73.72**	**310**	IAmb	IAmb	12 55 14.9	
	comp=Z,4.6nm,0.8s						
NRIK	**Noril'sk**	**75.17**	**347**	P	**P**	**12 55 19.3**	**-0.6**
	comp=Z,6.2nm,0.7s,baz=136,slow=6.1,SNR=9.6						
ABKAR	**Akbulak array**	**75.76**	**322**	P	**P**	**12 55 23.1**	**-0.5**
ABKAR				IAmb	IAmb	12 55 26.0	
	comp=Z,5.6nm,0.6s						
RAYN	**Ar Rayn**	**82.06**	**294**	P	**P**	**12 55 58.1**	**-0.8**
RAYN				IAmb	IAmb	12 55 59.9	
	comp=Z,6.7nm,0.9s						
KBZ	**Khabaz**	**86.09**	**314**	P	**P**	**12 56 18.1**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=109,slow=7.3,SNR=7.2						
KMBO	**Kilima Mbogo**	**89.00**	**269**	P	**P**	**12 56 33.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=77,slow=7.6,SNR=3.5						
KMBO	**Kilima Mbogo**	**89.00**	**269**	IAmb	IAmb	12 56 35.3	
	comp=Z,2.7nm,1.1s						
BRTR	**Keskin Array B**	**92.85**	**310**	P	**P**	**12 56 49.2**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=103,slow=9.0,SNR=4.9						
LSZ	**Lusaka**	**97.47**	**255**	LR	LR	13 38 48.0	
	comp=Z,72nm,18.5s,baz=80,slow=34						
TORD	**Torodi Ar. Bea**	**123.91**	**285**	PKP	**PKPdf**	**13 02 36.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=67,slow=2.0,SNR=8.9						
TXAR	**Lajitas Array**	**124.93**	**55**	PKP	**PKiKP**	**13 02 39.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=193,slow=3.6,SNR=2.3						

*IDC **31** 12:53:27.4±0.7, 12°.01N×143°.84E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.0/40, mbtmp4.1/14, Error ellipse: s-maj=21.8km s-min=15.7km az=99.0*
*NEIC **31** 12:53:33.3±1.6, 11°.98N±0°.10×143°.8E±0°.1, h34km±6km, mb4.6/31, Error ellipse: s-maj=17.4km s-min=10.5km az=135.0*
ISC 31 12:53:31.5±0.6, 11°.97N±0°.08×143°.8E±0°.1, h26km, n49, σ0879/47, mb4.5/29, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.93**	**33**	Pn	**Pn**	**12 54 02.3**	**-0.4**
	135nm,0.3s,baz=218,slow=1.8,SNR=50						
GUMO				Sn	**Sn**	**12 54 26.1**	**+0.1**
	118nm,0.3s,baz=293,slow=21,SNR=9.0						
GUMO	**Guam**	**1.93**	**33**		**Pn**	**12 54 03.3**	**+0.6**
RABL	**Rabaul**	**18.09**	**152**		**Pn**	**12 57 40.8**	**-0.5**
RABL				IAmb	IAmb	12 57 46.8	
	comp=Z,20nm,0.5s						
WAKE	**Wake Island**	**23.18**	**69**	P	**P**	**12 58 37.8**	**+1.4**
JMM	**Marumori**	**25.92**	**355**	P	**P**	**12 59 02.4**	**+0.8**
KSRS	**Korea Array**	**29.08**	**333**	P	**P**	**12 59 28.7**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=147,slow=9.7,SNR=5.3						
KNRA	**Kununurra**	**31.24**	**209**	P	**P**	**12 59 51.2**	**+2.1**
KNRA				IAmb	IAmb	13 00 02.4	
	comp=Z,13nm,1.2s						
WB0	**Warramunga Arr**	**32.87**	**196**	P	**P**	**13 00 03.9**	**+0.4**
WR0	**Warramunga Arr**	**33.01**	**196**	P	**P**	**13 00 04.5**	**-0.3**
WRAB	**Tennant Creek**	**33.04**	**196**	P	**P**	**13 00 04.8**	**-0.2**
WB2	**Warramunga Arr**	**33.05**	**196**	P	**P**	**13 00 05.0**	**0.0**
WRA	**Warramunga Arr**	**33.05**	**196**	P	**P**	**13 00 04.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=19,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**33.05**	**196**	IAmb	IAmb	13 00 05.6	
	comp=Z,0.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**34.83**	**211**	P	**P**	**13 00 22.3**	**+1.7**
FITZ				IAmb	IAmb	13 00 42.5	
	comp=Z,9.4nm,1.4s						
ASAR	**Alice Springs**	**36.72**	**195**	P	**P**	**13 00 37.5**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=18,slow=11,SNR=4.6						
DZM	**Mont Dzumac**	**40.49**	**147**	P	**P**	**13 01 07.6**	**-0.9**
	comp=Z,4.2nm,0.6s,baz=307,slow=20,SNR=6.7						
DZM	**Mont Dzumac**	**40.49**	**147**	IAmb	IAmb	13 01 12.1	
	comp=Z,24nm,1.4s						
CMAR	**Chiang Mai Arr**	**43.65**	**284**	P	**P**	**13 01 35.9**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=87,slow=6.0,SNR=7.4						
MK31	**Makanchi Array**	**61.92**	**317**	P	**P**	**13 03 49.5**	**+0.5**
MKAR	**Makanchi Array**	**61.92**	**317**	P	**P**	**13 03 49.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=94,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**61.92**	**317**	P	**P**	**13 03 49.6**	**+0.6**
MAKZ	**Makanchi**	**62.13**	**317**	P	**P**	**13 03 50.4**	**-0.1**
MAKZ				IAmb	IAmb	13 03 52.6	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**62.32**	**325**	P	**P**	**13 03 51.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=124,slow=7.9,SNR=7.8						
KURK	**Kurchatov**	**65.14**	**321**	P	**P**	**13 04 09.8**	**-0.3**
NRIK	**Noril'sk**	**67.31**	**341**	P	**P**	**13 04 23.4**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=102,slow=8.6,SNR=4.9						
NRIK	**Noril'sk**	**67.31**	**341**	P	**P**	**13 04 23.2**	**-0.6**
NRIK				IAmb	IAmb	13 04 24.3	
	comp=Z,3.0nm,0.8s						
MLY	**Manley**	**68.96**	**24**	P	**P**	**13 04 33.9**	**-0.4**
MLY				IAmb	IAmb	13 04 35.5	
	comp=Z,6.3nm,1.3s						
KKAR	**Karatay Array**	**69.72**	**312**	P	**P**	**13 04 39.3**	**0.0**
GAR	**Garm**	**69.74**	**307**	P	**P**	**13 04 39.5**	**-0.3**
GAR				IAmb	IAmb	13 04 41.3	
	comp=Z,8.0nm,1.1s						
COLD	**Coldfoot**	**69.84**	**22**	P	**P**	**13 04 39.4**	**-0.2**
COLD				IAmb	IAmb	13 04 41.0	
	comp=Z,4.3nm,1.0s						
ILAR	**Eielson Array**	**70.47**	**25**	P	**P**	**13 04 41.9**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=258,slow=5.2,SNR=11						
TOLK	**Toolik Lake Re**	**70.50**	**21**	P	**P**	**13 04 43.6**	**-0.1**
TOLK				IAmb	IAmb	13 04 44.7	
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**70.60**	**322**	P	**P**	**13 04 43.8**	**-0.7**
BRVK				IAmb	IAmb	13 04 45.8	
	comp=Z,5.6nm,0.8s						
BMAR	**Burnt Mountain**	**71.99**	**23**	P	**P**	**13 04 53.3**	**+0.6**
INK	**Inuvik**	**76.25**	**22**	P	**P**	**13 05 17.0**	**-0.5**
ABKAR	**Akbulak array**	**77.02**	**318**	P	**P**	**13 05 21.9**	**-0.4**
A36M	**Sachs Harbour**	**79.00**	**18**	P	**P**	**13 05 32.9**	**+0.1**
C36M	**Paulatuk**	**79.65**	**21**	P	**P**	**13 05 36.4**	**0.0**
C36M				IAmb	IAmb	13 05 37.1

MXZ	**Matakaoa Point**	**4.77 205**	P		Pn	13 08 26.2	+0.2		
MXZ			S		Sn	13 09 22.4	+1.2		
WMGZ	**Waiomatatini S**	**4.97 202**	P		Pn	13 08 29.6	+1.0		
WMGZ	**Waiomatatini S**	**4.97 202**	S		Sn	13 09 27.0	+1.2		
WMGZ	**Waiomatatini S**	**4.97 202**	P		Pn	13 08 29.6	+1.0		
WMGZ			S		Sn	13 09 27.0	+1.2		
HAZ	**Te Kaha**	**5.14 208**	P		Pn	13 08 31.8	+1.0		
HAZ	**Te Kaha**	**5.14 208**	S		Sn	13 09 33.5	+3.7		
HAZ	**Te Kaha**	**5.14 208**	P		Pn	13 08 31.8	+1.0		
HAZ			S		Sn	13 09 33.5	+3.7		
PKGZ	**Pakihiroa**	**5.14 205**	P		Pn	13 08 31.7	+0.8		
PKGZ	**Pakihiroa**	**5.14 205**	S		Sn	13 09 31.3	+1.2		
PKGZ	**Pakihiroa**	**5.14 205**	P		Pn	13 08 31.7	+0.8		
PKGZ			S		Sn	13 09 31.3	+1.2		
PUZ	**Puketiti**	**5.25 203**	P		Pn	13 08 32.8	+0.5		
PUZ	**Puketiti**	**5.25 203**	S		Sn	13 09 30.7	-1.8		
PUZ	**Puketiti**	**5.25 203**	P		Pn	13 08 32.8	+0.5		
PUZ			S		Sn	13 09 30.7	-1.8		
RUGZ	**Raukumara Rang**	**5.36 207**	P		Pn	13 08 34.7	+0.8		
RUGZ	**Raukumara Rang**	**5.36 207**	S		Sn	13 09 36.8	+1.5		
RUGZ	**Raukumara Rang**	**5.36 207**	P		Pn	13 08 34.7	+0.8		
RUGZ			S		Sn	13 09 36.8	+1.5		
TWGZ	**Tauwhareparae**	**5.44 204**	P		Pn	13 08 35.3	+0.4		
TWGZ	**Tauwhareparae**	**5.44 204**	S		Sn	13 09 38.2	+1.2		
TWGZ	**Tauwhareparae**	**5.44 204**	P		Pn	13 08 35.3	+0.4		
TWGZ			S		Sn	13 09 38.2	+1.2		
CNGZ	**Carnagh Statio**	**5.64 201**	P		Pn	13 08 38.6	+1.1		
CNGZ	**Carnagh Statio**	**5.64 201**	P		Pn	13 08 38.6	+1.1		
TKGZ	**Te Karaka**	**5.72 204**	P		Pn	13 08 38.4	-0.1		
TKGZ	**Te Karaka**	**5.72 204**	S		Sn	13 09 45.1	+1.6		
TKGZ	**Te Karaka**	**5.72 204**	P		Pn	13 08 38.4	-0.1		
TKGZ			S		Sn	13 09 45.1	+1.6		
MWZ	**Matawai**	**5.74 207**	P		Pn	13 08 39.1	+0.3		
MWZ	**Matawai**	**5.74 207**	S		Sn	13 09 45.0	+0.9		
MWZ	**Matawai**	**5.74 207**	P		Pn	13 08 39.1	+0.3		
MWZ			S		Sn	13 09 45.0	+0.9		
MARZ	**Manawahe**	**5.81 214**	P		Pn	13 08 42.6	+2.9		
MARZ	**Manawahe**	**5.81 214**	P		Pn	13 08 42.6	+2.9		
URZ	**Urewera**	**5.84 210**	P		Pn	13 08 40.5	+0.5		
URZ	**Urewera**	**5.84 210**	S		Sn	13 09 46.9	+0.4		
URZ	**Urewera**	**5.84 210**	P		Pn	13 08 40.5	+0.5		
URZ			S		Sn	13 09 46.9	+0.4		
RAGZ	**Rawiri**	**5.92 207**	P		Pn	13 08 41.5	+0.2		
RAGZ	**Rawiri**	**5.92 207**	S		Sn	13 09 50.4	+1.8		
RAGZ	**Rawiri**	**5.92 207**	P		Pn	13 08 41.5	+0.2		
RAGZ			S		Sn	13 09 50.4	+1.8		
RIGZ	**Rimuhau**	**5.99 203**	P		Pn	13 08 42.1	0.0		
RIGZ	**Rimuhau**	**5.99 203**	S		Sn	13 09 51.0	+1.0		
RIGZ	**Rimuhau**	**5.99 203**	P		Pn	13 08 42.1	0.0		
RIGZ			S		Sn	13 09 51.0	+1.0		
PRGZ	**Paritu Road**	**6.14 202**	P		Pn	13 08 44.0	-0.1		
PRGZ	**Paritu Road**	**6.14 202**	P		Pn	13 08 44.0	-0.1		
MUGZ	**Murupara**	**6.17 211**	P		Pn	13 08 44.8	+0.4		
MUGZ	**Murupara**	**6.17 211**	S		Sn	13 09 55.0	+0.7		
MUGZ	**Murupara**	**6.17 211**	P		Pn	13 08 44.8	+0.4		
MUGZ			S		Sn	13 09 55.0	+0.7		
RTZ	**Ruatahuna**	**6.20 209**	P		Pn	13 08 44.9	0.0		
RTZ	**Ruatahuna**	**6.20 209**	S		Sn	13 09 55.4	+0.3		
RTZ	**Ruatahuna**	**6.20 209**	P		Pn	13 08 44.9	0.0		
RTZ			S		Sn	13 09 55.4	+0.3		
SNGZ	**Shannon Statio**	**6.20 206**	P		Pn	13 08 45.1	+0.2		
SNGZ	**Shannon Statio**	**6.20 206**	S		Sn	13 09 54.8	-0.3		
SNGZ	**Shannon Statio**	**6.20 206**	P		Pn	13 08 45.1	+0.2		
SNGZ			S		Sn	13 09 54.8	-0.3		
TOZ	**Tahuroa Road**	**6.23 222**	P		Pn	13 08 51.1	+5.9		
TOZ	**Tahuroa Road**	**6.23 222**	P		Pn	13 08 51.1	+5.9		
MHGZ	**Mahia Peninsul**	**6.35 201**	P		Pn	13 08 46.5	-0.4		
MHGZ	**Mahia Peninsul**	**6.35 201**	P		Pn	13 08 46.5	-0.4		
MTHZ	**Maungataniwha**	**6.46 209**	P		Pn	13 08 48.8	+0.5		
MTHZ	**Maungataniwha**	**6.46 209**	S		Sn	13 10 01.0	-0.2		
MTHZ	**Maungataniwha**	**6.46 209**	P		Pn	13 08 48.8	+0.5		
MTHZ			S		Sn	13 10 01.0	-0.2		
MRHZ	**Matea Rd**	**6.62 211**	P		Pn	13 08 51.0	+0.6		
MRHZ	**Matea Rd**	**6.62 211**	S		Sn	13 10 03.3	-1.8		
MRHZ	**Matea Rd**	**6.62 211**	P		Pn	13 08 51.0	+0.6		
MRHZ			S		Sn	13 10 03.3	-1.8		
ARHZ	**Aropaoanui**	**6.75 206**	P		Pn	13 08 52.1	0.0		
ARHZ	**Aropaoanui**	**6.75 206**	S		Sn	13 10 08.2	0.0		
ARHZ	**Aropaoanui**	**6.75 206**	P		Pn	13 08 52.1	0.0		
ARHZ			S		Sn	13 10 08.2	0.0		
BKZ	**Black Stump Fm**	**6.86 209**	P		Pn	13 08 53.2	-0.6		
BKZ	**Black Stump Fm**	**6.86 209**	S		Sn	13 10 10.5	-0.5		
BKZ	**Black Stump Fm**	**6.86 209**	P		Pn	13 08 53.2	-0.6		
BKZ			S		Sn	13 10 10.5	-0.5		
MCHZ	**McNeill Hill**	**7.02 207**	P		Pn	13 08 55.9	+0.2		
MCHZ	**McNeill Hill**	**7.02 207**	S		Sn	13 10 15.4	+0.7		
MCHZ	**McNeill Hill**	**7.02 207**	P		Pn	13 08 55.9	+0.2		
MCHZ			S		Sn	13 10 15.4	+0.7		
KWHZ	**Kaweka Forest**	**7.11 209**	P		Pn	13 08 56.3	-0.7		
KWHZ	**Kaweka Forest**	**7.11 209**	S		Sn	13 10 14.9	-2.0		
KWHZ	**Kaweka Forest**	**7.11 209**	P		Pn	13 08 56.3	-0.7		
KWHZ			S		Sn	13 10 14.9	-2.0		
NTVZ	**North Tongarir**	**7.17 214**	P		Pn	13 08 58.7	+0.9		
NTVZ	**North Tongarir**	**7.17 214**	P		Pn	13 08 58.7	+0.9		
TMVZ	**Te Maari**	**7.17 214**	P		Pn	13 08 58.9	+1.1		
TMVZ	**Te Maari**	**7.17 214**	S		Sn	13 10 17.9	-0.4		
TMVZ	**Te Maari**	**7.17 214**	P		Pn	13 08 58.9	+1.1		
TMVZ			S		Sn	13 10 17.9	-0.4		
OTVZ	**Oturere**	**7.22 214**	P		Pn	13 09 00.1	+1.5		
OTVZ	**Oturere**	**7.22 214**	S		Sn	13 10 20.4	+0.7		
OTVZ	**Oturere**	**7.22 214**	P		Pn	13 09 00.1	+1.5		
OTVZ			S		Sn	13 10 20.4	+0.7		
SNVZ	**South Ngauruho**	**7.25 214**	P		Pn	13 09 00.1	+1.1		
SNVZ	**South Ngauruho**	**7.25 214**	P		Pn	13 09 00.1	+1.1		
KAHZ	**Kahuranaki**	**7.26 205**	P		Pn	13 08 58.0	-1.0		
KAHZ	**Kahuranaki**	**7.26 205**	S		Sn	13 10 20.4	-0.1		
KAHZ	**Kahuranaki**	**7.26 205**	P		Pn	13 08 58.0	-1.0		
KAHZ			S		Sn	13 10 20.4	-0.1		
BHHZ	**Black Hill Sta**	**7.32 210**	P		Pn	13 08 59.8	+0.1		
BHHZ	**Black Hill Sta**	**7.32 210**	S		Sn	13 10 22.2	+0.4		
BHHZ	**Black Hill Sta**	**7.32 210**	P		Pn	13 08 59.8	+0.1		
BHHZ			S		Sn	13 10 22.2	+0.4		
KRHZ	**Kereru**	**7.32 208**	P		Pn	13 08 58.9	-0.9		
KRHZ	**Kereru**	**7.32 208**	S		Sn	13 10 18.3	-3.5		
KRHZ	**Kereru**	**7.32 208**	P		Pn	13 08 58.9	-0.9		
KRHZ			S		Sn	13 10 18.3	-3.5		
PXZ	**Pawanui**	**7.48 204**	P		Pn	13 09 00.5	-1.3		
PXZ	**Pawanui**	**7.48 204**	S		Sn	13 10 23.3	-2.3		
PXZ	**Pawanui**	**7.48 204**	P		Pn	13 09 00.5	-1.3		
PXZ			S		Sn	13 10 23.3	-2.3		
WPHZ	**Waipukurau**	**7.66 206**	P		Pn	13 09 04.1	-0.1		
WPHZ	**Waipukurau**	**7.66 206**	S		Sn	13 10 28.6	-1.3		
WPHZ	**Waipukurau**	**7.66 206**	P		Pn	13 09 04.1	-0.1		
WPHZ			S		Sn	13 10 28.6	-1.3		
PRHZ	**Porangahau**	**7.77 204**	P		Pn	13 09 04.0	-1.7		
PRHZ	**Porangahau**	**7.77 204**	S		Sn	13 10 30.2	-2.3		
PRHZ	**Porangahau**	**7.77 204**	P		Pn	13 09 04.0	-1.7		
PRHZ			S		Sn	13 10 30.2	-2.3		

*IDC **31** 13:11:02.4±0.9, 41°.97N×81°.45E, h0km, mb3.8/8, mb1 3.8/15, mb1mx3.7/65, mbtmp3.7/15, ML3.5/7, Error ellipse: s-maj=20.9km s-min=12.6km az=61.0*
*BJI **31** 13:11:06.2±0.0, 42°.15N×81°.42E, h20km, mb3.9/3, ML4.3/11, Ms3.7/2, Ms7 3.5/1*
*SOME **31** 13:11:07.5, 42°.15N×81°.37E, h10km, MS3.1*
*NNC **31** 13:11:08.9±1.1, 42°.27N×81°.38E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=8.3km s-min=5.6km az=150.0*

ISC 31 13:11:04.2±1.0, **42°.06N**±0°.04×**81°.35E**±0°.03, **h9**km±6km, **n109**, σ**19**=**94**/154, **mb3.7**/9, **19C-15D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
KTMS	**Ketmen**	**1.57**	**332**	⇑*e*P	**Pb**	**13**	**11**	**35.1**	**+1.6**
	327nm,0.1s								
KTMS				*e*S	**Sg**	**13**	**11**	**55.4**	**+0.7**
	2µm,0.1s								
KTMS	**Ketmen**	**1.57**	**332**	P	**Pb**	**13**	**11**	**35.1**	**+1.6**
	348nm,0.3s								
KTMS				S	**Sg**	**13**	**11**	**55.4**	**+0.7**
	2µm,0.5s								
SHLS	**Shalkode**	**1.78**	**309**	⇑*e*P	**Pn**	**13**	**11**	**36.2**	**+1.0**
	726nm,0.2s								
SHLS				*e*S	**Sn**	**13**	**11**	**57.5**	**-0.6**
	2µm,0.3s								
SHLS	**Shalkode**	**1.78**	**309**	*i* Pg	**Pn**	**13**	**11**	**36.2**	**+1.0**
	baz=308								
SHLS				*e*Lg	Lg	13	11	57.6	
	baz=308								
SHLS	**Shalkode**	**1.78**	**309**	P	**Pn**	**13**	**11**	**36.2**	**+1.0**
	726nm,0.2s								
SHLS				S	**Sn**	**13**	**11**	**57.5**	**-0.6**
	2µm,0.3s								
PDGK	**Podgornoye**	**1.87**	**313**	S	**Sg**	**13**	**12**	**05.9**	**+1.6**
	669nm,0.6s								
UZB	**Uzynbulak**	**2.04**	**303**	*e*P	**Pg**	**13**	**11**	**44.4**	**+1.2**
	752nm,0.1s								
UZB				*e*S	**Sg**	**13**	**12**	**11.0**	**+1.3**
	2µm,0.6s								
UZB	**Uzynbulak**	**2.04**	**303**	*i* Pg	**Pb**	**13**	**11**	**43.4**	**+1.9**
	baz=297								
UZB				*e*Lg	Lg	13	12	12.3	
	baz=297								
UZB	**Uzynbulak**	**2.04**	**303**	Pg	**Pg**	**13**	**11**	**44.4**	**+1.2**
	761nm,0.3s								
UZB				Lg	Lg	13	12	11.0	
	2µm,0.6s								
KPKS	**Kokpek**	**2.42**	**306**	*e*P	**Pg**	**13**	**11**	**50.9**	**+0.4**
	325nm,0.0s								
KPKS				*e*S	**Sg**	**13**	**12**	**21.9**	**+0.1**
	1µm,0.2s								
KPKS	**Kokpek**	**2.42**	**306**	*i* Pg	**Pb**	**13**	**11**	**48.5**	**+0.5**
	baz=302								
ZHN	**Zhinishke**	**2.42**	**298**	*e*P	**Pg**	**13**	**11**	**50.6**	**-0.1**
	525nm,0.2s								
ZHN				*e*S	**Sg**	**13**	**12**	**21.9**	**-0.2**
	926nm,0.0s								
ZHN	**Zhinishke**	**2.42**	**298**	Pg	**Pg**	**13**	**11**	**50.6**	**-0.1**
	525nm,0.2s								
ZHN				Lg	Lg	13	12	21.9	
	930nm,0.4s								
DJR	**Jarkent**	**2.54**	**334**	*e*P	**Pb**	**13**	**11**	**52.4**	**+2.3**
	52nm,0.0s								
DJR				*e*S	**Sg**	**13**	**12**	**25.1**	**-0.8**
	434nm,0.1s								
DJR	**Jarkent**	**2.54**	**334**	Pg	**Pb**	**13**	**11**	**52.4**	**+2.3**
	53nm,0.2s								
DJR				Lg	Lg	13	12	25.1	
	418nm,0.6s								
KURS	**Kuram**	**2.75**	**302**	*e*P	**Pg**	**13**	**11**	**57.3**	**+0.5**
	82nm,0.1s								
KURS				*e*S	**Sg**	**13**	**12**	**33.4**	**+1.1**
	286nm,0.0s								
KURS	**Kuram**	**2.75**	**302**	Pg	**Pg**	**13**	**11**	**57.3**	**+0.5**
	82nm,1.0s								
KURS				Lg	Lg	13	12	33.4	
	287nm,0.6s								
KNOS	**Konyrlen**	**2.79**	**326**	Lg	Lg	13	12	27.9	
	269nm,0.6s								
BLB	**Baldybastay**	**2.93**	**315**	*e*P	**Pg**	**13**	**12**	**01.3**	**+0.9**
	197nm,0.1s								
BLB				*e*S	**Sg**	**13**	**12**	**40.1**	**+1.8**
	346nm,0.0s								
BLB	**Baldybastay**	**2.93**	**315**	Pg	**Pg**	**13**	**12**	**01.3**	**+0.9**
	799nm,0.5s								
BLB				Lg	Lg	13	12	40.1	
	358nm,0.5s								
KOTS	**Kotyrbulak**	**3.34**	**292**	*e*P	**Pg**	**13**	**12**	**07.3**	**-0.9**
	65nm,0.0s								
KOTS				*e*S	**Sg**	**13**	**12**	**50.2**	**-1.3**
	694nm,0.3s								
KOTS	**Kotyrbulak**	**3.34**	**292**	Pg	**Pg**	**13**	**12**	**07.3**	**-0.9**
	93nm,0.3s								
KOTS				Lg	Lg	13	12	50.2	
	804nm,0.8s								
ARXS	**Arharly**	**3.36**	**311**	*e*P	**Pg**	**13**	**12**	**09.1**	**+0.6**
	95nm,0.2s								
ARXS				*e*S	**Sg**	**13**	**12**	**53.4**	**+1.3**
	381nm,0.2s								
ARXS	**Arharly**	**3.36**	**311**	Pg	**Pg**	**13**	**12**	**09.1**	**+0.6**
	94nm,0.6s								
ARXS				Lg	Lg	13	12	53.4	
	381nm,0.9s								
MDOK	**Medeo**	**3.36**	**291**	*e*P	**Pg**	**13**	**12**	**08.2**	**-0.5**
	96nm,0.0s								
MDOK				*e*S	**Sg**	**13**	**12**	**51.8**	**-0.4**
	195nm,0.3s								
MDOK	**Medeo**	**3.36**	**291**	*i* Pn	**Pb**	**13**	**12**	**02.3**	**-1.9**
	baz=288								
MDOK				*e*Pb	**Pg**	**13**	**12**	**08.5**	**-0.1**
	baz=288								
MDOK	**Medeo**	**3.36**	**291**	⇓Pn	**Pb**	**13**	**12**	**02.4**	**-1.7**
	164nm,0.7s								
MDOK				⇑Lg	Lg	13	12	56.2	
	406nm,0.7s								
MDOK	**Medeo**	**3.36**	**291**	Pg	**Pg**	**13**	**12**	**08.1**	**-0.5**
	100nm,0.5s								
MDOK				Lg	Lg	13	12	51.8	
	193nm,0.9s								
TNSS	**Tian-Shan**	**3.40**	**288**	*e*P	**Pg**	**13**	**12**	**09.2**	**-0.1**
	54nm,0.1s								
TNSS				*e*S	**Sg**	**13**	**12**	**53.3**	**-0.1**
	136nm,0.1s								
TNSS	**Tian-Shan**	**3.40**	**288**	*e*Pn	**Pb**	**13**	**12**	**02.6**	**-2.2**
	baz=285								
TNSS	**Tian-Shan**	**3.40**	**288**	Pg	**Pb**	**13**	**12**	**07.3**	**+2.4**
	48nm,0.8s								
TNSS				Lg	Lg	13	12	50.6	
	139nm,1.1s								
KNDC	**Almaty**	**3.44**	**291**	⇑Pn	**Pb**	**13**	**12**	**04.6**	**-0.7**
	152nm,0.8s								
KNDC				⇓Pg	**Pg**	**13**	**12**	**13.3**	**+3.2**
	287nm,0.7s								
KNDC				⇓Lg	Lg	13	12	58.5	
	1µm,0.8s								
AAA	**Alma-Ata**	**3.47**	**291**	*e*P	**Pb**	**13**	**12**	**09.1**	**+3.2**
	190nm,0.2s								
AAA				*e*S	**Sg**	**13**	**12**	**53.7**	**-1.9**
	424nm,0.3s								
AAA	**Alma-Ata**	**3.47**	**291**	*e*Pn	Pn	13	12	03.2	+4.7
	baz=288								
AAA				*e*Pb	**Pb**	**13**	**12**	**08.6**	**+2.7**
	baz=288								
AAA				*e*Sb	**Sg**	**13**	**12**	**55.4**	**-0.2**
	baz=288								
AAA				*e*Lg	Lg	13	12	58.7	
	baz=288								
AAA	**Alma-Ata**	**3.47**	**291**	Pg	**Pb**	**13**	**12**	**09.1**	**+3.2**
	190nm,0.8s								
AAA				Lg	Lg	13	12	53.7	
	445nm,1.0s								
KAPS	**Kapalarasan**	**3.54**	**336**	*e*P	**Pg**	**13**	**12**	**11.4**	**-0.5**
	74nm,0.1s								
KAPS				*e*S	**Sg**	**13**	**12**	**57.0**	**-0.7**
	259nm,0.1s								
KAPS	**Kapalarasan**	**3.54**	**336**	Pg	**Pg**	**13**	**12**	**13.0**	**+1.1**
	195nm,0.8s								
KAPS				Lg	Lg	13	13	00.6	
	687nm,0.6s								
TDK	**Taldyqorghan**	**3.64**	**325**	*e*P	**Pg**	**13**	**12**	**14.4**	**+0.5**
	260nm,0.1s								
TDK				*e*S	**Sg**	**13**	**13**	**02.9**	**+1.8**
	1µm,0.1s								
TDK	**Taldyqorghan**	**3.64**	**325**	*e*Pn	**Pn**	**13**	**12**	**04.0**	**+3.2**
	baz=322								
TDK				*e*Pg	**Pg**	**13**	**12**	**13.3**	**-0.6**
	baz=322								
TDK				*e*Lg	Lg	13	13	02.5	
	baz=322								
TDK	**Taldyqorghan**	**3.64**	**325**	Pg	**Pg**	**13**	**12**	**14.4**	**+0.5**
	261nm,0.4s								
TDK				Lg	Lg	13	13	02.9	
	1µm,0.8s								
CHKK	**Chushkaly**	**3.67**	**301**	*e*P	**Pg**	**13**	**12**	**13.6**	**-1.0**
	146nm,0.5s								
CHKK				*e*S	**Sg**	**13**	**13**	**00.9**	**-1.2**
	215nm,0.4s								
CHKK	**Chushkaly**	**3.67**	**301**	*e*Pn	**Pn**	**13**	**12**	**04.5**	**+3.3**
	baz=298								
CHKK				*e*Pg	**Pg**	**13**	**12**	**15.4**	**+0.9**
	baz=298								
CHKK	**Chushkaly**	**3.67**	**301**	Pg	**Pg**	**13**	**12**	**13.6**	**-1.0**
	146nm,0.5s								
CHKK				Lg	Lg	13	13	00.9	
	215nm,0.4s								
MTBS	**Maitube**	**3.79**	**288**	*e*P	**Pg**	**13**	**12**	**17.8**	**+1.0**
	149nm,0.1s								
MTBS				*e*S	**Sg**	**13**	**13**	**08.2**	**+2.3**
	259nm,0.7s								
MTBS	**Maitube**	**3.79**	**288**	Pg	**Pg**	**13**	**12**	**17.8**	**+1.0**
	190nm,0.9s								
MTBS				Lg	Lg	13	13	08.2	
	204nm,0.6s								
ULHL	**Ulahol**	**3.81**	**275**	P	**Pg**	**13**	**12**	**20.3**	**+3.2**
	SNR=11								
KTBS	**Karatobe**	**3.81**	**297**	*e*P	**Pg**	**13**	**12**	**16.6**	**-0.5**
	233nm,0.1s								
KTBS				*e*S	**Sg**	**13**	**13**	**06.2**	**-0.3**
	319nm,0.2s								
KTBS	**Karatobe**	**3.81**	**297**	Pg	**Pg**	**13**	**12**	**16.7**	**-0.5**
	229nm,0.7s								
KTBS				Lg	Lg	13	13	06.2	
	239nm,0.5s								
KST	**Kastek**	**4.10**	**286**	*e*P	**Pg**	**13**	**12**	**23.0**	**+0.3**
	165nm,0.1s								
KST				*e*S	**Sg**	**13**	**13**	**17.7**	**+1.8**
	566nm,0.2s								
KST	**Kastek**	**4.10**	**286**	Pg	**Pg**	**13**	**12**	**23.0**	**+0.3**
	169nm,1.1s								
KST				Lg	Lg	13	13	17.7	
	566nm,0.8s								
KUU	**Kurty**	**4.11**	**298**	*e*P	**Pg**	**13**	**12**	**22.1**	**-0.9**
	92nm,0.2s								
KUU				*e*S	**Sg**	**13**	**13**	**15.5**	**-0.7**
	298nm,0.7s								
KUU	**Kurty**	**4.11**	**298**	*i* Pn	**Pn**	**13**	**12**	**10.6**	**+3.3**
	baz=296								
KUU				*e*Pg	**Pg**	**13**	**12**	**22.6**	**-0.3**
	baz=296								
KUU				*e*Lg	Lg	13	13	19.6	
	baz=296								
KUU	**Kurty**	**4.11**	**298**	Pg	**Pg**	**13**	**12**	**22.1**	**-0.9**
	95nm,0.6s								
KUU				Lg	Lg	13	13	15.5	
	483nm,1.2s								
DGS	**Degeres**	**4.28**	**288**	*e*P	**Pg**	**13**	**12**	**24.9**	**-1.3**
	88nm,0.2s								
DGS				*e*S	**Sg**	**13**	**13**	**21.0**	**-0.8**
	334nm,0.7s								
DGS	**Degeres**	**4.28**	**288**	Pg	**Pg**	**13**	**12**	**24.9**	**-1.3**
	130nm,0.5s								
DGS				Lg	Lg	13	13	21.0	
	334nm,0.7s								
TKM2	**Tokmak 2**	**4.34**	**283**	P	**Pn**	**13**	**12**	**14.8**	**+4.2**
	SNR=13								
TKM2	**Tokmak 2**	**4.34**	**283**	⇓Pn	**Pb**	**13**	**12**	**17.9**	**-2.9**
	99nm,1.0s								
TKM2				⇑Pg	**Pg**	**13**	**12**	**29.2**	**+1.8**
	54nm,0.6s								
TKM2				⇑Lg	Lg	13	13	28.1	
	403nm,0.7s								
KRBS	**Karabastau**	**4.48**	**293**	*e*P	**Pg**	**13**	**12**	**28.4**	**-1.7**
	32nm,0.1s								
KRBS				*e*S	**Sg**	**13**	**13**	**26.7**	**-1.4**
	192nm,0.3s								
KRBS	**Karabastau**	**4.48**	**293**	Pg	**Pg**	**13**	**12**	**28.4**	**-1.7**
	67nm,0.8s								
KRBS				Lg	Lg	13	13	26.7	
	192nm,0.9s								
MAKZ	**Makanchi**	**4.77**	**5**	⇑Pn	**Pn**	**13**	**12**	**19.2**	**+2.9**
	4.6nm,0.2s								
MAKZ				⇑Pg	**Pb**	**13**	**12**	**30.6**	**+2.7**
	53nm,0.8s								
MAKZ				⇓Sn	**Sn**	**13**	**13**	**13.4**	**+1.7**
	54nm,0.4s								
MAKZ				⇓Lg	Lg	13	13	32.5	
	91nm,0.8s								
MK31	**Makanchi Array**	**4.78**	**8**	Pn	**Pn**	**13**	**12**	**19.3**	**+2.8**
	2.7nm,0.2s,baz=192,slow=13,SNR=1189								
MK31				Pg	**Pb**	**13**	**12**	**30.6**	**+2.5**
	2.4nm,0.2s,baz=181,slow=15,SNR=28								
MK31				Sn	**Sn**	**13**	**13**	**13.4**	**+1.4**
	59nm,0.5s,baz=187,slow=17,SNR=4.9								
MK31				Lg	Lg	13	13	33.0	
	272nm,0.9s,baz=186,slow=28,SNR=9.0								
MKAR	**Makanchi Array**	**4.78**	**8**	Pn	**Pn**	**13**	**12**	**19.2**	**+2.7**
	8.9nm,0.3s,baz=189,slow=13,SNR=713								
MKAR				Sn	**Sn**	**13**	**13**	**13.2**	**+1.2**
	44nm,0.3s,baz=181,slow=16,SNR=5.3								
MKAR				Lg	Lg	13	13	31.0	
	26nm,0.3s,baz=187,slow=28,SNR=14								
KBK	**Karagaybulak**	**4.78**	**279**	P	Pn	13	12	21.7	+5.0
	SNR=9.3								
CHMS	**Chumysh**	**4.97**	**283**	⇓Pn	Pb	13	12	26.6	-4.8
	5.2nm,0.5s								
CHMS				⇓Pg	**Pg**	**13**	**12**	**41.0**	**+1.6**
	33nm,0.8s								
CHMS				⇓Lg	Lg	13	13	48.2	
	188nm,0.8s								
WMQ	**Urumqi**	**4.

KURBB	**Kurchatov Arra**	**8.79**	**348**	⇑Pn		**Pn**	**13 13 14.3**	**+3.0**
	3.9nm,0.5s								
KURBB				⇓Pg		Pg	13 13 44.6	-7.6	
	20nm,0.9s								
KURBB				⇓Sn		**Sn**	**13 14 50.7**	**+0.2**	
	51nm,0.6s								
KURBB				⇑Lg		Lg	13 15 46.6		
	284nm,1.1s								
KURK	**Kurchatov**	**8.86**	**349**	⇓Pn		**Pn**	**13 13 15.0**	**+2.6**	
	1.9nm,0.6s								
KURK				⇑Pg		Pg	13 13 45.9	-7.9	
	8.1nm,0.8s								
KURK				⇑Sn		**Sn**	**13 14 53.8**	**+1.5**	
	68nm,0.7s								
KURK				⇑Lg		Lg	13 15 51.9		
	103nm,0.9s								
OTUK	**Ortayu**	**8.88**	**317**	⇑Pn		**Pn**	**13 13 17.0**	**+4.4**	
	2.6nm,0.6s								
OTUK				⇑Sn		**Sn**	**13 14 55.8**	**+3.1**	
	18nm,0.7s								
OTUK				⇓Lg		Lg	13 15 44.1		
	61nm,0.8s								
BRZS	**Berezniki**	**9.95**	**326**	*e*Pn		**Pn**	**13 13 30.0**	**+2.6**	
	baz=325								
GOMU	**GeErMu**	**11.97**	**115**	P		**Pn**	**13 13 54.8**	**-0.6**	
GOMU				LR		LR			
	comp=N,180nm,9.1s								
GOMU				LR		LR			
	comp=E,140nm,9.4s								
ZALV	**Zalesovo Beam**	**12.12**	**10**	Pn		**Pn**	**13 13 57.1**	**+0.1**	
	0.3nm,0.3s,baz=189,slow=12,SNR=5.0								
ZALV				Sn		Sn	13 16 04.3	-7.8	
	1.1nm,0.3s,baz=203,slow=22,SNR=7.7								
ZALV				Lg		Lg	13 17 27.1		
	baz=217,slow=21,SNR=2.1								
BVAR	**Borovoye Array**	**13.22**	**330**	Pn		**Pn**	**13 14 11.9**	**-0.1**	
	0.4nm,0.3s,baz=139,slow=8.2,SNR=3.1								
BVAR				Sn		**Sn**	**13 16 34.7**	**-4.4**	
	0.5nm,0.3s,baz=170,slow=26,SNR=5.2								
BVAR				Lg		Lg	13 18 06.0		
	0.8nm,0.3s,baz=322,slow=37,SNR=3.6								
BRVK	**Borovoye**	**13.28**	**330**	⇑Pn		**Pn**	**13 14 12.3**	**-0.5**	
	2.5nm,0.9s								
BRVK				⇑Sn		**Sn**	**13 16 42.3**	**+1.7**	
	7.8nm,0.7s								
BRVK				⇓Lg		Lg	13 18 03.8		
	38nm,0.9s								
GTA	**Gaotai**	**14.25**	**95**	*e*P		**Pn**	**13 14 26.8**	**+0.6**	
GTA				sP		P	13 14 37.5	+3.8	
GTA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
AKTO	**Aktyubinsk**	**18.13**	**305**	P		**Pn**	**13 15 17.5**	**+1.4**	
	0.2nm,0.3s,baz=105,slow=8.9,SNR=7.6								
AKTO				Lg		Lg	13 20 38.6		
	0.1nm,0.3s,baz=211,slow=18,SNR=2.4								
SONM	**Songino Array**	**18.60**	**63**	P		**P**	**13 15 21.2**	**-0.7**	
	0.3nm,0.3s,baz=253,slow=13,SNR=1.8								
ARU	**Arti**	**20.55**	**322**	P		**P**	**13 15 43.7**	**+0.8**	
	2.1nm,0.3s,baz=130,slow=8.6,SNR=12								
NRIK	**Noril'sk**	**27.54**	**5**	P		**P**	**13 16 52.0**	**+1.2**	
	1.0nm,0.3s,baz=162,slow=9.8,SNR=1.7								
CMAR	**Chiang Mai Arr**	**27.89**	**142**	P		**P**	**13 16 56.9**	**+2.4**	
	0.5nm,0.4s,baz=318,slow=8.9,SNR=8.1								
MNK	**Minsk**	**36.81**	**309**	*i* P		P	13 18 05.8	-6.4	
	comp=E,4.0nm,0.8s								
MNK				*i* P		P	13 18 05.8	-6.4	
	comp=N,34nm,0.9s								
MNK				*i* P		P	13 18 05.8	-6.4	
	comp=Z,8.0nm,0.7s,baz=87								
MNK				*i* PP		**PnPn**	**13 19 29.6**	**-6.1**	
MNK				*i* PPP		PPP	13 19 44.8		
MNK				*i* S		**S**	**13 23 50.9**	**-5.3**	
MNK				*i* SS		**SnSn**	**13 26 24.8**	**-2.4**	
MNK				*i* SSS		SSS	13 26 41.5		
MNK				*i* LR		LR	13 32 46.0		
MNK				*i* LRM		MLR	13 34 39.5		
	comp=Z,479nm,16.8s								
MNK				*i* LRM		MLR	13 34 40.8		
	comp=E,50nm,13.5s								
MNK				*i* LRM		MLR	13 34 51.1		
	comp=N,365nm,18.1s								
ARCES	**ARCESS Array B**	**39.48**	**333**	P		**P**	**13 18 34.9**	**+0.4**	
	comp=N,1.0nm,0.7s,baz=101,slow=9.3,SNR=4.3								
NB2	**NORSAR Subarra**	**45.08**	**320**	P		**P**	**13 19 20.5**	**+0.2**	
	comp=Z,0.5nm,0.5s,baz=81,slow=7.9								
NOA	**NORSAR Array B**	**45.08**	**320**	P		**P**	**13 19 20.2**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=81,slow=8.0,SNR=3.0								
TORD	**Torodi Ar. Bea**	**73.68**	**273**	P		**P**	**13 22 37.2**	**-1.4**	
	comp=Z,0.3nm,0.6s,baz=66,slow=5.6,SNR=4.3								
YKA	**Yellowknife Ar**	**75.01**	**8**	P		**P**	**13 22 44.8**	**-0.7**	
	comp=Z,0.1nm,0.6s,baz=341,slow=5.6,SNR=4.1								
WRA	**Warramunga Arr**	**78.73**	**130**	P		**P**	**13 23 06.5**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=323,slow=5.4,SNR=11								
ASAR	**Alice Springs**	**81.44**	**133**	P		**P**	**13 23 21.0**	**-0.7**	
	comp=Z,0.6nm,0.7s,baz=325,slow=5.0,SNR=10								

BGR ***31*** *13:13:48.5±0.0,44.90N×149.40E,h33km,mb4.5*
SKHL ***31*** *13:14:08.9±0.4,46.20N×150.20E,h155km±5km,mb5.4/6, mbv5.3/3,msh5.4/2,msha6.1/4*
MOS ***31*** *13:14:09.9±1.1,46.51N×149.75E,h162km,mb4.7/25, Error ellipse: s-maj=8.1km s-min=5.4km az=74.2*
BJI ***31*** *13:14:09.1±0.0,46.54N×149.99E,h164km,mb5.1/70, mB4.8/32*
IDC ***31*** *13:14:11.0±0.5,46.52N×149.78E,h158km±4km,mb4.2/34, mb1 4.3/42,mb1mx4.1/56,mbtmp4.6/42,MS3.7/2, Ms1 3.7/2,ms1mx2.8/93,Error ellipse: s-maj=9.4km s-min=6.5km az=142.0*
NEIC ***31*** *13:14:12.8±2.3,46.49N±0.07×149.8E±0.1,h171km±5km, mb4.6/77,Error ellipse: s-maj=13.8km s-min=8.4km az=122.0*
JMA ***31*** *13:14:13.7±0.5,45.65N×150.10E,h161km,M4.3*
ISC 31 13:14:09.9±0.4,**46.33N**±0.04×**149.97E**±0.04,**h154**km±3km, **h154**km:**pP-P,n509,**σ1s**54/569,mb4.7**/123,**26C-16D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.83**	**234**	*c i*	PN	**Pn**	**13 14 41.5**		**-1.9**
KUR				*i*	S	**Sn**	**13 15 08.3**		**-0.8**
KUR					pmax	pmax			
	comp=Z,2μm,0.5s								
KUR					pmax	pmax			
	comp=N,317nm,0.3s								
KUR					pmax	pmax			
	comp=E,139nm,0.4s								
KUR					smax	smax			
	comp=N,2μm,0.9s								
KUR					smax	smax			
	comp=E,1μm,0.8s								
KUR	**Kuril'sk**	**1.83**	**234**	*i*	P	**Pn**	**13 14 45.4**		**+2.0**
KUR					AMB	AMB	13 14 46.2		
	comp=E,1μm,0.5s								
KUR					AMB	AMB	13 14 46.5		
	comp=E,2μm,1.0s								
KUR				*i*	S	**Sn**	**13 15 13.5**		**+4.4**
KUR					A	A	13 15 14.3		
	comp=E,2μm,0.6s								
KUR					A	A	13 15 14.3		
	comp=E,880nm,0.6s								
KUR					A	A	13 15 14.6		
	comp=E,10μm,2.0s								
KUR					A	A	13 15 14.6		
	comp=E,7μm,2.0s								
SHO	**Shikotan**	**3.31**	**223**	PN		**Pn**	**13 15 00.5**		**-0.9**
SHO				*e*S		**Sn**	**13 15 41.2**		**-0.1**
SHO					pmax	pmax			
	comp=N,55nm,0.2s								
SHO					pmax	pmax			
	comp=E,78nm,0.2s								
SHO					pmax	pmax			
	comp=Z,46nm,0.2s								
SHO					smax	smax			
	comp=N,634nm,0.4s								
SHO					smax	smax			
	comp=E,526nm,0.2s								
SHO	**Shikotan**	**3.31**	**223**	*e*P		**Pn**	**13 15 00.8**		**-0.6**
SHO					AMB	AMB	13 15 03.0		
	comp=E,50nm,0.2s								
SHO					AMB	AMB	13 15 05.5		
	comp=E,1μm,2.0s								
SHO				*e*S		**Sn**	**13 15 41.6**		**+0.3**
SHO					A	A	13 15 42.3		
	comp=E,630nm,0.4s								
SHO					A	A	13 15 42.3		
	comp=E,530nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.70**	**233**	*e*PN		**Pn**	**13 15 08.3**		**+1.9**
YUK				*e*S		**Sn**	**13 15 55.9**		**+5.8**
YUK					pmax	pmax			
	comp=Z,515nm,0.3s								
YUK					pmax	pmax			
	comp=E,380nm,0.2s								
YUK					pmax	pmax			
	comp=N,374nm,0.4s								
YUK					smax	smax			
	comp=N,1μm,0.5s								
YUK					smax	smax			
	comp=E,1μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.70**	**233**	*e*P		**Pn**	**13 15 08.2**		**+1.9**
YUK					AMB	AMB	13 15 12.6		
	comp=E,520nm,0.3s								
YUK				*e*S		**Sn**	**13 15 53.7**		**+3.6**
YUK					A	A	13 15 59.1		
	comp=E,1μm,0.6s								
YUK					A	A	13 15 59.1		
	comp=E,1μm,0.6s								
RUSJ	**Misakicho**	**4.01**	**238**	*e*PN		**Pn**	**13 15 13.8**		**+3.5**
GLVR	**Golovnino**	**4.08**	**232**	*e*PN		**Pn**	**13 15 12.8**		**+1.5**
GLVR				*e*S		**Sn**	**13 16 02.8**		**+3.8**
GLVR					smax	smax			
	comp=E,874nm,0.2s								
GLVR					smax	smax			
	comp=N,1μm,0.4s								
GLVR	**Golovnino**	**4.08**	**232**	*e*P		**Pn**	**13 15 12.8**		**+1.5**
GLVR				*e*S		**Sn**	**13 16 02.8**		**+3.8**
GLVR					A	A	13 16 05.6		
	comp=N,1μm,0.4s								
GLVR					A	A	13 16 05.6		
	comp=N,870nm,0.4s								
JRA	**Rausu**	**4.18**	**237**	P		**Pn**	**13 15 14.5**		**+1.9**
NEM2	**Nemuro 2**	**4.22**	**227**	P		**Pn**	**13 15 12.8**		**-0.3**
NEM2				*e*S		**Sn**	**13 15 58.7**		**-3.6**
NMR	**Nemuro--Hokkai**	**4.22**	**227**	*e*PN		**Pn**	**13 15 12.8**		**-0.4**
NMR				*e*S		**Sn**	**13 15 59.5**		**-2.9**
NMR	**Nemuro--Hokkai**	**4.22**	**227**	*e*P		**Pn**	**13 15 12.8**		**-0.4**
JNK	**Nakash**	**4.62**	**235**	P		**Pn**	**13 15 19.8**		**+1.4**
JTKR	**Abashiri--Toko**	**4.89**	**243**	P		**Pn**	**13 15 24.0**		**+2.1**
AKK	**Akkeshi**	**4.93**	**230**	*e*P		**Pn**	**13 15 21.8**		**-0.7**
YSS	**Yuzh-Sakhalins**	**5.01**	**280**	*e*PN		**Pn**	**13 15 25.9**		**+2.6**
YSS				*e*S		**Sn**	**13 16 22.9**		**+2.2**
YSS					pmax	pmax			
	comp=Z,100nm,0.8s								
YSS					pmax	pmax			
	comp=E,80nm,0.9s								
YSS					smax	smax			
	comp=N,600nm,3.9s								
YSS					smax	smax			
	comp=N,100nm,1.1s								
YSS					MLR	MLR			
	comp=Z,300nm,13.0s								
YSS	**Yuzh-Sakhalins**	**5.01**	**280**			**Pn**	**13 15 26.1**		**+2.7**
YSS	**Yuzh-Sakhalins**	**5.01**	**280**	*e*P		**Pn**	**13 15 26.0**		**+2.6**
YSS					AMB	AMB	13 15 28.5		
	comp=Z,400nm,3.0s								
YSS					AMB	AMB	13 15 29.6		
	comp=Z,100nm,0.8s								
YSS				*e*S		**Sn**	**13 16 26.8**		**+6.1**
YSS					A	A	13 16 27.4		
	comp=Z,100nm,1.0s								
YSS					A	A	13 16 27.4		
	comp=Z,200nm,1.0s								
YSS					A	A	13 16 27.5		
	comp=Z,100nm,0.7s								
YSS					A	A	13 16 27.5		
	comp=Z,120nm,0.7s								
YSS					AMS	AMS	13 17 53.0		
	comp=Z,3μm,13.0s								
JAK	**Akkeshi**	**5.02**	**230**	P		**Pn**	**13 15 23.5**		**-0.2**
JAK				*e*S		**Sn**	**13 18.1**		**-3.1**
JMP	**Maruseppu**	**5.22**	**246**	P		**Pn**	**13 15 28.4**		**+2.1**
JAR	**Ashorobuto**	**5.35**	**238**	P		**Pn**	**13 15 30.5**		**+2.5**
JOB	**Onbets**	**5.56**	**234**	P		**Pn**	**13 15 31.3**		**+0.6**
JOB				*e*S		**Sn**	**13 16 31.8**		**-2.1**
JKA	**Kamikawa-asahi**	**5.65**	**250**	Pn		**Pn**	**13 15 34.8**		**+2.8**
JKA	**Kamikawa-asahi**	**5.65**	**250**	*e*P		**Pn**	**13 15 34.0**		**+2.0**
ASAJ	**Asahikawa**	**5.66**	**250**	P		**Pn**	**13 15 34.0**		**+1.9**
ASAJ					S	**Sn**	**13 16 38.2**		**+2.0**
	comp=Z,17nm,0.3s,baz=74,slow=14,SNR=206								
	comp=Z,3.4nm,0.3s,baz=332,slow=27,SNR=7.6								
ASAJ	**Asahikawa**	**5.66**	**250**	P		**Pn**	**13 15 35.2**		**+3.2**
JKK2	**Kamakawa 2**	**5.67**	**247**	P		**Pn**	**13 15 34.9**		**+2.7**
JWK2	**Keihoku**	**5.73**	**263**	P		Pn	13 15 37.4		+4.4
SKR	**Severo-Kuril's**	**5.97**	**41**	*ce*PN		**Pn**	**13 15 36.6**		**+0.4**
SKR	**Severo-Kuril's**	**5.97**	**41**	*e*P		**Pn**	**13 15 36.1**		**-0.1**
SKR					AMB	AMB	13 15 39.2		
	comp=Z,70nm,0.6s								
UGL	**Uglegorsk**	**6.00**	**300**	*e*PN		**Pn**	**13 15 38.9**		**+2.4**
UGL					pmax	pmax			
	comp=Z,74nm,0.7s								
UGL	**Uglegorsk**	**6.00**	**300**	*e*P		**Pn**	**13 15 38.9**		**+2.4**
UGL					AMB	AMB	13 15 40.0		
	comp=Z,390nm,0.7s								
JCH	**Churui**	**6.01**	**234**	P		**Pn**	**13 15 37.0**		**+0.3**
JCH				*e*S		**Sn**	**13 16 41.2**		**-3.5**
JFR	**Furan**	**6.13**	**242**	P		**Pn**	**13 15 40.4**		**+2.0**
JFR				*e*S		**Sn**	**13 16 49.0**		**+1.4**
JAB	**Ashibetsu**	**6.18**	**246**	P		**Pn**	**13 15 41.9**		**+2.9**
JBT2	**Biratori 2**	**6.49**	**240**	P		**Pn**	**13 15 43.6**		**+0.5**
ERM	**Erimo**	**6.52**	**231**	*i* PN		**Pn**	**13 15 44.6**		**+1.0**
ERM	**Erimo**	**6.52**	**231**	Pn		**Pn**	**13 15 44.2**		**+0.6**
JEM	**Erimo**	**6.52**	**231**	P		**Pn**	**13 15 43.9**		**+0.3**
JNBK	**Urakawa-nobuka**	**6.57**	**235**	P		**Pn**	**13 15 42.8**		**-1.4**
TYV	**Tymovskoe**	**6.64**	**316**	*e*PN		**Pn**	**13 15 47.5**		**+2.5**
TYV					pmax	pmax			
	comp=Z,35nm,0.8s								
TYV	**Tymovskoe**	**6.64**	**316**	*e*P		**Pn**	**13 15 46.9**		**+1.9**
TYV					AMB	AMB	13 15 49.0		
	comp=Z,40nm,0.8s								
PAU	**Pauzhetka**	**6.84**	**39**	*e*P		**Pn**	**13 15 47.3**		**-0.4**
PAU					AMB	AMB	13 15 48.9		
	comp=Z,280nm,0.6s								
JEW	**Eniwo**	**7.01**	**243**	P		**Pn**	**13 15 51.6**		**+1.6**
JEW	**Eniwo**	**7.01**	**243**	Pn		**Pn**	**13 15 51.6**		**+1.6**
JNB	**Noboribetsu**	**7.47**	**242**	P		**Pn**	**13 15 56.1**		**0.0**
JNB				*e*S		**Sn**	**13 17 16.7**		**-2.9**
JKB	**Kayabe**	**7.81**	**239**	P		**Pn**	**13 15 59.3**		**-1.4**
JKB				*e*S		**Sn**	**13 17 21.6**		**-6.2**
JSH	**Shimam**	**7.99**	**246**	P		**Pn**	**13 16 04.1**		**+1.0**
JYM2	**Yakumo 2**	**8.07**	**242**	P		**Pn**	**13 16 04.0**		**-0.2**
JYM2				*e*S		**Sn**	**13 17 30.1**		**-4.1**
PEA0B	**Petropavlovsk-**	**8.43**	**34**	PN		**Pn**	**13 16 09.2**		**+0.3**
PEA0B	**Petropavlovsk-**	**8.43**	**34**	Pn		**Pn**	**13 16 09.2**		**+0.3**
PETK	**Petropavlovsk-**	**8.43**	**34**	P		**Pn**	**13 16 08.9**		**0.0**
	comp=Z,2.5nm,0.3s,baz=189,slow=8.6,SNR=35								
PETK					S	**Sn**	**13 17 42.5**		**-0.1**
	comp=Z,0.4nm,0.3s,baz=204,slow=14,SNR=1.6								
PETK	**Petropavlovsk-**	**8.43**	**34**	Pn		**Pn**	**13 16 07.9**		**-1.0**
JTM	**Tenmabayashi**	**8.51**	**233**	P		**Pn**	**13 16 07.4**		**-2.6**
JTM				*e*S		Sn	13 17 34.0	-11	
JTM	**Tenmabayashi**	**8.51**	**233**	Pn		**Pn**	**13 16 07.5**		**-2.6**
JANG	**Nango**	**8.56**	**229**	P		**Pn**	**13 16 07.8**		**-2.9**
JANG				*e*S		Sn	13 17 36.1	-10	
JOSM	**Okushiri--Mats**	**8.65**	**244**	P		**Pn**	**13 16 11.4**		**-0.4**
PET	**Petropavlovsk**	**8.75**	**37**	*e*PN		**Pn**	**13 16 08.9**		**-4.2**
PET				*e*S		**Sn**	**13 17 46.2**		**-4.0**
PET					pmax	pmax			
	comp=Z,25nm,0.5s								
PET					MLR	MLR			
	comp=Z,400nm,10.0s								
PET	**Petropavlovsk**	**8.75**	**37**			**Pn**	**13 16 11.9**		**-1.1**
PET	**Petropavlovsk**	**8.75**	**37**	*e*P		**Pn**	**13 16 12.7**		**-0.4**
NKL	**Nikolayevsk**	**9.09**	**322**	*e*P		**Pn**	**13 16 18.9**		**+1.3**
NKL					AMB	AMB	13 16 19.6		
	comp=Z,30nm,0.5s								
OFUJ	**Ofunato**	**9.47**	**223**	P		**Pn**	**13 16 20.6**		**-2.2**
JRG	**Rokugo**	**9.74**	**228**	P		**Pn**	**13 16 24.5**		**-1.9**
GRNR	**Gornyy**	**10.02**	**301**	⇓*i* PN		**Pn**	**13 16 32.2**		**+2.3**
GRNR					pmax	pmax			
	comp=E,30nm,1.1s								
GRNR					pmax	pmax			
	comp=N,10.0nm,1.2s								
GRNR					pmax	pmax			
	comp=Z,40nm,1.0s								
GRNR	**Gornyy**	**10.02**	**301**	*e*P		**Pn**	**13 16 32.2**		**+2.3**
GRNR					AMB	AMB	13 16 32.9		
	comp=Z,40nm,1.0s								
JIO	**Ouri**	**10.12**	**222**	P		**Pn**	**13 16 28.5**		**-2.9**
JIO				*e*S		Sn	13 18 12.7	-11	
JMM	**Marumori**	**10.85**	**222**			**Pn**	**13 16 38.7**		**-2.4**
JSD	**Sado**	**11.99**	**230**	Pn		**Pn**	**13 16 53.5**		**-2.4**
KLR	**Kul'dur**	**12.59**	**290**	*de*PN		**P**	**13 17 05.9**		**-2.9**
KLR				pmax		pmax			
	comp=Z,129nm,1.3s								
KLR	**Kul'dur**	**12.59**	**290**	*e*P		**P**	**13 17 06.0**		**-2.9**
USA0B	**Ussuriysk Arra**	**12.84**	**267**	PN		**P**	**13 17 08.8**		**-2.9**
USA0B	**Ussuriysk Arra**	**12.84**	**267**			**P**	**13 17 08.8**		**-2.9**
USRK	**Ussuriysk Ar.**	**12.84**	**267**	P		**Pn**	**13 17 07.7**		**+0.8**
	baz=70,slow=13,SNR=34								
USRK	**Ussuriysk Ar.**	**12.84**	**267**	PN		**P**	**13 17 08.8**		**-2.9**
USRK	**Ussuriysk Ar.**	**12.84**	**267**			**P**	**13 17 08.8**		**-2.9**
MAJO	**Matsushiro**	**13.15**	**226**	PN		**Pn**	**13 17 11.4**		**+0.5**
MAJO	**Matsushiro**	**13.15**	**226**	Pn		**Pn**	**13 17 11.4**		**+0.5**
MJAR	**Matsushiro Arr**	**13.15**	**226**	P		**Pn**	**13 17 09.7**		**-1.2**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=13								
MJAR	**Matsushiro Arr**	**13.15**	**226**	PN		**Pn**	**13 17 11.5**		**+0.6**
MJAR	**Matsushiro Arr**	**13.15**	**226**			**Pn**	**13 17 11.5**		**+0.6**
MA2	**Magadan**	**13.28**	**2**	P		**Pn**	**13 17 11.6**		**-0.6**
	comp=Z,0.2nm,0.3s,baz=174,slow=9.4,SNR=18								
MA2	**Magadan**	**13.28**	**2**	*ce*PN		**Pn**	**13 17 11.9**		**-0.3**
MA2					pmax	pmax			
	comp=Z,20nm,1.3s								
MA2	**Magadan**	**13.28**	**2**	*e*P		**Pn**	**13 17 11.9**		**-0.3**
MSHR	**Mys Shultsa**	**13.94**	**261**	*i* P		**Pn**	**13 17 21.1**		**+0.3**
MSHR					pmax	pmax			
	comp=E,6.0nm,0.5s								
JGF	**Kuroka**	**14.32**	**226**			**Pn**	**13 17 26.6**		**+0.9**
MDJ	**Mudanjiang**	**14.40**	**271**			**P**	**13 17 27.6**		**-1.4**
MDJ	**Mudanjiang**	**14.40**	**271**	P		**P**	**13 17 27.8**		**-1.2**
MDJ				S		**Sn**	**13 20 06.8**		**+0.6**
MDJ					pmax	pmax			
	comp=Z,34nm,1.2s								
MDJ					pmax	pmax			
	comp=Z,290nm,3.9s								
INU	**Inuyama**	**14.69**	**226**			**Pn**	**13 17 30.6**		**+0.5**
ZEA	**Zeya**	**16.32**	**305**	*de*P		**P**	**13 17 51.6**		**+1.4**
ZEA					pmax	pmax			
	comp=N,80nm,0.9s								
ZEA					pmax	pmax			
	comp=E,70nm,0.9s								
ZEA					pmax	pmax			
	comp=Z,120nm,1.0s								
ZEA	**Zeya**	**16.32**	**305**	*e*P		**P**	**13 17 50.7**		**+0.5**
ZEA					AMB	AMB	13 17 52.2		
	comp=Z,120nm,1.0s								
SEY	**Seymchan**	**16.70**	**4**	P		**Pn**	**13 17 54.2**		**-0.3**
	comp=Z,0.6nm,0.3s,baz=179,slow=8.6,SNR=81								
SEY	**Seymchan**	**16.70**	**4**	*ce*P		**Pn**	**13 17 54.5**		**0.0**
SEY					pmax	pmax			
	comp=Z,45nm,1.3s								
SEY	**Seymchan**	**16.70**	**4**	*e*P		**Pn**	**13 17 54.5**		**0.0**
JHS	**Saijyo**	**17.04**	**234**			**Pn**	**13 17 59.2**		**+0.3**
JHS					IAmb	IAmb	13 18 01.5		
	comp=Z,39nm,1.0s								
CN2	**Changchun**	**17.49**	**271**	*e*P		**P**	**13 17 59.5**		**-3.6**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
JMN	**Monobe**	**17.57**	**230**	P		**P**	**13 18 04.7**		**+0.6**
JMN					IAmb	IAmb	13 18 07.7		
	comp=Z,13nm,0.8s								
KSRS	**Korea Array**	**18.61**	**249**	P		**Pn**	**13 18 16.9**		**-0.5**
	comp=Z,3.2nm,0.3s,baz=58,slow=10,SNR=95								
KSRS					PcP	**PcP**	**13 22 38.1**		**+0.9**
	comp=Z,0.1nm,0.3s,baz=55,slow=1.1,SNR=7.3								
KSRS	**Korea Array**	**18.61**	**249**	P		**Pn**	**13 18 17.0**		**-0.5**
KSRS	**Korea Array**	**18.61**	**249**	*e*P		**Pn**	**13 18 17.0**		**-0.5**
KS19	**Wonju Array Si**	**18.61**	**250**	P		**Pn**	**13 18 17.5**		**0.0**
KS19					IAmb	IAmb	13 18 19.3		
	comp=Z,53nm,1.1s								
KSAR	**Wonju Array Be**	**18.64**	**249**	P		**Pn**	**13 18 16.9**		**-0.9**
KSAR	**Wonju Array Be**	**18.64**	**249**	P		**Pn**	**13 18 16.9**		**-0.9**
SNY	**Shenyang**	**19.45**	**266**	⇓P		**P**	**13 18 24.8**		**+0.4**
SNY					pmax	pmax			
	comp=Z,26nm,0.7s								
JTU	**Tsushima**	**19.54**	**240**	P		**P**	**13 18 26.3**		**+0.8**
YAK	**Yakutsk**	**19.56**	**331**	P		**P**	**13 18 24.3**		**-1.2**
	comp=Z,0.5nm,0.3s,baz=115,slow=1.8,SNR=10								
YAK	**Yakutsk**	**19.56**	**331**	*e*P		**P**	**13 18 25.6**		**+0.1**
YAK				*e*S		**S**	**13 21 59.1**		**+1.4**
YAK					pmax	pmax			
	comp=Z,120nm,1.2s								
YAK					pmax	pmax			
	comp=N,38nm,1.7s								
YAK					pmax	pmax			
	comp=E,33nm,1.3s								
YAK					smax	smax			
	comp=E,94nm,2.9s								
YAK					smax	smax			
	comp=N,25nm,1.6s								
YAK	**Yakutsk**	**19.56**	**331**	P		**P**	**13 18 25.0**		**-0.5**
TJN	**Taejon**	**19.61**	**248**	*ce*P		**Pn**	**13 18 28.2**		**-0.9**
JNU	**Nakatsue**	**19.67**	**235**	P		**P**	**13 18 28.2**		**+1.2**
	comp=N,2.6nm,0.3s,baz=158,slow

LYN pmax pmax
comp=Z,150nm,9.8s
YOJ Yonaguni jima 30.71 234 P **P** **13 20 09.6 -0.6**
YOJ pmax pmax
comp=Z,122nm,1.1s
YOJ Yonaguni jima 30.71 234 P **P** **13 20 09.6 -0.6**
ZAK Zakamensk 30.89 295 *eP* **P** **13 20 07.8 -3.9**
ZAK pmax pmax
comp=Z,14nm,1.3s
H11S1 WAKE ISLAND Hy 31.00 148 T T 13 52 39.6
baz=337,slow=76
H11S3 WAKE ISLAND Hy 31.00 148 T T 13 52 40.7
baz=337,slow=76
H11S2 WAKE ISLAND Hy 31.02 148 T T 13 52 40.4
baz=337,slow=76
WHN Wuhan 31.73 253 ⇓P **P** **13 20 20.0 +0.9**
WHN pmax pmax
comp=Z,86nm,0.7s
RDOG Red Dog Mine 32.29 31 P **P** **13 20 23.9 +0.2**
baz=252
YULB Yu-li 32.52 235 P **P** **13 20 25.5 -0.6**
YULB IAmb IAmb 13 20 41.0
comp=Z,15nm,1.1s
TPUB Ta-pu 32.97 236 P **P** **13 20 31.0 +1.0**
XAN Xi'an 33.31 263 P **P** **13 20 33.5 +0.6**
XAN pmax pmax
comp=Z,43nm,1.2s
XAN pmax pmax
comp=Z,120nm,4.7s
GCSA Galena City Sc 33.95 38 P **P** **13 20 38.1 +0.1**
baz=264
TTA Tatalina 34.17 41 P **P** **13 20 41.2 +1.1**
TTA pmax pmax
comp=Z,3.0nm,1.0s
TTA Tatalina 34.17 41 P **P** **13 20 41.2 +1.1**
TTA Tatalina 34.17 41 P **P** **13 20 40.8 +0.7**
baz=267
J20K Nowinta River 35.08 39 P **P** **13 20 49.0 +1.3**
J20K IAmb IAmb 13 20 50.6
comp=Z,5.6nm,0.7s
J20K Nowinta River 35.08 39 P **P** **13 20 48.8 +1.1**
baz=267,SNR=7.0
L20K Farewell, AK 35.14 42 P **P** **13 20 49.1 +0.7**
baz=270
A21K Barrow 35.35 27 P **P** **13 20 49.5 -0.4**
A21K Barrow 35.35 27 P **P** **13 20 50.2 +0.2**
baz=254,SNR=8.8
IMAR Indian Mountai 35.39 36 P **P** **13 20 51.1 +0.8**
LZH Lanzhou 35.72 270 ⇓P **P** **13 20 55.3 +1.5**
LZH pmax pmax
comp=Z,90nm,1.5s
H21K Melozitna Rive 35.75 37 P **P** **13 20 54.8 +1.4**
H21K IAmb IAmb 13 20 56.2
comp=Z,6.8nm,0.8s
H21K Melozitna Rive 35.75 37 P **P** **13 20 54.4 +0.9**
baz=266,SNR=9.8
CAST Castle Rocks 35.97 40 P **P** **13 20 56.4 +1.0**
baz=270
KDAK Kodiak Island 36.05 50 P **P** **13 20 56.1 0.0**
comp=Z,6.1nm,0.5s,baz=297,slow=5.2,SNR=5.9
I21K Tanana 36.06 37 P **P** **13 20 57.7 +1.6**
I21K IAmb IAmb 13 20 59.1
comp=Z,5.6nm,0.6s
I21K Tanana 36.06 37 P **P** **13 20 57.2 +1.1**
baz=268,SNR=8.6
BPAW Bear Paw Mtn. 36.46 39 P **P** **13 21 00.5 +1.0**
baz=270
MLY Manley 36.58 38 P **P** **13 21 02.5 +1.9**
MLY Manley 36.58 38 P **P** **13 21 01.7 +1.1**
baz=269,SNR=6.3
GTA Gaotai 36.88 278 ⇓P **P** **13 21 04.5 +1.0**
GTA pP pwP 13 21 42.5 +2.3
GTA sP sP 13 22 01.0 +8.1
GTA PcP **PcP** **13 23 23.3 +1.5**
GTA pmax pmax
comp=Z,23nm,1.0s
COLD Coldfoot 36.90 34 P **P** **13 21 04.2 +1.0**
COLD IAmb IAmb 13 21 04.7
comp=Z,8.0nm,0.6s
COLD Coldfoot 36.90 34 P **P** **13 21 04.2 +1.0**
baz=266,SNR=15
I23K Minto, Yukon-K 37.17 38 P **P** **13 21 06.9 +1.5**
I23K Minto, Yukon-K 37.17 38 P **P** **13 21 07.4 +2.0**
baz=270
TOLK Toolik Lake Re 37.25 32 P **P** **13 21 07.0 +0.9**
TOLK IAmb IAmb 13 21 08.6
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 37.25 32 P **P** **13 21 07.1 +0.9**
baz=265,SNR=17
H24K Noodor Dome 37.79 36 P **P** **13 21 12.3 +1.6**
H24K IAmb IAmb 13 21 14.1
comp=Z,9.6nm,1.0s
H24K Noodor Dome 37.79 36 P **P** **13 21 12.3 +1.6**
baz=270,SNR=9.3
NRIK Noril'sk 38.01 329 P **P** **13 21 10.4 -2.0**
comp=Z,5.0nm,0.7s,baz=93,slow=10,SNR=14
NRIK PcP **PcP** **13 23 24.4 -0.1**
comp=Z,5.0nm,0.6s,baz=100,slow=4.3,SNR=5.2
ILAR Eielson Array 38.23 38 ScP **S** **13 26 56.7 +0.5**
comp=Z,0.5nm,0.8s,baz=256,slow=3.6,SNR=3.6
BMAR Burnt Mountain 39.08 34 P **P** **13 21 23.1 +1.6**
GYA Guiyang 39.50 255 ⇓P **P** **13 21 26.5 +0.9**
GYA pmax pmax
comp=Z,41nm,0.7s
ZALV Zalesovo Beam 41.09 305 P **P** **13 21 36.5 -1.6**
comp=Z,3.5nm,0.6s,baz=61,slow=7.3,SNR=8.1
ZALV pP **pwP** **13 22 13.0 -2.4**
comp=Z,3.8nm,0.7s,baz=76,slow=7.7,SNR=5.2
ZALV PcP **PcP** **13 23 35.1 +0.5**
comp=Z,13nm,0.7s,baz=64,slow=3.0,SNR=26
ZALV Zalesovo Beam 41.09 305 P **P** **13 21 36.1 -2.0**
BVCY Beaver Creek 41.17 41 P **P** **13 21 39.8 +1.1**
baz=281
YUK3 Moose Creek 41.47 42 P **P** **13 21 42.3 +0.9**
baz=282
DAWY Dawson 41.53 39 P **P** **13 21 42.7 +1.0**
baz=280
I29M Ogilvie Camp, 41.78 37 P **P** **13 21 45.2 +1.6**
baz=279
GOMU GeErMu 41.91 276 P **P** **13 21 46.0 +0.5**
GOMU pmax pmax
comp=Z,40nm,0.9s
EPYK Eagle Plains 42.27 35 P **P** **13 21 48.8 +1.2**
EPYK IAmb IAmb 13 21 50.7
comp=Z,19nm,1.1s
EPYK Eagle Plains 42.27 35 P **P** **13 21 48.9 +1.4**
baz=280,SNR=13
PZH PanZhiHua 42.80 260 P **P** **13 21 53.5 +1.0**
PZH pmax pmax
comp=Z,7.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
KMI Kunming 43.03 257 ⇑P **P** **13 21 55.0 +0.5**
KMI pP pwP 13 22 34.0 +2.4
KMI sP sP 13 22 54.5 +10
KMI pmax pmax
comp=Z,40nm,1.1s
KMI pmax pmax
comp=Z,130nm,3.6s
WMQ Urumqi 43.04 290 *eP* **P** **13 21 54.5 +0.3**
WMQ pmax pmax
comp=Z,23nm,0.7s
HYT Haines Junctio 43.08 43 P **P** **13 21 56.1 +1.8**
baz=285
INK Inuvik 43.16 32 P **P** **13 21 55.6 +1.0**
comp=Z,6.7nm,0.3s,baz=278,slow=5.8,SNR=59
INK pP **pwP** **13 22 30.3 -1.5**
comp=Z,9.2nm,0.8s,baz=268,slow=7.4,SNR=4.2
INK Inuvik 43.16 32 P **P** **13 21 55.7 +1.0**
INK IAmb IAmb 13 21 57.9
comp=Z,19nm,0.9s
INK Inuvik 43.16 32 P **P** **13 21 55.7 +1.0**
baz=280,SNR=24
M31M Drury Creek, Y 44.16 41 P **P** **13 22 04.1 +1.3**
baz=286
A36M Sachs Harbour 45.19 26 P **P** **13 22 11.4 +0.6**
A36M IAmb IAmb 13 22 13.6
comp=Z,25nm,0.8s
A36M Sachs Harbour 45.19 26 P **P** **13 22 11.5 +0.8**
baz=284,SNR=29
MK31 Makanchi Array 45.19 296 P **P** **13 22 10.4 -0.8**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 45.19 296 P **P** **13 22 10.4 -0.8**
MK31 IAmb IAmb 13 22 11.2
comp=Z,8.7nm,0.7s
MKAR Makanchi Array 45.19 296 P **P** **13 22 10.3 -0.9**
comp=Z,7.6nm,0.7s,baz=69,slow=8.1,SNR=32
MKAR pP **pwP** **13 22 46.6 -2.4**
comp=Z,2.5nm,0.7s,baz=64,slow=8.2,SNR=3.1
MKAR PcP **PcP** **13 23 49.0 +0.4**
comp=Z,6.0nm,0.6s,baz=71,slow=3.6,SNR=12
MKAR ScP **ScP** **13 27 23.1 -3.4**
comp=Z,0.5nm,0.7s,baz=53,slow=5.4,SNR=4.0
MKAR LR LR 13 41 16.3
comp=Z,64nm,20.0s,baz=66,slow=36
MAKZ Makanchi 45.38 297 P **P** **13 22 11.9 -0.8**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 45.38 297 P **P** **13 22 11.9 -0.8**
P33M Teslin, Yukon 45.47 43 P **P** **13 22 14.9 +1.6**
baz=289,SNR=6.4
KURK Kurchatov 45.78 303 *ceP* **P** **13 22 14.5 -1.2**
KURK pmax pmax
comp=Z,24nm,0.8s
KURK Kurchatov 45.78 303 P **P** **13 22 14.4 -1.2**
KURK IAmb IAmb 13 22 15.1
comp=Z,27nm,0.8s
C36M Paulatuk 46.26 29 P **P** **13 22 19.8 +0.6**
C36M Paulatuk 46.26 29 P **P** **13 22 19.8 +0.6**
baz=287,SNR=30
WRAK Wrangell Islan 47.04 48 P **P** **13 22 27.4 +2.0**
baz=293
TGTN Hyland Airport 47.12 40 P **P** **13 22 27.8 +1.7**
baz=291,SNR=8.2
DLBC Dease Lake 47.43 45 P **P** **13 22 30.3 +1.8**
comp=Z,1.4nm,0.5s,baz=268,slow=4.0,SNR=10
DLBC Dease Lake 47.43 45 P **P** **13 22 30.4 +1.9**
LSA Lhasa 48.12 271 P **P** **13 22 36.3 +1.6**
LSA pmax pmax
comp=Z,85nm,0.7s
LSA Lhasa 48.12 271 P **P** **13 22 37.0 +2.3**
GRNB Grenville Isla 49.34 50 P **P** **13 22 45.4 +2.2**
GRNB IAmb IAmb 13 22 46.4
comp=Z,7.1nm,0.6s
BRVK Borovoye 49.48 309 *ceP* **P** **13 22 43.8 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 49.48 309 *eP* **P** **13 22 43.8 -0.3**
CHTO Chiang Mai 49.91 254 P **P** **13 22 49.2 +1.3**
CHTO pmax pmax
comp=Z,40nm,0.8s
CHTO Chiang Mai 49.91 254 P **P** **13 22 49.2 +1.3**
EUNU Eureka 49.96 11 P **P** **13 22 46.3 -1.3**
CMAR Chiang Mai Arr 50.16 254 P **P** **13 22 51.4 +1.6**
comp=Z,19nm,0.7s,baz=38,slow=7.3,SNR=144
CMAR PcP **PcP** **13 24 08.4 +1.6**
comp=Z,1.9nm,0.6s,baz=31,slow=1.8,SNR=5.1
CMAR ScP **ScP** **13 27 48.1 +0.2**
comp=Z,0.4nm,0.3s,baz=43,slow=1.7,SNR=5.3
CMAR Chiang Mai Arr 50.16 254 P **P** **13 22 51.9 +2.1**
CMAR **PcP** **13 24 08.9 +2.1**
SHL Shillong 50.18 267 P **P** **13 22 50.6 +0.5**
SHL pmax pmax
comp=Z,104nm,0.6s
SHL Shillong 50.18 267 P **P** **13 22 50.6 +0.5**
ULHL Ulahoi 51.16 294 P **P** **13 22 57.5 +0.2**
SNR=7.3
TKM2 Tokmak 2 51.22 295 P **P** **13 22 58.0 +0.3**
SNR=6.6
BOOM Boomskoye usch 51.22 294 P **P** **13 22 57.8 +0.1**
BOOM IAmb IAmb 13 22 59.9
comp=Z,14nm,0.6s
BOOM PcP **PcP** **13 24 11.6 +0.9**
USP Ospenovka 51.73 296 P **P** **13 23 01.8 +0.6**
SNR=6.2
KBK Karagaybulak 51.76 295 P **P** **13 23 02.0 +0.3**
SNR=8.4
RES Resolute Bay 51.91 18 P **P** **13 23 01.8 -0.2**
RES PcP **PcP** **13 24 13.0 +0.6**
TAPN Taplejung 51.95 271 *eP* **P** **13 23 04.7 +1.4**
comp=Z,39nm,0.4s
AAK Ala-Archa 52.06 295 LR LR 13 45 01.8
comp=Z,91nm,18.3s,baz=80,slow=36
AAK Ala-Archa 52.06 295 P **P** **13 23 03.4 -0.4**
AAK pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 52.06 295 P **P** **13 23 03.4 -0.4**
AAK IAmb IAmb 13 23 04.5
comp=Z,11nm,0.8s
AAK Ala-Archa 52.06 295 *eP* **P** **13 23 03.4 -0.4**
AAK Ala-Archa 52.06 295 *i* P **P** **13 23 03.9 0.0**
SNR=10
ODAN Odare 52.47 271 *eP* **P** **13 23 08.5 +1.3**
comp=Z,32nm,0.4s
EKS2 Erkin-Say 52.49 295 P **P** **13 23 07.1 +0.1**
SNR=12
YKA Yellowknife Ar 52.55 36 P **P** **13 23 06.8 0.0**
comp=Z,5.4nm,0.4s,baz=299,slow=6.8,SNR=68
YKA pP **pwP** **13 23 44.5 -0.5**
comp=Z,5.5nm,0.9s,baz=299,slow=7.3,SNR=4.4
YKA PcP **PcP** **13 24 15.6 +0.7**
comp=Z,1.5nm,0.4s,baz=306,slow=3.8,SNR=10
YKA ScP **ScP** **13 27 56.8 -0.7**
comp=Z,0.4nm,0.8s,baz=296,slow=5.0,SNR=4.8
YKA Yellowknife Ar 52.55 36 P **P** **13 23 07.6 +0.7**
YKA PcP **PcP** **13 24 15.7 +0.7**
SVE Sverdlovsk 52.65 316 ⇓*eP* **P** **13 23 06.9 -0.8**
SVE pmax pmax
comp=Z,43nm,0.9s
KSH Kashi 52.79 291 P **P** **13 23 13.3 +4.1**
KSH PcP **PcP** **13 24 19.8 +3.3**
KSH pmax pmax
comp=Z,10.0nm,0.6s
JIRN Jiri 52.80 273 *eP* **P** **13 23 11.1 +1.3**
comp=Z,172nm,0.5s
GUN Gumba 52.86 273 *eP* **P** **13 23 11.1 +0.9**
comp=Z,68nm,0.4s
RAMN Ramite 52.97 272 *eP* **P** **13 23 11.8 +1.0**
comp=Z,194nm,0.4s
KKN Kakani 53.35 273 *eP* **P** **13 23 14.7 +1.1**
comp=Z,73nm,0.6s
PKI Pulchoki 53.40 273 *eP* **P** **13 23 14.9 +0.8**
comp=Z,73nm,0.6s
PKIN Phulchoki 53.41 273 *eP* **P** **13 23 14.8 +0.8**
GKN Gorkha 53.66 274 *eP* **P** **13 23 16.8 +1.0**
comp=Z,128nm,0.6s
ARU Arti 53.84 317 P **P** **13 23 14.7 -1.7**
comp=Z,9.7nm,0.7s,baz=49,slow=3.7,SNR=23
ARU PcP **PcP** **13 24 19.8 -0.2**
comp=Z,2.2nm,0.3s,baz=224,slow=1.6,SNR=4.6
ARU Arti 53.84 317 *c i* P **P** **13 23 15.2 -1.2**
ARU *PP **pwP** **13 23 56.3 +1.1**
ARU 13 24 19.6
ARU 13 25 14.1
ARU S **S** **13 30 36.1 -2.8**
ARU SS **SKiKP** **13 34 14.5 +1.9**
ARU pmax pmax
comp=Z,39nm,0.8s
ARU Arti 53.84 317 *eP* **P** **13 23 15.4 -1.0**
DANN Dangsing 54.06 275 *eP* **P** **13 23 20.1 +1.3**
comp=Z,134nm,0.5s
KKAR Karatay Array 54.28 298 P **P** **13 23 19.1 -0.8**
KKAR Karatay Array 54.28 298 P **P** **13 23 19.1 -0.8**
KOLN Koldanda 54.53 275 *eP* **P** **13 23 23.3 +1.2**
PYUN Piuthan 54.74 275 *eP* **P** **13 23 24.8 +1.2**
D03D Eldon 56.27 54 P **P** **13 23 35.8 +1.8**
baz=304
B05A Bryant 56.42 53 P **P** **13 23 36.4 +1.4**
baz=304
PRGR Permogore 56.53 326 *eP* **P** **13 23 32.2 -3.4**
PRGR pmax pmax
comp=Z,20nm,1.1s
GAR Garm 56.71 294 P **P** **13 23 37.6 +0.2**
ABKAR Akkulak array 57.01 309 P **P** **13 23 37.7 -1.5**
AKTO Aktyubinsk 57.37 311 P **P** **13 23 39.7 -2.0**
comp=Z,2.6nm,0.5s,baz=53,slow=8.7,SNR=7.8
AKTO PcP **PcP** **13 24 33.9 0.0**
comp=Z,2.0nm,0.5s,baz=42,slow=1.8,SNR=3.5
ARCES ARCESS Array B 57.52 340 P **P** **13 23 40.5 -1.9**
comp=Z,11nm,1.1s,baz=21,slow=7.9,SNR=7.5
ARCES PcP **PcP** **13 24 34.4 +0.3**
comp=Z,4.7nm,0.6s,baz=57,slow=4.9,SNR=12
ARCES ARCESS Array B 57.52 340 P **P** **13 23 40.6 -1.9**
ARCES 13 24 34.4
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 57.52 340 P **P** **13 23 40.6 -1.9**
ARCES PcP **PcP** **13 24 34.4 +0.3**
EDM Edmonton 58.16 45 P **P** **13 23 47.8 +0.6**
EDM pmax pmax
comp=Z,9.0nm,0.6s
EDM Edmonton 58.16 45 P **P** **13 23 47.8 +0.6**
EDM IAmb IAmb 13 23 48.7
comp=Z,9.1nm,0.6s
H04D Lebanon 58.18 57 P **P** **13 23 49.2 +1.8**
baz=306
J01E Myrtle Point 58.27 59 P **P** **13 23 50.2 +2.1**
baz=306
I03D Drain, OR 58.30 58 P **P** **13 23 49.9 +1.6**
baz=306
G05D Wamic, OR 58.59 56 P **P** **13 23 51.5 +1.2**
baz=306
I04A Tendick Farm, 58.80 58 P **P** **13 23 53.5 +1.7**
baz=306
KULM Kulim 58.95 242 P **P** **13 23 54.4 +1.3**
I05D Terrebonne, OR 59.10 57 P **P** **13 23 55.7 +1.8**
baz=306
NEW Newport 59.14 51 P **P** **13 23 55.5 +1.4**
baz=307
J04D Umpqua Nationa 59.30 58 P **P** **13 23 57.0 +1.5**
baz=307
KLMR Klimovskoe 59.32 328 *eP* **P** **13 23 51.5 -3.5**
KLMR *e* 13 24 38.8
KLMR pmax pmax
comp=Z,23nm,1.1s
KLMR Klimovskoe 59.32 328 *eP* **P** **13 23 51.6 -3.5**
KLMR AMP 13 23 54.3
comp=Z,23nm,1.1s
KLMR *ePcP **PcP** **13 24 38.9 -2.5**
J05D Fort Rock, OR 59.79 58 P **P** **13 23 59.9 +1.1**
baz=307
L04D Klamath Falls 59.80 59 P **P** **13 24 00.3 +1.5**
L04D IAmb IAmb 13 24 06.1
comp=Z,9.6nm,1.1s
L04D Klamath Falls 59.80 59 P **P** **13 24 00.3 +1.5**
baz=307
K04D Chiloquin, OR 59.88 59 P **P** **13 24 01.3 +2.0**
baz=307
M02C Callahan 59.96 60 P **P** **13 24 01.6 +1.8**
baz=307
KBL Kabul 60.19 290 P **P** **13 24 01.0 -0.7**
SNR=10
N02D Trinity Center 60.30 61 P **P** **13 24 03.6 +1.4**
baz=308
COEN Coen 60.32 188 P **P** **13 24 03.9 +1.6**
COEN IAmb IAmb 13 24 06.5
comp=Z,6.6nm,1.0s
M04C Macdoel 60.34 59 P **P** **13 24 03.5 +1.1**
baz=308
WALA Waterton Lakes 60.37 49 P **P** **13 24 03.6 +1.0**
WALA IAmb IAmb 13 24 04.2
comp=Z,7.2nm,0.5s
O02D Mt. Diablo Mer 60.74 61 P **P** **13 24 06.5 +1.3**
baz=308
JTMT Jette 60.98 50 P **P** **13 24 08.2 +1.5**
JTMT IAmb IAmb 13 24 09.0
comp=Z,4.5nm,0.5s
O03E Paynes Creek 61.26 61 P **P** **13 24 09.2 +0.5**
baz=308
MSO Missula 61.73 51 P **P** **13 24 12.4 +0.7**
baz=309
PSI Prapat 61.95 242 P **P** **13 24 13.9 +0.2**
comp=Z,14nm,0.8s,baz=17,slow=5.0,SNR=12
FFC Flin Flon 62.44 38 P **P** **13 24 17.0 +0.8**
FFC pmax pmax
comp=Z,11nm,0.8s
FFC Flin Flon 62.44 38 P **P** **13 24 17.0 +0.8**
FFC IAmb IAmb 13 24 17.8
comp=Z,11nm,0.8s
PNTR Pine Nut 63.34 61 P **P** **13 24 24.2 +1.5**
PNTR IAmb IAmb 13 24 34.1
comp=Z,3.8nm,0.6s
FIA1 FINESS Array S 63.47 334 P **P** **13 24 21.1 -1.8**
FIA1 IAmb IAmb 13 24 22.0
comp=Z,5.1nm,0.6s
FINES FINESS Array B 63.47 334 P **P** **13 24 20.9 -1.9**
comp=Z,4.8nm,0.5s,baz=35,slow=8.1,SNR=37
FINES pP **PcP** **13 24 57.9 -0.3**
comp=Z,2.6nm,0.5s,baz=48,slow=2.8,SNR=2.9
HLID Hailey 63.53 54 P **P** **13 24 24.6 +0.8**
baz=310
BOZ Bozeman (W) 63.75 51 P **P** **13 24 26.6 +1.4**
baz=310,SNR=15
GSI Gunungsitoli 63.95 242 P **P** **13 24 28.4 +1.7**
OBN Obninsk 64.40 324 *ceP* **P** **13 24 27.5 -1.5**
OBN *e*PP **PcP** **13 25 01.4 -0.7**
OBN *e* 13 26 50.6
OBN pmax pmax
comp=Z,59nm,2.5s
OBN Obninsk 64.40 324 *eP* **P** **13 24 27.5 -1.5**
NVAR Mina Array Bea 64.54 60 P **P** **13 24 31.6 +1.0**
comp=Z,2.0nm,0.6s,baz=296,slow=7.1,SNR=24
NVAR pP **pP** **13 25 07.0 +0.5**
comp=Z,0.9nm,0.7s,baz=293,slow=7.7,SNR=2.7
NVAR Mina Array Bea 64.54 60 P **P** **13 24 31.4 +0.8**
KNRA Kununurra 64.62 203 P **P** **13 24 31.7 +0.9**
VRH Novokhopyorsk 64.92 319 *eP* **P** **13 24 30.4 -2.0**
VRH pmax pmax
comp=Z,20nm,0.7s
GEYT Alibeck 64.93 299 P **P** **13 24 32.5 -0.3**
comp=Z,10nm,0.7s,baz=228,slow=1.8,SNR=12
H17A Grant Village 65.10 51 P **P** **13 24 36.1 +2.0**
baz=311
LPSR Galich'ya Gora 65.19 321 *eP* **P** **13 24 32.7 -1.5**
LPSR pmax pmax
comp=Z,30nm,0.7s
DGMT Dagmar 65.65 45 P **P** **13 24 38.0 +0.7**
baz=313
LAO LASA Array 65.85 47 P **P** **13 24 39.4 +0.7**
baz=313
CWC Cottonwood Cre 65.96 62 P **P** **13 24 40.5 +0.9**
baz=311
VORD Divnogorie 66.18 320 *eP* **P** **13 24 39.3 -1.2**
VORD pmax pmax
comp=Z,20nm,0.8s
R11A Troy Canyon, C 66.22 59 P **P** **13 24 42.2 +0.9**
baz=311
ARVC Arvin 66.36 63 P **P** **13 24 42.7 +0.7**
baz=311
MPMC Manual Prospec 66.57 62 P **P** **13 24 44.4 +0.8**
baz=311
DUG Duguway, Tooele 66.62 56 P **P** **13 24 44.8 +1.0**
baz=312
FURC Furnace Creek, 66.69 61 P **P** **13 24 45.2 +1.2**
baz=312
BW06 Boulder Array 66.73 52 P **P** **13 24 45.0 +0.4**
BW06 IAmb IAmb 13 24 46.2
comp=Z,3.7nm,0.5s
BW06 Boulder Array 66.73 52 P **P** **13 24 45.5 +0.9**
baz=312,SNR=9.0
PD31 Pinedale Array 66.73 52 P **P** **13 24 45.1 +0.5**
PD31 IAmb IAmb 13 24 46.1
comp=Z,3.3nm,0.5s
PDAR Pinedale Array 66.73 52 P **P** **13 24 45.5 +1.0**
comp=Z,3.5nm,0.5s,baz=259,slow=1.6,SNR=29
PDAR pP **pP** **13 25 20.9 +0.1**
comp=Z,1.4nm,0.7s,baz=308,slow=3.4,SNR=2.3
PDAR Pinedale Array 66.73 52 P **P** **13 24 45.7 +1.2**
TPNV Topopah Spring 66.74 60 P **P** **13 24 45.2 +0.6**
baz=312
WB0 Warramunga Arr 67.28 196 P **P** **13 24 48.1 +0.4**
WR0 Warramunga Arr 67.44 196 P **P** **13 24 48.9 +0.1**
WB2 Warramunga Arr 67.46 196 P **P** **13 24 49.5 +0.5**
WRA Warramunga Arr 67.46 196 P **P** **13 24 49.4 +0.5**
comp=Z,1.6nm,0.8s,baz=11,slow=6.7,SNR=19
WRA pP **pP** **13 25 26.8 +0.9**
comp=Z,1.4nm,0.8s,baz=15,slow=6.7,SNR=3.4
WRA PKPPKP **P'P'df** **13 53 11.6 +2.2**
comp=Z,0.9nm,0.9s,baz=200,slow=3.5,SNR=5.6
WRA Warramunga Arr 67.46 196 P **P** **13 24 48.4 -0.5**
BFSC Mount Baldy Ra 67.67 63 P **P** **13 24 51.4 +1.0**
baz=312
NC303 NORSAR Array S 67.70 340 P **P** **13 24 48.6 -1.4**
NC303 IAmb IAmb 13 24 51.1
comp=Z,8.9nm,1.1s
FITZ Fitzroy Crossi 67.79 205 P **P** **13 24 52.1 +1.1**
comp=Z,3.0nm,0.8s,baz=50,slow=9.2,SNR=6.8
NB2 NORSAR Subarra 67.90 340 P **P** **13 24 49.3 -2.0**
comp=Z,1.1nm,0.5s,baz=29,slow=6.2
NOA NORSAR Array B 67.90 340 P **P** **13 24 49.2 -2.1**
comp=Z,2.5nm,0.7s,baz=29,slow=6.6,SNR=13
TUQ Turquoise Moun 67.94 62 P **P** **13 24 52.6 +0.5**
baz=312
MNK Minsk 68.22 328 *i* P P 13 25 03.1 +10
MNK *i* S **S** **13 33 45.3 +4.4**
MNK pmax pmax
comp=Z,10.0nm,0.8s

MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=N,865nm,16.0s
MNK MLR MLR
comp=E,199nm,19.0s
MNK MLR MLR
comp=Z,151nm,17.0s
MNK Minsk 68.22 328 *i* P P 13 25 03.1 +10
comp=E,2.0nm,0.8s
MNK *i* P P 13 25 03.1 +10
comp=N,8.0nm,0.8s
MNK *i* P P 13 25 03.1 +10
comp=Z,10.0nm,0.8s,baz=220
MNK *i* pP sP 13 25 47.8 +2.3
MNK *i* PP PP 13 27 35.4 +10
MNK *i* PPP PPP 13 29 16.4
MNK *i* S **S** **13 33 45.3 +4.4**
MNK *i* sS sS 13 35 05.7 +22
MNK *i* SS **SS** **13 38 14.2 +8.4**
MNK *i* SSS SSS 13 41 35.1
MNK *i* LRM MLR 13 57 45.1
comp=N,865nm,16.0s
MNK *i* LRM MLR 13 57 48.7
comp=E,199nm,19.2s
MNK *i* LRM MLR 13 57 49.3
comp=Z,151nm,16.6s
ULM Lac du Bonnet 68.24 39 P **P** **13 24 53.3 -0.2**
comp=Z,6.7nm,0.6s,baz=310,slow=6.5,SNR=12
ULM Lac du Bonnet 68.24 39 P **P** **13 24 52.3 -1.3**
ULM IAmb IAmb 13 24 54.3
comp=Z,6.0nm,0.6s
MDND Maddock 68.29 43 P **P** **13 24 55.0 +1.1**
baz=316
K22A Casper 68.45 50 P **P** **13 24 56.2 +1.0**
baz=314
GMRC Granite Mounta 68.53 62 P **P** **13 24 56.5 +0.7**
baz=312
GOF Gofitskoye 68.55 313⇑ *e*P **P** **13 24 55.4 -0.2**
GOF pmax pmax
comp=Z,65nm,0.9s
RSSD Black Hills 68.74 48 P **P** **13 24 57.8 +0.7**
baz=315
PFO Pinyon Flats O 68.83 63 P **P** **13 24 58.5 +0.9**
baz=312
TPFO Pinon Flats 68.83 63 P **P** **13 24 58.6 +0.9**
baz=312
O20A White River Ci 69.25 53 P **P** **13 25 00.6 +0.4**
baz=314
IRM Iron Mountain 69.27 62 P **P** **13 25 01.1 +0.8**
baz=313
BC3 Big Chuckawall 69.42 63 P **P** **13 25 01.6 +0.3**
baz=313
KIV Kislovodsk 69.51 313 *e*P **P** **13 25 00.9 -0.7**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 69.51 313 *e*P **P** **13 25 00.9 -0.7**
KBZ Khabaz 69.56 312 P **P** **13 25 01.6 -0.1**
comp=Z,15nm,0.9s,baz=46,slow=3.6,SNR=35
KBZ Khabaz 69.56 312 *ce*P **P** **13 25 01.7 -0.1**
KBZ pmax pmax
comp=Z,20nm,0.9s
AGMN Agassiz Nation 69.68 41 P **P** **13 25 02.2 -0.3**
baz=318
PDMCI Parker Dam,Lak 69.78 61 P **P** **13 25 04.1 +0.7**
baz=313
N23A Red Feather La 69.98 51 P **P** **13 25 05.4 +0.6**
baz=315
GLA Glamis 70.21 63 P **P** **13 25 07.1 +1.1**
baz=313
AKASG Malin Array Be 70.66 325 P **P** **13 25 06.5 -1.8**
comp=Z,1.7nm,0.3s,baz=38,slow=6.4,SNR=14
AKBB Malin Array Si 70.66 325 *ce*P **P** **13 25 06.9 -1.5**
SUSD Miller 71.06 45 P **P** **13 25 11.5 +0.6**
baz=317
GNI Garni 71.12 309 P **P** **13 25 11.2 -0.4**
comp=Z,4.7nm,0.5s,baz=98,slow=5.2,SNR=3.6
GNI Garni 71.12 309 *i* P **P** **13 25 12.5 +0.9**
GNI pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 71.12 309 P **P** **13 25 10.3 -1.3**
GNI IAmb IAmb 13 25 29.9
comp=Z,7.9nm,0.8s
AS31 Alice Springs 71.17 196 P **P** **13 25 13.1 +1.4**
ASAR Alice Springs 71.17 196 P **P** **13 25 13.2 +1.4**
comp=Z,1.6nm,0.7s,baz=9.6,slow=6.1,SNR=31
ASAR pP **pP** **13 25 51.0 +1.8**
comp=Z,1.5nm,0.9s,baz=7.4,slow=5.3,SNR=2.9
ASAR Alice Springs 71.17 196 P **P** **13 25 13.4 +1.7**
S22A 4UR Ranch, Cre 71.70 54 P **P** **13 25 15.5 +0.3**
baz=315
Q24A Divide 71.77 52 P **P** **13 25 15.8 +0.1**
baz=316
EYMN Ely 71.87 38 P **P** **13 25 15.5 -0.3**
EYMN IAmb IAmb 13 25 17.0
comp=Z,9.2nm,0.9s
EYMN Ely 71.87 38 P **P** **13 25 15.3 -0.4**
baz=320
OGNE Ogallala 72.03 49 P **P** **13 25 16.7 -0.2**
baz=316
SDCO Great Sand Dun 72.44 54 P **P** **13 25 21.0 +1.3**
baz=316
ECSD EROS Data Cent 72.72 44 P **P** **13 25 21.1 +0.3**
ECSD IAmb IAmb 13 25 21.8
comp=Z,4.9nm,0.6s
ECSD EROS Data Cent 72.72 44 P **P** **13 25 21.0 +0.2**
baz=319,SNR=6.6
E38A The Farm, Brul 72.88 39 P **P** **13 25 21.5 -0.2**
TUC Tucson 73.19 61 P **P** **13 25 24.4 +0.5**
baz=315
T25A Trinidad 73.48 53 P **P** **13 25 26.1 +0.4**
baz=316
BANOM Banah 74.12 291 P **P** **13 25 29.8 +0.5**
SNR=15
BANOM Banah 74.12 291 *i* P **P** **13 25 29.8 +0.5**
SNR=15
SHME Shamm 74.14 291 P **P** **13 25 29.6 +0.2**
SNR=7.7
SHME Shamm 74.14 291 *i* P **P** **13 25 29.6 +0.2**
SNR=7.7
WSAR Wadi Sarin 74.45 287 P **P** **13 25 32.9 +1.6**
comp=Z,3.7nm,0.5s,baz=88,slow=7.3,SNR=7.5
SCHQ Schefferville 74.51 21 P **P** **13 25 31.1 0.0**
comp=Z,5.8nm,0.5s,baz=329,slow=6.1,SNR=23
SCHQ Schefferville 74.51 21 P **P** **13 25 31.0 0.0**
SCHQ IAmb IAmb 13 25 31.7
comp=Z,8.3nm,0.6s
MASF Masafi 74.60 291 P **P** **13 25 32.6 +0.5**
MSFE Esma-Masafi 74.60 291 P **P** **13 25 32.5 +0.4**
BUR08 Bucovina Ar. S 74.69 325 P **P** **13 25 31.8 -0.6**
BURAR Bucovina Array 74.71 325 ⇓P **P** **13 25 31.3 -1.2**
BURAR Bucovina Array 74.71 325 ⇓P **P** **13 25 31.3 -1.2**
BURAR Bucovina Array 74.71 325 P **P** **13 25 31.6 -0.9**
UOSS Minazif 74.86 290 P **P** **13 25 33.0 -0.6**
UOSS Minazif 74.86 290 *i* P **P** **13 25 33.7 +0.1**
SNR=8.5
HATD Hatta, Dubai 74.99 290 P **P** **13 25 35.0 +0.6**
SNR=9.7
HATD Hatta, Dubai 74.99 290 *i* P **P** **13 25 35.0 +0.6**
SNR=9.7
ASHO Ashiyiah 75.14 290 P **P** **13 25 35.7 +0.4**
SNR=9.1
ASHO Ashiyiah 75.14 290 *i* P **P** **13 25 35.6 +0.4**
SNR=9.1
NAZ Nazwa, Dubai 75.19 291 P **P** **13 25 36.1 +0.7**
SOHO SOHO 75.21 289 P **P** **13 25 35.9 +0.3**
SOHO SOHO 75.21 289 *i* P **P** **13 25 35.9 +0.3**
SNR=9.7
FAQ Al Faqa, Dubai 75.40 290 *i* P **P** **13 25 37.0 +0.3**
SNR=6.9
TPGR Topolog 75.58 321 ⇑P **P** **13 25 37.0 -0.4**
LANS Liptovska Anna 75.62 329 *e*P **P** **13 25 38.3 +0.7**
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 75.62 329 *e*P **P** **13 25 38.3 +0.7**
ASUD Al Ashush, Dub 75.65 291 *i* P **P** **13 25 39.0 +0.9**
SNR=6.6
DPC Dobruska-Polom 75.69 331 *e*P **P** **13 25 37.4 -0.5**
DPC Dobruska-Polom 75.69 331 *e*P **P** **13 25 37.4 -0.5**
SCIA State Center 75.73 43 P **P** **13 25 38.6 +0.3**
baz=321
BSY Bisya 75.74 288 P **P** **13 25 39.4 +0.7**
MORC Moravsky Berou 75.76 330 ⇓P **P** **13 25 37.5 -0.9**
MORC Moravsky Berou 75.76 330 ⇓P **P** **13 25 37.5 -0.9**
MORC Moravsky Berou 75.76 330 *e*P **P** **13 25 37.4 -0.9**
KRLC Kraliky 75.77 331 *e*P **P** **13 25 37.6 -0.8**
KRLC Kraliky 75.77 331 *e*P **P** **13 25 37.6 -0.8**
CLL Collm 75.92 334 *i* P **P** **13 25 37.5 -1.6**
comp=Z,8.0nm,1.0s
CLL *e*PcP **PcP** **13 25 51.0 +0.1**
CLL *e*pP **pwP** **13 26 23.0 +2.7**
VYHS Vyhne 76.40 329 *e*P **P** **13 25 41.7 -0.3**
VYHS pmax pmax
comp=Z,2.0nm,0.5s
VYHS Vyhne 76.40 329 *e*P **P** **13 25 41.7 -0.3**
MHTO MHO 76.46 286 P **P** **13 25 44.0 +1.3**
SNR=17
VRAC Vranov 76.49 331 *e*P **P** **13 25 41.7 -0.8**
JAVC Velka Javorina 76.50 330 *e*P **P** **13 25 42.6 0.0**
VOIR 76.54 324 ⇑P **P** **13 25 42.9 0.0**
VOIR 76.54 324 ⇑P **P** **13 25 42.9 0.0**
PRU Pruhonice 76.58 332 *e*P **P** **13 25 41.9 -1.0**
PRU Pruhonice 76.58 332 *e*P **P** **13 25 41.9 -1.0**
KRUC Moravsky 76.77 331 *e*P **P** **13 25 43.1 -0.9**
MNTX Cornudas Mount 76.84 58 P **P** **13 25 44.6 -0.1**
baz=317
SMOL Smolenice 76.88 330 *e*P **P** **13 25 45.0 +0.3**
SMOL Smolenice 76.88 330 *e*P **P** **13 25 45.0 +0.3**
BR131 Keskin Array S 77.18 315 *i* P **P** **13 25 45.5 -1.1**
BRTR Keskin Array B 77.18 315 P **P** **13 25 45.6 -1.1**
comp=Z,2.9nm,0.9s,baz=68,slow=4.5,SNR=12
BRTR Keskin Array B 77.18 315 *ce*P **P** **13 25 46.5 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 77.18 315 P **P** **13 25 45.5 -1.1**
GZR Gura Zlata 77.50 325 ⇑P **P** **13 25 47.5 -0.7**
GZR Gura Zlata 77.50 325 ⇑P **P** **13 25 47.5 -0.7**
KHC Kasperske Hory 77.64 332 *e*P **P** **13 25 48.1 -0.8**
KHC Kasperske Hory 77.64 332 *e*P **P** **13 25 48.1 -0.8**
GERES GERESS Array B 77.85 332 P **P** **13 25 48.5 -1.6**
comp=Z,1.0nm,0.4s,baz=355,slow=2.9,SNR=7.6
GRF Grafenberg Array 77.88 334 *e*P **P** **13 25 47.6 -2.7**
comp=Z,6.3nm,1.1s,baz=28,slow=4.8
CONA Conrad Observa 77.92 330 *e*P **P** **13 25 50.8 +0.2**
comp=Z,4.7nm,0.7s
MZR Muzera 77.99 291 P **P** **13 25 51.4 +0.2**
MZR Muzera 77.99 291 *i* P **P** **13 25 51.6 +0.3**
SNR=14
STKA Stephens Creek 78.21 187 P **P** **13 25 52.7 +0.7**
comp=Z,1.0nm,0.5s,baz=330,slow=20,SNR=3.0
MOA Molln 78.53 331 *e*P **P** **13 25 53.5 -0.4**
comp=Z,4.9nm,0.9s
HDIL Hopedale 78.63 42 P **P** **13 25 54.5 0.0**
baz=323
S39A Bolivar 78.94 46 P **P** **13 25 55.6 -0.6**
KBA Koelnbreinsper 79.51 331 *e*P **P** **13 25 59.5 +0.1**
comp=Z,3.0nm,0.4s
TXAR Lajitas Array 79.58 58 P **P** **13 26 00.6 +0.7**
comp=Z,2.6nm,0.4s,baz=296,slow=4.5,SNR=73
TXAR pP **pP** **13 26 36.5 -1.0**
comp=Z,3.3nm,0.9s,baz=301,slow=4.3,SNR=4.0
TXAR PKKPbc **PKKPbc** **13 44 42.8 -1.5**
comp=Z,0.1nm,0.3s,baz=134,slow=3.9,SNR=3.9
TXAR Lajitas Array 79.58 58 P **P** **13 26 01.1 +1.1**
TXAR Lajitas Array 79.58 58 P **P** **13 26 01.1 +1.1**
VTS Vitosha 79.60 323 ⇑P **P** **13 25 59.8 -0.1**
VTS Vitosha 79.60 323 ⇑P **P** **13 25 59.8 -0.1**
CCM Cathedral Cave 79.68 45 P **P** **13 26 00.2 0.0**
baz=322
SFIN Lafayette 79.78 41 P **P** **13 26 00.2 -0.5**
baz=324
MYKA Terra Mystica 79.80 331 *e*P **P** **13 26 00.0 -0.8**
comp=Z,4.1nm,0.8s
WATA Walderalm 79.85 333 *e*P **P** **13 26 01.1 -0.1**
comp=Z,4.1nm,0.5s
WTTA Wattenberg 79.90 333 *e*P **P** **13 26 01.3 -0.2**
comp=Z,4.4nm,0.4s
RETA Reutte 79.98 333 *e*P **P** **13 26 01.5 -0.2**
comp=Z,9.1nm,1.6s
MOTA Moosalm 80.00 333 *e*P **P** **13 26 01.7 -0.2**
comp=Z,16nm,1.6s
U40A Yellville 80.21 47 P **P** **13 26 03.2 +0.1**
U40A Yellville 80.21 47 P **P** **13 26 03.1 0.0**
baz=322,SNR=12
W39A Magazine 80.64 48 P **P** **13 26 05.6 +0.2**
baz=321
DOK Doka 80.68 287 P **P** **13 26 05.9 +0.1**
O48B Farmland 80.74 40 P **P** **13 26 05.7 -0.2**
baz=325
JCT Junction City 80.97 55 P **P** **13 26 07.6 +0.3**
baz=319
LONY Lake Ozonia 81.25 30 P **P** **13 26 07.9 -0.7**
baz=331
ERPA Erie 81.37 35 P **P** **13 26 08.5 -0.6**
baz=328
RBK Rabkut 81.42 286 P **P** **13 26 09.6 -0.2**
W41B Gary Mavity, V 81.44 47 P **P** **13 26 10.2 +0.5**
baz=322
P49A Miami Univ. Ec 81.53 40 P **P** **13 26 10.2 +0.2**
baz=326
M53A WI Miller and 81.66 36 P **P** **13 26 10.7 0.0**
baz=328
X40A Basin Creek Fa 81.68 48 P **P** **13 26 10.7 -0.2**
baz=322
M54A Oil Creek Stat 82.02 35 P **P** **13 26 12.3 -0.3**
baz=328
ABTO Aybut 82.13 287 P **P** **13 26 13.9 +0.4**
RAYN Ar Rayn 82.69 296 P **P** **13 26 16.8 +0.4**
RAYN pmax pmax
comp=Z,17nm,1.0s
RAYN Ar Rayn 82.69 296 P **P** **13 26 16.8 +0.4**
RAYN IAmb IAmb 13 26 18.0
comp=Z,17nm,1.0s
RAYN Ar Rayn 82.69 296 *i* P **P** **13 26 17.2 +0.8**
SNR=14
WVT Waverly 82.86 44 P **P** **13 26 16.9 -0.1**
baz=324
OXF Oxford 83.39 46 P **P** **13 26 19.9 +0.1**
baz=324
SSPA Standing Stone 83.46 35 P **P** **13 26 19.7 -0.3**
baz=329
MCWV Mont Chateau 83.50 36 P **P** **13 26 20.3 +0.1**
baz=328
O56A Blue Knob Stat 83.51 35 P **P** **13 26 20.3 0.0**
baz=329
TZTN Tazewell 84.51 41 P **P** **13 26 25.5 +0.1**
baz=326
ITM Ithomi 84.67 321 P **P** **13 26 24.6 -1.6**
IDI Anoyia 84.90 318 ⇑P **P** **13 26 25.6 -1.8**
IDI Anoyia 84.90 318 P **P** **13 26 25.6 -1.8**
IDI IAmb IAmb 13 26 30.9
comp=Z,13nm,1.1s
TIP Timpagrande 85.13 325 P **P** **13 26 26.6 -1.9**
SOCY Socotra 85.37 283 P **P** **13 26 28.5 -1.7**
SOCY IAmb IAmb 13 26 29.7
comp=Z,15nm,0.8s
GOGA Godfrey 87.14 42 P **P** **13 26 38.5 +0.1**
baz=326
TIGA Tifton 88.72 43 P **P** **13 26 46.2 +0.3**
baz=326
KEST Kesra 90.95 329 P **P** **13 26 55.5 -0.9**
comp=Z,8.0nm,0.8s,baz=332,slow=3.0,SNR=6.6
ESDC Sonseca Array 91.26 340 P **P** **13 26 56.3 -1.4**
comp=Z,1.2nm,0.5s,baz=2.3,slow=4.3,SNR=7.9
TORD Torodi Ar. Bea 114.28 326 PKiKP **PKiKP** **13 32 30.8 -0.6**
comp=Z,0.9nm,0.4s,baz=18,slow=2.1,SNR=15
VNDA Vanda 123.80 177 PKP **PKiKP** **13 32 48.3 +0.3**
comp=Z,0.3nm,0.3s,baz=4.1,slow=3.6,SNR=4.7
BOSA Boshof 133.66 272 PKP **PKPdf** **13 33 07.4 -0.8**
comp=Z,2.4nm,0.8s,baz=20,slow=6.4,SNR=2.3
LPAZ La Paz 136.44 59 PKP **PKPdf** **13 33 14.2 -0.1**
comp=Z,0.8nm,0.6s,baz=326,slow=7.3,SNR=2.4
SIV San Ignacio 140.21 51 PKP **PKPdf** **13 33 18.5 -2.0**
comp=Z,1.9nm,0.7s,baz=307,slow=1.9,SNR=7.0
BDFB Brasilia 145.91 32 PKPbc **PKPab** **13 33 32.1 -0.1**
comp=Z,9.8nm,0.5s,baz=248,slow=3.2,SNR=17
BDFB Brasilia 145.91 32 **PKPab** **13 33 32.2 0.0**
TROLL Troll, Antarti 150.09 200 PKPbc **PKiKP** **13 33 42.3 +0.5**
PLCA Paso Flores 150.34 94 PKP **PKPdf** **13 33 37.5 +0.4**
comp=Z,2.0nm,0.9s,baz=227,slow=8.7,SNR=3.6
PLCA PKPbc **PKiKP** **13 33 43.7 +0.5**
comp=Z,2.2nm,0.4s,baz=286,slow=2.9,SNR=27
PLCA Paso Flores 150.34 94 **PKiKP** **13 33 43.9 +0.7**
CPUP Villa Florida 150.54 57 PKPbc **PKPbc** **13 33 43.7 +0.4**
comp=Z,3.9nm,0.5s,baz=322,slow=2.3,SNR=10
CPUP Villa Florida 150.54 57 **PKiKP** **13 33 44.0 0.0**
SNAA Sanae 151.52 198 PKPbc **PKPbc** **13 33 44.7 +0.5**
VNA2 Neumayer--Watz 153.02 196 PKPbc **PKiKP** **13 33 48.1 +0.4**
baz=177,slow=1.0
VNA3 Neumayer Olymp 153.17 194 PKPbc **PKiKP** **13 33 48.4 +0.4**

*IDC **31** 13:29:01.3±2.4,41°.24N×127°.09W,h0km,mb3.1/3, mb1 3.5/5,mb1mx3.3/48,mbtmp3.1/5,ML3.0/2,MS3.8/1, Ms1 3.8/1,ms1mx2.8/20,Error ellipse: s-maj=39.2km s-min=19.7km az=31.0*
*NCEDC **31** 13:29:02.0±2.7,40°.6N±0°.1×127°.1W±0°.2,h2km±2km,Error ellipse: s-maj=21.8km s-min=16.9km az=278.0*
*ANF **31** 13:29:01.3±1.6,41°.12N×127°.03W,h0km,ML3.0/9,Error ellipse: s-maj=16.8km s-min=8.0km az=63.0*
*NEIC **31** 13:29:05.1±1.5,40°.84N±0°.09×126°.8W±0°.2,h12km±16km, ML2.8/48,ML3.1/4(NCEDC),Error ellipse: s-maj=26.5km s-min=12.5km az=95.0*

ISC 31 13:29:00.1±1.6,40°.99N±0°.06×127°.3W±0°.1,h10km,n55, σ1§12/53,mb3.3/3,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRPM	**Rodgers**	**2.48**	**85**		**Pn**	**13 29 39.9**	**-0.6**
KRPM				IAML		13 30 13.2	
	comp=E,66nm,0.9s						
KRPM				IAML		13 30 14.7	
	comp=N,55nm,1.4s						
JCC	**Jacoby Creek,**	**2.48**	**93**	Pn	**Pn**	**13 29 39.0**	**-1.4**
JCC				IAML		13 30 11.7	
	comp=E,51nm,1.1s						
KMPM	**Mount Pierce**	**2.48**	**102**		**Pn**	**13 29 39.4**	**-1.2**
KMPM				IAML		13 30 12.3	
	comp=E,102nm,0.7s						
KMPM				IAML		13 30 14.9	
	comp=N,99nm,1.0s						
KSMM	**Slide Mountain**	**2.51**	**108**		**Pn**	**13 29 39.4**	**-1.6**
KCRM	**Chalk Rock**	**2.70**	**101**		**Pn**	**13 29 42.7**	**-0.9**
KHMM	**Horse Mountain**	**2.70**	**91**		**Pn**	**13 29 42.7**	**-1.0**
KMRM	**Mail Ridge**	**2.83**	**105**		**Pn**	**13 29 45.0**	**-0.4**
KMRM				IAML		13 30 22.6	
	comp=N,50nm,1.1s						
KMRM				IAML		13 30 22.7	
	comp=E,61nm,0.5s						
KOMM	**Orleans Mounta**	**2.92**	**83**		**Pn**	**13 29 46.7**	**+0.1**
L02E	**Cave Junction**	**3.00**	**66**	P	**Pn**	**13 29 46.6**	**-1.2**
	baz=241,SNR=10						
KBSM	**Bell Springs**	**3.02**	**110**		**Pn**	**13 29 47.4**	**-0.6**
KCPM	**Cahto Peak**	**3.12**	**113**		**Pn**	**13 29 48.6**	**-0.8**
KCPM				IAML		13 30 25.8	
	comp=E,44nm,0.4s						
KCPM				IAML		13 30 29.2	
	comp=N,34nm,0.6s						
K02D	**Willamette Mer**	**3.20**	**57**	P	**Pn**	**13 29 49.2**	**-1.3**
	baz=233,SNR=17						
J01E	**Myrtle Point**	**3.31**	**48**	P	**Pn**	**13 29 50.5**	**-1.5**
	baz=224						
M02C	**Callahan**	**3.37**	**82**		**Pn**	**13 29 53.2**	**+0.3**
M02C	**Callahan**	**3.37**	**82**	P	**Pn**	**13 29 52.8**	**-0.1**
	baz=258,SNR=32						
M02C				S	**Sn**	**13 30 31.1**	**-1.9**
	baz=258						
N02D	**Trinity Center**	**3.47**	**89**		**Pn**	**13 29 54.7**	**+0.4**
N02D				IAML		13 30 36.4	
	comp=E,22nm,0.7s						
N02D				IAML		13 30 36.5	
	comp=N,19nm,1.1s						
N02D	**Trinity Center**	**3.47**	**89**	P	**Pn**	**13 29 53.9**	**-0.3**
	baz=266,SNR=23						
N02D				S	**Sn**	**13 30 35.3**	**-0.2**
	baz=266						
O02D	**Mt. Diablo Mer**	**3.52**	**102**		**Pn**	**13 29 54.3**	**-0.7**
O02D	**Mt. Diablo Mer**	**3.52**	**102**	P	**Pn**	**13 29 54.2**	**-0.8**
	baz=280,SNR=26						
O02D				S	**Sn**	**13 30 36.0**	**-0.7**
	baz=280						
YBH	**Yreka Blue Hor**	**3.53**	**76**	Pn	**Pn**	**13 29 55.9**	**+0.9**
	comp=N,4.0nm,0.3s,baz=274,slow=11,SNR=63						
YBH				Sn	**Sn**	**13 30 34.7**	**-2.1**
	comp=N,0.8nm,0.3s,baz=246,slow=20,SNR=1.6						
YBH	**Yreka Blue Hor**	**3.53**	**76**		**Pn**	**13 29 55.7**	**+0.7**
HUMO	**Hull Mountain**	**3.62**	**62**		**Pn**	**13 29 55.6**	**-0.7**
DBO	**Dodson Butte**	**3.69**	**53**		**Pn**	**13 29 56.3**	**-0.9**
DBO				IAML		13 30 38.3	
	comp=N,13nm,3.5s						
DBO				IAML		13 30 58.7	
	comp=E,16nm,4.8s						
HOPS	**Hopland Field**	**3.81**	**120**	Pn	**Pn**	**13 29 57.5**	**-1.2**
HOPS				IAML		13 30 50.0	
	comp=N,26nm,4.4s						
HOPS				IAML		13 31 02.1	
	comp=E,26nm,3.3s						
L04D	**Klamath Falls**	**3.94**	**70**		**Pn**	**13 30 01.7**	**+1.0**
L04D				IAML		13 30 27.6	
	comp=E,28nm,1.6s						
L04D				IAML		13 30 53.9	
	comp=N,18nm,2.3s						
L04D	**Klamath Falls**	**3.94**	**70**	P	**Pn**	**13 30 01.0**	**+0.3**
	baz=248,SNR=32						
I03D	**Drain, OR**	**3.98**	**46**	P	**Pn**	**13 29 59.5**	**-1.6**
	baz=224						
GDXM	**Geysers**	**4.09**	**121**		**Pn**	**13 30 03.1**	**+0.4**
M04C	**Macdoel**	**4.18**	**77**		**Pn**	**13 30 05.0**	**+1.1**
M04C	**Macdoel**	**4.18**	**77**	P	**Pn**	**13 30 04.6**	**+0.6**
	baz=256,SNR=31						
O03E	**Paynes Creek**	**4.24**	**98**		**Pn**	**13 30 05.1**	**+0.4**
O03E				IAML		13 30 59.7	
	comp=N,12nm,0.7s						
O03E				IAML		13 31 01.2	
	comp=E,12nm,1.8s						
O03E	**Paynes Creek**	**4.24**	**98**	P	**Pn**	**13 30 04.5**	**-0.2**
	baz=277,SNR=10						
O03E				S	**Sn**	**13 30 53.8**	**-0.5**
	baz=277						
MCCM	**Marconi Confer**	**4.44**	**128**		**Pn**	**13 30 05.3**	**-2.1**
J04D	**Umpqua Nationa**	**4.46**	**58**		**Pn**	**13 30 08.3**	**+0.3**
J04D	**Umpqua Nationa**	**4.46**	**58**	P	**Pn**	**13 30 07.9**	**-0.1**
	baz=237,SNR=13						
I04A	**Tendick Farm,**	**4.57**	**51**	P	**Pn**	**13 30 08.5**	**-0.9**
	baz=229						
J05D	**Fort Rock, OR**	**5.05**	**61**	P	**Pn**	**13 30 15.8**	**-0.2**
	baz=241,SNR=6.1						
K05A	**Summer Lake**	**5.08**	**68**		**Pn**	**13 30 16.6**	**+0.1**
K05A				IAML		13 31 22.9	
	comp=N,11nm,4.7s						
MOD	**Modoc Plateau**	**5.33**	**78**	Pn	**Pn**	**13 30 18.8**	**-1.0**
MOD				IAML		13 31 52.7	
	comp=E,7.0nm,4.4s						
MOD				IAML		13 32 03.4	
	comp=N,4.9nm,3.3s						
BEKR	**Beckworth**	**5.41**	**100**		**Pn**	**13 30 19.6**	**-1.3**
BEKR				IAML		13 31 28.8	
	comp=N,4.8nm,3.1s						
PINE	**Pine Mountain**	**5.47**	**57**	Pn	**Pn**	**13 30 21.6**	**-0.2**
I05D	**Terrebonne, OR**	**5.52**	**51**	P	**Pn**	**13 30 21.9**	**-0.5**
	baz=231						
SAO	**San Andreas Ge**	**6.21**	**131**	Pn	**Pn**	**13 30 30.1**	**-1.7**
BBGB	**Big Mountain B**	**6.58**	**130**		**Pn**	**13 30 36.1**	**-0.8**
NVAR	**Mina Array Bea**	**7.39**	**107**	Pn	**Pn**	**13 30 49.3**	**+1.2**
	comp=N,0.1nm,0.3s,baz=299,slow=11,SNR=2.8						
TXAR	**Lajitas Array**	**22.47**	**114**	P	**P**	**13 34 03.0**	**+3.4**
	comp=N,0.2nm,0.6s,baz=310,slow=7.0,SNR=2.6						
YKA	**Yellowknife Ar**	**22.84**	**15**	P	**P**	**13 34 02.0**	**-1.0**
	comp=N,1.1nm,0.9s,baz=204,slow=11,SNR=9.5						
ILAR	**Eielson Array**	**26.36**	**341**	P	**P**	**13 34 37.2**	**+1.1**
	comp=N,0.5nm,0.7s,baz=153,slow=10.0,SNR=2.7						
CMIG	**Matias Romero**	**36.67**	**121**	LR	LR	13 51 16.3	
	comp=N,141nm,20.1s,baz=206,slow=36						
H11N3	**WAKE ISLAND Hy**	**59.23**	**270**	T	T	14 43 13.5	
	baz=53,slow=75						
H11N2	**WAKE ISLAND Hy**	**59.24**	**270**	T	T	14 43 13.7	
	baz=53,slow=75						
H11N1	**WAKE ISLAND Hy**	**59.25**	**270**	T	T	14 43 16.0	
	baz=53,slow=75						
H11S1	**WAKE ISLAND Hy**	**60.12**	**269**	T	T	14 44 19.6	
	baz=52,slow=75						
H11S2	**WAKE ISLAND Hy**	**60.12**	**269**	T	T	14 44 18.4	
	baz=52,slow=75						
H11S3	**WAKE ISLAND Hy**	**60.13**	**269**	T	T	14 44 20.2	
	baz=52,slow=75						

IDC 31 13:31:21.6±5.3,32°.98N×140°.43E,h0km,mb3.3/3, mb1 3.3/4,mb1mx3.0/43,mbtmp3.2/4,ML1.9/1,Error ellipse: s-maj=208.1km s-min=23.8km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.00**	**333**	Pn	Pn	13 32 23.2	-0.9
	0.1nm,0.3s,baz=313,slow=24,SNR=4.3						

MJAR				Sn	Sn	13 33 11.1	-0.7		
	0.1nm,0.3s,baz=318,slow=28,SNR=1.8								
MKAR	**Makanchi Array**	**45.70**	**305**	P	P	13 39 44.5	+0.3		
	0.6nm,0.6s,baz=91,slow=9.9,SNR=12								
WRA	**Warramunga Arr**	**52.94**	**187**	P	P	13 40 39.2	-0.5		
	0.1nm,0.4s,baz=2.3,slow=7.4,SNR=1.7								
ASAR	**Alice Springs**	**56.67**	**187**	P	P	13 41 06.8	0.0		
	0.1nm,0.7s,baz=6.7,slow=6.2,SNR=1.6								

IDC 31 13:35:37.0±1.6, 58°20'N×31°88'W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/47, mbtmp3.5/4, MS3.6/2, Ms1 3.6/2, ms1mx2.7/75, Error ellipse: s-maj=62.9km s-min=28.5km az=42.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**38.51**	**312**	P	P	13 42 59.4	-1.1
	0.6nm,0.9s,baz=59,slow=9.3,SNR=6.0						
ILAR	**Eielson Array**	**47.89**	**328**	P	P	13 44 17.7	+1.5
	0.4nm,0.8s,baz=38,slow=4.6,SNR=2.9						
NEW	**Newport**	**48.66**	**298**	LR	LR	14 05 22.6	
	comp=Z,70nm,18.6s,baz=275,slow=37						
PDAR	**Pinedale Array**	**48.92**	**287**	LR	LR	14 06 27.2	
	comp=Z,59nm,18.1s,baz=2.0,slow=38						
TORD	**Torodi Ar. Bea**	**51.58**	**137**	P	P	13 44 44.9	+0.1
	0.7nm,0.6s,baz=328,slow=9.8,SNR=4.5						
MKAR	**Makanchi Array**	**62.13**	**45**	P	P	13 45 59.0	-0.5
	0.3nm,0.8s,baz=330,slow=4.4,SNR=3.4						

*IDC **31** 14:05:27.5±2.4, 6°.85S×130°.14E, h81km±29km, mb3.4/1, mb1 3.4/6, mb1mx3.1/50, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/30, Error ellipse: s-maj=42.0km s-min=22.8km az=94.0*

ISC 31 14:05:27.7±1.1, 7°.01S±0°.08×130°.1E±0°.1, h100km, n7, σ4°38/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.22**	**11**	P	**Pn**	**14 06 54.2**	**-2.8**
	3.6nm,0.3s,baz=180,slow=20,SNR=9.3						
SIJI				S	Sn	14 07 46.1	-21
	1.6nm,0.3s,baz=197,slow=22,SNR=5.6						
BATI	**Baumata**	**7.08**	**243**	P	**Pn**	**14 07 11.2**	**+2.4**
	3.8nm,0.3s,baz=69,slow=9.2,SNR=4.3						
BATI				S	**Sn**	**14 08 24.2**	**-3.6**
	1.4nm,0.3s,baz=111,slow=17,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.83**	**201**	P	**Pn**	**14 08 14.7**	**+1.5**
	0.1nm,0.3s,baz=42,slow=9.5,SNR=12						
FITZ				S	Sn	14 10 12.6	-11
	0.2nm,0.3s,baz=6.7,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**13.51**	**163**	P	**Pn**	**14 08 37.1**	**+1.9**
	0.3nm,0.3s,baz=346,slow=13,SNR=25						
WRA				S	Sn	14 10 57.6	-6.3
	0.2nm,0.3s,baz=334,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**16.96**	**168**	P	**P**	**14 09 22.6**	**+3.3**
	0.2nm,0.3s,baz=338,slow=8.8,SNR=25						
ASAR				S	**Sn**	**14 12 20.4**	**-7.1**
	0.1nm,0.3s,baz=331,slow=15,SNR=1.8						
PSI	**Prapat**	**32.58**	**286**	LR	LR	14 28 04.1	
	comp=Z,39nm,18.9s,baz=100,slow=42						
MKAR	**Makanchi Array**	**68.27**	**327**	P	**P**	**14 16 19.1**	**+1.2**
	0.3nm,0.4s,baz=124,slow=5.5,SNR=9.6						

*IDC **31** 14:26:21.3±1.2, 33°.47N×141°.84E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/43, mbtmp3.7/8, ML3.1/3, MS3.8/1, Ms1 3.8/1, ms1mx2.3/90, Error ellipse: s-maj=25.5km s-min=18.8km az=88.0*

ISC 31 14:26:25.4±0.9, 33°44'N±0°.07×141°80'E±0°.09, h34km, n10, σ1°34/12, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.72**	**260**	Pn	**Pn**	**14 26 53.5**	**+0.5**
	16nm,0.3s,baz=72,slow=20,SNR=1.5						
JHJ				LR	LR	14 27 11.7	
	comp=Z,77nm,18.7s,baz=126,slow=29						
JHJ				Sn	**Sb**	**14 27 16.2**	**-1.5**
	24nm,0.3s,baz=62,slow=22,SNR=6.4						
MJAR	**Matsushiro Arr**	**4.28**	**317**	Pn	**Pn**	**14 27 28.4**	**+0.2**
	0.1nm,0.3s,baz=152,slow=9.6,SNR=7.1						
MJAR				Sn	**Sn**	**14 28 16.4**	**-0.5**
	0.1nm,0.3s,baz=340,slow=29,SNR=3.0						
JCJ	**Chichijima**	**6.33**	**177**	Pn	**Pn**	**14 27 56.1**	**-0.2**
	2.0nm,0.3s,baz=89,slow=22,SNR=5.7						
JCJ				Sn	**Sn**	**14 29 05.5**	**-2.0**
	3.1nm,0.3s,baz=128,slow=19,SNR=1.2						
ASAJ	**Asahikawa**	**10.68**	**3**	Pn	**Pn**	**14 28 53.9**	**-2.1**
	0.2nm,0.3s,baz=161,slow=18,SNR=2.2						
MA2	**Magadan**	**26.82**	**19**	P	**P**	**14 32 02.7**	**+0.5**
	0.5nm,0.3s,baz=214,slow=5.7,SNR=6.0						
CMAR	**Chiang Mai Arr**	**41.03**	**260**	P	**P**	**14 34 06.0**	**+0.4**
	0.5nm,0.3s,baz=55,slow=7.0,SNR=7.0						
MKAR	**Makanchi Array**	**46.37**	**305**	P	**P**	**14 34 49.6**	**+1.2**
	1.4nm,0.6s,baz=88,slow=8.7,SNR=24						
WRA	**Warramunga Arr**	**53.56**	**189**	P	**P**	**14 35 44.2**	**+1.2**
	0.4nm,0.6s,baz=2.0,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**57.28**	**189**	P	**P**	**14 36 11.2**	**+1.4**
	0.3nm,0.8s,baz=6.7,slow=5.4,SNR=2.8						
RAR	**Rarotonga**	**77.80**	**126**	LR	LR	15 12 17.4	
	comp=Z,58nm,19.2s,baz=149,slow=35						

*IDC **31** 14:37:33.4±1.6, 31°.46N×142°.17E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.5/47, mbtmp3.7/12, ML3.3/5, Error ellipse: s-maj=49.1km s-min=15.0km az=70.0*

ISC 31 14:37:37.2±1.0, 31°49N±0°.07×142°3E±0°.2, h35km, n12, σ1°59/15, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.66**	**308**	Pn	**Pn**	**14 38 16.7**	**-0.8**
	14nm,0.3s,baz=224,slow=23,SNR=5.4						
JHJ				Sn	**Sn**	**14 38 48.4**	**-0.1**
	14nm,0.3s,baz=143,slow=20,SNR=2.3						
JCJ	**Chichijima**	**4.38**	**181**	Pn	**Pn**	**14 38 40.3**	**-0.9**
	5.2nm,0.3s,baz=5.2,slow=18,SNR=28						
JCJ				Sn	**Sn**	**14 39 27.4**	**-3.6**
	7.0nm,0.3s,baz=280,slow=24,SNR=4.9						
MJAR	**Matsushiro Arr**	**6.06**	**327**	Pn	**Pn**	**14 39 03.9**	**-0.4**
	0.2nm,0.3s,baz=132,slow=9.6,SNR=7.5						
MJAR				Sn	**Sn**	**14 40 10.3**	**-2.2**
	0.0nm,0.3s,baz=118,slow=44,SNR=2.1						
ASAJ	**Asahikawa**	**12.61**	**1**	Pn	**Pn**	**14 40 32.5**	**-1.5**
	0.3nm,0.3s,baz=233,slow=12,SNR=4.8						
KLR	**Kul'dur**	**19.41**	**339**	P	**Pn**	**14 42 01.8**	**+0.3**
	0.1nm,0.3s,baz=135,slow=4.3,SNR=2.0						
CMAR	**Chiang Mai Arr**	**41.11**	**262**	P	**P**	**14 45 18.0**	**0.0**
	0.3nm,0.5s,baz=55,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**46.29**	**316**	P	**P**	**14 46 00.5**	**+1.3**
	0.4nm,0.4s,baz=83,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**47.83**	**307**	P	**P**	**14 46 12.5**	**+1.1**
	0.4nm,0.6s,baz=95,slow=7.7,SNR=7.6						
CTA	**Charters Tower**	**51.42**	**175**	P	**P**	**14 46 40.3**	**+1.4**
	0.6nm,0.3s,baz=11,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**51.70**	**190**	P	**P**	**14 46 42.0**	**+1.1**
	0.5nm,0.6s,baz=5.7,slow=7.6,SNR=12						
FITZ	**Fitzroy Crossi**	**51.82**	**200**	P	**P**	**14 46 43.0**	**+1.2**
	1.6nm,1.0s,baz=17,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**55.42**	**189**	P	**P**	**14 47 09.0**	**+0.8**
	0.2nm,0.5s,baz=3.3,slow=7.0,SNR=7.7						

IDC 31 14:38:19.3±7.3, 19°.05S×176°.21W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.2/42, mbtmp3.5/2, Error ellipse: s-maj=334.6km s-min=112.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.49**	**260**	P	P	14 46 48.7	+0.1
	0.2nm,0.3s,baz=96,slow=7.4,SNR=9.5						
ASAR	**Alice Springs**	**46.50**	**255**	P	P	14 46 48.5	-0.3
	0.3nm,0.5s,baz=96,slow=7.7,SNR=12						
AKASG	**Malin Array Be**	**142.52**	**333**	PKP	PKPdf	14 57 53.5	-0.6
	0.2nm,0.3s,baz=43,slow=3.9,SNR=4.3						

WEL 31 14:47:47.8±0.5, 39°S±3°×17°8E±°, h22km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.21**	**38**	P	Pb	14 47 54.6	+1.0
CNGZ	**Carnagh Statio**	**0.21**	**38**	P	Pb	14 47 54.6	+1.0
RIGZ	**Rimuhau**	**0.22**	**256**	P	Pb	14 47 54.2	+0.5
RIGZ	**Rimuhau**	**0.22**	**256**	S	Sb	14 48 00.4	+2.6
RIGZ	**Rimuhau**	**0.22**	**256**	P	Pb	14 47 54.2	+0.5
RIGZ				S	Sb	14 48 00.4	+2.6
TKGZ	**Te Karaka**	**0.26**	**325**	P	Pb	14 47 54.8	+0.8
TKGZ	**Te Karaka**	**0.26**	**325**	S	Sn	14 48 01.1	-0.5
TKGZ	**Te Karaka**	**0.26**	**325**	P	Pb	14 47 54.8	+0.8
TKGZ				S	Sn	14 48 01.1	-0.5
PRGZ	**Paritu Road**	**0.30**	**204**	P	Pb	14 47 55.3	+0.7
PRGZ	**Paritu Road**	**0.30**	**204**	P	Pb	14 47 55.3	+0.7
KNZ	**Kokohu**	**0.47**	**218**	P	Pb	14 47 57.8	+0.5
KNZ	**Kokohu**	**0.47**	**218**	S	Sn	14 48 06.9	+0.2
KNZ	**Kokohu**	**0.47**	**218**	P	Pb	14 47 57.8	+0.5
KNZ				S	Sn	14 48 06.9	+0.2
TWGZ	**Tauwhareparae**	**0.48**	**354**	P	Pb	14 47 58.4	+0.9
TWGZ	**Tauwhareparae**	**0.48**	**354**	P	Pb	14 47 58.4	+0.9
MHGZ	**Mahia Peninsul**	**0.51**	**192**	P	Pb	14 47 58.8	+0.7
MHGZ	**Mahia Peninsul**	**0.51**	**192**	S	Sn	14 48 08.5	+0.6
MHGZ	**Mahia Peninsul**	**0.51**	**192**	P	Pb	14 47 58.8	+0.7
MHGZ				S	Sn	14 48 08.5	+0.6
MWZ	**Matawai**	**0.51**	**308**	P	Pb	14 47 58.7	+0.5
MWZ	**Matawai**	**0.51**	**308**	S	Sn	14 48 07.5	-0.4
MWZ	**Matawai**	**0.51**	**308**	P	Pb	14 47 58.7	+0.5
MWZ				S	Sn	14 48 07.5	-0.4
RAGZ	**Rawiri**	**0.51**	**288**	S	Sn	14 48 07.7	-0.4
RAGZ	**Rawiri**	**0.51**	**288**	P	Pb	14 47 58.6	+0.4
RAGZ	**Rawiri**	**0.51**	**288**	P	Pb	14 47 58.6	+0.4
RAGZ				S	Sn	14 48 07.7	-0.4
SNGZ	**Shannon Statio**	**0.56**	**256**	P	Pb	14 47 59.7	+0.7
SNGZ	**Shannon Statio**	**0.56**	**256**	P	Pb	14 47 59.7	+0.7
PUZ	**Puketiti**	**0.60**	**17**	S	Sn	14 48 10.2	0.0
PUZ	**Puketiti**	**0.60**	**17**	S	Sn	14 48 10.2	0.0
RUGZ	**Raukumara Rang**	**0.74**	**337**	P	Pb	14 48 02.0	-0.1
RUGZ	**Raukumara Rang**	**0.74**	**337**	S	Sn	14 48 12.9	-0.9
RUGZ	**Raukumara Rang**	**0.74**	**337**	P	Pb	14 48 02.0	-0.1
RUGZ				S	Sn	14 48 12.9	-0.9
PKGZ	**Pakihiroa**	**0.76**	**2**	P	Pb	14 48 02.8	+0.4
PKGZ	**Pakihiroa**	**0.76**	**2**	S	Sn	14 48 14.5	+0.3
PKGZ	**Pakihiroa**	**0.76**	**2**	P	Pb	14 48 02.8	+0.4
PKGZ				S	Sn	14 48 14.5	+0.3
RAHZ	**Arahi**	**0.79**	**250**	P	Pn	14 48 03.5	-0.2
RAHZ	**Arahi**	**0.79**	**250**	P	Pn	14 48 03.5	-0.2
URZ	**Urewera**	**0.83**	**298**	P	Pb	14 48 03.5	0.0
URZ	**Urewera**	**0.83**	**298**	P	Pb	14 48 03.5	0.0
RTZ	**Ruatahuna**	**0.83**	**272**	P	Pb	14 48 03.6	+0.1
RTZ	**Ruatahuna**	**0.83**	**272**	S	Sn	14 48 16.6	+0.7
RTZ	**Ruatahuna**	**0.83**	**272**	P	Pb	14 48 03.6	+0.1
RTZ				S	Sn	14 48 16.6	+0.7
WMGZ	**Waiomatatini S**	**0.88**	**20**	P	Pb	14 48 04.6	+0.2
WMGZ	**Waiomatatini S**	**0.88**	**20**	S	Sn	14 48 18.2	+1.2
WMGZ	**Waiomatatini S**	**0.88**	**20**	P	Pb	14 48 04.6	+0.2
WMGZ				S	Sn	14 48 18.2	+1.2
HAZ	**Te Kaha**	**0.92**	**347**	P	Pb	14 48 04.7	-0.3
HAZ	**Te Kaha**	**0.92**	**347**	S	Sn	14 48 19.1	+1.2
HAZ	**Te Kaha**	**0.92**	**347**	P	Pb	14 48 04.7	-0.3
HAZ				S	Sn	14 48 19.1	+1.2
MTHZ	**Maungataniwha**	**0.96**	**258**	P	Pb	14 48 05.2	-0.5
MTHZ	**Maungataniwha**	**0.96**	**258**	P	Pb	14 48 05.2	-0.5
MUGZ	**Murupara**	**1.01**	**280**	P	Pb	14 48 06.4	-0.2
MUGZ	**Murupara**	**1.01**	**280**	P	Pb	14 48 06.4	-0.2
BKZ	**Black Stump Fm**	**1.31**	**246**	P	Pn	14 48 10.8	0.0
BKZ	**Black Stump Fm**	**1.31**	**246**	P	Pn	14 48 10.8	0.0

IDC 31 15:13:58.6±74.0, 34°.76N×99°.78E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.1/52, mbtmp3.4/3, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/72, Error ellipse: s-maj=990.1km s-min=83.8km az=163.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**13.97**	**19**	Pn	Pn	15 17 17.9	0.0
	0.3nm,0.3s,baz=207,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**17.84**	**318**	Pn	Pn	15 18 05.4	-2.8
	0.1nm,0.3s,baz=125,slow=14,SNR=7.3						
MKAR				LR	LR	15 25 04.8	
	comp=Z,27nm,20.7s,baz=297,slow=37						
AAK	**Ala-Archa**	**21.19**	**299**	LR	LR	15 28 24.5	
	comp=Z,29nm,18.2s,baz=117,slow=41						
ZALV	**Zalesovo Beam**	**21.88**	**336**	P	P	15 18 52.7	-0.2
	1.7nm,0.6s,baz=156,slow=11,SNR=8.3						

*KRSC **31** 15:15:51.3±0.9, 53°.74N×159°.14E, h183km±9km, ML3.7*
*IDC **31** 15:15:53.1±0.8, 54°.02N×158°.51E, h169km±9km, mb3.0/9, mb1 3.4/10, mb1mx3.1/44, mbtmp3.6/10, Error ellipse: s-maj=24.8km s-min=16.7km az=150.0*

ISC 31 15:15:53.4±0.7, 53°.76N±0°.05×159°.08E±0°.06, h176km±5km, n45, σ1°27/61, mb3.2/9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.35**	**39**	P	**Pn**	**15 16 17.4**	**+0.1**
KII				S	**Sn**	**15 16 36.6**	**+0.9**
SDLR	**Sedlovina**	**0.50**	**193**	P	**Pn**	**15 16 17.9**	**0.0**
KRER	**Koryakskii**	**0.50**	**203**	P	**Pn**	**15 16 18.2**	**+0.2**
KRER				S	**Sn**	**15 16 37.8**	**+1.0**
SMAR	**Somma**	**0.53**	**198**	P	**Pn**	**15 16 18.2**	**+0.1**
AVH	**Avacha**	**0.54**	**202**	P	**Pn**	**15 16 18.0**	**0.0**
KOK	**Koryaka**	**0.54**	**209**	P	**Pn**	**15 16 18.2**	**+0.2**
UGLR	**Uglovaya**	**0.58**	**195**	P	**Pn**	**15 16 18.1**	**-0.1**
NLC	**Nalytchevo**	**0.61**	**165**	P	**Pn**	**15 16 18.1**	**-0.1**
NLC				S	**Sn**	**15 16 36.9**	**-0.4**
GNL	**Ganaly**	**0.68**	**265**	P	**Pn**	**15 16 18.0**	**-0.7**
GNL				S	**Sn**	**15 16 36.9**	**-1.3**
DALK	**Dalny**	**0.76**	**195**	P	**Pn**	**15 16 18.9**	**-0.1**
PET	**Petropavlovsk**	**0.78**	**199**	P	**Pn**	**15 16 19.1**	**-0.1**
SPN	**Mys Shipunski**	**0.88**	**139**	P	**Pn**	**15 16 19.3**	**-0.5**
SPN				S	**Sn**	**15 16 38.8**	**-1.3**
PETK	**Petropavlovsk-**	**1.05**	**232**	P	**Pn**	**15 16 19.7**	**-1.4**
	23nm,0.3s,baz=72,slow=11,SNR=388						
PETK				S	**Sn**	**15 16 41.2**	**-1.3**
	baz=266,slow=39,SNR=2.1						
KRMR	**Karymshinskiy**	**1.09**	**212**	P	**Pn**	**15 16 21.1**	**-0.3**
GRL	**Gorelyy**	**1.36**	**207**	P	**Pn**	**15 16 24.2**	**+0.4**
RUS	**Russkaya**	**1.38**	**195**	P	**Pn**	**15 16 23.3**	**-0.5**
RUS				S	**Sn**	**15 16 45.9**	**-1.4**
MTVR	**Mutnovka**	**1.39**	**203**	P	**Pn**	**15 16 24.8**	**+0.6**
MTVR				S	**Sn**	**15 16 49.1**	**+1.2**
APC	**Apacha**	**1.43**	**235**	P	**Pn**	**15 16 24.2**	**-0.1**
APC				S	**Sn**	**15 16 48.0**	**-0.1**
ASAK	**Asacha**	**1.56**	**208**	P	**Pn**	**15 16 25.8**	**+0.2**
ASAK				S	**Sn**	**15 16 51.0**	**+0.5**
TUMD	**Tumrok D**	**1.64**	**28**	P	**Pn**	**15 16 26.1**	**-0.2**
TUMR	**Tumrok**	**1.65**	**22**	P	**Pn**	**15 16 26.9**	**+0.4**
MKZ	**Mys Kozlova**	**1.75**	**62**	P	**Pn**	**15 16 27.2**	**-0.2**
MKZ				S	**Sn**	**15 16 51.8**	**-2.0**
MIPR	**Malaya Ipel'ka**	**2.04**	**224**	P	**Pn**	**15 16 30.3**	**-0.4**
KDTR	**Khodutka, Kamc**	**2.05**	**198**	P	**Pn**	**15 16 29.7**	**-1.0**
KDTR				S	**Sn**	**15 16 57.3**	**-2.3**
KMNR	**Kamenistaya**	**2.11**	**18**	P	**Pn**	**15 16 31.7**	**+0.3**
ESO	**Esso**	**2.18**	**354**	P	**Pn**	**15 16 31.4**	**-0.7**
KPT	**Kopyto**	**2.30**	**16**	P	**Pn**	**15 16 33.4**	**-0.2**
KOZ	**Kozyrevsk**	**2.34**	**11**	P	**Pn**	**15 16 33.6**	**-0.4**
KLY	**Klyuchi**	**2.71**	**19**	P	**Pn**	**15 16 39.1**	**+0.9**
KLY				S	**Sn**	**15 17 15.1**	**+1.9**
BDR	**Baidarnaya**	**3.06**	**23**	P	**Pn**	**15 16 43.4**	**+0.8**
SRKR	**Sorokina**	**3.13**	**22**	P	**Pn**	**15 16 44.5**	**+1.1**
KBG	**Krutoberegovo**	**3.25**	**38**	P	**Pn**	**15 16 44.6**	**-0.2**
KBG				S	**Sn**	**15 17 23.9**	**-1.2**
KBTR	**Krutoberegovo**	**3.26**	**40**	P	**Pn**	**15 16 44.3**	**-0.7**
KBTR				S	**Sn**	**15 17 23.5**	**-1.8**
SKR	**Severo-Kuril's**	**3.58**	**212**	S	**Sn**	**15 17 31.7**	**-0.7**
BKI	**Bering**	**4.27**	**67**	P	**Pn**	**15 16 56.4**	**-1.3**
BKI				S	**Sn**	**15 17 44.4**	**-3.7**
SHEM	**Shemya Is, Ala**	**9.07**	**90**	P	**Pn**	**15 18 03.2**	**+2.6**
	3.3nm,0.3s,baz=268,slow=22,SNR=1.2						
ILAR	**Eielson Array**	**28.78**	**46**	P	**P**	**15 21 34.4**	**+0.2**
	0.3nm,0.6s,baz=268,slow=7.5,SNR=4.2						
YKA	**Yellowknife Ar**	**43.08**	**43**	P	**P**	**15 23 36.4**	**+1.1**
	0.1nm,0.3s,baz=303,slow=8.1,SNR=5.2						
MKAR	**Makanchi Array**	**47.32**	**295**	P	**P**	**15 24 06.6**	**-2.4**
	0.2nm,0.6s,baz=59,slow=6.3,SNR=4.8						
PDAR	**Pinedale Array**	**57.72**	**61**	P	**P**	**15 25 27.9**	**+2.3**
	0.4nm,0.6s,baz=315,slow=3.7,SNR=6.4						
FINES	**FINESS Array B**	**59.26**	**336**	P	**P**	**15 25 32.4**	**-3.2**
	0.7nm,0.7s,baz=26,slow=10.0,SNR=1.5						
NOA	**NORSAR Array B**	**62.72**	**343**	P	**P**	**15 25 57.3**	**-1.8**
	1.0nm,0.8s,baz=21,slow=6.2,SNR=2.2						
TXAR	**Lajitas Array**	**70.93**	**66**	P	**P**	**15 26 53.8**	**+2.3**
	0.2nm,0.5s,baz=289,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**76.44**	**204**	P	**P**	**15 27 23.7**	**+0.4**
	0.2nm,0.5s,baz=17,slow=6.1,SNR=2.8						
ASAR	**Alice Springs**	**80.13**	**203**	P	**P**	**15 27 44.7**	**+1.2**
	0.4nm,0.7s,baz=19,slow=4.9,SNR=5.2						

*NEIC **31** 15:17:52.6±1.7, 4°.94S±0°.10×151°.5E±0°.1, h101km±7km, mb4.0/17, Error ellipse: s-maj=19.4km s-min=8.9km az=130.0*
*IDC **31** 15:17:55.0±4.4, 4°.67S×150°.88E, h114km±25km, mb3.5/4, mb1 3.6/5, mb1mx3.2/35, mbtmp3.9/5, Error ellipse: s-maj=64.2km s-min=35.3km az=118.0*

ISC 31 15:17:51.7±0.6, 4°.95S±0°.08×151°.49E±0°.10, h100km, n28, σ1°09/34, mb3.9/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.01**	**42**		**Pn**	**15 18 13.2**	**+1.0**
RABL				Sn	**Sn**	**15 18 28.0**	**+0.3**
PMG	**Port Moresby**	**6.17**	**224**	P	**Pn**	**15 19 22.2**	**+1.8**
	1.8nm,0.3s,baz=34,slow=6.7,SNR=9.9						
PMG				S	**Sn**	**15 20 28.4**	**-1.2**
	3.8nm,0.3s,baz=4.5,slow=13,SNR=3.4						
PMG	**Port Moresby**	**6.17**	**224**	Pn	**Pn**	**15 19 21.1**	**+0.7**
PMG				Sn	**Sn**	**15 20 29.7**	**+0.1**
EIDS	**Eidsvold**	**20.31**	**181**	P	**P**	**15 22 19.1**	**-0.7**
EIDS				IAmb	IAmb	15 23 02.5	
	comp=Z,11nm,1.4s						
MTN	**Manton Dam**	**21.57**	**247**	P	**P**	**15 22 34.9**	**+1.4**
MTN				IAmb	IAmb	15 23 03.7	
	comp=Z,18nm,1.4s						
WB0	**Warramunga Arr**	**22.23**	**227**	P	**P**	**15 22 40.7**	**+0.3**
WB0				IAmb	IAmb	15 23 31.2	
	comp=Z,9.8nm,1.4s						
WR0	**Warramunga Arr**	**22.25**	**226**	P	**P**	**15 22 40.6**	**0.0**
WR0				IAmb	IAmb	15 22 43.5	
	comp=Z,7.9nm,1.3s						
WB2	**Warramunga Arr**	**22.37**	**227**	P	**P**	**15 22 42.3**	**+0.4**
WB2				IAmb	IAmb	15 23 00.8	
	comp=Z,7.1nm,1.2s						
WRA	**Warramunga Arr**	**22.38**	**227**	P	**P**	**15 22 42.3**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=51,slow=10.0,SNR=24						
WRA				PcP	**PcP**	**15 26 33.6**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=47,slow=2.4,SNR=1.3						
WRA				ScP	**ScP**	**15 30 01.3**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=59,slow=2.5,SNR=1.2						
KNRA	**Kununurra**	**24.74**	**243**	P	**P**	**15 23 05.9**	**+1.8**
KNRA				IAmb	IAmb	15 23 19.2	
	comp=Z,7.3nm,0.7s						
AS31	**Alice Springs**	**25.17**	**221**	P	**P**	**15 23 08.9**	**+0.9**
ASAR	**Alice Springs**	**25.18**	**221**	P	**P**	**15 23 08.8**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=54,slow=9.3,SNR=26						
ASAR				ScP	**ScP**	**15 30 09.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=47,slow=3.3,SNR=4.8						
ASAR	**Alice Springs**	**25.18**	**221**	P	**P**	**15 23 08.6**	**+0.5**
STKA	**Stephens Creek**	**28.35**	**198**	P	**P**	**15 23 38.5**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=30,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**28.35**	**198**	P	**P**	**15 23 37.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P	**P**	**15 23 34.5**	**-2.9**
	comp=Z,0.7nm,0.4s,baz=54,slow=9.7,SNR=1.9						
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P	**P**	**15 23 36.3**	**-1.1**
FITZ				IAmb	IAmb	15 23 57.5	
	comp=Z,3.0nm,1.0s						
YOJ	**Yonaguni jima**	**40.29**	**318**	P	**P**	**15 25 18.6**	**-0.8**
BKZ	**Black Stump Fm**	**40.90**	**150**	P	**P**	**15 25 21.9**	**-2.3**
**BS

TKM2	**Tokmak 2**	**3.96**	**24**	⇑Pn	**Pb**	**15 34 12.1**	**-0.8**
	6.3nm,0.8s							
TKM2				⇑Lg	Lg	15 35 04.4		
	8.9nm,0.6s							
KDJ	**Kajisay**	**4.02**	**45**	⇓*iP*	**Pb**	**15 34 11.9**	**-2.0**
	baz=47							
KDJ				⇓*iS*	**Sb**	**15 34 59.4**	**-3.2**
	baz=47							
USP	**Ospenovka**	**4.03**	**12**	⇑*eP*	**Pb**	**15 34 10.4**	**-3.4**
	baz=13							
USP				⇑*iS*	**Sn**	**15 34 56.8**	**+5.0**
	baz=13							
KST	**Kastek**	**4.19**	**27**	*eP*	**Pg**	**15 34 23.8**	**+0.7**
	3.1nm,0.0s							
KST				*eS*	**Sg**	**15 35 19.5**	**+2.1**
	15nm,0.7s							
KST	**Kastek**	**4.19**	**27**	Pg	**Pg**	**15 34 23.8**	**+0.7**
	4.4nm,0.3s							
KST				Lg	Lg	15 35 19.5		
	15nm,0.7s							
SGDS	**Sogindy**	**4.23**	**12**	*eP*	**Pg**	**15 34 22.0**	**-1.7**
	3.2nm,0.1s							
SGDS				*eS*	**Sg**	**15 35 16.2**	**-2.4**
	7.6nm,0.3s							
SGDS	**Sogindy**	**4.23**	**12**	Pg	**Pg**	**15 34 22.0**	**-1.7**
	3.7nm,0.5s							
SGDS				Lg	Lg	15 35 16.2		
	7.6nm,0.8s							
DGS	**Degeres**	**4.31**	**24**	*eP*	**Pg**	**15 34 24.8**	**-0.5**
	3.4nm,0.6s							
DGS				*eS*	**Sg**	**15 35 21.6**	**+0.5**
	11nm,0.3s							
KK09	**Karatay Array**	**4.37**	**331**	⇑Pn	**Pb**	**15 34 17.3**	**-2.3**
	6.8nm,0.7s,baz=137,slow=13							
KK09				Lg	Lg	15 35 13.7		
	baz=141,slow=14							
MTBS	**Maitube**	**4.44**	**30**	*eP*	**Pg**	**15 34 27.9**	**+0.1**
	4.2nm,0.0s							
MTBS				*eS*	**Sg**	**15 35 25.8**	**+0.4**
	8.7nm,0.1s							
MTBS	**Maitube**	**4.44**	**30**	Pg	**Pg**	**15 34 27.9**	**+0.1**
	8.9nm,0.5s							
MTBS				Lg	Lg	15 35 25.8		
	9.3nm,0.6s							
BRLS	**Borolday**	**4.56**	**325**	*eP*	**Pg**	**15 34 26.5**	**-3.7**
	3.7nm,0.2s							
BRLS				*eS*	**Sb**	**15 35 23.2**	**+5.2**
	11nm,0.1s							
TNSS	**Tian-Shan**	**4.58**	**35**	*eP*	**Pg**	**15 34 32.3**	**+1.8**
	3.3nm,0.1s							
TNSS				*eS*	**Sg**	**15 35 34.0**	**+4.1**
	5.1nm,0.8s							
TNSS	**Tian-Shan**	**4.58**	**35**	Pg	**Pg**	**15 34 32.3**	**+1.8**
	4.4nm,0.4s							
TNSS				Lg	Lg	15 35 34.0		
	5.1nm,0.8s							
KRBS	**Karabastau**	**4.69**	**21**	*eP*	**Pg**	**15 34 32.2**	**-0.4**
	9.7nm,0.6s							
KRBS				*eS*	**Sg**	**15 35 33.5**	**0.0**
	6.0nm,0.3s							
KRBS	**Karabastau**	**4.69**	**21**	Pg	**Pg**	**15 34 32.2**	**-0.4**
	9.7nm,0.6s							
KRBS				Lg	Lg	15 35 33.5		
	5.9nm,0.7s							
MDOK	**Medeo**	**4.73**	**35**	*eP*	**Pg**	**15 34 34.6**	**+1.2**
	3.1nm,0.1s							
MDOK				*eS*	**Sg**	**15 35 37.3**	**+2.7**
	12nm,0.8s							
MDOK	**Medeo**	**4.73**	**35**	Pn	**Pb**	**15 34 25.6**	**-0.3**
	6.3nm,0.6s							
MDOK				Lg	Lg	15 35 34.5		
	12nm,0.8s							
MDOK	**Medeo**	**4.73**	**35**	Pg	**Pg**	**15 34 34.6**	**+1.2**
	7.2nm,0.8s							
MDOK				Lg	Lg	15 35 37.3		
	12nm,0.8s							
ANVS	**Anan'yevo**	**4.74**	**42**	⇑*iP*	**Pb**	**15 34 21.5**	**-4.5**
	baz=43							
ANVS				⇑*iS*	**Sn**	**15 35 15.7**	**+6.2**
	baz=43							
KOTS	**Kotyrbulak**	**4.81**	**35**	*eP*	**Pg**	**15 34 34.1**	**-0.8**
	3.8nm,0.3s							
KOTS				*eS*	**Sg**	**15 35 37.1**	**-0.2**
	16nm,0.1s							
KTBS	**Karatobe**	**5.04**	**28**	*eP*	**Pg**	**15 34 38.2**	**-1.0**
	3.7nm,0.6s							
KTBS				*eS*	**Sg**	**15 35 44.8**	**+0.4**
	20nm,0.5s							
KTBS	**Karatobe**	**5.04**	**28**	Pg	**Pg**	**15 34 38.2**	**-1.0**
	3.7nm,0.6s							
KTBS				Lg	Lg	15 35 44.8		
	20nm,0.5s							
KUU	**Kurty**	**5.07**	**25**	*eP*	**Pg**	**15 34 40.2**	**+0.2**
	2.6nm,0.1s							
KUU				*eS*	**Sg**	**15 35 46.8**	**+1.2**
	20nm,0.6s							
KUU	**Kurty**	**5.07**	**25**	Pg	**Pg**	**15 34 40.2**	**+0.2**
	2.7nm,0.3s							
KUU				Lg	Lg	15 35 46.8		
	20nm,0.6s							
CHKK	**Chushkaly**	**5.27**	**30**	*eP*	**Pg**	**15 34 43.6**	**-0.1**
	1.8nm,0.1s							
CHKK				*eS*	**Sg**	**15 35 53.7**	**+1.7**
	5.8nm,0.5s							
CHKK	**Chushkaly**	**5.27**	**30**	Pg	**Pg**	**15 34 43.6**	**-0.1**
	1.9nm,0.4s							
CHKK				Lg	Lg	15 35 53.7		
	5.8nm,0.5s							
BTLS	**Baital**	**5.73**	**5**	*eP*	**Pg**	**15 34 51.2**	**-1.4**
	1.5nm,0.1s							
BTLS				*eS*	**Sg**	**15 36 05.4**	**-1.3**
	5.1nm,0.2s							
ARXS	**Arharly**	**5.91**	**33**	*eP*	**Pg**	**15 34 55.5**	**-0.4**
	1.6nm,0.4s							
ARXS				*eS*	**Sg**	**15 36 13.1**	**+0.7**
	6.6nm,0.5s							
ARXS	**Arharly**	**5.91**	**33**	Pg	**Pg**	**15 34 55.5**	**-0.4**
	1.6nm,0.4s							
ARXS				Lg	Lg	15 36 13.1		
	6.6nm,0.5s							
PDGK	**Podgornoye**	**6.09**	**47**	⇑Pn	Pb	15 34 41.7	-7.4	
	1.7nm,0.9s							
PDGK				⇓Pg	**Pg**	**15 34 59.3**	**-0.1**
	3.1nm,0.7s							
PDGK				⇓Lg	Lg	15 36 21.9		
	13nm,1.3s							
OTUK	**Ortayu**	**8.95**	**356**	⇓Lg	Lg	15 37 44.9		
	2.6nm,0.8s							

*THE **31** 15:38:34.8,37°.52N×19°.74E,h0km±3km,ML4.1/7,Error ellipse: s-maj=4.7km s-min=1.5km az=227.0*
*ATH **31** 15:38:34.8,37°.56N×19°.73E,h14km±2km,ML3.7/13,Error ellipse: s-maj=4.3km s-min=1.6km az=53.0*
*IDC **31** 15:38:35.1±0.8,37°.64N×19°.95E,h0km,mb3.9/14, mb1 4.0/27,mb1mx3.8/64,mbtmp3.8/27,ML3.6/13,MS2.9/5, Ms1 2.9/5,ms1mx2.4/98,Error ellipse: s-maj=16.1km s-min=13.3km az=8.0*
*NEIC **31** 15:38:36.9±2.2,37°.64N±0°.07×19°.89E±0°.05,h11km±4km, mb4.5/17,ML4.1(THE),Error ellipse: s-maj=10.0km s-min=5.6km az=181.0*
*MED_RC **31** 15:38:37.0±0.9,37°.65N×19°.83E,h15km±3km,MW4.0/4, Moment Tensor Solution.Mantle waves: s4,c6; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr=1.34±.35; Mθθ=0.08±.20; Mφφ=-1.42±.21; Mrθ=0.04±.26; Mφθ=0.38±.13; Mφr=0.46±.23; Best double couple: M0=1.50000×10^15^ NP1:ϕs=170.00000°,δ54.00000°,λ94.00000°. NP2: ϕs=343.00000°,δ36.00000°,λ85.00000°. Principal axes: T 1.4200, Plg81.0000°, Azm97.0000°; N 0.1700, Plg3.0000°, Azm347.0000°; P -1.5800, Plg9.0000°, Azm257.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*PDG **31** 15:38:38.8±0.7,37°.78N×19°.78E,h22km±1km,ML4.0/12 Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*
*TIR **31** 15:38:39.9,37°.98N×19°.62E,h26km±3km,Md3.9,Ml3.8*
ISC 31 15:38:37.3±0.9,**37°.66N**±0°.04×**19°.81E**±0°.03,**h16**km±5km, **n216,σ1s54/259,mb4.3/25,15C-8D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.69**	**38**	P	**Pg**	**15 38 50.7**	**-0.2**
KEF3	**Kipouria, Keph**	**0.69**	**38**	P	**Pg**	**15 38 50.5**	**-0.3**
KEF3				S	**Sn**	**15 39 02.5**	**-0.2**
	20μm,0.3s						
DMLN	**Damoulianata-K**	**0.73**	**37**	P	**Pg**	**15 38 51.0**	**-0.6**
ARGA	**Argostoli. Kep**	**0.74**	**45**	P	**Pb**	**15 38 52.0**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.76**	**53**	P	**Pg**	**15 38 51.0**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.76**	**53**	P	**Pg**	**15 38 50.8**	**-1.4**
PSDA				S	**Sn**	**15 39 04.2**	**-0.3**
	1μm,0.3s						
KEF4	**Livadi, Kephal**	**0.77**	**39**	P	**Pg**	**15 38 52.0**	**-0.3**
KEF4	**Livadi, Kephal**	**0.77**	**39**	P	**Pg**	**15 38 51.9**	**-0.4**
KEF4				S	**Sn**	**15 39 05.8**	**+1.1**
	44μm,0.4s						
VLS	**Valsamata**	**0.81**	**50**	P	**Pg**	**15 38 51.6**	**-1.4**
VLS				AML	AML	15 39 12.5	
	comp=E,9286μm,0.4s						
VLS				AML	AML	15 39 15.1	
	comp=N,13358μm,0.4s						
VLS	**Valsamata**	**0.81**	**50**	P	**Pg**	**15 38 51.7**	**-1.3**
VLS				S	**Sn**	**15 39 05.7**	**+0.1**
	comp=N,6μm,0.4s						
LTHK	**Lithakia**	**0.82**	**86**	P	**Pg**	**15 38 51.8**	**-1.4**
LTHK	**Lithakia**	**0.82**	**86**	P	**Pg**	**15 38 51.7**	**-1.4**
LTHK				S	**Sb**	**15 39 04.7**	**+0.9**
FSK	**Fiskardo**	**1.00**	**36**	P	**Pb**	**15 38 55.6**	**-0.5**
FSK				S	**Sn**	**15 39 12.4**	**+2.1**
FSK				AML	AML	15 39 16.5	
	comp=E,7356μm,0.7s						
FSK				AML	AML	15 39 18.3	
	comp=N,5315μm,0.6s						
EVGI	**Lefkada island**	**1.17**	**35**	P	**Pn**	**15 38 59.0**	**0.0**
EVGI	**Lefkada island**	**1.17**	**35**	P	**Pb**	**15 38 59.6**	**+0.5**
EVGI				S	**Sg**	**15 39 17.9**	**+2.7**
	comp=N,4μm,0.2s						
DRAG	**Dragano-Lefkad**	**1.19**	**30**	P	**Pg**	**15 39 00.3**	**0.0**
DRAG	**Dragano-Lefkad**	**1.19**	**30**	P	**Pg**	**15 39 00.3**	**0.0**
DRAG				S	**Sg**	**15 39 19.8**	**+4.0**
	comp=N,5μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.27**	**33**	P	**Pn**	**15 39 00.6**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.27**	**33**	P	**Pb**	**15 39 01.2**	**+0.5**
NYDR				S	**Sg**	**15 39 20.8**	**+2.6**
LKD2	**Lefkada island**	**1.31**	**30**	P	**Pb**	**15 39 02.1**	**+0.6**
LKD2				S	**Sg**	**15 39 21.5**	**+1.8**
LKD2				AML	AML	15 39 23.6	
	comp=N,8266μm,0.2s						
LKD2				AML	AML	15 39 25.0	
	comp=E,7552μm,0.3s						
LKD2	**Lefkada island**	**1.31**	**30**	P	**Pg**	**15 39 02.2**	**-0.4**
	baz=44						
LKD2				S	**Sb**	**15 39 18.0**	**-0.1**
	baz=44						
TSLK	**Tsoukalades, L**	**1.34**	**30**	P	**Pb**	**15 39 02.6**	**+0.6**
TSLK				AML	AML	15 39 25.2	
	comp=N,7062μm,0.8s						
TSLK				AML	AML	15 39 29.3	
	comp=E,7367μm,0.3s						
TSLK	**Tsoukalades, L**	**1.34**	**30**	P	**Pb**	**15 39 02.6**	**+0.6**
TSLK				S	**Sg**	**15 39 23.3**	**+2.6**
	comp=E,3μm,0.8s						
RLS	**Riolos of Patr**	**1.37**	**73**	P	**Pn**	**15 39 01.9**	**+0.2**
RLS				AML	AML	15 39 30.9	
	comp=E,3703μm,0.9s						
RLS				AML	AML	15 39 36.4	
	comp=N,3028μm,0.8s						
PYL	**PYLOS**	**1.72**	**116**	P	**Pn**	**15 39 06.7**	**+0.2**
ITM	**Ithomi**	**1.75**	**105**	P	**Pn**	**15 39 07.3**	**+0.3**
ITM				AML	AML	15 39 51.1	
	comp=E,1702μm,0.8s						
ITM				AML	AML	15 39 57.5	
	comp=N,1533μm,0.7s						
ITM	**Ithomi**	**1.75**	**105**		**Pn**	**15 39 07.0**	**0.0**
LAKA	**Lakka**	**1.81**	**71**	P	**Pb**	**15 39 09.1**	**-0.9**
LAKA				AML	AML	15 39 52.0	
	comp=N,6386μm,0.9s						
LAKA				AML	AML	15 40 03.8	
	comp=E,8044μm,0.7s						
EFP	**Efpalio**	**1.83**	**64**	P	**Pb**	**15 39 09.6**	**-0.7**
EFP				AML	AML	15 39 49.6	
	comp=E,2138μm,0.8s						
EFP				AML	AML	15 39 50.3	
	comp=N,2325μm,1.3s						
KLV	**Kalavryta, Ach**	**1.89**	**78**	P	**Pb**	**15 39 10.5**	**-0.9**
KLV				AML	AML	15 39 49.8	
	comp=N,1366μm,0.9s						
KLV				AML	AML	15 40 02.2	
	comp=E,1352μm,0.9s						
ANX	**Ano Chora**	**1.91**	**60**	P	**Pb**	**15 39 11.3**	**-0.5**
IGT	**Igoumenitsa**	**1.92**	**12**	P	**Pn**	**15 39 09.7**	**+0.5**
IGT				AML	AML	15 39 49.0	
	comp=E,1809μm,0.7s						
IGT				AML	AML	15 39 50.2	
	comp=N,1667μm,0.7s						
IGT	**Igoumenitsa**	**1.92**	**12**	P	**Pn**	**15 39 10.0**	**+0.8**
	baz=19						
IGT				S	**Sn**	**15 39 33.5**	**+0.5**
	baz=19						
EVR	**Evrytania**	**2.01**	**51**	P	**Pb**	**15 39 12.7**	**-0.9**
EVR				AML	AML	15 39 58.9	
	comp=E,2019μm,1.1s						
EVR				AML	AML	15 40 05.5	
	comp=N,1578μm,1.1s						
KEK	**Kerkira**	**2.05**	**360**	P	**Pn**	**15 39 11.9**	**+0.8**
KEK				AML	AML	15 39 51.9	
	comp=E,1786μm,0.7s						
KEK				AML	AML	15 39 57.3	
	comp=N,1544μm,0.5s						
JAN	**Janina**	**2.16**	**22**	P	**Pn**	**15 39 13.6**	**+1.1**
JAN				AML	AML	15 39 58.9	
	comp=E,1685μm,0.5s						
JAN				AML	AML	15 39 59.6	
	comp=N,1286μm,0.4s						
SRN	**Sarande**	**2.22**	**4**	P	**Pn**	**15 39 14.2**	**+0.8**
	baz=8.0						
SRN				S	**Sn**	**15 39 40.7**	**+0.2**
	baz=8.0						
SRN				AMP			
	comp=N,1.5nm,0.7s,baz=8.0						
MAKR	**Makrakomi, Fth**	**2.27**	**53**	P	**Pb**	**15 39 16.6**	**-1.3**
THAL	**Thalero**	**2.29**	**80**	P	**Pn**	**15 39 15.9**	**+1.5**
AGG	**Agios Georgios**	**2.41**	**55**	P	**Pn**	**15 39 17.7**	**+1.7**
AGG	**Agios Georgios**	**2.41**	**55**		**Pn**	**15 39 17.4**	**+1.5**
LSK	**Leskovik**	**2.56**	**14**	P	**Pn**	**15 39 20.7**	**+2.5**
	baz=19						
LSK				S	**Sn**	**15 39 49.9**	**+0.9**
	baz=19						
LSK				AMP			
	comp=E,2.9nm,0.6s,baz=19						
THL	**Klokotos Trika**	**2.57**	**42**	P	**Pn**	**15 39 20.0**	**+1.8**
KPRO	**Kipourio**	**2.59**	**27**	P	**Pb**	**15 39 21.3**	**-2.1**
SCTE	**Santa Cesarea**	**2.63**	**337**		**Pn**	**15 39 19.9**	**+0.9**
SCTE	**Santa Cesarea**	**2.63**	**337**	P	**Pn**	**15 39 19.5**	**+0.5**
	baz=338						
ATAL	**Atalanti**	**2.73**	**67**	P	**Pn**	**15 39 20.5**	**0.0**
VLO	**Vlora**	**2.82**	**355**	Pn	**Pn**	**15 39 22.1**	**+0.6**
TIP	**Timpagrande**	**2.84**	**303**	⇑P	**Pn**	**15 39 22.6**	**+0.7**
TIP				⇓S	**Sn**	**15 39 57.6**	**+1.8**
TIP	**Timpagrande**	**2.84**	**303**	P	**Pn**	**15 39 23.3**	**+1.4**
TIP	**Timpagrande**	**2.84**	**303**		**Pn**	**15 39 22.7**	**+0.7**
KTHR	**Kythira**	**2.92**	**118**	P	**Pn**	**15 39 24.7**	**+1.8**
NEST	**Nestorio**	**2.92**	**19**	P	**Pn**	**15 39 25.8**	**+2.8**
KTHA	**Kythira Island**	**2.96**	**117**	P	**Pn**	**15 39 25.2**	**+1.6**
KBN	**Korca**	**3.06**	**14**		**Pn**	**15 39 25.0**	**0.0**
KBN	**Korca**	**3.06**	**14**	P	**Pn**	**15 39 27.5**	**+2.5**
	baz=18						
KBN				S	**Sn**	**15 40 02.3**	**+1.1**
	baz=18						
KBN				AMP			
	comp=E,0.8nm,0.7s,baz=18						
NEO	**Neokhori**	**3.15**	**57**	P	**Pn**	**15 39 26.7**	**+0.5**
CEL	**Celeste**	**3.15**	**282**	Pn	**Pn**	**15 39 27.4**	**+1.2**
XOR	**Xorichti**	**3.15**	**56**	P	**Pn**	**15 39 26.4**	**+0.1**
LIT	**Litokhoron**	**3.21**	**40**		**Pn**	**15 39 28.3**	**+1.3**
ANKY	**Antikythira Is**	**3.33**	**121**	P	**Pn**	**15 39 29.5**	**+1.0**
FNA	**Florina**	**3.35**	**21**		**Pn**	**15 39 30.6**	**+1.6**
FNA	**Florina**	**3.35**	**21**	P	**Pn**	**15 39 30.8**	**+1.9**
	baz=25						
FNA				S	**Sn**	**15 40 10.9**	**+2.5**
	baz=25						
OHR	**Ohrid**	**3.53**	**12**	*i* Pn	**Pn**	**15 39 34.3**	**+2.8**
OHR				*i* Sn	**Sg**	**15 40 29.0**	**-1.8**
TIR	**Tirane**	**3.69**	**1**		**Pn**	**15 39 35.0**	**+1.5**
TIR	**Tirane**	**3.69**	**1**	P	**Pn**	**15 39 34.1**	**+0.6**
	baz=3.0						
NOCI	**Noci**	**3.78**	**327**	P	**Pn**	**15 39 35.4**	**+0.5**
MATE	**Matera**	**3.84**	**322**	⇓P	**Pn**	**15 39 36.9**	**+1.3**
MATE				⇑S	**Sn**	**15 40 21.5**	**+1.1**
PHP	**Peshkopia**	**4.05**	**7**	P	**Pn**	**15 39 39.4**	**+0.8**
	baz=9.0						
PHP				S	**Sn**	**15 40 27.5**	**+1.8**
	baz=9.0						
PHP				AMP			
	comp=N,0.4nm,1.0s,baz=9.0						
VAY	**Valandovo**	**4.24**	**29**	*i* Pn	**Pn**	**15 39 42.1**	**+1.0**
VAY				*i* Sn	**Sn**	**15 40 31.0**	**+0.8**
VAE	**Valguarnera**	**4.29**	**269**	Pn	**Pn**	**15 39 44.8**	**+2.9**
	comp=N,3.6nm,0.3s,baz=120,slow=6.0,SNR=5.6						
VAE				Sn	**Sn**	**15 40 31.6**	**0.0**
	comp=N,12nm,0.3s,baz=329,slow=8.0,SNR=6.3						
ULC	**Ulcinj**	**4.32**	**354**	⇓*i* Pn	**Pn**	**15 39 41.8**	**-0.5**
ULC				*i* Sn	**Sn**	**15 40 31.9**	**-0.4**
STIP	**Stip**	**4.43**	**24**	*i* Pn	**Pn**	**15 39 46.4**	**+2.7**
DRME	**Dracevica, Mon**	**4.55**	**354**	*eP*n	**Pn**	**15 39 45.1**	**-0.3**
DRME	**Dracevica, Mon**	**4.55**	**354**	*eP*n	**Pn**	**15 39 45.1**	**-0.3**
DRME				*i* Sn	**Sn**	**15 40 37.2**	**-0.7**
BUM	**Brajici-Budva**	**4.69**	**352**	⇑*i* Pn	**Pn**	**15 39 47.2**	**-0.2**
BUM				*i* Sn	**Sn**	**15 40 40.5**	**-1.0**
BCI	**Bajram Curri**	**4.71**	**2**	P	**Pn**	**15 39 49.6**	**+2.0**
	baz=4.0						
IDI	**Anoyia**	**4.73**	**118**	⇑P	**Pn**	**15 39 48.8**	**+0.9**
IDI	**Anoyia**	**4.73**	**118**	Pn	**Pn**	**15 39 47.2**	**-0.7**
	comp=N,0.9nm,0.3s,baz=297,slow=18,SNR=6.7						
IDI				Sn	**Sn**	**15 40 40.6**	**-1.8**
	comp=N,2.9nm,0.3s,baz=11,slow=23,SNR=2.4						
IDI	**Anoyia**	**4.73**	**118**	Pn	**Pn**	**15 39 47.5**	**-0.5**
PDG	**Podgorica**	**4.79**	**355**	⇑P	**Pn**	**15 39 49.2**	**+0.6**
PDG	**Podgorica**	**4.79**	**355**		**Pn**	**15 39 48.8**	**+0.3**
PDG	**Podgorica**	**4.79**	**355**	*eP*n	**Pn**	**15 39 48.9**	**+0.3**
TTG	**Podgorica**	**4.79**	**355**	⇑*i* Pn	**Pn**	**15 39 48.4**	**-0.2**
TTG				*i* Sn	**Sn**	**15 40 42.9**	**-0.8**
HCY	**Herceg Novi**	**4.89**	**349**	*eP*n	**Pn**	**15 39 50.1**	**0.0**
HCY	**Herceg Novi**	**4.89**	**349**	⇓*i* Pn	**Pn**	**15 39 50.0**	**0.0**
HCY				*i* Sn	**Sn**	**15 40 45.2**	**-1.1**
KKB	**Krupnik**	**4.90**	**30**	*eP*	**Pn**	**15 39 49.7**	**-0.6**
CEME	**Cevo**	**4.93**	**352**	⇓*i* Pn	**Pn**	**15 39 50.1**	**-0.6**
CEME				*i* Sn	**Sn**	**15 40 46.3**	**-1.1**
PVY	**Plav**	**4.93**	**1**	*eP*n	**Pn**	**15 39 50.4**	**-0.4**
MMB	**Musomiste**	**4.96**	**36**	*eP*	**Pn**	**15 39 51.7**	**+0.7**
NKME	**Niksic**	**5.14**	**353**	⇑*i* Pn	**Pn**	**15 39 53.5**	**-0.1**
NKME				*i* Sn	**Sn**	**15 40 51.2**	**-1.4**
SGRT	**San Giovanni R**	**5.15**	**324**	Pn	**Pn**	**15 39 54.6**	**+0.8**
DBRK	**Dubrovnik**	**5.16**	**346**	*eP*n	**Pn**	**15 39 53.4**	**-0.5**
TREB	**Trebinje**	**5.17**	**348**	*eP*n	**Pn**	**15 39 53.5**	**-0.5**
KOME	**Kolasin**	**5.19**	**358**	*eP*n	**Pn**	**15 39 54.0**	**-0.3**
KOME				*eS*n	**Sn**	**15 40 52.4**	**-1.5**
IVA	**Berane**	**5.21**	**1**	⇓*i* Pn	**Pn**	**15 39 54.5**	**0.0**
IVA				*i* Sn	**Sn**	**15 40 53.1**	**-1.2**
CLTB	**Caltabellotta**	**5.23**	**271**	Pn	**Pn**	**15 39 52.4**	**-2.5**
PAOL	**Paolisi**	**5.28**	**311**	Pn	**Pn**	**15 39 55.7**	**+0.3**
BRY	**Bratogost**	**5.33**	**350**	*eP*n	**Pn**	**15 39 54.4**	**-1.8**
BRY	**Bratogost**	**5.33**	**350**	⇑*i* Pn	**Pn**	**15 39 56.0**	**-0.2**
BRY				*i* Sn	**Sn**	**15 40 56.0**	**-1.3**
STON	**Ston**	**5.45**	**343**	*eP*n	**Pn**	**15 39 57.4**	**-0.3**
STON	**Ston**	**5.45**	**343**	*eP*n	**Pn**	**15 39 57.8**	**0.0**
STON				Sn	**Sn**	**15 40 55.5**	**-4.6**
RZN	**Rozhen**	**5.53**	**42**	*eP*	**Pn**	**15 40 00.1**	**+1.1**
LSTV	**Lastovo**	**5.57**	**337**	*eP*n	**Pn**	**15 39 58.9**	**-0.5**
LSTV				Sn	**Sn**	**15 40 58.0**	**-5.0**
UPM	**Unac-Piva**	**5.58**	**353**	*eP*n	**Pn**	**15 40 01.0**	**+1.3**
UPM	**Unac-Piva**	**5.58**	**353**	⇑*i* Pn	**Pn**	**15 39 59.7**	**0.0**
UPM				*i* Sn	**Sn**	**15 41 02.0**	**-1.6**
VTS	**Vitosha**	**5.61**	**27**	⇑P	**Pn**	**15 40 01.1**	**+1.0**
VTS	**Vitosha**	**5.61**	**27**	Pn	**Pn**	**15 40 00.3**	**+0.3**
VTS	**Vitosha**	**5.61**	**27**	*eP*	**Pn**	**15 40 01.1**	**+1.0**
ALN	**Alexandroupoli**	**5.82**	**54**		**Pn**	**15 40 02.4**	**-0.4**
KDZ	**Kurdzhali**	**5.88**	**46**	*eP*	**Pn**	**15 40 03.6**	**-0.1**
RUDO	**Rudo**	**5.96**	**357**	*eP*n	**Pn**	**15 40 04.4**	**-0.4**
HVAR	**Hvar**	**6.08**	**336**	*eP*n	**Pn**	**15 40 06.6**	**+0.2**
HVAR				Sn	**Sn**	**15 41 10.8**	**-4.8**
BOVS	**Bovan**	**6.14**	**13**	⇓P	**Pn**	**15 40 09.0**	**+1.8**
RICI	**Ricice**	**6.17**	**342**	*eP*n	**Pn**	**15 40 07.7**	**-0.1**
BBLS	**Lazići**	**6.21**	**357**	*eP*n	**Pn**	**15 40 08.2**	**-0.1**
KARP	**Karpathos**	**6.28**	**107**	Pn	**Pn**	**15 40 08.1**	**-1.1**
DIVS	**Divibare**	**6.43**	**1**	Pn	**Pn**	**15 40 11.4**	**0.0**
DIVS	**Divibare**	**6.43**	**1**	*eP*n	**Pn**	**15 40 09.9**	**-1.5**
SRKY	**Kupres RS**	**6.71**	**343**	*eP*n	**Pn**	**15 40 14.9**	**-0.2**
ZIRJ	**Zirje**	**6.77**	**333**	*eP*n	**Pn**	**15 40 15.7**	**-0.2**
KIJV	**Kijevo**	**6.84**	**339**	*eP*n	**Pn**	**15 40 17.9**	**+1.0**
MORI	**Morici**	**6.94**	**335**	*eP*n	**Pn**	**15 40 19.0**	**+0.8**
MGRS	**Mrkonjic Grad**	**7.06**	**344**	*eP*n	**Pn**	**15 40 21.1**	**+1.2**
NRCA	**Norcia**	**7.27**	**317**	Pn	**Pn**	**15 40 25.4**	**+2.5**
DUGI	**Dugi Otok**	**7.28**	**332**	*eP*n	**Pn**	**15 40 24.0**	**+1.1**
BLY	**Banja Luka**	**7.36**	**345**	*eP*n	**Pn**	**15 40 22.0**	**-1.9**
FRGS	**Fruska Gora**	**7.49**	**0**	*eP*n	**Pn**	**15 40 23.2**	**-2.6**
VIRC	**Vir**	**7.54**	**333**	*eP*n	**Pn**	**15 40 28.2**	**+1.8**
NVLJ	**Novalja**	**7.84**	**333**	*eP*n	**Pn**	**15 40 32.3**	**+1.8**
NVLJ				Sn	**Sn**	**15 41 53.9**	**-4.9**
PLIT	**Plitvice**	**7.87**	**338**	*eP*n	**Pn**	**15 40 32.8**	**+1.8**
MURB	**Monte Urbino**	**

MNK				*i* PP	**sP**	15 42 49.1	-0.5	
MNK				*i* PPP	PPP	15 42 56.8		
MNK				*i* S	**Sn**	**15 45 57.7**	**-2.6**	
MNK				*i* SS	**SnSn**	**15 46 12.7**	**-1.2**	
MNK				*i* SSS	SSS	15 46 25.5		
MNK				*i* LQ	LQ	15 47 16.2		
MNK				*i* LR	LR	15 48 51.1		
MNK				*i* LRM	MLR	15 50 40.5		
	comp=E,32nm,22.9s							
MNK				*i* LRM	MLR	15 50 42.2		
	comp=N,134nm,18.6s							
MNK				*i* LRM	MLR	15 51 25.5		
	comp=Z,200nm,20.4s							
KBZ	**Khabaz**	**18.50**	**64**	P	**P**	**15 42 52.8**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=294,slow=7.7,SNR=5.2							
ESDC	**Sonseca Array**	**18.66**	**284**	P	**Pn**	**15 42 56.1**	**+1.2**	
	comp=Z,0.1nm,0.3s,baz=73,slow=13,SNR=6.0							
ONI	**Oni**	**18.72**	**67**	P	**P**	**15 42 53.2**	**-1.9**	
GNI	**Garni**	**19.55**	**75**	P	**P**	**15 43 03.5**	**-0.8**	
	comp=Z,1.1nm,0.3s,baz=165,slow=20,SNR=1.7							
GNI				LR	LR	15 51 16.0		
	comp=Z,44nm,19.5s,baz=287,slow=39							
GNI	**Garni**	**19.55**	**75**	lAmb	lAmb	15 43 09.0		
	comp=Z,19nm,1.3s							
HFS	**Hagfors**	**22.83**	**352**	P	**P**	**15 43 39.4**	**+0.2**	
	comp=Z,2.8nm,0.6s,baz=192,slow=13,SNR=11							
EKA	**Eskdalemuir Ar**	**23.54**	**326**	P	**P**	**15 43 47.4**	**+0.9**	
	comp=Z,4.2nm,0.8s,baz=126,slow=12,SNR=11							
NAO01	**NORSAR Array S**	**23.88**	**349**	P	**P**	**15 43 48.4**	**-1.4**	
NAO01				lAmb	lAmb	15 43 53.0		
	comp=Z,43nm,1.4s							
NB201	**NORSAR Array S**	**24.02**	**350**	P	**P**	**15 43 52.6**	**+1.5**	
NB2	**NORSAR Subarra**	**24.02**	**350**	P	**P**	**15 43 51.4**	**+0.3**	
	comp=Z,6.8nm,1.1s,baz=160,slow=9.3							
NOA	**NORSAR Array B**	**24.02**	**350**	P	**P**	**15 43 50.9**	**-0.3**	
	comp=Z,1.9nm,0.8s,baz=161,slow=9.2,SNR=5.0							
NC405	**NORSAR Array S**	**24.02**	**350**	P	**P**	**15 43 51.0**	**-0.1**	
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	**15 43 51.4**	**-0.6**	
	comp=Z,1.2nm,0.5s,baz=168,slow=9.8,SNR=7.4							
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	**15 43 51.3**	**-0.8**	
FIA1	**FINESS Array S**	**24.13**	**7**	P	**P**	**15 43 50.9**	**-1.2**	
FIA1				lAmb	lAmb	15 44 23.9		
	comp=Z,18nm,1.6s							
TORD	**Torodi Ar. Bea**	**29.27**	**218**	P	**P**	**15 44 39.2**	**+0.5**	
	comp=Z,0.7nm,0.5s,baz=32,slow=8.6,SNR=5.6							
AKTO	**Aktyubinsk**	**29.94**	**52**	LR	LR	15 58 28.2		
	comp=Z,21nm,18.5s,baz=317,slow=40							
ABKAR	**Akbulak array**	**31.00**	**55**	P	**P**	**15 44 52.6**	**-1.2**	
ARCES	**ARCESS Array B**	**32.09**	**4**	P	**P**	**15 45 02.7**	**-0.4**	
	comp=Z,3.5nm,1.0s,baz=203,slow=3.5,SNR=1.9							
KEV	**Kevo**	**32.39**	**5**	P	**P**	**15 45 05.9**	**+0.2**	
DBIC	**Dimbokro**	**38.13**	**222**	P	**P**	**15 45 55.9**	**+0.3**	
DBIC				lAmb	lAmb	15 46 24.0		
	comp=Z,31nm,1.7s							
BOOM	**Boomskoye usch**	**42.56**	**65**	P	**P**	**15 46 31.8**	**-0.6**	
BOOM				lAmb	lAmb	15 47 09.7		
	comp=Z,4.6nm,1.1s							
MAKZ	**Makanchi**	**45.84**	**58**	P	**P**	**15 46 56.7**	**-1.7**	
MK31	**Makanchi Array**	**46.05**	**58**	P	**P**	**15 46 59.1**	**-1.0**	
MKAR	**Makanchi Array**	**46.05**	**58**	P	**P**	**15 46 59.2**	**-0.9**	
	comp=Z,1.7nm,0.5s,baz=278,slow=6.8,SNR=33							
ZALV	**Zalesovo Beam**	**46.46**	**48**	P	**P**	**15 47 02.3**	**-0.8**	
	comp=Z,3.2nm,0.6s,baz=272,slow=8.1,SNR=18							
NRIK	**Noril'sk**	**47.51**	**26**	P	**P**	**15 47 12.0**	**+0.9**	
	comp=Z,2.5nm,0.8s,baz=237,slow=5.1,SNR=6.1							
NRIK	**Noril'sk**	**47.51**	**26**	lAmb	lAmb	15 47 13.4		
	comp=Z,2.2nm,0.7s							
WMQ	**Urumqi**	**50.51**	**60**	*e*P	**P**	**15 47 36.0**	**+1.5**	
WMQ				pP	sP	15 47 40.5	+0.2	
WMQ				pmax	pmax			
	comp=Z,17nm,0.6s							
GOMU	**GeErMu**	**58.41**	**67**	P	P	15 48 24.5	-8.0	
GOMU				pP	pP	15 48 29.0	-7.7	
GOMU				sP	sP	15 48 30.8	-7.5	
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.4s							
GOMU				pmax	pmax			
	comp=Z,58nm,4.3s							
SCHQ	**Schefferville**	**58.46**	**317**	P	**P**	**15 48 32.9**	**+0.8**	
	comp=Z,2.5nm,0.8s,baz=72,slow=6.4,SNR=2.2							
SCHQ	**Schefferville**	**58.46**	**317**	P	**P**	**15 48 33.3**	**+1.2**	
RES	**Resolute Bay**	**60.11**	**344**	P	**P**	**15 48 44.6**	**+1.4**	
RES				lAmb	lAmb	15 49 03.0		
	comp=Z,5.5nm,1.6s							
YAK	**Yakutsk**	**65.84**	**29**	P	**P**	**15 49 19.9**	**-1.5**	
YAK				lAmb	lAmb	15 49 22.4		
	comp=Z,5.8nm,0.7s							
HHC	**Hu-ho-hao-te**	**67.79**	**55**	*e*P	**P**	**15 49 34.8**	**+0.4**	
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,110nm,5.4s							
PZH	**PanZhiHua**	**68.30**	**73**	P	**P**	**15 49 38.8**	**+1.0**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,100nm,4.7s							
CMAR	**Chiang Mai Arr**	**70.52**	**81**	P	**P**	**15 49 51.0**	**-0.6**	
	comp=Z,1.3nm,0.8s,baz=302,slow=7.4,SNR=12							
J54A	**Appleton**	**70.71**	**310**	P	**P**	**15 49 53.7**	**+1.4**	
YKA	**Yellowknife Ar**	**73.68**	**340**	P	**P**	**15 50 10.6**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=32,slow=5.3,SNR=4.5							
ILAR	**Eielson Array**	**77.37**	**354**	P	**P**	**15 50 32.6**	**+1.7**	
	comp=Z,0.2nm,0.8s,baz=327,slow=1.5,SNR=4.2							
NJ2	**Nanjing**	**77.56**	**59**	*e*P	**P**	**15 50 31.8**	**-0.7**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
TXAR	**Lajitas Array**	**94.92**	**313**	P	**P**	**15 52 01.5**	**+2.5**	
	comp=Z,0.4nm,0.8s,baz=17,slow=6.6,SNR=1.7							
WRA	**Warramunga Arr**	**121.08**	**92**	PKP	**PKiKP**	**15 57 29.7**	**+0.1**	
	comp=Z,0.3nm,0.8s,baz=326,slow=2.0,SNR=1.6							
ASAR	**Alice Springs**	**122.68**	**96**	PKP	**PKPdf**	**15 57 32.5**	**+0.1**	
	comp=Z,0.6nm,0.9s,baz=329,slow=1.5,SNR=7.1							

*NNC **31** 15:53:05.7±2.2, 40.°67N×77.°93E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=15.1km s-min=10.8km az=177.0*
*KRNET **31** 15:53:05.9±0.1, 40.°77N×77.°90E, mb3.3*
*SOME **31** 15:53:05.4, 40.°70N×77.°83E, h15km*

ISC 31 15:53:09.5±1.6, 40.°88N±0.°08×77.°77E±0.°03, h10km, n74, σ1°§44/111, 22C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.33**	**341**	⇑*i*P	**Pb**	**15 53 33.5**	**-1.1**
	baz=39						
KDJ				⇑*i*S	**Sn**	**15 53 53.5**	**+1.4**
	baz=39						
ULHL	**Ulahol**	**1.79**	**321**	P	**Pg**	**15 53 42.9**	**-0.9**
	SNR=6.6						
ULHL	**Ulahol**	**1.79**	**321**	⇑*e*P	**Pb**	**15 53 41.8**	**-0.6**
	baz=20						
ULHL				⇑*i*S	**Sg**	**15 54 08.1**	**+1.2**
	baz=20						
ANVS	**Anan'yevo**	**1.91**	**358**	⇑*e*P	**Pb**	**15 53 43.3**	**-1.2**
	baz=55						
ANVS				⇑*i*S	**Sg**	**15 54 10.7**	**-0.1**
	baz=55						
BOOM	**Boomskoye usch**	**2.12**	**320**	⇓*e*P	**Pb**	**15 53 46.7**	**-1.3**
	baz=20						
BOOM				⇓*i*S	**Sg**	**15 54 16.4**	**-1.1**
	baz=20						
SATY	**Saty**	**2.23**	**12**	*e*P	**Pb**	**15 53 50.2**	**+0.2**
	22nm,0.1s						
SATY				*e*S	**Sg**	**15 54 22.4**	**+1.1**
	49nm,0.5s						
SATY	**Saty**	**2.23**	**12**	Pg	**Pg**	**15 53 50.4**	**-1.9**
	27nm,0.3s						
SATY				Lg	Lg	15 54 22.4	
	49nm,0.5s						
TNSS	**Tian-Shan**	**2.25**	**344**	*e*P	**Pb**	**15 53 50.5**	**+0.1**
	21nm,0.2s						
TNSS				*e*S	**Sg**	**15 54 23.1**	**+1.4**
	24nm,0.4s						
TNSS	**Tian-Shan**	**2.25**	**344**	Pg	**Pb**	**15 53 50.5**	**+0.1**
	21nm,0.2s						
TNSS				Lg	Lg	15 54 23.1	
	24nm,0.4s						
ZHN	**Zhinishke**	**2.34**	**12**	*e*P	**Pb**	**15 53 52.4**	**+0.5**
	13nm,0.0s						
ZHN				*e*S	**Sg**	**15 54 26.1**	**+1.3**
	141nm,0.2s						
ZHN	**Zhinishke**	**2.34**	**12**	Pg	**Pg**	**15 53 52.9**	**-1.5**
	28nm,0.1s						
ZHN				Lg	Lg	15 54 26.9	
	141nm,0.2s						
MDOK	**Medeo**	**2.35**	**347**	*e*P	**Pb**	**15 53 52.1**	**+0.2**
	31nm,0.2s						
MDOK				*e*S	**Sg**	**15 54 25.8**	**+0.9**
	38nm,0.2s						
MDOK	**Medeo**	**2.35**	**347**	Pg	**Pb**	**15 53 51.5**	**-0.4**
	17nm,0.4s						
MDOK				Sn	**Sg**	**15 54 26.0**	**+1.0**
	22nm,0.6s						
MDOK	**Medeo**	**2.35**	**347**	Pg	**Pb**	**15 53 52.1**	**+0.2**
	31nm,0.2s						
MDOK				Lg	Lg	15 54 25.8	
	36nm,0.6s						
KOTS	**Kotyrbulak**	**2.41**	**348**	*e*P	**Pb**	**15 53 53.4**	**+0.4**
	22nm,0.1s						
KOTS				*e*S	**Sg**	**15 54 27.8**	**+1.0**
	69nm,0.5s						
KOTS	**Kotyrbulak**	**2.41**	**348**	Pg	**Pg**	**15 53 53.5**	**-2.1**
	22nm,0.3s						
KOTS				Lg	Lg	15 54 27.8	
	69nm,0.5s						
KNDC	**Almaty**	**2.42**	**346**	⇓Pn	**Pb**	**15 53 52.6**	**-0.4**
	37nm,0.6s						
KNDC				⇓Sn	**Sg**	**15 54 28.9**	**+1.8**
	79nm,0.6s						
AAA	**Alma-Ata**	**2.42**	**345**	*e*P	**Pg**	**15 53 54.0**	**-1.8**
	46nm,0.1s						
AAA				*e*S	**Sg**	**15 54 28.4**	**+1.3**
	69nm,0.0s						
AAA	**Alma-Ata**	**2.42**	**345**	Pg	**Pg**	**15 53 54.0**	**-1.8**
	70nm,0.4s						
AAA				Lg	Lg	15 54 28.5	
	93nm,0.7s						
UZB	**Uzynbulak**	**2.46**	**22**	*e*P	**Pb**	**15 53 52.9**	**-0.9**
	16nm,0.3s						
UZB				*e*S	**Sg**	**15 54 27.4**	**-0.9**
	66nm,0.5s						
UZB	**Uzynbulak**	**2.46**	**22**	Pg	**Pb**	**15 53 54.0**	**+0.2**
	16nm,0.3s						
UZB				Lg	Lg	15 54 28.9	
	66nm,0.5s						
MTBS	**Maitube**	**2.46**	**337**	*e*P	**Pb**	**15 53 54.4**	**+0.5**
	9.1nm,0.0s						
MTBS				*e*S	**Sg**	**15 54 29.3**	**+0.7**
	27nm,0.2s						
MTBS	**Maitube**	**2.46**	**337**	Pg	**Pb**	**15 53 54.4**	**+0.5**
	12nm,0.2s						
MTBS				Lg	Lg	15 54 29.3	
	28nm,0.4s						
KST	**Kastek**	**2.55**	**329**	*e*P	**Pb**	**15 53 55.2**	**-0.2**
	6.0nm,0.3s						
KST				*e*S	**Sg**	**15 54 31.0**	**-0.4**
	33nm,0.1s						
KST	**Kastek**	**2.55**	**329**	Pg	**Pb**	**15 53 55.7**	**+0.3**
	6.0nm,0.3s						
KST				Lg	Lg	15 54 31.0	
	33nm,0.4s						
SHLS	**Shalkode**	**2.61**	**28**	*e*P	**Pg**	**15 53 58.2**	**-1.2**
	25nm,0.3s						
SHLS				*e*S	**Sg**	**15 54 35.8**	**+2.6**
	105nm,0.3s						
SHLS	**Shalkode**	**2.61**	**28**	Pg	**Pg**	**15 53 58.9**	**-0.5**
	24nm,0.5s						
SHLS				Lg	Lg	15 54 37.6	
	105nm,0.3s						
TKM2	**Tokmak 2**	**2.61**	**322**	P	**Pg**	**15 53 57.8**	**-1.7**
	SNR=18						
TKM2	**Tokmak 2**	**2.61**	**322**	⇓*i*P	**Pn**	**15 53 53.5**	**+1.6**
	baz=22						
TKM2				⇓*i*S	**Sb**	**15 54 28.1**	**-0.5**
	baz=22						
TKM2	**Tokmak 2**	**2.61**	**322**	⇑Pg	**Pb**	**15 53 57.1**	**+0.7**
	8.0nm,0.5s						
TKM2				⇑Lg	Lg	15 54 34.7	
	24nm,0.6s						
KURS	**Kuram**	**2.63**	**6**	*e*P	**Pb**	**15 53 56.4**	**-0.3**
	16nm,0.4s						
KURS				*e*S	**Sg**	**15 54 33.4**	**-0.5**
	47nm,0.1s						
KURS	**Kuram**	**2.63**	**6**	Pg	**Pb**	**15 53 57.2**	**+0.6**
	16nm,0.4s						
KURS				Lg	Lg	15 54 34.3	
	45nm,0.7s						
KPKS	**Kokpek**	**2.68**	**14**	*e*P	**Pb**	**15 53 57.3**	**-0.2**
	24nm,0.1s						
KPKS				*e*S	**Sg**	**15 54 34.8**	**-0.6**
	73nm,0.4s						
KBK	**Karagaybulak**	**2.76**	**311**	P	**Pb**	**15 53 59.7**	**+0.7**
	SNR=13						
KBK	**Karagaybulak**	**2.76**	**311**	⇑*e*P	**Pn**	**15 53 55.7**	**+1.8**
	baz=11						
KBK				⇑*i*S	**Sb**	**15 54 32.0**	**-1.0**
	baz=11						
PDGK	**Podgornoye**	**2.77**	**27**	Pg	**Pb**	**15 53 58.0**	**-1.1**
	5.1nm,0.3s						
PDGK				Lg	Lg	15 54 36.6	
	35nm,0.8s						
PDGK	**Podgornoye**	**2.77**	**27**	⇑Pg	**Pn**	**15 53 55.6**	**+1.6**
	8.8nm,0.5s						
PDGK				⇓Lg	Lg	15 54 37.9	
	57nm,0.6s						
UCH	**Uchtor**	**2.79**	**300**	⇑*e*P	**Pn**	**15 53 56.4**	**+1.8**
	baz=1.0						
UCH				⇑*i*S	**Sb**	**15 54 33.0**	**-1.1**
	baz=1.0						
DGS	**Degeres**	**2.79**	**329**	*e*P	**Pb**	**15 54 00.2**	**+0.6**
	6.3nm,0.1s						
DGS				*e*S	**Sg**	**15 54 40.3**	**+1.1**
	22nm,0.6s						
DGS	**Degeres**	**2.79**	**329**	Pg	**Pb**	**15 54 00.2**	**+0.6**
	6.3nm,0.5s						
DGS				Lg	Lg	15 54 40.3	
	22nm,0.6s						
KTBS	**Karatobe**	**2.95**	**344**	*e*P	**Pb**	**15 54 02.5**	**+0.4**
	19nm,0.1s						
KTBS				*e*S	**Sg**	**15 54 43.9**	**-0.2**
	47nm,0.1s						
KTBS	**Karatobe**	**2.95**	**344**	Pg	**Pb**	**15 54 02.5**	**+0.4**
	27nm,0.3s						
KTBS				Lg	Lg	15 54 43.9	
	47nm,0.3s						
CHKK	**Chushkaly**	**3.03**	**349**	*e*P	**Pb**	**15 54 03.6**	**0.0**
	7.3nm,0.1s						
CHKK				*e*S	**Sg**	**15 54 45.3**	**-1.5**
	20nm,0.2s						
CHKK	**Chushkaly**	**3.03**	**349**	Pg	**Pb**	**15 54 03.7**	**+0.2**
	7.1nm,0.3s						
CHKK				Lg	Lg	15 54 45.3	
	20nm,0.2s						
CHMS	**Chumysh**	**3.09**	**314**	P	**Pb**	**15 54 05.8**	**+1.3**
	SNR=10						
CHMS	**Chumysh**	**3.09**	**314**	⇑Pg	**Pb**	**15 54 05.1**	**+0.6**
	9.0nm,0.6s						
CHMS				⇑Lg	Lg	15 54 46.2	
	11nm,0.7s						
KUU	**Kurty**	**3.20**	**341**	*e*P	**Pb**	**15 54 06.9**	**+0.6**
	8.7nm,0.0s						
KUU				*e*S	**Sg**	**15 54 51.1**	**-1.0**
	24nm,0.6s						
KUU	**Kurty**	**3.20**	**341**	Pg	**Pb**	**15 54 06.9**	**+0.6**
	3.3nm,0.1s						
KUU				Lg	Lg	15 54 51.1	
	24nm,0.6s						
KTMS	**Ketmen**	**3.21**	**36**	*e*P	**Pb**	**15 54 04.4**	**-2.2**
	5.1nm,0.8s						
KTMS				*e*S	**Sb**	**15 54 46.6**	**+0.8**
	14nm,0.1s						
KTMS	**Ketmen**	**3.21**	**36**	Pg	**Pb**	**15 54 04.6**	**-2.0**
	5.2nm,0.5s						
KTMS				Lg	Lg	15 54 46.6	
	18nm,0.5s						
KRBS	**Karabastau**	**3.22**	**332**	*e*P	**Pb**	**15 54 07.0**	**+0.2**
	8.3nm,0.2s						
KRBS				*e*S	**Sg**	**15 54 51.2**	**-1.6**
	23nm,0.4s						
KRBS	**Karabastau**	**3.22**	**332**	Pg	**Pb**	**15 54 07.1**	**+0.4**
	12nm,0.5s						
KRBS				Lg	Lg	15 54 50.9	
	23nm,0.7s						
BLB	**Baldybastay**	**3.26**	**9**	*e*P	**Pb**	**15 54 07.8**	**+0.3**
	7.0nm,0.0s						
BLB				*e*S	**Sg**	**15 54 52.6**	**-1.6**
	84nm,0.2s						
BLB	**Baldybastay**	**3.26**	**9**	Pg	**Pb**	**15 54 07.8**	**+0.3**
	6.8nm,0.1s						
BLB				Lg	Lg	15 54 52.6	
	85nm,0.3s						
AML	**Almayashu**	**3.31**	**294**	P	**Pb**	**15 54 08.8**	**+0.4**
	SNR=12						
ARXS	**Arharly**	**3.34**	**1**	*e*P	**Pb**	**15 54 09.4**	**+0.6**
	5.2nm,0.5s						
ARXS				*e*S	**Sg**	**15 54 55.7**	**-0.9**
	68nm,0.3s						
ARXS	**Arharly**	**3.34**	**1**	Pg	**Pb**	**15 54 09.4**	**+0.6**
	5.2nm,0.5s						
ARXS				Lg	Lg	15 54 55.7	
	68nm,0.3s						
USP	**Ospenovka**	**3.41**	**316**	P	**Pb**	**15 54 10.8**	**+0.8**
	SNR=14						
SGDS	**Sogindy**	**3.48**	**319**	*e*P	**Pb**	**15 54 11.4**	**+0.3**
	2.0nm,0.1s						
SGDS				*e*S	**Sg**	**15 54 58.9**	**-2.1**
	7.3nm,0.6s						
SGDS	**Sogindy**	**3.48**	**319**	Pg	**Pb**	**15 54 11.4**	**+0.3**
	2.3nm,0.3s						
SGDS				Lg	Lg	15 54 59.4	
	7.3nm,0.6s						
EKS2	**Erkin-Say**	**3.48**	**302**	P	**Pb**	**15 54 10.4**	**-0.8**
	SNR=11						
EKS2	**Erkin-Say**	**3.48**	**302**	⇑*e*P	**Pn**	**15 54 05.8**	**+2.0**
	baz=3.0						
EKS2				⇑*i*S	**Sb**	**15 54 49.2**	**-4.4**
	baz=3.0						
DJR	**Jarkent**	**3.76**	**23**	*e*P	**Pb**	**15 54 16.4**	**+0.3**
	2.0nm,0.1s						
DJR				*e*S	**Sg**	**15 55 07.3**	**-3.0**
	32nm,0.1s						
DJR	**Jarkent**	**3.76**	**23**	Pg	**Pb**	**15 54 16.1**	**0.0**
	1.9nm,0.3s						
DJR				Lg	Lg	15 55 07.1	
	32nm,0.5s						
MRKS	**Merke**	**3.88**	**300**	*e*P	**Pg**	**15 54 21.4**	**-2.3**
	2.7nm,0.1s						
MRKS				*e*S	**Sg**	**15 55 16.3**	**+2.4**
	6.9nm,0.2s						
MRKS	**Merke**	**3.88**	**300**	Pg	**Pg**	**15 54 21.4**	**-2.3**
	4.5nm,0.6s						
KAPS	**Kapalarasan**	**4.56**	**14**	*e*P	**Pb**	**15 54 31.8**	**+2.2**
	1.1nm,0.2s						
KAPS				*e*S	**Sg**	**15 55 33.5**	**-2.3**
	12nm,0.2s						
KAPS	**Kapalarasan**	**4.56**	**14**	Pg	**Pg**	**15 54 33.9**	**-2.8**
	4.5nm,0.8s						
BTLS	**Baital**	**4.98**	**328**	*e*P	**Pb**	**15 54 39.8**	**+3.1**
	1.6nm,0.0s						
BTLS				*e*S	**Sg**	**15 55 46.9**	**-2.4**
	4.0nm,0.6s						
BTLS	**Baital**	**4.98**	**328**	Pg	**Pb**	**15 54 38.9**	**+2.2**
	2.1nm,0.4s						
BTLS				Lg	Lg	15 55 45.4	
	4.0nm,0.6s						
MAKZ	**Makanchi**	**6.67**	**26**	⇑Pn	**Pn**	**15 54 45.7**	**-1.7**
	1.0nm,1.2s						
MAKZ				⇓Pg	**Pb**	**15 55 08.2**	**+2.8**
	0.8nm,0.8s						
MAKZ				⇓Sn	**Sn**	**15 56 07.0**	**+3.6**
	0.7nm,0.7s						
MAKZ				⇑Lg	Lg	15 56 37.8	
	2.5nm,1.1s						
MK31	**Makanchi Array**	**6.76**	**27**	Pn	**Pn**	**15 54 48.5**	**-0.3**
	0.2nm,0.3s,baz=199,slow=11,SNR=9.0						
MK31				⇓Pg	**Pb**	**15 55 09.2**	**+2.2**
	0.8nm,0.8s,baz=207,slow=15,SNR=3.7						
MK31				⇓Sn	**Sn**	**15 56 07.8**	**+2.1**
	0.9nm,0.6s						
MK31				⇑Lg	Lg	15 56 38.6	
	1.9nm,0.7s,baz=205,slow=25,SNR=3.8						
KURBB	**Kurchatov Arra**	**9.76**	**3**	⇑Lg	Lg	15 58 19.0	
	4.3nm,0.8s						
KURK	**Kurchatov**	**9.86**	**3**	⇑Lg	Lg	15 58 22.2	
	0.8nm,0.2s						

IDC 31 16:07:54.2±1.4, 2.°43S×139.°50E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/36, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=28.7km s-min=14.0km az=0.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.21**	**94**	Pg	Pg	16 08 17.1	-0.4
	7.2nm,0.3s,baz=251,slow=12,SNR=40						
JAY				Lg	Lg	16 08 34.1	
	26nm,0.3s,baz=355,slow=22,SNR=11						
WRA	**Warramunga Arr**	**18.12**	**196**	P	Pn	16 12 07.5	0.0
	0.1nm,0.3s,baz=18,slow=13,SNR=8.0						
ASAR	**Alice Springs**	**21.79**	**194**	P	P	16 12 48.2	+0.2
	0.4nm,0.5s,baz=25,slow=11,SNR=12						
MKAR	**Makanchi Array**	**70.05**	**322**	P	P	16 19 08.1	0.0
	0.6nm,0.8s,baz=104,slow=7.5,SNR=6.2						

*NEIC **31** 16:09:11.1±1.9, 21.°75S±0.°09×179.°1W±0.°1, h592km±7km, mb4.3/37, Error ellipse: s-maj=17.3km s-min=9.7km az=126.0*
*IDC **31** 16:09:12.5±1.2, 21.°67S×179.°24W, h604km±13km, mb3.4/14, mb1 3.5/17, mb1mx3.2/44, mbtmp4.4/17, Error ellipse: s-maj=21.0km s-min=11.9km az=157.0*

ISC 31 16:09:11.4±0.5, 21.°68S±0.°09×179.°14W±0.°08, h602km, n66, σ1°§43/69, mb4.3/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.74**	**326**	P	**P**	**16 10 44.3**	**+1.7**
	11nm,0.3s,baz=246,slow=22,SNR=22						
MSVF	**Nonsavu**	**4.74**	**326**	P	**P**	**16 10 43.5**	**+0.9**
AFI	**Afiamalu**	**10.43**	**43**	P	**P**	**16 11 35.4**	**+0.7**
	1.8nm,0.3s,baz=211,slow=5.9,SNR=2.0						
AFI				S	**S**	**16 13 27.1**	**-5.2**
	0.9nm,0.3s,baz=215,slow=23,SNR=1.8						
MARNC	**Mare, Loyalty**	**11.94**	**269**	P	**P**	**16 11 48.4**	**-1.2**
DZM	**Mont Dzumac**	**13.39**	**266**	P	**P**	**16 12 06.0**	**+1.6**
	0.4nm,0.3s,baz=98,slow=16,SNR=5.6						
DZM	**Mont Dzumac**	**13.39**	**266**	P	**P**	**16 12 04.4**	**0.0**
SANVU	**Saraoutou**	**14.35**	**293**	P	**P**	**16 12 12.0**	**-1.8**
MXZ	**Matakaoa Point**	**15.98**	**187**	P	**P**	**16 12 26.9**	**-1.4**
URZ	**Urewera**	**16.84**	**190**	P	**P**	**16 12 35.3**	**-0.8**
URZ				lAmb	lAmb	16 13 01.1	
	comp=Z,22nm,1.2s						
HIZ	**Hauiti**	**17.55**	**196**	P	**P**	**16 12 36.8**	**-5.9**
BKZ	**Black Stump Fm**	**17.82**	**191**	P	**P**	**16 12 43.2**	**-2.0**
BKZ				lAmb	lAmb	16 13 07.0	
	comp=Z,24nm,1.5s		

WB2	**Warramunga Arr**	**43.39**	**264**	P	**P**	**16 16 21.9**	**-0.7**
WB2				IAmb	IAmb	16 16 22.7	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**43.39**	**264**	P	**P**	**16 16 21.8**	**-0.8**
WRAB				IAmb	IAmb	16 16 22.7	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**43.40**	**264**	P	**P**	**16 16 21.9**	**-0.7**
	comp=Z,5.3nm,0.5s,baz=96,slow=7.8,SNR=229						
WRA				ScP	**ScP**	**16 20 52.6**	**+0.5**
	comp=Z,0.2nm,0.9s,baz=167,slow=6.8,SNR=4.0						
WRA				S	**S**	**16 22 11.0**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=122,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**43.40**	**264**	P	**P**	**16 16 20.6**	**-2.1**
AIN	**Ainahou**	**46.92**	**31**	P	**P**	**16 16 50.1**	**+0.5**
FORT	**Forrest**	**47.86**	**248**	P	**P**	**16 16 55.8**	**-0.5**
KNRA	**Kununurra**	**49.53**	**268**	P	**P**	**16 17 08.6**	**-0.2**
KNRA				IAmb	IAmb	16 17 09.2	
	comp=Z,8.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.83**	**264**	P	**P**	**16 17 25.4**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=114,slow=7.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**51.83**	**264**	P	**P**	**16 17 24.8**	**-0.6**
SIJI	**Sorong**	**52.53**	**286**	P	**P**	**16 17 30.3**	**-0.2**
	comp=Z,24nm,0.8s,baz=69,slow=7.3,SNR=12						
BATI	**Baumata**	**55.90**	**272**	P	**P**	**16 17 54.9**	**+0.8**
	comp=Z,12nm,0.6s,baz=145,slow=1.4,SNR=6.3						
PSA00	**Pilbara Seismi**	**56.37**	**258**	P	**P**	**16 17 56.5**	**-0.8**
PSA00	**Pilbara Seismi**	**56.37**	**258**	P	**P**	**16 17 56.9**	**-0.4**
PSA00				IAmb	IAmb	16 18 22.5	
	comp=Z,31nm,1.6s						
MBWA	**Marble Bar**	**56.57**	**258**	P	**P**	**16 17 58.1**	**-0.4**
MBWA				IAmb	IAmb	16 17 58.5	
	comp=Z,8.8nm,0.4s						
SBA	**Scott Base**	**56.63**	**184**	P	**P**	**16 17 57.2**	**-0.8**
VNDA	**Vanda**	**56.65**	**185**	P	**P**	**16 17 58.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=95,slow=7.8,SNR=7.5						
VNDA	**Vanda**	**56.65**	**185**	P	**P**	**16 17 58.5**	**+0.4**
MMRI	**Maumere**	**57.75**	**273**	P	**P**	**16 18 05.6**	**-1.1**
MMRI				IAmb	IAmb	16 18 06.9	
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**58.40**	**248**	P	**P**	**16 18 09.7**	**-1.2**
MORW				IAmb	IAmb	16 18 22.6	
	comp=Z,27nm,1.6s						
GIRL	**Giralia**	**61.22**	**255**	P	**P**	**16 18 30.4**	**+0.8**
TOLI2	**Tolitoli**	**62.82**	**283**	P	**P**	**16 18 39.6**	**-0.5**
TOLI2				IAmb	IAmb	16 19 15.9	
	comp=Z,10nm,1.3s						
KKM	**Kota Kinabalu**	**69.04**	**286**	P	**P**	**16 19 18.3**	**-0.5**
JHS	**Saijyo**	**72.32**	**320**	P	**P**	**16 19 37.6**	**+0.2**
JHS				IAmb	IAmb	16 19 38.5	
	comp=Z,4.3nm,0.7s						
KS19	**Wonju Array Si**	**77.14**	**319**		pP	16 22 04.2	-3.8
PETK	**Petropavlovsk-**	**77.14**	**346**	P	**P**	**16 20 03.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=107,slow=7.9,SNR=2.0						
BELA	**Belgrano 2**	**78.53**	**173**	P	**P**	**16 20 12.2**	**+1.1**
IPM	**Ipoh**	**82.23**	**278**	P	**P**	**16 20 31.7**	**+0.3**
IPM				IAmb	IAmb	16 20 42.0	
	comp=Z,14nm,1.4s						
NVAR	**Mina Array Bea**	**82.61**	**44**	P	**P**	**16 20 34.2**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=224,slow=13,SNR=2.3						
TXAR	**Lajitas Array**	**88.58**	**58**	P	**P**	**16 21 03.6**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=226,slow=6.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**16 21 08.1**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=134,slow=3.2,SNR=9.3						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**16 21 06.4**	**+0.3**
ILAR	**Eielson Array**	**89.70**	**13**	P	**P**	**16 21 06.3**	**+0.4**
	comp=Z,0.2nm,0.9s,baz=247,slow=3.5,SNR=1.8						
I29M	**Ogilvie Camp,**	**92.20**	**16**		pP	16 23 27.8	+0.3
EGMT	**Eagleton**	**93.00**	**39**	P	**P**	**16 21 21.3**	**-0.3**
DRK0	**Durika**	**98.80**	**84**		pP	16 23 51.4	-7.5
AKASG	**Malin Array Be**	**143.51**	**329**	PKP	PKPab	16 27 36.4	-0.8
	comp=Z,1.0nm,0.4s,baz=42,slow=4.4,SNR=13						
BRTR	**Keskin Array B**	**146.82**	**310**	PKPbc	**PKPbc**	**16 27 47.4**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=121,slow=4.0,SNR=6.2						
GERES	**GERESS Array B**	**151.02**	**342**	PKPbc	**PKPbc**	**16 27 58.1**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=324,slow=6.1,SNR=2.4						

IDC 31 16:17:19.4±5.4, 15°02'S×176°16'W, h294km±118km, mb2.8/3, mb1 3.1/4, mb1mx2.7/43, mbtmp3.5/4, Error ellipse: s-maj=293.0km s-min=24.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.38**	**76**	P	Pn	16 18 29.5	-0.2
	1.7nm,0.3s,baz=249,slow=14,SNR=4.4						
AFI				S	S	16 19 26.6	+0.5
	1.4nm,0.3s,baz=218,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**47.34**	**257**	P	P	16 25 24.9	+0.2
	0.1nm,0.4s,baz=90,slow=7.3,SNR=1.3						
ASAR	**Alice Springs**	**47.70**	**252**	P	P	16 25 27.2	-0.2
	0.5nm,0.5s,baz=88,slow=7.8,SNR=15						
ILAR	**Eielson Array**	**82.61**	**12**	P	P	16 29 09.6	0.0
	0.2nm,0.5s,baz=226,slow=4.9,SNR=6.5						

*DJA **31** 16:17:47.4±0.9, 8°S±5°×10°8E±°, h19km±6km, M3.9/16, mb4.0/3, MLv3.9/16*

*IDC **31** 16:17:52.2±1.8, 8°01'S×107°92'E, h115km±13km, mb3.2/5, mb1 3.4/6, mb1mx3.0/37, mbtmp3.7/6, Error ellipse: s-maj=42.4km s-min=18.2km az=49.0*

ISC 31 16:17:48.3±1.0, 8°31'S±0°08×108°23'E±0°06, h35km, n26, σ0°91/24, mb3.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.56**	**23**	P	**Pn**	**16 17 59.8**	**-0.1**
CMJI				S	**Sn**	**16 18 07.2**	**-0.8**
KPJI	**Karang Pucung**	**1.19**	**36**	P	**Pn**	**16 18 08.5**	**0.0**
CNJI	**Cibinong**	**1.47**	**312**	P	**Pn**	**16 18 12.0**	**-0.3**
LEM	**Lembang**	**1.59**	**338**	P	**Pn**	**16 18 14.6**	**+0.5**
	80nm,0.3s,baz=170,slow=23,SNR=50						
LEM				S	**Sn**	**16 18 34.9**	**+1.4**
	108nm,0.3s,baz=107,slow=19,SNR=6.3						
LEM				LR	LR	16 19 03.2	
	comp=Z,58nm,21.2s,baz=202,slow=59						
LEM	**Lembang**	**1.59**	**338**	P	**Pn**	**16 18 14.5**	**+0.4**
SKJI	**Sukabumi**	**2.10**	**308**	P	**Pn**	**16 18 21.8**	**+0.8**
YOGI	**Yogyakarta**	**2.11**	**77**	P	**Pn**	**16 18 21.2**	**+0.2**
UGM	**Wanagama**	**2.31**	**80**	P	**Pn**	**16 18 24.1**	**+0.2**
SMRI	**Semarang**	**2.53**	**60**	P	**Pn**	**16 18 28.2**	**+1.4**
PCJI	**Pacitan**	**2.92**	**88**	P	**Pn**	**16 18 33.1**	**+0.8**
CGJI	**Cibinong**	**3.02**	**304**	P	**Pn**	**16 18 33.8**	**+0.1**
UWJI	**Ujung Watu**	**3.29**	**55**	P	**Pn**	**16 18 37.1**	**-0.2**
PWJI	**Pagerwojo**	**3.55**	**86**	P	**Pn**	**16 18 41.5**	**+0.5**
KASI	**Kota Agung**	**4.62**	**307**	P	**Pn**	**16 18 55.9**	**+0.2**
GMJI	**Gumukmas**	**5.16**	**90**	P	**Pn**	**16 19 03.8**	**+0.7**
	0.1nm13nm,1.2s						
JAGI	**Jajag, Banyuwa**	**5.87**	**92**	P	**Pn**	**16 19 13.2**	**+0.4**
	0.1nm12nm,0.9s						
PLAI	**Plampang**	**9.46**	**94**	P	**Pn**	**16 20 02.9**	**+0.8**
BATI	**Baumata**	**15.35**	**98**	P	**P**	**16 21 27.9**	**+1.1**
	1.4nm,0.3s,baz=270,slow=2.0,SNR=2.1						
WRA	**Warramunga Arr**	**27.79**	**117**	P	**P**	**16 23 33.0**	**-1.3**
	0.3nm,0.7s,baz=290,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**28.95**	**125**	P	**P**	**16 23 44.1**	**-0.5**
	0.3nm,0.7s,baz=302,slow=8.9,SNR=7.0						
ASAR				PcP	**PcP**	**16 26 50.7**	**-2.4**
	0.1nm,0.4s,baz=310,slow=2.0,SNR=1.8						
H08S2	**Diego Garcia H**	**35.39**	**268**	T	T	17 01 57.6	
	baz=93,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**35.40**	**269**	T	T	17 01 58.3	
	baz=93,slow=76,SNR=16						
H08S1	**Diego Garcia H**	**35.41**	**268**	T	T	17 01 59.2	
	baz=93,slow=76,SNR=14						
STKA	**Stephens Creek**	**38.87**	**132**	P	**P**	**16 25 11.1**	**+0.6**
	0.7nm,0.4s,baz=323,slow=9.9,SNR=2.9						
SONM	**Songino Array**	**55.92**	**359**	P	P	16 27 14.5	-8.3
	0.4nm,0.5s,baz=180,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**59.52**	**340**	P	P	16 27 40.9	-7.2
	0.3nm,0.6s,baz=156,slow=7.5,SNR=4.2						

*NEIC **31** 16:18:39.3±2.7, 12°7'N±0°2×91°0'W±0°2, h5km±6km, mb4.2/5, Error ellipse: s-maj=33.8km s-min=9.4km az=224.0*

*IDC **31** 16:18:41.1±2.8, 13°39'N×90°28'W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/43, mbtmp3.8/7, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/67, Error ellipse: s-maj=81.3km s-min=29.4km az=28.0*

*GCG **31** 16:18:46.1±1.2, 13°31'N×91°23'W, h90km±70km, MD3.7*

ISC 31 16:18:43.7±1.2, 12°9'N±0°1×90°79'W±0°09, h35km, n24, σ1°69/23, mb4.0/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.59**	**358**	*eP*	**Pn**	**16 19 08.2**	**-1.4**
FUG				*eS*	**Sn**	**16 19 29.9**	**+1.0**
NBG	**Las Nubes**	**1.78**	**14**	*eP*	**Pn**	**16 19 13.4**	**+1.2**
NBG				*eS*	**Sn**	**16 19 34.3**	**+0.4**
RTAL	**Retalhuleu**	**1.88**	**332**		**Pn**	**16 19 12.6**	**-0.8**
STG3	**Santiaguito 3,**	**2.00**	**338**	*eP*	**Pn**	**16 19 12.3**	**-2.9**
STG3				*eS*	Sn	16 19 31.6	-7.4
MTO3	**Montecristo**	**2.08**	**42**		**Pn**	**16 19 17.2**	**+1.0**
MRL	**Marmoi**	**2.46**	**26**	*eP*	**Pn**	**16 19 24.1**	**+2.5**
MATN	**Matagalpa**	**4.75**	**89**		**Pn**	**16 19 54.6**	**+1.7**
CMIG	**Matias Romero**	**5.78**	**317**	Pn	**Pn**	**16 20 07.9**	**+0.9**
	0.4nm,0.3s,baz=63,slow=13,SNR=1.5						
CMIG				Sn	**Sn**	**16 21 16.2**	**+4.1**
	0.7nm,0.3s,baz=72,slow=19,SNR=1.9						
SRBA	**San Rafael, Bu**	**8.13**	**115**		**Pn**	**16 20 39.9**	**+0.4**
TXAR	**Lajitas Array**	**20.30**	**326**	P	**P**	**16 23 16.4**	**-0.4**
	1.3nm,0.9s,baz=157,slow=13,SNR=9.2						
TXAR	**Lajitas Array**	**20.30**	**326**	P	**P**	**16 23 15.4**	**-1.3**
TX31	**Lajitas Ar. Si**	**20.30**	**326**	P	**P**	**16 23 16.5**	**-0.2**
TX31				IAmb	IAmb	16 23 19.4	
	comp=Z,8.9nm,1.1s						
TX32	**Lajitas Array**	**20.30**	**326**	P	**P**	**16 23 14.7**	**-2.0**
NVAR	**Mina Array Bea**	**35.30**	**321**	P	**P**	**16 25 37.4**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=142,slow=9.0,SNR=10						
NVAR	**Mina Array Bea**	**35.30**	**321**	P	**P**	**16 25 36.3**	**+0.6**
SCHQ	**Schefferville**	**45.90**	**19**	P	**P**	**16 27 01.2**	**-1.6**
	comp=Z,3.6nm,1.0s,baz=248,slow=11,SNR=3.0						
SCHQ	**Schefferville**	**45.90**	**19**	IAmb	IAmb	16 27 05.7	
	comp=Z,8.3nm,1.1s						
YKA	**Yellowknife Ar**	**52.41**	**346**	P	**P**	**16 27 51.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=147,slow=7.6,SNR=8.4						
FRB	**Frobisher Bay**	**53.17**	**12**	LR	LR	16 51 35.4	
	comp=Z,36nm,18.4s,baz=198,slow=38						
DLBC	**Dease Lake**	**54.18**	**336**	P	**P**	**16 28 06.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=157,slow=9.7,SNR=2.6						
DLBC	**Dease Lake**	**54.18**	**336**	IAmb	IAmb	16 28 25.1	
	comp=Z,4.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**89.50**	**77**	P	**P**	**16 31 36.5**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=240,slow=5.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**89.50**	**77**	IAmb	IAmb	16 31 54.5	
	comp=Z,1.8nm,1.3s						
CMAR	**Chiang Mai Arr**	**147.44**	**343**	PKPbc	**PKiKP**	**16 38 28.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=352,slow=4.8,SNR=4.3						

IDC 31 16:25:00.7±700.0, 45°91'N×63°87'E, h0km, Error ellipse: s-maj=262.0km s-min=66.0km az=150.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.95**	**321**	*i*		17 01 40.0	
	baz=132,slow=338,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**15.66**	**52**	*i*		17 59 50.0	
	baz=246,slow=339,SNR=2.6						
I37NO	**I37NO**	**32.36**	**332**	*i*		19 44 50.0	
	baz=112,slow=332,SNR=2.0						
I18DK	**QAANAAQ INFRAS**	**53.53**	**349**	*i*		22 04 03.7	
	baz=40,slow=346,SNR=1.4						

IDC 31 16:33:08.4±1.4, 2°28S×139°52E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/48, mbtmp3.3/3, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/23, Error ellipse: s-maj=28.3km s-min=14.5km az=9.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.20**	**101**	Pg	Pb	16 33 32.3	+0.2
	11nm,0.3s,baz=259,slow=5.2,SNR=50						
JAY				Lg	Lg	16 33 46.8	
	8.8nm,0.3s,baz=342,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**18.27**	**196**	P	Pn	16 37 23.3	-0.3
	0.1nm,0.3s,baz=19,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**21.94**	**194**	P	P	16 38 03.8	0.0
	0.6nm,0.6s,baz=22,slow=11,SNR=17						
JOW	**Kunigami**	**30.91**	**340**	LR	LR	16 49 08.4	
	comp=Z,20nm,20.9s,baz=308,slow=31						
MKAR	**Makanchi Array**	**69.95**	**322**	P	P	16 44 21.6	-0.1
	0.5nm,0.7s,baz=109,slow=7.3,SNR=7.7						

WEL 31 16:33:13.2±0.6, 40°S±3°×17°4E±°, h81km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.36**	**205**	P	Pn	16 33 27.0	+1.0
DUWZ	**D'Urville Isla**	**0.36**	**205**	S	Sn	16 33 37.5	+1.9
DUWZ	**D'Urville Isla**	**0.36**	**205**	P	Pn	16 33 27.0	+1.0
DUWZ				S	Sn	16 33 37.5	+1.9
KIW	**Kapiti Island**	**0.71**	**123**	P	Pn	16 33 30.3	+1.2
KIW	**Kapiti Island**	**0.71**	**123**	S	Sn	16 33 41.5	+0.6
KIW	**Kapiti Island**	**0.71**	**123**	P	Pn	16 33 30.3	+1.2
KIW				S	Sn	16 33 41.5	+0.6
TCW	**Tory Channel**	**0.74**	**171**	P	Pn	16 33 30.8	+1.4
TCW	**Tory Channel**	**0.74**	**171**	S	Sn	16 33 43.4	+2.0
TCW	**Tory Channel**	**0.74**	**171**	P	Pn	16 33 30.8	+1.4
TCW				S	Sn	16 33 43.4	+2.0
OGWZ	**Otaki Gorge**	**0.86**	**114**	P	Pn	16 33 31.6	+0.9
OGWZ	**Otaki Gorge**	**0.86**	**114**	S	Sn	16 33 44.7	+0.8
OGWZ	**Otaki Gorge**	**0.86**	**114**	P	Pn	16 33 31.6	+0.9
OGWZ				S	Sn	16 33 44.7	+0.8
NNZ	**Nelson**	**0.93**	**217**	P	Pn	16 33 32.4	+0.9
NNZ	**Nelson**	**0.93**	**217**	S	Sn	16 33 46.5	+1.3
NNZ	**Nelson**	**0.93**	**217**	P	Pn	16 33 32.4	+0.9
NNZ				S	Sn	16 33 46.5	+1.3
TUWZ	**Tuamarina**	**0.96**	**188**	P	Pn	16 33 32.8	+0.9
TUWZ	**Tuamarina**	**0.96**	**188**	S	Sn	16 33 47.4	+1.6
TUWZ	**Tuamarina**	**0.96**	**188**	P	Pn	16 33 32.8	+0.9
TUWZ				S	Sn	16 33 47.4	+1.6
WAZ	**Wanganui**	**0.97**	**43**	P	Pn	16 33 32.8	+0.8
WAZ	**Wanganui**	**0.97**	**43**	S	Sn	16 33 48.2	+2.1
WAZ	**Wanganui**	**0.97**	**43**	P	Pn	16 33 32.8	+0.8
WAZ				S	Sn	16 33 48.2	+2.1
LREZ	**Lake Rotokare**	**1.03**	**12**	P	Pn	16 33 32.0	-0.7
LREZ	**Lake Rotokare**	**1.03**	**12**	S	Sn	16 33 49.0	+1.7
LREZ	**Lake Rotokare**	**1.03**	**12**	P	Pn	16 33 32.0	-0.7
LREZ				S	Sn	16 33 49.0	+1.7
TKNZ	**Takaka Hill**	**1.05**	**237**	P	Pn	16 33 33.0	+0.2
TKNZ	**Takaka Hill**	**1.05**	**237**	S	Sn	16 33 48.2	+0.6
TKNZ	**Takaka Hill**	**1.05**	**237**	P	Pn	16 33 33.0	+0.2
TKNZ				S	Sn	16 33 48.2	+0.6
MRZ	**Mangatainoka R**	**1.12**	**100**	S	Sn	16 33 49.3	+0.1
MRZ	**Mangatainoka R**	**1.12**	**100**	S	Sn	16 33 49.3	+0.1
MTW	**Mount Morrison**	**1.25**	**124**	P	Pn	16 33 35.9	+0.6
MTW	**Mount Morrison**	**1.25**	**124**	S	Sn	16 33 51.9	-0.1
MTW	**Mount Morrison**	**1.25**	**124**	P	Pn	16 33 35.9	+0.6
MTW				S	Sn	16 33 51.9	-0.1
BSWZ	**Blackbirch Sta**	**1.25**	**189**	P	Pn	16 33 37.1	+1.7
BSWZ	**Blackbirch Sta**	**1.25**	**189**	P	Pn	16 33 37.1	+1.7
QRZ	**Quartz Range**	**1.26**	**253**	P	Pn	16 33 34.9	-0.7
QRZ	**Quartz Range**	**1.26**	**253**	P	Pn	16 33 34.9	-0.7
MRNZ	**Matariki Terra**	**1.39**	**228**	P	Pn	16 33 37.5	+0.4
MRNZ	**Matariki Terra**	**1.39**	**228**	S	Sn	16 33 55.9	+0.8
MRNZ	**Matariki Terra**	**1.39**	**228**	P	Pn	16 33 37.5	+0.4
MRNZ				S	Sn	16 33 55.9	+0.8
MHEZ	**Mangahewa**	**1.41**	**6**	P	Pn	16 33 37.8	+0.5
MHEZ	**Mangahewa**	**1.41**	**6**	S	Sn	16 33 56.0	+0.6
MHEZ	**Mangahewa**	**1.41**	**6**	P	Pn	16 33 37.8	+0.5
MHEZ				S	Sn	16 33 56.0	+0.6
VRZ	**Vera Road**	**1.43**	**20**	P	Pn	16 33 37.6	0.0
VRZ	**Vera Road**	**1.43**	**20**	S	Sn	16 33 56.9	+0.7
VRZ	**Vera Road**	**1.43**	**20**	P	Pn	16 33 37.6	0.0
VRZ				S	Sn	16 33 56.9	+0.7
THZ	**Tophouse**	**1.58**	**215**	P	Pn	16 33 40.3	+0.7
THZ	**Tophouse**	**1.58**	**215**	S	Sn	16 34 00.9	+1.2
THZ	**Tophouse**	**1.58**	**215**	P	Pn	16 33 40.3	+0.7
THZ				S	Sn	16 34 00.9	+1.2
TUVZ	**Tukino**	**1.68**	**45**	P	Pn	16 33 41.3	+0.2
TUVZ	**Tukino**	**1.68**	**45**	P	Pn	16 33 41.3	+0.2
NNVZ	**North Ngauruho**	**1.77**	**41**	P	Pn	16 33 42.6	+0.4
NNVZ	**North Ngauruho**	**1.77**	**41**	P	Pn	16 33 42.6	+0.4
OTVZ	**Oturere**	**1.77**	**43**	P	Pn	16 33 42.0	-0.2
OTVZ	**Oturere**	**1.77**	**43**	S	Sn	16 34 04.5	+0.4
OTVZ	**Oturere**	**1.77**	**43**	P	Pn	16 33 42.0	-0.2
OTVZ				S	Sn	16 34 04.5	+0.4
KHZ	**Kahutara**	**1.99**	**193**	P	Pn	16 33 45.6	+0.7
KHZ	**Kahutara**	**1.99**	**193**	P	Pn	16 33 45.6	+0.7
HIZ	**Hauiti**	**2.04**	**16**	P	Pn	16 33 44.9	-0.7
HIZ	**Hauiti**	**2.04**	**16**	S	Sn	16 34 08.3	-2.0
HIZ	**Hauiti**	**2.04**	**16**	P	Pn	16 33 44.9	-0.7
HIZ				S	Sn	16 34 08.3	-2.0
DSZ	**Denniston Nort**	**2.17**	**233**	P	Pn	16 33 47.1	-0.2
DSZ	**Denniston Nort**	**2.17**	**233**	S	Sn	16 34 12.1	-1.4
DSZ	**Denniston Nort**	**2.17**	**233**	P	Pn	16 33 47.1	-0.2
DSZ				S	Sn	16 34 12.1	-1.4
TLZ	**Tolley Road**	**2.41**	**28**	P	Pn	16 33 50.2	-0.4
TLZ	**Tolley Road**	**2.41**	**28**	P	Pn	16 33 50.2	-0.4
GVZ	**Greta Valley S**	**2.62**	**198**	P	Pn	16 33 53.2	-0.3
GVZ	**Greta Valley S**	**2.62**	**198**	S	Sn	16 34 23.0	-1.3
GVZ	**Greta Valley S**	**2.62**	**198**	P	Pn	16 33 53.2	-0.3
GVZ				S	Sn	16 34 23.0	-1.3
MQZ	**McQueen's Vall**	**3.41**	**198**	P	Pn	16 34 01.9	-2.1
MQZ	**McQueen's Vall**	**3.41**	**198**	P	Pn	16 34 01.9	-2.1
AWAZ	**Awhitu Peninsu**	**3.43**	**7**	P	Pn	16 34 03.6	-0.7
AWAZ	**Awhitu Peninsu**	**3.43**	**7**	P	Pn	16 34 03.6	-0.7
MKAZ	**Moumakai**	**3.46**	**14**	P	Pn	16 34 03.9	-0.9
MKAZ	**Moumakai**	**3.46**	**14**	P	Pn	16 34 03.9	-0.9

*IDC **31** 16:34:24.8±3.5, 36°78N×70°46E, h195km±42km, mb3.1/1, mb1 2.9/8, mb1mx2.7/74, mbtmp3.6/8, MS3.1/3, Ms1 3.2/3, ms1mx2.4/36, Error ellipse: s-maj=52.7km s-min=27.6km az=122.0*

ISC 31 16:34:24.1±1.7, 36°7'N±0°2×70°6E±0°2, h200km, n11, σ0°74/9, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.63**	**25**	P	**Pn**	**16 36 00.0**	**+0.4**
	0.6nm,0.3s,baz=188,slow=10,SNR=10						
AAK				S	**Sn**	**16 37 16.1**	**+0.7**
	0.5nm,0.3s,baz=236,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**13.30**	**37**	P	**P**	**16 37 26.9**	**-1.1**
	0.1nm,0.3s,baz=211,slow=11,SNR=9.6						
KURBB	**Kurchatov Arra**	**15.03**	**20**	P	**Pn**	**16 37 46.4**	**0.0**
	0.0nm,0.3s,baz=209,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**16.32**	**359**	P	**Pn**	**16 38 02.0**	**-0.1**
	0.2nm,0.3s,baz=186,slow=12,SNR=4.2						
AKTO	**Aktyubinsk**	**16.46**	**330**	P	**P**	**16 38 02.8**	**-0.2**
	0.3nm,0.3s,baz=143,slow=13,SNR=6.4						
WSAR	**Wadi Sarin**	**16.96**	**221**	P	**P**	**16 38 09.2**	**+0.6**
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.3						
ZALV	**Zalesovo Beam**	**19.85**	**25**	P	**P**	**16 38 40.5**	**+0.9**
	0.3nm,0.3s,baz=214,slow=11,SNR=7.7						
SONM	**Songino Array**	**28.46**	**56**	LR	LR	16 51 23.9	
	comp=Z,95nm,21.5s,baz=262,slow=36						
CMAR	**Chiang Mai Arr**	**30.80**	**119**	LR	LR	16 55 19.8	
	comp=Z,7.8nm,18.7s,baz=0.0,slow=40						
FINES	**FINESS Array B**	**37.16**	**326**	P	**P**	**16 41 14.9**	**-0.5**
	1.0nm,0.9s,baz=99,slow=9.0,SNR=1.3						
KSRS	**Korea Array**	**45.09**	**71**	LR	LR	17 03 11.2	
	comp=Z,44nm,20.3s,baz=225,slow=38						

*NOU **31** 16:35:59.6, 19°47S×169°61E, h151km, MLv4.1/14, Vanuatu Islands*

*NEIC **31** 16:36:01.7±3.0, 19°41S±0°07×169°2E±0°1, h135km±6km, mb4.2/15, Error ellipse: s-maj=14.1km s-min=10.0km az=108.0*

*IDC **31** 16:36:02.3±8.5, 18°83S×168°46E, h90km±69km, mb3.7/3, mb1 3.8/4, mb1mx3.3/37, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=149.7km s-min=58.7km az=113.0*

**ISC 31 16:36:02.7±0.9, 19°46S±0°05×169°2E±0°1, h150km, n37, σ1°59/42, mb4.

0.2nm,0.3s,baz=119,slow=6.2,SNR=7.8

IDC 31 16:55:07.4±4.6, 20°41N×121°87E, h83km±51km, mb3.1/5, mb1 3.3/7, mb1mx3.1/63, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=33.8km s-min=18.5km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**8.68**	**41**	P		Pn	16 57 10.2	0.0
	0.8nm,0.3s,baz=220,slow=17,SNR=5.0						
KSRS	**Korea Array**	**17.79**	**16**	P		P	16 59 09.1	-0.1
	0.2nm,0.3s,baz=198,slow=11,SNR=7.5						
CMAR	**Chiang Mai Arr**	**21.70**	**269**	P		P	16 59 51.9	0.0
	0.6nm,0.8s,baz=74,slow=8.9,SNR=7.3						
MKAR	**Makanchi Array**	**41.53**	**319**	P		P	17 02 46.6	0.0
	1.1nm,0.7s,baz=113,slow=9.8,SNR=16						
WRA	**Warramunga Arr**	**41.92**	**162**	P		P	17 02 49.2	-0.8
	0.2nm,0.5s,baz=344,slow=8.9,SNR=2.0						
ZALV	**Zalesovo Beam**	**43.77**	**329**	P		P	17 03 04.2	-0.4
	0.6nm,0.4s,baz=117,slow=8.1,SNR=5.2						
ASAR	**Alice Springs**	**45.35**	**164**	P		P	17 03 17.8	+0.3
	0.2nm,0.4s,baz=347,slow=7.3,SNR=18						

*NEIC **31** 16:57:20.0±2.8, 14°.90S±0°.07×167°.53E±0°.08, h122km±5km, mb4.3/27, Error ellipse: s-maj=12.7km s-min=8.2km az=125.0*

*IDC **31** 16:57:22.0±3.6, 14°.97S×167°.29E, h132km±27km, mb3.7/7, mb1 3.9/9, mb1mx3.4/52, mbtmp4.2/9, MS2.9/2, Ms1 2.9/2, ms1mx2.4/61, Error ellipse: s-maj=42.8km s-min=22.5km az=81.0*

ISC 31 16:57:20.5±0.8, 14°.96S±0°.07×167°.4E±0°.1, h129km, n48, σ1§50/51, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.52**	**203**		**Pn**	**16 57 38.0**	**-1.6**
SANVU				Sn	**Sn**	16 57 52.4	-1.7
LIFNC	**LIFOU**	**5.79**	**182**	Pn	**Pn**	16 58 43.0	-1.2
LIFNC				Sn	**Sn**	16 59 45.3	-4.1
KOUNC	**Koumac, New Ca**	**6.31**	**208**		**Pn**	**16 58 50.4**	**-0.7**
KOUNC				Sn	**Sn**	17 00 00.3	-1.7
MARNC	**Mare, Loyalty**	**6.51**	**175**		**Pn**	**16 58 53.1**	**-0.8**
MARNC				Sn	**Sn**	17 00 02.5	-4.4
DZM	**Mont Dzumac**	**7.13**	**187**	P	**Pn**	**16 59 03.8**	**+1.5**
	7.1nm,0.3s,baz=25,slow=19,SNR=96						
DZM				S	**Sn**	**17 00 22.4**	**+0.4**
	1.2nm,0.3s,baz=323,slow=20,SNR=1.4						
DZM				LR	LR	17 01 19.5	
	comp=Z,70nm,19.4s,baz=88,slow=33						
DZM	**Mont Dzumac**	**7.13**	**187**		**Pn**	**16 59 01.5**	**-0.9**
ONTNC	**Ouen Toro**	**7.36**	**187**		**Pn**	**16 59 05.5**	**+0.1**
OUENC	**Ouen Island, N**	**7.44**	**184**		**Pn**	**16 59 07.1**	**+0.8**
PINNC	**Pines Island,**	**7.61**	**180**		**Pn**	**16 59 10.1**	**+1.4**
HNR	**Honiara**	**9.14**	**306**	P	**Pn**	**16 59 30.0**	**+0.6**
	9.2nm,0.3s,baz=199,slow=12,SNR=7.3						
HNR	**Honiara**	**9.14**	**306**		**Pn**	**16 59 29.5**	**+0.2**
RABL	**Rabaul**	**18.44**	**304**		**P**	**17 01 24.2**	**-2.1**
RABL				IAmb	IAmb	17 01 32.5	
	comp=Z,11nm,0.9s						
EIDS	**Eidsvold**	**18.48**	**233**	P	**Pn**	**17 01 28.4**	**+0.1**
EIDS				IAmb	IAmb	17 01 29.8	
	comp=Z,12nm,1.0s						
PMG	**Port Moresby**	**20.55**	**283**	P	**P**	**17 01 49.5**	**+0.5**
PMG				IAmb	IAmb	17 02 03.2	
	comp=Z,7.6nm,0.9s						
CTA	**Charters Tower**	**20.81**	**253**	P	**P**	**17 01 52.4**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=68,slow=7.7,SNR=7.7						
CTAO	**Charters Tower**	**20.81**	**253**	P	**P**	**17 01 53.4**	**+1.6**
CTAO				IAmb	IAmb	17 02 25.5	
	comp=Z,11nm,1.2s						
BKZ	**Black Stump Fm**	**25.40**	**163**	P	**P**	**17 02 37.9**	**+2.0**
BKZ				IAmb	IAmb	17 03 06.1	
	comp=Z,35nm,1.5s						
BFZ	**Birch Farm**	**26.76**	**165**	P	**P**	**17 02 47.9**	**-0.2**
MSWZ	**Moikau Station**	**27.22**	**167**	P	**P**	**17 02 52.3**	**+0.1**
LTZ	**Lake Taylor**	**28.04**	**172**	P	**P**	**17 03 00.5**	**+1.0**
RPZ	**Rata Peaks**	**28.82**	**175**	P	**P**	**17 03 08.0**	**+1.4**
RPZ				IAmb	IAmb	17 03 14.5	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**28.95**	**230**	P	**P**	**17 03 09.7**	**+1.8**
	comp=Z,3.3nm,0.5s,baz=59,slow=9.7,SNR=15						
STKA	**Stephens Creek**	**28.95**	**230**	P	**P**	**17 03 09.5**	**+1.7**
WB0	**Warramunga Arr**	**31.85**	**257**	P	**P**	**17 03 32.7**	**-0.8**
WB0				IAmb	IAmb	17 03 33.2	
	comp=Z,4.9nm,1.2s						
WB2	**Warramunga Arr**	**31.90**	**256**	P	**P**	**17 03 33.2**	**-0.7**
WB2				IAmb	IAmb	17 03 47.3	
	comp=Z,12nm,1.6s						
WRA	**Warramunga Arr**	**31.91**	**256**	P	**P**	**17 03 32.9**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=86,slow=9.4,SNR=7.4						
AS31	**Alice Springs**	**32.72**	**249**	P	**P**	**17 03 40.4**	**-0.8**
ASAR	**Alice Springs**	**32.72**	**249**	P	**P**	**17 03 40.5**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=80,slow=9.2,SNR=55						
TAU	**Tasmania Unive**	**32.76**	**208**	P	**P**	**17 03 38.4**	**-2.7**
BBOO	**Buckleboo**	**33.55**	**232**	P	**P**	**17 03 49.6**	**+1.4**
GUMO	**Guam**	**36.09**	**321**	LR	LR	17 19 42.4	
	comp=Z,24nm,20.5s,baz=100,slow=37						
KNRA	**Kununurra**	**37.25**	**264**	P	**P**	**17 04 19.8**	**-0.2**
KNRA				IAmb	IAmb	17 04 20.7	
	comp=Z,5.0nm,0.9s						
FORT	**Forrest**	**39.30**	**240**	P	**P**	**17 04 37.9**	**+0.8**
FORT				IAmb	IAmb	17 04 58.3	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.11**	**260**	P	**P**	**17 04 44.3**	**+0.4**
FITZ				IAmb	IAmb	17 04 50.1	
	comp=Z,6.9nm,1.4s						
JCJ	**Chichijima**	**48.46**	**329**	P	**P**	**17 05 49.6**	**-0.5**
TOLI2	**Tolitoli**	**48.81**	**285**	P	**P**	**17 05 53.0**	**-0.1**
TOLI2				IAmb	IAmb	17 06 07.6	
	comp=Z,6.0nm,0.9s						
MORW	**Morawa**	**49.30**	**244**	P	**P**	**17 05 56.9**	**+0.3**
KKM	**Kota Kinabalu**	**54.87**	**289**	P	**P**	**17 06 38.1**	**-0.1**
UGM	**Wanagama**	**56.08**	**270**	P	**P**	**17 06 47.3**	**+0.5**
YOJ	**Yonaguni jima**	**58.43**	**312**	P	**P**	**17 07 00.4**	**-2.5**
VNDA	**Vanda**	**62.63**	**181**	P	**P**	**17 07 31.9**	**+1.2**
SBA	**Scott Base**	**62.91**	**180**	P	**P**	**17 07 35.2**	**+2.7**
CASY	**Casey**	**63.37**	**202**	P	**P**	**17 07 35.7**	**0.0**
QSPA	**South Pole Qui**	**75.07**	**180**	P	**P**	**17 08 49.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**75.17**	**294**	P	**P**	**17 08 51.1**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=126,slow=5.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**75.17**	**294**	P	**P**	**17 08 48.7**	**-0.6**
MKAR	**Makanchi Array**	**97.47**	**316**	P	Pdif	17 10 40.0	+0.2
	comp=Z,0.2nm,0.5s,baz=91,slow=5.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**97.66**	**324**	P	**P**	**17 10 39.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=90,slow=5.8,SNR=2.1						

*UPP **31** 17:01:58.9±0.1, 67°.08N×20°.94E, h0km, ML2.2, Explosion*

*IDC **31** 17:01:59.0±1.1, 67°.21N×20°.92E, h0km, mb1 3.0/3, mb1mx2.8/60, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=19.7km s-min=8.2km az=113.0*

*HEL **31** 17:01:59.4±0.1, 67°.08N×20°.95E, h0km, ML2.2, ML2.2(UPP), Explosion*

*HEL **31** 17:01:59.1, 67°.07N×20°.96E, h0km, ML2.2, Explosion*

*KOLA **31** 17:02:00.4, 67°.01N×20°.78E, h0km, ML2.4*

ISC 31 17:01:58.7±0.8, 67°.06N±0°.02×20°.94E±0°.02, h0km, n53, σ1§23/68, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.16**	**293**	P	**Pg**	**17 02 02.0**	**+0.3**
DUNU				S	**Sg**	**17 02 04.0**	**+0.2**
DUNU	**Dundret**	**0.16**	**293**	*i* P	**Pg**	**17 02 02.0**	**+0.3**
DUNU				*i* S	**Sg**	**17 02 04.0**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**45**	P	**Pg**	**17 02 09.6**	**-0.1**
MASU	**Masugnsbyn**	**0.57**	**45**	*i* P	**Pg**	**17 02 09.6**	**-0.1**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 02 12.5**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**135**	*eP*	**Pg**	**17 02 12.3**	**0.0**
ERTU				*eS*	**Sg**	**17 02 20.3**	**-1.1**
PAJU	**Pajala**	**0.85**	**91**	P	**Pg**	**17 02 14.8**	**-0.3**
PAJU	**Pajala**	**0.85**	**91**	*eP*	**Pg**	**17 02 14.6**	**-0.4**
PAJU				*eSB*	**Sg**	**17 02 26.3**	**+0.2**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**17 02 16.0**	**+0.1**
HARU	**Harads**	**0.90**	**179**	*eP*	**Pg**	**17 02 16.0**	**+0.1**
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**17 02 15.8**	**-0.7**
RATU	**Laukkuluspa**	**0.93**	**326**	*eP*	**Pg**	**17 02 15.8**	**-0.7**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 02 17.4**	**-0.5**
SALU	**Saltoluokta**	**1.00**	**290**	*eP*	**Pg**	**17 02 17.4**	**-0.5**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 02 18.2**	**-1.1**
	baz=204						
LANU				*e*SN	**Sn**	**17 02 37.5**	**+0.9**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 02 18.9**	**-0.8**
NIKU	**Nikkaluokta**	**1.09**	**319**	*eP*	**Pg**	**17 02 18.9**	**-0.8**
KLF	**Kolari**	**1.19**	**80**	*eP*	**Pg**	**17 02 20.8**	**-0.8**
KOVU	**Salmi**	**1.21**	**346**	P	**Pg**	**17 02 21.4**	**-0.4**
KOVU	**Salmi**	**1.21**	**346**	*eP*	**Pg**	**17 02 21.4**	**-0.4**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 02 27.9**	**+0.4**
KALU	**Kalix**	**1.55**	**140**	*e*PN	**Pn**	**17 02 27.9**	**+0.4**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**17 02 28.2**	**+0.3**
SJUU	**Sjulsmark**	**1.58**	**170**	*eP*	**Pn**	**17 02 28.2**	**+0.3**
TOF	**Tornio**	**1.67**	**124**	*e*PG	**Pn**	**17 02 29.8**	**+0.6**
TOF				MSG		17 02 49.1	
	comp=Z,30nm,0.2s						
HEF	**Hetta**	**1.71**	**36**	*eP*	**Pn**	**17 02 28.8**	**-0.9**
HEF	**Hetta**	**1.71**	**36**	*eP*	**Pn**	**17 02 29.3**	**-0.4**
HEF				MSG		17 02 49.6	
	comp=Z,18nm,0.2s						
HEF				*e*SN	**Sg**	**17 02 54.2**	**+0.8**
KIF	**Kilpisjarvi**	**1.96**	**359**	*eP*	**Pb**	**17 02 35.2**	**0.0**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*PB	**Pb**	**17 02 34.2**	**-1.0**
KIF				MSG		17 02 57.9	
	comp=Z,25nm,0.2s						
KIF				*e*SG	**Sg**	**17 03 02.2**	**+0.8**
RNF	**Rovaniemi**	**2.06**	**100**	*e*PB	**Pn**	**17 02 35.7**	**+1.2**
RNF				*e*SG	**Sg**	**17 03 04.9**	**+0.2**
I37NO	**I37NO**	**2.21**	**338**	*i*		17 15 50.0	
	baz=158,slow=328,SNR=6.2						
SGF	**Sodankyl**	**2.21**	**77**	*e*PB	**Pn**	**17 02 37.9**	**+1.4**
	baz=263						
SGF				*e*SG	**Sb**	**17 03 08.2**	**+1.0**
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pb**	**17 02 48.7**	**-1.4**
OBF0	**Syolatti, Pyha**	**2.91**	**151**	*e*PB	**Pb**	**17 02 49.3**	**-2.1**
OBF0				*e*S	**Sn**	**17 03 19.8**	**-2.0**
ARA0	**ARCESS Array S**	**3.01**	**32**	*eP*	**Pn**	**17 02 47.9**	**+0.3**
ARA0				*e*SG	**Sb**	**17 03 31.3**	**+0.9**
ARCES	**ARCESS Array B**	**3.01**	**32**	P	**Pn**	**17 02 47.9**	**+0.3**
	baz=213,slow=14,SNR=47						
ARCES				Lg	Lg	17 03 27.6	
	baz=220,slow=22,SNR=7.7						
ARCES	**ARCESS Array B**	**3.01**	**32**	P	**Pn**	**17 02 49.1**	**+1.5**
OUF	**Merijarvi**	**3.12**	**148**	*e*PB	**Pb**	**17 02 52.7**	**-2.4**
	baz=328						
OUF				MSG		17 03 31.1	
	comp=Z,3.0nm,0.2s						
UMAU	**Umeaa**	**3.19**	**182**	*eP*	**Pn**	**17 02 51.2**	**+1.1**
VRF	**Varrio**	**3.42**	**74**	*eP*	**Pn**	**17 02 54.2**	**+1.0**
OLKF	**Oulanka, Finla**	**3.44**	**99**	*eP*	**Pn**	**17 02 54.9**	**+1.3**
MSF	**Maaselka**	**3.45**	**106**	*eP*	**Pn**	**17 02 56.3**	**+2.7**
	baz=294						
KEV	**Kevo**	**3.52**	**37**	*eP*	**Pn**	**17 02 55.9**	**+1.4**
KU6	**Riekki**	**3.73**	**102**	*eP*	**Pn**	**17 02 58.4**	**+1.0**
	baz=287						
HUSU	**Husum**	**3.80**	**192**	*eP*	**Pn**	**17 03 00.1**	**+1.6**
VAF	**Ylistaro**	**4.10**	**169**	*eP*	**Pn**	**17 03 04.2**	**+1.7**
	baz=346						
HEMU	**Hemsoen**	**4.57**	**197**	*eP*	**Pn**	**17 03 11.2**	**+2.2**
APA0	**Apatity Array**	**4.70**	**78**	P	**Pn**	**17 03 12.0**	**+1.3**
APA0				S	**Sn**	**17 04 06.0**	**+0.2**
PRVG	**Vayda Guba**	**4.95**	**52**	P	**Pn**	**17 03 15.3**	**+1.1**
PRVG				S	**Sn**	**17 04 13.1**	**+1.0**
TERR	**Teriberka**	**5.71**	**61**	P	**Pn**	**17 03 27.2**	**+2.5**
TERR				S	**Sn**	**17 04 29.6**	**-1.2**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 03 31.3**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=5.3						
FINES				Sn	**Sn**	**17 04 43.6**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=342,slow=22,SNR=7.1						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 03 48.2**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=36,slow=12,SNR=0.9						
NOA				Sn	**Sn**	**17 05 09.8**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=30,slow=9.9,SNR=1.7						

*DJA **31** 17:12:44.1±1.3, 6°.5S±6°.15°.5E±1°.2, h173km±7km, M4.7/27, mB5.2/8, mb4.7/27, MLv4.8/1, Mw(mB)4.6/8*

*NEIC **31** 17:12:45.4±1.1, 5°.64S±0°.10×154°.56E±0°.09, h167km±7km, mb4.5/71, Error ellipse: s-maj=15.3km s-min=12.1km az=213.0*

*IDC **31** 17:12:48.8±1.6, 5°.77S×154°.61E, h209km±14km, mb3.9/17, mb1 4.0/21, mb1mx3.8/31, mbtmp4.4/21, Error ellipse: s-maj=13.5km s-min=8.6km az=117.0*

ISC 31 17:12:43.2±0.4, 5°.66S±0°.06×154°.64E±0°.07, h150km, n232, σ1§33/234, mb4.5/75, 2C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.86**	**301**	Pn	**Pn**	**17 13 30.4**	**+1.5**
RABL				Sn	**Sn**	**17 14 04.0**	**-0.2**
RABL	**Rabaul**	**2.86**	**301**	P	**Pn**	**17 13 31.3**	**+2.4**
PMG	**Port Moresby**	**8.29**	**243**	P	**Pn**	**17 14 43.9**	**+3.3**
	3.1nm,0.3s,baz=62,slow=13,SNR=16						
PMG				S	**Sn**	**17 16 19.7**	**+6.8**
	0.4nm,0.3s,baz=51,slow=17,SNR=1.2						
PMG	**Port Moresby**	**8.29**	**243**	Pn	**Pn**	**17 14 41.9**	**+1.3**
PMG	**Port Moresby**	**8.29**	**243**	P	Pn	17 14 46.8	+6.2
COEN	**Coen**	**13.97**	**233**	Pn	**Pn**	**17 15 53.0**	**-1.9**
COEN	**Coen**	**13.97**	**233**	P	**P**	**17 15 58.6**	**+0.4**
JAY	**Jayapura**	**14.24**	**282**	P	**P**	**17 16 01.1**	**-0.1**
	1.2nm,0.3s,baz=105,slow=1.3,SNR=5.4						
MTSU	**Mount Surprise**	**15.98**	**218**	P	**P**	**17 16 23.0**	**+2.6**
CTA	**Charters Tower**	**16.49**	**209**	P	**Pn**	**17 16 27.6**	**+1.5**
	0.9nm,0.3s,baz=28,slow=12,SNR=20						
CTA	**Charters Tower**	**16.49**	**209**	P	**Pn**	**17 16 28.3**	**+2.2**
CTAO	**Charters Tower**	**16.49**	**209**	P	**Pn**	**17 16 27.1**	**+1.0**
CTAO				IAmb	IAmb	17 16 29.3	
	comp=Z,23nm,1.0s						
RK1H	**Rockhampton Ha**	**18.07**	**192**	P	**Pn**	**17 16 44.9**	**0.0**
	comp=Z,45nm,0.8s						
EIDS	**Eidsvold**	**19.89**	**189**	P	**P**	**17 17 03.6**	**+0.5**
EIDS	**Eidsvold**	**19.89**	**189**	P	**P**	**17 17 04.8**	**+1.7**
DZM	**Mont Dzumac**	**19.91**	**146**	P	**P**	**17 17 03.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=278,slow=8.7,SNR=6.8						
QIS	**Mount Isa**	**20.79**	**223**	P	Pn	17 17 15.9	-1.2
RMQ	**Roma**	**21.46**	**195**	P	**P**	**17 17 20.9**	**+1.1**
KDU	**Kakadu**	**22.95**	**251**	P	**P**	**17 17 34.8**	**+0.1**
QLP	**Quilpie**	**23.05**	**204**	P	**P**	**17 17 36.2**	**+0.7**
SIJI	**Sorong**	**23.80**	**281**	P	**P**	**17 17 43.0**	**+0.5**
	comp=Z,15nm,0.4s,baz=60,slow=10,SNR=14						
SWI	**Sorong**	**23.81**	**281**	P	**P**	**17 17 42.5**	**-0.1**
	comp=Z,28nm,0.7s						
WR0	**Warramunga Arr**	**24.16**	**232**	P	**P**	**17 17 45.7**	**0.0**
WR0				IAmb	IAmb	17 17 47.3	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**24.17**	**233**	P	**P**	**17 17 45.8**	**0.0**
WB0				IAmb	IAmb	17 17 46.6	
	comp=Z,16nm,1.2s						
MTN	**Manton Dam**	**24.25**	**251**	P	**P**	**17 17 46.4**	**-0.3**
MTN	**Manton Dam**	**24.25**	**251**	P	**P**	**17 17 47.2**	**+0.6**
WRAB	**Tennant Creek**	**24.30**	**232**	P	**P**	**17 17 46.5**	**-0.5**
WRAB	**Tennant Creek**	**24.30**	**232**	P	**P**	**17 17 47.4**	**+0.4**
WB2	**Warramunga Arr**	**24.30**	**232**	P	**P**	**17 17 46.7**	**-0.3**
WB2				IAmb	IAmb	17 17 48.1	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**24.31**	**232**	P	**P**	**17 17 46.6**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=56,slow=10,SNR=54						
WRA				PcP	**PcP**	**17 21 21.6**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=59,slow=3.2,SNR=2.9						
WRA				S	**S**	**17 21 50.2**	**-5.2**
	comp=Z,1.5nm,0.9s,baz=55,slow=15,SNR=7.8						
WRA	**Warramunga Arr**	**24.31**	**232**	P	**P**	**17 17 45.7**	**-1.4**
ARMA	**Armidale**	**24.79**	**186**	P	**P**	**17 17 50.9**	**-0.5**
ARMA				IAmb	IAmb	17 17 53.5	
	comp=Z,25nm,1.4s						
AAI	**Ambon**	**26.42**	**273**	P	**P**	**17 18 05.9**	**-0.4**
	comp=Z,57nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**26.78**	**26**	T	T	17 46 21.8	
	baz=207,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**26.79**	**26**	T	T	17 46 20.2	
	baz=207,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**26.80**	**26**	T	T	17 46 20.2	
	baz=207,slow=76,SNR=4.4						
AS31	**Alice Springs**	**26.81**	**226**	P	**P**	**17 18 08.8**	**-0.8**
ASAR	**Alice Springs**	**26.81**	**226**	P	**P**	**17 18 08.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=56,slow=9.3,SNR=69						
ASAR				PcP	**PcP**	**17 21 27.3**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=62,slow=2.3,SNR=2.4						
ASAR				S	**S**	**17 22 29.6**	**-5.4**
	comp=Z,1.2nm,0.8s,baz=56,slow=14,SNR=6.9						
ASAR				ScP	**ScP**	**17 24 47.3**	**-7.8**
	comp=Z,0.2nm,0.8s,baz=101,slow=4.8,SNR=2.4						
ASAR	**Alice Springs**	**26.81**	**226**	P	**P**	**17 18 08.4**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**27.27**	**247**	P	**P**	**17 18 12.8**	**-1.0**
KNRA				IAmb	IAmb	17 18 20.5	
	comp=Z,7.5nm,0.9s						
LBMI	**Labuha**	**27.54**	**279**	P	**P**	**17 18 16.9**	**+0.7**
	comp=Z,36nm,1.0s						
STKA	**Stephens Creek**	**28.80**	**203**	P	**P**	**17 18 26.2**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=34,slow=8.8,SNR=5.1						
SANI	**Sanana**		**28.80 276**	P	**P**	**17 18 27.2**	**-0.2**
	comp=Z,342nmcomp=Z,30nm,1.0s						
SANI	**Sanana**	**28.80**	**276**	P	**P**	**17 18 26.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.89**	**244**	P	**P**	**17 18 44.8**	**-1.0**
KMSI	**Cibinong**	**31.23**	**280**	P	**P**	**17 18 48.1**	**-0.8**
	comp=Z,79nm,0.6s						
BBOO	**Buckleboo**	**32.09**	**210**	P	**P**	**17 18 55.7**	**-0.4**
BBOO				IAmb	IAmb	17 19 21.4	
	comp=Z,15nm,1.4s						
LUWI	**Luwuk**	**32.13**	**277**	P	**P**	**17 18 55.8**	**-1.0**
LUWI	**Luwuk**	**32.13**	**277**	P	**P**	**17 18 56.1**	**-0.6**
	comp=Z,83nm,1.1s						
MMRI	**Maumere**	**32.27**	**263**	P	**P**	**17 18 57.3**	**-0.8**
MRSI	**Marisa**	**33.21**	**280**	P	**P**	**17 19 04.8**	**-1.4**
	comp=Z,17nm,0.9s						
APSI	**Ampana**	**33.26**	**277**	P	**P**	**17 19 07.1**	**+0.5**
	comp=Z,507nmcomp=Z,49nm,0.6s						
TOLI2	**Tolitoli**	**34.47**	**280**	P	**P**	**17 19 15.9**	**-1.2**
TOLI2				IAmb	IAmb	17 19 18.2	
	comp=Z,8.0nm,0.6s						
MPSI	**Mapaga**	**35.19**	**279**	P	**P**	**17 19 22.6**	**-0.7**
	comp=Z,902nmcomp=Z,52nm,0.8s						
FORT	**Forrest**	**35.32**	**222**	P	**P**	**17 19 23.6**	**-0.5**
FORT				IAmb	IAmb	17 19 25.3	
	comp=Z,10nm,0.8s						
BBKI	**Banjar Baru**	**39.72**	**271**	P	**P**	**17 20 02.1**	**+0.7**
	comp=Z,17nm,0.8s						
MTKI	**Muara Teweh, K**	**39.94**	**275**	P	**P**	**17 20 03.0**	**-0.2**
	comp=Z,905nmcomp=Z,13nm,0.8s						
PBKI	**Pangkalan Bun**	**42.94**	**272**	P	**P**	**17 20 28.3**	**+0.6**
	comp=Z,74nm,1.0s						
TPUB	**Ta-pu**	**43.95**	**312**	P	**P**	**17 20 35.0**	**-0.6**
SSLB	**Suanglung**	**44.00**	**313**	P	**P**	**17 20 36.0**	**-0.1**
SSLB				IAmb	IAmb	17 20 37.3	
	comp=Z,10nm,0.6s						
YHNB	**Yeheng**	**44.24**	**314**	P	**P**	**17 20 36.5**	**-1.5**
JNU	**Nakatsue**	**44.68**	**331**	P	**P**	**17 20 40.0**	**-1.2**
KPJI	**Karang Pucung**	**45.43**	**265**	P	**P**	**17 20 46.8**	**-0.7**
	comp=Z,36nm,0.8s						
CMJI	**Cimerak**	**45.90**	**265**	P	**P**	**17 20 50.0**	**-1.2**
	comp=Z,423nmcomp=Z,34nm,0.8s						
CNJI	**Cibinong**	**47.21**	**265**	P	**P**	**17 20 59.8**	**-1.6**
	comp=Z,1µmcomp=Z,128nm,0.8s						
TJN	**Taejon**	**49.00**	**331**	P	**P**	**17 21 13.9**	**-0.8**
KSRS	**Korea Array**	**49.60**	**332**	P	**P**	**17 21 19.1**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=149,slow=8.2,SNR=27						
KSAR	**Wonju Array Be**	**49.61**	**332**	P	**P**	**17 21 18.4**	**-0.9**
NJ2	**Nanjing**	**50.67**	**320**	*eP*	**P**	**17 21 28.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**53.66**	**340**	P	**P**	**17 21 49.5**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=134,slow=4.7,SNR=4.8						
KULM	**Kulim**	**54.99**	**280**	P	**P**	**17 21 58.2**	**-1.3**
KULM				IAmb	IAmb	17 21 59.6	
	comp=Z,12nm,1.5s						
ENH	**Enshi**	**56.08**	**312**	P	**P**	**17 22 05.9**	**-1.1**
ENH				IAmb	IAmb	17 22 07.6	
	comp=Z,8.2nm,1.0s						
PET	**Petropavlovsk**	**58.56**	**3**	P	**P**	**17 22 24.3**	**+0.5**
PEA0B

	comp=Z,7.6nm,0.7s						
CAST	**Castle Rocks**	79.62	22	P	P	17 24 33.6	+0.1
	baz=234,SNR=6.8						
PWL	**Port Wells**	79.65	25	P	P	17 24 33.9	+0.2
PWL	**Port Wells**	79.65	25	P	P	17 24 33.9	+0.2
	baz=238						
PMR	**Palmer**	79.72	24	P	P	17 24 34.5	+0.5
	baz=237						
CHUM	**Lake Minchumin**	79.81	21	P	P	17 24 35.0	+0.5
	baz=234						
SML	**Sawmill**	80.16	24	P	P	17 24 37.0	+0.5
	baz=238						
GLI	**Glacier Island**	80.18	25	P	P	17 24 37.0	+0.4
	baz=239						
TRF	**Thorofare Moun**	80.30	22	P	P	17 24 38.0	+0.6
	baz=236						
BPAW	**Bear Paw Mtn.**	80.41	21	P	P	17 24 37.1	-0.7
	baz=235						
SCM	**Sheep Creek Mo**	80.58	24	P	P	17 24 38.9	+0.2
	baz=239						
IMAR	**Indian Mountai**	80.59	19	P	P	17 24 39.1	+0.4
I21K	**Tanana**	80.69	20	P	P	17 24 39.8	+0.5
I21K				IAmb	IAmb	17 24 41.3	
	comp=Z,7.1nm,0.9s						
I21K	**Tanana**	80.69	20	P	P	17 24 39.6	+0.4
	baz=234,SNR=6.4						
H21K	**Melozitna Rive**	80.70	19	P	P	17 24 39.8	+0.5
H21K	**Melozitna Rive**	80.70	19	P	P	17 24 39.7	+0.4
	baz=233						
WAT6	**Susitna Watana**	80.80	23	P	P	17 24 40.2	+0.1
	baz=238						
RND	**Reindeer**	80.81	22	P	P	17 24 39.4	-0.6
RND				IAmb	IAmb	17 24 40.8	
	comp=Z,8.4nm,0.8s						
MCK	**McKinley**	80.96	22	P	P	17 24 40.2	-0.5
MCK	**McKinley**	80.96	22	P	P	17 24 40.0	-0.7
	baz=237,SNR=7.8						
KLU	**Klutina**	80.98	25	P	P	17 24 41.7	+0.8
KLU				IAmb	IAmb	17 24 43.1	
	comp=Z,17nm,1.2s						
KLU	**Klutina**	80.98	25	P	P	17 24 41.2	+0.2
	baz=240						
MLY	**Manley**	81.03	21	P	P	17 24 41.1	0.0
MLY				IAmb	IAmb	17 24 42.0	
	comp=Z,5.7nm,0.8s						
MLY	**Manley**	81.03	21	P	P	17 24 41.0	-0.1
	baz=235,SNR=6.8						
M24K	**Tolsona, Glenn**	81.19	24	P	P	17 24 42.6	+0.6
	baz=240						
DHY	**Denali Highway**	81.20	23	P	P	17 24 41.9	-0.2
DHY	**Denali Highway**	81.20	23	P	P	17 24 42.0	-0.2
	baz=239						
NEA2	**Nenana**	81.38	21	P	P	17 24 42.0	-0.9
NEA2				IAmb	IAmb	17 24 43.0	
	comp=Z,9.0nm,1.0s						
NEA2	**Nenana**	81.38	21	P	P	17 24 42.9	0.0
	baz=237,SNR=5.2						
I23K	**Minto, Yukon-K**	81.58	21	P	P	17 24 44.3	+0.3
	baz=237						
N25K	**Chitina, Valde**	81.59	25	P	P	17 24 44.5	+0.3
	baz=241						
HARP	**HAARP**	81.74	24	P	P	17 24 45.5	+0.6
	baz=241						
GLB	**Gilahina Butte**	81.84	25	P	P	17 24 45.6	+0.1
GLB				IAmb	IAmb	17 24 47.2	
	comp=Z,11nm,0.9s						
TCOL	**CIGO, UAF Yank**	81.97	21	P	P	17 24 45.3	-0.6
	baz=238						
COLA	**College**	81.97	21	P	P	17 24 45.3	-0.6
	baz=238						
MK31	**Makanchi Array**	82.17	319	P	P	17 24 46.6	-0.9
MKAR	**Makanchi Array**	82.17	319	P	P	17 24 46.6	-0.8
	comp=Z,2.2nm,0.6s,baz=94,slow=6.8,SNR=37						
MKAR	**Makanchi Array**	82.17	319	P	P	17 24 46.3	-1.2
IL31		82.27	22	P	P	17 24 46.5	-0.9
ILAR	**Eielson Array**	82.27	22	P	P	17 24 45.8	-1.8
	comp=Z,3.1nm,0.7s,baz=241,slow=5.2,SNR=40						
MAKZ	**Makanchi**	82.38	319	P	P	17 24 47.5	-1.0
COLD	**Coldfoot**	82.47	19	P	P	17 24 48.9	+0.4
COLD	**Coldfoot**	82.47	19	P	P	17 24 48.9	+0.4
	baz=236						
H24K	**Noodor Dome**	82.48	20	P	P	17 24 48.9	+0.2
	baz=238						
RIDG	**Independent Ri**	82.52	23	P	P	17 24 48.8	-0.2
	baz=241						
BARN	**Barnard Glacie**	82.60	26	P	P	17 24 50.5	+0.9
BARN				IAmb	IAmb	17 24 51.6	
	comp=Z,7.1nm,0.8s						
J25K	**Salcha River,**	82.75	22	P	P	17 24 49.5	-0.7
J25K				IAmb	IAmb	17 24 50.9	
	comp=Z,8.3nm,0.7s						
J25K	**Salcha River,**	82.75	22	P	P	17 24 49.9	-0.3
	baz=240,SNR=11						
DOT	**Dot Lake**	82.79	23	P	P	17 24 50.4	+0.1
DOT				IAmb	IAmb	17 24 51.8	
	comp=Z,6.8nm,0.8s						
ZALV	**Zalesovo Beam**	82.88	326	P	P	17 24 49.5	-1.4
	comp=Z,1.8nm,0.4s,baz=123,slow=5.7,SNR=12						
ZALV	**Zalesovo Beam**	82.88	326	P	P	17 24 49.2	-1.7
SCRK	**Sand Creek**	82.97	23	P	P	17 24 51.3	-0.1
	baz=242						
PNL	**Peninsula**	83.03	28	P	P	17 24 51.7	+0.1
	baz=246						
J26L	**Joseph Creek**	83.38	23	P	P	17 24 53.3	-0.1
	baz=242,SNR=5.2						
L27K	**Beaver Creek,**	83.41	24	P	P	17 24 54.1	+0.6
L27K				IAmb	IAmb	17 24 55.2	
	comp=Z,5.7nm,1.0s						
L27K	**Beaver Creek,**	83.41	24	P	P	17 24 53.7	+0.2
	baz=244,SNR=6.1						
YUK3	**Moose Creek**	83.43	26	P	P	17 24 54.0	+0.1
	baz=245						
BCAR	**Beaver Creek A**	83.43	24	P	P	17 24 54.2	+0.5
TOLK	**Toolik Lake Re**	83.47	18	P	P	17 24 54.0	+0.3
	baz=236						
BVCY	**Beaver Creek**	83.53	25	P	P	17 24 54.8	+0.7
	baz=245						
YUK6	**Outpost Mounta**	84.01	27	P	P	17 24 57.2	+0.3
	baz=247						
YUK4	**Talbot Arm**	84.05	26	P	P	17 24 58.1	+1.1
	baz=247						
HYT	**Haines Junctio**	84.36	27	P	P	17 24 59.4	+0.9
HYT				IAmb	IAmb	17 25 00.4	
	comp=Z,7.0nm,0.8s						
HYT	**Haines Junctio**	84.36	27	P	P	17 24 59.2	+0.8
	baz=248,SNR=8.8						
EGAK	**Eagle**	84.43	23	P	P	17 24 59.0	+0.4
EGAK				IAmb	IAmb	17 25 00.5	
	comp=Z,7.1nm,0.9s						
EGAK	**Eagle**	84.43	23	P	P	17 24 58.8	+0.2
	baz=244,SNR=9.4						
DAWY	**Dawson**	84.83	24	P	P	17 25 01.2	+0.6
	baz=246						
SKAG	**Skagway**	84.88	29	P	P	17 25 01.7	+0.8
	baz=250						
KSH	**Kashi**	84.88	310	P	P	17 25 02.8	+1.2
M30M	**Minto, Yukon**	85.33	26	P	P	17 25 03.7	+0.5
M30M				IAmb	IAmb	17 25 04.4	
	comp=Z,9.7nm,1.5s						
M30M	**Minto, Yukon**	85.33	26	P	P	17 25 03.4	+0.2
	baz=248						
N31M	**Braeburn, Yuko**	85.38	27	P	P	17 25 04.0	+0.5
N31M				IAmb	IAmb	17 25 05.3	
	comp=Z,6.6nm,1.0s						
N31M	**Braeburn, Yuko**	85.38	27	P	P	17 25 04.1	+0.7
	baz=249						
MAW	**Mawson**	85.48	203	P	P	17 25 02.9	-0.9
	comp=Z,4.3nm,0.7s,baz=83,slow=7.2,SNR=7.7						
WHY	**Whitehorse**	85.50	28	P	P	17 25 04.6	+0.4
	baz=250						
KURK	**Kurchatov**	85.57	322	P	P	17 25 03.1	-1.4
KURK				IAmb	IAmb	17 25 04.2	
	comp=Z,9.1nm,1.5s						
I29M	**Ogilvie Camp,**	85.78	23	P	P	17 25 06.2	+0.9
	baz=247						
M31M	**Drury Creek, Y**	86.24	26	P	P	17 25 07.7	0.0
M31M	**Drury Creek, Y**	86.24	26	P	P	17 25 08.0	+0.3
	baz=251						
AAK	**Ala-Archa**	86.58	313	P	P	17 25 09.3	-0.7
EPYK	**Eagle Plains**	86.77	22	P	P	17 25 10.1	-0.1
EPYK	**Eagle Plains**	86.77	22	P	P	17 25 10.4	+0.3
	baz=248						
NRIK	**Noril'sk**	87.37	341	P	P	17 25 11.1	-1.8
	comp=Z,1.8nm,0.5s,baz=102,slow=5.7,SNR=6.9						
NRIK	**Noril'sk**	87.37	341	P	P	17 25 11.1	-1.8
M02C	**Callahan**	88.11	48	P	P	17 25 18.5	+1.3
	baz=261						
J05D	**Fort Rock, OR**	89.58	47	P	P	17 25 24.5	+0.4
	baz=262						
CIS	**Catalina Islan**	90.54	57	P	P	17 25 29.8	+1.1
	baz=264						
EDW2	**Edwards Air Fo**	91.05	55	P	P	17 25 32.2	+1.1
	baz=264						
CWC	**Cottonwood Cre**	91.14	54	P	P	17 25 33.0	+1.4
	baz=264						
NVAR	**Mina Array Bea**	91.18	52	P	P	17 25 32.7	+0.9
	comp=Z,3.0nm,1.0s,baz=256,slow=6.1,SNR=12						
NVAR	**Mina Array Bea**	91.18	52	P	P	17 25 31.9	+0.1
BFSC	**Mount Baldy Ra**	91.25	56	P	P	17 25 33.8	+1.7
	baz=264						
MPMC	**Manual Prospec**	91.58	54	P	P	17 25 34.5	+0.9
	baz=264						
GRAC	**Grapevine Rang**	91.77	53	P	P	17 25 35.6	+1.2
	baz=264						
MONP2	**Monument Peak**	92.15	57	P	P	17 25 38.2	+1.8
	baz=265						
PFO	**Pinyon Flats O**	92.19	57	P	P	17 25 38.2	+1.7
	baz=265						
C36M	**Paulatuk**	92.19	21	P	P	17 25 35.4	0.0
	baz=260						
TPFO	**Pinon Flats**	92.19	57	P	P	17 25 37.8	+1.4
	baz=265						
A36M	**Sachs Harbour**	92.29	18	P	P	17 25 35.7	-0.1
	baz=259						
IKP	**In-Ko-Pah, Jac**	92.39	58	P	P	17 25 39.6	+2.2
	baz=265						
SHOC	**Shoshone, Teco**	92.54	54	P	P	17 25 39.7	+1.8
	baz=265						
BELC	**Belle Mtn. Jos**	92.60	56	P	P	17 25 40.1	+1.8
	baz=265						
TPNV	**Topopah Spring**	92.66	53	P	P	17 25 40.0	+1.4
	baz=265						
GMRC	**Granite Mounta**	92.95	56	P	P	17 25 41.6	+1.7
	baz=265						
NEW	**Newport**	93.01	42	P	P	17 25 41.0	+1.2
	baz=265						
BC3	**Big Chuckawall**	93.02	57	P	P	17 25 42.0	+1.7
	baz=265						
R11A	**Troy Canyon, C**	93.30	52	P	P	17 25 42.8	+1.3
	baz=266						
IRM	**Iron Mountain**	93.32	56	P	P	17 25 43.3	+1.8
	baz=266						
GLA	**Glamis**	93.50	57	P	P	17 25 45.1	+2.7
	baz=266						
PDMCI	**Parker Dam,Lak**	94.16	56	P	P	17 25 47.7	+2.4
	baz=266						
214A	**Organ Pipe Nat**	95.12	58	P	P	17 25 53.0	+3.1
	baz=267						
YKA	**Yellowknife Ar**	95.33	28	P	P	17 25 50.1	+0.1
	comp=Z,0.7nm,0.8s,baz=263,slow=4.8,SNR=11						
PDAR	**Pinedale Array**	98.07	48	P	P	17 26 03.1	-0.1
	comp=Z,0.2nm,0.5s,baz=220,slow=3.5,SNR=2.9						
M53A	**WI Miller and**	119.37	45	P	PKPdf	17 31 15.1	-0.1
	baz=290						
TORD	**Torodi Ar. Bea**	152.31	288	PKPbc	PKPbc	17 32 20.2	-2.2
	comp=Z,0.8nm,0.3s,baz=88,slow=2.5,SNR=10						
TORD	**Torodi Ar. Bea**	152.31	288		PKPdf	17 32 18.9	+3.4

*INMG **31** 17:13:01.5±2.1,36°.56N×7°.17W,h15km±5km,ML1.9,Error ellipse: s-maj=7.9km s-min=4.6km az=19.0*
*MDD **31** 17:13:01.1±0.9,36°.55N×7°.17W,h18km±3km,mb_Lg2.5/3, Error ellipse: s-maj=6.4km s-min=3.0km az=2.0*

ISC 31 17:12:59.1±1.7,36°.57N±0°.07×7°.18W±0°.03,h15km±10km, n24,σ0°91/42,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	0.91	318	*e*P	Pn	17 13 17.9	+0.6
PBDV				*e*S	Sn	17 13 29.9	-0.2
PBDV				A	A	17 13 31.2	
	13nm,0.3s						
PVAQ	**Vaqueiros**	0.94	333	*e*P	Pn	17 13 18.5	+0.8
PVAQ				*e*S	Sn	17 13 31.2	+0.3
PVAQ				A	A	17 13 32.9	
	28nm,0.3s						
EGRO	**El Granado**	0.99	346	Pg	Pn	17 13 19.5	+1.0
EGRO				Sg	Sn	17 13 32.3	+0.1
EGRO				*i* Vmb_Lg		17 13 35.0	
ESPR	**Espera**	1.10	74	Pg	Pg	17 13 20.9	+0.5
ESPR				Sg	Sn	17 13 35.5	+0.6
EMIN	**Mina Concepcio**	1.26	18	Pg	Pg	17 13 23.6	+0.2
EMIN				Sg	Sg	17 13 40.2	+0.3
EMIN				*i* Vmb_Lg		17 13 43.7	
PCVE	**Castro Verde**	1.27	327	*e*P	Pg	17 13 23.3	-0.2
PCVE				*e*S	Sg	17 13 39.3	-0.7
PCVE				A	A	17 13 40.0	
	19nm,0.5s						
MORF	**Marmelete**	1.39	302	*e*S	Sn	17 13 41.5	-0.7
MORF				A	A	17 13 47.0	
	12nm,0.2s						
PFVI	**Vila Bisbo**	1.44	294	*e*S	Sg	17 13 46.7	+1.2
PFVI				A	A	17 13 51.3	
	16nm,0.6s						
PTEO	**Sao Teotonio**	1.58	309	*e*Pn	Pn	17 13 26.2	-0.3
PTEO				*e*Sn	Sn	17 13 46.1	-0.5
PTEO				A	A	17 13 53.4	
	15nm,0.8s						
PBAR	**Barrancos**	1.61	4	*e*Pn	Pb	17 13 28.1	-0.4
PBAR				*e*Sn	Sn	17 13 47.7	+0.3
PBAR				A	A	17 13 55.8	
	4.9nm,0.2s						
PNCL	**Nicolau / Gran**	1.88	325	*e*Pn	Pb	17 13 31.9	-1.2
PNCL				*e*Sn	Sn	17 13 53.4	-0.7
PNCL				A	A	17 13 56.7	
	4.1nm,0.1s						
ECAB	**El Cabril**	2.06	42	Pn	Pb	17 13 33.8	-2.3
ECAB				Sn	Sn	17 13 58.0	-0.5
ECAB				Sg	Sg	17 14 05.8	+0.5
EVO	**Evora**	2.07	342	*e*Sn	Sn	17 13 59.4	+0.6
EBAD	**Badajoz**	2.19	3	Pn	Pn	17 13 35.8	+0.9
EBAD				Sn	Sn	17 14 01.2	-0.5
EBAD				Sg	Sg	17 14 09.3	-0.1
EBAD				*i* Vmb_Lg		17 14 14.1	
PESTR	**Estremoz**	2.32	352	*e*Sn	Sn	17 14 04.7	-0.3
PESTR				A	A	17 14 19.1	
	3.4nm,0.8s						
EADA	**Adamuz**	2.61	52	Sn	Sn	17 14 11.9	-0.4
PMTG	**Montargil**	2.63	342	*e*Pn	Pn	17 13 42.2	+1.2
PMTG				*e*Sn	Sn	17 14 12.9	+0.3
PMTG				A	A	17 14 14.4	
	2.4nm,0.1s						
PMRV	**Marv??o**	2.86	357	*e*Pn	Pn	17 13 45.0	+0.8
PMRV				*e*Sn	Sn	17 14 18.8	+0.5
PMAFR	**Mafra**	2.91	326	*e*Sn	Sn	17 14 20.7	+1.2
PSBE	**So Bento**	3.21	337	*e*Pn	Pn	17 13 50.7	+1.8
PSBE				*e*Sn	Sn	17 14 28.4	+1.5
PCBR	**Castelo Branco**	3.27	356	*e*Pn	Pn	17 13 50.9	+1.0
PCBR				*e*Sn	Sn	17 14 28.3	-0.2
PCAS	**Casmilo, Conde**	3.63	344	*e*Sn	Sn	17 14 37.8	+0.5
MVO	**Moncorvo**	4.59	1	*e*Pn	Pn	17 14 09.3	+1.3
MVO				*e*Sn	Sn	17 15 00.0	-1.1
POLO	**Lamas de Olo**	4.82	354	*e*Sn	Sn	17 15 05.2	-1.6

WEL 31 17:35:46.5±0.3,43°S±3°×17°1E±°,h5km,Error ellipse: s-maj=0.0km s-min=0.0km az=141.5,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	0.27	356	P	Pg	17 35 52.1	+0.4
INZ	**Inchbonnie**	0.27	356	S	Sg	17 35 55.9	+0.6
INZ	**Inchbonnie**	0.27	356	P	Pg	17 35 52.1	+0.4
INZ				S	Sg	17 35 55.9	+0.6
OXZ	**Oxford**	0.53	129	P	Pg	17 35 56.5	-0.2
OXZ	**Oxford**	0.53	129	P	Pg	17 35 56.5	-0.2
WVZ	**Waitaha Valley**	0.55	261	P	Pg	17 35 57.0	0.0
WVZ	**Waitaha Valley**	0.55	261	S	Sg	17 36 03.8	-0.2
WVZ	**Waitaha Valley**	0.55	261	P	Pg	17 35 57.0	0.0
WVZ				S	Sg	17 36 03.8	-0.2
LTZ	**Lake Taylor**	0.62	70	P	Pg	17 35 58.7	+0.2
LTZ	**Lake Taylor**	0.62	70	S	Sg	17 36 07.1	+0.5
LTZ	**Lake Taylor**	0.62	70	P	Pg	17 35 58.7	+0.2
LTZ				S	Sg	17 36 07.1	+0.5
RPZ	**Rata Peaks**	0.78	203	P	Pg	17 36 01.3	-0.2
RPZ	**Rata Peaks**	0.78	203	P	Pg	17 36 01.3	-0.2
RACZ	**Rakaia**	0.88	147	P	Pg	17 36 03.3	-0.1
RACZ	**Rakaia**	0.88	147	P	Pg	17 36 03.3	-0.1
AMCZ	**Amberley**	0.88	102	P	Pb	17 36 04.1	-0.2
AMCZ	**Amberley**	0.88	102	P	Pb	17 36 04.1	-0.2
GCSZ	**Gaunt Creek Bo**	0.90	249	P	Pn	17 36 05.3	-0.5
GCSZ	**Gaunt Creek Bo**	0.90	249	P	Pn	17 36 05.3	-0.5
ARCZ	**Arundel**	0.98	193	P	Pg	17 36 04.8	-0.5
ARCZ	**Arundel**	0.98	193	P	Pg	17 36 04.8	-0.5
WACZ	**Wakanui South**	0.99	164	P	Pg	17 36 05.4	0.0
WACZ	**Wakanui South**	0.99	164	S	Sb	17 36 19.2	-0.2
WACZ	**Wakanui South**	0.99	164	P	Pg	17 36 05.4	0.0
WACZ				S	Sb	17 36 19.2	-0.2
MQZ	**McQueen's Vall**	1.12	130	P	Pg	17 36 07.0	-1.0
MQZ	**McQueen's Vall**	1.12	130	P	Pg	17 36 07.0	-1.0
GVZ	**Greta Valley S**	1.15	89	P	Pg	17 36 08.4	-0.1
GVZ	**Greta Valley S**	1.15	89	S	Sn	17 36 24.9	-0.5
GVZ	**Greta Valley S**	1.15	89	P	Pg	17 36 08.4	-0.1
GVZ				S	Sn	17 36 24.9	-0.5
DSZ	**Denniston Nort**	1.27	11	P	Pg	17 36 10.4	-0.4
DSZ	**Denniston Nort**	1.27	11	S	Sb	17 36 27.6	0.0
DSZ	**Denniston Nort**	1.27	11	P	Pg	17 36 10.4	-0.4
DSZ				S	Sb	17 36 27.6	0.0
FOZ	**Fox Glacier**	1.32	245	P	Pn	17 36 11.3	-0.4
FOZ	**Fox Glacier**	1.32	245	S	Sn	17 36 29.4	-0.2
FOZ	**Fox Glacier**	1.32	245	P	Pn	17 36 11.3	-0.4
FOZ				S	Sn	17 36 29.4	-0.2
AKCZ	**Akaroa Harbour**	1.37	130	P	Pn	17 36 10.5	-1.8
AKCZ	**Akaroa Harbour**	1.37	130	P	Pn	17 36 10.5	-1.8
TMZ	**Timaru**	1.43	193	P	Pn	17 36 11.9	-1.2
TMZ	**Timaru**	1.43	193	P	Pn	17 36 11.9	-1.2
THZ	**Tophouse**	1.62	41	P	Pn	17 36 15.6	-0.3
THZ	**Tophouse**	1.62	41	P	Pn	17 36 15.6	-0.3
LBZ	**Lake Benmore**	1.68	213	P	Pb	17 36 17.7	-0.2
LBZ	**Lake Benmore**	1.68	213	P	Pb	17 36 17.7	-0.2
MRNZ	**Matariki Terra**	1.86	31	P	Pb	17 36 21.1	+0.2
MRNZ	**Matariki Terra**	1.86	31	P	Pb	17 36 21.1	+0.2
ODZ	**Otahua Downs**	2.13	196	P	Pn	17 36 21.5	-1.3
ODZ	**Otahua Downs**	2.13	196	P	Pn	17 36 21.5	-1.3

*DJA **31** 17:42:26.2±0.3,7°S±3°×12°7E±°,h435km±6km,M4.0/13, mB4.3/3,mb3.7/10,MLv4.2/13,Mw(mB)3.4/3*
*IDC **31** 17:42:26.8±1.1,6°.98S×126°.73E,h416km±13km,mb3.2/7, mb1 3.3/11,mb1mx3.0/29,mbtmp4.0/11,Error ellipse: s-maj=20.9km s-min=10.3km az=71.0*
*NEIC **31** 17:42:27.6±1.0,6°.92S±0°.09×126°.8E±0°.1,h418km±3km, mb4.2/11,Error ellipse: s-maj=20.8km s-min=12.5km az=77.0*

ISC 31 17:42:26.6±0.5,6°.96S±0°.06×126°.72E±0°.07,h412km,n62, σ1§12/67,mb3.8/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	3.56	24	P	P	17 43 37.4	+1.9
BNDI	**Bandanaira**	3.98	53	P	P	17 43 41.0	+1.8
BATI	**Baumata**	4.42	223	P	P	17 43 45.4	+2.1
	94nm,0.3s,baz=63,slow=1.2,SNR=289						
BATI				S	S	17 44 45.6	-0.4
	21nm,0.3s,baz=90,slow=20,SNR=6.4						
BATI	**Baumata**	4.42	223	P	P	17 43 45.5	+2.1
BATI				S	S	17 44 47.5	+1.5
SAUI	**Saumlaki**	4.65	103	P	P	17 43 45.6	0.0
SAUI	**Saumlaki**	4.65	103	P	P	17 43 47.3	+1.7
MMRI	**Maumere**	4.75	249	P	P	17 43 47.0	+0.4
MMRI	**Maumere**	4.75	249	P	P	17 43 46.9	+0.4
MMRI				S	S	17 44 51.9	+0.1
MMRI	**Maumere**	4.75	249	P	P	17 43 47.4	+0.9
SANI	**Sanana**	4.93	351	P	P	17 43 48.9	+0.5
SANI	**Sanana**	4.93	351	P	P	17 43 49.1	+0.7
LBMI	**Labuha**	6.33	7	P	P	17 44 04.0	+1.0
	0.1nm464nm13nm,1.5s						
BASI	**Baing, Sumba**	6.89	241	P	P	17 44 09.4	-0.4
	0.4nm23nm,0.8s						
BNSI	**Bone**	7.06	291	P	P	17 44 10.8	-0.9
	0.1nm10.0nm,1.2s						
MTN	**Manton Dam**	7.29	144	P	P	17 44 14.7	+0.5
MTN	**Manton Dam**	7.29	144	P	P	17 44 15.1	+0.9
SIJI	**Sorong**	7.56	37	P	P	17 44 16.7	-0.5
	1.9nm,0.3s,baz=214,slow=6.9,SNR=9.2						
SWI	**Sorong**	7.56	37	P	P	17 44 17.2	0.0
	0.1nm18nm,0.7s						
WBSI	**Waikabubak, Su**	7.73	249	P	P	17 44 16.8	-2.3
	0.4nm16nm,0.9s						
KDU	**Kakadu**	8.03	136	P	P	17 44 22.8	+0.5
KNRA	**Kununurra**	8.89	167	P	P	17 44 33.0	+1.2
KNRA	**Kununurra**	8.89	167	P	P	17 44 33.3	+1.5
PLAI	**Plampang**	9.05	258	P	P	17 44 32.4	-1.2
	16nm,0.7s						
PLAI	**Plampang**	9.05	258	P	P	17 44 32.0	-1.6
TOLI2	**Tolitoli**	9.97	323	P	P	17 44 46.0	+2.3
TOLI2	**Tolitoli**	9.97	323	P	P	17 44 46.2	+2.4
FITZ	**Fitzroy Crossi**	11.12	185	P	P	17 44 57.2	+0.8
	0.2nm,0.3s,baz=360,slow=9.9,SNR=9.4						
FITZ	**Fitzroy Crossi**	11.12	185	P	P	17 44 57.6	+1.1
JAGI	**Jajag, Banyuwa**	12.55	262	P	P	17 45 10.5	-1.7
JAGI	**Jajag, Banyuwa**	12.55	262	P	P	17 45 09.9	-2.3
	17nm,1.8s						
JAGI	**Jajag, Banyuwa**	12.55	262	P	P	17 45 11.4	-0.8
WB0	**Warramunga Arr**	14.75	150	P	P	17 45 36.5	+0.4
WRAB	**Tennant Creek**	14.87	151	P	P	17 45 36.5	-0.9
WRAB	**Tennant Creek**	14.87	151	P	P	17 45 38.0	+0.6
WRA	**Warramunga Arr**	14.88	151	P	P	17 45 37.6	+0.1
	0.6nm,0.3s,baz=324,slow=12,SNR=32						
WRA				S	S	17 48 12.4	-3.0
	0.1nm,0.3s,baz=325,slow=17,SNR=6.2						
WB2	**Warramunga Arr**	14.88	151	P	P	17 45 37.8	+0.2
WR0	**Warramunga Arr**	14.99	150	P	P	17 45 39.0	+0.3
MBWA	**Marble Bar**	15.66	205	P	P	17 45 46.5	+0.7
MBWA				IAmb	IAmb	17 46 01.3	
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	15.98	204	P	P	17

URZ	Urewera	0.52	98	P	Pn	17 44 44.9 +0.5
RTZ	Ruatahuna	0.59	136	P	Pn	17 44 45.9 +0.6
RTZ	Ruatahuna	0.59	136	P	Pn	17 44 45.9 +0.6
MRHZ	Matea Rd	0.64	183	P	Pn	17 44 47.0 +1.1
MRHZ	Matea Rd	0.64	183	P	Pn	17 44 47.0 +1.1
MTHZ	Maungataniwha	0.73	156	P	Pn	17 44 47.3 +0.4
MTHZ	Maungataniwha	0.73	156	P	Pn	17 44 47.3 +0.4
TLZ	Tolley Road	0.74	259	P	Pn	17 44 47.2 +0.2
TLZ	Tolley Road	0.74	259	P	Pn	17 44 47.2 +0.2
MWZ	Matawai	0.85	100	P	Pn	17 44 48.5 +0.1
MWZ	Matawai	0.85	100	P	Pn	17 44 48.5 +0.1
RAHZ	Arahi	0.88	146	P	Pn	17 44 45.0 -3.7
RAHZ	Arahi	0.88	146	P	Pn	17 44 45.0 -3.7
TOZ	Tahuroa Road	0.89	301	P	Pn	17 44 48.3 -0.4
TOZ	Tahuroa Road	0.89	301	P	Pn	17 44 48.3 -0.4
SNGZ	Shannon Statio	0.91	131	P	Pn	17 44 49.8 +0.7
SNGZ	Shannon Statio	0.91	131	P	Pn	17 44 49.8 +0.7
NMHZ	Naumai	0.94	163	P	Pn	17 44 50.5 +0.9
NMHZ	Naumai	0.94	163	P	Pn	17 44 50.5 +0.9
BKZ	Black Stump Fm	0.97	178	P	Pn	17 44 49.7 -0.2
BKZ	Black Stump Fm	0.97	178	P	Pn	17 44 49.7 -0.2
RUGZ	Raukumara Rang	0.99	77	P	Pn	17 44 49.4 -0.8
RUGZ	Raukumara Rang	0.99	77	P	Pn	17 44 49.4 -0.8
HAZ	Te Kaha	1.13	68	P	Pn	17 44 51.1 -0.9
HAZ	Te Kaha	1.13	68	P	Pn	17 44 51.1 -0.9
RIGZ	Rimuhau	1.15	117	P	Pn	17 44 51.9 -0.2
RIGZ	Rimuhau	1.15	117	P	Pn	17 44 51.9 -0.2
ARHZ	Aropaoanui	1.15	159	P	Pn	17 44 52.1 -0.1
ARHZ	Aropaoanui	1.15	159	P	Pn	17 44 52.1 -0.1
OTVZ	Oturere	1.15	212	P	Pn	17 44 52.6 +0.2
OTVZ	Oturere	1.15	212	P	Pn	17 44 52.6 +0.2
SNVZ	South Ngauruho	1.18	213	P	Pn	17 44 53.0 +0.2
SNVZ	South Ngauruho	1.18	213	P	Pn	17 44 53.0 +0.2
TWGZ	Tauwhareparae	1.20	90	P	Pn	17 44 55.0 +2.1
TWGZ	Tauwhareparae	1.20	90	P	Pn	17 44 55.0 +2.1
KWHZ	Kaweka Forest	1.23	181	P	Pn	17 44 52.7 -0.6
KWHZ	Kaweka Forest	1.23	181	P	Pn	17 44 52.7 -0.6
MCHZ	McNeill Hill	1.27	172	P	Pn	17 44 53.9 +0.2
MCHZ	McNeill Hill	1.27	172	P	Pn	17 44 53.9 +0.2
PKGZ	Pakihiroa	1.31	77	P	Pn	17 44 54.1 -0.3
PKGZ	Pakihiroa	1.31	77	P	Pn	17 44 54.1 -0.3
WNVZ	Wahianoa	1.32	210	P	Pn	17 44 54.1 -0.6
WNVZ	Wahianoa	1.32	210	P	Pn	17 44 54.1 -0.6
BHHZ	Black Hill Sta	1.33	193	P	Pn	17 44 53.5 -1.2
BHHZ	Black Hill Sta	1.33	193	P	Pn	17 44 53.5 -1.2
MXZ	Matakaoa Point	1.59	67	P	Pn	17 44 58.5 +0.4
MXZ	Matakaoa Point	1.59	67	P	Pn	17 44 58.5 +0.4
BFZ	Birch Farm	2.49	184	P	Pn	17 45 08.3 -2.0
BFZ	Birch Farm	2.49	184	P	Pn	17 45 08.3 -2.0
WELZ	Wellington	3.35	202	P	Pn	17 45 27.5 +5.4
WELZ	Wellington	3.35	202	P	Pn	17 45 27.5 +5.4
OXZ	Oxford	6.13	212	P	Pn	17 46 02.1 +2.1
OXZ	Oxford	6.13	212	P	Pn	17 46 02.1 +2.1

IDC 31 17:45:40.4±3.3, 8°51S×120°59E, h630km×37km, mb2.5/1, mb1 2.6/4, mb1mx2.1/32, mbtmp3.4/4, Error ellipse: s-maj=217.3km s-min=25.0km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	3.47	119	P	P	17 47 04.8	-0.1
	4.2nm,0.3s,baz=252,slow=20,SNR=3.5						
WRA	Warramunga Arr	17.50	132	P	P	17 49 09.4	-0.8
	0.1nm,0.3s,baz=304,slow=12,SNR=1.4						
ASAR	Alice Springs	19.74	141	P	P	17 49 31.2	+0.7
	0.1nm,0.3s,baz=317,slow=9.1,SNR=5.2						
MKAR	Makanchi Array	64.75	332	P	P	17 55 18.6	+0.1
	0.3nm,0.5s,baz=152,slow=7.2,SNR=5.6						

WEL 31 17:48:23.2, 40°S±10", 177°5E±1°5, h195km±23km, Error ellipse: s-maj=0.0km s-min=0.0km az=87.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	Lake Rotokare	0.18	325	P	Pn	17 48 49.9	+1.0
LREZ	Lake Rotokare	0.18	325	P	Pn	17 48 49.9	+1.0
WAZ	Wanganui	0.37	113	P	Pn	17 48 51.1	+1.8
WAZ	Wanganui	0.37	113	P	Pn	17 48 51.1	+1.8
NEZ	North Egmont	0.48	315	P	Pn	17 48 50.3	+0.5
NEZ	North Egmont	0.48	315	P	Pn	17 48 50.3	+0.5
VRZ	Vera Road	0.52	19	P	Pn	17 48 49.6	-0.3
VRZ	Vera Road	0.52	19	P	Pn	17 48 49.6	-0.3
PKVZ	Pokaka	0.70	63	P	Pn	17 48 50.6	-0.1
PKVZ	Pokaka	0.70	63	P	Pn	17 48 50.6	-0.1
MTVZ	Mangateitei	0.76	73	P	Pn	17 48 51.7	+0.7
MTVZ	Mangateitei	0.76	73	P	Pn	17 48 51.7	+0.7
TRVZ	Turoa	0.84	69	P	Pn	17 48 52.0	+0.3
TRVZ	Turoa	0.84	69	P	Pn	17 48 52.0	+0.3
FWVZ	Far West T-bar	0.86	66	P	Pn	17 48 52.2	+0.4
FWVZ	Far West T-bar	0.86	66	P	Pn	17 48 52.2	+0.4
WNVZ	Wahianoa	0.87	71	P	Pn	17 48 52.2	+0.5
WNVZ	Wahianoa	0.87	71	P	Pn	17 48 52.2	+0.5
TWVZ	Taurewa	0.88	53	P	Pn	17 48 51.1	-0.7
TWVZ	Taurewa	0.88	53	P	Pn	17 48 51.1	-0.7
TUVZ	Tukino	0.92	69	P	Pn	17 48 52.0	+0.5
TUVZ	Tukino	0.92	69	P	Pn	17 48 52.0	+0.5
NGZ	Ngauruhoe	0.93	62	P	Pn	17 48 52.3	+0.1
NGZ	Ngauruhoe	0.93	62	P	Pn	17 48 52.3	+0.1
SNVZ	South Ngauruho	0.95	64	P	Pn	17 48 52.6	+0.2
SNVZ	South Ngauruho	0.95	64	P	Pn	17 48 52.6	+0.2
WTVZ	West Tongariro	0.95	59	P	Pn	17 48 52.3	0.0
WTVZ	West Tongariro	0.95	59	P	Pn	17 48 52.3	0.0
MOVZ	Moawhango	0.96	78	P	Pn	17 48 52.4	+0.1
MOVZ	Moawhango	0.96	78	P	Pn	17 48 52.4	+0.1
NNVZ	North Ngauruho	0.96	60	P	Pn	17 48 52.4	0.0
NNVZ	North Ngauruho	0.96	60	P	Pn	17 48 52.4	0.0
OTVZ	Oturere	0.98	63	P	Pn	17 48 52.7	+0.2
OTVZ	Oturere	0.98	63	P	Pn	17 48 52.7	+0.2
NTVZ	North Tongarir	1.02	60	P	Pn	17 48 52.6	-0.2
NTVZ	North Tongarir	1.02	60	P	Pn	17 48 52.6	-0.2
ETVZ	East Tongariro	1.03	63	P	Pn	17 48 52.8	+0.1
ETVZ	East Tongariro	1.03	63	P	Pn	17 48 52.8	+0.1
TMVZ	Te Maari	1.03	62	P	Pn	17 48 53.0	+0.2
TMVZ	Te Maari	1.03	62	P	Pn	17 48 53.0	+0.2
HIZ	Hauiti	1.12	13	P	Pn	17 48 51.1	-2.3
HIZ	Hauiti	1.12	13	P	Pn	17 48 51.1	-2.3
BHHZ	Black Hill Sta	1.19	85	P	Pn	17 48 53.8	0.0
BHHZ	Black Hill Sta	1.19	85	P	Pn	17 48 53.8	0.0
DUWZ	D'Urville Isla	1.28	201	P	Pn	17 48 55.4	+0.9
DUWZ	D'Urville Isla	1.28	201	P	Pn	17 48 55.4	+0.9
KIW	Kapiti Island	1.28	167	P	Pn	17 48 55.6	+1.1
KIW	Kapiti Island	1.28	167	P	Pn	17 48 55.6	+1.1
OGWZ	Otaki Gorge	1.30	158	P	Pn	17 48 55.9	+1.2
OGWZ	Otaki Gorge	1.30	158	P	Pn	17 48 55.9	+1.2
MRZ	Mangatainoka R	1.32	143	P	Pn	17 48 55.8	+0.9
MRZ	Mangatainoka R	1.32	143	P	Pn	17 48 55.8	+0.9
PNHZ	Pukenui	1.32	104	P	Pn	17 48 55.6	+0.8
PNHZ	Pukenui	1.32	104	P	Pn	17 48 55.6	+0.8
KRHZ	Kereru	1.42	92	P	Pn	17 48 56.1	+0.3
KRHZ	Kereru	1.42	92	P	Pn	17 48 56.1	+0.3
DVHZ	Dannevirke	1.43	119	P	Pn	17 48 56.5	+0.7
DVHZ	Dannevirke	1.43	119	P	Pn	17 48 56.5	+0.7
KWHZ	Kaweka Forest	1.47	83	P	Pn	17 48 56.5	+0.2
KWHZ	Kaweka Forest	1.47	83	P	Pn	17 48 56.5	+0.2
HOWZ	Holdsworth Sta	1.49	150	P	Pn	17 48 57.0	+0.8
HOWZ	Holdsworth Sta	1.49	150	P	Pn	17 48 57.0	+0.8
WPHZ	Waipukurau	1.53	108	P	Pn	17 48 57.5	+0.7
WPHZ	Waipukurau	1.53	108	P	Pn	17 48 57.5	+0.7
CAWZ	Cannon Point	1.55	165	P	Pn	17 48 57.7	+0.9
CAWZ	Cannon Point	1.55	165	P	Pn	17 48 57.7	+0.9
TIWZ	Tintock	1.56	139	P	Pn	17 48 57.9	+0.9
TIWZ	Tintock	1.56	139	P	Pn	17 48 57.9	+0.9
BKZ	Black Stump Fm	1.58	74	P	Pn	17 48 56.3	-1.0
BKZ	Black Stump Fm	1.58	74	P	Pn	17 48 56.3	-1.0
TCW	Tory Channel	1.61	187	P	Pn	17 48 58.1	+0.7
TCW	Tory Channel	1.61	187	P	Pn	17 48 58.1	+0.7
MCHZ	McNeill Hill	1.68	85	P	Pn	17 48 58.4	+0.4
MCHZ	McNeill Hill	1.68	85	P	Pn	17 48 58.4	+0.4
BFZ	Birch Farm	1.69	130	P	Pn	17 48 58.6	+0.5
BFZ	Birch Farm	1.69	130	P	Pn	17 48 58.6	+0.5
MTW	Mount Morrison	1.71	155	P	Pn	17 48 58.9	+0.6
MTW	Mount Morrison	1.71	155	P	Pn	17 48 58.9	+0.6
PRHZ	Porangahau	1.74	113	P	Pn	17 48 59.2	+0.5
PRHZ	Porangahau	1.74	113	P	Pn	17 48 59.2	+0.5
KAHZ	Kahuranaki	1.81	96	P	Pn	17 48 59.8	+0.4
KAHZ	Kahuranaki	1.81	96	P	Pn	17 48 59.8	+0.4
TMWZ	Te Maipa	1.82	146	P	Pn	17 48 60.0	+0.6
TMWZ	Te Maipa	1.82	146	P	Pn	17 48 60.0	+0.6
NNZ	Nelson	1.83	209	P	Pn	17 48 59.3	-0.2
NNZ	Nelson	1.83	209	P	Pn	17 48 59.3	-0.2
PXZ	Pawanui	1.84	104	P	Pn	17 48 59.7	+0.1
PXZ	Pawanui	1.84	104	P	Pn	17 48 59.7	+0.1
TUWZ	Tuamarina	1.87	194	P	Pn	17 49 00.3	+0.4
TUWZ	Tuamarina	1.87	194	P	Pn	17 49 00.3	+0.4
MSWZ	Moikau Station	1.88	163	P	Pn	17 49 00.3	+0.2
MSWZ	Moikau Station	1.88	163	P	Pn	17 49 00.3	+0.2
PAWZ	Paruwai Farm	1.89	159	P	Pn	17 49 00.7	+0.5
PAWZ	Paruwai Farm	1.89	159	P	Pn	17 49 00.7	+0.5
ARHZ	Aropaoanui	1.94	80	P	Pn	17 49 00.1	-0.6
ARHZ	Aropaoanui	1.94	80	P	Pn	17 49 00.1	-0.6
MTHZ	Maungataniwha	1.94	68	P	Pn	17 48 58.8	-2.0
MTHZ	Maungataniwha	1.94	68	P	Pn	17 48 58.8	-2.0
QRZ	Quartz Range	1.96	231	P	Pn	17 48 59.1	-1.7
QRZ	Quartz Range	1.96	231	P	Pn	17 48 59.1	-1.7
RTZ	Ruatahuna	2.15	63	P	Pn	17 49 00.2	-2.7
RTZ	Ruatahuna	2.15	63	P	Pn	17 49 00.2	-2.7
MRNZ	Matariki Terra	2.24	217	P	Pn	17 49 02.2	-1.7
MRNZ	Matariki Terra	2.24	217	P	Pn	17 49 02.2	-1.7
URZ	Urewera	2.42	57	P	Pn	17 49 01.7	-4.1
URZ	Urewera	2.42	57	P	Pn	17 49 01.7	-4.1
THZ	Tophouse	2.48	209	P	Pn	17 49 05.1	-1.4
THZ	Tophouse	2.48	209	P	Pn	17 49 05.1	-1.4
RIGZ	Rimuhau	2.67	71	P	Pn	17 49 06.0	-2.6
RIGZ	Rimuhau	2.67	71	P	Pn	17 49 06.0	-2.6
TKGZ	Te Karaka	2.83	67	P	Pn	17 49 07.4	-3.1
TKGZ	Te Karaka	2.83	67	P	Pn	17 49 07.4	-3.1
RUGZ	Raukumara Rang	2.95	57	P	Pn	17 49 06.6	-5.5
RUGZ	Raukumara Rang	2.95	57	P	Pn	17 49 06.6	-5.5
DSZ	Denniston Nort	2.98	223	P	Pn	17 49 08.9	-3.3
DSZ	Denniston Nort	2.98	223	P	Pn	17 49 08.9	-3.3
HAZ	Te Kaha	3.14	55	P	Pn	17 49 08.4	-5.8
HAZ	Te Kaha	3.14	55	P	Pn	17 49 08.4	-5.8
PKGZ	Pakihiroa	3.26	59	P	Pn	17 49 11.3	-4.4
PKGZ	Pakihiroa	3.26	59	P	Pn	17 49 11.3	-4.4
WMGZ	Waiomatatini S	3.52	61	P	Pn	17 49 13.3	-5.5
WMGZ	Waiomatatini S	3.52	61	P	Pn	17 49 13.3	-5.5
MXZ	Matakaoa Point	3.59	56	P	Pn	17 49 14.1	-5.6
MXZ	Matakaoa Point	3.59	56	P	Pn	17 49 14.1	-5.6
LTZ	Lake Taylor	3.60	208	P	Pn	17 49 16.3	-3.5
LTZ	Lake Taylor	3.60	208	P	Pn	17 49 16.3	-3.5
INZ	Inchbonnie	3.89	216	P	Pn	17 49 18.9	-4.4
INZ	Inchbonnie	3.89	216	P	Pn	17 49 18.9	-4.4
OXZ	Oxford	4.16	206	P	Pn	17 49 22.1	-4.6
OXZ	Oxford	4.16	206	P	Pn	17 49 22.1	-4.6
MQZ	McQueen's Vall	4.33	198	P	Pn	17 49 24.2	-4.6
MQZ	McQueen's Vall	4.33	198	P	Pn	17 49 24.2	-4.6
RACZ	Rakaia	4.49	203	P	Pn	17 49 26.4	-4.4
RACZ	Rakaia	4.49	203	P	Pn	17 49 26.4	-4.4
WVZ	Waitaha Valley	4.49	218	P	Pn	17 49 26.0	-4.8
WVZ	Waitaha Valley	4.49	218	P	Pn	17 49 26.0	-4.8
RPZ	Rata Peaks	4.86	211	P	Pn	17 49 30.3	-5.3
RPZ	Rata Peaks	4.86	211	P	Pn	17 49 30.3	-5.3
GCSZ	Gaunt Creek Bo	4.87	219	P	Pn	17 49 29.8	-5.8
GCSZ	Gaunt Creek Bo	4.87	219	P	Pn	17 49 29.8	-5.8
ARCZ	Arundel	5.01	209	P	Pn	17 49 32.4	-5.1
ARCZ	Arundel	5.01	209	P	Pn	17 49 32.4	-5.1
FOZ	Fox Glacier	5.28	221	P	Pn	17 49 34.1	-6.8
FOZ	Fox Glacier	5.28	221	P	Pn	17 49 34.1	-6.8
TMZ	Timaru	5.45	208	P	Pn	17 49 38.3	-4.8
TMZ	Timaru	5.45	208	P	Pn	17 49 38.3	-4.8
ODZ	Otahua Downs	6.15	207	P	Pn	17 49 47.1	-5.0
ODZ	Otahua Downs	6.15	207	P	Pn	17 49 47.1	-5.0

*CNRM **31** 18:01:53.1, 35°.15N×3°.85W, h10km, ml3.2*
*MDD **31** 18:01:53.2±1.5, 34°.81N×3°.67W, h40km±24km, mb_Lg3.2/7, Error ellipse: s-maj=16.4km s-min=6.5km az=166.0*
*SFS **31** 18:01:53.0, 34°.94N×3°.78W, ML3.1, ALHUCEMAS (MARRUECOS)*
*INMG **31** 18:01:55.7±1.6, 35°.05N×3°.97W, h10km±10km, ML2.5, Error ellipse: s-maj=5.8km s-min=5.2km az=83.0*
ISC 31 18:01:53.2±1.0, 35°.10N±0°.02×3°.82W±0°.02, h9km±7km, n55, σ1§46/91, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.15	318	S	Sg	18 01 58.1	-0.7
PALE	Palemas	0.15	318	P	Sg	18 01 58.0	-0.7
PALE				S		18 02 02.1	
PVLZ	Peæn de	0.40	280	P	Pg	18 02 01.4	+0.4
PVLZ				S	Sg	18 02 07.9	+1.5
AKLM	AKL	0.59	184	P	Pg	18 02 03.2	-1.5
AKLM				S	Sg	18 02 11.7	-0.8
GOG	Mont Gurugu	0.68	80	P	Pg	18 02 07.0	+0.6
GOG	Mont Gurugu	0.68	80	P	Pg	18 02 06.9	-0.3
GOG				S	Sb	18 02 18.9	+1.9
EMEL	Melilla	0.73	74	Pg	Pg	18 02 07.7	+0.5
EMEL				Sg	Sg	18 02 16.5	-0.3
TAF	Taforalt	1.19	104	P	Pn	18 02 16.0	-0.1
TAF	Taforalt	1.19	104	P	Pn	18 02 15.3	-0.8
TAF				S	Sb	18 02 30.4	-1.1
CHEFC	Chefchaouen	1.25	271	P	Pn	18 02 16.4	-0.5
CHEFC	Chefchaouen	1.25	271	P	Pn	18 02 16.3	-0.7
CHEFC				S	Sb	18 02 33.8	+0.6
JBK	JBK	1.28	126	P	Pn	18 02 17.0	-0.5
JBK				S	Sg	18 02 37.0	+2.5
JBK	JBK	1.28	126	P	Pn	18 02 15.9	-1.6
JBK				S	Sb	18 02 33.1	-1.2
SMIR	Smir Dam	1.40	295	P	Pn	18 02 17.0	-2.0
SMIR	Smir Dam	1.40	295	P	Pn	18 02 17.0	-2.0
SMIR				S	Sn	18 02 34.6	-3.1
SICH	Sidi Chahed	1.59	232	P	Pn	18 02 23.1	+1.6
SICH				S	Sb	18 02 44.8	+1.8
EMIJ	Mijas	1.65	332	Pn	Pn	18 02 23.8	+1.3
EMIJ				Sn	Sn	18 02 42.5	-1.4
EMIJ				*i* Vmb_Lg		18 03 51.0	
LCRM	LCR	1.66	212	P	Pn	18 02 24.1	+1.5
LCRM				S	Sg	18 02 48.0	+1.6
LCRM	LCR	1.66	212	P	Pn	18 02 22.8	+0.2
LCRM				S	Sn	18 02 44.3	+0.2
EMAL	Malaga-Limoner	1.73	343	P	Pn	18 02 23.6	+0.1
EMAL				S	Sn	18 02 45.6	-0.1
ELGU	Los Guajares,	1.77	5	Pg	Pn	18 02 24.2	+0.1
ELGU				Sg	Sn	18 02 44.2	-2.6
ELGU				*i* Vmb_Lg		18 03 50.7	
EBER	Berja	1.94	22	Pg	Pn	18 02 27.0	+0.4
EBER				Sg	Sn	18 02 50.5	-0.7
EBER				*i* Vmb_Lg		18 03 59.3	
CZD	Col de Zad	2.30	207	P	Pn	18 02 32.0	+0.4
CZD	Col de Zad	2.30	207	P	Pn	18 02 31.8	+0.2
CZD				S	Sn	18 02 51.8	+1.5
MD31	MD31	2.36	200	P	Pn	18 02 31.9	-0.4
MD31				S	Sn	18 03 01.1	-0.4
MDT	Midelt	2.38	196	P	Pn	18 02 32.6	+0.2
MDT	Midelt	2.38	196	P	Pn	18 02 32.6	+0.2
MDT				S	Sn	18 02 59.8	-2.0
TDRA	Tendrara	2.54	144	P	Pn	18 02 34.3	-0.5
EADA	Adamuz	3.12	349	Pn	Pn	18 02 44.1	+1.5
EADA				Sn	Sn	18 03 19.8	-0.3
ECAB	El Cabril	3.23	337	Pn	Pn	18 02 45.6	+1.4
ECAB				Sn	Sn	18 03 23.3	+0.4
ECAB				*i* Vmb_Lg		18 04 33.1	
EMIN	Mina Concepcio	3.52	320	Pn	Pn	18 02 48.6	+0.5
EMIN				Sn	Sn	18 03 30.7	+0.9
EMIN				*i* Vmb_Lg		18 04 37.5	
EGRO	El Granado	3.83	310	Pn	Pn	18 02 53.1	+0.7
EGRO				Sn	Sn	18 03 40.1	+2.6
EGRO				*i* Vmb_Lg		18 05 47.5	
PVAQ	Vaqueiros	3.90	307	*e*Pn	Pn	18 02 54.0	+0.7
PVAQ				*e*Sn	Sn	18 03 36.8	-2.5
PVAQ				A	A	18 03 42.0	
	14nm,0.6s						
PVAQ	Vaqueiros	3.90	307	P	Pn	18 02 53.0	-0.4
PVAQ				S	Sn	18 03 35.4	-3.9
PBDV	Barranco-do-Ve	3.96	304	*e*Pn	Pn	18 02 54.3	+0.2
PBDV				*e*Sn	Sn	18 03 37.9	-2.8
PBDV				A	A	18 03 45.6	
	10.0nm,0.9s						
ETOB	Tobarra	3.98	27	Pn	Pn	18 02 55.9	+1.4
ETOB				Sn	Sn	18 03 40.1	-1.1
PBAR	Barrancos	4.01	321	*e*Pn	Pn	18 02 54.7	-0.2
PBAR				*e*Sn	Sn	18 03 38.8	-3.3
PBAR				A	A	18 03 46.3	
	4.6nm,0.5s						
PCVE	Castro Verde	4.24	308	*e*Pn	Pn	18 02 58.8	+0.8
PCVE				*e*Sn	Sn	18 03 45.5	-2.2
PCVE				A	A	18 03 51.9	
	5.1nm,0.4s						
PBEJ	Beja	4.38	313	*e*Pn	Pn	18 03 00.2	+0.3
PBEJ				*e*Sn	Sn	18 03 50.1	-0.9
EBAD	Badajoz	4.46	326	Pn	Pn	18 03 01.6	+0.6
EBAD				Sn	Sn	18 03 54.3	+1.3
EBAD				*i* Vmb_Lg		18 04 55.7	
PTEO	Sao Teotonio	4.65	303	*e*Pn	Pn	18 03 04.4	+0.7
PTEO				*e*Sn	Sn	18 03 56.1	-1.7
EVO	Evora	4.80	317	*e*Pn	Pn	18 03 07.1	+1.4
EVO				*e*Sn	Sn	18 03 59.1	-2.4
PESTR	Estremoz	4.82	322	*e*Pn	Pn	18 03 07.7	+1.7
PESTR				*e*Sn	Sn	18 04 00.2	-1.8
PESTR	Estremoz	4.82	322	P	Pn	18 03 06.3	+0.3
PNCL	Nicolau / Gran	4.84	310	*e*Pn	Pn	18 03 06.8	+0.6
PNCL				*e*Sn	Sn	18 04 00.9	-1.4
OUZM	OUZ	4.86	211	P	Pn	18 03 06.6	0.0
OUK	Oukaimeden	5.16	222	P	Pn	18 03 10.4	-0.6
PMRV	Marv??o	5.17	328	*e*Pn	Pn	18 03 11.4	+0.5
PMRV				*e*Sn	Sn	18 04 07.5	-3.2
ZGR	Zagora	5.20	198	P	Pn	18 03 11.9	+0.7
PMTG	Montargil	5.30	320	*e*Pn	Pn	18 03 13.4	+0.8
PMTG				*e*Sn	Sn	18 04 01.1	-13
PCBR	Castelo Branco	5.55	329	*e*Pn	Pn	18 03 17.2	+1.2
PSBE	So Bento	5.93	319	*e*Pn	Pn	18 03 23.1	+1.9
MVO	Moncorvo	6.56	338	*e*Pn	Pn	18 03 31.7	+1.8
POLO	Lamas de Olo	7.00	335	*e*Pn	Pn	18 03 38.5	+2.5
PBRG	Braganca	7.07	342	*e*Pn	Pn	18 03 38.8	+1.8

*CNRM **31** 18:02:55.2, 35°.13N×3°.85W, h20km, ml3.3*
*MDD **31** 18:02:56.2±0.6, 35°.20N×3°.82W, h0km, mb_Lg3.1/7, Error ellipse: s-maj=5.3km s-min=3.2km az=174.0*
*SFS **31** 18:02:56.0, 35°.19N×3°.81W, ML3.1, ALHUCEMAS (MARRUECOS)*
*INMG **31** 18:02:57.2±1.2, 35°.11N×4°.03W, h0km, ML2.7, Error ellipse: s-maj=4.9km s-min=4.5km az=148.0*
ISC 31 18:02:54.9±0.9, 35°.10N±0°.02×3°.79W±0°.02, h16km±7km, n59, σ1§38/106, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.17	313	P	Pg	18 02 59.5	+0.2
PALE				S	Sb	18 03 05.0	+2.0
PALE	Palemas	0.17	313	P	Pg	18 02 59.5	+0.2
PALE				S	Sb	18 03 03.5	+0.6
PVLZ	Peæn de	0.43	280	P	Pg	18 03 03.0	-0.6
PVLZ				S	Sg	18 03 09.3	-0.1
AKLM	AKL	0.59	186	P	Pg	18 03 04.6	-2.1
AKLM				S	Sg	18 03 12.9	-1.7
GOG	Mont Gurugu	0.66	79	P	Pn	18 03 09.0	-0.6
GOG	Mont Gurugu	0.66	79	P	Pg	18 03 07.4	-0.4
GOG				S	Sn	18 03 19.7	+0.1
EMEL	Melilla	0.71	73	Pg	Pb	18 03 08.3	-0.5
EMEL				Sg	Sb	18 03 19.2	+0.9
TAF	Taforalt	1.16	104	P	Pb	18 03 17.0	+0.4
TAF	Taforalt	1.16	104	P	Pn	18 03 16.6	+0.1
TAF				S	Sg	18 03 32.7	+0.2
JBK	JBK	1.26	127	P	Pn	18 03 17.6	-0.4
JBK				S	Sb	18 03 34.6	+0.2
CHEFC	Chefchaouen	1.27	271	P	Pn	18 03 18.0	-0.1
CHEFC	Chefchaouen	1.27	271	P	Pn	18 03 17.7	-0.4
CHEFC				S	Sg	18 03 36.3	+0.1
SMIR	Smir Dam	1.43	294	P	Pn	18 03

PCBR				*e*Sn	**Sn**	18 05 20.2	-0.4
PCBR				A	A	18 05 21.8	
	3.9nm,0.6s						
PSBE	**So Bento**	**5.95**	**319**	*e*Pn	**Pn**	**18 04 24.3**	**+2.1**
MTE	**Manteigas**	**6.07**	**332**	*e*Pn	**Pn**	**18 04 26.0**	**+2.0**
MTE				*e*Sn	**Sn**	**18 05 33.6**	**+0.5**
PCAS	**Casmilo, Conde**	**6.20**	**324**	*e*Pn	**Pn**	**18 04 27.7**	**+2.0**
PVIS	**Viseu**	**6.48**	**331**	*e*Pn	**Pn**	**18 04 31.7**	**+2.1**
PVIS				*e*Sn	**Sn**	**18 05 42.0**	**-1.2**
MVO	**Moncorvo**	**6.57**	**338**	*e*Pn	**Pn**	**18 04 33.5**	**+2.6**
MVO				*e*Sn	**Sn**	**18 05 46.4**	**+0.9**
MVO				A	A	18 05 51.8	
	6.8nm,0.5s						
PVRL	**Vila Real**	**6.90**	**335**	*e*Pn	**Pn**	**18 04 37.3**	**+2.0**
PVRL				*e*Sn	**Sn**	**18 05 52.4**	**-1.1**
PVRL				A	A	18 05 59.2	
	5.6nm,0.3s						
POLO	**Lamas de Olo**	**7.01**	**334**	*e*Pn	**Pn**	**18 04 39.3**	**+2.4**
POLO				*e*Sn	**Sn**	**18 05 55.8**	**-0.6**
POLO				A	A	18 06 04.7	
	1.8nm,0.6s						
PBRG	**Braganca**	**7.08**	**342**	*e*Pn	**Pn**	**18 04 40.5**	**+2.6**
PBRG				*e*Sn	**Sn**	**18 05 57.8**	**-0.2**
PBRG				A	A	18 06 00.8	
	3.4nm,0.6s						
PTO	**Porto**	**7.12**	**329**	*e*Pn	**Pn**	**18 04 40.3**	**+2.0**
PGAV	**Gavieira, Arco**	**7.70**	**334**	*e*Pn	**Pn**	**18 04 49.3**	**+2.9**

*IDC **31** 18:05:13.9±1.1,43˚.63N×82˚.64E,h0km,mb3.7/5, mb1 3.7/7,mb1mx3.4/46,mbtmp3.5/7,ML2.5/3,Error ellipse: s-maj=20.1km s-min=11.2km az=86.0*
*SOME **31** 18:05:17.6,43˚.80N×82˚.60E,h5km*
*NNC **31** 18:05:19.0±1.4,43˚.83N×82˚.63E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=12.8km s-min=4.8km az=136.0*

ISC 31 18:05:16.6±1.5,43˚.70N±0˚.05×82˚.61E±0˚.05,h14km±9km, n57,σ2s02/84,mb3.4/5,11C-10D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.66**	**262**	*e*P	**Pg**	**18 05 49.1**	**+0.5**
KTMS	13nm,0.1s			*e*S	**Sg**	**18 06 11.9**	**+1.6**
	125nm,0.2s						
KTMS	**Ketmen**	**1.66**	**262**	S	**Sg**	**18 06 13.6**	**+3.3**
DJR	125nm,0.2s **Jarkent**	**2.13**	**288**	*e*P	**Pg**	**18 05 57.1**	**-0.4**
DJR	9.1nm,0.1s			*e*S	**Sg**	**18 06 25.5**	**+0.3**
	183nm,0.2s						
DJR	**Jarkent**	**2.13**	**288**	Pg	**Pg**	**18 05 57.8**	**+0.3**
DJR	17nm,0.1s			Lg	Lg	18 06 27.8	
	183nm,0.2s						
PDGK	**Podgornoye**	**2.30**	**262**	Pg	**Pg**	**18 06 00.4**	**-0.4**
PDGK	4.6nm,0.2s			Lg	Lg	18 06 31.8	
	60nm,0.3s						
PDGK	**Podgornoye**	**2.30**	**262**	⇓Pn	**Pg**	**18 05 59.5**	**-1.4**
PDGK	33nm,0.9s			⇑Sn	**Sg**	**18 06 31.4**	**+0.7**
	67nm,0.5s						
SHLS	**Shalkode**	**2.36**	**258**	*e*P	**Pb**	**18 05 56.3**	**-2.7**
SHLS	31nm,0.1s			*e*S	**Sn**	**18 06 24.1**	**+0.3**
	424nm,0.4s						
SHLS	**Shalkode**	**2.36**	**258**	Pg	**Pb**	**18 05 57.6**	**-1.4**
SHLS	26nm,0.1s			Lg	Lg	18 06 26.9	
	424nm,0.4s						
UZB	**Uzynbulak**	**2.67**	**259**	*e*P	**Pg**	**18 06 08.0**	**+0.1**
UZB	5.8nm,0.1s			*e*S	**Sg**	**18 06 44.8**	**+2.2**
	47nm,0.3s						
UZB	**Uzynbulak**	**2.67**	**259**	Pg	**Pg**	**18 06 08.0**	**+0.1**
UZB	5.5nm,0.1s			Lg	Lg	18 06 44.8	
	47nm,0.3s						
KAPS	**Kapalarasan**	**2.82**	**305**	*e*P	**Pb**	**18 06 06.8**	**+0.1**
KAPS	10nm,0.1s			*e*S	**Sb**	**18 06 41.9**	**+0.9**
	96nm,0.2s						
KPKS	**Kokpek**	**2.87**	**267**	*e*P	**Pg**	**18 06 10.6**	**-1.0**
KPKS	9.0nm,0.1s			*e*S	**Sg**	**18 06 49.0**	**+0.3**
	90nm,0.1s						
BLB	**Baldybastay**	**3.02**	**279**	*e*P	**Pg**	**18 06 12.8**	**-1.6**
BLB	24nm,0.0s			*e*S	**Sg**	**18 06 53.2**	**-0.2**
	109nm,0.1s						
BLB	**Baldybastay**	**3.02**	**279**	Pg	**Pg**	**18 06 13.1**	**-1.3**
BLB	28nm,0.1s			Lg	Lg	18 06 53.4	
	68nm,0.4s						
MK31	**Makanchi Array**	**3.10**	**356**	⇑Pn	**Pn**	**18 06 07.4**	**+2.3**
MK31	0.1nm,0.1s,baz=159,slow=13,SNR=466 ⇓Pg				**Pg**	**18 06 14.1**	**-1.9**
	10nm,0.4s,baz=175,slow=17,SNR=99						
MK31				⇓Lg	Lg	18 06 53.3	
	9.0nm,0.2s,baz=167,slow=28,SNR=7.7						
MKAR	**Makanchi Array**	**3.10**	**356**	Pn	**Pn**	**18 06 08.1**	**+3.0**
	0.7nm,0.3s,baz=182,slow=14,SNR=79						
MKAR				Pg	**Pb**	**18 06 13.5**	**+2.0**
	10nm,0.3s,baz=168,slow=16,SNR=66						
MKAR				Sn	**Sn**	**18 06 46.4**	**+4.5**
	28nm,0.3s,baz=172,slow=26,SNR=20						
MKAR				Lg	Lg	18 06 53.6	
	19nm,0.3s,baz=160,slow=27,SNR=7.7						
SATY	**Saty**	**3.13**	**260**	*e*P	**Pg**	**18 06 16.6**	**-0.1**
SATY	6.7nm,0.2s			*e*S	**Sg**	**18 06 59.2**	**+1.9**
	68nm,0.2s						
SATY	**Saty**	**3.13**	**260**	Pg	**Pg**	**18 06 16.8**	**+0.1**
SATY	6.7nm,0.1s			Lg	Lg	18 06 59.2	
	68nm,0.2s						
MAKZ	**Makanchi**	**3.14**	**352**	⇓Pn	**Pn**	**18 06 07.9**	**+2.3**
MAKZ	0.1nm,0.1s			⇑Pg	**Pg**	**18 06 16.7**	**0.0**
	6.6nm,0.6s						
MAKZ				⇓Lg	Lg	18 06 56.0	
	20nm,0.5s						
KURS	**Kuram**	**3.23**	**268**	*e*P	**Pg**	**18 06 17.4**	**-1.3**
KURS	2.1nm,0.3s			*e*S	**Sg**	**18 07 00.6**	**+0.1**
	9.0nm,0.1s						
KURS	**Kuram**	**3.23**	**268**	Pg	**Pg**	**18 06 17.4**	**-1.3**
KURS	2.1nm,0.3s			Lg	Lg	18 07 00.6	
	18nm,0.4s						
TDK	**Taldyqorghan**	**3.29**	**295**	*e*P	**Pg**	**18 06 17.2**	**-2.3**
TDK	16nm,0.1s			*e*S	**Sg**	**18 06 59.9**	**-2.2**
	39nm,0.1s						
TDK	**Taldyqorghan**	**3.29**	**295**	Pg	**Pg**	**18 06 20.0**	**+0.5**
TDK	24nm,0.3s			Lg	Lg	18 07 05.5	
	101nm,0.2s						
KOTS	**Kotyrbulak**	**4.03**	**265**	*e*P	**Pg**	**18 06 32.0**	**-1.9**
KOTS	4.2nm,0.0s			*e*S	**Sg**	**18 07 25.6**	**-0.5**
	35nm,0.2s						
ZSN	**Zaisan**	**4.07**	**22**	*e*P	**Pb**	**18 06 29.9**	**+1.9**
ZSN	26nm,0.1s			*e*S	**Sg**	**18 07 23.0**	**-4.1**
	80nm,0.4s						
ZSN	**Zaisan**	**4.07**	**22**	Pg	**Pb**	**18 06 29.9**	**+1.9**
CHKK	26nm,0.3s **Chushkaly**	**4.08**	**274**	*e*P	**Pg**	**18 06 32.1**	**-2.6**
CHKK	2.3nm,0.0s			*e*S	**Sg**	**18 07 25.4**	**-2.1**
	14nm,0.1s						
CHKK	**Chushkaly**	**4.08**	**274**	Pg	**Pg**	**18 06 34.8**	**+0.1**
CHKK	3.8nm,0.4s			Lg	Lg	18 07 30.7	
	56nm,0.3s						
MDOK	**Medeo**	**4.09**	**264**	*e*P	**Pg**	**18 06 32.5**	**-2.5**
MDOK	2.8nm,0.0s			*e*S	**Sg**	**18 07 26.0**	**-2.0**
	18nm,0.3s						
MDOK	**Medeo**	**4.09**	**264**	Pn	**Pn**	**18 06 22.5**	**+3.6**
MDOK	1.8nm,0.5s			Pg	Pg	18 06 38.5	+3.6
MDOK	4.1nm,0.4s			Lg	Lg	18 07 32.8	
	15nm,0.5s						
MDOK	**Medeo**	**4.09**	**264**	Pg	**Pg**	**18 06 35.7**	**+0.7**
	4.3nm,0.3s						
KNDC	**Almaty**	**4.14**	**265**	⇑Lg	Lg	18 07 29.8	
	69nm,0.8s						
TNSS	**Tian-Shan**	**4.18**	**263**	*e*P	**Pg**	**18 06 34.7**	**-2.1**
TNSS	2.0nm,0.0s			*e*S	**Sg**	**18 07 29.4**	**-1.6**
	5.5nm,0.4s						
TNSS	**Tian-Shan**	**4.18**	**263**	Pg	**Pg**	**18 06 34.7**	**-2.1**
TNSS	3.8nm,0.3s			Lg	Lg	18 07 29.4	
	5.5nm,0.4s						
KTBS	**Karatobe**	**4.30**	**272**	*e*P	**Pg**	**18 06 36.7**	**-2.3**
KTBS	2.2nm,0.1s			*e*S	**Sg**	**18 07 33.2**	**-1.5**
	35nm,0.2s						
KTBS	**Karatobe**	**4.30**	**272**	Pg	**Pg**	**18 06 35.6**	**-3.4**
KTBS	1.3nm,0.1s			Lg	Lg	18 07 32.0	
	35nm,0.5s						
MTBS	**Maitube**	**4.54**	**265**	*e*P	**Pg**	**18 06 41.1**	**-2.5**
MTBS	2.5nm,0.1s			*e*S	**Sg**	**18 07 43.0**	**+0.5**
	16nm,0.3s						
MTBS	**Maitube**	**4.54**	**265**	Pg	**Pg**	**18 06 41.1**	**-2.5**
MTBS	2.5nm,0.1s			Lg	Lg	18 07 43.0	
	16nm,0.3s						
KUU	**Kurty**	**4.55**	**275**	*e*P	**Pg**	**18 06 40.7**	**-3.0**
KUU	1.6nm,0.1s			*e*S	**Sg**	**18 07 40.1**	**-2.5**
	15nm,0.1s						
KUU	**Kurty**	**4.55**	**275**	Pg	**Pg**	**18 06 43.0**	**-0.7**
KUU	2.2nm,0.3s			Lg	Lg	18 07 43.8	
	27nm,0.3s						
KST	**Kastek**	**4.89**	**265**	*e*P	**Pg**	**18 06 48.3**	**-2.0**
KST	1.4nm,0.2s			*e*S	**Sg**	**18 07 54.0**	**+0.3**
	12nm,0.1s						
KST	**Kastek**	**4.89**	**265**	Pg	**Pg**	**18 06 48.6**	**-1.7**
KST	4.0nm,0.3s			Lg	Lg	18 07 54.0	
	21nm,0.5s						
KRBS	**Karabastau**	**5.03**	**272**	*e*P	**Pg**	**18 06 50.2**	**-2.7**
KRBS	1.7nm,0.1s			*e*S	**Sg**	**18 07 56.4**	**-1.7**
	8.4nm,0.1s						
TKM2	**Tokmak 2**	**5.18**	**264**	⇑Pn	**Pn**	**18 06 36.5**	**+2.6**
TKM2	1.3nm,0.6s			⇑Pg	Pg	18 07 05.0	+9.2
	3.0nm,0.5s						
TKM2				⇑Lg	Lg	18 08 03.2	
	7.7nm,0.5s						
CHMS	**Chumysh**	**5.78**	**266**	⇓Pg	**Pg**	**18 07 03.7**	**-3.5**
CHMS	0.9nm,0.3s			⇓Lg	Lg	18 08 22.0	
	7.5nm,0.8s						
SGDS	**Sogindy**	**5.80**	**270**	Pg	**Pg**	**18 07 05.0**	**-2.7**
SGDS	1.2nm,0.2s			Lg	Lg	18 08 22.2	
	4.6nm,0.4s						
AAK	**Ala-Archa**	**6.03**	**263**	Pg	**Pb**	**18 07 03.4**	**+1.8**
AAK	0.1nm,0.3s,baz=85,slow=12,SNR=2.0			Lg	Lg	18 08 25.1	
	0.4nm,0.3s,baz=81,slow=13,SNR=1.3						
KURBB	**Kurchatov Arra**	**7.46**	**340**	Pn	**Pn**	**18 07 05.9**	**+1.0**
KURBB	0.1nm,0.3s,baz=165,slow=12,SNR=18			Sn	**Sn**	**18 08 29.3**	**+0.1**
	0.2nm,0.3s,baz=160,slow=21,SNR=6.6						
KURBB				Lg	Lg	18 09 12.3	
	0.2nm,0.3s,baz=175,slow=31,SNR=3.5						
KURBB	**Kurchatov Arra**	**7.46**	**340**	⇑Pn	**Pn**	**18 07 06.6**	**+1.7**
KURBB	2.3nm,0.5s			⇑Sn	**Sn**	**18 08 29.3**	**+0.1**
	18nm,0.7s						
KURBB				⇑Lg	Lg	18 09 12.0	
	39nm,0.8s						
KURK	**Kurchatov**	**7.52**	**340**	⇓Pn	**Pn**	**18 07 06.6**	**+0.8**
KURK	2.3nm,1.3s			⇓Sn	**Sn**	**18 08 29.0**	**-1.7**
	3.7nm,0.6s						
KURK				⇓Lg	Lg	18 09 16.6	
	16nm,0.7s						
OTUK	**Ortayu**	**8.47**	**306**	⇑Lg	Lg	18 09 47.1	
	6.4nm,0.7s						
ZALV	**Zalesovo Beam**	**10.36**	**7**	Pn	**Pn**	**18 07 44.7**	**+0.1**
ZALV	0.1nm,0.3s,baz=192,slow=13,SNR=3.9			Sn	**Sn**	**18 09 33.8**	**-6.5**
	0.5nm,0.3s,baz=170,slow=26,SNR=6.0						
ZALV				Lg	Lg	18 10 42.1	
	0.1nm,0.3s,baz=192,slow=26,SNR=6.8						
ARCES	**ARCESS Array B**	**38.46**	**332**	P	**P**	**18 12 38.5**	**+0.9**
	3.3nm,0.9s,baz=90,slow=8.1,SNR=3.9						
NOA	**NORSAR Array B**	**44.44**	**319**	P	**P**	**18 13 27.0**	**+0.3**
	0.2nm,0.5s,baz=73,slow=6.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**74.51**	**273**	P	**P**	**18 16 55.0**	**+0.1**
	0.3nm,0.3s,baz=45,slow=5.4,SNR=5.0						
WRA	**Warramunga Arr**	**79.09**	**131**	P	**P**	**18 17 19.5**	**-1.1**
	0.3nm,0.8s,baz=330,slow=5.2,SNR=2.5						
ASAR	**Alice Springs**	**81.89**	**134**	P	**P**	**18 17 33.9**	**-1.6**
	0.2nm,0.6s,baz=320,slow=5.4,SNR=1.7						

*IDC **31** 18:08:35.4±1.0,8˚.51N×93˚.43E,h0km,mb3.7/10, mb1 3.7/11,mb1mx3.6/38,mbtmp3.6/11,ML3.6/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/89,Error ellipse: s-maj=42.4km s-min=20.3km az=52.0*

ISC 31 18:08:39.5±1.0,8˚.5N±0˚.1×93˚.4E±0˚.2,h26km,n24, σ0s62/20,mb3.8/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.26**	**28**	Pn	**Pn**	**18 11 19.5**	**+0.7**
	0.1nm,0.3s,baz=223,slow=15,SNR=5.2						
ODAN	**Odare**		**19.14**	**343**	*e*P	**P**	**18 13 01.3**	**+0.2**
RAMN	**Ramite**		**19.46**	**341**	*e*P	**Pn**	**18 13 05.8**	**-0.2**
	11nm,0.4s							
TAPN	**Taplejung**		**19.52**	**345**	*e*P	**P**	**18 13 05.6**	**+0.3**
	7.9nm,0.4s							
PKI	**Pulchoki**		**20.43**	**339**	*e*P	**P**	**18 13 15.6**	**+0.3**
	7.9nm,0.6s							
PKIN	**Phulchoki**		**20.44**	**339**	*e*P	**P**	**18 13 15.7**	**+0.3**
	5.8nm,0.4s							
GUN	**Gumba**		**20.58**	**341**	*e*P	**P**	**18 13 16.9**	**-0.1**
	14nm,0.7s							
GKN	**Gorkha**		**21.10**	**338**	*e*P	**P**	**18 13 21.8**	**-0.6**
	19nm,0.5s							
KOLN	**Koldanda**		**21.30**	**335**	*e*P	**P**	**18 13 24.6**	**0.0**
	12nm,0.7s							
DANN	**Dangsing**		**21.75**	**336**	*e*P	**P**	**18 13 29.3**	**-0.2**
	15nm,0.6s							
H08S3	**Diego Garcia H**		**26.31**	**233**	T	T	18 41 25.5	
	baz=52,slow=75,SNR=7.8							
H08S2	**Diego Garcia H**		**26.32**	**233**	T	T	18 41 17.2	
	baz=52,slow=75,SNR=10							
H08S1	**Diego Carcia H**		**26.33**	**233**	T	T	18 41 18.9	
	baz=52,slow=75,SNR=9.0							
WSAR	**Wadi Sarin**		**36.41**	**298**	LR	LR	18 29 47.9	
	comp=Z,14nm,19.7s,baz=20,slow=35							
MKAR	**Makanchi Array**		**39.33**	**348**	P	**P**	**18 16 05.6**	**-0.9**
	0.5nm,0.7s,baz=168,slow=7.4,SNR=7.5							
ZALV	**Zalesovo Beam**		**45.85**	**353**	P	**P**	**18 16 58.8**	**-0.6**
	1.3nm,0.5s,baz=168,slow=9.2,SNR=7.5							
WRA	**Warramunga Arr**		**49.20**	**126**	P	**P**	**18 17 26.2**	**+0.3**
	0.2nm,0.4s,baz=306,slow=8.6,SNR=8.0							
ASAR	**Alice Springs**		**50.85**	**130**	P	**P**	**18 17 37.5**	**-1.0**
	0.2nm,0.8s,baz=303,slow=7.2,SNR=4.4							
BRTR	**Keskin Array B**		**61.49**	**311**	P	**P**	**18 18 54.2**	**-0.2**
	0.5nm,0.6s,baz=145,slow=8.2,SNR=4.0							
AKASG	**Malin Array Be**		**67.23**	**322**	P	**P**	**18 19 31.3**	**-0.3**
	0.1nm,0.3s,baz=91,slow=5.2,SNR=2.9							
FINES	**FINESS Array B**		**71.83**	**332**	P	**P**	**18 19 59.4**	**-0.4**
	1.2nm,0.6s,baz=134,slow=5.5,SNR=4.7							
ARCES	**ARCESS Array B**		**74.44**	**340**	P	**P**	**18 20 15.4**	**+0.3**
	4.7nm,1.0s,baz=98,slow=5.6,SNR=8.8							
NOA	**NORSAR Array B**		**78.84**	**331**	P	**P**	**18 20 40.1**	**-0.1**
	0.4nm,0.6s,baz=95,slow=5.5,SNR=1.7							
TORD	**Torodi Ar. Bea**		**89.77**	**283**	P	**P**	**18 21 38.1**	**+1.6**
	0.3nm,0.6s,baz=87,slow=3.8,SNR=2.1							

WEL 31 18:16:46.4,38˚S±12˚×17˚6E±1˚6,h123km±25km,Error ellipse: s-maj=0.0km s-min=0.0km az=117.6,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTZ	**Ruatahuna**	**0.68**	**108**	P	Pn	18 17 06.4	+0.3
RTZ	**Ruatahuna**	**0.68**	**108**	P	Pn	18 17 06.4	+0.3
MTHZ	**Maungataniwha**	**0.70**	**129**	P	Pn	18 17 07.1	+1.0
MTHZ	**Maungataniwha**	**0.70**	**129**	P	Pn	18 17 07.1	+1.0
URZ	**Urewera**	**0.77**	**79**	P	Pn	18 17 05.8	-0.8
URZ	**Urewera**	**0.77**	**79**	P	Pn	18 17 05.8	-0.8
NTVZ	**North Tongarir**	**0.78**	**208**	P	Pn	18 17 07.8	+0.9
NTVZ	**North Tongarir**	**0.78**	**208**	P	Pn	18 17 07.8	+0.9
TMVZ	**Te Maari**	**0.79**	**206**	P	Pn	18 17 07.7	+0.8
TMVZ	**Te Maari**	**0.79**	**206**	P	Pn	18 17 07.7	+0.8
ETVZ	**East Tongariro**	**0.80**	**205**	P	Pn	18 17 07.6	+0.5
ETVZ	**East Tongariro**	**0.80**	**205**	P	Pn	18 17 07.6	+0.5
OTVZ	**Oturere**	**0.84**	**207**	P	Pn	18 17 08.2	+0.7
OTVZ	**Oturere**	**0.84**	**207**	P	Pn	18 17 08.2	+0.7
NMHZ	**Naumai**	**0.85**	**143**	P	Pn	18 17 09.4	+1.9
NMHZ	**Naumai**	**0.85**	**143**	P	Pn	18 17 09.4	+1.9
SNVZ	**South Ngauruho**	**0.87**	**207**	P	Pn	18 17 08.5	+0.7
SNVZ	**South Ngauruho**	**0.87**	**207**	P	Pn	18 17 08.5	+0.7
SNGZ	**Shannon Statio**	**1.00**	**112**	P	Pn	18 17 09.4	+0.7
SNGZ	**Shannon Statio**	**1.00**	**112**	P	Pn	18 17 09.4	+0.7
HIZ	**Hauiti**	**1.02**	**264**	P	Pn	18 17 06.9	-2.0
HIZ	**Hauiti**	**1.02**	**264**	P	Pn	18 17 06.9	-2.0
KWHZ	**Kaweka Forest**	**1.03**	**168**	P	Pn	18 17 10.3	+1.1
KWHZ	**Kaweka Forest**	**1.03**	**168**	P	Pn	18 17 10.3	+1.1
MOVZ	**Moawhango**	**1.04**	**197**	P	Pn	18 17 09.3	+0.1
MOVZ	**Moawhango**	**1.04**	**197**	P	Pn	18 17 09.3	+0.1
BHHZ	**Black Hill Sta**	**1.08**	**184**	P	Pn	18 17 09.9	+0.3
BHHZ	**Black Hill Sta**	**1.08**	**184**	P	Pn	18 17 09.9	+0.3
MWZ	**Matawai**	**1.08**	**86**	P	Pn	18 17 08.8	-0.8
MWZ	**Matawai**	**1.08**	**86**	P	Pn	18 17 08.8	-0.8
RUGZ	**Raukumara Rang**	**1.28**	**70**	P	Pn	18 17 09.1	-2.6
RUGZ	**Raukumara Rang**	**1.28**	**70**	P	Pn	18 17 09.1	-2.6
VRZ	**Vera Road**	**1.30**	**236**	P	Pn	18 17 11.0	-0.8
VRZ	**Vera Road**	**1.30**	**236**	P	Pn	18 17 11.0	-0.8
CKHZ	**Cape Kidnapper**	**1.44**	**150**	P	Pn	18 17 14.2	+0.9
CKHZ	**Cape Kidnapper**	**1.44**	**150**	P	Pn	18 17 14.2	+0.9
HAZ	**Te Kaha**	**1.44**	**64**	P	Pn	18 17 10.5	-2.9
HAZ	**Te Kaha**	**1.44**	**64**	P	Pn	18 17 10.5	-2.9
KAHZ	**Kahuranaki**	**1.49**	**158**	P	Pn	18 17 14.7	+0.7
KAHZ	**Kahuranaki**	**1.49**	**158**	P	Pn	18 17 14.7	+0.7
PNHZ	**Pukenui**	**1.50**	**179**	P	Pn	18 17 13.9	-0.2
PNHZ	**Pukenui**	**1.50**	**179**	P	Pn	18 17 13.9	-0.2
MHGZ	**Mahia Peninsul**	**1.56**	**119**	P	Pn	18 17 14.8	+0.1
MHGZ	**Mahia Peninsul**	**1.56**	**119**	P	Pn	18 17 14.8	+0.1
PXZ	**Pawanui**	**1.71**	**161**	P	Pn	18 17 16.7	+0.2
PXZ	**Pawanui**	**1.71**	**161**	P	Pn	18 17 16.7	+0.2
DREZ	**Durham Road**	**1.71**	**242**	P	Pn	18 17 18.2	+1.7
DREZ	**Durham Road**	**1.71**	**242**	P	Pn	18 17 18.2	+1.7
DVHZ	**Dannevirke**	**1.89**	**180**	P	Pn	18 17 17.6	-1.0
DVHZ	**Dannevirke**	**1.89**	**180**	P	Pn	18 17 17.6	-1.0
PRHZ	**Porangahau**	**1.89**	**169**	P	Pn	18 17 18.3	-0.4
PRHZ	**Porangahau**	**1.89**	**169**	P	Pn	18 17 18.3	-0.4
BFZ	**Birch Farm**	**2.27**	**178**	P	Pn	18 17 21.8	-1.6
BFZ	**Birch Farm**	**2.27**	**178**	P	Pn	18 17 21.8	-1.6
MRZ	**Mangatainoka R**	**2.29**	**191**	P	Pn	18 17 21.4	-2.2
MRZ	**Mangatainoka R**	**2.29**	**191**	P	Pn	18 17 21.4	-2.2
TIWZ	**Tintock**	**2.37**	**185**	P	Pn	18 17 22.8	-1.9
TIWZ	**Tintock**	**2.37**	**185**	P	Pn	18 17 22.8	-1.9
OGWZ	**Otaki Gorge**	**2.52**	**197**	P	Pn	18 17 23.7	-2.8
OGWZ	**Otaki Gorge**	**2.52**	**197**	P	Pn	18 17 23.7	-2.8
HOWZ	**Holdsworth Sta**	**2.53**	**191**	P	Pn	18 17 24.0	-2.7
HOWZ	**Holdsworth Sta**	**2.53**	**191**	P	Pn	18 17 24.0	-2.7
KHZ	**Kahutara**	**4.47**	**206**	P	Pn	18 17 46.7	-5.5
KHZ	**Kahutara**	**4.47**	**206**	P	Pn	18 17 46.7	-5.5

WEL 31 18:18:57.8±0.3,39˚S±3˚×17˚7E±˚,h29km±3km,Error ellipse: s-maj=0.0km s-min=0.0km az=132.2,confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAHZ	**Arahi**	**0.10**	**304**	P	Pb	18 19 04.6	+1.5
RAHZ	**Arahi**	**0.10**	**304**	P	Pb	18 19 04.6	+1.5
WHHZ	**Waihua**	**0.11**	**162**	P	Pn	18 19 03.7	0.0
WHHZ	**Waihua**	**0.11**	**162**	P	Pn	18 19 03.7	0.0
SNGZ	**Shannon Statio**	**0.22**	**32**	P	Pn	18 19 05.8	+0.6
SNGZ	**Shannon Statio**	**0.22**	**32**	P	Pn	18 19 05.8	+0.6
MTHZ	**Maungataniwha**	**0.30**	**293**	P	Pn	18 19 06.1	-0.1
MTHZ	**Maungataniwha**	**0.30**	**293**	P	Pn	18 19 06.1	-0.1
NMHZ	**Naumai**	**0.32**	**247**	P	Pn	18 19 06.8	+0.2
NMHZ	**Naumai**	**0.32**	**247**	P	Pn	18 19 06.8	+0.2
ARHZ	**Aropaoanui**	**0.33**	**207**	P	Pn	18 19 07.1	+0.5
ARHZ	**Aropaoanui**	**0.33**	**207**	S	Sn	18 19 14.9	+2.5
ARHZ	**Aropaoanui**	**0.33**	**207**	P	Pn	18 19 07.1	+0.5
ARHZ				S	Sn	18 19 14.9	+2.5
KNZ	**Kokohu**	**0.38**	**98**	P	Pn	18 19 07.4	+0.1
KNZ	**Kokohu**	**0.38**	**98**	P	Pn	18 19 07.4	+0.1
RTZ	**Ruatahuna**	**0.39**	**335**	P	Pn	18 19 07.4	-0.1
RTZ	**Ruatahuna**	**0.39**	**335**	S	Sn	18 19 14.8	+0.8
RTZ	**Ruatahuna**	**0.39**	**335**	P	Pn	18 19 07.4	-0.1
RTZ				S	Sn	18 19 14.8	+0.8
RAGZ	**Rawiri**	**0.51**	**20**	P	Pn	18 19 09.3	+0.2
RAGZ	**Rawiri**	**0.51**	**20**	S	Sn	18 19 17.8	+0.9
RAGZ	**Rawiri**	**0.51**	**20**	P	Pn	18 19 09.3	+0.2
RAGZ				S	Sn	18 19 17.8	+0.9
RIGZ	**Rimuhau**	**0.52**	**60**	P	Pn	18 19 09.5	+0.3
RIGZ	**Rimuhau**	**0.52**	**60**	P	Pn	18 19 09.5	+0.3
PRGZ	**Paritu Road**	**0.54**	**85**	P	Pn	18 19 09.7	+0.1
PRGZ	**Paritu Road**	**0.54**	**85**	S	Sn	18 19 19.9	+2.2
PRGZ	**Paritu Road**	**0.54**

PRHZ	**Porangahau**	**1.36**	**198**	P	Pn	18 19 19.7	-1.2

*MEX **31** 18:24:09.8±0.4, 16°.30N×91°.14W, h76^{km}±15^{km}, MD4.2*
*GCG **31** 18:24:11.5±2.9, 16°.44N×91°.20W, h50^{km}±999^{km}, MD4.1*
*IDC **31** 18:24:13.8±3.4, 16°.11N×91°.47W, h73^{km}±46^{km}, mb3.4/4, mb1 3.6/6, mb1mx3.3/40, mbtmp3.7/6, ML3.4/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/40, Error ellipse: s-maj=82.2km s-min=21.1km az=28.0*

ISC 31 18:24:11.8±1.1, 16°.37N±0°.04×91°.34W±0°.04, h49^{km}±15^{km}, n26, σ1°998/31, mb3.8/4, MS3.4/5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.77**	**263**	*eP*		Pn		18 24 23.9	-2.8
CCIG				*eS*		Sn		**18 24 37.4**	**-0.1**
PAVE	**Pavencul**	**1.43**	**215**	*eP*		Pn		**18 24 33.6**	**-2.0**
PAVE				*eS*		Sn		**18 24 51.9**	**-1.4**
CHUJ	**Union Juarez**	**1.47**	**210**	*eP*		Pn		**18 24 34.6**	**-1.7**
CHUJ				*eS*		Sn		**18 24 52.9**	**-1.6**
PATR	**El Naranjo**	**1.52**	**215**	*eP*		Pn		**18 24 34.3**	**-2.6**
PATR				*eS*		Sn		**18 24 54.1**	**-1.5**
STG3	**Santiaguito 3,**	**1.67**	**188**	*eP*		Pn		**18 24 39.5**	**+0.7**
STG3				*eS*		Sn		**18 25 03.1**	**+3.9**
THIG		**1.71**	**212**	*i* P		Pn		**18 24 37.4**	**-1.9**
THIG				*eS*		Sn		**18 24 58.7**	**-1.2**
TGIG		**1.76**	**283**	*eP*		Pn		**18 24 40.4**	**+0.4**
TGIG				*eS*		Sn		**18 25 02.9**	**+1.7**
PCIG		**1.93**	**250**	*eP*		Pn		**18 24 41.5**	**-0.7**
PCIG				*eS*		Sn		**18 25 06.2**	**+0.9**
FUG	**Fuego 3**	**1.97**	**166**	*eP*		Pn		**18 24 42.2**	**-0.8**
FUG				*eS*		Sn		**18 25 07.8**	**+1.2**
NBG	**Las Nubes**	**2.02**	**152**	*eP*		Pn		18 24 45.3	+1.6
NBG				*eS*		Sn		**18 25 11.6**	**+3.8**
MRL	**Marmol**	**2.04**	**129**	*eP*		Pn		**18 24 44.6**	**+0.6**
MRL				*eS*		Sn		**18 25 07.0**	**-1.5**
SCIG	**Sabancuy**	**2.58**	**3**	*eP*		Pn		**18 24 49.3**	**-1.9**
SCIG				*eS*		Sn		**18 25 19.8**	**-1.6**
CMIG	**Matias Romero**	**3.47**	**282**	P		Pn		**18 25 05.6**	**+2.1**
	2.9nm,0.3s,baz=99,slow=15,SNR=11								
CMIG				S		Sn		**18 25 44.1**	**+0.7**
	9.7nm,0.3s,baz=259,slow=22,SNR=19								
CMIG				LR		LR		18 26 04.4	
	comp=Z,69nm,20.6s,baz=28,slow=32								
CMIG	**Matias Romero**	**3.47**	**282**	*eP*		Pn		**18 25 03.4**	**0.0**
CMIG				*eS*		Sn		**18 25 43.8**	**+0.4**
TXAR	**Lajitas Array**	**17.17**	**321**	P		P		**18 28 12.4**	**+2.9**
	0.0nm,0.3s,baz=140,slow=9.9,SNR=6.9								
LPIG	**La Paz**	**19.38**	**296**	LR		LR		18 37 05.7	
	comp=Z,63nm,19.1s,baz=115,slow=40								
SDV	**Santo Domingo**	**21.52**	**108**	P		P		**18 28 57.4**	**+0.3**
	3.5nm,0.7s,baz=307,slow=6.8,SNR=6.5								
SADO	**Sadowa**	**30.12**	**17**	LR		LR		18 43 11.3	
	comp=Z,40nm,18.1s,baz=160,slow=37								
SCHQ	**Schefferville**	**42.79**	**21**	LR		LR		18 49 58.9	
	comp=Z,50nm,19.1s,baz=85,slow=36								
YKA	**Yellowknife Ar**	**48.88**	**346**	P		P		**18 32 52.9**	**+0.4**
	0.7nm,0.9s,baz=144,slow=7.8,SNR=8.3								
SFJD	**Kangerlussuaq**	**57.07**	**18**	LR		LR		18 59 41.5	
	comp=Z,35nm,18.5s,baz=204,slow=37								
ILAR	**Eielson Array**	**60.93**	**336**	P		P		**18 34 20.2**	**+0.7**
	1.1nm,1.1s,baz=109,slow=6.8,SNR=5.2								
JMIC	**Jan Mayen**	**72.31**	**20**	LR		LR		19 07 28.5	
	comp=Z,21nm,18.8s,baz=37,slow=36								
NOA	**NORSAR Array B**	**81.77**	**29**	LR		LR		19 13 00.7	
	comp=Z,11nm,18.1s,baz=5.0,slow=36								
TIXI	**Tiksi**	**88.08**	**348**	P		P		18 36 57.0	+0.2
	0.3nm,0.5s,baz=35,slow=2.4,SNR=1.6								
CMAR	**Chiang Mai Arr**	**143.94**	**343**	PKP		**PKiKP**		**18 43 41.7**	**-4.6**
	0.2nm,0.6s,baz=324,slow=2.6,SNR=2.4								

*KRNET **31** 18:47:23.1±0.1, 39°.55N×78°.01E, mb2.9*
*SOME **31** 18:47:24.4, 39°.77N×77°.45E, h5^{km}*
*NNC **31** 18:47:25.8±1.9, 39°.75N×77°.31E, h0^{km}, mb3.5, mpv3.3, Error ellipse: s-maj=12.4km s-min=11.1km az=0.0*

ISC 31 18:47:21.2±3.1, 39°.6N±0°.1×77°.37E±0°.05, h10^{km}, n41, σ0°98/62, 10C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.51**	**357**	⇑*eP*			**Pg**	**18 48 09.4**	**+0.1**
	baz=47								
KDJ				⇑*iS*			**Sg**	**18 48 43.1**	**+1.3**
	baz=47								
ULHL	**Ulahol**	**2.75**	**342**	⇑*eP*			**Pg**	**18 48 14.4**	**+0.4**
	baz=34								
ULHL				⇑*iS*			**Sg**	**18 48 51.9**	**+2.2**
	baz=34								
BOOM	**Boomskoye usch**	**3.06**	**340**	⇓*iP*			**Pg**	**18 48 18.7**	**-1.2**
	baz=33								
BOOM				⇓*iS*			**Sg**	**18 48 59.7**	**+0.2**
	baz=33								
ANVS	**Anan'yevo**	**3.17**	**4**	⇓*iP*			**Pb**	**18 48 17.8**	**+0.1**
	baz=56								
ANVS				⇓*iS*			**Sb**	**18 48 57.6**	**+1.2**
	baz=56								
UCH	**Uchtor**	**3.38**	**321**	⇑*iP*			**Pg**	**18 48 24.9**	**-1.1**
	baz=16								
UCH				⇑*iS*			**Sg**	**18 49 10.1**	**+0.2**
	baz=16								
TNSS	**Tian-Shan**	**3.42**	**355**	*eP*			**Pg**	**18 48 26.7**	**-0.2**
	3.4nm,0.0s								
TNSS				*eS*			**Sg**	**18 49 11.5**	**+0.2**
	5.3nm,0.3s								
TNSS	**Tian-Shan**	**3.42**	**355**	Pg			**Pg**	**18 48 26.7**	**-0.2**
	8.1nm,0.2s								
TNSS				Lg			Lg	18 49 10.0	
	5.3nm,0.3s								
SATY	**Saty**	**3.52**	**13**	*eP*			**Pg**	**18 48 28.2**	**-0.5**
	2.2nm,0.3s								
SATY				*eS*			**Sg**	**18 49 13.4**	**-0.8**
	5.6nm,0.2s								
SATY	**Saty**	**3.52**	**13**	Pg			**Pg**	**18 48 28.2**	**-0.5**
	2.2nm,0.3s								
SATY				Lg			Lg	18 49 13.5	
	5.6nm,0.2s								
MDOK	**Medeo**	**3.54**	**356**	*eP*			**Pg**	**18 48 28.7**	**-0.4**
	2.7nm,0.2s								
MDOK				*eS*			**Sg**	**18 49 15.0**	**0.0**
	9.0nm,0.4s								
MDOK	**Medeo**	**3.54**	**356**	Pg			**Pg**	**18 48 28.2**	**-0.9**
	2.3nm,0.5s								
MDOK				Lg			Lg	18 49 14.9	
	4.7nm,0.4s								
MDOK	**Medeo**	**3.54**	**356**	Pg			**Pg**	**18 48 28.7**	**-0.4**
	2.7nm,0.2s								
MDOK				Lg			Lg	18 49 15.0	
	9.0nm,0.4s								
TKM2	**Tokmak 2**	**3.55**	**339**	⇑Pg			**Pb**	**18 48 24.8**	**+0.5**
	1.1nm,0.3s								
TKM2				⇑Lg			Lg	18 49 15.6	
	2.6nm,0.6s								
MTBS	**Maitube**	**3.57**	**349**	*eP*			**Pg**	**18 48 29.5**	**-0.2**
	0.7nm,0.1s								
MTBS				*eS*			**Sg**	**18 49 15.8**	**-0.2**
	3.5nm,0.1s								
MTBS	**Maitube**	**3.57**	**349**	Pg			**Pg**	**18 48 29.5**	**-0.2**
	0.7nm,0.1s								
MTBS				Lg			Lg	18 49 15.8	
	3.6nm,0.3s								
KOTS	**Kotyrbulak**	**3.61**	**357**	*eP*			**Pg**	**18 48 30.1**	**-0.3**
	2.9nm,0.1s								
KOTS				*eS*			**Sg**	**18 49 16.9**	**-0.4**
	13nm,0.2s								
KOTS	**Kotyrbulak**	**3.61**	**357**	Pg			**Pg**	**18 48 30.1**	**-0.3**
	5.2nm,0.2s								
KOTS				Lg			Lg	18 49 16.9	
	13nm,0.2s								
ZHN	**Zhinishke**	**3.63**	**12**	*eP*			**Pg**	**18 48 30.3**	**-0.5**
	4.9nm,0.1s								
ZHN				*eS*			**Sg**	**18 49 17.4**	**-0.4**
	17nm,0.1s								
ZHN	**Zhinishke**	**3.63**	**12**	Pg			**Pg**	**18 48 30.3**	**-0.5**
	4.2nm,0.0s								
ZHN				Lg			Lg	18 49 17.4	
	17nm,0.2s								
UZB	**Uzynbulak**	**3.73**	**19**	*eP*			**Pg**	**18 48 32.3**	**-0.4**
	2.6nm,0.2s								
UZB				*eS*			**Sg**	**18 49 20.6**	**-0.5**
	4.3nm,0.2s								
UZB	**Uzynbulak**	**3.73**	**19**	Pg			**Pg**	**18 48 32.3**	**-0.4**
	2.6nm,0.2s								
UZB				Lg			Lg	18 49 19.9	
	4.3nm,0.2s								
DGS	**Degeres**	**3.81**	**342**	*eP*			**Pg**	**18 48 33.4**	**-0.8**
	2.2nm,0.0s								
DGS				*eS*			**Sg**	**18 49 22.5**	**-1.0**
	1.3nm,0.1s								
DGS	**Degeres**	**3.81**	**342**	Pg			**Pg**	**18 48 33.4**	**-0.8**
	3.0nm,0.2s								
DGS				Lg			Lg	18 49 21.9	
	3.2nm,0.3s								
SHLS	**Shalkode**	**3.87**	**23**	*eP*			**Pg**	**18 48 36.8**	**+1.5**
	0.7nm,0.1s								
SHLS				*eS*			**Sg**	**18 49 28.7**	**+3.3**
	7.0nm,0.1s								
SHLS	**Shalkode**	**3.87**	**23**	Pg			**Pg**	**18 48 36.8**	**+1.5**
	0.9nm,0.2s								
SHLS				Lg			Lg	18 49 28.0	
	7.0nm,0.3s								
CHMS	**Chumysh**	**3.90**	**331**	⇓Pg			**Pb**	**18 48 30.1**	**-0.1**
	1.1nm,0.5s								
CHMS				⇑Lg			Lg	18 49 26.9	
	1.3nm,0.4s								
KPKS	**Kokpek**	**3.96**	**14**	*eP*			**Pg**	**18 48 36.0**	**-1.1**
	3.2nm,0.1s								
KPKS				*eS*			**Sg**	**18 49 27.6**	**-0.9**
	5.5nm,0.4s								
PDGK	**Podgornoye**	**4.03**	**23**	Pg			**Pg**	**18 48 36.7**	**-1.7**
	0.8nm,0.3s								
PDGK				Lg			Lg	18 49 27.4	
	2.3nm,0.7s								
PDGK	**Podgornoye**	**4.03**	**23**	⇓Pg			**Pg**	**18 48 36.7**	**-1.7**
	0.8nm,0.4s								
PDGK				⇑Lg			Lg	18 49 28.6	
	3.8nm,0.6s								
KTBS	**Karatobe**	**4.12**	**353**	*eP*			**Pg**	**18 48 39.3**	**-0.8**
	2.0nm,0.2s								
KTBS				*eS*			**Sg**	**18 49 32.9**	**-0.5**
	9.0nm,0.4s								
KTBS	**Karatobe**	**4.12**	**353**	Pg			**Pg**	**18 48 39.3**	**-0.8**
	2.0nm,0.2s								
KTBS				Lg			Lg	18 49 32.5	
	9.0nm,0.4s								
CHKK	**Chushkaly**	**4.24**	**356**	*eP*			**Pg**	**18 48 42.1**	**-0.3**
	1.2nm,0.0s								
CHKK				*eS*			**Sg**	**18 49 37.6**	**+0.4**
	4.9nm,0.1s								
CHKK	**Chushkaly**	**4.24**	**356**	Pg			**Pg**	**18 48 42.1**	**-0.3**
	1.7nm,0.1s								
CHKK				Lg			Lg	18 49 36.7	
	5.5nm,0.5s								
KUU	**Kurty**	**4.33**	**350**	*eP*			**Pg**	**18 48 43.5**	**-0.8**
	0.7nm,0.2s								
KUU				*eS*			**Sg**	**18 49 39.6**	**-0.7**
	3.5nm,0.2s								
KUU	**Kurty**	**4.33**	**350**	Pg			**Pg**	**18 48 43.5**	**-0.8**
	0.7nm,0.2s								
KUU				Lg			Lg	18 49 39.6	
	3.8nm,0.5s								
SGDS	**Sogindy**	**4.34**	**333**	*eP*			**Pg**	**18 48 44.3**	**0.0**
	1.0nm,0.0s								
SGDS				*eS*			**Sg**	**18 49 41.4**	**+0.8**
	2.0nm,0.4s								
SGDS	**Sogindy**	**4.34**	**333**	Pg			**Pg**	**18 48 44.3**	**0.0**
	1.0nm,0.2s								
SGDS				Lg			Lg	18 49 41.4	
	2.0nm,0.4s								
BLB	**Baldybastay**	**4.55**	**10**	*eP*			**Pg**	**18 48 46.9**	**-1.4**
	1.0nm,0.1s								
BLB				*eS*			**Sg**	**18 49 45.6**	**-1.6**
	8.5nm,0.1s								
BLB	**Baldybastay**	**4.55**	**10**	Pg			**Pg**	**18 48 46.9**	**-1.4**
	2.5nm,0.4s								
BLB				Lg			Lg	18 49 44.8	
	8.7nm,0.4s								
ARXS	**Arharly**	**4.60**	**4**	*eP*			**Pg**	**18 48 48.1**	**-1.2**
	0.7nm,0.1s								
ARXS				*eS*			**Sg**	**18 49 47.6**	**-1.3**
	6.4nm,0.1s								
ARXS	**Arharly**	**4.60**	**4**	Pg			**Pg**	**18 48 48.1**	**-1.2**
	0.9nm,0.6s								
ARXS				Lg			Lg	18 49 47.2	
	5.2nm,0.4s								

*IDC **31** 19:14:18.0±6.6, 68°.27N×165°.20W, h0^{km}, mb3.2/3, mb1 3.7/4, mb1mx3.2/51, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=104.8km s-min=99.8km az=4.0*
*AEIC **31** 19:14:25±1.5, 67°.64N±0°.04×163°.2W±0°.2, h3^{km}±6^{km}, ML2.9, ML3.2/14(NEIC), Error ellipse: s-maj=9.9km s-min=5.8km az=112.0*
*NEIC **31** 19:14:25.4±1.6, 67°.66N±0°.07×163°.3W±0°.1, h8^{km}±5^{km}, Error ellipse: s-maj=9.6km s-min=7.7km az=174.0*

ISC 31 19:14:26.0±1.0, 67°.67N±0°.06×163°.19W±0°.07, h10^{km}, n30, σ0°94/30, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.40**	**16**				**Pg**	**19 14 32.4**	**-1.4**
RDOG							**Sg**	**19 14 39.7**	**+0.6**
RDOG	**Red Dog Mine**	**0.40**	**16**		IAML			19 14 40.2	
	comp=E,996nm,0.3s								
RDOG					IAML			19 14 41.2	
	comp=N,1μm,0.3s								
TNA	**Tin City**	**2.84**	**224**				**Pn**	**19 15 11.6**	**+0.4**
TNA							**Sn**	**19 15 47.0**	**+1.6**
ANM	**Nome**	**3.24**	**197**				**Pn**	**19 15 13.6**	**-3.3**
ANM					IAML			19 16 07.2	
	comp=E,50nm,0.7s								
IM03		**4.10**	**110**				**Pn**	**19 15 28.2**	**-0.3**
IMAR	**Indian Mountai**	**4.10**	**110**		Pn		**Pn**	**19 15 28.0**	**-0.5**
A21K	**Barrow**	**4.33**	**29**		Pn		**Pn**	**19 15 31.0**	**-0.8**
A21K					IAML			19 17 06.6	
	comp=E,38nm,1.0s								
H21K	**Melozitna Rive**	**4.60**	**111**				**Pn**	**19 15 34.9**	**-0.5**
H21K	**Melozitna Rive**	**4.60**	**111**		IAML			19 17 04.5	
	comp=E,15nm,0.9s								
H21K					IAML			19 17 05.7	
	comp=N,15nm,1.9s								
COLD	**Coldfoot**	**5.02**	**89**				**Pn**	**19 15 40.8**	**-0.5**
I21K	**Tanana**	**5.15**	**114**		Pn		**Pn**	**19 15 43.2**	**+0.2**
I21K					IAML			19 17 02.0	
	comp=N,17nm,3.8s								
I21K					IAML			19 17 22.3	
	comp=E,21nm,3.5s								
TOLK	**Toolik Lake Re**	**5.18**	**73**				**Pn**	**19 15 44.1**	**+0.7**
TOLK	**Toolik Lake Re**	**5.18**	**73**		IAML			19 17 23.4	
	comp=N,15nm,1.8s								
TOLK					IAML			19 17 23.5	
	comp=E,14nm,1.9s								
TTA	**Tatalina**	**5.63**	**144**		Pn		**Pn**	**19 15 48.7**	**-1.0**
MLY	**Manley**	**5.67**	**112**		Pn		**Pn**	**19 15 49.2**	**-0.9**
H24K	**Noodor Dome**	**6.33**	**100**		Pn		**Pn**	**19 15 59.2**	**-0.1**
NEA2	**Nenana**	**6.50**	**112**				**Pn**	**19 16 01.4**	**-0.2**
L19K	**White Mountain**	**6.55**	**143**		Pn		**Pn**	**19 16 02.0**	**-0.1**
MDM	**Murphy Dome**	**6.61**	**107**				**Pn**	**19 16 02.3**	**-0.7**
POKR	**Poker Flat Res**	**6.82**	**105**		Pn		**Pn**	**19 16 05.8**	**-0.1**
WRH	**Wood River Hil**	**6.92**	**111**				**Pn**	**19 16 07.7**	**+0.4**
BMAR	**Burnt Mountain**	**7.13**	**83**		Pn		**Pn**	**19 16 10.5**	**+0.4**
IL31		**7.20**	**106**				**Pn**	**19 16 11.5**	**+0.4**
ILAR	**Eielson Array**	**7.20**	**106**		Pn		**Pn**	**19 16 11.4**	**+0.3**
	comp=E,0.5nm,0.3s,baz=303,slow=14,SNR=19								
ILAR					Sn		**Sn**	**19 17 31.8**	**-1.0**
	comp=E,0.1nm,0.3s,baz=304,slow=23,SNR=7.6								
M20K	**Styx River**	**7.22**	**139**				**Pn**	**19 16 12.2**	**+0.7**
J25K	**Salcha River,**	**7.84**	**105**		Pn		**Pn**	**19 16 19.4**	**-0.5**
SCRK	**Sand Creek**	**8.69**	**106**		Pn		**Pn**	**19 16 32.2**	**+0.5**
YKA	**Yellowknife Ar**	**20.64**	**81**		P		**P**	**19 19 05.6**	**+0.4**
	comp=E,0.4nm,0.6s,baz=305,slow=10,SNR=10								
PDAR	**Pinedale Array**	**37.62**	**104**		P		**P**	**19 21 41.7**	**+0.9**
	comp=E,0.2nm,0.6s,baz=353,slow=3.8,SNR=3.5								
TXAR	**Lajitas Array**	**51.71**	**107**		P		**P**	**19 23 33.2**	**+0.2**
	comp=E,0.2nm,0.6s,baz=310,slow=5.8,SNR=3.0								

*NEIC **31** 19:21:20.9±1.6, 6°.08S±0°.07×130°.9E±0°.1, h161^{km}±11^{km}, mb4.2/11, Error ellipse: s-maj=20.5km s-min=10.2km az=85.0*
*IDC **31** 19:21:21.4±2.3, 6°.15S×130°.70E, h120^{km}±24^{km}, mb3.7/2, mb1 3.6/6, mb1mx3.3/42, mbtmp4.0/6, Error ellipse: s-maj=26.0km s-min=17.5km az=85.0*

ISC 31 19:21:20.2±0.6, 6°.15S±0°.05×130°.71E±0°.07, h150^{km}, n36, σ2°45/40, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80**	**334**	P			**Pn**	**19 21 56.6**	**+3.5**
SAUI	**Saumlaki**	**1.91**	**162**		Pn		**Pn**	**19 21 56.6**	**+2.3**
SAUI					Sn		**Sn**	**19 22 19.8**	**-0.8**
SAUI	**Saumlaki**	**1.91**	**162**	P			**Pn**	**19 21 56.9**	**+2.6**
SIJI	**Sorong**	**5.27**	**6**	P			**Pn**	**19 22 37.8**	**+0.5**
	13nm,0.3s,baz=207,slow=18,SNR=68								
SIJI					S		**Sn**	**19 23 33.1**	**-4.4**
	6.9nm,0.3s,baz=87,slow=24,SNR=20								
MTN	**Manton Dam**	**6.67**	**176**		Pn		**Pn**	**19 22 57.6**	**+1.8**
MTN					Sn		**Sn**	**19 24 08.3**	**-2.5**
MTN	**Manton Dam**	**6.67**	**176**	P			**Pn**	**19 22 58.4**	**+2.6**
KDU	**Kakadu**	**6.72**	**165**	P			**Pn**	**19 22 58.6**	**+2.0**
BATI	**Baunata**	**8.05**	**240**	P			**Pn**	**19 23 17.1**	**+2.7**
	baz=117,slow=2.3								
BATI					S		**Sn**	**19 24 44.7**	**+0.5**
	1.8nm,0.3s,baz=19,slow=19,SNR=6.0								
KNRA	**Kununurra**	**9.66**	**191**				**Pn**	**19 23 36.3**	**+0.6**
KNRA					Sn		**Sn**	**19 25 15.6**	**-7.3**
KNRA	**Kununurra**	**9.66**	**191**	P			**Pn**	**19 23 36.6**	**+0.9**
TOLI2	**Tolitoli**	**12.26**	**306**	P			**P**	**19 24 15.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.87**	**202**	P			**Pn**	**19 24 16.9**	**-0.8**
	baz=30,slow=12								
FITZ					S		Sn	19 26 30.8	-9.3
	0.2nm,0.3s,baz=25,slow=17,SNR=3.0								
FITZ	**Fitzroy Crossi**	**12.87**	**202**		Pn		**Pn**	**19 24 17.1**	**-0.6**
WB0	**Warramunga Arr**	**14.00**	**166**		Pn		**Pn**	**19 24 32.1**	**-0.1**
WRAB	**Tennant Creek**	**14.15**	**166**		Pn		**Pn**	**19 24 33.5**	**-0.6**
WRAB	**Tennant Creek**	**14.15**	**166**	P			**P**	**19 24 37.2**	**+0.1**
WRA	**Warramunga Arr**	**14.16**	**166**	P			**Pn**	**19 24 34.8**	**+0.6**
	0.2nm,0.3s,baz=346,slow=12,SNR=15								
WRA					S		Sn	19 27 03.0	-8.2
	0.7nm,0.3s,baz=332,slow=25,SNR=11								
WRA	**Warramunga Arr**	**14.16**	**166**				**Pn**	**19 24 33.9**	**-0.3**
WB2	**Warramunga Arr**	**14.16**	**166**		Pn		**Pn**	**19 24 33.9**	**-0.4**
WR0	**Warramunga Arr**	**14.22**	**165**		Pn		**Pn**	**19 24 34.9**	**-0.1**
COEN	**Coen**	**14.51**	**123**	P			**Pn**	**19 24 38.7**	**0.0**
COEN	**Coen**	**14.51**	**123**	P			**P**	**19 24 43.9**	**+2.8**
AS31	**Alice Springs**	**17.68**	**170**	P			**P**	**19 25 16.4**	**+0.3**
AS31					IAmb		IAmb	19 25 21.7	
	comp=Z,1.7nm,0.3s								
ASAR	**Alice Springs**	**17.69**	**170**	P			**Pn**	**19 25 19.8**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=353,slow=11,SNR=36								
ASAR					S		**S**	**19 28 26.0**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=25,SNR=4.9								
ASAR	**Alice Springs**	**17.69**	**170**	P			**P**	**19 25 15.9**	**-0.2**
KKM	**Kota Kinabalu**	**18.87**	**310**	P			**Pn**	**19 25 30.9**	**-0.5**
KKM					IAmb		IAmb	19 25 50.0	
	comp=Z,17nm,1.1s								
FORT	**Forrest**	**24.63**	**185**	P			**P**	**19 26 27.2**	**+0.4**
STKA	**Stephens Creek**	**27.55**	**160**	P			**P**	**19 26 57.3**	**+4.2**
	comp=Z,1.0nm,0.4s,baz=334,slow=11,SNR=9.1								
STKA	**Stephens Creek**	**27.55**	**160**	P			**P**	**19 26 52.7**	**-0.3**
KS19	**Wonju Array Si**	**43.51**	**357**	P			**P**	**19 29 07.5**	**-1.3**
KS19					IAmb		IAmb	19 29 15.9	
	comp=Z,5.3nm,0.8s								
BJT	**Baijiatuan**	**47.86**	**345**	P			**P**	**19 29 40.5**	**-2.4**
BJT					IAmb		IAmb	19 29 48.6	
	comp=Z,6.8nm,0.6s								
USA0B	**Ussuriysk Arra**	**50.13**	**1**	P			**P**	**19 29 59.2**	**-0.9**
USA0B					IAmb		IAmb	19 29 59.5	
	comp=Z,6.0nm,0.8s								
MK31	**Makanchi Array**	**67.91**	**326**	P			P	19 32 06.9	+4.3
MKAR	**Makanchi Array**	**67.91**	**326**	P			P	19 32 07.1	+4.4
	comp=Z,0.8nm,0.4s,baz=120,slow=6.9,SNR=22								
MAKZ	**Makanchi**	**68.09**	**326**	P			**P**	**19 32 07.4**	**+3.6**
MAKZ					IAmb		IAmb	19 32 08.2	
	comp=Z,1.9nm,1.2s								
RER	**Riviere de l'E**	**73.80**	**250**	P			**P**	**19 32 39.0**	**+0.1**

*IDC **31** 19:22:14.3±1.5, 8°.84S×158°.53E, h0^{km}, mb4.0/7, mb1 4.2/7, mb1mx3.9/39, mbtmp4.0/7, MS3.4/5, Ms1 3.4/5, ms1mx2.9/59, Error ellipse: s-maj=69.8km s-min=18.7km az=27.0*
*NEIC **31** 19:22:15.8±1.9, 8°.9S±0°.1×158°.51E±0°.09, h10^{km}±1^{km}, mb4.6/9, Error ellipse: s-maj=24.9km s-min=9.7km az=208.0*

ISC 31 19:22:18.0±0.7, 9°.0S±0°.1×158°.49E±0°.09, h29^{km}, n32, σ0°90/22, mb4.2/11, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.50**	**107**		Pn		**Pn**	**19 22 43.1**	**0.0**
	259nm,0.3s,baz=234,slow=3.4,SNR=18								
HNR					Sn		**Sb**	**19 23 04.4**	**+0.4**
	439nm,0.3s,baz=265,slow=23,SNR=7.1								
HNR	**Honiara**	**1.50**	**107**				**Pn**	**19 22 42.4**	**-0.6**
RABL	**Rabaul**	**7.88**	**307**		Pn		**

TNTI	**Ternate**	**2.11 211**	P	**Pn**	**19 26 25.8**	**-2.1**
TNTI			S	**S**	**19 26 57.8**	**-4.4**
TNTI	**Ternate**	**2.11 211**	P	**Pn**	**19 26 25.2**	**-2.7**
SGSI	**Sangihe**	**3.13 291**	P	**Pn**	**19 26 35.7**	**-2.6**
SGSI			S	**S**	**19 27 16.2**	**-4.8**
LBMI	**Labuha**	**3.34 197**	P	**Pn**	**19 26 38.9**	**-1.8**
SWI	**Sorong**	**4.42 141**	P	**Pn**	**19 26 51.2**	**-1.9**
SIJI	**Sorong**	**4.43 141**	P	**Pn**	**19 26 52.4**	**-0.9**
	5.1nm,0.3s,baz=335,slow=17,SNR=16					
KMSI	**Cibinong**	**4.91 246**	P	**Pn**	**19 26 57.6**	**-1.5**
	1.3nm68nm,0.6s					
GSPH	**General Santos**	**4.94 315**⇓	*e*P	**Pn**	**19 26 55.8**	**-3.8**
SANI	**Sanana**	**5.23 208**	P	**Pn**	**19 27 00.4**	**-2.6**
	1.3nm5µm189nm,0.6s					
SANI	**Sanana**	**5.23 208**	P	**Pn**	**19 27 00.7**	**-2.3**
DAV	**Davao City (W)**	**5.30 327**	P	Pn	19 27 08.9	+5.0
	88nm,0.3s,baz=223,slow=7.0,SNR=7.5					
DAV	**Davao City (W)**	**5.30 327**	Pn	Pn	19 26 58.8	-5.1
KCP	**Kidapawan**	**5.54 323**⇓	*i*P	**Pn**	**19 27 04.6**	**-2.3**
GTOI	**Gorontalo**	**5.79 251**	P	**Pn**	**19 27 09.7**	**-0.2**
	0.1nm12nm,0.7s					
LUWI	**Luwuk**	**6.74 238**	Pn	**Pn**	**19 27 19.4**	**-2.3**
LUWI			S	**S**	**19 28 35.5**	**-4.4**
LUWI	**Luwuk**	**6.74 238**	P	**Pn**	**19 27 21.1**	**-0.7**
	0.6nm766nm35nm,0.7s					
LUWI	**Luwuk**	**6.74 238**	P	**Pn**	**19 27 21.8**	**0.0**
	36nm,0.7s					
MRSI	**Marisa**	**6.85 252**	P	**Pn**	**19 27 22.0**	**-1.2**
	0.1nm352nm19nm,0.6s					
TOLI2	**Tolitoli**	**7.82 259**	Pn	**Pn**	**19 27 34.6**	**-0.9**
TOLI2	**Tolitoli**	**7.82 259**	P	**Pn**	**19 27 36.8**	**+1.4**
	4.5nm,1.3s					
KKM	**Kota Kinabalu**	**12.69 286**	Pn	**Pn**	**19 28 36.6**	**-0.1**
KKM	**Kota Kinabalu**	**12.69 286**	P	**Pn**	**19 28 37.9**	**+1.2**
MMRI	**Maumere**	**12.76 209**	P	**P**	**19 28 38.9**	**-0.6**
JAY	**Jayapura**	**13.24 112**	P	**Pn**	**19 28 43.5**	**+0.1**
	1.7nm,0.3s,baz=243,slow=6.6,SNR=9.5					
JAY	**Jayapura**	**13.24 112**	P	**Pn**	**19 28 42.2**	**-1.2**
	17nm,0.9s					
BATI	**Baumata**	**13.58 201**	P	**P**	**19 28 48.6**	**+0.1**
	16nm,0.3s,baz=46,slow=2.3,SNR=38					
BATI	**Baumata**	**13.58 201**	P	**Pn**	**19 28 48.2**	**+0.7**
	36nm,0.8s					
WBSI	**Waikabubak, Su**	**15.14 217**	P	**Pn**	**19 29 07.4**	**+1.0**
	35nm,0.6s					
MTN	**Manton Dam**	**15.56 170**		**P**	**19 29 08.9**	**-1.5**
MTN	**Manton Dam**	**15.56 170**	P	**P**	**19 29 09.6**	**-0.8**
	29nm,0.5s					
PLAI	**Plampang**	**15.56 223**	P	**Pn**	**19 29 11.9**	**+0.5**
	598nm53nm,0.8s					
PLAI	**Plampang**	**15.56 223**	P	**Pn**	**19 29 12.8**	**+1.4**
	53nm,0.8s					
KDU	**Kakadu**	**15.69 165**	P	**P**	**19 29 11.6**	**-0.2**
	22nm,0.7s					
SBUM	**Sibu**	**16.23 270**	Pn	**Pn**	**19 29 19.8**	**+0.4**
SBUM			IAmb	IAmb	19 29 23.0	
	comp=Z,10nm,0.8s					
JAGI	**Jajag, Banyuwa**	**18.01 232**	P	**Pn**	**19 29 40.4**	**+0.2**
KNRA	**Kununurra**	**18.15 179**	P	**P**	**19 29 38.8**	**+0.1**
KNRA	**Kununurra**	**18.15 179**	P	**P**	**19 29 39.0**	**+0.3**
	comp=Z,57nm,0.8s					
KSM	**Kuching**	**18.18 267**	P	**Pn**	**19 29 41.5**	**-0.8**
KSM			IAmb	IAmb	19 29 43.0	
	comp=Z,27nm,1.1s					
FITZ	**Fitzroy Crossi**	**20.74 188**	P	**P**	**19 30 06.2**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=359,slow=8.2,SNR=15					
FITZ	**Fitzroy Crossi**	**20.74 188**	P	**P**	**19 30 07.5**	**+1.1**
TWG	**Pinlang**	**21.36 341**	P	**P**	**19 30 09.8**	**-2.7**
YULB	**Yu-li**	**21.82 342**	P	**P**	**19 30 12.7**	**-4.1**
YULB			IAmb	IAmb	19 30 38.8	
	comp=Z,20nm,1.2s					
TPUB	**Ta-pu**	**21.95 340**	P	**P**	**19 30 15.8**	**-2.2**
TPUB	**Ta-pu**	**21.95 340**	P	**P**	**19 30 17.4**	**-0.6**
SSLB	**Suanglung**	**22.30 342**	P	**P**	**19 30 21.4**	**+0.2**
	comp=Z,15nm,2.2s					
WB0	**Warramunga Arr**	**22.96 166**	P	**P**	**19 30 27.2**	**-0.1**
WB0			IAmb	IAmb	19 30 28.9	
	comp=Z,19nm,0.9s					
YHNB	**Yeheng**	**23.00 343**	P	**P**	**19 30 25.5**	**-2.1**
YHNB	**Yeheng**	**23.00 343**	P	**P**	**19 30 27.7**	**+0.1**
	comp=Z,28nm,0.8s					
WRAB	**Tennant Creek**	**23.11 166**	P	**P**	**19 30 27.7**	**-0.9**
WRAB			IAmb	IAmb	19 30 31.6	
	comp=Z,11nm,0.7s					
WRAB	**Tennant Creek**	**23.11 166**	P	**P**	**19 30 28.9**	**+0.3**
	comp=Z,17nm,1.1s					
WRA	**Warramunga Arr**	**23.12 166**	P	**P**	**19 30 28.8**	**+0.1**
	comp=Z,7.3nm,0.6s,baz=344,slow=10,SNR=22					
WRA	**Warramunga Arr**	**23.12 166**	P	**P**	**19 30 27.1**	**-1.6**
WB2	**Warramunga Arr**	**23.12 166**	P	**P**	**19 30 28.6**	**-0.1**
WR0	**Warramunga Arr**	**23.18 165**	P	**P**	**19 30 29.2**	**-0.1**
WR0			IAmb	IAmb	19 30 31.7	
	comp=Z,12nm,0.9s					
PSA00	**Pilbara Seismi**	**25.45 199**	P	**P**	**19 30 49.8**	**+0.1**
PSA00			IAmb	IAmb	19 31 08.1	
	comp=Z,20nm,1.4s					
PSA00	**Pilbara Seismi**	**25.45 199**	P	**P**	**19 30 48.9**	**-0.9**
PSA00			IAmb	IAmb	19 30 53.1	
	comp=Z,1.9nm,0.8s					
QIS	**Mount Isa**	**25.46 155**	P	**P**	**19 30 50.0**	**+0.1**
	comp=Z,8.2nm,1.0s					
UBPT	**Khong Chiam**	**25.94 300**	P	**P**	**19 30 55.7**	**+1.5**
UBPT			IAmb	IAmb	19 30 56.4	
	comp=Z,5.7nm,0.8s					
AS31	**Alice Springs**	**26.62 169**	P	**P**	**19 31 00.3**	**+0.1**
AS31			IAmb	IAmb	19 31 01.3	
	comp=Z,4.8nm,0.5s					
ASAR	**Alice Springs**	**26.62 169**	P	**P**	**19 31 00.6**	**+0.3**
	comp=Z,8.2nm,0.5s,baz=355,slow=8.1,SNR=112					
ASAR	**Alice Springs**	**26.62 169**	P	**P**	**19 31 00.1**	**-0.2**
GIRL	**Giralia**	**28.67 208**	P	**P**	**19 31 20.1**	**+1.8**
	comp=Z,112nm,1.6s					
PSI	**Prapat**	**29.51 271**	P	**P**	**19 31 27.4**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=126,slow=12,SNR=4.4					
JNU	**Nakatsue**	**30.46 4**	P	**P**	**19 31 33.5**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=80,slow=6.1,SNR=5.6					
JNU	**Nakatsue**	**30.46 4**	P	**P**	**19 31 33.6**	**-0.5**
	comp=Z,19nm,1.2s					
MEEK	**Meekatharra**	**30.57 198**	P	**P**	**19 31 35.3**	**+0.2**
	comp=Z,10nm,1.8s					
NJ2	**Nanjing**	**30.68 344**	*e*P	**P**	**19 31 35.5**	**-0.4**
NJ2			pmax	pmax		
	comp=Z,12nm,0.5s					
ENH	**Enshi**	**32.89 329**	P	**P**	**19 31 55.5**	**+0.2**
ENH			IAmb	IAmb	19 31 57.0	
	comp=Z,11nm,0.7s					
CM31	**Chiang Mai Arr**	**32.94 301**	P	**P**	**19 31 56.3**	**+0.4**
CM31			IAmb	IAmb	19 31 58.8	
	comp=Z,7.6nm,0.8s					
CMAR	**Chiang Mai Arr**	**32.94 301**	P	**P**	**19 31 58.0**	**+2.0**
	comp=Z,4.6nm,0.8s,baz=118,slow=7.4,SNR=44					
CMAR			ScP	**ScP**	**19 37 57.5**	**+3.2**
	comp=Z,1.2nm,0.9s,baz=122,slow=1.8,SNR=9.0					
CMAR	**Chiang Mai Arr**	**32.94 301**	P	**P**	**19 31 56.4**	**+0.5**
CHTO	**Chiang Mai**	**33.09 301**	P	**P**	**19 31 58.0**	**+0.8**
CHTO			IAmb	IAmb	19 31 59.8	
	comp=Z,9.4nm,0.8s					
CHTO	**Chiang Mai**	**33.09 301**	P	**P**	**19 31 58.8**	**+1.6**
	comp=Z,7.9nm,0.8s					
MULG	**Mulgathing**	**33.12 171**	P	**P**	**19 31 57.4**	**+0.2**
	comp=Z,31nm,0.7s					
FORT	**Forrest**	**33.18 181**	P	**P**	**19 31 58.2**	**+0.5**
	comp=Z,30nm,0.9s					
KMI	**Kunming**	**33.41 314**	⇑P	**P**	**19 32 02.8**	**+2.7**
KMI			pmax	pmax		
	comp=Z,8.0nm,1.1s					
MORW	**Morawa**	**33.66 200**	P	**P**	**19 32 02.7**	**+0.8**
LCRK	**Leigh Creek**	**34.14 165**	P	**P**	**19 32 06.8**	**+0.8**
	comp=Z,12nm,1.2s					
KSRS	**Korea Array**	**34.70 359**	P	**P**	**19 32 10.5**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=176,slow=9.7,SNR=15					
BLDU	**Ballidu**	**34.87 198**	P	**P**	**19 32 13.3**	**+1.1**
MJAR	**Matsushiro Arr**	**34.97 14**	P	**P**	**19 32 11.4**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=201,slow=8.7,SNR=11					
MJAR	**Matsushiro Arr**	**34.97 14**	IAmb	IAmb	19 32 13.6	
	comp=Z,4.2nm,1.2s					
MAJO	**Matsushiro**	**34.97 14**	P	**P**	**19 32 11.1**	**-2.0**
MAJO			IAmb	IAmb	19 32 13.1	
	comp=Z,6.8nm,0.8s					
MJB9	**Matsu-Tunnel**	**34.97 14**	P	**P**	**19 32 11.1**	**-2.0**
MJB9			IAmb	IAmb	19 32 13.0	
	comp=Z,6.6nm,0.8s					
PZH	**PanZhiHua**	**34.97 315**	P	**P**	**19 32 14.5**	**+1.2**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,100nm,4.7s					
KLBR	**Kellerberrin**	**35.48 196**	P	**P**	**19 32 17.7**	**+0.2**
	comp=Z,24nm,0.6s					
BBOO	**Buckleboo**	**35.93 169**	P	**P**	**19 32 21.9**	**+0.7**
BBOO	**Buckleboo**	**35.93 169**	P	**P**	**19 32 21.4**	**+0.2**
	comp=Z,37nm,1.1s					
MUN	**Mundaring**	**36.29 198**	P	**P**	**19 32 24.8**	**+0.5**
	comp=Z,17nm,1.9s					
STKA	**Stephens Creek**	**36.47 161**	P	**P**	**19 32 26.3**	**+0.4**
	comp=Z,4.1nm,0.4s,baz=345,slow=8.4,SNR=23					
STKA	**Stephens Creek**	**36.47 161**	P	**P**	**19 32 26.6**	**+0.7**
STKA	**Stephens Creek**	**36.47 161**	P	**P**	**19 32 26.2**	**+0.4**
	comp=Z,1.9nm,0.7s					
NAPP	**Napperby**	**36.73 166**	P	**P**	**19 32 28.9**	**+0.9**
	comp=Z,15nm,0.7s					
HNS	**HongShan**	**36.88 342**	⇑P	**P**	**19 32 29.5**	**+0.3**
HNS			pmax	pmax		
	comp=Z,10.0nm,0.8s					
HTT	**Hallett**	**37.16 165**	P	**P**	**19 32 32.7**	**+1.1**
BJT	**Baijiatuau**	**38.90 345**	P	**P**	**19 32 45.9**	**-0.1**
BJT			IAmb	IAmb	19 32 47.9	
	comp=Z,8.5nm,0.7s					
BJI	**Beijing**	**38.91 345**	P	**P**	**19 32 46.0**	**-0.1**
BJI			S	**S**	**19 38 29.8**	**+4.5**
BJI			pmax	pmax		
	comp=Z,10.0nm,0.7s					
LZH	**Lanzhou**	**40.37 329**	*e*P	**P**	**19 33 00.3**	**+1.9**
LZH			pP	pP	19 33 49.3	+0.1
LZH			pmax	pmax		
	comp=Z,29nm,1.6s					
HHC	**Hu-ho-hao-te**	**41.04 340**	*e*P	**P**	**19 33 05.5**	**+1.9**
HHC			pmax	pmax		
	comp=Z,24nm,1.1s					
HHC			pmax	pmax		
	comp=Z,130nm,5.4s					
USA0B	**Ussuriysk Arra**	**41.56 4**	P	**P**	**19 33 07.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**41.56 4**	P	**P**	**19 33 07.6**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=205,slow=9.1,SNR=5.3					
SHL	**Shillong**	**41.95 306**	P	**P**	**19 33 12.5**	**+1.2**
ASAJ	**Asahikawa**	**43.21 15**	P	**P**	**19 33 20.4**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=234,slow=8.7,SNR=5.7					
JKA	**Kamikawa-asahi**	**43.21 15**	P	**P**	**19 33 20.4**	**-0.5**
JKA	**Kamikawa-asahi**	**43.21 15**	IAmb	IAmb	19 33 23.6	
	comp=Z,22nm,1.3s					
NOUC	**Port Laguerre**	**44.36 126**	P	**P**	**19 33 30.3**	**-0.1**
DZM	**Mont Dzumac**	**44.46 125**	P	**P**	**19 33 31.3**	**0.0**
LSA	**Lhasa**	**44.49 311**	P	**P**	**19 33 32.6**	**+0.7**
YATNC	**Mamie plateau,**	**44.82 125**	P	**P**	**19 33 34.2**	**+0.1**
OUENC	**Ouen Island, N**	**44.95 126**	P	**P**	**19 33 37.0**	**+1.9**
GTA	**Gaotai**	**44.97 328**	⇓P	**P**	**19 33 35.8**	**+0.7**
GTA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GOMU	**GeErMu**	**45.66 321**	P	**P**	**19 33 41.5**	**+0.7**
GOMU			pmax	pmax		
	comp=Z,3.0nm,0.6s					
GOMU			pmax	pmax		
	comp=Z,67nm,7.0s					
TAPN	**Taplejung**	**46.09 306**	*e*P	**P**	**19 33 45.4**	**+1.1**
ODAN	**Odare**	**46.14 306**	*e*P	**P**	**19 33 45.9**	**+1.3**
	comp=Z,29nm,0.7s					
KLR	**Kul'dur**	**46.56 3**	P	**P**	**19 33 47.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=263,slow=9.1,SNR=4.2					
RAMN	**Ramite**	**46.82 305**	*e*P	**P**	**19 33 51.4**	**+1.5**
	comp=Z,32nm,0.5s					
JIRN	**Jiri**	**47.44 306**	*e*P	**P**	**19 33 55.5**	**+0.7**
	comp=Z,19nm,0.4s					
GUN	**Gumba**	**47.80 306**	*e*P	**P**	**19 33 58.6**	**+1.1**
	comp=Z,37nm,0.7s					
PKI	**Pulchoki**	**48.04 305**	*e*P	**P**	**19 34 00.0**	**+0.6**
	comp=Z,4.8nm,0.4s					
PKIN	**Phulchoki**	**48.05 305**	*e*P	**P**	**19 34 00.0**	**+0.6**
	comp=Z,5.6nm,0.5s					
KKN	**Kakani**	**48.23 306**	*e*P	**P**	**19 34 01.4**	**+0.7**
GKN	**Gorkha**	**48.84 306**	*e*P	**P**	**19 34 05.7**	**+0.5**
SONM	**Songino Array**	**48.94 340**	P	**P**	**19 34 05.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=150,slow=7.1,SNR=7.9					
KOLN	**Koldanda**	**49.60 305**	*e*P	**P**	**19 34 12.3**	**+1.3**
DANN	**Dangsing**	**49.69 306**	*e*P	**P**	**19 34 12.7**	**+0.9**
	comp=Z,44nm,0.6s					
PYUN	**Piuthan**	**50.22 305**	*e*P	**P**	**19 34 17.0**	**+1.3**
WMQ	**Urumqi**	**54.65 325**	*e*P	**P**	**19 34 49.5**	**+1.8**
PETK	**Petropavlovsk-**	**55.85 21**	P	**P**	**19 34 56.6**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=186,slow=2.8,SNR=2.2					
YAK	**Yakutsk**	**59.31 1**	P	**P**	**19 35 18.9**	**-0.8**
MA2	**Magadan**	**59.41 13**	P	**P**	**19 35 19.9**	**-0.6**
MA2			IAmb	IAmb	19 35 22.0	
	comp=Z,5.6nm,0.9s					
MK31	**Makanchi Array**	**59.48 325**	P	**P**	**19 35 21.5**	**+0.1**
MKAR	**Makanchi Array**	**59.48 325**	P	**P**	**19 35 21.8**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=118,slow=8.3,SNR=45					
MKAR			PcP	**PcP**	**19 36 06.7**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=116,slow=4.9,SNR=3.8					
MKAR	**Makanchi Array**	**59.48 325**	P	**P**	**19 35 21.6**	**+0.3**
MAKZ	**Makanchi**	**59.67 325**	P	**P**	**19 35 22.8**	**+0.2**
MAKZ			IAmb	IAmb	19 35 23.8	
	comp=Z,8.3nm,1.1s					
KSH	**Kashi**	**60.07 315**	P	**P**	**19 35 27.5**	**+1.9**
KSH			pmax	pmax		
	comp=Z,3.0nm,1.0s					
KDJ	**Kajisay**	**60.35 318**	P	**P**	**19 35 28.1**	**+0.6**
KDJ			IAmb	IAmb	19 35 28.9	
	comp=Z,3.5nm,0.6s					
ZAA0	**Zalesovo Array**	**62.39 333**	P	**P**	**19 35 40.1**	**-0.6**
ZALV	**Zalesovo Beam**	**62.39 333**	P	**P**	**19 35 40.0**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=103,slow=6.4,SNR=9.0					
ZALV	**Zalesovo Beam**	**62.39 333**	P	**P**	**19 35 39.1**	**-1.5**
KURK	**Kurchatov**	**63.63 327**	P	**P**	**19 35 48.7**	**-0.2**
GAR	**Garm**	**63.97 313**	P	**P**	**19 35 51.8**	**+0.3**
GAR			IAmb	IAmb	19 35 52.7	
	comp=Z,12nm,1.1s					
KKAR	**Karatay Array**	**65.25 317**	P	**P**	**19 35 59.4**	**-0.2**
TIXI	**Tiksi**	**68.97 0**	P	**P**	**19 36 21.4**	**-0.8**
TIXI			IAmb	IAmb	19 36 22.6	
	comp=Z,3.5nm,0.4s					
BRVK	**Borovoye**	**69.29 327**	P	**P**	**19 36 24.4**	**-0.2**
BRVK			IAmb	IAmb	19 36 25.6	
	comp=Z,7.6nm,1.0s					
NRIK	**Noril'sk**	**71.95 346**	P	**P**	**19 36 40.2**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=114,slow=5.7,SNR=5.4					
NRIK	**Noril'sk**	**71.95 346**	P	**P**	**19 36 40.2**	**-0.1**
GEYT	**Alibeck**	**72.96 309**	P	**P**	**19 36 47.4**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=54,slow=7.3,SNR=4.0					
GEYT	**Alibeck**	**72.96 309**	IAmb	IAmb	19 36 48.8	
	comp=Z,2.3nm,0.6s					
ABKAR	**Akbulak array**	**74.13 321**	P	**P**	**19 36 53.5**	**+0.1**
ABKAR	**Akbulak array**	**74.13 321**	P	**P**	**19 36 53.4**	**0.0**
ABKAR			IAmb	IAmb	19 36 53.8	
	comp=Z,2.2nm,0.8s					
ARU	**Arti**	**76.83 328**	P	**P**	**19 37 07.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=214,slow=4.9,SNR=4.7					
ARU	**Arti**	**76.83 328**	IAmb	IAmb	19 37 08.8	
	comp=Z,2.7nm,0.7s					
VNDA	**Vanda**	**82.08 173**	P	**P**	**19 37 36.8**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=312,slow=9.1,SNR=5.1					
ARCES	**ARCESS Array B**	**92.11 340**	P	**P**	**19 38 24.4**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=90,slow=6.1,SNR=9.5					
FINES	**FINESS Array B**	**93.65 332**	P	**P**	**19 38 31.4**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=93,slow=5.7,SNR=1.8					
YKA	**Yellowknife Ar**	**99.81 25**	P	**Pdif**	**19 38 59.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=298,slow=4.1,SNR=3.3					

MAN 31 19:26:44.5, 7.91N×126.61E, h6km, mb4.5, ML3.3, MS3.1, Mindanao

*DJA **31** 19:28:59.9±0.5, 5.3°S×3.15°E±.°, h75km±4km, M5.1/50, mB5.5/12, mb5.1/50, MLv5.5/2, Mw(mB)4.9/12*
*IDC **31** 19:28:59.7±0.6, 5.13S×155.04E, h64km±4km, mb4.2/18, mb1 4.2/19, mb1mx4.0/44, mbtmp4.5/19, MS3.5/19, Ms1 3.5/19, ms1mx3.2/60, Error ellipse: s-maj=14.9km s-min=12.1km az=73.0*
*BJI **31** 19:28:59.6±0.0, 4.95S×155.18E, h74km, mb4.6/29, mB4.8/19, Ms4.9/6, Ms7 4.7/6*
*NEIC **31** 19:29:00.7±1.0, 5.10S±0.10×155.00E±0.07, h69km±4km, mb4.8/43, Error ellipse: s-maj=15.1km s-min=8.7km az=202.0*
ISC 31 19:29:00.2±0.4, 5.06S±0.05×155.01E±0.05, h69km, n213, σ1§14/206, mb4.8/74, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.97 287**			**Pn**	**19 29 45.6**	**+0.6**
RABL				Sn	**Sn**	**19 30 19.8**	**+0.3**
RABL	**Rabaul**	**2.97 287**		P	**Pn**	**19 29 46.1**	**+1.1**
HNR	**Honiara**	**6.54 132**		P	**Pn**	**19 30 34.0**	**+0.1**
	255nm,0.3s,baz=268,slow=2.4,SNR=87						
HNR				S	**Sn**	**19 31 46.8**	**-0.3**
	202nm,0.3s,baz=132,slow=7.7,SNR=6.6						
HNR	**Honiara**	**6.54 132**			**Pn**	**19 30 33.6**	**-0.3**
HNR				Sn	**Sn**	**19 31 44.2**	**-2.9**
HNR	**Honiara**	**6.54 132**		P	**Pn**	**19 30 37.0**	**+3.1**
MANU	**Manus Island**	**8.20 291**		Pn	**Pn**	**19 30 56.6**	**+0.1**
PMG	**Port Moresby**	**8.91 241**		P	**Pn**	**19 31 08.3**	**+2.1**
	26nm,0.3s,baz=62,slow=4.6,SNR=78						
PMG				S	**Sn**	**19 32 47.5**	**+2.5**
	10nm,0.3s,baz=35,slow=12,SNR=2.9						
PMG				LR	LR	19 34 32.1	
	comp=Z,266nm,21.1s,baz=56,slow=37						
PMG	**Port Moresby**	**8.91 241**		Pn	**Pn**	**19 31 07.0**	**+0.8**
PMG	**Port Moresby**	**8.91 241**		P	**Pn**	**19 31 08.5**	**+2.4**
PMG	**Port Moresby**	**8.91 241**		P	**Pn**	**19 31 08.6**	**+2.4**
PATS	**Pohnpei**	**12.27 16**		P	**Pn**	**19 31 49.9**	**-2.2**
	baz=12,SNR=3.3						
PATS				S	Sn	19 33 52.0	-15
	baz=12						
PATS	**Pohnpei**	**12.27 16**		Pn	Pn	19 31 47.9	-4.2
JAY	**Jayapura**	**14.50 280**		P	**Pn**	**19 32 23.4**	**+1.4**
	2.2nm,0.3s,baz=118,slow=5.4,SNR=12						
JAY				LR	LR	19 36 56.4	
	comp=Z,303nm,19.7s,baz=24,slow=33						
JAY	**Jayapura**	**14.50 280**		P	**Pn**	**19 32 21.1**	**-0.9**
	24nm,1.0s						
COEN	**Coen**	**14.64 232**		Pn	**Pn**	**19 32 20.4**	**-3.3**
COEN	**Coen**	**14.64 232**		P	**Pn**	**19 32 25.5**	**+1.8**
SANVU	**Saraoutou**	**15.81 132**		P	**P**	**19 32 41.6**	**+0.3**
MTSU	**Mount Surprise**	**16.68 218**		P	**P**	**19 32 50.9**	**0.0**
	baz=17,SNR=21						
MTSU	**Mount Surprise**	**16.68 218**		P	**P**	**19 32 50.6**	**-0.3**
CTA	**Charters Tower**	**17.20 209**		P	**P**	**19 32 58.9**	**+2.2**
	2.5nm,0.3s,baz=28,slow=13,SNR=29						
CTA				LR	LR	19 39 03.0	
	comp=Z,127nm,19.5s,baz=27,slow=35						
CTA	**Charters Tower**	**17.20 209**		P	**P**	**19 32 59.4**	**+2.7**
RK1H	**Rockhampton Ha**	**18.74 193**		P	**Pn**	**19 33 16.1**	**+1.4**
DZM	**Mont Dzumac**	**20.21 148**		LR	LR	19 40 59.4	
	comp=Z,64nm,18.8s,baz=359,slow=36						
DZM	**Mont Dzumac**	**20.21 148**		P	**P**	**19 33 30.0**	**+0.2**
DZM				IAmb	IAmb	19 33 48.7	
	comp=Z,61nm,1.2s						
ONTNC	**Ouen Toro**	**20.41 148**		P	**P**	**19 33 31.3**	**-0.5**
ONTNC				IAmb	IAmb	19 33 49.3	
	comp=Z,28nm,0.8s						
EIDS	**Eidsvold**	**20.54 190**		P	**P**	**19 33 33.3**	**+0.1**
	baz=21,SNR=6.1						
EIDS	**Eidsvold**	**20.54 190**		P	**P**	**19 33 33.4**	**+0.1**
EIDS	**Eidsvold**	**20.54 190**		P	Pn	19 33 35.0	-1.0
OUENC	**Ouen Island, N**	**20.71 148**		P	**P**	**19 33 35.3**	**+0.3**
GUMO	**Guam**	**21.09 332**		LR	LR	19 41 56.0	
	comp=Z,45nm,18.3s,baz=168,slow=37						
QIS	**Mount Isa**	**21.48 223**		P	**P**	**19 33 44.0**	**+0.7**
	baz=22,SNR=36						
QIS	**Mount Isa**	**21.48 223**		P	**P**	**19 33 44.5**	**+1.1**
RMQ	**Roma**	**22.13 195**		P	**P**	**19 33 51.6**	**+1.4**
	baz=22,SNR=27						
RMQ	**Roma**	**22.13 195**		P	**P**	**19 33 51.7**	**+1.4**
KDU	**Kakadu**	**23.51 250**		P	**P**	**19 34 03.2**	**-1.1**
	baz=24,SNR=60						
KDU	**Kakadu**	**23.51 250**		P	**P**	**19 34 03.3**	**-1.0**
SAUI	**Saumlaki**	**23.73 262**		P	**P**	**19 34 04.8**	**-1.6**
SAUI	**Saumlaki**	**23.73 262**		P	**P**	**19 34 07.4**	**+1.0**
	comp=Z,266nm,1.4s						
SAUI	**Saumlaki**	**23.73 262**		P	**P**	**19 34 07.8**	**+1.4**
QLP	**Quilpie**	**23.75 205**		P	**P**	**19 34 06.4**	**0.0**
	baz=24,SNR=22						
QLP	**Quilpie**	**23.75 205**		P	**P**	**19 34 07.2**	**+0.8**
SIJI	**Sorong**	**24.07 279**		P	**P**	**19 34 09.8**	**+0.4**
	comp=Z,24nm,0.7s,baz=41,slow=15,SNR=12						
SIJI				LR	LR	19 45 00.7	
	comp=Z,65nm,19.8s,baz=94,slow=40						
SWI	**Sorong**	**24.08 279**		P	**P**	**19 34 09.6**	**+0.1**
	comp=Z,32nm,1.0s						
MTN	**Manton Dam**	**24.81 250**		P	**P**	**19 34 15.4**	**-0.6**
	baz=25,SNR=15						
MTN	**Manton Dam**	**24.81 250**		P	**P**	**19 34 15.3**	**-0.8**
MTN				IAmb	IAmb	19

NAPP Napperby 32.09 207 P P 19 35 20.7 -0.1
WRKA Warakurna 32.43 230 P P 19 35 22.8 -1.1
baz=33,SNR=51
WRKA Warakurna 32.43 230 P P 19 35 22.9 -1.1
MMRI Maumere 32.73 262 P P 19 35 25.8 -0.8
comp=Z,24nm,0.6s
MMRI Maumere 32.73 262 P P 19 35 25.9 -0.7
BBOO Buckleboo 32.79 210 P P 19 35 26.1 -0.8
baz=33,SNR=15
BBOO Buckleboo 32.79 210 P P 19 35 25.9 -1.0
BBOO IAmb IAmb 19 35 27.8
comp=Z,8.9nm,0.6s
BBOO Buckleboo 32.79 210 P P 19 35 26.0 -1.0
MRSI Marisa 33.49 279 P P 19 35 31.6 -1.7
comp=Z,12nm,1.0s
APSI Ampana 33.56 276 P P 19 35 34.0 +0.1
comp=Z,488nmcomp=Z,34nm,0.5s
ARPS Mount Arapiles 33.79 199 P P 19 35 36.0 +0.4
baz=34,SNR=9.5
ARPS Mount Arapiles 33.79 199 P P 19 35 35.9 +0.3
AFI Afiamalu 33.88 107 LR LR 19 47 00.8
comp=Z,101nm,18.0s,baz=287,slow=32
TOLI2 Tolitoli 34.74 279 P P 19 35 43.2 -0.9
TOLI2 IAmb IAmb 19 36 03.4
comp=Z,6.4nm,1.0s
TOLI2 Tolitoli 34.74 279 P P 19 35 43.7 -0.4
BKSI Bulukumba 34.74 268 P P 19 35 43.3 -0.9
comp=Z,24nm,1.2s
BNSI Bone 34.79 270 P P 19 35 44.8 +0.2
comp=Z,59nm,1.1s
KAPI Kappang 35.12 268 P P 19 35 46.9 -0.5
KAPI Kappang 35.12 268 P P 19 35 47.5 +0.1
SPSI Sidrap Palu 35.15 270 P P 19 35 46.7 -1.0
comp=Z,25nm,0.7s
MPSI Mapaga 35.48 278 P P 19 35 49.4 -1.1
comp=Z,546nmcomp=Z,43nm,0.8s
WBSI Waikabubak, Su 35.60 261 P P 19 35 51.6 0.0
comp=Z,27nm,0.7s
FORT Forrest 36.02 222 P P 19 35 54.2 -0.7
baz=36,SNR=14
FORT Forrest 36.02 222 P P 19 35 54.0 -0.9
FORT Forrest 36.02 222 P P 19 35 54.2 -0.7
PLAI Plampang 37.14 262 P P 19 36 02.4 -2.3
comp=Z,650nmcomp=Z,29nm,0.6s
PLAI Plampang 37.14 262 P P 19 36 02.2 -2.5
PSA00 Pilbara Seismi 37.81 241 P P 19 36 08.8 -1.5
PSA00 Pilbara Seismi 37.81 241 P P 19 36 08.2 -2.1
PSA00 IAmb IAmb 19 36 09.9
comp=Z,8.4nm,0.9s
PSA00 Pilbara Seismi 37.81 241 P P 19 36 09.2 -1.1
MYLDM Lahad Datu 37.86 285 P P 19 36 10.0 -0.7
MYLDM IAmb IAmb 19 36 25.1
comp=Z,15nm,0.8s
TAU Tasmania Unive 38.31 189 P P 19 36 11.5 -2.6
TAU Tasmania Unive 38.31 189 P P 19 36 15.8 +1.7
BBKI Banjar Baru 40.09 271 P P 19 36 30.0 +0.6
comp=Z,43nm,1.0s
MTKI Muara Teweh, K 40.26 275 P P 19 36 30.2 -0.6
comp=Z,2μmcomp=Z,13nm,0.5s
KKM Kota Kinabalu 40.27 285 P P 19 36 30.0 -1.1
KKM Kota Kinabalu 40.27 285 P P 19 36 30.7 -0.3
KHZ Kahutara 40.69 159 P P 19 36 34.3 +0.4
JAGI Jajag, Banyuwa 40.70 263 P P 19 36 32.7 -1.8
MEEK Meekatharra 40.82 234 P P 19 36 34.5 -0.9
baz=41,SNR=14
MEEK Meekatharra 40.82 234 P P 19 36 34.7 -0.6
RPZ Rata Peaks 41.02 162 LR LR 19 51 45.6
comp=Z,68nm,20.4s,baz=272,slow=33
PWJI Pagerwojo 43.01 264 P P 19 36 51.9 -1.4
comp=Z,49nm,0.9s
PBKI Pangkalan Bun 43.30 271 P P 19 36 56.6 +0.9
comp=Z,1μmcomp=Z,128nm,0.7s
SBUM Sibu 43.40 279 P P 19 36 54.8 -1.6
PCJI Pacitan 43.64 263 P P 19 36 56.8 -1.5
comp=Z,105nm,1.1s
KLBR Kellerberrin 43.76 228 P P 19 36 57.5 -1.5
baz=44,SNR=12
KLBR Kellerberrin 43.76 228 P P 19 36 57.6 -1.5
STKI Sintang 43.77 275 P P 19 37 00.0 +0.5
comp=Z,14nm,0.9s
MORW Morawa 43.92 233 P P 19 36 59.3 -1.1
baz=44,SNR=8.2
MORW Morawa 43.92 233 P 19 36 58.8 -1.6
MORW IAmb IAmb 19 37 00.0
comp=Z,13nm,0.8s
MORW Morawa 43.92 233 P P 19 36 59.3 -1.1
BLDU Ballidu 44.08 230 P P 19 37 01.2 -0.5
UGM Wanagama 44.28 264 P P 19 37 02.9 -0.7
JNU Nakatsue 44.34 331 P P 19 37 03.2 -0.5
comp=Z,4.5nm,0.8s,baz=121,slow=5.3,SNR=3.6
JNU pP pP 19 37 19.3 -1.0
comp=Z,9.8nm,0.8s,baz=98,slow=3.6,SNR=3.2
JNU Nakatsue 44.34 331 IAmb IAmb 19 37 21.6
comp=Z,21nm,1.0s
MUN Mundaring 45.10 229 P P 19 37 08.8 -1.0
KPJI Karang Pucung 45.85 265 P P 19 37 15.1 -0.9
comp=Z,46nm,0.5s
CMJI Cimerak 46.33 264 P P 19 37 17.8 -2.0
comp=Z,61nm,0.7s
LEM Lembang 47.16 265 P P 19 37 25.5 -1.0
comp=Z,21nm,0.6s,baz=66,slow=4.2,SNR=8.8
LEM Lembang 47.16 265 P P 19 37 25.4 -1.0
comp=Z,17nm,0.8s
CNJI Cibinong 47.64 265 P P 19 37 28.2 -1.8
comp=Z,1μmcomp=Z,158nm,0.9s
SKJI Sukabumi 48.21 265 P P 19 37 32.9 -1.5
comp=Z,73nm,0.5s
KSRS Korea Array 49.25 331 P P 19 37 42.4 +0.5
comp=Z,0.6nm,0.4s,baz=134,slow=7.0,SNR=4.4
KSRS pP pP 19 37 58.3 0.0
comp=Z,1.1nm,0.6s,baz=148,slow=9.2,SNR=4.6
KSAR Wonju Array Be 49.26 331 P P 19 37 40.9 -1.1
ASAJ Asahikawa 50.21 348 P P 19 37 49.9 +0.8
comp=Z,9.0nm,0.9s,baz=212,slow=7.1,SNR=5.6
KASI Kota Agung 50.29 267 P P 19 37 47.9 -2.4
comp=Z,12nm,0.8s
NJ2 Nanjing 50.45 319 eP P 19 37 53.0 +1.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 53.23 339 P P 19 38 12.3 +0.7
comp=Z,6.0nm,0.8s,baz=154,slow=7.0,SNR=6.3
USRK Ussuriysk Ar. 53.23 339 P P 19 38 12.0 +0.3
KRJI Kerinci 53.51 271 P P 19 38 13.3 -1.1
comp=Z,42nm,0.9s
PPT Papeete 55.55 108 LR LR 19 57 50.5
comp=Z,49nm,19.0s,baz=322,slow=31
PETK Petropavlovsk- 57.99 2 P P 19 38 46.9 +1.3
comp=Z,6.8nm,0.7s,baz=156,slow=7.6,SNR=7.2
PETK Petropavlovsk- 57.99 2 P P 19 38 44.8 -0.8
CM31 Chiang Mai Arr 59.98 295 P P 19 38 59.4 -0.7
CM31 IAmb IAmb 19 39 02.1
comp=Z,8.1nm,0.8s
CMAR Chiang Mai Arr 59.98 295 P P 19 39 01.1 +1.0
comp=Z,6.9nm,0.9s,baz=115,slow=5.3,SNR=51
CMAR pP pP 19 39 19.3 +1.5
comp=Z,6.8nm,0.8s,baz=111,slow=5.1,SNR=14
CMAR Chiang Mai Arr 59.98 295 P P 19 39 00.0 0.0
CHTO Chiang Mai 60.09 295 P P 19 39 00.4 -0.4
CHTO IAmb IAmb 19 39 02.4
comp=Z,5.1nm,1.0s
PZH PanZhiHua 60.33 304 P P 19 39 06.3 +3.8
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.3s
HHC Hu-ho-hao-te 60.56 323 eP P 19 39 08.8 +5.1
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,75nm,5.5s
MA2 Magadan 64.52 358 P P 19 39 29.9 +0.3
MA2 IAmb IAmb 19 39 30.8
comp=Z,6.1nm,0.8s
ULN Ulaanbaatar 67.39 327 P P 19 39 48.3 -0.2
ULN IAmb IAmb 19 40 09.1
comp=Z,6.5nm,1.0s
SONM Songino Array 67.73 327 P P 19 39 51.7 +1.1
comp=Z,0.6nm,0.5s,baz=133,slow=5.5,SNR=4.0
SONM pP pP 19 40 08.1 +0.2
comp=Z,2.3nm,0.6s,baz=134,slow=5.3,SNR=8.6
SONM Songino Array 67.73 327 P P 19 39 50.5 -0.1
SHL Shillong 68.34 300 P P 19 39 54.8 -0.2
TAPN Taplejung 72.43 301 eP P 19 40 20.3 +0.3
comp=Z,4.2nm,0.5s
ODAN Odare 72.58 300 eP P 19 40 21.3 +0.5
comp=Z,14nm,0.6s

BILL Bilibino 73.36 4 P P 19 40 25.0 +0.8
BILL IAmb IAmb 19 40 26.2
comp=Z,6.0nm,0.9s
GUN Gumba 74.14 301 eP P 19 40 30.5 +0.4
comp=Z,15nm,0.7s
PKI Pulchoki 74.46 300 eP P 19 40 31.9 -0.1
KKN Kakani 74.63 300 eP P 19 40 32.9 +0.1
PALK Pallekele 75.15 279 P P 19 40 36.2 +0.3
comp=Z,12nm,0.7s,baz=191,slow=4.7,SNR=12
PALK LR LR 20 17 05.8
comp=Z,20nm,18.1s,baz=224,slow=38
PALK Pallekele 75.15 279 P P 19 40 34.2 -1.6
PALK IAmb IAmb 19 40 36.9
comp=Z,14nm,0.8s
GKN Gorkha 75.23 301 eP P 19 40 36.3 +0.1
comp=Z,11nm,0.7s
DANN Dangsing 76.06 301 eP P 19 40 41.0 -0.1
comp=Z,15nm,0.8s
KOLN Koldanda 76.07 300 eP P 19 40 41.0 0.0
PYUN Piuthan 76.67 300 eP P 19 40 44.2 -0.2
WMQ Urumqi 77.43 317 eP P 19 40 49.3 +1.1
TIXI Tiksi 78.45 352 P P 19 40 53.5 +0.4
IMAR Indian Mountai 79.90 19 P P 19 41 01.9 +0.7
ILAR Eielson Array 81.58 22 P P 19 41 09.9 -0.2
comp=Z,1.1nm,0.7s,baz=244,slow=5.9,SNR=11
MK31 Makanchi Array 81.97 319 P P 19 41 13.2 +0.5
MKAR Makanchi Array 81.97 319 P P 19 41 13.5 +0.8
comp=Z,0.8nm,0.7s,baz=98,slow=6.0,SNR=14
MKAR pP pP 19 41 30.2 -0.5
comp=Z,2.6nm,0.7s,baz=99,slow=4.6,SNR=13
MKAR Makanchi Array 81.97 319 P P 19 41 12.9 +0.2
J25K Salcha River, 82.06 22 P P 19 41 13.3 +0.5
J25K IAmb IAmb 19 41 37.5
comp=Z,10.0nm,1.4s
MAKZ Makanchi 82.18 318 P P 19 41 14.4 +0.6
ZALV Zalesovo Beam 82.60 326 P P 19 41 16.9 +1.2
comp=Z,0.9nm,0.3s,baz=97,slow=5.8,SNR=1.3
ZALV pP pP 19 41 32.2 -1.5
comp=Z,2.3nm,0.6s,baz=124,slow=5.3,SNR=2.6
ZALV Zalesovo Beam 82.60 326 P P 19 41 16.0 +0.3
HYT Haines Junctio 83.65 27 P P 19 41 22.8 +1.6
HYT IAmb IAmb 19 41 23.8
comp=Z,7.5nm,0.8s
KDJ Kajisay 84.40 313 P P 19 41 25.5 0.0
KDJ IAmb IAmb 19 41 47.1
comp=Z,8.8nm,1.0s
KSH Kashi 84.78 310 P P 19 41 30.0 +2.6
KSH pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 85.33 322 P 19 41 30.0 +0.3
KURK IAmb IAmb 19 41 50.4
comp=Z,13nm,1.4s
KURBB Kurchatov Arra 85.37 322 P P 19 41 30.3 +0.4
comp=Z,0.4nm,0.7s,baz=109,slow=3.6,SNR=6.6
KURBB pP pP 19 41 48.3 +0.3
comp=Z,4.0nm,1.0s,baz=108,slow=3.7,SNR=14
MAW Mawson 86.18 203 P P 19 41 33.1 -0.5
comp=Z,1.1nm,0.5s,baz=94,slow=6.0,SNR=1.7
MAW LR LR 20 17 03.0
comp=Z,53nm,18.9s,baz=122,slow=34
YBH Yreka Blue Hor 87.59 48 LR LR 20 12 43.1
comp=Z,68nm,21.5s,baz=285,slow=30
NEW Newport 92.31 42 LR LR 20 19 37.9
comp=Z,79nm,18.5s,baz=256,slow=33
ELK Elko 93.08 50 LR LR 20 21 04.4
comp=Z,28nm,18.1s,baz=262,slow=34
YKA Yellowknife Ar 94.63 28 P P 19 42 13.9 +0.6
comp=Z,1.0nm,0.8s,baz=268,slow=4.7,SNR=14
YKA pP pP 19 42 31.4 0.0
comp=Z,1.0nm,0.7s,baz=265,slow=4.5,SNR=6.8
PDAR Pinedale Array 97.39 48 LR LR 20 19 13.0
comp=Z,29nm,21.1s,baz=289,slow=31
BOSA Boshof 121.22 232 PKP PKPdf 19 47 46.4 +0.2
comp=Z,1.8nm,0.7s,baz=103,slow=2.2,SNR=4.3
MATP Matopo 121.70 242 PKP PKPdf 19 47 46.7 -0.6
comp=Z,0.8nm,0.4s,baz=162,slow=3.2,SNR=2.7
BDFB Brasilia 149.29 132 PKPbc PKPdf 19 48 40.3 +2.3
comp=Z,3.2nm,0.6s,baz=114,slow=3.1,SNR=5.1
TORD Torodi Ar. Bea 152.48 289 PKPbc PKPbc 19 48 48.9 -0.7
comp=Z,2.1nm,0.6s,baz=74,slow=1.8,SNR=13
TORD Torodi Ar. Bea 152.48 289 PKPbc 19 48 49.0 -0.7

*MOS **31** 19:38:39.8±0.9,3˚.16N×96˚.25E, h10km, mb5.1/36, Error ellipse: s-maj=7.8km s-min=3.9km az=111.4*
*IDC **31** 19:38:40.2±0.4, 3˚.16N×96˚.27E, h0km, mb4.8/49, mb1 4.8/49, mb1mx4.6/64, mbtmp4.7/49, MS3.7/35, Ms1 3.7/35, ms1mx3.5/84, Error ellipse: s-maj=12.2km s-min=9.5km az=44.0*
*NEIC **31** 19:38:42.3±1.6, 3˚.12N±0˚.05×96˚.20E±0˚.08, h11km±3km, mb5.1/115, Error ellipse: s-maj=11.7km s-min=6.9km az=67.0*
*BJI **31** 19:38:43.6±0.0, 3˚.04N×96˚.16E, h44km, mb4.8/59, mB4.7/32, Ms4.3/32, Ms7 4.2/32*
*DJA **31** 19:38:45.1±0.5, 3˚N±2˚×9˚E±˚, h35km±4km, M4.7/49, mb4.9/49, mB5.2/19, MLv4.9/14, Mw(mB)4.6/19*
ISC 31 19:38:43.7±0.7, 3.10N±0˚.04×96˚.21E±0˚.04, h25km±4km, n629, σ1$06/636, mb5.0/197, MS3.8/48, 48C-14D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KCSI	Kotacane, Aceh	1.62	75	P		Pb	19 39 12.2	-0.8
LHMI	Lhok Sumawe	2.24	19			Pn	19 39 19.3	0.0
LHMI	Lhok Sumawe	2.24	19	P		Pb	19 39 22.2	-1.3
LHMI	Lhok Sumawe	2.24	19	P		Pb	19 39 23.2	-0.3
GSI	Gunungsitoli	2.25	142	Pn		Pn	19 39 20.0	+0.6
GSI	Gunungsitoli	2.25	142	P		Pn	19 39 19.9	+0.4
GSI	Gunungsitoli	2.25	142	P		Pn	19 39 20.6	+1.1
TSI	Tuntungan	2.39	80	P		Pb	19 39 25.5	-0.6
PSI	Prapat	2.73	96	Pn		Pb	19 39 29.3	-2.8
	18nm,0.3s,baz=285,slow=9.8,SNR=34							
PSI				Sn		Sn	19 39 59.4	+0.8
	52nm,0.3s,baz=315,slow=8.6,SNR=5.4							
PSI				LR		LR	19 40 39.2	
	comp=Z,1μm,19.0s,baz=287,slow=44							
MNSI	Mandailing Nat	4.08	124	P		Pn	19 39 46.6	+2.0
KULM	Kulim	4.94	64	Pn		Pn	19 39 58.1	+1.7
IPM	Ipoh	5.00	74	Pn		Pn	19 39 58.1	+0.7
IPM	Ipoh	5.00	74	P		Pn	19 40 00.6	+3.3
SISI	Saibi	5.26	147	P		Pn	19 40 02.0	+1.1
	0.3nm664nm49nm,0.8s							
PPI	Padang Panjang	5.48	130	P		Pn	19 40 05.7	+1.8
	0.3nm80nm37nm,0.6s							
BKNI	Bangkinang	5.56	120	Pn		Pn	19 40 06.2	+1.1
BKNI	Bangkinang	5.56	120	P		Pn	19 40 05.9	+0.9
	1.5nm2μm151nm,0.8s							
SRIT	Nakonsritamara	6.42	32			Pn	19 40 18.1	+1.3
PPSI	Pulau Pagai	6.96	147	P		Pn	19 40 24.8	+0.6
KRJI	Kerinci	7.36	134	P		Pn	19 40 31.3	+1.4
	1.5nm3μm290nm,0.9s							
MYKOM	Kota Tinggi	7.75	100			Pn	19 40 36.7	+1.6
PBA	Port Blair	9.16	338	Pn		Pn	19 40 53.3	-1.2
MNAI	Manna	10.02	138	Pn		Pn	19 41 06.1	-0.2
MNAI	Manna	10.02	138	P		Pn	19 41 06.1	-0.2
	3μm231nm,1.0s							
MNAI	Manna	10.02	138	P		Pn	19 41 06.9	+0.6
DGPR	DIGLIPUR	10.52	342	eP		Pn	19 41 10.3	-2.8
LWLI	Liwa	11.25	136	P		Pn	19 41 22.2	-1.0
	4μm123nm,0.7s							
KLSI		11.51	132	P		Pn	19 41 26.9	+0.2
	41nm,0.8s							
KASI	Kota Agung	11.92	136	P		Pn	19 41 30.6	-1.6
	52nm,0.8s							
CGJI	Cibinong	13.52	136	P		Pn	19 41 51.2	-3.0
	22nm,0.9s							
KSM	Kuching	14.19	96	Pn		Pn	19 42 05.5	+2.3
LEM	Lembang	15.07	131	LR		LR	19 49 05.3	
	comp=Z,645nm,18.6s,baz=300,slow=42							
COCO	West Island	15.21	178	P		P	19 42 20.8	-1.0
COCO				pmax		pmax		
	comp=Z,82nm,1.1s							
COCO	West Island	15.21	178			P	19 42 20.8	-1.0
COCO				IAmb		IAmb	19 42 35.1	
	comp=Z,82nm,1.1s							
CM31	Chiang Mai Arr	15.49	10	P		Pn	19 42 21.8	+1.0
CMAR	Chiang Mai Arr	15.49	10	Pn		Pn	19 42 22.1	+1.3
	comp=Z,1.6nm,0.3s,baz=200,slow=12,SNR=53							
CMAR				LR		LR	19 48 42.0	
	comp=Z,603nm,19.4s,baz=195,slow=39							
CMAR	Chiang Mai Arr	15.49	10	P		Pn	19 42 21.7	+0.9
CMAR	Chiang Mai Arr	15.49	10	P		Pn	19 42 21.7	+0.9
STKI	Sintang	15.56	101	P		P	19 42 24.2	-1.6
	comp=Z,821nmcomp=Z,19nm,0.9s							

CHTO Chiang Mai 15.84 10 P Pn 19 42 25.6 +0.3
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 15.84 10 Pn 19 42 25.6 +0.3
CHTO Chiang Mai 15.84 10 P P 19 42 29.1 +0.2
PALK Pallekele 15.98 286 Pn P 19 42 30.3 -0.2
comp=Z,1.0nm,0.3s,baz=206,slow=11,SNR=12
PALK Sn Sn 19 45 08.6 -15
comp=Z,5.1nm,0.3s,baz=290,slow=18,SNR=12
PALK LR LR 19 48 09.8
comp=Z,395nm,19.7s,baz=212,slow=36
PALK Pallekele 15.98 286 iP P 19 42 29.3 -1.2
PALK Pallekele 15.98 286 P Pn 19 42 25.9 -1.3
SBUM Sibu 16.01 92 P Pn 19 42 28.1 +0.6
UGM Wanagama 17.99 128 P Pn 19 42 52.4 0.0
PCJI Pacitan 18.68 127 P P 19 42 58.7 -1.6
comp=Z,29nm,1.3s
BBKI Banjar Baru 19.73 109 P Pn 19 43 13.9 +0.4
comp=Z,34nm,0.9s
KKM Kota Kinabalu 20.16 81 P P 19 43 16.9 +0.3
KKM Kota Kinabalu 20.16 81 P Pn 19 43 18.2 -0.4
KMMI Kalianget 20.40 120 P Pn 19 43 20.2 -1.0
comp=Z,5μmcomp=Z,68nm,0.9s
QIZ Qiongzhong 20.70 39 P 19 43 22.9 +0.5
QIZ Qiongzhong 20.70 39 P P 19 43 23.0 +0.7
QIZ LR LR
comp=Z,380nm,15.7s
QIZ LR LR
comp=Z,380nm,13.7s
QIZ LR LR
comp=Z,420nm,12.4s
JAGI Jajag, Banyuwa 21.27 123 P P 19 43 28.0 -0.6
SRBI Singaraja 21.98 120 P P 19 43 37.4 +1.3
comp=Z,749nmcomp=Z,76nm,0.9s
MYLDM Lahad Datu 22.33 84 P P 19 43 38.9 -1.1
MYLDM IAmb IAmb 19 43 59.4
comp=Z,98nm,1.0s
HYB Hyderabad 22.41 311 eP P 19 43 44.6 +3.8
HYBB Hyderabad (bro 22.42 311 eP P 19 43 42.0 +1.1
SHL Shillong 22.72 350 P P 19 43 40.7 -3.5
SHL pmax pmax
comp=Z,35nm,0.7s
SHL Shillong 22.72 350 P P 19 43 40.7 -3.5
SHL IAmb IAmb 19 43 43.2
comp=Z,35nm,0.7s
SHL Shillong 22.72 350 eP P 19 43 41.9 -2.2
KMI Kunming 22.78 15 ⇓P P 19 43 46.0 +1.1
KMI pP pP 19 43 51.5 0.0
KMI PP PnPn 19 44 14.8 +5.4
KMI S S 19 47 52.3 -0.4
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,99nm,5.1s
KMI LR LR
comp=Z,620nm,15.1s
KMI LR LR
comp=Z,220nm,12.7s
KMI LR LR
comp=Z,600nm,14.3s
BOK Bokaro 22.86 335 eP P 19 43 44.8 -0.7
BOK IAmb IAmb 19 43 48.5
comp=Z,54nm,0.7s
MPSI Mapaga 23.84 96 P P 19 43 56.4 +1.1
comp=Z,352nmcomp=Z,20nm,1.0s
PZH PanZhiHua 23.87 12 ⇓P P 19 43 55.5 0.0
PZH pP pP 19 44 00.8 -1.7
PZH S S 19 48 09.0 -1.4
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.7s
PZH LR LR
comp=Z,1μm,15.3s
PZH LR LR
comp=Z,920nm,14.1s
PZH LR LR
comp=Z,980nm,15.1s
PLAI Plampang 24.55 119 P P 19 44 00.1 -1.8
comp=Z,24nm,0.7s
SPSI Sidrap Palu 24.57 106 P P 19 44 02.5 +0.4
comp=Z,19nm,1.0s
TOLI2 Tolitoli 24.64 94 P P 19 44 02.5 -0.2
TOLI2 IAmb IAmb 19 44 04.7
comp=Z,56nm,0.8s
TOLI2 Tolitoli 24.64 94 P P 19 44 04.0 +1.3
KAPI Kappang 24.87 109 P P 19 44 03.6 -1.1
KAPI pmax pmax
comp=Z,22nm,0.5s
KAPI Kappang 24.87 109 P P 19 44 03.6 -1.1
KAPI IAmb IAmb 19 44 22.9
comp=Z,22nm,0.5s
BNSI Bone 25.02 107 P P 19 44 07.1 +1.0
comp=Z,30nm,0.9s
ODAN Odare 25.09 341 eP P 19 44 07.0 +0.2
comp=Z,52nm,0.6s
GYA Guiyang 25.30 22 ⇓P P 19 44 10.0 +1.4
GYA S S 19 48 35.3 +1.9
GYA pmax pmax
comp=Z,28nm,0.8s
GYA pmax pmax
comp=Z,120nm,6.1s
GYA LR LR
comp=Z,180nm,9.4s
GYA LR LR
comp=Z,130nm,7.7s
GYA LR LR
comp=Z,170nm,7.1s
BKSI Bulukumba 25.32 109 P P 19 44 10.3 +1.5
comp=Z,568nmcomp=Z,63nm,0.7s
RAMN Ramite 25.43 340 eP P 19 44 11.0 +1.0
comp=Z,80nm,0.5s
TAPN Taplejung 25.44 342 eP P 19 44 10.3 +0.2
comp=Z,100nm,0.8s
AKL Akola 25.60 315 eP P 19 44 13.6 +2.3
HKPS Hong Kong Po S 25.81 41 P P 19 44 12.1 -1.1
MRSI Marisa 25.85 95 P P 19 44 14.0 +0.3
comp=Z,352nmcomp=Z,33nm,0.8s
H08S2 Diego Garcia H 25.96 246 T T 20 10 28.1
baz=66,slow=76,SNR=1193
H08S3 Diego Garcia H 25.96 246 T T 20 10 26.2
baz=66,slow=76,SNR=770
H08S1 Diego Carcia H 25.97 246 T T 20 10 34.6
baz=66,slow=76,SNR=900
JIRN Jiri 26.23 340 eP P 19 44 17.8 +0.5
comp=Z,144nm,0.7s
WBSI Waikabubak, Su 26.34 119 P P 19 44 15.5 -2.6
PKI Pulchoki 26.43 338 eP P 19 44 18.9 -0.2
comp=Z,30nm,0.6s
PKIN Phulchoki 26.44 338 eP P 19 44 18.7 -0.4
comp=Z,36nm,0.6s
GUN Gumba 26.57 339 eP P 19 44 20.3 -0.1
comp=Z,121nm,0.6s
DMN Daman 26.58 338 eP P 19 44 21.2 +0.8
comp=Z,37nm,0.6s
KKN Kakani 26.68 338 eP P 19 44 20.9 -0.3
comp=Z,54nm,0.8s
VLK Valmikinagar 26.82 335 eP P 19 44 23.5 +1.4
LSA Lhasa 26.88 350 P P 19 44 23.3 -0.1
LSA pmax pmax
comp=Z,23nm,0.7s
LSA Lhasa 26.88 350 P P 19 44 23.3 -0.1
LSA IAmb IAmb 19 44 24.7
comp=Z,23nm,0.7s
LSA Lhasa 26.88 350 P P 19 44 23.5 +0.2
LSA pmax pmax
comp=Z,38nm,0.8s
BHPL Bhopal 27.04 319 eP P 19 44 25.6 +1.2
BHPL IAmb IAmb 19 44 31.0
comp=Z,4.7nm,0.2s
GKN Gorkha 27.11 337 eP P 19 44 25.3 +0.2
KOLN Koldanda 27.32 335 eP P 19 44 27.5 +0.5
comp=Z,84nm,0.7s
DANN Dangsing 27.77 336 eP P 19 44 31.5 +0.4
PYUN Piuthan 27.87 334 eP P 19 44 32.3 +0.4
MMRI Maumere 28.46 114 P P 19 44 35.7 -1.4
CD2 Chengdu 28.56 14 P P 19 44 37.0 -0.9
CD2 S S 19 49 30.5 +5.8
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,50nm,13.7s
CD2 LR LR
comp=Z,380nm,15.2s
CD2 LR LR
comp=Z,560nm,14.7s

ENH Enshi 29.80 24 P **P** **19 44 47.5 -1.4**
LGTI Lohaghat 30.27 332 *e*P **P** **19 44 54.0 +1.1**
PTH Pithoragarh 30.37 332 *e*P **P** **19 44 55.2 +1.2**
BATI Baumata 30.37 116 P **P** **19 44 53.2 -0.9**
comp=Z,17nm,0.4s,baz=310,slow=6.0,SNR=11
BATI Baumata 30.37 116 P **P** **19 44 50.8 -3.3**
comp=Z,14nm,0.6s
LBMI Labuha 31.50 96 P **P** **19 45 04.5 +0.4**
comp=Z,18nm,0.8s
YULB Yu-li 31.56 48 P **P** **19 45 04.1 -0.3**
DDI Dehra Dun 32.06 330 *e*P **P** **19 45 09.9 +1.0**
DDI IAmb IAmb 19 45 16.7
comp=Z,25nm,0.9s
GOMU GeErMu 32.96 358 P **P** **19 45 16.8 -0.2**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU pmax pmax
comp=Z,49nm,4.6s
GOMU LR LR
comp=Z,71nm,15.2s
GOMU LR LR
comp=Z,120nm,14.6s
GOMU LR LR
comp=Z,88nm,13.9s
XAN Xi'an 32.99 20 P **P** **19 45 16.0 -0.9**
XAN pP sP 19 45 25.5 -1.4
XAN pmax pmax
comp=Z,31nm,0.7s
XAN pmax pmax
comp=Z,76nm,6.7s
XAN LR LR
comp=Z,410nm,14.7s
XAN LR LR
comp=Z,260nm,15.6s
XAN LR LR
comp=Z,500nm,16.2s
SMLA Simla 33.16 329 *e*P **P** **19 45 19.2 +0.8**
SMLA IAmb IAmb 19 45 21.5
comp=Z,29nm,0.9s
LZH Lanzhou 33.57 11 *e*P **P** **19 45 21.8 -0.3**
LZH pmax pmax
comp=Z,21nm,1.5s
LZH LR LR
comp=Z,200nm,16.8s
LZH LR LR
comp=Z,270nm,15.2s
LZH LR LR
comp=Z,180nm,16.3s
PSA00 Pilbara Seismi 33.72 138 P **P** **19 45 21.9 -1.5**
PSA00 Pilbara Seismi 33.72 138 P **P** **19 45 22.6 -0.8**
PSA00 IAmb IAmb 19 45 24.8
comp=Z,12nm,1.0s
SIJI Sorong 35.27 96 P **P** **19 45 36.5 -0.4**
comp=Z,14nm,0.7s,baz=291,slow=7.9,SNR=7.7
NJ2 Nanjing 35.81 34 *e*P **P** **19 45 43.0 +1.7**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 LR LR
comp=Z,180nm,12.3s
NJ2 LR LR
comp=Z,290nm,12.4s
NJ2 LR LR
comp=Z,290nm,11.3s
FITZ Fitzroy Crossi 35.85 127 P **P** **19 45 41.2 -0.6**
comp=Z,7.0nm,1.0s,baz=318,slow=8.2,SNR=10
FITZ PcP **PcP** **19 48 09.4 +0.3**
comp=Z,2.2nm,0.6s,baz=295,slow=3.9,SNR=2.8
FITZ Fitzroy Crossi 35.85 127 P **P** **19 45 41.4 -0.4**
baz=36,SNR=10
FITZ Fitzroy Crossi 35.85 127 P **P** **19 45 41.0 -0.8**
GTA Gaotai 36.29 5 ⇓P **P** **19 45 45.0 -0.5**
GTA pP sP 19 45 54.3 -1.2
GTA sP pP 19 46 00.3 +7.7
GTA pmax pmax
comp=Z,16nm,0.6s
GTA pmax pmax
comp=Z,45nm,5.6s
GTA LR LR
comp=Z,140nm,13.9s
GTA LR LR
comp=Z,130nm,14.7s
GTA LR LR
comp=Z,170nm,13.9s
SAUI Saumlaki 36.70 108 P **P** **19 45 46.3 -2.9**
MORW Morawa 37.22 151 P **P** **19 45 55.8 +2.4**
baz=37,SNR=4.4
MORW Morawa 37.22 151 P **P** **19 45 55.2 +1.8**
KNRA Kununurra 37.22 121 P **P** **19 45 52.6 -1.0**
baz=37,SNR=11
KNRA Kununurra 37.22 121 P **P** **19 45 52.4 -1.2**
KNRA IAmb IAmb 19 45 53.5
comp=Z,19nm,0.9s
KNRA Kununurra 37.22 121 P **P** **19 45 52.8 -0.8**
HNS HongShan 38.13 24 ⇓P **P** **19 46 02.0 +1.1**
HNS pmax pmax
comp=Z,29nm,0.8s
MTN Manton Dam 38.13 115 P **P** **19 46 00.4 -0.9**
baz=38,SNR=13
MTN Manton Dam 38.13 115 P **P** **19 46 00.4 -0.9**
MTN IAmb IAmb 19 46 01.2
comp=Z,19nm,0.6s
JOW Kunigami 38.72 49 LR LR 20 03 13.4
comp=Z,46nm,18.8s,baz=156,slow=38
BLDU Ballidu 38.82 151 P **P** **19 46 07.9 +1.0**
KDU Kakadu 39.29 114 P **P** **19 46 10.4 -0.6**
baz=39,SNR=5.2
MUN Mundaring 39.73 153 P **P** **19 46 16.6 +2.1**
baz=40,SNR=6.5
MUN Mundaring 39.73 153 P **P** **19 46 16.7 +2.3**
HHC Hu-ho-hao-te 40.05 18 *e*P **P** **19 46 19.5 +2.4**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.9s
HHC LR LR
comp=Z,340nm,14.0s
HHC LR LR
comp=Z,190nm,11.4s
HHC LR LR
comp=Z,290nm,14.4s
KLBR Kellerberrin 40.13 151 P **P** **19 46 19.4 +1.6**
baz=40,SNR=9.4
KLBR Kellerberrin 40.13 151 P **P** **19 46 19.4 +1.6**
KSH Kashi 40.64 336 P **P** **19 46 20.8 -1.3**
KSH pmax pmax
comp=Z,21nm,0.9s
BJT Baijiatuao 40.96 24 P **P** **19 46 24.6 +0.1**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuao 40.96 24 P **P** **19 46 24.6 +0.1**
BJT IAmb IAmb 19 46 27.1
comp=Z,13nm,0.6s
BJI Beijing 40.98 24 P **P** **19 46 25.8 +1.2**
BJI pmax pmax
comp=Z,18nm,0.6s
BJI LR LR
comp=Z,110nm,11.3s
BJI LR LR
comp=Z,90nm,12.6s
BJI LR LR
comp=Z,94nm,13.2s
WMQ Urumqi 41.24 351 *e*P **P** **19 46 28.3 +1.4**
WMQ pP pP 19 46 33.8 -0.3
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.7s
H01W3 Cape Leeuwin H 41.37 157 T T 20 30 05.7
baz=333,slow=76,SNR=10.0
H01W2 Cape Leeuwin H 41.38 157 T T 20 30 09.3
baz=333,slow=76,SNR=12
H01W1 Cape Leeuwin H 41.39 157 T T 20 30 13.0
baz=333,slow=76,SNR=13
WSAR Wadi Sarin 41.49 302 P **P** **19 46 31.2 +2.0**
comp=Z,5.0nm,0.8s,baz=98,slow=7.1,SNR=3.8
WSAR LR LR 20 03 16.3
comp=Z,47nm,19.0s,baz=132,slow=36
WRKA Warakurna 41.86 134 P **P** **19 46 32.6 +0.4**
baz=42,SNR=6.1
WRKA Warakurna 41.86 134 P **P** **19 46 32.8 +0.6**
KDJ Kajisay 42.43 339 P **P** **19 46 37.4 +0.7**
KDJ pmax pmax
comp=Z,29nm,0.8s
KDJ Kajisay 42.43 339 P **P** **19 46 37.4 +0.7**
KDJ IAmb IAmb 19 46 39.2
comp=Z,29nm,0.8s

DRK Karamyk 42.45 332 P **P** **19 46 38.1 +0.9**
SHLS Shalkode 42.58 342 *e*P **P** **19 46 36.9 -0.9**
SHLS Shalkode 42.58 342 *e*P **P** **19 46 37.0 -0.9**
baz=342
UZB Uzynbulak 42.71 341 *e*P **P** **19 46 39.0 +0.1**
UZB pmax pmax
comp=Z,6.0nm,0.4s
UZB Uzynbulak 42.71 341 *e*P **P** **19 46 39.1 +0.1**
comp=Z,6.5nm,0.4s,baz=341
PDGK Podgornoye 42.72 342 P **P** **19 46 38.8 -0.3**
SOCY Socotra 42.75 285 P **P** **19 46 38.9 -0.8**
GAR Garm 42.80 330 P **P** **19 46 39.2 -0.6**
GAR IAmb IAmb 19 46 54.5
comp=Z,26nm,0.7s
SATY Saty 42.83 341 *e*P **P** **19 46 40.1 +0.2**
SATY pmax pmax
comp=Z,8.0nm,0.6s
SATY Saty 42.83 341 *e*P **P** **19 46 40.1 +0.2**
comp=Z,7.7nm,0.6s,baz=341
ULHL Ulahol 42.87 338 P **P** **19 46 41.2 +0.8**
SNR=7.3
ZHN Zhinishke 42.91 341 *e*P **P** **19 46 40.8 +0.2**
ZHN Zhinishke 42.91 341 *e*P **P** **19 46 40.9 +0.2**
baz=341
KPKS Kokpek 43.10 341 *e*P **P** **19 46 42.3 +0.2**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 43.10 341 *e*P **P** **19 46 42.4 +0.2**
comp=Z,7.9nm,0.7s,baz=341
CHGR Chuyangaron 43.13 329 P **P** **19 46 41.8 -0.7**
CHGR IAmb IAmb 19 46 43.0
comp=Z,38nm,0.8s
BOOM Boomskoye usch 43.19 338 P **P** **19 46 43.6 +0.6**
BOOM pmax pmax
comp=Z,17nm,0.8s
BOOM Boomskoye usch 43.19 338 P **P** **19 46 43.6 +0.6**
TNSS Tian-Shan 43.30 339 *e*P **P** **19 46 44.0 -0.1**
baz=339
BTK Batken 43.38 331 P **P** **19 46 44.4 0.0**
BTK pmax pmax
comp=Z,59nm,1.3s
BTK Batken 43.38 331 P **P** **19 46 44.4 0.0**
BTK IAmb IAmb 19 46 46.8
comp=Z,59nm,1.3s
MDOK Medeo 43.38 340 P **P** **19 46 44.9 +0.5**
MDOK Medeo 43.38 340 *i* P **P** **19 46 44.7 +0.3**
baz=340
AAA Alma-Ata 43.47 339 *e*P **P** **19 46 45.5 +0.5**
AAA pmax pmax
comp=Z,19nm,0.6s
AAA Alma-Ata 43.47 339 *e*P **P** **19 46 45.5 +0.5**
comp=Z,19nm,0.6s,baz=339
TKM2 Tokmak 2 43.69 338 P **P** **19 46 47.9 +0.9**
SNR=22
KBK Karagaybulak 43.71 337 P **P** **19 46 48.6 +1.5**
SNR=55
TJN Taejon 43.83 37 P **P** **19 46 47.6 -0.4**
TJN pmax pmax
comp=Z,82nm,0.6s
TJN Taejon 43.83 37 P **P** **19 46 47.6 -0.4**
WB0 Warramunga Arr 43.86 123 P **P** **19 46 47.7 -0.7**
WB0 IAmb IAmb 19 46 49.3
comp=Z,16nm,0.7s
AAK Ala-Archa 43.87 337 P **P** **19 46 49.2 +0.8**
comp=Z,17nm,0.7s,baz=158,slow=7.9,SNR=88
AAK LR LR 20 06 34.2
comp=Z,134nm,21.3s,baz=151,slow=38
AAK Ala-Archa 43.87 337 P **P** **19 46 48.7 +0.2**
AAK IAmb IAmb 19 46 51.4
comp=Z,18nm,0.7s
WRA Warramunga Arr 43.89 123 P **P** **19 46 48.9 +0.2**
comp=Z,15nm,1.0s,baz=300,slow=9.2,SNR=42
WRA PcP **PcP** **19 48 35.3 +0.5**
comp=Z,2.7nm,0.7s,baz=316,slow=2.5,SNR=4.8
WRA Warramunga Arr 43.89 123 P **P** **19 46 47.5 -1.2**
WRAB Tennant Creek 43.90 123 P **P** **19 46 48.5 -0.2**
WRAB pmax pmax
comp=Z,16nm,0.7s
WRAB Tennant Creek 43.90 123 P **P** **19 46 48.5 -0.2**
WRAB IAmb IAmb 19 47 06.5
comp=Z,16nm,0.7s
WRAB Tennant Creek 43.90 123 P **P** **19 46 49.3 +0.6**
WB2 Warramunga Arr 43.90 123 P **P** **19 46 47.7 -1.1**
FRU1 Bishkek 43.97 337 P **P** **19 46 49.2 +0.1**
FRU1 pmax pmax
comp=Z,20nm,1.0s
FRU1 Bishkek 43.97 337 P **P** **19 46 49.2 +0.1**
FRU1 IAmb IAmb 19 46 57.2
comp=Z,20nm,1.0s
CHKK Chushkaly 44.01 340 *e*P **P** **19 46 48.8 -0.5**
baz=340
ARXS Arharly 44.05 341 *e*P **P** **19 46 50.0 +0.3**
WR0 Warramunga Arr 44.07 123 P **P** **19 46 49.9 -0.2**
WR0 IAmb IAmb 19 46 51.3
comp=Z,23nm,0.8s
JNU Nakatsue 44.08 43 LR LR 20 06 31.4
comp=Z,100nm,19.5s,baz=248,slow=38
JNU Nakatsue 44.08 43 P **P** **19 46 49.3 -0.7**
JNU IAmb IAmb 19 47 06.7
comp=Z,59nm,1.6s
CHMS Chumysh 44.08 337 P **P** **19 46 51.0 +1.1**
SNR=8.9
EKS2 Erkin-Say 44.18 336 P **P** **19 46 52.4 +1.5**
SNR=7.6
KUU Kurty 44.27 339 *i* P **P** **19 46 51.1 -0.2**
KUU pmax pmax
comp=Z,17nm,0.9s
KUU Kurty 44.27 339 *i* P **P** **19 46 51.2 -0.2**
comp=Z,17nm,0.9s,baz=339
XLT XiLinHaoTe 44.28 21 *e*P **P** **19 46 52.8 +1.3**
XLT S **S** **19 53 27.8 +3.8**
XLT pmax pmax
comp=Z,12nm,0.6s
XLT pmax pmax
comp=Z,140nm,5.1s
XLT LR LR
comp=Z,49nm,18.7s
XLT LR LR
comp=Z,260nm,18.1s
XLT LR LR
comp=Z,520nm,17.3s
HRA Herat 44.34 319 P **P** **19 46 52.5 +0.1**
USP Ospenovka 44.41 337 P **P** **19 46 53.9 +1.3**
SNR=9.0
SGDS Segindy 44.51 338 *e*P **P** **19 46 53.6 +0.2**
baz=338
TDK Taldyqorghan 44.57 342 *e*P **P** **19 46 53.5 -0.2**
TDK Taldyqorghan 44.57 342 *e*P **P** **19 46 53.6 -0.2**
baz=342
KSAR Wonju Array Be 44.85 36 P **P** **19 46 55.8 -0.3**
KSAR Wonju Array Be 44.85 36 P **P** **19 46 55.8 -0.3**
KS19 Wonju Array Si 44.88 36 P **P** **19 46 55.3 -1.1**
KSRS Korea Array 44.88 36 P **P** **19 46 55.9 -0.5**
comp=Z,3.1nm,0.7s,baz=231,slow=9.1,SNR=15
KSRS PcP **PcP** **19 48 38.0 +0.2**
comp=Z,1.5nm,0.7s,baz=236,slow=3.3,SNR=5.6
KSRS LR LR 20 08 08.7
comp=Z,173nm,18.5s,baz=220,slow=40
MK31 Makanchi Array 45.17 347 P **P** **19 46 58.3 -0.3**
MK31 pmax pmax
comp=Z,21nm,0.5s
MK31 Makanchi Array 45.17 347 P **P** **19 46 58.3 -0.3**
MKAR Makanchi Array 45.17 347 P **P** **19 46 58.7 +0.2**
comp=Z,22nm,0.4s,baz=156,slow=9.1,SNR=466
MKAR LR LR 20 08 58.7
comp=Z,84nm,19.9s,baz=162,slow=40
MKAR Makanchi Array 45.17 347 P **P** **19 46 58.3 -0.3**
ZSN Zaisan 45.25 349*c i*P **P** **19 46 59.5 +0.4**
ZSN Zaisan 45.25 349⇑*i*P **P** **19 46 59.6 +0.4**
baz=349
MAKZ Makanchi 45.26 346 P **P** **19 46 58.6 -0.6**
MAKZ pmax pmax
comp=Z,19nm,0.9s
MAKZ Makanchi 45.26 346 P **P** **19 46 58.6 -0.6**
MAKZ IAmb IAmb 19 46 59.8
comp=Z,19nm,0.8s
ASAR Alice Springs 45.34 128 P **P** **19 47 00.4 +0.2**
comp=Z,5.9nm,0.7s,baz=299,slow=7.9,SNR=94
ASAR PcP **PcP** **19 48 40.3 +0.6**
comp=Z,2.7nm,0.7s,baz=298,slow=2.9,SNR=11
ASAR LR LR 20 09 37.8
comp=Z,112nm,18.2s,baz=314,slow=41
ASAR Alice Springs 45.34 128 P **P** **19 46 59.1 -1.1**
ASAR PcP **PcP** **19 48 39.6 -0.1**
AS31 Alice Springs 45.34 128 P **P** **19 46 59.8 -0.4**
FORT Forrest 45.36 140 P **P** **19 47 01.9 +1.6**
baz=46,SNR=8.4
FORT Forrest 45.36 140 P **P** **19 47 01.2 +0.9**
FORT Forrest 45.36 140 P **P** **19 47 01.9 +1.6**
IUG Iuzhnay 45.38 333 *e*P **P** **19 47 00.7 +0.3**
IUG Iuzhnay 45.38 333 *e*P **P** **19 47 00.7 +0.3**
baz=332
DZA Taraz 45.39 334 *e*P **P** **19 47 00.7 +0.3**
DZA pmax pmax
comp=Z,11nm,0.6s
DZA Taraz 45.39 334 *e*P **P** **19 47 00.7 +0.3**
comp=Z,11nm,0.6s,baz=334
SONM Songino Array 45.42 10 P **P** **19 47 00.8 +0.2**
comp=Z,32nm,0.7s,baz=189,slow=9.1,SNR=111
SONM PcP **PcP** **19 48 40.3 +0.7**
comp=Z,5.9nm,0.6s,baz=192,slow=3.4,SNR=8.7
SONM Songino Array 45.42 10 P **P** **19 47 00.2 -0.4**
SONM IAmb IAmb 19 47 02.1
comp=Z,30nm,0.8s
SONM PcP **PcP** **19 48 40.5 +0.9**
ULN Ulaanbaatar 45.56 10*ce*P **P** **19 47 02.0 +0.2**
ULN pmax pmax
comp=Z,18nm,0.8s
ULN Ulaanbaatar 45.56 10 P **P** **19 47 01.5 -0.3**
ULN IAmb IAmb 19 47 02.7
comp=Z,15nm,0.7s
ULN PcP **PcP** **19 48 40.0 -0.1**
KKAR Karatay Array 45.92 334 P **P** **19 47 04.5 0.0**
KKAR Karatay Array 45.92 334 P **P** **19 47 04.5 0.0**
BTLS Baital 46.09 338*c i*P **P** **19 47 06.1 +0.3**
BTLS pmax pmax
comp=Z,9.0nm,0.8s
BTLS Baital 46.09 338⇑*i*P **P** **19 47 06.1 +0.3**
comp=Z,9.1nm,0.8s,baz=338
JHS Saijyo 46.67 43 P **P** **19 47 10.6 0.0**
JHS IAmb IAmb 19 47 11.9
comp=Z,12nm,0.8s
KNGR Kungurtug, Tuv 47.35 1 *i* P **P** **19 47 15.6 -0.1**
ZAK Zakamensk 47.49 6 *e*P **P** **19 47 16.7 -0.1**
ZAK pmax pmax
comp=Z,13nm,1.0s
MOY Mondy 48.56 4 *e*P **P** **19 47 25.3 +0.2**
QIS Mount Isa 48.62 121 P **P** **19 47 26.6 +0.7**
baz=49,SNR=5.9
QIS Mount Isa 48.62 121 P **P** **19 47 27.1 +1.2**
OOD Oodnadatta 48.87 132 P **P** **19 47 28.4 +0.7**
SEM Semipalatinsk 49.03 347*c i*P **P** **19 47 28.3 -0.5**
SEM pmax pmax
comp=Z,11nm,0.9s
SEM Semipalatinsk 49.03 347⇑*i*P **P** **19 47 28.4 -0.5**
comp=Z,11nm,0.9s,baz=346
MULG Mulgathing 49.08 135 P **P** **19 47 29.8 +0.5**
GEYT Alibeck 49.13 320 P **P** **19 47 30.4 +0.8**
comp=Z,30nm,0.6s,baz=158,slow=9.3,SNR=72
GEYT Alibeck 49.13 320 P **P** **19 47 30.3 +0.7**
GYA0B ALIBECK ARRAY 49.13 320 P **P** **19 47 30.4 +0.8**
GUMO Guam 49.17 75 LR LR 20 07 40.8
comp=Z,68nm,20.8s,baz=211,slow=36
OTUK Ortayu 49.43 339 P **P** **19 47 32.1 +0.4**
IRK Irkutsk 49.44 7 *e*P **P** **19 47 29.6 -2.0**
IRK pmax pmax
comp=Z,27nm,2.1s
COEN Coen 49.56 111 P **P** **19 47 32.9 -0.3**
KURBB Kurchatov Arra 49.65 345 P **P** **19 47 33.6 +0.3**
comp=Z,30nm,0.6s,baz=166,slow=6.9,SNR=395
KURBB PcP **PcP** **19 48 54.9 +0.5**
comp=Z,4.4nm,0.8s,baz=155,slow=3.3,SNR=4.7
KURBB Kurchatov Arra 49.65 345 P **P** **19 47 32.8 -0.5**
KURK Kurchatov 49.71 345 P **P** **19 47 33.6 -0.1**
KURK **19 48 54.9**
KURK Kurchatov 49.71 345 P **P** **19 47 33.2 -0.5**
JCJ Chichijima 49.99 57 LR LR 20 06 56.3
comp=Z,32nm,20.9s,baz=125,slow=34
HIA Hailar 50.19 20 P **P** **19 47 37.6 +0.2**
HIA pmax pmax
comp=Z,15nm,1.0s
HIA Hailar 50.19 20 P **P** **19 47 37.6 +0.2**
HIA IAmb IAmb 19 47 39.1
comp=Z,15nm,1.0s
BNX BinXian 50.47 28 ⇓P **P** **19 47 39.3 -0.3**
BNX pmax pmax
comp=Z,24nm,0.7s
BNX pmax pmax
comp=Z,180nm,3.8s
JHJ Hachijo jima 2 50.48 49 LR LR 20 08 02.8
comp=Z,23nm,20.8s,baz=270,slow=35
MDJ Mudanjiang 50.72 31 P **P** **19 47 42.5 +1.0**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,99nm,6.5s
BRZS Berezniki 50.80 341 *e*P **P** **19 47 41.7 -0.3**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 50.80 341 *e*P **P** **19 47 41.7 -0.3**
comp=Z,9.4nm,0.9s,baz=340
MJAR Matsushiro Arr 50.99 44 P **P** **19 47 43.7 0.0**
comp=Z,1.3nm,0.7s,baz=166,slow=11,SNR=4.8
MJAR PcP **PcP** **19 49 00.2 +0.4**
comp=Z,3.7nm,0.8s,baz=252,slow=10,SNR=9.1
MJAR LR LR 20 11 37.0
comp=Z,59nm,18.0s,baz=200,slow=39
ZAA0 Zalesovo Array 51.54 351 P **P** **19 47 46.8 -0.7**
ZAA0 IAmb IAmb 19 47 48.3
comp=Z,24nm,0.6s
ZALV Zalesovo Beam 51.54 351 P **P** **19 47 47.7 +0.2**
comp=Z,22nm,0.5s,baz=176,slow=7.2,SNR=144
ZALV PcP **PcP** **19 49 01.3 -0.1**
comp=Z,1.9nm,0.5s,baz=175,slow=4.6,SNR=0.8
ZALV Zalesovo Beam 51.54 351 P **P** **19 47 47.0 -0.4**
USRK Ussuriysk Ar. 51.69 32 P **P** **19 47 49.1 +0.4**
comp=Z,4.2nm,0.6s,baz=220,slow=3.9,SNR=6.8
USRK Ussuriysk Ar. 51.69 32 P **P** **19 47 48.3 -0.4**
BBOO Buckleboo 51.94 137 P **P** **19 47 51.4 +0.5**
baz=52,SNR=5.8
BBOO Buckleboo 51.94 137 P **P** **19 47 51.3 +0.5**
LCRK Leigh Creek 52.15 133 P **P** **19 47 53.3 +0.9**
PMG Port Moresby 52.27 104*ce*P **P** **19 47 54.0 +0.4**
PMG pmax pmax
comp=Z,14nm,0.7s
PMG Port Moresby 52.27 104 P **P** **19 47 52.8 -0.8**
PMG IAmb IAmb 19 47 55.0
comp=Z,15nm,0.7s
OPO Ambohidratompo 52.83 244 P **P** **19 47 59.4 +1.5**
comp=Z,3.4nm,0.7s,baz=66,slow=10.0,SNR=2.4
RAYN Ar Rayn 53.00 297 P **P** **19 47 58.8 -0.2**
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 53.00 297 P **P** **19 47 58.8 -0.2**
BVAR Borovoye Array 54.14 341 P **P** **19 48 06.7 0.0**
comp=Z,5.0nm,0.5s,baz=200,slow=17,SNR=44
BRVK Borovoye 54.20 341*ce*P **P** **19 48 07.0 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,0.6s
BRVK Borovoye 54.20 341 P **P** **19 48 06.2 -0.9**
BRVK IAmb IAmb 19 48 07.8
comp=Z,13nm,0.7s
CTA Charters Tower 54.25 117 LR LR 20 13 46.7
comp=Z,52nm,18.1s,baz=276,slow=39
HTT Hallett 54.27 136 P **P** **19 48 08.8 +0.8**
baz=54,SNR=5.4
QLP Quilpie 54.97 126 P **P** **19 48 14.3 +1.1**
baz=55,SNR=8.1
KLR Kul'dur 55.03 28 P **P** **19 48 13.8 +0.5**
comp=Z,21nm,0.8s,baz=243,slow=8.3,SNR=70
KLR LR LR 20 15 16.6
comp=Z,97nm,18.9s,baz=6.0,slow=40
STKA Stephens Creek 55.37 133 P **P** **19 48 16.0 0.0**
comp=Z,7.9nm,0.7s,baz=306,slow=7.6,SNR=20
STKA LR LR 20 15 58.3
comp=Z,121nm,18.2s,baz=224,slow=40
STKA Stephens Creek 55.37 133 P **P** **19 48 16.6 +0.6**
baz=55,SNR=13
STKA Stephens Creek 55.37 133 P **P** **19 48 14.9 -1.1**
AB31 Akbulak array 55.38 332 *i* P **P** **19 48 15.4 -0.4**
ABKAR Akbulak array 55.38 332 P **P** **19 48 15.9 +0.1**
ABKAR Akbulak array 55.38 332 P **P** **19 48 15.8 0.0**
ABKAR IAmb IAmb 19 48 17.0
comp=Z,19nm,0.9s
BOD Bodaibo 56.34 11 *e*P **P** **19 48 22.6 +0.1**
BOD pmax pmax
comp=Z,14nm,0.8s
ZEA Zeya 56.53 22 *e*P **P** **19 48 24.8 +0.9**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.9s

ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=E,400nm,16.0s
ZEA MLR MLR
comp=N,500nm,22.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
AKTO Aktyubinsk 57.10 332 P **P** **19 48 27.8 -0.3**
comp=Z,7.4nm,0.7s,baz=128,slow=7.8,SNR=26
ASAJ Asahikawa 57.77 38 P **P** **19 48 32.8 -0.1**
comp=Z,3.0nm,0.6s,baz=329,slow=5.6,SNR=5.5
ASAJ LR LR 20 14 04.9
comp=Z,68nm,19.4s,baz=214,slow=37
CMSA Cobar Meteorol 58.27 130 P **P** **19 48 37.6 +0.9**
baz=58,SNR=36
RMQ Roma 58.65 124 P **P** **19 48 41.3 +1.9**
baz=59,SNR=5.1
KMBO Kilima Mbogo 59.08 267 P **P** **19 48 43.6 +0.7**
comp=Z,0.3nm,0.3s,baz=68,slow=9.6,SNR=4.0
GNI Garni 59.24 316 P **P** **19 48 44.0 +0.5**
comp=Z,11nm,1.1s,baz=159,slow=16,SNR=3.1
GNI Garni 59.24 316 P **P** **19 48 44.0 +0.5**
YSS Yuzh-Sakhalins 59.36 35 *eP* **P** **19 48 42.7 -1.2**
YSS pmax pmax
comp=Z,20nm,1.3s
GROC Groznyy 59.87 319 *eP* **P** **19 48 47.0 -0.5**
GROC *e* 19 49 33.0
GROC pmax pmax
comp=Z,36nm,1.0s
GURO Guroymak-BITLI 60.55 313 P **P** **19 48 53.2 +0.7**
GURO IAmb IAmb 19 48 54.4
comp=Z,12nm,1.0s
SVE Sverdlovsk 60.56 338⇓ *eP* **P** **19 48 51.6 -0.4**
SVE pmax pmax
comp=Z,23nm,0.8s
KARS Kars 60.60 316 P **P** **19 48 52.1 -0.7**
KARS pmax pmax
comp=Z,38nm,1.1s
KARS Kars 60.60 316 P **P** **19 48 52.1 -0.7**
LODK Lodwar 60.74 272 P **P** **19 48 52.8 -1.3**
ZEI Tsey 60.93 318 *eP* **P** **19 48 54.7 -0.4**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 61.05 337 P **P** **19 48 54.7 -0.6**
comp=Z,2.1nm,0.5s,baz=130,slow=2.3,SNR=16
ARU LR LR 20 18 38.7
comp=Z,48nm,18.1s,baz=134,slow=39
ARU Arti 61.05 337*c i* P **P** **19 48 54.8 -0.6**
ARU 19 49 38.5
ARU 19 52 34.5
ARU PPP PPP
ARU S **S** **19 57 12.3 -0.3**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU Arti 61.05 337 P **P** **19 48 54.2 -1.1**
ARU IAmb IAmb 19 48 55.8
comp=Z,9.4nm,0.8s
ONI Oni 61.15 318 P **P** **19 48 56.1 -0.2**
ONI pmax pmax
comp=Z,35nm,2.0s
ONI Oni 61.15 318 P **P** **19 48 56.1 -0.2**
ONI IAmb IAmb 19 49 11.2
comp=Z,35nm,2.0s
TYV Tymovskoe 61.47 32 *eP* P 19 49 04.6 +6.3
TYV *eS* S 19 57 30.3 +12
TYV pmax pmax
comp=Z,6.0nm,1.0s
TYV pmax pmax
comp=Z,400nm,6.7s
TYV smax smax
comp=N,600nm,8.7s
TYV smax smax
comp=E,200nm,8.7s
KBZ Khabaz 61.99 319 P **P** **19 49 01.9 0.0**
comp=E,11nm,0.9s,baz=121,slow=6.2,SNR=36
KBZ Khabaz 61.99 319*ce*P **P** **19 49 02.2 +0.3**
KBZ pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 62.23 319 *eP* **P** **19 49 04.2 +0.6**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 62.23 319 P **P** **19 49 03.3 -0.4**
KIV IAmb IAmb 19 49 05.0
comp=Z,18nm,0.9s
GOF Gofitskoye 62.47 320⇑ *eP* **P** **19 49 04.9 -0.2**
YAK Yakutsk 63.89 17 P **P** **19 49 13.5 -0.7**
comp=Z,12nm,0.3s,baz=216,slow=1.8,SNR=22
YAK LR LR 20 18 08.9
comp=Z,64nm,21.9s,baz=266,slow=37
YAK Yakutsk 63.89 17 *eP* **P** **19 49 13.1 -1.1**
YAK *e* 19 49 47.0
YAK *e* 19 51 31.1
YAK *e*PPP PPP 19 53 04.8
YAK *e*S **S** **19 57 44.8 -3.3**
YAK *e**SS sS 19 58 11.6 +11
YAK *e* 19 59 02.6
YAK *e*SS **SS** **20 01 55.0 -1.7**
YAK *e*SSS SSS 20 04 39.5
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,81nm,4.6s
YAK pmax pmax
comp=N,62nm,3.9s
YAK pmax pmax
comp=E,66nm,3.3s
YAK smax smax
comp=E,23nm,2.0s
YAK smax smax
comp=N,29nm,2.2s
YAK Yakutsk 63.89 17 P **P** **19 49 13.3 -0.9**
MMAI Mount Meron Ar 64.00 305 LR LR 20 18 21.8
comp=N,57nm,21.5s,baz=257,slow=37
SOC Sochi 64.05 318 *eP* **P** **19 49 14.2 -1.4**
SOC *e* 19 51 34.5
SOC *e*PPP PPP 19 53 05.4
SOC *e*S **S** **19 57 49.2 -1.6**
SOC *e*SS **SS** **20 01 59.4 -0.6**
SOC pmax pmax
comp=Z,13nm,0.6s
BNN Bunyan 65.22 312 P **P** **19 49 23.9 +0.4**
VRH Novokhopyorsk 66.00 326 *eP* **P** **19 49 27.1 -1.0**
VRH pmax pmax
comp=Z,30nm,0.6s
KIRV Kirov 66.18 335 P **P** **19 49 29.0 -0.1**
comp=Z,12nm,0.5s,baz=229,slow=1.7,SNR=6.5
NRIK Noril'sk 66.38 357 P **P** **19 49 29.7 -0.5**
comp=Z,6.8nm,0.5s,baz=167,slow=5.2,SNR=8.6
NRIK Noril'sk 66.38 357*ce*P **P** **19 49 29.9 -0.3**
NRIK pmax pmax
comp=Z,9.0nm,0.8s
NRIK Noril'sk 66.38 357 P **P** **19 49 29.7 -0.5**
NRIK IAmb IAmb 19 49 42.0
comp=Z,8.9nm,0.7s
BR131 Keskin Array S 67.11 312 P **P** **19 49 35.4 -0.2**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 67.11 312 P **P** **19 49 35.4 -0.2**
BR131 IAmb IAmb 19 49 57.5
comp=Z,8.9nm,0.8s
BRTR Keskin Array B 67.11 312 P **P** **19 49 35.3 -0.3**
comp=Z,4.4nm,0.8s,baz=130,slow=7.3,SNR=24
BRTR Keskin Array B 67.11 312 P **P** **19 49 34.7 -0.9**
VORD Divnogorie 67.27 325 *eP* **P** **19 49 35.6 -0.6**
VORD pmax pmax
comp=Z,20nm,0.6s
BZK Bozkurt 67.47 314 P **P** **19 49 37.6 -0.1**
VORR Voronezh 67.62 326 *eP* **P** **19 49 37.5 -0.9**
VORR pmax pmax
comp=Z,20nm,0.4s
LPSR Galich'ya Gora 68.17 326 *eP* **P** **19 49 41.4 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
SIM Simferopol' 68.30 318 *eP* **P** **19 49 43.5 +0.6**
SIM pmax pmax
comp=Z,88nm,1.1s
MDUB Mudurnu 69.11 312 P **P** **19 49 48.4 +0.2**
ELL Elmali 69.24 308 P **P** **19 49 48.9 -0.2**
ELL pmax pmax
comp=Z,51nm,0.8s
ELL Elmali 69.24 308 P **P** **19 49 48.9 -0.2**
PRGR Permogore 69.51 337 *eP* **P** **19 49 48.4 -1.6**
PRGR pmax pmax
comp=Z,12nm,0.5s
LSZ Lusaka 69.72 253 P **P** **19 49 53.2 +0.9**
comp=Z,2.3nm,0.6s,baz=92,slow=5.7,SNR=9.4
LSZ LR LR 20 15 14.1
comp=Z,54nm,19.9s,baz=135,slow=31
MA2 Magadan 70.07 26 P **P** **19 49 53.6 +0.1**
comp=Z,4.7nm,0.6s,baz=239,slow=5.9,SNR=4.9
MA2 LR LR 20 25 27.3
comp=Z,54nm,18.8s,baz=261,slow=40
MA2 Magadan 70.07 26*ce*P **P** **19 49 54.3 +0.8**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 70.07 26 P **P** **19 49 52.5 -1.0**
MA2 IAmb IAmb 19 50 03.7
comp=Z,11nm,0.7s
MOS Moscow 70.20 329 *eP* **P** **19 49 52.5 -1.9**
MATP Matopo 70.33 247 P **P** **19 49 57.0 +0.9**
comp=Z,4.9nm,0.8s,baz=64,slow=8.0,SNR=11
MATP LR LR 20 14 57.7
comp=Z,29nm,21.6s,baz=102,slow=31
OBN Obninsk 70.49 328 P **P** **19 49 56.3 +0.1**
comp=Z,3.2nm,0.5s,baz=39,slow=6.6,SNR=5.8
OBN Obninsk 70.49 328*ce*P **P** **19 49 55.9 -0.2**
OBN *e* 19 50 17.4
OBN *e* 19 52 34.8
OBN *e*SS SS 20 03 45.0 +5.9
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,33nm,14.0s
OBN Obninsk 70.49 328 P **P** **19 49 55.3 -0.8**
MANT Manisa 70.65 310 P **P** **19 49 57.0 -0.8**
MANT IAmb IAmb 19 49 58.8
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 70.72 34 LR LR 20 24 14.3
comp=Z,49nm,18.5s,baz=204,slow=39
KARP Karpathos 71.19 306 P **P** **19 50 01.3 +0.4**
TIXI Tiksi 71.50 10 P **P** **19 50 01.0 -1.0**
comp=Z,8.5nm,0.9s,baz=274,slow=22,SNR=36
TIXI Tiksi 71.50 10*ce*P **P** **19 50 01.0 -1.0**
TIXI pmax pmax
comp=Z,17nm,1.7s
TIXI Tiksi 71.50 10 P **P** **19 49 60.0 -2.0**
TIXI IAmb IAmb 19 50 11.5
comp=Z,7.1nm,0.7s
KLMR Klimovskoe 71.62 334 *eP* **P** **19 49 58.8 -4.1**
KLMR *e* 19 50 18.4
KLMR pmax pmax
comp=Z,15nm,0.9s
KLMR Klimovskoe 71.62 334 *eP* **P** **19 49 58.8 -4.1**
KLMR AMP 19 50 03.7
comp=Z,15nm,0.9s
KLMR *e*PcP **PcP** **19 50 18.4 -3.7**
PSN Preselentsi 72.05 315 *eP* **P** **19 50 06.3 +0.4**
TIRR Tirgusor 72.07 316⇑ P **P** **19 50 06.2 +0.2**
TIRR Tirgusor 72.07 316 P **P** **19 50 05.8 -0.2**
TIRR pmax pmax
comp=Z,36nm,0.8s
TIRR Tirgusor 72.07 316 P **P** **19 50 05.8 -0.2**
TPGR Topolog 72.16 316⇑ P **P** **19 50 06.5 -0.1**
MILM Milestii Mici 72.41 318⇓ P **P** **19 50 08.0 0.0**
SEY Seymchan 72.42 23 P **P** **19 50 07.9 +0.2**
comp=Z,1.2nm,0.4s,baz=249,slow=4.2,SNR=8.7
SEY Seymchan 72.42 23*ce*P **P** **19 50 09.1 +1.4**
SEY pmax pmax
comp=Z,5.0nm,1.7s
ICOR Ion Corvin 72.42 315⇑ P **P** **19 50 08.8 +0.7**
CFR Carcaliu 72.44 317⇑ P **P** **19 50 08.2 +0.1**
HARR Harsova 72.46 316⇓ P **P** **19 50 08.9 +0.6**
PRD Provadia 72.50 314 *eP* **P** **19 50 08.6 0.0**
VLDR Vladesti 72.63 317⇓ P **P** **19 50 10.1 +0.8**
IDI Anoyia 72.98 306⇑ P **P** **19 50 12.5 +0.7**
IDI Anoyia 72.98 306 LR LR 20 26 08.0
comp=Z,27nm,20.4s,baz=86,slow=39
IDI Anoyia 72.98 306 P **P** **19 50 11.4 -0.4**
IDI IAmb IAmb 19 50 13.1
comp=Z,12nm,0.8s
SORM Soroca 73.02 320⇑ P **P** **19 50 11.3 -0.2**
AKASG Malin Array Be 73.15 322 P **P** **19 50 12.1 -0.2**
comp=Z,13nm,0.6s,baz=90,slow=4.7,SNR=51
AKASG Malin Array Be 73.15 322 P **P** **19 50 11.8 -0.5**
AKBB Malin Array Si 73.15 322*ce*P **P** **19 50 12.0 -0.3**
AKBB Malin Array Si 73.15 322 P **P** **19 50 11.6 -0.7**
AKBB IAmb IAmb 19 50 12.7
comp=Z,17nm,0.7s
VRI Vrincioaia 73.56 317⇑ P **P** **19 50 16.0 +1.2**
PLOR Plostina 73.61 317⇓ P **P** **19 50 16.3 +1.1**
TESR Tescani 73.75 318⇑ P **P** **19 50 16.5 +0.5**
LBTB Lobatse 73.85 243 LR LR 20 19 05.8
comp=Z,126nm,19.1s,baz=100,slow=33
LBTB Lobatse 73.85 243 P **P** **19 50 18.4 +1.3**
LBTB pmax pmax
comp=Z,57nm,1.9s
LBTB Lobatse 73.85 243 P **P** **19 50 18.4 +1.3**
LBTB IAmb IAmb 19 50 18.8
comp=Z,57nm,1.9s
MLR Muntele Rosu 74.01 316⇑ P **P** **19 50 18.4 +0.8**
MLR Muntele Rosu 74.01 316 P **P** **19 50 18.3 +0.6**
comp=Z,8.8nm,0.7s,baz=62,slow=4.9
MLR Muntele Rosu 74.01 316 P **P** **19 50 17.6 0.0**
MLR IAmb IAmb 19 50 19.4
comp=Z,14nm,0.9s
DRBR Darabani 74.17 319⇑ P **P** **19 50 18.4 +0.1**
COPA Copaceanca 74.24 315⇑ P **P** **19 50 19.1 +0.3**
HUMR Humele 74.49 315⇑ P **P** **19 50 20.5 +0.2**
DOPR Dopca 74.49 317⇑ P **P** **19 50 19.7 -0.6**
VOIR 74.62 316⇓ P **P** **19 50 21.2 +0.1**
BOSA Boshof 74.87 239 P **P** **19 50 23.7 +0.7**
comp=Z,6.2nm,1.0s,baz=133,slow=5.2,SNR=6.9
ARR Arges 74.89 316⇑ P **P** **19 50 22.7 0.0**
BURAR Bucovina Array 74.95 319⇑ P **P** **19 50 24.3 +1.2**
BURAR Bucovina Array 74.95 319 P **P** **19 50 23.9 +0.9**
BURAR IAmb IAmb 19 50 25.9
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 74.97 319 P **P** **19 50 24.0 +0.9**
BUR08 IAmb IAmb 19 50 25.8
comp=Z,10nm,0.8s
MNK Minsk 75.00 326 *i* P **P** **19 50 23.2 +0.2**
MNK *i* *PP **PcP** **19 50 35.2 -1.5**
MNK *i* 19 53 11.0
MNK *i* S **S** **19 59 59.0 -0.2**
MNK *i* 20 00 31.9
MNK *i* SS **SS** **20 04 48.6 +0.4**
MNK *i* SSS SSS 20 08 11.3
MNK pmax pmax
comp=Z,48nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK MLR MLR
comp=N,321nm,21.0s
MNK MLR MLR
comp=E,10.0nm,19.0s
MNK MLR MLR
comp=Z,37nm,18.0s
MNK Minsk 75.00 326 *i* P **P** **19 50 23.2 +0.2**
comp=E,3.0nm,0.9s
MNK *i* P **P** **19 50 23.2 +0.2**
comp=N,12nm,0.9s
MNK *i* P **P** **19 50 23.2 +0.2**
comp=Z,48nm,0.8s,baz=287
MNK *i* PP **PP** **19 53 11.1 +0.1**
MNK *i* S **S** **19 59 59.1 -0.2**
MNK *i* SS **SS** **20 04 48.6 +0.4**
MNK *i* SSS SSS 20 08 11.3
MNK *i* LR LR 20 24 11.4
MNK *i* LRM MLR 20 25 33.5
comp=N,321nm,21.1s
MNK *i* LRM MLR 20 25 34.8
comp=E,10.0nm,19.2s
MNK *i* LRM MLR 20 25 46.0
comp=Z,37nm,17.9s
KKB Krupnik 75.39 312 *eP* **P** **19 50 24.9 -0.7**
VTS Vitosha 75.40 313⇓ P **P** **19 50 26.0 +0.3**
VTS Vitosha 75.40 313 P **P** **19 50 25.5 -0.2**
VTS pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 75.40 313 P **P** **19 50 25.5 -0.2**
VTS Vitosha 75.40 313 *eP* **P** **19 50 25.6 -0.2**
AGG Agios Georgios 75.54 309 P **P** **19 50 24.6 -1.9**
AGG pmax pmax
comp=Z,5.0nm,0.8s
AGG Agios Georgios 75.54 309 P **P** **19 50 24.6 -1.9**
LIT Litokhoron 75.56 311 P **P** **19 50 25.4 -1.2**
LIT pmax pmax
comp=Z,12nm,0.7s
LIT Litokhoron 75.56 311 P **P** **19 50 25.4 -1.2**
LIT IAmb IAmb 19 50 26.5
comp=Z,12nm,0.7s
ITM Ithomi 75.61 307 P **P** **19 50 26.1 -0.8**
ITM IAmb IAmb 19 50 27.2
comp=Z,9.3nm,0.8s
VALR Valaam 75.64 333 *i* P **P** **19 50 26.9 +0.4**
VALR pmax pmax
comp=Z,20nm,0.8s
NACGM Naroch 75.72 326⇑ *eP* **P** **19 50 23.0 -4.2**
IDID Didziasalis 75.86 326 *eP* **P** **19 50 28.3 +0.4**
IIGN Ignalina 76.15 326 *eP* **P** **19 50 30.1 +0.6**
LVV L'vov 76.17 321 *eP* **P** **19 50 30.1 +0.2**
GZR Gura Zlata 76.18 316⇑ P **P** **19 50 31.0 +0.9**
ISAL Salakas 76.26 327 *eP* **P** **19 50 30.7 +0.5**
HERR Herculane 76.35 315⇑ P **P** **19 50 31.2 +0.2**
DRGR 76.47 317⇑ P **P** **19 50 32.5 +0.8**
BOVS Bovan 76.66 314⇑ P **P** **19 50 32.1 -0.7**
VSU Vasula 76.71 330 *i* P **P** **19 50 33.0 +0.3**
VSU pmax pmax
comp=Z,44nm,0.8s
VSU Vasula 76.71 330 *eP* **P** **19 50 33.0 +0.3**
LVZ Lovozero 76.72 340 *i* P **P** **19 50 33.0 +0.4**
LVZ pmax pmax
comp=Z,16nm,0.7s
LVZ Lovozero 76.72 340 P **P** **19 50 31.9 -0.7**
TRPA Tarpa 76.82 319⇑ P **P** **19 50 34.6 +1.1**
TRPA Tarpa 76.82 319 P **P** **19 50 34.2 +0.7**
KWP Kalwaria Pacla 76.98 320 *eP* **P** **19 50 35.3 +0.9**
KWP Kalwaria Pacla 76.98 320 P **P** **19 50 35.2 +0.8**
KWP pmax pmax
comp=Z,456nm,1.3s
KWP Kalwaria Pacla 76.98 320 P **P** **19 50 35.2 +0.8**
APA Apatity 77.01 339⇑ *i* P **P** **19 50 32.4 -1.8**
BZS Buzias 77.02 316⇑ P **P** **19 50 33.8 -0.9**
UZH Uzhgorod 77.07 319 *eP* **P** **19 50 35.0 +0.1**
UZH *i* 19 50 40.3
UZH *i* 19 50 45.6
LTVH Ltavrtes, Hu 77.11 318 P **P** **19 50 37.0 +1.8**
PABE Paberze 77.44 326 P **P** **19 50 36.4 -0.4**
PABE Paberze 77.44 326 *eP* **P** **19 50 37.4 +0.6**
SUW Suwalki 77.56 325 *eP* **P** **19 50 37.3 -0.2**
SUW Suwalki 77.56 325 P **P** **19 50 37.2 -0.3**
SUW pmax pmax
comp=Z,79nm,0.9s
SUW Suwalki 77.56 325 P **P** **19 50 37.2 -0.3**
SUW Suwalki 77.56 325 *eP* **P** **19 50 37.7 +0.2**
CRVS Cervenica-Dubn 77.66 319 *eP* **P** **19 50 39.5 +1.2**
CRVS pmax pmax
comp=Z,32nm,1.3s
CRVS Cervenica-Dubn 77.66 319 *eP* **P** **19 50 39.5 +1.2**
FIA1 FINESS Array S 77.86 332 P **P** **19 50 39.2 +0.1**
FIA1 IAmb IAmb 19 50 39.9
comp=Z,17nm,0.8s
FINES FINESS Array B 77.86 332 P **P** **19 50 39.2 +0.1**
comp=Z,11nm,0.7s,baz=104,slow=8.0,SNR=40
FINES LR LR 20 28 43.5
comp=Z,67nm,18.8s,baz=108,slow=39
FINES FINESS Array B 77.86 332 P **P** **19 50 39.0 0.0**
FRGS Fruska Gora 78.22 315⇑ P **P** **19 50 41.1 -0.4**
MTSE Matsula 78.26 329 *eP* **P** **19 50 41.7 +0.4**
PDG Podgorica 78.28 313 P **P** **19 50 40.8 -1.0**
PDG IAmb IAmb 19 50 46.1
comp=Z,17nm,1.1s
MEF Metsahovi 78.33 331 *eP* **P** **19 50 42.0 +0.3**
NIE Niedzica 78.49 320 *eP* **P** **19 50 44.8 +1.9**
PSZ Piszkesteto 78.54 318⇑ P **P** **19 50 44.0 +0.7**
PSZ Piszkesteto 78.54 318 P **P** **19 50 43.4 +0.1**
PSZ pmax pmax
comp=Z,12nm,0.8s
PSZ Piszkesteto 78.54 318 P **P** **19 50 43.4 +0.1**
PSZ IAmb IAmb 19 50 44.8
comp=Z,12nm,0.8s
PSZ Piszkesteto 78.54 318 P **P** **19 50 43.6 +0.4**
BEL Belsk 78.57 322 *eP* **P** **19 50 44.2 +1.0**
PBUR Paburge 78.67 327 *eP* **P** **19 50 44.6 +0.9**
OJC Ojcow 78.93 320 *eP* **P** **19 50 46.0 +0.7**
OJC Ojcow 78.93 320 P **P** **19 50 45.8 +0.5**
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 78.93 320 P **P** **19 50 45.8 +0.5**
OJC IAmb IAmb 19 50 46.9
comp=Z,14nm,0.9s
LANS Liptovska Anna 78.99 319 *eP* **P** **19 50 46.6 +0.9**
LANS Liptovska Anna 78.99 319 *eP* **P** **19 50 46.6 +0.9**
MORH Mrgy, Hungar 79.16 316⇑ P **P** **19 50 47.0 +0.5**
MORH Mrgy, Hungar 79.16 316 P **P** **19 50 47.2 +0.6**
VYHS Vyhne 79.32 319 *eP* **P** **19 50 48.1 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,0.6s
VYHS Vyhne 79.32 319 *eP* **P** **19 50 48.1 +0.7**
SUR Sutherland 79.37 236 LR LR 20 20 44.5
comp=Z,81nm,18.9s,baz=110,slow=32
KOVH Kovagotottos 79.52 316 P **P** **19 50 49.0 +0.4**
BILL Bilibino 79.75 21*ce*P **P** **19 50 47.1 -2.3**
BILL *e* 19 50 57.4
BILL *e* 19 53 58.1
BILL *e*S **S** **20 00 48.6 -1.8**
BILL pmax pmax
comp=Z,10.0nm,2.1s
BILL MLR MLR
comp=Z,107nm,17.0s
RAF Rauma 79.78 332 *eP* **P** **19 50 50.0 +0.4**
MPLH Magyarpolny 80.03 317 P **P** **19 50 52.5 +1.2**
JAVC Velka Javorina 80.13 319 *eP* **P** **19 50 53.3 +1.4**
TSUM Tsumeb 80.29 250 LR LR 20 23 46.5
comp=Z,46nm,18.4s,baz=158,slow=34
MORC Moravsky Berou 80.32 320⇑ P **P** **19 50 52.8 -0.1**
MORC Moravsky Berou 80.32 320 P **P** **19 50 53.2 +0.3**
MORC pmax pmax
comp=Z,23nm,1.5s
MORC Moravsky Berou 80.32 320 P **P** **19 50 53.2 +0.3**
MORC IAmb IAmb 19 50 54.6
comp=Z,23nm,1.5s
MORC Moravsky Berou 80.32 320 *eP* **P** **19 50 53.7 +0.8**
ARA0 ARCESS Array S 80.42 340 *eP* **P** **19 50 53.2 +0.2**
ARCES ARCESS Array B 80.42 340 P **P** **19 50 53.3 +0.3**
comp=Z,3.7nm,0.5s,baz=95,slow=5.5,SNR=36
ARCES ARCESS Array B 80.42 340 P **P** **19 50 53.3 +0.3**
ARCES pmax pmax
comp=Z,115nm,1.9s
ARCES ARCESS Array B 80.42 340 P **P** **19 50 53.3 +0.3**
AAL Aland 80.47 331 *eP* **P** **19 50 53.5 +0.2**
KRLC Kraliky 80.84 320 *eP* **P** **19 50 56.6 +0.9**
KRLC Kraliky 80.84 320 *eP* **P** **19 50 56.6 +0.9**
KRUC Moravsky 80.98 319 *eP* **P** **19 50 57.0 +0.6**
KTK1 Kautokeino 81.05 340 *eP* **P** **19 50 56.0 -0.4**
DPC Dobruska-Polom 81.16 320 *eP* **P** **19 50 58.6 +1.2**
DPC Dobruska-Polom 81.16 320 *eP* **P** **19 50 58.6 +1.2**
KSP Ksiaz 81.23 321 *eP* **P** **19 50 58.8 +1.1**
CONA Conrad Observa 81.23 318 *eP* **P** **19 50 58.2 +0.4**
comp=Z,3.8nm,0.7s
OSTC Ostas 81.25 321 *eP* **P** **19 50 58.9 +1.1**
GROS Grobnik 81.35 316 *i* P **P** **19 50 59.0 +0.4**
CHVC Chvalec 81.36 321 *eP* **P** **19 50 58.7 +0.3**
UPC Upice 81.37 320 *eP* **P** **19 50 59.5 +1.1**
UPC Upice 81.37 320 *eP* **P** **19 50 59.5 +1.1**
ARSA Arzberg 81.40 317 *i* P **P** **19 50 59.6 +0.9**
comp=Z,5.2nm,0.8s,SNR=4.5
BOJS Bojanci 81.45 315 *i* P **P** **19 50 59.5 +0.6**
SYO Syowa Base 81.50 198⇓ *ePP* pP 19 51 03.8 -2.5
SYO Syowa Base 81.50 198⇑ *ePP* PP 19 54 10.8 +5.8
UPP Uppsala 81.59 330 *eP* **P** **19 50 59.7 +0.4**
PERS Pernice 81.63 317 *i* P **P** **19 51 00.6 +0.6**
SOKA Soboth 81.69 317 *i* P **P** **19 51 01.2 +0.9**
comp=Z,3.6nm,0.7s,SNR=7.2
VIKU Vikbolandet 81.88 329 *eP* **P** **19 51 01.6 +0.7**
OBKA Obir 82.01 316 *eP* **P** **19 51 03.0 +1.0**
comp=Z,2.1nm,0.5s
JETT Jettan, Norway 82.16 340 *eP* **P** **19 51 03.4 +1.1**
PRU Pruhonice 82.27 320 *eP* **P** **19 51 03.7 +0.5**
PRU Pruhonice 82.27 320 *eP* **P** **19 51 03.7 +0.5**
MOA Molln 82.30 318 *eP* **P** **19 51 03.9 +0.5**
comp=Z,1.6nm,0.5s
CKRC Cesky Krumlov 82.33 319 *eP* **P** **19 51 04.1 +0.5**
BSD Bornholm Skovb 82.48 325 *eP* **P** **19 51 04.1 0.0**

PBCC	Pribram	82.60	320	eP		P	19 51 04.9	0.0
MYKA	Terra Mystica	82.64	316	eP		P	19 51 06.1	+0.8
	comp=Z,1.9nm,0.3s							
TRO	Tromso	82.68	340	eP		P	19 51 04.9	0.0
BIOA	Bad Ischl, Aus	82.71	318	eP		P	19 51 05.7	+0.2
	comp=Z,3.9nm,0.6s							
BRG	Berggiesshubel	82.72	321	eP		P	19 51 06.6	+1.1
BRG				Amp			19 51 07.2	
	comp=Z,6.0nm,0.8s							
BRG				ex		x	19 51 14.9	
BRG				Amp			19 51 18.0	
	comp=Z,5.1nm,1.1s							
BRG	Berggiesshubel	82.72	321	eP		P	19 51 06.5	+1.1
BRG				e			19 51 14.9	
BRG				pmax		pmax		
	comp=Z,6.0nm,0.8s							
BRG				pmax		pmax		
	comp=Z,5.0nm,1.1s							
GEC2	GERESS Array S	82.74	319	P		P	19 51 06.1	+0.4
GEC2				IAmb		IAmb	19 51 07.5	
	comp=Z,9.0nm,0.8s							
GERES	GERESS Array B	82.74	319	P		P	19 51 06.5	+0.7
	comp=Z,3.5nm,0.7s,baz=103,slow=4.2,SNR=34							
KHC	Kasperske Hory	82.84	319	eP		P	19 51 06.5	+0.3
KHC	Kasperske Hory	82.84	319	eP		P	19 51 06.5	+0.3
KHC				ex		x	19 51 18.9	
KBA	Koelnbreinsper	82.87	317	eP		P	19 51 06.6	0.0
	comp=Z,2.0nm,0.6s							
DEL	Delary	83.19	326	eP		P	19 51 07.3	-0.4
CLL	Collm	83.34	321	eP		P	19 51 09.0	+0.3
	comp=Z,4.0nm,0.9s							
ABTA	Abfaltersbach	83.43	317	eP		P	19 51 09.3	-0.1
	comp=Z,1.7nm,0.5s							
HFS	Hagfors	83.59	330	LR		LR	20 33 59.8	
	comp=Z,34nm,18.6s,baz=72,slow=40							
FAUS	Fauske	83.65	337	eP		P	19 51 10.2	+0.3
STEI	Steigen	83.74	338	eP		P	19 51 11.1	+0.7
CTI	Castel Tesino	84.00	316	P		P	19 51 13.0	+0.7
CTI				pmax		pmax		
	comp=Z,14nm,0.8s							
CTI	Castel Tesino	84.00	316	P		P	19 51 13.0	+0.7
CTI				IAmb		IAmb	19 51 13.9	
	comp=Z,14nm,0.8s							
WTTA	Wattenberg	84.05	317	*i* P		P	19 51 12.5	-0.2
	comp=Z,2.2nm,0.3s,SNR=4.6							
WATA	Walderalm	84.09	317	*i* P		P	19 51 12.6	-0.3
	comp=Z,1.5nm,0.3s							
SQTA	Sankt Quirin	84.33	317	P		P	19 51 13.9	-0.1
	comp=Z,8.0nm,0.6s,SNR=8.2							
LOF	Lofoten	84.40	338	eP		P	19 51 13.8	+0.1
GRF	Grafenberg Arr	84.40	319	eP		P	19 51 14.8	+0.7
	comp=Z,8.2nm,0.8s,baz=92,slow=4.2							
GRF				epP		sP	19 51 26.0	+1.4
MOTA	Moosalm	84.41	317	P		P	19 51 14.2	-0.3
	comp=Z,4.8nm,0.7s,SNR=7.1							
NC405	NORSAR Array S	84.63	331	P		P	19 51 15.5	+0.4
RETA	Reutte	84.64	317	P		P	19 51 15.9	+0.3
	comp=Z,7.5nm,0.5s,SNR=4.2							
FETA	Feichten	84.66	317	eP		P	19 51 16.1	+0.3
	comp=Z,4.0nm,0.8s							
NC602	NORSAR Array S	84.69	331	P		P	19 51 15.3	-0.1
NC602	NORSAR Array S	84.69	331	eP		P	19 51 15.3	-0.1
NSS	Namsos	84.73	334	eP		P	19 51 15.3	-0.1
SALO	Salr	84.77	315	P		P	19 51 16.8	+0.7
NB2	NORSAR Subarra	84.87	331	P		P	19 51 16.5	+0.2
	comp=Z,2.9nm,0.8s,baz=94,slow=5.1							
NB2	NORSAR Subarra	84.87	331	P		P	19 51 16.5	+0.2
	baz=94,slow=5.1							
NOA	NORSAR Array B	84.87	331	P		P	19 51 16.6	+0.2
	comp=Z,4.3nm,0.8s,baz=95,slow=5.4,SNR=12							
NOA				LR		LR	20 34 14.7	
	comp=Z,19nm,18.2s,baz=35,slow=39							
SPA0	Spitsbergen Ar	84.90	348	eP		P	19 51 16.0	-0.1
SPITS	Spitsbergen Ar	84.90	348	LR		LR	20 34 34.7	
	comp=Z,72nm,21.5s,baz=193,slow=40							
OSL	Oslo	85.06	330	eP		P	19 51 18.2	+1.0
DAVOX	Davos/Dischmat	85.24	317	P		P	19 51 19.5	+0.8
	comp=Z,20nm,0.6s,baz=155,slow=3.0,SNR=46							
DAVA	Damuels	85.24	317	eP		P	19 51 19.6	+1.0
	comp=Z,2.2nm,0.3s							
KONO	Kongsberg	85.62	329	eP		P	19 51 20.7	+0.6
KEST	Kesra	85.65	305	P		P	19 51 21.9	+1.1
	comp=Z,11nm,0.8s,baz=20,slow=4.6,SNR=9.0							
KEST	Kesra	85.65	305	P		P	19 51 21.9	+1.1
KEST				IAmb		IAmb	19 51 23.7	
	comp=Z,20nm,1.1s							
DOMB	Dombas	85.94	332	eP		P	19 51 21.3	-0.3
SKAR	Skarslia	86.28	330	eP		P	19 51 24.5	+1.1
BFO	Black Forest	86.29	318	P		P	19 51 23.3	-0.4
BFO				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BFO	Black Forest	86.29	318	P		P	19 51 23.3	-0.4
BFO				IAmb		IAmb	19 51 24.6	
	comp=Z,6.5nm,0.7s							
MOL	Molde	86.65	332	eP		P	19 51 26.1	+1.1
AKN	Aaknes	86.91	332	eP		P	19 51 27.7	+1.3
SENIN	Lac Senin/Sane	87.02	316	P		P	19 51 28.1	+0.6
SENIN				IAmb		IAmb	19 51 29.9	
	comp=Z,11nm,0.8s							
ODD1	Odda	87.12	330	eP		P	19 51 28.4	+0.9
BLS5	Blasjo	87.22	329	eP		P	19 51 29.1	+1.1
HYA	Hoyanger	87.31	331	eP		P	19 51 29.1	+0.8
ASK	Askoy	87.82	330	eP		P	19 51 31.6	+0.8
KMY	Karmoy	87.85	329	eP		P	19 51 32.2	+1.3
EKA	Eskdalemuir Ar	92.79	326	P		P	19 51 54.8	+0.7
	comp=Z,2.1nm,0.6s,baz=94,slow=5.2,SNR=14							
QSPA	South Pole Qui	93.03	180	P		P	19 51 56.2	+1.1
	comp=Z,1.0nm,0.7s,baz=254,slow=1.3,SNR=5.9							
TOA0	Torodi Ar. Sit	93.69	283	P		P	19 51 59.9	+0.8
TORD	Torodi Ar. Bea	93.69	283	P		P	19 51 59.8	+0.8
	comp=Z,3.9nm,1.0s,baz=88,slow=6.3,SNR=9.1							
TORD	Torodi Ar. Bea	93.69	283	P		P	19 51 59.9	+0.8
IMAR	Indian Mountai	95.22	23	P		P	19 52 05.4	+0.4
J20K	Nowinta River	95.67	24	P		P	19 52 08.0	+0.9
	baz=289							
H21K	Melozitna Rive	95.70	23	P		P	19 52 08.0	+0.8
H21K				IAmb		IAmb	19 52 09.4	
	comp=Z,15nm,1.6s							
H21K	Melozitna Rive	95.70	23	P		P	19 52 07.9	+0.6
	baz=290							
TOLK	Toolik Lake Re	95.74	20	P		P	19 52 08.1	+0.7
	baz=294							
ESDC	Sonseca Array	95.85	310	P		P	19 52 09.0	+0.4
	comp=Z,0.8nm,0.9s,baz=58,slow=3.6,SNR=5.1							
K20K	Telida	95.97	25	P		P	19 52 09.4	+0.8
K20K				IAmb		IAmb	19 52 10.7	
	comp=Z,10nm,1.0s							
K20K	Telida	95.97	25	P		P	19 52 09.7	+1.1
	baz=289							
I21K	Tanana	96.19	23	P		P	19 52 10.5	+1.0
	baz=291							
CHUM	Lake Minchumin	96.52	24	P		P	19 52 11.9	+0.9
	baz=291							
CAST	Castle Rocks	96.79	25	P		P	19 52 13.1	+0.8
	baz=291							
M20K	Styx River	96.87	27	P		P	19 52 13.6	+0.9
	baz=290							
BPAW	Bear Paw Mtn.	96.99	24	P		P	19 52 13.8	+0.7
	baz=292							
ILAR	Eielson Array	98.34	23	P		P	19 52 17.9	-1.3
	comp=Z,0.3nm,0.6s,baz=299,slow=4.0,SNR=2.5							
ILAR				PP		PP	19 56 14.7	-4.2
	comp=Z,0.5nm,0.8s,baz=306,slow=7.7,SNR=4.6							
BORG	Borgarnes	98.59	337	LR		LR	20 39 19.4	
	comp=Z,17nm,20.8s,baz=0.1,slow=37							
A36M	Sachs Harbour	100.47	12	P		Pdif	19 52 29.2	+0.7
	baz=318							
C36M	Paulatuk	102.71	14	P		Pdif	19 52 39.3	+0.7
	baz=319							
YKA	Yellowknife Ar	110.52	15	PKiKP		PKiKP	19 57 13.2	-0.6
	comp=Z,0.2nm,0.6s,baz=346,slow=2.0,SNR=4.1							
YKA				PP		PP	19 57 46.4	-2.7
	comp=Z,0.6nm,0.9s,baz=324,slow=7.4,SNR=6.4							
FFC	Flin Flon	120.43	12	PKiKP		PKPdf	19 57 32.7	-0.4
FFC	Flin Flon	120.43	12	PKPdf		PKPdf	19 57 32.7	-0.4
SCHQ	Schefferville	120.58	349	PKiKP		PKPdf	19 57 33.4	0.0
	comp=Z,6.9nm,1.3s,baz=6.5,slow=2.4,SNR=6.3							
J04D	Umpqua Nationa	122.40	32	P		PKiKP	19 57 38.7	+1.0
	baz=313							
J05D	Fort Rock, OR	122.84	32	P		PKiKP	19 57 39.7	+1.2
	baz=314							
F10A	Beach Ranch, E	122.86	27			PKiKP	19 57 38.6	+0.2
L04D	Klamath Falls	122.99	33	P		PKiKP	19 57 39.5	+0.7
	baz=312							
M02C	Callahan	123.23	35	P		PKiKP	19 57 40.1	+0.9
	baz=311							
MSO	Missoula	123.63	24	P		PKiKP	19 57 39.9	0.0
	baz=323							
PLID	Pearl Lake	124.10	27	PKPdf		PKPdf	19 57 40.8	+0.1
EGMT	Eagleton	124.25	21	P		PKiKP	19 57 41.7	+0.6
	baz=328							
O03E	Paynes Creek	124.55	35			PKiKP	19 57 42.0	+0.2
O03E	Paynes Creek	124.55	35	P		PKiKP	19 57 42.2	+0.3
	baz=312							
BOZ	Bozeman (W)	125.57	24	PKIKP		PKiKP	19 57 43.9	0.0
BOZ	Bozeman (W)	125.57	24			PKiKP	19 57 43.9	0.0
BOZ	Bozeman (W)	125.57	24	P		PKiKP	19 57 44.4	+0.6
	baz=325							
ULM	Lac du Bonnet	125.85	10	PKP		PKPdf	19 57 43.6	0.0
	comp=Z,6.5nm,0.6s,baz=357,slow=2.9,SNR=11							
ULM	Lac du Bonnet	125.85	10	PKPdf		PKPdf	19 57 43.2	-0.4
HLID	Hailey	126.00	27	PKPdf		PKiKP	19 57 44.9	+0.1
HLID	Hailey	126.00	27	P		PKiKP	19 57 45.6	+0.8
	baz=321							
NVAR	Mina Array Bea	127.81	34	PKP		PKiKP	19 57 48.5	-0.1
	comp=Z,3.3nm,0.9s,baz=270,slow=1.6,SNR=15							
PD31	Pinedale Array	128.75	24			PKPdf	19 57 49.8	+0.1
PDAR	Pinedale Array	128.75	24	PKP		PKPdf	19 57 49.9	+0.2
	comp=Z,0.9nm,0.6s,baz=123,slow=1.3,SNR=15							
R11A	Troy Canyon, C	129.36	32	P		PKiKP	19 57 53.3	+1.6
	baz=317							
DUG	Dugway, Tooele	129.37	29	P		PKiKP	19 57 53.1	+1.5
	baz=321							
MPMC	Manual Prospec	129.92	36	P		PKiKP	19 57 53.7	+0.8
	baz=314							
O20A	White River Ci	131.48	25	P		PKiKP	19 57 56.5	+0.6
	baz=327							
ECSD	EROS Data Cent	131.97	12			PKPdf	19 57 55.6	+0.1
ANMO	Albuquerque	136.58	27	*c i* PKIKP		PKPdf	19 58 05.1	+0.5
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.3s							
TX32	Lajitas Array	142.54	29			PKPdf	19 58 15.4	-0.1
TXAR	Lajitas Array	142.54	29	PKhKP		PKPpre	19 58 11.4	
	comp=Z,1.0nm,0.6s,baz=113,slow=0.5,SNR=9.6							
JCT	Junction City	143.27	23	PKIKP		PKPbc	19 58 14.3	+0.6
JCT	Junction City	143.27	23	PKPdf		PKPbc	19 58 14.3	+0.6
CPUP	Villa Florida	145.68	225	PKPbc		PKPab	19 58 21.5	0.0
	comp=Z,11nm,0.8s,baz=132,slow=3.4,SNR=27							
BRAL	Brewton	145.78	5	P		PKPab	19 58 22.8	+1.1
	baz=354							
AQDB	Aquidauana	147.63	236			PKPbc	19 58 27.0	0.0
VA03	San Esteban	147.99	201			PKPbc	19 58 27.9	+0.1
ZON	Zonda	148.32	205	PKHKP		PKPdf	19 58 22.1	-3.2
ZON	Zonda	148.32	205	PKPdf		PKPdf	19 58 22.1	-3.2

*IDC **31** 19:48:13.6±1.4,20.10N×146.46E,h0km,mb3.7/11, mb1 3.8/12,mb1mx3.6/40,mbtmp3.7/12,ML4.0/1,Error ellipse: s-maj=49.3km s-min=21.0km az=81.0*

ISC 31 19:48:19.6±1.1,20.2N±0.1×146.3E±0.3,h35km,n18, σ1s07/13,mb3.7/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	7.84	332	Pn		Pn	19 50 11.2	0.0
	1.8nm,0.3s,baz=151,slow=13,SNR=5.6							
JCJ				Sn		Sn	19 51 36.6	-2.2
	3.4nm,0.3s,baz=73,slow=19,SNR=1.6							
H11S3	WAKE ISLAND Hy	19.36	91	T		T	20 12 22.5	
	baz=276							
H11S1	WAKE ISLAND Hy	19.37	91	T		T	20 12 22.1	
	baz=276							
H11S2	WAKE ISLAND Hy	19.38	91	T		T	20 12 22.5	
	baz=276							
H11N1	WAKE ISLAND Hy	19.41	88	T		T	20 12 25.2	
	baz=274,slow=74,SNR=9.6							
H11N2	WAKE ISLAND Hy	19.42	88	T		T	20 12 23.3	
	baz=274,slow=74,SNR=9.4							
H11N3	WAKE ISLAND Hy	19.43	88	T		T	20 12 24.5	
	baz=274,slow=74,SNR=7.0							
KSRS	Korea Array	23.48	321	P		P	19 53 26.7	+0.7
	0.9nm,0.7s,baz=155,slow=9.1,SNR=5.1							
KLR	Kul'dur	31.24	342	P		P	19 54 36.5	+0.8
	0.5nm,0.3s,baz=136,slow=8.4,SNR=4.4							
WRA	Warramunga Arr	41.53	197	P		P	19 56 03.4	-0.3
	0.6nm,0.5s,baz=15,slow=8.4,SNR=3.8							
SONM	Songino Array	42.34	320	P		P	19 56 11.9	+1.6
	0.4nm,0.4s,baz=116,slow=6.6,SNR=1.6							
ASAR	Alice Springs	45.19	196	P		P	19 56 32.0	-1.3
	0.1nm,0.6s,baz=16,slow=15,SNR=2.7							
ZALV	Zalesovo Beam	57.19	322	P		P	19 58 02.9	0.0
	0.8nm,0.5s,baz=103,slow=6.7,SNR=4.2							
MKAR	Makanchi Array	57.84	313	P		P	19 58 08.5	+0.8
	0.5nm,0.7s,baz=76,slow=9.9,SNR=8.3							
KURBB	Kurchatov Arra	60.59	317	P		P	19 58 27.1	+0.4
	1.5nm,0.7s,baz=93,slow=7.6,SNR=21							
BVAR	Borovoye Array	65.69	320	P		P	19 59 00.7	+0.2
	0.5nm,0.3s,baz=121,slow=3.3,SNR=6.9							
YKA	Yellowknife Ar	76.46	28	P		P	20 00 05.1	-0.3
	0.1nm,0.3s,baz=283,slow=5.0,SNR=1.5							
FINES	FINESS Array B	85.78	335	P		P	20 00 54.3	-0.8
	0.6nm,0.6s,baz=45,slow=2.8,SNR=4.0							

*CNRM **31** 19:51:51.7,35.66N×3.60W,h13km,ml3.0 SFS **31** 19:51:53.0,35.52N×3.67W,ML2.8,ALBORAN SUR MDD **31** 19:51:54.4±0.8,35.48N×3.63W,h12km±7km,mb_Lg2.4/15, Error ellipse: s-maj=5.2km s-min=2.7km az=172.0*

ISC 31 19:51:53.5±1.1,35.52N±0.03×3.65W±0.02,h16km±9km, n31,σ1s05/62,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.39	218	P		Pg	19 52 01.7	+0.4
PALE				S		Sb	19 52 08.3	+0.6
EMEL	Melilla	0.60	111	Pg		Pg	19 52 04.8	-0.5
EMEL				Sg		Sg	19 52 13.1	-0.3
GOG	Mont Gurugu	0.61	119	P		Pg	19 52 05.0	-0.5
GOG				S		Sg	19 52 12.9	-0.7
PVLZ	Peæn de	0.64	237	P		Pb	19 52 07.0	+0.7
PVLZ				S		Sg	19 52 14.5	+0.1
EALB	Alboran	0.65	50	Pg		Pb	19 52 06.8	+0.4
EALB				Sg		Sb	19 52 15.7	+0.3
EALB				*i* Vmb_Lg			19 52 18.0	
TAF	Taforalt	1.23	125	P		Pn	19 52 14.9	-1.2
TAF				S		Sg	19 52 33.1	-0.2
ELGU	Los Guajares,	1.35	1	Pn		Pn	19 52 17.4	-0.3
ELGU				Sn		Sn	19 52 34.7	-0.6
ELGU				*i* Vmb_Lg			19 52 38.5	
EMIJ	Mijas	1.39	319	Pn		Pn	19 52 17.8	-0.4
EMIJ				Sn		Sn	19 52 35.7	-0.6
EMIJ				*i* Vmb_Lg			19 52 44.0	
EMAL	Malaga-Limoner	1.39	333	P		Pn	19 52 17.9	-0.3
EMAL				S		Sn	19 52 34.8	-1.5
SMIR	Smir Dam	1.42	277	P		Pn	19 52 17.0	-1.6
SMIR				S		Sn	19 52 35.9	-1.2
CHEFC	Chefchaouen	1.45	254	P		Pb	19 52 20.1	0.0
CHEFC				S		Sn	19 52 38.5	+0.7
ECEU	Ceuta	1.46	286	Pn		Pn	19 52 18.6	-0.6
ECEU				Sn		Sn	19 52 36.2	-1.8
JBK	JBK	1.48	143	P		Pn	19 52 18.0	-1.6
JBK				S		Sb	19 52 39.9	+0.6
EBER	Berja	1.51	24	Pn		Pn	19 52 19.3	-0.7
EBER				Sn		Sn	19 52 39.7	+0.2
EBER				*i* Vmb_Lg			19 52 52.5	
EGOR	Sierra Gorda,	1.63	347	Pn		Pn	19 52 22.2	+0.5
EGOR				Sn		Sn	19 52 42.0	-0.5
EGOR				*i* Vmb_Lg			19 52 48.6	
EQUE	Quentar	1.69	6	Pn		Pn	19 52 22.9	+0.4
EQUE				Sn		Sn	19 52 43.9	+0.1
EQUE				*i* Vmb_Lg			19 52 50.1	
ENIJ	Nijar	1.86	38	Pn		Pn	19 52 25.3	+0.5
ENIJ				Sn		Sn	19 52 47.9	-0.1
ENIJ				*i* Vmb_Lg			19 52 55.4	
LCRM	LCR	2.08	209	P		Pb	19 52 32.2	+1.2
LCRM				S		Sg	19 52 59.8	-0.8
ESPR	Espera	2.24	308	Pn		Pn	19 52 30.3	+0.4
ESPR				*i* Vmb_Lg			19 52 40.3	
ESPR				Sn		Sn	19 52 57.4	+0.2
CZD	Col de Zad	2.74	205	P		Pn	19 52 39.0	+1.9
CZD				S		Sn	19 53 11.5	+1.6
EADA	Adamuz	2.75	345	Pn		Pn	19 52 39.0	+2.1
EADA				Sn		Sn	19 53 09.7	-0.2
EADA				*i* Vmb_Lg			19 53 19.7	
MD31	MD31	2.80	200	P		Pn	19 52 38.5	+0.8
MD31				S		Sb	19 53 15.5	-1.8
MDT	Midelt	2.81	197	P		Pn	19 52 39.7	+1.8
MDT				S		Sb	19 53 16.2	-1.4
ECAB	El Cabril	2.92	331	Pn		Pn	19 52 41.1	+1.7
ECAB				Sn		Sn	19 53 14.1	0.0
ECAB				*i* Vmb_Lg			19 53 24.9	
EMIN	Mina Concepcio	3.31	314	Pn		Pn	19 52 45.3	+0.6
EMIN				Sn		Sn	19 53 22.3	-1.4
EMIN				*i* Vmb_Lg			19 53 28.6	
ETOB	Tobarra	3.54	28	Pn		Pn	19 52 49.6	+1.7
ETOB				Sn		Sn	19 53 29.5	0.0
EGRO	El Granado	3.69	304	Pn		Pn	19 52 50.5	+0.7
EGRO				Sn		Sn	19 53 31.5	-1.5
EGRO				*i* Vmb_Lg			19 53 35.4	
PVAQ	Vaqueiros	3.78	301	P		Pn	19 52 51.5	+0.4
PVAQ				S		Sn	19 53 32.5	-2.8
PAB	San Pablo	4.06	352	Pn		Pn	19 52 56.5	+1.5
PAB				Sn		Sn	19 53 41.7	-0.5
PAB				*i* Vmb_Lg			19 54 01.7	
ESDC	Sonseca Array	4.16	357	Pn		Pn	19 52 56.9	+0.6
ESDC				Sn		Sn	19 53 44.2	-0.4
EBAD	Badajoz	4.20	321	Pn		Pn	19 52 57.4	+0.5
EBAD				Sn		Sn	19 53 45.6	-0.1
EBAD				*i* Vmb_Lg			19 53 49.9	

TAP 31 19:52:24.5,24.04N×121.60E,h8km,ML1.5,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.04	352	P		Pg	19 52 26.8	+0.7
	baz=3.0							
TWD				S		Sg	19 52 28.1	+0.9
	baz=3.0							
HWA	Hwalien	0.06	177	P		Pg	19 52 27.0	+0.6
	baz=170							
HWA				S		Sg	19 52 28.5	+0.9
	baz=170							
ETL	Fush Village	0.12	9	eP		Pg	19 52 27.9	+0.6
	baz=9.0							
ETL				eS		Sg	19 52 29.9	+0.8
	baz=9.0							
ETM	Tongmen	0.12	233	eP		Pg	19 52 28.0	+0.8
	baz=233							
ETM				eS		Sg	19 52 30.1	+0.9
	baz=233							
NACB	Ninganchiao	0.13	357	eP		Pg	19 52 28.1	+0.6
	baz=357							
NACB				eS		Sg	19 52 30.6	+1.1
	baz=357							
TEYL	Yanliau Villag	0.17	181	eP		Pg	19 52 28.0	0.0
	baz=179							
TEYL				eS		Sg	19 52 31.0	+0.6
	baz=179							
ETLH	Xiulin Townshi	0.20	327	eP		Pg	19 52 29.6	+1.0
	baz=326							
ESL	Shilin	0.27	215	eP		Pg	19 52 30.5	+0.5
	baz=212							
ESL				eS		Sb	19 52 35.3	-1.3
	baz=212							
WHF	Hehuan Shan	0.33	289	eP		Pg	19 52 32.0	+0.9
	baz=288							
FUSS	Fushou	0.39	302	eP		Pb	19 52 33.2	-0.6
	baz=302							
FUSS				eS		Sb	19 52 39.7	-0.4
	baz=302							
OWD	Renai	0.40	258	eP		Pb	19 52 33.6	-0.4
	baz=257							

TAP 31 19:52:27.1,24.35N×121.70E,h14km,ML1.8,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.06	137	eP		Pg	19 52 30.5	+0.5
	baz=133							
EHP				eS		Sg	19 52 32.9	+1.2
	baz=133							
ENA	Nanau	0.09	27	P		Pg	19 52 31.0	+0.8
	baz=32							
ENA				S		Sg	19 52 33.2	+1.0
	baz=32							
EWUT	Wuta	0.12	38	P		Pb	19 52 31.3	+0.1
	baz=38							
EWUT				S		Sb	19 52 33.6	-0.2
	baz=38							
NACB	Ninganchiao	0.20	208	eP		Pg	19 52 32.0	+0.3
	baz=207							
NACB				eS		Sb	19 52 35.9	-0.3
	baz=207							
ETL	Fush Village	0.20	200	eP		Pb	19 52 32.7	0.0
	baz=199							
ETL				eS		Sb	19 52 36.4	+0.1
	baz=199							
LATG	Datong	0.24	319	P		Pb	19 52 33.5	+0.1
	baz=319							
LATG				S		Sb	19 52 37.3	-0.2
	baz=319							
ETLH	Xiulin Townshi	0.24	234	P		Pg	19 52 32.9	+0.4
	baz=233							
ETLH				eS		Sb	19 52 36.9	-0.7
	baz=233							
ETLH	Xiulin Townshi	0.24	234	eS		Pg	19 52 33.2	+0.7
	baz=326							
NDS	Dongshan	0.28	3	P		Pb	19 52 34.1	+0.1
	baz=3.0							
NDS				S		Sb	19 52 38.3	-0.2
	baz=3.0							
TWD	Chiawan	0.29	199	eP		Pg	19 52 33.4	+0.2
	baz=197							
TWD				eS		Sg	19 52 37.9	+0.7
	baz=197							
TWC	Suao	0.29	28	P		Pb	19 52 34.1	0.0
	baz=30							
TWC				S		Sb	19 52 38.3	-0.5
	baz=30							
NNSB	Datong	0.30	285	eP		Pb	19 52 34.2

WUSB	**Renai** baz=235	**0.64**	**236**	*eP*	Pb	19 52 40.4	+0.3
WUSB	baz=235			*eS*	Sb	19 52 50.0	+1.1
WHP	**Taichung City** baz=263	**0.69**	**264**	*eS*	Sb	19 52 51.2	+0.8

IDC 31 20:21:10.6±5.5, 31°.22S×178°.15W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/32, mbtmp3.9/3, Error ellipse: s-maj=226.3km s-min=52.5km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.9nm,0.5s,baz=109,slow=7.3,SNR=21	**42.95**	**268**	P	P	20 29 11.3	-0.3
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=114,slow=7.9,SNR=33	**44.01**	**273**	P	P	20 29 20.1	-0.1
FITZ	**Fitzroy Crossi** 1.3nm,0.9s,baz=126,slow=6.0,SNR=1.6	**52.24**	**271**	P	P	20 30 23.9	+0.1
FINES	**FINESS Array B** 0.8nm,0.4s,baz=31,slow=3.2,SNR=10	**145.86**	**339**	PKPbc	PKPdf	20 40 50.2	-0.3

MAN 31 20:22:59.8, 13°.89N×119°.84E, h10km, mb3.9, ML2.7, MS2.2, Philippine Islands region

*IDC **31** 20:27:08.5±1.7, 7°.47S×104°.51E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/40, mbtmp3.7/10, ML4.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.5/81, Error ellipse: s-maj=52.0km s-min=18.7km az=52.0*
*NEIC **31** 20:27:09.6±2.2, 7°.65S±0°.03×104°.46E±0°.09, h10km±1km, mb4.1/8, Error ellipse: s-maj=14.6km s-min=5.1km az=270.0*
*DJA **31** 20:27:09.5±0.5, 8°.5S±5°×10°.5E±°, h10km, M4.2/12, mb4.5/3, MLv4.0/12*
ISC 31 20:27:09.7±0.8, 7°.56S±0°.08×104°.61E±0°.08, h10km, n44, σ0°90/39, mb4.0/12, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.43**	**49**	P	**Pn**	**20 27 34.3**	**-1.4**
SKJI	**Sukabumi**	**2.01**	**74**	P	**Pn**	**20 27 43.1**	**-0.6**
KAJI	**Kota Agung**	**2.03**	**357**	P	**Pn**	**20 27 43.6**	**-0.3**
BLSI	**Bandar Lampung**	**2.27**	**16**	P	**Pn**	**20 27 47.3**	**0.0**
DBJI	**Dramaga**	**2.35**	**65**	P	**Pn**	**20 27 48.7**	**+0.4**
CBJI	**Citeko**	**2.50**	**63**	P	**Pn**	**20 27 50.1**	**-0.3**
CNJI	**Cibinong**	**2.51**	**84**	P	**Pn**	**20 27 49.3**	**-1.3**
LWLI	**Liwa**	**2.58**	**348**	P	**Pn**	**20 27 52.2**	**+0.5**
KLSI		**2.85**	**2**	P	**Pn**	**20 27 55.7**	**+0.4**
LEM	**Lembang** 26nm,0.3s,baz=336,slow=20,SNR=12	**3.07**	**76**	Pn	**Pn**	**20 28 00.5**	**+2.0**
LEM	13nm,0.3s,baz=116,slow=19,SNR=3.8			Sn	**Sn**	**20 28 34.6**	**-0.7**
LEM	comp=Z,192nm,18.5s,baz=258,slow=48			LR	LR	20 29 39.0	
LEM	**Lembang**	**3.07**	**76**	P	**Pn**	**20 27 56.8**	**-1.7**
XMIS	**Christmas Isla**	**3.08**	**161**	Pn	**Pn**	**20 27 57.1**	**-1.3**
MNAI	**Manna**	**3.58**	**333**	Pn	**Pn**	**20 28 04.5**	**-0.8**
MNAI	**Manna**	**3.58**	**333**	P	**Pn**	**20 28 05.7**	**+0.4**
CMJI	**Cimerak**	**3.81**	**94**	P	**Pn**	**20 28 07.9**	**-0.6**
UGM	**Wanagama**	**5.87**	**94**	Pn	**Pn**	**20 28 37.6**	**+0.8**
PCJI	**Pacitan** 0.2nm30nm,0.5s	**6.54**	**96**	P	**Pn**	**20 28 45.1**	**-0.9**
PPSI	**Pulau Pagai** 0.2nm45nm,0.6s	**6.61**	**316**	P	**Pn**	**20 28 47.7**	**+0.7**
PWJI	**Pagerwojo**	**7.14**	**94**	P	**Pn**	**20 28 53.1**	**-1.2**
GMJI	**Gumukmas**	**8.78**	**95**	P	**Pn**	**20 29 17.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**9.49**	**96**		**Pn**	**20 29 27.3**	**+0.7**
GIRL	**Giralia**	**17.63**	**149**	P	**P**	**20 31 16.4**	**-0.1**
TOLI2	**Tolitoli**	**18.29**	**63**		**Pn**	**20 31 23.8**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,48nm,18.5s,baz=138,slow=41	**23.00**	**119**	LR	LR	20 42 55.1	
DAV	**Davao City (W)** comp=Z,42nm,21.3s,baz=343,slow=37	**25.47**	**56**	LR	LR	20 42 46.3	
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,baz=174,slow=10,SNR=2.8	**26.45**	**348**	P	**P**	**20 32 46.4**	**-0.7**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=288,slow=12,SNR=2.0	**31.32**	**116**	P	**P**	**20 33 31.7**	**+1.2**
WR0	**Warramunga Arr** comp=Z,5.7nm,1.4s	**31.51**	**116**	P	**P**	**20 33 32.5**	**+0.4**
WR0				IAmb	IAmb	20 33 52.9	
H08S2	**Diego Garcia H** baz=90,slow=76,SNR=5.1	**31.83**	**268**	T	T	21 08 06.3	
H08S3	**Diego Garcia H** baz=90,slow=76,SNR=3.6	**31.84**	**268**	T	T	21 08 06.0	
H08S1	**Diego Carcia H** baz=90,slow=76,SNR=3.3	**31.85**	**268**	T	T	21 08 07.8	
ASAR	**Alice Springs** comp=Z,0.6nm,0.9s,baz=298,slow=8.1,SNR=6.0	**32.33**	**123**	P	**P**	**20 33 40.4**	**+1.0**
STKA	**Stephens Creek** comp=Z,1.9nm,0.8s,baz=332,slow=9.1,SNR=4.3	**42.06**	**130**	P	**P**	**20 35 03.7**	**+1.8**
STKA	**Stephens Creek**	**42.06**	**130**	P	**P**	**20 35 02.4**	**+0.6**
KSRS	**Korea Array** comp=Z,0.5nm,0.5s,baz=229,slow=9.0,SNR=2.5	**49.80**	**24**	P	**P**	**20 36 02.2**	**-0.6**
SONM	**Songino Array** comp=Z,0.9nm,0.6s,baz=177,slow=5.9,SNR=3.9	**55.18**	**1**	P	**P**	**20 36 42.5**	**-0.1**
SONM	**Songino Array** comp=Z,2.5nm,1.1s	**55.18**	**1**	IAmb	IAmb	20 36 43.6	
PATS	**Pohnpei**	**55.44**	**76**	P	**P**	**20 36 43.6**	**-1.3**
BOOM	**Boomskoye usch**	**56.26**	**335**	P	**P**	**20 36 51.5**	**+1.0**
BOOM	comp=Z,2.5nm,1.1s			IAmb	IAmb	20 37 04.4	
USRK	**Ussuriysk Ar.** comp=Z,1.1nm,0.5s,baz=194,slow=8.1,SNR=2.7	**57.15**	**23**	P	**P**	**20 36 56.0**	**-0.7**
MK31	**Makanchi Array** comp=Z,2.1nm,1.4s	**57.64**	**342**	P	**P**	**20 37 00.6**	**+0.4**
MK31				IAmb	IAmb	20 37 14.3	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=147,slow=9.7,SNR=6.3	**57.64**	**342**	P	**P**	**20 36 59.8**	**-0.4**
MKAR	**Makanchi Array**	**57.64**	**342**	P	**P**	**20 37 00.2**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=167,slow=6.1,SNR=5.5	**63.51**	**347**	P	**P**	**20 37 39.9**	**-0.1**

*ASRS **31** 20:28:11.4±0.4, 49°.N±3°×9°.6E±°, h5km, MLh4.1/10, Error ellipse: s-maj=5.7km s-min=2.9km az=166.4, confirmed*
*IDC **31** 20:28:25.0±1.8, 48°.81N×97°.53E, h0km, mb1 3.2/3, mb1mx2.9/45, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=53.7km s-min=15.2km az=4.0*
*NNC **31** 20:29:12.0±6.3, 48°.08N×92°.50E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=58.2km s-min=38.7km az=65.0*
ISC 31 20:28:09.0±1.0, 49°.06N±0°.05×95°.65E±0°.02, h10km, n20, σ2°80/31, 5C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.96**	**37**	⇑Pg	**Pg**	**20 28 47.2**	**+0.7**
KNGR				Sg	**Sg**	**20 29 16.2**	**+4.2**
KZLR	**Kyzyl**	**2.75**	**344**	Pg	**Pg**	**20 29 01.7**	**0.0**
KZLR				Sg	**Sg**	**20 29 40.0**	**+2.5**
MOY	**Mondy**	**4.30**	**51**	Pn	**Pn**	**20 29 17.7**	**+3.1**
MOY				Pg	**Pb**	**20 29 26.9**	**+2.3**
MOY				Sg	**Sg**	**20 30 25.0**	**-1.9**
CERR	**Cheremushki**	**4.65**	**326**	Pn	Pb	20 29 25.9	-4.6
CERR				Pg	**Pg**	**20 29 37.9**	**0.0**
CERR				Sg	**Sg**	**20 30 36.9**	**-1.1**
DJO	**Djoy, Khakassi**	**4.66**	**325**	Pn	Pb	20 29 25.1	-5.6
DJO				Pg	**Pg**	**20 29 36.9**	**-1.3**
DJO				Sg	**Sg**	**20 30 36.7**	**-1.9**
CUR	**Chagan-Uzun**	**4.86**	**285**	Pn	**Pn**	**20 29 25.4**	**+3.2**
CUR				Pg	**Pb**	**20 29 37.5**	**+3.2**
CUR				Sg	**Sg**	**20 30 47.4**	**+2.4**
ULGR	**Ulagan, Altay**	**5.22**	**290**	Pn	Pn	20 29 33.2	+6.1
ULGR				Pg	**Pg**	**20 29 46.7**	**-2.1**
ULGR				Sg	**Sg**	**20 30 59.0**	**+2.7**
AKAR	**Aktash**	**5.36**	**287**	Pn	**Pn**	**20 29 32.6**	**+3.5**
AKAR				Pg	**Pg**	**20 29 49.1**	**-2.5**
AKAR				Sg	**Sg**	**20 31 03.7**	**+2.6**
CHBI	**Chibit, Altay**	**5.43**	**286**	Pn	Pn	20 29 35.0	+4.9
CHBI				Pg	**Pg**	**20 29 49.7**	**-3.3**
CHBI				Sg	**Sg**	**20 31 07.0**	**+3.6**
MINR	**Mina**	**5.92**	**352**	Pg	**Pg**	**20 30 00.7**	**-1.5**
MINR				Sg	**Sg**	**20 31 19.1**	**+0.4**
ARTR	**Artybash**	**6.01**	**300**	Pn	**Pn**	**20 29 42.1**	**+4.2**
ARTR				Pg	**Pg**	**20 29 59.7**	**-4.2**
ARTR				Sg	**Sg**	**20 31 22.6**	**+0.9**
IRK	**Irkutsk**	**6.34**	**57**	Sg	**Sg**	**20 31 29.4**	**-2.9**
SONM	**Songino Array** 0.3nm,0.3s,baz=285,slow=13,SNR=4.8	**7.25**	**96**	Pn	**Pn**	**20 29 54.8**	**-0.3**
SONM	0.4nm,0.3s,baz=279,slow=14,SNR=2.6			Pg	**Pb**	**20 30 14.5**	**-0.4**
SONM	1.0nm,0.3s,baz=281,slow=29,SNR=4.2			Lg	Lg	20 31 35.9	
UKR	**Ust'-Kan**	**7.26**	**289**	Pg	Pg	20 30 22.0	-5.9
UKR				Sg	**Sg**	**20 32 02.2**	**+0.4**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=125,slow=12,SNR=2.4	**8.34**	**310**	Pn	Pg	20 30 41.7	-6.8
ZALV	0.2nm,0.3s,baz=120,slow=26,SNR=4.2			Sn	**Sg**	**20 32 30.5**	**-5.9**
MK31	**Makanchi Array** 0.5nm,0.5s,baz=79,slow=17,SNR=4.3	**9.26**	**261**	Pn	Pg	20 30 57.5	
MK31	2.9nm,0.7s,baz=75,slow=31,SNR=6.9			⇓Lg	Lg	20 32 58.7	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=77,slow=19,SNR=8.4	**9.26**	**261**	Pn	Pg	20 30 56.2	
MKAR	0.1nm,0.3s,baz=86,slow=22,SNR=2.1			Sn	Sg	20 32 52.1	
MAKZ	**Makanchi** 1.3nm,1.1s	**9.45**	**261**	⇑Pn	Pg	20 30 58.2	
MAKZ	7.9nm,1.0s			⇑Lg	Lg	20 33 02.0	
KURK	**Kurchatov** 4.2nm,0.7s	**11.11**	**285**	⇑Lg	Lg	20 34 09.5	
KURBB	**Kurchatov Arra** 7.9nm,0.8s	**11.17**	**285**	⇑Lg	Lg	20 34 10.0	

*IDC **31** 20:29:13.0±1.4, 31°.70S×177°.92W, h0km, mb4.1/5, mb1 4.4/6, mb1mx3.9/35, mbtmp4.2/6, ML4.3/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/56, Error ellipse: s-maj=41.8km s-min=25.5km az=141.0*
*NEIC **31** 20:29:14.4±2.2, 32°.1S±0°.1×177°.8W±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=21.5km s-min=19.9km az=99.0*
*WEL **31** 20:29:16.7±0.5, 32°S±14°×17°9W±3°5, h33km, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2, confirmed*
ISC 31 20:29:15.0±0.8, 31°.89S±0°.06×177°.9W±0°.1, h24km, n81, σ2°42/89, mb4.3/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.62**	**360**	P	**Pn**	**20 29 51.6**	**-4.2**
GLKZ	**Green Lake**	**2.62**	**360**	S	**Sn**	**20 30 25.2**	**-1.6**
GLKZ	**Green Lake**	**2.62**	**360**	P	**Pn**	**20 29 51.6**	**-4.2**
GLKZ				S	**Sn**	**20 30 25.2**	**-1.6**
RAO	**Raoul Island** 63nm,0.3s,baz=96,slow=16,SNR=2.4	**2.63**	**360**	Pn	**Pn**	**20 29 53.9**	**-2.1**
RAO	53nm,0.3s,baz=120,slow=22,SNR=1.9			Sn	**Sn**	**20 30 25.2**	**-1.9**
RIZ	**Raoul Island**	**2.63**	**359**	P	**Pn**	**20 29 54.8**	**-1.3**
RIZ	**Raoul Island**	**2.63**	**359**	S	**Sn**	**20 30 24.6**	**-2.7**
RIZ	**Raoul Island**	**2.63**	**359**	P	**Pn**	**20 29 54.8**	**-1.3**
RIZ				S	**Sn**	**20 30 24.6**	**-2.7**
MXZ	**Matakaoa Point**	**6.46**	**208**	Pn	**Pn**	**20 30 45.2**	**-3.4**
MXZ	**Matakaoa Point**	**6.46**	**208**	S	**Sn**	**20 32 02.6**	**+1.0**
MXZ	**Matakaoa Point**	**6.46**	**208**	P	**Pn**	**20 30 49.5**	**+0.8**
MXZ	**Matakaoa Point**	**6.46**	**208**	P	**Pn**	**20 30 49.5**	**+0.8**
MXZ				S	**Sn**	**20 32 02.6**	**+1.0**
WMGZ	**Waiomatatini S**	**6.65**	**206**	S	**Sn**	**20 32 11.2**	**+5.1**
WMGZ	**Waiomatatini S**	**6.65**	**206**	P	**Pn**	**20 30 52.1**	**+0.9**
WMGZ	**Waiomatatini S**	**6.65**	**206**	P	**Pn**	**20 30 52.1**	**+0.9**
WMGZ				S	**Sn**	**20 32 11.2**	**+5.1**
PKGZ	**Pakihiroa**	**6.84**	**208**	P	**Pn**	**20 30 50.5**	**-3.4**
PKGZ	**Pakihiroa**	**6.84**	**208**	S	**Sn**	**20 32 10.4**	**-0.5**
PKGZ	**Pakihiroa**	**6.84**	**208**	P	**Pn**	**20 30 50.5**	**-3.4**
PKGZ				S	**Sn**	**20 32 10.4**	**-0.5**
HAZ	**Te Kaha**	**6.85**	**210**	P	**Pn**	**20 30 51.4**	**-2.5**
HAZ	**Te Kaha**	**6.85**	**210**	S	**Sn**	**20 32 10.5**	**-0.6**
HAZ	**Te Kaha**	**6.85**	**210**	P	**Pn**	**20 30 51.4**	**-2.5**
HAZ				S	**Sn**	**20 32 10.5**	**-0.6**
RUGZ	**Raukumara Rang**	**7.07**	**210**	S	**Sn**	**20 32 11.6**	**-5.0**
RUGZ	**Raukumara Rang**	**7.07**	**210**	P	**Pn**	**20 30 54.2**	**-2.8**
RUGZ	**Raukumara Rang**	**7.07**	**210**	P	**Pn**	**20 30 54.2**	**-2.8**
RUGZ				S	**Sn**	**20 32 11.6**	**-5.0**
CNGZ	**Carnagh Statio**	**7.31**	**205**	P	**Pn**	**20 30 56.7**	**-3.6**
CNGZ	**Carnagh Statio**	**7.31**	**205**	P	**Pn**	**20 30 56.7**	**-3.6**
MWZ	**Matawai**	**7.44**	**209**	P	**Pn**	**20 31 01.9**	**-0.3**
MWZ	**Matawai**	**7.44**	**209**	S	**Sn**	**20 32 22.7**	**-3.1**
MWZ	**Matawai**	**7.44**	**209**	P	**Pn**	**20 31 01.9**	**-0.3**
MWZ				S	**Sn**	**20 32 22.7**	**-3.1**
URZ	**Urewera**	**7.56**	**211**	Pn	**Pn**	**20 31 01.3**	**-2.3**
URZ	**Urewera**	**7.56**	**211**	P	**Pn**	**20 31 01.0**	**-2.7**
URZ	**Urewera**	**7.56**	**211**	S	**Sn**	**20 32 24.3**	**-4.2**
URZ	**Urewera**	**7.56**	**211**	P	**Pn**	**20 31 01.0**	**-2.7**
URZ				S	**Sn**	**20 32 24.3**	**-4.2**
RAGZ	**Rawiri**	**7.62**	**209**	S	**Sn**	**20 32 29.5**	**-0.8**
RAGZ	**Rawiri**	**7.62**	**209**	S	**Sn**	**20 32 29.5**	**-0.8**
OUZ	**Omahuta**	**7.84**	**243**	Pn	**Pn**	**20 31 08.3**	**+0.8**
MUGZ	**Murupara**	**7.89**	**212**	S	**Sn**	**20 32 34.7**	**-2.0**
MUGZ	**Murupara**	**7.89**	**212**	S	**Sn**	**20 32 34.7**	**-2.0**
SNGZ	**Shannon Statio**	**7.90**	**208**	S	**Sn**	**20 32 35.2**	**-1.9**
SNGZ	**Shannon Statio**	**7.90**	**208**	P	**Pn**	**20 31 09.3**	**+0.8**
SNGZ	**Shannon Statio**	**7.90**	**208**	P	**Pn**	**20 31 09.3**	**+0.8**
SNGZ				S	**Sn**	**20 32 35.2**	**-1.9**
RTZ	**Ruatahuna**	**7.91**	**211**	S	**Sn**	**20 32 33.1**	**-4.3**
RTZ	**Ruatahuna**	**7.91**	**211**	P	Pn	20 31 02.9	-5.7
RTZ	**Ruatahuna**	**7.91**	**211**	P	Pn	20 31 02.9	-5.7
RTZ				S	**Sn**	**20 32 33.1**	**-4.3**
MTHZ	**Maungataniwha**	**8.17**	**210**	S	**Sn**	**20 32 41.2**	**-2.4**
MTHZ	**Maungataniwha**	**8.17**	**210**	P	**Pn**	**20 31 11.0**	**-1.1**
MTHZ	**Maungataniwha**	**8.17**	**210**	P	**Pn**	**20 31 11.0**	**-1.1**
MTHZ				S	**Sn**	**20 32 41.2**	**-2.4**
NMHZ	**Naumai**	**8.39**	**209**	S	**Sn**	**20 32 48.0**	**-1.1**
NMHZ	**Naumai**	**8.39**	**209**	P	Pn	20 31 24.6	+10
NMHZ	**Naumai**	**8.39**	**209**	P	Pn	20 31 24.6	+10
NMHZ				S	**Sn**	**20 32 48.0**	**-1.1**
ARHZ	**Aropaoanui**	**8.45**	**208**	S	**Sn**	**20 32 49.8**	**-0.7**
ARHZ	**Aropaoanui**	**8.45**	**208**	P	**Pn**	**20 31 12.8**	**-3.1**
ARHZ	**Aropaoanui**	**8.45**	**208**	P	**Pn**	**20 31 12.8**	**-3.1**
ARHZ				S	**Sn**	**20 32 49.8**	**-0.7**
BKZ	**Black Stump Fm**	**8.58**	**211**	Pn	**Pn**	**20 31 17.5**	**-0.2**
KWHZ	**Kaweka Forest**	**8.82**	**210**	S	**Sn**	**20 32 55.5**	**-4.3**
KWHZ	**Kaweka Forest**	**8.82**	**210**	P	Pn	20 31 34.6	+14
KWHZ	**Kaweka Forest**	**8.82**	**210**	P	Pn	20 31 34.6	+14
KWHZ				S	**Sn**	**20 32 55.5**	**-4.3**
OTVZ	**Oturere**	**8.95**	**214**	S	**Sn**	**20 33 03.6**	**+0.5**
OTVZ	**Oturere**	**8.95**	**214**	S	**Sn**	**20 33 03.6**	**+0.5**
BFZ	**Birch Farm**	**9.96**	**207**	Pn	**Pn**	**20 31 36.0**	**-0.7**
THZ	**Tophouse**	**12.29**	**214**	Pn	**Pn**	**20 32 00.7**	**-0.9**
DZM	**Mont Dzumac** comp=Z,39nm,21.9s,baz=126,slow=29	**17.02**	**301**	LR	LR	20 37 23.8	
CTA	**Charters Tower** 5.4nm,0.9s,baz=90,slow=8.1,SNR=2.6	**34.15**	**281**	P	**P**	**20 36 00.5**	**+2.1**
CTA	comp=Z,49nm,19.1s,baz=86,slow=34			LR	LR	20 48 46.6	
STKA	**Stephens Creek** comp=Z,41nm,20.7s,baz=201,slow=32	**34.25**	**259**	LR	LR	20 47 16.6	
BBOO	**Buckleboo**	**38.67**	**256**	P	**P**	**20 36 37.2**	**+0.3**
AS31	**Alice Springs**	**43.13**	**268**	P	**P**	**20 37 15.3**	**+1.5**
ASAR	**Alice Springs** 2.7nm,0.9s,baz=109,slow=7.5,SNR=17	**43.14**	**268**	P	**P**	**20 37 15.0**	**+1.1**
WR0	**Warramunga Arr**	**44.08**	**274**	P	**P**	**20 37 22.2**	**+0.7**
WR0	comp=Z,6.3nm,1.3s			IAmb	IAmb	20 37 42.6	
WB2	**Warramunga Arr**	**44.25**	**274**	P	**P**	**20 37 22.5**	**-0.3**
WB2	comp=Z,10nm,1.4s			IAmb	IAmb	20 37 36.8	
WRA	**Warramunga Arr** comp=Z,1.4nm,0.5s,baz=113,slow=7.7,SNR=23	**44.26**	**274**	P	**P**	**20 37 24.1**	**+1.2**
WRA	**Warramunga Arr**	**44.26**	**274**	P	**P**	**20 37 21.8**	**-1.1**
WB0	**Warramunga Arr**	**44.29**	**274**	P	**P**	**20 37 24.6**	**+1.5**
WB0	comp=Z,10nm,1.4s			IAmb	IAmb	20 37 39.6	
KNRA	**Kununurra**	**50.92**	**275**	P	**P**	**20 38 17.0**	**+2.4**
FITZ	**Fitzroy Crossi** comp=Z,3.3nm,1.1s,baz=84,slow=5.1,SNR=2.7	**52.46**	**271**	P	**P**	**20 38 27.2**	**+1.1**
QSPA	**South Pole Qui**	**58.23**	**180**	P	**P**	**20 39 06.9**	**-0.2**
QSPA	comp=Z,5.4nm,1.0s			IAmb	IAmb	20 39 22.9	
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.5s,baz=205,slow=6.6,SNR=3.5	**89.27**	**43**	P	**P**	**20 42 10.9**	**+1.7**
KURK	**Kurchatov**	**122.13**	**313**		**PKiKP**	**20 48 07.7**	**+0.3**
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.6s,baz=118,slow=1.7,SNR=6.7	**122.17**	**313**	PKP	**PKiKP**	**20 48 07.7**	**+0.2**
KBZ	**Khabaz** comp=Z,3.3nm,1.0s,baz=114,slow=1.4,SNR=7.3	**145.99**	**302**	PKPbc	**PKPab**	**20 48 54.2**	**+1.2**
FINES	**FINESS Array B** comp=Z,3.5nm,0.7s,baz=37,slow=3.3,SNR=14	**146.57**	**339**	PKPbc	**PKPbc**	**20 48 54.2**	**+0.5**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=77,slow=1.6,SNR=2.0	**152.52**	**321**	PKPbc	**PKiKP**	**20 49 11.0**	**+1.9**
BRTR	**Keskin Array B**	**153.35**	**296**	PKPbc	**PKiKP**	**20 49 13.0**	**+1.6**

comp=Z,0.9nm,0.8s,baz=128,slow=4.4,SNR=4.6

WEL 31 20:32:47.3±1.1, 29°.S±7°×17°.8E±°, h33km, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.45**	**88**	S	Sn	20 34 19.4	+0.9
GLKZ	**Green Lake**	**3.45**	**88**	S	Sn	20 34 19.4	+0.9
MXZ	**Matakaoa Point**	**8.07**	**179**	P	Pn	20 34 43.4	+1.1
MXZ	**Matakaoa Point**	**8.07**	**179**	S	Sn	20 36 14.1	+1.7
MXZ	**Matakaoa Point**	**8.07**	**179**	P	Pn	20 34 43.4	+1.1
MXZ				S	Sn	20 36 14.1	+1.7
HAZ	**Te Kaha**	**8.27**	**182**	P	Pn	20 34 44.6	-0.3
HAZ	**Te Kaha**	**8.27**	**182**	S	Sn	20 36 19.7	+2.5
HAZ	**Te Kaha**	**8.27**	**182**	P	Pn	20 34 44.6	-0.3
HAZ				S	Sn	20 36 19.7	+2.5
WMGZ	**Waiomatatini S**	**8.33**	**178**	P	Pn	20 34 46.9	+1.1
WMGZ	**Waiomatatini S**	**8.33**	**178**	P	Pn	20 34 46.9	+1.1
PKGZ	**Pakihiroa**	**8.40**	**180**	P	Pn	20 34 46.9	+0.2
PKGZ	**Pakihiroa**	**8.40**	**180**	S	Sn	20 36 18.7	-1.8
PKGZ	**Pakihiroa**	**8.40**	**180**	P	Pn	20 34 46.9	+0.2
PKGZ				S	Sn	20 36 18.7	-1.8
RUGZ	**Raukumara Rang**	**8.48**	**182**	P	Pn	20 34 49.0	+1.0
RUGZ	**Raukumara Rang**	**8.48**	**182**	S	Sn	20 36 22.0	-0.6
RUGZ	**Raukumara Rang**	**8.48**	**182**	P	Pn	20 34 49.0	+1.0
RUGZ				S	Sn	20 36 22.0	-0.6
URZ	**Urewera**	**8.81**	**185**	P	Pn	20 34 52.3	0.0
URZ	**Urewera**	**8.81**	**185**	S	Sn	20 36 33.5	+3.1
URZ	**Urewera**	**8.81**	**185**	P	Pn	20 34 52.3	0.0
URZ				S	Sn	20 36 33.5	+3.1
MWZ	**Matawai**	**8.86**	**183**	P	Pn	20 34 54.1	+1.0
MWZ	**Matawai**	**8.86**	**183**	P	Pn	20 34 54.1	+1.0
CNGZ	**Carnagh Statio**	**8.99**	**180**	P	Pn	20 34 54.8	0.0
CNGZ	**Carnagh Statio**	**8.99**	**180**	S	Sn	20 36 34.1	-0.8
CNGZ	**Carnagh Statio**	**8.99**	**180**	P	Pn	20 34 54.8	0.0
CNGZ				S	Sn	20 36 34.1	-0.8
RAGZ	**Rawiri**	**9.03**	**184**	P	Pn	20 34 55.0	-0.4
RAGZ	**Rawiri**	**9.03**	**184**	P	Pn	20 34 55.0	-0.4
MUGZ	**Murupara**	**9.06**	**187**	P	Pn	20 34 56.8	+1.0
MUGZ	**Murupara**	**9.06**	**187**	P	Pn	20 34 56.8	+1.0
RTZ	**Ruatahuna**	**9.18**	**186**	P	Pn	20 34 56.8	-0.6
RTZ	**Ruatahuna**	**9.18**	**186**	S	Sn	20 36 41.8	+2.3
RTZ	**Ruatahuna**	**9.18**	**186**	P	Pn	20 34 56.8	-0.6
RTZ				S	Sn	20 36 41.8	+2.3
SNGZ	**Shannon Statio**	**9.31**	**184**	P	Pn	20 34 58.1	-1.2
SNGZ	**Shannon Statio**	**9.31**	**184**	S	Sn	20 36 43.0	+0.2
SNGZ	**Shannon Statio**	**9.31**	**184**	P	Pn	20 34 58.1	-1.2
SNGZ				S	Sn	20 36 43.0	+0.2
MTHZ	**Maungataniwha**	**9.42**	**186**	P	Pn	20 35 00.7	-0.1
MTHZ	**Maungataniwha**	**9.42**	**186**	S	Sn	20 36 48.6	+3.0
MTHZ	**Maungataniwha**	**9.42**	**186**	P	Pn	20 35 00.7	-0.1
MTHZ				S	Sn	20 36 48.6	+3.0
NMHZ	**Naumai**	**9.67**	**186**	P	Pn	20 35 04.1	-0.1
NMHZ	**Naumai**	**9.67**	**186**	S	Sn	20 36 51.8	+0.2
NMHZ	**Naumai**	**9.67**	**186**	P	Pn	20 35 04.1	-0.1
NMHZ				S	Sn	20 36 51.8	+0.2
ARHZ	**Aropaoanui**	**9.82**	**185**	P	Pn	20 35 04.2	-2.0
ARHZ	**Aropaoanui**	**9.82**	**185**	S	Sn	20 36 55.2	+0.1
ARHZ	**Aropaoanui**	**9.82**	**185**	P	Pn	20 35 04.2	-2.0
ARHZ				S	Sn	20 36 55.2	+0.1
OTVZ	**Oturere**	**9.88**	**191**	P	Pn	20 35 07.8	+0.6
OTVZ	**Oturere**	**9.88**	**191**	P	Pn	20 35 07.8	+0.6
KWHZ	**Kaweka Forest**	**10.03**	**188**	P	Pn	20 35 07.3	-1.9
KWHZ				S	Sn	20 37 01.1	+0.5

IDC 31 20:54:00.2±3.2, 31°.99N×109°.67E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/40, mbtmp3.5/4, Error ellipse: s-maj=362.1km s-min=21.0km az=53.0, Sichuan

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FNO	Franklin	0.51	200	Pg	Pg	21 19 51.7	-0.4		
W35A	Tecumseh	0.64	157	Pg	Pg	21 19 53.7	-0.8		
TUL1	Leonard	1.14	81		Pg	21 20 02.5	-1.6		
X34A	Smith Ranch, M	1.25	205	Pn	Pg	21 20 05.3	-0.9		
T35A	Sooner Cattle	1.29	25	Pn	Pn	21 20 05.6	-1.2		
U32A	Winter Ranch,	1.60	294	Pn	Pn	21 20 11.5	+0.4		
WMOK	Wichita Mounta	1.65	233	Pn	Pn	21 20 11.3	-0.4		
X37A	Clayton	1.88	127		Pn	21 20 14.6	-0.2		
X37A				IAmb_Lg		21 20 44.0			
	comp=Z,30nm,0.7s								
Z35A	Perchaven, San	2.40	181	Pn	Pn	21 20 23.4	+1.3		
Z35A				IAmb_Lg		21 21 01.2			
	comp=Z,26nm,1.1s								
HHAR	Hobbs	2.69	77		Pn	21 20 26.0	0.0		
W39A	Magazine	2.83	100	Pn	Pn	21 20 27.8	-0.1		
W39A				IAmb_Lg		21 21 12.4			
	comp=Z,19nm,0.8s								
R32A	Long Quarter,	2.94	336	IAmb_Lg		21 21 14.1			
	comp=Z,9.6nm,0.7s								
Z38A	Mt. Pleasant	3.07	143	Pn	Pn	21 20 31.6	+0.4		
Z38A				IAmb_Lg		21 21 18.2			
	comp=Z,20nm,0.8s								
KSU1	Kansas State U	3.39	8	Pn	Pn	21 20 35.3	-0.3		
U40A	Yellville	3.56	79		Pn	21 20 37.5	-0.5		
U40A				IAmb_Lg		21 21 38.7			
	comp=Z,22nm,0.8s								
S39A	Bolivar	3.66	57	IAmb_Lg		21 21 46.8			
	comp=Z,16nm,0.8s								
ABTX	Abilene, Hawle	3.72	214		Pn	21 20 40.7	+0.5		
ABTX				IAmb_Lg		21 21 43.5			
	comp=Z,13nm,0.8s								
WHTX	Lake Whitney,	3.75	184	Pn	Pn	21 20 40.9	+0.4		
AMTX	Amarillo	3.78	258	Pn	Pn	21 20 41.8	+0.8		
AMTX				IAmb_Lg		21 21 51.7			
	comp=Z,12nm,0.7s								
X40A	Basin Creek Fa	3.78	108		Pn	21 20 40.4	-0.6		
WHAR	Wooly Hollow	4.02	95	Pn	Pn	21 20 43.8	-0.5		
W41B	Gary Mavity, V	4.07	97		Pn	21 20 44.7	-0.2		
W41B				IAmb_Lg		21 21 53.7			
	comp=Z,11nm,0.7s								
UALR	University of	4.08	102	Pn	Pn	21 20 44.4	-0.6		
FCAR	Ozark Folk Cen	4.11	86	Pn	Pn	21 20 45.7	+0.1		
P38A	Dawn	4.84	36		Pg	21 21 11.6	-3.3		
P38A				IAmb_Lg		21 22 23.3			
	comp=Z,16nm,0.8s								
LCAR	Lake Charles	4.91	84	Pn	Pn	21 20 55.5	-0.9		

TUL ***31*** *21:21:23.1±1.5,35.72N±0.02×97.15W±0.02,h4km±4km, MM3.5,mb_Lg3.3/96(NEIC),Mwr3.2/13(SLM),Error ellipse: s-maj=3.2km s-min=0.4km az=135.0*

NEIC ***31*** *21:21:23,35.75N×97.20W,h3km,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr=1.04; Mθθ=6.42; Mϕϕ=5.38; Mrθ=1.98; Mθϕ=-0.52; Mϕr=2.83; Fault plane solution: M₀=6.92000×10¹³ NP1:ϕs=135.00000°, δ=60.00000°,λ=-10.00000°. NP2:ϕs=230.00000°,δ=81.00000°, λ=-150.00000°. Principal axes: T 6.9158, Plg14.0000°, Azm359.0000°; N -0.0010, Plg59.0000°, Azm244.0000°; P -6.9148, Plg27.0000°, Azm97.0000°;*

NEIC 31 21:21:23.2±1.6,35.73N±0.02×97.16W±0.02,h5km±1km
Error ellipse: s-maj=3.8km s-min=2.8km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.08	199	Pg	Pg	21 21 24.9	0.0
OK005				Sg	Sg	21 21 26.4	+0.3
OK001	Jones High Sch	0.20	212	Pg	Pg	21 21 27.2	+0.1
OK001				Sg	Sg	21 21 30.3	+0.6
OK009	Oakdale Elemen	0.26	236	Pg	Pg	21 21 28.6	+0.3
OK009				Sg	Sg	21 21 31.9	+0.2
OKCFA	Oklahoma City	0.39	217	Pg	Pg	21 21 30.9	+0.1
OKCSW	OKLAHOMA CITY	0.39	215		Pg	21 21 30.8	0.0
FNO	Franklin	0.51	203	Pg	Pg	21 21 32.9	-0.1
W35A	Tecumseh	0.62	158	Pg	Pg	21 21 34.5	-0.6
TUL1	Leonard	1.13	80	Pg	Pg	21 21 43.8	-1.0
X34A	Smith Ranch, M	1.25	206	Pg	Pg	21 21 46.4	-0.8
X34A				Sg	Sn	21 22 04.4	-0.3
T35A	Sooner Cattle	1.29	24	Pn	Pn	21 21 46.4	-1.6
U32A	Winter Ranch,	1.63	294		Pn	21 21 52.8	+0.2
WMOK	Wichita Mounta	1.66	234	Pn	Pn	21 21 52.6	-0.4
X37A	Clayton	1.85	127	Pn	Pn	21 21 55.8	+0.2
X37A				IAmb_Lg		21 22 25.6	
	comp=Z,158nm,0.9s						
Z35A	Perchaven, San	2.39	182		Pn	21 22 03.0	0.0
HHAR	Hobbs	2.67	77	Pn	Pn	21 22 07.8	+0.9
W39A	Magazine	2.81	100	Pg	Pb	21 22 14.9	+1.1
W39A				IAmb_Lg		21 22 56.3	
	comp=Z,64nm,0.8s						
R32A	Long Quarter,	2.96	336	Pg	Pg	21 22 18.7	-1.2
Z38A	Mt. Pleasant	3.05	143	Pg	Pg	21 22 21.1	-0.5
Z38A				IAmb_Lg		21 23 05.3	
	comp=Z,51nm,0.8s						
KSU1	Kansas State U	3.39	7	Pg	Pb	21 22 25.8	+1.9
KSU1				IAmb_Lg		21 23 15.0	
	comp=Z,71nm,0.9s						
U40A	Yellville	3.54	79	IAmb_Lg		21 23 24.3	
	comp=Z,71nm,0.8s						
S39A	Bolivar	3.65	56	IAmb_Lg		21 23 27.9	
	comp=Z,43nm,0.8s						
CBKS	Cedar Bluff	3.70	327	IAmb_Lg		21 23 25.5	
	comp=Z,74nm,0.7s						
ABTX	Abilene, Hawle	3.72	214	Pg	Pb	21 22 30.6	+1.3
ABTX				IAmb_Lg		21 23 22.0	
	comp=Z,74nm,1.1s						
WHTX	Lake Whitney,	3.74	184	Pg	Pb	21 22 28.6	-1.1
X40A	Basin Creek Fa	3.76	108	Pg	Pg	21 22 32.7	-2.5
X40A				IAmb_Lg		21 23 26.3	
	comp=Z,67nm,0.9s						
AMTX	Amarillo	3.79	258	IAmb_Lg		21 23 28.3	
	comp=Z,78nm,1.0s						
237A	Washetta, Mont	3.88	163	IAmb_Lg		21 23 35.2	
	comp=Z,39nm,0.8s						
WLAR	White Oak Lake	3.91	120	IAmb_Lg		21 23 29.3	
	comp=Z,84nm,1.2s						
WHAR	Wooly Hollow	4.00	95	IAmb_Lg		21 23 36.2	
	comp=Z,59nm,0.8s						
W41B	Gary Mavity, V	4.05	96	IAmb_Lg		21 23 31.8	
	comp=Z,40nm,0.8s						
FCAR	Ozark Folk Cen	4.10	86	IAmb_Lg		21 23 37.0	
	comp=Z,75nm,0.8s						
MGMO	Mountain Grove	4.19	69	IAmb_Lg		21 23 44.6	
	comp=Z,104nm,0.7s						
Z41A	Richland Creek	4.36	123	IAmb_Lg		21 23 52.9	
	comp=Z,50nm,0.8s						
R40A	Maddies Statio	4.67	55	IAmb_Lg		21 23 52.7	
	comp=Z,82nm,0.8s						
P38A	Dawn	4.84	35	IAmb_Lg		21 24 03.1	
	comp=Z,47nm,0.7s						
LCAR	Lake Charles	4.89	84	IAmb_Lg		21 24 02.7	
	comp=Z,53nm,1.0s						
MSTX	Muleshoe	4.94	251	IAmb_Lg		21 24 12.5	
	comp=Z,31nm,0.9s						
435B	Jarrell	4.95	184	IAmb_Lg		21 24 12.0	
	comp=Z,34nm,0.7s						
N35A	Tabor	5.26	13	IAmb_Lg		21 24 21.0	
	comp=Z,86nm,0.7s						
CCM	Cathedral Cave	5.28	62	IAmb_Lg		21 24 10.0	
	comp=Z,85nm,1.0s						
KSCO	Kaye Shedlock'	5.45	309	IAmb_Lg		21 24 24.1	
	comp=Z,43nm,0.7s						
PBMO	Poplar Bluff	5.54	77	IAmb_Lg		21 24 18.9	
	comp=Z,86nm,0.7s						
P40A	Paris	5.55	45	IAmb_Lg		21 24 22.2	
	comp=Z,64nm,0.8s						
JCT	Junction City	5.69	204	IAmb_Lg		21 24 32.3	
	comp=Z,74nm,1.0s						
FVM	French Village	5.85	65	IAmb_Lg		21 24 35.7	
	comp=Z,35nm,0.8s						
T25A	Trinidad	6.01	286	IAmb_Lg		21 24 45.2	
	comp=Z,32nm,0.7s						
OGNE	Ogallala	6.46	325	IAmb_Lg		21 25 02.0	
	comp=Z,74nm,0.8s						
OXF	Oxford	6.47	99	Pn	Pn	21 22 58.7	-0.3
W45A	Hickory Valley	6.53	93	IAmb_Lg		21 25 00.2	
	comp=Z,34nm,0.7s						
SCIA	State Center	6.89	25	IAmb_Lg		21 25 05.8	
	comp=Z,47nm,0.7s						
SDCO	Great Sand Dun	6.99	289	Pn	Pn	21 23 07.5	+0.9
K31A	O'Neill	7.00	350	IAmb_Lg		21 25 24.8	
	comp=Z,62nm,0.7s						
WVT	Waverly	7.58	84	IAmb_Lg		21 25 29.1	
	comp=Z,21nm,0.8s						
K38A	Parkersburg	7.70	25	IAmb_Lg		21 25 35.5	
	comp=Z,40nm,0.7s						
OLIL	Olney	7.82	65	IAmb_Lg		21 25 35.3	
	comp=Z,54nm,0.8s						
ISCO	Idaho Springs	7.83	304	Pn	Pn	21 23 19.5	+1.5
ISCO				IAmb_Lg		21 25 40.7	
	comp=Z,18nm,0.7s						
L40A	Anamosa	7.84	34	IAmb_Lg		21 25 35.4	
	comp=Z,35nm,0.7s						
PHWY	Pilot Hill	8.56	313	IAmb_Lg		21 26 13.8	
	comp=Z,16nm,0.7s						
N23A	Red Feather La	8.62	309	IAmb_Lg		21 26 10.0	
	comp=Z,38nm,0.9s						
SUSD	Miller	8.81	352	IAmb_Lg		21 26 09.8	
	comp=Z,35nm,0.9s						
JFWS	Jewell Farm	8.95	35	IAmb_Lg		21 26 08.6	
	comp=Z,40nm,0.8s						

TAP ***31*** *21:23:41.5,24.03N×122.40E,h17km,ML2.5,D*

JMA ***31*** *21:23:42.1±0.1,24.06N×122.42E,h27km±3km,M2.2*

ISC 31 21:23:41.6±1.3,24.02N±0.03×122.42E±0.02,h21km±5km, n69,σ0.57/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.64	48	P	Pb	21 23 54.0	-0.2
JYNG				S	Sb	21 24 02.3	-0.5
EHP	Heping Village	0.68	295	eP	Pb	21 23 54.8	-0.1
	baz=294						
YOJ	Yonaguni jima	0.69	51	P	Pb	21 23 55.0	-0.1
YOJ				S	Sb	21 24 03.8	-0.4
YOJ	Yonaguni jima	0.69	51	eP	Pb	21 23 55.0	-0.1
	baz=51						
EWUT	Wuta	0.72	306	*i* P	Pb	21 23 55.5	0.0
	baz=305						
EWUT				*i* S	Sn	21 24 06.0	-1.1
	baz=305						
ENA	Nanau	0.74	303	*i* P	Pb	21 23 55.9	+0.1
	baz=303						
TWD	Chiawan	0.76	275	eP	Pn	21 23 56.6	-0.5
	baz=273						
NACB	Ninganchiao	0.77	281	eP	Pb	21 23 56.7	+0.4
	baz=280						
NACB				*i* S	Sn	21 24 07.4	-0.9
	baz=280						
TWC	Suao	0.78	318	eP	Pb	21 23 56.1	-0.4
	baz=319						
TWC				eS	Sn	21 24 07.2	-1.4
	baz=319						
ETLH	Xiulin Townshi	0.88	282	P	Pb	21 23 58.1	-0.1
	baz=281						
ETLH				eS	Sn	21 24 10.2	-0.8
	baz=281						
NDS	Dongshan	0.89	314	eP	Pn	21 23 58.8	-0.1
	baz=313						
NDS				eS	Sn	21 24 10.5	-0.6
	baz=313						
ESL	Shilin	0.93	257	eP	Pn	21 23 59.5	0.0
	baz=256						
LATG	Datong	0.96	302	P	Pn	21 23 59.9	-0.2
	baz=302						
LATG				*i* S	Sn	21 24 13.1	-0.1
	baz=302						
EGFH	Guangfu	0.97	249	eP	Pb	21 23 59.6	-0.2
	baz=247						
TWE	Neicheng	0.98	316	eP	Pn	21 24 00.4	+0.3
	baz=316						
TWE				eS	Sn	21 24 12.7	-0.7
	baz=316						
NTC	Toucheng	0.99	327	eP	Pn	21 24 00.5	+0.2
	baz=327						
NTC				eS	Sn	21 24 13.6	-0.1
	baz=327						
ENTT	Nioudou	0.99	308	eP	Pn	21 24 00.6	+0.2
	baz=308						
NDT	Datong Townshi	1.01	305	eP	Pn	21 24 01.2	+0.5
	baz=305						
NDT				eS	Sn	21 24 15.0	+0.8
	baz=305						
NNSB	Datong	1.03	293	P	Pn	21 24 00.8	-0.2
	baz=293						
NNSB				S	Sn	21 24 14.9	0.0
	baz=293						
NNS	Nan Shan	1.04	294	P	Pn	21 24 01.0	-0.2
	baz=293						
NNS				*i* S	Sn	21 24 15.1	-0.1
	baz=293						
HGSD	Ruisui	1.05	240	P	Pb	21 24 01.5	+0.4
	baz=239						
FUSB	Fushanzhiwuyua	1.06	314	eP	Pb	21 24 01.6	+0.3
	baz=314						
FUSB				S	Sn	21 24 15.9	+0.4
	baz=314						
TWB1	Santiao Chiao	1.06	338	P	Pb	21 24 01.4	+0.1
	baz=339						
WHF	Hehuan Shan	1.06	277	eP	Pn	21 24 01.6	-0.1
	baz=276						
WHF				S	Sn	21 24 15.7	-0.5
	baz=276						
TIPB	Shuangxi	1.09	330	eP	Pb	21 24 02.0	+0.2
	baz=330						
TIPB				eS	Sn	21 24 15.8	-0.4
	baz=330						
FUSS	Fushou	1.10	282	eP	Pn	21 24 01.0	-1.0
	baz=281						
NWLT	Wulai	1.12	312	eP	Pb	21 24 02.5	+0.1
	baz=312						
NWLT				eS	Sn	21 24 17.0	-0.1
	baz=312						
EHY	Hungye	1.13	243	eP	Pn	21 24 01.7	-0.5
	baz=241						
CHGB	Renai	1.14	272	P	Pn	21 24 02.4	-0.2
	baz=271						
CHGB				eS	Sn	21 24 17.7	0.0
	baz=271						
OWD	Renai	1.14	267	eP	Pn	21 24 02.2	-0.3
	baz=266						
YHNB	Yeheng	1.15	304	eP	Pb	21 24 02.9	0.0
	baz=304						
NSK	Sanguang	1.17	304	P	Pb	21 24 02.9	-0.2
	baz=304						
SXI1	Grass Mountain	1.18	335	eP	Pn	21 24 02.6	-0.3
	baz=335						
WUSB	Renai	1.19	269	P	Pb	21 24 03.4	-0.2
	baz=268						
WUSB				eS	Sn	21 24 19.6	+0.7
	baz=268						
NWF	Wu-fen Shan	1.20	331	eP	Pn	21 24 03.1	-0.2
	baz=331						
NWF				S	Sn	21 24 19.5	+0.6
	baz=331						
WFSB	Wu-fen Shan	1.20	331	eP	Pn	21 24 03.0	-0.2
	baz=331						
WFSB				eS	Sn	21 24 19.6	+0.8
	baz=331						
VWDT	VWDT	1.20	257	P	Pn	21 24 03.4	+0.2
	baz=256						
YULB	Yu-li	1.21	239	eP	Pn	21 24 02.6	-0.7
	baz=237						
TWF1	Yuli	1.23	237	eP	Pn	21 24 03.1	-0.5
	baz=236						
IRIF	Iriomote-Funau	1.24	75	P	Pn	21 24 03.9	+0.2
IRIF				eS	Sb	21 24 20.2	+0.4
HATJ	Hateruma jima	1.27	88	eS	Sn	21 24 20.8	+0.3
NFF	Wufeng Townshi	1.33	297	eP	Pb	21 24 06.0	0.0
	baz=297						
YM01	YM01	1.36	326	eP	Pb	21 24 06.4	-0.1
	baz=325						
SSLB	Suanglung	1.36	260	eP	Pb	21 24 06.8	+0.3
	baz=259						
WHP	Taichung City	1.37	281	eP	Pb	21 24 07.2	+0.5
	baz=280						
WCS	Beigang Elemen	1.38	272	eP	Pb	21 24 06.7	0.0
	baz=271						
LIOB	Emei	1.42	296	eP	Pb	21 24 07.2	-0.3
	baz=295						
TYC	Yuchr	1.44	266	eP	Pb	21 24 08.4	+0.8
	baz=264						
EDH	Donghe	1.46	225	eP	Pn	21 24 06.2	-0.6
	baz=223						
JKRS	Kuro-shima	1.47	81	P	Pn	21 24 07.7	+0.8
JKRS				eS	Sb	21 24 26.5	+0.1
ELDTW	Lidau	1.53	237	eP	Pn	21 24 07.5	-0.3
	baz=236						
ALS	Alishan	1.56	251	eP	Pn	21 24 09.3	+0.8
	baz=250						
LDUT	Ludao	1.60	213	eP	Pn	21 24 07.2	-1.5
	baz=212						
JIJ	Ishigaki jima	1.61	77	P	Pn	21 24 08.7	-0.1
JIJ				S	Sn	21 24 28.6	-0.4
LONT	Longtian	1.62	227	eP	Pn	21 24 08.4	-0.7
	baz=226						
CHN5	Tsauling	1.65	256	eP	Pb	21 24 11.0	-0.4
	baz=254						
STYH	Taoyuan	1.73	241	eP	Pn	21 24 11.4	+0.9
	baz=240						
STYT	Tauyuan	1.75	241	eP	Pn	21 24 11.5	+0.7
	baz=240						
WDLH	Douliu	1.75	259	eP	Pn	21 24 11.8	+1.0
	baz=258						
TPUB	Ta-pu	1.79	247	eP	Pn	21 24 12.3	+0.9
	baz=245						
CHN4	Tsaushan	1.80	249	eP	Pn	21 24 12.5	+1.0
	baz=247						
JISG	Ishigakijimahi	1.81	72	P	Pn	21 24 11.4	-0.3
JISG				eS	Sn	21 24 34.2	+0.2
WTP	Ta-pu	1.83	245	eP	Pn	21 24 12.8	+0.9
	baz=244						
WRL	Guolierlin Hig	1.87	267	eP	Pn	21 24 13.5	+1.0
	baz=266						
CHN1	Nanshi	1.93	245	eP	Pn	21 24 14.2	+1.0
	baz=243						
TWK	Hsinying	1.93	247	eP	Pn	21 24 14.3	+1.1
	baz=246						
SGST	Jiashian	1.93	241	eP	Pn	21 24 14.4	+1.1
	baz=240						
SNST	Tainan City	1.94	246	eP	Pn	21 24 14.4	+1.0
	baz=245						
ECL	Taimali	1.96	224	eP	Pn	21 24 13.5	-0.1
	baz=222						

TUL ***31*** *21:31:29.6±1.1,35.72N±0.02×97.15W±0.02,h6km±5km, ML3.8,mb_Lg3.5/99(NEIC),Mwr3.2/12(SLM),Error ellipse: s-maj=2.7km s-min=1.6km az=139.0*

NEIC ***31*** *21:31:29.6,35.74N×97.17W,h3km,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr=0.77; Mθθ=8.57; Mϕϕ=7.80; Mrθ=0.87; Mθϕ=-1.83; Mϕr=2.46; Fault plane solution: M₀=8.81000×10¹³ NP1:ϕs=140.00000°, δ=75.00000°,λ=-10.00000°. NP2:ϕs=233.00000°,δ=80.00000°, λ=-165.00000°. Principal axes: T 8.8088, Plg4.0000°, Azm6.0000°; N -0.0004, Plg72.0000°, Azm264.0000°; P -8.8084, Plg18.0000°, Azm97.0000°;*

NEIC 31 21:31:30.0±1.1,35.730N±0.010×97.15W±0.02,h6km±5km
Error ellipse: s-maj=2.4km s-min=1.3km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.08	202		Pg	21 31 31.6	-0.3
OK005				Sg	Sg	21 31 33.1	-0.1
OK001	Jones High Sch	0.20	213	Pg	Pg	21 31 34.0	0.0
OK001				Sg	Sg	21 31 37.1	+0.4
OK009	Oakdale Elemen	0.27	236		Pg	21 31 35.2	0.0
OK009				Sg	Sg	21 31 39.2	+0.5
OKCFA	Oklahoma City	0.40	218	Pg	Pg	21 31 37.5	-0.2
OKCSW	OKLAHOMA CITY	0.40	216		Pg	21 31 37.5	-0.2
FNO	Franklin	0.51	203	Pg	Pg	21 31 39.6	-0.3
W35A	Tecumseh	0.62	158	Pg	Pg	21 31 41.4	-0.5
W35A				Sg	Sg	21 31 49.6	-0.4
TUL1	Leonard	1.12	80	Pg	Pg	21 31 50.1	-1.4
X34A	Smith Ranch, M	1.26	206	Pn	Pn	21 31 53.3	-0.8
T35A	Sooner Cattle	1.29	23		Pn	21 31 53.5	-1.1
U32A	Winter Ranch,	1.63	294	Pn	Pn	21 31 59.3	+0.1
WMOK	Wichita Mounta	1.66	234		Pn	21 31 59.5	-0.1
X37A	Clayton	1.85	127	Pn	Pn	21 32 02.4	+0.2
X37A				IAmb_Lg		21 32 31.8	
	comp=Z,137nm,0.8s						
Z35A	Perchaven, San	2.40	182		Pn	21 32 09.9	+0.3
HHAR	Hobbs	2.66	77		Pn	21 32 13.5	+0.1
W39A	Magazine	2.80	100	Pn	Pn	21 32 15.3	+0.1
W39A				IAmb_Lg		21 33 02.9	
	comp=Z,95nm,0.8s						
R32A	Long Quarter,	2.96	336	Pg	Pb	21 32 24.9	+1.7
Z38A	Mt. Pleasant	3.05	143	Pg	Pg	21 32 26.8	-1.6
Z38A				IAmb_Lg		21 33 12.6	
	comp=Z,112nm,0.7s						
KSU1	Kansas State U	3.39	7		Pb	21 32 32.0	+1.6
KSU1				IAmb_Lg		21 33 24.4	
	comp=Z,81nm,0.8s						
U40A	Yellville	3.54	79		Pn	21 32 25.0	-0.4
U40A				IAmb_Lg		21 33 31.3	
	comp=Z,108nm,0.7s						
S39A	Bolivar	3.65	56		Pn	21 32 27.0	+0.1
S39A				IAmb_Lg		21 33 35.1	
	comp=Z,70nm,0.8s						
CBKS	Cedar Bluff	3.70	327		Pg	21 32 38.6	-2.3
CBKS				IAmb_Lg		21 33 30.7	
	comp=Z,114nm,0.7s						
ABTX	Abilene, Hawle	3.72	214	Pg	Pb	21 32 37.6	+1.5
ABTX				IAmb_Lg		21 33 28.6	
	comp=Z,124nm,1.2s						
WHTX	Lake Whitney,	3.74	184	Pg	Pb	21 32 34.8	-1.6
X40A	Basin Creek Fa	3.75	108		Pn	21 32 27.7	-0.7
X40A				Pg	Pb	21 32 37.9	+1.3
X40A				IAmb_Lg		21 33 35.6	
	comp=Z,112nm,0.9s						
AMTX	Amarillo	3.80	258	Pn	Pn	21 32 31.3	+2.2
AMTX				IAmb_Lg		21 33 39.3	
	comp=Z,143nm,0.7s						
237A	Washetta, Mont	3.88	163	Pn	Pn	21 32 29.9	-0.3
237A				IAmb_Lg		21 33 39.9	
	comp=Z,74nm,1.1s						
WLAR	White Oak Lake	3.90	120		Pn	21 32 29.9	-0.5
WLAR				IAmb_Lg		21 33 37.6	
	comp=Z,126nm,1.2s						
WHAR	Wooly Hollow	3.99	95	Pn	Pn	21 32 31.4	-0.2
WHAR				IAmb_Lg		21 33 43.3	
	comp=Z,118nm,0.9s						
W41B	Gary Mavity, V	4.04	96		Pn	21 32 31.6	-0.8
UALR	University of	4.05	102		Pn	21 32 33.1	+0.6
FCAR	Ozark Folk Cen	4.09	86		Pn	21 32 31.7	-1.3
FCAR				IAmb_Lg		21 33 44.7	
	comp=Z,103nm,0.8s						
MGMO	Mountain Grove	4.19	69	IAmb_Lg		21 33 51.6	
	comp=Z,136nm,0.7s						
Z41A	Richland Creek	4.36	123	IAmb_Lg		21 33 59.4	
	comp=Z,66nm,0.8s						
R40A	Maddies Statio	4.67	55	IAmb_Lg		21 33 56.9	
	comp=Z,113nm,0.8s						
P38A	Dawn	4.83	35	IAmb_Lg		21 34 09.6	
	comp=Z,85nm,0.7s						
LCAR	Lake Charles	4.88	84	IAmb_Lg		21 34 12.4	
	comp=Z,52nm,0.7s						
MSTX	Muleshoe	4.94	251	IAmb_Lg		21 34 11.4	
	comp=Z,59nm,1.0s						
435B	Jarrell	4.95	184		Sg	21 34 05.0	-3.9
435B				IAmb_Lg		21 34 18.2	
	comp=Z,59nm,1.0s						
N35A	Tabor	5.26	13	IAmb_Lg		21 34 21.6	
	comp=Z,120nm,0.8s						
CCM	Cathedral Cave	5.27	62	IAmb_Lg		21 34 24.1	
	comp=Z,90nm,0.7s						
KSCO	Kaye Shedlock'	5.45	309	IAmb_Lg		21 34 25.8	
	comp=Z,68nm,0.8s						
PBMO	Poplar Bluff	5.53	77	IAmb_Lg		21 34 29.8	
	comp=Z,117nm,0.8s						
P40A	Paris	5.55	45	IAmb_Lg		21 34 26.6	
	comp=Z,101nm,0.7s						
JCT	Junction City	5.69	204	IAmb_Lg		21 34

WVT				IAmb_Lg			21 35 35.7		
	comp=Z,33nm,0.8s								
ANMO	**Albuquerque**	**7.64**	**267**		Lg		21 35 29.4		
K38A	**Parkersburg**	**7.70**	**25**		Lg		21 35 40.5		
K38A				IAmb_Lg			21 35 42.4		
	comp=Z,74nm,0.8s								
346A	**Big Creek Wild**	**7.74**	**122**		Lg		21 35 43.0		
OLIL	**Olney**	**7.82**	**65**	IAmb_Lg			21 35 41.8		
	comp=Z,80nm,0.8s								
L40A	**Anamosa**	**7.83**	**34**		Lg		21 35 36.7		
L40A				IAmb_Lg			21 35 41.9		
	comp=Z,58nm,0.7s								
ISCO	**Idaho Springs**	**7.83**	**304**	Pg	Pg		21 33 54.8	-5.2	
USIN	**University of**	**7.93**	**71**		Lg		21 35 38.5		
ECSD	**EROS Data Cent**	**8.01**	**3**	IAmb_Lg			21 35 45.7		
	comp=Z,27nm,1.1s								
O44A	**Mansfield**	**8.16**	**55**	IAmb_Lg			21 36 03.5		
	comp=Z,94nm,0.8s								
N23A	**Red Feather La**	**8.62**	**309**	IAmb_Lg			21 36 16.6		
	comp=Z,54nm,0.9s								
I37A	**Lemond, Waseca**	**8.76**	**18**	IAmb_Lg			21 36 17.7		
	comp=Z,32nm,0.7s								
JFWS	**Jewell Farm**	**8.95**	**35**	IAmb_Lg			21 36 14.7		
	comp=Z,60nm,0.8s								
I40A	**Norwalk**	**9.57**	**30**	IAmb_Lg			21 36 46.5		
	comp=Z,52nm,1.1s								
RSSD	**Black Hills**	**9.90**	**330**	IAmb_Lg			21 37 06.9		
	comp=Z,19nm,0.9s								
MOOW	**Moose Ponds**	**13.16**	**312**			Pn	21 34 38.0	+0.5	
GCMT	**Greycliff**	**13.80**	**321**			Sn	21 37 20.9	+1.2	
BCYI	**Bear Canyon**	**15.10**	**310**	P		Pn	21 35 06.6	+2.7	

*ISK **31** 21:33:21.1,36°.97N×35°.85E,h14km,ML4.0/33*
*DDA **31** 21:33:21.8±0.0,37°.02N×35°.84E,h28km±1km,MW4.1,*
Hypocentre not reviewed by the ISC
*IDC **31** 21:33:21.5±0.7,37°.03N×35°.74E,h0km,mb4.0/18,*
mb1 3.9/24,mb1mx3.8/47,mbtmp3.9/24,ML3.8/4,MS3.4/27,
Ms1 3.4/27,ms1mx3.1/91,Error ellipse: s-maj=12.9km
s-min=12.0km az=124.0
*MOS **31** 21:33:22.8±1.3,37°.13N×35°.92E,h16km,mb4.3/14,Error*
ellipse: s-maj=7.5km s-min=4.8km az=83.0
*GII **31** 21:33:23.8±0.0,37°.12N×35°.51E,h20km,Mm4.2/3*
*NEIC **31** 21:33:24.9±2.6,37°.01N±0°.05×35°.89E±0°.09,h20km±6km,*
Error ellipse: s-maj=10.9km s-min=6.3km az=120.0
*NIC **31** 21:33:27.4±0.0,36°.81N×35°.42E,h45km±36km,Ml4.2/5*
ISC 31 21:33:23.2±0.9,**36°.97N**±0°.02×**35°.79E**±0°.03,**h14**km±5km,
n213,σ2§11/224,**mb4.2**/40,**MS3.3**/20,**10C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res	ISC
CEYT	**Ceyhan**	**0.05**	**323**	PG		**Pg**	**21 33 26.7**	**+0.8**	
YURE	**YUREGIR**	**0.19**	**222**	SPECP			21 33 29.0		
YURE				P			21 33 29.2		
YURE				S			21 33 34.5		
KOZT	**Kozan**	**0.51**	**3**	PG		**Pg**	**21 33 31.9**	**-1.5**	
KOZT				SG		**Sg**	**21 33 39.0**	**-1.3**	
AKO	**Adana**	**0.56**	**331**	SPECP			21 33 33.0		
AKO				P			21 33 33.7		
AKO				S			21 33 41.7		
KARA	**Karaisali**	**0.66**	**297**	PG		**Pg**	**21 33 35.6**	**-0.4**	
KARA				SG		**Sb**	**21 33 45.5**	**+0.1**	
TAHT	**Tahtakopru-Hat**	**0.67**	**151**	SG		**Pg**	**21 33 35.1**	**-1.2**	
ASUZ	**Hatay-Arsuz**	**0.67**	**180**	SPECP			21 33 35.0		
ASUZ				P			21 33 35.6		
ASUZ				S			21 33 50.2		
KAMA	**Osmaniye**	**0.74**	**72**	P			21 33 34.9		
KAMA				SPECP			21 33 35.0		
KAMA				S			21 33 47.2		
ANDN	**Andirin**	**0.76**	**36**	P			21 33 35.0		
ANDN				SPECP			21 33 35.0		
ANDN				S			21 33 47.9		
DED	**Mersin**	**0.79**	**270**	SPECP			21 33 38.0		
DED				P			21 33 38.2		
DED				S			21 33 50.2		
GULE	**Gulek**	**0.87**	**292**	SPECP			21 33 39.0		
GULE				P			21 33 39.5		
GULE				S			21 33 52.2		
CMRD	**Camardi-Nigde**	**0.94**	**318**	PG		**Pb**	**21 33 39.9**	**-1.5**	
CMRD				SG		**Sb**	**21 33 54.2**	**+0.4**	
YAYL	**Yayladag**	**0.96**	**164**	SPECP			21 33 42.0		
YAYL				P			21 33 42.0		
YAYL				S			21 33 57.1		
HCB	**Kahramanmara**	**0.97**	**67**	P			21 33 39.4		
HCB				SPECP			21 33 40.0		
HCB				S			21 33 53.0		
MERS	**Mersin**	**1.02**	**265**	PG		**Pb**	**21 33 41.7**	**-1.0**	
MERS				SG		**Sn**	**21 33 57.2**	**-0.1**	
SAIM	**ADANA**	**1.03**	**13**	P			21 33 39.0		
SAIM				S			21 33 56.6		
KUZU	**Kuzuini**	**1.05**	**100**	SPECP			21 33 42.0		
KUZU				P			21 33 42.1		
KUZU				S			21 33 56.1		
KAHM	**Kahramanmaras,**	**1.10**	**60**	P			21 33 41.8		
KAHM				SPECP			21 33 42.0		
KAHM				S			21 33 56.0		
YAHY	**KAYSERI_Yahyal**	**1.18**	**343**	SPECP			21 33 42.0		
YAHY				P			21 33 42.9		
YAHY				S			21 33 58.1		
NIDE	**Nigde/Merkez-G**	**1.31**	**322**	SPECP			21 33 46.0		
NIDE				P			21 33 46.1		
NIDE				S			21 34 02.9		
KERG	**Konya-Eregli**	**1.40**	**289**	P			21 33 48.0		
KERG				SPECP			21 33 48.0		
KERG				S			21 34 08.7		
GZT	**Gaziantep**	**1.47**	**74**	P			21 33 47.9		
GZT				SPECP			21 33 48.0		
GZT				S			21 34 06.1		
SARI	**SarD1z-Kayseri**	**1.52**	**19**	PN		**Pn**	**21 33 47.5**	**-2.7**	
ELBS	**KAHRAMANMARAS**	**1.73**	**38**	SPECP			21 33 51.0		
ELBS				P			21 33 51.5		
ELBS				S			21 34 16.4		
KEBE	**Keben-Mersin**	**1.75**	**253**	PN		**Pn**	**21 33 52.6**	**-0.5**	
YESY	**Yesilyurt**	**1.82**	**297**	PN		**Pn**	**21 33 55.0**	**+0.8**	
IKL	**Isikli**	**1.84**	**247**	PN		**Pn**	**21 33 53.4**	**-1.0**	
TISA	**Tisan-Mersin**	**1.88**	**245**	PN		**Pn**	**21 33 53.9**	**-1.0**	
BNN	**Bunyan**	**1.88**	**1**	PN		**Pn**	**21 33 53.3**	**-1.8**	
BNN	**Bunyan**	**1.88**	**1**	Pn		**Pn**	**21 33 53.9**	**-1.2**	
GUNE	**Kayseri**	**1.94**	**356**	SPECP			21 33 56.0		
GUNE				P			21 33 56.1		
GUNE				S			21 34 32.5		
EREN	**Erenkoy**	**1.94**	**223**	PN		**Pn**	**21 33 54.7**	**-1.0**	
EREN	**Erenkoy**	**1.94**	**223**	P			21 33 56.1		
EREN				SPECP			21 33 57.0		
EREN				S			21 34 23.1		
TEVE	**Tevekalti-Mers**	**1.96**	**255**	PN		**Pn**	**21 33 56.2**	**+0.1**	
GULN	**MERSIN_Gulnar**	**1.97**	**247**	SPECP			21 33 56.0		
GULN				P			21 33 56.1		
GULN				S			21 34 26.4		
AKKU	**Akkuyu-Mersin**	**1.97**	**247**	PN		**Pn**	**21 33 55.7**	**-0.5**	
AVNS	**Nevsehir-Avano**	**1.98**	**338**	P			21 33 54.0		
AVNS				S			21 34 25.4		
ATAB	**Bozova**	**2.06**	**75**	P			21 33 55.9		
ATAB				SPECP			21 33 56.0		
ATAB				S			21 34 26.1		
DARE	**Darende-Malaty**	**2.09**	**39**	PN		**Pn**	**21 33 56.6**	**-1.3**	
CUGUR	**Gurin_SVAS**	**2.11**	**33**	P			21 33 57.3		
CUGUR				S			21 34 27.7		
AKCD	**Akcadag**	**2.15**	**51**	SPECP			21 33 57.0		
AKCD				P			21 33 57.7		
AKCD				S			21 34 23.7		
BERE	**Bereket-Mersin**	**2.15**	**254**	PN		**Pn**	**21 33 57.9**	**-0.9**	
SURC	**SANLIURFA_SURC**	**2.27**	**91**	P			21 33 58.3		
SURC				S			21 33 33.4		
KKBE	**Karaman, Kazim**	**2.29**	**277**	SPECP			21 34 01.0		
KKBE				P			21 34 01.8		
KKBE				S			21 34 31.0		
TEKE	**Tekeli-Mersin**	**2.31**	**250**	PN		**Pn**	**21 34 00.5**	**-0.3**	
AKSY	**AKSARAY - Alti**	**2.32**	**317**	SPECP			21 34 01.0		
AKSY				P			21 34 01.3		
AKSY				S			21 34 38.8		
ERMK	**Ermenek**	**2.33**	**263**	SPECP			21 34 03.0		
ERMK				P			21 34 03.1		
ERMK				S			21 34 34.4		
KOZK	**Kozakli-Nevseh**	**2.35**	**342**	PN		**Pn**	**21 34 00.7**	**-0.9**	
CUAYA	**Sivas-Altinyay**	**2.42**	**18**	P			21 34 01.4		
CUAYA				S			21 34 36.8		
SIRC	**Yozgat**	**2.42**	**348**	SPECP			21 34 01.0		
SIRC				P			21 34 01.3		
SIRC				S			21 34 38.4		
PARAL	**Paralimni**	**2.43**	**216**	P		**Pn**	**21 34 00.2**	**-2.2**	
PARAL				S		**Sn**	**21 34 26.9**	**-5.0**	
PARAL				AML		AML	21 34 43.7		
	5.0nm,0.8s								
PARAL				AML		AML	21 34 43.7		
	5.0nm,0.8s								
PARAL				AML		AML	21 34 48.8		
	4.1nm,0.6s								
PARAL				AML		AML	21 34 48.8		
	4.1nm,0.6s								
CUSAR	**Sarkisla-SIVAS**	**2.47**	**8**	P			21 34 01.9		
LFK	**Lefkose**	**2.48**	**228**	PN		**Pn**	**21 34 02.2**	**-1.1**	
MALT	**Malatya**	**2.49**	**57**	PN		**Pn**	**21 34 02.2**	**-1.2**	
HEKM	**Malatya_Hekimh**	**2.57**	**41**	SPECP			21 34 03.0		
HEKM				P			21 34 03.6		
HEKM				S			21 34 44.3		
SANL	**SANLIURFA_Merk**	**2.57**	**84**	SPECP			21 34 03.0		
SANL				P			21 34 03.3		
MVOU	**Mavrovouni**	**2.62**	**223**	P		**Pn**	**21 34 02.7**	**-2.4**	
MVOU				S		**Sn**	**21 34 31.4**	**-5.2**	
MVOU				AML		AML	21 34 45.9		
	2.2nm,0.6s								
MVOU				AML		AML	21 34 45.9		
	2.2nm,0.6s								
MVOU				AML		AML	21 34 47.4		
	2.9nm,0.7s								
MVOU				AML		AML	21 34 47.4		
	2.9nm,0.7s								
KIRS	**Kirsehir-Merke**	**2.62**	**326**	SPECP			21 34 04.0		
KIRS				P			21 34 04.7		
HDMB	**Hadim**	**2.65**	**271**	PN		**Pn**	**21 34 05.5**	**-0.1**	
SERE	**Sereflikochisa**	**2.65**	**319**	PN		**Pn**	**21 34 04.9**	**-0.7**	
ATHAL	**Athalassa**	**2.66**	**227**	P		**Pn**	**21 34 04.2**	**-1.4**	
ATHAL				S		**Sn**	**21 34 32.4**	**-5.3**	
HWQ	**Hawqa**	**2.69**	**177**	*eP*		**Pb**	**21 34 09.0**	**-2.2**	
CUKAN	**kangal_SIVAS**	**2.69**	**29**	P			21 34 05.4		
YOZ	**Yozgat**	**2.69**	**352**	PN		**Pn**	**21 34 05.9**	**-0.4**	
HACI	**Hacifakili, Ak**	**2.73**	**359**	SPECP			21 34 06.0		
HACI				P			21 34 06.3		
CSS	**Mathiatis**	**2.82**	**226**	PN		**Pn**	**21 34 07.1**	**-0.8**	
CSS	**Mathiatis**	**2.82**	**226**	Pn		**Pn**	**21 34 06.8**	**-1.1**	
CSS	**Mathiatis**	**2.82**	**226**	P		**Pn**	**21 34 06.2**	**-1.7**	
CSS				S		**Sn**	**21 34 36.5**	**-5.3**	
KMER	**Konya-Meram**	**2.84**	**287**	SPECP			21 34 09.0		
KMER				P			21 34 09.9		
CDAG	**Cicekdag**	**2.88**	**338**	SPECP			21 34 09.0		
CDAG				P			21 34 09.7		
GAZI	**Gazipasa**	**2.89**	**256**	SPECP			21 34 11.0		
GAZI				P			21 34 11.7		
KONT	**Konya--Tatoy**	**2.90**	**291**	PN		**Pn**	**21 34 09.4**	**+0.5**	
KONT	**Konya--Tatoy**	**2.90**	**291**	SPECP			21 34 11.0		
KONT				P			21 34 11.3		
KAMT	**Kaman**	**2.90**	**326**	PN		**Pn**	**21 34 09.1**	**0.0**	
ARPR	**Arapgir-MALATY**	**2.92**	**43**	PN		**Pn**	**21 34 08.5**	**-0.9**	
ELZG	**Elazig**	**2.96**	**58**	SPECP			21 34 09.0		
ELZG				P			21 34 09.5		
LADK	**Ladik-KONYA**	**2.98**	**295**	PN		**Pn**	**21 34 10.2**	**0.0**	
ASGA	**Asgata**	**3.00**	**224**	P		**Pn**	**21 34 09.0**	**-1.3**	
ASGA				AML		AML	21 34 58.0		
	2.9nm,0.8s								
ASGA				AML		AML	21 34 58.4		
	1.9nm,0.8s								
BHL	**Bhannes**	**3.06**	**182**	*eP*		**Pn**	**21 34 11.6**	**+0.4**	
SVSK	**Karacayir**	**3.10**	**18**	PN		**Pn**	**21 34 10.4**	**-1.2**	
CKRK	**Yozgat, Cekere**	**3.11**	**356**	SPECP			21 34 11.0		
CKRK				P			21 34 11.5		
SVRC	**Sivrice-ELAZID**	**3.13**	**62**	PN		**Pn**	**21 34 10.6**	**-1.6**	
KEMA	**Kemaliye**	**3.14**	**42**	SPECP			21 34 11.0		
KEMA				P			21 34 11.2		
ALFC	**Alefka**	**3.15**	**236**	P		**Pn**	**21 34 10.2**	**-2.3**	
ALFC				S		**Sn**	**21 34 43.9**	**-6.0**	
ALFC				AML		AML	21 34 50.3		
	2.2nm,0.5s								
ALFC				AML		AML	21 34 50.3		
	2.2nm,0.5s								
ALFC				AML		AML	21 34 50.9		
	4.4nm,0.9s								
ALFC				AML		AML	21 34 50.9		
	4.4nm,0.9s								
KKUL	**Konya-Kulu**	**3.16**	**315**	SPECP			21 34 13.0		
KKUL				P			21 34 13.5		
SEYD	**Seydisehir-KON**	**3.19**	**279**	PN		**Pn**	**21 34 12.6**	**-0.4**	
BR131	**Keskin Array S**	**3.23**	**329**	P		**Pn**	**21 34 13.8**	**+0.1**	
BR131	**Keskin Array S**	**3.23**	**329**			**Pn**	**21 34 13.8**	**+0.1**	
BRTR	**Keskin Array B**	**3.23**	**329**	Pn		**Pn**	**21 34 13.8**	**+0.1**	
	3.6nm,0.3s,baz=161,slow=14,SNR=112								
BRTR				Pg		**Pb**	**21 34 20.2**	**-0.2**	
	5.9nm,0.3s,baz=155,slow=16,SNR=42								
BRTR				Sn		**Sn**	**21 34 52.0**	**0.0**	
	4.0nm,0.3s,baz=317,slow=32,SNR=5.4								
BRTR				LR		LR	21 35 48.9		
	comp=Z,575nm,18.3s,baz=152,slow=47								
BRTR	**Keskin Array B**	**3.23**	**329**	PN		**Pn**	**21 34 13.7**	**+0.1**	
SZAC	**Souni**	**3.23**	**228**	P		**Pn**	**21 34 12.9**	**-0.6**	
SZAC				AML		AML	21 35 02.7		
	5.1nm,1.0s								
SZAC				AML		AML	21 35 03.7		
	1.9nm,0.7s								
SEDI	**Konya, Seydise**	**3.26**	**280**	SPECP			21 34 15.0		
SEDI				P			21 34 15.5		
DQRL	**Deir Qamar**	**3.26**	**183**	*eP*		**Pn**	**21 34 15.2**	**+1.3**	
AFSR	**Afar-Bala (An**	**3.27**	**320**	PN		**Pn**	**21 34 14.5**	**+0.3**	
KDHN	**Kadinhani**	**3.30**	**299**	SPECP			21 34 14.0		
KDHN				P			21 34 14.8		
CUZAR	**Zara_SIVAS**	**3.31**	**27**	P			21 34 14.0		
ILIC	**ilic-Erzincan**	**3.31**	**41**	PN		**Pn**	**21 34 13.5**	**-1.2**	
BBAL	**Bala**	**3.32**	**322**	SPECP			21 34 15.0		
BBAL				P			21 34 15.4		
CORM	**Corum**	**3.33**	**345**	PN		**Pn**	**21 34 14.8**	**-0.2**	
KEPZ	**Antalya-Kepez**	**3.35**	**270**	SPECP			21 34 17.0		
KEPZ				P			21 34 17.7		
DELI	**KIRIKKALE**	**3.36**	**335**	SPECP			21 34 16.0		
DELI				P			21 34 16.1		
TOKT	**Tokat**	**3.40**	**10**	PN		**Pn**	**21 34 14.6**	**-1.3**	
AKMS	**Akamas**	**3.41**	**236**	P		**Pn**	**21 34 14.8**	**-1.2**	
QRWL	**Qaraoun**	**3.41**	**181**	*eP*		**Pn**	**21 34 16.7**	**+0.6**	
RCY	**Rachaya**	**3.46**	**179**	*eP*		**Pn**	**21 34 18.4**	**+1.6**	
DOGA	**KONYA_Doganhis**	**3.47**	**290**	SPECP			21 34 18.0		
DOGA				P			21 34 18.4		
SHBL	**Chebaa**	**3.61**	**181**	*eP*		**Pn**	**21 34 20.3**	**+1.4**	
KIZT	**Kizilcal**	**3.63**	**303**	PN		**Pn**	**21 34 19.3**	**+0.2**	
TNCL	**Tunceli-Merkez**	**3.66**	**53**	SPECP			21 34 19.0		
TNCL				P			21 34 19.8		
NATI	**Neve Ativ**	**3.70**	**181**	Pn		**Pn**	**21 34 21.8**	**+1.9**	
BR231	**Keskin MP Arra**	**3.72**	**321**	Pn		**Pn**	**21 34 22.6**	**+2.3**	
ANTO	**Ankara**	**3.73**	**322**	P		**Pn**	**21 34 22.3**	**+1.8**	
ANTO	**Ankara**	**3.73**	**322**	Pn		**Pn**	**21 34 22.3**	**+1.8**	
GEM	**Giv'at Ha'Em**	**3.75**	**182**	Pn		**Pn**	**21 34 22.5**	**+1.9**	
SUSE	**Susehri**	**3.75**	**30**	SPECP			21 34 20.0		
SUSE				P			21 34 20.2		
REFA	**Refahiye_ERZN**	**3.75**	**38**	SPECP			21 34 20.0		
REFA				P			21 34 20.2		
CTAK	**Corum_Osmancik**	**3.76**	**348**	SPECP			21 34 21.0		
CTAK				P			21 34 21.5		
HNTI	**Hanita**	**3.91**	**188**	Pn		**Pn**	**21 34 24.4**	**+1.6**	
HNTI				Sn		**Sn**	**21 35 10.3**	**+1.8**	
MMC7	**Mount Meron ar**	**3.95**	**185**	Pn		**Pn**	**21 34 24.7**	**+1.2**	
MMA0B	**Mount Meron ar**	**3.96**	**185**	Pn		**Pn**	**21 34 25.2**	**+1.7**	
MMA0B				Sn		**Sn**	**21 35 12.2**	**+2.4**	
MMAI	**Mount Meron Ar**	**3.96**	**185**	Pn		**Pn**	**21 34 24.5**	**+1.0**	
	25nm,0.3s,baz=2.0,slow=26,SNR=21								
MMAI				Sn		**Sn**	**21 35 12.2**	**+2.4**	
	28nm,0.3s,baz=159,slow=21,SNR=8.7								
MMAI				LR		LR	21 36 11.6		
	comp=Z,329nm,19.9s,baz=247,slow=42								
BLGI	**Bet Lehem HaGe**	**4.25**	**187**	Pn		**Pn**	**21 34 30.0**	**+2.5**	
BLGI				Sn		**Sn**	**21 35 20.0**	**+3.0**	
ISP	**Isparta**	**4.28**	**283**	Pn		**Pn**	**21 34 30.0**	**+1.9**	
OFRI	**`Ofer**	**4.39**	**189**	Pn		**Pn**	**21 34 30.7**	**+1.3**	
MMLI	**Mount Malkishu**	**4.53**	**184**	Pn		**Pn**	**21 34 33.8**	**+2.4**	
MMLI				Sn		**Sn**	**21 35 27.6**	**+3.8**	
HMDT	**Nahal Hemdat**	**4.71**	**183**	Pn		**Pn**	**21 34 36.8**	**+3.0**	
ELL	**Elmali**	**4.72**	**269**	P		**Pn**	**21 34 38.1**	**+4.0**	
ELL	**Elmali**	**4.72**	**269**	Pn		**Pn**	**21 34 38.1**	**+4.0**	
SLTI	**Sal'it**	**4.75**	**188**	Pn		**Pn**	**21 34 36.2**	**+1.7**	
SLTI				Sn		**Sn**	**21 35 33.1**	**+3.7**	
OSC2	**CSNet OBS 4**	**4.84**	**218**	P		**Pn**	**21 34 35.2**	**-0.4**	
ASF	**Jabal al Asfar**	**4.87**	**169**	Pn		**Pb**	**21 34 43.9**	**-4.4**	
	0.5nm,0.3s,baz=9.5,slow=16,SNR=2.7								
ASF				Pg		**Pg**	**21 34 52.4**	**-4.1**	
	2.7nm,0.3s,baz=37,slow=20,SNR=8.6								
ASF				Lg		Lg	21 35 53.4		
	3.2nm,0.3s,baz=279,slow=11,SNR=4.2								
OSC1	**CSNet OBS 1**	**5.06**	**228**	P		**Pn**	**21 34 36.6**	**-2.0**	
BZK	**Bozkurt**	**5.17**	**345**	Pn		**Pn**	**21 34 36.6**	**-3.6**	
GURO	**Guroymak-BITLI**	**5.19**	**70**			**Pn**	**21 34 41.9**	**+1.3**	
DSI	**Dead Sea**	**5.39**	**184**	Pn		**Pn**	**21 34 45.2**	**+2.0**	
AMAZ	**Amatzia**	**5.47**	**188**	Pn		**Pn**	**21 34 46.3**	**+2.0**	
AMAZ				Sn		**Sn**	**21 35 50.2**	**+3.2**	
YTIR	**Yattir**	**5.62**	**186**	Pn		**Pn**	**21 34 48.5**	**+2.1**	
YTIR				Sn		**Sn**	**21 35 55.0**	**+4.2**	
KZIT	**Kziot**	**6.16**	**191**	Pn		**Pn**	**21 34 55.5**	**+1.8**	
KZIT				Sn		**Sn**	**21 36 05.8**	**+1.9**	
KARS	**Kars**	**6.76**	**55**	P		**Pn**	**21 35 00.8**	**-1.4**	
KARS	**Kars**	**6.76**	**55**	Pn		**Pn**	**21 35 00.8**	**-1.4**	
KRMI	**Paran Flat**	**6.89**	**188**	Pn		**Pn**	**21 35 06.2**	**+2.4**	
KRMI				Sn		**Sn**	**21 36 25.6**	**+3.6**	
HRFI	**Mount Harif**	**6.94**	**185**	Pn		**Pn**	**21 35 07.1**	**+2.6**	
KARP	**Karpathos**	**7.11**	**261**	Pn		**Pn**	**21 35 06.8**	**0.0**	
MBRI	**Mt Berech**	**7.19**	**186**	Pn		**Pn**	**21 35 10.3**	**+2.3**	
SOC	**Sochi**	**7.26**	**23**	*eP*		**Pn**	**21 35 06.5**	**-2.3**	
SOC				*e*			21 36 28.8		
SOC				MLR		MLR			
	comp=Z,151nm,14.0s								
EIL	**Elat**	**7.31**	**186**	Pn		**Pn**	**21 35 12.9**	**+3.3**	
	comp=Z,0.3nm,0.3s,baz=45,slow=10.0,SNR=2.0								
EIL				Sn		**Sn**	**21 36 36.0**	**+3.6**	
	comp=Z,0.6nm,0.3s,baz=224,slow=16,SNR=1.9								
EIL				LR		LR	21 38 17.8		
	comp=Z,217nm,18.7s,baz=294,slow=40								
GNI	**Garni**	**7.70**	**63**	LR		LR	21 38 35.6		
	comp=Z,194nm,18.7s,baz=258,slow=41								
SEV	**Sevastopol'**	**7.74**	**349**	*eP*		**Pn**	**21 35 16.8**	**+1.4**	
ALU	**Alushta**	**7.78**	**353**	*eP*		**Pn**	**21 35 15.3**	**-0.6**	
SUDU	**Sudak**	**7.94**	**356**	*eP*		**Pn**	**21 35 17.8**	**-0.3**	
ONI	**Oni**	**8.14**	**44**	P		**Pn**	**21 35 18.1**	**-3.0**	
ONI	**Oni**	**8.14**	**44**			**Pn**	**21 35 18.1**	**-3.0**	
APE	**Apeiranthos**	**8.21**	**274**	*i* P		**Pn**	**21 35 23.1**	**+1.2**	
ZEI	**Tsey**	**8.52**	**45**	*eP*		**Pn**	**21 35 28.4**	**+2.0**	
ZEI				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ALN	**Alexandroupoli**	**8.54**	**300**	P		**Pn**	**21 35 30.3**	**+3.8**	
ALN	**Alexandroupoli**	**8.54**	**300**	Pn		**Pn**	**21 35 30.3**	**+3.8**	
KBZ	**Khabaz**	**8.66**	**37**	Pn		**Pn**	**21 35 30.4**	**+2.4**	
	comp=Z,0.0nm,0.3s,baz=177,slow=7.3,SNR=5.3								
KBZ				LR		LR	21 39 06.0		
	comp=Z,316nm,18.8s,baz=220,slow=40								
KIV	**Kislovodsk**	**8.74**	**35**	*eP*		**Pn**	**21 35 27.1**	**-2.1**	
KIV				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,66nm,10.0s								
KIV	**Kislovodsk**	**8.74**	**35**	Pn		**Pn**	**21 35 26.2**	**-3.0**	
IDI	**Anoyia**	**8.97**	**262**	Pn		**Pn**	**21 35 31.4**	**-1.0**	
	comp=Z,1.6nm,0.3s,baz=64,slow=16,SNR=21								
IDI				Sn		**Sn**	**21 37 09.2**	**-4.2**	
	comp=Z,0.4nm,0.3s,baz=252,slow=19,SNR=1.9								
IDI	**Anoyia**	**8.97**	**262**	Pn		**Pn**	**21 35 31.9**	**-0.5**	
GROC	**Groznyy**	**9.88**	**48**	P		**Pn**	**21 35 41.6**	**-3.1**	
GROC				*eS*		**Sn**	**21 37 31.6**	**-3.7**	
GROC				pmax		pmax			
	comp=Z,2.0nm,0.4s								
MAK	**Makhachkala**	**10.80**	**53**	*eP*		**Pn**	**21 35 52.5**	**-4.8**	
MAK				*eS*		**Sn**	**21 37 50.9**	**-7.0**	
MAK				pmax		pmax			
	comp=Z,59nm,1.2s								
MAK				MLR		MLR			
	comp=Z,138nm,9.0s								
ITM	**Ithomi**	**11.08**	**275**	Pn		**Pn**	**21 36 05.0**	**+3.7**	
VTS	**Vitosha**	**11.18**	**304**	P		**Pn**	**21 36 04.7**	**+2.0**	
VTS	**Vitosha**	**11.18**	**304**	Pn		**Pn**	**21 36 04.7**	**+2.0**	
MLR	**Muntele Rosu**	**11.28**	**322**	P		**Pn**	**21 36 06.7**	**+2.7**	

comp=Z,2.0nm,1.0s
ECH Echery 23.75 307 P **P** **21 38 36.7 +1.7**
KLMR Klimovskoe 24.02 4 *eP* **P** **21 38 34.6 -2.8**
KLMR pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 24.02 4 *eP* **P** **21 38 34.7 -2.7**
KLMR AMP 21 38 38.3
comp=Z,21nm,1.2s
ARU Arti 24.75 31 P **P** **21 38 43.4 -0.7**
comp=Z,1.2nm,0.8s,baz=212,slow=8.5,SNR=5.4
ARU LR LR 21 50 35.2
comp=Z,50nm,20.0s,baz=226,slow=42
ARU Arti 24.75 31 *d iP* **P** **21 38 42.7 -1.4**
ARU 21 39 22.7
ARU S **S** **21 43 04.6 -1.0**
ARU SS **SnSn** **21 43 57.4 +5.2**
ARU pmax pmax
comp=Z,7.0nm,1.1s
FIA1 FINESS Array S 25.25 349 P **P** **21 38 48.0 -0.5**
FIA1 IAmb IAmb 21 38 56.9
comp=Z,10.0nm,1.1s
FINES FINESS Array B 25.25 349 P **P** **21 38 47.9 -0.6**
comp=Z,4.5nm,0.8s,baz=150,slow=10,SNR=16
FINES LR LR 21 48 32.5
comp=Z,51nm,18.4s,baz=175,slow=36
PRGR Permogore 25.45 11 *eP* **P** **21 38 47.5 -2.8**
PRGR pmax pmax
comp=Z,62nm,1.5s
SVE Sverdlovsk 25.88 32 *eP* **P** **21 38 54.8 +0.5**
SVE pmax pmax
comp=Z,10.0nm,1.5s
ATD Arta Tunnel 26.11 164 LR LR 21 48 05.3
comp=Z,67nm,18.6s,baz=72,slow=34
KKAR Karatay Array 27.15 66 P **P** **21 39 06.4 +0.4**
KKAR Karatay Array 27.15 66 P **P** **21 39 06.4 +0.4**
HFS Hagfors 27.15 336 P **P** **21 39 07.1 +1.3**
comp=Z,1.4nm,0.8s,baz=190,slow=7.3,SNR=1.7
HFS LR LR 21 51 53.8
comp=Z,103nm,18.6s,baz=141,slow=41
NOA NORSAR Array B 28.65 335 LR LR 21 52 55.8
comp=Z,51nm,18.2s,baz=135,slow=41
BRVK Borovoye 28.86 45 *ceP* **P** **21 39 21.8 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 28.86 45 P **P** **21 39 20.8 -0.3**
BRVK IAmb IAmb 21 39 22.8
comp=Z,2.7nm,1.1s
BVAR Borovoye Array 28.91 45 P **P** **21 39 21.8 +0.3**
comp=Z,1.1nm,0.9s,baz=39,slow=15,SNR=6.9
AAK Ala-Archa 30.08 67 LR LR 21 52 08.2
comp=Z,67nm,18.6s,baz=280,slow=37
AAK Ala-Archa 30.08 67 *i P* **P** **21 39 32.3 +0.1**
AAK pmax pmax
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 31.13 287 LR LR 21 52 35.1
comp=Z,34nm,19.8s,baz=148,slow=37
KSH Kashi 31.48 73 P P 21 39 38.8 -5.8
KSH pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 33.10 353 P **P** **21 39 58.1 -0.2**
comp=Z,1.4nm,0.7s,baz=170,slow=8.6,SNR=8.1
ARCES LR LR 21 55 25.3
comp=Z,69nm,20.8s,baz=172,slow=40
ARCES ARCESS Array B 33.10 353 P **P** **21 39 57.9 -0.4**
ARCES IAmb IAmb 21 40 03.2
comp=Z,5.2nm,1.0s
KURK Kurchatov 33.32 52 *ceP* **P** **21 40 00.7 +0.3**
KURK pmax pmax
comp=Z,8.0nm,1.3s
MAKZ Makanchi 35.31 59 P **P** **21 40 18.9 +1.1**
MAKZ pmax pmax
comp=Z,1.0nm,0.8s
MAKZ Makanchi 35.31 59 **P** **21 40 18.9 +1.1**
MK31 Makanchi Array 35.53 59 IAmb IAmb 21 40 21.7
comp=Z,1.6nm,1.0s
MKAR Makanchi Array 35.53 59 P **P** **21 40 20.4 +0.8**
comp=Z,1.6nm,0.9s,baz=272,slow=5.9,SNR=17
MKAR LR LR 21 57 01.8
comp=Z,48nm,18.6s,baz=265,slow=40
MKAR Makanchi Array 35.53 59 *ceP* **P** **21 40 20.7 +1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 37.50 47 P **P** **21 40 36.1 -0.2**
comp=Z,1.0nm,0.6s,baz=266,slow=8.4,SNR=6.8
ZALV LR LR 21 59 54.4
comp=Z,23nm,19.2s,baz=300,slow=42
MBAR Mbarara 37.67 188 LR LR 21 55 58.9
comp=Z,62nm,19.1s,baz=12,slow=36
TOA0 Torodi Ar. Sit 38.61 241 P **P** **21 40 46.5 +0.5**
TORD Torodi Ar. Bea 38.61 241 P **P** **21 40 46.3 +0.2**
comp=Z,2.2nm,0.9s,baz=44,slow=8.5,SNR=8.4
TORD Torodi Ar. Bea 38.61 241 P **P** **21 40 46.4 +0.4**
WMQ Urumqi 39.57 63 *eP* **P** **21 40 56.0 +2.0**
JMIC Jan Mayen 41.10 340 LR LR 21 59 50.7
comp=Z,57nm,18.0s,baz=74,slow=39
KOWA Kowa 41.85 248 P **P** **21 41 12.9 0.0**
SPITS Spitsbergen Ar 42.13 354 P **P** **21 41 12.6 -1.9**
SPITS pmax pmax
comp=Z,18nm,1.1s
NRIK Noril'sk 42.63 24 P **P** **21 41 19.0 +0.3**
comp=Z,2.6nm,0.8s,baz=215,slow=8.1,SNR=5.2
NRIK Noril'sk 42.63 24 *ceP* **P** **21 41 19.7 +1.0**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
DBIC Dimbokro 47.72 241 P **P** **21 41 59.9 +0.1**
comp=Z,2.8nm,0.7s,baz=106,slow=5.1,SNR=3.6
DBIC Dimbokro 47.72 241 P **P** **21 41 58.9 -0.9**
DBIC IAmb IAmb 21 41 59.6
comp=Z,4.8nm,1.1s
ZAK Zakamensk 48.98 52 *eP* **P** **21 42 06.7 -2.5**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
SONM Songino Array 51.56 54 P **P** **21 42 29.7 +0.8**
comp=Z,0.9nm,0.7s,baz=258,slow=7.2,SNR=2.3
ULN Ulaanbaatar 51.98 54 *ceP* **P** **21 42 32.2 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.9s
LSZ Lusaka 52.45 189 LR LR 22 06 24.9
comp=Z,80nm,19.3s,baz=163,slow=38
PZH PanZhiHua 56.07 81 P **P** **21 43 03.0 +0.9**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
TIXI Tiksi 56.34 22 *ceP* **P** **21 43 03.3 +0.2**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
HHC Hu-ho-hao-te 57.35 61 *eP* **P** **21 43 11.0 0.0**
HHC pmax pmax
comp=Z,13nm,1.2s
HHC pmax pmax
comp=Z,62nm,5.0s
CMAR Chiang Mai Arr 57.88 90 LR LR 22 14 12.2
comp=Z,11nm,20.0s,baz=295,slow=42
EUNU Eureka 58.97 350 P **P** **21 43 20.1 -1.6**
ZEA Zeya 62.00 42 *eP* **P** **21 43 44.5 +1.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
FRB Frobisher Bay 63.38 331 P **P** **21 43 51.8 +0.2**
comp=Z,2.0nm,0.6s,baz=33,slow=7.5,SNR=6.7
FRB LR LR 22 14 43.9
comp=Z,32nm,20.6s,baz=146,slow=39
BOSA Boshof 65.98 190 P **P** **21 44 10.1 +1.0**
comp=Z,1.9nm,0.8s,baz=16,slow=7.4,SNR=3.8
BOSA Boshof 65.98 190 P **P** **21 44 10.4 +1.3**
BOSA pmax pmax
comp=Z,3.0nm,1.1s
BOSA Boshof 65.98 190 P **P** **21 44 10.4 +1.3**
BOSA IAmb IAmb 21 44 14.2
comp=Z,2.5nm,1.1s
KLR Kul'dur 66.57 45 LR LR 22 17 22.7
comp=Z,35nm,18.9s,baz=28,slow=40
SCHQ Schefferville 67.22 322 P **P** **21 44 17.1 +0.3**
comp=Z,1.4nm,0.6s,baz=49,slow=8.4,SNR=3.6
SCHQ Schefferville 67.22 322 P **P** **21 44 16.6 -0.2**
SCHQ IAmb IAmb 21 44 33.2
comp=Z,4.8nm,1.1s
SEY Seymchan 68.38 26 *ceP* **P** **21 44 24.8 +0.9**
SEY pmax pmax
comp=Z,6.0nm,1.5s
BILL Bilibino 68.95 18 *iP* **P** **21 44 27.2 -0.2**
BILL *e* 21 44 56.4
BILL *e* 21 47 04.3
BILL *eS* **PnS** **21 54 03.1 +7.5**
BILL pmax pmax
comp=Z,1.0nm,1.1s

MA2 Magadan 69.92 29 *ceP* **P** **21 44 35.1 +1.6**
MA2 pmax pmax
comp=Z,6.0nm,1.7s
KSRS Korea Array 70.19 58 P **P** **21 44 36.1 +0.5**
comp=Z,1.1nm,0.8s,baz=299,slow=5.6,SNR=6.2
KSRS LR LR 22 18 58.2
comp=Z,48nm,18.6s,baz=320,slow=39
ASAJ Asahikawa 75.61 45 LR LR 22 20 09.9
comp=Z,47nm,19.3s,baz=244,slow=37
YKA Yellowknife Ar 78.05 346 P **P** **21 45 21.1 +0.1**
comp=Z,1.1nm,0.8s,baz=29,slow=5.6,SNR=17
YKA Yellowknife Ar 78.05 346 *i P* **P** **21 45 21.5 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.8s
SADO Sadowa 79.64 319 LR LR 22 21 03.7
comp=Z,35nm,18.2s,baz=230,slow=36
SCM Sheep Creek Mo 81.51 1 P **P** **21 45 41.3 +1.4**
SCM pmax pmax
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 81.51 1 P **P** **21 45 41.3 +1.4**
SML Sawmill 81.51 2 P **P** **21 45 40.1 +0.2**

WEL 31 21:58:46.0±0.3,38°S±3°,17°E±°,h36km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=160.4, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
RUGZ	**Raukumara Rang**	**0.22**	**47**	P	Pn	21 58 54.4	-0.3
RUGZ	**Raukumara Rang**	**0.22**	**47**	P	Pn	21 58 54.4	-0.3
MWZ	**Matawai**	**0.22**	**170**	P	Pn	21 58 54.4	-0.1
MWZ	**Matawai**	**0.22**	**170**	S	Sn	21 59 01.3	-1.1
MWZ	**Matawai**	**0.22**	**170**	P	Pn	21 58 54.4	-0.1
MWZ				S	Sn	21 59 01.3	-1.1
URZ	**Urewera**	**0.32**	**243**	P	Pn	21 58 55.3	+1.1
URZ	**Urewera**	**0.32**	**243**	S	Sn	21 59 02.3	+1.4
URZ	**Urewera**	**0.32**	**243**	P	Pn	21 58 55.3	+1.1
URZ				S	Sn	21 59 02.3	+1.4
RAGZ	**Rawiri**	**0.38**	**187**	P	Pn	21 58 56.2	+1.3
RAGZ	**Rawiri**	**0.38**	**187**	S	Sn	21 59 05.0	+3.4
RAGZ	**Rawiri**	**0.38**	**187**	P	Pn	21 58 56.2	+1.3
RAGZ				S	Sn	21 59 05.0	+3.4
TWGZ	**Tauwhareparae**	**0.40**	**99**	S	Pn	21 58 56.5	+1.5
TWGZ	**Tauwhareparae**	**0.40**	**99**	S	Sn	21 59 05.3	+3.5
TWGZ	**Tauwhareparae**	**0.40**	**99**	S	Pn	21 58 56.5	+1.5
TWGZ				S	Sn	21 59 05.3	+3.5
HAZ	**Te Kaha**	**0.43**	**34**	P	Pn	21 58 56.2	+0.8
HAZ	**Te Kaha**	**0.43**	**34**	P	Pn	21 58 56.2	+0.8
TKGZ	**Te Karaka**	**0.44**	**138**	P	Pn	21 58 56.4	+0.9
TKGZ	**Te Karaka**	**0.44**	**138**	S	Sn	21 59 05.1	+2.6
TKGZ	**Te Karaka**	**0.44**	**138**	P	Pn	21 58 56.4	+0.9
TKGZ				S	Sn	21 59 05.1	+2.6
WHRZ	**Whale Island**	**0.47**	**303**	P	Pn	21 58 57.5	+1.4
WHRZ	**Whale Island**	**0.47**	**303**	P	Pn	21 58 57.5	+1.4
PKGZ	**Pakihiroa**	**0.53**	**65**	P	Pn	21 58 58.3	+1.2
PKGZ	**Pakihiroa**	**0.53**	**65**	S	Sn	21 59 07.6	+2.9
PKGZ	**Pakihiroa**	**0.53**	**65**	P	Pn	21 58 58.3	+1.2
PKGZ				S	Sn	21 59 07.6	+2.9
PUZ	**Puketiti**	**0.62**	**86**	P	Pn	21 58 58.8	+0.4
PUZ	**Puketiti**	**0.62**	**86**	S	Sn	21 59 09.1	+2.1
PUZ	**Puketiti**	**0.62**	**86**	P	Pn	21 58 58.8	+0.4
PUZ				S	Sn	21 59 09.1	+2.1
RIGZ	**Rimuhau**	**0.63**	**159**	P	Pn	21 58 58.8	+0.2
RIGZ	**Rimuhau**	**0.63**	**159**	S	Sn	21 59 09.5	+2.1
RIGZ	**Rimuhau**	**0.63**	**159**	P	Pn	21 58 58.8	+0.2
RIGZ				S	Sn	21 59 09.5	+2.1
RTZ	**Ruatahuna**	**0.64**	**218**	P	Pn	21 58 58.7	0.0
RTZ	**Ruatahuna**	**0.64**	**218**	P	Pn	21 58 58.7	0.0
MARZ	**Manawahe**	**0.65**	**281**	P	Pn	21 58 59.3	+0.6
MARZ	**Manawahe**	**0.65**	**281**	S	Sn	21 59 09.9	+2.2
MARZ	**Manawahe**	**0.65**	**281**	P	Pn	21 58 59.3	+0.6
MARZ				S	Sn	21 59 09.9	+2.2
MUGZ	**Murupara**	**0.66**	**237**	P	Pn	21 58 59.2	+0.2
MUGZ	**Murupara**	**0.66**	**237**	S	Sn	21 59 09.3	+1.2
MUGZ	**Murupara**	**0.66**	**237**	P	Pn	21 58 59.2	+0.2
MUGZ				S	Sn	21 59 09.3	+1.2
SNGZ	**Shannon Statio**	**0.68**	**189**	P	Pn	21 58 59.7	+0.6
SNGZ	**Shannon Statio**	**0.68**	**189**	S	Sn	21 59 10.9	+2.5
SNGZ	**Shannon Statio**	**0.68**	**189**	P	Pn	21 58 59.7	+0.6
SNGZ				S	Sn	21 59 10.9	+2.5
CNGZ	**Carnagh Statio**	**0.68**	**123**	P	Pn	21 58 59.6	+0.5
CNGZ	**Carnagh Statio**	**0.68**	**123**	P	Pn	21 58 59.6	+0.5
TARZ	**Mount Tarawera**	**0.78**	**261**	P	Pn	21 59 01.5	+1.1
TARZ	**Mount Tarawera**	**0.78**	**261**	S	Sn	21 59 13.8	+2.8
TARZ	**Mount Tarawera**	**0.78**	**261**	P	Pn	21 59 01.5	+1.1
TARZ				S	Sn	21 59 13.8	+2.8
OPRZ	**Ohinepanea**	**0.78**	**290**	P	Pn	21 59 00.7	+0.3
OPRZ	**Ohinepanea**	**0.78**	**290**	P	Pn	21 59 00.7	+0.3
RRRZ	**Republican Roa**	**0.79**	**253**	P	Pn	21 59 01.0	+0.4
RRRZ	**Republican Roa**	**0.79**	**253**	P	Pn	21 59 01.0	+0.4
WMGZ	**Waiomatatini S**	**0.80**	**69**	P	Pn	21 59 01.5	+0.8
WMGZ	**Waiomatatini S**	**0.80**	**69**	P	Pn	21 59 01.5	+0.8
MXZ	**Matakaoa Point**	**0.86**	**50**	P	Pn	21 59 02.7	+1.2
MXZ	**Matakaoa Point**	**0.86**	**50**	P	Pn	21 59 02.7	+1.2
RAHZ	**Arahi**	**0.86**	**201**	P	Pn	21 59 02.2	+0.7
RAHZ	**Arahi**	**0.86**	**201**	P	Pn	21 59 02.2	+0.7
PRGZ	**Paritu Road**	**0.87**	**159**	P	Pn	21 59 01.8	+0.1
PRGZ	**Paritu Road**	**0.87**	**159**	P	Pn	21 59 01.8	+0.1
MTHZ	**Maungataniwha**	**0.89**	**214**	P	Pn	21 59 02.2	+0.2
MTHZ	**Maungataniwha**	**0.89**	**214**	P	Pn	21 59 02.2	+0.2
KNZ	**Kokohu**	**0.92**	**170**	P	Pn	21 59 02.0	-0.3
KNZ	**Kokohu**	**0.92**	**170**	P	Pn	21 59 02.0	-0.3
PRRZ	**Plateau Road**	**0.94**	**245**	P	Pn	21 59 02.9	+0.3
PRRZ	**Plateau Road**	**0.94**	**245**	P	Pn	21 59 02.9	+0.3
KARZ	**Kaharoa**	**0.98**	**275**	P	Pn	21 59 03.7	+0.5
KARZ	**Kaharoa**	**0.98**	**275**	P	Pn	21 59 03.7	+0.5
WHHZ	**Waihua**	**0.98**	**191**	P	Pn	21 59 02.7	-0.5
WHHZ	**Waihua**	**0.98**	**191**	P	Pn	21 59 02.7	-0.5
ALRZ	**Allen Road**	**1.00**	**243**	P	Pn	21 59 03.8	+0.3
ALRZ	**Allen Road**	**1.00**	**243**	P	Pn	21 59 03.8	+0.3
MRHZ	**Matea Rd**	**1.10**	**229**	P	Pn	21 59 05.3	+0.4
MRHZ	**Matea Rd**	**1.10**	**229**	P	Pn	21 59 05.3	+0.4
NMHZ	**Naumai**	**1.11**	**208**	P	Pn	21 59 06.0	+0.9
NMHZ	**Naumai**	**1.11**	**208**	P	Pn	21 59 06.0	+0.9
ARHZ	**Aropaoanui**	**1.21**	**198**	P	Pn	21 59 06.5	+0.2
ARHZ	**Aropaoanui**	**1.21**	**198**	P	Pn	21 59 06.5	+0.2
BKZ	**Black Stump Fm**	**1.30**	**216**	P	Pn	21 59 07.9	+0.2
BKZ	**Black Stump Fm**	**1.30**	**216**	P	Pn	21 59 07.9	+0.2
HATZ	**Hinemaiaia**	**1.33**	**234**	P	Pn	21 59 08.3	+0.2
HATZ	**Hinemaiaia**	**1.33**	**234**	P	Pn	21 59 08.3	+0.2
MCHZ	**McNeill Hill**	**1.46**	**204**	P	Pn	21 59 09.9	+0.1
MCHZ	**McNeill Hill**	**1.46**	**204**	P	Pn	21 59 09.9	+0.1
KWHZ	**Kaweka Forest**	**1.55**	**212**	P	Pn	21 59 11.0	-0.1
KWHZ	**Kaweka Forest**	**1.55**	**212**	P	Pn	21 59 11.0	-0.1
TMVZ	**Te Maari**	**1.71**	**234**	P	Pn	21 59 13.8	+0.4
TMVZ	**Te Maari**	**1.71**	**234**	P	Pn	21 59 13.8	+0.4
ETVZ	**East Tongariro**	**1.72**	**233**	P	Pn	21 59 13.9	+0.4
ETVZ	**East Tongariro**	**1.72**	**233**	P	Pn	21 59 13.9	+0.4
NTVZ	**North Tongarir**	**1.72**	**235**	P	Pn	21 59 13.9	+0.5
NTVZ	**North Tongarir**	**1.72**	**235**	P	Pn	21 59 13.9	+0.5
KRHZ	**Kereru**	**1.75**	**209**	P	Pn	21 59 13.1	-0.8
KRHZ	**Kereru**	**1.75**	**209**	P	Pn	21 59 13.1	-0.8
OTVZ	**Oturere**	**1.76**	**233**	P	Pn	21 59 14.5	+0.4
OTVZ	**Oturere**	**1.76**	**233**	P	Pn	21 59 14.5	+0.4
NNVZ	**North Ngauruho**	**1.78**	**235**	P	Pn	21 59 14.8	+0.5
NNVZ	**North Ngauruho**	**1.78**	**235**	P	Pn	21 59 14.8	+0.5
WTVZ	**West Tongariro**	**1.79**	**235**	P	Pn	21 59 15.0	+0.7
WTVZ	**West Tongariro**	**1.79**	**235**	P	Pn	21 59 15.0	+0.7
SNVZ	**South Ngauruho**	**1.79**	**233**	P	Pn	21 59 15.0	+0.5
SNVZ	**South Ngauruho**	**1.79**	**233**	P	Pn	21 59 15.0	+0.5
NGZ	**Ngauruhoe**	**1.81**	**234**	P	Pn	21 59 15.1	+0.4
NGZ	**Ngauruhoe**	**1.81**	**234**	P	Pn	21 59 15.1	+0.4
TUVZ	**Tukino**	**1.83**	**231**	P	Pn	21 59 15.3	+0.3
TUVZ	**Tukino**	**1.83**	**231**	P	Pn	21 59 15.3	+0.3
MOVZ	**Moawhango**	**1.87**	**226**	P	Pn	21 59 15.6	+0.1
MOVZ	**Moawhango**	**1.87**	**226**	P	Pn	21 59 15.6	+0.1
WNVZ	**Wahianoa**	**1.91**	**230**	P	Pn	21 59 16.3	+0.3
WNVZ	**Wahianoa**	**1.91**	**230**	P	Pn	21 59 16.3	+0.3
TRVZ	**Turoa**	**1.92**	**231**	P	Pn	21 59 16.9	+0.6
TRVZ	**Turoa**	**1.92**	**231**	P	Pn	21 59 16.9	+0.6
PNHZ	**Pukenui**	**2.05**	**209**	P	Pn	21 59 16.5	-1.5
PNHZ	**Pukenui**	**2.05**	**209**	P	Pn	21 59 16.5	-1.5
PRHZ	**Porangahau**	**2.25**	**197**	P	Pn	21 59 18.3	-2.3
PRHZ	**Porangahau**	**2.25**	**197**	P	Pn	21 59 18.3	-2.3
WAZ	**Wanganui**	**2.54**	**229**	P	Pn	21 59 25.7	+1.1
WAZ	**Wanganui**	**2.54**	**229**	P	Pn	21 59 25.7	+1.1
BFZ	**Birch Farm**	**2.74**	**200**	P	Pn	21 59 25.0	-2.3
BFZ	**Birch Farm**	**2.74**	**200**	P	Pn	21 59 25.0	-2.3
KIW	**Kapiti Island**	**3.39**	**215**	P	Pn	21 59 34.2	-2.1
KIW	**Kapiti Island**	**3.39**	**215**	P	Pn	21 59 34.2	-2.1
DUWZ	**D'Urville Isla**	**3.84**	**225**	P	Pn	21 59 40.5	-2.1
DUWZ	**D'Urville Isla**	**3.84**	**225**	P	Pn	21 59 40.5	-2.1
KHZ	**Kahutara**	**5.25**	**214**	P	Pn	21 59 58.9	-2.8
KHZ	**Kahutara**	**5.25**	**214**	P	Pn	21 59 58.9	-2.8
CTZ	**Chatham Island**	**7.18**	**143**	P	Pn	22 00 27.2	-1.1
CTZ	**Chatham Island**	**7.18**	**143**	P	Pn	22 00 27.2	-1.1

*IDC **31** 21:58:49.0±0.9, 6.°82N×73.°03W, h160km±21km, mb2.8/1, mb1 3.2/3, mb1mx2.9/30, mbtmp3.4/3, Error ellipse: s-maj=82.6km s-min=8.2km az=132.0*
*RSNC **31** 21:58:50.5±1.1, 6.°86N×73.°10W, h146km±4km, ML2.8*
ISC 31 21:58:48.9±1.0, 6.°90N±0.°03×73.°10W±0.°03, h155km±7km, n28, σ1°24/54, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
BARC	**Barichara**	**0.32**	**196**	*i P*	**Pn**	**21 59 10.4**	**+0.1**
BARC				*eS*	**Sn**	**21 59 25.7**	**-1.0**
BARC				*i*		21 59 34.9	
	comp=Z,54nm,0.3s						
PAMC	**Pamplona, Colo**	**0.59**	**42**	*eP*	**Pn**	**21 59 13.0**	**+1.2**
PAMC				*eS*	**Sn**	**21 59 30.0**	**+0.7**
PAMC				*i*		21 59 31.9	
	comp=Z,133nm,0.4s						
RUSC	**La Rusia**	**1.00**	**179**	*eP*	**Pn**	**21 59 14.6**	**-0.1**
RUSC				*eS*	**Sn**	**21 59 33.5**	**-0.9**
OCAC	**Ocana**	**1.35**	**351**	*eP*	**Pn**	**21 59 18.5**	**+1.1**
OCAC				*eS*	**Sn**	**21 59 39.8**	**+0.4**
OCAC				*i*		21 59 45.2	
	comp=Z,122nm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**110**	*i P*	**Pn**	**21 59 18.9**	**+1.3**
TAMC				*eS*	**Sn**	**21 59 39.7**	**+0.1**
TAMC				*i*		21 59 41.2	
	comp=Z,39nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.40**	**255**	*eP*	**Pn**	**21 59 17.5**	**-0.3**
PTBC				*eS*	**Sn**	**21 59 39.4**	**-0.5**
PTBC				*i*		21 59 43.9	
	comp=Z,78nm,0.5s						
SPBC	**San Pablo de B**	**1.58**	**218**	*eP*	**Pn**	**21 59 19.6**	**-0.1**
SPBC				*eS*	**Sn**	**21 59 42.9**	**-0.5**
SPBC				*i*		21 59 48.8	
	comp=Z,96nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.84**	**289**	*eP*	**Pn**	**21 59 23.1**	**+0.6**
ZARC				*eS*	**Sn**	**21 59 48.2**	**-0.1**
ZARC				*i*		21 59 54.1	
	comp=Z,85nm,0.3s						
NORC	**Norcasia**	**2.21**	**233**	*eP*	**Pn**	**21 59 26.8**	**0.0**
NORC				*eS*	**Sn**	**21 59 54.7**	**-1.3**
NORC				*i*		21 59 59.8	
	comp=Z,47nm,0.2s						
CHIC	**Chingaza**	**2.34**	**196**	*eP*	**Pn**	**21 59 29.0**	**+0.2**
CHIC				*eS*	**Sn**	**21 59 59.0**	**-0.5**
CHIC				*i*		22 00 04.1	
	comp=Z,21nm,0.3s						
ROSC	**El Rosal**	**2.38**	**211**	P	**Pn**	**21 59 30.5**	**+1.3**
	comp=Z,11nm,0.3s,baz=256,slow=19,SNR=21						
ROSC				S	**Sn**	**22 00 00.4**	**+0.1**
	comp=Z,13nm,0.3s,baz=20,slow=22,SNR=9.5						
ROSC	**El Rosal**	**2.38**	**211**	*eP*	**Pn**	**21 59 30.3**	**+1.1**
ROSC				*eS*	**Sn**	**22 00 00.1**	**-0.2**
ROSC				*i*		22 00 08.7	
	comp=Z,43nm,0.6s						
HELC	**Santa Helena**	**2.52**	**254**	*eP*	**Pn**	**21 59 31.7**	**+0.9**
HELC				*eS*	**Sn**	**22 00 03.4**	**+0.3**
HELC				*i*		22 00 09.1	
	comp=Z,39nm,0.5s						
UREC	**San Jos de Ur**	**2.56**	**289**	*eP*	**Pn**	**21 59 30.1**	**-0.9**
UREC				*eS*	**Sn**	**22 00 01.1**	**-2.4**
UREC				*i*		22 00 12.9	
	comp=Z,43nm,0.3s						
SOCV	**Socops**	**2.61**	**58**	*eP*	**Pn**	**21 59 32.0**	**+0.4**
SOCV				*eS*	**Sn**	**22 00 03.3**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.81**	**234**	*eP*	**Pn**	**21 59 35.5**	**+1.0**
GUY2C				*eS*	**Sn**	**22 00 14.5**	**+4.8**
GUY2C				*i*		22 00 18.7	
	comp=Z,60nm,0.5s						
VILC	**Villavicencio,**	**2.83**	**192**	*eP*	**Pn**	**21 59 34.4**	**-0.2**
VILC				*eS*	**Sn**	**22 00 09.3**	**-0.6**
PTGC	**Puerto Gaitan,**	**2.85**	**160**	*eP*	**Pn**	**21 59 33.9**	**-0.7**
PTGC				*eS*	**Sn**	**22 00 07.8**	**-2.2**
CBOC	**Ciudad Bolivar**	**3.08**	**251**	*eP*	**Pn**	**21 59 39.2**	**+1.6**
CBOC				*eS*	**Sn**	**22 00 16.3**	**+1.1**
CBOC				*i*		22 00 26.4	
	comp=Z,9.8nm,0.5s						
DBBC	**Dabeiba**	**3.09**	**272**	*eP*	**Pn**	**21 59 37.9**	**+0.2**
DBBC				*eS*	**Sn**	**22 00 15.8**	**+0.4**
DBBC				*i*		22 00 27.6	
	comp=Z,57nm,0.4s						
SDV	**Santo Domingo**	**3.14**	**51**	P	**Pn**	**21 59 39.7**	**+1.3**
	comp=Z,7.5nm,0.3s,baz=214,slow=8.0,SNR=32						
SDV				S	**Sn**	**22 00 17.2**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=71,slow=21,SNR=9.4						
SDV	**Santo Domingo**	**3.14**	**51**	*i P*	**Pn**	**21 59 39.7**	**+1.3**
SDV				*eS*	**Sn**	**22 00 17.5**	**+0.8**
SDV				*i*		22 00 19.7	
	comp=Z,9.0nm,0.5s						
ANIL	**Santa Ana**	**3.32**	**224**	*eP*	**Pn**	**21 59 42.4**	**+1.6**
ANIL				*eS*	**Sn**	**22 00 21.9**	**+0.9**
ANIL				*i*		22 00 28.4	
	comp=Z,62nm,0.3s						
SJCC	**San Jacinto, C**	**3.62**	**325**	*eP*	**Pn**	**21 59 44.4**	**0.0**
SJCC				*eS*	**Sn**	**22 00 24.5**	**-3.1**
SJCC				*i*		22 00 29.2	
	comp=Z,9.1nm,0.6s						
ORTC	**Ortega, Tolima**	**3.66**	**216**	*eP*	**Pn**	**21 59 44.9**	**-0.1**
ORTC				*eS*	**Sn**	**22 00 28.7**	**+0.1**
ORTC				*i*		22 00 33.2	
	comp=Z,22nm,0.5s						
PLMC	**San Jos del P**	**3.74**	**238**	*eP*	**Pn**	**21 59 46.9**	**+0.9**
PLMC				*eS*	**Sn**	**22 00 31.5**	**+1.2**
PLMC				*i*		22 00 41.4	
	comp=Z,9.1nm,0.4s						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**22 09 00.3**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=136,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**22 18 21.9**	**-1.1**
	comp=Z,0.3nm,1.0s,baz=106,slow=2.9,SNR=1.4						

**IDC 31 22:25:15.0±4.2

FUSS	**Fushou** baz=299	**0.40**	**300**	*e*S	Sb	22 26 17.6	-0.1
CHGB	**Renai** baz=271	**0.41**	**272**	*e*P	Pb	22 26 11.2	-0.4
CHGB	baz=271			*e*S	Sb	22 26 18.0	0.0
EGFH	**Guangfu** baz=205	**0.42**	**206**	*e*P	Pb	22 26 11.0	-0.6
NNSB	**Datong** baz=329	**0.44**	**330**	*e*S	Sb	22 26 18.6	-0.1
NNS	**Nan Shan** baz=329	**0.45**	**329**	*e*S	Sb	22 26 19.0	-0.1
LATG	**Datong** baz=349	**0.49**	**349**	*e*P	Pb	22 26 12.8	-0.1
LATG	baz=349			*e*S	Sb	22 26 20.0	-0.3

TAP 31 22:26:07.8,24.06N×121.61E,h9km,ML1.9,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=339	**0.03**	**323**	P	Pg	22 26 10.0	+0.6
TWD	baz=339			S	Sg	22 26 11.4	+0.8
HWA	**Hwalien** baz=180	**0.08**	**186**	P	Pg	22 26 10.2	+0.2
HWA	baz=180			S	Sg	22 26 12.3	+0.8
ETL	**Fush Village** baz=4.0	**0.10**	**5**	P	Pg	22 26 11.0	+0.7
ETL	baz=4.0			S	Sg	22 26 13.1	+1.0
NACB	**Ninganchiao** baz=351	**0.12**	**351**	P	Pg	22 26 11.2	+0.8
NACB	baz=351			S	Sg	22 26 13.5	+1.1
ETM	**Tongmen** baz=230	**0.14**	**230**	P	Pg	22 26 11.1	+0.2
TEYL	**Yanliau Villag** baz=184	**0.19**	**184**	P	Pg	22 26 12.0	+0.3
TEYL	baz=184			*e*S	Sg	22 26 15.1	+0.8
ETLH	**Xiulin Townshi** baz=320	**0.19**	**321**	P	Pg	22 26 12.8	+1.1
ETLH	baz=320			*e*S	Sg	22 26 16.1	+1.6
EHP	**Heping Village** baz=26	**0.28**	**25**	*e*P	Pg	22 26 14.1	+0.8
ESL	**Shilin** baz=212	**0.29**	**214**	P	Pb	22 26 14.8	-0.5
ESL	baz=212			S	Sb	22 26 19.3	-0.9
WHF	**Hehuan Shan** baz=285	**0.33**	**285**	P	Pg	22 26 14.9	+0.5
WHF	**Hehuan Shan** baz=286	**0.33**	**285**	S	Pg	22 26 14.9	+0.5
TEGC	**Jichi Village** baz=189	**0.35**	**191**	*e*S	Sb	22 26 21.5	-0.4
ENA	**Nanau** baz=18	**0.39**	**17**	P	Pg	22 26 16.1	+0.7
ENA	baz=18			*e*S	Sb	22 26 21.8	-1.1
FUSS	**Fushou** baz=299	**0.39**	**299**	*e*P	Pg	22 26 15.8	+0.3
CHGB	**Renai** baz=270	**0.40**	**270**	P	Pb	22 26 16.8	-0.4
CHGB	baz=270			*e*S	Sb	22 26 23.6	+0.1
EWUT	**Wuta** baz=21	**0.41**	**21**	*e*P	Pg	22 26 16.5	+0.7
EWUT	baz=21			*e*S	Sb	22 26 22.8	-0.9
OWD	**Renai** baz=255	**0.41**	**256**	*e*P	Pg	22 26 16.5	+0.6
OWD	baz=255			*e*S	Sb	22 26 23.3	-0.5
EGFH	**Guangfu** baz=203	**0.42**	**204**	*e*S	Sb	22 26 23.5	-0.4
NNSB	**Datong** baz=330	**0.42**	**330**	P	Pg	22 26 16.8	+0.7
NNSB	baz=330			S	Sb	22 26 23.9	-0.2
NNS	**Nan Shan** baz=330	**0.44**	**330**	*e*P	Pb	22 26 17.5	-0.3
NNS	baz=330			*e*S	Sb	22 26 24.0	-0.5
TWT	**Tachien** baz=294	**0.45**	**296**	*e*P	Pb	22 26 17.4	-0.6
TWT	baz=294			*e*S	Sb	22 26 24.8	0.0
TDCB	**Techi** baz=294	**0.46**	**295**	*e*S	Sb	22 26 24.8	-0.4
WUSB	**Renai** baz=261	**0.46**	**262**	P	Pb	22 26 18.7	+0.6
WUSB	baz=261			*e*S	Sb	22 26 24.4	-0.7
LATG	**Datong** baz=350	**0.48**	**350**	P	Pb	22 26 18.6	+0.1
LATG	baz=350			*e*S	Sb	22 26 25.1	-0.7
VWDT	**VWDT** baz=235	**0.53**	**235**	*e*P	Pb	22 26 18.9	-0.3
VWDT	baz=235			*e*S	Sb	22 26 27.1	+0.2
NDT	**Datong Townshi** baz=350	**0.55**	**350**	P	Pb	22 26 19.7	+0.1
NDT	baz=350			*e*S	Sb	22 26 27.4	-0.2
ENTT	**Nioudou** baz=356	**0.58**	**356**	P	Pb	22 26 20.3	+0.1
ENTT	baz=356			S	Sb	22 26 28.4	-0.2
NDS	**Dongshan** baz=9.0	**0.58**	**9**	*e*P	Pb	22 26 19.9	-0.2
NDS	baz=9.0			*e*S	Sb	22 26 28.9	+0.4
TWC	**Suao** baz=22	**0.59**	**21**	*e*P	Pb	22 26 20.2	-0.1
TWC	baz=22			*e*S	Sb	22 26 29.4	+0.7
HGSD	**Ruisui** baz=197	**0.59**	**197**	*e*P	Pb	22 26 19.9	-0.4
HGSD	baz=197			*e*S	Sb	22 26 29.1	+0.4
EHY	**Hungye** baz=205	**0.61**	**206**	*e*P	Pb	22 26 20.9	+0.3
EHY	baz=205			S	Sb	22 26 29.9	+0.6
WCS	**Beigang Elemen** baz=269	**0.64**	**270**	*e*P	Pb	22 26 21.4	+0.2
WCS	baz=269			*e*S	Sb	22 26 31.5	+1.2
YHNB	**Yeheng** baz=340	**0.65**	**340**	*e*P	Pb	22 26 21.5	+0.2
YHNB	baz=340			*e*S	Sb	22 26 31.1	+0.6
WHP	**Taichung City** baz=289	**0.65**	**290**	*e*P	Pb	22 26 21.6	+0.3
WHP	baz=289			*e*S	Sb	22 26 30.9	+0.4
NSK	**Sanguang** baz=339	**0.66**	**339**	P	Pb	22 26 21.7	+0.2
NSK	baz=339			S	Sb	22 26 31.5	+0.7
SSLB	**Suanglung** baz=246	**0.66**	**246**	*e*P	Pb	22 26 21.3	-0.2
SSLB	baz=246			*e*S	Sb	22 26 31.0	+0.2
TWE	**Neicheng** baz=5.0	**0.66**	**4**	*e*P	Pb	22 26 21.7	+0.2
TWE	baz=5.0			*e*S	Sb	22 26 31.1	+0.2
SMLT	**Sun Moon Lake** baz=254	**0.68**	**255**	*e*P	Pb	22 26 22.2	+0.4
SMLT	baz=254			*e*S	Sb	22 26 31.4	0.0
FUSB	**Fushanzhiwuyua** baz=357	**0.70**	**358**	*e*P	Pb	22 26 22.3	+0.1
FUSB	baz=357			*e*S	Sb	22 26 32.6	+0.6
TYC	**Yuchr** baz=257	**0.71**	**258**	*e*P	Pb	22 26 22.4	+0.1
TYC	baz=257			*e*S	Sb	22 26 32.2	0.0
ILA	**Ilan** baz=10.0	**0.71**	**10**	*e*S	Sb	22 26 33.1	+0.7
NWLT	**Wulai** baz=351	**0.72**	**352**	*e*P	Pb	22 26 22.6	0.0
NWLT	baz=351			*e*S	Sb	22 26 33.7	+1.1
YULB	**Yu-li** baz=203	**0.72**	**204**	*e*P	Pb	22 26 23.2	+0.6
YULB	baz=203			*e*S	Sb	22 26 33.3	+0.7
NFF	**Wufeng Townshi** baz=321	**0.73**	**322**	*e*P	Pb	22 26 23.5	+0.8
NFF	baz=321			*e*S	Sb	22 26 33.8	+1.0
EYUL	**Yuli** baz=200	**0.76**	**201**	*e*S	Sb	22 26 34.4	+0.8
TCU	**Taichung** baz=275	**0.86**	**276**	*e*P	Pg	22 26 23.8	-0.5
TCU	baz=275			*e*S	Sn	22 26 38.0	-0.8
WNT	**Mingjian** baz=257	**0.87**	**258**	*e*P	Pb	22 26 25.2	+0.1
WNT	baz=257			*e*S	Sb	22 26 37.6	+0.8
FULB	**Fuli** baz=198	**0.90**	**199**	*e*S	Sb	22 26 38.8	+1.0
ALS	**Alishan** baz=233	**0.92**	**234**	*e*S	Sb	22 26 39.1	+0.5
TIPB	**Shuangxi** baz=11	**0.93**	**12**	*e*P	Pb	22 26 25.9	-0.2
TIPB	baz=11			*e*S	Sb	22 26 38.7	+0.1

TAP 31 22:26:12.5,24.05N×121.62E,h9km,ML1.9,2D,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=338	**0.04**	**328**	P	Pg	22 26 15.0	+0.7
TWD	baz=338			S	Sg	22 26 16.3	+0.7
HWA	**Hwalien** baz=185	**0.07**	**191**	P	Pg	22 26 15.3	+0.8
HWA	baz=185			*e*S	Sg	22 26 17.1	+1.0
ETL	**Fush Village** baz=1.0	**0.11**	**1**	P	Pg	22 26 16.0	+0.8
ETL	baz=1.0			*e*S	Sg	22 26 17.9	+0.7
NACB	**Ninganchiao** baz=349	**0.13**	**350**	⇓P	Pg	22 26 16.1	+0.7
NACB	baz=349			S	Sg	22 26 18.4	+0.9
ETM	**Tongmen** baz=235	**0.14**	**236**	*e*P	Pg	22 26 16.2	+0.6
ETM	baz=235			*e*S	Sg	22 26 18.3	+0.5
TEYL	**Yanliau Villag** baz=186	**0.18**	**187**	*e*P	Pg	22 26 16.7	+0.5
TEYL	baz=186			*e*S	Sg	22 26 19.2	+0.4
ETLH	**Xiulin Townshi** baz=321	**0.20**	**322**	P	Pg	22 26 17.8	+1.0
ETLH	baz=321			S	Sg	22 26 21.1	+1.4
EHP	**Heping Village** baz=24	**0.29**	**23**	*e*P	Pb	22 26 19.1	-0.7
EHP	baz=24			*e*S	Sb	22 26 23.9	-0.7
ESL	**Shilin** baz=215	**0.29**	**217**	P	Pg	22 26 18.4	+0.2
ESL	baz=215			S	Sg	22 26 23.3	+1.3
WHF	**Hehuan Shan** baz=287	**0.34**	**287**	P	Pb	22 26 20.3	-0.6
WHF	baz=287			S	Sg	22 26 25.1	+1.2
WHF	**Hehuan Shan** baz=285	**0.34**	**287**	*e*S	Pb	22 26 20.4	-0.6
ENA	**Nanau** baz=17	**0.40**	**16**	P	Pb	22 26 21.0	-0.7
ENA	baz=17			S	Sg	22 26 26.6	+1.1
FUSS	**Fushou** baz=300	**0.40**	**300**	P	Pb	22 26 21.8	-0.1
FUSS	baz=300			S	Sb	22 26 28.3	+0.2
FUSS	**Fushou** baz=299	**0.40**	**300**	*e*S	Pb	22 26 22.0	+0.1
CHGB	**Renai** baz=272	**0.41**	**272**	⇓P	Pb	22 26 21.7	-0.2
CHGB	baz=272			S	Sb	22 26 27.4	-1.0
EGFH	**Guangfu** baz=205	**0.41**	**205**	*e*P	Pb	22 26 22.2	+0.3
EGFH	baz=205			*e*S	Sb	22 26 28.2	-0.1
OWD	**Renai** baz=257	**0.42**	**258**	*e*P	Pb	22 26 21.9	-0.1
OWD	baz=257			*e*S	Sb	22 26 28.4	-0.2
EWUT	**Wuta** baz=19	**0.42**	**20**	*e*P	Pg	22 26 21.4	+0.6
EWUT	baz=19			*e*S	Sb	22 26 28.9	+0.3
NNSB	**Datong** baz=330	**0.44**	**330**	P	Pb	22 26 22.3	-0.1
NNSB	baz=330			S	Sb	22 26 29.1	-0.1
NNS	**Nan Shan** baz=330	**0.45**	**330**	P	Pb	22 26 22.5	-0.2
NNS	baz=330			*e*S	Sb	22 26 29.0	-0.6
TWT	**Tachien** baz=295	**0.46**	**297**	*e*P	Pb	22 26 22.8	0.0
TWT	baz=295			*e*S	Sb	22 26 29.9	+0.1
WUSB	**Renai** baz=263	**0.46**	**264**	P	Pb	22 26 22.6	-0.2
WUSB	baz=263			S	Sb	22 26 29.7	-0.2
TDCB	**Techi** baz=296	**0.47**	**296**	*e*P	Pb	22 26 22.7	-0.3
TDCB	baz=296			*e*S	Sb	22 26 29.7	-0.4
LATG	**Datong** baz=350	**0.50**	**350**	P	Pb	22 26 23.1	-0.3
LATG	baz=350			*e*S	Sb	22 26 30.6	-0.2
VWDT	**VWDT** baz=236	**0.53**	**237**	*e*P	Pb	22 26 23.8	-0.1
VWDT	baz=236			*e*S	Sb	22 26 31.2	-0.3
NDT	**Datong Townshi** baz=349	**0.56**	**350**	P	Pb	22 26 24.8	+0.3
NDT	baz=349			S	Sb	22 26 32.7	0.0
HGSD	**Ruisui** baz=198	**0.58**	**198**	*e*P	Pb	22 26 24.5	-0.2
HGSD	baz=198			*e*S	Sb	22 26 32.9	-0.2
NDS	**Dongshan** baz=8.0	**0.59**	**8**	P	Pb	22 26 25.1	+0.1
NDS	baz=8.0			S	Sb	22 26 33.7	+0.2
ENTT	**Nioudou** baz=355	**0.59**	**355**	*i* P	Pb	22 26 25.2	+0.2
ENTT	baz=355			*e*S	Sb	22 26 33.4	-0.1
TWC	**Suao** baz=21	**0.60**	**20**	*e*P	Pb	22 26 25.0	-0.1
TWC	baz=21			S	Sb	22 26 33.7	0.0
EHY	**Hungye** baz=206	**0.60**	**207**	*e*P	Pg	22 26 24.6	+0.5
EHY	baz=206			*e*S	Sb	22 26 34.3	+0.5
WCS	**Beigang Elemen** baz=271	**0.65**	**271**	*e*P	Pb	22 26 26.9	+0.9
WCS	baz=271			*e*S	Sb	22 26 35.2	+0.2
WHP	**Taichung City** baz=290	**0.66**	**291**	P	Pb	22 26 26.9	+0.7
WHP	baz=290			S	Sb	22 26 36.4	+0.9
SSLB	**Suanglung** baz=247	**0.66**	**247**	P	Pb	22 26 26.1	-0.1
YHNB	**Yeheng** baz=340	**0.66**	**340**	*e*P	Pb	22 26 26.1	-0.1
YHNB	baz=340			*e*S	Sb	22 26 36.2	+0.6
NSK	**Sanguang** baz=339	**0.67**	**339**	P	Pb	22 26 26.9	+0.5
NSK	baz=339			S	Sb	22 26 36.7	+0.9
TWE	**Neicheng** baz=4.0	**0.67**	**4**	P	Pb	22 26 26.6	+0.2
TWE	baz=4.0			*e*S	Sb	22 26 35.6	-0.3
SMLT	**Sun Moon Lake** baz=255	**0.68**	**256**	P	Pb	22 26 26.9	+0.3
SMLT	baz=255			S	Sb	22 26 36.4	+0.4
FUSB	**Fushanzhiwuyua** baz=357	**0.71**	**358**	P	Pb	22 26 27.7	+0.6
FUSB	baz=357			*e*S	Sb	22 26 37.0	0.0
TYC	**Yuchr** baz=258	**0.71**	**259**	*e*P	Pb	22 26 27.2	+0.2
TYC	baz=258			*e*S	Sb	22 26 36.5	-0.4
YULB	**Yu-li** baz=204	**0.71**	**205**	*e*P	Pg	22 26 26.2	-0.1
YULB	baz=204			*e*S	Sb	22 26 37.5	+0.5
NWLT	**Wulai** baz=351	**0.74**	**352**	*e*P	Pb	22 26 27.9	+0.4
NFF	**Wufeng Townshi** baz=321	**0.74**	**322**	*e*P	Pb	22 26 28.3	+0.7
NFF	baz=321			*e*S	Sb	22 26 38.8	+0.9
EYUL	**Yuli** baz=201	**0.75**	**202**	*e*P	Pb	22 26 27.7	+0.1
EYUL	baz=201			*e*S	Sb	22 26 38.8	+0.9
NSTT	**Nanjuang** baz=316	**0.81**	**316**	*e*P	Pb	22 26 28.5	-0.2
NSTT	baz=316			*e*S	Sb	22 26 40.2	+0.4
FULB	**Fuli** baz=199	**0.89**	**200**	*e*P	Pb	22 26 30.2	+0.1
FULB	baz=199			*e*S	Sb	22 26 43.2	+1.0
ALS	**Alishan** baz=234	**0.92**	**235**	*e*P	Pg	22 26 30.1	-0.1
ALS	baz=234			*e*S	Sb	22 26 43.9	+0.8
TIPB	**Shuangxi** baz=11	**0.94**	**11**	*e*P	Pg	22 26 29.9	-0.7
TIPB	baz=11			*e*S	Sb	22 26 44.0	+0.4

WEL 31 22:35:09.6±0.2,41°S±2°×17°5E±°,h39km±3km,Error ellipse: s-maj=0.0km s-min=0.0km az=137.7,confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.11**	**2**	P	Pn	22 35 17.6	-0.3
KIW	**Kapiti Island**	**0.11**	**2**	S	Sn	22 35 23.3	-1.2
KIW	**Kapiti Island**	**0.11**	**2**	P	Pn	22 35 17.6	-0.3
KIW				S	Sn	22 35 23.3	-1.2
CAW	**Cannon Point**	**0.18**	**138**	P	Pn	22 35 18.7	+1.2
CAW	**Cannon Point**	**0.18**	**138**	S	Sn	22 35 25.3	+1.7
CAW	**Cannon Point**	**0.18**	**138**	P	Pn	22 35 18.7	+1.2
CAW				S	Sn	22 35 25.3	+1.7
OGWZ	**Otaki Gorge**	**0.25**	**53**	P	Pn	22 35 18.7	+1.1
OGWZ	**Otaki Gorge**	**0.25**	**53**	S	Sn	22 35 25.3	+1.7
OGWZ	**Otaki Gorge**	**0.25**	**53**	P	Pn	22 35 18.7	+1.1
OGWZ				S	Sn	22 35 25.3	+1.7
WEL	**Wellington**	**0.33**	**198**	P	Pn	22 35 19.7	+1.5
WEL	**Wellington**	**0.33**	**198**	S	Sn	22 35 26.8	+2.4
WEL	**Wellington**	**0.33**	**198**	P	Pn	22 35 19.7	+1.5
WEL				S	Sn	22 35 26.8	+2.4
BHW	**Baring Head**	**0.44**	**183**	P	Pn	22 35 21.0	+1.5
BHW	**Baring Head**	**0.44**	**183**	S	Sn	22 35 29.0	+2.5
BHW	**Baring Head**	**0.44**	**183**	P	Pn	22 35 21.0	+1.5
BHW				S	Sn	22 35 29.0	+2.5
HOWZ	**Holdsworth Sta**	**0.47**	**81**	P	Pn	22 35 21.0	+1.1
HOWZ	**Holdsworth Sta**	**0.47**	**81**	S	Sn	22 35 29.4	+2.2
HOWZ	**Holdsworth Sta**	**0.47**	**81**	P	Pn	22 35 21.0	+1.1
HOWZ				S	Sn	22 35 29.4	+2.2
MTW	**Mount Morrison**	**0.49**	**113**	P	Pn	22 35 21.5	+1.3
MTW	**Mount Morrison**	**0.49**	**113**	S	Sn	22 35 30.3	+2.6
MTW	**Mount Morrison**	**0.49**	**113**	P	Pn	22 35 21.5	+1.3
MTW				S	Sn	22 35 30.3	+2.6
MSWZ	**Moikau Station**	**0.52**	**150**	P	Pn	22 35 22.1	+1.5
MSWZ	**Moikau Station**	**0.52**	**150**	P	Pn	22 35 22.1	+1.5
TCW	**Tory Channel**	**0.53**	**243**	P	Pn	22 35 21.3	+0.5
TCW	**Tory Channel**	**0.53**	**243**	S	Sn	22 35 29.8	+1.1
TCW	**Tory Channel**	**0.53**	**243**	P	Pn	22 35 21.3	+0.5
TCW				S	Sn	22 35 29.8	+1.1
PAWZ	**Paruwai Farm**	**0.57**	**136**	P	Pn	22 35 22.7	+1.3
PAWZ	**Paruwai Farm**	**0.57**	**136**	S	Sn	22 35 32.4	+2.8
PAWZ	**Paruwai Farm**	**0.57**	**136**	P	Pn	22 35 22.7	+1.3
PAWZ				S	Sn	22 35 32.4	+2.8
MRZ	**Mangatainoka R**	**0.60**	**59**	P	Pn	22 35 22.1	+0.4
MRZ	**Mangatainoka R**	**0.60**	**59**	S	Sn	22 35 31.6	+1.4
MRZ	**Mangatainoka R**	**0.60**	**59**	P	Pn	22 35 22.1	+0.4
MRZ				S	Sn	22 35 31.6	+1.4
PLWZ	**Palliser**	**0.65**	**156**	P	Pn	22 35 23.6	+1.1
PLWZ	**Palliser**	**0.65**	**156**	P	Pn	22 35 23.6	+1.1
TRWZ	**Traveller**	**0.73**	**126**	P	Pn	22 35 24.5	+1.0
TRWZ	**Traveller**	**0.73**	**126**	P	Pn	22 35 24.5	+1.0
TMWZ	**Te Maipa**	**0.76**	**101**	P	Pn	22 35 24.7	+0.8
TMWZ	**Te Maipa**	**0.76**	**101**	P	Pn	22 35 24.7	+0.8
DUWZ	**D'Urville Isla**	**0.76**	**282**	P	Pn	22 35 23.7	-0.2
DUWZ	**D'Urville Isla**	**0.76**	**282**	S	Sn	22 35 34.3	0.0
DUWZ	**D'Urville Isla**	**0.76**	**282**	P	Pn	22 35 23.7	-0.2
DUWZ				S	Sn	22 35 34.3	0.0
TIWZ	**Tintock**	**0.77**	**76**	P	Pn	22 35 24.5	+0.4
TIWZ	**Tintock**	**0.77**	**76**	S	Sn	22 35 35.7	+1.3
TIWZ	**Tintock**	**0.77**	**76**	P	Pn	22 35 24.5	+0.4
TIWZ				S	Sn	22 35 35.7	+1.3
OHWZ	**Ohakea**	**0.82**	**22**	P	Pn	22 35 25.7	+0.9
OHWZ	**Ohakea**	**0.82**	**22**	S	Sn	22 35 36.8	+1.1
OHWZ	**Ohakea**	**0.82**	**22**	P	Pn	22 35 25.7	+0.9
OHWZ				S	Sn	22 35 36.8	+1.1
TUWZ	**Tuamarina**	**0.86**	**237**	P	Pn	22 35 25.6	+0.3
TUWZ	**Tuamarina**	**0.86**	**237**	S	Sn	22 35 36.8	+0.2
TUWZ	**Tuamarina**	**0.86**	**237**	P	Pn	22 35 25.6	+0.3
TUWZ				S	Sn	22 35 36.8	+0.2
POWZ	**Post Office Ro**	**0.88**	**49**	P	Pn	22 35 25.2	-0.2
POWZ	**Post Office Ro**	**0.88**	**49**	P	Pn	22 35 25.2	-0.2
PRWZ	**Pori Road**	**0.91**	**63**	P	Pn	22 35 26.2	+0.2
PRWZ	**Pori Road**	**0.91**	**63**	S	Sn	22 35 39.3	+1.5
PRWZ	**Pori Road**	**0.91**	**63**	P	Pn	22 35 26.2	+0.2
PRWZ				S	Sn	22 35 39.3	+1.5
CMWZ	**Cape Campbell**	**0.94**	**213**	P	Pn	22 35 27.7	+1.4
CMWZ	**Cape Campbell**	**0.94**	**213**	P	Pn	22 35 27.7	+1.4
CMWZ	**Cape Campbell**	**0.94**	**213**	P	Pn	22 35 27.7	+1.4
CMWZ				P	Pn	22 35 27.7	+1.4
CPWZ	**Castlepoint**	**0.98**	**87**	P	Pn	22 35 27.9	+1.0
CPWZ	**Castlepoint**	**0.98**	**87**	P	Pn	22 35 27.9	+1.0
BFZ	**Birch Farm**	**1.06**	**75**	P	Pn	22 35 27.8	-0.2
BFZ	**Birch Farm**	**1.06**	**75**	S	Sn	22 35 42.1	+0.6
BFZ	**Birch Farm**	**1.06**	**75**	P	Pn	22 35 27.8	-0.2
BFZ				S	Sn	22 35 42.1	+0.6
BSWZ	**Blackbirch Sta**	**1.07**	**226**	P	Pn	22 35 28.7	+0.5
BSWZ	**Blackbirch Sta**	**1.07**	**226**	P	Pn	22 35 28.7	+0.5
DVHZ	**Dannevirke**	**1.17**	**56**	P	Pn	22 35 28.9	-0.7
DVHZ	**Dannevirke**	**1.17**	**56**	P	Pn	22 35 28.9	-0.7
NNZ	**Nelson**	**1.18**	**257**	P	Pn	22 35 29.7	+0.1
NNZ	**Nelson**	**1.18**	**257**	P	Pn	22 35 29.7	+0.1
TSZ	**Takapari Road**	**1.22**	**42**	P	Pn	22 35 29.7	-0.5
TSZ	**Takapari Road**	**1.22**	**42**	P	Pn	22 35 29.7	-0.5
WAZ	**Wanganui**	**1.22**	**3**	P	Pn	22 35 30.6	+0.5
WAZ	**Wanganui**	**1.22**	**3**	P	Pn	22 35 30.6	+0.5
ANWZ	**Angora Road**	**1.30**	**67**	P	Pn	22 35 30.8	-0.4
ANWZ	**Angora Road**	**1.30**	**67**	P	Pn	22 35 30.8	-0.4
PNHZ	**Pukenui**	**1.45**	**44**	P	Pn	22 35 32.5	-0.9
PNHZ	**Pukenui**	**1.45**	**44**	P	Pn	22 35 32.5	-0.9
TKNZ	**Takaka Hill**	**1.47**	**267**	P	Pn	22 35 33.8	+0.1
TKNZ	**Takaka Hill**	**1.47**	**267**	P	Pn	22 35 33.8	+0.1
PRHZ	**Porangahau**	**1.49**	**62**	P	Pn	22 35 33.0	-1.0
PRHZ	**Porangahau**	**1.49**	**62**	P	Pn	22 35 33.0	-1.0
MTVZ	**Mangateitei**	**1.64**	**16**	P	Pn	22 35 36.7	+0.7
MTVZ	**Mangateitei**	**1.64**	**16**	P	Pn	22 35 36.7	+0.7
MRNZ	**Matariki Terra**	**1.68**	**254**	P	Pn	22 35 36.7	+0.3
MRNZ	**Matariki Terra**	**1.68**	**254**	P	Pn	22 35 36.7	+0.3
MOVZ	**Moawhango**	**1.69**	**23**	P	Pn	22 35 36.1	-0.6

MOVZ	**Moawhango**	**1.69**	**23**	P		Pn	22 35 36.1	-0.6
THZ	**Tophouse**	**1.70**	**242**	P		Pn	22 35 36.7	-0.2
THZ	**Tophouse**	**1.70**	**242**	P		Pn	22 35 36.7	-0.2
PKVZ	**Pokaka**	**1.71**	**12**	P		Pn	22 35 37.3	+0.3
PKVZ	**Pokaka**	**1.71**	**12**	P		Pn	22 35 37.3	+0.3
BHHZ	**Black Hill Sta**	**1.73**	**31**	P		Pn	22 35 36.6	-0.6
BHHZ	**Black Hill Sta**	**1.73**	**31**	P		Pn	22 35 36.6	-0.6
WNVZ	**Wahianoa**	**1.73**	**18**	P		Pn	22 35 37.3	+0.1
WNVZ	**Wahianoa**	**1.73**	**18**	P		Pn	22 35 37.3	+0.1
KRHZ	**Kereru**	**1.74**	**41**	P		Pn	22 35 36.2	-1.1
KRHZ	**Kereru**	**1.74**	**41**	P		Pn	22 35 36.2	-1.1
TRVZ	**Turoa**	**1.74**	**17**	P		Pn	22 35 37.7	+0.1
TRVZ	**Turoa**	**1.74**	**17**	P		Pn	22 35 37.7	+0.1
PXZ	**Pawanui**	**1.76**	**58**	P		Pn	22 35 36.5	-1.2
PXZ	**Pawanui**	**1.76**	**58**	P		Pn	22 35 36.5	-1.2
WHVZ	**Whangaehu Hut**	**1.77**	**18**	P		Pn	22 35 38.2	+0.3
WHVZ	**Whangaehu Hut**	**1.77**	**18**	P		Pn	22 35 38.2	+0.3
KHZ	**Kahutara**	**1.77**	**215**	P		Pn	22 35 37.7	0.0
KHZ	**Kahutara**	**1.77**	**215**	P		Pn	22 35 37.7	0.0
FWVZ	**Far West T-bar**	**1.78**	**16**	P		Pn	22 35 38.9	+0.7
FWVZ	**Far West T-bar**	**1.78**	**16**	P		Pn	22 35 38.9	+0.7
TUVZ	**Tukino**	**1.79**	**19**	P		Pn	22 35 38.4	+0.1
TUVZ	**Tukino**	**1.79**	**19**	P		Pn	22 35 38.4	+0.1
QRZ	**Quartz Range**	**1.81**	**274**	P		Pn	22 35 37.6	-0.6
QRZ	**Quartz Range**	**1.81**	**274**	P		Pn	22 35 37.6	-0.6
KHEZ	**Kahui Hut**	**1.81**	**338**	P		Pn	22 35 39.1	+0.8
KHEZ	**Kahui Hut**	**1.81**	**338**	P		Pn	22 35 39.1	+0.8
NEZ	**North Egmont**	**1.81**	**340**	P		Pn	22 35 39.2	+0.9
NEZ	**North Egmont**	**1.81**	**340**	P		Pn	22 35 39.2	+0.9
VRZ	**Vera Road**	**1.85**	**356**	P		Pn	22 35 39.0	+0.2
VRZ	**Vera Road**	**1.85**	**356**	P		Pn	22 35 39.0	+0.2
DREZ	**Durham Road**	**1.86**	**343**	P		Pn	22 35 38.7	-0.3
DREZ	**Durham Road**	**1.86**	**343**	P		Pn	22 35 38.7	-0.3
SNVZ	**South Ngauruho**	**1.87**	**18**	P		Pn	22 35 39.4	+0.1
SNVZ	**South Ngauruho**	**1.87**	**18**	P		Pn	22 35 39.4	+0.1
NGZ	**Ngauruhoe**	**1.87**	**17**	P		Pn	22 35 39.4	+0.1
NGZ	**Ngauruhoe**	**1.87**	**17**	P		Pn	22 35 39.4	+0.1
NBEZ	**Newall Road No**	**1.88**	**335**	P		Pn	22 35 40.1	+0.8
NBEZ	**Newall Road No**	**1.88**	**335**	P		Pn	22 35 40.1	+0.8
OTVZ	**Oturere**	**1.90**	**18**	P		Pn	22 35 39.8	+0.1
OTVZ	**Oturere**	**1.90**	**18**	P		Pn	22 35 39.8	+0.1
KAHZ	**Kahuranaki**	**1.91**	**53**	P		Pn	22 35 38.5	-1.2
KAHZ	**Kahuranaki**	**1.91**	**53**	P		Pn	22 35 38.5	-1.2
NNVZ	**North Ngauruho**	**1.92**	**17**	P		Pn	22 35 40.0	+0.1
NNVZ	**North Ngauruho**	**1.92**	**17**	P		Pn	22 35 40.0	+0.1
WTVZ	**West Tongariro**	**1.93**	**16**	P		Pn	22 35 40.2	+0.2
WTVZ	**West Tongariro**	**1.93**	**16**	P		Pn	22 35 40.2	+0.2
KWHZ	**Kaweka Forest**	**1.93**	**37**	P		Pn	22 35 38.7	-1.3
KWHZ	**Kaweka Forest**	**1.93**	**37**	P		Pn	22 35 38.7	-1.3
ETVZ	**East Tongariro**	**1.93**	**19**	P		Pn	22 35 40.2	+0.1
ETVZ	**East Tongariro**	**1.93**	**19**	P		Pn	22 35 40.2	+0.1
TWVZ	**Taurewa**	**1.94**	**12**	P		Pn	22 35 40.2	0.0
TWVZ	**Taurewa**	**1.94**	**12**	P		Pn	22 35 40.2	0.0
TMVZ	**Te Maari**	**1.95**	**19**	P		Pn	22 35 40.3	-0.1
TMVZ	**Te Maari**	**1.95**	**19**	P		Pn	22 35 40.3	-0.1
KRVZ	**Karewarewa**	**1.96**	**17**	P		Pn	22 35 41.0	+0.6
KRVZ	**Karewarewa**	**1.96**	**17**	P		Pn	22 35 41.0	+0.6
NTVZ	**North Tongarir**	**1.96**	**18**	P		Pn	22 35 40.4	-0.1
NTVZ	**North Tongarir**	**1.96**	**18**	P		Pn	22 35 40.4	-0.1
RITZ	**Rihia Road**	**2.12**	**21**	P		Pn	22 35 47.1	+4.5
RITZ	**Rihia Road**	**2.12**	**21**	P		Pn	22 35 47.1	+4.5
BKZ	**Black Stump Fm**	**2.18**	**35**	P		Pn	22 35 41.8	-1.6
BKZ	**Black Stump Fm**	**2.18**	**35**	P		Pn	22 35 41.8	-1.6
MRHZ	**Matea Rd**	**2.43**	**29**	P		Pn	22 35 45.2	-1.7
MRHZ	**Matea Rd**	**2.43**	**29**	P		Pn	22 35 45.2	-1.7
GVZ	**Greta Valley S**	**2.43**	**214**	P		Pn	22 35 46.4	-0.5
GVZ	**Greta Valley S**	**2.43**	**214**	P		Pn	22 35 46.4	-0.5
HIZ	**Hauiti**	**2.45**	**359**	P		Pn	22 35 47.4	+0.3
HIZ	**Hauiti**	**2.45**	**359**	P		Pn	22 35 47.4	+0.3
DSZ	**Denniston Nort**	**2.46**	**251**	P		Pn	22 35 46.6	-0.6
DSZ	**Denniston Nort**	**2.46**	**251**	P		Pn	22 35 46.6	-0.6
MTHZ	**Maungataniwha**	**2.59**	**36**	P		Pn	22 35 47.1	-2.0
MTHZ	**Maungataniwha**	**2.59**	**36**	P		Pn	22 35 47.1	-2.0
TLZ	**Tolley Road**	**2.68**	**11**	P		Pn	22 35 50.9	+0.6
TLZ	**Tolley Road**	**2.68**	**11**	P		Pn	22 35 50.9	+0.6
SNGZ	**Shannon Statio**	**2.88**	**41**	P		Pn	22 35 50.5	-2.5
SNGZ	**Shannon Statio**	**2.88**	**41**	P		Pn	22 35 50.5	-2.5
OKCZ	**Okains Bay**	**3.07**	**206**	P		Pn	22 35 54.4	-1.3
OKCZ	**Okains Bay**	**3.07**	**206**	P		Pn	22 35 54.4	-1.3
MQZ	**McQueen's Vall**	**3.20**	**211**	P		Pn	22 35 55.4	-2.0
MQZ	**McQueen's Vall**	**3.20**	**211**	P		Pn	22 35 55.4	-2.0
AKCZ	**Akaroa Harbour**	**3.25**	**206**	P		Pn	22 35 56.9	-1.2
AKCZ	**Akaroa Harbour**	**3.25**	**206**	P		Pn	22 35 56.9	-1.2
TOZ	**Tahuroa Road**	**3.27**	**8**	P		Pn	22 35 57.8	-0.5
TOZ	**Tahuroa Road**	**3.27**	**8**	P		Pn	22 35 57.8	-0.5
MKAZ	**Moumakai**	**3.87**	**3**	P		Pn	22 36 06.1	-0.4
MKAZ	**Moumakai**	**3.87**	**3**	P		Pn	22 36 06.1	-0.4
AWAZ	**Awhitu Peninsu**	**3.91**	**357**	P		Pn	22 36 07.2	+0.1
AWAZ	**Awhitu Peninsu**	**3.91**	**357**	P		Pn	22 36 07.2	+0.1
CTZ	**Chatham Island**	**6.86**	**117**	P		Pn	22 36 47.3	-0.3
CTZ	**Chatham Island**	**6.86**	**117**	P		Pn	22 36 47.3	-0.3
PYZ	**Puysegur Point**	**7.91**	**226**	P		Pn	22 37 02.7	+0.7
PYZ	**Puysegur Point**	**7.91**	**226**	P		Pn	22 37 02.7	+0.7

*IDC **31** 23:23:18.7±1.6,55°.26N×35°.03W,h0km,mb3.4/3, mb1 3.7/5,mb1mx3.3/46,mbtmp3.6/5,ML2.9/2,MS3.2/20, Ms1 3.2/20,ms1mx3.0/67,Error ellipse: s-maj=48.8km s-min=30.6km az=25.0*

ISC 31 23:23:20.3±1.2,55°.3N±0°.3×35°.1W±0°.2,h14km,n24,
σ0s48/6,mb3.4/3,MS3.1/18,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.07**	**77**	P	**P**	**23 27 30.8**	**-0.2**
	baz=278,slow=11,SNR=3.3						
SCHQ	**Schefferville**	**18.12**	**282**	P	**Pn**	**23 27 31.3**	**+0.1**
	0.1nm,0.3s,baz=56,slow=11,SNR=2.2						
SCHQ				LR	LR	23 33 48.8	
	comp=Z,104nm,19.0s,baz=76,slow=35						
FRB	**Frobisher Bay**	**18.74**	**310**	LR	LR	23 32 56.3	
	comp=Z,78nm,20.4s,baz=172,slow=31						
NOA	**NORSAR Array B**	**24.62**	**58**	LR	LR	23 38 20.5	
	comp=Z,21nm,18.1s,baz=280,slow=37						
ESDC	**Sonseca Array**	**25.91**	**114**	P	**P**	**23 28 51.9**	**+0.2**
	0.5nm,0.7s,baz=320,slow=8.0,SNR=4.7						
ESDC				LR	LR	23 37 28.0	
	comp=Z,37nm,18.2s,baz=311,slow=33						
HFS	**Hagfors**	**25.97**	**59**	LR	LR	23 38 55.4	
	comp=Z,37nm,18.4s,baz=284,slow=36						
DAVOX	**Davos/Dischmat**	**29.06**	**88**	LR	LR	23 40 42.5	
	comp=Z,120nm,18.2s,baz=60,slow=36						
SADO	**Sadowa**	**29.73**	**268**	LR	LR	23 40 15.2	
	comp=Z,74nm,18.4s,baz=337,slow=34						
ARCES	**ARCESS Array B**	**29.89**	**38**	LR	LR	23 39 00.1	
	comp=Z,39nm,20.2s,baz=174,slow=32						
GERES	**GERESS Array B**	**30.13**	**82**	LR	LR	23 41 30.5	
	comp=Z,36nm,19.1s,baz=278,slow=36						
VRAC	**Vranov**	**31.52**	**79**	LR	LR	23 40 55.4	
	comp=Z,39nm,19.7s,baz=295,slow=34						
ULM	**Lac du Bonnet**	**36.09**	**288**	LR	LR	23 43 41.2	
	comp=Z,62nm,18.6s,baz=104,slow=34						
AKASG	**Malin Array Be**	**37.72**	**69**	LR	LR	23 45 57.8	
	comp=Z,17nm,18.4s,baz=333,slow=36						
TKL	**Tuckaleechee C**	**38.43**	**260**	LR	LR	23 44 39.4	
	comp=Z,58nm,19.0s,baz=11,slow=33						
MLR	**Muntele Rosu**	**38.91**	**78**	LR	LR	23 45 44.3	
	comp=Z,53nm,21.9s,baz=296,slow=35						
IDI	**Anoyia**	**45.09**	**91**	LR	LR	23 50 55.3	
	comp=Z,21nm,18.7s,baz=130,slow=37						
BRTR	**Keskin Array B**	**46.96**	**79**	LR	LR	23 52 46.2	
	comp=Z,40nm,19.6s,baz=314,slow=38						
PDAR	**Pinedale Array**	**48.11**	**288**	LR	LR	23 51 06.9	
	comp=Z,45nm,18.9s,baz=324,slow=35						
NEW	**Newport**	**48.45**	**298**	LR	LR	23 50 48.7	
	comp=Z,43nm,19.1s,baz=254,slow=34						
TORD	**Torodi Ar. Bea**	**50.84**	**131**	P	**P**	**23 32 20.3**	**0.0**
	0.3nm,0.7s,baz=347,slow=7.1,SNR=1.7						
AKTO	**Aktyubinsk**	**52.32**	**54**	LR	LR	23 52 47.9	
	comp=Z,19nm,21.0s,baz=328,slow=34						
SDV	**Santo Domingo**	**54.18**	**225**	LR	LR	23 58 36.5	
	comp=Z,17nm,18.0s,baz=18,slow=39						
MKAR	**Makanchi Array**	**65.43**	**42**	P	**P**	**23 34 02.6**	**+0.4**
	0.3nm,0.7s,baz=334,slow=5.8,SNR=4.3						
ASAR	**Alice Springs**	**147.34**	**19**	PKPbc	**PKPab**	**23 43 04.3**	**-0.7**
	0.6nm,0.6s,baz=354,slow=2.8,SNR=5.9						

*IDC **31** 23:34:03.1±1.9,2°.31N×127°.89E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/33,mbtmp3.8/4,MS3.1/2,Ms1 3.1/2, ms1mx2.4/67,Error ellipse: s-maj=141.2km s-min=24.4km az=66.0*

*DJA **31** 23:34:23.9±1.8,2°.N±10°×12°.9E±1°.2,h247km±13km, M4.2/8,mb4.1/6,mB4.7/3,MLv4.2/8,Mw(mB)3.9/3*

ISC 31 23:34:23.9±1.6,2°.4N±0°.2×128°.8E±0°.1,h200km,n12,
σ0s88/10,mb3.9/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**5.25**	**213**	P	**Pn**	**23 35 41.8**	**+0.2**
MSAI	**Masohi**	**5.72**	**179**	P	**Pn**	**23 35 46.8**	**-0.8**
	0.3nm6.7nm,0.5s						
GTOI	**Gorontalo**	**6.06**	**253**	P	**Pn**	**23 35 53.2**	**+1.2**
	0.1nm310nm15nm,0.5s						
LUWI	**Luwuk**	**6.94**	**240**	P	**Pn**	**23 36 02.6**	**-0.8**
	0.3nm3µm62nm,0.7s						
MRSI	**Marisa**	**7.13**	**254**	P	**Pn**	**23 36 05.5**	**-0.4**
	0.2nm34nm,0.5s						
APSI	**Ampana**	**7.88**	**245**	P	**Pn**	**23 36 14.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**20.62**	**189**	LR	LR	23 48 39.8	
	comp=Z,41nm,18.7s,baz=157,slow=43						
PMG	**Port Moresby**	**21.73**	**123**	LR	LR	23 49 55.7	
	comp=Z,54nm,18.8s,baz=124,slow=42						
WRA	**Warramunga Arr**	**22.87**	**167**	P	**P**	**23 39 10.2**	**0.0**
	1.1nm,0.3s,baz=343,slow=10,SNR=26						
ASAR	**Alice Springs**	**26.39**	**169**	P	**P**	**23 39 42.2**	**+0.2**
	0.9nm,0.5s,baz=354,slow=8.0,SNR=14						
STKA	**Stephens Creek**	**36.20**	**161**	P	**P**	**23 41 08.5**	**+0.9**
	1.1nm,0.3s,baz=338,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**59.82**	**325**	P	**P**	**23 44 07.7**	**-0.5**
	0.2nm,0.3s,baz=112,slow=8.4,SNR=5.3						

*IDC **31** 23:38:52.8±0.9,52°.30N×169°.45W,h0km,mb4.0/22, mb1 4.2/24,mb1mx4.0/53,mbtmp4.0/24,ML3.5/2,MS3.1/4, Ms1 3.2/4,ms1mx2.6/96,Error ellipse: s-maj=26.3km s-min=14.0km az=172.0*

*NEIC **31** 23:38:55.0±2.4,52°.2N±0°.1×169°.3W±0°.1,h19km±9km, mb3.8/49,ML3.4(AEIC),Error ellipse: s-maj=15.7km s-min=10.6km az=162.0*

*AEIC **31** 23:38:57±2.7,52°.34N±0°.06×169°.3W±0°.1,h8km±6km, Error ellipse: s-maj=10.6km s-min=8.3km az=92.0*

ISC 31 23:38:54.5±0.7,52°.3N±0°.1×169°.35W±0°.06,h10km,n127,
σ1s14/114,mb4.0/33,MS3.1/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.76**	**23**		**Pn**	**23 39 11.6**	**+0.3**
UNV	**Unalaska Valle**	**2.33**	**46**	Pn	**Pn**	**23 39 34.1**	**+1.2**
GSTR	**Great Sitkin T**	**4.13**	**270**	Pn	**Pn**	**23 39 58.8**	**+1.2**
ADK	**Adak**	**4.54**	**268**	Pn	**Pn**	**23 40 04.1**	**+0.9**
KIWB	**Kanaga Island**	**4.83**	**268**	Pn	**Pn**	**23 40 08.7**	**+1.4**
SPIA	**Saint Paul Isl**	**4.94**	**354**	Pn	**Pn**	**23 40 11.6**	**+2.9**
SDPT	**Sand Point**	**6.09**	**56**	Pn	**Pn**	**23 40 27.4**	**+2.9**
OHAK	**Old Harbor**	**10.52**	**56**	Pn	**Pn**	**23 41 25.0**	**-0.2**
KDAK	**Kodiak Island**	**11.08**	**54**	Pn	**Pn**	**23 41 31.8**	**-1.0**
	0.6nm,0.3s,baz=272,slow=8.3,SNR=2.2						
KDAK	**Kodiak Island**	**11.08**	**54**		**Pn**	**23 41 33.0**	**+0.2**
Q19K	**Cape Douglas,**	**11.09**	**47**	Pn	**Pn**	**23 41 35.1**	**+2.1**
GAMB	**Gambell**	**11.60**	**355**	Pn	**Pn**	**23 41 40.3**	**+0.5**
N19K	**Bonanza Creek**	**11.83**	**38**	Pn	**Pn**	**23 41 46.3**	**+3.2**
RSO	**Redoubt South**	**12.29**	**42**	Pn	**Pn**	**23 41 52.1**	**+2.5**
CNPM	**China Poot**	**12.46**	**47**	Pn	**Pn**	**23 41 52.3**	**+0.5**
ANM	**Nome**	**12.50**	**8**	Pn	**Pn**	**23 41 50.1**	**-2.1**
SEW	**Seward**	**13.53**	**47**	Pn	**Pn**	**23 42 06.6**	**+0.4**
O22K	**Cooper Landing**	**13.58**	**45**	Pn	**Pn**	**23 42 07.5**	**+0.5**
K20K	**Telida**	**13.72**	**30**	Pn	**Pn**	**23 42 11.7**	**+2.7**
PPLA	**Purkeypile**	**14.01**	**34**		**P**	**23 42 19.0**	**-2.0**
J20K	**Nowinta River**	**14.31**	**28**	P	**P**	**23 42 21.9**	**-2.3**
PWL	**Port Wells**	**14.37**	**45**	Pn	**Pn**	**23 42 16.2**	**-1.6**
CAST	**Castle Rocks**	**14.40**	**32**	Pn	**P**	**23 42 21.8**	**-3.4**
KNK	**Knik Glacier**	**14.58**	**43**	Pn	**Pn**	**23 42 19.9**	**-0.7**
SML	**Sawmill**	**14.83**	**42**	Pn	**Pn**	**23 42 24.0**	**0.0**
KTH	**Kantishna Hill**	**14.88**	**33**	Pn	**Pn**	**23 42 24.1**	**-0.7**
GLI	**Glacier Island**	**14.92**	**46**	Pn	**Pn**	**23 42 24.6**	**-0.6**
TRF	**Thorofare Moun**	**15.03**	**34**	Pn	**Pn**	**23 42 28.7**	**+1.8**
TRF				IAmb	IAmb	23 42 46.1	
	comp=Z,4.6nm,1.0s						
FID	**Port Fidalgo**	**15.14**	**47**	Pn	**Pn**	**23 42 26.2**	**-2.0**
BPAW	**Bear Paw Mtn.**	**15.22**	**32**	Pn	**Pn**	**23 42 30.3**	**+1.0**
BPAW				IAmb	IAmb	23 42 35.4	
	comp=Z,8.6nm,0.9s						
SCM	**Sheep Creek Mo**	**15.26**	**43**	Pn	**Pn**	**23 42 28.3**	**-1.4**
RND	**Reindeer**	**15.51**	**36**	Pn	**Pn**	**23 42 34.6**	**+1.5**
DIV	**Divide**	**15.61**	**46**	Pn	**Pn**	**23 42 33.8**	**-0.7**
DIV				IAmb	IAmb	23 42 45.4	
	comp=Z,5.4nm,0.7s						
BWN	**Browne**	**15.77**	**33**	Pn	**Pn**	**23 42 36.4**	**0.0**
H21K	**Melozitna Rive**	**15.82**	**26**	Pn	**Pn**	**23 42 37.8**	**+0.8**
RAGM	**Ragged Mountai**	**15.83**	**49**	Pn	**Pn**	**23 42 36.4**	**-0.9**
IMAR	**Indian Mountai**	**15.83**	**24**	Pn	**Pn**	**23 42 37.2**	**0.0**
M24K	**Tolsona, Glenn**	**15.86**	**43**	Pn	**Pn**	**23 42 36.8**	**-0.9**
DHY	**Denali Highway**	**15.88**	**39**	Pn	**Pn**	**23 42 38.1**	**+0.2**
MLY	**Manley**	**15.94**	**30**	P	**P**	**23 42 43.2**	**+0.8**
MLY				IAmb	IAmb	23 42 48.8	
	comp=Z,5.0nm,0.8s						
HMT	**Hamilton**	**16.01**	**50**	Pn	**Pn**	**23 42 39.3**	**-0.3**
HMT				IAmb	IAmb	23 42 51.3	
	comp=Z,16nm,1.0s						
NEA2	**Nenana**	**16.18**	**32**		**Pn**	**23 42 42.8**	**+1.2**
NEA2				IAmb	IAmb	23 42 52.1	
	comp=Z,5.5nm,1.2s						
BERG	**Berg Lake**	**16.29**	**50**	Pn	**Pn**	**23 42 42.6**	**-0.5**
N25K	**Chitina, Valde**	**16.32**	**45**	Pn	**Pn**	**23 42 42.8**	**-0.8**
N25K				IAmb	IAmb	23 42 44.7	
	comp=Z,4.9nm,0.8s						
WRH	**Wood River Hil**	**16.43**	**34**	Pn	**Pn**	**23 42 45.5**	**+0.6**
I23K	**Minto, Yukon-K**	**16.45**	**31**	P	**P**	**23 42 48.6**	**+0.7**
I23K				IAmb	IAmb	23 43 08.1	
	comp=Z,3.0nm,0.7s						
PAX	**Paxson**	**16.57**	**40**	Pn	**Pn**	**23 42 46.2**	**-0.5**
GLB	**Gilahina Butte**	**16.60**	**46**	Pn	**Pn**	**23 42 46.3**	**-0.8**
GLB				IAmb	IAmb	23 43 00.0	
	comp=Z,3.4nm,0.7s						
VRDI	**Verde Repeater**	**16.69**	**47**	Pn	**Pn**	**23 42 47.6**	**-0.7**
VRDI				IAmb	IAmb	23 42 59.5	
	comp=Z,9.9nm,1.1s						
MDM	**Murphy Dome**	**16.69**	**32**	Pn	**Pn**	**23 42 48.3**	**+0.1**
WAX	**Wagwell Ridge**	**16.71**	**50**		**Pn**	**23 42 48.2**	**-0.3**
ISLE	**Juniper Island**	**17.00**	**50**	Pn	**Pn**	**23 42 51.9**	**-0.3**
ISLE				IAmb	IAmb	23 43 05.5	
	comp=Z,6.7nm,0.7s						
IL31		**17.02**	**34**	Pn	**Pn**	**23 42 51.8**	**-0.5**
ILAR	**Eielson Array**	**17.02**	**34**	Pn	**Pn**	**23 42 51.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=6.0						
ILAR				PcP	**PcP**	**23 47 36.9**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=283,slow=3.1,SNR=4.7						
ILAR	**Eielson Array**	**17.02**	**34**	Pn	**Pn**	**23 42 50.8**	**-1.6**
RIDG	**Independent Ri**	**17.19**	**39**		**Pn**	**23 42 55.1**	**+0.5**
H24K	**Noodor Dome**	**17.37**	**30**		**P**	**23 42 57.8**	**-0.3**
H24K				IAmb	IAmb	23 43 13.4	
	comp=Z,4.3nm,0.9s						
BARN	**Barnard Glacie**	**17.45**	**49**		**Pn**	**23 42 58.2**	**+0.2**
BARN				IAmb	IAmb	23 43 10.3	
	comp=Z,7.2nm,1.0s						
DOT	**Dot Lake**	**17.45**	**39**		**Pn**	**23 42 58.0**	**+0.2**
J25K	**Salcha River,**	**17.46**	**36**	Pn	**Pn**	**23 42 57.7**	**-0.3**
J25K				IAmb	IAmb	23 43 10.7	
	comp=Z,2.8nm,0.7s						
TABL	**Table Mountain**	**17.52**	**51**		**Pn**	**23 42 59.0**	**+0.2**
TABL				IAmb	IAmb	23 43 11.8	
	comp=Z,8.7nm,0.9s						
SCRK	**Sand Creek**	**17.64**	**39**		**Pn**	**23 43 00.4**	**+0.1**
M27K	**Edge Creek, AK**	**17.80**	**45**	P	**Pn**	**23 43 00.9**	**-1.3**
M27K				IAmb	IAmb	23 43 08.6	
	comp=Z,9.9nm,1.1s						
L27K	**Beaver Creek,**	**18.09**	**43**		**Pn**	**23 43 05.6**	**-0.1**
BCAR	**Beaver Creek A**	**18.11**	**43**		**Pn**	**23 43 05.4**	**-0.5**
TOLK	**Toolik Lake Re**	**18.93**	**22**	P	**Pn**	**23 43 15.7**	**-0.1**
HYT	**Haines Junctio**	**19.35**	**51**	P	**Pn**	**23 43 22.8**	**+1.7**
BMAR	**Burnt Mountain**	**19.41**	**29**	P	**Pn**	**23 43 21.8**	**+0.1**
DAWY	**Dawson**	**19.50**	**41**	P	**P**	**23 43 21.7**	**+0.2**
DAWY				IAmb	IAmb	23 43 36.5	
	comp=Z,2.8nm,0.9s						
PEA0B	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**23 43 26.0**	**+0.2**
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**23 43 25.6**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=86,slow=13,SNR=33						
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**23 43 25.1**	**-0.8**
M30M	**Minto, Yukon**	**20.10**	**46**	P	Pn	23 43 29.4	-0.6
M30M				IAmb	IAmb	23 43 42.3	
	comp=Z,1.9nm,0.8s						
SKAG	**Skagway**	**20.22**	**56**	P	**P**	**23 43 29.1**	**-0.2**
SKAG				IAmb	IAmb	23 43 34.0	
	comp=Z,6.5nm,0.9s						

N31M	**Braeburn, Yuko**	**20.31**	**50**	P		Pn	23 43 32.6	+0.3
BESE	**Bessie Mountai**	**20.39**	**58**	P		**P**	**23 43 32.4**	**+1.0**
BESE				IAmb		IAmb	23 43 42.6	
	comp=Z,4.8nm,0.8s							
WHY	**Whitehorse**	**20.59**	**52**	P		Pn	23 43 36.0	+0.3
M31M	**Drury Creek, Y**	**21.10**	**48**	P		**P**	**23 43 40.1**	**+1.2**
M31M				IAmb		IAmb	23 43 42.2	
	comp=Z,3.8nm,0.8s							
EPYK	**Eagle Plains**	**21.47**	**36**	P		**P**	**23 43 42.1**	**-0.7**
EPYK				IAmb		IAmb	23 44 01.8	
	comp=Z,5.5nm,0.8s							
P33M	**Teslin, Yukon**	**21.55**	**54**	P		**P**	**23 43 45.1**	**+1.3**
P33M				IAmb		IAmb	23 43 50.7	
	comp=Z,5.8nm,0.9s							
SEY	**Seymchan**	**22.74**	**313**	P		**P**	**23 43 55.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=107,slow=10,SNR=5.4							
SEY				PcP		**PcP**	**23 47 47.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=104,slow=4.8,SNR=4.5							
DLBC	**Dease Lake**	**22.93**	**59**	P		**P**	**23 43 58.9**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=271,slow=12,SNR=3.6							
INK	**Inuvik**	**23.42**	**33**	P		**P**	**23 44 02.8**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=208,slow=5.8,SNR=4.4							
C36M	**Paulatuk**	**27.00**	**34**	P		**P**	**23 44 35.8**	**-0.2**
C36M				IAmb		IAmb	23 44 38.6	
	comp=Z,1.5nm,0.6s							
YKA	**Yellowknife Ar**	**30.30**	**49**	P		**P**	**23 45 06.2**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=272,slow=7.9,SNR=29							
YKA	**Yellowknife Ar**	**30.30**	**49**	P		**P**	**23 45 06.3**	**+0.8**
RES	**Resolute Bay**	**36.45**	**26**	LR		LR	00 05 20.6	
	comp=Z,41nm,18.5s,baz=38,slow=44							
MCMT	**McKenzie Canyo**	**37.29**	**78**	P		**P**	**23 46 06.8**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**37.39**	**219**	T		T	00 26 52.9	
	baz=24,slow=75,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**37.39**	**219**	T		T	00 27 22.0	
	baz=24,slow=75,SNR=8.0							
H11N1	**WAKE ISLAND Hy**	**37.40**	**219**	T		T	00 26 59.1	
	baz=24,slow=75,SNR=4.9							
H11S1	**WAKE ISLAND

ISC Computed Locations for March 2016

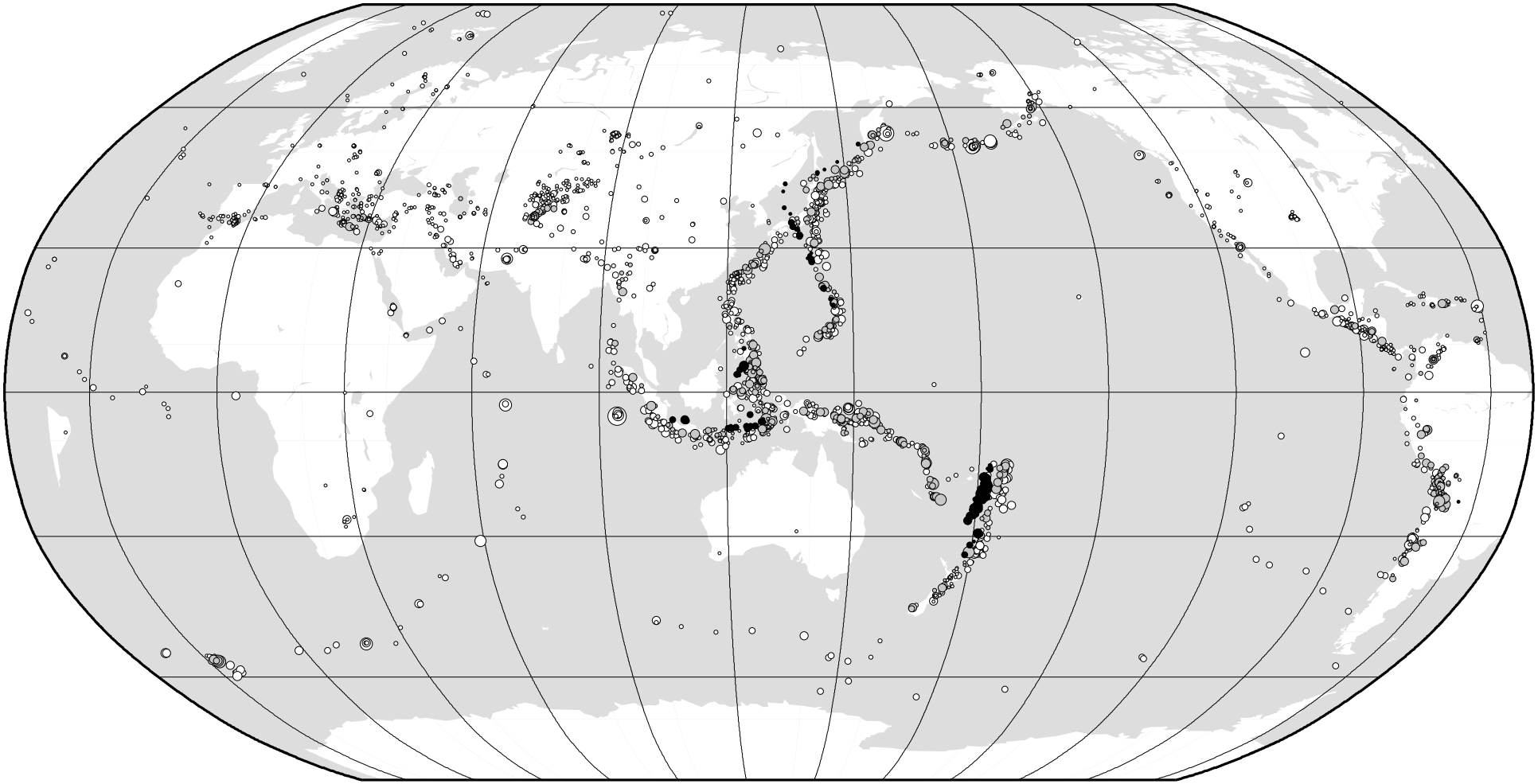

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3023 Events